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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

NEIC ***01*** *18:45:41.7±1.7, 21°.70S×179°.55W, h600^{km}, mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
IDC ***01*** *18:45:46.3±2.6, 21°.76S×179°.70W, h627^{km}±37^{km}, mb3.5/4,*
mb1 3.7/4, mb1mx3.2/14, Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7, **22°.3S**±0°.2×**179°.6W**±0°.3, **h613**^{km}±42^{km},
n22, σ**1^{s}15**/21, **mb4.4**/9, **1C, South of Fiji Islands**

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

IDC 01 00:05:33.8±2.4, 21°.20S×174°.05E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/25, mbtmp3.7/5, ML3.0/1, MS3.4/8, Ms1 3.4/8, ms1mx3.1/34, Error ellipse: s-maj=133.2km s-min=24.9km az=160.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.13	262	Pn	Pn	00 07 19.6	+0.1
	0.2nm,0.3s,baz=88,slow=18,SNR=2.6						
DZM				Sn	Sn	00 08 43.3	+1.9
	0.3nm,0.3s,baz=75,slow=20,SNR=2.2						
AFI	Afiamalu	15.33	64	LR	LR	00 13 48.7	
	comp=Z,131nm,19.8s,baz=286,slow=32						
URZ	Urewera	17.20	172	LR	LR	00 13 52.6	
	comp=Z,144nm,20.0s,baz=4.0,slow=29						
STKA	Stephens Creek	30.81	243	LR	LR	00 23 05.4	
	comp=Z,110nm,19.5s,baz=28,slow=34						
PPT	Papeete	34.45	90	LR	LR	00 23 34.9	
	comp=Z,27nm,19.3s,baz=283,slow=31						
ASAR	Alice Springs	37.10	258	P	P	00 12 45.8	-0.5
	0.8nm,0.9s,baz=90,slow=8.8,SNR=4.9						
WRA	Warramunga Arr	37.13	265	P	P	00 12 46.3	-0.2
	0.7nm,1.0s,baz=96,slow=8.5,SNR=4.9						
JAY	Jayapura	37.40	295	LR	LR	00 27 12.7	
	comp=Z,55nm,20.1s,baz=316,slow=35						
KSRS	Korea Array	72.73	323	LR	LR	00 44 47.5	
	comp=Z,54nm,21.5s,baz=155,slow=32						
PETK	Petropavlovsk-	75.35	350	LR	LR	00 45 44.3	
	comp=Z,12nm,19.2s,baz=207,slow=32						
ILAR	Eielson Array	90.82	16	P	P	00 18 38.5	0.0
	0.5nm,0.8s,baz=232,slow=5.2,SNR=4.9						
ILAR				LR	LR	00 57 30.1	
	comp=Z,33nm,18.1s,baz=186,slow=34						
TXAR	Lajitas Array	93.78	60	P	P	00 18 52.9	-0.3
	0.4nm,0.9s,baz=233,slow=3.9,SNR=3.9						
GERES	GERESS Array B	148.26	335	PKPbc	PKPbc	00 25 21.7	-0.3
	0.1nm,0.3s,baz=70,slow=1.1,SNR=2.3						

NNC 01 00:18:31.5±5.2, 38°.70N×69°.87E, h3km±24km, mb3.5, mpv3.1, 5C-1D, Error ellipse: s-maj=48.8km s-min=30.1km az=52.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.42	6	Pn	Pn	00 19 41.0	+1.4
	0.6nm,0.3s,baz=182,slow=13,SNR=57						
KK31				⇑Pg	Pb	00 19 52.6	+2.6
	0.6nm,0.3s,baz=176,slow=14,SNR=4.4						
KK31				⇑Sn	Sn	00 20 32.0	+0.4
	1.2nm,0.4s						
KK31				⇑Lg	Lg	00 20 51.5	
	4.9nm,0.7s,baz=163,slow=31,SNR=7.7						
AML	Almayashu	4.50	39	P	Pn	00 19 39.7	-1.4
	SNR=5.9						
AAK	Ala-Archa	5.27	40	⇑Pn	Pn	00 19 50.3	-1.1
	2.7nm,0.5s						
AAK	Ala-Archa	5.27	40	P	Pn	00 19 50.6	-0.8
	SNR=7.3						
KBK	Karagaybulak	5.52	43	P	Pn	00 19 54.4	-0.5
	SNR=12						
USP	Ospenovka	5.75	36	P	Pn	00 19 56.6	-1.2
	SNR=6.9						
TKM2	Tokmak 2	6.05	44	⇑Pn	Pn	00 20 00.8	-1.4
	2.2nm,0.4s						
TKM2				⇓Sn	Sn	00 21 14.5	+2.3
	1.8nm,0.7s						
TKM2	Tokmak 2	6.05	44	P	Pn	00 20 01.5	-0.6
	SNR=8.2						

IDC 01 00:29:50.6±10.0, 18°.81S×167°.76E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/29, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=170.0km s-min=40.2km az=79.0

ISC 01 00:29:51.8±5.3, 18°.8S±0°.1×168°.0E±0°.7, h20km, n5, σ0°.71/7, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.54	204	Pn	Pn	00 30 45.2	-0.5
	3.8nm,0.3s,baz=24,slow=20,SNR=24						
DZM				Sn	Sn	00 31 26.9	-0.1
	8.6nm,0.3s,baz=17,slow=20,SNR=12						
NOUC	Port Laguerre	3.62	206	eP	Pn	00 30 46.8	0.0
NOUC				eS	Sn	00 31 29.1	+0.1
STKA	Stephens Creek	27.09	236	P	P	00 35 34.4	+1.0
	0.9nm,0.4s,baz=54,slow=10,SNR=4.8						
WRA	Warramunga Arr	31.76	262	P	P	00 36 14.1	-0.8
	0.4nm,0.4s,baz=88,slow=8.2,SNR=13						
ASAR	Alice Springs	32.11	255	P	P	00 36 18.2	+0.2
	2.5nm,0.6s,baz=84,slow=8.7,SNR=38						

IDC 01 00:41:10.1±2.0, 24°.22N×122°.24E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/42, mbtmp3.4/4, Error ellipse: s-maj=157.8km s-min=21.8km az=65.0
ISCJB 01 00:41:14.2±0.4, 24°.14N±0°.02×122°.30E±0°.02, h18km±3km, mb3.4/4, Error ellipse: s-maj=3.6km s-min=2.2km az=160.2
TAP 01 00:41:14.7, 24°.20N×122°.25E, h25km, ML3.8, C
JMA 01 00:41:14.5±0.1, 24°.11N×122°.26E, h33km±3km, M3.0

ISC 01 00:41:14.1±1.1, 24°.15N±0°.02×122°.28E±0°.02, h25km±10km, n58, σ0°.81/106, mb3.4/4, 2C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	Nanau	0.56	299	⇑iP	Pb	00 41 25.2	-0.1
	baz=300						
ENA				S	Sb	00 41 32.5	-0.5
	baz=300						
TWC	Suao	0.60	319	⇑iP	Pb	00 41 25.4	-0.6
	baz=318						
TWC				S	Sb	00 41 32.6	-1.5
	baz=318						
TWD	Chiawan	0.63	263	P	Pb	00 41 26.9	+0.4
	baz=242						
TWD				eS	Sb	00 41 35.9	-0.9
	baz=242						
HWA	Hwalien	0.65	254	eP	Pb	00 41 26.8	+0.1
	baz=248						
HWA				eS	Sn	00 41 36.5	-0.6
	baz=248						
JYNG	Yonagunijimaku	0.67	64	P	Pn	00 41 28.0	0.0
JYNG				S	Sn	00 41 37.1	-0.7
YOJ	Yonaguni jima	0.73	65	P	Pn	00 41 29.0	+0.2
YOJ				S	Sn	00 41 38.9	-0.3
EGS		0.76	335	iP	Pb	00 41 28.4	-0.2
	baz=327						
EGS				iS	Sb	00 41 38.3	-0.3
	baz=327						
ILA	Ilan	0.78	321	P	Pn	00 41 29.1	-0.4
	baz=320						
ILA				eS	Sn	00 41 40.0	-0.5
	baz=320						
ESL	Shilin	0.85	247	eP	Pb	00 41 29.5	-0.7
	baz=232						
ESL				eS	Sb	00 41 41.6	+0.4
	baz=232						
NNS	Nan Shan	0.88	289	eP	Pn	00 41 31.0	0.0
	baz=285						
NNS				S	Sn	00 41 42.6	-0.4
	baz=285						
TWB1	Santiao Chiao	0.89	343	P	Pn	00 41 30.6	-0.5
	baz=342						
TWB1				S	Sn	00 41 42.3	-0.9
	baz=342						
WHF	Hehuan Shan	0.93	270	eP	Pb	00 41 31.6	-0.2
	baz=265						
WHF				eS	Sb	00 41 44.0	+0.1
	baz=265						
NSK	Sanguang	0.99	302	⇓P	Pn	00 41 32.6	+0.1
	baz=308						
NSK				eS	Sn	00 41 45.5	-0.3
	baz=308						
TWT	Tachien	1.02	276	eP	Pn	00 41 34.2	+1.2
	baz=271						
TWT				eS	Sn	00 41 46.5	0.0
	baz=271						
NWF	Wu-fen Shan	1.02	333	P	Pn	00 41 32.9	0.0
	baz=332						
NWF				S	Sn	00 41 46.4	-0.1
	baz=332						
TWA	Mucha	1.04	322	eP	Pn	00 41 33.8	+0.7
	baz=327						
TWA				eS	Sn	00 41 47.0	+0.1
	baz=327						
EHY	Hungye	1.09	234	P	Pn	00 41 33.4	-0.5
	baz=223						
EHY				eS	Sb	00 41 47.9	-0.2
	baz=223						
TAP1	Taipei	1.12	322	P	Pb	00 41 35.6	+0.8
	baz=319						
TAP1				S	Sn	00 41 49.5	+0.6
TAP	Taipei	1.13	321	eP	Pb	00 41 35.5	+0.5
	baz=319						
TAP				S	Sn	00 41 50.0	+0.9
	baz=319						
TWF1	Yuli	1.21	229	eP	Pn	00 41 35.1	-0.3
	baz=216						
TWF1				eS	Sn	00 41 50.3	-0.7
	baz=216						
TWS1	Kuangyinshan	1.23	320	eP	Pb	00 41 37.0	+0.4
	baz=329						
TWS1				eS	Sb	00 41 53.2	+1.1
	baz=329						
NSTT	Nanjuang	1.26	292	eP	Pb	00 41 36.6	-0.6
	baz=289						
NSTT				eS	Sb	00 41 53.5	+0.5
	baz=289						
TWY	Chenhua	1.28	331	eP	Pb	00 41 38.0	+0.6
	baz=340						
TWY				eS	Sb	00 41 53.7	+0.3
	baz=340						
NCU	National Centr	1.29	309	eP	Pb	00 41 37.8	+0.2
	baz=306						
NCU				eS	Sb	00 41 54.9	+1.2
	baz=306						
SMLT	Sun Moon Lake	1.29	258	eP	Pn	00 41 37.2	+0.5
	baz=245						
SMLT				eS	Sn	00 41 53.6	+0.3
	baz=245						
TYC	Yuchr	1.33	259	eP	Pn	00 41 36.7	-0.3
	baz=256						
TYC				eS	Sn	00 41 54.4	+0.4
	baz=256						
IRIF	Iriomote-Funau	1.33	82	P	Pb	00 41 38.2	-0.2
IRIF				eS	Sb	00 41 55.3	+0.3
CHKT	Chengkung	1.35	219	eP	Pn	00 41 36.3	-1.0
	baz=206						
YUS	Yu-Shan	1.39	242	P	Pn	00 41 39.0	+0.6
	baz=238						
YUS				S	Sn	00 41 55.7	-0.4
	baz=238						
TWQ1	Liyutan	1.39	278	eP	Pb	00 41 40.0	+0.5
	baz=262						
TWQ1				eS	Sb	00 41 57.1	+0.3
	baz=262						
HATJ	Hateruma jima	1.39	94	P	Pb	00 41 39.6	+0.2
NSY	Sanyi	1.41	281	eP	Pb	00 41 40.5	+0.7
	baz=277						
NSY				eS	Sb	00 41 58.3	+0.9
	baz=277						
TCU	Taichung	1.47	270	eP	Pb	00 41 40.9	+0.2
	baz=267						
TCU				eS	Sb	00 41 59.5	+0.5
	baz=267						
WNT	Mingjian	1.49	260	eP	Pb	00 41 40.9	-0.1
	baz=256						
WNT				eS	Sb	00 42 00.1	+0.6
	baz=256						
ALS	Alishan	1.50	245	eP	Pn	00 41 40.8	+1.1
	baz=242						
ALS				S	Sn	00 41 59.2	+0.6
	baz=242						
ELDTW	Lidau	1.51	231	eP	Pn	00 41 39.1	-0.5
	baz=228						
CHN5	Tsauling	1.57	250	eP	Pb	00 41 42.2	-0.3
	baz=233						
CHN5				S	Sb	00 42 02.0	0.0
	baz=233						
JKRS	Kuro-shima	1.58	87	P	Pb	00 41 42.2	-0.4
JKRS				eS	Sb	00 42 02.6	+0.5
JIJ	Ishigaki jima	1.71	83	P	Pn	00 41 43.5	+1.2
JIJ				S	Sn	00 42 03.5	+0.1
STYT	Tauyuan	1.71	235	eP	Pn	00 41 43.3	+0.9
	baz=224						
STYT				eS	Sn	00 42 05.1	+1.5
	baz=224						
TWG	Pinlang	1.73	220	eP	Pn	00 41 42.2	-0.5
	baz=220						
TWG				eS	Sn	00 42 02.7	-1.2
	baz=220						
WTP	Ta-pu	1.78	240	eP	Pb	00 41 45.2	-0.8
	baz=237						
WTP				eS	Sb	00 42 08.1	+0.2
	baz=237						
CHY	Chiayi	1.82	249	eP	Pb	00 41 45.9	-0.9
	baz=247						
CHY				eS	Sb	00 42 09.3	+0.1
	baz=247						
TWK	Hsinying	1.87	242	eP	Pn	00 41 46.2	+1.6
	baz=239						
TWK				eS	Sb	00 42 09.8	-0.7
	baz=239						
CHN1	Nanshi	1.88	239	eP	Pb	00 41 47.2	-0.5
	baz=237						
CHN1				eS	Sb	00 42 10.8	0.0
	baz=237						
SGST	Jiashian	1.89	236	eP	Pb	00 41 47.0	-0.9
	baz=225						
SGST				eS	Sb	00 42 10.8	-0.3
	baz=225						
JISG	Ishigakijimahi	1.90	76	P	Pn	00 41 45.8	+0.9
JISG				S	Sn	00 42 08.4	+0.4
WSF	Szhu	1.96	255	eP	Pb	00 41 47.6	-1.4
	baz=239						
WSF				eS	Sb	00 42 12.9	-0.1
	baz=239						
SSD	Sandimen	2.06	228	eP	Pn	00 41 48.9	+1.7
	baz=219						
SSD				eS	Sn	00 42 14.8	+2.6
	baz=219						
JTJ	Tarama	2.26	77	eS	Sn	00 42 18.1	+1.2
SCZT	Fangliau	2.34	221	eP	Pn	00 41 51.5	+0.5
	baz=215						
SCZT				eS	Sn	00 42 21.2	+2.1
	baz=215						
WDGT	Dungji	2.56	250	eP	Pn	00 41 55.7	+1.6
	baz=237						
WDGT				eS	Sn	00 42 24.5	0.0
	baz=237						
PNG	Penghu	2.57	257	eP	Pn	00 41 56.7	+2.6
	baz=254						
PNG				eS	Sn	00 42 25.6	+1.0
	baz=254						
KNM	Kinmen	3.52	275	eP	Pn	00 42 10.4	+3.2
	baz=271						
SONM	Songino Array	26.80	336	P	P	00 46 51.1	-1.1
	0.4nm,0.7s,baz=147,slow=8.4,SNR=4.5						
MKAR	Makanchi Array	39.06	316	P	P	00 48 38.1	-1.0
	0.1nm,0.3s,baz=98,slow=9.3,SNR=3.4						
WRA	Warramunga Arr	45.38	164	P	P	00 49 30.8	+0.1
	1.0nm,0.7s,baz=344,slow=8.7,SNR=8.7						
ASAR	Alice Springs	48.86	166	P	P	00 49 58.2	+0.4
	0.4nm,0.6s,baz=352,slow=14,SNR=6.4						

IDC 01 00:53:39.2±0.9, 56°.55N×122°.10W, h0km, mb1 3.5/6, mb1mx3.2/43, mbtmp3.2/6, ML3.3/6, Error ellipse: s-maj=11.8km s-min=8.1km az=123.0, British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLBC	Dease Lake	4.68	297	Pn	Pn	00 54 51.1	0.0
	0.4nm,0.3s,baz=66,slow=6.5,SNR=13						
DLBC				Pg	Pb	00 55 04.1	+1.9
	1.5nm,0.3s,baz=116,slow=11,SNR=36						
DLBC				Lg	Lg	00 56 07.0	
	1.3nm,0.3s,baz=162,slow=19,SNR=4.8						
BBB	Bella Bella	5.61	221	Pn	Pn	00 55 02.7	-1.1
	0.3nm,0.3s,baz=45,slow=1.4,SNR=17						
BBB				Sn	Sn	00 56 07.8	-1.1
	0.5nm,0.3s,baz=342,slow=23,SNR=5.7						
BBB				Lg	Lg	00 56 35.1	
	1.3nm,0.3s,baz=328,slow=21,SNR=4.3						
YKA	Yellowknife Ar	7.07	29	Pn	Pn	00 55 22.5	-1.3
	1.0nm,0.3s,baz=214,slow=13,SNR=52						
YKA				Sn	Sn	00 56 40.6	-4.2
	1.2nm,0.3s,baz=218,slow=23,SNR=9.7						
YKA				Lg	Lg	00 57 24.0	
	0.9nm,0.3s,baz=209,slow=27,SNR=8.6						
NEW	Newport	8.84	158	Lg	Lg	00 58 16.7	
	0.1nm,0.3s,baz=60,slow=15,SNR=4.6						
INK	Inuvik	12.89	341	Pn	Pn	00 56 41.4	-2.0
	0.1nm,0.3s,baz=149,slow=9.8,SNR=6.5						
INK				Sn	Sn	00 59 04.6	-2.8
	0.1nm,0.3s,baz=150,slow=20,SNR=2.9						
ILAR	Eielson Array	14.58	314	Pn	Pn	00 57 08.4	+1.8
	0.0nm,0.3s,baz=120,slow=11,SNR=2.8						
PDAR	Pinedale Array	15.97	144	Pn	Pn	00 57 25.6	+0.2
	0.0nm,0.3s,baz=354,slow=8.2,SNR=2.4						
NVAR	Mina Array Bea	18.31	170	P	P	00 57 55.4	+0.5
	0.1nm,0.3s,baz=357,slow=12,SNR=4.1						

IDC 01 01:03:01.8±7.8, 14°.51S×173°.74W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/23, mbtmp3.6/3, Error ellipse: s-maj=347.5km s-min=34.3km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.73	256	P	P	01 11 56.5	+0.2
	0.3nm,0.5s,baz=91,slow=7.7,SNR=10.0						
ASAR	Alice Springs	50.08	251	P	P	01 11 58.5	-0.4
	0.8nm,0.5s,baz=90,slow=8.5,SNR=14						
ILAR	Eielson Array	81.64	11	P	P	01 15 21.4	0.0
	0.2nm,0.7s,baz=202,slow=3.8,SNR=2.8						

PRU 01 01:41:59.3, 40°.70N×16°.11E, h0km
ISCJB 01 01:42:00.8±0.3, 40°.63N±0°.02×15°.67E±0°.03, h25km±3km, Error ellipse: s-maj=3.6km s-min=3.1km az=168.5
CSEM 01 01:42:00.5±0.1, 40°.63N×15°.68E, h15km, ML3.7/8, Error ellipse: s-maj=2.8km s-min=2.7km az=68.0
ROM 01 01:42:00.4±0.1, 40°.62N×15°.71E, h9km±1km, Ml3.2/21, Error ellipse: s-maj=1.2km s-min=1.0km az=75.0

ISC 01 01:42:00.8±0.9, 40°.64N±0°.02×15°.68E±0°.02, h18km±3km, n90, σ1°.25/113, 3C-1D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRLC	Muro Lucano	0.19	308	Pg	Pb	01 42 05.7	+0.3
	5µm,0.3s						
MRLC	Muro Lucano	0.19	308	Pg	Pb	01 42 05.7	+0.3
	5µm,0.3s						
ACER	Acerenza	0.24	53	Pg	Pb	01 42 06.2	-0.4
ACER	Acerenza	0.24	53	Pg	Pb	01 42 06.2	-0.4
SGO	Sicignano	0.30	254	Pg	Pg	01 42 07.3	0.0
SGO	Sicignano	0.30	254	Pg	Pg	01 42 07.3	0.0
PTRP	Pietrapertosa	0.31	112	Pg	Pg	01 42 07.7	+0.1
PTRP	Pietrapertosa	0.31	112	Pg	Pg	01 42 07.7	+0.1
VULT	Monte Vulture	0.32	351	Pg	Pg	01 42 07.5	-0.2
VULT				Sg	Sg	01 42 13.1	+0.7
	2µm,0.3s						
VULT	Monte Vulture	0.32	351	Pg	Pg	01 42 07.5	-0.2
VULT				Sg	Sg	01 42 13.1	+0.7
	2µm,0.3s						
CDRU	Civita di Ruta	0.33	242	Pg	Pg	01 42 07.6	-0.2
CDRU				Sg	Sb	01 42 13.5	+0.4
	3µm,0.3s						
CDRU	Civita di Ruta	0.33	242	Pg	Pg	01 42 07.6	-0.2
CDRU				Sg	Sb	01 42 13.5	+0.4
	3µm,0.3s						
PALZ	Palazzo San Ge	0.37	35	Pg	Pg	01 42 08.1	-0.4
PALZ				Sg	Sg	01 42 14.6	+0.8
	3µm,0.5s						
PALZ	Palazzo San Ge	0.37	35	Pg	Pg	01 42 08.1	-0.4
PALZ				Sg	Sg	01 42 14.6	+0.8
	3µm,0.5s						
MCRV	Calabrutti - M	0.42	290	Pg	Pg	01 42 09.2	-0.2
	1µm,0.5s						
MCRV	Calabrutti - M	0.42	290	Pg	Pg	01 42 09.2	-0.2
	1µm,0.5s						
CMPR	Campora	0.43	222	Pg	Pg	01 42 09.2	-0.5
CMPR				Sg	Sb	01 42 16.7	+0.5
	1µm,0.4s						
CMPR	Campora	0.43	222	Pg	Pg	01 42 09.2	-0.5
CMPR				Sg	Sb	01 42 16.7	+0.5
	1µm,0.4s						
SNAL	S. Angelo Dei	0.46	308	Pg	Pb	01 42 10.1	-0.3
	2µm,0.7s						
SNAL	S. Angelo Dei	0.46	308	Pg	Pb	01 42 10.1	-0.3
	2µm,0.7s						
MGR	Morigerati	0.51	191	Pg	Pb	01 42 10.4	-0.8
MGR				Sg	Sg	01 42 18.7	+0.7
	2µm,0.4s						
MGR	Morigerati	0.51	191	Pg	Pb	01 42 10.4	-0.8
MGR				Sg	Sg	01 42 18.7	+0.7
	2µm,0.4s						
CAFE	Carife	0.51	319	Pg	Pb	01 42 11.1	-0.3
CAFE				Sg	Sg	01 42 20.0	+1.8
	1µm,0.5s						
CAFE	Carife	0.51	319	Pg	Pb	01 42 11.1	-0.3
CAFE				Sg	Sg	01 42 20.0	+1.8
	1µm,0.5s						
SCHR	S. Chirico Rap	0.53	146	Pg	Pb	01 42 10.5	-1.1
SCHR				Sg	Sb	01 42 18.8	-0.2
	1µm,0.3s						
MRVN	Minervino Murg	0.57	43	Pg	Pb	01 42 11.6	-0.7
	836nm,0.5s						
MRVN	Minervino Murg	0.57	43	Pg	Pb	01 42 11.6	-0.7
	836nm,0.5s						
MIGL	Miglionico	0.58	93	Pg	Pb	01 42 11.4	-1.0
	3µm,0.4s						
MIGL	Miglionico	0.58	93	Pg	Pb	01 42 11.4	-1.0
	3µm,0.4s						
BULG	Bulgheria - Ca	0.61	203	Pg	Pb	01 42 12.4	-0.5
	1µm,0.5s						
BULG	Bulgheria - Ca	0.61	203	Pg	Pb	01 42 12.4	-0.5
	1µm,0.5s						
CDT	Castel del Mon	0.63	45	Sg	Sn	01 42 24.1	-0.4
CRAC	Craco	0.64	115	Pg	Pb	01 42 12.6	-0.7
	2µm,0.3s						
CRAC	Craco	0.64	115	Pg	Pb	01 42 12.6	-0.7
	2µm,0.3s						
CUC	Castrocucco	0.66	171	Pg	Pb	01 42 12.6	-1.1
CUC				Sg	Sb	01 42 22.5	0.0
	1µm,0.6s						
CUC	Castrocucco	0.66	171	Pg	Pb	01 42 12.6	-1.1
CUC				Sg	Sb	01 42 22.5	0.0
	1µm,0.6s						
MATE	Matera	0.78	89	Pg	Pb	01 42 14.7	-1.1
	676nm,0.3s						
MATE	Matera	0.78	89	Pg	Pb	01 42 14.7	-1.1
	676nm,0.3s						
SG1	Sgolgore (BA)	0.78	75	Sg	Sn	01 42 28.3	+0.1
ORI	Oriolo Calabro	0.82	134	Pg	Pb	01 42 16.1	-0.4
	1µm,0.5s						
ORI	Oriolo Calabro	0.82	134	Pg	Pb	01 42 16.1	-0.4
	1µm,0.5s						
IPES	Pescosannita	0.87	313	Pg	Pg	01 42 17.9	+0.1
SALB	San Lorenzo Be	0.92	146	Pg	Pb	01 42 16.7	-1.5
SALB	San Lorenzo Be	0.92	146	Pg	Pb	01 42 16.7	-1.5
BAI	Bari	1.02	62	Sg	Sg	01 42 34.9	+0.9
NOCI	Noci	1.06	82	Pg	Pb	01 42 20.3	-0.3
	764nm,0.5s						
NOCI	Noci	1.06	82	Pg	Pb	01 42 20.3	-0.3
	764nm,0.5s						
MS1	Monte Sant'Ang	1.08	10	ePg	Pn	01 42 18.3	-2.8
MS1				Sg	Sg	01 42 36.3	+0.3
MSAG	Monte S. Angel	1.08	9	Pg	Pn	01 42 20.9	-0.3
MSAG	Monte S. Angel	1.08	9	Pg	Pn	01 42 20.9	-0.3
SGRT	San Giovanni R	1.11	2	Pg	Pn	01 42 21.2	-0.4
SGRT				Sg	Sg	01 42 37.7	+0.7
	543nm,0.5s						
SGRT	San Giovanni R	1.11	2	Pg	Pn	01 42 21.2	-0.4
SGRT				Sg	Sg	01 42 37.7	+0.7
	543nm,0.5s						
PTRJ	Pietraroja	1.13	310	Pg	Pg	01 42 22.6	-0.2
	598nm,0.6s						
PTRJ	Pietraroja	1.13	310	Pg	Pg	01 42 22.6	-0.2
	598nm,0.6s						
BSSO	Busso	1.22	318	Pg	Pg	01 42 24.5	+0.1
BSSO	Busso	1.22	318	Pg	Pg	01 42 24.5	+0.1
SGG	Gregorio Mates	1.24	307	Pg	Pb	01 42 24.2	+0.5
	214nm,0.5s						
SGG	Gregorio Mates	1.24	307	Pg	Pb	01 42 24.2	+0.5
	214nm,0.5s						
PE1	Pezze di Greco	1.33	82	Sn	Sg	01 42 45.2	+1.3
VAGA	Valle Agricola	1.34	306	Pg	Pb	01 42 25.7	+0.3
VAGA	Valle Agricola	1.34	306	Pg	Pb	01 42 25.7	+0.3
STON	Ston	2.69	33	ePn	Pn	01 42 43.5	+0.3
STON				Sn	Sn	01 43 15.3	+0.1
STON	Ston	2.69	33	ePn	Pn	01 42 43.4	+0.3
STON				Sn	Sn	01 43 15.3	+0.1
KEK	Kerkira	3.29	105	eP	Pn	01 42 52.8	+1.4
UDBI	Udbina	3.88	1	ePn	Pn	01 42 59.9	+0.2
UDBI				Sn	Sn	01 43 40.7	-4.1

NVLJ Novalja 3.97 352 ePn Pn 01 42 59.6 -1.1
NVLJ Sn Sn 01 43 43.5 -3.2
NVLJ Novalja 3.97 352 ePn Pn 01 42 59.5 -1.1
NVLJ Sn Sn 01 43 43.5 -3.2
JAN Janina 4.08 102 eP Pn 01 43 04.2 +1.9
BBLS Lazići 4.24 39 ePn Pn 01 43 06.0 +1.4
BIA Bitola 4.30 83 ePn Pn 01 43 06.6 +1.3
VLS Valsamata 4.53 121 eP Pn 01 43 09.0 +0.6
KZN Kozani 4.66 92 eP Pn 01 43 13.1 +2.9
DIVS Divibare 4.70 41 ePn Pn 01 43 11.7 +0.8
GRUS Gruza 4.95 47 ePn Pn 01 43 15.2 +1.0
THL Klokotos Trika 4.97 100 eP Pn 01 43 16.9 +2.4
EVR Evrytania 5.02 108 eP Pn 01 43 18.1 +2.8
VAY Valandovo 5.26 80 ePn Pn 01 43 20.9 +2.4
VAY Valandovo 5.26 80 ePn Pn 01 43 20.8 +2.4
KLV Kalavryta, Ach 5.64 115 eP Pn 01 43 21.2 -2.6
PLG Polygyros 5.92 90 eP Pn 01 43 29.2 +1.6
OBKA Obir 5.92 352 ⇑iPn Pn 01 43 27.9 +0.2
OBKA Obir 5.92 352 Pn Pn 01 43 27.9 +0.2
VTS Vitosha 5.97 68 ⇑iP Pn 01 43 31.4 +3.1
NVR Nevrokopi 6.23 81 eP Pn 01 43 33.8 +2.0
BZS Buzias 6.60 39 ⇑iP Pn 01 43 37.3 +0.4
VLI Veliai 6.89 122 eP Pn 01 43 43.9 +3.0
MOA Molln 7.28 352 ⇓iPn Pn 01 43 46.1 -0.1
MOA Molln 7.28 352 Pn Pn 01 43 46.1 -0.1
KHC Kasperske Hory 8.62 351 ePN Pn 01 44 04.2 -0.4
KHC ex x 01 44 12.8
KHC eSN **Sn 01 45 37.5 -3.8**
KHC Kasperske Hory 8.62 351 Pn Pn 01 44 04.2 -0.4
KHC Sn **Sn 01 45 37.5 -3.8**

ISCJB 01 01:43:44.3±0.5, 24.22N±0.06×141.63E±0.10, h148km, mb4.0/35, Error ellipse: s-maj=12.6km s-min=8.0km az=14.2
IDC 01 01:43:47.1±0.8, 24.19N×141.51E, h159km±6km, mb3.7/20, mb1 3.8/24, mb1mx3.7/43, mbtmp4.2/24, Error ellipse: s-maj=15.0km s-min=10.5km az=98.0
NEIC 01 01:43:49.9±1.5, 24.35N×141.99E, h195km±11km, mb4.3/17, Error ellipse: s-maj=20.1km s-min=14.1km az=146.0
ISC 01 01:43:46.0±0.6, 24.23N±0.08×141.7E±0.1, h148km, n57, σ1§42/60, mb4.1/35, Volcano Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CBIJ Chichi jima 2.90 9 ePn Pn 01 44 35.8 +3.8
CBIJ Sn **Sn 01 45 05.0 -2.6**
JCJ Chichijima 2.90 9 P Pn 01 44 35.7 +3.7
234nm,0.3s,baz=213,slow=167
JCJ S **Sn 01 45 10.2 +2.7**
86nm,0.3s,baz=270,slow=20,SNR=4.4
MJAR Matsushiro Arr 12.63 347 P Pn 01 46 42.3 +1.8
1.2nm,0.3s,baz=164,slow=12,SNR=4.8
MAJO Matsushiro 12.63 347 Pn Pn 01 46 37.4 -3.1
KSRS Korea Array 17.67 321 P Pn 01 47 43.1 +0.2
0.2nm,0.3s,baz=135,slow=11,SNR=2.9
YHNB Yeheng 18.48 276 eP Pn 01 47 55.5 +2.8
8.3nm,0.4s
YULB Yu-li 18.66 272 P Pn 01 47 58.1 +3.4
5.0nm,0.6s
SSLB Suanglung 18.93 273 eP Pn 01 47 59.5 +1.6
17nm,0.5s
TPUB Ta-pu 19.28 272 P Pn 01 48 04.0 +2.0
9.4nm,0.8s
ASAJ Asahikawa 19.86 2 P Pn 01 48 08.0 -0.6
0.7nm,0.3s,baz=144,slow=17,SNR=3.1
USRK Ussuriysk Arra 21.44 341 P P 01 48 20.9 -1.5
1.6nm,0.5s,baz=153,slow=11,SNR=4.4
H11N1 WAKE ISLAND Hy 23.81 96 T T 02 13 50.0
baz=284
H11N2 WAKE ISLAND Hy 23.81 96 T T 02 13 53.4
baz=284
H11N3 WAKE ISLAND Hy 23.82 96 T T 02 13 53.9
baz=284
H11S3 WAKE ISLAND Hy 23.97 99 T T 02 14 12.0
baz=295
H11S1 WAKE ISLAND Hy 23.98 99 T T 02 14 07.5
baz=295
H11S2 WAKE ISLAND Hy 23.99 99 T T 02 14 10.3
baz=295
SLVN Son La 34.87 273 eP P 01 50 24.0 +0.6
3.6nm,0.8s
SONM Songino Array 36.51 319 P P 01 50 36.8 -0.4
0.7nm,0.5s,baz=139,slow=7.6,SNR=12
SONM PcP **PcP 01 52 57.3 -0.3**
0.6nm,0.5s,baz=108,slow=1.1,SNR=9.9
SONM ScP **ScP 01 56 28.1 -2.4**
0.5nm,1.0s,baz=121,slow=3.9,SNR=2.9
CHTO Chiang Mai 39.99 271 eP P 01 51 06.8 +0.3
4.1nm,0.6s
CMAR Chiang Mai Arr 40.09 270 P P 01 51 07.6 +0.3
4.3nm,0.6s,baz=61,slow=7.4,SNR=16
WRAB Tennant Creek 44.47 190 eP P 01 51 42.2 -0.4
2.1nm,0.4s
WRA Warramunga Arr 44.48 190 P P 01 51 41.9 -0.8
2.1nm,0.4s,baz=8.9,slow=8.7,SNR=38
WRA PcP **PcP 01 53 22.8 -0.8**
1.2nm,0.6s,baz=9.6,slow=4.1,SNR=6.8
LSA Lhasa 45.07 288 eP P 01 51 49.8 +1.8
2.6nm,0.5s
ASAR Alice Springs 48.20 190 P P 01 52 10.8 -0.9
0.5nm,0.6s,baz=8.5,slow=6.6,SNR=7.4
ZALV Zalesovo Beam 51.37 321 P P 01 52 34.6 -0.7
1.7nm,0.3s,baz=105,slow=7.2,SNR=9.0
ZALV PcP **PcP 01 53 46.7 -1.2**
2.8nm,0.5s,baz=119,slow=4.0,SNR=14
MK31 Makanchi Array 51.97 311 eP P 01 52 39.5 -0.5
MKAR Makanchi Array 51.97 311 P P 01 52 39.5 -0.5
2.4nm,0.4s,baz=86,slow=8.9,SNR=54
MKAR PcP **PcP 01 53 49.9 -0.5**
0.9nm,0.6s,baz=78,slow=6.5,SNR=5.5
KURK Kurchatov 54.69 316 eP P 01 52 58.5 -1.2
1.9nm,0.6s
KURBB Kurchatov Arra 54.73 316 P P 01 52 59.5 -0.5
4.2nm,0.6s,baz=95,slow=7.6,SNR=22
KURBB PcP **PcP 01 53 59.3 -1.4**
0.7nm,0.4s,baz=94,slow=4.0,SNR=4.8
TKM2 Tokmak 2 56.71 307 eP P 01 53 14.3 -0.2
4.0nm,0.6s
AAK Ala-Archa 57.54 306 eP P 01 53 20.3 0.0
2.5nm,0.5s
BRVK Borovoye 59.92 319 eP P 01 53 37.1 +0.8
4.4nm,0.8s
KKAR Karatay Array 60.41 307 eP P 01 53 39.5 -0.3
ILAR Eielson Array 60.45 28 P P 01 53 40.4 +0.6
1.2nm,0.7s,baz=250,slow=5.5,SNR=20
ILAR pP **pP 01 54 17.1 +2.4**
1.3nm,0.8s,baz=264,slow=5.6,SNR=6.7
KBL Kabul 62.91 298 eP P 01 53 56.7 -0.3
5.1nm,0.6s
INK Inuvik 65.83 24 P P 01 54 16.5 +1.4
2.0nm,0.5s,baz=300,slow=6.1,SNR=26
INK pP **pP 01 54 53.2 +2.6**
1.8nm,0.9s,baz=240,slow=3.4,SNR=3.1
INK Inuvik 65.83 24 eP P 01 54 16.4 +1.3
2.0nm,0.4s
ARU Arti 66.41 323 eP P 01 54 18.5 -0.5
4.2nm,0.6s
ABKAR Akbulak array 66.77 315 eP P 01 54 20.4 -1.1
SPITS Spitsbergen Ar 73.11 350 P P 01 54 59.2 -0.5
1.0nm,0.4s,baz=124,slow=7.3
YKA Yellowknife Ar 74.88 28 P P 01 55 11.0 +0.8
0.8nm,0.5s,baz=294,slow=5.8,SNR=21
YKA pP **pP 01 55 49.4 +2.9**
0.7nm,0.7s,baz=293,slow=5.8,SNR=5.2
RES Resolute Bay 74.95 13 P P 01 55 10.4 +0.1
2.1nm,0.7s,baz=299,slow=4.9,SNR=7.2
KEV Kevo 75.53 341 ep P 01 55 14.0 +0.3
0.6nm,0.4s
ARCES ARCESS Array B 76.09 341 P P 01 55 16.6 -0.3
3.4nm,0.7s,baz=78,slow=8.9,SNR=13
JOF Joensuu 77.44 334 ep P 01 55 22.6 -2.0
2.8nm,0.6s
KBZ Khabaz 79.62 313 P P 01 55 36.1 -0.8
3.0nm,0.8s,baz=146,slow=4.7,SNR=7.3
KAF Kangasniemi 79.85 334 ep P 01 55 37.6 -0.2
0.6nm,0.4s
FINES FINESS Array B 80.31 334 P P 01 55 39.0 -1.2
1.3nm,0.3s,baz=70,slow=6.0,SNR=27
NVAR Mina Array Bea 82.67 51 P P 01 55 54.3 +0.8
0.6nm,0.7s,baz=289,slow=6.6,SNR=5.0
DAC Darwin (Calif) 84.10 53 eP P 01 55 59.7 -1.1
3.6nm,0.9s
AKASG Malin Array Be 84.65 324 P P 01 56 01.6 -1.4
0.4nm,0.3s,baz=53,slow=4.8,SNR=8.7
RAYN Ar Rayn 85.87 294 eP P 01 56 09.9 +0.2
5.8nm,0.8s
NOA NORSAR Array B 86.09 338 P P 01 56 09.3 -0.7
0.3nm,0.4s,baz=55,slow=7.6,SNR=3.8
BRTR Keskin Array B 87.60 313 P P 01 56 16.2 -1.6
0.8nm,0.6s,baz=63,slow=4.2,SNR=5.9
TORD Torodi Ar. Bea 126.07 309 PKP PKPdf 02 02 31.0 -0.6
0.7nm,0.6s,baz=28,slow=1.9,SNR=15
LPAZ La Paz 151.00 80 PKPbc PKPbc 02 03 23.5 +0.6
1.8nm,0.6s,baz=263,slow=4.9,SNR=6.4

CRAAG 01 01:49:11.0, 36.93N×2.92E, Ml3.4
CSEM 01 01:49:12.8±0.2, 36.98N×2.93E, h2km, ML3.4, Error ellipse: s-maj=7.2km s-min=4.6km az=56.0
MDD 01 01:49:13.8±0.5, 36.99N×2.96E, h0km, mb4.1/5, Error ellipse: s-maj=7.6km s-min=4.1km az=51.0, PRXIMO
ISC 01 01:49:11.5±1.6, 37.02N±0.04×2.96E±0.03, h3km±14km, n50, σ1§66/80, Western Mediterranean Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ABA Alger-Bouzarea 0.22 165 P Pg 01 49 14.5 -1.3
ABA Alger-Bouzarea 0.22 165 P Pg 01 49 14.5 -1.3
ABA Alger-Bouzarea 0.22 165 P Pg 01 49 14.5 -1.3
ABMS Boumerdes 0.49 123 P Pb 01 49 22.5 -0.3
ABMS Boumerdes 0.49 123 P Pb 01 49 22.5 -0.3
ABMS Boumerdes 0.49 123 P Pb 01 49 22.5 -0.3
EMHD Djebel Mahouad 0.82 181 P Pg 01 49 27.2 +0.1
EMHD Djebel Mahouad 0.82 181 P Pg 01 49 27.2 +0.1
EMHD Djebel Mahouad 0.82 181 P Pg 01 49 27.2 +0.1
ADJB Djebel Djouab 0.94 156 P Pg 01 49 29.9 +0.4
ADJB Djebel Djouab 0.94 156 P Pg 01 49 29.9 +0.4
ADJB Djebel Djouab 0.94 156 P Pg 01 49 29.9 +0.4
AKET Djebel Ketaf 1.22 142 P Pn 01 49 36.8 +1.2
AKET Djebel Ketaf 1.22 142 P Pn 01 49 36.8 +1.2
AKET Djebel Ketaf 1.22 142 P Pn 01 49 36.8 +1.2
EBNR Beni Rached 1.36 238 P Pn 01 49 37.6 +0.2
EBNR Beni Rached 1.36 238 P Pn 01 49 37.6 +0.2
EBNR Beni Rached 1.36 238 P Pn 01 49 37.6 +0.2
EANR 'Ain N'Sour 1.84 235 P Pb 01 49 45.5 -0.3
EANR 'Ain N'Sour 1.84 235 P Pb 01 49 45.5 -0.3
EANR 'Ain N'Sour 1.84 235 P Pb 01 49 45.5 -0.3
OKGL Djebel Kef Gue 2.11 243 P Pb 01 49 49.8 -0.6
24nm,0.3s,SNR=7.9
OKGL S **Sn 01 50 15.4 +0.9**
19nm,0.3s,SNR=7.9
OKGL Djebel Kef Gue 2.11 243 P Pb 01 49 49.8 -0.6
24nm,0.3s,SNR=7.9
OKGL S **Sn 01 50 15.4 +0.9**
19nm,0.3s,SNR=7.9
EIBI Ibiza 2.38 328 P Pn 01 49 53.0 +1.6
4.6nm,0.2s,SNR=7.9
EIBI S **Sn 01 50 21.1 0.0**
6.4nm,0.2s,SNR=7.9
EIBI Ibiza 2.38 328 P Pn 01 49 53.0 +1.6
4.6nm,0.2s,SNR=7.9
EIBI S **Sn 01 50 21.1 0.0**
6.4nm,0.2s,SNR=7.9
EBEN Beniarda 3.03 305 P Pn 01 50 01.6 +1.2
0.2nm,0.1s,SNR=7.9
EBEN S **Sn 01 50 36.8 -0.5**
0.6nm,0.3s,SNR=7.9
EBEN Beniarda 3.03 305 P Pn 01 50 01.6 +1.2
0.2nm,0.1s,SNR=7.9
EBEN S **Sn 01 50 36.8 -0.5**
0.6nm,0.3s,SNR=7.9
EMUR La Murta 3.45 285 P Pn 01 50 07.4 +1.3
0.3nm,0.2s,SNR=7.9
EMUR S **Sn 01 50 45.4 -2.0**
0.6nm,0.3s,SNR=7.9
EMUR La Murta 3.45 285 P Pn 01 50 07.4 +1.3
0.3nm,0.2s,SNR=7.9
EMUR S **Sn 01 50 45.4 -2.0**
0.6nm,0.3s,SNR=7.9
ETOB Tobarra 3.92 296 P Pn 01 50 14.0 +1.3
0.9nm,0.2s,SNR=11
ETOB S **Sn 01 50 57.8 -1.5**
0.6nm,0.3s,SNR=7.9
ETOB Tobarra 3.92 296 P Pn 01 50 14.0 +1.3
0.9nm,0.2s,SNR=11
ETOB S **Sn 01 50 57.8 -1.5**
0.6nm,0.3s,SNR=7.9
EMOS Mosqueruela 4.29 322 P Pn 01 50 20.1 +2.3
1.3nm,0.1s,SNR=22
EMOS S **Sn 01 51 06.6 -1.8**
1.2nm,0.2s
EMOS Mosqueruela 4.29 322 P Pn 01 50 20.1 +2.3
1.3nm,0.1s,SNR=22
EMOS S **Sn 01 51 06.6 -1.8**
1.2nm,0.2s
ERTA Horta de San J 4.43 333 P Pn 01 50 22.4 +2.7
0.3nm,0.2s,SNR=7.9
ERTA S **Sn 01 51 10.3 -1.5**
0.3nm,0.2s,SNR=7.9
ERTA Horta de San J 4.43 333 P Pn 01 50 22.4 +2.7
0.3nm,0.2s,SNR=7.9
ERTA S **Sn 01 51 10.3 -1.5**
0.3nm,0.2s,SNR=7.9
EHUE Huescar 4.49 282 P Pn 01 50 22.6 +2.1
0.2nm,0.2s,SNR=7.9
EHUE S **Sn 01 51 11.8 -1.6**
SNR=7.9
EHUE Huescar 4.49 282 P Pn 01 50 22.6 +2.1
0.2nm,0.2s,SNR=7.9
EHUE S **Sn 01 51 11.8 -1.6**
SNR=7.9
CFON Fontmartina 4.76 355 P Pn 01 50 26.1 +2.0
0.5nm,0.2s,SNR=7.9
CFON S **Sn 01 51 17.3 -2.5**
1.6nm,0.2s,SNR=7.9
CFON Fontmartina 4.76 355 P Pn 01 50 26.1 +2.0
0.5nm,0.2s,SNR=7.9
CFON S **Sn 01 51 17.3 -2.5**
1.6nm,0.2s,SNR=7.9
EQES Quesada 4.87 281 P Pn 01 50 28.5 +2.8
0.6nm,0.2s,SNR=11
EQES S **Sn 01 51 22.0 -0.6**
0.3nm,0.2s,SNR=7.9
EQES Quesada 4.87 281 P Pn 01 50 28.5 +2.8
0.6nm,0.2s,SNR=11
EQES S **Sn 01 51 22.0 -0.6**
0.3nm,0.2s,SNR=7.9
EMIR Miracle 5.01 348 P Pn 01 50 29.9 +2.2
3.2nm,0.2s,SNR=20
EMIR S **Sn 01 51 25.8 -0.4**
0.4nm,0.2s
EMIR Miracle 5.01 348 P Pn 01 50 29.9 +2.2
3.2nm,0.2s,SNR=20
EMIR S **Sn 01 51 25.8 -0.4**
0.4nm,0.2s
ETOR Torete 5.45 316 P Pn 01 50 35.1 +1.4
1.8nm,0.2s,SNR=7.9
ETOR S **Sn 01 51 35.5 -1.5**
0.4nm,0.2s,SNR=7.9
ETOR Torete 5.45 316 P Pn 01 50 35.1 +1.4
1.8nm,0.2s,SNR=7.9
ETOR S **Sn 01 51 35.5 -1.5**
0.4nm,0.2s,SNR=7.9
CLLI Llivia 5.51 352 P Pn 01 50 36.5 +2.0
0.4nm,0.2s,SNR=6.0
CLLI S **Sn 01 51 36.3 -2.1**
0.2nm,0.2s
CLLI Llivia 5.51 352 P Pn 01 50 36.5 +2.0
0.4nm,0.2s,SNR=6.0
CLLI S **Sn 01 51 36.3 -2.1**
0.2nm,0.2s
CSOR Sort 5.53 346 P Pn 01 50 37.1 +2.3
0.4nm,0.2s,SNR=8.7
CSOR S **Sn 01 51 36.2 -2.8**
0.3nm,0.2s,SNR=5.0
CSOR Sort 5.53 346 P Pn 01 50 37.1 +2.3
0.4nm,0.2s,SNR=8.7
CSOR S **Sn 01 51 36.2 -2.8**
0.3nm,0.2s,SNR=5.0
ESDC Sonseca Array 6.05 298 P Pn 01 50 44.3 +2.3
0.1nm,0.3s,baz=110,slow=13,SNR=4.7
ESDC S **Sn 01 51 49.6 -2.2**
0.1nm,0.5s,baz=113,slow=24,SNR=3.6
ESDC Sonseca Array 6.05 298 P Pn 01 50 44.3 +2.3
0.1nm,0.3s,SNR=4.7
ESDC S **Sn 01 51 49.6 -2.2**
0.1nm,0.5s,SNR=3.6

WEL 01 01:54:14.7±0.4, 41.63S×172.83E, h115km±4km, ML3.5/11, 5C-2D, Error ellipse: s-maj=2.1km s-min=1.8km az=90.0, South Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
THZ Tophouse 0.15 157 ⇑PN Pn 01 54 30.1 -0.6
NNZ Nelson 0.58 46 PN Pn 01 54 32.3 -0.4
NNZ SN Sn 01 54 44.9 -1.1
DSZ Denniston Nort 0.78 261 ⇓PN Pn 01 54 33.6 -0.6
BSWZ Blackbirch Sta 0.79 97 PN Pn 01 54 34.5 +0.2
BSWZ SN Sn 01 54 48.4 -0.6
BSWZ AML AML 01 54 48.5
QRZ Quartz Range 0.83 344 PN Pn 01 54 34.6 -0.1
TUWZ Tuamarina 0.86 77 ⇑PN Pn 01 54 34.9 0.0
TUWZ AML AML 01 54 50.0
TUWZ AML AML 01 54 50.0
KHZ Kahutara 0.95 146 ⇑PN Pn 01 54 35.9 +0.1
DUWZ D'Urville Isla 1.17 46 ⇑PN Pn 01 54 38.6 +0.5
TCW Tory Channel 1.17 70 PN Pn 01 54 38.2 +0.2
TCW AML AML 01 54 55.0
TCW AML AML 01 54 55.2
LTZ Lake Taylor 1.23 199 PN Pn 01 54 38.8 +0.1
SNZO South Karori 1.45 78 PN Pn 01 54 40.7 -0.4
SNZO AML AML 01 55 01.0
SNZO AML AML 01 55 01.1
BHW Baring Head 1.55 83 PN Pn 01 54 41.7 -0.6
BHW AML AML 01 55 02.2
BHW AML AML 01 55 02.5
KIW Kapiti Island 1.75 65 ⇓PN Pn 01 54 44.6 -0.2
CAW Cannon Point 1.77 74 PN Pn 01 54 44.3 -0.7
CAW AML AML 01 55 07.7
CAW AML AML 01 55 07.7
OXZ Oxford 1.80 199 PN Pn 01 54 44.6 -0.7
PLWZ Palliser 1.82 89 PN Pn 01 54 44.7 -1.1
MSWZ Moikau Station 1.83 84 PN Pn 01 54 44.9 -1.0
MSWZ AML AML 01 55 08.3
MSWZ AML AML 01 55 08.4
OGWZ Otaki Gorge 1.94 66 PN Pn 01 54 46.6 -0.6
PAWZ Paruwai Farm 1.97 84 PN Pn 01 54 46.4 -1.1
PAWZ AML AML 01 55 11.2
MTW Mount Morrison 2.07 78 PN Pn 01 54 47.5 -1.2
MTW AML AML 01 55 13.5
MTW AML AML 01 55 13.7
MQZ McQueen's Vall 2.08 183 PN Pn 01 54 47.9 -1.0
WVZ Waitaha Valley 2.12 226 PN Pn 01 54 49.3 -0.1
HOWZ Holdsworth Sta 2.15 71 PN Pn 01 54 48.8 -1.1
MRZ Mangatainoka R 2.29 66 PN Pn 01 54 50.5 -1.1
MRZ AML AML 01 55 03.0
TIWZ Tintock 2.46 71 PN Pn 01 54 52.4 -1.4
TIWZ AML AML 01 55 22.8
TIWZ AML AML 01 55 23.0
RPZ Rata Peaks 2.46 211 PN Pn 01 54 52.5 -1.3
LREZ Lake Rotokare 2.48 30 PN Pn 01 54 55.9 +1.9
WAZ Wanganui 2.49 42 PN Pn 01 54 55.4 +1.2
KHEZ Kahui Hut 2.50 22 PN Pn 01 54 55.6 +1.2
PKE Pukeiti 2.58 20 ⇑PN Pn 01 54 57.0 +1.5
BFZ Birch Farm 2.75 71 PN Pn 01 54 55.9 -1.6
FOZ Fox Glacier 3.02 229 PN Pn 01 54 59.4 -1.6
ODZ Otahua Downs 3.77 204 PN Pn 01 55 10.2 -0.8
JCZ Jackson Bay 3.86 229 PN Pn 01 55 11.3 -1.1

IDC 01 02:04:05.9±2.0, 7.13S×128.84E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.2/33, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=115.5km s-min=31.9km az=66.0, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 13.81 158 Pn Pn 02 07 22.6 -0.6
0.1nm,0.3s,baz=337,slow=13,SNR=7.8
WRA Sn Sn 02 09 43.2 -14
0.2nm,0.3s,baz=336,slow=22,SNR=6.0
ASAR Alice Springs 17.15 164 P Pn 02 08 07.7 +0.5
0.1nm,0.3s,baz=336,slow=10,SNR=4.2
MKAR Makanchi Array 67.70 327 P P 02 15 05.2 0.0
0.2nm,0.5s,baz=130,slow=5.8,SNR=2.8

IDC 01 02:06:25.9±26.0, 22.13S×173.56W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/31, mbtmp4.2/4, MS2.5/1, Ms1 2.5/1, ms1mx2.2/27, Error ellipse: s-maj=490.3km s-min=154.6km az=76.0, Tonga Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 8.11 208 LR LR 02 13 08.4
comp=Z,26nm,18.1s,baz=29,slow=50
CTA Charters Tower 37.47 266 P P 02 13 42.3 +0.7
5.8nm,0.3s,baz=95,slow=11,SNR=16
STKA Stephens Creek 40.88 246 P P 02 14 08.8 -1.2
1.1nm,0.5s,baz=91,slow=11,SNR=3.5
ASAR Alice Springs 48.20 258 P P 02 15 08.2 -0.4
0.8nm,0.5s,baz=94,slow=7.1,SNR=12
WRA Warramunga Arr 48.49 262 P P 02 15 10.8 0.0
1.7nm,0.3s,baz=97,slow=8.4,SNR=74

ISCJB 01 02:18:17.0±0.5, 56.08S±0.09×27.7W±0.2, h121km, mb4.4/17, Error ellipse: s-maj=13.7km s-min=11.6km az=39.4
NEIC 01 02:18:17.1±2.1, 56.11S×27.76W, h110km±19km, mb4.6/7, Error ellipse: s-maj=10.0km s-min=7.4km az=221.0
IDC 01 02:18:18.0±2.5, 56.10S×27.81W, h117km±21km, mb4.1/14, mb1 4.2/15, mb1mx4.0/31, mbtmp4.5/15, MS3.6/1, Ms1 3.5/1, ms1mx2.7/17, Error ellipse: s-maj=15.4km s-min=13.4km az=58.0
ISC 01 02:18:18.2±0.4, 56.1S±0.1×27.8W±0.1, h121km, n45, σ0§89/51, mb4.4/16, South Sandwich Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SNAA Sanae 18.83 156 P P 02 22 26.8 -1.4
2.3nm,0.3s,baz=311,slow=11,SNR=140
SNAA Sanae 18.83 156 eP P 02 22 26.8 -1.4
27nm,0.6s
USHA Ushuaia 22.83 256 P P 02 23 10.8 +0.2
4.7nm,0.8s,baz=81,slow=16,SNR=5.7
TRQA Tornquist 29.03 294 eP P 02 24 06.7 0.0
6.6nm,0.7s
PLCA Paso Flores 31.67 281 LR LR 02 37 30.3
comp=Z,94nm,19.8s,baz=108,slow=36
QSPA South Pole Qui 34.14 180 P P 02 24 51.4 +0.1
3.4nm,0.3s,baz=158,slow=0.9,SNR=15
QSPA PcP **PcP 02 27 25.7 +0.4**
1.3nm,0.4s,baz=280,slow=1.6,SNR=4.3
QSPA South Pole Qui 34.14 180 eP P 02 24 51.7 +0.5
3.6nm,0.4s
QSPA PcP **PcP 02 27 25.7 +0.4**
CPUP Villa Florida 36.59 312 P P 02 25 12.4 +0.1
3.1nm,0.6s,baz=127,slow=7.9,SNR=6.3
CPUP PcP **PcP 02 27 32.1 -0.9**
0.9nm,0.5s,baz=132,slow=6.0,SNR=3.6
CFAA Coronel Fontan 37.27 294 P P 02 25 16.9 -1.2
0.9nm,0.5s,baz=148,slow=7.0,SNR=20
CFAA PcP **PcP 02 27 34.3 -0.8**
0.3nm,0.8s,baz=138,slow=4.2,SNR=4.2
LVC Limon Verde 45.03 301 eP P 02 26 22.9 +0.9
18nm,0.6s
VNDA Vanda 46.50 183 P P 02 26 33.2 +0.8
2.3nm,0.6s,baz=163,slow=7.7,SNR=4.9
LBTB Lobatse 49.36 74 P P 02 26 55.6 +0.3
1.9nm,0.5s,baz=237,slow=5.9,SNR=5.6
LPAZ La Paz 50.13 306 P P 02 27 02.7 +0.9
8.6nm,0.5s,baz=112,slow=4.5,SNR=41
LPAZ La Paz 50.13 306 eP P 02 27 02.7 +0.9
6.2nm,0.4s
SAML Samuel 54.60 315 eP P 02 27 34.0 0.0
5.9nm,0.9s
LSZ Lusaka 58.72 69 P P 02 28 03.0 -0.3
0.7nm,0.4s,baz=210,slow=4.4,SNR=3.5
DBIC Dimbokro 65.37 25 P P 02 28 47.6 +0.1
5.3nm,0.7s,baz=182,slow=5.6,SNR=14
DBIC Dimbokro 65.37 25 eP P 02 28 47.7 +0.2
4.6nm,0.6s
TOA0 Torodi Ar. Sit 73.28 30 eP P 02 29 36.6 +0.4
TORD Torodi Ar. Bea 73.28 30 P P 02 29 36.6 +0.5
15nm,0.7s,baz=199,slow=6.4,SNR=249
MDT Midelt 90.76 19 P P 02 31 08.4 +1.3
1.6nm,0.9s,baz=127,slow=4.3,SNR=5.3
TEIG Tepich 91.46 305 P P 02 31 11.6 +1.1
8.3nm,0.4s,baz=67,slow=0.8,SNR=26
STKA Stephens Creek 91.90 171 P P 02 31 13.2 +0.5
0.8nm,0.6s,baz=221,slow=9.3,SNR=2.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	99.03	163	P	Pdif	02 31 46.8	+1.5
	0.3nm,0.7s,baz=188,slow=3.7,SNR=3.1						
WRA	Warramunga Arr	102.75	163	P	Pdif	02 32 01.8	0.0
	0.7nm,1.2s,baz=195,slow=4.4,SNR=3.0						
WRA				PKKPbc	PKKPbc	02 47 58.2	+0.9
	0.2nm,0.3s,baz=355,slow=2.9,SNR=7.9						
PDAR	Pinedale Array	120.08	303	PKP	PKPdf	02 36 54.2	+0.2
	0.6nm,0.9s,baz=165,slow=3.7,SNR=4.2						
NOA	NORSAR Array B	120.79	21	PKP	PKPdf	02 36 53.8	-0.7
	0.5nm,0.6s,baz=205,slow=2.2,SNR=3.2						
NVAR	Mina Array Bea	121.10	293	PKP	PKPdf	02 36 57.0	+0.9
	0.3nm,0.5s,baz=135,slow=2.7,SNR=5.1						
FRB	Frobisher Bay	123.58	340	PKP	PKPdf	02 36 59.0	-0.6
	2.2nm,0.7s,baz=108,slow=3.2,SNR=4.2						
FINES	FINESS Array B	124.60	28	PKP	PKPdf	02 37 01.2	-0.5
	1.5nm,0.5s,baz=143,slow=0.7,SNR=15						
KAF	Kangasniemi	125.22	28	epkp	PKPdf	02 37 02.0	-0.9
JOF	Joensuu	127.22	30	epkp	PKPdf	02 37 06.0	-0.7
ARCES	ARCESS Array B	131.13	22	PKP	PKPdf	02 37 13.6	-0.4
	2.1nm,0.8s,baz=188,slow=0.6,SNR=11						
YKA	Yellowknife Ar	135.98	318	PKP	PKPdf	02 37 22.9	-0.3
	1.2nm,0.6s,baz=127,slow=2.3,SNR=23						
YKA				PP	PP	02 40 01.2	-3.7
	0.3nm,0.8s,baz=119,slow=5.9,SNR=4.3						
YKA				SKPbc	SKPbc	02 40 42.6	-1.0
	0.4nm,0.8s,baz=133,slow=1.9,SNR=5.0						
MKAR	Makanchi Array	137.24	72	PKP	PKPdf	02 37 25.4	-0.7
	0.4nm,0.6s,baz=232,slow=1.4,SNR=4.7						
ZALV	Zalesovo Beam	142.71	64	PKhKP	PKPpre	02 37 30.9	
	0.7nm,0.4s,baz=223,slow=3.5,SNR=5.1						
INK	Inuvik	145.63	321	ePKPbc	PKPbc	02 37 41.0	0.0
EGAK	Eagle	147.52	313	ePKPbc	PKPbc	02 37 47.0	+0.5
DOT	Dot Lake	148.42	310	ePKPbc	PKPbc	02 37 49.1	+0.1
ILAR	Eielson Array	149.90	312	PKPbc	PKPbc	02 37 52.5	-0.1
	6.3nm,0.7s,baz=129,slow=1.8,SNR=82						
COLA	College	150.32	312	ePKPbc	PKPbc	02 37 53.5	-0.1
COLA				ePKPab	PKPab	02 38 00.8	+0.4
MCK	McKinley	150.54	309	ePKPbc	PKPbc	02 37 54.5	+0.3
SONM	Songino Array	151.08	87	PKPbc	PKPbc	02 37 55.7	-0.4
	4.5nm,0.7s,baz=223,slow=3.3,SNR=34						
COLD	Coldfoot	151.62	316	ePKPbc	PKPbc	02 37 57.4	+0.8
IM04	Indian Mountai	152.94	313	ePKPbc	PKPbc	02 37 60.0	+0.4

DJA 01 02:20:31.9±0.4, 8˚S±13˚×11˚4E±˚, h10km, M3.7/5, MLv3.7/5
ISCJB 01 02:20:39.5±0.7, 6.44S±0.08×113.15E±0.08, h10km, mb3.5/6, Error ellipse: s-maj=11.9km s-min=10.8km az=138.3
IDC 01 02:20:40.0±2.6, 6.42S×113.08E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/27, mbtmp3.6/6, Error ellipse: s-maj=156.3km s-min=19.7km az=53.0
ISC 01 02:20:40.8±0.9, 6.53S±0.10×113.11E±0.07, h10km, n11, σ1.45/12, mb3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABJI	Asem Bagus	1.68	138	P	Pn	02 21 08.3	-1.9
PCJI	Pacitan	2.53	229	P	Pn	02 21 11.6	-10
PCJI				S	Sn	02 21 54.0	+1.1
SMRI	Semarang	2.70	259	P	Pb	02 21 27.6	-1.7
SMRI				S	Sg	02 22 06.5	-1.2
UGM	Wanagama	2.91	242	P	Pg	02 21 38.1	+1.5
LEM	Lembang	5.47	267	P	Pg	02 22 26.7	+1.1
WRA	Warramunga Arr	24.54	125	P	P	02 26 02.0	+1.1
	0.7nm,0.9s,baz=299,slow=11,SNR=5.1						
ASAR	Alice Springs	26.26	133	P	P	02 26 18.6	+2.2
	0.8nm,0.6s,baz=307,slow=8.8,SNR=8.7						
CMAR	Chiang Mai Arr	28.50	331	P	P	02 26 36.6	+0.1
	0.8nm,0.3s,baz=163,slow=6.6,SNR=8.3						
SONM	Songino Array	54.46	354	P	P	02 30 08.9	+0.4
	0.1nm,0.4s,baz=179,slow=5.8,SNR=2.4						
MKAR	Makanchi Array	59.73	336	P	P	02 30 46.0	+0.2
	0.3nm,0.5s,baz=159,slow=7.3,SNR=4.4						
ZALV	Zalesovo Beam	64.79	342	P	P	02 31 18.8	-0.6
	0.3nm,0.3s,baz=160,slow=4.6,SNR=3.2						

DJA 01 02:27:13.0±1.3, 7˚S±6˚×10˚4E±1˚1, h30km, M3.7/4, MLv3.7/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KASI	Kota Agung	1.64	19	P	Pn	02 27 39.2	-0.6
KASI				S	Sn	02 28 00.4	+0.5
CGJI	Cibinong	1.79	75	P	Pn	02 27 42.4	+0.5
LWLI	Liwa	2.05	3	P	Pn	02 27 45.8	+0.2
LWLI				S	Sn	02 28 11.9	+1.5
MDSI	Maura Dua	2.59	5	P	Pn	02 27 53.0	+0.1
MDSI				S	Sn	02 28 25.8	+2.5

IDC 01 02:30:07.2±9.7, 5.37S×154.80E, h411km±102km, mb2.6/5, mb1 2.8/5, mb1mx2.7/21, mbtmp3.3/5, Error ellipse: s-maj=66.9km s-min=37.1km az=108.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.61	232	P	P	02 34 53.2	+0.3
	0.3nm,0.5s,baz=54,slow=9.4,SNR=6.2						
ASAR	Alice Springs	27.13	226	P	P	02 35 14.8	-0.3
	0.1nm,0.3s,baz=58,slow=8.9,SNR=2.8						
SONM	Songino Array	67.87	327	P	P	02 40 23.5	+0.4
	0.2nm,0.5s,baz=137,slow=5.1,SNR=2.2						
ILAR	Eielson Array	81.94	22	P	P	02 41 42.0	0.0
	0.2nm,0.6s,baz=244,slow=4.9,SNR=4.7						
MKAR	Makanchi Array	82.06	319	P	P	02 41 42.2	-0.9
	0.2nm,0.6s,baz=104,slow=6.9,SNR=4.1						
TORD	Torodi Ar. Bea	152.37	288	PKPbc	PKPbc	02 49 16.8	+0.3
	0.2nm,0.5s,baz=66,slow=2.2,SNR=2.8						

MAN 01 02:41:50, 8.87N×126.45E, h14km, mb4.8, ML3.8, MS3.8, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	Bislig	0.68	187	⇓eP	Pg	02 42 03.2	-0.1
BIPH				eS	Sg	02 42 11.6	-0.8
BUTP	Butuan	0.82	277	eP	Pg	02 42 05.3	-0.7
BUTP				eS	Sn	02 42 19.8	+0.6
SCPH	Surigao	1.31	314	⇑eP	Pn	02 42 12.8	-1.2
BUKP	Musuan	1.69	235	eP	Pn	02 42 18.8	-0.4
BUKP				eS	Sg	02 42 43.9	-0.6
CGP	Cagayan de Oro	1.78	257	⇑eP	Pn	02 42 19.7	-0.7
CGP				iS	Sn	02 42 43.5	+0.5
PLP	Palo	2.71	328	⇓eP	Pn	02 42 32.9	-0.3
PLP				eS	Sn	02 43 07.8	+2.1
PAGZ	Pagadian	3.20	252	eP	Pn	02 42 41.5	+1.6

IDC 01 02:57:00.1±11.0, 18.02S×170.18E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/33, mbtmp3.4/3, Error ellipse: s-maj=326.0km s-min=51.1km az=133.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.91	261	P	P	03 03 45.0	-0.1
	0.3nm,0.8s,baz=91,slow=8.8,SNR=8.3						
ASAR	Alice Springs	34.30	254	P	P	03 03 48.5	-0.1
	0.4nm,0.5s,baz=83,slow=8.8,SNR=8.2						
SONM	Songino Array	86.79	323	P	P	03 09 46.4	0.0
	0.1nm,0.5s,baz=119,slow=5.1,SNR=2.7						

IDC 01 03:14:14.2±1.8, 50.89S×116.81E, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/23, mbtmp4.2/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/14, Error ellipse: s-maj=56.4km s-min=43.0km az=125.0
ISC 01 03:14:15.9±1.7, 50.9S±0.3×116.8E±0.4, h10km, n18, σ1.03/8, mb4.2/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	16.10	352	T	T	03 34 34.2	
	baz=174,slow=75,SNR=22						
H01W1	Cape Leeuwin H	16.10	352	T	T	03 34 35.7	
	baz=174,slow=75,SNR=28						
H01W3	Cape Leeuwin H	16.11	352	T	T	03 34 35.2	
	baz=174,slow=75,SNR=36						
STKA	Stephens Creek	26.37	53	P	P	03 19 53.1	+1.0
	2.3nm,0.8s,baz=212,slow=14,SNR=3.1						
ASAR	Alice Springs	30.23	32	P	P	03 20 26.2	-0.5
	3.0nm,0.9s,baz=214,slow=8.5,SNR=16						
VNDA	Vanda	31.50	163	LR	LR	03 32 19.9	
	comp=Z,76nm,18.2s,baz=322,slow=34						
WRA	Warramunga Arr	33.84	31	P	P	03 20 57.8	-0.6
	3.7nm,1.0s,baz=200,slow=8.4,SNR=8.3						
H08S2	Diego Garcia H	56.53	304	T	T	04 24 56.3	
	baz=148,slow=76,SNR=12						
H08S1	Diego Garcia H	56.55	304	T	T	04 24 57.1	
	baz=148,slow=76,SNR=9.8						
H08S3	Diego Garcia H	56.55	304	T	T	04 24 56.5	
	baz=148,slow=76,SNR=14						
H08N1	Diego Garcia H	58.41	303	T	T	04 27 21.4	
	baz=134						
H08N3	Diego Garcia H	58.42	303	T	T	04 27 21.0	
	baz=134						
H08N2	Diego Garcia H	58.43	303	T	T	04 27 19.3	
	baz=134						
CMAR	Chiang Mai Arr	70.81	342	P	P	03 25 33.0	+0.5
	0.7nm,0.3s,baz=194,slow=5.0,SNR=4.6						
ILAR	Eielson Array	136.79	38	PKP	PKPdf	03 33 36.8	-0.4
	0.2nm,0.8s,baz=217,slow=4.4,SNR=3.1						
NVAR	Mina Array Bea	139.77	86	PKP	PKPdf	03 33 45.0	+1.2
	0.3nm,0.7s,baz=219,slow=5.2,SNR=4.2						
PDAR	Pinedale Array	147.71	86	PKPbc	PKPbc	03 33 60.0	-0.4
	0.9nm,0.8s,baz=222,slow=2.0,SNR=7.7						
YKA	Yellowknife Ar	150.31	47	PKPbc	PKPbc	03 34 04.6	-1.3
	2.6nm,0.9s,baz=277,slow=2.0,SNR=30						

IDC 01 03:17:56.8±3.3, 2.37S×134.99E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.5/22, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=187.0km s-min=24.8km az=81.0
ISCJB 01 03:18:00.9±0.8, 2.6S±0.1×134.24E±0.09, h30km, mb3.5/2, Error ellipse: s-maj=17.4km s-min=9.1km az=139.8
DJA 01 03:18:00.0±0.7, 3˚S±5˚×13˚4E±˚, h10km, M3.6/3, MLv3.6/3
ISC 01 03:18:01.7±1.2, 2.6S±0.2×134.38E±0.09, h30km, n6, σ1.13/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.15	261	P	Pn	03 18 34.5	-1.0
FAKI				S	Sb	03 19 06.6	+0.3
BAKI	Biak	2.22	51	P	Pn	03 18 37.0	+0.6
BAKI				S	Sb	03 19 06.4	-1.8
WRA	Warramunga Arr	17.25	180	P	P	03 22 01.8	0.0
	0.0nm,0.3s,baz=172,slow=12,SNR=3.3						
ASAR	Alice Springs	20.96	181	P	Pn	03 22 44.3	-0.8
	2.0nm,0.9s,baz=172,slow=12,SNR=9.5						
SONM	Songino Array	55.86	338	P	P	03 27 36.9	+0.3
	0.2nm,0.6s,baz=140,slow=7.6,SNR=2.5						
MKAR	Makanchi Array	67.10	324	P	P	03 28 53.1	+0.6
	0.5nm,0.6s,baz=112,slow=7.7,SNR=8.4						

JMA 01 03:26:55.6, 36.42N×138.06E, h9km±1km, M0.4, 1C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNG	Nsakai	0.04	112	P	Pg	03 26 57.3	-0.1
JNG				S	Sg	03 26 58.6	-0.2
MAT	Matsushiro	0.17	44	⇑P	Pg	03 26 59.2	-0.1
MAT				S	Sg	03 27 01.7	-0.1
MAT	Matsushiro	0.17	44	P	Pg	03 26 59.1	-0.2
MAT				S	Sg	03 27 01.8	0.0

CSEM 01 03:40:57.5±0.1, 40.50N×21.57E, h19km±1km, MD2.7, Error ellipse: s-maj=3.9km s-min=3.0km az=56.0
ATH 01 03:40:57.9, 40.48N×21.56E, h19km±3km, MD2.7/6
SKO 01 03:40:58.9, 40.53N×21.54E, h13km, M1.4, ML1.8
THE 01 03:40:58.1, 40.50N×21.57E, h14km±1km, ML1.8/4, Error ellipse: s-maj=1.9km s-min=0.6km az=263.0
ISC 01 03:40:58.0±1.1, 40.50N±0.03×21.56E±0.02, h19km±2km, n26, σ0.58/44, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZN	Kozani	0.25	140	P	Pb	03 41 03.3	-0.4
KZN				S	Sb	03 41 07.5	0.0
KZN	Kozani	0.25	140	ePB	Pb	03 41 03.4	-0.3
KZN				eSB	Sg	03 41 07.8	0.0
KZN	Kozani	0.25	140	ePb	Pb	03 41 03.4	-0.3
KZN				S	Sb	03 41 07.5	0.0
FNA	Florina	0.32	334	P	Pg	03 41 04.8	-0.2
FNA				S	Sg	03 41 10.1	+0.3
FNA	Florina	0.32	334	ePB	Pg	03 41 04.8	-0.2
FNA				eSB	Sg	03 41 10.1	+0.3
FNA	Florina	0.32	334	P	Pg	03 41 04.8	-0.2
FNA				S	Sg	03 41 10.1	+0.3
NEST	Nestorio	0.40	258	P	Pg	03 41 06.0	-0.4
NEST				S	Sg	03 41 12.4	+0.4
NEST	Nestorio	0.40	258	ePB	Pg	03 41 05.9	-0.4
NEST				eSB	Sg	03 41 12.5	+0.4
NEST	Nestorio	0.40	258	P	Pg	03 41 06.0	-0.4
NEST				S	Sg	03 41 12.4	+0.4
BIA	Bitola	0.55	341	P	Pb	03 41 07.7	-1.3
BIA				S	Sb	03 41 17.2	+0.6
BIA	Bitola	0.55	341	iPg	Pb	03 41 08.5	-0.6
BIA				iSg	Sg	03 41 17.9	+1.3
BIA	Bitola	0.55	341	P	Pb	03 41 07.7	-1.3
BIA	Bitola	0.55	341	iPg	Pb	03 41 08.4	-0.6
BIA				S	Sg	03 41 17.2	+0.6
KBN	Korca	0.60	282	P	Pb	03 41 09.7	-0.2
KBN				S	Sg	03 41 19.1	+0.9
KBN	Korca	0.60	282	P	Pb	03 41 09.7	-0.2
KBN				S	Sg	03 41 19.1	+0.9
GRG	Griva	0.79	54	ePN	Pg	03 41 13.7	+0.2
GRG	Griva	0.79	54	ePn	Pg	03 41 13.7	+0.2
LIT	Litokhoron	0.81	119	P	Pb	03 41 13.3	-0.2
LIT				S	Sg	03 41 25.4	+0.7
LIT	Litokhoron	0.81	119	ePN	Pb	03 41 13.5	0.0
LIT	Litokhoron	0.81	119	ePn	Pb	03 41 13.5	0.0
LIT				S	Sg	03 41 25.4	+0.7
THL	Klokotos Trika	0.99	159	ePB	Pb	03 41 16.0	-0.6
THL	Klokotos Trika	0.99	159	ePb	Pb	03 41 16.0	-0.6
VAY	Valandovo	1.12	43	iPg	Pg	03 41 19.4	-0.4
VAY				iSg	Sg	03 41 34.1	-0.5
VAY				iLg	Lg	03 41 39.0	
	comp=E,6.9nm,0.6s						
VAY				iLg	Lg	03 41 39.3	
	comp=N,6.9nm,0.4s						
VAY	Valandovo	1.12	43	iPg	Pg	03 41 19.4	-0.4
VAY				iSg	Sg	03 41 34.1	-0.5
VAY				iLg	Lg	03 41 39.3	
	comp=N,6.9nm,0.4s						
SKO	Skopje	1.48	357	iPg	Pb	03 41 25.5	+0.6
SKO				iLg	Lg	03 41 49.2	
	comp=E,14nm,0.8s						
SKO				iLg	Lg	03 41 50.0	
	comp=N,48nm,1.3s						
SKO	Skopje	1.48	357	iPg	Pb	03 41 25.4	+0.6
SKO				iLg	Lg	03 41 49.9	
	comp=N,48nm,1.3s						

DJA 01 03:41:38.9±0.8, 8˚S±4˚×10˚3E±˚, h30km, M4.4/9, mb4.7/2, MLv4.3/9, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KASI	Kota Agung	2.65	29	P	Pn	03 42 19.9	+0.3
KASI				S	Sn	03 42 49.9	-0.8
CGJI	Cibinong	2.76	64	P	Pn	03 42 22.6	+1.5
CGJI				S	Sn	03 42 54.5	+1.0
LWLI	Liwa	2.94	17	P	Pn	03 42 25.1	+1.3
LWLI				S	Sn	03 43 00.5	+2.3
KLI	Kotabumi	3.39	29	P	Pn	03 42 30.6	+0.7
MDSI	Maura Dua	3.48	16	P	Pn	03 42 30.2	-0.8
CNJI	Cibinong	3.93	82	P	Pn	03 42 38.9	+1.6
LEM	Lembang	4.50	77	P	Pn	03 42 48.4	+3.1
UGM	Wanagama	7.25	91	P	Pn	03 43 23.9	+0.9
	148nm,1.6s,1.0nm						
PCJI	Pacitan	7.91	93	P	Pn	03 43 34.4	+2.5

YARS 01 03:45:35.5±0.6, 56.28N±0.01×132.18E±0.04, h10km, MSV2.3, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BMKR	Bomnak	2.47	232	eP	Pb	03 46 19.3	-0.6
BMKR					Pm	03 46 19.3	
	comp=Z,10.0nm,0.5s						
BMKR				eS	Sb	03 46 52.0	+1.7
BMKR					Sm	03 46 52.0	
	comp=E,16nm,0.4s						
CGD	Chagda	2.62	342	eP	Pb	03 46 23.3	+0.9
CGD					Pm	03 46 23.3	
	comp=Z,7.0nm,0.3s						
CGD				eS	Sb	03 46 56.9	+2.3
CGD					Sm	03 46 56.9	
	comp=E,40nm,0.4s						
CGD	Chagda	2.62	342	eP	Pg	03 46 25.2	-0.4
CGD				eS	Sg	03 46 57.5	-2.0
CGD					Sm	03 46 57.5	
	comp=N,4.0nm,0.2s						
CLNS	Chul'man	4.07	281	eS	Sb	03 47 41.2	+4.6
CLNS					Sm	03 47 41.2	
	comp=N,28nm,0.5s						
CLNS	Chul'man	4.07	281	eS	Sb	03 47 41.2	+4.6
CLNS					Sm	03 47 41.2	
	comp=E,2.0nm,0.3s						
IENR	Iengra	4.09	272	eS	Sb	03 47 41.5	+4.5
IENR					Sm	03 47 41.5	
	comp=N,25nm,0.2s						
IENR	Iengra	4.09	272	eS	Sb	03 47 41.5	+4.5
IENR					Sm	03 47 41.5	
	comp=E,3.0nm,0.7s						
ALDR	Aldan	4.34	305	eS	Sg	03 47 49.7	-5.2
ALDR	Aldan	4.34	305	eS	Sg	03 47 49.7	-5.2
ALDR					Sm	03 47 49.7	
	comp=N,4.0nm,0.2s						
TBGR	Tabaga	5.71	348	eS	Sg	03 48 31.3	-7.3
TBGR					Sm	03 48 31.3	
	comp=E,8.0nm,0.8s						
TBGR	Tabaga	5.71	348	eS	Sb	03 48 30.6	+7.1

ISCJB 01 03:51:57.8±0.3, 11.03N±0.09×85.07W±0.08, h206km±3km, mb3.7/15, Error ellipse: s-maj=19.1km s-min=5.3km az=40.9
CASC 01 03:51:58.4±2.8, 11.04N×85.15W, h199km±9km, MD4.1
IDC 01 03:51:59.0±0.6, 11.17N×84.79W, h198km±6km, mb3.6/15, mb1 3.7/15, mb1mx3.5/40, mbtmp4.1/15, Error ellipse: s-maj=22.1km s-min=9.5km az=59.0
ISC 01 03:51:58.8±0.5, 11.02N±0.09×85.09W±0.08, h203km±4km, n52, σ0.96/80, mb3.9/15, 2C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MESS	Mesas	0.29	201	iP	Pn	03 52 26.0	+0.2
PTEN	Parque Tenorio	0.32	162	⇑iP	Pn	03 52 26.2	+0.4
PTEN				iS	S	03 52 46.9	0.0
GUAB	Guayabo de Bag	0.34	204	iP	Pn	03 52 25.9	0.0
GPS1	Guardaparques	0.35	227	iP	Pn	03 52 25.9	0.0
GPS1				iS	S	03 52 47.0	0.0
LIM1	Limonal	0.36	207	iP	Pn	03 52 25.9	0.0
GB1A	Borinquen Arri	0.36	237	iP	Pn	03 52 26.1	+0.1
GB1A				iS	S	03 52 47.1	+0.1
COLC	Colonia	0.37	198	iP	Pn	03 52 25.9	0.0
GPS3	Bodega del ICE	0.38	226	iS	S	03 52 46.9	-0.2
BUEV	Buena Vista	0.38	235	iP	Pn	03 52 25.7	-0.3
BUEV				iS	S	03 52 46.8	-0.3
GBS2	Las Lilas	0.40	244	iP	Pn	03 52 25.8	-0.2
GBS2				iS	S	03 52 47.0	0.0
AMAS	Alto Masis	0.41	167	iP	Pn	03 52 25.3	-0.8
AMAS				iS	S	03 52 46.0	-1.5
LAPC	Finca la Perla	0.42	234	iP	Pn	03 52 25.4	-0.6
LAPC				iS	S	03 52 46.1	-1.1
GBS3	Finca Las Im^¡	0.43	237	iP	Pn	03 52 25.4	-0.7
GBS3				iS	S	03 52 46.5	-0.7
BANL	Banca Lucia	0.55	153	iP	Pn	03 52 27.3	+0.7
BANL				iS	S	03 52 48.1	-0.1
NY14	Universidad de	0.57	230	iP	Pn	03 52 26.2	-0.3
NY14				iS	S	03 52 47.2	-0.9
CEDE	Laguna Cede˜–o	0.65	144	iP	Pn	03 52 27.7	+0.7
CEDE				iS	S	03 52 48.7	-0.2
CASO	Castillo	0.68	149	iP	Pn	03 52 27.6	+0.5
CASO				iS	S	03 52 48.6	-0.5
A494	Palo Verde	0.71	201	iP	Pn	03 52 27.1	-0.1
A494				iS	S	03 52 48.6	-0.7
A495	El Viejo	0.72	210	iP	Pn	03 52 26.9	-0.3
A495				iS	S	03 52 48.4	-0.9
JTS	JuntasAbangare	0.73	170	P	Pn	03 52 27.1	-0.2
	267nm,0.3s,baz=7.6,slow=5.6,SNR=1124						
JTS				S	S	03 52 48.2	-1.4
	2μm,0.3s,baz=341,slow=22,SNR=104						
A492	Arado	0.94	212	iP	Pn	03 52 27.8	-0.7
A492				iS	S	03 52 49.9	-1.6
JCR	Jicaral	1.16	181	eP	Pn	03 52 29.4	-0.8
CGA2	Cerro Gallo 2	1.17	148	eP	Pn	03 52 30.2	-0.1
CGA2				eS	S	03 52 53.4	-1.1
SJS	Escuela Geolog	1.48	136	eP	Pn	03 52 33.1	+0.4
SJS				eS	S	03 52 59.8	+1.0
QCR	Quepos	1.82	150	⇑eP	Pn	03 52 37.0	+1.2
QCR				eS	S	03 53 03.2	-0.9
BUS	Buena Vista	1.95	138	⇓eP	Pn	03 52 38.3	+0.7
BUS				eS	S	03 53 07.4	+0.2
ACR	Cerro Adams	3.02	141	eP	Pn	03 52 49.5	+0.6
CNCH	Conchagua	3.50	310	eP	Pn	03 52 55.6	+0.9
CNCH				eS	S	03 53 36.1	-1.9
VSM	San Miguel	3.93	308	eP	Pn	03 53 01.6	+1.5
LFRS	El Faro	4.67	304	eP	Pn	03 53 10.2	+1.0
LFRS				eS	S	03 54 01.4	-2.8
SNET	Serv Nac Est T	4.84	304	eP	Pn	03 53 12.2	+0.9
BOQS	Boqueron	4.91	304	eP	Pn	03 53 13.8	+1.5
SBLS	San Blas	5.24	303	eP	Pn	03 53 17.9	+1.2
TXAR	Lajitas Array	25.16	319	P	P	03 57 06.9	+1.3
	0.2nm,0.5s,baz=150,slow=9.3,SNR=3.5						
TXAR				pP	pP	03 57 46.1	+0.4
	0.8nm,0.9s,baz=133,slow=9.2,SNR=4.6						
TXAR				PcP	PcP	04 00 35.5	+1.4
	1.1nm,0.8s,baz=134,slow=5.4,SNR=8.9						
PTGA	Pitinga	27.57	113	P	P	03 57 26.6	-0.6
	2.9nm,0.8s,baz=343,slow=11,SNR=3.8						
SIV	San Ignacio	35.85	138	P	P	03 58 40.0	+0.6
	8.4nm,0.7s,baz=325,slow=9.6,SNR=21						
PDAR	Pinedale Array	38.14	330	PcP	PcP	04 01 09.4	+0.2
	0.7nm,1.1s,baz=147,slow=5.1,SNR=3.2						
ULM	Lac du Bonnet	40.12	349	P	P	03 59 13.5	-1.1
	2.5nm,0.6s,baz=142,slow=4.1,SNR=4.5						
NVAR	Mina Array Bea	40.30	318	P	P	03 59 19.2	+2.6
	0.7nm,0.7s,baz=135,slow=7.3,SNR=7.1						
NVAR				pP	pP	04 00 01.6	+1.9
	0.6nm,0.9s,baz=126,slow=5.6,SNR=3.3						
NVAR				PcP	PcP	04 01 17.8	+1.6
	1.1nm,0.7s,baz=132,slow=4.5,SNR=12						
BDFB	Brasilia	45.26	125	P	P	03 59 55.9	-0.7
	5.2nm,0.6s,baz=284,slow=9.1,SNR=10						
SCHQ	Schefferville	46.03	15	P	P	04 00 01.6	-0.3
	5.0nm,0.5s,baz=207,slow=5.6,SNR=25						
SCHQ				PcP	PcP	04 01 33.9	-0.9
	1.0nm,0.5s,baz=218,slow=12,SNR=4.2						
PLCA	Paso Flores	53.22	166	P	P	04 00 57.5	+1.1
	4.6nm,0.6s,baz=343,slow=8.1,SNR=7.5						
FRB	Frobisher Bay	53.94	9	P	P	04 01 00.1	-1.1
	2.2nm,0.6s,baz=233,slow=5.4,SNR=4.6						
YKA	Yellowknife Ar	55.61	344	P	P	04 01 12.4	-0.7
	0.3nm,0.6s,baz=142,slow=6.8,SNR=7.4						
YKA				pP	pP	04 01 59.5	+0.7
	0.8nm,0.7s,baz=136,slow=7.4,SNR=10						
ILAR	Eielson Array	68.26	336	P	P	04 02 36.9	-0.5
	0.2nm,0.6s,baz=126,slow=5.3,SNR=6.7						
EKA	Eskdalemuir Ar	76.43	36	P	P	04 03 25.2	-0.7
	2.0nm,0.9s,baz=254,slow=6.0,SNR=3.8						
TORD	Torodi Ar. Bea	84.46	78	P	P	04 04 07.7	-1.7
	0.5nm,1.1s,baz=293,slow=7.2,SNR=5.7						
HFS	Hagfors	84.87	30	P	P	04 04 09.5	-1.1
	0.7nm,0.6s,baz=270,slow=4.3,SNR=4.0						
ARCES	ARCESS Array B	86.77	19	P	P	04 04 18.9	-0.8
	8.0nm,1.1s,baz=292,slow=4.8,SNR=3.1						
KSRS	Korea Array	122.70	329	PKP	PKPdf	04 10 31.2	+0.4
	1.4nm,0.5s,baz=5.7,slow=2.3,SNR=4.2						
ASAR	Alice Springs	140.85	246	PKhKP	PKPpre	04 10 59.2	
	0.4nm,0.5s,baz=108,slow=2.9,SNR=4.6						
ASAR				PKP	PKPdf	04 11 05.9	+0.5
	0.7nm,0.6s,baz=91,slow=1.8,SNR=8.0						
WRA	Warramunga Arr	141.06	252	PKhKP	PKPpre	04 11 00.5	
	0.6nm,0.5s,baz=101,slow=3.0,SNR=9.6						
WRA				PKP	PKPdf	04 11 06.5	+0.7
	1.3nm,0.6s,baz=92,slow=2.6,SNR=11						

ISCJB 01 03:57:29.6±0.5, 79.06N±0.07×4.0E±0.2, h10km, mb3.4/12, MS3.3/8, Error ellipse: s-maj=10.8km s-min=5.4km

az=24.8
IDC 01 03:57:30.3±0.7, 79.14N×3.41E, h0km, mb3.5/12, mb1 3.7/16, mb1mx3.6/46, mbtmp3.6/16, ML3.1/3, MS3.3/12, Ms1 3.3/16, ms1mx3.1/31, Error ellipse: s-maj=21.0km s-min=10.7km az=33.0
CSEM 01 03:57:31.9±0.7, 79.01N×4.81E, h2km, ML3.5, Error ellipse: s-maj=17.2km s-min=8.8km az=156.0
BER 01 03:57:31.3±2.4, 79.29N×3.95E, h10km, MD2.4, ML3.2, ML3.5(NAO)
NAO 01 03:57:31.7±3.3, 79.21N×4.79E, ML3.5
ISC 01 03:57:31.4±0.7, 79.09N±0.08×4.22E±0.07, h10km, n48, σ1§43/55, mb3.5/12, MS3.3/8, Greenland Sea

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KBS Kingsbay 1.49 92 Pg **Pn 03 57 57.1 -1.0**
KBS Lg Lg 03 58 15.4
KBS Kingsbay 1.49 92 eP **Pn 03 57 57.0 -1.1**
KBS eS **Sn 03 58 15.8 -1.8**
KBS IAML 03 58 17.5
comp=Z,433nm,0.3s
KBS Kingsbay 1.49 92 eP **Pn 03 57 57.0 -1.1**
SNR=50
KBS Lg Lg 03 58 15.4
SPA0 Spitsbergen Ar 2.57 105 Pn **Pn 03 58 13.3 +0.3**
baz=311,slow=8.6
SPA0 Sn Sn 03 58 44.4 +0.1
SPA0 Spitsbergen Ar 2.57 105 Pn **Pn 03 58 13.3 +0.3**
baz=311,slow=8.6
SPA0 Sn **Sn 03 58 44.4 +0.1**
SPA0 IAML 03 58 52.0
comp=Z,182nm,0.3s
SPA0 Spitsbergen Ar 2.57 105 Pn **Pn 03 58 13.3 +0.3**
SNR=624
SPA0 Sn **Sn 03 58 44.4 +0.1**
SPITS Spitsbergen Ar 2.57 105 Pn **Pn 03 58 13.2 +0.3**
baz=295,slow=10.0,SNR=2469
SPITS Sn **Sn 03 58 44.6 +0.3**
baz=321,slow=25,SNR=16
SPITS LR LR 03 59 16.0
comp=Z,343nm,20.6s,baz=245,slow=39
HSP Hornsund 3.15 126 Pn **Pn 03 58 20.6 -0.2**
HSP Sn **Sn 03 58 57.0 -1.3**
HSP Hornsund 3.15 126 eP **Pn 03 58 20.8 0.0**
HSP eS **Sn 03 58 56.1 -2.2**
HSP Hornsund 3.15 126 Pn **Pn 03 58 20.6 -0.2**
HSP Sn **Sn 03 58 57.0 -1.3**
HSPB Hornsund (broa 3.15 126 Pn **Pn 03 58 20.6 -0.3**
HSPB Sn **Sn 03 58 57.0 -1.4**
HSPB Hornsund (broa 3.15 126 Pn **Pn 03 58 20.6 -0.3**
SNR=50
HSPB Sn **Sn 03 58 57.0 -1.4**
SNR=50
HOPEN Hopen 5.09 110 Pn **Pn 03 58 46.9 -0.5**
HOPEN Sn **Sn 03 59 44.2 -1.9**
HOPEN Hopen 5.09 110 eP **Pn 03 58 47.6 +0.1**
HOPEN eS **Sn 03 59 43.9 -2.2**
HOPEN IAML 03 59 46.4
comp=Z,118nm,0.2s
HOPEN Hopen 5.09 110 eP **Pn 03 58 47.6 +0.1**
SNR=49
HOPEN eS **Sn 03 59 43.9 -2.2**
SNR=49
DAG Danmarks Havn 5.30 256 i P Pn 03 58 45.1 -5.3
DAG i S Sn 03 59 39.9 -11
KEV Kevo 11.06 135 ep Pn 04 00 12.9 +3.7
comp=Z,0.4nm,0.3s
ARA0 ARCESS Array S 11.07 138 Pn **Pn 04 00 10.0 +0.6**
baz=350,slow=12
ARA0 Sn **Sn 04 02 09.0 -4.0**
baz=351,slow=18
ARA0 ARCESS Array S 11.07 138 Pn **Pn 04 00 10.0 +0.6**
baz=350,slow=12
ARA0 Sn **Sn 04 02 09.0 -4.0**
baz=351,slow=18
ARA0 ARCESS Array S 11.07 138 Pn **Pn 04 00 10.0 +0.6**
SNR=1.4
ARCES ARCESS Array B 11.07 138 Pn **Pn 04 00 10.0 +0.6**
comp=Z,0.3nm,0.3s,baz=352,slow=12,SNR=10
ARCES Sn **Sn 04 02 09.4 -3.6**
comp=Z,0.3nm,0.3s,baz=0.5,slow=21,SNR=4.1
ARCES LR LR 04 04 34.7
comp=Z,89nm,18.9s,baz=4.5,slow=38
SUMG Summit 11.96 260 i P Pn 04 00 16.5 -5.5
NOA NORSAR Array B 18.27 169 LR LR 04 08 06.8
comp=Z,52nm,18.0s,baz=5.0,slow=35
FIA0 FINESS Array S 18.93 147 P **Pn 04 01 51.5 -1.0**
baz=352,slow=22
FIA0 FINESS Array S 18.93 147 P **Pn 04 01 51.5 -1.0**
baz=352,slow=22
FIA0 FINESS Array S 18.93 147 P **Pn 04 01 51.5 -1.0**
SNR=5.6
FINES FINESS Array B 18.93 147 P **Pn 04 01 53.7 +1.1**
comp=Z,0.1nm,0.3s,baz=355,slow=16,SNR=6.5
FINES LR LR 04 09 00.9
comp=Z,104nm,21.1s,baz=272,slow=36
HFS Hagfors 19.27 166 P **Pn 04 01 57.3 +0.6**
slow=7.9
HFS Hagfors 19.27 166 P **Pn 04 01 57.3 +0.6**
slow=7.9
HFS Hagfors 19.27 166 P **Pn 04 01 57.7 +1.0**
comp=Z,0.2nm,0.3s,baz=30,slow=12,SNR=6.9
HFS Hagfors 19.27 166 P **Pn 04 01 57.3 +0.6**
SNR=6.4
RES Resolute Bay 20.22 311 LR LR 04 09 27.5
comp=Z,82nm,21.9s,baz=40,slow=36
FRB Frobisher Bay 25.26 276 LR LR 04 13 20.7
comp=Z,59nm,20.0s,baz=36,slow=38
AKASG Malin Array Be 29.84 147 P **P 04 03 40.1 +2.0**
comp=Z,0.2nm,0.5s,baz=348,slow=9.6,SNR=4.1
AKASG LR LR 04 15 21.4
comp=Z,113nm,21.2s,baz=65,slow=36
SCHQ Schefferville 33.23 267 LR LR 04 17 14.2
comp=Z,49nm,20.8s,baz=304,slow=36
BVAR Borovoye Array 34.02 99 P P 04 04 18.5 +3.7
comp=Z,0.4nm,0.6s,baz=340,slow=7.7,SNR=2.7
YKA Yellowknife Ar 34.23 314 P **P 04 04 15.0 -1.5**
comp=Z,0.1nm,0.7s,baz=9.3,slow=8.6,SNR=5.4
YKA PcP **PcP 04 06 51.7 -0.9**
comp=Z,0.3nm,0.8s,baz=6.4,slow=2.7,SNR=4.3
ILAR Eielson Array 35.37 339 P **P 04 04 26.1 -0.3**
comp=Z,0.3nm,0.8s,baz=16,slow=4.6,SNR=5.7
ZALV Zalesovo Beam 35.88 84 P **P 04 04 31.3 +0.4**
comp=Z,0.5nm,0.3s,baz=334,slow=7.9,SNR=2.9
KURBB Kurchatov Arra 37.85 92 P **P 04 04 49.8 +2.2**
comp=Z,0.6nm,0.3s,baz=342,slow=6.9,SNR=3.5
BRTR Keskin Array B 41.16 145 LR LR 04 23 56.8
comp=Z,25nm,21.0s,baz=295,slow=38
MKAR Makanchi Array 42.24 90 P **P 04 05 25.8 +1.7**
comp=Z,0.1nm,0.4s,baz=337,slow=6.3,SNR=3.9
ULM Lac du Bonnet 43.01 292 LR LR 04 22 13.4
comp=Z,66nm,19.2s,baz=40,slow=35
SONM Songino Array 45.71 67 P **P 04 05 53.7 +1.7**
comp=Z,0.2nm,0.6s,baz=345,slow=10,SNR=3.4
PDAR Pinedale Array 52.59 302 P **P 04 06 43.3 -1.6**
comp=Z,0.9nm,1.0s,baz=17,slow=5.4,SNR=5.2
PDAR LR LR 04 29 27.2
comp=Z,64nm,18.8s,baz=48,slow=37
NVAR Mina Array Bea 58.18 309 P **P 04 07 25.6 +0.4**
comp=Z,0.9nm,1.0s,baz=20,slow=6.9,SNR=5.6
TXAR Lajitas Array 64.70 293 P **P 04 08 08.6 -0.6**
comp=Z,1.1nm,1.0s,baz=35,slow=4.6,SNR=4.9
TXAR LR LR 04 35 11.4
comp=Z,32nm,18.7s,baz=0.0,slow=35
TORD Torodi Ar. Bea 65.96 183 P **P 04 08 18.0 +0.6**
comp=Z,0.3nm,0.9s,baz=13,slow=5.6,SNR=3.1

DDA 01 04:01:39.6, 39.55N×38.04E, h15km, ML4.5
BJI 01 04:01:40.7, 39.50N×38.00E, h10km, mb4.1/6
ISK 01 04:01:41.0, 39.56N×37.99E, h6km, ML4.7
ISCJB 01 04:01:41.5±0.5, 39.57N±0.01×37.99E±0.02, h13km±3km, mb4.0/43, MS3.4/12, Error ellipse: s-maj=2.5km s-min=2.3km az=1.4
MOS 01 04:01:41.4±1.2, 39.65N×37.98E, h10km, mb4.3/28, Error ellipse: s-maj=5.9km s-min=4.8km az=95.4
CSEM 01 04:01:41.6±0.1, 39.58N×38.01E, h2km, mb4.2/23, Ms3.2, Error ellipse: s-maj=3.0km s-min=2.6km az=172.0
IDC 01 04:01:41.3±0.6, 39.65N×37.97E, h0km, mb3.9/15, mb1 4.0/24, mb1mx3.9/44, mbtmp3.9/24, ML3.7/8, MS3.3/16, Ms1 3.3/16, ms1mx3.2/43, Error ellipse: s-maj=12.1km s-min=7.3km az=172.0
NEIC 01 04:01:42.9±0.3, 39.65N×37.98E, h10km, mb4.4/20, ML4.7(ISK), Error ellipse: s-maj=6.4km s-min=3.9km az=176.0
NSSC 01 04:01:42.3±2.2, 39.46N×38.17E, h3km±39km, ML3.5
ISN 01 04:02:56.4±2.4, 37.07N×41.89E, h0km±9km, ML4.4
ISC 01 04:01:42.5±0.6, 39.56N±0.02×37.97E±0.02, h12km±4km, n402, σ1§56/445, mb4.1/43, MS3.4/12, 13C-11D, Turkey

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
ILIC ilic-Erzincan 0.48 103 PG **Pg 04 01 51.3 -0.6**
ILIC SG **Sg 04 01 58.1 -0.1**
ILIC ilic-Erzincan 0.48 103 i Pg **Pg 04 01 51.3 -0.6**
ILIC i Sg **Sg 04 01 58.2 -0.1**
SUSE Susehri 0.68 15 i P **Pg 04 01 53.7 -2.0**
SUSE i S **Sg 04 02 03.3 -1.3**
SUSE Susehri 0.68 15 i P **Pg 04 01 53.7 -2.0**
SUSE i S **Sg 04 02 03.3 -1.3**
SCER sogukcermik 0.71 295 i P **Pg 04 01 54.5 -1.9**
SCER i S **Sg 04 02 06.5 +0.7**
SCER sogukcermik 0.71 295 i P **Pg 04 01 54.5 -1.9**
SCER i S **Sg 04 02 06.5 +0.7**
RSDY Resadiye-TOKAT 0.97 330 PG **Pg 04 01 59.4 -1.9**
RSDY SG **Sg 04 02 14.1 +0.1**
RSDY Resadiye-TOKAT 0.97 330 i Pg **Pg 04 01 59.4 -1.9**
RSDY i Sg **Sg 04 02 14.1 +0.1**
DARE Darende-Malaty 1.05 201 PG **Pb 04 02 01.0 -1.7**
DARE SG **Sb 04 02 16.4 -0.1**
DARE Darende-Malaty 1.05 201 i Pg **Pb 04 02 01.0 -1.7**
DARE i Sg **Sb 04 02 16.4 -0.1**
EZC Erzincan 1.09 79 ePn **Pn 04 02 05.9 +2.2**
EUZM Uzumlu 1.34 83 i P **Pn 04 02 04.5 -2.7**
EUZM i S **Sb 04 02 22.3 -2.6**
EUZM Uzumlu 1.34 83 i P **Pn 04 02 04.5 -2.7**
EUZM i S **Sb 04 02 22.3 -2.6**
ERZN Erzincan 1.36 88 ePN **Pn 04 02 05.9 -1.5**
TOKA Tokat 1.38 304 i P **Pn 04 02 06.1 -1.5**
TOKA i S **Sb 04 02 26.5 +0.7**
TOKA Tokat 1.38 304 i P **Pn 04 02 06.1 -1.5**
TOKA i S **Sb 04 02 26.5 +0.7**
GRSN GIRESUNGRSN 1.39 9 i P **Pn 04 02 05.7 -2.0**
GRSN i S **Sn 04 02 24.7 -1.2**
GRSN GIRESUNGRSN 1.39 9 i P **Pn 04 02 05.7 -2.0**
GRSN i S **Sn 04 02 24.7 -1.2**
GUMT Gumushane 1.47 52 ePN **Pn 04 02 07.0 -2.0**
GUMT Gumushane 1.47 52 ePn **Pn 04 02 07.0 -2.0**
BNN Bunyan 1.79 248 ePN **Pn 04 02 13.9 +0.5**
BNN Bunyan 1.79 248 ePn **Pn 04 02 13.9 +0.5**
MACK Trabzon 1.95 44 i P **Pn 04 02 15.6 +0.1**
MACK Trabzon 1.95 44 i P **Pn 04 02 15.6 +0.1**
MACK i S **Sn 04 02 40.7 +0.7**
KTUT Trabzon 1.98 43 ePN **Pn 04 02 16.1 +0.2**
KTUT Trabzon 1.98 43 ePn **Pn 04 02 16.1 +0.2**
YOZ Yozgat 2.05 273 ePN **Pn 04 02 17.8 +0.9**
YOZ Yozgat 2.05 273 ePn **Pn 04 02 17.8 +0.9**
ATAB Bozova 2.10 173 i P **Pn 04 02 16.7 -0.8**
ATAB i S **Sb 04 02 46.3 -0.3**
ATAB Bozova 2.10 173 i P **Pn 04 02 16.7 -0.8**
ATAB i S **Sb 04 02 46.3 -0.3**
KVT Kavak 2.12 317 ePN **Pn 04 02 18.0 +0.3**
KVT Kavak 2.12 317 ePn **Pn 04 02 18.0 +0.3**
KMRS Kahramanmaras 2.21 203 ePN **Pn 04 02 19.5 +0.4**
KMRS Kahramanmaras 2.21 203 ePn **Pn 04 02 19.5 +0.4**
URFA Urfa 2.22 162 ePN **Pn 04 02 19.0 -0.2**
URFA Urfa 2.22 162 ePn **Pn 04 02 19.0 -0.2**
GZT Gaziantep 2.22 188 i P **Pn 04 02 18.8 -0.5**
DYBB Diyarbakir 2.33 133 ePN **Pn 04 02 19.9 -0.9**
DIY Diyarbakir 2.42 132 ePn **Pn 04 02 19.9 -2.1**
AVNT Avonos 2.54 253 i P **Pn 04 02 24.3 +0.6**
AVNT Avonos 2.54 253 i P **Pn 04 02 24.3 +0.6**
AVNT i S **Sb 04 03 02.4 +3.0**
BNGL BINGOL 2.54 103 i P **Pn 04 02 25.3 +1.5**
BNGL i S **Sb 04 03 00.7 +1.1**
EZM Erzurum 2.64 81 ePN **Pn 04 02 25.4 +0.2**
CORM Corum 2.64 285 ePN **Pn 04 02 25.7 +0.7**
CORM Corum 2.64 285 ePn **Pn 04 02 25.7 +0.7**
ERZM Erzurum 2.64 81 i P **Pn 04 02 27.6 +2.4**
ERZM Erzurum 2.64 81 i P **Pn 04 02 27.6 +2.4**
HCB Kahramanmara¨ 2.68 145 i P Pn 04 02 20.7 -4.8
HCB i S **Sn 04 02 52.7 -5.2**
VRTB Varto-Mus 2.73 97 ePN **Pn 04 02 26.4 0.0**
VRTB Varto-Mus 2.73 97 ePn **Pn 04 02 26.4 0.0**
MAZI Mazidag 2.86 136 ePN **Pn 04 02 27.3 -0.7**
MAZI Mazidag 2.86 136 ePn **Pn 04 02 27.3 -0.7**
SVAN Silvan-Diyarba 2.89 118 ePN **Pn 04 02 28.2 -0.2**
DIKM Dikmen 2.94 316 ePN **Pn 04 02 30.6 +1.6**
DIKM Dikmen 2.94 316 ePn **Pn 04 02 30.6 +1.6**
NIG Nigde 2.99 242 ePN **Pn 04 02 31.1 +1.1**
NIG Nigde 2.99 242 ePn **Pn 04 02 31.1 +1.1**
BEST Besiri 3.07 122 i P **Pn 04 02 30.8 -0.2**
BEST i S **Sg 04 03 20.7 -0.5**
HOMI Horasan 3.07 80 i P **Pb 04 02 35.8 -1.5**
HOMI i S **Sg 04 03 21.1 -0.1**
CEYT Ceyhan 3.08 215 ePN **Pn 04 02 31.7 +0.7**
CEYT Ceyhan 3.08 215 ePn **Pn 04 02 31.7 +0.7**
MARD Mardin 3.15 135 i P **Pn 04 02 30.5 -1.5**
MARD i S **Sb 04 03 18.3 +1.5**
DDEM Demirkent 3.19 64 i P **Pb 04 02 37.3 -1.9**
DDEM Demirkent 3.19 64 i P **Pb 04 02 37.3 -1.9**
DBAD Bademkaya 3.20 62 i P **Pn 04 02 33.4 +0.7**
DBAD Bademkaya 3.20 62 i P **Pn 04 02 33.5 +0.7**
DBAD i S **Sb 04 03 19.7 +1.3**
KARA Karaisali 3.24 226 ePN **Pn 04 02 34.7 +1.5**
KARA Karaisali 3.24 226 ePn **Pn 04 02 34.7 +1.5**
KBSD Kabsdagh 3.26 141 eP **Pn 04 02 33.2 -0.3**
KBSD eS Sn 04 03 06.2 -6.0
KBSD AML AML 04 03 36.8
comp=N,339nm,0.5s
KBSD AML AML 04 03 38.2
comp=Z,401nm,0.5s
KBSD Kabsdagh 3.26 141 eP **Pn 04 02 33.2 -0.3**
SNR=45
SLMH Al Salmeh 3.34 181 eP **Pn 04 02 33.6 -0.9**
SLMH AML AML 04 03 40.2
comp=N,850nm,0.7s
SLMH Al Salmeh 3.34 181 eP **Pn 04 02 33.7 -0.9**
SNR=45
BR131 Keskin Array S 3.35 274 ePn **Pn 04 02 35.2 +0.4**
BR131 eS **Sg 04 03 31.2 +1.3**
BR131 Keskin Array S 3.35 274 ePn **Pn 04 02 35.2 +0.4**
BR131 eS **Sg 04 03 31.2 +1.3**
BRTR Keskin Array B 3.35 274 i P **Pn 04 02 35.0 +0.3**
BRTR pmax pmax
comp=Z,86nm,0.7s
BRTR Keskin Array B 3.35 274 Pn **Pn 04 02 35.1 +0.3**
comp=Z,9.0nm,0.3s,baz=101,slow=14,SNR=272
BRTR Lg Lg 04 03 30.4
comp=Z,12nm,0.3s,baz=118,slow=24,SNR=9.0
BRTR LR LR 04 04 21.0
comp=Z,261nm,19.2s,baz=74,slow=48
TOS Tosya 3.36 297 ePN **Pn 04 02 35.9 +1.0**
TOS Tosya 3.36 297 ePn **Pn 04 02 35.9 +1.0**
BCA Borcka 3.37 55 ePN **Pn 04 02 35.0 +0.2**
BCA Borcka 3.37 55 ePn **Pn 04 02 35.1 +0.2**
DAGI Agillar 3.38 62 i P **Pn 04 02 35.8 +0.7**
DAGI i S **Sb 04 03 24.9 +1.5**
ARTV Artvin 3.44 60 i P **Pb 04 02 41.1 -2.3**
ARTV i S **Sb 04 03 28.5 +3.3**
CANT Cankiri 3.50 289 ePN **Pn 04 02 37.6 +0.8**
SFNV Sufian 3.56 151 eP **Pn 04 02 37.0 -0.6**
SFNV eS **Sn 04 03 15.8 -4.0**
SFNV AML AML 04 03 43.1
comp=Z,702nm,0.6s
SFNV Sufian 3.56 151 eP **Pn 04 02 37.0 -0.6**
SNR=45
BTCH Batrach 3.71 199 eP **Pn 04 02 39.9 +0.2**
BTCH eS **Sn 04 03 21.8 -1.6**
BTCH AML AML 04 03 47.3
comp=N,281nm,0.6s
BTCH AML AML 04 04 02.1
comp=E,662nm,0.7s
BTCH Batrach 3.71 199 eP **Pn 04 02 39.9 +0.2**
SNR=45
BTCH eS **Sn 04 03 21.8 -1.6**
comp=E,662nm,0.7s,SNR=40
SULT Sultanhani-AKS 3.73 250 ePN **Pn 04 02 41.3 +1.3**
SULT Sultanhani-AKS 3.73 250 ePn **Pn 04 02 41.3 +1.3**
MNKR ALMNKUR 3.75 164 eP **Pn 04 02 40.2 0.0**
MNKR eS **Sn 04 03 19.7 -4.6**
MNKR AML AML 04 03 49.0
comp=Z,570nm,0.4s
MNKR ALMNKUR 3.75 164 eP **Pn 04 02 40.2 0.0**
SNR=45
AFSR Af¨ar-Bala (A 3.79 270 ePN **Pn 04 02 42.7 +1.9**
AFSR Af¨ar-Bala (A 3.79 270 ePn **Pn 04 02 42.7 +1.9**
MERS Mersin 3.82 226 ePN **Pn 04 02 42.2 +1.1**
MERS Mersin 3.82 226 ePn **Pn 04 02 42.2 +1.1**
BZK Bozkurt 3.85 310 ePN **Pn 04 02 42.1 +0.6**
BZK Bozkurt 3.85 310 ePn **Pn 04 02 42.1 +0.6**
AGRB Hanur-Agry 3.88 88 ePN **Pn 04 02 42.5 +0.3**
AGRB Hanur-Agry 3.88 88 ePn **Pn 04 02 42.5 +0.3**
ANTO Ankara 4.00 276 ePN **Pn 04 02 45.1 +1.4**
ANTO Ankara 4.00 276 eP **Pn 04 02 44.5 +0.8**
ANTO Ankara 4.00 276⇑i P **Pn 04 02 45.0 +1.3**
ANTO S **Sg 04 03 48.0 -3.0**
ANTO Ankara 4.00 276 ePn **Pn 04 02 44.5 +0.8**
ANTO eS **Sg 04 03 49.7 -1.3**
ANTO Ankara 4.00 276 eP **Pn 04 02 44.5 +0.8**
ANTO eS **Sg 04 03 49.7 -1.3**
ARNB Al Arnab 4.01 204 eP **Pn 04 02 44.0 +0.1**
ARNB eS **Sn 04 03 30.7 -0.2**
ARNB AML AML 04 04 00.0
comp=E,252nm,0.8s
ARNB AML AML 04 04 01.3
comp=N,160nm,0.8s
ARNB Al Arnab 4.01 204 eP **Pn 04 02 44.0 +0.1**
SNR=45
ARNB eS **Sn 04 03 30.7 -0.2**
comp=N,160nm,0.8s,SNR=40
LOD Lodumlu 4.03 276 ePN **Pn 04 02 45.5 +1.5**
LOD Lodumlu 4.03 276 ePn **Pn 04 02 45.5 +1.5**
KARS Kars 4.06 73 ePN **Pn 04 02 45.6 +1.0**
KARS Kars 4.06 73 ePn **Pn 04 02 45.6 +1.0**
SIRT Sirnak 4.06 119 ePN **Pn 04 02 44.3 -0.3**
SIRT Sirnak 4.06 119 ePn **Pn 04 02 44.3 -0.3**
SOC Sochi 4.23 18 eP **Pn 04 02 45.1 -1.7**
SOC e 04 03 35.2
SOC pmax pmax
comp=Z,29nm,0.9s
SOC MLR MLR
comp=Z,645nm,12.0s
SOC Sochi 4.23 18 eP **Pn 04 02 45.1 -1.7**
comp=Z,645nm,12.0s
SOC eS **Sn 04 03 35.2 -0.9**
MZRK Al-Mazaregh 4.29 149 eP **Pn 04 02 46.0 -1.6**
MZRK eS **Sn 04 03 34.7 -2.9**
MZRK AML AML 04 04 01.1
comp=Z,467nm,0.7s
MZRK Al-Mazaregh 4.29 149 eP **Pn 04 02 46.0 -1.6**
SNR=45
MZRK eS **Sn 04 03 34.7 -2.9**
comp=Z,467nm,0.7s,SNR=40
SAFT Safranbolu 4.37 294 ePN **Pn 04 02 50.1 +1.5**
SAFT Safranbolu 4.37 294 ePn **Pn 04 02 50.1 +1.5**
LADK Ladik-KONYA 4.58 255 ePN **Pn 04 02 53.9 +2.2**
LADK Ladik-KONYA 4.58 255 ePn **Pn 04 02 53.9 +2.2**
AKH Akhalkalaki 4.60 65 P Pb 04 03 02.3 -1.0
CLDR Caldiran 4.63 93 ePN **Pn 04 02 53.4 +0.9**
CLDR Caldiran 4.63 93 ePn **Pn 04 02 53.4 +0.9**
KONT Konya--Tatoy 4.67 252 ePN **Pn 04 02 55.2 +2.4**
KONT Konya--Tatoy 4.67 252 ePn **Pn 04 02 55.3 +2.4**
KIZT Kizilcal 4.78 264 ePN **Pn 04 02 56.6 +2.2**
KIZT Kizilcal 4.78 264 ePn **Pn 04 02 56.6 +2.2**
SVRH Sivrihisar-ESK 4.99 271 ePN **Pn 04 02 59.6 +2.3**
SVRH Sivrihisar-ESK 4.99 271 ePn **Pn 04 02 59.6 +2.3**
CUKT Cukurca 5.00 116 ePN **Pn 04 02 59.0 +1.6**
CUKT Cukurca 5.00 116 ePn **Pn 04 02 59.0 +1.6**
ONI Oni 5.13 52 P **Pn 04 02 59.9 +0.6**
ONI Oni 5.13 52 P **Pn 04 02 59.8 +0.6**
NEY Neytrino 5.14 43 i P **Pn 04 03 00.8 +1.4**
NEY Neytrino 5.14 43 i P **Pn 04 03 00.8 +1.4**
GNI Garni 5.25 81 P **Pn 04 03 02.5 +1.6**
GNI Garni 5.25 81 Pn **Pn 04 03 03.2 +2.3**
comp=Z,0.3nm,0.3s,baz=318,slow=16,SNR=2.2
GNI Pg **Pb 04 03 16.5 +2.3**
comp=Z,1.9nm,0.3s,baz=268,slow=5.7,SNR=11
GNI LR LR 04 04 32.4
comp=Z,26nm,20.8s,baz=68,slow=33
GNI Garni 5.25 81 Pn **Pn 04 03 02.5 +1.6**
GNI Pg **Pg 04 03 22.4 -0.6**
GNI Garni 5.25 81 P **Pn 04 03 02.5 +1.6**
FKH Fakeheh 5.45 194 eP **Pn 04 03 03.4 -0.2**
FKH Fakeheh 5.45 194 eP **Pn 04 03 03.4 -0.2**
HWQ Hawqa 5.51 198 eP **Pn 04 03 03.5 -1.0**
HWQ Hawqa 5.51 198 eP **Pn 04 03 03.5 -1.0**
ZEI Tsey 5.52 52 eP **Pn 04 03 05.6 +0.9**
ZEI pmax pmax
comp=Z,11nm,0.5s
KBZ Khabaz 5.57 40 P **Pn 04 03 06.1 +1.0**
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ Khabaz 5.57 40 Pn **Pn 04 03 06.1 +1.0**
comp=Z,1.0nm,0.3s,baz=143,slow=6.5,SNR=19
TBLG Delisi 5.59 65 P **Pb 04 03 22.1 +2.1**
KIV Kislovodsk 5.63 37 eP **Pn 04 03 06.7 +0.5**
KIV eS **Sn 04 04 12.5 +1.7**
KIV pmax pmax
comp=Z,38nm,0.9s
KIV Kislovodsk 5.63 37 ePn **Pn 04 03 04.5 -1.7**
KIV eS **Sn 04 04 16.6 +5.8**
KIV Kislovodsk 5.63 37 ePn **Pn 04 03 04.5 -1.7**
KIV Kislovodsk 5.63 37 eP **Pn 04 03 06.7 +0.5**
comp=Z,38nm,0.9s
KIV eS **Sn 04 04 16.6 +5.8**
GUDG Gudauri 5.72 57 P **Pn 04 03 08.5 +1.1**
GUDG Gudauri 5.72 57 P **Pn 04 03 08.5 +1.1**
SUDU Sudak 5.77 339 eP **Pn 04 03 08.5 +0.7**
SUDU eS **Sn 04 04 13.3 -0.6**
SUDU pmax pmax
comp=Z,7.0nm,0.4s
SUDU smax smax
comp=N,33nm,0.7s
SUDU smax smax
comp=E,16nm,0.6s
SUDU Sudak 5.77 339 eP **Pn 04 03 08.5 +0.7**
comp=E,7.0nm,0.4s
SUDU eS **Sn 04 04 13.3 -0.6**
comp=E,33nm,0.7s
NCK Nalchik 5.77 45⇓eP **Pn 04 03 10.2 +2.2**
NCK Nalchik 5.77 45 eP **Pn 04 03 10.2 +2.2**
SUTC Sutluce-Ispart 5.84 251 ePN **Pn 04 03 12.1 +3.0**
SUTC Sutluce-Ispart 5.84 251 ePn **Pn 04 03 12.1 +3.0**
SHUT Suhut-Afyon 5.86 262 ePN **Pn 04 03 11.5 +2.3**
SHUT Suhut-Afyon 5.86 262 ePn **Pn 04 03 11.5 +2.3**
CSS Prodhromos 5.89 220 ePN **Pn 04 03 11.9 +2.3**
CSS Prodhromos 5.89 220 Pn Pn 04 03 14.4 +4.8
CSS Prodhromos 5.89 220 ePn **Pn 04 03 11.9 +2.3**
SEV Sevastopol' 5.92 329 eP **Pn 04 03 10.8 +0.8**
SEV Sevastopol' 5.92 329 eP **Pn 04 03 10.8 +0.8**
BHL Bhannes 5.94 199 eP **Pn 04 03 12.2 +1.8**
BHL Bhannes 5.94 199 eP **Pn 04 03 12.1 +1.8**
DGRG David-gareji 5.95 69 P Pn 04 03 14.2 +3.7
ISP Isparta 6.08 256 eP **Pn 04 03 13.1 +0.9**
ISP Isparta 6.08 256⇑i P Pn 04 03 15.6 +3.4
ISP Isparta 6.08 256 ePn **Pn 04 03 13.1 +0.9**
ISP eS Sg 04 05 04.8 +7.3
ISP Isparta 6.08 256 eP **Pn 04 03 13.1 +0.9**
ISP eS Sg 04 05 04.8 +7.3
SIM Simferopol' 6.10 333 eP **Pn 04 03 15.2 +2.8**
SIM Simferopol' 6.10 333 eP **Pn 04 03 15.2 +2.8**
ALT Altintas 6.11 268 ePN **Pn 04 03 15.2 +2.5**
ALT Altintas 6.11 268 ePn **Pn 04 03 15.2 +2.5**
TOTH TOTAH 6.31 192 eP **Pn 04 03 16.3 +0.9**
TOTH AML AML 04 05 27.7
comp=N,49nm,0.7s
TOTH AML AML 04 05 31.3
comp=E,66nm,0.7s
TOTH TOTAH 6.31 192 eP **Pn 04 03 16.3 +0.9**
SNR=45
BRBR Barbar 6.34 195 eP **Pn 04 03 17.4 +1.4**
BRBR eS **Sn 04 04 25.8 -2.7**
BRBR AML AML 04 05 14.7
comp=E,78nm,0.7s
BRBR AML AML 04 05 20.1
comp=N,71nm,0.7s
BRBR Barbar 6.34 195 eP **Pn 04 03 17.4 +1.4**
SNR=45
IKRK Kirkuk 6.55 127 ePN Pb 04 03 39.9 +3.6
IKRK eSN Sn 04 04 09.3 -24
SILT Sile 6.55 287 ePN **Pn 04 03 20.9 +2.2**
SILT Sile 6.55 287 ePn **Pn 04 03 20.9 +2.2**
ZALF Zalf 6.64 185 eP **Pn 04 03 20.7 +0.7**
ZALF AML AML 04 05 19.7
comp=E,65nm,0.8s
ZALF AML AML 04 05 23.0

comp=N,194nm,1.3s
ZALF Zalf 6.64 185 eP Pn 04 03 20.7 +0.7
SNR=45
GOF Gofitskoye 6.66 33 eP Pn 04 03 21.5 +1.4
GOF pmax pmax
comp=Z,50nm,1.3s
GOF Gofitskoye 6.66 33 eP Pn 04 03 21.5 +1.4
comp=Z,50nm,1.3s
MMAI Mount Meron Ar 6.85 198 Pn Pn 04 03 23.8 +1.0
comp=Z,2.1nm,0.3s,baz=12,slow=13,SNR=5.4
MMAI Pg Pg 04 03 49.1 -4.5
comp=Z,2.9nm,0.3s,baz=25,slow=16,SNR=5.9
MMAI Lg Lg 04 05 23.0
comp=Z,0.6nm,0.3s,baz=30,slow=29,SNR=1.7
SALA Sala 6.90 189 eP Pn 04 03 24.2 +0.5
SALA AML AML 04 05 45.1
comp=N,90nm,0.9s
SALA AML AML 04 05 45.3
comp=E,5.8nm,0.7s
SALA Sala 6.90 189 eP Pn 04 03 24.2 +0.5
SNR=45
ISK Istanbul-Kandi 6.97 285 ePN Pn 04 03 26.4 +2.0
ISK Istanbul-Kandi 6.97 285 ePn Pn 04 03 26.4 +2.0
TCHB Talchebab 7.06 194 eP Pn 04 03 26.8 +1.1
TCHB eS Sn 04 04 42.1 -3.8
TCHB AML AML 04 05 36.7
comp=E,80nm,0.8s
TCHB AML AML 04 05 38.6
comp=N,65nm,0.7s
TCHB Talchebab 7.06 194 eP Pn 04 03 26.8 +1.1
SNR=45
BGKT Bogazkoy 7.21 286 ePN Pn 04 03 29.8 +2.2
BGKT Bogazkoy 7.21 286 ePn Pn 04 03 29.8 +2.2
CTKS Kestanelik-??a 7.41 286 ePN Pn 04 03 32.2 +1.7
CTKS Kestanelik-??a 7.41 286 ePn Pn 04 03 32.2 +1.7
ASF Jabal al Asfar 7.42 187 Pn Pn 04 03 31.3 +0.7
comp=N,0.8nm,0.3s,baz=334,slow=10,SNR=9.6
ASF Lg Lg 04 05 39.5
comp=N,0.8nm,0.3s,baz=300,slow=23,SNR=7.8
BHD Baghdad 8.13 139 ePn Pb 04 04 04.6 +1.4
SNR=39
BHD eSn Sn 04 04 51.9 -20
SNR=39
BHD Baghdad 8.13 139 ePN Pb 04 04 04.6 +1.4
BHD eSN Sn 04 04 51.9 -20
PSN Preselentsi 8.41 303⇑iP Pn 04 03 44.4 +0.3
TIRR Tirgusor 8.63 308 eP Pn 04 03 46.9 -0.3
TIRR eS Sn 04 05 20.6 -3.8
TIRR Tirgusor 8.63 308⇓iP Pn 04 03 47.2 0.0
TIRR Tirgusor 8.63 308 ePn Pn 04 03 46.9 -0.3
TIRR eS Sn 04 05 20.6 -3.8
TIRR Tirgusor 8.63 308 eP Pn 04 03 46.9 -0.3
TIRR eS Sn 04 05 20.6 -3.8
TLCR 8.80 313⇓iP Pn 04 03 48.9 -0.6
EDRB Edirne 8.83 289 ePN Pn 04 03 51.5 +1.6
EDRB Edirne 8.83 289 ePn Pn 04 03 51.5 +1.6
EIL Elat 10.17 195 Lg Lg 04 07 02.9
comp=N,0.4nm,0.3s,baz=68,slow=9.8,SNR=2.3
VRI Vrincioaia 10.39 311⇓iP Pn 04 04 12.3 +1.0
PLOR Plostina 10.43 311⇑iP Pn 04 04 12.9 +1.0
MLR Muntele Rosu 10.67 308⇓iP Pn 04 04 16.3 +1.1
MLR Muntele Rosu 10.67 308 Pn Pn 04 04 16.4 +1.2
comp=N,0.1nm,0.3s,baz=172,slow=7.1,SNR=12
MLR LR LR 04 09 19.0
comp=N,45nm,18.1s,baz=108,slow=43
TESR Tescani 10.81 314⇑iP Pn 04 04 17.0 0.0
VOIR 11.20 306⇓iP Pn 04 04 23.8 +1.4
DOPR Dopca 11.24 309⇑iP Pn 04 04 22.9 0.0
VTS Vitosha 11.55 290⇑iP Pn 04 04 25.2 -2.0
VSR Storozhevoye 11.69 4 eP Pn 04 04 24.6 -4.4
VSR eS Sn 04 06 39.0 -0.3
VSR pmax pmax
comp=N,2.0nm,0.7s
VSR pmax pmax
comp=E,4.0nm,0.7s
VSR pmax pmax
comp=Z,4.0nm,0.7s
VSR pmax pmax
comp=N,30nm,0.9s
VSR pmax pmax
comp=E,5.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR smax smax
comp=N,30nm,1.5s
VSR smax smax
comp=E,80nm,1.5s
VSR smax smax
comp=Z,40nm,1.5s
VRHR Novokhopersk 11.82 11 eP Pn 04 04 29.7 -1.1
VRHR eS Sn 04 06 40.8 -1.7
VRHR pmax pmax
comp=N,60nm,1.0s
VRHR pmax pmax
comp=E,6.0nm,1.0s
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR smax smax
comp=N,10.0nm,1.1s
VRHR smax smax
comp=E,30nm,1.1s
VRHR smax smax
comp=Z,20nm,1.1s
VRHR Novokhopersk 11.82 11 eP Pn 04 04 29.7 -1.1
BURAR Bucovina Array 12.25 315⇑iP Pn 04 04 36.9 +0.1
BUR08 Bucovina Ar. S 12.28 315 ePn Pn 04 04 36.8 -0.3
BUR08 eS Sn 04 07 01.4 +7.5
BUR08 Bucovina Ar. S 12.28 315 ePn Pn 04 04 36.8 -0.3
BUR08 eS Sn 04 07 01.4 +7.5
AK02 Malin Array Si 12.70 334 ePn Pn 04 04 42.2 -0.5
AK02 S Sn 04 06 56.9 -7.0
AK02 Malin Array Si 12.70 334 ePn Pn 04 04 42.2 -0.5
AK02 S Sn 04 06 56.9 -7.0
AK01 Malin Array Si 12.72 334 ePn Pn 04 04 42.5 -0.6
AK01 Malin Array Si 12.72 334 ePn Pn 04 04 42.5 -0.6
KIEV Kiev 12.73 334 iP Pn 04 04 41.9 -1.3
KIEV Kiev 12.73 334 iP Pn 04 04 41.9 -1.3
AKASG Malin Array Be 12.73 334 P Pn 04 04 41.6 -1.6
AKASG 04 07 05.0
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 12.73 334 Pn Pn 04 04 41.6 -1.6
comp=Z,1.1nm,0.3s,baz=155,slow=9.2,SNR=9.5
AKASG Sn Sn 04 07 05.0 +0.3
baz=141,slow=25,SNR=4.8
AKBB Malin Array Si 12.73 334 eP Pn 04 04 40.7 -2.5
AKBB Malin Array Si 12.73 334 ePn Pn 04 04 40.7 -2.5
AKBB Malin Array Si 12.73 334 ePn Pn 04 04 40.7 -2.5
UZH Uzhgorod 14.44 314 eP Pn 04 05 09.3 +2.8
KOLS Kolonicke sedl 14.62 315 e P 04 05 23.5 +8.1
CRVS Cervenica-Dubn 15.05 314 e P 04 05 26.4 +6.2
STHS Stebnicka Huta 15.45 315 e P 04 05 36.6 +12
OBN Obninsk 15.59 357⇑eP Pn 04 05 22.2 +0.3
OBN iS Sn 04 08 10.4 -4.1
OBN pmax pmax
comp=Z,4.0nm,0.4s
OBN Obninsk 15.59 357 LR LR 04 12 26.8
comp=Z,169nm,18.4s,baz=80,slow=42
PKSM Moragy 15.63 301⇓iP P 04 05 27.9 +1.2
MOS Moscow 16.19 359 eP Pn 04 05 26.0 -3.7
MOS eS Sn 04 08 20.4 -8.6
MOS pmax pmax
comp=Z,54nm,1.0s
SUW Suwalki 17.60 330 eP Pn 04 05 48.1 -0.3
SUW pmax pmax
comp=Z,30nm,1.0s
SUW Suwalki 17.60 330 eP P 04 05 50.3 +1.9
SUW Suwalki 17.60 330 ePn P 04 05 48.1 -0.3
comp=Z,30nm,1.0s
SUW Suwalki 17.60 330 eP P 04 05 48.1 -0.3
comp=Z,30nm,1.0s
AKTO Aktyubinsk 17.81 46 P Pn 04 05 48.1 -1.9
comp=Z,0.2nm,0.3s,baz=236,slow=13,SNR=11
AKTO LR LR 04 13 06.2
comp=Z,40nm,18.8s,baz=266,slow=39
VRAC Vranov 18.05 310 LR LR 04 14 21.6
comp=Z,54nm,19.6s,baz=102,slow=42
ABKAR Akbulak array 18.39 51 ePn P 04 05 55.9 -1.3
ABKAR Akbulak array 18.39 51 ePn P 04 05 55.9 -1.3
DPC Dobruska-Polom 18.67 312 eP Pn 04 06 05.3 +4.7
DPC Dobruska-Polom 18.67 312 eP Pn 04 06 05.3 +4.7
DPC ex x 04 06 15.5
TREC Trest 18.71 309 eP Pn 04 06 05.9 +4.8
TREC MLR MLR

comp=Z,200nm,9.8s
TREC Trest 18.71 309 eP Pn 04 06 05.9 +4.8
TREC AMS AMS 04 14 50.0
comp=Z,200nm,9.8s
KBA Koelnbreinsper 19.38 301⇓iP Pn 04 06 14.9 +5.6
comp=Z,4.6nm,0.8s
PRU Pruhonice 19.55 310 eP Pn 04 06 25.8 +15
PRU AMS AMS 04 15 50.0
comp=Z,200nm,9.1s
GERES GERESS Array B 19.65 306 P P 04 06 11.9 +0.8
comp=Z,0.1nm,0.3s,baz=120,slow=7.9,SNR=13
KHC Kasperske Hory 19.82 307 eP Pn 04 06 14.1 -0.4
KHC Kasperske Hory 19.82 307 eP Pn 04 06 14.1 -0.4
KHC epP pP 04 06 17.2 +0.9
KHC Kasperske Hory 19.82 307 eP Pn 04 06 13.9 -0.6
comp=Z,3.9nm,0.8s
KHC Kasperske Hory 19.82 307 eP Pn 04 06 13.9 -0.6
comp=Z,3.9nm,0.8s
ABTA Abfaltersbach 19.86 300⇑iP Pn 04 06 20.4 +5.4
comp=Z,3.7nm,0.9s
MOTA Moosalm 20.93 301⇓iP P 04 06 25.3 +0.3
comp=Z,12nm,0.8s
MOTA Moosalm 20.93 301 P P 04 06 25.3 +0.3
comp=Z,12nm,0.8s
CLL Collm 20.98 312 eP P 04 06 25.0 -0.4
CLL i 04 06 29.9
CLL Collm 20.98 312 eP P 04 06 25.0 -0.4
CLL i sP sP 04 06 29.9 -0.5
CLL e 04 06 33.0
CLL Collm 20.98 312 eP P 04 06 25.0 -0.4
FETA Feichten 21.11 300⇑iP P 04 06 27.6 +0.5
comp=Z,6.8nm,0.7s
FETA Feichten 21.11 300 P P 04 06 27.6 +0.5
comp=Z,6.8nm,0.7s
KLMR Klimovskoe 21.34 2 eP P 04 06 28.3 -0.9
KLMR pmax pmax
comp=Z,17nm,1.3s
KLMR Klimovskoe 21.34 2 eP P 04 06 28.3 -0.9
comp=Z,17nm,1.3s
FUORN Ofenpass-Fuorn 21.36 298 eP P 04 06 33.0 +3.2
comp=Z,6.8nm,0.9s
FUORN Ofenpass-Fuorn 21.36 298 eP P 04 06 33.0 +3.2
comp=Z,6.8nm,0.9s
DAVOX Davos/Dischmat 21.64 299 P P 04 06 34.7 +1.9
DAVOX pmax pmax
comp=Z,4.0nm,0.9s
DAVOX Davos/Dischmat 21.64 299 P P 04 06 34.7 +1.9
comp=Z,3.7nm,0.9s,baz=138,slow=13,SNR=7.1
ARU Arti 21.65 32 d iP P 04 06 32.2 -0.4
ARU 04 06 52.1
ARU S S 04 10 33.2 +1.3
ARU SS SnSn 04 10 57.6 +1.7
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU Arti 21.65 32 eP P 04 06 32.6 +0.1
comp=Z,5.2nm,0.6s
ARU Arti 21.65 32 eP P 04 06 32.6 +0.1
comp=Z,5.2nm,0.6s
ARU S S 04 10 33.2 +1.3
DAVA Damuels 21.73 300⇓iP P 04 06 35.0 +1.3
comp=Z,8.6nm,0.8s
DAVA Damuels 21.73 300 P P 04 06 35.0 +1.3
comp=Z,8.6nm,0.8s
PGF Pioggiola 22.00 287 eP P 04 06 36.9 +0.3
PGF Pioggiola 22.00 287 eP P 04 06 36.9 +0.3
PGF Pioggiola 22.00 287 eP P 04 06 36.9 +0.3
PGF Pioggiola 22.00 287 eP P 04 06 36.9 +0.3
PRGR Permogore 22.60 10 P P 04 06 38.3 -4.4
PRGR pmax pmax
comp=Z,8.0nm,1.1s
KEST Kesra 22.94 269 P P 04 06 48.8 +2.2
comp=Z,8.6nm,1.1s,baz=74,slow=19,SNR=8.9
KEST LR LR 04 17 38.4
comp=Z,45nm,19.2s,baz=313,slow=42
KEST Kesra 22.94 269 eP P 04 06 48.5 +1.9
KEST Kesra 22.94 269 eP P 04 06 48.5 +1.9
FINES FINESS Array B 23.11 345 P P 04 06 47.9 0.0
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 23.11 345 P P 04 06 47.9 0.0
comp=Z,1.7nm,0.7s,baz=148,slow=11,SNR=8.0
SENIN Lac Senin/Sane 23.35 297 eP P 04 06 50.6 -0.3
SENIN Lac Senin/Sane 23.35 297 eP P 04 06 50.6 -0.3
MBDF Montbardon 23.61 293 eP P 04 06 55.2 +1.8
comp=Z,16nm,1.0s
MBDF Montbardon 23.61 293 eP P 04 06 55.2 +1.8
MBDF pmax pmax
comp=Z,16nm,1.0s
MBDF Montbardon 23.61 293 eP P 04 06 55.2 +1.8
comp=Z,16nm,1.0s
MBDF Montbardon 23.61 293 eP P 04 06 55.2 +1.8
comp=Z,7.9nm,1.0s
LPG La Plagne 23.66 295 eP P 04 06 53.7 -0.3
comp=Z,36nm,1.3s
LPG La Plagne 23.66 295 eP P 04 06 53.7 -0.3
LPG pmax pmax
comp=Z,36nm,1.3s
LPG La Plagne 23.66 295 eP P 04 06 53.7 -0.3
comp=Z,36nm,1.3s
LPG La Plagne 23.66 295 eP P 04 06 53.7 -0.3
comp=Z,18nm,1.3s
LPL La Plagne 23.68 295 eP P 04 06 53.7 -0.4
comp=Z,26nm,1.2s
LPL La Plagne 23.68 295 eP P 04 06 53.7 -0.4
LPL pmax pmax
comp=Z,26nm,1.2s
LPL La Plagne 23.68 295 eP P 04 06 53.7 -0.4
comp=Z,26nm,1.2s
LPL La Plagne 23.68 295 eP P 04 06 53.7 -0.4
comp=Z,13nm,1.2s
KAF Kangasniemi 23.68 346 eP P 04 06 54.6 +0.9
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 23.68 346 ep P 04 06 54.6 +0.9
comp=Z,1.7nm,0.7s
BNI Bardonecchia 23.69 294 eP P 04 06 55.8 +1.6
BNI pmax pmax
comp=Z,2.0nm,0.8s
BNI Bardonecchia 23.69 294 eP P 04 06 55.8 +1.6
comp=Z,2.5nm,0.8s
BNI Bardonecchia 23.69 294 eP P 04 06 55.8 +1.6
comp=Z,2.5nm,0.8s
ECH Echery 23.70 302 eP P 04 06 55.9 +1.8
ECH pmax pmax
comp=Z,6.0nm,1.2s
ECH Echery 23.70 302 eP P 04 06 55.9 +1.8
comp=Z,5.5nm,1.2s
ECH Echery 23.70 302 eP P 04 06 55.9 +1.8
comp=Z,5.5nm,1.2s
JOF Joensuu 23.73 352 eP P 04 06 53.4 -0.8
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 23.73 352 ep P 04 06 53.4 -0.8
comp=Z,3.7nm,0.8s
HINF Hinteralfeld 23.84 300 eP P 04 06 55.0 -0.4
comp=Z,18nm,1.1s
HINF Hinteralfeld 23.84 300 eP P 04 06 55.0 -0.4
HINF pmax pmax
comp=Z,18nm,1.1s
HINF Hinteralfeld 23.84 300 eP P 04 06 55.0 -0.4
comp=Z,18nm,1.1s
HINF Hinteralfeld 23.84 300 eP P 04 06 55.0 -0.4
comp=Z,9.2nm,1.1s
HAU Haudompre 24.20 301 eP P 04 06 58.3 -0.5
HAU eR
comp=Z,78nm,20.5s
HAU Haudompre 24.20 301 eP P 04 06 58.3 -0.5
HAU Haudompre 24.20 301 eP P 04 06 58.3 -0.5
HAU Haudompre 24.20 301 eP P 04 06 58.3 -0.5
CABF La Chapelle 24.21 297 eP P 04 06 58.6 -0.4
comp=Z,53nm,1.3s
CABF La Chapelle 24.21 297 eP P 04 06 58.6 -0.4
CABF pmax pmax
comp=Z,53nm,1.3s
CABF La Chapelle 24.21 297 eP P 04 06 58.6 -0.4
comp=Z,53nm,1.3s
CABF La Chapelle 24.21 297 eP P 04 06 58.6 -0.4
comp=Z,26nm,1.3s
ORIF Oris-en-Rattie 24.25 293 eP P 04 06 59.4 0.0
comp=Z,30nm,1.4s
ORIF eR
comp=Z,144nm,23.0s
ORIF Oris-en-Rattie 24.25 293 eP P 04 06 59.4 0.0
ORIF pmax pmax
comp=Z,30nm,1.4s
ORIF Oris-en-Rattie 24.25 293 eP P 04 06 59.4 0.0

comp=Z,30nm,1.4s
ORIF Oris-en-Rattie 24.25 293 eP P 04 06 59.4 0.0
comp=Z,15nm,1.4s
KKAR Karatay Array 24.61 71 eP P 04 07 02.7 +0.1
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 24.61 71 eP P 04 07 02.7 +0.1
comp=Z,2.3nm,0.7s
KKAR Karatay Array 24.61 71 eP P 04 07 02.7 +0.1
comp=Z,2.3nm,0.7s
VIVF Saint-Julien-l 25.11 293 eP P 04 07 06.7 -0.4
VIVF Saint-Julien-l 25.11 293 eP P 04 07 06.7 -0.4
VIVF Saint-Julien-l 25.11 293 eP P 04 07 06.7 -0.4
VIVF Saint-Julien-l 25.11 293 eP P 04 07 06.7 -0.4
KBL Kabul 25.23 92 P P 04 07 10.8 +2.3
KBL pmax pmax
comp=Z,19nm,1.3s
KBL Kabul 25.23 92 P P 04 07 10.8 +2.3
comp=Z,19nm,1.3s
KBL Kabul 25.23 92 P P 04 07 10.8 +2.3
comp=Z,19nm,1.3s
HFS Hagfors 25.60 332 P P 04 07 14.5 +3.2
comp=Z,2.2nm,0.7s,baz=138,slow=12,SNR=4.1
HFS LR LR 04 19 32.5
comp=Z,74nm,18.1s,baz=120,slow=42
LOR Lormes 25.79 299 eP P 04 07 13.9 +0.7
comp=Z,12nm,0.9s
LOR eR
comp=Z,94nm,21.8s
LOR Lormes 25.79 299 eP P 04 07 13.9 +0.7
LOR pmax pmax
comp=Z,12nm,0.9s
LOR Lormes 25.79 299 eP P 04 07 13.9 +0.7
comp=Z,12nm,0.9s
LOR Lormes 25.79 299 eP P 04 07 13.9 +0.7
comp=Z,6.1nm,0.9s
BRVK Borovoye 25.83 48 iP P 04 07 16.3 +2.8
BRVK pmax pmax
comp=Z,8.0nm,1.8s
BRVK Borovoye 25.83 48 eP P 04 07 20.2 +6.7
comp=Z,7.6nm,1.1s
BVAR Borovoye Array 25.88 48 P P 04 07 15.2 +1.2
comp=Z,0.5nm,0.4s,baz=251,slow=4.5,SNR=3.8
BVAR LR LR 04 19 59.4
comp=Z,74nm,19.1s,baz=184,slow=42
SSF Saint Saulge 26.01 298 eP P 04 07 15.3 +0.1
comp=Z,14nm,1.0s
SSF Saint Saulge 26.01 298 eP P 04 07 15.3 +0.1
SSF pmax pmax
comp=Z,14nm,1.0s
SSF Saint Saulge 26.01 298 eP P 04 07 15.3 +0.1
comp=Z,14nm,1.0s
SSF Saint Saulge 26.01 298 eP P 04 07 15.3 +0.1
comp=Z,6.8nm,1.0s
EKS2 Erkin-Say 27.03 72 P P 04 07 25.0 +0.4
EKS2 pmax pmax
comp=Z,2.0nm,1.0s
EKS2 Erkin-Say 27.03 72 P P 04 07 25.0 +0.4
comp=Z,2.2nm,1.0s
EKS2 Erkin-Say 27.03 72 P P 04 07 25.0 +0.4
comp=Z,2.2nm,1.0s
NOA NORSAR Array B 27.11 331 LR LR 04 20 45.0
comp=Z,44nm,18.2s,baz=115,slow=42
AAK Ala-Archa 27.56 72 P P 04 07 30.4 +1.0
AAK pmax pmax
comp=Z,1.0nm,0.4s
AAK MLR MLR
comp=Z,106nm,18.5s
AAK Ala-Archa 27.56 72 P P 04 07 30.4 +1.0
comp=Z,0.6nm,0.4s,baz=218,slow=12,SNR=3.1
AAK LR LR 04 20 08.5
comp=Z,106nm,18.5s,baz=270,slow=40
KSH Kashi 29.17 78 eP P 04 07 43.4 -0.3
KSH pP pP 04 07 49.3 +1.9
KSH pmax pmax
comp=Z,1.0nm,0.3s
SJPF Ste Jean 29.46 290 eP P 04 07 47.0 +0.9
comp=Z,69nm,1.5s
SJPF Ste Jean 29.46 290 eP P 04 07 47.0 +0.9
SJPF pmax pmax
comp=Z,69nm,1.5s
SJPF Ste Jean 29.46 290 eP P 04 07 47.0 +0.9
comp=Z,69nm,1.5s
SJPF Ste Jean 29.46 290 eP P 04 07 47.0 +0.9
comp=Z,34nm,1.5s
KURBB Kurchatov Arra 30.34 55 P P 04 07 53.9 +0.2
comp=Z,8.4nm,0.7s,baz=271,slow=9.0,SNR=65
KURK Kurchatov 30.40 55 eP P 04 07 54.1 -0.2
KURK Kurchatov 30.40 55 eP P 04 07 54.1 -0.2
KURK Kurchatov 30.40 55 eP P 04 07 54.1 -0.2
ARCES ARCESS Array B 30.77 351 LR LR 04 22 29.3
comp=Z,75nm,18.2s,baz=136,slow=41
ESDC Sonseca Array 32.09 284 P P 04 08 08.6 -0.8
comp=Z,2.1nm,0.9s,baz=70,slow=8.2,SNR=7.4
MK31 Makanchi Array 32.77 62 eP P 04 08 15.8 +0.5
MK31 Makanchi Array 32.77 62 eP P 04 08 15.8 +0.5
MK31 Makanchi Array 32.77 62 eP P 04 08 15.8 +0.5
MKAR Makanchi Array 32.77 62 c eP P 04 08 15.6 +0.4
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 32.77 62 P P 04 08 15.7 +0.4
comp=Z,3.0nm,0.9s,baz=280,slow=7.3,SNR=23
NVS Novosibirsk 33.68 48 eP P 04 08 24.8 +1.7
NVS Novosibirsk 33.68 48 eP P 04 08 24.8 +1.7
ZALV Zalesovo Beam 34.50 50 P P 04 08 29.6 -0.6
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 34.50 50 P P 04 08 29.6 -0.6
comp=Z,0.9nm,0.5s,baz=260,slow=8.9,SNR=4.8
TORD Torodi Ar. Bea 41.37 241 P P 04 09 29.8 +1.2
comp=Z,0.6nm,0.8s,baz=26,slow=8.0,SNR=2.9
TORD LR LR 04 30 56.9
comp=Z,35nm,18.1s,baz=15,slow=42
TLY Talaya 46.00 52 eP P 04 10 06.7 +1.2
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY MLR MLR
comp=Z,63nm,16.0s
TLY Talaya 46.00 52 eP P 04 10 06.7 +1.2
comp=Z,63nm,16.0s
ZAK Zakamensk 46.05 54 eP P 04 10 04.2 -1.8
ZAK pmax pmax
comp=Z,2.0nm,1.4s
SONM Songino Array 48.68 57 P P 04 10 26.7 +0.1
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 48.68 57 P P 04 10 26.7 +0.1
comp=Z,1.2nm,0.7s,baz=285,slow=7.8,SNR=14
ULN Ulaanbaatar 49.10 56 c eP P 04 10 30.3 +0.5
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 49.10 56 P P 04 10 29.2 -0.6
comp=Z,8.1nm,1.2s
ULN Ulaanbaatar 49.10 56 eP P 04 10 30.3 +0.5
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 56.25 93 P P 04 11 24.5 +1.6
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 56.25 93 P P 04 11 24.5 +1.6
comp=Z,1.3nm,0.3s,baz=297,slow=6.0,SNR=4.8
KSAR Wonju Array Be 67.36 60 P P 04 12 37.0 -0.5
KSAR Wonju Array Be 67.36 60 P P 04 12 37.0 -0.5
KSAR Wonju Array Be 67.36 60 P P 04 12 37.0 -0.5
KSRS Korea Array 67.38 60 P P 04 12 37.0 -0.6
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS Korea Array 67.38 60 P P 04 12 37.0 -0.6
comp=Z,1.6nm,0.7s,baz=284,slow=7.8,SNR=3.9
KSRS LR LR 04 45 34.1
comp=Z,55nm,19.1s,baz=145,slow=39
YKA Yellowknife Ar 75.92 347 P P 04 13 29.3 +0.7
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 75.92 347 P P 04 13 29.3 +0.7
comp=Z,0.5nm,0.7s,baz=20,slow=5.8,SNR=10
ILAR Eielson Array 75.94 2 P P 04 13 28.9 +0.2
comp=Z,0.4nm,1.0s,baz=333,slow=3.4,SNR=4.2
DLBC Dease Lake 81.85 354 LR LR 04 53 20.2
comp=Z,17nm,18.5s,baz=319,slow=38
NEW Newport 89.80 344 LR LR 04 58 03.5
comp=Z,22nm,18.8s,baz=319,slow=38
PDAR Pinedale Array 92.93 337 LR LR 04 57 56.6
comp=Z,33nm,18.4s,baz=36,slow=36

IDC 01 04:36:39.1±1.3, 1.°70S×99.°14E, h0km, mb3.8/8, mb1 3.9/9,

mb1mx3.7/36, mbtmp3.7/9, ML2.8/1, Error ellipse:
s-maj=56.1km s-min=18.9km az=55.0
ISC 01 04:36:44.1±1.3, 1.4S±0.2×99.5E±0.3, h25km, n13,
σ1.15/11, mb4.0/7, Southern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PSI Prapat 4.17 352 Pn **Pn** 04 37 47.0 +0.6
0.5nm,0.3s,baz=153,slow=9.0,SNR=2.9
PSI Pg **Pb** 04 37 55.2 -1.7
1.3nm,0.3s,baz=128,slow=10,SNR=7.5
CMAR Chiang Mai Arr 19.70 358 P **Pn** 04 41 13.8 +0.4
0.9nm,0.3s,baz=189,slow=10.0,SNR=4.9
H08S2 Diego Garcia H 27.61 256 T T 05 10 23.1
baz=78,slow=76,SNR=28
H08S3 Diego Garcia H 27.61 256 T T 05 10 23.1
baz=78,slow=76,SNR=40
H08S1 Diego Garcia H 27.62 256 T T 05 10 21.9
baz=78,slow=76,SNR=8.4
WRA Warramunga Arr 38.76 121 P **P** 04 44 05.6 -1.3
0.8nm,0.9s,baz=310,slow=9.0,SNR=7.2
ASAR Alice Springs 40.04 126 P **P** 04 44 17.7 +0.1
0.3nm,0.5s,baz=299,slow=8.4,SNR=6.2
SONM Songino Array 49.37 6 P **P** 04 45 33.3 +1.6
0.3nm,0.5s,baz=190,slow=10,SNR=4.8
MKAR Makanchi Array 50.28 345 P **P** 04 45 39.3 +0.9
1.7nm,0.6s,baz=146,slow=8.7,SNR=26
ZALV Zalesovo Beam 56.45 350 P **P** 04 46 24.1 +0.5
1.8nm,0.7s,baz=165,slow=6.2,SNR=9.6
KBZ Khabaz 67.49 319 P **P** 04 47 36.9 -1.2
0.9nm,0.6s,baz=163,slow=11,SNR=2.9
FINES FINESS Array B 83.31 332 P **P** 04 49 09.1 +0.5
0.7nm,0.6s,baz=106,slow=2.8,SNR=4.8
TXAR Lajitas Array 144.50 36 PKP **PKPdf** 04 56 18.9 -0.3
0.6nm,0.6s,baz=279,slow=2.1,SNR=8.7

ISCJB 01 04:39:58.3±0.6, 1.8N±0.1×121.8E±0.1, h550km, mb3.6/12,
Error ellipse: s-maj=22.1km s-min=11.9km az=143.6
IDC 01 04:39:59.3±1.9, 1.72N×121.53E, h544km±21km, mb3.1/12,
mb1 3.2/12, mb1mx3.1/34, mbtmp4.0/12, Error ellipse:
s-maj=33.1km s-min=11.9km az=70.0
ISC 01 04:39:59.6±0.7, 1.8N±0.2×121.7E±0.2, h550km, n22,
σ0.82/28, mb3.5/12, Minahassa Peninsula, Sulawesi

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 24.90 151 P **P** 04 44 39.4 -0.2
0.2nm,0.3s,baz=338,slow=9.4,SNR=8.8
WRA PcP **PcP** 04 47 57.2 +0.8
0.3nm,0.5s,baz=332,slow=2.4,SNR=4.8
WRA ScP **ScP** 04 50 44.6 +0.8
0.2nm,0.4s,baz=333,slow=2.7,SNR=3.4
ASAR Alice Springs 27.94 156 P **P** 04 45 06.5 +0.2
0.4nm,0.6s,baz=326,slow=7.2,SNR=4.6
ASAR PcP **PcP** 04 48 04.7 +0.9
0.6nm,0.3s,baz=343,slow=2.2,SNR=8.6
ASAR ScP **ScP** 04 50 54.0 +1.2
0.2nm,0.5s,baz=353,slow=3.8,SNR=4.2
KSRS Korea Array 35.98 8 P **P** 04 46 15.1 +0.8
1.0nm,0.5s,baz=191,slow=9.1,SNR=3.7
ODAN Odare 41.28 310 eP **P** 04 46 58.5 +0.7
TAPN Taplejung 41.29 311 eP **P** 04 46 58.7 +0.8
RAMN Ramite 41.93 310 eP **P** 04 47 04.1 +1.2
16nm,0.8s
JIRN Jiri 42.60 310 eP **P** 04 47 09.2 +0.8
10nm,0.6s
GUN Gumba 42.97 311 eP **P** 04 47 12.0 +0.8
12nm,0.5s
PKI Pulchoki 43.15 310 eP **P** 04 47 13.0 +0.4
4.4nm,0.4s
USRK Ussuriysk Arra 43.23 11 P **P** 04 47 13.0 +0.5
5.3nm,0.5s,baz=192,slow=6.5,SNR=16
KOLN Koldanda 44.65 309 eP **P** 04 47 25.0 +1.0
DANN Dangsing 44.80 310 eP **P** 04 47 26.0 +0.7
20nm,0.5s
PYUN Piuthan 45.28 309 eP **P** 04 47 29.9 +1.0
44nm,0.5s
SONM Songino Array 47.76 346 P **P** 04 47 47.9 +0.8
0.8nm,0.5s,baz=167,slow=9.5,SNR=12
SONM PcP **PcP** 04 49 05.3 -0.1
0.6nm,0.8s,baz=162,slow=4.2,SNR=4.0
MKAR Makanchi Array 56.42 328 P **P** 04 48 49.9 +0.7
1.4nm,0.3s,baz=127,slow=8.3,SNR=40
MKAR PcP **PcP** 04 49 38.1 -0.2
0.8nm,0.6s,baz=123,slow=4.5,SNR=7.8
ZALV Zalesovo Beam 60.17 336 P **P** 04 49 13.8 -0.5
1.0nm,0.4s,baz=132,slow=7.0,SNR=7.6
BRTR Keskin Array B 87.37 310 P **P** 04 51 47.8 -1.2
0.5nm,0.7s,baz=139,slow=5.0,SNR=4.1
ILAR Eielson Array 89.03 25 P **P** 04 51 55.1 -0.9
0.2nm,0.7s,baz=237,slow=4.2,SNR=4.8
AKASG Malin Array Be 90.20 321 P **P** 04 52 00.7 -0.9
0.2nm,0.5s,baz=65,slow=5.0,SNR=3.6
ARCES ARCESS Array B 90.52 340 P **P** 04 52 01.9 -0.8
3.4nm,0.8s,baz=94,slow=5.4,SNR=3.8
FINES FINESS Array B 91.14 331 P **P** 04 52 04.7 -1.0
0.9nm,0.6s,baz=28,slow=8.6,SNR=3.9
TORD Torodi Ar. Bea 118.66 286 PKP **PKPdf** 04 57 45.9 -0.6
0.6nm,1.0s,baz=15,slow=2.4,SNR=6.5

BJI 01 04:56:35.0, 13.59N×120.94E, h150km, mB4.9/39,
mb4.9/53
MOS 01 04:56:35.4±1.0, 13.71N×120.85E, h143km, mb4.8/39,
Error ellipse: s-maj=11.5km s-min=5.1km az=122.7
IDC 01 04:56:35.9±0.3, 13.63N×120.86E, h136km±2km, mb4.2/24,
mb1 4.3/24, mb1mx4.2/30, mbtmp4.6/24, MS3.6/5,
Ms1 3.6/5, ms1mx3.2/23, Error ellipse: s-maj=11.7km
s-min=7.6km az=78.0
MAN 01 04:56:36, 13.79N×120.51E, h111km, mb5.7, ML4.7,
MS5.1
MAN Intensity III - PALUAN OCCIDENTAL MINDORO;
INTENSITY II - LUBANG SABLAYAN AND MAMBURAO
OCCIDENTAL MINDORO ILIJAN BATANGAS; CALAPAN
ORIENTAL MINDORO.
ISCJB 01 04:56:37.1±0.2, 13.82N±0.02×120.75E±0.03,
h146km±2km, mb4.8/123, Error ellipse: s-maj=4.5km
s-min=3.0km az=1.2
NEIC 01 04:56:38.2±0.5, 13.70N×120.77E, h150km±4km, mb4.8/49,
Error ellipse: s-maj=5.8km s-min=3.9km az=100.0
NEIC Felt [III PIVS] at Paluan; [II PIVS] at Calapan, Lubang and
Mamburao; [I PIVS] at Puerto Galera. Felt [II PIVS] at
Ilijan, Luzon. Also felt at Bacoor.
GCMT 01 04:56:38.2±0.2, 13.77N×120.76E, h139km±2km,
MW4.9/92, Moment Tensor Solution. s40,c45; s92,c128;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.18±.10;
$M_{\theta\theta}$-1.76±.13; $M_{\phi\phi}$0.58±.13; $M_{r\theta}$2.43±.07; $M_{r\phi}$-0.12±.12;
$M_{\theta\phi}$-1.19±.08; Best double couple: $M_0$3.12000×10^{16}
NP1:ϕ_s113.00000°, δ78.00000°, λ108.00000°. NP2:
ϕ_s237.00000°, δ21.00000°, λ36.00000°. Principal axes: T
3.0460, Plg54.0000°, Azm44.0000°; N 0.1510,
Plg17.0000°, Azm289.0000°; P -3.1940, Plg31.0000°,
Azm189.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.
KLM 01 04:56:39.3, 13.64N×120.65E, h123km, mb4.9, MS5.5
BKK 01 04:56:40.0±1.9, 14.°N±5.°×12.°1E±.°, h159km±18km, M4.9/24,
mB5.4/7, mb4.9/24, Mw(mB)4.9/7
DJA 01 04:56:44.1±0.9, 14.°N±6.°×12.°1E±.°, h199km±7km, M4.8/60,
mb5.0/60, mB5.4/32, Mw(mB)4.8/32
ISC 01 04:56:38.1±0.3, 13.73N±0.03×120.74E±0.04, h149km±2km,
h149km:pP-P, n325, σ1.72/399, mb4.8/124, 28C-28D,
Mindoro

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PGP Puerto Galera 0.31 137⇓eP **Pn** 04 56 55.6 -3.0
PGP eS **Sn** 04 57 08.6 -5.5
TGY Tagaytay City 0.42 28 P **Pn** 04 56 56.7 -2.3
2µm,0.3s,baz=245,slow=1.8,SNR=340
TGY S **Sn** 04 57 11.9 -3.0
6µm,0.3s,baz=344,slow=20,SNR=14
TGY Tagaytay City 0.42 28⇓eP **Pn** 04 56 56.7 -2.3
TGY eS **Sn** 04 57 11.6 -3.3
LQP Lukban 0.87 64⇓eP **Pn** 04 57 00.1 -1.8
BOAC Boac 1.11 104 eP **Pn** 04 57 02.8 -1.0
BOAC eS **Sn** 04 57 22.1 -1.2
SJMP San Jose 1.32 163 eP **Pn** 04 57 03.3 -2.4
SJMP eS Sn 04 57 19.3 -7.6
GQP Guinayangan 1.67 84⇓eP **Pn** 04 57 09.4 0.0
GQP eS **Sn** 04 57 32.0 -1.4
BUSP Coron 1.80 197 eP **Pn** 04 57 07.7 -3.2
BUSP eS **Sn** 04 57 31.1 -4.8
PCPH Palayan 1.85 11⇓eP **Pn** 04 57 08.4 -3.1
PCPH eS **Sn** 04 57 38.4 +1.3
AUQP San Andres 1.93 102 eP **Pn** 04 57 14.2 +1.9
BCPH Baguio City Da 2.64 357⇑iP Pn 04 57 17.9 -3.2
BCPH iS **Sn** 04 57 50.0 -4.2
RCP Roxas 2.92 138⇑eP **Pn** 04 57 24.6 +0.2
PVCP Virac 3.33 92⇑iP **Pn** 04 57 30.9 +1.3
GUIM Jordan 3.58 149 eP **Pn** 04 57 33.8 +0.9
GUIM eS **Sn** 04 58 11.0 -4.4
SZP Santa 3.81 356 ePn **Pn** 04 57 34.5 -1.3
SZP eS **Sn** 04 58 23.4 +2.7
CVP Callao Caves 4.08 15⇑eP **Pn** 04 57 38.8 -0.7
PPR Puerto Princes 4.39 207 iS **Sn** 04 58 38.9 +4.4
LLP Lapu-Lapu 4.64 137 eP Pn 04 58 17.5 +31
PLP Palo 4.87 121⇓eP **Pn** 04 57 51.3 +1.5
TBP Tagbilaran 5.05 142 eP **Pn** 04 57 54.3 +2.1
MSLP Maasin 5.39 131 eP **Pn** 04 57 58.3 +1.6
PAGZ Pagadian 6.40 156 eP **Pn** 04 58 11.4 +1.3
BUKP Musuan 7.20 143 eP **Pn** 04 58 23.2 +2.2
KDM Kudat 7.79 210 ⇓P **Pn** 04 58 28.7 0.0
SDKM Sandakan 8.76 204 ⇑P **Pn** 04 58 42.0 +0.2
KKM Kota Kinabalu 8.84 211 ePn **Pn** 04 58 43.6 +0.7
KKM eS **Sn** 05 00 20.1 -1.1
KKM Kota Kinabalu 8.84 211 ⇓P **Pn** 04 58 42.9 0.0
TPUB Ta-pu 9.52 359 ePn **Pn** 04 58 53.3 +1.6
YULB Yu-li 9.62 3 ePn **Pn** 04 58 55.8 +2.7
32nm,1.1s
TSM Tawau 9.79 197 ⇑P **Pn** 04 58 57.1 +1.6
SSLB Suanglung 10.01 1 ePn **Pn** 04 58 58.5 +0.2
NACB Ninganchiao 10.42 4 ePn **Pn** 04 59 04.4 +0.7
YHNB Yeheng 10.90 3 ePn **Pn** 04 59 12.8 +2.8
QIZ Qiongzhong 11.70 298 P **Pn** 04 59 19.5 -1.1
QIZ S **Sn** 05 01 29.1 -0.9
QIZ pmax pmax
comp=Z,80nm,5.5s
QIZ Qiongzhong 11.70 298 ePn **Pn** 04 59 22.4 +1.8
QIZ eS **Sn** 05 01 26.6 -3.4
BTM Bintulu 12.91 217 ⇓P **Pn** 04 59 37.4 +1.1
GTOI Gorontalo 13.21 170 P **Pn** 04 59 40.0 -0.1
207nm,1.2s,3µm
MRSI Marisa 13.22 175 P **Pn** 04 59 42.1 +1.8
181nm,1.0s,2µm
APSI Ampana 14.58 176 P **P** 05 00 00.3 +0.5
165nm,1.3s,2µm
LUWI Luwuk 14.82 172 P P 05 00 06.7 +4.2
318nm,1.2s,4µm
LUWI Luwuk 14.82 172 ePn **P** 05 00 01.8 -0.7
UBPT Khong Chiam 14.86 278 P P 05 00 06.7 +3.7
BKB Balikpapan 15.37 195 P **P** 05 00 11.1 +2.5
187nm,1.1s,2µm
KSM Kuching 15.96 221 ePn **P** 05 00 15.2 0.0
417nm,2.1s
KSM Kuching 15.96 221 ⇑P **P** 05 00 16.9 +1.8
SANI Sanana 16.52 161 P **P** 05 00 20.5 -0.8
71nm,1.1s,1µm
TTSI Tana Toraja 16.69 183 P **Pn** 05 00 25.4 +2.0
73nm,1.2s,1µm
SPSI Sidrap Palu 17.61 183 P **Pn** 05 00 38.3 +3.9
44nm,0.8s
SLVN Son La 17.73 298 ePn **P** 05 00 30.5 -4.1
WHN Wuhan 17.74 342 P **Pn** 05 00 35.8 -0.1
WHN S **Sn** 05 03 55.3 +0.5
WHN LR LR
comp=N,510nm,11.0s
WHN LR LR
comp=E,680nm,10.7s
WHN LR LR
comp=Z,530nm,16.7s
CHBT CHBT 17.95 269 P **Pn** 05 00 38.9 +0.4
20nm,1.3s
BNSI Bone 18.02 182 P **Pn** 05 00 40.2 +0.8
68nm,1.2s,1µm
GYA Guiyang 18.28 316⇑iP **P** 05 00 41.7 +1.0
GYA PP **pP** 05 01 04.8 -1.7
GYA sP **sP** 05 01 26.0 +0.7
GYA S **S** 05 03 57.6 -4.5
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,110nm,4.6s
NJ2 Nanjing 18.32 355 eP **Pn** 05 00 42.4 -0.3
NJ2 pmax pmax
comp=Z,20nm,0.7s
KAPI Kappang 18.65 183 eP **Pn** 05 00 46.0 -0.7
325nm,0.7s
MSAI Masohi 18.81 154 P **Pn** 05 00 48.0 -0.7
29nm,0.8s
BKSI Bulukumba 18.94 182 P **P** 05 00 46.6 -1.2
51nm,1.1s,652nm
KTGM Kuala Trenggan 19.25 246 ⇑P **Pn** 05 00 53.0 -0.8
ENH Enshi 19.46 330 eP **P** 05 00 52.8 -0.6
16nm,0.6s
KMI Kunming 20.38 306 P Pn 05 01 06.0 -1.3
KMI S **S** 05 04 47.1 +3.1
KMI pmax pmax
comp=Z,17nm,0.9s
KMI LR LR
comp=N,510nm,17.7s
KMI LR LR
comp=E,290nm,16.0s
KMI LR LR
comp=Z,220nm,14.3s
MYKOM Kota Tinggi 20.49 236 eP **P** 05 01 05.4 +0.9
40nm,1.2s
SUKH Sukhothai 20.66 283 P Pn 05 01 09.0 -1.5
5.3nm,1.0s
LAMP Lampang 20.82 286 P Pn 05 01 10.5 -1.9
7.2nm,0.8s
TPI Tanjungpandan 20.90 219 P Pn 05 01 11.8 -1.5
129nm,1.0s,1µm
UMPA Umpang Tak 21.27 279 P P 05 01 23.5 +10
JNU Nakatsue 21.40 24 P **P** 05 01 14.5 +0.3
16nm,1.0s,baz=172,slow=15,SNR=3.5
CM31 Chiang Mai Arr 21.45 286 eP **P** 05 01 16.5 +1.6
CMAR Chiang Mai Arr 21.45 286 P **P** 05 01 16.4 +1.5
6.5nm,0.6s,baz=95,slow=7.9,SNR=38
CMAR pP **pP** 05 01 41.0 -0.4
2.1nm,0.4s,baz=101,slow=9.3,SNR=1.8
CMAR PcP **PcP** 05 05 13.2 +1.1
1.1nm,0.4s,baz=149,slow=1.7,SNR=5.1
CMAR ScP **ScP** 05 08 35.9 +0.4
1.0nm,0.3s,baz=77,slow=1.5,SNR=9.4
CMAR LR LR 05 09 37.6
comp=Z,92nm,18.3s,baz=46,slow=36
KULM Kulim 21.50 249 eP **P** 05 01 14.3 -1.0
38nm,1.2s
KULM Kulim 21.50 249 ⇑P **P** 05 01 17.8 +2.5
IPM Ipoh 21.50 247 eP **P** 05 01 15.2 -0.3
13nm,0.8s
IPM Ipoh 21.50 247 ⇓P **P** 05 01 16.0 +0.5
CHTO Chiang Mai 21.51 286 eP **P** 05 01 15.9 +0.4
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 21.51 286 P **P** 05 01 17.2 +1.7
comp=Z,37nm,1.1s
CHTO Chiang Mai 21.51 286 eP **P** 05 01 15.9 +0.4
comp=Z,5.2nm,0.8s
CMAI Chiengmai2 21.65 289 P **P** 05 01 18.6 +1.5
comp=Z,26nm,1.2s,comp=Z,612nm
KMMI Kalianget 21.71 198 P **P** 05 01 20.2 +2.6
comp=Z,185nm,0.8s,comp=Z,4µm
TBJI Tambak Boyo 22.24 204 P **P** 05 01 26.3 +3.3
comp=Z,348nm,1.7s,comp=Z,5µm
ABJI Asem Bagus 22.34 197 P **P** 05 01 25.7 +1.8
comp=Z,157nm,1.6s
SRBI Singaraja 22.36 195 P **P** 05 01 25.3 +1.2
comp=Z,389nm,1.0s,comp=Z,3µm
TIA Tai'an 22.62 352 ⇓P **P** 05 01 26.2 -0.2
TIA pmax pmax
comp=Z,30nm,1.0s
JMBI JAMBI 22.81 229 P **P** 05 01 31.7 +3.3
comp=Z,694nm,1.3s,comp=Z,6µm
XAN Xi'an 22.89 334 P **P** 05 01 28.6 -0.4
XAN pP **pP** 05 01 59.0 +2.2
XAN sP **sP** 05 02 18.2 +2.9
XAN S **S** 05 05 22.6 -4.8
XAN SS **SnSn** 05 06 19.2 +1.5
XAN pmax pmax
comp=Z,20nm,0.7s
XAN pmax pmax
comp=Z,33nm,4.1s
NGJI Ngawi 22.89 204 P **P** 05 01 32.0 +2.9
comp=Z,180nm,1.4s
JAGI Jajag, Banyuwa 23.00 197 P **P** 05 01 31.8 +1.6
comp=Z,181nm,1.0s
JAGI Jajag, Banyuwa 23.00 197 eP **P** 05 01 30.5 +0.3
comp=Z,143nm,1.0s
GMJI Gumukmas 23.03 199 P **P** 05 01 32.3 +1.9
comp=Z,274nm,1.1s,comp=Z,3µm
SMRI Semarang 23.04 207 P **P** 05 01 32.9 +2.4
comp=Z,250nm,1.6s
SMRI Semarang 23.04 207 eP **P** 05 01 31.1 +0.6
comp=Z,249nm,1.3s
CD2 Chengdu 23.16 320 ⇓P **P** 05 01 32.7 +1.1
CD2 pP **pP** 05 02 02.9 +3.1
CD2 PP **PnPn** 05 02 11.0 +3.8
CD2 sP **sP** 05 02 21.2 +2.8
CD2 S **S** 05 05 29.1 -2.8
CD2 SS **SnSn** 05 06 29.0 +4.6
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,250nm,6.3s
CD2 LR LR
comp=Z,360nm,9.8s
CD2 LR LR
comp=Z,330nm,10.3s
CD2 LR LR
comp=Z,390nm,11.8s
SOEI Soe 23.60 171 P **P** 05 01 34.1 -1.6
comp=Z,82nm,1.0s
SOEI Soe 23.60 171 eP **P** 05 01 36.1 +0.4
BKNI Bangkinang 23.62 237 P **P** 05 01 36.7 +0.9
comp=Z,178nm,1.1s,comp=Z,2µm
SMPI Sarmi 23.70 130 P **P** 05 01 40.6 +4.1
comp=Z,42nm,1.3s,comp=Z,31µm
PCJI Pacitan 23.76 204 P **P** 05 01 40.2 +3.1
comp=Z,146nm,1.4s
CBIJ Chichi jima 24.05 53 P **P** 05 01 39.9 +0.2
JCJ Chichijima 24.05 53 P **P** 05 01 39.9 +0.2
comp=Z,33nm,0.5s,baz=255,slow=19,SNR=3.3
PSI Prapat 24.13 245 P **P** 05 01 41.2 +0.6
comp=Z,18nm,0.6s,baz=50,slow=5.1,SNR=26
PSI pP **pP** 05 02 10.5 0.0
comp=Z,10nm,0.9s,baz=28,slow=7.7,SNR=3.1
LEM Lembang 24.22 213 P **P** 05 01 44.0 +2.5
comp=Z,83nm,0.8s
KLI Kotabumi 24.28 222 P **P** 05 01 43.7 +1.9
comp=Z,144nm,0.8s
LHSI Lahat 24.41 226 P **P** 05 01 44.9 +1.9
comp=Z,210nm,0.9s
BLSI Bandar Lampung 24.42 220 P **P** 05 01 45.6 +2.5
comp=Z,208nm,0.8s,comp=Z,5µm
MDSI Maura Dua 24.45 223 P **P** 05 01 44.0 +0.7
comp=Z,46nm,0.8s
KSAR Wonju Array Be 24.46 14 P **P** 05 01 43.3 +0.1
KSAR *PP **pP** 05 02 10.8 -2.8
KSAR Wonju Array Be 24.46 14 P **P** 05 01 43.3 +0.1
KSAR pP **pP** 05 02 10.8 -2.8
KSRS Korea Array 24.48 14 P **P** 05 01 43.3 -0.1
comp=Z,7.1nm,1.0s,baz=196,slow=10,SNR=8.1
KSRS pP **pP** 05 02 10.8 -3.0
comp=Z,2.5nm,0.8s,baz=193,slow=12,SNR=2.6
CISI Cisompet, Garu 24.73 212 P **P** 05 01 47.9 +1.9
comp=Z,196nm,1.0s,comp=Z,6µm
CISI Cisompet, Garu 24.73 212 eP **P** 05 01 46.5 +0.6
comp=Z,131nm,0.8s
KCSI Kotacane, Aceh 24.84 248 P **P** 05 01 46.9 0.0
comp=Z,18nm,1.0s
CNJI Cibinong 24.89 214 P **P** 05 01 49.5 +2.2
comp=Z,172nm,0.9s
LWLI Liwa 24.92 223 P **P** 05 01 49.1 +1.3
comp=Z,192nm,0.8s
KASI Kota Agung 25.02 221 P **P** 05 01 49.1 +0.6
comp=Z,84nm,0.8s
CGJI Cibinong 25.13 217 P **P** 05 01 49.1 -0.4
comp=Z,74nm,0.8s,comp=Z,1µm
MNAI Manna 25.19 226 P **P** 05 01 52.5 +2.4
comp=Z,172nm,1.1s
MNAI Manna 25.19 226 eP **P** 05 01 50.7 +0.6
comp=Z,112nm,0.8s
GSI Gunungsitoli 26.03 244 P **P** 05 01 56.8 -0.9
comp=Z,59nm,1.0s,comp=Z,2µm
GSI Gunungsitoli 26.03 244 eP **P** 05 01 56.5 -1.2
comp=Z,37nm,0.7s
BJI Beijing 26.51 352 P **P** 05 02 02.7 +1.0
BJI pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 26.94 329 ⇑P **P** 05 02 07.0 +1.2
LZH pP **pP** 05 02 38.4 +1.4
LZH sP **sP** 05 02 56.0 +1.8
LZH PP **PnPn** 05 03 02.5 +5.3
LZH S **S** 05 06 29.0 -3.0
LZH sS **sS** 05 07 23.1 -4.1
LZH SS **SnSn** 05 08 01.0 +5.1
LZH pmax pmax
comp=Z,170nm,1.2s
LZH pmax pmax
comp=Z,290nm,4.0s
LZH LR LR
comp=Z,340nm,12.3s
LZH LR LR
comp=Z,370nm,12.5s
LZH LR LR
comp=Z,500nm,13.5s
MJAR Matsushiro Arr 27.59 31 P **P** 05 02 10.1 -1.3
comp=Z,1.8nm,0.6s,baz=207,slow=8.7,SNR=7.2
HHC Hu-ho-hao-te 28.18 345 eP **P** 05 02 18.7 +2.0
HHC PP **PnPn** 05 03 16.4 +3.0
HHC S **S** 05 06 51.0 -0.4
HHC SS **SnSn** 05 08 28.5 +2.6
HHC ScS **ScS** 05 12 44.5 -2.6
HHC pmax pmax
comp=Z,36nm,1.3s
HHC pmax pmax
comp=Z,120nm,5.3s
HHC LR LR
comp=Z,280nm,12.7s
HHC LR LR
comp=Z,220nm,13.5s
HHC LR LR
comp=Z,130nm,13.1s
SHL Shillong 29.54 298 eP **P** 05 02 28.5 -0.6
GTA Gaotai 31.53 328 ⇑P **P** 05 02 47.0 +0.6
GTA pP **pP** 05 03 18.3 +0.3
GTA sP **sP** 05 03 38.1 +3.0
GTA PcP **PcP** 05 05 36.2 +0.6
GTA S **S** 05 07 44.3 +0.4
GTA sS **sS** 05 08 40.4 +0.9
GTA ScP **ScP** 05 09 05.5 +0.4
GTA SS **SnSn** 05 09 47.7 +0.3
GTA pmax pmax
comp=Z,62nm,1.4s
GTA pmax pmax
comp=Z,160nm,5.5s
GTA LR LR
comp=Z,270nm,16.6s
GTA LR LR
comp=Z,190nm,15.2s
GTA LR LR
comp=Z,250nm,15.7s
LSA Lhasa 31.62 305 P **P** 05 02 48.2 +0.5
LSA Lhasa 31.62 305 eP **P** 05 02 48.2 +0.5
LSA pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 31.62 305 eP **P** 05 02 48.2 +0.5
comp=Z,13nm,0.6s
MDJ Mudanjiang 31.70 12 P **P** 05 02 48.2 +0.7
MDJ pmax pmax
comp=Z,9.0nm,1.5s
MDJ pmax pmax
comp=Z,85nm,3.9s
USRK Ussuriysk Arra 31.85 15 P **P** 05 02 49.3 +0.3
comp=Z,4.6nm,0.8s,baz=204,slow=6.9,SNR=9.0
TAPN Taplejung 33.64 299 eP **P** 05 03 05.5 +0.4
comp=Z,37nm,0.8s
ODAN Odare 33.78 298 eP **P** 05 03 06.5 +0.3
comp=Z,73nm,0.7s
RAMN Ramite 34.48 298 eP **P** 05 03 12.8 +0.5
comp=Z,67nm,0.8s
JIRN Jiri 35.02 299 eP **P** 05 03 17.2 +0.1
comp=Z,98nm,0.7s
GUN Gumba 35.36 299 eP **P** 05 03 19.9 0.0
comp=Z,102nm,0.7s
PKI Pulchoki 35.67 298 eP **P** 05 03 21.9 -0.7
comp=Z,33nm,0.5s
PKIN Phulchoki 35.68 298 eP **P** 05 03 22.1 -0.5
comp=Z,24nm,0.5s

KKN Kakani 35.84 299 eP P 05 03 23.7 -0.2
comp=Z,36nm,0.8s
ULN Ulaanbaatar 35.89 344c iP P 05 03 23.6 -0.3
ULN pmax pmax
comp=Z,20nm,1.1s
ULN Ulaanbaatar 35.89 344 eP P 05 03 23.7 -0.2
comp=Z,19nm,1.1s
DMN Daman 35.94 298 eP P 05 03 25.1 +0.3
WRAB Tennant Creek 36.04 158ceP P 05 03 22.3 -3.0
WRAB pmax pmax
comp=Z,32nm,0.9s
WRAB Tennant Creek 36.04 158 eP P 05 03 23.7 -1.6
comp=Z,11nm,0.8s
SONM Songino Array 36.04 344 P P 05 03 25.0 -0.2
comp=Z,15nm,0.6s,baz=162,slow=9.9,SNR=124
SONM PcP PcP 05 05 48.2 -0.1
comp=Z,0.4nm,0.4s,baz=181,slow=3.3,SNR=2.4
SONM ScP ScP 05 09 21.1 +0.3
comp=Z,0.5nm,0.8s,baz=169,slow=3.4,SNR=4.7
SONM LR LR 05 19 50.8
comp=Z,89nm,18.4s,baz=77,slow=39
WRA Warramunga Arr 36.04 158 P P 05 03 23.5 -1.8
comp=Z,6.6nm,0.6s,baz=336,slow=9.5,SNR=65
WRA pP pP 05 03 52.3 -5.2
comp=Z,7.0nm,0.8s,baz=337,slow=9.6,SNR=4.1
WRA S S 05 08 47.3 -6.2
comp=Z,6.8nm,1.1s,baz=337,slow=16,SNR=7.7
WRA ScP ScP 05 09 21.2 +0.1
comp=Z,1.9nm,0.8s,baz=344,slow=3.9,SNR=6.0
GKN Gorkha 36.44 299 eP P 05 03 28.5 -0.4
KLR Kul'dur 36.54 12 eP P 05 03 25.6 -3.7
KLR e 05 03 55.8
KLR pmax pmax
comp=Z,80nm,2.0s
KOLN Koldanda 37.27 298 eP P 05 03 36.1 +0.1
comp=Z,33nm,1.0s
DANN Dangsing 37.28 299 eP P 05 03 35.6 -0.6
comp=Z,55nm,0.8s
PYUN Piuthan 37.87 298 eP P 05 03 41.1 0.0
comp=Z,89nm,0.8s
ZAK Zakamensk 39.22 342⇑iP P 05 03 51.7 -0.2
ZAK pmax pmax
comp=Z,5.0nm,1.0s
AS31 Alice Springs 39.34 161 eP P 05 03 52.1 -0.9
AS31 epP pP 05 04 24.4 -1.2
ASAR Alice Springs 39.34 161 P P 05 03 51.8 -1.2
comp=Z,5.5nm,0.8s,baz=338,slow=6.8,SNR=52
ASAR pP pP 05 04 22.8 -2.8
comp=Z,3.5nm,0.6s,baz=339,slow=7.1,SNR=4.8
ASAR ScP ScP 05 09 34.0 +0.5
comp=Z,0.7nm,0.8s,baz=352,slow=3.8,SNR=4.3
ASAR S S 05 09 40.8 -2.5
comp=Z,1.3nm,0.8s,baz=350,slow=19,SNR=6.1
TLY Talaya 40.28 344 eP P 05 04 00.6 +0.1
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY Talaya 40.28 344 eP P 05 04 00.6 +0.1
comp=Z,9.2nm,0.8s
MOY Mondy 41.05 341 eP P 05 04 07.3 +0.4
MOY pmax pmax
comp=Z,23nm,1.5s
WMQ Urumqi 41.20 323 P P 05 04 09.3 +1.1
WMQ pP pP 05 04 44.5 +3.5
WMQ sP sP 05 05 02.9 +5.0
WMQ PP PP 05 05 49.4 +3.0
WMQ PcP PcP 05 06 06.4 +1.9
WMQ PcS PcS 05 09 56.5 +0.7
WMQ S S 05 10 09.3 -1.4
WMQ sS sS 05 11 12.1 +4.3
WMQ SS SS 05 13 13.5 -6.3
WMQ ScS ScS 05 13 54.1 -2.6
WMQ pmax pmax
comp=Z,34nm,0.8s
WMQ pmax pmax
comp=Z,230nm,5.0s
WMQ LR LR
comp=Z,430nm,13.4s
WMQ LR LR
comp=Z,300nm,16.2s
WMQ LR LR
comp=Z,130nm,17.8s
CTAO Charters Tower 41.95 143 eP P 05 04 14.6 +0.1
CTAO pmax pmax
comp=Z,14nm,0.8s
CTAO Charters Tower 41.95 143 eP P 05 04 14.6 +0.1
comp=Z,14nm,0.8s
FORT Forrest 44.81 171 eP P 05 04 36.3 -0.9
comp=Z,24nm,0.7s
MK31 Makanchi Array 46.03 324 eP P 05 04 47.0 +0.3
MK31 Makanchi Array 46.03 324 eP P 05 04 47.0 +0.3
MK31 eScP ScP 05 10 00.2 +0.1
MKAR Makanchi Array 46.03 324 P P 05 04 47.0 +0.3
comp=Z,25nm,0.8s,baz=123,slow=8.8,SNR=184
MKAR ScP ScP 05 09 60.0 -0.2
comp=Z,2.8nm,1.0s,baz=112,slow=5.4,SNR=7.7
KSH Kashi 46.90 312 eP P 05 04 56.0 +2.2
KSH sP sP 05 05 49.3 +5.3
KSH ePP PP 05 06 47.6 +1.9
KSH S S 05 11 32.7 -0.9
KSH sS sS 05 12 35.5 +3.7
KSH SS SS 05 14 56.2 -6.0
KSH pmax pmax
comp=Z,11nm,0.8s
KSH pmax pmax
comp=Z,110nm,5.2s
KSH LR LR
comp=Z,140nm,5.4s
KSH LR LR
comp=Z,52nm,5.5s
KSH LR LR
comp=Z,120nm,4.7s
ULHL Ulahol 47.72 315 iP P 05 05 01.7 +1.5
ULHL Ulahol 47.72 315 P P 05 05 01.7 +1.5
SNR=6.7
KZA Kyzart 48.34 315 iP P 05 05 06.3 +1.1
KZA Kyzart 48.34 315 P P 05 05 06.4 +1.1
SNR=29
TKM2 Tokmak 2 48.43 316 eP P 05 05 06.1 +0.5
TKM2 pmax pmax
comp=Z,15nm,0.8s
TKM2 Tokmak 2 48.43 316 P P 05 05 06.2 +0.5
SNR=16
TKM2 Tokmak 2 48.43 316 eP P 05 05 06.1 +0.5
comp=Z,15nm,0.8s
YAK Yakutsk 48.66 6 eP P 05 05 06.4 -0.3
KBK Karagaybulak 48.77 315 iP P 05 05 09.5 +1.3
KBK Karagaybulak 48.77 315 P P 05 05 09.5 +1.3
SNR=23
UCH Uchtor 48.91 315 iP P 05 05 10.5 +1.0
UCH Uchtor 48.91 315 P P 05 05 10.6 +1.0
SNR=42
PETK Petropavlovsk- 48.98 29 P P 05 05 10.0 +0.6
comp=Z,4.0nm,0.7s,baz=222,slow=1.9,SNR=5.8
PETK pP pP 05 05 41.9 -1.3
comp=Z,3.2nm,0.8s,baz=191,slow=1.5,SNR=1.9
CHMS Chumysh 49.03 316 iP P 05 05 11.0 +1.0
CHMS Chumysh 49.03 316 P P 05 05 11.0 +1.0
SNR=9.1
ZAA0 Zalesovo Array 49.05 333 eP P 05 05 09.0 -0.9
ZALV Zalesovo Beam 49.05 333 P P 05 05 09.0 -0.8
comp=Z,18nm,0.4s,baz=124,slow=6.6,SNR=72
FRU Bishkek 49.06 315 eP P 05 05 11.0 +0.8
FRU pmax pmax
comp=Z,38nm,1.8s
AAK Ala-Archa 49.07 315 iP P 05 05 11.3 +0.8
AAK pmax pmax
comp=Z,52nm,1.6s
AAK Ala-Archa 49.07 315 P P 05 05 11.6 +1.1
SNR=10
AAK Ala-Archa 49.07 315 eP P 05 05 11.4 +1.0
comp=Z,9.3nm,0.8s
USP Ospenovka 49.30 316 iP P 05 05 12.4 +0.3
USP Ospenovka 49.30 316 P P 05 05 12.4 +0.3
SNR=19
AML Almayashu 49.44 314 iP P 05 05 14.7 +1.2
AML Almayashu 49.44 314 P P 05 05 14.7 +1.2
SNR=20
STKA Stephens Creek 49.56 157 P P 05 05 12.0 -2.0
comp=Z,2.7nm,0.6s,baz=344,slow=9.5,SNR=9.0
EKS2 Erkin-Say 49.57 315 eP P 05 05 14.8 +0.6
EKS2 pmax pmax
comp=Z,30nm,1.2s
EKS2 Erkin-Say 49.57 315 P P 05 05 15.8 +1.5
SNR=15
EKS2 Erkin-Say 49.57 315 eP P 05 05 14.8 +0.6
comp=Z,30nm,1.2s
KURK Kurchatov 50.18 326 eP P 05 05 18.8 +0.3
KURK pmax pmax
comp=Z,88nm,0.7s
KURK Kurchatov 50.18 326 eP P 05 05 18.8 +0.3
comp=Z,88nm,0.7s
NVS Novosibirsk 50.33 333 eP P 05 05 17.6 -1.9
NVS pmax pmax
comp=Z,43nm,1.3s
NVS pmax pmax
comp=N,19nm,1.0s
NVS pmax pmax
comp=E,38nm,1.3s
KBL Kabul 50.92 303 eP P 05 05 24.9 +0.3
KBL pmax pmax
comp=Z,8.0nm,0.6s
KBL Kabul 50.92 303 eP P 05 05 24.9 +0.3
comp=Z,8.0nm,0.6s
KK31 Karatay Array 51.98 314 iP P 05 05 32.0 -0.1
KK31 pmax pmax
comp=Z,7.0nm,0.5s
KKAR Karatay Array 51.98 314 eP P 05 05 32.2 +0.1
KKAR pmax pmax
comp=Z,7.0nm,0.5s
KKAR Karatay Array 51.98 314 eP P 05 05 32.2 +0.1
comp=Z,7.2nm,0.5s
SEY Seymchan 53.97 17 eP P 05 05 46.8 +0.5
BVA0 Borovoye Array 55.77 326 iP P 05 05 59.1 -0.3
BVA0 pmax pmax
comp=Z,47nm,1.6s
BRVK Borovoye 55.84 326 eP P 05 05 59.9 0.0
BRVK pmax pmax
comp=Z,43nm,1.0s
BRVK Borovoye 55.84 326 eP P 05 05 59.9 0.0
comp=Z,43nm,1.0s
TIXI Tiksi 58.10 3ceP P 05 06 14.9 -0.6
TIXI pmax pmax
comp=Z,53nm,1.2s
TIXI Tiksi 58.10 3 eP P 05 06 14.5 -0.9
comp=Z,48nm,1.0s
IDAH Dahanechah 58.29 300 eP P 05 06 18.5 +0.7
IMYA Miami 58.40 304 eP P 05 06 18.9 +0.4
ISRO Mashad 58.91 304 eP P 05 06 21.9 0.0
IMOG Moghan 58.99 304 eP P 05 06 22.8 +0.1
IKOO Kooshah 58.99 300 eP P 05 06 23.8 +1.0
ITEG Tejag 59.24 300 eP P 05 06 24.8 +0.5
IKRD Kardeh 59.72 305 eP P 05 06 23.0 -4.6
ISFR Sfrayin 60.16 305 eP P 05 06 31.1 +0.5
AB31 Akbulak array 60.73 319 iP P 05 06 33.3 -0.6
AB31 pmax pmax
comp=Z,21nm,0.7s
ABKAR Akbulak array 60.73 319 eP P 05 06 33.7 -0.3
comp=Z,11nm,0.6s
AKTO Aktyubinsk 62.21 320 P P 05 06 43.0 -0.9
AKTO pmax pmax
comp=Z,17nm,0.8s
SVE Sverdlovsk 62.40 327⇑eP P 05 06 45.0 0.0
SVE pmax pmax
comp=Z,35nm,0.9s
ARU Arti 63.38 327d iP P 05 06 50.8 -0.6
ARU *PP PcP 05 07 31.0 +3.9
ARU S S 05 15 13.5 +1.5
ARU SS SS 05 19 19.8 -1.5
ARU pmax pmax
comp=Z,29nm,1.0s
ARU Arti 63.38 327 eP P 05 06 51.0 -0.4
comp=Z,18nm,0.7s
IGLO Ghaloghah 63.46 304 eP P 05 06 53.3 +0.7
GAMB Gambell 67.91 26 eP P 05 07 21.2 +0.8
comp=Z,18nm,1.0s
TNA Tin City 69.89 25 eP P 05 07 33.6 +1.1
comp=Z,5.9nm,0.9s
GNI Garni 70.62 308ceP P 05 07 39.3 +1.5
GNI pmax pmax
comp=Z,22nm,1.1s
GNI Garni 70.62 308 eP P 05 07 39.0 +1.2
comp=Z,40nm,1.5s
PRGR Permogore 70.94 331 P P 05 07 34.0 -5.0
ZEI Tsey 71.18 311 eP P 05 07 39.0 -2.1
ZEI pmax pmax
comp=Z,15nm,0.9s
RAYN Ar Rayn 71.28 290 eP P 05 07 41.9 0.0
comp=Z,44nm,0.9s
RAYN epP pP 05 08 20.9 +2.9
KBZ Khabaz 71.89 312 P P 05 07 45.0 0.0
comp=Z,9.7nm,0.9s,baz=127,slow=1.0,SNR=14
KIV Kislovodsk 72.03 312 eP P 05 07 46.4 +0.3
KIV eS S 05 16 54.0 -1.9
KIV pmax pmax
comp=Z,24nm,0.7s
KIV MLR MLR
comp=Z,32nm,18.0s
KIV Kislovodsk 72.03 312 eP P 05 07 46.6 +0.5
comp=Z,25nm,0.7s
VRHR Novokhopersk 72.61 320 eP P 05 07 47.3 -1.9
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,20nm,1.0s
VRHR pmax pmax
comp=Z,30nm,1.0s
KLMR Klimovskoe 73.84 330 eP P 05 07 53.2 -3.0
KLMR pmax pmax
comp=Z,50nm,1.6s
VORD Divnogorie 74.09 319 eP P 05 07 56.2 -1.6
VORD pmax pmax
comp=N,7.0nm,0.9s
VORD pmax pmax
comp=E,3.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 74.16 320 eP P 05 07 56.9 -1.4
VSR pmax pmax
comp=N,3.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 75.53 324⇓eP P 05 08 05.4 -0.7
OBN *PP pP 05 08 43.0 +0.4
OBN e*SP sP 05 09 00.2 +1.7
OBN pmax pmax
comp=Z,23nm,1.1s
IM04 Indian Mountai 75.73 25 eP P 05 08 07.8 +0.7
RSO Redoubt South 76.46 31 eP P 05 08 12.3 +0.9
PPLA Purkeypile 76.56 28 eP P 05 08 13.0 +1.0
comp=Z,42nm,1.8s
CAST Castle Rocks 76.58 28 eP P 05 08 13.6 +1.7
comp=Z,16nm,0.9s
COLD Coldfoot 77.09 24 eP P 05 08 15.2 +0.5
comp=Z,5.8nm,0.9s
TRF Thorofare Moun 77.38 27 eP P 05 08 17.0 +0.4
comp=Z,8.4nm,1.0s
JOF Joensuu 77.63 332 eP P 05 08 16.5 -1.2
JOF pmax pmax
comp=Z,10.0nm,0.5s
JOF Joensuu 77.63 332 ep P 05 08 16.5 -1.2
comp=Z,9.7nm,0.5s
MCK McKinley 77.95 27 eP P 05 08 19.7 +0.1
MCK pmax pmax
comp=Z,19nm,0.8s
MCK McKinley 77.95 27 eP P 05 08 19.7 +0.1
comp=Z,19nm,0.8s
PMR Palmer 78.11 29 eP P 05 08 20.5 +0.1
PMR pmax pmax
comp=Z,10.0nm,0.9s
PMR Palmer 78.11 29 eP P 05 08 20.5 +0.1
comp=Z,9.7nm,0.9s
COLA College 78.28 26 eP P 05 08 21.9 +0.6
COLA pmax pmax
comp=Z,31nm,1.7s
COLA College 78.28 26 eP P 05 08 21.9 +0.6
comp=Z,31nm,1.7s
KEV Kevo 78.51 339 eP P 05 08 20.9 -1.6
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 78.51 339 ep P 05 08 20.9 -1.6
comp=Z,1.4nm,0.4s
ILAR Eielson Array 78.71 26 P P 05 08 22.7 -0.9
comp=Z,1.9nm,0.8s,baz=264,slow=3.7,SNR=24
ARCES ARCESS Array B 79.07 339 P P 05 08 25.1 -0.5
comp=Z,8.1nm,0.8s,baz=77,slow=6.9,SNR=35
BR131 Keskin Array S 79.16 308 eP P 05 08 26.5 -0.3
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 79.16 308 P P 05 08 26.4 -0.3
comp=Z,2.7nm,0.8s,baz=115,slow=4.5,SNR=19
KAF Kangasniemi 80.04 332 eP P 05 08 29.2 -1.7
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 80.04 332 ep P 05 08 29.2 -1.7
comp=Z,3.5nm,0.6s
FINES FINESS Array B 80.27 331 P P 05 08 31.4 -0.8
comp=Z,2.6nm,0.6s,baz=59,slow=5.5,SNR=20
AKASG Malin Array Be 80.46 320 P P 05 08 32.0 -1.3
comp=Z,2.0nm,0.8s,baz=69,slow=4.9,SNR=16
AKASG pP pP 05 09 06.3 -4.0
comp=Z,0.6nm,0.7s,baz=71,slow=4.3,SNR=1.8
AKASG PP PP 05 11 38.1 -0.2
comp=Z,0.2nm,0.4s,baz=188,slow=0.9,SNR=4.3
AKASG LR LR 05 46 40.5
comp=Z,31nm,19.6s,baz=230,slow=37
KIEV Kiev 80.47 320 eP P 05 08 32.8 -0.6
KIEV pmax pmax
comp=Z,21nm,1.5s
KIEV Kiev 80.47 320 eP P 05 08 32.8 -0.6
comp=Z,21nm,1.5s
EGAK Eagle 81.12 25 eP P 05 08 36.9 +0.3
comp=Z,7.0nm,0.8s
ISP Isparta 81.89 307 ⇓P P 05 08 40.9 -0.4
ISP Isparta 81.89 307⇓iP P 05 08 40.9 -0.4
ISP Isparta 81.89 307 eP P 05 08 41.0 -0.4
comp=Z,12nm,0.9s
DAWY Dawson 82.03 26 eP P 05 08 42.3 +0.8
VRI Vrincioaia 83.03 315 ⇓P P 05 08 47.5 +0.5
VRI Vrincioaia 83.03 315⇓iP P 05 08 47.5 +0.5
INK Inuvik 83.05 21 eP P 05 08 46.8 +0.2
INK pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 83.05 21 eP P 05 08 46.8 +0.2
comp=Z,8.1nm,0.8s
PLOR Plostina 83.09 315 ⇓P P 05 08 48.4 +1.1
PLOR Plostina 83.09 315⇓iP P 05 08 48.4 +1.1
SUW Suwalki 83.40 324 eP P 05 08 48.0 -0.6
SUW Suwalki 83.40 324 eP P 05 08 48.0 -0.6
SUW e 05 09 30.9
MLR Muntele Rosu 83.65 315 ⇓P P 05 08 50.2 -0.1
MLR Muntele Rosu 83.65 315⇓iP P 05 08 50.2 -0.1
BURAR Bucovina Array 83.66 317 ⇑P P 05 08 50.3 0.0
BURAR Bucovina Array 83.66 317⇑iP P 05 08 50.3 0.0
BUR08 Bucovina Ar. S 83.66 317 eP P 05 08 50.2 -0.1
HYT Haines Junctio 83.77 29 eP P 05 08 52.4 +1.8
KMBO Kilima Mbogo 83.94 267 P P 05 08 54.2 +1.7
comp=Z,2.2nm,0.8s,baz=39,slow=7.8,SNR=6.2
KMBO pP pP 05 09 30.4 +0.7
comp=Z,6.0nm,1.0s,baz=45,slow=8.0,SNR=6.8
KMBO LR LR 05 42 34.0
comp=Z,25nm,19.1s,baz=100,slow=33
VOIR 84.28 315 ⇓P P 05 08 52.3 -1.1
VOIR 84.28 315⇓iP P 05 08 52.3 -1.1
ARR Arges 84.58 315⇑iP P 05 08 54.4 -0.5
KWP Kalwaria Pacla 84.78 320 ⇑P P 05 08 56.1 +0.3
KWP Kalwaria Pacla 84.78 320 eP P 05 08 55.1 -0.7
KWP e 05 09 38.2
KWP Kalwaria Pacla 84.78 320⇑iP P 05 08 56.1 +0.3
KWP Kalwaria Pacla 84.78 320 eP P 05 08 55.5 -0.3
comp=Z,35nm,1.4s
LOT Lotru 85.15 315⇑iP P 05 08 59.1 +1.2
SKAG Skagway 85.22 30 eP P 05 08 59.3 +1.6
comp=Z,7.0nm,0.8s
TRPA Tarpa 85.28 318⇑iP P 05 08 57.5 -0.7
UZH Uzhgorod 85.31 319⇓iP P 05 08 58.1 -0.3
STHS Stebnicka Huta 85.76 320 eP P 05 09 01.1 +0.4
STHS pmax pmax
comp=Z,10.0nm,1.6s
STHS Stebnicka Huta 85.76 320 eP P 05 09 01.1 +0.4
CRVS Cervenica-Dubn 85.76 319 eP P 05 09 01.1 +0.4
CRVS pmax pmax
comp=Z,16nm,1.3s
CRVS Cervenica-Dubn 85.76 319 eP P 05 09 01.1 +0.4
CRVS e 05 09 43.5
MMB Musomiste 86.16 312 ⇓P P 05 09 02.1 -0.7
MMB Musomiste 86.16 312⇓iP P 05 09 02.1 -0.7
VTS Vitosha 86.27 313 ⇑P P 05 09 02.9 -0.6
VTS Vitosha 86.27 313⇑iP P 05 09 02.9 -0.6
NIE Niedzica 86.34 320 eP P 05 09 04.0 +0.5
NIE Niedzica 86.34 320 eP P 05 09 04.0 +0.5
KECS Kecovo 86.50 319 eP P 05 09 04.0 -0.3
KECS pmax pmax
comp=Z,9.0nm,1.7s
KECS Kecovo 86.50 319 eP P 05 09 04.0 -0.3
NB2 NORSAR Subarra 87.25 333 P P 05 09 06.1 -1.6
comp=Z,4.9nm,0.7s,baz=68,slow=4.4
NOA NORSAR Array B 87.25 333 P P 05 09 06.4 -1.3
comp=Z,4.1nm,0.7s,baz=68,slow=4.6,SNR=16
NOA pP pP 05 09 40.5 -4.7
comp=Z,1.8nm,0.9s,baz=68,slow=4.8,SNR=2.7
NOA PP PP 05 12 27.2 -6.0
comp=Z,1.1nm,0.9s,baz=71,slow=8.4,SNR=4.4
NOA LR LR 05 52 30.1
comp=Z,34nm,19.1s,baz=50,slow=38
KSP Ksiaz 88.35 322 eP P 05 09 13.3 +0.2
KSP e 05 09 55.5
DPC Dobruska-Polom 88.50 322 eP P 05 09 13.4 -0.5
DPC Dobruska-Polom 88.50 322 eP P 05 09 13.4 -0.5
DPC ex x 05 09 55.9
RES Resolute Bay 89.00 9 eP P 05 09 15.7 +0.1
RES pmax pmax
comp=Z,6.0nm,0.8s
RES Resolute Bay 89.00 9 eP P 05 09 15.7 +0.1
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 89.74 323 eP P 05 09 18.2 -1.4
comp=Z,25nm,1.9s
BRG e 05 10 02.7
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 89.74 323 eP P 05 09 18.2 -1.4
BRG pmax pmax
comp=Z,8.0nm,1.9s
KHC Kasperske Hory 90.60 321 eP P 05 09 23.5 -0.2
KHC Kasperske Hory 90.60 321 eP P 05 09 23.5 -0.2
GERES GERESS Array B 90.63 321 P P 05 09 23.6 -0.3
comp=Z,0.9nm,0.7s,baz=58,slow=5.0,SNR=6.8
WTTA Wattenberg 92.51 320⇓iPcP P 05 09 32.1 -0.6
comp=Z,6.9nm,0.8s
YKA Yellowknife Ar 92.73 22 P P 05 09 33.3 +0.1
comp=Z,2.8nm,0.8s,baz=308,slow=4.4,SNR=45
YKA pP pP 05 10 08.5 -2.4
comp=Z,0.5nm,0.8s,baz=310,slow=4.4,SNR=2.4
FETA Feichten 93.18 320⇑iP P 05 09 32.4 -3.4
comp=Z,7.1nm,1.4s
NVAR Mina Array Bea 104.28 44 Pdiff Pdif 05 10 27.3 +1.3
comp=Z,1.1nm,1.1s,baz=290,slow=5.5,SNR=3.7
NVAR PP PP 05 14 44.3 -1.2
comp=Z,0.2nm,0.4s,baz=291,slow=7.6,SNR=3.8
TORD Torodi Ar. Bea 113.97 291 PKP PKiKP 05 14 59.4 -1.1
comp=Z,0.5nm,0.8s,baz=63,slow=2.2,SNR=9.2
TORD pPKP pPKiKP 05 15 37.6 -2.3
comp=Z,0.8nm,0.9s,baz=69,slow=1.2,SNR=2.4
TORD sPKP 05 15 49.3
comp=Z,0.8nm,0.8s,baz=68,slow=7.1,SNR=4.9
TXAR Lajitas Array 119.42 45 PKP PKPdf 05 15 11.2 +0.4
comp=Z,1.3nm,0.8s,baz=219,slow=0.5,SNR=12
DBIC Dimbokro 122.32 287 PKP PKPdf 05 15 16.4 -0.1
comp=Z,1.5nm,0.6s,baz=180,slow=7.1,SNR=3.9
JTS JuntasAbangare 145.08 48 ePKIKP PKPbc 05 15 57.8 -0.9
JTS JuntasAbangare 145.08 48 ePKPdf PKPbc 05 15 57.8 -0.9

NNC 01 04:57:32.0±5.0, 36.92N×70.79E, h65km±157km, mb3.7, mpv3.9, Error ellipse: s-maj=46.0km s-min=36.2km az=67.0

ISC 01 04:57:28.2±3.7, 36.7N±0.2×70.9E±0.2, h50km, n14, σ0.91/14, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.84	21	P	Pn	04 58 52.6	0.0
	SNR=41						
UCH	Uchtor	6.19	26	P	Pn	04 58 58.0	+0.6
	SNR=10						
KZA	Kyzart	6.34	31	P	Pn	04 58 59.6	+0.1
	SNR=6.6						
EKS2	Erkin-Say	6.36	20	P	Pn	04 59 00.7	+1.3
	SNR=7.6						
KK31	Karatay Array	6.41	357	⇓P	Pn	04 59 01.4	+1.5
	2.6nm,0.3s,baz=183,slow=14,SNR=66						
KK31				⇓S	Sn	05 00 10.8	-0.9
	4.2nm,0.3s,baz=168,slow=15,SNR=3.5						
AAK	Ala-Archa	6.54	24	⇓P	Pn	04 59 03.1	+1.0
	6.7nm,0.4s						
AAK				⇓S	Sn	05 00 15.5	+0.1
	21nm,1.1s						
AAK	Ala-Archa	6.54	24	P	Pn	04 59 03.1	+1.0

	SNR=21						
KBK	Karagaybulak	6.72	26	P	Sn	05 00 30.8	+11
	SNR=12						
CHMS	Chumysh	6.96	24	P	Pn	04 59 08.4	+0.9
	SNR=7.0						
USP	Ospenovka	7.12	22	P	Pn	04 59 10.3	+0.5
	SNR=8.9						
TKM2	Tokmak 2	7.19	29	⇑P	Pn	04 59 11.3	+0.4
	SNR=11						
TKM2	Tokmak 2	7.19	29	P	Pn	04 59 10.7	-0.2
	3.4nm,0.5s						
MK31	Makanchi Array	13.18	37	⇑P	P	05 00 37.5	-3.8
	0.5nm,0.6s,baz=201,slow=9.6,SNR=7.4						
AB31	Akbulak array	14.87	331	⇑P	Pn	05 00 54.4	-0.8
	0.4nm,0.4s,baz=173,slow=11,SNR=19						

IDC 01 05:26:33.2±2.2,3°.56N×126°.84E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/32,mbtmp3.6/4,Error ellipse: s-maj=199.5km s-min=24.2km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.49	163	P	P	05 31 54.0	-0.5
	1.9nm,0.8s,baz=342,slow=10,SNR=6.6						
ASAR	Alice Springs	27.93	166	P	P	05 32 25.7	+0.3
	0.3nm,0.7s,baz=347,slow=7.6,SNR=3.4						
STKA	Stephens Creek	37.93	159	P	P	05 33 52.8	+0.2
	1.8nm,0.7s,baz=319,slow=12,SNR=3.3						
MKAR	Makanchi Array	57.76	325	P	P	05 36 26.0	-0.2
	0.1nm,0.5s,baz=113,slow=9.6,SNR=2.8						

IDC 01 05:30:13.1±1.1,55°.19S×136°.62W,h0km,mb4.0/2, mb1 4.3/2,mb1mx3.9/15,mbtmp4.0/2,MS3.8/9,Ms1 3.8/9, ms1mx3.7/13,Error ellipse: s-maj=134.7km s-min=37.9km az=172.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	Rikitea	32.05	3	eLR	LR	05 44 41.4	
	251nm,25.5s,baz=175						
RKT	Rikitea	32.05	3	eT	T	06 09 15.8	
	4.1nm,0.3s						
TBI	Tubuai	33.20	338	eLR	LR	05 45 07.7	
	371nm,29.0s,baz=161						
TBI	Tubuai	33.20	338	eT	T	06 11 05.2	
	25nm,0.3s						
PAE	Paea	38.75	340	eT	T	06 17 58.1	
	1.2nm,0.3s						
PPT2	Papeete2	38.82	340	eLR	LR	05 47 55.6	
	361nm,26.5s,baz=170						
PPT	Papeete	38.84	340	LR	LR	05 48 51.0	
	comp=Z,167nm,19.4s,baz=180,slow=29						
VAH	Vaihoa	40.77	344	eT	T	06 20 26.1	
	15nm,0.3s						
PLCA	Paso Flores	44.82	100	LR	LR	05 52 09.9	
	comp=Z,99nm,21.1s,baz=198,slow=29						
H03N3	Juan Fernandez	45.11	86	T	T	06 26 35.0	
	baz=225,slow=75,SNR=56						
H03N2	Juan Fernandez	45.12	86	T	T	06 26 36.4	
	baz=225,slow=75,SNR=73						
H03N1	Juan Fernandez	45.13	86	T	T	06 26 37.7	
	baz=225,slow=75,SNR=54						
DZM	Mont Dzumac	53.40	284	eLR	LR	05 55 03.7	
	114nm,22.8s						
MAW	Mawson	56.67	189	LR	LR	06 01 24.5	
	comp=Z,66nm,19.6s,baz=172,slow=33						
STKA	Stephens Creek	59.98	257	LR	LR	06 02 32.8	
	comp=Z,64nm,19.5s,baz=203,slow=32						
CPUP	Villa Florida	62.80	98	LR	LR	06 03 03.3	
	comp=Z,83nm,20.3s,baz=192,slow=31						
ASAR	Alice Springs	70.62	256	P	P	05 41 29.6	-0.7
	1.3nm,0.7s,baz=138,slow=6.8,SNR=8.2						
ASAR				LR	LR	06 08 48.0	
	comp=Z,75nm,19.4s,baz=168,slow=33						
H01W1	Cape Leeuwin H	71.87	235	T	T	07 01 01.6	
	baz=152,slow=76,SNR=37						
H01W2	Cape Leeuwin H	71.87	235	T	T	07 01 01.7	
	baz=152,slow=76,SNR=32						
H01W3	Cape Leeuwin H	71.88	235	T	T	07 01 02.8	
	baz=152,slow=76,SNR=34						
WRA	Warramunga Arr	73.33	259	P	P	05 41 45.8	-0.8
	1.1nm,0.7s,baz=145,slow=5.3,SNR=7.0						
WRA				LR	LR	06 11 28.2	
	comp=Z,62nm,18.4s,baz=130,slow=34						
H11S2	WAKE ISLAND Hy	87.66	307	T	T	07 19 56.7	
	baz=152,slow=74,SNR=3.2						
H11S3	WAKE ISLAND Hy	87.68	307	T	T	07 19 55.8	
	baz=152,slow=74,SNR=8.4						
H11S1	WAKE ISLAND Hy	87.68	307	T	T	07 19 59.2	
	baz=152						
NVAR	Mina Array Bea	94.56	14	LR	LR	06 17 44.7	
	comp=Z,63nm,19.4s,baz=174,slow=30						
BOSA	Boshof	95.10	164	LR	LR	06 23 46.2	
	comp=Z,58nm,18.3s,baz=190,slow=34						
ILAR	Eielson Array	119.89	355	PKP	PKPdf	05 49 01.7	-2.1
	0.3nm,0.8s,baz=170,slow=0.1,SNR=3.3						
TORD	Torodi Ar. Bea	127.04	126	PKP	PKPdf	05 49 16.8	-2.2
	0.2nm,0.6s,baz=245,slow=1.5,SNR=2.1						
ESDC	Sonseca Array	145.17	96	PKPbc	PKPdf	05 49 52.6	+0.8
	0.2nm,0.2s,baz=251,slow=3.2,SNR=4.4						
MKAR	Makanchi Array	154.40	267	PKPbc	PKPbc	05 50 16.5	+2.1
	0.4nm,0.9s,baz=94,slow=2.2,SNR=3.3						
MKAR				PKPab	PKPab	05 50 30.9	+2.0
	0.3nm,0.7s,baz=108,slow=3.2,SNR=4.1						

KRSC 01 05:35:48.8±1.7,49°.41N×157°.05E,h40km±26km,ML4.1
MOS 01 05:35:48.1±1.7,49°.35N×156°.27E,h88km,mb4.2/1,Error ellipse: s-maj=84.6km s-min=8.9km az=79.4
SKHL 01 05:35:48.4±0.3,49°.32N×156°.05E,h85km,mb4.9/1, mbh5.5/3
ISC 01 05:35:50.0±4.3,49°.4N±0°.2×156°.4E±0°.1,h57km,n29, σ1°.22/42,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.32	354	ePN	Pn	05 36 08.0	-4.2
SKR				eS	Sn	05 36 24.5	-4.3
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax	smax		
	comp=N,470nm,0.2s						
SKR				smax	smax		
	comp=E,210nm,0.2s						
SKR	Severo-Kuril's	1.32	354	eP	Pn	05 36 12.1	-0.1
SKR				S	Sn	05 36 29.0	+0.2
SKR	Severo-Kuril's	1.32	354	eP	Pn	05 36 11.4	-0.8
SKR				eS	Sn	05 36 28.9	+0.2
SKR				A	A	05 36 33.0	
	comp=E,1μm,0.5s						
PAU	Pauzhetka	2.12	8	PN	Pn	05 36 23.5	+0.5
PAU				S	Sn	05 36 48.8	+0.7
PAU	Pauzhetka	2.12	8	eP	Pn	05 36 23.5	+0.5
PAU				S	Sn	05 36 48.8	+0.7
PAU	Pauzhetka	2.12	8	eP	Pn	05 36 23.1	+0.1
PAU				AMB	AMB	05 36 23.5	
	comp=E,246nm,0.6s						
PAU				eS	Sn	05 36 48.9	+0.8
PAU				A	A	05 36 52.6	
	comp=E,516nm,0.7s						
MIPR	Malaya Ipel'ka	2.92	5	eP	Pn	05 36 34.5	+0.6
ASAK	Asacha	3.17	17	P	Pn	05 36 38.3	+0.8
MTVR	Mutnovka	3.33	20	eP	Pn	05 36 40.2	+0.6
MTVR				S	Sn	05 37 17.2	-0.7
RUS	Russkaya	3.36	23	PN	Pn	05 36 39.5	-0.4
RUS				S	Sn	05 37 17.0	-1.5
RUS	Russkaya	3.36	23	eP	Pn	05 36 39.5	-0.4
RUS				S	Sn	05 37 17.0	-1.5
APC	Apacha	3.60	8	PN	Pn	05 36 44.3	+1.2
APC	Apacha	3.60	8	eP	Pn	05 36 44.3	+1.2
PET	Petropavlovsk	3.94	21	eS	Sn	05 37 33.9	+1.3
PET				A	A	05 37 37.0	
	comp=E,290nm,0.6s						
PET				A	A	05 37 37.0	
	comp=E,260nm,0.6s						
UGLR	Uglovaya	4.15	21	eP	Pn	05 36 51.7	+0.9
AVH	Avacha	4.18	20	PN	Pn	05 36 52.4	+1.2
AVH				S	Sn	05 37 38.7	0.0
AVH	Avacha	4.18	20	eP	Pn	05 36 52.4	+1.2
AVH				S	Sn	05 37 38.7	0.0
KOK	Koryaka	4.18	19	PN	Pn	05 36 52.0	+0.7
KOK				S	Sn	05 37 37.8	-1.0
KOK	Koryaka	4.18	19	eP	Pn	05 36 52.0	+0.7
KOK				S	Sn	05 37 37.8	-1.0
SMAR	Somma	4.19	21	PN	Pn	05 36 52.7	+1.2
SMAR	Somma	4.19	21	eP	Pn	05 36 52.7	+1.2
KRER	Koryakskii	4.22	20	eP	Pn	05 36 52.9	+1.1
KRER				S	Sn	05 37 39.2	-0.7
KRX	Arik	4.25	19	eP	Pn	05 36 53.5	+1.3
GNL	Ganaly	4.44	12	PN	Pn	05 36 56.5	+1.6
GNL	Ganaly	4.44	12	P	Pn	05 36 56.5	+1.6
TUMR	Tumrok	6.36	20	PN	Pn	05 37 22.8	+1.7
TUMR	Tumrok	6.36	20	eP	Pn	05 37 22.8	+1.7
KBTR	Krutoberegovo	7.89	27	PN	Pn	05 37 40.8	-1.1
KBTR	Krutoberegovo	7.89	27	eP	Pn	05 37 40.8	-1.1

MOS 01 05:42:42.5±2.0,49°.98N×157°.14E,h53km,mb4.3/1,Error ellipse: s-maj=54.6km s-min=10.0km az=82.5
KRSC 01 05:42:43.0±1.5,50°.05N×157°.39E,h42km±25km,ML4.1
ISC 01 05:42:42.3±3.9,49°.9N±0°.2×156°.96E±0°.08,h41km,n23, σ1°.60/37,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.97	326	⇓iPN	Pn	05 42 57.0	-2.5
SKR				iS	Sn	05 43 09.4	-2.7
SKR				pmax	pmax		
	comp=N,160nm,0.4s						
SKR				pmax	pmax		
	comp=Z,390nm,0.4s						
SKR				pmax	pmax		
	comp=E,210nm,0.2s						
SKR				smax	smax		
	comp=N,4μm,0.2s						
SKR				smax	smax		
	comp=E,3μm,0.2s						
SKR	Severo-Kuril's	0.97	326	iP	Pn	05 43 01.1	+1.6
SKR				iS	Sn	05 43 13.5	+1.4
PAU	Pauzhetka	1.60	357	PN	Pn	05 43 08.8	+0.8
PAU				S	Sn	05 43 26.7	-0.7
PAU	Pauzhetka	1.60	357	iP	Pn	05 43 08.8	+0.8
PAU				eS	Sn	05 43 26.7	-0.7
MIPR	Malaya Ipel'ka	2.41	357	P	Pn	05 43 20.6	+1.4
MTVR	Mutnovka	2.72	16	eP	Pn	05 43 23.9	+0.3
MTVR				iS	Sn	05 43 53.8	-1.6
RUS	Russkaya	2.74	20	PN	Pn	05 43 23.3	-0.4
RUS				S	Sn	05 43 52.7	-2.9
RUS	Russkaya	2.74	20	eP	Pn	05 43 23.3	-0.4
RUS				eS	Sn	05 43 52.7	-2.9
UGLR	Uglovaya	3.54	18	P	Pn	05 43 36.5	+1.8
UGLR				eS	Sn	05 44 14.9	-0.4
AVH	Avacha	3.57	17	PN	Pn	05 43 36.9	+1.7
AVH	Avacha	3.57	17	P	Pn	05 43 36.9	+1.7
KOK	Koryaka	3.58	16	PN	Pn	05 43 37.1	+1.8
KOK				S	Sn	05 44 16.0	-0.3
KOK	Koryaka	3.58	16	eP	Pn	05 43 37.1	+1.8
KOK				eS	Sn	05 44 16.0	-0.3
SMAR	Somma	3.58	18	PN	Pn	05 43 37.1	+1.6
SMAR	Somma	3.58	18	P	Pn	05 43 37.1	+1.6
KRER	Koryakskii	3.61	17	eP	Pn	05 43 37.1	+1.2
KRER				eS	Sn	05 44 16.3	-1.0
KRX	Arik	3.65	16	eP	Pn	05 43 37.7	+1.4
KRX				eS	Sn	05 44 17.5	-0.6
GNL	Ganaly	3.88	9	PN	Pn	05 43 41.7	+2.3
GNL				S	Sn	05 44 23.6	-0.1
GNL	Ganaly	3.88	9	P	Pn	05 43 41.7	+2.3
GNL				eS	Sn	05 44 23.6	-0.1
TUMR	Tumrok	5.75	18	PN	Pn	05 44 07.3	+2.1
TUMR	Tumrok	5.75	18	eP	Pn	05 44 07.3	+2.1
KBTR	Krutoberegovo	7.26	27	PN	Pn	05 44 25.3	-0.4
KBTR	Krutoberegovo	7.26	27	P	Pn	05 44 25.3	-0.4

MAN 01 06:39:05,18°.57N×120°.81E, h37km,mb4.8,ML3.7,MS3.8, 2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.31	216	⇑iP	Pn	06 39 14.3	+1.1
PIP				eS	Sn	06 39 21.4	+1.1
APYP	Conner	0.82	150	eP	Pn	06 39 20.8	+0.7
ABRA	Dolores	0.93	186	eP	Pn	06 39 23.0	+1.5
ABRA				eS	Sn	06 39 34.2	+0.7
SGCP	Mt. Cagua	1.22	106	eP	Pn	06 39 25.9	+0.4
CVP	Callao Caves	1.29	132	eP	Pn	06 39 27.3	+0.8
CVP				eS	Sn	06 39 43.2	+0.7
CAUP	Cauayan	1.89	149	eP	Pn	06 39 35.7	+1.0
BCPH	Baguio City Da	2.19	186	⇑iP	Pn	06 39 42.9	+3.8
BCPH				iS	Sn	06 40 12.8	+7.7
BOLP	Bolinao	2.34	202	eP	Pn	06 39 46.7	+5.7
BALP	Baler	2.91	165	eP	Pn	06 39 56.7	+7.9

IDC 01 07:09:53.2±3.9,54°.15N×87°.19E,h0km,mb1 3.1/2, mb1mx2.9/31,mbtmp3.1/2,ML3.0/2,Error ellipse: s-maj=41.6km s-min=18.4km az=71.0
NNC 01 07:09:55.4±2.9,53°.99N×87°.20E,h1km±14km,mb3.3, mpv2.9,Error ellipse: s-maj=19.9km s-min=17.7km az=5.0
ISC 01 07:09:54.1±4.5,54°.3N±0°.2×87°.5E±0°.2,h35km,n7, σ0°.89/11,7C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.61	258	i		07 18 11.9	
	baz=81,slow=343,SNR=4.5						
ZALV	Zalesovo Beam	1.61	258	Pn	Pn	07 10 19.0	-1.0
	4.3nm,0.3s,baz=83,slow=16,SNR=26						
ZALV				Sn	Sn	07 10 39.5	0.0
	3.1nm,0.3s,baz=73,slow=25,SNR=8.6						
KURK	Kurchatov	6.51	240	⇑Pn	Pn	07 11 27.8	+0.6
	0.7nm,1.0s						
KURK				⇑Sn	Sn	07 12 40.4	+0.3
	0.5nm,0.7s						
KURK				⇓Lg	Lg	07 13 09.8	
	0.7nm,0.9s						
KURBB	Kurchatov Arra	6.61	240	⇑Pn	Pn	07 11 29.2	+0.6
	0.9nm,0.4s						
KURBB				⇑Sn	Sn	07 12 43.2	+0.6
	0.9nm,0.3s						
KURBB				⇓Lg	Lg	07 13 17.9	
	1.8nm,0.6s						
KURBB	Kurchatov Arra	6.61	240	Pn	Pn	07 11 29.4	+0.8
	0.4nm,0.3s,baz=58,slow=14,SNR=15						
MK31	Makanchi Array	8.23	206	⇑Pn	Pn	07 11 51.4	+0.5
	0.3nm,0.5s,baz=29,slow=15,SNR=10.0						
MK31				⇑Sn	Sn	07 13 21.4	-1.2
	0.3nm,0.6s						
MK31				⇑Lg	Lg	07 14 04.7	
	1.0nm,0.8s						
MKAR	Makanchi Array	8.23	206	Pn	Pn	07 11 51.6	+0.7
	0.2nm,0.3s,baz=25,slow=14,SNR=11						
MKAR				Sn	Sn	07 13 21.5	-1.1
	0.1nm,0.3s,baz=24,slow=24,SNR=3.1						

CASC 01 07:40:24.3±2.4,13°.77N×91°.40W,h36km±126km,MD3.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.59	337	eP	Pn	07 40 36.1	-0.2
NBG	Las Nubes	1.31	51	eP	Pn	07 40 48.6	+2.2
RBDL	Robledal	1.70	78	eP	Pn	07 40 52.4	+0.8
RBDL				eS	Sn	07 41 13.7	+1.5
RTR	El Retiro	1.71	85	eP	Pn	07 40 51.0	-0.7
SBLS	San Blas	1.73	87	eP	Pn	07 40 51.4	-0.7
BOQS	Boqueron	2.06	91	eP	Pn	07 40 56.2	-0.5
MRL	Marmol	2.10	52	iP	Pn	07 40 59.1	+2.0
LFU	La Fuente	2.22	90	eP	Pn	07 40 59.4	+0.7
LFU				eS	Sn	07 41 24.5	-0.5
LBRS	Las Brisas	2.29	90	eP	Pn	07 41 00.1	+0.4

ISC 01 07:54:44.0±1.4,39°.9N±0°.1×40°.98E±0°.05,h9km,n6, σ0°.84/9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	Erzurum	0.29	85	ePG	Pb	07 54 52.2	+0.6
EZM				eSG	Sb	07 54 56.7	-0.1
ERZM	Erzurum	0.30	85	iP	Pb	07 54 52.6	+0.9
ERZM				iS	Sb	07 54 55.3	-1.5
HOMI	Horasan	0.73	77	iP	Pb	07 54 59.5	+0.5
EKAR	Karacoban	1.04	126	iP	Pg	07 55 03.7	-0.4
EKAR				iS	Sg	07 55 18.1	+0.5
PTK	Pertek	1.58	232	ePN	Pb	07 55 13.9	+0.5
ILIC	ilic-Erzincan	1.91	258	ePN	Pn	07 55 16.7	-0.1

IDC 01 08:11:22.6±2.6,48°.58S×120°.27E,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.7/17,mbtmp3.7/2,MS3.7/4,Ms1 3.7/4, ms1mx3.4/16,Error ellipse: s-maj=194.1km s-min=48.2km az=108.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	14.41	339	T	T	08 30 22.2	
	baz=160,slow=74,SNR=18						
H01W2	Cape Leeuwin H	14.41	339	T	T	08 30 21.3	
	baz=160,slow=74,SNR=12						
H01W3	Cape Leeuwin H	14.42	339	T	T	08 30 23.2	
	baz=160,slow=74,SNR=12						
STKA	Stephens Creek	23.19	52	LR	LR	08 23 52.1	
	comp=Z,151nm,19.8s,baz=208,slow=32						
ASAR	Alice Springs	27.11	28	P	P	08 17 07.0	-0.1
	0.8nm,0.9s,baz=207,slow=9.7,SNR=5.9						
ASAR				PcP	PcP	08 20 27.7	-0.3
	0.2nm,0.5s,baz=188,slow=1.9,SNR=4.3						
ASAR				LR	LR	08 26 34.0	
	comp=Z,210nm,21.0s,baz=184,slow=34						
WRA	Warramunga Arr	30.74	27	P	P	08 17 39.3	-0.1
	1.5nm,1.1s,baz=198,slow=7.9,SNR=2.9						
WRA				LR	LR	08 28 49.1	
	comp=Z,107nm,19.8s,baz=185,slow=34						
VNDA	Vanda	33.09	165	LR	LR	08 30 10.7	
	comp=Z,135nm,18.3s,baz=320,slow=34						
ILAR	Eielson Array	133.60	36	PKP	PKPdf	08 30 40.4	+0.8
	0.2nm,0.8s,baz=290,slow=3.7,SNR=3.7						
PDAR	Pinedale Array	145.21	81	PKPbc	PKPbc	08 30 59.8	-1.6
	0.6nm,0.9s,baz=153,slow=1.7,SNR=3.7						
YKA	Yellowknife Ar	147.10	44	PKPbc	PKPbc	08 31 05.3	-0.8
	1.0nm,0.9s,baz=280,slow=2.2,SNR=16						

DDA 01 08:27:07.0,38°.16N×32°.69E,h7km,MD3.1
CSEM 01 08:27:09.1±0.9,38°.26N×32°.55E,h10km,MD3.1,Error ellipse: s-maj=20.0km s-min=12.5km az=48.0
ISK 01 08:27:11.5,38°.34N×32°.92E,h5km,MD2.6
ISC 01 08:27:09.3±1.7,38°.28N±0°.06×32°.71E±0°.04,h2km±11km, n15,σ0°.58/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBY	Cihanbeyli	0.33	25	ePG	Pb	08 27 17.2	-0.9
CHBY				eSG	Sg	08 27 20.5	+0.4
KULU	Kulu	0.80	16	ePG	Pb	08 27 25.5	-0.4
KULU				eSG	Sg	08 27 35.9	+1.0
SERE	Sereflikochisa	0.94	45	ePG	Pg	08 27 27.3	-0.1
YESY	Yesilyurt	0.95	121	ePG	Pb	08 27 28.3	-0.3
YAYX	Yaylak	1.08	52	ePG	Pg	08 27 29.7	-0.3
AFSR	Af¨ar-Bala (A	1.20	13	ePN	Pn	08 27 33.1	-0.1
AFSR	Af¨ar-Bala (A	1.20	13	ePn	Pn	08 27 33.1	-0.1
BBAL	Bala	1.30	14	iP	Pn	08 27 33.5	-1.1
BBAL				iS	Sn	08 27 52.8	+0.1
BBAL	Bala	1.30	14	iP	Pn	08 27 33.5	-1.1
BBAL				iS	Sn	08 27 52.8	+0.1
AVNT	Avonos	1.75	73	iP	Pb	08 27 41.6	-0.7
AVNT				iS	Sb	08 28 05.2	+0.4
AVNT	Avonos	1.75	73	iP	Pb	08 27 41.6	-0.7
AVNT				iS	Sb	08 28 05.2	+0.4
CDAG	Cicekdag	1.86	43	iP	Pn	08 27 42.8	+0.5
CDAG				iS	Sn	08 28 06.8	+0.3
CDAG	Cicekdag	1.86	43	iP	Pn	08 27 42.8	+0.5
CDAG				iS	Sn	08 28 06.8	+0.3
SEYT	Eskypehyr	1.91	311	iP	Pg	08 27 46.0	+0.1
SEYT				iS	Sb	08 28 09.6	+0.4
SEYT	Eskypehyr	1.91	311	iP	Pg	08 27 46.0	+0.1
SEYT				iS	Sb	08 28 09.6	+0.4

IDC 01 08:33:02.7±3.2,54°.62N×86°.30E,h0km,mb1 3.0/2, mb1mx2.9/30,mbtmp3.0/2,ML2.7/2,Error ellipse: s-maj=23.7km s-min=13.6km az=48.0
ISC 01 08:33:05.4±4.9,54°.7N±0°.2×86°.3E±0°.2,h35km,n6,σ1°.36/8, 5C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.16	228	i		08 39 21.5	
	baz=52,slow=343,SNR=24						
ZALV	Zalesovo Beam	1.16	228	Pg	Pn	08 33 22.9	-2.1
	1.0nm,0.3s,baz=53,slow=16,SNR=9.3						
ZALV				Lg	Lg	08 33 38.7	
	5.8nm,0.3s,baz=52,slow=28,SNR=34						
KURK	Kurchatov	6.14	232	⇑Pn	Pn	08 34 35.3	+1.8
	1.4nm,1.3s						
KURK				⇑Sn	Sn	08 35 42.6	+0.2
	0.8nm,1.2s						
KURK				⇑Lg	Lg	08 36 16.0	
	3.3nm,1.3s						
KURBB	Kurchatov Arra	6.25	232	Pn	Pn	08 34 35.2	+0.2
	0.2nm,0.3s,baz=48,slow=14,SNR=3.9						
KURBB				Lg	Lg	08 36 22.2	
	0.4nm,0.3s,baz=41,slow=28,SNR=6.2						
MK31	Makanchi Array	8.34	199	⇑Pn	Pn	08 35 03.1	-0.6
	0.2nm,0.5s,baz=29,slow=14,SNR=6.9						
MK31				⇓Sn	Sn	08 36 36.7	+0.1
	0.5nm,0.5s,baz=20,slow=28,SNR=14						
MK31				⇑Lg	Lg	08 37 21.7	
	1.3nm,0.7s						
MKAR	Makanchi Array	8.34	199	Pn	Pn	08 35 04.7	+1.0
	0.1nm,0.3s,baz=25,slow=12,SNR=6.5						
MKAR				Sn	Sn	08 36 36.6	+0.1
	0.4nm,0.3s,baz=23,slow=27,SNR=15						
MKAR				Lg	Lg	08 37 22.0	
	0.0nm,0.3s,baz=19,slow=29,SNR=3.1						

ISCJB 01 09:47:44.0±0.7,16°.52N±0°.05×96°.08W±0°.03,h45km±4km, mb4.4/44,MS3.6/7,Error ellipse: s-maj=7.9km s-min=4.3km az=14.1
MEX 01 09:47:44.8±0.7,16°.28N×96°.21W,h14km±9km,MD4.0
IDC 01 09:47:50.1±1.1,17°.15N×96°.06W,h48km±8km,mb3.9/13, mb1 4.2/15,mb1mx3.9/35,mbtmp4.2/15,ML4.1/2,MS3.2/8, Ms1 3.2/8,ms1mx3.0/29,Error ellipse: s-maj=21.1km s-min=13.2km az=47.0
NEIC 01 09:47:54.5±1.6,17°.01N×96°.13W,h94km±13km,mb4.4/43, MD4.1(MEX),Error ellipse: s-maj=11.4km s-min=7.0km az=186.0
NEIC Felt [III] at Huatulco. Also felt at Mitla, Oaxaca and Pochutla.
ISC 01 09:47:45.8±0.8,16°.51N±0°.08×96°.14W±0°.04,h51km±5km, n456,σ0°.99/462,mb4.4/45,MS3.3/7,169C-161D,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.74	178	iP	Pn	09 47 53.1	-7.0
HUIG				iS	Sn	09 48 00.7	-10
VHO	Vista Hermosa	0.80	314	iP	Pn	09 47 59.4	-1.8
VHO				iS	Sn	09 48 12.0	-0.3
CMIG	Matias Romero	1.33	64	eP	Pn	09 48 08.6	+0.5
CMIG				iS	Sn	09 48 24.9	+0.2
TLIG	Tlapa	2.55	295	eP	Pn	09 48 24.0	-0.9
TLIG				iS	Sn	09 48 54.7	-0.1
PCIG		2.92	106	iP	Pn	09 48 28.5	-1.3
PCIG				iS	Sn	09 49 01.8	-1.8
UNM	Universidad Na	4.03	315	eP	Pn	09 48 46.2	+0.8
UNM				iS	Sn	09 49 33.1	+1.7
ARIG	Puente Sto Nin	4.39	294	eP	Pn	09 48 48.0	-2.1
ARIG				eS	Sn	09 49 38.0	-1.9
TEIG	Tepich	8.33	62	P	Pn	09 49 42.0	-2.0
	20nm,0.3s,baz=245,slow=4.9,SNR=42						
TEIG				S	Sn	09 51 14.9	-1.8
	26nm,0.3s,baz=68,slow=23,SNR=9.8						
TEIG				LR	LR	09 53 35.6	
	comp=Z,107nm,21.8s,baz=150,slow=43						
TEIG	Tepich	8.33	62	ePn	Pn	09 49 42.5	-1.5
TEIG				S	Sn	09 51 14.9	-1.8
934A	Benavides	11.26	349	⇑P	Pn	09 50 25.7	+1.6
	baz=11						
933A	Laredo	11.43	346	⇑P	Pn	09 50 28.1	+1.8
	baz=11						
834A	Tilden	11.77	349	⇑P	Pn	09 50 32.5	+1.4
	baz=11						
835A	Beeville	11.82	353	⇓P	Pn	09 50 33.3	+1.5
	baz=11						
833A	Chaparral WMA,	12.14	346	⇑P	Pn	09 50 37.2	+1.2
	baz=12,SNR=5.8						

832A Faith Ranch, C 12.24 344 ⇑P Pn 09 50 38.6 +1.1
baz=12
735A Kenedy 12.38 353 ⇑P Pn 09 50 40.2 +0.7
baz=12
JTS JuntasAbangare 12.51 118 P Pn 09 50 40.9 -0.4
4.9nm,0.3s,baz=329,slow=20,SNR=20
JTS LR LR 09 55 26.0
comp=Z,118nm,19.6s,baz=308,slow=36
JTS JuntasAbangare 12.51 118 ePn Pn 09 50 43.4 +2.1
732A Laxson Ranch, 12.66 344 ⇑P Pn 09 50 44.4 +1.1
baz=12
633A Saathoff Ranch 13.19 348 ⇑P Pn 09 50 51.7 +1.3
baz=13
632A Uvalde 13.36 346 ⇓P Pn 09 50 53.8 +0.9
baz=13,SNR=6.4
HKT Hockley 13.38 1 ePn P 09 51 02.7 +1.6
631A Perdido Creek 13.47 343 ⇓P Pn 09 50 54.8 +0.5
baz=13
535A Dale 13.52 355 ⇓P Pn 09 50 55.6 +0.6
baz=13
534A Blanco 13.63 351 ⇑P Pn 09 50 58.0 +1.6
baz=13,SNR=9.1
532A Rocksprings 13.99 346 ⇑P Pn 09 51 02.1 +0.8
baz=14
531A Rocksprings 14.18 344 ⇓P Pn 09 51 04.2 +0.3
baz=14,SNR=15
JCT Junction City 14.30 347 ePn Pn 09 51 07.6 +2.0
11nm,0.7s
JCT Junction City 14.30 347 ⇓P Pn 09 51 05.9 +0.4
baz=14,SNR=10.0
628A Black Gap, Mar 14.33 336 ⇑P Pn 09 51 06.2 +0.3
baz=14
434A Burnet 14.37 353 ⇓P Pn 09 51 06.8 +0.3
baz=14,SNR=8.7
530A J-C Ranch, Com 14.39 342 ⇓P Pn 09 51 07.1 +0.4
baz=14
433A Art 14.43 350 ⇓P Pn 09 51 07.5 +0.2
baz=14,SNR=7.5
627A Terlingua Ranc 14.50 334 ⇓P Pn 09 51 08.9 +0.6
baz=14,SNR=18
TXAR Lajitas Array 14.52 333 P Pn 09 51 07.7 -0.8
0.1nm,0.3s,baz=154,slow=13,SNR=14
TXAR LR LR 09 57 29.0
comp=Z,84nm,19.9s,baz=0.0,slow=41
529A Stev Forest Ra 14.65 339 ⇑P Pn 09 51 10.4 +0.1
baz=14
432A Menard 14.69 348 ⇑P Pn 09 51 10.8 +0.2
baz=14
431A Sonora 14.69 345 ⇑P Pn 09 51 11.0 +0.4
baz=14
335A Moody 14.75 356 ⇓P Pn 09 51 11.9 +0.4
baz=14
334A Lometa 14.88 353 ⇓P Pn 09 51 12.4 -0.7
baz=14,SNR=9.7
528A Cox Ranch, San 14.89 337 ⇓P Pn 09 51 14.5 +1.1
baz=14,SNR=8.5
626A Big Bend Ranch 14.91 332 ⇓P Pn 09 51 14.5 +0.8
baz=14
430A Baggett Ranch, 14.96 343 ⇑P Pn 09 51 16.5 +2.4
baz=14,SNR=13
333A Richland Sprin 14.97 351 ⇑P Pn 09 51 14.7 +0.3
baz=14
429A Davenport Ranc 15.00 340 ⇑P Pn 09 51 15.4 +0.6
baz=15,SNR=13
332A Millersview 15.17 348 ⇑P Pn 09 51 16.8 0.0
baz=15
527A Woodward Ranch 15.20 335 ⇑P Pn 09 51 18.3 +0.8
baz=15,SNR=12
331A San Angelo 15.24 346 ⇑P Pn 09 51 19.6 +1.7
baz=15,SNR=17
526A Mary Lane Ranc 15.33 333 ⇑P Pn 09 51 20.2 +1.1
baz=15,SNR=7.2
428A Kincaid Ranch, 15.36 338 ⇓P Pn 09 51 20.6 +1.1
baz=15,SNR=31
WHTX Lake Whitney 15.46 356 ePn Pn 09 51 21.5 +0.9
WHTX Lake Whitney 15.46 356 ⇓P Pn 09 51 21.0 +0.4
baz=15
330A Mertzon 15.52 344 ⇓P Pn 09 51 22.7 +1.2
baz=15,SNR=32
234A Clairette 15.53 354 ⇓P Pn 09 51 22.2 +0.7
baz=15,SNR=8.6
232A Coleman 15.64 349 ⇓P Pn 09 51 23.2 +0.2
baz=15,SNR=6.3
233A Rising Star 15.64 351 ⇓P Pn 09 51 23.3 +0.3
baz=15,SNR=13
427A Hayter Ranch, 15.74 336 ⇓P Pn 09 51 24.7 +0.4
baz=15,SNR=14
231A Bronte 15.82 347 ⇑P Pn 09 51 25.2 0.0
baz=15,SNR=15
329A Wagon Wheel Ra 15.83 341 ⇑P Pn 09 51 24.7 -0.8
baz=15
426A McDonald Obser 15.83 334 ⇓P Pn 09 51 25.3 -0.4
baz=15,SNR=8.4
230A Sterling City 15.96 344 ⇓P Pn 09 51 26.8 -0.3
baz=16,SNR=8.6
328A Wristen Ranch, 16.00 339 ⇑P Pn 09 51 27.0 -0.6
baz=16
135A Vickery Place, 16.02 356 ⇓P Pn 09 51 26.9 -0.9
baz=16
133A Hamilton Ranch 16.23 352 ⇑P Pn 09 51 29.7 -0.7
baz=16,SNR=8.3
229A Bryant Ranch, 16.23 342 ⇑P Pn 09 51 29.8 -0.7
baz=16
425A Indio Mountain 16.35 332 ⇓P Pn 09 51 32.0 -0.1
baz=16,SNR=13
ABTX Abilene, Hawle 16.36 349 ePn Pn 09 51 32.2 +0.2
ABTX Abilene, Hawle 16.36 349 ⇑P Pn 09 51 31.9 -0.2
baz=16,SNR=11
326A Caldwell Ranch 16.38 336 ⇓P Pn 09 51 33.2 +0.7
baz=16,SNR=15
VBMS Vicksburg 16.45 17 eP P 09 51 36.4 +1.2
22nm,0.8s
131A Roby 16.55 347 ⇑P Pn 09 51 34.3 -0.2
baz=16,SNR=11
130A Snyder 16.60 346 ⇓P Pn 09 51 34.9 -0.3
baz=16,SNR=9.2
228A UT Block 9, Go 16.61 340 ⇑P Pn 09 51 34.6 -0.7
baz=16,SNR=12
227A Bennet, Jal 16.75 338 ⇓P Pn 09 51 35.9 -1.1
baz=16
Z34A Collier Ranch, 16.86 355 ⇓P Pn 09 51 37.3 -1.1
baz=16
129A Stewart Farms, 16.87 343 ⇑P Pn 09 51 38.0 -0.5
baz=16,SNR=38
Z33A Whitaker Ranch 16.87 352 ⇓P Pn 09 51 38.2 -0.3
baz=16,SNR=6.2
Z32A Haskell 16.99 350 ⇑P Pn 09 51 39.5 -0.6
baz=17,SNR=9.4
128A Castleberry Fa 17.04 341 ⇑P Pn 09 51 40.1 -0.5
baz=17,SNR=15
Z31A Sharp Cattle R 17.12 349 ⇑P Pn 09 51 40.7 -0.9
baz=17,SNR=9.3
226B Tecolote Peak, 17.13 336 ⇑P Pn 09 51 41.4 -0.4
baz=17,SNR=9.0
MNTX Cornudas Mount 17.30 333 ePn Pn 09 51 44.0 +0.1
11nm,1.3s
Z30A Sanderson Ranc 17.30 346 ⇓P Pn 09 51 42.6 -1.3
baz=17,SNR=9.8
GDL2 Guadalupe Moun 17.31 336 ePn Pn 09 51 42.1 -2.0
127A Arkansas Junct 17.37 339 ⇓P Pn 09 51 44.4 -0.4
baz=17,SNR=11
225A Deer Hill, Car 17.42 335 ⇑P Pn 09 51 45.3 -0.1
baz=17,SNR=12
Z29A Hungry Hill Ra 17.42 344 ⇑P Pn 09 51 44.9 -0.4
baz=17,SNR=18
Y34A Reagan Ranch, 17.43 355 ⇓P Pn 09 51 44.6 -0.8
baz=17,SNR=5.2
Y33A Hilltop Ranch, 17.57 353 ⇓P Pn 09 51 47.0 -0.1
baz=17
126A Clayton Basin, 17.58 337 ⇓P Pn 09 51 47.3 0.0
baz=17
Z28A Tucker Farm, M 17.63 342 ⇑P Pn 09 51 48.2 +0.2
baz=17,SNR=26
Y32A R-V Farms, Ver 17.67 351 ⇓P Pn 09 51 47.8 -0.5
baz=17
Y31A Rekieta Farm, 17.77 349 ⇓P Pn 09 51 49.3 -0.3
baz=17
Y30A Stafford Cattl 17.82 347 ⇑P Pn 09 51 49.6 -0.6
baz=17
125A Gardner Draw, 17.83 336 ⇓P Pn 09 51 50.3 -0.2
baz=17
Z27A Tatum 17.91 340 ⇑P Pn 09 51 50.7 -0.7
baz=18,SNR=51
Y29A Porterfield Fa 17.98 345 ⇑P Pn 09 51 51.3 -0.9
baz=18,SNR=10.0
X32A Elmer 18.06 352 ⇓P P 09 51 52.1 -0.9
baz=18,SNR=11
X34A Smith Ranch, M 18.08 355 ⇓P P 09 51 52.7 -0.6
baz=18
X33A Lawton 18.08 354 ⇑P P 09 51 52.4 -0.8
baz=18,SNR=18
MIAR Mount Ida 18.11 7 ePn Pn 09 51 54.1 +0.4
24nm,0.8s
Z26A Caprock 18.13 338 ⇓P P 09 51 53.0 -0.9
baz=18
Y28A McKinney Farm, 18.18 344 ⇑P P 09 51 53.8 -0.6
baz=18,SNR=21
X30A Coker Ranch, T 18.36 347 ⇓P P 09 51 56.1 -0.3
baz=18,SNR=15
X31A McDonald Ranch 18.37 350 ⇓P P 09 51 55.9 -0.5
baz=18,SNR=6.7
MSTX Muleshoe 18.38 342 ePn P 09 51 56.8 +0.1
MSTX Muleshoe 18.38 342 ⇑P P 09 51 56.7 +0.1
baz=18,SNR=17
Z25A Roswell 18.41 337 ⇓P P 09 51 56.0 -0.9
baz=18,SNR=16
Y27A Causey 18.42 341 ⇑P P 09 51 56.5 -0.6
baz=18,SNR=16
UALR University of 18.50 10 ePn Pn 09 51 59.3 +0.8
33nm,0.8s
Y26A Elida 18.67 340 ⇓P P 09 51 59.4 -0.5
baz=18
W33A Caddo, Fort Co 18.68 354 ⇑P Pn 09 52 00.7 0.0
baz=18,SNR=6.9
Z24A Sheeppen Canyo 18.70 335 ⇑P P 09 52 00.4 +0.1
baz=18,SNR=14
W34A Bridge Creek, 18.71 356 ⇑P P 09 52 00.2 +0.1
baz=18
X28A Dimmitt 18.74 344 ⇓P P 09 52 00.5 -0.1
baz=18,SNR=8.4
W31A Holland Ranch, 18.91 350 ⇑P P 09 52 02.2 -0.2
baz=18,SNR=10
AMTX Amarillo 18.96 346 ePn Pn 09 52 04.4 +0.3
21nm,0.6s
AMTX Amarillo 18.96 346 ⇑P P 09 52 03.2 +0.2
baz=18
Y25A Mesa, Roswell 18.97 338 ⇑P P 09 52 02.9 -0.3
baz=19,SNR=17
319A Douglas 19.03 323 ⇓P P 09 52 04.3 +0.5
baz=19
X27A F and S Farms, 19.11 342 ⇓P P 09 52 04.3 -0.3
baz=19,SNR=13
121A Cookes Peak, D 19.13 329 eP Pn 09 52 06.5 +0.3
16nm,1.0s
121A Cookes Peak, D 19.13 329 ⇑P Pn 09 52 05.9 -0.2
baz=19,SNR=12
W29A Amrraillo 19.18 346 ⇑P P 09 52 05.6 +0.2
baz=19
X26A CR and CF Fran 19.24 340 ⇑P P 09 52 06.6 +0.5
baz=19,SNR=7.4
Y24A Capitan 19.25 336 ⇑P P 09 52 06.6 +0.2
baz=19,SNR=30
V34A Guthrie 19.29 357 ⇓P P 09 52 06.6 +0.2
baz=19,SNR=11
V32A Arapaho 19.31 353 ⇑P Pn 09 52 07.9 -0.2
baz=19,SNR=16
TUL1 Tulsa 19.32 1 eP P 09 52 07.1 +0.3
TUL1 Tulsa 19.32 1 ⇓P P 09 52 07.1 +0.3
baz=19,SNR=17
Z22A Elephant Butte 19.33 332 ⇑P Pn 09 52 08.1 -0.4
baz=19
V33A Lossen Ranch, 19.33 355 ⇑P P 09 52 07.6 +0.7
baz=19,SNR=22
W28A Vega 19.44 345 ⇓P Pn 09 52 09.3 -0.5
baz=19
V31A Spring Creek L 19.47 351 ⇓P P 09 52 09.2 +0.7
baz=19,SNR=8.0
W27A Bowe Ranch, En 19.49 343 ⇓P P 09 52 09.2 +0.4
baz=19,SNR=36
Y23A Lovelace Mesa, 19.51 335 ⇑P P 09 52 09.5 +0.4
baz=19,SNR=18
HBAR Harrisburg 19.59 13 eP P 09 52 10.6 +0.9
V30A Spur Ranch, Mi 19.60 349 ⇑P P 09 52 10.5 +0.6
baz=19
W26A Owens Ranch, T 19.72 341 ⇑P P 09 52 11.7 +0.3
baz=19
X24A Lazy VL Ranch, 19.82 337 ⇓P P 09 52 12.6 +0.1
baz=19,SNR=13
V29A Stinnett 19.87 347 ⇑P P 09 52 13.5 +0.6
baz=20
U34A Anderson Ranch 19.89 357 ⇑P P 09 52 12.7 -0.3
baz=20,SNR=8.1
V28A Channing 19.92 345 ⇑P P 09 52 13.9 +0.4
baz=20,SNR=9.9
U33A Lingo Farm, Me 19.92 355 ⇓P P 09 52 13.5 +0.1
baz=20,SNR=42
BNM Barren Site 19.94 334 eP Pn 09 52 15.2 -0.6
24nm,1.0s
U32A Winter Ranch, 19.95 353 ⇑P Pn 09 52 15.2 -0.6
baz=20,SNR=12
Y22D IRIS PASSCAL I 20.00 333 ⇑P P 09 52 15.4 +1.1
baz=20
W25A X Bar L Ranch, 20.06 340 ⇑P P 09 52 16.1 +1.0
baz=20,SNR=13
LPM Los Pinos Moun 20.08 334 ePn Pn 09 52 16.7 -0.8
V27A Dan Oppiter Fa 20.08 344 ⇑P P 09 52 16.1 +0.9
baz=20,SNR=13
LENM Lemitar 20.10 333 ePn Pn 09 52 17.3 -0.4
X23A Hourglass Bar 20.13 335 ⇑P P 09 52 16.8 +1.0
baz=20,SNR=5.4
U30A WK&E Inc. Balk 20.34 349 ⇑P P 09 52 19.3 +1.3
baz=20
LAZ Ladron 20.37 333 eP P 09 52 19.5 +1.0
13nm,1.1s
V26A Tequesquite Ra 20.38 342 ⇑P P 09 52 19.6 +1.1
baz=20,SNR=42
W24A Lazy 6 Ranch, 20.39 338 ⇓P P 09 52 19.2 +0.6
baz=20,SNR=11
U28A Mallet 20.52 346 ⇓P P 09 52 20.6 +0.7
baz=20,SNR=8.3
ANMO Albuquerque 20.55 335 P P 09 52 20.8 +0.4
5.9nm,0.8s,baz=153,slow=12,SNR=32
ANMO Albuquerque 20.55 335 eP P 09 52 21.4 +0.9
T33A Patterson Ranc 20.58 355 ⇓P P 09 52 21.2 +0.7
baz=20
TUC Tucson 20.59 322 eP P 09 52 21.8 +1.1
W23A Werner Place, 20.62 336 ⇓P P 09 52 21.9 +0.7
baz=20,SNR=17
V25A Rancho No Teng 20.68 340 ⇓P P 09 52 21.9 +0.1
baz=20,SNR=23
U27A Thompson Grove 20.70 345 ⇑P P 09 52 22.4 +0.4
baz=20,SNR=18
T32A Huddler Ranch, 20.74 354 ⇓P P 09 52 22.2 0.0
baz=20
SWET Sewanee 20.74 24 eP P 09 52 23.3 +0.9
9.0nm,0.7s
T31A Randall Ranch, 20.75 352 ⇓P P 09 52 22.4 +0.1
baz=20
V24A Rampart Ranch, 20.80 339 ⇑P P 09 52 23.5 +0.3
baz=20,SNR=16
PBMO Poplar Bluff 20.81 13 eP P 09 52 23.8 +0.8
18nm,0.6s
T30A Plains 20.83 350 ⇑P P 09 52 23.7 +0.5
baz=20
PARMO Parma 20.86 15 eP P 09 52 24.5 +1.0
WVT Waverly 20.89 19 eP P 09 52 24.2 +0.3
11nm,0.6s
U26A Atchley Ranch, 20.93 343 ⇓P P 09 52 26.0 +1.5
baz=20,SNR=42
T29A Hugoton 21.07 348 ⇑P P 09 52 26.9 +1.1
baz=21
U25A Circle Dot Ran 21.13 341 ⇑P P 09 52 27.3 +0.6
baz=21,SNR=34
V23A Ortiz Mt. (NFS 21.15 337 ⇓P P 09 52 28.2 +1.4
baz=21,SNR=12
T28A Walsh 21.20 347 ⇓P P 09 52 29.6 +2.3
baz=21,SNR=16
S31A Mullinville 21.23 353 ⇑P P 09 52 29.4 +1.8
baz=21
S32A Newby Ranch, P 21.25 354 ⇓P P 09 52 30.0 +2.2
baz=21,SNR=8.9
T27A Campo 21.29 345 ⇓P P 09 52 29.0 +0.8
baz=21
S30A Montezuma 21.39 351 ⇓P P 09 52 29.5 +0.2
baz=21
U24A Moreno Valley 21.42 339 ⇑P P 09 52 30.5 +0.7
baz=21
S29A Ulysses 21.48 349 ⇓P P 09 52 31.5 +1.2
baz=21,SNR=7.8
V22A San Miguel Ran 21.58 336 ⇑P P 09 52 32.0 +0.5
baz=21,SNR=11
214A Organ Pipe Nat 21.58 318 eP P 09 52 32.2 +0.9
21nm,1.5s
214A Organ Pipe Nat 21.58 318 ⇑P P 09 52 32.1 +0.8
baz=21,SNR=7.4
S28A Manter 21.61 347 ⇓P P 09 52 34.1 +2.5
baz=21,SNR=5.8
T26A Comanche Natio 21.61 344 ⇑P P 09 52 32.0 +0.1
baz=21,SNR=16
U23A El Rito 21.67 338 ⇓P P 09 52 32.4 0.0
baz=21,SNR=28
R33A Olander Ranch, 21.78 356 ⇓P P 09 52 33.5 +0.1
baz=21
X18A Snowflake 21.80 328 ⇓P P 09 52 34.7 +0.8
baz=21,SNR=20
T25A Trinidad 21.81 342 ⇓P P 09 52 34.4 +0.4
baz=21,SNR=15
R31A Burdett 21.90 353 ⇑P P 09 52 35.2 +0.5
baz=22,SNR=11
R32A Long Quarter, 21.95 355 ⇓P P 09 52 35.2 0.0
baz=22
U22A Llaves 21.96 336 ⇓P P 09 52 36.3 +0.7
baz=22
SIUC Southern Illin 21.99 15 eP P 09 52 37.6 +2.0
R30A Dighton 22.00 351 ⇑P P 09 52 36.8 +1.1
baz=22,SNR=25
S26A Kim 22.00 344 ⇓P P 09 52 36.5 +0.6
baz=22,SNR=8.3
TKL Tuckaleechee C 22.03 28 P P 09 52 34.2 -1.9
2.3nm,0.6s,baz=219,slow=12,SNR=3.1
T24B San Luis 22.05 340 ⇑P P 09 52 37.1 +0.5
baz=22,SNR=7.6
T23A Casias Ranch, 22.25 339 ⇑P P 09 52 39.0 +0.3
baz=22,SNR=12
R29A Marienthal 22.27 350 ⇓P P 09 52 39.0 +0.3
baz=22,SNR=11
S25A Robets Cordova 22.30 342 ⇑P P 09 52 39.5 +0.2
baz=22,SNR=12
R28A Tribune 22.31 348 ⇓P P 09 52 39.5 +0.3
baz=22
Q33A Connelly Farm, 22.45 357 ⇓P P 09 52 40.8 +0.2
baz=22
R27A Eads 22.47 346 ⇓P P 09 52 41.7 +0.8
baz=22,SNR=12
Q32A Meitler Ranch, 22.50 355 ⇑P P 09 52 41.0 -0.1
baz=22,SNR=11
X16A Lo Mia Camp, P 22.51 325 ⇓P P 09 52 42.0 +0.5
baz=22,SNR=19
KSU1 Kansas State U 22.51 359 eP P 09 52 42.4 +1.1
21nm,1.2s
KSU1 Kansas State U 22.51 359 ⇑P P 09 52 41.4 +0.1
baz=22,SNR=5.4
S24A Houchin Ranch, 22.52 341 ⇓P P 09 52 42.0 +0.3
baz=22
Q31A Ellis 22.59 353 ⇑P P 09 52 42.7 +0.5
baz=22
Z14A Wintersburg 22.61 321 ⇓P P 09 52 42.7 +0.4
baz=22
USIN University of 22.64 18 eP P 09 52 43.6 +1.1
17nm,0.8s
R26A Arlington 22.64 345 ⇑P P 09 52 43.4 +0.6
baz=22,SNR=22
Q30A Quinter 22.67 352 ⇓P P 09 52 43.6 +0.7
baz=22,SNR=5.3
Q29A Oakley 22.70 350 ⇓P P 09 52 43.9 +0.7
baz=22,SNR=23
SDCO Great Sand Dun 22.71 340 eP P 09 52 43.5 -0.1
7.3nm,1.0s
R25A Fountain Ranch 22.72 343 ⇑P P 09 52 44.4 +0.9
baz=22,SNR=16
113A Mohawk Valley, 22.72 319 ⇓P P 09 52 44.1 +0.6
baz=22
S23A Nye Farm, Mont 22.84 340 ⇑P P 09 52 45.5 +0.5
baz=22
Q28A Sharon Springs 23.02 349 ⇓P P 09 52 47.0 +0.5
baz=23
R24A Sanders Place, 23.03 342 ⇑P P 09 52 47.5 +0.6
baz=23,SNR=7.1
Y14A Wickenburg 23.05 322 ⇑P P 09 52 47.3 +0.4
baz=23,SNR=12
P31A Stockton 23.10 354 ⇓P P 09 52 47.3 -0.1
baz=23,SNR=7.5
P32A Huiting Farm, 23.13 355 ⇓P P 09 52 47.9 +0.3
baz=23,SNR=5.1
S22A 4UR Ranch, Cre 23.16 338 ⇓P P 09 52 48.5 +0.2
baz=23,SNR=6.6
R23A Moffat 23.22 340 ⇓P P 09 52 49.0 +0.2
baz=23,SNR=9.4
P30A Selden 23.23 352 ⇑P P 09 52 48.9 +0.3
baz=23,SNR=8.2
Q26A Hugo 23.25 345 ⇑P P 09 52 49.8 +0.8
baz=23,SNR=13
WCI Wyandotte Cave 23.30 20 eP P 09 52 48.5 -0.8
28nm,0.8s
WUAZ Wupatki 23.31 327 eP P 09 52 51.2 +1.6
36nm,1.3s
WUAZ Wupatki 23.31 327 ⇑P P 09 52 50.4 +0.9
baz=23,SNR=16
MVCO Mesa Verde 23.34 334 eP P 09 52 50.8 +0.8
58nm,1.8s
MVCO Mesa Verde 23.34 334 ⇑P P 09 52 50.6 +0.7
baz=23,SNR=8.7
P29A Atwood 23.39 351 ⇑P P 09 52 50.6 +0.5
baz=23,SNR=16
Q25A Bedland, Calha 23.42 344 ⇑P P 09 52 51.4 +0.7
baz=23,SNR=5.9
P28A Saint Francis 23.50 349 ⇑P P 09 52 51.8 +0.5
baz=23,SNR=13
GLA Glamis 23.58 318 ⇓P P 09 52 52.1 0.0
baz=23
P27A Ficken Ranch, 23.64 348 ⇑P P 09 52 53.7 +1.1
baz=23,SNR=14
O31A Woolen Ranch, 23.72 354 ⇓P P 09 52 53.8 +0.5
baz=23,SNR=6.3
O32A Brockman Farm, 23.74 356 ⇑P P 09 52 53.6 +0.2
baz=23
OTAV Otavalo 23.78 131 eP P 09 53 04.6 +10
13nm,1.5s
P26A Davis Ranch, A 23.81 346 ⇑P P 09 52 54.8 +0.6
baz=23
O30A MW Ranch, Wils 23.83 353 ⇓P P 09 52 54.9 +0.6
baz=23,SNR=8.0
Y12C Blythe 23.84 319 ⇑P P 09 52 55.2 +0.8
baz=24
O29A 4D Ranch, Culb 23.88 351 ⇓P P 09 52 55.6 +0.9
baz=24
P25A Willow Gulch B 23.97 345 ⇓P P 09 52 56.1 +0.4
baz=24
PDMCl Parker Dam,Lak 23.98 321 ⇑P P 09 52 56.1 +0.5
baz=24
O28A Krutsinger Ran 24.04 349 ⇑P P 09 52 56.6 +0.4
baz=24
BLO Bloomington 24.09 19 eP P 09 52 56.9 +0.3
69nm,1.5s
SWSC Sam W. Stewart 24.15 316 ⇓P P 09 52 57.5 +0.3
baz=24
PV01 Paradox Valley 24.16 335 eP P 09 52 59.4 +1.9
3μm,1.4s
O27A Beecher Island 24.23 348 ⇑P P 09 52 58.6 +0.6
baz=24,SNR=8.3
P23A Jefferson 24.30 341 ⇓P P 09 53 00.6 +1.6
baz=24,SNR=11
BC3 Big Chuckawall 24.37 318 ⇑P P 09 52 59.5 +0.2
baz=24,SNR=10.0
W13A Hualapai Mount 24.38 323 ⇓P P 09 53 00.5 +0.9
baz=24,SNR=6.7
O26A Horse Wrangler 24.45 347 ⇑P P 09 53 00.8 +0.7
baz=24,SNR=5.7
U15A North Rim 24.48 327 ⇓P P 09 53 01.5 +1.0
baz=24,SNR=10
SMCO Snowmass 24.49 339 eP P 09 53 02.4 +1.6
20nm,1.6s
IRM Iron Mountain 24.51 319 ⇑P P 09 53 01.3 +0.8
baz=24,SNR=16
PV04 Paradox Valley 24.52 335 eP P 09 53 02.0 +1.3
N29A Votaw Ranch, W 24.53 352 ⇑P P 09 53 02.1 +1.4
baz=24
MONP Monument Peak 24.54 315 ⇑P P 09 53 01.7 +0.7
baz=24
N28A Pribbeno Ranch 24.54 350 ⇓P P 09 53 01.7 +0.9
baz=24
ISCO Idaho Springs 24.63 342 eP P 09 53 02.9 +1.0
9.5nm,0.8s
ISCO Idaho Springs 24.63 342 ⇑P P 09 53 02.5 +0.6
baz=24,SNR=12
O24A Longmont 24.78 343 ⇑P P 09 53 03.7 +0.7
baz=24
P22A Eagle 24.80 340 ⇓P P 09 53 03.9 +0.6
baz=24,SNR=8.4
N27A Anderson Farm, 24.84 348 ⇑P P 09 53 04.4 +0.8
baz=24,SNR=5.5
M31A Lambtecht Ranc 24.87 355 ⇑P P 09 53 05.1 +1.4
baz=24,SNR=5.6
BELC Belle Mtn. Jos 24.94 318 ⇑P P 09 53 04.7 +0.1

baz=25,SNR=8.3
PFO Pinyon Flat Ob 24.99 317 P P 09 53 05.3 +0.2
3.7nm,0.9s,baz=124,slow=6.2,SNR=6.1
PFO Pinyon Flat Ob 24.99 317 eP P 09 53 07.3 +2.2
PFO Pinyon Flat Ob 24.99 317 ⇓P P 09 53 06.4 +1.3
baz=25
SFIN Scholer Farm 25.05 16 eP P 09 53 05.3 0.0
SFIN Scholer Farm 25.05 16 ⇓P P 09 53 05.4 +0.2
baz=25
LDFC Landfair 25.09 321 eP P 09 53 08.3 +2.4
O23A Lake Granby, G 25.10 342 ⇑P P 09 53 07.9 +1.8
baz=25,SNR=21
M29A Burnside Ranch 25.16 352 ⇓P P 09 53 07.9 +1.5
baz=25
M28A Bar X Bar Ranc 25.21 351 ⇓P P 09 53 07.6 +0.8
baz=25
GMRC Granite Mounta 25.23 320 ⇑P P 09 53 08.2 +1.0
baz=25
O22A Kremmling 25.25 341 ⇑P P 09 53 08.5 +1.0
baz=25
N24A Carr 25.39 344 ⇑P P 09 53 09.9 +1.3
baz=25
SCIA State Center 25.43 5 eP P 09 53 09.2 +0.4
39nm,0.9s
MURC Murrieta 25.48 316 ⇑P P 09 53 09.6 +0.2
baz=25
M27A Reverse DX Ran 25.51 349 ⇓P P 09 53 10.5 +0.9
baz=25
L30A Spencer Herefo 25.54 354 ⇑P P 09 53 10.8 +1.0
baz=25
HEC Hector,Ludlow 25.68 319 ⇓P P 09 53 12.2 +1.0
baz=25
L31A Butterfield Fa 25.68 355 ⇑P P 09 53 12.3 +1.2
baz=25
L29A Maesberg Ranch 25.74 353 ⇓P P 09 53 12.5 +0.9
baz=25
N23A Red Feather La 25.74 343 ⇓P P 09 53 12.6 +0.7
baz=25
M25A Palm-Egli Farm 25.76 346 ⇑P P 09 53 12.8 +0.8
baz=25
O20A White River Ci 25.79 338 eP P 09 53 13.7 +1.4
O20A White River Ci 25.79 338 ⇓P P 09 53 13.3 +1.0
baz=25
SRU San Rafael 25.80 334 eP P 09 53 13.7 +1.3
4.8nm,0.8s
N22A Wattenberg Ran 25.80 342 ⇑P P 09 53 13.4 +0.9
baz=25
TUQ Turquoise Moun 25.83 321 ⇑P P 09 53 13.5 +0.9
baz=26
M24A Cheyenne 25.98 345 ⇓P P 09 53 15.0 +1.0
baz=26
SDV Santo Domingo 25.99 104 eP P 09 53 14.2 -0.1
8.0nm,0.7s
ARUT Antelope Range 26.11 328 eP P 09 53 16.4 +1.2
78nm,0.8s
BFSC Mount Baldy Ra 26.17 316 ⇓P P 09 53 16.6 +0.9
baz=26
K30A Basset 26.25 354 ⇑P P 09 53 17.7 +1.5
baz=26
GSC Goldstone 26.28 319 eP P 09 53 20.9 +4.2
6.2nm,1.1s
GSC Goldstone 26.28 319 ⇓P P 09 53 17.7 +1.1
baz=26
M22A Cedar Creek Ra 26.40 342 ⇓P P 09 53 18.8 +1.0
baz=26,SNR=6.5
N20A Spence Gulch, 26.41 339 ⇑P P 09 53 18.7 +0.7
baz=26
K28A Ten Mile Ranch 26.50 351 ⇑P P 09 53 20.0 +1.5
baz=26
DECC Green Verdugo 26.62 316 ⇑P P 09 53 20.2 +0.5
baz=26
K27A Flueckinger Fa 26.62 350 ⇑P P 09 53 20.8 +1.1
baz=26
EDW2 Edwards Air Fo 26.77 317 ⇑P P 09 53 21.0 -0.1
baz=26
JFWS Jewell Farm 26.79 10 eP P 09 53 21.0 -0.1
24nm,0.6s
L23A Garrett 26.81 344 ⇓P P 09 53 21.9 +0.4
baz=26
K25A Mack Ranch, Ha 26.84 347 ⇑P P 09 53 22.0 +0.3
baz=26
J30A Dallas 26.88 355 ⇑P P 09 53 22.4 +0.6
baz=26
LRMC Laurel Mountai 26.95 319 ⇑P P 09 53 23.1 +0.4
baz=27
FURC Furnace Creek, 27.08 321 ⇑P P 09 53 24.2 +0.5
baz=27
ECSD EROS Data Cent 27.14 359 eP P 09 53 24.1 -0.1
113nm,2.9s
ECSD EROS Data Cent 27.14 359 ⇑P P 09 53 24.6 +0.4
baz=27
J28A Allard Ranch, 27.18 352 ⇑P P 09 53 25.5 +0.9
baz=27
DAU Daniels Canyon 27.19 334 eP P 09 53 27.0 +1.9
DAC Darwin (Calif) 27.40 320 eP P 09 53 27.7 +0.8
3.9nm,1.2s
R11A Troy Canyon, C 27.66 326 eP P 09 53 30.0 +0.9
39nm,2.9s
R11A Troy Canyon, C 27.66 326 ⇑P P 09 53 29.6 +0.5
baz=27
K21A Alcova 27.72 342 ⇓P P 09 53 29.4 -0.2
baz=27
I27A Quinn 27.93 351 ⇓P P 09 53 31.5 +0.2
baz=28
VES Vestal, Richgr 28.07 318 ⇓P P 09 53 33.0 +0.4
baz=28
TPH Tonopah 28.38 323 eP P 09 53 36.4 +0.9
BGU Big Grassy Mou 28.38 332 eP P 09 53 37.8 +2.4
2.7nm,1.4s
J21A Lysite 28.43 343 ⇑P P 09 53 36.7 +0.8
baz=28
RCTC Rector, Farmer 28.45 318 ⇑P P 09 53 36.9 +0.9
baz=28
PDAR Pinedale Array 28.57 339 P P 09 53 37.2 0.0
1.8nm,0.8s,baz=142,slow=8.3,SNR=18
J20A Shoshoni 28.62 342 ⇓P P 09 53 38.5 +0.8
baz=28
H25A Fruitdale 28.72 349 ⇓P P 09 53 38.9 +0.6
baz=28
SPMN St. Paul 28.76 5 eP P 09 53 38.6 0.0
SPMN St. Paul 28.76 5 ⇓P P 09 53 38.6 0.0
baz=28,SNR=7.0
I21A Big Trails, Te 28.82 343 ⇓P P 09 53 39.5 +0.2
baz=28
J19A Crowheart 28.85 340 ⇓P P 09 53 39.8 +0.2
baz=28
HVU Hansel Valley 28.96 334 eP P 09 53 41.8 +1.1
6.5nm,0.9s
H24A Dirks Ranch, A 29.03 348 ⇑P P 09 53 41.6 +0.4
baz=29,SNR=6.1
NV11 Mina Array Sit 29.16 323 eP P 09 53 43.7 +1.2
I20A Worland 29.18 342 ⇑P P 09 53 43.0 +0.5
baz=29
NVAR Mina Array Bea 29.24 323 P P 09 53 44.2 +0.9
6.1nm,0.9s,baz=142,slow=9.5,SNR=37
ELK Elko 29.27 329 P P 09 53 44.3 +0.8
2.5nm,0.8s,baz=227,slow=5.8,SNR=13
ELK Elko 29.27 329 eP P 09 53 44.8 +1.3
H21A Big Horn, Sher 29.50 344 ⇑P P 09 53 45.6 +0.2
baz=29
REDW Red Top Meadow 29.55 338 eP P 09 53 47.0 +1.1
G24A Alzada 29.56 348 ⇓P P 09 53 46.0 +0.2
baz=29
H20A Greybull 29.64 343 ⇓P P 09 53 46.7 +0.1
baz=29
G23A Biddle 29.64 347 ⇑P P 09 53 46.7 +0.2
baz=29
LOHW Long Hollow 29.68 339 eP P 09 53 47.7 +0.7
TPAW Teton Pass 29.70 338 eP P 09 53 48.8 +1.5
22nm,1.5s
F26A Lodgepole 29.76 351 ⇓P P 09 53 47.9 +0.3
baz=29
MOOW Moose Ponds 29.85 338 eP P 09 53 49.4 +0.8
FXWY Fox Creek 29.85 338 eP P 09 53 49.5 +0.9
59nm,3.0s
G22A Birney 29.87 346 ⇓P P 09 53 48.7 +0.1
baz=30
I17A Pilgrim Ck. 29.94 339 ⇓P P 09 53 50.0 +0.6
baz=30,SNR=6.1
IMW Indian Meadow 30.05 338 eP P 09 53 50.9 +0.5
H19A Powell 30.09 342 ⇓P P 09 53 51.1 +0.5
baz=30,SNR=9.9
G21A Lodge Grass 30.10 344 ⇓P P 09 53 50.5 -0.1
baz=30
FLWY Flagg Ranch 30.13 339 eP P 09 53 52.1 +1.1
F23A Volborg 30.14 347 ⇑P P 09 53 51.0 +0.1
baz=30
E28A Huff 30.22 354 ⇑P P 09 53 52.0 +0.5
baz=30
H18A Shoshone NF, C 30.31 341 ⇓P P 09 53 53.1 +0.5
baz=30
E26A Carlson Angus 30.33 351 ⇑P P 09 53 53.2 +0.6
baz=30
G20A Bridger 30.37 343 ⇑P P 09 53 52.9 -0.1
baz=30
E25A Miller Ranch, 30.51 350 ⇓P P 09 53 54.9 +0.7
baz=30
RLMT Red Lodge 30.59 342 eP P 09 53 55.0 -0.1
8.5nm,1.0s
D30A Buchanan 30.59 356 ⇓P P 09 53 55.4 +0.6
baz=30
YMR Madison River 30.73 339 eP P 09 53 58.0 +1.6
D26A Manning 30.88 352 ⇓P P 09 53 58.2 +0.8
baz=30
F20A Billings 30.88 344 ⇑P P 09 53 57.8 +0.3
baz=30
E22A Miles City 30.94 347 ⇑P P 09 53 58.3 +0.3
baz=30
HLID Hailey 31.12 334 eP P 09 54 00.7 +0.9
4.8nm,0.9s
HLID Hailey 31.12 334 ⇑P P 09 53 59.9 +0.1
baz=31,SNR=11
F19A Roth Farm, Mol 31.16 343 ⇓P P 09 54 00.3 +0.4
baz=31
C30A Mose, Pekin 31.16 357 ⇓P P 09 54 00.3 +0.4
baz=31
D24A Glendive 31.26 349 ⇓P P 09 54 01.5 +0.7
baz=31
D23A Lindsay 31.48 348 ⇓P P 09 54 02.9 +0.2
baz=31
E20A Meyer Farm, Mu 31.53 344 ⇓P P 09 54 03.1 -0.1
baz=31,SNR=5.6
MCMT McKenzie Canyo 31.55 337 eP P 09 54 04.8 +1.2
2.2nm,0.7s
C26A Wahner Farm, P 31.61 352 ⇑P P 09 54 04.4 +0.6
baz=31
C25A Freed Ranch, W 31.66 351 ⇓P P 09 54 04.9 +0.6
baz=31
D22A Cohagen 31.66 347 ⇓P P 09 54 04.9 +0.6
baz=31
E19A Rath Farm, Rou 31.67 343 ⇑P P 09 54 04.3 -0.1
baz=31,SNR=6.4
C24A Savage 31.68 349 ⇓P P 09 54 05.0 +0.6
baz=31
AGMN Agassiz Nation 31.70 0 eP P 09 54 04.7 +0.1
13nm,0.8s
AGMN Agassiz Nation 31.70 0 ⇑P P 09 54 04.0 -0.6
baz=31,SNR=10
D21A La Casta Ranch 31.77 346 ⇓P P 09 54 05.7 +0.4
baz=31
BOZ Bozeman (W) 31.82 339 eP P 09 54 06.5 +0.7
B30A Myrvik Farm, E 31.90 357 ⇓P P 09 54 06.4 +0.1
baz=32
DLMT Dillon 31.91 338 eP P 09 54 07.6 +1.0
B29A Wagenman Farm, 31.98 356 ⇓P P 09 54 07.0 -0.1
baz=32
B28A Dugan Ranch, T 32.04 355 ⇑P P 09 54 08.0 +0.5
baz=32
D20A Manuel Ranch, 32.07 344 ⇓P P 09 54 07.7 -0.2
baz=32,SNR=5.4
C23A Lambert 32.08 348 ⇑P P 09 54 08.4 +0.4
baz=32
C22A Vida 32.17 348 ⇓P P 09 54 09.3 +0.6
baz=32,SNR=7.0
WVOR Wild Horse Val 32.22 328 eP P 09 54 10.2 +0.9
LRM Limekiln Ridge 32.25 338 eP P 09 54 10.6 +0.8
D19A Cripps Ranch, 32.34 344 ⇑P P 09 54 10.2 -0.1
baz=32,SNR=5.8
A30A Hoffart Farm, 32.39 357 ⇑P P 09 54 10.3 -0.3
baz=32,SNR=5.4
A29A Manning Farm, 32.42 356 ⇓P P 09 54 10.6 -0.3
baz=32
A28A Rude Farm, Bot 32.49 355 ⇑P P 09 54 12.1 +0.5
baz=32
DGMT Dagmar 32.55 350 ⇑P P 09 54 12.5 +0.4
baz=32
C20A Veseth Ranch, 32.62 345 ⇓P P 09 54 13.2 +0.6
baz=32
A26A Wade Farm, Ken 32.66 353 ⇓P P 09 54 13.6 +0.6
baz=32
B23A Brockton 32.68 349 ⇑P P 09 54 13.9 +0.7
baz=32
B22A Reddig Ranch S 32.72 348 ⇑P P 09 54 14.4 +0.8
baz=32
MOD Modoc 32.72 326 eP P 09 54 14.4 +0.6
HRY Holter Researc 32.81 340 eP P 09 54 15.4 +0.9
C19A Slack Wire Ran 32.91 344 ⇑P P 09 54 16.1 +0.9
baz=32
A24A Westby 32.96 350 ⇑P P 09 54 16.6 +0.9
baz=32
B21A Ellsworth Farm 33.06 347 ⇓P P 09 54 17.7 +1.2
baz=33
A23A Redstone 33.14 349 ⇑P P 09 54 18.1 +0.9
baz=33
EGMT Eagleton 33.36 343 eP P 09 54 20.1 +0.8
EGMT Eagleton 33.36 343 ⇓P P 09 54 19.7 +0.5
baz=33
A22A Carney Farms, 33.37 348 ⇓P P 09 54 20.2 +1.0
baz=33
BMO Blue Mountains 33.40 332 eP P 09 54 19.5 -0.1
CHMT Chamberlain Mo 33.48 339 eP P 09 54 20.6 +0.3
B19A Brinkman Farms 33.54 345 ⇓P P 09 54 21.3 +0.5
baz=33
MSO Missoula 33.65 338 eP P 09 54 22.3 +0.6
MSO Missoula 33.65 338 ⇓P P 09 54 21.7 -0.1
baz=33,SNR=9.4
ULM Lac du Bonnet 33.66 0 P P 09 54 20.8 -0.9
5.1nm,0.8s,baz=186,slow=9.0,SNR=9.5
ULM pP pP 09 54 34.2 -0.6
3.8nm,0.9s,baz=192,slow=6.4,SNR=3.6
A20A Cobblestone Ra 33.69 346 ⇓P P 09 54 22.5 +0.5
baz=33
SLMT Seeley Lake 33.84 339 eP P 09 54 23.3 -0.2
4.8nm,1.1s
A19A Klindworth Far 33.93 345 ⇑P P 09 54 24.9 +0.7
baz=34
F10A Beach Ranch, E 34.25 334 eP P 09 54 27.0 0.0
SWMT Swartz Lake 34.25 338 eP P 09 54 27.3 +0.3
G08A Pilot Rock 34.49 331 eP P 09 54 29.2 +0.1
JTMT Jette 34.55 338 eP P 09 54 30.0 +0.4
YBMT Yellow Bay 34.55 339 eP P 09 54 30.3 +0.7
I05D Terrebonne, OR 34.96 328 ⇓P P 09 54 33.3 +0.1
baz=35
I04A Tendick Farm, 35.15 326 ⇑P P 09 54 34.8 +0.1
baz=35
H04A Detroit Lake 35.64 327 eP P 09 54 39.2 +0.4
NEW Newport 36.04 336 ⇓P P 09 54 42.6 +0.3
baz=36
G03D McMinnville, O 36.56 327 ⇓P P 09 54 47.2 +0.6
baz=36
LON Longmire 36.91 330 eP P 09 54 49.8 0.0
3.9nm,0.9s
EDM Edmonton 39.05 344 eP P 09 55 07.2 -0.4
LPAZ La Paz 42.72 138 P P 09 55 48.5 +10
1.5nm,0.8s,baz=349,slow=12,SNR=6.0
LPAZ LR LR 10 12 26.9
comp=Z,26nm,19.0s,baz=274,slow=34
SCHQ Schefferville 44.41 24 P P 09 55 50.7 -0.7
5.0nm,0.8s,baz=246,slow=12,SNR=3.2
SCHQ LR LR 10 15 55.5
comp=Z,34nm,18.2s,baz=318,slow=38
SIV San Ignacio 47.32 131 P P 09 56 21.1 +6.3
1.4nm,0.8s,baz=288,slow=7.2,SNR=3.0
YKA Yellowknife Ar 47.73 349 P P 09 56 16.5 -0.8
2.4nm,0.7s,baz=153,slow=7.4,SNR=44
YKA pP pP 09 56 29.3 -1.8
0.3nm,0.6s,baz=152,slow=7.4,SNR=3.7
ILAR Eielson Array 58.98 337 P P 09 57 39.4 -0.6
3.6nm,0.9s,baz=129,slow=4.9,SNR=36
ILAR pP pP 09 57 53.8 -0.2
2.0nm,1.0s,baz=130,slow=3.8,SNR=5.3
ILAR LR LR 10 25 22.3
comp=Z,42nm,19.1s,baz=170,slow=38
COLA College 59.39 337 eP P 09 57 42.1 -0.6
3.8nm,0.8s
TRF Thorofare Moun 59.68 335 eP P 09 57 44.5 -0.5
7.8nm,1.0s
CHGN Chignik 61.10 326 P P 09 57 57.1 +2.5
PLCA Paso Flores 61.71 158 P P 09 58 07.4 +8.5
2.1nm,0.7s,baz=341,slow=8.0,SNR=4.5
SPITS Spitsbergen Ar 78.42 11 LR LR 10 38 22.1
comp=Z,12nm,18.4s,baz=190,slow=39
NOA NORSAR Array B 83.83 28 LR LR 10 38 33.3
comp=Z,7.2nm,18.1s,baz=95,slow=37
HHC Hu-ho-hao-te 117.41 337 ePKP PKPdf 10 06 28.7 +2.4
HHC PP PP 10 07 43.7 +6.7
HHC PKS PKSdf 10 10 04.1 +1.0
HHC AMB AMB
comp=Z,53nm,5.3s
WMQ Urumqi 119.86 357 ePKP PKPdf 10 06 34.0 +3.1
WMQ PP PP 10 08 02.9 +9.3
WMQ SKS SKSdf 10 13 34.8 -4.1
WMQ SKKS SKKSac 10 14 44.6 -6.1
WMQ SS SS 10 24 16.5 +2.2
WMQ AMB AMB
comp=Z,17nm,11.8s
WMQ LR LR
comp=N,24nm,15.6s
WMQ LR LR
comp=E,40nm,18.2s
NJ2 Nanjing 121.21 325 ePKP PKPdf 10 06 33.1 -0.6
GTA Gaotai 122.41 345 ePKP PKPdf 10 06 37.5 +1.5
KSH Kashi 123.78 7 ePKP PKPdf 10 06 42.7 +4.1
KSH SKKS 10 15 18.0
KSH SS SS 10 25 13.1 +8.6
KSH AMB AMB
comp=Z,61nm,5.3s
KSH LR LR
comp=Z,58nm,5.1s
LZH Lanzhou 124.38 340 ePKP PKPdf 10 06 42.3 +2.4
LZH sPKP 10 06 57.4
LZH LR LR
comp=N,140nm,17.2s
LZH LR LR
comp=E,140nm,18.0s
LZH LR LR
comp=Z,180nm,19.8s
CD2 Chengdu 129.12 338 PKP PKPdf 10 06 48.5 -0.4

IDC 01 09:48:57.9±55.0,17.°06S×177.°98W,h0km,mb3.8/3, mb1 3.9/3,mb1mx3.6/25,mbtmp3.8/3,Error ellipse: s-maj=1013.0km s-min=169.7km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.40	240	P	P	09 56 29.9	+0.3
	1.2nm,0.7s,baz=72,slow=6.4,SNR=3.5						
WRA	Warramunga Arr	45.20	259	P	P	09 57 16.8	-0.3
	0.4nm,0.5s,baz=95,slow=7.4,SNR=10						
ASAR	Alice Springs	45.42	253	P	P	09 57 18.6	-0.3
	1.0nm,0.5s,baz=88,slow=8.6,SNR=23						

NNC 01 09:53:17.3±5.2,52.°26N×76.°87E,h0km,mb3.5,mpv3.1, 5C-1D,Error ellipse: s-maj=97.4km s-min=14.5km az=36.0,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	1.94	147	⇑Pn	Pn	09 53 49.9	-1.7
	12nm,0.3s						
KURBB				⇑Sn	Sb	09 54 18.4	+0.1
	65nm,0.6s						
VOSK	Vostochnaya	3.63	280	⇓Pn	Pn	09 54 12.6	-2.1
	1.9nm,0.6s						
BVA0	Borovoye Array	4.02	283	⇑Pn	Pn	09 54 20.6	+0.6
	2.1nm,0.7s,baz=109,slow=16,SNR=7.0						
BVA0				⇑Sn	Sn	09 55 10.5	+2.6
	7.4nm,0.6s,baz=107,slow=25,SNR=6.9						
MK02	Makanchi Array	6.54	145	⇑Lg	Lg	09 56 46.5	
	3.1nm,0.7s,baz=324,slow=28						

IDC 01 09:56:26.9±0.9,39.°32N×110.°55E,h0km,mb3.7/8, mb1 3.9/8,mb1mx3.6/32,mbtmp3.7/9,ML2.9/1,Error ellipse: s-maj=31.7km s-min=17.3km az=66.0
ISCJB 01 09:56:29.6±0.9,39.°48N±0.°09×110.°7E±0.°2,h33km, mb3.7/8,Error ellipse: s-maj=27.9km s-min=9.8km az=163.2
ISC 01 09:56:32.1±1.1,39.°4N±0.°1×110.°5E±0.°2,h35km,n9, σ0°76/10,mb3.7/8,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	8.96	342	Pn	Pn	09 58 38.2	-0.8
	0.1nm,0.3s,baz=154,slow=13,SNR=30						
SONM				Sn	Sn	10 00 18.1	-0.5
	0.1nm,0.3s,baz=160,slow=17,SNR=3.9						
SONM				Lg	Lg	10 01 10.2	
	0.3nm,0.3s,baz=146,slow=27,SNR=5.6						
MKAR	Makanchi Array	21.81	299	P	P	10 01 21.4	+0.4
	4.3nm,0.8s,baz=92,slow=12,SNR=42						
ZALV	Zalesovo Beam	22.69	318	P	P	10 01 29.9	-0.5
	0.6nm,0.3s,baz=18,slow=19,SNR=4.5						
CMAR	Chiang Mai Arr	23.13	209	P	P	10 01 35.0	-0.2
	2.9nm,0.5s,baz=13,slow=10,SNR=18						
KURBB	Kurchatov Arra	25.04	307	P	P	10 01 52.9	+0.1
	2.3nm,0.9s,baz=108,slow=9.4,SNR=4.7						
FINES	FINESS Array B	53.81	324	P	P	10 05 52.0	+1.1
	0.9nm,0.8s,baz=8.9,slow=9.8,SNR=3.0						
WRA	Warramunga Arr	63.09	155	P	P	10 06 55.2	-0.8
	0.5nm,0.8s,baz=341,slow=6.4,SNR=3.6						
ASAR	Alice Springs	66.43	157	P	P	10 07 17.4	-0.4
	0.3nm,0.8s,baz=333,slow=4.5,SNR=4.2						
YKA	Yellowknife Ar	72.20	20	P	P	10 07 53.9	+0.9
	0.4nm,0.7s,baz=325,slow=5.5,SNR=11						

ISCJB 01 10:00:03.7±0.7,39.°67N±0.°05×106.°87E±0.°05,h10km, mb3.3/2,Error ellipse: s-maj=7.8km s-min=5.8km az=161.9
IDC 01 10:00:09.8±1.6,39.°87N×106.°17E,h0km,mb3.4/3, mb1 3.5/5,mb1mx3.3/33,mbtmp3.4/5,ML3.3/2,Error ellipse: s-maj=44.5km s-min=22.2km az=66.0
BJI 01 10:00:10.2,39.°74N×106.°70E,h5km,ML3.8/16,Ms7 3.2/2
ISC 01 10:00:10.1±0.8,39.°88N±0.°05×106.°82E±0.°04,h10km,n9, σ2°39/16,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	Baotou	2.56	72	ePg	Pb	10 00 56.5	+0.4
BTO				Sg	Sb	10 01 29.4	+1.7
BTO				smax	smax		
	comp=N,89nm,0.2s						
BTO				smax	smax		
	comp=E,69nm,0.2s						
LZH	Lanzhou	4.46	213	Pg	Pb	10 01 28.5	0.0
LZH				Sg	Sb	10 02 22.8	+0.4
LZH				smax	smax		
	comp=N,120nm,0.8s						
LZH				smax	smax		
	comp=E,200nm,0.6s						
LZH				LR	LR		
	comp=Z,250nm,5.6s						
GTA	Gaotai	5.43	267	Pn	Pn	10 01 31.5	+0.3
GTA				Pg	Pb	10 01 46.3	+1.2
GTA				Sn	Sn	10 02 31.7	-2.1
GTA				Sg	Sb	10 02 54.5	+4.2
GTA				smax	smax		
	comp=N,120nm,0.9s						
GTA				smax	smax		
	comp=E,59nm,0.8s						
GTA				LR	LR		
	comp=Z,75nm,5.0s						
XAN	Xi'an	6.07	163	Pn	Pb	10 01 47.8	-8.1
XAN				Pg	Pg	10 02 06.8	+0.5
XAN				Sn	Sn	10 02 41.2	-8.2
XAN				Sg	Sb	10 03 05.6	-3.0
XAN				smax	smax		
	comp=N,36nm,0.7s						
XAN				smax	smax		
	comp=E,17nm,0.6s						
SONM	Songino Array	7.96	358	Pn	Pn	10 02 06.5	+0.5
	comp=E,0.5nm,0.3s,baz=178,slow=14,SNR=8.6						
SONM				Sn	Sn	10 03 34.3	-1.8
	comp=E,1.3nm,0.3s,baz=184,slow=27,SNR=4.1						
SONM				Lg	Lg	10 04 23.7	
	comp=E,2.2nm,0.3s,baz=184,slow=29,SNR=5.7						
MKAR	Makanchi Array	19.09	299	P	P	10 04 29.9	-2.9
	comp=E,0.1nm,0.3s,baz=103,slow=10,SNR=3.5						
ZALV	Zalesovo Beam	20.47	321	P	P	10 04 45.1	-2.6
	comp=E,1.8nm,0.6s,baz=125,slow=10,SNR=6.4						
KURBB	Kurchatov Arra	22.49	308	P	P	10 05 06.1	-3.4
	comp=E,0.7nm,0.7s,baz=114,slow=10,SNR=4.7						
ASAR	Alice Springs	68.08	153	P	P	10 11 12.7	+2.7
	comp=E,0.3nm,0.6s,baz=338,slow=5.9,SNR=5.0						

IDC 01 10:15:20.2±1.4, 54°.09N×87°.66E, h0km, mb3.2/2, mb1 3.5/5, mb1mx3.3/31, mbtmp3.5/5, ML3.6/3, MS3.6/1, Ms1 3.6/1, ms1mx2.4/26, Error ellipse: s-maj=14.1km s-min=12.9km az=101.0

ISCJB 01 10:15:24.0±1.1, 54°.12N±0°.06×87°.2E±0°.1, h33km, mb3.2/2, MS3.5/1, Error ellipse: s-maj=10.7km s-min=8.6km az=173.5

NNC 01 10:15:28.0±2.6, 53°.98N×87°.00E, h14km±14km, mb3.8, mpv3.5, Error ellipse: s-maj=17.4km s-min=13.2km az=61.0

ISC 01 10:15:25.9±1.5, 54°.17N±0°.10×87°.3E±0°.1, h35km, n13, σ0§82/15, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res
I46RU	ZALESOVO INFRA	1.50	262	i		10 24 16.8	
	baz=84,slow=340,SNR=8.2						
ZALV	Zalesovo Beam	1.50	262	Pg	Pn	10 15 49.9	-0.5
	19nm,0.3s,baz=85,slow=16,SNR=216						
ZALV				Lg	Lg	10 16 14.0	
	20nm,0.3s,baz=85,slow=25,SNR=9.5						
KURK	Kurchatov	6.36	241	⇑Pn	Pn	10 16 57.5	+0.5
	4.2nm,1.1s						
KURK				⇑Lg	Lg	10 18 43.1	
	14nm,0.8s						
KURBB	Kurchatov Arra	6.46	240	⇑Pn	Pn	10 16 59.3	+0.9
	3.7nm,0.6s						
KURBB				⇑Sn	Sn	10 18 11.0	+0.3
	12nm,0.7s						
KURBB				⇓Lg	Lg	10 18 44.1	
	34nm,0.8s						
KURBB	Kurchatov Arra	6.46	240	Pn	Pn	10 16 59.0	+0.7
	1.1nm,0.3s,baz=59,slow=14,SNR=13						
KURBB				Lg	Lg	10 18 47.7	
	0.5nm,0.3s,baz=53,slow=33,SNR=10						
MKAR	Makanchi Array	8.06	206	Pn	Pn	10 17 19.8	-0.6
	0.5nm,0.3s,baz=21,slow=14,SNR=20						
MKAR				Sn	Sn	10 18 50.0	-0.2
	0.4nm,0.3s,baz=28,slow=29,SNR=6.1						
MKAR				Lg	Lg	10 19 34.9	
	0.6nm,0.3s,baz=37,slow=30,SNR=5.3						
MK02	Makanchi Array	8.07	205	⇓Pn	Pn	10 17 20.8	+0.2
	1.1nm,0.5s						
MK02				⇑Sn	Sn	10 18 50.6	0.0
	3.0nm,0.7s						
MK02				⇓Lg	Lg	10 19 32.5	
	9.1nm,0.8s						
BVA0	Borovoye Array	10.14	270	⇑Pn	Pn	10 17 51.1	+2.2
	1.4nm,0.5s,baz=74,slow=15,SNR=13						
BVA0				⇑Sn	Sn	10 19 41.1	-0.2
	5.3nm,0.9s,baz=80,slow=25,SNR=3.3						
BVAR	Borovoye Array	10.14	270	Pn	Pn	10 17 48.6	-0.3
	0.7nm,0.3s,baz=71,slow=15,SNR=12						
BVAR				Sn	Sn	10 19 40.4	-0.9
	0.7nm,0.3s,baz=81,slow=25,SNR=6.6						
SONM	Songino Array	13.55	110	Lg	Lg	10 22 25.5	
	baz=302,slow=27,SNR=3.7						
JNU	Nakatsue	37.10	107	LR	LR	10 37 18.5	
	comp=Z,93nm,21.1s,baz=207,slow=36						
YKA	Yellowknife Ar	62.40	11	P	P	10 25 44.6	+0.1
	0.1nm,0.5s,baz=340,slow=7.4,SNR=4.7						
TORD	Torodi Ar. Bea	76.92	274	P	P	10 27 14.4	-0.2
	0.2nm,0.6s,baz=45,slow=4.3,SNR=2.4						

ISCJB 01 10:19:56.5±0.6, 36°.99N±0°.04×71°.79E±0°.09, h142km, mb3.4/3, Error ellipse: s-maj=10.9km s-min=4.6km az=157.6

IDC 01 10:19:57.8±5.4, 36°.84N×72°.19E, h182km±48km, mb3.1/3, mb1 3.2/9, mb1mx2.9/49, mbtmp3.8/9, Error ellipse: s-maj=59.3km s-min=33.5km az=148.0

NNC 01 10:20:07.3±5.9, 37°.76N×71°.89E, h220km±65km, mb2.8, mpv4.0, Error ellipse: s-maj=57.7km s-min=33.5km az=11.0

ISC 01 10:19:57.1±0.8, 37°.06N±0°.06×71°.83E±0°.08, h142km, n33, σ1§51/38, mb3.5/3, 8C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res
AML	Almayashu	5.27	15	P	Pn	10 21 16.0	+1.8
	SNR=69						
UCH	Uchtor	5.56	21	P	Pn	10 21 20.1	+1.9
	SNR=26						
DLH	Dalhousie	5.64	142	eP	Pn	10 21 21.0	+1.8
DLH				eS	Sn	10 22 24.0	+0.8
KZA	Kyzart	5.67	27	P	Pn	10 21 20.8	+1.2
	SNR=6.8						
EKS2	Erkin-Say	5.79	14	P	Pn	10 21 23.1	+2.1
	SNR=22						
AAK	Ala-Archa	5.93	19	⇑P	Pn	10 21 24.8	+1.9
	11nm,0.4s						
AAK				⇓S	Sn	10 22 30.6	+0.7
	14nm,0.7s						
AAK	Ala-Archa	5.93	19	P	Pn	10 21 25.1	+2.2
	SNR=37						
AAK	Ala-Archa	5.93	19	P	Pn	10 21 25.1	+2.2
	5.8nm,0.3s,baz=184,slow=8.9,SNR=80						
AAK				S	Sn	10 22 28.9	-1.0
	0.6nm,0.3s,baz=174,slow=13,SNR=4.2						
KBK	Karagaybulak	6.08	22	P	Pn	10 21 28.1	+3.1
	SNR=5.2						
KK31	Karatay Array	6.12	351	⇑P	Pn	10 21 27.4	+2.1
	4.6nm,0.3s,baz=163,slow=11						
KK31				⇑S	Sn	10 22 31.7	-2.6
	13nm,0.3s,baz=167,slow=23						
ULHL	Ulahol	6.20	32	P	Pn	10 21 27.6	+1.2
	SNR=6.3						
CHMS	Chumysh	6.34	20	P	Pn	10 21 30.2	+1.9
	SNR=7.6						
TKM2	Tokmak 2	6.53	25	⇑P	Pn	10 21 32.2	+1.2
	11nm,0.8s						
TKM2				⇑S	Sn	10 22 42.5	-1.9
	6.5nm,0.7s						
TKM2	Tokmak 2	6.53	25	P	Pn	10 21 32.4	+1.5
	SNR=17						
MKAR	Makanchi Array	12.45	35	P	Pn	10 22 49.2	-0.1
	0.1nm,0.3s,baz=216,slow=7.1,SNR=2.7						
PYUN	Piuthan	12.96	130	eP	Pn	10 22 55.1	-1.2
	28nm,0.3s						
DANN	Dangsing	13.27	127	eP	Pn	10 22 58.6	-1.7
GKN	Gorkha	14.07	126	eP	Pn	10 23 09.7	-0.6
	16nm,0.4s						
KURBB	Kurchatov Arra	14.38	17	P	P	10 23 16.0	-0.8
	0.2nm,0.3s,baz=203,slow=11,SNR=6.0						
KKN	Kakani	14.63	125	eP	Pn	10 23 17.4	-0.1
DMN	Daman	14.64	126	eP	Pn	10 23 17.5	-0.1
PKIN	Phulchoki	14.85	126	eP	Pn	10 23 19.8	-0.5
	12nm,0.4s						
AB31	Akbulak array	14.94	328	⇑P	P	10 23 23.2	+0.2
	0.7nm,0.4s						
AB31				⇑S	Sn	10 25 54.8	-12
	4.0nm,0.4s						
JIRN	Jiri	15.31	124	eP	Pn	10 23 25.7	-0.5
	62nm,0.5s						
BVA0	Borovoye Array	16.00	357	⇓P	Pn	10 23 34.4	+0.4
	1.9nm,0.7s,baz=164,slow=12,SNR=7.5						
BVAR	Borovoye Array	16.00	357	P	Pn	10 23 34.5	+0.5
	0.2nm,0.3s,baz=162,slow=11,SNR=7.3						
TAPN	Taplejung	16.54	121	eP	P	10 23 41.7	+0.5
	8.7nm,0.4s						
AKTO	Aktyubinsk	16.65	328	⇑P	Pn	10 23 42.7	+0.8
	3.0nm,0.8s						
AKTO	Aktyubinsk	16.65	328	P	Pn	10 23 43.0	+1.1
	0.8nm,0.3s,baz=124,slow=8.0,SNR=12						
ZALV	Zalesovo Beam	19.13	24	P	P	10 24 08.4	-0.6
	0.6nm,0.3s,baz=222,slow=11,SNR=16						
BRTR	Keskin Array B	29.91	287	P	P	10 25 53.0	+1.4
	0.6nm,0.3s,baz=96,slow=10,SNR=3.7						
HFS	Hagfors	43.04	321	P	P	10 27 41.3	-1.0
	1.3nm,0.6s,baz=90,slow=8.9,SNR=4.9						
TORD	Torodi Ar. Bea	66.40	269	P	P	10 30 29.0	-2.2
	0.1nm,0.5s,baz=56,slow=6.6,SNR=3.3						

IDC 01 11:06:24.2±0.5, 8°.95N×71°.11W, h0km, mb4.1/19, mb1 4.3/22, mb1mx4.2/29, mbtmp4.2/22, ML3.4/3, MS3.5/7, Ms1 3.5/7, ms1mx3.0/29, Error ellipse: s-maj=18.8km s-min=12.0km az=67.0

ISCJB 01 11:06:27.5±0.8, 8°.96N±0°.03×71°.15W±0°.02, h28km±6km, mb4.4/53, MS3.8/6, Error ellipse: s-maj=5.2km s-min=4.0km az=4.7

FUNV 01 11:06:27.4, 8°.89N×71°.20W, h2km, MW4.3

NEIC 01 11:06:28.9±0.8, 8°.95N×71°.01W, h29km±6km, mb4.6/33, Error ellipse: s-maj=5.7km s-min=4.0km az=59.0

ISC 01 11:06:28.6±1.1, 8°.90N±0°.03×71°.15W±0°.04, h28km±8km, n449, σ0§93/463, mb4.5/54, MS3.6/6, 170C-168D, Venezuela

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res
SDV	Santo Domingo	0.51	92	ePg	Pb	11 06 37.9	-1.2
SOCV	Socops	0.68	155	⇓iP	Pb	11 06 40.5	-1.5
SOCV				eS	Sb	11 06 50.2	-0.8
QARV	Quebrada Arrib	1.43	25	⇑eP	Pb	11 06 53.8	-0.9
QARV				eS	Sb	11 07 14.0	+1.4
CAPV	Capacho	1.55	228	⇑eP	Pn	11 06 55.3	+0.7
CAPV				eS	Sb	11 07 16.1	+0.1
CURV	Curarigua	1.61	47	⇑eP	Pb	11 06 56.5	-1.2
CURV				eS	Sb	11 07 18.6	+1.1
SANV	Sanarito	1.70	69	⇓eP	Pb	11 06 59.3	+0.1
SANV				eS	Sb	11 07 21.6	+1.3
TEPV	Terepaima	2.20	61	eP	Pb	11 07 05.9	-1.8
TEPV				eS	Sb	11 07 33.0	-1.5
ELOV	Elorza	2.51	139	⇓eP	Pn	11 07 09.2	+1.7
ELOV				eS	Sn	11 07 39.8	+2.6
BAUV	El Baul	3.07	89	⇓eP	Pn	11 07 16.5	+1.3
BAUV				eS	Sn	11 07 53.0	+2.0
JACV	Jacura	3.15	46	eP	Pn	11 07 17.2	+0.9
TURV	Turiamo	3.60	64	⇑eP	Pn	11 07 24.2	+1.6
TURV				eS	Sn	11 08 05.7	+1.5
FUNV	FUNVISIS	4.55	70	eP	Pn	11 07 37.6	+1.9
FUNV				eS	Sn	11 08 27.5	-0.2
ROSC	El Rosal	5.11	218	Pn	Pn	11 07 45.2	+1.5
	12nm,0.3s,baz=102,slow=5.3,SNR=26						
ROSC				Sn	Sb	11 08 51.4	-7.5
	8.2nm,0.3s,baz=101,slow=20,SNR=4.0						
ROSC	El Rosal	5.11	218	ePn	Pn	11 07 46.6	+2.8
ROSC				Sn	Sb	11 08 51.4	-7.5
CUPV	Cœpira	5.41	77	⇓eP	Pn	11 07 49.5	+2.0
PRGV	PARIAGUAN	6.42	91	eP	Pn	11 08 01.1	-0.3
PCRV	Puerto La Cruz	6.54	78	eP	Pn	11 08 04.8	+1.7
BCIP	Isla Barro Col	8.59	272	ePn	Pn	11 08 31.7	+0.6
CELP	Cerrillos	10.14	25	ePn	Pn	11 08 50.7	-1.7
CBYP	Canovanas	10.63	28	ePn	Pn	11 08 57.5	-1.8
JTS	JuntasAbangare	13.69	277	LR	LR	11 15 32.0	
	comp=Z,72nm,20.1s,baz=74,slow=40						
PTGA	Pitinga	14.69	130	Pn	Pn	11 09 52.7	-1.9
	0.6nm,0.3s,baz=312,slow=15,SNR=11						
PTGA				LR	LR	11 15 58.2	
	comp=Z,294nm,18.7s,baz=310,slow=39						
PTGA	Pitinga	14.69	130	ePn	Pn	11 09 52.8	-1.8
ATAH	Atahualpa	17.49	205	P	Pn	11 10 31.7	+0.6
	0.1nm,0.3s,baz=16,slow=7.4,SNR=3.1						
ATAH				LR	LR	11 18 34.2	
	comp=Z,167nm,19.0s,baz=8.1,slow=42						
SAML	Samuel	19.43	156	ePn	Pn	11 10 54.2	0.0
	4.2nm,0.9s						
TEIG	Tepich	20.02	306	P	P	11 10 58.2	-1.1
	8.1nm,1.0s,baz=295,slow=19,SNR=2.7						
LPAZ	La Paz	25.21	173	P	P	11 11 53.4	+0.6
	0.5nm,0.4s,baz=281,slow=9.5,SNR=3.9						
SIV	San Ignacio	26.67	158	P	P	11 12 07.1	+1.7
	3.7nm,0.9s,baz=7.5,slow=9.0,SNR=8.3						
SIV				LR	LR	11 23 14.5	
	comp=Z,194nm,18.0s,baz=355,slow=38						
TKL	Tuckaleechee C	29.02	338	P	P	11 12 25.6	-0.7
	2.2nm,0.7s,baz=162,slow=9.6,SNR=2.6						
WVT	Waverly	31.07	333	eP	P	11 12 44.7	+0.3
	8.9nm,1.1s						
034A	Hebbronville	31.69	308	⇑P	P	11 12 50.6	+0.6
	baz=32						
934A	Benavides	31.83	309	⇑P	P	11 12 52.4	+1.2
	baz=32						
536A	Bastrop	32.11	315	⇑P	P	11 12 53.8	+0.2
	baz=32						
635A	Leesville	32.23	313	⇑P	P	11 12 56.0	+1.4
	baz=32						
933A	Laredo	32.42	309	⇓P	P	11 12 56.8	+0.5
	baz=32						
535A	Dale	32.44	314	⇓P	P	11 12 56.8	+0.3
	baz=33						
833A	Chaparral WMA,	32.87	310	⇓P	P	11 13 01.5	+1.2
	baz=33						
435B	Jarrell	32.89	315	⇓P	P	11 13 00.8	+0.4
	baz=33						
733A	Divot King Ran	32.99	310	⇓P	P	11 13 01.0	-0.4
	baz=33						
534A	Blanco	33.09	313	⇑P	P	11 13 01.5	-0.7
	baz=33						
832A	Faith Ranch, C	33.29	309	⇓P	P	11 13 03.5	-0.4
	baz=33						
633A	Saathoff Ranch	33.29	312	⇓P	P	11 13 03.3	-0.7
	baz=33						
434A	Burnet	33.38	315	⇓P	P	11 13 03.9	-0.9
	baz=34						
BDFB	Brasilia	33.46	137	P	P	11 13 05.9	+0.2
	1.9nm,0.5s,baz=305,slow=12,SNR=3.0						
BDFB				LR	LR	11 28 59.5	
	comp=Z,56nm,19.7s,baz=255,slow=40						
732A	Laxson Ranch,	33.51	310	⇓P	P	11 13 05.5	-0.4
	baz=34						
632A	Uvalde	33.77	311	⇑P	P	11 13 08.0	-0.1
	baz=34,SNR=5.1						
433A	Art	33.93	314	⇑P	P	11 13 09.7	+0.1
	baz=34,SNR=14						
234A	Clairette	33.99	316	⇓P	P	11 13 09.7	-0.3
	baz=34						
333A	Richland Sprin	34.18	315	⇑P	P	11 13 12.0	+0.3
	baz=34,SNR=5.4						
532A	Rocksprings	34.18	312	⇑P	P	11 13 12.1	+0.3
	baz=34,SNR=10						
134A	White-Moore Ra	34.29	317	⇑P	P	11 13 12.2	-0.4
	baz=34						
JCT	Junction City	34.30	313	⇑P	P	11 13 12.8	0.0
	baz=34						
631A	Perdido Creek	34.31	310	⇓P	P	11 13 12.8	-0.1
	baz=34						
432A	Menard	34.51	313	⇓P	P	11 13 15.1	+0.6
	baz=35						
233A	Rising Star	34.52	316	⇓P	P	11 13 14.8	+0.1
	baz=35						
Z34A	Collier Ranch,	34.67	319	⇓P	P	11 13 17.0	+1.1
	baz=35						
531A	Rocksprings	34.67	312	⇓P	P	11 13 16.4	+0.3
	baz=35						
332A	Millersview	34.75	314	⇑P	P	11 13 16.5	-0.1
	baz=35,SNR=7.3						
133A	Hamilton Ranch	34.88	317	⇑P	P	11 13 17.9	+0.2
	baz=35,SNR=8.2						
232A	Coleman	34.96	315	⇓P	P	11 13 18.5	0.0
	baz=35,SNR=8.3						
431A	Sonora	34.99	312	⇓P	P	11 13 19.1	+0.4
	baz=35						
TUL1	Tulsa	35.03	324	⇑P	P	11 13 18.3	-0.7
	baz=35						
Z33A	Whitaker Ranch	35.18	318	⇓P	P	11 13 20.8	+0.5
	baz=35						
331A	San Angelo	35.20	313	⇑P	P	11 13 20.8	+0.2
	baz=35,SNR=6.2						
530A	J-C Ranch, Com	35.25	311	⇓P	P	11 13 21.4	+0.3
	baz=35						
ABTX	Abilene, Hawle	35.38	316	eP	P	11 13 22.7	+0.6
ABTX	Abilene, Hawle	35.38	316	⇓P	P	11 13 22.0	-0.1
	baz=36,SNR=5.4						
X34A	Smith Ranch, M	35.40	320	⇓P	P	11 13 23.1	+0.9
	baz=36						
231A	Bronte	35.46	314	⇓P	P	11 13 22.7	-0.1
	baz=36,SNR=5.4						
Y33A	Hilltop Ranch,	35.53	319	⇑P	P	11 13 23.5	+0.1
	baz=36						
Z32A	Haskell	35.67	317	⇓P	P	11 13 24.8	+0.2
	baz=36,SNR=10.0						
W34A	Bridge Creek,	35.77	321	⇓P	P	11 13 25.4	0.0
	baz=36						
X33A	Lawton	35.78	320	⇑P	P	11 13 25.5	+0.1
	baz=36						
330A	Mertzon	35.79	313	⇓P	P	11 13 25.8	+0.2
	baz=36						
529A	Stev Forest Ra	35.90	310	⇓P	P	11 13 26.9	+0.2
	baz=36						
429A	Davenport Ranc	35.91	311	⇓P	P	11 13 27.0	+0.3
	baz=36						
230A	Sterling City	36.00	314	⇓P	P	11 13 27.8	+0.4
	baz=36						
V34A	Guthrie	36.01	322	⇑P	P	11 13 26.8	-0.5
	baz=36,SNR=5.9						
Y32A	R-V Farms, Ver	36.06	318	⇓P	P	11 13 28.3	+0.4
	baz=36						
628A	Black Gap, Mar	36.10	309	⇑P	P	11 13 29.5	+1.1
	baz=36						
Z31A	Sharp Cattle R	36.13	316	⇓P	P	11 13 28.9	+0.4
	baz=36,SNR=7.7						
W33A	Caddo, Fort Co	36.15	320	⇑P	P	11 13 28.9	+0.3
	baz=36						
X32A	Elmer	36.22	319	⇑P	P	11 13 29.4	+0.2
	baz=36						
130A	Snyder	36.28	315	⇓P	P	11 13 30.2	+0.4
	baz=36						
528A	Cox Ranch, San	36.35	310	⇓P	P	11 13 30.9	+0.4
	baz=36						
329A	Wagon Wheel Ra	36.41	312	⇑P	P	11 13 31.2	+0.2
	baz=36,SNR=5.3						
U34A	Anderson Ranch	36.42	323	⇑P	P	11 13 30.8	-0.1
	baz=36						
V33A	Lossen Ranch,	36.47	321	⇑P	P	11 13 30.9	-0.4
	baz=37,SNR=5.2						
627A	Terlingua Ranc	36.48	308	⇑P	P	11 13 32.1	+0.5
	baz=37						
229A	Bryant Ranch,	36.54	313	⇑P	P	11 13 32.7	+0.6
	baz=37						
428A	Kincaid Ranch,	36.55	311	⇓P	P	11 13 32.7	+0.6
	baz=37,SNR=8.2						
Y31A	Rekieta Farm,	36.59	317	⇓P	P	11 13 33.0	+0.6
	baz=37,SNR=11						
W32A	Sentinel	36.62	320	⇑P	P	11 13 32.8	+0.1
	baz=37						
TXAR	Lajitas Array	36.64	308	P	P	11 13 33.1	+0.2
	0.9nm,0.7s,baz=130,slow=9.5,SNR=15						
TXAR				PcP	PcP	11 15 56.8	+1.0
	0.5nm,0.7s,baz=120,slow=7.4,SNR=4.6						
U33A	Lingo Farm, Me	36.76	322	⇓P	P	11 13 33.0	-0.9
	baz=37						
Z30A	Sanderson Ranc	36.78	316	⇓P	P	11 13 34.3	+0.2
	baz=37,SNR=5.5						
X31A	McDonald Ranch	36.80	318	⇑P	P	11 13 34.1	-0.1
	baz=37						
V32A	Arapaho	36.87	321	⇑P	P	11 13 34.6	-0.2
	baz=37						
129A	Stewart Farms,	36.94	314	⇓P	P	11 13 35.7	+0.3
	baz=37						
Y30A	Stafford Cattl	36.96	317	⇓P	P	11 13 36.0	+0.3
	baz=37,SNR=8.3						
328A	Wristen Ranch,	36.97	312	⇓P	P	11 13 36.2	+0.5
	baz=37						
527A	Woodward Ranch	36.97	309	⇑P	P	11 13 36.1	+0.3
	baz=37,SNR=6.7						
626A	Big Bend Ranch	37.10	308	⇑P	P	11 13 37.3	+0.4
	baz=37,SNR=7.7						
W31A	Holland Ranch,	37.11	319	⇓P	P	11 13 36.1	-0.8
	baz=37						
427A	Hayter Ranch,	37.15	311	⇓P	P	11 13 37.4	+0.2
	baz=37,SNR=11						
Z29A	Hungry Hill Ra	37.17	315	⇓P	P	11 13 37.7	+0.3
	baz=37,SNR=8.1						
228A	UT Block 9, Go	37.19	313	⇑P	P	11 13 37.7	+0.1
	baz=37						
U32A	Winter Ranch,	37.27	321	⇑P	P	11 13 38.2	0.0
	baz=37						
X30A	Coker Ranch, T	37.28	317	⇑P	P	11 13 38.7	+0.4
	baz=37,SNR=9.4						
526A	Mary Lane Ranc	37.30	309	⇓P	P	11 13 39.1	+0.5
	baz=37,SNR=7.3						
128A	Castleberry Fa	37.37	314	⇓P	P	11 13 39.4	+0.2
	baz=38,SNR=8.5						
V31A	Spring Creek L	37.41	320	⇑P	P	11 13 39.4	0.0
	baz=38						
Y29A	Porterfield Fa	37.48	316	⇓P	P	11 13 40.4	+0.3
	baz=38,SNR=6.3						
CPUP	Villa Florida	37.51	159	LR	LR	11 30 33.6	
	comp=Z,90nm,20.4s,baz=319,slow=39						
426A	McDonald Obser	37.53	310	⇓P	P	11 13 41.1	+0.4
	baz=38,SNR=5.9						
227A	Bennet, Jal	37.64	312	⇓P	P	11 13 42.0	+0.6
	baz=38						
Z28A	Tucker Farm, M	37.66	315	⇑P	P	11 13 42.1	+0.5
	baz=38						
KSU1	Kansas State U	37.74	327	eP	P	11 13 42.0	-0.1
	8.8nm,0.8s						
KSU1	Kansas State U	37.74	327	⇓P	P	11 13 41.4	-0.7
	baz=38						
JFWS	Jewell Farm	37.79	337	eP	P	11 13 42.6	+0.1
	13nm,0.8s						
X29A	Tulia	37.84	317	⇑P	P	11 13 43.8	+0.7
	baz=38						
Y28A	McKinney Farm,	37.91	316	⇑P	P	11 13 43.7	0.0
	baz=38,SNR=6.2						
R33A	Olander Ranch,	37.95	325	⇑P	P	11 13 43.6	-0.3
	baz=38						
127A	Arkansas Junct	38.03	313	⇑P	P	11 13 45.0	+0.2
	baz=38						
AMTX	Amarillo	38.07	317	⇑P	P	11 13 45.8	+0.7
	baz=38						
T31A	Randall Ranch,	38.15	322	⇓P	P	11 13 45.5	-0.1
	baz=38						
W29A	Amraillo	38.19	318	⇓P	P	11 13 46.4	+0.3
	baz=38						
X28A	Dimmitt	38.21	316	⇑P	P	11 13 46.6	+0.3
	baz=38						
Z27A	Tatum	38.26	314	⇓P	P	11 13 46.8	+0.1
	baz=38,SNR=7.1						
MSTX	Muleshoe	38.30	315	eP	P	11 13 47.1	+0.1
MSTX	Muleshoe	38.30	315	⇓P	P	11 13 47.0	0.0
	baz=38,SNR=5.8						
226B	Tecolote Peak,	38.32	312	⇑P	P	11 13 47.7	+0.6
	baz=38						
425A	Indio Mountain	38.32	309	⇑P	P	11 13 47.9	+0.6
	baz=38,SNR=6.5						
Q33A	Connelly Farm,	38.34	326	⇓P	P	11 13 46.9	-0.3
	baz=38						
U30A	WK&E Inc. Balk	38.39	320	⇑P	P	11 13 47.7	-0.1
	baz=38						
R32A	Long Quarter,	38.45	324	⇓P	P	11 13 47.7	-0.4
	baz=39						
126A	Clayton Basin,	38.49	313	⇑P	P	11 13 49.7	+1.1
	baz=39						
Y27A	Causey	38.53	315	⇑P	P	11 13 49.1	+0.1
	baz=39						
V29A	Stinnett	38.55	319	⇑P	P	11 13 50.3	+1.2
	baz=39						
P33A	Williams Farm,	38.58	326	⇑P	P	11 13 49.2	0.0
	baz=39						
Q32A	Meitler Ranch,	38.75	325	⇓P	P	11 13 50.2	-0.4
	baz=39						
Z26A	Caprock	38.78	314	⇑P	P	11 13 51.1	0.0
	baz=39,SNR=7.4						
225A	Deer Hill, Car	38.82	311	⇑P	P	11 13 52.1	+0.6
	baz=39,SNR=9.6						
R31A	Burdett	38.83	323	⇓P	P	11 13 50.9	-0.5
	baz=39						
X27A	F and S Farms,	38.90	316	⇓P	P	11 13 52.4	+0.3
	baz=39						
V28A	Channing	38.94	318	⇑P	P	11 13 52.4	+0.1
	baz=39						
125A	Gardner Draw,	38.97	312	⇓P	P	11 13 52.9	+0.3
	baz=39,SNR=16						
S30A	Montezuma	38.97	322	⇓P	P	11 13 52.3	-0.3
	baz=39						
Y26A	Elida	39.02	315	⇑P	P	11 13 53.8	+0.7
	baz=39						
MNTX	Cornudas Mount	39.04	310	eP	P	11 13 53.6	+0.4
	4.1nm,0.8s						
W27A	Bowe Ranch, En	39.11	317	⇑P	P	11 13 54.1	+0.3
	baz=39						
P32A	Huiting Farm,	39.21	326	⇓P	P	11 13 53.8	-0.6
	baz=39						
Q31A	Ellis	39.23	324	⇑P	P	11 13 54.2	-0.5
	baz=39						
R30A	Dighton	39.28	323	⇓P	P	11 13 54.7	-0.4
	baz=39						
U28A	Mallet	39.31	319	⇑P	P	11 13 55.3	-0.1
	baz=39						
Z25A	Roswell	39.32	313	⇑P	P	11 13 56.1	+0.5
	baz=39,SNR=7.4						
X26A	CR and CF Fran	39.34	315	⇑P	P	11 13 56.4	+0.6
	baz=40						
V27A	Dan Oppiter Fa	39.35	318	⇑P	P	11 13 56.0	+0.2
	baz=40						
S29A	Ulysses	39.36	321	⇑P	P	11 13 56.0	+0.2
	baz=40						
O32A	Brockman Farm,	39.47	327	⇑P	P	11 13 56.0	-0.7
	baz=40						
P31A	Stockton	39.57	325	⇑P	P	11 13 57.2	-0.3
	baz=40						
W26A	Owens Ranch, T	39.60	316	⇑P	P	11 13 58.5	+0.6
	baz=40						

T28A	Walsh	39.68	320	⇓P	P	11 13 58.9	+0.3
	baz=40						
Q30A	Quinter	39.70	324	⇓P	P	11 13 58.4	-0.2
	baz=40						
U27A	Thompson Grove	39.73	318	⇓P	P	11 13 59.4	+0.5
	baz=40						
Z24A	Sheeppen Canyo	39.81	313	⇑P	P	11 14 00.7	+0.9
	baz=40,SNR=5.7						
S28A	Manter	39.83	321	⇓P	P	11 14 00.1	+0.3
	baz=40						
V26A	Tequesquite Ra	40.01	317	⇓P	P	11 14 02.0	+0.7
	baz=40						
T27A	Campo	40.03	319	⇑P	P	11 14 01.8	+0.3
	baz=40						
Q29A	Oakley	40.09	323	⇓P	P	11 14 01.9	0.0
	baz=40						
W25A	X Bar L Ranch,	40.15	316	⇓P	P	11 14 02.9	+0.4
	baz=40,SNR=7.0						
Y24A	Capitan	40.16	313	⇑P	P	11 14 03.9	+1.2
	baz=40,SNR=14						
BGNE	Belgrade	40.22	328	⇑P	P	11 14 02.7	-0.1
	baz=40						
R28A	Tribune	40.24	322	⇓P	P	11 14 03.0	-0.1
	baz=40						
U26A	Atchley Ranch,	40.32	318	⇓P	P	11 14 04.8	+0.9
	baz=40,SNR=7.5						
CFAA	Coronel Fontan	40.37	176	P	P	11 14 03.4	-0.8
	0.1nm,0.3s,baz=180,slow=20,SNR=2.4						
V25A	Rancho No Teng	40.59	316	⇑P	P	11 14 06.7	+0.5
	baz=41						
Y23A	Lovelace Mesa,	40.61	313	⇓P	P	11 14 07.4	+1.0
	baz=41,SNR=7.7						
M31A	Lambtecht Ranc	40.61	327	⇓P	P	11 14 05.8	-0.3
	baz=41						
T26A	Comanche Natio	40.66	319	⇓P	P	11 14 07.3	+0.5
	baz=41						
Q28A	Sharon Springs	40.71	322	⇑P	P	11 14 07.2	+0.2
	baz=41						
U25A	Circle Dot Ran	40.76	317	⇑P	P	11 14 08.7	+1.1
	baz=41						
W24A	Lazy 6 Ranch,	40.80	315	⇑P	P	11 14 09.4	+1.4
	baz=41						
R27A	Eads	40.82	321	⇑P	P	11 14 08.5	+0.5
	baz=41						
S26A	Kim	40.85	320	⇓P	P	11 14 09.1	+0.9
	baz=41						
Z22A	Elephant Butte	40.95	312	⇑P	P	11 14 10.2	+1.1
	baz=41,SNR=6.5						
V24A	Rampart Ranch,	40.98	316	⇓P	P	11 14 11.4	+1.9
	baz=41						
P28A	Saint Francis	40.99	323	⇑P	P	11 14 09.5	+0.2
	baz=41						
L31A	Butterfield Fa	41.13	328	⇑P	P	11 14 09.7	-0.7
	baz=41						
T25A	Trinidad	41.18	318	⇑P	P	11 14 11.9	+0.8
	baz=41						
121A	Cookes Peak, D	41.23	310	eP	P	11 14 12.3	+0.8
	5.7nm,0.9s						
121A	Cookes Peak, D	41.23	310	⇑P	P	11 14 13.1	+1.5
	baz=41,SNR=5.4						
R26A	Arlington	41.23	320	⇓P	P	11 14 11.9	+0.5
	baz=41						
W23A	Werner Place,	41.30	315	⇓P	P	11 14 13.1	+1.0
	baz=41						
U24A	Moreno Valley	41.35	317	⇓P	P	11 14 13.6	+1.0
	baz=42						
ANMO	Albuquerque	41.41	314	eP	P	11 14 13.9	+1.0
	35nm,2.7s						
L30A	Spencer Herefo	41.43	327	⇑P	P	11 14 13.2	+0.3
	baz=42,SNR=10						
S25A	Robets Cordova	41.49	319	⇑P	P	11 14 14.7	+1.1
	baz=42,SNR=6.0						
N28A	Pribbeno Ranch	41.59	325	⇑P	P	11 14 13.4	-0.8
	baz=42						
V23A	Ortiz Mt. (NFS	41.62	315	⇓P	P	11 14 15.9	+1.2
	baz=42						
LAZ	Ladron	41.62	313	eP	P	11 14 15.4	+0.6
	2.5nm,1.0s						
Q26A	Hugo	41.65	321	⇓P	P	11 14 15.3	+0.4
	baz=42						
R25A	Fountain Ranch	41.67	320	⇑P	P	11 14 15.9	+0.8
	baz=42						
T24B	San Luis	41.78	318	⇑P	P	11 14 18.0	+1.9
	baz=42,SNR=7.1						
O27A	Beecher Island	41.81	323	⇑P	P	11 14 16.0	-0.1
	baz=42						
K30A	Basset	41.89	328	⇓P	P	11 14 16.4	-0.2
	baz=42,SNR=11						
319A	Douglas	41.89	308	⇑P	P	11 14 18.8	+1.9
	baz=42						
U23A	El Rito	41.93	316	⇓P	P	11 14 19.1	+1.9
	baz=42,SNR=11						
P26A	Davis Ranch, A	41.94	322	⇑P	P	11 14 17.7	+0.5
	baz=42						
S24A	Houchin Ranch,	41.99	318	⇓P	P	11 14 19.2	+1.4
	baz=42,SNR=6.3						
Q25A	Bedland, Calha	42.10	321	⇓P	P	11 14 19.7	+1.1
	baz=42						
T23A	Casias Ranch,	42.20	317	⇓P	P	11 14 21.3	+1.7
	baz=42,SNR=8.8						
V22A	San Miguel Ran	42.21	315	⇑P	P	11 14 21.6	+2.0
	baz=42						
SDCO	Great Sand Dun	42.24	318	eP	P	11 14 20.7	+0.9
	8.9nm,1.0s						
R24A	Sanders Place,	42.25	319	⇓P	P	11 14 21.2	+1.4
	baz=42,SNR=6.4						
J30A	Dallas	42.29	329	⇓P	P	11 14 19.7	-0.2
	baz=42						
K29A	Lazy Trails An	42.32	328	⇓P	P	11 14 19.9	-0.3
	baz=42						
O26A	Horse Wrangler	42.34	323	⇑P	P	11 14 20.5	+0.1
	baz=42						
P25A	Willow Gulch B	42.41	321	⇑P	P	11 14 22.0	+1.0
	baz=42						
U22A	Llaves	42.41	316	⇓P	P	11 14 22.2	+1.0
	baz=42						
S23A	Nye Farm, Mont	42.55	318	⇑P	P	11 14 23.5	+1.2
	baz=43						
R23A	Moffat	42.70	319	⇓P	P	11 14 24.9	+1.4
	baz=43,SNR=10						
J29A	Okreek	42.77	328	⇓P	P	11 14 23.3	-0.4
	baz=43,SNR=11						
BRSD	Miller	42.84	331	eP	P	11 14 24.4	+0.2
BRSD	Miller	42.84	331	⇓P	P	11 14 24.1	-0.1
	baz=43						
K28A	Ten Mile Ranch	42.84	327	⇑P	P	11 14 24.0	-0.4
	baz=43,SNR=7.1						
M26A	McRoberts Ranc	43.01	324	⇓P	P	11 14 26.2	+0.4
	baz=43						
S22A	4UR Ranch, Cre	43.12	317	⇑P	P	11 14 28.3	+1.3
	baz=43,SNR=7.4						
I29A	Vivian Onida	43.20	329	⇑P	P	11 14 26.8	-0.4
	baz=43						
J28A	Allard Ranch,	43.26	328	⇓P	P	11 14 27.1	-0.6
	baz=43						
K27A	Flueckinger Fa	43.31	326	⇑P	P	11 14 28.3	0.0
	baz=43,SNR=5.4						
P23A	Jefferson	43.38	320	⇓P	P	11 14 29.1	0.0
	baz=44						
G30A	Faulkton	43.43	331	⇑P	P	11 14 29.2	+0.2
	baz=44						
ISCO	Idaho Springs	43.48	321	eP	P	11 14 30.9	+1.0
	34nm,2.5s						
ISCO	Idaho Springs	43.48	321	⇓P	P	11 14 30.5	+0.6
	baz=44						
M25A	Palm-Egli Farm	43.52	324	⇑P	P	11 14 30.3	+0.3
	baz=44						
J27A	Elkhorn Farm,	43.56	327	⇑P	P	11 14 29.8	-0.3
	baz=44						
H29A	Onida	43.59	330	⇓P	P	11 14 30.3	0.0
	baz=44						
I28A	Midland	43.63	328	⇑P	P	11 14 30.2	-0.5
	baz=44,SNR=6.9						
X18A	Snowflake	43.74	312	⇑P	P	11 14 33.0	+1.1
	baz=44,SNR=5.9						
K26A	Motz Farm, Whi	43.83	326	⇑P	P	11 14 33.4	+1.0
	baz=44						
O23A	Lake Granby, G	43.91	321	⇓P	P	11 14 34.4	+1.0
	baz=44						
L25A	Engebretsen Ra	43.92	324	⇓P	P	11 14 33.4	+0.2
	baz=44						
MVCO	Mesa Verde	43.97	316	⇑P	P	11 14 34.5	+0.7
	baz=44						
SMCO	Snowmass	43.99	319	eP	P	11 14 34.7	+0.6
	14nm,1.3s						
M24A	Cheyenne	44.00	323	⇓P	P	11 14 33.4	-0.5
	baz=44						
H28A	Mission Ridge	44.02	329	⇑P	P	11 14 33.3	-0.6
	baz=44,SNR=5.2						
P22A	Eagle	44.09	320	⇓P	P	11 14 35.4	+0.8
	baz=44,SNR=5.2						
I27A	Quinn	44.14	328	⇓P	P	11 14 34.4	-0.4
	baz=44						
K25A	Mack Ranch, Ha	44.16	325	⇑P	P	11 14 35.4	+0.3
	baz=44						
J26A	Sides Ranch, S	44.17	326	⇓P	P	11 14 35.2	+0.1
	baz=44,SNR=5.3						
G28A	Parade	44.26	330	⇓P	P	11 14 35.3	-0.4
	baz=44,SNR=6.2						
O22A	Kremmling	44.27	321	⇓P	P	11 14 36.8	+0.5
	baz=44,SNR=13						
L24A	Wheatland	44.41	324	⇑P	P	11 14 36.5	-0.7
	baz=44						
AGMN	Agassiz Nation	44.45	337	eP	P	11 14 37.2	0.0
	8.2nm,0.9s						
AGMN	Agassiz Nation	44.45	337	⇑P	P	11 14 37.0	-0.2
	baz=45,SNR=5.9						
PV01	Paradox Valley	44.49	317	eP	P	11 14 39.0	+1.1
	557nm,0.9s						
M23A	Laramie	44.53	323	⇓P	P	11 14 38.5	+0.3
	baz=45						
H27A	Howes	44.54	328	⇑P	P	11 14 37.6	-0.4
	baz=45						
I26A	New Underwood	44.54	327	⇓P	P	11 14 37.7	-0.3
	baz=45						
N22A	Wattenberg Ran	44.59	321	⇑P	P	11 14 39.8	+1.1
	baz=45						
J25A	Sunshine Ranch	44.63	326	⇑P	P	11 14 40.4	+1.6
	baz=45						
E29A	Napoleon	44.73	332	⇑P	P	11 14 38.8	-0.7
	baz=45						
D30A	Buchanan	44.73	333	⇑P	P	11 14 38.9	-0.6
	baz=45,SNR=6.5						
F28A	McLaughlin	44.75	331	⇑P	P	11 14 39.1	-0.5
	baz=45						
X16A	Lo Mia Camp, P	44.80	311	⇑P	P	11 14 41.4	+1.0
	baz=45,SNR=5.5						
H26A	Fairpoint	44.89	328	⇓P	P	11 14 40.4	-0.4
	baz=45						
214A	Organ Pipe Nat	44.89	307	⇓P	P	11 14 42.0	+1.0
	baz=45						
L23A	Garrett	44.91	323	⇓P	P	11 14 41.4	+0.2
	baz=45						
G27A	Dupree	44.98	329	⇑P	P	11 14 41.3	-0.2
	baz=45,SNR=10						
I25A	Rochford	45.00	327	⇓P	P	11 14 42.0	+0.2
	baz=45						
M22A	Cedar Creek Ra	45.02	322	⇓P	P	11 14 40.9	-1.3
	baz=45						
C30A	Mose, Pekin	45.07	334	⇓P	P	11 14 41.4	-0.7
	baz=45						
J24A	Dixon Ranch, L	45.07	325	⇓P	P	11 14 42.3	0.0
	baz=45						
D29A	Pettibone, Tap	45.08	333	⇓P	P	11 14 41.7	-0.5
	baz=45						
WUAZ	Wupatki	45.22	312	eP	P	11 14 45.5	+1.8
WUAZ	Wupatki	45.22	312	⇑P	P	11 14 45.2	+1.5
	baz=45,SNR=7.3						
E28A	Huff	45.23	331	⇓P	P	11 14 43.3	-0.1
	baz=45						
K23A	Bowen Ranch, D	45.26	324	⇓P	P	11 14 43.5	-0.4
	baz=45						
G26A	Maurine	45.26	329	⇓P	P	11 14 42.7	-1.0
	baz=45						
H25A	Fruitdale	45.33	327	⇑P	P	11 14 43.7	-0.6
	baz=45						
O20A	White River Ci	45.34	319	⇓P	P	11 14 45.7	+1.1
	baz=46						
F27A	Lemmon	45.37	330	⇑P	P	11 14 44.7	+0.1
	baz=46,SNR=14						
B30A	Myrvik Farm, E	45.58	335	⇑P	P	11 14 45.8	-0.4
	baz=46						
G25A	Newell	45.62	328	⇓P	P	11 14 46.5	-0.1
	baz=46						
F26A	Lodgepole	45.68	329	⇓P	P	11 14 46.8	-0.2
	baz=46,SNR=6.2						
K22A	Casper	45.72	323	⇑P	P	11 14 48.2	+0.6
	baz=46						
N20A	Spence Gulch,	45.73	320	⇓P	P	11 14 49.2	+1.4
	baz=46						
Y14A	Wickenburg	45.79	309	⇓P	P	11 14 49.3	+1.2
	baz=46						
H24A	Dirks Ranch, A	45.92	327	⇑P	P	11 14 48.1	-0.9
	baz=46						
SCHQ	Schefferville	45.94	3	P	P	11 14 48.7	-0.2
	1.8nm,0.5s,baz=192,slow=5.5,SNR=5.9						
113A	Mohawk Valley,	45.94	307	⇓P	P	11 14 49.7	+0.5
	baz=46						
A30A	Hoffart Farm,	45.95	335	⇓P	P	11 14 48.6	-0.5
	baz=46,SNR=6.9						
E26A	Carlson Angus	46.01	330	⇓P	P	11 14 49.9	+0.3
	baz=46						
B29A	Wagenman Farm,	46.03	334	⇑P	P	11 14 49.4	-0.3
	baz=46						
ULM	Lac du Bonnet	46.05	338	P	P	11 14 49.1	-0.6
	9.0nm,0.6s,baz=147,slow=7.1,SNR=17						
ULM				LR	LR	11 34 58.5	
	comp=Z,41nm,18.0s,baz=1.5,slow=37						
K21A	Alcova	46.14	323	⇑P	P	11 14 51.5	+0.5
	baz=46,SNR=6.3						
J22A	Midwest	46.15	324	⇑P	P	11 14 51.0	0.0
	baz=46						
G24A	Alzada	46.23	328	⇑P	P	11 14 51.2	-0.2
	baz=46						
U15A	North Rim	46.29	313	⇓P	P	11 14 53.2	+0.9
	baz=46						
SRU	San Rafael	46.30	317	eP	P	11 14 53.8	+1.6
	4.7nm,0.9s						
A29A	Manning Farm,	46.33	335	⇑P	P	11 14 51.4	-0.6
	baz=46						
D26A	Manning	46.39	331	⇑P	P	11 14 52.7	+0.1
	baz=46,SNR=5.5						
C27A	Sayler Ranch,	46.43	332	⇑P	P	11 14 53.2	+0.3
	baz=46						
I22A	9 Mile Ranch,	46.45	325	⇑P	P	11 14 53.6	+0.3
	baz=47						
B28A	Dugan Ranch, T	46.46	333	⇑P	P	11 14 53.1	+0.1
	baz=47						
E25A	Miller Ranch,	46.50	329	⇓P	P	11 14 53.5	0.0
	baz=47,SNR=6.5						
F24A	Ekalaka	46.59	328	⇑P	P	11 14 53.8	-0.5
	baz=47						
G23A	Biddle	46.67	327	⇓P	P	11 14 54.6	-0.2
	baz=47						
J21A	Lysite	46.68	324	⇓P	P	11 14 55.3	+0.2
	baz=47						
C26A	Wahner Farm, P	46.79	332	⇑P	P	11 14 56.0	+0.2
	baz=47						
PDMCI	Parker Dam,Lak	46.80	309	⇑P	P	11 14 57.4	+1.4
	baz=47						
H22A	Clearmont	46.81	326	⇑P	P	11 14 56.1	+0.1
	baz=47						
B27A	Peters Farms,	46.83	333	⇑P	P	11 14 56.4	+0.5
	baz=47						
I21A	Big Trails, Te	46.87	324	⇓P	P	11 14 56.5	0.0
	baz=47						
GLA	Glamis	46.87	307	⇑P	P	11 14 58.3	+1.6
	baz=47						
Y12C	Blythe	46.89	308	⇑P	P	11 14 58.4	+1.7
	baz=47						
D25A	Fairfield	46.91	330	⇑P	P	11 14 56.9	+0.3
	baz=47						
W13A	Hualapai Mount	46.92	310	⇓P	P	11 14 58.9	+1.7
	baz=47						
F23A	Volborg	47.01	327	⇑P	P	11 14 57.2	-0.3
	baz=47,SNR=5.4						
J20A	Shoshoni	47.06	323	⇓P	P	11 14 58.7	+0.7
	baz=47						
MVU	Marysvale	47.17	315	eP	P	11 15 00.6	+1.5
	4.3nm,0.9s						
G22A	Birney	47.17	326	⇑P	P	11 14 59.0	+0.2
	baz=47						
H21A	Big Horn, Sher	47.22	325	⇑P	P	11 14 59.6	+0.4
	baz=47						
B26A	Jensen Ranch,	47.25	332	⇓P	P	11 14 59.4	0.0
	baz=47						
C25A	Freed Ranch, W	47.27	331	⇓P	P	11 14 60.0	+0.5
	baz=47						
D24A	Glendive	47.38	329	⇑P	P	11 15 00.7	+0.4
	baz=48						
I20A	Worland	47.43	324	⇑P	P	11 15 00.9	0.0
	baz=48						
DAU	Daniels Canyon	47.45	318	eP	P	11 15 02.8	+1.5
MPU	Maple Canyon	47.50	317	eP	P	11 15 02.8	+1.2
F22A	Rosebud	47.51	327	⇓P	P	11 15 01.6	+0.3
	baz=48						
IRM	Iron Mountain	47.52	309	⇓P	P	11 15 03.4	+1.7
	baz=48						
A26A	Wade Farm, Ken	47.54	333	⇓P	P	11 15 02.0	+0.4
	baz=48						
CCUT	Cedar City	47.55	314	eP	P	11 15 03.6	+1.5
	44nm,2.9s						
J19A	Crowheart	47.58	323	⇓P	P	11 15 02.5	+0.3
	baz=48,SNR=9.0						
BW06	Boulder Array	47.61	322	eP	P	11 15 02.4	-0.1
	6.9nm,1.0s						
PDAR	Pinedale Array	47.61	322	P	P	11 15 02.6	+0.2
	4.2nm,0.9s,baz=123,slow=9.0,SNR=30						
PDAR				PcP	PcP	11 16 31.1	-0.8
	0.6nm,0.7s,baz=131,slow=2.5,SNR=2.4						
B25A	Knox Farm, Ray	47.61	331	⇓P	P	11 15 02.7	+0.6
	baz=48						
JLU	Jordanelle	47.67	318	eP	P	11 15 04.6	+1.6
H20A	Greybull	47.68	325	⇓P	P	11 15 02.9	+0.1
	baz=48						
G21A	Lodge Grass	47.68	326	⇓P	P	11 15 02.7	-0.1
	baz=48						
E22A	Miles City	47.77	328	⇓P	P	11 15 03.3	-0.1
	baz=48						
D23A	Lindsay	47.87	329	⇑P	P	11 15 04.2	+0.1
	baz=48						
CTU	Camp Tracy	47.91	318	eP	P	11 15 04.7	-0.1
	4.4nm,0.8s						
I19A	Meeteetse	47.99	323	⇑P	P	11 15 06.0	+0.6
	baz=48,SNR=8.8						
A25A	Svangstu Ranch	48.06	332	⇑P	P	11 15 06.0	+0.4
	baz=48						
MONP	Monument Peak	48.08	307	⇓P	P	11 15 07.9	+1.7
	baz=48						
BELC	Belle Mtn. Jos	48.12	308	⇓P	P	11 15 08.1	+1.7
	baz=48						
G20A	Bridger	48.24	325	⇑P	P	11 15 06.9	-0.2
	baz=48,SNR=7.6						
DGMT	Dagmar	48.24	331	eP	P	11 15 07.9	+0.9
	15nm,0.8s						
DGMT	Dagmar	48.24	331	⇑P	P	11 15 07.4	+0.3
	baz=48,SNR=5.8						
HWUT	Hardware Ranch	48.25	319	eP	P	11 15 08.4	+1.0
	78nm,3.0s						
C23A	Lambert	48.27	330	⇓P	P	11 15 07.7	+0.4
	baz=48,SNR=6.4						
D22A	Cohagen	48.35	328	⇓P	P	11 15 08.7	+0.8
	baz=48,SNR=8.4						
H19A	Powell	48.35	324	⇑P	P	11 15 08.5	+0.5
	baz=48						
DUG	Dugway	48.38	317	eP	P	11 15 09.5	+1.2
	2.8nm,0.8s						
DUG	Dugway	48.38	317	⇓P	P	11 15 09.9	+1.6
	baz=48						
A24A	Westby	48.47	331	⇓P	P	11 15 09.3	+0.6
	baz=49,SNR=7.2						
F20A	Billings	48.55	326	⇑P	P	11 15 09.7	+0.2
	baz=49,SNR=7.4						
TUQ	Turquoise Moun	48.59	310	⇓P	P	11 15 11.3	+1.4
	baz=49						
C22A	Vida	48.59	329	⇓P	P	11 15 10.1	+0.5
	baz=49,SNR=9.1						
B23A	Brockton	48.63	330	⇑P	P	11 15 10.9	+0.9
	baz=49,SNR=8.9						
HEC	Hector,Ludlow	48.67	309	⇑P	P	11 15 11.8	+1.2
	baz=49						
LOHW	Long Hollow	48.72	322	eP	P	11 15 11.8	+0.8
D21A	La Casta Ranch	48.72	328	⇑P	P	11 15 11.5	+0.8
	baz=49,SNR=7.6						
REDW	Red Top Meadow	48.73	322	eP	P	11 15 12.1	+1.0
H18A	Shoshone NF, C	48.75	324	⇓P	P	11 15 11.4	+0.2
	baz=49						
BGU	Big Grassy Mou	48.87	318	eP	P	11 15 13.1	+1.0
	2.4nm,0.7s						
MOOW	Moose Ponds	48.88	322	eP	P	11 15 12.8	+0.7
A23A	Redstone	48.91	331	⇑P	P	11 15 13.2	+1.1
	baz=49,SNR=6.8						
E20A	Meyer Farm, Mu	48.98	327	⇑P	P	11 15 13.3	+0.6
	baz=49,SNR=20						
FXWY	Fox Creek	48.99	322	eP	P	11 15 13.8	+0.8
	3.6nm,0.8s						
B22A	Reddig Ranch S	49.01	330	⇑P	P	11 15 13.5	+0.6
	baz=49						
SHOC	Shoshone	49.03	310	⇑P	P	11 15 14.6	+1.3
	baz=49						
F19A	Roth Farm, Mol	49.03	325	⇓P	P	11 15 13.8	+0.6
	baz=49						
IMW	Indian Meadow	49.07	322	eP	P	11 15 14.6	+0.8
HVU	Hansel Valley	49.12	319	eP	P	11 15 14.9	+0.9
	20nm,1.6s						
GSC	Goldstone	49.21	309	eP	P	11 15 15.6	+0.9
GSC	Goldstone	49.21	309	⇑P	P	11 15 15.9	+1.2
	baz=49						
C21A	Desert Coulee	49.26	329	⇑P	P	11 15 15.8	+1.0
	baz=49						
E19A	Rath Farm, Rou	49.31	326	⇑P	P	11 15 15.7	+0.4
	baz=49,SNR=6.5						
D20A	Manuel Ranch,	49.34	327	⇑P	P	11 15 16.0	+0.5
	baz=50,SNR=11						
PLCA	Paso Flores	49.39	179	P	P	11 15 15.6	-0.3
	1.8nm,0.5s,baz=351,slow=10.0,SNR=4.0						
A22A	Carney Farms,	49.44	330	⇓P	P	11 15 16.9	+0.8
	baz=50,SNR=14						
R11A	Troy Canyon, C	49.48	314	eP	P	11 15 18.0	+1.1
	43nm,2.8s						
R11A	Troy Canyon, C	49.48	314	⇑P	P	11 15 17.9	+1.1
	baz=50						
BFSC	Mount Baldy Ra	49.50	308	⇑P	P	11 15 17.8	+0.8
	baz=50						
YMR	Madison River	49.52	323	eP	P	11 15 19.4	+2.3
	11nm,1.2s						
C20A	Veseth Ranch,	49.66	328	⇑P	P	11 15 18.2	+0.3
	baz=50,SNR=7.5						
FURC	Furnace Creek,	49.67	311	⇑P	P	11 15 19.7	+1.6
	baz=50						
D19A	Cripps Ranch,	49.79	327	⇓P	P	11 15 19.6	+0.7
	baz=50,SNR=13						
QLMT	Earthquake Lak	49.88	323	eP	P	11 15 21.9	+2.1
LRMC	Laurel Mountai	49.94	309	⇑P	P	11 15 21.5	+1.1
	baz=50						
EDW2	Edwards Air Fo	49.97	308	⇓P	P	11 15 21.0	+0.5
	baz=50						
C19A	Slack Wire Ran	50.23	327	⇓P	P	11 15 22.4	+0.1
	baz=50,SNR=6.8						
A20A	Cobblestone Ra	50.36	329	⇑P	P	11 15 23.9	+0.7
	baz=50,SNR=7.7						
BOZ	Bozeman (W)	50.45	324	eP	P	11 15 25.0	+0.9
	6.4nm,1.2s						
MCMT	McKenzie Canyo	50.73	322	eP	P	11 15 27.9	+1.5
	1.4nm,0.8s						
EGMT	Eagleton	50.78	327	eP	P	11 15 27.6	+1.2
	9.1nm,0.9s						
EGMT	Eagleton	50.78	327	⇑P	P	11 15 26.9	+0.4
	baz=51,SNR=5.1						
A19A	Klindworth Far	50.81	329	⇑P	P	11 15 26.8	+0.1
	baz=51						
DLMT	Dillon	50.86	323	eP	P	11 15 28.3	+1.1
HLID	Hailey	51.05	320	eP	P	11 15 30.2	+1.6
	2.5nm,0.9s						
HLID	Hailey	51.05	320	⇓P	P	11 15 29.8	+1.1
	baz=51						
VES	Vestal, Richgr	51.14	309	⇑P	P	11 15 30.3	+1.1
	baz=51						
HRY	Holter Researc	51.16	325	eP	P	11 15 30.3	+1.0
NVAR	Mina Array Bea	51.47	313	P	P	11 15 32.2	+0.3
	1.2nm,0.8s,baz=122,slow=7.2,SNR=9.4						
NVAR				PcP	PcP	11 16 46.4	+0.3
	0.6nm,0.7s,baz=133,slow=4.0,SNR=4.7						
FFC	Flin Flon	51.87	338	eP	P	11 15 34.1	-0.3
SWMT	Swartz Lake	52.84	325	eP	P	11 15 43.2	+1.4
YBMT	Yellow Bay	53.03	325	eP	P	11 15 43.9	+0.6
JTMT	Jette	53.12	325	eP	P	11 15 44.9	+0.9
WVOR	Wild Horse Val	53.30	317	eP	P	11 15 46.4	+1.1
BSMT	Bassoo Peak	53.47	325	eP	P	11 15 47.6	+1.1
F10A	Beach Ranch, E	53.97	322	eP	P	11 15 50.5	+0.3
	78nm,2.8s						
G08A	Pilot Rock	54.74	320	eP	P	11 15 56.5	+0.7
	6.1nm,1.1s						
E09A	Wood Farm, Sta	54.79	322	eP	P	11 15 57.0	+1.0
NEW	Newport	55.02	324	eP	P	11 15 57.6	-0.2
NEW	Newport	55.02	324	⇓P	P	11 15 58.0	+0.3
	baz=55						
M04C	Macdoel	55.24	315	⇑P	P	11 16 00.4	+0.9
	baz=55						
J05D	Fort Rock, OR	55.39	317	⇑P	P	11 16 01.5	+0.9
	baz=56						
EDM	Edmonton	55.74	331	eP	P	11 16 01.7	-1.1
B08A	Colville Reser	56.36	323	eP	P	11 16 07.6	+0.3

I04A	Tendick Farm, baz=56	56.38	317	⇑P	P	11 16 08.7	+1.3
YKA	Yellowknife Ar 1.6nm,0.7s,baz=126,slow=7.1,SNR=40	62.02	339	P	P	11 16 45.4	-0.7
DBIC	Dimbokro 2.7nm,0.9s,baz=154,slow=8.7,SNR=2.8	65.64	87	P	P	11 17 10.1	-0.8
DLBC	Dease Lake	66.46	331	eP	P	11 17 15.8	+0.4
SUMG	Summit 4.3nm,0.9s	66.60	10	iP	P	11 17 16.2	-0.3
TOA0	Torodi Ar. Sit	71.41	79	eP	P	11 17 45.9	-1.1
TORD	Torodi Ar. Bea 2.2nm,0.7s,baz=290,slow=6.6,SNR=20	71.41	79	P	P	11 17 46.5	-0.5
DAG	Danmarks Havn 1.9nm,0.9s	73.25	11	iP	P	11 17 55.9	-0.9
BMRM	Bremner River 10nm,0.9s	74.25	331	eP	P	11 18 03.7	+0.7
ILAR	Eielson Array 0.7nm,0.6s,baz=113,slow=4.6,SNR=10.0	75.92	335	P	P	11 18 12.0	-0.5
TRF	Thorofare Moun 5.5nm,0.8s	77.23	333	eP	P	11 18 20.2	+0.1
KTH	Kantishna Hill	77.53	333	eP	P	11 18 21.3	-0.3
PPLA	Purkeypile	78.04	332	eP	P	11 18 24.9	+0.2
NOA	NORSAR Array B 0.6nm,0.8s,baz=291,slow=6.2,SNR=2.8	78.56	29	P	P	11 18 27.0	-0.4
GERES	GERESS Array B 0.7nm,0.8s,baz=272,slow=7.8,SNR=3.6	79.98	42	P	P	11 18 36.3	+0.8
ARCES	ARCESS Array B 2.4nm,0.9s,baz=247,slow=4.6,SNR=3.5	84.05	21	P	P	11 18 56.7	+0.4
FINES	FINESS Array B 1.1nm,0.7s,baz=302,slow=11,SNR=2.3	85.69	29	P	P	11 19 06.2	+1.5
MKAR	Makanchi Array 0.2nm,0.4s,baz=294,slow=3.2,SNR=5.3	119.70	21	PKP	PKPdf	11 25 15.0	-1.3
KSH	Kashi	122.99	30	ePKP	PKPdf	11 25 23.6	+0.6
KSH				esPKP		11 25 37.3	
WMQ	Urumqi	124.12	18	ePKP	PKPdf	11 25 24.1	-0.8
WMQ				PP	PP	11 27 12.9	+4.6
WMQ				PKS	PKSdf	11 28 59.5	-2.1
WMQ				SKS	SKSdf	11 32 30.9	-4.3
WMQ				SKKS	SKKSac	11 34 01.0	-5.3
WMQ	comp=N,28nm,26.2s			LR	LR		
WMQ	comp=E,27nm,20.4s			LR	LR		
WMQ	comp=Z,32nm,26.0s			LR	LR		
GTA	Gaotai	131.21	9	ePKP	PKPdf	11 25 43.4	+4.7
GTA				sPKP		11 25 57.6	
LZH	Lanzhou	135.00	6	ePKP	PKPdf	11 25 44.4	-1.5
LZH				sPKP		11 25 59.0	
LZH	comp=N,150nm,19.0s			LR	LR		
LZH	comp=E,140nm,17.6s			LR	LR		
LZH	comp=Z,190nm,20.1s			LR	LR		
NJ2	Nanjing	138.17	347	ePKP	PKPdf	11 25 50.6	-1.1
CD2	Chengdu	140.11	7	PKP	PKPdf	11 25 53.1	-2.3
CMAR	Chiang Mai Arr 3.6nm,0.8s,baz=318,slow=3.1,SNR=17	151.11	20	PKPbc	PKPbc	11 26 19.3	-0.8
ASAR	Alice Springs 5.4nm,0.7s,baz=116,slow=2.5,SNR=48	151.90	236	PKPbc	PKPbc	11 26 20.9	-0.9
WRA	Warramunga Arr 3.6nm,0.7s,baz=107,slow=2.7,SNR=30	153.03	243	PKPbc	PKPbc	11 26 23.6	-0.8

CSEM 01 11:21:34.7±0.2, 46.30N×7.25E, h2km, ML1.6, Error ellipse: s-maj=3.9km s-min=2.6km az=89.0
LDG 01 11:21:34.7±0.1, 46.33N×7.34E, h2km, Md2.2/3, Ml2.5/14, Error ellipse: s-maj=2.1km s-min=0.8km az=93.0
ROM 01 11:21:35.2±0.2, 46.26N×7.32E, h6km, Ml1.6/2, Error ellipse: s-maj=3.4km s-min=2.8km az=172.0
GEN 01 11:21:35.3, 46.25N×7.34E, h24km, ML1.3
STR 01 11:21:40.4±0.4, 46.50N×7.18E, h10km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
VIE 01 11:21:40.1±0.8, 46.40N×7.52E, h8km±2km, ML2.0/2, Error ellipse: s-maj=5.1km s-min=3.7km az=158.0 11 km N of Sierre
ZUR 01 11:21:34.9, 46.34N×7.30E, h1km±1km, ML1.8/8, 6C-3D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	Lac Senin/Sane	0.03	353	⇑iPg	Pg	11 21 35.8	0.0
SENIN				iSg	Sg	11 21 36.5	0.0
GRYON	Gryon 263nm,0.2s	0.16	238	⇑iPg	Pg	11 21 37.9	-0.2
GRYON	263nm,0.2s			iSg	Sg	11 21 40.4	+0.1
LKBD	Leukerbad 312nm,0.2s	0.23	77	⇓iPg	Pg	11 21 39.5	-0.1
LKBD	312nm,0.2s			eSg	Sg	11 21 43.0	+0.3
AIGLE	Aigle 741nm,0.6s	0.24	272	⇑iPg	Pg	11 21 39.8	+0.1
SALAN	Lac Salanfe 54nm,0.3s	0.30	230	⇑iPg	Pg	11 21 40.7	-0.2
SALAN	54nm,0.3s			iSg	Sg	11 21 45.0	0.0
EMV	Vieux Emosson 187nm,0.1s	0.39	226	⇑iPg	Pg	11 21 42.4	-0.4
WIMIS	Wimmis 112nm,0.5s	0.40	34	⇑iPg	Pg	11 21 42.7	+0.1
MMK	Mattmark 27nm,0.8s	0.54	122	ePg	Pg	11 21 45.3	-0.3
MMK	Mattmark	0.54	122	Pg	Pg	11 21 45.4	-0.2
MMK				Sg	Sg	11 21 53.2	+0.4
MMK	Mattmark	0.54	122	Pg	Pg	11 21 45.4	-0.2
MMK				Sg	Sg	11 21 53.2	+0.4
MRGE	Morge	0.59	197	Pg	Pg	11 21 46.6	+0.1
MRGE				Sg	Sg	11 21 54.2	-0.1
MRGE	Morge	0.59	197	Pg	Pg	11 21 46.6	+0.1
MRGE				Sg	Sg	11 21 54.2	-0.1
SATI	Passo dei Sala	0.60	139	P	Pg	11 21 46.0	-1.0
SATI				S	Sg	11 21 53.5	-1.7
GIMEL	St. Georges / 80nm,0.4s	0.74	286	ePg	Pb	11 21 50.3	-0.5
GIMEL	St. Georges / 17nm,0.4s	0.74	286	Pg	Pb	11 21 50.2	-0.6
GIMEL	St. Georges / 17nm,0.4s	0.74	286	Pg	Pb	11 21 50.2	-0.6
CIRO	Champorcher	0.76	166	P	Pg	11 21 48.2	-1.6
CIRO				S	Sg	11 21 57.3	-2.6
LSD	Lago del Serru	0.88	188	P	Pg	11 21 50.9	-1.3
CABF	La Chapelle	0.89	289	ePn	Pg	11 21 52.6	+0.6
CABF	14nm,0.3s			eSn	Sb	11 22 05.3	-0.3
CABF	La Chapelle	0.89	289	ePn	Pg	11 21 52.6	+0.6
CABF				eSn	Sb	11 22 05.3	-0.3
LPL	La Plagne	0.91	206	ePg	Pg	11 21 52.1	-0.6
LPL	9.0nm,0.3s			eSg	Sg	11 22 04.1	-0.6
LPG	La Plagne	0.92	205	ePg	Pg	11 21 52.1	-0.9
LPG	7.5nm,0.2s			eSg	Sg	11 22 04.2	-1.0
LPG	La Plagne	0.92	205	ePg	Pg	11 21 52.1	-0.9
LPG				eSg	Sg	11 22 04.2	-1.0
BNALP	Bannalp 14nm,0.3s	0.94	55	Pg	Pb	11 21 54.7	+0.5
BNALP	Bannalp 14nm,0.3s	0.94	55	Pg	Pb	11 21 54.7	+0.5
LOMF	Lomont	1.07	342	Pg	Pn	11 21 57.1	0.0
LOMF				Sg	Sn	11 22 09.5	0.0
LOMF	Lomont	1.07	342	Pg	Pn	11 21 57.1	0.0
LOMF				Sg	Sn	11 22 09.5	0.0
BBS	Basel-Blauen	1.14	7	Pn	Pn	11 21 58.7	+0.6
BBS	Basel-Blauen	1.14	7	Pg	Pn	11 21 59.6	+1.5
BBS				Sg	Sn	11 22 13.7	-0.7
HINF	Hinteralfeld	1.51	348	ePg	Pn	11 22 03.3	+0.1
HINF	8.2nm,0.2s			eSg	Sb	11 22 23.2	-0.5
HINF	Hinteralfeld	1.51	348	ePg	Pn	11 22 03.3	+0.1
HINF				eSg	Sb	11 22 23.2	-0.5
MOF	Molkenrain	1.52	356	Pn	Pb	11 22 03.8	-0.3
MOF				Sg	Sg	11 22 24.9	+0.8
MOF	Molkenrain	1.52	356	Pn	Pb	11 22 03.8	-0.3
MOF				Sg	Sg	11 22 24.9	+0.8
FELD	Feldberg im Sc	1.61	17	Pn	Pg	11 22 06.0	-0.1
FELD				Sg	Sg	11 22 28.1	+0.9
MBDF	Montbardon	1.65	193	ePg	Pn	11 22 05.6	+0.4
MBDF	6.4nm,0.4s			eSg	Sn	11 22 27.4	+0.2
ORIF	Oris-en-Rattie	1.73	216	ePg	Pb	11 22 07.2	-0.5
ORIF	5.7nm,0.4s			eSg	Sg	11 22 30.6	-0.3
ORIF	Oris-en-Rattie	1.73	216	ePg	Pb	11 22 07.2	-0.5
ORIF				eSg	Sg	11 22 30.6	-0.3
HAU	Haudompre	1.79	339	ePg	Pb	11 22 08.3	-0.3
HAU	14nm,0.3s			eSg	Sb	11 22 31.6	-0.1
HAU	Haudompre	1.79	339	ePg	Pb	11 22 08.3	-0.3
HAU				eSg	Sb	11 22 31.6	-0.1
ECH	Echery	1.88	357	Pn	Pn	11 22 09.2	+0.9
ECH	Echery	1.88	357	Pg	Pg	11 22 12.7	+1.6
ECH	Echery	1.88	357	Pn	Pn	11 22 09.2	+0.9
ECH	Echery	1.88	357	Pg	Pg	11 22 12.7	+1.6
DAVA	Damuels 4.5nm,0.2s	2.01	61	⇓iSg	Sg	11 22 40.7	+0.8
DAVA	Damuels 4.5nm,0.2s	2.01	61	Sg	Sg	11 22 40.7	+0.8
CDF	Champ du Feu	2.08	359	ePn	Pn	11 22 09.7	-1.4
CDF	Champ du Feu	2.08	359	ePg	Pb	11 22 13.8	+0.2
CDF	4.4nm,0.3s			eSg	Sb	11 22 40.5	+0.5
CDF	Champ du Feu	2.08	359	ePn	Pn	11 22 09.7	-1.4
CDF	Champ du Feu	2.08	359	ePg	Pb	11 22 13.8	+0.2
CDF				eSg	Sb	11 22 40.5	+0.5
THEF	They Montfort	2.10	335	Pg	Pg	11 22 16.0	+0.9
THEF				Sg	Sg	11 22 42.6	+0.3
THEF	They Montfort	2.10	335	Pg	Pg	11 22 16.0	+0.9
THEF				Sg	Sg	11 22 42.6	+0.3
VIVF	Saint-Julien-l	2.37	232	ePn	Pn	11 22 13.1	-1.8
VIVF	Saint-Julien-l	2.37	232	ePg	Pb	11 22 19.2	+0.8
VIVF	6.2nm,0.4s			eSg	Sg	11 22 49.7	-1.4
VIVF	Saint-Julien-l	2.37	232	ePn	Pn	11 22 13.1	-1.8
VIVF	Saint-Julien-l	2.37	232	ePg	Pb	11 22 19.2	+0.8
SMF	Signal de Mont	2.41	279	ePn	Pn	11 22 13.9	-1.6
SMF	Signal de Mont	2.41	279	ePg	Pb	11 22 20.1	+1.0
SMF	4.1nm,0.2s			eSg	Sg	11 22 51.3	-1.2
SMF	Signal de Mont	2.41	279	ePg	Pb	11 22 20.1	+1.0
SMF				eSg	Sg	11 22 51.3	-1.2
SFTF	Sexfontaines 7.0nm,0.3s	2.42	321	eSg	Sg	11 22 51.6	-1.3
SFTF	Sexfontaines	2.42	321	eSg	Sg	11 22 51.6	-1.3
FETA	Feichten 1.1nm,0.4s	2.46	73	⇓iSg	Sg	11 22 56.3	+2.0
FETA	Feichten 1.1nm,0.4s	2.46	73	Sg	Sg	11 22 56.3	+2.1
LOR	Lormes	2.54	293	ePg	Pg	11 22 22.6	-1.1
LOR	2.2nm,0.2s			eSg	Sg	11 22 55.1	-1.6
MEZF	Maizieres J'vi 5.2nm,0.3s	2.65	326	eSg	Sg	11 22 58.8	-1.4
MEZF	Maizieres J'vi	2.65	326	eSg	Sg	11 22 58.8	-1.4

IDC 01 11:43:18.1±5.8, 23.67S×179.39E, h596km±64km, mb2.9/4, mb1 3.2/5, mb1mx3.0/18, mbtmp4.0/5, Error ellipse: s-maj=93.5km s-min=35.5km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac 0.5nm,0.3s,baz=75,slow=15,SNR=6.8	12.04	275	P	P	11 45 57.5	+0.1
STKA	Stephens Creek 1.2nm,0.5s,baz=88,slow=10,SNR=6.1	34.29	248	P	P	11 49 15.4	-0.9
ASAR	Alice Springs 0.3nm,0.3s,baz=93,slow=6.9,SNR=15	41.52	261	P	P	11 50 15.1	0.0
WRA	Warramunga Arr 1.2nm,0.4s,baz=97,slow=8.4,SNR=65	41.86	266	P	P	11 50 18.0	+0.2
TXAR	Lajitas Array 0.5nm,0.8s,baz=206,slow=5.4,SNR=6.8	90.79	58	P	P	11 55 19.1	-0.1
ARCES	ARCESS Array B 7.8nm,1.1s,baz=75,slow=3.8,SNR=2.5	131.55	348	PKP	PKPdf	12 01 23.5	+0.4
HFS	Hagfors 1.4nm,0.4s,baz=54,slow=2.5,SNR=13	142.21	348	PKP	PKPdf	12 01 40.9	-2.1
EKA	Eskdalemuir Ar 0.4nm,0.4s,baz=2.3,slow=3.6,SNR=3.5	148.32	3	PKPbc	PKPbc	12 01 58.1	+0.3

ATH 01 11:52:51.1, 37.12N×28.91E, h45km, MD3.1/3
CSEM 01 11:52:54.9±0.1, 37.07N×28.27E, h5km, MD3.1, Error ellipse: s-maj=3.5km s-min=3.0km az=24.0
DDA 01 11:52:55.6, 37.15N×28.26E, h7km, MD2.8
ISK 01 11:52:54.4, 37.09N×28.29E, h5km, MD3.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.04	354	ePG	Pg	11 52 55.2	-0.5
YER				eSG	Sg	11 52 57.9	+1.3
YER	Yerkesik	0.04	354	ePg	Pg	11 52 55.2	-0.5
YER				eSg	Sg	11 52 57.9	+1.2
DALY	Dalyan (Mu˘la	0.40	133	ePG	Pg	11 53 01.9	-0.3
DALY				eSG	Sb	11 53 09.6	-0.8
DALY	Dalyan (Mu˘la	0.40	133	ePg	Pg	11 53 01.9	-0.2
BDRM	Kayabasi	0.68	268	iP	Pb	11 53 08.7	0.0
BDRM				iS	Sn	11 53 21.1	-0.5
BDRM	Kayabasi	0.68	268	iP	Pb	11 53 08.7	0.0
BDRM				iS	Sn	11 53 21.1	-0.6
BODT	Bodrum	0.78	268	ePG	Pb	11 53 10.5	0.0
BODT	Bodrum	0.78	268	ePg	Pb	11 53 10.5	0.0
ARG	Arkhangelos	0.88	189	eP	Pn	11 53 11.1	-0.3
ARG				eS	Sn	11 53 26.1	-0.6
ARG	Arkhangelos	0.88	189	eP	Pn	11 53 11.1	-0.3
ARG				eS	Sn	11 53 26.1	-0.6
DENT	Denizli	0.89	42	ePG	Pb	11 53 12.4	0.0
DENT	Denizli	0.89	42	ePg	Pb	11 53 12.4	0.0
AYDB	Zeytinkoy-Aydi	0.91	340	ePG	Pb	11 53 12.3	+0.3
AYDB	Zeytinkoy-Aydi	0.91	340	ePg	Pb	11 53 12.4	+0.3
GOLH	Golhisar	1.03	82	iP	Pb	11 53 14.7	-0.1
GOLH	Golhisar	1.03	82	iP	Pb	11 53 14.7	-0.1
GOLH				iS	Sn	11 53 32.8	+2.2
SMG	Samos	1.31	298	eP	Pn	11 53 20.4	+0.8
SMG				eS	Sn	11 53 41.5	+4.2
SMG	Samos	1.31	298	eP	Pn	11 53 20.4	+0.8
SMG				eS	Sn	11 53 41.5	+4.2
ELL	Elmali	1.34	104	ePN	Pb	11 53 20.3	0.0
ELL	Elmali	1.34	104	ePn	Pb	11 53 20.3	0.0
AKAS	Kas	1.36	129	iP	Pn	11 53 21.2	+0.5
AKAS	Kas	1.36	129	iP	Pn	11 53 21.2	+0.5
AKAS				iS	Sn	11 53 43.3	+4.5
MANT	Manisa	1.41	9	iP	Pn	11 53 22.2	+0.4
MANT				iS	Sb	11 53 40.1	0.0
MANT	Manisa	1.41	9	iP	Pn	11 53 22.2	+0.3
MANT				iS	Sb	11 53 40.1	0.0
KULA	Kula-Manisa	1.45	12	ePN	Pb	11 53 21.8	-0.2
KULA	Kula-Manisa	1.45	12	ePn	Pb	11 53 21.8	-0.2
KHL	Karahalli	1.57	38	ePN	Pb	11 53 23.8	-0.3
KHL	Karahalli	1.57	38	ePn	Pb	11 53 23.8	-0.3
BLCB	Balcova	1.63	323	ePN	Pn	11 53 24.0	+0.3
BLCB	Balcova	1.63	323	ePn	Pn	11 53 24.0	+0.3
KORT	Korkueli	1.65	93	iP	Pn	11 53 24.2	-0.1
KORT	Korkueli	1.65	93	iP	Pn	11 53 24.2	0.0
KORT				iS	Sg	11 53 51.8	+4.0
KARP	Karpathos	1.79	211	eP	Pn	11 53 25.4	-0.6
KARP	Karpathos	1.79	211	eP	Pn	11 53 25.4	-0.6
AKS	Akhisar	1.82	348	ePN	Pn	11 53 27.2	+0.8
AKS	Akhisar	1.82	348	ePn	Pn	11 53 27.3	+0.8
BCK	Bucak	1.87	78	ePN	Pn	11 53 28.1	+0.9
BCK	Bucak	1.87	78	ePn	Pn	11 53 28.2	+1.0
ISP	Isparta	1.92	67	ePN	Pn	11 53 28.4	+0.5
ISP	Isparta	1.92	67	ePn	Pn	11 53 28.4	+0.5
SUTC	Sutluce-Ispart	2.20	79	ePN	Pn	11 53 32.3	+0.6
SUTC	Sutluce-Ispart	2.20	79	ePn	Pn	11 53 32.3	+0.6
TVSB	Tavsanli	2.53	21	ePN	Pn	11 53 37.5	+1.2
TVSB	Tavsanli	2.53	21	ePn	Pn	11 53 37.5	+1.2

ISCJB 01 11:55:36.5±0.3, 8.44N±0.03×125.57E±0.04, h74km±4km, mb3.8/10, Error ellipse: s-maj=7.3km s-min=4.1km az=160.3
MAN 01 11:55:36, 8.41N×125.49E, h51km, mb4.9, ML3.9, MS3.9 MAN INTENSITY II - MALASAG CAGAYAN DE ORO CITY.
IDC 01 11:55:37.6±0.9, 8.42N×125.72E, h73km±7km, mb3.7/10, mb1 3.8/10, mb1mx3.6/43, mbtmp4.0/10, MS3.3/2, Ms1 3.4/2, ms1mx2.8/25, Error ellipse: s-maj=34.5km s-min=14.3km az=64.0
ISC 01 11:55:37.5±0.6, 8.43N±0.03×125.61E±0.04, h71km±6km, n46, σ1.55/50, mb4.0/10, 5C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.54	1	eP	Pn	11 55 51.2	+0.4
BUTP				eS	Sn	11 56 04.5	+3.9
BUKP	Musuan	0.77	225	eP	Pn	11 55 51.9	-1.5
BIPH	Bislig	0.78	108	⇑eP	Pn	11 55 53.4	+0.1
BIPH				eS	Sn	11 56 05.4	+0.3
CGP	Cagayan de Oro	0.91	272	⇓iP	Pn	11 55 52.9	-2.0
CGP				iS	Sn	11 56 04.8	-3.1
DMPH	Davao City--Mi	1.34	184	⇑eP	Pn	11 55 59.8	-0.6
DMPH				eS	Sn	11 56 19.9	+2.4
SCPH	Surigao	1.35	355	⇓eP	Pn	11 55 59.7	-0.9
SCPH				eS	Sn	11 56 17.9	-0.1
KCP	Kidapawan	1.50	200	⇑iP	Pn	11 56 01.6	-1.0
KCP				iS	Sn	11 56 20.3	-1.2
MATI	Mati	1.60	156	eP	Pn	11 56 03.7	-0.2
MATI				eS	Sn	11 56 21.0	-2.8
MSLP	Maasin	1.85	336	eP	Pn	11 56 06.2	-1.1
TBP	Tagbilaran	2.14	306	eP	Pn	11 56 10.2	-0.9
TBP				iS	Sn	11 56 35.9	-0.8
PAGZ	Pagadian	2.28	256	eP	Pn	11 56 12.0	-0.9
GSPH	General Santos	2.42	196	⇑iP	Pn	11 56 14.8	-0.1
GSPH				iS	Sn	11 56 44.5	+1.0
LLP	Lapu-Lapu	2.48	319	⇓eP	Pn	11 56 15.5	-0.2
LLP				eS	Sn	11 56 44.0	-1.0
SNPH	Sibulan	2.52	291	⇑iP	Pn	11 56 09.9	-6.3
SNPH				iS	Sn	11 56 38.1	-7.9
OCLP	Ormoc	2.79	339	eP	Pn	11 56 20.0	+0.1
PLP	Palo	2.79	347	⇓eP	Pn	11 56 20.1	+0.2
PLP				eS	Sn	11 56 48.1	-4.4
IPIL	Ipil	3.08	258	eP	Pn	11 56 26.4	+2.6
GUIM	Jordan	3.70	306	eP	Pn	11 56 31.5	-0.8
RCP	Roxas	4.21	318	⇓eP	Pn	11 56 39.4	+0.3
PALU	Palau baz=8.9,SNR=3.4	8.84	96	S	Sn	11 59 16.8	-4.0
LUWI	Luwuk baz=9.4,SNR=4.0	9.82	197	P	Pn	11 57 59.3	+3.3
FAKI	Fak Fak baz=13,SNR=5.4	13.07	149	P	Pn	11 58 41.4	+1.1
MTN	Manton Dam baz=22,SNR=10	21.83	165	P	P	12 00 24.4	+0.3
KDU	Kakadu baz=22,SNR=5.8	22.05	162	P	P	12 00 26.6	0.0
KNRA	Kununurra baz=24,SNR=4.1	24.15	173	P	P	12 00 48.1	+1.1
CMAR	Chiang Mai Arr 0.3nm,0.3s,baz=103,slow=6.6,SNR=5.3	27.75	294	P	P	12 01 19.7	0.0
CMAR	comp=Z,38nm,20.0s,baz=58,slow=38			LR	LR	12 13 23.9	
WRA	Warramunga Arr 0.7nm,0.7s,baz=343,slow=9.0,SNR=9.4	29.47	163	P	P	12 01 34.0	-0.9
ASAR	Alice Springs 1.0nm,0.5s,baz=346,slow=7.3,SNR=34	32.91	166	P	P	12 02 04.9	-0.3
WRKA	Warakurna baz=33,SNR=3.3	33.36	176	P	P	12 02 13.3	+4.2
USRK	Ussuriysk Arra 2.8nm,0.7s,baz=193,slow=5.6,SNR=4.6	36.07	8	pP	pP	12 02 49.3	-0.1
H11S3	WAKE ISLAND Hy baz=266,slow=73	41.09	72	T	T	12 46 26.9	
H11S1	WAKE ISLAND Hy baz=266,slow=73	41.10	72	T	T	12 46 34.3	
H11S2	WAKE ISLAND Hy baz=266,slow=73	41.11	72	T	T	12 46 26.4	
H11N1	WAKE ISLAND Hy baz=268,slow=75	41.47	70	T	T	12 47 07.1	
H11N2	WAKE ISLAND Hy baz=268,slow=75	41.48	70	T	T	12 47 01.1	
H11N3	WAKE ISLAND Hy baz=268,slow=75	41.49	70	T	T	12 47 01.3	
BBOO	Buckleboo baz=42,SNR=8.3	42.20	167	P	P	12 03 24.5	+1.1
SONM	Songino Array 0.4nm,0.6s,baz=182,slow=4.3,SNR=3.5	42.52	341	PcP	PcP	12 05 17.3	-0.3
STKA	Stephens Creek 3.1nm,0.9s,baz=354,slow=10.0,SNR=4.4	42.89	160	P	P	12 03 29.9	+0.8
STKA	comp=Z,66nm,19.5s,baz=200,slow=42			LR	LR	12 25 36.0	
MKAR	Makanchi Array 3.4nm,0.8s,baz=116,slow=8.2,SNR=28	53.11	324	P	P	12 04 48.7	+0.8
MKAR	1.0nm,0.8s,baz=110,slow=7.0,SNR=3.9			pP	pP	12 05 07.2	+1.2
KURBB	Kurchatov Arra 1.8nm,0.7s,baz=124,slow=5.6,SNR=14	57.23	326	P	P	12 05 18.0	+0.7
KURBB	1.1nm,0.7s,baz=126,slow=6.2,SNR=4.4			pP	pP	12 05 36.9	+1.2
BVAR	Borovoye Array 3.8nm,0.8s,baz=120,slow=8.8,SNR=18	62.81	326	P	P	12 05 56.3	+0.7
ILAR	Eielson Array 0.3nm,0.9s,baz=251,slow=5.6,SNR=3.6	81.37	26	P	P	12 07 45.9	-0.3
ILAR	0.2nm,0.7s,baz=249,slow=4.5,SNR=2.4			pP	pP	12 08 04.6	-0.9
FINES	FINESS Array B 0.9nm,0.5s,baz=53,slow=5.4,SNR=4.6	87.20	332	P	P	12 08 15.1	-0.7
YKA	Yellowknife Ar 0.1nm,0.5s,baz=302,slow=3.5,SNR=2.6	95.69	24	P	P	12 08 55.0	-0.2
TORD	Torodi Ar. Bea 0.4nm,0.6s,baz=95,slow=3.0,SNR=2.7	120.32	291	PKP	PKPdf	12 14 20.0	-1.6

IDC 01 12:01:11.8±4.1, 14.48N×89.16W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/31, mbtmp3.2/3, ML3.8/1, Error ellipse: s-maj=142.6km s-min=63.8km az=35.0
ISCJB 01 12:01:22.2±1.1, 13.6N±0.1×90.75W±0.09, h87km±11km, mb3.5/2, Error ellipse: s-maj=22.6km s-min=8.0km az=31.8
CASC 01 12:01:22.9±1.3, 13.55N×90.76W, h30km±4km, MD3.6
ISC 01 12:01:23.7±1.4, 13.7N±0.1×90.70W±0.08, h80km±12km, n17, σ0.74/23, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.73	7	eP	Pn	12 01 39.2	-0.8
PCG				eS	Sn	12 01 51.5	-0.5
NBG	Las Nubes	0.98	21	eP	Pn	12 01 42.2	-0.6
NBG				eS	Sn	12 01 58.2	+1.2
RTR	El Retiro	1.05	77	eP	Pn	12 01 42.9	-0.6
RTR				eS	Sn	12 01 59.8	+1.3
SBLS	San Blas	1.06	81	eP	Pn	12 01 43.2	-0.6
SBLS				eS	Sn	12 01 59.0	+0.2
SNJE	San Jose	1.08	79	eP	Pn	12 01 43.1	-0.9
SNJE				eS	Sn	12 02 00.1	+0.9
JAT	Jato	1.11	306	eP	Pn	12 01 44.2	+0.1
BOQS	Boqueron	1.39	87	eP	Pn	12 01 47.1	-0.7
BOQS				eS	Sn	12 02 07.1	+1.2
SNET	Serv Nac Est T	1.43	89	eP	Pn	12 01 47.8	-0.5
SNET				eS	Sn	12 02 07.0	+0.3
LFU	La Fuente	1.55	87	eP	Pn	12 01 49.3	-0.4
LFRS	El Faro	1.60	91	eP	Pn	12 01 49.8	-0.6
LBRS	Las Brisas	1.61	87	eP	Pn	12 01 50.1	-0.5
MRL	Marmol	1.70	35	⇑eP	Pn	12 01 51.5	-0.3
SNVI	San Vicente	1.81	92	eP	Pn	12 01 53.1	-0.2
TXAR	Lajitas Array 0.1nm,0.3s,baz=147,slow=12,SNR=6.3	19.68	324	P	P	12 05 46.8	+0.2
NVAR	Mina Array Bea 1.0nm,0.6s,baz=130,slow=8.4,SNR=15	34.73	320	P	P	12 08 06.6	+0.2
YKA	Yellowknife Ar 0.1nm,0.4s,baz=144,slow=7.2,SNR=5.9	51.64	346	P	P	12 10 16.6	-5.4
CMAR	Chiang Mai Arr 0.4nm,0.3s,baz=333,slow=3.4,SNR=4.0	146.69	343	PKPbc	PKPdf	12 20 54.9	-0.6

CSEM 01 12:01:46.4±0.3, 50.35N×18.75E, h1km, ML2.4/4, Error ellipse: s-maj=6.7km s-min=2.5km az=2.0
PRU 01 12:01:47.4, 50.31N×18.76E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.15	97	ePg	Pg	12 01 50.4	+0.1
CHZP				eSg	Sg	12 01 52.1	-0.2
OKC	Ostrava-Krasne	0.62	220	ePG	Pg	12 01 58.9	-0.3
OKC	11nm,0.5s			eSG	Sg	12 02 07.4	+0.2
OKC	Ostrava-Krasne	0.62	220	Pg	Pg	12 01 58.9	-0.3
OKC	11nm,0.5s			Sg	Sg	12 02 07.4	+0.2
OJC	Ojcow	0.67	97	ePg	Pg	12 01 59.8	-0.5
OJC				eSg	Sg	12 02 09.0	-0.1
OJC	Ojcow	0.67	97	ePg	Pg	12 01 59.8	-0.5
OJC				eSg	Sg	12 02 09.0	-0.1
MORC	Moravsky Berou	0.95	236	eSg	Sg	12 02 18.6	+0.5
KRLC	Kraliky	1.29	260	eSG	Sg	12 02 29.1	0.0
KRLC	Kraliky	1.29	260	Sg	Sg	12 02 29.1	0.0
NIE	Niedzica	1.34	131	ePg	Pg	12 02 12.8	-0.4
NIE				eSg	Sg	12 02 30.3	-0.4
NIE	Niedzica	1.34	131	ePg	Pg	12 02 12.8	-0.4
NIE				eSg	Sg	12 02 30.3	-0.4

DPC	Dobruska-Polom	1.56	272	ePG	Pn	12 02 15.8	-0.7
DPC				eSG	Sn	12 02 37.4	-0.1
DPC	Dobruska-Polom	1.56	272	Pg	Pn	12 02 15.8	-0.7
DPC				Sg	Sn	12 02 37.4	-0.1
KSP	Ksiaz	1.66	290	ePg	Pg	12 02 19.4	+0.1
KSP				eSg	Sg	12 02 41.4	+0.6
VRAC	Vranov	1.73	235	eSg	Sb	12 02 42.0	-0.2
UPC	Upice	1.77	277	eSG	Sb	12 02 43.9	+0.4
	1.4nm,0.1s						
UPC	Upice	1.77	277	Sg	Sb	12 02 43.9	+0.4
	1.4nm,0.1s						
PRU	Pruhonice	2.73	265	eSG	Sg	12 03 13.6	-1.6
	3.4nm,0.4s						
PRU	Pruhonice	2.73	265	Sg	Sg	12 03 13.6	-1.6
	3.4nm,0.4s						
KHC	Kasperske Hory	3.56	253	eSG	Sg	12 03 39.7	-2.3
	3.4nm,0.5s						
KHC	Kasperske Hory	3.56	253	Sg	Sg	12 03 39.7	-2.3
	3.4nm,0.5s						

*ISCJB **01** 12:14:32.0±0.4, 22°.89S±0°.06×112°.28W±0°.07, h10km, mb4.8/90, MS4.2/18, Error ellipse: s-maj=9.7km s-min=8.4km az=147.7*

*MOS **01** 12:14:32.2±1.2, 22°.89S×112°.28W, h10km, mb5.0/26, Error ellipse: s-maj=22.3km s-min=8.4km az=87.7*

*IDC **01** 12:14:32.3±0.7, 22°.80S×112°.23W, h0km, mb4.5/11, mb1 4.7/11, mb1mx4.5/26, mbtmp4.5/11, MS4.0/12, Ms1 3.9/12, ms1mx3.9/15, Error ellipse: s-maj=28.5km s-min=18.6km az=54.0*

*NEIC **01** 12:14:33.5±0.3, 23°.00S×112°.31W, h10km, mb4.9/76, Error ellipse: s-maj=9.4km s-min=6.8km az=71.0*

*GCMT **01** 12:14:33.5±0.2, 23°.16S×112°.00W, h14km, MW5.1/105, Moment Tensor Solution. s62,c91; s105,c169; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.24±.19; $M_{\theta\theta}$4.30±.14; $M_{\phi\phi}$1.94±.14; $M_{r\theta}$-1.42±.27; $M_{r\phi}$-2.51±.09; $M_{\theta\phi}$-1.47±.31; Best double couple: $M_0$6.36100×10^{16} NP1: ϕ_s107.00000°, δ49.00000°, λ-111.00000°. NP2: ϕ_s317.00000°, δ45.00000°, λ-68.00000°. Principal axes: T 5.9080, Plg2.0000°, Azm212.0000°; N 0.9050, Plg16.0000°, Azm121.0000°; P -6.8130, Plg74.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **01** 12:14:33.4, 23°.20S×112°.30W, h10km, mB5.3/9, Ms5.2/9, Ms7 4.8/10*

ISC 01 12:14:32.2±0.4, **23°.2S**±0°.1×**112°.39W**±0°.08, **h10km, n541,** σ1**§01**/538, **mb4.9**/92, **MS4.2**/19, **156C-170D, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCN	Pitcairn Islan	16.26	260	Pn	Pn	12 18 21.8	+1.0
RKT	Rikitea	20.76	266	eLR	LR	12 24 14.2	
	1µm,31.5s						
RKT	Rikitea	20.76	266	eT	T	12 40 40.8	
	2.0nm,0.2s						
H03N2	Juan Fernandez	31.04	117	T	T	12 53 37.2	
	baz=282,slow=74,SNR=207						
H03N3	Juan Fernandez	31.05	117	T	T	12 53 37.9	
	baz=282,slow=74,SNR=294						
H03N1	Juan Fernandez	31.05	117	T	T	12 53 38.5	
	baz=282,slow=74,SNR=221						
TBI	Tubuai	33.98	262	eLQ	LQ	12 29 02.4	
	629nm,32.2s						
TBI				eLR	LR	12 30 22.5	
	662nm,27.8s						
TBI	Tubuai	33.98	262	eT	T	12 57 12.8	
	2.6nm,0.3s						
PPT2	Papeete2	35.23	272	eS	S	12 27 00.7	-0.3
	184nm,26.0s						
PPT2				eLR	LR	12 30 47.4	
	422nm,28.2s						
PPT	Papeete	35.24	272	LR	LR	12 32 01.7	
	comp=Z,206nm,18.4s,baz=106,slow=30						
LCO	Las Campanas	37.73	108	eP	P	12 21 50.6	+2.0
	19nm,1.0s						
PLCA	Paso Flores	39.12	127	LR	LR	12 34 16.4	
	comp=Z,76nm,19.8s,baz=283,slow=30						
CFAA	Coronel Fontan	39.85	112	P	P	12 22 08.2	+2.0
	0.5nm,0.8s,baz=274,slow=7.2,SNR=5.6						
LPAZ	La Paz	42.10	89	P	P	12 22 26.4	+0.9
	12nm,1.0s,baz=277,slow=6.0,SNR=28						
LPAZ				LR	LR	12 35 43.9	
	comp=Z,138nm,20.2s,baz=246,slow=30						
LPAZ	La Paz	42.10	89	eP	P	12 22 26.5	+1.0
JTS	JuntasAbangare	42.80	42	eP	P	12 22 30.9	+0.4
JTS				pmax	pmax		
	comp=Z,16nm,1.1s						
USHA	Ushuaia	45.32	146	P	P	12 22 54.4	+4.2
	comp=Z,14nm,0.9s,baz=282,slow=6.3,SNR=5.2						
ROSC	El Rosal	46.48	58	LR	LR	12 39 41.3	
	comp=Z,335nm,18.0s,baz=196,slow=33						
SAML	Samuel	49.13	82	eP	P	12 23 20.4	-0.1
	comp=Z,2.9nm,1.0s						
CPUP	Villa Florida	49.77	106	LR	LR	12 41 55.4	
	comp=Z,44nm,18.4s,baz=249,slow=33						
034A	Hebbronville	51.74	16	⇓P	P	12 23 41.6	+1.7
	baz=52						
SDV	Santo Domingo	51.85	57	eP	P	12 23 40.6	-0.6
	comp=Z,15nm,0.9s						
933A	Laredo	52.12	15	⇓P	P	12 23 43.8	+1.1
	baz=52						
934A	Benavides	52.29	16	⇑P	P	12 23 45.9	+1.9
	baz=52						
832A	Faith Ranch, C	52.61	14	⇑P	P	12 23 45.8	-0.6
	baz=53						
833A	Chaparral WMA,	52.78	14	⇓P	P	12 23 47.4	-0.2
	baz=53						
834A	Tilden	52.79	15	⇑P	P	12 23 48.3	+0.7
	baz=53						
TXAR	Lajitas Array	52.95	10	P	P	12 23 47.7	-1.3
	comp=Z,2.2nm,1.1s,baz=181,slow=9.5,SNR=9.5						
TXAR				LR	LR	12 42 09.1	
	comp=Z,178nm,18.3s,baz=0.0,slow=32						
626A	Big Bend Ranch	53.09	9	⇓P	P	12 23 50.0	-0.1
	baz=53,SNR=8.1						
627A	Terlingua Ranc	53.10	10	⇓P	P	12 23 50.2	0.0
	baz=53						
628A	Black Gap, Mar	53.22	10	⇑P	P	12 23 50.7	-0.2
	baz=53						
526A	Mary Lane Ranc	53.60	9	⇑P	P	12 23 53.5	-0.3
	baz=54,SNR=6.1						
527A	Woodward Ranch	53.75	9	⇓P	P	12 23 54.6	-0.3
	baz=54						
632A	Uvalde	53.83	14	⇓P	P	12 23 55.0	-0.4
	baz=54						
528A	Cox Ranch, San	53.90	10	⇑P	P	12 23 56.1	+0.1
	baz=54						
529A	Stev Forest Ra	53.95	11	⇑P	P	12 23 56.2	-0.1
	baz=54,SNR=8.4						
530A	J-C Ranch, Com	54.14	12	⇓P	P	12 23 57.4	-0.2
	baz=54,SNR=9.3						
425A	Indio Mountain	54.19	8	⇓P	P	12 23 58.1	0.0
	baz=54						
426A	McDonald Obser	54.20	9	⇓P	P	12 23 57.8	-0.5
	baz=54,SNR=5.9						
531A	Rocksprings	54.31	13	⇑P	P	12 23 58.3	-0.6
	baz=54						
319A	Douglas	54.39	3	⇑P	P	12 23 59.5	0.0
	baz=54,SNR=9.1						
532A	Rocksprings	54.41	13	⇓P	P	12 23 59.4	-0.2
	baz=54,SNR=6.5						
428A	Kincaid Ranch,	54.47	10	⇑P	P	12 23 59.9	-0.1
	baz=54						
427A	Hayter Ranch,	54.47	10	⇓P	P	12 24 00.0	-0.1
	baz=54,SNR=12						
429A	Davenport Ranc	54.50	11	⇑P	P	12 23 59.7	-0.6
	baz=55						
533A	Kerrville	54.54	14	⇓P	P	12 24 00.2	-0.4
	baz=55						
534A	Blanco	54.63	15	⇑P	P	12 24 00.5	-0.7
	baz=55						
JCT	Junction City	54.77	13	⇓P	P	12 24 01.4	-0.8
	baz=55,SNR=7.9						
430A	Baggett Ranch,	54.78	12	⇓P	P	12 24 02.3	0.0
	baz=55						
431A	Sonora	54.80	12	⇓P	P	12 24 02.2	-0.3
	baz=55						
326A	Caldwell Ranch	54.85	9	⇓P	P	12 24 02.7	-0.1
	baz=55						
214A	Organ Pipe Nat	54.89	360	⇑P	P	12 24 03.0	0.0
	baz=55,SNR=9.0						
MNTX	Cornudas Mount	55.04	7	eP	P	12 24 03.0	-1.1
	comp=Z,11nm,1.4s						
328A	Wristen Ranch,	55.09	10	⇑P	P	12 24 04.2	-0.4
	baz=55						
433A	Art	55.19	14	⇓P	P	12 24 04.7	-0.5
	baz=55						
HKT	Hockley	55.23	18	eP	P	12 24 07.0	+1.6
HKT				pmax	pmax		
	comp=Z,26nm,1.7s						
HKT	Hockley	55.23	18	eP	P	12 24 07.0	+1.6
	comp=Z,26nm,1.7s						
TUC	Tucson	55.26	2	eP	P	12 24 05.9	+0.1
TUC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TUC	Tucson	55.26	2	eP	P	12 24 05.9	+0.1
	comp=Z,9.3nm,1.2s						
329A	Wagon Wheel Ra	55.33	11	⇓P	P	12 24 06.0	-0.3
	baz=55						
330A	Mertzon	55.39	12	⇓P	P	12 24 06.5	-0.3
	baz=55						
434A	Burnet	55.43	15	⇓P	P	12 24 06.4	-0.6
	baz=56						
331A	San Angelo	55.44	12	⇑P	P	12 24 06.7	-0.4
	baz=56						
225A	Deer Hill, Car	55.52	8	⇑P	P	12 24 07.2	-0.6
	baz=56						
PTGA	Pitinga	55.54	74	eP	P	12 24 07.2	-1.0
	comp=Z,3.6nm,1.1s						
226B	Tecolote Peak,	55.57	8	⇑P	P	12 24 07.3	-0.8
	baz=56,SNR=7.4						
227A	Bennet, Jal	55.63	9	⇓P	P	12 24 08.3	-0.1
	baz=56						
121A	Cookes Peak, D	55.64	5	eP	P	12 24 08.0	-0.6
	comp=Z,14nm,1.0s						
121A	Cookes Peak, D	55.64	5	⇓P	P	12 24 08.3	-0.3
	baz=56,SNR=7.4						
332A	Millersview	55.65	13	⇓P	P	12 24 07.5	-1.0
	baz=56,SNR=6.0						
113A	Mohawk Valley,	55.71	359	⇓P	P	12 24 08.7	-0.2
	baz=56,SNR=9.4						
333A	Richland Sprin	55.76	14	⇓P	P	12 24 08.0	-1.3
	baz=56,SNR=5.6						
230A	Sterling City	55.87	12	⇑P	P	12 24 09.5	-0.7
	baz=56						
334A	Lometa	55.94	15	⇑P	P	12 24 09.9	-0.7
	baz=56						
MONP	Monument Peak	55.95	356	⇑P	P	12 24 10.5	-0.4
	baz=56						
GLA	Glamis	56.03	358	eP	P	12 24 14.6	+3.3
GLA				pmax	pmax		
	comp=Z,154nm,1.7s						
GLA	Glamis	56.03	358	eP	P	12 24 14.6	+3.3
	comp=Z,154nm,1.7s						
231A	Bronte	56.07	12	⇓P	P	12 24 10.9	-0.7
	baz=56						
125A	Gardner Draw,	56.08	8	⇓P	P	12 24 10.8	-0.9
	baz=56,SNR=22						
126A	Clayton Basin,	56.15	9	⇑P	P	12 24 11.3	-0.9
	baz=56						
232A	Coleman	56.16	13	⇑P	P	12 24 11.4	-0.8
	baz=56						
128A	Castleberry Fa	56.35	10	⇓P	P	12 24 12.8	-0.8
	baz=56,SNR=10						
Z22A	Elephant Butte	56.42	5	⇑P	P	12 24 13.8	-0.4
	baz=56,SNR=6.1						
233A	Rising Star	56.45	14	⇑P	P	12 24 13.5	-0.7
	baz=56,SNR=6.8						
129A	Stewart Farms,	56.46	11	⇑P	P	12 24 13.6	-0.8
	baz=56						
130A	Snyder	56.59	12	⇓P	P	12 24 14.7	-0.6
	baz=57						
234A	Clairette	56.60	15	⇑P	P	12 24 14.8	-0.6
	baz=57						
CIS	Catalina Islan	56.62	354	⇑P	P	12 24 15.5	0.0
	baz=57						
Z24A	Sheeppen Canyo	56.66	7	⇑P	P	12 24 15.6	-0.3
	baz=57						
BC3	Big Chuckawall	56.66	357	⇓P	P	12 24 15.6	-0.2
	baz=57,SNR=12						
Z25A	Roswell	56.68	8	⇓P	P	12 24 15.3	-0.7
	baz=57,SNR=9.9						
MURC	Murrieta	56.71	355	⇓P	P	12 24 15.9	-0.2
	baz=57						
Y12C	Blythe	56.71	358	⇓P	P	12 24 15.6	-0.4
	baz=57,SNR=10						
WHTX	Lake Whitney	56.75	15	⇑P	P	12 24 15.8	-0.6
	baz=57						
Z26A	Caprock	56.77	8	⇑P	P	12 24 15.3	-1.3
	baz=57,SNR=8.5						
131A	Roby	56.77	12	⇓P	P	12 24 15.8	-0.8
	baz=57						
Y14A	Wickenburg	56.87	359	⇑P	P	12 24 16.6	-0.6
	baz=57						
ABTX	Abilene, Hawle	56.87	13	⇓P	P	12 24 16.2	-1.1
	baz=57						
Z27A	Tatum	56.92	9	⇓P	P	12 24 16.8	-0.9
	baz=57,SNR=10						
133A	Hamilton Ranch	57.01	14	⇓P	P	12 24 17.4	-0.8
	baz=57						
Z28A	Tucker Farm, M	57.02	10	⇑P	P	12 24 17.4	-1.0
	baz=57						
BELC	Belle Mtn. Jos	57.03	356	⇑P	P	12 24 18.4	-0.1
	baz=57,SNR=11						
Z29A	Hungry Hill Ra	57.10	11	⇑P	P	12 24 18.0	-1.0
	baz=57,SNR=10						
IRM	Iron Mountain	57.15	357	⇑P	P	12 24 18.8	-0.4
	baz=57,SNR=8.0						
134A	White-Moore Ra	57.16	14	⇓P	P	12 24 18.7	-0.6
	baz=57						
Y23A	Lovelace Mesa,	57.18	6	⇑P	P	12 24 19.1	-0.5
	baz=57,SNR=18						
Z30A	Sanderson Ranc	57.23	11	⇑P	P	12 24 18.9	-1.0
	baz=57						
Y24A	Capitan	57.24	7	⇓P	P	12 24 19.6	-0.4
	baz=57,SNR=10						
PDMCI	Parker Dam,Lak	57.25	358	⇑P	P	12 24 20.2	+0.3
	baz=57,SNR=5.5						
Y25A	Mesa, Roswell	57.32	8	⇓P	P	12 24 19.9	-0.6
	baz=57,SNR=7.6						
LENM	Lemitar	57.32	5	eP	P	12 24 20.9	+0.3
X16A	Lo Mia Camp, P	57.35	1	⇑P	P	12 24 20.1	-0.7
	baz=57,SNR=8.2						
BFSC	Mount Baldy Ra	57.38	355	⇑P	P	12 24 20.4	-0.6
	baz=58						
MWC	Mount Wilson	57.40	354	eP	P	12 24 21.9	+0.7
MWC				pmax	pmax		
	comp=Z,24nm,1.5s						
MWC	Mount Wilson	57.40	354	eP	P	12 24 21.9	+0.7
	comp=Z,24nm,1.5s						
Y26A	Elida	57.43	8	⇑P	P	12 24 20.2	-1.1
	baz=58						
Z31A	Sharp Cattle R	57.45	12	⇓P	P	12 24 20.6	-0.7
	baz=58,SNR=8.6						
Y27A	Causey	57.49	9	⇑P	P	12 24 20.2	-1.5
	baz=58,SNR=16						
X18A	Snowflake	57.50	2	⇓P	P	12 24 22.0	+0.1
	baz=58,SNR=9.3						
LAZ	Ladron	57.55	5	eP	P	12 24 21.9	-0.3
	comp=Z,5.5nm,1.1s						
Z32A	Haskell	57.57	13	⇑P	P	12 24 22.1	-0.1
	baz=58,SNR=11						
MSTX	Muleshoe	57.63	9	⇑P	P	12 24 21.8	-0.9
	baz=58,SNR=8.8						
Y28A	McKinney Farm,	57.65	10	⇓P	P	12 24 21.8	-1.0
	baz=58						
Y29A	Porterfield Fa	57.70	11	⇓P	P	12 24 22.0	-1.1
	baz=58,SNR=6.4						
Z33A	Whitaker Ranch	57.70	14	⇓P	P	12 24 22.2	-0.8
	baz=58						
GMRC	Granite Mounta	57.79	357	⇓P	P	12 24 24.0	+0.2
	baz=58,SNR=8.4						
X23A	Hourglass Bar	57.81	6	⇓P	P	12 24 23.4	-0.7
	baz=58						
Y30A	Stafford Cattl	57.85	11	⇓P	P	12 24 23.4	-0.7
	baz=58						
HEC	Hector,Ludlow	57.88	356	⇓P	P	12 24 23.9	-0.4
	baz=58						
W13A	Hualapai Mount	58.04	359	⇑P	P	12 24 25.2	-0.5
	baz=58,SNR=7.8						
EDW2	Edwards Air Fo	58.05	355	⇑P	P	12 24 25.0	-0.5
	baz=58						
Y31A	Rekieta Farm,	58.05	12	⇓P	P	12 24 25.2	-0.3
	baz=58,SNR=8.7						
X26A	CR and CF Fran	58.05	8	⇓P	P	12 24 25.0	-0.7
	baz=58						
LDFC	Landfair	58.06	357	P	P	12 24 26.9	+1.2
	comp=Z,13nm,0.7s						
Z35A	Perchaven, San	58.08	15	⇓P	P	12 24 25.2	-0.5
	baz=58						
ANMO	Albuquerque	58.14	6	eP	P	12 24 25.4	-1.0
ANMO				pmax	pmax		
	comp=Z,11nm,1.3s						
ANMO	Albuquerque	58.14	6	eP	P	12 24 25.3	-1.0
	comp=Z,5.3nm,1.3s						
X27A	F and S Farms,	58.24	9	⇓P	P	12 24 26.1	-0.9
	baz=58						
Y32A	R-V Farms, Ver	58.25	13	⇓P	P	12 24 26.4	-0.5
	baz=58,SNR=6.8						
X28A	Dimmitt	58.26	10	⇑P	P	12 24 26.0	-1.0
	baz=58						
X29A	Tulia	58.26	10	⇑P	P	12 24 26.0	-1.1
	baz=58						
GSC	Goldstone	58.38	356	⇓P	P	12 24 27.8	-0.1
	baz=58,SNR=8.3						
W23A	Werner Place,	58.38	6	⇑P	P	12 24 27.5	-0.6
	baz=58,SNR=5.7						
X30A	Coker Ranch, T	58.41	11	⇑P	P	12 24 27.8	-0.2
	baz=58						
Y33A	Hilltop Ranch,	58.42	13	⇓P	P	12 24 27.8	-0.4
	baz=58						
WUAZ	Wupatki	58.45	1	eP	P	12 24 29.4	+0.9
	comp=Z,23nm,1.8s						
WUAZ	Wupatki	58.45	1	⇑P	P	12 24 28.1	-0.3
	baz=58						
TUQ	Turquoise Moun	58.45	357	⇑P	P	12 24 28.2	-0.2
	baz=58						
W24A	Lazy 6 Ranch,	58.51	7	⇑P	P	12 24 28.4	-0.6
	baz=59,SNR=12						
Y34A	Reagan Ranch,	58.56	14	⇑P	P	12 24 28.1	-1.0
	baz=59						
W26A	Owens Ranch, T	58.59	8	⇓P	P	12 24 28.5	-0.9
	baz=59,SNR=9.9						
LRMC	Laurel Mountai	58.62	355	⇑P	P	12 24 29.5	-0.1
	baz=59						
W25A	X Bar L Ranch,	58.63	8	⇓P	P	12 24 29.1	-0.5
	baz=59,SNR=11						
W27A	Bowe Ranch, En	58.66	9	⇓P	P	12 24 29.4	-0.5
	baz=59,SNR=5.5						
X32A	Elmer	58.69	13	⇓P	P	12 24 29.2	-0.7
	baz=59,SNR=5.9						
X31A	McDonald Ranch	58.75	12	⇑P	P	12 24 30.1	-0.4
	baz=59						
ISA	Isabella	58.87	354	eP	P	12 24 31.6	+0.3
ISA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ISA	Isabella	58.87	354	eP	P	12 24 31.6	+0.3
	comp=Z,4.6nm,1.1s						
ISA	Isabella	58.87	354	⇑P	P	12 24 31.3	0.0
	baz=59						
SHOC	Shoshone	58.94	356	⇓P	P	12 24 31.9	+0.2
	baz=59,SNR=8.3						
V23A	Ortiz Mt. (NFS	58.96	6	⇓P	P	12 24 31.5	-0.6
	baz=59						
W28A	Vega	58.98	10	⇓P	P	12 24 31.3	-0.8
	baz=59						
V24A	Rampart Ranch,	59.03	7	⇑P	P	12 24 31.7	-0.9
	baz=59						
V22A	San Miguel Ran	59.06	5	⇑P	P	12 24 32.7	-0.1
	baz=59,SNR=6.9						
VES	Vestal, Richgr	59.10	354	⇓P	P	12 24 32.4	-0.4
	baz=59						
X34A	Smith Ranch, M	59.17	14	⇑P	P	12 24 32.9	-0.4
	baz=59						
V25A	Rancho No Teng	59.22	7	⇑P	P	12 24 32.9	-1.0
	baz=59						
V26A	Tequesquite Ra	59.28	8	⇓P	P	12 24 33.3	-0.9
	baz=59,SNR=9.6						
W31A	Holland Ranch,	59.30	12	⇑P	P	12 24 33.7	-0.5
	baz=59						
U15A	North Rim	59.35	0	⇑P	P	12 24 34.8	0.0
	baz=59,SNR=12						
W32A	Sentinel	59.37	13	⇑P	P	12 24 34.6	-0.2
	baz=59						
DAC	Darwin (Calif)	59.40	355	eP	P	12 24 35.5	+0.4
DAC				pmax	pmax		
	comp=Z,8.0nm,1.3s						
DAC	Darwin (Calif)	59.40	355	eP	P	12 24 35.5	+0.4
	comp=Z,8.1nm,1.3s						
SHPR	Sheep Range	59.48	357	eP	P	12 24 36.0	+0.4
U22A	Llaves	59.53	5	⇓P	P	12 24 35.5	-0.5
	baz=60,SNR=7.4						
U23A	El Rito	59.54	6	⇓P	P	12 24 36.2	+0.1
	baz=60,SNR=22						
FURC	Furnace Creek,	59.54	356	⇓P	P	12 24 35.8	0.0
	baz=60,SNR=5.7						
W33A	Caddo, Fort Co	59.56	13	⇑P	P	12 24 35.5	-0.5
	baz=60						
U24A	Moreno Valley	59.71	7	⇑P	P	12 24 37.1	-0.3
	baz=60						
V30A	Spur Ranch, Mi	59.72	11	⇑P	P	12 24 37.2	0.0
	baz=60						
W34A	Bridge Creek,	59.79	14	⇓P	P	12 24 37.1	-0.4
	baz=60						
U25A	Circle Dot Ran	59.80	7	⇑P	P	12 24 37.0	-0.9
	baz=60						
U26A	Atchley Ranch,	59.88	8	⇑P	P	12 24 37.1	-1.3
	baz=60,SNR=5.2						
V31A	Spring Creek L	59.89	12	⇑P	P	12 24 37.4	-0.9
	baz=60						
V32A	Arapaho	59.99	13	⇓P	P	12 24 38.3	-0.7
	baz=60						
U27A	Thompson Grove	60.03	9	⇓P	P	12 24 39.0	-0.4
	baz=60						
U28A	Mallet	60.07	9	⇓P	P	12 24 39.6	-0.1
	baz=60						
GRAC	Grapevine Rang	60.10	355	⇓P	P	12 24 40.2	+0.5
	baz=60						
MVCO	Mesa Verde	60.24	4	eP	P	12 24 40.6	-0.4
	comp=Z,26nm,1.3s						
MVCO	Mesa Verde	60.24	4	⇑P	P	12 24 40.9	0.0
	baz=60,SNR=14						
V33A	Lossen Ranch,	60.24	13	⇓P	P	12 24 40.1	-0.6
	baz=60						
T24B	San Luis	60.34	6	⇑P	P	12 24 41.6	-0.2
	baz=60						
CCUT	Cedar City	60.48	359	eP	P	12 24 43.1	+0.6
	comp=Z,14nm,1.1s						
U30A	WK&E Inc. Balk	60.48	11	⇓P	P	12 24 42.3	-0.1
	baz=60						
T25A	Trinidad	60.53	7	⇓P	P	12 24 42.3	-0.6
	baz=61						
U32A	Winter Ranch,	60.64	12	⇓P	P	12 24 43.6	+0.2
	baz=61						
T26A	Comanche Natio	60.66	8	⇑P	P	12 24 43.3	-0.4
	baz=61						
T27A	Campo	60.67	9	⇓P	P	12 24 43.2	-0.5
	baz=61						
BDFB	Brasilia	60.77	95	P	P	12 24 44.9	0.0
	comp=Z,7.8nm,0.9s,baz=228,slow=7.2,SNR=6.3						
BDFB				LR	LR	12 48 14.9	
	comp=Z,104nm,20.2s,baz=268,slow=33						
T28A	Walsh	60.82	9	⇓P	P	12 24 43.7	-1.0
	baz=61,SNR=5.7						
MLAC	Mammoth Lakes	60.85	354	⇓P	P	12 24 45.1	0.0
	baz=61						
U33A	Lingo Farm, Me	60.87	13	⇓P	P	12 24 44.0	-0.9
	baz=61						
S22A	4UR Ranch, Cre	60.89	5	⇑P	P	12 24 45.0	-0.4
	baz=61,SNR=6.8						
TUL1	Tulsa	60.90	15	eP	P	12 24 43.7	-1.4
	comp=Z,14nm,1.2s						
TUL1	Tulsa	60.90	15	⇑P	P	12 24 43.9	-1.2
	baz=61						
S23A	Nye Farm, Mont	60.92	6	⇑P	P	12 24 45.6	0.0
	baz=61						
S24A	Houchin Ranch,	60.94	7	⇓P	P	12 24 45.2	-0.6
	baz=61						
SDCO	Great Sand Dun	61.01	6	eP	P	12 24 45.4	-0.9
	comp=Z,6.3nm,1.1s						
S25A	Robets Cordova	61.04	7	⇓P	P	12 24 45.5	-0.8
	baz=61						
S26A	Kim	61.12	8	⇑P	P	12 24 46.3	-0.5
	baz=61						
PV01	Paradox Valley	61.16	3	eP	P	12 24 46.1	-1.0
	comp=Z,384nm,1.0s						
TPH	Tonopah	61.16	356	eP	P	12 24 47.0	-0.2
TPH				pmax	pmax		
	comp=Z,13nm,1.1s						
TPH	Tonopah	61.16	356	eP	P	12 24 47.0	-0.2
	comp=Z,13nm,1.1s						
T31A	Randall Ranch,	61.20	12	⇓P	P	12 24 46.7	-0.6
	baz=61						
S28A	Manter	61.31	9	⇓P	P	12 24 47.5	-0.5
	baz=61						
R11A	Troy Canyon, C	61.34	357	eP	P	12 24 49.0	+0.7
	comp=Z,12nm,1.5s						
R11A	Troy Canyon, C	61.34	357	⇑P	P	12 24 48.2	-0.1
	baz=61						

PV04 Paradox Valley 61.40 3 eP P 12 24 48.7 0.0
CMB Columbia Colle 61.41 353 eP P 12 24 50.6 +2.0
CMB pmax pmax
comp=Z,12nm,1.4s
CMB Columbia Colle 61.41 353 eP P 12 24 50.6 +2.0
comp=Z,12nm,1.4s
R23A Moffat 61.42 6 ⇑P P 12 24 48.7 -0.3
baz=62
MVU Marysvale 61.42 0 eP P 12 24 49.3 +0.4
comp=Z,23nm,2.1s
S29A Ulysses 61.46 10 ⇓P P 12 24 48.8 -0.2
baz=62
R24A Sanders Place, 61.53 7 ⇑P P 12 24 48.7 -1.0
baz=62
R25A Fountain Ranch 61.54 7 ⇓P P 12 24 49.9 +0.2
baz=62
NV11 Mina Array Sit 61.59 355 eP P 12 24 49.9 0.0
S30A Montezuma 61.59 11 ⇓P P 12 24 49.5 -0.4
baz=62
NVAR Mina Array Bea 61.60 355 P P 12 24 50.4 +0.3
comp=Z,7.6nm,0.9s,baz=181,slow=9.2,SNR=39
NVAR LR LR 12 45 13.7
comp=Z,221nm,21.4s,baz=182,slow=30
S31A Mullinville 61.75 12 ⇑P P 12 24 51.0 +0.1
baz=62
WAKR Walker 61.78 354 eP P 12 24 53.7 +2.4
R26A Arlington 61.79 8 ⇓P P 12 24 51.4 +0.1
baz=62
R27A Eads 61.86 9 ⇑P P 12 24 51.1 -0.6
baz=62,SNR=10
SRU San Rafael 62.05 2 eP P 12 24 52.7 -0.4
SRU pmax pmax
comp=Z,13nm,1.1s
SRU San Rafael 62.05 2 eP P 12 24 52.7 -0.4
comp=Z,13nm,1.1s
R28A Tribune 62.06 9 ⇑P P 12 24 52.3 -0.8
baz=62,SNR=13
R29A Marienthal 62.24 10 ⇑P P 12 24 53.4 -0.9
baz=62
R30A Dighton 62.25 11 ⇑P P 12 24 53.6 -0.8
baz=62,SNR=5.6
Q25A Bedland, Calha 62.30 7 ⇑P P 12 24 54.3 -0.5
baz=62
SMCO Snowmass 62.30 5 eP P 12 24 53.9 -1.2
comp=Z,5.5nm,1.1s
R31A Burdett 62.39 11 ⇑P P 12 24 54.5 -0.8
baz=62
P23A Jefferson 62.59 6 ⇓P P 12 24 56.4 -0.5
baz=63
KSCO Kaye Shedlock' 62.60 9 eP P 12 24 53.8 -3.0
R32A Long Quarter, 62.67 12 ⇓P P 12 24 56.4 -0.6
baz=63
R33A Olander Ranch, 62.70 13 ⇓P P 12 24 56.6 -0.6
baz=63
Q29A Oakley 62.73 10 ⇑P P 12 24 57.0 -0.5
baz=63
P22A Eagle 62.73 5 ⇑P P 12 24 57.3 -0.4
baz=63,SNR=7.2
Q28A Sharon Springs 62.76 9 ⇓P P 12 24 57.1 -0.7
baz=63
NLU North Lily Min 62.87 0 eP P 12 24 58.9 +0.3
comp=Z,17nm,1.4s
P25A Willow Gulch B 62.90 7 ⇑P P 12 24 58.0 -0.7
baz=63
MPU Maple Canyon 62.94 1 eP P 12 24 59.4 +0.4
comp=Z,11nm,1.3s
Q30A Quinter 62.94 11 ⇑P P 12 24 58.0 -0.9
baz=63,SNR=5.4
ISCO Idaho Springs 63.03 6 eP P 12 24 59.9 +0.1
ISCO pmax pmax
comp=Z,5.0nm,1.0s
ISCO Idaho Springs 63.03 6 eP P 12 24 59.9 +0.1
comp=Z,5.2nm,1.0s
ISCO Idaho Springs 63.03 6 ⇓P P 12 24 58.9 -0.9
baz=63
P26A Davis Ranch, A 63.05 8 ⇓P P 12 24 59.0 -0.7
baz=63
Q31A Ellis 63.11 11 ⇑P P 12 24 59.7 -0.3
baz=63
DUG Dugway 63.11 360 ⇑P P 12 25 00.1 0.0
baz=63,SNR=12
P27A Ficken Ranch, 63.14 8 ⇓P P 12 24 59.5 -0.8
baz=63
Q32A Meitler Ranch, 63.25 12 ⇓P P 12 24 59.9 -1.0
baz=63
O22A Kremmling 63.31 5 ⇓P P 12 25 01.2 -0.5
baz=63,SNR=6.3
DAU Daniels Canyon 63.34 1 eP P 12 25 01.8 0.0
DAU Daniels Canyon 63.34 1 eP P 12 25 01.8 0.0
O23A Lake Granby, G 63.41 6 ⇓P P 12 25 01.6 -0.7
baz=64
P29A Atwood 63.43 10 ⇑P P 12 25 01.7 -0.4
baz=64
P30A Selden 63.48 10 ⇓P P 12 25 02.2 -0.3
baz=64
O25A Wiggins 63.50 7 ⇑P P 12 25 02.0 -0.7
baz=64
BMN Battle Mountai 63.51 356 eP P 12 25 03.8 +1.1
BMN pmax pmax
comp=Z,32nm,1.8s
BMN Battle Mountai 63.51 356 eP P 12 25 03.8 +1.1
comp=Z,32nm,1.8s
JLU Jordanelle 63.52 1 eP P 12 25 03.1 +0.1
comp=Z,18nm,1.5s
CTU Camp Tracy 63.61 1 eP P 12 25 03.9 +0.5
comp=Z,22nm,1.6s
P31A Stockton 63.61 11 ⇓P P 12 25 02.9 -0.4
baz=64,SNR=10
ELK Elko 63.71 358 eP P 12 25 04.5 +0.3
ELK pmax pmax
comp=Z,6.0nm,1.2s
ELK Elko 63.71 358 eP P 12 25 04.5 +0.3
comp=Z,6.0nm,1.2s
O26A Horse Wrangler 63.72 8 ⇓P P 12 25 03.7 -0.5
baz=64
KSU1 Kansas State U 63.75 14 ⇓P P 12 25 03.8 -0.4
baz=64
O27A Beecher Island 63.78 8 ⇑P P 12 25 04.3 -0.2
baz=64
O28A Krutsinger Ran 63.81 9 ⇑P P 12 25 04.6 -0.1
baz=64
BGU Big Grassy Mou 63.84 359 eP P 12 25 05.2 +0.2
comp=Z,9.7nm,1.7s
P32A Huiting Farm, 63.85 12 ⇓P P 12 25 04.3 -0.5
baz=64
N20A Spence Gulch, 63.86 3 ⇑P P 12 25 04.9 -0.3
baz=64,SNR=10
N22A Wattenberg Ran 63.96 5 ⇑P P 12 25 05.4 -0.5
baz=64,SNR=5.8
O29A 4D Ranch, Culb 63.96 10 ⇑P P 12 25 05.7 +0.1
baz=64
N23A Red Feather La 64.09 5 ⇑P P 12 25 06.1 -0.6
baz=64
WDC Whiskeytown Da 64.19 351 eP P 12 25 07.3 +0.2
WDC pmax pmax
comp=Z,22nm,1.5s
WDC Whiskeytown Da 64.19 351 eP P 12 25 07.3 +0.2
comp=Z,22nm,1.5s
N27A Anderson Farm, 64.38 8 ⇓P P 12 25 08.4 0.0
baz=64
N28A Pribbeno Ranch 64.40 9 ⇓P P 12 25 08.3 -0.2
baz=64
O32A Brockman Farm, 64.53 12 ⇓P P 12 25 09.1 -0.2
baz=65
TKL Tuckaleechee C 64.55 26 eP P 12 25 10.3 +0.8
TKL Tuckaleechee C 64.55 26 eP P 12 25 10.3 +0.8
N02D Trinity Center 64.60 351 ⇑P P 12 25 10.5 +0.7
baz=65
M23A Laramie 64.68 6 ⇓P P 12 25 10.1 -0.5
baz=65
M24A Cheyenne 64.76 6 ⇓P P 12 25 11.0 -0.1
baz=65
MOD Modoc 65.23 354 eP P 12 25 14.4 +0.4
comp=Z,3.9nm,1.3s
M04C Macdoel 65.28 352 ⇑P P 12 25 14.1 -0.3
baz=65
M31A Lambtecht Ranc 65.45 11 ⇑P P 12 25 15.0 -0.4
baz=66
L25A Engebretsen Ra 65.53 7 ⇓P P 12 25 15.7 -0.3
baz=66
WVOR Wild Horse Val 65.60 355 eP P 12 25 17.0 +0.6
WVOR pmax pmax
comp=Z,16nm,1.4s
WVOR Wild Horse Val 65.60 355 eP P 12 25 17.0 +0.6
comp=Z,16nm,1.4s
BGNE Belgrade 65.67 12 ⇑P P 12 25 16.7 0.0
baz=66
AHID Auburn Hatcher 65.69 1 eP P 12 25 15.1 -2.0
comp=Z,5.9nm,0.8s
K21A Alcova 65.72 4 ⇓P P 12 25 16.0 -1.2
baz=66,SNR=6.4
PDAR Pinedale Array 65.73 2 P P 12 25 15.6 -1.8
comp=Z,2.7nm,0.8s,baz=172,slow=7.3,SNR=16
PDAR LR LR 12 49 08.7
comp=Z,101nm,20.8s,baz=182,slow=32
K22A Casper 65.79 5 eP P 12 25 16.4 -1.2
comp=Z,21nm,1.3s
K22A Casper 65.79 5 ⇑P P 12 25 16.6 -1.0
baz=66
K23A Bowen Ranch, D 65.96 5 ⇑P P 12 25 18.1 -0.7
baz=66,SNR=5.8
K05A Summer Lake 66.11 353 eP P 12 25 20.4 +0.7
comp=Z,147nm,2.5s
K26A Motz Farm, Whi 66.16 7 ⇑P P 12 25 19.4 -0.5
baz=66
J19A Crowheart 66.25 3 ⇓P P 12 25 19.7 -0.9
baz=66
L31A Butterfield Fa 66.29 11 ⇓P P 12 25 20.5 -0.1
baz=66,SNR=7.9
REDW Red Top Meadow 66.29 1 eP P 12 25 19.7 -1.2
comp=Z,10nm,1.4s
J20A Shoshoni 66.38 3 ⇑P P 12 25 21.3 -0.2
baz=66
MFID Camas Ranch 66.40 357 eP P 12 25 21.0 -0.5
comp=Z,11nm,1.1s
K28A Ten Mile Ranch 66.41 9 ⇑P P 12 25 20.9 -0.7
baz=66
J21A Lysite 66.42 4 ⇑P P 12 25 20.8 -0.8
baz=66,SNR=5.9
HLID Hailey 66.50 358 eP P 12 25 22.0 -0.2
comp=Z,11nm,1.1s
HLID Hailey 66.50 358 ⇑P P 12 25 22.3 +0.1
baz=67,SNR=19
LOHW Long Hollow 66.55 1 eP P 12 25 21.2 -1.3
comp=Z,13nm,1.4s
J22A Midwest 66.55 5 ⇑P P 12 25 22.2 -0.3
baz=67
FXWY Fox Creek 66.56 1 eP P 12 25 21.9 -0.8
comp=Z,18nm,1.6s
K29A Lazy Trails An 66.61 10 ⇑P P 12 25 22.4 -0.4
baz=67
K30A Basset 66.64 10 ⇓P P 12 25 22.9 0.0
baz=67
MOOW Moose Ponds 66.68 1 eP P 12 25 22.2 -1.2
comp=Z,4.5nm,1.0s
J05D Fort Rock, OR 66.70 353 ⇓P P 12 25 23.2 -0.2
baz=67
J26A Sides Ranch, S 66.78 7 ⇓P P 12 25 23.2 -0.6
baz=67
IMW Indian Meadow 66.82 1 eP P 12 25 23.5 -0.9
comp=Z,14nm,1.4s
I17A Pilgrim Ck. 66.85 1 ⇓P P 12 25 23.8 -0.7
baz=67
J27A Elkhorn Farm, 66.85 8 ⇓P P 12 25 24.2 -0.2
baz=67
I21A Big Trails, Te 66.89 4 ⇓P P 12 25 23.7 -0.9
baz=67,SNR=14
QSPA South Pole Qui 66.91 180 eP P 12 25 29.0 +4.4
comp=Z,13nm,1.1s
I20A Worland 66.98 3 ⇑P P 12 25 24.4 -0.8
baz=67
FLWY Flagg Ranch 67.01 1 eP P 12 25 25.0 -0.5
comp=Z,18nm,1.4s
I19A Meeteetse 67.02 3 ⇑P P 12 25 25.0 -0.5
baz=67,SNR=8.7
I22A 9 Mile Ranch, 67.03 5 ⇑P P 12 25 24.3 -1.2
baz=67
J28A Allard Ranch, 67.13 9 ⇑P P 12 25 25.8 -0.3
baz=67
I24A Kuemmerle Ranc 67.15 6 ⇓P P 12 25 25.8 -0.4
baz=67
J29A Okreek 67.24 10 ⇓P P 12 25 26.5 -0.3
baz=67,SNR=6.0
J30A Dallas 67.29 10 ⇓P P 12 25 27.0 0.0
baz=67,SNR=5.0
I07A Izee 67.31 354 eP P 12 25 27.9 +0.6
comp=Z,18nm,1.4s
I25A Rochford 67.40 7 ⇑P P 12 25 27.4 -0.5
baz=68
RSSD Black Hills 67.47 7 eP P 12 25 26.5 -1.9
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 67.47 7 eP P 12 25 26.5 -1.9
comp=Z,5.4nm,0.8s
I26A New Underwood 67.51 7 ⇓P P 12 25 28.4 0.0
baz=68
H20A Greybull 67.52 3 ⇑P P 12 25 27.9 -0.7
baz=68
H18A Shoshone NF, C 67.64 2 ⇓P P 12 25 28.8 -0.7
baz=68
I27A Quinn 67.65 8 ⇓P P 12 25 28.9 -0.4
baz=68
H19A Powell 67.65 3 ⇓P P 12 25 28.5 -0.9
baz=68
H21A Big Horn, Sher 67.72 4 ⇓P P 12 25 28.7 -1.2
baz=68
H22A Clearmont 67.73 5 ⇑P P 12 25 29.2 -0.7
baz=68
MCMT McKenzie Canyo 67.74 360 eP P 12 25 29.6 -0.5
I05D Terrebonne, OR 67.75 353 ⇑P P 12 25 29.3 -0.7
baz=68
I29A Vivian Onida 67.85 9 ⇑P P 12 25 29.6 -0.9
baz=68
BMO Blue Mountains 67.91 356 eP P 12 25 30.9 -0.1
comp=Z,11nm,1.4s
H25A Fruitdale 68.01 7 ⇓P P 12 25 31.3 -0.3
baz=68,SNR=5.0
H24A Dirks Ranch, A 68.04 6 ⇓P P 12 25 30.6 -1.2
baz=68
H27A Howes 68.20 8 ⇑P P 12 25 32.2 -0.6
baz=68
ECSD EROS Data Cent 68.20 12 eP P 12 25 31.7 -1.2
comp=Z,62nm,2.4s
ECSD EROS Data Cent 68.20 12 ⇑P P 12 25 31.6 -1.2
baz=68
G20A Bridger 68.24 3 ⇓P P 12 25 31.9 -1.2
baz=68
DLMT Dillon 68.28 360 eP P 12 25 33.9 +0.5
comp=Z,11nm,1.5s
H28A Mission Ridge 68.38 9 ⇑P P 12 25 33.1 -0.8
baz=68
G23A Biddle 68.41 5 ⇓P P 12 25 33.5 -0.7
baz=68
H29A Onida 68.45 9 ⇓P P 12 25 33.9 -0.4
baz=68
G08A Pilot Rock 68.47 355 eP P 12 25 35.0 +0.5
comp=Z,6.8nm,1.1s
BOZ Bozeman (W) 68.56 1 eP P 12 25 34.7 -0.5
BOZ pmax pmax
comp=Z,64nm,3.0s
BOZ Bozeman (W) 68.56 1 eP P 12 25 34.7 -0.5
comp=Z,64nm,3.0s
G25A Newell 68.60 7 ⇓P P 12 25 34.6 -0.7
baz=69
G24A Alzada 68.63 6 ⇓P P 12 25 34.7 -0.8
baz=69
G26A Maurine 68.79 7 ⇑P P 12 25 35.4 -1.1
baz=69
G28A Parade 68.79 9 ⇓P P 12 25 35.7 -0.7
baz=69
F20A Billings 68.82 3 ⇓P P 12 25 35.8 -0.9
baz=69
F19A Roth Farm, Mol 68.84 3 ⇓P P 12 25 35.5 -1.3
baz=69
F21A Absaloka Mine, 68.90 4 ⇑P P 12 25 36.0 -1.2
baz=69
F22A Rosebud 68.92 5 ⇑P P 12 25 35.3 -1.9
baz=69
F23A Volborg 68.93 5 ⇓P P 12 25 36.5 -0.8
baz=69,SNR=8.9
G27A Dupree 68.95 8 ⇓P P 12 25 36.5 -1.0
baz=69
F10A Beach Ranch, E 69.03 356 eP P 12 25 38.1 +0.2
comp=Z,6.3nm,1.0s
G30A Faulkton 69.11 10 ⇑P P 12 25 37.6 -0.8
baz=69
F24A Ekalaka 69.14 6 ⇑P P 12 25 37.8 -0.9
baz=69
F25A Bowman 69.32 7 ⇑P P 12 25 39.1 -0.6
baz=69
F26A Lodgepole 69.33 7 ⇑P P 12 25 39.2 -0.6
baz=69
F27A Lemmon 69.43 8 ⇓P P 12 25 39.9 -0.5
baz=70
E19A Rath Farm, Rou 69.45 3 ⇓P P 12 25 40.1 -0.5
baz=70
E20A Meyer Farm, Mu 69.52 3 ⇓P P 12 25 40.3 -0.7
baz=70
F28A McLaughlin 69.56 9 ⇓P P 12 25 40.9 -0.4
baz=70
HAWA Hanford 69.61 355 eP P 12 25 42.5 +1.0
comp=Z,21nm,1.6s
HRY Holter Researc 69.62 0 eP P 12 25 41.4 -0.3
MSO Missoula 69.76 359 eP P 12 25 41.7 -0.8
comp=Z,6.1nm,1.1s
MSO Missoula 69.76 359 ⇓P P 12 25 41.8 -0.8
baz=70,SNR=6.0
CHMT Chamberlain Mo 69.83 359 eP P 12 25 42.7 -0.4
E24A Baker 69.86 6 ⇓P P 12 25 42.7 -0.4
baz=70
E25A Miller Ranch, 69.89 7 ⇓P P 12 25 42.9 -0.4
baz=70
E26A Carlson Angus 69.97 7 ⇑P P 12 25 43.5 -0.2
baz=70
E27A Carson 70.03 8 ⇑P P 12 25 43.4 -0.7
baz=70
D20A Manuel Ranch, 70.11 3 ⇓P P 12 25 43.8 -0.8
baz=70
D21A La Casta Ranch 70.15 4 ⇓P P 12 25 44.1 -0.7
baz=70,SNR=5.5
D19A Cripps Ranch, 70.15 3 ⇓P P 12 25 44.1 -0.7
baz=70
SLMT Seeley Lake 70.16 359 eP P 12 25 44.4 -0.7
comp=Z,6.4nm,1.0s
D08A Wollman Farm, 70.22 355 eP P 12 25 46.4 +1.2
comp=Z,19nm,1.6s
D22A Cohagen 70.29 5 ⇓P P 12 25 45.3 -0.3
baz=70,SNR=7.9
E28A Huff 70.29 9 ⇓P P 12 25 44.9 -0.7
baz=70
D23A Lindsay 70.39 5 ⇓P P 12 25 46.0 -0.2
baz=70,SNR=6.3
D24A Glendive 70.41 6 ⇓P P 12 25 46.2 -0.2
baz=70
E29A Napoleon 70.44 9 ⇑P P 12 25 45.7 -0.9
baz=70
D26A Manning 70.52 7 ⇓P P 12 25 46.8 -0.3
baz=71
D25A Fairfield 70.54 7 ⇑P P 12 25 46.5 -0.8
baz=71
JTMT Jette 70.68 359 eP P 12 25 47.7 -0.5
C19A Slack Wire Ran 70.71 2 ⇑P P 12 25 48.0 -0.2
baz=71,SNR=5.4
C20A Veseth Ranch, 70.74 3 ⇑P P 12 25 48.1 -0.3
baz=71
BSMT Bassoo Peak 70.80 358 eP P 12 25 49.0 0.0
C24A Savage 70.81 6 ⇑P P 12 25 48.5 -0.4
baz=71
C22A Vida 70.90 5 ⇑P P 12 25 49.0 -0.4
baz=71,SNR=7.0
C09A Chrisman Ranch 70.91 356 eP P 12 25 49.4 0.0
comp=Z,41nm,1.6s
EGMT Eagleton 70.98 2 eP P 12 25 49.9 0.0
comp=Z,15nm,1.3s
EGMT Eagleton 70.98 2 ⇑P P 12 25 49.9 0.0
baz=71,SNR=6.8
C23A Lambert 71.01 5 ⇑P P 12 25 49.6 -0.5
baz=71
D30A Buchanan 71.10 10 ⇓P P 12 25 50.3 -0.3
baz=71
NEW Newport 71.30 357 eP P 12 25 51.4 -0.4
NEW pmax pmax
comp=Z,17nm,1.4s
NEW Newport 71.30 357 eP P 12 25 51.4 -0.4
comp=Z,17nm,1.4s
NEW Newport 71.30 357 ⇓P P 12 25 51.6 -0.2
baz=71,SNR=12
C26A Wahner Farm, P 71.34 7 ⇓P P 12 25 51.5 -0.5
baz=71
B19A Brinkman Farms 71.44 2 ⇓P P 12 25 52.1 -0.5
baz=72
B20A Solberg Farm, 71.46 3 ⇓P P 12 25 52.0 -0.8
baz=72
B08A Colville Reser 71.54 355 eP P 12 25 53.2 -0.1
comp=Z,48nm,2.8s
B25A Knox Farm, Ray 71.67 6 ⇓P P 12 25 53.1 -0.9
baz=72
C30A Mose, Pekin 71.72 10 ⇓P P 12 25 53.6 -0.7
baz=72
DGMT Dagmar 71.76 6 eP P 12 25 53.9 -0.7
comp=Z,12nm,0.9s
DGMT Dagmar 71.76 6 ⇓P P 12 25 53.8 -0.7
baz=72,SNR=6.0
A20A Cobblestone Ra 71.91 3 ⇓P P 12 25 54.9 -0.5
baz=72
A19A Klindworth Far 71.92 3 ⇑P P 12 25 55.0 -0.5
baz=72,SNR=5.9
A22A Carney Farms, 72.14 4 ⇑P P 12 25 56.3 -0.6
baz=72
B28A Dugan Ranch, T 72.17 8 ⇑P P 12 25 56.3 -0.7
baz=72
A23A Redstone 72.19 5 ⇑P P 12 25 56.4 -0.7
baz=72
B29A Wagenman Farm, 72.33 9 ⇑P P 12 25 56.9 -1.1
baz=72
A25A Svangstu Ranch 72.33 6 ⇑P P 12 25 56.9 -1.1
baz=72
A26A Wade Farm, Ken 72.41 7 ⇑P P 12 25 57.8 -0.6
baz=72
A05A Maple Falls 72.43 353 eP P 12 25 59.7 +1.2
comp=Z,32nm,1.7s
B30A Myrvik Farm, E 72.47 10 ⇓P P 12 25 58.2 -0.6
baz=72,SNR=6.6
A28A Rude Farm, Bot 72.64 8 ⇑P P 12 25 59.2 -0.6
baz=73
AGMN Agassiz Nation 72.74 11 ⇑P P 12 26 00.1 -0.3
baz=73
A29A Manning Farm, 72.80 9 ⇓P P 12 26 00.2 -0.5
baz=73
A30A Hoffart Farm, 72.95 10 ⇑P P 12 26 01.0 -0.6
baz=73
DZM Mont Dzumac 73.88 253 eLR LR 12 48 54.8
comp=Z,681nm,28.2s
ULM Lac du Bonnet 74.62 11 P P 12 26 09.9 -1.4
comp=Z,1.5nm,0.6s,baz=216,slow=6.4,SNR=3.3
ULM LR LR 12 56 29.9
comp=Z,112nm,18.0s,baz=218,slow=34
EDM Edmonton 76.15 359 eP P 12 26 19.6 -0.6
EDM Edmonton 76.15 359 eP P 12 26 19.6 -0.6
FFC Flin Flon 78.16 6 eP P 12 26 30.5 -0.9
FFC pmax pmax
comp=Z,104nm,3.0s
FFC Flin Flon 78.16 6 eP P 12 26 30.5 -0.9
comp=Z,104nm,3.0s
SIT Sitka 82.29 348 eP P 12 26 54.4 +0.9
SIT pmax pmax
comp=Z,15nm,0.9s
SIT Sitka 82.29 348 eP P 12 26 54.4 +0.9
comp=Z,15nm,0.9s
DLBC Dease Lake 82.69 351 eP P 12 26 56.0 +0.3
FCC Fort Churchill 83.10 9 eP P 12 26 57.3 -0.4
FCC Fort Churchill 83.10 9 eP P 12 26 57.3 -0.4
comp=Z,0.3nm,1.1s
YKA Yellowknife Ar 85.46 359 P P 12 27 08.8 -0.8
comp=Z,4.6nm,0.9s,baz=173,slow=4.9,SNR=57
YKW3 Yellowknife Ar 85.53 359 eP P 12 27 09.1 -0.8
comp=Z,0.2nm,1.0s
SYO Syowa Base 85.79 170 ⇑ePcP P 12 27 12.0 +0.6
SYO Syowa Base 85.79 170 ⇓esP sP 12 27 16.4 +0.4
HYT Haines Junctio 86.22 348 eP P 12 27 14.4 +0.8
SCHQ Schefferville 86.99 24 P P 12 27 16.6 -0.8
comp=Z,3.6nm,0.8s,baz=166,slow=8.3,SNR=3.2
SCHQ LR LR 13 04 29.2
comp=Z,96nm,19.3s,baz=223,slow=35
H11S2 WAKE ISLAND Hy 89.18 290 T T 14 06 13.3
baz=120
H11S1 WAKE ISLAND Hy 89.19 290 T T 14 06 13.2
baz=120,slow=74
H11S3 WAKE ISLAND Hy 89.19 290 T T 14 06 13.7
baz=120,slow=74
H11N3 WAKE ISLAND Hy 89.51 292 T T 14 06 43.8
baz=118,slow=74
H11N1 WAKE ISLAND Hy 89.53 292 T T 14 06 54.6
baz=118
H11N2 WAKE ISLAND Hy 89.53 292 T T 14 06 45.2
baz=118,slow=74
DAWY Dawson 89.55 348 eP P 12 27 28.5 -0.9
PMR Palmer 89.55 343 eP P 12 27 28.8 -0.6
PMR pmax pmax
comp=Z,14nm,0.9s
PMR Palmer 89.55 343 eP P 12 27 28.8 -0.6
comp=Z,14nm,0.9s
RSO Redoubt South 89.63 341 eP P 12 27 29.9 -0.1

PAX Paxson 89.82 346 eP P 12 27 30.4 -0.4
PAX pmax pmax
comp=Z,11nm,1.6s
PAX Paxson 89.82 346 eP P 12 27 30.4 -0.4
comp=Z,11nm,1.6s
STKA Stephens Creek 90.55 235 P P 12 27 38.7 +3.7
comp=Z,5.8nm,1.2s,baz=0.0,slow=1.0,SNR=3.3
MCK McKinley 91.30 345 eP P 12 27 37.0 -0.5
MCK pmax pmax
comp=Z,8.0nm,1.0s
MCK McKinley 91.30 345 eP P 12 27 37.0 -0.5
comp=Z,7.6nm,1.0s
TRF Thorofare Moun 91.40 344 eP P 12 27 37.8 -0.4
comp=Z,9.5nm,0.9s
KTH Kantishna Hill 91.64 344 eP P 12 27 38.4 -0.9
comp=Z,89nm,0.9s
ILAR Eielson Array 91.70 346 P P 12 27 38.5 -0.8
comp=Z,1.2nm,0.8s,baz=178,slow=5.4,SNR=16
ILAR LR LR 12 59 56.1
comp=Z,40nm,18.8s,baz=120,slow=30
COLA College 92.00 346 eP P 12 27 40.0 -0.7
COLA pmax pmax
comp=Z,18nm,1.0s
COLA College 92.00 346 eP P 12 27 40.2 -0.4
comp=Z,22nm,2.8s
INK Inuvik 92.60 352 eP P 12 27 42.7 -0.7
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 92.60 352 eP P 12 27 42.7 -0.7
comp=Z,5.3nm,1.0s
COLD Coldfoot 94.50 346 eP P 12 27 53.1 +0.9
comp=Z,5.4nm,1.0s
TORD Torodi Ar. Bea 117.03 87 PKP PKPdf 12 33 18.4 +0.2
comp=Z,0.6nm,0.9s,baz=268,slow=0.4,SNR=3.6
PAB San Pablo 117.98 56 ePKIKP PKPdf 12 33 19.5 0.0
PAB San Pablo 117.98 56 ePKPdf PKPdf 12 33 19.5 0.0
ESLA Sonseca Array 118.29 56 ePKPdf PKPdf 12 33 21.9 +1.8
NOA NORSAR Array B 126.20 30 PKP PKPdf 12 33 35.1 +0.5
comp=Z,1.6nm,0.9s,baz=357,slow=1.2,SNR=4.0
FETA Feichten 129.06 48⇓iPKiKP PKiKP 12 33 41.9 +0.6
comp=Z,3.9nm,0.9s
KHC Kasperske Hory 130.60 44 ePKIKP PKPdf 12 33 41.5 -1.8
KHC Kasperske Hory 130.60 44 ePKPdf PKPdf 12 33 41.5 -1.8
GERES GERESS Array B 130.74 45 PKP PKPdf 12 33 44.5 +0.9
comp=Z,0.5nm,0.7s,baz=198,slow=2.9,SNR=4.8
KIEV Kiev 139.58 38 i PKIKP PKPdf 12 33 58.2 -1.7
AKASG Malin Array Be 139.58 38 PKP PKPdf 12 34 00.2 +0.2
comp=Z,3.8nm,0.8s,baz=284,slow=2.7,SNR=14
ULN Ulaanbaatar 140.21 318 i PKIKP PKPdf 12 33 59.9 -1.5
TLY Talaya 140.37 325 i PKIKP PKPdf 12 34 02.7 +1.3
QIZ Qiongzhong 140.48 272 PKP PKPdf 12 33 57.9 -4.6
QIZ SS SS 12 55 24.5 -2.8
QIZ AMB AMB
comp=Z,45nm,9.0s
QIZ LR LR
comp=Z,190nm,10.8s
QIZ LR LR
comp=Z,170nm,8.4s
SONM Songino Array 140.62 318 PKhKP PKPpre 12 33 54.9
comp=Z,0.6nm,0.9s,baz=92,slow=3.8,SNR=3.6
SONM PKP PKiKP 12 34 03.5 -1.2
comp=Z,1.7nm,0.9s,baz=61,slow=1.7,SNR=9.1
OBN Obninsk 140.71 28⇓iPKIKP PKPdf 12 34 03.3 +1.5
OBN i 12 34 06.0
OBN ePPP PPP 12 40 09.1
OBN pmax pmax
comp=Z,16nm,1.1s
OBN MLR MLR
comp=Z,81nm,20.0s
ZAK Zakamensk 141.24 323 ePKHKP PKPpre 12 33 58.2
ZAK pmax pmax
comp=Z,2.0nm,1.1s
KMBO Kilima Mbogo 141.80 125 PKP PKPdf 12 34 04.7 -0.7
comp=Z,1.3nm,0.5s,baz=310,slow=3.6,SNR=4.6
PSI Prapat 143.50 241 PKhKP PKPpre 12 34 06.1
comp=Z,11nm,0.8s,baz=168,slow=1.2,SNR=6.5
VSR Storozhevoye 144.47 31 ePKIKP PKPab 12 34 06.7 -0.2
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=N,6.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
GYA Guiyang 144.50 283⇑iPKP PKPdf 12 34 09.7 0.0
GYA PP PP 12 37 27.8 +1.7
GYA PKS PKSdf 12 37 43.2 -2.3
GYA SKKS 12 44 17.0
GYA SS SS 12 56 13.5 -0.5
GYA AMB AMB
comp=E,90nm,7.8s
GYA LR LR
comp=E,130nm,21.0s
GYA LR LR
comp=E,110nm,22.6s
GYA LR LR
comp=E,120nm,22.0s
VORD Divnogorie 144.69 31 ePKIKP PKPab 12 34 06.5 -1.2
VORD pmax pmax
comp=N,10.0nm,1.2s
VORD pmax pmax
comp=Z,10.0nm,1.2s
VORD pmax pmax
comp=E,10.0nm,1.0s
VRHR Novokhopersk 145.68 29 ePKIKP PKPdf 12 34 10.7 0.0
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=Z,90nm,1.0s
VRHR pmax pmax
comp=E,20nm,0.9s
SVE Sverdlovsk 146.07 7 ePKP2 PKPbc 12 34 11.8 -0.3
SVE pmax pmax
comp=Z,20nm,0.9s
ARU Arti 146.19 9 i PKIKP PKPdf 12 34 10.4 -1.0
ARU Arti 146.19 9 ePKPab PKPbc 12 34 12.1 -0.4
LZH Lanzhou 146.21 301 ePKPbc PKPbc 12 34 08.0 -4.4
LZH pPKP PKiKP 12 34 17.3 +0.7
LZH sPKP 12 34 22.1
LZH AMB AMB
comp=Z,120nm,5.4s
LZH LR LR
comp=Z,140nm,18.2s
LZH LR LR
comp=Z,170nm,19.0s
LZH LR LR
comp=Z,200nm,20.2s
NVS Novosibirsk 146.35 344 ePKHKP PKPpre 12 34 09.1
SLVN Son La 146.41 274 ePKPdf PKPab 12 34 16.0 +0.8
ZAA0 Zalesovo Array 146.71 341 ePKPdf PKPbc 12 34 13.4 -0.7
ZALV Zalesovo Beam 146.71 341 PKPbc PKPbc 12 34 13.4 -0.6
comp=Z,5.0nm,0.6s,baz=29,slow=3.4,SNR=29
BR131 Keskin Array S 146.94 52 ePKPdf PKPbc 12 34 15.2 -0.2
BRTR Keskin Array B 146.94 52 PKPbc PKPbc 12 34 15.3 -0.1
comp=Z,8.5nm,1.0s,baz=240,slow=2.0,SNR=28
CD2 Chengdu 147.03 291 PKPbc PKPdf 12 34 13.1 -0.6
CD2 PP PP 12 37 44.1 +3.3
CD2 PKS PKSdf 12 37 46.9 -2.2
CD2 SKS SKSdf 12 41 19.0 -3.8
CD2 SKKS SKKSac 12 44 31.7 -1.1
CD2 SS SS 12 56 42.3 0.0
CD2 AMB AMB
comp=Z,120nm,5.6s
CD2 LR LR
comp=Z,310nm,27.4s
CD2 LR LR
comp=Z,400nm,23.5s
CD2 LR LR
comp=Z,210nm,33.3s
GTA Gaotai 148.32 308 ePKPbc PKPbc 12 34 20.4 +1.2
GTA PKPab PKPab 12 34 30.7 +8.4
GTA PP PP 12 37 48.3 +0.3
GTA SKS SKSdf 12 41 26.9 +2.5
GTA AMB AMB
comp=Z,100nm,7.4s
GTA LR LR
comp=Z,94nm,17.6s
GTA LR LR
comp=Z,110nm,17.3s
GTA LR LR
comp=Z,96nm,20.0s
SOC Sochi 149.35 42d iPKP2 PKPbc 12 34 21.8 +0.4
SOC e 12 37 53.7
SOC eSS SS 12 57 06.8 +0.1
SOC pmax pmax
comp=Z,58nm,0.9s
BRVK Borovoye 150.16 357⇑iPKP2 PKPbc 12 34 23.8 +0.7
BRVK Borovoye 150.16 357 ePKPbc PKPbc 12 34 23.0 -0.1
BVA0 Borovoye Array 150.19 357 i PKP2 PKPbc 12 34 23.5 +0.3
BVA0 pmax pmax
comp=Z,18nm,1.4s
CM31 Chiang Mai Arr 150.36 267 ePKPbc PKPbc 12 34 26.6 +1.9
CMAR Chiang Mai Arr 150.36 267 PKP PKPdf 12 34 21.2 +1.8
comp=Z,0.6nm,0.5s,baz=75,slow=1.0,SNR=5.7
CMAR PKPbc PKiKP 12 34 27.0 +1.5
comp=Z,16nm,0.9s,baz=87,slow=0.5,SNR=74
CHTO Chiang Mai 150.45 267 ePKIKP PKPbc 12 34 26.4 +1.5
CHTO Chiang Mai 150.45 267 ePKPbc PKPbc 12 34 26.4 +1.5
VOSK Vostochnaya 150.45 356 PKIKP PKPbc 12 34 23.4 -0.5
VOSK pmax pmax
comp=Z,16nm,1.2s
KIV Kislovodsk 150.91 39 ePKIKP PKPdf 12 34 17.9 -1.8
KIV pmax pmax
comp=Z,24nm,1.0s
KIV Kislovodsk 150.91 39 ePKPab PKPbc 12 34 26.8 +1.5
KBZ Khabaz 151.17 39 PKP PKPdf 12 34 21.3 +1.4
comp=Z,2.8nm,0.9s,baz=256,slow=2.0,SNR=4.7
KBZ PKPbc PKiKP 12 34 26.9 +0.6
comp=Z,31nm,0.9s,baz=268,slow=1.7,SNR=46
KURK Kurchatov 151.27 345 PKIKP PKPbc 12 34 24.6 -1.2
KURK pmax pmax
comp=Z,11nm,1.4s
KURK Kurchatov 151.27 345 ePKPbc PKPbc 12 34 25.0 -0.8
KURK ePKPab PKPab 12 34 33.1 -0.6
AKTO Aktyubinsk 151.84 13 PKIKP PKPbc 12 34 27.2 0.0
AKTO pmax pmax
comp=Z,10.0nm,1.0s
ZEI Tsey 152.32 40 i PKIKP PKPbc 12 34 28.6 -0.2
ZEI pmax pmax
comp=Z,9.0nm,1.2s
AB31 Akbulak array 153.34 11 i PKIKP PKPbc 12 34 29.3 -1.2
AB31 pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 153.34 11 ePKPdf PKPdf 12 34 25.5 +2.5
WMQ Urumqi 153.64 326 ePKPbc PKPdf 12 34 23.0 -0.7
WMQ PKS PKSdf 12 37 55.8 -2.2
WMQ PP PP 12 38 21.4 +3.6
WMQ SKS SKSdf 12 41 24.7 -6.1
WMQ SKKS SKKSac 12 45 04.6 -3.9
WMQ SS SS 12 57 51.4 -2.3
WMQ LR LR
comp=Z,150nm,23.6s
WMQ LR LR
comp=Z,130nm,24.0s
WMQ LR LR
comp=Z,69nm,25.0s
MK31 Makanchi Array 153.69 337 PKIKP PKPbc 12 34 30.3 -1.1
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MKAR Makanchi Array 153.69 337 PKP PKPdf 12 34 24.9 +1.3
comp=Z,0.8nm,0.9s,baz=338,slow=3.1,SNR=5.9
MKAR PKPbc PKPbc 12 34 31.3 -0.1
comp=Z,3.8nm,0.8s,baz=219,slow=4.1,SNR=26
TKM2 Tokmak 2 159.28 343 PKP2 PKPab 12 35 05.8 -2.6
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 159.28 343 ePKPab PKPab 12 35 07.7 -0.7
KSH Kashi 162.29 338 ePKP PKPdf 12 34 35.7 +1.2
KSH PKS PKSdf 12 38 07.6 -0.1
KSH ePP PP 12 39 11.5 +6.6
KSH SKS SKSdf 12 41 39.7 +0.1
KSH SKKS SKKSac 12 45 58.9 +4.7
KSH SS SS 12 59 32.0 +6.6
KSH AMB AMB
comp=Z,86nm,4.8s
KSH LR LR
comp=Z,14nm,4.8s
KSH LR LR
comp=Z,28nm,5.9s
KSH LR LR
comp=Z,120nm,4.6s

DJA 01 12:24:34.9±0.5,2°S±3°×12°8E±°,h64km±13km,M4.1/9, mb4.8/1,mB5.0/1,MLv3.8/9,Mw(mB)4.3/1,Halmahera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSAI	Masohi	1.51	155	P	Pn	12 25 00.8	+0.9
MSAI				S	Sn	12 25 20.4	+1.7
LBMI	Labuha	1.54	330	P	Pn	12 25 00.6	+0.4
LBMI				S	Sn	12 25 19.9	+0.6
NLAI	Namlea	1.73	223	P	Pn	12 25 04.1	+1.4
SANI	Sanana	2.29	268	P	Pn	12 25 08.9	-1.5
TNTI	Ternate	2.87	341	P	Pn	12 25 18.8	+0.5
BNDI	Bandanaira	3.01	147	P	Pn	12 25 19.6	-0.6
SWI	Sorong	3.17	70	P	Pn	12 25 22.8	+0.3
FAKI	Fak Fak	4.08	103	P	Pn	12 25 33.6	-1.2
APSI	Ampana	6.71	279	P	Pn	12 26 11.6	+0.7

IDC 01 12:48:34.3±2.7,13°85N×92°28W,h0km,mb3.6/3, mb1 4.0/5,mb1mx3.6/29,mbtmp3.6/5,ML3.6/2,MS2.9/1, Ms1 2.9/1,ms1mx2.3/30,Error ellipse: s-maj=58.7km s-min=40.8km az=142.0

ISC 01 12:48:40.7±2.6,13°9N±0°3×92°3W±0°2,h46km,n7,σ0°95/8, mb3.7/3,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TEIG	Tepich	7.36	31	Pn	Pn	12 50 25.8	+0.1
	2.4nm,0.3s,baz=221,slow=10,SNR=13						
TEIG				Sn	Sn	12 51 47.9	-0.1
	baz=357,slow=22,SNR=1.9						
TEIG				LR	LR	12 53 30.1	
	comp=Z,88nm,21.6s,baz=308,slow=40						
H06E1	SOCORRO T-PHASE	18.53	288	T	T	13 11 45.5	
	SNR=4.9						
TXAR	Lajitas Array	18.62	327	P	Pn	12 52 55.2	0.0
	0.0nm,0.3s,baz=148,slow=13,SNR=4.7						
NVAR	Mina Array Bea	33.57	321	P	P	12 55 16.6	-0.1
	0.5nm,0.7s,baz=124,slow=8.8,SNR=5.3						
YKA	Yellowknife Ar	51.05	347	P	P	12 57 37.6	-0.5
	1.5nm,0.7s,baz=151,slow=7.4,SNR=32						
YKA				PcP	PcP	12 58 51.9	-1.5
	0.2nm,0.7s,baz=143,slow=2.6,SNR=3.5						
ILAR	Eielson Array	62.81	337	P	P	12 59 02.1	+0.7
	0.5nm,0.8s,baz=130,slow=3.6,SNR=2.8						
CMAR	Chiang Mai Arr	145.99	341	PKPbc	PKPab	13 08 18.0	+1.2
	1.1nm,0.7s,baz=340,slow=4.0,SNR=7.3						

ISCJB 01 12:48:47.0±0.6,62°81S±0°09×156°0E±0°3,h10km, mb4.2/10,MS4.3/14,Error ellipse: s-maj=23.0km s-min=11.4km az=158.1

IDC 01 12:48:47.5±0.6,62°81S×155°80E,h0km,mb4.2/8, mb1 4.3/8,mb1mx4.3/14,mbtmp4.2/8,MS4.4/14, Ms1 4.4/14,ms1mx4.4/14,Error ellipse: s-maj=41.5km s-min=17.5km az=70.0

NEIC 01 12:48:49.0±0.5,63°00S×155°69E,h10km,mb4.8/3,Error ellipse: s-maj=36.6km s-min=11.8km az=72.0

GCMT 01 12:48:49.0±0.2,62°82S×155°57E,h12km,MW5.3/85, Moment Tensor Solution. s65,c85; s85,c141; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; Mrr-0.12±.02; Mθθ0.77±.02; Mφφ-0.65±.02; Mrθ-0.23±.05; Mrφ-0.60±.02; Mθφ0.14±.05; Best double couple: M0 0.96300×10^{17} NP1:φs336.00000°,δ84.00000°,λ12.00000°. NP2: φs244.00000°,δ78.00000°,λ174.00000°. Principal axes: T 1.0530, Plg13.0000°, Azm200.0000°; N -0.1810, Plg76.0000°, Azm1.0000°; P -0.8730, Plg4.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 01 12:48:48.7±0.5,62°79S±0°10×156°3E±0°2,h10km,n60, σ1°63/36,mb4.4/10,MS4.4/14,7C-2D,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
VNDA	Vanda	14.91	175	Pn	Pn	12 52 13.1	-6.0
	1.7nm,0.3s,baz=343,slow=12,SNR=40						
VNDA				LR	LR	12 57 29.8	
	comp=Z,5μm,19.1s,baz=360,slow=35						
SBA	Scott Base	15.49	172	ePn	Pn	12 52 23.6	-3.2
QSPA	South Pole Qui	27.30	180	P	P	12 54 33.1	0.0
	11nm,0.8s,baz=8.1,slow=3.8,SNR=22						
QSPA				LR	LR	13 05 53.9	
	comp=Z,1μm,19.4s,baz=14,slow=38						
URZ	Urewera	27.63	37	LR	LR	13 04 27.9	
	comp=Z,1μm,19.4s,baz=194,slow=34						
STKA	Stephens Creek	32.33	336	P	P	12 55 16.4	-1.3
	1.6nm,0.8s,baz=132,slow=17,SNR=2.4						
STKA				LR	LR	13 05 08.3	
	comp=Z,698nm,21.5s,baz=157,slow=30						
STKA	Stephens Creek	32.33	336	eP	P	12 55 18.8	+1.1
	2.8nm,1.3s						
MAW	Mawson	35.94	221	LR	LR	13 10 38.5	
	comp=Z,2μm,19.5s,baz=118,slow=37						
RAO	Raoul Island	37.48	39	LR	LR	13 10 26.0	
	comp=Z,797nm,18.6s,baz=150,slow=34						
H01W1	Cape Leeuwin H	38.20	297	T	T	13 36 37.0	
	baz=149,slow=76,SNR=96						
H01W2	Cape Leeuwin H	38.21	297	T	T	13 36 37.3	
	baz=149,slow=76,SNR=68						
H01W3	Cape Leeuwin H	38.22	297	T	T	13 36 38.4	
	baz=149,slow=76,SNR=67						
DZM	Mont Dzumac	41.27	14	eS	S	13 02 44.7	-3.1
	242nm,27.9s						
DZM				eLR	LR	13 07 44.1	
	2μm,22.0s						
ASAR	Alice Springs	41.91	328	P	P	12 56 38.5	-0.6
	2.2nm,0.8s,baz=165,slow=8.5,SNR=22						
ASAR				PcP	PcP	12 58 34.0	-0.5
	0.5nm,0.7s,baz=154,slow=4.1,SNR=4.3						
AS31	Alice Springs	41.92	328	eP	P	12 56 38.6	-0.6
WRA	Warramunga Arr	45.40	330	P	P	12 57 05.9	-1.4
	1.9nm,0.8s,baz=164,slow=7.0,SNR=12						
WRA				PcP	PcP	12 58 46.1	-0.2
	1.3nm,1.0s,baz=170,slow=2.9,SNR=4.8						
WRA				LR	LR	13 13 49.5	
	comp=Z,471nm,19.2s,baz=155,slow=33						
WRAB	Tennant Creek	45.41	330	eP	P	12 57 06.6	-0.7
	24nm,1.3s						
HNR	Honiara	53.33	4	LR	LR	13 16 41.3	
	comp=Z,756nm,19.1s,baz=192,slow=31						
TBI	Tubuai	53.34	68	eLQ	LQ	13 10 44.2	
	879nm,27.0s						
TBI	Tubuai	53.34	68	eT	T	13 55 15.1	
	11nm,0.2s						
PAE	Paea	58.34	65	eT	T	14 01 27.6	
	3.5nm,0.2s						
TVO	Taravao	58.37	66	eT	T	14 01 30.1	
	3.1nm,0.4s						
PPT2	Papeete2	58.41	65	eS	S	13 06 48.4	+1.3
	334nm,27.0s						
PPT2				eLQ	LQ	13 13 24.7	
	595nm,25.5s						
PPT2				eLR	LR	13 15 28.6	
	363nm,27.8s						
PPT2	Papeete2	58.41	65	eT	T	14 01 33.0	
	5.0nm,0.2s						
PPT	Papeete	58.43	65	LR	LR	13 20 25.5	
	comp=Z,146nm,18.3s,baz=230,slow=32						
RKT	Rikitea	59.97	82	eLR	LR	13 16 36.2	
	589nm,28.8s						
VAH	Vaihoa	61.33	66	eT	T	14 05 11.6	
	48nm,0.2s						
PLCA	Paso Flores	70.22	144	P	P	13 00 01.3	-0.2
	2.4nm,0.8s,baz=190,slow=2.6,SNR=2.5						
PLCA				LR	LR	13 24 41.1	
	comp=Z,96nm,21.4s,baz=222,slow=31						
CFAA	Coronel Fontan	79.42	142	P	P	13 00 54.1	-0.7
	0.2nm,0.4s,baz=153,slow=5.5,SNR=4.2						
CFAA				LR	LR	13 30 32.4	
	comp=Z,6.8nm,18.1s,slow=32						
H08S2	Diego Garcia H	80.42	272	T	T	14 29 28.3	
	baz=152,slow=76,SNR=27						
H08S1	Diego Garcia H	80.43	272	T	T	14 29 29.5	
	baz=152,slow=76,SNR=29						
H08S3	Diego Garcia H	80.44	272	T	T	14 29 34.7	
	baz=152,slow=76,SNR=31						
BOSA	Boshof	80.93	222	P	P	13 01 03.1	0.0
	3.9nm,0.8s,baz=172,slow=4.5,SNR=3.5						
BOSA				LR	LR	13 33 50.0	
	comp=Z,295nm,20.1s,baz=158,slow=34						
H08N1	Diego Garcia H	82.25	271	T	T	14 31 57.4	
	baz=141,slow=75,SNR=11						
H08N3	Diego Garcia H	82.26	271	T	T	14 31 59.7	
	baz=141,slow=75,SNR=10						
H08N2	Diego Garcia H	82.27	271	T	T	14 31 53.5	
	baz=141,slow=75,SNR=9.0						
LVC	Limon Verde	87.69	139	P	P	13 01 38.3	+0.7
	13nm,1.4s						
CMAR	Chiang Mai Arr	92.53	307	LR	LR	13 42 25.8	
	comp=Z,148nm,19.0s,baz=155,slow=35						
LPAZ	La Paz	93.88	138	P	P	13 02 08.8	+1.9
	1.2nm,0.8s,baz=177,slow=5.5,SNR=4.1						
BDFB	Brasilia	99.53	156	LR	LR	13 44 42.3	
	comp=Z,59nm,21.9s,baz=201,slow=34						
MJAR	Matsushiro Arr	100.06	345	LR	LR	13 44 55.2	
	comp=Z,57nm,20.1s,baz=205,slow=34						
NVAR	Mina Array Bea	121.37	66	PKP	PKPdf	13 07 42.3	+0.9
	0.3nm,0.8s,baz=193,slow=3.7,SNR=3.1						
MKAR	Makanchi Array	123.94	307	PKP	PKPdf	13 07 46.5	+0.7
	0.3nm,0.6s,baz=113,slow=3.2,SNR=3.7						
TORD	Torodi Ar. Bea	127.25	212	PKP	PKPdf	13 07 52.8	-0.3
	1.0nm,1.1s,baz=157,slow=3.6,SNR=3.5						
PDAR	Pinedale Array	128.69	70	PKP	PKPdf	13 07 57.9	+2.5
	2.1nm,1.2s,baz=101,slow=0.9,SNR=5.1						
ILAR	Eielson Array	133.99	30	PKP	PKPdf	13 08 04.7	+0.4
	0.3nm,0.8s,baz=193,slow=3.2,SNR=3.9						
YKA	Yellowknife Ar	141.55	48	PKhKP	PKPpre	13 08 13.6	
	0.3nm,0.8s,baz=224,slow=2.5,SNR=6.5						
YKA				PKP	PKiKP	13 08 19.9	-1.2
	0.9nm,0.8s,baz=234,slow=2.8,SNR=10						
MMB	Musomiste	145.15	255⇑	iP	PKPdf	13 08 26.0	+0.6
TIRR	Tirgusor	145.30	263⇓	iP	PKPdf	13 08 26.1	+0.7
CFR	Carcaliu	145.97	264⇑	iP	PKPab	13 08 32.6	+4.7
KEST	Kesra	146.09	233	PKPbc	PKPab	13 08 28.6	-0.1
	1.5nm,0.9s,baz=72,slow=6.4,SNR=2.4						
VTS	Vitosha	146.18	256⇑	iP	PKPab	13 08 29.7	+0.7
VRI	Vrincioaia	147.14	263⇑	iP	PKPab	13 08 32.0	-0.5
MLR	Muntele Rosu	147.21	262⇑	iP	PKPbc	13 08 32.0	+0.9
VOIR		147.58	261⇑	iP	PKPab	13 08 37.7	+3.4
MDT	Midelt	147.66	211	PKPbc	PKPbc	13 08 33.8	+1.0
	3.2nm,1.1s,baz=284,slow=8.3,SNR=2.5						
BURAR	Bucovina Array	149.14	264⇑	iP	PKPab	13 08 46.2	+5.6
AKASG	Malin Array Be	149.51	272	PKPbc	PKPbc	13 08 36.4	-0.3
	6.3nm,1.2s,baz=93,slow=2.6,SNR=9.4						
TRPA	Tarpa	150.74	262⇓	iP	PKPbc	13 08 40.0	+0.2
ESDC	Sonseca Array	153.99	216	PKPbc	PKPbc	13 08 47.8	+0.3
	0.6nm,0.5s,baz=284,slow=0.5,SNR=5.2						
ESDC				PKPab	PKPab	13 08 58.0	-2.9
	1.0nm,0.3s,baz=122,slow=1.9,SNR=9.4						
GERES	GERESS Array B	155.23	253	PKPbc	PKPdf	13 08 51.6	+11
	0.2nm,0.3s,baz=126,slow=5.0,SNR=3.9						

IDC 01 12:59:07.6±3.3,9°16S×115°81E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.3/27,mbtmp3.3/3,Error ellipse: s-maj=222.0km s-min=25.0km az=48.0

DJA 01 12:59:29.5±0.4,8°S±8°×117°7E±°,h84km±22km,M3.7/12, MLv3.7/12

ISC 01 12:59:25.6±1.2,7°6S±0°1×117°41E±0°06,h150km,n16, σ2°17/15,Bali Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SRBI	Singaraja	2.23	257	P	Pn	13 00 04.4	+1.0
DNP	Denpasar	2.43	244	P	Pn	13 00 05.7	-0.1
IGBI	Denpasar	2.55	241	P	Pn	13 00 08.4	+1.2
IGBI				S	Sn	13 00 38.4	-1.0
JAGI	Jajag, Banyuwa	3.34	255	P	Pn	13 00 19.2	+1.9
KMMI	Kalianget	3.46	279	P	Pn	13 00 20.4	+1.6
BKSI	Bulukumba	3.52	50	P	Pn	13 00 20.9	+1.3
WSI	Waingapu	3.52	126	P	Pn	13 00 22.5	+2.9
GMJI	Gumukmas	3.98	260	P	Pn	13 00 28.6	+3.0
SOEI	Soe	7.11	108	P	Pn	13 01 10.8	+3.5
	baz=5.4,SNR=3.9						
FITZ	Fitzroy Crossi	13.16	143	P	Pn	13 02 29.4	+2.6
	baz=12,SNR=3.2						
KNRA	Kununurra	13.71	127	P	Pn	13 02 32.5	-1.3
	baz=12,SNR=3.5						
MTN	Manton Dam	14.47	112	P	Pn	13 02 43.4	-0.2
	baz=13,SNR=5.1						
MTN				S	Sn	13 05 18.9	-5.3
	baz=13,SNR=3.3						
WRKA	Warakurna	20.22	150	P	P	13 03 46.0	-3.0
	baz=19,SNR=10						
WRA	Warramunga Arr	20.49	128	P	P	13 03 50.1	-1.8
	0.4nm,0.3s,baz=303,slow=12,SNR=32						
ASAR	Alice Springs	22.49	137	P	P	13 04 10.1	-2.7
	0.5nm,0.4s,baz=307,slow=8.9,SNR=20						
MKAR	Makanchi Array	62.50	334	P	P	13 09 38.0	+4.8
	0.2nm,0.5s,baz=134,slow=6.2,SNR=3.3						

SJA 01 13:03:08.7±0.5,24°.15S×66°.36W,h279km±45km,ML3.6
ISCJB 01 13:03:09.6±0.6,24°.13S±0°.04×66°.9W±0°.1,h195km, mb3.5/3,Error ellipse: s-maj=15.5km s-min=5.0km az=6.5
IDC 01 13:03:11.3±1.9,24°.08S×66°.89W,h200km±17km,mb3.4/3, mb1 3.4/8,mb1mx3.2/29,mbtmp3.8/8,Error ellipse: s-maj=26.2km s-min=21.0km az=93.0
ISC 01 13:03:09.9±0.8,24°.16S±0°.06×67°.0W±0°.1,h195km,n14, σ1§93/20,mb3.7/3,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
ACLC	CERRO LA CRUZ	5.25	180	i P	Pn	13 04 29.8	+2.2
ACLC				eS	Sn	13 05 29.1	+0.4
AVFE	Valle Fertil	6.49	184	i P	Pn	13 04 44.5	+1.0
AVFE				eS	Sn	13 05 56.9	-0.8
AVFE				AML	AML	13 05 58.2	
	comp=Z,11nm,0.2s						
AMOG	MOGNA	6.89	191	i P	Pn	13 04 49.9	+1.2
AMOG				eS	Sn	13 06 06.5	-0.7
ACHE	Chepes	6.99	178	i P	Pn	13 04 51.0	+1.0
ACHE				eS	Sn	13 06 05.5	-4.0
CFAA	Coronel Fontan	7.50	188	P	Pn	13 04 58.6	+1.8
	comp=Z,0.1nm,0.3s,baz=39,slow=13,SNR=16						
CFAA				S	Sn	13 06 18.2	-3.4
	comp=Z,0.5nm,0.3s,baz=199,slow=15,SNR=13						
CFAA	Coronel Fontan	7.50	188	i P	Pn	13 04 58.5	+1.8
CFAA				eS	Sn	13 06 18.4	-3.2
LPAZ	La Paz	7.91	352	P	Pn	13 05 02.9	+0.2
	comp=Z,1.4nm,0.3s,baz=146,slow=4.9,SNR=20						
LPAZ				S	Sn	13 06 29.5	-2.7
	comp=Z,0.1nm,0.3s,baz=304,slow=15,SNR=2.5						
CPUP	Villa Florida	8.97	106	P	Pn	13 05 18.7	+2.8
	comp=Z,0.4nm,0.3s,baz=309,slow=19,SNR=3.1						
SIV	San Ignacio	9.82	35	P	Pn	13 05 26.6	-0.5
	comp=Z,0.5nm,0.3s,baz=223,slow=14,SNR=5.9						
BDFB	Brasilia	19.70	68	P	P	13 07 24.9	+0.1
	comp=Z,0.9nm,0.3s,baz=224,slow=11,SNR=8.0						
DBIC	Dimbokro	67.81	71	P	P	13 13 47.2	-0.1
	comp=Z,2.1nm,1.0s,baz=263,slow=8.6,SNR=2.5						
TORD	Torodi Ar. Bea	76.58	69	P	P	13 14 39.6	+0.3
	comp=Z,0.8nm,0.5s,baz=259,slow=5.8,SNR=21						
YKA	Yellowknife Ar	94.29	340	P	P	13 16 07.9	+1.4
	comp=Z,0.1nm,0.5s,baz=138,slow=5.0,SNR=5.0						
MKAR	Makanchi Array	146.62	40	PKPbc	PKPbc	13 22 28.5	0.0
	comp=Z,0.5nm,0.6s,baz=295,slow=4.4,SNR=6.9						

JMA 01 13:10:38.9±0.3,32°.08N×139°.91E,h150km±2km,M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
JHCJ	Hachijojimakas	0.99	355	P	Pn	13 11 03.6	0.0
JHCJ				S	Sn	13 11 22.5	-0.1
JHJ2	Mitsune	1.03	356	P	Pn	13 11 04.2	+0.3
JHJ2				S	Sn	13 11 23.6	+0.5
JKO	Kozu shima	2.20	343	P	Pn	13 11 17.3	+1.0
TK02	Tokai 2	2.60	316	P	Pn	13 11 21.6	+0.7
BSO1	Boso 1	2.72	19	P	Pn	13 11 23.0	+1.0
BSO1				eS	Sn	13 11 57.0	+1.6
TTO1	TONANKAI O.B.S	3.05	301	P	Pn	13 11 26.7	+0.3
JOD2	Odawara 2	3.25	348	P	Pn	13 11 30.7	+1.3
JOD2				S	Sn	13 12 09.5	+0.9
JIE	Ise	3.54	312	P	Pn	13 11 33.2	+0.1
JYN	Shimob	3.59	342	P	Pn	13 11 35.4	+1.5
JWZ	Kozaga	3.82	293	P	Pn	13 11 36.3	-0.5
JRY	Ryogami san	4.01	348	P	Pn	13 11 40.5	+1.1
JRY				S	Sn	13 12 26.3	-0.1
JWY	Kouya	4.20	302	P	Pn	13 11 42.2	+0.3
JAG	Ashikaga	4.35	355	P	Pn	13 11 43.0	-0.7

IDC 01 13:23:50.2±5.9,17°.60S×70°.99W,h130km±37km,mb3.4/4, mb1 3.6/7,mb1mx3.3/30,mbtmp4.0/7,MS2.3/1,Ms1 2.4/1, ms1mx2.1/15,Error ellipse: s-maj=59.7km s-min=36.1km az=32.0,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
LPAZ	La Paz	3.03	65	P	Pn	13 24 38.0	0.0
	39nm,0.3s,baz=262,slow=8.4,SNR=709						
LPAZ				S	Sn	13 25 15.7	+0.8
	6.3nm,0.3s,baz=349,slow=22,SNR=6.5						
LPAZ				LR	LR	13 25 42.9	
	comp=Z,48nm,19.8s,baz=230,slow=37						
SIV	San Ignacio	9.63	82	P	Pn	13 26 04.2	-1.5
	2.1nm,0.3s,baz=269,slow=12,SNR=22						
H03N1	Juan Fernandez	17.31	203	T	T	13 45 30.5	
	baz=25,slow=75,SNR=369						
H03N2	Juan Fernandez	17.31	203	T	T	13 45 30.9	
	baz=25,slow=75,SNR=402						
H03N3	Juan Fernandez	17.32	203	T	T	13 45 31.8	
	baz=25,slow=75,SNR=457						
PTGA	Pitinga	19.96	34	P	P	13 28 10.6	-1.9
	1.2nm,0.3s,baz=227,slow=18,SNR=6.2						
BDFB	Brasilia	22.10	88	P	P	13 28 33.6	-1.8
	1.8nm,0.4s,baz=260,slow=6.1,SNR=3.0						
DBIC	Dimbokro	69.60	76	P	P	13 34 46.4	+0.5
	2.9nm,0.9s,baz=221,slow=9.3,SNR=3.2						
TORD	Torodi Ar. Bea	77.96	72	P	P	13 35 35.3	+0.6
	0.3nm,0.4s,baz=250,slow=5.6,SNR=13						
TORD				pP	pP	13 35 57.2	-10
	1.2nm,0.7s,baz=253,slow=5.5,SNR=5.9						
YKA	Yellowknife Ar	86.88	341	P	P	13 36 20.1	+0.2
	0.3nm,1.0s,baz=130,slow=4.5,SNR=3.0						
YKA				pP	pP	13 36 41.9	-11
	0.1nm,0.4s,baz=133,slow=5.1,SNR=4.7						
H11N3	WAKE ISLAND Hy	125.33	282	T	T	16 00 24.2	
	baz=98						
H11S2	WAKE ISLAND Hy	125.34	280	T	T	16 00 25.3	
	baz=97						
H11N2	WAKE ISLAND Hy	125.34	282	T	T	16 00 25.9	
	baz=98						
H11N1	WAKE ISLAND Hy	125.34	282	T	T	16 00 25.2	
	baz=98						
H11S1	WAKE ISLAND Hy	125.35	280	T	T	16 00 25.0	
	baz=97						
H11S3	WAKE ISLAND Hy	125.36	280	T	T	16 00 25.2	
	baz=97						

TAP 01 13:48:59.7,23°.20N×120°.73E,h19km±1km,ML1.3,1C,A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
STYT	Tauyuan	0.04	148	P	Pg	13 49 03.5	+0.3
	baz=141						
STYT				S	Sg	13 49 06.2	+0.6
	baz=141						
STYT	Tauyuan	0.04	148	P	Pg	13 49 06.2	+3.0
	baz=172						
STYT				i S	Sg	13 49 08.8	+3.3
	baz=172						
WTP	Ta-pu	0.12	294	⇑i P	Pg	13 49 04.2	+0.4
	baz=294						
WTP				S	Sg	13 49 07.2	+0.6
	baz=294						
WTP	Ta-pu	0.12	294	i P	Pg	13 49 06.2	+2.4
	baz=254						
WTP				i S	Sg	13 49 09.1	+2.5
	baz=254						
SGST	Jiashian	0.18	231	eP	Pg	13 49 04.2	-0.3
	baz=228						
SGST				eS	Sg	13 49 08.8	+1.0
	baz=228						
SGST	Jiashian	0.18	231	eP	Pg	13 49 08.4	+3.9
	baz=216						
SGST				eS	Sg	13 49 12.8	+5.1
	baz=216						
CHN1	Nanshi	0.19	266	P	Pg	13 49 05.1	+0.4
	baz=266						
CHN1				eS	Sg	13 49 08.9	+0.8
	baz=266						
CHN1	Nanshi	0.19	266	eP	Pg	13 49 08.0	+3.3
	baz=245						
CHN1				S	Sg	13 49 11.9	+3.9
	baz=245						
CHN4	Tsaushan	0.20	320	P	Pg	13 49 06.8	+2.0
	baz=297						
TWK	Hsinying	0.24	287	P	Pg	13 49 05.6	+0.2
	baz=287						
TWK				eS	Sg	13 49 10.0	+0.7
	baz=287						
TWK	Hsinying	0.24	287	eP	Pg	13 49 08.0	+2.6
	baz=266						
TWK				eS	Sg	13 49 12.4	+3.1
	baz=266						
ELDTW	Lidau	0.26	92	eP	Pn	13 49 08.3	-0.4
	baz=92						
ELDTW				eS	Sg	13 49 11.2	+1.2
	baz=92						
ELDTW	Lidau	0.26	92	eP	Pn	13 49 08.6	-0.2
	baz=109						
ALS	Alishan	0.32	12	eP	Pb	13 49 08.0	+0.7
	baz=13						
ALS				S	Sb	13 49 12.4	+0.1
	baz=13						
ALS	Alishan	0.32	12	eP	Pb	13 49 08.3	+1.0
	baz=14						
ALS				eS	Sb	13 49 12.5	+0.1
	baz=14						
CHN5	Tsauling	0.40	353	eP	Pn	13 49 10.0	-0.6
	baz=348						
CHN5				eS	Sb	13 49 15.1	+0.7
	baz=348						
TWG	Pinlang	0.49	140	eP	Pn	13 49 11.0	-0.7
	baz=139						
TWG	Pinlang	0.49	140	eP	Pn	13 49 12.7	+0.9
	baz=146						

MEX 01 14:04:29.2±0.7,16°.83N×98°.46W,h6km±8km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
TLIG	Tlapa	0.74	352	i P	Pg	14 04 41.6	-2.0
TLIG				i S	Sg	14 04 52.7	-0.7
ACX	Acapulco	1.34	272	i P	Pn	14 04 51.7	-2.7
ACX				i S	Sb	14 05 08.4	-3.8
VHO	Vista Hermosa	1.67	81	eP	Pn	14 04 56.1	-3.3
VHO				i S	Sn	14 05 16.0	-5.3
PLIG	Platanillo	1.85	328	eP	Pn	14 04 58.0	-3.5
PLIG				i S	Sn	14 05 21.1	-4.2
YAIG	Yautepec	2.10	344	eP	Pn	14 05 02.4	-2.8
YAIG				eS	Sn	14 05 27.5	-4.4
ARIG	Puente Sto Nin	2.31	309	eP	Pn	14 05 05.4	-2.4
ARIG				i S	Sn	14 05 32.2	-4.3
HUIG	Huatulco	2.49	115	i P	Pn	14 05 07.9	-2.4
HUIG				i S	Sn	14 05 36.3	-4.8

IDC 01 14:17:50.5±2.7,25°.84N×95°.60E,h0km,mb3.4/5, mb1 3.5/5,mb1mx3.3/28,mbtmp3.4/5,MS3.1/1,Ms1 3.1/1, ms1mx2.4/33,Error ellipse: s-maj=235.0km s-min=19.6km az=61.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
MKAR	Makanchi Array	23.43	337	P	P	14 23 02.1	+0.7
	0.3nm,0.4s,baz=144,slow=9.8,SNR=8.2						
KURBB	Kurchatov Arra	28.00	337	P	P	14 23 42.8	-0.2
	0.2nm,0.3s,baz=146,slow=9.1,SNR=4.1						
ZALV	Zalesovo Beam	29.20	347	P	P	14 23 53.1	-0.5
	0.2nm,0.3s,baz=168,slow=7.4,SNR=2.5						
KSRS	Korea Array	29.71	59	LR	LR	14 35 48.6	
	comp=Z,32nm,19.8s,baz=155,slow=36						
WRA	Warramunga Arr	59.05	137	P	P	14 27 52.5	-0.2
	0.2nm,0.5s,baz=323,slow=7.7,SNR=7.6						
ASAR	Alice Springs	61.62	140	P	P	14 28 10.4	+0.1
	0.3nm,0.7s,baz=321,slow=6.4,SNR=8.2						

ISCJB 01 14:19:47.5±0.3,32°.01N±0°.02×117°.53W±0°.02,h10km, mb4.2/24,MS3.9/18,Error ellipse: s-maj=3.3km s-min=2.5km az=38.9
IDC 01 14:19:48.4±0.7,32°.08N×117°.41W,h0km,mb4.1/15, mb1 4.2/20,mb1mx4.1/40,mbtmp4.1/20,ML3.9/5,MS3.8/24, Ms1 3.8/24,ms1mx3.6/43,Error ellipse: s-maj=12.9km s-min=10.3km az=104.0
ECX 01 14:19:49.1±0.5,32°.05N×117°.47W,h6km,MD4.4,ML4.5
BJI 01 14:19:49.0,32°.30N×117°.30W,h6km,mb4.8/5,Ms4.7/2, Ms7 4.6/3
NEIC 01 14:19:54.0,32°.34N×117°.26W,h7km,mb4.4/26, MW4.4(PAS),After PAS.
NEIC Felt [III] at Tijuana and [II] at Rosarito. Also felt at Maneadero, Primo Tapia and Tecate. Felt [III] at Imperial Beach, San Diego and Spring Valley and [II] in much of Orange and San Diego Counties, California.
ISC 01 14:19:49.6±0.5,32°.06N±0°.03×117°.47W±0°.04,h10km, n218,σ1§70/194,mb4.3/24,MS3.9/18,36C-39D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
PBX	Punta Banda	0.71	117	⇓i P	Pg	14 20 01.5	-1.7
ECNX	Esteban Cantu	0.84	119	⇓i P	Pg	14 20 03.6	-2.2
ECNX				i S	Sg	14 20 15.5	-1.4
109C	Camp Elliot, M	0.88	20	⇓P	Pg	14 20 04.7	-1.8
	baz=0.6						
109C				⇓S	Sg	14 20 16.5	-1.4
	baz=0.6						
CPE	Camp Elliot	0.88	20	⇑i P	Pg	14 20 04.7	-1.8
CPE				i S	Sg	14 20 16.6	-1.4
BAR	Barrett	0.91	47	⇓i P	Pg	14 20 05.4	-1.7
BAR				i S	Sg	14 20 17.6	-1.4
BAR	Barrett	0.91	47	ePg	Pg	14 20 05.4	-1.7
BAR				eS	Sg	14 20 16.6	-2.4
EML	El Monte Cty P	0.98	32	⇑i P	Pg	14 20 06.3	-2.1
DPP	Dos Picos Cty	1.03	25	⇑i P	Pg	14 20 07.1	-2.4
HWB	Hans Werner Br	1.05	24	⇑i P	Pg	14 20 07.3	-2.5
ZAX	El Zacaton	1.15	118	⇓eP	Pb	14 20 08.5	-3.2
MONP	Monument Peak	1.21	47	⇓i P	Pn	14 20 10.2	-2.6
MONP	Monument Peak	1.21	47	⇑P	Pn	14 20 10.1	-2.6
	baz=0.9						
MONP				⇓S	Sb	14 20 26.5	-2.0
	baz=0.9						
RMX	La Rumorosa	1.29	65	eP	Pn	14 20 11.7	-2.1
RMX				⇓e		14 20 30.4	
	comp=E,8μm,0.6s						
RMX				⇑e		14 20 31.4	
	comp=N,8μm,0.5s						
SCI	San Clemente I	1.29	315	⇑P	Pn	14 20 09.9	-3.8
	baz=1.3						
RDX	Rancho Dawling	1.30	96	⇓eP	Pn	14 20 11.4	-2.6
RDX				i S	Sb	14 20 29.7	-1.4
YUH	Yuha Desert	1.43	66	⇓i P	Pn	14 20 13.9	-1.7
MURC	Murrieta	1.55	8	⇑P	Pn	14 20 14.2	-3.1
	baz=1.3						
MURC				⇓S	Sn	14 20 35.7	-1.8
	baz=1.3						
CIS	Catalina Islan	1.56	330	⇓P	Pn	14 20 13.3	-4.0
	baz=1.4						
CIS				⇑Sb	Sn	14 20 36.1	-1.5
	baz=1.4						
SWSC	Sam W. Stewart	1.66	58	⇑P	Pn	14 20 17.0	-1.8
	baz=1.4						
SWSC				⇓S	Sn	14 20 40.0	-0.1
	baz=1.4						
PFO	Pinyon Flat Ob	1.76	29	Pg	Pn	14 20 19.0	-1.3
	comp=N,472nm,0.3s,baz=225,slow=13,SNR=657						
PFO				Lg		14 20 42.8	
	comp=N,3μm,0.3s,baz=288,slow=11,SNR=42						
PFO	Pinyon Flat Ob	1.76	29	⇓P	Pn	14 20 19.0	-1.3
	baz=1.4						
PFO				⇑S	Sn	14 20 42.1	-0.8
	baz=1.4						
FMP	Fort Macarthur	1.79	337	⇓P	Pn	14 20 16.6	-3.9
	baz=1.6						
CPBX	Cerro Prieto	1.87	79	eP	Pn	14 20 20.7	-0.9
BFSC	Mount Baldy Ra	2.18	356	⇓P	Pn	14 20 23.2	-2.8
	baz=1.9						
BFSC				⇑Sb	Sb	14 20 55.1	-1.1
	baz=1.9						
PASC	Pasadena Art C	2.19	344	ePn	Pn	14 20 22.3	-3.7
MWC	Mount Wilson	2.21	347	ePn	Pn	14 20 23.0	-3.6
BBRC	Big Bear Solar	2.24	12	⇓P	Pn	14 20 25.8	-1.2
	baz=1.9						
BELC	Belle Mtn. Jos	2.29	32	⇑P	Pn	14 20 25.8	-1.8
	baz=2.0						
DECC	Green Verdugo	2.30	342	⇑P	Pn	14 20 24.7	-2.9
	baz=2.1						
BC3	Big Chuckawall	2.32	46	⇓P	Pn	14 20 26.3	-1.6
	baz=2.0						
BC3				⇓Sb	Sb	14 21 01.5	+1.1
	baz=2.0						
GLA	Glamis	2.44	65	ePn	Pn	14 20 27.9	-1.6
GLA	Glamis	2.44	65	⇑P	Pn	14 20 27.8	-1.7
	baz=2.2						
GLA				⇓Sb	Sb	14 21 05.4	+1.7
	baz=2.2						
BSC	Santa Cruz Isl	2.65	317	⇑P	Pn	14 20 29.1	-3.3
	baz=2.6						
OSI	Osito Adit	2.75	338	ePn	Pn	14 20 32.0	-1.8
OSI	Osito Adit	2.75	338	⇓P	Pn	14 20 31.7	-2.2
	baz=2.6						
RRX	Edison Barstow	2.84	8	⇑P	Pn	14 20 32.5	-2.4
	baz=2.5						
RRX				⇓Sb	Sb	14 21 15.0	-0.1
	baz=2.5						
EDW2	Edwards Air Fo	2.84	351	⇑P	Pn	14 20 33.3	-1.8
	baz=2.6						
IRM	Iron Mountain	2.85	42	⇑P	Pn	14 20 34.0	-1.3
	baz=2.5						
IRM				⇑Sb	Sb	14 21 16.4	+0.7
	baz=2.5						
HEC	Hector,Ludlow	2.92	19	⇓P	Pn	14 20 34.2	-2.0
	baz=2.6						
HEC				⇓Sb	Sb	14 21 18.2	+0.7
	baz=2.6						
Y12C	Blythe	2.99	55	⇓P	Pn	14 20 35.9	-1.2
	baz=2.7						
SBC	Santa Barbara	3.03	322	⇑P	Pn	14 20 35.6	-2.0
	baz=2.9						
GMRC	Granite Mounta	3.10	29	⇑P	Pn	14 20 37.7	-1.0
	baz=2.8						
GMRC				⇑Sb	Sb	14 21 24.2	+1.3
	baz=2.8						
113A	Mohawk Valley,	3.21	76	⇑P	Pn	14 20 38.5	-1.5
	baz=3.0						
ARVC	Arvin	3.26	340	⇑P	Pn	14 20 38.8	-2.0
	baz=3.1						
GSC	Goldstone	3.28	9	ePn	Pn	14 20 40.1	-1.0
GSC	Goldstone	3.28	9	⇑P	Pn	14 20 40.2	-0.9
	baz=3.0						
GSC				⇑Sb	Sb	14 21 27.7	-0.1
	baz=3.0						
LRMC	Laurel Mountai	3.41	357	⇓P	Pn	14 20 41.4	-1.5
	baz=3.2						
LRMC				⇓Sb	Sb	14 21 31.7	-0.1
	baz=3.2						
LDFC	Landfair	3.59	33	ePn	Pn	14 20 45.2	-0.3
NEE2	Needles Airpor	3.60	41	⇓P	Pn	14 20 45.3	-0.1
	baz=3.3						
NEE2				⇓Sb	Sb	14 21 40.2	+3.1
	baz=3.3						
TUQ	Turquoise Moun	3.60	20	⇓P	Pn	14 20 44.6	-1.0
	baz=3.3						
TUQ				⇑Sb	Sb	14 21 38.7	+1.4
	baz=3.3						
ISA	Isabella	3.69	347	ePn	Pn	14 20 44.5	-2.1
ISA	Isabella	3.69	347	⇑P	Pn	14 20 44.6	-2.1
	baz=3.5						
SHOC	Shoshone	3.95	14	⇓P	Pn	14 20 49.2	-1.1
	baz=3.6						
SHOC				⇓Sb	Sb	14 21 49.5	+2.3
	baz=3.6						
214A	Organ Pipe Nat	3.96	90	ePn	Pn	14 20 48.1	-2.2
214A	Organ Pipe Nat	3.96	90	⇑P	Pn	14 20 48.4	-2.0
	baz=3.8						
VES	Vestal, Richgr	4.00	341	⇑P	Pn	14 20 49.0	-2.0
	baz=3.8						
Z14A	Wintersburg	4.03	70	⇓P	Pn	14 20 50.5	-0.8
	baz=3.8						
Y14A	Wickenburg	4.19	62	⇓P	Pn	14 20 53.8	+0.2
	baz=3.9						
DAC	Darwin (Calif)	4.21	359	ePn	Pn	14 20 52.5	-1.4
SHPR	Sheep Range	4.83	23	ePn	Pn	14 21 02.4	-0.1
GRAC	Grapevine Rang	4.92	1	⇓P	Pn	14 21 03.6	-0.1
	baz=4.7						
MLAC	Mammoth Lakes	5.67	349	⇑P	Pn	14 21 14.5	+0.5
	baz=5.4						
TUC	Tucson	5.67	86	ePn	Pn	14 21 10.8	-3.2
	comp=N,32nm,0.8s						
SAO	San Andreas Ge	5.73	326	ePn	Pn	14 21 11.6	-3.1
	comp=N,46nm,0.6s						
TPH	Tonopah	6.00	2	ePn	Pn	14 21 18.6	0.0
	comp=N,85nm,0.8s						
U15A	North Rim	6.11	43	⇓P	Pn	14 21 21.3	+1.1
	baz=5.8						
WUAZ	Wupatki	6.13	54	ePn	Pn	14 21 22.7	+2.3
	comp=N,57nm,0.8s						
WUAZ	Wupatki	6.13	54	⇓P	Pn	14 21 22.0	+1.6
	baz=5.8						
NV11	Mina Array Sit	6.38	355	ePn	Pn	14 21 24.1	+0.3
NVAR	Mina Array Bea	6.39	354	Pn	Pn	14 21 24.3	+0.4
	comp=N,1.9nm,0.3s,baz=178,slow=15,SNR=40						
CMB	Columbia Colle	6.42	339	ePn	Pn	14 21 23.0	-1.3
	comp=N,27nm,0.7s						
CCUT	Cedar City	6.43	31	ePn	Pn	14 21 25.9	+1.3
	comp=N,10μm,0.6s						
R11A	Troy Canyon, C	6.46	13	ePn	Pn	14 21 25.2	+0.3
	comp=N,13nm,0.6s						
R11A	Troy Canyon, C	6.46	13	⇓P	Pn	14 21 25.1	+0.2
	baz=6.2						
ARUT	Antelope Range	6.60	29	ePn	Pn	14 21 28.7	+1.9
	comp=N,1μm,0.5s						
WAKR	Walker	6.62	346	ePn	Pn	14 21 29.0	+1.8
	comp=N,90nm,1.0s						
X18A	Snowflake	6.76	67	⇑P	Pn	14 21 29.1	+0.1
	baz=6.5						
319A	Douglas	7.01	93	⇑P	Pn	14 21 32.8	+0.4
	baz=6.8						
W18A	Petrified Fore	7.13	63	ePn	Pn	14 21 35.6	+1.4
	comp=N,66nm,0.7s						
MVU	Marysvale	7.73	32	eP	Pn	14 21 44.0	+1.6
	comp=N,64nm,0.9s						
121A	Cookes Peak, D	8.21	84	ePn	Pn	14 21 48.1	-0.8
	comp=N,30nm,0.8s						
121A	Cookes Peak, D	8.21	84	⇑P	Pn	14 21 48.5	-0.4
	baz=8.0						
BMN	Battle Mountai	8.35	1	ePn	Pn	14 21 51.5	+0.7
	comp=N,11nm,0.4s						
TMUT	Trail Mountain	8.83	33	ePn	Pn	14 22 04.5	+7.0
	comp=N,19nm,0.6s						
ELK	Elko	8.85	11	Pn	Pn	14 21 59.0	+1.3
	comp=N,1.1nm,0.3s,baz=183,slow=10,SNR=24						
ELK				Lg	Lg	14 24 25.3	
	comp=N,0.8nm,0.3s,baz=1.0,slow=13,SNR=3.2						
ELK				LR	LR	14 24 53.7	
	comp=N,256nm,21.8s,baz=180,slow=35						
Z22A	Elephant Butte	8.94	80	⇑P	Pn	14 21 59.5	+0.7
	baz=8.7						
DUG	Dugway	8.94	24	ePn	Pn	14 22 03.1	+4.2
	comp=N,60nm,1.0s						
LAZ	Ladron	8.96	72	ePn	Pn	14 22 00.5	+1.2
	comp=N,9.4nm,1.0s						
MVCO	Mesa Verde	8.99	53	ePn	Pn	14 22 04.1	+4.4
	comp=N,122nm,1.1s						
NLU	North Lily Min	9.00	27	P	Pn	14 22 01.7	+1.8
	comp=N,17nm,1.0s						
SRU	San Rafael	9.02	37	Pn	Pn	14 22 03.1	+3.1
	comp=N,32nm,0.7s						
LENM	Lemitar	9.05	74	ePn	Pn	14 22 02.8	+2.4
	comp=N,10nm,0.8s						
MPU	Maple Canyon	9.23	29	P	Pn	14 22 03.3	+0.3
	comp=N,12nm,0.9s						
BNM	Barren Site	9.33	74	ePn	Pn	14 22 04.8	+0.5
	comp=N,11nm,0.8s						
LPM	Los Pinos Moun	9.35	73	Pn	Pn	14 22 02.7	-1.9
	comp=N,7.5nm,0.8s						
PV04	Paradox Valley	9.43	46	eP	Pn	14 22 07.7	+2.1
PV01	Paradox Valley	9.47	48	eP	Pn	14 22 09.4	+3.1
	comp=N,2μm,0.7s						
BGU	Big Grassy Mou	9.54	21	eP	Pn	14 22 07.7	+0.6
	comp=N,5.0nm,0.8s						
ANMO	Albuquerque	9.63	70	Pn	Pn	14 22 11.0	+2.5
	comp=N,0.1nm,0.3s,baz=275,slow=15,SNR=4.3						
ANMO				Lg	Lg	14 24 56.5	
	comp=N,0.2nm,0.3s,baz=359,slow=17,SNR=2.3						
ANMO				LR	LR	14 25 58.9	
	comp=N,646nm,21.9s,baz=267,slow=39						
ANMO	Albuquerque	9.63	70	eP	Pn	14 22 10.1	+1.6
	comp=N,9.1nm,0.8s						
ANMO				Lg	Lg	14 24 56.5	
DAU	Daniels Canyon	9.72	29	eP	Pn	14 22 13.8	+4.0
	comp=N,14nm,0.9s						
CTU	Camp Tracy	9.76	27	eP	Pn	14 22 07.4	-2.8
	comp=N,24nm,1.0s						
JLU	Jordanelle	9.80	28	ePn	Pn	14 22 07.8	-3.0
	comp=N,23nm,1.1s						
SPUT	South Promonto	10.06	22	P	Pn	14 22 18.0	+3.7
	comp=N,7.2nm,0.6s						
MOD	Modoc	10.08	348	P	Pn	14 22 14.3	-0.2
	comp=N,10nm,0.9s						
LPIG	La Paz	10.14	140	LR	LR	14 25 56.3	

	comp=N,1μm,20.0s,baz=331,slow=36						
TCUT	Toone Canyon	10.26	27	eP	Pn	14 22 14.5	-2.6
	comp=N,41nm,1.1s						
MNTX	Cornudas Mount	10.28	89	eP	Pn	14 22 17.5	+0.3
	comp=N,15nm,1.3s						
WVOR	Wild Horse Val	10.39	355	eP	Pn	14 22 20.9	+2.1
	comp=N,19nm,1.2s						
HVU	Hansel Valley	10.40	20	eP	Pn	14 22 20.1	+1.2
	comp=N,17nm,0.9s						
YBH	Yreka Blue Hor	10.52	338	Pn	Pn	14 22 23.9	+3.4
	comp=N,0.1nm,0.3s,baz=165,slow=12,SNR=4.1						
YBH				LR	LR	14 26 43.6	
	comp=N,554nm,18.3s,baz=186,slow=40						
HWUT	Hardware Ranch	10.63	25	eP	Pn	14 22 23.9	+1.8
	comp=N,13nm,0.8s						
O20A	White River Ci	10.97	40	eP	Pn	14 22 32.5	+5.7
	comp=N,15nm,0.8s						
SDCO	Great Sand Dun	11.34	57	eP	Pn	14 22 36.1	+4.2
	comp=N,5.1nm,0.8s						
MFID	Camas Ranch	11.41	6	eP	Pn	14 22 37.6	+4.9
	comp=N,18nm,1.2s						
HLID	Hailey	11.73	11	eP	Pn	14 22 42.4	+5.3
	comp=N,5.5nm,0.8s						
TXAR	Lajitas Array	12.18	99	Pn	Pn	14 22 44.7	+1.4
	comp=N,0.2nm,0.3s,baz=278,slow=13,SNR=18						
TXAR				Lg	Lg	14 26 25.2	
	comp=N,0.0nm,0.3s,baz=282,slow=31,SNR=3.8						
TXAR				LR	LR	14 27 03.3	
	comp=N,233nm,20.1s,baz=0,slow=36						
ISCO	Idaho Springs	12.31	48	P	Pn	14 22 47.4	+2.2
	comp=N,14nm,1.3s						
BW06	Boulder Array	12.39	28	eP	Pn	14 22 49.2	+3.0
	comp=N,13nm,1.1s						
PDAR	Pinedale Array	12.39	28	Pn	Pn	14 22 49.9	+3.7
	comp=N,0.1nm,0.3s,baz=212,slow=9.5,SNR=29						
PDAR				Lg	Lg	14 26 30.9	
	comp=N,0.0nm,0.3s,baz=206,slow=25,SNR=3.8						
PDAR				LR	LR	14 27 04.7	
	comp=N,145nm,21.6s,baz=230,slow=35						
MSTX	Muleshoe	12.48	77	eP	Pn	14 22 51.3	+3.9
	comp=N,16nm,0.9s						
BMO	Blue Mountains	12.77	1	eP	Pn	14 22 47.4	-3.9
	comp=N,12nm,1.2s						
MCMT	McKenzie Canyo	13.24	14	P	Pn	14 23 01.6	+3.7
	comp=N,4.6nm,1.0s						
YMR	Madison River	13.57	20	P	Pn	14 22 56.7	-5.7
	comp=N,23nm,1.1s						
K22A	Casper	13.68	36	eP	Pn	14 23 06.5	+2.8
	comp=N,20nm,0.2s						
LRM	Limekiln Ridge	14.28	14	eP	Pn	14 23 12.4	+0.4
	comp=N,107nm,1.4s						
BOZ	Bozeman (W)	14.30	17	eP	Pn	14 23 11.9	-0.3
	comp=N,18nm,1.4s						
HAWA	Hanford	14.40	354	eP	Pn	14 23 14.5	+1.1
	comp=N,60nm,1.6s						
RLMT	Red Lodge	14.52	24	eP	Pn	14 23 14.5	-0.8
	comp=N,8.7nm,1.1s						
NAC	Naches	14.88	351	P	P	14 23 27.4	+1.6
EBG	Ellensburg	15.02	352	P	P	14 23 28.4	+1.1
LON	Longmire	15.04	348	eP	Pn	14 23 23.8	+1.6
	comp=N,67nm,1.7s						
ABTX	Abilene, Hawle	15.08	83	eP	Pn	14 23 23.9	+1.2
	comp=N,58nm,1.6s						
CHMT	Chamberlain Mo	15.18	11	eP	P	14 23 27.0	-2.3
	comp=N,20nm,1.4s						
JCT	Junction City	15.19	91	eP	Pn	14 23 21.8	-2.4
	comp=N,13nm,0.9s						
FMW	Mount Fremont	15.20	349	P	P	14 23 30.8	+1.3
HRY	Holter Researc	15.26	15	P	Pn	14 23 27.0	+1.9
	comp=N,21nm,1.4s						
TBM	Table Mountain	15.28	352	P	P	14 23 31.9	+1.7
OD2	Odessa Site #2	15.34	357	P	P	14 23 30.8	-0.1
LTY	Liberty	15.37	352	P	P	14 23 32.3	+1.0
SLMT	Seeley Lake	15.46	10	eP	Pn	14 23 29.3	+1.5
	comp=N,55nm,1.5s						
SWMT	Swartz Lake	15.65	9	eP	Pn	14 23 31.0	+0.8
	comp=N,12nm,1.3s						
ETW	Entiat	15.68	353	P	P	14 23 33.9	-0.9
WTV	Waterville	15.73	354	P	P	14 23 35.1	-0.1
JTMT	Jette	15.85	8	eP	Pn	14 23 33.3	+0.4
	comp=N,13nm,1.0s						
BSMT	Bassoo Peak	15.90	7	eP	P	14 23 36.9	-0.4
	comp=N,13nm,1.2s						
RSSD	Black Hills	15.99	37	P	Pn	14 23 35.9	+1.1
	comp=N,25nm,1.0s						
YBMT	Yellow Bay	16.00	8	eP	Pn	14 23 35.8	+1.0
	comp=N,15nm,1.2s						
NLWA	Neilton Lookou	16.07	344	eP	P	14 23 39.8	+0.8
BLMT	Blacktail Moun	16.10	8	P	P	14 23 38.1	-1.4
	comp=N,14nm,1.1s						
NEW	Newport	16.18	1	Pn	P	14 23 41.8	+1.6
	comp=N,0.2nm,0.3s,baz=180,slow=12,SNR=9.4						
NEW				LR	LR	14 30 09.1	
	comp=N,380nm,20.6s,baz=187,slow=38						
NEW	Newport	16.18	1	eP	Pn	14 23 36.6	-0.4
	comp=N,54nm,1.6s						
LAO	LASA Array	16.97	27	eP	P	14 23 49.0	0.0
	comp=N,22nm,0.9s						
WHTX	Lake Whitney	16.97	85	eP	P	14 23 51.3	+2.2
	comp=N,40nm,1.2s						
EGMT	Eagleton	16.98	18	eP	P	14 23 50.8	+1.6
	comp=N,21nm,1.0s						
PGC	Sidney	17.18	346	eP	P	14 23 50.8	-0.4
	comp=N,1.7nm,1.1s						
WALA	Waterton Lakes	17.19	8	eP	P	14 23 53.0	+1.5
	comp=N,0.9nm,1.1s						
KSU1	Kansas State U	18.34	62	eP	P	14 24 04.5	+0.4
HKT	Hockley	18.66	91	eP	Pn	14 24 09.3	+1.3
	comp=N,29nm,1.4s						
DGMT	Dagmar	19.22	28	eP	P	14 24 16.6	+2.0
	comp=N,35nm,0.9s						
ECSD	EROS Data Cent	20.10	49	eP	Pn	14 24 25.5	+0.2
	comp=N,10.0nm,0.9s						
MIAR	Mount Ida	20.11	76	eP	Pn	14 24 25.2	-0.3
	comp=N,13nm,1.0s						
EDM	Edmonton	21.36	7	eP	P	14 24 37.9	+1.0
BBB	Bella Bella	21.56	342	LR	LR	14 33 47.7	
	comp=N,273nm,19.7s,baz=213,slow=39						
AGMN	Agassiz Nation	23.02	39	eP	P	14 24 55.4	+0.8
	comp=N,15nm,1.0s						
SPMN	St. Paul	23.21	48	eP	P	14 24 59.3	+2.6
	comp=N,23nm,1.1s						
ULM	Lac du Bonnet	24.23	35	P	P	14 25 06.5	0.0
	comp=N,14nm,1.1s,baz=236,slow=9.5,SNR=10						
ULM				LR	LR	14 34 49.8	
	comp=N,208nm,19.7s,baz=298,slow=37						
ULM	Lac du Bonnet	24.23	35	eP	P	14 25 06.0	-0.5
	comp=N,30nm,1.3s						
FFC	Flin Flon	25.18	21	P	P	14 25 17.5	+2.5
	comp=N,3.0nm,0.6s						
DLBC	Dease Lake	27.72	346	P	P	14 25 38.6	+0.6
	comp=N,0.8nm,0.4s,baz=209,slow=13,SNR=4.0						
DLBC				LR	LR	14 37 43.5	
	comp=N,537nm,19.5s,baz=157,slow=39						
TKL	Tuckaleechee C	28.13	73	LR	LR	14 37 37.5	
	comp=N,372nm,19.6s,baz=294,slow=38						
TEIG	Tepich	28.64	107	LR	LR	14 39 24.6	
	comp=N,135nm,18.2s,baz=288,slow=41						
YKA	Yellowknife Ar	30.50	3	P	P	14 26 02.7	+0.2
	comp=N,0.4nm,0.5s,baz=180,slow=8.9,SNR=13						
YKA				PcP	PcP	14 29 01.8	+0.5
	comp=N,0.3nm,0.8s,baz=176,slow=2.4,SNR=3.7						
HYT	Haines Junctio	31.64	341	eP	P	14 26 15.4	+2.6
DAWY	Dawson	34.83	343	eP	P	14 26 42.2	+1.7
MENT	Mentasta	35.11	339	eP	P	14 26 45.3	+2.4
PMR	Palmer	35.95	335	eP	P	14 26 48.5	-1.5
	comp=N,9.0nm,0.9s						
RSO	Redoubt South	36.65	331	eP	P	14 27 04.2	+7.9
	comp=N,31nm,0.7s						
ILAR	Eielson Array	37.41	340	P	P	14 27 03.8	+1.3
	comp=N,1.8nm,0.9s,baz=156,slow=7.4,SNR=28						
INK	Inuvik	37.46	350	eP	P	14 27 03.7	+0.9
	comp=N,9.7nm,1.2s						
I53US	FAIRBANKS INFR	37.78	339	i		18 14 32.4	
	baz=140,slow=344,SNR=0.7						
KTH	Kantishna Hill	37.85	336	eP	P	14 27 07.4	+1.1
	comp=N,6.6nm,1.0s						
PPLA	Purkeypile	37.88	335	eP	P	14 27 07.5	+0.9
	comp=N,19nm,1.0s						
IM04	Indian Mountai	40.35	338	eP	P	14 27 27.2	+0.1
ATAH	Atahualpa	53.92	129	P	P	14 29 14.6	+0.6
	comp=N,2.6nm,0.5s,baz=86,slow=19,SNR=3.3						
RKT	Rikitea	57.37	199	eLR	LR	14 47 03.4	
	comp=N,508nm,39.2s						
PPT2	Papeete2	58.18	217	eLR	LR	14 46 49.3	
	comp=N,96nm,25.0s						
SEY	Seymchan	62.05	329	P	P	14 30 10.3	+0.4
	comp=N,0.5nm,0.4s,baz=149,slow=2.5,SNR=4.1						
PETK	Petropavlovsk-	62.12	317	P	P	14 30 10.3	-0.3
	comp=N,5.7nm,0.8s,baz=88,slow=11,SNR=6.4						
JMIC	Jan Mayen	65.88	20	LR	LR	14 58 15.6	
	comp=N,59nm,20.9s,baz=48,slow=35						
RAR	Rarotonga	66.68	223	LR	LR	14 52 59.0	
	comp=N,57nm,20.5s,baz=46,slow=30						
SPITS	Spitsbergen Ar	66.69	9	LR	LR	15 00 08.8	
	comp=N,124nm,19.5s,baz=355,slow=36						
TIXI	Tiksi	66.85	342	eP	P	14 30 40.1	-1.1
	comp=N,8.9nm,1.1s						
LPAZ	La Paz	67.41	128	LR	LR	14 58 14.3	
	comp=N,56nm,18.9s,baz=338,slow=34						
H11N3	WAKE ISLAND Hy	67.93	280	T	T	15 44 48.8	
	baz=66,slow=75,SNR=110						
H11N2	WAKE ISLAND Hy	67.93	280	T	T	15 44 49.2	
	baz=66,slow=75,SNR=184						
H11N1	WAKE ISLAND Hy	67.94	280	T	T	15 44 47.9	
	baz=66,slow=75,SNR=134						
H11S1	WAKE ISLAND Hy	68.66	279	T	T	15 45 49.4	
	baz=62,slow=74,SNR=47						
H11S2	WAKE ISLAND Hy	68.67	279	T	T	15 45 48.9	
	baz=62,slow=74,SNR=40						
H11S3	WAKE ISLAND Hy	68.68	279	T	T	15 45 49.2	
	baz=62,slow=74,SNR=7.1						
AFI	Afiamalu	69.22	238	LR	LR	14 52 26.9	
	comp=N,75nm,20.9s,baz=59,slow=28						
ARCES	ARCESS Array B	75.16	13	LR	LR	15 06 31.2	
	comp=N,61nm,18.3s,baz=354,slow=37						
NOA	NORSAR Array B	78.27	23	LR	LR	15 05 54.4	
	comp=N,43nm,19.8s,baz=335,slow=35						
USRK	Ussuriysk Arra	81.22	317	P	P	14 32 05.2	-0.5
	comp=N,2.6nm,0.8s,baz=53,slow=5.5,SNR=6.3						
MJAR	Matsushiro Arr	81.72	308	P	P	14 32 07.4	-1.1
	comp=N,3.8nm,1.0s,baz=60,slow=3.4,SNR=3.9						
FINES	FINESS Array B	82.23	17	P	P	14 32 12.4	+1.7
	comp=N,1.6nm,0.8s,baz=280,slow=3.3,SNR=3.8						
FINES				LR	LR	15 08 01.7	
	comp=N,72nm,19.1s,baz=86,slow=35						
ESDC	Sonseca Array	85.72	45	P	P	14 32 29.9	+0.9
	comp=N,0.1nm,0.3s,baz=306,slow=8.7,SNR=3.7						
GERES	GERESS Array B	88.43	30	LR	LR	15 12 31.9	
	comp=N,61nm,18.9s,baz=299,slow=36						
SONM	Songino Array	91.27	332	P	P	14 32 56.5	+1.1
	comp=N,0.5nm,0.8s,baz=34,slow=5.9,SNR=3.5						
ZALV	Zalesovo Beam	92.19	347	P	P	14 33 00.1	+0.7
	comp=N,0.3nm,0.3s,baz=0.0,slow=5.8,SNR=2.7						
ZALV				LR	LR	15 18 16.3	
	comp=N,28nm,20.8s,baz=66,slow=38						
AKASG	Malin Array Be	92.49	20	P	P	14 33 01.0	+0.2
	comp=N,0.1nm,0.3s,baz=325,slow=3.5,SNR=2.5						
AKASG				LR	LR	15 14 10.4	
	comp=N,49nm,20.2s,baz=10.0,slow=35						
KURK	Kurchatov	96.36	350	P	P	14 33 18.4	-0.2
KURBB	Kurchatov Arra	96.47	350	P	P	14 33 18.4	-0.6
	comp=N,0.6nm,0.9s,baz=12,slow=4.1,SNR=7.0						
MKAR	Makanchi Array	99.51	346	LR	LR	15 24 10.0	
	comp=N,34nm,19.4s,baz=44,slow=39						
WMQ	Urumqi	101.05	342	eP	Pdif	14 33 44.9	+5.1
WMQ				PP	PP	14 37 55.3	+8.2
WMQ				SKS	SKSac	14 44 23.7	+4.4
WMQ				S	Sdif	14 45 16.0	-2.7
WMQ				SS	SS	14 52 21.1	+5.6
WMQ				LR	LR		
	comp=N,49nm,19.4s						
WMQ				LR	LR		
	comp=N,44nm,23.8s						
WMQ				LR	LR		
	comp=N,37nm,24.6s						
LZH	Lanzhou	101.93	327	eP	Pdif	14 33 47.1	+3.1
LZH				pP	pP	14 33 52.2	+4.6
LZH				sP		14 33 54.3	
WRA	Warramunga Arr	115.38	262	PKP	PKPdf	14 38 31.2	-0.9
	comp=N,0.4nm,0.8s,baz=39,slow=1.3,SNR=2.8						
ASAR	Alice Springs	117.36	258	PKhKP	PKPpre	14 38 32.8	
	comp=N,0.4nm,1.0s,baz=72,slow=3.0,SNR=2.9						

NEIC 01 14:43:39.0, 32°.03N×117°.45W, h6km, ML3.6(PAS), After PAS.
NEIC Felt [II] at Chula Vista, La Jolla, San Diego and Spring Valley, California. Also felt at Rosarito, Baja California.
ECX 01 14:43:39.5±0.6, 32°.05N×117°.48W, h6km, MD3.6, ML3.7
ISC 01 14:43:38.5±1.7, 32°.06N±0°.05×117°.44W±0°.06, h5km±12km, n28, σ1§15/33, 4C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBX	Punta Banda	0.69	117	⇓eP	Pg	14 43 52.2	+0.5
PBX				⇑e		14 44 03.9	
	comp=N,3μm,0.4s						
ECNX	Esteban Cantu	0.82	119	⇓eP	Pg	14 43 54.2	-0.1
ECNX				iS	Sg	14 44 06.1	+1.1
ECNX				⇓e		14 44 07.2	
	comp=N,2μm,0.4s						
CPE	Camp Elliot	0.88	19	eP	Pg	14 43 55.2	-0.2
CPE				eS	Sg	14 44 06.8	+0.1
BAR	Barrett	0.90	46	⇑iP	Pg	14 43 56.0	+0.1
BAR				eS	Sg	14 44 08.1	+0.6
BAR	Barrett	0.90	46	ePg	Pg	14 43 55.9	+0.1
BAR				eSg	Sg	14 44 07.9	+0.4
EML	El Monte Cty P	0.97	31	⇓iP	Pg	14 43 57.1	-0.1
DPP	Dos Picos Cty	1.03	24	eP	Pg	14 43 57.7	-0.6
HWB	Hans Werner Br	1.05	23	⇑iP	Pg	14 43 57.9	-0.8
ZAX	El Zacaton	1.14	118	eP	Pb	14 43 59.4	-1.3
MONP	Monument Peak	1.20	46	eP	Pn	14 44 00.8	-1.4
RMX	La Rumorosa	1.28	64	eP	Pn	14 44 02.5	-0.7
RDX	Rancho Dawling	1.28	95	⇓eP	Pn	14 44 02.0	-1.2
RDX				iS	Sb	14 44 20.0	-0.1
RDX				⇑e		14 44 26.9	
	comp=E,1μm,0.4s						
YUH	Yuha Desert	1.41	65	eS	Sn	14 44 24.0	+0.1
PFO	Pinyon Flat Ob	1.76	28	ePn	Pn	14 44 09.6	-0.2
CPBX	Cerro Prieto	1.85	78	eP	Pn	14 44 11.6	+0.7
PASC	Pasadena Art C	2.20	344	ePn	Pn	14 44 15.5	-0.2
MWC	Mount Wilson	2.22	347	ePn	Pn	14 44 13.4	-2.8
GLA	Glamis	2.42	65	ePn	Pn	14 44 18.9	+0.1
OSI	Osito Adit	2.77	338	Pn	Pn	14 44 26.3	+2.8
GSC	Goldstone	3.28	9	ePn	Pn	14 44 30.7	0.0
LDFC	Landfair	3.59	32	ePn	Pn	14 44 36.9	+2.0
ISA	Isabella	3.70	347	ePn	Pn	14 44 37.2	+0.8
214A	Organ Pipe Nat	3.94	90	ePn	Pn	14 44 39.5	-0.2
DAC	Darwin (Calif)	4.21	358	ePn	Pn	14 44 43.4	-0.2
SHPR	Sheep Range	4.82	22	ePn	Pn	14 44 52.8	+0.9
SHPR				eSg	Sb	14 46 08.5	+6.6
TPH	Tonopah	6.00	2	ePg	Pg	14 45 33.1	-0.5
WAKR	Walker	6.63	346	Pn	Pn	14 45 18.0	+1.2
PV04	Paradox Valley	9.42	45	Pn	Pn	14 45 57.6	+2.6

TAP 01 15:30:06.2, 22°.11N×120°.42E, h52km±1km, ML2.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	Hsiaoliuchiu	0.24	347	eP	Pn	15 30 16.1	+1.0
	baz=340						
TWP				eS	Sn	15 30 23.6	+2.1
	baz=340						
HEN	Hengchun	0.31	109	P	Pn	15 30 15.9	+0.3
	baz=109						
HEN				S	Sn	15 30 23.3	+1.0
	baz=109						
SCZT	Fangliau	0.32	35	iP	Pn	15 30 16.0	+0.3
	baz=28						
SCZT				iS	Sn	15 30 23.1	+0.5
	baz=28						
TWK1	Hengchun	0.39	115	iP	Pn	15 30 16.9	+0.5
	baz=115						
TWK1				iS	Sn	15 30 24.7	+1.0
	baz=115						
EAST	Anshuo	0.48	55	P	Pn	15 30 18.6	+1.1
	baz=56						
EAST				S	Sn	15 30 27.3	+1.8
	baz=56						
TSEB	Hengchuen, Pin	0.49	115	eP	Pn	15 30 17.8	+0.3
	baz=123						
TSEB				S	Sn	15 30 26.2	+0.7
	baz=123						
SSD	Sandimen	0.67	17	eP	Pn	15 30 20.8	+1.1
	baz=18						
TWM1	Shoushan	0.71	360	eP	Pn	15 30 21.1	+0.9
	baz=1.0						

IDC 01 16:05:35.2±0.8, 9°.34N×141°.63E, h0km, mb3.9/13, mb1 4.2/13, mb1mx4.0/38, mbtmp3.9/13, MS3.4/2, Ms1 3.4/2, ms1mx2.7/30, Error ellipse: s-maj=28.5km s-min=17.1km az=95.0
NEIC 01 16:05:36.6±0.5, 9°.36N×141°.60E, h10km, mb4.4/6, Error ellipse: s-maj=18.6km s-min=8.4km az=93.0
ISCJB 01 16:05:38.0±0.6, 9°.34N±0°.07×141°.6E±0°.2, h33km, mb4.0/19, MS3.3/2, Error ellipse: s-maj=24.4km s-min=10.2km az=2.9
ISC 01 16:05:40.5±0.9, 9°.3N±0°.1×141°.6E±0°.2, h35km, n27, σ0§90/20, mb4.0/19, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	25.97	67	T	T	16 38 28.8	
	baz=253,slow=73,SNR=366						
H11S1	WAKE ISLAND Hy	25.99	67	T	T	16 38 28.2	
	baz=253,slow=73,SNR=1277						
H11S2	WAKE ISLAND Hy	25.99	67	T	T	16 38 28.8	
	baz=253,slow=73,SNR=2270						
H11N1	WAKE ISLAND Hy	26.53	64	T	T	16 39 12.1	
	baz=252,slow=75,SNR=486						
H11N2	WAKE ISLAND Hy	26.54	64	T	T	16 39 12.7	
	baz=252,slow=75,SNR=200						
H11N3	WAKE ISLAND Hy	26.55	64	T	T	16 39 13.2	
	baz=252,slow=75,SNR=1023						
MJAR	Matsushiro Arr	27.25	354	P	P	16 11 20.4	-1.1
	3.6nm,0.8s,baz=181,slow=11,SNR=7.8						
MAJO	Matsushiro	27.25	354	P	P	16 11 20.2	-1.2
	9.2nm,0.8s						
WRAB	Tennant Creek	29.95	194	eP	P	16 11 44.9	-0.8
	2.0nm,0.6s						
WRA	Warramunga Arr	29.96	194	P	P	16 11 44.8	-0.9
	1.6nm,0.6s,baz=12,slow=9.8,SNR=16						
KSRS	Korea Array	30.59	338	LR	LR	16 22 24.7	
	comp=Z,56nm,21.6s,baz=144,slow=33						
AS31	Alice Springs	33.66	193	eP	P	16 12 18.0	-0.1
ASAR	Alice Springs	33.66	193	P	P	16 12 18.4	+0.3
	0.8nm,0.6s,baz=16,slow=12,SNR=18						
ASAR				LR	LR	16 25 36.4	
	comp=Z,83nm,18.6s,baz=209,slow=36						
USRK	Ussuriysk Arra	35.71	348	P	P	16 12 36.5	+0.8
	1.3nm,0.6s,baz=170,slow=8.8,SNR=3.5						
CMAR	Chiang Mai Arr	42.29	287	P	P	16 13 32.1	+1.0
	1.7nm,0.9s,baz=92,slow=6.2,SNR=14						
ULN	Ulaanbaatar	48.19	329	P	P	16 14 18.2	+0.5
	1.1nm,0.6s						
SONM	Songino Array	48.51	329	P	P	16 14 20.8	+0.7
	0.5nm,0.6s,baz=134,slow=8.3,SNR=2.7						
YAK	Yakutsk	53.31	353	eP	P	16 14 55.0	-0.7
	13nm,0.8s						
SEY	Seymchan	54.06	6	P	P	16 15 01.7	+0.4
	1.4nm,0.6s,baz=264,slow=22,SNR=8.4						
BILL	Bilibino	60.87	10	eP	P	16 15 48.6	-0.7
	3.7nm,1.0s						
MKAR	Makanchi Array	62.40	318	P	P	16 15 59.1	-0.8
	0.4nm,0.7s,baz=91,slow=11,SNR=4.5						
ZALV	Zalesovo Beam	63.27	326	P	P	16 16 05.0	-0.5
	0.4nm,0.5s,baz=122,slow=5.4,SNR=3.0						
KURK	Kurchatov	65.82	322	eP	P	16 16 21.2	-1.1
	2.2nm,1.0s						
BVAR	Borovoye Array	71.30	323	P	P	16 16 56.1	-0.4
	0.7nm,0.5s,baz=102,slow=8.8,SNR=6.4						
ILAR	Eielson Array	73.75	25	P	P	16 17 09.9	-1.0
	1.1nm,0.6s,baz=248,slow=5.9,SNR=34						
YKA	Yellowknife Ar	88.08	27	P	P	16 18 28.2	+1.0
	0.5nm,0.6s,baz=289,slow=4.9,SNR=8.1						
NVAR	Mina Array Bea	92.07	51	P	P	16 18 48.0	+1.3
	0.7nm,0.6s,baz=274,slow=5.9,SNR=7.5						

IDC 01 16:19:53.2±9.8, 36°.53N×141°.74E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/26, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=216.0km s-min=41.2km az=30.0
JMA 01 16:19:53.4±0.2, 35°.98N×141°.89E, h59km±5km, M2.7
ISCJB 01 16:19:55.0±1.4, 35°.94N±0°.05×141°.7E±0°.1, h23km, mb3.5/2, Error ellipse: s-maj=15.6km s-min=7.3km az=176.5
ISC 01 16:19:52.6±2.1, 36°.01N±0°.07×141°.9E±0°.1, h23km, n13, σ1§38/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.89	250	P	Pn	16 20 10.1	+0.4
CHOJ				eS	Sn	16 20 23.1	+1.3
JHO	Hitachi	1.22	300	P	Pb	16 20 14.6	-0.4
BSO1	Boso 1	1.54	209	P	Pn	16 20 18.9	+0.7
BSO1				eS	Sn	16 20 37.4	+0.1
JFT	Otama	1.95	321	P	Pb	16 20 26.5	-0.9
JFT				eS	Sb	16 20 52.0	+0.7
JAG	Ashikaga	2.01	283	P	Pn	16 20 25.9	+0.8
JMM	Marumori	2.04	335	P	Pb	16 20 28.0	-1.1
JFY	Yanaizu	2.23	309	P	Pb	16 20 30.2	-2.1
JKT	Katashina	2.25	290	P	Pb	16 20 30.2	-2.5
JRY	Ryogami san	2.42	271	P	Pn	16 20 31.6	+0.8
MJAR	Matsushiro Arr	3.01	281	Pn	Pn	16 20 39.4	+0.5
	2.0nm,0.3s,baz=92,slow=9.0,SNR=19						
MAT	Matsushiro	3.02	281	P	Pn	16 20 41.4	+2.4
MAT				S	Sn	16 21 14.1	-0.3
WRA	Warramunga Arr	56.11	189	P	P	16 29 37.4	+7.2
	0.8nm,1.1s,baz=7.1,slow=6.8,SNR=3.8						
ASAR	Alice Springs	59.83	188	P	P	16 30 04.2	+8.0
	0.3nm,0.8s,baz=3.0,slow=6.7,SNR=4.1						

IDC 01 16:22:58.8±13.0, 29°.77N×97°.23E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/38, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=336.3km s-min=83.2km az=107.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	6.32	230	eP	Pn	16 24 41.0	+7.5
CMAR	Chiang Mai Arr	11.37	172	Pn	Pn	16 25 43.1	+0.6
	0.2nm,0.3s,baz=345,slow=14,SNR=5.3						
WRA	Warramunga Arr	61.00	140	P	P	16 33 14.8	+0.6
	0.6nm,1.0s,baz=325,slow=8.1,SNR=7.5						
ASAR	Alice Springs	63.76	142	P	P	16 33 31.9	-0.7
	0.4nm,0.9s,baz=326,slow=6.7,SNR=3.8						

IDC 01 16:32:39.5±5.4, 5°.28S×146°.27E, h156km±52km, mb3.3/3, mb1 3.3/5, mb1mx3.0/18, mbtmp3.7/5, Error ellipse: s-maj=62.5km s-min=26.8km az=129.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.20	168	P	Pn	16 33 42.9	+0.5
	2.4nm,0.3s,baz=310,slow=7.9,SNR=19						
PMG				S	Sn	16 34 31.8	+0.2
	3.1nm,0.3s,baz=144,slow=19,SNR=9.1						
WRA	Warramunga Arr	18.63	217	P	P	16 36 44.9	-0.5
	0.3nm,0.3s,baz=38,slow=11,SNR=25						
ASAR	Alice Springs	21.82	212	P	P	16 37 19.6	0.0
	1.1nm,0.7s,baz=40,slow=7.6,SNR=22						
STKA	Stephens Creek	26.82	189	P	P	16 38 05.6	+0.3
	1.9nm,0.9s,baz=350,slow=11,SNR=2.9						
ILAR	Eielson Array	85.11	23	P	P	16 44 57.6	0.0
	0.4nm,0.7s,baz=255,slow=4.6,SNR=6.1						

MAN 01 17:27:27, 13°.12N×120°.43E, h8km, mb4.7, ML3.6, MS3.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.64	343	eP	Pb	17 27 39.9	-0.5
SJMP	San Jose	0.93	134	eP	Pb	17 27 45.6	+0.2
SJMP				eS	Sn	17 27 60.0	0.0
BUSP	Coron	1.13	192	eP	Pn	17 27 49.2	+0.1
BOAC	Boac	1.42	76	eP	Pn	17 27 52.3	-0.8
LQP	Lukban	1.46	47	⇑eP	Sn	17 28 10.9	-2.6
OTRP	Odiongan	1.72	116	eP	Pb	17 27 58.5	-0.4
ENPP	El Nido	2.14	208	eP	Pn	17 28 03.1	+0.1
CUYO	Cuyo Island	2.33	166	eP	Pn	17 28 05.7	0.0

IDC 01 17:33:30.2±7.1, 5°.88N×95°.76E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/26, mbtmp3.4/4, Error ellipse: s-maj=364.9km s-min=24.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	42.39	346	P	P	17 41 26.1	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.1nm,0.4s,baz=164,slow=9.7,SNR=3.3						
WRA	Warramunga Arr	45.80	125	P	P	17 41 54.3	+0.1
	0.4nm,0.8s,baz=305,slow=8.7,SNR=4.6						
ASAR	Alice Springs	47.41	130	P	P	17 42 06.5	-0.4
	0.8nm,1.2s,baz=304,slow=7.9,SNR=4.3						
ZALV	Zalesovo Beam	48.75	351	P	P	17 42 16.8	+0.2
	0.4nm,0.4s,baz=180,slow=9.7,SNR=4.0						

ISCJB 01 17:50:41.0±1.2, 47.47N±0.09×92.74W±0.06, h0km, Error ellipse: s-maj=13.5km s-min=5.6km az=7.7
NEIC 01 17:50:44.5±1.1, 47.39N×92.59W, h0km, MN2.6, Error ellipse: s-maj=18.6km s-min=9.4km az=20.0, Suspected Mining explosion.
NEIC 15 km [10 miles] SSW of Virginia.
IDC 01 17:50:51.9±5.5, 47.76N×92.91W, h0km, mb1 2.2/1, mb1mx2.2/28, mbtmp2.2/1, ML0.6/1, Error ellipse: s-maj=67.3km s-min=46.1km az=55.0
ISC 01 17:50:45.6±1.1, 47.60N±0.10×92.66W±0.05, h0km, n6, σ1°22/9, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	Ely	0.85	66	ePg	Pg	17 51 02.1	+0.1
EYMN				eSg	Sg	17 51 12.3	-0.8
AGMN	Agassiz Nation	2.26	289	Pn	Pn	17 51 24.4	+0.1
AGMN				ePg	Pb	17 51 27.3	0.0
AGMN				eSg	Sb	17 51 55.4	-0.6
COWI	Conover	2.84	121	ePg	Pb	17 51 36.4	-0.9
COWI				eSg	Sn	17 52 08.3	+1.0
ULM	Lac du Bonnet	3.39	322	Pn	Pn	17 51 41.8	+2.0
	0.1nm,0.3s,baz=154,slow=10,SNR=2.0						
ULM				Sn	Sn	17 52 19.3	-1.4
	0.2nm,0.3s,baz=240,slow=20,SNR=2.6						
I10CA	LAC DU BONNET	3.42	321	i		18 11 00.0	
	baz=139,slow=337,SNR=6.7						
I56US	NEWPORT INFRAS	16.40	281	i		19 32 57.7	
	baz=82,slow=331,SNR=0.6						

JMA 01 17:53:05.5±0.2, 24.74N×121.79E, h100km±2km, M2.7
ISCJB 01 17:53:06.0±0.6, 24.78N±0.03×121.86E±0.02, h99km±4km, Error ellipse: s-maj=5.1km s-min=3.1km az=151.1
TAP 01 17:53:06.2, 24.78N×121.83E, h98km, ML3.6, B
ISC 01 17:53:06.6±1.5, 24.77N±0.05×121.86E±0.03, h97km±8km, n50, σ0°68/95, 4C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.10	41	eP	Pn	17 53 20.4	+0.2
	baz=72						
EGS				eS	Sn	17 53 30.7	+0.5
	baz=72						
ILA	Ilan	0.10	268	P	Pn	17 53 20.8	+0.7
	baz=242						
ILA				S	Sn	17 53 31.4	+1.1
	baz=242						
TWC	Suao	0.16	184	P	Pn	17 53 20.8	+0.5
	baz=160						
TWC				i S	Sn	17 53 31.3	+0.9
	baz=160						
TWE	Neicheng	0.18	255	⇓iP	Pn	17 53 20.6	+0.3
	baz=262						
TWE				S	Sn	17 53 31.5	+0.9
	baz=262						
TWB1	Santiao Chiao	0.27	26	⇑iP	Pn	17 53 20.6	-0.1
	baz=43						
TWB1				i S	Sn	17 53 30.6	-0.6
	baz=43						
NWF	Wu-fen Shan	0.31	347	⇑iP	Pn	17 53 20.9	-0.1
	baz=3.0						
NWF				S	Sn	17 53 31.7	0.0
	baz=3.0						
TWA	Mucha	0.33	310	i P	Pn	17 53 20.8	-0.2
	baz=319						
TWA				eS	Sn	17 53 31.8	+0.1
	baz=319						
ENA	Nanau	0.36	198	eP	Pn	17 53 21.3	+0.2
	baz=199						
ENA				eS	Sn	17 53 33.1	+1.2
	baz=199						
TAP1	Taipei	0.41	311	eP	Pn	17 53 20.9	-0.5
	baz=307						
TAP1				eS	Sn	17 53 31.8	-0.7
	baz=307						
TAP	Taipei	0.42	310	eP	Pn	17 53 21.1	-0.4
	baz=307						
TAP				eS	Sn	17 53 32.2	-0.4
	baz=307						
NSK	Sanguang	0.47	259	⇓iP	Pn	17 53 21.3	-0.6
	baz=247						
NSK				S	Sn	17 53 32.1	-1.2
	baz=247						
TWS1	Kuangyinshan	0.52	310	P	Pn	17 53 22.1	-0.1
	baz=301						
TWS1				eS	Sn	17 53 33.8	0.0
	baz=301						
NNS	Nan Shan	0.55	234	⇓iP	Pn	17 53 22.6	0.0
	baz=230						
NNS				eS	Sn	17 53 34.5	-0.1
	baz=230						
TWY	Chenhua	0.56	335	⇑iP	Pn	17 53 22.4	-0.1
	baz=340						
TWY				i S	Sn	17 53 34.5	+0.1
	baz=340						
NCU	National Centr	0.64	288	⇓P	Pn	17 53 22.9	-0.3
	baz=288						
NCU				eS	Sn	17 53 35.1	-0.5
	baz=288						
TWD	Chiawan	0.73	199	⇑P	Pn	17 53 23.4	-0.6
	baz=202						
TWD				eS	Sn	17 53 36.1	-0.9
	baz=202						
NSTT	Nanjuang	0.79	260	⇓iP	Pn	17 53 24.2	-0.4
	baz=252						
NSTT				S	Sn	17 53 37.1	-1.0
	baz=252						
TWT	Tachien	0.81	231	i P	Pn	17 53 25.5	+0.5
	baz=221						
TWT				S	Sn	17 53 39.4	+0.8
	baz=221						
HSN	Hsinchu	0.81	273	eP	Pn	17 53 24.3	-0.5
	baz=266						
HWA	Hwalien	0.82	196	eP	Pn	17 53 22.9	-2.0
	baz=202						
WHF	Hehuan Shan	0.82	221	⇓iP	Pn	17 53 25.5	+0.1
	baz=211						
WHF				S	Sn	17 53 39.2	-0.2
	baz=211						
ESL	Shilin	1.03	202	eP	Pn	17 53 25.7	-1.4
	baz=193						
ESL				eS	Sn	17 53 41.8	-0.7
	baz=193						
JYNG	Yonagunijimaku	1.04	108	P	Pn	17 53 27.1	-0.1
JYNG				eS	Sn	17 53 42.8	+0.1
NSY	Sanyi	1.06	251	P	Pn	17 53 27.4	-0.1
	baz=248						
NSY				eS	Sn	17 53 43.1	-0.1
	baz=248						
TWQ1	Liyutan	1.07	247	⇓iP	Pn	17 53 27.5	-0.1
	baz=244						
TWQ1				S	Sn	17 53 42.5	-0.9
	baz=244						
YOJ	Yonaguni jima	1.09	106	P	Pn	17 53 27.8	0.0
YOJ				S	Sn	17 53 44.0	+0.2
SMLT	Sun Moon Lake	1.24	225	eP	Pn	17 53 29.9	+0.2
	baz=227						
SMLT				S	Sn	17 53 47.6	+0.5
	baz=227						
TCU	Taichung	1.24	240	eP	Pn	17 53 29.7	+0.1
	baz=246						
TYC	Yuchr	1.26	227	P	Pn	17 53 29.8	0.0
	baz=231						
TYC				eS	Sn	17 53 47.5	+0.3
	baz=231						
EHY	Hungye	1.35	201	eP	Pn	17 53 29.8	-1.1
	baz=189						
EHY				eS	Sn	17 53 48.1	-1.1
	baz=189						
WNT	Mingjian	1.39	231	P	Pn	17 53 31.6	+0.3
	baz=235						
WNT				eS	Sn	17 53 50.4	+0.3
	baz=235						
TWF1	Yuli	1.50	200	eP	Pn	17 53 31.4	-1.4
	baz=196						
TWF1				eS	Sn	17 53 53.1	+0.6
	baz=196						
YUS	Yu-Shan	1.52	213	eP	Pn	17 53 34.3	+0.8
	baz=220						
YUS				eS	Sn	17 53 54.7	+1.0
	baz=220						
ALS	Alishan	1.58	218	eP	Pn	17 53 34.4	+0.4
	baz=222						
ALS				eS	Sn	17 53 55.4	+0.7
	baz=222						
CHN5	Tsauling	1.59	223	eP	Pn	17 53 34.2	+0.3
	baz=219						
CHN5				eS	Sn	17 53 55.3	+0.7
	baz=219						
WGK	Gukeng	1.60	228	eP	Pn	17 53 33.4	-0.5
	baz=233						
WGK				eS	Sn	17 53 55.0	+0.3
	baz=233						
CHKT	Chengkung	1.72	195	eP	Pn	17 53 34.6	-0.9
	baz=183						
CHKT				eS	Sn	17 53 57.5	0.0
	baz=183						
ELDTW	Lidau	1.75	206	eP	Pn	17 53 35.9	-0.1
	baz=193						
ELDTW				eS	Sn	17 53 59.2	+0.9
	baz=193						
IRIF	Iriomote-Funau	1.76	104	P	Pn	17 53 36.2	+0.3
IRIF				S	Sn	17 53 57.9	-0.3
STYT	Tauyuan	1.89	212	eP	Pn	17 53 38.3	+0.6
	baz=208						
STYT				eS	Sn	17 54 01.6	+0.2
	baz=208						
WTP	Ta-pu	1.90	217	eP	Pn	17 53 38.2	+0.4
	baz=214						
WTP				eS	Sn	17 54 01.5	0.0
	baz=214						
TWK	Hsinying	1.95	220	eP	Pn	17 53 39.0	+0.5
	baz=216						
TWK				eS	Sn	17 54 02.7	-0.1
	baz=216						
CHN1	Nanshi	1.99	218	eP	Pn	17 53 39.2	+0.2
	baz=214						
CHN1				eS	Sn	17 54 03.8	+0.1
	baz=214						
JKRS	Kuro-shima	2.03	105	P	Pn	17 53 39.8	+0.4
SGST	Jiashian	2.04	215	eP	Pn	17 53 40.7	+1.0
	baz=218						
SGST				eS	Sn	17 54 05.1	+0.2
	baz=218						
TWG	Pinlang	2.07	201	eP	Pn	17 53 39.5	-0.5
	baz=187						
TWG				eS	Sn	17 54 03.3	-2.1
	baz=187						
JIJ	Ishigaki jima	2.12	101	P	Pn	17 53 40.6	0.0
JIJ				S	Sn	17 54 05.3	-1.3
JISG	Ishigakijimahi	2.24	94	P	Pn	17 53 42.3	+0.2
JISG				S	Sn	17 54 09.3	0.0
SSD	Sandimen	2.31	209	eP	Pn	17 53 44.3	+1.2
	baz=205						
SSD				eS	Sn	17 54 12.2	+1.2
	baz=205						
JTJ	Tarama	2.59	92	S	Sn	17 54 17.7	+0.1

IDC 01 18:12:15.3±3.0, 10.79N×125.36E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/31, mbtmp3.5/4, Error ellipse: s-maj=258.7km s-min=28.7km az=64.0
ISCJB 01 18:12:18.0±1.5, 11.09N±0.05×125.62E±0.07, h24km±10km, mb3.4/4, Error ellipse: s-maj=11.4km s-min=8.5km az=166.5
MAN 01 18:12:19, 11.00N×125.51E, h17km, mb4.7, ML3.6, MS3.5
ISC 01 18:12:18.8±2.1, 11.04N±0.06×125.57E±0.07, h24km±16km, n15, σ1°91/20, mb3.4/4, 1C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	0.59	282	⇓eP	Pb	18 12 30.0	-0.6
OCLP	Ormoc	0.94	271	eP	Pn	18 12 36.7	+0.1
OCLP				eS	Sn	18 12 47.9	-1.5
MSLP	Maasin	1.14	218	eP	Pn	18 12 39.1	-0.2
MSLP				eS	Sn	18 12 55.4	+1.1
SCPH	Surigao	1.26	184	⇑eP	Pn	18 12 39.7	-1.3
LLP	Lapu-Lapu	1.73	246	eP	Pn	18 12 47.9	+0.4
LLP				eS	Sn	18 13 09.4	+0.5
BUTP	Butuan	2.06	179	eP	Pn	18 12 54.8	+2.8
BUTP				eS	Sn	18 13 18.6	+1.5
TBP	Tagbilaran	2.15	231	eP	Pn	18 12 55.9	+2.6
TBP				eS	Sn	18 13 22.7	+3.5
RCP	Roxas	2.82	281	⇓eP	Pn	18 13 04.5	+2.0
PVCP	Virac	2.89	332	eP	Pn	18 13 05.6	+2.1
GUIM	Jordan	2.96	262	eP	Pn	18 13 04.9	+0.5
BUKP	Musuan	3.18	189	eP	Pn	18 13 09.7	+2.1
WRA	Warramunga Arr	31.98	164	P	P	18 18 40.8	-2.6
	0.3nm,0.6s,baz=343,slow=9.3,SNR=5.0						
ASAR	Alice Springs	35.45	167	P	P	18 19 12.1	-1.4
	0.2nm,0.6s,baz=355,slow=7.0,SNR=8.3						
STKA	Stephens Creek	45.35	161	P	P	18 20 34.5	-0.8
	1.7nm,0.9s,baz=325,slow=12,SNR=2.9						
MKAR	Makanchi Array	51.00	323	P	P	18 21 19.5	+0.6
	0.2nm,0.5s,baz=116,slow=8.5,SNR=2.0						

ISCJB 01 18:13:13.2±0.8, 31.81S±0.04×69.57W±0.05, h117km±8km, Error ellipse: s-maj=9.0km s-min=4.7km az=42.2
SJA 01 18:13:13.9±0.7, 31.83S×69.49W, h104km±4km, ML3.4, MW3.2
GUC 01 18:13:13.8±0.3, 31.85S×69.99W, h146km±3km, MD3.6, ML3.7
ISC 01 18:13:14.0±1.6, 31.82S±0.05×69.57W±0.05, h110km±11km, n26, σ0°71/37, 4C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.23	85	i P	Pn	18 13 29.6	-0.3
RTLS				eS	Sn	18 13 41.6	-0.2
AUSP	Uspallata	0.43	159	i P	Pn	18 13 30.6	-0.2
RTCV	Cerro Valdivia	0.88	93	i P	Pn	18 13 33.7	-0.3
SJA	San Juan	0.91	71	i P	Pn	18 13 34.2	-0.2
SJA				AML	AML	18 13 55.0	
	comp=Z,630nm,0.4s						
ASAL	Salagasta	0.99	141	i P	Pn	18 13 35.1	-0.1
RTLL	Cerro Villicun	1.05	63	i P	Pn	18 13 35.5	-0.4
ARCO	CERRO ARCO	1.15	152	eP	Pn	18 13 37.4	+0.4
ARCO				AML	AML	18 13 56.7	
	comp=Z,1μm,0.4s						
CFAA	Coronel Fontan	1.15	80	eP	Pn	18 13 36.4	-0.5
JACH	Jahuel	1.22	225	⇑iP	Pn	18 13 38.4	+0.7
JACH				i S	Sn	18 13 57.2	+1.5
CMCH	Combarbala	1.38	297	⇑iP	Pn	18 13 39.3	-0.3
CMCH				i S	Sn	18 13 59.0	0.0
CMCH				AML	AML	18 14 01.4	
	comp=N,2μm,0.6s						
AAGR	Agrelo	1.41	154	i P	Pn	18 13 40.0	+0.2
PEL	Peldehue	1.62	215	i P	Pn	18 13 42.4	0.0
PEL				i S	Sn	18 14 04.2	+0.2
PEL				AML	AML	18 14 06.2	
	comp=E,2μm,0.5s						
ROCH	El Roble	1.68	226	⇑iP	Pn	18 13 43.0	-0.2
ROCH				i S	Sn	18 14 05.3	0.0
ROCH				AML	AML	18 14 07.9	
	comp=E,641nm,0.2s						
CLCH	Cerro Calan	1.77	207	⇓iP	Pn	18 13 44.8	+0.5
CLCH				i S	Sn	18 14 08.1	+0.8
CLCH				AML	AML	18 14 10.7	
	comp=N,1μm,0.3s						
AVIZ	Vizcacheras	1.87	152	i P	Pn	18 13 45.4	-0.1
SAN	Santiago	1.87	209	⇑iP	Pn	18 13 45.6	+0.2
SAN				i S	Sn	18 14 09.5	+0.1
SAN				AML	AML	18 14 12.4	
	comp=N,456nm,0.3s						
ANTU	Antumapu	1.96	207	i P	Pn	18 13 46.9	+0.3
ANTU				i S	Sn	18 14 11.8	+0.4
ANTU				AML	AML	18 14 14.4	
	comp=E,782nm,0.2s						
ACAN	Cantantal	2.07	103	i P	Pn	18 13 47.6	-0.3
LMEL	Las Melosas	2.09	195	⇓iP	Pn	18 13 48.6	+0.3
LMEL				i S	Sn	18 14 15.7	+1.1
LMEL				AML	AML	18 14 24.9	
	comp=N,496nm,0.2s						
AVFE	Valle Fertil	2.15	58	eP	Pn	18 13 48.8	-0.2
AVFE				AML	AML	18 14 19.1	
	comp=Z,138nm,0.2s						
TACH	Talagante	2.16	212	i P	Pn	18 13 48.8	-0.3
TACH				i S	Sn	18 14 15.2	-0.7
CHCH	Chadas Angostu	2.29	203	i P	Pn	18 13 51.0	+0.2
CHCH				i S	Sn	18 14 19.2	+0.1
AGUA	GUANDACOL	2.50	22	i P	Pn	18 13 54.5	+0.9
LNV	Longovilo	2.63	216	i P	Pn	18 13 53.7	-1.4
LNV				i S	Sn	18 14 24.4	-2.5
APLL	PUNTA DE LOS L	2.97	62	eP	Pn	18 14 00.0	+0.3
CYA	Choya	4.69	45	AML	AML	18 15 52.3	
	comp=Z,21nm,0.6s						

IDC 01 18:27:56.1±2.0, 4.50S×142.76E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/29, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=90.3km s-min=29.9km az=106.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.40	207	P	Pn	18 31 59.2	-1.3
	0.3nm,0.3s,baz=29,slow=13,SNR=20						
ASAR	Alice Springs	20.88	203	P	P	18 32 40.8	+0.7
	2.0nm,0.7s,baz=34,slow=9.9,SNR=11						
MKAR	Makanchi Array	73.68	321	P	P	18 39 31.9	+0.1
	0.1nm,0.4s,baz=119,slow=5.1,SNR=1.8						
ILAR	Eielson Array	85.80	24	P	P	18 40 37.1	-0.1
	0.2nm,0.7s,baz=262,slow=5.2,SNR=2.7						

IGQ 01 18:48:59±1.3, 3.41S×79.31W, h7km±29km, Mb4.0, 3C-1D, Error ellipse: s-maj=20.3km s-min=6.7km az=53.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.02	19	P	Pn	18 49 32.0	-2.3
BMAS	Trigal station	2.07	24	⇑S	Sn	18 49 57.6	-3.4
BMAS	Trigal station	2.07	24	⇑P	Pn	18 49 32.1	-2.6
JUI6	Juive	2.14	23	P	Pn	18 49 35.2	-0.5
ULBA	Ulba	2.15	25	P	Pn	18 49 33.3	-2.4
BULB	Ulba Tungurahu	2.16	25	P	Pn	18 49 33.5	-2.5
BULB	Ulba Tungurahu	2.16	25	S	Sn	18 49 58.9	-4.3
PISA	Pisayambo	2.51	22	⇑P	Pn	18 49 39.2	-1.7
CAMI	Rancho Maria	2.83	17	P	Pn	18 49 44.9	-0.4
TAMB	Tambo	2.86	19	P	Pn	18 49 45.5	-0.2
BTAM	Cotopaxi Volca	2.87	19	P	Pn	18 49 45.7	-0.2
NAS2	Nasa	2.87	17	P	Pn	18 49 45.1	-0.8
BVC2	Cotopaxi Volca	2.88	18	P	Pn	18 49 44.9	-1.2
COV1	Cotopaxi Volc	2.90	20	P	Pn	18 49 44.3	-2.1
VC1	Cotopaxi 1	2.90	18	P	Pn	18 49 44.3	-2.0
PITA	Cotopaxi Volc	2.96	17	P	Pn	18 49 46.0	-1.1
JUA2	San Juan 2	3.25	13	P	Pn	18 49 48.5	-2.6
TERV	Terraza Guagua	3.29	12	P	Pn	18 49 51.8	0.0
PINO	Pino	3.31	12	P	Pn	18 49 49.2	-2.8
OTAV	Otavalo	3.72	13	⇓P	Pn	18 49 55.3	-2.2

MAN 01 19:15:49, 12.89N×121.63E, h127km, mb4.8, ML3.7, MS3.7, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	Boac	0.60	20	eP	Pn	19 16 11.6	+3.2
BOAC				eS	Sn	19 16 25.8	+2.7
SJMP	San Jose	0.66	229	eP	Pn	19 16 12.0	+3.3
SJMP				eS	Sn	19 16 27.3	+3.7
BUSP	Coron	1.65	238	eP	Pn	19 16 19.4	+0.8
RCP	Roxas	1.72	140	⇑eP	Pn	19 16 20.8	+1.4
RCP				i S	Sn	19 16 31.4	-11

MAN 01 19:16:09, 10.71N×122.64E, h24km, mb4.8, ML3.7, MS3.8, 1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.10	211	eP	Pb	19 16 14.9	+1.4
GUIM				eS	Sb	19 16 19.9	+3.4
LLP	Lapu-Lapu	1.36	106	eP	Pn	19 16 32.5	0.0
LLP				eS	Sb	19 16 50.6	-0.3
SNPH	Sibulan	1.48	157	⇓iP	Pn	19 16 31.6	-2.6
SNPH				i S	Sb	19 16 54.1	-0.3
TBP	Tagbilaran	1.57	130	eP	Pb	19 16 42.8	+5.3
CUYO	Cuyo Island	1.60	275	eP	Pb	19 16 37.5	-0.4
OTRP	Odiongan	1.75	340	eP	Pn	19 16 36.9	-1.0
OCLP	Ormoc	1.96	80	eP	Pn	19 16 41.1	+0.3
OCLP				eS	Sb	19 17 09.3	+1.1
MSLP	Maasin	2.26	104	eP	Pn	19 16 46.5	+1.7
ENPP	El Nido	3.19	279	eP	Pn	19 16 59.4	+1.6
PVCP	Virac	3.23	27	eS	Sn	19 17 36.1	+0.1

MOS 01 20:00:51.6±1.5, 60.60N×166.28E, h6km, mb4.2/1, Error ellipse: s-maj=49.1km s-min=21.1km az=84.9
KRSC 01 20:00:52.2±1.9, 60.66N×166.18E, h20km±8km, ML4.0
IDC 01 20:00:52.8±1.0, 60.66N×166.13E, h0km, mb3.4/6, mb1 3.8/7, mb1mx3.5/46, mbtmp3.5/7, ML3.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/34, Error ellipse: s-maj=22.7km s-min=18.3km az=46.0
ISCJB 01 20:00:53.6±0.6, 60.64N±0.06×166.3E±0.1, h17km, mb3.4/6, MS3.2/1, Error ellipse: s-maj=11.1km s-min=6.3km az=44.0
ISC 01 20:00:55.2±0.8, 60.59N±0.08×166.24E±0.08, h17km, n15, σ0°83/17, mb3.5/6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	Tilichiki	0.15	198	eP	Pg	20 00 58.5	-0.8
TILK				eS	Sb	20 01 02.5	0.0
OSSR	Ossora	2.09	231	eP	Pn	20 01 29.2	-0.2
OSSR				eS	Sn	20 01 56.1	+1.1
PALN	Palana	3.51	247	eP	Pn	20 01 49.5	+0.7
PALN				eS	Sn	20 02 28.8	-1.1
KBTR	Krutoberegovo	4.75	204	PN	Pn	20 02 07.0	+1.1
KBTR	Krutoberegovo	4.75	204	eP	Pn	20 02 07.0	+1.1
FX1	Attu Island--F	8.61	151	PN	Pn	20 02 58.3	-0.6
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	Attu Island--F	8.61	151	Pn	Pn	20 02 58.3	-0.6
	comp=Z,1.2nm,0.3s,baz=340,slow=5.7,SNR=5.6						
ILAR	Eielson Array	21.50	59	P	P	20 05 43.6	+0.9
	comp=Z,1.5nm,0.6s,baz=277,slow=10,SNR=31						
INK	Inuvik	26.04	47	P	P	20 06 27.1	+0.1
	comp=Z,0.6nm,0.5s,baz=257,slow=4.2,SNR=6.8						
YKA	Yellowknife Ar	35.57	52	P	P	20 07 50.4	-0.6
	comp=Z,0.3nm,0.5s,baz=306,slow=8.0,SNR=5.6						
KURK	Kurchatov	46.81	299	P	P	20 09 24.4	+0.9
KURBB	Kurchatov Arra	46.92	299	P	P	20 09 24.4	+0.1
	comp=Z,0.5nm,0.4s,baz=43,slow=7.9,SNR=8.1						
MKAR	Makanchi Array	48.11	293	P	P	20 09 32.8	-0.9
	comp=Z,0.1nm,0.6s,baz=54,slow=7.3,SNR=2.3						
PDAR	Pinedale Array	51.31	70	P	P	20 09 58.9	+0.6
	comp=Z,0.5nm,0.6s,baz=307,slow=4.6,SNR=3.9						
FINES	FINESS Array B	54.51	338	LR	LR	20 37 23.0	
	comp=Z,18nm,18.8s,baz=93,slow=40						

IDC 01 20:14:42.8±6.3, 5.26S×151.06E, h197km±40km, mb3.0/3, mb1 3.2/4, mb1mx2.9/28, mbtmp3.6/4, Error ellipse: s-maj=95.1km s-min=31.0km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.65	223	P	Pn	20 16 05.6	+0.2
	1.8nm,0.3s,baz=227,slow=14,SNR=2.4						
PMG				S	Sn	20 17 11.4	+0.5
	2.2nm,0.3s,baz=352,slow=23,SNR=3.2						
WRA	Warramunga Arr	21.85	227	P	P	20 19 19.5	-0.5
	0.9nm,0.4s,baz=52,slow=9.9,SNR=23						
ASAR	Alice Springs	24.66	220	P	P	20 19 46.2	+0.6
	0.8nm,0.6s,baz=54,slow=9.2,SNR=16						
SONM	Songino Array	65.80	329	P	P	20 25 06.9	-0.1
	0.3nm,0.6s,baz=140,slow=6.5,SNR=2.6						
TORD	Torodi Ar. Bea	148.79	287	PKPbc	PKPbc	20 34 07.0	-1.0
	1.4nm,1.2s,baz=64,slow=2.8,SNR=4.2						

CSEM 01 20:22:19.6, 36.62N×25.78E, h23km, MD3.5, After ATH
ATH 01 20:22:19.6, 36.62N×25.78E, h23km, MD3.5/31, ML3.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANT	Santorini	0.36	226	ePB	Pb	20 22 28.1	+0.6

SANT				eSB	Sb	20 22 33.0	+0.2
SANT	**Santorini**	**0.36**	**226**	ePb	Pb	20 22 28.1	+0.6
SANT				eSb	Sb	20 22 33.0	+0.2
APE	**Apeiranthos**	**0.49**	**336**	ePB	Pb	20 22 30.1	+0.4
APE				eSB	Sb	20 22 37.1	+0.5
APE	**Apeiranthos**	**0.49**	**336**	ePb	Pb	20 22 30.1	+0.4
APE				eSb	Sb	20 22 37.1	+0.5
NIS1	**Nisyros Isl.**	**1.12**	**90**	ePN	Pb	20 22 40.4	0.0
NIS1				eSN	Sn	20 22 57.2	+2.4
NIS1	**Nisyros Isl.**	**1.12**	**90**	ePn	Pb	20 22 40.4	0.0
NIS1				eSn	Sn	20 22 57.2	+2.4
NPS	**Neapolis**	**1.36**	**186**	ePN	Pb	20 22 44.9	+0.5
NPS				eSN	Sb	20 23 03.2	+1.8
NPS	**Neapolis**	**1.36**	**186**	ePn	Pb	20 22 44.9	+0.5
NPS				eSn	Sb	20 23 03.2	+1.8
SMG	**Samos**	**1.38**	**38**	ePN	Pb	20 22 45.3	+0.6
SMG				eSN	Sb	20 23 04.1	+2.2
SMG	**Samos**	**1.38**	**38**	ePn	Pb	20 22 45.3	+0.6
SMG				eSn	Sb	20 23 04.1	+2.2
LAST	**Lasithi**	**1.48**	**190**	ePN	Pb	20 22 46.8	+0.3
LAST				eSN	Sb	20 23 06.0	+1.1
LAST	**Lasithi**	**1.48**	**190**	ePn	Pb	20 22 46.8	+0.3
LAST				eSn	Sb	20 23 06.0	+1.1
IDI	**Anoyia**	**1.51**	**209**	ePN	Pb	20 22 47.0	-0.1
IDI				eSN	Sb	20 23 06.3	+0.4
IDI	**Anoyia**	**1.51**	**209**	ePn	Pb	20 22 47.0	-0.1
IDI				eSn	Sb	20 23 06.3	+0.4
ZKR	**Zakros**	**1.54**	**167**	ePN	Pb	20 22 47.9	+0.4
ZKR				eSN	Sb	20 23 08.5	+1.8
ZKR	**Zakros**	**1.54**	**167**	ePn	Pb	20 22 47.9	+0.4
ZKR				eSn	Sb	20 23 08.5	+1.8
KARP	**Karpathos**	**1.55**	**133**	ePN	Pb	20 22 47.8	+0.1
KARP				eSN	Sb	20 23 08.5	+1.6
KARP	**Karpathos**	**1.55**	**133**	ePn	Pb	20 22 47.8	+0.1
KARP				eSn	Sb	20 23 08.5	+1.6
VAM	**Vamos**	**1.76**	**227**	ePN	Pb	20 22 50.9	-0.4
VAM				eSN	Sb	20 23 13.5	+0.5
VAM	**Vamos**	**1.76**	**227**	ePn	Pb	20 22 50.9	-0.4
VAM				eSn	Sb	20 23 13.5	+0.5
CHOS	**Chios island**	**1.78**	**7**	ePN	Pb	20 22 50.8	-0.8
CHOS				eSN	Sb	20 23 14.5	+0.9
CHOS	**Chios island**	**1.78**	**7**	ePn	Pb	20 22 50.8	-0.8
CHOS				eSn	Sb	20 23 14.5	+0.9
SIVA	**Sivas**	**1.78**	**207**	ePB	Pb	20 22 50.7	-0.9
SIVA				eSB	Sb	20 23 13.9	+0.4
SIVA	**Sivas**	**1.78**	**207**	ePb	Pb	20 22 50.7	-0.9
SIVA				eSb	Sb	20 23 13.9	+0.4
ARG	**Arkhangelos**	**1.94**	**101**	ePN	Pb	20 22 53.2	-1.0
ARG				eSN	Sb	20 23 18.0	+0.1
ARG	**Arkhangelos**	**1.94**	**101**	ePn	Pb	20 22 53.2	-1.0
ARG				eSn	Sb	20 23 18.0	+0.1
PTL	**Penteli**	**2.09**	**314**	ePB	Pb	20 22 55.5	-1.4
PTL				eSB	Sb	20 23 20.7	-1.7
PTL	**Penteli**	**2.09**	**314**	ePb	Pb	20 22 55.5	-1.4
PTL				eSb	Sb	20 23 20.7	-1.7
ATH	**Athens Observa**	**2.13**	**310**	ePB	Pb	20 22 56.1	-1.4
ATH				eSB	Sb	20 23 22.2	-1.2
ATH	**Athens Observa**	**2.13**	**310**	ePb	Pb	20 22 56.1	-1.4
ATH				eSb	Sb	20 23 22.2	-1.2
ANKY	**Antikythira Is**	**2.14**	**250**	ePB	Pb	20 22 56.3	-1.4
ANKY	**Antikythira Is**	**2.14**	**250**	ePb	Pb	20 22 56.3	-1.4
DID	**Didima**	**2.22**	**294**	ePN	Pb	20 22 57.3	-1.8
DID				eSN	Sb	20 23 24.8	-1.4
DID	**Didima**	**2.22**	**294**	ePn	Pb	20 22 57.3	-1.8
DID				eSn	Sb	20 23 24.8	-1.4
KYTH	**Kithira**	**2.24**	**262**	ePN	Pb	20 22 57.5	-1.9
KYTH	**Kithira**	**2.24**	**262**	ePn	Pb	20 22 57.5	-1.9
VLI	**Veliai**	**2.29**	**273**	ePN	Pb	20 22 58.1	-2.1
VLI				eSN	Sb	20 23 26.1	-2.0
VLI	**Veliai**	**2.29**	**273**	ePn	Pb	20 22 58.1	-2.1
VLI				eSn	Sb	20 23 26.1	-2.0
SIGR	**SIGRI**	**2.59**	**1**	ePN	Pn	20 23 02.3	+2.2
SIGR	**SIGRI**	**2.59**	**1**	ePn	Pn	20 23 02.3	+2.2
LTK	**Loutraki**	**2.64**	**303**	ePN	Pn	20 23 03.4	+2.5
LTK	**Loutraki**	**2.64**	**303**	ePn	Pn	20 23 03.4	+2.5
PRK	**Paraskevi**	**2.65**	**8**	ePN	Pn	20 23 03.5	+2.6
PRK	**Paraskevi**	**2.65**	**8**	ePn	Pn	20 23 03.5	+2.6
MRKA	**Markates**	**2.71**	**321**	ePN	Pn	20 23 04.4	+2.6
MRKA	**Markates**	**2.71**	**321**	ePn	Pn	20 23 04.4	+2.6
VLX	**Vlachokerasia**	**2.82**	**286**	ePN	Pn	20 23 06.1	+2.6
VLX				eSN	Sn	20 23 39.3	+2.4
VLX	**Vlachokerasia**	**2.82**	**286**	ePn	Pn	20 23 06.1	+2.6
VLX				eSn	Sn	20 23 39.3	+2.4
LKR	**Lokris**	**3.00**	**313**	ePN	Pn	20 23 08.5	+2.8
LKR	**Lokris**	**3.00**	**313**	ePn	Pn	20 23 08.5	+2.8
SMIA	**Simia**	**3.04**	**319**	ePN	Pn	20 23 08.9	+2.6
SMIA				eSN	Sn	20 23 44.7	+2.7
SMIA	**Simia**	**3.04**	**319**	ePn	Pn	20 23 08.9	+2.6
SMIA				eSn	Sn	20 23 44.7	+2.7
GUR	**Goura**	**3.04**	**297**	ePN	Pn	20 23 09.2	+2.8
GUR				eSN	Sn	20 23 44.5	+2.3
GUR	**Goura**	**3.04**	**297**	ePn	Pn	20 23 09.2	+2.8
GUR				eSn	Sn	20 23 44.5	+2.3
SKIA	**Skiathos**	**3.13**	**325**	ePN	Pn	20 23 10.8	+3.2
SKIA	**Skiathos**	**3.13**	**325**	ePn	Pn	20 23 10.8	+3.2
ITM	**Ithomi**	**3.14**	**281**	ePN	Pn	20 23 10.3	+2.6
ITM	**Ithomi**	**3.14**	**281**	ePn	Pn	20 23 10.3	+2.6
DSF	**Desfina**	**3.14**	**306**	ePN	Pn	20 23 10.7	+2.9
DSF	**Desfina**	**3.14**	**306**	ePn	Pn	20 23 10.7	+2.9
KLV	**Kalavryta, Ach**	**3.22**	**297**	ePN	Pn	20 23 11.5	+2.6
KLV				eSN	Sn	20 23 49.1	+2.5
KLV	**Kalavryta, Ach**	**3.22**	**297**	ePn	Pn	20 23 11.5	+2.6
KLV				eSn	Sn	20 23 49.1	+2.5
AXAR	**Agios Charalam**	**3.27**	**312**	ePN	Pn	20 23 12.1	+2.6
AXAR	**Agios Charalam**	**3.27**	**312**	ePn	Pn	20 23 12.1	+2.6
NEO	**Neokhori**	**3.36**	**324**	ePN	Pn	20 23 13.4	+2.7
NEO	**Neokhori**	**3.36**	**324**	ePn	Pn	20 23 13.4	+2.7
KALE	**Kalithea**	**3.39**	**303**	ePN	Pn	20 23 14.3	+3.1
KALE	**Kalithea**	**3.39**	**303**	ePn	Pn	20 23 14.3	+3.1
LAKA	**Lakka**	**3.43**	**299**	ePN	Pn	20 23 14.5	+2.8
LAKA	**Lakka**	**3.43**	**299**	ePn	Pn	20 23 14.5	+2.8
DRO	**Drossia**	**3.51**	**293**	ePN	Pn	20 23 16.0	+3.3
DRO	**Drossia**	**3.51**	**293**	ePn	Pn	20 23 16.0	+3.3
AGG	**Agios Georgios**	**3.63**	**312**	ePN	Pn	20 23 17.8	+3.3
AGG	**Agios Georgios**	**3.63**	**312**	ePn	Pn	20 23 17.8	+3.3
MAKR	**Makrakomi, Fth**	**3.75**	**311**	ePN	Pn	20 23 18.5	+2.4
MAKR	**Makrakomi, Fth**	**3.75**	**311**	ePn	Pn	20 23 18.5	+2.4
PDO	**Prodromos**	**4.15**	**300**	ePN	Pn	20 23 24.4	+2.9
PDO	**Prodromos**	**4.15**	**300**	ePn	Pn	20 23 24.4	+2.9
THL	**Klokotos Trika**	**4.18**	**316**	ePN	Pn	20 23 25.0	+3.1
THL	**Klokotos Trika**	**4.18**	**316**	ePn	Pn	20 23 25.0	+3.1

*ISCJB **01** 20:22:41.2±0.5, 20°.11S±0°.07×177°.67W±0°.10, h400km, mb3.8/16, Error ellipse: s-maj=12.9km s-min=8.8km az=28.8*
*IDC **01** 20:22:43.1±3.7, 20°.13S×177°.60W, h409km±38km, mb3.6/16, mb1 3.8/18, mb1mx3.6/37, mbtmp4.3/18, Error ellipse: s-maj=19.3km s-min=13.5km az=125.0*
ISC 01 20:22:41.9±0.6, **20°.18S**±0°.09×**177°.5W**±0°.1, **h400km, n29,** σ1s.**06**/28, **mb3.9**/16, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.31**	**42**	S	S	20 26 26.0	+8.2
	3.9nm,0.3s,baz=222,slow=17,SNR=3.7						
RAO	**Raoul Island**	**9.04**	**182**	S	**S**	**20 26 31.4**	**-1.5**
	367nm,0.3s,baz=80,slow=20,SNR=5.3						
DZM	**Mont Dzumac**	**15.08**	**260**	P	**P**	**20 25 54.7**	**-0.7**
	0.1nm,0.3s,baz=71,slow=18,SNR=2.0						
URZ	**Urewera**	**18.61**	**193**	P	**P**	**20 26 32.2**	**-0.5**
	2.6nm,0.3s,baz=283,slow=2.5,SNR=10.0						
URZ				S	**S**	**20 29 45.7**	**+2.9**
	0.7nm,0.3s,baz=247,slow=23,SNR=1.2						
CTA	**Charters Tower**	**33.97**	**264**	P	**P**	**20 28 51.0**	**+0.9**
	3.6nm,0.3s,baz=92,slow=10,SNR=8.2						
CMSA	**Cobar Meteorol**	**34.83**	**244**	P	**P**	**20 28 57.6**	**+0.5**
	baz=35,SNR=8.4						
STKA	**Stephens Creek**	**38.33**	**244**	P	**P**	**20 29 26.6**	**+0.3**
	2.0nm,0.5s,baz=94,slow=8.4,SNR=20						
STKA	**Stephens Creek**	**38.33**	**244**	P	**P**	**20 29 26.8**	**+0.5**
	baz=38,SNR=15						
BBOO	**Buckleboo**	**43.09**	**243**	P	**P**	**20 30 04.2**	**-0.5**
	baz=43,SNR=7.2						
ASAR	**Alice Springs**	**45.03**	**256**	P	**P**	**20 30 19.9**	**-0.2**
	9.2nm,0.5s,baz=96,slow=7.5,SNR=197						
WRA	**Warramunga Arr**	**45.09**	**262**	P	**P**	**20 30 20.1**	**-0.4**
	1.8nm,0.3s,baz=96,slow=7.7,SNR=192						
KDU	**Kakadu**	**48.39**	**271**	P	**P**	**20 30 45.7**	**-0.1**
	baz=49,SNR=4.3						
WRKA	**Warakurna**	**49.98**	**254**	P	**P**	**20 30 57.1**	**-0.6**
	baz=50,SNR=14						
KNRA	**Kununurra**	**51.12**	**266**	P	**P**	**20 31 06.1**	**0.0**
	baz=51,SNR=3.9						
MJAR	**Matsushiro Arr**	**70.22**	**323**	P	**P**	**20 33 13.0**	**0.0**
	2.2nm,0.6s,baz=165,slow=6.6,SNR=6.2						
USRK	**Ussuriysk Arra**	**78.95**	**326**	P	**P**	**20 34 03.5**	**+1.1**
	3.3nm,0.8s,baz=95,slow=3.7,SNR=8.4						
YBH	**Yreka Blue Hor**	**79.76**	**38**	P	**P**	**20 34 08.4**	**+1.6**
	4.4nm,0.7s,baz=90,slow=5.6,SNR=4.7						
NVAR	**Mina Array Bea**	**80.49**	**43**	P	**P**	**20 34 12.3**	**+1.4**
	2.0nm,0.8s,baz=222,slow=8.6,SNR=13						
ELK	**Elko**	**83.74**	**43**	P	**P**	**20 34 28.1**	**+0.5**
	0.3nm,0.3s,baz=238,slow=3.2,SNR=5.9						
SEY	**Seymchan**	**86.16**	**347**	P	**P**	**20 34 38.1**	**-0.5**
	2.3nm,0.6s,baz=120,slow=8.1,SNR=6.8						
TXAR	**Lajitas Array**	**86.51**	**57**	P	**P**	**20 34 42.5**	**+1.2**
	1.1nm,0.7s,baz=224,slow=6.7,SNR=14						
ILAR	**Eielson Array**	**87.90**	**13**	P	**P**	**20 34 45.7**	**-1.2**
	0.9nm,0.7s,baz=222,slow=6.0,SNR=11						
PDAR	**Pinedale Array**	**88.42**	**43**	P	**P**	**20 34 50.2**	**+0.1**
	1.2nm,0.7s,baz=197,slow=3.0,SNR=9.5						
CMAR	**Chiang Mai Arr**	**90.43**	**289**	P	**P**	**20 34 59.6**	**-0.1**
	0.6nm,0.6s,baz=113,slow=2.6,SNR=7.8						
INK	**Inuvik**	**93.85**	**15**	P	**P**	**20 35 13.8**	**-0.4**
	0.4nm,0.6s,baz=235,slow=5.7,SNR=3.0						
YKA	**Yellowknife Ar**	**96.04**	**25**	P	**P**	**20 35 22.9**	**-1.4**
	0.2nm,0.7s,baz=244,slow=4.6,SNR=2.5						
AKASG	**Malin Array Be**	**142.95**	**332**	PKhKP	PKPpre	20 41 23.4	
	2.3nm,0.6s,baz=42,slow=4.4,SNR=30						
BRTR	**Keskin Array B**	**146.95**	**313**	PKPbc	**PKPdf**	**20 41 36.2**	**+0.3**
	0.8nm,0.6s,baz=128,slow=3.9,SNR=4.5						
GERES	**GERESS Array B**	**150.01**	**345**	PKPbc	**PKPbc**	**20 41 44.0**	**-1.9**
	1.3nm,0.8s,baz=59,slow=3.6,SNR=7.9						

DDA 01 20:26:53.8, 39°.99N×41°.29E, h6km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.10**	**144**	PG	Pg	20 26 56.4	0.0
ERZM	**Erzurum**	**0.10**	**143**	i P	Pg	20 26 56.4	0.0
ERZM				i S	Sg	20 26 57.9	-0.3
HOMI	**Horasan**	**0.48**	**83**	i P	Pg	20 27 03.4	-0.1
HOMI				i S	Sg	20 27 10.7	+0.7
EKAR	**Karacoban**	**0.95**	**140**	i P	Pg	20 27 12.1	-0.2
EKAR				i S	Sb	20 27 25.7	-0.3

*IDC **01** 20:35:17.6±1.1, 42°.44N×75°.36E, h0km, mb3.4/5, mb1 3.6/10, mb1mx3.5/50, mbtmp3.5/10, ML3.4/5, MS2.5/2, Ms1 2.6/2, ms1mx2.3/25, Error ellipse: s-maj=15.8km s-min=7.5km az=178.0*
*KNET **01** 20:35:18.1±0.4, 42°.53N×75°.35E, h22km±10km, ml3.6, Error ellipse: s-maj=2.6km s-min=2.0km az=36.0*
*ISCJB **01** 20:35:19.6±0.3, 42°.58N±0°.02×75°.36E±0°.02, h22km±3km, mb3.3/5, MS2.8/1, Error ellipse: s-maj=3.8km s-min=3.0km az=176.3*
*NNC **01** 20:35:19.8±0.5, 42°.62N×75°.33E, h4km±2km, mb4.0, mpv3.8, Error ellipse: s-maj=5.7km s-min=3.1km az=155.0*
*KRNET **01** 20:35:19.1±0.1, 42°.53N×75°.36E, h12km, mb4.3*
ISC 01 20:35:19.7±0.9, **42°.54N**±0°.02×**75°.35E**±0°.02, **h11**km±6km, **n50,** σ1s.**12**/86, **mb3.6**/5, **36C-31D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.32**	**291**	P	**Pg**	**20 35 26.1**	**-0.1**
	576nm,0.1s,SNR=902						
KBK				⇑S	**Sg**	**20 35 31.1**	**+0.6**
	5μm,0.1s						
KBK	**Karagaybulak**	**0.32**	**291**	⇑iP	**Pg**	**20 35 26.1**	**-0.1**
	baz=292						
KBK				⇑iS	**Sg**	**20 35 31.1**	**+0.6**
	baz=292						
TKM2	**Tokmak 2**	**0.42**	**26**	⇑P	**Pg**	**20 35 27.3**	**-0.7**
	477nm,0.2s						
TKM2				⇑S	**Sg**	**20 35 33.0**	**-0.6**
	2μm,0.5s						
TKM2	**Tokmak 2**	**0.42**	**26**	⇓P	**Pg**	**20 35 27.3**	**-0.7**
	2μm,0.2s,SNR=4650						
TKM2				⇓S	**Sg**	**20 35 33.2**	**-0.5**
	3μm,0.1s						
TKM2	**Tokmak 2**	**0.42**	**26**	⇓iP	**Pg**	**20 35 27.4**	**-0.7**
	baz=25						
TKM2				⇓iS	**Sg**	**20 35 33.2**	**-0.5**
	baz=25						
BOOM	**Boomskoye usch**	**0.44**	**97**	eP	**Pg**	**20 35 28.8**	**+0.4**
	baz=96						
BOOM				eS	**Sg**	**20 35 34.7**	**+0.5**
	baz=96						
KZA	**Kyzart**	**0.47**	**189**	⇓P	**Pg**	**20 35 28.6**	**-0.4**
	2μm,0.2s,SNR=5708						
KZA				⇑S	**Sg**	**20 35 35.8**	**+0.5**
	3μm,0.4s						
KZA	**Kyzart**	**0.47**	**189**	⇓iP	**Pg**	**20 35 28.8**	**-0.2**
	baz=190						
KZA				⇓iS	**Sg**	**20 35 35.9**	**+0.6**
	baz=190						
FRU	**Bishkek**	**0.61**	**299**	⇓iP	**Pg**	**20 35 31.0**	**-0.6**
	baz=299						
FRU				⇓eS	**Sb**	**20 35 41.0**	**-0.2**
	baz=299						
CHMS	**Chumysh**	**0.64**	**316**	P	**Pg**	**20 35 31.4**	**-0.6**
	150nm,0.2s,SNR=419						
CHMS				⇑S	**Sg**	**20 35 40.0**	**-0.3**
	2μm,0.3s						
CHMS	**Chumysh**	**0.64**	**316**	⇓iP	**Pg**	**20 35 31.4**	**-0.6**
	baz=316						
CHMS				⇓iS	**Sg**	**20 35 40.1**	**-0.3**
	baz=316						
AAK	**Ala-Archa**	**0.64**	**278**	P	**Pg**	**20 35 31.6**	**-0.6**
	217nm,0.3s,SNR=347						
AAK				⇑S	**Sg**	**20 35 40.3**	**-0.2**
	3μm,0.4s						
AAK	**Ala-Archa**	**0.64**	**278**	Pg	**Pg**	**20 35 31.6**	**-0.6**
	49nm,0.3s,baz=52,slow=7.8,SNR=894						
AAK				Lg	Lg	20 35 40.0	
	390nm,0.3s,baz=274,slow=19,SNR=59						
AAK	**Ala-Archa**	**0.64**	**278**	⇑iP	**Pg**	**20 35 31.6**	**-0.6**
	baz=279						
AAK				⇑iS	**Sg**	**20 35 40.5**	**-0.1**
	baz=279						
UCH	**Uchtor**	**0.69**	**243**	P	**Pg**	**20 35 32.4**	**-0.8**
	79nm,0.2s,SNR=183						
UCH				⇑S	**Sg**	**20 35 41.4**	**-1.0**
	1μm,0.5s						
UCH	**Uchtor**	**0.69**	**243**	⇓iP	**Pg**	**20 35 32.4**	**-0.8**
	baz=244						
UCH				⇓iS	**Sg**	**20 35 41.6**	**-0.8**
	baz=244						
ULHL	**Ulahol**	**0.72**	**114**	⇓P	**Pg**	**20 35 32.7**	**-1.1**
	323nm,0.2s,SNR=1107						
ULHL				⇑S	**Sg**	**20 35 42.3**	**-0.9**
	644nm,0.1s						
ULHL	**Ulahol**	**0.72**	**114**	⇑iP	**Pg**	**20 35 32.8**	**-0.9**
	baz=113						
ULHL				⇑iS	**Sg**	**20 35 42.3**	**-0.9**
	baz=113						
USP	**Ospenovka**	**0.96**	**320**	⇓P	**Pg**	**20 35 37.1**	**-1.0**
	139nm,0.2s,SNR=333						
USP				⇓S	**Sg**	**20 35 50.1**	**-0.5**
	997nm,0.4s						
USP	**Ospenovka**	**0.96**	**320**	⇓iP	**Pg**	**20 35 37.1**	**-1.0**
	baz=320						
USP				⇓iS	**Sg**	**20 35 50.1**	**-0.5**
	baz=320						
ARLS	**Aral**	**1.02**	**229**	⇓iP	**Pb**	**20 35 38.1**	**-1.4**
	baz=229						
ARLS				⇓eS	**Sg**	**20 35 51.2**	**-1.5**
	baz=229						
EKS	**Erkin-Say**	**1.16**	**277**	i P	**Pb**	**20 35 41.5**	**-0.4**
	baz=277						
EKS				eS	**Sn**	**20 35 57.7**	**-0.2**
	baz=277						
EKS2	**Erkin-Say**	**1.17**	**276**	⇑iP	**Pb**	**20 35 41.6**	**-0.4**
	baz=277						
EKS2				⇑iS	**Sn**	**20 35 58.0**	**-0.1**
	baz=277						
AML	**Almayashu**	**1.29**	**252**	⇓P	**Pn**	**20 35 43.5**	**-0.6**
	68nm,0.2s,SNR=74						
AML				⇓S	**Sb**	**20 36 00.8**	**-0.3**
	1μm,0.5s						
AML	**Almayashu**	**1.29**	**252**	⇑iP	**Pn**	**20 35 43.6**	**-0.5**
	baz=253						
AML				⇑iS	**Sb**	**20 36 01.0**	**-0.1**
	baz=253						
KNDC	**Almaty**	**1.37**	**60**	⇓P	**Pn**	**20 35 44.9**	**+0.1**
KNDC				⇑S	**Sb**	**20 36 03.0**	**+0.2**
ANVS	**Anan'yevo**	**1.73**	**81**	⇓iP	**Pb**	**20 35 50.9**	**-0.6**
	baz=81						
ANVS				⇓eS	**Sb**	**20 36 13.8**	**+0.5**
	baz=81						
ARK	**Arkit**	**2.62**	**255**	eP	**Pb**	**20 36 07.2**	**+0.4**
	baz=255						
ARK				eS	**Sg**	**20 36 42.7**	**-1.3**
	baz=255						
OHH	**Osh**	**2.79**	**225**	eP	**Pb**	**20 36 08.0**	**-1.6**
	baz=225						
OHH				eS	**Sb**	**20 36 46.4**	**+2.6**
	baz=225						
SFK	**Sufi-Kurgan**	**2.88**	**209**	eP	**Pn**	**20 36 06.9**	**+1.1**
	baz=210						
SFK				eS	**Sn**	**20 36 41.7**	**+1.1**
	baz=210						
KK31	**Karatay Array**	**3.60**	**281**	⇑Pn	**Pn**	**20 36 17.5**	**+2.0**
	1.9nm,0.6s,baz=100,slow=15,SNR=667						
KK31				⇑Pg	**Pb**	**20 36 25.8**	**+2.4**
	52nm,0.8s,baz=98,slow=16,SNR=79						
KK31				⇑Lg	Lg	20 37 11.3	
	69nm,0.5s,baz=93,slow=27,SNR=12						
MK31	**Makanchi Array**	**6.52**	**47**	⇓Pn	**Pn**	**20 36 57.5**	**+1.9**
	8.0nm,0.7s,baz=224,slow=14,SNR=83						
MK31				⇓Sn	**Sn**	**20 38 10.2**	**+0.2**
	14nm,0.7s,baz=220,slow=25,SNR=4.9						
MK31				⇓Lg	Lg	20 38 44.9	
	19nm,0.7s,baz=222,slow=26,SNR=3.8						
MKAR	**Makanchi Array**	**6.52**	**47**	Pn	**Pn**	**20 36 57.5**	**+2.0**
	1.4nm,0.3s,baz=222,slow=14,SNR=39						
MKAR				Sn	**Sn**	**20 38 06.8**	**-3.1**
	1.3nm,0.3s,baz=216,slow=25,SNR=5.1						
MKAR				Lg	Lg	20 38 44.4	
	3.5nm,0.3s,baz=235,slow=27,SNR=5.4						
MKAR				LR	LR	20 39 52.4	
	comp=Z,13nm,19.3s,baz=172,slow=42						
KURBB	**Kurchatov Arra**	**8.37**	**14**	⇑Pn	**Pn**	**20 37 21.1**	**+0.2**
	2.7nm,0.6s						
KURBB				⇑Pg	Pb	20 37 50.2	+5.6
	6.1nm,0.7s						
KURBB				⇑Lg	Lg	20 39 44.2	
	163nm,0.7s						
KURBB	**Kurchatov Arra**	**8.37**	**14**	Pn	**Pn**	**20 37 20.9**	**0.0**
	0.4nm,0.3s,baz=202,slow=13,SNR=15						
KURBB				Lg	Lg	20 39 40.5	
	2.0nm,0.3s,baz=205,slow=27,SNR=9.9						
KURK	**Kurchatov**	**8.48**	**14**	⇑Pn	**Pn**	**20 37 22.0**	**-0.4**
	1.6nm,0.7s						
KURK				⇑Pg	Pb	20 37 51.3	+5.0
	3.3nm,0.8s						
KURK				⇓Lg	Lg	20 39 45.0	
	41nm,0.6s						
VOSK	**Vostochnaya**	**10.60**	**345**	⇑Pn	**Pn**	**20 37 50.1**	**-1.4**
	1.0nm,0.6s						
VOSK				⇑Lg	Lg	20 40 54.4	
	46nm,0.8s						
BVA0	**Borovoye Array**	**11.00**	**344**	⇓Pn	**Pn**	**20 37 55.3**	**-1.7**
	3.4nm,1.0s,baz=149,slow=12,SNR=13						
BVA0				⇑Sn	**Sn**	**20 40 01.1**	**+1.1**
	10nm,1.1s,baz=153,slow=21,SNR=4.1						
BVA0				⇑Lg	Lg	20 41 06.5	
	34nm,0.9s,baz=160,slow=26,SNR=6.4						
BVAR	**Borovoye Array**	**11.00**	**344**	Pn	**Pn**	**20 37 56.6**	**-0.4**
	0.4nm,0.3s,baz=178,slow=14,SNR=11						
BVAR				Sn	**Sn**	**20 39 59.6**	**-0.3**
	0.4nm,0.3s,baz=155,slow=18,SNR=2.8						
BVAR				Lg	Lg	20 41 07.6	
	1.3nm,0.3s,baz=157,slow=27,SNR=8.1						
BRVK	**Borovoye**	**11.06**	**344**	⇓Pn	**Pn**	**20 37 56.4**	**-1.3**
	4.6nm,0.8s						
BRVK				⇑Lg	Lg	20 41 08.4	
	115nm,1.1s						
AB31	**Akbulak array**	**12.65**	**307**	Pn	**Pn**	**20 38 17.6**	**-1.8**
	1.0nm,0.3s,baz=316,slow=4.8,SNR=39						
AB31				⇑Sn	**Sn**	**20 40 41.4**	**+1.3**
	2.4nm,0.6s						
ZALV	**Zalesovo Beam**	**13.03**	**26**	Pn	**Pn**	**20 38 26.2**	**+1.7**
	0.2nm,0.3s,baz=213,slow=14,SNR=2.7						
ZALV				Sn	**Sn**	**20 40 45.0**	**-4.3**
	0.4nm,0.3s,baz=225,slow=23,SNR=4.3						
ZALV				Lg	Lg	20 42 10.4	
	0.2nm,0.3s,baz=186,slow=26,SNR=2.0						
AKTO	**Aktyubinsk**	**14.29**	**309**	⇑Pn	**Pn**	**20 38 41.8**	**0.0**
	5.9nm,1.1s						
AKTO				⇑Sn	**Sn**	**20 41 21.4**	**+1.1**
	7.4nm,1.4s						
AKTO				⇑Lg	Lg	20 42 51.6	
	15nm,1.1s						
AKTO	**Aktyubinsk**	**14.29**	**309**	Pn	**Pn**	**20 38 41.2**	**-0.6**
	0.3nm,0.3s,baz=124,slow=10,SNR=4.2						
SONM	**Songino Array**	**22.42**	**66**	P	**P**	**20 40 20.1**	**+1.7**
	0.3nm,0.7s,baz=253,slow=13,SNR=2.8						
CMAR	**Chiang Mai Arr**	**31.26**	**133**	LR	LR	20 55 57.9	
	comp=Z,22nm,21.2s,baz=135,slow=40						
ILAR	**Eielson Array**	**68.03**	**18**	P	**P**	**20 46 18.6**	**0.0**
	0.4nm,0.9s,baz=307,slow=4.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**69.22**	**269**	P	**P**	**20 46 26.0**	**-0.7**
	0.6nm,0.9s,baz=30,slow=6.2,SNR=3.7						
YKA	**Yellowknife Ar**	**75.01**	**5**	P	**P**	**20 47 00.5**	**-0.1**
	0.1nm,0.6s,baz=351,slow=5.9,SNR=3.3						
ASAR	**Alice Springs**	**85.15**	**128**	P	**P**	**20 47 55.2**	**-0.7**
	0.5nm,0.8s,baz=296,slow=4.4,SNR=4.1						

*DDA **01** 20:51:36.1, 34°.61N×27°.42E, h20km, MD3.4*
*ATH **01** 20:51:38.8, 34°.98N×27°.95E, h5km, MD3.4/5*
*ISK **01** 20:51:40.7, 35°.13N×27°.93E, h5km, MD3.5*
*CSEM **01** 20:51:42.4±0.6, 35°.10N×27°.84E, h10km, MD3.4, Error ellipse: s-maj=17.6km s-min=7.5km az=160.0*
*ISCJB **01** 20:51:44.1±0.9, 35°.12N±0°.07×27°.93E±0°.05, h30km, Error ellipse: s-maj=10.3km s-min=5.3km az=169.5*
ISC 01 20:51:45.1±1.1, **35°.23N**±0°.06×**27°.87E**±0°.04, **h30km, n34,** σ1s.**29**/40, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.66**	**299**	ePB	Pb	20 51 53.7	-4.4
KARP				eSB	**Sn**	**20 52 07.8**	**0.0**
ARG	**Arkhangelos**	**1.01**	**12**	ePB	**Pn**	**20 52 02.6**	**-0.6**
ARG	**Arkhangelos**	**1.01**	**12**	ePb	**Pn**	**20 52 02.6**	**-0.6**
ZKR	**Zakros**	**1.35**	**266**	ePN	**Pb**	**20 52 08.8**	**-1.0**
ZKR				eSN	**Sb**	**20 52 29.1**	**+2.3**
ZKR	**Zakros**	**1.35**	**266**	ePB	**Pn**	**20 52 06.0**	**-1.9**
ZKR	**Zakros**	**1.35**	**266**	ePb	**Pn**	**20 52 06.0**	**-1.9**
ZKR	**Zakros**	**1.35**	**266**	ePn	**Pb**	**20 52 08.8**	**-1.0**
ZKR				eSn	**Sb**	**20 52 29.1**	**+2.3**
DALY	**Dalyan (Mu˜la**	**1.71**	**22**	ePN	**Pn**	**20 52 13.8**	**+1.1**
DALY	**Dalyan (Mu˜la**	**1.71**	**22**	ePn	**Pn**	**20 52 13.9**	**+1.1**
NPS	**Neapolis**	**1.84**	**272**	ePG	**Pn**	**20 52 15.0**	**+0.3**
NPS	**Neapolis**	**1.84**	**272**	ePg	**Pn**	**20 52 15.0**	**+0.3**
BDRM	**Kayabasi**	**1.87**	**350**	i P	**Pn**	**20 52 15.2**	**+0.2**
BDRM				i S	**Sb**	**20 52 41.3**	**-0.1**
BDRM	**Kayabasi**	**1.87**	**350**	i P	**Pn**	**20 52 15.2**	**+0.2**
BDRM				i S	**Sb**	**20 52 41.3**	**-0.1**
BODT	**Bodrum**	**1.89**	**346**	ePN	**Pb**	**20 52 17.1**	**-1.7**
BODT	**Bodrum**	**1.89**	**346**	ePn	**Pb**	**20 52 17.1**	**-1.7**
YER	**Yerkesik**	**1.93**	**10**	ePN	**Pb**	**20 52 17.9**	**-1.8**
YER	**Yerkesik**	**1.93**	**10**	ePn	**Pb**	**20 52 17.9**	**-1.8**
LAST	**Lasithi**	**1.96**	**269**	ePN	**Pn**	**20 52 16.4**	**+0.1**
LAST	**Lasithi**	**1.96**	**269**	ePn	**Pn**	**20 52 16.4**	**+0.1**
ELL	**Elmali**	**2.25**	**47**	ePN	**Pn**	**20 52 20.6**	**+0.3**
ELL	**Elmali**	**2.25**	**47**	ePn	**Pn**	**20 52 20.6**	**+0.3**
GOLH	**Golhisar**	**2.43**	**34**	i P	**Pn**	**20 52 24.8**	**+2.0**
GOLH	**Golhisar**	**2.43**	**34**	i P	**Pn**	**20 52 24.8**	**+2.0**
IDI	**Anoyia**	**2.44**	**272**	ePN	**Pn**	**20 52 23.2**	**+0.3**
IDI	**Anoyia**	**2.44**	**272**	ePN	**Pn**	**20 52 24.3**	**+1.4**
IDI	**Anoyia**	**2.44**	**272**	ePn	**Pn**	**20 52 23.2**	**+0.3**
APE	**Apeiranthos**	**2.64**	**315**	ePN	**Pn**	**20 52 27.2**	**+1.6**
APE	**Apeiranthos**	**2.64**	**315**	ePn	**Pn**	**20 52 27.2**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**2.71**	**0**	ePN	**Pn**	**20 52 28.4**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**2.71**	**0**	ePn	**Pn**	**20 52 28.4**	**+1.7**
SUTC	**Sutluce-Ispart**	**3.38**	**48**	ePN	**Pn**	**20 52 37.4**	**+1.5**
SUTC	**Sutluce-Ispart**	**3.38**	**48**	ePn	**Pn**	**20 52 37.4**	**+1.5**
ERMK	**Ermenek**	**4.33**	**70**	i P	**Pn**	**20 52 49.4**	**+0.3**
ERMK				i S	**Sn**	**20 53 38.7**	**0.0**
ERMK	**Ermenek**	**4.33**	**70**	i P	**Pn**	**20 52 49.4**	**+0.3**
ERMK				i S	**Sn**	**20 53 38.7**	**0.0**

JMA 01 20:54:58.6, 35°.69N×135°.48E, h384km, M3.5, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	Yasaka	0.31	259	P	Pn	20 55 46.5	+0.1
JWT	Wachi	0.41	189	P	Pn	20 55 46.7	+0.1
JKSM	Kasumi	0.67	261	P	Pn	20 55 47.1	+0.1
JFK	Kawauchi	4.66	67	P	Pn	20 56 16.2	0.0
JMM	Marumori	4.79	61	P	Pn	20 56 17.8	+0.3

*IDC **01** 21:20:13.0±0.8, 37°.04S×96°.49W, h0km, mb4.4/12, mb1 4.6/12, mb1mx4.4/30, mbtmp4.4/12, MS3.6/8, Ms1 3.6/8, ms1mx3.4/28, Error ellipse: s-maj=22.9km s-min=19.4km az=17.0*

*NEIC **01** 21:20:14.8±0.5, 37°.14S×96°.38W, h10km, mb4.8/29, Error ellipse: s-maj=13.3km s-min=7.8km az=25.0*

*ISCJB **01** 21:20:15.7±0.8, 36°.7S±0°.2×96°.2W±0°.1, h10km, mb4.5/40, MS3.6/8, Error ellipse: s-maj=23.2km s-min=8.8km az=21.9*

ISC 01 21:20:14.9±0.5**, 37°.2S**±0°.1×**96°.25W**±0°.10**, h10km, n270, σ0s.88**/273**, mb4.7**/41**, MS3.8**/8**, 110C-89D, Southeast of Easter Island**

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

H03N2 Juan Fernandez 14.62 80 T T 21 38 55.3
baz=246,slow=74,SNR=150
H03N3 Juan Fernandez 14.62 80 T T 21 38 54.4
baz=246,slow=74,SNR=96
H03N1 Juan Fernandez 14.63 80 T T 21 38 53.2
baz=246,slow=74,SNR=88
PLCA Paso Flores 20.28 108 P Pn 21 24 53.0 +0.3
5.2nm,1.0s,baz=275,slow=8.2,SNR=3.4
PLCA LR LR 21 30 47.0
comp=Z,186nm,20.9s,baz=272,slow=31
LCO Las Campanas 22.85 77 *e*P **P 21 25 20.9 +2.3**
457nm,3.0s
CFAA Coronel Fontan 23.73 85 P **P 21 25 27.9 +0.7**
0.3nm,0.5s,baz=248,slow=11,SNR=5.7
CFAA LR LR 21 32 33.9
comp=Z,43nm,19.2s,baz=228,slow=31
TRQA Tornquist 27.08 102 *e*P **P 21 25 56.1 -1.5**
95nm,2.0s
LVC Limon Verde 27.66 66 *e*P **P 21 26 05.7 +2.4**
136nm,2.6s
LPAZ La Paz 32.40 58 P **P 21 26 46.8 +1.1**
11nm,1.0s,baz=218,slow=6.1,SNR=21
LPAZ LR LR 21 37 16.8
comp=Z,44nm,18.1s,baz=237,slow=32
ATAH Atahualpa 34.02 33 P **P 21 27 00.9 +1.4**
18nm,1.2s,baz=206,slow=9.5,SNR=7.9
CPUP Villa Florida 34.60 83 P **P 21 27 04.6 +0.6**
4.1nm,1.0s,baz=206,slow=5.3,SNR=3.4
CPUP LR LR 21 39 06.8
comp=Z,184nm,18.1s,baz=202,slow=33
SIV San Ignacio 37.56 65 P **P 21 27 30.2 +0.7**
3.5nm,1.0s,baz=223,slow=10,SNR=4.1
OTAV Otavalo 40.70 28 *e*P **P 21 27 56.6 +0.4**
14nm,1.0s
SAML Samuel 41.03 55 *e*P **P 21 27 59.0 +0.5**
69nm,2.5s
ROSC El Rosal 46.54 31 LR LR 21 45 29.7
comp=Z,91nm,18.5s,baz=196,slow=33
TBI Tubuai 47.41 271 *e*LR LR 21 42 10.7
291nm,33.8s
BDFB Brasilia 47.64 77 P **P 21 28 52.1 +0.6**
2.5nm,0.6s,baz=178,slow=9.3,SNR=3.1
BDFB LR LR 21 47 43.9
comp=Z,133nm,19.8s,baz=228,slow=34
PTGA Pitinga 49.34 51 P **P 21 29 03.5 -1.0**
3.4nm,0.7s,baz=230,slow=10,SNR=4.5
PPT2 Papeete2 50.52 278 *e*S S 21 36 19.1 -8.8
129nm,26.2s
PPT2 *e*LR LR 21 43 34.4
285nm,27.2s
PPT Papeete 50.54 278 LR LR 21 44 41.4
comp=Z,99nm,19.0s,baz=136,slow=29
QSPA South Pole Qui 53.06 180 P **P 21 29 32.8 +0.9**
3.6nm,0.8s,baz=166,slow=1.2,SNR=5.7
TEIG Tepich 57.57 9 *e*P **P 21 30 03.6 -1.2**
67nm,1.6s
035A Encino 63.78 358 ⇑P **P 21 30 47.5 +0.5**
baz=64
034A Hebbronville 63.93 358 ⇑P **P 21 30 48.2 +0.2**
baz=64
832A Faith Ranch, C 65.20 356 ⇓P **P 21 30 55.4 -0.8**
baz=66
833A Chaparral WMA, 65.21 357 ⇑P **P 21 30 56.4 +0.2**
baz=66
635A Leesville 66.22 359 ⇑P **P 21 31 02.4 -0.4**
baz=66
633A Saathoff Ranch 66.33 357 ⇑P **P 21 31 03.4 -0.2**
baz=67
631A Perdido Creek 66.35 356 ⇓P **P 21 31 02.3 -1.4**
baz=67,SNR=5.2
632A Uvalde 66.40 357 ⇑P **P 21 31 03.6 -0.4**
baz=67
TXAR Lajitas Array 66.51 353 P **P 21 31 03.1 -1.7**
2.6nm,0.9s,baz=172,slow=10,SNR=21
628A Black Gap, Mar 66.59 354 ⇑P **P 21 31 04.8 -0.4**
baz=67
627A Terlingua Ranc 66.61 353 ⇓P **P 21 31 05.2 -0.2**
baz=67
533A Kerrville 66.94 357 ⇓P **P 21 31 06.8 -0.6**
baz=67
531A Rocksprings 67.10 356 ⇓P **P 21 31 08.3 -0.1**
baz=67,SNR=9.2
530A J-C Ranch, Com 67.13 355 ⇑P **P 21 31 08.0 -0.7**
baz=67,SNR=15
529A Stev Forest Ra 67.17 354 ⇓P **P 21 31 08.6 -0.3**
baz=67
528A Cox Ranch, San 67.25 354 ⇑P **P 21 31 09.3 -0.3**
baz=68
526A Mary Lane Ranc 67.28 353 ⇓P **P 21 31 08.9 -0.8**
baz=68
527A Woodward Ranch 67.31 353 ⇓P **P 21 31 09.1 -0.9**
baz=68
JCT Junction City 67.37 357 *e*P **P 21 31 09.7 -0.5**
12nm,0.9s
JCT Junction City 67.37 357 ⇑P **P 21 31 09.9 -0.2**
baz=68
431A Sonora 67.62 356 ⇓P **P 21 31 11.2 -0.6**
baz=68,SNR=6.0
433A Art 67.62 357 ⇑P **P 21 31 10.9 -0.8**
baz=68,SNR=6.3
429A Davenport Ranc 67.64 355 ⇑P **P 21 31 10.8 -1.1**
baz=68,SNR=8.3
434A Burnet 67.65 358 ⇓P **P 21 31 11.3 -0.6**
baz=68
430A Baggett Ranch, 67.76 355 ⇑P **P 21 31 12.4 -0.2**
baz=68
432A Menard 67.77 357 ⇑P **P 21 31 12.1 -0.6**
baz=68
428A Kincaid Ranch, 67.81 354 ⇑P **P 21 31 12.7 -0.3**
baz=68
426A McDonald Obser 67.87 353 ⇑P **P 21 31 13.1 -0.4**
baz=68
427A Hayter Ranch, 67.99 353 ⇓P **P 21 31 14.0 -0.2**
baz=68
425A Indio Mountain 68.09 352 ⇑P **P 21 31 13.6 -1.2**
baz=68
335A Moody 68.10 359 ⇓P **P 21 31 14.6 -0.1**
baz=68
334A Lometa 68.17 358 ⇑P **P 21 31 15.0 -0.2**
baz=68
333A Richland Sprin 68.18 357 ⇑P **P 21 31 14.5 -0.8**
baz=68
331A San Angelo 68.23 356 ⇓P **P 21 31 14.8 -0.7**
baz=68,SNR=7.2
332A Millersview 68.27 357 ⇑P **P 21 31 15.0 -0.8**
baz=68,SNR=8.3
330A Mertzon 68.37 355 ⇓P **P 21 31 15.6 -0.9**
baz=69
328A Wristen Ranch, 68.47 354 ⇑P **P 21 31 16.4 -0.7**
baz=69,SNR=8.1
329A Wagon Wheel Ra 68.50 355 ⇓P **P 21 31 17.0 -0.3**
baz=69
326A Caldwell Ranch 68.51 353 ⇑P **P 21 31 16.9 -0.5**
baz=69
232A Coleman 68.77 357 ⇑P **P 21 31 18.4 -0.5**
baz=69
WHTX Lake Whitney 68.81 359 *e*P **P 21 31 17.9 -1.2**
WHTX Lake Whitney 68.81 359 ⇑P **P 21 31 19.2 +0.1**
baz=69
234A Clairette 68.83 358 ⇑P **P 21 31 19.2 0.0**
baz=69
230A Sterling City 68.84 356 ⇓P **P 21 31 18.8 -0.7**
baz=69
231A Bronte 68.85 356 ⇓P **P 21 31 19.0 -0.4**
baz=69
233A Rising Star 68.87 358 ⇓P **P 21 31 18.9 -0.6**
baz=69,SNR=7.8
229A Bryant Ranch, 68.97 355 ⇑P **P 21 31 19.4 -0.8**
baz=69
227A Bennet, Jal 69.13 354 ⇓P **P 21 31 20.9 -0.3**
baz=69
228A UT Block 9, Go 69.18 354 ⇑P **P 21 31 21.2 -0.3**
baz=70
SYO Syowa Base 69.23 164⇑*e*P **P 21 31 19.0 -2.4**
226B Tecolote Peak, 69.28 353 ⇑P **P 21 31 21.5 -0.7**
baz=70
225A Deer Hill, Car 69.38 352 ⇑P **P 21 31 22.1 -0.8**
baz=70
134A White-Moore Ra 69.40 358 ⇑P **P 21 31 22.2 -0.6**
baz=70
133A Hamilton Ranch 69.46 358 ⇑P **P 21 31 22.6 -0.5**
baz=70
ABTX Abilene, Hawle 69.50 357 ⇓P **P 21 31 23.1 -0.4**
baz=70
130A Snyder 69.54 356 ⇑P **P 21 31 23.3 -0.4**
baz=70
131A Roby 69.58 356 ⇑P **P 21 31 23.4 -0.6**
baz=70
128A Castleberry Fa 69.67 354 ⇓P **P 21 31 24.3 -0.3**
baz=70,SNR=7.7
125A Gardner Draw, 69.91 352 ⇓P **P 21 31 25.1 -1.0**
baz=70
Z33A Whitaker Ranch 70.13 358 ⇓P **P 21 31 26.6 -0.7**
baz=70
Z32A Haskell 70.17 357 ⇑P **P 21 31 26.9 -0.6**
baz=70
Z31A Sharp Cattle R 70.22 357 ⇑P **P 21 31 27.1 -0.7**
baz=70,SNR=7.1
Z30A Sanderson Ranc 70.24 356 ⇓P **P 21 31 27.1 -0.9**
baz=70
Z29A Hungry Hill Ra 70.25 355 ⇑P **P 21 31 27.3 -0.8**
baz=70
Z28A Tucker Farm, M 70.32 355 ⇓P **P 21 31 28.2 -0.3**
baz=71
Z27A Tatum 70.42 354 ⇓P **P 21 31 28.8 -0.4**
baz=71,SNR=5.2
TUC Tucson 70.44 347 *e*P **P 21 31 28.7 -0.6**
8.0nm,1.2s
Z26A Caprock 70.44 353 ⇓P **P 21 31 28.4 -1.0**
baz=71
214A Organ Pipe Nat 70.48 345 *e*P **P 21 31 28.8 -0.7**
9.5nm,1.4s
214A Organ Pipe Nat 70.48 345 ⇓P **P 21 31 29.1 -0.4**
baz=71
Z25A Roswell 70.53 352 ⇑P **P 21 31 28.7 -1.2**
baz=71
Y34A Reagan Ranch, 70.77 359 ⇑P **P 21 31 31.2 +0.1**
baz=71
Y30A Stafford Cattl 70.81 356 ⇓P **P 21 31 30.9 -0.6**
baz=71
Y29A Porterfield Fa 70.84 355 ⇑P **P 21 31 31.0 -0.7**
baz=71
Y33A Hilltop Ranch, 70.84 358 ⇑P **P 21 31 30.9 -0.7**
baz=71
Y31A Rekieta Farm, 70.86 356 ⇓P **P 21 31 31.9 +0.1**
baz=71
Y32A R-V Farms, Ver 70.87 357 ⇓P **P 21 31 31.8 0.0**
baz=71
Y28A McKinney Farm, 70.93 355 ⇑P **P 21 31 32.0 -0.3**
baz=71,SNR=5.1
Y27A Causey 70.98 354 ⇑P **P 21 31 32.2 -0.4**
baz=71,SNR=10.0
MSTX Muleshoe 71.03 354 *e*P **P 21 31 31.6 -1.3**
20nm,1.2s
MSTX Muleshoe 71.03 354 ⇓P **P 21 31 32.0 -0.9**
baz=71,SNR=7.7
Y25A Mesa, Roswell 71.16 353 ⇓P **P 21 31 33.1 -0.6**
baz=71
Y24A Capitan 71.24 352 ⇓P **P 21 31 33.9 -0.4**
baz=72,SNR=11
X32A Elmer 71.28 357 ⇓P **P 21 31 34.1 -0.2**
baz=72
Y23A Lovelace Mesa, 71.32 351 ⇑P **P 21 31 34.5 -0.2**
baz=72
X30A Coker Ranch, T 71.38 356 ⇑P **P 21 31 34.8 -0.1**
baz=72
X34A Smith Ranch, M 71.42 359 ⇑P **P 21 31 35.0 -0.1**
baz=72
X29A Tulia 71.42 355 ⇓P **P 21 31 34.9 -0.4**
baz=72
X31A McDonald Ranch 71.51 357 ⇑P **P 21 31 35.2 -0.5**
baz=72
X28A Dimmitt 71.53 355 ⇓P **P 21 31 35.5 -0.4**
baz=72
X26A CR and CF Fran 71.70 353 ⇓P **P 21 31 36.8 -0.2**
baz=72,SNR=7.4
X27A F and S Farms, 71.73 354 ⇑P **P 21 31 37.3 +0.2**
baz=72
AMTX Amarillo 71.86 355 ⇓P **P 21 31 38.0 +0.1**
baz=72
W32A Sentinel 71.98 357 ⇑P **P 21 31 38.3 -0.2**
baz=72
W33A Caddo, Fort Co 71.98 358 ⇓P **P 21 31 39.2 +0.8**
baz=72
W31A Holland Ranch, 72.07 357 ⇓P **P 21 31 38.9 -0.2**
baz=72
W29A Amraillo 72.09 355 ⇑P **P 21 31 38.8 -0.5**
baz=72
W27A Bowe Ranch, En 72.14 354 ⇑P **P 21 31 39.3 -0.3**
baz=72
MONP Monument Peak 72.19 342 ⇓P **P 21 31 38.8 -1.2**
baz=72
W25A X Bar L Ranch, 72.42 353 ⇓P **P 21 31 40.9 -0.4**
baz=73
Y14A Wickenburg 72.44 345 ⇑P **P 21 31 41.0 -0.4**
baz=73
X18A Snowflake 72.46 348 ⇑P **P 21 31 41.6 0.0**
baz=73
V32A Arapaho 72.56 358 ⇑P **P 21 31 42.2 +0.3**
baz=73
Y12C Blythe 72.58 344 ⇑P **P 21 31 42.5 +0.4**
baz=73
X16A Lo Mia Camp, P 72.61 347 ⇓P **P 21 31 42.5 0.0**
baz=73
V31A Spring Creek L 72.65 357 ⇓P **P 21 31 43.1 +0.6**
baz=73
V26A Tequesquite Ra 72.93 354 ⇑P **P 21 31 43.5 -0.8**
baz=73
W18A Petrified Fore 73.00 348 ⇑P **P 21 31 44.6 -0.2**
baz=73
V25A Rancho No Teng 73.05 353 ⇑P **P 21 31 44.7 -0.3**
baz=73
IRM Iron Mountain 73.11 344 ⇓P **P 21 31 45.2 -0.1**
baz=73
BELC Belle Mtn. Jos 73.15 343 ⇓P **P 21 31 45.3 -0.3**
baz=74
V22A San Miguel Ran 73.38 351 ⇑P **P 21 31 47.3 +0.3**
baz=74
U28A Mallet 73.38 355 ⇑P **P 21 31 47.2 +0.3**
baz=74
U27A Thompson Grove 73.47 354 ⇑P **P 21 31 47.3 -0.2**
baz=74
U26A Atchley Ranch, 73.52 354 ⇑P **P 21 31 47.8 -0.1**
baz=74
U25A Circle Dot Ran 73.58 353 ⇓P **P 21 31 48.3 0.0**
baz=74
U23A El Rito 73.70 352 ⇑P **P 21 31 49.0 0.0**
baz=74
W13A Hualapai Mount 73.74 345 ⇑P **P 21 31 49.2 0.0**
baz=74
BFSC Mount Baldy Ra 73.78 342 ⇑P **P 21 31 49.7 +0.4**
baz=74
GMRC Granite Mounta 73.82 343 ⇓P **P 21 31 49.5 -0.1**
baz=74
T33A Patterson Ranc 73.90 358 ⇑P **P 21 31 49.7 -0.1**
baz=74
T31A Randall Ranch, 73.96 357 ⇑P **P 21 31 50.1 -0.1**
baz=74
T32A Huddler Ranch, 74.02 358 ⇓P **P 21 31 51.4 +0.9**
baz=74
HEC Hector,Ludlow 74.03 343 ⇑P **P 21 31 50.8 +0.1**
baz=74
T27A Campo 74.10 355 ⇑P **P 21 31 51.3 +0.2**
baz=74
T28A Walsh 74.11 355 ⇑P **P 21 31 51.2 0.0**
baz=74
T26A Comanche Natio 74.28 354 ⇓P **P 21 31 52.4 +0.1**
baz=75,SNR=5.9
T25A Trinidad 74.32 353 ⇓P **P 21 31 52.9 +0.4**
baz=75
EDW2 Edwards Air Fo 74.48 342 ⇑P **P 21 31 53.3 0.0**
baz=75
TUQ Turquoise Moun 74.51 343 ⇑P **P 21 31 53.7 +0.2**
baz=75
S29A Ulysses 74.55 356 ⇓P **P 21 31 53.8 +0.1**
baz=75
S28A Manter 74.57 355 ⇑P **P 21 31 54.1 +0.3**
baz=75
GSC Goldstone 74.59 343 *e*P **P 21 31 54.6 +0.7**
15nm,1.7s
GSC Goldstone 74.59 343 ⇑P **P 21 31 54.2 +0.2**
baz=75
S26A Kim 74.71 354 ⇓P **P 21 31 54.9 +0.2**
baz=75,SNR=9.1
U15A North Rim 74.72 347 ⇑P **P 21 31 55.0 0.0**
baz=75
S25A Robets Cordova 74.84 353 ⇓P **P 21 31 55.5 0.0**
baz=75
MVCO Mesa Verde 74.87 350 *e*P **P 21 31 55.5 -0.3**
9.9nm,1.1s
MVCO Mesa Verde 74.87 350 ⇑P **P 21 31 55.8 0.0**
baz=75
S24A Houchin Ranch, 74.89 353 ⇓P **P 21 31 55.9 0.0**
baz=75,SNR=5.2
LRMC Laurel Mountai 74.97 342 ⇑P **P 21 31 56.4 +0.2**
baz=75
R31A Burdett 75.14 357 ⇑P **P 21 31 57.5 +0.5**
baz=75
R30A Dighton 75.17 357 ⇑P **P 21 31 57.5 +0.3**
baz=76
S22A 4UR Ranch, Cre 75.18 351 ⇑P **P 21 31 57.4 -0.2**
baz=76,SNR=5.7
R25A Fountain Ranch 75.31 353 ⇑P **P 21 31 58.6 +0.5**
baz=76
R28A Tribune 75.31 355 ⇑P **P 21 31 58.1 0.0**
baz=76
R27A Eads 75.32 355 ⇑P **P 21 31 58.6 +0.4**
baz=76
ISA Isabella 75.34 341 *e*P **P 21 31 59.1 +0.8**
18nm,1.0s
ISA Isabella 75.34 341 ⇑P **P 21 31 58.4 +0.1**
baz=76
R26A Arlington 75.39 354 ⇓P **P 21 31 58.9 +0.4**
baz=76
R24A Sanders Place, 75.47 353 ⇑P **P 21 31 59.4 +0.3**
baz=76
VWCC Virginia Weste 75.56 13 *e*P **P 21 31 58.2 -1.2**
DAC Darwin (Calif) 75.71 342 *e*P **P 21 32 00.0 -0.5**
8.0nm,1.6s
Q29A Oakley 75.81 356 ⇓P **P 21 32 01.0 +0.1**
baz=76
CCUT Cedar City 76.01 346 *e*P **P 21 32 02.9 +0.6**
5.9nm,1.0s
Q26A Hugo 76.01 354 ⇓P **P 21 32 02.6 +0.4**
baz=76
Q28A Sharon Springs 76.03 356 ⇑P **P 21 32 02.7 +0.5**
baz=76
PV04 Paradox Valley 76.09 350 *e*P **P 21 32 03.1 +0.5**
SMCO Snowmass 76.61 351 *e*P **P 21 32 06.7 +0.9**
12nm,1.3s
P23A Jefferson 76.67 352 ⇓P **P 21 32 06.3 +0.1**
baz=77
P22A Eagle 77.00 352 ⇓P **P 21 32 08.3 +0.5**
baz=77
O30A MW Ranch, Wils 77.05 357 ⇑P **P 21 32 08.2 +0.4**
baz=77
R11A Troy Canyon, C 77.23 345 *e*P **P 21 32 09.2 +0.1**
5.0nm,1.3s
R11A Troy Canyon, C 77.23 345 ⇓P **P 21 32 08.9 -0.3**
baz=78,SNR=5.7
TPH Tonopah 77.33 343 *e*P **P 21 32 10.6 +0.9**
7.7nm,1.0s
O24A Longmont 77.34 353 ⇑P **P 21 32 10.3 +0.7**
baz=78
O23A Lake Granby, G 77.51 352 ⇓P **P 21 32 11.2 +0.5**
baz=78
OGNE Ogallala 77.91 356 ⇑P **P 21 32 13.2 +0.4**
baz=78
NVAR Mina Array Bea 77.93 342 P **P 21 32 12.6 -0.5**
3.4nm,0.8s,baz=172,slow=6.9,SNR=22
N22A Wattenberg Ran 78.15 352 ⇑P **P 21 32 14.9 +0.6**
baz=78
DAU Daniels Canyon 78.42 348 *e*P **P 21 32 16.1 +0.2**
DUG Dugway 78.47 347 ⇑P **P 21 32 16.3 +0.3**
baz=79
M24A Cheyenne 78.65 353 ⇑P **P 21 32 18.0 +1.1**
baz=79
L29A Maesberg Ranch 78.95 357 ⇓P **P 21 32 19.1 +0.7**
baz=79
L27A T5 Ranch, Ells 79.07 355 ⇑P **P 21 32 19.7 +0.6**
baz=79
L25A Engebretsen Ra 79.26 354 ⇓P **P 21 32 20.5 +0.3**
baz=80
ELK Elko 79.47 345 *e*P **P 21 32 21.9 +0.4**
4.4nm,1.0s
K22A Casper 79.99 352 *e*P **P 21 32 24.6 +0.4**
K22A Casper 79.99 352 ⇓P **P 21 32 24.8 +0.6**
baz=80
K23A Bowen Ranch, D 80.00 353 ⇑P **P 21 32 24.9 +0.7**
baz=80
K21A Alcova 80.05 352 ⇓P **P 21 32 25.1 +0.5**
baz=80
J27A Elkhorn Farm, 80.21 356 ⇑P **P 21 32 25.7 +0.4**
baz=80
J29A Okreek 80.28 357 ⇓P **P 21 32 26.4 +0.9**
baz=81
J28A Allard Ranch, 80.34 356 ⇑P **P 21 32 26.8 +0.9**
baz=81
J26A Sides Ranch, S 80.34 355 ⇑P **P 21 32 26.5 +0.5**
baz=81
BW06 Boulder Array 80.47 350 *e*P **P 21 32 25.7 -1.2**
15nm,1.4s
PDAR Pinedale Array 80.47 350 P **P 21 32 25.9 -1.0**
2.9nm,0.6s,baz=159,slow=6.5,SNR=25
J24A Dixon Ranch, L 80.48 354 ⇓P **P 21 32 26.8 0.0**
baz=81
ECSD EROS Data Cent 80.52 360 *e*P **P 21 32 26.8 -0.1**
11nm,1.3s
ECSD EROS Data Cent 80.52 360 ⇓P **P 21 32 26.7 -0.1**
baz=81
J21A Lysite 80.78 352 ⇑P **P 21 32 28.8 +0.3**
baz=81
J20A Shoshoni 80.86 351 ⇑P **P 21 32 28.7 -0.2**
baz=81
J19A Crowheart 80.89 351 ⇓P **P 21 32 28.7 -0.4**
baz=81
I28A Midland 80.91 356 ⇓P **P 21 32 29.5 +0.5**
baz=81
I27A Quinn 81.03 356 ⇓P **P 21 32 30.3 +0.7**
baz=81
I25A Rochford 81.09 355 ⇑P **P 21 32 30.7 +0.6**
baz=81
RSSD Black Hills 81.22 354 *e*P **P 21 32 30.8 -0.1**
1.5nm,1.0s
I21A Big Trails, Te 81.22 352 ⇑P **P 21 32 30.9 +0.2**
baz=82
LOHW Long Hollow 81.45 350 *e*P **P 21 32 32.3 +0.2**
4.0nm,1.0s
I20A Worland 81.45 351 ⇑P **P 21 32 32.1 +0.2**
baz=82
FXWY Fox Creek 81.54 349 *e*P **P 21 32 31.8 -0.7**
3.7nm,0.9s
H27A Howes 81.59 356 ⇓P **P 21 32 32.9 +0.4**
baz=82
I19A Meeteetse 81.65 351 ⇓P **P 21 32 33.8 +0.7**
baz=82
H25A Fruitdale 81.68 355 ⇓P **P 21 32 34.2 +1.2**
baz=82
I17A Pilgrim Ck. 81.75 350 ⇑P **P 21 32 34.5 +0.9**
baz=82
H24A Dirks Ranch, A 81.88 354 ⇓P **P 21 32 34.4 +0.3**
baz=82
M02C Callahan 81.88 340 ⇑P **P 21 32 34.8 +0.6**
baz=82
FLWY Flagg Ranch 81.92 350 *e*P **P 21 32 34.4 -0.1**
6.9nm,0.8s
HLID Hailey 82.03 347 *e*P **P 21 32 35.6 +0.6**
5.7nm,0.9s
HLID Hailey 82.03 347 ⇓P **P 21 32 35.6 +0.6**
baz=82
H19A Powell 82.27 351 ⇓P **P 21 32 36.8 +0.5**
baz=83
H18A Shoshone NF, C 82.36 350 ⇑P **P 21 32 37.0 +0.1**
baz=83
G23A Biddle 82.40 353 ⇑P **P 21 32 37.1 +0.2**
baz=83
DZM Mont Dzumac 82.50 248 *e*LR LR 21 58 29.7
141nm,28.1s

G22A Birney 82.51 353 ⇓P P 21 32 37.6 +0.1
baz=83
K05A Summer Lake 82.62 342 eP P 21 32 39.3 +1.1
43nm,1.6s
RLMT Red Lodge 82.75 351 eP P 21 32 38.3 -0.6
2.9nm,0.6s
F27A Lemmon 82.82 356 ⇑P P 21 32 38.9 -0.1
baz=83
F26A Lodgepole 82.84 355 ⇑P P 21 32 39.4 +0.3
baz=83
F23A Volborg 82.92 354 ⇓P P 21 32 39.4 -0.1
baz=83
F25A Bowman 82.97 355 ⇓P P 21 32 40.3 +0.6
baz=83
J05D Fort Rock, OR 83.23 342 ⇓P P 21 32 41.8 +0.5
baz=84
I07A Izee 83.57 343 eP P 21 32 43.8 +0.8
16nm,1.4s
D30A Buchanan 83.92 358 ⇓P P 21 32 44.5 0.0
baz=84
D24A Glendive 84.21 354 ⇓P P 21 32 47.0 +0.8
baz=84
D23A Lindsay 84.34 354 ⇑P P 21 32 47.8 +1.0
baz=85
D22A Cohagen 84.41 353 ⇑P P 21 32 48.0 +0.9
baz=85
B30A Myrvik Farm, E 85.26 359 ⇓P P 21 32 51.5 +0.2
baz=86
A24A Westby 85.99 355 ⇓P P 21 32 55.7 +0.8
baz=86
A20A Cobblestone Ra 86.30 352 ⇓P P 21 32 56.9 +0.4
baz=87
A19A Klindworth Far 86.43 352 ⇑P P 21 32 57.7 +0.5
baz=87
ULM Lac du Bonnet 87.04 0 P P 21 32 58.4 -1.6
1.8nm,0.7s,baz=202,slow=4.5,SNR=3.5
ULM LR LR 22 10 28.3
comp=Z,36nm,20.1s,baz=20,slow=35
H01W1 Cape Leeuwin H 102.93 205 T T 23 29 45.5
baz=154,slow=75,SNR=4.5
H01W2 Cape Leeuwin H 102.94 205 T T 23 29 45.8
baz=154,slow=75,SNR=4.7
H01W3 Cape Leeuwin H 102.95 205 T T 23 29 46.3
baz=154,slow=75,SNR=5.7
KBZ Khabaz 148.47 65 PKPbc PKPbc 21 40 01.3 -0.1
2.6nm,0.9s,baz=191,slow=2.7,SNR=4.9
NJ2 Nanjing 150.77 270 ePKPbc PKPdf 21 40 01.1 -0.8
CMAR Chiang Mai Arr 157.08 220 PKPab PKPab 21 40 41.1 -0.4
0.4nm,0.8s,baz=180,slow=2.9,SNR=5.2
AKTO Aktyubinsk 157.31 46 PKPab PKPab 21 40 41.8 0.0
0.5nm,0.4s,baz=271,slow=4.5,SNR=4.5
GYA Guiyang 157.85 248 PKP PKPdf 21 40 11.2 -0.9
GYA PKS PKSdf 21 43 44.0 -2.1
GYA PP PP 21 44 28.8 +4.2
GYA AMB AMB
comp=Z,90nm,7.8s
SONM Songino Array 160.26 310 PKPab PKPab 21 40 52.8 -2.1
0.8nm,1.0s,baz=90,slow=5.9,SNR=3.8
CD2 Chengdu 162.30 255 PKP PKPdf 21 40 16.7 -0.2
CD2 PKS PKSdf 21 43 48.7 -1.4
CD2 PP PP 21 44 52.3 +3.6
CD2 SKS SKSdf 21 47 19.0 -2.8
CD2 SKKS SKKSac 21 51 38.1 +1.2
CD2 SS SS 22 05 12.0 +1.8
CD2 AMB AMB
comp=Z,120nm,5.4s
ZALV Zalesovo Beam 163.20 358 PKPab PKPab 21 41 05.9 -1.3
0.6nm,0.5s,baz=345,slow=4.6,SNR=3.6
LZH Lanzhou 163.83 272 ePKP PKPdf 21 40 14.5 -3.9
LZH pPKP pPKPdf 21 40 22.9 +1.1
LZH sPKP 21 40 28.0
LZH LR LR
comp=N,170nm,17.8s
LZH LR LR
comp=E,190nm,19.0s
LZH LR LR
comp=Z,200nm,20.2s
GTA Gaotai 167.18 285 ePKP PKPdf 21 40 19.8 -1.2
GTA sPKP 21 40 26.8
MKAR Makanchi Array 170.32 6 PKPab PKPab 21 41 36.8 -2.0
0.7nm,0.9s,baz=8.6,slow=4.0,SNR=5.0
WMQ Urumqi 172.70 337 ePKP PKPdf 21 40 24.1 +0.2
WMQ PKS PKSdf 21 43 54.9 -1.3
WMQ PP PP 21 45 44.2 +3.5
KSH Kashi 173.45 67 ePKP PKPdf 21 40 26.7 +2.2
KSH PKS PKSdf 21 43 57.7 +0.9
KSH ePP PP 21 45 47.6 +2.0
KSH SKS SKSdf 21 47 28.1 +0.4
KSH SKKS SKKSac 21 52 32.4 +0.5
KSH SS SS 22 06 59.6 -2.7
KSH AMB AMB
comp=Z,39nm,4.4s
KSH LR LR
comp=Z,430nm,14.9s

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*NEIC **01** 21:20:21.2±0.8, 16.18N×121.22E, h35km, mb4.4/9, Error ellipse: s-maj=17.6km s-min=8.7km az=94.0*
NEIC Felt [III PIVS] at Baguio, Dagupan and Urdaneta; [II PIVS] at Clark Field; [I PIVS] at San Manuel and San Roque.
*MAN **01** 21:20:23, 16.22N×120.46E, h24km, mb4.8, ML3.8, MS3.0*
MAN INTENSITY III - BAGUIO CITY; DAGUPAN CITY; INTENSITY II - CLARK FIELD PAMPANGA BRGY SAN ROQUE SAN MANUEL PANGASINAN.
*ISCJB **01** 21:20:24.5±0.3, 16.24N±0.03×120.51E±0.04, h46km±3km, mb4.1/26, MS3.3/8, Error ellipse: s-maj=6.2km s-min=4.6km az=154.1*
*IDC **01** 21:20:28.4±1.8, 16.15N×120.71E, h80km±19km, mb3.7/18, mb1 3.8/19, mb1mx3.7/49, mbtmp4.0/19, MS3.3/9, Ms1 3.4/9, ms1mx3.1/31, Error ellipse: s-maj=21.9km s-min=13.8km az=75.0*
ISC 01 21:20:24.5±0.9, 16.21N±0.03×120.50E±0.05, h33km±4km, n63, σ1§28/66, mb4.2/26, MS3.4/8, 7C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.19	25	⇑iP	Pn	21 20 31.1	+0.4
BCPH				iS	Sb	21 20 35.6	-0.2
BOLP	Bolinao	0.59	287	eP	Pn	21 20 36.6	+0.1
BOLP				eS	Sn	21 20 45.1	+0.1
SCZP	Santa Cruz	0.71	233	eP	Pn	21 20 37.1	-1.1
SCZP				eS	Sb	21 20 49.2	+1.2
PCPH	Palayan	0.86	138	⇑eP	Pn	21 20 39.5	-0.9
PCPH				iS	Sn	21 20 51.3	-0.4
BALP	Baler	1.14	114	eP	Pn	21 20 45.1	+1.0
SZP	Santa	1.34	358	ePn	Pn	21 20 45.2	-1.7
SZP				eSn	Sb	21 21 06.4	+0.5
ABRA	Dolores	1.45	8	eP	Pn	21 20 47.7	-0.7
CAUP	Cauayan	1.47	60	eP	Pb	21 20 51.3	0.0
SIPP	Brgy, Tapao	1.71	359	⇑iP	Pb	21 20 55.2	-0.1
SIPP				iS	Sb	21 21 17.4	+1.0
APYP	Conner	1.79	23	eP	Pn	21 20 54.1	+0.9
CVP	Callao Caves	1.96	40	eP	Pn	21 20 57.3	+1.9
PIP	Pasuquin	2.11	3	⇑iP	Pn	21 20 58.6	+1.1
PIP				eS	Sb	21 21 32.8	+4.9
TGY	Tagaytay City	2.13	168	P	Pn	21 20 59.6	+1.7
	190nm,0.3s,baz=328,slow=4.9,SNR=8.6						
TGY				S	Sb	21 21 26.8	-2.0
	1μm,0.3s,baz=244,slow=1.7,SNR=8.8						
TGY	Tagaytay City	2.13	168	⇓eP	Pn	21 20 59.4	+1.5
TGY				iS	Sb	21 21 27.0	-1.8
LQP	Lukban	2.31	154	⇑eP	Pn	21 21 01.6	+1.1
GQP	Guinayangan	2.96	140	⇑eP	Pn	21 21 10.9	+1.6
GQP				eS	Sn	21 21 46.1	+2.4
BOAC	Boac	3.03	154	eP	Pn	21 21 12.6	+2.4
PVCP	Virac	4.38	126	⇑eP	Pn	21 21 30.0	+1.1
SSLB	Suanglung	7.55	3	ePn	Pn	21 22 07.2	-5.2
SBUM	Sibu	15.91	212	ePn	Pn	21 24 07.0	+0.8
	27nm,1.7s						
JNU	Nakatsue	19.28	27	LR	LR	21 31 59.9	
	comp=Z,91nm,20.6s,baz=172,slow=36						
CM31	Chiang Mai Arr	20.70	279	eP	Pn	21 25 05.3	+0.7
CMAR	Chiang Mai Arr	20.70	279	P	Pn	21 25 04.9	+0.3
	1.8nm,0.9s,baz=103,slow=7.8,SNR=11						
CMAR				LR	LR	21 33 28.6	
	comp=Z,60nm,18.4s,baz=108,slow=37						
KSRS	Korea Array	22.16	16	P	P	21 25 16.8	-0.9
	0.9nm,0.4s,baz=193,slow=11,SNR=5.8						
KSRS				LR	LR	21 34 28.9	
	comp=Z,40nm,20.5s,baz=159,slow=38						
KULM	Kulim	22.29	243	eP	P	21 25 20.8	+1.6
	4.1nm,0.6s						
PSI	Prapat	25.06	240	P	P	21 25 47.5	+1.3
	4.4nm,0.8s,baz=27,slow=14,SNR=4.0						
LSA	Lhasa	30.07	302	eP	P	21 26 33.6	+2.1
RAMN	Ramite	33.19	295	eP	P	21 26 59.8	+1.1
	14nm,0.5s						
ULN	Ulaanbaatar	33.46	344	eP	P	21 26 59.3	-1.4
	0.9nm,0.5s						
SONM	Songino Array	33.62	343	P	P	21 27 01.9	-0.1
	1.0nm,0.6s,baz=162,slow=9.8,SNR=8.7						
SONM				LR	LR	21 42 07.2	
	comp=Z,81nm,18.3s,baz=176,slow=38						
JIRN	Jiri	33.69	296	eP	P	21 27 04.2	+1.0
	13nm,0.5s						
PKIN	Phulchoki	34.36	295	eP	P	21 27 09.0	+0.1
	3.9nm,0.4s						
GKN	Gorkha	35.11	296	eP	P	21 27 15.3	+0.1
	12nm,0.8s						
PYUN	Piuthan	36.56	295	eP	P	21 27 28.0	+0.3
	20nm,0.4s						
WRAB	Tennant Creek	38.41	159	eP	P	21 27 36.9	-6.2
	5.2nm,1.0s						
WRA	Warramunga Arr	38.41	159	P	P	21 27 40.4	-2.8
	2.3nm,0.9s,baz=328,slow=10,SNR=12						
ASAR	Alice Springs	41.74	161	P	P	21 28 08.4	-2.3
	0.8nm,0.6s,baz=338,slow=6.8,SNR=11						
MK31	Makanchi Array	43.93	322	eP	P	21 28 27.5	-0.8
MKAR	Makanchi Array	43.93	322	P	P	21 28 29.1	+0.8
	2.1nm,0.8s,baz=126,slow=9.1,SNR=29						
MKAR				PcP	PcP	21 30 12.8	-1.1
	0.3nm,0.8s,baz=98,slow=6.0,SNR=2.0						
MKAR				LR	LR	21 48 02.8	
	comp=Z,43nm,18.5s,baz=111,slow=38						
MKAR	Makanchi Array	43.93	322	eP	P	21 28 29.4	+1.1
TKM2	Tokmak 2	46.52	314	eP	P	21 28 49.8	+0.7
ZALV	Zalesovo Beam	46.76	332	P	P	21 28 49.3	-1.3
	1.1nm,0.5s,baz=117,slow=9.0,SNR=8.7						
PETK	Petropavlovsk-	46.95	30	P	P	21 28 51.5	-0.5
	2.6nm,0.8s,baz=205,slow=6.6,SNR=7.1						
PETK				LR	LR	21 48 40.6	
	comp=Z,18nm,20.5s,baz=231,slow=36						
EKS2	Erkin-Say	47.69	313	eP	P	21 28 58.5	+0.3
KURK	Kurchatov	48.02	325	eP	P	21 29 00.1	-0.3
	4.4nm,0.7s						
KBL	Kabul	49.40	302	eP	P	21 29 13.1	+1.5
	3.1nm,0.6s						
KKAR	Karatay Array	50.11	313	eP	P	21 29 17.1	+0.5
VOSK	Vostochnaya	53.16	325	eP	P	21 29 39.5	+0.3
	3.2nm,0.6s						
BRVK	Borovoye	53.68	325	eP	P	21 29 42.8	-0.3
	3.6nm,0.6s						
ABKAR	Akbulak array	58.73	318	eP	P	21 30 19.8	+0.6
ARU	Arti	61.20	326	eP	P	21 30 35.6	-0.4
	8.7nm,0.7s						
KIV	Kislovodsk	70.22	311	eP	P	21 31 34.5	0.0
JOF	Joensuu	75.35	332	ep	P	21 32 03.9	-0.5
	2.7nm,0.4s						
ILAR	Eielson Array	76.60	26	P	P	21 32 10.8	-0.8
	0.2nm,0.6s,baz=294,slow=4.5,SNR=2.5						
ARCES	ARCESS Array B	76.69	339	P	P	21 32 11.2	-0.8
	5.3nm,1.0s,baz=78,slow=6.9,SNR=8.2						
ARCES				LR	LR	22 09 10.5	
	comp=Z,17nm,18.1s,baz=56,slow=38						
SPITS	Spitsbergen Ar	77.11	348	P	P	21 32 13.8	-0.4
	3.6nm,0.6s,baz=101,slow=4.6,SNR=2.0						
BRTR	Keskin Array B	77.46	308	P	P	21 32 17.2	+0.1
	0.5nm,0.5s,baz=131,slow=5.9,SNR=2.7						
FINES	FINESS Array B	78.01	331	P	P	21 32 19.2	-0.3
	1.9nm,0.5s,baz=155,slow=6.6,SNR=22						
FINES				LR	LR	22 08 42.3	
	comp=Z,40nm,21.6s,baz=265,slow=37						
AKASG	Malin Array Be	78.43	320	P	P	21 32 21.2	-0.9
	0.5nm,0.4s,baz=67,slow=5.5,SNR=6.4						
HFS	Hagfors	84.20	331	P	P	21 32 51.5	-0.9
	1.3nm,0.5s,baz=117,slow=5.2,SNR=11						
NB2	NORSAR Subarra	84.96	333	P	P	21 32 55.3	-1.0
	comp=Z,0.9nm,0.6s,baz=62,slow=5.3						
NOA	NORSAR Array B	84.96	333	P	P	21 32 54.9	-1.4
	comp=Z,1.6nm,0.8s,baz=65,slow=5.2,SNR=4.1						
NOA				LR	LR	22 13 24.3	
	comp=Z,35nm,18.4s,baz=50,slow=37						
GERES	GERESS Array B	88.58	321	P	P	21 33 13.9	-0.3
	comp=Z,0.5nm,0.7s,baz=75,slow=4.2,SNR=2.9						

IDC 01 21:31:55.3±4.5, 18.67S×169.17E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/33, mbtmp3.7/5, ML3.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/26, Error ellipse: s-maj=113.2km s-min=31.2km az=117.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.24	217	Pn	Pn	21 33 00.5	-0.9
	1.1nm,0.3s,baz=40,slow=18,SNR=13						
DZM				Sn	Sn	21 33 49.8	-1.9
	7.9nm,0.3s,baz=119,slow=20,SNR=7.4						
DZM				LR	LR	21 33 54.4	
	comp=Z,107nm,20.9s,baz=36,slow=28						
WRA	Warramunga Arr	32.86	262	P	P	21 38 31.3	+0.2
	0.5nm,0.8s,baz=86,slow=8.3,SNR=4.5						
ASAR	Alice Springs	33.21	255	P	P	21 38 34.4	+0.2
	1.3nm,0.5s,baz=84,slow=8.7,SNR=34						
CMAR	Chiang Mai Arr	78.21	294	P	P	21 43 57.6	+0.3
	0.5nm,0.9s,baz=116,slow=4.1,SNR=3.6						
SONM	Songino Array	86.73	323	P	P	21 44 40.9	-0.4
	0.4nm,0.7s,baz=119,slow=5.6,SNR=3.4						

KRSC 01 21:34:45.6±0.4, 55.95N×161.72E, h75km±7km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	Zelenaya	0.52	278	iP	Pn	21 35 00.4	+1.2
ZLN				iS	Sn	21 35 10.4	+1.1
CIRR	Tsirk	0.57	288	iP	Pn	21 35 00.6	+0.8
CIRR				eS	Sn	21 35 11.0	+0.7
BZGR	Bezymyannyi-Gr	0.58	270	iP	Pn	21 35 00.8	+1.0
BZGR				eS	Sn	21 35 10.8	+0.5
LGNR	Loginova	0.59	284	eP	Pn	21 35 01.0	+0.8
LGNR				eS	Sn	21 35 11.9	+0.9
KBG	Krutoberegovo	0.63	60	iP	Pn	21 35 01.4	+1.2
KBG				iS	Sn	21 35 12.5	+1.6
SMKR	Semkarok	0.65	348	eP	Pn	21 35 02.0	+1.5
SMKR				eS	Sn	21 35 13.8	+2.2
KBTR	Krutoberegovo	0.67	66	iP	Pn	21 35 02.1	+1.5
KBTR				iS	Sn	21 35 14.0	+2.3
BDR	Baidarnaya	0.69	336	iP	Pn	21 35 02.3	+1.4
BDR				iS	Sn	21 35 14.0	+1.8
BZWR	Bezymyannyi-We	0.69	272	iP	Pn	21 35 02.3	+1.3
BZWR				iS	Sn	21 35 13.3	+0.9
BZMR	Bezymyannaya	0.69	270	iP	Pn	21 35 02.1	+1.1
BZMR				iS	Sn	21 35 13.8	+1.4
KRSR	Krestovskiy	0.70	293	iP	Pn	21 35 01.7	+0.6
KRSR				iS	Sn	21 35 12.3	-0.2
KLY	Klyuchi	0.70	302	iP	Pn	21 35 00.9	0.0
KLY				eS	Sn	21 35 11.5	-0.7
SRKR	Sorokina	0.77	337	eP	Pn	21 35 03.1	+1.3
SRKR				iS	Sn	21 35 16.1	+2.2
KIRR	Kirishev	0.78	271	iP	Pn	21 35 03.1	+1.2
KIRR				iS	Sn	21 35 15.2	+1.1
KPT	Kopyto	0.84	272	iP	Pn	21 35 03.9	+1.3
KPT				iS	Sn	21 35 16.8	+1.5
KMNR	Kamenistaya	0.86	258	iP	Pn	21 35 04.0	+1.2
KMNR				iS	Sn	21 35 17.1	+1.5
KOZ	Kozyrevsk	1.04	277	iP	Pn	21 35 07.0	+2.1
KOZ				eS	Sn	21 35 22.0	+2.6
TUMR	Tumrok	1.11	234	iP	Pn	21 35 07.6	+1.7
TUMR				eS	Sn	21 35 21.8	+0.7
KZV	Kizimen	1.16	225	eP	Pn	21 35 07.9	+1.3
KZV				eS	Sn	21 35 24.5	+2.2
SRDR	Sredinnyy	1.18	289	eP	Pn	21 35 08.0	+1.3
SRDR				eS	Sn	21 35 23.4	+0.8
ESO	Esso	1.70	271	eP	Pn	21 35 14.5	+1.1
KII	Karymskiy	2.32	215	eP	Pn	21 35 24.0	+2.3
BKI	Bering	2.53	105	eP	Pn	21 35 25.8	+1.4
BKI				eS	Sn	21 35 54.8	+0.7
GNL	Ganaly	3.14	226	eP	Pn	21 35 35.0	+2.1
KRX	Arik	3.15	216	eP	Pn	21 35 36.3	+3.3
KRER	Koryakskii	3.16	214	eP	Pn	21 35 36.1	+2.8
SMAR	Somma	3.18	213	eP	Pn	21 35 36.4	+2.8
SMAR				eS	Sn	21 36 13.1	+2.5
AVH	Avacha	3.20	214	eP	Pn	21 35 36.3	+2.7
KOK	Koryaka	3.21	215	eP	Pn	21 35 36.9	+3.1
UGLR	Uglovaya	3.22	213	eP	Pn	21 35 36.8	+2.8
PALN	Palana	3.29	344	eP	Pn	21 35 38.7	+4.0
PALN				eS	Sn	21 36 14.8	+2.1
OSSR	Ossora	3.39	12	eP	Pn	21 35 39.1	+3.0
OSSR				eS	Sn	21 36 16.6	+1.5
RUS	Russkaya	3.99	209	eP	Pn	21 35 47.2	+2.9
RUS				eS	Sn	21 36 31.7	+1.9
APC	Apacha	4.03	223	eP	Pn	21 35 47.1	+2.3
ASAK	Asacha	4.22	214	eP	Pn	21 35 50.4	+2.9
ASAK				eS	Sn	21 36 36.9	+1.3
MIPR	Malaya Ipel'ka	4.69	221	eP	Pn	21 35 58.8	+4.9
TILK	Tilichiki	5.08	26	eP	Pn	21 36 03.4	+4.3
TILK				eS	Sn	21 36 59.1	+2.7

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*IDC **01** 22:05:29.1±9.2, 2.31S×138.84E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/25, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=387.6km s-min=32.4km az=86.0*
*DJA **01** 22:05:35.2±2.1, 3°S±11°×13°9E±2°3, h30km±48km, M3.4/2, MLv3.4/2*
*ISCJB **01** 22:05:36.7±1.0, 2.78S±0.06×138.61E±0.09, h32km, mb3.1/2, Error ellipse: s-maj=12.4km s-min=8.8km az=12.2*
ISC 01 22:05:38.2±1.1, 2.70S±0.08×138.72E±0.09, h32km, n6, σ1§02/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.71	359	P	Pn	22 05 51.0	-1.0
SMPI				S	Sn	22 06 02.9	+1.2
GENI	Genyem	1.45	86	P	Pn	22 06 01.9	-0.3
GENI				S	Sb	22 06 22.7	0.0
KNRA	Kununurra	16.20	217	P	P	22 09 27.6	+1.1
	baz=9.2,SNR=4.3						
WRA	Warramunga Arr	17.66	194	P	Pn	22 09 41.2	-0.7
	0.1nm,0.3s,baz=14,slow=12,SNR=12						
ASAR	Alice Springs	21.36	192	P	P	22 10 22.9	-0.1
	0.4nm,0.8s,baz=20,slow=10,SNR=5.4						
MKAR	Makanchi Array	69.79	322	P	P	22 16 39.9	-5.6
	0.2nm,0.4s,baz=107,slow=7.7,SNR=2.6						

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*ISCJB **01** 22:07:14.1±0.9, 6.48S±0.06×129.7E±0.1, h10km, mb3.6/3, Error ellipse: s-maj=20.5km s-min=8.9km az=3.7*
*IDC **01** 22:07:15.2±1.5, 6.40S×129.76E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/27, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=308.8km s-min=26.2km az=70.0*
ISC 01 22:07:16.4±1.0, 6.47S±0.07×129.8E±0.2, h10km, n11, σ2§12/11, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	4.28	35	P	Pn	22 08 20.6	-1.1
	baz=4.5,SNR=4.2						
MTN	Manton Dam	6.47	169	P	Pn	22 08 56.5	+4.7
	baz=6.6,SNR=7.3						
KDU	Kakadu	6.71	157	P	Pn	22 08 58.0	+2.8
	baz=6.8,SNR=10.0						
KNRA	Kununurra	9.21	186	S	Sn	22 11 12.4	-0.9
	baz=9.2,SNR=3.8						
WRA	Warramunga Arr	14.10	162	Pn	Pn	22 10 34.5	-1.8
	0.5nm,0.3s,baz=339,slow=14,SNR=16						
WRA				Sn	Sn	22 13 09.1	-4.0
	0.6nm,0.3s,baz=326,slow=22,SNR=12						
COEN	Coen	15.10	121	P	Pn	22 10 51.3	+1.3
	baz=15,SNR=6.2						
ASAR	Alice Springs	17.55	167	P	Pn	22 11 21.4	0.0
	0.3nm,0.3s,baz=340,slow=9.1,SNR=17						
ASAR				S	Sn	22 14 27.0	-10
	0.1nm,0.3s,baz=350,slow=25,SNR=5.2						
WRKA	Warakurna	18.52	184	P	P	22 11 33.0	-0.2
	baz=19,SNR=9.7						
STKA	Stephens Creek	27.57	158	P	P	22 13 05.2	+1.4
	1.6nm,0.7s,baz=336,slow=6.8,SNR=3.7						
SONM	Songino Array	57.88	342	P	P	22 17 07.2	-1.4
	0.3nm,0.8s,baz=155,slow=7.8,SNR=2.2						
ZALV	Zalesovo Beam	71.03	334	P	P	22 18 35.5	+1.1
	0.4nm,0.4s,baz=116,slow=6.6,SNR=2.3						

MEX 01 22:11:15.6±0.3, 14.93N×93.50W, h16km±16km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.81	19	iP	Pb	22 11 28.2	-3.2
PCIG				iS	Sb	22 11 38.6	-3.6
CMIG	Matias Romero	2.53	328	eP	Pn	22 11 53.4	-2.6
CMIG				iS	Sn	22 12 22.1	-4.4
HUIG	Huatulco	2.65	289	eP	Pn	22 11 55.1	-2.6
HUIG				iS	Sn	22 12 25.0	-4.6
VHO	Vista Hermosa	3.77	305	iP	Pn	22 12 10.6	-2.7
VHO				iS	Sn	22 12 54.2	-3.5

JMA 01 22:21:20.5±0.4, 32.83N×142.52E, h0km, M3.9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.23	325	P	Pb	22 21 59.5	-1.4
BSO1				eS	Sb	22 22 28.1	-0.5
BSO2	Boso 2	2.42	323	eS	Sb	22 22 33.3	-1.3
BSO3	Boso 3	2.58	320	P	Pn	22 22 04.4	+1.2
BSO3				eS	Sn	22 22 35.9	+0.8
BSO4	Boso 4	2.82	320	P	Pn	22 22 08.9	+2.2
BSO4				eS	Sb	22 22 44.5	-2.0
JHU	Hanno	4.03	319	eS	Sn	22 23 12.5	+1.0
JHO	Hitachi	4.10	337	P	Pn	22 22 24.5	+0.1
JHO				eS	Sn	22 23 11.0	-2.1
JYN	Shimob	4.24	310	P	Pn	22 22 28.6	+2.2
JYN				eS	Sn	22 23 18.7	+2.0
JRY	Ryogami san	4.36	318	P	Pn	22 22 30.0	+1.9
JRY				eS	Sn	22 23 20.5	+0.8
JAG	Ashikaga	4.39	326	P	Pn	22 22 30.0	+1.6
JAG				eS	Sn	22 23 20.8	+0.6
JFK	Kawauchi	4.72	344	eS	Sn	22 23 23.7	-4.9

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*BJI **01** 22:28:13.0, 5.98S×155.07E, h34km, mB6.1/69, mb5.6/70, Ms6.0/91, Ms7 5.8/81*
*MOS **01** 22:28:16.2±1.0, 5.95S×154.36E, h33km, mb5.6/63, MS5.8/45, Error ellipse: s-maj=7.4km s-min=5.5km az=89.4*
*NEIC **01** 22:28:16.9±0.1, 6.11S×154.46E, h32km, mb5.6/129, ME5.3, MS6.0/160, MW6.2, MW6.1, MW6.2, Error ellipse: s-maj=4.1km s-min=3.5km az=134.0, Moment Tensor Solution. s48 Moment tensor: Scale 10^18Nm; Mrr1.71; Mθθ-1.49; Mφφ-0.22; Mrθ0.25; Mrφ1.05; Mθφ-0.09; Best double couple: M0 1.90000×10^18 NP1:φs118.00000°, δ49.00000°, λ88.00000°. NP2:φs301.00000°, δ41.00000°, λ93.00000°. Principal axes: T 1.7300, Plg85.0000°, Azm5.0000°; N 0.3700, Plg1.0000°, Azm119.0000°; P -2.1000, Plg3.0000°, Azm209.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
*GCMT **01** 22:28:16.9±0.1, 6.39S×154.35E, h40km, MW6.2/133, Moment Tensor Solution. s133,c312; s129,c461; Duration: 3§0 Moment tensor: Scale 10^18Nm; Mrr2.26±.01; Mθθ-1.22±.01; Mφφ-1.04±.01; Mrθ0.26±.01; Mrφ1.33±.01; Mθφ-0.38±.01; Best double couple: M0 2.40600×10^18 NP1:φs136.00000°, δ50.00000°, λ94.00000°. NP2:φs310.00000°, δ40.00000°, λ86.00000°. Principal axes: T 2.3070, Plg84.0000°, Azm71.0000°; N 0.1980, Plg3.0000°, Azm314.0000°; P -2.5050, Plg5.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **01** 22:28:16.8±0.7, 6.10S±0.02×154.43E±0.02, h39km±5km, mb5.6/241, MS5.9/225 Error ellipse: s-maj=3.7km s-min=3.2km az=18.8*
*IDC **01** 22:28:20.2±1.8, 6.08S×154.44E, h60km±15km, mb5.0/29, mb1 5.2/31, mb1mx5.1/38, mbtmp5.3/31, MS5.7/24, Ms1 5.7/24, ms1mx5.6/27, Error ellipse: s-maj=11.6km s-min=9.2km az=100.0*
*NEIC **01** 22:28:22.0±0.0, 6.15S×154.41E, h35km Best double couple: NP1:φs139.00000°, δ46.00000°, λ84.00000°. NP2:φs328.00000°, δ43.00000°, λ96.00000°. Principal axes: T 2.2100, Plg85.0000°, Azm340.0000°; N -0.0200, Plg4.0000°, Azm143.0000°; P -2.1800, Plg1.0000°, Azm233.0000°;*

DJA 01 22:28:23.2±0.9, 6°S±5°×15°5E±°, h77km±7km, M6.1/72, mb5.8/72, mB6.3/69, MLv6.6/1, Mw(mB)6.1/69, Mwp6.2/14
NEIC 01 22:28:37.6±0.0, 5.92S×153.94E, h41km, Moment Tensor Solution. s142 Moment tensor: Scale 10^{18}Nm; M_{rr}2.60; $M_{\theta\theta}$-1.30; $M_{\phi\phi}$-1.30; $M_{r\theta}$0.37; $M_{r\phi}$1.28; $M_{\theta\phi}$-0.78; Best double couple: $M_0$2.70000×10^{18} NP1:ϕ_s141.00000°, δ54.00000°, λ97.00000°. NP2:ϕ_s309.00000°, δ37.00000°, λ80.00000°. Principal axes: T 2.7500, Plg79.0000°, Azm79.0000°; N -0.0500, Plg5.0000°, Azm316.0000°; P -2.7000, Plg8.0000°, Azm225.0000°;
ISC 01 22:28:17.8±0.3, 6.09S±0.03×154.56E±0.03, h43km±2km, h42km:pP-P, n1091, σ1.73/1037, mb5.7/236, MS6.0/232, 125C-90D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.04	308	⇓P	Pn	22 29 04.0	+0.5
	baz=3.2,SNR=136						
RABL				⇓S	Sn	22 29 45.8	+7.2
	baz=3.2,SNR=5.9						
HNR	Honiara	6.29	122	LR	LR	22 32 18.6	
	comp=Z,104μm,21.9s,baz=287,slow=37						
PMG	Port Moresby	8.04	245	d iP	Pn	22 30 13.2	+1.1
PMG				pmax	pmax		
	comp=Z,2μm,0.8s						
PMG	Port Moresby	8.04	245	P	Pn	22 30 13.6	+1.5
	comp=Z,118nm,0.3s,baz=40,slow=8.7,SNR=150						
PMG				S	Sn	22 31 43.3	+1.5
	comp=Z,15nm,0.3s,baz=133,slow=18,SNR=4.4						
PMG				LR	LR	22 33 12.9	
	comp=Z,134μm,21.5s,baz=54,slow=37						
PMG	Port Moresby	8.04	245	⇓ePn	Pn	22 30 13.2	+1.1
PMG				eSn	Sn	22 31 44.6	+2.8
PMG	Port Moresby	8.04	245	⇑P	Pn	22 30 12.9	+0.8
	baz=8.1,SNR=79						
PMG				⇑S	Sn	22 31 43.5	+1.7
	baz=8.1,SNR=11						
MANU	Manus Island	8.22	299	⇓P	Pn	22 30 18.5	+3.9
	baz=8.3,SNR=5.9						
PATS	Pohnpei	13.37	16	⇑P	Pn	22 31 26.3	+1.2
	baz=14,SNR=16						
COEN	Coen	13.66	234	ePn	Pn	22 31 28.4	-0.7
COEN	Coen	13.66	234	⇑P	Pn	22 31 28.7	-0.4
	baz=14,SNR=22						
GENI	Genyem	14.76	283	P	Pn	22 31 45.1	+1.2
	comp=Z,438nm,1.3s,comp=Z,10μmcomp=Z,51μm						
CTA	Charters Tower	16.09	209	P	Pn	22 32 02.2	+1.1
CTA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CTA	Charters Tower	16.09	209	P	Pn	22 32 02.2	+1.1
	comp=Z,0.8nm,0.3s,baz=34,slow=15,SNR=26						
CTAO	Charters Tower	16.09	209	eP	Pn	22 31 59.8	-1.3
CTAO				pmax	pmax		
	comp=Z,742nm,1.4s						
CTAO	Charters Tower	16.09	209	ePn	Pn	22 31 59.8	-1.3
	comp=Z,742nm,1.4s						
SMPI	Sarmi	16.32	284	P	P	22 32 06.8	+0.3
	comp=Z,589nm,1.5s,comp=Z,10μm						
BAKI	Biak	19.04	284	P	Pn	22 32 41.3	+3.7
	comp=Z,407nm,1.6s,comp=Z,17μm						
EIDS	Eidsvold	19.46	189	eP	P	22 32 40.5	-0.6
	comp=Z,184nm,1.0s						
EIDS	Eidsvold	19.46	189	⇓P	Pn	22 32 42.2	-0.3
	baz=20,SNR=27						
NOUC	Port Laguerre	19.55	146	eP	Pn	22 32 44.5	+0.8
NOUC	Port Laguerre	19.55	146	eP	Pn	22 32 44.5	+0.8
DZM	Mont Dzumac	19.61	145	eP	Pn	22 32 44.3	-0.2
	comp=Z,1μm,1.4s						
DZM				eLQ	LQ	22 36 37.0	
	comp=Z,90μm,32.6s						
DZM				eLR	LR	22 37 25.8	
	comp=Z,94μm,26.1s						
DZM	Mont Dzumac	19.61	145	P	Pn	22 32 44.2	-0.2
	comp=Z,7.3nm,0.3s,baz=345,slow=10,SNR=70						
DZM	Mont Dzumac	19.61	145	⇑iP	P	22 32 43.6	+0.8
	comp=Z,371nm,1.0s						
DZM				eS	S	22 36 18.7	-3.3
DZM	Mont Dzumac	19.61	145	eP	P	22 32 43.4	+0.6
DZM	Mont Dzumac	19.61	145	eP	P	22 32 43.4	+0.6
KWAJ	Kwajalein Atol	19.70	41	eP	P	22 32 44.5	+0.8
KWAJ				pmax	pmax		
	comp=Z,768nm,0.7s						
KWAJ	Kwajalein Atol	19.70	41	eP	P	22 32 44.5	+0.8
	comp=Z,768nm,0.7s						
TARA	Tarawa	19.77	69	eP	P	22 32 44.7	+0.2
	comp=Z,301nm,1.2s						
QIS	Mount Isa	20.43	224	P	P	22 32 52.5	+0.8
	baz=20,SNR=82						
RKPI	Ransiki, Papua	20.83	282	P	Pn	22 32 59.9	+1.1
	comp=Z,320nm,1.1s,comp=Z,15μm						
KMPI	Kaimana, Papua	20.92	276	P	Pn	22 33 16.3	+16
RMQ	Roma	21.03	195	⇓P	P	22 32 59.1	+1.0
	baz=21,SNR=97						
GUMO	Guam	21.79	334	eP	P	22 33 05.6	-0.7
GUMO				pmax	pmax		
	comp=Z,1μm,1.4s						
GUMO				MLR	MLR		
	comp=Z,14μm,22.0s						
GUMO	Guam	21.79	334	eP	P	22 33 05.5	-0.7
	comp=Z,1μm,1.4s						
GUMO				LR	LR		
	comp=Z,14μm,22.0s						
FAKI	Fak Fak	22.46	277	P	P	22 33 17.7	+4.1
	comp=Z,244nm,1.1s,comp=Z,9μmcomp=Z,77μm						
FAKI	Fak Fak	22.46	277	eP	P	22 33 13.3	-0.2
FAKI	Fak Fak	22.46	277	⇑P	P	22 33 14.5	+0.9
	baz=23,SNR=16						
QLP	Quilpie	22.64	205	⇓P	P	22 33 15.7	+0.4
	baz=23,SNR=34						
KDU	Kakadu	22.74	252	P	P	22 33 16.4	-0.1
	baz=23,SNR=25						
SAUI	Saumlaki	23.16	264	P	P	22 33 25.1	+4.3
	comp=Z,2μm,1.7s,comp=Z,34μmcomp=Z,130μm						
SAUI	Saumlaki	23.16	264	eP	P	22 33 23.6	+2.8
	comp=Z,5μm,1.5s						
SWI	Sorong	23.82	282	P	P	22 33 29.3	+2.2
	comp=Z,275nm,1.1s,comp=Z,7μmcomp=Z,69μm						
WRAB	Tennant Creek	23.98	233	d iP	P	22 33 28.5	-0.1
WRAB				pmax	pmax		
	comp=Z,452nm,1.3s						
WRAB	Tennant Creek	23.98	233	eP	P	22 33 28.9	+0.3
	comp=Z,315nm,1.1s						
WRAB				LR	LR		
	comp=Z,44μm,20.0s						
WRA	Warramunga Arr	23.99	233	P	P	22 33 29.0	+0.3
WRA						22 37 10.5	
WRA				S	S	22 37 39.9	-3.1
WRA				pmax	pmax		
	comp=Z,93nm,1.0s						
WRA				pmax	pmax		
	comp=Z,27nm,0.7s						
WRA				pmax	pmax		
	comp=N,7.0nm,0.8s						
WRA				MLR	MLR		
	comp=Z,43μm,21.0s						
WRA	Warramunga Arr	23.99	233	P	P	22 33 28.9	+0.3
	comp=Z,93nm,1.0s,baz=52,slow=11,SNR=118						
WRA				PcP	PcP	22 37 10.5	+0.4
	comp=Z,27nm,0.7s,baz=59,slow=2.2,SNR=9.9						
WRA				S	S	22 37 39.9	-3.1
	comp=Z,13nm,1.1s,baz=59,slow=15,SNR=2.1						
WRA				ScP	ScP	22 40 44.5	-0.9
	comp=Z,6.6nm,0.8s,baz=60,slow=2.8,SNR=5.4						
WRA				LR	LR	22 42 41.1	
	comp=Z,43μm,21.0s,baz=60,slow=36						
MTN	Manton Dam	24.05	252	⇓P	P	22 33 29.7	+0.5
	baz=24,SNR=9.6						
PALU	Palau	24.07	303	P	P	22 33 30.3	+0.8
	baz=24,SNR=25						
ARMA	Armidale	24.36	186	eP	P	22 33 33.3	+1.2
	comp=Z,242nm,1.1s						
ARMA	Armidale	24.36	186	⇑P	P	22 33 32.8	+0.8
	baz=24,SNR=39						
MSAI	Masohi	25.68	275	P	P	22 33 50.1	+5.9
	comp=Z,40nm,1.3s,comp=Z,1μm						
AS31	Alice Springs	26.46	227	eP	P	22 33 50.7	-0.5
AS31				ePcP	PcP	22 37 16.4	+0.7
AS31				eS	S	22 38 22.3	0.0
ASAR	Alice Springs	26.46	227	P	P	22 33 50.8	-0.4
ASAR						22 37 16.0	
ASAR						22 44 43.8	
ASAR				pmax	pmax		
	comp=Z,20nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,37nm,0.6s						
ASAR				pmax	pmax		
	comp=N,8.0nm,0.7s						
ASAR				MLR	MLR		
	comp=Z,38μm,21.7s						
ASAR	Alice Springs	26.46	227	P	P	22 33 50.8	-0.4
	comp=Z,20nm,0.6s,baz=60,slow=8.6,SNR=116						
ASAR				PcP	PcP	22 37 16.0	+0.3
	comp=Z,37nm,0.6s,baz=58,slow=2.3,SNR=20						
ASAR				ScP	ScP	22 40 52.4	0.0
	comp=Z,7.9nm,0.7s,baz=52,slow=2.9,SNR=7.7						
ASAR				LR	LR	22 43 54.9	
	comp=Z,38μm,21.7s,baz=106,slow=35						
ASAR				ScS	ScS	22 44 43.8	+0.9
	comp=Z,1.6nm,0.8s,baz=43,slow=5.3,SNR=4.1						
CMSA	Cobar Meteorol	26.65	197	⇑P	P	22 33 52.4	-0.2
	baz=27,SNR=34						
KNRA	Kununurra	27.03	247	⇓P	P	22 33 57.1	+0.8
	baz=27,SNR=17						
MGCD	Mangrove Creek	27.18	186	⇓P	P	22 33 58.8	+1.4
	baz=27,SNR=12						
H11S3	WAKE ISLAND Hy	27.20	26	T	T	23 02 35.2	
	baz=208,slow=77,SNR=1371						
H11S2	WAKE ISLAND Hy	27.20	26	T	T	23 02 33.8	
	baz=208,slow=77,SNR=919						
H11S1	WAKE ISLAND Hy	27.22	26	T	T	23 02 31.6	
	baz=208,slow=77,SNR=520						
NLAI	Namlea	27.51	275	P	P	22 34 05.1	+4.5
	comp=Z,231nm,1.2s,comp=Z,4μmcomp=Z,84μm						
LBMI	Labuha	27.54	280	P	P	22 34 03.7	+2.8
	comp=Z,450nm,1.1s,comp=Z,9μmcomp=Z,22μm						
TNTI	Ternate	27.99	283	P	P	22 34 15.1	+10
STKA	Stephens Creek	28.38	204	P	P	22 34 09.4	+1.2
STKA						22 37 20.4	
STKA				pmax	pmax		
	comp=Z,50nm,0.8s						
STKA				pmax	pmax		
	comp=Z,29nm,0.7s						
STKA				pmax	pmax		
	comp=N,14nm,1.0s						
STKA	Stephens Creek	28.38	204	P	P	22 34 09.4	+1.2
	comp=N,50nm,0.8s,baz=24,slow=10,SNR=21						
STKA				PcP	PcP	22 37 20.4	+0.4
	comp=N,29nm,0.7s,baz=44,slow=2.0,SNR=5.4						
STKA				ScP	ScP	22 40 59.6	+1.6
	comp=N,14nm,1.0s,baz=172,slow=3.2,SNR=4.1						
STKA				LR	LR	22 45 15.7	
	comp=N,32μm,20.8s,baz=19,slow=36						
STKA	Stephens Creek	28.38	204	eP	P	22 34 07.8	-0.3
	comp=N,20nm,0.8s						
STKA				PcP	PcP	22 37 20.4	+0.4
STKA				ScP	ScP	22 40 59.6	+1.6
STKA	Stephens Creek	28.38	204	⇓P	P	22 34 07.7	-0.5
	baz=28,SNR=20						
YNG	Young	28.65	191	⇑P	P	22 34 11.3	+0.7
	baz=29,SNR=7.9						
SANI	Sanana	28.77	277	P	P	22 34 12.6	+0.7
	comp=N,188nm,1.2s,comp=N,5μm						
CNB	Canberra Magne	29.48	189	⇓P	P	22 34 18.6	+0.6
	baz=30,SNR=9.0						
CAN	Canberra	29.54	189	eP	P	22 34 17.8	-0.7
CAN				pmax	pmax		
	comp=Z,82nm,1.3s						
CAN				MLR	MLR		
	comp=Z,36μm,21.0s						
CAN	Canberra	29.54	189	eP	P	22 34 17.8	-0.7
	comp=Z,82nm,1.3s						
CAN				LR	LR		
	comp=Z,36μm,21.0s						
SOEI	Soe	30.21	261	P	P	22 34 28.3	+3.5
	comp=Z,164nm,1.1s,comp=Z,12μm						
SOEI	Soe	30.21	261	eP	P	22 34 23.7	-1.1
SOEI				eS	S	22 39 22.7	+1.0
SOEI	Soe	30.21	261	⇑P	P	22 34 25.8	+1.0
	baz=30,SNR=6.0						
HTT	Hallett	30.84	206	⇑P	P	22 34 31.0	+0.9
	baz=31,SNR=6.8						
MILA	Mila	31.22	188	⇓P	P	22 34 34.4	+1.1
	baz=31,SNR=7.9						
KMSI	Cibinong	31.23	281	P	P	22 34 36.6	+2.9
	comp=Z,830nm,1.2s,comp=Z,12μm						
WRKA	Warakurna	31.43	230	P	P	22 34 34.8	-0.5
	baz=32,SNR=40						
BBOO	Buckleboo	31.68	211	eP	P	22 34 37.8	+0.4
	comp=Z,914nm,1.0s						
BBOO	Buckleboo	31.68	211	⇑P	P	22 34 37.9	+0.5
	baz=32,SNR=18						
LUWI	Luwuk	32.11	278	P	P	22 34 43.3	+1.9
	comp=Z,725nm,1.2s,comp=Z,8μm						
LUWI	Luwuk	32.11	278	eP	P	22 34 42.1	+0.8
LUWI	Luwuk	32.11	278	⇓P	P	22 34 42.4	+1.0
	baz=32,SNR=19						
MMRI	Maumere	32.15	263	P	P	22 34 43.4	+1.7
	comp=Z,500nm,1.1s,comp=Z,8μm						
MMRI	Maumere	32.15	263	eP	P	22 34 41.6	-0.1
TOO	Toolangi	32.41	194	⇑P	P	22 34 45.1	+1.3
	baz=32,SNR=8.5						
BUKP	Musuan	32.53	295	eP	P	22 34 46.4	+1.3
ARPS	Mount Arapiles	32.68	199	P	P	22 34 46.3	+0.2
	baz=33,SNR=16						
MRSI	Marisa	33.21	280	P	P	22 34 51.5	+0.5
	comp=Z,178nm,1.4s,comp=Z,2μm						
APSI	Ampana	33.24	278	P	P	22 34 52.2	+1.0
	comp=Z,671nm,1.2s,comp=Z,7μm						
MSLP	Maasin	33.69	298	eP	P	22 34 55.6	+0.5
OUZ	Omahuta	33.89	151	eP	P	22 34 58.7	+2.1
	comp=Z,89nm,1.0s						
AFI	Afiamalu	34.02	106	P	P	22 34 58.4	+0.2
	comp=Z,17nm,0.3s,baz=87,slow=10,SNR=3.7						
AFI				LR	LR	22 46 57.2	
	comp=Z,15μm,19.8s,baz=280,slow=33						
PLP	Palo	34.06	300	⇓eP	P	22 34 58.1	-0.3
WSI	Waingapu	34.11	262	P	P	22 35 01.2	+2.4
	comp=Z,1μm,0.9s,comp=Z,15μm						
BKSI	Bulukumba	34.27	269	P	P	22 35 02.1	+1.9
	comp=Z,40nm,1.1s,comp=Z,2μm						
BNSI	Bone	34.34	271	P	P	22 35 03.1	+2.2
	comp=Z,105nm,1.2s,comp=Z,4μmcomp=Z,18μm						
TOLI	Toli-Toli	34.46	281	eP	P	22 35 01.0	-0.9
	comp=Z,107nm,0.6s						
TOLI				eS	S	22 40 24.8	-2.9
KAPI	Kappang	34.66	270	eP	P	22 35 02.5	-1.0
	comp=Z,2μm,1.8s						
KAPI				LR	LR		
	comp=Z,8μm,22.0s						
SPSI	Sidrap Palu	34.72	272	P	P	22 35 05.3	+1.2
	comp=Z,100nm,1.1s,comp=Z,3μm						
RAO	Raoul Island	34.73	135	PFAKE		22 35 20.0	+16
RAO				LR	LR		
	comp=Z,16μm,22.0s						
TTSI	Tana Toraja	34.75	273	P	P	22 35 07.0	+2.6
	comp=Z,119nm,1.5s,comp=Z,3μm						
FORT	Forrest	34.96	222	eP	P	22 35 05.3	-0.7
	comp=Z,204nm,0.6s						
FORT	Forrest	34.96	222	⇓P	P	22 35 05.4	-0.5
	baz=35,SNR=15						
CBIJ	Chichi jima	35.09	341	P	P	22 35 05.0	-2.1
JCJ	Chichijima	35.09	341	P	P	22 35 05.0	-2.1
	comp=Z,108nm,0.7s,baz=190,slow=6.7,SNR=6.1						
JCJ				LR	LR	22 46 38.7	
	comp=Z,4μm,20.6s,baz=162,slow=31						
GUIM	Jordan	35.90	297	eP	P	22 35 16.1	+1.9
PVCP	Virac	35.97	303	eP	P	22 35 16.5	+1.7
MOO	Moorlands	36.79	189	⇓P	P	22 35 22.6	+1.1
	baz=37,SNR=9.0						
MBWA	Marble Bar	36.89	243	eP	P	22 35 21.7	-1.0
	comp=Z,82nm,1.0s						
MBWA				ePcP	PcP	22 37 43.3	-0.5
MBWA				LR	LR		
	comp=Z,33μm,20.0s						
OTRP	Odiongan	37.18	300	eP	P	22 35 26.6	+1.5
TAU	Tasmania Unive	37.23	189	eP	P	22 35 26.8	+1.6
TAU				pmax	pmax		
	comp=Z,223nm,1.3s						
TAU				MLR	MLR		
	comp=Z,15μm,20.0s						
TAU	Tasmania Unive	37.23	189	eP	P	22 35 26.8	+1.6
	comp=Z,223nm,1.3s						
TAU				LR	LR		
	comp=Z,15μm,20.0s						
CUYO	Cuyo Island	37.39	297	eP	P	22 35 28.3	+1.3
SJMP	San Jose	38.01	289	eP	P	22 35 34.4	+2.2
URZ	Urewera	38.01	151	P	P	22 35 33.4	+1.5
	comp=Z,79nm,0.6s,baz=160,slow=5.4,SNR=25						
URZ	Urewera	38.01	151	eP	P	22 35 33.4	+1.5
	comp=Z,164nm,0.9s						
URZ	Urewera	38.01	151	PN	P	22 35 33.0	+1.2
TSM	Tawau	38.05	285	⇓P	P	22 35 33.7	+1.1
BKZ	Black Stump Fm	38.43	152	eP	P	22 35 36.2	+0.7
	comp=Z,106nm,0.5s						
BKZ	Black Stump Fm	38.43	152	PN	P	22 35 36.0	+0.5
PUZ	Puketiti	38.43	149	PN	P	22 35 36.1	+0.6
NMHZ	Naumai	38.52	152	PN	P	22 35 37.6	+1.3
BUSP	Coron	38.61	298	eP	P	22 35 38.6	+1.4
RIGZ	Rimuhau	38.67	150	ePN	P	22 35 38.7	+1.2
CNGZ	Carnagh Statio	38.72	150	ePN	P	22 35 38.9	+1.0
TGY	Tagaytay City	38.93	301	P	P	22 35 40.6	+0.6
	comp=Z,274nm,0.4s,baz=192,slow=1.1,SNR=8.6						
TGY				LR	LR	22 49 55.0	
	comp=Z,204nm,21.6s,baz=125,slow=33						
ENPP	El Nido	38.96	296	eP	P	22 35 41.5	+1.3
SDKM	Sandakan	39.08	287	⇑P	P	22 35 42.8	+1.5
SRBI	Singaraja	39.09	265	P	P	22 35 50.1	+8.9
DNP	Denpasar	39.09	264	P	P	22 35 57.2	+16
KAHZ	Kahuranaki	39.11	152	ePN	P	22 35 42.3	+1.2
BALP	Baler	39.20	304	eP	P	22 35 42.6	+0.5
MRZ	Mangatainoka R	39.24	154	PN	P	22 35 42.1	-0.1
SNZO	South Karori	39.41	156	PFAKE		22 36 00.0	+16
SNZO				LR	LR		
	comp=Z,14μm,22.0s						
BFZ	Birch Farm	39.55	154	eP	P	22 35 45.5	+0.8
	comp=Z,163nm,1.2s						
MTW	Mount Morrison	39.62	155	ePN	P	22 35 45.5	+0.2
KDM	Kudat	39.80	288	⇑P	P	22 35 47.4	+0.3
JCZ	Jackson Bay	39.84	164	ePN	P	22 35 48.0	+0.8
MEEK	Meekatharra	39.86	235	P	P	22 35 47.2	-0.4
	baz=40,SNR=50						
KHZ	Kahutara	39.90	158	eP	P	22 35 47.5	-0.2
	comp=Z,103nm,0.8s						
KHZ	Kahutara	39.90	158	ePN	P	22 35 47.5	-0.2
KKM	Kota Kinabalu	40.12	287	eP	P	22 35 50.4	+0.4
	comp=Z,111nm,1.0s						
KKM				LR	LR		
	comp=Z,6μm,20.0s						
KKM	Kota Kinabalu	40.12	287	⇓P	P	22 35 51.0	+1.0
	baz=40,SNR=11						
KKM	Kota Kinabalu	40.12	287	⇓P	P	22 35 51.1	+1.0
JAGI	Jajag, Banyuwa	40.14	264	P	P	22 35 49.0	-1.0
	comp=Z,304nm,1.1s,comp=Z,4μm						
JAGI	Jajag, Banyuwa	40.14	264	eP	P	22 35 48.1	-2.0
	comp=Z,324nm,1.1s						
JAGI	Jajag, Banyuwa	40.14	264	P	P	22 35 48.6	-1.4
	baz=40,SNR=12						
RPZ	Rata Peaks	40.19	161	eP	P	22 35 50.2	+0.2
	comp=Z,124nm,0.8s						
RPZ	Rata Peaks	40.19	161	ePN	P	22 35 50.1	0.0
KMMI	Kalianget	40.33	266	P	P	22 36 11.3	+20
MQZ	McQueen's Vall	40.71	160	PN	P	22 35 54.4	+0.1
DCZ	Deep Cove	40.74	166	eP	P	22 35 54.7	+0.2
	comp=Z,42nm,1.0s						
GMJI	Gumukmas	40.84	264	P	P	22 36 09.2	+13
BOLP	Bolinao	40.91	304	eP	P	22 35 56.8	+0.5
SZP	Santa	41.06	305	eP	P	22 35 58.0	+0.5
ODZ	Otahua Downs	41.27	163	eP	P	22 35 59.5	+0.6
	comp=Z,321nm,2.1s						
ODZ	Otahua Downs	41.27	163	PN	P	22 35 58.9	0.0
WHZ	Wether Hill Ro	41.32	166	eP	P	22 35 59.3	0.0
JOW	Kunigami	41.46	323	eP	P	22 36 02.0	+1.3
	comp=Z,65nm,0.5s						
GRJI	Gresik	41.81	266	P	P	22 36 14.7	+11
GIRL	Giralia	42.21	243	⇑P	P	22 36 07.9	+0.9
	baz=42,SNR=3.5						
BTM	Bintulu	42.43	281	⇓P	P	22 36 10.8	+1.9
PWJI	Pagerwojo	42.46	265	P	P	22 36 09.0	-0.1
	comp=Z,169nm,1.1s,comp=Z,3μm						
NGJI	Ngawi	42.81	266	P	P	22 36 15.6	+3.7
	comp=Z,289nm,0.9s,comp=Z,4μm						
MORW	Morawa	42.94	233	P	P	22 36 12.4	-0.4
	baz=43,SNR=18						
PCJI	Pacitan	43.08	265	P	P	22 36 15.1	+1.0
	comp=Z,409nm,1.4s,comp=Z,6μm						
BLDU	Ballidu	43.09	231	P	P	22 36 13.3	-0.6
	baz=43,SNR=42						
SBUM	Sibu	43.12	280	eP	P	22 36 15.4	+0.9
	comp=Z,160nm,1.0s						
SBUM	Sibu	43.12	280	⇓P	P	22 36 16.1	+1.6
YOJ	Yonaguni jima	43.20	316	eP	P	22 36 15.9	+1.0
YOJ				pmax	pmax		
	comp=Z,107nm,0.6s						
YOJ	Yonaguni jima	43.20	316	eP	P	22 36 15.9	+1.0
	comp=Z,107nm,0.6s						
MIDW	Midway	43.55	37	PFAKE		22 36 30.0	+12
MIDW				LR	LR		
	comp=Z,32μm,21.0s						
TWG	Pinlang	43.56	312	eP	P	22 36 17.2	-0.7
	comp=Z,186nm,0.4s						
UGM	Wanagama	43.73	265	P	P	22 36 21.2	+1.8
	comp=Z,530nm,0.9s,comp=Z,6μm						
UGM	Wanagama	43.73	265	eP	P	22 36 19.9	+0.4
	comp=Z,506nm,1.2s						
UGM	Wanagama	43.73	265	P	P	22 36 19.7	+0.3
	baz=44,SNR=6.8						
YULB	Yu-li	43.75	313	eP	P	22 36 19.8	+0.5
	comp=Z,172nm,0.9s						
NWAO	Narrogin (SRO)	43.77	227	LR	LR	22 54 35.9	
	comp=Z,25μm,20.8s,baz=54,slow=36						
SMRI	Semarang	43.83	266	P	P	22 36 22.6	+2.4
	comp=Z,199nm,1.0s,comp=Z,7μm						
SMRI	Semarang	43.83	266	eP	P	22 36 19.9	-0.3
	comp=Z,269nm,1.1s						
SMRI	Semarang	43.83	266	⇓P	P	22 36 21.1	+1.0
	baz=44,SNR=3.4						
NACB	Ninganchiao	44.02	314	eP	P	22 36 22.1	+0.6
	comp=Z,351nm,0.9s						
TPUB	Ta-pu	44.18	313	eP	P	22 36 22.5	-0.3
	comp=Z,254nm,0.7s						
SSLB	Suanglung	44.24	313	eP	P	22 36 23.6	+0.3
	comp=Z,168nm,0.9s						
YHNB	Yeheng	44.48	315	eP	P	22 36 26.7	+1.4
	comp=Z,410nm,1.0s						
YHNB				LR	LR		
	comp=Z,12μm,22.0s						
TATO	Taipei	44.59	315	eP	P	22 36 25.7	-0.4
	comp=Z,114nm,1.3s						
TATO				LR	LR		
	comp=Z,13μm,20.0s						
RKGY	Rocky Gully	44.80	226	⇓P	P	22 36 27.6	0.0
	baz=45,SNR=5.9						
KSM	Kuching	44.81	278	eP	P	22 36 28.4	+0.4
	comp=Z,144nm,0.8s						
KSM				LR	LR		
	comp=Z,4μm,21.0s						
KSM	Kuching	44.81	278	P	P	22 36 28.4	+0.4
	baz=45,SNR=47						
KSM	Kuching	44.81	278	⇑P	P	22 36 29.1	+1.0
JNU	Nakatsue	45.01	332	P	P	22 36 29.3	-0.1
	comp=Z,227nm,1.1s,baz=163,slow=2.0,SNR=58						
JNU				LR	LR	22 54 54.4	
	comp=Z,2μm,18.8s,baz=142,slow=36						
JNU	Nakatsue	45.01	332	eP	P	22 36 29.0	-0.3
	comp=Z,95nm,1.2s						
MJAR	Matsushiro Arr	45.09	341	P	P	22 36 29.0	-0.9
MJAR						22 38 09.6	
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MJAR				pmax	pmax		
	comp=Z,13nm,0.9s						
MJAR				MLR	MLR		
	comp=Z,4μm,18.1s						
MJAR	Matsushiro Arr	45.09	341	P	P	22 36 29.0	-0.9
	comp=Z,7.4nm,0.5s,baz=168,slow=7.1,SNR=32						
MJAR				PcP	PcP	22 38 09.6	-0.5
	comp=Z,13nm,0.9s,baz=168,slow=3.5,SNR=4.4						
MJAR				LR	LR	22 56 27.5	
	comp=Z,4μm,18.1s,baz=195,slow=38						
MAJO	Matsushiro	45.09	341	c iP	P	22 36 28.7	-1.2
MAJO				pmax	pmax		
	comp=Z,144nm,1.4s						
MAJO	Matsushiro	45.09	341	eP	P	22 36 29.4	-0.5
	comp=Z,4.0nm,0.6s						
MAJO				LR	LR		
	comp=Z,6μm,19.0s						
MAT	Matsushiro	45.09	341	P	P	22 36 29.1	-0.8
MAT				S	S	22 43 04.6	-1.6
CMJI	Cimerak	45.79	265	P	P	22 36 36.2	+0.4
	comp=Z,257nm,0.9s,comp=Z,4μm						
JCJI	Jatiwangi	46.00	267	P	P	22 36 39.7	+2.3
	comp=Z,332nm,1.9s,comp=Z,13μm						
CISI	Cisompet, Garu	46.42	265	P	P	22 36 40.9	+0.1
	comp=Z,438nm,1.3s,comp=Z,5μm						
CISI	Cisompet, Garu	46.42	265	eP	P	22 36 39.7	-1.1
	comp=Z,262nm,0.8s						
CISI	Cisompet, Garu	46.42	265	⇑P	P	22 36 40.2	-0.6
	baz=46,SNR=13						
LEM	Lembang	46.63	266	P	P	22 36 44.2	+1.6

comp=Z,320nm,1.4s,comp=Z,7µm
QZH Quanzhou 46.65 313⇑iP P 22 36 43.7 +1.4
QZH S S 22 43 25.3 -3.6
QZH pmax pmax
comp=Z,5µm,5.6s
QZH LR LR
comp=Z,9µm,18.4s
QZH LR LR
comp=Z,9µm,18.2s
QZH LR LR
comp=Z,22µm,27.9s
RAR Rarotonga 46.66 113 PFAKE 22 37 00.0 +17
RAR LR LR
comp=Z,5µm,20.0s
TPI Tanjungpandan 46.87 272 P P 22 36 46.3 +2.0
comp=Z,95nm,1.8s,comp=Z,3µm
CNJI Cibinong 47.10 266 P P 22 36 45.6 -0.5
comp=Z,695nm,1.2s,comp=Z,8µmcomp=Z,11µm
SKJI Sukabumi 47.68 266 P P 22 36 53.8 +3.2
comp=Z,572nm,1.2s,comp=Z,6µm
XMI Christmas Isla 48.52 261 P P 22 36 57.4 +0.3
baz=49,SNR=8.9
CGJI Cibinong 48.55 267 P P 22 36 56.8 -0.5
comp=Z,219nm,1.3s,comp=Z,4µmcomp=Z,11µm
XMIS Christmas Isla 48.55 261 eP P 22 36 57.8 +0.4
comp=Z,644nm,0.8s
XMIS Christmas Isla 48.55 261 P P 22 36 57.7 +0.4
baz=49,SNR=12
HKC Hong Kong Obse 48.57 307⇑iP P 22 37 00.0 +2.7
XMAS Kiritimati 48.60 82 PFAKE 22 37 10.0 +12
XMAS LR LR
comp=Z,34µm,20.0s
SSE Sheshan 48.83 321 P P 22 36 59.1 -0.1
SSE pP pP 22 37 08.5 -2.7
SSE S S 22 43 57.1 -2.6
SSE sS sS 22 44 13.1 -6.6
SSE pmax pmax
comp=Z,27nm,1.0s
SSE pmax pmax
comp=Z,2µm,6.8s
SSE LR LR
comp=Z,4µm,23.5s
SSE LR LR
comp=Z,4µm,23.5s
SSE LR LR
comp=Z,6µm,23.7s
ERM Erimo 48.99 349 eP P 22 36 59.1 -1.1
ERM pmax pmax
comp=Z,22nm,1.1s
ERM Erimo 48.99 349 PFAKE 22 37 10.0 +10
ERM LR LR
comp=Z,12µm,21.0s
DLV T Lat 49.19 291 eP P 22 37 03.1 +0.7
TJN Taejon 49.34 331 iP P 22 37 03.2 +0.3
KLI Kotabumi 49.48 269 P P 22 37 16.0 +12
GZH Guangzhou 49.62 307 P P 22 37 07.8 +2.4
GZH PcP PcP 22 38 23.8 -2.7
GZH S S 22 44 15.4 +4.3
GZH LR LR
comp=Z,6µm,19.4s
GZH LR LR
comp=Z,23µm,21.4s
KASI Kota Agung 49.79 268 P P 22 37 06.0 -0.8
comp=Z,203nm,1.2s,comp=Z,2µm
KSRS Korea Array 49.94 332 P P 22 37 07.6 +0.1
KSRS pmax pmax
comp=Z,41nm,0.9s
KSRS MLR MLR
comp=Z,2µm,20.6s
KSRS Korea Array 49.94 332 P P 22 37 07.6 +0.1
comp=Z,40nm,0.9s,baz=149,slow=7.9,SNR=57
KSRS LR LR 22 53 47.2
comp=Z,2µm,20.6s,baz=150,slow=31
KSAR Wonju Array Be 49.95 332 P P 22 37 07.6 0.0
KSAR Wonju Array Be 49.95 332 P P 22 37 07.6 0.0
MDSI Maura Dua 50.18 269 P P 22 37 09.2 -0.6
comp=Z,142nm,1.4s,comp=Z,2µm
TPRI Tanjung Pinang 50.43 276 P P 22 37 13.5 +1.8
comp=Z,129nm,1.3s
YUK Yuzh-Kuril'sk 50.50 352c iP P 22 37 05.7 -5.9
YUK iS S 22 44 18.5 -4.1
YUK i 22 47 00.9
YUK iSS SS 22 47 56.1 -1.2
YUK iSSS SSS 22 49 29.6
YUK pmax pmax
comp=E,134nm,1.5s
YUK pmax pmax
comp=Z,242nm,1.5s
YUK pmax pmax
comp=N,22nm,0.5s
YUK pmax pmax
comp=Z,3µm,5.9s
YUK MLR MLR
comp=N,12µm,22.0s
YUK MLR MLR
comp=E,2µm,22.0s
YUK MLR MLR
comp=Z,10µm,22.0s
INCN Inchon 50.57 331 eP P 22 37 12.8 +0.4
comp=Z,37nm,0.9s
INCN LR LR
comp=Z,6µm,19.0s
QIZ Qiongzhong 50.63 301 P P 22 37 13.8 +0.8
QIZ sP sP 22 37 26.9 -3.2
QIZ S S 22 44 26.9 +1.7
QIZ pmax pmax
comp=Z,53nm,1.4s
QIZ pmax pmax
comp=Z,2µm,12.9s
QIZ LR LR
comp=Z,3µm,23.4s
QIZ LR LR
comp=Z,4µm,21.3s
QIZ LR LR
comp=Z,14µm,22.2s
QIZ Qiongzhong 50.63 301 eP P 22 37 14.0 +1.0
comp=Z,40nm,0.9s
QIZ LR LR
comp=Z,15µm,22.0s
LHSI Lahat 50.88 270 P P 22 37 17.7 +2.6
comp=Z,75nm,1.4s,comp=Z,5µm
NJ2 Nanjing 50.94 320 eP P 22 37 15.8 +0.6
NJ2 pP pP 22 37 24.7 -2.6
NJ2 sP sP 22 37 27.6 -4.6
NJ2 S S 22 44 28.0 -1.1
NJ2 sS sS 22 44 47.0 -2.2
NJ2 pmax pmax
comp=Z,3µm,9.2s
NJ2 LR LR
comp=Z,5µm,19.4s
NJ2 LR LR
comp=Z,1µm,20.4s
NJ2 LR LR
comp=Z,7µm,20.8s
ASAJ Asahikawa 51.12 349 P P 22 37 17.3 +1.0
ASAJ pmax pmax
comp=Z,36nm,0.8s
ASAJ Asahikawa 51.12 349 P P 22 37 17.3 +1.0
comp=Z,36nm,0.8s,baz=200,slow=7.5,SNR=21
ASAJ Asahikawa 51.12 349 eP P 22 37 17.3 +1.0
comp=Z,30nm,1.0s
MYKOM Kota Tinggi 51.23 277 eP P 22 37 18.7 +1.0
comp=Z,85nm,1.1s
MYKOM Kota Tinggi 51.23 277 ⇑P P 22 37 19.3 +1.6
KUR Kuril'sk 51.44 354c iP P 22 37 12.5 -6.1
KUR iS S 22 44 34.2 -1.3
KUR pmax pmax
comp=E,157nm,1.5s
KUR pmax pmax
comp=N,68nm,1.5s
KUR pmax pmax
comp=Z,3µm,4.2s
KUR pmax pmax
comp=Z,225nm,1.5s
KUR MLR MLR
comp=N,5µm,18.0s
KUR MLR MLR
comp=E,9µm,18.0s
KUR MLR MLR
comp=Z,6µm,18.0s
KGM Kluang 51.79 277 ⇑P P 22 37 24.0 +2.1
KTGM Kuala Trenggan 52.58 281 ⇑P P 22 37 28.7 +1.0
WHN Wuhan 52.99 316 ⇓P P 22 37 32.2 +1.7
WHN PcP PcP 22 38 39.6 +0.8
WHN S S 22 44 58.3 +1.0
WHN LR LR
comp=Z,9µm,17.3s
WHN LR LR
comp=Z,8µm,20.4s
WHN LR LR
comp=Z,21µm,26.1s
UBPT Khong Chiam 53.06 294 P P 22 37 32.6 +1.4
comp=Z,60nm,3.5s,comp=Z,3µm
VLA Vladivostok 53.12 339 eP P 22 37 30.8 -0.4
VLA pmax pmax
comp=Z,25nm,0.8s
FRIM Kepong 53.66 279 ⇓P P 22 37 36.1 +0.4
BKNI Bangkinang 53.80 275 P P 22 37 36.8 +0.1
comp=Z,165nm,1.1s,comp=Z,4µmcomp=Z,18µm
BKNI Bangkinang 53.80 275 eP P 22 37 37.4 +0.7
YSS Yuzh-Sakhalins 53.84 350⇑eP P 22 37 36.0 -0.3
YSS e*SP sP 22 37 51.0 -2.5
YSS e 22 38 40.0
YSS ePPP PPP 22 40 48.0
YSS eS S 22 45 08.0 -0.2
YSS ePS PnS 22 45 23.0 +0.5
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=N,6µm,18.0s
YSS MLR MLR
comp=E,4µm,18.0s
YSS MLR MLR
comp=Z,5µm,18.0s
YSS Yuzh-Sakhalins 53.84 350 eP P 22 37 38.0 +1.6
comp=Z,88nm,1.3s
YSS LR LR
comp=Z,4µm,21.0s
KIP Kipapa 53.94 58 eP P 22 37 38.8 +1.2
KIP pmax pmax
comp=Z,52nm,1.4s
KIP Kipapa 53.94 58 PFAKE 22 37 50.0 +12
KIP LR LR
comp=Z,13µm,21.0s
USRK Ussuriysk Arra 54.03 340 P P 22 37 37.8 -0.1
comp=Z,15nm,0.5s,baz=180,slow=2.9,SNR=55
USRK LR LR 22 59 05.6
comp=Z,2µm,21.2s,baz=148,slow=34
DL2 Dalian 54.17 328⇑iP P 22 37 39.2 +0.2
DL2 S S 22 45 13.6 +0.6
DL2 pmax pmax
comp=Z,130nm,0.9s
DL2 pmax pmax
comp=Z,1µm,7.7s
DL2 LR LR
comp=Z,2µm,17.6s
DL2 LR LR
comp=Z,3µm,24.7s
PDSI Padang 54.21 273 P P 22 37 38.7 -1.1
IPM Ipoh 54.47 280 eP P 22 37 41.2 -0.4
comp=Z,189nm,1.3s
IPM Ipoh 54.47 280 ⇓P P 22 37 42.3 +0.6
TIA Tai'an 54.78 323 ⇑P P 22 37 42.9 -0.6
TIA sP sP 22 37 54.8 -5.8
TIA S S 22 45 16.6 -4.8
TIA pmax pmax
comp=Z,60nm,1.0s
TIA LR LR
comp=Z,4µm,26.0s
TIA LR LR
comp=Z,3µm,28.0s
TIA LR LR
comp=Z,8µm,28.5s
KULM Kulim 54.99 281 eP P 22 37 45.0 -0.4
comp=Z,74nm,0.8s
KULM LR LR
comp=Z,5µm,21.0s
KULM Kulim 54.99 281 ⇑P P 22 37 45.9 +0.5
CHBT CHBT 55.17 290 P P 22 37 47.8 +1.2
comp=Z,94nm,1.2s,comp=Z,3µm
MDJ Mudanjiang 55.24 338 P P 22 37 47.5 +0.9
MDJ pP pP 22 37 57.1 -1.7
MDJ sP sP 22 38 00.8 -3.0
MDJ PcP PcP 22 38 48.5 +1.4
MDJ PP PP 22 39 50.3 -0.3
MDJ ScP ScP 22 42 45.0 +2.4
MDJ PcS PcS 22 42 48.3 +1.3
MDJ S S 22 45 29.1 +1.9
MDJ ScS ScS 22 47 32.9 +0.6
MDJ pmax pmax
comp=Z,40nm,0.8s
MDJ pmax pmax
comp=Z,2µm,12.2s
MDJ LR LR
comp=Z,4µm,40.6s
MDJ LR LR
comp=Z,5µm,38.8s
MDJ LR LR
comp=Z,5µm,25.9s
MDJ Mudanjiang 55.24 338 eP P 22 37 46.3 -0.4
comp=Z,65nm,1.2s
MDJ ePcP PcP 22 38 47.4 +0.3
MDJ LR LR
comp=Z,4µm,20.0s
MNSI Mandailing Nat 55.31 275 P P 22 37 47.6 -0.1
comp=Z,134nm,1.1s,comp=Z,3µm
POHA Pohakuloa 55.41 61 PFAKE 22 38 00.0 +11
POHA LR LR
comp=Z,16µm,19.0s
SNY Shenyang 55.44 332 ⇑P P 22 37 47.6 -0.5
SNY S S 22 45 27.3 -2.7
SNY LR LR
comp=Z,3µm,24.7s
SNY LR LR
comp=Z,2µm,22.9s
SNY LR LR
comp=Z,5µm,26.3s
PPT Papeete 55.67 107 LR LR 22 56 52.2
comp=Z,2µm,21.6s,baz=278,slow=31
PPT2 Papeete2 55.67 107 eS S 22 45 33.7 -0.4
comp=Z,5µm,25.5s
PPT2 eLQ LQ 22 51 43.3
comp=Z,13µm,30.0s
PPT2 eLR LR 22 54 09.0
comp=Z,12µm,26.8s,baz=287
CN2 Changchun 56.19 335 eP P 22 37 52.7 -0.7
CN2 eS S 22 45 35.9 -4.0
CN2 pmax pmax
comp=Z,70nm,1.0s
CN2 pmax pmax
comp=Z,2µm,5.0s
CN2 LR LR
comp=Z,4µm,19.0s
CN2 LR LR
comp=Z,3µm,19.0s
CN2 LR LR
comp=Z,3µm,18.0s
PSI Prapat 56.25 277 P P 22 37 53.1 -1.5
baz=56,SNR=22
ENH Enshi 56.31 313 eP P 22 37 54.3 -0.3
comp=Z,139nm,0.9s
TBI Tubuai 56.44 114 eS S 22 45 43.7 -0.2
comp=Z,5µm,29.0s
TBI eLQ LQ 22 52 08.3
comp=Z,15µm,32.8s
TBI eLR LR 22 54 29.6
comp=Z,32µm,28.8s,baz=286
SKR Severo-Kuril's 56.56 1 eP P 22 37 50.0 -5.9
SKR ePPP PPP 22 41 22.0
SKR eS S 22 45 46.0 +1.6
SKR pmax pmax
comp=Z,3µm,12.0s
SKR smax smax
comp=N,6µm,20.0s
SKR smax smax
comp=E,4µm,20.0s
SKR MLR MLR
comp=N,6µm,18.0s
SKR MLR MLR
comp=E,8µm,18.0s
SKR MLR MLR
comp=Z,9µm,18.0s
GYA Guiyang 56.56 307⇑iP P 22 37 57.3 +0.7
GYA pP pP 22 38 09.4 +0.6
GYA sP sP 22 38 13.0 -0.8
GYA PcP PcP 22 38 55.8 +3.0
GYA PP PP 22 40 06.5 +3.6
GYA ScP ScP 22 42 51.9 +2.8
GYA S S 22 45 48.4 +2.7
GYA sS sS 22 46 03.0 -3.0
GYA SS SS 22 49 35.2 +1.3
GYA pmax pmax
comp=Z,80nm,0.9s
GYA pmax pmax
comp=Z,2µm,8.1s
GYA LR LR
comp=Z,4µm,20.0s
GYA LR LR
comp=Z,10µm,22.1s
GYA LR LR
comp=Z,13µm,20.5s
PATY Pattaya 56.59 290 P P 22 38 00.1 +3.3
comp=Z,26nm,1.1s,comp=Z,852nm
SLVN Son La 56.65 300 eP P 22 37 58.1 +0.9
TSI Tuntungan 56.72 278 P P 22 38 09.6 +12
HABR Khabarovsk 56.97 345ceP P 22 37 57.9 -0.9
HABR e*PP pP 22 38 06.8 -4.3
HABR *SP sP 22 38 12.4 -3.6
HABR e 22 40 03.6
HABR S S 22 45 49.0 -0.9
HABR e*SS sS 22 46 06.3 -4.0
HABR e 22 47 43.2
HABR eSS SS 22 49 39.0 -0.2
HABR pmax pmax
comp=Z,184nm,2.3s
HABR pmax pmax
comp=N,32nm,1.1s
HABR pmax pmax
comp=E,86nm,2.3s
COCO West Island 57.23 259 eP P 22 38 01.0 -0.3
COCO pmax pmax
comp=Z,417nm,1.5s
COCO MLR MLR
comp=Z,3µm,22.0s
COCO West Island 57.23 259 eP P 22 38 01.0 -0.3
comp=Z,416nm,1.5s
COCO LR LR
comp=Z,3µm,22.0s
KCSI Kotacane, Aceh 57.50 278 P P 22 38 02.2 -1.2
comp=Z,75nm,1.3s,comp=Z,2µm
SURT Suratani 57.56 285 P P 22 38 04.9 +1.2
comp=Z,42nm,1.2s,comp=Z,838nm
PBKT Sadao Pong 57.57 294 P P 22 38 05.1 +1.4
comp=Z,131nm,2.0s,comp=Z,4µm
PKDT Phuket 57.77 283 P P 22 38 06.2 +1.0
comp=Z,288nm,1.1s,comp=Z,3µm
BJT Baijiatuau 57.92 326 eP P 22 38 05.5 -0.3
BJT pmax pmax
comp=Z,37nm,0.5s
BJT MLR MLR
comp=Z,5µm,21.0s
BJT Baijiatuau 57.92 326 eP P 22 38 05.5 -0.3
comp=Z,37nm,0.5s
BJT LR LR
comp=Z,5µm,21.0s
BJI Beijing 57.93 326 P P 22 38 05.1 -0.7
BJI PP PP 22 40 16.7 +2.1
BJI S S 22 46 04.5 +1.6
BJI SS SS 22 50 00.1 +5.4
BJI pmax pmax
comp=Z,38nm,0.7s
BJI pmax pmax
comp=Z,2µm,5.6s
BJI LR LR
comp=Z,3µm,27.6s
BJI LR LR
comp=Z,5µm,23.6s
BJI LR LR
comp=Z,6µm,35.2s
TPTI 58.04 278 P P 22 38 08.9 +1.8
comp=Z,18nm,1.0s
PHIT Phitsanulok 58.27 294 P P 22 38 10.3 +1.7
comp=Z,77nm,1.0s,comp=Z,777nm
UTTA Uttaradit 58.33 295 P P 22 38 10.0 +1.0
comp=Z,35nm,1.0s,comp=Z,305nm
KLR Kul'dur 58.58 343deP P 22 38 06.7 -3.5
KLR pmax pmax
comp=Z,170nm,1.8s
KLR pmax pmax
comp=Z,3µm,8.0s
KLR MLR MLR
comp=E,2µm,20.0s
LHMI Lhok Sumawe 58.60 280 P P 22 38 12.2 +1.2
comp=E,265nm,1.2s,comp=E,4µm
LHMI Lhok Sumawe 58.60 280 eP P 22 38 11.2 +0.2
LHMI Lhok Sumawe 58.60 280 ⇓P P 22 38 10.9 -0.1
baz=59,SNR=4.7
SRDT SRDT 58.61 291 P P 22 38 12.6 +1.6
comp=E,729nm,1.6s,comp=E,10µm
TIY Taiyuan 58.62 321 P P 22 38 11.5 +0.7
TIY S S 22 46 10.5 -1.7
TIY pmax pmax
comp=E,1µm,5.9s
TIY LR LR
comp=E,4µm,18.5s
TIY LR LR
comp=E,3µm,21.5s
TIY LR LR
comp=E,6µm,18.9s
UTHA Uthaitani 58.66 292 P P 22 38 12.5 +1.1
comp=E,33nm,0.8s,comp=E,329nm
XAN Xi'an 58.76 316 P P 22 38 11.8 0.0
XAN pP pP 22 38 21.9 -2.2
XAN sP sP 22 38 25.8 -3.2
XAN PP PP 22 40 22.2 0.0
XAN S S 22 46 08.8 -5.3
XAN pmax pmax
comp=E,14nm,0.7s
XAN pmax pmax
comp=E,610nm,9.2s
XAN LR LR
comp=E,4µm,23.1s
XAN LR LR
comp=E,2µm,21.2s
XAN LR LR
comp=E,3µm,19.2s
PET Petropavlovsk 58.99 3c iP P 22 38 13.5 +0.6
PET e 22 40 30.0
PET eS S 22 46 19.1 +2.9
PET pmax pmax
comp=Z,30nm,0.6s
PET pmax pmax
comp=Z,2µm,16.7s
PET pmax pmax
comp=Z,1µm,14.1s
PET MLR MLR
comp=Z,7µm,20.0s
PET Petropavlovsk 58.99 3 eP P 22 38 13.8 +0.9
comp=Z,133nm,1.4s
PET LR LR
comp=Z,10µm,22.0s
PEA0B Petropavlovsk- 59.03 2 eP P 22 38 14.5 +1.2
PETK Petropavlovsk- 59.03 2 P P 22 38 14.7 +1.5
PETK 22 48 00.0
PETK pmax pmax
comp=Z,13nm,0.5s
PETK pmax pmax
comp=N,5.0nm,1.0s
PETK MLR MLR
comp=Z,7µm,21.8s
PETK Petropavlovsk- 59.03 2 P P 22 38 14.7 +1.5
comp=Z,13nm,0.5s,baz=160,slow=8.2,SNR=31
PETK ScS ScS 22 47 60.0 +0.4
comp=Z,4.6nm,1.0s,baz=218,slow=17,SNR=3.6
PETK LR LR 22 59 58.3
comp=Z,7µm,21.8s,baz=187,slow=32
SUKH Sukhothai 59.08 294 P P 22 38 15.7 +1.5
comp=Z,25nm,0.7s,comp=Z,289nm
KMI Kunming 59.15 304 P P 22 38 16.2 +1.3
KMI pP pP 22 38 26.0 -1.2
KMI sP sP 22 38 30.3 -1.8
KMI PP PP 22 40 25.8 -0.3
KMI S S 22 46 21.5 +1.6
KMI SS SS 22 50 18.9 +4.0
KMI pmax pmax
comp=Z,260nm,1.0s
KMI pmax pmax
comp=Z,2µm,8.4s
KMI LR LR
comp=Z,3µm,19.1s
KMI LR LR
comp=Z,6µm,23.2s
KMI LR LR
comp=Z,11µm,25.8s
KHLT Khaolaem Dam 59.23 291 P P 22 38 17.7 +2.4
comp=Z,95nm,1.1s,comp=Z,2µm
LAMP Lampang 59.41 296 P P 22 38 18.3 +1.8
comp=Z,34nm,1.1s,comp=Z,279nm

CM31 Chiang Mai Arr 60.01 295 eP P 22 38 20.4 -0.2
comp=Z,52nm,0.8s
CMAR Chiang Mai Arr 60.01 295 P P 22 38 21.7 +1.1
CMAR pmax pmax
comp=Z,40nm,0.8s
CMAR MLR MLR
comp=Z,18nm,28.6s
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 60.01 295 P P 22 38 21.7 +1.1
comp=Z,40nm,0.8s,baz=116,slow=4.9,SNR=111
CMAR LR LR 23 02 57.3
comp=Z,4µm,21.5s,baz=116,slow=35
CMAR PKPPKP P'P'df 23 07 46.2 -0.9
comp=Z,1.4nm,0.6s,baz=286,slow=3.9,SNR=4.5
CMMT Chiang Mai 60.11 296 P P 22 38 22.2 +0.8
comp=Z,275nm,1.6s,comp=Z,4µm
CHTO Chiang Mai 60.12 296 eP P 22 38 21.8 +0.4
CHTO pmax pmax
comp=Z,30nm,1.2s
CHTO MLR MLR
comp=Z,5µm,20.0s
CHTO Chiang Mai 60.12 296 P P 22 38 22.3 +0.9
comp=Z,452nm,1.3s,comp=Z,14µm
CHTO Chiang Mai 60.12 296 eP P 22 38 21.8 +0.4
comp=Z,30nm,1.2s
CHTO LR LR
comp=Z,5µm,20.0s
CMAI Chiengmai2 60.39 297 P P 22 38 24.9 +1.4
comp=Z,66nm,2.0s
MHMT Maesarieng 60.83 295 P P 22 38 28.0 +1.7
comp=Z,77nm,0.7s,comp=Z,1µm
FX1 Attu Island--F 60.83 13 eP P 22 38 27.6 +2.0
FX1 Attu Island--F 60.83 13 eP P 22 38 27.6 +2.0
CD2 Chengdu 60.90 310⇑iP P 22 38 28.0 +1.4
CD2 PcP PcP 22 39 10.5 +0.6
CD2 PP PP 22 40 45.0 +3.8
CD2 PcS PcS 22 43 11.8 -0.9
CD2 S S 22 46 38.5 -3.3
CD2 ScS SKKSac 22 48 08.2 -6.3
CD2 SS SS 22 50 40.2 -1.6
CD2 pmax pmax
comp=Z,260nm,0.7s
CD2 pmax pmax
comp=Z,3µm,5.5s
CD2 LR LR
comp=Z,8µm,19.6s
CD2 LR LR
comp=Z,9µm,23.5s
CD2 LR LR
comp=Z,13µm,22.1s
DRV Dumont d'Urvil 61.31 187 P P 22 38 17.0 -12
DRV PP PP 22 40 40.0 -4.0
DRV S S 22 46 37.0 -8.7
DRV SS SS 22 50 53.0 +6.4
DRV L L 22 53 00.0
DRV R 22 56 00.0
CMBY CAMPBELL BAY 61.88 281 eP P 22 38 31.6 -1.9
CMBY AMB AMB 22 38 32.3
comp=Z,120nm,1.4s
ADK Adak 62.76 20 eP P 22 38 40.0 +1.4
ADK pmax pmax
comp=Z,20nm,0.8s
ADK MLR MLR
comp=Z,11µm,21.0s
ADK Adak 62.76 20 eP P 22 38 40.0 +1.4
comp=Z,20nm,0.8s
ADK LR LR
comp=Z,11µm,21.0s
HIA Hailar 62.92 335 eP P 22 38 39.8 0.0
HIA e 22 39 15.4
HIA pmax pmax
comp=Z,113nm,0.8s
HIA MLR MLR
comp=Z,5µm,19.0s
HIA Hailar 62.92 335 eP P 22 38 39.8 0.0
comp=Z,113nm,0.8s
HIA ePcP PcP 22 39 15.4 -2.2
HIA LR LR
comp=Z,5µm,19.0s
LZH Lanzhou 63.37 315 ⇑P P 22 38 44.1 +0.9
LZH pP pP 22 38 54.7 -0.9
LZH sP sP 22 38 58.7 -1.8
LZH PP PP 22 41 06.0 +2.9
LZH S S 22 47 14.0 +1.0
LZH sS sS 22 47 32.5 -1.1
LZH SS SS 22 51 19.3 -1.2
LZH pmax pmax
comp=Z,140nm,1.0s
LZH pmax pmax
comp=Z,2µm,4.3s
LZH LR LR
comp=Z,5µm,16.8s
LZH LR LR
comp=Z,6µm,17.2s
LZH LR LR
comp=Z,8µm,18.5s
PBA Port Blair 63.96 286 eP P 22 38 46.3 -1.0
DGPR DIGLIPUR 64.12 288 eP P 22 38 46.4 -1.9
DGPR AMB AMB 22 38 48.8
comp=Z,94nm,1.6s
CLNS Chul'man 67.24 343 eP P 22 39 07.1 -0.6
CLNS e*PP pP 22 39 16.4 -3.8
CLNS e 22 49 00.6
CLNS pmax pmax
comp=N,30nm,0.8s
CLNS pmax pmax
comp=Z,75nm,0.8s
CLNS pmax pmax
comp=E,13nm,0.7s
CLNS pmax pmax
comp=Z,36nm,2.1s
CLNS pmax pmax
comp=N,21nm,1.4s
CLNS pmax pmax
comp=E,20nm,1.7s
CASY Casey 67.32 198 PFAKE 22 39 20.0 +12
CASY LR LR
comp=Z,16µm,21.0s
GTA Gaotai 67.78 317 ⇑P P 22 39 12.3 +0.7
GTA pP pP 22 39 22.6 -1.5
GTA sP sP 22 39 26.2 -2.8
GTA PP PP 22 41 44.0 +2.4
GTA S S 22 48 08.1 +1.3
GTA sS sS 22 48 24.6 -3.0
GTA SS SS 22 52 29.9 +0.9
GTA pmax pmax
comp=Z,63nm,1.6s
GTA pmax pmax
comp=Z,2µm,5.6s
GTA LR LR
comp=Z,3µm,20.0s
GTA LR LR
comp=Z,3µm,19.5s
GTA LR LR
comp=Z,6µm,21.9s
ULN Ulaanbaatar 68.01 328c iP P 22 39 13.2 +0.3
ULN pmax pmax
comp=Z,40nm,1.0s
ULN Ulaanbaatar 68.01 328 eP P 22 39 13.3 +0.4
comp=Z,47nm,1.0s
ULN LR LR
comp=Z,5µm,20.0s
UNV Unalaska Valle 68.07 24 eP P 22 39 13.5 +0.6
UNV ePP PP 22 41 43.8 +0.3
SONM Songino Array 68.34 327 P P 22 39 15.2 +0.2
comp=Z,28nm,0.5s,baz=114,slow=5.8,SNR=114
SONM PKPPKP P'P'df 23 07 32.4 +1.3
comp=Z,2.6nm,1.1s,baz=262,slow=1.9,SNR=8.0
SONM LR LR 23 11 08.1
comp=Z,4µm,18.4s,baz=125,slow=38
SHL Shillong 68.46 300 eP P 22 39 16.7 +0.5
SHL iP P 22 39 17.0 +0.8
SHL AMB AMB 22 39 17.7
comp=Z,376nm,4.6s
SHL eS S 22 48 16.0 +0.5
AKUT Akutan 68.58 24 eP P 22 39 17.0 +0.9
SEY Seymchan 68.84 359 P P 22 39 18.7 +1.1
SEY pmax pmax
comp=Z,8.0nm,0.8s
SEY Seymchan 68.84 359 P P 22 39 18.7 +1.1
comp=Z,7.5nm,0.8s,baz=169,slow=6.1,SNR=18
RKT Rikitea 69.68 112 eS S 22 48 27.6 -2.1
comp=Z,2µm,27.2s
RKT eLQ LQ 22 57 44.7
comp=Z,6µm,36.5s
RKT eLR LR 23 00 44.8
comp=Z,18µm,29.5s,baz=280
FALS False Pass 70.05 24 eP P 22 39 27.1 +2.0
comp=Z,300nm,1.3s
LSA Lhasa 70.40 304 P P 22 39 28.9 +0.5
LSA pP pP 22 39 34.5 -6.5
LSA sP sP 22 39 43.4 -2.5
LSA S S 22 48 32.0 -6.8
LSA LR LR
comp=Z,2µm,32.0s
LSA LR LR
comp=Z,2µm,24.0s
LSA LR LR
comp=Z,7µm,22.6s
LSA Lhasa 70.40 304⇑eP P 22 39 29.0 +0.5
LSA eS S 22 48 38.9 +0.1
LSA pmax pmax
comp=Z,191nm,0.8s
LSA MLR MLR
comp=Z,7µm,22.0s
LSA Lhasa 70.40 304⇑eP P 22 39 29.0 +0.5
comp=Z,191nm,0.8s
LSA eS S 22 48 38.9 +0.1
LSA LR LR
comp=Z,7µm,22.0s
YAK Yakutsk 70.58 348c iP P 22 39 28.1 -0.2
YAK e*PP pP 22 39 39.8 -1.0
YAK e 22 39 54.5
YAK e 22 42 14.3
YAK ePPP PPP 22 43 50.8
YAK eS S 22 48 33.4 -5.2
YAK e 22 49 25.1
YAK pmax pmax
comp=Z,80nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=N,17nm,1.0s
YAK pmax pmax
comp=Z,529nm,4.2s
YAK pmax pmax
comp=N,407nm,4.2s
YAK pmax pmax
comp=E,94nm,3.9s
YAK smax smax
comp=N,907nm,7.3s
YAK smax smax
comp=E,220nm,3.2s
YAK MLR MLR
comp=Z,4µm,19.0s
YAK MLR MLR
comp=N,2µm,21.0s
YAK MLR MLR
comp=E,2µm,21.0s
YAK Yakutsk 70.58 348 eP P 22 39 28.9 +0.6
comp=E,88nm,0.9s
YAK LR LR
comp=Z,4µm,19.0s
VNDA Vanda 71.50 178 P P 22 39 34.5 +0.9
comp=Z,9.1nm,0.7s,baz=324,slow=7.3,SNR=17
VNDA LR LR 23 06 37.8
comp=Z,3µm,20.3s,baz=356,slow=32
VNDA Vanda 71.50 178 eP P 22 39 34.9 +1.2
comp=Z,63nm,1.3s
ZAK Zakamensk 71.50 328 eP P 22 39 33.8 -0.4
ZAK e 22 48 54.4
ZAK pmax pmax
comp=Z,48nm,1.3s
SDPT Sand Point 71.61 25 eP P 22 39 36.3 +1.7
comp=Z,166nm,1.2s
SBA Scott Base 72.01 177 eP P 22 39 38.0 +1.3
SBA pmax pmax
comp=Z,514nm,2.1s
SBA MLR MLR
comp=Z,3µm,21.0s
SBA Scott Base 72.01 177 eP P 22 39 38.0 +1.3
comp=Z,514nm,2.1s
SBA LR LR
comp=Z,3µm,21.0s
TLY Talaya 72.06 329 eP P 22 39 37.3 -0.2
TLY e 22 39 48.7
TLY eS S 22 48 52.5 -3.8
TLY e 22 49 29.8
TLY e 22 49 48.8
TLY eSS SS 22 53 29.3 -4.9
TLY pmax pmax
comp=Z,39nm,1.5s
TLY MLR MLR
comp=Z,3µm,17.0s
TLY Talaya 72.06 329 eP P 22 39 37.8 +0.2
comp=Z,42nm,1.1s
TLY LR LR
comp=Z,4µm,22.0s
IRK Irkutsk 72.08 330 eP P 22 39 36.2 -1.4
IRK eS S 22 48 57.3 +0.9
IRK pmax pmax
comp=Z,62nm,0.7s
TAPN Taplejung 72.56 301 eP P 22 39 41.9 +0.5
comp=Z,332nm,0.7s
ODAN Odare 72.70 300 eP P 22 39 42.6 +0.5
comp=Z,889nm,0.8s
CHGN Chignik 73.12 25 eP P 22 39 45.4 +1.9
BOK Bokaro 73.20 297 eP P 22 39 45.4 +0.6
BOK AMB AMB 22 39 49.1
comp=Z,252nm,1.0s
MIR Mirnyy 73.37 202⇑iP P 22 39 46.0 +1.0
MIR e 22 42 38.0
MIR eS SKiKP 22 49 12.0 -0.7
MIR i 22 49 48.0
MIR ePS PnS 22 50 04.0 +17
MIR pmax pmax
comp=Z,162nm,1.5s
MIR pmax pmax
comp=Z,9µm,7.0s
MIR MLR MLR
comp=N,8µm,20.0s
MIR MLR MLR
comp=E,8µm,20.0s
MIR MLR MLR
comp=Z,12µm,20.0s
RAMN Ramite 73.40 300 eP P 22 39 46.5 +0.2
MOY Mondy 73.42 328 eP P 22 39 45.0 -0.7
MOY pmax pmax
comp=Z,142nm,3.8s
VIS Vishakhapatnam 74.15 290 eP P 22 39 51.0 +0.5
VIS AMB AMB 22 39 52.6
comp=Z,143nm,0.0s
GAMB Gambell 74.16 15 eP P 22 39 51.9 +2.4
comp=Z,25nm,0.8s
BILL Bilibino 74.42 5 eP P 22 39 51.6 +0.6
BILL pmax pmax
comp=Z,35nm,0.8s
BILL MLR MLR
comp=Z,3µm,22.0s
BILL Bilibino 74.42 5 eP P 22 39 51.6 +0.6
comp=Z,35nm,0.8s
BILL LR LR
comp=Z,3µm,22.0s
PKIN Phulchoki 74.60 301 eP P 22 39 53.2 -0.1
comp=Z,404nm,1.1s
DMN Daman 74.86 301 eP P 22 39 55.3 +0.5
comp=Z,1µm,1.0s
PALK Pallekele 74.87 279 eP P 22 39 55.5 +0.7
PALK pmax pmax
comp=Z,809nm,1.7s
PALK Pallekele 74.87 279 eP P 22 39 55.5 +0.7
comp=Z,809nm,1.7s
SII Sitkinak Islan 75.12 27 eP P 22 39 57.4 +2.0
comp=Z,160nm,0.8s
GKN Gorkha 75.36 301 eP P 22 39 57.7 +0.2
comp=Z,779nm,0.9s
OHAK Old Harbor 75.91 26 eP P 22 40 00.7 +0.9
comp=Z,69nm,0.8s
AIS Amsterdam Isla 76.02 233 P P 22 39 45.0 -16
AIS PP PP 22 42 45.0 -6.9
AIS S S 22 49 45.0 +3.8
AIS SS SS 22 54 36.0 +1.3
AIS R 23 03 00.0
KOLN Koldanda 76.19 300 eP P 22 40 02.9 +0.6
comp=Z,677nm,0.8s
DANN Dangsing 76.20 301 eP P 22 40 02.8 +0.3
comp=Z,414nm,0.8s
KDAK Kodiak Island 76.54 26 eP P 22 40 04.6 +1.3
KDAK pmax pmax
comp=Z,48nm,0.8s
KDAK MLR MLR
comp=Z,12µm,22.0s
KDAK Kodiak Island 76.54 26 eP P 22 40 04.6 +1.3
comp=Z,48nm,0.8s
KDAK LR LR
comp=Z,12µm,22.0s
TNA Tin City 76.56 15 eP P 22 40 05.5 +2.1
comp=Z,32nm,0.8s
PYUN Piuthan 76.80 301 eP P 22 40 06.8 +1.0
comp=Z,963nm,0.9s
SVW2 Sparrevohn 77.33 22 eP P 22 40 09.7 +1.9
comp=Z,56nm,0.7s
WMQ Urumqi 77.87 317 P P 22 40 11.4 +0.1
WMQ PcP PcP 22 40 21.4 +0.4
WMQ PP PP 22 43 09.9 +2.4
WMQ S S 22 49 56.8 -4.5
WMQ ScS SKSac 22 50 20.3 -1.6
WMQ SS SS 22 55 00.9 -1.9
WMQ pmax pmax
comp=Z,40nm,1.2s
WMQ pmax pmax
comp=Z,3µm,5.2s
WMQ LR LR
comp=Z,3µm,19.6s
WMQ LR LR
comp=Z,4µm,22.2s
WMQ LR LR
comp=Z,5µm,23.2s
RSO Redoubt South 78.04 24 eP P 22 40 14.0 +2.0
HYB Hyderabad 78.56 289⇑iP P 22 40 13.0 -2.6
HYB eS S 22 50 08.0 -1.7
HYB Hyderabad 78.56 289 eP P 22 40 14.8 -0.7
HYB AMB AMB 22 40 16.1
comp=Z,164nm,0.9s
TRD Trivandrum 78.71 280⇓ex P 22 40 15.9 -0.5
TRD eP P 22 40 16.2 -0.2
TRD AMB AMB 22 40 17.6
comp=Z,138nm,1.9s
NGP Nagpur 78.78 293 eP P 22 40 14.8 -1.9
NGP AMB AMB 22 41 16.9
comp=Z,3.6nm,10.7s
SEW Seward 79.20 25 eP P 22 40 19.5 +1.4
comp=Z,69nm,0.8s
TIXI Tiksi 79.40 352c iP P 22 40 17.9 -1.1
TIXI pmax pmax
comp=Z,18nm,1.3s
TIXI Tiksi 79.40 352 eP P 22 40 19.4 +0.5
comp=Z,30nm,1.1s
TIXI LR LR
comp=Z,4µm,21.0s
LGTI Lohaghat 79.45 301 ex pP 22 40 31.9 -1.0
RC01 Rabbit Creek A 79.62 24 eP P 22 40 21.9 +1.6
comp=Z,70nm,0.6s
PPLA Purkeypile 79.70 22 eP P 22 40 22.1 +1.1
comp=Z,450nm,2.6s
KRAR Krasnoyarsk 79.76 330 eP P 22 40 21.1 -0.1
KRAR pmax pmax
comp=Z,10.0nm,1.0s
CAST Castle Rocks 80.04 21 eP P 22 40 24.1 +1.4
comp=Z,60nm,0.8s
PMR Palmer 80.14 24 eP P 22 40 23.8 +0.7
PMR pmax pmax
comp=Z,70nm,0.7s
PMR Palmer 80.14 24 eP P 22 40 23.8 +0.7
comp=Z,70nm,0.7s
BHPL Bhopal 80.66 295 eP P 22 40 26.4 -0.5
BHPL AMB AMB 22 40 29.2
comp=Z,154nm,2.1s
TRF Thorofare Moun 80.72 22 eP P 22 40 26.3 -0.3
comp=Z,82nm,0.8s
IM04 Indian Mountai 81.00 19 eP P 22 40 27.5 -0.3
DIV Divide 81.28 25 eP P 22 40 31.5 +2.1
comp=Z,57nm,0.7s
MCK McKinley 81.38 22 eP P 22 40 31.2 +1.3
MCK pmax pmax
comp=Z,152nm,0.8s
MCK McKinley 81.38 22 eP P 22 40 31.1 +1.3
comp=Z,152nm,0.8s
RAGM Ragged Mountai 81.39 26 eP P 22 40 32.4 +2.4
comp=Z,86nm,1.2s
MNGI Mangalore 81.41 284 eP P 22 40 29.5 -1.4
MNGI ex x 22 50 34.0
DGAR Diego Garcia 81.43 263 PFAKE 22 40 40.0 +8.9
DGAR LR LR
comp=Z,3µm,19.0s
DDI Dehra Dun 81.50 302 eP P 22 40 29.9 -1.4
DDI AMB AMB 22 40 42.8
comp=Z,158nm,2.8s
BMRM Bremner River 81.70 25 eP P 22 40 33.6 +2.0
comp=Z,52nm,1.1s
PAF Port-aux-Franc 81.73 221 PFAKE 22 40 40.0 +8.0
PAF LR LR
comp=Z,6µm,20.0s
NDI New Delhi 81.88 300 eP P 22 40 31.5 -1.7
NDI ex x 22 50 42.0
PAX Paxson 82.32 24 eP P 22 40 35.4 +0.5
PAX pmax pmax
comp=Z,25nm,1.0s
PAX Paxson 82.32 24 eP P 22 40 35.4 +0.5
comp=Z,25nm,1.0s
COLA College 82.40 21c iP P 22 40 34.5 -0.6
COLA pmax pmax
comp=Z,110nm,0.9s
COLA College 82.40 21 eP P 22 40 35.2 +0.2
comp=Z,23nm,0.8s
COLA LR LR
comp=Z,11µm,20.0s
MK31 Makanchi Array 82.44 319 eP P 22 40 34.9 -0.9
MK31 Makanchi Array 82.44 319 eP P 22 40 34.9 -0.9
MKAR Makanchi Array 82.44 319 P P 22 40 35.2 -0.6
MKAR pmax pmax
comp=Z,18nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR MLR MLR
comp=Z,4µm,20.6s
MKAR Makanchi Array 82.44 319 P P 22 40 35.2 -0.6
comp=Z,18nm,0.8s,baz=98,slow=6.5,SNR=103
MKAR PKKPbc PKKPbc 22 59 02.5 -1.7
comp=Z,0.7nm,0.9s,baz=325,slow=1.9,SNR=4.6
MKAR LR LR 23 17 10.6
comp=Z,4µm,20.6s,baz=102,slow=36
SDNR Sundarnagar 82.66 303 eP P 22 40 37.0 -0.3
KAD Karad 82.66 288 eP P 22 40 36.7 -0.9
ILAR Eielson Array 82.69 22 P P 22 40 35.5 -1.2
comp=Z,18nm,0.6s,baz=244,slow=5.6,SNR=77
ILAR PKKPbc PKKPbc 22 59 00.1 -4.2
comp=Z,0.6nm,0.6s,baz=342,slow=1.4,SNR=14
ILAR PKPPKP P'P'df 23 07 06.1 +1.1
comp=Z,0.5nm,0.9s,baz=357,slow=0.7,SNR=4.7
ILAR LR LR 23 15 54.9
comp=Z,15µm,19.4s,baz=244,slow=34
GOA Goa 82.74 286 eP P 22 40 37.6 -0.3
GOA AMB AMB 22 40 39.2
comp=Z,109nm,1.0s
POO Poona 83.16 289 eP P 22 40 39.5 -0.7
POO AMB AMB 22 40 40.3
comp=Z,197nm,2.0s
ZAA0 Zalesovo Array 83.19 326 eP P 22 40 37.2 -2.2
ZALV Zalesovo Beam 83.19 326 P P 22 40 37.8 -1.6
comp=Z,6.2nm,0.4s,baz=115,slow=5.0,SNR=47
ZALV PKPPKP P'P'df 23 07 04.5 -0.3
comp=Z,1.3nm,0.9s,baz=263,slow=3.9,SNR=5.0
ZALV LR LR 23 17 37.1
comp=Z,3µm,21.6s,baz=107,slow=36
DOT Dot Lake 83.20 23 eP P 22 40 40.3 +0.9
comp=Z,57nm,0.8s
DHRM DHARAMSHALA 83.36 303 eP P 22 40 40.0 -1.1
DHRM AMB AMB 22 40 40.8
comp=Z,126nm,2.2s
DLH Dalhousie 83.70 304 eP P 22 40 42.0 -0.9
AJM Ajmer 83.72 297 eP P 22 40 41.0 -1.9
QSPA South Pole Qui 83.88 180 eP P 22 40 43.1 +0.1
comp=Z,186nm,1.1s
QSPA LR LR
comp=Z,4µm,20.0s
NVS Novosibirsk 84.36 327 eP P 22 40 44.5 -0.9
NVS eS S 22 51 01.8 -6.3
NVS e 22 52 25.1
NVS pmax pmax
comp=Z,64nm,1.5s
NVS pmax pmax
comp=N,19nm,1.6s
NVS pmax pmax
comp=E,45nm,1.5s
NVS smax smax
comp=E,14nm,1.8s

HYT Haines Junctio 84.77 27 eP P 22 40 48.6 +1.1
EGAK Eagle 84.85 23 eP P 22 40 48.6 +0.9
comp=E,55nm,0.9s
EGAK LR LR
comp=Z,24µm,22.0s
MAW Mawson 85.06 203 P P 22 40 48.6 -0.1
MAW pmax pmax
comp=Z,30nm,0.6s
MAW MLR MLR
comp=Z,18nm,28.6s
MAW Mawson 85.06 203 P P 22 40 48.6 -0.1
comp=Z,30nm,0.6s,baz=105,slow=8.7,SNR=12
MAW LR LR 23 14 43.3
comp=Z,5µm,21.8s,baz=91,slow=33
MAW Mawson 85.06 203 P P 22 40 49.5 +0.8
baz=85,SNR=8.3
KSH Kashi 85.10 310 eP P 22 40 51.7 +2.0
KSH pP pP 22 41 03.3 +0.8
KSH ePP PP 22 44 12.0 +4.6
KSH SKS SKSac 22 51 07.7 -3.6
KSH S S 22 51 14.9 -1.5
KSH SS SS 22 56 52.8 +2.0
KSH pmax pmax
comp=Z,18nm,0.8s
KSH pmax pmax
comp=Z,2µm,4.7s
KSH LR LR
comp=Z,3µm,25.0s
KSH LR LR
comp=Z,3µm,18.6s
KSH LR LR
comp=Z,5µm,21.0s
DAWY Dawson 85.25 24 eP P 22 40 50.4 +0.6
SKAG Skagway 85.29 29 eP P 22 40 50.8 +0.8
comp=Z,41nm,1.2s
ULHL Ulahol 85.47 313 i P P 22 40 52.8 +1.2
ULHL Ulahol 85.47 313 P P 22 40 52.9 +1.2
SNR=12
WRAK Wrangell Islan 85.81 32 PFAKE 22 41 10.0 +17
WRAK LR LR
comp=Z,8µm,20.0s
KURK Kurchatov 85.85 322 PKPbc PKPbc 22 58 54.7 -1.5
KURK LR LR
comp=Z,2µm,22.0s
KURBB Kurchatov Arra 85.89 322 PKPbc PKPbc 22 58 54.7 -1.4
comp=Z,0.6nm,0.6s,baz=289,slow=2.9,SNR=8.1
TKM2 Tokmak 2 86.08 314 eP P 22 40 54.7 +0.1
TKM2 pmax pmax
comp=Z,100nm,1.6s
TKM2 MLR MLR
comp=Z,3µm,20.0s
TKM2 Tokmak 2 86.08 314 P P 22 40 57.0 +2.5
SNR=27
TKM2 Tokmak 2 86.08 314 eP P 22 40 54.7 +0.1
comp=Z,100nm,1.6s
TKM2 LR LR
comp=Z,3µm,20.0s
KZA Kyzart 86.16 313 P P 22 40 58.4 +3.2
SNR=40
KBK Karagaybulak 86.49 313 P P 22 41 00.4 +3.8
SNR=8.1
CHMS Chumysh 86.70 314 i P P 22 40 57.2 -0.2
CHMS Chumysh 86.70 314 P P 22 40 57.3 -0.2
SNR=8.3
UCH Uchtor 86.72 313 P P 22 41 01.1 +3.1
SNR=27
FRU Bishkek 86.77 313 eP P 22 40 58.0 +0.3
FRU i 22 41 16.0
FRU e 22 51 32.0
FRU pmax pmax
comp=Z,920nm,3.8s
AAK Ala-Archa 86.82 313 eP P 22 40 57.6 -0.6
AAK pmax pmax
comp=Z,46nm,1.1s
AAK MLR MLR
comp=Z,5µm,22.0s
AAK Ala-Archa 86.82 313 P P 22 40 56.5 -1.6
SNR=18
AAK Ala-Archa 86.82 313 eP P 22 40 57.6 -0.6
comp=Z,46nm,1.1s
AAK LR LR
comp=Z,5µm,22.0s
USP Ospenovka 86.94 314 i P P 22 40 58.4 -0.1
USP Ospenovka 86.94 314 P P 22 40 58.5 -0.1
SNR=13
AML Almayashu 87.30 313 i P P 22 41 01.3 +0.5
AML Almayashu 87.30 313 P P 22 41 01.3 +0.5
SNR=45
EKS2 Erkin-Say 87.34 313 i P P 22 41 00.8 +0.2
EKS2 Erkin-Say 87.34 313 P P 22 41 00.9 +0.2
SNR=12
EKS2 Erkin-Say 87.34 313 eP P 22 41 00.8 +0.2
comp=Z,35nm,1.0s
EKS2 LR LR
comp=Z,5µm,22.0s
DLBC Dease Lake 87.59 31 P P 22 41 02.2 +0.9
comp=Z,14nm,0.9s,baz=247,slow=6.6,SNR=15
DLBC Dease Lake 87.59 31 eP P 22 41 02.1 +0.7
DLBC ePP PP 22 44 27.2 +0.3
BHJ Bhuj 87.71 294 eP P 22 41 02.5 -0.2
BHJ AMB AMB 22 41 03.5
comp=Z,179nm,1.9s
L02D Cave Junction, 88.02 47 ⇓P P 22 41 07.6 +3.8
baz=88
M02C Callahan 88.44 48 ⇓P P 22 41 09.7 +3.9
baz=89
N02D Trinity Center 88.49 49 ⇑P P 22 41 09.2 +3.1
baz=89
WDC Whiskeytown Da 88.55 49 eP P 22 41 07.0 +0.7
WDC pmax pmax
comp=Z,7.0nm,0.7s
WDC Whiskeytown Da 88.55 49 eP P 22 41 07.0 +0.7
comp=Z,7.0nm,0.7s
YBH Yreka Blue Hor 88.61 48 eP P 22 41 07.2 +0.5
YBH pmax pmax
comp=Z,23nm,1.3s
YBH Yreka Blue Hor 88.61 48 eP P 22 41 07.2 +0.5
comp=Z,22nm,1.3s
NLWA Neilton Lookou 88.75 42 PFAKE 22 41 20.0 +13
NLWA LR LR
comp=Z,22µm,21.0s
G03D McMinnville, O 88.79 44 ⇓P P 22 41 09.5 +2.3
baz=89
SAO San Andreas Ge 88.81 53 eP P 22 41 08.4 +0.8
SAO pmax pmax
comp=Z,24nm,1.1s
SAO San Andreas Ge 88.81 53 eP P 22 41 08.4 +0.8
comp=Z,24nm,1.1s
INK Inuvik 89.03 21 P P 22 41 08.1 +0.2
INK pmax pmax
comp=Z,12nm,0.5s
INK pmax pmax
comp=Z,3.0nm,0.7s
INK MLR MLR
comp=Z,752nm,18.1s
INK Inuvik 89.03 21 P P 22 41 08.1 +0.2
comp=Z,12nm,0.5s,baz=216,slow=7.7,SNR=32
INK PKKPbc PKKPdf 22 58 46.1 +2.0
comp=Z,3.2nm,0.7s,baz=27,slow=4.6,SNR=18
INK LR LR 23 23 47.8
comp=Z,752nm,18.1s,baz=242,slow=37
INK Inuvik 89.03 21 eP P 22 41 09.2 +1.3
INK PKKPbc PKKPdf 22 58 46.1 +2.0
I04A Tendick Farm, 89.16 46 ⇓P P 22 41 11.2 +2.0
baz=89
M04C Macdoel 89.26 48 ⇑P P 22 41 11.5 +1.7
baz=89
J04D Umpqua Nationa 89.29 47 ⇑P P 22 41 11.8 +1.8
baz=89
PTRM Twissleman Ran 89.64 54 eP P 22 41 15.2 +3.6
KBL Kabul 89.73 305 eP P 22 41 11.2 -1.1
KBL pmax pmax
comp=Z,26nm,0.9s
KBL Kabul 89.73 305 eP P 22 41 11.2 -1.1
comp=Z,26nm,0.9s
KBL Kabul 89.73 305 ⇑P P 22 41 10.7 -1.5
baz=90,SNR=3.7
KKAR Karatay Array 89.78 313 eP P 22 41 12.4 +0.4
KKAR Karatay Array 89.78 313 eP P 22 41 12.4 +0.4
CMB Columbia Colle 89.83 52 eP P 22 41 14.1 +1.7
CMB pmax pmax
comp=Z,75nm,1.9s
CMB Columbia Colle 89.83 52 eP P 22 41 14.1 +1.7
comp=Z,75nm,1.9s
BSC Santa Cruz Isl 89.90 56 ⇑P P 22 41 16.4 +3.6
baz=90

J05D Fort Rock, OR 89.92 47 ⇑P P 22 41 14.7 +1.9
baz=90
I05D Terrebonne, OR 90.00 46 ⇑P P 22 41 15.4 +2.3
baz=90
LON Longmire 90.04 43 eP P 22 41 13.3 +0.1
LON Longmire 90.04 43 eP P 22 41 13.2 +0.1
G05D Wamic, OR 90.15 45 ⇑P P 22 41 15.2 +1.5
baz=90
MOD Modoc 90.41 48 eP P 22 41 16.6 +1.4
comp=Z,5.4nm,1.3s
VES Vestal, Richgr 90.58 54 ⇑P P 22 41 18.7 +2.8
baz=91
WAKR Walker 90.63 52 eP P 22 41 18.4 +2.1
SCI San Clemente I 90.68 57 ⇓P P 22 41 20.2 +3.8
baz=91
ARVC Arvin 90.70 55 ⇓P P 22 41 19.5 +3.0
baz=91
OSI Osito Adit 90.72 55 eP P 22 41 17.8 +1.1
comp=Z,16nm,0.6s
OSI Osito Adit 90.72 55 ⇓P P 22 41 20.0 +3.3
baz=91
CIS Catalina Islan 90.85 57 ⇑P P 22 41 20.1 +2.9
baz=91,SNR=26
LTY Liberty 90.88 43 eP P 22 41 18.7 +1.5
comp=Z,17nm,1.3s
VOSK Vostochnaya 90.91 323 eP P 22 41 14.9 -2.2
VOSK pmax pmax
comp=Z,29nm,1.2s
VOSK Vostochnaya 90.91 323 eP P 22 41 14.8 -2.2
comp=Z,29nm,1.2s
ISA Isabella 91.05 54 eP P 22 41 19.8 +1.6
ISA pmax pmax
comp=Z,38nm,1.4s
ISA Isabella 91.05 54 eP P 22 41 19.8 +1.6
comp=Z,38nm,1.4s
ISA Isabella 91.05 54 ⇑P P 22 41 20.0 +1.8
baz=91,SNR=8.8
PASC Pasadena Art C 91.11 56 eP P 22 41 20.5 +2.0
comp=Z,91nm,1.2s
MTUM Tungsten Hills 91.17 53 eP P 22 41 20.7 +1.9
MWC Mount Wilson 91.22 56 eP P 22 41 20.9 +1.7
MWC pmax pmax
comp=Z,210nm,1.5s
MWC Mount Wilson 91.22 56 eP P 22 41 20.9 +1.7
comp=Z,210nm,1.5s
BVAR Borovoye Array 91.31 323 P P 22 41 17.2 -1.7
comp=Z,9.1nm,0.5s,baz=108,slow=6.8,SNR=38
BVAR PKKPbc PKKPbc 22 58 41.4 -1.5
comp=Z,0.7nm,0.6s,baz=269,slow=2.9,SNR=5.4
EDW2 Edwards Air Fo 91.35 55 ⇑P P 22 41 21.9 +2.2
baz=92,SNR=26
BRVK Borovoye 91.38 323c iP P 22 41 16.9 -2.3
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 91.38 323 eP P 22 41 18.6 -0.6
comp=Z,56nm,1.4s
BRVK LR LR
comp=Z,5µm,22.0s
TIN Tinemaha 91.41 53 ⇓P P 22 41 23.0 +3.2
baz=92,SNR=8.0
NVAR Mina Array Bea 91.50 52 P P 22 41 21.9 +1.5
comp=Z,33nm,0.8s,baz=255,slow=5.8,SNR=49
NVAR PKKPbc PKKPbc 22 58 43.1 +1.1
comp=Z,2.4nm,0.9s,baz=136,slow=3.5,SNR=7.4
NVAR PKPPKP P'P'df 23 06 49.9 -1.2
comp=Z,0.6nm,0.8s,baz=110,slow=2.2,SNR=3.8
NVAR LR LR 23 18 16.4
comp=Z,8µm,19.0s,baz=78,slow=33
HAWA Hanford 91.54 44 eP P 22 41 21.5 +1.3
comp=Z,18nm,1.0s
HAWA LR LR
comp=Z,21µm,22.0s
BFSC Mount Baldy Ra 91.56 56 ⇑P P 22 41 22.8 +2.1
baz=92,SNR=17
NV11 Mina Array Sit 91.62 52 eP P 22 41 21.1 +0.2
LRMC Laurel Mountai 91.66 55 ⇑P P 22 41 23.2 +2.1
baz=92,SNR=21
WVOR Wild Horse Val 91.71 48 PFAKE 22 41 30.0 +8.8
WVOR LR LR
comp=Z,19µm,22.0s
DAC Darwin (Calif) 91.83 54 eP P 22 41 22.8 +0.9
DAC pmax pmax
comp=Z,28nm,0.9s
DAC Darwin (Calif) 91.83 54 eP P 22 41 22.8 +0.9
comp=Z,28nm,0.9s
MURC Murrieta 91.87 57 ⇑P P 22 41 24.0 +2.0
baz=92,SNR=6.0
109C Camp Elliot, M 91.87 57 ⇑P P 22 41 25.1 +3.1
baz=92
GRAC Grapevine Rang 92.08 53 ⇑P P 22 41 25.4 +2.4
baz=92
BAR Barrett 92.21 58 eP P 22 41 25.5 +1.9
comp=Z,201nm,1.3s
GSC Goldstone 92.36 55 eP P 22 41 26.5 +2.2
GSC pmax pmax
comp=Z,17nm,1.8s
GSC Goldstone 92.36 55 eP P 22 41 26.5 +2.2
comp=Z,17nm,1.8s
GSC Goldstone 92.36 55 ⇑P P 22 41 26.0 +1.7
baz=92,SNR=8.6
FURC Furnace Creek, 92.44 54 ⇑P P 22 41 26.8 +2.4
baz=93,SNR=15
MONP Monument Peak 92.44 57 ⇑P P 22 41 27.0 +2.1
baz=93,SNR=35
PFO Pinyon Flat Ob 92.48 57 eP P 22 41 26.2 +1.3
PFO MLR MLR
comp=Z,13µm,19.0s
PFO Pinyon Flat Ob 92.48 57 P P 22 41 26.4 +1.4
comp=Z,30nm,0.9s,baz=267,slow=3.6,SNR=35
PFO Pinyon Flat Ob 92.48 57 eP P 22 41 26.2 +1.3
PFO LR LR
comp=Z,13µm,19.0s
PFO Pinyon Flat Ob 92.48 57 ⇑P P 22 41 26.3 +1.3
baz=93,SNR=27
BMN Battle Mountai 92.55 50 eP P 22 41 25.8 +0.7
BMN pmax pmax
comp=Z,13nm,0.7s
BMN Battle Mountai 92.55 50 eP P 22 41 25.8 +0.7
comp=Z,13nm,0.7s
HEC Hector,Ludlow 92.71 55 ⇓P P 22 41 27.1 +1.2
baz=93,SNR=19
SHOC Shoshone 92.85 54 ⇑P P 22 41 28.0 +1.6
baz=93,SNR=5.2
BELC Belle Mtn. Jos 92.90 56 ⇓P P 22 41 28.7 +1.8
baz=93,SNR=54
BMO Blue Mountains 92.92 45 eP P 22 41 28.2 +1.5
BMO pmax pmax
comp=Z,14nm,1.1s
BMO MLR MLR
comp=Z,17µm,20.0s
BMO Blue Mountains 92.92 45 eP P 22 41 28.1 +1.5
comp=Z,14nm,1.1s
BMO LR LR
comp=Z,17µm,20.0s
SWSC Sam W. Stewart 92.97 57 ⇑P P 22 41 29.3 +2.3
baz=93,SNR=12
SYO Syowa Base 93.04 199⇓eP P 22 41 25.0 -1.6
TUQ Turquoise Moun 93.09 55 ⇑P P 22 41 28.9 +1.1
baz=93,SNR=15
GMRC Granite Mounta 93.25 56 ⇓P P 22 41 29.6 +1.1
baz=93,SNR=28
BC3 Big Chuckawall 93.32 57 ⇓P P 22 41 30.7 +1.9
baz=94,SNR=32
NEW Newport 93.38 42 P P 22 41 28.6 0.0
NEW pmax pmax
comp=Z,12nm,0.9s
NEW Newport 93.38 42 P P 22 41 28.6 0.0
comp=Z,12nm,0.9s,baz=251,slow=3.3,SNR=13
NEW Newport 93.38 42 eP P 22 41 29.0 +0.3
comp=Z,16nm,1.0s
NEW LR LR
comp=Z,30µm,20.0s
NEW Newport 93.38 42 ⇑P P 22 41 29.9 +1.3
baz=94
IRM Iron Mountain 93.62 56 ⇑P P 22 41 32.5 +2.5
baz=94,SNR=35
R11A Troy Canyon, C 93.62 52 ⇑P P 22 41 33.4 +3.3
baz=94
GLA Glamis 93.79 57 eP P 22 41 33.5 +2.6
GLA Glamis 93.79 57 eP P 22 41 33.5 +2.6
GLA Glamis 93.79 57 ⇑P P 22 41 34.3 +3.4
baz=94,SNR=7.4
SHPR Sheep Range 93.80 54 eP P 22 41 32.3 +1.3
ELK Elko 94.08 50 P P 22 41 34.2 +1.9
ELK pmax pmax
comp=Z,10.0nm,1.1s
ELK Elko 94.08 50 P P 22 41 34.2 +1.9

comp=Z,10nm,1.1s,baz=110,slow=0.6,SNR=5.3
Y12C Blythe 94.10 57 ⇓P P 22 41 34.1 +1.8
baz=94,SNR=6.9
NEE2 Needles Airpor 94.10 56 ⇓P P 22 41 33.9 +1.7
baz=94
CRZF Crozet Islands 94.31 223 P P 22 41 21.0 -12
CRZF PP PP 22 45 08.0 -12
CRZF S S 22 53 31.0 +49
CRZF SS SS 22 58 20.0 -43
CRZF L L 23 06 00.0
CRZF R 23 13 00.0
PDMCI Parker Dam,Lak 94.46 56 ⇑P P 22 41 36.3 +2.5
baz=95,SNR=22
W13A Hualapai Mount 94.73 55 ⇓P P 22 41 37.3 +1.9
baz=95
HLID Hailey 94.89 47 PFAKE 22 41 50.0 +14
HLID LR LR
comp=Z,28µm,20.0s
HLID Hailey 94.89 47 ⇓P P 22 41 37.1 +1.2
baz=95
BSMT Bassoo Peak 94.91 43 eP P 22 41 36.5 +0.7
ARUT Antelope Range 95.27 53 eP P 22 41 37.7 0.0
ARUT Antelope Range 95.27 53 eP P 22 41 37.7 0.0
CCUT Cedar City 95.31 53 eP P 22 41 40.4 +2.4
comp=Z,94nm,2.3s
Y14A Wickenburg 95.38 57 ⇑P P 22 41 40.3 +2.2
baz=96
Z14A Wintersburg 95.39 57 ⇓P P 22 41 40.4 +2.3
baz=96
214A Organ Pipe Nat 95.41 59 eP P 22 41 39.6 +1.3
comp=Z,32nm,1.4s
214A Organ Pipe Nat 95.41 59 ⇑P P 22 41 42.1 +3.8
baz=96,SNR=7.8
MSO Missoula 95.42 44 ⇑P P 22 41 41.0 +2.9
baz=96
YKA Yellowknife Ar 95.74 28 P P 22 41 40.5 +1.5
comp=Z,7.3nm,0.8s,baz=266,slow=4.6,SNR=42
YKA PKiKP PKiKP 22 46 18.3 0.0
comp=Z,0.4nm,0.5s,baz=279,slow=1.8,SNR=2.3
YKA PKKPbc PKKPbc 22 58 27.1 -4.4
comp=Z,2.1nm,0.6s,baz=85,slow=2.4,SNR=5.6
YKA PKPPKP P'P'df 23 06 42.5 +1.4
comp=Z,0.2nm,0.7s,baz=67,slow=3.4,SNR=3.8
DUG Dugway 95.89 50 PFAKE 22 41 50.0 +10
DUG LR LR
comp=Z,7µm,21.0s
DUG Dugway 95.89 50 ⇓P P 22 41 43.0 +2.5
baz=96
RER Riviere de l'E 95.99 248 PFAKE 22 41 50.0 +8.7
RER LR LR
comp=Z,3µm,20.0s
EDM Edmonton 96.08 37 eP P 22 41 41.7 +0.8
EDM Edmonton 96.08 37 eP P 22 41 41.6 +0.8
MCMT McKenzie Canyo 96.09 46 eP P 22 41 42.5 +1.1
comp=Z,1.8nm,0.7s
U15A North Rim 96.11 54 ⇓P P 22 41 43.7 +1.9
baz=96
SPUT South Promonto 96.22 49 eP P 22 41 42.9 +1.0
comp=Z,3.6nm,0.7s
DLMT Dillon 96.29 45 eP P 22 41 43.3 +1.1
comp=Z,11nm,1.1s
NLU North Lily Min 96.45 51 eP P 22 41 45.5 +2.4
comp=Z,16nm,1.3s
X16A Lo Mia Camp, P 96.70 56 ⇑P P 22 41 46.3 +2.0
baz=97
WUAZ Wupatki 96.80 55 eP P 22 41 47.4 +2.7
comp=Z,13nm,0.8s
WUAZ LR LR
comp=Z,10µm,19.0s
WUAZ Wupatki 96.80 55 ⇓P P 22 41 48.3 +3.6
baz=97
HWUT Hardware Ranch 96.90 49 PFAKE 22 42 00.0 +15
HWUT LR LR
comp=Z,9µm,20.0s
JLU Jordanelle 96.95 50 eP P 22 41 46.6 +1.2
comp=Z,24nm,1.5s
BOZ Bozeman (W) 96.98 45 PFAKE 22 42 00.0 +15
BOZ LR LR
comp=Z,9µm,19.0s
DAU Daniels Canyon 97.09 50 eP Pdif 22 41 47.2 +1.0
DAU Daniels Canyon 97.09 50 eP Pdif 22 41 47.1 +0.9
QLMT Earthquake Lak 97.09 46 eP Pdif 22 41 48.0 +1.9
TUC Tucson 97.15 58 eP Pdif 22 41 49.4 +3.0
TUC pmax pmax
comp=Z,11nm,1.5s
TUC MLR MLR
comp=Z,14µm,20.0s
TUC Tucson 97.15 58 eP Pdif 22 41 49.4 +3.0
comp=Z,11nm,1.5s
TUC LR LR
comp=Z,14µm,20.0s
SVE Sverdlovsk 97.20 326 eP P 22 41 45.3 -0.5
SVE pmax pmax
comp=Z,37nm,1.7s
SVE MLR MLR
comp=Z,4µm,21.0s
SVE MLR MLR
comp=E,3µm,21.0s
AHID Auburn Hatcher 97.28 48 PFAKE 22 42 00.0 +13
AHID LR LR
comp=Z,15µm,22.0s
FXWY Fox Creek 97.36 47 eP Pdif 22 41 48.5 +1.2
comp=Z,4.8nm,0.8s
YMR Madison River 97.42 46 eP Pdif 22 41 48.7 +1.2
comp=Z,3.9nm,0.6s
REDW Red Top Meadow 97.48 47 eP Pdif 22 41 48.7 +0.9
MOOW Moose Ponds 97.56 47 eP Pdif 22 41 49.9 +1.8
comp=Z,66nm,2.8s
SRU San Rafael 97.61 51 eP Pdif 22 41 50.7 +2.3
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU San Rafael 97.61 51 eP Pdif 22 41 50.7 +2.3
comp=Z,7.1nm,0.9s
I17A Pilgrim Ck. 97.69 47 ⇓P Pdif 22 41 51.4 +2.7
baz=98
H17A Grant Village 97.70 46 eP Pdif 22 41 51.9 +3.1
H17A Grant Village 97.70 46 ⇑P Pdif 22 41 51.5 +2.7
baz=98
X18A Snowflake 97.93 56 ⇓P Pdif 22 41 52.3 +2.4
baz=98
W18A Petrified Fore 98.13 55 ⇓P Pdif 22 41 53.8 +3.0
baz=98
EGMT Eagleton 98.29 42 PFAKE 22 42 00.0 +8.9
EGMT LR LR
comp=Z,25µm,22.0s
EGMT Eagleton 98.29 42 ⇑Pdiff Pdif 22 41 52.4 +1.3
baz=98
ARU Arti 98.35 326c iP P 22 41 49.3 -1.7
ARU 22 45 49.3
ARU PPP PPP 22 48 00.2
ARU S SKSac 22 52 24.4 -1.0
ARU SP SP 22 54 38.7 -1.2
ARU PS PS 22 54 49.2 +3.4
ARU SS SS 22 59 51.7 -8.6
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARU MLR MLR
comp=Z,4µm,19.0s
ARU Arti 98.35 326 eP P 22 41 49.7 -1.3
comp=Z,17nm,1.0s
ARU LR LR
comp=Z,4µm,20.0s
319A Douglas 98.39 59 ⇑Pdiff Pdif 22 41 53.2 +1.3
baz=98
BW06 Boulder Array 98.42 48 PFAKE 22 42 00.0 +8.0
BW06 LR LR
comp=Z,14µm,22.0s
PDAR Pinedale Array 98.42 48 P P 22 41 52.0 +0.1
comp=Z,4.8nm,0.7s,baz=221,slow=1.7,SNR=17
PDAR PKKPbc PKKPbc 22 58 21.2 -2.6
comp=Z,1.0nm,0.6s,baz=104,slow=5.8,SNR=6.7
PDAR LR LR 23 19 32.0
comp=Z,10µm,22.0s,baz=276,slow=31
MSEY Mahe Island 98.50 264 PFAKE 22 42 00.0 +7.3
MSEY LR LR
comp=Z,2µm,20.0s
RLMT Red Lodge 98.63 45 PFAKE 22 42 00.0 +7.1
RLMT LR LR
comp=Z,8µm,19.0s
C19A Slack Wire Ran 98.77 43 ⇑Pdiff Pdif 22 41 54.0 +0.8
baz=99
J19A Crowheart 98.79 47 ⇓Pdiff Pdif 22 41 54.6 +1.0
baz=99
AKTO Aktyubinsk 98.83 320 P P 22 41 53.2 -0.1
AKTO pmax pmax
comp=Z,3.0nm,0.7s

AKTO Aktyubinsk 98.83 320 P P 22 41 53.2 -0.1
comp=Z,2.7nm,0.7s,baz=107,slow=5.8,SNR=11
I19A Meeteetse 98.83 46 ⇓Pdiff Pdif 22 41 55.1 +1.4
baz=99
B19A Brinkman Farms 98.83 42 ⇑Pdiff Pdif 22 41 54.4 +0.9
baz=99
H19A Powell 98.83 46 ⇑Pdiff Pdif 22 41 55.4 +1.7
baz=99
F19A Roth Farm, Mol 98.86 45 ⇓Pdiff Pdif 22 41 54.9 +1.2
baz=99
D19A Cripps Ranch, 98.89 43 ⇑Pdiff Pdif 22 41 55.5 +1.7
baz=99
A19A Klindworth Far 98.96 42 ⇓Pdiff Pdif 22 41 55.7 +1.7
baz=99
E19A Rath Farm, Rou 98.96 44 ⇓Pdiff Pdif 22 41 55.7 +1.6
baz=99
MVCO Mesa Verde 99.17 53 PFAKE 22 42 10.0 +15
MVCO LR LR
comp=Z,11μm,20.0s
MVCO Mesa Verde 99.17 53 ⇓Pdiff Pdif 22 41 57.8 +2.3
baz=99
N20A Spence Gulch, 99.38 50 ⇓Pdiff Pdif 22 41 57.9 +1.7
baz=100
O20A White River Ci 99.39 50 ePdif Pdif 22 41 59.6 +3.3
comp=Z,62nm,2.0s
D20A Manuel Ranch, 99.40 43 ⇑Pdiff Pdif 22 41 57.4 +1.4
baz=100
E20A Meyer Farm, Mu 99.42 44 ⇓Pdiff Pdif 22 41 57.6 +1.5
baz=100
A20A Cobblestone Ra 99.50 42 ⇓Pdiff Pdif 22 41 57.9 +1.5
baz=100
121A Cookes Peak, D 99.69 58 ePdif Pdif 22 41 58.7 +0.9
comp=Z,4.7nm,0.9s
B21A Ellsworth Farm 100.11 42 ⇓Pdiff Pdif 22 42 00.9 +1.8
baz=100
SMCO Snowmass 100.38 51 ePdif Pdif 22 42 02.9 +1.9
U22A Llaves 100.49 54 ⇓Pdiff Pdif 22 42 03.5 +2.2
baz=101
S22A 4UR Ranch, Cre 100.50 53 ⇑Pdiff Pdif 22 42 03.3 +1.9
baz=101
P22A Eagle 100.54 51 ⇓Pdiff Pdif 22 42 03.8 +2.4
baz=101
BNM Barren Site 100.67 57 ePdif Pdif 22 42 03.0 +0.8
comp=Z,3.7nm,1.0s
O22A Kremmling 100.69 50 ⇑Pdiff Pdif 22 42 03.9 +1.7
baz=101
LAO LASA Array 100.72 44 ePdif Pdif 22 42 01.6 -0.3
comp=Z,9.9nm,0.8s
LAO LR LR
comp=Z,15μm,22.0s
D22A Cohagen 100.73 43 ⇓Pdiff Pdif 22 42 03.5 +1.6
baz=101
ANMO Albuquerque 100.82 56 P Pdif 22 42 04.8 +2.0
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 100.82 56 P Pdif 22 42 04.8 +2.0
comp=Z,2.3nm,0.8s,baz=259,slow=3.7,SNR=5.2
ANMO Albuquerque 100.82 56 P Pdif 22 42 04.8 +2.0
ANMO LR LR
comp=Z,6μm,20.0s
A22A Carney Farms, 100.82 41 ⇓Pdiff Pdif 22 42 04.4 +2.1
baz=101
X23A Hourglass Bar 101.04 56 ⇑Pdiff Pdif 22 42 06.1 +2.3
baz=101
Y23A Lovelace Mesa, 101.15 57 ⇑Pdiff Pdif 22 42 06.7 +2.4
baz=101
RES Resolute Bay 101.20 15 PKKPbc PKKPbc 22 58 12.5 -3.9
comp=Z,3.2nm,0.6s,baz=85,slow=2.6,SNR=7.8
R23A Moffat 101.29 52 ⇓Pdiff Pdif 22 42 07.0 +2.1
baz=101
G23A Biddle 101.37 45 ⇑Pdiff Pdif 22 42 06.8 +1.9
baz=102
D23A Lindsay 101.39 43 ⇑Pdiff Pdif 22 42 06.1 +1.2
baz=102
ISCO Idaho Springs 101.42 51 eP Pdif 22 42 07.7 +2.2
ISCO MLR MLR
comp=Z,10μm,20.0s
ISCO Idaho Springs 101.42 51 ePdif Pdif 22 42 07.7 +2.2
ISCO LR LR
comp=Z,10μm,20.0s
B23A Brockton 101.46 42 ⇑Pdiff Pdif 22 42 06.7 +1.6
baz=102
A23A Redstone 101.50 41 ⇑Pdiff Pdif 22 42 06.9 +1.6
baz=102
SDCO Great Sand Dun 101.55 53 PFAKE 22 42 20.0 +14
SDCO LR LR
comp=Z,15μm,20.0s
T24B San Luis 101.66 54 ⇑Pdiff Pdif 22 42 09.3 +2.7
baz=102
Y24A Capitan 101.67 57 ⇓Pdiff Pdif 22 42 09.2 +2.7
baz=102
MNTX Cornudas Mount 101.72 59 PFAKE 22 42 20.0 +13
MNTX LR LR
comp=Z,13μm,20.0s
V24A Rampart Ranch, 101.78 55 ⇓Pdiff Pdif 22 42 10.2 +3.1
baz=102
S24A Houchin Ranch, 101.79 53 ⇑Pdiff Pdif 22 42 10.4 +3.2
baz=102
DGMT Dagmar 101.99 42 ePdif Pdif 22 42 08.1 +0.7
DGMT LR LR
comp=Z,22μm,20.0s
DGMT Dagmar 101.99 42 ⇓Pdiff Pdif 22 42 09.1 +1.6
baz=102
A24A Westby 102.08 41 ⇑Pdiff Pdif 22 42 09.6 +1.7
baz=102
Y25A Mesa, Roswell 102.28 57 ⇓Pdiff Pdif 22 42 11.6 +2.4
baz=102
V25A Rancho No Teng 102.31 55 ⇓Pdiff Pdif 22 42 11.9 +2.6
baz=102
S25A Robets Cordova 102.40 53 ⇑Pdiff Pdif 22 42 12.2 +2.5
baz=102
T25A Trinidad 102.44 53 ⇑Pdiff Pdif 22 42 13.1 +3.2
baz=102
W25A X Bar L Ranch, 102.45 55 ⇓Pdiff Pdif 22 42 12.8 +2.9
baz=103
U25A Circle Dot Ran 102.46 54 ⇑Pdiff Pdif 22 42 12.3 +2.2
baz=103
H25A Fruitdale 102.68 46 ⇓Pdiff Pdif 22 42 12.3 +1.6
baz=103
D25A Fairfield 102.68 43 ⇑Pdiff Pdif 22 42 12.4 +1.8
baz=103
FFC Flin Flon 102.72 35 PFAKE 22 42 20.0 +10
FFC LR LR
comp=Z,7μm,21.0s
626A Big Bend Ranch 102.80 61 ⇑Pdiff Pdif 22 42 12.8 +1.2
baz=103
426A McDonald Obser 102.89 60 ⇑Pdiff Pdif 22 42 13.4 +1.3
baz=103
Z26A Caprock 102.89 57 ⇑Pdiff Pdif 22 42 13.5 +1.6
baz=103
V26A Tequesquite Ra 102.98 55 ⇓Pdiff Pdif 22 42 13.7 +1.4
baz=103
U26A Atchley Ranch, 103.00 54 ⇑Pdiff Pdif 22 42 13.8 +1.3
baz=103
W26A Owens Ranch, T 103.02 56 ⇑Pdiff Pdif 22 42 14.4 +1.9
baz=103
J26A Sides Ranch, S 103.15 47 ⇑Pdiff Pdif 22 42 14.9 +2.1
baz=103
O26A Horse Wrangler 103.16 50 ⇓Pdiff Pdif 22 42 15.0 +2.0
baz=103
S26A Kim 103.17 53 ⇑Pdiff Pdif 22 42 15.4 +2.3
baz=103
P26A Davis Ranch, A 103.17 51 ⇓Pdiff Pdif 22 42 15.3 +2.2
baz=103
TXAR Lajitas Array 103.21 61 P Pdif 22 42 18.1 +4.7
TXAR 22 46 29.7
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR pmax pmax
comp=Z,4.0nm,0.9s
TXAR Lajitas Array 103.21 61 Pdiff Pdif 22 42 18.1 +4.7
comp=Z,0.4nm,0.6s,baz=248,slow=6.2,SNR=4.8
TXAR PP PP 22 46 29.7 +0.7
comp=Z,0.6nm,0.9s,baz=267,slow=7.9,SNR=2.4
TXAR PKKPbc PKKPbc 22 58 06.0 -3.3
comp=Z,3.7nm,0.8s,baz=109,slow=4.0,SNR=11
F26A Lodgepole 103.24 44 ⇓Pdiff Pdif 22 42 14.7 +1.6
baz=103
G26A Maurine 103.33 45 ⇑Pdiff Pdif 22 42 15.1 +1.5
baz=103
A26A Wade Farm, Ken 103.37 41 ⇓Pdiff Pdif 22 42 15.2 +1.6
baz=104
C26A Wahner Farm, P 103.44 42 ⇑Pdiff Pdif 22 42 15.8 +1.8
baz=104
F27A Lemmon 103.69 44 ⇑Pdiff Pdif 22 42 16.9 +1.8
baz=104
PMSA Palmer Station 103.76 164 PFAKE 22 42 30.0 +15
PMSA LR LR
comp=Z,6μm,22.0s
H27A Howes 103.76 46 ⇓Pdiff Pdif 22 42 16.8 +1.4
baz=104
M27A Reverse DX Ran 103.78 49 ⇓Pdiff Pdif 22 42 17.1 +1.4
baz=104
G27A Dupree 103.80 45 ⇑Pdiff Pdif 22 42 16.8 +1.3
baz=104
MSTX Muleshoe 103.88 57 ⇓Pdiff Pdif 22 42 18.4 +2.1
baz=104
428A Kincaid Ranch, 104.04 60 ⇑Pdiff Pdif 22 42 19.8 +2.7
baz=104
OGNE Ogallala 104.09 49 PFAKE 22 42 30.0 +13
OGNE LR LR
comp=Z,9μm,21.0s
ABPO Ambohimpanom 104.25 249 PFAKE 22 42 30.0 +12
ABPO LR LR
comp=Z,4μm,21.0s
PRGR Permogore 104.28 332 eP Pdif 22 42 15.3 -1.9
PRGR pmax pmax
comp=Z,12nm,0.6s
R28A Tribune 104.44 52 ⇑Pdiff Pdif 22 42 20.5 +1.8
baz=104
J28A Allard Ranch, 104.47 47 ⇓Pdiff Pdif 22 42 20.0 +1.3
baz=105
H28A Mission Ridge 104.51 46 ⇑Pdiff Pdif 22 42 21.0 +2.2
baz=105
B28A Dugan Ranch, T 104.53 42 ⇓Pdiff Pdif 22 42 20.5 +1.8
baz=105
HOPEN Hopen 104.54 349 ePP PP 22 46 35.9 -1.3
HOPEN eSKSac SKSac 22 52 55.6 +1.3
AMTX Amarillo 104.74 56 ⇑Pdiff Pdif 22 42 21.2 +1.2
baz=105
SPA0 Spitsbergen Ar 104.83 352 ePP PP 22 46 40.7 +1.3
SPA0 eSKSac SKSac 22 52 57.2 +1.5
SPA0 IAMs_20 IAMs_20 23 27 16.2
comp=Z,3μm,22.0s
KBS Kingsbay 104.84 353 ePP PP 22 46 38.8 -0.6
KBS Kingsbay 104.84 353 PFAKE 22 42 30.0 +11
KBS LR LR
comp=Z,3μm,20.0s
A29A Manning Farm, 105.20 41 ⇑P Pdif 22 42 24.8 +3.1
baz=105
S30A Montezuma 105.55 53 ⇑P Pdif 22 42 27.1 +3.5
baz=106
A30A Hoffart Farm, 105.81 41 ⇓P Pdif 22 42 27.3 +2.9
baz=106
B30A Myrvik Farm, E 105.87 41 ⇑P Pdif 22 42 27.7 +3.1
baz=106
FCC Fort Churchill 106.18 30 eP Pdif 22 42 33.5 +7.8
FCC Fort Churchill 106.18 30 ePdif Pdif 22 42 33.5 +7.8
JCT Junction City 106.53 60 PFAKE 22 46 50.0
JCT LR LR
comp=Z,22μm,22.0s
LVZ Lovozero 106.57 340 PFAKE 22 46 50.0
LVZ LR LR
comp=Z,3μm,22.0s
MAK Makhachkala 106.59 313 eP Pdif 22 42 22.1 -5.9
MAK e 22 46 50.0
MAK ePPP PPP 22 49 08.0
MAK e 22 53 41.7
MAK eSP SP 22 56 06.7 -1.0
MAK ePS PS 22 56 12.8 -0.6
MAK eSS SS 23 01 58.3 +3.5
MAK eSSS SSS 23 05 47.5
MAK pmax pmax
comp=Z,41nm,0.9s
MAK MLR MLR
comp=Z,5μm,24.0s
BJO Bjornoya 106.96 349 ePP PP 22 46 58.7 +3.6
ULM Lac du Bonnet 107.13 39 PKiKP PKiKP 22 46 39.9 +0.6
comp=Z,1.3nm,0.6s,baz=292,slow=5.4,SNR=3.1
ULM PKKPbc PKKPbc 22 57 54.3 -3.6
comp=Z,3.4nm,0.6s,baz=111,slow=3.8,SNR=7.3
APA Apatity 107.14 340 ⇓iP Pdif 22 42 42.0 +12
APA i 22 46 53.0
APA i 22 53 05.0
APA i 22 53 52.0
APA i PS PS 22 56 14.0 -4.0
APA MLR MLR
comp=Z,6μm,25.0s
KLMR Klimovskoe 107.33 332 eP Pdif 22 42 28.6 -2.2
KLMR pmax pmax
comp=Z,29nm,1.8s
KLMR MLR MLR
comp=Z,3μm,23.0s
AGMN Agassiz Nation 107.51 41 PFAKE 22 46 50.0
AGMN LR LR
comp=Z,18μm,20.0s
ECSD EROS Data Cent 107.77 46 PFAKE 22 46 50.0
ECSD LR LR
comp=Z,15μm,22.0s
KEV Kevo 108.04 343 PFAKE 22 46 50.0
KEV LR LR
comp=Z,4μm,22.0s
DGRG David-gareji 108.37 312 P PP 22 47 02.7 -3.9
KSU1 Kansas State U 108.42 51 PFAKE 22 46 50.0
KSU1 LR LR
comp=Z,8μm,20.0s
ARCES ARCESS Array B 108.60 343 PKiKP PKiKP 22 46 42.8 +1.3
comp=Z,2.8nm,0.8s,baz=133,slow=1.6,SNR=8.2
ARCES PKKPbc PKKPbc 22 57 50.4 -3.5
comp=Z,2.6nm,0.7s,baz=270,slow=0.2,SNR=6.0
ARE0 ARCESS Array S 108.60 343 ePP PP 22 47 06.2 -1.0
ARE0 eSKSac SKSac 22 53 15.1 +2.6
TBLG Delisi 108.80 312 P PP 22 47 08.6 -1.1
GNI Garni 109.03 310 PFAKE 22 47 00.0
GNI LR LR
comp=Z,1μm,21.0s
KULLO Kullorsuaq 109.13 9 i P PP 22 47 02.7 -8.2
KULLO i SP 22 56 29.3 -2.5
comp=Z,4μm,27.0s
DAG Danmarks Havn 109.26 358 i P PP 22 47 09.3 -2.5
DAG i SP 22 56 25.6 -7.5
comp=Z,3μm,27.0s
ONI Oni 109.60 313 P PP 22 47 09.9 -5.6
AKH Akhalkalaki 109.77 312 P PP 22 47 13.8 -3.1
KIV Kislovodsk 109.90 315 eP Pdif 22 42 38.3 -4.5
KIV e 22 47 13.2
KIV e 22 53 16.8
KIV ePS PS 22 56 42.9 -4.4
KIV eSS SS 23 02 39.4 -0.2
KIV eSSS SSS 23 06 50.4
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,2μm,21.0s
KIV Kislovodsk 109.90 315 PFAKE 22 47 00.0
KIV LR LR
comp=Z,2μm,20.0s
JOF Joensuu 110.07 336 ep PKKPbc 22 57 46.4 -2.6
comp=Z,1.5nm,0.6s
TRO Tromso 110.34 345 ePP PP 22 47 21.7 +2.0
TRO IAMs_20 IAMs_20 23 30 21.7
comp=Z,6μm,21.0s
EYMN Ely 110.45 41 PFAKE 22 47 00.0
EYMN LR LR
comp=Z,21μm,20.0s
VSR Storozhevoye 110.49 323 ePKIKP PKiKP 22 46 54.5 +8.9
VSR e 22 47 21.4
VSR ePS PS 22 56 39.3 -13
VSR pmax pmax
comp=N,7.0nm,1.1s
VSR pmax pmax
comp=E,7.0nm,1.1s
VSR pmax pmax
comp=Z,7.0nm,1.1s
VSR pmax pmax
comp=N,50nm,2.5s
VSR pmax pmax
comp=E,60nm,2.5s
VSR pmax pmax
comp=Z,170nm,2.5s
VSR MLR MLR
comp=N,2μm,24.0s
VSR MLR MLR
comp=E,3μm,24.0s
VSR MLR MLR
comp=Z,5μm,24.0s
SCIA State Center 110.54 48 PFAKE 22 47 00.0
SCIA LR LR
comp=Z,15μm,20.0s
OBN Obninsk 110.75 327 i P Pdif 22 42 45.9 -0.3
OBN i 22 47 19.7
OBN e 22 49 47.5
OBN eSP SP 22 56 51.0 +2.5
OBN i 22 58 06.5
OBN i SS SS 23 03 05.2 +15
OBN pmax pmax
comp=Z,35nm,2.2s
OBN MLR MLR
comp=Z,3μm,18.0s
OBN Obninsk 110.75 327 PFAKE 22 47 00.0
OBN LR LR
comp=Z,4μm,21.0s
MIAR Mount Ida 111.42 55 PFAKE 22 47 00.0
MIAR LR LR
comp=Z,10μm,19.0s
SOC Sochi 112.08 315 i PKIKP PKiKP 22 46 45.5 -3.4
SOC e 22 47 31.1
SOC ePPP PPP 22 49 56.0
SOC e 22 53 22.6
SOC ePS PS 22 57 03.1 -4.1
SOC eSS SS 23 03 06.7 -1.8
SOC eSSS SSS 23 07 10.2
SOC MLR MLR
comp=Z,3μm,22.0s
JFWS Jewell Farm 112.49 46 PFAKE 22 47 00.0
JFWS LR LR
comp=Z,12μm,22.0s
FINES FINESS Array B 112.94 336 i PKIKP PKiKP 22 46 50.0 +0.1
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 112.94 336 Pdiff Pdif 22 42 56.8 +1.0
comp=Z,0.6nm,0.4s,baz=68,slow=5.1,SNR=7.9
FINES PKiKP PKiKP 22 46 50.0 +0.1
comp=Z,1.4nm,0.7s,baz=96,slow=2.0,SNR=9.3
FINES PKKPbc PKKPbc 22 57 36.7 -2.8
comp=Z,1.5nm,0.6s,baz=224,slow=2.2,SNR=15
SUMG Summit 113.10 4 i P PP 22 47 33.9 -6.0
SUMG i SP 22 57 13.9 +4.4
comp=Z,5μm,23.0s
JMIC Jan Mayen 114.29 354 ePP PP 22 47 47.4 -0.4
ILULI Ilulissat 114.73 10 i P PP 22 47 43.7 -7.2
comp=Z,5μm,28.0s
PAYG Puerto Ayora 114.93 94 PFAKE 22 47 10.0 +15
PAYG LR LR
comp=Z,3μm,19.0s
MICGM Minsk 115.60 329 ePKP PKPdf 22 47 19.0 +24
NSS Namsos 115.88 343 ePP PP 22 48 00.7 +1.6
NACGM Naroch 115.97 329 e PP 22 47 46.0 -14
AKASG Malin Array Be 116.55 325 PKIKP PKPdf 22 46 55.6 -1.6
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 116.55 325 PKP PKPdf 22 46 55.6 -1.6
comp=Z,2.3nm,0.6s,baz=60,slow=2.1,SNR=12
AKASG PKKPbc PKKPbc 22 57 25.2 -1.5
comp=Z,1.0nm,0.4s,baz=263,slow=3.8,SNR=14
KIEV Kiev 116.56 325 i PKIKP PKPdf 22 46 56.5 -0.7
KIEV Kiev 116.56 325 PFAKE 22 47 10.0 +13
KIEV LR LR
comp=Z,3μm,21.0s
KMBO Kilima Mbogo 117.00 266 PP PP 22 48 10.0 +0.7
comp=Z,2.4nm,1.0s,baz=66,slow=5.3,SNR=4.1
KMBO PKKPbc PKKPab 22 57 27.0 -1.8
comp=Z,2.9nm,0.9s,baz=16,slow=6.1,SNR=5.2
KMBO Kilima Mbogo 117.00 266 PP PP 22 48 10.0 +0.7
KMBO PKKPbc PKKPab 22 57 27.0 -1.8
KMBO LR LR
comp=Z,2μm,20.0s
AAM Ann Arbor 117.34 45 PFAKE 22 47 10.0 +11
AAM LR LR
comp=Z,11μm,19.0s
BRAL Brewton 117.38 58 PFAKE 22 47 10.0 +11
BRAL LR LR
comp=Z,8μm,20.0s
BR131 Keskin Array S 117.46 312 ePKPdf PKPdf 22 46 59.1 -0.3
BRTR Keskin Array B 117.46 312 PKIKP PKPdf 22 46 59.2 -0.3
BRTR 22 48 07.3
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 117.46 312 PKP PKPdf 22 46 59.1 -0.3
comp=Z,1.6nm,0.7s,baz=137,slow=3.6,SNR=7.1
BRTR PP PP 22 48 07.2 -4.2
comp=Z,1.0nm,0.7s,baz=186,slow=3.6,SNR=3.9
TEIG Tepich 117.55 70 PFAKE 22 47 10.0 +10
TEIG LR LR
comp=Z,4μm,20.0s
PLCA Paso Flores 117.70 143 PKIKP PKPdf 22 47 00.8 +0.9
PLCA pmax pmax
comp=Z,4.0nm,0.7s
PLCA Paso Flores 117.70 143 PKP PKPdf 22 47 00.8 +0.9
comp=Z,3.5nm,0.7s,baz=310,slow=1.8,SNR=5.1
ANTO Ankara 118.04 312 PFAKE 22 47 10.0 +9.5
ANTO LR LR
comp=Z,1μm,22.0s
KIS Kishinev 118.32 321 ePKIKP PKPdf 22 47 05.0 +4.3
KIS e 22 48 20.0
KIS ePPP PPP 22 50 50.0
KIS ePS PS 22 58 08.0 +4.1
KIS Kishinev 118.32 321 ePKP PKPdf 22 47 05.0 +4.3
KIS Kishinev 118.32 321 ePP PP 22 48 20.0 +3.1
KIS Kishinev 118.32 321 ePS PS 22 58 08.0 +4.1
KIS LRM MLR 23 35 50.0
comp=Z,4μm,22.0s
ACSO Alum Creek Sta 118.45 47 PFAKE 22 47 10.0 +8.8
ACSO LR LR
comp=Z,12μm,22.0s
HFS Hagfors 118.50 339 PKIKP PKPdf 22 47 01.6 +0.9
HFS pmax pmax
comp=Z,1.0nm,0.4s
HFS Hagfors 118.50 339 PKP PKPdf 22 47 01.6 +0.9
comp=Z,0.8nm,0.4s,baz=108,slow=3.3,SNR=9.6
NB2 NORSAR Subarra118.70 341 PKPdf PKPdf 22 47 00.4 -0.7
comp=Z,2.8nm,1.0s,baz=39,slow=1.9
NB2 NORSAR Subarra118.70 341 PKPd4 PKPdf 22 47 00.4 -0.7
baz=39,slow=1.9
NC602 NORSAR Array S 118.82 340 ePP PP 22 48 17.6 -2.1
CSS Prodhromos 118.92 307 ePKPdf PKPdf 22 47 02.1 -0.2
CSS LR LR
comp=Z,685nm,22.0s
HOPE Hope Point 119.14 173 PFAKE 22 47 10.0 +7.9
HOPE LR LR
comp=Z,1.0nm,22.0s
SADO Sadowa 119.56 41 PKP PKPdf 22 47 02.7 -0.5
comp=Z,5.8nm,0.7s,baz=274,slow=17,SNR=4.7
GOGA Godfrey 119.88 55 PFAKE 22 47 20.0 +16
GOGA LR LR
comp=Z,7μm,19.0s
ERPA Erie 119.97 44 PFAKE 22 47 20.0 +16
ERPA LR LR
comp=Z,8μm,22.0s
FOO Floro 120.15 344 ePP PP 22 48 28.0 -0.7
BOSA Boshof 120.24 232 PKP PKPdf 22 47 05.2 0.0
comp=Z,15nm,0.7s,baz=105,slow=1.3,SNR=19
BOSA Boshof 120.24 232 ePKPdf PKPdf 22 47 05.0 -0.1
BOSA PKP PKPdf 22 47 05.2 0.0
BUR08 Bucovina Ar. S 120.27 323 ePKPdf PKPdf 22 47 04.6 -0.1
KONO Kongsberg 120.28 340 ePP PP 22 48 30.4 +0.7
KONO IAMs_20 IAMs_20 23 40 00.3
comp=Z,6μm,21.2s
KONO Kongsberg 120.28 340 PFAKE 22 47 20.0 +16
KONO LR LR
comp=Z,5μm,22.0s
ISP Isparta 120.34 311 PFAKE 22 47 20.0 +15
ISP LR LR
comp=Z,2μm,22.0s
SUE Sulen 120.67 343 ePP PP 22 48 31.2 -1.0
MLR Muntele Rosu 120.76 320 PKKPbc PKKPbc 22 57 10.8 -0.8
comp=Z,0.9nm,0.6s,baz=152,slow=2.8,SNR=5.0
KWP Kalwaria Pacla 120.76 326 PFAKE 22 47 20.0 +15
KWP LR LR
comp=Z,4μm,22.0s
MCWV Mont Chateau 120.92 47 PFAKE 22 47 20.0 +14
MCWV LR LR
comp=Z,14μm,20.0s
JTS JuntasAbangare 121.01 82 PFAKE 22 47 20.0 +13
JTS LR LR
comp=Z,6μm,20.0s
BER Bergen 121.05 343 ePP PP 22 48 33.1 -1.7
SCHQ Schefferville 121.17 27 PKKPbc PKKPbc 22 57 08.9 -1.2
comp=Z,5.2nm,0.6s,baz=160,slow=14,SNR=9.9
BLA Blacksburg 121.27 50 PFAKE 22 47 20.0 +13
BLA LR LR
comp=Z,16μm,22.0s

KOLS Kolonicke sedl 121.36 325 ePKIKP PKPdf 22 47 07.7 +1.1
KOLS Kolonicke sedl 121.36 325 ePKP PKPdf 22 47 07.7 +1.1
BORG Borgarnes 121.37 358 PFAKE 22 47 20.0 +14
BORG LR LR
comp=Z,4μm,22.0s
BSD Bornholm Skovb 121.44 334 iP PP 22 48 31.1 -6.7
BSD i SP 22 58 22.7 -2.4
comp=Z,2μm,19.0s
UZH Uzhgorod 121.50 325 iPKIKP PKPdf 22 47 04.0 -2.8
UZH e 22 47 15.8
UZH e 22 48 39.0
UZH e 22 53 57.0
UZH i 22 58 21.0
LBTB Lobatse 121.53 236 ePKIKP PKPdf 22 47 07.8 0.0
LBTB Lobatse 121.53 236 PKKPbc PKKPbc 22 57 08.2 +0.1
comp=Z,2.7nm,0.8s,baz=283,slow=9.9,SNR=3.7
LBTB Lobatse 121.53 236 ePKPdf PKPdf 22 47 07.8 0.0
LBTB PKKPbc PKKPbc 22 57 08.2 +0.1
STHS Stebnicka Huta 121.69 326 ePKIKP PKPdf 22 47 09.1 +1.9
STHS Stebnicka Huta 121.69 326 ePKP PKPdf 22 47 09.1 +1.9
HOMB Homborsund 121.69 340 ePP PP 22 48 38.2 -1.1
HOMB IAMs_20 IAMs_20 23 40 01.1
comp=Z,5μm,21.2s
SUR Sutherland 121.71 226 PFAKE 22 47 20.0 +12
SUR LR LR
comp=Z,5μm,19.0s
CRVS Cervenica-Dubn 121.83 325 ePKIKP PKPdf 22 47 08.1 +0.6
CRVS e 22 48 46.4
CRVS e 22 58 34.2
CRVS eSS SS 23 05 32.9 +18
CRVS Cervenica-Dubn 121.83 325 ePKP PKPdf 22 47 08.1 +0.6
CRVS ePP PP 22 48 46.4 +5.6
CRVS eSP SP 22 58 34.1 +4.9
CRVS eSS SS 23 05 32.9 +18
COP Copenhagen 122.10 336 iPKIKP PKPdf 22 47 09.3 +1.6
COP MLR MLR
comp=Z,4μm,28.0s
COP Copenhagen 122.10 336 iP PP 22 48 36.2 -6.0
COP iS SP 22 58 26.4 -4.5
comp=Z,1μm,20.0s
LONY Lake Ozonia 122.57 40 PFAKE 22 47 20.0 +11
LONY LR LR
comp=Z,10μm,20.0s
NHSC New Hope 122.63 54 PFAKE 22 47 20.0 +11
NHSC LR LR
comp=Z,6μm,19.0s
BINY Binghamton 122.69 43 PFAKE 22 47 20.0 +11
BINY LR LR
comp=Z,11μm,20.0s
LSZ Lusaka 122.79 248 ePKIKP PKPdf 22 47 10.3 -0.1
LSZ MLR MLR
comp=Z,4μm,21.0s
LSZ Lusaka 122.79 248 PKKPbc PKKPbc 22 57 03.6 +0.6
comp=Z,2.0nm,0.8s,baz=354,slow=4.5,SNR=5.9
LSZ Lusaka 122.79 248 ePKPdf PKPdf 22 47 10.3 -0.1
LSZ PKKPbc PKKPab 22 57 03.6 -0.1
LSZ LR LR
comp=Z,4μm,21.0s
MUD Monsted U'grnd 122.82 338 iP PP 22 48 37.2 -10
MUD i SP 22 58 28.3 -8.8
comp=Z,3μm,26.0s
NCB Newcomb 123.09 40 PFAKE 22 47 20.0 +10
NCB LR LR
comp=Z,18μm,20.0s
OKC Ostrava-Krasne 123.14 328 ePKIKP PKPdf 22 47 10.7 +0.8
OKC e 22 47 23.3
OKC e 22 48 53.7
OKC e 22 58 44.1
OKC e 23 00 08.4
OKC MLR MLR
comp=Z,3μm,20.3s
OKC Ostrava-Krasne 123.14 328 ePKPdf PKPdf 22 47 10.7 +0.8
OKC epPKP pPKPdf 22 47 23.3 +0.1
OKC ex x 22 47 30.5
OKC ePP PP 22 48 53.7 +4.2
OKC eSP SP 22 58 44.1 +3.6
OKC ex x 23 00 08.4
OKC AMS AMS 23 45 50.0
comp=Z,3μm,20.3s
RZN Rozhen 123.16 317 eP PKPdf 22 47 09.2 -1.3
CBN Corbin 123.23 48 PFAKE 22 47 20.0 +10
CBN LR LR
comp=Z,5.0nm,21.0s
PSZ Piszkesteto 123.24 325 ePKIKP PKPdf 22 47 09.6 -0.7
PSZ MLR MLR
comp=Z,4μm,22.0s
PSZ Piszkesteto 123.24 325 ePKPdf PKPdf 22 47 09.6 -0.7
PSZ LR LR
comp=Z,4μm,22.0s
KSP Ksiaz 123.50 330 ePKIKP PKPdf 22 47 11.6 +1.0
KSP e 22 48 52.5
KSP eSP SP 22 58 44.0 +0.3
KSP eSS SS 23 05 48.0 +12
KSP MLR MLR
comp=Z,30μm,23.5s
KRLC Kraliky 123.71 329 ePKIKP PKPdf 22 47 11.8 +0.7
KRLC e 22 47 26.0
KRLC e 22 48 56.6
KRLC Kraliky 123.71 329 ePKPdf PKPdf 22 47 11.8 +0.7
KRLC esPKP 22 47 26.0
KRLC ex x 22 47 33.0
KRLC ex x 22 47 38.0
KRLC ePP PP 22 48 56.6 +3.1
KRLC ex x 22 49 19.0
DPC Dobruska-Polom 123.78 329 ePKIKP PKPdf 22 47 10.3 -0.9
DPC e 22 48 57.8
DPC e 22 58 44.3
DPC e 23 00 17.7
DPC Dobruska-Polom 123.78 329 ePKPdf PKPdf 22 47 10.3 -0.9
DPC ex x 22 47 38.0
DPC ePP PP 22 48 57.8 +3.9
DPC ex x 22 49 22.5
DPC eSP SP 22 58 44.3 -2.0
DPC ex x 23 00 17.7
DPC AMS AMS 23 40 10.0
VTS Vitosha 123.79 318 eP PKPdf 22 47 10.4 -1.2
CNNC Cliffs of the 123.82 51 PFAKE 22 47 20.0 +8.3
CNNC LR LR
comp=Z,12μm,20.0s
UPC Upice 123.85 329 ePKIKP PKPdf 22 47 11.0 -0.3
UPC Upice 123.85 329 ePKPdf PKPdf 22 47 11.0 -0.3
UPC ex x 22 47 33.1
UPC ex x 22 47 38.5
MMB Musomiste 123.88 317 eP PKPdf 22 47 10.3 -1.3
KKB Krupnik 124.19 317 eP PKPdf 22 47 12.3 +0.1
BSEG Bad Segeberg 124.20 335 ePKPdf PKPdf 22 47 12.9 +1.1
LCO Las Campanas 124.22 131 ePKPdf PKPdf 22 47 13.2 +0.2
LCO LR LR
comp=Z,2μm,21.0s
LBNH Lisbon 124.43 39 PFAKE 22 47 20.0 +7.4
LBNH LR LR
comp=Z,9μm,19.0s
TRQA Tornquist 124.48 145 PFAKE 22 47 30.0 +17
TRQA LR LR
comp=Z,2μm,22.0s
CFAA Coronel Fontan 124.59 135 PKP PKPdf 22 47 12.8 -0.5
comp=Z,1.3nm,0.6s,baz=240,slow=2.7,SNR=19
SANT Santorini 124.64 310 PFAKE 22 47 30.0 +17
SANT LR LR
comp=Z,1μm,21.0s
BRG Berggiesshubel 124.64 331 PDIFF Pdif 22 43 48.0 -0.1
BRG Berggiesshubel 124.64 331 ePKP PKPdf 22 47 13.5 +0.7
comp=Z,8.1nm,1.0s
BRG epPKP pPKPdf 22 47 27.7 +1.6
comp=Z,12nm,1.2s
BRG esP 22 47 33.9
comp=Z,5.9nm,0.8s
BRG PP PP 22 48 59.0 -0.5
BRG SS SS 23 06 07.0 +17
comp=N,2μm,24.0s
comp=E,1μm,22.1s
comp=Z,3μm,21.4s
BRG Berggiesshubel 124.64 331 ePKIKP PKPdf 22 47 13.5 +0.7
BRG e 22 47 27.7
BRG 22 48 59.0
BRG SS SS 23 06 07.0 +17
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG pmax pmax
comp=N,12nm,0.8s
BRG MLR MLR
comp=N,6μm,24.0s
BRG MLR MLR
comp=E,2μm,22.1s
BRG MLR MLR
comp=Z,1μm,21.4s
BRG Berggiesshubel 124.64 331 ePKPdf PKPdf 22 47 12.8 0.0
CLL Collm 124.81 332 eP Pdif 22 43 51.0 +2.2
CLL e 22 47 12.0
CLL e 22 49 04.0
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL MLR MLR
comp=Z,5μm,21.4s
CLL Collm 124.81 332 ePdif Pdif 22 43 51.0 +2.2
CLL ePKPdf PKPdf 22 47 12.0 -1.1
comp=Z,5.0nm,0.8s
CLL e 22 47 32.0
CLL e 22 47 40.0
CLL ePP PP 22 49 04.0 +3.4
CLL e 22 50 19.0
CLL ePPP PPP 22 51 46.0
CLL e(SKSac) 22 54 42.0
CLL e 22 57 48.0
CLL ePS PS 22 58 58.0 -3.3
CLL ePPS PPS 23 00 31.0
CLL eSKSacre 23 04 30.0
CLL eSS SS 23 06 00.0 +8.0
CLL e 23 07 42.0
CLL eSSS SSS 23 10 54.0
CLL e 23 16 54.0
CLL Lm MLR 23 44 00.0
comp=Z,5μm,21.4s
TREC Trest 124.86 328 ePKIKP PKPdf 22 47 14.0 +0.7
TREC e 22 49 04.8
TREC e 22 58 59.9
TREC MLR MLR
comp=Z,4μm,22.0s
TREC Trest 124.86 328 ePKPdf PKPdf 22 47 14.0 +0.7
TREC ex x 22 47 33.4
TREC ex x 22 47 41.3
TREC ePP PP 22 49 04.8 +3.7
TREC eSP SP 22 58 59.9 +4.2
TREC AMS AMS 23 42 10.0
comp=Z,4μm,22.0s
PRU Pruhonice 124.91 330 ePKIKP PKPdf 22 47 16.3 +3.0
PRU e 22 49 04.7
PRU e 22 58 58.3
PRU e 23 00 29.6
PRU MLR MLR
comp=Z,4μm,23.9s
PRU Pruhonice 124.91 330 ePKPdf PKPdf 22 47 16.3 +3.0
PRU ex x 22 47 33.8
PRU ex x 22 47 40.1
PRU ePP PP 22 49 04.7 +3.3
PRU eSP SP 22 58 58.3 +2.2
PRU ex x 23 00 29.6
PRU AMS AMS 23 42 10.0
comp=Z,4μm,23.9s
PRA Prague 124.91 330 PKPdf PKPdf 22 47 16.0 +2.7
PRA PP PP 22 49 05.0 +3.6
NRDL Niedersach Rie 125.31 334 ePKPdf PKPdf 22 47 15.0 +1.1
CONA Conrad Observa 125.48 327 ⇑iPKiKP PKPdf 22 47 14.7 +0.1
comp=Z,3.8nm,0.9s
PKME Peaks-Kenny Pk 125.52 37 PFAKE 22 47 30.0 +15
PKME LR LR
comp=Z,4μm,20.0s
ATAH Atahualpa 125.56 103 PKP PKPdf 22 47 16.9 +0.8
comp=Z,14nm,0.9s,baz=270,slow=1.4,SNR=7.2
CLZ Clausthal 125.66 333 ePKPdf PKPdf 22 47 15.2 +0.5
NNA Nana 125.83 109 PFAKE 22 47 30.0 +14
NNA LR LR
comp=Z,2μm,22.0s
MOX Moxa 125.91 332 eL L 23 45 13.7
comp=Z,4μm,21.6s
KHC Kasperske Hory 125.94 329 ePKIKP PKPdf 22 47 16.1 +0.7
KHC e 22 49 12.1
KHC e 22 59 07.9
KHC e 23 00 43.6
KHC MLR MLR
comp=Z,5μm,22.2s
KHC Kasperske Hory 125.94 329 ePKPdf PKPdf 22 47 16.1 +0.7
KHC ex x 22 47 36.8
KHC ex x 22 47 41.5
KHC ePP PP 22 49 12.1 +3.8
KHC eSP SP 22 59 07.9 +2.7
KHC ePKKS 23 00 43.6
KHC AMS AMS 23 42 10.0
comp=Z,5μm,22.2s
KHC Kasperske Hory 125.94 329 ePKPdf PKPdf 22 47 15.4 0.0
BCIP Isla Barro Col 126.04 83 PFAKE 22 47 30.0 +14
BCIP LR LR
comp=Z,3μm,19.0s
GEC2 GERESS Array S 126.06 329 ePKPdf PKPdf 22 47 15.8 +0.1
GEC2 epPKPdf pPKPdf 22 47 30.5 +1.5
GERES GERESS Array B 126.06 329 PKIKP PKPdf 22 47 16.0 +0.3
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 126.06 329 PKP PKPdf 22 47 16.0 +0.3
comp=Z,2.7nm,0.7s,baz=70,slow=1.6,SNR=20
ROTZ Rotzenmuhle 126.21 331 ePKPdf PKPdf 22 47 16.5 +0.7
WET Wettzell 126.28 330 ePKPdf PKPdf 22 47 16.9 +0.9
IBBN Ibbenburen 126.45 335 ePKPdf PKPdf 22 47 17.5 +1.4
SOKA Soboth 126.67 326 ⇑iPKiKP PKPdf 22 47 17.1 +0.2
comp=Z,7.0nm,1.1s
GRF Grafenberg Arr 126.74 331 eL L 23 48 05.4
comp=Z,3μm,20.4s
OTAV Otavalo 126.78 94 ePKPdf PKPdf 22 47 17.9 -0.6
OTAV LR LR
comp=Z,3μm,19.0s
RJOB Jochberg 127.22 328 ePKPdf PKPdf 22 47 18.6 +0.7
CRNS Crni Vrh 127.46 326 ePKPdf PKPdf 22 47 16.5 -1.9
VOJS Vojsko 127.70 326 ePKPdf PKPdf 22 47 17.3 -1.6
VOJS ePP PP 22 49 21.6 +1.5
VOJS e 22 50 53.1
VOJS e 23 00 50.9
VOJS e 23 04 02.9
EKA Eskdalemuir Ar 127.75 344 PKIKP PKPdf 22 47 19.3 +0.7
EKA pmax pmax
comp=Z,1.0nm,0.4s
EKA Eskdalemuir Ar 127.75 344 PKP PKPdf 22 47 19.3 +0.7
comp=Z,1.1nm,0.4s,baz=15,slow=2.5,SNR=12
ESK Eskdalemuir 127.78 344 PFAKE 22 47 30.0 +11
ESK LR LR
comp=Z,2μm,21.0s
MTDJ Mount Denham 127.84 72 PFAKE 22 47 30.0 +10
MTDJ LR LR
comp=Z,4μm,20.0s
ABTA Abfaltersbach 128.00 328 ⇑iPKPdf PKPdf 22 47 19.3 -0.2
comp=Z,5.7nm,0.8s
MOTA Moosalm 128.35 329 ⇑iPKiKP PKiKP 22 47 20.6 -0.2
comp=Z,6.6nm,0.9s
LVC Limon Verde 128.80 125 PFAKE 22 47 30.0 +8.1
LVC LR LR
comp=Z,3μm,20.0s
BCLA Clavier 128.88 335 PKP PKPdf 22 47 22.0 +1.2
BFO Black Forest 129.06 331 PFAKE 22 47 30.0 +8.7
BFO LR LR
comp=Z,2μm,21.0s
WLF Walferdange 129.08 334 ePKPdf PKPdf 22 47 22.7 +1.4
WLF Walferdange 129.08 334 PFAKE 22 47 30.0 +8.7
WLF LR LR
comp=Z,6μm,21.0s
GIVF Givet 129.32 335 ePKIKP PKPdf 22 47 21.8 +0.1
GIVF Givet 129.32 335 ePKIKP PKPdf 22 47 21.8 +0.1
GIVF Givet 129.32 335 ePKPdf PKPdf 22 47 21.8 +0.1
CDF Champ du Feu 129.49 332 ePKIKP PKPdf 22 47 21.2 -1.0
comp=Z,35nm,1.5s
CDF Champ du Feu 129.49 332 ePKIKP PKPdf 22 47 21.2 -1.0
CDF Champ du Feu 129.49 332 ePKPdf PKPdf 22 47 21.2 -1.0
BAIF Baives 129.61 336 ePKIKP PKPdf 22 47 21.5 -0.8
BAIF Baives 129.61 336 ePKIKP PKPdf 22 47 21.5 -0.8
BAIF Baives 129.61 336 ePKPdf PKPdf 22 47 21.5 -0.8
ECH Echery 129.69 332 PFAKE 22 47 30.0 +7.5
ECH LR LR
comp=Z,3μm,20.0s
TIP Timpagrande 129.71 317 PFAKE 22 47 30.0 +7.1
TIP LR LR
comp=Z,2μm,22.0s
TUE Stuetta 129.83 329 ePKPdf PKPdf 22 47 19.4 -3.7
TUE LR LR
comp=Z,5μm,20.0s
GTBY Guantanamo Bay 129.88 69 PFAKE 22 47 40.0 +16
GTBY LR LR
comp=Z,4μm,20.0s
CUC Castrocucco 129.92 319 PFAKE 22 47 40.0 +17
CUC LR LR
comp=Z,2μm,22.0s
PAGF Fort de Pagny 130.09 333 ePKIKP PKPdf 22 47 22.5 -0.8
PAGF Fort de Pagny 130.09 333 ePKPdf PKPdf 22 47 22.5 -0.8
HINF Hinteralfeld 130.12 332 ePKIKP PKPdf 22 47 22.5 -0.9
comp=Z,75nm,1.6s
HINF Hinteralfeld 130.12 332 ePKIKP PKPdf 22 47 22.5 -0.9
HINF Hinteralfeld 130.12 332 ePKPdf PKPdf 22 47 22.5 -0.9
AQU L'Aquila 130.15 323 PFAKE 22 47 40.0 +16
AQU LR LR
comp=Z,4μm,22.0s
HAU Haudompre 130.22 332 ePKIKP PKPdf 22 47 22.9 -0.7
comp=Z,52nm,1.4s
HAU eR
comp=Z,7μm,21.8s
HAU Haudompre 130.22 332 ePKIKP PKPdf 22 47 22.9 -0.7
HAU Haudompre 130.22 332 ePKPdf PKPdf 22 47 22.9 -0.7
MEZF Maizieres J'vi 130.43 334 ePKIKP PKPdf 22 47 22.6 -1.3
comp=Z,136nm,1.6s
MEZF Maizieres J'vi 130.43 334 ePKPdf PKPdf 22 47 22.6 -1.3
TSUM Tsumeb 130.74 238 ePKPdf PKPdf 22 47 26.2 +0.7
TSUM LR LR
comp=Z,5μm,21.0s
CEL Celeste 130.75 317 PFAKE 22 47 40.0 +15
CEL LR LR
comp=Z,2μm,22.0s
VLC Villacollemand 130.80 326 PFAKE 22 47 40.0 +15
VLC LR LR
comp=Z,4μm,22.0s
ROSC El Rosal 131.33 89 PKP PKPdf 22 47 27.8 +0.7
comp=Z,9.0nm,0.4s,baz=80,slow=13,SNR=5.9
ROSC El Rosal 131.33 89 ePKPdf PKPdf 22 47 27.4 +0.3
ROSC PKP PKPdf 22 47 27.8 +0.7
CABF La Chapelle 131.35 331 ePKIKP PKPdf 22 47 24.4 -1.4
comp=Z,68nm,1.4s
CABF La Chapelle 131.35 331 ePKIKP PKPdf 22 47 24.4 -1.4
CABF La Chapelle 131.35 331 ePKPdf PKPdf 22 47 24.4 -1.4
LPL La Plagne 131.81 330 ePKIKP PKPdf 22 47 25.7 -1.2
comp=Z,12nm,0.9s
LPL La Plagne 131.81 330 ePKIKP PKPdf 22 47 25.7 -1.2
LPL La Plagne 131.81 330 ePKPdf PKPdf 22 47 25.7 -1.2
LPG La Plagne 131.82 330 ePKIKP PKPdf 22 47 26.5 -0.5
comp=Z,18nm,0.9s
LPG La Plagne 131.82 330 ePKIKP PKPdf 22 47 26.5 -0.5
LPG La Plagne 131.82 330 ePKPdf PKPdf 22 47 26.5 -0.5
LOR Lormes 131.89 333 ePKIKP PKPdf 22 47 26.0 -0.7
comp=Z,74nm,1.7s
LOR eR
comp=Z,3μm,22.8s
LOR Lormes 131.89 333 ePKIKP PKPdf 22 47 26.0 -0.7
LOR Lormes 131.89 333 ePKPdf PKPdf 22 47 26.0 -0.7
BNI Bardonecchia 132.17 329 PFAKE 22 47 40.0 +13
BNI LR LR
comp=Z,4μm,20.0s
SSF Saint Saulge 132.21 333 ePKIKP PKPdf 22 47 26.7 -0.6
comp=Z,52nm,1.4s
SSF Saint Saulge 132.21 333 ePKIKP PKPdf 22 47 26.7 -0.6
SSF Saint Saulge 132.21 333 ePKPdf PKPdf 22 47 26.7 -0.6
LPAZ La Paz 132.27 118 PKIKP PKPdf 22 47 27.8 -1.3
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 132.27 118 PKP PKPdf 22 47 27.8 -1.3
comp=Z,1.9nm,0.7s,baz=177,slow=7.6,SNR=3.9
LPAZ La Paz 132.27 118 PKP PKPdf 22 47 27.8 -1.3
LPAZ ePKPdf PKiKP 22 47 29.2 -0.9
MBDF Montbardon 132.35 329 ePKIKP PKPdf 22 47 26.5 -1.4
MBDF Montbardon 132.35 329 ePKIKP PKPdf 22 47 26.5 -1.4
MBDF Montbardon 132.35 329 ePKPdf PKPdf 22 47 26.5 -1.4
SMF Signal de Mont 132.37 333 ePKIKP PKPdf 22 47 26.8 -0.9
comp=Z,22nm,1.1s
SMF Signal de Mont 132.37 333 ePKIKP PKPdf 22 47 26.8 -0.9
SMF Signal de Mont 132.37 333 ePKPdf PKPdf 22 47 26.8 -0.9
FLN La Foliniere 132.50 338 ePKIKP PKPdf 22 47 27.1 -0.7
FLN eR
comp=Z,2μm,21.0s
FLN La Foliniere 132.50 338 ePKIKP PKPdf 22 47 27.1 -0.7
FLN La Foliniere 132.50 338 ePKPdf PKPdf 22 47 27.1 -0.7
LDF La Druitiere 132.50 337 ePKIKP PKPdf 22 47 26.5 -1.3
comp=Z,18nm,0.9s
LDF La Druitiere 132.50 337 ePKIKP PKPdf 22 47 26.5 -1.3
LDF La Druitiere 132.50 337 ePKPdf PKPdf 22 47 26.5 -1.3
BGF Bois d'Agland 132.88 333 ePKIKP PKPdf 22 47 27.8 -0.8
BGF Bois d'Agland 132.88 333 ePKIKP PKPdf 22 47 27.8 -0.8
BGF Bois d'Agland 132.88 333 ePKPdf PKPdf 22 47 27.8 -0.8
WDD Wield Dalam 132.88 315 PFAKE 22 47 40.0 +11
WDD LR LR
comp=Z,2μm,21.0s
GRR Gorron 132.94 338 ePKIKP PKPdf 22 47 27.8 -0.8
comp=Z,84nm,1.4s
GRR Gorron 132.94 338 ePKIKP PKPdf 22 47 27.8 -0.8
GRR Gorron 132.94 338 ePKPdf PKPdf 22 47 27.8 -0.8
SSB Saint Sauveur 133.06 331 PFAKE 22 47 40.0 +11
SSB LR LR
comp=Z,3μm,21.0s
GRTK Grand Turk 133.25 66 PFAKE 22 47 40.0 +10
GRTK LR LR
comp=Z,8μm,22.0s
TCF Toulx Ste Croi 133.37 334 ePKIKP PKPdf 22 47 28.7 -0.9
comp=Z,38nm,1.3s
TCF Toulx Ste Croi 133.37 334 ePKIKP PKPdf 22 47 28.7 -0.9
TCF Toulx Ste Croi 133.37 334 ePKPdf PKPdf 22 47 28.7 -0.9
SDDR Presa de Saban 133.60 70 PFAKE 22 47 40.0 +9.2
SDDR LR LR
comp=Z,8μm,20.0s
LASF Ste Croix 134.27 330 ePKIKP PKPdf 22 47 30.3 -1.0
comp=Z,15nm,0.9s
LASF Ste Croix 134.27 330 ePKPdf PKPdf 22 47 30.3 -1.0
VSL Villasalto 134.30 322 PFAKE 22 47 40.0 +8.5
VSL LR LR
comp=Z,2μm,19.0s
RJF Les Rejaudoux 134.44 333 ePKIKP PKPdf 22 47 31.0 -0.6
comp=Z,22nm,1.1s
RJF eR
comp=Z,5μm,22.0s
RJF Les Rejaudoux 134.44 333 ePKIKP PKPdf 22 47 31.0 -0.6
RJF Les Rejaudoux 134.44 333 ePKPdf PKPdf 22 47 31.0 -0.6
CAF Calviac 134.48 333 ePKIKP PKPdf 22 47 30.9 -0.8
CAF Calviac 134.48 333 ePKIKP PKPdf 22 47 30.9 -0.8
CAF Calviac 134.48 333 ePKPdf PKPdf 22 47 30.9 -0.8
BBSR BB Station 135.05 49 PFAKE 22 47 50.0 +17
BBSR LR LR
comp=Z,9μm,20.0s
LFF La Frestale 135.07 334 ePKIKP PKPdf 22 47 31.7 -1.0
LFF La Frestale 135.07 334 ePKIKP PKPdf 22 47 31.7 -1.0
LFF La Frestale 135.07 334 ePKPdf PKPdf 22 47 31.7 -1.0
SDV Santo Domingo 135.13 84 ePKPdf PKPdf 22 47 34.3 +0.3
SDV LR LR
comp=Z,3μm,20.0s
CPUP Villa Florida 135.34 138 PKIKP PKPdf 22 47 33.3 -0.5
CPUP pmax pmax
comp=Z,7.0nm,0.7s
CPUP Villa Florida 135.34 138 PKP PKPdf 22 47 33.2 -0.5
comp=Z,7.1nm,0.7s,baz=250,slow=3.4,SNR=7.8
CPUP Villa Florida 135.34 138 PKP PKPdf 22 47 33.2 -0.5
CPUP ePKPdf PKiKP 22 47 34.1 -1.2
EPF Esparros 136.74 332 ePKIKP PKPdf 22 47 34.8 -1.2
EPF Esparros 136.74 332 ePKIKP PKPdf 22 47 34.8 -1.2
EPF Esparros 136.74 332 ePKPdf PKPdf 22 47 34.8 -1.2
ETSF Etsaut 137.25 333 ePKIKP PKPdf 22 47 34.9 -2.1
comp=Z,17nm,0.9s
ETSF Etsaut 137.25 333 ePKIKP PKPdf 22 47 34.9 -2.1
ETSF Etsaut 137.25 333 ePKPdf PKPdf 22 47 34.9 -2.1
SIV San Ignacio 138.47 122 PKP PKPdf 22 47 39.7 -0.2
comp=Z,6.1nm,0.8s,baz=232,slow=2.9,SNR=8.8
SAML Samuel 139.52 111 ePKPdf PKPdf 22 47 42.2 +0.4
SAML LR LR
comp=Z,3μm,22.0s
ETOR Torete 139.58 332 PKP PKPdf 22 47 37.4 -3.9
SNR=6.7
MSKU Masuku 140.25 260 PFAKE 22 48 00.0 +17
MSKU LR LR
comp=Z,2.0nm,21.0s
GUD Guadarrama 140.66 334 PKP PKPdf 22 47 37.0 -6.3
SNR=7.9
ESDC Sonseca Array 141.37 333 PKP PKPdf 22 47 41.2 -3.3
baz=12,slow=4.0,SNR=7.8
ESDC Sonseca Array 141.37 333 PKhKP PKPpre 22 47 39.3
comp=Z,1.0nm,0.6s,baz=16,slow=3.3,SNR=7.5
ESDC PP PP 22 50 46.4 0.0
comp=Z,2.1nm,0.8s,baz=22,slow=6.2,SNR=4.5
MVO Moncorvo 141.39 338 ePKP PKPdf 22 47 38.6 -6.0
MVO Moncorvo 141.39 338 eLQ LQ 23 27 18.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MVO	Moncorvo	141.39	338	*e*LR	LR	23 38 07.2	
	comp=Z,4μm,20.0s						
POLO	Lamas de Olo	141.50	339	*e*PKP	PKPdf	22 47 39.9	-4.9
PVRL	Vila Real	141.55	338	*e*PKP	PKPdf	22 47 39.2	-5.6
PAB	San Pablo	141.65	333	PFAKE		22 48 00.0	+15
PAB				LR	LR		
	comp=Z,3μm,21.0s						
EPLA	Plasencia	141.96	336	PKP	PKPdf	22 47 41.7	-3.9
	SNR=7.9						
PVIS	Viseu	142.11	338	*e*PKP	PKPdf	22 47 40.5	-5.4
EHUE	Huescar	142.19	330	PKP	PKPdf	22 47 42.0	-4.1
	SNR=7.9						
MTE	Manteigas	142.25	337	*e*PKP	PKPdf	22 47 43.0	-3.1
MTE	Manteigas	142.25	337	*e*LQ	LQ	23 29 02.6	
MTE				*e*LR	LR	23 38 32.2	
	comp=Z,3μm,20.0s						
MTE	Manteigas	142.25	337	PFAKE		22 48 00.0	+14
MTE				LR	LR		
	comp=Z,3μm,21.0s						
EQES	Quesada	142.44	330	PKP	PKPdf	22 47 42.4	-4.2
	SNR=8.4						
EBAN	Banos Encina	142.50	331	PKP	PKPdf	22 47 43.3	-3.3
	SNR=7.9						
ENIJ	Nijar	142.65	329	PKP	PKPdf	22 47 45.0	-1.8
	SNR=7.9						
GORA	Gorafe	142.68	330	PKP	PKPdf	22 47 44.8	-2.2
	SNR=7.9						
ANWB	Willy Bob	142.70	69	PFAKE		22 48 00.0	+13
ANWB				LR	LR		
	comp=Z,4μm,22.0s						
PCBR	Castelo Branco	142.71	337	*e*PKP	PKPdf	22 47 43.9	-3.0
EADA	Adamuz	142.87	332	PKP	PKPdf	22 47 44.3	-3.0
	SNR=5.1						
PMRV	Marv??o	143.03	336	*e*PKP	PKPab	22 47 43.3	+0.6
PMRV	Marv??o	143.03	336	*e*LQ	LQ	23 31 01.4	
PMRV				*e*LR	LR	23 39 30.5	
	comp=Z,3μm,20.0s						
EQUE	Quentar	143.09	330	PKP	PKPab	22 47 43.8	+0.6
	SNR=11						
ECOG	Cogollos-Vega	143.10	330	PKP	PKPbc	22 47 44.2	-0.5
	SNR=5.1						
SELV	Sierra Elvira	143.21	330	PKP	PKPab	22 47 44.0	+0.5
	SNR=7.9						
ELUQ	Luque	143.21	331	PKP	PKPbc	22 47 44.4	-0.5
	SNR=7.9						
PTOM	Tomar	143.26	338	*e*PKP	PKPab	22 47 44.1	+0.5
ECAB	El Cabril	143.33	333	PKP	PKPab	22 47 44.5	+0.5
	SNR=6.4						
EGUA	Guajares	143.44	330	PKP	PKPab	22 47 43.9	-0.5
	SNR=7.9						
EBAD	Badajoz	143.45	335	PKP	PKPbc	22 47 45.1	-0.3
	SNR=11						
PESTR	Estremoz	143.59	336	*e*PKP	PKPab	22 47 42.8	-2.2
GRGR	Grenville	143.77	78	PFAKE		22 48 00.0	+11
GRGR				LR	LR		
	comp=Z,3μm,20.0s						
FDF	Fort de France	143.89	73	*e*PKIKP	PKPbc	22 47 47.7	+0.3
FDF				MLR	MLR		
	comp=Z,3μm,20.0s						
FDF	Fort de France	143.89	73	*e*PKPdf	PKPbc	22 47 47.7	+0.2
FDF				LR	LR		
	comp=Z,3μm,20.0s						
EVO	Evora	144.04	336	*e*PKIKP	PKPbc	22 47 47.6	+0.4
	comp=Z,40nm,1.2s						
EVO				*e*R			
	comp=Z,6μm,22.8s						
EVO	Evora	144.04	336	*e*PKP	PKPab	22 47 45.4	-1.3
EVOP	Sao Brissos	144.09	337	*e*PKIKP	PKPbc	22 47 47.6	+0.3
EVOP	Sao Brissos	144.09	337	*e*PKPdf	PKPbc	22 47 47.6	+0.3
EMIN	Mina Concepcio	144.14	334	PKP	PKPbc	22 47 48.4	+0.9
	SNR=22						
EMIJ	Mijas	144.25	331	PKP	PKPbc	22 47 48.2	+0.2
	SNR=8.2						
LIS	Lisbon	144.32	338	*e*P	PKPbc	22 47 48.1	+0.1
LIS				AMS	AMS	23 53 51.6	
	comp=Z,3μm,23.8s						
PBEJ	Beja	144.42	336	*e*PKP	PKPab	22 47 45.7	-2.4
ESPR	Espera	144.51	332	PKP	PKPbc	22 47 49.1	+0.4
	SNR=34						
PNCL	Nicolau / Gran	144.61	337	*e*PKP	PKPab	22 47 47.8	-1.0
EGRO	El Granado	144.68	335	PKP	PKPbc	22 47 49.4	+0.2
	SNR=9.8						
MESJ	Messejana	144.72	336	*e*P	PKPab	22 47 48.6	-0.6
MESJ				AMS	AMS	23 57 11.8	
	comp=Z,3μm,24.7s						
BB16B	Bebedouro	144.75	140	*e*P	PKPab	22 47 48.1	-1.8
BB16B				*i*		22 47 48.9	
BB16B				*i*		22 47 51.2	
BB16B				*i*		22 47 54.5	
BB16B				*i*		22 47 59.8	
BB16B				*i*		22 48 04.1	
BB16B				*i*		22 48 08.6	
BB16B				*i*		22 48 19.6	
BB16B	Bebedouro	144.75	140	*e*P	PKPab	22 47 46.4	-3.4
BB16B				*i*		22 47 49.3	
BB16B				*i*		22 47 51.3	
BB16B				*i*		22 47 54.6	
BB16B				*i*		22 47 59.3	
BB16B				*i*		22 48 04.2	
PTGA	Pitinga	144.88	100	PKP	PKPab	22 47 49.8	-0.7
	comp=Z,199nm,0.6s,baz=260,slow=4.4,SNR=273						
PTGA	Pitinga	144.88	100	*e*PKP	PKPab	22 47 49.5	-1.1
PTGA				LR	LR		
	comp=Z,2μm,21.0s						
PVAQ	Vaqueiros	144.89	335	*e*PKP	PKPab	22 47 47.4	-2.5
PVAQ	Vaqueiros	144.89	335	*e*LQ	LQ	23 30 38.7	
PVAQ				*e*LR	LR	23 40 26.1	
	comp=Z,3μm,20.0s						
ECEU	Ceuta	145.07	331	PKP	PKPbc	22 47 48.6	-2.0
	SNR=4.9						
PBDV	Barranco-do-Ve	145.11	335	*e*PKP	PKPbc	22 47 48.9	-1.8
PTEO	Sao Teotonio	145.18	336	*e*PKP	PKPbc	22 47 51.2	0.0
MORF	Marmelete	145.35	336	*e*P	PKPbc	22 47 50.4	-1.1
MORF				AMS	AMS	23 55 25.0	
	comp=Z,3μm,22.6s						
MORF	Marmelete	145.35	336	*e*PKP	PKPbc	22 47 50.1	-1.4
BBGH	Gun Hill	145.67	76	PFAKE		22 48 00.0	+6.6
BBGH				LR	LR		
	comp=Z,9μm,22.0s						
TAM	Tamanrasset	145.84	302	*e*PKP2	PKPdf	22 47 52.9	-0.1
TAM				*e*		22 51 14.8	
TAM				MLR	MLR		
	comp=Z,3μm,21.0s						
TAM	Tamanrasset	145.84	302	*e*PKPdf	PKPdf	22 47 52.9	-0.1
TAM				*e*PP	PP	22 51 14.8	+0.1
TAM				LR	LR		
	comp=Z,3μm,21.0s						
BDFB	Brasilia	148.92	134	PKIKP	PKPdf	22 47 58.4	+0.2
BDFB				pmax	pmax		
	comp=Z,17nm,0.6s						
BDFB				pmax	pmax		
	comp=Z,24nm,0.6s						
BDFB	Brasilia	148.92	134	PKP	PKPdf	22 47 58.4	+0.2
	comp=Z,17nm,0.6s,baz=206,slow=2.3,SNR=20						
BDFB				PKPbc	PKPbc	22 48 01.9	-0.4
	comp=Z,24nm,0.6s,baz=206,slow=2.3,SNR=13						
SHEL	Horse Pasture	150.67	221	*e*PKIKP	PKPdf	22 48 02.3	+1.4
SHEL				MLR	MLR		
	comp=Z,4μm,22.0s						
SHEL	Horse Pasture	150.67	221	*e*PKPdf	PKPdf	22 48 02.3	+1.4
SHEL				LR	LR		
	comp=Z,4μm,22.0s						
TOA0	Torodi Ar. Sit	152.36	287	*e*PKPdf	PKPdf	22 48 03.8	+0.3
TOA0				*e*PKPbc	PKiKP	22 48 10.5	0.0
TORD	Torodi Ar. Bea	152.36	287	PKP	PKPdf	22 48 02.1	-1.4
	comp=Z,3.0nm,0.9s,baz=23,slow=1.6,SNR=13						
TORD				PKPbc	PKPbc	22 48 08.6	-1.6
	comp=Z,29nm,0.6s,baz=50,slow=1.7,SNR=59						
TORD				PP	PP	22 51 54.1	+1.1
	comp=Z,9.2nm,1.1s,baz=67,slow=5.2,SNR=4.9						
KIC	Kosan Boka	159.42	272	*e*PKIKP	PKPdf	22 48 13.5	+0.6
	comp=Z,290nm,1.0s						
KIC	Kosan Boka	159.42	272	*e*PKP1	PKPab	22 48 50.1	-0.7
DBIC	Dimbokro	159.53	273	PKIKP	PKPdf	22 48 12.8	-0.2
DBIC						22 48 51.0	
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DBIC				pmax	pmax		
	comp=Z,69nm,1.0s						
DBIC	Dimbokro	159.53	273	PKP	PKPdf	22 48 12.8	-0.2
	comp=Z,2.2nm,0.7s,baz=90,slow=7.1,SNR=2.2						
DBIC				PKPab	PKPab	22 48 51.0	-0.3
	comp=Z,69nm,0.9s,baz=70,slow=5.1,SNR=24						
TIC	Toumodi	159.70	273	*e*PKIKP	PKPdf	22 48 13.7	+0.5
	comp=Z,110nm,0.9s						
TIC	Toumodi	159.70	273	*e*PKP1	PKPab	22 48 51.5	-0.5
LIC	Lamto	159.70	271	*e*PKP2	PKPab	22 48 51.3	-0.7
	comp=Z,169nm,1.0s						
LIC				*e*R			
	comp=Z,7μm,22.2s						
LIC	Lamto	159.70	271	*e*PKIKP	PKPdf	22 48 13.7	+0.5
	comp=Z,215nm,1.0s						
LIC	Lamto	159.70	271	*e*PKP1	PKPab	22 48 51.7	-0.3
LIC	Lamto	159.70	271	*e*PKPab	PKPab	22 48 51.3	-0.7
ASCN	Ascension	162.22	219	PFAKE		22 48 30.0	+14
ASCN				LR	LR		
	comp=Z,4μm,20.0s						
RCBR	Riachuelo	164.22	138	PKP	PKPdf	22 48 18.7	+0.9
	comp=Z,14nm,0.9s,baz=149,slow=5.1,SNR=3.6						
RCBR	Riachuelo	164.22	138	PKP	PKPdf	22 48 18.7	+0.9
RCBR				LR	LR		
	comp=Z,6μm,20.0s						
BBTS	Babate	167.78	315	PKP	PKPdf	22 48 21.5	+0.9
	comp=Z,7.4nm,0.5s,baz=146,slow=2.8,SNR=3.7						
SACV	Santiago Islan	170.99	349	PFAKE		22 48 30.0	+7.5
SACV				LR	LR		
	comp=Z,5μm,20.0s						

IDC 01 22:39:51.0±2.1**, 7°.02S×129°.23E, h0km, mb3.9**/1**, mb1 3.8**/3**, mb1mx3.5**/39**, mbtmp3.7**/3**, ML3.2**/2**, Error ellipse: s-maj=134.7km s-min=31.7km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.77	159	Pn	Pn	22 43 06.0	-1.7
	0.1nm,0.3s,baz=341,slow=13,SNR=6.0						
WRA				Sn	Sn	22 45 37.9	-3.6
	0.2nm,0.3s,baz=347,slow=22,SNR=4.7						
ASAR	Alice Springs	17.15	165	P	P	22 43 53.6	-0.4
	0.1nm,0.3s,baz=344,slow=9.7,SNR=4.3						
MKAR	Makanchi Array	67.83	327	P	P	22 50 51.0	0.0
	0.8nm,0.6s,baz=121,slow=7.8,SNR=7.8						

IDC 01 22:50:48.9±48.0**, 15°.77S×171°.07W, h0km, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/39**, mbtmp3.8**/3**, Error ellipse: s-maj=944.6km s-min=187.8km az=80.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.81	241	P	P	22 59 13.3	+0.5
	1.8nm,1.0s,baz=127,slow=10,SNR=2.9						
WRA	Warramunga Arr	51.95	257	P	P	22 59 59.7	-0.5
	0.1nm,0.4s,baz=97,slow=7.0,SNR=6.2						
ASAR	Alice Springs	52.14	252	P	P	23 00 01.2	-0.3
	1.9nm,0.4s,baz=89,slow=8.1,SNR=31						

*IDC **01** 22:54:36.0±1.6, 28°.00N×51°.64E, h0km, mb3.8/12, mb1 4.0/15, mb1mx3.8/48, mbtmp3.9/15, ML3.3/3, Error ellipse: s-maj=37.9km s-min=18.5km az=154.0*
*ISCJB **01** 22:54:36.7±0.4, 28°.04N±0°.03×51°.55E±0°.04, h16km, mb3.7/13, Error ellipse: s-maj=6.2km s-min=3.7km az=141.4*
*TEH **01** 22:54:37.2, 28°.19N×51°.61E, h16km, ML3.9*
*THR **01** 22:54:37.2±0.3, 28°.22N×51°.48E, h15km±6km, ML3.9*
*CSEM **01** 22:54:38.2±0.2, 28°.10N×51°.57E, h10km, ML3.9, Error ellipse: s-maj=5.4km s-min=3.0km az=61.0*
*OMAN **01** 22:54:45.8±0.3, 27°.59N×51°.66E, h30km±60km, Error ellipse: s-maj=68.7km s-min=9.1km az=326.0*
ISC 01 22:54:39.0±0.6**, 28°.11N**±0°.05×**51°.61E**±0°.05**, h16km, n84, σ0s84**/90**, mb3.8**/13**, 5C-5D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.23	81	*e*Pg	Pb	22 55 01.9	0.0
GHIR				*e*Sg	Sg	22 55 19.9	+1.1
	2μm,0.7s						
GHIR	Ghir-Karzin	1.23	81	*e*Pg	Pb	22 55 01.9	0.0
GHIR				*e*Sg	Sg	22 55 19.9	+1.1
GHIR				AML	AML	22 55 25.9	
	comp=N,2μm,0.6s						
GHIR				AML	AML	22 55 29.2	
	comp=E,2μm,0.7s						
IPAR	Pars	2.14	36	*e*Pn	Pn	22 55 14.8	+0.4
IPAR				*e*		22 55 59.7	
	comp=Z,7μm,0.4s						
IPAR	Pars	2.14	36	*e*Pn	Pn	22 55 14.8	+0.4
IMEH	Mehriz	4.19	38	*e*Pn	Pn	22 55 43.1	+0.7
IMEH				*e*		22 55 47.4	
	comp=Z,3μm,0.3s						
IMEH	Mehriz	4.19	38	*e*Pn	Pn	22 55 43.1	+0.7
ISAD	Sadrabad	4.20	25	*e*Pn	Pn	22 55 43.1	+0.4
ISAD				*e*Sg	Sg	22 56 52.6	-1.4
ISAD				*e*		22 57 02.5	
	comp=Z,1μm,0.6s						
ISAD	Sadrabad	4.20	25	*e*Pn	Pn	22 55 43.1	+0.4
ISAD				*e*Sg	Sg	22 56 52.6	-1.4
IBND	Bandar-abas	4.42	97	*e*Pn	Pn	22 55 45.6	+0.3
IBND				*e*		22 57 34.1	
	comp=Z,5μm,0.5s						
IBND	Bandar-abas	4.42	97	*e*Pn	Pn	22 55 45.6	+0.3
IPIR	Pirpir	4.61	352	*e*Pn	Pn	22 55 47.8	-0.5
IPIR				*e*		22 56 45.3	
	comp=Z,677nm,0.4s						
IPIR	Pirpir	4.61	352	*e*Pn	Pn	22 55 47.8	-0.5
BANOM	Banah	4.71	116	⇑P	Pn	22 55 50.4	+0.9
BANOM				⇑S	Sn	22 56 43.0	-0.9
BANOM	Banah	4.71	116	P	Pn	22 55 50.4	+0.9
BANOM				S	Sn	22 56 43.0	-0.9
ICHK	Chekchek	4.79	30	*e*Pn	Pn	22 55 51.2	+0.6
ICHK				*e*		22 56 13.0	
	comp=Z,843nm,0.4s						
ICHK	Chekchek	4.79	30	*e*Pn	Pn	22 55 51.2	+0.6
NASN	Na'in	4.79	12	*e*Pn	Pn	22 55 50.2	-0.6
NASN	Na'in	4.79	12	*e*Pn	Pn	22 55 50.2	-0.6
IZEF	Zefreh	4.82	7	*e*Pn	Pn	22 55 51.3	+0.2
IZEF				*e*		22 55 52.9	
	comp=Z,560nm,0.1s						
IZEF	Zefreh	4.82	7	*e*Pn	Pn	22 55 51.3	+0.2
KRBR	Kerman	4.88	66	*e*Pn	Pn	22 55 53.4	+1.4
	comp=Z,69nm,0.6s						
KRBR	Kerman	4.88	66	*e*Pn	Pn	22 55 53.4	+1.4
KRBR				AML	AML	22 56 56.4	
	comp=E,69nm,0.6s						
IBAF	Bafgh	4.89	44	*e*Pn	Pn	22 55 52.6	+0.6
IBAF				*e*		22 55 54.1	
	comp=Z,2μm,0.1s						
IBAF	Bafgh	4.89	44	*e*Pn	Pn	22 55 52.6	+0.6
IKLH	Kolahrood	5.20	360	*e*Pn	Pn	22 55 56.5	+0.2
IKLH				*e*		22 56 33.9	
	comp=Z,324nm,0.2s						
IKLH	Kolahrood	5.20	360	*e*Pn	Pn	22 55 56.5	+0.2
ASHO	Ashiyiah	5.25	129	⇑P	Pn	22 55 57.7	+0.9
	SNR=14						
ASHO				⇓S	Sn	22 56 55.8	-1.2
ASHO	Ashiyiah	5.25	129	P	Pn	22 55 57.7	+0.9
	SNR=14						
ASHO				S	Sn	22 56 55.8	-1.2
QAM	Ghamsar	5.64	359	*e*Pn	Pn	22 56 04.1	+1.7
IKMR	Kamar-syah	6.07	334	*e*Pn	Pn	22 56 08.8	+0.8
IKMR	Kamar-syah	6.07	334	*e*Pn	Pn	22 56 08.8	+0.8
IKFM	Kafar-mosalman	6.30	330	*e*Pn	Pn	22 56 11.9	+0.8
IKFM	Kafar-mosalman	6.30	330	*e*Pn	Pn	22 56 11.9	+0.8
IDOB	Doab	6.38	333	*e*Pn	Pn	22 56 12.9	+0.3
IDOB	Doab	6.38	333	*e*Pn	Pn	22 56 12.9	+0.3
ARQ	Araqi	6.49	136	P	Pn	22 56 14.6	+0.7
	SNR=20						
ARQ	Araqi	6.49	136	P	Pn	22 56 14.6	+0.7
	SNR=20						
ASAO	Ashtian	6.56	348	*e*Pn	Pn	22 56 13.8	-1.3
ASAO	Ashtian	6.56	348	*e*Pn	Pn	22 56 13.8	-1.3
HOQ	Hoqain	6.83	130	⇓P	Pn	22 56 19.8	+1.2
HOQ	Hoqain	6.83	130	P	Pn	22 56 19.8	+1.2
IVRN	Varamin	6.87	1	*e*Pn	Pn	22 56 19.1	-0.1
IVRN	Varamin	6.87	1	*e*Pn	Pn	22 56 19.1	-0.1
TABS	Tabas	7.28	39	*e*Pn	Pn	22 56 25.1	+0.4
TABS	Tabas	7.28	39	*e*Pn	Pn	22 56 25.1	+0.4
IDMV	Damavand	7.46	3	*e*Pn	Pn	22 56 26.8	-0.6
IDMV				*e*		22 59 26.1	
	comp=Z,414nm,0.7s						
IDMV	Damavand	7.46	3	*e*Pn	Pn	22 56 26.8	-0.6
IGHG	Ghaleghazi	7.56	326	*e*Pn	Pn	22 56 29.1	+0.4
IGHG				*e*		22 59 42.3	
	comp=E,1μm,0.5s						
IGHG	Ghaleghazi	7.56	326	*e*Pn	Pn	22 56 29.1	+0.4
IANJ	Anjilo	7.60	14	*e*		22 59 10.8	
	comp=Z,217nm,0.5s						
SMDO	Samad	7.68	129	⇑P	Pn	22 56 31.2	+0.9
	SNR=23						
SMDO	Samad	7.68	129	P	Pn	22 56 31.2	+0.9
	SNR=23						
IKOO	Kooshah	7.71	54	*e*Pn	Pn	22 56 31.4	+0.6
IKOO				*e*		22 59 09.2	
	comp=Z,183nm,0.6s						
IKOO	Kooshah	7.71	54	*e*Pn	Pn	22 56 31.4	+0.6
IDHR	Dehrash	7.94	327	*e*Pn	Pn	22 56 33.9	-0.1
IDHR				*e*		22 56 43.2	
	comp=Z,405nm,0.2s						
IDHR	Dehrash	7.94	327	*e*Pn	Pn	22 56 33.9	-0.1
JMDO	Jabal Madar	8.20	133	⇓P	Pn	22 56 37.4	+0.1
	SNR=9.2						
JMDO	Jabal Madar	8.20	133	P	Pn	22 56 37.4	+0.1
	SNR=9.2						
WBK	Wadi Bani Khal	8.62	128	⇓P	Pn	22 56 43.2	+0.1
WBK	Wadi Bani Khal	8.62	128	P	Pn	22 56 43.2	+0.1
ISFR	Sfrayin	10.42	29	*e*Pn	Pn	22 57 08.4	+0.4
ISFR	Sfrayin	10.42	29	*e*Pn	Pn	22 57 08.4	+0.4
ABTO	Aybut	10.81	171	⇑P	Pn	22 57 11.9	-1.3
	SNR=18						
ABTO	Aybut	10.81	171	P	Pn	22 57 11.9	-1.3
	SNR=18						
RBK	Rabkut	10.82	167	⇓P	Pn	22 57 12.2	-1.1
	SNR=15						
RBK	Rabkut	10.82	167	P	Pn	22 57 12.2	-1.1
	SNR=15						
ASF	Jabal al Asfar	13.36	291	Pn	Pn	22 57 49.0	+0.9
	comp=Z,0.1nm,0.3s,baz=138,slow=14,SNR=1.5						
ASF				Sn	Sn	23 00 06.2	-10
	comp=Z,0.0nm,0.3s,baz=15,slow=2.9,SNR=1.7						
ASF				Lg	Lg	23 02 03.1	
	comp=Z,0.1nm,0.3s,baz=279,slow=19,SNR=2.0						
MMAI	Mount Meron Ar	14.79	293	Pn	Pn	22 58 10.3	+2.7
	comp=Z,0.2nm,0.3s,baz=93,slow=18,SNR=1.8						
KBZ	Khabaz	17.09	338	P	P	22 58 39.6	+0.7
	comp=Z,0.1nm,0.3s,baz=126,slow=7.1,SNR=4.9						
BRTR	Keskin Array B	18.85	313	P	Pn	22 58 58.8	-0.2
	comp=Z,0.2nm,0.3s,baz=138,slow=12,SNR=5.9						
AKTO	Aktyubinsk	22.83	11	P	P	22 59 43.1	+1.9
	comp=Z,3.4nm,1.0s,baz=195,slow=11,SNR=4.4						
AAK	Ala-Archa	23.53	46	P	P	22 59 49.3	+0.7
	comp=Z,0.7nm,0.5s,baz=187,slow=7.0,SNR=2.2						
AKASG	Malin Array Be	28.22	329	P	P	23 00 34.7	+3.7
	comp=Z,0.3nm,0.4s,baz=124,slow=8.1,SNR=4.7						
BVAR	Borovoye Array	28.52	24	P	P	23 00 33.8	+0.2
	comp=Z,0.2nm,0.3s,baz=230,slow=6.9,SNR=7.4						
KURBB	Kurchatov Arra	30.35	35	P	P	23 00 49.8	0.0
	comp=Z,0.8nm,0.3s,baz=230,slow=9.2,SNR=2.9						
MKAR	Makanchi Array	30.40	44	P	P	23 00 50.2	-0.2
	comp=Z,0.5nm,0.5s,baz=238,slow=7.0,SNR=5.2						
ZALV	Zalesovo Beam	35.42	34	P	P	23 01 33.6	-0.5
	comp=Z,0.8nm,0.4s,baz=243,slow=9.8,SNR=5.7						
FINES	FINESS Array B	37.44	340	P	P	23 01 50.6	-0.6
	comp=Z,0.7nm,0.4s,baz=142,slow=8.3,SNR=11						
NB2	NORSAR Subarra	42.54	332	P	P	23 02 32.4	-1.2
	comp=Z,0.8nm,0.6s,baz=124,slow=8.6						
NOA	NORSAR Array B	42.54	332	P	P	23 02 32.7	-0.9
	comp=Z,0.9nm,0.7s,baz=122,slow=8.5,SNR=1.2						
ARCES	ARCESS Array B	44.14	347	P	P	23 02 46.3	0.0
	comp=Z,2.9nm,0.8s,baz=143,slow=6.7,SNR=5.9						
TORD	Torodi Ar. Bea	48.70	263	P	P	23 03 22.7	-0.2
	comp=Z,1.0nm,0.7s,baz=67,slow=8.6,SNR=10						
DBIC	Dimbokro	57.40	259	P	P	23 04 26.6	-0.4
	comp=Z,4.9nm,1.1s,baz=60,slow=8.1,SNR=2.1						
YKA	Yellowknife Ar	89.04	354	P	P	23 07 33.1	+0.2
	comp=Z,0.2nm,0.6s,baz=10,slow=5.1,SNR=7.7						

*IDC **01** 22:58:21.1±2.7, 9°.09S×119°.43E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/35, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=237.5km s-min=27.6km az=51.0*
*ISCJB **01** 22:58:23.1±1.4, 9°.7S±0°.1×118°.9E±0°.1, h35km, mb3.2/1, Error ellipse: s-maj=19.7km s-min=13.0km az=34.4*
*DJA **01** 22:58:34.0±1.0, 9°S±5°×12°0E±°, h59km±10km, M3.5/3, MLv3.5/3*
ISC 01 22:58:25.5±1.6**, 9°.6S**±0°.1×**118°.9E**±0°.1**, h35km, n5, σ1s44**/6**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.36	94	P	Pn	22 58 49.5	+1.6
WSI				S	Sn	22 59 03.4	-1.3
BKSI	Bulukumba	4.40	16	P	Pn	22 59 30.5	+0.7
WRA	Warramunga Arr	18.10	126	P	Pn	23 02 33.2	-1.1
	0.1nm,0.3s,baz=303,slow=12,SNR=5.3						
WRA				S	Sn	23 05 38.4	-17
	0.1nm,0.3s,baz=304,slow=25,SNR=4.5						
ASAR	Alice Springs	20.02	136	P	P	23 02 56.0	+0.4
	0.4nm,0.5s,baz=316,slow=9.0,SNR=7.0						
MKAR	Makanchi Array	64.94	333	P	P	23 09 01.3	-0.3
	0.2nm,0.7s,baz=145,slow=8.4,SNR=3.1						

*IDC **01** 23:02:29.1±0.9, 0°.46N×124°.15E, h0km, mb4.1/7, mb1 4.2/7, mb1mx3.8/32, mbtmp4.1/7, Error ellipse: s-maj=85.1km s-min=16.3km az=67.0*
*DJA **01** 23:02:34.9±0.7, 2°N±4°×12°5E±°, h56km±23km, M4.8/5, mb5.2/1, mB5.6/1, MLv4.5/5, Mw(mB)5.1/1*
*ISCJB **01** 23:02:43.0±0.7, 0°.79N±0°.09×124°.70E±0°.07, h116km, mb3.9/7, Error ellipse: s-maj=14.1km s-min=8.3km az=28.4*
ISC 01 23:02:43.4±0.8**, 0°.6N**±0°.1×**124°.69E**±0°.09**, h116km, n15, σ1s87**/12**, mb3.9**/7**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.71	265	P	Pn	23 03 07.4	+5.0
KMSI				S	Sn	23 03 25.9	+9.2
GTOI	Gorontalo	1.68	270	P	Pn	23 03 18.1	+5.4
LUWI	Luwuk	2.54	229	P	Pn	23 03 29.4	+5.9
MRSI	Marisa	2.75	267	P	Pn	23 03 28.1	+1.8
SANI	Sanana	2.96	154	P	Pn	23 03 29.6	+0.5
LBMI	Labuha	3.08	114	P	Pn	23 03 34.0	+3.3
LBMI				S	Sn	23 04 09.9	+2.7
APSI	Ampana	3.40	243	P	Pn	23 03 36.8	+1.9
NLAI	Namlea	4.54	148	P	Pn	23 03 52.1	+2.0
WRA	Warramunga Arr	22.53	156	P	P	23 07 31.9	-2.0
	8.8nm,0.4s,baz=333,slow=10,SNR=70						
ASAR	Alice Springs	25.76	160	P	P	23 08 02.5	-1.1
	1.1nm,0.6s,baz=351,slow=17,SNR=17						
STKA	Stephens Creek	36.08	155	P	P	23 09 32.5	-1.5
	2.2nm,0.5s,baz=344,slow=7.8,SNR=7.0						
USRK	Ussuriysk Arra	43.86	8	P	P	23 10 38.6	+0.5
	1.1nm,0.4s,baz=197,slow=7.4,SNR=2.6						
SONM	Songino Array	49.63	344	P	P	23 11 23.9	+0.7
	0.4nm,0.5s,baz=157,slow=9.2,SNR=3.8						
MKAR	Makanchi Array	58.98	327	P	P	23 12 30.0	-0.9
	0.9nm,0.6s,baz=124,slow=8.9,SNR=12						
KURBB	Kurchatov Arra	63.28	329	P	P	23 12 57.7	-2.0
	0.8nm,0.5s,baz=135,slow=6.0,SNR=7.4						

IDC 01 23:24:15.1±5.1**, 29°.15S×177°.49W, h0km, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.7**/21**, mbtmp3.6**/3**, Error ellipse: s-maj=201.4km s-min=78.6km az=158.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.21	255	P	P	23 31 11.3	+0.1
	0.8nm,0.6s,baz=108,slow=6.4,SNR=1.6						
ASAR	Alice Springs	43.63	265	P	P	23 32 21.2	-0.5
	0.2nm,0.4s,baz=101,slow=8.6,SNR=2.1						
WRA	Warramunga Arr	44.51	271	P	P	23 32 28.6	-0.1
	0.6nm,0.3s,baz=110,slow=8.2,SNR=32						
FINES	FINESS Array B	144.12	341	PKP	PKPdf	23 43 51.5	-0.6
	3.1nm,1.0s,baz=50,slow=2.4,SNR=4.6						

MOS 01 23:41:22.9±3.0**, 52°.21N×98°.23E, h38km, mb4.3**/1**, Error ellipse: s-maj=49.7km s-min=16.9km az=172.5, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	Orlik	1.02	71	*e*P	Pn	23 41 37.6	-3.3
ORL				*e*		23 41 51.6	
ORL				pmax	pmax		
	comp=Z,87nm,0.1s						
ORL				smax	smax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
	comp=N,475nm,0.3s						
MOY	Mondy	1.79	107	ePN	Pn	23 41 49.7	-1.8
MOY				pmax	pmax		
	comp=Z,44nm,0.4s						
KZLR	Kyzyl	2.39	259	ePN	Pn	23 41 59.6	+0.1
ARS	Arshan	2.60	95	ePN	Pn	23 42 04.6	+2.1
ARS				e		23 42 38.2	
ARS				pmax	pmax		
	comp=Z,54nm,0.2s						
ARS				smax	smax		
	comp=E,867nm,0.4s						
HVS	Khovu-Aksy	3.02	251	ePN	Pn	23 42 09.4	+1.2
HVS				eS	Sn	23 42 47.6	+4.4
TLY	Talaya	3.39	97	ePN	Pn	23 42 17.3	+4.0
TLY				e		23 43 01.0	
TLY				pmax	pmax		
	comp=Z,13nm,0.5s						
TLY				smax	smax		
	comp=N,109nm,0.7s						
IRK	Irkutsk	3.71	87	ePN	Pn	23 42 25.3	+7.6
IRK				e		23 43 10.6	
IRK				pmax	pmax		
	comp=Z,158nm,0.1s						
IRK				smax	smax		
	comp=E,254nm,0.5s						
TRG	Tyrgan	4.99	80	ePN	Pn	23 42 34.6	-0.7
TRG				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KAB	Kabansk	5.19	88	ePN	Pn	23 42 52.0	+14
KAB				pmax	pmax		
	comp=Z,71nm,0.4s						

ISCJB 01 23:43:36.8±0.8, 33°.35N±0°.04×141°.02E±0°.06, h48km, mb4.0/4, Error ellipse: s-maj=7.9km s-min=5.5km az=11.0
JMA 01 23:43:36.7±0.2, 33°.38N×141°.02E, h38km, M3.6
IDC 01 23:43:39.6±4.8, 33°.07N×140°.40E, h41km±39km, mb3.7/4, mb1 3.9/5, mb1mx3.3/38, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=97.1km s-min=20.7km az=74.0
ISC 01 23:43:38.3±1.2, 33°.33N±0°.06×141°.00E±0°.08, h48km, n18, σ1s.07/29, mb4.0/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
JHJ2	Mitsune	1.02	258	P	Pn	23 43 55.4	-0.8
JHJ2				eS	Sn	23 44 09.0	-0.5
JHCJ	Hachijojimakas	1.04	256	P	Pn	23 43 55.5	-1.1
JHCJ				eS	Sn	23 44 09.3	-0.8
BSO1	Boso 1	1.32	359	P	Pn	23 43 58.9	-0.9
BSO1				eS	Sn	23 44 15.1	-0.9
BSO3	Boso 3	1.52	345	P	Pn	23 43 01.7	-1.2
BSO3				eS	Sn	23 44 21.2	-0.2
BSO4	Boso 4	1.74	342	P	Pn	23 44 05.3	-0.7
BSO4				eS	Sn	23 44 26.4	-0.6
JKO	Kozu shima	1.77	299	P	Pn	23 44 05.7	-0.8
JKO				eS	Sn	23 44 27.8	-0.1
JIM2	Oshima 3	1.90	317	P	Pn	23 44 07.2	-1.1
JIM2				eS	Sn	23 44 29.0	-2.1
JIZS	Izushimoda	2.24	309	P	Pn	23 44 12.7	-0.3
JIZS				eS	Sn	23 44 39.2	-0.2
JOD2	Odawara 2	2.50	321	P	Pn	23 44 15.7	-0.8
JOD2				eS	Sn	23 44 42.9	-2.8
TK02	Tokai 2	2.78	284	P	Pn	23 44 20.5	+0.4
SHZ3	Shizuoka 3	2.89	308	P	Pn	23 44 22.7	+0.8
JYN	Shimob	2.97	317	P	Pn	23 44 23.6	+0.6
MJAR	Matsushiro Arr	3.94	325	P	Pn	23 44 37.3	+1.0
	3.0nm,0.3s,baz=153,slow=12,SNR=13						
MJAR				S	Sn	23 45 21.1	-0.2
	3.3nm,0.3s,baz=136,slow=13,SNR=5.2						
MAT	Matsushiro	3.94	325	P	Pn	23 44 37.5	+1.2
MAT				S	Sn	23 45 20.7	-0.6
MKAR	Makanchi Array	45.88	305	P	P	23 51 56.6	+0.7
	0.2nm,0.5s,baz=88,slow=9.6,SNR=4.1						
WRA	Warramunga Arr	53.36	188	P	P	23 52 52.2	-0.8
	3.6nm,0.6s,baz=3.7,slow=7.7,SNR=70						
ASAR	Alice Springs	57.08	188	P	P	23 53 19.4	-0.4
	1.2nm,0.4s,baz=5.5,slow=7.4,SNR=18						
FINES	FINESS Array B	71.94	333	P	P	23 54 57.9	+1.7
	1.4nm,1.0s,baz=97,slow=5.7,SNR=2.4						

IDC 01 23:45:09.1±4.3, 16°.31S×177°.46W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.7/29, mbtmp4.3/3, Error ellipse: s-maj=173.3km s-min=50.7km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
STKA	Stephens Creek	40.20	240	P	P	23 52 47.6	+0.1
	2.5nm,0.5s,baz=97,slow=11,SNR=8.4						
WRA	Warramunga Arr	45.83	258	P	P	23 53 33.0	-0.3
	0.5nm,0.4s,baz=92,slow=8.3,SNR=16						
ASAR	Alice Springs	46.11	253	P	P	23 53 35.2	-0.2
	6.3nm,0.6s,baz=88,slow=8.2,SNR=64						
GERES	GERESS Array B	146.29	347	PKPbc	PKPdf	00 04 51.0	+0.3
	0.3nm,0.4s,baz=2.9,slow=2.0,SNR=2.0						

IDC 01 23:47:33.9±0.7, 27°.04N×143°.34E, h0km, mb3.7/13, mb1 3.9/13, mb1mx3.7/40, mbtmp3.7/13, Error ellipse: s-maj=17.6km s-min=17.0km az=83.0
ISCJB 01 23:47:36.9±0.6, 27°.0N±0°.1×143°.39E±0°.08, h33km, mb3.8/13, Error ellipse: s-maj=14.9km s-min=10.1km az=1.5
ISC 01 23:47:39.2±0.8, 27°.0N±0°.1×143°.31E±0°.10, h35km, n14, σ0s.73/15, mb3.8/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
JCJ	Chichijima	1.00	276	Pn	Pn	23 47 55.7	-1.1
	236nm,0.3s,baz=297,slow=18,SNR=31						
JCJ				Sn	Sn	23 48 10.0	+0.3
	174nm,0.3s,baz=290,slow=24,SNR=6.9						
SONM	Songino Array	35.48	316	P	P	23 54 33.5	+1.1
	0.2nm,0.5s,baz=100,slow=8.2,SNR=2.2						
WRA	Warramunga Arr	47.47	191	P	P	23 56 11.4	+0.7
	3.5nm,0.6s,baz=12,slow=8.7,SNR=30						
ASAR	Alice Springs	51.18	191	P	P	23 56 39.1	+0.1
	0.5nm,0.6s,baz=11,slow=5.7,SNR=6.8						
MKAR	Makanchi Array	51.30	310	P	P	23 56 39.9	0.0
	0.2nm,0.5s,baz=84,slow=9.1,SNR=2.6						
KURBB	Kurchatov Arra	53.82	314	P	P	23 56 57.6	-0.7
	1.4nm,0.6s,baz=90,slow=8.2,SNR=18						
ILAR	Eielson Array	57.32	29	P	P	23 57 21.8	-1.4
	0.5nm,0.8s,baz=266,slow=5.9,SNR=7.2						
STKA	Stephens Creek	58.57	182	P	P	23 57 32.1	-0.3
	1.6nm,0.6s,baz=343,slow=6.5,SNR=7.3						
BVAR	Borovoye Array	58.79	318	P	P	23 57 33.9	+0.1
	0.8nm,0.6s,baz=112,slow=6.4,SNR=4.2						
INK	Inuvik	62.70	25	P	P	23 58 00.5	+0.4
	0.6nm,0.7s,baz=270,slow=3.0,SNR=2.4						
AKTO	Aktyubinsk	66.80	316	P	P	23 58 27.9	+0.8
	0.7nm,0.6s,baz=91,slow=13,SNR=3.7						
YKA	Yellowknife Ar	71.75	29	P	P	23 58 57.4	-0.1
	0.2nm,0.8s,baz=294,slow=5.4,SNR=4.3						
FINES	FINESS Array B	78.47	334	P	P	23 59 36.1	-0.1
	0.6nm,0.5s,baz=62,slow=4.5,SNR=7.9						
TXAR	Lajitas Array	94.86	54	P	P	00 00 58.2	+0.2
	0.2nm,0.8s,baz=335,slow=4.0,SNR=2.3						

IDC 01 23:59:13.3±1.4, 12°.47S×166°.24E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/28, mbtmp4.1/11, ML3.5/1, Error ellipse: s-maj=43.3km s-min=22.3km az=115.0
ISCJB 01 23:59:16.9±1.1, 12°.5S±0°.1×166°.2E±0°.2, h35km, mb4.1/10, Error ellipse: s-maj=31.8km s-min=16.0km az=10.4
ISC 01 23:59:18.5±1.1, 12°.5S±0°.1×166°.3E±0°.2, h35km, n12, σ0s.81/10, mb4.1/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
DZM	Mont Dzumac	9.54	179	Pn	Pn	00 01 33.5	0.0
	0.5nm,0.3s,baz=53,slow=20,SNR=2.3						
DZM				Sn	Sn	00 03 31.8	+12
	0.4nm,0.3s,baz=294,slow=22,SNR=1.3						
STKA	Stephens Creek	29.81	226	P	P	00 05 23.4	+1.0
	3.2nm,1.0s,baz=16,slow=13,SNR=3.2						
WRA	Warramunga Arr	31.54	252	P	P	00 05 36.7	-1.1
	0.8nm,1.0s,baz=85,slow=9.7,SNR=5.2						
ASAR	Alice Springs	32.67	246	P	P	00 05 45.4	-2.3
	1.1nm,0.7s,baz=82,slow=9.8,SNR=7.1						
MJAR	Matsushiro Arr	55.49	333	P	P	00 08 49.7	-0.4
	2.0nm,0.8s,baz=169,slow=9.7,SNR=5.7						
USRK	Ussuriysk Arra	64.47	333	P	P	00 09 51.9	+0.4
	3.4nm,0.9s,baz=71,slow=8.7,SNR=4.4						
CMAR	Chiang Mai Arr	73.19	294	P	P	00 10 46.4	0.0
	0.9nm,0.3s,baz=131,slow=4.7,SNR=6.1						
SONM	Songino Array	80.15	324	P	P	00 11 25.8	+0.6
	1.1nm,0.7s,baz=137,slow=5.3,SNR=7.6						
ILAR	Eielson Array	84.69	18	P	P	00 11 48.4	-0.1
	0.3nm,0.5s,baz=242,slow=4.9,SNR=14						
MKAR	Makanchi Array	94.94	317	P	P	00 12 37.8	+0.4
	1.6nm,0.8s,baz=101,slow=6.3,SNR=17						
ZALV	Zalesovo Beam	95.04	324	P	P	00 12 37.2	-0.4
	1.9nm,0.8s,baz=104,slow=4.7,SNR=9.8						
ARCES	ARCESS Array B	117.86	345	PKP	PKPdf	00 17 59.6	-1.2
	2.7nm,0.9s,baz=58,slow=2.6,SNR=5.5						

IDC 02 00:03:22.7±5.2, 20°.03S×174°.29W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/22, mbtmp3.8/3, Error ellipse: s-maj=255.0km s-min=33.0km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
ASAR	Alice Springs	48.01	256	P	P	00 12 05.0	+1.0
	1.3nm,0.4s,baz=91,slow=8.4,SNR=29						
WRA	Warramunga Arr	48.12	261	P	P	00 12 03.9	-0.8
	0.2nm,0.3s,baz=95,slow=8.2,SNR=14						
ILAR	Eielson Array	87.13	11	P	P	00 16 11.8	+1.8
	0.4nm,0.4s,baz=226,slow=6.3,SNR=3.1						
BRTR	Keskin Array B	149.03	315	PKPbc	PKPbc	00 23 12.2	-1.0
	0.7nm,0.7s,baz=62,slow=3.4,SNR=4.1						
GERES	GERESS Array B	150.54	349	PKPbc	PKPbc	00 23 14.3	-2.3
	0.4nm,0.7s,baz=289,slow=3.0,SNR=3.1						

MEX 02 00:23:04.1±0.4, 14°.97N×93°.42W, h7km±19km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
PCIG		0.75	15	iP	Pg	00 23 17.0	-1.6
PCIG				iS	Sg	00 23 27.3	-1.1
CMIG	Matias Romero	2.54	326	eP	Pn	00 23 42.9	-2.8
CMIG				iS	Sn	00 24 12.4	-4.6
HUIG	Huatulco	2.71	287	iP	Pn	00 23 45.0	-3.2
HUIG				iS	Sn	00 24 17.1	-4.2
VHO	Vista Hermosa	3.81	304	iP	Pn	00 24 01.4	-2.2
VHO				iS	Sn	00 24 45.6	-3.2

TRN 02 01:01:07.9, 19°.41N×65°.26W, h27km, MD3.5(RSPR)
NEIC 02 01:01:09.8, 19°.37N×65°.22W, h88km, MD3.5(RSPR), After RSPR.
RSPR 02 01:01:09.8, 19°.37N×65°.22W, h88km±11km, MD3.5/10
ISC 02 01:01:08.2±2.8, 19°.4N±0°.1×65°.28W±0°.05, h6km±12km, n34, σ0s.47/59, 17C-12D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
TBVI	Tortola	1.12	146⇓	eP	Pn	01 01 30.6	+0.2
TBVI				eS	Sn	01 01 45.8	-0.2
TBVI	Tortola	1.12	146⇓	eP	Pn	01 01 30.6	+0.2
TBVI				eS	Sn	01 01 45.8	-0.2
TBVI	Tortola	1.12	146⇓	eP	Pn	01 01 30.6	+0.2
TBVI				eS	Sn	01 01 45.8	-0.2
CBYP	Canovanas	1.20	207⇑	eP	Pn	01 01 31.4	-0.1
CBYP	Canovanas	1.20	207⇑	eP	Pn	01 01 31.4	-0.1
CBYP				eS	Sn	01 01 49.0	+0.8
CBYP	Canovanas	1.20	207	ePn	Pn	01 01 31.4	-0.1
CBYP				eS	Sn	01 01 48.4	+0.2
HUMP	Col San Antoni	1.31	204⇑	eP	Pg	01 01 33.3	-0.2
HUMP	Col San Antoni	1.31	204⇑	eP	Pg	01 01 33.3	-0.2
HUMP				eS	Sn	01 01 51.0	+0.1
HUMP	Col San Antoni	1.31	204⇑	eP	Pg	01 01 33.3	-0.2
HUMP				eS	Sn	01 01 51.0	+0.1
CPD	Cerro la Pandu	1.44	205⇑	eP	Pn	01 01 34.5	-0.3
CPD	Cerro la Pandu	1.44	205⇑	eP	Pn	01 01 34.5	-0.3
CPD				eS	Sg	01 01 54.7	+0.3
CPD	Cerro la Pandu	1.44	205⇑	eP	Pn	01 01 34.5	-0.3
CPD				eS	Sg	01 01 54.7	+0.3
SJG	San Juan	1.48	214⇓	eP	Pn	01 01 35.4	+0.1
SJG				eS	Sb	01 01 55.1	0.0
SJG	San Juan	1.48	214⇓	eP	Pn	01 01 35.4	+0.1
SJG				eS	Sb	01 01 55.1	0.0
SJG	San Juan	1.48	214⇓	eP	Pn	01 01 35.4	+0.1
SJG				eS	Sb	01 01 55.1	0.0
AOPR	Arecibo Observ	1.71	235⇓	eP	Pn	01 01 38.0	-0.6
AOPR	Arecibo Observ	1.71	235⇓	eP	Pn	01 01 38.0	-0.6
AOPR				eS	Sn	01 02 00.8	-0.1
AOPR	Arecibo Observ	1.71	235⇓	eP	Pn	01 01 38.0	-0.6
AOPR				eS	Sn	01 02 00.8	-0.1
CELP	Cerrillos	1.77	224⇑	eP	Pn	01 01 39.8	+0.5
CELP				eS	Sn	01 02 02.9	+0.8
CELP	Cerrillos	1.77	224⇑	eP	Pn	01 01 39.8	+0.5
CELP				eS	Sn	01 02 02.9	+0.8
CELP	Cerrillos	1.77	224	ePn	Pn	01 01 39.7	+0.5
CELP				eS	Sn	01 02 01.8	-0.3
OBIP	Obispado Ponce	1.81	224⇑	eP	Pn	01 01 39.9	0.0
OBIP	Obispado Ponce	1.81	224⇑	eP	Pn	01 01 39.9	0.0
OBIP	Obispado Ponce	1.81	224	ePn	Pn	01 01 39.9	0.0
OBIP				eS	Sn	01 02 02.2	-0.8
LRS	Lares	1.82	235⇓	eP	Pn	01 01 39.8	-0.2
LRS				eS	Sn	01 02 04.1	+0.8
LRS	Lares	1.82	235⇓	eP	Pn	01 01 39.8	-0.2
LRS				eS	Sn	01 02 04.1	+0.8
LRS	Lares	1.82	235⇓	eP	Pn	01 01 39.8	-0.2
LRS				eS	Sn	01 02 04.1	+0.8
AGPR	Aguadilla, PR	1.94	244	ePn	Pn	01 01 42.7	+1.0
LSP	Las Mesas	2.07	236⇑	eP	Pn	01 01 43.8	+0.3
LSP	Las Mesas	2.07	236⇑	eP	Pn	01 01 43.8	+0.3
LSP				eS	Sn	01 02 09.7	0.0
LSP	Las Mesas	2.07	236	ePn	Pn	01 01 44.2	+0.6
LSP				eS	Sb	01 02 12.2	-0.1
CRPR	Cabo Rojo, PR	2.19	233⇑	eP	Pn	01 01 44.4	-0.7
CRPR	Cabo Rojo, PR	2.19	233⇑	eP	Pn	01 01 44.4	-0.7
CRPR				eS	Sn	01 02 11.5	-1.0
CRPR	Cabo Rojo, PR	2.19	233⇑	eP	Pn	01 01 44.4	-0.7
CRPR				eS	Sn	01 02 11.5	-1.0

ISK 02 01:01:45.2, 40°.08N×40°.89E, h7km, MD2.9
CSEM 02 01:01:46.1±0.2, 40°.06N×40°.88E, h10km, MD2.9, Error ellipse: s-maj=5.1km s-min=3.6km az=16.0
DDA 02 01:01:45.9, 40°.03N×40°.93E, h7km, MD3.3, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
EZM	Erzurum	0.35	110	PG	Pg	01 01 54.0	+0.7
EZM				eSG	Sg	01 01 59.0	+0.8
ERZM	Erzurum	0.35	110	iP	Pg	01 01 53.7	+0.4
ERZM	Erzurum	0.35	110	iP	Pg	01 01 53.7	+0.5
HOMI	Horasan	0.75	88	iP	Pg	01 02 00.3	-0.4
HOMI				iS	Sb	01 02 13.5	+1.2
VRTB	Varto-Mus	0.95	155	ePG	Pb	01 02 05.5	+0.5
VRTB	Varto-Mus	0.95	155	ePg	Pb	01 02 05.5	+0.5
EUZM	Uzumlu	1.00	252	iP	Pg	01 02 04.2	-1.2
EUZM				iS	Sn	01 02 21.8	+0.7
EUZM	Uzumlu	1.00	252	iP	Pg	01 02 04.2	-1.2
EUZM				iS	Sn	01 02 21.8	+0.7
ERZN	Erzincan	1.03	245	ePG	Pg	01 02 05.2	-0.7
ERZN				eSG	Sg	01 02 19.1	-0.3
DDEM	Demirkent	1.07	36	iP	Pg	01 02 06.0	-0.6
DDEM				iS	Sn	01 02 22.3	-0.4
DDEM	Demirkent	1.07	36	iP	Pg	01 02 06.0	-0.7
DDEM				iS	Sn	01 02 22.3	-0.5
BNGL	BINGOL	1.08	171	iP	Pg	01 02 06.3	-0.8
BNGL				iS	Sg	01 02 31.7	+8.3
DBAD	Bademkaya	1.15	30	iP	Pg	01 02 07.8	-0.4
DBAD				iS	Sn	01 02 24.2	-0.6
DBAD	Bademkaya	1.15	30	iP	Pg	01 02 07.8	-0.4
DBAD				iS	Sb	01 02 24.2	+0.6
EKAR	Karacoban	1.16	131	iP	Pg	01 02 08.5	-0.1
EKAR	Karacoban	1.16	131	iP	Pg	01 02 08.5	-0.2
EKAR				iS	Sn	01 02 32.4	+7.1
GUMT	Gumushane	1.19	292	ePN	Pg	01 02 07.5	-1.5
GUMT	Gumushane	1.19	292	ePn	Pg	01 02 07.5	-1.5
EATA	Eleskirt	1.21	97	iP	Pb	01 02 09.1	-0.5
EATA	Eleskirt	1.21	97	iP	Pb	01 02 09.1	-0.5
EATA				iS	Sn	01 02 30.1	+3.4
MACK	Trabzon	1.27	316	iP	Pb	01 02 10.3	0.0
MACK				iS	Sn	01 02 28.4	+0.7
MACK	Trabzon	1.27	316	iP	Pb	01 02 10.3	0.0
MACK				iS	Sn	01 02 28.4	+0.7
DAGI	Agillar	1.29	35	iP	Pn	01 02 10.2	-0.4
DAGI				iS	Sn	01 02 28.7	+0.5
KELT	Kelkit	1.29	276	iP	Pn	01 02 10.2	-0.5
KELT				iS	Sn	01 02 29.6	+1.2
KELT	Kelkit	1.29	276	iP	Pn	01 02 10.2	-0.5
KELT				iS	Sn	01 02 29.6	+1.2
KTUT	Trabzon	1.31	318	ePN	Pn	01 02 09.4	-1.2
KTUT	Trabzon	1.31	318	ePn	Pn	01 02 09.5	-1.1
ARTV	Artvin	1.39	33	iP	Pn	01 02 12.0	0.0
ARTV	Artvin	1.39	33	iP	Pn	01 02 12.0	0.0
ARTV				iS	Sg	01 02 33.7	+2.6
TUTA	Tutak	1.58	113	iP	Pb	01 02 15.3	-0.5
TUTA				iS	Sg	01 02 38.5	+1.2
TUTA	Tutak	1.58	113	iP	Pb	01 02 15.3	-0.5
TUTA				iS	Sg	01 02 38.5	+1.2
PTK	Pertek	1.64	227	ePN	Pn	01 02 15.7	+0.1
PTK	Pertek	1.64	227	ePn	Pn	01 02 15.7	+0.2
AGRB	Hanur-Agry	1.65	105	ePN	Pn	01 02 15.7	0.0
AGRB	Hanur-Agry	1.65	105	ePn	Pn	01 02 15.7	+0.1
KARS	Kars	1.75	69	ePN	Pn	01 02 16.0	-0.9
KARS	Kars	1.75	69	ePn	Pn	01 02 16.0	-0.9
ILIC	ilic-Erzincan	1.91	253	ePN	Pn	01 02 18.8	-0.3
ILIC	ilic-Erzincan	1.91	253	ePn	Pn	01 02 18.8	-0.3
CLDR	Caldiran	2.47	110	ePN	Pn	01 02 28.1	+1.1
CLDR	Caldiran	2.47	110	ePn	Pn	01 02 28.1	+1.2

IDC 02 01:11:18.6±1.5, 13°.67N×125°.63E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.6/5, MS3.8/1, Ms1 3.8/1, ms1mx3.1/27, Error ellipse: s-maj=63.1km s-min=20.9km az=64.0
ISCJB 02 01:11:20.9±1.0, 13°.63N±0°.07×125°.46E±0°.09, h24km, mb3.5/5, MS3.6/1, Error ellipse: s-maj=12.9km s-min=9.4km az=155.8
ISC 02 01:11:22.5±1.2, 13°.63N±0°.09×125°.4E±0°.1, h24km, n9, σ1s.36/10, mb3.5/5, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
PVCP	Virac	1.23	268⇓	eP	**Pn**	**01 11 43.6**	**-0.7**
PVCP				eS	**Sn**	**01 11 58.7**	**-1.4**
PLP	Palo	2.49	190⇓	eP	**Pn**	**01 12 01.7**	**+0.1**
PLP				eS	**Sn**	**01 12 30.4**	**-0.9**
RCP	Roxas	3.33	232⇑	eP	**Pn**	**01 12 15.2**	**+2.0**
KSRS	Korea Array	23.83	5	LR	LR	01 25 24.2	
	comp=Z,237nm,21.5s,baz=338,slow=36						
CMAR	Chiang Mai Arr	25.88	284	P	**P**	**01 16 54.0**	**+1.2**
	0.8nm,0.3s,baz=89,slow=7.7,SNR=6.3						
WRA	Warramunga Arr	34.50	165	P	**P**	**01 18 07.0**	**-2.0**
	0.5nm,0.9s,baz=348,slow=9.1,SNR=3.8						
SONM	Songino Array	37.60	339	P	**P**	**01 18 35.5**	**+0.1**
	0.3nm,0.7s,baz=130,slow=5.8,SNR=2.7						
ASAR	Alice Springs	37.99	167	P	**P**	**01 18 39.3**	**+0.5**
	0.3nm,0.4s,baz=353,slow=7.0,SNR=6.5						
MKAR	Makanchi Array	48.88	321	P	**P**	**01 20 06.7**	**+0.3**
	0.6nm,0.7s,baz=115,slow=9.0,SNR=7.0						

SJA 02 01:16:54.3±0.3, 33°.15S×69°.34W, h52km±5km, ML2.7, MW4.2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
AMOG	MOGNA	2.32	18	eP	Pn	01 17 31.9	+1.7
AMOG				eS	Sn	01 17 59.9	+2.3
AVFE	Valle Fertil	2.96	33	iP	Pn	01 17 41.2	+2.3
AVFE				eS	Sn	01 18 15.8	+2.6
AVFE				AML	AML	01 18 19.4	
	comp=Z,21nm,0.2s						
AGUA	GUANDACOL	3.73	11	eS	Sn	01 18 35.0	+2.7
ACLC	CERRO LA CRUZ	4.24	29	eP	Pn	01 17 59.4	+2.8
ACLC				eS	Sn	01 18 47.4	+2.3

MEX 02 01:30:06.6±0.4, 17°.77N×102°.75W, h5km±7km, MD4.1, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
MMIG	Aquila	0.77	313	eP	Pg	01 30 19.9	-1.5
MMIG				iS	Sg	01 30 30.5	-0.8
R15V		1.82	320	eP	Pn	01 30 34.8	-3.8
R15V				iS	Sn	01 30 57.6	-4.5
EZ5V		1.88	335	iP	Pn	01 30 36.5	-3.3
EZ5V				iS	Sn	01 30 59.2	-5.0
ARIG	Puente Sto Nin	2.34	77	iP	Pn	01 30 42.9	-2.9
ARIG				iS	Sn	01 31 10.9	-4.1
MOIG	Morelia	2.41	38	eP	Pn	01 30 43.7	-3.3
MOIG				iS	Sn	01 31 12.3	-4.8
SFJM	Santa Fe	2.72	354	iP	Pn	01 30 48.2	-2.9
PLIG	Platanillo	3.15	78	eP	Pn	01 30 54.3	-2.7
PLIG				iS	Sn	01 31 31.2	-3.9
YAIG	Yautepec	3.67	72	iP	Pn	01 31 05.7	+1.5
YAIG				iS	Sn	01 31 48.4	+0.4
ANIG	Ahuacatlan	3.67	333	iP	Pn	01 31 02.5	-1.7
ANIG				eS	Sn	01 31 43.4	-4.6
TLIG	Tlapa	4.00	92	eP	Pn	01 31 11.4	+2.7
TLIG				eS	Sn	01 31 52.8	-3.3

CSEM 02 01:49:00.9, 35°.72N×21°.69E, h21km, MD3.7, After ATH
ATH 02 01:49:00.9, 35°.72N×21°.69E, h21km±1km, MD3.7/27, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
PYL	PYLOS	1.17	2	ePN	Pb	01 49 22.6	+0.1
PYL				eSN	Sn	01 49 40.2	+2.7
PYL	PYLOS	1.17	2	ePn	Pb	01 49 22.6	+0.1
PYL				eSn	Sn	01 49 40.2	+2.7
KYTH	Kithira	1.23	62	ePN	Pb	01 49 24.0	+0.6
KYTH	Kithira	1.23	62	ePn	Pb	01 49 24.0	+0.6
ANKY	Antikythira Is	1.32	83	ePN	Pb	01 49 25.8	+0.9
ANKY	Antikythira Is	1.32	83	ePn	Pb	01 49 25.8	+0.9
VLI	Veliai	1.42	45	ePN	Pb	01 49 27.0	+0.4
VLI				eSN	Sb	01 49 46.9	+2.6
VLI	Veliai	1.42	45	ePn	Pb	01 49 27.0	+0.4
VLI				eSn	Sb	01 49 46.9	+2.6
ITM	Ithomi	1.47	7	ePB	Pb	01 49 26.8	+0.6
ITM				eSN	Sb	01 49 48.3	+2.5
ITM	Ithomi	1.47	7	ePb	Pb	01 49 26.8	+0.6
ITM				eSn	Sb	01 49 48.3	+2.5
VLX	Vlachokerasia	1.74	18	ePN	Pb	01 49 32.0	-0.3
VLX	Vlachokerasia	1.74	18	ePn	Pb	01 49 32.0	-0.3
AMT	Artemida-Makis	1.81	0	ePN	Pb	01 49 29.1	-1.8
AMT	Artemida-Makis	1.81	0	ePn	Pb	01 49 29.1	-1.8
VAM	Vamos	2.07	98	ePN	Pb	01 49 37.0	-0.8
VAM	Vamos	2.07	98	ePn	Pb	01 49 37.0	-0.8
DID	Didima	2.17	34	ePN	Pb	01 49 38.8	-0.8
DID	Didima	2.17	34	ePn	Pb	01 49 38.8	-0.8
DRO	Drossia	2.23	0	ePB	Pb	01 49 38.9	-1.6
DRO	Drossia	2.23	0	ePb	Pb	01 49 38.9	-1.6
GUR	Goura	2.27	13	ePB	Pb	01 49 40.4	-1.0
GUR	Goura	2.27	13	ePb	Pb	01 49 40.4	-1.0
RLS	Riolos of Patr	2.34	356	ePN	Pb	01 49 40.3	-2.1
RLS	Riolos of Patr	2.34	356	ePn	Pb	01 49 40.3	-2.1
KLV	Kalavryta, Ach	2.35	9	ePN	Pb	01 49 40.5	-2.1
KLV	Kalavryta, Ach	2.35	9	ePn	Pb	01 49 40.5	-2.1
LTK	Loutraki	2.52	24	ePB	Pb	01 49 44.3	-1.1
LTK	Loutraki	2.52	24	ePb	Pb	01 49 44.3	-1.1
LAKA	Lakka	2.53	5	ePN	Pb	01 49 43.1	+2.4
LAKA	Lakka	2.53	5	ePn	Pb	01 49 43.1	+2.4
IDI	Anoyia	2.65	98	ePN	Pb	01 49 44.1	+1.7
IDI	Anoyia	2.65	98	ePn	Pb	01 49 44.1	+1.7
KALE	Kalithea	2.69	8	ePN	Pb	01 49 45.7	+2.7
KALE	Kalithea	2.69	8	ePn	Pb	01 49 45.7	+2.7
EFP	Efpalio	2.71	4	ePN	Pb	01 49 45.9	-2.7
EFP	Efpalio	2.71	4	ePn	Pb	01 49 45.9	-2.7
DSF	Desfina	2.77	14	ePN	Pb	01 49 47.0	-2.8
DSF	Desfina	2.77	14	ePn	Pb	01 49 47.0	-2.8
PDO	Prodromos	2.90	352	ePN	Pn	01 49 48.0	+2.1
PDO	Prodromos	2.90	352	ePn	Pn	01 49 48.0	+2.1
PTL	Penteli	2.91	36	ePN	Pn	01 49 48.8	+2.8
PTL	Penteli	2.91	36	ePn	Pn	01 49 48.8	+2.8
LKR	Lokris	3.11	19	ePN	Pn	01 49 51.1	+2.4
LKR	Lokris	3.11	19	ePn	Pn	01 49 51.1	+2.4
AXAR	Agios Charalam	3.14	14	ePN	Pn	01 49 52.4	+3.3
AXAR	Agios Charalam	3.14	14	ePn	Pn	01 49 52.4	+3.3
LAST	Lasithi	3.14	99	ePN	Pn	01 49 52.5	+3.2
LAST	Lasithi	3.14	99	ePn	Pn	01 49 52.5	+3.2
EVR	Evrytania	3.19	2	ePB	Pb	01 49 54.0	-3.0
EVR	Evrytania	3.19	2	ePb	Pb	01 49 54.0	-3.0

MAKR Makrakomi, Fth 3.31 6 ePN Pn 01 49 55.1 +3.6
MAKR Makrakomi, Fth 3.31 6 ePn Pn 01 49 55.1 +3.6
AGG Agios Georgios 3.34 9 ePN Pn 01 49 54.7 +2.8
AGG Agios Georgios 3.34 9 ePn Pn 01 49 54.7 +2.8
MRKA Markates 3.34 26 ePN Pn 01 49 53.9 +1.9
MRKA Markates 3.34 26 ePn Pn 01 49 53.9 +1.9
THL Klokotos Trika 3.85 4 ePN Pn 01 50 00.2 +1.4
THL Klokotos Trika 3.85 4 ePn Pn 01 50 00.2 +1.4
IGT Igoumenitsa 3.96 345 ePN Pn 01 49 58.8 -1.6
IGT Igoumenitsa 3.96 345 ePn Pn 01 49 58.8 -1.6
LIT Litokhoron 4.42 8 ePN Pn 01 50 09.2 +2.4
LIT eSN Sn 01 51 00.0 +2.4
LIT Litokhoron 4.42 8 ePn Pn 01 50 09.2 +2.4
LIT eSn Sn 01 51 00.0 +2.4
PAIG Paliouri 4.49 20 ePN Pn 01 50 08.8 +1.2
PAIG Paliouri 4.49 20 ePn Pn 01 50 08.8 +1.2
NEST Nestorio 4.71 354 ePN Pn 01 50 13.0 +2.1
NEST eSN Sn 01 51 06.5 +1.5
NEST Nestorio 4.71 354 ePn Pn 01 50 13.0 +2.1
NEST eSn Sn 01 51 06.5 +1.5
HORT Hortiatis 5.00 12 ePN Pn 01 50 15.8 +1.1
HORT Hortiatis 5.00 12 ePn Pn 01 50 15.8 +1.1
FNA Florina 5.06 357 ePN Pn 01 50 14.8 -0.8
FNA Florina 5.06 357 ePn Pn 01 50 14.8 -0.8
SOH Sokhos 5.26 14 ePN Pn 01 50 19.7 +1.4
SOH Sokhos 5.26 14 ePn Pn 01 50 19.7 +1.4
KNT Kendrikon 5.52 10 ePN Pn 01 50 23.2 +1.4
KNT Kendrikon 5.52 10 ePn Pn 01 50 23.2 +1.4
SRS Serrai 5.59 15 ePN Pn 01 50 23.9 +1.1
SRS Serrai 5.59 15 ePn Pn 01 50 23.9 +1.1

KRSC 02 01:58:36.2±2.2, 49°.13N×156°.34E, h15km±34km, ML3.8, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SKR Severo-Kuril's 1.56 355 eP Pb 01 59 04.3 -0.4
SKR eS Sn 01 59 23.3 +0.1
PAU Pauzhetka 2.35 7 eP Pn 01 59 15.3 +1.0
PAU eS Sb 01 59 46.3 -0.8
MIPR Malaya Ipel'ka 3.16 5 P Pn 01 59 27.6 +2.3
MTVR Mutnovka 3.55 19 eP Pn 01 59 34.3 +3.4
MTVR eS Sb 02 00 17.5 -4.4
RUS Russkaya 3.58 22 eP Pn 01 59 33.4 +2.3
RUS eS Sn 02 00 15.5 +2.4
UGLR Uglovaya 4.37 20 eP Pn 01 59 46.8 +4.7
AVH Avacha 4.40 19 eP Pn 01 59 47.8 +5.3
KOK Koryaka 4.41 18 eP Pn 01 59 47.5 +4.9
SMAR Somma 4.42 20 eP Pn 01 59 47.2 +4.3
KRER Koryakskii 4.44 19 eP Pn 01 59 47.5 +4.3
SDLR Sedlovina 4.45 20 eP Pn 01 59 45.9 +2.7
KRX Arik 4.47 18 eP Pn 01 59 48.1 +4.5
GNL Ganaly 4.68 12 eP Pn 01 59 50.0 +3.7

IDC 02 02:14:39.5±1.2, 8°.33S×156°.84E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.7/33, mbtmp3.7/7, ML4.2/1, Error ellipse: s-maj=33.1km s-min=25.2km az=130.0
ISCJB 02 02:14:40.9±0.8, 8°.45S±0°.2×156°.8E±0°.1, h19km, mb3.5/6, Error ellipse: s-maj=22.9km s-min=16.6km az=174.0
ISC 02 02:14:42.4±0.9, 8°.45S±0°.2×156°.9E±0°.1, h19km, n7, σ1°11/7, mb3.7/6, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 3.22 110 Pn Pn 02 15 32.3 +0.2
28nm,0.3s,baz=280,slow=4.7,SNR=6.2
WRA Warramunga Arr 24.66 240 P P 02 20 01.7 -0.6
1.4nm,0.7s,baz=66,slow=9.9,SNR=12
ASAR Alice Springs 26.75 233 P P 02 20 20.6 -0.6
0.3nm,0.7s,baz=70,slow=9.0,SNR=3.2
STKA Stephens Creek 27.39 209 P P 02 20 27.4 +0.6
1.1nm,0.5s,baz=48,slow=14,SNR=7.7
SONM Songino Array 71.48 327 P P 02 26 03.5 +1.5
0.4nm,0.8s,baz=118,slow=8.5,SNR=3.7
MKAR Makanchi Array 85.64 318 P P 02 27 19.5 -0.5
0.4nm,0.6s,baz=111,slow=6.7,SNR=5.7
YKA Yellowknife Ar 96.66 28 P P 02 28 10.0 -1.1
0.2nm,0.7s,baz=264,slow=5.5,SNR=4.0

IDC 02 02:19:56.8±0.8, 6°.36S×129°.59E, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.3/20, mbtmp4.3/11, ML4.4/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/26, Error ellipse: s-maj=40.7km s-min=16.8km az=65.0
MOS 02 02:19:59.9±1.8, 6°.96S×128°.84E, h33km, mb4.9/9, Error ellipse: s-maj=29.2km s-min=8.0km az=116.4
ISCJB 02 02:19:59.5±0.3, 6°.40S±0°.04×129°.82E±0°.04, h35km, mb4.4/27, MS3.5/8, Error ellipse: s-maj=6.0km s-min=5.2km az=7.8
NEIC 02 02:20:01.8±0.4, 6°.36S×129°.75E, h35km, mb4.6/12, Error ellipse: s-maj=9.7km s-min=7.8km az=65.0
DJA 02 02:20:03.6±1.9, 6°S±2°×13°0E±°, h26km±22km, M4.8/15, mb4.9/15, mB5.2/7, MLv4.8/15, Mw(mB)4.6/7
BJI 02 02:20:03.7, 6°.40S×129°.50E, h35km, mB4.9/5, mb4.6/17, Ms4.9/1, Ms7 4.8/1
ISC 02 02:20:01.9±0.4, 6°.38S±0°.05×129°.81E±0°.06, h35km, n89, σ1°68/73, mb4.4/27, MS3.6/8, 1C, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BNDI Bandanaira 1.85 3 P Pn 02 20 32.1 +0.9
BNDI S Sn 02 20 49.9 -3.4
SAUI Saumlaki 2.17 137 P Pn 02 20 39.7 +4.1
SAUI S Sn 02 21 12.0 +11
MSAI Masohi 3.14 344 P Pn 02 20 46.1 -2.8
MSAI S Sn 02 21 11.1 -14
FAKI Fak Fak 4.21 35 P Pn 02 21 03.0 -0.7
FAKI S Sn 02 21 52.4 +0.7
FAKI Fak Fak 4.21 35 ePn Pn 02 21 02.5 -1.2
FAKI eS Sn 02 21 58.9 +7.2
KMPI Kaimana, Papua 4.73 55 P Pn 02 21 11.1 +0.3
SWI Sorong 5.67 15 P Pn 02 21 23.0 -0.7
45nm,0.4s,2μm0.3nm
SANI Sanana 5.75 318 P Pn 02 21 23.9 -0.9
88nm,0.9s,0.3nm
LBMI Labuha 6.15 338 P Pn 02 21 31.1 +0.7
157nm,1.2s,2μm0.6nm
SOEI Soe 6.43 238 ePn Pn 02 21 34.6 +0.3
127nm,0.9s
SOEI eS Sn 02 22 53.4 +6.8
BBSI Bau Bau 7.26 277 P Pn 02 21 48.7 +3.2
95nm,1.2s,0.3nm
TNTI Ternate 7.51 341 P Pn 02 21 50.5 +1.4
157nm,1.0s,0.9nm
MMRI Maumere 7.83 253 P Pn 02 21 55.9 +2.4
228nm,1.8s,7μm0.8nm
MMRI Maumere 7.83 253 ePn Pn 02 21 53.7 +0.2
350nm,1.3s
BAKI Biak 8.13 51 P Pn 02 21 58.0 +0.5
133nm,0.9s,0.5nm
BKSI Bulukumba 9.70 276 P Pn 02 22 19.1 +0.1
47nm,0.9s,581nm
KAPI Kappang 10.10 277 ePn Pn 02 22 21.9 -2.6
73nm,0.6s
SPSI Sidrap Palu 10.29 283 P Pn 02 22 26.1 -1.0
31nm,1.4s
MRSI Marisa 10.40 311 P Pn 02 22 29.0 +0.4
84nm,1.1s
TTSI Tana Toraja 10.49 288 P Pn 02 22 31.6 +1.7
22nm,0.8s,2μm
PCI Palu 11.34 298 P Pn 02 22 45.1 +3.5
16nm,0.8s,238nm
WRAB Tennant Creek 14.17 162 eP Pn 02 23 16.2 -4.0
WRAB iS Sn 02 25 49.5 -6.9
WRAB Tennant Creek 14.17 162 ePn Pn 02 23 16.3 -4.0
36nm,1.0s
WRAB eS Sn 02 25 50.1 -6.3
WRA Warramunga Arr 14.18 162 Pn Pn 02 23 16.2 -4.1
1.5nm,0.3s,baz=342,slow=13,SNR=48
WRA Sn Sn 02 25 49.0 -7.6
2.1nm,0.3s,baz=344,slow=18,SNR=9.0
COEN Coen 15.15 121 ePn Pn 02 23 31.9 -1.6
184nm,0.7s
COEN eS Sn 02 26 13.5 -6.7
PMG Port Moresby 17.44 101 LR LR 02 32 41.1
comp=Z,234nm,19.0s,baz=258,slow=43
AS31 Alice Springs 17.63 168 ePn Pn 02 24 03.5 -1.5
AS31 eS Sn 02 27 12.3 -8.1
ASAR Alice Springs 17.63 168 P Pn 02 24 03.4 -1.6
1.2nm,0.3s,baz=346,slow=10,SNR=37
ASAR S Sn 02 27 08.8 -12
0.3nm,0.3s,baz=347,slow=25,SNR=5.8
MBWA Marble Bar 17.64 213 ePn Pn 02 24 04.0 -1.0
KSM Kuching 20.98 291 eP P 02 24 40.2 -2.1
9.4nm,1.0s
CTA Charters Tower 20.99 132 P P 02 24 44.1 +1.7
12nm,0.9s,baz=308,slow=14,SNR=8.7
CTAO Charters Tower 20.99 132 eP P 02 24 44.2 +1.8
CTAO pmax pmax
comp=Z,25nm,1.0s
CTAO Charters Tower 20.99 132 eP P 02 24 44.2 +1.8
comp=Z,25nm,1.0s
FORT Forrest 24.33 184 eP P 02 25 18.0 +1.6
comp=Z,28nm,0.7s
STKA Stephens Creek 27.65 158 eP P 02 25 46.8 +0.3
STKA pmax pmax
comp=Z,2.0nm,1.0s
STKA Stephens Creek 27.65 158 P P 02 25 47.0 +0.5
comp=Z,4.0nm,0.7s,baz=322,slow=8.7,SNR=10
STKA LR LR 02 38 51.2
comp=Z,198nm,18.1s,baz=337,slow=41
STKA Stephens Creek 27.65 158 eP P 02 25 46.8 +0.3
comp=Z,2.1nm,1.0s
NWAO Narrogin (SRO) 28.89 202 LR LR 02 36 59.3
comp=Z,203nm,21.8s,baz=14,slow=36
JCJ Chichijima 35.37 19 LR LR 02 38 48.0
comp=Z,74nm,21.6s,baz=348,slow=32
CMAR Chiang Mai Arr 39.19 310 P P 02 27 23.9 -3.0
comp=Z,0.9nm,0.3s,baz=129,slow=7.1,SNR=3.6
CMAR LR LR 02 46 29.8
comp=Z,94nm,18.1s,baz=125,slow=41
MAJO Matsushiro 43.42 10 eP P 02 28 08.0 +6.6
MAJO pmax pmax
comp=Z,72nm,1.3s
MJAR Matsushiro Arr 43.42 10 P P 02 28 00.7 -0.6
comp=Z,0.9nm,0.5s,baz=202,slow=6.6,SNR=4.1
MJAR LR LR 02 44 32.0
comp=Z,67nm,20.7s,baz=200,slow=34
XAN Xi'an 44.80 335 P P 02 28 18.8 +6.3
XAN pmax pmax
comp=Z,2.0nm,0.8s
XAN pmax pmax
comp=Z,18nm,7.5s
LZH Lanzhou 48.77 332 eP P 02 28 51.2 +7.5
LZH pP pP 02 28 59.0 +4.8
LZH sP sP 02 29 02.3 +4.0
LZH pmax pmax
comp=Z,12nm,1.0s
ASAJ Asahikawa 51.57 12 LR LR 02 49 21.4
comp=Z,90nm,18.8s,baz=154,slow=34
GTA Gaotai 53.34 331 eP P 02 29 18.2 +0.2
GTA pmax pmax
comp=Z,3.0nm,1.7s
ULN Ulaanbaatar 57.62 342 eP P 02 29 48.8 +0.2
ULN pmax pmax
comp=Z,19nm,1.5s
ULN Ulaanbaatar 57.62 342 eP P 02 29 48.8 +0.2
comp=Z,19nm,1.5s
SONM Songino Array 57.80 342 P P 02 29 51.1 +1.2
comp=Z,4.2nm,1.1s,baz=149,slow=7.0,SNR=15
ZAK Zakamensk 61.02 341 eP P 02 30 14.9 +2.9
ZAK pmax pmax
comp=Z,3.0nm,1.7s
TLY Talaya 62.03 342 eP P 02 30 21.5 +2.8
PETK Petropavlovsk- 63.80 18 P P 02 30 30.4 0.0
comp=Z,3.0nm,0.8s,baz=205,slow=6.4,SNR=2.8
PETK LR LR 02 56 54.4
comp=Z,9.4nm,20.8s,baz=214,slow=35
KSH Kashi 67.44 317 eP P 02 31 00.6 +6.2
KSH pP pP 02 31 03.4 -1.8
KSH ePP PP 02 33 29.6 +6.2
KSH S S 02 39 50.4 +2.2
KSH SS SS 02 44 06.9 -2.2
KSH pmax pmax
comp=Z,2.0nm,0.4s
KSH LR LR
comp=Z,97nm,5.0s
KSH LR LR
comp=Z,97nm,6.8s
KSH LR LR
comp=Z,160nm,5.0s
MK31 Makanchi Array 67.61 327 eP P 02 30 54.8 -0.4
MK31 Makanchi Array 67.61 327 eP P 02 30 54.8 -0.4
MKAR Makanchi Array 67.61 327 P P 02 30 55.0 -0.2
MKAR Makanchi Array 67.61 327 P P 02 30 55.0 -0.2
comp=Z,3.1nm,0.8s,baz=119,slow=7.1,SNR=20
YAK Yakutsk 68.21 360 eP P 02 31 08.5 +10
TKM2 Tokmak 2 69.39 320 eP P 02 31 06.2 -0.4
TKM2 Tokmak 2 69.39 320 eP P 02 31 06.2 -0.4
AAK Ala-Archa 69.95 320 eP P 02 31 08.4 -1.6
AAK pmax pmax
comp=Z,17nm,2.5s
AAK Ala-Archa 69.95 320 eP P 02 31 08.7 -1.4
comp=Z,3.0nm,0.9s
ZAA0 Zalesovo Array 70.95 334 eP P 02 31 14.7 -0.9
ZALV Zalesovo Beam 70.95 334 P P 02 31 14.8 -0.9
comp=Z,6.1nm,0.9s,baz=123,slow=5.3,SNR=22
SEY Seymchan 71.24 11 eP P 02 31 24.1 +6.9
SEY Seymchan 71.24 11 P P 02 31 17.6 +0.4
comp=Z,2.8nm,0.8s,baz=181,slow=3.8,SNR=6.4
KURK Kurchatov 71.89 329 eP P 02 31 21.3 -0.1
KURK pmax pmax
comp=Z,19nm,1.0s
KURK Kurchatov 71.89 329 eP P 02 31 21.3 -0.1
comp=Z,19nm,1.0s
NVS Novosibirsk 72.23 334 eP P 02 31 22.0 -1.3
KKAR Karatay Array 72.75 319 eP P 02 31 26.3 -0.5
KKAR Karatay Array 72.75 319 eP P 02 31 26.3 -0.5
comp=Z,0.2nm,0.3s
BVA0 Borovoye Array 77.44 328 P P 02 31 52.3 -1.2
BVA0 pmax pmax
comp=Z,12nm,1.4s
BRVK Borovoye 77.52 328 ceP P 02 31 54.1 +0.2
BRVK pmax pmax
comp=Z,10.0nm,1.3s
BRVK Borovoye 77.52 328 eP P 02 31 55.3 +1.3
comp=Z,11nm,1.2s
TIXI Tiksi 77.88 360 eP P 02 32 00.5 +5.0
TIXI pmax pmax
comp=Z,11nm,2.5s
AB31 Akbulak array 81.91 322 P P 02 32 19.1 +1.2
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 81.91 322 eP P 02 32 19.2 +1.4
comp=Z,1.0nm,0.5s
ARU Arti 85.08 328 eP P 02 32 33.0 -1.0
ARU pmax pmax
comp=Z,10.0nm,1.4s
ARU Arti 85.08 328 eP P 02 32 33.0 -1.0
comp=Z,9.9nm,1.4s
ILAR Eielson Array 92.87 25 P P 02 33 09.6 -1.2
comp=Z,5.0nm,0.9s,baz=240,slow=5.1,SNR=3.1
OBN Obninsk 97.05 325 eP P 02 33 26.2 -3.9
OBN ePS PS 02 46 20.1 +3.9
OBN eSS SS 02 51 27.0 -0.4
OBN pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 98.78 309 LR LR 03 26 00.3
comp=Z,17nm,18.1s,baz=71,slow=40
ANMO Albuquerque 121.09 53 i PKIKP PKPdf 02 38 55.3 +3.6
TXAR Lajitas Array 124.77 59 PKP PKPdf 02 39 00.9 +2.0
comp=Z,0.0nm,0.3s,baz=264,slow=1.8,SNR=2.5
TORD Torodi Ar. Bea 128.50 282 PKP PKPdf 02 39 10.6 +4.4
comp=Z,0.6nm,0.8s,baz=70,slow=1.7,SNR=4.5
CPUP Villa Florida 146.75 168 PKPbc PKPab 02 39 45.2 +3.1
comp=Z,9.4nm,1.0s,baz=189,slow=3.9,SNR=5.6
LPAZ La Paz 151.32 142 ePKIKP PKPdf 02 39 49.1 +1.4
LPAZ 02 39 55.5
LPAZ e 02 40 01.8
LPAZ La Paz 151.32 142 PKPbc PKPbc 02 39 55.5 +1.8
comp=Z,0.5nm,0.5s,baz=180,slow=2.0,SNR=3.1
LPAZ La Paz 151.32 142 ePKPdf PKPdf 02 39 49.1 +1.4
LPAZ PKPbc PKPbc 02 39 55.5 +1.8
LPAZ ePKPab PKPab 02 40 01.8 +0.2

ISCJB 02 02:25:10.3±0.8, 26°.4S±0°.1×179°.2E±0°.1, h500km, mb3.8/7, Error ellipse: s-maj=20.4km s-min=12.4km az=159.8
IDC 02 02:25:13.3±3.1, 26°.45S×179°.10E, h526km±36km, mb3.4/7, mb1 3.7/9, mb1mx3.4/35, mbtmp4.4/9, Error ellipse: s-maj=39.8km s-min=21.1km az=177.0
ISC 02 02:25:11.9±0.8, 26°.4S±0°.2×179°.1E±0°.1, h500km, n24, σ1°29/20, mb3.8/7, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NFK Norfolk Island 10.25 253 S S 02 29 27.7 +0.6
baz=8.4,SNR=6.0
URZ Urewera 11.91 188 P P 02 27 49.6 +0.3
4.7nm,0.3s,baz=57,slow=3.5,SNR=17
DZM Mont Dzumac 12.36 288 P P 02 27 55.7 +1.2
0.9nm,0.3s,baz=148,slow=19,SNR=8.1
RMQ Roma 27.16 263 P P 02 30 15.8 +1.2
baz=26,SNR=5.1
CTA Charters Tower 30.80 275 P P 02 30 46.4 +0.1
8.4nm,0.4s,baz=94,slow=10,SNR=13
STKA Stephens Creek 33.11 252 P P 02 31 05.8 -0.1
1.3nm,0.4s,baz=92,slow=10,SNR=5.2
STKA Stephens Creek 33.11 252 P P 02 31 06.2 +0.2
baz=31,SNR=4.9
HTT Hallett 35.37 249 P P 02 31 24.8 -0.2
baz=33,SNR=4.3
ASAR Alice Springs 40.91 264 P P 02 32 09.5 -0.8
3.6nm,0.4s,baz=97,slow=7.7,SNR=34
WRA Warramunga Arr 41.52 269 P P 02 32 13.9 -1.3
2.8nm,0.4s,baz=104,slow=6.1,SNR=34
FORT Forrest 44.74 252 P P 02 32 39.0 -1.2
baz=43,SNR=13
WRKA Warakurna 45.57 260 P P 02 32 45.6 -1.2
baz=44,SNR=5.3
KDU Kakadu 45.80 278 P P 02 32 46.9 -1.7
baz=44,SNR=6.6
KNRA Kununurra 47.95 272 P P 02 33 04.2 -0.6
baz=46,SNR=10.0
NVAR Mina Array Bea 87.11 44 P P 02 37 04.3 -0.2
0.8nm,0.8s,baz=219,slow=7.0,SNR=5.5
TXAR Lajitas Array 92.43 58 P P 02 37 29.3 +0.1
0.3nm,0.6s,baz=226,slow=6.3,SNR=5.4
ILAR Eielson Array 94.67 14 P P 02 37 36.1 -2.4
0.4nm,0.8s,baz=216,slow=4.5,SNR=3.3
FINES FINESS Array B 140.57 340 PKhKP PKPpre 02 43 32.3
1.2nm,0.7s,baz=253,slow=1.5,SNR=5.2
NB2 NORSAR Subarra 144.44 350 PKP PKPbc 02 43 48.3 -1.9
comp=Z,5.7nm,0.8s,baz=17,slow=2.6
NOA NORSAR Array B 144.44 350 PKP PKPbc 02 43 48.3 -1.9
comp=Z,4.3nm,0.7s,baz=19,slow=2.8,SNR=15
HFS Hagfors 144.86 347 PKP PKPdf 02 43 48.9 -2.0
comp=Z,5.5nm,0.6s,baz=69,slow=4.4,SNR=24
AKASG Malin Array Be 146.62 325 PKPbc PKPdf 02 43 54.3 +0.1
comp=Z,3.2nm,0.8s,baz=45,slow=3.9,SNR=17
MMAI Mount Meron Ar 147.94 291 PKPbc PKPdf 02 43 59.9 +2.8
comp=Z,0.2nm,0.3s,baz=112,slow=3.9,SNR=3.7
BRTR Keskin Array B 148.40 304 PKPbc PKPdf 02 43 59.9 +2.2
comp=Z,0.8nm,0.8s,baz=90,slow=3.6,SNR=3.9

IDC 02 02:58:55.4±2.4, 6°.31S×130°.71E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.2/30, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=149.0km s-min=31.4km az=71.0, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 14.01 166 Pn Pn 03 02 14.6 -0.7
0.1nm,0.3s,baz=349,slow=13,SNR=6.3
WRA Sn Sn 03 04 48.4 -3.3
0.2nm,0.3s,baz=345,slow=23,SNR=5.9
ASAR Alice Springs 17.53 170 P Pn 03 03 02.0 +0.5
0.1nm,0.3s,baz=344,slow=9.9,SNR=3.4
ASAR S Sn 03 06 14.2 -3.3
0.1nm,0.3s,baz=343,slow=25,SNR=2.8
MKAR Makanchi Array 68.04 326 P P 03 09 56.8 0.0
0.1nm,0.4s,baz=134,slow=6.2,SNR=2.6

IDC 02 03:33:42.6±2.9, 39°.07N×142°.65E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/37, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=70.4km s-min=36.0km az=66.0
ISCJB 02 03:33:55.0±0.8, 38°.82N±0°.04×141°.66E±0°.08, h80km±5km, mb3.4/2, Error ellipse: s-maj=11.1km s-min=5.8km az=15.6
JMA 02 03:33:56.4, 38°.83N×141°.58E, h74km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs180.00000°, δ64.00000°, λ82.00000°. NP2: φs18.00000°, δ28.00000°, λ107.00000°. Principal axes: T Plg70.0000°, Azm72.0000°; N Plg8.0000°, Azm184.0000°; P Plg18.0000°, Azm276.0000°;
JMA Felt I J1.
ISC 02 03:33:55.5±1.1, 38°.82N±0°.04×141°.68E±0°.08, h77km±7km, n15, σ0°44/27, 7C-1D, Near east coast of eastern Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OFUJ Ofunato 0.26 359 ⇑P Pn 03 34 07.8 +0.5
OFUJ S Sn 03 34 16.1 +0.2
JMK Ichinoseki 0.38 291 ⇑P Pn 03 34 08.0 0.0
JMK S Sn 03 34 16.6 -0.6
JIO Ouri 0.44 216 ⇑P Pn 03 34 08.9 +0.4
JIO S Sn 03 34 17.8 -0.2
JOM Ohasama 0.72 336 ⇑P Pn 03 34 11.5 +0.3
JOM S Sn 03 34 22.4 -0.4
JOU Okura 0.91 241 ⇑P Pn 03 34 13.6 +0.2
JOU S Sn 03 34 26.6 0.0
JRG Rokugo 1.00 306 ⇑P Pn 03 34 14.5 +0.2
JRG S Sn 03 34 27.8 -0.6
JYK Kaneyama 1.03 276 ⇓P Pn 03 34 14.8 0.0
JYK S Sn 03 34 29.2 0.0
JMM Marumori 1.18 217 ⇑P Pn 03 34 16.5 -0.1
JMM S Sn 03 34 31.5 -0.8
JYS Shirataka 1.40 245 P Pn 03 34 19.8 +0.4
JYS S Sn 03 34 37.5 +0.1
JYA Atsumi 1.55 262 P Pn 03 34 21.5 +0.1
JYA S Sn 03 34 40.9 0.0
JANG Nango 1.56 355 P Pn 03 34 21.7 +0.2
JANG S Sn 03 34 41.1 0.0
JFK Kawauchi 1.58 204 P Pn 03 34 22.4 +0.4
JFK S Sn 03 34 41.4 -0.3
MJAR Matsushiro Arr 3.57 232 Pn Pn 03 34 49.6 +1.0
1.3nm,0.3s,baz=40,slow=12,SNR=12
MKAR Makanchi Array 43.37 301 P P 03 41 50.7 +0.5
0.6nm,0.5s,baz=85,slow=9.7,SNR=9.7
WRA Warramunga Arr 58.85 188 P P 03 43 45.5 -0.8
0.1nm,0.4s,baz=6.1,slow=7.3,SNR=3.7

IDC 02 03:41:41.3±2.1, 7°.17S×129°.27E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/25, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=115.1km s-min=26.2km az=68.0, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 13.62 159 Pn Pn 03 44 54.9 -1.0
0.2nm,0.3s,baz=340,slow=14,SNR=12
WRA Sn Sn 03 47 28.4 +0.2
0.2nm,0.3s,baz=340,slow=23,SNR=5.7
ASAR Alice Springs 17.00 165 Pn P 03 45 42.2 -0.5
0.1nm,0.3s,baz=343,slow=10.0,SNR=9.3
ASAR Sn Sn 03 48 51.1 +0.6
0.1nm,0.3s,baz=353,slow=27,SNR=3.0
MKAR Makanchi Array 67.97 327 P P 03 52 42.2 0.0
0.4nm,0.7s,baz=137,slow=6.1,SNR=4.3

IDC 02 04:07:07.0±11.0, 15°.77S×178°.10W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.5/3, Error ellipse: s-maj=507.5km s-min=35.4km az=141.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 45.35 257 P P 04 15 27.4 -0.1
0.3nm,0.6s,baz=84,slow=8.0,SNR=3.6
ASAR Alice Springs 45.69 252 P P 04 15 29.9 -0.2
0.9nm,0.5s,baz=87,slow=7.9,SNR=12
ILAR Eielson Array 83.74 13 P P 04 19 37.6 0.0
0.2nm,0.5s,baz=229,slow=5.7,SNR=6.8

SJA 02 04:23:07.5±1.4, 31°.55S×69°.64W, h91km±9km, ML2.6, MW4.9, San Juan Province

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RTLS Leoncito 0.39 131 i P Pn 04 23 23.9 +2.0
RTLS i S Sn 04 23 33.4 +0.8
AUSP Uspallata 0.71 162 i P Pn 04 23 26.1 +1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
AUSP				eS	Sn	04 23 39.1	+1.8
SJA	**San Juan**	**0.93**	**89**	*i* P	Pn	04 23 28.0	+1.5
RTCV	**Cerro Valdivia**	**0.99**	**109**	*i* P	Pn	04 23 28.2	+1.0
RTCV				eS	Sn	04 23 43.7	+1.7
RTLL	**Cerro Villicun**	**1.02**	**78**	*i* P	Pn	04 23 28.5	+0.9
RTLL				eS	Sn	04 23 44.5	+1.9
AMOG	**MOGNA**	**1.16**	**59**	*i* P	Pn	04 23 30.7	+1.5
AMOG				eS	Sn	04 23 46.8	+1.3
CFAA	**Coronel Fontan**	**1.20**	**93**	*i* P	Pn	04 23 30.3	+0.6
CFAA				eS	Sn	04 23 47.5	+1.2
ASAL	**Salagasta**	**1.25**	**147**	*i* P	Pn	04 23 31.1	+0.9
ASAL				eS	Sn	04 23 49.3	+1.9
ARCO	**CERRO ARCO**	**1.42**	**155**	*i* P	Pn	04 23 33.2	+0.7
ARCO				eS	Sn	04 23 53.0	+1.5
ARCO				AML	AML	04 23 54.8	
	comp=Z,164nm,0.6s						
AVFE	**Valle Fertil**	**2.07**	**65**	*i* P	Pn	04 23 41.1	+0.2
AVFE				AML	AML	04 24 09.8	
	comp=Z,15nm,0.4s						

*IDC **02** 05:12:27.6±1.9, 10.°58N×126.°49E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/35, mbtmp3.7/5, Error ellipse: s-maj=92.6km s-min=20.9km az=58.0*
*ISCJB **02** 05:12:34.6±1.0, 10.°29N±0.°05×126.°23E±0.°08, h57km±11km, mb3.5/5, Error ellipse: s-maj=13.3km s-min=6.8km az=160.9*
*MAN **02** 05:12:35, 10.°28N×126.°05E, h20km, mb4.8, ML3.7, MS3.8*
ISC 02 05:12:35.3±1.7, **10.°30N**±0.°06×**126.°21E**±0.°09, **h46km**±17km, **n25**, σ1§50/24, **mb3.6**/5, **2C-3D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.88**	**234**⇓	*e*P	**Pn**	**05 12 49.8**	**-1.5**
SCPH				*e*S	**Sn**	**05 13 01.7**	**-1.3**
MSLP	**Maasin**	**1.34**	**263**	*e*P	**Pn**	**05 12 57.3**	**-0.3**
MSLP				*e*S	**Sn**	**05 13 12.7**	**-1.6**
BUTP	**Butuan**	**1.45**	**204**	*e*P	**Pn**	**05 12 58.9**	**-0.1**
BUTP				*e*S	**Sn**	**05 13 17.5**	**+0.7**
PLP	**Palo**	**1.49**	**305**⇓	*e*P	**Pn**	**05 12 59.0**	**-0.6**
BIPH	**Bislig**	**2.11**	**176**⇓	*i*P	**Pn**	**05 13 08.9**	**+0.8**
BIPH				*i* S	**Sn**	**05 13 31.0**	**-2.1**
LLP	**Lapu-Lapu**	**2.21**	**271**⇑	*e*P	**Pn**	**05 13 10.7**	**+1.1**
LLP				*e*S	**Sn**	**05 13 37.5**	**+1.9**
CGP	**Cagayan de Oro**	**2.37**	**219**	*e*P	**Pn**	**05 13 12.9**	**+1.2**
CGP				*i* S	**Sn**	**05 13 41.2**	**+1.7**
BUKP	**Musuan**	**2.66**	**205**	*e*P	**Pn**	**05 13 18.6**	**+2.8**
CNP	**Catarman**	**2.67**	**325**	*e*P	**Pn**	**05 13 17.3**	**+1.5**
GUIM	**Jordan**	**3.58**	**276**	*e*P	Pn	05 13 23.6	-4.8
RCP	**Roxas**	**3.63**	**290**⇑	*e*P	**Pn**	**05 13 30.6**	**+1.6**
PAGZ	**Pagadian**	**3.71**	**229**	*e*P	**Pn**	**05 13 32.0**	**+1.9**
PVCP	**Virac**	**3.85**	**189**	*e*P	**Pn**	**05 13 33.6**	**+1.6**
CMAR	**Chiang Mai Arr**	**27.60**	**290**	P	**P**	05 18 18.5	0.0
	0.6nm,0.3s,baz=96,slow=7.3,SNR=6.3						
WRA	**Warramunga Arr**	**31.10**	**165**	P	**P**	**05 18 49.4**	**-0.1**
	0.1nm,0.3s,baz=347,slow=9.3,SNR=2.7						
ASAR	**Alice Springs**	**34.59**	**168**	P	**P**	**05 19 19.7**	**-0.2**
	0.2nm,0.3s,baz=354,slow=6.7,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**39.97**	**74**	T	T	06 03 02.9	
	baz=278,slow=72,SNR=12						
H11S1	**WAKE ISLAND Hy**	**39.98**	**74**	T	T	06 03 04.1	
	baz=278,slow=72,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**39.98**	**74**	T	T	06 03 05.0	
	baz=278,slow=72,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**40.30**	**72**	T	T	06 03 28.8	
	baz=268,slow=74,SNR=44						
H11N2	**WAKE ISLAND Hy**	**40.31**	**72**	T	T	06 03 29.7	
	baz=268,slow=74,SNR=29						
H11N3	**WAKE ISLAND Hy**	**40.32**	**72**	T	T	06 03 30.2	
	baz=268,slow=74,SNR=50						
STKA	**Stephens Creek**	**44.45**	**161**	P	**P**	**05 20 42.8**	**+1.0**
	0.6nm,0.4s,baz=346,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**51.97**	**323**	P	**P**	**05 21 38.4**	**-1.5**
	0.6nm,0.7s,baz=118,slow=7.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**120.20**	**292**	PKP	**PKPdf**	**05 31 20.9**	**-1.3**
	0.1nm,0.4s,baz=75,slow=2.2,SNR=5.8						

IDC 02 05:16:46.8±2.4, **2.°99S**×**129.°29E**, **h0km**, **mb3.7**/2, **mb1 3.9**/3, **mb1mx3.5**/27, **mbtmp3.7**/3, **ML3.6**/1, **Error ellipse: s-maj=171.8km s-min=27.3km az=69.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**8.37**	**216**	P	Pg	05 19 32.1	+4.7
	baz=5.1,SNR=3.3						
KDU	**Kakadu**	**10.14**	**162**	P	Pn	05 19 16.2	+2.5
	baz=4.0,SNR=9.4						
WRA	**Warramunga Arr**	**17.56**	**164**	P	Pn	05 20 52.0	-1.2
	0.2nm,0.3s,baz=347,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**21.04**	**168**	P	P	05 21 33.0	+0.6
	3.1nm,0.7s,baz=347,slow=10,SNR=26						
WRKA	**Warakurna**	**21.95**	**182**	P	P	05 21 44.0	+1.8
	baz=15,SNR=4.7						
MKAR	**Makanchi Array**	**64.51**	**326**	P	P	05 27 25.4	0.0
	0.4nm,0.6s,baz=133,slow=8.3,SNR=6.1						

IDC 02 05:19:21.4±2.4, **2.°99S**×**129.°23E**, **h0km**, **mb3.8**/2, **mb1 4.1**/3, **mb1mx3.6**/27, **mbtmp3.8**/3, **ML3.7**/1, **Error ellipse: s-maj=168.9km s-min=27.7km az=69.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.01**	**89**	P	Pn	05 20 07.1	-3.3
	baz=7.6,SNR=4.0						
WRA	**Warramunga Arr**	**17.57**	**164**	P	Pn	05 23 26.6	-1.3
	0.2nm,0.3s,baz=347,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**21.04**	**168**	P	P	05 24 07.8	+0.6
	3.6nm,0.6s,baz=347,slow=10.0,SNR=21						
WRKA	**Warakurna**	**21.94**	**182**	S	P	05 24 18.0	+1.3
	baz=15,SNR=13						
MKAR	**Makanchi Array**	**64.48**	**326**	P	P	05 29 59.9	-0.1
	0.4nm,0.6s,baz=122,slow=7.5,SNR=5.2						

FUNV 02 05:32:49.4, 8.°93N×71.°23W, h7km, MW3.5, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.74**	**150**⇓	*i*P	Pg	05 33 02.8	-1.0
SOCV				*e*S	Sg	05 33 12.8	-0.6
QARV	**Quebrada Arrib**	**1.45**	**29**	*e*P	Pn	05 33 15.6	-0.6
QARV				*e*S	Sn	05 33 35.0	-0.4
CAPV	**Capacho**	**1.51**	**225**	*e*P	Pn	05 33 17.4	+0.3
CAPV				*e*S	Sn	05 33 37.1	-0.1
CURV	**Curarigua**	**1.65**	**49**	*e*P	Pn	05 33 18.4	-0.6
CURV				*e*S	Sn	05 33 40.0	-0.5
SANV	**Sanarito**	**1.77**	**71**	*e*P	Pn	05 33 20.3	-0.3
SANV				*e*S	Sn	05 33 42.6	-0.9
VIRV	**Villa del Rosa**	**1.94**	**324**	*e*P	Pn	05 33 21.6	-1.3
VIRV				*e*S	Sn	05 33 46.0	-1.7
DABV	**Dabajuro**	**2.06**	**16**	*e*P	Pn	05 33 24.1	-0.4
DABV				*e*S	Sn	05 33 49.0	-1.6
TEPV	**Terepaima**	**2.26**	**63**	*e*P	Pn	05 33 27.2	-0.1
ELOV	**Elorza**	**2.58**	**138**	*e*P	Pn	05 33 31.0	-0.7
MAPV	**Macapo**	**2.88**	**72**	*e*P	Pn	05 33 35.1	-0.7
BAUV	**El Baul**	**3.15**	**90**	*e*P	Pn	05 33 38.2	-1.3
BAUV				*e*S	Sn	05 34 14.9	-2.5
TURV	**Turiamo**	**3.67**	**65**	*e*P	Pn	05 33 45.3	-1.3
CUPV	**Cœpira**	**5.49**	**78**	*e*P	Pn	05 34 09.7	-2.0

*ISCJB **02** 05:41:13.6±0.4, 59.°23N±0.°03×154.°68W±0.°07, h169km±4km, mb3.5/1, Error ellipse: s-maj=6.7km s-min=4.3km az=30.9*
*NEIC **02** 05:41:15.3, 59.°22N×154.°72W, h165km, MG3.2(AEIC), After AEIC.*
*IDC **02** 05:41:20.0±8.8, 59.°87N×154.°75W, h178km±77km, mb3.2/1, mb1 3.0/3, mb1mx2.8/33, mbtmp3.4/3, Error ellipse: s-maj=80.8km s-min=30.4km az=16.0*
ISC 02 05:41:14.0±0.9, **59.°25N**±0.°04×**154.°69W**±0.°05, **h168km**±6km, **n86**, σ0§99/95, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCNL	**McNeil River**	**0.19**	**109**	P	**Pn**	**05 41 36.5**	**+0.1**
PDB	**Pedro Bay**	**0.60**	**25**	P	**Pn**	**05 41 38.1**	**+0.3**
KAHC	**Katmai Hardscr**	**0.62**	**195**	P	**Pn**	**05 41 37.9**	**-0.3**
AUH	**Augustine H**	**0.65**	**79**	P	**Pn**	**05 41 39.0**	**+0.8**
AUI	**Augustine Isla**	**0.65**	**82**	P	**Pn**	**05 41 38.7**	**+0.6**
AUI				S	**Sn**	**05 41 56.3**	**-0.4**
KAPH	**Katmai Pasha**	**0.68**	**165**	P	**Pn**	**05 41 38.6**	**+0.2**
KAPH				S	**Sn**	**05 41 56.7**	**-0.4**
OPT	**Oil Point**	**0.85**	**61**	P	**Pn**	**05 41 40.2**	**+0.8**
KVTA	**Katmai Vly 10**	**0.93**	**200**	P	**Pn**	**05 41 40.1**	**+0.1**
KAKN	**Katmai Knife C**	**0.97**	**192**	P	**Pn**	**05 41 40.5**	**+0.1**
KABU	**Katmai Buttres**	**1.03**	**198**	P	**Pn**	**05 41 41.2**	**+0.3**
KABU				S	**Sn**	**05 42 01.3**	**-0.1**
KCE	**Katmai Mt Cerb**	**1.04**	**195**	P	**Pn**	**05 41 41.3**	**+0.4**
ILS	**Iliamna Low So**	**1.09**	**49**	P	**Pn**	**05 41 41.9**	**+0.6**
KABR	**Katmai Barrier**	**1.13**	**188**	P	**Pn**	**05 41 41.4**	**-0.2**
ILW	**Iliamna West**	**1.13**	**43**	P	**Pn**	**05 41 42.1**	**+0.3**
IVE	**Iliamna Volcan**	**1.15**	**47**	P	**Pn**	**05 41 42.3**	**+0.5**
RSO	**Redoubt South**	**1.56**	**38**	*e*Pn	**Pn**	**05 41 46.2**	**+0.5**
NCT	**North Crescent**	**1.59**	**33**	P	**Pn**	**05 41 46.4**	**+0.5**
RDN	**Redoubt North**	**1.60**	**37**	P	**Pn**	**05 41 46.6**	**+0.6**
DFR	**Drift River**	**1.68**	**36**	P	**Pn**	**05 41 47.4**	**+0.5**
KDAK	**Kodiak Island**	**1.84**	**142**	P	**Pn**	**05 41 48.5**	**0.0**
KDAK				S	**Sn**	**05 42 14.1**	**-0.8**
SVW2	**Sparrevohn**	**1.91**	**347**	P	**Pn**	**05 41 49.6**	**+0.5**
SVW2				S	**Sn**	**05 42 16.1**	**-0.4**
BRLK	**Bradley Lake**	**2.01**	**73**	P	**Pn**	**05 41 50.6**	**+0.3**
BRLK				S	**Sn**	**05 42 17.2**	**-1.2**
OHAK	**Old Harbor**	**2.16**	**159**	P	**Pn**	**05 41 51.4**	**-0.6**
CKL	**Chakachamna La**	**2.28**	**30**	P	**Pn**	**05 41 54.4**	**+0.9**
BGL	**Barrier Glacie**	**2.32**	**29**	P	**Pn**	**05 41 55.1**	**+1.2**
SPBG	**Spurr Blockage**	**2.33**	**29**	P	**Pn**	**05 41 55.1**	**+1.1**
SLKM	**Skilak Lake**	**2.58**	**59**	P	**Pn**	**05 41 57.5**	**+0.6**
STLK	**Strandline Lak**	**2.67**	**31**	P	**Pn**	**05 41 59.5**	**+1.5**
SII	**Sitkinak Islan**	**2.71**	**174**	P	**Pn**	**05 41 58.0**	**-0.6**
SII				S	**Sn**	**05 42 30.9**	**-2.2**
SEW	**Seward**	**2.79**	**70**	P	**Pn**	**05 41 60.0**	**+0.5**
SEW				S	**Sn**	**05 42 33.8**	**-1.0**
FIB	**Fire Island**	**2.96**	**48**	P	**Pn**	**05 42 02.9**	**+1.4**
SUA	**Susitna One**	**2.96**	**40**	P	**Pn**	**05 42 02.3**	**+0.6**
RC01	**Rabbit Creek A**	**3.09**	**51**	P	**Pn**	**05 42 03.4**	**+0.4**
SKT	**Skwentna**	**3.15**	**28**	P	**Pn**	**05 42 05.5**	**+1.6**
PTE	**Portage**	**3.27**	**58**	P	**Pn**	**05 42 06.1**	**+0.8**
CHGN	**Chignik**	**3.57**	**216**	P	**Pn**	**05 42 09.0**	**-0.1**
PWL	**Port Wells**	**3.57**	**60**	P	**Pn**	**05 42 09.7**	**+0.5**
PMR	**Palmer**	**3.62**	**47**	P	**Pn**	**05 42 09.5**	**-0.2**
TT01	**Tatalina**	**3.73**	**351**	P	**Pn**	**05 42 10.8**	**-0.3**
CUT	**Chulitna**	**3.83**	**32**	P	**Pn**	**05 42 13.1**	**+0.6**
PPLA	**Purkeypile**	**3.86**	**17**	P	**Pn**	**05 42 13.8**	**+0.8**
GLI	**Glacier Island**	**4.14**	**64**	P	**Pn**	**05 42 16.5**	**0.0**
JPK	**Jack Peak**	**4.43**	**62**	P	**Pn**	**05 42 20.9**	**+0.7**
SCM	**Sheep Creek Mo**	**4.46**	**51**	P	**Pn**	**05 42 20.3**	**-0.4**
VLZ	**Valdez**	**4.58**	**62**	P	**Pn**	**05 42 22.9**	**+0.8**
KTH	**Kantishna Hill**	**4.68**	**21**	P	**Pn**	**05 42 24.0**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.69**	**70**	P	**Pn**	**05 42 23.9**	**+0.5**
TRF	**Thorofare Moun**	**4.72**	**25**	P	**Pn**	**05 42 24.4**	**+0.3**
CHUM	**Lake Minchumin**	**4.79**	**13**	P	**Pn**	**05 42 25.7**	**+0.9**
DIV	**Divide**	**4.83**	**63**	P	**Pn**	**05 42 26.0**	**+0.5**
KLU	**Klutina**	**4.90**	**59**	P	**Pn**	**05 42 27.4**	**+1.1**
SGAM	**Sherman Glacie**	**4.94**	**71**	P	**Pn**	**05 42 27.4**	**+0.6**
SDPT	**Sand Point**	**5.01**	**221**	P	**Pn**	**05 42 27.0**	**-0.8**
RND	**Reindeer**	**5.03**	**31**	P	**Pn**	**05 42 28.3**	**+0.3**
RAGM	**Ragged Mountai**	**5.18**	**73**	P	**Pn**	**05 42 31.1**	**+1.1**
GOAT	**Goat Mountain**	**5.19**	**71**	P	**Pn**	**05 42 31.0**	**+0.9**
DHY	**Denali Highway**	**5.22**	**40**	P	**Pn**	**05 42 30.4**	**-0.2**
MCK	**McKinley**	**5.27**	**29**	P	**Pn**	**05 42 31.6**	**+0.4**
BMRM	**Bremner River**	**5.33**	**67**	P	**Pn**	**05 42 32.8**	**+0.8**
PS11	**TAPS Pump St11**	**5.35**	**54**	P	**Pn**	**05 42 33.6**	**+1.5**
HARP	**HAARP**	**5.64**	**52**	P	**Pn**	**05 42 37.3**	**+1.4**
DTNA	**Dutton South F**	**5.81**	**228**	P	**Pn**	**05 42 38.9**	**+0.7**
PAX	**Paxson**	**5.82**	**46**	P	**Pn**	**05 42 38.6**	**+0.2**
GLB	**Gilahina Butte**	**5.83**	**63**	P	**Pn**	**05 42 39.5**	**+1.0**
DRIA	**Deer Island**	**5.95**	**227**	P	**Pn**	**05 42 40.5**	**+0.3**
PS10	**TAPS Pump St10**	**5.99**	**42**	P	**Pn**	**05 42 41.9**	**+1.2**
MLY	**Manley**	**6.09**	**16**	P	**Pn**	**05 42 42.0**	**0.0**
WRH	**Wood River Hil**	**6.10**	**28**	P	**Pn**	**05 42 41.2**	**-0.7**
DDM	**Donnelly Dome**	**6.21**	**39**	P	**Pn**	**05 42 44.8**	**+1.3**
CCB	**Clear Creek Bu**	**6.31**	**28**	P	**Pn**	**05 42 44.3**	**-0.4**
HDA	**Harding Lake**	**6.34**	**32**	P	**Pn**	**05 42 45.1**	**0.0**
MENT	**Mentasta**	**6.48**	**51**	*e*Pn	**Pn**	**05 42 47.9**	**+0.8**
MDM	**Murphy Dome**	**6.48**	**25**	P	**Pn**	**05 42 46.6**	**-0.4**
PS08	**TAPS Pump Stn8**	**6.48**	**32**	P	**Pn**	**05 42 46.5**	**-0.5**
ILAR	**Eielson Array**	**6.64**	**30**	P	**Pn**	**05 42 48.5**	**-0.6**
	2.0nm,0.3s,baz=222,slow=13,SNR=26						
ILAR				S	**Sn**	**05 43 58.9**	**-5.2**
	1.5nm,0.3s,baz=221,slow=22,SNR=12						
ILB	**Eielson Array**	**6.64**	**30**	P	**Pn**	**05 42 48.6**	**-0.6**
IL1	**Eielson Array**	**6.64**	**30**	P	**Pn**	**05 42 48.6**	**-0.5**
DOT	**Dot Lake**	**6.74**	**45**	*e*Pn	**Pn**	**05 42 50.5**	**0.0**
	5.2nm,0.4s						
IM3	**Indian Mountai**	**6.77**	**3**	P	**Pn**	**05 42 51.8**	**+0.9**
CHX	**Chaix Hills**	**6.93**	**77**	P	**Pn**	**05 42 55.1**	**+2.1**
BCA3	**Beaver Creek A**	**7.32**	**53**	P	**Pn**	**05 42 59.4**	**+1.2**
EGAK	**Eagle**	**8.43**	**43**	P	**Pn**	**05 43 12.8**	**+0.1**
DAWY	**Dawson**	**8.72**	**50**	P	**Pn**	**05 43 17.1**	**+0.4**
HYT	**Haines Junctio**	**8.74**	**72**	P	**Pn**	**05 43 18.7**	**+1.6**
YKA	**Yellowknife Ar**	**19.55**	**63**	P	**Pn**	**05 45 30.8**	**-0.8**
	0.1nm,0.3s,baz=276,slow=10.0,SNR=8.5						
SONM	**Songino Array**	**54.53**	**305**	P	**P**	**05 50 26.5**	**+2.3**
	0.5nm,0.5s,baz=37,slow=6.2,SNR=2.8						

IDC 02 05:41:34.4±2.4, **34.°57S**×**109.°08W**, **h0km**, **mb3.7**/3, **mb1 4.1**/3, **mb1mx3.5**/18, **mbtmp3.7**/3, **MS3.6**/4, **Ms1 3.6**/4, **ms1mx3.3**/20, **Error ellipse: s-maj=100.4km s-min=69.2km az=96.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**39.82**	**285**	LR	LR	06 02 18.4	
	comp=Z,112nm,18.1s,baz=197,slow=31						
LPAZ	**La Paz**	**40.88**	**74**	LR	LR	06 01 34.9	
	comp=Z,23nm,19.3s,baz=221,slow=29						
CPUP	**Villa Florida**	**44.95**	**94**	LR	LR	06 05 39.7	
	comp=Z,91nm,18.8s,baz=176,slow=32						
BDFB	**Brasilia**	**57.59**	**87**	LR	LR	06 13 49.0	
	comp=Z,67nm,18.3s,baz=180,slow=34						
TXAR	**Lajitas Array**	**63.77**	**5**	P	P	05 52 08.2	-0.1
	0.3nm,0.9s,baz=183,slow=5.0,SNR=3.5						
NVAR	**Mina Array Bea**	**73.14**	**352**	P	P	05 53 06.9	0.0
	1.0nm,1.0s,baz=171,slow=6.4,SNR=6.5						
PDAR	**Pinedale Array**	**76.97**	**360**	P	P	05 53 28.9	0.0
	1.3nm,0.9s,baz=170,slow=6.2,SNR=7.2						
AKASG	**Malin Array Be**	**145.87**	**49**	PKPbc	PKPdf	06 01 14.4	-0.2
	0.1nm,0.3s,baz=272,slow=4.6,SNR=4.8						
SONM	**Songino Array**	**150.48**	**307**	PKPbc	PKPbc	06 01 27.4	-0.4
	1.2nm,0.9s,baz=82,slow=3.0,SNR=5.9						
KURBB	**Kurchatov Arra**	**163.03**	**343**	PKPab	PKPab	06 02 27.6	-0.3
	0.3nm,0.4s,baz=14,slow=4.1,SNR=3.7						

*IDC **02** 05:54:50.4±0.7, 10.°71N×91.°85E, h0km, mb4.1/15, mb1 4.2/17, mb1mx4.0/41, mbtmp4.1/17, ML4.1/2, MS3.5/10, Ms1 3.6/10, ms1mx3.2/35, Error ellipse: s-maj=26.0km s-min=13.1km az=57.0*
*ISCJB **02** 05:54:52.9±0.3, 10.°73N±0.°03×91.°96E±0.°03, h27km, mb4.4/36, MS3.6/9, Error ellipse: s-maj=4.9km s-min=4.5km az=137.8*
*MOS **02** 05:54:53.5±0.9, 10.°78N×92.°13E, h33km, mb4.8/15, Error ellipse: s-maj=11.7km s-min=7.0km az=105.9*
*NEIC **02** 05:54:56.4±0.9, 10.°77N×92.°07E, h38km±8km, mb4.7/13, Error ellipse: s-maj=8.7km s-min=7.1km az=63.0*
*BKK **02** 05:55:04.6±1.9, 11°N±5°×9°3E±2°0, h10km, M4.6/11, mB5.1/2, mb4.6/11, Mw(mB)4.5/2*
ISC 02 05:54:54.9±0.4, **10.°75N**±0.°05×**92.°00E**±0.°05, **h27km**, **n100**, σ1§22/88, **mb4.6**/36, **MS3.5**/9, **1C-1D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.16**	**39**	*e*P	Pn	05 55 14.2	-1.2
PBA				*e*S	Sn	05 55 28.9	-1.4
PBA				AML	AML	05 55 30.4	
	comp=N,56µm,0.4s						
PBA				AML	AML	05 55 30.8	
	comp=E,42µm,0.3s						
DGPR	**DIGLIPUR**	**2.58**	**21**	*e*P	**Pn**	**05 55 36.0**	**+1.1**
DGPR				*e*S	**Sn**	**05 56 07.4**	**+2.1**
DGPR				AML	AML	05 56 24.8	
	comp=E,4µm,0.2s						
DGPR				AML	AML	05 56 34.7	
	comp=N,3µm,0.6s						
CMBY	**CAMPBELL BAY**	**4.17**	**153**	*e*P	**Pn**	**05 55 58.2**	**+1.3**
CMBY				*e*S	**Sn**	**05 56 44.5**	**-0.3**
SURT	**Suratani**	**6.92**	**104**	P	**Pn**	**05 56 37.3**	**+2.6**
	comp=N,68nm,1.2s,comp=N,619nm						
KHLT	**Khaolaem Dam**	**7.58**	**57**	P	Pn	05 56 51.6	+7.9
	comp=N,29nm,0.7s						
SRDT	**SRDT**	**7.81**	**62**	P	Pn	05 56 50.9	+4.0
	comp=N,123nm,0.8s						
MHMT	**Maesarieng**	**9.35**	**37**	P	Pn	05 57 11.3	+3.3
	comp=N,16nm,0.6s						
SUKH	**Sukhothai**	**9.97**	**47**	P	Pn	05 57 20.5	+4.0
	comp=N,12nm,0.8s						
CM31	**Chiang Mai Arr**	**10.19**	**40**	*e*Pn	**Pn**	**05 57 21.1**	**+1.7**
	comp=N,4.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**10.19**	**40**	Pn	**Pn**	**05 57 19.0**	**-0.4**
	comp=N,0.6nm,0.3s,baz=235,slow=15,SNR=7.5						
CMAR				Sn	**Sn**	**05 59 14.1**	**+1.2**
	comp=N,0.3nm,0.3s,baz=234,slow=27,SNR=3.9						
CMAR				LR	LR	06 02 04.4	
	comp=N,166nm,19.3s,baz=228,slow=42						
CHTO	**Chiang Mai**	**10.45**	**39**	*e*P	**Pn**	**05 57 22.4**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CHTO	**Chiang Mai**	**10.45**	**39**	P	Pn	05 57 33.8	+11
	comp=Z,45nm,1.4s						
CHTO	**Chiang Mai**	**10.45**	**39**	*e*Pn	**Pn**	**05 57 22.4**	**-0.7**
	comp=Z,5.0nm,0.6s						
CMMT	**Chiang Mai**	**10.45**	**39**	P	Pn	05 57 33.7	+11
	comp=Z,12nm,1.2s						
PBKT	**Sadao Pong**	**10.46**	**55**	P	Pn	05 57 29.7	+6.5
	comp=Z,25nm,1.2s						
PSI	**Prapat**	**10.46**	**139**	Pn	**Pn**	**05 57 23.7**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=299,slow=19,SNR=4.2						
LAMP	**Lampang**	**10.68**	**43**	P	Pn	05 57 34.2	+7.9
	comp=Z,9.5nm,0.7s						
VIS	**Vishakhapatnam**	**10.89**	**310**	*e*P	**Pn**	**05 57 27.5**	**-1.7**
VIS				*e*x	x	05 59 18.3	
VIS				AML	AML	05 59 21.3	
	comp=E,95nm,0.7s						
VIS				AML	AML	05 59 23.5	
	comp=N,117nm,0.9s						
CMAI	**Chiengmai2**	**11.38**	**36**	P	Pn	05 57 42.5	+6.6
PALK	**Pallekele**	**11.68**	**254**	*e*P	**Pn**	**05 57 42.0**	**+2.0**
PALK				pmax	pmax		
	comp=Z,28nm,0.6s						
PALK	**Pallekele**	**11.68**	**254**	*e*Pn	**Pn**	**05 57 42.0**	**+2.0**
	comp=Z,28nm,0.6s						
BOK	**Bokaro**	**14.22**	**337**	*e*P	**Pn**	**05 58 13.5**	**-1.1**
HYB	**Hyderabad**	**14.63**	**298**	*i* P	**Pn**	**05 58 19.0**	**-1.3**
HYB				*e*S	**Sn**	**06 01 02.0**	**+0.3**
HYB	**Hyderabad**	**14.63**	**298**	*e*P	**Pn**	**05 58 19.3**	**-1.0**
SHL	**Shillong**	**14.74**	**360**	*e*P	**Pn**	**05 58 20.5**	**-1.3**
SHL				*e*x	x	06 00 57.5	
SLVN	**Son La**	**15.53**	**46**	*e*Pn	**Pn**	**05 58 32.5**	**+0.3**
	comp=Z,19nm,1.1s						
BHPL	**Bhopal**	**18.65**	**314**	*e*P	**P**	**05 59 11.1**	**+0.2**
LSA	**Lhasa**	**18.87**	**358**	*e*P	**P**	**05 59 13.3**	**-0.4**
LSA				pmax	pmax		
	comp=Z,32nm,0.6s						
LSA	**Lhasa**	**18.87**	**358**	*e*P	**P**	**05 59 13.3**	**-0.4**
	comp=Z,32nm,0.6s						
POO	**Poona**	**19.18**	**296**	*e*P	**P**	**05 59 15.6**	**-1.2**
NDI	**New Delhi**	**22.59**	**324**	*e*P	**P**	**05 59 54.5**	**+1.1**
AJM	**Ajmer**	**22.66**	**316**	*e*x	**P**	**05 59 55.0**	**+0.7**
ENH	**Enshi**	**25.34**	**37**	*e*P	**P**	**06 00 17.9**	**-1.8**
	comp=Z,18nm,0.6s						
H08S3	**Diego Garcia H**	**26.66**	**228**	T	T	06 28 30.7	
	baz=47,slow=75,SNR=180						
H08S2	**Diego Garcia H**	**26.67**	**228**	T	T	06 28 29.5	
	baz=47,slow=75,SNR=178						
H08S1	**Diego Garcia H**	**26.68**	**228**	T	T	06 28 28.7	
	baz=47,slow=75,SNR=127						
TKM2	**Tokmak 2**	**35.09**	**339**	*e*P	**P**	**06 01 45.9**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TKM2	**Tokmak 2**	**35.09**	**339**	*e*P	**P**	**06 01 45.9**	**-0.3**
	comp=Z,2.4nm,0.8s						
AAK	**Ala-Archa**	**35.25**	**337**	*e*P	**P**	**06 01 48.2**	**+0.8**
AAK				pmax	pmax		
	comp=Z,23nm,1.7s						
EKS2	**Erkin-Say**	**35.55**	**337**	*e*P	**P**	**06 01 50.5**	**+0.5**
EKS2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
EKS2	**Erkin-Say**	**35.55**	**337**	*e*P	**P**	**06 01 50.5**	**+0.5**
	comp=Z,4.6nm,0.6s						
MK31	**Makanchi Array**	**36.86**	**349**	*e*P	**P**	**06 02 00.4**	**-0.6**
MK31	**Makanchi Array**	**36.86**	**349**	*e*P	**P**	**06 02 00.4**	**-0.6**
MKAR	**Makanchi Array**	**36.86**	**349**	P	**P**	**06 02 00.8**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=169,slow=8.5,SNR=47						
MKAR				LR	LR	06 19 23.7	
	comp=Z,78nm,20.5s,baz=154,slow=40						
KK31	**Karatay Array**	**37.26**	**334**	*e*P	**P**	**06 02 04.9**	**+0.4**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KKAR	**Karatay Array**	**37.26**	**334**	*e*P	**P**	**06 02 04.9**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KKAR	**Karatay Array**	**37.26**	**334**	*e*P	**P**	**06 02 04.9**	**+0.4**
	comp=Z,6.3nm,0.6s						
SONM	**Songino Array**	**38.90**	**15**	P	**P**	**06 02 17.8**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=203,slow=8.3,SNR=10						
SONM				LR	LR	06 21 27.4	
	comp=Z,67nm,19.4s,baz=208,slow=41						
KURBB	**Kurchatov Arra**	**41.27**	**347**	P	**P**	**06 02 37.3**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=173,slow=7.6,SNR=18						
KURK	**Kurchatov**	**41.34**	**347**	*e*P	**P**	**06 02 37.9**	**-0.4**
KURK	**Kurchatov**	**41.34**	**347**	*e*P	**P**	**06 02 37.9**	**-0.4**
KSAR	**Wonju Array Be**	**41.76**	**44**	P	**P**	**06 02 44.0**	**+2.0**
KSAR	**Wonju Array Be**	**41.76**	**44**	P	**P**	**06 02 44.0**	**+2.0**
KSRS	**Korea Array**	**41.80**	**44**	P	**P**	**06 02 44.0**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=238,slow=8.4,SNR=2.8						
KSRS				LR	LR	06 20 54.0	
	comp=Z,51nm,19.2s,baz=256,slow=37						
TLY	**Talaya**	**41.91**	**11**	*e*P	P	06 02 52.3	+9.3
TLY				*e*		06 04 24.6	
TLY				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ZAA0	**Zalesovo Array**	**43.47**	**354**	*e*P	**P**	**06 02 55.0**	**-0.6**
ZALV	**Zalesovo Beam**	**43.47**	**354**	P	**P**	**06 02 55.0**	**-0.6**
ZALV	**Zalesovo Beam**	**43.47**	**354**	P	**P**	**06 02 55.0**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=177,slow=8.9,SNR=15						
ZALV				LR	LR	06 24 35.9	
	comp=Z,72nm,20.4s,baz=248,slow=41						
BRVK	**Borovoye**	**45.67**	**342**	*e*P	**P**	**06 03 12.4**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
RAYN	**Ar Rayn**	**46.02**	**292**	*e*P	**P**	**06 03 17.4**	**+0.9**
	comp=Z,7.5nm,0.8s						
AB31	**Akbulak array**	**46.71**	**331**	*i* P	**P**	**06 03 21.8**	**+0.3**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ABKAR	**Akbulak array**	**46.71**	**331**	*e*P	**P**	**06 03 21.8**	**+0.3**
	comp=Z,4.5nm,0.7s						
MJAR	**Matsushiro Arr**	**48.89**	**50**	LR	LR	06 24 57.2	
	comp=Z,36nm,19.3s,baz=265,slow=37						
NWAO	**Narrogin (SRO)**	**49.66**	**152**	P	**P**	**06 03 44.5**	**0.0**
	comp=Z,3.8nm,0.6s,baz=314,slow=7.8,SNR=3.9						
GNI	**Garni**	**50.94**	**314**	*e*P	**P**	**06 03 55.6**	**+1.3**
GNI				pmax	pmax		
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**51.64**	**126**	P	**P**	**06 03 59.1**	**-0.6**
	comp=Z,9.9nm,0.3s,baz=300,slow=10.0,SNR=253						
WRAB	**Tennant Creek**	**51.65**	**126** *c*	*i*P	**P**	**06 03 58.9**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,23nm,1.3s						
WRAB	**Tennant Creek**	**51.65**	**126**	*e*P	**P**	**06 03 59.1**	**-0.5**
	comp=Z,16nm,0.6s						
ARU	**Arti**	**52.44**	**337** *d*	*i*P	**P**	**06 04 05.0**	**0.0**
ARU						06 06 05.7	
ARU				S	**S**	**06 11 30.5**	**+1.1**
ARU				SS	**SS**	**06 15 08.1**	**+0.6**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s						
AS31	**Alice Springs**	**53.37**	**130**	*e*P	**P**	**06 04 12.2**	**-0.3**
ASAR	**Alice Springs**	**53.37**	**130**	P	**P**	**06 04 12.3**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=306,slow=7.5,SNR=67						
ASAR				LR	LR	06 29 07.2	
	comp=Z,77nm,18.5s,baz=166,slow=38						
ERM	**Erimo**	**54.34**	**46**	*e*P	P	06 04 14.7	-4.6
ERM				pmax	pmax		
	comp=Z,53nm,1.3s						
YAK	**Yakutsk**	**57.99**	**20**	*e*P	**P**	**06 04 42.9**	**-2.0**
BRTR	**Keskin Array B**	**58.97**	**310**	P	**P**	**06 04 51.4**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=118,slow=8.6,SNR=3.4						
OBN	**Obninsk**	**61.84**	**328**	*e*P	**P**	**06 05 11.9**	**+0.4**
OBN				*e*		06 07 27.9	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.3s						
STKA	**Stephens Creek**	**63.60**	**134**	*e*P	**P**	**06 05 23.4**	**-0.3**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						

STKA Stephens Creek 63.60 134 P P 06 05 24.3 +0.7
comp=Z,5.9nm,0.7s,baz=309,slow=6.3,SNR=15
STKA Stephens Creek 63.60 134 eP P 06 05 23.4 -0.3
comp=Z,1.8nm,0.9s
AKASG Malin Array Be 64.61 321 P P 06 05 28.6 -1.3
comp=Z,0.1nm,0.3s,baz=88,slow=5.6,SNR=4.9
TIXI Tiksi 64.86 12 eP P 06 05 29.7 -1.5
TIXI pmax pmax
comp=Z,3.0nm,0.9s
TIXI Tiksi 64.86 12 eP P 06 05 30.3 -0.9
comp=Z,5.5nm,0.6s
PETK Petropavlovsk- 66.94 37 LR LR 06 37 40.8
comp=Z,28nm,18.5s,baz=237,slow=38
SEY Seymchan 67.23 26 eP P 06 05 45.4 -1.2
VSU Vasula 68.05 329 eP P 06 05 53.3 +1.4
VSU pmax pmax
comp=Z,25nm,1.2s
FINES FINESS Array B 69.20 332 P P 06 05 58.2 -0.7
comp=Z,1.6nm,0.7s,baz=123,slow=8.5,SNR=5.2
ARCES ARCESS Array B 71.86 340 P P 06 06 14.0 -1.1
comp=Z,1.5nm,0.7s,baz=97,slow=7.4,SNR=4.1
ARCES LR LR 06 40 53.3
comp=Z,82nm,20.9s,baz=164,slow=38
GERES GERESS Array B 74.29 318 P P 06 06 29.2 -0.8
comp=Z,0.7nm,0.8s,baz=94,slow=7.0,SNR=3.4
NOA NORSAR Array B 76.20 330 LR LR 06 43 35.6
comp=Z,30nm,20.0s,baz=70,slow=38
LPG La Plagne 79.11 314 eP P 06 07 00.5 +3.0
comp=Z,3.7nm,0.5s
LPG La Plagne 79.11 314 eP P 06 07 00.5 +3.0
LPG pmax pmax
comp=Z,4.0nm,0.5s
LPG La Plagne 79.11 314 eP P 06 07 00.5 +3.0
comp=Z,3.7nm,0.5s
LPL La Plagne 79.12 314 eP P 06 06 59.9 +2.4
comp=Z,9.5nm,0.8s
LPL La Plagne 79.12 314 eP P 06 06 59.9 +2.4
LPL pmax pmax
comp=Z,10.0nm,0.8s
LPL La Plagne 79.12 314 eP P 06 06 59.9 +2.4
comp=Z,9.5nm,0.8s
TORD Torodi Ar. Bea 87.90 283 P P 06 07 43.2 +0.3
comp=Z,0.3nm,0.7s,baz=88,slow=5.6,SNR=3.0
COLA College 92.47 22 eP P 06 08 02.1 -1.1
COLA pmax pmax
comp=Z,11nm,1.4s
ILAR Eielson Array 92.88 22 P P 06 08 05.5 +0.4
comp=Z,0.4nm,0.6s,baz=298,slow=4.6,SNR=11
PDAR Pinedale Array 123.20 19 PKP PKPdf 06 13 49.5 -0.4
comp=Z,0.2nm,0.5s,baz=34,slow=0.3,SNR=2.8
NVAR Mina Array Bea 123.48 28 PKP PKPdf 06 13 50.9 +0.3
comp=Z,0.4nm,0.7s,baz=51,slow=0.6,SNR=3.7
TXAR Lajitas Array 137.38 20 PKP PKPdf 06 14 16.2 -0.7
comp=Z,0.3nm,0.9s,baz=294,slow=1.2,SNR=4.3

IDC 02 05:58:44.3±2.9, 1°.27S×128°.29E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/38, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=133.9km s-min=34.0km az=88.0, Halmahera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 19.48 163 P P 06 03 12.6 -0.5
0.1nm,0.3s,baz=343,slow=11,SNR=6.0
ASAR Alice Springs 22.92 167 P P 06 03 50.2 +0.1
0.2nm,0.4s,baz=345,slow=11,SNR=5.1
ILAR Eielson Array 88.92 25 P P 06 11 40.6 +0.1
0.6nm,1.0s,baz=270,slow=5.4,SNR=4.2

IDC 02 06:06:21.2±1.4, 39°.70N×76°.05E, h0km, mb3.5/5, mb1 3.7/9, mb1mx3.5/38, mbtmp3.5/9, ML3.1/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/29, Error ellipse: s-maj=22.2km s-min=21.2km az=76.0
ISCJB 02 06:06:28.6±0.6, 40°.04N±0°.04×76°.06E±0°.08, h10km, mb3.4/5, Error ellipse: s-maj=9.2km s-min=4.7km az=18.8
KRNET 02 06:06:35.9±0.1, 40°.57N×75°.50E, h3km
NNC 02 06:06:37.4±4.3, 40°.63N×75°.58E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=41.7km s-min=23.8km az=146.0
ISC 02 06:06:29.6±1.1, 40°.08N±0°.06×76°.07E±0°.06, h10km, n46, σ1s.32/49, mb3.8/5, 14C-7D, Kyrgyzstan-Xinjiang border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSH Kashi 0.56 188 ⇓iPg Pn 06 06 50.8 +7.0
KSH Sg Sn 06 07 06.3 +13
KSH smax smax
comp=N,2μm,0.4s
KSH smax smax
comp=E,2μm,0.2s
ASAI AK-SAY(Kyrgyzs 0.91 22 iP Pg 06 06 46.4 -0.7
baz=91
ASAI eS Sg 06 06 58.4 -0.6
baz=91
NRN Naryn 1.36 358 iP Pn 06 06 53.8 -1.1
baz=23
KZA Kyzart 2.09 343 P Pn 06 07 05.0 -0.2
SNR=247
KZA Kyzart 2.09 343 ⇑iP Pn 06 07 05.1 0.0
baz=353
ULHL Ulahol 2.17 3 P Pn 06 07 07.9 +1.8
SNR=194
ULHL Ulahol 2.17 3 ⇑iP Pb 06 07 08.5 -0.6
baz=18
ARLS Aral 2.22 324 eP Pn 06 07 05.9 -0.8
baz=326
BOOM Boomskoye usch 2.41 358 eP Pn 06 07 11.1 +1.8
baz=10.0
BOOM eS Sn 06 07 37.4 -1.6
baz=10.0
UCH Uchtor 2.45 332 P Pn 06 07 09.9 -0.2
SNR=104
UCH Uchtor 2.45 332 eP Pn 06 07 10.0 -0.1
baz=336
OHH Osh 2.55 281 eP Pn 06 07 11.8 +0.6
baz=270
ARSB Arslanbob 2.66 299 eP Pn 06 07 13.7 +1.0
baz=292
ARSB eS Sn 06 07 41.7 -3.4
baz=292
KBK Karagaybulak 2.71 342 P Pn 06 07 14.1 +0.6
SNR=20
KBK Karagaybulak 2.71 342 ⇑iP Pn 06 07 13.9 +0.5
baz=349
KBK Karagaybulak 2.71 342 eP Pg 06 07 22.5 +0.9
baz=48
KBK eS Sg 06 08 00.0 +3.2
baz=48
AML Almayashu 2.73 320 P Pn 06 07 13.9 +0.1
SNR=69
AML Almayashu 2.73 320 ⇑iP Pn 06 07 13.9 +0.1
baz=320
AAK Ala-Archa 2.82 336 ⇓P Pn 06 07 15.4 +0.6
comp=E,84nm,0.6s
AAK Ala-Archa 2.82 336 P Pn 06 07 15.5 +0.6
SNR=62
AAK Ala-Archa 2.82 336 Pn Pn 06 07 15.5 +0.6
comp=E,15nm,0.3s,baz=132,slow=8.2,SNR=148
AAK Pg Pb 06 07 20.0 -0.1
comp=E,14nm,0.3s,baz=153,slow=13,SNR=34
AAK Sn Sn 06 07 49.6 +0.6
comp=E,28nm,0.3s,baz=195,slow=20,SNR=7.4
AAK Ala-Archa 2.82 336 ⇑iP Pn 06 07 15.5 +0.6
baz=340
TKM2 Tokmak 2 2.86 353 ⇓Pn Pn 06 07 16.3 +0.7
comp=E,79nm,0.7s
TKM2 ⇓Lg Lg 06 07 48.8
comp=E,165nm,0.7s
TKM2 Tokmak 2 2.86 353 P Pn 06 07 16.4 +0.9
SNR=77
TKM2 Tokmak 2 2.86 353 ⇑iP Pn 06 07 16.4 +0.9
baz=2.0
ANVS Anan'yevo 2.96 23 iP Pn 06 07 17.9 +1.1
baz=36
CHMS Chumysh 3.08 342 P Pn 06 07 19.1 +0.6
SNR=33
CHMS Chumysh 3.08 342 ⇑iP Pn 06 07 19.0 +0.6
baz=347
EKS2 Erkin-Say 3.11 327 P Pn 06 07 19.5 +0.7
SNR=27
EKS2 Erkin-Say 3.11 327 ⇑iP Pn 06 07 19.8 +1.0
baz=329
KNDC Almaty 3.21 12 ⇑Pg Pb 06 07 28.0 +1.3
comp=E,15nm,0.2s
KNDC ⇑Lg Lg 06 08 09.4
comp=E,178nm,0.6s
USP Ospenovka 3.40 340 P Pn 06 07 23.5 +0.8
SNR=25
KK31 Karatay Array 5.15 308 ⇑Pn Pn 06 07 46.6 -0.2
comp=E,0.2nm,0.2s,baz=120,slow=15,SNR=7.9
KK31 ⇓Pg Pb 06 08 00.2 +0.4
comp=E,2.0nm,0.3s,baz=126,slow=15,SNR=7.0
KK31 ⇓Lg Lg 06 09 06.7
comp=E,8.3nm,0.6s,baz=122,slow=29,SNR=4.5
CHCP Chirah Chowk 6.79 200 ⇓P Pn 06 08 11.3 +2.0
CEP Cherat 7.08 209 ⇑P Pn 06 08 14.7 +1.4
CEP S Sn 06 09 33.0 -0.9
THW Thamme Wali 8.06 207 P Pn 06 08 27.3 +0.5
MK31 Makanchi Array 8.09 32 Pn Pn 06 08 30.3 +3.1
baz=215,slow=14
MK31 ⇑Pg Pg 06 08 58.3 -6.2
comp=E,0.6nm,0.5s,baz=220,slow=15,SNR=3.6
MK31 ⇑Lg Lg 06 10 45.9
comp=E,2.5nm,0.7s,baz=230,slow=29
MKAR Makanchi Array 8.09 32 Pn Pn 06 08 26.9 -0.3
comp=E,0.3nm,0.3s,baz=210,slow=11,SNR=9.6
MKAR Pg Pb 06 08 50.8 +0.9
comp=E,0.2nm,0.3s,baz=216,slow=14,SNR=6.5
MKAR Lg Lg 06 10 43.5
comp=E,0.3nm,0.3s,baz=213,slow=29,SNR=3.6
KURBB Kurchatov Arra 10.69 8 Pn Pn 06 08 59.7 -2.9
comp=E,0.1nm,0.3s,baz=194,slow=12,SNR=3.5
KURBB Lg Lg 06 12 07.5
comp=E,0.2nm,0.3s,baz=196,slow=31,SNR=7.1
BVAR Borovoye Array 13.52 345 Pn Pn 06 09 40.4 -0.9
comp=E,0.2nm,0.3s,baz=157,slow=12,SNR=2.6
BVAR Lg Lg 06 13 34.7
comp=E,0.2nm,0.3s,baz=155,slow=31,SNR=5.0
BVAR LR LR 06 15 27.3
comp=E,41nm,21.9s,baz=270,slow=39
ZALV Zalesovo Beam 15.09 20 Pn Pn 06 10 00.2 -2.5
comp=E,0.1nm,0.3s,baz=205,slow=16,SNR=3.5
SONM Songino Array 23.05 60 P P 06 11 30.3 -4.8
comp=E,0.3nm,0.7s,baz=260,slow=8.6,SNR=3.8
ARCES ARCESS Array B 39.49 335 P P 06 13 55.8 -4.1
comp=E,1.2nm,0.6s,baz=103,slow=7.9,SNR=6.0
TORD Torodi Ar. Bea 69.74 270 P P 06 17 33.9 -6.2
comp=E,0.4nm,0.5s,baz=50,slow=5.3,SNR=8.5
ILAR Eielson Array 70.20 18 P P 06 17 37.2 -5.0
comp=E,0.1nm,0.7s,baz=324,slow=6.0,SNR=3.9
YKA Yellowknife Ar 77.42 5 P P 06 18 19.5 -5.0
comp=E,0.7nm,0.5s,baz=347,slow=5.7,SNR=27

ISCJB 02 06:06:32.7±0.8, 49°.0N±0°.2×149°.9E±0°.3, h350km, mb3.2/6, Error ellipse: s-maj=31.5km s-min=12.4km az=43.9
IDC 02 06:06:34.6±1.8, 48°.90N×149°.93E, h364km±23km, mb3.0/6, mb1 3.2/9, mb1mx2.9/41, mbtmp3.8/9, Error ellipse: s-maj=36.4km s-min=17.9km az=152.0
ISC 02 06:06:34.0±0.9, 49°.0N±0°.2×149°.9E±0°.2, h350km, n9, σ0s.79/9, mb3.3/6, Northwest of Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PETK Petropavlovsk- 6.41 47 P Pn 06 08 10.2 +0.9
0.3nm,0.3s,baz=228,slow=13,SNR=4.5
ASAJ Asahikawa 7.01 229 P Pn 06 08 16.9 +0.5
0.6nm,0.3s,baz=154,slow=13,SNR=4.1
MJAR Matsushiro Arr 15.10 219 P P 06 09 49.7 +0.1
1.0nm,0.3s,baz=21,slow=11,SNR=5.3
ILAR Eielson Array 36.19 40 P P 06 13 04.5 +0.5
0.4nm,0.4s,baz=266,slow=8.3,SNR=11
YKA Yellowknife Ar 50.42 37 P P 06 14 56.4 0.0
0.4nm,0.5s,baz=301,slow=6.9,SNR=9.6
FINES FINESS Array B 61.06 333 P P 06 16 11.0 -0.2
1.0nm,0.6s,baz=37,slow=7.6,SNR=3.9
NOA NORSAR Array B 65.37 339 P P 06 16 39.5 +0.1
0.4nm,0.5s,baz=28,slow=6.5,SNR=3.2
AKASG Malin Array Be 68.45 324 P P 06 16 58.4 -0.3
0.5nm,0.4s,baz=36,slow=7.3,SNR=4.5
TXAR Lajitas Array 78.23 59 P P 06 17 54.2 -1.5
0.2nm,0.8s,baz=308,slow=4.4,SNR=3.9

NNC 02 06:12:28.2±6.0, 35°.99N×70°.07E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=54.5km s-min=42.4km az=142.0
ISCJB 02 06:12:32.6±1.5, 36°.00N±0°.08×69°.9E±0°.2, h124km, Error ellipse: s-maj=21.5km s-min=9.6km az=163.9
ISC 02 06:12:30.6±1.9, 35°.8N±0°.1×69°.9E±0°.2, h124km, n6, σ1s.25/7, 2C-2D, Hindu Kush region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KK31 Karatay Array 7.28 3 ⇑Pn Pn 06 14 14.3 0.0
0.7nm,0.3s,baz=180,slow=12,SNR=28
KK31 ⇓Sn Sn 06 15 35.8 +0.3
0.5nm,0.3s,baz=180,slow=24,SNR=4.0
AAK Ala-Archa 7.66 26 ⇓Pn Pn 06 14 18.8 -0.8
1.0nm,0.5s
AAK ⇑Sn Sn 06 15 45.7 +0.7
2.2nm,0.6s
PYUN Piuthan 13.49 121 eP P 06 15 54.2 +12
10nm,0.3s
DANN Dangsing 13.88 119 eP P 06 15 45.2 -1.4
7.7nm,0.4s
KOLN Koldanda 14.12 121 eP P 06 15 50.8 +1.7
3.9nm,0.2s
AB31 Akbulak array 15.29 334 P P 06 16 01.4 -0.2
0.3nm,0.3s,baz=160,slow=13,SNR=22

SZGRF 02 06:45:01.2, 1°.39S×15°.27W, h10km, mb4.6, North of Ascension Island
BJI 02 06:45:03.1, 0°.30S×16°.20W, h10km, mB5.7/7, mb5.4/3, Ms5.2/8, Ms7 4.9/7
ISCJB 02 06:45:04.5±0.3, 0°.29S±0°.06×16°.09W±0°.04, h10km, mb4.7/92, MS3.9/36, Error ellipse: s-maj=9.6km s-min=4.5km az=152.7
MOS 02 06:45:04.7±0.8, 0°.24S×16°.05W, h10km, mb5.1/36, Error ellipse: s-maj=14.6km s-min=4.9km az=64.6
IDC 02 06:45:04.6±0.6, 0°.27S×16°.12W, h0km, mb4.5/20, mb1 4.6/21, mb1mx4.4/32, mbtmp4.4/21, ML4.0/1, MS3.7/32, Ms1 3.7/32, ms1mx3.7/40, Error ellipse: s-maj=17.4km s-min=14.3km az=147.0
NEIC 02 06:45:06.1±0.3, 0°.34S×16°.11W, h10km, mb5.1/32, Error ellipse: s-maj=7.3km s-min=5.3km az=139.0
ISC 02 06:45:05.7±0.5, 0°.39S±0°.10×16°.11W±0°.08, h10km, n342, σ1s.05/333, mb4.8/92, MS3.8/36, 18C-15D, North of Ascension Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H10N2 ASCENSION HYDR 7.56 168 T T 06 54 39.8
baz=346,slow=74,SNR=402
H10N3 ASCENSION HYDR 7.57 168 T T 06 54 41.8
baz=346,slow=74,SNR=300
H10N1 ASCENSION HYDR 7.58 168 T T 06 54 39.4
baz=346,slow=74,SNR=863
H10S1 ASCENSION HYDR 8.62 170 T T 06 55 58.2
baz=350,slow=74,SNR=131
H10S3 ASCENSION HYDR 8.63 170 T T 06 56 03.4
baz=350,slow=74,SNR=168
H10S2 ASCENSION HYDR 8.64 170 T T 06 55 58.1
baz=350,slow=74,SNR=234
DBIC Dimbokro 13.24 58 P Pn 06 48 12.0 -1.9
DBIC Dimbokro 13.24 58 Pn Pn 06 48 11.9 -1.9
0.8nm,0.3s,baz=237,slow=15,SNR=13
DBIC Sn Sn 06 50 28.7 -13
1.2nm,0.3s,baz=141,slow=18,SNR=4.8
DBIC LR LR 06 52 19.8
comp=Z,560nm,20.2s,baz=218,slow=33
BBTS Babate 14.96 358 Pn Pn 06 48 39.5 +2.1
0.9nm,0.3s,baz=246,slow=15,SNR=2.3
BBTS Sn Sn 06 51 07.6 -16
1.1nm,0.3s,baz=252,slow=20,SNR=3.3
BBTS LR LR 06 54 04.3
comp=Z,182nm,18.2s,baz=176,slow=36
RCBR Riachuelo 20.48 254 P Pn 06 49 45.6 -0.6
16nm,0.8s,baz=70,slow=12,SNR=15
RCBR LR LR 06 55 30.3
comp=Z,421nm,20.3s,baz=78,slow=30
TOA0 Torodi Ar. Sit 22.19 52 eP P 06 50 03.0 +0.7
TORD Torodi Ar. Bea 22.19 52 P P 06 50 01.9 -0.5
23nm,0.9s,baz=233,slow=9.2,SNR=38
TORD LR LR 06 57 50.8
comp=Z,289nm,19.1s,baz=230,slow=35
BDFB Brasilia 34.95 243 LR LR 07 04 38.7
comp=Z,168nm,19.7s,baz=96,slow=34
PNCL Nicolau / Gran 38.94 10 eP P 06 52 33.0 +1.1
32nm,1.7s
EVO Evora 39.44 10 eP P 06 52 37.3 +1.2
26nm,1.7s
PCBR Castelo Branco 40.81 10 eP P 06 52 48.5 +1.1
17nm,1.5s
MTE Manteigas 41.34 10 eP P 06 52 52.7 +0.8
24nm,1.7s
ESDC Sonseca Array 41.39 14 P P 06 52 51.6 -0.7
0.2nm,0.3s,baz=204,slow=7.1,SNR=3.1
ESDC PcP PcP 06 54 51.0 +0.6
0.2nm,0.3s,baz=202,slow=3.4,SNR=6.1
ESDC LR LR 07 10 45.6
comp=Z,94nm,18.8s,baz=250,slow=37
POLO Lamas de Olo 42.25 9 eP P 06 52 59.9 +0.6
14nm,1.5s
KEST Kesra 43.05 31 P P 06 53 04.8 -1.1
3.6nm,0.9s,baz=258,slow=9.3,SNR=5.6
KEST LR LR 07 12 20.9
comp=Z,151nm,18.4s,baz=184,slow=38
PTGA Pitinga 43.86 269 P P 06 53 12.4 -0.3
3.7nm,0.8s,baz=84,slow=7.8,SNR=5.6
SJPF Ste Jean 45.32 15 eP P 06 53 24.1 +0.2
45nm,1.4s
SJPF Ste Jean 45.32 15 eP P 06 53 24.1 +0.2
SJPF pmax pmax
comp=Z,45nm,1.4s
SJPF Ste Jean 45.32 15 eP P 06 53 24.1 +0.2
comp=Z,45nm,1.4s
EPF Esparros 45.68 17 eP P 06 53 27.2 +0.4
comp=Z,26nm,1.3s
EPF Esparros 45.68 17 eP P 06 53 27.2 +0.4
EPF pmax pmax
comp=Z,26nm,1.3s
EPF Esparros 45.68 17 eP P 06 53 27.2 +0.4
comp=Z,26nm,1.3s
LSZ Lusaka 46.17 111 P P 06 53 31.3 +0.1
comp=Z,1.3nm,0.3s,baz=333,slow=4.5,SNR=5.2
MTLF Montolieu 46.53 18 eP P 06 53 32.9 -0.6
MTLF Montolieu 46.53 18 eP P 06 53 32.9 -0.6
MTLF Montolieu 46.53 18 eP P 06 53 32.9 -0.6
SIV San Ignacio 46.97 248 P P 06 53 37.7 +0.3
comp=Z,2.0nm,0.8s,baz=66,slow=6.7,SNR=4.3
LBTB Lobatse 47.14 125 eP P 06 53 39.3 +0.6
LBTB pmax pmax
comp=Z,9.0nm,0.8s
LBTB Lobatse 47.14 125 P P 06 53 39.9 +1.2
comp=Z,8.4nm,0.8s,baz=295,slow=7.6,SNR=12
LBTB Lobatse 47.14 125 eP P 06 53 39.3 +0.6
comp=Z,9.2nm,0.8s
SUR Sutherland 47.15 136 P P 06 53 40.4 +1.6
comp=Z,6.6nm,0.8s,baz=280,slow=5.2,SNR=5.1
CPUP Villa Florida 47.31 234 LR LR 07 11 58.4
comp=Z,145nm,19.5s,baz=58,slow=34
SAML Samuel 47.63 258 eP P 06 53 42.5 -0.1
comp=Z,2.8nm,1.6s
LASF Ste Croix 47.72 19 eP P 06 53 42.9 +0.1
comp=Z,60nm,1.5s
LASF Ste Croix 47.72 19 eP P 06 53 42.9 +0.1
comp=Z,60nm,1.5s
CAF Calviac 47.92 17 eP P 06 53 43.9 -0.4
comp=Z,17nm,1.0s
CAF Calviac 47.92 17 eP P 06 53 43.9 -0.4
CAF pmax pmax
comp=Z,17nm,1.0s
CAF Calviac 47.92 17 eP P 06 53 43.9 -0.4
comp=Z,17nm,1.0s
LMR La Mourre 48.02 22 eP P 06 53 45.2 +0.2
comp=Z,26nm,0.9s
LMR La Mourre 48.02 22 eP P 06 53 45.2 +0.2
LMR pmax pmax
comp=Z,26nm,0.9s
LMR La Mourre 48.02 22 eP P 06 53 45.2 +0.2
comp=Z,26nm,0.9s
BOSA Boshof 48.47 129 P P 06 53 49.9 +1.0
comp=Z,11nm,0.8s,baz=294,slow=8.9,SNR=8.9
BOSA LR LR 07 11 09.1
comp=Z,96nm,19.3s,baz=195,slow=32
VIVF Saint-Julien-l 48.68 20 eP P 06 53 50.3 +0.1
comp=Z,16nm,1.0s
VIVF Saint-Julien-l 48.68 20 eP P 06 53 50.3 +0.1
VIVF pmax pmax
comp=Z,16nm,1.0s
VIVF Saint-Julien-l 48.68 20 eP P 06 53 50.3 +0.1
comp=Z,16nm,1.0s
SBF Sospel 48.82 23 eP P 06 53 51.3 0.0
comp=Z,148nm,1.4s
SBF Sospel 48.82 23 eP P 06 53 51.3 0.0
SBF pmax pmax
comp=Z,149nm,1.4s
SBF Sospel 48.82 23 eP P 06 53 51.3 0.0
comp=Z,148nm,1.4s
ORIF Oris-en-Rattie 49.15 21 eP P 06 53 54.6 +0.7
comp=Z,26nm,1.3s
ORIF eR
comp=Z,171nm,19.0s
ORIF Oris-en-Rattie 49.15 21 eP P 06 53 54.6 +0.7
ORIF pmax pmax
comp=Z,26nm,1.3s
ORIF Oris-en-Rattie 49.15 21 eP P 06 53 54.6 +0.7
comp=Z,26nm,1.3s
TCF Toulx Ste Croi 49.20 17 eP P 06 53 54.2 +0.1
comp=Z,16nm,1.1s
TCF Toulx Ste Croi 49.20 17 eP P 06 53 54.2 +0.1
TCF pmax pmax
comp=Z,16nm,1.1s
TCF Toulx Ste Croi 49.20 17 eP P 06 53 54.2 +0.1
comp=Z,16nm,1.1s
MBDF Montbardon 49.31 21 eP P 06 53 55.9 +0.8
comp=Z,33nm,1.0s
MBDF Montbardon 49.31 21 eP P 06 53 55.9 +0.8
MBDF pmax pmax
comp=Z,33nm,1.0s
MBDF Montbardon 49.31 21 eP P 06 53 55.9 +0.8
comp=Z,33nm,1.0s
TIP Timpagrande 49.56 34 eP P 06 53 57.8 +0.7
comp=Z,9.4nm,0.8s
BGF Bois d'Agland 49.63 17 eP P 06 53 56.8 -0.6
BGF Bois d'Agland 49.63 17 eP P 06 53 56.8 -0.6
BGF Bois d'Agland 49.63 17 eP P 06 53 56.8 -0.6
LPG La Plagne 49.96 21 eP P 06 54 01.0 +0.7
comp=Z,26nm,1.1s
LPG La Plagne 49.96 21 eP P 06 54 01.0 +0.7
LPG pmax pmax
comp=Z,26nm,1.1s
LPG La Plagne 49.96 21 eP P 06 54 01.0 +0.7
comp=Z,26nm,1.1s
LPL La Plagne 49.97 21 eP P 06 54 00.9 +0.6
comp=Z,23nm,0.9s
LPL La Plagne 49.97 21 eP P 06 54 00.9 +0.6
LPL pmax pmax
comp=Z,23nm,0.9s
LPL La Plagne 49.97 21 eP P 06 54 00.9 +0.6
comp=Z,23nm,0.9s
SMF Signal de Mont 50.01 18 eP P 06 54 00.1 -0.2
comp=Z,10nm,1.0s
SMF Signal de Mont 50.01 18 eP P 06 54 00.1 -0.2
SMF pmax pmax
comp=Z,10.0nm,1.0s
SMF Signal de Mont 50.01 18 eP P 06 54 00.1 -0.2
comp=Z,10nm,1.0s
SSF Saint Saulge 50.28 17 eP P 06 54 02.4 +0.1
comp=Z,7.6nm,0.8s
SSF Saint Saulge 50.28 17 eP P 06 54 02.4 +0.1
SSF pmax pmax
comp=Z,8.0nm,0.8s
SSF Saint Saulge 50.28 17 eP P 06 54 02.4 +0.1
comp=Z,7.6nm,0.8s
LOR Lormes 50.57 18 eP P 06 54 04.4 -0.1
LOR eR
comp=Z,93nm,19.5s
LOR Lormes 50.57 18 eP P 06 54 04.4 -0.1
LOR Lormes 50.57 18 eP P 06 54 04.4 -0.1
CABF La Chapelle 50.70 20 eP P 06 54 05.2 -0.4
comp=Z,48nm,1.3s
CABF La Chapelle 50.70 20 eP P 06 54 05.2 -0.4
CABF pmax pmax
comp=Z,48nm,1.3s
CABF La Chapelle 50.70 20 eP P 06 54 05.2 -0.4
comp=Z,48nm,1.3s
SFTF Sexfontaines 51.77 18 eP P 06 54 13.4 -0.1
SFTF Sexfontaines 51.77 18 eP P 06 54 13.4 -0.1
HAU Haudompre 52.00 19 eP P 06 54 14.8 -0.5
HAU eR
comp=Z,112nm,18.5s
HAU Haudompre 52.00 19 eP P 06 54 14.8 -0.5
HAU Haudompre 52.00 19 eP P 06 54 14.8 -0.5

HINF Hinteralfeld 52.01 19 eP P 06 54 15.8 +0.5
comp=Z,17nm,1.1s
HINF Hinteralfeld 52.01 19 eP P 06 54 15.8 +0.5
HINF pmax pmax
comp=Z,17nm,1.1s
HINF Hinteralfeld 52.01 19 eP P 06 54 15.8 +0.5
comp=Z,17nm,1.1s
MEZF Maizieres J'vi 52.03 18 eP P 06 54 15.5 +0.1
MEZF Maizieres J'vi 52.03 18 eP P 06 54 15.5 +0.1
IDI Anoyia 52.15 43 LR LR 07 16 36.9
comp=Z,60nm,18.9s,baz=274,slow=36
DAVOX Davos/Dischmat 52.20 22 LR LR 07 17 23.5
comp=Z,69nm,18.8s,baz=256,slow=37
DAVA Damuels 52.63 22⇓iP P 06 54 20.0 -0.1
comp=Z,20nm,0.8s
CDF Champ du Feu 52.66 19 eP P 06 54 19.5 -0.8
comp=Z,16nm,0.8s
CDF Champ du Feu 52.66 19 eP P 06 54 19.5 -0.8
CDF pmax pmax
comp=Z,16nm,0.8s
CDF Champ du Feu 52.66 19 eP P 06 54 19.5 -0.8
comp=Z,16nm,0.8s
FETA Feichten 52.73 23⇑iP P 06 54 20.2 -0.6
comp=Z,8.5nm,0.7s
SKDS Skadanscina 52.91 26 iP P 06 54 22.6 +0.6
SKDS Skadanscina 52.91 26 iP P 06 54 22.6 +0.5
BFO Black Forest 52.95 20 iP P 06 54 22.7 +0.4
BFO Black Forest 52.95 20 eP P 06 54 22.4 +0.1
comp=Z,5.0nm,0.8s
BFO Black Forest 52.95 20 eP P 06 54 22.7 +0.4
comp=Z,12nm,1.0s
BAIF Baives 53.18 16 eP P 06 54 24.2 +0.3
comp=Z,86nm,1.3s
BAIF Baives 53.18 16 eP P 06 54 24.2 +0.3
BAIF pmax pmax
comp=Z,86nm,1.3s
BAIF Baives 53.18 16 eP P 06 54 24.2 +0.3
comp=Z,86nm,1.3s
JAVS Javornik 53.21 26 iP P 06 54 25.0 +0.7
JAVS Javornik 53.21 26 iP P 06 54 25.0 +0.7
ABTA Abfaltersbach 53.22 24⇑iP P 06 54 25.2 +0.8
comp=Z,15nm,1.2s
CEY Cerknica 53.25 26 iP P 06 54 25.5 +1.0
CEY Cerknica 53.25 26 iP P 06 54 25.5 +1.0
WTTA Wattenberg 53.29 23⇓iP P 06 54 24.9 -0.1
comp=Z,15nm,0.8s
KMBO Kilima Mbogo 53.36 91 LR LR 07 14 55.5
comp=Z,215nm,20.6s,baz=276,slow=34
BOJS Bojanci 53.44 27 iP P 06 54 27.0 +1.1
BOJS Bojanci 53.44 27 iP P 06 54 27.0 +1.1
LPAZ La Paz 53.64 250 P P 06 54 29.7 +1.1
comp=Z,2.0nm,0.9s,baz=55,slow=6.3,SNR=3.6
LPAZ LR LR 07 16 33.1
comp=Z,152nm,19.9s,baz=48,slow=35
KBA Koelnbreinsper 53.83 25⇑iP P 06 54 29.5 +0.5
comp=Z,6.4nm,0.9s
OBKA Obir 53.90 26⇓iP P 06 54 31.7 +2.4
comp=Z,4.7nm,0.6s
RJOB Jochberg 54.13 24 eP P 06 54 30.4 -0.6
comp=Z,9.0nm,0.6s
SOKA Soboth 54.24 26⇑iP P 06 54 32.7 +0.9
comp=Z,10nm,0.9s
PERS Pernice 54.24 26 iP P 06 54 32.8 +0.9
PERS Pernice 54.24 26 iP P 06 54 32.8 +0.9
TNS Taunus Mts 54.62 19 eP P 06 54 34.8 +0.3
comp=Z,7.0nm,0.9s
MOA Molln 54.82 25⇑iP P 06 54 35.7 -0.3
comp=Z,10nm,1.1s
GRF Grafenberg Arr 55.12 21 eP P 06 54 38.0 -0.1
comp=Z,8.0nm,0.8s
WET Wettzell 55.30 23 eP P 06 54 39.5 +0.1
comp=Z,8.0nm,0.8s
GEC2 GERESS Array S 55.38 24 eP P 06 54 40.5 +0.4
GEC2 GERESS Array S 55.38 24 eP P 06 54 40.1 0.0
comp=Z,5.0nm,0.7s
GEC2 GERESS Array S 55.38 24 eP P 06 54 40.5 +0.4
GERES GERESS Array B 55.38 24 P P 06 54 40.3 +0.2
comp=Z,3.9nm,0.6s,baz=208,slow=7.4,SNR=24
GERES LR LR 07 19 08.8
comp=Z,46nm,19.0s,baz=241,slow=37
VTS Vitosha 55.48 35⇓iP P 06 54 42.4 +1.4
ROTZ Rotzenmuhle 55.55 22 eP P 06 54 41.1 -0.1
comp=Z,3.0nm,0.9s
CONA Conrad Observa 55.56 26⇑iP P 06 54 41.9 +0.5
comp=Z,8.5nm,1.0s
KHC Kasperske Hory 55.56 23 eP P 06 54 40.9 -0.4
KHC e 06 54 47.4
KHC Kasperske Hory 55.56 23 eP P 06 54 40.9 -0.4
KHC epP pP 06 54 47.4 +2.9
KHC ex x 06 54 52.4
KHC Kasperske Hory 55.56 23 eP P 06 54 41.0 -0.4
comp=Z,4.3nm,0.8s
MOX Moxa 56.06 21 eP P 06 54 44.9 +0.1
comp=Z,5.0nm,0.8s
TANN Tannenbergstha 56.17 22 eP P 06 54 45.7 0.0
comp=Z,6.0nm,0.8s
TREC Trest 56.46 24 eP P 06 54 47.8 +0.1
TREC Trest 56.46 24 eP P 06 54 47.8 +0.1
ESK Eskdalemuir 56.52 9 iP P 06 54 46.5 -1.5
PRU Pruhonice 56.62 23 eP P 06 54 48.6 -0.3
PRU Pruhonice 56.62 23 eP P 06 54 48.6 -0.3
VRAC Vranov 56.93 25 LR LR 07 22 10.0
comp=Z,72nm,18.5s,baz=220,slow=39
GZR Gura Zlata 57.06 32⇓iP P 06 54 53.7 +1.5
EIL Elat 57.07 54 LR LR 07 22 18.7
comp=Z,68nm,18.6s,baz=261,slow=39
BRG Berggiesshubel 57.10 22 eP P 06 54 52.2 0.0
comp=Z,15nm,1.4s
BRG Berggiesshubel 57.10 22 eP P 06 54 52.2 0.0
BRG pmax pmax
comp=Z,15nm,1.4s
BRG Berggiesshubel 57.10 22 eP P 06 54 52.4 +0.2
comp=Z,2.0nm,0.9s
CLL Collm 57.10 21 iP P 06 54 52.6 +0.4
CLL e 06 54 59.0
CLL pmax pmax
comp=Z,24nm,1.6s
CLL Collm 57.10 21 eP P 06 54 52.3 +0.1
comp=Z,2.0nm,0.8s
CLL Collm 57.10 21 iP P 06 54 52.6 +0.4
comp=Z,24nm,1.6s
CLL e(sP) sP 06 54 59.0 +2.4
CLL eS S 07 03 06.0 +19
PSZ Piszkesteto 57.37 28 eP P 06 54 55.2 +0.9
PSZ pmax pmax
comp=Z,21nm,1.2s
PSZ Piszkesteto 57.37 28⇓iP P 06 54 54.4 +0.1
PSZ Piszkesteto 57.37 28 eP P 06 54 55.2 +0.9
comp=Z,21nm,1.2s
KRLC Kraliky 57.60 24 eP P 06 54 56.4 +0.6
KRLC Kraliky 57.60 24 eP P 06 54 56.4 +0.6
UPC Upice 57.62 24 eP P 06 54 55.2 -0.7
UPC Upice 57.62 24 eP P 06 54 55.2 -0.7
DPC Dobruska-Polom 57.62 24 iP P 06 54 56.3 +0.3
DPC Dobruska-Polom 57.62 24 iP P 06 54 56.3 +0.3
DPC Dobruska-Polom 57.62 24 eP P 06 54 56.3 +0.3
MORC Moravsky Berou 57.69 25⇑iP P 06 54 56.5 0.0
DRGR 57.97 31⇑iP P 06 54 59.5 +1.0
KSP Ksiaz 57.99 24 eP P 06 54 58.7 +0.2
OKC Ostrava-Krasne 57.99 25 eP P 06 54 58.8 +0.3
OKC Ostrava-Krasne 57.99 25 eP P 06 54 58.8 +0.3
KECS Kecovo 58.05 28 eP P 06 54 59.8 +0.8
KECS pmax pmax
comp=Z,8.0nm,1.7s
KECS Kecovo 58.05 28 eP P 06 54 59.8 +0.8
VOIR 58.31 33⇑iP P 06 55 01.8 +0.8
ROSC El Rosal 58.39 276 LR LR 07 17 31.6
comp=Z,69nm,18.4s,baz=8.0,slow=33
BSEG Bad Segeberg 58.40 18 eP P 06 55 01.5 +0.3
comp=Z,4.0nm,0.8s
NIE Niedzica 58.64 27 eP P 06 55 03.6 +0.5
NIE Niedzica 58.64 27 eP P 06 55 03.6 +0.5
MMAI Mount Meron Ar 58.72 50 LR LR 07 21 34.6
comp=Z,51nm,19.3s,baz=230,slow=37
TRPA Tarpa 58.79 29⇑iP P 06 55 04.3 +0.2
CRVS Cervenica-Dubn 58.81 28 eP P 06 55 05.1 +0.8
CRVS pmax pmax
comp=Z,14nm,1.5s
CRVS Cervenica-Dubn 58.81 28 eP P 06 55 05.1 +0.8
MLR Muntele Rosu 58.84 33⇓iP P 06 55 05.0 +0.3
MLR Muntele Rosu 58.84 33 LR LR 07 23 01.3
comp=Z,32nm,18.0s,baz=238,slow=39
ISR Istrita 58.94 34⇑iP P 06 55 06.0 +0.7
OJC Ojcow 58.99 26 eP P 06 55 05.5 0.0
OJC Ojcow 58.99 26 eP P 06 55 05.5 0.0

UZH Uzhgorod 59.01 29⇑iP P 06 55 06.0 +0.3
UZH i 06 55 10.8
UZH i 06 55 13.2
MSAB Monastry St. A 59.05 36⇑iP P 06 55 06.2 +0.2
STHS Stebnicka Huta 59.07 28 eP P 06 55 07.5 +1.4
STHS pmax pmax
comp=Z,3.0nm,1.2s
STHS Stebnicka Huta 59.07 28 eP P 06 55 07.5 +1.4
KOLS Kolonicke sedl 59.21 28 eP P 06 55 07.9 +0.8
KOLS pmax pmax
comp=Z,17nm,1.5s
KOLS Kolonicke sedl 59.21 28 eP P 06 55 07.9 +0.8
PLOR Plostina 59.45 33⇓iP P 06 55 08.3 -0.5
VRI Vrincioaia 59.50 33⇑iP P 06 55 08.8 -0.3
BURAR Bucovina Array 59.79 31⇓iP P 06 55 12.2 +1.0
BUR08 Bucovina Ar. S 59.80 31 eP P 06 55 11.8 +0.5
CFR Carcaliu 59.87 35⇓iP P 06 55 11.6 -0.1
BR131 Keskin Array S 60.39 43 eP P 06 55 16.2 +0.6
comp=Z,10nm,1.0s
BRTR Keskin Array B 60.39 43ceP P 06 55 16.8 +1.2
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 60.39 43 P P 06 55 16.4 +0.8
comp=Z,9.3nm,0.9s,baz=235,slow=5.9,SNR=28
BRTR LR LR 07 24 17.4
comp=Z,39nm,18.5s,baz=244,slow=39
LVV L'vov 60.66 29 iP P 06 55 17.0 0.0
SUW Suwalki 63.17 25 eP P 06 55 33.8 0.0
SUW Suwalki 63.17 25 eP P 06 55 33.7 0.0
SUW Suwalki 63.17 25 eP P 06 55 33.8 0.0
comp=Z,46nm,1.1s
PLCA Paso Flores 63.49 224 LR LR 07 18 49.2
comp=Z,42nm,21.7s,baz=101,slow=32
AK02 Malin Array Si 63.74 30 eP P 06 55 36.9 -0.7
AK01 Malin Array Si 63.77 30 eP P 06 55 37.3 -0.5
KIEV Kiev 63.77 30⇓iP P 06 55 37.0 -0.8
KIEV Kiev 63.77 30 eP P 06 55 37.1 -0.8
comp=Z,17nm,0.9s
AKASG Malin Array Be 63.78 30 P P 06 55 37.2 -0.7
comp=Z,4.6nm,0.6s,baz=235,slow=5.8,SNR=30
AKASG LR LR 07 24 09.4
comp=Z,76nm,21.2s,baz=235,slow=37
AKBB Malin Array Si 63.78 30 eP P 06 55 37.2 -0.7
AKBB Malin Array Si 63.78 30 eP P 06 55 37.2 -0.7
RAYN Ar Rayn 64.30 64 eP P 06 55 44.3 +2.4
comp=Z,14nm,1.1s
HFS Hagfors 64.63 16 LR LR 07 26 59.2
comp=Z,32nm,18.0s,baz=242,slow=39
NB2 NORSAR Subarra 64.75 14 P P 06 55 44.1 -0.1
comp=Z,2.9nm,0.7s,baz=209,slow=6.9
NOA NORSAR Array B 64.75 14 P P 06 55 44.1 -0.1
comp=Z,6.4nm,0.9s,baz=208,slow=6.6,SNR=13
NOA LR LR 07 25 57.4
comp=Z,31nm,18.6s,baz=205,slow=38
VSU Vasula 67.69 23⇑iP P 06 56 02.7 -0.2
VSU pmax pmax
comp=Z,65nm,1.1s
KIV Kislovodsk 68.31 42 eP P 06 56 08.2 +0.8
KIV pmax pmax
comp=Z,20nm,1.1s
KIV Kislovodsk 68.31 42 eP P 06 56 08.5 +1.1
comp=Z,22nm,1.1s
GNI Garni 68.34 46⇑eP P 06 56 08.9 +1.2
GNI pmax pmax
comp=Z,18nm,1.3s
KBZ Khabaz 68.37 42 P P 06 56 08.4 +0.9
comp=Z,14nm,0.9s,baz=241,slow=5.1,SNR=24
ZEI Tsey 68.69 43 eP P 06 56 09.1 -0.8
ZEI pmax pmax
comp=Z,11nm,1.6s
GOF Gofitskoye 68.98 41 eP P 06 56 12.2 +0.8
VORD Divnogorie 69.28 34 eP P 06 56 11.9 -1.1
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,20nm,1.1s
VSR Storozhevoye 69.33 34 eP P 06 56 12.7 -0.7
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
FINES FINESS Array B 69.51 20 P P 06 56 14.2 0.0
comp=Z,7.0nm,0.5s,baz=226,slow=4.8,SNR=38
OBN Obninsk 69.95 29⇓eP P 06 56 16.3 -0.8
OBN e 06 56 41.4
OBN e 06 58 59.3
OBN pmax pmax
comp=Z,28nm,1.7s
OBN Obninsk 69.95 29 LR LR 07 28 05.2
comp=Z,61nm,20.7s,baz=272,slow=37
VRHR Novokhopersk 70.65 34 eP P 06 56 21.7 +0.2
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=Z,8.0nm,0.8s
VRHR pmax pmax
comp=E,6.0nm,0.7s
MOS Moscow 70.79 29 eP P 06 56 21.9 -0.3
MOS e 07 00 42.0
JOF Joensuu 72.32 21 eP P 06 56 31.7 +0.4
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 72.32 21 ep P 06 56 31.7 +0.4
comp=Z,1.0nm,0.4s
KLMR Klimovskoe 74.31 25 eP P 06 56 41.4 -1.7
KLMR pmax pmax
comp=Z,28nm,1.4s
ARCES ARCESS Array B 75.13 14 P P 06 56 47.6 -0.2
comp=Z,5.0nm,0.6s,baz=224,slow=5.1,SNR=25
ARCES LR LR 07 32 28.8
comp=Z,43nm,18.0s,baz=246,slow=38
KEV Kevo 75.66 14 eP P 06 56 50.5 -0.2
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 75.66 14 ep P 06 56 50.5 -0.2
comp=Z,1.5nm,0.4s
DAG Danmarks Havn 77.08 359 iP P 06 56 58.9 +0.2
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG Danmarks Havn 77.08 359 iP P 06 56 58.9 +0.2
comp=Z,3.8nm,0.9s
PRGR Permogore 77.28 26 eP P 06 56 59.3 -0.8
PRGR pmax pmax
comp=Z,9.0nm,1.5s
AKTO Aktyubinsk 80.23 39 LR LR 07 35 13.6
comp=Z,22nm,21.7s,slow=38
ABKAR Akbulak array 81.21 40 eP P 06 57 22.1 +0.2
ARU Arti 81.88 33diP P 06 57 25.4 +0.2
ARU 07 00 27.5
ARU S S 07 07 37.7 -1.1
ARU SS SS 07 12 51.6 -5.5
ARU pmax pmax
comp=Z,24nm,1.7s
ARU Arti 81.88 33 eP P 06 57 25.6 +0.4
comp=Z,16nm,1.1s
X34A Smith Ranch, M 83.40 305 P P 06 57 34.1 +0.4
baz=83
434A Burnet 83.46 301 P P 06 57 33.5 -0.6
baz=83
AGMN Agassiz Nation 83.47 319 eP P 06 57 26.2 -7.5
comp=Z,50nm,2.5s
334A Lometa 83.47 301 P P 06 57 33.5 -0.6
baz=84
534A Blanco 83.58 300 P P 06 57 34.5 -0.2
baz=84
ULM Lac du Bonnet 83.75 321 LR LR 07 28 59.1
comp=Z,32nm,20.2s,baz=336,slow=32
233A Rising Star 84.09 302 P P 06 57 37.0 -0.3
baz=84
633A Saathoff Ranch 84.15 300 P P 06 57 37.9 +0.3
baz=84
X32A Elmer 84.58 304 P P 06 57 39.2 -0.5
baz=85
W32A Sentinel 84.60 305 P P 06 57 39.3 -0.5
baz=85
Z32A Haskell 84.66 303 P P 06 57 39.4 -0.8
baz=85
632A Uvalde 84.68 300 P P 06 57 39.1 -1.3
baz=85
Y32A R-V Farms, Ver 84.68 304 P P 06 57 39.3 -1.0
baz=85
232A Coleman 84.71 302 P P 06 57 40.0 -0.4

baz=85
JCT Junction City 84.75 300 eP P 06 57 40.8 +0.1
JCT pmax pmax
comp=Z,7.0nm,1.1s
JCT Junction City 84.75 300 eP P 06 57 40.8 +0.1
comp=Z,7.0nm,1.1s
JCT Junction City 84.75 300 P P 06 57 40.3 -0.5
baz=85
ABTX Abilene, Hawle 84.76 303 P P 06 57 40.4 -0.3
baz=85
332A Millersview 84.76 301 P P 06 57 40.3 -0.4
baz=85
432A Menard 84.77 301 P P 06 57 40.4 -0.4
baz=85
832A Faith Ranch, C 84.78 298 P P 06 57 40.7 -0.1
baz=85
732A Laxson Ranch, 84.80 299 P P 06 57 40.8 -0.1
baz=85
X31A McDonald Ranch 85.17 305 P P 06 57 42.3 -0.4
baz=85
Z31A Sharp Cattle R 85.22 303 P P 06 57 43.2 +0.2
baz=85
D30A Buchanan 85.27 317 P P 06 57 43.4 +0.6
baz=85
231A Bronte 85.28 302 P P 06 57 43.2 -0.1
baz=85
F30A Leola 85.33 316 P P 06 57 43.2 0.0
baz=85
331A San Angelo 85.34 301 P P 06 57 43.5 -0.1
baz=85
Y31A Rekieta Farm, 85.36 304 P P 06 57 43.5 -0.2
baz=85
631A Perdido Creek 85.36 299 P P 06 57 43.4 -0.3
baz=85
531A Rocksprings 85.38 300 P P 06 57 43.4 -0.5
baz=85
R30A Dighton 85.65 308 P P 06 57 44.9 -0.1
baz=86
130A Snyder 85.87 303 P P 06 57 46.1 -0.1
baz=86
Y30A Stafford Cattl 85.88 304 P P 06 57 46.1 -0.2
baz=86
X30A Coker Ranch, T 85.89 304 P P 06 57 45.8 -0.5
baz=86
230A Sterling City 85.95 302 P P 06 57 46.5 -0.2
baz=86
430A Baggett Ranch, 86.01 301 P P 06 57 46.5 -0.5
baz=86
Z30A Sanderson Ranc 86.04 303 P P 06 57 46.6 -0.6
baz=86
530A J-C Ranch, Com 86.06 300 P P 06 57 47.0 -0.3
baz=86
Y29A Porterfield Fa 86.52 304 P P 06 57 49.3 -0.2
baz=86
Z29A Hungry Hill Ra 86.52 303 P P 06 57 49.2 -0.3
baz=86
Y28A McKinney Farm, 87.00 304 P P 06 57 51.6 -0.3
baz=87
U28A Mallet 87.09 306 P P 06 57 52.2 -0.1
baz=87
OGNE Ogallala 87.17 311 P P 06 57 52.7 +0.2
baz=87
428A Kincaid Ranch, 87.25 301 P P 06 57 53.5 +0.4
baz=87
J27A Elkhorn Farm, 87.27 313 P P 06 57 52.8 -0.1
baz=87
MSTX Muleshoe 87.44 304 eP P 06 57 54.5 +0.5
MSTX Muleshoe 87.44 304 P P 06 57 54.2 +0.2
baz=87
R27A Eads 87.63 308 P P 06 57 55.2 +0.4
baz=88
Y27A Causey 87.77 304 P P 06 57 55.3 -0.3
baz=88
KKAR Karatay Array 87.79 47 eP P 06 57 56.1 +0.7
KKAR Karatay Array 87.79 47 eP P 06 57 56.1 +0.7
Z27A Tatum 87.79 303 P P 06 57 55.3 -0.4
baz=88
527A Woodward Ranch 88.03 300 P P 06 57 56.7 -0.3
baz=88
TXAR Lajitas Array 88.06 299 P P 06 57 57.0 0.0
comp=Z,0.8nm,0.9s,baz=123,slow=6.6,SNR=6.6
TXAR LR LR 07 36 15.2
comp=Z,17nm,18.6s,baz=0.0,slow=35
P26A Davis Ranch, A 88.11 309 P P 06 57 57.1 -0.1
baz=88
BRVK Borovoye 88.13 37⇓eP P 06 57 57.5 +0.8
BRVK pmax pmax
comp=Z,7.0nm,1.7s
S26A Kim 88.14 307 P P 06 57 57.3 0.0
baz=88
T26A Comanche Natio 88.22 307 P P 06 57 57.9 +0.1
baz=88
Y26A Elida 88.32 304 P P 06 57 58.5 +0.3
baz=88
U26A Atchley Ranch, 88.32 306 P P 06 57 58.3 0.0
baz=88
X26A CR and CF Fran 88.32 304 P P 06 57 58.4 +0.1
baz=88
V26A Tequesquite Ra 88.34 306 P P 06 57 58.3 +0.1
baz=88
426A McDonald Obser 88.41 301 P P 06 57 58.4 -0.5
baz=88
526A Mary Lane Ranc 88.44 300 P P 06 57 59.3 +0.3
baz=88
626A Big Bend Ranch 88.47 299 P P 06 57 59.0 0.0
baz=88
VOSK Vostochnaya 88.54 37 eP P 06 57 59.4 +0.8
VOSK Vostochnaya 88.54 37 eP P 06 57 59.4 +0.8
Z25A Roswell 89.05 303 P P 06 58 01.3 -0.4
baz=89
425A Indio Mountain 89.23 301 P P 06 58 02.5 -0.1
baz=89
Y24A Capitan 89.66 304 P P 06 58 04.8 +0.2
baz=90
O23A Lake Granby, G 90.10 310 P P 06 58 06.9 +0.2
baz=90
AAK Ala-Archa 90.71 48deP P 06 58 10.3 +1.0
AAK pmax pmax
comp=Z,19nm,1.3s
AAK MLR MLR
comp=Z,133nm,24.0s
AAK Ala-Archa 90.71 48 eP P 06 58 10.5 +1.2
V22A San Miguel Ran 90.88 306 P P 06 58 10.1 -0.2
baz=91
I21A Big Trails, Te 91.12 314 P P 06 58 11.1 -0.1
baz=91
TKM2 Tokmak 2 91.52 47 eP P 06 58 14.1 +1.0
TKM2 Tokmak 2 91.52 47 eP P 06 58 14.1 +1.0
KSH Kashi 91.86 51 eP P 06 58 14.6 0.0
KSH sP sP 06 58 21.8 +2.6
KSH ePP PP 07 01 55.4 +1.7
KSH S S 07 09 11.2 -5.2
KSH SS SS 07 15 21.2 -3.1
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,12nm,0.6s
KSH LR LR
comp=Z,110nm,5.8s
KSH LR LR
comp=Z,67nm,5.3s
KSH LR LR
comp=Z,120nm,5.0s
PDAR Pinedale Array 92.80 313 LR LR 07 33 16.1
comp=Z,38nm,21.2s,baz=54,slow=31
BOZ Bozeman (W) 94.15 316 eP P 06 58 24.4 -0.7
BOZ Bozeman (W) 94.15 316 eP P 06 58 24.4 -0.7
YKA Yellowknife Ar 94.28 333 P P 06 58 23.9 -1.2
comp=Z,0.2nm,0.8s,baz=83,slow=5.0,SNR=3.2
MKAR Makanchi Array 96.04 43 P P 06 58 33.6 +0.1
comp=Z,1.0nm,0.8s,baz=271,slow=6.5,SNR=8.8
MKAR LR LR 07 48 10.5
comp=Z,42nm,18.5s,baz=218,slow=40
ZALV Zalesovo Beam 96.75 36 LR LR 07 45 32.7
comp=Z,38nm,19.7s,baz=262,slow=38
WMQ Urumqi 100.22 46 eP Pdif 06 58 53.7 +1.3
WMQ pP pP 06 58 58.5 +2.7
WMQ sP sP 06 59 00.7 +3.7
WMQ PP PP 07 03 01.4 +3.2
WMQ pmax pmax
comp=Z,8.0nm,0.4s
WMQ pmax pmax
comp=Z,130nm,3.8s
WMQ LR LR
comp=Z,37nm,18.8s
WMQ LR LR
comp=Z,100nm,22.4s

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
LZH	Lanzhou	114.10	50	ePKP	PKPdf	07 03 42.1	-4.0
LZH				sPKP		07 03 52.7	
LZH				LR	LR		
	comp=Z,160nm,18.2s						
LZH				LR	LR		
	comp=Z,150nm,17.0s						
LZH				LR	LR		
	comp=Z,200nm,19.6s						
CD2	Chengdu	115.56	56	PKP	PKPdf	07 03 48.5	-0.4
CD2				PP	PP	07 04 55.4	+4.7
CD2				PKS	PKSdf	07 07 23.9	-1.8
CD2				SKS	SKSdf	07 10 58.3	-3.2
CD2				SKKS	SKKSac	07 11 47.2	-5.6
CD2				SS	SS	07 20 50.8	+0.2
CD2				AMB	AMB		
	comp=Z,120nm,6.5s						
KMI	Kunming	116.12	62	PKP	PKPdf	07 03 50.4	+0.1
HHC	Hu-ho-hao-te	117.91	43	ePKP	PKPdf	07 03 49.2	-4.0
HHC				PP	PP	07 05 07.5	+0.8
HHC				SKS	SKSdf	07 10 56.5	-9.2
HHC				SS	SS	07 21 22.3	+1.9
HHC				AMB	AMB		
	comp=Z,210nm,9.9s						
HHC				LR	LR		
	comp=Z,450nm,16.0s						
HHC				LR	LR		
	comp=Z,690nm,17.3s						
HHC				LR	LR		
	comp=Z,260nm,18.5s						
GYA	Guiyang	119.22	60	ePdif	Pdif	07 00 16.9	-0.5
GYA				PKP	PKPdf	07 03 54.8	-1.3
GYA				PP	PP	07 05 20.2	+3.7
GYA				PKS	PKSdf	07 07 30.0	-3.1
GYA				SKKS		07 12 11.4	
GYA				SS	SS	07 21 38.5	-0.2
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
GYA				LR	LR		
	comp=Z,120nm,22.0s						
GYA				LR	LR		
	comp=Z,110nm,23.1s						
GYA				LR	LR		
	comp=Z,130nm,22.4s						
CN2	Changchun	124.87	33	ePKP	PKPdf	07 04 01.9	-4.4
CN2				PP	PP	07 05 54.2	+0.6
CN2				AMB	AMB		
	comp=Z,500nm,6.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CN2				LR	LR		
	comp=Z,500nm,19.0s						
MDJ	Mudanjiang	126.49	30	PKP	PKPdf	07 04 07.6	-1.8
NJ2	Nanjing	127.13	49	ePKP	PKPdf	07 04 10.2	-0.7
STKA	Stephens Creek	141.59	149	PKhKP	PKPpre	07 04 32.9	
	comp=Z,0.8nm,0.7s,baz=192,slow=2.3,SNR=5.0						
ASAR	Alice Springs	142.32	131	PKHKP	PKPpre	07 04 34.0	
ASAR	Alice Springs	142.32	131	PKhKP	PKPpre	07 04 34.0	
	comp=Z,1.1nm,0.8s,baz=230,slow=2.6,SNR=9.7						
WRA	Warramunga Arr	144.69	127	PKP	PKPbc	07 04 42.6	0.0
	comp=Z,9.6nm,1.0s,baz=238,slow=2.7,SNR=32						
WRAB	Tennant Creek	144.71	127	⇑iPKIKP	PKPbc	07 04 43.0	+0.4
WRAB				pmax	pmax		
	comp=Z,32nm,1.3s						

IDC 02 06:51:53.3±8.2,14°.76S×171°.67W,h0km,mb4.3/4, mb1 4.5/4,mb1mx3.9/22,mbtmp4.3/4,ML6.6/1,Error ellipse: s-maj=148.6km s-min=77.8km az=79.0,Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	15.54	201	Pn	Pn	06 55 35.1	+1.3
	251nm,0.3s,baz=64,slow=23,SNR=4.1						
DZM	Mont Dzumac	21.98	247	P	P	06 56 49.4	+0.1
	3.0nm,0.6s,baz=98,slow=11,SNR=4.7						
STKA	Stephens Creek	45.80	240	P	P	07 00 16.7	-0.4
	1.6nm,0.6s,baz=82,slow=11,SNR=6.8						
WRA	Warramunga Arr	51.62	256	P	P	07 01 01.9	-0.2
	1.5nm,0.6s,baz=96,slow=7.3,SNR=31						
ASAR	Alice Springs	51.90	251	P	P	07 01 04.1	0.0
	12nm,0.5s,baz=87,slow=8.0,SNR=226						

SKHL 02 07:01:35.3±0.7,45°.51N×151°.87E,h45km±1km,mb4.2/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.83	266	eP	Pn	07 02 18.0	0.0
KUR				AMB	AMB	07 02 19.4	
	80nm,0.4s						
KUR				AMB	AMB	07 02 19.4	
	20nm,0.4s						
KUR				eS	Sn	07 02 49.9	-1.0
KUR				A	A	07 02 54.4	
	330nm,0.4s						
KUR				A	A	07 02 54.4	
	190nm,0.4s						
SHO	Shikotan	3.95	247	eP	Pn	07 02 33.8	+0.5
SHO				eS	Sn	07 03 17.2	-1.2
SHO				A	A	07 03 30.2	
	127nm,0.9s						
YUK	Yuzh-Kuril'sk	4.53	253	eP	Pn	07 02 42.3	+1.1
YUK				AMB	AMB	07 02 43.5	
	9.0nm,0.4s						
YUK				AMB	AMB	07 02 43.5	
	39nm,0.4s						
YUK				eS	Sn	07 03 33.1	+0.6
YUK				A	A	07 03 44.5	
	45nm,0.7s						
YUK				A	A	07 03 44.5	
	71nm,0.7s						

NEIC 02 07:06:38.0,19°.21N×155°.49W,h37km,MD3.5(HVO), After HVO.,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	Pauahi	0.30	57	ePg	Pn	07 06 45.1	-1.2
PUH				eSg	Sn	07 06 49.9	-3.6
STCH	Steam Cracks	0.38	63	ePn	Pn	07 06 46.0	-0.9
STCH				eSn	Sn	07 06 52.0	-1.8
POHA	Pohakuloa	0.55	355	ePn	Pn	07 06 48.1	-1.6
POHA				eSn	Sn	07 06 55.6	-2.3
KIP	Kipapa	3.24	313	ePn	Pn	07 07 23.6	-2.7
KIP				eSn	Sn	07 08 00.1	-3.5

IDC 02 07:07:25.4±6.2,68°.60N×168°.57W,h0km,mb3.1/3, mb1 3.6/5,mb1mx3.3/52,mbtmp3.2/5,ML3.4/2,Error ellipse: s-maj=105.7km s-min=68.5km az=133.0
ISCJB 02 07:07:30.8±1.3,67°.7N±0°.1×166°.5W±0°.2,h10km,mb2.8/3, Error ellipse: s-maj=16.6km s-min=5.4km az=148.3
NEIC 02 07:07:31.6,67°.67N×166°.68W,h10km,ML3.0(AEIC),After AEIC.
ISC 02 07:07:33.3±1.9,67°.7N±0°.1×166°.7W±0°.1,h10km,n14, σ1§31/19,mb3.0/3,Bering Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	Tin City	2.15	194	P	Pn	07 08 07.7	-1.5
TNA				S	Sn	07 08 36.2	+0.3
GAMB	Gambell	4.41	210	P	Pn	07 08 39.0	-1.1
GAMB				S	Sn	07 09 32.6	+1.3
GCSA	Galena City Sc	4.92	122	P	Pn	07 08 46.7	-0.5
IM04	Indian Mountai	5.36	102	ePn	Pn	07 08 52.2	-1.1
IM04				eSn	Sn	07 09 53.6	-1.4
IM3	Indian Mountai	5.37	102	P	Pn	07 08 52.7	-0.7
IM3				S	Sn	07 09 57.8	+2.6
COLD	Coldfoot	6.35	86	P	Pn	07 09 06.0	-0.8
COLD				S	Sn	07 10 19.2	-0.1
TT01	Tatalina	6.52	132	P	Pn	07 09 08.9	-0.2
WRH	Wood River Hil	8.19	104	P	Pn	07 09 30.2	-1.8
ILAR	Eielson Array	8.49	101	Pn	Pn	07 09 35.9	-0.2
	0.2nm,0.3s,baz=300,slow=14,SNR=18						
ILAR				Sn	Sn	07 11 10.4	-1.3
	0.1nm,0.3s,baz=303,slow=27,SNR=4.2						
IL1	Eielson Array	8.49	101	P	Pn	07 09 34.6	-1.5
INK	Inuvik	12.37	72	Pn	Pn	07 10 25.1	-4.0
	0.1nm,0.3s,baz=291,slow=11,SNR=5.3						
INK				Sn	Sn	07 12 36.2	-11
	0.1nm,0.3s,baz=101,slow=16,SNR=4.5						
YKA	Yellowknife Ar	21.95	78	P	P	07 12 25.7	-0.9
	0.1nm,0.6s,baz=304,slow=10,SNR=3.6						
NVAR	Mina Array Bea	39.51	113	P	P	07 15 05.7	+1.7
	0.3nm,0.7s,baz=342,slow=10,SNR=3.3						
TXAR	Lajitas Array	52.99	103	P	P	07 16 50.4	+0.4
	0.1nm,0.6s,baz=321,slow=9.3,SNR=4.3						

TAP 02 07:14:19.6,22°.96N×121°.02E,h14km,ML1.8,C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinglang	0.14	160	P	Pb	07 14 23.8	-0.3
	baz=157						
TWG				S	Sb	07 14 26.6	-0.6
	baz=157						
STYT	Tauyuan	0.32	310	eP	Pb	07 14 26.8	-0.3
	baz=320						
TWF1	Yuli	0.47	33	iP	Pg	07 14 29.0	0.0
	baz=33						
TWF1				S	Sg	07 14 34.6	-0.7
	baz=33						
EHY	Hungye	0.61	27	eP	Pg	07 14 31.6	-0.1
	baz=24						
EHY				eS	Sg	07 14 39.5	-0.4
	baz=24						

IDC 02 07:45:49.1±3.5,36°.47N×71°.52E,h176km±31km,mb3.2/10, mb1 3.4/15,mb1mx3.2/41,mbtmp3.8/15,Error ellipse: s-maj=24.3km s-min=16.5km az=13.0
ISCJB 02 07:45:50.7±0.5,36°.69N±0°.04×71°.58E±0°.07,h200km, mb3.3/10,Error ellipse: s-maj=8.0km s-min=6.0km az=166.3
NNC 02 07:45:55.1±5.3,37°.11N×71°.12E,h183km±51km,mb3.1, mpv4.3,Error ellipse: s-maj=45.0km s-min=28.4km az=18.0
ISC 02 07:45:51.5±0.8,36°.73N±0°.08×71°.59E±0°.09,h200km,n37, σ1§39/40,mb3.5/10,8C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	5.52	138	eP	Pn	07 47 13.0	+0.2
DLH				eS	Sn	07 48 14.0	-2.9
AML	Almayashu	5.64	16	P	Pn	07 47 14.4	0.0
	SNR=196						
UCH	Uchtor	5.94	21	P	Pn	07 47 18.5	+0.2
	SNR=82						
KZA	Kyzart	6.05	27	P	Pn	07 47 19.9	+0.3
	SNR=17						
EKS2	Erkin-Say	6.16	15	P	Pn	07 47 21.6	+0.7
	SNR=18						
AAK	Ala-Archa	6.31	20	⇓P	Pn	07 47 23.5	+0.7
	9.3nm,0.3s						
AAK				⇓S	Sn	07 48 33.5	-1.7
	20nm,0.5s						
AAK	Ala-Archa	6.31	20	P	Pn	07 47 23.4	+0.6
	SNR=33						
AAK	Ala-Archa	6.31	20	P	Pn	07 47 23.2	+0.3
	10.0nm,0.3s,baz=180,slow=7.7,SNR=104						
AAK				S	Sn	07 48 33.6	-1.6
	1.8nm,0.3s,baz=98,slow=23,SNR=16						
KK31	Karatay Array	6.42	353	⇓P	Pn	07 47 23.3	-0.8
	8.4nm,0.2s,baz=176,slow=13,SNR=155						
KK31				⇑S	Sn	07 48 32.2	-5.4
	12nm,0.4s,baz=184,slow=24,SNR=5.5						
KBK	Karagaybulak	6.46	23	P	Pn	07 47 26.6	+1.8
	SNR=12						
ULHL	Ulahol	6.58	32	P	Pn	07 47 28.1	+1.7
	SNR=13						
CHMS	Chumysh	6.72	20	P	Pn	07 47 28.5	+0.5
	SNR=9.9						
USP	Ospenovka	6.91	18	P	Pn	07 47 29.6	-0.8
	SNR=8.9						
TKM2	Tokmak 2	6.91	25	⇑P	Pn	07 47 31.7	+1.0
	16nm,0.5s						
TKM2				⇑S	Sn	07 48 48.3	-1.2
	4.9nm,0.8s						
TKM2	Tokmak 2	6.91	25	P	Pn	07 47 31.1	+0.4
	SNR=55						
MK31	Makanchi Array	12.83	35	⇑P	Pn	07 48 48.0	+1.3
	0.5nm,0.4s,baz=226,slow=12,SNR=13						
MKAR	Makanchi Array	12.83	35	P	Pn	07 48 47.9	+1.1
	0.1nm,0.3s,baz=233,slow=12,SNR=12						
KURBB	Kurchatov Arra	14.76	18	⇓P	Pn	07 49 09.4	-1.2
	3.0nm,0.6s						
KURBB	Kurchatov Arra	14.76	18	P	Pn	07 49 09.7	-0.9
	0.4nm,0.3s,baz=208,slow=11,SNR=12						
AB31	Akbulak array	15.12	330	⇑P	P	07 49 15.2	-0.3
	1.5nm,0.5s,baz=141,slow=12,SNR=54						
AB31				⇓S	S	07 51 53.1	-10
	3.8nm,0.8s,baz=151,slow=22,SNR=7.8						
VOSK	Vostochnaya	16.00	359	⇑P	P	07 49 24.9	-0.3
	2.1nm,0.8s						
BVA0	Borovoye Array	16.32	357	⇓P	Pn	07 49 30.9	+1.5
	0.6nm,0.4s,baz=231,slow=38,SNR=7.3						
BVAR	Borovoye Array	16.32	357	P	Pn	07 49 30.3	+0.9
	0.5nm,0.3s,baz=155,slow=12,SNR=8.5						
AKTO	Aktyubinsk	16.83	329	⇑P	Pn	07 49 34.8	-0.7
	1.1nm,0.5s						
AKTO				⇑S	S	07 52 35.4	-4.0
	2.6nm,0.8s						
AKTO	Aktyubinsk	16.83	329	P	Pn	07 49 35.6	+0.1
	0.4nm,0.3s,baz=127,slow=8.3,SNR=6.4						
AKTO				S	S	07 52 37.4	-2.1
	0.2nm,0.3s,baz=358,slow=22,SNR=5.2						
ZALV	Zalesovo Beam	19.52	24	P	Pn	07 50 05.7	-1.4
	0.4nm,0.3s,baz=223,slow=10,SNR=13						
BRTR	Keskin Array B	29.82	287	P	P	07 51 41.7	+1.9
	0.5nm,0.6s,baz=86,slow=6.8,SNR=3.2						
AKASG	Malin Array Be	33.17	308	P	P	07 52 09.7	+0.8
	0.7nm,0.3s,baz=80,slow=8.1,SNR=5.4						
FINES	FINESS Array B	37.56	326	P	P	07 52 47.5	+1.4
	1.6nm,0.8s,baz=110,slow=10,SNR=4.5						
ARCES	ARCESS Array B	41.12	337	P	P	07 53 16.9	+1.4
	1.4nm,0.9s,baz=122,slow=8.8,SNR=4.6						
NB2	NORSAR Subarra	44.48	323	P	P	07 53 43.3	+0.7
	comp=Z,1.0nm,0.5s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.48	323	P	P	07 53 43.7	+1.1
	comp=Z,1.0nm,0.5s,baz=97,slow=7.7,SNR=5.8						
TORD	Torodi Ar. Bea	66.19	269	P	P	07 56 16.6	-1.4
	comp=Z,1.1nm,0.7s,baz=50,slow=5.9,SNR=9.5						
INK	Inuvik	73.61	9	P	P	07 57 04.2	+2.0
	comp=Z,0.4nm,0.6s,baz=340,slow=2.7,SNR=3.0						
YKA	Yellowknife Ar	81.00	3	P	P	07 57 44.8	+1.4
	comp=Z,0.1nm,0.4s,baz=352,slow=5.5,SNR=8.8						
WRA	Warramunga Arr	81.71	122	P	P	07 57 47.4	-0.3
	comp=Z,0.5nm,0.9s,baz=326,slow=4.9,SNR=4.2						
ASAR	Alice Springs	84.00	125	P	P	07 58 00.1	+0.7
	comp=Z,0.4nm,0.7s,baz=314,slow=5.3,SNR=5.0						

CASC 02 07:52:44.5±1.3,12°.85N×89°.94W,h13km±10km,MD3.7, ML3.3,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	1.03	18	eP	Pb	07 53 03.4	-1.1
SBLS				eS	Sb	07 53 18.0	-0.3
SNJE	San Jose	1.06	18	eP	Pb	07 53 03.9	-1.2
RTR	El Retiro	1.08	15	eP	Pb	07 53 04.2	-1.1
RTR				eS	Sg	07 53 19.9	+0.1
SNET	Serv Nac Est T	1.08	40	eS	Sb	07 53 19.0	-0.3
SNET				AML	AML	07 53 20.2	
	comp=Z,716nm,0.2s						
BOQS	Boqueron	1.09	36	eP	Pb	07 53 04.3	-1.3
BOQS				eS	Sb	07 53 19.3	-0.6
LFRS	El Faro	1.15	48	eP	Pb	07 53 04.8	-1.6
LFU	La Fuente	1.20	42	eP	Pb	07 53 05.9	-1.3
LFU				eS	Sb	07 53 22.3	-0.6
LBRS	Las Brisas	1.24	45	eP	Pn	07 53 06.9	-0.9
RBDL	Robledal	1.28	11	eP	Pn	07 53 07.4	-1.0
RBDL				eS	Sn	07 53 25.4	-0.1
SNVI	San Vicente	1.31	55	eP	Pn	07 53 07.5	-1.3
SNVI				eS	Sb	07 53 25.9	-0.4
VSM	San Miguel	1.72	70	eP	Pn	07 53 13.7	-0.9
NBG	Las Nubes	1.77	347	eP	Pn	07 53 15.9	+0.6
NBG				eS	Sn	07 53 38.5	+0.7
MRL	Marmol	2.21	6	eP	Pn	07 53 21.5	+0.3
MRL				eP	Pb	07 53 23.9	-0.8

LJU 02 07:55:26.6,46°.39N×15°.07E,h0km Rockburst
CSEM 02 07:55:26.6±99.0,46°.39N×15°.07E,h0km,Suspected Mining induced. After LJU,Northwestern Balkan Peninsula

MDD 02 08:13:11.1±2.7,40°.62N×14°.52W,h0km,mb3.7/3,Error ellipse: s-maj=24.2km s-min=18.8km az=119.0,PRXIMO
INMG 02 08:13:13.4±0.8,40°.61N×14°.92W,h10km,ML2.3,Error ellipse: s-maj=6.9km s-min=4.8km az=108.0
CSEM 02 08:13:14.4±0.4,40°.61N×14°.18W,h10km,mb3.7,Error ellipse: s-maj=7.0km s-min=5.6km az=117.0
ISC 02 08:13:11.7±3.4,40°.61N±0°.06×14°.4W±0°.2,h10km,n50, σ1§06/77,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCAS	Casmilo, Conde	4.52	95	ePn	Pn	08 14 21.4	+1.2
PCAS				eSn	Sn	08 15 12.3	-0.5
PCAS				A	A	08 15 16.6	
	6.2nm,0.6s						
PCAS	Casmilo, Conde	4.52	95	ePn	Pn	08 14 21.4	+1.2
PCAS				eSn	Sn	08 15 12.3	-0.5
	6.2nm,0.6s						
EMAZ	Mazaricos	4.66	58	P	Pn	08 14 22.3	+0.1
	0.3nm,0.1s,SNR=7.9						
EMAZ				S	Sn	08 15 14.7	-1.6
	0.8nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	4.66	58	P	Pn	08 14 22.3	+0.1
	0.3nm,0.1s,SNR=7.9						
EMAZ				S	Sn	08 15 14.7	-1.6
	0.8nm,0.1s,SNR=7.9						
PTOM	Tomar	4.67	100	ePn	Pn	08 14 23.4	+1.1
PTOM				eSn	Sn	08 15 16.5	0.0
PTOM				A	A	08 15 20.7	
	5.2nm,0.1s						
PTOM	Tomar	4.67	100	P	Pn	08 14 23.4	+1.1
PTOM				S	Sn	08 15 16.5	0.0
	2.6nm,0.1s						
PTOM	Tomar	4.67	100	P	Pn	08 14 23.4	+1.1
PTOM				S	Sn	08 15 16.5	0.0
	2.6nm,0.1s						
PCAB	Cabril	4.91	75	eSn	Sn	08 15 21.9	-0.6
PCAB				A	A	08 15 30.1	
	8.4nm,0.6s						
PCAB	Cabril	4.91	75	S	Sn	08 15 21.9	-0.6
	4.2nm,0.6s						
PCAB	Cabril	4.91	75	S	Sn	08 15 21.9	-0.6
	4.2nm,0.6s						
ELOB	Lobios	4.92	73	P	Pn	08 14 26.9	+1.2
	0.4nm,0.1s,SNR=7.9						
ELOB				S	Sn	08 15 22.2	-0.5
	0.6nm,0.1s,SNR=7.9						
ELOB	Lobios	4.92	73	P	Pn	08 14 26.9	+1.2
	0.4nm,0.1s,SNR=7.9						
ELOB				S	Sn	08 15 22.2	-0.5
	0.6nm,0.1s,SNR=7.9						
PVIS	Viseu	4.92	87	ePn	Pn	08 14 26.9	+1.1
PVIS				eSn	Sn	08 15 22.4	-0.4
PVIS				A	A	08 15 27.1	
	3.1nm,0.3s						
PVIS	Viseu	4.92	87	P	Pn	08 14 26.9	+1.1
PVIS				S	Sn	08 15 22.4	-0.4
	1.6nm,0.3s						
PVIS	Viseu	4.92	87	P	Pn	08 14 26.9	+1.1
PVIS				S	Sn	08 15 22.4	-0.4
	1.6nm,0.3s						
POLO	Lamas de Olo	5.03	79	eSn	Sn	08 15 25.0	-0.6
POLO				A	A	08 15 30.1	
	0.6nm,0.1s						
POLO	Lamas de Olo	5.03	79	eSn	Sn	08 15 25.0	-0.6
	0.6nm,0.1s						
PVRL	Vila Real	5.08	80	eSn	Sn	08 15 26.2	-0.5
PVRL	Vila Real	5.08	80	S	Sn	08 15 26.2	-0.5
PVRL	Vila Real	5.08	80	S	Sn	08 15 26.2	-0.5
PNCL	Nicolau / Gran	5.16	117	ePn	Pn	08 14 30.3	+1.3
PNCL				eSn	Sn	08 15 29.3	+0.6
PNCL	Nicolau / Gran	5.16	117	ePn	Pn	08 14 30.3	+1.3
PNCL				eSn	Sn	08 15 29.3	+0.6
MTE	Manteigas	5.20	90	eSn	Sn	08 15 29.2	-0.6
MTE				A	A	08 15 34.0	
	4.3nm,0.5s						
MTE	Manteigas	5.20	90	S	Sn	08 15 29.2	-0.6
	2.2nm,0.5s						
MTE	Manteigas	5.20	90	S	Sn	08 15 29.2	-0.6
	2.2nm,0.5s						
EVO	Evora	5.33	111	ePn	Pn	08 14 32.8	+1.5
EVO				eSn	Sn	08 15 31.7	-1.0
EVO	Evora	5.33	111	P	Pn	08 14 32.8	+1.5
EVO				S	Sn	08 15 31.7	-1.0
EVO	Evora	5.33	111	P	Pn	08 14 32.8	+1.5
EVO				S	Sn	08 15 31.7	-1.0
PCBR	Castelo Branco	5.33	96	eSn	Sn	08 15 32.0	-0.7
PCBR				A	A	08 15 33.6	
	2.4nm,0.3s						
PCBR	Castelo Branco	5.33	96	S	Sn	08 15 32.0	-0.7
	1.2nm,0.3s						
PCBR	Castelo Branco	5.33	96	S	Sn	08 15 32.0	-0.7
	1.2nm,0.3s						
PTEO	Sao Teotonio	5.35	123	ePn	Pn	08 14 31.7	+0.1
PTEO	Sao Teotonio	5.35	123	P	Pn	08 14 31.7	+0.1
PTEO	Sao Teotonio	5.35	123	P	Pn	08 14 31.7	+0.1
PMRV	Marv??o	5.48	100	ePn	Pn	08 14 34.2	+0.8
PMRV				eSn	Sn	08 15 36.0	-0.5
PMRV				A	A	08 15 37.2	
	1.1nm,0.4s						
PMRV	Marv??o	5.48	100	P	Pn	08 14 34.2	+0.8
PMRV				S	Sn	08 15 36.0	-0.5
	1.1nm,0.4s						
PMRV	Marv??o	5.48	100	P	Pn	08 14 34.2	+0.8
PMRV				S	Sn	08 15 36.0	-0.5
	1.1nm,0.4s						
PESTR	Estremoz	5.50	106	ePn	Pn	08 14 34.5	+0.8
PESTR				eSn	Sn	08 15 35.9	-1.2
PESTR	Estremoz	5.50	106	ePn	Pn	08 14 34.5	+0.8
PESTR				eSn	Sn	08 15 35.9	-1.2
MVO	Moncorvo	5.59	82	eSn	Sn	08 15 38.1	-1.1
MVO				A	A	08 15 38.6	
	2.6nm,0.3s						
MVO	Moncorvo	5.59	82	S	Sn	08 15 38.1	-1.1
	1.0nm,0.1s,SNR=7.9						
MVO	Moncorvo	5.59	82	S	Sn	08 15 38.1	-1.1
	1.0nm,0.1s,SNR=7.9						
ECAL	Calabor	5.90	74	P	Pn	08 14 40.4	+1.1
	0.1nm,0.1s,SNR=7.9						
ECAL				S	Sn	08 15 45.5	-1.4
	0.2nm,0.1s,SNR=7.9						
ECAL	Calabor	5.90	74	P	Pn	08 14 40.4	+1.1
	0.1nm,0.1s,SNR=7.9						
ECAL				S	Sn	08 15 45.5	-1.4
	0.2nm,0.1s,SNR=7.9						
PBDV	Barranco-do-Ve	6.04	122	ePn	Pn	08 14 41.8	+0.7
PBDV	Barranco-do-Ve	6.04	122	P	Pn	08 14 41.8	+0.7
PBDV	Barranco-do-Ve	6.04	122	P	Pn	08 14 41.8	+0.7
PVAQ	Vaqueiros	6.08	120	ePn	Pn	08 14 42.8	+1.1
PVAQ				eSn	Sn	08 15 48.6	-2.8
PVAQ	Vaqueiros	6.08	120	P	Pn	08 14 42.8	+1.1
PVAQ				S	Sn	08 15 48.6	-2.8
PVAQ	Vaqueiros	6.08	120	P	Pn	08 14 42.8	+1.1
PVAQ				S	Sn	08 15 48.6	-2.8

IDC 02 08:17:14.8±3.8,11°.81S×117°.83E,h0km,mb3.5/1, mb1 3.6/3,mb1mx3.4/23,mbtmp3.4/3,ML3.4/2,Error ellipse: s-maj=243.4km s-min=28.5km az=46.0,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.81	119	P	Pn	08 21 23.4	-0.9
	0.1nm,0.3s,baz=285,slow=14,SNR=4.3						
ASAR	Alice Springs	19.30	130	P	Pn	08 21 42.5	0.0
	0.2nm,0.3s,baz=311,slow=13,SNR=17						
MKAR	Makanchi Array	66.44	334	P	P	08 28 05.8	-0.1
	0.2nm,0.4s,baz=141,slow=7.7,SNR=6.8						

IDC 02 08:28:00.4±1.9,2°.82N×125°.55E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.5/26,mbtmp3.6/4,Error ellipse: s-maj=180.9km s-min=25.5km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.21	159	P	P	08 33 20.0	+1.0

	0.4nm,0.3s,baz=338,slow=10,SNR=19						
ASAR	Alice Springs	27.56	163	P	P	08 33 49.4	+0.1
	0.4nm,0.7s,baz=338,slow=7.2,SNR=7.2						
STKA	Stephens Creek	37.73	157	P	P	08 35 16.7	-1.3
	0.6nm,0.4s,baz=326,slow=7.3,SNR=3.1						
MKAR	Makanchi Array	57.64	326	P	P	08 37 52.3	-0.2
	0.3nm,0.4s,baz=125,slow=7.9,SNR=4.5						

IDC 02 08:41:19.7±2.6, 6.30S×127.58E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.5/25, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=315.4km s-min=31.1km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	Manton Dam	7.38	152	P	Pb	08 43 19.2	-10
	baz=5.7,SNR=17						
MTN				S	Sn	08 44 33.3	-0.2
	baz=5.7,SNR=5.3						
WSI	Waingapu	7.95	245	S	Sb	08 45 17.5	+3.6
	baz=8.4,SNR=5.3						
KDU	Kakadu	7.97	143	P	Pn	08 43 25.8	+8.9
	baz=6.3,SNR=4.6						
WRA	Warramunga Arr	15.07	155	Pn	Pn	08 44 55.4	+1.3
	0.2nm,0.3s,baz=333,slow=13,SNR=14						
WRA				Sn	Sn	08 47 33.1	-8.8
	0.2nm,0.3s,baz=342,slow=19,SNR=4.7						
COEN	Coen	17.12	118	P	Pn	08 45 16.4	-4.3
	baz=16,SNR=4.6						
ASAR	Alice Springs	18.31	161	P	Pn	08 45 34.5	-0.9
	0.5nm,0.3s,baz=342,slow=11,SNR=39						
ASAR				S	Sn	08 48 43.2	-17
	0.1nm,0.3s,baz=342,slow=26,SNR=5.6						
QIS	Mount Isa	18.36	142	P	Pn	08 45 31.7	-4.2
	baz=17,SNR=3.8						
WRKA	Warakurna	18.64	178	P	Pn	08 45 41.2	+1.7
	baz=17,SNR=5.0						
MKAR	Makanchi Array	66.34	328	P	P	08 52 10.4	+0.1
	0.2nm,0.5s,baz=116,slow=8.2,SNR=4.5						

MEX 02 08:55:52.2±0.3, 14.97N×93.53W, h12km±10km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.79	22	eP	Pg	08 56 05.1	-2.5
PCIG				iS	Sg	08 56 15.4	-2.5
CMIG	Matias Romero	2.48	329	eP	Pn	08 56 29.5	-2.9
CMIG				iS	Sn	08 56 58.3	-4.4
HUIG	Huatulco	2.61	288	eP	Pn	08 56 31.3	-2.9
HUIG				iS	Sn	08 57 01.8	-4.1
VHO	Vista Hermosa	3.72	305	eP	Pn	08 56 47.0	-2.8
VHO				iS	Sn	08 57 29.7	-4.1

IDC 02 09:27:09.7±1.7, 6.78N×126.95E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/33, mbtmp3.5/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/25, Error ellipse: s-maj=88.3km s-min=20.8km az=62.0
ISC 02 09:27:18.8±1.6, 6.6N±0.1×126.1E±0.1, h97km, n9, σ2§28/6, mb3.5/5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	Davao City--Mi	0.74	308	⇑eP	Pn	09 27 34.4	-1.9
DMPH				eS	Sn	09 27 47.9	-1.5
BIPH	Bislig	1.57	10	⇓iP	Pn	09 27 45.7	0.0
BIPH				eS	Sn	09 28 06.7	+0.5
CTBH	Cotabato--PC H	1.93	288	eP	Sn	09 28 17.4	+3.0
WRA	Warramunga Arr	27.62	163	P	P	09 32 58.1	+0.8
	0.6nm,0.9s,baz=346,slow=10,SNR=3.0						
CMAR	Chiang Mai Arr	28.94	296	P	P	09 33 16.9	+7.7
	0.4nm,0.3s,baz=115,slow=8.1,SNR=2.0						
ASAR	Alice Springs	31.06	166	P	P	09 33 29.4	+1.6
	0.2nm,0.5s,baz=347,slow=7.2,SNR=5.3						
MKAR	Makanchi Array	54.84	324	P	P	09 36 44.3	+5.3
	0.4nm,0.7s,baz=115,slow=7.7,SNR=3.9						
ZALV	Zalesovo Beam	57.74	333	LR	LR	10 02 14.7	
	comp=Z,28nm,20.3s,baz=66,slow=36						
KURBB	Kurchatov Arra	58.98	327	P	P	09 37 13.6	+5.5
	0.2nm,0.5s,baz=125,slow=6.1,SNR=5.0						

IDC 02 09:28:03.5±2.9, 53.58N×87.72E, h0km, mb1 3.0/2, mb1mx2.8/30, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=26.1km s-min=14.6km az=61.0
NNC 02 09:28:06.1±2.1, 53.41N×87.55E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=16.8km s-min=13.6km az=14.0
ISC 02 09:28:06.9±3.9, 53.6N±0.1×87.8E±0.2, h35km, n7, σ0§53/10, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.79	281	i		09 40 00.0	
	baz=102,slow=338,SNR=2.7						
ZALV	Zalesovo Beam	1.79	281	Pg	Pn	09 28 35.2	-0.1
	3.3nm,0.3s,baz=99,slow=14,SNR=36						
ZALV				Lg	Lg	09 28 59.0	
	5.1nm,0.3s,baz=99,slow=28,SNR=14						
KURK	Kurchatov	6.35	246	⇑Pn	Pn	09 29 37.7	-0.2
	1.7nm,1.3s						
KURK				⇑Sn	Sn	09 30 49.1	-0.1
	0.4nm,0.6s						
KURK				⇑Lg	Lg	09 31 22.0	
	2.9nm,1.0s						
KURBB	Kurchatov Arra	6.45	246	⇑Pn	Pn	09 29 39.0	-0.2
	1.2nm,0.5s						
KURBB				⇓Sn	Sn	09 30 52.3	+0.7
	1.3nm,0.4s						
KURBB				⇑Lg	Lg	09 31 27.8	
	4.7nm,0.7s						
KURBB	Kurchatov Arra	6.45	246	Pn	Pn	09 29 39.5	+0.3
	0.3nm,0.3s,baz=62,slow=14,SNR=12						
KURBB				Lg	Lg	09 31 29.6	
	0.2nm,0.3s,baz=62,slow=31,SNR=7.7						
MK31	Makanchi Array	7.70	209	⇓Pn	Pn	09 29 56.6	0.0
	0.5nm,0.6s,baz=24,slow=12,SNR=8.2						
MK31				⇓Sn	Sn	09 31 21.6	-0.9
	0.4nm,0.6s						
MK31				⇓Lg	Lg	09 32 02.6	
	1.9nm,0.8s,baz=30,slow=30,SNR=6.9						
MKAR	Makanchi Array	7.70	209	Pn	Pn	09 29 57.1	+0.6
	0.2nm,0.3s,baz=27,slow=13,SNR=9.3						
MKAR				Sn	Sn	09 31 22.4	-0.1
	0.1nm,0.3s,baz=28,slow=25,SNR=3.4						
MKAR				Lg	Lg	09 32 05.2	
	0.1nm,0.3s,baz=20,slow=31,SNR=8.4						

IDC 02 09:31:42.1±3.0, 53.57N×87.80E, h0km, mb1 3.0/2, mb1mx2.9/30, mbtmp3.0/2, ML3.1/2, Error ellipse: s-maj=26.3km s-min=15.0km az=64.0
NNC 02 09:31:42.1±3.4, 53.63N×87.60E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=26.5km s-min=21.7km az=7.0
ISC 02 09:31:45.8±4.0, 53.7N±0.1×87.8E±0.2, h35km, n7, σ1§10/10, 4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.76	280	i		09 44 00.0	
	baz=102,slow=341,SNR=2.3						
ZALV	Zalesovo Beam	1.76	280	Pg	Pn	09 32 14.2	+0.4
	1.4nm,0.3s,baz=100,slow=14,SNR=10						
ZALV				Lg	Lg	09 32 39.8	
	4.1nm,0.3s,baz=105,slow=26,SNR=16						
KURK	Kurchatov	6.35	246	⇓Pn	Pn	09 33 14.8	-1.9
	0.4nm,0.5s						
KURK				⇓Sn	Sn	09 34 27.4	-0.6
	0.2nm,0.4s						
KURK				⇓Lg	Lg	09 35 02.9	
	2.2nm,1.2s						
KURBB	Kurchatov Arra	6.45	245	⇓Pn	Pn	09 33 17.6	-0.5
	1.4nm,0.3s						
KURBB				⇓Sn	Sn	09 34 31.0	+0.6
	2.5nm,0.5s						
KURBB				⇑Lg	Lg	09 35 09.0	
	2.3nm,0.6s						
KURBB	Kurchatov Arra	6.45	245	Pn	Pn	09 33 18.6	+0.5
	0.6nm,0.3s,baz=62,slow=14,SNR=8.3						
KURBB				Lg	Lg	09 35 05.5	
	0.2nm,0.3s,baz=111,slow=11,SNR=3.9						
MK31	Makanchi Array	7.73	209	⇑Pn	Pn	09 33 34.8	-0.9
	0.3nm,0.6s,baz=30,slow=12,SNR=6.8						
MK31				⇑Sn	Sn	09 35 03.4	+1.4
	0.5nm,0.6s,baz=32,slow=22,SNR=5.2						
MK31				⇑Lg	Lg	09 35 42.2	
	0.9nm,0.8s						
MKAR	Makanchi Array	7.73	209	Pn	Pn	09 33 35.7	-0.1
	0.2nm,0.3s,baz=26,slow=13,SNR=5.3						
MKAR				Sn	Sn	09 35 02.8	+0.8
	0.1nm,0.3s,baz=32,slow=22,SNR=4.3						
MKAR				Lg	Lg	09 35 44.7	
	0.1nm,0.3s,baz=27,slow=32,SNR=3.9						

ISCJB 02 09:38:09.8±0.4, 12.08N±0.05×87.79W±0.04, h44km±4km, mb4.3/52, MS3.8/14, Error ellipse: s-maj=10.2km s-min=3.2km az=43.0
CASC 02 09:38:09.4±2.2, 11.89N×87.96W, h36km±19km, MD4.4, ML3.5, mb4.6(NEIC)
NEIC 02 09:38:10.5±0.5, 12.10N×87.74W, mb4.5/44, Error ellipse: s-maj=16.0km s-min=7.5km az=58.0
IDC 02 09:38:13.5±2.6, 12.44N×87.40W, h56km±25km, mb3.8/11, mb1 4.1/12, mb1mx3.8/37, mbtmp4.0/12, ML3.6/1, MS3.6/13, Ms1 3.6/13, ms1mx3.4/39, Error ellipse: s-maj=35.6km s-min=12.3km az=58.0
ISC 02 09:38:10.7±0.8, 12.05N±0.06×87.80W±0.06, h35km±3km, n352, σ1§25/367, mb4.5/52, MS3.7/14, 109C-131D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.22	358	eP	Pn	09 38 32.4	+0.9
VSM	San Miguel	1.45	341	eP	Pn	09 38 34.8	+0.1
CAHU	Cacacuatique	1.76	347	eP	Pn	09 38 40.1	+1.2
SNVI	San Vicente	1.86	327	eP	Pn	09 38 39.9	-0.3
SNVI				eS	Sn	09 39 04.6	+2.0
LFRS	El Faro	1.99	322	eP	Pn	09 38 40.5	-1.6
LFRS				eS	Sn	09 39 06.7	+0.8
LBRS	Las Brisas	2.07	324	eP	Pn	09 38 42.7	-0.5
SNET	Serv Nac Est T	2.15	319	AML	AML	09 39 19.4	
	comp=Z,394nm,0.5s						
SBLS	San Blas	2.52	315	eP	Pn	09 38 47.9	-1.5
SNJE	San Jose	2.53	316	eP	Pn	09 38 48.1	-1.4
RTR	El Retiro	2.57	316	eP	Pn	09 38 48.9	-1.3
NY14	Universidad de	2.62	122	iP	Pn	09 38 50.3	-0.3
LAPC	Finca la Perla	2.64	119	iP	Pn	09 38 50.9	-0.1
LAPC				iS	Sn	09 39 22.6	+0.8
BUEV	Buena Vista	2.65	118	iP	Pn	09 38 51.4	+0.2
MESS	Mesas	2.86	117	iP	Pn	09 38 54.5	+0.5
JTS	JuntasAbangare	3.29	122	P	Pn	09 39 00.1	+0.2
	comp=Z,6.7nm,0.3s,baz=326,slow=17,SNR=40						
JTS				S	Sn	09 39 39.7	+1.9
	comp=Z,12nm,0.3s,baz=274,slow=19,SNR=4.5						
JTS				LR	LR	09 40 32.0	
	comp=Z,542nm,18.7s,baz=304,slow=43						
JTS	JuntasAbangare	3.29	122	ePn	Pn	09 38 59.5	-0.4
JTS				eSn	Sn	09 39 36.0	-1.9
JCR	Jicaral	3.42	129	eP	Pn	09 39 01.6	-0.2
JCR				eS	Sn	09 39 38.4	-2.8
MRL	Marmol	3.52	329	eP	Pn	09 39 02.9	-0.2
CGA2	Cerro Gallo 2	3.84	121	eP	Pn	09 39 09.4	+1.9
CGA2				eS	Sn	09 39 49.1	-2.5
QCR	Quepos	4.42	126	eP	Pn	09 39 16.0	+0.6
BUS	Buena Vista	4.68	122	⇑eP	Pn	09 39 20.4	+1.1
BUS				eS	Sn	09 40 14.2	+1.6
ACR	Cerro Adams	5.67	126	eP	Pn	09 39 33.9	+1.4
TEIG	Tepich	8.14	357	LR	LR	09 43 46.5	
	comp=Z,386nm,18.6s,baz=328,slow=43						
TEIG	Tepich	8.14	357	ePn	Pn	09 40 01.8	-4.7
TEIG				eSn	Sn	09 41 36.5	-0.8
SDV	Santo Domingo	17.17	99	ePn	Pn	09 42 08.5	+0.3
	comp=Z,13nm,1.0s						
SDV				eSn	Sn	09 45 15.4	-2.9
035Z	Hargill	17.29	327	⇓P	P	09 42 11.2	+0.6
	baz=17						
035A	Encino	17.70	328	⇑P	P	09 42 15.5	+0.3
	baz=18						
034A	Hebbronville	18.10	327	⇓P	P	09 42 20.4	+0.7
	baz=18,SNR=7.5						
934A	Benavides	18.45	329	⇓P	Pn	09 42 25.0	+1.3
	baz=18						
835A	Beeville	18.68	331	⇓P	Pn	09 42 27.0	+0.5
	baz=19						
933A	Laredo	18.86	327	⇓P	P	09 42 27.9	-0.1
	baz=19,SNR=8.0						
834A	Tilden	18.90	329	⇓P	P	09 42 28.8	+0.4
	baz=19,SNR=15						
833A	Chaparral WMA,	19.49	328	⇓P	P	09 42 34.5	-0.3
	baz=20,SNR=45						
734A	La Parita Cree	19.50	331	⇓P	P	09 42 35.0	+0.1
	baz=20						
635A	Leesville	19.59	333	⇓P	P	09 42 36.0	+0.1
	baz=20						
TIGA	Tifton	19.68	11	⇓P	Pn	09 42 38.6	+0.1
	baz=20						
733A	Divot King Ran	19.75	329	⇓P	P	09 42 37.2	-0.5
	baz=20,SNR=31						
832A	Faith Ranch, C	19.76	327	⇓P	P	09 42 37.3	-0.5
	baz=20,SNR=30						
634A	China Grove, S	19.85	332	⇑P	P	09 42 38.3	-0.4
	baz=20						
536A	Bastrop	19.89	336	⇑P	P	09 42 38.9	-0.3
	baz=20						
535A	Dale	20.06	335	⇑P	P	09 42 40.4	-0.7
	baz=20,SNR=6.9						
732A	Laxson Ranch,	20.11	327	⇓P	P	09 42 40.9	-0.8
	baz=20,SNR=13						
VBMS	Vicksburg	20.23	353	ePn	Pn	09 42 45.2	+0.2
	comp=Z,34nm,0.8s						
633A	Saathoff Ranch	20.30	330	⇑P	P	09 42 42.7	-1.1
	baz=20,SNR=9.0						
534A	Blanco	20.45	333	⇓P	P	09 42 44.1	-1.3
	baz=20,SNR=17						
NATX	Nacogdoches	20.61	343	ePn	Pn	09 42 48.5	-0.9
	comp=Z,48nm,0.8s						
632A	Uvalde	20.64	329	⇓P	P	09 42 46.6	-0.8
	baz=21,SNR=20						
435B	Jarrell	20.73	336	⇓P	P	09 42 47.8	-0.6
	baz=21						
533A	Kerrville	20.75	332	⇓P	P	09 42 47.5	-1.1
	baz=21,SNR=31						
LRAL	Lakeview Retre	20.90	2	ePn	Pn	09 42 54.1	+1.4
	comp=Z,15nm,0.9s						
631A	Perdido Creek	20.98	327	⇑P	P	09 42 49.9	-1.2
	baz=21,SNR=15						
434A	Burnet	21.04	334	⇑P	P	09 42 50.4	-1.3
	baz=21,SNR=13						
ATAH	Atahualpa	21.23	153	LR	LR	09 49 50.0	
	comp=Z,129nm,19.1s,baz=336,slow=32						
433A	Art	21.35	332	⇑P	P	09 42 53.9	-1.2
	baz=21,SNR=16						
JCT	Junction City	21.45	331	eP	P	09 42 55.7	-0.5
	comp=Z,20nm,0.9s						
JCT				eS	S	09 46 52.4	0.0
JCT	Junction City	21.45	331	⇓P	P	09 42 55.3	-0.8
	baz=22,SNR=12						
334A	Lometa	21.48	335	⇓P	P	09 42 55.6	-0.8
	baz=22,SNR=9.0						
531A	Rocksprings	21.56	329	⇑P	P	09 42 57.2	-0.2
	baz=22						
GOGA	Godfrey	21.63	10	eP	P	09 42 59.1	+1.2
	comp=Z,25nm,1.0s						
GOGA				eS	S	09 46 50.0	-5.7
WHTX	Lake Whitney	21.75	337	⇓P	P	09 42 59.0	-0.3
	baz=22						
432A	Menard	21.78	331	⇑P	P	09 42 58.9	-0.7
	baz=22,SNR=18						
333A	Richland Sprin	21.79	333	⇑P	P	09 42 58.8	-0.9
	baz=22,SNR=22						
530A	J-C Ranch, Com	21.96	327	⇑P	P	09 43 01.3	-0.3
	baz=22						
431A	Sonora	22.01	329	⇑P	P	09 43 01.9	-0.3
	baz=22						
234A	Clairette	22.02	336	⇑P	P	09 43 01.8	-0.4
	baz=22						
332A	Millersview	22.18	332	⇑P	P	09 43 04.0	0.0
	baz=22,SNR=22						
135A	Vickery Place,	22.24	338	⇓P	P	09 43 04.1	-0.4
	baz=22						
628A	Black Gap, Mar	22.32	323	⇑P	P	09 43 04.8	-0.7
	baz=22,SNR=8.6						
233A	Rising Star	22.35	335	⇓P	P	09 43 04.2	-1.6
	baz=22,SNR=9.2						
OXF	Oxford	22.41	357	eP	P	09 43 06.8	+0.5
	comp=Z,36nm,1.3s						
430A	Baggett Ranch,	22.41	328	⇓P	P	09 43 05.1	-1.4
	baz=22						
529A	Stev Forest Ra	22.42	326	⇑P	P	09 43 05.6	-1.0
	baz=22						
331A	San Angelo	22.44	331	⇑P	P	09 43 05.2	-1.5
	baz=22,SNR=15						
134A	White-Moore Ra	22.50	337	⇓P	P	09 43 06.9	-0.5
	baz=23						
232A	Coleman	22.56	333	⇑P	P	09 43 06.4	-1.6
	baz=23,SNR=26						
627A	Terlingua Ranc	22.59	322	⇑P	P	09 43 07.5	-0.9
	baz=23,SNR=16						
429A	Davenport Ranc	22.63	327	⇑P	P	09 43 08.3	-0.5
	baz=23,SNR=11						
TXAR	Lajitas Array	22.67	322	P	P	09 43 09.4	+0.1
	comp=Z,4.5nm,0.6s,baz=136,slow=9.8,SNR=52						
528A	Cox Ranch, San	22.77	325	⇑P	P	09 43 08.9	-1.4
	baz=23						
133A	Hamilton Ranch	22.87	335	⇓P	P	09 43 10.6	-0.7
	baz=23,SNR=8.2						
330A	Mertzon	22.88	329	⇓P	P	09 43 09.4	-2.1
	baz=23,SNR=6.7						
231A	Bronte	22.91	332	⇓P	P	09 43 09.6	-2.1
	baz=23,SNR=7.5						
JSC	Jenkinsville	22.92	14	eP	P	09 43 13.3	+1.6
UALR	University of	23.00	350	eP	P	09 43 12.8	+0.3
	comp=Z,16nm,0.9s						
MIAR	Mount Ida	23.00	348	eP	P	09 43 12.5	-0.1
	comp=Z,32nm,0.8s						
626A	Big Bend Ranch	23.11	321	⇑P	P	09 43 12.7	-1.2
	baz=23,SNR=7.2						
SWET	Sewanee	23.13	4	eP	P	09 43 14.4	+0.6
	comp=Z,70nm,1.9s						
428A	Kincaid Ranch,	23.14	326	⇓P	P	09 43 13.2	-0.9
	baz=23						
ABTX	Abilene, Hawle	23.19	334	eP	P	09 43 12.6	-1.9
	comp=Z,17nm,0.8s						
ABTX				eS	S	09 47 17.5	-6.5
ABTX	Abilene, Hawle	23.19	334	⇓P	P	09 43 13.2	-1.3
	baz=23,SNR=15						
527A	Woodward Ranch	23.23	323	⇑P	P	09 43 13.4	-1.7
	baz=23						
230A	Sterling City	23.24	330	⇓P	P	09 43 13.4	-1.7
	baz=23,SNR=10						
329A	Wagon Wheel Ra	23.36	328	⇑P	P	09 43 14.5	-1.8
	baz=23,SNR=5.4						
Z33A	Whitaker Ranch	23.40	336	⇓P	P	09 43 15.4	-1.2
	baz=24						
526A	Mary Lane Ranc	23.45	322	⇑P	P	09 43 16.3	-0.9
	baz=24						
CPCT	Cooper Cave	23.48	7	eP	P	09 43 19.9	+2.6
131A	Roby	23.56	333	⇓P	P	09 43 17.1	-1.1
	baz=24						
Y34A	Reagan Ranch,	23.63	339	⇑P	P	09 43 17.8	-1.0
	baz=24						
229A	Bryant Ranch,	23.65	329	⇓P	P	09 43 18.3	-0.8
	baz=24						
Z32A	Haskell	23.71	335	⇑P	P	09 43 17.9	-1.6
	baz=24,SNR=12						
328A	Wristen Ranch,	23.71	327	⇑P	P	09 43 18.5	-1.2
	baz=24						
KMSC	Kings Mountain	23.73	13	eP	P	09 43 20.6	+0.9
KMSC				eS	S	09 47 34.6	+2.0
KMSC	Kings Mountain	23.73	13	⇑P	P	09 43 19.3	-0.4
	baz=24						
130A	Snyder	23.76	331	⇑P	P	09 43 18.5	-1.6
	baz=24						
TKL	Tuckaleechee C	23.79	8	P	P	09 43 18.1	-2.2
	comp=Z,30nm,1.0s,baz=183,slow=12,SNR=14						
TKL				LR	LR	09 52 04.1	
	comp=Z,111nm,21.0s,baz=147,slow=36						
TKL	Tuckaleechee C	23.79	8	eP	P	09 43 21.0	+0.7
426A	McDonald Obser	23.86	323	⇓P	P	09 43 20.6	-0.7
	baz=24						
Y33A	Hilltop Ranch,	23.99	337	⇓P	P	09 43 21.3	-0.8
	baz=24						
Z31A	Sharp Cattle R	24.00	334	⇓P	P	09 43 20.7	-1.6
	baz=24,SNR=9.9						
228A	UT Block 9, Go	24.17	328	⇓P	P	09 43 22.4	-1.5
	baz=24						
129A	Stewart Farms,	24.22	330	⇓P	P	09 43 22.8	-1.5
	baz=24,SNR=21						
X34A	Smith Ranch, M	24.24	339	⇓P	P	09 43 23.8	-0.6
	baz=24,SNR=12						
Y32A	R-V Farms, Ver	24.30	336	⇑P	P	09 43 23.8	-1.2
	baz=24						
326A	Caldwell Ranch	24.31	325	⇑P	P	09 43 24.9	-0.3
	baz=24,SNR=9.2						
Z30A	Sanderson Ranc	24.41	332	⇓P	P	09 43 25.2	-0.9
	baz=24,SNR=13						
X33A	Lawton	24.42	338	⇑P	P	09 43 25.3	-0.8
	baz=24,SNR=30						
227A	Bennet, Jal	24.46	327	⇓P	P	09 43 26.2	-0.4
	baz=24						
LPIG	La Paz	24.48	302	LR	LR	09 54 16.6	
	comp=Z,211nm,19.0s,baz=46,slow=39						
425A	Indio Mountain	24.51	322	⇑P	P	09 43 26.6	-0.5
	baz=25						
128A	Castleberry Fa	24.52	329	⇓P	P	09 43 26.3	-0.8
	baz=25,SNR=9.2						
Y31A	Rekieta Farm,	24.60	334	⇓P	P	09 43 27.4	-0.3
	baz=25,SNR=12						
X32A	Elmer	24.61	337	⇑P	P	09 43 27.5	-0.3
	baz=25,SNR=20						
Z29A	Hungry Hill Ra	24.66	331	⇑P	P	09 43 27.6	-0.8
	baz=25,SNR=16						
TZTN	Tazewell	24.69	8	eP	P	09 43 30.8	+2.3
	comp=Z,16nm,0.9s						
PBMO	Poplar Bluff	24.74	355	eP	P	09 43 28.3	-0.6
	comp=Z,12nm,0.8s						
W34A	Bridge Creek,	24.79	340	⇑P	P	09 43 28.8	-0.7
	baz=25,SNR=15						
Y30A	Stafford Cattl	24.80	333	⇑P	P	09 43 29.2	-0.5
	baz=25,SNR=15						
TUL1	Tulsa	24.83	344	eP	P	09 43 28.8	-1.1
	comp=Z,14nm,0.6s						
TUL1	Tulsa	24.83	344	⇑P	P	09 43 29.5	-0.3
	baz=25,SNR=9.5						
W33A	Caddo, Fort Co	24.96	339	⇓P	P	09 43 30.8	-0.2
	baz=25,SNR=8.4						
226B	Tecolote Peak,	24.98	325	⇑P	P	09 43 31.0	-0.4
	baz=25						
Z28A	Tucker Farm, M	25.01	330	⇑P	P	09 43 31.0	-0.5
	baz=25						
127A	Arkansas Junct	25.01	328	⇑P	P	09 43 31.2	-0.4
	baz=25						
X31A	McDonald Ranch	25.06	336	⇑P	P	09 43 31.4	-0.6
	baz=25,SNR=8.4						
Y29A	Porterfield Fa	25.14	332	⇓P	P	09 43 31.9	-0.8
	baz=25						
W32A	Sentinel	25.21	338	⇑P	P	09 43 32.6	-0.7
	baz=25,SNR=13						
V34A	Guthrie	25.26	341	⇓P	P	09 43 32.7	-1.0
	baz=25						
X30A	Coker Ranch, T	25.28	334	⇓P	P	09 43 33.8	-0.1
	baz=25,SNR=24						
126A	Clayton Basin,	25.34	327	⇓P	P	09 43 34.2	-0.4
	baz=25						
225A	Deer Hill, Car	25.38	325	⇑P	P	09 43 34.4	-0.6
	baz=25						
Z27A	Tatum	25.44	329	⇑P	P	09 43 34.2	-1.3
	baz=26,SNR=8.3						
Y28A	McKinney Farm,	25.45	331	⇓P	P	09 43 35.0	-0.5
	baz=26						
V33A	Lossen Ranch,	25.50	340	⇑P	P	09 43 35.2	-0.7
	baz=26						
W31A	Holland Ranch,	25.54	336	⇓P	P	09 43 35.6	-0.7
	baz=26						
SIUC	Southern Illin	25.59	357	eP	P	09 43 36.1	-0.5
	comp=Z,25nm,1.1s						
X29A	Tulia	25.64	333	⇓P	P	09 43 37.0	-0.3
	baz=26,SNR=9.7						
V32A	Arapaho	25.67	339	⇓P	P	09 43 37.0	-0.4
	baz=26,SNR=6.0						
125A	Gardner Draw,	25.70	326	⇑P	P	09 43 37.7	-0.2
	baz=26						
MSTX	Muleshoe	25.75	330	eP	P	09 43 38.0	-0.2
	comp=Z,8.6nm,0.7s						
MSTX	Muleshoe	25.75	330	⇓P	P	09 43 37.9	-0.4
	baz=26,SNR=12						
Z26A	Caprock	25.80	328	⇓P	P	09 43 38.1	-0.7
	baz=26,SNR=5.3						
U34A	Anderson Ranch	25.82	342	⇑P	P	09 43 37.9	-0.9
	baz=26						
Y27A	Causey	25.87	330	⇑P	P	09 43 38.6	-0.8
	baz=26,SNR=13						
X28A	Dimmitt	25.92	332	⇓P	P	09 43 39.1	-0.8
	baz=26,SNR=6.3						
AMTX	Amarillo	26.00	333	eP	P	09 43 40.4	-0.1
	comp=Z,28nm,1.0s						
AMTX	Amarillo	26.00	333	⇑P	P	09 43 39.8	-0.8

baz=26
U33A Lingo Farm, Me 26.00 341 ⇓P P 09 43 40.2 -0.2
baz=26
V31A Spring Creek L 26.01 337 ⇑P P 09 43 40.5 -0.1
baz=26,SNR=6.4
WCI Wyandotte Cave 26.11 3 eP P 09 43 40.7 -0.6
comp=Z,11nm,0.9s
Z25A Roswell 26.20 326 ⇑P P 09 43 42.8 +0.4
baz=26,SNR=6.3
Y26A Elida 26.23 329 ⇑P P 09 43 42.2 -0.4
baz=26
NNA Nana 26.24 155 eP P 09 43 43.2 +0.4
comp=Z,5.9nm,0.6s
U32A Winter Ranch, 26.25 339 ⇓P P 09 43 42.3 -0.4
baz=26
X27A F and S Farms, 26.45 331 ⇓P P 09 43 44.4 -0.3
baz=26,SNR=8.0
U31A Nine Bar Ranch 26.54 338 ⇑P P 09 43 45.2 -0.2
baz=27
W28A Vega 26.54 333 ⇓P P 09 43 45.3 -0.2
baz=27
Z24A Sheeppen Canyo 26.59 326 ⇓P P 09 43 47.4 +1.3
baz=27,SNR=7.7
Y25A Mesa, Roswell 26.68 327 ⇓P P 09 43 47.0 +0.3
baz=27,SNR=6.0
X26A CR and CF Fran 26.72 330 ⇓P P 09 43 46.9 -0.2
baz=27,SNR=6.7
W27A Bowe Ranch, En 26.77 331 ⇓P P 09 43 47.7 +0.1
baz=27,SNR=13
T32A Huddler Ranch, 26.95 340 ⇑P P 09 43 48.7 -0.3
baz=27
V28A Channing 26.96 333 ⇑P P 09 43 49.2 0.0
baz=27
U30A WK&E Inc. Balk 26.99 337 ⇓P P 09 43 49.2 -0.2
baz=27
Y24A Capitan 27.08 326 ⇓P P 09 43 51.1 +0.7
baz=27,SNR=7.9
T31A Randall Ranch, 27.13 339 ⇑P P 09 43 50.6 -0.1
baz=27
W26A Owens Ranch, T 27.13 330 ⇑P P 09 43 51.1 +0.3
baz=27
V27A Dan Oppiter Fa 27.24 333 ⇑P P 09 43 51.7 0.0
baz=27,SNR=5.9
Y23A Lovelace Mesa, 27.42 326 ⇓P P 09 43 54.7 +1.2
baz=28,SNR=7.3
S32A Newby Ranch, P 27.42 341 ⇓P P 09 43 53.6 +0.3
baz=28
121A Cookes Peak, D 27.43 321 eP P 09 43 58.0 +4.4
comp=Z,4.9nm,0.9s
W25A X Bar L Ranch, 27.57 330 ⇓P P 09 43 55.0 +0.2
baz=28,SNR=8.8
R33A Olander Ranch, 27.69 343 ⇓P P 09 43 55.7 +0.1
baz=28
V26A Tequesquite Ra 27.71 331 ⇓P P 09 43 56.1 +0.1
baz=28,SNR=7.0
T29A Hugoton 27.78 336 ⇑P P 09 43 56.8 +0.3
baz=28
U27A Thompson Grove 27.79 333 ⇑P P 09 43 57.4 +0.7
baz=28,SNR=6.0
S30A Montezuma 27.89 338 ⇓P P 09 43 57.6 0.0
baz=28
BNM Barren Site 27.90 325 eP P 09 43 59.6 +1.7
comp=Z,5.5nm,1.3s
W24A Lazy 6 Ranch, 28.05 328 ⇑P P 09 43 59.9 +0.8
baz=28
LENM Lemitar 28.11 325 P P 09 43 59.6 0.0
S29A Ulysses 28.12 337 ⇓P P 09 44 00.7 +1.1
baz=28
V25A Rancho No Teng 28.14 330 ⇓P P 09 44 00.3 +0.4
baz=28,SNR=5.8
R31A Burdett 28.15 340 ⇓P P 09 44 00.5 +0.7
baz=28
U26A Atchley Ranch, 28.18 332 ⇓P P 09 44 01.0 +0.7
baz=28
W23A Werner Place, 28.40 327 ⇓P P 09 44 02.9 +0.7
baz=28
ANMO Albuquerque 28.40 326 P P 09 44 02.7 +0.5
comp=Z,0.3nm,0.4s,baz=135,slow=13,SNR=4.5
ANMO Albuquerque 28.40 326 eP P 09 44 04.6 +2.3
R30A Dighton 28.40 339 ⇑P P 09 44 02.5 +0.4
baz=28
Q32A Meitler Ranch, 28.49 342 ⇓P P 09 44 02.3 -0.4
baz=29
U25A Circle Dot Ran 28.50 331 ⇑P P 09 44 03.2 +0.1
baz=29
Q30A Quinter 29.00 340 ⇑P P 09 44 07.4 +0.1
baz=29
R28A Tribune 29.02 337 ⇓P P 09 44 06.9 -0.6
baz=29
P32A Huiting Farm, 29.08 343 ⇑P P 09 44 07.5 -0.5
baz=29
U23A El Rito 29.32 329 ⇓P P 09 44 12.0 +1.6
baz=29,SNR=7.0
R27A Eads 29.36 335 ⇑P P 09 44 11.3 +0.7
baz=29
U22A Llaves 29.70 328 ⇓P P 09 44 14.4 +0.7
baz=30
R25A Fountain Ranch 29.87 333 ⇓P P 09 44 16.4 +1.2
baz=30
P28A Saint Francis 30.07 338 ⇑P P 09 44 17.8 +0.9
baz=30
PTGA Pitinga 30.41 113 LR LR 09 58 45.6
comp=Z,66nm,20.3s,baz=290,slow=41
ISCO Idaho Springs 31.82 333 ⇑P P 09 44 32.8 +0.2
baz=32
SMCO Snowmass 31.93 331 eP P 09 44 36.5 +2.8
comp=Z,9.5nm,1.4s
SAML Samuel 32.15 129 eP P 09 44 35.5 +0.2
comp=Z,2.0nm,0.9s
SAML ePcP PcP 09 47 23.7 -0.3
K30A Basset 32.20 344 ⇓P P 09 44 35.7 +0.2
baz=32
K29A Lazy Trails An 32.48 343 ⇑P P 09 44 37.9 -0.1
baz=32
ECSD EROS Data Cent 32.48 348 eP P 09 44 36.3 -1.6
comp=Z,7.2nm,0.9s
ECSD ePcP PcP 09 47 21.8 -2.6
ECSD EROS Data Cent 32.48 348 ⇑P P 09 44 36.1 -1.8
baz=32,SNR=8.4
O22A Kremmling 32.53 333 ⇑P P 09 44 38.9 +0.1
baz=33
J30A Dallas 32.77 344 ⇓P P 09 44 39.8 -0.7
baz=33
N22A Wattenberg Ran 33.01 334 ⇓P P 09 44 43.2 +0.3
baz=33
J29A Okreek 33.07 343 ⇓P P 09 44 42.1 -1.1
baz=33,SNR=6.3
O20A White River Ci 33.29 331 eP P 09 44 47.3 +2.0
comp=Z,5.4nm,0.8s
O20A White River Ci 33.29 331 ⇑P P 09 44 45.3 0.0
baz=33
SPMN St. Paul 33.34 354 eP P 09 44 43.8 -1.6
comp=Z,5.3nm,0.5s
SPMN St. Paul 33.34 354 ⇑P P 09 44 43.5 -1.9
baz=33,SNR=5.4
J28A Allard Ranch, 33.35 342 ⇓P P 09 44 44.8 -0.8
baz=33
J27A Elkhorn Farm, 33.44 341 ⇑P P 09 44 46.9 +0.5
baz=34
BRSD Miller 33.67 346 eP P 09 44 47.0 -1.4
comp=Z,20nm,0.9s
BRSD Miller 33.67 346 ⇓P P 09 44 47.8 -0.6
baz=34
J26A Sides Ranch, S 33.84 340 ⇓P P 09 44 50.0 +0.1
baz=34
N20A Spence Gulch, 33.85 332 ⇓P P 09 44 50.5 +0.3
baz=34
I28A Midland 33.86 343 ⇓P P 09 44 50.1 +0.1
baz=34
J25A Sunshine Ranch 34.16 339 ⇓P P 09 44 53.2 +0.5
baz=34
I27A Quinn 34.19 342 ⇓P P 09 44 52.5 -0.4
baz=34
LPAZ La Paz 34.22 145 LR LR 09 59 36.0
comp=Z,81nm,19.0s,baz=342,slow=37
LPAZ La Paz 34.22 145 P P 09 44 54.3 +0.3
comp=Z,0.4nm,0.6s
G30A Faulkton 34.37 346 ⇑P P 09 44 53.1 -1.3
baz=34,SNR=5.8
H28A Mission Ridge 34.44 343 ⇓P P 09 44 54.9 -0.1
baz=34
H27A Howes 34.71 342 ⇓P P 09 44 56.8 -0.6
baz=35,SNR=6.0
J22A Midwest 35.18 336 ⇓P P 09 45 01.7 +0.1
baz=35
G27A Dupree 35.34 343 ⇓P P 09 45 02.4 -0.4
baz=35
F28A McLaughlin 35.46 344 ⇓P P 09 45 03.1 -0.7
baz=36
G26A Maurine 35.46 342 ⇓P P 09 45 03.7 -0.1
baz=36
J21A Lysite 35.52 335 ⇓P P 09 45 05.1 +0.6
baz=36
I22A 9 Mile Ranch, 35.59 337 ⇑P P 09 45 05.3 +0.3
baz=36
E30A Jud 35.61 347 ⇓P P 09 45 03.7 -1.3
baz=36,SNR=5.8
H24A Dirks Ranch, A 35.61 339 ⇓P P 09 45 04.8 -0.4
baz=36,SNR=6.1
J20A Shoshoni 35.79 334 ⇓P P 09 45 06.7 -0.1
baz=36
F27A Lemmon 35.82 343 ⇑P P 09 45 06.6 -0.2
baz=36
E29A Napoleon 35.84 346 ⇑P P 09 45 06.2 -0.8
baz=36
BW06 Boulder Array 35.97 332 eP P 09 45 09.4 +1.0
comp=Z,6.8nm,1.3s
PDAR Pinedale Array 35.97 332 P P 09 45 07.0 -1.4
comp=Z,0.6nm,0.8s,baz=153,slow=11,SNR=5.1
PDAR PcP PcP 09 47 35.2 +0.5
comp=Z,0.6nm,0.7s,baz=140,slow=5.5,SNR=3.5
F26A Lodgepole 35.99 342 ⇓P P 09 45 08.9 +0.5
baz=36
J19A Crowheart 36.13 333 ⇓P P 09 45 09.0 -0.8
baz=36
D30A Buchanan 36.15 347 ⇓P P 09 45 08.2 -1.4
baz=36,SNR=7.9
E27A Carson 36.20 344 ⇑P P 09 45 09.7 -0.5
baz=36
D29A Pettibone, Tap 36.29 346 ⇓P P 09 45 10.7 -0.2
baz=36
F25A Bowman 36.29 341 ⇑P P 09 45 11.1 +0.1
baz=36
I20A Worland 36.29 335 ⇑P P 09 45 11.9 +0.8
baz=36
G23A Biddle 36.30 339 ⇑P P 09 45 11.4 +0.3
baz=36
H21A Big Horn, Sher 36.42 337 ⇑P P 09 45 12.1 -0.1
baz=36
E26A Carlson Angus 36.49 343 ⇓P P 09 45 12.4 -0.2
baz=37
F24A Ekalaka 36.54 340 ⇓P P 09 45 12.9 -0.2
baz=37
D28A Regan 36.65 345 ⇓P P 09 45 13.6 -0.3
baz=37
C30A Mose, Pekin 36.65 348 ⇓P P 09 45 13.3 -0.7
baz=37
AHID Auburn Hatcher 36.68 331 eP P 09 45 16.3 +1.7
comp=Z,6.4nm,0.8s
F23A Volborg 36.75 339 ⇓P P 09 45 14.8 -0.2
baz=37
AGMN Agassiz Nation 36.76 351 eP P 09 45 13.2 -1.7
comp=Z,11nm,0.9s
AGMN Agassiz Nation 36.76 351 ⇓P P 09 45 13.3 -1.6
baz=37,SNR=9.2
E25A Miller Ranch, 36.79 342 ⇓P P 09 45 15.2 0.0
baz=37
D27A Center 36.81 344 ⇓P P 09 45 16.4 +1.0
baz=37
D26A Manning 36.99 343 ⇑P P 09 45 16.4 -0.5
baz=37
REDW Red Top Meadow 37.02 332 eP P 09 45 17.5 0.0
comp=Z,13nm,0.9s
LOHW Long Hollow 37.10 332 eP P 09 45 18.8 +0.7
comp=Z,5.1nm,0.9s
F22A Rosebud 37.10 338 ⇑P P 09 45 17.8 -0.1
baz=37
E24A Baker 37.13 341 ⇑P P 09 45 18.7 +0.6
baz=37
MOOW Moose Ponds 37.27 332 eP P 09 45 19.9 +0.3
I17A Pilgrim Ck. 37.33 333 ⇓P P 09 45 19.9 -0.1
baz=37
B30A Myrvik Farm, E 37.34 348 ⇑P P 09 45 18.7 -1.1
baz=37,SNR=6.3
G20A Bridger 37.37 336 ⇓P P 09 45 19.9 -0.4
baz=37
FLWY Flagg Ranch 37.51 333 eP P 09 45 24.9 +3.4
comp=Z,5.8nm,0.9s
H18A Shoshone NF, C 37.53 334 ⇓P P 09 45 21.2 -0.5
baz=38
B29A Wagenman Farm, 37.56 347 ⇑P P 09 45 20.5 -1.2
baz=38,SNR=5.3
E22A Miles City 37.56 339 ⇑P P 09 45 21.1 -0.6
baz=38
C26A Wahner Farm, P 37.62 344 ⇑P P 09 45 21.6 -0.6
baz=38
D24A Glendive 37.63 341 ⇓P P 09 45 22.5 +0.2
baz=38
H17A Grant Village 37.70 333 eP P 09 45 27.1 +3.8
H17A epP pP 09 45 41.0 +7.7
B28A Dugan Ranch, T 37.77 346 ⇑P P 09 45 22.5 -1.0
baz=38,SNR=5.8
NVAR Mina Array Bea 37.78 319 P P 09 45 24.9 +0.9
comp=Z,0.8nm,0.8s,baz=142,slow=9.0,SNR=2.8
NVAR PcP PcP 09 47 41.6 +1.3
comp=Z,0.7nm,0.8s,baz=133,slow=3.8,SNR=3.8
A30A Hoffart Farm, 37.80 349 ⇓P P 09 45 23.0 -0.7
baz=38
C25A Freed Ranch, W 37.84 343 ⇓P P 09 45 24.1 0.0
baz=38
LAO LASA Array 37.88 339 eP P 09 45 24.6 +0.2
comp=Z,95nm,2.6s
D23A Lindsay 37.96 341 ⇓P P 09 45 24.9 -0.2
baz=38
A29A Manning Farm, 37.97 348 ⇓P P 09 45 24.0 -1.1
baz=38,SNR=6.5
C24A Savage 38.03 342 ⇑P P 09 45 25.9 +0.2
baz=38
YMR Madison River 38.09 333 eP P 09 45 28.3 +1.8
comp=Z,13nm,1.0s
YMR epP pP 09 45 36.9 +0.3
F19A Roth Farm, Mol 38.19 336 ⇑P P 09 45 27.3 +0.1
baz=38
D22A Cohagen 38.26 340 ⇓P P 09 45 27.4 -0.3
baz=38,SNR=5.4
E20A Meyer Farm, Mu 38.41 337 ⇑P P 09 45 28.9 -0.1
baz=38
QLMT Earthquake Lak 38.42 333 eP P 09 45 31.2 +2.0
comp=Z,0.2nm,0.3s
QLMT epP pP 09 45 39.6 +0.2
D21A La Casta Ranch 38.47 339 ⇓P P 09 45 29.8 +0.3
baz=38
C23A Lambert 38.51 341 ⇑P P 09 45 29.8 +0.1
baz=39
A26A Wade Farm, Ken 38.60 345 ⇑P P 09 45 30.2 -0.2
baz=39
E19A Rath Farm, Rou 38.63 337 ⇓P P 09 45 30.8 +0.1
baz=39
ULM Lac du Bonnet 38.66 352 P P 09 45 28.5 -2.4
comp=Z,7.7nm,0.9s,baz=168,slow=9.3,SNR=15
ULM LR LR 10 01 57.7
comp=Z,83nm,21.1s,baz=120,slow=37
ULM Lac du Bonnet 38.66 352 eP P 09 45 28.7 -2.2
C22A Vida 38.68 340 ⇓P P 09 45 31.1 0.0
baz=39,SNR=7.3
DGMT Dagmar 38.80 343 eP P 09 45 31.8 -0.4
comp=Z,15nm,0.8s
DGMT Dagmar 38.80 343 ⇑P P 09 45 31.5 -0.6
baz=39,SNR=5.7
D20A Manuel Ranch, 38.91 338 ⇑P P 09 45 32.9 -0.2
baz=39,SNR=6.7
B23A Brockton 39.03 342 ⇑P P 09 45 34.2 +0.1
baz=39
MCMT McKenzie Canyo 39.07 331 eP P 09 45 35.7 +1.0
comp=Z,6.3nm,1.0s
MCMT epP pP 09 45 45.3 +0.4
BOZ Bozeman (W) 39.15 333 eP P 09 45 37.8 +2.6
comp=Z,5.3nm,1.0s
A24A Westby 39.15 343 ⇑P P 09 45 35.4 +0.4
baz=39
B22A Reddig Ranch S 39.20 341 ⇓P P 09 45 36.1 +0.6
baz=39
D19A Cripps Ranch, 39.24 337 ⇑P P 09 45 36.5 +0.5
baz=39
DLMT Dillon 39.36 332 eP P 09 45 38.2 +1.2
comp=Z,9.7nm,1.1s
C20A Veseth Ranch, 39.38 338 ⇑P P 09 45 37.6 +0.6
baz=39
A23A Redstone 39.44 342 ⇑P P 09 45 38.1 +0.6
baz=40
LRM Limekiln Ridge 39.65 333 eP P 09 45 40.0 +0.5
LRM epP pP 09 45 49.7 +0.1
C19A Slack Wire Ran 39.78 338 ⇓P P 09 45 40.7 +0.3
baz=40
A22A Carney Farms, 39.78 341 ⇑P P 09 45 40.3 0.0
baz=40
EGMT Eagleton 40.29 337 eP P 09 45 44.4 -0.3
comp=Z,12nm,1.0s
EGMT epP pP 09 45 54.0 -0.8
EGMT Eagleton 40.29 337 ⇑P P 09 45 44.5 -0.1
baz=40
A20A Cobblestone Ra 40.35 339 ⇑P P 09 45 44.7 -0.3
baz=40
B19A Brinkman Farms 40.35 338 ⇑P P 09 45 44.8 -0.3
baz=40
WVOR Wild Horse Val 40.43 324 eP P 09 45 49.7 +3.8
comp=Z,3.8nm,1.1s
A19A Klindworth Far 40.67 339 ⇓P P 09 45 47.7 -0.1
baz=41
MSO Missoula 41.08 333 eP P 09 45 54.7 +3.4
comp=Z,9.2nm,1.1s
SWMT Swartz Lake 41.62 333 eP P 09 45 57.4 +1.7
F10A Beach Ranch, E 42.03 329 eP P 09 46 00.9 +2.0
YBH Yreka Blue Hor 42.44 321 LR LR 10 07 54.6
comp=Z,97nm,18.4s,baz=164,slow=42
NEW Newport 43.60 332 LR LR 10 09 06.1
comp=Z,84nm,18.0s,baz=94,slow=43
NEW Newport 43.60 332 eP P 09 46 09.5 -2.1
comp=Z,0.4nm,0.4s
E07A Sunnyside 43.76 328 eP P 09 46 14.8 +1.9
E07A epP pP 09 46 22.5 -0.6
FFC Flin Flon 44.02 348 eP P 09 46 14.6 -0.2
FFC epP pP 09 46 23.2 -1.8
SCHQ Schefferville 45.76 17 P P 09 46 24.4 -4.2
comp=Z,5.2nm,0.7s,baz=242,slow=9.6,SNR=4.7
SCHQ LR LR 10 07 19.4
comp=Z,155nm,18.0s,baz=168,slow=39
EDM Edmonton 45.86 339 eP P 09 46 28.6 -1.0
EDM epP pP 09 46 38.2 -1.7
BDFB Brasilia 48.03 124 P P 09 46 46.8 -0.3
comp=Z,5.0nm,0.8s,baz=265,slow=7.5,SNR=6.0
BDFB LR LR 10 09 03.2
comp=Z,97nm,18.2s,baz=244,slow=39
YKA Yellowknife Ar 53.91 345 P P 09 47 28.7 -1.7
comp=Z,0.6nm,0.6s,baz=138,slow=7.5,SNR=17
YKA PcP PcP 09 48 35.2 -0.3
comp=Z,0.2nm,0.6s,baz=146,slow=3.7,SNR=6.4
PLCA Paso Flores 54.89 164 P P 09 47 39.8 +1.8
comp=Z,0.6nm,0.3s,baz=323,slow=5.1,SNR=2.5
DLBC Dease Lake 56.12 335 eP P 09 47 47.1 +0.4
ILAR Eielson Array 66.25 336 P P 09 48 53.9 -1.2
comp=Z,1.0nm,1.1s,baz=124,slow=4.3,SNR=7.3
NOA NORSAR Array B 83.88 29 LR LR 10 25 58.5
comp=Z,26nm,19.2s,baz=110,slow=34
WMQ Urumqi 124.25 4 ePKP PKPdf 09 57 07.5 +1.3
WMQ PP PP 09 58 57.1 +7.0
WMQ SKS SKSdf 10 04 14.3 -1.5
WMQ SS SS 10 15 42.6 +4.3
WMQ LR LR
comp=Z,53nm,23.2s
WMQ LR LR
comp=Z,54nm,19.4s
WMQ LR LR
comp=Z,45nm,18.8s
HHC Hu-ho-hao-te 124.40 342 ePKP PKPdf 09 57 07.2 +0.5
HHC sPKP 09 57 21.6
HHC PP PP 09 58 56.4 +5.0
HHC SKS SKSdf 10 04 14.6 -1.7
HHC SKKS SKKSac 10 05 43.4 -5.4
HHC SS SS 10 15 47.4 +6.7
HHC AMB AMB
comp=Z,160nm,9.9s
HHC LR LR
comp=Z,280nm,18.5s
HHC LR LR
comp=Z,360nm,17.3s
HHC LR LR
comp=Z,280nm,18.5s
KSH Kashi 126.52 16 ePKP PKPdf 09 57 10.5 -0.3
KSH AMB AMB
comp=Z,73nm,4.3s
GTA Gaotai 128.32 352 ePKP PKPdf 09 57 15.1 +0.9
GTA sPKP 09 57 29.4
LZH Lanzhou 130.88 348 ePKP PKPdf 09 57 17.7 -1.6
LZH sPKP 09 57 32.2
LZH LR LR
comp=Z,150nm,17.2s
LZH LR LR
comp=Z,160nm,16.8s
LZH LR LR
comp=Z,170nm,19.7s
CD2 Chengdu 135.87 346 PKP PKPdf 09 57 28.8 +0.2
ASAR Alice Springs 138.81 248 PKP PKPdf 09 57 33.3 -0.9
comp=Z,0.2nm,0.7s,baz=101,slow=2.0,SNR=2.9
WRA Warramunga Arr 138.83 253 PKP PKPdf 09 57 36.1 +1.9
comp=Z,0.4nm,0.8s,baz=84,slow=2.1,SNR=3.3
KMI Kunming 141.65 345 PKP PKPdf 09 57 39.7 +0.1
CMAR Chiang Mai Arr 148.97 348 PKPbc PKPdf 09 57 53.6 +1.6
comp=Z,2.0nm,0.6s,baz=343,slow=2.8,SNR=11

IDC 02 09:51:00.3±15.0, 1.19N×126.62E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/35, mbtmp3.6/3, Error ellipse: s-maj=231.6km s-min=167.3km az=158.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.33	161	P	P	09 56 00.4	+0.5
	0.8nm,0.5s,baz=339,slow=12,SNR=14						
ASAR	Alice Springs	25.71	164	P	P	09 56 32.2	-0.4
	0.2nm,0.3s,baz=347,slow=12,SNR=4.0						
STKA	Stephens Creek	35.83	158	P	P	09 58 01.6	-0.2
	1.7nm,0.6s,baz=329,slow=7.2,SNR=4.2						

IDC 02 09:54:22.6±2.3, 6.44N×125.91E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/35, mbtmp3.5/3, Error ellipse: s-maj=184.7km s-min=26.9km az=65.0
ISCJB 02 09:54:25.3±1.1, 6.28N±0.06×126.30E±0.10, h35km, mb3.3/3, Error ellipse: s-maj=13.8km s-min=8.9km az=3.4
MAN 02 09:54:28, 6.54N×126.15E, h21km, mb4.3, ML3.2, MS3.0
ISC 02 09:54:27.2±1.2, 6.34N±0.08×126.22E±0.10, h35km, n9, σ1.99/11, mb3.5/3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.60	3	eP	Pn	09 54 37.5	-1.8
MATI				eS	Sn	09 54 46.0	-1.8
DMPH	Davao City--Mi	1.02	316	⇑eP	Pn	09 54 44.8	-0.3
DMPH				eS	Sn	09 55 00.2	+2.0
GSPH	General Santos	1.29	259	⇑iP	Pn	09 54 47.0	-1.9
BIPH	Bislig	1.83	4	⇓iP	Pn	09 54 56.9	+0.6
BIPH				iS	Sn	09 55 18.7	+0.4
BUKP	Musuan	1.91	323	eP	Pn	09 54 58.0	+0.7
BUTP	Butuan	2.68	347	eP	Pn	09 55 11.4	+3.6
WRA	Warramunga Arr	27.32	163	P	P	10 00 12.7	+3.8
	0.3nm,0.6s,baz=343,slow=10,SNR=5.6						
ASAR	Alice Springs	30.76	166	P	P	10 00 39.8	+0.3
	0.5nm,0.6s,baz=346,slow=7.5,SNR=9.6						
MKAR	Makanchi Array	55.14	324	P	P	10 03 55.0	-1.2
	0.2nm,0.4s,baz=108,slow=7.4,SNR=5.4						

IDC 02 10:03:00.8±3.0, 57.23S×24.65W, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.7/19, mbtmp4.0/2, Error ellipse: s-maj=110.8km s-min=49.9km az=169.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	52.20	303	P	P	10 12 13.9	-0.2
	1.8nm,0.7s,baz=161,slow=5.8,SNR=7.9						
TORD	Torodi Ar. Bea	73.44	27	P	P	10 14 34.8	0.0
	0.6nm,0.6s,baz=204,slow=5.9,SNR=6.2						
YKA	Yellowknife Ar	138.00	316	PKP	PKPdf	10 22 25.4	-0.4
	0.1nm,0.6s,baz=116,slow=2.1,SNR=3.3						
ILAR	Eielson Array	151.95	310	PKPbc	PKPbc	10 22 56.0	-0.2
	0.9nm,0.7s,baz=124,slow=1.6,SNR=15						

AZER 02 10:05:36.3±12.0, 37.56N×46.66E, h1km, Error ellipse: s-maj=8.0km s-min=4.4km az=37.0
THR 02 10:05:39.8±0.6, 37.91N×46.98E, h14km±9km, ML3.5
CSEM 02 10:05:39.0±0.2, 37.88N×46.86E, h2km, ML3.6, Error ellipse: s-maj=6.7km s-min=4.2km az=34.0
TEH 02 10:05:39.4, 37.86N×46.84E, h5km, ML3.6
ISC 02 10:05:39.2±0.9, 37.88N±0.02×46.85E±0.02, h2km±9km, n73, σ1.56/114, 21C-20D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBST	Bostanabad	0.18	169	⇑ePg	Pg	10 05 41.6	-1.2
IBST				e		10 05 44.4	
	comp=Z,2619μm,0.1s						
IBST	Bostanabad	0.18	169	⇑ePg	Pg	10 05 41.6	-1.2
IFTB	Fath-abad	0.39	291	⇓ePg	Pg	10 05 46.4	-0.3
IFTB				eSg	Sg	10 05 52.5	+0.7
IFTB	Fath-abad	0.39	291	⇓ePg	Pg	10 05 46.4	-0.3
IFTB				eSg	Sg	10 05 52.5	+0.7
IHRS	Heris	0.47	19	⇓ePg	Pg	10 05 47.9	-0.3
IHRS				eSg	Sg	10 05 55.2	+0.9
IHRS				e		10 05 56.7	
	comp=Z,28μm,0.1s						
IHRS	Heris	0.47	19	⇓ePg	Pg	10 05 47.9	-0.3
IHRS				eSg	Sg	10 05 55.2	+0.9
ISRB	Sarab	0.65	94	⇓ePg	Pg	10 05 51.0	-0.7
ISRB				eSg	Sg	10 06 01.2	+1.1
ISRB				e		10 06 02.3	
	comp=Z,62μm,0.1s						
ISRB	Sarab	0.65	94	⇓ePg	Pg	10 05 51.0	-0.7
ISRB				eSg	Sg	10 06 01.2	+1.1
ITBZ	Tabriz	0.66	303	⇑ePg	Pg	10 05 51.1	-0.8
ITBZ				eSg	Sg	10 06 00.8	+0.4
ITBZ				e		10 06 04.6	
	comp=Z,21μm,0.2s						
ITBZ	Tabriz	0.66	303	⇑ePg	Pg	10 05 51.1	-0.8
ITBZ				eSg	Sg	10 06 00.8	+0.4
IMRD	Marand	1.23	313	⇓ePg	Pn	10 06 01.7	-1.9
IMRD				eSg	Sn	10 06 19.7	-1.2
IMRD				e		10 06 26.4	
	comp=Z,59μm,0.3s						
IMRD	Marand	1.23	313	⇓ePg	Pn	10 06 01.7	-1.9
IMRD				eSg	Sn	10 06 19.7	-1.2
LRK	Lerik	1.40	56	⇑Pg	Pn	10 06 05.1	-0.8
LRK				⇓Sg	Sg	10 06 25.6	+1.4
LRK	Lerik	1.40	56	Pg	Pn	10 06 05.1	-0.8
LRK				Sg	Sg	10 06 25.6	+1.4
NAX	Nakhchivan	1.68	321	⇑Pg	Pb	10 06 10.6	-0.2
	SNR=10						
NAX				⇓Sg	Sg	10 06 35.2	+2.1
NAX	Nakhchivan	1.68	321	Pg	Pb	10 06 10.6	-0.2
	SNR=10						
NAX				Sg	Sg	10 06 35.2	+2.1
LKRN	Lenkeran, Azer	1.73	61	⇓Pg	Pb	10 06 11.0	-0.7
	SNR=18						
LKRN				⇓Sg	Sg	10 06 38.8	+4.0
LKRN	Lenkeran, Azer	1.73	61	Pg	Pb	10 06 11.0	-0.7
	SNR=18						
LKRN				Sg	Sg	10 06 38.8	+4.0
GLBA	Clilabad	1.82	41	⇑Pn	Pb	10 06 13.1	-0.1
	SNR=63						
GLBA	Clilabad	1.82	41	Pn	Pb	10 06 13.1	-0.1
	SNR=63						
ZNJK	Zanjan	1.90	129	ePn	Pn	10 06 12.8	0.0
ZNJK				eSg	Sb	10 06 38.1	-0.8
ZNJK	Zanjan	1.90	129	ePn	Pn	10 06 12.8	0.0
ZNJK				eSg	Sb	10 06 38.1	-0.8
ZNJK				AML	AML	10 06 41.7	
	comp=N,426nm,0.3s						
ZNJK				AML	AML	10 06 44.6	
	comp=E,444nm,0.6s						
MAKU	Maku	2.25	312	ePn	Pb	10 06 19.4	-1.3
MAKU	Maku	2.25	312	ePn	Pb	10 06 19.4	-1.3
MAKU				AML	AML	10 06 59.4	
	comp=N,196nm,0.7s						
BRDA	Brd	2.40	6	⇑Pn	Pb	10 06 23.4	+0.4
	SNR=26						
BRDA				⇑S	Sg	10 06 58.7	+2.5
BRDA	Brd	2.40	6	Pn	Pb	10 06 23.4	+0.4
	SNR=26						
BRDA				S	Sg	10 06 58.7	+2.5
CLDR	Caldiran	2.62	300	eP	Pn	10 06 21.8	-1.0
CLDR				ePN	Pb	10 06 26.1	-1.0
CLDR				eS	Sg	10 07 04.8	+1.2
CLDR				eSN	Sg	10 07 04.8	+1.2
CUKT	Cukurca	2.65	257	eP	Pb	10 06 27.8	+0.3
CUKT				ePN	Pg	10 06 28.8	-1.3
CUKT	Cukurca	2.65	257	eP	Pb	10 06 27.8	+0.3
ALIB	Äli-Bayra	2.67	38	Pn	Pg	10 06 28.9	-1.5
	SNR=8.8						
ALIB				⇑S	Sg	10 07 08.7	+3.6
ALIB	Äli-Bayra	2.67	38	Pn	Pg	10 06 28.9	-1.5
	SNR=8.8						
ALIB				S	Sg	10 07 08.7	+3.6
KDMR	Kurdemir	2.70	22	⇑Pn	Pg	10 06 30.9	-0.1
	SNR=3.6						
KDMR				⇑S	Sg	10 07 06.5	+0.5
GANJ	Ganja	2.79	352	⇓Pn	Pb	10 06 29.1	-0.8
	SNR=15						
GANJ				⇑S	Sg	10 07 07.7	-1.3
GANJ	Ganja	2.79	352	Pn	Pb	10 06 29.1	-0.8
	SNR=15						
GANJ				S	Sg	10 07 07.7	-1.3
SNGE	Sanandaj	2.81	172	ePn	Pn	10 06 26.7	+1.4
SNGE	Sanandaj	2.81	172	ePn	Pn	10 06 26.7	+1.4
IML	Ismayilli	3.09	19	⇓Pn	Pb	10 06 34.3	-0.6
	SNR=3.4						
IML				⇑S	Sg	10 07 19.7	+1.2
IML	Ismayilli	3.09	19	Pn	Pb	10 06 34.3	-0.6
	SNR=3.4						
IML				S	Sg	10 07 19.7	+1.2
PQL	Pirkuli	3.21	24	⇑Pn	Pb	10 06 35.7	-1.2
	SNR=12						
PQL				⇑S	Sg	10 07 20.2	-2.1
PQL	Pirkuli	3.21	24	Pn	Pb	10 06 35.7	-1.2
	SNR=12						
PQL				S	Sg	10 07 20.2	-2.1
SEKA	Sheki	3.34	5	⇓Pn	Pb	10 06 37.8	-1.4
	SNR=8.4						
SEKA				⇑S	Sb	10 07 22.4	+2.2
SEKA	Sheki	3.34	5	Pn	Pb	10 06 37.8	-1.4
	SNR=8.4						
SEKA				S	Sb	10 07 22.4	+2.2
QZX	Qazax, Azerbai	3.38	341	⇓Pn	Pb	10 06 39.1	-0.7
QZX				⇑S	Sb	10 07 23.9	+2.6
QZX	Qazax, Azerbai	3.38	341	Pn	Pb	10 06 39.1	-0.7
QZX				S	Sb	10 07 23.9	+2.6
ATGJ	Altiaghaj	3.39	28	⇑Pn	Pb	10 06 40.3	+0.2
	SNR=3.0						
ATGJ				⇓S	Sg	10 07 28.3	+0.2
ATGJ	Altiaghaj	3.39	28	Pn	Pb	10 06 40.3	+0.2
	SNR=3.0						
ATGJ				S	Sg	10 07 28.3	+0.2
AGRB	Hanur-Agry	3.46	301	ePN	Pb	10 06 37.7	-3.6
AGRB				eP	Pb	10 06 37.7	-3.6
AGRB	Hanur-Agry	3.46	301	eP	Pb	10 06 37.7	-3.6
IRAZ	Razeghan	3.50	134	ePn	Pn	10 06 34.5	-0.3
IRAZ				e		10 07 43.3	
	comp=Z,2μm,0.5s						
IRAZ	Razeghan	3.50	134	ePn	Pn	10 06 34.5	-0.3
SIRT	Sirnak	3.52	265	ePN	Pb	10 06 41.5	-0.7
SIRT				eP	Pb	10 06 41.5	-0.7
SIRT	Sirnak	3.52	265	eP	Pb	10 06 41.5	-0.7
SIZA	Siyzn	3.57	26	⇓Pn	Pb	10 06 41.1	-2.0
	SNR=4.7						
SIZA				⇑S	Sg	10 07 32.1	-1.7
SIZA	Siyzn	3.57	26	Pn	Pb	10 06 41.1	-2.0
	SNR=4.7						
SIZA				S	Sg	10 07 32.1	-1.7
QUBA	Quba, Azerbaij	3.70	20	⇑Pn	Pb	10 06 43.4	-1.9
	SNR=4.8						
QUBA	Quba, Azerbaij	3.70	20	Pn	Pb	10 06 43.4	-1.9
	SNR=4.8						
DGRG	David-gareji	3.75	343	P	Pb	10 06 47.0	+0.9
DGRG	David-gareji	3.75	343	P	Pb	10 06 47.0	+0.9
ZKTA	Zakatala	3.76	357	⇓Pn	Pb	10 06 44.1	-2.3
ZKTA				⇓S	Sb	10 07 34.3	+2.0
IMHD	Mahdasht	3.77	124	eSg	Sg	10 07 37.2	-3.0
IMHD	Mahdasht	3.77	124	eSg	Sg	10 07 37.2	-3.0
CHTH	Charan	3.95	119	ePn	Pn	10 06 41.4	+0.3
CHTH	Charan	3.95	119	ePn	Pn	10 06 41.4	+0.3
IR3	Iran Long-Peri	4.12	124	eSg	Sb	10 07 46.4	+3.5
IR3	Iran Long-Peri	4.12	124	eSg	Sb	10 07 46.4	+3.5
TBLG	Delisi	4.18	338	P	Pb	10 06 51.5	-1.9
TBLG	Delisi	4.18	338	P	Pb	10 06 51.5	-1.9
ASAO	Ashtian	4.20	141	ePn	Pn	10 06 45.6	+1.1
ASAO	Ashtian	4.20	141	ePn	Pn	10 06 45.6	+1.1
ONI	Oni	5.38	332	P	Pb	10 07 16.5	+2.6
IGLO	Ghaloghah	5.74	102	ePn	Pn	10 07 05.7	+0.1
IGLO				e		10 08 33.2	
	comp=Z,261nm,0.2s						
IPAY	Payeh	9.80	95	ePn	Pn	10 08 00.9	-0.5
IPAY	Payeh	9.80	95	ePn	Pn	10 08 00.9	-0.5

CASC 02 10:09:04.8±1.7, 11.91N×87.98W, h19km±19km, MD4.2, ML3.3
IDC 02 10:09:07.5±7.1, 12.24N×87.71W, h33km±59km, mb3.5/6, mb1 3.9/7, mb1mx3.5/35, mbtmp3.7/7, ML3.4/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/32, Error ellipse: s-maj=66.5km s-min=30.3km az=49.0
ISC 02 10:09:05.4±1.3, 12.0N±0.1×87.9W±0.1, h27km±13km, n29, σ1s25/27, mb3.6/6, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.25	3	eP	Pb	10 09 29.0	+0.7
VSM	San Miguel	1.44	346	eP	Pb	10 09 31.5	-0.2
CAHU	Cacacuatique	1.76	350	eP	Pb	10 09 36.5	-0.7
SNVI	San Vicente	1.82	330	eP	Pn	10 09 35.7	+0.5
LFRS	El Faro	1.95	325	eP	Pn	10 09 37.4	+0.5
LFRS				eS	Sb	10 10 03.4	-0.9
LBRS	Las Brisas	2.03	327	eP	Pn	10 09 38.1	+0.1
SNET	Serv Nac Est T	2.10	322	AML	AML	10 10 15.1	
	comp=Z,293nm,0.3s						
BOQS	Boqueron	2.17	322	eP	Pn	10 09 40.4	+0.5
BOQS				eS	Sb	10 10 10.3	-0.3
SBLS	San Blas	2.46	317	eP	Pn	10 09 44.6	+0.6
RTR	El Retiro	2.52	318	eP	Pn	10 09 45.7	+1.0
JTS	JuntasAbangare	3.37	120	Pn	Pn	10 09 56.9	+0.5
	comp=Z,4.1nm,0.3s,baz=323,slow=19,SNR=11						
JTS				Sn	Sn	10 10 33.7	-1.8
	comp=Z,2.6nm,0.3s,baz=287,slow=19,SNR=4.7						
JTS				LR	LR	10 11 29.9	
	comp=Z,167nm,20.0s,baz=302,slow=43						
MRL	Marmol	3.49	330	eP	Pn	10 09 59.2	+1.2
JCR	Jicaral	3.49	128	eP	Pn	10 09 59.5	+1.5
JCR				eS	Sn	10 10 34.9	-3.6
CGA2	Cerro Gallo 2	3.92	120	eP	Pb	10 10 13.9	-0.1
QCR	Quepos	4.49	125	eP	Pn	10 10 12.1	+0.4
BUS	Buena Vista	4.75	121	⇑iP	Pn	10 10 17.3	+1.6
BUS				eS	Sn	10 11 11.4	+1.1
TEIG	Tepich	8.16	358	LR	LR	10 14 22.9	
	comp=Z,116nm,18.7s,baz=147,slow=40						
ATAH	Atahualpa	21.25	153	LR	LR	10 20 48.0	
	comp=Z,66nm,20.4s,baz=336,slow=33						
TXAR	Lajitas Array	22.63	322	P	P	10 14 05.9	+1.5
	comp=Z,2.3nm,0.6s,baz=134,slow=10,SNR=44						
TKL	Tuckaleechee C	23.82	8	P	P	10 14 17.0	+0.7
	comp=Z,12nm,1.0s,baz=180,slow=12,SNR=6.1						
PTGA	Pitinga	30.50	113	LR	LR	10 28 29.2	
	comp=Z,41nm,20.4s,baz=181,slow=38						
PDAR	Pinedale Array	35.94	332	P	P	10 16 04.3	+0.4
	comp=Z,0.3nm,0.8s,baz=127,slow=10,SNR=2.5						
ULM	Lac du Bonnet	38.67	352	P	P	10 16 24.9	-1.8
	comp=Z,2.7nm,0.6s,baz=167,slow=8.8,SNR=8.2						
YKA	Yellowknife Ar	53.90	345	P	P	10 18 25.5	-0.7
	comp=Z,0.4nm,0.9s,baz=140,slow=7.3,SNR=8.0						
ILAR	Eielson Array	66.23	336	P	P	10 19 51.1	+0.4
	comp=Z,0.2nm,0.8s,baz=143,slow=3.2,SNR=4.3						
CMAR	Chiang Mai Arr	148.97	347	PKPbc	PKPbc	10 28 52.8	+1.0
	comp=Z,0.6nm,0.3s,baz=318,slow=3.4,SNR=4.9						
H01W1	Cape Leeuwin H	149.68	218	T	T	13 16 01.4	
	baz=132,slow=76,SNR=7.6						
H01W2	Cape Leeuwin H	149.69	218	T	T	13 16 01.9	
	baz=132,slow=76,SNR=7.8						
H01W3	Cape Leeuwin H	149.70	218	T	T	13 16 03.6	
	baz=132,slow=76,SNR=8.2						

SJA 02 10:12:09.2±0.8, 27.38S×66.04W, h69km±13km, ML3.5, MW3.5, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	Choya	1.08	169	eP	Pn	10 12 30.4	+1.7
CYA				eS	Sn	10 12 44.9	+1.7
CYA				IAML		10 12 48.6	
	comp=Z,844nm,0.4s						
ACLC	CERRO LA CRUZ	2.19	201	eP	Pn	10 12 44.9	+1.3
AGUA	GUANDACOL	3.01	225	eP	Pn	10 12 56.8	+2.1
AGUA				eS	Sn	10 13 32.5	+2.7
APLL	PUNTA DE LOS L	3.03	188	eP	Pn	10 12 57.0	+2.0
ACAN	Cantantal	4.98	191	eP	Pn	10 13 23.5	+2.0

AZER 02 10:15:36.0±4.3, 37.94N×47.07E, h2km, 16C-10D, Error ellipse: s-maj=4.7km s-min=2.0km az=357.0, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRK	Lerik	1.22	55	⇑P	Pn	10 16 02.3	+1.9
LRK				⇑S	Sn	10 16 22.1	+4.5
LKRN	Lenkeran, Azer	1.55	60	⇑P	Pg	10 16 08.0	+2.3
LKRN				⇓S	Sg	10 16 33.2	+7.4
GLBA	Clilabad	1.66	38	⇑P	Pg	10 16 10.1	+2.2
GLBA				⇑S	Sg	10 16 36.6	+7.2
NAX	Nakhchivan	1.74	315	⇑Pg	Pn	10 16 07.7	+0.2
NAX				⇓Sg	Sb	10 16 31.8	+0.5
BRDA	Brd	2.32	2	⇑P	Pb	10 16 18.5	-0.1
BRDA				⇓S	Sg	10 16 51.9	+1.3
ALIB	Äli-Bayra	2.52	36	⇑Pn	Pb	10 16 22.3	+0.4
ALIB				⇑S	Sg	10 16 57.2	+0.3
GANJ	Ganja	2.76	348	⇓Pn	Pn	10 16 23.8	+2.3
GANJ				⇑S	Sb	10 17 00.8	+0.2
IML	Ismayilli	2.98	16	⇓Pn	Pb	10 16 28.0	-1.9
PQL	Pirkuli	3.08	22	⇑Pn	Pb	10 16 29.9	-1.9
PQL				⇓S	Sb	10 17 09.2	-0.7
ATGJ	Altiaghaj	3.25	26	⇑Pn	Pb	10 16 32.8	-1.9
ATGJ				⇑S	Sb	10 17 14.2	-0.7
SEKA	Sheki	3.27	2	⇓Pn	Pn	10 16 31.1	+2.8
SEKA				⇓S	Sb	10 17 13.8	-1.4
QZX	Qazax, Azerbai	3.38	338	⇑Pn	Pb	10 16 36.0	-0.7
QZX				⇑S	Sb	10 17 15.9	-2.4
SIZA	Siyzn	3.44	24	⇓Pn	Pb	10 16 35.1	-2.6
QUBA	Quba, Azerbaij	3.58	17	⇑Pn	Pb	10 16 36.9	-3.3
ZKTA	Zakatala	3.71	355	⇓Pn	Pb	10 16 38.2	+3.8

ISN 02 10:16:15.0±2.3, 38.54N×47.14E, h0km±75km, ML4.2
AZER 02 10:16:23.9±8.1, 37.55N×46.85E, h3km, Error ellipse: s-maj=6.4km s-min=3.8km az=352.0
IDC 02 10:16:25.8±0.8, 37.58N×46.78E, h0km, mb4.2/20, mb1 4.3/23, mb1mx4.2/39, mbtmp4.2/23, ML3.2/3, MS3.6/18, Ms1 3.6/18, ms1mx3.4/47, Error ellipse: s-maj=18.3km s-min=10.5km az=26.0
ISCJB 02 10:16:26.6±0.4, 37.83N±0.02×46.80E±0.02, h8km±2km, mb4.3/57, MS3.6/15, Error ellipse: s-maj=3.0km s-min=2.6km az=16.2
CSEM 02 10:16:27.9±0.1, 37.85N×46.76E, h5km, mb4.5/43, Ms3.3, Error ellipse: s-maj=3.4km s-min=2.9km az=12.0
BJI 02 10:16:28.2, 38.58N×46.77E, h5km, mb4.4/3, Ms4.2/1
NEIC 02 10:16:28.8±0.2, 37.93N×46.78E, h10km, mb4.6/23, ML4.3(THR), MN4.6(TEH), Error ellipse: s-maj=5.6km s-min=3.7km az=195.0
TEH 02 10:16:28.4, 37.86N×46.84E, h5km, ML4.6
THR 02 10:16:29.1±0.7, 37.92N×46.98E, h14km±9km, ML4.3
MOS 02 10:16:29.7±1.0, 37.77N×46.79E, h33km, mb4.6/33, Error ellipse: s-maj=7.2km s-min=4.5km az=118.0
ISC 02 10:16:27.3±0.6, 37.82N±0.02×46.80E±0.02, h6km±4km, n399, σ1s32/444, mb4.5/57, MS3.6/15, 28C-37D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBST	Bostanabad	0.14	150	ePg	Pg	10 16 30.8	+0.5
IBST				e		10 16 33.8	
	comp=Z,6888μm,0.1s						
IBST	Bostanabad	0.14	150	ePg	Pg	10 16 30.8	+0.5
IFTB	Fath-abad	0.38	301	ePg	Pg	10 16 35.4	+0.7
IFTB	Fath-abad	0.38	301	ePg	Pg	10 16 35.4	+0.7
IHRS	Heris	0.53	21	⇓ePg	Pg	10 16 37.0	-0.6
IHRS				eSg	Sg	10 16 44.4	-0.2
IHRS				e		10 16 46.6	
	comp=Z,56μm,0.1s						
IHRS	Heris	0.53	21	⇓ePg	Pg	10 16 37.0	-0.6
IHRS				eSg	Sg	10 16 44.4	-0.2
ITBZ	Tabriz	0.66	309	⇑ePg	Pg	10 16 40.2	+0.1
ITBZ				eSg	Sb	10 16 50.5	-0.4
ITBZ				e		10 16 51.3	
	comp=Z,35μm,0.2s						
ITBZ	Tabriz	0.66	309	⇑ePg	Pg	10 16 40.2	+0.1
ISRB	Sarab	0.69	90	⇑ePg	Pg	10 16 40.0	-0.5
ISRB				eSg	Sg	10 16 50.4	+0.9
ISRB				e		10 16 52.1	
	comp=Z,76μm,0.1s						
ISRB	Sarab	0.69	90	eSg	Sg	10 16 50.4	+0.9
IMRD	Marand	1.24	316	⇓ePg	Pn	10 16 50.9	-0.6
IMRD				e		10 17 15.6	
	comp=Z,31μm,0.2s						
IMRD	Marand	1.24	316	⇓ePg	Pn	10 16 50.9	-0.6
LRK	Lerik	1.46	55	⇑Pg	Pn	10 16 53.9	-0.6
LRK				⇑Sg	Sn	10 17 15.0	+0.6
LRK	Lerik	1.46	55	Pg	Pn	10 16 53.9	-0.6
LRK				Sg	Sn	10 17 15.0	+0.6
NAX	Nakhchivan	1.69	323	⇓Pg	Pb	10 16 59.5	+0.5
NAX				⇑Sg	Sg	10 17 24.1	+2.3
NAX	Nakhchivan	1.69	323	Pg	Pb	10 16 59.5	+0.5
NAX				Sg	Sg	10 17 24.1	+2.3
LKRN	Lenkeran, Azer	1.79	60	⇓Pg	Pn	10 16 59.8	+1.0
LKRN				⇓Sg	Sn	10 17 25.1	+0.2
LKRN	Lenkeran, Azer	1.79	60	Pg	Pn	10 16 59.8	+1.0
LKRN				Sg	Sn	10 17 25.1	+0.2
GLBA	Clilabad	1.89	41	⇓Pg	Pb	10 17 02.0	-0.2
GLBA				⇓Sg	Sg	10 17 28.9	+0.9
GLBA	Clilabad	1.89	41	Pg	Pb	10 17 02.0	-0.2
GLBA				Sg	Sg	10 17 28.9	+0.9
ZNJK	Zanjan	1.89	127	ePn	Pb	10 17 02.5	0.0
ZNJK				eSg	Sb	10 17 27.4	+0.9
ZNJK	Zanjan	1.89	127	ePn	Pb	10 17 02.5	0.0
ZNJK				eSg	Sb	10 17 27.4	+0.9
	comp=Z,3μm,0.7s						
ZNJK	Zanjan	1.89	127	ePn	Pb	10 17 02.3	-0.2
ZNJK				eSg	Sb	10 17 27.4	+0.9
ZNJK				AML	AML	10 17 31.4	
	comp=N,3μm,0.5s						
ZNJK				AML	AML	10 17 33.7	
	comp=E,3μm,0.7s						
MAKU	Maku	2.26	313	ePn	Pb	10 17 08.6	-0.1
MAKU	Maku	2.26	313	ePn	Pb	10 17 08.6	-0.1
	comp=E,2μm,0.6s						
MAKU	Maku	2.26	313	ePn	Pb	10 17 08.6	-0.1
MAKU				AML	AML	10 17 49.2	
	comp=N,2μm,0.6s						
BRDA	Brd	2.45	7	⇓Pn	Pb	10 17 12.3	+0.4
BRDA				⇓S	Sg	10 17 48.1	+1.9
BRDA	Brd	2.45	7	Pn	Pb	10 17 12.3	+0.4
CLDR	Caldiran	2.62	301	eP	Pn	10 17 12.9	+2.4
CLDR	Caldiran	2.62	301	eP	Pn	10 17 12.9	+2.4
ALIB	Äli-Bayra	2.74	38	⇑Pn	Pn	10 17 12.9	+1.0
ALIB				⇓S	Sb	10 17 52.7	+2.1
ALIB	Äli-Bayra	2.74	38	Pn	Pn	10 17 12.9	+1.0
SNGE	Sanandaj	2.76	171	ePn	Pb	10 17 16.1	-1.1
SNGE	Sanandaj	2.76	171	ePn	Pb	10 17 16.1	-1.1
SNGE	Sanandaj	2.76	171	ePn	Pb	10 17 16.1	-1.1
KDMR	Kurdemir	2.77	22	⇓Pn	Pn	10 17 13.9	+1.6
KDMR				⇓S	Sg	10 17 55.0	-1.2
GNI	Garni	2.82	326	d iP	Pn	10 17 12.8	-0.4
GNI	Garni	2.82	326	Pn	Pn	10 17 19.7	+1.4
	comp=N,179nm,0.3s,baz=322,slow=3.4,SNR=24						
GNI				Sn	Sb	10 17 56.0	+2.7
	comp=N,62nm,0.3s,baz=148,slow=19,SNR=2.7						
GNI				LR	LR	10 18 22.9	
	comp=N,2μm,18.8s,baz=130,slow=39						
GNI	Garni	2.82	326	ePn	Pn	10 17 12.5	-0.7
GNI				eSg	Sg	10 17 59.0	+0.9
GNI	Garni	2.82	326	ePn	Pn	10 17 12.5	-0.7
GNI	Garni	2.82	326	i P	Pn	10 17 12.8	-0.4
GNI				eSg	Sg	10 17 59.0	+0.9
GANJ	Ganja	2.84	353	⇑Pn	Pb	10 17 18.0	-0.6
GANJ				⇓S	Sb	10 17 55.7	+2.0
GANJ	Ganja	2.84	353	Pn	Pb	10 17 18.0	-0.6
ILIN	Lien	2.90	177	ePn	Pn	10 17 15.7	+1.3
ILIN				e		10 18 11.2	
	comp=N,15μm,0.3s						
ILIN	Lien	2.90	177	ePn	Pn	10 17 15.7	+1.3
MNGR	Mingechevir, A	2.95	4	⇑Pn	Pb	10 17 19.6	-0.8
MNGR				⇑S	Sg	10 18 02.5	+0.3
MNGR	Mingechevir, A	2.95	4	Pn	Pb	10 17 19.6	-0.8
IKRK	Kirkuk	3.12	220	ePn	Pn	10 17 16.0	-1.2
IKRK				eSN	Sb	10 17 59.1	-2.6
PQL	Pirkuli	3.27	25	⇑Pn	Pn	10 17 21.9	+2.5
PQL	Pirkuli	3.27	25	Pn	Pn	10 17 21.9	+2.5
MSL	Mosul	3.27	245	ePN	Pb	10 17 16.6	-2.6
MSL				eSN	Sn	10 17 58.5	-0.1
SEKA	Sheki	3.40	5	⇓Pn	Pn	10 17 22.7	+1.7
SEKA				⇓S	Sb	10 18 12.3	+2.7
SEKA	Sheki	3.40	5	Pn	Pn	10 17 22.7	+1.7
QZX	Qazax, Azerbai	3.42	342	⇑Pn	Pb	10 17 25.5	-2.8
QZX				⇓S	Sg	10 18 14.2	-2.9
QZX	Qazax, Azerbai	3.42	342	Pn	Pb	10 17 25.5	-2.8
GOBA	Gobu	3.44	41	⇓Pn	Pn	10 17 23.8	+2.3
GOBA	Gobu	3.44	41	Pn	Pn	10 17 23.8	+2.3
AGRB	Hanur-Agry	3.46	302	eP	Pb	10 17 31.4	+2.3
ATGJ	Altiaghaj	3.46	28	⇓Pn	Pn	10 17 24.8	+3.0
ATGJ				⇑S	Sb	10 18 12.9	+1.5
ATGJ	Altiaghaj	3.46	28	Pn	Pn	10 17 24.8	+3.0
SIRT	Sirnak	3.48	266	eP	Pb	10 17 31.6	+2.3
IRAZ	Razeghan	3.49	133	ePn	Pn	10 17 23.1	+0.7
IRAZ				e		10 17 38.4	
	comp=Z,7μm,0.3s						
IRAZ	Razeghan	3.49	133	ePn	Pn	10 17 23.1	+0.7
SIZA	Siyzn	3.63	26	⇑Pn	Pn	10 17 27.9	+3.7
SIZA				⇑S	Sb	10 18 14.2	-2.2
SIZA	Siyzn	3.63	26	Pn	Pn	10 17 27.9	+3.7
GALA	Gala	3.67	44	⇓Pn	Pn	10 17 26.0	+1.3
GALA				⇓S	Sb	10 18 14.5	-2.9
GALA	Gala	3.67	44	Pn	Pn	10 17 26.0	+1.3
NDR	Nardaran	3.70	41	⇑Pn	Pn	10 17 25.8	+0.7
NDR				⇓S	Sb	10 18 17.8	-0.5
NDR	Nardaran	3.70	41	Pn	Pn	10 17 25.8	+0.7
IMHD	Mahdasht	3.77	123	ePn	Pn	10 17 27.1	+1.0
IMHD				e		10 18 31.4	
	comp=N,19μm,0.1s						
IMHD	Mahdasht	3.77	123	ePn	Pn	10 17 27.1	+1.0
DGRG	David-gareji	3.79	344	eP	Pb	10 17 36.1	+1.5
DGRG	David-gareji	3.79	344	P	Pb	10 17 36.2	+1.5
ZKTA	Zakatala	3.81	358	⇑Pn	Pb	10 17 28.8	+2.2
ZKTA				⇓S	Sb	10 18 24.0	+2.5
CHTH	Charan	3.96	118	ePn	Pn	10 17 30.9	+2.0
CHTH	Charan	3.96	118	ePn	Pn	10 17 30.9	+2.0
	comp=N,316nm,0.7s						
CHTH	Charan	3.96	118	ePn	Pn	10 17 30.9	+2.0
CHTH				AML	AML	10 18 35.7	
	comp=N,316nm,0.7s						
KZR	Kazreti	4.00	333	P	Pb	10 17 40.4	+2.1
KARS	Kars	4.03	315	eP	Pb	10 17 41.0	+2.3
ASAO	Ashtian	4.18	140	ePn	Pn	10 17 34.8	+2.8
ASAO	Ashtian	4.18	140	ePn	Pn	10 17 34.8	+2.8
ASAO	Ashtian	4.18	140	ePn	Pn	10 17 34.8	+2.8
TBLG	Delisi	4.21	338	eP	Pb	10 17 42.4	+0.5
TBLG	Delisi	4.21	338	P	Pb	10 17 42.4	+0.5
SEAG	Tbilisi Sea	4.23	339	P	Pb	10 17 45.3	+3.1
AKH	Akhalkalaki	4.40	326	P	Pb	10 17 46.8	+1.7
VRTB	Varto-Mus	4.40	289	eP	Pb	10 17 48.1	+2.9
EZM	Erzurum	4.73	298	eP	Pb	10 17 53.7	+2.9
IBDR	Badra	4.76	189	ePn	Pn	10 17 40.0	+0.4
IBDR				eSN	Sn	10 18 39.1	+4.1
IDMV	Damavand	4.76	116	ePn	Pn	10 17 40.8	+0.8
IDMV				e		10 19 10.8	
	comp=Z,14μm,0.8s						
IDMV	Damavand	4.76	116	ePn	Pn	10 17 40.8	+0.8
KHMZ	Khomeyn	4.82	147	ePn	Pn	10 17 44.0	+3.4
KHMZ	Khomeyn	4.82	147	ePn	Pn	10 17 44.0	+3.4
GHVR	GHOM	4.93	131	ePn	Pn	10 17 44.2	+2.0
GHVR	GHOM	4.93	131	ePn	Pn	10 17 44.2	+2.0
GHVR	GHOM	4.93	131	ePn	Pn	10 17 44.2	+2.0
BHD	Baghdad	4.95	204	ePn	Pn	10 17 43.0	+0.7
	SNR=3.0						
BHD				eSn	Sn	10 18 42.0	+2.1
	SNR=3.0						
BHD	Baghdad	4.95	204	ePn	Pn	10 17 43.0	+0.7
BHD				eSn	Sn	10 18 42.0	+2.1
GUDG	Gudauri	4.97	340	P	Pn	10 17 47.4	+4.7
MAK	Makhachkala	5.16	6	eP	Pn	10 17 46.0	+0.9
MAK				eS	Sn	10 18 44.0	-1.0
MAK				pmax	pmax		
	comp=Z,16nm,0.4s						
MAK	Makhachkala	5.16	6	eP	Pn	10 17 46.0	+0.9
	comp=Z,16nm,0.4s						
MAK				eS	Sn	10 18 44.0	-1.0
IKIA	Kiasar	5.74	104	ePn	Pn	10 17 56.0	+2.6
IKIA	Kiasar	5.74	104	ePn	Pn	10 17 56.0	+2.6

IGLO Ghaloghah 5.77 101 ePn Pn 10 17 54.2 +0.6
PTK Pertek 5.92 283 eP Pb 10 18 10.1 -1.0
URFA Urfa 6.34 269 eP Pb 10 18 16.3 -2.0
KBZ Khabaz 6.60 335 Pn Pn 10 18 11.4 +6.5
comp=Z,0.2nm,0.3s,baz=144,slow=12,SNR=5.3
KBZ LR LR 10 20 57.3
comp=Z,495nm,19.1s,baz=160,slow=40
KBZ Khabaz 6.60 335 Pn Pn 10 18 11.4 +6.5
NSR Nassriya 6.82 185 ePn Pn 10 18 08.8 +0.9
SNR=39
NSR eSn Sn 10 19 27.9 +2.0
SNR=39
NSR Nassriya 6.82 185 ePn Pn 10 18 06.0 -1.9
NSR ePN Pn 10 18 08.8 +0.9
NSR eSN Sn 10 19 27.9 +2.0
KIV Kislovodsk 6.87 334 eP Pn 10 18 11.1 +2.3
KIV eS Sn 10 19 28.6 +1.3
KIV pmax pmax
comp=Z,26nm,0.9s
KIV Kislovodsk 6.87 334 ePn Pn 10 18 08.0 -0.8
KIV eSn Sn 10 19 26.6 -0.8
KIV Kislovodsk 6.87 334 ePn Pn 10 18 08.0 -0.8
KIV eSn Sn 10 19 26.6 -0.8
KIV eS Sn 10 19 28.6 +1.3
RTB Rutbah 7.14 230 ePn Pn 10 18 12.0 -0.4
SNR=3.0
RTB eSn Sn 10 19 35.0 +1.1
SNR=3.0
RTB Rutbah 7.14 230 ePn Pn 10 18 12.0 -0.4
RTB eSn Sn 10 19 35.0 +1.1
IKRD Kardeh 9.39 93 ePn Pn 10 18 54.7 +11
IPAY Payeh 9.83 94 ePn Pn 10 18 51.1 +1.6
IPAY Payeh 9.83 94 ePn Pn 10 18 51.1 +1.6
BRTR Keskin Array B 10.45 285 P Pn 10 19 04.0 +6.1
BRTR MLR MLR
comp=Z,15nm,28.6s
BRTR Keskin Array B 10.45 285 Pn Pn 10 19 04.0 +6.1
comp=Z,0.1nm,0.3s,baz=117,slow=13,SNR=5.1
BRTR LR LR 10 23 35.0
comp=Z,329nm,20.6s,baz=100,slow=41
BRTR Keskin Array B 10.45 285 Pn Pn 10 19 04.0 +6.1
MMAI Mount Meron Ar 10.46 246 Pn Pn 10 19 04.0 +6.0
comp=Z,2.3nm,0.3s,baz=64,slow=16,SNR=3.3
MMAI Sn Sn 10 21 00.2 +4.6
comp=Z,0.9nm,0.3s,baz=47,slow=18,SNR=1.7
MMAI Mount Meron Ar 10.46 246 Pn Pn 10 19 04.0 +6.0
MMAI Sn Sn 10 21 00.2 +4.6
IMYA Miami 10.73 94 ePn Pn 10 19 03.5 +1.8
IMYA Miami 10.73 94 ePn Pn 10 19 03.5 +1.8
CSS Prodhromos 11.23 259 ePn Pn 10 19 10.2 +1.8
CSS eSn Sn 10 21 11.8 -2.5
CSS Prodhromos 11.23 259 ePn Pn 10 19 10.2 +1.8
CSS eSn Sn 10 21 11.8 -2.5
EIL Elat 12.77 234 LR LR 10 24 26.1
comp=Z,87nm,18.9s,baz=59,slow=38
VRHR Novokhopersk 13.77 346 eP Pn 10 19 45.1 +2.1
VRHR pmax pmax
comp=N,7.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR Novokhopersk 13.77 346 eP Pn 10 19 45.1 +2.1
VORD Divnogorie 14.18 340 eP P 10 19 54.3 -2.0
VORD pmax pmax
comp=N,60nm,0.8s
VORD pmax pmax
comp=E,120nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 14.30 185 ePn Pn 10 19 47.8 -2.7
RAYN eSn Sn 10 22 26.1 -3.4
RAYN Ar Rayn 14.30 185 ePn Pn 10 19 47.8 -2.7
RAYN eSn Sn 10 22 26.1 -3.4
VSR Storozhevoye 14.44 340 eP P 10 19 56.1 -3.1
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,8.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
AB31 Akbulak array 14.85 36 P Pn 10 19 55.2 -2.6
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 14.85 36 ePn Pn 10 19 55.3 -2.6
ABKAR eSn Sn 10 22 43.4 +0.8
ABKAR Akbulak array 14.85 36 ePn Pn 10 19 55.3 -2.6
ABKAR eSn Sn 10 22 43.4 +0.8
AKTO Aktyubinsk 14.94 29 Pn Pn 10 19 56.2 -2.8
comp=Z,2.1nm,0.3s,baz=214,slow=12,SNR=27
AKTO LR LR 10 27 22.8
comp=Z,155nm,18.4s,baz=218,slow=43
AKTO Aktyubinsk 14.94 29 Pn Pn 10 19 56.2 -2.8
CFR Carcaliu 15.78 304 ⇓P P 10 20 12.9 -1.1
CFR Carcaliu 15.78 304 ⇓iP P 10 20 12.9 -1.1
CFR Carcaliu 15.78 304 P P 10 20 12.9 -1.1
SANT Santorini 17.09 272 ePn P 10 20 29.1 +0.4
SANT Santorini 17.09 272 ePn P 10 20 29.1 +0.4
VOIR 17.92 302 ⇓P P 10 20 40.5 +2.6
VOIR 17.92 302 ⇓iP P 10 20 40.5 +2.6
AKASG Malin Array Be 17.95 321 P Pn 10 20 37.0 -0.4
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 17.95 321 P Pn 10 20 37.0 -0.4
comp=Z,0.7nm,0.3s,baz=124,slow=12,SNR=8.1
AKASG Malin Array Be 17.95 321 P Pn 10 20 37.0 -0.4
comp=Z,1.0nm,0.3s
KIEV Kiev 17.95 321 eP P 10 20 38.4 +0.4
KIEV eS S 10 24 02.9 -1.4
KIEV Kiev 17.95 321 ePn P 10 20 38.4 +0.4
KIEV eS S 10 24 02.9 -1.4
KIEV Kiev 17.95 321 eP P 10 20 38.4 +0.4
KIEV eS S 10 24 02.9 -1.4
BURAR Bucovina Array 18.58 309 ⇑P Pn 10 20 46.5 +1.2
BURAR Bucovina Array 18.58 309 ⇑iP Pn 10 20 46.5 +1.2
BUR08 Bucovina Ar. S 18.60 309 eP Pn 10 20 46.0 +0.4
BUR08 eS Sn 10 24 05.6 -8.2
BUR08 Bucovina Ar. S 18.60 309 eP Pn 10 20 46.0 +0.4
BUR08 eS Sn 10 24 05.6 -8.2
VTS Vitosha 18.62 292 ⇓P Pn 10 20 54.3 +8.4
VTS Vitosha 18.62 292 ⇓iP Pn 10 20 54.3 +8.4
OBN Obninsk 18.64 341 eP Pn 10 20 46.8 +1.0
OBN pmax pmax
comp=Z,16nm,0.8s
OBN Obninsk 18.64 341 LR LR 10 28 33.7
comp=Z,266nm,19.0s,baz=156,slow=39
OBN Obninsk 18.64 341 eP Pn 10 20 46.8 +1.0
comp=Z,16nm,0.8s
KKAR Karatay Array 18.77 66 eP P 10 20 46.9 -0.3
KKAR eS S 10 24 22.0 +0.9
KKAR Karatay Array 18.77 66 eP P 10 20 46.9 -0.3
KKAR eS S 10 24 22.0 +0.9
KKAR Karatay Array 18.77 66 eP P 10 20 46.9 -0.3
KKAR eS S 10 24 22.0 +0.9
GZR Gura Zlata 19.45 300 ⇑P Pn 10 20 55.9 +0.1
GZR Gura Zlata 19.45 300 ⇑iP Pn 10 20 55.9 +0.1
GZR Gura Zlata 19.45 300 P Pn 10 20 55.9 +0.1
DRGR 19.88 304 ⇓P Pn 10 21 00.6 -0.4
DRGR 19.88 304 ⇓iP Pn 10 21 00.6 -0.4
DRGR 19.88 304 P Pn 10 21 00.6 -0.4
ARU Arti 20.21 19 diP P 10 21 02.5 -0.2
ARU 10 21 20.1
ARU S S 10 24 48.6 -1.1
ARU SS SnSn 10 25 04.9 -1.7
ARU pmax pmax
comp=Z,21nm,1.2s
ARU MLR MLR
comp=Z,220nm,17.0s
ARU Arti 20.21 19 eP P 10 21 03.1 +0.4
comp=Z,15nm,0.6s
ARU Arti 20.21 19 eP P 10 21 03.1 +0.4
comp=Z,15nm,0.6s
ARU S S 10 24 48.6 -1.1
TRPA Tarpa 20.44 308 ⇓iP Pn 10 21 07.1 -0.4
KOLS Kolonicke sedl 20.91 310 eP Pn 10 21 12.2 -0.8
KOLS pmax pmax
comp=Z,21nm,0.9s
KOLS Kolonicke sedl 20.91 310 eP Pn 10 21 12.2 -0.8
KOLS Kolonicke sedl 20.91 310 eP Pn 10 21 12.2 -0.8
comp=Z,21nm,0.9s
KWP Kalwaria Pacla 20.93 312 ⇑P Pn 10 21 12.3 -1.0
KWP Kalwaria Pacla 20.93 312 ⇑iP Pn 10 21 12.3 -1.0
KWP Kalwaria Pacla 20.93 312 eP Pn 10 21 12.7 -0.5
comp=Z,9.3nm,0.6s
KWP eS S 10 25 04.7 +0.4
KWP Kalwaria Pacla 20.93 312 P Pn 10 21 12.3 -1.0
KWP eS S 10 25 04.7 +0.4
EKS2 Erkin-Say 21.11 68 eP P 10 21 14.3 +1.5
EKS2 eS S 10 25 09.9 +1.8
EKS2 pmax pmax
comp=Z,50nm,1.8s
EKS2 Erkin-Say 21.11 68 eP P 10 21 14.3 +1.5
comp=Z,50nm,1.8s
EKS2 eS S 10 25 09.9 +1.8
EKS2 Erkin-Say 21.11 68 eP P 10 21 14.3 +1.5
comp=Z,50nm,1.8s
EKS2 eS S 10 25 09.9 +1.8
SVE Sverdlovsk 21.12 21 eP P 10 21 13.3 +0.6
SVE Sverdlovsk 21.12 21 eP P 10 21 13.3 +0.6
CRVS Cervenica-Dubn 21.39 309 eP P 10 21 17.6 +1.9
CRVS pmax pmax
comp=Z,61nm,2.1s
CRVS Cervenica-Dubn 21.39 309 eP P 10 21 17.6 +1.9
CRVS Cervenica-Dubn 21.39 309 eP P 10 21 17.6 +1.9
comp=Z,61nm,2.1s
AAK Ala-Archa 21.64 68 ⇑eP P 10 21 19.9 +1.4
AAK pmax pmax
comp=Z,89nm,1.6s
AAK MLR MLR
comp=Z,274nm,15.0s
AAK Ala-Archa 21.64 68 P P 10 21 20.3 +1.8
comp=Z,4.9nm,0.9s,baz=229,slow=8.4,SNR=14
AAK Ala-Archa 21.64 68 eP P 10 21 20.0 +1.5
comp=Z,26nm,1.2s
AAK eS S 10 25 19.7 +1.1
AAK Ala-Archa 21.64 68 eP P 10 21 19.9 +1.4
comp=Z,274nm,15.0s
AAK eS S 10 25 19.7 +1.1
STHS Stebnicka Huta 21.72 310 eP P 10 21 20.3 +1.1
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 21.72 310 eP P 10 21 20.3 +1.1
STHS Stebnicka Huta 21.72 310 eP P 10 21 20.3 +1.1
comp=Z,3.0nm,0.8s
FRU Bishkek 21.74 68 eP P 10 21 20.0 +0.5
FRU e 10 21 48.0
FRU pmax pmax
comp=Z,80nm,1.6s
FRU Bishkek 21.74 68 eP P 10 21 20.0 +0.5
comp=Z,80nm,1.6s
KECS Kecovo 21.85 308 eP P 10 21 20.0 -0.6
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 21.85 308 e P 10 21 20.0 -0.6
KECS Kecovo 21.85 308 eP P 10 21 20.0 -0.6
comp=Z,2.0nm,0.7s
BRVK Borovoye 22.29 39 ⇓eP P 10 21 26.0 +0.8
BRVK pmax pmax
comp=Z,22nm,1.4s
BRVK Borovoye 22.29 39 eP P 10 21 25.5 +0.3
comp=Z,6.3nm,0.6s
BRVK Borovoye 22.29 39 eP P 10 21 25.5 +0.3
comp=Z,6.2nm,0.6s
BVA0 Borovoye Array 22.33 40 iP P 10 21 25.8 +0.2
BVA0 pmax pmax
comp=Z,12nm,0.9s
BVA0 Borovoye Array 22.33 40 iP P 10 21 25.8 +0.2
comp=Z,12nm,0.9s
BVAR Borovoye Array 22.33 40 P P 10 21 26.3 +0.7
comp=Z,7.8nm,0.8s,baz=217,slow=7.1,SNR=23
BVAR LR LR 10 32 03.7
comp=Z,107nm,18.8s,baz=252,slow=42
BVAR Borovoye Array 22.33 40 P P 10 21 26.3 +0.7
comp=Z,8.0nm,0.8s
TKM2 Tokmak 2 22.46 68 eP P 10 21 28.4 +1.0
TKM2 pmax pmax
comp=Z,27nm,1.4s
TKM2 Tokmak 2 22.46 68 eP P 10 21 28.4 +1.0
comp=Z,27nm,1.4s
TKM2 Tokmak 2 22.46 68 eP P 10 21 28.4 +1.0
comp=Z,27nm,1.4s
VOSK Vostochnaya 22.46 41 eP P 10 21 28.8 +1.7
VOSK pmax pmax
comp=Z,8.0nm,0.6s
VOSK Vostochnaya 22.46 41 eP P 10 21 28.8 +1.7
comp=Z,8.4nm,0.6s
VOSK Vostochnaya 22.46 41 eP P 10 21 28.8 +1.7
comp=Z,8.4nm,0.6s
KSH Kashi 22.80 77 eP P 10 21 30.9 0.0
KSH ePP PnPn 10 22 00.2 +5.4
KSH LR LR
comp=Z,130nm,6.8s
KSH LR LR
comp=Z,160nm,5.8s
OJC Ojcow 22.89 311 eP P 10 21 33.2 +1.5
OJC Ojcow 22.89 311 eP P 10 21 33.2 +1.5
OJC Ojcow 22.89 311 eP P 10 21 33.2 +1.5
TIP Timpagrande 23.50 283 eP P 10 21 38.7 +0.6
TIP Timpagrande 23.50 283 eP P 10 21 38.7 +0.6
KLMR Klimovskoe 23.51 351 eP P 10 21 35.1 -2.7
KLMR pmax pmax
comp=Z,41nm,1.4s
PRGR Permogore 23.85 359 eP P 10 21 39.9 -1.2
PRGR pmax pmax
comp=Z,56nm,0.9s
PRGR Permogore 23.85 359 eP P 10 21 39.9 -1.2
comp=Z,56nm,0.9s
MORC Moravsky Berou 24.10 309 eP P 10 21 44.0 +0.3
MORC Moravsky Berou 24.10 309 eP P 10 21 44.0 +0.3
MORC Moravsky Berou 24.10 309 eP P 10 21 44.0 +0.3
VSU Vasula 24.43 334 eP P 10 21 48.7 +2.2
VSU pmax pmax
comp=Z,38nm,0.9s
VSU Vasula 24.43 334 eP P 10 21 48.7 +2.2
comp=Z,38nm,0.9s
VRAC Vranov 24.55 308 P P 10 21 48.4 +0.6
comp=Z,3.1nm,0.5s,baz=124,slow=11,SNR=3.7
VRAC LR LR 10 33 13.3
comp=Z,145nm,18.4s,baz=89,slow=41
VRAC Vranov 24.55 308 P P 10 21 48.4 +0.6
comp=Z,3.0nm,0.5s
DPC Dobruska-Polom 25.03 310 eP P 10 21 52.9 +0.8
DPC Dobruska-Polom 25.03 310 eP P 10 21 52.9 +0.8
DPC epP pP 10 21 56.3 +2.4
DPC Dobruska-Polom 25.03 310 eP P 10 21 52.9 +0.8
DPC Dobruska-Polom 25.03 310 eP P 10 21 52.9 +0.8
TREC Trest 25.24 307 eP P 10 21 55.1 +1.1
TREC Trest 25.24 307 eP P 10 21 55.1 +1.1
TREC epP pP 10 21 58.7 +2.9
TREC Trest 25.24 307 eP P 10 21 55.1 +1.1
UPC Upice 25.27 310 eP P 10 21 54.7 +0.5
UPC Upice 25.27 310 eP P 10 21 54.7 +0.5
UPC Upice 25.27 310 eP P 10 21 54.7 +0.5
MOA Molln 25.71 303 P P 10 21 59.3 +1.0
comp=Z,5.6nm,0.8s
KURBB Kurchatov Arra 25.87 50 P P 10 22 01.1 +1.4
comp=Z,2.0nm,0.6s,baz=258,slow=9.3,SNR=13
KURK Kurchatov 25.95 50 P P 10 22 01.1 +0.7
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 25.95 50 eP P 10 22 01.8 +1.3
KURK Kurchatov 25.95 50 P P 10 22 01.1 +0.7
comp=Z,2.0nm,0.6s
GERES GERESS Array B 26.28 305 P P 10 22 04.4 +0.9
comp=Z,6.2nm,0.6s,baz=104,slow=9.1,SNR=30
GERES LR LR 10 34 09.2
comp=Z,65nm,18.7s,baz=348,slow=40
GERES GERESS Array B 26.28 305 P P 10 22 04.4 +0.9
comp=Z,6.0nm,0.6s
KHC Kasperske Hory 26.42 306 eP P 10 22 05.0 +0.3
KHC Kasperske Hory 26.42 306 eP P 10 22 05.0 +0.3
KHC epP pP 10 22 08.2 +1.7
KHC Kasperske Hory 26.42 306 eP P 10 22 05.4 +0.7
comp=Z,5.3nm,0.9s
KHC Kasperske Hory 26.42 306 eP P 10 22 05.0 +0.3
NDI New Delhi 26.92 101 eP P 10 22 10.0 +0.6
FINES FINESS Array B 26.95 338 P P 10 22 09.3 0.0
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES MLR MLR
comp=Z,150nm,18.8s
FINES FINESS Array B 26.95 338 P P 10 22 09.3 0.0
comp=Z,1.5nm,0.7s,baz=143,slow=9.9,SNR=5.7
FINES LR LR 10 33 20.5
comp=Z,150nm,18.8s,baz=256,slow=37
FINES FINESS Array B 26.95 338 P P 10 22 09.3 0.0
comp=Z,150nm,18.8s
CLL Collm 27.32 310 iP P 10 22 14.3 +1.5
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 27.32 310 iP P 10 22 14.3 +1.5
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 27.54 60 eP P 10 22 16.0 +1.2
MK31 Makanchi Array 27.54 60 eP P 10 22 16.0 +1.2
MK31 Makanchi Array 27.54 60 eP P 10 22 16.0 +1.2
MKAR Makanchi Array 27.54 60 P P 10 22 16.0 +1.2
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 27.54 60 P P 10 22 16.0 +1.2
comp=Z,0.7nm,0.6s,baz=258,slow=7.2,SNR=7.2
MKAR Makanchi Array 27.54 60 P P 10 22 16.0 +1.2
comp=Z,1.0nm,0.6s
MOTA Moosalm 27.74 302 ⇓iP P 10 22 16.6 -0.2
comp=Z,6.0nm,0.7s
MOTA Moosalm 27.74 302 P P 10 22 16.6 -0.2
comp=Z,6.0nm,0.7s
FETA Feichten 27.96 301 ⇑iP P 10 22 18.8 0.0
comp=Z,9.2nm,1.2s
FETA Feichten 27.96 301 P P 10 22 18.8 0.0
comp=Z,9.2nm,1.2s
DAVOX Davos/Dischmat 28.52 300 P P 10 22 23.7 -0.1
comp=Z,3.8nm,0.5s,baz=28,slow=9.6,SNR=6.6
DAVOX LR LR 10 35 03.2
comp=Z,78nm,18.7s,baz=85,slow=39
DAVOX Davos/Dischmat 28.52 300 P P 10 22 23.7 -0.1
comp=Z,4.0nm,0.5s
PGF Pioggiola 29.10 291 eP P 10 22 28.6 -0.3
PGF Pioggiola 29.10 291 eP P 10 22 28.6 -0.3
PGF Pioggiola 29.10 291 eP P 10 22 28.6 -0.3
PGF Pioggiola 29.10 291 eP P 10 22 28.6 -0.3
CDF Champ du Feu 30.42 303 eP P 10 22 40.9 +0.4
CDF Champ du Feu 30.42 303 eP P 10 22 40.9 +0.4
CDF Champ du Feu 30.42 303 eP P 10 22 40.9 +0.4
CDF Champ du Feu 30.42 303 eP P 10 22 40.9 +0.4
ZALV Zalesovo Beam 30.53 46 LR LR 10 37 20.4
comp=Z,185nm,18.9s,baz=252,slow=41
HFS Hagfors 30.61 328 P P 10 22 41.9 0.0
HFS pmax pmax
comp=Z,8.0nm,0.9s
HFS Hagfors 30.61 328 P P 10 22 41.9 0.0
comp=Z,7.7nm,0.8s,baz=129,slow=12,SNR=14
HFS Hagfors 30.61 328 P P 10 22 41.9 0.0
comp=Z,8.0nm,0.9s
MBDF Montbardon 30.63 296 eP P 10 22 42.6 +0.2
comp=Z,10nm,0.7s
MBDF Montbardon 30.63 296 eP P 10 22 42.6 +0.2
MBDF pmax pmax
comp=Z,10.0nm,0.7s
MBDF Montbardon 30.63 296 eP P 10 22 42.6 +0.2
comp=Z,10nm,0.7s
MBDF Montbardon 30.63 296 eP P 10 22 42.6 +0.2
comp=Z,5.1nm,0.7s
LPG La Plagne 30.63 297 eP P 10 22 43.0 +0.3
LPG La Plagne 30.63 297 eP P 10 22 43.0 +0.3
LPG La Plagne 30.63 297 eP P 10 22 43.0 +0.3
LPG La Plagne 30.63 297 eP P 10 22 43.0 +0.3
LPL La Plagne 30.65 297 eP P 10 22 43.2 +0.5
LPL La Plagne 30.65 297 eP P 10 22 43.2 +0.5
LPL La Plagne 30.65 297 eP P 10 22 43.2 +0.5
LPL La Plagne 30.65 297 eP P 10 22 43.2 +0.5
HAU Haudompre 31.00 302 eP P 10 22 45.6 0.0
HAU eR
comp=Z,133nm,19.0s
HAU Haudompre 31.00 302 eP P 10 22 45.6 0.0
HAU Haudompre 31.00 302 eP P 10 22 45.6 0.0
HAU Haudompre 31.00 302 eP P 10 22 45.6 0.0
CABF La Chapelle 31.11 300 eP P 10 22 46.9 +0.3
comp=Z,23nm,0.8s
CABF La Chapelle 31.11 300 eP P 10 22 46.9 +0.3
CABF pmax pmax
comp=Z,23nm,0.8s
CABF La Chapelle 31.11 300 eP P 10 22 46.9 +0.3
comp=Z,23nm,0.8s
CABF La Chapelle 31.11 300 eP P 10 22 46.9 +0.3
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 31.26 296 eP P 10 22 48.6 +0.7
ORIF eR
comp=Z,180nm,19.0s
ORIF Oris-en-Rattie 31.26 296 eP P 10 22 48.6 +0.7
ORIF Oris-en-Rattie 31.26 296 eP P 10 22 48.6 +0.7
ORIF Oris-en-Rattie 31.26 296 eP P 10 22 48.6 +0.7
NB2 NORSAR Subarra 32.13 328 P P 10 22 54.4 -0.9
comp=Z,1.4nm,0.7s,baz=122,slow=9.3
NOA NORSAR Array B 32.13 328 P P 10 22 54.8 -0.5
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA MLR MLR
comp=Z,127nm,18.3s
NOA NORSAR Array B 32.13 328 P P 10 22 54.8 -0.5
comp=Z,2.9nm,0.9s,baz=122,slow=8.6,SNR=6.9
NOA LR LR 10 36 44.9
comp=Z,126nm,18.3s,baz=110,slow=38
NOA NORSAR Array B 32.13 328 P P 10 22 54.8 -0.5
comp=Z,127nm,18.3s
LOR Lormes 32.65 301 eP P 10 23 00.0 -0.1
LOR eR
comp=Z,107nm,19.0s
LOR Lormes 32.65 301 eP P 10 23 00.0 -0.1
LOR Lormes 32.65 301 eP P 10 23 00.0 -0.1
LOR Lormes 32.65 301 eP P 10 23 00.0 -0.1
ARCES ARCESS Array B 33.78 347 P P 10 23 09.4 -0.3
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES MLR MLR
comp=Z,145nm,18.7s
ARCES ARCESS Array B 33.78 347 P P 10 23 09.4 -0.3
comp=Z,1.9nm,0.5s,baz=143,slow=8.8,SNR=20
ARCES LR LR 10 37 44.2
comp=Z,145nm,18.7s,baz=114,slow=38
ARCES ARCESS Array B 33.78 347 P P 10 23 09.4 -0.3
comp=Z,145nm,18.7s
TCF Toulx Ste Croi 33.80 299 eP P 10 23 09.9 -0.2
comp=Z,4.9nm,0.6s
TCF Toulx Ste Croi 33.80 299 eP P 10 23 09.9 -0.2
TCF pmax pmax
comp=Z,5.0nm,0.6s
TCF Toulx Ste Croi 33.80 299 eP P 10 23 09.9 -0.2
comp=Z,4.9nm,0.6s
TCF Toulx Ste Croi 33.80 299 eP P 10 23 09.9 -0.2
comp=Z,2.5nm,0.6s
LDF La Druitiere 35.34 303 eP P 10 23 23.2 -0.2
comp=Z,17nm,0.7s
LDF La Druitiere 35.34 303 eP P 10 23 23.2 -0.2
LDF pmax pmax
comp=Z,17nm,0.7s
LDF La Druitiere 35.34 303 eP P 10 23 23.2 -0.2
comp=Z,17nm,0.7s
LDF La Druitiere 35.34 303 eP P 10 23 23.2 -0.2
comp=Z,8.4nm,0.7s
FLN La Foliniere 35.58 303 eP P 10 23 24.7 -0.7
comp=Z,17nm,0.6s
FLN eR
comp=Z,77nm,19.2s
FLN La Foliniere 35.58 303 eP P 10 23 24.7 -0.7
FLN pmax pmax
comp=Z,17nm,0.6s
FLN La Foliniere 35.58 303 eP P 10 23 24.7 -0.7
comp=Z,17nm,0.6s
FLN La Foliniere 35.58 303 eP P 10 23 24.7 -0.7
comp=Z,8.5nm,0.6s
GRR Gorron 35.83 303 eP P 10 23 27.1 -0.5
comp=Z,48nm,0.8s
GRR Gorron 35.83 303 eP P 10 23 27.1 -0.5
GRR pmax pmax
comp=Z,48nm,0.8s
GRR Gorron 35.83 303 eP P 10 23 27.1 -0.5
comp=Z,48nm,0.8s
GRR Gorron 35.83 303 eP P 10 23 27.1 -0.5
comp=Z,24nm,0.8s
SGMF Saint Gilles 36.97 303 eP P 10 23 37.1 -0.2
comp=Z,53nm,1.0s
SGMF Saint Gilles 36.97 303 eP P 10 23 37.1 -0.2
SGMF pmax pmax
comp=Z,53nm,1.0s
SGMF Saint Gilles 36.97 303 eP P 10 23 37.1 -0.2
comp=Z,53nm,1.0s
SGMF Saint Gilles 36.97 303 eP P 10 23 37.1 -0.2
comp=Z,26nm,1.0s
QUIF Quistinic 37.39 302 eP P 10 23 40.1 -0.8
comp=Z,32nm,0.8s
QUIF Quistinic 37.39 302 eP P 10 23 40.1 -0.8
QUIF pmax pmax
comp=Z,32nm,0.8s
QUIF Quistinic 37.39 302 eP P 10 23 40.1 -0.8

	comp=Z,32nm,0.8s						
QUIF	**Quistinic**	**37.39**	**302**	*e*P	**P**	**10 23 40.1**	**-0.8**
	comp=Z,16nm,0.8s						
ROSF	**Rostrenen**	**37.44**	**303**	*e*P	**P**	**10 23 40.8**	**-0.5**
	comp=Z,29nm,0.8s						
ROSF	**Rostrenen**	**37.44**	**303**	*e*P	**P**	**10 23 40.8**	**-0.5**
ROSF				pmax	pmax		
	comp=Z,29nm,0.8s						
ROSF	**Rostrenen**	**37.44**	**303**	*e*P	**P**	**10 23 40.8**	**-0.5**
	comp=Z,29nm,0.8s						
ROSF	**Rostrenen**	**37.44**	**303**	*e*P	**P**	**10 23 40.8**	**-0.5**
	comp=Z,14nm,0.8s						
ESDC	**Sonseca Array**	**39.21**	**289**	P	**P**	**10 23 56.1**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=67,slow=8.6,SNR=7.8						
ESDC	**Sonseca Array**	**39.21**	**289**	P	**P**	**10 23 56.1**	**-0.2**
ESLA	**Sonseca Array**	**39.21**	**289**	*e*P	**P**	**10 23 56.0**	**-0.4**
	comp=Z,0.3nm,0.7s						
ESLA	**Sonseca Array**	**39.21**	**289**	*e*P	**P**	**10 23 56.0**	**-0.4**
	comp=Z,0.3nm,0.7s						
KMBO	**Kilima Mbogo**	**39.75**	**195**	LR	LR	10 40 54.0	
	comp=Z,141nm,19.2s,baz=90,slow=37						
TLY	**Talaya**	**41.62**	**52**	*e*P	**P**	**10 24 16.6**	**+0.4**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TLY	**Talaya**	**41.62**	**52**	*e*P	**P**	**10 24 16.6**	**+0.4**
	comp=Z,0.9nm,0.3s						
TLY	**Talaya**	**41.62**	**52**	*e*P	**P**	**10 24 16.6**	**+0.4**
	comp=Z,0.9nm,0.3s						
SPITS	**Spitsbergen Ar**	**42.41**	**351**	P	**P**	**10 24 23.3**	**+1.0**
SPITS				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SPITS				MLR	MLR		
	comp=Z,89nm,19.0s						
SPITS	**Spitsbergen Ar**	**42.41**	**351**	P	**P**	**10 24 23.3**	**+1.0**
	comp=Z,6.4nm,0.5s,baz=141,slow=12,SNR=31						
SPITS				LR	LR	10 42 29.2	
	comp=Z,89nm,19.0s,baz=165,slow=37						
SPITS	**Spitsbergen Ar**	**42.41**	**351**	P	**P**	**10 24 23.3**	**+1.0**
	comp=Z,89nm,19.0s						
SONM	**Songino Array**	**43.84**	**57**	P	**P**	**10 24 34.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=281,slow=8.7,SNR=3.2						
SONM				PcP	**PcP**	**10 26 20.9**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=249,slow=3.8,SNR=3.4						
SONM	**Songino Array**	**43.84**	**57**	P	**P**	**10 24 34.6**	**+0.2**
SONM	**Songino Array**	**43.84**	**57**	PcP	**PcP**	**10 26 20.9**	**+0.2**
ULN	**Ulaanbaatar**	**44.27**	**57⇑**	*e*P	**P**	**10 24 38.4**	**+0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ULN				MLR	MLR		
	comp=Z,165nm,16.0s						
ULN	**Ulaanbaatar**	**44.27**	**57**	*e*P	**P**	**10 24 39.1**	**+1.3**
	comp=Z,0.9nm,0.3s						
ULN	**Ulaanbaatar**	**44.27**	**57**	*e*P	**P**	**10 24 39.1**	**+1.3**
	comp=Z,0.9nm,0.3s						
TORD	**Torodi Ar. Bea**	**46.96**	**251**	P	**P**	**10 24 58.3**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=50,slow=7.3,SNR=3.9						
TORD				PcP	**PcP**	**10 26 32.0**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=35,slow=3.0,SNR=2.9						
TORD				LR	LR	10 48 04.5	
	comp=Z,49nm,18.2s,baz=45,slow=40						
TORD	**Torodi Ar. Bea**	**46.96**	**251**	P	**P**	**10 24 58.3**	**-1.0**
TORD	**Torodi Ar. Bea**	**46.96**	**251**	PcP	**PcP**	**10 26 32.0**	**+0.2**
BORG	**Borgarnes**	**47.30**	**327**	LR	LR	10 46 39.2	
	comp=Z,116nm,19.5s,baz=98,slow=38						
DAG	**Danmarks Havn**	**47.93**	**344**	*e*P	**P**	**10 25 07.2**	**+1.1**
DAG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**49.20**	**98**	P	**P**	**10 25 16.6**	**0.0**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**49.20**	**98**	P	**P**	**10 25 16.6**	**0.0**
	comp=Z,1.7nm,0.3s,baz=303,slow=8.4,SNR=13						
CMAR	**Chiang Mai Arr**	**49.20**	**98**	P	**P**	**10 25 16.6**	**0.0**
TIXI	**Tiksi**	**52.13**	**23⇑**	*i*P	**P**	**10 25 38.7**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,13nm,2.3s						
YAK	**Yakutsk**	**54.21**	**35**	*i* P	**P**	**10 25 53.7**	**+0.3**
USRK	**Ussuriysk Arra**	**61.83**	**54**	P	**P**	**10 26 47.4**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=261,slow=7.2,SNR=5.5						
KSAR	**Wonju Array Be**	**62.14**	**63**	P	**P**	**10 26 49.6**	**+0.3**
KSAR	**Wonju Array Be**	**62.14**	**63**	P	**P**	**10 26 49.6**	**+0.3**
KSAR	**Wonju Array Be**	**62.14**	**63**	P	**P**	**10 26 49.6**	**+0.3**
KSRS	**Korea Array**	**62.16**	**63**	P	**P**	**10 26 49.6**	**+0.2**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSRS	**Korea Array**	**62.16**	**63**	P	**P**	**10 26 49.6**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=281,slow=7.4,SNR=5.7						
LBTB	**Lobatse**	**65.60**	**201**	*e*P	**P**	**10 27 10.6**	**-1.6**
LBTB				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LBTB	**Lobatse**	**65.60**	**201**	*e*P	**P**	**10 27 10.6**	**-1.6**
	comp=Z,4.3nm,1.1s						
LBTB	**Lobatse**	**65.60**	**201**	*e*P	**P**	**10 27 10.6**	**-1.6**
	comp=Z,4.3nm,1.1s						
COLA	**College**	**76.99**	**6c**	*i*P	**P**	**10 28 21.5**	**+1.0**
COLA				pmax	pmax		
	comp=Z,35nm,0.9s						
COLA	**College**	**76.99**	**6**	*e*P	**P**	**10 28 21.8**	**+1.3**
	comp=Z,8.2nm,0.8s						
COLA	**College**	**76.99**	**6**	*e*P	**P**	**10 28 21.8**	**+1.3**
	comp=Z,8.2nm,0.8s						
ILAR	**Eielson Array**	**77.17**	**6**	P	**P**	**10 28 21.9**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR	**Eielson Array**	**77.17**	**6**	P	**P**	**10 28 21.9**	**+0.3**
	comp=Z,2.0nm,1.0s,baz=330,slow=4.3,SNR=16						
ILAR	**Eielson Array**	**77.17**	**6**	P	**P**	**10 28 21.9**	**+0.3**
EGAK	**Eagle**	**77.54**	**3**	*e*P	**P**	**10 28 23.4**	**-0.3**
	comp=Z,2.1nm,0.8s						
EGAK	**Eagle**	**77.54**	**3**	*e*P	**P**	**10 28 23.4**	**-0.3**
	comp=Z,2.1nm,0.8s						
YKA	**Yellowknife Ar**	**78.91**	**351**	P	**P**	**10 28 30.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=11,slow=5.3,SNR=14						
YKA	**Yellowknife Ar**	**78.91**	**351**	P	**P**	**10 28 30.8**	**-0.5**
KDAK	**Kodiak Island**	**83.37**	**10**	*i* P	**P**	**10 28 56.2**	**+1.2**
FFC	**Flin Flon**	**84.00**	**342**	*e*P	**P**	**10 28 58.8**	**+0.4**
FFC				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FFC	**Flin Flon**	**84.00**	**342**	*e*P	**P**	**10 28 58.8**	**+0.4**
	comp=Z,1.6nm,0.5s						
FFC	**Flin Flon**	**84.00**	**342**	*e*P	**P**	**10 28 58.8**	**+0.4**
	comp=Z,1.6nm,0.5s						
ULM	**Lac du Bonnet**	**86.33**	**337**	P	**P**	**10 29 10.3**	**+0.1**
ULM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ULM	**Lac du Bonnet**	**86.33**	**337**	P	**P**	**10 29 10.3**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=27,slow=9.0,SNR=2.6						
ULM	**Lac du Bonnet**	**86.33**	**337**	P	**P**	**10 29 10.3**	**+0.1**
QSPA	**South Pole Qui**	**127.65**	**180**	*e*PKPdf	**PKPdf**	**10 35 32.5**	**-0.1**
QSPA	**South Pole Qui**	**127.65**	**180**	*e*PKIKP	**PKPdf**	**10 35 32.5**	**-0.1**

MAN 02 10:26:16, 15°.13N×121°.98E, h0^{km}, mb4.4, ML3.3, MS3.1, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.41**	**185**	*e*P	Pg	10 26 24.7	+0.9
POLP				*e*S	Sb	10 26 31.0	-1.8
BALP	**Baler**	**0.72**	**328**	*e*P	Pb	10 26 31.0	-0.3
LQP	**Lukban**	**1.10**	**203⇓**	*e*P	Pg	10 26 37.4	0.0
GQP	**Guinayangan**	**1.30**	**159⇓**	*e*P	Pg	10 26 38.8	-2.3
GQP				*e*S	Sg	10 26 55.6	-2.4
CAUP	**Cauayan**	**1.81**	**355**	*e*P	Pn	10 26 47.7	-0.7
BCPH	**Baguio City Da**	**1.83**	**313⇑**	*i*P	Pn	10 26 49.2	+0.3
BCPH				*e*S	Sb	10 27 14.1	-0.1
AUQP	**San Andres**	**1.92**	**159**	*e*P	Pb	10 26 51.6	-0.4
LUBP	**Lubang**	**2.18**	**230**	*e*P	Sn	10 27 19.0	-2.2
BOLP	**Bolinao**	**2.34**	**302**	*e*P	Pn	10 26 57.4	+1.6
PVCP	**Virac**	**2.61**	**126**	*e*P	Pn	10 27 00.8	+1.3

*ISCJB **02** 10:26:53.7±0.7, 20°.91S±0°.04×69°.0W±0°.1, h110^{km}±9^{km}, mb3.5/2, Error ellipse: s-maj=17.5km s-min=7.2km az=179.7*
*GUC **02** 10:26:54.1±0.5, 20°.90S×69°.14W, h109^{km}±4^{km}, ML3.8*
*IDC **02** 10:27:16.4±6.6, 18°.96S×67°.98W, h234^{km}±40^{km}, mb3.1/2, mb1 3.2/4, mb1mx3.0/31, mbtmp3.6/4, Error ellipse: s-maj=101.8km s-min=29.2km az=24.0*
ISC 02 10:26:54.5±1.0, **20°.90S**±0°.05×**69°.0W**±0°.1, **h104**^{km}±10^{km}, **n13**, σ0^s.98/19, **2C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.45**	**251⇓**	*i*P	**Pn**	**10 27 10.5**	**0.0**
PB01				*i* S	**Sn**	**10 27 22.5**	**0.0**
PB01				AML	AML	10 27 24.3	
	comp=N,4μm,0.1s						
HMBC	**Humberstone**	**1.01**	**307⇓**	*i*P	**Pn**	**10 27 15.4**	**0.0**
HMBC				*i* S	**Sn**	**10 27 31.3**	**0.0**
HMBC				AML	AML	10 27 32.4	
	comp=E,4μm,0.5s						
PATCX	**Punta Patache**	**1.05**	**274⇓**	*i*P	**Pn**	**10 27 15.9**	**0.0**
PATCX				*i* S	**Sn**	**10 27 31.9**	**-0.1**
PATCX				AML	AML	10 27 33.5	
	comp=N,5μm,0.2s						
PB07	**Plate Boundary**	**1.15**	**224⇑**	*i*P	**Pn**	**10 27 17.1**	**+0.1**
PB07				*i* S	**Sn**	**10 27 33.9**	**-0.1**
PB07				AML	AML	10 27 34.8	
	comp=E,5μm,0.4s						
PB04	**Plate Boundary**	**1.43**	**197**	*e*P	Pn	10 27 24.4	+4.3
PB04				AML	AML	10 27 51.0	
	comp=E,548nm,0.3s						
PSGC	**Pisagua**	**1.65**	**321⇑**	*i*P	**Pn**	**10 27 22.4**	**-0.5**
PSGC				*i* S	**Sn**	**10 27 44.3**	**-0.2**
PSGC				AML	AML	10 27 46.0	
	comp=E,613nm,0.4s						
MNMC	**Minimini**	**1.83**	**343**	*e*P	**Pn**	**10 27 25.9**	**+0.5**
MNMC				*i* S	**Sn**	**10 27 49.9**	**+0.9**
MNMC				AML	AML	10 27 52.9	
	comp=E,2μm,0.1s						
PB06	**Plate Boundary**	**1.87**	**195**	*e*P	**Pn**	**10 27 25.8**	**0.0**
PB06				*i* S	**Sn**	**10 27 50.1**	**+0.6**
PB06				AML	AML	10 27 51.6	
	comp=E,450nm,0.4s						
LPAZ	**La Paz**	**4.66**	**11**	P	**Pn**	**10 28 05.8**	**+2.5**
	comp=E,1.0nm,0.3s,baz=196,slow=6.5,SNR=18						
LPAZ				S	Sn	10 28 43.2	-14
	comp=E,0.7nm,0.3s,baz=198,slow=16,SNR=3.6						
SIV	**San Ignacio**	**8.99**	**58**	P	**Pn**	**10 28 59.3**	**-2.3**
	comp=E,1.7nm,0.3s,baz=244,slow=13,SNR=18						
TORD	**Torodi Ar. Bea**	**77.27**	**71**	P	**P**	**10 38 37.0**	**-0.9**
	comp=E,0.3nm,0.4s,baz=254,slow=5.6,SNR=7.6						
YKA	**Yellowknife Ar**	**90.58**	**341**	P	**P**	**10 39 44.8**	**+0.4**
	comp=E,0.3nm,0.6s,baz=131,slow=4.6,SNR=10.0						
MKAR	**Makanchi Array**	**145.21**	**35**	PKP	**PKPab**	**10 46 20.4**	**+0.4**
	comp=E,1.3nm,0.7s,baz=324,slow=3.9,SNR=12						

*ISCJB **02** 10:29:11.0±0.4, 57°.32S±0°.06×24°.6W±0°.1, h10^{km}, mb4.6/22, MS3.8/7, Error ellipse: s-maj=11.9km s-min=6.6km az=151.2*
*IDC **02** 10:29:11.4±0.5, 57°.34S×24°.58W, h0^{km}, mb4.6/16, mb1 4.6/17, mb1mx4.5/27, mbtmp4.5/17, ML3.7/1, MS3.8/8, Ms1 3.8/8, ms1mx3.6/23, Error ellipse: s-maj=16.3km s-min=14.5km az=38.0*
*NEIC **02** 10:29:16.7±0.2, 57°.38S×24°.66W, h35^{km}, mb4.9/9, Error ellipse: s-maj=8.2km s-min=6.7km az=55.0*
ISC 02 10:29:12.8±0.4, **57°.35S**±0°.08×**24°.64W**±0°.10, **h10**^{km}, **n66**, σ**0^s.69**/84, **mb4.7**/22, **MS3.9**/7, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.07**	**159**	P	**Pn**	**10 32 44.7**	**-0.7**
VNA2	**Neumayer--Watz**	**15.46**	**159**	P	**Pn**	**10 32 49.0**	**-1.5**
	baz=326,slow=14						
SNAA	**Sanae**	**16.98**	**156**	P	**Pn**	**10 33 09.9**	**-0.3**
SNAA	**Sanae**	**16.98**	**156**	Pn	**Pn**	**10 33 09.4**	**-0.7**
	0.3nm,0.3s,baz=334,slow=14,SNR=10						
SNAA				LR	LR	10 38 49.2	
	comp=Z,71nm,21.3s,baz=198,slow=34						
SNAA	**Sanae**	**16.98**	**156**	*e*Pn	**Pn**	**10 33 09.2**	**-0.9**
SNAA				*e*Sn	**Sn**	**10 36 19.3**	**+0.6**
PMSA	**Palmer Station**	**20.16**	**232**	P	**P**	**10 33 46.9**	**+0.1**
	20nm,0.7s,baz=82,slow=12,SNR=5.7						
PMSA				LR	LR	10 40 21.8	
	comp=Z,377nm,18.3s,baz=106,slow=33						
PMSA	**Palmer Station**	**20.16**	**232**	*e*P	**P**	**10 33 47.4**	**+0.6**
USHA	**Ushuaia**	**24.25**	**257**	P	**P**	**10 34 29.5**	**-0.1**
	5.5nm,0.7s,baz=108,slow=13,SNR=5.3						
USHA				LR	LR	10 41 53.7	
	comp=Z,369nm,19.3s,baz=88,slow=31						
QSPA	**South Pole Qui**	**32.90**	**180**	P	**P**	**10 35 47.1**	**+0.3**
	15nm,1.0s,baz=203,slow=7.2,SNR=19						
QSPA	**South Pole Qui**	**32.90**	**180**	*e*P	**P**	**10 35 46.9**	**+0.1**
	6.1nm,0.5s						
PLCA	**Paso Flores**	**33.61**	**280**	P	**P**	**10 35 52.1**	**-1.1**
	8.3nm,0.9s,baz=141,slow=8.2,SNR=12						
PLCA				LR	LR	10 49 59.7	
	comp=Z,149nm,18.0s,baz=80,slow=37						
PLCA	**Paso Flores**	**33.61**	**280**	*e*P	**P**	**10 35 51.8**	**-1.3**
	8.9nm,0.9s						
CPUP	**Villa Florida**	**38.73**	**309**	P	**P**	**10 36 37.2**	**+0.3**
	17nm,0.8s,baz=136,slow=8.0,SNR=17						
CPUP				LR	LR	10 52 05.3	
	comp=Z,90nm,20.1s,baz=143,slow=36						
CFAA	**Coronel Fontan**	**39.36**	**292**	P	**P**	**10 36 39.8**	**-2.4**
	0.6nm,0.6s,baz=146,slow=7.7,SNR=6.8						
CFAA				PcP	**PcP**	**10 38 50.8**	**+0.4**
	0.4nm,0.5s,baz=187,slow=2.0,SNR=5.3						
BOSA	**Boshof**	**44.98**	**72**	P	**P**	**10 37 27.9**	**-0.2**
	6.6nm,1.0s,baz=197,slow=11,SNR=3.9						
BOSA				LR	LR	10 51 57.2	
	comp=Z,188nm,19.4s,baz=185,slow=30						
BDFB	**Brasilia**	**45.20**	**327**	P	**P**	**10 37 30.3**	**+0.3**
	2.4nm,0.6s,baz=75,slow=8.1,SNR=3.6						
VNDA	**Vanda**	**45.33**	**182**	P	**P**	**10 37 31.2**	**+1.0**
	7.0nm,0.9s,baz=162,slow=6.4,SNR=7.4						
VNDA	**Vanda**	**45.33**	**182**	*e*P	**P**	**10 37 30.7**	**+0.5**
	9.9nm,1.1s						
LVC	**Limon Verde**	**47.16**	**298**	*e*P	**P**	**10 37 45.5**	**-0.1**
	8.8nm,0.6s						
LBTB	**Lobatse**	**48.09**	**70**	P	**P**	**10 37 52.2**	**-0.4**
	7.2nm,1.0s,baz=223,slow=5.7,SNR=5.5						
H10S2	**ASCENSION HYDR**	**48.89**	**13**	T	T	11 31 02.4	
	SNR=3.0						
H10S3	**ASCENSION HYDR**	**48.90**	**13**	T	T	11 29 16.1	
	SNR=6.6						
SIV	**San Ignacio**	**49.49**	**311**	P	**P**	**10 38 04.2**	**+0.9**
	4.5nm,0.6s,baz=163,slow=8.3,SNR=11						
LPAZ	**La Paz**	**52.27**	**303**	P	**P**	**10 38 25.5**	**+0.6**
	9.7nm,0.7s,baz=154,slow=5.0,SNR=44						
SAML	**Samuel**	**56.72**	**313**	*e*P	**P**	**10 38 56.6**	**+0.1**
	20nm,0.9s						
PTGA	**Pitinga**	**63.07**	**320**	P	**P**	**10 39 40.2**	**+0.1**
	2.2nm,0.5s,baz=158,slow=11,SNR=5.4						
DBIC	**Dimbokro**	**65.81**	**22**	P	**P**	**10 39 57.2**	**-0.8**
	2.8nm,0.8s,baz=194,slow=8.0,SNR=2.8						
DBIC				LR	LR	11 01 33.7	
	comp=Z,84nm,20.3s,baz=132,slow=30						
TOA0	**Torodi Ar. Sit**	**73.54**	**27**	*e*P	**P**	**10 40 45.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.54**	**27**	P	**P**	**10 40 45.9**	**+0.2**
	5.3nm,0.8s,baz=196,slow=6.4,SNR=24						
TORD				LR	LR	11 06 06.6	
	comp=Z,71nm,22.0s,baz=350,slow=30						
SDV	**Santo Domingo**	**75.92**	**313**	*e*P	**P**	**10 41 00.2**	**+0.5**
	9.7nm,0.9s						
TAU	**Tasmania Unive**	**79.88**	**174**	*e*P	**P**	**10 41 21.5**	**+0.3**
	14nm,1.0s						
SNZO	**South Karori**	**80.37**	**195**	*e*P	**P**	**10 41 23.7**	**-0.2**
	35nm,0.9s						
URZ	**Urewera**	**83.00**	**197**	*e*P	**P**	**10 41 37.9**	**0.0**
	49nm,1.4s						
STKA	**Stephens Creek**	**90.36**	**168**	P	**P**	**10 42 13.5**	**-0.5**
	2.9nm,0.8s,baz=180,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**97.31**	**160**	P	**P**	**10 42 46.0**	**0.0**
	0.7nm,0.8s,baz=186,slow=3.7,SNR=6.4						
WRA	**Warramunga Arr**	**101.02**	**160**	P	**Pdif**	**10 43 02.7**	**0.0**
	0.5nm,1.1s,baz=193,slow=4.1,SNR=2.8						
WRAB	**Tennant Creek**	**101.03**	**160**	*e*Pdif	**Pdif**	**10 43 01.4**	**-1.2**
PDAR	**Pinedale Array**	**122.22**	**300**	PKP	**PKPdf**	**10 48 06.6**	**-0.6**
	0.5nm,0.7s,baz=170,slow=3.1,SNR=3.4						
NVAR	**Mina Array Bea**	**123.19**	**291**	PKP	**PKPdf**	**10 48 10.4**	**+1.2**
	0.6nm,0.7s,baz=120,slow=3.5,SNR=5.6						
CMAR	**Chiang Mai Arr**	**123.30**	**109**	PKP	**PKPdf**	**10 48 10.0**	**+0.3**
	1.0nm,0.5s,baz=235,slow=3.2,SNR=3.4						
KKAR	**Karatay Array**	**127.43**	**67**	*e*PKPdf	**PKPdf**	**10 48 16.9**	**0.0**
BVAR	**Borovoye Array**	**134.29**	**57**	PKP	**PKPdf**	**10 48 29.9**	**+0.4**
	0.5nm,0.5s,baz=207,slow=2.9,SNR=3.8						
KURBB	**Kurchatov Arra**	**136.59**	**64**	PKP	**PKPdf**	**10 48 32.9**	**-0.9**
	0.7nm,0.8s,baz=236,slow=2.7,SNR=2.8						
KURK	**Kurchatov**	**136.69**	**64**	PKP	**PKPdf**	**10 48 32.9**	**-1.1**
YKA	**Yellowknife Ar**	**138.08**	**316**	PKhKP	PKPpre	10 48 27.6	
	0.3nm,0.8s,baz=115,slow=3.3,SNR=3.7						
YKA				PKP	**PKPdf**	**10 48 36.4**	**+0.2**
	3.0nm,1.0s,baz=128,slow=2.3,SNR=22						
YKA				PP	**PP**	**10 51 25.7**	**-0.1**
	0.9nm,1.0s,baz=120,slow=6.1,SNR=5.9						
YKW3	**Yellowknife Ar**	**138.13**	**316**	*e*PKPdf	**PKPdf**	**10 48 36.4**	**+0.1**
ZALV	**Zalesovo Beam**	**141.68**	**64**	PKP	**PKPdf**	**10 48 44.2**	**+1.2**
	0.5nm,0.4s,baz=260,slow=2.5,SNR=2.7						
SKAG	**Skagway**	**145.12**	**303**	*e*PKPbc	**PKPdf**	**10 48 49.5**	**+0.6**
HYT	**Haines Junctio**	**146.69**	**305**	*e*PKPbc	**PKPab**	**10 48 54.3**	**-0.4**
INK	**Inuvik**	**147.70**	**319**	PKPbc	**PKPbc**	**10 48 56.0**	**+0.2**
	8.3nm,0.9s,baz=91,slow=3.1,SNR=30						
INK	**Inuvik**	**147.70**	**319**	*e*PKPbc	**PKPbc**	**10 48 55.8**	**-0.1**
INK				*e*PKPab	**PKPab**	**10 48 58.2**	**-0.1**
DAWY	**Dawson**	**148.71**	**310**	*e*PKPbc	**PKPbc**	**10 48 58.7**	**-0.1**
DAWY				*e*PKPab	**PKPab**	**10 49 03.1**	**+0.6**
SONM	**Songino Array**	**149.40**	**87**	PKPbc	**PKPbc**	**10 49 00.9**	**-0.2**
	1.8nm,0.7s,baz=229,slow=3.1,SNR=12						
SONM				PKPab	**PKPab**	**10 49 05.7**	**-0.3**
	2.7nm,0.8s,baz=218,slow=2.2,SNR=14						
EGAK	**Eagle**	**149.65**	**311**	*e*PKPbc	**PKPbc**	**10 49 01.0**	**+0.1**
EGAK				*e*PKPab	**PKPab**	**10 49 05.6**	**-0.7**
BMRM	**Bremner River**	**149.96**	**302**	*e*PKPbc	**PKPbc**	**10 49 02.9**	**+1.0**
BMRM				*e*PKPab	**PKPab**	**10 49 07.9**	**+0.1**
MENT	**Mentasta**	**150.20**	**306**	*e*PKPbc	**PKPbc**	**10 49 02.9**	**+0.5**
MENT				*e*PKPab	**PKPab**	**10 49 09.1**	**+0.4**
DOT	**Dot Lake**	**150.56**	**308**	*e*PKPbc	**PKPbc**	**10 49 03.8**	**+0.6**
DOT				*e*PKPab	**PKPab**	**10 49 08.8**	**-1.4**
PAX	**Paxson**	**150.98**	**306**	*e*PKPbc	**PKPbc**	**10 49 04.7**	**+0.4**
PAX				*e*PKPab	**PKPab**	**10 49 12.1**	**+0.1**
ILAR	**Eielson Array**	**152.03**	**309**	PKPbc	**PKPbc**	**10 49 06.6**	**0.0**
	9.5nm,0.9s,baz=131,slow=1.7,SNR=79						
ILAR				PKPab	**PKPab**	**10 49 17.6**	**+1.4**
	9.8nm,0.8s,baz=116,slow=2.1,SNR=19						
RC01	**Rabbit Creek A**	**152.36**	**301**	*e*PKPbc	**PKPbc**	**10 49 08.3**	**+0.9**
RC01				*e*PKPab	**PKPab**	**10 49 19.1**	**+1.4**
COLA	**College**	**152.46**	**309**	*e*PKPdf	**PKPdf**	**10 49 01.0**	**+0.5**
COLA				*e*PKPbc	**PKiKP**	**10 49 07.8**	**0.0**
COLA				*e*PKPab	**PKPab**	**10 49 18.2**	**+0.3**
MCK	**McKinley**	**152.68**	**307**	*e*PKPbc	**PKPbc**	**10 49 08.8**	**+0.7**
MCK				*e*PKPab	**PKPab**	**10 49 19.6**	**+0.6**
TRF	**Thorofare Moun**	**153.21**	**306**	*e*PKPbc	**PKPbc**	**10 49 09.5**	**0.0**
TRF				*e*PKPab	**PKPab**	**10 49 21.3**	**-0.1**
KTH	**Kantishna Hill**	**153.51**	**306**	*e*PKPbc	**PKPbc**	**10 49 10.3**	**+0.4**
KTH				*e*PKPab	**PKPab**	**10 49 22.3**	**-0.2**
COLD	**Coldfoot**	**153.74**	**314**	*e*PKPdf	**PKPdf**	**10 49 02.8**	**+0.3**
COLD				*e*PKPbc	**PKiKP**	**10 49 10.4**	**0.0**
COLD				*e*PKPab	**PKPab**	**10 49 22.0**	**-1.3**
IM04	**Indian Mountai**	**155.06**	**311**	*e*PKPbc	PKPdf	10 49 13.7	+9.3
IM04				*e*PKPab	**PKPab**	**10 49 29.9**	**+0.8**

*KRSC **02** 10:46:35.6±1.0, 55°.11N×163°.49E, h10^{km}±5^{km}, ML4.2*
*MOS **02** 10:46:35.8±1.4, 55°.26N×163°.45E, h7^{km}, mb4.3/6, Error ellipse: s-maj=12.0km s-min=8.8km az=82.6*
*IDC **02** 10:46:36.9±0.7, 55°.51N×163°.07E, h0^{km}, mb3.5/14, mb1 3.7/15, mb1mx3.6/48, mbtmp3.5/15, ML2.6/1, MS3.7/4, Ms1 3.7/4, ms1mx3.0/34, Error ellipse: s-maj=23.8km s-min=13.5km az=150.0*
*ISCJB **02** 10:46:37.4±0.6, 55°.17N±0°.02×163°.53E±0°.04, h16^{km}±5^{km}, mb3.6/15, MS3.7/4, Error ellipse: s-maj=3.9km s-min=3.7km az=39.5*
ISC 02 10:46:41.2±0.7, **55°.24N**±0°.03×**163°.48E**±0°.03, **h37**^{km}±1^{km}, **n74**, σ**1^s.31**/90, **mb3.5**/15, **MS3.8**/4, **1D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.04**	**339**	PN	Pn	10 46 56.7	-2.5
KBTR				S	**Sn**	**10 47 11.4**	**-1.1**
KBTR	**Krutoberegovo**	**1.04**	**339**	*i* P	Pn	10 46 56.7	-2.5
KBTR				*i* S	**Sn**	**10 47 11.4**	**-1.1**
KBG	**Krutoberegovo**	**1.11**	**337**	PN	Pn	10 46 58.2	-1.9
KBG				S	**Sn**	**10 47 14.3**	**+0.2**
KBG	**Krutoberegovo**	**1.11**	**337**	*i* P	Pn	10 46 58.2	-1.9
KBG				*e*S	**Sn**	**10 47 14.3**	**+0.2**
MKZ	**Mys Kozlova**	**1.22**	**237**	PN	Pn	10 46 59.2	-2.5
MKZ				S	**Sn**	**10 47 14.8**	**-2.1**
MKZ	**Mys Kozlova**	**1.22**	**237**	*e*P	Pn	10 46 59.2	-2.5
MKZ				*e*S	**Sn**	**10 47 14.8**	**-2.1**
BKI	**Bering**	**1.43**	**90**	PN	**Pn**	**10 47 03.5**	**-1.0**
BKI				S	**Sn**	**10 47 21.6**	**-0.3**
BKI	**Bering**	**1.43**	**90**	*i* P	**Pn**	**10 47 03.5**	**-1.0**
BKI				*i* S	**Sn**	**10 47 21.6**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**1.73**	**295**	*e*P	**Pn**	**10 47 08.2**	**-0.6**
BZGR				*e*S	**Sn**	**10 47 31.5**	**+1.9**
SMKR	**Semkarok**	**1.76**	**321**	*i* P	**Pn**	**10 47 08.3**	**-0.8**
SMKR				*i* S	**Sn**	**10 47 31.8**	**+1.5**
KZV	**Kizimen**	**1.83**	**267**	*e*P	**Pn**	**10 47 08.8**	**-1.4**
BZMR	**Bezymyannaya**	**1.84**	**294**	*e*P	**Pn**	**10 47 09.6**	**-0.7**
BZWR	**Bezymyannyi-We**	**1.84**	**294**	*e*P	**Pn**	**10 47 10.1**	**-0.3**
BZWR				*e*S	**Sn**	**10 47 34.2**	**+1.7**
BDR	**Baidarnaya**	**1.85**	**317**	*e*P	**Pn**	**10 47 09.4**	**-1.0**
BDR				*e*S	**Sn**	**10 47 33.5**	**+1.0**
TUMR	**Tumrok**	**1.91**	**273**	*i* P	**Pn**	**10 47 10.3**	**-1.0**
TUMR				*e*S	**Sn**	**10 47 35.6**	**+1.5**
KMNR	**Kamenistaya**	**1.92**	**287**	*e*P	**Pn**	**10 47 10.9**	**-0.4**
KRSR	**Krestovskiy**	**1.92**	**302**	*e*P	**Pn**	**10 47 09.8**	**-1.6**
KRSR				*e*S	**Sn**	**10 47 35.2**	**+0.9**
KIRR	**Kirishev**	**1.92**	**293**	*e*P	**Pn**	**10 47 10.7**	**-0.7**
KIRR				*e*S	**Sn**	**10 47 35.9**	**+1.5**
SRKR	**Sorokina**	**1.92**	**318**	*i* P	**Pn**	**10 47 10.7**	**-0.7**
KLY	**Klyuchi**	**1.93**	**305**	PN	Pn	10 47 08.8	-2.5
KLY				S	**Sn**	**10 47 33.4**	**-0.9**
KLY	**Klyuchi**	**1.93**	**305**	*e*P	Pn	10 47 08.8	-2.5
KLY				*e*S	**Sn**	**10 47 33.4**	**-0.9**
KPT	**Kopyto**	**1.99**	**293**	*e*P	**Pn**	**10 47 11.8**	**-0.5**
KPT				*e*S	**Sn**	**10 47 38.4**	**+2.4**
KOZR	**Kozyr**	**2.19**	**294**	PN	**Pn**	**10 47 15.2**	**+0.1**
KOZR				S	**Sn**	**10 47 44.0**	**+3.1**
KOZ	**Kozyrevsk**	**2.20**	**293**	*e*P	**Pn**	**10 47 15.2**	**0.0**
KOZ				*e*S	**Sn**	**10 47 44.0**	**+2.8**
SRDR	**Sredinnyy**	**2.38**	**298**	*i* P	**Pn**	**10 47 17.8**	**+0.1**
KII	**Karymskiy**	**2.64**	**244**	*e*P	**Pn**	**10 47 19.7**	**-1.5**
KII				*e*S	**Sn**	**10 47 51.8**	**-0.1**
ESO	**Esso**	**2.80**	**286**	PN	**Pn**	**10 47 22.9**	**-0.5**
ESO				S	**Sn**	**10 47 57.0**	**+1.1**
ESO	**Esso**	**2.80**	**286**	*e*P	**Pn**	**10 47 22.9**	**-0.5**
ESO				*e*S	**Sn**	**10 47 57.0**	**+1.1**
SDLR	**Sedlovina**	**3.34**	**236**	*e*P	**Pn**	**10 47 30.2**	**-0.7**
KRER	**Koryakskii**	**3.39**	**237**	*e*P	**Pn**	**10 47 31.0**	**-0.6**
KRER				*e*S	**Sn**	**10 48 10.4**	**-0.2**
SMAR	**Somma**	**3.39**	**236**	*e*P	**Pn**	**10 47 30.9**	**-0.7**
SMAR				*e*S	**Sn**	**10 48 10.2**	**-0.4**
KRX	**Arik**	**3.40**	**238**	*e*P	**Pn**	**10 47 31.0**	**-0.8**
KRX				*e*S	**Sn**	**10 48 10.7**	**-0.2**
UGLR	**Uglovaya**	**3.41**	**235**	*e*P	**Pn**	**10 47 30.6**	**-1.2**
AVH	**Avacha**	**3.42**	**237**	*e*P	Pn	10 47 29.6	-2.3
KOK	**Koryaka**	**3.45**	**237**	*e*P	**Pn**	**10 47 31.8**	**-0.6**
GNL	**Ganaly**	**3.58**	**247**	*e*P	**Pn**	**10 47 34.1**	**-0.2**
PET	**Petropavlovsk**	**3.61**	**234**	*e*PN	**Pn**	**10 47 33.0**	**-1.4**
PET				MLR	MLR		
	comp=Z,200nm,13.0s						
PET	**Petropavlovsk**	**3.61**	**234**	*e*P	**Pn**	**10 47 32.8**	**-1.6**
PET				*e*S	**Sn**	**10 48 13.8**	**-1.9**
PETK	**Petropavlovsk-**	**4.01**	**240**	PN	**Pn**	**10 47 40.3**	**+0.3**
PETK						10 48 28.9	
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,2.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,14nm,28.6s						
PETK	**Petropavlovsk-**	**4.01**	**240**	Pn	**Pn**	**10 47 40.3**	**+0.3**
	comp=Z,2.2nm,0.3s,baz=78,slow=13,SNR=23						
PETK				Sn	**Sn**	**10 48 28.9**	**+3.2**
	comp=Z,2.4nm,0.3s,baz=62,slow=20,SNR=4.6						
PETK				LR	LR	10 48 48.3	
	comp=Z,46nm,20.2s,baz=58,slow=33						
RUS	**Russkaya**	**4.07**	**228**	PN	**Pn**	**10 47 39.7**	**-1.1**
RUS	**Russkaya**	**4.07**	**228**	*e*P	**Pn**	**10 47 39.7**	**-1.1**
RUS				*e*S	**Sn**	**10 48 27.1**	**0.0**
MTVR	**Mutnovka**	**4.18**	**231**	*e*P	**Pn**	**10 47 41.4**	**-1.1**
MTVR				*e*S	**Sn**	**10 48 29.2**	**-0.9**
APC	**Apacha**	**4.39**	**241**	*e*P	**Pn**	**10 47 45.1**	**0.0**
APC				*e*S	**Sn**	**10 48 37.0**	**+2.1**
MIPR	**Malaya Ipel'ka**	**4.97**	**236**	*e*P	**Pn**	**10 47 53.7**	**+0.5**
FX1	**Attu Island--F**	**6.17**	**109**	Pn	**Pn**	**10 48 09.8**	**+0.2**
	comp=Z,6.4nm,0.3s,baz=242,slow=4.2,SNR=10						
FX1				Sn	**Sn**	**10 49 16.2**	**-2.7**
	comp=Z,9.3nm,0.3s,baz=209,slow=19,SNR=7.4						
YAK	**Yakutsk**	**18.68**	**305**	*e*P	Pn	10 51 05.7	+9.3
TIXI	**Tiksi**	**22.05**	**331**	*e*P	P	10 51 44.3	+12
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MJA0	**Matsu Arr-Jizo**	**25.42**	**233**	*e*P	**P**	**10 52 06.3**	**+1.2**

MJA0				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MAJO	**Matsushiro**	**25.44**	**233**	⇓*e*P	**P**	**10 52 06.5**	**+1.3**
MJAR	**Matsushiro Arr**	**25.44**	**233**	P	**P**	**10 52 06.4**	**+1.1**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MJAR	**Matsushiro Arr**	**25.44**	**233**	P	**P**	**10 52 06.4**	**+1.1**
	comp=Z,5.6nm,0.9s,baz=25,slow=8.3,SNR=8.0						
ILAR	**Eielson Array**	**25.89**	**48**	P	**P**	**10 52 09.4**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=273,slow=11,SNR=4.3						
KSRS	**Korea Array**	**29.87**	**248**	P	**P**	**10 52 43.4**	**-1.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KSRS	**Korea Array**	**29.87**	**248**	P	**P**	**10 52 43.4**	**-1.4**
	comp=Z,0.7nm,0.2s,baz=45,slow=12,SNR=5.5						
INK	**Inuvik**	**30.94**	**40**	P	**P**	**10 52 53.7**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=274,slow=8.7,SNR=2.7						
SONM	**Songino Array**	**35.37**	**282**	P	**P**	**10 53 31.7**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=48,slow=6.4,SNR=2.5						
SONM				PcP	**PcP**	**10 56 03.5**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=70,slow=1.7,SNR=3.4						
YKA	**Yellowknife Ar**	**40.23**	**45**	P	**P**	**10 54 14.7**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=296,slow=8.0,SNR=5.3						
KURK	**Kurchatov**	**48.29**	**302**	P	**P**	**10 55 17.7**	**-0.5**
KURBB	**Kurchatov Arra**	**48.39**	**302**	P	**P**	**10 55 17.7**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=57,slow=8.0,SNR=3.0						
MKAR	**Makanchi Array**	**49.01**	**296**	P	**P**	10 55 21.7	-2.2
	comp=Z,0.2nm,0.6s,baz=53,slow=7.4,SNR=2.8						
BVAR	**Borovoye Array**	**50.61**	**309**	P	**P**	**10 55 33.8**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=69,slow=7.9,SNR=2.9						
NVAR	**Mina Array Bea**	**53.18**	**74**	P	**P**	**10 55 57.7**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=302,slow=5.2,SNR=3.1						
FINES	**FINESS Array B**	**58.91**	**338**	LR	LR	11 25 20.1	
	comp=Z,43nm,19.7s,baz=90,slow=40						
NB2	**NORSAR Subarra**	**62.01**	**345**	P	**P**	**10 56 56.8**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=19,slow=6.9						
NOA	**NORSAR Array B**	**62.01**	**345**	P	**P**	**10 56 57.1**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**62.01**	**345**	P	**P**	**10 56 57.1**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=19,slow=7.0,SNR=2.7						
AKASG	**Malin Array Be**	**67.76**	**331**	*e*P	P	10 57 43.5	+9.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**67.76**	**331**	LR	LR	11 32 35.8	
	comp=Z,44nm,18.0s,baz=25,slow=41						
TXAR	**Lajitas Array**	**68.00**	**70**	P	**P**	**10 57 39.0**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=289,slow=3.9,SNR=3.9						
GNI	**Garni**	**71.61**	**315**	LR	LR	11 31 53.8	
	comp=Z,55nm,19.6s,baz=188,slow=38						
VRAC	**Vranov**	**72.19**	**338**	LR	LR	11 35 14.5	
	comp=Z,50nm,18.5s,baz=48,slow=41						
WRA	**Warramunga Arr**	**78.89**	**208**	P	**P**	**10 58 42.9**	**+2.5**
	comp=Z,0.4nm,0.8s,baz=15,slow=6.8,SNR=3.1						
ASAR	**Alice Springs**	**82.56**	**207**	P	**P**	**10 59 01.5**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=14,slow=5.1,SNR=5.0						

IDC 02 10:47:29.6±9.8**,14.44S×166.44E,h57**km±101km**,mb3.5**/3**, mb1 3.8**/4**,mb1mx3.5**/33**,mbtmp3.8**/4**,ML4.0**/1**,MS3.3**/4**, Ms1 3.3**/4**,ms1mx3.0**/21**,Error ellipse: s-maj=68.8km s-min=34.4km az=158.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.59**	**180**	P	Pn	10 49 17.9	+0.1
	2.4nm,0.3s,baz=355,slow=21,SNR=23						
DZM				S	Sn	10 50 42.8	+0.2
	baz=114,slow=22,SNR=2.8						
DZM				LR	LR	10 51 57.4	
	comp=Z,290nm,19.6s,baz=16,slow=35						
HNR	**Honiara**	**8.07**	**307**	LR	LR	10 52 05.5	
	comp=Z,86nm,20.0s,baz=174,slow=34						
PMG	**Port Moresby**	**19.51**	**283**	LR	LR	10 57 59.3	
	comp=Z,98nm,18.4s,baz=51,slow=32						
AFI	**Afiamalu**	**21.13**	**91**	LR	LR	10 59 29.5	
	comp=Z,117nm,18.4s,baz=239,slow=34						
WRA	**Warramunga Arr**	**31.12**	**255**	P	P	10 53 42.7	-0.3
	0.7nm,0.9s,baz=84,slow=8.5,SNR=3.3						
ASAR	**Alice Springs**	**32.03**	**248**	P	P	10 53 51.2	+0.2
	0.7nm,0.8s,baz=74,slow=8.9,SNR=6.2						
ILAR	**Eielson Array**	**86.50**	**18**	P	P	11 00 05.8	0.0
	0.9nm,1.0s,baz=242,slow=3.8,SNR=9.5						

IDC 02 10:49:24.4±3.5**,54.22N×87.28E,h0**km**,mb1 2.9**/2**, mb1mx2.8**/30**,mbtmp2.9**/2**,ML2.8**/2**,Error ellipse: s-maj=32.7km s-min=19.8km az=49.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**261**	*i*		10 57 30.0	
	baz=81,slow=339,SNR=9.2						
ZALV	**Zalesovo Beam**	**1.47**	**261**	Pg	Pn	10 49 50.0	-2.2
	2.1nm,0.3s,baz=81,slow=16,SNR=16						
ZALV				Lg	Lg	10 50 11.6	
	1.9nm,0.3s,baz=76,slow=25,SNR=7.0						
KURBB	**Kurchatov Arra**	**6.45**	**240**	Pn	Pn	10 51 01.2	+0.7
	0.2nm,0.3s,baz=55,slow=14,SNR=6.4						
MKAR	**Makanchi Array**	**8.08**	**205**	Pn	Pn	10 51 24.4	+1.4
	0.1nm,0.3s,baz=28,slow=13,SNR=5.1						

IDC ***02*** *11:11:04.3±0.7, 27.11N×97.08E, h0km, mb3.7/14, mb1 3.9/15, mb1mx3.8/41, mbtmp3.7/15, ML4.0/1, MS2.5/1, Ms1 2.7/1, ms1mx2.4/41, Error ellipse: s-maj=26.6km s-min=14.7km az=57.0*

ISCJB ***02*** *11:11:06.2±0.5, 27.05N±0.07×97.03E±0.07, h28km, mb3.7/14, Error ellipse: s-maj=11.0km s-min=8.9km az=153.2*

ISC 02 11:11:08.4±0.7**,27.11N**±0.09×**97.01E**±0.09**,h28**km**,n16, σ1°14**/18**,mb3.8**/14**,Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.85**	**253**	*e*P	**Pn**	**11 12 19.0**	**-0.7**
SHL				*e*S	**Sn**	**11 13 15.0**	**0.0**
CMAR	**Chiang Mai Arr**	**8.79**	**168**	Pn	**Pn**	**11 13 13.9**	**+0.2**
	0.4nm,0.3s,baz=343,slow=12,SNR=4.1						
CMAR				Lg	Lg	11 15 57.1	
	0.5nm,0.3s,baz=355,slow=29,SNR=4.1						
CMAR				LR	LR	11 16 12.8	
	comp=Z,27nm,19.0s,baz=357,slow=35						
SONM	**Songino Array**	**21.96**	**17**	P	**P**	**11 15 59.1**	**-0.9**
	1.5nm,0.7s,baz=201,slow=10,SNR=17						
MKAR	**Makanchi Array**	**22.83**	**333**	P	**P**	**11 16 08.0**	**-1.2**
	0.7nm,0.5s,baz=138,slow=13,SNR=8.6						
KURBB	**Kurchatov Arra**	**27.39**	**334**	P	**P**	**11 16 53.4**	**+2.1**
	2.5nm,0.8s,baz=144,slow=11,SNR=14						
KURBB				PcP	**PcP**	**11 20 11.9**	**+2.2**
	0.5nm,0.4s,baz=156,slow=2.5,SNR=4.1						
KSRS	**Korea Array**	**27.99**	**61**	P	**P**	**11 16 56.7**	**-0.1**
	0.6nm,0.5s,baz=230,slow=7.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**28.29**	**345**	P	**P**	**11 16 59.4**	**+0.1**
	0.6nm,0.5s,baz=183,slow=8.7,SNR=3.3						
AKASG	**Malin Array Be**	**55.66**	**315**	P	**P**	**11 20 40.5**	**-1.4**
	0.9nm,0.3s,baz=76,slow=6.7,SNR=2.2						
FINES	**FINESS Array B**	**57.49**	**327**	P	**P**	**11 20 55.4**	**+0.6**
	1.2nm,0.6s,baz=91,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**59.13**	**138**	P	**P**	**11 21 06.2**	**-0.6**
	1.7nm,0.8s,baz=328,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**61.79**	**141**	P	**P**	**11 21 24.9**	**+0.1**
	1.2nm,0.8s,baz=323,slow=6.2,SNR=12						
NOA	**NORSAR Array B**	**64.67**	**328**	P	**P**	**11 21 44.4**	**+0.8**
	0.5nm,0.5s,baz=64,slow=4.9,SNR=3.2						
GERES	**GERESS Array B**	**65.86**	**314**	P	**P**	**11 21 53.2**	**+1.6**
	0.2nm,0.4s,baz=72,slow=12,SNR=2.5						
ILAR	**Eielson Array**	**76.03**	**23**	P	**P**	**11 22 51.7**	**-1.1**
	0.7nm,1.0s,baz=267,slow=6.3,SNR=4.4						
YKA	**Yellowknife Ar**	**87.19**	**14**	P	**P**	**11 23 52.0**	**+0.3**
	0.2nm,0.8s,baz=334,slow=4.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**88.74**	**284**	P	**P**	**11 23 59.5**	**-0.5**
	0.6nm,0.9s,baz=24,slow=5.2,SNR=2.7						

IDC ***02*** *11:18:33.7±1.0, 11.50N×62.34W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.7/49, mbtmp3.9/7, ML4.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/26, Error ellipse: s-maj=27.9km s-min=25.3km az=169.0*

ISCJB ***02*** *11:18:46.1±0.3, 11.15N±0.03×62.26W±0.03, h121km±4km, mb3.6/6, Error ellipse: s-maj=5.6km s-min=3.7km az=42.8*

FUNV ***02*** *11:18:48.2, 11.15N×62.15W, h103km, MW3.8*

TRN ***02*** *11:18:50.3, 11.22N×62.07W, h109km, MD4.0*

ISC 02 11:18:46.6±0.7**,11.12N**±0.04×**62.28W**±0.04**,h121**km±7km**, n35,σ1°78**/56**,mb3.8**/6**,13C-4D,Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.67**	**129**	⇑*i*P	**Pn**	**11 19 07.7**	**+1.8**
TCE				*e*S	**Sn**	**11 19 20.2**	**-0.2**
TRN	**Trinidad (W)**	**0.98**	**118**	⇑*i*P	**Pn**	**11 19 10.5**	**+1.9**
TRN				*e*S	**Sn**	**11 19 25.2**	**+0.1**
CRUV	**Carupano**	**1.04**	**245**	⇓*i*P	**Pn**	**11 19 10.3**	**+1.3**
CRUV				*e*S	**Sn**	**11 19 26.0**	**-0.1**
TPP	**Pointe-a-Pierr**	**1.14**	**134**	*e*P	**Pn**	**11 19 12.5**	**+2.4**
TPP				*e*S	**Sn**	**11 19 28.7**	**+0.7**
GRW	**Mount Saint Ca**	**1.20**	**30**	⇑*i*P	**Pn**	**11 19 12.4**	**+1.6**
TBH	**Brigand Hill**	**1.35**	**118**	⇑*i*P	**Pn**	**11 19 14.5**	**+2.1**
TBH				*e*S	**Sn**	**11 19 31.4**	**-0.7**
TPR	**Prospect**	**1.48**	**87**	⇑*e*P	**Pn**	**11 19 15.3**	**+1.4**
TPR				*e*S	**Sn**	**11 19 31.9**	**-2.7**
BOT	**Bacolet**	**1.54**	**88**	⇑*i*P	**Pn**	**11 19 15.7**	**+1.2**
BOT				*e*S	**Sn**	**11 19 33.4**	**-2.4**
TOSP	**Speyside**	**1.72**	**84**	⇑*i*P	**Pn**	**11 19 16.6**	**-0.1**
TOSP				*e*S	**Sn**	**11 19 36.8**	**-2.9**
FCV	**Fort Charlotte**	**2.26**	**27**	*e*P	**Pn**	**11 19 24.3**	**+0.8**
FCV				*e*S	**Sn**	**11 19 49.7**	**-2.0**
SVB	**Belmont**	**2.36**	**25**	*e*P	**Pn**	**11 19 24.9**	**+0.2**
SVB				*e*S	**Sn**	**11 19 51.8**	**-2.2**
SVV	**Soufriere Volc**	**2.42**	**25**	*e*P	**Pn**	**11 19 26.8**	**+1.3**
SVV				*e*S	**Sn**	**11 19 53.4**	**-1.9**
SSV	**Crater Summit**	**2.44**	**26**	*e*P	**Pn**	**11 19 27.1**	**+1.3**
SSV				*e*S	**Sn**	**11 19 54.3**	**-1.5**
BHS	**Barnard House**	**2.44**	**27**	*e*P	**Pn**	**11 19 26.7**	**+1.0**
BHS				*e*S	**Sn**	**11 19 52.8**	**-2.9**
PCRV	**Puerto La Cruz**	**2.50**	**248**	⇑*i*P	**Pn**	**11 19 28.5**	**+2.0**
PCRV				*e*S	**Sn**	**11 19 57.4**	**+0.4**
MCLT	**Moule a Chique**	**2.89**	**27**	*e*P	**Pn**	**11 19 31.7**	**+0.2**
MCLT				*e*S	**Sn**	**11 20 03.6**	**-2.5**
SLB	**Belfond**	**2.95**	**24**	*e*P	**Pn**	**11 19 33.2**	**+0.8**
SLB				*e*S	**Sn**	**11 20 11.9**	**+4.2**
RIOV	**Rio Grande**	**3.07**	**171**	⇑*e*P	**Pn**	**11 19 35.0**	**+1.1**
RIOV				*e*S	**Sn**	**11 20 08.9**	**-1.4**
PRGV	**PARIAGUAN**	**3.31**	**225**	⇑*e*P	**Pn**	**11 19 38.0**	**+1.0**
PRGV				*e*S	**Sn**	**11 20 15.6**	**-0.3**
CUPV	**Cœpira**	**3.60**	**253**	⇑*i*P	**Pn**	**11 19 42.9**	**+1.8**
CUPV				*e*S	**Sn**	**11 20 23.7**	**+0.6**
ORCV	**Isla La Orchil**	**3.90**	**281**	⇑*i*P	**Pn**	**11 19 45.9**	**+1.1**
LUEV	**Luepa**	**5.31**	**171**	⇓*e*P	**Pn**	**11 20 03.0**	**-0.9**
TURV	**Turiamo**	**5.50**	**264**	⇑*e*P	**Pn**	**11 20 07.9**	**+1.6**
BAUV	**El Baul**	**6.07**	**250**	*e*P	**Pn**	**11 20 14.2**	**+0.1**
BAUV				*e*S	**Sn**	**11 21 19.2**	**-3.1**
TEPV	**Terepaima**	**6.89**	**261**	⇓*e*P	**Pn**	**11 20 26.4**	**+1.2**
CURV	**Curarigua**	**7.63**	**262**	⇓*e*P	**Pn**	**11 20 36.3**	**+1.1**
CURV				*e*S	**Sn**	**11 21 55.5**	**-4.7**
SOCV	**Socops**	**8.91**	**252**	*e*P	**Pn**	**11 20 51.4**	**-1.1**
PTGA	**Pitinga**	**12.00**	**169**	Pn	**Pn**	**11 21 32.9**	**-0.9**
	4.0nm,0.3s,baz=342,slow=20,SNR=25						
PTGA				Sn	Sn	11 23 38.6	-7.4
	2.1nm,0.3s,baz=283,slow=17,SNR=16						
ATAH	**Atahualpa**	**24.21**	**222**	P	**P**	**11 23 55.0**	**+2.3**
	5.7nm,0.7s,baz=65,slow=3.5,SNR=4.4						
TEIG	**Tepich**	**26.58**	**293**	LR	LR	11 33 56.6	
	comp=Z,48nm,18.7s,baz=11,slow=35						
TXAR	**Lajitas Array**	**42.58**	**301**	P	**P**	**11 26 30.4**	**-0.6**
	0.1nm,0.4s,baz=121,slow=9.7,SNR=5.8						
TXAR				PcP	**PcP**	**11 28 21.1**	**-0.2**
	0.2nm,0.8s,baz=111,slow=4.9,SNR=3.9						
PDAR	**Pinedale Array**	**51.68**	**316**	P	**P**	**11 27 40.5**	**-1.1**
	0.2nm,0.5s,baz=96,slow=7.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**62.43**	**81**	P	**P**	**11 28 58.9**	**+1.4**
	1.0nm,0.9s,baz=290,slow=5.8,SNR=9.0						
ARCES	**ARCESS Array B**	**78.89**	**21**	P	**P**	**11 30 37.1**	**+0.9**
	2.2nm,0.9s,baz=270,slow=7.0,SNR=3.0						
FINES	**FINESS Array B**	**79.54**	**29**	P	**P**	**11 30 41.0**	**+1.1**
	0.7nm,0.5s,baz=270,slow=3.8,SNR=8.4						

IDC ***02*** *11:18:55.0±0.4, 10.25N×125.95E, h0km, mb4.5/31, mb1 4.5/31, mb1mx4.4/49, mbtmp4.4/31, MS4.2/25, Ms1 4.2/25, ms1mx4.2/32, Error ellipse: s-maj=21.3km s-min=11.1km az=71.0*

MAN ***02*** *11:18:58.0, 10.25N×126.50E, h45km, mb4.9, ML3.8, MS3.9*

MOS ***02*** *11:19:00.5±1.1, 10.26N×126.06E, h53km, mb4.9/20, MS4.3/7, Error ellipse: s-maj=13.7km s-min=6.3km az=116.7*

ISCJB ***02*** *11:19:02.4±0.5, 10.31N±0.02×126.18E±0.04, h68km±4km, mb4.5/91, Error ellipse: s-maj=6.7km s-min=3.4km az=158.9*

NEIC ***02*** *11:19:08.3±1.1, 10.19N×125.93E, h105km±9km, mb4.6/25, Error ellipse: s-maj=11.1km s-min=6.2km az=78.0*

NEIC Felt [III PIVS] at General Luna, Loreto and Socorro; [II PIVS] at Surigao and Tandag; [I PIVS] at Placer, Mindanao.

GCMT ***02*** *11:19:08.3±0.2, 10.38N×126.36E, h33km±1km, MW5.1/70, Moment Tensor Solution. s55,c67; s70,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.64±.20; $M_{\theta\theta}$0.00±.12; $M_{\phi\phi}$-3.64±.14; $M_{r\theta}$-0.81±.15; $M_{\theta\phi}$0.88±.08; $M_{\phi r}$4.05±.22; Best double couple: $M_0$5.57300×10^{16} NP1:ϕ_s348.00000°, δ69.00000°, λ91.00000°. NP2: ϕ_s166.00000°, δ21.00000°, λ88.00000°. Principal axes: T 5.4720, Plg66.0000°, Azm260.0000°; N 0.2030, Plg1.0000°, Azm168.0000°; P -5.6730, Plg24.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***02*** *11:19:12.8, 10.55N×125.52E, h124km, mB4.9/35, mb4.6/46*

DJA ***02*** *11:19:22.2±1.7, 10°N±10°×12°5E±°, h116km±17km, M4.6/11, mb4.7/11, mB5.1/4, Mw(mB)4.5/4*

ISC 02 11:19:04.3±0.6**,10.28N**±0.03×**126.12E**±0.05**,h72**km±5km**, n237,σ1°91**/246**,mb4.5**/91**,19C-22D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.80**	**232**	⇓*e*P	Pn	11 19 15.0	-5.4
SCPH				*e*S	**Sn**	**11 19 27.6**	**-4.8**
MSLP	**Maasin**	**1.25**	**264**	*e*P	**Pn**	**11 19 23.5**	**-2.6**
MSLP				*e*S	**Sn**	**11 19 45.7**	**+3.2**
BUTP	**Butuan**	**1.39**	**201**	*e*P	Pn	11 19 25.1	-2.8
BUTP				*e*S	**Sn**	**11 19 43.0**	**-2.6**
PLP	**Palo**	**1.43**	**308**	⇓*i*P	**Pn**	**11 19 25.9**	**-2.6**
PLP				*i* S	**Sn**	**11 19 45.3**	**-1.3**
OCLP	**Ormoc**	**1.68**	**297**	*e*P	**Pn**	**11 19 30.6**	**-1.1**
OCLP				*e*S	**Sn**	**11 19 55.7**	**+3.3**
BIPH	**Bislig**	**2.09**	**174**	⇓*i*P	**Pn**	**11 19 36.1**	**-1.2**
BIPH				*e*S	**Sn**	**11 19 57.9**	**-4.5**
LLP	**Lapu-Lapu**	**2.12**	**271**	*e*P	**Pn**	**11 19 36.8**	**-0.9**
LLP				*e*S	**Sn**	**11 20 04.8**	**+1.7**
CGP	**Cagayan de Oro**	**2.29**	**218**	*e*P	**Pn**	**11 19 38.5**	**-1.5**
CGP				*i* S	**Sn**	**11 20 07.8**	**+0.5**
TBP	**Tagbilaran**	**2.30**	**256**	*e*P	**Pn**	**11 19 40.0**	**0.0**
TBP				*e*S	**Sn**	**11 20 09.3**	**+1.8**
CNP	**Catarman**	**2.64**	**327**	*e*P	**Pn**	**11 19 42.1**	**-2.6**
SNPH	**Sibulan**	**2.99**	**252**	⇓*i*P	Pn	11 19 44.2	-5.3
SNPH				*e*S	**Sn**	**11 20 19.9**	**-4.4**
DMPH	**Davao City--Mi**	**3.23**	**191**	⇑*e*P	**Pn**	**11 19 55.1**	**+2.4**
DMPH				*e*S	**Sn**	**11 20 31.9**	**+1.8**
KCP	**Kidapawan**	**3.40**	**198**	⇓*e*P	**Pn**	**11 19 54.6**	**-0.5**
KCP				*i* S	Sn	11 20 41.1	+6.7
RCP	**Roxas**	**3.55**	**291**	⇑*e*P	**Pn**	**11 19 57.4**	**+0.3**
CTBH	**Cotabato--PC H**	**3.56**	**212**	*e*P	**Pn**	**11 19 56.9**	**-0.3**
PVCP	**Virac**	**3.82**	**330**	*e*P	Pn	11 19 57.0	-3.7
AUQP	**San Andres**	**4.53**	**312**	*e*P	Pn	11 20 14.2	+3.7
BOAC	**Boac**	**5.25**	**307**	*e*P	**Pn**	**11 20 21.9**	**+1.7**
SJMP	**San Jose**	**5.37**	**294**	*e*P	**Pn**	**11 20 23.9**	**+2.0**
LQP	**Lukban**	**5.88**	**311**	*e*P	**Pn**	**11 20 29.2**	**+0.1**
BUSP	**Coron**	**6.06**	**287**	*e*P	**Pn**	**11 20 31.5**	**+0.1**
TGY	**Tagaytay City**	**6.34**	**307**	Pn	**Pn**	**11 20 34.0**	**-1.2**
	22nm,0.3s,baz=128,slow=18,SNR=2.2						
TGY				LR	LR	11 23 09.1	
	comp=Z,138nm,18.3s,baz=310,slow=41						
PALU	**Palau**	**8.75**	**109**	⇓P	Pn	11 20 58.4	-10
	baz=8.4,SNR=18						
SZP	**Santa**	**9.08**	**323**	Pn	Pn	11 21 17.3	+4.6
SZP				*e*Sn	**Sn**	**11 22 58.4**	**+5.0**
MYLDM	**Lahad Datu**	**9.09**	**237**	*e*P	**Pn**	**11 21 15.0**	**+2.2**
MRSI	**Marisa**	**10.59**	**203**	P	Pn	11 21 36.6	+3.3
KKM	**Kota Kinabalu**	**10.67**	**248**	*e*Pn	**Pn**	**11 21 33.5**	**-1.0**
KKM	**Kota Kinabalu**	**10.67**	**248**	⇑P	Pn	11 21 37.8	+3.3
	baz=11,SNR=4.9						
LUWI	**Luwuk**	**11.73**	**197**	*e*Pn	Pn	11 21 52.6	+3.8
LUWI				*e*Sn	**Sn**	**11 23 55.8**	**-2.3**
APSI	**Ampana**	**11.97**	**202**	P	Pn	11 21 59.4	+7.2
	48nm,1.1s,1μm						
TPUB	**Ta-pu**	**13.97**	**339**	*e*Pn	**P**	**11 22 23.4**	**-1.4**
	16nm,0.3s						
SSLB	**Suanglung**	**14.31**	**340**	*e*Pn	**P**	**11 22 27.2**	**-1.3**
TTSI	**Tana Toraja**	**14.65**	**206**	P	P	11 22 36.3	+4.0
	43nm,1.4s,659nm						
SPSI	**Sidrap Palu**	**15.50**	**204**	P	**P**	**11 22 45.9**	**+4.2**
	33nm,1.1s,798nm						
BNSI	**Bone**	**15.76**	**203**	P	**P**	**11 22 49.2**	**+4.5**
	81nm,1.4s,2μm						
SBUM	**Sibu**	**15.85**	**242**	*e*P	**P**	**11 22 47.4**	**+1.7**
	26nm,0.9s						
QZH	**Quanzhou**	**16.25**	**335**	P	**P**	**11 22 49.5**	**-0.5**
QZH				S	**Sn**	**11 25 42.0**	**-5.7**
QZH				LR	LR		
	comp=Z,3μm,17.9s						
DLV	**T Lat**	**17.39**	**277**	*e*Pn	**P**	**11 23 05.6**	**+2.8**
DLV				*e*Sn	**Sn**	**11 26 14.9**	**-0.8**
QIZ	**Qiongzhong**	**17.98**	**301**	P	**P**	**11 23 09.1**	**-0.1**
QIZ				sP	sP	11 23 46.7	+14
QIZ				pmax	pmax		
	comp=Z,19nm,1.6s						
QIZ				pmax	pmax		
	comp=Z,290nm,8.7s						
QIZ				LR	LR		
	comp=N,730nm,18.5s						
QIZ				LR	LR		
	comp=E,440nm,18.7s						
QIZ				LR	LR		
	comp=Z,2μm,19.1s						
JAY	**Jayapura**	**19.29**	**130**	⇓P	**P**	**11 23 20.4**	**-3.3**
	baz=19,SNR=3.1						
SSE	**Sheshan**	**21.22**	**348**	P	**P**	**11 23 48.4**	**+4.2**
SSE				sP	sP	11 24 24.0	+16
SSE				pmax	pmax		
	comp=Z,24nm,0.8s						
SSE				pmax	pmax		
	comp=Z,210nm,5.2s						
SSE				LR	LR		
	comp=N,260nm,19.1s						
SSE				LR	LR		
	comp=E,260nm,19.2s						
SSE				LR	LR		
	comp=Z,440nm,16.7s						
JCJ	**Chichijima**	**22.57**	**40**	LR	LR	11 30 59.3	
	comp=Z,527nm,20.8s,baz=242,slow=32						
NJ2	**Nanjing**	**22.69**	**344**	*e*P	**P**	**11 24 00.4**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,50nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,240nm,8.9s						
NJ2				LR	LR		
	comp=N,510nm,19.4s						
NJ2				LR	LR		
	comp=E,290nm,16.0s						
NJ2				LR	LR		
	comp=Z,5μm,20.5s						
JNU	**Nakatsue**	**23.15**	**10**	P	**P**	**11 24 09.3**	**+4.5**
	18nm,1.1s,baz=81,slow=19,SNR=3.5						
CHBT	**CHBT**	**23.44**	**278**	P	**P**	**11 24 07.9**	**+0.4**
	29nm,1.5s						
MTN	**Manton Dam**	**23.50**	**168**	⇑P	**P**	**11 24 08.2**	**+0.2**
	baz=24,SNR=4.9						
KDU	**Kakadu**	**23.67**	**164**	⇑P	**P**	**11 24 09.1**	**-0.4**
	baz=24,SNR=10						
GYA	**Guiyang**	**24.44**	**314**	*e*P	**P**	**11 24 18.0**	**+1.4**
GYA				pP	pP	11 24 43.2	+10
GYA				sP	sP	11 24 58.0	+16
GYA				S	**S**	**11 28 25.4**	**-6.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
LEM	**Lembang**	**25.07**	**228**	P	**P**	**11 24 25.3**	**+2.8**
	45nm,1.1s						
LOEI	**Loei**	**25.16**	**289**	P	**P**	**11 24 19.9**	**-3.2**
	9.6nm,0.8s						
PBKT	**Sadao Pong**	**25.24**	**287**	P	**P**	**11 24 24.6**	**+0.8**
	33nm,1.0s						
IPM	**Ipoh**	**25.54**	**259**	*e*P	**P**	**11 24 25.3**	**-1.3**
	3.7nm,0.6s						
UTTA	**Uttaradit**	**25.87**	**290**	P	**P**	**11 24 30.7**	**+1.1**
	5.3nm,0.8s						
KNRA	**Kununurra**	**25.92**	**174**	⇑P	**P**	**11 24 30.0**	**0.0**
	baz=26,SNR=17						
NANT	**Nan**	**26.00**	**292**	P	**P**	**11 24 30.5**	**-0.2**
	104nm,0.6s,912nm						
PHET	**Kaeng Krachan**	**26.08**	**278**	P	**P**	**11 24 34.3**	**+2.8**
	80nm,1.0s,854nm						
MDSI	**Maura Dua**	**26.32**	**237**	P	**P**	**11 24 34.4**	**+0.8**
KMI	**Kunming**	**26.66**	**307**	P	**P**	**11 24 38.2**	**+1.3**
KMI				pP	pP	11 25 05.4	+12
KMI				sP	sP	11 25 21.4	+19
KMI				PP	**PnPn**	**11 25 26.0**	**+4.5**
KMI				S	S	11 28 58.9	-8.3
KMI				sS	sS	11 29 47.9	+11
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,97nm,6.8s						
KMI				LR	LR		
	comp=N,500nm,15.9s						
KMI				LR	LR		
	comp=E,600nm,15.9s						
KMI				LR	LR		
	comp=Z,700nm,22.3s						
SUKH	**Sukhothai**	**26.68**	**288**	P	**P**	**11 24 38.3**	**+1.5**
	5.0nm,0.9s,56nm						
LAMP	**Lampang**	**26.91**	**291**	P	**P**	**11 24 39.7**	**+0.8**
	6.2nm,0.7s						
KSAR	**Wonju Array Be**	**27.09**	**3**	P	**P**	**11 24 44.3**	**+4.0**
KSAR	**Wonju Array Be**	**27.09**	**3**	P	**P**	**11 24 44.3**	**+4.0**
KSRS	**Korea Array**	**27.11**	**3**	P	**P**	**11 24 44.3**	**+3.9**
	3.7nm,0.9s,baz=178,slow=10.0,SNR=8.0						
KSRS				LR	LR	11 35 11.9	
	comp=Z,301nm,21.8s,baz=182,slow=36						
UMPA	**Umpang Tak**	**27.17**	**285**	P	P	11 24 53.3	+12
CMAR	**Chiang Mai Arr**	**27.53**	**290**	P	**P**	**11 24 44.9**	**+0.4**
	10nm,0.7s,baz=105,slow=7.1,SNR=54						
CMAR				PcP	**PcP**	**11 28 01.8**	**+0.6**
	0.8nm,0.3s,baz=97,slow=0.8,SNR=4.7						
CMAR				LR	LR	11 35 28.6	
	comp=Z,471nm,19.7s,baz=110,slow=36						
CMMT	**Chiang Mai**	**27.61**	**291**	P	**P**	**11 24 45.7**	**+0.5**
	15nm,1.0s						
CHTO	**Chiang Mai**	**27.61**	**291**	*e*P	**P**	**11 24 44.9**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHTO	**Chiang Mai**	**27.61**	**291**	P	**P**	**11 24 45.7**	**+0.5**
	comp=Z,51nm,1.0s						
CHTO	**Chiang Mai**	**27.61**	**291**	*e*P	**P**	**11 24 44.9**	**-0.3**
	comp=Z,1.7nm,0.8s						
CMAI	**Chiengmai2**	**27.81**	**293**	P	**P**	**11 24 47.9**	**+0.7**
	comp=Z,26nm,0.8s,comp=Z,1μm						
FITZ	**Fitzroy Crossi**	**28.20**	**181**	*e*P	**P**	**11 24 50.0**	**-0.4**
	comp=Z,3.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**28.20**	**181**	P	**P**	**11 24 50.4**	**0.0**
	baz=28,SNR=13						
MAJO	**Matsushiro**	**28.35**	**21**	P	**P**	**11 24 52.0**	**+0.4**
MJAR	**Matsushiro Arr**	**28.35**	**21**	P	**P**	**11 24 50.4**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=204,slow=9.8,SNR=3.1						
MJAR				LR	LR	11 36 39.6	
	comp=Z,484nm,18.0s,baz=210,slow=37						
XAN	**Xi'an**	**28.42**	**329**	P	**P**	**11 24 51.3**	**-1.0**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,14nm,4.8s						
PMG	**Port Moresby**	**28.64**	**132**	P	**P**	**11 24 54.3**	**-0.1**
	comp=Z,10nm,0.8s,baz=323,slow=5.1,SNR=3.1						
CD2	**Chengdu**	**29.21**	**318**	P	**P**	**11 25 01.3**	**+1.9**
CD2				pP	pP	11 25 28.2	+12
CD2				sP	sP	11 25 43.1	+18
CD2				PP	**PnPn**	**11 26 00.7**	**+5.1**
CD2				PcP	**PcP**	**11 28 06.0**	**+0.8**
CD2				S	**S**	**11 29 42.7**	**-4.2**
CD2				sS	sS	11 30 30.1	+14
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,310nm,6.3s						
CD2				LR	LR		
	comp=Z,1μm,20.6s						

CD2 LR LR
comp=Z,1μm,20.6s
CD2 LR LR
comp=Z,1μm,16.6s
BJI Beijing 30.93 345 P P 11 25 17.6 +3.2
BJI S S 11 30 15.4 +1.8
BJI pmax pmax
comp=Z,7.0nm,0.8s
BJI pmax pmax
comp=Z,220nm,4.7s
BJI LR LR
comp=Z,240nm,16.4s
BJI LR LR
comp=Z,360nm,15.8s
BJI LR LR
comp=Z,160nm,23.7s
WRAB Tennant Creek 31.09 165⇓eP P 11 25 15.4 -0.6
WRAB Tennant Creek 31.09 165 eP P 11 25 15.8 -0.2
comp=Z,4.0nm,0.5s
WRA Warramunga Arr 31.10 165 P P 11 25 14.4 -1.6
comp=Z,1.9nm,0.6s,baz=345,slow=9.6,SNR=18
WRA PcP PcP 11 28 11.1 +0.9
comp=Z,1.1nm,0.7s,baz=326,slow=3.1,SNR=3.9
WRA S S 11 30 11.7 -4.9
comp=Z,1.1nm,0.8s,baz=340,slow=14,SNR=3.0
WRA LR LR 11 40 59.2
comp=Z,211nm,18.5s,baz=0.0,slow=43
LZH Lanzhou 32.69 325 P P 11 25 31.5 +1.4
LZH pP pP 11 25 58.2 +11
LZH sP sP 11 26 12.8 +17
LZH PP PnPn 11 26 42.0 +1.5
LZH S S 11 30 36.0 -5.5
LZH sS sS 11 31 24.0 +13
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=Z,470nm,13.0s
LZH LR LR
comp=Z,1μm,14.2s
LZH LR LR
comp=Z,2μm,15.3s
HHC Hu-ho-hao-te 33.06 340 eP P 11 25 36.8 +3.6
HHC pP pP 11 26 04.4 +14
HHC sP sP 11 26 18.6 +20
HHC PP PP 11 26 52.3 +3.1
HHC S S 11 30 45.7 -1.3
HHC sS ScP 11 31 34.4 -19
HHC pmax pmax
comp=Z,27nm,0.7s
HHC pmax pmax
comp=Z,300nm,5.6s
HHC LR LR
comp=Z,1μm,16.0s
HHC LR LR
comp=Z,620nm,14.8s
HHC LR LR
comp=Z,1μm,17.3s
QIS Mount Isa 33.39 157 ⇑P P 11 25 36.8 +0.6
baz=34,SNR=7.2
CN2 Changchun 33.41 359 ⇑P P 11 25 41.3 +5.3
CN2 epP pP 11 26 08.8 +16
CN2 eS S 11 30 54.2 +2.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,4.0s
USRK Ussuriysk Arra 34.18 8 P P 11 25 43.7 +1.0
comp=Z,2.9nm,0.9s,baz=190,slow=7.3,SNR=2.9
USRK LR LR 11 40 33.8
comp=Z,196nm,18.3s,baz=178,slow=38
AS15 Alice Springs 34.55 167 ⇓P P 11 25 45.4 -0.8
baz=35
AS31 Alice Springs 34.58 167 eP P 11 25 46.5 +0.1
ASAR Alice Springs 34.58 167 P P 11 25 46.2 -0.3
comp=Z,1.5nm,0.3s,baz=352,slow=7.3,SNR=33
ASAR PcP PcP 11 28 20.5 +0.7
comp=Z,0.9nm,0.4s,baz=335,slow=2.5,SNR=4.2
ASAR S S 11 31 10.1 -0.6
comp=Z,0.9nm,0.6s,baz=358,slow=21,SNR=5.8
WRKA Warakurna 35.16 177 ⇑P P 11 25 51.9 +0.5
baz=36,SNR=38
CTA Charters Tower 36.10 147 ⇑P P 11 25 57.6 -1.9
baz=36
GTA Gaotai 37.29 325 ⇑P P 11 26 09.5 -0.1
GTA pP pP 11 26 37.6 +11
GTA sP sP 11 26 52.2 +17
GTA PP PnPn 11 27 40.8 +3.5
GTA PcP PcP 11 28 24.5 -3.3
GTA S S 11 31 46.4 -5.7
GTA sS sS 11 32 34.6 +13
GTA pmax pmax
comp=Z,19nm,0.7s
GTA pmax pmax
comp=Z,80nm,4.4s
GTA LR LR
comp=Z,570nm,17.7s
GTA LR LR
comp=Z,510nm,18.9s
GTA LR LR
comp=Z,870nm,18.6s
MEEK Meekatharra 37.41 191 ⇓P P 11 26 11.0 +0.4
baz=38,SNR=8.5
LSA Lhasa 37.91 306 eP P 11 26 15.2 -0.1
LSA pmax pmax
comp=Z,6.0nm,0.4s
LSA Lhasa 37.91 306 eP P 11 26 15.2 -0.1
comp=Z,5.5nm,0.4s
HABR Khabarovsk 38.80 9 eP P 11 26 20.7 -1.3
HABR *PP pP 11 26 39.7 +0.2
HABR e 11 27 51.6
HABR eS S 11 32 13.8 -0.5
HABR eSSS SSS 11 35 31.6
HABR e 11 36 21.8
HABR pmax pmax
comp=Z,27nm,1.4s
HABR MLR MLR
comp=Z,321nm,17.0s
KLR Kul'dur 39.11 6 eP P 11 26 27.9 +3.3
KLR e 11 28 36.2
TAPN Taplejung 39.92 301 eP P 11 26 30.9 -1.2
comp=Z,12nm,0.4s
ODAN Odare 40.05 300 eP P 11 26 31.8 -1.2
comp=Z,35nm,0.6s
H11S3 WAKE ISLAND Hy 40.06 74 T T 12 09 26.0
baz=263,slow=72,SNR=130
H11S1 WAKE ISLAND Hy 40.07 74 T T 12 09 27.1
baz=263,slow=72,SNR=65
H11S2 WAKE ISLAND Hy 40.07 74 T T 12 09 27.7
baz=263,slow=72,SNR=74
MORW Morawa 40.31 194 ⇓P P 11 26 35.4 +0.7
baz=41
H11N1 WAKE ISLAND Hy 40.39 72 T T 12 09 51.5
baz=267,slow=75,SNR=281
H11N2 WAKE ISLAND Hy 40.40 72 T T 12 09 51.5
baz=267,slow=75,SNR=225
H11N3 WAKE ISLAND Hy 40.41 72 T T 12 09 52.9
baz=267,slow=75,SNR=227
QLP Quilpie 40.65 155 ⇓P P 11 26 36.5 -1.1
baz=41
RAMN Ramite 40.75 300 eP P 11 26 38.1 -0.7
ULN Ulaanbaatar 40.77 340 d iP P 11 26 40.0 +1.5
ULN pmax pmax
comp=Z,10.0nm,0.6s
ULN MLR MLR
comp=Z,489nm,20.0s
ULN Ulaanbaatar 40.77 340 eP P 11 26 39.7 +1.1
comp=Z,10nm,0.6s
FORT Forrest 40.86 177 eP P 11 26 39.9 +0.6
comp=Z,15nm,0.6s
FORT Forrest 40.86 177 ⇑P P 11 26 39.9 +0.6
baz=41,SNR=18
SONM Songino Array 40.96 340 P P 11 26 40.8 +0.7
comp=Z,3.5nm,0.8s,baz=158,slow=9.4,SNR=32
SONM PcP PcP 11 28 39.9 +0.7
comp=Z,2.0nm,0.7s,baz=165,slow=3.1,SNR=6.4
SONM ScP ScP 11 32 27.5 +4.7
comp=Z,0.9nm,0.9s,baz=134,slow=3.8,SNR=4.4
SONM LR LR 11 46 06.9
comp=Z,509nm,18.6s,baz=173,slow=40
JIRN Jiri 41.30 300 eP P 11 26 42.8 -0.7
comp=Z,37nm,0.5s
GUN Gumba 41.64 301 eP P 11 26 45.3 -0.9
comp=Z,21nm,0.5s
BLDU Ballidu 41.65 192 ⇓P P 11 26 47.2 +1.4
baz=42
PKI Pulchoki 41.94 300 eP P 11 26 47.9 -0.8
comp=Z,11nm,0.6s
PKIN Phulchoki 41.95 300 eP P 11 26 48.4 -0.3
KKN Kakani 42.11 300 eP P 11 26 48.4 -1.6
DMN Daman 42.21 300 eP P 11 26 50.5 -0.3
comp=Z,8.4nm,0.5s
KLBR Kellerberrin 42.40 191 ⇓P P 11 26 52.4 +0.6
baz=43,SNR=9.6
GKN Gorkha 42.72 300 eP P 11 26 54.6 -0.2
KOLN Koldanda 43.54 300 eP P 11 27 00.1 -1.4
comp=Z,15nm,0.7s
DANN Dangsing 43.56 300 eP P 11 27 00.7 -1.0
comp=Z,19nm,0.7s
BBOO Buckleboo 43.88 168 eP P 11 27 04.6 +0.8
comp=Z,269nm,0.6s
BBOO Buckleboo 43.88 168 ⇑P P 11 27 04.5 +0.7
baz=44,SNR=11
PYUN Piuthan 44.15 300 eP P 11 27 05.3 -1.1
ZAK Zakamensk 44.21 339 eP P 11 27 05.5 -0.8
ZAK pmax pmax
comp=Z,3.0nm,1.5s
STKA Stephens Creek 44.45 161 eP P 11 27 09.0 +0.6
STKA pmax pmax
comp=Z,4.0nm,1.4s
STKA Stephens Creek 44.45 161 P P 11 27 08.8 +0.5
comp=Z,2.5nm,0.3s,baz=351,slow=6.5,SNR=14
STKA LR LR 11 48 50.4
comp=Z,236nm,19.1s,baz=272,slow=40
STKA Stephens Creek 44.45 161 eP P 11 27 09.0 +0.6
comp=Z,4.1nm,1.4s
STKA Stephens Creek 44.45 161 ⇓P P 11 27 09.2 +0.8
baz=45,SNR=12
HTT Hallett 45.14 165 ⇓P P 11 27 16.0 +2.1
baz=45,SNR=6.6
TLY Talaya 45.18 340 eP P 11 27 15.1 +1.1
TLY e 11 28 56.9
TLY pmax pmax
comp=Z,16nm,0.8s
TLY MLR MLR
comp=Z,263nm,18.0s
TLY Talaya 45.18 340 eP P 11 27 14.6 +0.7
comp=Z,13nm,0.7s
RKGY Rocky Gully 45.48 191 ⇓P P 11 27 18.3 +1.8
baz=46,SNR=13
CMSA Cobar Meteorol 45.61 156 ⇑P P 11 27 18.8 +1.2
baz=46
MOY Mondy 46.08 338 eP P 11 27 21.8 +0.6
HYB Hyderabad 46.63 284 i P P 11 27 26.0 +0.1
WMQ Urumqi 47.13 322 eP P 11 27 30.3 +0.8
WMQ pP pP 11 27 59.1 +12
WMQ sP sP 11 28 13.6 +18
WMQ PcS PcS 11 32 54.8 -0.6
WMQ S S 11 34 11.2 -5.5
WMQ sS sS 11 35 01.8 +15
WMQ pmax pmax
comp=Z,9.0nm,0.5s
WMQ LR LR
comp=Z,680nm,14.4s
WMQ LR LR
comp=Z,970nm,18.2s
WMQ LR LR
comp=Z,540nm,18.2s
ARPS Mount Arapiles 49.08 163 ⇓P P 11 27 46.1 +1.7
baz=49
PETK Petropavlovsk- 49.69 24 P P 11 27 50.8 +1.8
comp=Z,2.3nm,0.6s,baz=200,slow=5.9,SNR=5.4
PETK LR LR 11 49 51.3
comp=Z,180nm,18.5s,baz=217,slow=37
DZM Mont Dzumac 50.96 129 eS S 11 35 04.5 -6.5
comp=Z,418nm,26.8s
DZM eLR LR 11 42 45.2
comp=Z,319nm,25.2s
DZM Mont Dzumac 50.96 129 LR LR 11 46 50.5
comp=Z,207nm,20.6s,baz=303,slow=33
YAK Yakutsk 51.73 2 eP P 11 28 03.0 -1.0
YAK pmax pmax
comp=Z,13nm,1.5s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.1s
MK31 Makanchi Array 51.93 323 eP P 11 28 05.7 -0.3
MK31 Makanchi Array 51.93 323 eP P 11 28 05.7 -0.3
MKAR Makanchi Array 51.93 323 P P 11 28 05.7 -0.3
comp=E,7.0nm,0.7s,baz=122,slow=8.5,SNR=62
MKAR PcP PcP 11 29 18.4 +0.7
comp=E,4.3nm,0.7s,baz=111,slow=5.5,SNR=5.7
MKAR LR LR 11 52 30.8
comp=E,256nm,18.2s,baz=126,slow=39
MKAR Makanchi Array 51.93 323 ⇑P P 11 28 05.7 -0.3
baz=52
KSH Kashi 53.12 312 eP P 11 28 17.7 +2.7
KSH sP sP 11 29 02.8 +21
KSH ePP PP 11 30 22.0 +6.5
KSH S S 11 35 36.1 -4.2
KSH sS sS 11 36 30.6 +19
KSH pmax pmax
comp=E,41nm,3.6s
KSH LR LR
comp=E,79nm,4.3s
KSH LR LR
comp=E,89nm,4.3s
KSH LR LR
comp=E,200nm,5.6s
ZAA0 Zalesovo Array 54.55 331 eP P 11 28 24.2 -0.7
ZALV Zalesovo Beam 54.55 331 P P 11 28 24.2 -0.8
comp=E,2.7nm,0.5s,baz=123,slow=6.7,SNR=19
ZALV PcP PcP 11 29 27.0 -0.3
comp=E,0.9nm,0.5s,baz=106,slow=4.8,SNR=1.9
ZALV LR LR 11 54 14.1
comp=E,234nm,18.4s,baz=70,slow=39
TKM2 Tokmak 2 54.56 316 eP P 11 28 25.0 -0.5
TKM2 pmax pmax
comp=Z,2.0nm,0.8s
TKM2 Tokmak 2 54.56 316 eP P 11 28 25.0 -0.5
comp=Z,2.0nm,0.8s
AAK Ala-Archa 55.22 315 P P 11 28 29.8 -0.4
comp=Z,0.8nm,0.5s,baz=169,slow=9.2,SNR=4.7
EKS2 Erkin-Say 55.73 315 eP P 11 28 34.3 +0.5
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 55.73 315 eP P 11 28 34.2 +0.5
comp=Z,3.7nm,0.8s
NVS Novosibirsk 55.83 332 eP P 11 28 31.4 -2.7
NVS pmax pmax
comp=Z,15nm,1.7s
KURK Kurchatov 55.98 326 eP P 11 28 35.0 -0.3
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 55.98 326 eP P 11 28 35.0 -0.3
comp=Z,5.7nm,0.7s
KURBB Kurchatov Arra 55.98 325 P P 11 28 34.7 -0.7
comp=Z,6.0nm,0.6s,baz=127,slow=6.8,SNR=28
KKAR Karatay Array 58.14 315 eP P 11 28 50.7 -0.1
KKAR pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 58.14 315 eP P 11 28 50.7 -0.1
comp=Z,1.3nm,0.3s
TIXI Tiksi 61.35 1 ceP P 11 29 12.0 -0.2
TIXI pmax pmax
comp=Z,16nm,1.7s
TIXI MLR MLR
comp=Z,213nm,18.0s
TIXI Tiksi 61.35 1 eP P 11 29 12.7 +0.6
comp=Z,8.9nm,1.1s
BRVK Borovoye 61.65 325⇓iP P 11 29 14.6 0.0
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK MLR MLR
comp=Z,196nm,17.0s
BRVK Borovoye 61.65 325 eP P 11 29 13.6 -1.0
comp=Z,4.8nm,0.8s
AFI Afiamalu 66.12 110 LR LR 11 53 09.5
comp=Z,343nm,21.2s,baz=292,slow=31
AB31 Akbulak array 66.78 319 i P P 11 29 47.3 -0.9
AB31 pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 66.78 319 eP P 11 29 47.1 -1.1
comp=Z,2.3nm,0.6s
ABKAR Akbulak array 66.78 319 ⇑P P 11 29 47.2 -1.0
baz=67
RPZ Rata Peaks 67.47 146 eP P 11 29 52.2 -0.5
comp=Z,16nm,0.9s
SVE Sverdlovsk 68.13 327 eP P 11 29 57.0 +0.4
SVE pmax pmax
comp=Z,8.0nm,0.8s
AKTO Aktyubinsk 68.23 320 P P 11 29 56.9 -0.4
comp=Z,2.3nm,0.7s,baz=94,slow=9.9,SNR=12
ARU Arti 69.14 327c iP P 11 30 02.0 -0.9
ARU *PP pP 11 30 21.2 -0.7
ARU 11 32 32.6
ARU S S 11 39 03.4 +0.5
ARU pmax pmax
comp=Z,30nm,2.5s
ARU Arti 69.14 327 eP P 11 30 01.9 -1.0
comp=Z,7.5nm,0.5s
PRGR Permogore 76.51 331 P P 11 30 44.0 -2.4
IM04 Indian Mountai 76.64 24 eP P 11 30 50.6 +3.5
KDAK Kodiak Island 76.73 33 i P P 11 30 51.3 +3.6
RSO Redoubt South 76.75 30 eP P 11 30 50.2 +2.2
RAYN Ar Rayn 77.43 292 eP P 11 30 52.2 -0.2
comp=Z,23nm,0.7s
KBZ Khabaz 78.10 313 P P 11 30 54.9 -0.8
comp=Z,3.0nm,0.9s,baz=102,slow=2.0,SNR=3.8
KBZ LR LR 12 10 06.8
comp=Z,188nm,18.4s,baz=82,slow=39
COLD Coldfoot 78.14 23 eP P 11 30 56.7 +1.2
comp=Z,23nm,1.7s
KIV Kislovodsk 78.24 313 eP P 11 30 57.1 +0.5
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,226nm,18.0s
MCK McKinley 78.62 27 eP P 11 30 59.3 +1.1
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 78.62 27 eP P 11 30 59.3 +1.1
comp=Z,13nm,1.0s
KLMR Klimovskoe 79.45 330 eP P 11 30 56.5 -6.2
KLMR pmax pmax
comp=Z,22nm,1.8s
ILAR Eielson Array 79.50 26 P P 11 31 03.5 +0.6
comp=Z,0.6nm,0.9s,baz=238,slow=5.2,SNR=10
ILAR LR LR 12 04 27.4
comp=Z,90nm,21.9s,baz=275,slow=34
PAX Paxson 80.20 28 eP P 11 31 07.8 +0.9
PAX pmax pmax
comp=Z,22nm,1.9s
PAX Paxson 80.20 28 eP P 11 31 07.8 +0.9
comp=Z,22nm,1.9s
OBN Obninsk 81.40 324 eP P 11 31 11.7 -1.6
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,116nm,17.0s
OPO Ambohidratompo 82.93 250 P P 11 31 22.4 +0.2
comp=Z,4.0nm,0.7s,baz=8.3,slow=6.3,SNR=5.4
OPO LR LR 12 04 53.0
comp=Z,174nm,21.0s,baz=58,slow=33
ASF Jabal al Asfar 83.96 301 P P 11 31 28.5 +1.3
comp=Z,2.6nm,0.7s,baz=60,slow=5.2,SNR=5.0
SPITS Spitsbergen Ar 83.98 349 P P 11 31 24.9 -1.4
comp=Z,12nm,0.8s,baz=107,slow=5.6,SNR=12
ARCES ARCESS Array B 84.14 340 P P 11 31 27.7 +0.4
comp=Z,3.9nm,0.9s,baz=77,slow=6.4,SNR=8.3
ARCES LR LR 12 14 27.3
comp=Z,92nm,18.1s,baz=90,slow=40
INK Inuvik 84.33 22 P P 11 31 29.2 +1.0
comp=Z,0.4nm,0.4s,baz=297,slow=3.8,SNR=8.2
BRTR Keskin Array B 85.42 309 P P 11 31 33.9 -0.6
comp=Z,1.9nm,0.8s,baz=111,slow=4.5,SNR=9.9
BRTR LR LR 12 15 05.2
comp=Z,69nm,20.2s,baz=80,slow=40
FINES FINESS Array B 85.82 332 P P 11 31 35.1 -0.7
comp=Z,1.8nm,0.6s,baz=63,slow=7.0,SNR=7.9
FINES LR LR 12 14 38.9
comp=Z,137nm,19.4s,baz=90,slow=39
EIL Elat 86.00 299 P P 11 31 38.3 +0.9
comp=Z,6.5nm,0.8s,baz=14,slow=7.3,SNR=4.8
EIL Elat 86.00 299 ⇓P P 11 31 35.2 -2.2
baz=86
AKASG Malin Array Be 86.47 321ceP P 11 31 38.5 -0.7
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 86.47 321 P P 11 31 38.6 -0.6
comp=Z,1.8nm,0.6s,baz=63,slow=4.8,SNR=9.5
AKASG LR LR 12 14 19.9
comp=Z,112nm,18.1s,baz=95,slow=38
KIEV Kiev 86.48 321⇓eP P 11 31 38.7 -0.5
KIEV Kiev 86.48 321 eP P 11 31 38.5 -0.7
comp=Z,4.0nm,0.9s
AK02 Malin Array Si 86.49 321 eP P 11 31 38.7 -0.6
PPT Papeete 87.70 108 LR LR 12 03 43.2
comp=Z,150nm,20.2s,baz=278,slow=31
PPT2 Papeete2 87.71 108 eS SKSac 11 42 12.7 +4.4
comp=Z,116nm,24.5s
PPT2 Papeete2 87.71 108 eLR LR 11 59 40.6
comp=Z,246nm,22.2s
TBI Tubuai 88.96 114 eS SKSac 11 42 24.1 +8.7
comp=Z,126nm,31.5s
TBI Tubuai 88.96 114 eLR LR 12 00 16.6
comp=Z,386nm,23.5s
KMBO Kilima Mbogo 89.09 269 LR LR 12 12 49.4
comp=Z,204nm,18.0s,baz=94,slow=36
MAW Mawson 89.66 200 P P 11 31 54.5 +0.7
comp=Z,6.3nm,0.5s,baz=89,slow=4.0,SNR=9.8
BUR08 Bucovina Ar. S 89.74 318 eP P 11 31 55.2 +0.2
VNDA Vanda 89.95 173 P P 11 31 54.9 -0.3
comp=Z,4.8nm,1.0s,baz=324,slow=4.8,SNR=2.7
VNDA LR LR 12 11 32.9
comp=Z,237nm,21.2s,baz=328,slow=35
DAG Danmarks Havn 90.73 352 i P P 11 31 58.9 +0.1
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG Danmarks Havn 90.73 352 i P P 11 31 58.9 +0.1
comp=Z,3.7nm,0.9s
RES Resolute Bay 91.52 10 P P 11 32 04.1 +1.6
comp=Z,1.2nm,0.8s,baz=329,slow=5.9,SNR=5.2
CRVS Cervenica-Dubn 91.79 320 eP P 11 32 04.8 +0.4
CRVS Cervenica-Dubn 91.79 320 eP P 11 32 04.8 +0.4
HFS Hagfors 91.98 332 P P 11 32 03.8 -1.2
comp=Z,1.6nm,0.6s,baz=123,slow=9.7,SNR=4.1
NB2 NORSAR Subarra 92.69 334 P P 11 32 07.2 -1.1
comp=Z,1.2nm,0.7s,baz=67,slow=4.4
NOA NORSAR Array B 92.69 334 P P 11 32 06.3 -1.9
comp=Z,1.1nm,0.6s,baz=66,slow=4.5,SNR=4.4
NOA LR LR 12 17 57.2
comp=Z,174nm,19.4s,baz=65,slow=38
IDI Anoyia 93.15 307 P P 11 32 09.0 -2.0
comp=Z,16nm,0.9s,baz=100,slow=18,SNR=1.9
YKA Yellowknife Ar 93.81 24 P P 11 32 14.2 +0.8
comp=Z,0.8nm,0.8s,baz=300,slow=4.7,SNR=17
YKA PKKPbc PKKPdf 11 49 15.4 -1.7
comp=Z,0.1nm,0.5s,baz=120,slow=2.7,SNR=5.4
GERES GERESS Array B 96.60 322 P P 11 32 26.4 -0.1
comp=Z,0.7nm,0.6s,baz=109,slow=7.2,SNR=4.1
GERES LR LR 12 20 13.6
comp=Z,157nm,18.4s,baz=107,slow=38
RKT Rikitea 102.09 112 eLR LR 12 06 17.6
comp=Z,181nm,29.5s
PDAR Pinedale Array 106.78 39 PKKPab PKKPab 11 48 54.6 -3.3
comp=Z,0.4nm,0.9s,baz=112,slow=6.9,SNR=4.1
TXAR Lajitas Array 117.93 49 PKP PKPdf 11 37 44.6 +1.1
comp=Z,0.6nm,0.9s,baz=231,slow=1.7,SNR=6.0
JCT Junction City 120.10 46 ePKIKP PKPdf 11 37 49.5 +1.8
JCT Junction City 120.10 46 ePKPdf PKPdf 11 37 49.5 +1.8
TORD Torodi Ar. Bea 120.13 292 PKP PKPdf 11 37 47.9 -0.1
comp=Z,1.4nm,0.4s,baz=77,slow=2.3,SNR=25
KIC Kosan Boka 128.35 287 ePKP1 PKPdf 11 38 04.8 +1.0
comp=Z,14nm,0.8s
DBIC Dimbokro 128.36 287 PKP PKPdf 11 38 03.3 -0.5
comp=Z,3.0nm,0.7s,baz=351,slow=1.2,SNR=5.1
TIC Toumodi 128.53 287 ePKP1 PKPdf 11 38 04.0 -0.2
comp=Z,3.8nm,0.2s
LIC Lamto 128.66 287 ePKP1 PKPdf 11 38 05.4 +1.0
comp=Z,16nm,0.7s
PLCA Paso Flores 146.27 157 PKPbc PKPab 11 38 38.8 +0.8
comp=Z,3.0nm,0.6s,baz=227,slow=1.9,SNR=7.2
LPAZ La Paz 164.90 115 PKP PKPdf 11 39 03.6 +1.7
comp=Z,1.2nm,0.9s,baz=90,slow=6.1,SNR=3.4

*DDA **02** 11:23:51.0, 34.66N 32.64E, h3km, MD3.4*
*NSSC **02** 11:23:55.2±1.4, 34.89N 32.20E, h38km±999km, MD2.0, ML2.7*
*ISCJB **02** 11:23:56.9±0.5, 34.72N±0.02 32.52E±0.03, h22km±4km, Error ellipse: s-maj=4.8km s-min=3.2km az=174.1*
*ISK **02** 11:23:56.1, 34.72N 32.52E, h10km, ML3.6*
*CSEM **02** 11:23:57.6±0.1, 34.74N 32.60E, h10km, ML3.6, Error ellipse: s-maj=3.9km s-min=2.4km az=87.0*
*GII **02** 11:23:58.8±0.0, 34.61N 32.75E, h1km±1km, MD2.7/6,*

Mm2.7/3
NIC 02 11:23:58.0,34.86N×32.60E,h16km,ML3.6
HLW 02 11:23:59.7,34.72N×32.53E,h33km±32km,Md3.6
ISC 02 11:23:56.7±1.1,34.76N±0.02×32.52E±0.03,h12km±8km,
n94,σ1§05/144,4C-4D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	Paphos	0.19	312	⇑iP	Pb	11 24 03.1	+0.9
	baz=96						
PPCY	Paphos	0.19	312	⇑iP	Pb	11 24 03.1	+0.9
SZAC	Souni-Zanaja	0.30	90	⇑iP	Pb	11 24 03.8	-0.3
	baz=294						
SZAC				S	Sb	11 24 08.6	-0.5
SZAC	Souni-Zanaja	0.30	90	⇑iP	Pb	11 24 03.8	-0.3
SZAC				S	Sb	11 24 08.6	-0.5
AKMC	Akamas	0.31	331	⇓iP	Pb	11 24 04.4	+0.1
	baz=126						
AKMC	Akamas	0.31	331	⇓iP	Pb	11 24 04.4	+0.1
ALFC	Alevga	0.41	10	⇓iP	Pg	11 24 04.4	-0.4
	baz=180						
ALFC				S	Sg	11 24 09.6	-0.7
ALFC	Alevga	0.41	10	⇓iP	Pg	11 24 04.4	-0.4
ALFC				S	Sg	11 24 09.6	-0.7
LEF	Lefka	0.48	40	ePG	Pg	11 24 05.5	-0.6
LEF				eSG	Sg	11 24 12.7	+0.3
LEF	Lefka	0.48	40	ePg	Pg	11 24 05.5	-0.6
LEF				eSg	Sg	11 24 12.7	+0.3
AKDN	Akdeniz- K¨–br	0.66	34	ePG	Pg	11 24 09.9	+0.4
AKDN				eSG	Sb	11 24 20.1	+0.9
AKDN	Akdeniz- K¨–br	0.66	34	ePg	Pg	11 24 09.9	+0.4
AKDN				eSg	Sb	11 24 20.1	+0.9
CSS	Prodhromos	0.70	73	P	Pg	11 24 09.1	-1.2
	baz=260						
CSS	Prodhromos	0.70	73	ePG	Pg	11 24 09.9	-0.3
CSS				eSG	Sb	11 24 20.5	0.0
CSS	Prodhromos	0.70	73	Pg	Pg	11 24 09.8	-0.5
CSS	Prodhromos	0.70	73	P	Pg	11 24 09.1	-1.2
CSS	Prodhromos	0.70	73	ePg	Pg	11 24 10.0	-0.3
CSS				eSg	Sb	11 24 20.5	0.0
MAMC	Mammari	0.71	54	P	Pg	11 24 09.9	-0.6
	baz=238						
MAMC	Mammari	0.71	54	P	Pg	11 24 09.9	-0.6
LFK	Lefkose	0.98	58	ePG	Pb	11 24 15.9	+0.1
LFK				eSG	Sn	11 24 30.2	-0.2
LFK	Lefkose	0.98	58	ePg	Pb	11 24 15.9	+0.1
LFK				eSg	Sn	11 24 30.2	-0.2
PHNC	Paralimni	1.27	78	P	Pg	11 24 21.1	0.0
	baz=263						
PHNC				S	Sg	11 24 39.4	+1.7
PHNC	Paralimni	1.27	78	P	Pg	11 24 21.1	0.0
PHNC				S	Sg	11 24 39.4	+1.7
GAZI	Gazipasa	1.48	354	iP	Pn	11 24 21.4	-1.9
GAZI				iS	Sn	11 24 40.5	-2.1
GAZI	Gazipasa	1.48	354	iP	Pn	11 24 21.4	-1.9
GAZI				iS	Sn	11 24 40.5	-2.1
EREN	Erenkoy	1.56	60	ePN	Pb	11 24 25.3	-0.2
EREN	Erenkoy	1.56	60	ePn	Pb	11 24 25.3	-0.2
ERMK	Ermenek	1.91	10	iP	Pn	11 24 29.3	0.0
ERMK				iS	Sn	11 24 54.7	+1.3
ERMK	Ermenek	1.91	10	iP	Pn	11 24 29.3	0.0
ERMK				iS	Sn	11 24 54.7	+1.3
KIZK	Mersin	2.17	37	iP	Pn	11 24 32.3	-0.4
KIZK				iS	Sn	11 24 58.0	-1.6
KIZK	Mersin	2.17	37	iP	Pn	11 24 32.3	-0.4
KIZK				iS	Sn	11 24 58.0	-1.6
MERS	Mersin	2.67	37	ePN	Pn	11 24 41.1	+1.5
MERS	Mersin	2.67	37	ePn	Pn	11 24 41.1	+1.5
HNTI	Hanita	2.77	126	Pn	Pn	11 24 40.9	0.0
HNTI				Sn	Sn	11 25 13.4	-0.9
HNTI	Hanita	2.77	126	Pn	Pn	11 24 40.9	0.0
HNTI				Sn	Sn	11 25 13.4	-0.9
KORT	Korkueli	2.85	322	iP	Pb	11 24 46.1	-1.5
KORT	Korkueli	2.85	322	iP	Pb	11 24 46.1	-1.5
HWQ	Hawqa	2.87	99	eP	Pn	11 24 42.3	-0.2
HWQ	Hawqa	2.87	99	eP	Pn	11 24 42.3	-0.2
MMA0B	Mount Meron ar	2.96	125	Pn	Pn	11 24 43.3	-0.4
MMA0B	Mount Meron ar	2.96	125	ePn	Pn	11 24 43.3	-0.4
SUTC	Sutluce-Ispart	2.98	336	ePN	Pn	11 24 45.7	+1.8
SUTC	Sutluce-Ispart	2.98	336	ePn	Pn	11 24 45.7	+1.8
ARNB	Al Arnab	3.03	68	eP	Pn	11 24 43.6	-1.0
ARNB				eS	Sn	11 25 18.5	-2.5
ARNB				AML	AML	11 25 32.5	
	comp=N,24nm,0.4s						
ARNB				AML	AML	11 25 33.5	
	comp=E,46nm,0.5s						
ARNB	Al Arnab	3.03	68	eP	Pn	11 24 43.6	-1.0
	SNR=90						
ARNB				eS	Sn	11 25 18.5	-2.5
	comp=E,46nm,0.5s,SNR=90						
BRBR	Barbar	3.15	114	eP	Pn	11 24 46.4	+0.1
BRBR				eS	Sn	11 25 23.6	-0.4
BRBR				AML	AML	11 25 24.8	
	comp=N,123nm,0.3s						
BRBR				AML	AML	11 25 24.9	
	comp=E,88nm,0.4s						
BRBR	Barbar	3.15	114	eP	Pn	11 24 46.4	+0.1
	SNR=90						
BRBR				eS	Sn	11 25 23.6	-0.4
	comp=E,88nm,0.4s,SNR=90						
KONT	Konya--Tatoy	3.19	358	ePN	Pn	11 24 48.6	+1.9
KONT	Konya--Tatoy	3.19	358	ePn	Pn	11 24 48.6	+1.9
KARA	Karaisali	3.24	39	ePN	Pn	11 24 49.1	+1.7
KARA	Karaisali	3.24	39	ePn	Pn	11 24 49.1	+1.7
MMLI	Mount Malkishu	3.35	133	Pn	Pn	11 24 48.9	0.0
MMLI				Sn	Sn	11 25 28.1	-0.6
MMLI	Mount Malkishu	3.35	133	Pn	Pn	11 24 48.9	0.0
MMLI				Sn	Sn	11 25 28.1	-0.6
LADK	Ladik-KONYA	3.44	358	ePN	Pn	11 24 52.2	+1.9
LADK	Ladik-KONYA	3.44	358	ePn	Pn	11 24 52.2	+1.9
BTCH	Batrach	3.46	67	eP	Pn	11 24 50.1	-0.5
BTCH				eS	Sn	11 25 30.1	-1.5
BTCH				AML	AML	11 25 47.0	
	comp=N,41nm,0.3s						
BTCH				AML	AML	11 25 48.3	
	comp=E,59nm,0.4s						
BTCH	Batrach	3.46	67	eP	Pn	11 24 50.1	-0.5
	SNR=90						
BTCH				eS	Sn	11 25 30.1	-1.5
	comp=E,59nm,0.4s,SNR=90						
HMDT	Nahal Hemdat	3.54	134	Pn	Pn	11 24 52.6	+1.0
HMDT				Sn	Sn	11 25 33.0	-0.4
HMDT	Nahal Hemdat	3.54	134	Pn	Pn	11 24 52.6	+1.0
HMDT				Sn	Sn	11 25 33.0	-0.4
TCHB	Talchebab	3.55	125	eP	Pn	11 24 52.7	+1.0
TCHB				eS	Sn	11 25 33.1	-0.5
TCHB				AML	AML	11 25 35.0	
	comp=N,146nm,0.4s						
TCHB				AML	AML	11 25 39.9	
	comp=E,98nm,0.4s						
TCHB	Talchebab	3.55	125	eP	Pn	11 24 52.7	+1.0
	SNR=90						
TCHB				eS	Sn	11 25 33.1	-0.5
	comp=E,98nm,0.4s,SNR=90						
KOZT	Kozan	3.82	44	ePN	Pn	11 24 56.6	+1.2
KOZT	Kozan	3.82	44	ePn	Pn	11 24 56.6	+1.2
RSH		3.92	165	P	Pn	11 24 57.2	+0.4
	baz=164						
RSH				S	Sn	11 25 41.3	-1.4
	baz=164						
RSH		3.92	165	P	Pn	11 24 57.2	+0.4
RSH				S	Sn	11 25 41.3	-1.4
DSI	Dead Sea	3.98	142	Pn	Pn	11 24 58.3	+0.7
DSI				Sn	Sn	11 25 44.2	0.0
DSI	Dead Sea	3.98	142	Pn	Pn	11 24 58.3	+0.7
DSI				Sn	Sn	11 25 44.2	0.0
SALA	Sala	4.06	119	eP	Pn	11 25 00.1	+1.2
SALA				eS	Sn	11 25 47.0	+0.5
SALA				AML	AML	11 25 50.2	
	comp=E,5.0nm,0.5s						
SALA				AML	AML	11 25 53.7	
	comp=N,40nm,0.3s						
SALA	Sala	4.06	119	eP	Pn	11 25 00.1	+1.2
	SNR=90						
SALA				eS	Sn	11 25 47.0	+0.5
	comp=N,40nm,0.3s,SNR=90						
RTMI	Retamim	4.12	153	Pn	Pn	11 24 59.8	+0.3
RTMI				Sn	Sn	11 25 47.0	-0.6
RTMI	Retamim	4.12	153	Pn	Pn	11 24 59.8	+0.3
RTMI				Sn	Sn	11 25 47.0	-0.6
MKRJ	Makawir	4.13	140	Pn	Pn	11 25 00.7	+1.0
AMAG	Maghara	4.14	172	P	Pn	11 24 59.9	0.0
	baz=171						
AMAG				S	Sn	11 25 45.7	-2.5
	baz=171						
AMAG	Maghara	4.14	172	P	Pn	11 24 59.9	0.0
AMAG				S	Sn	11 25 45.7	-2.5
ZALF	Zalf	4.41	113	eP	Pn	11 25 04.8	+1.3
ZALF				eS	Sn	11 25 55.0	+0.2
ZALF				AML	AML	11 26 00.5	
	comp=N,18nm,0.6s						
ZALF				AML	AML	11 26 01.9	
	comp=E,16nm,0.4s						
ZALF	Zalf	4.41	113	eP	Pn	11 25 04.8	+1.3
	SNR=90						
ZALF				eS	Sn	11 25 55.0	+0.2
	comp=E,16nm,0.4s,SNR=90						
PRNI	Paran	4.87	154	Pn	Pn	11 25 10.9	+1.1
PRNI	Paran	4.87	154	Pn	Pn	11 25 10.9	+1.1
SUZ		4.91	177	P	Pn	11 25 11.3	+1.0
	baz=176						
SUZ		4.91	177	P	Pn	11 25 11.3	+1.0
HNKL	Nakhl	4.97	165	P	Pn	11 25 11.2	0.0
	baz=165						
HNKL				S	Sn	11 26 06.8	-1.8
	baz=165						
HNKL	Nakhl	4.97	165	P	Pn	11 25 11.2	0.0
HNKL				S	Sn	11 26 06.8	-1.8
KRMI	Paran Flat	4.99	157	Pn	Pn	11 25 11.6	+0.1
KRMI	Paran Flat	4.99	157	Pn	Pn	11 25 11.6	+0.1
HRFI	Mount Harif	5.17	155	Pn	Pn	11 25 14.7	+0.8
HRFI	Mount Harif	5.17	155	Pn	Pn	11 25 14.7	+0.8
GLL	Jalalah	5.21	188	P	Pn	11 25 15.3	+0.9
	baz=188						
GLL	Jalalah	5.21	188	P	Pn	11 25 15.4	+0.9
EIL	Elat	5.47	157	Pn	Pn	11 25 18.7	+0.6
EIL				Sn	Sn	11 26 20.4	-0.6
EIL	Elat	5.47	157	Pn	Pn	11 25 18.7	+0.6
EIL				Sn	Sn	11 26 20.4	-0.6
HKAT	Jabal Katrina	6.34	168	P	Pn	11 25 31.1	+0.9
	baz=168						
HKAT	Jabal Katrina	6.34	168	P	Pn	11 25 31.1	+0.9
TR2		6.43	170	P	Pn	11 25 32.2	+0.9
	baz=170						
TR2		6.43	170	P	Pn	11 25 32.2	+0.9

AZER 02 11:26:49.8±3.1,37.69N×46.87E,h3km,Error ellipse: s-maj=4.0km s-min=1.7km az=350.0
CSEM 02 11:26:50.9±0.3,37.88N×46.83E,h2km,ML3.8,Error ellipse: s-maj=6.9km s-min=5.3km az=53.0
ISCJB 02 11:26:51.5±0.4,37.86N±0.02×46.86E±0.03,h10km,Error ellipse: s-maj=3.7km s-min=3.2km az=40.9
THR 02 11:26:51.0±0.6,38.00N×47.00E,h14km±7km,ML3.5
TEH 02 11:26:51.7,37.84N×46.83E,h5km,ML3.8
ISC 02 11:26:52.2±0.8,37.83N±0.02×46.86E±0.02,h10km,n57,
σ1§46/80,14C-21D,Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBST	Bostanabad	0.14	168	⇓ePg	Pg	11 26 54.1	-1.4
IBST				eSg	Sg	11 26 56.5	-1.3
IBST				e		11 26 56.9	
	comp=Z,3360μm,0.0s						
IBST	Bostanabad	0.14	168	⇓ePg	Pg	11 26 54.1	-1.4
IBST				eSg	Sg	11 26 56.5	-1.3
IFTB	Fath-abad	0.41	297	⇓ePg	Pg	11 26 58.8	-1.5
IFTB				eSg	Sg	11 27 05.2	-0.6
IFTB	Fath-abad	0.41	297	⇓ePg	Pg	11 26 58.8	-1.5
IFTB				eSg	Sg	11 27 05.2	-0.6
IHRS	Heris	0.51	17	⇓ePg	Pg	11 27 00.3	-1.8
IHRS				eSg	Sg	11 27 07.5	-1.3
IHRS				e		11 27 08.8	
	comp=Z,13μm,0.1s						
IHRS	Heris	0.51	17	⇓ePg	Pg	11 27 00.3	-1.8
IHRS				eSg	Sg	11 27 07.5	-1.3
ISRB	Sarab	0.64	91	eSg	Sg	11 27 13.4	+0.3
ISRB				⇓ePg	Pg	11 27 03.4	-1.3
ISRB				e		11 27 15.6	
	comp=Z,73μm,0.1s						
ITBZ	Tabriz	0.69	306	eSg	Sg	11 27 13.4	-1.2
ITBZ				e		11 27 14.3	
	comp=Z,43μm,0.1s						
ITBZ	Tabriz	0.69	306	eSg	Sg	11 27 13.4	-1.2
IMRD	Marand	1.26	314	ePg	Pn	11 27 14.1	-2.0
IMRD				e		11 27 33.0	
	comp=Z,54μm,0.1s						
IMRD	Marand	1.26	314	ePg	Pn	11 27 14.1	-2.0
LRK	Lerik	1.42	55	⇓Pg	Pn	11 27 17.3	-1.0
LRK				⇑Sg	Sg	11 27 37.4	-0.5
LRK	Lerik	1.42	55	Pg	Pn	11 27 17.3	-1.0
LRK				Sg	Sg	11 27 37.4	-0.5
NAX	Nakhchivan	1.71	322	⇑Pg	Pb	11 27 22.7	-1.1
	SNR=72						
NAX				⇑Sg	Sg	11 27 48.3	+1.0
NAX	Nakhchivan	1.71	322	Pg	Pb	11 27 22.7	-1.1
	SNR=72						
NAX				Sg	Sg	11 27 48.3	+1.0
LKRN	Lenkeran, Azer	1.75	59	⇑Pg	Pb	11 27 23.1	-1.3
	SNR=3.7						
LKRN				⇑Sg	Sg	11 27 49.2	+0.8
LKRN	Lenkeran, Azer	1.75	59	Pg	Pb	11 27 23.1	-1.3
	SNR=3.7						
LKRN				Sg	Sg	11 27 49.2	+0.8
GLBA	Cilibad	1.85	40	⇑Pg	Pb	11 27 25.4	-0.7
	SNR=68						
GLBA				⇑Sg	Sg	11 27 52.3	+0.6
GLBA	Cilibad	1.85	40	Pg	Pb	11 27 25.4	-0.7
	SNR=68						
GLBA				Sg	Sg	11 27 52.3	+0.6
ZNJK	Zanjan	1.86	128	ePg	Pb	11 27 25.3	-1.2
	comp=Z,665nm,0.3s						
ZNJK	Zanjan	1.86	128	ePg	Pb	11 27 25.3	-1.2
ZNJK				AML	AML	11 27 54.0	
	comp=E,539nm,0.3s						
ZNJK				AML	AML	11 27 54.6	
	comp=N,665nm,0.3s						
MAKU	Maku	2.28	312	ePg	Pb	11 27 32.1	-1.5
	comp=N,168nm,0.5s						
MAKU	Maku	2.28	312	ePg	Pb	11 27 32.1	-1.5
MAKU				AML	AML	11 28 11.1	
	comp=N,168nm,0.5s						
BRDA	Brd	2.44	6	Pg	Pb	11 27 36.2	+0.1
	SNR=12						
BRDA				⇓Sg	Sg	11 28 11.3	+0.8
BRDA	Brd	2.44	6	Pg	Pb	11 27 36.2	+0.1
	SNR=12						
BRDA				Sg	Sg	11 28 11.3	+0.8
KDMR	Kurdemir	2.74	22	⇓S	Sg	11 28 17.5	-2.7
SNGE	Sanandaj	2.77	172	ePn	Pn	11 27 39.1	+2.3
SNGE	Sanandaj	2.77	172	ePn	Pn	11 27 39.1	+2.3
GANJ	Ganja	2.84	352	⇑Pn	Pb	11 27 42.1	-0.9
	SNR=3.6						
GANJ				⇑S	Sb	11 28 18.9	+1.1
MNGR	Mingechevir, A	2.94	3	⇓Pg	Pb	11 27 44.1	-0.6
MNGR				⇓Sg	Sg	11 28 25.5	-1.1
MNGR	Mingechevir, A	2.94	3	Pg	Pb	11 27 44.1	-0.6
MNGR				Sg	Sg	11 28 25.5	-1.1
IGZV	Ghazvin	3.05	117	ePn	Pn	11 27 41.3	+0.6
IGZV				e		11 28 34.7	
	comp=Z,2μm,0.2s						
IGZV	Ghazvin	3.05	117	ePn	Pn	11 27 41.3	+0.6
IML	Ismayilli	3.13	19	⇓Pn	Pn	11 27 43.0	+1.3
IML				⇓S	Sb	11 28 26.2	0.0
IML	Ismayilli	3.13	19	Pn	Pn	11 27 43.0	+1.3
PQL	Pirkuli	3.24	24	Pn	Pn	11 27 44.9	+1.6
	SNR=9.4						
PQL				⇑S	Sb	11 28 31.3	+1.7
PQL	Pirkuli	3.24	24	Pn	Pn	11 27 44.9	+1.6
	SNR=9.4						
SEKA	Sheki	3.38	4	⇓Pn	Pb	11 27 49.9	-2.3
	SNR=3.8						
SEKA				⇓S	Sb	11 28 35.4	+1.9
QZX	Qazax, Azerbai	3.42	341	⇑Pn	Pb	11 27 49.7	-3.2
QZX				⇓S	Sb	11 28 37.1	+2.7
ATGJ	Altiaghaj	3.43	27	⇓Pn	Pn	11 27 48.6	+2.8
	SNR=3.4						
ATGJ				⇑S	Sb	11 28 34.6	-0.2
ATGJ	Altiaghaj	3.43	27	Pn	Pn	11 27 48.6	+2.8
	SNR=3.4						
IRAZ	Razeghan	3.46	134	ePn	Pn	11 27 46.9	+0.5
IRAZ	Razeghan	3.46	134	ePn	Pn	11 27 46.9	+0.5
SIZA	Siyzn	3.60	25	⇑Pn	Pb	11 27 51.9	-4.2
	SNR=4.9						
SIZA	Siyzn	3.60	25	Pn	Pb	11 27 51.9	-4.2
	SNR=4.9						
QUBA	Quba, Azerbaij	3.74	19	⇓Pn	Pn	11 27 52.3	+2.3
	SNR=3.1						
QUBA				⇓S	Sb	11 28 42.2	-1.5
QUBA	Quba, Azerbaij	3.74	19	Pn	Pn	11 27 52.3	+2.3
	SNR=3.1						
DGRG	David-gareji	3.79	343	P	Pb	11 27 59.7	+0.5
ZKTA	Zakatala	3.80	357	⇓Pn	Pn	11 27 53.4	+2.6
	SNR=5.6						
ZKTA				⇑S	Sb	11 28 46.7	+1.1
ASAO	Ashtian	4.16	141	ePn	Pn	11 27 57.5	+1.5
ASAO	Ashtian	4.16	141	ePn	Pn	11 27 57.5	+1.5
TBLG	Delisi	4.22	338	P	Pb	11 28 08.9	+2.4
AKH	Akhalkalaki	4.42	325	P	Pb	11 28 12.5	+2.6
GHVR	GHOM	4.91	132	ePn	Pn	11 28 06.7	+0.6
GHVR	GHOM	4.91	132	ePn	Pn	11 28 06.7	+0.6
ONI	Oni	5.42	332	P	Pg	11 28 34.2	-1.8
CRVS	Cervenica-Dubn	21.42	309	eP	P	11 31 42.2	+2.0

IDC 02 11:35:09.2±10.0,52.19N×175.51W,h0km,mb3.5/6,
mb1 4.0/7,mb1mx3.5/55,mbtmp3.6/7,ML4.6/1,Error
ellipse: s-maj=194.9km s-min=45.3km az=75.0
NEIC 02 11:35:34.0±0.3,52.41N×174.20W,h175km±4km,mb4.0/7,
Error ellipse: s-maj=13.9km s-min=4.3km az=162.0
ISC 02 11:35:32.7±1.1,52.6N±0.2×174.38W±0.10,h155km,n47,
σ1§10/24,mb3.5/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	Korovin West	0.23	161	P	Pn	11 35 57.5	+3.8
KOKL	Mount Kliuchef	0.28	157	P	Pn	11 35 57.6	+3.8
KOFP	Korovin Flat P	0.35	151	P	Pn	11 35 57.5	+3.4
GSTR	Great Sitkin T	1.14	245	ePn	Pn	11 36 02.5	+3.3
GSTR				eSn	Sn	11 36 24.8	+5.4
GSMY	Great Sitkin M	1.17	243	P	Pn	11 36 02.4	+3.0
GSTD	Great Sitkin T	1.21	245	P	Pn	11 36 02.9	+3.0
GSTD				S	Sn	11 36 24.8	+4.3
GSCK	Great Sitkin C	1.24	243	P	Pn	11 36 03.2	+3.1
ETKA	Kagalaska Isla	1.44	241	P	Pn	11 36 05.2	+3.1
ADK	Adak	1.58	245	P	Pn	11 36 06.3	+2.9
ADK				S	Sn	11 36 31.1	+4.1
KIRH	Kanaga Island	1.81	249	P	Pn	11 36 09.3	+3.4
KIKV	Kanaga Island	1.86	249	P	Pn	11 36 09.8	+3.3
TAFL	Tanaga Flats	2.32	251	P	Pn	11 36 15.2	+3.3
TAFP	Tanaga Falls P	2.32	254	P	Pn	11 36 15.1	+3.2
TAFP				S	Sn	11 36 46.5	+4.4
GAEA	Gareloi East	2.81	255	P	Pn	11 36 21.2	+3.4
NIKH	Nikolski High	3.38	81	P	Pn	11 36 25.5	+0.6
CERAA	Semis' Rag'd T	3.71	262	P	Pn	11 36 32.3	+3.0
CERB	Semis' Cerberu	3.74	262	P	Pn	11 36 33.4	+3.8
CESW	Semis' Southwe	3.79	262	P	Pn	11 36 33.4	+3.2
AMKA	Amchitka	4.09	255	P	Pn	11 36 36.7	+2.5
AMKA				S	Sn	11 37 22.9	+0.9
MSOM	Makushin Julie	4.63	72	P	Pn	11 36 42.2	+1.0
MREP	Makushin Rep't	4.75	72	P	Pn	11 36 44.5	+1.6
UNV	Unalaska Valle	4.90	72	P	Pn	11 36 46.0	+1.3
UNV				S	Sn	11 37 41.8	+0.9
SPIA	Saint Paul Isl	5.18	26	P	Pn	11 36 53.8	+5.3
ZRO	Akutan Zero	5.25	70	P	Pn	11 36 50.7	+1.2
AHB	Akutan Harbor	5.35	70	P	Pn	11 36 51.8	+1.0
DTNA	Dutton South F	7.62	65	P	Pn	11 37 20.5	-0.3
PPLA	Purkeypile	15.62	40	ePn	P	11 39 08.2	+2.9
	3.1nm,0.5s						
KTH	Kantishna Hill	16.45	39	eP	Pn	11 39 15.6	+1.1
	4.4nm,0.6s						
TRF	Thorofare Moun	16.65	40	eP	Pn	11 39 16.7	-0.2
	4.0nm,0.9s						
MCK	McKinley	17.32	40	eP	Pn	11 39 24.0	-0.7
	4.0nm,0.5s						
PAX	Paxson	18.42	44	eP	Pn	11 39 37.1	-0.8
	2.6nm,0.4s						
ILAR	Eielson Array	18.60	38	P	P	11 39 36.4	-1.4
	0.8nm,0.3s,baz=233,slow=9.4,SNR=53						
DOT	Dot Lake	19.25	43	eP	P	11 39 44.5	-0.4
	4.7nm,0.7s						
EGAK	Eagle	20.84	41	eP	P	11 40 01.1	-0.7
	3.4nm,0.5s						
DAWY	Dawson	21.35	44	eP	P	11 40 07.0	-0.4
INK	Inuvik	24.90	35	P	P	11 40 40.2	-0.5
	0.3nm,0.3s,baz=247,slow=6.6,SNR=8.0						
YKA	Yellowknife Ar	32.40	48	P	P	11 41 46.3	-1.0
	0.1nm,0.5s,baz=286,slow=8.9,SNR=3.8						
H11N2	WAKE ISLAND Hy	35.88	211	T	T	12 19 03.4	
	baz=20						
H11N3	WAKE ISLAND Hy	35.89	211	T	T	12 19 07.1	
	baz=20						
H11N1	WAKE ISLAND Hy	35.90	211	T	T	12 19 11.4	
	baz=20						
NEW	Newport	35.91	73	P	P	11 42 17.3	-0.4
	0.7nm,0.4s,baz=295,slow=2.0,SNR=3.9						
H11S1	WAKE ISLAND Hy	37.09	211	T	T	12 20 36.8	
	baz=16						
H11S2	WAKE ISLAND Hy	37.10	211	T	T	12 20 35.7	
	baz=16						
H11S3	WAKE ISLAND Hy	37.10	211	T	T	12 20 45.6	
	baz=16						
NVAR	Mina Array Bea	40.72	87	P	P	11 42 58.4	+0.1
	0.7nm,0.7s,baz=295,slow=7.0,SNR=7.0						
PDAR	Pinedale Array	43.35	76	P	P	11 43 18.8	-0.8
	0.8nm,0.6s,baz=288,slow=3.5,SNR=9.9						
TXAR	Lajitas Array	55.79	85	P	P	11 44 53.0	-0.7
	0.5nm,0.7s,baz=304,slow=4.3,SNR=8.5						

IDC 02 11:45:04.5±3.2,14.65S×68.71E,h0km,mb3.8/5,
mb1 3.9/5,mb1mx3.6/32,mbtmp3.8/5,MS3.3/1,Ms1 3.5/1,
ms1mx2.9/30,Error ellipse: s-maj=108.1km
s-min=28.6km az=57.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	7.88	28	T	T	11 55 40.8	
	baz=209,slow=75,SNR=40						
H08S2	Diego Garcia H	7.89	28	T	T	11 55 53.6	
	baz=209,slow=75,SNR=53						
H08S3	Diego Garcia H	7.90	28	T	T	11 55 46.8	
	baz=209,slow=75,SNR=57						
H08N3	Diego Garcia H	8.55	15	T	T	11 56 34.7	
	baz=197,slow=76,SNR=17						
H08N1	Diego Garcia H	8.56	16	T	T	11 56 27.8	
	baz=197,slow=76,SNR=8.4						
H08N2	Diego Garcia H	8.57	15	T	T	11 56 36.3	
	baz=197,slow=76,SNR=14						
CMAR	Chiang Mai Arr	44.38	43	LR	LR	12 08 18.8	
	comp=Z,36nm,19.8s,baz=163,slow=31						
H01W3	Cape Leeuwin H	45.45	125	T	T	12 42 25.1	
	baz=285,slow=74,SNR=5.7						
H01W2	Cape Leeuwin H	45.45	125	T	T	12 42 16.4	
	baz=285,slow=74,SNR=4.7						
H01W1	Cape Leeuwin H	45.47	125	T	T	12 42 07.0	
	baz=285,slow=74,SNR=5.3						
ASAR	Alice Springs	61.80	109	P	P	11 55 25.2	-0.4
	0.9nm,0.8s,baz=269,slow=5.8,SNR=6.7						
MKAR	Makanchi Array	62.37	10	P	P	11 55 30.4	+1.4
	0.6nm,0.9s,baz=210,slow=8.3,SNR=3.3						
WRA	Warramunga Arr	62.55	105	P	P	11 55 31.1	+0.3
	1.5nm,0.9s,baz=264,slow=6.8,SNR=12						
ZALV	Zalesovo Beam	69.70	10	P	P	11 56 14.1	-1.8
	0.5nm,0.5s,baz=204,slow=3.2,SNR=3.0						
SONM	Songino Array	70.71	26	P	P	11 56 22.6	+0.2
	0.7nm,0.9s,baz=211,slow=6.9,SNR=4.6						
PDAR	Pinedale Array	151.94	357	PKPbc	PKPbc	12 05 02.4	+0.2
	0.3nm,0.5s,baz=65,slow=3.4,SNR=4.2						

IDC 02 12:11:47.0±1.8,1.79N×125.16E,h0km,mb3.5/4,
mb1 3.7/4,mb1mx3.4/27,mbtmp3.5/4,Error ellipse:
s-maj=176.9km s-min=25.3km az=64.0,Northern
Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.40	158	P	P	12 16 57.8	0.0
	0.5nm,0.3s,baz=335,slow=11,SNR=19						
ASAR	Alice Springs	26.69	162	P	P	12 17 29.4	+1.3
	0.2nm,0.3s,baz=343,slow=7.5,SNR=6.9						
STKA	Stephens Creek	36.93	156	P	P	12 18 56.5	-1.4
	0.4nm,0.3s,baz=350,slow=8.0,SNR=4.7						
MKAR	Makanchi Array	58.28	327	P	P	12 21 43.5	-0.1
	0.2nm,0.3s,baz=120,slow=7.6,SNR=4.1						

KRNET 02 12:26:32.0±0.1,40.17N×70.07E,h3km,mb3.6
ISC 02 12:26:32.8±4.0,40.17N±0.06×70.1E±0.2,h3km±25km,n6,

σ0§93/11,1C-1D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTK	**Batken**	**0.57**	**101**	eP	**Pg**	**12 26 43.1**	**-0.7**
	baz=101						
BTK				eS	**Sg**	**12 26 52.0**	**+0.7**
	baz=101						
DRK	**Karamyk**	**1.49**	**117**	eP	**Pb**	**12 27 01.0**	**-0.3**
	baz=117						
DRK				eS	**Sg**	**12 27 22.1**	**+1.4**
	baz=117						
TRKS	**Terek-Say**	**1.57**	**30**	eP	**Pn**	**12 27 01.4**	**-0.4**
	baz=33						
TRKS				eS	**Sb**	**12 27 22.6**	**-0.5**
	baz=33						
ARK	**Arkit**	**2.16**	**41**	eP	**Pb**	**12 27 12.9**	**+0.3**
	baz=41						
ARK				eS	**Sg**	**12 27 42.5**	**+0.3**
	baz=41						
ARSB	**Arslanbob**	**2.48**	**61**	eP	**Pg**	**12 27 19.6**	**-0.8**
	baz=61						
ARSB				eS	**Sg**	**12 27 53.6**	**+1.0**
	baz=61						
KK31	**Karatay Array**	**2.95**	**6**	⇑Pn	**Pn**	**12 27 21.4**	**+0.8**
	1.1nm,0.3s,baz=188,slow=14,SNR=93						
KK31				⇓Lg	Lg	12 28 06.6	
	1.4nm,0.3s,baz=189,slow=30,SNR=7.3						

IDC **02** *12:38:14.3±3.1,8.11S×159.05E,h0km,mb3.5/3,*
mb1 3.8/3,mb1mx3.4/27,mbtmp3.5/3,Error ellipse: s-maj=188.3km s-min=30.3km az=134.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.66**	**241**	P	P	12 43 56.0	+0.9
	0.6nm,0.7s,baz=69,slow=10.0,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**27.49**	**16**	T	T	13 13 05.1	
	baz=195,slow=78,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**27.49**	**16**	T	T	13 13 27.9	
	baz=195,slow=78,SNR=15						
H11S1	**WAKE ISLAND Hy**	**27.51**	**16**	T	T	13 13 11.4	
	baz=195,slow=78,SNR=7.8						
ASAR	**Alice Springs**	**28.63**	**234**	P	P	12 44 12.0	-0.7
	0.2nm,0.5s,baz=63,slow=9.9,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**28.71**	**16**	T	T	13 14 57.5	
	baz=197,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.72**	**16**	T	T	13 14 37.1	
	baz=197,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**28.73**	**16**	T	T	13 14 55.0	
	baz=197,slow=76,SNR=16						
ILAR	**Eielson Array**	**82.97**	**20**	P	P	12 50 40.9	0.0
	0.2nm,0.4s,baz=241,slow=4.9,SNR=8.5						

IDC 02 12:46:05.4±3.0,13.22N×86.75W,h130km±45km,mb3.1/6, mb1 3.4/7,mb1mx3.3/23,mbtmp3.5/7,Error ellipse: s-maj=65.0km s-min=38.4km az=51.0,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**3.40**	**149**	P	Pn	12 46 57.5	+0.2
	1.8nm,0.3s,baz=313,slow=22,SNR=8.5						
TEIG	**Tepich**	**7.12**	**348**	P	Pn	12 47 54.4	+7.4
	1.0nm,0.3s,baz=168,slow=20,SNR=6.5						
TXAR	**Lajitas Array**	**22.44**	**318**	P	P	12 50 52.0	-1.8
	0.6nm,0.6s,baz=143,slow=9.6,SNR=9.4						
PDAR	**Pinedale Array**	**35.44**	**331**	P	P	12 52 49.7	+0.4
	0.6nm,0.8s,baz=128,slow=10,SNR=5.6						
NVAR	**Mina Array Bea**	**37.59**	**318**	P	P	12 53 09.4	+1.7
	0.2nm,0.6s,baz=134,slow=8.4,SNR=3.2						
ULM	**Lac du Bonnet**	**37.68**	**350**	P	P	12 53 08.3	+0.4
	1.4nm,0.5s,baz=166,slow=13,SNR=8.4						
YKA	**Yellowknife Ar**	**53.06**	**344**	P	P	12 55 09.0	+0.1
	0.2nm,0.5s,baz=137,slow=7.7,SNR=9.4						
ILAR	**Eielson Array**	**65.60**	**336**	P	P	12 56 33.5	-1.6
	0.2nm,0.6s,baz=134,slow=6.4,SNR=5.7						
WRA	**Warramunga Arr**	**140.13**	**255**	PKP	PKPdf	13 05 18.8	-0.8
	0.5nm,0.6s,baz=85,slow=2.3,SNR=9.2						
ASAR	**Alice Springs**	**140.18**	**249**	PKP	PKPdf	13 05 18.8	-0.9
	0.3nm,0.5s,baz=95,slow=1.8,SNR=9.3						

GUC **02** *13:01:58.8±0.5,32.94S×69.84W,h136km±5km,ML2.8*
ISCJB **02** *13:01:59.3±0.9,32.90S±0.05×69.73W±0.06,h125km±7km, Error ellipse: s-maj=11.4km s-min=4.7km az=135.3*
SJA **02** *13:01:59.9±1.2,32.87S×69.67W,h118km±7km,ML2.6, MW4.3*
ISC 02 13:01:59.4±2.1,32.92S±0.06×69.73W±0.06, h125km±14km,n16,σ0§68/29,2C-1D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.62**	**229**⇓	iP	**Pn**	**13 02 19.1**	**-0.1**
FCH				AML	AML	13 02 33.7	
	comp=E,153nm,0.3s						
ARCO	**CERRO ARCO**	**0.68**	**84**	iP	**Pn**	**13 02 19.4**	**+0.1**
ARCO				eS	**Sn**	**13 02 34.2**	**-0.2**
ARCO				AML	AML	13 02 36.0	
	comp=Z,146nm,0.5s						
AUSP	**Uspallata**	**0.75**	**23**	iP	**Pn**	**13 02 20.2**	**+0.1**
AUSP				eS	**Sn**	**13 02 35.0**	**-0.6**
AAGR	**Agrelo**	**0.78**	**103**	iP	**Pn**	**13 02 20.1**	**+0.1**
AAGR				eS	**Sn**	**13 02 35.0**	**-0.6**
CLCH	**Cerro Calan**	**0.83**	**235**	iP	**Pn**	**13 02 20.9**	**+0.4**
CLCH				iS	**Sn**	**13 02 36.8**	**+0.4**
CLCH				AML	AML	13 02 37.8	
	comp=E,186nm,0.8s						
PEL	**Peldehue**	**0.83**	**254**	eP	**Pn**	**13 02 19.9**	**-0.5**
PEL				eS	**Sn**	**13 02 35.8**	**-0.6**
PEL				AML	AML	13 02 37.3	
	comp=E,344nm,0.3s						
LMEL	**Las Melosas**	**1.01**	**203**⇑	iP	**Pn**	**13 02 21.6**	**-0.6**
LMEL				iS	**Sn**	**13 02 39.6**	**+0.1**
RCDM	**Rinconada Maip**	**1.07**	**238**	iP	**Pn**	**13 02 23.4**	**+0.9**
RCDM				iS	**Sn**	**13 02 41.1**	**+0.9**
RCDM				AML	AML	13 02 41.3	
	comp=N,439nm,0.3s						
ROCH	**El Roble**	**1.08**	**267**⇑	eP	**Pn**	**13 02 22.7**	**-0.2**
ROCH				iS	**Sn**	**13 02 40.2**	**-0.5**
ROCH				AML	AML	13 02 42.2	
	comp=N,177nm,0.1s						
RTLS	**Leoncito**	**1.18**	**18**	iP	**Pn**	**13 02 24.9**	**+0.9**
RTLS				eS	**Sn**	**13 02 43.1**	**+0.6**
CHCH	**Chadas Angostu**	**1.27**	**217**	iP	**Pn**	**13 02 25.5**	**+0.8**
CHCH				iS	**Sn**	**13 02 44.7**	**+0.7**
LNV	**Longovilo**	**1.75**	**233**	eP	**Pn**	**13 02 28.9**	**-1.1**
CFAA	**Coronel Fontan**	**1.82**	**44**	iP	**Pn**	**13 02 31.2**	**+0.2**
CFAA				eS	**Sn**	**13 02 54.8**	**-0.3**
RTLL	**Cerro Villicun**	**1.91**	**34**	iP	**Pn**	**13 02 32.5**	**+0.4**
RTLL				eS	**Sn**	**13 02 56.8**	**-0.2**
AMOG	**MOGNA**	**2.24**	**28**	iP	**Pn**	**13 02 37.1**	**+0.9**
AMOG				eS	**Sn**	**13 03 02.6**	**-1.7**
AVFE	**Valle Fertil**	**2.97**	**41**	iP	**Pn**	**13 02 45.8**	**+0.2**
AVFE				AML	AML	13 03 22.1	
	comp=Z,11nm,0.5s						

IDC 02 13:31:59.6±1.9,13.74N×92.69E,h0km,mb3.4/4, mb1 3.5/5,mb1mx3.3/34,mbtmp3.3/5,ML3.3/1,Error ellipse: s-maj=62.0km s-min=22.7km az=64.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.62**	**51**	Pn	Pn	13 33 52.4	+0.3
	0.1nm,0.3s,baz=237,slow=15,SNR=2.7						
CMAR				Sn	Sn	13 35 02.9	-16
	0.2nm,0.3s,baz=240,slow=29,SNR=5.3						
MKAR	**Makanchi Array**	**34.09**	**347**	P	P	13 38 45.7	-0.2
	0.2nm,0.4s,baz=157,slow=12,SNR=3.5						
ZALV	**Zalesovo Beam**	**40.59**	**353**	P	P	13 39 40.5	-0.5
	0.4nm,0.6s,baz=141,slow=7.4,SNR=2.9						
WRA	**Warramunga Arr**	**52.91**	**128**	P	P	13 41 17.7	-0.2
	0.4nm,0.9s,baz=315,slow=7.7,SNR=4.5						
ASAR	**Alice Springs**	**54.83**	**132**	P	P	13 41 32.3	+0.4
	0.3nm,0.5s,baz=304,slow=6.6,SNR=7.3						

ISCJB **02** *13:44:06.9±0.8,17.13S±0.06×168.3E±0.1,h200km, mb3.7/8,Error ellipse: s-maj=16.6km s-min=7.4km az=8.5*
IDC **02** *13:44:06.9±4.6,17.11S×168.36E,h190km±50km,mb3.5/8, mb1 3.8/9,mb1mx3.5/34,mbtmp4.0/9,Error ellipse: s-maj=55.9km s-min=21.5km az=161.0*
ISC 02 13:44:07.6±1.0,17.21S±0.09×168.5E±0.2,h200km,n17, σ0§83/19,mb3.5/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.19**	**201**	P	**Pn**	**13 45 24.4**	**-0.1**
	3.0nm,0.3s,baz=67,slow=9.5,SNR=56						
DZM				S	**Sn**	**13 46 25.3**	**-0.1**
	1.1nm,0.3s,baz=300,slow=20,SNR=1.2						
NOUC	**Port Laguerre**	**5.27**	**202**	eP	**Pn**	**13 45 25.9**	**+0.4**
NOUC				eS	**Sn**	**13 46 26.5**	**-0.4**
NFK	**Norfolk Island**	**11.78**	**182**	S	**Sn**	**13 49 00.4**	**-0.8**
	baz=12,SNR=4.7						
RMQ	**Roma**	**20.46**	**240**	P	**P**	**13 48 31.6**	**+1.6**
	baz=22,SNR=5.6						
CTA	**Charters Tower**	**21.23**	**259**	P	**P**	**13 48 39.0**	**+0.8**
	2.6nm,0.5s,baz=84,slow=13,SNR=7.7						
QLP	**Quilpie**	**24.30**	**243**	P	**P**	**13 49 07.3**	**+0.4**
	baz=26,SNR=7.1						
STKA	**Stephens Creek**	**28.36**	**234**	P	**P**	**13 49 43.2**	**0.0**
	3.4nm,0.7s,baz=68,slow=9.5,SNR=8.7						
STKA	**Stephens Creek**	**28.36**	**234**	P	**P**	**13 49 43.6**	**+0.4**
	baz=30,SNR=6.4						
WRA	**Warramunga Arr**	**32.42**	**260**	P	**P**	**13 50 18.2**	**-0.9**
	0.5nm,0.6s,baz=92,slow=6.7,SNR=17						
ASAR	**Alice Springs**	**32.95**	**253**	P	**P**	**13 50 23.4**	**-0.2**
	10.0nm,0.4s,baz=83,slow=8.7,SNR=77						
KNRA	**Kununurra**	**38.06**	**266**	P	**P**	**13 51 07.3**	**+0.2**
	baz=40,SNR=3.3						
WRKA	**Warakurna**	**38.15**	**251**	P	**P**	**13 51 07.8**	**-0.2**
	baz=40,SNR=9.2						
MEEK	**Meekatharra**	**46.94**	**249**	P	**P**	**13 52 18.6**	**+0.1**
	baz=48,SNR=7.5						
SONM	**Songino Array**	**85.16**	**323**	P	**P**	**13 56 19.9**	**-1.5**
	0.5nm,0.7s,baz=119,slow=5.1,SNR=3.2						
NVAR	**Mina Array Bea**	**88.03**	**49**	P	**P**	**13 56 37.0**	**+1.4**
	0.6nm,0.9s,baz=219,slow=5.9,SNR=3.8						
ILAR	**Eielson Array**	**88.53**	**18**	P	**P**	**13 56 36.4**	**-0.7**
	0.8nm,1.1s,baz=246,slow=4.9,SNR=4.5						
YKA	**Yellowknife Ar**	**99.22**	**27**	P	**Pdif**	**13 57 26.9**	**+0.9**
	0.1nm,0.5s,baz=256,slow=4.8,SNR=7.4						

IDC **02** *13:46:21.6±1.2,37.58N×46.97E,h0km,mb3.8/13, mb1 4.0/16,mb1mx3.8/46,mbtmp3.8/16,ML1.9/2,MS3.0/3, Ms1 3.0/3,ms1mx2.5/43,Error ellipse: s-maj=23.5km s-min=12.9km az=21.0*
ISCJB **02** *13:46:23.2±0.6,37.83N±0.03×46.87E±0.03,h3km±4km, mb3.8/19,MS3.0/2,Error ellipse: s-maj=4.7km s-min=3.4km az=21.0*
TEH **02** *13:46:24.7,37.86N×46.85E,h5km,ML4.0*
THR **02** *13:46:24.0±0.6,37.90N×46.90E,h14km±5km,ML3.7*
CSEM **02** *13:46:24.8±0.2,37.83N×46.90E,h5km,mb4.0/10,Error ellipse: s-maj=7.8km s-min=6.1km az=16.0*
AZER **02** *13:46:24.1±0.9,37.78N×46.85E,h6km,Error ellipse: s-maj=2.0km s-min=1.0km az=30.0*
MOS **02** *13:46:27.6±1.2,38.11N×47.01E,h33km,mb4.1/12,Error ellipse: s-maj=13.5km s-min=6.6km az=110.2*
ISN **02** *13:46:51.3±1.8,36.73N×45.74E,h0km±7km,ML3.9*
ISC 02 13:46:23.7±1.1,37.80N±0.02×46.86E±0.02,h7km±7km, n157,σ1§53/163,mb3.9/19,13C-16D,Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IFTB	**Fath-abad**	**0.43**	**301**	ePg	**Pg**	**13 46 31.8**	**-0.4**
IHRS	**Heris**	**0.54**	**15**	ePg	**Pg**	**13 46 33.1**	**-1.1**
IHRS				eSg	**Sg**	**13 46 40.4**	**-0.9**
IHRS				e		13 46 42.6	
	comp=Z,45μm,0.1s						
ISRB	**Sarab**	**0.64**	**87**⇓	ePg	**Pg**	**13 46 36.2**	**+0.2**
ISRB				e		13 46 47.9	
	comp=Z,61μm,0.1s						
ITBZ	**Tabriz**	**0.71**	**308**⇑	ePg	**Pg**	**13 46 36.5**	**-1.0**
ITBZ				eSg	**Sg**	**13 46 46.4**	**-0.4**
ITBZ				e		13 46 47.6	
	comp=Z,78μm,0.1s						
IMRD	**Marand**	**1.29**	**315**⇓	ePg	**Pn**	**13 46 47.2**	**-1.2**
IMRD				e		13 47 15.8	
	comp=Z,13μm,0.3s						
LRK	**Lerik**	**1.44**	**54**	⇓Pg	**Pn**	**13 46 50.2**	**-0.2**
LRK				⇓Sg	**Sg**	**13 47 10.3**	**+0.3**
LRK	**Lerik**	**1.44**	**54**	Pg	**Pn**	**13 46 50.2**	**-0.2**
LRK				Sg	**Sg**	**13 47 10.3**	**+0.3**
NAX	**Nakhchivan**	**1.75**	**322**	⇑Pg	**Pb**	**13 46 55.9**	**-0.2**
NAX				⇑Sg	**Sg**	**13 47 20.8**	**+1.0**
NAX	**Nakhchivan**	**1.75**	**322**	Pg	**Pb**	**13 46 55.9**	**-0.2**
NAX				Sg	**Sg**	**13 47 20.8**	**+1.0**
LKRN	**Lenkeran, Azer**	**1.76**	**58**	⇓Pg	**Pb**	**13 46 56.1**	**-0.3**
LKRN				⇑Sg	**Sg**	**13 47 21.1**	**+0.7**
LKRN	**Lenkeran, Azer**	**1.76**	**58**	Pg	**Pb**	**13 46 56.1**	**-0.3**
LKRN				Sg	**Sg**	**13 47 21.1**	**+0.7**
ZNJK	**Zanjan**	**1.84**	**127**	ePN5	**Pn**	**13 46 57.8**	**+1.8**
ZNJK				eSg	**Sg**	**13 47 23.4**	**+0.6**
ZNJK				AML	AML	13 47 27.7	
	comp=N,1μm,0.8s						
ZNJK				AML	AML	13 47 28.8	
	comp=E,987nm,0.5s						
GLBA	**Clilabad**	**1.88**	**39**	⇑Pg	**Pb**	**13 46 58.0**	**-0.4**
GLBA				⇓Sg	**Sg**	**13 47 25.1**	**+1.0**
GLBA	**Clilabad**	**1.88**	**39**	Pg	**Pb**	**13 46 58.0**	**-0.4**
GLBA				Sg	**Sg**	**13 47 25.1**	**+1.0**
MAKU	**Maku**	**2.31**	**313**	ePg	**Pb**	**13 47 05.1**	**-0.8**
MAKU				eSg	**Sb**	**13 47 35.0**	**+0.3**
	comp=E,227nm,0.5s						
MAKU	**Maku**	**2.31**	**313**	ePg	**Pb**	**13 47 05.1**	**-0.8**
MAKU				eSg	**Sb**	**13 47 35.0**	**+0.3**
MAKU				AML	AML	13 47 42.2	
	comp=E,227nm,0.5s						
BRDA	**Brd**	**2.48**	**6**	⇑Pg	**Pb**	**13 47 07.6**	**-1.0**
BRDA				⇓Sg	**Sg**	**13 47 43.6**	**+0.3**
BRDA	**Brd**	**2.48**	**6**	Pg	**Pb**	**13 47 07.6**	**-1.0**
HAKT	**HAKKARI**	**2.52**	**266**	iP	**Pb**	**13 47 08.3**	**-1.1**
HAKT	**HAKKARI**	**2.52**	**266**	iP	**Pb**	**13 47 08.3**	**-1.1**
CUKT	**Cukurca**	**2.65**	**259**	eP	**Pb**	**13 47 10.7**	**-0.8**
CUKT				eS	**Sg**	**13 47 49.3**	**+0.6**
CUKT	**Cukurca**	**2.65**	**259**	eP	**Pb**	**13 47 10.7**	**-0.8**
CLDR	**Caldiran**	**2.68**	**301**	eP	**Pn**	**13 47 08.3**	**+0.8**
CLDR	**Caldiran**	**2.68**	**301**	eS	**Sg**	**13 47 49.5**	**-0.2**
CLDR	**Caldiran**	**2.68**	**301**	eP	**Pn**	**13 47 08.3**	**+0.8**
ALIB	**Äli-Bayra**	**2.73**	**37**	⇑Pg	**Pb**	**13 47 11.8**	**-1.1**
ALIB	**Äli-Bayra**	**2.73**	**37**	Pg	**Pb**	**13 47 11.8**	**-1.1**
KDMR	**Kurdemir**	**2.77**	**21**	⇓Pn	**Pb**	**13 47 12.1**	**-1.5**
TVAN	**Van**	**2.82**	**286**	iP	**Pb**	**13 47 14.7**	**+0.1**
TVAN	**Van**	**2.82**	**286**	iP	**Pb**	**13 47 14.7**	**+0.1**
GNI	**Garni**	**2.87**	**326**	dePN	**Pn**	**13 47 12.9**	**+2.8**
GNI	**Garni**	**2.87**	**326**	Pn	**Pb**	**13 47 16.2**	**+0.7**
	comp=E,11nm,0.3s,baz=109,slow=0.4,SNR=26						
GNI				Lg	Lg	13 47 57.7	
	comp=E,62nm,0.3s,baz=238,slow=23,SNR=8.0						
GNI				LR	LR	13 48 11.1	
	comp=E,112nm,18.2s,baz=166,slow=35						
GNI	**Garni**	**2.87**	**326**	ePn	**Pn**	**13 47 12.9**	**+2.8**
GANJ	**Ganja**	**2.88**	**352**	⇓Pn	**Pb**	**13 47 14.0**	**-1.4**
GANJ	**Ganja**	**2.88**	**352**	Pn	**Pb**	**13 47 14.0**	**-1.4**
MNGR	**Mingechevir, A**	**2.98**	**3**	⇑Pn	**Pn**	**13 47 14.3**	**+2.9**
MNGR	**Mingechevir, A**	**2.98**	**3**	Pn	**Pn**	**13 47 14.3**	**+2.9**
IGZV	**Ghazvin**	**3.03**	**117**	ePn	**Pn**	**13 47 14.4**	**+2.1**
IGZV				e		13 48 10.7	
	comp=Z,7μm,0.3s						
IGZV	**Ghazvin**	**3.03**	**117**	ePn	**Pn**	**13 47 14.4**	**+2.1**
DYDN	**Diyadin**	**3.04**	**306**	iP	**Pb**	**13 47 19.3**	**+1.1**
DYDN	**Diyadin**	**3.04**	**306**	iP	**Pb**	**13 47 19.3**	**+1.1**
GEVA	**Gevas**	**3.05**	**281**	iP	**Pb**	**13 47 18.5**	**+0.1**
GEVA	**Gevas**	**3.05**	**281**	iP	**Pb**	**13 47 18.5**	**+0.1**
IKRK	**Kirkuk**	**3.14**	**221**	ePG	Pg	13 47 30.0	+6.2
IKRK				eSG	**Sb**	**13 47 56.0**	**-2.2**
IML	**Ismayilli**	**3.16**	**18**	⇑Pn	**Pn**	**13 47 15.2**	**+1.2**
IML	**Ismayilli**	**3.16**	**18**	Pn	**Pn**	**13 47 15.2**	**+1.2**
PQL	**Pirkuli**	**3.28**	**24**	⇑Pn	**Pn**	**13 47 17.9**	**+2.3**
PQL	**Pirkuli**	**3.28**	**24**	Pn	**Pn**	**13 47 17.9**	**+2.3**
MSL	**Mosul**	**3.31**	**246**	ePN	**Pg**	**13 47 27.4**	**+0.2**
MSL				eSN	**Sn**	**13 47 55.2**	**-0.3**
SEKA	**Sheki**	**3.42**	**4**	⇓Pn	**Pn**	**13 47 18.9**	**+1.4**
SEKA	**Sheki**	**3.42**	**4**	Pn	**Pn**	**13 47 18.9**	**+1.4**
IRAZ	**Razeghan**	**3.43**	**133**	ePn	**Pn**	**13 47 20.1**	**+2.3**
IRAZ				e		13 48 30.6	
	comp=Z,3μm,0.4s						
IRAZ	**Razeghan**	**3.43**	**133**	ePn	**Pn**	**13 47 20.1**	**+2.3**
QZX	**Qazax, Azerbai**	**3.46**	**341**	⇑Pn	**Pb**	**13 47 22.4**	**-2.9**
QZX	**Qazax, Azerbai**	**3.46**	**341**	Pn	**Pb**	**13 47 22.4**	**-2.9**
ATGJ	**Altiaghaj**	**3.46**	**27**	⇓Pn	**Pn**	**13 47 21.1**	**+3.0**
ATGJ	**Altiaghaj**	**3.46**	**27**	Pn	**Pn**	**13 47 21.1**	**+3.0**
IGHG	**Ghaleghazi**	**3.47**	**184**	ePn	**Pn**	**13 47 19.7**	**+1.4**
IGHG	**Ghaleghazi**	**3.47**	**184**	ePn	**Pn**	**13 47 19.7**	**+1.4**
AGRB	**Hanur-Agry**	**3.51**	**302**	eP	**Pb**	**13 47 23.7**	**-2.6**
AGRB	**Hanur-Agry**	**3.51**	**302**	eP	**Pb**	**13 47 23.7**	**-2.6**
SIRT	**Sirnak**	**3.52**	**267**	eP	**Pb**	**13 47 25.6**	**-0.9**
SIRT	**Sirnak**	**3.52**	**267**	eP	**Pb**	**13 47 25.6**	**-0.9**
TUTA	**Tutak**	**3.56**	**298**	iP	**Pn**	**13 47 22.3**	**+2.7**
TUTA	**Tutak**	**3.56**	**298**	iP	**Pn**	**13 47 22.3**	**+2.7**
SIZA	**Siyzn**	**3.64**	**25**	⇑Pn	Pn	13 47 23.8	+3.3
SIZA	**Siyzn**	**3.64**	**25**	Pn	Pn	13 47 23.8	+3.3
IMHD	**Mahdasht**	**3.71**	**123**	ePn	**Pn**	**13 47 23.6**	**+2.0**
IMHD				e		13 48 28.8	
	comp=Z,2μm,0.2s						
IMHD	**Mahdasht**	**3.71**	**123**	ePn	**Pn**	**13 47 23.6**	**+2.0**
DIGO	**Kars**	**3.77**	**315**	iP	**Pb**	**13 47 31.7**	**+0.9**
QUBA	**Quba, Azerbaij**	**3.77**	**19**	⇑Pn	Pn	13 47 25.6	+3.2
QUBA	**Quba, Azerbaij**	**3.77**	**19**	Pn	Pn	13 47 25.6	+3.2
DGRG	**David-gareji**	**3.83**	**343**	P	**Pb**	**13 47 32.2**	**+0.6**
ZKTA	**Zakatala**	**3.84**	**357**	⇓Pn	**Pn**	**13 47 25.3**	**+2.0**
CHTH	**Charan**	**3.90**	**118**	ePn	**Pn**	**13 47 26.4**	**+2.0**
CHTH	**Charan**	**3.90**	**118**	ePn	**Pn**	**13 47 26.4**	**+2.0**
ASAO	**Ashtian**	**4.13**	**141**	ePn	**Pn**	**13 47 30.2**	**+2.7**
ASAO	**Ashtian**	**4.13**	**141**	ePn	**Pn**	**13 47 30.2**	**+2.7**
TBLG	**Delisi**	**4.26**	**338**	P	**Pb**	**13 47 38.4**	**-0.6**
AKH	**Akhalkalaki**	**4.45**	**325**	P	Pb	13 47 45.8	+3.5
DAMV	**Damavand**	**4.64**	**116**	ePn	**Pn**	**13 47 36.4**	**+1.9**
DAMV	**Damavand**	**4.64**	**116**	ePn	**Pn**	**13 47 36.4**	**+1.9**
IBDR	**Badra**	**4.74**	**190**	ePN	**Pb**	**13 47 48.0**	**+0.9**
IBDR				eSN	**Sn**	**13 48 30.0**	**-0.7**
EZM	**Erzurum**	**4.78**	**298**	eP	Pn	13 47 41.9	+5.4
GUDG	**Gudauri**	**5.01**	**339**	P	**Pb**	**13 47 51.9**	**0.0**
ONI	**Oni**	**5.45**	**332**	P	**Pb**	**13 48 01.4**	**+2.0**
ZEI	**Tsey**	**5.48**	**337**	ePN	Pn	13 47 50.0	+4.1
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KBZ	**Khabaz**	**6.65**	**334**	Pn	Pn	13 48 08.1	+6.4
	comp=Z,0.1nm,0.3s,baz=180,slow=9.2,SNR=3.9						
NSR	**Nassriya**	**6.79**	**185**	ePN	Pb	13 48 18.9	-3.3
NSR				eSN	**Sn**	**13 49 19.9**	**-1.6**
KIV	**Kislovodsk**	**6.92**	**334**	eP	**Pn**	**13 48 04.0**	**-1.6**
KIV				eS	**Sn**	**13 49 22.1**	**-2.5**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
RTB	**Rutbah**	**7.16**	**230**	ePN	Pb	13 48 20.1	-8.3
VRHR	**Novokhopersk**	**13.81**	**346**	eP	**Pn**	**13 49 37.9**	**-1.9**
VRHR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VORD	**Divnogorie**	**14.22**	**340**	eP	**Pn**	**13 49 45.8**	**+0.3**
VORD				pmax	pmax		
	comp=N,4.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,4.0nm,0.6s						
VORD				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VSR	**Storozhevoye**	**14.49**	**340**	eP	**Pn**	**13 49 47.3**	**-1.8**
VSR				pmax	pmax		
	comp=N,7.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKTO	**Aktyubinsk**	**14.94**	**29**	Pn	**Pn**	**13 49 52.1**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=213,slow=12,SNR=12						
AKTO				Sn	Sn	13 52 30.8	-10
	comp=Z,0.0nm,0.3s,baz=350,slow=18,SNR=2.3						
AKASG	**Malin Array Be**	**18.00**	**321**	P	Pn	13 50 28.8	-5.5
	comp=Z,0.4nm,0.3s,baz=123,slow=13,SNR=2.9						
KIEV	**Kiev**	**18.00**	**321**	eP	**P**	**13 50 35.1**	**+0.3**
KIEV	**Kiev**	**18.00**	**321**	eP	**P**	**13 50 35.1**	**+0.3**
OBN	**Obninsk**	**18.68**	**341**	eP	**Pn**	**13 50 44.1**	**+1.5**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
OBN	**Obninsk**	**18.68**	**341**	eP	**Pn**	**13 50 44.1**	**+1.5**
	comp=Z,4.0nm,1.1s						
ARU	**Arti**	**20.22**	**19**d	iP	**P**	**13 50 58.7**	**-0.4**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ARU	**Arti**	**20.22**	**19**	iP	**P**	**13 50 58.7**	**-0.4**
	comp=Z,8.0nm,1.7s						
KOLS	**Kolonicke sedl**	**20.96**	**310**	eP	**P**	**13 51 08.4**	**+1.1**
KOLS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KOLS	**Kolonicke sedl**	**20.96**	**310**	eP	**P**	**13 51 08.4**	**+1.1**
KOLS	**Kolonicke sedl**	**20.96**	**310**	eP	**P**	**13 51 08.4**	**+1.1**
	comp=Z,10.0nm,0.8s						
CRVS	**Cervenica-Dubn**	**21.45**	**309**	eP	**P**	**13 51 13.2**	**+0.7**
CRVS				pmax	pmax		
	comp=Z,75nm,2.7s						
CRVS	**Cervenica-Dubn**	**21.45**	**309**	eP	**P**	**13 51 13.2**	**+0.7**
CRVS	**Cervenica-Dubn**	**21.45**	**309**	eP	**P**	**13 51 13.2**	**+0.7**
	comp=Z,75nm,2.7s						
AAK	**Ala-Archa**	**21.60**	**68**⇓	iP	P	13 51 19.4	+5.1
AAK				pmax	pmax		
	comp=Z,18nm,1.6s						
AAK	**Ala-Archa**	**21.60**	**68**	P	**P**	**13 51 19.0**	**+4.7**
	comp=Z,2.8nm,1.1s,baz=236,slow=9.0,SNR=5.8						
STHS	**Stebnicka Huta**	**21.77**	**310**	eP	**P**	**13 51 16.3**	**+0.3**
STHS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STHS	**Stebnicka Huta**	**21.77**	**310**	eP	**P**	**13 51 16.3**	**+0.3**
STHS	**Stebnicka Huta**	**21.77**	**310**	eP	**P**	**13 51 16.3**	**+0.3**
	comp=Z,2.0nm,1.0s						
KECS	**Kecovo**	**21.91**	**308**	eP	**P**	**13 51 20.0**	**+2.6**
KECS	**Kecovo**	**21.91**	**308**	eP	**P**	**13 51 20.0**	**+2.6**
KECS	**Kecovo**	**21.91**	**308**	eP	**P**	**13 51 20.0**	**+2.6**
BRVK	**Borovoye**	**22.28**	**39**⇓	eP	**P**	**13 51 24.1**	**+2.7**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
BRVK	**Borovoye**	**22.28**	**39**	eP	**P**	**13 51 24.1**	**+2.7**
	comp=Z,6.0nm,1.4s						
BVAR	**Borovoye Array**	**22.32**	**39**	P	**P**	**13 51 22.2**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**22.32**	**39**	P	**P**	**13 51 22.2**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=224,slow=8.3,SNR=12						
OJC	**Ojcow**	**22.95**	**311**	eP	**P**	**13 51 29.6**	**+1.2**
OJC	**Ojcow**	**22.95**	**311**	eP	**P**	**13 51 29.6**	**+1.2**
OJC	**Ojcow**	**22.95**	**311**	eP	**P**	**13 51 29.6**	**+1.2**
KLMR	**Klimovskoe**	**23.54**	**351**	eP	**P**	**13 51 31.9**	**-2.4**
KLMR				pmax	pmax		
	comp=Z,21nm,1.9s						
DPC	**Dobruska-Polom**	**25.08**	**310**	eP	**P**	**13 51 49.0**	**+0.2**
DPC	**Dobruska-Polom**	**25.08**	**310**	eP	**P**	**13 51 49.0**	**+0.2**
DPC	**Dobruska-Polom**	**25.08**	**310**	eP	**P**	**13 51 49.0**	**+0.2**
KURBB	**Kurchatov Arra**	**25.85**	**50**	P	**P**	**13 51 57.0**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=259,slow=9.4,SNR=6.6						
KURK	**Kurchatov**	**25.93**	**50**	P	**P**	**13 51 57.0**	**+0.5**
KURK	**Kurchatov**	**25.93**	**50**	P	**P**	**13 51 57.0**	**+0.5**
PVCC	**Panska Ves**	**26.21**	**309**	eP	**P**	**13 52 02.2**	**+3.2**
PVCC	**Panska Ves**	**26.21**	**309**	eP	**P**	**13 52 02.2**	**+3.2**
GERES	**GERESS Array B**	**26.33**	**305**	P	**P**	**13 52 00.3**	**+0.1**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**26.33**	**305**	P	**P**	**13 52 00.3**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=103,slow=9.7,SNR=18						
KHC	**Kasperske Hory**	**26.47**	**306**	eP	**P**	**13 52 01.9**	**+0.5**
KHC	**Kasperske Hory**	**26.47**	**306**	eP	**P**	**13 52 01.9**	**+0.5**
KHC	**Kasperske Hory**	**26.47**	**306**	eP	**P**	**13 52 01.9**	**+0.5**
CLL	**Collm**	**27.38**	**310**	eP	**P**	**13 52 11.0**	**+1.5**
CLL	**Collm**	**27.38**	**310**	eP	**P**	**13 52 11.0**	**+1.5**
MKAR	**Makanchi Array**	**27.51**	**60**	P	**P**	**13 52 09.6**	**-1.2**
	comp=Z,0.3nm,0.9s,baz=296,slow=4.6,SNR=2.4						
DAVOX	**Davos/Dischmat**	**28.57**	**300**	P	**P**	**13 52 21.1**	**+0.7**
DAVOX				pmax	pmax		
	comp=Z,2.0nm,0.5s						
DAVOX	**Davos/Dischmat**	**28.57**	**300**	P	**P**	**13 52 21.1**	**+0.7**
	comp=Z,2.2nm,0.5s,baz=345,slow=18,SNR=3.4						
ZALV	**Zalesovo Beam**	**30.52**	**46**	P	**P**	**13 52 37.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=251,slow=14,SNR=2.5						
HFS	**Hagfors**	**30.66**	**328**	LR	LR	14 05 13.4	
	comp=Z,42nm,18.5s,baz=97,slow=37						
NOA	**NORSAR Array B**	**32.17**	**328**	P	**P**	**13 52 53.3**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=130,slow=8.9,SNR=3.2						
NOA				LR	LR	14 06 33.4	
	comp=Z,30nm,21.7s,baz=305,slow=37						
ARCES	**ARCESS Array B**	**33.82**	**347**	P	**P**	**13 53 06.5**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	**ARCESS Array B**	**33.82**	**347**	P	**P**	**13 53 06.5**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.8nm,1.0s,baz=149,slow=9.5,SNR=4.2						
ESDC	Sonseca Array	39.26	289	P	P	13 53 52.2	-0.8
	comp=Z,0.8nm,0.6s,baz=61,slow=8.6,SNR=6.5						
BORG	Borgarnes	47.35	327	P	P	13 54 58.4	+0.5
BORG				pmax	pmax		
	comp=Z,49nm,1.3s						
BORG	Borgarnes	47.35	327	P	P	13 54 58.4	+0.5
	comp=Z,49nm,1.3s,baz=104,slow=4.2,SNR=3.2						
CMAR	Chiang Mai Arr	49.14	98	P	P	13 55 11.5	-0.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	Chiang Mai Arr	49.14	98	P	P	13 55 11.5	-0.9
	comp=Z,1.1nm,0.8s,baz=298,slow=5.9,SNR=3.8						
INK	Inuvik	74.22	0	P	P	13 57 59.4	-1.4
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	Inuvik	74.22	0	P	P	13 57 59.4	-1.4
	comp=Z,0.9nm,0.7s,baz=4.8,slow=7.1,SNR=3.9						
ILAR	Eielson Array	77.20	6	P	P	13 58 17.9	0.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	Eielson Array	77.20	6	P	P	13 58 17.9	0.0
	comp=Z,0.7nm,0.9s,baz=307,slow=3.7,SNR=4.8						
YKA	Yellowknife Ar	78.94	351	P	P	13 58 26.9	-0.7
	comp=Z,0.2nm,0.8s,baz=9.9,slow=6.0,SNR=6.2						

NIED **02** *13:48:00,41.20N×141.70E,h5km,Mw3.8 Best double couple: M0 6.48000×10^14 NP1:φs89.00000°,δ29.00000°, λ103.00000°. NP2:φs254.00000°,δ62.00000°,λ83.00000°.*
JMA **02** *13:48:39.0,41.22N×141.65E,h12km±1km,M4.0*
JMA Felt II J1.
IDC **02** *13:48:47.1±2.4,41.18N×141.53E,h80km±22km,mb3.6/23, mb1 3.8/26,mb1mx3.7/35,mbtmp3.9/26,MS2.8/3, Ms1 2.8/3,ms1mx2.5/37,Error ellipse: s-maj=14.7km s-min=12.6km az=125.0*
ISC 02 13:48:37.8±1.4,41.22N±0.03×141.73E±0.06,h6km±9km, n55,σ1.38/55,mb4.0/23,1C-4D,Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.54	288	⇓P	Pg	13 48 48.4	+0.2
JOT				S	Sg	13 48 55.1	-0.2
JTM	Tenmabayashi	0.66	230	⇑P	Pg	13 48 50.8	+0.3
JTM				S	Sg	13 48 59.1	+0.1
JKB	Kayabe	0.85	322	⇓P	Pg	13 48 54.4	+0.2
JKB				S	Sg	13 49 05.3	+0.1
JANG	Nango	0.86	191	⇓P	Pg	13 48 54.3	+0.1
JANG				S	Sg	13 49 05.3	0.0
JSR	Shiriuchi	1.04	288	⇓P	Pg	13 48 57.5	-0.2
JSR				S	Sg	13 49 10.6	-0.6
JKZ	Kuzumaki	1.27	194	P	Pn	13 49 01.4	-0.7
JKZ				S	Sb	13 49 17.4	-1.3
ASAJ	Asahikawa	2.97	12	P	Pn	13 49 27.6	+2.2
	12nm,0.3s,baz=226,slow=12,SNR=109						
ASAJ				S	Sb	13 50 05.1	-2.5
	11nm,0.3s,baz=0.0,slow=20,SNR=5.7						
ASAJ				LR	LR	13 51 01.3	
	comp=Z,110nm,19.9s,baz=350,slow=44						
MAT	Matsushiro	5.42	212	P	Pn	13 50 02.3	+3.2
MJAR	Matsushiro Arr	5.42	212	P	Pn	13 50 03.1	+4.0
	3.1nm,0.3s,baz=25,slow=13,SNR=18						
MJAR				LR	LR	13 52 13.5	
	comp=Z,157nm,18.8s,baz=20,slow=39						
USRK	Ussuriysk Arra	7.77	296	P	Pn	13 50 36.8	+5.4
	0.5nm,0.3s,baz=89,slow=15,SNR=5.7						
KSRS	Korea Array	11.33	255	P	Pn	13 51 24.9	+4.7
	2.3nm,0.3s,baz=62,slow=14,SNR=37						
KSRS				S	Sn	13 53 31.6	+4.4
	0.5nm,0.3s,baz=68,slow=23,SNR=4.4						
PETK	Petropavlovsk-	16.06	37	P	Pn	13 52 22.6	-1.5
	0.1nm,0.3s,baz=220,slow=13,SNR=4.4						
PETK				LR	LR	13 59 07.6	
	comp=Z,30nm,19.7s,baz=111,slow=38						
SEY	Seymchan	22.65	13	P	P	13 53 40.2	+0.8
	1.2nm,0.5s,baz=167,slow=16,SNR=3.8						
FX1	Attu Island--F	24.18	50	P	P	13 53 58.2	+3.4
	5.9nm,0.6s,baz=252,slow=19,SNR=2.7						
SONM	Songino Array	25.88	297	P	P	13 54 10.4	0.0
	0.4nm,0.6s,baz=92,slow=9.0,SNR=3.8						
SONM				PcP	PcP	13 57 38.0	-1.2
	0.1nm,0.3s,baz=89,slow=5.9,SNR=2.2						
H11N2	WAKE ISLAND Hy	30.29	127	T	T	14 26 43.7	
	baz=323,slow=76,SNR=444						
H11N1	WAKE ISLAND Hy	30.30	127	T	T	14 26 46.3	
	baz=323,slow=76,SNR=493						
H11N3	WAKE ISLAND Hy	30.30	127	T	T	14 26 45.7	
	baz=323,slow=76,SNR=417						
H11S1	WAKE ISLAND Hy	31.12	129	T	T	14 27 48.0	
	baz=325,slow=76,SNR=278						
H11S3	WAKE ISLAND Hy	31.12	129	T	T	14 27 43.8	
	baz=325,slow=76,SNR=167						
H11S2	WAKE ISLAND Hy	31.14	129	T	T	14 27 47.0	
	baz=325,slow=76,SNR=181						
ZALV	Zalesovo Beam	39.39	309	P	P	13 56 07.2	-0.8
	1.4nm,0.6s,baz=94,slow=8.0,SNR=7.8						
ZALV				PcP	PcP	13 58 16.1	0.0
	1.2nm,0.5s,baz=105,slow=3.1,SNR=5.2						
MKAR	Makanchi Array	42.23	298	P	P	13 56 30.5	-1.1
	0.8nm,0.4s,baz=86,slow=10,SNR=16						
MKAR				PcP	PcP	13 58 24.2	-1.4
	0.3nm,0.7s,baz=85,slow=3.0,SNR=2.3						
CMAR	Chiang Mai Arr	42.94	251	P	P	13 56 37.7	+0.1
	0.6nm,0.3s,baz=36,slow=7.8,SNR=3.8						
KURBB	Kurchatov Arra	43.73	305	P	P	13 56 42.8	-0.8
	1.3nm,0.4s,baz=78,slow=8.7,SNR=16						
ILAR	Eielson Array	45.87	34	P	P	13 57 01.1	+0.6
	1.5nm,1.0s,baz=271,slow=6.4,SNR=12						
TAPN	Taplejung	46.04	270	eP	P	13 57 01.4	-1.3
ODAN	Odare	46.54	270	eP	P	13 57 03.9	-2.7
JIRN	Jiri	47.02	271	eP	P	13 57 10.1	-0.4
	10nm,0.7s						
RAMN	Ramite	47.09	270	eP	P	13 57 07.7	-3.2
	20nm,0.7s						
GUN	Gumba	47.12	272	eP	P	13 57 10.8	-0.5
	20nm,0.7s						
KKN	Kakani	47.64	272	eP	P	13 57 14.6	-0.5
	15nm,0.7s						
DMN	Daman	47.87	272	eP	P	13 57 16.6	-0.3
GKN	Gorkha	48.01	273	eP	P	13 57 17.7	-0.2
BVAR	Borovoye Array	48.02	310	P	P	13 57 17.0	-0.5
	0.6nm,0.4s,baz=68,slow=8.5,SNR=5.8						
BVAR				PcP	PcP	13 58 44.4	-1.0
	0.7nm,0.6s,baz=93,slow=2.9,SNR=3.3						
DANN	Dangsing	48.49	274	eP	P	13 57 21.5	-0.3
	26nm,0.6s						
AAK	Ala-Archa	48.83	295	P	P	13 57 23.4	-0.7
	0.7nm,0.5s,baz=45,slow=4.3,SNR=2.5						
KOLN	Koldanda	48.92	273	eP	P	13 57 24.1	-0.9
PYUN	Piuthan	49.20	274	eP	P	13 57 26.5	-0.7
INK	Inuvik	50.58	29	P	P	13 57 38.3	+1.5
	0.9nm,0.4s,baz=269,slow=5.8,SNR=12						
YKA	Yellowknife Ar	60.09	31	P	P	13 58 46.4	+1.0
	0.3nm,0.5s,baz=304,slow=5.9,SNR=8.1						
ARCES	ARCESS Array B	60.19	339	P	P	13 58 45.6	-0.4
	4.5nm,1.0s,baz=70,slow=11,SNR=3.7						
WRA	Warramunga Arr	61.23	188	P	P	13 58 52.4	-1.3
	0.6nm,0.4s,baz=4.6,slow=7.1,SNR=22						
ASAR	Alice Springs	64.96	188	P	P	13 59 17.8	-0.5
	0.8nm,0.7s,baz=0.7,slow=7.2,SNR=19						
FINES	FINESS Array B	65.25	332	P	P	13 59 18.7	-1.1
	0.5nm,0.4s,baz=45,slow=8.1,SNR=4.6						
HFS	Hagfors	70.39	335	P	P	13 59 51.7	-0.5
	3.1nm,0.9s,baz=27,slow=6.8,SNR=6.7						
NOA	NORSAR Array B	70.44	337	P	P	13 59 52.3	-0.3
	0.6nm,0.5s,baz=40,slow=6.2,SNR=2.9						
AKASG	Malin Array Be	71.16	322	P	P	13 59 56.3	-0.8
	0.5nm,0.4s,baz=44,slow=5.9,SNR=5.2						
NVAR	Mina Array Bea	72.32	54	P	P	14 00 05.9	+1.3
	0.3nm,0.5s,baz=289,slow=7.0,SNR=4.5						
FRB	Frobisher Bay	72.65	14	P	P	14 00 05.7	-0.1
	1.1nm,0.4s,baz=315,slow=4.3,SNR=1.8						
PDAR	Pinedale Array	74.58	46	P	P	14 00 18.8	+0.9
	0.7nm,0.7s,baz=321,slow=1.1,SNR=7.1						
GERES	GERESS Array B	79.30	328	P	P	14 00 43.9	-0.2
	0.3nm,0.5s,baz=18,slow=10,SNR=2.3						
H03N2	Juan Fernandez	146.98	90	T	T	16 52 49.3	
	baz=296,slow=75,SNR=90						
H03N3	Juan Fernandez	147.00	90	T	T	16 52 57.8	
	baz=296,slow=75,SNR=132						
H03N1	Juan Fernandez	147.00	90	T	T	16 52 49.3	
	baz=296,slow=75,SNR=118						

ISCJB **02** *13:51:29.1±0.7,35.79N±0.03×52.83E±0.06,h12km±3km, Error ellipse: s-maj=8.7km s-min=5.2km az=17.7*
TEH **02** *13:51:29.4,35.75N×52.89E,h5km,ML3.6*
CSEM **02** *13:51:30.4±0.5,35.77N×52.75E,h2km,ML3.6,Error ellipse: s-maj=11.0km s-min=5.6km az=93.0*
AZER **02** *13:51:30.7±0.1,35.97N×52.61E,h5km,Error ellipse: s-maj=11.5km s-min=6.9km az=235.0*
ISC 02 13:51:30.5±0.9,35.78N±0.03×52.78E±0.05,h10km±7km, n45,σ1.39/69,18C-9D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IFIR	Firoozkooh	0.14	190	ePg	Pg	13 51 32.3	-1.5
IFIR				eSg	Sg	13 51 35.4	-0.7
IFIR				e		13 51 39.1	
	comp=Z,36µm,0.1s						
IFIR	Firoozkooh	0.14	190	ePg	Pg	13 51 32.3	-1.5
IFIR				eSg	Sg	13 51 35.4	-0.7
IALA	Alasht	0.31	4	⇑ePg	Pg	13 51 35.3	-1.5
IALA				eSg	Sg	13 51 40.5	-0.4
IALA				e		13 51 42.0	
	comp=Z,37µm,0.2s						
IALA	Alasht	0.31	4	⇑ePg	Pg	13 51 35.3	-1.5
IALA				eSg	Sg	13 51 40.5	-0.4
IPRN	Peran	0.59	322	ePg	Pg	13 51 40.9	-1.1
IPRN				eSg	Sg	13 51 50.1	+0.4
IPRN				e		13 51 51.3	
	comp=Z,67µm,0.2s						
IDMV	Damavand	0.64	252	ePg	Pg	13 51 42.2	-0.8
IDMV				eSg	Sb	13 51 52.2	-1.0
IDMV				e		13 51 58.1	
	comp=Z,28µm,0.1s						
IDMV	Damavand	0.64	252	ePg	Pg	13 51 42.2	-0.8
IDMV				eSg	Sb	13 51 52.2	-1.0
IGLO	Ghaloghah	1.11	49	ePg	Pg	13 51 49.4	-2.6
IGLO				e		13 52 11.3	
	comp=Z,16µm,0.3s						
IVRN	Varamin	1.16	228	ePg	Pg	13 51 51.3	-1.6
IVRN	Varamin	1.16	228	ePg	Pg	13 51 51.3	-1.6
IR3	Iran Long-Peri	1.46	259	ePn	Pn	13 51 56.4	-0.7
IR3	Iran Long-Peri	1.46	259	ePn	Pn	13 51 56.4	-0.7
IMHD	Mahdasht	1.72	268	ePn	Pn	13 52 01.5	+0.8
IMHD				e		13 52 37.4	
	comp=Z,5µm,0.2s						
IMHD	Mahdasht	1.72	268	ePn	Pn	13 52 01.5	+0.8
IGZV	Ghazvin	2.16	287	e		13 52 46.7	
	comp=Z,3µm,0.3s						
IGZV				ePn	Pb	13 52 09.3	-0.7
IRAZ	Razeghan	2.35	262	ePn	Pn	13 52 10.6	+1.1
IRAZ				e		13 52 52.6	
	comp=Z,4µm,0.2s						
IRAZ	Razeghan	2.35	262	ePn	Pn	13 52 10.6	+1.1
LKRN	Lenkeran, Azer	4.33	314	⇑P	Pn	13 52 36.5	0.0
LKRN				⇑S	Sn	13 53 28.3	+1.2
LKRN	Lenkeran, Azer	4.33	314	P	Pn	13 52 36.5	0.0
LKRN				S	Sn	13 53 28.3	+1.2
LRK	Lerik	4.55	310	⇑P	Pn	13 52 40.9	+1.2
LRK				⇓S	Sn	13 53 33.7	+0.9
LRK	Lerik	4.55	310	P	Pn	13 52 40.9	+1.2
LRK				S	Sn	13 53 33.7	+0.9
GLBA	Clilabad	4.91	316	⇑P	Pn	13 52 45.3	+0.8
GLBA				⇑S	Sn	13 53 42.8	+1.4
GLBA	Clilabad	4.91	316	P	Pn	13 52 45.3	+0.8
GLBA				S	Sn	13 53 42.8	+1.4
GALA	Gala	5.07	337	⇑P	Pn	13 52 49.5	+2.9
GALA				⇑S	Sn	13 53 43.9	-1.3
GALA	Gala	5.07	337	P	Pn	13 52 49.5	+2.9
GALA				S	Sn	13 53 43.9	-1.3
ALIB	Äli-Bayra	5.13	326	⇑P	Pn	13 52 50.4	+3.0
ALIB				⇑S	Sn	13 53 44.5	-2.3
ALIB	Äli-Bayra	5.13	326	P	Pn	13 52 50.4	+3.0
ALIB				S	Sn	13 53 44.5	-2.3
GOBA	Gobu	5.20	333	⇓P	Pn	13 52 50.8	+2.3
GOBA				⇓S	Sn	13 53 51.7	+3.1
GOBA	Gobu	5.20	333	P	Pn	13 52 50.8	+2.3
GOBA				S	Sn	13 53 51.7	+3.1
ATGJ	Altiaghaj	5.91	330	⇑P	Pn	13 52 59.3	+1.1
ATGJ				⇓S	Sn	13 54 06.5	+0.5
ATGJ	Altiaghaj	5.91	330	P	Pn	13 52 59.3	+1.1
ATGJ				S	Sn	13 54 06.5	+0.5
PQL	Pirkuli	5.99	328	⇑P	Pn	13 53 00.6	+1.2
PQL				⇑S	Sn	13 54 09.1	+1.0
PQL	Pirkuli	5.99	328	P	Pn	13 53 00.6	+1.2
PQL				S	Sn	13 54 09.1	+1.0
SIZA	Siyzn	6.11	331	⇑S	Sn	13 54 11.7	+0.8
SIZA	Siyzn	6.11	331	S	Sn	13 54 11.7	+0.8
BRDA	Brd	6.29	317	⇓S	Sn	13 54 14.3	-1.1
BRDA	Brd	6.29	317	S	Sn	13 54 14.3	-1.1
QUBA	Quba, Azerbaij	6.50	330	⇑P	Pn	13 53 07.5	+1.2
QUBA				⇓S	Sn	13 54 19.6	-1.0
QUBA	Quba, Azerbaij	6.50	330	P	Pn	13 53 07.5	+1.2
QUBA				S	Sn	13 54 19.6	-1.0
SEKA	Sheki	6.97	323	⇑P	Pn	13 53 13.3	+0.5
SEKA				⇓S	Sn	13 54 30.9	-1.3
SEKA	Sheki	6.97	323	P	Pn	13 53 13.3	+0.5
SEKA				S	Sn	13 54 30.9	-1.3
GANJ	Ganja	7.03	316	⇑P	Pn	13 53 14.2	+0.6
GANJ				⇓S	Sn	13 54 30.1	-3.6
GANJ	Ganja	7.03	316	P	Pn	13 53 14.2	+0.6
QZX	Qazax, Azerbai	7.85	314	⇓P	Pn	13 53 23.3	-1.5
QZX	Qazax, Azerbai	7.85	314	P	Pn	13 53 23.3	-1.5

IDC 02 14:01:17.8±7.7,3.52S×136.04E,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.4/25,mbtmp3.7/3,ML2.8/1,MS3.7/3, Ms1 3.7/3,ms1mx3.1/19,Error ellipse: s-maj=123.4km s-min=88.8km az=125.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.40	186	Pn	Pn	14 05 09.3	-0.4
	0.0nm,0.3s,baz=5.1,slow=13,SNR=2.7						
WRA				Sn	Sn	14 08 13.5	+0.9
	0.1nm,0.3s,baz=11,slow=23,SNR=4.8						
ASAR	Alice Springs	20.13	186	P	P	14 05 54.0	+0.3
	1.3nm,0.6s,baz=14,slow=11,SNR=20						
ASAR				LR	LR	14 14 04.8	
	comp=Z,79nm,18.9s,baz=148,slow=38						
STKA	Stephens Creek	28.68	170	P	P	14 07 16.4	-0.2
	1.2nm,0.7s,baz=336,slow=12,SNR=1.9						
URZ	Urewera	50.94	138	LR	LR	14 30 43.2	
	comp=Z,96nm,18.8s,baz=224,slow=35						
OPO	Ambohidratompo	87.81	252	LR	LR	14 51 32.1	
	comp=Z,85nm,18.6s,baz=50,slow=34						

BJI **02** *14:17:40.2,35.57N×88.15E,h9km,mB4.5/3,mb4.0/8, Ms4.3/10,Ms7 3.9/4*
IDC **02** *14:17:41.2±1.0,35.55N×88.38E,h0km,mb3.5/6, mb1 3.6/10,mb1mx3.5/29,mbtmp3.4/10,ML3.4/4,MS3.4/15, Ms1 3.5/15,ms1mx3.3/35,Error ellipse: s-maj=45.8km s-min=18.4km az=58.0*
ISC 02 14:17:41.4±0.6,35.48N±0.07×88.19E±0.09,h10km,n29, σ2.07/18,mb3.7/7,MS3.6/10,Xizang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSA	Lhasa	6.28	156	Pg	Pb	14 19 32.2	+1.0
DANN	Dangsing	8.04	209	eP	Pn	14 19 44.2	+5.6
TAPN	Taplejung	8.12	183	eP	Pn	14 19 45.7	+6.1
	30nm,0.8s						
WMQ	Urumqi	8.34	358	eP	Pn	14 19 42.3	-0.1
WMQ				pP	pP	14 19 45.4	
WMQ				sP		14 19 48.3	
WMQ				S	Sn	14 21 18.1	+1.5
WMQ				sS	sS	14 21 23.0	
WMQ				pmax	pmax		
	comp=Z,18nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,160nm,3.8s						
WMQ				LR	LR		
	comp=N,520nm,7.0s						
WMQ				LR	LR		
	comp=E,990nm,9.4s						
PYUN	Piuthan	8.58	212	eP	Pn	14 19 45.2	-0.7
	53nm,1.0s						
ODAN	Odare	8.62	185	eP	Pn	14 19 45.7	-0.8
	32nm,0.8s						
GTA	Gaotai	10.04	64	P	Pn	14 19 58.2	-7.6
GTA				pP		14 20 01.4	
GTA				sP		14 20 04.2	
GTA				S	Sn	14 21 47.4	-11
GTA				SS	SnSn	14 21 52.5	-18
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,48nm,4.5s						
GTA				LR	LR		
	comp=N,1µm,10.2s						
GTA				LR	LR		
	comp=E,710nm,7.9s						
GTA				LR	LR		
	comp=Z,500nm,11.6s						
KSH	Kashi	10.51	296	eP	Pn	14 20 20.7	+8.6
KSH				pP		14 20 23.9	
KSH				sP		14 20 26.8	
KSH				S	Sn	14 22 26.0	+16
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSH				LR	LR		
	comp=Z,360nm,6.2s						
KSH				LR	LR		
	comp=Z,380nm,7.6s						
KSH				LR	LR		
	comp=Z,320nm,5.8s						
MKAR	Makanchi Array	12.14	340	Pn	Pn	14 20 31.4	-3.0
	comp=Z,0.2nm,0.3s,baz=152,slow=14,SNR=6.3						
MKAR				LR	LR	14 26 18.3	
	comp=Z,68nm,20.3s,baz=158,slow=43						
LZH	Lanzhou	12.73	83	eP	Pn	14 20 41.1	-1.5
LZH				pP		14 20 45.2	
LZH				sP		14 20 48.3	
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
AAK	Ala-Archa	12.81	308	Pn	Pn	14 20 41.9	-1.8
	comp=Z,0.1nm,0.3s,baz=124,slow=16,SNR=3.0						
AAK				LR	LR	14 26 53.2	
	comp=Z,189nm,21.0s,baz=106,slow=43						
KURBB	Kurchatov Arra	16.67	338	Pn	Pn	14 21 32.4	-2.6
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=4.6						
SONM	Songino Array	18.31	42	Pn	P	14 21 53.5	-2.2
	comp=Z,0.1nm,0.3s,baz=224,slow=10,SNR=2.7						
SONM				LR	LR	14 28 29.7	
	comp=Z,72nm,18.4s,baz=132,slow=36						
ZALV	Zalesovo Beam	18.61	354	Pn	P	14 21 56.8	-2.0
	comp=Z,0.0nm,0.3s,baz=185,slow=16,SNR=4.3						
ZALV				LR	LR	14 28 57.7	
	comp=Z,108nm,21.2s,baz=250,slow=36						
CMAR	Chiang Mai Arr	19.45	148	P	P	14 22 07.5	-0.8
	comp=Z,0.1nm,0.3s,baz=340,slow=13,SNR=3.8						
CMAR				LR	LR	14 29 42.5	
	comp=Z,99nm,20.8s,baz=328,slow=37						
BVAR	Borovoye Array	21.58	330	P	P	14 22 33.6	+2.6
	comp=Z,0.8nm,0.6s,baz=138,slow=13,SNR=6.5						
BVAR				LR	LR	14 30 54.1	
	comp=Z,87nm,18.5s,baz=120,slow=37						
AKTO	Aktyubinsk	26.43	314	P	P	14 23 22.4	+4.2
	comp=Z,1.2nm,0.7s,baz=96,slow=12,SNR=4.7						
AKTO				LR	LR	14 35 02.3	
	comp=Z,168nm,20.4s,baz=118,slow=39						
KSRS	Korea Array	31.86	75	LR	LR	14 37 26.0	
	comp=Z,77nm,19.4s,baz=324,slow=37						
TGY	Tagaytay City	36.30	118	LR	LR	14 40 14.9	
	comp=Z,16nm,21.8s,baz=152,slow=37						
MJAR	Matsushiro Arr	40.11	73	LR	LR	14 42 58.7	
	comp=Z,30nm,18.5s,baz=65,slow=38						
AKASG	Malin Array Be	44.48	309	LR	LR	14 48 05.3	
	comp=Z,80nm,18.9s,baz=260,slow=41						
FINES	FINESS Array B	46.35	324	P	P	14 26 09.2	+1.8
	comp=Z,1.0nm,0.7s,baz=101,slow=14,SNR=3.3						
NOA	NORSAR Array B	53.53	324	LR	LR	14 51 36.8	
	comp=Z,78nm,18.2s,baz=70,slow=38						
GERES	GERESS Array B	54.69	309	LR	LR	14 52 13.3	
	comp=Z,82nm,18.7s,baz=78,slow=38						
ESDC	Sonseca Array	69.89	305	LR	LR	15 03 09.5	
	comp=Z,46nm,19.6s,baz=85,slow=39						
WRA	Warramunga Arr	70.37	134	P	P	14 28 57.2	+1.6
	comp=Z,1.1nm,1.1s,baz=320,slow=7.8,SNR=6.1						
ASAR	Alice Springs	73.03	137	P	P	14 29 13.0	+1.4
	comp=Z,0.7nm,0.9s,baz=339,slow=6.4,SNR=4.9						
TORD	Torodi Ar. Bea	79.67	279	P	P	14 29 51.4	+1.8
	comp=Z,0.2nm,0.5s,baz=56,slow=4.1,SNR=3.0						
TORD				LR	LR	15 10 40.8	
	comp=Z,68nm,18.7s,baz=0.0,slow=40						
YKA	Yellowknife Ar	80.65	11	P	P	14 29 55.8	+1.7
	comp=Z,0.2nm,0.6s,baz=335,slow=5.4,SNR=3.0						

IDC **02** *14:24:57.9±6.2,30.82N×131.22E,h0km,mb3.7/5, mb1 3.5/7,mb1mx3.4/42,mbtmp3.6/7,ML2.4/2,Error ellipse: s-maj=130.1km s-min=49.4km az=104.0*
NIED **02** *14:25:00,31.10N×131.80E,h38km,Mw4.0 Best double couple: M0 1.26000×10^15 NP1:φs160.00000°,δ56.00000°, λ2.00000°. NP2:φs68.00000°,δ88.00000°,λ146.00000°.*
JMA **02** *14:25:02.1±0.2,31.06N×131.82E,h30km±3km,M3.5*
ISC 02 14:25:00.1±2.3,31.08N±0.07×131.9E±0.1,h27km±13km, n19,σ0.87/20,mb3.7/5,1D,Kyushu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	0.70	310	⇓P	Pn	14 25 14.8	+0.6
JNAR				S	Sn	14 25 24.7	+0.5
JTSR	Tashiro 2	0.84	276	P	Pn	14 25 16.7	+0.5
JTSR				S	Sn	14 25 27.7	0.0
JTN	Tanegashima 3	0.90	242	P	Pn	14 25 18.1	+1.2
JTN				eS	Sn	14 25 29.4	+0.4
JTZ	Takazaki	1.08	320	P	Pb	14 25 20.9	+0.8
JTSN	Tsuno	1.21	344	P	Pb	14 25 23.6	+1.1
JSU	Suzuyama	1.31	289	P	Pb	14 25 23.6	-0.5
JYAK	Yakushimahirau	1.46	235	S	Sb	14 25 43.8	-1.0
JZO	Okuchi	1.54	314	P	Pb	14 25 28.1	+0.2
JZO				S	Sb	14 25 47.3	+0.3
JKC	Kuchinoerabu	1.59	248	S	Sn	14 25 46.1	0.0
JNU	Nakatsue	2.22	337	Pn	Pb	14 25 37.6	-1.9
	3.0nm,0.3s,baz=125,slow=12,SNR=5.2						
JNU				Sn	Sb	14 26 12.5	+6.0
	8.1nm,0.3s,baz=221,slow=20,SNR=4.5						
KSRS	Korea Array	7.16	334	Pn	Pn	14 26 42.9	-0.2
	0.0nm,0.3s,baz=151,slow=14,SNR=3.0						
SONM	Songino Array	25.67	318	P	P	14 30 28.3	+0.5
	0.9nm,0.8s,baz=131,slow=8.6,SNR=5.8						
H11N2	WAKE ISLAND Hy	33.44	101	T	T	15 07 21.3	
	baz=298						
H11N1	WAKE ISLAND Hy	33.44	101	T	T	15 07 36.8	
	baz=298						
H11N3	WAKE ISLAND Hy	33.45	101	T	T	15 07 20.5	
	baz=298						
MKAR	Makanchi Array	40.96	307	P	P	14 32 39.3	-1.1
	0.2nm,0.4s,baz=93,slow=7.2,SNR=3.9						
KURBB	Kurchatov Arra	43.78	312	P	P	14 33 02.4	-0.8
	1.0nm,0.6s,baz=100,slow=9.4,SNR=5.2						
BVAR	Borovoye Array	48.96	315	P	P	14 33 44.5	+0.6
	0.9nm,0.5s,baz=107,slow=9.9,SNR=11						
BRTR	Keskin Array B	76.59	308	P	P	14 36 48.8	+0.4
	0.7nm,0.8s,baz=68,slow=8.1,SNR=2.6						

BJI **02** *14:25:18.9,15.00S×173.00W,h10km,mB5.5/8,mb5.0/18, Ms5.2/5,Ms7 4.8/5*
IDC **02** *14:25:18.4±0.8,14.96S×173.59W,h0km,mb4.2/15, mb1 4.4/15,mb1mx4.3/22,mbtmp4.2/15,MS3.9/15, Ms1 3.9/15,ms1mx3.8/24,Error ellipse: s-maj=33.7km s-min=16.6km az=143.0*
NEIC **02** *14:25:20.1±0.5,14.94S×173.57W,h10km,mb4.6/9,Error ellipse: s-maj=21.8km s-min=9.3km az=142.0*
ISC 02 14:25:23.2±0.7,15.0S±0.2×173.6W±0.2,h30km,n72, σ1.78/50,mb4.5/31,MS4.1/15,1C,Samoa Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.02	59	Pn	Pn	14 25 47.2	-8.2
	117nm,0.3s,baz=154,slow=1.3,SNR=134						
AFI				Sn	Sn	14 26 05.6	-14
	514nm,0.3s,baz=73,slow=20,SNR=16						
AFI				LR	LR	14 26 19.5	
	comp=Z,770nm,20.8s,baz=191,slow=30						
MSVF	Nonsavu	8.51	250	eP	Pn	14 27 32.4	+7.8
	128nm,1.1s						
RAR	Rarotonga	14.50	117	LR	LR	14 32 35.9	
	comp=Z,642nm,21.5s,baz=226,slow=30						
DZM	Mont Dzumac	20.22	247	eP	Pn	14 30 02.2	+4.0
	70nm,1.4s						
DZM				eLR	LR	14 34 59.7	
	769nm,25.6s						
DZM	Mont Dzumac	20.22	247	P	Pn	14 29 58.5	+0.3
	11nm,0.8s,baz=81,slow=15,SNR=5.6						
PPT	Papeete	23.16	100	LR	LR	14 36 44.9	
	comp=Z,287nm,21.1s,baz=264,slow=30						

PPT2 Papeete2 23.16 100 eLQ LQ 14 34 48.3
1µm,29.5s
PPT2 eLR LR 14 35 53.4
805nm,24.8s,baz=262
PPT2 Papeete2 23.16 100 eT T 14 53 31.6
7.3nm,0.3s
PAE Paea 23.16 100 eT T 14 53 30.7
2.7nm,0.2s
TVO Taravao 23.48 100 eT T 14 53 54.7
2.4nm,0.3s
TBI Tubuai 24.21 114 eLQ LQ 14 35 18.0
643nm,28.5s
TBI eLR LR 14 36 14.1
972nm,26.2s,baz=280
TBI Tubuai 24.21 114 eT T 14 54 55.3
21nm,0.4s
URZ Urewera 24.62 198 P P 14 30 42.0 +0.9
4.6nm,0.5s,baz=315,slow=4.3,SNR=3.8
URZ Urewera 24.62 198 P P 14 30 41.6 +0.6
RKT Rikitea 37.27 109 eLR LR 14 42 14.2
437nm,26.5s,baz=285
RKT Rikitea 37.27 109 eT T 15 11 11.2
5.8nm,0.3s
H11S2 WAKE ISLAND Hy 38.52 329 T T 15 14 01.7
baz=152,slow=77,SNR=20
H11S3 WAKE ISLAND Hy 38.53 329 T T 15 14 03.9
baz=152,slow=77,SNR=20
H11S1 WAKE ISLAND Hy 38.54 329 T T 15 14 03.9
baz=152,slow=77,SNR=22
H11N3 WAKE ISLAND Hy 39.46 330 T T 15 15 10.3
baz=152,slow=77,SNR=8.2
H11N1 WAKE ISLAND Hy 39.47 330 T T 15 15 27.2
baz=152,slow=77,SNR=23
H11N2 WAKE ISLAND Hy 39.48 330 T T 15 15 25.9
baz=152,slow=77,SNR=8.0
STKA Stephens Creek 44.12 240 P P 14 33 28.1 -1.0
1.6nm,0.7s,baz=81,slow=12,SNR=4.2
WRA Warramunga Arr 49.79 256 P P 14 34 11.9 -1.8
2.5nm,0.8s,baz=91,slow=7.4,SNR=24
WRA LR LR 14 53 20.3
comp=Z,147nm,19.6s,baz=65,slow=34
AS31 Alice Springs 50.10 252 P P 14 34 13.9 -2.1
ASAR Alice Springs 50.10 252 P P 14 34 14.2 -1.8
11nm,0.7s,baz=87,slow=8.2,SNR=104
ASAR LR LR 14 53 52.8
comp=Z,351nm,19.4s,baz=90,slow=34
JCJ Chichijima 59.95 314 LR LR 14 56 40.7
comp=Z,107nm,20.0s,baz=112,slow=31
MJAR Matsushiro Arr 68.51 320 P P 14 36 22.8 -0.2
2.6nm,0.9s,baz=174,slow=7.4,SNR=4.9
MJAR LR LR 15 00 49.9
comp=Z,112nm,21.9s,baz=220,slow=31
FX1 Attu Island--F 68.54 351 LR LR 15 00 09.1
comp=Z,125nm,21.2s,baz=190,slow=30
PETK Petropavlovsk- 72.18 342 P P 14 36 43.9 -1.1
4.6nm,0.9s,baz=147,slow=8.3,SNR=3.5
PETK LR LR 15 08 45.4
comp=Z,25nm,18.3s,baz=194,slow=36
YBH Yreka Blue Hor 73.35 37 P P 14 36 52.8 +0.4
3.2nm,0.9s,baz=180,slow=6.1,SNR=4.5
NVAR Mina Array Bea 74.11 42 P P 14 36 56.4 -0.7
1.1nm,0.7s,baz=223,slow=10.0,SNR=7.8
KSRS Korea Array 75.75 316 P P 14 37 07.4 +1.2
1.3nm,0.9s,baz=149,slow=6.1,SNR=4.1
KSAR Wonju Array Be 75.77 316 P P 14 37 07.4 +1.1
ELK Elko 77.36 42 P P 14 37 14.5 -1.1
1.6nm,1.0s,baz=226,slow=5.7,SNR=2.5
HLID Hailey 79.39 39 eP P 14 37 27.8 +1.0
5.7nm,1.0s
NJ2 Nanjing 79.78 307 eP P 14 37 33.2 +4.3
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
BNM Barren Site 80.18 51 P P 14 37 31.0 -0.3
3.8nm,1.1s
TRF Thorofare Moun 80.23 10 eP P 14 37 30.0 -0.8
4.5nm,0.8s
TXAR Lajitas Array 80.50 56 P P 14 37 32.8 -0.1
2.4nm,1.1s,baz=222,slow=5.0,SNR=8.7
TXAR LR LR 15 05 21.1
comp=Z,65nm,21.1s,baz=0.0,slow=30
CN2 Changchun 80.66 320 eP P 14 37 37.1 +3.8
CN2 pmax pmax
comp=Z,10.0nm,0.8s
MCK McKinley 80.73 11 eP P 14 37 32.9 -0.4
7.7nm,0.9s
MCMT McKenzie Canyo 81.02 39 eP P 14 37 37.3 +1.8
1.5nm,0.9s
BSMT Bassoo Peak 81.50 36 eP P 14 37 37.7 -0.3
6.3nm,1.3s
COLA College 81.97 11 eP P 14 37 39.5 -0.2
8.9nm,0.8s
PDAR Pinedale Array 82.05 42 P P 14 37 41.1 +0.1
2.2nm,0.9s,baz=206,slow=3.4,SNR=12
PDAR LR LR 15 06 43.8
comp=Z,55nm,18.9s,baz=294,slow=30
ILAR Eielson Array 82.06 11 P P 14 37 39.9 -0.4
2.1nm,1.0s,baz=231,slow=6.4,SNR=19
HRY Holter Researc 82.60 38 eP P 14 37 44.0 +0.3
7.1nm,1.0s
DAWY Dawson 83.05 14 eP P 14 37 45.5 0.0
ABTX Abilene, Hawle 84.94 54 eP P 14 37 54.7 -1.1
16nm,0.9s
GYA Guiyang 87.71 298 eP P 14 38 14.0 +4.3
GYA pmax pmax
comp=Z,10.0nm,0.9s
MAW Mawson 88.15 199 LR LR 15 17 27.4
comp=Z,177nm,18.4s,baz=94,slow=36
HHC Hu-ho-hao-te 88.62 313 eP P 14 38 16.6 +2.9
HHC sP sP 14 38 22.5 -4.3
HHC PP PP 14 41 48.7 +6.0
HHC SKS SKSac 14 48 44.2 +3.1
HHC S ScS 14 49 03.3 -0.7
HHC SS SS 14 55 00.3 +10
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,190nm,6.5s
HHC LR LR
comp=N,360nm,17.3s
HHC LR LR
comp=E,320nm,17.3s
HHC LR LR
comp=Z,310nm,16.0s
YKA Yellowknife Ar 89.77 23 P P 14 38 18.1 -0.3
0.3nm,0.6s,baz=243,slow=4.6,SNR=6.6
PLCA Paso Flores 89.91 132 LR LR 15 10 28.1
comp=Z,71nm,20.3s,baz=250,slow=30
KMI Kunming 90.70 296 P P 14 38 30.8 +6.8
KMI pmax pmax
comp=Z,8.0nm,0.5s
CD2 Chengdu 91.46 301 P P 14 38 30.6 +3.5
CD2 pP pP 14 38 35.4 -1.4
CD2 sP sP 14 38 37.6 -2.6
CD2 SKS SKSac 14 49 02.0 +4.1
CD2 S ScS 14 49 30.1 +2.3
CD2 sS sS 14 49 37.6 -3.4
CD2 SS SS 14 55 42.6 +11
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,6.4s
CMAR Chiang Mai Arr 92.33 288 LR LR 15 15 03.0
comp=Z,46nm,20.2s,baz=157,slow=32
LZH Lanzhou 92.85 306 eP P 14 38 36.2 +2.6
LZH pP pP 14 38 41.0 -2.3
LZH sP sP 14 38 43.3 -3.4
LZH pmax pmax
comp=Z,14nm,1.0s
ULM Lac du Bonnet 93.70 39 LR LR 15 11 24.9
comp=Z,72nm,20.6s,baz=313,slow=30
SONM Songino Array 94.42 318 P P 14 38 41.7 +1.2
0.5nm,0.9s,baz=124,slow=3.0,SNR=2.8
WMQ Urumqi 106.47 312 ePdif Pdif 14 39 37.3 +2.8
WMQ LR LR
comp=N,49nm,19.2s
WMQ LR LR
comp=E,54nm,20.0s
WMQ LR LR
comp=Z,39nm,18.8s
KSH Kashi 115.09 307 ePKP PKPdf 14 44 06.8 +4.8
KSH PKS PKSdf 14 47 40.3 +1.6
KSH SKKS 14 52 06.8
KSH SS SS 15 01 12.0 +15
KSH AMB AMB
comp=Z,160nm,4.8s
ARCES ARCESS Array B 124.17 352 PKP PKPdf 14 44 18.6 +0.2
1.5nm,0.9s,baz=79,slow=4.8,SNR=4.1
FINES FINESS Array B 131.49 348 PKP PKPdf 14 44 32.3 -0.2
1.6nm,1.0s,baz=14,slow=6.2,SNR=2.2
DPC Dobruska-Polom 143.81 349 ePKP PKPdf 14 44 57.1 +1.5
DPC epPKP PKiKP 14 45 00.2 +1.2
KHC Kasperske Hory 145.44 352 iPKP PKPab 14 44 59.3 +0.7
KHC ex x 14 45 07.0
KHC Kasperske Hory 145.44 352 eP PKPab 14 44 58.8 +0.2
GERES GERESS Array B 145.70 351 PKPbc PKPdf 14 44 58.8 -0.2
1.6nm,0.8s,baz=5.7,slow=3.0,SNR=9.8
BR131 Keskin Array S 145.73 321 eP PKPab 14 44 60.0 -0.2
BRTR Keskin Array B 145.73 321 PKPbc PKPab 14 45 00.7 +0.6
4.4nm,0.8s,baz=68,slow=2.2,SNR=16
CONA Conrad Observa 146.22 349 ⇑iPKPab PKPbc 14 45 00.8 -0.1
4.5nm,0.8s

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*IDC **02** 14:30:33.5±1.5, 22°.63S×66°.12W, h231±14km, mb3.5/10, mb1 3.8/14, mb1mx3.7/21, mbtmp4.1/14, Error ellipse: s-maj=17.4km s-min=13.7km az=70.0*
*ISCJB **02** 14:30:34.6±0.3, 22°.56S±0°.04×66°.25W±0°.04, h259±4km, mb3.8/11, Error ellipse: s-maj=7.0km s-min=5.4km az=43.5*
*SJA **02** 14:30:34.2±0.7, 22°.44S×66°.16W, h264±9km, ML2.9*
*NEIC **02** 14:30:35.9±0.9, 22°.54S×66°.49W, h290±25km, mb4.0/5, Error ellipse: s-maj=36.7km s-min=9.7km az=93.0*
*GUC **02** 14:30:36.4±0.4, 22°.46S×66°.90W, h300km, ML5.3*
ISC 02 14:30:35.2±0.7, 22°.54S±0°.05×66°.27W±0°.05, h251±7km, n42, σ1''.45/57, mb4.0/11, 8C, Jujuy Province

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
YJA Yavi 0.79 63 iP Pn 14 31 10.6 +0.7
YJA eS S 14 31 36.9 -0.1
YJA AML AML 14 31 39.4
comp=Z,19nm,0.6s
AZAP Zapla 2.01 147 iP Pn 14 31 18.5 +0.4
AZAP AML AML 14 31 54.6
comp=Z,31nm,0.6s
ASTB Santa Barbara 2.16 131 iP Pn 14 31 19.9 +0.5
SLA San Lorenzo 2.28 162 iP Pn 14 31 21.8 +1.3
SLA AML AML 14 32 00.2
comp=Z,54nm,0.8s
LVC Limon Verde 2.44 268 ePn Pn 14 31 23.7 +1.5
LVC Sn S 14 32 00.8 +1.5
ALOL LOMAS DE OLMED 2.47 121 iP Pn 14 31 22.1 -0.1
PB09 Plate Boundary 2.85 285 ⇑eP Pn 14 31 28.2 +1.9
PB09 eS S 14 32 07.5 +0.7
PB09 AML AML 14 32 12.1
comp=E,2µm,0.3s
PB09 Plate Boundary 2.85 285 ⇑eP Pn 14 31 28.2 +1.9
PB09 eS S 14 32 07.5 +0.7
PB04 Plate Boundary 2.99 275 eP Pn 14 31 35.3 +7.7
PB04 eS S 14 32 20.1 +11
PB04 Plate Boundary 2.99 275 eP Pn 14 31 35.3 +7.7
PB04 eS S 14 32 20.1 +11
PB06 Plate Boundary 3.05 266 ⇑eP Pn 14 31 29.6 +1.1
PB06 eS S 14 32 10.8 +0.2
PB06 Plate Boundary 3.05 266 ⇑eP Pn 14 31 29.6 +1.1
PB06 eS S 14 32 11.2 +0.6
PB01 Plate Boundary 3.34 296 ⇑eP Pn 14 31 32.7 +1.1
PB01 eS S 14 32 15.8 -0.4
PB01 Plate Boundary 3.34 296 ⇑eP Pn 14 31 32.7 +1.1
PB01 eS S 14 32 15.8 -0.4
PB07 Plate Boundary 3.45 283 ⇑eP Pn 14 31 33.9 +1.0
PB07 eS S 14 32 17.4 -1.2
PB07 AML AML 14 32 18.0
comp=N,3µm,0.4s
PB07 Plate Boundary 3.45 283 ⇑eP Pn 14 31 33.9 +1.0
PB07 eS S 14 32 17.4 -1.2
CEN1 Los Morros 3.72 256 P Pn 14 31 38.2 +2.4
CEN1 S S 14 32 23.4 -0.6
ANCH Antofagasta 3.97 253 iP Pn 14 31 37.6 -1.1
ANCH eS S 14 32 25.8 -3.4
PATCX Punta Patache 4.00 295 eP Pn 14 31 39.9 +0.8
PATCX eS S 14 32 28.0 -1.8
PATCX AML AML 14 32 30.2
comp=N,2µm,0.5s
CYA Choya 5.89 176 iP Pn 14 32 02.7 +0.7
CYA eS S 14 33 09.0 -2.4
CYA AML AML 14 33 13.1
comp=Z,5.7nm,0.7s
LPAZ La Paz 6.46 344 P Pn 14 32 10.9 +1.0
comp=Z,3.9nm,0.3s,baz=136,slow=7.1,SNR=42
LPAZ S S 14 33 24.0 -1.6
comp=Z,1.1nm,0.3s,baz=35,slow=20,SNR=10
LPAZ La Paz 6.46 344 eP Pn 14 32 10.6 +0.7
comp=Z,10nm,0.5s
LPAZ eS S 14 33 23.2 -2.3
LCO Las Campanas 7.58 211 eP Pn 14 32 21.9 -1.5
comp=Z,14nm,0.6s
ARE Arequipa 7.80 320 eP Pn 14 32 25.0 -1.3
ARE eS S 14 33 51.0 -4.7
SIV San Ignacio 8.16 38 P Pn 14 32 29.4 -1.2
comp=Z,4.6nm,0.3s,baz=230,slow=9.6,SNR=74
CFAA Coronel Fontan 9.20 191 P Pn 14 32 42.9 -0.8
comp=Z,0.3nm,0.3s,baz=37,slow=2.9,SNR=31
CFAA S S 14 34 20.1 -7.4
comp=Z,1.1nm,0.3s,baz=262,slow=19,SNR=21
SAML Samuel 13.84 13 eP Pn 14 33 40.7 -0.8
comp=Z,3.7nm,0.6s
TRQA Tornquist 15.90 168 eP P 14 34 03.6 -1.2
comp=Z,3.0nm,0.7s
BDFB Brasilia 18.56 71 P P 14 34 34.1 0.0
comp=Z,1.8nm,0.3s,baz=246,slow=12,SNR=30
PTGA Pitinga 22.53 17 P P 14 35 13.1 -1.1
comp=Z,2.9nm,0.5s,baz=207,slow=20,SNR=6.5
RCBR Riachuelo 33.69 65 eP P 14 36 52.4 -0.9
comp=Z,21nm,1.0s
TXAR Lajitas Array 62.90 323 P P 14 40 36.6 +1.4
comp=Z,0.3nm,0.7s,baz=158,slow=9.7,SNR=3.5
DBIC Dimbokro 66.71 72 P P 14 40 58.8 -1.1
comp=Z,2.4nm,0.5s,baz=230,slow=10,SNR=5.0
TOA0 Torodi Ar. Sit 75.42 69 eP P 14 41 50.9 -1.2
TORD Torodi Ar. Bea 75.42 69 P P 14 41 51.0 -1.1
comp=Z,4.8nm,0.5s,baz=255,slow=5.9,SNR=93
PDAR Pinedale Array 76.25 329 P P 14 41 58.2 +1.8
comp=Z,0.5nm,0.7s,baz=134,slow=8.5,SNR=4.6
ULM Lac du Bonnet 77.07 341 P P 14 42 01.5 +0.9
comp=Z,0.9nm,0.4s,baz=156,slow=12,SNR=4.5
TSUM Tsumeb 77.40 106 P P 14 42 03.2 -0.2
comp=Z,2.9nm,0.7s,baz=273,slow=8.1,SNR=4.7
NVAR Mina Array Bea 77.83 321 P P 14 42 06.9 +1.5
comp=Z,0.2nm,0.6s,baz=133,slow=6.6,SNR=3.7
ESDC Sonseca Array 84.88 43 P P 14 42 42.9 +0.9
comp=Z,1.6nm,0.7s,baz=255,slow=5.5,SNR=7.6
YKA Yellowknife Ar 92.99 340 P P 14 43 21.0 +1.4
comp=Z,0.3nm,0.5s,baz=130,slow=4.7,SNR=8.6
MKAR Makanchi Array 144.98 39 PKP PKPab 14 49 43.6 +0.9
comp=Z,3.5nm,0.8s,baz=308,slow=4.0,SNR=33

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*BJI **02** 14:41:28.6, 3°.82S×99°.99E, h11km, mB5.0/40, mb4.7/51, Ms4.9/41, Ms7 4.6/39*
*KLM **02** 14:41:29.4, 3°.74S×99°.47E, h15km, mb4.9, MS5.9*
*DJA **02** 14:41:30.5±0.7, 4°S±5°×10°0E±°, h10km, M4.8/17, mb5.0/15, mB5.2/10, MLv4.9/17, Mw(mB)4.6/10*
*ISCJB **02** 14:41:30.2±0.3, 3°.66S±0°.03×99°.88E±0°.03, h10km, mb4.6/72, MS4.2/30, Error ellipse: s-maj=5.7km s-min=3.1km az=41.4*
*IDC **02** 14:41:31.4±0.7, 3°.49S×99°.87E, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.2/37, mbtmp4.2/18, ML3.7/1, MS3.8/11, Ms1 3.8/11, ms1mx3.5/33, Error ellipse: s-maj=22.7km s-min=15.0km az=51.0*
*NEIC **02** 14:41:33.0±0.3, 3°.45S×99°.94E, h10km, mb4.8/15, Error ellipse: s-maj=9.6km s-min=5.1km az=54.0*
*MOS **02** 14:41:35.6±1.4, 3°.28S×100°.01E, h33km, mb5.0/29, MS4.3/8, Error ellipse: s-maj=14.1km s-min=6.0km az=108.2*
ISC 02 14:41:32.9±0.6, 3°.59S±0°.05×99°.84E±0°.05, h14±2km, h13km:pP-P, n186, σ1''.83/226, mb4.7/71, MS4.3/30, 13C-5D, Southwest of Sumatera

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PDSI Padang 2.73 13 P Pn 14 42 14.0 -2.4
PDSI S Sn 14 42 51.4 +2.1
MNAI Manna 3.20 104 P Pn 14 42 21.8 -1.1
MNAI S Sn 14 43 02.2 +1.4
MNAI Manna 3.20 104 ePn Pn 14 42 23.4 +0.6
MNAI Manna 3.20 104 P Pn 14 42 23.5 +0.6
baz=3.1,SNR=11
LHSI Lahat 3.68 94 P Pn 14 42 28.6 -0.9
BKNI Bangkinang 4.07 17 S Sn 14 43 24.7 +2.4
BKNI Bangkinang 4.07 17 eP Pn 14 42 33.9 -0.9
RGRI Rengat 4.07 38 P Pn 14 42 36.9 +2.1
JMBI JAMBI 4.26 63 P Pn 14 42 38.3 +0.8
MNSI Mandailing Nat 4.36 357 P Pn 14 42 36.9 -2.0
MDSI Maura Dua 4.41 102 P Pn 14 42 39.5 -0.1
MDSI S Sn 14 43 29.3 -1.5
LWLI Liwa 4.44 109 P Pn 14 42 38.3 -1.7
LWLI S Sn 14 43 31.5 -0.1
KASI Kota Agung 5.02 113 P Pn 14 42 46.2 -1.7
159nm,1.0s,3µm1.0nm
KLI Kotabumi 5.16 104 P Pn 14 42 42.9 -6.9
125nm,0.8s,1.3nm
KLI Kotabumi 5.16 104 S Pg 14 43 08.3 -3.5
1.3nm125nm,0.8s
BLSI Bandar Lampung 5.67 108 P Pn 14 42 58.5 +1.7
136nm,0.9s,0.6nm
PSI Prapat 6.41 352 Pn Pn 14 43 03.4 -3.8
1.6nm,0.3s,baz=156,slow=13,SNR=5.1
PSI Prapat 6.41 352 P Pn 14 43 04.4 -2.8
baz=6.1,SNR=4.0
TPRI Tanjung Pinang 6.48 46 P Pn 14 43 08.9 +0.9
68nm,0.8s,10µm0.7nm
CGJI Cibinong 6.55 118 P Pn 14 43 06.6 -2.4
178nm,0.9s,2µm0.6nm
FRIM Kepong 7.01 15 ⇑P Pn 14 43 15.6 +0.3
KCSI Kotacane, Aceh 7.36 344 P Pn 14 43 18.7 -1.4
18nm,0.9s,671nm0.3nm
SKJI Sukabumi 7.50 117 P Pn 14 43 19.8 -2.2
156nm,0.7s,2µm0.5nm
IPM Ipoh 8.10 8 eP Pn 14 43 29.5 -0.8
22nm,0.8s
IPM Ipoh 8.10 8 ⇓P Pn 14 43 30.3 0.0
CNJI Cibinong 8.14 117 P Pn 14 43 28.5 -2.3
207nm,0.8s,2µm
LEM Lembang 8.38 113 P Pn 14 43 32.3 -2.0
139nm,0.9s,2µm
LEM Lembang 8.38 113 P Pn 14 43 38.6 +4.3
baz=8.3,SNR=5.7
CISI Cisompet, Garu 8.86 117 P Pn 14 43 38.5 -2.2
304nm,0.6s,3µm
CISI Cisompet, Garu 8.86 117 eP Pn 14 43 39.3 -1.4
197nm,0.5s
CISI Cisompet, Garu 8.86 117 P Pn 14 43 40.0 -0.7
baz=8.8,SNR=44
CISI S Sn 14 45 17.9 -2.5
baz=8.8,SNR=3.2
KULM Kulim 8.86 5 P Pn 14 43 38.1 -2.6
30nm,1.0s
KULM Kulim 8.86 5 ⇓P Pn 14 43 40.5 -0.2
XMIS Christmas Isla 8.95 140 S Sn 14 45 12.7 -10
baz=9.1,SNR=4.6
XMI Christmas Isla 8.95 140 S Sn 14 45 14.8 -7.9
baz=9.1,SNR=4.3
KTGM Kuala Trenggan 9.45 20 ⇑P Pn 14 43 48.9 +0.2
CMJI Cimerak 9.52 116 P Pn 14 43 47.7 -2.1
102nm,0.7s
SMRI Semarang 11.10 108 P Pn 14 44 09.6 -1.8
UGM Wanagama 11.46 112 P Pn 14 44 16.3 -0.1
baz=11,SNR=6.7
SBUM Sibu 13.75 64 ⇑P Pn 14 44 49.7 +2.1
JAGI Jajag, Banyuwa 15.03 109 P Pn 14 45 03.6 -1.5
baz=15,SNR=4.5
KKM Kota Kinabalu 18.94 60 ⇑P Pn 14 45 54.4 -0.2
TSM Tawau 19.64 67 ⇑P Pn 14 46 02.5 -0.4
SPSI Sidrap Palu 19.89 92 P P 14 46 02.3 -1.9
KAPI Kappang 19.90 95 eP P 14 46 03.9 -0.4
298nm,1.3s
KDM Kudat 19.91 58 ⇑P P 14 46 05.0 +0.6
TTSI Tana Toraja 19.95 89 P Pn 14 46 08.6 +2.0
PBKT Sadao Pong 20.06 3 P Pn 14 46 10.2 +2.4
9.5nm,0.6s
BNSI Bone 20.23 93 P P 14 46 07.3 -0.6
BKSI Bulukumba 20.29 96 P P 14 46 07.6 -1.0
MYLDM Lahad Datu 20.57 65 ⇑P P 14 46 12.6 +1.0
SUKH Sukhothai 20.94 359 P Pn 14 46 17.1 -1.0
6.5nm,1.2s,61nm
LOEI Loei 21.01 4 P P 14 46 17.4 +1.1
29nm,0.7s
UTTA Uttaradit 21.21 2 P P 14 46 21.6 +3.2
3.5nm,1.0s,81nm
MHMT Maesarieng 21.71 355 P P 14 46 24.5 +0.7
17nm,1.1s,657nm
CM31 Chiang Mai Arr 21.93 358 eP P 14 46 25.8 -0.3
41nm,1.1s
CMAR Chiang Mai Arr 21.93 358 P P 14 46 25.4 -0.8
25nm,1.1s,baz=186,slow=10,SNR=42
CMAR PcP PcP 14 50 27.3 +2.0
0.8nm,0.7s,baz=211,slow=3.4,SNR=4.4
CMAR LR LR 14 54 51.8
comp=Z,134nm,19.5s,baz=188,slow=37
LAMP Lampang 21.97 359 P P 14 46 29.1 +2.4
9.2nm,1.0s,96nm
CMMT Chiang Mai 22.28 358 P P 14 46 29.1 -0.9
27nm,1.4s,519nm
CHTO Chiang Mai 22.28 358 eP P 14 46 27.8 -2.2
CHTO pmax pmax
comp=Z,33nm,1.4s
CHTO Chiang Mai 22.28 358 P P 14 46 29.1 -0.9
comp=Z,94nm,1.4s
CHTO Chiang Mai 22.28 358 eP P 14 46 27.8 -2.2
comp=Z,33nm,1.4s
MRSI Marisa 22.45 80 P P 14 46 38.5 +6.6
QIZ Qiongzhong 24.54 23 P P 14 46 50.8 -1.6
QIZ S S 14 51 14.7 +1.9
QIZ pmax pmax
comp=Z,160nm,8.6s
QIZ LR LR
comp=Z,750nm,11.5s
QIZ LR LR
comp=Z,630nm,12.0s
SLVN Son La 25.09 9 eP P 14 46 56.9 -0.5
comp=Z,18nm,0.9s
H08S2 Diego Garcia H 27.51 260 T T 15 16 30.8
baz=82,slow=75,SNR=150
H08S3 Diego Garcia H 27.52 260 T T 15 16 31.3
baz=82,slow=75,SNR=231
H08S1 Diego Garcia H 27.53 260 T T 15 16 32.2
baz=82,slow=75,SNR=132
KMI Kunming 28.68 5 P P 14 47 31.9 +2.0
KMI S S 14 52 21.1 +2.4
KMI pmax pmax
comp=Z,18nm,0.9s
KMI LR LR
comp=Z,770nm,11.9s
KMI LR LR
comp=Z,1µm,10.6s
KMI LR LR
comp=Z,790nm,10.2s
SHL Shillong 29.99 346 eP P 14 47 42.0 +0.5
GYA Guiyang 30.59 12 P P 14 47 47.2 +0.5
GYA PP PnPn 14 48 47.7 +1.6
GYA PcP PcP 14 50 47.0 +1.6
GYA S S 14 52 50.4 +1.8
GYA ScP ScP 14 54 29.0 +1.2
GYA SS SnSn 14 54 31.8 +5.9
GYA ScS ScS 14 58 23.2 -1.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.0s
GYA LR LR
comp=Z,520nm,17.2s
GYA LR LR
comp=Z,470nm,18.0s
GYA LR LR
comp=Z,460nm,17.6s
H01W3 Cape Leeuwin H 33.85 159 T T 15 24 08.6
baz=336,slow=76,SNR=20
H01W2 Cape Leeuwin H 33.86 159 T T 15 24 09.6
baz=336,slow=76,SNR=25
H01W1 Cape Leeuwin H 33.86 159 T T 15 24 30.8
baz=336,slow=76,SNR=23
LSA Lhasa 34.13 346 P P 14 48 16.5 -1.7
LSA Lhasa 34.13 346 eP P 14 48 18.6 +0.6
LSA pmax pmax
comp=Z,38nm,1.3s
LSA Lhasa 34.13 346 eP P 14 48 18.8 +0.6
comp=Z,38nm,1.3s
CD2 Chengdu 34.51 6 P P 14 48 22.3 +1.4
CD2 pP pP 14 48 26.7 +1.5
CD2 sP sP 14 48 29.3 +2.4
CD2 PP PP 14 49 38.6 -0.7
CD2 PcP PcP 14 50 57.1 +1.1
CD2 S S 14 53 50.5 +1.2

CD2 sS sS 14 53 57.2 +0.8
CD2 PcS PcS 14 54 42.4 -0.1
CD2 SS SnSn 14 56 01.7 +0.9
CD2 pmax pmax
comp=Z,13nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
CD2 LR LR
comp=Z,970nm,12.2s
CD2 LR LR
comp=Z,1µm,19.6s
CD2 LR LR
comp=Z,820nm,10.3s
ENH Enshi 34.91 15 eP P 14 48 22.8 -1.5
comp=Z,5.0nm,0.6s
WRA Warramunga Arr 37.35 119 P P 14 48 45.6 +0.2
comp=Z,2.0nm,0.6s,baz=300,slow=8.9,SNR=21
WRA LR LR 15 05 19.3
comp=Z,134nm,19.9s,baz=265,slow=38
WRAB Tennant Creek 37.36 119⇓eP P 14 48 47.5 +2.0
XAN Xi'an 38.39 12 P P 14 48 52.8 -1.3
XAN PP PnPn 14 50 23.5 -0.3
XAN S S 14 54 49.4 +0.7
XAN SS SnSn 14 57 29.6 -5.2
XAN pmax pmax
comp=Z,8.0nm,1.4s
XAN pmax pmax
comp=Z,23nm,4.5s
XAN LR LR
comp=Z,670nm,12.1s
XAN LR LR
comp=Z,240nm,12.6s
XAN LR LR
comp=Z,370nm,13.1s
AS31 Alice Springs 38.47 124 eP P 14 48 56.0 +1.1
ASAR Alice Springs 38.47 124 P P 14 48 55.8 +0.9
comp=Z,3.3nm,0.7s,baz=291,slow=8.5,SNR=13
ASAR LR LR 15 05 45.6
comp=Z,175nm,19.8s,baz=310,slow=38
LZH Lanzhou 39.65 5 P P 14 49 05.8 +1.1
LZH pP pP 14 49 07.6 -1.4
LZH sP sP 14 49 09.4 -1.3
LZH PP PnPn 14 50 41.3 +2.4
LZH S S 14 55 09.0 +1.3
LZH sS sS 14 55 15.4 +0.6
LZH SS SS 14 57 54.0 -9.2
LZH pmax pmax
comp=Z,30nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.1s
LZH LR LR
comp=Z,760nm,13.7s
LZH LR LR
comp=Z,1µm,14.8s
LZH LR LR
comp=Z,2µm,16.3s
NJ2 Nanjing 39.78 26 eP P 14 49 04.4 -1.2
NJ2 S S 14 55 09.0 -0.5
NJ2 pmax pmax
comp=Z,20nm,1.2s
NJ2 LR LR
comp=Z,450nm,17.9s
NJ2 LR LR
comp=Z,340nm,13.6s
NJ2 LR LR
comp=Z,350nm,15.6s
GTA Gaotai 42.79 360 eP P 14 49 31.0 +0.6
GTA PcP PcP 14 51 18.7 -3.0
GTA S S 14 55 57.0 +2.8
GTA SS SS 14 59 05.2 -0.3
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,4.1s
GTA LR LR
comp=Z,370nm,14.0s
GTA LR LR
comp=Z,550nm,13.9s
GTA LR LR
comp=Z,520nm,14.2s
HHC Hu-ho-hao-te 45.51 12 eP P 14 49 53.1 +0.9
HHC PP PP 14 51 41.9 +3.0
HHC PcS PcS 14 55 24.0 -1.0
HHC S S 14 56 39.2 +5.4
HHC SS ScS 14 59 51.6 +2.9
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,320nm,6.8s
HHC LR LR
comp=Z,480nm,12.4s
HHC LR LR
comp=Z,1µm,10.6s
HHC LR LR
comp=Z,420nm,12.6s
KSH Kashi 48.20 335 eP P 14 50 11.9 -1.4
KSH PP PP 14 52 08.0 +2.2
KSH PcS PcS 14 55 31.7 -4.7
KSH S S 14 57 08.4 -3.9
KSH ScS ScS 15 00 01.9 -4.5
KSH SS SS 15 00 32.4 -9.5
KSH pmax pmax
comp=Z,8.0nm,1.2s
KSH pmax pmax
comp=Z,170nm,5.7s
KSH LR LR
comp=Z,110nm,4.9s
KSH LR LR
comp=Z,120nm,5.1s
KSH LR LR
comp=Z,220nm,5.2s
QLP Quilpie 48.21 123 P P 14 50 15.7 +2.1
baz=48,SNR=3.4
STKA Stephens Creek 48.23 131 P P 14 50 15.0 +1.4
STKA Stephens Creek 48.23 131 P P 14 50 14.9 +1.4
comp=Z,2.5nm,0.8s,baz=295,slow=5.9,SNR=5.7
STKA LR LR 15 12 06.0
comp=Z,357nm,19.7s,baz=225,slow=38
STKA Stephens Creek 48.23 131 P P 14 50 16.4 +2.9
baz=48,SNR=4.5
KSAR Wonju Array Be 48.43 30 P P 14 50 14.8 -0.2
KSAR Wonju Array Be 48.43 30 P P 14 50 14.8 -0.2
WMQ Urumqi 48.45 348 P P 14 50 16.1 +1.0
WMQ pP pP 14 50 20.6 +1.2
WMQ sP sP 14 50 23.1 +2.0
WMQ PcP PcP 14 51 42.8 +1.6
WMQ PP PP 14 52 08.1 +0.2
WMQ PcS PcS 14 55 37.9 +0.8
WMQ S S 14 57 17.1 +1.5
WMQ sS sS 14 57 22.4 -0.4
WMQ SS SS 15 00 39.8 -5.9
WMQ pmax pmax
comp=Z,43nm,1.2s
WMQ pmax pmax
comp=Z,220nm,4.4s
WMQ LR LR
comp=Z,120nm,18.6s
WMQ LR LR
comp=Z,120nm,18.2s
WMQ LR LR
comp=Z,110nm,17.6s
KSRS Korea Array 48.46 30 P P 14 50 14.8 -0.4
comp=Z,4.4nm,1.0s,baz=216,slow=8.4,SNR=9.7
KSRS LR LR 15 14 11.6
comp=Z,62nm,18.9s,baz=130,slow=41
KZA Kyzart 50.65 336 iP P 14 50 33.6 +1.3
KZA Kyzart 50.65 336 P P 14 50 33.6 +1.3
SNR=6.8
JCJ Chichijima 50.99 51 LR LR 15 11 08.2
comp=Z,47nm,21.1s,baz=324,slow=35
UCH Uchtor 51.07 336 iP P 14 50 36.5 +1.0
UCH Uchtor 51.07 336 P P 14 50 36.6 +1.0
SNR=5.9
TKM2 Tokmak 2 51.22 337 iP P 14 50 37.2 +0.8
TKM2 Tokmak 2 51.22 337 P P 14 50 37.3 +0.8
SNR=14
TKM2 Tokmak 2 51.22 337 eP P 14 50 36.7 +0.3
comp=Z,17nm,1.2s
KBK Karagaybulak 51.25 337 iP P 14 50 38.1 +1.5
KBK Karagaybulak 51.25 337 P P 14 50 38.1 +1.5
SNR=8.5
AAK Ala-Archa 51.42 336⇑iP P 14 50 38.8 +1.0
AAK pmax pmax
comp=Z,26nm,2.5s
AAK MLR MLR
comp=Z,532nm,20.0s
AAK Ala-Archa 51.42 336 eP P 14 50 38.7 +0.9
comp=Z,7.4nm,1.2s
SONM Songino Array 51.53 6 P P 14 50 39.2 +0.7
comp=Z,10nm,1.1s,baz=190,slow=8.6,SNR=38
FRU Bishkek 51.53 336 eP P 14 50 40.0 +1.5
FRU e 14 50 58.0
ULN Ulaanbaatar 51.63 6c iP P 14 50 39.8 +0.6
ULN pmax pmax
comp=Z,21nm,1.3s
ULN MLR MLR
comp=Z,230nm,17.0s
ULN Ulaanbaatar 51.63 6 eP P 14 50 39.9 +0.6
comp=Z,30nm,1.4s
EKS2 Erkin-Say 51.73 336 eP P 14 50 41.2 +1.1
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 51.73 336 P P 14 50 41.4 +1.3
SNR=9.8
EKS2 Erkin-Say 51.73 336 eP P 14 50 41.2 +1.1
comp=Z,8.7nm,0.8s
USP Ospenovka 51.95 337 iP P 14 50 42.0 +0.4
USP Ospenovka 51.95 337 P P 14 50 42.1 +0.4
SNR=13
CN2 Changchun 52.50 23 ⇑P P 14 50 45.0 -0.6
CN2 esP sP 14 50 50.8 -0.9
CN2 eS S 14 58 11.0 -0.8
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,700nm,19.0s
MK31 Makanchi Array 52.51 345 iP P 14 50 45.6 -0.1
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 52.51 345 eP P 14 50 45.4 -0.3
MKAR Makanchi Array 52.51 345 P P 14 50 46.1 +0.5
comp=Z,2.3nm,0.5s,baz=148,slow=8.0,SNR=21
KKAR Karatay Array 53.49 333 eP P 14 50 51.4 -1.6
KKAR pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 53.49 333 eP P 14 50 51.4 -1.6
comp=Z,3.4nm,0.9s
MAJO Matsushiro 53.60 38 eP P 14 50 55.6 +1.6
MAJO pmax pmax
comp=Z,12nm,0.3s
MJAR Matsushiro Arr 53.60 38 P P 14 50 52.7 -1.3
comp=Z,1.2nm,0.6s,baz=240,slow=4.5,SNR=2.6
ZAK Zakamensk 53.84 3 eP P 14 50 54.0 -1.5
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TLY Talaya 55.15 3 eP P 14 51 05.9 +1.0
TLY pmax pmax
comp=Z,12nm,1.6s
TLY MLR MLR
comp=Z,328nm,15.0s
TLY Talaya 55.15 3 eP P 14 51 05.8 +0.8
USRK Ussuriysk Arra 55.62 28 P P 14 51 08.2 -0.3
comp=Z,5.3nm,0.6s,baz=228,slow=5.5,SNR=9.9
IRK Irkutsk 55.75 3 eP P 14 51 09.6 +0.4
IRK pmax pmax
comp=Z,20nm,1.7s
KURK Kurchatov 57.08 344 eP P 14 51 18.8 +0.1
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 57.08 344 eP P 14 51 18.8 +0.1
comp=Z,6.7nm,1.0s
ZAA0 Zalesovo Array 58.69 350 eP P 14 51 29.9 0.0
ZALV Zalesovo Beam 58.69 350 P P 14 51 30.1 +0.2
comp=Z,13nm,0.9s,baz=170,slow=4.5,SNR=44
KLR Kul'dur 59.44 24 eP P 14 51 31.2 -4.0
NVS Novosibirsk 59.83 349 eP P 14 51 35.7 -2.1
NVS e 14 52 24.2
NVS eS S 14 59 46.0 -2.9
NVS pmax pmax
comp=Z,11nm,1.3s
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.4s
NVS smax smax
comp=E,42nm,3.0s
NVS smax smax
comp=N,11nm,2.0s
HNR Honiara 59.94 99 LR LR 15 20 29.1
comp=N,90nm,18.5s,baz=228,slow=39
HABR Khabarovsk 60.25 26 eP P 14 51 38.4 -2.4
HABR e 14 52 24.4
HABR S S 14 59 51.4 -3.0
HABR e*SS sS 14 59 57.3 -4.4
HABR e 15 01 28.8
HABR eSS SS 15 03 49.4 -2.6
HABR pmax pmax
comp=Z,46nm,1.1s
HABR MLR MLR
comp=Z,177nm,17.0s
BRVK Borovoye 61.68 340c eP P 14 51 49.9 -0.6
BRVK pmax pmax
comp=Z,8.0nm,1.3s
BRVK MLR MLR
comp=Z,148nm,22.0s
YSS Yuzh-Sakhalins 62.91 32⇑eP P 14 51 58.3 -0.5
YSS MLR MLR
comp=Z,200nm,18.0s
AB31 Akbulak array 62.95 332 iP P 14 51 58.7 -0.4
AB31 pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 62.95 332 eP P 14 51 58.7 -0.4
comp=Z,4.2nm,0.6s
SVE Sverdlovsk 68.09 338 eP P 14 52 32.7 +0.6
SVE pmax pmax
comp=Z,21nm,1.2s
ZEI Tsey 68.32 319 eP P 14 52 34.4 +0.2
ZEI pmax pmax
comp=Z,16nm,2.3s
ARU Arti 68.59 337c iP P 14 52 35.5 +0.2
ARU e 14 55 01.8
ARU S S 15 01 39.9 +2.5
ARU SS SS 15 06 00.8 -1.1
ARU pmax pmax
comp=Z,7.0nm,1.2s
YAK Yakutsk 69.31 15 eP P 14 52 37.2 -2.4
YAK e 14 52 45.2
YAK pmax pmax
comp=Z,25nm,1.5s
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK Yakutsk 69.31 15 eP P 14 52 38.5 -1.1
comp=E,36nm,1.3s
KBZ Khabaz 69.40 320 P P 14 52 41.5 +1.0
comp=E,2.8nm,0.8s,baz=117,slow=4.1,SNR=6.7
KIV Kislovodsk 69.64 320 eP P 14 52 40.2 -2.0
KIV eS S 15 01 48.6 -1.9
KIV pmax pmax
comp=Z,10.0nm,1.1s
LSZ Lusaka 71.37 255 P P 14 52 54.2 +0.8
comp=Z,0.5nm,0.3s,baz=102,slow=9.3,SNR=2.9
VRHR Novokhopersk 73.55 326 eP P 14 53 04.6 -0.9
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
BRTR Keskin Array B 74.28 313 iP P 14 53 12.6 +2.4
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 74.28 313 P P 14 53 09.9 -0.3
comp=Z,0.9nm,0.7s,baz=135,slow=5.1,SNR=5.4
BRTR LR LR 15 25 33.6
comp=Z,36nm,21.7s,baz=108,slow=36
BOSA Boshof 74.76 241 LR LR 15 18 02.1
comp=Z,107nm,20.0s,baz=148,slow=29
VORD Divnogorie 74.81 325 eP P 14 53 13.7 +0.9
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,30nm,0.7s
VORD pmax pmax
comp=Z,7.0nm,0.7s
VSR Storozhevoye 74.99 325 eP P 14 53 14.0 +0.2
VSR pmax pmax
comp=N,8.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
PRGR Permogore 77.05 337 eP P 14 53 24.6 -0.8
PRGR e 14 53 36.2
PRGR pmax pmax
comp=Z,27nm,1.2s
TIXI Tiksi 77.44 9⇓eP P 14 53 27.0 -0.4
TIXI pmax pmax
comp=Z,21nm,1.7s
TIXI MLR MLR
comp=Z,188nm,17.0s
TIXI Tiksi 77.44 9 eP P 14 53 26.5 -0.9
comp=Z,19nm,1.3s
MOS Moscow 77.77 329 eP P 14 53 29.0 -0.5
MOS e 14 53 41.7
MOS pmax pmax
comp=Z,51nm,0.9s
OBN Obninsk 78.06 328⇓eP P 14 53 33.3 +2.2
OBN e 14 53 40.3
OBN eS S 15 03 28.1 +3.5
OBN pmax pmax
comp=Z,60nm,2.5s
OBN MLR MLR
comp=Z,65nm,16.0s
KLMR Klimovskoe 79.18 334 eP P 14 53 35.1 -2.1
KLMR pmax pmax
comp=Z,25nm,1.6s
AKASG Malin Array Be 80.64 323 P P 14 53 44.9 -0.4
comp=Z,1.0nm,0.8s,baz=85,slow=5.4,SNR=4.6
KOLS Kolonicke sedl 84.55 320 eP P 14 54 07.6 +1.7
KOLS e 14 54 16.4
KOLS e 14 54 24.0
KOLS pmax pmax
comp=Z,18nm,1.8s
KOLS Kolonicke sedl 84.55 320 eP P 14 54 07.6 +1.7
KOLS e 14 54 16.4
KOLS e 14 54 24.0
CRVS Cervenica-Dubn 85.07 320 eP P 14 54 09.5 +1.0
CRVS pmax pmax
comp=Z,5.0nm,1.3s
CRVS Cervenica-Dubn 85.07 320 eP P 14 54 09.5 +1.0
STHS Stebnicka Huta 85.31 320 eP P 14 54 08.4 -1.3
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 85.31 320 e P 14 54 08.4 -1.3
FINES FINESS Array B 85.44 332 P P 14 54 10.8 +0.8
comp=Z,1.0nm,0.6s,baz=104,slow=5.9,SNR=4.1
KECS Kecovo 85.63 319 eP P 14 54 12.7 +1.5
KECS Kecovo 85.63 319 eP P 14 54 12.7 +1.5
ARCES ARCESS Array B 87.91 340 P P 14 54 22.4 +0.5
comp=Z,1.3nm,0.8s,baz=122,slow=3.4,SNR=3.4
GERES GERESS Array B 90.13 319 P P 14 54 33.5 +0.5
comp=Z,1.3nm,0.9s,baz=97,slow=5.0,SNR=6.1
BRG Berggiesshubel 90.17 321 eP P 14 54 35.3 +2.4
comp=Z,7.7nm,1.3s
BRG Berggiesshubel 90.17 321 eP P 14 54 35.3 +2.4
BRG pmax pmax
comp=Z,8.0nm,1.3s
NOA NORSAR Array B 92.45 331 LR LR 15 39 24.0
comp=Z,53nm,19.7s,baz=90,slow=38
TORD Torodi Ar. Bea 98.74 283 LR LR 15 35 48.3
comp=Z,38nm,20.6s,baz=75,slow=33
YKA Yellowknife Ar 115.93 17 PKP PKPdf 15 00 15.1 -0.1
comp=Z,0.1nm,0.7s,baz=328,slow=2.9,SNR=3.4
NVAR Mina Array Bea 130.92 40 PKP PKPdf 15 00 44.6 -0.3
comp=Z,0.3nm,0.6s,baz=2.5,slow=2.1,SNR=2.7
TXAR Lajitas Array 146.04 39 PKPbc PKPab 15 01 14.5 +0.6
comp=Z,1.9nm,0.6s,baz=270,slow=1.3,SNR=19
MIAR Mount Ida 146.77 20 ePKP2 PKPbc 15 01 15.3 +0.1
MIAR Mount Ida 146.77 20 ePKPbc PKPbc 15 01 15.2 +0.1
JCT Junction City 147.44 33 ePKP2 PKPbc 15 01 16.6 -0.7
JCT Junction City 147.44 33 ePKPbc PKPbc 15 01 16.6 -0.7

IDC 02 15:03:40.8±5.2, 18.12S×168.96E, h113km±54km, mb3.5/6, mb1 3.7/7, mb1mx3.5/31, mbtmp3.9/7, Error ellipse: s-maj=65.6km s-min=32.8km az=145.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.59	211	P	Pn	15 04 47.6	-0.7
	2.1nm,0.3s,baz=60,slow=18,SNR=22						
DZM				S	Sn	15 05 41.5	+0.8
	baz=279,slow=19,SNR=1.8						
CTA	Charters Tower	21.54	261	P	P	15 08 21.3	+0.1
	4.1nm,0.9s,baz=90,slow=15,SNR=3.8						
STKA	Stephens Creek	28.23	236	P	P	15 09 22.6	-0.6
	1.9nm,0.8s,baz=49,slow=9.3,SNR=2.2						
WRA	Warramunga Arr	32.74	261	P	P	15 10 03.3	+0.2
	1.0nm,0.9s,baz=90,slow=9.3,SNR=4.7						
ASAR	Alice Springs	33.16	254	P	P	15 10 06.7	-0.1
	2.2nm,0.7s,baz=80,slow=8.9,SNR=25						
SONM	Songino Array	86.17	323	P	P	15 16 09.7	+0.2
	0.5nm,0.9s,baz=119,slow=5.1,SNR=3.6						
ILAR	Eielson Array	89.24	17	P	P	15 16 23.6	0.0
	0.3nm,0.9s,baz=233,slow=7.7,SNR=4.0						

MAN 02 15:05:39, 6.83N×126.97E, h57km, mb4.3, ML3.1, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.72	280	eP	Pn	15 05 55.7	+2.4
MATI				eS	Sn	15 06 07.4	+3.6
DMPH	Davao City--Mi	1.47	280⇑	eP	Pn	15 06 04.7	+1.4
DMPH				eS	Sn	15 06 23.8	+2.2
BUKP	Musuan	2.16	299	eP	Pn	15 06 14.4	+1.6
BUTP	Butuan	2.51	328	eP	Pn	15 06 19.4	+1.9

IDC 02 15:07:30.1±7.7, 22.43S×177.32W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/28, mbtmp3.4/2, Error ellipse: s-maj=325.1km s-min=56.7km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.97	267	P	P	15 14 18.7	+3.0
	1.4nm,0.4s,baz=75,slow=14,SNR=6.6						
ASAR	Alice Springs	44.72	259	P	P	15 15 44.6	-0.8
	0.1nm,0.3s,baz=96,slow=6.9,SNR=6.1						
WRA	Warramunga Arr	44.99	264	P	P	15 15 47.5	-0.1
	0.4nm,0.3s,baz=96,slow=8.3,SNR=36						
AKASG	Malin Array Be	145.00	330	PKPbc	PKPbc	15 27 08.2	-0.2
	0.9nm,0.5s,baz=39,slow=4.1,SNR=8.9						

WEL 02 15:24:24.1±0.4, 46.27S×166.19E, h23km±1km, ML3.8/10, 1C-2D, Error ellipse: s-maj=3.8km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.36	73	P*	Pb	15 24 32.0	+0.1
PYZ				S*	Sb	15 24 36.8	-0.4
DCZ	Deep Cove	1.04	41	⇓PN	Pn	15 24 40.9	-2.4
DCZ				AML	AML	15 25 08.1	
DCZ				AML	AML	15 25 08.9	
WHZ	Wether Hill Ro	1.28	73	⇓PN	Pn	15 24 46.1	-0.5
WHZ				SN	Sn	15 25 02.6	-0.5
WHZ				AML	AML	15 25 05.2	
APZ	The Paps	1.36	115	PN	Pn	15 24 46.9	-0.8
APZ				SN	Sn	15 25 04.5	-0.7
APZ				AML	AML	15 25 16.8	
MLZ	Mavora Lakes	1.67	57	PN	Pn	15 24 51.7	-0.2
MLZ				AML	AML	15 25 16.3	
MLZ				AML	AML	15 25 17.9	
MSZ	Milford Sound	2.02	38	PN	Pn	15 24 55.6	-1.0
MSZ				AML	AML	15 25 31.1	
MSZ				AML	AML	15 25 41.7	
SYZ	Scrubby Hill	2.06	98	PN	Pn	15 24 56.9	-0.3
SYZ				AML	AML	15 25 28.2	
SYZ				AML	AML	15 25 28.2	
SYZ				AML	AML	15 25 48.0	
SYZ				AML	AML	15 25 48.0	
TUZ	Tuapeka	2.42	84	PN	Pn	15 25 02.8	+0.7
TUZ				AML	AML	15 25 37.8	
TUZ				AML	AML	15 25 44.5	
EAZ	Earnscleugh	2.42	66	⇑PN	Pn	15 25 03.0	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EAZ				AML	AML	15 25 37.8	
EAZ				AML	AML	15 25 37.8	
EAZ				AML	AML	15 25 38.3	
EAZ				AML	AML	15 25 38.3	
WKZ	**Wanaka**	**2.46**	**55**	PN	Pn	15 25 04.1	+1.3
WKZ				AML	AML	15 25 43.7	
WKZ				AML	AML	15 25 46.8	
JCZ	**Jackson Bay**	**2.85**	**41**	PN	Pn	15 25 09.6	+1.4
JCZ				AML	AML	15 25 56.6	
JCZ				AML	AML	15 25 59.0	
ODZ	**Otahua Downs**	**3.36**	**70**	PN	Pn	15 25 14.0	-1.1
LBZ	**Lake Benmore**	**3.39**	**58**	PN	Pn	15 25 15.7	+0.1
FOZ	**Fox Glacier**	**3.68**	**44**	PN	Pn	15 25 21.9	+2.5
RPZ	**Rata Peaks**	**4.30**	**55**	PN	Pn	15 25 26.8	-1.2
WVZ	**Waitaha Valley**	**4.55**	**47**	PN	Pn	15 25 32.7	+1.2
OXZ	**Oxford**	**5.10**	**57**	PN	Pn	15 25 37.6	-1.4
LTZ	**Lake Taylor**	**5.58**	**53**	PN	Pn	15 25 44.3	-1.3
DSZ	**Denniston Nort**	**6.07**	**44**	PN	Pn	15 25 52.0	-0.4

ISCJB 02 16:15:17.4±0.3, 63°.29N±0°.02×148°.31W±0°.05, h86km±4km, mb3.5/5, Error ellipse: s-maj=4.1km s-min=3.5km az=28.0
NEIC 02 16:15:18.1, 63°.28N×148°.32W, h80km, MG3.4(AEIC), After AEIC.
IDC 02 16:15:21.1±2.7, 63°.58N×148°.35W, h109km±22km, mb3.3/5, mb1 3.5/7, mb1mx3.3/26, mbtmp3.6/7, Error ellipse: s-maj=35.2km s-min=19.8km az=40.0
ISC 02 16:15:18.6±0.8, 63°.30N±0°.03×148°.31W±0°.03, h79km±6km, n73, σ0°.86/83, mb3.5/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RND	**Reindeer**	**0.27**	**293**	P	**Pn**	**16 15 30.5**	**-0.2**
RND				S	**Sn**	**16 15 39.6**	**-0.1**
DHY	**Denali Highway**	**0.48**	**118**	P	**Pn**	**16 15 31.6**	**-0.6**
DHY				S	**Sn**	**16 15 41.8**	**-0.5**
MCK	**McKinley**	**0.52**	**327**	ePg	**Pn**	**16 15 32.3**	**-0.1**
MCK				eS	**Sn**	**16 15 42.0**	**-0.6**
HUR	**Hurricane**	**0.69**	**242**	P	**Pn**	**16 15 33.0**	**-1.0**
TRF	**Thorofare Moun**	**0.90**	**280**	P	**Pn**	**16 15 36.4**	**-0.2**
TRF				S	**Sn**	**16 15 50.0**	**0.0**
PS10	**TAPS Pump St10**	**1.15**	**83**	P	**Pn**	**16 15 39.9**	**+0.5**
PS10				S	**Sn**	**16 15 56.3**	**+1.2**
WRH	**Wood River Hil**	**1.18**	**5**	P	**Pn**	**16 15 39.5**	**-0.2**
WRH				S	**Sn**	**16 15 54.9**	**-0.7**
DDM	**Donnelly Dome**	**1.20**	**65**	P	**Pn**	**16 15 40.7**	**+0.7**
KTH	**Kantishna Hill**	**1.20**	**283**	ePn	**Pn**	**16 15 39.6**	**-0.4**
HDA	**Harding Lake**	**1.26**	**28**	P	**Pn**	**16 15 40.9**	**+0.2**
HDA				S	**Sn**	**16 15 57.2**	**-0.2**
PAX	**Paxson**	**1.33**	**103**	P	**Pn**	**16 15 41.9**	**+0.2**
PAX				S	**Sn**	**16 15 59.9**	**+0.7**
CCB	**Clear Creek Bu**	**1.37**	**9**	P	**Pn**	**16 15 42.0**	**-0.1**
PS08	**TAPS Pump Stn8**	**1.41**	**27**	P	**Pn**	**16 15 42.7**	**+0.1**
SCM	**Sheep Creek Mo**	**1.54**	**162**	P	**Pn**	**16 15 43.8**	**-0.6**
COLA	**College**	**1.59**	**7**	P	**Pn**	**16 15 44.8**	**-0.1**
IL1	**Eielson Array**	**1.60**	**22**	P	**Pn**	**16 15 44.6**	**-0.5**
ILAR	**Eielson Array**	**1.60**	**22**	P	**Pn**	**16 15 44.7**	**-0.4**
	12nm,0.3s,baz=203,slow=14,SNR=472						
ILAR				S	**Sn**	**16 16 05.2**	**-0.1**
	107nm,0.3s,baz=202,slow=23,SNR=89						
ILB	**Eielson Array**	**1.60**	**22**	P	**Pn**	**16 15 44.8**	**-0.3**
MDM	**Murphy Dome**	**1.67**	**1**	P	**Pn**	**16 15 46.1**	**+0.1**
HARP	**HAARP**	**1.70**	**120**	P	**Pn**	**16 15 46.7**	**+0.2**
CAST	**Castle Rocks**	**1.71**	**276**	P	**Pn**	**16 15 45.8**	**-0.8**
GLM	**Gilmore Dome**	**1.74**	**13**	P	**Pn**	**16 15 47.0**	**0.0**
PMR	**Palmer**	**1.76**	**193**	P	**Pn**	**16 15 46.8**	**-0.3**
PS11	**TAPS Pump St11**	**1.79**	**132**	P	**Pn**	**16 15 48.0**	**+0.4**
PPLA	**Purkeypile**	**1.81**	**259**	ePn	**Pn**	**16 15 47.8**	**-0.2**
SKT	**Skwentna**	**1.99**	**230**	P	**Pn**	**16 15 49.5**	**-0.8**
MLY	**Manley**	**2.04**	**330**	P	**Pn**	**16 15 50.9**	**0.0**
MENT	**Mentasta**	**2.12**	**98**	ePn	**Pn**	**16 15 49.3**	**-2.7**
SUA	**Susitna One**	**2.17**	**213**	P	**Pn**	**16 15 52.6**	**-0.1**
FIB	**Fire Island**	**2.31**	**203**	P	**Pn**	**16 15 56.0**	**+1.4**
RC01	**Rabbit Creek A**	**2.32**	**197**	P	**Pn**	**16 15 54.8**	**+0.1**
VLZ	**Valdez**	**2.37**	**156**	P	**Pn**	**16 15 53.9**	**-1.3**
JPK	**Jack Peak**	**2.39**	**160**	P	**Pn**	**16 15 54.5**	**-1.2**
STLK	**Strandline Lak**	**2.44**	**224**	P	**Pn**	**16 15 56.4**	**+0.1**
PWL	**Port Wells**	**2.45**	**180**	P	**Pn**	**16 15 55.7**	**-0.8**
DIV	**Divide**	**2.48**	**150**	P	**Pn**	**16 15 55.7**	**-1.2**
GLI	**Glacier Island**	**2.50**	**166**	P	**Pn**	**16 15 55.9**	**-1.2**
PS06	**TAPS Pump Stn6**	**2.64**	**347**	P	**Pn**	**16 15 59.5**	**+0.6**
CGLM	**Capps Glacier**	**2.64**	**222**	P	**Pn**	**16 15 59.9**	**+0.8**
SPBG	**Spurr Blockage**	**2.79**	**225**	P	**Pn**	**16 16 02.4**	**+1.3**
BGL	**Barrier Glacie**	**2.80**	**225**	P	**Pn**	**16 16 02.1**	**+1.0**
GLB	**Gilahina Butte**	**2.81**	**130**	P	**Pn**	**16 16 01.6**	**+0.3**
CKL	**Chakachamna La**	**2.83**	**224**	P	**Pn**	**16 16 01.7**	**+0.1**
BMRM	**Bremner River**	**2.92**	**142**	P	**Pn**	**16 16 01.7**	**-1.1**
SLKM	**Skilak Lake**	**2.95**	**199**	P	**Pn**	**16 16 03.2**	**0.0**
BCA3	**Beaver Creek A**	**2.97**	**92**	P	**Pn**	**16 16 02.6**	**-0.8**
EYAK	**Cordova Ski Ar**	**3.02**	**155**	P	**Pn**	**16 16 02.9**	**-1.1**
SGAM	**Sherman Glacie**	**3.17**	**151**	P	**Pn**	**16 16 04.4**	**-1.7**
GOAT	**Goat Mountain**	**3.21**	**147**	P	**Pn**	**16 16 06.0**	**-0.7**
SEW	**Seward**	**3.25**	**190**	P	**Pn**	**16 16 07.4**	**+0.1**
RAGM	**Ragged Mountai**	**3.39**	**148**	P	**Pn**	**16 16 08.4**	**-0.8**
EGAK	**Eagle**	**3.48**	**62**	P	**Pn**	**16 16 10.2**	**0.0**
RDN	**Redoubt North**	**3.50**	**219**	P	**Pn**	**16 16 11.3**	**+0.6**
NCT	**North Crescent**	**3.51**	**221**	P	**Pn**	**16 16 11.1**	**+0.2**
TT01	**Tatalina**	**3.53**	**267**	P	**Pn**	**16 16 09.8**	**-1.2**
RSO	**Redoubt South**	**3.54**	**218**	ePn	**Pn**	**16 16 11.5**	**+0.2**
IM3	**Indian Mountai**	**3.57**	**321**	P	**Pn**	**16 16 11.3**	**-0.1**
IM04	**Indian Mountai**	**3.57**	**321**	ePn	**Pn**	**16 16 11.4**	**-0.1**
BRLK	**Bradley Lake**	**3.76**	**200**	P	**Pn**	**16 16 13.9**	**-0.2**
COLD	**Coldfoot**	**4.02**	**349**	P	**Pn**	**16 16 18.5**	**+0.8**
DAWY	**Dawson**	**4.04**	**75**	P	**Pn**	**16 16 17.9**	**-0.1**
OPT	**Oil Point**	**4.36**	**215**	P	**Pn**	**16 16 22.1**	**-0.1**
BM3	**Burnt Mountain**	**4.42**	**19**	P	**Pn**	**16 16 23.3**	**+0.2**
AUP	**Augustine Pinn**	**4.66**	**214**	P	**Pn**	**16 16 26.1**	**-0.3**
HYT	**Haines Junctio**	**5.65**	**111**	P	**Pn**	**16 16 39.0**	**-1.0**
KDAK	**Kodiak Island**	**5.92**	**203**	ePn	**Pn**	**16 16 42.1**	**-1.5**
	9.7nm,0.4s						
INK	**Inuvik**	**7.87**	**44**	P	**Pn**	**16 17 10.1**	**+0.1**
	0.2nm,0.3s,baz=242,slow=15,SNR=4.6						
INK				S	**Sn**	**16 18 34.3**	**-2.9**
	0.8nm,0.3s,baz=304,slow=18,SNR=5.2						
YKA	**Yellowknife Ar**	**15.28**	**78**	P	**Pn**	**16 18 50.5**	**+1.1**
	0.1nm,0.3s,baz=285,slow=11,SNR=8.4						
PDAR	**Pinedale Array**	**30.34**	**114**	P	**P**	**16 21 23.6**	**+0.9**
	1.6nm,0.8s,baz=322,slow=6.8,SNR=12						
ULM	**Lac du Bonnet**	**30.59**	**90**	P	**P**	**16 21 24.3**	**-0.1**
	1.7nm,0.8s,baz=322,slow=8.3,SNR=3.1						
NVAR	**Mina Array Bea**	**30.74**	**130**	P	**P**	**16 21 27.6**	**+1.5**
	0.3nm,0.6s,baz=333,slow=7.1,SNR=6.0						
TXAR	**Lajitas Array**	**44.32**	**119**	P	**P**	**16 23 21.6**	**+1.1**
	0.3nm,0.6s,baz=334,slow=6.0,SNR=5.3						
TXAR				pP	pP	16 23 50.0	+10
	0.4nm,0.6s,baz=325,slow=7.2,SNR=4.5						
MKAR	**Makanchi Array**	**63.18**	**323**	P	**P**	**16 25 35.6**	**-2.2**
	0.2nm,0.4s,baz=39,slow=7.9,SNR=3.4						

ISCJB 02 16:31:55.3±1.1, 45°.3S±0°.2×97°.3E±0°.3, h10km, mb4.2/6, Error ellipse: s-maj=36.4km s-min=18.5km az=35.1
IDC 02 16:31:55.5±0.9, 45°.33S×97°.31E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/25, mbtmp4.2/6, Error ellipse: s-maj=35.9km s-min=21.0km az=120.0
NEIC 02 16:31:56.8±0.7, 45°.30S×97°.28E, h10km, mb4.7/1, Error ellipse: s-maj=27.1km s-min=15.2km az=125.0
ISC 02 16:31:57.0±1.0, 45°.3S±0°.2×97°.3E±0°.2, h10km, n13, σ0°.73/10, mb4.3/6, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**16.53**	**57**	T	T	16 52 38.0	
	baz=226,slow=73,SNR=31						
H01W3	**Cape Leeuwin H**	**16.54**	**57**	T	T	16 52 39.1	
	baz=226,slow=73,SNR=33						
H01W1	**Cape Leeuwin H**	**16.55**	**57**	T	T	16 52 39.8	
	baz=226,slow=73,SNR=43						
ASAR	**Alice Springs**	**36.67**	**66**	P	**P**	**16 39 03.6**	**-0.2**
	1.1nm,0.9s,baz=228,slow=8.0,SNR=7.7						
STKA	**Stephens Creek**	**36.68**	**84**	P	**P**	**16 39 04.2**	**+0.3**
	5.2nm,1.1s,baz=234,slow=8.7,SNR=4.8						
WRA	**Warramunga Arr**	**39.64**	**63**	P	**P**	**16 39 28.8**	**-0.1**
	3.6nm,1.0s,baz=224,slow=8.4,SNR=15						
QSPA	**South Pole Qui**	**44.82**	**180**	P	**P**	**16 40 11.0**	**+0.3**
	5.3nm,0.7s,baz=268,slow=7.9,SNR=20						
QSPA	**South Pole Qui**	**44.82**	**180**	eP	**P**	**16 40 11.1**	**+0.3**
	12nm,1.2s						
SNAA	**Sanae**	**50.73**	**204**	P	**P**	**16 40 56.4**	**0.0**
	3.4nm,0.9s,baz=155,slow=12,SNR=5.2						
CMAR	**Chiang Mai Arr**	**63.49**	**2**	P	**P**	**16 42 27.9**	**+0.8**
	2.0nm,0.9s,baz=202,slow=5.6,SNR=13						
INK	**Inuvik**	**145.45**	**31**	PKPbc	**PKPdf**	**16 51 32.8**	**-1.0**
	4.1nm,1.0s,baz=279,slow=1.3,SNR=8.2						
NVAR	**Mina Array Bea**	**152.78**	**92**	PKPbc	**PKPbc**	**16 51 54.5**	**+0.5**
	1.5nm,0.7s,baz=231,slow=4.1,SNR=15						
YKA	**Yellowknife Ar**	**154.93**	**35**	PKPbc	**PKPbc**	**16 51 56.2**	**-1.3**
	0.5nm,0.9s,baz=300,slow=2.2,SNR=6.7						

IDC 02 17:46:50.1±1.2, 37°.07N×21°.70E, h0km, mb3.7/7, mb1 3.7/8, mb1mx3.5/48, mbtmp3.7/8, ML2.7/1, Error ellipse: s-maj=26.6km s-min=22.5km az=65.0
CSEM 02 17:46:52.8±0.3, 36°.95N×21°.67E, h0km±1km, MD3.7, Error ellipse: s-maj=7.5km s-min=3.9km az=58.0
ATH 02 17:46:52.5, 36°.93N×21°.68E, h10km, MD3.7/25, ML3.4
THE 02 17:46:53.4, 36°.96N×21°.72E, h0km±1km, ML3.6/6, Error ellipse: s-maj=1.7km s-min=0.4km az=178.0
ISC 02 17:46:52.7±0.7, 36°.93N±0°.03×21°.69E±0°.03, h9km±4km, n136, σ1°.26/155, mb3.9/7, 3C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.05**	**126**	P	**Pg**	**17 46 54.7**	**+0.1**
PYL				S	**Sg**	**17 46 56.2**	**+0.2**
PYL	**PYLOS**	**0.05**	**126**	ePG	**Pg**	**17 46 54.7**	**+0.1**
PYL				eSG	**Sg**	**17 46 56.1**	**+0.1**
PYL	**PYLOS**	**0.05**	**126**	P	**Pg**	**17 46 54.7**	**+0.1**
PYL				S	**Sg**	**17 46 56.2**	**+0.2**
ITM	**Ithomi**	**0.32**	**37**	P	**Pg**	**17 46 58.7**	**-0.3**
ITM				S	**Sg**	**17 47 03.1**	**-0.2**
ITM	**Ithomi**	**0.32**	**37**	ePB	**Pg**	**17 46 59.0**	**0.0**
ITM				eSB	**Sg**	**17 47 03.9**	**+0.6**
ITM	**Ithomi**	**0.32**	**37**	P	**Pg**	**17 46 58.7**	**-0.3**
ITM	**Ithomi**	**0.32**	**37**	ePb	**Pg**	**17 46 59.0**	**0.0**
ITM				S	**Sg**	**17 47 03.1**	**-0.2**
AMT	**Artemida-Makis**	**0.60**	**2**	P	**Pg**	**17 47 04.4**	**-0.1**
AMT				S	**Sg**	**17 47 12.5**	**+0.1**
AMT	**Artemida-Makis**	**0.60**	**2**	ePB	**Pg**	**17 47 04.6**	**+0.1**
AMT				eSB	**Sg**	**17 47 12.7**	**+0.3**
AMT	**Artemida-Makis**	**0.60**	**2**	P	**Pg**	**17 47 04.4**	**-0.1**
AMT				S	**Sg**	**17 47 12.5**	**+0.1**
VLX	**Vlachokerasia**	**0.71**	**51**	P	**Pg**	**17 47 06.0**	**-0.4**
VLX				S	**Sg**	**17 47 16.1**	**+0.4**
VLX	**Vlachokerasia**	**0.71**	**51**	ePB	**Pg**	**17 47 06.3**	**-0.1**
VLX				eSB	**Sg**	**17 47 16.4**	**+0.7**
VLX	**Vlachokerasia**	**0.71**	**51**	P	**Pg**	**17 47 06.0**	**-0.4**
VLX				S	**Sg**	**17 47 15.8**	**+0.1**
VLX				eSb	**Sg**	**17 47 16.4**	**+0.7**
VLI	**Veliai**	**1.02**	**101**	P	**Pg**	**17 47 11.9**	**-0.5**
VLI	**Veliai**	**1.02**	**101**	ePG	**Pg**	**17 47 11.7**	**-0.7**
VLI	**Veliai**	**1.02**	**101**	P	**Pg**	**17 47 11.9**	**-0.5**
DRO	**Drossia**	**1.02**	**1**	P	**Pg**	**17 47 12.2**	**-0.2**
DRO				S	**Sb**	**17 47 26.7**	**+0.4**
DRO	**Drossia**	**1.02**	**1**	ePN	**Pg**	**17 47 12.0**	**-0.2**
DRO	**Drossia**	**1.02**	**1**	P	**Pg**	**17 47 12.2**	**-0.2**
DRO				S	**Sb**	**17 47 26.7**	**+0.4**
GUR	**Goura**	**1.13**	**27**	P	**Pg**	**17 47 13.4**	**-1.1**
GUR				S	**Sg**	**17 47 29.9**	**+0.6**
GUR	**Goura**	**1.13**	**27**	ePG	**Pg**	**17 47 13.5**	**-1.1**
GUR	**Goura**	**1.13**	**27**	P	**Pg**	**17 47 13.4**	**-1.1**
GUR				S	**Sg**	**17 47 29.9**	**+0.6**
RLS	**Riolos of Patr**	**1.14**	**351**	P	**Pg**	**17 47 14.5**	**-0.2**
RLS	**Riolos of Patr**	**1.14**	**351**	ePB	**Pg**	**17 47 14.4**	**-0.2**
RLS	**Riolos of Patr**	**1.14**	**351**	P	**Pg**	**17 47 14.5**	**-0.2**
KLV	**Kalavryta, Ach**	**1.17**	**18**	P	**Pg**	**17 47 14.2**	**-1.1**
KLV				S	**Sg**	**17 47 31.1**	**+0.5**
KLV	**Kalavryta, Ach**	**1.17**	**18**	ePN	**Pg**	**17 47 14.3**	**-1.1**
KLV	**Kalavryta, Ach**	**1.17**	**18**	P	**Pg**	**17 47 14.2**	**-1.1**
KLV				S	**Sg**	**17 47 31.1**	**+0.5**
KYTH	**Kithira**	**1.26**	**120**	P	**Pg**	**17 47 17.1**	**+0.1**
KYTH	**Kithira**	**1.26**	**120**	ePB	**Pg**	**17 47 17.2**	**+0.2**
KYTH	**Kithira**	**1.26**	**120**	P	**Pg**	**17 47 17.1**	**+0.1**
LAKA	**Lakka**	**1.33**	**10**	P	**Pn**	**17 47 17.3**	**-0.3**
LAKA	**Lakka**	**1.33**	**10**	ePG	**Pn**	**17 47 17.2**	**-0.3**
LAKA	**Lakka**	**1.33**	**10**	P	**Pn**	**17 47 17.3**	**-0.3**
DID	**Didima**	**1.36**	**64**	P	**Pn**	**17 47 17.8**	**-0.2**
DID	**Didima**	**1.36**	**64**	ePB	**Pn**	**17 47 18.2**	**+0.2**
DID	**Didima**	**1.36**	**64**	P	**Pn**	**17 47 17.8**	**-0.2**
DID				S	**Sb**	**17 47 37.4**	**+1.3**
LTK	**Loutraki**	**1.49**	**43**	P	**Pn**	**17 47 20.2**	**+0.4**
LTK	**Loutraki**	**1.49**	**43**	ePG	**Pn**	**17 47 20.0**	**+0.2**
LTK	**Loutraki**	**1.49**	**43**	P	**Pn**	**17 47 20.2**	**+0.4**
KALE	**Kalithea**	**1.50**	**14**	P	**Pn**	**17 47 20.5**	**+0.5**
KALE	**Kalithea**	**1.50**	**14**	ePB	**Pn**	**17 47 20.6**	**+0.7**
KALE	**Kalithea**	**1.50**	**14**	P	**Pn**	**17 47 20.5**	**+0.5**
EFP	**Efpalio**	**1.51**	**6**	P	**Pn**	**17 47 20.6**	**+0.7**
EFP				S	**Sb**	**17 47 41.4**	**+1.3**
EFP	**Efpalio**	**1.51**	**6**	ePG	**Pn**	**17 47 20.6**	**+0.7**
EFP	**Efpalio**	**1.51**	**6**	P	**Pn**	**17 47 20.6**	**+0.7**
EFP				S	**Sb**	**17 47 41.4**	**+1.3**
VLS	**Valsamata**	**1.52**	**325**	P	**Pn**	**17 47 20.7**	**+0.5**
VLS				S	**Sg**	**17 47 42.2**	**+0.4**
VLS	**Valsamata**	**1.52**	**325**	ePG	**Pn**	**17 47 20.0**	**-0.2**
VLS	**Valsamata**	**1.52**	**325**	ePg	**Pn**	**17 47 20.0**	**-0.2**
VLS	**Valsamata**	**1.52**	**325**	P	**Pn**	**17 47 20.7**	**+0.5**
VLS				S	**Sg**	**17 47 42.2**	**+0.4**
DSF	**Desfina**	**1.62**	**24**	P	**Pn**	**17 47 22.3**	**+0.7**
DSF	**Desfina**	**1.62**	**24**	ePG	**Pn**	**17 47 22.4**	**+0.8**
DSF	**Desfina**	**1.62**	**24**	P	**Pn**	**17 47 22.3**	**+0.7**
ANKY	**Antikythira Is**	**1.68**	**129**	ePB	**Pg**	**17 47 24.9**	**0.0**
ANKY	**Antikythira Is**	**1.68**	**129**	ePb	**Pg**	**17 47 24.9**	**0.0**
PDO	**Prodromos**	**1.72**	**347**	ePN	**Pb**	**17 47 24.8**	**+0.3**
PDO	**Prodromos**	**1.72**	**347**	ePn	**Pb**	**17 47 24.8**	**+0.3**
ATH	**Athens Observa**	**1.92**	**56**	ePN	**Pn**	**17 47 26.8**	**+1.2**
ATH	**Athens Observa**	**1.92**	**56**	ePn	**Pn**	**17 47 26.8**	**+1.2**
EVR	**Evrytania**	**1.99**	**3**	ePG	**Pb**	**17 47 29.9**	**+0.7**
EVR	**Evrytania**	**1.99**	**3**	ePg	**Pb**	**17 47 29.9**	**+0.7**
AXAR	**Agios Charalam**	**1.99**	**22**	ePG	**Pb**	**17 47 29.1**	**-0.1**
AXAR	**Agios Charalam**	**1.99**	**22**	ePg	**Pb**	**17 47 29.1**	**-0.1**
LKR	**Lokris**	**2.01**	**31**	ePN	**Pn**	**17 47 28.8**	**+1.9**
LKR	**Lokris**	**2.01**	**31**	ePn	**Pn**	**17 47 28.8**	**+1.9**
PTL	**Penteli**	**2.06**	**56**	P	**Pn**	**17 47 28.7**	**+1.1**
PTL	**Penteli**	**2.06**	**56**	ePN	**Pn**	**17 47 28.5**	**+0.9**
PTL	**Penteli**	**2.06**	**56**	P	**Pn**	**17 47 28.7**	**+1.1**
MAKR	**Makrakomi, Fth**	**2.11**	**9**	ePG	**Pb**	**17 47 31.9**	**+0.7**
MAKR	**Makrakomi, Fth**	**2.11**	**9**	ePg	**Pb**	**17 47 31.9**	**+0.7**
AGG	**Agios Georgios**	**2.15**	**13**	ePG	**Pb**	**17 47 31.5**	**-0.4**
SMIA	**Simia**	**2.29**	**31**	ePN	**Pn**	**17 47 33.1**	**+2.4**
SMIA	**Simia**	**2.29**	**31**	ePn	**Pn**	**17 47 33.1**	**+2.4**
MRKA	**Markates**	**2.33**	**40**	ePN	**Pn**	**17 47 32.9**	**+1.7**
MRKA	**Markates**	**2.33**	**40**	ePn	**Pn**	**17 47 32.9**	**+1.7**
VAM	**Vamos**	**2.54**	**126**	ePN	**Pn**	**17 47 36.2**	**+2.1**
VAM	**Vamos**	**2.54**	**126**	ePn	**Pn**	**17 47 36.2**	**+2.1**
SKIA	**Skiathos**	**2.64**	**32**	ePB	**Pn**	**17 47 37.5**	**+2.0**
THL	**Klokotos Trika**	**2.65**	**5**	ePN	**Pn**	**17 47 38.2**	**+2.6**
THL	**Klokotos Trika**	**2.65**	**5**	ePn	**Pn**	**17 47 38.2**	**+2.6**
XOR	**Xorichti**	**2.71**	**25**	ePN	**Pn**	**17 47 39.1**	**+2.6**
XOR	**Xorichti**	**2.71**	**25**	ePn	**Pn**	**17 47 39.1**	**+2.6**
IGT	**Igoumenitsa**	**2.81**	**338**	ePB	**Pn**	**17 47 39.3**	**+1.4**
IDI	**Anoyia**	**3.06**	**121**	eP	**Pn**	**17 47 43.9**	**+2.5**
IDI	**Anoyia**	**3.06**	**121**	ePN	**Pn**	**17 47 43.9**	**+2.5**
IDI	**Anoyia**	**3.06**	**121**	Pn	**Pn**	**17 47 42.8**	**+1.4**
	0.8nm,0.3s,baz=310,slow=16,SNR=3.7						
IDI				Sn	**Sn**	**17 48 21.4**	**+3.1**
	3.6nm,0.3s,baz=346,slow=19,SNR=3.8						
IDI	**Anoyia**	**3.06**	**121**	eP	**Pn**	**17 47 43.9**	**+2.5**
APE	**Apeiranthos**	**3.08**	**86**	eP	**Pn**	**17 47 39.7**	**-1.9**
APE	**Apeiranthos**	**3.08**	**86**	ePN	**Pn**	**17 47 42.9**	**+1.3**
APE	**Apeiranthos**	**3.08**	**86**	eP	**Pn**	**17 47 39.7**	**-1.9**
APE	**Apeiranthos**	**3.08**	**86**	ePn	**Pn**	**17 47 42.9**	**+1.3**
SANT	**Santorini**	**3.08**	**99**	eP	**Pn**	**17 47 40.8**	**-0.9**
SANT	**Santorini**	**3.08**	**99**	eP	**Pn**	**17 47 40.8**	**-0.9**
SIVA	**Sivas**	**3.17**	**126**	eP	Pn	17 47 46.2	+3.4
SIVA	**Sivas**	**3.17**	**126**	eP	Pn	17 47 46.2	+3.4
LIT	**Litokhoron**	**3.23**	**11**	ePN	**Pn**	**17 47 45.6**	**+1.9**
LIT	**Litokhoron**	**3.23**	**11**	ePn	**Pn**	**17 47 45.6**	**+1.9**
KZN	**Kozani**	**3.38**	**1**	ePN	**Pn**	**17 47 47.9**	**+2.2**
KZN	**Kozani**	**3.38**	**1**	ePn	**Pn**	**17 47 47.9**	**+2.2**
PAIG	**Paliouri**	**3.38**	**27**	ePN	**Pn**	**17 47 47.3**	**+1.6**
PAIG	**Paliouri**	**3.38**	**27**	ePn	**Pn**	**17 47 47.3**	**+1.6**
NEST	**Nestorio**	**3.52**	**352**	ePN	**Pn**	**17 47 50.5**	**+2.8**
NEST	**Nestorio**	**3.52**	**352**	ePn	**Pn**	**17 47 50.5**	**+2.8**
CHOS	**Chios island**	**3.76**	**66**	eP	**Pn**	**17 47 49.4**	**-1.6**
CHOS	**Chios island**	**3.76**	**66**	ePN	**Pn**	**17 47 51.3**	**+0.3**
CHOS	**Chios island**	**3.76**	**66**	eP	**Pn**	**17 47 49.4**	**-1.6**
CHOS	**Chios island**	**3.76**	**66**	ePn	**Pn**	**17 47 51.3**	**+0.3**
OUR	**Ouranopolis**	**3.85**	**27**	ePN	**Pn**	**17 47 54.0**	**+1.9**
OUR	**Ouranopolis**	**3.85**	**27**	ePn	**Pn**	**17 47 54.0**	**+1.9**
FNA	**Florina**	**3.86**	**356**	ePN	**Pn**	**17 47 53.6**	**+1.3**
FNA	**Florina**	**3.86**	**356**	ePn	**Pn**	**17 47 53.6**	**+1.3**
LIA	**Limnos Island**	**4.04**	**42**	ePN	**Pn**	**17 47 55.5**	**+0.7**
LIA	**Limnos Island**	**4.04**	**42**	ePn	**Pn**	**17 47 55.5**	**+0.7**
KNT	**Kendrikon**	**4.33**	**12**	ePN	**Pn**	**17 48 00.8**	**+2.0**
KNT	**Kendrikon**	**4.33**	**12**	ePn	**Pn**	**17 48 00.8**	**+2.0**
SRS	**Serrai**	**4.44**	**19**	ePN	**Pn**	**17 48 02.0**	**+1.7**
SRS	**Serrai**	**4.44**	**19**	ePn	**Pn**	**17 48 02.0**	**+1.7**
KAVA	**Kavala**	**4.62**	**28**	ePN	**Pn**	**17 48 04.0**	**+1.2**
KAVA	**Kavala**	**4.62**	**28**	ePn	**Pn**	**17 48 04.0**	**+1.2**
NVR	**Nevrokopi**	**4.73**	**20**	ePN	**Pn**	**17 48 06.2**	**+1.9**
NVR	**Nevrokopi**	**4.73**	**20**	ePn	**Pn**	**17 48 06.2**	**+1.9**
BARS	**Barje**	**5.88**	**1**	⇑iPn	**Pn**	**17 48 20.9**	**+0.8**
IVAS	**Ivanjica**	**6.75**	**350**	ePn	**Pn**	**17 48 31.7**	**-0.3**
BOLS	**Boljevac**	**6.90**	**2**	ePn	**Pn**	**17 48 33.1**	**-0.9**
GRUS	**Gruza**	**6.99**	**354**	⇑iPn	**Pn**	**17 48 34.9**	**-0.4**
DIVS	**Divibare**	**7.28**	**350**	⇑iPn	**Pn**	**17 48 38.4**	**-0.9**
TEKS	**Tekeris**	**7.79**	**349**	ePn	**Pn**	**17 48 45.1**	**-1.2**
BRTR	**Keskin Array B**	**9.80**	**70**	Pn	Pn	17 49 17.6	+3.7
	0.2nm,0.3s,baz=254,slow=14,SNR=4.8						
HFS	**Hagfors**	**23.79**	**350**	P	**P**	**17 52 02.7**	**-2.8**
	1.6nm,0.7s,baz=162,slow=11,SNR=5.3						
FINES	**FINESS Array B**	**24.70**	**5**	P	**P**	**17 52 12.4**	**-1.4**
	10nm,1.3s,baz=161,slow=12,SNR=5.7						
NB2	**NORSAR Subarra**	**25.03**	**348**	P	**P**	**17 52 14.8**	**-2.1**
	comp=Z,8.5nm,1.4s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**25.03**	**348**	P	**P**	**17 52 15.2**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=156,slow=9.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**29.68**	**222**	P	**P**	**17 52 58.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=31,slow=9.3,SNR=4.8						
MKAR	**Makanchi Array**	**45.18**	**58**	P	P	17 55 07.5	-2.3
	comp=Z,0.7nm,0.5s,baz=297,slow=8.0,SNR=9.6						
ZALV	**Zalesovo Beam**	**45.84**	**47**	P	P	17 55 12.7	-2.3
	comp=Z,0.9nm,0.5s,baz=278,slow=8.8,SNR=4.3						
SONM	**Songino Array**	**60.54**	**50**	P	P	17 57 00.3	-3.1
	comp=Z,0.3nm,0.8s,baz=284,slow=5.8,SNR=3.1						

KRNET 02 17:49:22.2±0.1, 39°.23N×71°.70E, h16km, mb3.6
NNC 02 17:49:29.0±3.0, 39°.53N×71°.73E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=28.6km s-min=20.6km az=175.0
ISC 02 17:49:23.5±2.7, 39°.3N±0°.1×71°.76E±0°.05, h18km±4km, n18, σ1°.63/15, 7C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.18**	**10**	⇓iP	**Pg**	**17 49 28.3**	**-0.3**
	baz=18						
DRK				⇓eS	**Sg**	**17 49 32.9**	**+0.9**
	baz=18						
BTK	**Batken**	**1.05**	**316**	eP	**Pb**	**17 49 42.2**	**-1.0**
	baz=321						
BTK				eS	**Sg**	**17 49 57.0**	**-0.7**
	baz=321						
OHH	**Osh**	**1.46**	**33**	eP	**Pg**	**17 49 51.6**	**0.0**
	baz=32						
OHH				eS	**Sg**	**17 50 12.2**	**+1.6**
	baz=32						
SFK	**Sufi-Kurgan**	**1.52**	**62**	eP	**Pb**	**17 49 51.0**	**-0.3**
	baz=60						
SFK				eS	**Sb**	**17 50 11.8**	**+1.4**
	baz=60						
TRKS	**Terek-Say**	**2.28**	**348**	iP	**Pb**	**17 50 05.1**	**+0.9**
	baz=350						
TRKS				eS	**Sg**	**17 50 35.7**	**-1.1**
	baz=350						
AML	**Almayashu**	**3.19**	**27**	P	**Pb**	**17 50 19.2**	**-0.6**
	SNR=17						
UCH	**Uchtor**	**3.59**	**35**	P	**Pb**	**17 50 24.7**	**-2.1**
	SNR=13						
EKS2	**Erkin-Say**	**3.69**	**24**	P	**Pb**	**17 50 25.6**	**-2.6**
	SNR=9.1						
KZA	**Kyzart**	**3.84**	**43**	P	**Pb**	**17 50 28.3**	**-2.6**
	SNR=14						
KK31	**Karatay Array**	**3.92**	**346**	⇑Pn	Pb	17 50 27.6	-4.4
	3.1nm,0.3s,baz=168,slow=12,SNR=157						
KK31				⇑Lg	Lg	17 51 28.0	
	5.7nm,0.5s,baz=165,slow=30,SNR=7.3						
AAK	**Ala-Archa**	**3.92**	**31**	⇑Pn	Pb	17 50 28.7	-3.5
	3.1nm,0.5s						
AAK				⇑Lg	Lg	17 51 26.6	
	4.3nm,0.5s						
AAK	**Ala-Archa**	**3.92**	**31**	P	Pb	17 50 29.0	-3.2
	SNR=8.4						
KBK	**Karagaybulak**	**4.13**	**35**	P	Pb	17 50 32.5	-3.3
	SNR=11						
CHMS	**Chumysh**	**4.33**	**30**	P	Pb	17 50 34.4	-4.6
	SNR=16						
USP	**Ospenovka**	**4.47**	**27**	P	Pb	17 50 36.3	-5.1
	SNR=8.0						
TKM2	**Tokmak 2**	**4.63**	**37**	⇑Pn	Pn	17 50 38.3	+5.5
	4.0nm,0.6s						
TKM2				⇑Lg	Lg	17 51 49.0	
	3.1nm,0.6s						
TKM2	**Tokmak 2**	**4.63**	**37**	P	Pn	17 50 38.4	+5.6
	SNR=10						
AB31	**Akbulak array**	**13.05**	**324**	⇑P	**Pn**	**17 52 29.0**	**+1.1**
	0.4nm,0.6s,baz=132,slow=13,SNR=9.6						

IDC 02 17:49:34.4±1.6, 0°.57N×126°.04E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/40, mbtmp3.7/4, 1C, Error ellipse: s-maj=169.7km s-min=21.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**6.50**	**355**	⇑eP	Pb	17 51 26.9	-1.5
WRA	**Warramunga Arr**	**21.94**	**159**	P	P	17 54 28.4	-1.5
	3.1nm,1.0s,baz=337,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.27**	**163**	P	P	17 55 03.6	+1.0
	2.5nm,0.8s,baz=343,slow=11,SNR=23						
MKAR	**Makanchi Array**	**59.77**	**327**	P	P	17 59 41.4	-0.1
	0.3nm,0.4s,baz=114,slow=7.8,SNR=5.4						
KURBB	**Kurchatov Arra**	**64.04**	**329**	P	P	18 00 09.9	-0.1
	0.3nm,0.6s,baz=131,slow=6.5,SNR=4.9						

IDC 02 17:54:44.8±3.3, 19°.71S×175°.05W, h0km, mb4.5/4, mb1 4.6/4, mb1mx3.8/37, mbtmp4.5/4, Error ellipse: s-maj=119.7km s-min=35.8km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.34**	**263**	P	P	18 01 50.6	-0.1
	1.9nm,0.3s,baz=97,slow=10.0,SNR=3.8						
ASAR	**Alice Springs**	**47.40**	**256**	P	P	18 03 21.8	+0.5
	2.8nm,0.5s,baz=91,slow=7.6,SNR=93						
WRA	**Warramunga Arr**	**47.46**	**261**	P	P	18 03 20.9	-0.8
	2.3nm,0.4s,baz=97,slow=7.5,SNR=104						
PETK	**Petropavlovsk-**	**76.26**	**343**	P	P	18 06 35.5	+0.5
	7.6nm,1.0s,baz=155,slow=4.9,SNR=3.8						
ARCES	**ARCESS Array B**	**128.62**	**351**	PKP	PKPdf	18 13 52.4	-0.8
	3.7nm,1.0s,baz=343,slow=2.8,SNR=6.6						

NNC 02 18:00:49.2±8.7, 36°.65N×71°.52E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=76.7km s-min=53.3km az=146.0
IDC 02 18:01:37.0±2.6, 39°.59N×71°.27E, h320km±32km, mb3.1/3, mb1 3.0/6, mb1mx2.7/37, mbtmp3.6/6, Error ellipse: s-maj=68.1km s-min=31.3km az=120.0
ISC 02 18:00:50.0±1.7, 36°.64N±0°.09×71°.4E±0°.1, h10km, n20, σ2°.73/21, mb4.0/3, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.56**	**136**	eP	Pg	18 02 45.0	+8.4
DLH				eS	**Sg**	**18 03 50.0**	**+1.3**
AML	**Almayashu**	**5.77**	**17**	P	**Pb**	**18 02 18.0**	**+1.9**
	SNR=14						
UCH	**Uchtor**	**6.09**	**22**	P	**Pb**	**18 02 39.1**	**+2.6**
	SNR=15						
KZA	**Kyzart**	**6.21**	**28**	P	**Pb**	**18 02 40.0**	**+1.6**
	SNR=7.3						
EKS2	**Erkin-Say**	**6.29**	**16**	P	**Pb**	**18 02 25.9**	**+2.9**
	SNR=19						
AAK	**Ala-Archa**	**6.45**	**21**	⇑Pn	**Pb**	**18 02 25.1**	**-0.2**
	1.0nm,0.3s						
AAK				⇓Sn	**Sn**	**18 03 34.0**	**-5.0**
	24nm,0.7s						
AAK	**Ala-Archa**	**6.45**	**21**	P	**Pb**	**18 02 44.1**	**+1.6**
	SNR=9.1						
AAK	**Ala-Archa**	**6.45**	**21**	P	**Pb**	**18 02 43.9**	**+1.4**
	2.6nm,0.3s,baz=207,slow=8.4,SNR=4.4						
AAK				S	**Sn**	**18 03 36.7**	**-2.3**
	0.6nm,0.3s,baz=315,slow=20,SNR=3.5						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.50	354	⇑Pn	Pn	18 02 26.9	+1.2
	3.8nm,0.3s,baz=178,slow=12,SNR=225						
KK31				⇑Sn	Sn	18 03 44.3	+4.4
	7.3nm,0.3s,baz=174,slow=22,SNR=5.0						
KBK	Karagaybulak	6.61	23	P	Pb	18 02 45.9	+0.7
	SNR=8.8						
CHMS	Chumysh	6.86	21	P	Pb	18 02 49.0	-0.4
	SNR=8.0						
TKM2	Tokmak 2	7.07	26	⇑Pn	Pn	18 02 34.0	+0.3
	9.9nm,0.8s						
TKM2				⇑Sn	Sn	18 03 58.7	+4.5
	3.9nm,0.6s						
TKM2				⇓Lg	Lg	18 04 31.4	
	6.4nm,0.8s						
TKM2	Tokmak 2	7.07	26	P	Pb	18 02 51.2	-1.7
	SNR=13						
KURBB	Kurchatov Arra	14.90	18	P	Pn	18 04 21.2	+0.6
	0.1nm,0.3s,baz=203,slow=11,SNR=5.3						
AB31	Akbulak array	15.12	330	⇓P	Pn	18 04 20.3	-3.3
	0.4nm,0.3s,baz=161,slow=12,SNR=21						
AKTO	Aktyubinsk	16.82	329	⇑P	Pn	18 04 45.8	+0.3
	4.2nm,0.6s						
ZALV	Zalesovo Beam	19.66	24	P	P	18 05 14.5	-4.4
	0.2nm,0.3s,baz=217,slow=13,SNR=4.1						
ARCES	ARCESS Array B	41.14	337	P	P	18 08 28.6	-5.4
	3.0nm,0.9s,baz=115,slow=8.1,SNR=5.2						
NOA	NORSAR Array B	44.46	323	P	P	18 08 57.1	-3.9
	0.2nm,0.4s,baz=109,slow=8.4,SNR=2.7						
TORD	Torodi Ar. Bea	66.03	269	P	P	18 11 50.4	+13
	0.5nm,0.4s,baz=52,slow=5.7,SNR=11						

IDC 02 18:27:02.9±26.0, 18°.48S×175°.21W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.8/33, mbtmp4.3/4, Error ellipse: s-maj=488.4km s-min=137.3km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.35	261	P	P	18 34 09.6	+0.6
	2.1nm,0.4s,baz=87,slow=9.3,SNR=5.9						
CMSA	Cobar Meteorol	37.54	242	P	P	18 34 18.8	-0.2
	baz=43,SNR=8.0						
QLP	Quilpie	38.19	250	P	P	18 34 24.4	0.0
	baz=44,SNR=3.4						
STKA	Stephens Creek	41.04	242	P	P	18 34 47.9	-0.3
	3.3nm,0.6s,baz=84,slow=11,SNR=20						
STKA	Stephens Creek	41.04	242	P	P	18 34 48.1	-0.1
	baz=47,SNR=14						
HTT	Hallett	43.49	241	P	P	18 35 07.9	-0.3
	baz=49,SNR=5.0						
BBOO	Buckleboo	45.80	242	P	P	18 35 25.7	-0.9
	baz=52,SNR=5.7						
WRA	Warramunga Arr	47.52	260	P	P	18 35 40.0	-0.3
	0.8nm,0.4s,baz=97,slow=7.5,SNR=45						
ASAR	Alice Springs	47.56	255	P	P	18 35 40.4	-0.3
	5.8nm,0.7s,baz=88,slow=8.4,SNR=92						
KDU	Kakadu	50.58	269	S	S	18 43 23.9	+4.2
	baz=55,SNR=4.0						
WRKA	Warakurna	52.56	252	P	P	18 36 18.2	-0.5
	baz=58,SNR=9.7						

IDC 02 18:33:57.3±1.1, 10°.43N×126°.34E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/41, mbtmp3.6/7, Error ellipse: s-maj=62.2km s-min=16.6km az=64.0
ISCJB 02 18:34:04.2±1.1, 10°.26N±0°.07×126°.16E±0°.09, h66km±10km, mb3.6/7, Error ellipse: s-maj=16.4km s-min=8.8km az=152.4
MAN 02 18:34:04, 10°.25N×126°.15E, h33km, mb5.4, ML4.4, MS4.7
MAN INTENSITY IV - BURGOS & PILAR SIARGAO ISLAND; SURIGAO DEL NORTE; INTENSITY III - SOCORRO GENERAL LUNA; SDN LORETO DUNAGAT ISLAND PROVINCE.
ISC 02 18:34:03.9±1.7, 10°.28N±0°.06×126°.25E±0°.10, h45km±17km, n25, σ2°.12/26, mb3.7/7, 1C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.90	237	⇓eP	Pn	18 34 19.2	-0.9
SCPH				eS	Sn	18 34 32.0	-0.1
MSLP	Maasin	1.38	264	eP	Pn	18 34 26.6	0.0
MSLP				eS	Sn	18 34 41.9	-1.8
PLP	Palo	1.53	305	⇓eP	Pn	18 34 28.5	-0.2
PLP				eS	Sn	18 34 43.0	-4.3
OCLP	Ormoc	1.79	296	eP	Pn	18 34 33.4	+1.1
OCLP				eS	Sn	18 34 57.4	+3.7
BIPH	Bislig	2.09	177	⇓iP	Pn	18 34 37.1	+0.7
BIPH				iS	Sn	18 34 57.2	-4.0
LLP	Lapu-Lapu	2.25	271	eP	Pn	18 34 39.1	+0.5
LLP				eS	Sn	18 35 05.1	0.0
CGP	Cagayan de Oro	2.38	220	eP	Pn	18 34 41.4	+1.0
CGP				iS	Sn	18 35 12.3	+4.0
SNPH	Sibulan	3.11	253	eP	Pn	18 34 48.6	-1.9
CTBH	Cotabato--PC H	3.63	213	eP	Pn	18 35 00.2	+2.6
CTBH				iS	Sn	18 35 16.1	-23
RCP	Roxas	3.67	291	⇑eP	Pn	18 34 59.6	+1.5
PVCP	Virac	3.88	328	⇓eP	Pn	18 35 03.4	+2.3
CMAR	Chiang Mai Arr	27.64	290	P	P	18 39 47.9	+0.3
	1.4nm,0.8s,baz=101,slow=7.2,SNR=14						
WRA	Warramunga Arr	31.07	165	P	P	18 40 17.6	-0.4
	0.2nm,0.5s,baz=345,slow=9.2,SNR=5.7						
ASAR	Alice Springs	34.56	168	P	P	18 40 49.0	+0.6
	0.3nm,0.4s,baz=351,slow=6.9,SNR=13						
H11S3	WAKE ISLAND Hy	39.94	74	T	T	19 24 37.4	
	baz=267,slow=74						
H11S1	WAKE ISLAND Hy	39.95	73	T	T	19 24 36.7	
	baz=267						
H11S2	WAKE ISLAND Hy	39.95	74	T	T	19 24 36.8	
	baz=267,slow=74						
H11N1	WAKE ISLAND Hy	40.27	72	T	T	19 24 59.3	
	baz=267,slow=74,SNR=8.1						
H11N2	WAKE ISLAND Hy	40.28	72	T	T	19 24 59.9	
	baz=267,slow=74,SNR=4.5						
H11N3	WAKE ISLAND Hy	40.29	72	T	T	19 25 01.2	
	baz=267,slow=74,SNR=6.6						
SONM	Songino Array	41.00	340	P	P	18 41 42.8	+0.2
	0.3nm,0.4s,baz=149,slow=6.5,SNR=3.0						
STKA	Stephens Creek	44.42	161	P	P	18 42 11.8	+1.5
	1.5nm,0.7s,baz=335,slow=8.5,SNR=5.5						
MKAR	Makanchi Array	52.01	323	P	P	18 43 07.3	-1.4
	0.9nm,0.8s,baz=128,slow=8.3,SNR=8.8						
ZALV	Zalesovo Beam	54.61	331	P	P	18 43 25.9	-1.8
	0.5nm,0.4s,baz=145,slow=5.3,SNR=3.5						
TORD	Torodi Ar. Bea	120.24	292	PKP	PKPdf	18 52 50.0	-1.0
	0.5nm,0.8s,baz=81,slow=3.0,SNR=5.3						

IDC 02 18:39:52.7±0.8, 51°.28N×178°.64E, h0km, mb3.8/17, mb1 4.0/17, mb1mx3.9/42, mbtmp3.8/17, MS3.0/2, Ms1 3.1/2, ms1mx2.7/33, Error ellipse: s-maj=23.7km s-min=15.5km az=166.0
MOS 02 18:39:56.2±1.4, 51°.26N×178°.78E, h33km, mb4.2/17, Error ellipse: s-maj=22.3km s-min=13.5km az=94.8
NEIC 02 18:39:58.1, 51°.26N×178°.76E, h10km, ML3.7(AEIC), After AEIC.
ISC 02 18:39:55.3±1.5, 51°.23N±0°.06×178°.63E±0°.04, h12km±8km, n78, σ1°.38/75, mb4.1/25, MS3.6/4, 4C-1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.45	70	P	Pb	18 40 06.1	+1.0
AMKA				S	Sb	18 40 12.3	+0.6
LSSA	Little Sitkin	0.72	354	P	Pn	18 40 11.9	+0.5
LSPA	Little Sitkin	0.73	357	P	Pn	18 40 12.1	+0.7
LSPA				S	Sn	18 40 23.1	+0.6
CESW	Semis' Southwe	0.89	41	P	Pn	18 40 13.9	+0.3
CETU	Semis' Tuman	0.91	36	P	Pg	18 40 14.8	+1.8
CERB	Semis' Cerberu	0.94	41	P	Pg	18 40 14.9	+1.4
CERB				S	Sg	18 40 27.0	+1.3
CERAA	Semis' Rag'd T	0.95	44	P	Pn	18 40 14.7	+0.3
CEAP	Semis' Anvil P	0.97	37	P	Pg	18 40 15.3	+1.2
CEAP				S	Sn	18 40 28.3	-0.2
GALAA	Gareloi Lava P	1.71	71	P	Pb	18 40 26.9	+0.3
TASE	Tanaga Southea	2.17	73	P	Pn	18 40 32.5	+1.2
TAFP	Tanaga Falls P	2.22	71	P	Pn	18 40 33.4	+1.5
TAFP				S	Sb	18 41 01.3	-1.4
TAFL	Tanaga Flats	2.23	75	P	Pb	18 40 34.3	-1.3
KIKV	Kanaga Island	2.70	74	P	Pn	18 40 40.6	+2.1
KIRH	Kanaga Island	2.75	74	P	Pn	18 40 40.9	+1.7
SMY	Shemya	3.18	300	P	Pn	18 40 48.7	+3.7
SMY	Shemya	3.18	300	P	Pn	18 40 48.7	+3.7
GSCK	Great Sitkin C	3.34	74	P	Pn	18 40 50.1	+2.7
GSMY	Great Sitkin M	3.41	74	P	Pn	18 40 50.9	+2.6
FX1	Attu Island--F	3.75	298	P	Pn	18 40 54.5	+1.5
FX1						18 41 45.5	
FX1				pmax	pmax		
	comp=Z,58nm,0.3s						
FX1				smax	smax		
	comp=N,26nm,0.3s						
FX1	Attu Island--F	3.75	298	Pn	Pn	18 40 54.5	+1.5
	comp=N,58nm,0.3s,baz=76,slow=1.1,SNR=64						
FX1				Sn	Sb	18 41 45.5	-1.5
	comp=N,26nm,0.3s,baz=99,slow=22,SNR=12						
SPIA	Saint Paul Isl	8.83	43	P	Pn	18 42 06.6	+4.1
MREP	Makushin Rep't	9.29	68	P	Pn	18 42 12.7	+3.8
UNV	Unalaska Valle	9.43	68	P	Pn	18 42 14.1	+3.2
PETK	Petropavlovsk-	12.98	286	Pn	Pn	18 43 03.9	+4.5
	comp=N,0.3nm,0.3s,baz=89,slow=14,SNR=3.0						
PETK				LR	LR	18 49 27.8	
	comp=N,35nm,18.1s,baz=89,slow=44						
KDAK	Kodiak Island	17.86	57	iP	Pn	18 44 02.0	-1.3
COLA	College	22.03	39	P	P	18 44 51.0	+1.7
COLA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
COLA				MLR	MLR		
	comp=Z,240nm,17.0s						
ILAR	Eielson Array	22.38	40	P	P	18 44 50.9	-2.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	22.38	40	P	P	18 44 50.9	-2.2
	comp=Z,1.0nm,0.8s,baz=234,slow=8.9,SNR=8.3						
YAK	Yakutsk	28.30	311	eP	P	18 45 49.3	+1.0
INK	Inuvik	28.51	35	P	P	18 45 49.7	-0.4
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	Inuvik	28.51	35	P	P	18 45 49.6	-0.4
	comp=Z,0.6nm,0.4s,baz=256,slow=6.4,SNR=5.9						
H11N2	WAKE ISLAND Hy	32.77	201	T	T	19 21 28.6	
	baz=13,slow=76,SNR=9.5						
H11N3	WAKE ISLAND Hy	32.78	201	T	T	19 21 42.3	
	baz=13,slow=76,SNR=9.4						
H11N1	WAKE ISLAND Hy	32.78	201	T	T	19 21 29.9	
	baz=13,slow=76,SNR=9.6						
H11S1	WAKE ISLAND Hy	33.99	201	T	T	19 23 05.1	
	baz=20,slow=77,SNR=7.0						
H11S2	WAKE ISLAND Hy	34.01	201	T	T	19 23 03.2	
	baz=20,slow=77,SNR=5.3						
H11S3	WAKE ISLAND Hy	34.01	201	T	T	19 23 07.7	
	baz=20,slow=77,SNR=3.9						
YKA	Yellowknife Ar	36.50	46	P	P	18 46 59.1	-0.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	36.50	46	P	P	18 46 59.1	-0.8
	comp=Z,1.3nm,0.6s,baz=282,slow=8.3,SNR=21						
ULN	Ulaanbaatar	44.37	295	ceP	P	18 48 10.8	+1.4
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ULN				MLR	MLR		
	comp=Z,54nm,17.0s						
NVAR	Mina Array Bea	45.17	81	P	P	18 48 09.9	-2.1
	comp=Z,0.5nm,0.7s,baz=283,slow=5.5,SNR=3.2						
SONM	Songino Array	45.26	295	P	P	18 48 10.1	-2.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	45.26	295	P	P	18 48 10.1	-2.4
	comp=Z,1.1nm,0.6s,baz=61,slow=7.9,SNR=12						
PDAR	Pinedale Array	47.89	71	P	P	18 48 32.5	-0.8
	comp=Z,1.0nm,0.5s,baz=338,slow=2.7,SNR=5.5						
ZALV	Zalesovo Beam	52.95	312	iP	P	18 49 10.6	-0.5
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	Zalesovo Beam	52.95	312	P	P	18 49 09.8	-1.2
	comp=Z,0.6nm,0.4s,baz=54,slow=7.4,SNR=4.4						
ARCES	ARCESS Array B	57.95	349	P	P	18 49 45.3	-1.6
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	ARCESS Array B	57.95	349	P	P	18 49 45.3	-1.6
	comp=Z,1.8nm,0.8s,baz=27,slow=7.6,SNR=6.2						
MKAR	Makanchi Array	58.85	307	P	P	18 49 53.0	-0.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	58.85	307	P	P	18 49 53.0	-0.5
	comp=Z,0.8nm,0.4s,baz=44,slow=6.6,SNR=30						
BRVK	Borovoye	59.96	319	ciP	P	18 50 01.4	+0.4
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TXAR	Lajitas Array	60.27	79	P	P	18 50 03.5	-0.2
	comp=Z,0.3nm,0.5s,baz=299,slow=4.3,SNR=3.8						
ARU	Arti	61.86	327	diP	P	18 50 14.5	+0.6
ARU						18 50 53.8	
ARU						18 52 27.0	
ARU				S	S	18 58 39.4	+2.5
ARU				SS	SS	19 02 41.6	+3.7
ARU				pmax	pmax		
	comp=Z,16nm,2.5s						
FINES	FINESS Array B	65.55	346	P	P	18 50 37.2	-0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	65.55	346	P	P	18 50 37.2	-0.9
	comp=Z,1.2nm,0.8s,baz=3.1,slow=6.1,SNR=7.0						
AAK	Ala-Archa	65.70	308	⇑eP	P	18 50 39.7	0.0
AAK				pmax	pmax		
	comp=Z,12nm,2.5s						
AAK				MLR	MLR		
	comp=Z,82nm,17.0s						
NOA	NORSAR Array B	67.63	353	P	P	18 50 50.4	-1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	67.63	353	P	P	18 50 50.4	-1.1
	comp=Z,0.5nm,0.8s,baz=12,slow=5.4,SNR=3.2						
CMAR	Chiang Mai Arr	69.42	274	P	P	18 51 03.4	+0.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				MLR	MLR		
	comp=Z,15nm,28.6s						
CMAR	Chiang Mai Arr	69.42	274	P	P	18 51 03.4	+0.2
	comp=Z,0.6nm,0.4s,baz=31,slow=6.9,SNR=8.0						
CMAR				LR	LR	19 24 06.0	
	comp=Z,18nm,19.4s,baz=220,slow=38						
OBN	Obninsk	69.42	338	eP	P	18 51 02.4	-0.2
OBN				e		18 53 35.3	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TAPN	Taplejung	69.73	289	eP	P	18 51 06.3	+0.9
JIRN	Jiri	70.41	290	eP	P	18 51 10.7	+1.0
	comp=Z,11nm,0.7s						
RAMN	Ramite	70.69	289	eP	P	18 51 11.8	+0.6
KKN	Kakani	70.84	291	eP	P	18 51 13.1	+0.9
PKIN	Phulchoki	70.94	290	eP	P	18 51 13.3	+0.5
GKN	Gorkha	71.06	291	eP	P	18 51 14.1	+0.7
	comp=Z,5.9nm,0.5s						
DMN	Daman	71.08	291	eP	P	18 51 14.5	+0.9
DANN	Dangsing	71.32	292	eP	P	18 51 15.9	+0.8
	comp=Z,14nm,0.8s						
AKASG	Malin Array Be	75.17	340	ceP	P	18 51 36.2	-0.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	75.17	340	P	P	18 51 36.1	-1.0
	comp=Z,0.9nm,0.4s,baz=20,slow=6.4,SNR=13						
SOC	Sochi	79.06	331	eP	P	18 51 57.0	-2.1
SOC				eS	S	19 02 00.6	+2.9
SOC				pmax	pmax		
	comp=Z,11nm,0.6s						
WRAB	Tennant Creek	80.79	222	P	P	18 52 08.0	-0.6
WRAB				pmax	pmax		
	comp=Z,56nm,2.5s						
WRA	Warramunga Arr	80.81	222	P	P	18 52 07.8	-0.9
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	80.81	222	P	P	18 52 07.8	-0.9
	comp=Z,0.6nm,0.7s,baz=31,slow=5.9,SNR=7.4						
ASAR	Alice Springs	84.31	220	P	P	18 52 26.8	-0.1
	comp=Z,0.3nm,0.6s,baz=29,slow=5.0,SNR=5.5						
BRTR	Keskin Array B	84.39	334	P	P	18 52 27.9	+0.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	84.39	334	P	P	18 52 27.9	+0.4
	comp=Z,0.5nm,0.6s,baz=46,slow=6.2,SNR=2.6						

ISCJB 02 19:27:19.5±0.4, 24°.85N±0°.03×121°.91E±0°.02, h106km±3km, Error ellipse: s-maj=4.7km s-min=2.4km az=154.7
JMA 02 19:27:19.3±0.1, 24°.83N×121°.85E, h105km±2km, M3.1
TAP 02 19:27:20.3, 24°.84N×121°.89E, h100km, ML4.0, B
ISC 02 19:27:20.5±1.2, 24°.81N±0°.04×121°.90E±0°.03, h100km±6km, n79, σ0°.89/132, 4C-21D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.04	38	eP	Pn	19 27 34.7	+0.3
	baz=79						
EGS				S	Sn	19 27 45.2	+0.5
	baz=79						
ILA	Ilan	0.15	252	P	Pn	19 27 35.1	+0.6
	baz=224						
ILA				S	Sn	19 27 45.6	+0.7
	baz=224						
TWB1	Santiao Chiao	0.21	21	⇑iP	Pn	19 27 34.7	-0.1
	baz=33						
TWB1				iS	Sn	19 27 44.8	-0.6
	baz=33						
TWC	Suao	0.21	194	eP	Pn	19 27 35.1	+0.4
	baz=182						
TWC				eS	Sn	19 27 47.1	+1.8
	baz=182						
NWF	Wu-fen Shan	0.28	337	⇑iP	Pn	19 27 34.9	-0.2
	baz=340						
NWF				eS	Sn	19 27 45.2	-0.8
	baz=340						
TWA	Mucha	0.34	300	⇓P	Pn	19 27 35.4	+0.1
	baz=296						
TWA				S	Sn	19 27 46.1	-0.2
	baz=296						
ENA	Nanau	0.41	201	eP	Pn	19 27 36.5	+0.8
	baz=188						
ENA				eS	Sn	19 27 47.9	+0.9
	baz=188						
TAP1	Taipei	0.41	303	⇓P	Pn	19 27 35.7	0.0
	baz=303						
TAP1				S	Sn	19 27 47.0	-0.1
	baz=303						
TAP	Taipei	0.43	302	⇓iP	Pn	19 27 35.8	0.0
	baz=303						
TAP				S	Sn	19 27 47.0	-0.2
	baz=303						
NSK	Sanguang	0.52	255	⇓iP	Pn	19 27 36.4	-0.1
	baz=239						
NSK				eS	Sn	19 27 47.9	-0.5
	baz=239						
TWS1	Kuangyinshan	0.53	303	⇓iP	Pn	19 27 36.7	+0.2
	baz=290						
TWS1				eS	Sn	19 27 49.1	+0.7
	baz=290						
TWY	Chenhua	0.54	329	⇑iP	Pn	19 27 36.2	-0.4
	baz=336						
TWY				S	Sn	19 27 47.8	-0.7
	baz=336						
NNS	Nan Shan	0.61	233	⇓iP	Pn	19 27 37.7	+0.4
	baz=225						
NNS				eS	Sn	19 27 50.1	+0.3
	baz=225						
NCU	National Centr	0.67	284	⇓iP	Pn	19 27 37.7	+0.1
	baz=280						
NCU				eS	Sn	19 27 51.0	+0.5
	baz=280						
TWD	Chiawan	0.78	201	⇓P	Pn	19 27 38.4	-0.3
	baz=203						
TWD				eS	Sn	19 27 52.2	-0.1
	baz=203						
NSTT	Nanjuang	0.84	258	⇓iP	Pn	19 27 39.3	0.0
	baz=246						
NSTT				S	Sn	19 27 52.9	-0.5
	baz=246						
HSN	Hsinchu	0.85	269	⇓eP	Pn	19 27 39.1	-0.2
	baz=267						
HSN				eS	Sn	19 27 53.0	-0.4
	baz=267						
TWT	Tachien	0.87	230	⇓iP	Pn	19 27 40.7	+1.0
	baz=219						
TWT				eS	Sn	19 27 55.3	+1.2
	baz=219						
HWA	Hwalien	0.88	198	eP	Pn	19 27 38.3	-1.3
	baz=204						
WHF	Hehuan Shan	0.88	221	⇓P	Pn	19 27 40.7	+0.5
	baz=209						
WHF				S	Sn	19 27 55.5	+0.6
	baz=209						
JYNG	Yonagunijimaku	1.01	111	P	Pn	19 27 41.0	0.0
JYNG				eS	Sn	19 27 56.6	+0.1
YOJ	Yonaguni jima	1.07	109	P	Pn	19 27 41.6	0.0
YOJ				eS	Sn	19 27 57.7	+0.2
YOJ	Yonaguni jima	1.07	109	eP	Pn	19 27 41.6	0.0
	baz=115						
YOJ				S	Sn	19 27 57.8	+0.2
	baz=115						
ESL	Shilin	1.08	203	eP	Pn	19 27 40.9	-1.0
	baz=197						
NSY	Sanyi	1.11	249	⇓iP	Pn	19 27 42.7	+0.5
	baz=244						
NSY				S	Sn	19 27 59.2	+0.7
	baz=244						
TWQ1	Liyutan	1.13	246	⇓iP	Pn	19 27 42.6	+0.2
	baz=233						
TWQ1				eS	Sn	19 27 58.5	-0.3
	baz=233						
TCU	Taichung	1.30	240	⇓eP	Pn	19 27 44.8	+0.5
	baz=234						
TCU				eS	Sn	19 28 02.3	-0.1
	baz=234						
SMLT	Sun Moon Lake	1.30	225	⇓P	Pn	19 27 45.2	+0.7
	baz=226						
SMLT				eS	Sn	19 28 04.0	+1.4
	baz=226						
TYC	Yuchr	1.31	227	⇓P	Pn	19 27 45.1	+0.6
	baz=230						
TYC				eS	Sn	19 28 03.5	+0.8
	baz=230						
EHY	Hungye	1.41	202	eP	Pn	19 27 45.0	-0.7
	baz=195						
WNT	Mingjian	1.45	230	eP	Pn	19 27 46.7	+0.5
	baz=233						
WNT				eS	Sn	19 28 06.1	+0.5
	baz=233						
TWF1	Yuli	1.56	201	eP	Pn	19 27 46.7	-0.8
	baz=196						
TWF1				eS	Sn	19 28 06.7	-1.3
	baz=196						
YUS	Yu-Shan	1.58	214	eP	Pn	19 27 50.1	+1.9
	baz=218						
YUS				eS	Sn	19 28 11.4	+2.2
	baz=218						
ALS	Alishan	1.64	218	eP	Pn	19 27 49.6	+0.8
	baz=225						
CHN5	Tsauling	1.65	223	⇓P	Pn	19 27 49.3	+0.5
	baz=217						
CHN5				eS	Sn	19 28 11.7	+1.6
	baz=217						
WGK	Gukeng	1.66	228	⇓P	Pn	19 27 49.4	+0.7
	baz=231						
WGK				eS	Sn	19 28 11.7	+1.5
	baz=231						
IRIF	Iriomote-Funau	1.73	106	P	Pn	19 27 49.2	-0.4
IRIF				eS	Sn	19 28 11.7	-0.1
WTCT	Ta-ch'eng	1.76	238	eP	Pn	19 27 49.0	-1.0
	baz=232						
WTCT				eS	Sn	19 28 11.3	-1.1
	baz=232						
CHKT	Chengkung	1.78	196	eP	Pn	19 27 49.9	-0.3
	baz=193						
CHKT				eS	Sn	19 28 12.3	-0.5
	baz=193						
ELDTW	Lidau	1.81	207	eP	Pn	19 27 51.1	+0.4
	baz=199						
CHN2	Minshiung	1.82	226	eP	Pn	19 27 51.1	+0.3
	baz=228						
CHN2				eS	Sn	19 28 15.5	+1.6
	baz=228						
CHY	Chiayi	1.88	226	eP	Pn	19 27 51.5	-0.1
	baz=228						
CHY				eS	Sn	19 28 16.1	+0.9
	baz=228						
HATJ	Hateruma jima	1.89	113	P	Pn	19 27 51.9	+0.3
HATJ				eS	Sn	19 28 16.2	+0.8
WSF	Szhu	1.93	233	eP	Pn	19 27 52.0	-0.1
	baz=227						
WSF				eS	Sn	19 28 16.6	+0.3
	baz=227						
STYT	Tauyuan	1.95	213	eP	Pn	19 27 53.4	+0.9
	baz=207						
STYT				eS	Sn	19 28 17.7	+0.8
	baz=207						
WTP	Ta-pu	1.96	217	⇓eP	Pn	19 27 52.8	+0.2
	baz=211						
WTP				eS	Sn	19 28 17.7	+0.7
	baz=211						

Code	Station	Δ° AZ°	Phase	ISC	Time	Res
JKRS	Kuro-shima	2.00 106	P	Pn	19 27 53.3	+0.2
JKRS			eS	Sn	19 28 17.9	0.0
TWK	Hsinying	2.01 220	eP	Pn	19 27 53.8	+0.5
	baz=214					
TWK			eS	Sn	19 28 18.7	+0.4
	baz=214					
CHN1	Nanshi	2.05 218	⇓P	Pn	19 27 54.3	+0.5
	baz=212					
CHN1			eS	Sn	19 28 19.7	+0.5
	baz=212					
JIJ	Ishigaki jima	2.09 102	P	Pn	19 27 54.0	-0.2
JIJ			eS	Sn	19 28 19.1	-0.8
SGST	Jiashian	2.10 215	eP	Pn	19 27 54.9	+0.4
	baz=217					
SGST			eS	Sn	19 28 20.9	+0.5
	baz=217					
TWG	Pinlang	2.12 201	eP	Pn	19 27 53.9	-0.8
	baz=191					
TWG			eS	Sn	19 28 19.4	-1.4
	baz=191					
TTN	Taitung	2.16 199	eP	Pn	19 27 55.1	-0.2
	baz=191					
JISG	Ishigakijimahi	2.20 95	P	Pn	19 27 55.8	+0.1
JISG			eS	Sn	19 28 22.5	-0.1
CHN3	Shinhua	2.23 219	eP	Pn	19 27 57.9	+1.8
	baz=213					
CHN3			eS	Sn	19 28 25.9	+2.6
	baz=213					
SSD	Sandimen	2.36 210	eP	Pn	19 27 58.5	+0.7
	baz=207					
TWM1	Shoushan	2.40 215	eP	Pn	19 27 59.2	+0.8
	baz=212					
SGLT	Jiouru	2.45 212	eP	Pn	19 28 00.1	+1.1
	baz=209					
PNG	Penghu	2.48 240	eP	Pn	19 27 58.5	-0.8
	baz=238					
JTJ	Tarama	2.55 93	P	Pn	19 28 00.8	+0.6
JTJ			eS	Sn	19 28 31.2	+0.4
WDGT	Dungji	2.57 233	eP	Pn	19 27 59.8	-0.7
	baz=231					
EAST	Anshuo	2.60 202	eP	Pn	19 28 00.9	-0.2
	baz=193					
LAY	Lan-yu	2.78 187	⇑iP	Pn	19 28 02.9	-0.5
	baz=184					
LAY			eS	Sn	19 28 34.8	-1.6
	baz=184					
JIRB	Irabujima	2.97 89	P	Pn	19 28 06.8	+1.0
HEN	Hengchun	2.99 201	eP	Pn	19 28 06.8	+0.6
	baz=208					
TWK1	Hengchun	3.03 200	eP	Pn	19 28 05.1	-1.6
	baz=197					
JIKM	Ikemajima	3.04 87	P	Pn	19 28 06.9	+0.1
JIKM			eS	Sn	19 28 43.4	+1.0
KNM	Kinmen	3.18 264	eP	Pn	19 28 09.2	+0.5
	baz=262					
JOGS	Gusukube	3.18 90	P	Pn	19 28 09.6	+0.9
JOGS			eS	Sn	19 28 47.4	+1.5
JKE	Kume jima 2	4.66 70	P	Pn	19 28 29.1	+0.5
JKE			eS	Sn	19 29 24.6	+3.1
JAGN	Aguni-jima	5.13 69	P	Pn	19 28 35.3	+0.3
JJT2	Tamagusuku 2	5.45 75	P	Pn	19 28 39.1	-0.1
JIH	Iheya	5.89 67	P	Pn	19 28 45.3	0.0
JOW	Kunigami	6.08 69	P	Pn	19 28 46.9	-1.0
JOW	Kunigami	6.08 69	eP	Pn	19 28 46.8	-1.2
	baz=71					
JOKE	Okinoerabujima	6.51 66	P	Pn	19 28 52.0	-1.7
JAMN	Amaminishikomi	7.35 61	P	Pn	19 29 03.1	-2.1
JAM	Amami Oshima	7.77 61	P	Pn	19 29 08.8	-2.0
JMZ	Minamidaito 2	8.49 81	P	Pn	19 29 16.5	-4.2

IDC **02** *19:42:39.0±1.4, 43°.09N×13°.47E, h0km, mb3.3/2, mb1 3.6/5, mb1mx3.2/43, mbtmp3.5/5, ML3.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/30, Error ellipse: s-maj=37.9km s-min=19.3km az=96.0*

LDG **02** *19:42:41.9±0.2, 43°.19N×13°.59E, h10km, Ml3.6/22, Error ellipse: s-maj=4.0km s-min=3.3km az=24.0*

ROM **02** *19:42:42.6±0.1, 43°.10N×13°.39E, h26km±1km, Ml3.5/34, Error ellipse: s-maj=1.5km s-min=1.0km az=60.0*

ISCJB **02** *19:42:42.3±0.2, 43°.17N±0°.02×13°.40E±0°.02, h39km±4km, mb3.2/13, Error ellipse: s-maj=2.6km s-min=2.4km az=153.4*

CSEM **02** *19:42:42.1±0.1, 43°.12N×13°.42E, h19km±1km, ML3.9/6, Error ellipse: s-maj=2.7km s-min=2.4km az=18.0*

PRU **02** *19:42:44.1, 43°.39N×13°.61E, h0km*

VIE **02** *19:42:45.6±0.4, 43°.47N×13°.39E, h10km, mb3.1/16, ML3.3/18, Error ellipse: s-maj=3.0km s-min=2.2km az=154.0 89 km ESE of San Marino*

STR **02** *19:42:48.8±0.3, 43°.62N×12°.98E, h10km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 02 19:42:42.4±0.8, 43°.16N±0°.02×13°.44E±0°.02, h29km±5km, n209, σ1$55/295, 20C-21D, Central Italy

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0401	Montottone (Fe	0.15 130	⇑iPg	Pb	19 42 48.0	+0.1
T0401			Sg	Sb	19 42 52.6	+0.9
	12μm,0.4s					
CING	Cingoli	0.28 320	⇑iPg	Pb	19 42 49.6	+0.1
CING			Sg	Sn	19 42 55.4	-0.6
	7μm,0.5s					
CING	Cingoli	0.28 320	⇑iPg	Pb	19 42 49.6	+0.1
CING			Sg	Sn	19 42 55.4	-0.6
	7μm,0.5s					
OFFI	Offida	0.28 141	⇓iPg	Pb	19 42 50.0	+0.5
	7μm,0.6s					
OFFI	Offida	0.28 141	⇓iPg	Pb	19 42 50.0	+0.5
	7μm,0.6s					
FDMO	Fiordimonte	0.29 245	⇓iPg	Pb	19 42 48.7	-0.9
FDMO			Sg	Sb	19 42 53.5	-0.9
	12μm,0.3s					
FDMO	Fiordimonte	0.29 245	⇓iPg	Pb	19 42 48.7	-0.9
FDMO			Sg	Sb	19 42 53.5	-0.9
	12μm,0.3s					
GUMA	Gualdo di Mace	0.37 105	Pg	Pb	19 42 47.1	-3.7
GUMA			Sg	Sb	19 42 50.7	-5.8
	64μm,0.3s					
NRCA	Norcia	0.40 217	⇓iPg	Pb	19 42 50.2	-1.1
NRCA			Sg	Sb	19 42 56.4	-0.9
	11μm,0.2s					
NRCA	Norcia	0.40 217	⇓iPg	Pb	19 42 50.2	-1.1
NRCA			Sg	Sb	19 42 56.4	-0.9
	11μm,0.2s					
AOI	Ancona	0.41 16	Pg	Pn	19 42 52.1	-0.3
AOI			Sg	Sn	19 43 00.5	+1.4
	2μm,0.5s					
AOI	Ancona	0.41 16	Pg	Pn	19 42 52.1	-0.3
CESI	CESI - Serrava	0.42 249	Pg	Pb	19 42 50.8	-0.8
CESI			Sg	Sb	19 42 57.4	-0.4
	3μm,0.6s					
CESI	CESI - Serrava	0.42 249	Pg	Pb	19 42 50.8	-0.8
CESI			Sg	Sb	19 42 57.4	-0.4
	3μm,0.6s					
ARVD	Arcevia	0.50 313	⇑iPg	Pb	19 42 52.8	+0.1
ARVD			Sg	Sn	19 43 01.3	0.0
	1μm,0.6s					
ARVD	Arcevia	0.50 313	⇑iPg	Pb	19 42 52.8	+0.1
ARVD			Sg	Sn	19 43 01.3	0.0
	1μm,0.6s					
SMA1	SAN MARTINO	0.53 189	Pg	Pb	19 42 52.1	-1.2
SMA1			Sg	Sb	19 43 00.6	-0.2
	3μm,0.5s					
TERO	Teramo	0.55 167	Pg	Pb	19 42 52.4	-1.1
TERO			Sg	Sb	19 43 01.0	-0.2
	2μm,0.6s					
TERO	Teramo	0.55 167	Pg	Pb	19 42 52.4	-1.1
TERO			Sg	Sb	19 43 01.0	-0.2
	2μm,0.6s					
SENI	Senigallia	0.57 344	Pg	Pn	19 42 55.3	+0.8
	2μm,0.6s					
SENI	Senigallia	0.57 344	Pg	Pn	19 42 55.3	+0.8
	2μm,0.6s					
FSSB	Fossombrone	0.72 318	Pg	Pn	19 42 56.7	0.0
	5μm,0.3s					
FSSB	Fossombrone	0.72 318	Pg	Pn	19 42 56.7	0.0
	5μm,0.3s					
PIEI	Pieia	0.76 300	⇑iPg	Pb	19 42 56.8	-0.3
	1μm,0.3s					
PIEI	Pieia	0.76 300	⇑iPg	Pb	19 42 56.8	-0.3
	1μm,0.3s					
T0104	Madonna delle	0.80 186	Pg	Pb	19 42 56.5	-1.3
VCEL	Villa Celiera	0.82 159	Pg	Pb	19 42 57.4	-0.7
	3μm,0.8s					
VCEL	Villa Celiera	0.82 159	Pg	Pb	19 42 57.4	-0.7
	3μm,0.8s					
CESX	Cesi	0.84 229	Pg	Pb	19 42 57.2	-1.2
	5μm,0.8s					
CESX	Cesi	0.84 229	Pg	Pb	19 42 57.2	-1.2
	5μm,0.8s					
PESA	Pesaro	0.90 331	Pg	Pn	19 43 00.7	+1.7
	3μm,0.3s					
PESA	Pesaro	0.90 331	Pg	Pn	19 43 00.7	+1.7
	3μm,0.3s					
FAGN	Fagnano	0.90 173	Pg	Pb	19 42 58.6	-0.8
	2μm,0.6s					
FAGN	Fagnano	0.90 173	Pg	Pb	19 42 58.6	-0.8
	2μm,0.6s					
FIAM	Fiamignano	0.92 195	Pg	Pb	19 42 58.4	-1.4
	2μm,0.7s					
FIAM	Fiamignano	0.92 195	Pg	Pb	19 42 58.4	-1.4
	2μm,0.7s					
CDCA	Citt' di Caste	0.93 289	Pg	Pn	19 43 00.1	+0.6
	7μm,1.9s					
CDCA	Citt' di Caste	0.93 289	Pg	Pn	19 43 00.1	+0.6
	7μm,1.9s					
BADI	Badiali	0.94 292	Pg	Pn	19 43 00.1	+0.4
	2μm,0.6s					
BADI	Badiali	0.94 292	Pg	Pn	19 43 00.1	+0.4
	2μm,0.6s					
MNS	Montasola	0.95 216	Pg	Pb	19 42 59.2	-1.1
	3μm,0.7s					
MNS	Montasola	0.95 216	Pg	Pb	19 42 59.2	-1.1
	3μm,0.7s					
PARC	Parchiule	1.00 300	Pg	Pn	19 43 01.3	+0.7
	1μm,0.9s					
PARC	Parchiule	1.00 300	Pg	Pn	19 43 01.3	+0.7
	1μm,0.9s					
MGAB	Montegabbione	1.01 256	Pg	Pb	19 43 00.7	-0.5
	1μm,0.5s					
MGAB	Montegabbione	1.01 256	Pg	Pb	19 43 00.7	-0.5
	1μm,0.5s					
RSM	Repubblica di	1.06 317	Pg	Pn	19 43 03.2	+1.9
	1μm,0.8s					
RSM	Repubblica di	1.06 317	Pg	Pn	19 43 03.2	+1.9
	1μm,0.8s					
CAFI	Castiglion Fio	1.09 280	Pg	Pb	19 43 02.7	0.0
	709nm,0.9s					
CAFI	Castiglion Fio	1.09 280	Pg	Pb	19 43 02.7	0.0
	709nm,0.9s					
CAFR	Castel Frentan	1.14 144	Pg	Pb	19 43 04.0	+0.5
	2μm,1.0s					
CAFR	Castel Frentan	1.14 144	Pg	Pb	19 43 04.0	+0.5
	2μm,1.0s					
SACS	San Casciano d	1.17 255	Pg	Pb	19 43 04.1	+0.2
	843nm,0.9s					
INTR	Introdacqua	1.20 163	Pg	Pn	19 43 03.3	+0.1
	1μm,0.7s					
INTR	Introdacqua	1.20 163	Pg	Pn	19 43 03.3	+0.1
	1μm,0.7s					
LPEL	Lama dei Pelig	1.24 154	Pg	Pn	19 43 04.4	+0.6
	742nm,1.0s					
LPEL	Lama dei Pelig	1.24 154	Pg	Pn	19 43 04.4	+0.6
	742nm,1.0s					
MTCE	Montecelio	1.25 205	Pg	Pn	19 43 04.6	+0.7
	629nm,0.7s					
MTCE	Montecelio	1.25 205	Pg	Pn	19 43 04.6	+0.7
	629nm,0.7s					
ASQU	Asqua	1.36 299	Pg	Pb	19 43 07.7	+0.4
	498nm,0.5s					
ASQU	Asqua	1.36 299	Pg	Pb	19 43 07.7	+0.4
	498nm,0.5s					
POFI	Posta Fibreno	1.45 172	Pg	Pn	19 43 08.0	+1.2
	443nm,0.9s					
POFI	Posta Fibreno	1.45 172	Pg	Pn	19 43 08.0	+1.2
	443nm,0.9s					
CERA	Filignano	1.62 165	Pg	Pn	19 43 10.0	+1.0
	510nm,0.8s					
CERA	Filignano	1.62 165	Pg	Pn	19 43 10.0	+1.0
	510nm,0.8s					
MIDA	Miranda	1.63 158	Pg	Pn	19 43 09.9	+0.7
	244nm,0.7s					
NVLJ	Novalja	1.74 36	i Pn	Pn	19 43 11.9	+1.2
NVLJ			Sn	Sn	19 43 32.4	+0.4
NVLJ	Novalja	1.74 36	i Pn	Pn	19 43 11.9	+1.2
NVLJ			Sn	Sn	19 43 32.3	+0.4
UDBI	Udbina	2.17 50	ePn	Pb	19 43 19.5	-1.4
UDBI			Sn	Sb	19 43 46.1	-1.4
UDBI	Udbina	2.17 50	ePn	Pb	19 43 19.5	-1.4
UDBI			Sn	Sb	19 43 46.0	-1.4
MAIM	Mastiano	2.27 290	P	Pn	19 43 19.7	+1.7
MAIM			S	Sn	19 43 44.6	-0.5
SKDS	Skadanscina	2.42 10	i Pn	Pn	19 43 20.9	+0.8
SKDS			i Pg	Pb	19 43 31.8	+6.5
SKDS			eSn	Sn	19 43 47.6	-1.2
SKDS						
	comp=Z,86nm,0.3s					
SKDS	Skadanscina	2.42 10	i Pn	Pn	19 43 20.9	+0.8
BOJS	Bojanci	2.68 28	i Pn	Pn	19 43 25.4	+1.8
BOJS			i Pg	Pb	19 43 34.0	+4.4
BOJS			i Sn	Sn	19 43 58.3	+3.3
BOJS	Bojanci	2.68 28	i Pn	Pn	19 43 25.4	+1.8
JAVS	Javornik	2.77 9	i Pn	Pn	19 43 25.6	+0.7
JAVS			i Pg	Pb	19 43 36.0	+4.8
JAVS			i Sn	Sn	19 43 59.0	+1.6
JAVS	Javornik	2.77 9	i Pn	Pn	19 43 25.6	+0.7
JAVS	Javornik	2.77 9	i Pg	Pb	19 43 36.0	+4.8
JAVS			i Sn	Sn	19 43 59.0	+1.6
CODM	Codolo	2.88 297	P	Pn	19 43 28.1	+1.8
CODM			S	Sn	19 43 59.7	-0.3
CDT	Castel del Mon	2.96 134	ePn	Pn	19 43 28.3	+0.9
LJU	Ljubljana	2.99 15	i Pn	Pn	19 43 29.7	+1.9
LJU			i Pg	Pb	19 43 39.8	+4.9
LJU			i Sn	Sn	19 44 05.0	+2.4
LJU	Ljubljana	2.99 15	i Pn	Pn	19 43 29.7	+1.9
CRES	Cresnjev	3.03 28	i Pn	Pn	19 43 30.0	+1.6
CRES						
	comp=Z,108nm,0.8s					
CRES	Cresnjev	3.03 28	i Pn	Pn	19 43 30.0	+1.6
	comp=Z,108nm,0.8s					
SC2M	Scurtabo	3.09 295	P	Pn	19 43 31.5	+2.2
STON	Ston	3.13 94	ePn	Pn	19 43 30.8	+1.0
STON			Sn	Sn	19 44 05.9	-0.4
STON	Ston	3.13 94	ePn	Pn	19 43 30.8	+1.0
STON			Sn	Sn	19 44 05.8	-0.4
PGF	Pioggiola	3.32 261	ePn	Pn	19 43 34.7	+2.2
	SNR=1.0					
PGF			eSn	Sn	19 44 11.9	+0.8
	comp=Z,10.0nm,0.4s,SNR=1.0					
OBKA	Obir	3.44 13	⇑iPn	Pn	19 43 35.7	+1.6
OBKA			⇓iSn	Sn	19 44 14.1	+0.1
OBKA	Obir	3.44 13	Pn	Pn	19 43 35.7	+1.6
OBKA			Sn	Sn	19 44 14.1	+0.1
MYKA	Terra Mystica	3.48 2	⇓iPn	Pn	19 43 35.8	+1.2
MYKA			⇑iSn	Sn	19 44 14.7	-0.1
MYKA	Terra Mystica	3.48 2	Pn	Pn	19 43 35.8	+1.2
MYKA			Sn	Sn	19 44 14.7	-0.1
ABTA	Abfaltersbach	3.65 350	⇓iPn	Pn	19 43 38.8	+1.8
	SNR=23					
ABTA			⇓iSn	Sn	19 44 18.9	-0.2
ABTA	Abfaltersbach	3.65 350	Pn	Pn	19 43 38.8	+1.8
	SNR=23					
ABTA			Sn	Sn	19 44 18.9	-0.2
SOKA	Soboth	3.70 17	⇑iPn	Pn	19 43 38.9	+1.3
SOKA			⇓iSn	Sn	19 44 20.3	+0.1
SOKA	Soboth	3.70 17	Pn	Pn	19 43 38.9	+1.3
SOKA			Sn	Sn	19 44 20.3	+0.1
KBA	Koelnbreinsper	3.92 359	⇓iPn	Pn	19 43 42.0	+1.2
KBA			⇓iSn	Sn	19 44 25.6	-0.3
KBA	Koelnbreinsper	3.92 359	Pn	Pn	19 43 42.0	+1.2
KBA			Sn	Sn	19 44 25.6	-0.3
WTTA	Wattenberg	4.30 343	⇓iPn	Pn	19 43 46.9	+0.9
WTTA			⇑iSn	Sn	19 44 35.0	-0.2
WTTA	Wattenberg	4.30 343	Pn	Pn	19 43 46.9	+0.9
WTTA			Sn	Sn	19 44 35.0	-0.2
FETA	Feichten	4.31 334	⇓iPn	Pn	19 43 47.9	+1.7
FETA			⇓iSn	Sn	19 44 35.8	+0.2
FETA	Feichten	4.31 334	Pn	Pn	19 43 47.9	+1.7
FETA			Sn	Sn	19 44 35.8	+0.2
ARSA	Arzberg	4.35 19	⇑iPn	Pn	19 43 47.7	+1.2
ARSA			⇑iSn	Sn	19 44 35.7	-0.5
ARSA	Arzberg	4.35 19	Pn	Pn	19 43 47.7	+1.2
ARSA			Sn	Sn	19 44 35.7	-0.5
SAOF	Saorge	4.36 283	P	Pn	19 43 49.4	+2.8
SAOF			S	Sn	19 44 39.5	+3.0
SAOF	Saorge	4.36 283	P	Pn	19 43 49.4	+2.8
SAOF			S	Sn	19 44 39.5	+3.0
WATA	Walderalm	4.38 343	⇑iPn	Pn	19 43 48.2	+1.1
	SNR=9.3					
WATA	Walderalm	4.38 343	Pn	Pn	19 43 48.2	+1.1
	SNR=9.3					
BBLS	Lazići	4.39 79	⇑iPn	Pn	19 43 49.7	+2.5
DAVOX	Davos/Dischmat	4.42 326	Pn	Pn	19 43 50.3	+2.7
	comp=Z,2.5nm,0.3s,baz=157,slow=18,SNR=24					
DAVOX			Sn	Sn	19 44 37.4	-0.8
	comp=Z,0.9nm,0.3s,baz=357,slow=19,SNR=2.0					
SBF	Sospel	4.43 281	ePn	Pn	19 43 49.0	+1.4
	SNR=1.0					
SBF			eSn	Sn	19 44 38.2	0.0
	comp=Z,13nm,0.3s					
SBF	Sospel	4.43 281	ePn	Pn	19 43 49.0	+1.4
SBF			eSn	Sn	19 44 38.2	0.0
AUTN	L'Aution	4.45 283	P	Pn	19 43 50.0	+1.9
AUTN			S	Sn	19 44 41.6	+2.6
AUTN	L'Aution	4.45 283	P	Pn	19 43 50.0	+1.9
AUTN			S	Sn	19 44 41.6	+2.6
REVF	Revere	4.46 280	P	Pn	19 43 50.5	+2.4
REVF	Revere	4.46 280	P	Pn	19 43 50.5	+2.4
MOTA	Moosalm	4.50 339	⇑iPn	Pn	19 43 50.3	+1.6
	SNR=11					
MOTA	Moosalm	4.50 339	Pn	Pn	19 43 50.3	+1.6
	SNR=11					
TOUF	Mont Tournerai	4.58 283	P	Pn	19 43 52.7	+2.8
TOUF			S	Sn	19 44 44.5	+2.3
TOUF	Mont Tournerai	4.58 283	P	Pn	19 43 52.7	+2.8
TOUF			S	Sn	19 44 44.5	+2.3
MOA	Molln	4.73 7	⇓iPn	Pn	19 43 53.0	+1.3
MOA			⇑iSn	Sn	19 44 46.3	+0.8
MOA	Molln	4.73 7	Pn	Pn	19 43 53.0	+1.3
MOA			Sn	Sn	19 44 46.3	+0.8
CALN	Calern	4.81 279	P	Pn	19 43 56.0	+3.1
CALN	Calern	4.81 279	P	Pn	19 43 56.0	+3.1
DAVA	Damuels	4.83 330	⇓iPn	Pn	19 43 54.9	+1.6
	SNR=6.1					
DAVA			⇓iSn	Sn	19 44 48.7	+0.3
DAVA	Damuels	4.83 330	Pn	Pn	19 43 54.9	+1.6
	SNR=6.1					
DAVA			Sn	Sn	19 44 48.7	+0.3
DIVS	Divibare	4.85 77	⇑iPn	Pn	19 43 55.3	+1.9
IVAS	Ivanjica	4.91 83	i Pn	Pn	19 43 56.4	+2.1
FRF	La Foret Royal	4.97 277	ePn	Pn	19 43 57.3	+2.3
	SNR=1.0					
FRF			eSn	Sn	19 44 51.4	-0.2
	comp=Z,5.0nm,0.3s					
FRF	La Foret Royal	4.97 277	ePn	Pn	19 43 57.3	+2.3
FRF			eSn	Sn	19 44 51.4	-0.2
CONA	Conrad Observa	5.06 19	⇓iPn	Pn	19 43 57.7	+1.3
CONA			⇓iSn	Sn	19 44 52.9	-1.0
CONA	Conrad Observa	5.06 19	Pn	Pn	19 43 57.7	+1.3
CONA			Sn	Sn	19 44 52.9	-1.0
MBDF	Montbardon	5.07 290	ePn	Pn	19 43 57.4	+0.9
	SNR=1.0					
MBDF			eSn	Sn	19 44 52.5	-1.6
	comp=Z,10nm,0.3s					
MBDF	Montbardon	5.07 290	ePn	Pn	19 43 57.4	+0.9
MBDF			eSn	Sn	19 44 52.5	-1.6
LMR	La Mourre	5.07 274	ePn	Pn	19 43 58.3	+1.9
	SNR=1.0					
LMR			eSn	Sn	19 44 54.6	+0.7
	comp=Z,4.1nm,0.4s,SNR=1.0					
LMR	La Mourre	5.07 274	ePn	Pn	19 43 58.3	+1.9
LMR			eSn	Sn	19 44 54.6	+0.7
TRUS	Trudelj	5.16 76	i Pn	Pn	19 43 58.3	+0.7
GRUS	Gruza	5.34 80	⇑iPn	Pn	19 44 02.3	+2.2
LPG	La Plagne	5.34 298	ePn	Pn	19 44 00.5	+0.1
	SNR=1.0					
LPG			eSn	Sn	19 44 59.0	-2.0
	comp=Z,15nm,0.2s					
LPG	La Plagne	5.34 298	ePn	Pn	19 44 00.5	+0.1
LPG			eSn	Sn	19 44 59.0	-2.0
LPL	La Plagne	5.36 298	ePn	Pn	19 44 00.8	+0.2
	SNR=1.0					
LPL			eSn	Sn	19 44 58.6	-2.8
	comp=Z,31nm,0.3s,SNR=1.0					
LPL	La Plagne	5.36 298	ePn	Pn	19 44 00.8	+0.2
LPL			eSn	Sn	19 44 58.6	-2.8
RSL	Roselend	5.50 300	P	Pn	19 44 04.1	+1.7
RSL			S	Sn	19 45 05.9	+1.1
RSL	Roselend	5.50 300	P	Pn	19 44 04.1	+1.7
RSL			S	Sn	19 45 05.9	+1.1
GERES	GERESS Array B	5.69 2	Pn	Pn	19 44 05.8	+0.8
	comp=Z,0.8nm,0.3s,baz=179,slow=12,SNR=13					
GERES			Sn	Sn	19 45 09.6	+0.2
	comp=Z,3.2nm,0.3s,baz=188,slow=21,SNR=10					
ORIF	Oris-en-Rattie	5.73 290	ePn	Pn	19 44 07.7	+2.2
	SNR=1.0					
ORIF			eSn	Sn	19 45 09.6	-0.7
	comp=Z,11nm,0.5s,SNR=1.0					
ORIF	Oris-en-Rattie	5.73 290	ePn	Pn	19 44 07.7	+2.2
ORIF			eSn	Sn	19 45 09.6	-0.7
SMRF	Simiane la Rot	5.78 281	ePn	Pn	19 44 08.4	+2.3
	SNR=1.0					
SMRF	Simiane la Rot	5.78 281	ePn	Pn	19 44 08.4	+2.3
KHC	Kasperske Hory	5.97 1	ePN	Pn	19 44 09.6	+0.7
KHC			ex	x	19 44 15.6	
KHC			ex	x	19 44 18.5	
KHC			eSN	Sn	19 45 14.1	-2.2
KHC			ex	x	19 46 08.8	
KHC	Kasperske Hory	5.97 1	Pn	Pn	19 44 09.6	+0.7
BBS	Basel-Blauen	6.00 318	P	Pn	19 44 09.7	+0.5
FELD	Feldberg im Sc	6.07 323	P	Pn	19 44 10.5	+0.2
BARS	Barje	6.15 90	⇑iPn	Pn	19 44 12.8	+1.5
CABF	La Chapelle	6.26 306	ePn	Pn	19 44 13.4	+0.6
	SNR=1.0					
CABF			eSn	Sn	19 45 21.5	-1.9
	comp=Z,6.5nm,0.2s,SNR=1.0					
CABF	La Chapelle	6.26 306	ePn	Pn	19 44 13.4	+0.6
LOMF	Lomont	6.27 314	P	Pn	19 44 13.5	+0.5
LOMF	Lomont	6.27 314	P	Pn	19 44 13.5	+0.5
MOF	Molkenrain	6.46 319	P	Pn	19 44 16.0	+0.5
MOF	Molkenrain	6.46 319	P	Pn	19 44 16.0	+0.5
VRAC	Vranov	6.53 18	ePn	Pn	19 44 17.4	+1.0
VIVF	Saint-Julien-l	6.55 288	ePn	Pn	19 44 17.9	+1.2
	SNR=1.0					
VIVF			eSn	Sn	19 45 28.8	-1.6
	comp=Z,3.2nm,0.4s					
VIVF	Saint-Julien-l	6.55 288	ePn	Pn	19 44 17.9	+1.2
VIVF			eSn	Sn	19 45 28.8	-1.6
HINF	Hinteralfeld	6.57 317	ePn	Pn	19 44 17.2	+0.2
	SNR=1.0					
HINF			eSn	Sn	19 45 26.7	-4.2
	comp=Z,26nm,0.4s,SNR=1.0					
HINF	Hinteralfeld	6.57 317	ePn	Pn	19 44 17.2	+0.2
ECH	Echery	6.70 321	P	Pn	19 44 19.4	+0.6
ECH	Echery	6.70 321	P	Pn	19 44 19.4	+0.6
CDF	Champ du Feu	6.79 323	ePn	Pn	19 44 20.5	+0.3
	SNR=1.0					
CDF			eSn	Sn	19 45 33.2	-3.4
	comp=Z,12nm,0.5s					
CDF	Champ du Feu	6.79 323	ePn	Pn	19 44 20.5	+0.3
PRU	Pruhonice	6.87 6	ePN	Pn	19 44 22.1	+1.0
PRU			ex	x	19 46 37.5	
PRU	Pruhonice	6.87 6	Pn	Pn	19 44 22.1	+1.0
HAU	Haudompre	6.95 317	ePn	Pn	19 44 22.5	+0.3
	SNR=1.0					
HAU			eSn	Sn	19 45 34.7	-5.5
	comp=Z,32nm,0.4s,SNR=1.0					
HAU	Haudompre	6.95 317	ePn	Pn	19 44 22.5	+0.3
LASF	Ste Croix	7.02 281	ePn	Pn	19 44 24.8	+1.6
	SNR=1.0					
LASF			eSn	Sn	19 45 43.2	+1.2
	comp=Z,3.3nm,0.2s,SNR=1.0					
LASF	Ste Croix	7.02 281	ePn	Pn	19 44 24.8	+1.6
LASF			eSn	Sn	19 45 43.2	+1.2
THEF	They Montfort	7.28 317	P	Pn	19 44 26.6	-0.1
THEF	They Montfort	7.28 317	P	Pn	19 44 26.6	-0.1
PLDF	La Plantade	7.56 295	P	Pn	19 44 31.8	+1.2
PLDF	La Plantade	7.56 295	P	Pn	19 44 31.8	+1.2
LBL	Lubilhac	7.62 289	P	Pn	19 44 33.5	+2.1
LBL	Lubilhac	7.62 289	P	Pn	19 44 33.5	+2.1
PAGF	Fort de Pagny	7.62 318	ePn	Pn	19 44 31.6	+0.2
PAGF			eSn	Sn	19 45 53.1	-3.7
	comp=Z,2.3nm,0.3s					
PAGF	Fort de Pagny	7.62 318	ePn	Pn	19 44 31.6	+0.2
SMF	Signal de Mont	7.66 300	ePn	Pn	19 44 32.5	+0.6
	SNR=1.0					
SMF			eSn	Sn	19 45 53.2	-4.4
	comp=Z,14nm,0.3s					
SMF	Signal de Mont	7.66 300	ePn	Pn	19 44 32.5	+0.6
BRG	Berggiesshubel	7.73 2	PN	Pb	19 44 45.5	-10
BRG			SN	Sn	19 45 56.2	-3.1
BRG			SG	Sb	19 47 03.7	+37

	comp=Z,12nm,1.4s						
SFTF	Sexfontaines	7.75	314	ePn	Pn	19 44 32.9	-0.3
SFTF				eSn	Sn	19 45 56.1	-3.8
	comp=Z,7.3nm,0.3s						
SFTF	Sexfontaines	7.75	314	ePn	Pn	19 44 32.9	-0.3
PYM	Petit Puy Mans	7.90	293	P	Pn	19 44 37.1	+1.8
PYM	Petit Puy Mans	7.90	293	P	Pn	19 44 37.1	+1.8
AGO	Saint Agoulin	7.91	295	P	Pn	19 44 36.9	+1.6
AGO	Saint Agoulin	7.91	295	P	Pn	19 44 36.9	+1.6
LOR	Lormes	7.92	305	ePn	Pn	19 44 35.7	+0.2
	baz=126,SNR=1.0						
LOR				eSn	Sn	19 45 59.2	-4.8
	comp=Z,26nm,0.3s						
LOR	Lormes	7.92	305	ePn	Pn	19 44 35.7	+0.2
MEZF	Maizieres J'vi	7.93	315	ePn	Pn	19 44 35.5	-0.1
	baz=132						
MEZF	Maizieres J'vi	7.93	315	ePn	Pn	19 44 35.5	-0.1
CRVS	Cervenica-Dubn	8.01	41	ePN	Pn	19 44 34.1	-2.6
AVF	Avril sur Loir	8.02	300	ePn	Pn	19 44 37.5	+0.6
	SNR=1.0						
AVF				eSn	Sn	19 46 02.3	-4.3
	comp=Z,3.4nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	8.02	300	ePn	Pn	19 44 37.5	+0.6
SSF	Saint Saulge	8.04	302	ePn	Pn	19 44 37.1	0.0
	SNR=1.0						
SSF				eSn	Sn	19 46 02.1	-4.9
	comp=Z,8.4nm,0.3s						
SSF	Saint Saulge	8.04	302	ePn	Pn	19 44 37.1	0.0
BGF	Bois d'Agland	8.26	298	ePn	Pn	19 44 40.5	+0.3
BGF				eSn	Sn	19 46 08.5	-3.9
	comp=Z,9.9nm,0.3s						
BGF	Bois d'Agland	8.26	298	ePn	Pn	19 44 40.5	+0.3
STHS	Stebnicka Huta	8.27	38	ePN	Pn	19 44 36.3	-3.9
TCF	Toulx Ste Croi	8.59	295	eSn	Sn	19 46 17.3	-3.3
	comp=Z,3.1nm,0.2s,SNR=1.0						
HFS	Hagfors	17.00	0	LR	LR	19 53 39.4	
	comp=Z,50nm,19.7s,baz=201,slow=39						
FINES	FINESS Array B	19.81	18	P	Pn	19 47 11.9	0.0
	comp=Z,0.1nm,0.3s,baz=227,slow=12,SNR=3.8						
TORD	Torodi Ar. Bea	31.58	202	P	P	19 49 02.6	+0.1
	comp=Z,0.4nm,0.7s,baz=16,slow=8.9,SNR=4.1						
MKAR	Makanchi Array	47.42	60	P	P	19 51 15.1	+1.0
	comp=Z,0.2nm,0.6s,baz=297,slow=6.3,SNR=2.9						

CSEM 02 19:45:46.6, 43.11N×13.38E, h31km, ML2.7/3, After ROM

ROM 02 19:45:46.6±0.1, 43.11N×13.38E, h31km±1km, Ml2.7/3, Error ellipse: s-maj=1.5km s-min=1.1km az=75.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0401	Montottone (Fe	0.16	107	Pg	Pb	19 45 52.6	0.0
T0401				Sg	Sn	19 45 57.2	+0.3
FDMO	Fiordimonte	0.23	251	Pg	Pb	19 45 53.3	-0.1
FDMO				Sg	Sb	19 45 57.9	0.0
FDMO	Fiordimonte	0.23	251	Pg	Pb	19 45 53.3	-0.1
FDMO				Sg	Sb	19 45 57.9	0.0
OFFI	Offida	0.28	128	Pg	Pn	19 45 54.6	0.0
	822nm,0.4s						
OFFI	Offida	0.28	128	Pg	Pn	19 45 54.6	0.0
	822nm,0.4s						
CING	Cingoli	0.30	333	Pg	Pb	19 45 54.2	0.0
CING				Sg	Sb	19 45 59.8	+0.4
CING	Cingoli	0.30	333	Pg	Pb	19 45 54.2	0.0
CING				Sg	Sb	19 45 59.8	+0.4
NRCA	Norcia	0.34	216	Pg	Pb	19 45 54.8	0.0
NRCA				Sg	Sn	19 46 01.0	-0.5
NRCA	Norcia	0.34	216	Pg	Pb	19 45 54.8	0.0
NRCA				Sg	Sn	19 46 01.0	-0.5
CESI	CESI - Serrava	0.37	253	Pg	Pb	19 45 55.5	+0.3
CESI				Sg	Sn	19 46 02.1	0.0
CESI	CESI - Serrava	0.37	253	Pg	Pb	19 45 55.5	+0.3
CESI				Sg	Sn	19 46 02.1	0.0
AOI	Ancona	0.47	20	Pg	Pb	19 45 56.4	-0.2
AOI				Sg	Sn	19 46 04.8	+0.3
	280nm,0.4s						
AOI	Ancona	0.47	20	Pg	Pb	19 45 56.4	-0.2
AOI				Sg	Sn	19 46 04.8	+0.3
	280nm,0.4s						
SMA1	SAN MARTINO	0.48	184	Pg	Pb	19 45 56.8	-0.2
ARVD	Arcevia	0.50	320	Pg	Pb	19 45 57.4	+0.2
ARVD	Arcevia	0.50	320	Pg	Pb	19 45 57.4	+0.2
TERO	Teramo	0.51	162	Pg	Pb	19 45 57.2	-0.2
TERO				Sg	Sn	19 46 05.6	-0.1
	410nm,0.6s						
TERO	Teramo	0.51	162	Pg	Pb	19 45 57.2	-0.2
TERO				Sg	Sn	19 46 05.6	-0.1
	410nm,0.6s						

ROM 02 19:46:43.7±0.1, 43.11N×13.39E, h27km±1km, Ml2.8/12, Error ellipse: s-maj=1.7km s-min=1.4km az=63.0

ISCJB 02 19:46:44.1±0.4, 43.11N±0.03×13.39E±0.04, h28km±4km, Error ellipse: s-maj=5.5km s-min=4.5km az=15.9

CSEM 02 19:46:44.0±0.1, 43.11N×13.41E, h20km, ML2.8, Error ellipse: s-maj=3.0km s-min=2.7km az=77.0

ISC 02 19:46:44.2±0.9, 43.11N±0.03×13.39E±0.03, h27km±6km, n38, σ0.61/54, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0401	Montottone (Fe	0.16	107	Pg	Pb	19 46 49.3	-0.3
T0401				Sg	Sb	19 46 53.9	+0.6
	2µm,0.4s						
FDMO	Fiordimonte	0.23	251	Pg	Pb	19 46 49.9	-0.5
FDMO				Sg	Sb	19 46 54.8	+0.2
	12µm,0.3s						
FDMO	Fiordimonte	0.23	251	Pg	Pb	19 46 49.9	-0.5
FDMO				Sg	Sb	19 46 54.8	+0.2
	12µm,0.3s						
OFFI	Offida	0.28	128	Pg	Pb	19 46 51.3	+0.2
	822nm,0.4s						
OFFI	Offida	0.28	128	Pg	Pb	19 46 51.3	+0.2
	822nm,0.4s						
CING	Cingoli	0.30	333	Pg	Pb	19 46 50.8	-0.6
CING				Sg	Sb	19 46 56.5	+0.2
CING	Cingoli	0.30	333	Pg	Pb	19 46 50.8	-0.6
CING				Sg	Sb	19 46 56.5	+0.2
NRCA	Norcia	0.34	216	Pg	Pb	19 46 51.4	-0.6
NRCA				Sg	Sb	19 46 57.6	+0.3
NRCA	Norcia	0.34	216	Pg	Pb	19 46 51.4	-0.6
NRCA				Sg	Sb	19 46 57.6	+0.3
CESI	CESI - Serrava	0.37	254	Pg	Pb	19 46 52.1	-0.3
CESI				Sg	Sb	19 46 58.5	+0.5
CESI	CESI - Serrava	0.37	254	Pg	Pb	19 46 52.1	-0.3
CESI				Sg	Sb	19 46 58.5	+0.5
AOI	Ancona	0.47	20	Pg	Pb	19 46 53.3	-0.7
AOI				Sg	Sn	19 47 01.6	-1.0
	280nm,0.4s						
AOI	Ancona	0.47	20	Pg	Pb	19 46 53.3	-0.7
AOI				Sg	Sn	19 47 01.6	-1.0
	280nm,0.4s						
SMA1	SAN MARTINO	0.48	184	Pg	Pb	19 46 53.4	-0.8
SMA1				Sg	Sb	19 47 01.5	+0.5
	345nm,0.5s						
TERO	Teramo	0.51	162	Pg	Pb	19 46 53.8	-0.9
TERO	Teramo	0.51	162	Pg	Pb	19 46 53.8	-0.9
MURB	Monte Urbino	0.65	284	Pg	Pb	19 46 56.6	-0.4
MURB	Monte Urbino	0.65	284	Pg	Pb	19 46 56.6	-0.4
VCEL	Villa Celiera	0.79	155	Pg	Pb	19 46 58.7	-0.7
	290nm,0.6s						
VCEL	Villa Celiera	0.79	155	Pg	Pb	19 46 58.7	-0.7
	290nm,0.6s						
FAGN	Fagnano	0.86	170	Pg	Pb	19 46 59.8	-0.7
	249nm,0.5s						
FAGN	Fagnano	0.86	170	Pg	Pb	19 46 59.8	-0.7
	249nm,0.5s						
FIAM	Fiamignano	0.86	193	Pg	Pb	19 47 00.2	-0.4
	1µm,0.6s						
FIAM	Fiamignano	0.86	193	Pg	Pb	19 47 00.2	-0.4
	1µm,0.6s						
BADI	Badiali	0.92	296	Pg	Pb	19 47 01.4	-0.2
	83nm,0.5s						
BADI	Badiali	0.92	296	Pg	Pb	19 47 01.4	-0.2
	83nm,0.5s						
PARC	Parchiule	0.99	303	Pg	Pb	19 47 03.0	+0.2
	106nm,0.9s						
PARC	Parchiule	0.99	303	Pg	Pb	19 47 03.0	+0.2
	106nm,0.9s						
CAFI	Castiglion Fio	1.06	282	Pg	Pb	19 47 04.3	+0.4
CAFI	Castiglion Fio	1.06	282	Pg	Pb	19 47 04.3	+0.4
INTR	Introdacqua	1.16	161	Pg	Pn	19 47 04.8	0.0
	114nm,0.7s						
INTR	Introdacqua	1.16	161	Pg	Pn	19 47 04.8	0.0
	114nm,0.7s						
LPEL	Lama dei Pelig	1.22	151	Pg	Pb	19 47 06.5	0.0
	64nm,0.7s						
LPEL	Lama dei Pelig	1.22	151	Pg	Pb	19 47 06.5	0.0
	64nm,0.7s						
NVLJ	Novalja	1.81	36	ePn	Pn	19 47 13.0	-0.6
NVLJ				Sn	Sn	19 47 35.2	-0.5
NVLJ	Novalja	1.81	36	ePn	Pn	19 47 12.9	-0.6
NVLJ				Sn	Sn	19 47 35.1	-0.5
UDBI	Udbina	2.23	50	i Pn	Pn	19 47 20.0	+0.5
UDBI				Sn	Sn	19 47 47.8	+1.6
UDBI	Udbina	2.23	50	i Pn	Pn	19 47 19.9	+0.5
UDBI				Sn	Sn	19 47 47.8	+1.6

IDC 02 19:54:11.9±2.8, 43.16N×105.21W, h0km, mb2.5/1, mb1 3.4/3, mb1mx3.2/29, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=56.2km s-min=9.1km az=155.0

ISCJB 02 19:54:15.8±0.2, 43.57N±0.01×105.34W±0.02, h0km, Error ellipse: s-maj=2.1km s-min=1.9km az=160.1

NEIC 02 19:54:16.3±0.3, 43.55N×105.33W, h0km, ML3.1, Error ellipse: s-maj=5.0km s-min=4.3km az=149.0, Suspected Mining explosion.

NEIC 80 km [50 miles] ENE of Midwest.

ISC 02 19:54:15.9±0.7, 43.53N±0.02×105.33W±0.02, h0km, n108, σ1.23/135, 40C-43D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	Dilts Ranch, B	0.20	233	P	Pg	19 54 21.6	+1.9
	baz=0.2,SNR=1000						
I23A	Meade Ranch, G	0.45	348	⇓P	Pg	19 54 24.8	+0.3
	baz=0.4,SNR=97						
I23A				⇑S	Sg	19 54 30.2	0.0
	baz=0.4						
J24A	Dixon Ranch, L	0.52	111	P	Pb	19 54 27.3	-0.7
	baz=0.6,SNR=164						
J24A				⇑S	Sb	19 54 34.6	-1.6
	baz=0.6						
I24A	Kuemmerle Ranc	0.61	57	P	Pg	19 54 27.9	+0.3
	baz=0.6,SNR=1000						
K23A	Bowen Ranch, D	0.80	196	⇑P	Pn	19 54 32.8	-1.8
	baz=0.8						
K23A				⇑S	Sb	19 54 43.6	-0.6
	baz=0.8						
J22A	Midwest	0.84	263	⇑P	Pg	19 54 32.4	+0.3
	baz=0.8,SNR=26						
K24A	Anderson Ranch	0.89	155	⇓P	Pn	19 54 34.0	-1.7
	baz=0.9,SNR=80						
I22A	9 Mile Ranch,	0.91	294	⇓P	Pg	19 54 33.4	0.0
	baz=0.9,SNR=254						
I22A				⇑S	Sg	19 54 45.1	-0.1
	baz=0.9						
H23A	Clabaugh Cattl	1.04	357	⇑P	Pg	19 54 34.8	-1.0
	baz=1.0,SNR=22						
RSSD	Black Hills	1.11	57	eP	Pg	19 54 36.3	-0.8
J25A	Sunshine Ranch	1.12	96	⇓P	Pb	19 54 37.4	-0.8
	baz=1.1,SNR=73						
K22A	Casper	1.24	225	eP	Pn	19 54 39.8	-0.8
K22A	Casper	1.24	225	P	Pn	19 54 39.8	-0.8
	baz=1.3,SNR=46						
I25A	Rochford	1.26	66	⇑P	Pg	19 54 39.3	-0.7
	baz=1.2,SNR=82						
H22A	Clearmont	1.30	326	⇓P	Pg	19 54 40.1	-0.7
	baz=1.3,SNR=145						
H24A	Dirks Ranch, A	1.34	24	⇓P	Pg	19 54 40.0	-1.6
	baz=1.3,SNR=173						
K25A	Mack Ranch, Ha	1.41	130	⇓P	Pb	19 54 44.1	+1.0
	baz=1.4,SNR=168						
L23A	Garrett	1.44	191	P	Pb	19 54 43.5	-0.1
	baz=1.5,SNR=351						
I21A	Big Trails, Te	1.45	282	⇑P	Pn	19 54 42.6	-1.0
	baz=1.4						
I21A				⇓S	Sg	19 55 03.2	+0.7
	baz=1.4						
L24A	Wheatland	1.51	169	⇑P	Pb	19 54 45.0	+0.2
	baz=1.6,SNR=27						
L24A				⇑S	Sn	19 55 06.5	+1.7
	baz=1.6						
J21A	Lysite	1.55	264	P	Pn	19 54 44.6	-0.3
	baz=1.5,SNR=76						
J21A				⇓S	Sg	19 55 06.4	+0.7
	baz=1.5						
H21A	Big Horn, Sher	1.66	312	⇓P	Pn	19 54 46.4	+0.1
	baz=1.6,SNR=118						
J26A	Sides Ranch, S	1.66	97	⇓P	Pg	19 54 47.0	-0.7
	baz=1.7,SNR=45						
J26A				⇓S	Sg	19 55 09.1	0.0
	baz=1.7						
H25A	Fruitdale	1.66	48	⇑P	Pn	19 54 46.6	+0.3
	baz=1.6,SNR=57						
K21A	Alcova	1.67	238	P	Pg	19 54 47.3	-0.5
	baz=1.7,SNR=118						
K21A				⇓S	Sg	19 55 10.2	+0.8
	baz=1.7						
G23A	Biddle	1.68	359	⇓P	Pn	19 54 46.2	-0.3
	baz=1.6,SNR=217						
L25A	Engebretsen Ra	1.70	143	P	Pg	19 54 49.0	+0.6
	baz=1.7,SNR=78						
L25A				⇓Sb	Sg	19 55 13.0	+2.6
	baz=1.7						
L22A	Ellis Ranch, M	1.70	209	⇑P	Pg	19 54 48.1	-0.4
	baz=1.7						
L22A				⇓S	Sg	19 55 11.5	+1.1
	baz=1.7						
K26A	Motz Farm, Whi	1.78	117	⇑P	Pg	19 54 49.5	-0.4
	baz=1.8,SNR=32						
G22A	Birney	1.83	338	⇓P	Pn	19 54 48.8	+0.1
	baz=1.8,SNR=26						
I26A	New Underwood	1.86	73	⇓P	Pb	19 54 49.6	-1.2
	baz=1.9,SNR=21						
G24A	Alzada	1.92	20	⇓P	Pn	19 54 50.2	+0.3
	baz=1.9,SNR=12						
G24A				⇑Sb	Sb	19 55 17.2	+0.9
	baz=1.9						
I20A	Worland	2.07	283	⇑P	Pb	19 54 53.2	-1.3
	baz=2.0,SNR=178						
I20A				⇓Sb	Sb	19 55 21.5	+0.7
	baz=2.0						
M23A	Laramie	2.08	188	⇓P	Pg	19 54 54.0	-1.7
	baz=2.1,SNR=10						
M23A				⇑Sb	Sg	19 55 23.1	+0.5
	baz=2.1						
M24A	Cheyenne	2.09	170	⇓P	Pg	19 54 54.7	-1.2
	baz=2.1,SNR=69						
H26A	Fairpoint	2.14	58	⇓P	Pb	19 54 54.3	-1.3
	baz=2.1						
H20A	Greybull	2.15	297	P	Pn	19 54 53.5	+0.4
	baz=2.1,SNR=40						
H20A				⇓S	Sn	19 55 21.5	+0.9
	baz=2.1						
G25A	Newell	2.16	39	⇑P	Pn	19 54 53.9	+0.7
	baz=2.1,SNR=31						
G25A				⇓Sb	Sb	19 55 24.5	+1.2
	baz=2.1						
G21A	Lodge Grass	2.17	322	P	Pn	19 54 53.8	+0.4
	baz=2.1,SNR=87						
G21A				⇑S	Sn	19 55 21.3	+0.3
	baz=2.1						
F23A	Volborg	2.20	359	P	Pn	19 54 53.6	-0.1
	baz=2.2,SNR=79						
F23A				⇓S	Sn	19 55 22.2	+0.6
	baz=2.2						
F22A	Rosebud	2.35	344	⇓P	Pn	19 54 55.3	-0.5
	baz=2.3,SNR=142						
K27A	Flueckinger Fa	2.41	109	⇑P	Pg	19 54 58.0	-2.1
	baz=2.4,SNR=46						
G26A	Maurine	2.64	47	⇓P	Pn	19 55 00.6	+0.8
	baz=2.6,SNR=21						
N23A	Red Feather La	2.67	190	⇓P	Pb	19 55 02.7	-1.9
	baz=2.7,SNR=57						
N23A				⇑Sb	Sg	19 55 40.3	-1.2
	baz=2.7						
G20A	Bridger	2.67	310	P	Pn	19 55 00.1	-0.3
	baz=2.6,SNR=95						
I19A	Meeteetse	2.70	282	⇓P	Pn	19 55 02.2	+1.4
	baz=2.7,SNR=54						
F25A	Bowman	2.75	28	⇓P	Pn	19 55 02.4	+1.1
	baz=2.7,SNR=18						
H19A	Powell	2.87	295	⇑P	Pn	19 55 04.1	+1.1
	baz=2.8,SNR=28						
F20A	Billings	3.04	320	⇓P	Pn	19 55 04.9	-0.4
	baz=3.0,SNR=23						
G27A	Dupree	3.06	52	⇑P	Pn	19 55 06.2	+0.6
	baz=3.0,SNR=10						
E24A	Baker	3.12	13	⇑P	Pn	19 55 06.8	+0.4
	baz=3.1,SNR=6.3						
PDAR	Pinedale Array	3.19	258	Pn	Pn	19 55 08.6	+1.1
	1.7nm,0.3s,baz=77,slow=16,SNR=51						
PDAR				Pg	Pb	19 55 11.9	-1.6
	3.5nm,0.3s,baz=74,slow=17,SNR=57						
PDAR				Lg	Lg	19 55 52.8	
	10nm,0.3s,baz=71,slow=34,SNR=13						
BW06	Boulder Array	3.19	258	ePn	Pn	19 55 08.3	+0.8
LAO	LASA Array	3.23	349	ePn	Pn	19 55 08.0	+0.1
RLMT	Red Lodge	3.25	301	ePn	Pn	19 55 08.4	+0.1
E21A	Keefer Ranch,	3.26	338	⇓P	Pn	19 55 07.2	-1.2
	baz=3.2,SNR=12						
H18A	Shoshone NF, C	3.33	292	⇑P	Pn	19 55 10.1	+0.7
	baz=3.3,SNR=17						
F27A	Lemmon	3.33	44	⇓P	Pn	19 55 09.5	+0.2
	baz=3.3,SNR=9.5						
N20A	Spence Gulch,	3.46	220	⇓P	Pn	19 55 13.2	+2.0
	baz=3.5,SNR=8.6						
F19A	Roth Farm, Mol	3.47	313	⇑P	Pn	19 55 11.6	+0.3
	baz=3.4,SNR=44						
OGNE	Ogallala	3.56	135	ePn	Pn	19 55 14.1	+1.7
OGNE				ePg	Pg	19 55 23.8	-0.2
OGNE	Ogallala	3.56	135	⇓P	Pn	19 55 14.1	+1.7
	baz=3.6,SNR=7.5						
E20A	Meyer Farm, Mu	3.58	327	⇑P	Pn	19 55 11.9	-0.8
	baz=3.5,SNR=7.7						
D23A	Lindsay	3.65	1	⇑P	Pn	19 55 13.6	-0.1
	baz=3.6,SNR=20						
ISCO	Idaho Springs	3.73	183	ePn	Pn	19 55 16.9	+1.9
ISCO				eSg	Sg	19 56 12.2	-3.4
E19A	Rath Farm, Rou	3.83	321	⇓P	Pn	19 55 16.0	-0.1
	baz=3.8,SNR=9.1						
GCMT	Greycliff	3.83	308	ePn	Pn	19 55 16.9	+0.6
H17A	Grant Village	3.89	285	ePn	Pn	19 55 17.6	+0.5
N28A	Pribbeno Ranch	4.00	134	⇑P	Pn	19 55 19.8	+1.3
	baz=4.0,SNR=9.3						
O20A	White River Ci	4.03	214	ePn	Pn	19 55 18.1	-0.8
C24A	Savage	4.06	9	⇓P	Pn	19 55 19.4	+0.2
	baz=4.0,SNR=8.5						
D26A	Manning	4.06	29	⇓P	Pn	19 55 19.7	+0.4
	baz=4.0,SNR=20						
D20A	Manuel Ranch,	4.08	332	⇑P	Pn	19 55 19.4	-0.2
	baz=4.0,SNR=16						
YMR	Madison River	4.22	288	Pn	Pn	19 55 20.5	-1.1
YMR				ePg	Pg	19 55 34.1	-2.6
P26A	Davis Ranch, A	4.23	159	⇑P	Pn	19 55 22.7	+1.0
	baz=4.3,SNR=28						
C22A	Vida	4.24	355	⇓P	Pn	19 55 22.2	+0.5
	baz=4.2,SNR=12						
C23A	Lambert	4.28	1	⇓P	Pn	19 55 22.7	+0.4
	baz=4.2,SNR=41						
AHID	Auburn Hatcher	4.29	262	ePn	Pn	19 55 23.1	+0.5
AHID				ePg	Pg	19 55 37.9	-0.1
P27A	Ficken Ranch,	4.47	152	⇑P	Pn	19 55 26.4	+1.4
	baz=4.5,SNR=20						
E28A	Huff	4.48	46	⇑P	Pn	19 55 25.4	+0.3
	baz=4.5,SNR=14						
QLMT	Earthquake Lak	4.58	289	ePg	Pb	19 55 39.7	+2.5
P28A	Saint Francis	4.77	145	⇑P	Pn	19 55 30.4	+1.2
	baz=4.8,SNR=5.9						
Q26A	Hugo	4.79	163	⇑P	Pn	19 55 31.0	+1.5
	baz=4.8,SNR=9.2						
C19A	Slack Wire Ran	4.95	330	⇑P	Pn	19 55 31.7	+0.1
	baz=4.9,SNR=13						
D28A	Regan	4.97	41	⇑P	Pn	19 55 31.5	-0.3
	baz=4.9,SNR=8.8						
BOZ	Bozeman (W)	4.97	297	ePn	Pn	19 55 32.4	+0.4
BOZ				eSg	Sg	19 56 51.5	-4.2
DGMT	Dagmar	5.01	9	ePn	Pn	19 55 32.9	+0.6
TCUT	Toone Canyon	5.11	244	ePg	Pg	19 55 51.0	-2.7
TCUT				eSg	Sg	19 56 58.9	-1.1
DAU	Daniels Canyon	5.40	237	Pn	Pn	19 55 37.5	-0.5
JLU	Jordanelle	5.41	239	Pn	Pn	19 55 39.8	+1.7
	7.5nm,0.6s						
EGMT	Eagleton	5.46	327	ePn	Pn	19 55 38.4	-0.2
MCMT	McKenzie Canyo	5.56	286	ePg	Pg	19 55 58.4	-4.0
R27A	Eads	5.57	159	⇑P	Pn	19 55 41.7	+1.6
	baz=5.6,SNR=7.9						
BGNE	Belgrade	5.72	109	ePn	Pn	19 55 42.1	+0.1
BGNE				ePg	Pg	19 56 03.9	-1.4
BGNE				eSg	Sg	19 57 17.5	-1.9
SPUT	South Promonto	5.72	250	ePn	Pn	19 55 43.3	+1.2
SPUT				ePg	Pg	19 56 03.1	-2.3
HVU	Hansel Valley	5.76	255	ePn	Pn	19 55 42.6	-0.2
HVU				ePg	Pg	19 56 03.1	-3.2
HVU				eSg	Sg	19 57 17.5	-3.4
PV04	Paradox Valley	5.80	209	ePn	Pn	19 55 44.2	+0.9
R28A	Tribune	5.82	152	⇑P	Pn	19 55 44.3	+0.7
	baz=5.9,SNR=11						
SRU	San Rafael	5.89	223	ePn	Pn	19 55 44.9	+0.3
S26A	Kim	6.06	166	⇓P	Pn	19 55 48.1	+1.2
	baz=6.1,SNR=8.6						
ECSD	EROS Data Cent	6.33	85	ePn	Pn	19 55 50.5	+0.1
HLID	Hailey	6.60	273	ePn	Pn	19 55 56.2	+1.9
T27A	Campo	6.76	162	⇑P	Pn	19 55 57.5	+1.1
	baz=6.8,SNR=6.1						
T28A	Walsh	6.85	158	⇓P	Pn	19 55 58.6	+0.9
	baz=6.9,SNR=7.7						
I10CA	LAC DU BONNET	9.23	40	i		20 51 30.0	
	baz=226,slow=338,SNR=1.3						
ULM	Lac du Bonnet	9.33	41	Pn	Pn	19 56 27.9	-3.7
	0.7nm,0.3s,baz=247,slow=12,SNR=7.2						
ULM				Lg	Lg	19 59 06.3	
	0.3nm,0.3s,baz=133,slow=17,SNR=3.3						
I56US	NEWPORT INFRAS	9.49	304	i		20 51 40.0	
	baz=127,slow=342,SNR=1.4						
YKA	Yellowknife Ar	19.77	347	P	P	19 58 47.8	+0.6
	0.1nm,0.5s,baz=157,slow=12,SNR=4.5						

IDC 02 19:56:07.3±4.2, 3.25S×130.79E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/30, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=304.9km s-min=29.9km az=72.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.95	168	Pn	Pn	20 00 04.1	-1.9
	0.2nm,0.3s,baz=349,slow=11,SNR=8.6						
ASAR	Alice Springs	20.52	172	P	P	20 00 48.1	+0.8
	6.6nm,0.9s,baz=347,slow=10,SNR=43						
MKAR	Makanchi Array	65.57	326	P	P	20 06 52.9	-0.1
	0.3nm,0.5s,baz=140,slow=7.0,SNR=3.7						

MAN 02 20:03:14, 16.33N×120.54E, h31km, mb3.9, ML2.7, MS2.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.07	37	⇑iP	Pb	20 03 21.0	+1.4
BCPH				eS	Sb	20 03 26.2	+2.9
BOLP	Bolinao	0.60	275	eP	Pn	20 03 26.9	+0.4
BOLP				eS	Sn	20 03 37.1	+1.9
BALP	Baler	1.16	120	eP	Pb	20 03 35.3	-0.1
BALP				eS	Sn	20 03 48.9	+0.1
APYP	Conner	1.67	24	eP	Sn	20 04 07.8	+6.3

IDC 02 20:10:31.2±1.9, 7.72S×151.17E, h0km, mb3.2/4, mb1 3.5/5, mb1mx3.4/28, mbtmp3.3/5, ML2.5/1, Error ellipse: s-maj=74.5km s-min=25.4km az=129.0

ISCJB 02 20:10:35.6±1.6, 7.1S±0.5×150.4E±0.5, h31km, mb3.1/3, Error ellipse: s-maj=100.5km s-min=14.2km az=139.6

ISC 02 20:10:37.2±2.0, 7.1S±0.7×150.4E±0.6, h31km, n6, σ0.89/6, mb3.1/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.95	234	Pn	Pn	20 11 36.8	+1.0
	1.8nm,0.3s,baz=47,slow=8.3,SNR=5.7						
PMG				Sn	Sn	20 12 20.4	-0.7
	5.8nm,0.3s,baz=110,slow=15,SNR=7.8						
WRA	Warramunga Arr	20.16	229	P	P	20 15 08.3	-0.9
	0.9nm,0.6s,baz=55,slow=11,SNR=9.4						
ASAR	Alice Springs	22.87	222	P	P	20 15 38.1	-0.1
	0.4nm,0.8s,baz=58,slow=9.4,SNR=3.7						
MKAR	Makanchi Array	80.47	320	P	P	20 22 50.6	+5.8
	0.1nm,0.5s,baz=98,slow=6.0,SNR=3.4						
ILAR	Eielson Array	85.15	22	P	P	20 23 10.0	-0.1
	0.2nm,0.6s,baz=251,slow=5.6,SNR=3.0						
TORD	Torodi Ar. Bea	148.62	284	PKPbc	PKPbc	20 30 22.1	-0.1
	0.2nm,0.4s,baz=97,slow=2.3,SNR=6.9						

IDC 02 20:15:06.4±1.2, 6°.04S×123°.72E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/33, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=61.4km s-min=22.7km az=55.0
ISCJB 02 20:15:09.5±0.4, 6°.10S±0°.05×123°.48E±0°.05, h33km, mb3.8/5, Error ellipse: s-maj=8.1km s-min=4.9km az=135.3
DJA 02 20:15:12.5±0.7, 6°S±3°×12°3E±°, h139km±22km, M4.3/11, mb4.7/3, mB4.8/2, MLv4.1/11, Mw(mB)4.0/2
ISC 02 20:15:11.8±0.7, 6°.13S±0°.06×123°.45E±0°.07, h35km, n27, σ0§82/28, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	2.77	206	P	Pn	20 15 54.8	+1.0
BKSI	Bulukumba	3.41	283	P	Pn	20 16 01.8	-0.7
BKSI				S	Sn	20 16 40.8	-0.9
SOEI	Soe	3.70	167	P	Pn	20 16 12.2	+5.6
SOEI	Soe	3.70	167	P	Pn	20 16 08.3	+1.7
	baz=3.7,SNR=10						
BNSI	Bone	3.75	297	P	Pn	20 16 06.4	-0.8
BNSI				S	Sn	20 16 49.0	-1.1
SPSI	Sidrap Palu	4.25	300	P	Pn	20 16 14.5	+0.4
SPSI				S	Sn	20 17 03.0	+0.5
WSI	Waingapu	4.71	221	P	Pn	20 16 19.8	-0.6
WSI	Waingapu	4.71	221	P	Pn	20 16 20.8	+0.3
	baz=4.7,SNR=4.5						
TTSI	Tana Toraja	4.74	310	P	Pn	20 16 21.6	+0.7
SANI	Sanana	4.77	32	P	Pn	20 16 29.9	-0.4
LUWI	Luwuk	5.09	352	P	Pn	20 16 25.4	-0.3
	195nm,0.5s,2μm0.8nm						
LUWI	Luwuk	5.09	352	P	Pn	20 16 25.0	-0.7
	baz=5.1,SNR=9.4						
APSI	Ampana	5.48	341	P	Pn	20 16 30.2	-0.9
	61nm,0.8s,633nm						
MRSI	Marisa	6.73	347	P	Pn	20 16 48.2	0.0
MTN	Manton Dam	10.10	132	P	Pn	20 17 34.3	-0.1
	baz=10,SNR=4.0						
KNRA	Kununurra	10.83	152	P	Pn	20 17 42.5	-1.9
	baz=11,SNR=8.8						
WRA	Warramunga Arr	17.34	143	P	Pn	20 19 07.1	-4.2
	0.5nm,0.3s,baz=318,slow=13,SNR=16						
WRKA	Warakurna	19.37	167	P	Pn	20 19 36.1	+0.1
	baz=20,SNR=4.5						
ASAR	Alice Springs	20.13	151	P	P	20 19 42.7	-0.3
	5.8nm,1.0s,baz=326,slow=11,SNR=32						
MEEK	Meekatharra	20.91	192	P	P	20 19 51.7	+0.3
	baz=21,SNR=10.0						
QIS	Mount Isa	21.25	134	P	P	20 19 55.1	0.0
	baz=21,SNR=9.1						
PSI	Prapat	26.05	289	P	P	20 20 43.2	+0.9
	3.6nm,0.4s,baz=191,slow=22,SNR=4.2						
HTT	Hallett	30.74	154	P	P	20 21 24.0	+0.2
	baz=31,SNR=3.6						
CMAR	Chiang Mai Arr	34.37	316	P	P	20 21 57.1	+1.4
	0.6nm,0.7s,baz=140,slow=7.7,SNR=6.3						
SONM	Songino Array	55.80	346	P	P	20 24 45.4	-0.1
	0.3nm,0.6s,baz=160,slow=9.1,SNR=3.7						
MKAR	Makanchi Array	64.07	330	P	P	20 25 42.5	+0.3
	0.6nm,0.7s,baz=121,slow=8.2,SNR=6.3						
ZALV	Zalesovo Beam	68.06	337	P	P	20 26 07.4	-0.3
	0.3nm,0.4s,baz=115,slow=6.8,SNR=3.5						

IDC 02 20:17:39.2±1.9, 6°.57S×154°.83E, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.6/29, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=65.1km s-min=23.2km az=131.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.10	249	Pn	Pn	20 19 39.9	+1.7
	4.4nm,0.3s,baz=51,slow=8.4,SNR=14						
PMG				Sn	Sn	20 21 10.7	+0.1
	0.8nm,0.3s,baz=24,slow=20,SNR=2.5						
WRA	Warramunga Arr	23.93	234	P	P	20 22 54.7	-0.5
	1.1nm,0.9s,baz=59,slow=9.5,SNR=3.9						
ASAR	Alice Springs	26.34	228	P	P	20 23 17.1	0.0
	0.4nm,0.7s,baz=58,slow=8.8,SNR=3.8						
SONM	Songino Array	68.89	327	P	P	20 28 46.0	0.0
	0.3nm,0.5s,baz=129,slow=4.6,SNR=2.6						
ILAR	Eielson Array	83.04	22	P	P	20 30 06.3	+0.1
	0.5nm,1.1s,baz=243,slow=6.0,SNR=4.0						

IDC 02 20:19:18.6±4.6, 31°.64S×179°.86W, h308km±40km, mb3.4/5, mb1 3.5/6, mb1mx3.4/20, mbtmp4.2/6, Error ellipse: s-maj=41.7km s-min=21.1km az=40.0
ISC 02 20:19:25.8±1.2, 32°.05S±0°.09×179°.3E±0°.2, h350km, n60, σ1§58/61, mb3.5/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	5.82	192	PN	Pn	20 20 56.7	+2.2
HAZ				SN	S	20 22 07.7	+1.3
PUZ	Puketiti	6.07	188	PN	Pn	20 20 59.2	+1.9
PUZ				SN	S	20 22 10.3	-1.2
TGRZ	Tauranga	6.18	203	PN	Pn	20 21 03.1	+4.5
MWZ	Matawai	6.43	192	PN	Pn	20 21 03.4	+1.9
URZ	Urewera	6.44	195	P	Pn	20 21 02.7	+1.1
	27nm,0.3s,baz=330,slow=2.9,SNR=74						
URZ				S	S	20 22 19.9	+0.5
	13nm,0.3s,baz=81,slow=19,SNR=14						
CNGZ	Carnagh Statio	6.48	187	PN	Pn	20 21 03.5	+1.5
RIGZ	Rimuhau	6.75	190	PN	Pn	20 21 06.0	+0.8
KNZ	Kokohu	7.08	190	PN	Pn	20 21 11.6	+2.7
RAHZ	Arahi	7.08	194	PN	Pn	20 21 10.8	+1.7
MHGZ	Mahia Peninsul	7.17	189	PN	Pn	20 21 11.7	+1.6
WHHZ	Waihua	7.20	193	PN	Pn	20 21 12.7	+2.3
NMHZ	Naumai	7.31	195	PN	Pn	20 21 13.7	+1.8
NMHZ				SN	S	20 22 40.3	+2.2
BKZ	Black Stump Fm	7.45	197	PN	Pn	20 21 12.6	-0.9
MCHZ	McNeill Hill	7.67	195	PN	Pn	20 21 16.9	+1.0
CKHZ	Cape Kidnapper	7.80	193	PN	Pn	20 21 19.4	+2.0
WNVZ	Wahianoa	7.85	201	PN	Pn	20 21 20.1	+1.9
BHHZ	Black Hill Sta	7.87	198	PN	Pn	20 21 17.8	-0.5
KAHZ	Kahuranaki	7.97	193	PN	Pn	20 21 20.1	+0.6
PXZ	Pawanui	8.20	193	PN	Pn	20 21 20.7	-1.5
PNHZ	Pukenui	8.23	197	PN	Pn	20 21 21.6	-1.0
WPHZ	Waipukurau	8.32	195	PN	Pn	20 21 24.1	+0.5
TSZ	Takapari Road	8.43	198	PN	Pn	20 21 23.1	-1.8
WAZ	Wanganui	8.44	203	PN	Pn	20 21 26.0	+0.9
PRHZ	Porangahau	8.47	194	PN	Pn	20 21 25.7	+0.3
DVHZ	Dannevirke	8.61	196	PN	Pn	20 21 26.3	-0.7
ANWZ	Angora Road	8.69	194	PN	P	20 21 29.7	-0.8
POWZ	Post Office Ro	8.79	198	PN	Pn	20 21 29.9	+0.6
PRWZ	Pori Road	8.90	197	PN	P	20 21 31.6	-1.2
BFZ	Birch Farm	8.95	195	PN	Pn	20 21 28.5	-2.6
TIWZ	Tintock	9.13	196	PN	Pn	20 21 32.1	-1.1
CPWZ	Castlepoint	9.18	195	PN	P	20 21 35.1	-0.9
HOWZ	Holdsworth Sta	9.33	198	PN	Pn	20 21 33.7	-2.0
OGWZ	Otaki Gorge	9.35	200	PN	Pn	20 21 34.4	-1.5
TMWZ	Te Maipa	9.44	196	PN	P	20 21 37.4	+0.5
KIW	Kapiti Island	9.47	201	PN	Pn	20 21 36.2	-1.1
MTW	Mount Morrison	9.58	197	PN	Pn	20 21 38.5	-0.1
CAW	Cannon Point	9.65	199	PN	Pn	20 21 38.8	-0.6
PAWZ	Paruwai Farm	9.81	197	PN	Pn	20 21 41.5	+0.1
MSWZ	Moikau Station	9.89	198	PN	Pn	20 21 41.0	-1.3
BHW	Baring Head	9.98	199	PN	Pn	20 21 41.3	-2.0
TCW	Tory Channel	9.98	202	PN	Pn	20 21 42.9	-0.5
PLWZ	Palliser	10.03	198	PN	Pn	20 21 43.5	-0.6
TUWZ	Tuamarina	10.29	203	PN	Pn	20 21 44.9	-2.2
NNZ	Nelson	10.30	206	PN	Pn	20 21 45.6	-1.6
QRZ	Quartz Range	10.30	210	PN	Pn	20 21 47.3	0.0
BSWZ	Blackbirch Sta	10.57	203	PN	Pn	20 21 50.1	-0.2
THZ	Tophouse	10.95	206	PN	Pn	20 21 53.4	-1.6
KHZ	Kahutara	11.31	202	PN	Pn	20 21 56.9	-2.2
LTZ	Lake Taylor	12.07	205	PN	P	20 22 06.0	-2.0
MQZ	McQueen's Vall	12.75	202	PN	P	20 22 13.5	-2.1
CTA	Charters Tower	31.84	284	P	P	20 25 21.4	+1.9
	1.2nm,0.3s,baz=121,slow=5.9,SNR=3.0						
STKA	Stephens Creek	31.86	260	P	P	20 25 23.8	+4.2
	2.1nm,1.1s,baz=99,slow=13,SNR=2.8						
ASAR	Alice Springs	40.73	270	P	P	20 26 35.8	+1.8
	0.6nm,0.6s,baz=100,slow=7.3,SNR=9.2						
WRA	Warramunga Arr	41.88	275	P	P	20 26 45.3	+2.0
	1.1nm,0.4s,baz=111,slow=8.1,SNR=37						
QSPA	South Pole Qui	58.06	180	P	P	20 28 43.4	+0.3
	2.5nm,0.6s,baz=4.6,slow=0.7,SNR=7.9						
JOF	Joensuu	143.04	336	ep	PKPab	20 38 11.8	-2.1
	0.2nm,0.3s						
KBZ	Khabaz	144.04	302	PKP	PKPab	20 38 16.6	-1.8
	2.9nm,0.9s,baz=74,slow=1.6,SNR=7.3						
FINES	FINESS Array B	145.83	337	PKPbc	PKPdf	20 38 20.0	-2.3
	2.5nm,0.5s,baz=48,slow=3.6,SNR=21						
NOA	NORSAR Array B	149.96	348	PKPbc	PKPdf	20 38 30.7	+1.5
	0.9nm,0.8s,baz=38,slow=4.5,SNR=3.4						
AKASG	Malin Array Be	151.10	319	PKPbc	PKPbc	20 38 34.4	-3.0
	0.2nm,0.3s,baz=90,slow=0.9,SNR=4.9						

IDC 02 20:44:12.2±15.0, 12°.99N×143°.49E, h291km±166km, mb3.1/8, mb1 3.3/8, mb1mx3.1/41, mbtmp3.7/8, Error ellipse: s-maj=47.0km s-min=23.1km az=72.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.95	196	P	P	20 50 28.6	-0.2
	2.1nm,0.6s,baz=16,slow=9.4,SNR=31						
ASAR	Alice Springs	37.62	194	P	P	20 50 60.0	+0.1
	0.5nm,0.7s,baz=20,slow=12,SNR=14						
STKA	Stephens Creek	44.65	182	P	P	20 51 56.2	-0.4
	1.8nm,0.9s,baz=353,slow=5.5,SNR=3.1						
SONM	Songino Array	46.45	326	P	P	20 52 10.6	-0.1
	0.2nm,0.5s,baz=150,slow=9.6,SNR=4.1						
MKAR	Makanchi Array	60.99	316	P	P	20 53 55.5	+0.2
	0.4nm,0.7s,baz=92,slow=6.9,SNR=4.5						
ILAR	Eielson Array	69.68	25	P	P	20 54 50.0	-0.3
	0.3nm,0.6s,baz=243,slow=5.8,SNR=8.1						
YKA	Yellowknife Ar	84.00	27	P	P	20 56 11.0	+1.0
	0.2nm,0.5s,baz=283,slow=4.1,SNR=5.1						
FINES	FINESS Array B	91.13	335	P	P	20 56 43.1	-0.8
	1.4nm,0.7s,baz=90,slow=5.7,SNR=4.5						

ISCJB 02 21:11:13.6±0.4, 22°.86S±0°.06×112°.21W±0°.07, h10km, mb4.9/57, MS4.5/18, Error ellipse: s-maj=10.4km s-min=5.9km az=138.6
IDC 02 21:11:13.4±0.6, 22°.92S×112°.34W, h0km, mb4.4/18, mb1 4.6/18, mb1mx4.5/30, mbtmp4.4/18, MS4.1/9, Ms1 4.1/9, ms1mx4.1/10, Error ellipse: s-maj=22.5km s-min=15.6km az=56.0
NEIC 02 21:11:15.0±0.3, 22°.97S×112°.25W, h10km, mb5.2/41, Error ellipse: s-maj=8.9km s-min=5.6km az=59.0
MOS 02 21:11:14.5±1.1, 22°.74S×112°.23W, h10km, mb5.1/17, Error ellipse: s-maj=20.6km s-min=9.1km az=89.5
GCMT 02 21:11:15.0±0.4, 23°.08S×111°.97W, h13km±1km, MW4.9/85, Moment Tensor Solution. s30,c36; s85,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-2.80±.17; Mθθ1.96±.13; Mφφ0.83±.12; Mrθ0.19±.31; Mrφ-1.17±.09; Mθφ-0.99±.34; Best double couple: Mo2.91800×10^{16} NP1:φs315.00000°, δ54.00000°, λ-74.00000°. NP2: φs110.00000°, δ39.00000°, λ-110.00000°. Principal axes: T 2.7820, Plg7.0000°, Azm34.0000°; N 0.2640, Plg13.0000°, Azm126.0000°; P -3.0540, Plg75.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI 02 21:11:18.5, 22°.90S×112°.20W, h15km, mB5.4/12, Ms5.5/12, Ms7 5.1/11
ISC 02 21:11:15.2±0.4, 22°.95S±0°.10×112°.18W±0°.07, h10km, n522, σ0§91/534, mb5.1/58, MS4.5/18, 150C-152D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	Rikitea	20.98	265	eLR	LR	21 20 59.1	
	806nm,29.0s,baz=98						
RKT	Rikitea	20.98	265	eT	T	21 37 25.1	
	2.4nm,0.3s						
H03N2	Juan Fernandez	30.99	117	T	T	21 50 13.1	
	baz=282,slow=75,SNR=318						
H03N3	Juan Fernandez	31.00	117	T	T	21 50 13.1	
	baz=282,slow=75,SNR=295						
H03N1	Juan Fernandez	31.00	117	T	T	21 50 14.2	
	baz=282,slow=75,SNR=314						
TBI	Tubuai	34.22	262	eLR	LR	21 27 05.2	
	489nm,28.2s						
PPT2	Papeete2	35.42	272	eS	S	21 23 43.4	-3.4
	75nm,28.5s						
PPT2				eLR	LR	21 27 30.5	
	242nm,25.8s						
LCO	Las Campanas	37.63	108	eP	P	21 18 31.1	+0.4
PB07	Plate Boundary	39.04	97	eP	P	21 18 43.3	+0.7
PLCA	Paso Flores	39.14	127	eP	P	21 18 43.3	+0.2
PLCA	Paso Flores	39.14	127	P	P	21 18 43.1	+0.1
	2.3nm,0.6s,baz=276,slow=11,SNR=3.5						
PLCA				LR	LR	21 30 37.4	
	comp=Z,151nm,18.2s,baz=289,slow=30						
PSGC	Pisagua	39.24	93	eP	P	21 18 44.4	+0.2
HMBC	Humberstone	39.31	94	eP	P	21 18 45.3	+0.4
PB01	Plate Boundary	39.53	96	eP	P	21 18 45.6	-1.0
PB09	Plate Boundary	39.62	97	eP	P	21 18 48.9	+1.5
PB11	Plate Boundary	39.63	94	eP	P	21 18 47.9	+0.3
CFAA	Coronel Fontan	39.78	112	P	P	21 18 49.0	+0.5
	1.6nm,1.1s,baz=279,slow=6.7,SNR=14						
LVC	Limon Verde	39.78	98	eP	P	21 18 49.1	+0.2
	54nm,1.5s						
OTAV	Otavalo	40.09	60	eP	P	21 18 51.9	+0.2
LPAZ	La Paz	41.90	89	eP	P	21 19 08.1	+1.3
LPAZ	La Paz	41.90	89	P	P	21 19 08.2	+1.3
	19nm,1.0s,baz=263,slow=6.0,SNR=45						
LPAZ				LR	LR	21 32 22.3	
	comp=Z,145nm,20.4s,baz=246,slow=30						
LPAZ	La Paz	41.90	89	eP	P	21 19 08.1	+1.3
	91nm,1.5s						
JTS	JuntasAbangare	42.45	42	P	P	21 19 11.8	+1.2
	3.6nm,0.5s,baz=235,slow=4.9,SNR=4.5						
TRQA	Tornquist	45.27	121	eP	P	21 19 34.6	+1.6
	86nm,1.8s						
USHA	Ushuaia	45.45	146	P	P	21 19 35.9	+1.7
	10.0nm,0.7s,baz=240,slow=5.9,SNR=4.2						
ROSC	El Rosal	46.16	58	P	P	21 19 42.4	+1.6
	6.0nm,0.3s,baz=252,slow=4.6,SNR=9.5						
ROSC				LR	LR	21 35 28.1	
	comp=Z,270nm,18.4s,baz=210,slow=31						
ROSC	El Rosal	46.16	58	eP	P	21 19 40.7	0.0
TEIG	Tepich	48.84	30	P	P	21 20 00.1	-1.0
	8.2nm,0.8s,baz=167,slow=22,SNR=3.8						
SAML	Samuel	48.89	82	eP	P	21 20 01.7	0.0
	12nm,1.3s						
CPUP	Villa Florida	49.66	106	LR	LR	21 36 54.6	
	comp=Z,91nm,21.6s,baz=240,slow=31						
034A	Hebbronville	51.41	15	⇑P	P	21 20 21.8	+1.4
	baz=52						
035A	Encino	51.43	16	⇑P	P	21 20 21.8	+1.3
	baz=52						
SDV	Santo Domingo	51.52	57	eP	P	21 20 21.0	-0.7
	16nm,0.8s						
933A	Laredo	51.79	15	⇓P	P	21 20 24.4	+1.2
	baz=52						
934A	Benavides	51.96	15	⇓P	P	21 20 25.8	+1.3
	baz=52						
832A	Faith Ranch, C	52.28	14	⇑P	P	21 20 27.1	+0.2
	baz=53						
833A	Chaparral WMA,	52.45	14	⇑P	P	21 20 28.7	+0.6
	baz=53						
TXAR	Lajitas Array	52.63	9	P	P	21 20 29.1	-0.5
	1.8nm,1.0s,baz=178,slow=11,SNR=7.0						
TXAR				LR	LR	21 38 38.3	
	comp=Z,189nm,19.1s,baz=0.0,slow=31						
732A	Laxson Ranch,	52.71	13	⇑P	P	21 20 30.7	+0.6
	baz=53						
626A	Big Bend Ranch	52.77	9	⇓P	P	21 20 30.7	+0.1
	baz=53,SNR=12						
627A	Terlingua Ranc	52.78	10	⇑P	P	21 20 31.2	+0.4
	baz=53,SNR=10						
733A	Divot King Ran	52.85	14	⇓P	P	21 20 31.6	+0.6
	baz=53						
628A	Black Gap, Mar	52.90	10	⇑P	P	21 20 31.7	+0.2
	baz=53,SNR=6.8						
631A	Perdido Creek	53.25	13	⇑P	P	21 20 34.4	+0.3
	baz=54						
526A	Mary Lane Ranc	53.28	9	⇑P	P	21 20 34.7	+0.3
	baz=54,SNR=8.9						
527A	Woodward Ranch	53.43	9	⇑P	P	21 20 35.5	0.0
	baz=54,SNR=14						
632A	Uvalde	53.50	13	⇑P	P	21 20 36.2	+0.3
	baz=54						
528A	Cox Ranch, San	53.58	10	⇓P	P	21 20 36.6	+0.1
	baz=54,SNR=7.1						
529A	Stev Forest Ra	53.63	11	⇑P	P	21 20 37.0	+0.1
	baz=54,SNR=9.5						
530A	J-C Ranch, Com	53.81	12	⇓P	P	21 20 38.3	+0.1
	baz=54,SNR=10						
425A	Indio Mountain	53.88	8	⇓P	P	21 20 38.8	0.0
	baz=54,SNR=8.6						
426A	McDonald Obser	53.89	9	⇑P	P	21 20 38.5	-0.5
	baz=54,SNR=8.8						
531A	Rocksprings	53.98	12	⇑P	P	21 20 39.4	-0.1
	baz=54						
319A	Douglas	54.09	3	⇑P	P	21 20 40.7	+0.4
	baz=54						
428A	Kincaid Ranch,	54.15	10	⇓P	P	21 20 41.1	+0.5
	baz=54,SNR=5.4						
427A	Hayter Ranch,	54.15	9	⇓P	P	21 20 40.9	+0.1
	baz=54,SNR=11						
429A	Davenport Ranc	54.18	11	⇑P	P	21 20 41.0	+0.1
	baz=54,SNR=5.8						
533A	Kerrville	54.21	14	⇓P	P	21 20 40.8	-0.3
	baz=54						
534A	Blanco	54.30	15	⇓P	P	21 20 41.4	-0.3
	baz=55						
JCT	Junction City	54.44	13	⇓P	P	21 20 42.4	-0.4
	baz=55,SNR=7.4						
430A	Baggett Ranch,	54.45	12	⇓P	P	21 20 42.9	0.0
	baz=55						
431A	Sonora	54.47	12	⇑P	P	21 20 43.0	0.0
	baz=55,SNR=6.6						
214A	Organ Pipe Nat	54.60	359	eP	P	21 20 44.0	+0.1
	27nm,1.5s						
214A	Organ Pipe Nat	54.60	359	⇓P	P	21 20 44.0	+0.1
	baz=55,SNR=6.5						
328A	Wristen Ranch,	54.77	10	⇑P	P	21 20 45.0	-0.1
	baz=55						
432A	Menard	54.82	13	⇑P	P	21 20 45.4	-0.2
	baz=55						
433A	Art	54.86	14	⇑P	P	21 20 45.7	-0.1
	baz=55						
TUC	Tucson	54.97	1	eP	P	21 20 46.7	+0.1
TUC				pmax	pmax		
	comp=Z,22nm,1.6s						
TUC	Tucson	54.97	1	eP	P	21 20 46.6	+0.1
	comp=Z,22nm,1.6s						
329A	Wagon Wheel Ra	55.01	11	⇑P	P	21 20 47.1	+0.2
	baz=55						
330A	Mertzon	55.07	11	⇑P	P	21 20 47.6	+0.3
	baz=55						
434A	Burnet	55.10	15	⇓P	P	21 20 47.3	-0.3
	baz=55						
331A	San Angelo	55.12	12	⇓P	P	21 20 47.9	+0.2
	baz=55						
225A	Deer Hill, Car	55.20	8	⇑P	P	21 20 48.4	-0.1
	baz=56						
226B	Tecolote Peak,	55.25	8	⇓P	P	21 20 48.8	+0.1
	baz=56,SNR=6.8						
PTGA	Pitinga	55.27	74	eP	P	21 20 48.7	-0.5
	comp=Z,11nm,1.4s						
332A	Millersview	55.33	13	⇑P	P	21 20 48.9	-0.3
	baz=56						
121A	Cookes Peak, D	55.33	5	eP	P	21 20 49.1	-0.3
	comp=Z,53nm,1.9s						
121A	Cookes Peak, D	55.33	5	⇑P	P	21 20 49.6	+0.2
	baz=56,SNR=5.4						
113A	Mohawk Valley,	55.43	358	⇑P	P	21 20 50.2	+0.4
	baz=56,SNR=11						
333A	Richland Sprin	55.43	14	⇑P	P	21 20 49.8	-0.1
	baz=56						
228A	UT Block 9, Go	55.52	10	⇓P	P	21 20 50.9	+0.3
	baz=56						
230A	Sterling City	55.55	11	⇑P	P	21 20 51.3	+0.5
	baz=56						
334A	Lometa	55.61	14	⇑P	P	21 20 51.7	+0.5
	baz=56						
MONP	Monument Peak	55.68	356	⇓P	P	21 20 52.3	+0.4
	baz=56,SNR=8.0						
231A	Bronte	55.75	12	⇓P	P	21 20 51.7	-0.5
	baz=56						
GLA	Glamis	55.75	357	⇓P	P	21 20 53.0	+0.8
	baz=56						
125A	Gardner Draw,	55.76	8	⇑P	P	21 20 52.0	-0.4
	baz=56,SNR=14						
126A	Clayton Basin,	55.83	8	⇑P	P	21 20 53.0	+0.1
	baz=56						
232A	Coleman	55.83	13	⇓P	P	21 20 52.2	-0.6
	baz=56						
SCI	San Clemente I	55.95	354	⇑P	P	21 20 54.5	+1.0
	baz=56						
Z14A	Wintersburg	56.01	359	⇓P	P	21 20 54.5	+0.6
	baz=56						
128A	Castleberry Fa	56.03	10	⇑P	P	21 20 53.7	-0.6
	baz=56,SNR=10						
Z22A	Elephant Butte	56.12	5	⇑P	P	21 20 54.8	-0.1
	baz=56,SNR=6.8						
233A	Rising Star	56.12	14	⇑P	P	21 20 54.7	-0.1
	baz=56						
129A	Stewart Farms,	56.14	10	⇓P	P	21 20 55.3	+0.2
	baz=56						
130A	Snyder	56.27	11	⇓P	P	21 20 56.1	+0.2
	baz=57						
234A	Clairette	56.27	14	⇓P	P	21 20 56.0	+0.1
	baz=57						
Z24A	Sheeppen Canyo	56.34	7	⇑P	P	21 20 57.3	+0.6
	baz=57						
CIS	Catalina Islan	56.36	354	⇑P	P	21 20 57.6	+1.1
	baz=57						
Z25A	Roswell	56.37	8	⇓P	P	21 20 56.5	-0.2
	baz=57,SNR=7.2						
BC3	Big Chuckawall	56.38	357	⇓P	P	21 20 56.9	+0.1
	baz=57,SNR=8.1						
PFO	Pinyon Flat Ob	56.39	356	eP	P	21 20 56.7	-0.2
PFO				pmax	pmax		
	comp=Z,8.0nm,1.3s						
PFO	Pinyon Flat Ob	56.39	356	P	P	21 20 57.4	+0.4
	comp=Z,2.8nm,0.9s,baz=166,slow=8.3,SNR=6.6						
PFO	Pinyon Flat Ob	56.39	356	eP	P	21 20 56.7	-0.2
	comp=Z,7.7nm,1.3s						
PFO	Pinyon Flat Ob	56.39	356	⇓P	P	21 20 57.7	+0.7
	baz=57						
WHTX	Lake Whitney	56.42	15	⇓P	P	21 20 57.0	+0.1
	baz=57						
Y12C	Blythe	56.43	358	⇑P	P	21 20 58.0	+1.0
	baz=57						
131A	Roby	56.45	12	⇑P	P	21 20 57.5	+0.3
	baz=57						
Z26A	Caprock	56.45	8	⇓P	P	21 20 57.4	0.0
	baz=57						
ABTX	Abilene, Hawle	56.55	13	⇓P	P	21 20 57.9	0.0
	baz=57						
Y14A	Wickenburg	56.58	359	⇓P	P	21 20 58.6	+0.5
	baz=57						
Z27A	Tatum	56.60	9	⇓P	P	21 20 57.9	-0.5
	baz=57,SNR=8.9						
133A	Hamilton Ranch	56.68	13	⇓P	P	21 20 58.7	-0.1
	baz=57						
Z28A	Tucker Farm, M	56.70	10	⇓P	P	21 20 59.4	+0.3
	baz=57						
BELC	Belle Mtn. Jos	56.75	356	⇑P	P	21 20 59.9	+0.4
	baz=57,SNR=10.0						
Z29A	Hungry Hill Ra	56.78	10	⇓P	P	21 20 59.2	-0.4
	baz=57,SNR=10.0						
IRM	Iron Mountain	56.87	357	⇑P	P	21 21 00.8	+0.6
	baz=57,SNR=12						
Y23A	Lovelace Mesa,	56.87	6	⇓P	P	21 21 00.7	+0.4
	baz=57,SNR=11						
Z30A	Sanderson Ranc	56.91	11	⇑P	P	21 21 00.4	-0.1
	baz=57						
Y24A	Capitan	56.93	7	⇓P	P	21 21 00.7	0.0
	baz=57,SNR=11						
PDMCI	Parker Dam,Lak	56.97	358	⇑P	P	21 21 01.2	+0.5
	baz=57,SNR=6.3						
Y25A	Mesa, Roswell	57.01	7	⇓P	P	21 21 01.2	-0.1
	baz=57,SNR=12						
LENM	Lemitar	57.02	5	eP	P	21 21 02.0	+0.6
X16A	Lo Mia Camp, P	57.06	1	⇓P	P	21 21 01.8	+0.1
	baz=57,SNR=6.0						
BFSC	Mount Baldy Ra	57.11	355	⇓P	P	21 21 02.3	+0.3
	baz=57						
Y26A	Elida	57.12	8	⇑P	P	21 21 01.5	-0.5
	baz=58						
Z31A	Sharp Cattle R	57.12	12	⇑P	P	21 21 02.0	0.0
	baz=58,SNR=5.0						
Y27A	Causey	57.17	9	⇑P	P	21 21 01.6	-0.8
	baz=58,SNR=5.8						
X18A	Snowflake	57.20	2	⇑P	P	21 21 03.1	+0.4
	baz=58,SNR=9.4						
Z32A	Haskell	57.24	13	⇓P	P	21 21 02.7	-0.1
	baz=58,SNR=9.9						
MSTX	Muleshoe	57.31	9	eP	P	21 21 02.5	-0.8
MSTX	Muleshoe	57.31	9	⇑P	P	21 21 03.2	-0.2
	baz=58						
Y28A	McKinney Farm,	57.33	10	⇓P	P	21 21 03.7	+0.2
	baz=58						
Z33A	Whitaker Ranch	57.37	13	⇑P	P	21 21 03.7	0.0
	baz=58						

Y29A Porterfield Fa 57.38 10 ⇓P P 21 21 03.9 0.0
baz=58
GMRC Granite Mounta 57.51 357 ⇓P P 21 21 05.5 +0.7
baz=58,SNR=15
HEC Hector,Ludlow 57.60 356 ⇓P P 21 21 06.1 +0.7
baz=58
X25A Clemmons Ranch 57.61 7 ⇑P P 21 21 05.5 0.0
baz=58
Y31A Rekieta Farm, 57.73 12 ⇑P P 21 21 05.9 -0.3
baz=58,SNR=6.2
X26A CR and CF Fran 57.74 8 ⇓P P 21 21 06.4 -0.1
baz=58
Z35A Perchaven, San 57.75 15 ⇑P P 21 21 06.1 -0.2
baz=58
W13A Hualapai Mount 57.76 358 ⇓P P 21 21 07.0 +0.3
baz=58
EDW2 Edwards Air Fo 57.78 354 ⇓P P 21 21 07.0 +0.4
baz=58
LDFC Landfair 57.78 357 eP P 21 21 08.4 +1.7
comp=Z,80nm,1.4s
W18A Petrified Fore 57.80 2 ⇑P P 21 21 07.4 +0.5
baz=58
ANMO Albuquerque 57.84 6⇑eP P 21 21 07.3 +0.1
ANMO pmax pmax
comp=Z,29nm,1.6s
ANMO Albuquerque 57.84 6 P P 21 21 07.6 +0.4
comp=Z,2.2nm,0.9s,baz=150,slow=8.1,SNR=3.7
Y32A R-V Farms, Ver 57.92 12 ⇑P P 21 21 07.3 -0.3
baz=58,SNR=6.0
X28A Dimmitt 57.94 10 ⇑P P 21 21 07.8 0.0
baz=58
X29A Tulia 57.94 10 ⇑P P 21 21 07.9 +0.1
baz=58
W23A Werner Place, 58.08 6 ⇓P P 21 21 08.8 -0.1
baz=58
Y33A Hilltop Ranch, 58.09 13 ⇑P P 21 21 08.6 -0.2
baz=58
GSC Goldstone 58.10 356 eP P 21 21 09.6 +0.7
GSC Goldstone 58.10 356 eP P 21 21 09.6 +0.7
GSC Goldstone 58.10 356 ⇓P P 21 21 09.3 +0.4
baz=58
WUAZ Wupatki 58.16 1 eP P 21 21 10.2 +0.8
comp=Z,28nm,1.5s
WUAZ Wupatki 58.16 1 ⇓P P 21 21 09.5 +0.2
baz=58,SNR=5.8
TUQ Turquoise Moun 58.18 356 ⇑P P 21 21 09.8 +0.3
baz=58,SNR=8.0
W24A Lazy 6 Ranch, 58.20 7 ⇑P P 21 21 10.0 +0.3
baz=58,SNR=9.2
Y34A Reagan Ranch, 58.24 14 ⇑P P 21 21 09.3 -0.5
baz=59
W26A Owens Ranch, T 58.27 8 ⇓P P 21 21 09.8 -0.3
baz=59,SNR=6.7
W25A X Bar L Ranch, 58.31 7 ⇑P P 21 21 10.1 -0.3
baz=59,SNR=15
W27A Bowe Ranch, En 58.34 9 ⇑P P 21 21 10.6 0.0
baz=59
LRMC Laurel Mountai 58.34 355 ⇑P P 21 21 10.7 0.0
baz=59,SNR=5.5
X32A Elmer 58.36 13 ⇓P P 21 21 10.2 -0.4
baz=59,SNR=6.1
AMTX Amarillo 58.38 10 eP P 21 21 10.9 +0.1
comp=Z,26nm,1.4s
AMTX Amarillo 58.38 10 ⇓P P 21 21 10.6 -0.3
baz=59
X31A McDonald Ranch 58.43 12 ⇑P P 21 21 11.0 -0.1
baz=59
ISA Isabella 58.60 354 eP P 21 21 12.6 +0.2
ISA Isabella 58.60 354 eP P 21 21 12.6 +0.2
ISA Isabella 58.60 354 ⇓P P 21 21 12.4 +0.1
baz=59,SNR=5.8
W29A Amraillo 58.61 10 ⇓P P 21 21 12.4 -0.1
baz=59
W28A Vega 58.66 10 ⇓P P 21 21 13.2 +0.4
baz=59
V24A Rampart Ranch, 58.72 7 ⇓P P 21 21 13.1 -0.3
baz=59
V22A San Miguel Ran 58.76 5 ⇓P P 21 21 13.7 0.0
baz=59,SNR=5.3
VES Vestal, Richgr 58.84 353 ⇓P P 21 21 14.7 +0.8
baz=59
V25A Rancho No Teng 58.91 7 ⇓P P 21 21 14.5 -0.2
baz=59
V26A Tequesquite Ra 58.97 8 ⇑P P 21 21 14.3 -0.7
baz=59,SNR=7.1
W31A Holland Ranch, 58.97 12 ⇓P P 21 21 15.1 +0.2
baz=59
W32A Sentinel 59.05 12 ⇑P P 21 21 15.3 -0.1
baz=59
V27A Dan Oppiter Fa 59.06 9 ⇑P P 21 21 16.3 +0.7
baz=59
U15A North Rim 59.06 360 ⇓P P 21 21 16.1 +0.3
baz=59,SNR=12
DAC Darwin (Calif) 59.13 355 eP P 21 21 16.4 +0.2
DAC pmax pmax
comp=Z,11nm,1.1s
DAC Darwin (Calif) 59.13 355 eP P 21 21 16.4 +0.2
comp=Z,11nm,1.1s
SHPR Sheep Range 59.20 357 eP P 21 21 17.4 +0.8
U22A Llaves 59.22 5 ⇑P P 21 21 17.0 +0.1
baz=60,SNR=9.8
U23A El Rito 59.23 6 ⇓P P 21 21 17.2 +0.2
baz=60
FURC Furnace Creek, 59.27 356 ⇓P P 21 21 17.8 +1.0
baz=60
W34A Bridge Creek, 59.46 14 ⇓P P 21 21 18.5 +0.2
baz=60
U25A Circle Dot Ran 59.49 7 ⇑P P 21 21 19.0 +0.3
baz=60
U26A Atchley Ranch, 59.56 8 ⇑P P 21 21 19.3 +0.2
baz=60
V32A Arapaho 59.66 12 ⇓P P 21 21 19.8 +0.1
baz=60
U27A Thompson Grove 59.71 9 ⇓P P 21 21 20.2 +0.1
baz=60
MVCO Mesa Verde 59.94 3 eP P 21 21 22.1 +0.2
comp=Z,44nm,1.4s
MVCO Mesa Verde 59.94 3 ⇓P P 21 21 21.7 -0.1
baz=60,SNR=8.5
T24B San Luis 60.04 6 ⇓P P 21 21 22.6 +0.1
baz=60
V34A Guthrie 60.09 14 ⇓P P 21 21 22.7 +0.1
baz=60
CCUT Cedar City 60.19 359 eP P 21 21 24.5 +1.0
comp=Z,22nm,1.3s
MTUM Tungsten Hills 60.28 354 eP P 21 21 24.7 +0.6
U32A Winter Ranch, 60.31 12 ⇑P P 21 21 24.6 +0.5
baz=61
T26A Comanche Natio 60.35 8 ⇓P P 21 21 24.8 +0.2
baz=61
T27A Campo 60.35 9 ⇓P P 21 21 24.9 +0.4
baz=61
T28A Walsh 60.50 9 ⇓P P 21 21 25.5 0.0
baz=61
U33A Lingo Farm, Me 60.54 13 ⇑P P 21 21 25.5 -0.2
baz=61
TUL1 Tulsa 60.56 15 ⇑P P 21 21 25.5 -0.3
baz=61
S22A 4UR Ranch, Cre 60.58 5 ⇑P P 21 21 26.1 -0.1
baz=61,SNR=6.9
BDFB Brasilia 60.60 96 P P 21 21 26.7 0.0
comp=Z,19nm,1.2s,baz=256,slow=6.7,SNR=5.2
BDFB LR LR 21 44 32.0
comp=Z,96nm,20.9s,baz=230,slow=33
S24A Houchin Ranch, 60.62 6 ⇑P P 21 21 26.9 +0.3
baz=61
T30A Plains 60.69 11 ⇑P P 21 21 27.0 +0.3
baz=61
S25A Robets Cordova 60.73 7 ⇑P P 21 21 27.3 +0.1
baz=61
S26A Kim 60.81 8 ⇓P P 21 21 27.5 -0.1
baz=61,SNR=5.6
T31A Randall Ranch, 60.88 11 ⇑P P 21 21 27.9 -0.1
baz=61
TPH Tonopah 60.89 355 eP P 21 21 29.2 +1.0
TPH Tonopah 60.89 355 eP P 21 21 29.2 +1.0
S28A Manter 60.99 9 ⇑P P 21 21 29.1 +0.3
baz=61
R11A Troy Canyon, C 61.06 357 eP P 21 21 30.3 +0.9
R11A Troy Canyon, C 61.06 357 ⇑P P 21 21 30.2 +0.9
baz=61,SNR=11
R23A Moffat 61.11 6 ⇓P P 21 21 30.0 +0.2
baz=62,SNR=5.1
MVU Marysvale 61.13 360 eP P 21 21 30.7 +0.8
comp=Z,22nm,1.6s
CMB Columbia Colle 61.15 353 eP P 21 21 25.5 -4.3
CMB pmax pmax
comp=Z,36nm,1.8s
CMB Columbia Colle 61.15 353 eP P 21 21 25.5 -4.3
comp=Z,36nm,1.8s
R24A Sanders Place, 61.22 6 ⇓P P 21 21 30.5 0.0
baz=62
R25A Fountain Ranch 61.23 7 ⇑P P 21 21 31.0 +0.5
baz=62
S30A Montezuma 61.27 11 ⇑P P 21 21 30.6 0.0
baz=62
NVAR Mina Array Bea 61.33 355 P P 21 21 32.1 +0.8
comp=Z,4.5nm,0.6s,baz=183,slow=9.3,SNR=39
NVAR LR LR 21 42 59.9
comp=Z,238nm,18.8s,baz=190,slow=31
S31A Mullinville 61.42 11 ⇑P P 21 21 31.6 -0.1
baz=62
R26A Arlington 61.48 8 ⇑P P 21 21 32.7 +0.5
baz=62
WAKR Walker 61.51 354 eP P 21 21 33.5 +1.0
R27A Eads 61.55 8 ⇑P P 21 21 32.2 -0.4
baz=62,SNR=5.8
R28A Tribune 61.74 9 ⇓P P 21 21 33.5 -0.4
baz=62,SNR=5.7
SRU San Rafael 61.76 1 eP P 21 21 34.0 -0.1
SRU pmax pmax
comp=Z,29nm,1.4s
SRU San Rafael 61.76 1 eP P 21 21 34.0 -0.1
comp=Z,29nm,1.4s
R29A Marienthal 61.92 10 ⇓P P 21 21 35.4 +0.3
baz=62
R30A Dighton 61.93 11 ⇑P P 21 21 34.9 -0.2
baz=62
SMCO Snowmass 62.00 5 eP P 21 21 36.0 0.0
R31A Burdett 62.06 11 ⇓P P 21 21 35.9 -0.1
baz=62
Q26A Hugo 62.08 8 ⇓P P 21 21 36.3 +0.1
baz=62
P23A Jefferson 62.28 6 ⇑P P 21 21 38.1 +0.3
baz=63
R32A Long Quarter, 62.35 12 ⇓P P 21 21 37.7 -0.1
baz=63
R33A Olander Ranch, 62.38 13 ⇑P P 21 21 37.9 -0.1
baz=63
Q29A Oakley 62.41 10 ⇓P P 21 21 38.5 +0.2
baz=63
P22A Eagle 62.43 5 ⇑P P 21 21 38.8 +0.2
baz=63,SNR=6.2
Q28A Sharon Springs 62.45 9 ⇓P P 21 21 39.0 +0.4
baz=63
NLU North Lily Min 62.58 0 eP P 21 21 40.4 +0.8
Q30A Quinter 62.62 10 ⇑P P 21 21 39.5 -0.2
baz=63
MPU Maple Canyon 62.64 0 eP P 21 21 40.4 +0.4
ISCO Idaho Springs 62.73 6 eP P 21 21 40.5 -0.2
ISCO Idaho Springs 62.73 6 eP P 21 21 40.5 -0.2
ISCO Idaho Springs 62.73 6 ⇑P P 21 21 40.9 +0.2
baz=63
Q31A Ellis 62.78 11 ⇓P P 21 21 41.1 +0.3
baz=63
DUG Dugway 62.82 359 eP P 21 21 41.5 +0.4
DUG Dugway 62.82 359 eP P 21 21 41.5 +0.4
DUG Dugway 62.82 359 ⇓P P 21 21 41.3 +0.1
baz=63,SNR=8.3
P27A Ficken Ranch, 62.83 8 ⇑P P 21 21 41.5 +0.3
baz=63
Q32A Meitler Ranch, 62.92 12 ⇑P P 21 21 41.3 -0.4
baz=63
O22A Kremmling 63.01 5 ⇓P P 21 21 42.3 -0.3
baz=63
DAU Daniels Canyon 63.04 1 eP P 21 21 43.3 +0.5
DAU Daniels Canyon 63.04 1 eP P 21 21 43.3 +0.5
Q33A Connelly Farm, 63.07 13 ⇓P P 21 21 42.5 -0.1
baz=63
O23A Lake Granby, G 63.11 5 ⇑P P 21 21 43.0 -0.2
baz=64
P29A Atwood 63.11 10 ⇑P P 21 21 43.5 +0.5
baz=64
P30A Selden 63.16 10 ⇑P P 21 21 43.6 +0.3
baz=64
JLU Jordanelle 63.23 1 eP P 21 21 44.3 +0.4
comp=Z,51nm,1.8s
BMN Battle Mountai 63.23 356 eP P 21 21 45.0 +1.1
BMN Battle Mountai 63.23 356 eP P 21 21 45.0 +1.1
P31A Stockton 63.29 11 ⇓P P 21 21 44.1 0.0
baz=64
ELK Elko 63.43 357 eP P 21 21 45.8 +0.5
ELK Elko 63.43 357 P P 21 21 45.6 +0.3
comp=Z,1.7nm,0.8s,baz=166,slow=6.4,SNR=9.4
ELK Elko 63.43 357 eP P 21 21 45.8 +0.5
O28A Krutsinger Ran 63.50 9 ⇑P P 21 21 45.8 +0.3
baz=64
P33A Williams Farm, 63.52 12 ⇑P P 21 21 45.8 +0.2
baz=64
P32A Huiting Farm, 63.53 12 ⇓P P 21 21 45.7 0.0
baz=64
BGU Big Grassy Mou 63.55 359 eP P 21 21 46.2 +0.2
comp=Z,15nm,1.8s
N20A Spence Gulch, 63.56 3 ⇑P P 21 21 46.9 +0.7
baz=64
N22A Wattenberg Ran 63.65 5 ⇑P P 21 21 47.1 +0.3
baz=64
N23A Red Feather La 63.78 5 ⇓P P 21 21 47.7 +0.1
baz=64
O30A MW Ranch, Wils 63.81 10 ⇓P P 21 21 47.8 +0.2
baz=64
WDC Whiskeytown Da 63.94 351 eP P 21 21 48.7 +0.4
WDC pmax pmax
comp=Z,21nm,1.4s
WDC Whiskeytown Da 63.94 351 eP P 21 21 48.7 +0.4
comp=Z,21nm,1.4s
HWUT Hardware Ranch 64.23 1 eP P 21 21 55.7 +5.2
comp=Z,95nm,2.8s
M22A Cedar Creek Ra 64.24 5 ⇑P P 21 21 51.4 +0.8
baz=65
N02D Trinity Center 64.35 351 ⇑P P 21 21 51.9 +0.8
baz=65
M24A Cheyenne 64.45 6 ⇑P P 21 21 52.0 +0.1
baz=65
M02C Callahan 64.78 351 ⇓P P 21 21 54.3 +0.4
baz=65
MOD Modoc 64.96 353 eP P 21 21 55.8 +0.6
L23A Garrett 65.02 5 ⇑P P 21 21 55.1 -0.6
baz=65
M04C Macdoel 65.03 352 ⇑P P 21 21 56.1 +0.5
baz=65
MSVF Nonsavu 65.09 260 eP P 21 22 01.4 +4.8
M31A Lambtecht Ranc 65.13 11 ⇓P P 21 21 56.5 +0.3
baz=66
L25A Engebretsen Ra 65.22 7 ⇑P P 21 21 57.2 +0.3
baz=66
WVOR Wild Horse Val 65.33 355 eP P 21 21 57.9 +0.3
WVOR pmax pmax
comp=Z,36nm,1.6s
WVOR Wild Horse Val 65.33 355 eP P 21 21 57.9 +0.3
comp=Z,36nm,1.6s
K21A Alcova 65.42 4 ⇑P P 21 21 57.9 -0.3
baz=66
BW06 Boulder Array 65.43 2 eP P 21 21 56.7 -1.6
PDAR Pinedale Array 65.43 2 P P 21 21 56.7 -1.7
comp=Z,3.5nm,0.8s,baz=172,slow=6.2,SNR=20
K22A Casper 65.48 5 ⇓P P 21 21 58.5 -0.1
baz=66
L29A Maesberg Ranch 65.59 10 ⇓P P 21 21 59.3 +0.2
baz=66
K23A Bowen Ranch, D 65.66 5 ⇓P P 21 21 59.6 -0.2
baz=66
K25A Mack Ranch, Ha 65.69 7 ⇑P P 21 21 59.8 -0.1
baz=66
K26A Motz Farm, Whi 65.85 7 ⇓P P 21 22 01.5 +0.6
baz=66
J19A Crowheart 65.95 2 ⇓P P 21 22 01.3 -0.3
baz=66
L31A Butterfield Fa 65.96 11 ⇓P P 21 22 02.0 +0.5
baz=66
HUMO Hull Mountain 65.99 351 eP P 21 22 02.5 +0.8
REDW Red Top Meadow 66.00 1 eP P 21 22 01.4 -0.6
J20A Shoshoni 66.08 3 ⇓P P 21 22 02.1 -0.3
baz=66
TPAW Teton Pass 66.12 1 eP P 21 22 02.3 -0.5
MFID Camas Ranch 66.12 357 eP P 21 22 02.8 +0.1
comp=Z,35nm,1.6s
HLID Hailey 66.22 358 eP P 21 22 03.0 -0.4
comp=Z,27nm,1.5s
HLID Hailey 66.22 358 ⇓P P 21 22 03.6 +0.3
baz=67
J22A Midwest 66.24 5 ⇓P P 21 22 02.9 -0.5
baz=67
LOHW Long Hollow 66.25 1 eP P 21 22 02.8 -0.8
comp=Z,24nm,1.6s
FXWY Fox Creek 66.27 1 eP P 21 22 03.2 -0.5
K29A Lazy Trails An 66.29 10 ⇑P P 21 22 03.6 -0.1
baz=67
MOOW Moose Ponds 66.38 1 eP P 21 22 03.3 -1.2
comp=Z,93nm,3.0s
J05D Fort Rock, OR 66.43 353 ⇓P P 21 22 05.0 +0.3
baz=67
J25A Sunshine Ranch 66.46 7 ⇓P P 21 22 04.7 -0.1
baz=67
J26A Sides Ranch, S 66.47 7 ⇓P P 21 22 04.6 -0.2
baz=67
J27A Elkhorn Farm, 66.54 8 ⇓P P 21 22 05.7 +0.4
baz=67
I21A Big Trails, Te 66.59 4 ⇓P P 21 22 05.4 -0.3
baz=67
I20A Worland 66.68 3 ⇑P P 21 22 05.7 -0.5
baz=67
FLWY Flagg Ranch 66.72 1 eP P 21 22 06.3 -0.3
I22A 9 Mile Ranch, 66.72 4 ⇓P P 21 22 06.1 -0.4
baz=67
I19A Meeteetse 66.72 2 ⇑P P 21 22 06.3 -0.3
baz=67
J28A Allard Ranch, 66.81 9 ⇑P P 21 22 07.2 +0.3
baz=67
I24A Kuemmerle Ranc 66.84 6 ⇓P P 21 22 06.9 -0.3
baz=67
VNDA Vanda 66.89 194 LR LR 21 45 02.5
comp=Z,319nm,19.1s,baz=344,slow=30
J29A Okreek 66.92 9 ⇑P P 21 22 07.7 0.0
baz=67
J30A Dallas 66.97 10 ⇓P P 21 22 08.0 0.0
baz=67
I07A Izee 67.04 354 eP P 21 22 09.2 +0.7
comp=Z,44nm,1.7s
I25A Rochford 67.09 7 ⇑P P 21 22 09.1 +0.2
baz=67
RSSD Black Hills 67.16 6 eP P 21 22 08.9 -0.5
RSSD Black Hills 67.16 6 eP P 21 22 08.9 -0.5
I26A New Underwood 67.20 7 ⇓P P 21 22 09.7 +0.3
baz=68
H20A Greybull 67.22 3 ⇓P P 21 22 09.6 0.0
baz=68
YMR Madison River 67.30 1 eP P 21 22 10.3 0.0
I27A Quinn 67.34 8 ⇑P P 21 22 10.4 +0.1
baz=68
H18A Shoshone NF, C 67.34 2 ⇑P P 21 22 10.3 -0.2
baz=68
H19A Powell 67.36 2 ⇓P P 21 22 10.5 0.0
baz=68
I28A Midland 67.38 9 ⇑P P 21 22 10.7 +0.1
baz=68
H22A Clearmont 67.43 5 ⇓P P 21 22 10.3 -0.7
baz=68
MCMT McKenzie Canyo 67.45 359 eP P 21 22 10.3 -1.0
comp=Z,13nm,1.5s
DCZ Deep Cove 67.62 229 eP P 21 22 13.4 +1.2
BMO Blue Mountains 67.64 356 eP P 21 22 12.4 +0.1
H24A Dirks Ranch, A 67.73 6 ⇑P P 21 22 12.2 -0.6
baz=68
H26A Fairpoint 67.79 7 ⇑P P 21 22 13.3 +0.1
baz=68
ECSD EROS Data Cent 67.88 12 ⇓P P 21 22 13.3 -0.4
baz=68
H27A Howes 67.89 8 ⇑P P 21 22 13.5 -0.2
baz=68
G20A Bridger 67.94 3 ⇑P P 21 22 13.8 -0.4
baz=68
G21A Lodge Grass 68.00 4 ⇓P P 21 22 14.2 -0.3
baz=68
G22A Birney 68.05 4 ⇓P P 21 22 14.3 -0.6
baz=68
H28A Mission Ridge 68.07 9 ⇑P P 21 22 14.7 -0.2
baz=68
G23A Biddle 68.11 5 ⇓P P 21 22 15.1 -0.1
baz=68
H29A Onida 68.13 9 ⇓P P 21 22 15.4 +0.1
baz=68
G08A Pilot Rock 68.19 355 eP P 21 22 16.4 +0.6
comp=Z,46nm,1.8s
G25A Newell 68.29 7 ⇑P P 21 22 16.1 -0.1
baz=69
G24A Alzada 68.32 6 ⇓P P 21 22 16.4 -0.1
baz=69
G28A Parade 68.47 9 ⇑P P 21 22 17.1 -0.3
baz=69
G26A Maurine 68.48 7 ⇓P P 21 22 17.2 -0.3
baz=69
F20A Billings 68.52 3 ⇑P P 21 22 17.2 -0.5
baz=69
F19A Roth Farm, Mol 68.54 2 ⇑P P 21 22 17.1 -0.8
baz=69
F23A Volborg 68.62 5 ⇑P P 21 22 18.0 -0.3
baz=69
G27A Dupree 68.64 8 ⇓P P 21 22 17.9 -0.6
baz=69
F10A Beach Ranch, E 68.75 356 eP P 21 22 19.5 +0.3
F26A Lodgepole 69.02 7 ⇓P P 21 22 20.8 -0.1
baz=69
F27A Lemmon 69.11 8 ⇓P P 21 22 21.5 +0.1
baz=70
E20A Meyer Farm, Mu 69.22 3 ⇓P P 21 22 22.0 -0.1
baz=70
HRY Holter Researc 69.33 0 eP P 21 22 22.8 -0.1
F29A Eureka 69.37 9 ⇑P P 21 22 23.0 0.0
baz=70
MSO Missoula 69.47 359 eP P 21 22 23.4 -0.3
MSO Missoula 69.47 359 ⇓P P 21 22 23.7 0.0
baz=70
CHMT Chamberlain Mo 69.54 359 eP P 21 22 24.0 -0.2
E24A Baker 69.55 6 ⇑P P 21 22 24.1 0.0
baz=70
E26A Carlson Angus 69.65 7 ⇑P P 21 22 24.4 -0.3
baz=70
D20A Manuel Ranch, 69.81 3 ⇓P P 21 22 25.7 0.0
baz=70
D21A La Casta Ranch 69.85 4 ⇑P P 21 22 25.8 -0.1
baz=70
D19A Cripps Ranch, 69.85 2 ⇓P P 21 22 25.9 -0.1
baz=70
SLMT Seeley Lake 69.88 359 eP P 21 22 26.0 -0.2
D08A Wollman Farm, 69.95 355 eP P 21 22 27.2 +0.7
E28A Huff 69.98 8 ⇑P P 21 22 26.6 -0.1
baz=70
D22A Cohagen 69.98 4 ⇓P P 21 22 26.9 +0.1
baz=70
D23A Lindsay 70.08 5 ⇑P P 21 22 27.6 +0.2
baz=70
D24A Glendive 70.10 6 ⇓P P 21 22 28.1 +0.7
baz=70
E29A Napoleon 70.12 9 ⇓P P 21 22 27.5 -0.1
baz=70
E30A Jud 70.16 10 ⇑P P 21 22 28.0 +0.2
baz=70
D26A Manning 70.21 7 ⇑P P 21 22 28.4 +0.3
baz=71
C19A Slack Wire Ran 70.41 2 ⇑P P 21 22 29.4 0.0
baz=71
C24A Savage 70.50 6 ⇓P P 21 22 30.1 +0.2
baz=71
BSMT Bassoo Peak 70.51 358 eP P 21 22 29.7 -0.4
C22A Vida 70.60 4 ⇑P P 21 22 30.4 0.0
baz=71
C21A Desert Coulee 70.60 4 ⇓P P 21 22 30.5 0.0
baz=71
D28A Regan 70.60 8 ⇑P P 21 22 30.1 -0.4
baz=71
D29A Pettibone, Tap 70.61 9 ⇑P P 21 22 30.3 -0.2
baz=71
EGMT Eagleton 70.68 2 ⇓P P 21 22 31.2 +0.1
baz=71
C23A Lambert 70.71 5 ⇓P P 21 22 31.5 +0.3
baz=71
D30A Buchanan 70.78 10 ⇓P P 21 22 31.7 +0.2
baz=71
NEW Newport 71.03 357 eP P 21 22 32.8 -0.3
NEW pmax pmax
comp=Z,22nm,1.4s
NEW Newport 71.03 357 eP P 21 22 32.8 -0.3
comp=Z,22nm,1.4s
NEW Newport 71.03 357 ⇓P P 21 22 33.6 +0.5
baz=71
C26A Wahner Farm, P 71.03 7 ⇑P P 21 22 33.5 +0.3
baz=71
B19A Brinkman Farms 71.14 2 ⇑P P 21 22 33.9 +0.1
baz=72
C30A Mose, Pekin 71.40 10 ⇓P P 21 22 35.4 +0.1
baz=72
DGMT Dagmar 71.45 6 ⇑P P 21 22 35.7 0.0

baz=72
A20A Cobblestone Ra 71.61 3 ⇓P P 21 22 36.6 +0.1
baz=72
A19A Klindworth Far 71.62 2 ⇓P P 21 22 36.9 +0.2
baz=72
A22A Carney Farms, 71.83 4 ⇑P P 21 22 38.2 +0.2
baz=72
B28A Dugan Ranch, T 71.86 8 ⇓P P 21 22 38.0 -0.1
baz=72
B29A Wagenman Farm, 72.01 9 ⇓P P 21 22 39.0 0.0
baz=72
A25A Svangstu Ranch 72.02 6 ⇓P P 21 22 38.9 -0.2
baz=72
A26A Wade Farm, Ken 72.09 7 ⇑P P 21 22 39.3 -0.2
baz=72
B30A Myrvik Farm, E 72.15 10 ⇑P P 21 22 39.9 +0.1
baz=72
A29A Manning Farm, 72.48 9 ⇑P P 21 22 41.1 -0.7
baz=73
A30A Hoffart Farm, 72.63 10 ⇓P P 21 22 42.2 -0.4
baz=73
DZM Mont Dzumac 74.16 252 eLR LR 21 45 34.9
comp=Z,443nm,28.6s
ULM Lac du Bonnet 74.30 11 P P 21 22 51.7 -0.7
comp=Z,2.0nm,0.7s,baz=223,slow=8.1,SNR=3.2
NCB Newcomb 75.14 27 eP P 21 22 57.0 -0.4
comp=Z,88nm,1.9s
SKAG Skagway 84.29 348 eP P 21 23 47.0 +0.3
comp=Z,25nm,1.6s
YKA Yellowknife Ar 85.17 359 P P 21 23 50.4 -0.7
comp=Z,4.3nm,1.1s,baz=172,slow=4.6,SNR=43
YKW3 Yellowknife Ar 85.24 359 eP P 21 23 50.2 -1.2
comp=Z,0.7nm,1.5s
HYT Haines Junctio 85.97 348 eP P 21 23 54.8 -0.5
BMRM Bremner River 87.65 345 eP P 21 24 02.1 -1.3
comp=Z,29nm,1.4s
H11S2 WAKE ISLAND Hy 89.26 290 T T 23 02 54.6
baz=117
H11S1 WAKE ISLAND Hy 89.28 290 T T 23 02 55.3
baz=117,slow=74,SNR=12
H11S3 WAKE ISLAND Hy 89.28 290 T T 23 02 54.1
baz=117,slow=74,SNR=14
PMR Palmer 89.33 343 eP P 21 24 09.9 -1.3
PMR pmax pmax
comp=Z,8.0nm,0.7s
PMR Palmer 89.33 343 eP P 21 24 09.9 -1.3
comp=Z,8.1nm,0.7s
RSO Redoubt South 89.42 341 eP P 21 24 10.2 -1.8
comp=Z,12nm,0.8s
H11N3 WAKE ISLAND Hy 89.59 292 T T 23 03 19.7
baz=118,slow=74,SNR=4.1
PAX Paxson 89.59 345 eP P 21 24 11.0 -1.6
PAX pmax pmax
comp=Z,12nm,1.5s
PAX Paxson 89.59 345 eP P 21 24 11.0 -1.6
comp=Z,12nm,1.5s
H11N1 WAKE ISLAND Hy 89.61 292 T T 23 03 20.8
baz=118
H11N2 WAKE ISLAND Hy 89.61 292 T T 23 03 20.8
baz=118,slow=74,SNR=7.3
MAW Mawson 89.64 178 LR LR 22 00 22.9
comp=Z,303nm,19.5s,baz=136,slow=33
STKA Stephens Creek 90.88 235 P P 21 24 19.6 +0.1
comp=Z,3.4nm,1.0s,baz=103,slow=5.5,SNR=4.6
TRF Thorofare Moun 91.17 344 eP P 21 24 18.4 -1.7
comp=Z,60nm,1.8s
PPLA Purkeypile 91.22 343 eP P 21 24 18.3 -2.0
comp=Z,35nm,1.6s
KTH Kantishna Hill 91.42 344 eP P 21 24 20.0 -1.1
comp=Z,41nm,1.5s
ILAR Eielson Array 91.47 346 P P 21 24 19.3 -1.9
comp=Z,0.5nm,0.8s,baz=167,slow=4.9,SNR=6.3
TORD Torodi Ar. Bea 116.81 86 PKP PKPdf 21 29 59.6 -1.1
comp=Z,1.0nm,1.1s,baz=246,slow=2.1,SNR=3.5
TORD PP PP 21 31 07.5 -1.8
comp=Z,1.6nm,1.1s,baz=243,slow=6.3,SNR=3.8
MDJ Mudanjiang 125.65 309 PKP PKPdf 21 30 16.4 -0.5
CN2 Changchun 128.67 308 ePKP PKPdf 21 30 23.6 +0.9
CN2 PP PP 21 32 34.4 +5.5
CN2 SS SS 21 49 46.6 0.0
CN2 AMB AMB
comp=Z,100nm,6.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,600nm,20.0s
CN2 LR LR
comp=Z,700nm,22.0s
WTTA Wattenberg 129.29 47⇑iPKiKP PKiKP 21 30 24.6 -0.2
comp=Z,8.6nm,1.1s
BRG Berggiesshubel 130.11 42 eP PKPdf 21 30 25.9 +0.7
comp=Z,7.5nm,1.2s
BRG Berggiesshubel 130.11 42 ePKIKP PKPdf 21 30 25.9 +0.7
BRG pmax pmax
comp=Z,8.0nm,1.2s
KHC Kasperske Hory 130.25 44 ePKIKP PKPdf 21 30 25.9 +0.3
KHC Kasperske Hory 130.25 44 ePKPdf PKPdf 21 30 25.9 +0.3
APA Apatity 130.53 17 ePKIKP PKPdf 21 30 31.2 +5.7
APA MLR MLR
comp=Z,500nm,25.0s
PVCC Panska Ves 130.58 42 ePKIKP PKPdf 21 30 26.5 +0.4
PVCC Panska Ves 130.58 42 ePKPdf PKPdf 21 30 26.5 +0.4
UPC Upice 131.48 42 ePKIKP PKPdf 21 30 28.3 +0.5
UPC Upice 131.48 42 ePKPdf PKPdf 21 30 28.3 +0.5
DPC Dobruska-Polom 131.71 42 ePKIKP PKPdf 21 30 29.6 +1.3
DPC Dobruska-Polom 131.71 42 ePKPdf PKPdf 21 30 29.6 +1.3
CONA Conrad Observa 131.99 45⇓iPKiKP PKiKP 21 30 29.5 -0.5
comp=Z,8.7nm,1.9s
KRLC Kraliky 132.06 42 ePKIKP PKPdf 21 30 29.5 +0.5
KRLC Kraliky 132.06 42 ePKPdf PKPdf 21 30 29.5 +0.5
OKC Ostrava-Krasne 132.98 42 ePKIKP PKPdf 21 30 34.9 +4.2
OKC Ostrava-Krasne 132.98 42 ePKPdf PKPdf 21 30 34.9 +4.2
VSU Vasula 134.03 29⇑iPKIKP PKPdf 21 30 33.4 +1.1
VSU MLR MLR
comp=Z,333nm,26.0s
NJ2 Nanjing 134.19 293 ePKP PKPdf 21 30 33.0 -0.5
STHS Stebnicka Huta 135.03 42 ePKIKP PKPdf 21 30 35.1 +0.5
STHS Stebnicka Huta 135.03 42 ePKPdf PKPdf 21 30 35.1 +0.5
CRVS Cervenica-Dubn 135.32 43 ePKIKP PKPdf 21 30 35.0 -0.1
CRVS Cervenica-Dubn 135.32 43 ePKPdf PKPdf 21 30 35.0 -0.1
KOLS Kolonicke sedl 135.82 42 ePKIKP PKPdf 21 30 37.6 +1.6
KOLS Kolonicke sedl 135.82 42 ePKP PKPdf 21 30 37.6 +1.6
KIEV Kiev 139.23 37⇑iPKIKP PKPdf 21 30 41.7 -0.5
AKASG Malin Array Be 139.23 37 PKP PKPdf 21 30 41.7 -0.5
comp=Z,2.5nm,0.7s,baz=290,slow=2.7,SNR=12
HHC Hu-ho-hao-te 139.27 306 ePKP PKPdf 21 30 39.7 -3.1
HHC sPKP 21 30 53.5
HHC PP PP 21 33 37.2 +0.6
HHC SS SS 21 51 50.7 -4.3
HHC AMB AMB
comp=Z,200nm,7.4s
HHC LR LR
comp=Z,270nm,16.0s
HHC LR LR
comp=Z,370nm,16.0s
HHC LR LR
comp=Z,160nm,18.5s
IRK Irkutsk 139.61 326 ePKIKP PKPdf 21 30 41.8 -1.1
IRK pmax pmax
comp=Z,18nm,1.5s
TLY Talaya 140.24 325 i PKHKP PKPpre 21 30 29.5
TLY pmax pmax
comp=Z,6.0nm,2.0s
OBN Obninsk 140.36 28⇑iPKIKP PKPdf 21 30 44.5 +0.4
OBN e 21 37 47.6
OBN pmax pmax
comp=Z,27nm,1.5s
OBN MLR MLR
comp=Z,72nm,18.0s
SONM Songino Array 140.54 319 PKhKP PKPpre 21 30 41.8
comp=Z,1.7nm,1.0s,baz=64,slow=1.2,SNR=9.0
ZAK Zakamensk 141.13 324 ePKIKP PKPdf 21 30 42.0 -3.9
ZAK pmax pmax
comp=Z,1.0nm,1.6s
VSR Storozhevoye 144.11 31 ePKIKP PKPab 21 30 47.9 -0.6
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR pmax pmax
comp=Z,10.0nm,1.3s
VORD Divnogorie 144.34 31 ePKIKP PKPab 21 30 47.9 -1.5
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,30nm,1.0s
VORD pmax pmax
comp=E,10.0nm,0.9s
GYA Guiyang 144.63 284⇑iPKP PKPbc 21 30 51.7 +0.1
GYA PP PP 21 34 13.0 +3.2
GYA PKS PKSdf 21 34 27.2 -1.4
GYA SKKS 21 41 01.5
GYA SS SS 21 52 57.4 -1.0
GYA AMB AMB
comp=E,130nm,7.6s
GYA LR LR
comp=E,160nm,20.6s
GYA LR LR
comp=E,130nm,21.0s
GYA LR LR
comp=E,150nm,20.4s
SIM Simferopol' 144.84 43 i PKIKP PKPab 21 30 49.8 -1.6
SIM pmax pmax
comp=Z,43nm,1.5s
VRHR Novokhopersk 145.33 29 ePKP2 PKPbc 21 30 50.9 -2.0
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,1.0s
VRHR pmax pmax
comp=Z,60nm,1.0s
SVE Sverdlovsk 145.76 7 ePKIKP PKPdf 21 30 53.1 -0.5
SVE pmax pmax
comp=Z,30nm,1.4s
ARU Arti 145.88 9 i PKP2 PKPdf 21 30 53.1 -0.7
ARU Arti 145.88 9 ePKPdf PKPdf 21 30 53.4 -0.5
NVS Novosibirsk 146.13 344 ePKIKP PKPdf 21 30 52.4 -1.9
NVS pmax pmax
comp=Z,50nm,2.1s
NVS pmax pmax
comp=N,11nm,1.9s
NVS pmax pmax
comp=E,11nm,1.9s
LZH Lanzhou 146.23 301 ePKPbc PKPbc 21 30 56.4 0.0
LZH pPKP PKiKP 21 30 59.8 +0.2
LZH sPKP 21 31 03.8
LZH PP PP 21 34 21.0 +2.1
LZH AMB AMB
comp=E,160nm,4.7s
LZH LR LR
comp=E,170nm,18.0s
LZH LR LR
comp=E,190nm,18.8s
LZH LR LR
comp=E,270nm,20.1s
ZAA0 Zalesovo Array 146.49 342 ePKPdf PKPdf 21 30 54.0 -1.0
ZALV Zalesovo Beam 146.49 342 PKP2 PKPdf 21 30 55.0 0.0
ZALV Zalesovo Beam 146.49 342 PKPdf PKPdf 21 30 55.0 0.0
comp=E,5.3nm,0.8s,baz=28,slow=2.4,SNR=23
SLVN Son La 146.59 274 ePKPdf PKPdf 21 30 56.6 +0.4
BR131 Keskin Array S 146.61 52 ePKPdf PKPdf 21 30 56.2 +0.3
BRTR Keskin Array B 146.61 52 PKP2 PKPbc 21 30 57.0 -0.4
BRTR Keskin Array B 146.61 52 PKPbc PKPbc 21 30 57.0 -0.4
comp=E,4.9nm,0.8s,baz=288,slow=2.2,SNR=13
CD2 Chengdu 147.10 292 PKPbc PKPdf 21 30 57.1 +0.3
CD2 pPKP PKiKP 21 31 07.8 +6.4
CD2 PP PP 21 34 28.1 +3.9
CD2 PKS PKSdf 21 34 30.9 -1.3
CD2 SKS SKSdf 21 38 03.0 -2.9
CD2 SKKS SKKSac 21 41 15.8 -0.4
CD2 SS SS 21 53 26.5 +0.4
CD2 AMB AMB
comp=E,140nm,5.4s
KMI Kunming 148.09 281 PKPbc PKPbc 21 31 02.3 +0.3
GTA Gaotai 148.30 309 PKPbc PKPbc 21 31 01.0 -1.0
GTA PKPab PKPab 21 31 09.3 +4.2
GTA PP PP 21 34 37.1 +6.3
GTA SKS SKSdf 21 38 07.8 +0.4
GTA SKKS SKKSac 21 41 25.6 +3.0
GTA SS SS 21 53 43.7 +4.9
GTA AMB AMB
comp=E,100nm,5.5s
GTA LR LR
comp=E,120nm,18.1s
GTA LR LR
comp=E,100nm,18.5s
GTA LR LR
comp=E,120nm,18.0s
SOC Sochi 149.01 42 i PKP2 PKPbc 21 31 03.7 +0.2
SOC pmax pmax
comp=E,46nm,1.4s
BRVK Borovoye 149.88 357d iPKP2 PKPbc 21 31 04.7 -0.7
BRVK Borovoye 149.88 357 ePKPdf PKPdf 21 31 00.6 +0.1
BRVK ePKPbc PKPbc 21 31 05.0 -0.3
BVAR Borovoye Array 149.91 357 PKPbc PKPbc 21 31 04.9 -0.6
comp=Z,5.4nm,0.8s,baz=308,slow=1.2,SNR=34
GOF Gofitskoye 150.08 37 ePKP2 PKPbc 21 31 06.2 +0.1
KIV Kislovodsk 150.56 39 ePKIKP PKPdf 21 31 02.7 +0.6
KIV e 21 31 07.7
KIV Kislovodsk 150.56 39 ePKPdf PKPdf 21 31 02.7 +0.6
KIV ePKPbc PKPbc 21 31 07.7 +0.3
KIV ePKPab PKPab 21 31 15.1 +0.9
CM31 Chiang Mai Arr 150.58 267 ePKPdf PKPdf 21 31 02.6 -0.1
CM31 ePKPbc PKPbc 21 31 08.1 0.0
CM31 ePKPab PKPab 21 31 14.9 0.0
CMAR Chiang Mai Arr 150.58 267 PKP PKPdf 21 31 02.2 -0.5
comp=Z,0.5nm,0.8s,baz=126,slow=1.1,SNR=5.4
CMAR PKPbc PKPbc 21 31 08.2 0.0
comp=Z,7.4nm,0.9s,baz=80,slow=0.5,SNR=44
CHTO Chiang Mai 150.66 268 ePKIKP PKPdf 21 31 03.3 +0.4
CHTO e 21 31 08.3
CHTO e 21 31 14.8
CHTO Chiang Mai 150.66 268 ePKPdf PKPdf 21 31 03.3 +0.4
CHTO ePKPbc PKPbc 21 31 08.3 0.0
CHTO ePKPab PKPab 21 31 14.8 -0.4
KBZ Khabaz 150.82 39 PKP PKPdf 21 31 02.1 -0.2
comp=Z,2.2nm,1.0s,baz=18,slow=4.3,SNR=4.6
KBZ PKPbc PKiKP 21 31 08.3 -0.2
comp=Z,17nm,0.8s,baz=255,slow=2.6,SNR=49
CHVG Ch'k'valeri 150.93 41 P PKPbc 21 31 08.6 +0.3
NEY Neytrino 151.00 40 i PKIKP PKPbc 21 31 09.5 +0.9
KURK Kurchatov 151.04 346 PKIKP PKPdf 21 31 01.9 -0.5
KURK e 21 31 02.1
KURK 21 31 07.4
KURK e 21 31 07.9
KURK Kurchatov 151.04 346 PKP PKPdf 21 31 01.9 -0.5
KURK ePKPdf PKPdf 21 31 02.1 -0.3
KURK PKPbc PKPbc 21 31 07.4 -0.8
KURK ePKPbc PKPbc 21 31 07.9 -0.3
KURBB Kurchatov Arra 151.14 346 PKP PKPdf 21 31 01.9 -0.7
comp=Z,2.0nm,1.1s,baz=11,slow=1.6,SNR=18
KURBB PKPbc PKPbc 21 31 07.4 -1.1
comp=Z,5.4nm,0.9s,baz=24,slow=2.0,SNR=32
NCK Nalchik 151.36 39⇑iPKIKP PKPbc 21 31 09.7 +0.4
ONI Oni 151.82 40 P PKPbc 21 31 10.2 -0.2
ZEI Tsey 151.97 39 ePKIKP PKPbc 21 31 09.1 -1.8
ZEI pmax pmax
comp=Z,20nm,1.9s
GUDG Gudauri 152.50 39 P PKPbc 21 31 17.2 +5.0
AKH Akhalkalaki 152.53 42 P PKPbc 21 31 11.7 -0.5
DUS Dusheti 152.87 40 P PKPab 21 31 18.4 -5.4
ABKAR Akbulak array 153.02 11 ePKPdf PKPdf 21 31 05.9 +0.4
ABKAR ePKPbc PKPbc 21 31 11.7 -1.0
ABKAR ePKPab PKPab 21 31 23.3 -0.7
MK31 Makanchi Array 153.50 337 ePKPdf PKPdf 21 31 05.6 -0.7
MK31 e 21 31 12.7
MK31 Makanchi Array 153.50 337 ePKPdf PKPdf 21 31 05.6 -0.7
MK31 ePKPbc PKPbc 21 31 12.7 -1.3
MKAR Makanchi Array 153.50 337 PKP PKPdf 21 31 05.2 -1.1
comp=Z,0.6nm,1.0s,baz=64,slow=2.8,SNR=5.6
MKAR PKPbc PKPbc 21 31 12.9 -1.1
comp=Z,1.5nm,0.8s,baz=35,slow=2.5,SNR=16
WMQ Urumqi 153.51 327 PKPbc PKPdf 21 31 06.1 -0.4
WMQ pPKP PKiKP 21 31 16.9 +2.7
WMQ sPKP 21 31 20.5
WMQ PP PP 21 35 03.5 +3.6
WMQ SKS SKSdf 21 38 07.7 -5.9
WMQ SKKS SKKSac 21 41 47.0 -3.7
WMQ LR LR
comp=Z,94nm,23.6s
WMQ LR LR
comp=Z,55nm,20.6s
WMQ LR LR
comp=Z,66nm,22.4s

IDC 02 21:13:25.5±1.2,22°.85S×112°.31W,h0km,mb4.2/7, mb1 4.5/7,mb1mx4.1/30,mbtmp4.2/7,Error ellipse: s-maj=37.8km s-min=30.0km az=27.0

ISCJB 02 21:13:26.0±3.7,22°.7S±0°.6×112°.2W±0°.4,h10km,mb4.3/11, Error ellipse: s-maj=95.8km s-min=20.4km az=34.6

NEIC 02 21:13:26.6±0.6,22°.90S×112°.26W,h10km,mb4.5/5,Error ellipse: s-maj=21.5km s-min=14.6km az=46.0

ISC 02 21:13:26.9±1.3,22°.9S±0°.3×112°.3W±0°.2,h10km,n29, σ0§62/22,mb4.4/11,Easter Island region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H03N2 Juan Fernandez 31.08 117 T T 21 52 25.1
baz=282,slow=75,SNR=35
H03N3 Juan Fernandez 31.09 117 T T 21 52 25.9
baz=282,slow=75,SNR=35
H03N1 Juan Fernandez 31.10 117 T T 21 52 26.4
baz=282,slow=75,SNR=30
LPAZ La Paz 41.97 89 P P 21 21 19.9 +0.9
7.5nm,1.2s,baz=277,slow=6.5,SNR=4.9
LPAZ La Paz 41.97 89 eP P 21 21 19.4 +0.4
15nm,1.3s
ROSC El Rosal 46.18 58 P P 21 21 52.5 -0.1
6.1nm,0.4s,baz=287,slow=19,SNR=2.7
SAML Samuel 48.95 82 eP P 21 22 13.2 -0.6
9.4nm,1.3s
TXAR Lajitas Array 52.57 9 P P 21 22 41.3 +0.5
1.2nm,1.1s,baz=180,slow=11,SNR=3.6
LENM Lemitar 56.95 5 eP P 21 23 12.0 -0.6
2.9nm,0.9s
LDFC Landfair 57.70 357 eP P 21 23 17.8 -0.1
SHPR Sheep Range 59.13 357 eP P 21 23 27.8 0.0
12nm,1.3s
NVAR Mina Array Bea 61.25 355 P P 21 23 43.7 +1.3
3.0nm,0.7s,baz=185,slow=9.3,SNR=9.2
ELK Elko 63.36 357 P P 21 23 56.3 -0.2
1.6nm,1.0s,baz=180,slow=10,SNR=3.4
PDAR Pinedale Array 65.37 2 P P 21 24 08.8 -0.8
1.3nm,0.7s,baz=169,slow=6.8,SNR=6.4
MCMT McKenzie Canyo 67.38 360 eP P 21 24 22.1 -0.4
3.7nm,1.4s
YKA Yellowknife Ar 85.10 359 P P 21 26 02.3 -0.1
0.8nm,0.7s,baz=171,slow=4.9,SNR=7.1
H11S2 WAKE ISLAND Hy 89.17 290 T T 23 05 03.1
baz=115
H11S1 WAKE ISLAND Hy 89.18 290 T T 23 05 03.9
baz=115
H11S3 WAKE ISLAND Hy 89.19 290 T T 23 05 03.1
baz=115
AKASG Malin Array Be 139.22 37 PKP PKPdf 21 32 53.0 -0.9
0.2nm,0.2s,baz=280,slow=3.2,SNR=5.2
SONM Songino Array 140.44 319 PKhKP PKPpre 21 32 48.6
0.1nm,0.4s,baz=97,slow=4.8,SNR=4.1
ZALV Zalesovo Beam 146.40 342 PKPbc PKPdf 21 33 06.7 +0.2
1.7nm,0.4s,baz=31,slow=2.6,SNR=6.2
BRTR Keskin Array B 146.62 52 PKPbc PKPbc 21 33 08.9 -0.2
2.5nm,0.8s,baz=277,slow=2.6,SNR=4.6
BVAR Borovoye Array 149.84 357 PKPbc PKPbc 21 33 16.9 -0.1
3.8nm,1.0s,baz=328,slow=1.7,SNR=7.0
CMAR Chiang Mai Arr 150.51 267 PKPbc PKPbc 21 33 20.2 +0.5
3.0nm,0.9s,baz=61,slow=0.6,SNR=7.5
KBZ Khabaz 150.81 39 PKPbc PKPbc 21 33 20.3 +0.7
8.1nm,0.9s,baz=253,slow=1.5,SNR=7.2
KURK Kurchatov 150.95 346 PKPbc PKPbc 21 33 19.1 -0.6
KURBB Kurchatov Arra 151.06 346 PKPbc PKPbc 21 33 19.1 -0.8
4.0nm,1.1s,baz=18,slow=1.8,SNR=5.2
MKAR Makanchi Array 153.41 337 PKPbc PKPbc 21 33 25.1 -0.4
0.6nm,0.6s,baz=72,slow=2.4,SNR=4.1

MEX 02 21:57:57.5±0.4,17°.84N×95°.33W,h59km±29km,MD3.7, Oaxaca

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMIG Matias Romero 0.86 150 i P Pn 21 58 12.1 -1.6
CMIG i S Sn 21 58 23.8 -1.8
VHO Vista Hermosa 1.54 241 i P Pn 21 58 21.5 -1.4
VHO i S Sn 21 58 39.9 -2.3
PCIG 2.93 136 eP Pn 21 58 42.8 +1.1
PCIG eS Sn 21 59 04.9 -11

ISCJB 02 22:07:35.8±0.3,21°.34S±0°.04×67°.66W±0°.04,h175km±5km, mb3.8/5,Error ellipse: s-maj=7.5km s-min=4.5km az=141.5

SJA 02 22:07:35.6±1.1,21°.03S×67°.34W,h40km±461km,ML3.2, MW3.2

IDC 02 22:07:36.5±1.9,21°.32S×67°.53W,h165km±15km,mb3.7/5, mb1 3.9/8,mb1mx3.6/27,mbtmp4.1/8,Error ellipse: s-maj=24.9km s-min=15.1km az=63.0

NEIC 02 22:07:37.3,21°.33S×68°.17W,h203km,mb4.1/3,After GUC.

GUC 02 22:07:37.2±0.4,21°.34S×68°.19W,h205km±5km,ML4.5

ISC 02 22:07:36.5±0.7,21°.36S±0°.04×67°.66W±0°.04,h170km±7km, n43,σ1§73/68,mb4.1/5,11C-2D,Chile-Bolivia border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PB09 Plate Boundary 1.54 253⇑eP Pn 22 08 09.4 +1.2
PB09 eS Sn 22 08 33.2 +0.6
PB09 AML AML 22 08 35.1
comp=N,5µm,0.4s
PB09 Plate Boundary 1.54 253⇑eP Pn 22 08 09.4 +1.2
PB09 eS Sn 22 08 33.2 +0.6
LVC Limon Verde 1.71 223 ePn Pn 22 08 11.2 +1.2
LVC eSn Sn 22 08 36.4 +0.5
LVC Limon Verde 1.71 223 i P Pn 22 08 10.9 +1.0
LVC eS Sn 22 08 37.4 +1.6
PB01 Plate Boundary 1.73 280⇑eP Pn 22 08 10.3 +0.1
PB01 eS Sn 22 08 35.6 -0.4
PB01 Plate Boundary 1.73 280⇑eP Pn 22 08 10.3 +0.1
PB01 eS Sn 22 08 35.6 -0.4
MACH Maria Elena 2.12 246 eP Pn 22 08 15.2 +0.7
MACH i S Sn 22 08 43.1 -0.7
MACH Maria Elena 2.12 246 eP Pn 22 08 15.0 +0.5
MACH eS Sn 22 08 43.1 -0.7
PB06 Plate Boundary 2.22 233⇑eP Pn 22 08 16.2 +0.6
PB06 eS Sn 22 08 45.8 -0.1
PB06 AML AML 22 08 46.9
comp=E,2µm,0.1s
PB06 Plate Boundary 2.22 233⇑eP Pn 22 08 16.2 +0.6
PB06 eS Sn 22 08 45.8 -0.1
HMBC Humberstone 2.34 297⇑eP Pn 22 08 16.6 -0.4
HMBC i S Sn 22 08 46.5 -1.8
HMBC AML AML 22 08 47.8
comp=N,2µm,0.2s
HMBC Humberstone 2.34 297⇑eP Pn 22 08 16.6 -0.4
HMBC i S Sn 22 08 46.5 -1.8
PB11 Plate Boundary 2.45 310⇑eP Pn 22 08 18.2 -0.1
PB11 S Sn 22 08 49.0 -1.6
MNMC Minimini 2.87 320⇑eP Pn 22 08 23.8 +0.4
MNMC eS Sn 22 08 59.2 -0.5
MNMC AML AML 22 09 02.9
comp=N,1µm,0.2s
MNMC Minimini 2.87 320⇑eP Pn 22 08 23.8 +0.4
MNMC eS Sn 22 08 59.2 -0.5
CEN1 Los Morros 3.10 229⇓eP Pn 22 08 29.0 +2.9
CEN1 i S Sn 22 09 07.9 +3.3
CEN1 Los Morros 3.10 229⇓eP Pn 22 08 29.0 +2.9
CEN1 eS Sn 22 09 07.9 +3.3
ANCH Antofagasta 3.44 227 eP Pn 22 08 27.8 -2.3
ANCH eS Sn 22 09 07.7 -4.3
ANCH Antofagasta 3.44 227 eP Pn 22 08 27.8 -2.3
ANCH eS Sn 22 09 07.7 -4.3
AZAP Zapla 3.72 140 i P Pn 22 08 34.8 +0.8
AZAP eS Sn 22 09 19.3 +0.4
AZAP AML AML 22 09 20.3
comp=Z,46nm,0.5s
SLA San Lorenzo 3.89 150 i P Pn 22 08 38.3 +2.2
SLA eS Sn 22 09 25.4 +2.7
SLA AML AML 22 09 29.4
comp=Z,26nm,0.5s
ASTB Santa Barbara 3.91 132 i P Pn 22 08 37.3 +1.0
ASTB eS Sn 22 09 20.8 -2.1
ALOL LOMAS DE OLMED 4.20 126 i P Pn 22 08 40.0 +0.2
ALOL eS Sn 22 09 27.1 -2.3
LPAZ La Paz 5.06 355 P Pn 22 08 52.7 +0.9
comp=Z,5.6nm,0.3s,baz=141,slow=7.2,SNR=78
LPAZ S Sn 22 09 50.0 -0.6
comp=Z,0.2nm,0.3s,baz=225,slow=2.9,SNR=2.8
LPAZ La Paz 5.06 355 ePn Pn 22 08 52.5 +0.8
comp=Z,16nm,0.4s
LPAZ eSn Sn 22 09 49.2 -1.4
LCO Las Campanas 8.10 199 ePn Pn 22 09 27.9 -3.5

comp=Z,8.1nm,0.5s
LCO eSn Sn 22 10 56.8 -5.4
AGUA GUANDACOL 8.13 185 i P9 22 09 31.6
AGUA eS Sn 22 10 58.8 -3.9
SIV San Ignacio 8.21 51 P Pn 22 09 30.1 -2.7
comp=Z,16nm,0.3s,baz=266,slow=12,SNR=161
SIV S Sn 22 10 57.8 -6.9
comp=Z,1.2nm,0.3s,baz=158,slow=21,SNR=7.3
CFAA Coronel Fontan 10.22 183 P Pn 22 09 58.1 -1.0
comp=Z,0.1nm,0.3s,baz=7.4,slow=7.9,SNR=8.9
CFAA S Sn 22 11 44.8 -7.8
comp=Z,0.2nm,0.3s,baz=50,slow=17,SNR=6.8
CPUP Villa Florida 10.67 120 P Pn 22 10 05.7 +0.7
comp=Z,0.9nm,0.3s,baz=282,slow=10,SNR=3.3
TRQA Tornquist 17.35 165 ePn Pn 22 11 28.1 -0.4
comp=Z,1.3nm,0.6s
BB16B Bebedouro 17.79 92 (P) P 22 11 31.9 -0.4
BDFB Brasilia 19.47 76 P Pn 22 11 53.5 -0.3
comp=Z,2.2nm,0.3s,baz=252,slow=8.0,SNR=17
TXAR Lajitas Array 61.19 324 P P 22 17 34.8 +1.2
comp=Z,0.5nm,0.8s,baz=153,slow=8.1,SNR=3.3
ULM Lac du Bonnet 75.54 342 P P 22 19 01.6 -0.5
comp=Z,1.8nm,0.4s,baz=156,slow=4.4,SNR=6.0
NVAR Mina Array Bea 76.11 321 P P 22 19 06.4 +0.6
comp=Z,0.4nm,0.5s,baz=146,slow=7.0,SNR=3.2
TORD Torodi Ar. Bea 76.21 70 P P 22 19 06.3 -0.4
comp=Z,1.9nm,0.5s,baz=260,slow=5.7,SNR=25
YKA Yellowknife Ar 91.44 340 P P 22 20 23.5 +0.5
comp=Z,1.8nm,0.6s,baz=133,slow=4.5,SNR=49
ASAR Alice Springs 130.57 206 PKP PKPdf 22 26 28.4 +0.5
comp=Z,0.4nm,0.5s,baz=140,slow=2.3,SNR=4.5
WRA Warramunga Arr 133.66 209 PKP PKPdf 22 26 34.6 +0.8
comp=Z,0.3nm,0.4s,baz=152,slow=1.9,SNR=9.2
ZALV Zalesovo Beam 141.32 26 PKhKP PKPpre 22 26 42.6
comp=Z,0.3nm,0.4s,baz=297,slow=1.0,SNR=2.9
MKAR Makanchi Array 144.83 37 PKP PKPdf 22 26 53.5 +0.3
comp=Z,7.6nm,1.0s,baz=315,slow=4.4,SNR=47
SONM Songino Array 153.15 9 PKPbc PKPbc 22 27 14.9 +0.6
comp=Z,0.2nm,0.4s,baz=344,slow=1.5,SNR=3.9
SONM PKPab PKPab 22 27 26.2 -0.2
comp=Z,0.3nm,0.5s,baz=337,slow=2.2,SNR=3.5

IDC 02 22:14:22.9±1.6, 3.85S×124.05E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/26, mbtmp3.3/3, ML3.3/1, MS3.0/1, Ms1 3.2/1, ms1mx2.5/11, Error ellipse: s-maj=250.9km s-min=25.7km az=61.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.88	149	P	Pn	22 18 45.5	-0.1
	0.1nm,0.3s,baz=322,slow=12,SNR=9.4						
ASAR	Alice Springs	21.88	155	P	P	22 19 17.4	-0.2
	0.8nm,0.8s,baz=333,slow=12,SNR=6.5						
CMAR	Chiang Mai Arr	33.22	313	LR	LR	22 37 16.4	
	comp=Z,23nm,18.7s,baz=120,slow=41						
MKAR	Makanchi Array	62.43	329	P	P	22 24 47.8	-0.1
	0.3nm,0.8s,baz=113,slow=3.3,SNR=3.0						

BJI 02 22:31:58.4, 6.80N×73.00W, h156km, mB5.1/15
ISCJB 02 22:31:59.7±0.3, 6.81N±0.03×72.92W±0.02, h171km±2km, mb4.7/138, Error ellipse: s-maj=4.6km s-min=3.5km az=0.8
FUNV 02 22:32:00.3, 6.75N×73.12W, h165km, MW4.8
NEIC 02 22:32:00.6±0.3, 6.74N×72.91W, h166km±3km, mb4.8/107, Error ellipse: s-maj=3.8km s-min=3.4km az=45.0
NEIC Felt [III] at Bucaramanga. Also felt at Bogota and Medellin.
IDC 02 22:32:00.4±0.6, 6.77N×72.93W, h162km±6km, mb4.4/17, mb1 4.5/22, mb1mx4.3/29, mbtmp4.9/22, MS3.4/3, Ms1 3.4/3, ms1mx2.9/26, Error ellipse: s-maj=10.5km s-min=7.8km az=76.0
MOS 02 22:32:01.5±1.1, 6.96N×72.93W, h177km, mb4.7/36, Error ellipse: s-maj=8.7km s-min=5.6km az=109.1
ISC 02 22:32:00.1±0.4, 6.81N±0.03×72.94W±0.04, h161km±3km, h161km:pP-P, n798, σ0.96/852, mb4.7/138, 198C-217D, Northern Colombia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CAPV Capacho 1.22 31⇑eP Pn 22 32 29.5 +1.4
CAPV eS Sn 22 32 50.4 +0.8
ROSC El Rosal 2.38 216 P Pn 22 32 41.2 +0.4
881nm,0.3s,baz=61,slow=3.9,SNR=847
ROSC S Sn 22 33 12.1 -0.2
2μm,0.3s,baz=112,slow=20,SNR=11
ROSC LR LR 22 33 34.2
comp=Z,401nm,18.9s,baz=228,slow=40
ROSC El Rosal 2.38 216 ePn Pn 22 32 41.2 +0.4
ROSC eSn Sn 22 33 10.3 -1.9
ROSC S Sn 22 33 12.1 -0.2
SOCV Socops 2.53 55⇑eP Pn 22 32 43.6 +1.3
SOCV eS Sn 22 33 15.4 +0.6
SDV Santo Domingo 3.08 48 ePn Pn 22 32 50.7 +1.6
ELOV Elorza 3.44 87 eP Pn 22 32 55.6 +2.1
VIRV Villa del Rosa 3.71 8⇓eP Pn 22 32 56.3 -0.6
VIRV eS Sn 22 33 39.1 -2.1
QARV Quebrada Arrib 4.14 35⇑iP Pn 22 33 03.8 +1.2
SANV Sanarito 4.30 51 eP Pn 22 33 05.6 +0.9
SANV eS Sn 22 33 53.7 -1.4
CURV Curarigua 4.34 43 eP Pn 22 33 06.1 +0.9
DABV Dabajuro 4.68 29 eP Pn 22 33 10.3 +0.8
TEPV Terepaima 4.86 50 eP Pn 22 33 12.9 +1.0
TEPV eS Sn 22 34 06.2 -1.8
SIQV Siquisique 4.91 39 eP Pn 22 33 13.2 +0.5
BAUV El Baul 5.30 66⇑eP Pn 22 33 17.6 -0.1
BAUV eS Sn 22 34 16.5 -1.9
MAPV Macapo 5.36 56⇑iP Pn 22 33 19.3 +0.8
MAPV eS Sn 22 34 17.6 -2.3
JACV Jacura 5.88 43 eP Pn 22 33 26.3 +0.9
MONV Montecano 5.89 30 eP Pn 22 33 25.5 -0.1
TURV Turiamo 6.21 54 eP Pn 22 33 29.8 +0.1
TURV eS Sn 22 34 27.2 -2.8
FUNV FUNVISIS 7.07 59 eP Pn 22 33 41.1 -0.1
BCIP Isla Barro Col 7.22 289 ePn Pn 22 33 39.6 -3.5
BCIP eSn Sn 22 35 01.4 -2.8
CUPV Cœpira 7.78 65 eP Pn 22 33 50.4 -0.3
PRGV PARIAGUAN 8.45 76 eP Pn 22 33 59.5 +0.1
OTAV Otavalo 8.53 220 ePn Pn 22 33 60.0 -1.1
PCRV Puerto La Cruz 8.87 67 eP Pn 22 34 04.8 -0.3
CRUV Carupano 10.33 68 eP Pn 22 34 24.3 -0.1
YHJ Yallahs 11.55 343 i P Pn 22 34 41.9 +1.5
PCJ Portland Cotta 11.62 340 eP Pn 22 34 42.9 +1.8
PCJ i S Sn 22 36 33.5 -16
HOJ Hope 11.73 342 i P Pn 22 34 45.5 +2.8
GWJ Greenwich 11.79 342 eP Pn 22 34 44.3 +0.7
STH Stony Hill 11.82 342 eP Pn 22 34 45.7 +1.9
STH i S Sn 22 36 39.3 -15
TPP Pointe-a-Pierr 11.88 72 e P 22 34 55.1 +4.0
MCJ Malvern 11.98 338 i P Pn 22 34 47.7 +1.7
TRN Trinidad (W) 12.03 71 e P 22 34 54.5 +1.9
CVJ Coleyville 12.20 339 eP Pn 22 34 51.0 +2.2
MTDJ Mount Denham 12.20 339 ePn Pn 22 34 50.6 +1.8
SDDR Presa de Saban 12.21 7 ePn Pn 22 34 51.8 +3.0
SDDR eSn Sn 22 36 59.3 -4.8
TBH Brigand Hill 12.29 72 e P 22 34 59.5 +3.9
GRGR Grenville 12.32 64 ePn Pn 22 34 54.7 -1.3
230nm,0.5s
JTS JuntasAbangare 12.37 287 P Pn 22 34 51.4 +0.4
3.7nm,0.3s,baz=259,slow=6.5,SNR=14
CRPR Cabo Rojo, PR 12.50 27 ePn Pn 22 34 51.0 -1.5
CRPR eSn Sn 22 37 05.4 -5.6
CELP Cerrillos 12.80 28 ePn Pn 22 34 54.5 -1.9
LRS Lares 12.87 27 ePn Pn 22 34 57.0 -0.3
AOPR Arecibo Observ 12.96 27 ePn Pn 22 34 58.4 0.0
SJG San Juan 13.04 30 eP Pn 22 34 59.2 -0.3
SJG e 22 37 12.7
SJG pmax pmax
comp=Z,47nm,0.5s
SJG San Juan 13.04 30 P Pn 22 34 58.7 -0.8
comp=Z,0.5nm,0.3s,baz=270,slow=5.5,SNR=34
SJG S Sn 22 37 13.2 -11
baz=180,slow=20,SNR=5.7
SJG San Juan 13.04 30 ePn Pn 22 34 59.1 -0.3
comp=Z,47nm,0.5s
SJG eSn Sn 22 37 12.7 -11
SVB Belmont 13.18 60 eP Pn 22 35 04.8 -0.7
GTBY Guantanamo Bay 13.21 351 ePn P 22 35 05.1 -0.7
HUMP Col San Antoni 13.22 31 ePn Pn 22 35 02.8 +1.0
CBYP Canovanas 13.32 31 ePn Pn 22 35 03.6 +0.5
comp=Z,34nm,0.5s
CDVI St. Croix 13.49 36 ePn Pn 22 35 06.9 +1.7
FDF Fort de France 14.00 55 eP Pn 22 35 12.0 +0.2
FDF pmax pmax
comp=Z,103nm,0.6s
FDF Fort de France 14.00 55 eP P 22 35 13.4 -1.2
FDF Fort de France 14.00 55 ePn Pn 22 35 12.0 +0.2
comp=Z,103nm,0.6s
ATAH Atahualpa 14.88 202 P P 22 35 24.5 -0.3
comp=Z,4.1nm,0.3s,baz=15,slow=7.7,SNR=9.6
PTGA Pitinga 14.96 120 P Pn 22 35 24.1 +0.3
comp=Z,2.2nm,0.3s,baz=295,slow=13,SNR=14
PTGA Pitinga 14.96 120 ePn Pn 22 35 24.0 +0.3
comp=Z,8.7nm,0.8s
DEG La Desirade 14.98 50 eP P 22 35 25.6 +0.1
SAML Samuel 18.43 148 eP P 22 36 04.0 +0.6
comp=Z,7.8nm,0.8s
NNA Nana 19.07 192 eP P 22 36 09.6 -0.9
NNA Nana 19.07 192 eP P 22 36 09.6 -0.9
TEIG Tepich 19.98 313 P P 22 36 21.0 +0.8
comp=Z,42nm,0.5s,baz=89,slow=0.8,SNR=23
TEIG Tepich 19.98 313 eP P 22 36 20.9 +0.8
comp=Z,39nm,0.7s
LPAZ La Paz 23.44 168 eP P 22 36 55.9 +0.2
LPAZ *PP pP 22 37 28.1 +1.6
LPAZ S S 22 40 56.1 -1.5
LPAZ pmax pmax
comp=Z,19nm,0.8s
LPAZ La Paz 23.44 168 P P 22 36 56.0 +0.3
comp=Z,6.9nm,0.7s,baz=354,slow=10,SNR=26
LPAZ pP pP 22 37 28.1 +1.6
comp=Z,15nm,0.8s,baz=358,slow=13,SNR=6.4
LPAZ S S 22 40 56.1 -1.5
comp=Z,3.2nm,0.8s,baz=0.0,slow=20,SNR=4.1
LPAZ La Paz 23.44 168 eP P 22 36 55.9 +0.2
comp=Z,19nm,0.8s
LPAZ pP pP 22 37 28.1 +1.6
LPAZ S S 22 40 56.1 -1.5
SIV San Ignacio 25.52 153 P P 22 37 13.8 -0.2
comp=Z,1.4nm,0.4s,baz=327,slow=11,SNR=6.8
SIV pP pP 22 37 48.3 +0.9
comp=Z,8.7nm,0.8s,baz=339,slow=7.6,SNR=7.7
TIGA Tifton 26.45 339 ⇑P P 22 37 23.1 +1.0
baz=27
KMSC Kings Mountain 29.23 346 ⇑P P 22 37 48.1 +1.2
baz=29
CPCT Cooper Cave 30.43 341 eP P 22 38 00.7 +3.3
035A Encino 31.19 313 ⇑P P 22 38 04.8 +0.6
baz=31
034A Hebbronville 31.68 312 ⇑P P 22 38 09.1 +0.6
baz=32
835A Beeville 31.79 315 ⇓P P 22 38 10.4 +0.9
baz=32
WVT Waverly 32.21 337 eP P 22 38 13.9 +0.9
WVT e 22 41 06.2
WVT pmax pmax
comp=Z,33nm,0.7s
WVT Waverly 32.21 337 eP P 22 38 13.9 +0.9
comp=Z,33nm,0.7s
WVT ePcP PcP 22 41 06.2 +8.3
933A Laredo 32.43 313 ⇑P P 22 38 14.8 -0.3
baz=33
535A Dale 32.70 318 ⇑P P 22 38 17.1 -0.3
baz=33
833A Chaparral WMA, 32.92 314 ⇑P P 22 38 18.5 -0.8
baz=33
733A Divot King Ran 33.08 314 ⇑P P 22 38 19.2 -1.6
baz=33
MVL Millersville 33.19 355 eP P 22 38 23.5 +2.0
comp=Z,14nm,0.5s
435B Jarrell 33.20 319 ⇓P P 22 38 21.1 -0.6
baz=33
BDFB Brasilia 33.28 132 P P 22 38 23.3 +0.6
comp=Z,4.0nm,0.5s,baz=297,slow=11,SNR=8.5
534A Blanco 33.31 317 ⇓P P 22 38 22.1 -0.6
baz=34
832A Faith Ranch, C 33.32 313 ⇓P P 22 38 22.2 -0.6
baz=33
335A Moody 33.42 320 ⇓P P 22 38 23.3 -0.4
baz=34
MIAR Mount Ida 33.53 328 eP P 22 38 24.4 -0.1
MIAR pmax pmax
comp=Z,10.0nm,0.8s
MIAR Mount Ida 33.53 328 eP P 22 38 24.4 -0.1
comp=Z,10nm,0.8s
WCI Wyandotte Cave 33.54 341 eP P 22 38 25.0 +0.4
WCI pmax pmax
comp=Z,35nm,0.7s
WCI Wyandotte Cave 33.54 341 eP P 22 38 25.0 +0.4
comp=Z,35nm,0.7s
732A Laxson Ranch, 33.57 314 ⇓P P 22 38 23.9 -1.1
baz=34
434A Burnet 33.67 318 ⇓P P 22 38 25.2 -0.6
baz=34
533A Kerrville 33.72 317 ⇑P P 22 38 25.6 -0.6
baz=34
USIN University of 33.77 339 eP P 22 38 26.9 +0.4
comp=Z,68nm,0.9s
PBMO Poplar Bluff 33.83 334 eP P 22 38 28.1 +1.0
comp=Z,62nm,0.8s
632A Uvalde 33.89 315 ⇓P P 22 38 27.6 -0.2
baz=34,SNR=5.9
WHTX Lake Whitney 33.92 321 ⇓P P 22 38 27.6 -0.3
baz=34
334A Lometa 33.98 319 ⇓P P 22 38 28.3 -0.2
baz=34,SNR=5.2
PAL Palisades 34.06 359 eP P 22 38 30.5 +1.5
PAL pmax pmax
comp=Z,81nm,0.6s
PAL Palisades 34.06 359 eP P 22 38 30.5 +1.5
comp=Z,80nm,0.6s
SIUC Southern Illin 34.13 337 eP P 22 38 30.5 +0.8
comp=Z,70nm,0.7s
ODNJ Ogdensburg 34.16 358 eP P 22 38 32.0 +2.1
comp=Z,143nm,2.7s
433A Art 34.18 318 ⇑P P 22 38 29.8 -0.4
baz=34,SNR=21
135A Vickery Place, 34.27 322 ⇑P P 22 38 31.0 0.0
baz=34
234A Clairette 34.35 320 ⇑P P 22 38 31.7 0.0
baz=34
631A Perdido Creek 34.40 314 ⇓P P 22 38 31.9 -0.2
baz=34,SNR=7.4
333A Richland Sprin 34.46 318 ⇑P P 22 38 32.4 -0.2
baz=35,SNR=14
BLO Bloomington 34.47 341 eP P 22 38 34.2 +1.6
BLO pmax pmax
comp=Z,83nm,0.6s
BLO Bloomington 34.47 341 eP P 22 38 34.2 +1.6
comp=Z,82nm,0.6s
ACSO Alum Creek Sta 34.47 346 eP P 22 38 34.5 +1.9
comp=Z,23nm,0.8s
JCT Junction City 34.49 316 ⇓P P 22 38 32.5 -0.4
baz=35
OLIL Olney 34.61 339 eP P 22 38 34.7 +1.0
comp=Z,55nm,0.6s
KSPA Keystone Colle 34.69 356 eP P 22 38 36.6 +2.1
134A White-Moore Ra 34.70 321 ⇓P P 22 38 34.8 +0.2
baz=35
Z35A Perchaven, San 34.71 323 ⇑P P 22 38 35.1 +0.4
baz=35,SNR=5.5
432A Menard 34.72 317 ⇑P P 22 38 34.7 -0.3
baz=35
531A Rocksprings 34.81 315 ⇓P P 22 38 35.6 -0.1
baz=35,SNR=8.8
233A Rising Star 34.85 319 ⇑P P 22 38 36.0 0.0
baz=35,SNR=7.3
332A Millersview 35.00 318 ⇓P P 22 38 37.2 -0.1
baz=35,SNR=9.5
Z34A Collier Ranch, 35.14 322 ⇓P P 22 38 38.4 0.0
baz=35,SNR=5.1
431A Sonora 35.16 316 ⇑P P 22 38 38.6 -0.1
baz=35
133A Hamilton Ranch 35.25 320 ⇓P P 22 38 39.5 +0.1
baz=35,SNR=5.3
232A Coleman 35.26 319 ⇓P P 22 38 39.5 0.0
baz=35,SNR=11
530A J-C Ranch, Com 35.36 315 ⇑P P 22 38 40.5 +0.1
baz=36,SNR=20
331A San Angelo 35.42 317 ⇓P P 22 38 41.0 +0.1
baz=36
Y34A Reagan Ranch, 35.44 323 ⇑P P 22 38 41.2 +0.2
baz=36,SNR=6.7
HRV Adam Dziewonsk 35.57 2 eP P 22 38 44.1 +2.1
HRV pmax pmax
comp=Z,36nm,1.0s
HRV Adam Dziewonsk 35.57 2 eP P 22 38 44.1 +2.1
comp=Z,36nm,1.0s
Z33A Whitaker Ranch 35.60 321 ⇓P P 22 38 42.3 -0.1
baz=36,SNR=7.6
430A Baggett Ranch, 35.66 316 ⇓P P 22 38 42.6 -0.4
baz=36
ERPA Erie 35.71 351 eP P 22 38 45.0 +1.9
comp=Z,16nm,0.7s
ABTX Abilene, Hawle 35.73 320 eP P 22 38 43.5 0.0
ABTX Abilene, Hawle 35.73 320 ⇓P P 22 38 43.5 0.0
baz=36,SNR=9.3
231A Bronte 35.73 318 ⇓P P 22 38 43.4 -0.1
baz=36,SNR=7.8
TUL1 Tulsa 35.74 327 eP P 22 38 42.8 -0.7
TUL1 Tulsa 35.74 327 ⇓P P 22 38 43.3 -0.2
baz=36,SNR=6.1
SFIN Scholer Farm 35.75 341 eP P 22 38 44.4 +0.9
SFIN Scholer Farm 35.75 341 ⇑P P 22 38 44.5 +1.0
baz=36,SNR=28
X34A Smith Ranch, M 35.94 324 ⇓P P 22 38 45.4 +0.2
baz=36,SNR=7.1
529A Stev Forest Ra 35.98 314 ⇓P P 22 38 45.3 -0.4
baz=36,SNR=8.4
330A Mertzon 35.99 316 ⇓P P 22 38 45.4 -0.4
baz=36
Y33A Hilltop Ranch, 36.00 322 ⇑P P 22 38 46.0 +0.2
baz=36,SNR=7.5
429A Davenport Ranc 36.03 315 ⇑P P 22 38 46.0 -0.1
baz=36,SNR=6.4
Z32A Haskell 36.06 321 ⇑P P 22 38 46.6 +0.3
baz=36,SNR=19
628A Black Gap, Mar 36.11 312 ⇑P P 22 38 47.0 +0.2
baz=36,SNR=6.9
230A Sterling City 36.23 317 ⇑P P 22 38 47.7 -0.1
baz=36
131A Roby 36.24 319 ⇓P P 22 38 47.8 -0.1
baz=36,SNR=6.5
X33A Lawton 36.29 323 ⇓P P 22 38 47.9 -0.3
baz=36,SNR=12
W34A Bridge Creek, 36.35 325 ⇓P P 22 38 48.6 -0.2
baz=36,SNR=7.6
528A Cox Ranch, San 36.40 313 ⇑P P 22 38 49.3 -0.1
baz=36,SNR=7.5
ACCN Adirondack Com 36.43 359 eP P 22 38 51.2 +1.9
comp=Z,166nm,2.3s
627A Terlingua Ranc 36.46 312 ⇑P P 22 38 50.1 +0.2
baz=37,SNR=13
Z31A Sharp Cattle R 36.49 320 ⇑P P 22 38 50.3 +0.3
baz=37,SNR=5.5
Y32A R-V Farms, Ver 36.50 321 ⇓P P 22 38 50.0 -0.1
baz=37,SNR=12
130A Snyder 36.57 318 ⇓P P 22 38 50.7 0.0
baz=37,SNR=5.9
329A Wagon Wheel Ra 36.59 316 ⇑P P 22 38 50.9 0.0
baz=37
AAM Ann Arbor 36.60 347 eP P 22 38 53.2 +2.5
AAM pmax pmax
comp=Z,35nm,0.6s
AAM Ann Arbor 36.60 347 eP P 22 38 53.2 +2.5
comp=Z,35nm,0.6s
TXAR Lajitas Array 36.60 312 P P 22 38 51.2 +0.2
comp=Z,5.1nm,0.6s,baz=126,slow=8.8,SNR=47
TXAR PcP PcP 22 41 12.2 +1.4
comp=Z,4.2nm,0.7s,baz=126,slow=6.4,SNR=11
TXAR ScP ScP 22 44 43.8 +1.3
comp=Z,0.8nm,0.8s,baz=147,slow=2.2,SNR=4.1
V34A Guthrie 36.63 326 ⇑P P 22 38 51.3 +0.2
baz=37
428A Kincaid Ranch, 36.64 314 ⇓P P 22 38 51.9 +0.5
baz=37,SNR=16
X32A Elmer 36.68 322 ⇑P P 22 38 51.5 -0.1
baz=37,SNR=7.5
W33A Caddo, Fort Co 36.70 324 ⇑P P 22 38 52.1 +0.4
baz=37
229A Bryant Ranch, 36.76 317 ⇓P P 22 38 52.1 -0.1
baz=37,SNR=7.0
Y31A Rekieta Farm, 36.98 321 ⇓P P 22 38 54.7 +0.5
baz=37,SNR=28
527A Woodward Ranch 36.99 313 ⇓P P 22 38 54.8 +0.4
baz=37,SNR=12
MDV Middlebury 37.04 360 eP P 22 38 55.9 +1.5
V33A Lossen Ranch, 37.06 325 ⇓P P 22 38 54.4 -0.3
baz=37,SNR=15
626A Big Bend Ranch 37.06 312 ⇓P P 22 38 55.0 0.0
baz=37,SNR=8.8
U34A Anderson Ranch 37.08 326 ⇑P P 22 38 54.7 -0.1
baz=37,SNR=12
328A Wristen Ranch, 37.10 315 ⇑P P 22 38 55.1 -0.1
baz=37,SNR=11
Z30A Sanderson Ranc 37.11 319 ⇑P P 22 38 55.5 +0.2
baz=37,SNR=14
W32A Sentinel 37.14 323 ⇓P P 22 38 55.3 -0.1
baz=37,SNR=12
129A Stewart Farms, 37.19 318 ⇑P P 22 38 56.2 +0.2
baz=37,SNR=5.6
427A Hayter Ranch, 37.22 314 ⇑P P 22 38 56.1 -0.2
baz=37,SNR=14
X31A McDonald Ranch 37.25 322 ⇑P P 22 38 56.4 0.0
baz=37,SNR=11
LBNH Lisbon 37.29 1 eP P 22 38 58.6 +2.0
LBNH pmax pmax
comp=Z,19nm,0.7s
LBNH Lisbon 37.29 1 eP P 22 38 58.6 +2.0
comp=Z,19nm,0.7s
526A Mary Lane Ranc 37.30 312 ⇑P P 22 38 56.9 -0.1
baz=37,SNR=10
Y30A Stafford Cattl 37.33 320 ⇑P P 22 38 57.4 +0.2
baz=38,SNR=17
228A UT Block 9, Go 37.38 316 ⇑P P 22 38 56.7 -0.9
baz=38
U33A Lingo Farm, Me 37.40 326 ⇑P P 22 38 57.1 -0.5
baz=38
V32A Arapaho 37.43 324 ⇓P P 22 38 57.9 +0.1
baz=38
Z29A Hungry Hill Ra 37.47 318 ⇑P P 22 38 58.0 -0.3
baz=38,SNR=16
426A McDonald Obser 37.58 313 ⇓P P 22 38 59.5 +0.1
baz=38,SNR=22
W31A Holland Ranch, 37.60 322 ⇑P P 22 38 59.0 -0.3
baz=38,SNR=11
128A Castleberry Fa 37.60 317 ⇓P P 22 38 59.8 +0.3
baz=38,SNR=27
PTN Potsdam (NY) 37.66 358 eP P 22 39 01.0 +1.5
PTN pmax pmax
comp=Z,47nm,0.6s
PTN Potsdam (NY) 37.66 358 eP P 22 39 01.0 +1.5
comp=Z,47nm,0.6s
X30A Coker Ranch, T 37.68 321 ⇑P P 22 39 00.5 +0.4
baz=38,SNR=22
227A Bennet, Jal 37.80 316 ⇑P P 22 39 01.2 +0.1
baz=38
Y29A Porterfield Fa 37.82 319 ⇓P P 22 39 01.5 +0.2
baz=38,SNR=17
U32A Winter Ranch, 37.86 325 ⇑P P 22 39 01.2 -0.3
baz=38,SNR=5.3
326A Caldwell Ranch 37.89 314 ⇓P P 22 39 02.4 +0.5
baz=38
V31A Spring Creek L 37.94 323 ⇓P P 22 39 02.4 +0.3
baz=38
Z28A Tucker Farm, M 37.94 318 ⇑P P 22 39 02.1 -0.2
baz=38
S33A Kaszmaul Farm, 38.18 327 ⇓P P 22 39 04.0 -0.1
baz=38
X29A Tulia 38.21 320 ⇑P P 22 39 04.8 +0.3
baz=38,SNR=11
Y28A McKinney Farm, 38.23 319 ⇑P P 22 39 04.5 -0.2
baz=38,SNR=15
425A Indio Mountain 38.34 313 ⇑P P 22 39 05.8 +0.1
baz=38,SNR=13
T32A Huddler Ranch, 38.39 326 ⇓P P 22 39 06.0 +0.1
baz=39
V30A Spur Ranch, Mi 38.44 322 ⇑P P 22 39 07.0 +0.6
baz=39
226B Tecolote Peak, 38.45 315 ⇓P P 22 39 07.0 +0.5
baz=39
AMTX Amarillo 38.47 321 eP P 22 39 07.0 +0.3
comp=Z,34nm,1.0s
AMTX Amarillo 38.47 321 ⇑P P 22 39 07.2 +0.5
baz=39
Z27A Tatum 38.51 317 ⇓P P 22 39 07.0 -0.1
baz=39,SNR=51
X28A Dimmitt 38.57 320 ⇓P P 22 39 07.5 0.0
baz=39,SNR=6.7
KSU1 Kansas State U 38.58 330 eP P 22 39 06.9 -0.6
comp=Z,43nm,0.7s
KSU1 Kansas State U 38.58 330 ⇑P P 22 39 07.2 -0.3
baz=39
W29A Amarillo 38.61 321 ⇓P P 22 39 08.3 +0.5
baz=39
MSTX Muleshoe 38.61 319 eP P 22 39 07.6 -0.3
MSTX ePcP PcP 22 41 18.0 +1.1

MSTX Muleshoe 38.61 319 ⇓P P 22 39 07.4 -0.4
baz=39,SNR=6.6
126A Clayton Basin, 38.67 316 ⇓P P 22 39 08.4 0.0
baz=39
R33A Olander Ranch, 38.69 328 ⇓P P 22 39 08.3 -0.1
baz=39
T31A Randall Ranch, 38.75 325 ⇓P P 22 39 09.0 +0.1
baz=39,SNR=7.8
S32A Newby Ranch, P 38.76 326 ⇓P P 22 39 08.9 -0.1
baz=39,SNR=5.1
Y27A Causey 38.81 318 ⇑P P 22 39 09.3 -0.3
baz=39,SNR=14
U30A WK&E Inc. Balk 38.93 323 ⇑P P 22 39 10.4 -0.1
baz=39
225A Deer Hill, Car 38.93 314 ⇓P P 22 39 11.2 +0.5
baz=39,SNR=9.7
Z26A Caprock 39.00 317 ⇓P P 22 39 11.4 +0.2
baz=39
S31A Mullinville 39.01 326 ⇓P P 22 39 11.6 +0.5
baz=39
V29A Stinnett 39.02 322 ⇓P P 22 39 12.2 +1.0
baz=39,SNR=11
W28A Vega 39.04 321 ⇓P P 22 39 11.9 +0.5
baz=39
JFWS Jewell Farm 39.06 340 eP P 22 39 11.4 0.0
JFWS pmax pmax
comp=Z,79nm,0.6s
JFWS Jewell Farm 39.06 340 eP P 22 39 11.4 0.0
comp=Z,79nm,0.6s
MNTX Cornudas Mount 39.11 314 eP P 22 39 11.7 -0.3
comp=Z,12nm,0.6s
MNTX epP pP 22 39 45.5 -1.4
MNTX ePcP PcP 22 41 18.2 -0.3
125A Gardner Draw, 39.12 315 ⇓P P 22 39 12.5 +0.3
baz=39,SNR=19
Q33A Connelly Farm, 39.13 329 ⇑P P 22 39 11.9 0.0
baz=39,SNR=5.3
R32A Long Quarter, 39.16 327 ⇑P P 22 39 12.6 +0.3
baz=39
T30A Plains 39.21 324 ⇑P P 22 39 13.1 +0.3
baz=39
X27A F and S Farms, 39.23 319 ⇓P P 22 39 13.0 0.0
baz=39
U29A Oasis Ranch, S 39.24 323 ⇓P P 22 39 13.5 +0.4
baz=39
Y26A Elida 39.28 318 ⇓P P 22 39 13.5 +0.1
baz=39,SNR=9.0
SCIA State Center 39.31 336 eP P 22 39 13.8 +0.4
comp=Z,63nm,0.6s
P33A Williams Farm, 39.38 329 ⇓P P 22 39 14.0 -0.2
baz=40
W27A Bowe Ranch, En 39.47 320 ⇑P P 22 39 15.4 +0.4
baz=40
Q32A Meitler Ranch, 39.50 328 ⇓P P 22 39 14.9 -0.2
baz=40
Z25A Roswell 39.51 316 ⇓P P 22 39 15.9 +0.5
baz=40,SNR=12
R31A Burdett 39.51 326 ⇓P P 22 39 15.0 -0.2
baz=40,SNR=7.3
S30A Montezuma 39.58 325 ⇑P P 22 39 16.0 +0.2
baz=40
X26A CR and CF Fran 39.64 318 ⇓P P 22 39 16.7 +0.2
baz=40,SNR=14
T29A Hugoton 39.73 324 ⇑P P 22 39 17.2 +0.1
baz=40
V27A Dan Oppiter Fa 39.76 321 ⇑P P 22 39 17.9 +0.5
baz=40
U28A Mallet 39.78 322 ⇓P P 22 39 18.0 +0.5
baz=40
Y25A Mesa, Roswell 39.86 317 ⇑P P 22 39 19.0 +0.7
baz=40,SNR=12
R30A Dighton 39.92 326 ⇑P P 22 39 18.6 0.0
baz=40,SNR=9.2
W26A Owens Ranch, T 39.94 319 ⇓P P 22 39 19.4 +0.5
baz=40,SNR=10
S29A Ulysses 39.94 324 ⇓P P 22 39 19.2 +0.3
baz=40,SNR=8.4
Q31A Ellis 39.95 327 ⇑P P 22 39 18.5 -0.3
baz=40
Z24A Sheeppen Canyo 39.99 316 ⇑P P 22 39 19.9 +0.5
baz=40,SNR=11
P32A Huiting Farm, 39.99 329 ⇑P P 22 39 18.8 -0.3
baz=40
U27A Thompson Grove 40.17 321 ⇓P P 22 39 21.1 +0.2
baz=40,SNR=5.6
X25A Clemmons Ranch 40.19 318 ⇓P P 22 39 21.6 +0.6
baz=40,SNR=5.4
T28A Walsh 40.20 323 ⇓P P 22 39 21.1 +0.1
baz=40
O32A Brockman Farm, 40.30 330 ⇓P P 22 39 21.2 -0.5
baz=40
P31A Stockton 40.32 328 ⇑P P 22 39 21.6 -0.3
baz=40
Y24A Capitan 40.37 316 ⇓P P 22 39 23.2 +0.6
baz=40,SNR=31
S28A Manter 40.38 324 ⇓P P 22 39 23.0 +0.5
baz=40
Q30A Quinter 40.38 327 ⇓P P 22 39 22.5 +0.1
baz=41
V26A Tequesquite Ra 40.38 320 ⇑P P 22 39 23.2 +0.6
baz=40,SNR=15
W25A X Bar L Ranch, 40.47 319 ⇑P P 22 39 23.9 +0.6
baz=41,SNR=22
R29A Marienthal 40.51 325 ⇓P P 22 39 23.9 +0.5
baz=41
T27A Campo 40.52 322 ⇓P P 22 39 23.9 +0.2
baz=41,SNR=12
N32A Stulken Farm, 40.69 330 ⇑P P 22 39 24.6 -0.2
baz=41
U26A Atchley Ranch, 40.73 321 ⇑P P 22 39 25.8 +0.3
baz=41,SNR=8.3
X24A Lazy VL Ranch, 40.73 317 ⇑P P 22 39 26.6 +1.0
baz=41
O31A Woolen Ranch, 40.76 329 ⇑P P 22 39 25.1 -0.3
baz=41
Y23A Lovelace Mesa, 40.80 316 ⇓P P 22 39 26.7 +0.7
baz=41,SNR=13
P30A Selden 40.80 327 ⇓P P 22 39 25.6 -0.2
baz=41
R28A Tribune 40.84 325 ⇑P P 22 39 26.5 +0.3
baz=41,SNR=18
V25A Rancho No Teng 40.94 319 ⇓P P 22 39 28.1 +0.9
baz=41,SNR=14
N31A Bailey Ranch, 41.06 330 ⇑P P 22 39 27.8 -0.1
baz=41
Z22A Elephant Butte 41.07 314 ⇓P P 22 39 28.9 +0.7
baz=41,SNR=6.3
W24A Lazy 6 Ranch, 41.09 318 ⇓P P 22 39 28.6 +0.1
baz=41,SNR=7.0
BGNE Belgrade 41.11 331 eP P 22 39 27.8 -0.5
BGNE Belgrade 41.11 331 ⇑P P 22 39 28.2 -0.1
baz=41,SNR=6.1
T26A Comanche Natio 41.13 322 ⇓P P 22 39 29.5 +0.8
baz=41,SNR=9.9
U25A Circle Dot Ran 41.15 320 ⇑P P 22 39 29.5 +0.5
baz=41,SNR=10
O30A MW Ranch, Wils 41.16 328 ⇓P P 22 39 28.8 +0.1
baz=41
P29A Atwood 41.21 327 ⇑P P 22 39 29.2 0.0
baz=41
X23A Hourglass Bar 41.25 317 ⇑P P 22 39 30.6 +0.8
baz=41,SNR=5.9
121A Cookes Peak, D 41.28 313 eP P 22 39 30.1 +0.1
comp=Z,11nm,0.9s
121A epP pP 22 40 03.6 -1.7
121A ePcP PcP 22 41 27.0 +1.3
121A Cookes Peak, D 41.28 313 ⇓P P 22 39 31.1 +1.1
baz=41,SNR=8.0
V24A Rampart Ranch, 41.30 319 ⇓P P 22 39 31.3 +1.1
baz=41,SNR=7.6
BNM Barren Site 41.32 316 eP P 22 39 30.0 -0.4
comp=Z,2.1nm,0.6s
Q28A Sharon Springs 41.34 325 ⇓P P 22 39 30.0 -0.3
baz=42,SNR=6.0
S26A Kim 41.34 322 ⇓P P 22 39 31.1 +0.8
baz=42,SNR=12
R27A Eads 41.37 324 ⇑P P 22 39 30.9 +0.3
baz=42,SNR=25
M31A Lambtecht Ranc 41.47 330 ⇑P P 22 39 31.1 -0.1
baz=42,SNR=7.6
O29A 4D Ranch, Culb 41.51 327 ⇓P P 22 39 31.4 -0.2
baz=42
W23A Werner Place, 41.56 317 ⇓P P 22 39 33.3 +1.0
baz=42
LENM Lemitar 41.56 316 eP P 22 39 33.4 +1.1
T25A Trinidad 41.61 321 ⇑P P 22 39 33.8 +1.1
baz=42,SNR=6.4
N30A Hueftle Ranch, 41.63 329 ⇑P P 22 39 32.5 0.0
baz=42
ANMO Albuquerque 41.64 317 eP P 22 39 33.8 +0.9
ANMO pmax pmax
comp=Z,14nm,1.6s
ANMO Albuquerque 41.64 317 LR LR 23 00 28.0
comp=Z,52nm,18.2s,baz=218,slow=41
ANMO Albuquerque 41.64 317 eP P 22 39 33.8 +0.9
comp=Z,14nm,1.6s
P28A Saint Francis 41.65 326 ⇓P P 22 39 33.2 +0.4
baz=42
U24A Moreno Valley 41.72 320 ⇓P P 22 39 34.7 +1.1
baz=42
KSCO Kaye Shedlock' 41.76 325 eP P 22 39 33.6 -0.1
comp=Z,7.9nm,0.6s
KSCO Kaye Shedlock' 41.76 325 ⇑P P 22 39 34.2 +0.4
baz=42
R26A Arlington 41.77 323 ⇑P P 22 39 34.4 +0.5
baz=42,SNR=12
319A Douglas 41.82 311 ⇑P P 22 39 35.4 +1.1
baz=42
V23A Ortiz Mt. (NFS 41.91 318 ⇑P P 22 39 36.1 +0.9
baz=42,SNR=6.9
N29A Votaw Ranch, W 41.92 328 ⇓P P 22 39 34.8 -0.2
baz=42
S25A Robets Cordova 41.95 322 ⇓P P 22 39 36.4 +0.9
baz=42,SNR=20
SPMN St. Paul 41.98 339 eP P 22 39 35.1 -0.1
SPMN St. Paul 41.98 339 ⇑P P 22 39 35.5 +0.2
baz=42
L31A Butterfield Fa 42.03 331 ⇓P P 22 39 35.3 -0.5
baz=42
O28A Krutsinger Ran 42.04 326 ⇑P P 22 39 36.2 +0.3
baz=42,SNR=8.4
P27A Ficken Ranch, 42.10 325 ⇑P P 22 39 36.2 -0.3
baz=42
R25A Fountain Ranch 42.17 322 ⇓P P 22 39 38.4 +1.3
baz=42,SNR=14
T24B San Luis 42.18 320 ⇓P P 22 39 39.2 +1.8
baz=42,SNR=13
Q26A Hugo 42.22 324 ⇓P P 22 39 38.0 +0.5
baz=42
ECSD EROS Data Cent 42.23 334 eP P 22 39 36.8 -0.6
comp=Z,17nm,0.9s
ECSD EROS Data Cent 42.23 334 ⇑P P 22 39 36.8 -0.6
baz=42,SNR=15
U23A El Rito 42.26 319 ⇓P P 22 39 39.5 +1.5
baz=42,SNR=12
L30A Spencer Herefo 42.29 330 ⇓P P 22 39 38.1 +0.3
baz=42,SNR=7.8
N28A Pribbeno Ranch 42.31 327 ⇑P P 22 39 37.8 -0.3
baz=42
S24A Houchin Ranch, 42.42 321 ⇑P P 22 39 40.7 +1.3
baz=43,SNR=14
O27A Beecher Island 42.48 326 ⇓P P 22 39 40.3 +0.7
baz=43
V22A San Miguel Ran 42.49 318 ⇓P P 22 39 41.0 +1.1
baz=43,SNR=7.6
P26A Davis Ranch, A 42.54 325 ⇓P P 22 39 40.5 +0.4
baz=43
T23A Casias Ranch, 42.58 320 ⇓P P 22 39 42.1 +1.5
baz=43,SNR=5.1
Q25A Bedland, Calha 42.64 323 ⇑P P 22 39 41.3 +0.3
baz=43,SNR=5.3
SDCO Great Sand Dun 42.67 321 eP P 22 39 41.6 +0.3
comp=Z,14nm,0.8s
U22A Llaves 42.72 318 ⇓P P 22 39 43.0 +1.3
baz=43,SNR=5.9
M28A Bar X Bar Ranc 42.73 328 ⇓P P 22 39 41.4 -0.1
baz=43
R24A Sanders Place, 42.73 322 ⇑P P 22 39 42.9 +1.2
baz=43,SNR=14
L29A Maesberg Ranch 42.75 330 ⇓P P 22 39 41.4 -0.3
baz=43,SNR=7.3
OGNE Ogallala 42.76 327 ⇓P P 22 39 41.3 -0.5
baz=43
K30A Basset 42.78 331 ⇑P P 22 39 41.9 +0.1
baz=43,SNR=16
N27A Anderson Farm, 42.93 327 ⇓P P 22 39 43.3 +0.1
baz=43
S23A Nye Farm, Mont 42.96 321 ⇑P P 22 39 44.6 +1.0
baz=43
O26A Horse Wrangler 42.98 325 ⇓P P 22 39 43.9 +0.3
baz=43,SNR=6.2
P25A Willow Gulch B 42.98 324 ⇑P P 22 39 44.2 +0.5
baz=43
R23A Moffat 43.14 321 ⇑P P 22 39 46.1 +1.0
baz=43,SNR=15
K29A Lazy Trails An 43.19 330 ⇑P P 22 39 44.8 -0.3
baz=43
Q24A Divide 43.21 323 ⇑P P 22 39 46.0 +0.3
baz=43,SNR=5.6
J30A Dallas 43.21 332 ⇑P P 22 39 44.5 -0.8
baz=43,SNR=5.8
M27A Reverse DX Ran 43.36 327 ⇑P P 22 39 46.9 +0.3
baz=44
TUC Tucson 43.39 311 eP P 22 39 47.5 +0.6
TUC pmax pmax
comp=Z,8.0nm,0.8s
TUC Tucson 43.39 311 eP P 22 39 47.5 +0.6
comp=Z,7.5nm,0.8s
S22A 4UR Ranch, Cre 43.51 320 ⇑P P 22 39 49.2 +1.1
baz=44,SNR=16
J29A Okreek 43.67 331 ⇓P P 22 39 48.5 -0.5
baz=44,SNR=18
K28A Ten Mile Ranch 43.67 329 ⇑P P 22 39 49.2 +0.1
baz=44,SNR=6.0
M26A McRoberts Ranc 43.72 327 ⇓P P 22 39 48.7 -0.9
baz=44
BRSD Miller 43.83 333 eP P 22 39 49.8 -0.4
BRSD Miller 43.83 333 ⇑P P 22 39 50.1 -0.1
baz=44,SNR=18
X18A Snowflake 43.85 314 ⇑P P 22 39 52.0 +1.2
baz=44,SNR=5.8
P23A Jefferson 43.89 323 ⇑P P 22 39 52.1 +0.9
baz=44,SNR=7.3
EYMN Ely 43.94 342 eP P 22 39 50.9 0.0
comp=Z,68nm,0.6s
W18A Petrified Fore 44.00 315 eP P 22 39 53.3 +1.4
W18A Petrified Fore 44.00 315 ⇑P P 22 39 52.6 +0.7
baz=44,SNR=5.5
ISCO Idaho Springs 44.02 323 eP P 22 39 53.1 +1.0
ISCO pmax pmax
comp=Z,14nm,0.8s
ISCO Idaho Springs 44.02 323 eP P 22 39 53.1 +1.0
comp=Z,14nm,0.8s
ISCO Idaho Springs 44.02 323 ⇑P P 22 39 53.1 +1.0
baz=44,SNR=18
I29A Vivian Onida 44.13 332 ⇓P P 22 39 51.6 -1.0
baz=44
J28A Allard Ranch, 44.13 330 ⇓P P 22 39 52.5 -0.2
baz=44,SNR=17
N24A Carr 44.26 325 ⇓P P 22 39 54.2 +0.3
baz=44
MVCO Mesa Verde 44.28 318 eP P 22 39 53.5 -0.7
comp=Z,11nm,0.6s
MVCO Mesa Verde 44.28 318 ⇑P P 22 39 54.7 +0.6
baz=44,SNR=8.2
J27A Elkhorn Farm, 44.39 330 ⇑P P 22 39 54.5 -0.2
baz=45,SNR=9.6
G30A Faulkton 44.45 333 ⇓P P 22 39 54.7 -0.4
baz=45,SNR=12
SMCO Snowmass 44.46 322 eP P 22 39 56.8 +1.1
O23A Lake Granby, G 44.46 323 ⇓P P 22 39 57.3 +1.6
baz=45,SNR=12
I28A Midland 44.52 331 ⇓P P 22 39 55.1 -0.6
baz=45
H29A Onida 44.54 332 ⇑P P 22 39 55.5 -0.3
baz=45,SNR=14
P22A Eagle 44.58 322 ⇓P P 22 39 57.1 +0.6
baz=45,SNR=9.8
M24A Cheyenne 44.65 326 ⇑P P 22 39 57.5 +0.6
baz=45
214A Organ Pipe Nat 44.77 309 ⇓P P 22 39 58.3 +0.4
baz=45,SNR=7.6
O22A Kremmling 44.80 323 ⇓P P 22 39 58.8 +0.4
baz=45,SNR=34
PV01 Paradox Valley 44.85 319 eP P 22 39 59.8 +1.1
comp=Z,1μm,0.8s
X16A Lo Mia Camp, P 44.87 313 ⇑P P 22 39 59.2 +0.4
baz=45,SNR=7.0
PHWY Pilot Hill 44.90 325 eP P 22 39 59.7 +0.6
K25A Mack Ranch, Ha 44.90 327 ⇑P P 22 39 59.6 +0.7
baz=45
N23A Red Feather La 44.91 324 ⇓P P 22 40 00.0 +0.8
baz=45,SNR=12
H28A Mission Ridge 44.96 332 ⇓P P 22 39 59.0 -0.1
baz=45,SNR=7.1
J26A Sides Ranch, S 44.98 329 ⇑P P 22 39 59.4 0.0
baz=45,SNR=6.8
I27A Quinn 45.01 330 ⇓P P 22 39 59.2 -0.4
baz=45,SNR=7.2
N22A Wattenberg Ran 45.15 324 ⇓P P 22 40 01.6 +0.6
baz=45
M23A Laramie 45.16 325 ⇑P P 22 40 01.6 +0.5
baz=45
PV04 Paradox Valley 45.22 319 eP P 22 40 02.5 +1.0
F29A Eureka 45.30 334 ⇓P P 22 40 01.1 -0.6
baz=46,SNR=7.2
WUAZ Wupatki 45.35 315 eP P 22 40 03.9 +1.2
comp=Z,30nm,0.9s
WUAZ Wupatki 45.35 315 ⇓P P 22 40 03.8 +1.2
baz=46,SNR=28
I26A New Underwood 45.38 330 ⇓P P 22 40 02.2 -0.3
baz=46
E30A Jud 45.42 335 ⇑P P 22 40 02.5 -0.2
baz=46,SNR=8.0
H27A Howes 45.43 331 ⇑P P 22 40 02.5 -0.4
baz=46,SNR=12
Z14A Wintersburg 45.49 311 ⇓P P 22 40 04.3 +0.8
baz=46
L23A Garrett 45.57 326 ⇓P P 22 40 05.1 +0.8
baz=46,SNR=8.8
M22A Cedar Creek Ra 45.62 324 ⇑P P 22 40 05.3 +0.6
baz=46
AGMN Agassiz Nation 45.70 339 eP P 22 40 04.7 -0.2
AGMN epP pP 22 40 37.7 -3.1
F28A McLaughlin 45.74 333 ⇓P P 22 40 05.5 +0.2
baz=46,SNR=7.2
H26A Fairpoint 45.76 330 ⇑P P 22 40 05.4 -0.1
baz=46
E29A Napoleon 45.79 334 ⇑P P 22 40 05.6 0.0
baz=46,SNR=10
Y14A Wickenburg 45.79 312 ⇓P P 22 40 06.6 +0.7
baz=46,SNR=13
I25A Rochford 45.81 329 ⇑P P 22 40 06.4 +0.3
baz=46,SNR=18
O20A White River Ci 45.81 322 eP P 22 40 07.2 +1.0
O20A White River Ci 45.81 322 ⇓P P 22 40 06.9 +0.7
baz=46,SNR=6.2
D30A Buchanan 45.84 336 ⇓P P 22 40 05.7 -0.3
baz=46,SNR=5.1
113A Mohawk Valley, 45.85 310 ⇑P P 22 40 06.8 +0.5
baz=46
G27A Dupree 45.91 332 ⇑P P 22 40 06.8 +0.2
baz=46,SNR=12
L22A Ellis Ranch, M 45.93 325 ⇓P P 22 40 08.1 +1.1
baz=46
K23A Bowen Ranch, D 45.95 326 ⇑P P 22 40 07.4 +0.3
baz=46,SNR=7.3
RSSD Black Hills 46.04 329 eP P 22 40 08.3 +0.4
RSSD pmax pmax
comp=Z,2.0nm,0.6s
RSSD Black Hills 46.04 329 eP P 22 40 08.3 +0.4
comp=Z,1.8nm,0.6s
D29A Pettibone, Tap 46.15 335 ⇑P P 22 40 08.4 -0.1
baz=46,SNR=16
I24A Kuemmerle Ranc 46.16 328 ⇓P P 22 40 09.6 +0.9
baz=46
G26A Maurine 46.17 331 ⇓P P 22 40 08.1 -0.6
baz=46,SNR=10.0
H25A Fruitdale 46.17 330 ⇓P P 22 40 08.5 -0.3
baz=46
C30A Mose, Pekin 46.20 336 ⇑P P 22 40 09.1 +0.2
baz=46,SNR=21
E28A Huff 46.25 334 ⇑P P 22 40 09.6 +0.4
baz=46,SNR=13
N20A Spence Gulch, 46.25 323 ⇓P P 22 40 10.8 +1.1
baz=46,SNR=9.8
F27A Lemmon 46.32 332 ⇓P P 22 40 10.3 +0.4
baz=46,SNR=20
K22A Casper 46.38 326 eP P 22 40 11.2 +0.7
K22A Casper 46.38 326 ⇓P P 22 40 11.2 +0.7
baz=46
U15A North Rim 46.45 315 ⇓P P 22 40 12.5 +1.2
baz=47,SNR=19
G25A Newell 46.49 330 ⇑P P 22 40 11.3 +0.1
baz=47,SNR=8.8
E27A Carson 46.53 333 ⇓P P 22 40 11.9 +0.5
baz=47,SNR=7.2
F26A Lodgepole 46.61 332 ⇓P P 22 40 12.2 0.0
baz=47
SRU San Rafael 46.66 319 eP P 22 40 13.6 +0.8
SRU pmax pmax
comp=Z,16nm,0.9s
SRU San Rafael 46.66 319 eP P 22 40 13.6 +0.8
comp=Z,16nm,0.9s
D28A Regan 46.67 334 ⇑P P 22 40 12.9 +0.4
baz=47,SNR=10
H24A Dirks Ranch, A 46.74 329 ⇓P P 22 40 12.9 -0.3
baz=47
B30A Myrvik Farm, E 46.75 337 ⇑P P 22 40 13.1 0.0
baz=47,SNR=13
GLA Glamis 46.78 310 eP P 22 40 14.5 +0.9
GLA pmax pmax
comp=Z,14nm,0.7s
GLA Glamis 46.78 310 eP P 22 40 14.5 +0.9
comp=Z,14nm,0.7s
GLA Glamis 46.78 310 ⇑P P 22 40 14.1 +0.5
baz=47,SNR=13
K21A Alcova 46.78 325 ⇑P P 22 40 14.3 +0.6
baz=47,SNR=22
PDMCI Parker Dam,Lak 46.79 312 ⇑P P 22 40 14.5 +0.8
baz=47
Y12C Blythe 46.84 311 ⇑P P 22 40 14.9 +0.8
baz=47
J22A Midwest 46.85 327 ⇑P P 22 40 14.6 +0.4
baz=47,SNR=21
W13A Hualapai Mount 46.96 313 ⇓P P 22 40 15.5 +0.3
baz=47
E26A Carlson Angus 46.97 332 ⇓P P 22 40 15.0 +0.1
baz=47,SNR=12
C28A Hausauer Farms 47.00 335 ⇓P P 22 40 15.6 +0.6
baz=47
D27A Center 47.02 333 ⇓P P 22 40 15.8 +0.5
baz=47,SNR=7.2
F25A Bowman 47.04 331 ⇓P P 22 40 15.3 -0.2
baz=47
G24A Alzada 47.08 330 ⇓P P 22 40 16.7 +0.9
baz=47
A30A Hoffart Farm, 47.14 337 ⇓P P 22 40 16.1 0.0
baz=47,SNR=16
B29A Wagenman Farm, 47.17 336 ⇑P P 22 40 17.0 +0.6
baz=47,SNR=14
I22A 9 Mile Ranch, 47.17 327 ⇑P P 22 40 16.9 +0.2
baz=47,SNR=12
TMUT Trail Mountain 47.21 319 eP P 22 40 18.2 +1.0
comp=Z,9.8nm,0.7s
J21A Lysite 47.35 326 ⇑P P 22 40 18.7 +0.6
baz=48,SNR=8.2
ULM Lac du Bonnet 47.36 340 eP P 22 40 17.3 -0.5
ULM 22 41 45.6
ULM pmax pmax
comp=Z,36nm,0.6s
ULM Lac du Bonnet 47.36 340 P P 22 40 17.2 -0.5
comp=Z,38nm,0.6s,baz=147,slow=7.2,SNR=82
ULM PcP PcP 22 41 45.6 -0.3
comp=Z,5.2nm,0.6s,baz=104,slow=3.6,SNR=3.2
ULM LR LR 23 01 25.6
comp=Z,66nm,18.1s,baz=94,slow=37
ULM Lac du Bonnet 47.36 340 eP P 22 40 17.3 -0.5
comp=Z,36nm,0.6s
ULM PcP PcP 22 41 45.6 -0.3
PLCA Paso Flores 47.36 178 pP pP 22 40 54.5 +0.4
comp=Z,4.9nm,0.9s,baz=359,slow=11,SNR=2.9
D26A Manning 47.38 333 ⇑P P 22 40 18.3 +0.2
baz=48,SNR=15
E25A Miller Ranch, 47.43 332 ⇓P P 22 40 18.7 +0.2
baz=48,SNR=6.7
MVU Marysvale 47.45 318 eP P 22 40 20.0 +1.0
comp=Z,22nm,0.8s
F24A Ekalaka 47.46 330 ⇑P P 22 40 18.8 0.0
baz=48,SNR=5.9
SWSC Sam W. Stewart 47.48 309 ⇑P P 22 40 19.6 +0.6
baz=48
C27A Sayler Ranch, 47.48 334 ⇑P P 22 40 19.6 +0.8
baz=48,SNR=15
A29A Manning Farm, 47.48 337 ⇑P P 22 40 19.2 +0.4
baz=48,SNR=5.1
G23A Biddle 47.49 329 ⇑P P 22 40 18.9 0.0
baz=48
IRM Iron Mountain 47.49 311 ⇓P P 22 40 19.3 +0.2
baz=48,SNR=7.3
BC3 Big Chuckawall 47.50 310 ⇑P P 22 40 19.7 +0.3
baz=48
I21A Big Trails, Te 47.56 326 ⇑P P 22 40 19.7 +0.1
baz=48,SNR=22

B28A Dugan Ranch, T 47.56 335 ⇑P P 22 40 20.0 +0.6
baz=48,SNR=11
H22A Clearmont 47.57 328 ⇓P P 22 40 20.5 +0.8
baz=48,SNR=5.0
J20A Shoshoni 47.71 325 ⇑P P 22 40 21.7 +0.9
baz=48
CCUT Cedar City 47.75 316 eP P 22 40 22.3 +1.0
comp=Z,5.7nm,0.7s
C26A Wahner Farm, P 47.82 334 ⇓P P 22 40 22.1 +0.7
baz=48,SNR=13
F23A Volborg 47.85 330 ⇓P P 22 40 21.8 0.0
baz=48,SNR=8.8
DAU Daniels Canyon 47.86 320 eP P 22 40 23.1 +0.9
DAU Daniels Canyon 47.86 320 eP P 22 40 23.1 +0.9
D25A Fairfield 47.87 332 ⇓P P 22 40 22.4 +0.6
baz=48
MPU Maple Canyon 47.88 320 eP P 22 40 23.0 +0.8
comp=Z,18nm,0.7s
A28A Rude Farm, Bot 47.89 336 ⇓P P 22 40 22.2 +0.2
baz=48,SNR=5.3
B27A Peters Farms, 47.91 335 ⇓P P 22 40 22.6 +0.6
baz=48,SNR=5.6
E24A Baker 47.91 331 ⇓P P 22 40 22.5 +0.3
baz=48
ARUT Antelope Range 47.92 316 eP P 22 40 22.4 -0.1
ARUT pmax pmax
comp=Z,234nm,0.9s
ARUT Antelope Range 47.92 316 eP P 22 40 22.4 -0.1
comp=Z,234nm,0.9s
MONP Monument Peak 47.94 309 ⇑P P 22 40 23.2 +0.4
baz=48
H21A Big Horn, Sher 47.96 327 ⇑P P 22 40 22.8 +0.1
baz=48,SNR=8.8
G22A Birney 47.96 328 ⇑P P 22 40 22.8 +0.2
baz=48,SNR=18
BELC Belle Mtn. Jos 48.06 310 ⇓P P 22 40 23.8 +0.2
baz=48,SNR=5.6
JLU Jordanelle 48.09 320 eP P 22 40 24.7 +0.8
comp=Z,7.8nm,0.7s
I20A Worland 48.11 326 ⇓P P 22 40 24.4 +0.5
baz=48,SNR=22
GMRC Granite Mounta 48.13 311 ⇑P P 22 40 24.6 +0.4
baz=48
NLU North Lily Min 48.13 319 eP P 22 40 25.2 +1.0
comp=Z,9.8nm,0.7s
SCHQ Schefferville 48.14 5 P P 22 40 25.0 +1.3
comp=Z,57nm,0.5s,baz=189,slow=6.8,SNR=110
SCHQ Schefferville 48.14 5 eP P 22 40 24.8 +1.1
PDAR Pinedale Array 48.19 324 P P 22 40 24.7 +0.1
comp=Z,6.3nm,0.5s,baz=130,slow=9.5,SNR=74
PDAR pP pP 22 41 00.1 -0.8
comp=Z,2.7nm,0.9s,baz=133,slow=7.5,SNR=2.2
PDAR PcP PcP 22 41 49.7 +0.3
comp=Z,2.0nm,0.6s,baz=133,slow=6.5,SNR=7.0
J19A Crowheart 48.20 325 ⇑P P 22 40 24.8 +0.2
baz=48,SNR=13
PFO Pinyon Flat Ob 48.25 310 iP P 22 40 26.6 +1.5
PFO Pinyon Flat Ob 48.25 310 ⇓P P 22 40 25.7 +0.6
baz=48
C25A Freed Ranch, W 48.26 333 ⇓P P 22 40 25.3 +0.5
baz=48
B26A Jensen Ranch, 48.30 334 ⇑P P 22 40 25.8 +0.7
baz=48,SNR=5.9
D24A Glendive 48.31 332 ⇓P P 22 40 26.0 +0.7
baz=48,SNR=25
A27A Ledoux Ranch, 48.32 335 ⇓P P 22 40 26.0 +0.8
baz=48
CTU Camp Tracy 48.33 320 eP P 22 40 26.7 +1.1
comp=Z,7.1nm,0.8s
F22A Rosebud 48.33 329 ⇑P P 22 40 25.6 +0.3
baz=48,SNR=16
TCUT Toone Canyon 48.35 321 eP P 22 40 25.9 0.0
comp=Z,48nm,0.6s
H20A Greybull 48.39 327 ⇓P P 22 40 26.2 +0.3
baz=48,SNR=14
G21A Lodge Grass 48.45 328 ⇓P P 22 40 26.6 +0.2
baz=49,SNR=13
SHPR Sheep Range 48.52 314 eP P 22 40 28.2 +1.0
TUQ Turquoise Moun 48.61 312 ⇓P P 22 40 28.1 +0.3
baz=49,SNR=16
A26A Wade Farm, Ken 48.61 335 ⇑P P 22 40 28.1 +0.6
baz=49,SNR=11
E22A Miles City 48.62 330 ⇑P P 22 40 27.8 +0.2
baz=49,SNR=6.5
B25A Knox Farm, Ray 48.63 333 ⇓P P 22 40 29.0 +1.4
baz=49,SNR=32
HEC Hector,Ludlow 48.65 311 ⇑P P 22 40 28.9 +0.8
baz=49,SNR=8.7
I19A Meeteetse 48.65 326 ⇓P P 22 40 28.6 +0.5
baz=49,SNR=13
C24A Savage 48.66 332 ⇓P P 22 40 28.6 +0.8
baz=49
HWUT Hardware Ranch 48.72 321 eP P 22 40 28.5 -0.1
comp=Z,13nm,0.6s
DUG Dugway 48.74 319 eP P 22 40 29.7 +1.0
DUG pmax pmax
comp=Z,11nm,0.6s
DUG Dugway 48.74 319 eP P 22 40 29.7 +1.0
comp=Z,11nm,0.6s
DUG Dugway 48.74 319 ⇑P P 22 40 29.8 +1.0
baz=49,SNR=13
D23A Lindsay 48.78 331 ⇓P P 22 40 29.5 +0.7
baz=49,SNR=9.7
F21A Absaloka Mine, 48.80 329 ⇑P P 22 40 29.4 +0.4
baz=49
LAO LASA Array 48.93 330 eP P 22 40 30.2 +0.2
comp=Z,17nm,0.6s
G20A Bridger 48.98 327 ⇑P P 22 40 30.5 0.0
baz=49,SNR=32
H19A Powell 49.05 326 ⇑P P 22 40 31.1 +0.1
baz=49,SNR=7.3
SHOC Shoshone 49.07 312 ⇑P P 22 40 31.8 +0.7
baz=49,SNR=5.4
SPUT South Promonto 49.11 321 eP P 22 40 30.1 -1.5
comp=Z,5.2nm,0.7s
A25A Svangstu Ranch 49.11 334 ⇓P P 22 40 31.8 +0.6
baz=49,SNR=5.7
GSC Goldstone 49.20 312 eP P 22 40 33.1 +0.8
GSC pmax pmax
comp=Z,3.0nm,0.8s
GSC Goldstone 49.20 312 eP P 22 40 33.1 +0.8
comp=Z,2.7nm,0.8s
GSC Goldstone 49.20 312 ⇓P P 22 40 33.0 +0.8
baz=49,SNR=10
C23A Lambert 49.21 332 ⇑P P 22 40 32.7 +0.6
baz=49,SNR=14
D22A Cohagen 49.23 330 ⇑P P 22 40 33.5 +1.2
baz=49,SNR=38
DGMT Dagmar 49.24 333 eP P 22 40 33.1 +0.8
comp=Z,117nm,0.6s
DGMT Dagmar 49.24 333 ⇓P P 22 40 33.4 +1.2
baz=49,SNR=38
E21A Keefer Ranch, 49.26 329 ⇑P P 22 40 32.9 +0.4
baz=49,SNR=12
BGU Big Grassy Mou 49.27 320 eP P 22 40 33.1 +0.3
comp=Z,13nm,0.6s
REDW Red Top Meadow 49.31 324 eP P 22 40 33.7 +0.6
comp=Z,24nm,0.8s
LOHW Long Hollow 49.31 324 eP P 22 40 33.5 +0.4
F20A Billings 49.32 328 ⇓P P 22 40 33.6 +0.6
baz=50,SNR=25
BFSC Mount Baldy Ra 49.42 310 ⇑P P 22 40 34.1 +0.1
baz=50
H18A Shoshone NF, C 49.43 326 ⇑P P 22 40 33.9 -0.1
baz=50,SNR=11
TPAW Teton Pass 49.44 324 eP P 22 40 34.7 +0.5
comp=Z,14nm,0.6s
MOOW Moose Ponds 49.48 324 eP P 22 40 34.5 +0.1
I17A Pilgrim Ck. 49.48 325 ⇑P P 22 40 35.0 +0.6
baz=50,SNR=8.2
A24A Westby 49.49 333 ⇑P P 22 40 35.3 +1.2
baz=50,SNR=25
C22A Vida 49.51 331 ⇑P P 22 40 35.1 +0.8
baz=50,SNR=31
HVU Hansel Valley 49.57 321 eP P 22 40 35.1 +0.1
HVU pmax pmax
comp=Z,10.0nm,0.7s
HVU Hansel Valley 49.57 321 eP P 22 40 35.1 +0.1
comp=Z,10nm,0.7s
FXWY Fox Creek 49.57 324 eP P 22 40 35.3 +0.1
comp=Z,6.1nm,0.7s
D21A La Casta Ranch 49.58 330 ⇓P P 22 40 35.6 +0.7
baz=50,SNR=19
B23A Brockton 49.60 332 ⇓P P 22 40 36.2 +1.2
baz=50,SNR=27
R11A Troy Canyon, C 49.67 316 eP P 22 40 36.5 +0.6
R11A Troy Canyon, C 49.67 316 ⇑P P 22 40 36.6 +0.6
baz=50,SNR=20
H17A Grant Village 49.77 325 eP P 22 40 38.0 +1.4
E20A Meyer Farm, Mu 49.78 329 ⇑P P 22 40 37.3 +0.9
baz=50,SNR=42
F19A Roth Farm, Mol 49.78 327 ⇓P P 22 40 37.0 +0.5
baz=50,SNR=7.5
A23A Redstone 49.91 333 ⇓P P 22 40 38.6 +1.3
baz=50,SNR=27
EDW2 Edwards Air Fo 49.92 310 ⇑P P 22 40 38.0 +0.3
baz=50,SNR=7.7
LRMC Laurel Mountai 49.93 311 ⇓P P 22 40 38.3 +0.5
baz=50,SNR=5.1
B22A Reddig Ranch S 49.95 332 ⇑P P 22 40 38.7 +1.0
baz=50,SNR=12
E19A Rath Farm, Rou 50.09 328 ⇓P P 22 40 39.3 +0.5
baz=50,SNR=6.8
C21A Desert Coulee 50.15 330 ⇑P P 22 40 40.3 +1.1
baz=50
D20A Manuel Ranch, 50.17 329 ⇓P P 22 40 40.2 +0.8
baz=50,SNR=19
A22A Carney Farms, 50.41 332 ⇑P P 22 40 42.1 +1.0
baz=51,SNR=77
QLMT Earthquake Lak 50.52 325 eP P 22 40 43.8 +1.6
C20A Veseth Ranch, 50.52 330 ⇓P P 22 40 42.8 +0.9
baz=51
B21A Ellsworth Farm 50.53 331 ⇑P P 22 40 43.0 +1.0
baz=51
ISA Isabella 50.59 311 ePcP PcP 22 41 59.6 +1.5
ISA Isabella 50.59 311 ⇑P P 22 40 43.4 +0.7
baz=51
D19A Cripps Ranch, 50.60 329 ⇓P P 22 40 43.0 +0.4
baz=51,SNR=25
ELK Elko 50.60 319 eP P 22 40 43.3 +0.4
ELK Elko 50.60 319 eP P 22 40 43.3 +0.4
TPH Tonopah 50.70 315 eP P 22 40 44.3 +0.6
TPH pmax pmax
comp=Z,6.0nm,0.8s
TPH Tonopah 50.70 315 eP P 22 40 44.3 +0.6
comp=Z,6.3nm,0.8s
BSC Santa Cruz Isl 50.84 309 ⇑P P 22 40 45.4 +0.8
baz=51
TIN Tinemaha 50.98 313 ⇓P P 22 40 46.7 +1.0
baz=51
B20A Solberg Farm, 51.02 331 ⇓P P 22 40 46.3 +0.6
baz=51,SNR=5.8
C19A Slack Wire Ran 51.06 329 ⇑P P 22 40 46.2 +0.4
baz=51,SNR=15
VES Vestal, Richgr 51.12 311 ⇓P P 22 40 47.9 +1.3
baz=51
BOZ Bozeman (W) 51.12 326 eP P 22 40 46.8 +0.2
BOZ pmax pmax
comp=Z,14nm,0.6s
BOZ Bozeman (W) 51.12 326 eP P 22 40 46.8 +0.2
comp=Z,14nm,0.6s
A20A Cobblestone Ra 51.27 331 ⇓P P 22 40 48.2 +0.7
baz=51,SNR=27
MCMT McKenzie Canyo 51.33 324 eP P 22 40 48.2 -0.1
comp=Z,6.8nm,0.6s
B19A Brinkman Farms 51.49 330 ⇓P P 22 40 49.5 +0.4
baz=52
DLMT Dillon 51.50 325 eP P 22 40 50.3 +0.9
NV11 Mina Array Sit 51.51 315 eP P 22 40 48.1 -1.6
HLID Hailey 51.55 322 eP P 22 40 50.5 +0.6
comp=Z,9.0nm,0.6s
HLID Hailey 51.55 322 ⇓P P 22 40 50.0 +0.1
baz=52,SNR=20
SMMC Simmler 51.60 310 ⇓P P 22 40 51.1 +0.9
baz=52
EGMT Eagleton 51.61 329 eP P 22 40 50.4 +0.3
comp=Z,11nm,0.6s
EGMT Eagleton 51.61 329 ⇑P P 22 40 50.5 +0.3
baz=52,SNR=9.9
NVAR Mina Array Bea 51.62 315 P P 22 40 50.9 +0.4
comp=Z,6.3nm,0.7s,baz=122,slow=6.9,SNR=54
NVAR PcP PcP 22 42 02.8 +0.7
comp=Z,3.1nm,0.6s,baz=136,slow=4.7,SNR=9.6
LRM Limekiln Ridge 51.69 325 eP P 22 40 51.5 +0.6
A19A Klindworth Far 51.70 331 ⇓P P 22 40 51.7 +0.9
baz=52,SNR=12
BMN Battle Mountai 51.77 317 eP P 22 40 51.9 +0.3
BMN Battle Mountai 51.77 317 eP P 22 40 51.9 +0.3
HRY Holter Researc 51.88 327 eP P 22 40 52.9 +0.7
MFID Camas Ranch 52.35 321 eP P 22 40 56.3 +0.6
comp=Z,22nm,0.6s
WAKR Walker 52.45 314 eP P 22 40 57.7 +1.0
SLMT Seeley Lake 53.11 326 eP P 22 41 01.6 +0.4
MSO Missoula 53.11 326 eP P 22 41 01.6 +0.4
comp=Z,4.9nm,0.8s
MSO Missoula 53.11 326 ⇑P P 22 41 01.6 +0.4
baz=53
FFC Flin Flon 53.16 339 eP P 22 41 00.9 -0.4
FFC Flin Flon 53.16 339 eP P 22 41 00.9 -0.4
WVOR Wild Horse Val 53.65 319 eP P 22 41 05.8 +0.5
WVOR pmax pmax
comp=Z,14nm,0.7s
WVOR Wild Horse Val 53.65 319 eP P 22 41 05.8 +0.5
comp=Z,14nm,0.7s
JTMT Jette 53.84 326 eP P 22 41 07.4 +0.9
BMO Blue Mountains 54.00 322 eP P 22 41 07.1 -0.6
comp=Z,3.4nm,0.6s
BLMT Blacktail Moun 54.03 327 eP P 22 41 08.9 +0.9
BSMT Bassoo Peak 54.17 326 eP P 22 41 10.0 +0.9
OHCM Honcut 54.25 314 eP P 22 41 10.2 +0.7
FCC Fort Churchill 54.32 347 eP P 22 41 09.6 0.0
FCC Fort Churchill 54.32 347 eP P 22 41 09.6 0.0
WALA Waterton Lakes 54.41 328 eP P 22 41 10.7 0.0
MOD Modoc 54.51 318 eP P 22 41 11.5 0.0
F10A Beach Ranch, E 54.54 323 eP P 22 41 11.4 -0.2
comp=Z,14nm,0.6s
I07A Izee 54.99 320 eP P 22 41 15.4 +0.5
comp=Z,12nm,0.6s
G08A Pilot Rock 55.23 322 eP P 22 41 16.9 +0.2
comp=Z,23nm,0.6s
E09A Wood Farm, Sta 55.36 323 eP P 22 41 17.3 -0.1
comp=Z,9.8nm,0.7s
M04C Macdoel 55.50 317 ⇓P P 22 41 18.8 +0.2
baz=56
NEW Newport 55.70 326 eP P 22 41 19.8 -0.1
NEW pmax pmax
comp=Z,5.0nm,0.6s
NEW Newport 55.70 326 eP P 22 41 19.8 -0.1
comp=Z,5.3nm,0.6s
NEW Newport 55.70 326 ⇓P P 22 41 19.6 -0.2
baz=56
J05D Fort Rock, OR 55.74 319 ⇑P P 22 41 21.0 +0.7
baz=56
N02D Trinity Center 55.76 316 ⇑P P 22 41 18.7 -1.7
baz=56
K04D Chiloquin, OR 55.80 318 ⇓P P 22 41 21.0 +0.3
baz=56
M02C Callahan 56.03 316 ⇓P P 22 41 21.4 -0.9
baz=56
YBH Yreka Blue Hor 56.07 316 eP P 22 41 21.6 -1.0
YBH pmax pmax
comp=Z,8.0nm,0.6s
YBH Yreka Blue Hor 56.07 316 eP P 22 41 21.6 -1.0
comp=Z,7.9nm,0.6s
D08A Wollman Farm, 56.10 324 eP P 22 41 23.0 +0.4
comp=Z,5.6nm,0.6s
C09A Chrisman Ranch 56.11 325 eP P 22 41 23.2 +0.5
comp=Z,23nm,0.8s
G06A Carlson Farm, 56.24 321 eP P 22 41 25.1 +1.3
comp=Z,11nm,0.7s
J04D Umpqua Nationa 56.30 318 ⇓P P 22 41 24.7 +0.3
baz=56
G05D Wamic, OR 56.67 321 ⇓P P 22 41 27.9 +1.2
baz=57
TRW Toppenish Ridg 56.69 322 P P 22 41 27.7 +0.9
EDM Edmonton 56.72 332 eP P 22 41 26.4 -0.5
EDM Edmonton 56.72 332 eP P 22 41 26.4 -0.5
I04A Tendick Farm, 56.73 319 ⇓P P 22 41 27.1 -0.1
baz=57
L02D Cave Junction, 56.85 317 ⇓P P 22 41 27.7 -0.3
baz=57
BROR Big Rock Looko 56.96 319 P P 22 41 28.8 0.0
H04A Detroit Lake 56.97 320 eP P 22 41 29.4 +0.5
comp=Z,20nm,0.8s
WTV Waterville 57.03 324 P P 22 41 29.6 +0.3
TBM Table Mountain 57.15 323 P P 22 41 30.9 +0.8
ETW Entiat 57.20 324 P P 22 41 30.9 +0.3
LTY Liberty 57.23 323 eP P 22 41 31.2 +0.5
comp=Z,14nm,0.6s
I03D Drain, OR 57.31 318 ⇑P P 22 41 30.9 -0.3
baz=57
LON Longmire 57.68 322 eP P 22 41 34.2 +0.4
LON Longmire 57.68 322 eP P 22 41 34.1 +0.4
HDW Hoodsport 58.84 323 P P 22 41 41.9 -0.1
OSD Olympics--Snow 59.31 323 P P 22 41 46.2 +1.0
YKA Yellowknife Ar 63.34 340 P P 22 42 11.6 -0.1
comp=Z,28nm,0.6s,baz=132,slow=6.7,SNR=691
YKW3 Yellowknife Ar 63.38 340 eP P 22 42 11.5 -0.6
comp=Z,0.6nm,0.6s
ILULI Ilulissat 63.95 8 iP P 22 42 15.7 0.0
ILULI pmax pmax
comp=Z,24nm,0.8s
ILULI Ilulissat 63.95 8 iP P 22 42 15.7 0.0
comp=Z,24nm,0.8s
TIC Toumodi 67.40 86 eP P 22 42 38.2 -0.6
comp=Z,9.5nm,0.2s
DLBC Dease Lake 67.42 331 eP P 22 42 38.5 +0.3
LIC Lamto 67.42 86 eP P 22 42 38.6 -0.4
comp=Z,78nm,0.6s
DBIC Dimbokro 67.56 86 eP P 22 42 39.3 -0.5
DBIC e*PP pP 22 43 18.2 -0.1
DBIC pmax pmax
comp=Z,22nm,0.7s
DBIC Dimbokro 67.56 86 P P 22 42 39.7 -0.1
comp=Z,22nm,0.7s,baz=251,slow=5.0,SNR=83
DBIC Dimbokro 67.56 86 eP P 22 42 39.3 -0.5
comp=Z,22nm,0.7s
DBIC epP pP 22 43 18.2 -0.1
KIC Kosan Boka 67.70 86 eP P 22 42 40.2 -0.5
comp=Z,69nm,0.6s
KULLO Kullorsuaq 68.33 4 iP P 22 42 43.4 -0.1
KULLO pmax pmax
comp=Z,16nm,0.9s
KULLO Kullorsuaq 68.33 4 iP P 22 42 43.4 -0.1
comp=Z,16nm,0.8s
SUMG Summit 68.97 11 iP P 22 42 48.9 +0.9
SUMG pmax pmax
comp=Z,68nm,0.8s
SUMG Summit 68.97 11 iP P 22 42 48.9 +0.9
comp=Z,68nm,0.8s
SUMG Summit 68.97 11 eP P 22 42 48.8 +0.8
comp=Z,80nm,0.7s
ESDC Sonseca Array 69.52 50 P P 22 42 51.0 -0.7
comp=Z,0.3nm,0.4s,baz=260,slow=5.9,SNR=8.3
ESDC PKP2bc 23 10 56.4
comp=Z,0.7nm,0.7s,baz=83,slow=3.2,SNR=6.1
SKAG Skagway 70.35 331 eP P 22 42 56.1 0.0
comp=Z,4.8nm,0.5s
SJPF Ste Jean 72.04 47 eP P 22 43 06.2 -0.5
comp=Z,5.5nm,0.7s
SJPF Ste Jean 72.04 47 eP P 22 43 06.2 -0.5
SJPF pmax pmax
comp=Z,6.0nm,0.7s
SJPF Ste Jean 72.04 47 eP P 22 43 06.2 -0.5
comp=Z,5.5nm,0.7s
GRR Gorron 73.06 42 eP P 22 43 11.9 -0.7
comp=Z,4.9nm,0.3s
GRR Gorron 73.06 42 eP P 22 43 11.9 -0.7
GRR pmax pmax
comp=Z,5.0nm,0.3s
GRR Gorron 73.06 42 eP P 22 43 11.9 -0.7
comp=Z,4.9nm,0.3s
INK Inuvik 73.10 340 eP P 22 43 12.5 +0.1
INK pmax pmax
comp=Z,13nm,0.6s
INK Inuvik 73.10 340 eP P 22 43 12.5 +0.1
comp=Z,13nm,0.6s
EPF Esparros 73.17 47 eP P 22 43 12.9 -0.5
comp=Z,3.7nm,0.5s
EPF Esparros 73.17 47 eP P 22 43 12.9 -0.5
EPF pmax pmax
comp=Z,4.0nm,0.5s
EPF Esparros 73.17 47 eP P 22 43 12.9 -0.5
comp=Z,3.7nm,0.5s
MFF Saint Martin d 73.27 43 eP P 22 43 13.3 -0.6
comp=Z,4.8nm,0.4s
MFF Saint Martin d 73.27 43 eP P 22 43 13.3 -0.6
MFF pmax pmax
comp=Z,5.0nm,0.4s
MFF Saint Martin d 73.27 43 eP P 22 43 13.3 -0.6
comp=Z,4.8nm,0.4s
FLN La Foliniere 73.36 41 eP P 22 43 13.8 -0.5
comp=Z,6.5nm,0.3s
FLN La Foliniere 73.36 41 eP P 22 43 13.8 -0.5
FLN pmax pmax
comp=Z,7.0nm,0.3s
FLN La Foliniere 73.36 41 eP P 22 43 13.8 -0.5
comp=Z,6.5nm,0.3s
TOA0 Torodi Ar. Sit 73.57 78 eP P 22 43 14.9 -1.3
TORD Torodi Ar. Bea 73.57 78 P P 22 43 15.4 -0.8
comp=Z,2.4nm,0.3s,baz=285,slow=6.7,SNR=110
LDF La Druitiere 73.57 41 eP P 22 43 14.9 -0.7
LDF La Druitiere 73.57 41 eP P 22 43 14.9 -0.7
LDF La Druitiere 73.57 41 eP P 22 43 14.9 -0.7
CAF Calviac 74.61 45 eP P 22 43 21.0 -0.7
comp=Z,2.4nm,0.3s
CAF Calviac 74.61 45 eP P 22 43 21.0 -0.7
CAF pmax pmax
comp=Z,2.0nm,0.3s
CAF Calviac 74.61 45 eP P 22 43 21.0 -0.7
comp=Z,2.4nm,0.3s
EGAK Eagle 74.67 336 eP P 22 43 21.5 -0.1
comp=Z,8.9nm,0.8s
BMRM Bremner River 75.21 331 eP P 22 43 25.7 +0.9
comp=Z,30nm,1.0s
DOT Dot Lake 75.59 334 eP P 22 43 27.7 +0.7
comp=Z,24nm,0.7s
DAG Danmarks Havn 75.63 11 iP P 22 43 26.9 0.0
DAG pmax pmax
comp=Z,12nm,0.8s
DAG Danmarks Havn 75.63 11 iP P 22 43 26.9 0.0
comp=Z,16nm,0.8s
SSF Saint Saulge 75.81 43 eP P 22 43 27.5 -1.0
SSF Saint Saulge 75.81 43 eP P 22 43 27.5 -1.0
SSF Saint Saulge 75.81 43 eP P 22 43 27.5 -1.0
PAX Paxson 76.05 333 eP P 22 43 30.5 +0.8
PAX pmax pmax
comp=Z,8.0nm,0.8s
PAX Paxson 76.05 333 eP P 22 43 30.5 +0.8
comp=Z,8.3nm,0.8s
LOR Lormes 76.07 43 eP P 22 43 29.0 -1.0
LOR Lormes 76.07 43 eP P 22 43 29.0 -1.0
LOR Lormes 76.07 43 eP P 22 43 29.0 -1.0
SFTF Sexfontaines 76.94 42 eP P 22 43 34.0 -0.9
comp=Z,4.1nm,0.4s
SFTF Sexfontaines 76.94 42 eP P 22 43 34.0 -0.9
comp=Z,4.1nm,0.4s
ILAR Eielson Array 77.05 335 P P 22 43 35.0 -0.1
comp=Z,4.8nm,0.7s,baz=112,slow=4.5,SNR=71
ILAR PP PP 22 46 28.3 -2.3
comp=Z,0.5nm,0.6s,baz=106,slow=7.8,SNR=4.1
COLA College 77.47 335 ⇑eP P 22 43 37.8 +0.4
COLA pmax pmax
comp=Z,15nm,0.7s
PMR Palmer 77.48 332 eP P 22 43 37.3 -0.2
PMR pmax pmax
comp=Z,10.0nm,0.7s
PMR Palmer 77.48 332 eP P 22 43 37.2 -0.2
comp=Z,9.5nm,0.7s
RC01 Rabbit Creek A 77.69 331 eP P 22 43 38.9 +0.2
comp=Z,13nm,0.7s
RC01 ePcP PcP 22 43 48.2 0.0
HGN Heimansgroeve 77.72 40 eP P 22 43 40.1 +1.0
comp=Z,2.6nm,0.5s
MCK McKinley 77.73 334 eP P 22 43 38.6 -0.4
MCK pmax pmax
comp=Z,4.0nm,0.7s
MCK McKinley 77.73 334 eP P 22 43 38.6 -0.4
comp=Z,4.2nm,0.7s
TRF Thorofare Moun 78.29 333 eP P 22 43 42.8 +0.6
comp=Z,11nm,0.7s
WTSB Winterswijk 78.35 38 eP P 22 43 43.5 +1.0
comp=Z,14nm,0.8s
KTH Kantishna Hill 78.58 333 eP P 22 43 43.9 +0.2
comp=Z,12nm,0.9s
KDAK Kodiak Island 78.75 328 iP P 22 43 44.3 -0.3
COLD Coldfoot 78.83 337 eP P 22 43 46.0 +1.1
comp=Z,8.8nm,1.0s
PPLA Purkeypile 79.07 333 eP P 22 43 46.5 0.0
comp=Z,28nm,0.5s
PPLA epP pP 22 44 26.8 +0.6
RSO Redoubt South 79.08 330 eP P 22 43 45.8 -0.9
comp=Z,37nm,0.7s
MUD Monsted U'grnd 80.00 34 iP P 22 43 52.1 +0.7
MUD pmax pmax
comp=Z,11nm,0.8s
MUD Monsted U'grnd 80.00 34 iP P 22 43 52.1 +0.7
comp=Z,11nm,0.7s
IM04 Indian Mountai 80.08 336 eP P 22 43 51.6 -0.2
DAVA Damuels 80.17 43 ⇑iP P 22 43 53.7 +0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,9.9nm,0.9s						
FETA	Feichten	80.75	44	⇓iP	P	22 43 56.6	+0.7
	comp=Z,3.2nm,0.8s						
NB2	NORSAR Subarra	81.25	29	P	P	22 43 59.1	+1.0
	comp=Z,6.1nm,0.8s,baz=268,slow=5.3						
NOA	NORSAR Array B	81.25	29	P	P	22 43 59.0	+1.0
	comp=Z,4.3nm,0.7s,baz=268,slow=5.3,SNR=17						
CHGN	Chignik	81.87	326	eP	P	22 44 01.2	0.0
ABTA	Abfaltersbach	81.97	44	⇓iP	P	22 44 01.8	-0.5
	comp=Z,3.8nm,1.0s						
CLL	Collm	82.20	39	iP	P	22 44 04.0	+0.9
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CLL	Collm	82.20	39	iP	P	22 44 04.0	+0.9
	comp=Z,5.0nm,0.9s						
KHC	Kasperske Hory	82.62	41	eP	P	22 44 05.6	+0.1
KHC	Kasperske Hory	82.62	41	eP	P	22 44 05.6	+0.1
GERES	GERESS Array B	82.71	42	P	P	22 44 06.1	+0.1
	comp=Z,2.7nm,0.7s,baz=270,slow=5.3,SNR=11						
BRG	Berggiesshubel	82.80	40	eP	P	22 44 07.2	+0.9
	comp=Z,3.2nm,0.9s						
BRG	Berggiesshubel	82.80	40	eP	P	22 44 07.2	+0.9
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MOA	Molln	83.13	43	⇑iP	P	22 44 08.1	0.0
	comp=Z,2.4nm,0.6s						
PVCC	Panska Ves	83.21	40	eP	P	22 44 09.9	+1.5
PVCC	Panska Ves	83.21	40	eP	P	22 44 09.9	+1.5
PRU	Pruhonice	83.22	40	eP	P	22 44 09.4	+0.9
PRU	Pruhonice	83.22	40	eP	P	22 44 09.4	+0.9
UPC	Upice	84.13	40	eP	P	22 44 14.7	+1.6
UPC	Upice	84.13	40	eP	P	22 44 14.7	+1.6
DPC	Dobruska-Polom	84.34	40	eP	P	22 44 15.3	+1.1
DPC	Dobruska-Polom	84.34	40	eP	P	22 44 15.3	+1.1
KRLC	Kraliky	84.65	40	eP	P	22 44 16.0	+0.2
KRLC	Kraliky	84.65	40	eP	P	22 44 16.0	+0.2
ARCES	ARCESS Array B	86.62	20	P	P	22 44 25.2	+0.2
	comp=Z,4.3nm,0.6s,baz=276,slow=4.1,SNR=50						
KEV	Kevo	87.09	20	eP	P	22 44 27.8	+0.5
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	Kevo	87.09	20	ep	P	22 44 27.8	+0.5
	comp=Z,0.5nm,0.4s						
CRVS	Cervenica-Dubn	87.81	41	eP	P	22 44 31.1	-0.1
CRVS				pmax	pmax		
	comp=Z,46nm,2.9s						
CRVS	Cervenica-Dubn	87.81	41	eP	P	22 44 31.1	-0.1
KOLS	Kolonicke sedl	88.34	41	eP	P	22 44 30.6	-3.1
KOLS				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KOLS	Kolonicke sedl	88.34	41	e	P	22 44 30.6	-3.1
FINES	FINESS Array B	88.37	28	P	P	22 44 34.3	+0.8
	comp=Z,1.8nm,0.5s,baz=292,slow=4.0,SNR=16						
OBN	Obninsk	95.40	33	eP	P	22 45 07.1	+1.0
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,62nm,17.0s						
ZAA0	Zalesovo Array	116.64	14	ePKPdf	PKPdf	22 50 24.6	-0.5
ZALV	Zalesovo Beam	116.64	14	PKP	PKPdf	22 50 25.2	+0.2
	comp=Z,5.0nm,0.4s,baz=256,slow=1.9,SNR=32						
KURK	Kurchatov	117.66	20	ePKIKP	PKPdf	22 50 26.7	-0.4
KURK	Kurchatov	117.66	20	ePKPdf	PKPdf	22 50 26.7	-0.4
YSS	Yuzh-Sakhalins	117.82	333	ePKIKP	PKPdf	22 50 27.7	+0.2
TLY	Talaya	121.67	2	iPKIKP	PKPdf	22 50 36.3	+1.4
TLY				pmax	pmax		
	comp=Z,5.0nm,1.8s						
MK31	Makanchi Array	122.27	20	ePKIKP	PKPdf	22 50 35.1	-1.1
MK31	Makanchi Array	122.27	20	ePKPdf	PKPdf	22 50 35.1	-1.1
MKAR	Makanchi Array	122.27	20	PKP	PKPdf	22 50 35.8	-0.4
	comp=Z,3.5nm,0.4s,baz=299,slow=3.0,SNR=129						
AAK	Ala-Archa	122.56	28	⇓iPKIKP	PKPdf	22 50 38.2	+1.1
AAK				pmax	pmax		
	comp=Z,12nm,2.5s						
AAK	Ala-Archa	122.56	28	ePKPdf	PKPdf	22 50 37.7	+0.6
TKM2	Tokmak 2	122.84	27	ePKIKP	PKPdf	22 50 37.8	+0.1
TKM2	Tokmak 2	122.84	27	ePKPdf	PKPdf	22 50 37.8	+0.1
ZAK	Zakamensk	122.95	3	ePKIKP	PKPdf	22 50 34.9	-2.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
USRK	Ussuriysk Arra	124.46	338	PKP	PKPdf	22 50 40.7	+0.3
	comp=Z,1.5nm,0.8s,baz=320,slow=4.3,SNR=6.1						
ULN	Ulaanbaatar	125.56	0	⇓iPKIKP	PKPdf	22 50 43.5	+0.8
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	Songino Array	125.59	1	PKP	PKPdf	22 50 43.0	+0.4
	comp=Z,2.5nm,0.6s,baz=339,slow=1.1,SNR=27						
KSH	Kashi	125.67	29	PKP	PKPdf	22 50 44.5	+1.4
KSH				LR	LR		
	comp=Z,76nm,5.3s						
KSH				LR	LR		
	comp=Z,45nm,5.7s						
KSH				LR	LR		
	comp=Z,130nm,5.7s						
WMQ	Urumqi	126.64	17	ePKP	PKPdf	22 50 44.4	-0.3
WMQ				LR	LR		
	comp=Z,67nm,23.4s						
WMQ				LR	LR		
	comp=Z,72nm,22.8s						
WMQ				LR	LR		
	comp=Z,40nm,20.0s						
CN2	Changchun	126.94	343	ePKP	PKPdf	22 50 44.7	-0.5
KSRS	Korea Array	131.84	338	PKP	PKPdf	22 50 55.5	+0.8
	comp=Z,0.9nm,0.5s,baz=40,slow=1.8,SNR=2.7						
KSAR	Wonju Array Be	131.87	338	PKIKP	PKPdf	22 50 55.5	+0.8
KSAR	Wonju Array Be	131.87	338	PKP	PKPdf	22 50 55.5	+0.8
HHC	Hu-ho-hao-te	132.40	355	ePKP	PKPdf	22 50 55.1	-0.7
HHC				sPKP		22 51 54.2	
HHC				PP	PP	22 53 23.3	+4.1
HHC				SKS	SKSdf	22 57 48.6	-3.7
HHC				SKKS	SKKSac	22 59 56.2	-4.6
HHC				SS	SS	23 10 46.0	+1.7
HHC				AMB	AMB		
	comp=Z,84nm,9.9s						
HHC				LR	LR		
	comp=Z,490nm,17.3s						
HHC				LR	LR		
	comp=Z,400nm,17.3s						
HHC				LR	LR		
	comp=Z,260nm,19.7s						
GTA	Gaotai	133.53	8	⇑PKP	PKPdf	22 50 59.0	+1.0
GTA				sPKP		22 51 58.3	
GTA				PP	PP	22 53 32.1	+5.6
GTA				SKS	SKSdf	22 57 52.4	-2.1
GTA				SKKS	SKKSac	23 00 05.7	-2.1
GTA				SS	SS	23 11 00.3	+2.2
GTA				AMB	AMB		
	comp=Z,120nm,4.8s						
GTA				LR	LR		
	comp=Z,110nm,16.9s						
GTA				LR	LR		
	comp=Z,170nm,16.4s						
GTA				LR	LR		
	comp=Z,130nm,16.6s						
LZH	Lanzhou	137.22	4	ePKP	PKPdf	22 51 06.1	+1.1
LZH				sPKP		22 51 59.2	
LZH				LR	LR		
	comp=Z,150nm,17.0s						
LZH				LR	LR		
	comp=Z,150nm,16.8s						
LZH				LR	LR		
	comp=Z,160nm,19.0s						
GKN	Gorkha	139.17	31	eP	PKPdf	22 51 02.3	-6.5
STKA	Stephens Creek	139.28	228	PKP	PKPdf	22 51 08.9	+0.3
	comp=Z,3.1nm,0.6s,baz=104,slow=3.8,SNR=7.2						
XAN	Xi'an	139.34	358	PKP	PKPdf	22 51 03.3	-5.5
NJ2	Nanjing	139.75	344	ePKP	PKPdf	22 51 10.7	+1.2
NJ2				PP	PP	22 54 07.0	+1.7
NJ2				AMB	AMB		
	comp=Z,40nm,8.7s						
NJ2				LR	LR		
	comp=Z,320nm,20.3s						
NJ2				LR	LR		
	comp=Z,450nm,22.5s						
NJ2				LR	LR		
	comp=Z,330nm,18.5s						
GUN	Gumba	139.87	30	eP	PKPdf	22 51 02.6	-7.8
	comp=Z,12nm,0.5s						
JIRN	Jiri	140.23	30	eP	PKPdf	22 51 04.3	-6.7
	comp=Z,3.8nm,0.3s						
LSA	Lhasa	140.61	22	ePKIKP	PKPdf	22 51 11.8	0.0
LSA	Lhasa	140.61	22	ePKPdf	PKPdf	22 51 11.8	0.0
RAMN	Ramite	141.02	30	eP	PKPdf	22 51 08.1	-4.2
	comp=Z,27nm,0.7s						
TAPN	Taplejung	141.22	28	eP	PKPdf	22 51 06.0	-6.7
	comp=Z,9.9nm,0.6s						
ODAN	Odare	141.48	29	eP	PKPdf	22 51 08.1	-5.0
	comp=Z,4.7nm,0.5s						
CD2	Chengdu	142.36	5	PKP	PKPdf	22 51 13.5	-0.9
CD2				pPKP	pPKPdf	22 51 54.4	-2.5
CD2				sPKP		22 52 11.5	
CD2				PP	PP	22 54 25.2	+4.1
CD2				PKS	PKSdf	22 54 47.8	-2.5
CD2				SKS	SKSdf	22 58 05.9	-3.6
CD2				SKKS	SKKSac	23 00 58.1	-2.0
CD2				SS	SS	23 12 43.8	+1.6
CD2				AMB	AMB		
	comp=Z,120nm,6.4s						
GYA	Guiyang	146.93	1	⇓iPKPbc	PKPdf	22 51 23.3	+0.8
GYA				pPKP	pPKPdf	22 52 03.0	-2.0
GYA				sPKP		22 52 19.5	
GYA				PP	PP	22 54 51.9	+3.6
GYA				AMB	AMB		
	comp=Z,90nm,7.9s						
KMI	Kunming	147.98	7	PKPbc	PKPdf	22 51 23.5	-0.9
AS31	Alice Springs	149.25	234	ePKPdf	PKPdf	22 51 25.2	-1.0
AS31				ePKPbc	PKPbc	22 51 29.5	-1.1
ASAR	Alice Springs	149.25	234	PKP	PKPdf	22 51 26.0	-0.2
	comp=Z,15nm,0.7s,baz=106,slow=1.6,SNR=34						
ASAR				PKPbc	PKPbc	22 51 29.9	-0.7
	comp=Z,18nm,0.7s,baz=120,slow=3.7,SNR=125						
ASAR				pPKP	pPKPdf	22 52 09.2	+0.4
	comp=Z,5.0nm,0.7s,baz=128,slow=3.0,SNR=3.6						
WRAB	Tennant Creek	150.48	241 c	iPKIKP	PKPbc	22 51 32.9	-0.8
WRAB				pmax	pmax		
	comp=Z,96nm,2.5s						
WRAB	Tennant Creek	150.48	241	ePKPdf	PKPdf	22 51 28.1	-0.1
WRAB				ePKPbc	PKPbc	22 51 33.0	-0.7
WRA	Warramunga Arr	150.49	241	PKP	PKPdf	22 51 28.2	0.0
	comp=Z,12nm,0.5s,baz=108,slow=2.6,SNR=200						
WRA				PKPbc	PKPbc	22 51 33.0	-0.6
	comp=Z,14nm,0.5s,baz=107,slow=2.6,SNR=229						
WRA				pPKP	pPKPdf	22 52 10.6	-0.2
	comp=Z,4.2nm,0.5s,baz=109,slow=2.4,SNR=3.1						
SLVN	Son La	151.86	6	ePKPdf	PKPdf	22 51 31.6	+1.2
SLVN				ePKPbc	PKiKP	22 51 37.9	+0.7
CHTO	Chiang Mai	153.31	17	ePKIKP	PKPdf	22 51 32.7	+0.2
CHTO	Chiang Mai	153.31	17	ePKPdf	PKPdf	22 51 32.7	+0.2
CHTO				ePKPbc	PKPbc	22 51 40.1	0.0
CMAR	Chiang Mai Arr	153.65	18	PKP	PKPdf	22 51 33.9	+0.9
	comp=Z,3.3nm,0.7s,baz=298,slow=2.0,SNR=24						
CMAR				PKPbc	PKiKP	22 51 41.3	+0.4
	comp=Z,11nm,0.6s,baz=324,slow=3.4,SNR=38						
QIZ	Qiongzhong	154.18	354	PKPbc	PKPdf	22 51 32.8	-0.9
QIZ				sPKP		22 52 28.6	
QIZ				PP	PP	22 55 30.8	+1.0
QIZ				SS	SS	23 14 58.5	+4.0
QIZ				AMB	AMB		
	comp=Z,55nm,11.6s						
QIZ				LR	LR		
	comp=Z,200nm,22.5s						

IDC 02 22:32:47.9±6.5, 4.77S×134.27E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.3/20, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=360.2km s-min=32.2km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
WRA	Warramunga Arr	15.08	180	Pn	Pn	22 36 20.8	-1.7
	0.1nm,0.3s,baz=360,slow=13,SNR=6.9						
WRA				Sn	Sn	22 38 59.9	-11
	0.1nm,0.3s,baz=360,slow=24,SNR=5.2						
ASAR	Alice Springs	18.79	181	P	Pn	22 37 09.8	+0.3
	0.0nm,0.3s,baz=1.8,slow=12,SNR=4.4						
MKAR	Makanchi Array	68.79	325	P	P	22 43 54.0	0.0
	0.3nm,0.6s,baz=112,slow=7.3,SNR=5.0						

IDC 02 22:49:24.5±0.8, 14.57N×122.13E, h0km, mb3.9/13, mb1 4.0/13, mb1mx3.8/46, mbtmp3.9/13, MS3.6/4, Ms1 3.7/4, ms1mx3.1/33, Error ellipse: s-maj=20.7km s-min=17.6km az=88.0
ISCJB 02 22:49:27.3±0.7, 14.75N±0.04×122.03E±0.06, h19km±4km, mb4.0/18, MS3.6/4, Error ellipse: s-maj=9.4km s-min=5.6km az=160.8
MAN 02 22:49:28, 14.65N×121.91E, h3km, mb4.7, ML3.6, MS3.6 MAN INTENSITY II - POLILIO POLILIO ISLAND.
NEIC 02 22:49:29.4±3.3, 14.52N×122.10E, h34km±23km, mb4.2/5, Error ellipse: s-maj=15.5km s-min=6.4km az=70.0
NEIC Felt [II PIVS] on Polillo Island.
ISC 02 22:49:27.5±0.9, 14.66N±0.04×122.06E±0.06, h14km±6km, n54, σ1.25/54, mb4.0/18, MS3.7/4, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
POLP	Polilio Island	0.14	301	eP	Pg	22 49 30.7	-0.4
POLP				eS	Sg	22 49 33.1	-0.5
LQP	Lukban	0.74	223	⇑iP	Pg	22 49 41.3	-0.6
GQP	Guinayangan	0.83	153	⇓eP	Pb	22 49 44.1	+0.3
GQP				eS	Sn	22 49 56.4	-0.5
BOAC	Boac	1.21	190	eP	Pn	22 49 50.0	+0.1
BOAC				eS	Sn	22 50 07.3	+1.2
TGY	Tagaytay City	1.22	243	Pn	Pn	22 49 49.9	-0.2
	1μm,0.3s,baz=78,slow=3.5,SNR=82						
TGY				LR	LR	22 50 04.5	
	comp=Z,2μm,20.4s,baz=61,slow=32						
TGY				Sn	Sb	22 50 06.5	+0.6
	2μm,0.3s,baz=139,slow=20,SNR=28						
AUQP	San Andres	1.45	156	eP	Pg	22 49 56.6	+1.1
AUQP				eS	Sg	22 50 17.4	+3.0
BCPH	Baguio City Da	2.23	320	⇑iP	Pn	22 50 05.0	+0.9
BCPH				eS	Sn	22 50 33.0	+1.4
OTRP	Odiongan	2.28	181	eP	Pn	22 50 06.6	+1.9
SJMP	San Jose	2.37	203	eP	Pn	22 50 07.9	+2.1
BUSP	Coron	3.20	215	eP	Pn	22 50 18.2	+0.9
SZP	Santa	3.27	332	ePn	Pn	22 50 19.9	+1.7
SZP				eSn	Sb	22 51 08.2	+3.3
CNP	Catarman	3.31	130	eP	Pb	22 50 23.9	-2.1
ENPP	El Nido	4.29	217	eP	Pn	22 50 35.3	+3.0
CMAR	Chiang Mai Arr	22.47	283	P	P	22 54 27.2	+0.7
	3.4nm,0.6s,baz=95,slow=7.8,SNR=27						
CMAR				LR	LR	23 02 46.0	
	comp=Z,78nm,20.0s,baz=89,slow=36						
TAPN	Taplejung	34.34	297	eP	P	22 56 14.3	0.0
	5.4nm,0.5s						
ODAN	Odare	34.50	296	eP	P	22 56 16.2	+0.6
	27nm,0.8s						
RAMN	Ramite	35.21	296	eP	P	22 56 22.5	+0.8
	28nm,0.9s						
ULN	Ulaanbaatar	35.38	342	eP	P	22 56 22.8	0.0
	3.0nm,1.0s						
SONM	Songino Array	35.54	342	P	P	22 56 25.1	+0.9
	0.8nm,0.6s,baz=157,slow=10,SNR=4.3						
JIRN	Jiri	35.73	297	eP	P	22 56 26.7	+0.3
	18nm,0.7s						
GUN	Gumba	36.06	297	eP	P	22 56 29.5	+0.4
	29nm,0.8s						
PKI	Pulchoki	36.38	297	eP	P	22 56 31.2	-0.7
	22nm,0.9s						
PKIN	Phulchoki	36.39	297	eP	P	22 56 31.4	-0.5
	11nm,0.8s						
WRAB	Tennant Creek	36.44	160	eP	P	22 56 30.1	-1.8
	5.5nm,1.0s						
WRA	Warramunga Arr	36.44	160	P	P	22 56 29.6	-2.4
	0.4nm,0.7s,baz=344,slow=9.1,SNR=5.3						
KKN	Kakani	36.54	297	eP	P	22 56 32.9	-0.2
	22nm,1.0s						
DMN	Daman	36.65	297	eP	P	22 56 33.8	-0.3
	20nm,0.9s						
GKN	Gorkha	37.15	297	eP	P	22 56 37.7	-0.5
	22nm,0.8s						
DANN	Dangsing	37.98	297	eP	P	22 56 45.1	-0.3
	31nm,0.8s						
KOLN	Koldanda	37.99	296	eP	P	22 56 45.0	-0.4
	13nm,0.8s						
PYUN	Piuthan	38.59	297	eP	P	22 56 50.4	-0.1
	51nm,0.9s						
TLY	Talaya	39.78	342	eP	P	22 57 00.1	+0.3
	3.2nm,0.6s						
ASAR	Alice Springs	39.81	163	P	P	22 56 59.7	-0.7
	0.4nm,0.4s,baz=342,slow=8.1,SNR=5.4						
H11S3	WAKE ISLAND Hy	42.86	79	T	T	23 42 36.7	
	baz=273,slow=73,SNR=4.1						
H11S1	WAKE ISLAND Hy	42.88	79	T	T	23 42 38.5	
	baz=273,slow=73,SNR=5.1						
H11S2	WAKE ISLAND Hy	42.88	79	T	T	23 42 38.3	
	baz=273,slow=73,SNR=6.9						
H11N1	WAKE ISLAND Hy	43.03	77	T	T	23 43 01.9	
	baz=267						
H11N2	WAKE ISLAND Hy	43.04	77	T	T	23 43 00.7	
	baz=267						
H11N3	WAKE ISLAND Hy	43.05	77	T	T	23 43 00.7	
	baz=267						
MK31	Makanchi Array	46.07	322	eP	P	22 57 50.6	-0.3
MKAR	Makanchi Array	46.07	322	P	P	22 57 51.1	+0.2
	1.1nm,0.7s,baz=123,slow=9.6,SNR=13						
ZALV	Zalesovo Beam	48.83	332	P	P	22 58 12.4	+0.2
	1.4nm,0.8s,baz=123,slow=5.5,SNR=5.7						
AAK	Ala-Archa	49.34	314	eP	P	22 58 17.0	+0.4
STKA	Stephens Creek	49.92	158	eP	P	22 58 17.8	-2.9
KURK	Kurchatov	50.15	325	eP	P	22 58 22.4	+0.1
	2.4nm,0.8s						
ABKAR	Akbulak array	60.89	318	eP	P	22 59 39.5	-0.1
	0.7nm,0.6s						
ARCES	ARCESS Array B	78.67	339	P	P	23 01 28.9	+0.1
	3.3nm,1.0s,baz=89,slow=9.1,SNR=3.8						
SPITS	Spitsbergen Ar	78.93	348	P	P	23 01 30.8	+0.7
	6.2nm,0.8s,baz=91,slow=11,SNR=5.5						
SPITS				LR	LR	23 40 43.7	
	comp=Z,57nm,18.2s,baz=130,slow=39						
FINES	FINESS Array B	80.09	331	P	P	23 01 36.1	-0.6
	1.0nm,0.9s,baz=48,slow=5.7,SNR=4.0						
AKASG	Malin Array Be	80.58	320	P	P	23 01 38.4	-1.1
	0.2nm,0.4s,baz=66,slow=2.3,SNR=4.0						
INK	Inuvik	81.73	21	LR	LR	23 39 25.6	
	comp=Z,32nm,18.4s,baz=350,slow=37						
HFS	Hagfors	86.27	332	P	P	23 02 07.9	-0.7
	1.4nm,0.6s,baz=90,slow=6.1,SNR=4.7						
NOA	NORSAR Array B	87.02	333	P	P	23 02 11.6	-0.7
	0.4nm,0.6s,baz=74,slow=4.5,SNR=2.2						
NOA				LR	LR	23 44 05.3	
	comp=Z,26nm,18.6s,baz=285,slow=38						
RES	Resolute Bay	87.89	9	P	P	23 02 16.7	+0.6
	0.7nm,0.8s,baz=310,slow=7.9,SNR=3.0						

ISCJB 02 22:59:46.6±0.4, 0.23S±0.04×122.96E±0.03, h117km±4km, mb4.0/11, Error ellipse: s-maj=6.6km s-min=4.6km az=147.1
DJA 02 22:59:48.4±0.2, 0°S±2°×12°3E±°, h82km±6km, M4.6/18, mb4.6/4, mB4.7/2, MLv4.6/18, Mw(mB)4.0/2
IDC 02 22:59:49.1±2.1, 0.09S×123.12E, h122km±18km, mb3.7/11, mb1 3.8/11, mb1mx3.6/30, mbtmp4.0/11, Error ellipse: s-maj=34.9km s-min=12.2km az=68.0
ISC 02 22:59:47.4±0.8, 0.24S±0.04×122.97E±0.04, h111km±6km, n24, σ1.54/41, mb4.0/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
LUWI	Luwuk	0.82	194	P	Pn	23 00 06.5	-0.5
LUWI				S	Sn	23 00 21.5	-0.1
GTOI	Gorontalo	0.87	3	P	Pn	23 00 09.0	+1.6
GTOI				S	Px	23 01 16.3	
MRSI	Marisa	1.25	305	P	Pn	23 00 10.8	-0.6
MRSI				S	Sn	23 00 28.0	-1.6
KMSI	Cibinong	1.29	51	P	Pn	23 00 12.7	+0.8
KMSI				S	Sn	23 00 31.9	+1.5
APSI	Ampana	1.48	243	P	Pn	23 00 14.4	+0.3
APSI				S	Sn	23 00 30.3	-4.0
SANI	Sanana	3.51	121	P	Pn	23 00 39.4	-0.9
SANI				S	Sn	23 01 16.3	-4.8
TTSI	Tana Toraja	4.21	228	P	Pn	23 00 50.7	+1.1
TTSI				S	Sn	23 01 38.1	+0.3
TNTI	Ternate	4.51	77	P	Pn	23 00 54.3	+0.6
TNTI				S	Sn	23 01 46.1	+1.0
LBMI	Labuha	4.55	95	P	Pn	23 00 54.8	+0.6
LBMI				S	Sn	23 01 47.1	+1.1
SPSI	Sidrap Palu	4.89	221	P	Pn	23 01 01.2	+2.4
SPSI				S	Sn	23 01 55.0	+0.6
BNSI	Bone	5.03	215	P	Pn	23 01 02.9	+2.2
BNSI				S	Sn	23 01 57.6	-0.1
NLAI	Namlea	5.09	126	P	Pn	23 01 02.0	+0.5
	65nm,0.5s,1.1nm						
NLAI				S	Sn	23 01 58.5	-0.6
	65nm,0.5s,1.1nm						
BKSI	Bulukumba	5.79	209	P	Pn	23 01 11.2	+0.1
	28nm,0.6s,468nm0.2nm						
BKSI				S	Sn	23 02 16.6	+0.3
	28nm,0.6s,468nm0.2nm						
WRA	Warramunga Arr	22.52	151	P	P	23 04 38.7	+0.5
	1.7nm,0.5s,baz=329,slow=10,SNR=22						
WRA				ScP	ScP	23 11 55.8	-0.3
	0.3nm,0.4s,baz=326,slow=2.5,SNR=8.8						
ASAR	Alice Springs	25.59	156	P	P	23 05 08.4	+1.9
	0.5nm,0.6s,baz=341,slow=14,SNR=12						
ASAR				PcP	PcP	23 08 35.5	+0.6
	0.7nm,0.4s,baz=345,slow=2.0,SNR=11						
ASAR				ScP	ScP	23 12 04.1	-0.2
	0.2nm,0.4s,baz=351,slow=3.3,SNR=3.7						
CMAR	Chiang Mai Arr	30.05	309	P	P	23 05 48.0	+1.8
	1.5nm,0.3s,baz=145,slow=7.3,SNR=5.1						
STKA	Stephens Creek	36.06	153	P	P	23 06 39.4	+0.9
	0.7nm,0.3s,baz=329,slow=7.2,SNR=5.0						
STKA				PcP	PcP	23 09 02.3	-0.1
	0.6nm,0.3s,baz=349,slow=5.2,SNR=3.7						
USRK	Ussuriysk Arra	44.97	9	P	P	23 07 51.0	-0.6
	2.6nm,0.6s,baz=197,slow=6.6,SNR=6.7						
SONM	Songino Array	50.01	345	P	P	23 08 30.4	-0.3
	2.5nm,0.7s,baz=160,slow=8.8,SNR=24						
MKAR	Makanchi Array	58.80	328	P	P	23 09 34.1	-0.1
	0.9nm,0.5s,baz=120,slow=9.3,SNR=20						
MKAR				ScP	ScP	23 14 09.8	-3.3
	0.2nm,0.8s,baz=134,slow=4.2,SNR=2.8						
PETK	Petropavlovsk-	60.52	23	P	P	23 09 45.6	-0.2
	2.2nm,0.6s,baz=191,slow=1.5,SNR=3.8						
ZALV	Zalesovo Beam	62.52	336	P	P	23 09 58.1	-1.2
	0.4nm,0.4s,baz=107,slow=8.0,SNR=2.9						
ILAR	Eielson Array	90.28	25	P	P	23 12 33.9	-1.6
	0.3nm,0.6s,baz=240,slow=5.2,SNR=8.7						
ARCES	ARCESS Array B	92.84	340	P	P	23 12 47.8	+0.4
	4.1nm,1.0s,baz=40,slow=7.1,SNR=3.5						

IDC 02 23:04:33.8±1.2, 5.43S×153.25E, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, Error ellipse: s-maj=69.2km s-min=23.6km az=131.0
ISCJB 02 23:04:38.1±1.1, 5.5S±0.3×153.2E±0.4, h37km, mb3.4/6, Error ellipse: s-maj=68.1km s-min=19.8km az=40.7
ISC 02 23:04:39.4±1.3, 5.5S±0.4×153.2E±0.4, h37km, n7, σ1.32/7, mb3.4/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
WRA	Warramunga Arr	23.33	230	P	P	23 09 44.0	-0.5
	0.6nm,0.8s,baz=52,slow=9.8,SNR=3.5						
ASAR	Alice Springs	25.96	224	P	P	23 10 09.0	+0.4
	0.4nm,0.7s,baz=53,slow=10,SNR=3.6						
MKAR	Makanchi Array	81.10	319	P	P	23 16 52.0	+1.0
	0.1nm,0.6s,baz=94,slow=5.5,SNR=3.4						
ILAR	Eielson Array	82.61	22	P	P	23 16 58.0	-0.5
	0.4nm,0.7s,baz=240,slow=5.4,SNR=5.0						
NVAR	Mina Array Bea	92.16	52	P	P	23 17 47.3	+1.5
	0.3nm,0.6s,baz=36,slow=5.8,SNR=2.6						
YKA	Yellowknife Ar	95.81	28	P	P	23 18 00.0	-1.6
	0.1nm,0.3s,baz=277,slow=4.9,SNR=3.4						
TORD	Torodi Ar. Bea	150.91	287	PKPbc	PKPbc	23 24 28.6	-0.6
	0.2nm,0.6s,baz=85,slow=2.6,SNR=2.7						

BJI 02 23:17:40.4, 1.05S×136.40E, h5km, mb4.9/10, mb4.7/21, Ms4.4/5, Ms7 4.2/5
IDC 02 23:17:46.1±0.6, 0.75S×135.76E, h0km, mb4.6/13, mb1 4.7/14, mb1mx4.5/32, mbtmp4.5/14, ML4.6/1, MS3.8/16, Ms1 3.9/16, ms1mx3.7/29, Error ellipse: s-maj=25.7km s-min=11.2km az=81.0
ISCJB 02 23:17:48.9±0.2, 0.64S±0.03×135.91E±0.04, h29km, mb4.6/39, MS3.9/17, Error ellipse: s-maj=5.5km s-min=3.8km az=145.2
MOS 02 23:17:49.3±1.1, 0.70S×135.84E, h33km, mb4.9/18, Error ellipse: s-maj=15.5km s-min=7.1km az=113.8
DJA 02 23:17:50.1±0.8, 1°S±5°×13°6E±°, h13km±4km, M5.0/12, mb4.8/12, mB5.5/4, MLv5.2/8, Mw(mB)5.0/4
NEIC 02 23:17:52.0±1.2, 0.72S×135.87E, h40km±11km, mb4.7/19, Error ellipse: s-maj=10.6km s-min=6.9km az=52.0
NEIC Felt [III] at Biak.
ISC 02 23:17:50.7±0.3, 0.71S±0.04×135.89E±0.05, h29km, n129, σ1.16/130, mb4.8/38, MS4.0/17, 2C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**0.53**	**155**	P	**Pb**	**23 18 01.0**	**-0.5**
BAKI				S	**Sb**	**23 18 07.7**	**-1.2**
SRPI	**Serui, Papua**	**1.21**	**163**	P	**Pn**	**23 18 10.9**	**-0.7**
SRPI				S	**Sb**	**23 18 28.2**	**+0.1**
SMPI	**Sarmi**	**3.10**	**114**	P	**Pn**	**23 18 38.0**	**+0.4**
SMPI				S	**Sn**	**23 19 14.4**	**+0.8**
KMPI	**Kaimana, Papua**	**3.65**	**217**	P	**Pn**	**23 18 46.9**	**+1.6**
FAKI	**Fak Fak**	**4.25**	**239**	P	**Pn**	**23 18 53.3**	**-0.2**
FAKI	**Fak Fak**	**4.25**	**239**	*e*Pn	**Pn**	**23 18 52.6**	**-0.8**
FAKI				*e*Sn	**Sn**	**23 19 38.7**	**-3.5**
SWI	**Sorong**	**4.63**	**268**	P	**Pn**	**23 18 59.5**	**+0.8**
JAY	**Jayapura**	**5.14**	**110**	Pn	**Pn**	**23 19 04.8**	**-1.0**
	baz=253,slow=19,SNR=4.4						
JAY				Sn	**Sn**	**23 20 00.6**	**-3.6**
	baz=307,slow=20,SNR=6.6						
TNTI	**Ternate**	**8.65**	**280**	P	**Pn**	**23 19 55.5**	**+1.6**
	100nm,0.9s						
TNTI	**Ternate**	**8.65**	**280**	*e*Pn	Pn	23 19 57.6	+3.7
GTOI	**Gorontalo**	**12.95**	**276**	P	**Pn**	**23 20 55.4**	**+2.6**
	46nm,1.2s						
MRSI	**Marisa**	**14.00**	**275**	P	**Pn**	**23 21 08.2**	**+1.0**
	16nm,0.9s						
PMG	**Port Moresby**	**14.16**	**128**	LR	LR	23 28 15.3	
	comp=Z,149nm,19.1s,baz=278,slow=44						
APSI	**Ampana**	**14.24**	**269**	P	**Pn**	**23 21 11.8**	**+1.3**
	48nm,1.1s						
SOEI	**Soe**	**14.64**	**232**	P	**Pn**	**23 21 16.8**	**+0.7**
	66nm,1.0s						
SOEI	**Soe**	**14.64**	**232**	*e*Pn	**Pn**	**23 21 17.5**	**+1.4**
BNSI	**Bone**	**16.18**	**257**	P	**P**	**23 21 38.7**	**-0.4**
	62nm,1.2s,3μm						
TTSI	**Tana Toraja**	**16.23**	**262**	P	**P**	**23 21 40.8**	**+1.2**
	51nm,1.3s,2μm						
BKSI	**Bulukumba**	**16.39**	**253**	P	**P**	**23 21 41.5**	**+0.1**
	34nm,1.3s						
SPSI	**Sidrap Palu**	**16.42**	**258**	P	**P**	**23 21 41.3**	**-0.5**
MYLDM	**Lahad Datu**	**18.33**	**289**	*e*Pn	**Pn**	**23 22 02.9**	**0.0**
	112nm,1.4s						
WRAB	**Tennant Creek**	**19.16**	**184**	⇓*e*P	**P**	**23 22 11.2**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,145nm,1.3s						
WRAB				MLR	MLR		
	comp=Z,966nm,19.0s						
WRAB	**Tennant Creek**	**19.16**	**184**	*e*P	**P**	**23 22 11.5**	**-0.5**
	comp=Z,32nm,0.7s						
WRA	**Warramunga Arr**	**19.17**	**184**	P	**P**	**23 22 11.1**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=3.0,slow=12,SNR=88						
WRA				LR	LR	23 30 12.1	
	comp=Z,333nm,18.9s,baz=5.0,slow=39						
CTA	**Charters Tower**	**21.77**	**153**	P	**P**	**23 22 41.5**	**+1.3**
	comp=Z,16nm,0.5s,baz=338,slow=11,SNR=25						
CTAO	**Charters Tower**	**21.77**	**153**	*e*P	**P**	**23 22 42.2**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,20nm,0.7s						
CTAO	**Charters Tower**	**21.77**	**153**	*e*P	**P**	**23 22 42.2**	**+2.0**
	comp=Z,20nm,0.7s						
AS31	**Alice Springs**	**22.90**	**185**	*e*P	**P**	**23 22 51.0**	**-1.4**
ASAR	**Alice Springs**	**22.90**	**185**	P	**P**	**23 22 52.1**	**-0.2**
	comp=Z,27nm,0.8s,baz=13,slow=10.0,SNR=69						
ASAR				S	**S**	**23 27 01.8**	**+1.3**
	comp=Z,2.4nm,0.9s,baz=3.7,slow=18,SNR=4.5						
ASAR				LR	LR	23 32 36.5	
	comp=Z,458nm,18.4s,baz=4.0,slow=39						
SBUM	**Sibu**	**23.87**	**278**	*e*P	**P**	**23 23 05.2**	**+3.3**
	comp=Z,64nm,1.7s						
KSM	**Kuching**	**25.67**	**275**	*e*P	**P**	**23 23 19.9**	**+1.5**
	comp=Z,21nm,1.1s						
JCJ	**Chichijima**	**28.30**	**12**	LR	LR	23 32 48.9	
	comp=Z,268nm,20.7s,baz=159,slow=32						
EIDS	**Eidsvold**	**28.57**	**150**	*e*P	**P**	**23 23 46.2**	**+1.9**
	comp=Z,80nm,1.6s						
STKA	**Stephens Creek**	**31.46**	**171**	*e*P	**P**	**23 24 09.9**	**+0.1**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
STKA	**Stephens Creek**	**31.46**	**171**	P	**P**	**23 24 09.2**	**-0.6**
	comp=Z,15nm,0.4s,baz=345,slow=8.3,SNR=77						
STKA				LR	LR	23 38 20.5	
	comp=Z,531nm,19.4s,baz=348,slow=39						
STKA	**Stephens Creek**	**31.46**	**171**	*e*P	**P**	**23 24 09.9**	**+0.1**
	comp=Z,3.1nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**35.79**	**56**	T	T	00 02 45.7	
	baz=240,slow=74,SNR=63						
H11S2	**WAKE ISLAND Hy**	**35.80**	**56**	T	T	00 02 46.6	
	baz=240,slow=74,SNR=44						
H11S1	**WAKE ISLAND Hy**	**35.80**	**56**	T	T	00 02 47.0	
	baz=240,slow=74,SNR=49						
NWAO	**Narrogin (SRO)**	**36.54**	**207**	LR	LR	23 41 35.9	
	comp=Z,232nm,19.7s,baz=38,slow=39						
H11N1	**WAKE ISLAND Hy**	**36.55**	**55**	T	T	00 03 53.4	
	baz=245,slow=75,SNR=37						
H11N2	**WAKE ISLAND Hy**	**36.56**	**55**	T	T	00 03 48.6	
	baz=245,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**36.57**	**55**	T	T	00 03 50.2	
	baz=245,slow=75,SNR=44						
MJAR	**Matsushiro Arr**	**37.13**	**3**	LR	LR	23 37 35.0	
	comp=Z,170nm,18.8s,baz=165,slow=32						
KSRS	**Korea Array**	**38.68**	**350**	LR	LR	23 41 29.7	
	comp=Z,71nm,18.9s,baz=164,slow=37						
CMAR	**Chiang Mai Arr**	**41.00**	**300**	P	**P**	**23 25 31.0**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=122,slow=6.2,SNR=11						
CMAR				LR	LR	23 41 24.1	
	comp=Z,36nm,21.1s,baz=127,slow=35						
XAN	**Xi'an**	**42.85**	**326**	P	**P**	**23 25 46.0**	**-0.4**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
USRK	**Ussuriysk Arra**	**44.85**	**356**	LR	LR	23 43 05.7	
	comp=Z,263nm,18.3s,baz=143,slow=34						
HABR	**Khabarovsk**	**48.99**	**359**	*e*P	**P**	**23 26 33.1**	**-1.5**
HABR				*e*		23 27 56.6	
HABR				*e*		23 28 26.7	
HABR				*e*S	**S**	**23 33 38.6**	**+1.6**
HABR				*e*SSS	SSS	23 38 26.2	
HABR				pmax	pmax		
	comp=Z,46nm,1.7s						
HABR				MLR	MLR		
	comp=Z,108nm,14.0s						
KLR	**Kul'dur**	**49.87**	**356**	*e*P	P	23 26 37.7	-3.6
GTA	**Gaotai**	**51.81**	**325**	*e*P	**P**	**23 26 56.8**	**+0.6**
GTA				pP	**pP**	**23 27 05.7**	**+0.6**
GTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,51nm,5.1s						
GTA				LR	LR		
	comp=Z,110nm,16.9s						
GTA				LR	LR		
	comp=Z,170nm,16.2s						
GTA				LR	LR		
	comp=Z,130nm,16.2s						
LSA	**Lhasa**	**52.27**	**309**	*e*P	**P**	**23 27 00.1**	**-0.2**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LSA	**Lhasa**	**52.27**	**309**	*e*P	**P**	**23 27 00.1**	**-0.2**
	comp=Z,2.4nm,0.6s						
ODAN	**Odare**	**54.10**	**304**	*e*P	**P**	**23 27 12.6**	**-0.9**
ULN	**Ulaanbaatar**	**54.50**	**336**	*e*P	**P**	**23 27 16.4**	**+0.4**
ULN				pmax	pmax		
	comp=Z,19nm,2.0s						
ULN	**Ulaanbaatar**	**54.50**	**336**	*e*P	**P**	**23 27 16.4**	**+0.4**
	comp=Z,19nm,2.0s						
SONM	**Songino Array**	**54.74**	**336**	P	**P**	**23 27 17.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=153,slow=8.6,SNR=8.2						
SONM				LR	LR	23 49 28.2	
	comp=Z,174nm,21.5s,baz=127,slow=35						
RAMN	**Ramite**	**54.79**	**304**	*e*P	**P**	**23 27 17.9**	**-0.6**
	comp=Z,8.3nm,0.6s						
JIRN	**Jiri**	**55.39**	**305**	*e*P	**P**	**23 27 21.9**	**-1.1**
GUN	**Gumba**	**55.74**	**305**	*e*P	**P**	**23 27 24.9**	**-0.6**
DMN	**Daman**	**56.26**	**304**	*e*P	**P**	**23 27 28.3**	**-0.9**
PETK	**Petropavlovsk-**	**56.64**	**16**	P	**P**	**23 27 31.8**	**+0.8**
	comp=Z,6.1nm,0.8s,baz=189,slow=8.3,SNR=4.5						
PETK				LR	LR	23 49 35.3	
	comp=Z,43nm,20.7s,baz=199,slow=34						
GKN	**Gorkha**	**56.79**	**304**	*e*P	**P**	**23 27 32.0**	**-0.8**
KOLN	**Koldanda**	**57.57**	**304**	*e*P	**P**	**23 27 37.8**	**-0.6**
	comp=Z,15nm,0.7s						
DANN	**Dangsing**	**57.64**	**305**	*e*P	**P**	**23 27 38.4**	**-0.6**
	comp=Z,14nm,0.7s						
ZAK	**Zakamensk**	**58.01**	**336**	*e*P	**P**	**23 27 39.5**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,16nm,1.5s						
PYUN	**Piuthan**	**58.19**	**304**	*e*P	**P**	**23 27 42.2**	**-0.5**
	comp=Z,60nm,0.7s						
TLY	**Talaya**	**58.88**	**337**	*e*P	**P**	**23 27 46.0**	**-0.8**
TLY				pmax	pmax		
	comp=Z,18nm,2.2s						
TLY	**Talaya**	**58.88**	**337**	*e*P	**P**	**23 27 46.0**	**-0.8**
	comp=Z,18nm,2.2s						
MOY	**Mondy**	**59.92**	**336**	*e*P	**P**	**23 27 54.7**	**+0.5**
WMQ	**Urumqi**	**61.71**	**322**	P	**P**	**23 28 06.7**	**+0.3**
WMQ				pP	**pP**	**23 28 16.8**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,16nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.6s						
WMQ				LR	LR		
	comp=Z,66nm,23.2s						
WMQ				LR	LR		
	comp=Z,70nm,21.8s						
WMQ				LR	LR		
	comp=Z,45nm,18.6s						
YAK	**Yakutsk**	**62.76**	**357**	*e*P	**P**	**23 28 12.1**	**-0.8**
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
SEY	**Seymchan**	**64.68**	**8**	P	**P**	**23 28 26.4**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=155,slow=3.9,SNR=8.4						
MK31	**Makanchi Array**	**66.50**	**323**	*e*P	**P**	**23 28 36.9**	**-0.9**
MK31	**Makanchi Array**	**66.50**	**323**	*e*P	**P**	**23 28 36.9**	**-0.9**
MKAR	**Makanchi Array**	**66.50**	**323**	P	**P**	**23 28 37.8**	**0.0**
	comp=Z,2.9nm,0.4s,baz=104,slow=8.6,SNR=80						
MKAR				LR	LR	23 58 16.5	
	comp=Z,32nm,21.2s,baz=61,slow=37						
KSH	**Kashi**	**67.67**	**314**	*e*P	**P**	**23 28 47.0**	**+1.5**
KSH				sP	**sP**	**23 28 54.0**	**-4.0**
KSH				*e*PP	**PP**	**23 31 17.3**	**+2.3**
KSH				PcS		23 33 17.5	
KSH				S	**S**	**23 37 40.6**	**-0.7**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,76nm,4.5s						
KSH				LR	LR		
	comp=Z,96nm,5.8s						
KSH				LR	LR		
	comp=Z,84nm,6.9s						
KSH				LR	LR		
	comp=Z,130nm,5.2s						
ZAA0	**Zalesovo Array**	**68.81**	**330**	*e*P	**P**	**23 28 49.7**	**-2.5**
ZALV	**Zalesovo Beam**	**68.81**	**330**	P	**P**	**23 28 51.3**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=116,slow=6.4,SNR=12						
ZALV				LR	LR	00 00 48.7	
	comp=Z,52nm,18.0s,baz=67,slow=38						
KZA	**Kyzart**	**69.10**	**316**	*i* P	**P**	**23 28 55.7**	**+1.0**
KZA	**Kyzart**	**69.10**	**316**	P	**P**	**23 28 55.7**	**+1.0**
	SNR=11						
TKM2	**Tokmak 2**	**69.17**	**317**	*e*P	**P**	**23 28 55.1**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TKM2	**Tokmak 2**	**69.17**	**317**	P	**P**	**23 28 55.1**	**+0.2**
	SNR=7.7						
TKM2	**Tokmak 2**	**69.17**	**317**	*e*P	**P**	**23 28 55.1**	**+0.2**
	comp=Z,5.8nm,0.6s						
UCH	**Uchtor**	**69.66**	**316**	*i* P	**P**	**23 28 59.1**	**+0.8**
UCH	**Uchtor**	**69.66**	**316**	P	**P**	**23 28 59.1**	**+0.8**
	SNR=9.5						
AAK	**Ala-Archa**	**69.82**	**316**	*e*P	**P**	**23 28 59.5**	**+0.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
AAK	**Ala-Archa**	**69.82**	**316**	*e*P	**P**	**23 28 59.5**	**+0.6**
	comp=Z,3.9nm,1.1s						
USP	**Ospenovka**	**70.04**	**317**	*i* P	**P**	**23 28 59.7**	**-0.4**
USP	**Ospenovka**	**70.04**	**317**	P	**P**	**23 28 59.7**	**-0.4**
	SNR=9.9						
NVS	**Novosibirsk**	**70.07**	**331**	*e*P	**P**	**23 28 57.7**	**-2.2**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
NVS				pmax	pmax		
	comp=N,5.0nm,1.5s						
AML	**Almayashu**	**70.20**	**316**	*i* P	**P**	**23 29 01.9**	**+0.4**
AML	**Almayashu**	**70.20**	**316**	P	**P**	**23 29 01.9**	**+0.4**
	SNR=9.4						
EKS2	**Erkin-Say**	**70.32**	**316**	*e*P	**P**	**23 29 02.5**	**+0.6**
EKS2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
EKS2	**Erkin-Say**	**70.32**	**316**	P	**P**	**23 29 02.5**	**+0.6**
	SNR=5.5						
EKS2	**Erkin-Say**	**70.32**	**316**	*e*P	**P**	**23 29 02.5**	**+0.6**
	comp=Z,5.2nm,0.8s						
KURK	**Kurchatov**	**70.47**	**325**	*e*P	**P**	**23 29 02.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK	**Kurchatov**	**70.47**	**325**	*e*P	**P**	**23 29 02.1**	**-0.4**
	comp=Z,4.8nm,0.7s						
TIXI	**Tiksi**	**72.38**	**358**	*e*P	**P**	**23 29 13.2**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TIXI	**Tiksi**	**72.38**	**358**	*e*P	**P**	**23 29 13.2**	**-0.4**
	comp=Z,4.0nm,1.1s						
KKAR	**Karatay Array**	**72.74**	**316**	*e*P	**P**	**23 29 16.1**	**-0.2**
KKAR	**Karatay Array**	**72.74**	**316**	*e*P	**P**	**23 29 16.1**	**-0.2**
VOSK	**Vostochnaya**	**75.63**	**325**	*e*P	**P**	**23 29 32.0**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
VOSK	**Vostochnaya**	**75.63**	**325**	*e*P	**P**	**23 29 31.9**	**-1.0**
	comp=Z,7.7nm,1.1s						
BRVK	**Borovoye**	**76.14**	**326**	⇑*i*P	**P**	**23 29 35.2**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,16nm,1.7s						
BRVK	**Borovoye**	**76.14**	**326**	*e*P	**P**	**23 29 35.0**	**-0.9**
	comp=Z,7.4nm,0.7s						
VNDA	**Vanda**	**78.02**	**174**	P	**P**	**23 29 45.7**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=318,slow=5.5,SNR=5.9						
KDAK	**Kodiak Island**	**80.83**	**31**	*i* P	**P**	**23 30 02.7**	**+1.1**
ABKAR	**Akbulak array**	**81.38**	**320**	*e*P	**P**	**23 30 04.1**	**-0.7**
SVE	**Sverdlovsk**	**82.55**	**328**	*e*P	**P**	**23 30 09.7**	**-1.0**
SVE				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RC01	**Rabbit Creek A**	**83.10**	**28**	*e*P	**P**	**23 30 14.0**	**+0.5**
ARU	**Arti**	**83.59**	**327**	*c* P	**P**	**23 30 15.3**	**-0.8**
ARU						23 33 22.8	
ARU				S	**S**	**23 40 37.0**	**+0.7**
ARU				SS	**SS**	**23 46 01.2**	**-1.7**
ARU				pmax	pmax		
	comp=Z,11nm,1.7s						
ARU	**Arti**	**83.59**	**327**	*e*P	**P**	**23 30 14.7**	**-1.4**
COLD	**Coldfoot**	**84.46**	**22**	*e*P	**P**	**23 30 21.9**	**+1.5**
COLA	**College**	**84.82**	**25**	*e*P	**P**	**23 30 22.0**	**-0.2**
COLA				pmax	pmax		
	comp=Z,16nm,1.2s						
DIV	**Divide**	**84.99**	**28**	*e*P	**P**	**23 30 24.6**	**+1.3**
	comp=Z,11nm,0.9s						
ILAR	**Eielson Array**	**85.20**	**25**	P	**P**	**23 30 23.7**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=257,slow=4.6,SNR=36						
ILAR				LR	LR	00 01 56.3	
	comp=Z,79nm,20.6s,baz=255,slow=31						
EGAK	**Eagle**	**87.63**	**25**	*e*P	**P**	**23 30 37.3**	**+1.3**
	comp=Z,4.1nm,0.8s						
HYT	**Haines Junctio**	**88.95**	**29**	*e*P	**P**	**23 30 43.6**	**+1.0**
ARCES	**ARCESS Array B**	**97.70**	**341**	P	**P**	**23 31 21.2**	**-1.3**
	comp=Z,6.1nm,1.0s,baz=64,slow=5.6,SNR=7.3						
YKA	**Yellowknife Ar**	**99.55**	**26**	P	**Pdif**	**23 31 30.6**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=294,slow=4.6,SNR=4.4						
FINES	**FINESS Array B**	**100.00**	**333**	LR	LR	00 18 29.9	
	comp=Z,85nm,20.6s,baz=88,slow=36						
CRVS	**Cervenica-Dubn**	**106.39**	**321**	*e*P	**Pdif**	**23 32 02.4**	**+0.7**
CRVS	**Cervenica-Dubn**	**106.39**	**321**	PDIF	**Pdif**	**23 32 02.4**	**+0.7**
TXAR	**Lajitas Array**	**116.64**	**57**	PKP	**PKPdf**	**23 36 34.2**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=209,slow=1.7,SNR=3.0						
CPUP	**Villa Florida**	**150.25**	**156**	PKPbc	**PKPbc**	**23 37 39.6**	**-0.2**
	comp=Z,4.1nm,0.8s,baz=221,slow=4.9,SNR=4.1						
LPAZ	**La Paz**	**150.89**	**127**	*e*PKIKP	**PKPdf**	**23 37 36.9**	**+0.2**
LPAZ						23 37 43.3	
LPAZ	**La Paz**	**150.89**	**127**	PKPbc	**PKPbc**	**23 37 43.3**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=301,slow=3.4,SNR=8.6						
LPAZ	**La Paz**	**150.89**	**127**	*e*PKPdf	**PKPdf**	**23 37 36.9**	**+0.2**
LPAZ				*e*PKPbc	**PKiKP**	**23 37 43.1**	**+0.1**
LPAZ				PKPbc	**PKPbc**	**23 37 43.3**	**+0.9**

IDC ***02*** *23:35:26.3±0.8, 22°.89S×112°.31W, h0km, mb4.6/11, mb1 4.8/11, mb1mx4.6/24, mbtmp4.6/11, MS4.0/15, Ms1 4.0/15, ms1mx4.0/19, Error ellipse: s-maj=29.2km s-min=18.9km az=36.0*

ISCJB ***02*** *23:35:27.0±0.5, 22°.77S±0°.07×112°.18W±0°.08, h10km, mb4.8/47, MS4.3/23, Error ellipse: s-maj=12.3km s-min=6.3km az=138.5*

MOS ***02*** *23:35:27.9±1.0, 22°.64S×112°.11W, h10km, mb5.0/15, Error ellipse: s-maj=22.4km s-min=9.1km az=91.4*

GCMT ***02*** *23:35:28.2±0.4, 23°.21S×111°.84W, h17km±1km, MW5.0/82, Moment Tensor Solution. s26,c28; s82,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.77±.19; $M_{\theta\theta}$2.34±.14; $M_{\phi\phi}$0.42±.11; $M_{r\theta}$-2.01±.39; $M_{r\phi}$-0.94±.10; $M_{\theta\phi}$-1.78±.41; Best double couple: $M_0$3.69400×10^{16} NP1:ϕ_s79.00000°,δ66.00000°,λ-117.00000°. NP2: ϕ_s310.00000°,δ36.00000°,λ-45.00000°. Principal axes: T 3.0830, Plg16.0000°, Azm189.0000°; N 1.2220, Plg25.0000°, Azm91.0000°; P -4.3060, Plg60.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***02*** *23:35:28.2±0.3, 22°.89S×112°.20W, h10km, mb4.9/36 Error ellipse: s-maj=9.1km s-min=5.9km az=57.0*

ISC 02 23:35:28.5±0.4, 22°.9S±0°.1×112°.08W±0°.09, h10km, n446, σ0s.94/443, mb4.9/48, MS4.2/23, 138C-131D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**21.08**	**265**	*e*LR	LR	23 45 10.9	
	523nm,28.5s						
RKT	**Rikitea**	**21.08**	**265**	*e*T	T	00 01 37.9	
	1.4nm,0.3s						
H03N2	**Juan Fernandez**	**30.93**	**117**	T	T	00 14 22.8	
	baz=281,slow=75,SNR=154						
H03N3	**Juan Fernandez**	**30.94**	**117**	T	T	00 14 23.6	
	baz=281,slow=75,SNR=164						
H03N1	**Juan Fernandez**	**30.94**	**117**	T	T	00 14 24.0	
	baz=281,slow=75,SNR=122						
TBI	**Tubuai**	**34.32**	**262**	*e*LR	LR	23 51 17.8	
	300nm,29.0s						
PPT2	**Papeete2**	**35.51**	**272**	*e*S	S	23 47 52.8	-8.8
	56nm,25.5s						
PPT2				*e*LR	LR	23 51 41.5	
	170nm,27.2s						
PPT	**Papeete**	**35.52**	**272**	LR	LR	23 52 19.3	
	comp=Z,79nm,18.7s,baz=146,slow=29						
LCO	**Las Campanas**	**37.55**	**108**	*e*P	**P**	**23 42 44.4**	**+1.0**
	29nm,1.1s						
PATCX	**Punta Patache**	**38.87**	**95**	⇑*i*P	**P**	**23 42 55.6**	**+1.2**
PB07	**Plate Boundary**	**38.95**	**97**	⇑*i*P	**P**	**23 42 56.5**	**+1.4**
PLCA	**Paso Flores**	**39.09**	**127**	P	**P**	**23 42 57.8**	**+1.8**
	4.9nm,1.0s,baz=258,slow=7.3,SNR=2.9						
PLCA				LR	LR	23 55 26.9	
	comp=Z,98nm,19.8s,baz=270,slow=31						
PB01	**Plate Boundary**	**39.44**	**96**	⇑*i*P	**P**	**23 43 00.4**	**+1.2**
PB09	**Plate Boundary**	**39.53**	**97**	⇑*i*P	**P**	**23 43 01.9**	**+1.9**
PB11	**Plate Boundary**	**39.54**	**94**	⇑*i*P	**P**	**23 43 00.9**	**+0.8**
LVC	**Limon Verde**	**39.70**	**98**	*e*P	**P**	**23 43 03.4**	**+1.9**
	40nm,1.6s						
CFAA	**Coronel Fontan**	**39.71**	**112**	P	**P**	**23 43 02.1**	**+0.8**
	0.9nm,1.0s,baz=285,slow=7.1,SNR=10						
MNMC	**Minimini**	**39.73**	**93**	⇑*i*P	**P**	**23 43 02.7**	**+0.8**
OTAV	**Otavalo**	**39.99**	**60**	*e*P	**P**	**23 43 05.5**	**+1.3**
	15nm,1.1s						
LPAZ	**La Paz**	**41.80**	**89**	*e*P	**P**	**23 43 20.7**	**+1.4**
LPAZ				pmax	pmax		
	comp=Z,61nm,1.4s						
LPAZ	**La Paz**	**41.80**	**89**	P	**P**	**23 43 20.5**	**+1.2**
	comp=Z,21nm,1.1s,baz=270,slow=5.3,SNR=40						
LPAZ				LR	LR	23 56 33.6	
	comp=Z,121nm,19.3s,baz=250,slow=30						
LPAZ	**La Paz**	**41.80**	**89**	*e*P	**P**	**23 43 20.7**	**+1.4**
	comp=Z,61nm,1.4s						
TRQA	**Tornquist**	**45.21**	**121**	*e*P	**P**	**23 43 47.3**	**+1.4**
	comp=Z,27nm,1.3s						
ROSC	**El Rosal**	**46.05**	**58**	P	**P**	**23 43 54.8**	**+1.6**
	comp=Z,8.4nm,0.2s,baz=266,slow=17,SNR=10						
ROSC				LR	LR	23 59 40.4	
	comp=Z,159nm,19.0s,baz=214,slow=32						
ROSC	**El Rosal**	**46.05**	**58**	*e*P	**P**	**23 43 53.5**	**+0.2**
SAML	**Samuel**	**48.80**	**82**	*e*P	**P**	**23 44 13.8**	**-0.4**
	comp=Z,25nm,1.1s						
CPUP	**Villa Florida**	**49.58**	**106**	LR	LR	00 00 13.4	
	comp=Z,102nm,21.4s,baz=185,slow=30						
034A	**Hebbronville**	**51.34**	**15**	⇑P	**P**	**23 44 34.3**	**+1.2**
	baz=52						
SDV	**Santo Domingo**	**51.42**	**57**	*e*P	**P**	**23 44 33.9**	**-0.4**
	comp=Z,15nm,0.9s						
933A	**Laredo**	**51.72**	**15**	⇑P	**P**	**23 44 36.8**	**+0.8**
	baz=52						
832A	**Faith Ranch, C**	**52.22**	**14**	⇑P	**P**	**23 44 39.7**	**0.0**
	baz=52						
833A	**Chaparral WMA,**	**52.38**	**14**	⇑P	**P**	**23 44 41.3**	**+0.4**
	baz=53,SNR=5.9						
834A	**Tilden**	**52.39**	**15**	⇓P	**P**	**23 44 41.8**	**+0.8**
	baz=53						
TXAR	**Lajitas Array**	**52.56**	**9**	P	**P**	**23 44 42.4**	**0.0**
	comp=Z,2.5nm,1.1s,baz=194,slow=9.9,SNR=7.9						
TXAR				LR	LR	00 02 59.4	
	comp=Z,203nm,18.2s,baz=0.0,slow=31						
626A	**Big Bend Ranch**	**52.71**	**9**	⇑P	**P**	**23 44 44.0**	**+0.6**
	baz=53,SNR=10						
627A	**Terlingua Ranc**	**52.72**	**10**	⇓P	**P**	**23 44 44.0**	**+0.4**
	baz=53,SNR=8.4						
733A	**Divot King Ran**	**52.78**	**14**	⇓P	**P**	**23 44 44.7**	**+0.8**
	baz=53						
628A	**Black Gap, Mar**	**52.84**	**10**	⇑P	**P**	**23 44 44.6**	**+0.3**
	baz=53						
631A	**Perdido Creek**	**53.18**	**13**	⇑P	**P**	**23 44 46.9**	**0.0**
	baz=54						
526A	**Mary Lane Ranc**	**53.22**	**9**	⇓P	**P**	**23 44 47.4**	**+0.1**
	baz=54,SNR=5.9						
527A	**Woodward Ranch**	**53.37**	**9**	⇑P	**P**	**23 44 48.4**	**+0.1**
	baz=54,SNR=8.8						
632A	**Uvalde**	**53.44**	**13**	⇑P	**P**	**23 44 48.6**	**-0.1**
	baz=54						
633A	**Saathoff Ranch**	**53.52**	**14**	⇑P	**P**	**23 44 49.1**	**-0.2**
	baz=54						
529A	**Stev Forest Ra**	**53.57**	**11**	⇑P	**P**	**23 44 49.6**	**-0.1**
	baz=54,SNR=5.2						
530A	**J-C Ranch, Com**	**53.75**	**12**	⇑P	**P**	**23 44 51.4**	**+0.4**
	baz=54,SNR=7.8						
425A	**Indio Mountain**	**53.82**	**8**	⇑P	**P**	**23 44 51.2**	**-0.5**
	baz=54,SNR=7.8						
426A	**McDonald Obser**	**53.83**	**9**	⇓P	**P**	**23 44 51.6**	**-0.2**
	baz=54,SNR=5.4						
531A	**Rocksprings**	**53.92**	**12**	⇓P	**P**	**23 44 52.9**	**+0.6**
	baz=54						
319A	**Douglas**	**54.04**	**3**	⇑P	**P**	**23 44 53.0**	**-0.2**
	baz=54,SNR=10						
428A	**Kincaid Ranch,**	**54.08**	**10**	⇑P	**P**	**23 44 53.8**	**+0.3**
	baz=54						
427A	**Hayter Ranch,**	**54.09**	**9**	⇓P	**P**	**23 44 53.5**	**-0.1**
	baz=54,SNR=9.3						
429A	**Davenport Ranc**	**54.12**	**11**	⇑P	**P**	**23 44 53.9**	**+0.2**
	baz=54						
533A	**Kerrville**	**54.15**	**14**	⇓P	**P**	**23 44 54.1**	**+0.2**
	baz=54						
534A	**Blanco**	**54.23**	**15**	⇓P	**P**	**23 44 54.7**	**+0.2**
	baz=54						
JCT	**Junction City**	**54.37**	**13**	*e*P	**P**	**23 44 55.7**	**+0.1**
JCT				pmax	pmax		
	comp=Z,26nm,1.1s						
JCT	**Junction City**	**54.37**	**13**	*e*P	**P**	**23 44 55.7**	**+0.1**
	comp=Z,26nm,1.1s						
JCT	**Junction City**	**54.37**	**13**	⇑P	**P**	**23 44 55.6**	**+0.1**
	baz=55,SNR=7.6						
430A	**Baggett Ranch,**	**54.39**	**11**	⇑P	**P**	**23 44 55.9**	**+0.2**
	baz=55						
431A	**Sonora**	**54.41**	**12**	⇑P	**P**	**23 44 56.2**	**+0.3**
	baz=55						
214A	**Organ Pipe Nat**	**54.56**	**359**	⇑P	**P**	**23 44 57.1**	**+0.2**
	baz=55,SNR=5.9						
328A	**Wristen Ranch,**	**54.70**	**10**	⇑P	**P**	**23 44 58.2**	**+0.2**
	baz=55						
432A	**Menard**	**54.76**	**13**	⇑P	**P**	**23 44 58.5**	**+0.1**
	baz=55						
433A	**Art**	**54.79**	**14**	⇑P	**P**	**23 44 58.8**	**+0.3**
	baz=55						
TUC	**Tucson**	**54.92**	**1**	*e*P	**P**	**23 44 59.5**	**-0.1**
TUC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TUC	**Tucson**	**54.92**	**1**	*e*P	**P**	**23 44 59.5**	**-0.1**
	comp=Z,7.6nm,1.0s						
329A	**Wagon Wheel Ra**	**54.94**	**11**	⇑P	**P**	**23 44 59.8**	**+0.1**
	baz=55						
330A	**Mertzon**	**55.01**	**11**	⇑P	**P**	**23 45 00.4**	**+0.2**
	baz=55						
434A	**Burnet**	**55.03**	**15**	⇓P	**P**	**23 45 00.4**	**+0.1**
	baz=55						
331A	**San Angelo**	**55.05**	**12**	⇓P	**P**	**23 45 00.4**	**-0.1**
	baz=55						
225A	**Deer Hill, Car**	**55.14**	**8**	⇑P	**P**	**23 45 01.0**	**-0.3**
	baz=56						
435B	**Jarrell**	**55.16**	**15**	⇑P	**P**	**23 45 01.5**	**+0.3**

baz=56
226B Tecolote Peak, 55.20 8 ⇑P P 23 45 01.3 -0.3
baz=56
332A Millersview 55.26 13 ⇓P P 23 45 01.9 -0.1
baz=56
121A Cookes Peak, D 55.28 4 eP P 23 45 02.2 -0.1
comp=Z,10.0nm,0.9s
121A Cookes Peak, D 55.28 4 ⇑P P 23 45 02.3 0.0
baz=56,SNR=6.6
333A Richland Sprin 55.36 14 ⇓P P 23 45 02.5 -0.3
baz=56,SNR=6.7
113A Mohawk Valley, 55.38 358 ⇑P P 23 45 03.1 +0.3
baz=56
BAR Barrett 55.45 355 eP P 23 45 03.4 +0.1
comp=Z,55nm,1.1s
228A UT Block 9, Go 55.46 10 ⇓P P 23 45 03.2 -0.3
baz=56
334A Lometa 55.54 14 ⇑P P 23 45 03.7 -0.3
baz=56,SNR=5.6
MONP Monument Peak 55.64 356 ⇑P P 23 45 05.2 +0.3
baz=56
SWSC Sam W. Stewart 55.65 356 ⇓P P 23 45 04.9 +0.2
baz=56
335A Moody 55.68 15 ⇑P P 23 45 05.2 +0.2
baz=56
125A Gardner Draw, 55.70 8 ⇓P P 23 45 04.8 -0.5
baz=56,SNR=16
GLA Glamis 55.71 357 ⇓P P 23 45 05.5 +0.3
baz=56
232A Coleman 55.77 13 ⇓P P 23 45 05.3 -0.3
baz=56
126A Clayton Basin, 55.77 8 ⇓P P 23 45 05.3 -0.4
baz=56
Z14A Wintersburg 55.96 359 ⇓P P 23 45 07.3 +0.3
baz=56
128A Castleberry Fa 55.97 10 ⇑P P 23 45 07.1 0.0
baz=56,SNR=7.7
233A Rising Star 56.05 14 ⇓P P 23 45 07.5 -0.1
baz=56,SNR=5.9
Z22A Elephant Butte 56.06 5 ⇓P P 23 45 07.6 -0.2
baz=56,SNR=7.7
130A Snyder 56.20 11 ⇓P P 23 45 08.9 +0.1
baz=56
234A Clairette 56.20 14 ⇓P P 23 45 08.6 -0.1
baz=56
Z24A Sheeppen Canyo 56.29 7 ⇑P P 23 45 09.4 -0.1
baz=57
Z25A Roswell 56.31 7 ⇓P P 23 45 09.2 -0.4
baz=57,SNR=8.4
BC3 Big Chuckawall 56.34 357 ⇑P P 23 45 09.7 -0.1
baz=57,SNR=12
PFO Pinyon Flat Ob 56.35 356 eP P 23 45 11.2 +1.3
PFO Pinyon Flat Ob 56.35 356 ⇑P P 23 45 10.4 +0.4
baz=57
131A Roby 56.38 12 ⇓P P 23 45 09.8 -0.2
baz=57
Y12C Blythe 56.39 358 ⇑P P 23 45 10.5 +0.5
baz=57
Z26A Caprock 56.40 8 ⇓P P 23 45 09.4 -0.8
baz=57
ABTX Abilene, Hawle 56.48 13 ⇑P P 23 45 10.7 -0.1
baz=57
Y14A Wickenburg 56.53 359 ⇓P P 23 45 11.1 0.0
baz=57
Z27A Tatum 56.54 9 ⇑P P 23 45 10.8 -0.4
baz=57,SNR=12
133A Hamilton Ranch 56.62 13 ⇑P P 23 45 11.7 0.0
baz=57,SNR=5.5
BELC Belle Mtn. Jos 56.71 356 ⇑P P 23 45 12.8 +0.3
baz=57,SNR=9.7
Z29A Hungry Hill Ra 56.72 10 ⇓P P 23 45 12.3 -0.2
baz=57
134A White-Moore Ra 56.77 14 ⇓P P 23 45 13.1 +0.4
baz=57
Y23A Lovelace Mesa, 56.81 6 ⇓P P 23 45 13.3 +0.1
baz=57,SNR=14
IRM Iron Mountain 56.83 357 ⇓P P 23 45 13.0 -0.2
baz=57,SNR=7.8
Z30A Sanderson Ranc 56.84 11 ⇑P P 23 45 13.2 -0.1
baz=57
Y24A Capitan 56.87 7 ⇑P P 23 45 13.7 0.0
baz=57,SNR=9.1
PDMCI Parker Dam,Lak 56.92 358 ⇓P P 23 45 13.8 0.0
baz=57,SNR=6.2
Y25A Mesa, Roswell 56.95 7 ⇓P P 23 45 13.8 -0.3
baz=57,SNR=9.6
LENM Lemitar 56.96 5 eP P 23 45 15.2 +0.9
X16A Lo Mia Camp, P 57.01 1 ⇑P P 23 45 14.7 0.0
baz=57,SNR=7.0
Y26A Elida 57.06 8 ⇑P P 23 45 14.5 -0.4
baz=57
Z31A Sharp Cattle R 57.06 12 ⇑P P 23 45 14.6 -0.2
baz=57,SNR=6.2
BFSC Mount Baldy Ra 57.08 354 ⇑P P 23 45 15.4 +0.4
baz=57
Y27A Causey 57.11 9 ⇓P P 23 45 14.5 -0.8
baz=57,SNR=7.2
X18A Snowflake 57.15 2 ⇓P P 23 45 15.8 +0.1
baz=58,SNR=9.2
Z32A Haskell 57.17 13 ⇓P P 23 45 15.7 +0.1
baz=58,SNR=10.0
LAZ Ladron 57.18 5 eP P 23 45 15.8 -0.1
comp=Z,7.1nm,1.2s
MSTX Muleshoe 57.25 9 ⇓P P 23 45 16.0 -0.2
baz=58
Y28A McKinney Farm, 57.27 10 ⇓P P 23 45 15.9 -0.5
baz=58
Z33A Whitaker Ranch 57.30 13 ⇓P P 23 45 16.4 -0.1
baz=58
Y29A Porterfield Fa 57.31 10 ⇓P P 23 45 15.8 -0.9
baz=58
GMRC Granite Mounta 57.47 357 ⇓P P 23 45 17.9 +0.1
baz=58,SNR=11
X25A Clemmons Ranch 57.55 7 ⇑P P 23 45 18.1 -0.3
baz=58
HEC Hector,Ludlow 57.56 356 ⇑P P 23 45 18.6 +0.2
baz=58
Y31A Rekieta Farm, 57.66 12 ⇓P P 23 45 19.0 0.0
baz=58,SNR=6.0
X26A CR and CF Fran 57.68 8 ⇑P P 23 45 19.4 +0.1
baz=58
W13A Hualapai Mount 57.71 358 ⇓P P 23 45 19.7 +0.1
baz=58
LDFC Landfair 57.74 357 eP P 23 45 20.8 +1.1
EDW2 Edwards Air Fo 57.74 354 ⇓P P 23 45 19.6 -0.1
baz=58
ANMO Albuquerque 57.78 5 diP P 23 45 19.3 -0.8
ANMO pmax pmax
comp=Z,14nm,1.3s
ANMO Albuquerque 57.78 5 eP P 23 45 20.0 -0.1
comp=Z,69nm,3.0s
Y32A R-V Farms, Ver 57.86 12 ⇓P P 23 45 20.8 +0.4
baz=58
X29A Tulia 57.88 10 ⇑P P 23 45 20.3 -0.4
baz=58
W23A Werner Place, 58.02 6 ⇑P P 23 45 21.5 -0.3
baz=58
GSC Goldstone 58.06 355 eP P 23 45 22.2 +0.3
GSC pmax pmax
comp=Z,2.0nm,0.9s
GSC Goldstone 58.06 355 eP P 23 45 22.2 +0.3
comp=Z,2.0nm,0.9s
GSC Goldstone 58.06 355 ⇓P P 23 45 22.2 +0.3
baz=58,SNR=7.3
WUAZ Wupatki 58.11 1 eP P 23 45 22.6 +0.3
comp=Z,11nm,1.3s
WUAZ Wupatki 58.11 1 ⇑P P 23 45 22.5 +0.2
baz=58
TUQ Turquoise Moun 58.14 356 ⇑P P 23 45 22.5 0.0
baz=58,SNR=6.3
W24A Lazy 6 Ranch, 58.14 6 ⇑P P 23 45 21.9 -0.7
baz=58,SNR=9.5
Y34A Reagan Ranch, 58.17 14 ⇓P P 23 45 22.1 -0.5
baz=58
W26A Owens Ranch, T 58.21 8 ⇑P P 23 45 22.4 -0.6
baz=58,SNR=5.9
W25A X Bar L Ranch, 58.26 7 ⇓P P 23 45 23.2 -0.2
baz=59,SNR=11
W27A Bowe Ranch, En 58.28 9 ⇑P P 23 45 23.5 0.0
baz=59
X32A Elmer 58.29 12 ⇓P P 23 45 23.7 +0.2
baz=59,SNR=5.4
LRMC Laurel Mountai 58.31 355 ⇑P P 23 45 23.7 +0.1
baz=59,SNR=5.2
AMTX Amarillo 58.31 10 ⇓P P 23 45 23.4 -0.3
baz=59
X31A McDonald Ranch 58.36 12 ⇓P P 23 45 24.5 +0.5
baz=59
ISA Isabella 58.56 354 ⇑P P 23 45 26.2 +0.8
baz=59
W28A Vega 58.60 9 ⇑P P 23 45 25.3 -0.4
baz=59
SHOC Shoshone 58.62 356 ⇓P P 23 45 26.5 +0.8
baz=59
V24A Rampart Ranch, 58.67 6 ⇑P P 23 45 26.4 0.0
baz=59
V22A San Miguel Ran 58.70 5 ⇓P P 23 45 26.7 +0.1
baz=59,SNR=5.2
X34A Smith Ranch, M 58.77 14 ⇓P P 23 45 27.0 +0.2
baz=59
VES Vestal, Richgr 58.80 353 ⇓P P 23 45 27.5 +0.6
baz=59
V25A Rancho No Teng 58.85 7 ⇓P P 23 45 27.1 -0.5
baz=59,SNR=5.7
V26A Tequesquite Ra 58.91 8 ⇑P P 23 45 27.3 -0.6
baz=59,SNR=7.0
W31A Holland Ranch, 58.91 12 ⇓P P 23 45 27.9 +0.1
baz=59
W32A Sentinel 58.98 12 ⇑P P 23 45 28.4 +0.1
baz=59
U15A North Rim 59.01 360 ⇑P P 23 45 29.1 +0.3
baz=59,SNR=11
DAC Darwin (Calif) 59.09 355 eP P 23 45 28.4 -0.8
DAC Darwin (Calif) 59.09 355 eP P 23 45 28.4 -0.8
SHPR Sheep Range 59.16 357 eP P 23 45 30.3 +0.7
W33A Caddo, Fort Co 59.16 13 ⇑P P 23 45 30.7 +1.2
baz=60
U22A Llaves 59.17 5 ⇑P P 23 45 30.0 +0.2
baz=60,SNR=7.4
U23A El Rito 59.18 6 ⇓P P 23 45 29.8 0.0
baz=60,SNR=9.5
CWC Cottonwood Cre 59.30 354 ⇓P P 23 45 30.9 +0.3
baz=60
U25A Circle Dot Ran 59.43 7 ⇑P P 23 45 31.0 -0.5
baz=60
V31A Spring Creek L 59.50 12 ⇓P P 23 45 32.2 +0.4
baz=60
U26A Atchley Ranch, 59.50 8 ⇑P P 23 45 31.5 -0.6
baz=60
V32A Arapaho 59.60 12 ⇓P P 23 45 33.2 +0.7
baz=60
U27A Thompson Grove 59.65 9 ⇓P P 23 45 32.7 -0.3
baz=60
U28A Mallet 59.70 9 ⇑P P 23 45 33.0 -0.3
baz=60
MVCO Mesa Verde 59.89 3 eP P 23 45 34.5 -0.3
comp=Z,24nm,1.1s
MVCO Mesa Verde 59.89 3 ⇑P P 23 45 34.6 -0.1
baz=60,SNR=11
T24B San Luis 59.98 6 ⇓P P 23 45 36.0 +0.5
baz=60
V34A Guthrie 60.02 14 ⇓P P 23 45 35.6 +0.2
baz=60
CCUT Cedar City 60.15 359 eP P 23 45 37.1 +0.6
comp=Z,12nm,1.1s
T25A Trinidad 60.16 7 ⇑P P 23 45 36.7 +0.1
baz=60
T26A Comanche Natio 60.29 8 ⇓P P 23 45 37.4 0.0
baz=61
T27A Campo 60.29 9 ⇓P P 23 45 37.0 -0.4
baz=61
ARUT Antelope Range 60.38 359 eP P 23 45 37.8 -0.3
ARUT pmax pmax
comp=Z,92nm,1.1s
ARUT Antelope Range 60.38 359 eP P 23 45 37.8 -0.3
comp=Z,92nm,1.1s
T28A Walsh 60.44 9 ⇓P P 23 45 37.7 -0.6
baz=61
U33A Lingo Farm, Me 60.48 13 ⇑P P 23 45 38.1 -0.4
baz=61
TUL1 Tulsa 60.49 15 eP P 23 45 37.6 -1.0
TUL1 Tulsa 60.49 15 ⇓P P 23 45 38.2 -0.4
baz=61
BDFB Brasilia 60.51 96 P P 23 45 39.2 -0.2
comp=Z,9.1nm,1.1s,baz=270,slow=6.3,SNR=8.1
BDFB LR LR 00 10 10.4
comp=Z,63nm,18.3s,baz=262,slow=34
S22A 4UR Ranch, Cre 60.53 5 ⇑P P 23 45 38.7 -0.5
baz=61
S24A Houchin Ranch, 60.57 6 ⇑P P 23 45 38.9 -0.6
baz=61
S26A Kim 60.75 8 ⇓P P 23 45 40.3 -0.2
baz=61,SNR=5.8
T31A Randall Ranch, 60.82 11 ⇑P P 23 45 40.9 +0.1
baz=61
TPH Tonopah 60.85 355 eP P 23 45 41.8 +0.5
TPH Tonopah 60.85 355 eP P 23 45 41.8 +0.5
R11A Troy Canyon, C 61.02 357 eP P 23 45 42.9 +0.5
R11A Troy Canyon, C 61.02 357 ⇑P P 23 45 42.8 +0.4
baz=61,SNR=6.4
PV04 Paradox Valley 61.05 3 eP P 23 45 42.8 +0.2
R23A Moffat 61.05 6 ⇓P P 23 45 42.8 +0.1
baz=61
T33A Patterson Ranc 61.08 13 ⇓P P 23 45 43.2 +0.6
baz=61
CMB Columbia Colle 61.12 353 eP P 23 45 43.4 +0.5
CMB pmax pmax
comp=Z,17nm,1.6s
CMB Columbia Colle 61.12 353 eP P 23 45 43.4 +0.5
comp=Z,17nm,1.6s
R24A Sanders Place, 61.16 6 ⇓P P 23 45 43.0 -0.4
baz=62
R25A Fountain Ranch 61.17 7 ⇓P P 23 45 43.4 0.0
baz=62
NV11 Mina Array Sit 61.28 355 eP P 23 45 44.0 -0.1
NVAR Mina Array Bea 61.29 354 P P 23 45 44.3 0.0
comp=Z,6.2nm,0.8s,baz=181,slow=8.9,SNR=40
NVAR LR LR 00 06 26.0
comp=Z,335nm,20.0s,baz=154,slow=30
S31A Mullinville 61.36 11 ⇑P P 23 45 45.1 +0.6
baz=62
R26A Arlington 61.42 8 ⇑P P 23 45 45.0 0.0
baz=62
R27A Eads 61.49 8 ⇓P P 23 45 45.1 -0.4
baz=62
R28A Tribune 61.68 9 ⇓P P 23 45 46.1 -0.6
baz=62,SNR=8.9
SRU San Rafael 61.71 1 eP P 23 45 46.6 -0.5
SRU San Rafael 61.71 1 eP P 23 45 46.6 -0.5
BKZ Black Stump Fm 61.85 237 eP P 23 45 49.3 +1.2
comp=Z,25nm,1.3s
R30A Dighton 61.87 11 ⇓P P 23 45 48.2 +0.2
baz=62
SMCO Snowmass 61.94 4 eP P 23 45 48.9 0.0
comp=Z,7.0nm,1.1s
R31A Burdett 62.00 11 ⇓P P 23 45 48.4 -0.5
baz=62
P23A Jefferson 62.23 5 ⇑P P 23 45 50.4 -0.4
baz=62
R32A Long Quarter, 62.28 12 ⇑P P 23 45 51.1 +0.4
baz=63
Q29A Oakley 62.34 10 ⇓P P 23 45 50.8 -0.4
baz=63
P22A Eagle 62.37 5 ⇓P P 23 45 51.3 -0.3
baz=63,SNR=6.1
Q28A Sharon Springs 62.38 9 ⇓P P 23 45 51.5 0.0
baz=63
NLU North Lily Min 62.53 0 eP P 23 45 52.8 +0.2
ISCO Idaho Springs 62.67 6 eP P 23 45 53.3 -0.3
ISCO pmax pmax
comp=Z,6.0nm,1.2s
ISCO Idaho Springs 62.67 6 eP P 23 45 53.3 -0.3
comp=Z,6.4nm,1.2s
ISCO Idaho Springs 62.67 6 ⇑P P 23 45 52.9 -0.7
baz=63
DUG Dugway 62.78 359 eP P 23 45 54.0 -0.2
DUG pmax pmax
comp=Z,8.0nm,1.0s
DUG Dugway 62.78 359 eP P 23 45 54.0 -0.2
comp=Z,8.2nm,1.0s
DUG Dugway 62.78 359 ⇓P P 23 45 53.8 -0.3
baz=63,SNR=11
Q32A Meitler Ranch, 62.86 12 ⇓P P 23 45 54.3 -0.3
baz=63
O22A Kremmling 62.95 5 ⇓P P 23 45 54.9 -0.6
baz=63,SNR=5.3
DAU Daniels Canyon 62.99 1 eP P 23 45 55.7 -0.1
DAU Daniels Canyon 62.99 1 eP P 23 45 55.7 -0.1
O23A Lake Granby, G 63.05 5 ⇓P P 23 45 56.0 -0.1
baz=63
P30A Selden 63.10 10 ⇑P P 23 45 56.1 -0.1
baz=63
JLU Jordanelle 63.18 1 eP P 23 45 57.0 0.0
comp=Z,27nm,1.6s
BMN Battle Mountai 63.19 356 eP P 23 45 56.9 0.0
BMN Battle Mountai 63.19 356 eP P 23 45 56.9 0.0
P31A Stockton 63.23 11 ⇓P P 23 45 56.9 -0.1
baz=64,SNR=5.0
ELK Elko 63.39 357 eP P 23 45 58.5 +0.2
ELK pmax pmax
comp=Z,9.0nm,1.3s
ELK Elko 63.39 357 eP P 23 45 58.5 +0.2
comp=Z,9.3nm,1.3s
O28A Krutsinger Ran 63.44 9 ⇓P P 23 45 58.6 +0.1
baz=64
P33A Williams Farm, 63.46 12 ⇓P P 23 45 58.3 -0.2
baz=64
P32A Huiting Farm, 63.46 12 ⇑P P 23 45 58.9 +0.3
baz=64
BGU Big Grassy Mou 63.51 359 eP P 23 45 59.2 +0.2
comp=Z,9.2nm,1.7s
N20A Spence Gulch, 63.51 3 ⇑P P 23 45 59.1 0.0
baz=64,SNR=8.8
O29A 4D Ranch, Culb 63.58 10 ⇓P P 23 45 59.4 +0.1
baz=64
N22A Wattenberg Ran 63.60 5 ⇑P P 23 45 59.9 +0.2
baz=64
N23A Red Feather La 63.73 5 ⇓P P 23 46 00.9 +0.3
baz=64
O30A MW Ranch, Wils 63.75 10 ⇑P P 23 46 01.2 +0.7
baz=64
WDC Whiskeytown Da 63.91 351 eP P 23 46 01.3 -0.1
WDC pmax pmax
comp=Z,14nm,1.2s
WDC Whiskeytown Da 63.91 351 eP P 23 46 01.3 -0.1
comp=Z,14nm,1.2s
HWUT Hardware Ranch 64.19 0 eP P 23 46 06.4 +2.9
comp=Z,60nm,2.8s
M23A Laramie 64.32 5 ⇑P P 23 46 04.3 -0.1
baz=65
N02D Trinity Center 64.32 351 ⇓P P 23 46 04.8 +0.6
baz=65
M24A Cheyenne 64.40 6 ⇑P P 23 46 04.5 -0.4
baz=65
M02C Callahan 64.75 351 ⇑P P 23 46 07.8 +0.8
baz=65
MOD Modoc 64.93 353 eP P 23 46 08.3 +0.1
comp=Z,14nm,1.3s
M04C Macdoel 64.99 352 ⇓P P 23 46 09.3 +0.6
baz=65
BGNE Belgrade 65.28 11 ⇑P P 23 46 10.5 +0.1
baz=66
WVOR Wild Horse Val 65.29 355 eP P 23 46 10.8 +0.2
WVOR Wild Horse Val 65.29 355 eP P 23 46 10.8 +0.2
K21A Alcova 65.36 4 ⇓P P 23 46 10.3 -0.8
baz=66
BW06 Boulder Array 65.38 2 eP P 23 46 09.2 -2.1
comp=Z,4.3nm,1.0s
K23A Bowen Ranch, D 65.60 5 ⇓P P 23 46 12.1 -0.5
baz=66
L02D Cave Junction, 65.61 351 ⇓P P 23 46 13.7 +1.2
baz=66
L31A Butterfield Fa 65.90 11 ⇑P P 23 46 14.4 0.0
baz=66
J21A Lysite 66.06 4 ⇓P P 23 46 15.1 -0.6
baz=66
TPAW Teton Pass 66.07 1 eP P 23 46 14.8 -1.0
MFID Camas Ranch 66.08 357 eP P 23 46 15.3 -0.4
comp=Z,10nm,1.1s
HLID Hailey 66.17 358 eP P 23 46 15.8 -0.5
HLID Hailey 66.17 358 ⇓P P 23 46 16.3 -0.1
baz=66,SNR=14
LOHW Long Hollow 66.20 1 eP P 23 46 15.4 -1.2
comp=Z,5.2nm,0.6s
FXWY Fox Creek 66.22 1 eP P 23 46 15.7 -1.0
MOOW Moose Ponds 66.34 1 eP P 23 46 16.1 -1.3
J05D Fort Rock, OR 66.40 353 ⇓P P 23 46 18.1 +0.4
baz=67
I20A Worland 66.62 3 ⇑P P 23 46 18.7 -0.4
baz=67
I19A Meeteetse 66.67 2 ⇓P P 23 46 18.5 -1.0
baz=67,SNR=7.4
J28A Allard Ranch, 66.75 9 ⇑P P 23 46 20.5 +0.6
baz=67
J29A Okreek 66.86 9 ⇓P P 23 46 20.6 0.0
baz=67
J30A Dallas 66.91 10 ⇑P P 23 46 21.5 +0.6
baz=67
I07A Izee 67.00 354 eP P 23 46 21.9 +0.3
H20A Greybull 67.17 3 ⇓P P 23 46 22.2 -0.4
baz=68
I27A Quinn 67.28 8 ⇓P P 23 46 22.9 -0.3
baz=68
H18A Shoshone NF, C 67.29 2 ⇑P P 23 46 23.4 -0.1
baz=68
I28A Midland 67.32 9 ⇑P P 23 46 23.8 +0.3
baz=68
MCMT McKenzie Canyo 67.41 359 eP P 23 46 23.5 -0.8
comp=Z,5.3nm,1.3s
I05D Terrebonne, OR 67.45 353 ⇓P P 23 46 24.9 +0.6
baz=68
BMO Blue Mountains 67.60 356 eP P 23 46 24.9 -0.4
ECSD EROS Data Cent 67.81 12 ⇑P P 23 46 26.1 -0.5
baz=68
H27A Howes 67.83 8 ⇓P P 23 46 26.3 -0.3
baz=68
G20A Bridger 67.89 3 ⇓P P 23 46 25.6 -1.6
baz=68
H28A Mission Ridge 68.01 8 ⇑P P 23 46 27.5 -0.3
baz=68
H29A Onida 68.07 9 ⇓P P 23 46 28.2 0.0
baz=68
G08A Pilot Rock 68.16 355 eP P 23 46 28.9 0.0
G25A Newell 68.23 7 ⇑P P 23 46 29.3 +0.1
baz=69
G05D Wamic, OR 68.34 353 ⇓P P 23 46 29.6 -0.2
baz=69
G28A Parade 68.41 8 ⇓P P 23 46 30.5 +0.1
baz=69
G26A Maurine 68.42 7 ⇓P P 23 46 30.4 0.0
baz=69
G03D McMinnville, O 68.55 352 ⇓P P 23 46 30.2 -1.0
baz=69
F22A Rosebud 68.56 4 ⇓P P 23 46 30.2 -1.0
baz=69
G27A Dupree 68.58 8 ⇓P P 23 46 30.4 -1.0
baz=69
F27A Lemmon 69.06 8 ⇑P P 23 46 33.7 -0.6
baz=69
E19A Rath Farm, Rou 69.10 2 ⇑P P 23 46 33.5 -1.2
baz=69
F29A Eureka 69.31 9 ⇓P P 23 46 35.5 -0.4
baz=70
MSO Missoula 69.43 359 eP P 23 46 36.1 -0.6
MSO Missoula 69.43 359 ⇑P P 23 46 36.4 -0.3
baz=70
LAO LASA Array 69.47 4 eP P 23 46 36.5 -0.4
CHMT Chamberlain Mo 69.50 359 eP P 23 46 36.5 -0.7
E25A Miller Ranch, 69.52 6 ⇓P P 23 46 36.9 -0.3
baz=70
E26A Carlson Angus 69.59 7 ⇑P P 23 46 37.4 -0.2
baz=70
D20A Manuel Ranch, 69.76 3 ⇑P P 23 46 38.0 -0.7
baz=70
D21A La Casta Ranch 69.79 4 ⇑P P 23 46 38.5 -0.4
baz=70
D19A Cripps Ranch, 69.80 2 ⇓P P 23 46 38.6 -0.3
baz=70
E28A Huff 69.92 8 ⇑P P 23 46 39.3 -0.3
baz=70
D22A Cohagen 69.93 4 ⇑P P 23 46 39.6 -0.1
baz=70
D23A Lindsay 70.03 5 ⇑P P 23 46 39.8 -0.5
baz=70
D24A Glendive 70.04 6 ⇓P P 23 46 40.2 -0.2
baz=70
E30A Jud 70.10 10 ⇑P P 23 46 41.0 +0.3
baz=70
D26A Manning 70.15 7 ⇑P P 23 46 41.1 +0.1
baz=70
D25A Fairfield 70.17 6 ⇑P P 23 46 41.1 -0.1
baz=70
C19A Slack Wire Ran 70.36 2 ⇑P P 23 46 42.1 -0.3
baz=71
C20A Veseth Ranch, 70.39 3 ⇑P P 23 46 42.0 -0.5
baz=71
C24A Savage 70.44 5 ⇑P P 23 46 43.1 +0.2
baz=71
D28A Regan 70.54 8 ⇓P P 23 46 43.8 +0.4
baz=71
C22A Vida 70.54 4 ⇓P P 23 46 43.5 +0.1
baz=71
D29A Pettibone, Tap 70.55 9 ⇑P P 23 46 44.2 +0.7

	baz=71						
EGMT	Eagleton	70.63	2	⇑P	P	23 46 44.5	+0.4
	baz=71						
C23A	Lambert	70.65	5	⇑P	P	23 46 44.0	-0.1
	baz=71						
D30A	Buchanan	70.72	10	⇑P	P	23 46 44.4	0.0
	baz=71						
C26A	Wahner Farm, P	70.97	7	⇑P	P	23 46 46.0	-0.1
	baz=71						
NEW	Newport	70.99	356	eP	P	23 46 45.1	-1.1
NEW				pmax	pmax		
	comp=Z,11nm,1.3s						
NEW	Newport	70.99	356	eP	P	23 46 45.1	-1.1
	comp=Z,11nm,1.3s						
NEW	Newport	70.99	356	⇓P	P	23 46 45.6	-0.5
	baz=71,SNR=9.3						
B19A	Brinkman Farms	71.09	2	⇓P	P	23 46 47.4	+0.6
	baz=71						
C30A	Mose, Pekin	71.34	10	⇓P	P	23 46 47.9	-0.3
	baz=72						
A20A	Cobblestone Ra	71.55	3	⇑P	P	23 46 49.4	-0.1
	baz=72						
A19A	Klindworth Far	71.57	2	⇓P	P	23 46 49.0	-0.6
	baz=72						
A22A	Carney Farms,	71.78	4	⇓P	P	23 46 51.4	+0.4
	baz=72						
B28A	Dugan Ranch, T	71.80	8	⇓P	P	23 46 50.9	-0.1
	baz=72						
A23A	Redstone	71.83	5	⇓P	P	23 46 50.7	-0.5
	baz=72						
A24A	Westby	71.86	6	⇓P	P	23 46 50.7	-0.7
	baz=72						
B29A	Wagenman Farm,	71.95	9	⇓P	P	23 46 51.8	-0.1
	baz=72						
A25A	Svangstu Ranch	71.96	6	⇑P	P	23 46 52.6	+0.6
	baz=72						
A26A	Wade Farm, Ken	72.04	7	⇓P	P	23 46 52.3	-0.1
	baz=72						
B30A	Myrvik Farm, E	72.09	10	⇑P	P	23 46 52.6	-0.1
	baz=72						
AGMN	Agassiz Nation	72.35	11	⇓P	P	23 46 54.5	+0.1
	baz=73						
A29A	Manning Farm,	72.42	9	⇓P	P	23 46 54.1	-0.6
	baz=73						
A30A	Hoffart Farm,	72.57	9	⇑P	P	23 46 55.2	-0.4
	baz=73						
ULM	Lac du Bonnet	74.23	11	LR	LR	00 16 09.6	
	comp=Z,120nm,19.3s,baz=300,slow=33						
DZM	Mont Dzumac	74.26	252	eLR	LR	00 09 50.1	
	comp=Z,233nm,25.6s						
SNAA	Sanae	74.28	162	LR	LR	00 14 41.5	
	comp=Z,62nm,19.1s,baz=239,slow=32						
RCBR	Riachuelo	75.03	90	LR	LR	00 18 24.5	
	comp=Z,68nm,18.0s,baz=244,slow=34						
FFC	Flin Flon	77.80	6	eP	P	23 47 25.0	-0.6
H02S1	DAWSON INLET T	77.83	348	T	T	01 12 37.4	
	SNR=34						
YKA	Yellowknife Ar	85.13	359	P	P	23 48 03.1	-1.1
	comp=Z,3.6nm,1.0s,baz=173,slow=4.8,SNR=39						
HYT	Haines Junctio	85.95	348	eP	P	23 48 08.0	-0.5
SCHQ	Schefferville	86.56	24	P	P	23 48 11.0	-0.6
	comp=Z,6.7nm,0.9s,baz=248,slow=18,SNR=5.3						
SCHQ				LR	LR	00 24 05.1	
	comp=Z,103nm,20.2s,baz=46,slow=34						
H11S2	WAKE ISLAND Hy	89.33	290	T	T	01 27 08.4	
	baz=118,slow=73,SNR=21						
H11S1	WAKE ISLAND Hy	89.35	290	T	T	01 27 07.8	
	baz=118,slow=73,SNR=13						
H11S3	WAKE ISLAND Hy	89.35	290	T	T	01 27 10.7	
	baz=118,slow=73,SNR=11						
H11N3	WAKE ISLAND Hy	89.66	291	T	T	01 27 33.4	
	baz=110						
H11N1	WAKE ISLAND Hy	89.68	291	T	T	01 27 31.8	
	baz=110						
H11N2	WAKE ISLAND Hy	89.68	291	T	T	01 27 32.9	
	baz=110						
MAW	Mawson	89.69	178	LR	LR	00 25 24.5	
	comp=Z,268nm,18.1s,baz=130,slow=33						
STKA	Stephens Creek	90.98	235	P	P	23 48 32.5	-0.7
	comp=Z,0.6nm,0.4s,baz=166,slow=17,SNR=2.9						
TRF	Thorofare Moun	91.16	344	eP	P	23 48 31.3	-2.0
	comp=Z,36nm,1.7s						
KTH	Kantishna Hill	91.40	344	eP	P	23 48 32.9	-1.4
	comp=Z,25nm,1.2s						
ILAR	Eielson Array	91.44	346	P	P	23 48 33.1	-1.3
	comp=Z,0.6nm,0.9s,baz=186,slow=4.7,SNR=7.4						
ILAR				LR	LR	00 22 07.0	
	comp=Z,100nm,18.3s,baz=134,slow=31						
COLA	College	91.75	346	⇑iP	P	23 48 34.5	-1.3
COLA				pmax	pmax		
	comp=Z,22nm,1.1s						
COLA				MLR	MLR		
	comp=Z,308nm,17.0s						
INK	Inuvik	92.30	352	P	P	23 48 37.0	-1.3
INK	Inuvik	92.30	352	P	P	23 48 37.0	-1.3
	comp=Z,5.7nm,1.1s,baz=164,slow=5.5,SNR=9.2						
RES	Resolute Bay	97.99	5	LR	LR	00 30 06.2	
	comp=Z,140nm,18.4s,baz=170,slow=34						
MDJ	Mudanjiang	125.69	309	PKP	PKPdf	23 54 29.8	-0.5
BRG	Berggiesshubel	130.01	42	eP	PKPdf	23 54 39.1	+0.8
	comp=Z,14nm,1.7s						
BRG	Berggiesshubel	130.01	42	ePKIKP	PKPdf	23 54 39.1	+0.8
BRG				pmax	pmax		
	comp=Z,14nm,1.7s						
KHC	Kasperske Hory	130.15	44	ePKIKP	PKPdf	23 54 38.5	-0.2
KHC	Kasperske Hory	130.15	44	ePKPdf	PKPdf	23 54 38.5	-0.2
UPC	Upice	131.38	42	ePKIKP	PKPdf	23 54 42.0	+1.1
UPC	Upice	131.38	42	ePKPdf	PKPdf	23 54 42.0	+1.1
DPC	Dobruska-Polom	131.61	42	ePKIKP	PKPdf	23 54 40.8	-0.6
DPC	Dobruska-Polom	131.61	42	ePKPdf	PKPdf	23 54 40.8	-0.6
FINES	FINESS Array B	132.03	26	PKIKP	PKPdf	23 54 41.0	-0.8
FINES	FINESS Array B	132.03	26	PKP	PKPdf	23 54 41.0	-0.8
	comp=Z,3.2nm,1.0s,baz=316,slow=5.8,SNR=3.8						
OKC	Ostrava-Krasne	132.88	42	ePKIKP	PKPdf	23 54 43.3	-0.5
OKC	Ostrava-Krasne	132.88	42	ePKPdf	PKPdf	23 54 43.3	-0.5
NJ2	Nanjing	134.26	293	ePKP	PKPdf	23 54 46.2	-0.7
STHS	Stebnicka Huta	134.93	42	ePKIKP	PKPdf	23 54 48.3	+0.6
STHS	Stebnicka Huta	134.93	42	ePKP	PKPdf	23 54 48.2	+0.6
CRVS	Cervenica-Dubn	135.23	43	ePKIKP	PKPdf	23 54 48.0	-0.2
CRVS	Cervenica-Dubn	135.23	43	ePKP	PKPdf	23 54 48.0	-0.2
KOLS	Kolonicke sedl	135.72	42	ePKIKP	PKPdf	23 54 50.7	+1.5
KOLS	Kolonicke sedl	135.72	42	ePKP	PKPdf	23 54 50.7	+1.5
KIEV	Kiev	139.13	37	⇓iPKIKP	PKPdf	23 54 54.8	-0.5
AKASG	Malin Array Be	139.14	37	PKP	PKPdf	23 54 53.6	-1.8
	comp=Z,2.9nm,0.8s,baz=283,slow=2.6,SNR=12						
HHC	Hu-ho-hao-te	139.32	307	ePKP	PKPdf	23 54 52.8	-3.4
HHC				sPKP		23 55 04.7	
HHC				PP	PP	23 57 51.2	+1.0
HHC				SKKS		00 04 37.3	
HHC				SS	SS	00 16 12.2	+3.4
HHC				AMB	AMB		
	comp=Z,130nm,6.2s						
HHC				LR	LR		
	comp=Z,190nm,16.0s						
HHC				LR	LR		
	comp=Z,260nm,16.0s						
HHC				LR	LR		
	comp=Z,140nm,17.3s						
ULN	Ulaanbaatar	140.15	318	iPKIKP	PKPdf	23 54 57.6	+0.1
ULN				pmax	pmax		
	comp=Z,3.0nm,1.3s						
OBN	Obninsk	140.28	28	⇑iPKIKP	PKPdf	23 54 57.3	0.0
OBN				pmax	pmax		
	comp=Z,22nm,1.2s						
OBN				MLR	MLR		
	comp=Z,82nm,19.0s						
SONM	Songino Array	140.57	319	PKP	PKPdf	23 54 57.4	-0.9
	comp=Z,1.1nm,0.8s,baz=80,slow=1.0,SNR=5.8						
ZAK	Zakamensk	141.15	324	ePKHKP	PKPpre	23 54 41.4	
PSI	Prapat	143.92	241	PKhKP	PKPpre	23 55 00.5	
	comp=Z,13nm,0.9s,baz=170,slow=5.7,SNR=11						
VSR	Storozhevoye	144.03	31	ePKIKP	PKPab	23 55 00.3	-1.2
VSR				pmax	pmax		
	comp=N,10.0nm,1.3s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.3s						
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VORD	Divnogorie	144.25	31	ePKHKP	PKPpre	23 55 00.5	
VORD				pmax	pmax		
	comp=N,10.0nm,1.0s						
VORD				pmax	pmax		
	comp=E,6.0nm,1.0s						
VORD				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GYA	Guiyang	144.71	284	⇑iPKP	PKPab	23 55 04.1	-0.9
GYA				PP	PP	23 58 26.4	+2.9
GYA				PKS	PKSdf	23 58 39.6	-2.4
GYA				SKKS		00 05 14.0	
GYA				SS	SS	00 17 11.8	-0.8
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
GYA				LR	LR		
	comp=Z,140nm,22.8s						
GYA				LR	LR		
	comp=Z,120nm,23.0s						
GYA				LR	LR		
	comp=Z,130nm,22.5s						
SIM	Simferopol'	144.74	43	iPKIKP	PKPbc	23 55 05.0	+0.5
SIM				pmax	pmax		
	comp=Z,44nm,1.0s						
VRHR	Novokhopersk	145.25	29	ePKP2	PKPbc	23 55 04.3	-1.6
VRHR				pmax	pmax		
	comp=N,20nm,1.1s						
VRHR				pmax	pmax		
	comp=E,10.0nm,1.1s						
VRHR				pmax	pmax		
	comp=Z,60nm,1.1s						
SVE	Sverdlovsk	145.70	7	ePKIKP	PKPdf	23 55 05.7	-1.1
SVE				pmax	pmax		
	comp=Z,21nm,1.2s						
ARU	Arti	145.81	9	iPKP2	PKPdf	23 55 05.6	-1.4
ARU	Arti	145.81	9	ePKPdf	PKPdf	23 55 06.1	-1.0
NVS	Novosibirsk	146.11	344	ePKIKP	PKPdf	23 55 05.3	-2.3
NVS				pmax	pmax		
	comp=Z,32nm,2.1s						
NVS				pmax	pmax		
	comp=E,23nm,2.5s						
LZH	Lanzhou	146.28	301	ePKPbc	PKPdf	23 55 09.0	+0.3
LZH				pPKP	pPKPdf	23 55 12.5	+0.3
LZH				sPKP		23 55 17.4	
LZH				SKKS		00 05 21.3	
LZH				eSS	SS	00 17 26.8	-3.0
LZH				AMB	AMB		
	comp=E,160nm,5.0s						
LZH				LR	LR		
	comp=E,170nm,17.5s						
LZH				LR	LR		
	comp=E,170nm,18.6s						
LZH				LR	LR		
	comp=E,200nm,20.2s						
ZAA0	Zalesovo Array	146.48	342	ePKPdf	PKPdf	23 55 07.0	-1.2
ZALV	Zalesovo Beam	146.48	342	PKPbc	PKPdf	23 55 06.8	-1.4
	comp=E,3.4nm,0.7s,baz=29,slow=3.4,SNR=20						
BR131	Keskin Array S	146.50	52	ePKPdf	PKPdf	23 55 09.0	0.0
BRTR	Keskin Array B	146.50	52	PKPbc	PKPbc	23 55 09.8	-0.6
	comp=E,8.8nm,1.0s,baz=219,slow=1.6,SNR=14						
SLVN	Son La	146.68	274	ePKPdf	PKPdf	23 55 10.1	+0.5
CD2	Chengdu	147.17	292	PKPbc	PKPdf	23 55 10.2	0.0
CD2				PP	PP	23 58 41.4	+3.5
CD2				PKS	PKSdf	23 58 44.0	-1.6
CD2				SKS	SKSdf	00 02 16.1	-3.2
CD2				SKKS	SKKSac	00 05 29.0	-0.9
CD2				SS	SS	00 17 39.9	-0.3
CD2				AMB	AMB		
	comp=E,110nm,6.2s						
KMI	Kunming	148.17	281	PKPbc	PKPbc	23 55 15.0	-0.5
KMI				LR	LR		
	comp=E,67nm,38.6s						
GTA	Gaotai	148.34	309	⇑PKPbc	PKPbc	23 55 14.7	-0.8
GTA				PKPab	PKPab	23 55 23.6	+5.0
GTA				PP	PP	23 58 50.3	+6.0
GTA				SKS	SKSdf	00 02 21.7	+1.0
GTA				SKKS	SKKSac	00 05 38.3	+2.1
GTA				SS	SS	00 17 55.2	+2.6
GTA				AMB	AMB		
	comp=E,110nm,5.1s						
GTA				LR	LR		
	comp=E,130nm,18.8s						
GTA				LR	LR		
	comp=E,130nm,19.4s						
GTA				LR	LR		
	comp=E,80nm,20.4s						
BRVK	Borovoye	149.84	357	d iPKP2	PKPbc	23 55 17.2	-1.4
BRVK				pmax	pmax		
	comp=Z,20nm,1.3s						
BRVK	Borovoye	149.84	357	ePKPdf	PKPdf	23 55 14.3	+0.5
GOF	Gofitskoye	149.98	37	ePKP2	PKPbc	23 55 18.8	-0.4
KIV	Kislovodsk	150.46	39	ePKIKP	PKPdf	23 55 13.7	-1.5
KIV				pmax	pmax		
	comp=Z,21nm,1.1s						
KIV	Kislovodsk	150.46	39	ePKP	PKPbc	23 55 19.3	-1.2
CMAR	Chiang Mai Arr	150.68	267	PKPbc	PKPbc	23 55 21.4	-0.2
	comp=Z,13nm,1.0s,baz=82,slow=0.5,SNR=38						
KBZ	Khabaz	150.72	39	PKPbc	PKPbc	23 55 20.6	-0.4
	comp=Z,21nm,0.9s,baz=278,slow=1.8,SNR=38						
CHTO	Chiang Mai	150.76	268	ePKIKP	PKPbc	23 55 20.4	-1.5
CHTO	Chiang Mai	150.76	268	ePKPbc	PKPbc	23 55 20.4	-1.5
KURK	Kurchatov	151.01	346	ePKIKP	PKPdf	23 55 16.0	+0.3
KURK	Kurchatov	151.01	346	ePKPdf	PKPdf	23 55 15.9	+0.3
NCK	Nalchik	151.27	39	⇓iPKIKP	PKPbc	23 55 22.6	+0.3
ZEI	Tsey	151.88	39	iPKIKP	PKPbc	23 55 22.8	-1.2
ZEI				pmax	pmax		
	comp=Z,11nm,1.4s						
ABKAR	Akbulak array	152.96	12	ePKPdf	PKPdf	23 55 18.4	-0.2
ABKAR				ePKPab	PKPab	23 55 36.7	-0.3
MK31	Makanchi Array	153.50	338	ePKIKP	PKPdf	23 55 20.1	+0.5
MK31	Makanchi Array	153.50	338	ePKPdf	PKPdf	23 55 20.1	+0.5
MKAR	Makanchi Array	153.50	338	c iPKIKP	PKPdf	23 55 20.6	+1.0
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MKAR	Makanchi Array	153.50	338	PKP	PKPdf	23 55 18.8	-0.8
	comp=Z,2.8nm,1.0s,baz=58,slow=2.3,SNR=5.0						
MKAR				PKPbc	PKPbc	23 55 25.3	-1.9
	comp=Z,2.6nm,0.9s,baz=29,slow=2.8,SNR=19						
WMQ	Urumqi	153.52	327	PKPbc	PKPdf	23 55 19.8	0.0
WMQ				PP	PP	23 59 17.2	+3.9
WMQ				SKS	SKSdf	00 02 21.4	-5.5
WMQ				SKKS	SKKSac	00 06 00.7	-3.4
WMQ				LR	LR		
	comp=Z,38nm,21.2s						
WMQ				LR	LR		
	comp=Z,55nm,21.0s						
WMQ				LR	LR		
	comp=Z,37nm,24.2s						
GNI	Garni	153.93	43	iPKIKP	PKPdf	23 55 18.0	-2.6
GNI				pmax	pmax		
	comp=Z,9.0nm,1.7s						
AAK	Ala-Archa	159.58	346	ePKIKP	PKPdf	23 55 22.5	-5.3
KSH	Kashi	162.08	339	ePKP	PKPdf	23 55 32.9	+2.4
KSH				PKS	PKSdf	23 59 04.6	+0.8
KSH				ePP	PP	00 00 07.4	+7.4
KSH				SKS	SKSdf	00 02 36.4	+0.7
KSH				SKKS	SKKSac	00 06 54.7	+5.4
KSH				SS	SS	00 20 27.4	+8.0
KSH				AMB	AMB		
	comp=Z,120nm,4.5s						
KSH				LR	LR		
	comp=Z,38nm,4.8s						
KSH				LR	LR		
	comp=Z,32nm,6.1s						
KSH				LR	LR		
	comp=Z,83nm,5.3s						

IDC 02 23:54:00.3±2.0, 0.93N×126.62E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/30, mbtmp3.4/3, Error ellipse: s-maj=169.3km s-min=25.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.08	160	P	P	23 58 56.4	-0.8
	1.4nm,0.8s,baz=339,slow=11,SNR=8.9						
ASAR	Alice Springs	25.45	164	P	P	23 59 30.9	+0.7
	0.4nm,0.6s,baz=352,slow=15,SNR=4.2						
MKAR	Makanchi Array	59.79	326	P	P	00 04 07.3	-0.1
	0.2nm,0.5s,baz=132,slow=6.4,SNR=2.9						

IDC 03 00:08:53.5±67.0, 19.77S×179.69E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/22, mbtmp3.9/3, Error ellipse: s-maj=1206.0km s-min=159.7km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.17	243	P	P	00 15 57.2	-0.7
	1.1nm,0.5s,baz=95,slow=11,SNR=2.9						
WRA	Warramunga Arr	42.55	262	P	P	00 16 51.5	+0.2
	0.4nm,0.3s,baz=94,slow=8.4,SNR=56						
ASAR	Alice Springs	42.58	256	P	P	00 16 51.5	-0.1
	1.4nm,0.8s,baz=90,slow=7.6,SNR=8.1						

IDC 03 00:17:32.8±2.7, 12.63S×167.45E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/23, mbtmp3.8/5, Error ellipse: s-maj=108.8km s-min=34.3km az=147.0
ISCJB 03 00:17:37.3±3.0, 12.6S±0.7×167.3E±0.5, h33km, mb3.7/5, Error ellipse: s-maj=117.0km s-min=30.8km az=145.7
ISC 03 00:17:38.2±2.7, 12.6S±0.6×167.4E±0.5, h35km, n6, σ1§13/6, mb3.5/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.53	253	P	P	00 24 06.7	+0.5
	0.4nm,0.8s,baz=84,slow=8.6,SNR=3.2						
SONM	Songino Array	80.91	323	P	P	00 29 49.0	0.0
	0.2nm,0.4s,baz=116,slow=5.0,SNR=3.3						
ILAR	Eielson Array	84.50	18	P	P	00 30 08.0	+0.9
	1.4nm,0.6s,baz=246,slow=5.4,SNR=39						
YKA	Yellowknife Ar	95.63	27	P	P	00 30 59.9	+0.2
	0.1nm,0.5s,baz=259,slow=4.8,SNR=5.5						
MKAR	Makanchi Array	95.80	317	P	P	00 31 00.4	-0.5
	0.3nm,0.5s,baz=80,slow=6.1,SNR=8.8						
ARCES	ARCESS Array B	118.27	346	PKP	PKPdf	00 36 19.7	-1.6
	2.1nm,0.8s,baz=56,slow=1.6,SNR=5.7						

IDC 03 00:29:25.1±0.5, 8.66S×130.49E, h0km, mb4.7/14, mb1 4.7/16, mb1mx4.6/26, mbtmp4.7/16, ML4.7/2, MS3.8/10, Ms1 3.9/10, ms1mx3.5/22, Error ellipse: s-maj=24.5km s-min=12.9km az=65.0
BJI 03 00:29:26.5, 8.94S×130.85E, h45km, mB5.2/36, mb4.9/56, Ms4.9/17, Ms7 4.5/18
ISCJB 03 00:29:28.0±0.2, 8.63S±0.02×130.62E±0.03, h33km, mb4.8/71, MS4.0/16, Error ellipse: s-maj=3.8km s-min=3.4km az=147.4
MOS 03 00:29:28.8±1.6, 8.75S×130.62E, h40km, mb5.1/26, Error ellipse: s-maj=14.3km s-min=6.1km az=118.3
NEIC 03 00:29:30.2±0.2, 8.60S×130.60E, h35km, mb4.8/33, Error ellipse: s-maj=5.7km s-min=3.7km az=224.0
GCMT 03 00:29:30.2±0.3, 8.63S×130.65E, h30km±1km, MW5.0/61, Moment Tensor Solution. s25,c30; s61,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-0.02±.17; Mθθ-0.06±.12; Mφφ0.08±.13; Mrθ-0.89±.20; Mrφ3.55±.12; Mθφ1.08±.22; Best double couple: Mo3.79600×10^{16} NP1:φs181.00000°, δ78.00000°, λ-164.00000°. NP2: φs88.00000°, δ75.00000°, λ-12.00000°. Principal axes: T 3.5680, Plg3.0000°, Azm314.0000°; N 0.4560, Plg71.0000°, Azm217.0000°; P -4.0240, Plg19.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
DJA 03 00:29:33.6±0.2, 8°S±2°×13°1E±°, h60km±3km, M5.1/57, mb5.2/57, mB5.5/31, MLv5.5/10, Mw(mB)5.0/31
ISC 03 00:29:30.2±0.2, 8.73S±0.03×130.55E±0.03, h35km, n496, σ1§41/513, mb4.8/71, MS3.8/16, 115C-117D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.05	45	P	Pn	00 29 46.6	-1.9
SAUI				S	Sn	00 29 59.4	-2.5
SAUI	Saumlaki	1.05	45	ePn	Pn	00 29 50.3	+1.8
SAUI				eSn	Sn	00 30 03.2	+1.2
MTN	Manton Dam	4.13	172	P	Pn	00 30 33.1	+2.3
	baz=3.9,SNR=271						
BNDI	Bandanaira	4.23	351	P	Pn	00 30 31.2	-1.0
BNDI				S	Sn	00 30 59.7	-21
KDU	Kakadu	4.36	154	P	Pn	00 30 35.9	+1.9
	baz=4.2,SNR=742						
MSAI	Masohi	5.59	343	P	Pn	00 30 50.4	-0.5
	132nm,0.7s,1μm0.4nm						
MSAI				S	Sn	00 31 13.4	-40
	132nm,0.7s,1μm0.4nm						
KMPI	Kaimana, Papua	5.93	32	P	Pn	00 30 53.5	-2.1
	629nm,0.4s,14μm6.9nm						
KMPI				S	Sn	00 31 55.5	-6.9
	629nm,0.4s,14μm6.9nm						
FAKI	Fak Fak	6.02	16	P	Pn	00 30 53.9	-2.9
	530nm,0.8s,5μm3.2nm						
FAKI				S	Sn	00 31 52.8	-12
	530nm,0.8s,5μm3.2nm						
FAKI	Fak Fak	6.02	16	ePn	Pn	00 30 54.1	-2.7
FAKI				eSn	Sn	00 31 56.8	-7.7
FAKI	Fak Fak	6.02	16	P	Pn	00 30 54.1	-2.7
	baz=6.3,SNR=247						
FAKI				S	Sn	00 31 57.3	-7.2
	baz=6.3,SNR=11						
SOEI	Soe	6.28	260	P	Pn	00 31 01.6	+1.0
	745nm,0.7s,9μm4.9nm						
SOEI	Soe	6.28	260	ePn	Pn	00 31 00.8	+0.2
SOEI				eSn	Sn	00 32 10.7	-0.5
SOEI	Soe	6.28	260	P	Pn	00 31 02.0	+1.5
	baz=6.2,SNR=53						
SOEI				S	Sn	00 32 12.7	+1.5
	baz=6.2,SNR=6.2						
NLAI	Namlea	6.44	328	P	Pn	00 31 04.7	+2.1
	302nm,0.7s,4μm1.1nm						
KNRA	Kununurra	7.12	194	P	Pn	00 31 13.1	+1.1
	baz=6.9,SNR=623						
KNRA				S	Sn	00 32 30.0	-1.7
	baz=6.9,SNR=4.7						
SWI	Sorong	7.85	5	P	Pn	00 31 17.1	-4.8
	49nm,0.8s,3μm3.0nm						
SANI	Sanana	8.04	325	P	Pn	00 31 26.0	+1.4
	151nm,0.8s,2μm0.6nm						
MMRI	Maumere	8.22	270	P	Pn	00 31 35.9	+8.9
	266nm,0.8s,5μm						
MMRI	Maumere	8.22	270	ePn	Pn	00 31 27.5	+0.5
MMRI				eSn	Sn	00 32 57.2	-1.5
LBMI	Labuha	8.59	339	P	Pn	00 31 33.2	+1.0
	363nm,1.1s,3μm						
LBMI				S	Sn	00 33 06.7	-1.3
	363nm,1.1s,3μm						
BAKI	Biak	9.31	37	P	Pn	00 31 40.0	-2.1
	311nm,1.2s,3μm						
WAMI	Wamena	9.43	60	P	Pn	00 31 43.5	-0.2
	698nm,0.8s,8μm						
TNTI	Ternate	9.96	341	P	Pn	00 31 51.1	+0.2
	137nm,1.1s,5μm						
TNTI	Ternate	9.96	341	ePn	Pn	00 31 50.7	-0.2
WSI	Waingapu	10.16	264	P	Pn	00 32 02.9	+9.2
	679nm,0.6s						
SMPI	Sarmi	10.53	51	P	Pn	00 31 56.8	-1.9
	130nm,1.0s,2μm						
LUWI	Luwuk	10.88	314	P	Pn	00 32 05.4	+1.9
	149nm,1.3s,4μm						
LUWI	Luwuk	10.88	314	ePn	Pn	00 32 03.2	-0.2
BKSI	Bulukumba	10.89	287	P	Pn	00 32 10.0	+6.4
	43nm,0.9s,559nm						
BNSI	Bone	11.23	292	P	Pn	00 32 15.8	+7.5
	62nm,0.8s						
KMSI	Cibinong	11.32	324	P	Pn	00 32 14.5	+4.9
	258nm,0.9s						
GENI	Genyem	11.35	58	P	Pn	00 32 08.3	-1.6
	233nm,1.0s,6μm						
SPSI	Sidrap Palu	11.71	293	P	Pn	00 32 21.8	+6.9
	48nm,1.6s,870nm						
WRAB	Tennant Creek	11.73	162	⇓eP	Pn	00 32 12.8	-2.4
WRAB	Tennant Creek	11.73	162	ePn	Pn	00 32 13.8	-1.4
WRAB				eSn	Sn	00 34 19.4	-5.6
WRA	Warramunga Arr	11.73	162	Pn	Pn	00 32 12.9	-2.4
	8.6nm,0.3s,baz=343,slow=13,SNR=228						
WRA				Sn	Sn	00 34 19.3	-5.8
	25nm,0.3s,baz=337,slow=23,SNR=5.6						
WRA				LR	LR	00 37 32.8	
	comp=Z,809nm,19.3s,baz=345,slow=41						
APSI	Ampana	11.78	311	P	Pn	00 32 20.2	+4.3
	67nm,1.6s,969nm						
GTOI	Gorontalo	11.96	321	P	Pn	00 32 22.4	+4.1
	112nm,1.1s,1μm						
TTSI	Tana Toraja	12.07	297	P	P	00 32 26.2	-6.0
	41nm,1.1s,4μm						
MRSI	Marisa	12.54	316	P	Pn	00 32 28.0	+1.8
	122nm,1.1s,1μm						
COEN	Coen	13.43	114	ePn	Pn	00 32 37.1	-1.3
COEN				eSn	Sn	00 34 58.5	-7.9
COEN	Coen	13.43	114	P	Pn	00 32 36.6	-1.8
	baz=13,SNR=41						
COEN				S	Sn	00 34 59.2	-7.2
	baz=13,SNR=4.9						
QIS	Mount Isa	14.66	144	P	Pn	00 32 53.3	-1.8

baz=15,SNR=38
AS31 Alice Springs 15.20 168 ePn Pn 00 33 00.2 -2.1
AS31 eSn Sn 00 35 44.3 -5.3
ASAR Alice Springs 15.20 168 Pn Pn 00 32 59.1 -3.3
8.6nm,0.3s,baz=356,slow=11,SNR=137
ASAR Sn Sn 00 35 44.2 -5.4
5.3nm,0.3s,baz=351,slow=18,SNR=5.5
ASAR LR LR 00 38 35.0
comp=Z,569nm,19.4s,baz=337,slow=36
MBWA Marble Bar 16.17 219 ePn Pn 00 33 11.8 -3.1
38nm,0.7s
MBWA eSn Sn 00 35 58.8 -14
ABJI Asem Bagus 16.17 272 P Pn 00 33 15.6 +0.7
65nm,0.8s
JAGI Jajag, Banyuwa 16.21 270 P Pn 00 33 14.0 -1.5
75nm,0.9s
JAGI Jajag, Banyuwa 16.21 270 ePn Pn 00 33 11.9 -3.6
39nm,0.4s
JAGI eSn Sn 00 36 00.9 -14
JAGI Jajag, Banyuwa 16.21 270 P Pn 00 33 16.0 +0.5
baz=16,SNR=4.5
MTSU Mount Surprise 16.32 126 P Pn 00 33 15.6 -1.3
baz=16,SNR=109
WRKA Warakurna 16.36 187 P Pn 00 33 14.5 -2.8
baz=16,SNR=200
PMG Port Moresby 16.42 94 P Pn 00 33 14.9 -3.2
PMG pmax pmax
comp=Z,28nm,1.2s
PMG Port Moresby 16.42 94 ePn Pn 00 33 18.4 +0.3
comp=Z,66nm,0.9s
KMMI Kalianget 16.51 275 P Pn 00 33 18.9 -0.3
comp=Z,57nm,0.8s
GMJI Gumukmas 16.92 270 P P 00 33 33.2 +7.1
comp=Z,49nm,1.0s
GRJI Gresik 17.99 274 P P 00 33 50.2 +12
TSM Tawau 18.09 315 ⇓P Pn 00 33 38.5 -0.4
MYLDM Lahad Datu 18.31 319 ePn Pn 00 33 47.6 +6.0
MYLDM Lahad Datu 18.31 319 ⇓P Pn 00 33 43.2 +1.6
PWJI Pagerwojo 18.56 271 P Pn 00 33 46.1 +1.5
comp=Z,98nm,0.8s
CTA Charters Tower 18.92 128 P Pn 00 33 50.0 +0.9
CTA Charters Tower 18.92 128 P Pn 00 33 50.0 +0.9
comp=Z,0.8nm,0.3s,baz=309,slow=13,SNR=12
CTAO Charters Tower 18.92 128 eP P 00 33 48.0 -0.2
CTAO eS S 00 37 20.7 -0.8
CTAO pmax pmax
comp=Z,58nm,0.9s
CTAO Charters Tower 18.92 128 eP P 00 33 48.0 -0.2
comp=Z,58nm,0.9s
CTAO eS S 00 37 20.7 -0.8
NGJI Ngawi 18.95 273 P Pn 00 33 57.8 +8.5
comp=Z,76nm,0.7s
PCJI Pacitan 19.17 270 P Pn 00 33 54.4 +2.4
comp=Z,170nm,0.7s
SDKM Sandakan 19.52 317 ⇓P Pn 00 33 56.2 -0.1
UGM Wanagama 19.83 271 P Pn 00 34 02.9 +2.9
baz=20,SNR=6.8
KKM Kota Kinabalu 20.48 315 eP P 00 34 05.1 -0.2
comp=Z,38nm,0.8s
KKM Kota Kinabalu 20.48 315 P Pn 00 34 07.2 -0.5
baz=21,SNR=3.7
KKM Kota Kinabalu 20.48 315 ⇑P P 00 34 04.7 -0.6
KDM Kudat 20.70 318 ⇑P P 00 34 07.8 +0.3
GIRL Giralia 20.90 227 P Pn 00 34 19.5 +7.2
baz=21,SNR=4.7
BTM Bintulu 21.06 304 ⇑P P 00 34 11.4 -0.2
MEEK Meekatharra 21.10 211 P P 00 34 12.7 +0.9
baz=21,SNR=8.4
SBUM Sibu 21.38 300 eP P 00 34 15.9 +0.9
comp=Z,89nm,1.0s
SBUM Sibu 21.38 300 ⇑P P 00 34 15.3 +0.4
QLP Quilpie 21.99 146 P P 00 34 24.4 +3.0
baz=22,SNR=62
FORT Forrest 22.06 186 eP P 00 34 23.7 +1.6
comp=Z,172nm,0.8s
FORT eS S 00 38 23.1 -0.4
FORT Forrest 22.06 186 P P 00 34 23.6 +1.6
baz=22,SNR=17
CISI Cisompet, Garu 22.53 271 P P 00 34 27.4 0.0
comp=Z,95nm,0.8s
CISI Cisompet, Garu 22.53 271 eP P 00 34 26.9 -0.4
comp=Z,80nm,0.6s
CISI eS S 00 38 31.1 -1.4
KSM Kuching 22.57 296 eP P 00 34 28.0 +0.2
comp=Z,35nm,1.0s
KSM Kuching 22.57 296 P P 00 34 28.4 +0.6
baz=23,SNR=3.4
KSM Kuching 22.57 296 ⇑P P 00 34 28.4 +0.6
LEM Lembang 22.80 273 P P 00 34 46.0 +16
CNJI Cibinong 23.23 272 P P 00 34 36.4 +1.9
comp=Z,131nm,1.0s,comp=Z,2µm
BBOO Buckleboo 24.50 169 eP P 00 34 46.9 +0.6
comp=Z,723nm,0.8s
BBOO eS S 00 39 07.2 +2.7
BBOO Buckleboo 24.50 169 P P 00 34 48.4 +2.1
baz=24,SNR=16
CGJI Cibinong 24.72 273 P P 00 34 46.6 -1.9
comp=Z,94nm,0.6s
STKA Stephens Creek 25.22 158 eP P 00 34 53.7 +0.9
STKA eS S 00 39 16.9 +0.9
STKA pmax pmax
comp=Z,11nm,0.8s
STKA Stephens Creek 25.22 158 P P 00 34 54.9 +2.1
comp=Z,13nm,0.4s,baz=337,slow=7.8,SNR=48
STKA LR LR 00 46 35.0
comp=Z,215nm,21.4s,baz=334,slow=41
STKA Stephens Creek 25.22 158 eP P 00 34 53.7 +0.9
comp=Z,10nm,0.8s
STKA eS S 00 39 16.9 +0.9
STKA Stephens Creek 25.22 158 P P 00 34 55.2 +2.4
baz=25,SNR=43
BLDU Ballidu 25.32 209 P P 00 34 55.2 +1.4
baz=25,SNR=6.5
EIDS Eidsvold 25.61 133 eP P 00 34 56.6 +0.2
comp=Z,14nm,0.7s
KLBR Kellerberrin 25.67 206 P P 00 34 58.8 +1.8
baz=26,SNR=6.9
HTT Hallett 25.77 164 P P 00 35 00.3 +2.5
baz=26,SNR=11
KASI Kota Agung 26.04 275 P P 00 35 12.5 +12
CMSA Cobar Meteorol 26.71 150 P P 00 35 09.1 +2.7
baz=27,SNR=26
KTGM Kuala Trenggan 30.69 296 ⇑P P 00 35 40.1 -1.9
PSI Prapat 33.54 289 P P 00 36 04.6 -2.6
comp=Z,2.7nm,0.4s,baz=139,slow=4.1,SNR=6.4
QIZ Qiongzhong 34.32 324 P P 00 36 16.4 +2.8
QIZ S S 00 41 42.5 +3.6
QIZ LR LR
comp=Z,100nm,15.7s
UBPT Khong Chiam 34.45 314 P P 00 36 13.8 -1.0
comp=Z,21nm,1.2s,comp=Z,1µm
DZM Mont Dzumac 36.95 115 P P 00 36 37.7 +1.3
comp=Z,4.4nm,0.6s,baz=249,slow=6.8,SNR=7.8
LOEI Loei 38.95 312 P P 00 36 50.0 -3.2
comp=Z,5.2nm,0.8s
UTTA Uttaradit 39.62 312 P P 00 36 59.0 +0.2
comp=Z,3.4nm,0.9s,comp=Z,56nm
SLVN Son La 39.71 319 eP P 00 36 57.8 -1.8
comp=Z,4.4nm,0.8s
SUKH Sukhothai 40.15 310 P P 00 37 04.1 +1.0
comp=Z,2.8nm,0.7s
CMAR Chiang Mai Arr 41.26 311 ceP P 00 37 11.8 -0.5
CMAR pmax pmax
comp=Z,3.0nm,1.0s
CMAR Chiang Mai Arr 41.26 311 P P 00 37 11.2 -1.1
comp=Z,1.5nm,0.7s,baz=145,slow=7.4,SNR=13
CMAR LR LR 00 56 13.4
comp=Z,79nm,19.2s,baz=144,slow=39
CMMT Chiang Mai 41.48 311 P P 00 37 14.4 +0.3
comp=Z,12nm,1.2s
CHTO Chiang Mai 41.48 311 eP P 00 37 13.9 -0.3
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 41.48 311 P P 00 37 14.4 +0.3
comp=Z,34nm,1.1s
CHTO Chiang Mai 41.48 311 eP P 00 37 13.9 -0.3
comp=Z,5.3nm,0.8s
JNU Nakatsue 41.62 0 P P 00 37 14.2 -0.9
comp=Z,17nm,1.0s,baz=184,slow=2.9,SNR=4.2
JNU Nakatsue 41.62 0 eP P 00 37 14.3 -0.8
GYA Guiyang 41.97 327 eP P 00 37 22.0 +3.8
GYA pP pP 00 37 31.6 +3.1
GYA PP PnPn 00 39 03.0 +1.9
GYA S S 00 43 40.5 +5.7
GYA sS sS 00 43 56.8 +5.0
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA pmax pmax
comp=Z,110nm,4.9s
GYA LR LR
comp=Z,440nm,17.9s
GYA LR LR
comp=Z,390nm,18.0s
GYA LR LR
comp=Z,460nm,17.7s
NJ2 Nanjing 42.06 345 eP P 00 37 21.3 +2.6
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
CMAI Chiengmai2 42.11 313 P P 00 37 19.1 -0.3
comp=Z,95nm,0.9s
KMI Kunming 43.20 322 P P 00 37 33.0 +4.7
KMI S S 00 43 55.6 +2.5
KMI pmax pmax
comp=Z,4.0nm,0.7s
ENH Enshi 43.74 333 eP P 00 37 30.6 -1.8
comp=Z,6.6nm,0.5s
MJAR Matsushiro Arr 45.60 9 P P 00 37 45.0 -2.0
comp=Z,11nm,0.8s,baz=197,slow=8.9,SNR=6.4
MAJO Matsushiro 45.60 9 eP P 00 37 44.9 -2.2
MAJO pmax pmax
comp=Z,33nm,1.1s
MAJO Matsushiro 45.60 9 eP P 00 37 44.9 -2.2
comp=Z,33nm,1.1s
MAT Matsushiro 45.60 9 P P 00 37 44.5 -2.6
KSAR Wonju Array Be 46.00 357 P P 00 37 49.6 -0.6
KSAR Wonju Array Be 46.00 357 P P 00 37 49.5 -0.6
KSRS Korea Array 46.01 357 P P 00 37 49.5 -0.7
comp=Z,3.0nm,0.7s,baz=179,slow=9.0,SNR=6.1
CD2 Chengdu 47.05 328 P P 00 38 02.2 +3.6
CD2 pP pP 00 38 12.5 +3.5
CD2 sP sP 00 38 16.7 +3.5
CD2 PcP PcP 00 39 33.2 +2.8
CD2 PP PP 00 39 52.8 +3.1
CD2 PcS PcS 00 43 27.1 +1.5
CD2 S S 00 44 52.5 +4.2
CD2 sS sS 00 45 09.7 +4.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
XAN Xi'an 47.23 335 P P 00 37 57.7 -2.2
XAN pmax pmax
comp=Z,3.0nm,1.0s
XAN pmax pmax
comp=Z,25nm,5.6s
BJT Baijiatuau 50.30 346 eP P 00 38 22.1 -1.2
BJT pmax pmax
comp=Z,20nm,0.5s
BJT Baijiatuau 50.30 346 eP P 00 38 22.1 -1.2
comp=Z,20nm,0.5s
BJI Beijing 50.31 346 P P 00 38 22.5 -0.9
BJI pmax pmax
comp=Z,37nm,0.7s
KHZ Kahutara 50.45 139 eP P 00 38 25.2 +0.7
comp=Z,13nm,0.8s
LZH Lanzhou 51.18 332 eP P 00 38 29.7 -0.6
LZH pP pP 00 38 38.5 -2.3
LZH PP PP 00 40 22.0 -5.4
LZH S S 00 45 41.0 -5.4
LZH SS SS 00 49 17.1 -5.2
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.3s
LZH LR LR
comp=Z,760nm,16.0s
LZH LR LR
comp=Z,1µm,15.6s
LZH LR LR
comp=Z,1µm,17.0s
CN2 Changchun 52.49 355 eP P 00 38 38.0 -1.7
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,5.0s
USRK Ussuriysk Arra 52.70 1 P P 00 38 40.3 -0.9
comp=Z,7.8nm,0.8s,baz=186,slow=6.8,SNR=9.4
MDJ Mudanjiang 53.10 359 P P 00 38 47.8 +3.6
MDJ pmax pmax
comp=Z,8.0nm,0.6s
MDJ pmax pmax
comp=Z,190nm,4.1s
ASAJ Asahikawa 53.72 11 P P 00 38 48.0 -0.7
comp=Z,6.6nm,0.4s,baz=252,slow=3.2,SNR=4.6
ASAJ Asahikawa 53.72 11 eP P 00 38 47.9 -0.9
LSA Lhasa 53.82 317 eP P 00 38 49.6 -0.7
LSA pmax pmax
comp=Z,11nm,0.6s
LSA Lhasa 53.82 317 eP P 00 38 49.6 -0.7
comp=Z,11nm,0.6s
ODAN Odare 54.80 312 eP P 00 38 56.4 -0.9
comp=Z,20nm,0.6s
TAPN Taplejung 54.84 312 eP P 00 38 56.7 -0.9
comp=Z,17nm,0.4s
RAMN Ramite 55.43 311 eP P 00 39 00.9 -1.0
comp=Z,47nm,0.6s
GTA Gaotai 55.74 331 ⇑P P 00 39 03.5 -0.2
GTA pP pP 00 39 13.6 -0.7
GTA sP sP 00 39 17.6 -0.8
GTA S S 00 46 47.5 -0.7
GTA SS SS 00 50 34.4 +0.2
GTA pmax pmax
comp=Z,13nm,0.8s
GTA pmax pmax
comp=Z,110nm,5.6s
GTA LR LR
comp=Z,120nm,18.0s
GTA LR LR
comp=Z,140nm,16.2s
GTA LR LR
comp=Z,80nm,17.1s
JIRN Jiri 56.13 312 eP P 00 39 06.1 -0.9
comp=Z,19nm,0.4s
GUN Gumba 56.50 312 eP P 00 39 08.4 -1.2
comp=Z,28nm,0.4s
PKI Pulchoki 56.66 311 eP P 00 39 09.1 -1.6
PKIN Phulchoki 56.67 311 eP P 00 39 08.9 -1.8
KKN Kakani 56.88 311 eP P 00 39 11.1 -1.0
comp=Z,14nm,0.6s
DMN Daman 56.91 311 eP P 00 39 12.1 -0.3
GKN Gorkha 57.47 311 eP P 00 39 15.2 -1.0
comp=Z,22nm,0.4s
KLR Kul'dur 57.72 1 eP P 00 39 13.6 -3.8
KOLN Koldanda 58.12 310 eP P 00 39 20.3 -0.6
comp=Z,25nm,0.6s
DANN Dangsing 58.31 311 eP P 00 39 21.0 -1.3
comp=Z,15nm,0.6s
PYUN Piuthan 58.75 310 eP P 00 39 24.8 -0.5
comp=Z,82nm,0.7s
ULN Ulaanbaatar 60.07 342 d iP P 00 39 33.9 0.0
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 60.07 342 eP P 00 39 33.2 -0.7
comp=Z,9.0nm,0.7s
SONM Songino Array 60.24 341 P P 00 39 35.0 -0.1
SONM Songino Array 60.24 341 P P 00 39 35.0 -0.1
comp=Z,3.1nm,0.4s,baz=162,slow=7.1,SNR=65
ZAK Zakamensk 63.47 341 eP P 00 39 55.8 -0.9
ZAK pmax pmax
comp=Z,5.0nm,1.6s
TLY Talaya 64.48 342 eP P 00 40 03.7 +0.5
TLY pmax pmax
comp=Z,6.0nm,0.9s
WMQ Urumqi 65.13 327 P P 00 40 08.1 +0.4
WMQ pP pP 00 40 18.4 -0.1
WMQ sP sP 00 40 22.3 -0.2
WMQ PcP PcP 00 40 40.3 +0.1
WMQ PcS 00 44 43.1
WMQ S S 00 48 47.4 -0.8
WMQ ScS SKSac 00 49 56.9 -3.2
WMQ pmax pmax
comp=Z,22nm,0.8s
WMQ pmax pmax
comp=Z,220nm,4.6s
WMQ LR LR
comp=Z,49nm,18.8s
WMQ LR LR
comp=Z,53nm,18.4s
WMQ LR LR
comp=Z,63nm,20.4s
MOY Mondy 65.32 340 eP P 00 40 09.4 +0.6
PETK Petropavlovsk- 65.80 18 P P 00 40 11.9 +0.2
comp=Z,7.4nm,0.7s,baz=180,slow=6.2,SNR=10
PETK LR LR 01 11 14.4
comp=Z,14nm,18.2s,baz=194,slow=38
KSH Kashi 69.65 318 eP P 00 40 37.6 +1.1
KSH pP pP 00 40 48.5 +1.2
KSH ePP PP 00 43 14.8 +3.9
KSH S S 00 49 38.8 -4.0
KSH SS SS 00 54 09.7 -1.9
KSH pmax pmax
comp=Z,8.0nm,0.6s
KSH LR LR
comp=Z,45nm,4.1s
KSH LR LR
comp=Z,100nm,5.1s
KSH LR LR
comp=Z,140nm,6.4s
MK31 Makanchi Array 69.96 327 iP P 00 40 38.1 +0.1
MK31 pmax pmax
comp=Z,12nm,0.5s
MK31 Makanchi Array 69.96 327 eP P 00 40 38.2 +0.1
MKAR Makanchi Array 69.96 327 P P 00 40 38.2 +0.1
comp=Z,16nm,0.5s,baz=115,slow=8.6,SNR=364
YAK Yakutsk 70.55 360 eP P 00 40 40.2 -1.1
YAK pmax pmax
comp=Z,21nm,0.8s
VNDA Vanda 70.68 173 eP P 00 40 41.8 -0.2
VNDA pmax pmax
comp=Z,3.0nm,0.7s
VNDA Vanda 70.68 173 P P 00 40 43.6 +1.7
comp=Z,1.2nm,0.5s,baz=321,slow=8.8,SNR=6.2
VNDA LR LR 01 10 36.6
comp=Z,211nm,18.4s,baz=341,slow=35
VNDA Vanda 70.68 173 eP P 00 40 41.8 -0.2
comp=Z,2.9nm,0.7s
KZA Kyzart 71.44 320 iP P 00 40 48.8 +1.2
KZA Kyzart 71.44 320 P P 00 40 48.9 +1.2
SNR=5.3
TKM2 Tokmak 2 71.66 321 eP P 00 40 48.6 -0.1
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
TKM2 Tokmak 2 71.66 321 P P 00 40 49.2 +0.5
SNR=11
TKM2 Tokmak 2 71.66 321 eP P 00 40 48.6 -0.1
comp=Z,6.3nm,0.6s
KBK Karagaybulak 71.93 320 iP P 00 40 50.8 +0.5
KBK Karagaybulak 71.93 320 P P 00 40 50.9 +0.5
SNR=5.5
UCH Uchtor 71.99 320 iP P 00 40 51.8 +0.8
UCH Uchtor 71.99 320 P P 00 40 51.9 +0.8
SNR=8.3
AAK Ala-Archa 72.20 320 c iP P 00 40 52.9 +0.9
AAK pmax pmax
comp=Z,43nm,1.7s
AAK MLR MLR
comp=Z,117nm,17.0s
AAK Ala-Archa 72.20 320 P P 00 40 53.0 +1.1
SNR=7.9
AAK Ala-Archa 72.20 320 eP P 00 40 51.9 0.0
comp=Z,12nm,0.9s
KBL Kabul 72.29 310 eP P 00 40 52.3 -0.4
KBL pmax pmax
comp=Z,9.0nm,0.7s
KBL Kabul 72.29 310 eP P 00 40 52.3 -0.4
comp=Z,8.8nm,0.7s
KBL Kabul 72.29 310 P P 00 40 52.9 +0.3
baz=72,SNR=7.7
AML Almayashu 72.46 319 iP P 00 40 54.5 +0.7
AML Almayashu 72.46 319 P P 00 40 54.6 +0.7
SNR=11
USP Ospenovka 72.52 321 iP P 00 40 54.1 +0.4
USP Ospenovka 72.52 321 P P 00 40 54.2 +0.4
SNR=11
EKS2 Erkin-Say 72.67 320 eP P 00 40 54.2 -0.5
EKS2 pmax pmax
comp=Z,12nm,0.8s
EKS2 Erkin-Say 72.67 320 P P 00 40 55.4 +0.7
SNR=9.0
EKS2 Erkin-Say 72.67 320 eP P 00 40 54.2 -0.5
comp=Z,12nm,0.8s
ZAA0 Zalesovo Array 73.36 334 eP P 00 40 56.4 -1.9
ZALV Zalesovo Beam 73.36 334 P P 00 40 57.2 -1.2
comp=Z,12nm,0.7s,baz=119,slow=4.9,SNR=75
SEY Seymchan 73.40 10 ⇑eP P 00 40 58.8 +0.4
MAW Mawson 73.55 202 LR LR 01 11 31.9
comp=Z,123nm,18.5s,baz=98,slow=34
KURK Kurchatov 74.27 329 d iP P 00 41 03.2 -0.5
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURK MLR MLR
comp=Z,27nm,18.0s
KURK Kurchatov 74.27 329 eP P 00 41 02.6 -1.1
comp=Z,5.3nm,0.7s
NVS Novosibirsk 74.65 334 eP P 00 41 02.7 -3.1
NVS e 00 41 10.1
NVS eS SKiKP 00 50 32.3 +3.4
NVS pmax pmax
comp=Z,10.0nm,0.8s
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.7s
NVS smax smax
comp=E,29nm,1.9s
KK31 Karatay Array 74.99 319 iP P 00 41 08.0 -0.1
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 74.99 319 eP P 00 41 07.6 -0.6
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 74.99 319 eP P 00 41 07.5 -0.6
comp=Z,6.5nm,0.8s
PPT Papeete 77.82 106 LR LR 01 12 10.2
comp=Z,41nm,20.0s,baz=230,slow=33
IDAH Dahanechah 78.78 306 eP P 00 41 30.9 +0.8
IKOO Kooshah 79.38 305 eP P 00 41 33.9 +0.6
IMYA Miami 79.74 309 eP P 00 41 35.6 +0.5
BVA0 Borovoye Array 79.81 328 iP P 00 41 34.1 -0.7
BVA0 pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 79.88 328 d iP P 00 41 34.7 -0.5
BRVK pmax pmax
comp=Z,14nm,1.2s
BRVK Borovoye 79.88 328 eP P 00 41 34.3 -0.9
comp=Z,8.8nm,0.8s
TIXI Tiksi 80.21 359 ⇑eP P 00 41 35.3 -1.3
TIXI pmax pmax
comp=Z,4.0nm,0.6s
TIXI MLR MLR
comp=Z,36nm,17.0s
TIXI Tiksi 80.21 359 eP P 00 41 35.1 -1.5
comp=Z,5.9nm,0.6s
IMOG Moghan 80.25 309 eP P 00 41 37.5 -0.5
IPAY Payeh 80.62 309 eP P 00 41 40.0 +0.1
IAKL Akhelmad 80.85 309 eP P 00 41 40.5 -0.7
IKRD Kardeh 81.08 309 eP P 00 41 39.2 -3.2
ISFR Sfrayin 81.56 310 eP P 00 41 45.0 0.0
ISAD Sadrabad 83.58 304 eP P 00 41 55.2 -0.4
IPAR Pars 83.61 301 eP P 00 41 55.0 -0.8
AB31 Akbulak array 84.19 322 iP P 00 41 57.0 -0.9
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 84.19 322 eP P 00 41 56.7 -1.2
comp=Z,3.3nm,0.5s
IPIR Pirpir 86.06 304 eP P 00 42 07.7 -0.4
SVE Sverdlovsk 86.52 329 eP P 00 42 08.6 -0.8
SVE pmax pmax
comp=Z,12nm,0.8s
IRAZ Razeghan 87.44 306 eP P 00 42 15.0 +0.4
ARU Arti 87.45 328 c iP P 00 42 12.4 -1.5
ARU 00 45 39.7
ARU S SKSac 00 52 40.0 +1.1
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARU Arti 87.45 328 eP P 00 42 13.2 -0.7
comp=Z,7.1nm,0.9s
RAYN Ar Rayn 88.94 294 eP P 00 42 21.6 -0.2
comp=Z,14nm,1.0s
KDAK Kodiak Island 90.40 31 iP P 00 42 28.3 +0.5
MCK McKinley 93.59 26 eP P 00 42 41.2 -1.3
MCK pmax pmax
comp=Z,3.0nm,0.7s
MCK McKinley 93.59 26 eP P 00 42 41.2 -1.3
comp=Z,2.9nm,0.7s
ILAR Eielson Array 94.67 25 P P 00 42 45.5 -1.9
comp=Z,3.0nm,0.7s,baz=268,slow=4.2,SNR=40
ILAR LR LR 01 23 33.8

comp=Z,28nm,19.9s,baz=290,slow=34
DOT Dot Lake 95.71 27 eP P 00 42 51.1 -1.1
comp=Z,4.0nm,0.7s
BOSA Boshof 99.06 239 LR LR 01 22 56.0
comp=Z,82nm,20.7s,baz=150,slow=32
ARCES ARCESS Array B 103.38 340 Pdiff Pdif 00 43 28.9 +2.5
comp=Z,2.9nm,0.9s,baz=79,slow=6.5,SNR=11
ARCES PKiKP PKiKP 00 47 45.4 +0.2
comp=Z,3.1nm,0.9s,baz=95,slow=1.0,SNR=6.1
YKA Yellowknife Ar 109.05 26 Pdiff Pdif 00 43 51.3 -0.4
comp=Z,0.2nm,0.5s,baz=291,slow=4.4,SNR=4.0
YKA PKiKP PKiKP 00 47 56.0 +0.2
comp=Z,0.2nm,0.3s,baz=288,slow=1.9,SNR=9.6
YKA PKKPbc PKKPbc 00 59 03.8 -1.7
comp=Z,0.1nm,0.5s,baz=114,slow=3.3,SNR=3.9
YKA PKKPab PKKPab 00 59 14.9 -0.5
comp=Z,0.2nm,0.6s,baz=108,slow=3.4,SNR=5.3
NVAR Mina Array Bea 111.93 52 PKiKP PKiKP 00 48 04.4 +2.1
comp=Z,0.6nm,0.6s,baz=245,slow=2.2,SNR=7.8
CWC Cottonwood Cre 112.31 54 PKiKP PKiKP 00 48 05.1 +2.0
baz=112
BFSC Mount Baldy Ra 112.86 57 ⇑PKiKP PKiKP 00 48 06.1 +2.0
baz=113
PFO Pinyon Flat Ob 113.92 57 ⇓PKiKP PKiKP 00 48 07.9 +1.7
baz=114
R11A Troy Canyon, C 114.06 52 ⇓PKiKP PKiKP 00 48 07.8 +1.4
baz=114
HLID Hailey 114.06 46 ⇓PKiKP PKiKP 00 48 08.4 +2.2
baz=114
GERES GERESS Array B 114.09 320 PKP PKPdf 00 48 06.1 +0.1
comp=Z,0.9nm,0.5s,baz=20,slow=4.3,SNR=7.3
TUQ Turquoise Moun 114.16 55 ⇑PKiKP PKiKP 00 48 08.1 +1.5
baz=114
BELC Belle Mtn. Jos 114.26 57 ⇑PKiKP PKiKP 00 48 08.9 +2.1
baz=114
GMRC Granite Mounta 114.45 56 ⇓PKiKP PKiKP 00 48 09.5 +2.3
baz=114
BC3 Big Chuckawall 114.74 57 ⇑PKiKP PKiKP 00 48 09.4 +1.7
baz=115
IRM Iron Mountain 114.94 56 ⇑PKiKP PKiKP 00 48 09.8 +1.8
baz=115
W13A Hualapai Mount 115.86 55 ⇑PKiKP PKiKP 00 48 11.9 +2.0
baz=116
DUG Dugway 115.88 50 ⇓PKiKP PKiKP 00 48 11.7 +2.0
baz=116
EGMT Eagleton 116.14 41 ⇓PKiKP PKiKP 00 48 11.2 +1.3
baz=116
U15A North Rim 116.94 54 ⇑PKiKP PKiKP 00 48 14.1 +2.0
baz=117
PDAR Pinedale Array 117.70 46 PKP PKPdf 00 48 14.0 +0.7
comp=Z,1.4nm,0.7s,baz=240,slow=1.8,SNR=11
WUAZ Wupatki 117.83 54 ⇑PKiKP PKiKP 00 48 15.5 +1.7
baz=118
J19A Crowheart 117.93 45 ⇓PKiKP PKiKP 00 48 14.7 +1.0
baz=118
X16A Lo Mia Camp, P 117.95 56 ⇑PKiKP PKiKP 00 48 16.1 +2.1
baz=118
G20A Bridger 117.97 43 ⇑PKiKP PKiKP 00 48 14.7 +1.1
baz=118
A22A Carney Farms, 118.24 39 ⇑PKiKP PKiKP 00 48 15.3 +1.3
baz=118
I20A Worland 118.39 45 ⇑PKiKP PKiKP 00 48 15.7 +1.2
baz=118
J20A Shoshoni 118.59 45 ⇑PKiKP PKiKP 00 48 16.2 +1.2
baz=118
C22A Vida 118.70 40 ⇓PKiKP PKiKP 00 48 16.6 +1.8
baz=118
D22A Cohagen 118.71 41 ⇑PKiKP PKiKP 00 48 16.4 +1.5
baz=119
HINF Hinteralfeld 118.75 320 ePKiKP PKPdf 00 48 14.5 -0.4
comp=Z,4.0nm,0.5s
HINF Hinteralfeld 118.75 320 ePKiKP PKPdf 00 48 14.5 -0.4
HINF Hinteralfeld 118.75 320 ePKPdf PKPdf 00 48 14.5 -0.4
B23A Brockton 119.00 39 ⇑PKiKP PKiKP 00 48 16.0 +0.5
baz=119
I21A Big Trails, Te 119.01 44 ⇑PKiKP PKiKP 00 48 16.5 +0.7
baz=119
C23A Lambert 119.12 40 ⇑PKiKP PKiKP 00 48 16.9 +1.2
baz=119
N20A Spence Gulch, 119.12 48 ⇓PKiKP PKiKP 00 48 17.6 +1.4
baz=119
O20A White River Ci 119.31 49 ⇓PKiKP PKiKP 00 48 17.8 +1.3
baz=119
D23A Lindsay 119.33 40 ⇓PKiKP PKiKP 00 48 17.5 +1.3
baz=119
K21A Alcova 119.38 46 ⇓PKiKP PKiKP 00 48 17.3 +0.7
baz=119
H22A Clearmont 119.42 43 ⇑PKiKP PKiKP 00 48 17.0 +0.5
baz=119
A24A Westby 119.44 38 ⇑PKiKP PKiKP 00 48 17.2 +0.9
baz=119
DGMT Dagmar 119.49 39 ⇓PKiKP PKiKP 00 48 17.4 +1.0
baz=119
I22A 9 Mile Ranch, 119.55 44 ⇓PKiKP PKiKP 00 48 17.0 +0.2
baz=119
LPG La Plagne 119.60 318 ePKiKP PKPdf 00 48 17.1 +0.2
comp=Z,2.1nm,0.5s
LPG La Plagne 119.60 318 ePKiKP PKPdf 00 48 17.1 +0.2
LPG La Plagne 119.60 318 ePKPdf PKPdf 00 48 17.1 +0.2
LPL La Plagne 119.61 318 ePKiKP PKPdf 00 48 17.1 +0.2
comp=Z,3.0nm,0.4s
LPL La Plagne 119.61 318 ePKiKP PKPdf 00 48 17.1 +0.2
LPL La Plagne 119.61 318 ePKPdf PKPdf 00 48 17.1 +0.2
CABF La Chapelle 119.66 319 ePKiKP PKPdf 00 48 17.2 +0.4
comp=Z,3.9nm,0.4s
CABF La Chapelle 119.66 319 ePKiKP PKPdf 00 48 17.2 +0.4
CABF La Chapelle 119.66 319 ePKPdf PKPdf 00 48 17.2 +0.4
F23A Volborg 119.69 42 ⇓PKiKP PKiKP 00 48 17.4 +0.5
baz=120
J22A Midwest 119.69 45 ⇓PKiKP PKiKP 00 48 17.3 +0.2
baz=120
C24A Savage 119.70 40 ⇑PKiKP PKiKP 00 48 18.2 +1.3
baz=120
MVCO Mesa Verde 119.78 52 ⇓PKiKP PKiKP 00 48 19.3 +1.7
baz=120
MBDF Montbardon 119.84 317 ePKiKP PKPdf 00 48 18.7 +1.5
MBDF Montbardon 119.84 317 ePKiKP PKPdf 00 48 18.7 +1.5
MBDF Montbardon 119.84 317 ePKPdf PKPdf 00 48 18.7 +1.5
G23A Biddle 119.87 42 ⇑PKiKP PKiKP 00 48 18.0 +0.7
baz=120
D24A Glendive 119.91 40 ⇓PKiKP PKiKP 00 48 18.1 +0.8
baz=120
E24A Baker 120.12 41 ⇑PKiKP PKiKP 00 48 19.0 +1.3
baz=120
M22A Cedar Creek Ra 120.19 47 ⇓PKiKP PKiKP 00 48 19.6 +1.3
baz=120
319A Douglas 120.20 59 ⇓PKiKP PKiKP 00 48 20.0 +1.6
baz=120
KEST Kesra 120.29 306 PKP PKPdf 00 48 19.4 +1.1
comp=Z,0.6nm,0.5s,baz=322,slow=1.1,SNR=8.9
ORIF Oris-en-Rattie 120.37 317 ePKiKP PKPdf 00 48 18.3 +0.1
comp=Z,4.7nm,0.6s
ORIF Oris-en-Rattie 120.37 317 ePKiKP PKPdf 00 48 18.3 +0.1
ORIF Oris-en-Rattie 120.37 317 ePKPdf PKPdf 00 48 18.3 +0.1
N22A Wattenberg Ran 120.45 48 ⇓PKiKP PKiKP 00 48 20.4 +1.5
baz=120
G24A Alzada 120.48 42 ⇑PKiKP PKiKP 00 48 18.8 +0.3
baz=120
D25A Fairfield 120.53 40 ⇑PKiKP PKiKP 00 48 20.4 +1.9
baz=120
P22A Eagle 120.55 49 ⇓PKiKP PKiKP 00 48 20.3 +1.3
baz=120
O22A Kremmling 120.56 48 ⇓PKiKP PKiKP 00 48 19.2 +0.1
baz=120
H24A Dirks Ranch, A 120.59 43 ⇑PKiKP PKiKP 00 48 18.6 -0.1
baz=120
S22A 4UR Ranch, Cre 120.96 51 ⇓PKiKP PKiKP 00 48 22.1 +2.1
baz=121
C26A Wahner Farm, P 121.04 39 ⇓PKiKP PKiKP 00 48 20.2 +0.8
baz=121
SSF Saint Saulge 121.14 320 ePKiKP PKPdf 00 48 19.7 +0.2
SSF Saint Saulge 121.14 320 ePKiKP PKPdf 00 48 19.7 +0.2
SSF Saint Saulge 121.14 320 ePKPdf PKPdf 00 48 19.7 +0.2
G25A Newell 121.19 42 ⇓PKiKP PKiKP 00 48 20.5 +0.7
baz=121
U22A Llaves 121.26 53 ⇑PKiKP PKiKP 00 48 22.0 +1.5
baz=121
121A Cookes Peak, D 121.27 57 ⇓PKiKP PKiKP 00 48 22.3 +1.7
baz=121
P23A Jefferson 121.30 49 ⇑PKiKP PKiKP 00 48 22.5 +1.8
baz=121
V22A San Miguel Ran 121.31 53 ⇑PKiKP PKiKP 00 48 22.7 +2.1
baz=121
E26A Carlson Angus 121.34 40 ⇓PKiKP PKiKP 00 48 20.7 +0.6
baz=121
AVF Avril sur Loir 121.34 320 ePKiKP PKPdf 00 48 19.8 -0.1
AVF Avril sur Loir 121.34 320 ePKiKP PKPdf 00 48 19.8 -0.1
AVF Avril sur Loir 121.34 320 ePKPdf PKPdf 00 48 19.8 -0.1
ISCO Idaho Springs 121.35 49 ⇓PKiKP PKiKP 00 48 20.9 +0.3
baz=121
I25A Rochford 121.39 43 ⇑PKiKP PKiKP 00 48 20.9 +0.4
baz=121
J25A Sunshine Ranch 121.55 44 ⇓PKiKP PKiKP 00 48 21.4 +0.8
baz=121
N24A Carr 121.59 47 ⇓PKiKP PKiKP 00 48 21.4 +0.5
baz=121
R23A Moffat 121.61 50 ⇓PKiKP PKiKP 00 48 23.2 +2.0
baz=122
G26A Maurine 121.69 42 ⇑PKiKP PKiKP 00 48 21.6 +0.8
baz=122
T23A Casias Ranch, 121.74 52 ⇓PKiKP PKiKP 00 48 23.5 +2.1
baz=122
Z22A Elephant Butte 121.82 56 ⇓PKiKP PKiKP 00 48 22.7 +1.1
baz=122
H26A Fairpoint 121.82 42 ⇑PKiKP PKiKP 00 48 21.8 +0.7
baz=122
F27A Lemmon 121.85 41 ⇑PKiKP PKiKP 00 48 21.9 +0.8
baz=122
ANMO Albuquerque 121.89 54⇑iPKiKP PKPdf 00 48 23.5 +1.9
ANMO pmax pmax
comp=Z,14nm,1.2s
V23A Ortiz Mt. (NFS 121.93 53 ⇑PKiKP PKiKP 00 48 24.4 +2.6
baz=122
W23A Werner Place, 122.08 54 ⇓PKiKP PKiKP 00 48 23.8 +1.7
baz=122
G27A Dupree 122.10 41 ⇓PKiKP PKiKP 00 48 22.1 +0.5
baz=122
R24A Sanders Place, 122.15 50 ⇓PKiKP PKiKP 00 48 23.6 +1.4
baz=122
N25A Grover 122.17 47 ⇓PKiKP PKiKP 00 48 23.4 +1.3
baz=122
S24A Houchin Ranch, 122.23 51 ⇓PKiKP PKiKP 00 48 23.9 +1.4
baz=122
T24B San Luis 122.24 52 ⇑PKiKP PKiKP 00 48 24.4 +1.9
baz=122
H27A Howes 122.28 42 ⇓PKiKP PKiKP 00 48 22.8 +0.8
baz=122
A29A Manning Farm, 122.30 37 ⇓PKiKP PKiKP 00 48 22.2 +0.4
baz=122
Y23A Lovelace Mesa, 122.43 55 ⇓PKiKP PKiKP 00 48 23.5 +0.7
baz=122
P25A Willow Gulch B 122.50 48 ⇓PKiKP PKiKP 00 48 23.4 +0.6
baz=122
I27A Quinn 122.50 43 ⇓PKiKP PKiKP 00 48 22.6 +0.2
baz=122
F28A McLaughlin 122.64 40 ⇑PKiKP PKiKP 00 48 23.4 +0.7
baz=122
V24A Rampart Ranch, 122.65 53 ⇓PKiKP PKiKP 00 48 24.8 +1.5
baz=122
W24A Lazy 6 Ranch, 122.67 54 ⇓PKiKP PKiKP 00 48 25.1 +1.8
baz=122
R25A Fountain Ranch 122.80 50 ⇓PKiKP PKiKP 00 48 24.6 +1.2
baz=123
S25A Robets Cordova 122.82 51 ⇓PKiKP PKiKP 00 48 24.7 +1.3
baz=123
J27A Elkhorn Farm, 122.83 44 ⇓PKiKP PKiKP 00 48 24.0 +0.8
baz=123
A30A Hoffart Farm, 122.84 36 ⇑PKiKP PKiKP 00 48 23.4 +0.5
baz=123
G28A Parade 122.88 41 ⇓PKiKP PKiKP 00 48 23.7 +0.6
baz=123
O26A Horse Wrangler 122.91 47 ⇓PKiKP PKiKP 00 48 24.4 +0.9
baz=123
Y24A Capitan 122.93 55 ⇓PKiKP PKiKP 00 48 25.1 +1.3
baz=123
H28A Mission Ridge 122.96 42 ⇓PKiKP PKiKP 00 48 23.9 +0.6
baz=123
T25A Trinidad 122.97 51 ⇓PKiKP PKiKP 00 48 23.9 +0.1
baz=123
P26A Davis Ranch, A 123.09 48 ⇑PKiKP PKiKP 00 48 24.6 +0.7
baz=123
Z24A Sheeppen Canyo 123.11 56 ⇑PKiKP PKiKP 00 48 25.5 +1.4
baz=123
I28A Midland 123.12 43 ⇓PKiKP PKiKP 00 48 24.6 +0.9
baz=123
V25A Rancho No Teng 123.14 53 ⇑PKiKP PKiKP 00 48 25.5 +1.3
baz=123
Q26A Hugo 123.15 49 ⇓PKiKP PKiKP 00 48 25.0 +1.0
baz=123
U25A Circle Dot Ran 123.17 52 ⇑PKiKP PKiKP 00 48 25.4 +1.2
baz=123
J28A Allard Ranch, 123.29 43 ⇑PKiKP PKiKP 00 48 25.1 +1.1
baz=123
C30A Mose, Pekin 123.30 38 ⇓PKiKP PKiKP 00 48 24.1 +0.3
baz=123
R26A Arlington 123.39 50 ⇑PKiKP PKiKP 00 48 26.1 +1.6
baz=123
D30A Buchanan 123.40 38 ⇑PKiKP PKiKP 00 48 24.5 +0.4
baz=123
W25A X Bar L Ranch, 123.42 53 ⇓PKiKP PKiKP 00 48 26.0 +1.3
baz=123
H29A Onida 123.51 42 ⇓PKiKP PKiKP 00 48 24.4 0.0
baz=123
O27A Beecher Island 123.53 47 ⇓PKiKP PKiKP 00 48 25.8 +1.1
baz=123
Y25A Mesa, Roswell 123.53 55 ⇓PKiKP PKiKP 00 48 26.2 +1.3
baz=123
S26A Kim 123.56 50 ⇓PKiKP PKiKP 00 48 25.9 +1.0
baz=123
E30A Jud 123.57 39 ⇓PKiKP PKiKP 00 48 24.8 +0.3
baz=123
ULM Lac du Bonnet 123.58 34 PKP PKPdf 00 48 23.9 -0.2
comp=Z,1.3nm,0.4s,baz=338,slow=3.6,SNR=6.2
T26A Comanche Natio 123.59 51 ⇑PKiKP PKiKP 00 48 26.6 +1.6
baz=124
MFF Saint Martin d 123.62 321 ePKiKP PKPdf 00 48 24.6 +0.4
MFF Saint Martin d 123.62 321 ePKiKP PKPdf 00 48 24.6 +0.4
MFF Saint Martin d 123.62 321 ePKPdf PKPdf 00 48 24.6 +0.4
Z25A Roswell 123.66 56 ⇑PKiKP PKiKP 00 48 26.7 +1.5
baz=124
U26A Atchley Ranch, 123.69 52 ⇑PKiKP PKiKP 00 48 25.1 -0.1
baz=124
I29A Vivian Onida 123.69 42 ⇑PKiKP PKiKP 00 48 25.1 +0.4
baz=124
V26A Tequesquite Ra 123.81 53 ⇑PKiKP PKiKP 00 48 26.6 +1.2
baz=124
225A Deer Hill, Car 123.81 57 ⇓PKiKP PKiKP 00 48 26.4 +0.8
baz=124
125A Gardner Draw, 123.84 57 ⇓PKiKP PKiKP 00 48 26.5 +1.0
baz=124
R27A Eads 123.88 50 ⇑PKiKP PKiKP 00 48 26.0 +0.6
baz=124
M28A Bar X Bar Ranc 123.92 46 ⇑PKiKP PKiKP 00 48 25.6 +0.2
baz=124
425A Indio Mountain 123.94 59 ⇓PKiKP PKiKP 00 48 26.6 +0.8
baz=124
G30A Faulkton 124.00 41 ⇓PKiKP PKiKP 00 48 25.7 +0.4
baz=124
Q28A Sharon Springs 124.36 48 ⇑PKiKP PKiKP 00 48 27.2 +0.8
baz=124
226B Tecolote Peak, 124.37 57 ⇑PKiKP PKiKP 00 48 27.3 +0.7
baz=124
U27A Thompson Grove 124.39 52 ⇑PKiKP PKiKP 00 48 27.6 +1.1
baz=124
J30A Dallas 124.50 43 ⇓PKiKP PKiKP 00 48 26.8 +0.4
baz=124
W27A Bowe Ranch, En 124.57 53 ⇓PKiKP PKiKP 00 48 27.7 +0.8
baz=124
AGMN Agassiz Nation 124.57 36 ⇓PKiKP PKiKP 00 48 26.8 +0.5
baz=124
R28A Tribune 124.61 49 ⇑PKiKP PKiKP 00 48 27.8 +0.9
baz=124
K30A Basset 124.67 44 ⇑PKiKP PKiKP 00 48 27.6 +0.8
baz=124
T28A Walsh 124.74 51 ⇑PKiKP PKiKP 00 48 28.0 +0.8
baz=125
426A McDonald Obser 124.77 59 ⇑PKiKP PKiKP 00 48 28.2 +0.6
baz=125
S28A Manter 124.77 50 ⇓PKiKP PKiKP 00 48 28.4 +1.2
baz=125
Y27A Causey 124.78 55 ⇑PKiKP PKiKP 00 48 28.3 +1.0
baz=125
526A Mary Lane Ranc 124.83 59 ⇑PKiKP PKiKP 00 48 28.3 +0.7
baz=125
Z27A Tatum 124.87 55 ⇓PKiKP PKiKP 00 48 28.8 +1.2
baz=125
L30A Spencer Herefo 124.88 44 ⇓PKiKP PKiKP 00 48 29.3 +2.0
baz=125
626A Big Bend Ranch 124.89 60 ⇑PKiKP PKiKP 00 48 28.8 +1.1
baz=125
127A Arkansas Junct 124.90 56 ⇑PKiKP PKiKP 00 48 29.2 +1.6
baz=125
V28A Channing 125.04 52 ⇑PKiKP PKiKP 00 48 29.1 +1.3
baz=125
Q29A Oakley 125.05 48 ⇑PKiKP PKiKP 00 48 29.1 +1.4
baz=125
MSTX Muleshoe 125.07 55 ⇓PKiKP PKiKP 00 48 29.1 +1.2
baz=125
R29A Marienthal 125.08 49 ⇑PKiKP PKiKP 00 48 29.4 +1.6
baz=125
527A Woodward Ranch 125.22 59 ⇓PKiKP PKiKP 00 48 29.8 +1.4
baz=125
427A Hayter Ranch, 125.26 58 ⇑PKiKP PKiKP 00 48 29.9 +1.5
baz=125
TXAR Lajitas Array 125.33 60 PKP PKPdf 00 48 29.8 +1.6
comp=Z,0.6nm,0.5s,baz=278,slow=0.9,SNR=4.7
Y28A McKinney Farm, 125.51 54 ⇓PKiKP PKiKP 00 48 29.9 +1.1
baz=125
627A Terlingua Ranc 125.55 60 ⇓PKiKP PKiKP 00 48 30.5 +1.5
baz=125
V29A Stinnett 125.56 52 ⇓PKiKP PKiKP 00 48 30.2 +1.4
baz=125
U29A Oasis Ranch, S 125.58 51 ⇑PKiKP PKiKP 00 48 30.6 +1.8
baz=125
128A Castleberry Fa 125.63 56 ⇑PKiKP PKiKP 00 48 30.2 +1.1
baz=126
AMTX Amarillo 125.71 53 ⇓PKiKP PKiKP 00 48 30.5 +1.3
baz=126
R30A Dighton 125.77 49 ⇑PKiKP PKiKP 00 48 30.6 +1.5
baz=126
X29A Tulia 125.81 54 ⇑PKiKP PKiKP 00 48 30.5 +1.2
baz=126
428A Kincaid Ranch, 125.89 58 ⇓PKiKP PKiKP 00 48 31.2 +1.6
baz=126
528A Cox Ranch, San 125.92 59 ⇑PKiKP PKiKP 00 48 31.0 +1.3
baz=126
628A Black Gap, Mar 125.97 60 ⇑PKiKP PKiKP 00 48 30.8 +1.1
baz=126
T30A Plains 125.97 50 ⇓PKiKP PKiKP 00 48 30.7 +1.2
baz=126
Y29A Porterfield Fa 125.99 54 ⇑PKiKP PKiKP 00 48 31.0 +1.3
baz=126
P31A Stockton 126.00 47 ⇑PKiKP PKiKP 00 48 30.3 +0.8
baz=126
U30A WK&E Inc. Balk 126.04 51 ⇓PKiKP PKiKP 00 48 30.7 +1.0
baz=126
Z29A Hungry Hill Ra 126.11 55 ⇑PKiKP PKiKP 00 48 31.0 +1.0
baz=126
BGNE Belgrade 126.17 44 ⇓PKiKP PKiKP 00 48 30.5 +0.7
baz=126
ECSD EROS Data Cent 126.24 41 ⇑PKiKP PKiKP 00 48 30.5 +0.6
baz=126
V30A Spur Ranch, Mi 126.24 52 ⇓PKiKP PKiKP 00 48 31.7 +1.6
baz=126
329A Wagon Wheel Ra 126.31 57 ⇓PKiKP PKiKP 00 48 31.4 +0.9
baz=126
R31A Burdett 126.32 49 ⇓PKiKP PKiKP 00 48 31.0 +0.8
baz=126
529A Stev Forest Ra 126.41 59 ⇓PKiKP PKiKP 00 48 31.7 +1.0
baz=126
X30A Coker Ranch, T 126.47 53 ⇓PKiKP PKiKP 00 48 31.9 +1.3
baz=126
P32A Huiting Farm, 126.53 47 ⇓PKiKP PKiKP 00 48 31.5 +1.0
baz=126
Z30A Sanderson Ranc 126.57 55 ⇑PKiKP PKiKP 00 48 31.9 +1.0
baz=126
429A Davenport Ranc 126.58 58 ⇑PKiKP PKiKP 00 48 31.5 +0.5
baz=126
Y30A Stafford Cattl 126.60 54 ⇑PKiKP PKiKP 00 48 31.9 +1.0
baz=126
Q32A Meitler Ranch, 126.79 47 ⇑PKiKP PKiKP 00 48 32.0 +0.9
baz=127
R32A Long Quarter, 126.88 48 ⇓PKiKP PKiKP 00 48 32.3 +1.0
baz=127
V31A Spring Creek L 126.89 52 ⇑PKiKP PKiKP 00 48 32.8 +1.4
baz=127
230A Sterling City 126.94 57 ⇑PKiKP PKiKP 00 48 33.0 +1.4
baz=127
W31A Holland Ranch, 126.99 52 ⇓PKiKP PKiKP 00 48 33.3 +1.6
baz=127
430A Baggett Ranch, 127.09 58 ⇓PKiKP PKiKP 00 48 33.0 +1.0
baz=127
530A J-C Ranch, Com 127.15 59 ⇓PKiKP PKiKP 00 48 33.1 +1.0
baz=127
P33A Williams Farm, 127.25 47 ⇓PKiKP PKiKP 00 48 32.9 +0.9
baz=127
Q33A Connelly Farm, 127.31 47 ⇑PKiKP PKiKP 00 48 32.9 +0.8
baz=127
U32A Winter Ranch, 127.35 51 ⇑PKiKP PKiKP 00 48 33.5 +1.2
baz=127
Z31A Sharp Cattle R 127.36 55 ⇑PKiKP PKiKP 00 48 33.0 +0.6
baz=127
R33A Olander Ranch, 127.45 48 ⇓PKiKP PKiKP 00 48 33.4 +1.0
baz=127
V32A Arapaho 127.53 51 ⇑PKiKP PKiKP 00 48 33.9 +1.2
baz=127
231A Bronte 127.58 56 ⇑PKiKP PKiKP 00 48 33.9 +1.0
baz=128
431A Sonora 127.64 58 ⇓PKiKP PKiKP 00 48 34.0 +0.9
baz=128
331A San Angelo 127.64 57 ⇓PKiKP PKiKP 00 48 33.9 +0.8
baz=128
T33A Patterson Ranc 127.69 49 ⇑PKiKP PKiKP 00 48 34.0 +1.0
baz=128
X32A Elmer 127.73 53 ⇑PKiKP PKiKP 00 48 33.8 +0.7
baz=128
531A Rocksprings 127.81 59 ⇑PKiKP PKiKP 00 48 34.6 +1.2
baz=128
Z32A Haskell 127.90 54 ⇑PKiKP PKiKP 00 48 34.6 +1.2
baz=128
SPMN St. Paul 127.93 38 ⇑PKiKP PKiKP 00 48 34.0 +0.9
baz=128
ABTX Abilene, Hawle 127.95 55 ⇓PKiKP PKiKP 00 48 34.2 +0.6
baz=128
U33A Lingo Farm, Me 128.01 50 ⇑PKiKP PKiKP 00 48 34.4 +0.9
baz=128
V33A Lossen Ranch, 128.08 51 ⇑PKiKP PKiKP 00 48 34.6 +0.8
baz=128
232A Coleman 128.14 56 ⇓PKiKP PKiKP 00 48 34.8 +0.8
baz=128
332A Millersview 128.19 57 ⇓PKiKP PKiKP 00 48 35.2 +1.0
baz=128
432A Menard 128.28 57 ⇓PKiKP PKiKP 00 48 35.3 +1.0
baz=128
X33A Lawton 128.31 53 ⇓PKiKP PKiKP 00 48 35.4 +1.2
baz=128
JCT Junction City 128.37 58 ePKiKP PKPdf 00 48 34.1 +0.2
JCT Junction City 128.37 58 ePKPdf PKPdf 00 48 34.1 +0.2
JCT Junction City 128.37 58 ⇑PKiKP PKiKP 00 48 35.4 +0.9
baz=128
U34A Anderson Ranch 128.44 50 ⇑PKiKP PKiKP 00 48 35.5 +1.1
baz=128
Z33A Whitaker Ranch 128.48 54 ⇑PKiKP PKiKP 00 48 35.8 +1.2
baz=128
133A Hamilton Ranch 128.55 55 ⇓PKiKP PKiKP 00 48 35.8 +1.1
baz=128
632A Uvalde 128.61 59 ⇑PKiKP PKiKP 00 48 36.1 +1.1
baz=128
832A Faith Ranch, C 128.71 61 ⇓PKiKP PKiKP 00 48 35.7 +0.5
baz=129
233A Rising Star 128.72 56 ⇓PKiKP PKiKP 00 48 35.8 +0.6
baz=129
X34A Smith Ranch, M 128.82 52 ⇓PKiKP PKiKP 00 48 35.9 +0.6
baz=129
333A Richland Sprin 128.84 57 ⇑PKiKP PKiKP 00 48 35.9 +0.5
baz=129
433A Art 128.89 57 ⇑PKiKP PKiKP 00 48 35.9 +0.3
baz=129
Y34A Reagan Ranch, 129.08 53 ⇑PKiKP PKiKP 00 48 36.5 +0.7
baz=129
ESDC Sonseca Array 129.10 315 PKP PKPdf 00 48 35.9 +0.9
comp=Z,0.2nm,0.4s,baz=12,slow=2.9,SNR=3.4
833A Chaparral WMA, 129.20 61 ⇑PKiKP PKiKP 00 48 37.2 +1.0
baz=129
134A White-Moore Ra 129.23 55 ⇑PKiKP PKiKP 00 48 36.8 +0.6
baz=129
334A Lometa 129.45 56 ⇓PKiKP PKiKP 00 48 37.4 +0.8
baz=129
434A Burnet 129.56 57 ⇑PKiKP PKiKP 00 48 37.8 +0.9
baz=129
534A Blanco 129.59 58 ⇓PKiKP PKiKP 00 48 37.6 +0.6
baz=130
TORD Torodi Ar. Bea 129.66 280 PKP PKPdf 00 48 37.8 +1.1
comp=Z,1.6nm,0.6s,baz=75,slow=1.8,SNR=12
TORD SKPbc SKPab 00 51 55.4 -0.3
comp=Z,1.6nm,0.8s,baz=82,slow=3.8,SNR=7.3
TUL1 Tulsa 129.95 50 ⇓PKiKP PKiKP 00 48 37.5 0.0
baz=130
DBIC Dimbokro 135.78 271 PKP PKPdf 00 48 48.7 +0.5
comp=Z,2.4nm,0.5s,baz=84,slow=1.5,SNR=8.6
CPUP Villa Florida 144.32 168 PKP PKPdf 00 49 03.7 +0.3
comp=Z,6.7nm,0.6s,baz=171,slow=2.5,SNR=15
LPAZ La Paz 149.02 143 ePKP2 PKPbc 00 49 17.0 +0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	149.02	143	PKPbc	PKPbc	00 49 14.9	-1.5
	comp=Z,10nm,1.1s,baz=241,slow=1.6,SNR=4.9						
LPAZ	La Paz	149.02	143	ePKPbc	PKPbc	00 49 17.0	+0.6

ISCJB 03 00:47:34.7±0.3, 60.°18N±0.°02×153.°12W±0.°06, h155km±3km, mb3.4/1, Error ellipse: s-maj=5.4km s-min=3.4km az=32.3
NEIC 03 00:47:36.3, 60.°17N×153.°17W, h150km, MG3.4(AEIC), After AEIC.
IDC 03 00:47:39.2±8.3, 60.°52N×153.°05W, h150km±72km, mb3.2/1, mb1 3.4/3, mb1mx3.0/32, mbtmp3.7/3, Error ellipse: s-maj=74.8km s-min=36.1km az=16.0
ISC 03 00:47:35.6±1.0, 60.°18N±0.°03×153.°20W±0.°04, h155km±5km, n83, σ1°24/106, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILW	Iliamna West	0.13	165	P	Pn	00 47 55.9	-0.6
ILW				S	Sn	00 48 11.1	-1.3
INE	Iliamna NE	0.14	150	P	Pn	00 47 56.0	-0.6
INE				S	Sn	00 48 11.2	-1.3
REF	Redoubt East F	0.40	39	P	Pn	00 47 56.7	-0.6
RDN	Redoubt North	0.40	33	P	Pn	00 47 56.8	-0.4
NCT	North Crescent	0.40	20	P	Pn	00 47 56.6	-0.5
NCT				S	Sn	00 48 12.1	-1.5
DFR	Drift River	0.48	32	P	Pn	00 47 56.7	-0.6
DFR				S	Sn	00 48 14.0	-0.3
OPT	Oil Point	0.53	181	P	Pn	00 47 57.3	-0.3
PDB	Pedro Bay	0.64	232	P	Pn	00 47 57.5	-0.7
AUL	Augustine Lava	0.81	188	P	Pn	00 47 59.4	0.0
AUL				S	Sn	00 48 16.8	-0.6
AUH	Augustine H	0.83	188	P	Pn	00 47 59.4	-0.2
AUP	Augustine Pinn	0.83	188	P	Pn	00 47 59.4	-0.2
AUI	Augustine Isla	0.86	188	P	Pn	00 47 59.4	-0.3
HOM	Homer	0.95	123	P	Pn	00 48 00.5	+0.2
HOM				S	Sn	00 48 19.1	-0.1
CKL	Chakachamna La	1.10	22	P	Pn	00 48 01.6	-0.1
MCNL	McNeil River	1.15	210	P	Pn	00 48 01.7	-0.4
BGL	Barrier Glacie	1.16	20	P	Pn	00 48 02.4	+0.2
SPBG	Spurr Blockage	1.16	20	P	Pn	00 48 02.3	+0.1
SPBG				S	Sn	00 48 22.3	-0.3
BRLK	Bradley Lake	1.24	109	P	Pn	00 48 03.0	0.0
BRLK				S	Sn	00 48 22.6	-1.2
CGLM	Capps Glacier	1.27	27	P	Pn	00 48 03.0	-0.2
STLK	Strandline Lak	1.48	26	P	Pn	00 48 05.2	-0.2
SVW2	Sparrevohn	1.49	309	P	Pn	00 48 04.4	-1.0
SLKM	Skilak Lake	1.52	76	P	Pn	00 48 05.1	-0.6
SUA	Susitna One	1.76	42	P	Pn	00 48 08.2	-0.2
SUA				S	Sn	00 48 33.3	-0.3
FIB	Fire Island	1.79	55	P	Pn	00 48 08.9	+0.4
FIB				S	Sn	00 48 34.5	+0.7
KAHC	Katmai Hardscr	1.79	212	P	Pn	00 48 08.1	-0.6
SEW	Seward	1.88	91	P	Pn	00 48 09.3	-0.2
SEW				S	Sn	00 48 33.5	-2.1
RC01	Rabbit Creek A	1.94	60	P	Pn	00 48 09.4	-0.8
RC01				S	Sn	00 48 35.3	-1.5
SKT	Skwentna	1.98	24	P	Pn	00 48 10.6	-0.1
SKT				S	Sn	00 48 37.2	-0.6
KVTA	Katmai Vly 10	2.10	212	P	Pn	00 48 12.0	-0.2
KAKN	Katmai Knife C	2.12	208	P	Pn	00 48 12.2	-0.3
KELA	Mount Kelaz	2.18	218	P	Pn	00 48 12.6	-0.5
KCE	Katmai Mt Cerb	2.19	208	P	Pn	00 48 13.4	+0.1
KABR	Katmai Barrier	2.25	205	P	Pn	00 48 13.5	-0.5
KDAK	Kodiak Island	2.43	172	P	Pn	00 48 14.6	-1.4
KDAK				S	Sn	00 48 45.4	-1.7
PMR	Palmer	2.44	53	P	Pn	00 48 14.6	-1.5
PMR				S	Sn	00 48 45.2	-2.2
PWL	Port Wells	2.50	72	P	Pn	00 48 15.6	-1.3
CUT	Chulitna	2.64	31	P	Pn	00 48 18.2	-0.3
PPLA	Purkeypile	2.77	10	P	Pn	00 48 21.0	+0.7
PPLA				S	Sn	00 48 55.1	+0.2
OHAK	Old Harbor	2.97	181	P	Pn	00 48 20.8	-1.9
OHAK				S	Sn	00 48 55.5	-3.6
PLK4	Peulik 4	3.04	214	P	Pn	00 48 24.0	+0.4
TT01	Tatalina	3.05	335	P	Pn	00 48 22.9	-0.7
GLI	Glacier Island	3.10	74	P	Pn	00 48 22.3	-2.0
CAST	Castle Rocks	3.29	9	P	Pn	00 48 26.7	-0.1
JPK	Jack Peak	3.37	72	P	Pn	00 48 26.6	-1.2
JPK				S	Sn	00 49 08.0	-0.4
VLZ	Valdez	3.51	71	P	Pn	00 48 28.8	-0.8
KTH	Kantishna Hill	3.55	17	P	Pn	00 48 29.6	-0.5
TRF	Thorofare Moun	3.56	22	P	Pn	00 48 30.0	-0.3
SII	Sitkinak Islan	3.67	188	P	Pn	00 48 29.9	-1.8
EYAK	Cordova Ski Ar	3.72	81	P	Pn	00 48 32.2	0.0
DIV	Divide	3.78	72	P	Pn	00 48 32.0	-1.0
KLU	Klutina	3.80	67	P	Pn	00 48 32.5	-0.8
RND	Reindeer	3.84	31	P	Pn	00 48 33.1	-0.7
RND				S	Sn	00 49 17.1	-2.0
SGAM	Sherman Glacie	3.99	82	P	Pn	00 48 35.8	+0.1
DHY	Denali Highway	4.02	41	P	Pn	00 48 35.9	-0.4
MCK	McKinley	4.09	28	P	Pn	00 48 37.0	-0.1
PS11	TAPS Pump St11	4.20	60	P	Pn	00 48 37.9	-0.6
GOAT	Goat Mountain	4.23	81	P	Pn	00 48 37.9	-0.9
GOAT				S	Sn	00 49 26.9	-1.2
RAGM	Ragged Mountai	4.25	84	P	Pn	00 48 39.2	+0.1
BMRM	Bremner River	4.32	76	P	Pn	00 48 39.0	-1.0
HARP	HAARP	4.48	57	P	Pn	00 48 42.0	-0.1
PAX	Paxson	4.63	50	P	Pn	00 48 44.1	-0.1
GLB	Gilahina Butte	4.77	71	P	Pn	00 48 45.5	-0.5
PS10	TAPS Pump St10	4.80	44	P	Pn	00 48 47.3	+1.0
WRH	Wood River Hil	4.92	27	P	Pn	00 48 47.0	-0.9
MLY	Manley	5.00	12	P	Pn	00 48 48.2	-0.7
CCB	Clear Creek Bu	5.13	27	P	Pn	00 48 49.9	-0.8
HDA	Harding Lake	5.14	32	P	Pn	00 48 50.5	-0.3
PS08	TAPS Pump Stn8	5.29	31	P	Pn	00 48 52.2	-0.5
MDM	Murphy Dome	5.32	23	P	Pn	00 48 52.6	-0.5
COLA	College	5.32	25	P	Pn	00 48 52.6	-0.5
ILAR	Eielson Array	5.46	30	P	Pn	00 48 54.1	-0.9
	6.2nm,0.3s,baz=215,slow=13,SNR=395						
ILAR				S	Sn	00 49 52.6	-4.4
	4.1nm,0.3s,baz=213,slow=22,SNR=14						
IL1	Eielson Array	5.46	30	P	Pn	00 48 54.4	-0.6
DOT	Dot Lake	5.54	47	P	Pn	00 48 55.9	-0.2
IM04	Indian Mountai	5.82	358	ePn	Pn	00 48 58.6	-1.2
IM04				eSn	Sn	00 50 00.7	-5.0
IM3	Indian Mountai	5.83	358	P	Pn	00 49 00.1	+0.2
CHX	Chaix Hills	6.04	86	P	Pn	00 49 04.2	+1.3
BCA3	Beaver Creek A	6.16	57	P	Pn	00 49 04.4	0.0
PS4A	Pavlof South-4	6.70	227	P	Pn	00 49 12.4	+0.8
COLD	Coldfoot	7.20	9	ePn	Pn	00 49 16.6	-1.4
	9.9nm,0.9s						
EGAK	Eagle	7.23	45	ePn	Pn	00 49 18.2	-0.3
	4.9nm,0.3s						
EGAK				eSn	Sn	00 50 36.0	-3.3
DLBC	Dease Lake	11.95	88	ePn	Pn	00 50 23.6	+2.6
YKA	Yellowknife Ar	18.47	66	P	Pn	00 51 41.5	+0.3
	0.1nm,0.3s,baz=280,slow=11,SNR=13						
SONM	Songino Array	54.60	306	P	P	00 56 50.6	+2.9
	0.5nm,0.6s,baz=46,slow=7.5,SNR=5.9						

SZGRF 03 01:01:15.0, 18.°38S×179.°06W, h33km, Fiji Islands region
ISCJB 03 01:02:10.9±0.4, 17.°0S±0.°1×179.°37W±0.°08, h500km, mb4.0/18, Error ellipse: s-maj=17.0km s-min=7.9km az=153.0
IDC 03 01:02:13.1±1.6, 17.°20S×179.°17W, h524km±18km, mb3.6/18, mb1 3.9/19, mb1mx3.7/35, mbtmp4.4/19, Error ellipse: s-maj=20.8km s-min=10.9km az=146.0
ISC 03 01:02:11.6±0.6, 17.°1S±0.°2×179.°3W±0.°1, h500km, n76, σ1°86/67, mb4.0/17, 10C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.88	67	P	P	01 04 08.8	+1.8
	4.8nm,0.3s,baz=276,slow=9.2,SNR=5.1						
NIUE	Niue	9.11	104	P	P	01 04 23.6	+4.0
	baz=9.6,SNR=4.8						
URZ	Urewera	21.34	188	P	P	01 06 20.8	-1.5
	5.2nm,0.5s,baz=219,slow=6.5,SNR=4.6						
RABL	Rabaul	30.79	291	P	P	01 07 55.5	+9.5
	baz=31,SNR=3.5						
CMSA	Cobar Meteorol	34.86	239	P	P	01 08 21.1	+0.8
	baz=34,SNR=6.7						
QLP	Quilpie	35.07	248	P	P	01 08 23.1	+0.8
	baz=34,SNR=3.3						
COEN	Coen	36.28	270	S	S	01 13 35.9	-1.3
	baz=36,SNR=4.2						
STKA	Stephens Creek	38.32	240	P	P	01 08 49.7	+0.7
	15nm,1.1s,baz=87,slow=8.0,SNR=12						
STKA	Stephens Creek	38.32	240	P	P	01 08 50.0	+1.1
	baz=37,SNR=8.2						
HTT	Hallett	40.87	238	P	P	01 09 10.3	+0.7
	baz=40,SNR=4.4						
BBOO	Buckleboo	43.10	240	P	P	01 09 27.5	+0.4
	baz=42,SNR=7.3						
WRA	Warramunga Arr	43.98	259	P	P	01 09 33.9	-0.3
	1.4nm,0.3s,baz=90,slow=8.4,SNR=48						
WRA				PcP	pP	01 11 08.8	+2.1
	1.2nm,0.9s,baz=86,slow=3.8,SNR=5.7						
ASAR	Alice Springs	44.23	253	P	P	01 09 36.5	+0.3
	11nm,0.5s,baz=88,slow=8.0,SNR=129						
ASAR				PcP	pP	01 11 09.2	+0.4
	1.2nm,0.8s,baz=97,slow=3.5,SNR=5.2						
ASAR				S	S	01 15 28.2	-4.9
	1.7nm,0.9s,baz=86,slow=16,SNR=8.1						
KDU	Kakadu	46.75	268	P	P	01 09 56.2	+0.7
	baz=46,SNR=5.8						
WRKA	Warakurna	49.32	251	P	P	01 10 15.0	+0.3
	baz=48,SNR=69						
MEEK	Meekatharra	57.96	249	P	P	01 11 15.5	-0.5
	baz=57,SNR=4.4						
MJAR	Matsushiro Arr	66.75	324	P	P	01 12 13.0	+0.2
	5.7nm,0.7s,baz=153,slow=6.4,SNR=4.7						
PETK	Petropavlovsk-	72.67	346	P	P	01 12 47.5	-0.3
	7.0nm,0.9s,baz=140,slow=7.5,SNR=9.2						
KSRS	Korea Array	73.53	319	P	P	01 12 54.5	+1.4
	1.0nm,0.5s,baz=141,slow=8.1,SNR=3.3						
YBH	Yreka Blue Hor	78.41	40	P	P	01 13 20.6	+0.4
	3.2nm,0.8s,baz=144,slow=1.6,SNR=5.4						
NVAR	Mina Array Bea	79.40	44	P	P	01 13 26.0	+0.3
	2.9nm,0.7s,baz=226,slow=9.1,SNR=25						
ELK	Elko	82.62	44	P	P	01 13 42.2	-0.2
	2.7nm,0.8s,baz=208,slow=3.0,SNR=13						
ILAR	Eielson Array	85.27	13	P	P	01 13 53.2	-1.4
	1.3nm,0.5s,baz=224,slow=5.2,SNR=25						
ANMO	Albuquerque	86.23	52	P	P	01 14 00.0	-0.2
	1.5nm,0.8s,baz=208,slow=5.3,SNR=5.0						
TXAR	Lajitas Array	86.25	58	P	P	01 13 59.8	-0.5
	1.6nm,0.9s,baz=243,slow=5.5,SNR=7.7						
PDAR	Pinedale Array	87.32	44	P	P	01 14 04.7	-0.5
	2.2nm,0.6s,baz=218,slow=2.9,SNR=21						
INK	Inuvik	91.30	15	P	P	01 14 21.2	-1.6
	1.2nm,0.6s,baz=237,slow=1.2,SNR=6.0						
SONM	Songino Array	92.39	320	P	P	01 14 28.5	+0.1
	0.5nm,0.6s,baz=136,slow=6.1,SNR=4.2						
YKA	Yellowknife Ar	93.92	25	P	P	01 14 33.7	-1.2
	1.4nm,0.6s,baz=241,slow=4.5,SNR=30						
ULM	Lac du Bonnet	98.81	40	P	Pdif	01 14 54.9	-2.3
	0.5nm,0.3s,baz=292,slow=5.4,SNR=2.6						
MKAR	Makanchi Array	107.97	314	PKiKP	PKiKP	01 19 40.2	-1.8
	0.5nm,0.7s,baz=204,slow=2.7,SNR=5.2						
ARCES	ARCESS Array B	125.35	350	PKP	PKPdf	01 20 12.9	-1.7
	4.7nm,1.0s,baz=101,slow=2.5,SNR=7.8						
FINES	FINESS Array B	132.16	344	PKP	PKPdf	01 20 26.4	-1.3
	2.4nm,1.0s,baz=212,slow=6.8,SNR=4.4						
FINES				SKPbc	SKPbc	01 23 04.2	-3.1
	2.1nm,0.8s,baz=245,slow=3.6,SNR=6.0						
AKASG	Malin Array Be	139.44	332	PKP	PKPdf	01 20 42.7	+1.1
	1.2nm,0.7s,baz=43,slow=2.8,SNR=8.2						
BURAR	Bucovina Array	143.49	332	⇑iP	PKPab	01 20 47.4	+0.1
BRTR	Keskin Array B	143.61	315	PKP	PKPab	01 20 47.6	-0.5
	3.9nm,0.8s,baz=110,slow=2.1,SNR=18						
TESR	Tescani	143.63	329	⇓iP	PKPab	01 20 47.0	-0.7
CFR	Carcaliu	143.79	327	⇑iP	PKPbc	01 20 48.0	-0.4
VRI	Vrincioaia	144.04	329	⇓iP	PKPbc	01 20 46.3	-2.9
TRPA	Tarpa	144.25	335	⇑iP	PKPbc	01 20 49.5	-0.2
IBBN	Ibbenburen	144.41	353	ePKPbc	PKPbc	01 20 49.7	-0.4
CLL	Collm	144.47	347	ePKPbc	PKPdf	01 20 49.9	-0.6
CLL	Collm	144.47	347	⇓iPKP	PKPdf	01 20 49.4	-1.1
	comp=Z,25nm,0.9s						
CLZ	Clausthal	144.48	350	ePKPbc	PKPdf	01 20 50.2	-0.3
BRG	Berggiesshubel	144.66	346	ePKP	PKPdf	01 20 50.0	-0.8
	comp=Z,22nm,1.4s						
BRG	Berggiesshubel	144.66	346	ePKPbc	PKPdf	01 20 50.8	0.0
MLR	Muntele Rosu	144.70	329	⇓iP	PKPdf	01 20 51.1	-0.1
DRGR		145.23	333	⇑iP	PKPdf	01 20 52.4	+0.4
MOX	Moxa	145.39	348	ePKPbc	PKPdf	01 20 52.7	+0.6
ARR	Arges	145.43	330	⇑iP	PKPdf	01 20 54.0	+1.6
TANN	Tannenbergstha	145.43	347	ePKPbc	PKPdf	01 20 53.1	+0.9
ROTZ	Rotzenmuhle	146.09	347	ePKPbc	PKPdf	01 20 55.2	+1.9
TNS	Taunus Mts	146.35	351	ePKPbc	PKPdf	01 20 55.7	+1.9
GRF	Grafenberg Arr	146.37	348	ePKPbc	PKPdf	01 20 55.6	+1.8
GEC2	GERESS Array S	146.59	344	ePKPbc	PKPdf	01 20 56.4	+2.1
GERES	GERESS Array B	146.59	344	PKPbc	PKPdf	01 20 56.2	+1.9
	comp=Z,3.9nm,0.8s,baz=17,slow=3.0,SNR=17						
BZS	Buzias	146.62	333	⇓iP	PKPdf	01 20 55.7	+1.4
CONA	Conrad Observa	146.82	341	⇑iPKiKP	PKPdf	01 20 57.2	+2.5
	comp=Z,8.6nm,0.7s						
WLF	Walferdange	147.20	353	ePKPbc	PKPbc	01 20 58.4	+0.2
PKSM	Moragy	147.35	337	⇓iP	PKPdf	01 20 58.2	+2.7
MOA	Molln	147.35	343	⇓iPKPbc	PKPdf	01 20 57.1	+1.6
	comp=Z,6.1nm,1.1s						
STU	Stuttgart	147.64	350	ePKPbc	PKPdf	01 20 59.1	+3.2
RJOB	Jochberg	147.85	345	ePKPbc	PKPdf	01 20 59.5	+3.1
SOKA	Soboth	148.19	341	⇓iPKPbc	PKPdf	01 20 59.4	+2.4
	comp=Z,5.7nm,0.8s						
BFO	Black Forest	148.21	350	ePKPbc	PKPdf	01 21 00.4	+3.5
KBA	Koelnbreinsper	148.31	343	⇓iPKiKP	PKPdf	01 21 00.7	+3.4
	comp=Z,4.3nm,0.6s						
WTTA	Wattenberg	148.58	346	⇓iPKPbc	PKPdf	01 21 00.6	+2.8
	comp=Z,8.4nm,0.5s						
MMB	Musomiste	148.59	326	⇑iP	PKPdf	01 21 01.0	+3.3
MOTA	Moosalm	148.62	346	⇑iPKPbc	PKPdf	01 21 00.4	+2.7
	comp=Z,9.5nm,0.9s						
VNDS	Vrh nad Dolski	148.81	341	iPKPbc	PKPdf	01 21 01.5	+3.6
ABTA	Abfaltersbach	148.84	344	⇑iPKPbc	PKPdf	01 21 01.2	+3.1
	comp=Z,9.0nm,0.7s						
LJU	Ljubljana	148.91	341	iPKPbc	PKPdf	01 21 02.0	+3.9
FETA	Feichten	149.01	347	⇑iPKiKP	PKPdf	01 21 02.4	+4.0
	comp=Z,8.6nm,1.2s						
BOJS	Bojanci	149.16	340	iPKPbc	PKPbc	01 21 03.0	-0.3
ESDC	Sonseca Array	157.11	9	PKPab	PKPab	01 21 41.8	-1.9
	comp=Z,0.4nm,0.5s,baz=342,slow=4.2,SNR=5.4						
TORD	Torodi Ar. Bea	175.99	194	PKP	PKPdf	01 21 22.4	-2.5
	comp=Z,0.6nm,0.8s,baz=344,slow=1.0,SNR=3.9						

MEX 03 01:04:03.2±0.6, 15.°99N×94.°60W, h54km±23km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.36	102	eP	Pn	01 04 24.4	-1.4
PCIG				iS	Sn	01 04 40.8	-2.0
HUIG	Huatulco	1.47	261	iP	Pn	01 04 25.7	-1.7
HUIG				iS	Sn	01 04 43.4	-2.1
TUIG	Tuzandepetl	2.04	5	iP	Pn	01 04 33.4	-1.7
TUIG				iS	Sn	01 04 57.3	-2.1
VHO	Vista Hermosa	2.31	298	eP	Pn	01 04 38.5	-0.6
VHO				iS	Sn	01 05 04.5	-2.1
CCIG	Comitan	2.38	83	eP	Pn	01 04 38.5	-1.6
CCIG				iS	Sn	01 05 06.2	-2.1
THIG		2.50	115	eP	Pn	01 04 40.1	-1.3
THIG				iS	Sn	01 05 09.0	-1.7
PNIG	Pinotepa	3.41	277	iP	Pn	01 04 52.1	-1.9
PNIG				iS	Sn	01 05 28.6	-4.7

IDC 03 01:04:29.0±4.7, 38.°10N×73.°71E, h102km±40km, mb3.2/6, mb1 3.4/11, mb1mx3.2/39, mbtmp3.7/11, Error ellipse: s-maj=34.5km s-min=19.6km az=20.0
ISCJB 03 01:04:31.3±0.3, 38.°26N±0.°03×74.°06E±0.°07, h150km, mb3.3/6, Error ellipse: s-maj=7.8km s-min=3.5km az=171.8
NNC 03 01:04:34.7±8.1, 38.°76N×73.°40E, h0km, mb4.0, mpv3.4, Error ellipse: s-maj=66.8km s-min=45.5km az=155.0
ISC 03 01:04:32.3±0.6, 38.°26N±0.°05×74.°03E±0.°09, h150km, n45, σ1°23/49, mb3.3/6, 4C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.87	356	P	Pn	01 05 30.1	-1.1
	SNR=90						
KZA	Kyzart	3.93	13	P	Pn	01 05 31.3	-0.6
	SNR=34						
UCH	Uchtor	3.98	5	P	Pn	01 05 31.7	-0.9
	SNR=37						
ULHL	Ulahol	4.33	22	P	Pn	01 05 36.9	-0.1
	SNR=32						
AAK	Ala-Archa	4.38	5	⇑Pn	Pn	01 05 37.2	-0.4
	2.6nm,0.5s						
AAK				⇑Sn	Sn	01 06 28.1	-0.4
	26nm,0.8s						
AAK	Ala-Archa	4.38	5	P	Pn	01 05 37.4	-0.2
	SNR=6.7						
AAK	Ala-Archa	4.38	5	P	Pn	01 05 37.4	-0.2
	1.7nm,0.3s,baz=140,slow=7.4,SNR=25						
AAK				S	Sn	01 06 28.1	-0.4
	5.2nm,0.3s,baz=342,slow=15,SNR=10						
EKS2	Erkin-Say	4.40	358	P	Pn	01 05 37.4	-0.5
	SNR=22						
KBK	Karagaybulak	4.45	9	P	Pn	01 05 38.6	+0.1
	SNR=8.8						
CHCP	Chirah Chowk	4.63	188	⇓P	Pn	01 05 43.0	+2.1
CEP	Cherat	4.75	202	P	Pn	01 05 43.1	+0.6
CEP				S	Sn	01 06 37.0	-0.2
CHMS	Chumysh	4.76	6	P	Pn	01 05 42.4	-0.2
	SNR=5.2						
TKM2	Tokmak 2	4.81	14	⇓Pn	Pn	01 05 43.0	-0.3
	5.1nm,0.4s						
TKM2				⇓Sn	Sn	01 06 37.5	-1.1
	14nm,0.8s						
TKM2	Tokmak 2	4.81	14	P	Pn	01 05 43.4	+0.1
	SNR=18						
KK31	Karatay Array	5.53	332	Pn	Pn	01 05 50.4	-2.3
	1.6nm,0.2s,baz=131,slow=12,SNR=159						
KK31				Sn	Sn	01 06 45.2	-10
	47nm,0.6s,baz=143,slow=23,SNR=25						
THW	Thamme Wali	5.76	200	P	Pn	01 05 56.8	+0.9
DLH	Dalhousie	5.92	164	eP	Pn	01 05 57.0	-1.2
DLH				eS	Sn	01 07 02.0	-3.3
MKAR	Makanchi Array	10.48	33	P	Pn	01 06 59.0	+0.5
	0.2nm,0.3s,baz=201,slow=14,SNR=18						
PYUN	Piuthan	12.60	141	eP	Pn	01 07 24.4	-2.2
	34nm,0.3s						
KURBB	Kurchatov Arra	12.77	13	⇑Pn	P	01 07 34.7	+1.2
	3.6nm,0.7s						
KURBB	Kurchatov Arra	12.77	13	P	Pn	01 07 26.0	-2.3
	0.1nm,0.3s,baz=201,slow=12,SNR=5.1						
DANN	Dangsing	12.80	138	eP	Pn	01 07 27.5	-1.7
KURK	Kurchatov	12.87	13	⇑Pn	P	01 07 35.7	+1.1
	1.6nm,0.5s						
KOLN	Koldanda	13.18	140	eP	Pn	01 07 32.3	-1.7
	4.3nm,0.2s						
GKN	Gorkha	13.54	136	eP	Pn	01 07 38.0	-0.6
KKN	Kakani	14.06	135	eP	Pn	01 07 44.6	-0.6
	16nm,0.4s						
PKIN	Phulchoki	14.29	135	eP	Pn	01 07 47.6	-0.6
PKI	Pulchoki	14.30	135	eP	Pn	01 07 48.0	-0.4
GUN	Gumba	14.31	133	eP	Pn	01 07 48.2	-0.3
	6.0nm,0.3s						
JIRN	Jiri	14.68	132	eP	Pn	01 07 52.8	-0.3
AB31	Akbulak array	14.95	322	Pn	Pn	01 07 53.3	-2.5
	0.6nm,0.5s,baz=33,slow=22,SNR=19						
BVA0	Borovoye Array	14.98	351	Pn	P	01 07 59.2	+1.1
	3.1nm,1.1s,baz=153,slow=9.1,SNR=25						
BVAR	Borovoye Array	14.98	351	P	P	01 07 58.4	+0.3
	1.2nm,0.3s,baz=154,slow=9.5,SNR=21						
BRVK	Borovoye	15.03	351	⇓Pn	Pn	01 07 56.5	-0.3
	4.5nm,0.8s						
RAMN	Ramite	15.46	133	eP	Pn	01 08 02.2	-0.4
TAPN	Taplejung	15.81	129	eP	Pn	01 08 06.6	-0.5
AKTO	Aktyubinsk	16.66	322	⇓Pn	P	01 08 15.7	-0.9
	5.1nm,1.4s						
AKTO	Aktyubinsk	16.66	322	P	P	01 08 15.4	-1.3
	0.4nm,0.3s,baz=117,slow=13,SNR=5.5						
ZALV	Zalesovo Beam	17.35	22	P	Pn	01 08 25.4	+0.4
	0.7nm,0.3s,baz=217,slow=12,SNR=13						
SONM	Songino Array	25.36	57	P	P	01 09 50.4	+5.0
	0.3nm,0.8s,baz=241,slow=8.1,SNR=2.7						
FINES	FINESS Array B	37.42	324	P	P	01 11 31.9	+1.5
	0.4nm,0.3s,baz=119,slow=8.9,SNR=7.1						
ARCES	ARCESS Array B	40.48	336	P	P	01 11 57.5	+1.7
	2.7nm,0.8s,baz=98,slow=8.7,SNR=6.2						
NOA	NORSAR Array B	44.46	322	P	P	01 12 28.9	+0.8
	0.2nm,0.5s,baz=85,slow=5.6,SNR=2.8						
TORD	Torodi Ar. Bea	68.15	270	P	P	01 15 17.1	+0.6
	0.3nm,0.6s,baz=46,slow=5.5,SNR=12						
WRA	Warramunga Arr	80.93	124	P	P	01 16 32.2	+2.2
	0.3nm,0.5s,baz=324,slow=4.7,SNR=8.7						

IDC 03 01:31:55.6±2.1, 6.°92S×129.°77E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=129.8km s-min=28.2km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.68	162	Pn	Pn	01 35 10.7	-0.5
	0.1nm,0.3s,baz=343,slow=13,SNR=5.7						
WRA				Sn	Sn	01 37 43.4	-0.6
	0.1nm,0.3s,baz=343,slow=17,SNR=4.2						
ASAR	Alice Springs	17.11	167	P	P	01 35 57.5	-0.9
	0.1nm,0.3s,baz=345,slow=10.0,SNR=3.5						
MKAR	Makanchi Array	68.04	327	P	P	01 42 57.0	0.0
	0.3nm,0.6s,baz=128,slow=8.3,SNR=3.4						

ISCJB 03 01:44:34.4±1.3, 24.°1S±0.°1×66.°9W±0.°1, h181km, mb3.1/1, Error ellipse: s-maj=22.5km s-min=9.3km az=139.1
SJA 03 01:44:39.2±0.8, 23.°76S×66.°81W, h64km±56km, MD3.2, ML2.9, MW2.7
IDC 03 01:44:41.4±5.1, 23.°57S×66.°69W, h238km±29km, mb3.0/1, mb1 3.1/4, mb1mx3.0/18, mbtmp3.6/4, Error ellipse: s-maj=76.6km s-min=24.1km az=50.0
ISC 03 01:44:33.4±1.5, 24.°1S±0.°1×66.°9W±0.°1, h181km, n9, σ2°29/11, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.38	116	iP	Pn	01 45 06.4	+1.9
SLA				IAML		01 45 08.7	
	comp=Z,116nm,0.7s						
SLA				iS	Sn	01 45 25.6	-3.0
AZAP	Zapla	1.66	94	iP	Pn	01 45 08.7	+1.5
AZAP				IAML		01 45 10.0	
	comp=Z,164nm,0.5s						
AZAP				iS	Sn	01 45 29.6	-3.8
ASTB	Santa Barbara	2.19	86	iP	Pn	01 45 14.8	+2.1
LVC	Limon Verde	2.40	308	iP	Pn	01 45 16.3	+1.0
ALOL	LOMAS DE OLMED	2.67	84	iP	Pn	01 45 20.5	+2.3
LPAZ	La Paz	7.89	351	P	Pn	01 46 26.9	+1.0
	comp=Z,0.6nm,0.3s,baz=152,slow=6.3,SNR=15						
LPAZ				S	Sn	01 47 53.5	-1.4
	comp=Z,0.0nm,0.3s,baz=300,slow=20,SNR=3.1						
CPUP	Villa Florida	8.92	106	P	Pn	01 46 46.7	+8.0
	comp=Z,0.6nm,0.3s,baz=285,slow=14,SNR=3.5						
BDFB	Brasilia	19.63	68	P	P	01 48 48.5	+0.2
	comp=Z,0.2nm,0.3s,baz=224,slow=7.8,SNR=4.5						
TORD	Torodi Ar. Bea	76.51	69	P	P	01 56 03.9	0.0
	comp=Z,0.2nm,0.4s,baz=261,slow=5.6,SNR=6.5						

CSEM 03 02:07:31.8±0.1, 46.°04N×6.°83E, h10km, ML2.4/26, Error ellipse: s-maj=1.9km s-min=1.5km az=95.0
STR 03 02:07:32.5±0.2, 46.°05N×6.°76E, h5km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
ZUR 03 02:07:32.9, 46.°04N×6.°91E, h4km±1km, ML1.7/4
LDG 03 02:07:32.6±0.1, 46.°04N×6.°88E, h2km, Md2.3/3, Ml2.4/22, Error ellipse: s-maj=1.2km s-min=0.7km az=103.0
GEN 03 02:07:33.4, 45.°99N×6.°96E, h3km, ML1.5
ISC 03 02:07:32.5±0.8, 46.°04N±0.°01×6.°88E±0.°02, h11km±4km, n96, σ1°36/166, 8C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	Vieux Emosson	0.03	26	⇑iPg	Pg	02 07 34.3	-0.5
	3µm,0.1s						
EMV				iSg	Sg	02 07 35.2	-1.2
	3µm,0.1s						
EMV	Vieux Emosson	0.03	26	⇑iPg	Pg	02 07 34.3	-0.5
	3µm,0.1s						
EMV				iSg	Sg	02 07 35.2	-1.2
	3µm,0.1s						
SALAN	Lac Salanfe	0.13	31	⇑iPg	Pg	02 07 35.5	-0.2
	402nm,0.2s						
SALAN				eSg	Sg	02 07 37.4	-0.6
	402nm,0.2s						
SALAN	Lac Salanfe	0.13	31	⇑iPg	Pg	02 07 35.5	-0.2
	402nm,0.2s						
SALAN				eSg	Sg	02 07 37.4	-0.6
	402nm,0.2s						
GRYON	Gryon	0.27	37	⇑iPg	Pg	02 07 38.0	-0.1
	58nm,0.3s						
GRYON				eSg	Sg	02 07 41.6	-0.2
	58nm,0.3s						
GRYON	Gryon	0.27	37	⇑iPg	Pg	02 07 38.0	-0.1

58nm,0.3s
GRYON eSg Sg 02 07 41.6 -0.2
58nm,0.3s
OG01 Vacheresse 0.33 335 Pg **Pg 02 07 38.7 -0.4**
OG01 Sg **Sg 02 07 43.2 -0.2**
OG01 Vacheresse 0.33 335 Pg **Pg 02 07 38.7 -0.4**
OG01 Sg **Sg 02 07 43.2 -0.2**
RSL Roselend 0.39 207 Pg **Pg 02 07 40.0 -0.3**
RSL Sg **Sg 02 07 45.2 -0.2**
RSL Roselend 0.39 207 Pg **Pg 02 07 40.0 -0.3**
RSL Sg **Sg 02 07 45.2 -0.2**
SENIN Lac Senin/Sane 0.44 42⇑iPg **Pg 02 07 41.2 0.0**
71nm,0.1s
SENIN Lac Senin/Sane 0.44 42⇑iPg **Pg 02 07 41.2 0.0**
71nm,0.1s
LPL La Plagne 0.53 191 ePg **Pg 02 07 42.9 0.0**
SNR=1.0
LPL eSg **Sg 02 07 50.0 +0.1**
28nm,0.3s,SNR=1.0
LPL La Plagne 0.53 191 ePg **Pg 02 07 42.9 0.0**
SNR=1.0
LPL eSg **Sg 02 07 50.0 +0.1**
14nm,0.3s,SNR=1.0
LPG La Plagne 0.55 189 ePg **Pg 02 07 43.2 0.0**
SNR=1.0
LPG eSg **Sg 02 07 50.1 -0.3**
32nm,0.2s
LPG La Plagne 0.55 189 ePg **Pg 02 07 43.2 0.0**
SNR=1.0
LPG eSg **Sg 02 07 50.1 -0.3**
16nm,0.2s
CIRO Champorcher 0.65 132 P **Pg 02 07 44.9 -0.2**
CIRO S **Sg 02 07 52.5 -1.2**
SATI Passo dei Sala 0.71 103 P **Pg 02 07 45.9 -0.4**
SATI S **Sg 02 07 54.5 -1.1**
CABF La Chapelle 0.80 317 ePg **Pg 02 07 47.8 -0.1**
CABF La Chapelle 0.80 317 eP **Pb 02 07 48.9 +0.4**
SNR=1.0
CABF eSg **Sg 02 07 57.9 -0.4**
8.2nm,0.2s
CABF eSn **Sb 02 08 01.2 +1.9**
6.5nm,0.3s
CABF La Chapelle 0.80 317 ePg **Pg 02 07 47.8 -0.1**
CABF La Chapelle 0.80 317 eP **Pb 02 07 48.9 +0.4**
SNR=1.0
CABF eSg **Sg 02 07 57.9 -0.4**
4.1nm,0.2s
CABF eSn **Sb 02 08 01.2 +1.9**
3.2nm,0.3s
TRAV Traversella 0.80 130 P **Pg 02 07 47.2 -0.8**
TRAV S **Sg 02 07 56.5 -1.9**
RSP Reno Superiore 0.93 163 P **Pg 02 07 49.7 -0.7**
BHB Bricherasio 1.22 167 P **Pg 02 07 55.3 -0.7**
MBDF Montbardon 1.31 183 ePn **Pn 02 07 56.6 -0.4**
SNR=1.0
MBDF Montbardon 1.31 183 ePg **Pn 02 07 57.5 +0.5**
MBDF eSn **Sg 02 08 13.8 -0.9**
12nm,0.6s,SNR=1.0
MBDF Montbardon 1.31 183 ePn **Pn 02 07 56.6 -0.4**
SNR=1.0
MBDF Montbardon 1.31 183 ePg **Pn 02 07 57.5 +0.5**
MBDF eSn **Sg 02 08 13.8 -0.9**
5.8nm,0.6s,SNR=1.0
LOMF Lomont 1.32 358 Pn **Pn 02 07 56.4 -0.6**
LOMF Sg **Sg 02 08 14.6 -0.3**
LOMF Lomont 1.32 358 Pn **Pn 02 07 56.4 -0.6**
LOMF Sg **Sg 02 08 14.6 -0.3**
ORIF Oris-en-Rattie 1.32 213 ePn **Pn 02 07 56.6 -0.4**
SNR=1.0
ORIF Oris-en-Rattie 1.32 213 ePg **Pn 02 07 57.6 +0.6**
SNR=1.0
ORIF eSn **Sg 02 08 13.5 -1.5**
11nm,0.3s,SNR=1.0
ORIF Oris-en-Rattie 1.32 213 ePn **Pn 02 07 56.6 -0.4**
SNR=1.0
ORIF Oris-en-Rattie 1.32 213 ePg **Pn 02 07 57.6 +0.6**
SNR=1.0
ORIF eSn **Sg 02 08 13.5 -1.5**
5.5nm,0.3s,SNR=1.0
BBS Basel-Blauen 1.49 17 Pn **Pn 02 07 59.5 +0.1**
BBS Sg **Sg 02 08 21.6 +1.0**
PZZ Stroppo 1.54 174 P **Pn 02 07 59.8 -0.3**
HINF Hinteralfeld 1.78 359 ePn **Pn 02 08 02.7 -0.7**
SNR=1.0
HINF Hinteralfeld 1.78 359 eP **Pn 02 08 04.7 +1.3**
HINF eSn **Sn 02 08 24.1 -2.0**
SNR=1.0
HINF eSg **Sb 02 08 28.8 +1.2**
5.7nm,0.2s,SNR=1.0
HINF Hinteralfeld 1.78 359 ePn **Pn 02 08 02.7 -0.7**
SNR=1.0
HINF Hinteralfeld 1.78 359 eP **Pn 02 08 04.7 +1.3**
HINF eSn **Sn 02 08 24.1 -2.0**
SNR=1.0
HINF eSg **Sb 02 08 28.8 +1.2**
2.8nm,0.2s,SNR=1.0
MOF Molkenrain 1.82 5 Pg **Pb 02 08 06.6 +0.6**
MOF Sg **Sb 02 08 31.0 -0.2**
MOF Molkenrain 1.82 5 Pg **Pb 02 08 06.6 +0.6**
MOF Sg **Sb 02 08 31.0 -0.2**
VIVF Saint-Julien-l 1.95 234 ePn **Pn 02 08 05.7 +0.1**
SNR=1.0
VIVF Saint-Julien-l 1.95 234 ePg **Pb 02 08 09.2 +1.1**
VIVF eSg **Sb 02 08 33.9 +1.4**
10nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 1.95 234 ePn **Pn 02 08 05.7 +0.1**
SNR=1.0
VIVF Saint-Julien-l 1.95 234 ePg **Pb 02 08 09.2 +1.1**
VIVF eSg **Sb 02 08 33.9 +1.4**
5.1nm,0.3s,SNR=1.0
FELD Feldberg im Sc 2.00 22 Pg **Pb 02 08 10.4 -0.4**
HAU Haudompre 2.00 350 ePn **Pn 02 08 05.7 -0.7**
HAU Haudompre 2.00 350 ePg **Pb 02 08 09.7 +0.7**
HAU eSn **Sn 02 08 29.5 -2.0**
6.5nm,0.3s,SNR=1.0
HAU eSg **Sb 02 08 35.4 +1.4**
5.8nm,0.3s
HAU Haudompre 2.00 350 ePn **Pn 02 08 05.7 -0.7**
HAU Haudompre 2.00 350 ePg **Pb 02 08 09.7 +0.7**
HAU eSn **Sn 02 08 29.5 -2.0**
3.2nm,0.3s,SNR=1.0
HAU eSg **Sb 02 08 35.4 +1.4**
2.9nm,0.3s
SMF Signal de Mont 2.19 287 ePg **Pg 02 08 13.9 -0.6**
SNR=1.0
SMF eSg **Sb 02 08 40.9 +1.5**
7.6nm,0.2s,SNR=1.0
SMF Signal de Mont 2.19 287 ePg **Pg 02 08 13.9 -0.6**
SNR=1.0
SMF eSg **Sb 02 08 40.9 +1.5**
3.8nm,0.2s,SNR=1.0
SMRF Simiane la Rot 2.26 205 ePn **Pn 02 08 09.5 -0.4**
SNR=1.0
SMRF eSn **Sn 02 08 36.3 -1.4**
0.5nm,0.2s
SMRF Simiane la Rot 2.26 205 ePn **Pn 02 08 09.5 -0.4**
SNR=1.0
SMRF eSn **Sn 02 08 36.3 -1.4**
0.2nm,0.2s
PLDF La Plantade 2.27 270 Pg **Pb 02 08 13.2 -0.4**
PLDF Sg **Sb 02 08 44.1 +2.3**
PLDF La Plantade 2.27 270 Pg **Pb 02 08 13.2 -0.4**
PLDF Sg **Sb 02 08 44.1 +2.3**
CDF Champ du Feu 2.39 6 ePn **Pn 02 08 11.0 -0.8**
CDF Champ du Feu 2.39 6 ePg **Pb 02 08 17.1 +1.4**
CDF eSg **Sg 02 08 48.0 -1.4**
1.4nm,0.2s,SNR=1.0
CDF Champ du Feu 2.39 6 ePn **Pn 02 08 11.0 -0.8**
CDF Champ du Feu 2.39 6 ePg **Pb 02 08 17.1 +1.4**
CDF eSg **Sg 02 08 48.0 -1.4**
0.7nm,0.2s,SNR=1.0
LOR Lormes 2.42 302 ePn **Pn 02 08 11.7 -0.4**
SNR=1.0
LOR Lormes 2.42 302 ePg **Pb 02 08 17.7 +1.6**
baz=122
LOR eSg **Sb 02 08 48.0 +2.1**
2.8nm,0.2s,baz=124,SNR=1.0
LOR Lormes 2.42 302 ePn **Pn 02 08 11.7 -0.4**
SNR=1.0
LOR Lormes 2.42 302 ePg **Pb 02 08 17.7 +1.6**
baz=122
LOR eSg **Sb 02 08 48.0 +2.1**
1.4nm,0.2s,baz=124,SNR=1.0
SFTF Sexfontaines 2.51 331 ePg **Pb 02 08 19.1 +1.5**
SFTF eSg **Sg 02 08 51.5 -1.6**
3.2nm,0.3s
SFTF Sexfontaines 2.51 331 ePg **Pb 02 08 19.1 +1.5**
SFTF eSg **Sg 02 08 51.5 -1.6**
1.6nm,0.3s
SSF Saint Saulge 2.54 295 ePg **Pb 02 08 19.8 +1.6**
SNR=1.0
SSF eSn Sn 02 08 39.5 -5.3
SNR=1.0
SSF eSg **Sb 02 08 51.9 +2.4**
1.7nm,0.2s,SNR=1.0
SSF Saint Saulge 2.54 295 ePg **Pb 02 08 19.8 +1.6**
SNR=1.0
SSF eSn Sn 02 08 39.5 -5.3
SNR=1.0
SSF eSg **Sb 02 08 51.9 +2.4**
0.9nm,0.2s,SNR=1.0
AVF Avril sur Loir 2.55 288 ePn **Pn 02 08 13.8 -0.1**
SNR=1.0
AVF Avril sur Loir 2.55 288 ePg **Pb 02 08 19.5 +1.1**
AVF eSg **Sb 02 08 52.2 +2.4**
2.8nm,0.2s,SNR=1.0
AVF Avril sur Loir 2.55 288 ePn **Pn 02 08 13.8 -0.1**
SNR=1.0
AVF Avril sur Loir 2.55 288 ePg **Pb 02 08 19.5 +1.1**
AVF eSg **Sb 02 08 52.2 +2.4**
1.4nm,0.2s,SNR=1.0
PAGF Fort de Pagny 2.64 343 eSg **Sg 02 08 55.5 -1.8**
0.7nm,0.2s,baz=164
PAGF Fort de Pagny 2.64 343 eSg **Sg 02 08 55.5 -1.8**
0.3nm,0.2s,baz=164
LBL Lubilhac 2.67 254 Pg **Pb 02 08 21.5 +1.1**
LBL Sg **Sg 02 08 57.2 -1.1**
LBL Lubilhac 2.67 254 Pg **Pb 02 08 21.5 +1.1**
LBL Sg **Sg 02 08 57.2 -1.1**
PYM Petit Puy Mans 2.72 265 Pg **Pb 02 08 22.3 +1.1**
PYM Sg **Sg 02 08 58.7 -1.1**
PYM Petit Puy Mans 2.72 265 Pg **Pb 02 08 22.3 +1.1**
PYM Sg **Sg 02 08 58.7 -1.1**
MEZF Maizieres J'vi 2.76 334 ePg **Pb 02 08 23.7 +1.8**
baz=147
MEZF eSg **Sg 02 08 59.5 -1.7**
4.3nm,0.3s
MEZF Maizieres J'vi 2.76 334 ePg **Pb 02 08 23.7 +1.8**
baz=147
MEZF eSg **Sg 02 08 59.5 -1.7**
2.2nm,0.3s
BGF Bois d'Agland 2.84 282 ePn **Pn 02 08 17.1 -0.8**
BGF eSg **Sg 02 09 02.2 -1.6**
11nm,0.4s,SNR=1.0
BGF Bois d'Agland 2.84 282 ePn **Pn 02 08 17.1 -0.8**
BGF eSg **Sg 02 09 02.2 -1.6**
5.7nm,0.4s,SNR=1.0
LASF Ste Croix 2.90 229 ePn **Pn 02 08 18.1 -0.6**
LASF Ste Croix 2.90 229 eP **Pn 02 08 20.8 +2.1**
SNR=1.0
LASF Ste Croix 2.90 229 ePg **Pb 02 08 26.5 +2.2**
LASF eSn **Sn 02 08 51.2 -2.4**
SNR=1.0
LASF eSg **Sg 02 09 03.5 -2.2**
2.4nm,0.4s,SNR=1.0
LASF Ste Croix 2.90 229 ePn **Pn 02 08 18.1 -0.6**
LASF Ste Croix 2.90 229 eP **Pn 02 08 20.8 +2.1**
SNR=1.0
LASF Ste Croix 2.90 229 ePg **Pb 02 08 26.5 +2.2**
LASF eSn **Sn 02 08 51.2 -2.4**
SNR=1.0
LASF eSg **Sg 02 09 03.5 -2.2**
1.2nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 3.25 276 eSg **Sb 02 09 13.6 +3.6**
3.0nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 3.25 276 eSg **Sb 02 09 13.6 +3.6**
1.5nm,0.3s,SNR=1.0
CAF Calviac 3.56 254 eP **Pn 02 08 30.3 +2.5**
CAF eSg **Sg 02 09 23.7 -3.2**
2.9nm,0.5s,SNR=1.0
CAF Calviac 3.56 254 eP **Pn 02 08 30.3 +2.5**
CAF eSg **Sg 02 09 23.7 -3.2**
1.5nm,0.5s,SNR=1.0
RJF Les Rejaudoux 3.83 261 eSg **Sg 02 09 33.0 -2.5**
2.1nm,0.3s
RJF Les Rejaudoux 3.83 261 eSg **Sg 02 09 33.0 -2.5**
1.0nm,0.3s

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*IDC **03** 02:18:21.1±0.3, 58.°95S×25.°76W, h0^{km}, mb5.0/19, mb1 5.1/20, mb1mx5.0/24, mbtmp5.0/20, ML5.4/1, MS4.3/20, Ms1 4.3/20, ms1mx4.3/21, Error ellipse: s-maj=13.9km s-min=12.8km az=36.0*
*ISCJB **03** 02:18:24.8±0.3, 58.°98S±0.°05×25.°60W±0.°09, h33^{km}, mb5.1/42, MS4.5/27, Error ellipse: s-maj=7.2km s-min=6.3km az=149.6*
*MOS **03** 02:18:25.1±1.1, 59.°03S×25.°82W, h33^{km}, mb5.3/31, Error ellipse: s-maj=25.5km s-min=11.6km az=98.9*
*BJI **03** 02:18:26.0, 58.°90S×25.°80W, h31^{km}, mB5.5/16, Ms5.3/13, Ms7 4.9/15*
*NEIC **03** 02:18:27.9±1.9, 58.°94S×25.°74W, h50^{km}±15^{km}, mb5.2/25, Error ellipse: s-maj=8.9km s-min=7.5km az=216.0*
*GCMT **03** 02:18:33.0±0.2, 59.°23S×25.°08W, h46^{km}, MW5.2/89, Moment Tensor Solution. s70,c97; s89,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.75±.24; $M_{\theta\theta}$-0.02±.21; $M_{\phi\phi}$-5.73±.20; $M_{r\theta}$1.81±.18; $M_{\theta\phi}$-5.10±.19; $M_{\phi r}$0.76±.17; Best double couple: $M_0$7.60900×10^{16} NP1:ϕ_s48.00000°,δ54.00000°,λ114.00000°. NP2: ϕ_s191.00000°,δ42.00000°,λ61.00000°. Principal axes: T 6.3260, Plg70.0000°, Azm14.0000°; N 2.5610, Plg19.0000°, Azm213.0000°; P -8.8910, Plg6.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*AWI **03** 02:18:39.1, 60.°72S×28.°19W*
ISC 03 02:18:28.2±0.9, **59.°02S**±0.°07×**25.°71W**±0.°06, **h52**^{km}±7^{km}, **n280**, σ**1.°29**/304, **mb5.1**/40, **MS4.4**/27, **10C-6D, South Sandwich Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VNA1 Neumayer--Stat 13.74 155 P **Pn 02 21 37.8 -2.2**
VNA3 Neumayer Olymp 13.92 158 P **Pn 02 21 40.1 -2.3**
VNA3 Neumayer Olymp 13.92 158 S Sn 02 23 59.1 -16
VNA2 Neumayer--Watz 14.14 155 P **Pn 02 21 43.2 -2.1**
VNA2 Neumayer--Watz 14.14 155 S Sn 02 24 07.2 -13
SNAA Sanae 15.71 153 P **Pn 02 22 04.0 -1.8**
SNAA Sanae 15.71 153⇓iP **Pn 02 22 04.2 -1.6**
SNAA Sanae 15.71 153d iP **Pn 02 22 03.8 -2.0**
SNAA pmax pmax
comp=Z,160nm,0.6s
SNAA Sanae 15.71 153 Pn **Pn 02 22 04.2 -1.6**
comp=Z,15nm,0.3s,baz=316,slow=14,SNR=398
SNAA Sn Sn 02 24 44.8 -14
comp=Z,1.1nm,0.3s,baz=9.5,slow=18,SNR=6.1
SNAA LR LR 02 26 54.3
comp=Z,768nm,21.3s,baz=333,slow=32
SNAA Sanae 15.71 153 ePn **Pn 02 22 03.9 -1.8**
comp=Z,211nm,0.6s
SNAA eSn Sn 02 24 44.5 -14
PMSA Palmer Station 18.71 236 P **Pn 02 22 44.8 +1.9**
comp=Z,0.3nm,0.3s,baz=93,slow=8.4,SNR=5.6
PMSA LR LR 02 28 46.5
comp=Z,1μm,20.5s,baz=75,slow=33
NVL N'lazarevskaya 19.37 142 eP **P 02 22 47.2 -2.0**
NVL pmax pmax
comp=Z,36nm,0.9s
USHA Ushuaia 23.38 262 P **P 02 23 32.4 +0.5**
comp=Z,34nm,0.7s,baz=100,slow=10,SNR=21
USHA LR LR 02 30 41.4
comp=Z,1μm,20.1s,baz=77,slow=32
QSPA South Pole Qui 31.22 180 P **P 02 24 44.0 +1.6**
comp=Z,30nm,0.6s,baz=207,slow=3.6,SNR=62
QSPA PcP **PcP 02 27 36.2 +0.6**
comp=Z,24nm,0.9s,baz=166,slow=6.0,SNR=4.0
TRQA Tornquist 31.29 296 eP **P 02 24 43.5 +0.4**
comp=Z,64nm,1.2s
PLCA Paso Flores 33.38 283 eP **P 02 25 01.1 -0.4**
PLCA pmax pmax
comp=Z,48nm,1.2s
PLCA Paso Flores 33.38 283 P **P 02 25 01.2 -0.2**
comp=Z,22nm,1.0s,baz=153,slow=8.4,SNR=10
PLCA LR LR 02 39 11.9
comp=Z,452nm,18.6s,baz=118,slow=38
PLCA Paso Flores 33.38 283 eP **P 02 25 01.1 -0.4**
comp=Z,48nm,1.2s
MAW Mawson 37.30 141 LR LR 02 39 14.6
comp=Z,848nm,19.5s,baz=264,slow=34
ELIM Elim 38.46 71 eP **P 02 25 44.1 -0.8**
ELIM AMB AMB 02 25 49.1
comp=Z,90nm,8.4s
CLCH Cerro Calan 39.13 291 eP **P 02 25 51.2 +0.7**
CPUP Villa Florida 39.39 312 P **P 02 25 50.9 -1.7**
CPUP pmax pmax
comp=Z,2.0nm,0.6s
CPUP MLR MLR
comp=Z,356nm,20.4s
CPUP Villa Florida 39.39 312 P **P 02 25 50.9 -1.7**
comp=Z,2.4nm,0.6s,baz=144,slow=10,SNR=5.0
CPUP LR LR 02 42 11.3
comp=Z,356nm,20.4s,baz=138,slow=36
CPUP Villa Florida 39.39 312 eP **P 02 25 51.2 -1.5**
comp=Z,0.4nm,0.7s
CFAA Coronel Fontan 39.51 295 P **P 02 25 53.0 -0.6**
comp=Z,3.7nm,0.6s,baz=152,slow=7.4,SNR=45
SUR Sutherland 40.77 70 P **P 02 26 05.3 +0.9**
comp=Z,10nm,0.8s,baz=226,slow=5.0,SNR=8.7
SUR Sutherland 40.77 70 eP **P 02 26 04.8 +0.4**
comp=Z,3.3nm,0.9s
KOMG Komaggas 41.33 64 eP **P 02 26 08.6 -0.1**
KOMG AMB AMB 02 26 12.4
comp=Z,36nm,1.8s
LCO Las Campanas 42.83 294 eP **P 02 26 21.3 0.0**
comp=Z,99nm,1.3s
VNDA Vanda 43.63 182 P **P 02 26 28.6 +1.8**
VNDA 02 28 15.2
VNDA pmax pmax
comp=Z,21nm,0.7s
VNDA pmax pmax
comp=Z,10.0nm,0.9s
VNDA Vanda 43.63 182 P **P 02 26 28.6 +1.8**
comp=Z,21nm,0.7s,baz=186,slow=6.4,SNR=56
VNDA PcP **PcP 02 28 15.2 +2.1**
comp=Z,9.7nm,0.9s,baz=260,slow=3.8,SNR=3.5
VNDA LR LR 02 43 08.0
comp=Z,491nm,21.7s,baz=172,slow=34
VNDA Vanda 43.63 182 eP **P 02 26 29.0 +2.2**
comp=Z,24nm,0.8s
CRZF Crozet Islands 45.96 110 S S 02 33 13.0 -13
CRZF R 02 39 00.0
BOSA Boshof 46.04 72 eP **P 02 26 45.8 -0.9**
BOSA AMB AMB 02 26 47.0
comp=Z,22nm,1.0s
BOSA Boshof 46.04 72 P **P 02 26 46.3 -0.4**
BOSA 02 28 23.7
BOSA pmax pmax
comp=Z,20nm,0.9s
BOSA pmax pmax
comp=Z,4.0nm,0.8s
BOSA Boshof 46.04 72 P **P 02 26 46.3 -0.4**
comp=Z,20nm,0.9s,baz=215,slow=8.3,SNR=18
BOSA PcP **PcP 02 28 23.7 +1.3**
comp=Z,4.3nm,0.8s,baz=154,slow=5.1,SNR=2.6
BOSA LR LR 02 42 45.1
comp=Z,323nm,18.7s,baz=220,slow=32
BOSA Boshof 46.04 72 eP **P 02 26 46.5 -0.2**
comp=Z,21nm,0.9s
BOSA ePcP **PcP 02 28 22.6 +0.3**
BDFB Brasilia 46.34 330 P **P 02 26 49.2 +0.1**
comp=Z,4.9nm,0.4s,baz=146,slow=7.3,SNR=12
BDFB LR LR 02 43 27.2
comp=Z,413nm,21.7s,baz=160,slow=33
SWZ Schweizer 47.27 71⇑iP **P 02 26 55.7 -0.6**
SWZ AMB AMB 02 27 30.3
comp=Z,49nm,5.4s
LVC Limon Verde 47.50 301 eP **P 02 26 58.2 -0.1**
comp=Z,16nm,0.8s
LBTB Lobatse 49.21 69⇑iP **P 02 27 10.8 -0.5**
LBTB AMB AMB 02 27 11.6
comp=Z,29nm,1.2s
LBTB Lobatse 49.21 69 P **P 02 27 11.1 -0.2**
LBTB pmax pmax
comp=Z,13nm,0.8s
LBTB Lobatse 49.21 69 P **P 02 27 11.1 -0.2**
comp=Z,13nm,0.8s,baz=222,slow=7.2,SNR=23
LBTB Lobatse 49.21 69 eP **P 02 27 11.4 +0.1**
comp=Z,18nm,0.8s
ERPM east rand prop 49.39 73 eP **P 02 27 12.9 +0.2**
ERPM AMB AMB 02 27 28.8
comp=Z,20nm,1.7s
TSUM Tsumeb 50.54 57 P **P 02 27 22.1 +0.7**
comp=Z,14nm,0.6s,baz=193,slow=6.4,SNR=28
TSUM Tsumeb 50.54 57 eP **P 02 27 21.9 +0.5**
comp=Z,20nm,0.8s
H10S2 ASCENSION HYDR50.66 14 T T 03 21 47.0
baz=188,slow=75,SNR=63
H10S3 ASCENSION HYDR50.66 14 T T 03 21 51.5
baz=188,slow=75,SNR=21
H10S1 ASCENSION HYDR50.68 14 T T 03 21 48.3
baz=188,slow=75,SNR=18
H10N1 ASCENSION HYDR51.78 14 T T 03 23 15.5
baz=323,slow=73,SNR=6.3
H10N3 ASCENSION HYDR51.78 14 T T 03 23 18.8
baz=323,slow=73,SNR=12
H10N2 ASCENSION HYDR51.80 14 T T 03 23 12.4
baz=323,slow=73,SNR=12
PAF Port-aux-Franc 52.22 125 S **S 02 34 49.0 -5.1**
PAF SS **SS 02 38 28.0 -3.4**
PAF R 02 42 00.0
LPAZ La Paz 52.76 306 P **P 02 27 37.9 -0.6**
comp=Z,5.5nm,0.5s,baz=150,slow=6.7,SNR=16
LPAZ LR LR 02 50 59.2
comp=Z,128nm,21.9s,baz=149,slow=37
LPAZ La Paz 52.76 306 eP **P 02 27 38.1 -0.4**
comp=Z,12nm,0.9s
MSNA Messina 53.62 72 eP **P 02 27 43.8 -0.4**
MSNA AMB AMB 02 27 54.7
comp=Z,22nm,4.4s
RCBR Riachuelo 53.65 347 P **P 02 27 44.3 -0.1**
comp=Z,13nm,0.9s,baz=159,slow=9.0,SNR=7.0
RCBR PcP **PcP 02 28 51.3 +1.1**
comp=Z,19nm,0.8s,baz=165,slow=5.4,SNR=6.7
RCBR Riachuelo 53.65 347 eP **P 02 27 43.5 -0.9**
comp=Z,38nm,1.3s
SAML Samuel 57.47 315 eP **P 02 28 10.3 -1.4**
comp=Z,2.7nm,0.9s
LSZ Lusaka 58.79 66 eP **P 02 28 21.1 -0.1**
LSZ pmax pmax
comp=Z,21nm,0.8s
LSZ Lusaka 58.79 66 eP **P 02 28 21.1 -0.1**
comp=Z,22nm,0.8s
NNA Nana 60.38 299 eP **P 02 28 31.8 -0.3**
NNA pmax pmax
comp=Z,21nm,0.9s
NNA Nana 60.38 299 eP **P 02 28 31.8 -0.3**
comp=Z,21nm,0.9s
LIC Lamto 67.11 22 eP **P 02 29 16.6 +0.4**
comp=Z,101nm,0.8s
KIC Kosan Boka 67.30 23 eP **P 02 29 17.7 +0.3**
comp=Z,100nm,0.9s
TIC Toumodi 67.53 22 eP **P 02 29 19.2 +0.4**
comp=Z,80nm,0.8s
DBIC Dimbokro 67.58 22⇑iP **P 02 29 19.6 +0.5**
DBIC Dimbokro 67.58 22 P **P 02 29 19.4 +0.3**
comp=Z,34nm,0.9s,baz=167,slow=8.0,SNR=31
DBIC LR LR 02 51 36.0
comp=Z,180nm,21.6s,baz=155,slow=30
DBIC Dimbokro 67.58 22 eP **P 02 29 19.6 +0.5**
comp=Z,32nm,0.8s
OTAV Otavalo 71.97 303 eP **P 02 29 47.1 +0.4**
comp=Z,17nm,1.3s
OTAV ePcP **PcP 02 30 05.9 +0.8**
ROSC El Rosal 74.41 309 LR LR 03 03 30.6
comp=Z,282nm,21.0s,baz=145,slow=36
WHZ Wether Hill Ro 74.84 190 eP **P 02 30 04.1 +1.4**
comp=Z,30nm,1.0s
TOA0 Torodi Ar. Sit 75.29 28 eP **P 02 30 06.1 +0.5**
TORD Torodi Ar. Bea 75.29 28 P **P 02 30 06.3 +0.7**
comp=Z,60nm,0.7s,baz=197,slow=6.2,SNR=580
TORD LR LR 02 58 20.3
comp=Z,157nm,19.2s,baz=175,slow=32
DCZ Deep Cove 75.32 189 eP **P 02 30 06.7 +1.3**
comp=Z,29nm,1.0s
KMBO Kilima Mbogo 75.42 67 eP **P 02 30 07.5 +0.8**
KMBO pmax pmax
comp=Z,10.0nm,1.2s
KMBO Kilima Mbogo 75.42 67 P P 02 30 10.0 +3.2
comp=Z,6.8nm,1.1s,baz=189,slow=6.7,SNR=7.0
KMBO Kilima Mbogo 75.42 67 eP **P 02 30 07.5 +0.8**
comp=Z,2.5nm,1.2s
ODZ Otahua Downs 75.42 192 eP **P 02 30 07.8 +1.7**
comp=Z,91nm,2.0s
KHZ Kahutara 77.67 194 eP **P 02 30 20.3 +1.5**
comp=Z,18nm,1.1s
BFZ Birch Farm 78.99 197 eP **P 02 30 27.8 +1.6**
comp=Z,36nm,0.9s

RKT	Rikitea	79.80	242	eLR	LR	02 55 20.5	
	comp=Z,728nm,26.5s						
BKZ	Black Stump Fm	80.44	197	eP	P	02 30 35.9	+1.7
	comp=Z,17nm,0.8s						
TAM	Tamanrasset	85.50	29	eP	P	02 31 01.0	+0.7
TAM				pmax	pmax		
	comp=Z,13nm,1.1s						
TAM	Tamanrasset	85.50	29	eP	P	02 31 01.0	+0.7
	comp=Z,13nm,1.1s						
TBI	Tubuai	85.80	230	eLR	LR	02 58 04.2	
	comp=Z,172nm,23.5s						
BBOO	Buckleboo	87.26	165	eP	P	02 31 08.9	-0.1
	comp=Z,228nm,0.8s						
FORT	Forrest	87.91	158	eP	P	02 31 12.7	+0.6
	comp=Z,61nm,0.9s						
STKA	Stephens Creek	88.83	169	eP	P	02 31 16.3	-0.1
STKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
STKA	Stephens Creek	88.83	169	P	P	02 31 16.6	+0.2
	comp=Z,14nm,0.8s,baz=168,slow=5.6,SNR=28						
STKA				LR	LR	03 09 38.4	
	comp=Z,503nm,19.2s,baz=200,slow=35						
STKA	Stephens Creek	88.83	169	eP	P	02 31 16.2	-0.1
	comp=Z,3.8nm,0.9s						
PPT2	Papeete2	91.02	232	eLR	LR	03 00 24.8	
	comp=Z,236nm,23.5s						
PPT	Papeete	91.04	232	LR	LR	03 03 37.0	
	comp=Z,118nm,19.9s,baz=184,slow=30						
MDT	Midelt	93.17	18	P	P	02 31 39.2	+2.8
	comp=Z,5.6nm,0.7s,baz=184,slow=3.6,SNR=12						
TEIG	Tepich	94.04	303	LR	LR	03 17 53.7	
	comp=Z,104nm,19.7s,baz=112,slow=38						
ASAR	Alice Springs	95.91	161	P	P	02 31 48.9	-0.4
ASAR						02 35 42.6	
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ASAR	Alice Springs	95.91	161	P	P	02 31 48.9	-0.4
	comp=Z,9.5nm,0.7s,baz=184,slow=4.1,SNR=78						
ASAR				PP	PP	02 35 42.5	+1.6
	comp=Z,1.7nm,1.0s,baz=192,slow=7.7,SNR=6.4						
ASAR				PKKP	PKKPbc	02 48 36.6	+2.0
	comp=Z,2.7nm,0.6s,baz=14,slow=2.2,SNR=36						
ASAR				LR	LR	03 11 52.3	
	comp=Z,509nm,21.7s,baz=186,slow=34						
AS31	Alice Springs	95.91	161	eP	P	02 31 48.6	-0.7
DZM	Mont Dzumac	98.58	191	eLR	LR	03 03 51.3	
	comp=Z,270nm,23.4s						
KEST	Kesra	98.81	28	LR	LR	03 14 59.0	
	comp=Z,39nm,18.3s,baz=199,slow=34						
WRA	Warramunga Arr	99.62	161	P	Pdif	02 32 05.0	-1.0
	comp=Z,1.7nm,0.8s,baz=194,slow=3.8,SNR=9.7						
WRA				PKiKP	PKiKP	02 36 34.5	-0.2
	comp=Z,1.3nm,0.9s,baz=218,slow=1.3,SNR=3.9						
WRA				PKKP	PKKPdf	02 48 26.5	-0.8
	comp=Z,2.2nm,0.7s,baz=356,slow=2.9,SNR=21						
WRA				LR	LR	03 13 57.2	
	comp=Z,526nm,22.0s,baz=175,slow=34						
ESDC	Sonseca Array	99.99	17	P	Pdif	02 32 08.0	+1.0
	comp=Z,0.9nm,0.8s,baz=175,slow=4.7,SNR=6.4						
ESDC				LR	LR	03 11 34.1	
	comp=Z,67nm,21.1s,baz=180,slow=32						
PALK	Pallekele	104.63	100	eP	Pdif	02 32 27.3	-1.0
PALK	Pallekele	104.63	100	ePdif	Pdif	02 32 27.3	-1.0
TXAR	Lajitas Array	108.84	296	PKiKP	PKiKP	02 36 51.1	-0.1
	comp=Z,0.8nm,0.9s,baz=169,slow=5.2,SNR=4.7						
KULM	Kulim	112.56	120	ePKiKP	PKiKP	02 36 58.5	-0.1
PSZ	Piszkesteto	112.95	31	ePKIKP	PKiKP	02 36 58.8	+0.5
PSZ	Piszkesteto	112.95	31	ePKPdf	PKiKP	02 36 58.8	+0.5
BUR08	Bucovina Ar. S	114.20	35	ePKP	PKPdf	02 37 01.0	+0.2
CRVS	Cervenica-Dubn	114.27	32	eP	Pdif	02 33 11.7	+1.5
CRVS	Cervenica-Dubn	114.27	32	PDIF	Pdif	02 33 11.7	+1.5
KOLS	Kolonicke sedl	114.52	33	eP	Pdif	02 33 11.1	-0.2
KOLS	Kolonicke sedl	114.52	33	PDIF	Pdif	02 33 11.1	-0.2
ANMO	Albuquerque	114.82	297⇑	iPKIKP	PKPdf	02 37 02.7	+0.2
ANMO				pmax	pmax		
	comp=Z,17nm,2.5s						
ANMO				MLR	MLR		
	comp=Z,379nm,17.0s						
KBZ	Khabaz	116.92	49	PKIKP	PKPdf	02 37 05.1	-0.9
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	Khabaz	116.92	49	PKP	PKPdf	02 37 05.1	-0.9
	comp=Z,2.6nm,0.9s,baz=225,slow=3.0,SNR=5.0						
KIV	Kislovodsk	117.03	49	ePKIKP	PKPdf	02 37 06.6	+0.3
KIV	Kislovodsk	117.03	49	ePKPdf	PKPdf	02 37 06.6	+0.3
AK02	Malin Array Si	118.09	36	ePKPdf	PKPdf	02 37 07.4	-0.6
AK01	Malin Array Si	118.12	36	ePKPdf	PKPdf	02 37 07.1	-1.0
KIEV	Kiev	118.12	36	ePKIKP	PKPdf	02 37 07.3	-0.7
KIEV	Kiev	118.12	36	ePKPdf	PKPdf	02 37 07.3	-0.7
AKASG	Malin Array Be	118.13	36c	iPKIKP	PKPdf	02 37 07.5	-0.6
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG	Malin Array Be	118.13	36	PKP	PKPdf	02 37 07.3	-0.8
	comp=Z,5.1nm,0.7s,baz=240,slow=1.6,SNR=27						
AKBB	Malin Array Si	118.13	36	ePKPdf	PKPdf	02 37 07.4	-0.7
AKBB	Malin Array Si	118.13	36	ePKPdf	PKPdf	02 37 07.3	-0.7
SCHQ	Schefferville	118.21	334	PKP	PKPdf	02 37 07.1	-1.0
	comp=Z,7.8nm,0.7s,baz=184,slow=0.9,SNR=10						
BRSD	Miller	119.37	308	ePKPdf	PKPdf	02 37 10.2	-0.5
SHPR	Sheep Range	120.19	291	ePKPdf	PKPdf	02 37 13.7	+0.9
NACGM	Naroch	121.11	32	e	PKPdf	02 37 11.0	-2.7
KBL	Kabul	121.23	74	ePKIKP	PKPdf	02 37 14.5	-0.4
KBL	Kabul	121.23	74	ePKPdf	PKPdf	02 37 14.5	-0.4
VSR	Storozhevoye	121.82	42	ePKIKP	PKPdf	02 37 14.4	-0.8
VSR				pmax	pmax		
	comp=N,6.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,3.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PDAR	Pinedale Array	122.56	300	PKP	PKPdf	02 37 16.6	-0.6
	comp=Z,2.5nm,0.9s,baz=129,slow=3.9,SNR=9.7						
VRHR	Novokhopersk	122.58	44	ePKIKP	PKPdf	02 37 16.5	-0.1
VRHR				pmax	pmax		
	comp=N,8.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,7.0nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,20nm,0.8s						
NAO01	NORSAR Array S	122.88	20	ePKPdf	PKPdf	02 37 16.9	0.0
ULM	Lac du Bonnet	122.92	314	ePKIKP	PKPdf	02 37 16.3	-1.1
ULM	Lac du Bonnet	122.92	314	PKP	PKPdf	02 37 16.6	-0.7
	comp=Z,14nm,0.7s,baz=145,slow=2.0,SNR=28						
ULM				PKKPbc	PKKPbc	02 47 08.5	0.0
	comp=Z,1.5nm,0.7s,baz=277,slow=5.2,SNR=3.9						
ULM	Lac du Bonnet	122.92	314	ePKPdf	PKPdf	02 37 16.2	-1.1
NB2	NORSAR Subarra	123.12	20	PKPdf	PKPdf	02 37 17.0	-0.4
	comp=Z,11nm,1.0s,baz=202,slow=1.9						
NB2	NORSAR Subarra	123.12	20	PKPdf	PKPdf	02 37 17.0	-0.4
	baz=202,slow=1.9						
NOA	NORSAR Array B	123.12	20	PKIKP	PKPdf	02 37 17.2	-0.2
NOA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NOA	NORSAR Array B	123.12	20	PKP	PKPdf	02 37 17.2	-0.2
	comp=Z,10.0nm,0.9s,baz=190,slow=1.7,SNR=20						
NVAR	Mina Array Bea	123.24	290	PKP	PKPdf	02 37 19.3	+0.6
	comp=Z,3.0nm,0.7s,baz=145,slow=3.2,SNR=21						
CMAR	Chiang Mai Arr	123.26	111	PKIKP	PKPdf	02 37 19.5	+0.5
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	Chiang Mai Arr	123.26	111	PKP	PKPdf	02 37 19.4	+0.5
	comp=Z,10nm,0.8s,baz=236,slow=3.6,SNR=38						
CHTO	Chiang Mai	123.57	111	ePKIKP	PKPdf	02 37 19.6	0.0
CHTO	Chiang Mai	123.57	111	ePKPdf	PKPdf	02 37 19.6	0.0
WAKR	Walker	123.85	289	ePKPdf	PKPdf	02 37 21.0	+1.2
OBN	Obninsk	124.21	38c	iPKIKP	PKPdf	02 37 19.3	-0.3
OBN				pmax	pmax		
	comp=Z,29nm,1.7s						
OBN	Obninsk	124.21	38	PKP	PKPdf	02 37 19.0	-0.6
	comp=Z,18nm,0.4s,baz=5.8,slow=14,SNR=6.6						
VSU	Vasula	124.22	30c	iPKIKP	PKPdf	02 37 19.2	-0.3
LRM	Limekiln Ridge	126.25	300	ePKPdf	PKPdf	02 37 24.6	+0.4
FINES	FINESS Array B	126.64	28c	iPKIKP	PKPdf	02 37 24.2	+0.1
FINES				pmax	pmax		
	comp=Z,10.0nm,0.7s						
FINES	FINESS Array B	126.64	28	PKP	PKPdf	02 37 23.9	-0.1
	comp=Z,10nm,0.7s,baz=168,slow=1.7,SNR=48						
FRB	Frobisher Bay	126.72	338	PKIKP	PKPdf	02 37 24.2	+0.1
FRB				pmax	pmax		
	comp=Z,26nm,0.8s						
FRB	Frobisher Bay	126.72	338	PKP	PKPdf	02 37 24.2	+0.1
	comp=Z,26nm,0.8s,baz=142,slow=3.8,SNR=24						
EGMT	Eagleton	126.75	304	ePKPdf	PKPdf	02 37 25.4	+0.5
KAF	Kangasniemi	127.28	28	ePKIKP	PKPdf	02 37 23.6	-1.7
KAF				pmax	pmax		
	comp=Z,17nm,0.7s						
KAF	Kangasniemi	127.28	28	epkp	PKPdf	02 37 23.6	-1.7
	comp=Z,17nm,0.7s						
SWMT	Swartz Lake	128.22	300	ePKPdf	PKPdf	02 37 27.5	-0.2
ABKAR	Akbulak array	128.38	56	ePKPdf	PKPdf	02 37 27.4	-0.4
KSH	Kashi	128.56	76	ePKP	PKPdf	02 37 28.2	-0.5
KSH				esPKP		02 37 43.2	
KSH				PKS	PKSdf	02 41 03.2	-2.0
KSH				SKKS		02 46 26.6	
KSH				SS	SS	02 56 48.8	+0.4
KSH				AMB	AMB		
	comp=Z,68nm,7.8s						
KSH				LR	LR		
	comp=Z,88nm,7.1s						
KSH				LR	LR		
	comp=Z,76nm,5.5s						
KSH				LR	LR		
	comp=Z,89nm,7.1s						
KKAR	Karatay Array	128.59	69	ePKIKP	PKPdf	02 37 28.2	-0.3
KKAR	Karatay Array	128.59	69	ePKPdf	PKPdf	02 37 28.2	-0.3
LSA	Lhasa	128.70	96	PKP	PKPdf	02 37 30.1	+0.4
LSA	Lhasa	128.70	96	ePKIKP	PKPdf	02 37 30.6	+0.9
LSA	Lhasa	128.70	96	ePKPdf	PKPdf	02 37 30.6	+0.9
FFC	Flin Flon	128.75	314	ePKIKP	PKPdf	02 37 28.2	-0.1
FFC	Flin Flon	128.75	314	ePKPdf	PKPdf	02 37 28.2	-0.1
QIZ	Qiongzhong	128.81	122	PKP	PKPdf	02 37 30.3	+0.7
QIZ				PP	PP	02 39 38.3	+1.8
QIZ				AMB	AMB		
	comp=Z,80nm,6.0s						
QIZ				LR	LR		
	comp=Z,170nm,16.5s						
FCC	Fort Churchill	129.13	321	ePKIKP	PKPdf	02 37 27.9	-1.0
FCC	Fort Churchill	129.13	321	ePKPdf	PKPdf	02 37 27.9	-1.0
JOF	Joensuu	129.20	30	ePKIKP	PKPdf	02 37 28.0	-0.9
JOF				pmax	pmax		
	comp=Z,25nm,0.7s						
JOF	Joensuu	129.20	30	epkp	PKPdf	02 37 28.0	-0.9
	comp=Z,25nm,0.7s						
AML	Almayashu	129.41	72	P	PKPdf	02 37 31.0	+0.5
	SNR=9.6						
KLMR	Klimovskoe	129.81	35	ePKIKP	PKPdf	02 37 28.8	-1.3
KLMR				pmax	pmax		
	comp=Z,71nm,1.4s						
EKS2	Erkin-Say	129.85	71	ePKIKP	PKPdf	02 37 31.1	+0.1
EKS2	Erkin-Say	129.85	71	P	PKPdf	02 37 31.4	+0.4
	SNR=11						
EKS2	Erkin-Say	129.85	71	ePKPdf	PKPdf	02 37 31.1	+0.1
UCH	Uchtor	129.88	72	P	PKPdf	02 37 31.9	+0.4
	SNR=10						
KZA	Kyzart	130.14	73	P	PKPdf	02 37 32.6	+0.6
	SNR=8.2						
AAK	Ala-Archa	130.18	72d	iPKIKP	PKPdf	02 37 32.2	+0.5
AAK				pmax	pmax		
	comp=Z,19nm,0.7s						
AAK				MLR	MLR		
	comp=Z,430nm,21.0s						
AAK	Ala-Archa	130.18	72	P	PKPdf	02 37 31.9	+0.2
	SNR=8.7						
AAK	Ala-Archa	130.18	72	ePKPdf	PKPdf	02 37 31.7	0.0
USP	Ospenovka	130.65	71	P	PKPdf	02 37 31.5	-0.9
	SNR=8.1						
KMI	Kunming	130.76	110	PKP	PKPdf	02 37 34.9	+1.5
KMI				PP	PP	02 39 55.2	+5.5
KMI				SS	SS	02 57 18.7	+3.3
KMI				LR	LR		
	comp=Z,81nm,20.7s						
TKM2	Tokmak 2	130.94	72	ePKIKP	PKPdf	02 37 32.6	-0.6
TKM2	Tokmak 2	130.94	72	ePKPdf	PKPdf	02 37 32.6	-0.6
SUMG	Summit	131.61	355	i PKIKP	PKPdf	02 37 35.4	+1.6
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SUMG	Summit	131.61	355	i P	PKPdf	02 37 35.4	+1.6
	comp=Z,5.7nm,0.8s						
PRGR	Permogore	132.29	38	ePKIKP	PKPdf	02 37 34.0	-0.8
PRGR				pmax	pmax		
	comp=Z,95nm,1.5s						
ARU	Arti	133.07	49	i PKIKP	PKPdf	02 37 37.0	+0.5
ARU						02 40 04.4	
ARU	Arti	133.07	49	ePKPdf	PKPdf	02 37 36.5	0.0
ARCES	ARCESS Array B	133.41	22	PKHKP	PKPpre	02 37 20.7	
ARCES						02 37 36.2	
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES				pmax	pmax		
	comp=Z,15nm,0.8s						
ARCES				pmax	pmax		
	comp=N,6.0nm,0.8s						
ARCES	ARCESS Array B	133.41	22	PKhKP	PKPpre	02 37 20.7	
	comp=N,4.4nm,1.0s,baz=222,slow=1.6,SNR=11						
ARCES				PKP	PKPdf	02 37 36.2	-0.5
	comp=N,15nm,0.8s,baz=24,slow=3.3,SNR=3.8						
ARCES				SKPbc	SKPab	02 41 02.5	-0.1
	comp=N,5.7nm,0.8s,baz=199,slow=1.9,SNR=5.3						
GYA	Guiyang	133.77	113	ePdif	Pdif	02 34 38.7	+1.0
GYA				PKP	PKiKP	02 37 40.0	-0.2
GYA				sPKP		02 37 55.2	
GYA				PP	PP	02 40 13.8	+5.0
GYA				PKS	PKSdf	02 41 14.2	-1.3
GYA				SKKS		02 47 00.9	
GYA				SS	SS	02 57 55.6	+4.0
GYA				AMB	AMB		
	comp=N,130nm,8.0s						
GYA				LR	LR		
	comp=N,160nm,21.7s						
GYA				LR	LR		
	comp=N,140nm,22.0s						
GYA				LR	LR		
	comp=N,180nm,21.4s						
KEV	Kevo	133.89	23	ePKIKP	PKPdf	02 37 37.5	-0.1
KEV	Kevo	133.89	23	epkp	PKPdf	02 37 37.5	-0.1
SVE	Sverdlovsk	134.17	50	ePKIKP	PKPdf	02 37 38.6	+0.1
SVE				pmax	pmax		
	comp=Z,16nm,0.8s						
SOKR	Solikamsk	134.63	45	ePKIKP	PKPdf	02 37 41.3	+2.1
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
DAG	Danmarks Havn	135.61	2	i PKIKP	PKPdf	02 37 40.8	+0.1
DAG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
DAG	Danmarks Havn	135.61	2	i P	PKPdf	02 37 40.8	+0.1
	comp=Z,8.5nm,0.8s						
BRVK	Borovoye	135.64	59⇓	iPKIKP	PKPdf	02 37 41.9	+0.5
BRVK				pmax	pmax		
	comp=Z,13nm,0.8s						
BRVK				MLR	MLR		
	comp=Z,154nm,24.0s						
BRVK	Borovoye	135.64	59	ePKPdf	PKPdf	02 37 41.3	-0.1
CD2	Chengdu	136.06	107	PKP	PKPdf	02 37 43.9	+0.9
CD2				sPKP		02 37 59.0	
CD2				PP	PP	02 40 27.8	+4.5
CD2				PKS	PKSdf	02 41 18.8	-0.5
CD2				SKKS		02 47 14.4	
CD2				SS	SS	02 58 23.0	+3.9
CD2				AMB	AMB		
	comp=Z,120nm,5.2s						
MK31	Makanchi Array	137.03	73	ePKIKP	PKPdf	02 37 43.5	-0.7
MK31	Makanchi Array	137.03	73	ePKPdf	PKPdf	02 37 43.5	-0.7
MKAR	Makanchi Array	137.03	73	PKHKP	PKPpre	02 37 36.0	
MKAR						02 37 42.7	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR				pmax	pmax		
	comp=N,2.0nm,0.8s						
MKAR	Makanchi Array	137.03	73	PKhKP	PKPpre	02 37 36.0	
	comp=N,1.8nm,0.7s,baz=222,slow=1.6,SNR=21						
MKAR				PKP	PKPdf	02 37 42.7	-1.5
	comp=N,4.3nm,0.8s,baz=241,slow=1.9,SNR=14						
MKAR				SKPbc	SKPbc	02 41 11.0	-1.5
	comp=N,1.6nm,0.8s,baz=223,slow=1.0,SNR=7.4						
WMQ	Urumqi	137.66	81	ePKP	PKPdf	02 37 43.9	-1.7
WMQ				PP	PP	02 40 34.7	+1.3
WMQ				PKS	PKSdf	02 41 18.6	-3.0
WMQ				SKS	SKSdf	02 44 49.1	-2.4
WMQ				SKKS	SKKSac	02 47 20.3	-2.0
WMQ				SS	SS	02 58 37.6	-0.8
WMQ				LR	LR		
	comp=N,76nm,20.8s						
WMQ				LR	LR		
	comp=N,110nm,21.2s						
WMQ				LR	LR		
	comp=N,96nm,22.6s						
KURK	Kurchatov	137.90	67d	iPKIKP	PKPdf	02 37 47.8	+2.2
KURK	Kurchatov	137.90	67	ePKPdf	PKPdf	02 37 46.6	+1.0
YKA	Yellowknife Ar	138.88	315	PKHKP	PKPpre	02 37 40.2	
YKA						02 37 46.7	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,29nm,0.7s						
YKA				pmax	pmax		
	comp=N,1.0nm,0.8s						
YKA	Yellowknife Ar	138.88	315	PKhKP	PKPpre	02 37 40.2	
	comp=N,1.0nm,0.8s,baz=122,slow=3.8,SNR=13						
YKA				PKP	PKPdf	02 37 46.7	-0.3
	comp=N,29nm,0.7s,baz=128,slow=2.4,SNR=239						
YKA				SKPbc	SKPbc	02 41 14.9	-2.3
	comp=N,1.1nm,0.8s,baz=132,slow=2.9,SNR=7.6						
YKA				PKKP	PKKPdf	02 47 14.4	-1.4
	comp=N,0.3nm,0.7s,baz=326,slow=1.9,SNR=4.4						
YKW3	Yellowknife Ar	138.93	315	ePKPdf	PKPdf	02 37 46.9	-0.2
SPITS	Spitsbergen Ar	139.31	12	PKHKP	PKPpre	02 37 40.2	
SPITS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SPITS	Spitsbergen Ar	139.31	12	PKhKP	PKPpre	02 37 40.2	
	comp=Z,3.3nm,0.7s,baz=165,slow=6.9,SNR=10.0						
LZH	Lanzhou	140.24	102	ePKP	PKPdf	02 37 52.0	+1.3
LZH				sPKP		02 38 04.7	
LZH				SKKS		02 47 38.2	
LZH				eSS	SS	02 59 07.1	-1.7
LZH				AMB	AMB		
	comp=Z,130nm,4.8s						
LZH				LR	LR		
	comp=Z,170nm,16.6s						
LZH				LR	LR		
	comp=Z,190nm,17.2s						
LZH				LR	LR		
	comp=Z,260nm,19.7s						
GTA	Gaotai	140.71	95	PKP	PKPdf	02 37 51.7	+0.3
GTA				sPKP		02 38 06.1	
GTA				PP	PP	02 40 55.0	+2.7
GTA				SKS	SKSdf	02 44 56.4	-0.5
GTA				SKKS	SKKSac	02 47 41.1	+0.5
GTA				SS	SS	02 59 15.3	+0.9
GTA				AMB	AMB		
	comp=Z,180nm,4.7s						
GTA				LR	LR		
	comp=Z,180nm,19.0s						
GTA				LR	LR		
	comp=Z,92nm,20.0s						
GTA				LR	LR		
	comp=Z,130nm,20.4s						
RES	Resolute Bay	140.92	337	ePKHKP	PKPpre	02 37 44.7	
RES				e		02 37 51.5	
RES	Resolute Bay	140.92	337	ePKPpre	PKPpre	02 37 44.7	
RES				ePKPdf	PKPdf	02 37 51.5	+1.1
DLBC	Dease Lake	142.67	303	ePKPpre	PKPpre	02 37 49.6	
DLBC				ePKPdf	PKPdf	02 37 54.2	+0.1
NVS	Novosibirsk	142.68	64	ePKHKP	PKPpre	02 37 48.8	
NVS				pmax	pmax		
	comp=Z,16nm,1.2s						
NVS				pmax	pmax		
	comp=N,5.0nm,0.9s						
ZAA0	Zalesovo Array	142.90	67	ePKPpre	PKPpre	02 37 49.7	
ZAA0				ePKPdf	PKPdf	02 37 53.9	-0.7
ZALV	Zalesovo Beam	142.90	67	PKHKP	PKPpre	02 37 50.2	
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZALV	Zalesovo Beam	142.90	67	PKhKP	PKPpre	02 37 50.2	
	comp=Z,3.8nm,0.6s,baz=268,slow=2.9,SNR=14						
TIA	Tai'an	146.79	117	PKPbc	PKPbc	02 38 04.0	+0.2
HYT	Haines Junctio	147.16	303	ePKPdf	PKPdf	02 38 00.9	-1.0
HYT				ePKPbc	PKPab	02 38 05.4	-0.7
HHC	Hu-ho-hao-te	147.76	105	ePKPbc	PKPbc	02 38 06.4	-0.1
HHC				pPKP	pPKPdf	02 38 16.0	-3.1
HHC				SS	SS	03 00 38.5	+3.4
HHC				LR	LR		
	comp=Z,180nm,15.5s						
HHC				LR	LR		
	comp=Z,340nm,15.1s						
HHC				LR	LR		
	comp=Z,100nm,13.4s						
INK	Inuvik	148.57	317	PKP	PKPdf	02 38 01.5	-2.3
	comp=Z,4.0nm,0.9s,baz=122,slow=2.1,SNR=13						
INK				PKPbc	PKPbc	02 38 06.2	-1.3
	comp=Z,34nm,0.7s,baz=78,slow=3.1,SNR=80						
INK	Inuvik	148.57	317	ePKPbc	PKPbc	02 38 07.1	-0.5
BJT	Baijiatuau	149.39	111	ePKP2	PKPbc	02 38 10.8	+0.3
BJT	Baijiatuau	149.39	111	ePKPbc	PKPbc	02 38 10.8	+0.3
MOY	Mondy	149.56	80	ePKP2	PKPbc	02 38 11.2	+0.5
MOY				pmax	pmax		
	comp=Z,62nm,1.9s						
JNU	Nakatsue	149.74	139	PKPbc	PKPbc	02 38 12.1	+0.4
	comp=Z,22nm,0.8s,baz=88,slow=5.7,SNR=7.1						
ZAK	Zakamensk	149.97	84	ePKIKP	PKPdf	02 38 06.3	-0.5
ZAK				pmax	pmax		
	comp=Z,39nm,1.2s						
SONM	Songino Array	150.01	91	PKIKP	PKPdf	02 38 06.7	-0.2
SONM						02 38 12.0	
SONM				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SONM				pmax	pmax		
	comp=Z,36nm,1.0s						
SONM	Songino Array	150.01	91	PKP	PKPdf	02 38 06.7	-0.2
	comp=Z,5.5nm,1.2s,baz=222,slow=1.9,SNR=17						
SONM				PKPbc	PKPbc	02 38 12.0	0.0
	comp=Z,36nm,1.0s,baz=213,slow=2.0,SNR=112						
EGAK	Eagle	150.29	309	ePKPbc	PKPbc	02 38 12.2	+0.3
BMRM	Bremner River	150.35	300	ePKPdf	PKPdf	02 38 04.8	-2.2
BMRM				ePKPbc	PKPbc	02 38 12.5	+0.3
ULN	Ulaanbaatar	150.37	91c	iPKIKP	PKPbc	02 38 12.6	-0.3
ULN	Ulaanbaatar	150.37	91	ePKPbc	PKPbc	02 38 12.6	-0.3
MENT	Mentasta	150.71	304	ePKPbc	PKPbc	02 38 13.3	+0.3
TLY	Talaya	150.92	82	ePKIKP	PKPdf	02 38 08.1	0.0
TLY				e		02 38 14.2	
TLY	Talaya	150.92	82	ePKPdf	PKPdf	02 38 08.1	0.0
TLY				ePKPbc	PKiKP	02 38 14.2	-0.2
DIV	Divide	150.93	300	ePKPbc	PKPbc	02 38 13.5	-0.2
DOT	Dot Lake	151.11	306	ePKPdf	PKPdf	02 38 05.5	-2.5
DOT				ePKPbc	PKPbc	02 38 13.9	-0.1
PAX	Paxson	151.47	304	ePKIKP	PKPbc	02 38 14.7	-0.2
PAX				e		02 38 23.1	
PAX	Paxson	151.47	304	ePKPbc	PKPbc	02 38 14.7	-0.2
PAX				ePKPab	PKPab	02 38 23.1	-0.5
SEW	Seward	152.21	297	ePKPbc	PKPbc	02 38 15.9	-0.6
KSAR	Wonju Array Be	152.48	130	PKIKP	PKPdf	02 38 11.0	+0.1
KSAR						02 38 18.2	
KSRS	Korea Array	152.50	130	PKIKP	PKPdf	02 38 11.0	+0.1
KSRS						02 38 18.2	
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSRS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KSRS	Korea Array	152.50	130	PKP	PKPdf	02 38 11.0	+0.1
	comp=Z,1.8nm,0.8s,baz=197,slow=2.4,SNR=5.5						
KSRS				PKPbc	PKiKP	02 38 18.2	+0.1
	comp=Z,5.6nm,0.7s,baz=197,slow=2.6,SNR=14						
KSRS				PKPab	PKPab	02 38 29.4	+0.9
	comp=Z,8.0nm,0.9s,baz=229,slow=4.2,SNR=8.9						
PMR	Palmer	152.61	300	ePKIKP	PKPdf	02 38 07.4	-2.9
PMR				e		02 38 17.3	
PMR	Palmer	152.61	300	ePKPdf	PKPdf	02 38 07.4	-2.9
PMR				ePKPbc	PKPbc	02 38 17.3	0.0
ILAR	Eielson Array	152.63	307	PKIKP	PKPbc	02 38 17.1	-0.2
ILAR				pmax	pmax		
	comp=Z,27nm,1.0s						
ILAR	Eielson Array	152.63	307	PKPbc	PKPbc	02 38 17.1	-0.2
	comp=Z,27nm,1.0s,baz=148,slow=0.9,SNR=68						
RC01	Rabbit Creek A	152.71	299	ePKPdf	PKPdf	02 38 07.6	-2.9
RC01				ePKPbc	PKPbc	02 38 17.4	-0.2
RC01				ePKPab	PKPab	02 38 28.9	+0.2
KDAK	Kodiak Island	152.74	291c	iPKIKP	PKPbc	02 38 17.6	-0.1
KDAK	Kodiak Island	152.74	291	ePKPbc	PKPbc	02 38 17.6	-0.1
OHAK	Old Harbor	152.84	289	ePKPbc	PKPbc	02 38 17.8	-0.2
COLA	College	153.05	307d	iPKIKP	PKPbc	02 38 17.9	-0.3
COLA	College	153.05	307	ePKPbc	PKPbc	02 38 17.7	-0.5
COLA				ePKPab	PKPab	02 38 30.0	0.0
MCK	McKinley	153.20	304	ePKIKP	PKPdf	02 38 07.9	-3.2
MCK				e		02 38 18.5	
MCK	McKinley	153.20	304	ePKPdf	PKPdf	02 38 07.9	-3.2
MCK				ePKPbc	PKPbc	02 38 18.4	-0.2
TRF	Thorofare Moun	153.70	303	ePKPdf	PKPdf	02 38 08.7	-3.3

TRF ePKPbc PKPbc 02 38 19.5 -0.4
KTH Kantishna Hill 154.00 303 ePKPbc PKPbc 02 38 20.0 -0.4
PPLA Purkeypile 154.38 302 ePKPdf PKPdf 02 38 09.6 -3.4
PPLA ePKPbc PKPbc 02 38 21.3 0.0
COLD Coldfoot 154.47 312 ePKPdf PKPdf 02 38 09.8 -3.0
COLD ePKPbc PKiKP 02 38 21.9 +0.7
MJAR Matsushiro Arr 155.18 148 PKPbc PKPbc 02 38 24.1
comp=Z,4.1nm,0.8s,baz=186,slow=2.8,SNR=6.5
MAJO Matsushiro 155.18 148 ePKIKP PKPdf 02 38 14.6 -0.2
MAJO e 02 38 24.1
MAJO e 02 38 39.5
MAJO Matsushiro 155.18 148 ePKPdf PKPdf 02 38 14.6 -0.2
MAJO ePKPbc PKPbc 02 38 24.1
MAJO ePKPab PKPab 02 38 39.5 -0.4
IM04 Indian Mountai 155.70 308 ePKPdf PKPdf 02 38 11.3 -3.2
IM04 ePKPbc PKPbc 02 38 24.1
USRK Ussuriysk Arra 159.85 128 PKPab PKPab 02 38 59.1 -0.6
comp=Z,17nm,1.3s,baz=228,slow=5.8,SNR=5.1
KLR Kul'dur 163.63 117 ePKP2 PKPab 02 39 11.8 -4.5
PETK Petropavlovsk- 173.77 199 PKP2 PKPab 02 40 01.3 +0.3
PETK pmax pmax
comp=Z,6.0nm,0.8s
PETK Petropavlovsk- 173.77 199 PKPab PKPab 02 40 01.3 +0.3
comp=Z,6.4nm,0.8s,baz=161,slow=6.0,SNR=4.8
SEY Seymchan 175.97 13 ePKIKP PKPdf 02 38 29.8 -1.0

KRSC 03 02:49:16.1±0.7, 55°.23N×163°.51E, h63km±14km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.06	339	i P	Pn	02 49 35.6	+0.5
KBTR				S	Sn	02 49 49.6	+0.5
KBG	Krutoberegovo	1.13	336	P	Pn	02 49 36.6	+0.7
KBG				S	Sn	02 49 52.3	+1.6
BKI	Bering	1.41	90	P	Pn	02 49 41.6	+2.0
BKI				S	Sn	02 49 59.7	+2.4
BZGR	Bezymyannyi-Gr	1.75	295	P	Pn	02 49 46.4	+2.0
BZGR				S	Sn	02 50 08.3	+2.4
SMKR	Semkarok	1.78	321	P	Pn	02 49 46.9	+2.1
SMKR				S	Sn	02 50 09.5	+3.0
KZV	Kizimen	1.85	268	i P	Pn	02 49 47.8	+2.0
BZMR	Bezymyannaya	1.86	294	P	Pn	02 49 48.4	+2.5
BZWR	Bezymyannyi-We	1.87	295	P	Pn	02 49 48.4	+2.4
BDR	Baidarnaya	1.87	317	P	Pn	02 49 48.4	+2.4
BDR				S	Sn	02 50 11.3	+2.7
TUMR	Tumrok	1.93	273	i P	Pn	02 49 49.1	+2.3
TUMR				S	Sn	02 50 12.7	+2.6
KMNR	Kamenistaya	1.94	287	P	Pn	02 49 49.6	+2.7
KMNR				S	Sn	02 50 13.2	+2.9
KRSR	Krestovskiy	1.94	302	P	Pn	02 49 49.0	+2.0
KIRR	Kirishev	1.94	293	P	Pn	02 49 49.6	+2.6
KIRR				S	Sn	02 50 13.7	+3.2
SRKR	Sorokina	1.95	318	P	Pn	02 49 49.2	+2.2
SRKR				S	Sn	02 50 13.1	+2.6
KLY	Klyuchi	1.95	305	P	Pn	02 49 47.8	+0.9
KLY				S	Sn	02 50 10.7	+0.4
KPT	Kopyto	2.01	293	P	Pn	02 49 49.2	+1.3
KPT				S	Sn	02 50 13.5	+1.5
KOZ	Kozyrevsk	2.23	294	P	Pn	02 49 52.6	+1.9
KOZ				S	Sn	02 50 19.4	+2.3
SRDR	Sredinnyy	2.41	299	P	Pn	02 49 56.4	+3.2
KII	Karymskiy	2.65	245	P	Pn	02 49 58.9	+2.4
ESO	Esso	2.82	286	P	Pn	02 50 01.8	+3.0
KRER	Koryakskii	3.39	237	i P	Pn	02 50 10.3	+3.4
KRER				S	Sn	02 50 49.1	+3.0
SMAR	Somma	3.39	237	P	Pn	02 50 09.4	+2.5
SMAR				S	Sn	02 50 47.8	+1.7
KRX	Arik	3.41	239	P	Pn	02 50 10.5	+3.5
KRX				S	Sn	02 50 50.1	+3.8
UGLR	Uglovaya	3.42	236	i P	Pn	02 50 10.2	+3.2
UGLR				S	Sn	02 50 48.8	+2.4
AVH	Avacha	3.42	237	P	Pn	02 50 10.5	+3.4
AVH				S	Sn	02 50 49.7	+3.2
KOK	Koryaka	3.46	238	P	Pn	02 50 10.8	+3.2
KOK				S	Sn	02 50 49.9	+2.6
GNL	Ganaly	3.59	247	i P	Pn	02 50 13.1	+3.6
PET	Petropavlovsk	3.61	234	P	Pn	02 50 12.4	+2.9
PET				S	Sn	02 50 52.2	+1.3
OSSR	Ossora	4.04	357	P	Pn	02 50 18.3	+2.9
OSSR				S	Sn	02 51 03.8	+2.4
RUS	Russkaya	4.07	229	P	Pn	02 50 19.4	+3.5
RUS				S	Sn	02 51 05.1	+2.9
MTVR	Mutnovka	4.18	231	P	Pn	02 50 21.4	+3.8
MTVR				S	Sn	02 51 08.0	+2.7
ASAK	Asacha	4.38	232	P	Pn	02 50 22.9	+2.7
ASAK				S	Sn	02 51 12.3	+2.3
APC	Apacha	4.39	241	P	Pn	02 50 24.6	+4.3
APC				S	Sn	02 51 14.4	+4.3
TILK	Tilichiki	5.42	14	P	Pn	02 50 38.7	+4.5

IDC 03 03:08:31.1±5.2, 23°.64N×108°.75W, h0km, mb3.0/2, mb1 3.5/5, mb1mx3.3/39, mbtmp3.0/5, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/19, Error ellipse: s-maj=80.4km s-min=21.7km az=155.0
ISC 03 03:08:31.5±6.6, 23°.5N±0°.7×108°.8W±0°.2, h10km, n11, σ2s17/7, mb3.4/3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	1.51	296	Pg	Pn	03 08 56.5	-2.2
	40nm,0.3s,baz=279,slow=3.8,SNR=24						
TXAR	Lajitas Array	7.46	37	Pn	Pn	03 10 18.4	-2.1
	0.1nm,0.3s,baz=215,slow=15,SNR=3.6						
TXAR				Lg	Lg	03 12 17.6	
	0.2nm,0.3s,baz=210,slow=32,SNR=3.9						
NVAR	Mina Array Bea	16.99	334	Pn	P	03 12 31.9	+0.6
	0.1nm,0.3s,baz=159,slow=13,SNR=4.1						
PDAR	Pinedale Array	19.27	358	P	Pn	03 12 57.0	-0.5
	baz=153,slow=6.1,SNR=3.0						
NEW	Newport	25.63	347	P	P	03 14 04.2	+3.0
	0.8nm,0.5s,baz=164,slow=7.4,SNR=2.8						
YKA	Yellowknife Ar	39.22	356	P	P	03 15 60.0	+0.3
	0.6nm,0.9s,baz=173,slow=7.8,SNR=3.8						
SJG	San Juan	40.13	89	LR	LR	03 32 44.7	
	comp=Z,37nm,19.6s,baz=270,slow=36						
ILAR	Eielson Array	48.13	339	P	P	03 17 11.8	+0.4
	0.2nm,0.6s,baz=150,slow=6.9,SNR=2.6						
H03N2	Juan Fernandez	63.34	152	T	T	04 28 46.9	
	baz=330,slow=76,SNR=7.1						
H03N1	Juan Fernandez	63.34	152	T	T	04 28 46.2	
	baz=330,slow=76,SNR=9.4						
H03N3	Juan Fernandez	63.35	152	T	T	04 29 05.8	
	baz=330,slow=76,SNR=8.9						

ISCJB 03 03:10:16.8±0.5, 36°.67N±0°.05×30°.89E±0°.05, h70km±7km, Error ellipse: s-maj=9.1km s-min=6.1km az=21.3
ISK 03 03:10:16.2, 36°.64N×30°.86E, h65km, MD3.2
DDA 03 03:10:17.7, 36°.59N×31°.00E, h8km, MD3.2
CSEM 03 03:10:17.4±0.1, 36°.64N×30°.85E, h62km±2km, MD3.2, Error ellipse: s-maj=4.3km s-min=2.7km az=24.0
ISC 03 03:10:18.4±1.3, 36°.69N±0°.04×30°.89E±0°.04, h57km±9km, n46, σ0s99/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	Antalya	0.29	318	ePG	Pn	03 10 27.9	-0.2
ANTB				eSG	Sn	03 10 35.0	-0.2
ANTB	Antalya	0.29	318	ePg	Pn	03 10 27.9	-0.2
ANTB				eSg	Sn	03 10 35.0	-0.2
KORT	Korkueli	0.54	306	i P	Pn	03 10 29.9	-0.8
KORT				i S	Sn	03 10 40.9	+1.2
KORT	Korkueli	0.54	306	i P	Pn	03 10 29.9	-0.8
KORT				i S	Sn	03 10 40.9	+1.2
SUTC	Sutluce-Ispart	0.79	6	ePG	Pn	03 10 33.2	-0.6
SUTC				eSG	Sn	03 10 45.3	+0.2
SUTC	Sutluce-Ispart	0.79	6	ePg	Pn	03 10 33.2	-0.6
SUTC				eSg	Sn	03 10 45.3	+0.2
ELL	Elmali	0.79	275	ePG	Pn	03 10 32.7	-1.1
ELL	Elmali	0.79	275	ePg	Pn	03 10 32.7	-1.1
BCK	Bucak	0.81	343	ePG	Pn	03 10 33.4	-0.6
BCK				eSG	Sn	03 10 46.0	+0.6
BCK	Bucak	0.81	343	ePg	Pn	03 10 33.4	-0.6
BCK				eSg	Sn	03 10 46.0	+0.6
AKAS	Kas	1.13	247	i P	Pn	03 10 39.5	+1.2
AKAS	Kas	1.13	247	i P	Pn	03 10 39.5	+1.2
AKAS				i S	Sn	03 10 57.3	+4.4
ISP	Isparta	1.17	346	ePN	Pn	03 10 37.7	-1.0
ISP	Isparta	1.17	346	ePn	Pn	03 10 37.7	-1.0
GAZI	Gazipasa	1.23	111	i P	Pn	03 10 39.5	0.0
GAZI	Gazipasa	1.23	111	i P	Pn	03 10 39.5	0.0
GAZI				i S	Sn	03 11 03.2	+8.0
DALY	Dalyan (Mu˘la	1.80	275	ePN	Pn	03 10 46.0	-1.1
DALY	Dalyan (Mu˘la	1.80	275	ePn	Pn	03 10 46.0	-1.1
LADK	Ladik-KONYA	1.91	37	ePN	Pn	03 10 48.7	-0.1
LADK	Ladik-KONYA	1.91	37	ePn	Pn	03 10 48.7	-0.1
KHL	Karahalli	1.96	327	ePN	Pn	03 10 48.7	-0.7
KHL	Karahalli	1.96	327	ePn	Pn	03 10 48.7	-0.7
YER	Yerkesik	2.14	283	ePN	Pn	03 10 50.2	-1.6
YER	Yerkesik	2.14	283	ePn	Pn	03 10 50.2	-1.6
LEF	Lefka	2.25	133	ePN	Pn	03 10 52.1	-1.2
LEF	Lefka	2.25	133	ePn	Pn	03 10 52.1	-1.2
ALT	Altintas	2.44	346	ePN	Pn	03 10 55.9	-0.1
ALT	Altintas	2.44	346	ePn	Pn	03 10 55.9	-0.1
KULA	Kula-Manisa	2.54	316	ePN	Pn	03 10 56.3	-1.0
KULA	Kula-Manisa	2.54	316	ePn	Pn	03 10 56.3	-1.0
LFK	Lefkose	2.56	122	ePN	Pn	03 10 56.7	-0.9
LFK	Lefkose	2.56	122	ePn	Pn	03 10 56.7	-0.9
CSS	Prodhromos	2.62	130	ePN	Pn	03 10 57.4	-1.0
CSS	Prodhromos	2.62	130	ePn	Pn	03 10 57.4	-1.0
AYDB	Zeytinkoy-Aydi	2.70	299	ePN	Pn	03 10 58.2	-1.3
AYDB	Zeytinkoy-Aydi	2.70	299	ePn	Pn	03 10 58.2	-1.3
BDRM	Kayabasi	2.79	279	i P	Pn	03 10 59.4	-1.2
BDRM				i S	Sn	03 11 34.9	+1.8
BDRM	Kayabasi	2.79	279	i P	Pn	03 10 59.4	-1.2
BDRM				i S	Sn	03 11 34.9	+1.8
BODT	Bodrum	2.90	278	ePN	Pn	03 11 00.5	-1.6
BODT	Bodrum	2.90	278	ePn	Pn	03 11 00.5	-1.6
TVSB	Tavsanli	2.98	338	ePN	Pn	03 11 02.8	-0.5
TVSB	Tavsanli	2.98	338	ePn	Pn	03 11 02.8	-0.5
KARA	Karaisali	3.38	79	ePN	Pn	03 11 08.5	-0.2
KARA	Karaisali	3.38	79	ePn	Pn	03 11 08.5	-0.2
BALB	Balikesir	3.79	322	ePN	Pn	03 11 14.9	+0.7
BALB	Balikesir	3.79	322	ePn	Pn	03 11 14.9	+0.7

AZER 03 03:13:33.0±0.3, 42°.27N×43°.43E, h3km, Error ellipse: s-maj=17.2km s-min=10.2km az=27.0
TIF 03 03:13:33.8, 42°.54N×43°.55E, h16km
DDA 03 03:13:33, 42°.59N×43°.40E, h3km, MD3.1
CSEM 03 03:13:35.0±0.1, 42°.52N×43°.51E, h2km, mb4.0, Error ellipse: s-maj=3.2km s-min=2.7km az=99.0
MOS 03 03:13:35.3±2.0, 42°.58N×43°.50E, h6km, mb4.0/1, Error ellipse: s-maj=9.3km s-min=5.6km az=80.1
ISC 03 03:13:35.0±0.8, 42°.51N±0°.01×43°.47E±0°.02, h10km±5km, n91, σ1s13/137, 15C-14D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.08	350	P	Pg	03 13 37.5	+0.1
ONI	Oni	0.08	350	P	Pg	03 13 37.5	+0.1
ONI				S	Sg	03 13 39.7	+0.5
DIGR	Digorskoe uzhe	0.40	12	⇓/PG	Pg	03 13 42.0	-0.9
DIGR				i S	Sg	03 13 47.6	-0.5
DIGR	Digorskoe uzhe	0.40	12	i Pg	Pg	03 13 42.0	-0.9
DIGR				i Sg	Sg	03 13 47.6	-0.5
ZEI	Tsey	0.42	49	⇓/PG	Pg	03 13 42.0	-1.3
ZEI				i S	Sg	03 13 47.9	-1.0
KORR	Kora	0.72	37	⇑/PG	Pg	03 13 48.1	-0.8
KORR				eS	Sg	03 13 58.3	-0.1
KORR	Kora	0.72	37	i Pg	Pg	03 13 48.1	-0.8
KORR				eSg	Sg	03 13 58.3	-0.1
GUDG	Gudauri	0.74	93	P	Pg	03 13 47.7	-1.7
GUDG	Gudauri	0.74	93	P	Pg	03 13 47.7	-1.7
GUDG				S	Sg	03 13 57.9	-1.2
ARNR	Ardon	0.90	42	⇑/PG	Pb	03 13 51.9	-0.7
ARNR				eS	Sb	03 14 04.2	-0.4
ARNR	Ardon	0.90	42	i Pg	Pb	03 13 51.9	-0.7
ARNR				eSg	Sb	03 14 04.2	-0.4
NEY	Neytrino	0.92	323	⇑/PG	Pb	03 13 52.6	-0.5
NEY				i S	Sb	03 14 04.8	-0.6
NEY	Neytrino	0.92	323	i Pg	Pb	03 13 52.6	-0.5
NEY				i Sg	Sb	03 14 04.8	-0.6
STDR	Stavd-Durt	0.96	27	⇑/PG	Pb	03 13 53.3	-0.4
STDR				eS	Sb	03 14 06.6	+0.2
STDR	Stavd-Durt	0.96	27	i Pg	Pb	03 13 53.3	-0.4
STDR				eSg	Sb	03 14 06.6	+0.2
NCK	Nalchik	0.99	5	⇓/PG	Pb	03 13 53.8	-0.3
NCK				i S	Sn	03 14 08.1	-0.8
NCK	Nalchik	0.99	5	i Pg	Pb	03 13 53.8	-0.3
NCK				i Sg	Sn	03 14 08.1	-0.8
DUS	Dusheti	1.00	114	P	Pg	03 13 53.4	-0.9
DUS	Dusheti	1.00	114	P	Pg	03 13 53.4	-0.9
DUS				S	Sn	03 14 08.1	-1.3
VLKR	Vladikavkaz	1.04	59	⇓/PG	Pn	03 13 54.8	-0.7
VLKR				eS	Sn	03 14 08.9	-1.2
VLKR	Vladikavkaz	1.04	59	i Pg	Pn	03 13 54.8	-0.7
VLKR				eSg	Sn	03 14 08.9	-1.2
CHVG	Ch'k'valeri	1.04	282	P	Pn	03 13 55.0	-0.6
CHVG	Ch'k'valeri	1.04	282	P	Pn	03 13 55.0	-0.6
CHVG				S	Sn	03 14 10.0	+0.6
AKH	Akhalkalaki	1.10	179	P	Pb	03 13 55.3	-0.8
AKH	Akhalkalaki	1.10	179	P	Pb	03 13 55.3	-0.8
AKH				S	Sn	03 14 10.6	-1.3
SNJR	Sundja	1.13	60	ePG	Pb	03 13 55.8	-0.8
SNJR				eS	Sg	03 14 11.3	-0.1
SNJR	Sundja	1.13	60	ePg	Pb	03 13 55.8	-0.8
SNJR				eSg	Sg	03 14 11.3	-0.1
TBLG	Delisi	1.22	129	ePG	Pn	03 13 56.9	-1.2
TBLG	Delisi	1.22	129	P	Pn	03 13 56.9	-1.2
TBLG	Delisi	1.22	129	P	Pn	03 13 56.9	-1.2
TBLG				S	Sb	03 14 13.2	-0.8
SEAG	Tbilisi Sea	1.24	127	P	Pn	03 13 56.9	-1.4
SEAG	Tbilisi Sea	1.24	127	P	Pn	03 13 56.9	-1.4
SEAG				S	Sb	03 14 13.4	-1.1
KZR	Kazreti	1.33	148	P	Pn	03 13 58.6	-1.0
KZR	Kazreti	1.33	148	P	Pn	03 13 58.6	-1.0
KZR				S	Sb	03 14 16.1	-1.0
PRTR	Priterechnaya	1.37	25	⇑/PG	Pg	03 14 00.7	-0.6
PRTR				eS	Sg	03 14 19.3	+0.1
PRTR	Priterechnaya	1.37	25	i Pg	Pg	03 14 00.7	-0.6
PRTR				eSg	Sg	03 14 19.3	+0.1
TRKR	Terskaya	1.52	37	⇓/PG	Pg	03 14 03.1	-1.1
TRKR				eS	Sg	03 14 23.6	-0.3
TRKR	Terskaya	1.52	37	i Pg	Pg	03 14 03.1	-1.1
TRKR				eSg	Sg	03 14 23.6	-0.3
PYA	Pyatigorsk	1.55	349	⇑/PG	Pg	03 14 03.7	-1.0
PYA				i S	Sg	03 14 24.4	-0.4
PYA	Pyatigorsk	1.55	349	i Pg	Pg	03 14 03.7	-1.0
PYA				i Sg	Sg	03 14 24.4	-0.4
KIV	Kislovodsk	1.55	339	⇑/PG	Pg	03 14 03.9	-0.9
KIV				eS	Sg	03 14 24.2	-0.7
KIV	Kislovodsk	1.55	339	i Pg	Pg	03 14 03.9	-0.9
KIV				eSg	Sg	03 14 24.2	-0.7
ARTV	Artvin	1.76	222	i P	Pb	03 14 06.9	-0.5
ARTV				i S	Sg	03 14 31.9	+0.4
ARTV	Artvin	1.76	222	i P	Pb	03 14 06.9	-0.5
ARTV				i S	Sg	03 14 31.9	+0.4
DGRG	David-gareji	1.77	126	ePN	Pb	03 14 07.0	-0.5
DGRG	David-gareji	1.77	126	P	Pb	03 14 07.0	-0.5
DGRG	David-gareji	1.77	126	P	Pb	03 14 07.0	-0.5
DBOC	Borcka	1.78	230	i P	Pb	03 14 06.7	-1.0
DBOC				i S	Sg	03 14 32.1	-0.1
DBOC	Borcka	1.78	230	i P	Pb	03 14 06.7	-1.0
DBOC				i S	Sg	03 14 32.1	-0.1
DAGI	Agillar	1.85	220	i P	Pb	03 14 08.5	-0.3
DAGI				i S	Sg	03 14 34.9	+0.6
GRO	Groznyy	1.86	63	⇓/PN	Pb	03 14 08.8	-0.2
GRO				i S	Sg	03 14 33.0	-1.7
GRO	Groznyy	1.86	63	i Pn	Pb	03 14 08.8	-0.2
GRO				i Sg	Sg	03 14 33.0	-1.7
DBAD	Bademkaya	2.00	222	i P	Pb	03 14 10.6	-0.8
DBAD				i S	Sg	03 14 38.8	-0.4
DBAD	Bademkaya	2.00	222	i P	Pb	03 14 10.6	-0.8
DBAD				i S	Sg	03 14 38.8	-0.4
QZX	Qazax, Azerbai	2.03	135	⇑P	Pb	03 14 09.9	-2.1
QZX				⇑S	Sb	03 14 37.5	+0.2
QZX	Qazax, Azerbai	2.03	135	P	Pb	03 14 09.9	-2.1
QZX				S	Sb	03 14 37.5	+0.2
DDEM	Demirkent	2.07	219	i P	Pb	03 14 12.6	0.0
DDEM				i S	Sg	03 14 41.3	-0.1
DDEM	Demirkent	2.07	219	i P	Pb	03 14 12.6	0.0
DDEM				i S	Sg	03 14 41.3	-0.1
DIGO	Kars	2.10	182	i P	Pb	03 14 12.8	-0.4
DIGO	Kars	2.10	182	i S	Sg	03 14 41.6	-0.8
DIGO	Kars	2.10	182	i P	Pb	03 14 12.8	-0.4
DIGO				i S	Sg	03 14 41.6	-0.8
ZKTA	Zakatala	2.50	109	⇑Pg	Pn	03 14 16.7	+1.0
	SNR=7.2						
ZKTA				⇓Sg	Sb	03 14 51.4	+0.6
GNI	Garni	2.55	158	c /PN	Pb	03 14 20.8	0.0
GNI	Garni	2.55	158	i Pn	Pb	03 14 20.8	0.0
GOF	Gofitskoye	2.56	353	ePN	Pn	03 14 12.0	-4.5
GOF				eS	Sg	03 14 56.5	-0.8
GOF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GOF				smax	smax		
	comp=N,240nm,1.0s						
GOF				smax	smax		
	comp=E,70nm,1.0s						
GOF	Gofitskoye	2.56	353	ePn	Pn	03 14 12.0	-4.5
	comp=E,10.0nm,0.8s						
GOF				eSb	Sg	03 14 56.5	-0.8
GANJ	Ganja	2.84	130	⇓Pg	Pn	03 14 20.6	+0.3
GANJ				⇓Sg	Sb	03 14 59.4	-1.0
GANJ	Ganja	2.84	130	Pg	Pn	03 14 20.6	+0.3
EZM	Erzurum	3.05	212	eP	Pb	03 14 26.1	-3.4
SEKA	Sheki	3.07	114	⇑Pg	Pn	03 14 23.9	+0.4
	SNR=5.4						
SEKA				⇓Sg	Sb	03 15 05.8	-1.5
SEKA	Sheki	3.07	114	Pg	Pn	03 14 23.9	+0.4
	SNR=5.4						
KTUT	Trabzon	3.16	242	eP	Pn	03 14 22.2	-2.5
KTUT	Trabzon	3.16	242	eP	Pn	03 14 22.2	-2.5
MNGR	Mingechevir, A	3.22	121	⇓Pn	Pn	03 14 26.0	+0.5
MNGR	Mingechevir, A	3.22	121	Pn	Pn	03 14 26.0	+0.5
CLDR	Caldiran	3.58	174	eP	Pg	03 14 38.9	-0.9
VRTB	Varto-Mus	3.68	205	eP	Pb	03 14 39.7	-0.5
QUBA	Quba, Azerbaij	3.92	105	⇓Pn	Pn	03 14 38.0	+2.8
QUBA	Quba, Azerbaij	3.92	105	Pn	Pn	03 14 38.0	+2.8
IML	Ismayilli	3.92	114	⇑Pn	Pn	03 14 36.9	+1.6
	SNR=3.2						
IML				⇑S	Sn	03 15 24.2	+2.9
IML	Ismayilli	3.92	114	Pn	Pn	03 14 36.9	+1.6
	SNR=3.2						
IML				S	Sn	03 15 24.2	+2.9
PQL	Pirkuli	4.21	112	⇓Pn	Pn	03 14 40.9	+1.7
PQL				⇓S	Sn	03 15 32.8	+4.4
PQL	Pirkuli	4.21	112	Pn	Pn	03 14 40.9	+1.7
SIZA	Siyzn	4.30	108	⇑Pn	Pn	03 14 43.3	+2.8
SIZA	Siyzn	4.30	108	Pn	Pn	03 14 43.3	+2.8
RSDY	Resadiye-TOKAT	5.08	247	eP	Pn	03 14 51.7	+0.6
RSDY	Resadiye-TOKAT	5.08	247	eP	Pn	03 14 51.7	+0.6
BRVK	Borovoye	20.75	50	P	Pn	03 18 20.6	+2.6
KHC	Kasperske Hory	21.77	298	i P	P	03 18 32.8	+6.2
AAK	Ala-Archa	22.79	79	eP	P	03 18 41.4	+3.7
AAK	Ala-Archa	22.79	79	eP	P	03 18 41.4	+3.7

SJA 03 03:18:21.9±0.8, 24°.11S×67°.01W, h212km±8km, ML3.6, MW3.8
ISCJB 03 03:18:23.0±0.3, 24°.21S±0°.03×67°.15W±0°.05, h187km±4km, mb3.6/8, Error ellipse: s-maj=7.3km s-min=3.8km az=154.9
IDC 03 03:18:23.0±2.0, 24°.14S×66°.61W, h178km±18km, mb3.6/8, mb1 3.8/11, mb1mx3.5/40, mbtmp4.1/11, Error ellipse: s-maj=22.4km s-min=16.4km az=71.0
GUC 03 03:18:26.5±0.3, 23°.93S×67°.51W, h213km±14km, ML4.8
ISC 03 03:18:23.1±0.8, 24°.20S±0°.04×67°.12W±0°.05, h179km±7km, n36, σ1s85/54, mb3.8/8, 9C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.56	110	i P	Pn	03 18 57.7	+1.9
SLA				eS	Sn	03 19 23.3	+2.2
SLA				AML	AML	03 19 24.5	
	comp=Z,278nm,0.7s						
LVC	Limon Verde	2.28	314	i P	Pn	03 19 05.5	+2.0
LVC				eS	Sn	03 19 37.2	+2.4
ASTB	Santa Barbara	2.43	85	i P	Pn	03 19 05.9	+0.8
PB06	Plate Boundary	2.70	303	⇑/P	Pn	03 19 10.5	+2.2
PB06				i S	Sn	03 19 43.4	+0.1
PB06				eS	Sn	03 19 43.5	+0.1
PB06				AML	AML	03 19 45.6	
	comp=N,2μm,0.4s						
PB04	Plate Boundary	2.91	311	⇑/P	Pn	03 19 17.6	+7.0
PB04				i S	Sn	03 19 56.9	+9.4
PB04				AML	AML	03 20 00.9	
	comp=N,1μm,0.6s						
CEN1	Los Morros	2.93	285	⇓/P	Pn	03 19 14.5	+3.5
CEN1				i S	Sn	03 19 50.1	+1.9
CEN1				AML	AML	03 19 55.3	
	comp=N,1μm,0.4s						
ANCH	Antofagasta	3.05	279	⇑/P	Pn	03 19 12.5	+0.1
ANCH				i S	Sn	03 19 49.2	-1.5
PB09	Plate Boundary	3.09	320	⇑/P	Pn	03 19 15.0	+2.0
PB09				i S	Sn	03 19 51.8	-0.1
PB09				AML	AML	03 19 59.1	
	comp=N,2μm,0.5s						
MACH	Maria Elena	3.14	309	⇓/P	Pn	03 19 15.4	+1.7
MACH				i S	Sn	03 19 52.8	-0.3
PB10	Plate Boundary	3.21	282	⇑/P	Pn	03 19 16.5	+2.1
PB10				i S	Sn	03 19 54.4	+0.1
PB10				AML	AML	03 20 01.2	
	comp=N,3μm,0.3s						
PB07	Plate Boundary	3.54	314	⇑/P	Pn	03 19 19.8	+1.1
PB07				i S	Sn	03 20 00.7	-1.2
PB01	Plate Boundary	3.83	325	⇑/P	Pn	03 19 22.7	+0.5
PB01				eS	Sn	03 20 06.3	-2.0
CYA	Choya	4.39	165	i P	Pn	03 19 30.5	+1.3
CYA				eS	Sn	03 20 20.9	-0.1
CYA				AML	AML	03 20 24.4	
	comp=Z,18nm,0.7s						
HMBC	Humberstone	4.67	326	⇑/P	Pn	03 19 32.0	-0.9
HMBC				i S	Sn	03 20 24.0	-3.7
PB11	Plate Boundary	5.00	332	⇑/P	Pn	03 19 36.5	-0.9
PB11				i S	Sn	03 20 31.9	-3.7
ACLC	CERRO LA CRUZ	5.21	178	i P	Pn	03 19 40.5	+0.7
ACLC				eS	Sn	03 20 40.5	+0.2
AGUA	GUANDACOL	5.40	193	i P	Pn	03 19 44.1	+1.7
AGUA				eS	Sn	03 20 45.7	+0.9
AVFE	Valle Fertil	6.44	183	i P	Pn	03 19 55.9	0.0
AVFE				eS	Sn	03 21 07.0	-2.2
AVFE				AML	AML	03 21 09.0	
	comp=Z,26nm,0.6s						
AMOG	MOGNA	6.82	190	i P	Pn	03 20 01.0	+0.1
AMOG				eS	Sn	03 21 16.2	-2.0
CFAA	Coronel Fontan	7.44	187	P	Pn	03 20 09.7	+0.6
	comp=Z,0.3nm,0.3s,baz=65,slow=13,SNR=52						
CFAA				S	Sn	03 21 27.9	-5.0
	comp=Z,0.8nm,0.3s,baz=139,slow=18,SNR=14						
CFAA	Coronel Fontan	7.44	187	i P	Pn	03 20 09.1	+0.1
CFAA				eS	Sn	03 21 29.1	-3.8
LPAZ	La Paz	7.93	353	P	Pn	03 20 16.1	-0.1
	comp=Z,4.4nm,0.3s,baz=159,slow=9.0,SNR=100						
LPAZ				S	Sn	03 21 40.9	-4.6
	comp=Z,0.3nm,0.3s,baz=229,slow=20,SNR=2.2						
ASAL	Salagasta	8.49	190	i P	Pn	03 20 22.8	-0.2
SIV	San Ignacio	9.95	36	P	Pn	03 20 39.5	-2.7
	comp=Z,1.5nm,0.3s,baz=223,slow=14,SNR=21						
PLCA	Paso Flores	16.73	189	P	Pn	03 22 07.9	+0.7
	comp=Z,0.2nm,0.3s,baz=2.6,slow=12,SNR=2.5						
BDFB	Brasilia	19.87	68	P	P	03 22 39.6	-1.2
	comp=Z,1.0nm,0.3s,baz=244,slow=11,SNR=22						
ANMO	Albuquerque	69.65	326	P	P	03 29 15.2	+1.7
	comp=Z,1.1nm,0.5s,baz=156,slow=9.3,SNR=6.0						
TORD	Torodi Ar. Bea	76.75	69	P	P	03 29 51.1	-4.1
	comp=Z,0.6nm,0.4s,baz=264,slow=6.0,SNR=21						
PDAR	Pinedale Array	77.26	329	P	P	03 29 58.6	+0.8
	comp=Z,0.4nm,0.6s,baz=130,slow=9.2,SNR=4.2						
ULM	Lac du Bonnet	78.38	342	P	P	03 30 03.1	-0.3
	comp=Z,2.2nm,0.6s,baz=160,slow=7.1,SNR=5.5						
ELK	Elko	78.57	325	P	P	03 30 06.4	+1.3
	comp=Z,1.0nm,0.9s,baz=191,slow=5.2,SNR=3.9						
NVAR	Mina Array Bea	78.62	321	P	P	03 30 07.2	+1.9
	comp=Z,0.4nm,0.6s,baz=152,slow=7.8,SNR=3.1						
BOSA	Boshof	80.74	117	P	P	03 30 16.9	-0.2
	comp=Z,2.4nm,0.5s,baz=259,slow=3.9,SNR=7.4						
YKA	Yellowknife Ar	94.27	340	P	P	03 31 21.6	+0.2
	comp=Z,0.4nm,0.5s,baz=132,slow=4.8,SNR=14						
WRA	Warramunga Arr	131.40	207	PKP	PKPdf	03 37 14.9	-0.1
	comp=Z,0.1nm,0.4s,baz=154,slow=1.8,SNR=4.1						
MKAR	Makanchi Array	146.75	40	PKPbc	PKPdf	03 37 42.6	+0.6
	comp=Z,0.8nm,0.7s,baz=339,slow=3.7,SNR=8.1						

MAN 03 03:18:50, 6°.92N×125°.66E, h43km, mb4.3, ML3.2, MS3.0, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DMPH	Davao City--Mi	0.22	318	⇑iP	Pn	03 19 00.3	+2.4
DMPH				iS	Sn	03 19 07.2	+3.9
KCP	Kidapawan	0.57	279	⇑iP	Pn	03 19 03.5	+1.6
KCP				iS	Sn	03 19 12.6	+2.2
MATI	Mati	0.59	87	eP	Pn	03 19 04.2	+2.1
MATI				eS	Sn	03 19 11.2	+0.5
BUKP	Musuan	1.13	328	eP	Pn	03 19 10.0	+0.6
BUKP				eS	Sn	03 19 21.0	-2.7
BIPH	Bislig	1.44	29	⇑iP	Pn	03 19 14.4	+0.8
BIPH				iS	Sn	03 19 31.9	+0.6
CGP	Cagayan de Oro	1.80	328	⇓iP	Pn	03 19 20.8	+1.7
CGP				iS	Sn	03 19 40.3	0.0
PAGZ	Pagadian	2.44	292	eP	Pn	03 19 28.9	+1.5

ISCJB 03 03:20:06.9±0.6, 46.77N±0.10×153.6E±0.1, h31km, mb3.8/13, Error ellipse: s-maj=15.8km s-min=6.5km az=147.4
SKHL 03 03:20:09.7±0.9, 47.02N×153.31E, h50km±9km, mb5.2/1
IDC 03 03:20:09.9±0.8, 46.69N×153.47E, h40km±7km, mb3.6/13, mb1 3.8/15, mb1mx3.5/61, mbtmp3.8/15, ML3.3/2, Error ellipse: s-maj=18.7km s-min=16.8km az=118.0
MOS 03 03:20:11.3±0.7, 46.66N×153.29E, h72km, mb4.2/8, Error ellipse: s-maj=17.1km s-min=12.6km az=50.3
ISC 03 03:20:09.2±0.7, 46.83N±0.10×153.53E±0.09, h31km, n46, σ1.61/48, mb3.8/13, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.22	23	ePN	Pn	03 21 10.3	-0.9
SKR	Severo-Kuril's	4.22	23	eP	Pn	03 21 10.3	-0.9
SKR				eS	Sn	03 21 55.0	-4.4
KUR	Kuril'sk	4.25	250	PN	Pn	03 21 12.7	+0.9
KUR				S	Sn	03 22 00.5	+0.2
KUR				smax	smax		
	comp=N,240nm,0.8s						
KUR				smax	smax		
	comp=E,70nm,0.7s						
KUR	Kuril'sk	4.25	250	eP	Pn	03 21 12.7	+0.9
KUR				eS	Sn	03 22 00.5	+0.2
KUR				A	A	03 22 05.5	
	comp=E,240nm,0.8s						
KUR				A	A	03 22 05.5	
	comp=E,70nm,0.8s						
SHO	Shikotan	5.57	240	eS	Sn	03 22 28.9	-3.9
YUK	Yuzh-Kuril'sk	6.08	245c	iPN	Pn	03 21 36.0	-0.8
YUK				iS	Sn	03 22 41.0	-4.2
YUK				pmax	pmax		
	comp=E,44nm,0.4s						
YUK				pmax	pmax		
	comp=Z,94nm,0.4s						
YUK				pmax	pmax		
	comp=N,41nm,0.5s						
YUK				smax	smax		
	comp=N,74nm,0.5s						
YUK				smax	smax		
	comp=E,33nm,0.5s						
YUK	Yuzh-Kuril'sk	6.08	245	eP	Pn	03 21 36.0	-0.8
YUK				AMB	AMB	03 21 39.0	
	comp=E,44nm,0.4s						
YUK				AMB	AMB	03 21 39.0	
	comp=E,94nm,0.4s						
YUK				eS	Sn	03 22 41.0	-4.2
YUK				A	A	03 22 43.0	
	comp=E,74nm,0.5s						
YUK				A	A	03 22 43.0	
	comp=E,30nm,0.5s						
PETK	Petropavlovsk-	6.83	22	ePN	Pn	03 21 54.5	+7.3
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	Petropavlovsk-	6.83	22	P	Pn	03 21 48.9	+1.7
	comp=Z,0.5nm,0.3s,baz=177,slow=13,SNR=5.8						
YSS	Yuzh-Sakhalins	7.38	275	ePN	Pn	03 21 56.7	+2.0
ASAJ	Asahikawa	8.15	254	PN	Pn	03 22 06.1	+0.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	8.15	254	P	Pn	03 22 06.1	+0.9
	comp=Z,0.8nm,0.3s,baz=68,slow=9.0,SNR=7.1						
TYV	Tymovskoe	8.22	303	erx	rx	03 22 09.0	
ERM	Erimo	8.84	241	PN	Pn	03 22 16.4	+1.6
ERM	Erimo	8.84	241	eP	Pn	03 22 16.4	+1.6
H11N2	WAKE ISLAND Hy	29.16	153	T	T	03 57 47.2	
	baz=342,slow=76,SNR=6.4						
H11N1	WAKE ISLAND Hy	29.18	153	T	T	03 57 52.1	
	baz=342,slow=76,SNR=4.7						
H11N3	WAKE ISLAND Hy	29.18	153	T	T	03 57 52.6	
	baz=342,slow=76,SNR=3.8						
H11S1	WAKE ISLAND Hy	30.26	155	T	T	03 59 05.4	
	baz=344,slow=78,SNR=17						
H11S3	WAKE ISLAND Hy	30.27	155	T	T	03 59 02.7	
	baz=344,slow=78,SNR=22						
H11S2	WAKE ISLAND Hy	30.27	155	T	T	03 59 01.5	
	baz=344,slow=78,SNR=18						
MKAR	Makanchi Array	47.16	297	P	P	03 28 38.1	-0.4
	comp=Z,0.3nm,0.6s,baz=63,slow=7.6,SNR=4.3						
MKAR	Makanchi Array	47.16	297	eP	P	03 28 37.1	-1.4
KURK	Kurchatov	47.55	304	P	P	03 28 41.7	+0.3
KURK	Kurchatov	47.55	304	eP	P	03 28 41.7	+0.3
KURBB	Kurchatov Arra	47.65	304	P	P	03 28 41.7	-0.5
	comp=Z,0.7nm,0.7s,baz=67,slow=8.3,SNR=2.8						
YKA	Yellowknife Ar	50.69	37	P	P	03 29 05.8	+0.6
	comp=Z,0.7nm,0.9s,baz=296,slow=7.1,SNR=6.1						
YKA	Yellowknife Ar	50.69	37	eP	P	03 29 06.1	+0.9
BVAR	Borovoye Array	51.03	310	P	P	03 29 07.9	-0.1
	comp=Z,0.3nm,0.3s,baz=56,slow=5.4,SNR=2.9						
NVAR	Mina Array Bea	62.14	63	P	P	03 30 27.9	+0.5
	comp=Z,0.7nm,0.7s,baz=295,slow=6.0,SNR=4.2						
FINES	FINESS Array B	64.09	335	P	P	03 30 40.1	+0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	64.09	335	P	P	03 30 40.0	+0.4
	comp=Z,1.0nm,0.6s,baz=38,slow=7.2,SNR=10						
FINES	FINESS Array B	64.09	335	eP	P	03 30 39.5	-0.2
PDAR	Pinedale Array	64.47	54	P	P	03 30 43.2	+0.4
	comp=Z,0.6nm,0.8s,baz=281,slow=0.8,SNR=4.5						
NB2	NORSAR Subarra	68.24	341	P	P	03 31 06.7	+0.4
	comp=Z,0.8nm,0.7s,baz=26,slow=6.5						
NOA	NORSAR Array B	68.24	341	P	P	03 31 06.8	+0.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	NORSAR Array B	68.24	341	P	P	03 31 06.8	+0.4
	comp=Z,1.6nm,0.8s,baz=28,slow=6.2,SNR=5.2						
HFS	Hagfors	68.48	340	P	P	03 31 08.1	+0.3
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HFS	Hagfors	68.48	340	P	P	03 31 08.1	+0.3
	comp=Z,2.9nm,0.9s,baz=358,slow=4.7,SNR=5.7						
WRA	Warramunga Arr	68.68	199	P	P	03 31 07.5	-2.1
	comp=Z,0.6nm,1.0s,baz=22,slow=7.4,SNR=3.3						
WRA				pP	pP	03 31 19.6	+0.4
	comp=Z,1.0nm,0.9s,baz=17,slow=6.8,SNR=4.1						
AKASG	Malin Array Be	71.64	326	P	P	03 31 27.2	-0.1
AKASG				*PP	pP	03 31 39.4	+2.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	71.64	326	P	P	03 31 27.2	-0.1
	comp=Z,0.3nm,0.4s,baz=28,slow=6.2,SNR=5.1						
AKASG				pP	pP	03 31 39.4	+2.4
	comp=Z,0.6nm,0.4s,baz=32,slow=6.2,SNR=3.2						
ASAR	Alice Springs	72.38	199	P	P	03 31 31.0	-1.0
ASAR				*PP	pP	03 31 43.5	+1.8
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	72.38	199	P	P	03 31 30.9	-1.0
	comp=Z,0.6nm,0.7s,baz=9.2,slow=5.5,SNR=5.1						
ASAR				pP	pP	03 31 43.5	+1.8
	comp=Z,0.5nm,0.6s,baz=13,slow=5.4,SNR=3.9						
TXAR	Lajitas Array	77.20	61	eP	P	03 32 00.4	+0.2
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	77.20	61	P	P	03 32 00.4	+0.2
	comp=Z,1.4nm,0.6s,baz=298,slow=4.0,SNR=8.6						

IDC 03 03:23:45.9±5.8, 23.52N×108.81W, h0km, mb3.1/1, mb1 3.6/4, mb1mx3.4/49, mbtmp3.2/4, ML3.3/3, MS3.3/2, Ms1 3.3/2, ms1mx2.9/17, Error ellipse: s-maj=85.9km s-min=23.2km az=156.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPIG	La Paz	1.49	293	Pg	Pn	03 24 11.9	-2.0
	24nm,0.3s,baz=86,slow=8.2,SNR=8.7						
TXAR	Lajitas Array	7.40	37	Pn	Pn	03 25 34.4	-1.0
	0.0nm,0.3s,baz=208,slow=15,SNR=2.1						
TXAR				Lg	Lg	03 27 39.8	
	0.2nm,0.3s,baz=203,slow=22,SNR=4.1						
TXAR				LR	LR	03 28 28.7	
	comp=Z,161nm,18.0s,baz=0.0,slow=38						
NVAR	Mina Array Bea	16.93	334	Pn	P	03 27 47.1	+0.6
	0.1nm,0.3s,baz=155,slow=10,SNR=7.7						
PDAR	Pinedale Array	19.21	358	P	P	03 28 11.2	-0.5
	0.0nm,0.3s,baz=185,slow=8.8,SNR=3.9						
SADO	Sadowa	32.15	41	LR	LR	03 45 02.9	
	comp=Z,77nm,19.6s,baz=183,slow=40						
ILAR	Eielson Array	48.07	339	P	P	03 32 28.3	+1.4
	0.3nm,1.0s,baz=157,slow=4.8,SNR=3.6						

IDC 03 03:28:39.6±2.1, 7.18S×129.21E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.2/32, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=118.2km s-min=29.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.63	159	Pn	Pn	03 31 53.6	-0.7
	0.1nm,0.3s,baz=341,slow=13,SNR=4.9						
WRA				Sn	Sn	03 34 27.1	+0.5
	0.2nm,0.3s,baz=338,slow=22,SNR=8.1						
ASAR	Alice Springs	17.00	165	Pn	Pn	03 32 39.8	+0.8
	0.1nm,0.3s,baz=337,slow=8.5,SNR=3.3						
MKAR	Makanchi Array	67.95	327	P	P	03 39 40.4	0.0
	0.3nm,0.6s,baz=128,slow=8.0,SNR=4.0						

IDC 03 03:32:20.6±6.2, 36.11N×70.49E, h167km±59km, mb3.2/3, mb1 3.1/7, mb1mx2.9/52, mbtmp3.8/7, Error ellipse: s-maj=61.7km s-min=42.3km az=141.0
ISCJB 03 03:32:24.7±0.5, 36.53N±0.04×70.50E±0.08, h204km, mb3.8/3, Error ellipse: s-maj=8.9km s-min=4.8km az=170.2
MOS 03 03:32:26.9±1.5, 36.80N×70.19E, h155km, mb4.0/1, Error ellipse: s-maj=18.0km s-min=6.4km az=76.9
NNC 03 03:32:30.9±4.4, 37.10N×70.16E, h164km±52km, mb3.1, mpv4.0, Error ellipse: s-maj=36.6km s-min=22.4km az=24.0
ISC 03 03:32:25.0±0.8, 36.56N±0.06×70.43E±0.09, h204km, n50, σ1.47/52, mb3.6/3, 7C-11D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.99	156	⇓P	Pn	03 33 14.8	-0.2
CEP				S	S	03 33 52.0	-1.3
CHCP	Chirah Chowk	3.71	140	P	Pn	03 33 23.9	+0.4
THW	Thamme Wali	3.91	164	⇓P	Pn	03 33 25.5	-0.5
SARP	Sargodha	4.99	158	⇓P	Pn	03 33 38.3	-1.1
AML	Almayashu	6.11	23	iPN	Pn	03 33 54.7	+0.7
AML	Almayashu	6.11	23	P	Pn	03 33 54.7	+0.7
	SNR=100						
UCH	Uchtor	6.48	28	iPN	Pn	03 33 59.5	+0.6
UCH	Uchtor	6.48	28	P	Pn	03 33 59.6	+0.6
	SNR=44						
KK31	Karatay Array	6.53	1	⇓P	Pn	03 33 59.2	0.0
	2.3nm,0.2s,baz=179,slow=11,SNR=108						
KK31				⇑S	S	03 35 04.4	-9.3
	3.6nm,0.5s,baz=189,slow=25,SNR=3.9						
KK31	Karatay Array	6.53	1	PN	Pn	03 33 59.4	+0.2
KK31				pmax	pmax		
	comp=Z,9.0nm,0.2s						
EKS2	Erkin-Say	6.62	22	iPN	Pn	03 34 01.2	+0.9
EKS2	Erkin-Say	6.62	22	P	Pn	03 34 01.3	+0.9
	SNR=19						
KZA	Kyzart	6.66	33	iPN	Pn	03 34 01.4	+0.3
KZA	Kyzart	6.66	33	P	Pn	03 34 01.4	+0.3
	SNR=9.5						
AAK	Ala-Archa	6.83	26	⇑P	Pn	03 34 03.9	+0.8
	comp=Z,3.6nm,0.3s						
AAK				⇓S	S	03 35 19.2	-1.6
	comp=Z,20nm,0.8s						
AAK	Ala-Archa	6.83	26d	iPN	Pn	03 34 04.0	+0.8
AAK				iS	S	03 35 19.6	-1.2
AAK	Ala-Archa	6.83	26	P	Pn	03 34 04.2	+1.1
	SNR=16						
AAK	Ala-Archa	6.83	26	P	Pn	03 34 04.1	+1.0
	comp=Z,4.6nm,0.3s,baz=168,slow=6.3,SNR=52						
AAK				S	S	03 35 19.2	-1.6
	comp=Z,1.5nm,0.3s,baz=325,slow=22,SNR=19						
KBK	Karagaybulak	7.01	28	iPN	Pn	03 34 06.5	+1.0
KBK	Karagaybulak	7.01	28	P	Pn	03 34 06.5	+1.0
	SNR=8.7						
CHMS	Chumysh	7.24	26	iPN	Pn	03 34 09.1	+0.8
CHMS	Chumysh	7.24	26	P	Pn	03 34 09.2	+0.8
	SNR=8.9						
USP	Ospenovka	7.39	24	iPN	Pn	03 34 10.6	+0.3
USP	Ospenovka	7.39	24	P	Pn	03 34 10.7	+0.3
	SNR=7.3						
TKM2	Tokmak 2	7.49	30	⇑P	Pn	03 34 12.2	+0.4
	comp=Z,15nm,0.5s						
TKM2				⇑S	S	03 35 33.8	-2.8
	comp=Z,4.1nm,0.8s						
TKM2	Tokmak 2	7.49	30	iPN	Pn	03 34 12.5	+0.7
TKM2	Tokmak 2	7.49	30	P	Pn	03 34 12.5	+0.7
	SNR=38						
MK31	Makanchi Array	13.51	37	⇓P	P	03 35 30.0	-1.1
	comp=Z,0.4nm,0.4s,baz=214,slow=11,SNR=18						
MK31	Makanchi Array	13.51	37	eP	P	03 35 29.9	-1.1
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	13.51	37	eP	P	03 35 33.3	+2.2
MKAR	Makanchi Array	13.51	37	P	P	03 35 29.9	-1.1
	comp=Z,0.1nm,0.3s,baz=211,slow=11,SNR=13						
AB31	Akbulak array	14.81	332	⇓P	Pn	03 35 44.6	-0.1
	comp=Z,0.5nm,0.3s,baz=149,slow=12,SNR=29						
AB31				⇑S	S	03 38 25.3	-3.4
	comp=Z,0.6nm,0.7s,baz=164,slow=22,SNR=3.2						
AB31	Akbulak array	14.81	332	iP	Pn	03 35 44.5	-0.1
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	Kurchatov	15.32	20	iP	P	03 35 58.3	+7.3
BVA0	Borovoye Array	16.46	360	⇑P	Pn	03 36 06.4	+1.8
	comp=Z,2.9nm,1.1s,baz=175,slow=11,SNR=4.2						
BVA0	Borovoye Array	16.46	360	eP	Pn	03 36 06.3	+1.8
BVAR	Borovoye Array	16.46	360	eP	Pn	03 36 08.4	+3.9
BVAR	Borovoye Array	16.46	360	P	Pn	03 36 05.9	+1.4
	comp=Z,0.2nm,0.3s,baz=186,slow=12,SNR=4.7						
BRVK	Borovoye	16.50	360	⇑P	Pn	03 36 06.7	+1.9
	comp=Z,3.4nm,0.7s						
BRVK	Borovoye	16.50	360	⇓iP	Pn	03 36 07.7	+2.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTO	Aktyubinsk	16.50	331	⇓P	Pn	03 36 05.7	+0.7
	comp=Z,3.0nm,0.8s						
AKTO				⇓S	S	03 39 04.5	-1.6
	comp=Z,0.5nm,0.7s						
AKTO	Aktyubinsk	16.50	331	P	Pn	03 36 05.9	+0.9
	comp=Z,0.2nm,0.3s,baz=152,slow=12,SNR=10						
ZALV	Zalesovo Beam	20.05	25	iP	Pn	03 36 51.7	+4.7
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	Zalesovo Beam	20.05	25	P	P	03 36 44.4	+1.9
	comp=Z,1.4nm,0.5s,baz=218,slow=12,SNR=8.0						
OBN	Obninsk	29.59	320	eP	P	03 38 18.8	+8.1
KMI	Kunming	29.86	103	P	P	03 38 07.7	-6.0
KMI				pmax	pmax		
	comp=Z,12nm,0.7s						
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
KIEV	Kiev	32.56	309	iP	P	03 38 43.8	+7.0
HFS	Hagfors	42.73	322	P	P	03 40 04.2	+2.4
HFS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	Hagfors	42.73	322	P	P	03 40 04.2	+2.4
	comp=Z,1.9nm,0.8s,baz=119,slow=12,SNR=3.1						
TORD	Torodi Ar. Bea	65.26	268	P	P	03 42 44.7	-0.5
	comp=Z,0.8nm,1.2s,baz=48,slow=6.4,SNR=5.3						

IDC 03 03:35:36.5±1.2, 0.75N×125.60E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/32, mbtmp3.8/5, Error ellipse: s-maj=141.3km s-min=19.0km az=67.0
DJA 03 03:35:43.0±0.3, 1.N±5.×12.6E±., h10km, M4.1/9, MLv4.1/9
ISCJB 03 03:35:44.2±0.6, 0.64N±0.08×126.21E±0.04, h44km, mb3.8/5, Error ellipse: s-maj=11.2km s-min=5.8km az=1.5
ISC 03 03:35:44.9±1.1, 0.69N±0.07×126.21E±0.05, h44km, n14, σ1.19/12, mb4.0/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	1.16	86	P	Pn	03 36 03.5	-1.2
TNTI				S	Sn	03 36 19.4	+0.1
LBMI	Labuha	1.84	136	P	Pn	03 36 15.8	+1.7
KMSI	Cibinong	2.23	267	P	Pn	03 36 18.2	-1.2
KMSI				S	Sn	03 36 44.7	-1.1
SANI	Sanana	2.73	185	P	Pn	03 36 25.7	-0.6
SGSI	Sangihe	3.05	347	P	Pn	03 36 31.9	+1.2
GTOI	Gorontalo	3.20	269	P	Pn	03 36 34.7	+2.0
LUWI	Luwuk	3.85	243	P	Pn	03 36 43.0	+1.4
MRSI	Marisa	4.28	267	P	Pn	03 36 50.1	+2.6
APSI	Ampana	4.83	251	P	Pn	03 36 56.5	+1.3
WRA	Warramunga Arr	22.00	159	P	P	03 40 35.6	+0.1
	3.5nm,0.6s,baz=336,slow=12,SNR=15						
ASAR	Alice Springs	25.34	163	P	P	03 41 07.5	-0.4
	1.6nm,0.8s,baz=346,slow=10,SNR=14						
STKA	Stephens Creek	35.52	157	P	P	03 42 37.6	-0.1
	1.7nm,0.7s,baz=309,slow=13,SNR=4.5						
SONM	Songino Array	50.01	343	P	P	03 44 30.5	-4.6
	0.4nm,0.8s,baz=155,slow=7.8,SNR=3.6						
MKAR	Makanchi Array	59.77	327	P	P	03 45 40.8	-4.8
	0.9nm,0.5s,baz=121,slow=7.3,SNR=14						

IDC 03 03:36:10.6±1.4, 20.91S×174.16W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.1/30, mbtmp4.1/10, MS3.6/1, Ms1 3.6/1, ms1mx2.9/32, Error ellipse: s-maj=61.7km s-min=19.0km az=149.0
ISCJB 03 03:36:13.2±0.9, 20.9S±0.2×174.2W±0.1, h26km, mb4.2/12, MS3.4/1, Error ellipse: s-maj=30.0km s-min=12.6km az=154.6
NEIC 03 03:36:15.8±0.6, 20.92S×174.13W, h35km, mb4.3/2, Error ellipse: s-maj=24.2km s-min=9.8km az=159.0
ISC 03 03:36:14.7±1.0, 20.9S±0.2×174.1W±0.1, h26km, n34, σ0.85/26, mb4.3/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	4.37	66	P	Pn	03 37 09.8	-10
	baz=3.8,SNR=80						
AFI	Afiamalu	7.34	18	Pn	Pn	03 37 54.2	-6.1
	11nm,0.3s,baz=141,slow=1.2,SNR=12						
AFI				Sn	Sn	03 39 06.4	-16
	9.9nm,0.3s,baz=229,slow=19,SNR=3.6						
AFI	Afiamalu	7.34	18	ePn	Pn	03 37 53.9	-6.4
	48nm,0.5s						
AFI				eS	Sn	03 39 08.0	-15
MSVF	Nonsavu	8.03	292	Pn	Pn	03 38 09.6	-0.2
	124nm,1.0s						
DZM	Mont Dzumac	18.10	263	eLR	LR	03 45 33.1	
	238nm,23.8s						
DZM	Mont Dzumac	18.10	263	P	P	03 40 27.2	+2.5
	0.4nm,0.3s,baz=75,slow=18,SNR=6.0						
PPT	Papeete	23.42	86	LR	LR	03 49 57.9	
	comp=Z,120nm,18.3s,baz=194,slow=35						
RKT	Rikitea	36.30	101	eLR	LR	03 52 34.6	
	185nm,29.5s						
CTA	Charters Tower	37.04	264	P	P	03 43 22.2	-0.5
	3.1nm,0.5s,baz=82,slow=12,SNR=3.2						
STKA	Stephens Creek	40.87	245	P	P	03 43 54.4	-0.3
	2.5nm,0.7s,baz=114,slow=12,SNR=4.4						
STKA	Stephens Creek	40.87	245	P	P	03 43 55.4	+0.7
	baz=41,SNR=3.7						
ASAR	Alice Springs	47.94	257	P	P	03 44 51.3	0.0
	3.3nm,0.8s,baz=90,slow=8.2,SNR=27						
WRAB	Tennant Creek	48.11	262	eP	P	03 44 52.0	-0.7
	2.0nm,0.6s						
WRA	Warramunga Arr	48.12	262	P	P	03 44 52.2	-0.6
	1.9nm,0.7s,baz=96,slow=5.4,SNR=21						
KDU	Kakadu	51.57	270	P	P	03 45 19.5	+0.5
	baz=52,SNR=3.8						
WRKA	Warakurna	52.82	254	P	P	03 45 28.3	0.0
	baz=53,SNR=12						
KNRA	Kununurra	54.23	265	P	P	03 45 39.0	+0.3
	baz=55,SNR=3.4						
WSI	Waingapu	63.86	269	P	P	03 46 53.1	+7.6
	baz=64,SNR=8.2						
MJAR	Matsushiro Arr	72.75	321	P	P	03 47 40.6	-0.1
	2.6nm,0.6s,baz=152,slow=6.2,SNR=10						
PETK	Petropavlovsk-	77.67	343	P	P	03 48 08.3	-0.4
	6.3nm,0.8s,baz=126,slow=9.3,SNR=4.2						
NVAR	Mina Array Bea	78.90	41	P	P	03 48 15.9	-0.2
	1.2nm,0.9s,baz=224,slow=7.5,SNR=5.1						
PMBI	Palembang	80.64	270	P	P	03 48 23.9	-1.9
	baz=81,SNR=4.9						
MCK	McKinley	86.66	11	eP	P	03 48 55.3	-0.2
	1.6nm,0.8s						
PDAR	Pinedale Array	86.83	42	P	P	03 48 56.7	-0.5
	0.5nm,0.9s,baz=225,slow=3.7,SNR=3.0						
ILAR	Eielson Array	87.98	11	P	P	03 49 01.4	-0.5
	0.4nm,0.6s,baz=217,slow=5.0,SNR=8.5						
YKA	Yellowknife Ar	95.42	24	P	P	03 49 37.9	+1.5
	0.3nm,0.6s,baz=241,slow=4.4,SNR=5.7						
MKAR	Makanchi Array	114.12	313	PKP	PKPdf	03 54 51.1	-0.6
	0.2nm,0.4s,baz=66,slow=3.6,SNR=4.7						
AKASG	Malin Array Be	145.06	334	PKPbc	PKPbc	03 55 48.7	-0.3
	4.7nm,0.7s,baz=41,slow=4.3,SNR=32						
AK01	Malin Array Si	145.07	334	ePKPdf	PKPab	03 55 49.0	0.0
AK02	Malin Array Si	145.10	334	ePKPbc	PKPbc	03 55 48.8	-0.3
CLL	Collm	149.17	351	ePKPbc	PKPbc	03 56 01.0	+0.4
BRG	Berggiesshubel	149.45	350	eP	PKPab	03 56 07.2	+1.1
	4.1nm,1.0s						
BRTR	Keskin Array B	149.76	314	PKPbc	PKPbc	03 56 03.0	+0.3
	1.8nm,0.8s,baz=103,slow=2.6,SNR=7.0						
GERES	GERESS Array B	151.45	349	PKPbc	PKPbc	03 56 06.6	+0.3
	0.7nm,0.6s,baz=39,slow=3.8,SNR=2.9						

IDC 03 03:52:33.2±999.0, 44.66N×66.58E, h0km, Error ellipse: s-maj=694.4km s-min=200.5km az=39.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	15.06	45	i		05 23 20.3	
	baz=244,slow=341,SNR=2.8						
I34MN	SONGINO INFRAS	27.52	69	i		06 39 50.0	
	baz=274,slow=342,SNR=1.5						
I18DK	QAANAAQ INFRAS	55.12	349	i		09 33 51.9	
	baz=39,slow=340,SNR=1.8						

BJI 03 03:59:42.9, 5.81N×124.09E, h546km, mB4.6/20, mb4.6/35
MOS 03 03:59:47.9±0.9, 6.34N×123.81E, h553km, mb4.3/28, Error ellipse: s-maj=23.9km s-min=7.5km az=125.1
MAN 03 03:59:47, 6.27N×123.83E, h545km, mb5.5, ML4.5, MS4.8
MAN INTENSITY II - BARANGAY BALALAN STA CRUZ DAVAO DEL SURT.
ISCJB 03 03:59:47.8±0.2, 6.38N±0.03×123.82E±0.03, h547km±2km, mb4.5/72, Error ellipse: s-maj=5.6km s-min=3.7km az=154.3
NEIC 03 03:59:48.9±0.3, 6.31N×123.79E, h547km±4km, mb4.5/30, Error ellipse: s-maj=6.4km s-min=4.1km az=54.0
IDC 03 03:59:49.5±1.0, 6.31N×123.84E, h560km±11km, mb3.7/21, mb1 3.9/22, mb1mx3.6/39, mbtmp4.7/22, Error ellipse: s-maj=13.3km s-min=6.1km az=70.0
KLM 03 03:59:49.2, 6.34N×123.76E, h543km, mb4.7, MS5.7
DJA 03 03:59:49.9±0.6, 6.N±8.×12.4E±., h512km±7km, M4.4/23, mb4.7/23, mB4.9/10, MLv4.5/1, Mw(mB)4.2/10
ISC 03 03:59:48.6±0.4, 6.37N±0.04×123.82E±0.06, h547km±3km, n216, σ1.22/254, mb4.4/72, 16C-17D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.94	27	⇓iP	P	04 00 54.3	-0.2
CTBH				iS	S	04 01 46.1	-1.9
PAGZ	Pagadian	1.53	344	eP	P	04 00 56.0	-0.2
DMPH	Davao City--Mi	1.82	67	⇑eP	P	04 00 56.7	-0.6
IPIL	Ipil	1.88	319	eP	P	04 00 56.8	-0.7
DAV	Davao City (W)	1.88	68	eP	P	04 00 57.1	-0.4
DAV				eS	S	04 02 03.0	+9.4
BUKP	Musuan	1.94	39	eP	P	04 00 57.7	-0.2
MATI	Mati	2.49	77	eP	P	04 00 59.0	-1.5
BIPH	Bislig	3.10	54	⇓iP	P	04 01 03.6	-0.4
BUTP	Butuan	3.14	35	eP	P	04 01 04.5	+0.2
MSLP	Maasin	3.88	15	eP	P	04 01 08.9	-0.4
GUIM	Jordan	4.40	344	eP	P	04 01 11.0	-2.3
PLP	Palo	4.90	13	⇓iP	P	04 01 17.1	-0.3

MYLDM Lahad Datu 5.42 258 eP P 04 01 23.3 +1.4
GTOI Gorontalo 5.75 188 P P 04 01 22.9 -2.0
62nm,0.6s
KMSI Cibinong 5.76 178 P P 04 01 21.6 -3.4
160nm,1.0s,4μm
TOLI Toli-Toli 6.03 210 eP P 04 01 27.4 +0.1
TOLI S S 04 02 50.8 +2.8
MRSI Marisa 6.15 198 P P 04 01 29.1 +0.6
60nm,0.6s,949nm0.2nm
TSM Tawau 6.27 251 ⇓P P 04 01 29.6 -0.1
TNTI Ternate 6.59 147 eP P 04 01 31.7 -1.0
SDKM Sandakan 6.63 264 ⇑P P 04 01 32.5 -0.6
KDM Kudat 6.96 275 ⇑P P 04 01 35.9 -0.2
LUWI Luwuk 7.44 188 S S 04 03 09.4 -3.2
baz=7.1,SNR=4.4
APSI Ampana 7.55 197 P P 04 01 42.6 +0.7
56nm,0.5s
KKM Kota Kinabalu 7.57 268 eP P 04 01 41.5 -0.6
KKM Kota Kinabalu 7.57 268 ⇑P P 04 01 41.5 -0.6
baz=7.2,SNR=70
KKM ⇓S S 04 03 12.0 -3.1
baz=7.2,SNR=5.5
KKM Kota Kinabalu 7.57 268 ⇓P P 04 01 41.7 -0.4
LBMI Labuha 7.87 152 P P 04 01 48.1 +3.0
155nm,0.8s,2μm
SANI Sanana 8.64 165 P P 04 01 49.2 -3.5
36nm,0.6s
MSAI Masohi 10.92 152 P P 04 02 18.7 +2.7
20nm,0.8s,306nm
SPSI Sidrap Palu 11.03 202 P P 04 02 16.9 -0.3
58nm,0.8s
BNSI Bone 11.32 199 P P 04 02 21.0 +0.8
64nm,1.0s
SZP Santa 11.59 344 eP P 04 02 23.9 +1.1
KAPI Kappang 12.02 200 eP P 04 02 27.5 +0.1
98nm,0.8s
SBUM Sibu 12.20 252 eP P 04 02 29.8 +0.4
FAKI Fak Fak 12.49 137 P P 04 02 31.9 -0.4
110nm,0.9s
FAKI Fak Fak 12.49 137 eP P 04 02 32.7 +0.3
FAKI Fak Fak 12.49 137 P P 04 02 32.9 +0.5
baz=12,SNR=6.5
FAKI ⇑S S 04 04 48.2 +1.1
baz=12,SNR=7.7
KSM Kuching 14.33 251 eP P 04 02 50.2 -1.1
24nm,0.7s
KSM Kuching 14.33 251 ⇓P P 04 02 50.7 -0.6
baz=14,SNR=10
KSM Kuching 14.33 251 ⇓P P 04 02 51.2 -0.1
BAKI Biak 14.38 121 P P 04 02 55.4 +3.5
180nm,1.0s
SOEI Soe 16.03 178 eP P 04 03 08.2 -0.6
SOEI eS S 04 05 50.7 -1.5
SOEI Soe 16.03 178 P P 04 03 08.9 +0.1
baz=16,SNR=4.8
SOEI S S 04 05 51.8 -0.4
baz=16,SNR=3.8
DLV T Lat 16.11 291 eP P 04 03 09.6 -0.1
BATI Baumata 16.47 181 P P 04 03 12.4 -0.4
12nm,0.3s,baz=204,slow=1.8,SNR=8.5
BATI S S 04 06 00.1 +0.7
5.5nm,0.3s,baz=61,slow=10,SNR=4.7
KMMI Kalianget 16.56 217 P P 04 03 13.4 -0.2
80nm,0.8s
SMPI Sarmi 17.03 119 P P 04 03 20.3 +2.4
132nm,1.0s
JAGI Jajag, Banyuwa 17.61 213 P P 04 03 25.1 +1.9
64nm,1.4s
JAGI Jajag, Banyuwa 17.61 213 eP P 04 03 23.3 +0.1
JAGI Jajag, Banyuwa 17.61 213 ⇓P P 04 03 23.6 +0.4
baz=17,SNR=3.7
QIZ Qiongzhong 18.53 314 P P 04 03 32.6 +1.0
QIZ sP sP 04 05 49.0 -0.5
QIZ S S 04 06 35.1 +2.2
QIZ pmax pmax
comp=Z,23nm,0.8s
QIZ Qiongzhong 18.53 314 eP P 04 03 31.7 +0.2
13nm,0.7s
JAY Jayapura 19.03 117 P P 04 03 37.0 +0.8
baz=19,SNR=6.8
UBPT Khong Chiam 20.06 298 P P 04 03 46.1 +0.6
18nm,0.9s
MYKOM Kota Tinggi 20.43 258 eP P 04 03 49.0 +0.1
29nm,0.8s
CISI Cisompet, Garu 21.12 229 eP P 04 03 53.5 -1.7
FRIM Kepong 22.33 263 ⇑P P 04 04 05.9 -0.2
IPM Ipoh 22.77 266 eP P 04 04 09.4 -0.5
15nm,0.8s
IPM Ipoh 22.77 266 ⇓P P 04 04 10.1 +0.2
KULM Kulim 23.07 269 ⇑P P 04 04 12.4 -0.2
SLVN Son La 24.34 310 eP P 04 04 24.7 +0.8
PBKT Sadao Pong 24.55 296 P P 04 04 26.3 +0.6
32nm,0.9s
PHET Kaeng Krachan 24.70 287 P P 04 04 28.0 +0.9
128nm,0.8s,1μm
MANU Manus Island 24.95 109 S S 04 08 07.0 -7.8
baz=25,SNR=6.4
PSI Prapat 25.06 263 P P 04 04 30.4 -0.1
17nm,0.8s,baz=99,slow=4.8,SNR=20
PSI ScP ScP 04 10 33.2 -0.9
6.2nm,0.5s,baz=89,slow=1.5,SNR=8.7
PSI Prapat 25.06 263 ⇑P P 04 04 29.9 -0.5
baz=25,SNR=14
UTTA Uttaradit 25.37 299 P P 04 04 34.1 +1.2
3.9nm,0.8s
SRDT SRDT 25.54 290 P P 04 04 35.5 +1.1
116nm,0.9s,8μm
NANT Nan 25.68 301 P P 04 04 36.4 +0.7
40nm,0.5s,540nm
GYA Guiyang 25.82 323 eP P 04 04 37.8 +0.9
GYA sP sP 04 07 08.9 -0.3
GYA PcP PcP 04 07 49.6 +1.6
GYA S S 04 08 31.2 +2.9
GYA ScP ScP 04 10 36.7 +0.7
GYA ScS ScS 04 14 26.0 -0.8
GYA pmax pmax
comp=Z,10.0nm,0.9s
NJ2 Nanjing 25.97 350 eP P 04 04 38.1 +0.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KHLT Khaolaem Dam 26.15 291 P P 04 04 41.1 +1.2
12nm,1.0s
LAMP Lampang 26.48 299 P P 04 04 44.7 +2.0
6.2nm,0.9s,899nm
GSI Gunungsitoli 26.66 260 eP P 04 04 43.2 -1.2
CM31 Chiang Mai Arr 27.05 299 eP P 04 04 49.1 +1.4
CMAR Chiang Mai Arr 27.05 299ceP P 04 04 48.9 +1.1
CMAR pmax pmax
comp=Z,7.0nm,0.7s
CMAR Chiang Mai Arr 27.05 299 P P 04 04 48.1 +0.4
comp=Z,7.4nm,0.7s,baz=116,slow=7.4,SNR=35
CMAR ScP ScP 04 10 40.4 +0.6
comp=Z,2.5nm,0.5s,baz=130,slow=1.5,SNR=15
CMMT Chiang Mai 27.19 299 P P 04 04 49.5 +0.5
comp=Z,33nm,0.8s
CHTO Chiang Mai 27.20 299 eP P 04 04 49.8 +0.8
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CHTO Chiang Mai 27.20 299 P P 04 04 49.6 +0.6
comp=Z,110nm,0.9s
CHTO Chiang Mai 27.20 299 eP P 04 04 49.8 +0.8
comp=Z,3.3nm,0.6s
ENH Enshi 27.33 332 eP P 04 04 50.8 +0.7
comp=Z,13nm,0.8s
KMI Kunming 27.47 315 P P 04 04 53.2 +1.6
KMI pmax pmax
comp=Z,13nm,0.6s
CMAI Chiengmai2 27.58 302 P P 04 04 53.0 +0.5
comp=Z,16nm,1.1s,comp=Z,1μm
MHMT Maesarieng 27.84 297 P P 04 04 55.5 +0.9
comp=Z,29nm,0.7s,comp=Z,407nm
COEN Coen 27.87 137 eP P 04 04 54.0 -1.0
comp=Z,193nm,0.6s
COEN Coen 27.87 137 ⇓P P 04 04 54.3 -0.7
baz=28,SNR=44
WRAB Tennant Creek 28.12 159c iP P 04 04 56.5 -0.5
WRAB pmax pmax
comp=Z,53nm,0.5s
WRAB Tennant Creek 28.12 159 eP P 04 04 56.5 -0.5
comp=Z,63nm,0.3s
WRA Warramunga Arr 28.12 159 iP P 04 04 56.5 -0.6
WRA pmax pmax
comp=Z,28nm,0.3s
WRA Warramunga Arr 28.12 159 P P 04 04 56.5 -0.6
comp=Z,25nm,0.4s,baz=341,slow=9.3,SNR=133
WRA S S 04 08 60.0 -4.2

comp=Z,3.8nm,0.6s,baz=328,slow=14,SNR=8.0
WRA ScP ScP 04 10 42.4 -0.6
comp=Z,1.9nm,0.5s,baz=344,slow=3.4,SNR=6.3
GIRL Giralia 30.32 198 ⇓P P 04 05 16.7 +0.6
baz=30,SNR=4.0
XAN Xi'an 30.80 335 P P 04 05 20.3 +0.2
XAN pmax pmax
comp=Z,5.0nm,0.7s
CD2 Chengdu 30.82 325 P P 04 05 21.9 +1.5
CD2 pP pP 04 06 52.6 +1.5
CD2 sP sP 04 07 56.1 +1.4
CD2 S S 04 09 49.0 +3.3
CD2 PcS PcS 04 11 45.4 0.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.2s
QIS Mount Isa 30.93 150 P P 04 05 21.5 +0.1
baz=31,SNR=23
AS31 Alice Springs 31.44 162 eP P 04 05 25.8 +0.1
ASAR Alice Springs 31.44 162 P P 04 05 25.9 +0.3
comp=Z,9.2nm,0.3s,baz=339,slow=7.0,SNR=252
ASAR S S 04 09 53.4 -1.9
comp=Z,10nm,0.8s,baz=348,slow=23,SNR=38
ASAR ScP ScP 04 10 53.2 -0.6
comp=Z,2.3nm,0.6s,baz=338,slow=3.2,SNR=6.0
WRKA Warakurna 31.52 172 ⇓P P 04 05 26.9 +0.5
baz=31,SNR=4.5
MTSU Mount Surprise 31.66 141 P P 04 05 27.7 +0.1
baz=32,SNR=15
MJAR Matsushiro Arr 32.79 22 P P 04 05 36.4 -0.7
comp=Z,7.1nm,0.8s,baz=192,slow=10.0,SNR=16
MEEK Meekatharra 33.20 189 P P 04 05 40.1 -0.4
baz=33,SNR=8.2
CTA Charters Tower 34.33 140 P P 04 05 50.9 +0.7
comp=Z,12nm,0.6s,baz=324,slow=12,SNR=19
CTAO Charters Tower 34.33 140 eP P 04 05 50.9 +0.7
CTAO pmax pmax
comp=Z,12nm,0.6s
CTAO Charters Tower 34.33 140 eP P 04 05 50.9 +0.7
comp=Z,12nm,0.6s
LZH Lanzhou 34.79 331 eP P 04 05 55.6 +1.6
LZH pP pP 04 07 29.1 +2.2
LZH sP sP 04 08 25.3 -4.6
LZH pmax pmax
comp=Z,14nm,1.0s
SHL Shillong 35.99 306⇑iP P 04 06 03.0 -1.1
MORW Morawa 36.02 192 P P 04 06 03.9 -0.1
baz=36,SNR=8.7
BLDU Ballidu 37.40 190 P P 04 06 15.1 -0.3
baz=37,SNR=7.1
KLBR Kellerberrin 38.19 188 P P 04 06 21.6 -0.2
baz=38,SNR=15
QLP Quilpie 38.27 150 P P 04 06 22.8 +0.3
baz=38,SNR=13
LSA Lhasa 38.53 311 P P 04 06 26.6 +1.4
LSA pmax pmax
comp=Z,30nm,0.7s
LSA Lhasa 38.53 311 eP P 04 06 26.9 +1.7
LSA pmax pmax
comp=Z,19nm,0.6s
LSA Lhasa 38.53 311 eP P 04 06 26.9 +1.7
comp=Z,19nm,0.6s
GTA Gaotai 39.37 330 eP P 04 06 32.5 +1.1
GTA pP pP 04 08 08.7 +1.6
GTA sP sP 04 09 07.3 -2.0
GTA pmax pmax
comp=Z,8.0nm,0.8s
NWAO Narrogin (SRO) 39.58 189 P P 04 06 33.3 +0.3
comp=Z,18nm,0.4s,baz=24,slow=7.0,SNR=16
TAPN Taplejung 40.13 306 eP P 04 06 38.4 +0.5
comp=Z,40nm,0.6s
ODAN Odare 40.19 305 eP P 04 06 38.9 +0.6
BBOO Buckleboo 40.67 164 eP P 04 06 42.0 +0.3
comp=Z,246nm,0.7s
BBOO Buckleboo 40.67 164 P P 04 06 42.1 +0.3
baz=41,SNR=63
BBOO S S 04 12 17.2 +4.6
baz=41,SNR=6.1
RAMN Ramite 40.87 304 eP P 04 06 44.3 +0.5
comp=Z,31nm,0.5s
EIDS Eidsvold 41.21 141 eP P 04 06 46.5 +0.4
comp=Z,23nm,0.8s
EIDS Eidsvold 41.21 141 P P 04 06 46.3 +0.1
baz=41,SNR=6.5
RKGY Rocky Gully 41.27 189 P P 04 06 47.4 +1.0
baz=41,SNR=13
JIRN Jiri 41.49 305 eP P 04 06 49.3 +0.5
comp=Z,41nm,0.5s
STKA Stephens Creek 41.65 157 eP P 04 06 50.2 +0.7
STKA pmax pmax
comp=Z,5.0nm,1.0s
STKA Stephens Creek 41.65 157 P P 04 06 50.1 +0.7
comp=Z,15nm,0.4s,baz=335,slow=7.5,SNR=77
STKA S S 04 12 24.2 -2.6
comp=Z,3.7nm,0.9s,baz=61,slow=23,SNR=9.9
STKA Stephens Creek 41.65 157 eP P 04 06 50.1 +0.7
comp=Z,4.6nm,1.0s
STKA Stephens Creek 41.65 157 P P 04 06 50.2 +0.7
baz=42,SNR=54
GUN Gumba 41.84 305 eP P 04 06 52.0 +0.5
comp=Z,41nm,0.4s
PKI Pulchoki 42.09 305 eP P 04 06 53.4 -0.1
comp=Z,13nm,0.4s
HTT Hallett 42.10 161 P P 04 06 53.9 +0.8
baz=42,SNR=22
KKN Kakani 42.28 305 eP P 04 06 55.0 +0.1
comp=Z,23nm,0.5s
DMN Daman 42.35 305 eP P 04 06 55.6 +0.1
comp=Z,42nm,0.9s
GKN Gorkha 42.89 305 eP P 04 06 59.4 -0.1
comp=Z,23nm,0.5s
CMSA Cobar Meteorol 43.10 152 P P 04 07 02.2 +1.3
baz=43,SNR=18
KOLN Koldanda 43.65 304 eP P 04 07 06.1 +0.6
comp=Z,94nm,0.7s
DANN Dangsing 43.73 305 eP P 04 07 06.6 +0.3
comp=Z,130nm,0.5s
ULN Ulaanbaatar 43.76 344 eP P 04 07 06.6 +0.7
ULN pmax pmax
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 43.76 344 eP P 04 07 06.6 +0.7
comp=Z,4.2nm,0.7s
SONM Songino Array 43.91 343 P P 04 07 08.0 +0.9
comp=Z,4.6nm,0.9s,baz=158,slow=8.6,SNR=26
SONM PcP PcP 04 08 41.0 -0.1
comp=Z,0.6nm,0.4s,baz=156,slow=4.2,SNR=4.4
SONM ScP ScP 04 11 40.5 -0.5
comp=Z,0.4nm,0.7s,baz=159,slow=4.4,SNR=3.5
PYUN Piuthan 44.27 304 eP P 04 07 10.8 +0.4
ARMA Armidale 45.26 145 P P 04 07 19.6 +1.8
baz=45,SNR=7.3
ARPS Mount Arapiles 46.11 160 P P 04 07 24.8 +0.9
baz=46,SNR=7.3
CNB Canberra Magne 47.94 152 P P 04 07 39.2 +1.4
baz=48,SNR=7.0
TLY Talaya 48.16 343⇑iP P 04 07 40.6 +1.5
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY Talaya 48.16 343 eP P 04 07 40.4 +1.2
comp=Z,5.6nm,0.6s
WMQ Urumqi 48.92 326 P P 04 07 46.2 +1.2
WMQ pP pP 04 09 27.7 +0.9
WMQ sP sP 04 10 26.0 -1.2
WMQ pmax pmax
comp=Z,15nm,0.8s
WMQ pmax pmax
comp=Z,140nm,4.4s
MOY Mondy 48.95 341 eP P 04 07 46.4 +1.3
MK31 Makanchi Array 53.75 326ceP P 04 08 20.3 +0.5
MK31 pmax pmax
comp=Z,10.0nm,0.4s
MK31 Makanchi Array 53.75 326 eP P 04 08 20.4 +0.5
MK31 ePcP PcP 04 09 14.6 -2.6
MKAR Makanchi Array 53.75 326 P P 04 08 20.5 +0.7
comp=Z,15nm,0.5s,baz=122,slow=8.6,SNR=140
MKAR PcP PcP 04 09 16.4 -0.8
comp=Z,1.9nm,0.5s,baz=114,slow=4.7,SNR=5.1
MKAR ScP ScP 04 12 21.9 -0.9
comp=Z,2.5nm,0.7s,baz=120,slow=4.9,SNR=14
KSH Kashi 54.14 315 eP P 04 08 24.6 +1.7
KSH ePP PP 04 10 39.6 +7.1
KSH esP sP 04 11 09.6 +2.5
KSH PcS PcS 04 13 13.3 -6.1
KSH S S 04 15 16.1 -2.7
KSH pmax pmax
comp=Z,24nm,3.7s

PETK Petropavlovsk- 54.17 24 P P 04 08 23.9 +1.2
comp=Z,3.5nm,0.6s,baz=189,slow=5.3,SNR=7.2
KZA Kyzart 55.72 318 iP P 04 08 35.6 +1.4
KZA Kyzart 55.72 318 P P 04 08 35.6 +1.4
SNR=9.2
TKM2 Tokmak 2 55.86 319 eP P 04 08 35.6 +0.7
TKM2 pmax pmax
comp=Z,8.0nm,0.6s
TKM2 Tokmak 2 55.86 319 P P 04 08 35.7 +0.8
SNR=12
TKM2 Tokmak 2 55.86 319 eP P 04 08 35.6 +0.7
comp=Z,8.5nm,0.6s
UCH Uchtor 56.28 317 iP P 04 08 39.5 +1.4
UCH Uchtor 56.28 317 P P 04 08 39.6 +1.4
SNR=18
AAK Ala-Archa 56.47 318d iP P 04 08 39.8 +0.8
AAK pmax pmax
comp=Z,15nm,1.2s
AAK Ala-Archa 56.47 318 P P 04 08 40.0 +0.9
comp=Z,2.2nm,0.5s,baz=108,slow=4.9,SNR=9.2
AAK Ala-Archa 56.47 318 eP P 04 08 39.6 +0.6
comp=Z,24nm,1.9s
USP Ospenovka 56.73 319 iP P 04 08 41.4 +0.7
USP Ospenovka 56.73 319 P P 04 08 41.4 +0.7
SNR=17
AML Almayashu 56.79 317 iP P 04 08 42.7 +1.1
AML Almayashu 56.79 317 P P 04 08 42.8 +1.1
SNR=15
ZAA0 Zalesovo Array 56.94 334 eP P 04 08 41.5 -0.3
ZALV Zalesovo Beam 56.94 334 iP P 04 08 41.4 -0.5
ZALV pmax pmax
comp=Z,5.0nm,0.8s
ZALV Zalesovo Beam 56.94 334 P P 04 08 41.4 -0.5
comp=Z,5.4nm,0.8s,baz=116,slow=6.8,SNR=23
EKS2 Erkin-Say 56.96 318 eP P 04 08 43.4 +1.1
EKS2 pmax pmax
comp=Z,11nm,0.8s
EKS2 Erkin-Say 56.96 318 P P 04 08 43.5 +1.1
SNR=10
EKS2 Erkin-Say 56.96 318 eP P 04 08 43.4 +1.1
comp=Z,11nm,0.8s
KBL Kabul 57.63 307 eP P 04 08 47.5 +0.3
KBL pmax pmax
comp=Z,14nm,0.7s
KBL Kabul 57.63 307 eP P 04 08 47.5 +0.3
comp=Z,14nm,0.7s
KURBB Kurchatov Arra 57.97 328 P P 04 08 49.2 +0.3
comp=Z,20nm,0.7s,baz=127,slow=6.3,SNR=216
KURK Kurchatov 57.97 328d iP P 04 08 49.2 +0.3
KURK pmax pmax
comp=Z,26nm,0.8s
KURK Kurchatov 57.97 328 eP P 04 08 49.3 +0.3
comp=Z,23nm,0.6s
NVS Novosibirsk 58.23 334 eP P 04 08 48.4 -2.2
NVS eS S 04 16 05.9 -4.7
NVS pmax pmax
comp=Z,10.0nm,0.9s
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,4.0nm,0.7s
NVS smax smax
comp=N,15nm,2.1s
NVS smax smax
comp=E,5.0nm,1.6s
KK31 Karatay Array 59.34 317ceP P 04 08 58.3 0.0
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 59.34 317 eP P 04 08 58.5 +0.2
KKAR pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 59.34 317 eP P 04 08 58.5 +0.2
comp=Z,7.7nm,0.7s
FX1 Attu Island--F 61.31 32 P P 04 09 11.5 +0.4
comp=Z,9.9nm,0.6s,baz=297,slow=2.3,SNR=3.0
VOSK Vostochnaya 63.09 327 eP P 04 09 22.3 -0.3
VOSK pmax pmax
comp=Z,14nm,0.6s
VOSK Vostochnaya 63.09 327 eP P 04 09 22.3 -0.3
comp=Z,14nm,0.6s
BVA0 Borovoye Array 63.54 327 iP P 04 09 25.3 -0.3
BVA0 pmax pmax
comp=Z,13nm,0.9s
BRVK Borovoye 63.61 327d iP P 04 09 26.4 +0.4
BRVK pmax pmax
comp=Z,35nm,1.5s
TIXI Tiksi 65.28 2⇑eP P 04 09 35.9 -0.3
TIXI pmax pmax
comp=Z,4.0nm,0.7s
TIXI Tiksi 65.28 2 eP P 04 09 36.1 0.0
comp=Z,4.9nm,0.5s
BKZ Black Stump Fm 66.47 138 eP P 04 09 45.1 +0.8
comp=Z,31nm,0.6s
AB31 Akbulak array 68.28 321 iP P 04 09 54.9 -0.2
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 68.28 321 eP P 04 09 55.1 0.0
comp=Z,8.3nm,0.6s
SVE Sverdlovsk 70.21 329 eP P 04 10 06.7 +0.2
SVE pmax pmax
comp=Z,15nm,0.8s
ARU Arti 71.17 328d iP P 04 10 11.9 -0.2
ARU S S 04 18 46.5 +1.0
ARU SS SS 04 23 33.4 -0.4
ARU pmax pmax
comp=Z,16nm,1.0s
ARU Arti 71.17 328 eP P 04 10 12.0 -0.2
comp=Z,11nm,0.6s
RAYN Ar Rayn 76.79 293 eP P 04 10 44.5 -0.3
comp=Z,13nm,0.8s
ZEI Tsey 78.31 312 eP P 04 10 51.6 -1.2
ZEI pmax pmax
comp=Z,7.0nm,1.4s
KDAK Kodiak Island 81.23 33 iP P 04 11 08.3 +0.8
TRF Thorofare Moun 82.50 27 eP P 04 11 14.2 +0.1
comp=Z,55nm,2.4s
COLD Coldfoot 82.61 23 eP P 04 11 16.3 +2.0
comp=Z,5.6nm,1.0s
MCK McKinley 83.11 27 eP P 04 11 17.5 +0.5
MCK pmax pmax
comp=Z,8.0nm,0.7s
MCK McKinley 83.11 27 eP P 04 11 17.5 +0.5
comp=Z,8.2nm,0.7s
OBN Obninsk 83.25 325 iP P 04 11 16.9 -0.8
OBN pmax pmax
comp=Z,13nm,1.5s
ILAR Eielson Array 83.98 26 P P 04 11 20.3 -0.9
comp=Z,0.6nm,0.6s,baz=238,slow=5.6,SNR=27
BRTR Keskin Array B 86.11 309 iP P 04 11 30.0 -2.3
BRTR pmax pmax
comp=Z,2.0nm,0.3s
KMBO Kilima Mbogo 86.71 269ceP P 04 11 36.2 +0.5
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 86.71 269 P P 04 11 36.2 +0.5
comp=Z,3.8nm,1.0s,baz=34,slow=8.0,SNR=4.4
KMBO Kilima Mbogo 86.71 269 eP P 04 11 36.3 +0.5
comp=Z,6.9nm,1.2s
ARCES ARCESS Array B 86.98 340 P P 04 11 34.7 -0.9
comp=Z,1.6nm,0.7s,baz=81,slow=5.6,SNR=10
AKASG Malin Array Be 88.03 321 P P 04 11 39.3 -1.5
comp=Z,0.5nm,0.5s,baz=67,slow=4.0,SNR=3.0
INK Inuvik 88.78 21 eP P 04 11 44.3 +0.4
INK pmax pmax
comp=Z,3.0nm,1.3s
INK Inuvik 88.78 21 P P 04 11 43.0 -0.9
comp=Z,1.1nm,0.9s,baz=269,slow=3.1,SNR=4.2
INK Inuvik 88.78 21 eP P 04 11 44.3 +0.4
comp=Z,2.9nm,1.3s
YKA Yellowknife Ar 98.28 24 P P 04 12 27.8 +0.4
comp=Z,0.2nm,0.9s,baz=299,slow=5.3,SNR=3.5
TORD Torodi Ar. Bea 119.34 289 PKP PKPdf 04 17 36.4 -0.6
comp=Z,1.1nm,0.4s,baz=66,slow=1.3,SNR=60
DBIC Dimbokro 127.17 283 PKP PKPdf 04 17 51.0 -1.1
comp=Z,1.1nm,0.5s,baz=6.0,slow=1.3,SNR=6.0

IDC 03 04:03:55.9±2.9, 26.51N×141.62E, h39km±26km, mb3.7/8, mb1 3.9/8, mb1mx3.5/24, mbtmp3.9/8, MS3.2/1, Ms1 3.2/1, ms1mx2.6/25, Error ellipse: s-maj=33.8km s-min=20.0km az=122.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	0.77	41	Pn	Pn	04 04 10.4	0.0

262nm,0.3s,baz=139,slow=6.6,SNR=55

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ				Sn	Sn	04 04 20.8	0.0
	323nm,0.3s,baz=281,slow=22,SNR=58						
ASAJ	Asahikawa	17.59	2	LR	LR	04 15 35.2	
	comp=Z,82nm,18.7s,baz=214,slow=40						
CMAR	Chiang Mai Arr	40.09	268	P	P	04 11 28.1	+0.1
	1.4nm,0.3s,baz=62,slow=6.7,SNR=4.1						
WRA	Warramunga Arr	46.71	189	P	P	04 12 20.9	-0.2
	3.1nm,0.6s,baz=8.8,slow=8.4,SNR=11						
KURBB	Kurchatov Arra	53.09	315	P	P	04 13 08.8	-0.6
	0.3nm,0.4s,baz=90,slow=8.1,SNR=6.6						
ILAR	Eielson Array	58.47	28	P	P	04 13 47.5	-0.2
	0.4nm,0.9s,baz=264,slow=5.5,SNR=3.6						
INK	Inuvik	63.77	24	P	P	04 14 23.8	+0.2
	0.4nm,0.4s,baz=312,slow=7.0,SNR=4.8						
YKA	Yellowknife Ar	72.90	28	P	P	04 15 20.6	-0.1
	0.2nm,0.4s,baz=295,slow=6.2,SNR=7.4						
ARCES	ARCESS Array B	73.93	341	P	P	04 15 27.4	+0.7
	6.0nm,1.1s,baz=49,slow=7.3,SNR=3.8						
NOA	NORSAR Array B	83.97	338	P	P	04 16 21.4	-0.5
	0.4nm,0.5s,baz=48,slow=4.7,SNR=2.8						

IDC 03 04:07:27.6±1.2,26.63N×141.21E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.5/22,mbtmp3.5/4,Error ellipse: s-maj=29.7km s-min=23.7km az=153.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	0.99	62	Pn	Pn	04 07 49.0	+0.2
	154nm,0.3s,baz=265,slow=23,SNR=7.4						
JCJ				Sn	Sg	04 07 58.9	-0.5
	121nm,0.3s,baz=270,slow=22,SNR=11						
SONM	Songino Array	34.46	317	P	P	04 14 16.6	-0.6
	0.5nm,0.8s,baz=115,slow=8.7,SNR=4.2						
WRA	Warramunga Arr	46.77	189	P	P	04 15 58.8	-0.2
	1.7nm,0.7s,baz=8.7,slow=8.7,SNR=7.8						
MKAR	Makanchi Array	50.10	310	P	P	04 16 24.9	+0.4
	0.2nm,0.8s,baz=81,slow=8.9,SNR=2.4						
YKA	Yellowknife Ar	72.96	28	P	P	04 18 58.4	-0.3
	0.2nm,0.5s,baz=295,slow=6.3,SNR=3.8						

IDC 03 04:09:10.2±4.3,54.71S×1.62E,h0km,mb3.7/2,mb1 3.9/2, mb1mx3.6/16,mbtmp3.7/2,Error ellipse: s-maj=149.7km s-min=51.6km az=139.0,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	65.17	277	P	P	04 19 53.6	-0.2
	1.7nm,0.7s,baz=195,slow=3.5,SNR=8.2						
TORD	Torodi Ar. Bea	67.59	0	P	P	04 20 08.1	-0.3
	0.2nm,0.5s,baz=192,slow=5.5,SNR=4.7						
PDAR	Pinedale Array	134.86	284	PKP	PKPdf	04 28 28.2	-2.2
	0.5nm,0.8s,baz=123,slow=6.6,SNR=4.1						
YKA	Yellowknife Ar	147.18	310	PKPbc	PKPbc	04 28 54.5	+0.7
	0.2nm,0.5s,baz=117,slow=2.6,SNR=4.6						

IDC 03 04:23:39.7±2.2,3.76S×151.30E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/18,mbtmp3.4/3,Error ellipse: s-maj=158.0km s-min=29.6km az=124.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.07	224	P	P	04 28 45.5	-1.6
	0.9nm,0.9s,baz=48,slow=10,SNR=4.8						
ASAR	Alice Springs	25.96	219	P	P	04 29 14.6	+0.4
	0.4nm,0.8s,baz=56,slow=8.6,SNR=4.2						
ILAR	Eielson Array	81.77	22	P	P	04 35 59.5	-0.6
	0.6nm,1.1s,baz=234,slow=6.4,SNR=4.5						
TORD	Torodi Ar. Bea	148.56	289	PKPbc	PKPbc	04 43 30.8	+1.1
	0.2nm,0.6s,baz=94,slow=1.5,SNR=2.4						

IDC 03 04:38:41.9±3.4,0.95S×130.61E,h0km,mb3.3/2, mb1 3.7/3,mb1mx3.4/20,mbtmp3.5/3,ML3.8/1,Error ellipse: s-maj=225.9km s-min=28.3km az=71.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.22	169	P	P	04 43 07.6	-0.1
	0.3nm,0.3s,baz=353,slow=12,SNR=11						
ASAR	Alice Springs	22.80	172	P	P	04 43 46.5	+0.1
	1.0nm,0.5s,baz=356,slow=14,SNR=14						
MKAR	Makanchi Array	63.59	325	P	P	04 49 14.5	0.0
	0.2nm,0.6s,baz=114,slow=7.1,SNR=3.1						

ISCJB 03 04:39:41.8±0.8,26.7N±0.1×140.5E±0.1,h33km,mb3.5/7, Error ellipse: s-maj=22.4km s-min=11.9km az=155.1
IDC 03 04:39:49.6±2.0,26.61N×141.00E,h85km±17km,mb3.1/7, mb1 3.5/7,mb1mx3.2/23,mbtmp3.5/7,Error ellipse: s-maj=32.8km s-min=18.3km az=113.0
ISC 03 04:39:43.9±0.9,26.6N±0.2×140.7E±0.1,h35km,n9, σ1s25/9,mb3.4/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.44	71	P	Pn	04 40 12.0	+4.5
	375nm,0.3s,baz=276,slow=24,SNR=190						
JCJ				S	Sn	04 40 26.8	+1.5
	539nm,0.3s,baz=253,slow=19,SNR=22						
WRA	Warramunga Arr	46.71	188	P	P	04 48 10.1	+0.5
	1.9nm,0.5s,baz=11,slow=8.6,SNR=13						
ASAR	Alice Springs	50.44	188	P	P	04 48 38.5	+0.3
	0.4nm,0.6s,baz=19,slow=10,SNR=4.5						
KURBB	Kurchatov Arra	52.38	315	P	P	04 48 54.3	+1.8
	0.1nm,0.3s,baz=90,slow=8.0,SNR=3.3						
ILAR	Eielson Array	58.76	29	P	P	04 49 37.6	-0.6
	0.3nm,0.8s,baz=251,slow=6.9,SNR=2.9						
YKA	Yellowknife Ar	73.19	28	P	P	04 51 10.3	-0.6
	0.2nm,0.6s,baz=287,slow=5.8,SNR=4.1						
NVAR	Mina Array Bea	81.87	51	P	P	04 51 58.9	-1.3
	0.1nm,0.5s,baz=302,slow=5.2,SNR=2.8						
PDAR	Pinedale Array	85.49	44	P	P	04 52 17.9	-0.7
	0.3nm,0.6s,baz=265,slow=5.3,SNR=3.3						
TORD	Torodi Ar. Bea	123.83	310	PKP	PKPdf	04 58 38.1	-0.9
	0.7nm,1.2s,baz=64,slow=1.3,SNR=3.5						

ISCJB 03 04:42:42.0±0.4,44.65N±0.06×147.21E±0.07, h161km±3km,mb3.7/16,Error ellipse: s-maj=12.0km s-min=6.3km az=145.8
MOS 03 04:42:42.6±0.9,44.78N×147.10E,h164km,mb4.1/9,Error ellipse: s-maj=15.8km s-min=11.5km az=80.0
SKHL 03 04:42:43.3±0.9,44.73N×147.20E,h147km±3km,mb4.7/4, mbh5.0/3
JMA 03 04:42:45.1±0.5,44.56N×147.07E,h149km,M3.8
IDC 03 04:42:46.0±1.7,44.91N×146.95E,h175km±17km, mb3.3/14,mb1 3.6/15,mb1mx3.4/27,mbtmp3.8/15,MS3.0/1, Ms1 3.0/1,ms1mx2.4/20,Error ellipse: s-maj=26.2km s-min=15.4km az=163.0
ISC 03 04:42:42.9±0.7,44.67N±0.06×147.20E±0.06,h156km±6km, n70,σ1s21/76,mb3.6/16,1C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.73	40	ePN	Pn	04 43 06.3	+0.1
KUR				eS	Sn	04 43 24.2	+0.1
KUR				pmax	pmax		
	comp=Z,90nm,0.6s						
KUR				smax	smax		
	comp=N,260nm,0.7s						
KUR				smax	smax		
	comp=E,150nm,0.6s						
KUR	Kuril'sk	0.73	40	eP	Pn	04 43 06.0	-0.2
KUR				AMB	AMB	04 43 06.8	
	comp=E,900nm,0.6s						
KUR				eS	Sn	04 43 23.2	-0.9
KUR				A	A	04 43 24.6	
	comp=E,260nm,0.3s						
KUR				A	A	04 43 24.6	
	comp=E,150nm,0.3s						
SHO	Shikotan	0.85	199	eP	Pn	04 43 07.2	+0.2
SHO				AMB	AMB	04 43 07.5	
	comp=E,950nm,0.6s						
SHO				eS	Sn	04 43 24.4	-1.0
SHO				A	A	04 43 25.6	
	comp=E,200nm,0.3s						
YUK	Yuzh-Kuril'sk	1.15	237	c iPN	Pn	04 43 10.2	+0.7
YUK				iS	Sn	04 43 30.9	+1.0
YUK				pmax	pmax		
	comp=N,205nm,0.2s						
YUK				pmax	pmax		
	comp=E,76nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				smax	smax		
	comp=N,875nm,0.4s						
YUK				smax	smax		
	comp=E,568nm,0.4s						
YUK	Yuzh-Kuril'sk	1.15	237	eP	Pn	04 43 10.2	+0.7
YUK				AMB	AMB	04 43 10.6	
	comp=E,210nm,0.2s						
YUK				AMB	AMB	04 43 10.6	
	comp=E,80nm,0.2s						
YUK				AMB	AMB	04 43 10.6	
	comp=E,150nm,0.2s						
YUK				eS	Sn	04 43 30.9	+1.0
YUK				A	A	04 43 34.4	
	comp=E,880nm,0.5s						
YUK				A	A	04 43 34.4	
	comp=E,570nm,0.5s						
JRA	Rausu	1.66	245	P	Pn	04 43 15.1	+0.5
NEM2	Nemuro 2	1.68	219	P	Pn	04 43 14.7	-0.1
NEM2				eS	Sn	04 43 37.3	-1.9
JNK	Nakash	2.09	240	P	Pn	04 43 19.9	+0.5
JTKR	Abashiri--Toko	2.47	255	P	Pn	04 43 24.2	+0.4
JAK	Akkeshi	2.47	228	P	Pn	04 43 24.0	+0.1
JAK				eS	Sn	04 43 54.4	-1.1
JAR	Ashorobuto	2.83	242	P	Pn	04 43 29.5	+1.1
JMP	Maruseppu	2.84	258	P	Pn	04 43 28.9	+0.5
JOB	Onbets	3.01	235	P	Pn	04 43 31.4	+0.8
JOB				eS	Sn	04 44 06.5	-1.0
JKK2	Kamakawa 2	3.30	258	P	Pn	04 43 35.4	+1.2
JSE	Soyaes	3.30	277	P	Pn	04 43 34.4	+0.2
JKA	Kamikawa-asahi	3.34	262	eP	Pn	04 43 36.3	+1.5
ASAJ	Asahikawa	3.35	262	PN	Pn	04 43 36.3	+1.5
ASAJ				S	Sn	04 44 17.4	+2.3
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
ASAJ	Asahikawa	3.35	262	P	Pn	04 43 36.3	+1.5
	comp=N,4.1nm,0.3s,baz=74,slow=15,SNR=13						
ASAJ				S	Sn	04 44 17.4	+2.3
	comp=N,0.9nm,0.3s,baz=274,slow=21,SNR=4.4						
JCH	Churui	3.46	235	P	Pn	04 43 36.6	+0.3
JCH				eS	Sn	04 44 15.2	-2.6
JFR	Furan	3.66	247	P	Pn	04 43 40.2	+1.4
JWK2	Keihoku	3.82	282	P	Pn	04 43 42.0	+1.2
YSS	Yuzh-Sakhalins	3.86	308	ePN	Pn	04 43 40.4	-0.9
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	Yuzh-Sakhalins	3.86	308	eP	Pn	04 43 40.4	-0.9
YSS				AMB	AMB	04 43 41.7	
	comp=Z,30nm,0.9s						
ERM	Erimo	3.97	229	d iPN	Pn	04 43 44.1	+1.2
ERM				eS	Sn	04 44 27.0	-2.5
ERM	Erimo	3.97	229	eP	Pn	04 43 44.1	+1.2
JNBK	Urakawa-nobuka	4.03	235	P	Pn	04 43 43.1	-0.5
JNBK				eS	Sn	04 44 26.8	-4.0
PETK	Petropavlovsk-	10.90	36	LR	LR	04 49 56.2	
	comp=Z,75nm,19.6s,baz=206,slow=40						
SEY	Seymchan	18.54	7	P	Pn	04 46 49.3	0.0
	comp=Z,0.3nm,0.3s,baz=173,slow=12,SNR=6.9						
SONM	Songino Array	28.16	291	P	P	04 48 20.9	+0.4
	comp=Z,0.1nm,0.3s,baz=68,slow=8.0,SNR=1.9						
H11N2	WAKE ISLAND Hy	29.78	140	T	T	05 19 52.2	
	baz=332,slow=76,SNR=20						
H11N1	WAKE ISLAND Hy	29.79	140	T	T	05 19 50.3	
	baz=332,slow=76,SNR=20						
H11N3	WAKE ISLAND Hy	29.80	140	T	T	05 19 50.7	
	baz=332,slow=76,SNR=22						
H11S1	WAKE ISLAND Hy	30.76	142	T	T	05 21 02.4	
	baz=333,slow=77,SNR=51						
H11S3	WAKE ISLAND Hy	30.77	142	T	T	05 21 00.0	
	baz=333,slow=77,SNR=50						
H11S2	WAKE ISLAND Hy	30.78	142	T	T	05 21 01.1	
	baz=333,slow=77,SNR=44						
KDAK	Kodiak Island	38.60	48	iP	P	04 49 51.0	+0.7
KDAK	Kodiak Island	38.60	48	eP	P	04 49 51.0	+0.7
COLA	College	40.31	37	⇓eP	P	04 50 05.6	+1.2
COLA	College	40.31	37	eP	P	04 50 05.6	+1.2
ILAR	Eielson Array	40.72	37	P	P	04 50 08.5	+0.6
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	Eielson Array	40.72	37	P	P	04 50 08.4	+0.6
	comp=Z,1.5nm,0.6s,baz=260,slow=5.0,SNR=27						
MKAR	Makanchi Array	44.20	297	iP	P	04 50 36.0	-0.1
MKAR	Makanchi Array	44.20	297	P	P	04 50 35.9	-0.3
	comp=Z,0.2nm,0.5s,baz=74,slow=8.9,SNR=4.5						
MKAR	Makanchi Array	44.20	297	eP	P	04 50 36.0	-0.1
KURK	Kurchatov	45.05	303	P	P	04 50 42.4	-0.4
KURK	Kurchatov	45.05	303	eP	P	04 50 42.4	-0.4
KURBB	Kurchatov Arra	45.13	303	P	P	04 50 42.4	-1.0
	comp=Z,0.2nm,0.3s,baz=69,slow=8.1,SNR=4.0						
INK	Inuvik	45.59	31	P	P	04 50 46.9	+0.1
INK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
INK	Inuvik	45.59	31	P	P	04 50 46.9	+0.1
	comp=Z,4.3nm,0.3s,baz=300,slow=9.4,SNR=97						
BRVK	Borovoye	49.00	309	eP	P	04 51 13.2	-0.1
BRVK	Borovoye	49.00	309	eP	P	04 51 13.2	-0.1
AAK	Ala-Archa	51.00	295	eP	P	04 51 27.9	-0.9
AAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
AAK	Ala-Archa	51.00	295	eP	P	04 51 27.9	-0.9
RES	Resolute Bay	54.07	17	P	P	04 51 49.2	-1.4
RES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
RES	Resolute Bay	54.07	17	P	P	04 51 49.2	-1.4
	comp=Z,0.6nm,0.4s,baz=319,slow=5.6,SNR=6.0						
YKA	Yellowknife Ar	55.02	34	P	P	04 51 58.7	+1.1
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	55.02	34	P	P	04 51 58.7	+1.1
	comp=Z,1.5nm,0.7s,baz=301,slow=7.1,SNR=26						
ARCES	ARCESS Array B	58.40	339	P	P	04 52 19.8	-1.6
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	ARCESS Array B	58.40	339	P	P	04 52 19.8	-1.6
	comp=Z,3.5nm,0.9s,baz=41,slow=7.2,SNR=3.9						
WRA	Warramunga Arr	65.37	193	P	P	04 53 10.0	+1.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	65.37	193	P	P	04 53 10.0	+1.6
	comp=Z,0.5nm,0.5s,baz=12,slow=6.5,SNR=3.1						
NVAR	Mina Array Bea	67.06	58	P	P	04 53 21.5	+2.0
	comp=Z,0.3nm,0.4s,baz=289,slow=8.3,SNR=3.6						
NOA	NORSAR Array B	68.75	339	P	P	04 53 28.0	-1.4
NOA	NORSAR Array B	68.75	339	P	P	04 53 28.0	-1.4
	comp=Z,0.5nm,0.5s,baz=32,slow=6.7,SNR=5.4						
PDAR	Pinedale Array	69.29	50	P	P	04 53 34.9	+1.6
	comp=Z,0.3nm,0.6s,baz=318,slow=1.2,SNR=4.9						
AKASG	Malin Array Be	70.86	324	P	P	04 53 41.4	-1.0
	comp=Z,0.3nm,0.3s,baz=39,slow=5.9,SNR=3.0						
KHC	Kasperske Hory	78.17	331	d eP	P	04 54 25.0	+0.3
KHC				pmax	pmax		
	comp=Z,30nm,1.5s						
KHC	Kasperske Hory	78.17	331	eP	P	04 54 25.0	+0.3
GERES	GERESS Array B	78.37	331	P	P	04 54 25.9	0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	GERESS Array B	78.37	331	P	P	04 54 25.9	0.0
	comp=Z,0.5nm,0.4s,baz=46,slow=5.6,SNR=5.0						

ISCJB 03 04:59:40.0±0.2,18.02N±0.02×98.15W±0.02,h67km±1km, mb4.7/141,Error ellipse: s-maj=3.4km s-min=2.2km az=142.1
MOS 03 04:59:40.8±0.9,18.27N×97.98W,h63km,mb5.1/31,Error ellipse: s-maj=9.2km s-min=4.8km az=104.7
IDC 03 04:59:41.0±0.5,18.18N×98.07W,h56km±2km,mb4.3/23, mb1 4.4/27,mb1mx4.4/30,mbtmp4.5/27,MS3.8/29, Ms1 3.8/29,ms1mx3.7/35,Error ellipse: s-maj=17.5km s-min=9.2km az=57.0
MEX 03 04:59:42.5±0.7,18.00N×98.22W,h56km±6km,MD4.7
GCMT 03 04:59:44.7±0.3,18.21N×97.99W,h50km±1km,MW4.9/55, Moment Tensor Solution. s52,c67; s55,c73; Duration: 0 Moment tensor: Scale 10^{16} Nm; M_{rr}-2.52±.12; $M_{\theta\theta}$2.39±.08; $M_{\phi\phi}$0.12±.10; $M_{r\theta}$-0.53±.07; $M_{r\phi}$-0.95±.09; $M_{\theta\phi}$-0.42±.07; Best double couple: $M_0$2.71800×10^{16} NP1:φs97.00000°,δ50.00000°,λ-107.00000°. NP2: φs303.00000°,δ43.00000°,λ-71.00000°. Principal axes: T 2.7580, Plg4.0000°, Azm199.0000°; N -0.0830, Plg13.0000°, Azm108.0000°; P -2.6780, Plg76.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 03 04:59:44.7±0.2,18.28N×97.94W,mb4.8/116, MD4.7(MEX) Error ellipse: s-maj=4.3km s-min=2.8km az=215.0
NEIC Felt [II] at Puebla. Also felt at Chilpancingo, Huixquilucan, Juxtlahuaca, Mexico, Oaxaca and Tecamachalco.
ISC 03 04:59:41.5±0.3,17.99N±0.03×98.21W±0.03,h69km±2km, h69km:pP-P,n743,σ1s40/831,mb4.8/141,197C-187D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMTT	Tlapaneco	0.38	241	eP	Pn	04 59 51.3	-2.0
HMTT				iS	Sn	04 59 59.0	-2.9
TLIG	Tlapa	0.54	219	iP	Pn	04 59 53.1	-1.7
TLIG				iS	Sn	05 00 02.7	-1.8
TPIG	Tehuac#an	0.92	62	iP	Pn	04 59 57.4	-1.7
TPIG				iS	Sn	05 00 10.4	-1.8
PHPU	Puebla	1.05	2	eP	Pn	04 59 59.0	-1.9
PHPU				iS	Sn	05 00 13.1	-2.2
PPM	Popocatepetl	1.14	340	iP	Pn	04 59 58.0	-4.2
PPM				iP	Pn	05 00 00.9	-1.4
PPM				iS	Sn	05 00 11.3	-6.5
PPM				iS	Sn	05 00 16.2	-1.5
YAIG	Yautepec	1.19	317	eP	Pn	05 00 01.1	-1.4
YAIG				iS	Sn	05 00 15.4	-2.8
AMVM	AMECAMECA	1.26	335	iP	Pn	05 00 02.0	-1.6
AMVM				iS	Sn	05 00 17.8	-2.4
PLIG	Platanillo	1.29	288	eP	Pn	05 00 02.5	-1.2
PLIG				iS	Sn	05 00 18.7	-1.8
VCVM	Valle de Chalc	1.48	332	eP	Pn	05 00 05.4	-1.1
VCVM				iS	Sn	05 00 23.7	-1.5
MZVM		1.54	321	iP	Pn	05 00 06.8	-0.1
MZVM				iS	Sn	05 00 24.6	-1.5
PNIG	Pinotepa	1.59	177	eP	Pn	05 00 06.2	-1.5
PNIG				iS	Sn	05 00 26.6	-0.7
UNM	Universidad Na	1.62	326	iP	Pn	05 00 08.0	-0.3
UNM				iS	Sn	05 00 26.7	-1.8
IIO	Organos	1.67	343	iP	Pn	05 00 07.8	-1.3
IIO				iS	Sn	05 00 28.6	-1.2
VHO	Vista Hermosa	1.68	123	eP	Pn	05 00 09.3	+0.3
VHO				iS	Sn	05 00 28.2	-1.6
OXX	Oaxaca	1.68	122	eP	Pn	05 00 07.1	-2.0
OXX				iS	Sn	05 00 20.7	-9.2
PTVM	Pico Tres Padr	1.81	332	eP	Pn	05 00 09.6	-1.2
PTVM				iS	Sn	05 00 31.3	-1.7
VTVM	Tizayuca	1.85	343	eP	Pn	05 00 10.4	-1.1
VTVM				eS	Sn	05 00 33.0	-1.1
AZVM	Cuida Lopez Ma	1.89	328	eP	Pn	05 00 10.8	-1.1
AZVM				iS	Sn	05 00 34.1	-0.8
TOVM	TOLUCA	1.90	313	iP	Pn	05 00 11.6	-0.4
TOVM				iS	Sn	05 00 33.7	-1.5
ACX	Acapulco	1.92	235	eP	Pn	05 00 07.0	-5.1
ACP2	Acapulco	1.94	236	eP	Pn	05 00 10.1	-2.3
ACP2				iS	Sn	05 00 34.9	-0.9
ZUVM	ZUMPANGO	2.00	336	eP	Pn	05 00 12.2	-1.3
ZUVM				iS	Sn	05 00 36.5	-1.3
ARIG	Puente Sto Nin	2.05	279	iP	Pn	05 00 13.5	-0.4
ARIG				iS	Sn	05 00 36.5	-2.0
DEIG	Demacu	2.43	341	eP	Pn	05 00 18.0	-1.2
DEIG				iS	Sn	05 00 46.4	-1.6
PANG	Puerto Angel	2.84	144	iP	Pn	05 00 24.1	-0.6
PANG				iS	Sn	05 00 56.4	-1.4
HUIG	Huatulco	2.99	137	iP	Pn	05 00 26.8	+0.2
HUIG				iS	Sn	05 01 01.6	+0.3
CMIG	Matias Romero	3.30	105	eP	Pn	05 00 30.4	-0.4
CMIG				iS	Sn	05 01 09.1	+0.2
PCIG		5.29	115	eP	Pn	05 00 58.8	+0.8
PCIG				eS	Sn	05 01 57.4	-0.3
CCIG	Comitan	6.05	105	eP	Pn	05 01 08.7	+0.1
CCIG				iS	Sn	05 02 17.4	+0.8
APG	El Apazote	8.00	111	P	Pn	05 01 30.8	-4.6
APG				S	Sn	05 02 56.8	-7.7
035A	Encino	8.91	1	⇑P	Pn	05 01 49.3	+1.8
	baz=8.7						
034A	Hebbronville	9.05	357	⇑P	Pn	05 01 51.4	+2.1
	baz=8.8						
934A	Benavides	9.57	358	⇓P	Pn	05 01 57.2	+0.6
	baz=9.3						
933A	Laredo	9.63	354	⇓P	Pn	05 01 58.8	+1.5
	baz=9.4,SNR=8.8						
TEIG	Tepich	9.65	75	P	Pn	05 01 53.6	-4.1
	13nm,0.3s,baz=87,slow=0.4,SNR=56						
TEIG				S	Sn	05 03 35.2	-9.4
	61nm,0.3s,baz=14,slow=22,SNR=21						
TEIG				LR	LR	05 06 34.8	
	comp=Z,678nm,18.4s,baz=269,slow=44						
TEIG	Tepich	9.65	75	ePn	Pn	05 01 53.9	-3.8
TEIG				eS	Sn	05 03 36.9	-7.7
834A	Tilden	10.10	358	⇓P	Pn	05 02 04.8	+1.1
	baz=9.9,SNR=11						
835A	Beeville	10.26	2	⇓P	Pn	05 02 07.5	+1.6
	baz=10.0,SNR=7.4						
833A	Chaparral WMA,	10.35	354	⇑P	Pn	05 02 08.3	+1.2
	baz=10,SNR=38						
832A	Faith Ranch, C	10.38	351	⇓P	Pn	05 02 08.5	+1.0
	baz=10,SNR=31						
733A	Divot King Ran	10.73	355	⇓P	Pn	05 02 13.2	+0.9
	baz=10,SNR=33						
732A	Laxson Ranch,	10.81	352	⇑P	Pn	05 02 14.4	+0.9
	baz=11,SNR=37						
734A	La Parita Cree	10.82	358	⇑P	Pn	05 02 14.2	+0.7
	baz=11,SNR=15						
735A	Kenedy	10.83	2	⇑P	Pn	05 02 14.3	+0.7
	baz=11,SNR=9.1						
634A	China Grove, S	11.35	359	⇑P	Pn	05 02 20.7	0.0
	baz=11						
635A	Leesville	11.36	2	⇑P	Pn	05 02 20.8	-0.1
	baz=11,SNR=12						
633A	Saathoff Ranch	11.46	356	⇓P	Pn	05 02 22.1	-0.2
	baz=11,SNR=22						
632A	Uvalde	11.56	353	⇑P	Pn	05 02 23.6	0.0
	baz=11,SNR=26						
631A	Perdido Creek	11.58	350	⇓P	Pn	05 02 23.9	0.0
	baz=11,SNR=52						
534A	Blanco	11.99	359	⇓P	Pn	05 02 29.2	-0.4
	baz=12,SNR=58						
535A	Dale	12.00	3	⇑P	Pn	05 02 29.7	0.0
	baz=12,SNR=24						
533A	Kerrville	12.05	357	⇑P	Pn	05 02 30.2	-0.2
	baz=12,SNR=13						
536A	Bastrop	12.08	5	⇑P	Pn	05 02 30.0	-0.7
	baz=12						
628A	Black Gap, Mar	12.22	340	⇓P	Pn	05 02 33.5	+0.8
	baz=12						
531A	Rocksprings	12.31	350	⇑P	Pn	05 02 34.0	0.0
	baz=12,SNR=42						
TXAR	Lajitas Array	12.35	337	P	Pn	05 02 33.4	-1.2
	0.1nm,0.3s,baz=150,slow=10,SNR=15						
TXAR				LR	LR	05 07 47.7	
	comp=Z,1μm,19.1s,baz=0.0,slow=40						
TXAR				PcP	PcP	05 08 11.4	+0.4
	0.0nm,0.3s,baz=163,slow=4.8,SNR=3.7						
627A	Terlingua Ranc	12.36	338	⇑P	Pn	05 02 36.9	+2.2
	baz=12,SNR=19						
530A	J-C Ranch, Com	12.44	347	⇑P	Pn	05 02 35.8	+0.1
	baz=12						
JCT	Junction City	12.52	354	eP	Pn	05 02 36.0	-0.8
JCT	Junction City	12.52	354	ePn	Pn	05 02 36.0	-0.8
JCT	Junction City	12.52	354	⇓P	Pn	05 02 36.6	-0.2
	baz=12,SNR=17						
529A	Stev Forest Ra	12.62	344	⇓P	Pn	05 02 39.8	+1.6
	baz=12,SNR=34						
626A	Big Bend Ranch	12.72	336	⇑P	Pn	05 02 41.9	+2.3
	baz=13,SNR=9.4						
433A	Art	12.74	357	⇓P	Pn	05 02 40.8	+1.0
	baz=12,SNR=22						
435B	Jarrell	12.75	2	⇑P	Pn	05 02 41.0	+1.1
	baz=12,SNR=20						
434A	Burnet	12.77	360	⇓P	Pn	05 02 40.8	+0.6
	baz=12,SNR=38						
528A	Cox Ranch, San	12.82	342	⇑P	Pn	05 02 42.3	+1.4
	baz=13,SNR=8.9						
LPIG	La Paz	12.82	300	LR	LR	05 07 30.0	
	comp=Z,524nm,19.2s,baz=124,slow=36						
431A	Sonora	12.83	351	⇑P	Pn	05 02 40.7	-0.3
	baz=13,SNR=11						
432A	Menard	12.91	354	⇓P	Pn	05 02 41.8	-0.4

baz=13,SNR=31
429A Davenport Ranc 13.02 346 ⇓P Pn 05 02 44.7 +1.1
baz=13,SNR=15
430A Baggett Ranch, 13.04 348 ⇑P Pn 05 02 44.8 +0.9
baz=13,SNR=14
527A Woodward Ranch 13.07 339 ⇑P Pn 05 02 46.1 +1.8
baz=13,SNR=11
526A Mary Lane Ranc 13.16 337 ⇓P Pn 05 02 47.7 +2.1
baz=13,SNR=12
335A Moody 13.26 3 ⇑P Pn 05 02 47.3 +0.6
baz=13,SNR=35
334A Lometa 13.29 360 ⇑P Pn 05 02 45.8 -1.4
baz=13,SNR=35
333A Richland Sprin 13.30 357 ⇓P Pn 05 02 46.0 -1.4
baz=13,SNR=22
428A Kincaid Ranch, 13.32 343 ⇓P Pn 05 02 49.7 +2.0
baz=13,SNR=12
332A Millersview 13.41 354 ⇑P Pn 05 02 47.7 -1.1
baz=13,SNR=16
331A San Angelo 13.41 352 ⇓P Pn 05 02 48.5 -0.4
baz=13,SNR=8.1
330A Mertzon 13.63 349 ⇑P Pn 05 02 52.7 +0.9
baz=14,SNR=6.4
427A Hayter Ranch, 13.65 341 ⇓P Pn 05 02 53.8 +1.8
baz=14,SNR=12
426A McDonald Obser 13.69 338 ⇓P Pn 05 02 54.5 +1.8
baz=14,SNR=17
329A Wagon Wheel Ra 13.87 346 ⇓P Pn 05 02 56.6 +1.6
baz=14,SNR=7.5
232A Coleman 13.90 355 ⇑P Pn 05 02 54.5 -0.8
baz=14
234A Clairette 13.96 0 ⇑P Pn 05 02 55.2 -0.8
baz=14,SNR=13
WHTX Lake Whitney 13.96 3 ePn Pn 05 02 54.5 -1.6
WHTX Lake Whitney 13.96 3 ⇑P Pn 05 02 55.3 -0.7
baz=14,SNR=18
328A Wristen Ranch, 13.97 344 ⇑P Pn 05 02 57.5 +1.2
baz=14,SNR=13
233A Rising Star 13.99 358 ⇑P Pn 05 02 55.4 -1.0
baz=14,SNR=10
231A Bronte 14.02 353 ⇓P Pn 05 02 56.6 -0.3
baz=14,SNR=15
NATX Nacogdoches 14.09 13 ePn Pn 05 02 56.3 -1.4
230A Sterling City 14.09 350 ⇑P Pn 05 02 58.5 +0.7
baz=14,SNR=9.0
425A Indio Mountain 14.15 335 ⇓P Pn 05 02 59.2 +1.2
baz=14,SNR=23
326A Caldwell Ranch 14.26 340 ⇓P P 05 03 03.6 -1.8
baz=14,SNR=24
229A Bryant Ranch, 14.30 348 ⇑P Pn 05 03 01.3 +0.7
baz=14
134A White-Moore Ra 14.53 0 ⇓P Pn 05 03 01.8 -1.6
baz=14,SNR=6.6
135A Vickery Place, 14.53 3 ⇓P Pn 05 03 02.1 -1.3
baz=14
133A Hamilton Ranch 14.57 358 ⇓P Pn 05 03 03.0 -1.1
baz=14,SNR=24
228A UT Block 9, Go 14.62 345 ⇓P Pn 05 03 03.7 -1.0
baz=14
ABTX Abilene, Hawle 14.63 355 ePn Pn 05 03 03.6 -1.3
ABTX Abilene, Hawle 14.63 355 ⇑P Pn 05 03 03.8 -1.1
baz=14,SNR=14
227A Bennet, Jal 14.70 343 ⇑P Pn 05 03 06.3 +0.5
baz=15
131A Roby 14.76 353 ⇓P Pn 05 03 05.3 -1.2
baz=15,SNR=11
130A Snyder 14.76 351 ⇑P Pn 05 03 06.0 -0.5
baz=15,SNR=9.5
129A Stewart Farms, 14.95 348 ⇓P Pn 05 03 10.0 +1.0
baz=15,SNR=9.3
JTS JuntasAbangare 14.96 119 eP Pn 05 03 10.1 +1.0
JTS pmax pmax
comp=Z,32nm,1.1s
JTS JuntasAbangare 14.96 119 P Pn 05 03 09.8 +0.6
comp=Z,1.8nm,0.3s,baz=314,slow=19,SNR=7.2
JTS JuntasAbangare 14.96 119 ePn Pn 05 03 10.2 +1.0
226B Tecolote Peak, 15.03 340 ⇑P Pn 05 03 11.1 +1.1
baz=15,SNR=21
128A Castleberry Fa 15.07 346 ⇑P Pn 05 03 10.4 -0.2
baz=15
CLNB Carlsbad 15.11 341 ePn Pn 05 03 11.9 +0.9
comp=Z,1.1nm,0.3s
MNTX Cornudas Mount 15.12 336 ePn Pn 05 03 11.5 +0.4
comp=Z,75nm,1.5s
GDL2 Guadalupe Moun 15.20 340 ePn P 05 03 17.1 +1.2
Z33A Whitaker Ranch 15.24 358 ⇓P Pn 05 03 11.7 -1.1
baz=15,SNR=29
225A Deer Hill, Car 15.28 338 ⇓P Pn 05 03 14.4 +1.1
baz=15,SNR=72
Z32A Haskell 15.30 356 ⇓P Pn 05 03 12.4 -1.0
baz=15,SNR=26
Z35A Perchaven, San 15.30 3 ⇓P Pn 05 03 13.2 -0.3
baz=15
Z34A Collier Ranch, 15.32 1 ⇑P Pn 05 03 14.0 +0.2
baz=15,SNR=5.9
127A Arkansas Junct 15.35 343 ⇑P Pn 05 03 13.6 -0.5
baz=15,SNR=7.5
Z31A Sharp Cattle R 15.37 354 ⇓P Pn 05 03 12.8 -1.5
baz=15,SNR=9.2
Z30A Sanderson Ranc 15.46 351 ⇓P Pn 05 03 14.6 -1.0
baz=15,SNR=25
126A Clayton Basin, 15.51 341 ⇑P Pn 05 03 16.5 +0.3
baz=15,SNR=8.0
Z29A Hungry Hill Ra 15.53 349 ⇑P Pn 05 03 16.1 -0.3
baz=15,SNR=13
Z28A Tucker Farm, M 15.69 347 ⇓P Pn 05 03 19.0 +0.5
baz=16,SNR=11
125A Gardner Draw, 15.72 340 ⇑P Pn 05 03 20.0 +1.1
baz=16,SNR=27
VBMS Vicksburg 15.78 25 ePn Pn 05 03 18.5 -1.0
comp=Z,111nm,0.9s
Y34A Reagan Ranch, 15.91 1 ⇓P Pn 05 03 20.2 -1.0
baz=16
Z27A Tatum 15.91 345 ⇓P Pn 05 03 21.0 -0.3
baz=16,SNR=19
Y33A Hilltop Ranch, 15.96 359 ⇑P Pn 05 03 20.3 -1.5
baz=16,SNR=16
Y32A R-V Farms, Ver 15.99 356 ⇑P Pn 05 03 20.8 -1.4
baz=16,SNR=12
Y30A Stafford Cattl 16.01 352 ⇓P Pn 05 03 21.1 -1.4
baz=16,SNR=6.6
Y31A Rekieta Farm, 16.02 354 ⇑P Pn 05 03 21.2 -1.3
baz=16,SNR=14
Z26A Caprock 16.08 342 ⇑P Pn 05 03 23.2 -0.2
baz=16,SNR=19
Y29A Porterfield Fa 16.11 350 ⇓P Pn 05 03 23.4 -0.4
baz=16,SNR=20
Y28A McKinney Farm, 16.26 348 ⇑P P 05 03 27.5 -0.1
baz=16,SNR=16
Z25A Roswell 16.31 340 ⇓P Pn 05 03 27.0 +0.7
baz=16,SNR=9.9
X32A Elmer 16.40 357 ⇓P Pn 05 03 26.0 -1.3
baz=16,SNR=19
MSTX Muleshoe 16.43 346 ePn Pn 05 03 26.9 -0.9
MSTX Muleshoe 16.43 346 ⇓P Pn 05 03 27.2 -0.6
baz=16,SNR=14
Y27A Causey 16.44 345 ⇓P Pn 05 03 27.1 -0.8
baz=16,SNR=12
X33A Lawton 16.49 359 ⇑P Pn 05 03 27.6 -0.8
baz=16,SNR=15
X34A Smith Ranch, M 16.55 1 ⇓P Pn 05 03 28.8 -0.4
baz=16,SNR=21
X30A Coker Ranch, T 16.57 352 ⇓P Pn 05 03 28.2 -1.2
baz=16,SNR=22
Z24A Sheeppen Canyo 16.57 339 ⇑P P 05 03 31.0 -0.2
baz=16,SNR=48
Y26A Elida 16.65 344 ⇓P P 05 03 32.0 +0.1
baz=16,SNR=5.1
X31A McDonald Ranch 16.65 355 ⇑P Pn 05 03 30.5 0.0
baz=16,SNR=16
319A Douglas 16.68 325 ⇓P P 05 03 32.0 +1.0
baz=17,SNR=21
X29A Tulia 16.69 350 ⇓P Pn 05 03 30.4 -0.6
baz=16,SNR=15
X28A Dimmitt 16.84 349 ⇓P Pn 05 03 32.6 -0.4
baz=17
121A Cookes Peak, D 16.86 331 ePn P 05 03 34.6 +0.3
comp=Z,30nm,1.0s
121A Cookes Peak, D 16.86 331 ⇓P P 05 03 34.7 +0.5
baz=17,SNR=15
Y25A Mesa, Roswell 16.90 341 ⇓P P 05 03 34.4 -0.3
baz=17,SNR=13
MIAR Mount Ida 17.00 13 eP Pn 05 03 31.8 -3.0
MIAR pmax pmax
comp=Z,161nm,1.3s
MIAR Mount Ida 17.00 13 ePn Pn 05 03 31.8 -3.0
comp=Z,161nm,1.3s
W32A Sentinel 17.09 357 ⇑P Pn 05 03 34.4 -1.6

baz=17,SNR=14
W33A Caddo, Fort Co 17.10 359 ⇓P Pn 05 03 35.5 -0.5
baz=17,SNR=22
AMTX Amarillo 17.11 350 ePn Pn 05 03 35.2 -1.1
comp=Z,133nm,1.3s
AMTX Amarillo 17.11 350 ⇓P Pn 05 03 34.9 -1.3
baz=17
Z22A Elephant Butte 17.12 334 ⇓P P 05 03 37.7 +0.6
baz=17,SNR=8.7
Y24A Capitan 17.14 339 ⇑P P 05 03 38.2 +0.8
baz=17,SNR=49
W34A Bridge Creek, 17.18 1 ⇑P Pn 05 03 35.9 -1.1
baz=17
W31A Holland Ranch, 17.20 355 ⇑P Pn 05 03 36.4 -0.9
baz=17,SNR=10.0
X26A CR and CF Fran 17.24 344 ⇓P Pn 05 03 37.4 -0.4
baz=17,SNR=15
W30A Crocket Farms 17.26 353 ⇓P Pn 05 03 38.0 0.0
baz=17
W29A Amraillo 17.34 351 ⇑P Pn 05 03 38.9 -0.1
baz=17,SNR=7.9
Y23A Lovelace Mesa, 17.36 338 ⇑P P 05 03 40.4 +0.5
baz=17,SNR=20
X25A Clemmons Ranch 17.45 342 ⇑P Pn 05 03 40.7 +0.2
baz=17
UALR University of 17.52 16 ePn Pn 05 03 38.0 -3.1
comp=Z,34nm,0.7s
W27A Bowe Ranch, En 17.55 347 ⇓P P 05 03 42.0 +0.2
baz=17,SNR=13
W28A Vega 17.57 349 ⇓P Pn 05 03 41.0 -0.8
baz=17
V32A Arapaho 17.68 358 ⇓P P 05 03 42.2 -0.9
baz=18,SNR=18
X24A Lazy VL Ranch, 17.72 340 ⇑P P 05 03 43.8 -0.1
baz=18
W26A Owens Ranch, T 17.74 345 ⇓P P 05 03 43.7 -0.2
baz=18
V33A Lossen Ranch, 17.77 360 ⇑P P 05 03 43.0 -1.1
baz=18,SNR=8.9
BNM Barren Site 17.77 337 ePn Pn 05 03 45.5 +1.0
comp=Z,17nm,1.0s
V31A Spring Creek L 17.78 356 ⇑P P 05 03 44.1 -0.1
baz=18,SNR=12
V34A Guthrie 17.79 2 ⇑P P 05 03 44.0 -0.3
baz=18,SNR=9.5
V30A Spur Ranch, Mi 17.84 353 ⇓P Pn 05 03 45.1 -0.1
baz=18
LPM Los Pinos Moun 17.91 337 ePn Pn 05 03 47.0 +0.8
LENM Lemitar 17.92 336 ePn Pn 05 03 47.0 +0.9
TUL1 Tulsa 17.98 6 ePn P 05 03 44.3 -2.2
TUL1 Tulsa 17.98 6 ⇑P P 05 03 45.4 -1.1
baz=18,SNR=25
X23A Hourglass Bar 17.99 338 ⇓P Pn 05 03 48.1 +0.9
baz=18,SNR=36
W25A X Bar L Ranch, 18.04 343 ⇓P Pn 05 03 47.7 +0.1
baz=18,SNR=11
V28A Channing 18.05 349 ⇓P P 05 03 47.0 -0.3
baz=18
V29A Stinnett 18.06 351 ⇑P Pn 05 03 47.9 +0.1
baz=18
LRAL Lakeview Retre 18.06 32 ePn P 05 03 44.8 -2.5
comp=Z,249nm,2.4s
V27A Dan Oppiter Fa 18.17 348 ⇓P Pn 05 03 49.1 0.0
baz=18
LAZ Ladron 18.19 336 ePn Pn 05 03 50.1 +0.6
comp=Z,9.7nm,1.2s
TUC Tucson 18.22 324 eP Pn 05 03 50.6 +0.8
TUC pmax pmax
comp=Z,34nm,0.9s
TUC Tucson 18.22 324 ePn Pn 05 03 50.5 +0.8
comp=Z,34nm,0.9s
OXF Oxford 18.24 24 eP P 05 03 47.0 -2.3
OXF pmax pmax
comp=Z,77nm,1.0s
OXF Oxford 18.24 24 ePn P 05 03 47.0 -2.3
comp=Z,77nm,1.0s
W24A Lazy 6 Ranch, 18.31 341 ⇑P P 05 03 50.6 +0.3
baz=18,SNR=15
U32A Winter Ranch, 18.34 358 ⇑P P 05 03 49.7 -0.7
baz=18,SNR=6.4
U33A Lingo Farm, Me 18.38 0 ⇓P P 05 03 50.2 -0.6
baz=18,SNR=12
U34A Anderson Ranch 18.39 2 ⇑P P 05 03 50.2 -0.7
baz=18,SNR=23
V26A Tequesquite Ra 18.42 346 ⇓P Pn 05 03 52.3 +0.1
baz=18,SNR=29
ANMO Albuquerque 18.42 338c iP Pn 05 03 52.5 +0.2
ANMO pmax pmax
comp=Z,118nm,1.7s
ANMO Albuquerque 18.42 338 P P 05 03 51.8 +0.3
comp=Z,0.4nm,0.3s,baz=150,slow=12,SNR=33
ANMO LR LR 05 11 23.0
comp=Z,504nm,21.7s,baz=162,slow=38
ANMO Albuquerque 18.42 338 P P 05 03 51.8 +0.3
ANMO ePn Pn 05 03 52.3 0.0
W23A Werner Place, 18.51 339 ⇑P P 05 03 52.9 +0.4
baz=18,SNR=8.9
U30A WK&E Inc. Balk 18.60 354 ⇓P Pn 05 03 54.0 -0.3
baz=18
U28A Mallet 18.66 350 ⇓P P 05 03 54.5 +0.4
baz=18
V25A Rancho No Teng 18.67 344 ⇓P P 05 03 54.5 +0.3
baz=18,SNR=12
HBAR Harrisburg 18.74 19 ePn P 05 03 53.5 -1.3
V24A Rampart Ranch, 18.75 342 ⇑P P 05 03 55.4 +0.3
baz=19,SNR=18
U27A Thompson Grove 18.81 348 ⇑P P 05 03 55.9 +0.2
baz=19,SNR=10
U26A Atchley Ranch, 18.98 346 ⇑P P 05 03 58.2 +0.6
baz=19,SNR=17
T33A Patterson Ranc 19.02 360 ⇓P P 05 03 58.1 +0.3
baz=19,SNR=14
V23A Ortiz Mt. (NFS 19.05 340 ⇑P Pn 05 03 59.6 -0.3
baz=19,SNR=22
T31A Randall Ranch, 19.08 356 ⇓P P 05 03 58.2 -0.3
baz=19,SNR=7.1
T30A Plains 19.10 354 ⇓P P 05 03 58.9 +0.1
baz=19,SNR=5.0
T32A Huddler Ranch, 19.13 358 ⇑P P 05 03 58.5 -0.5
baz=19,SNR=11
U25A Circle Dot Ran 19.14 345 ⇑P P 05 03 59.8 +0.4
baz=19,SNR=12
214A Organ Pipe Nat 19.17 319 eP P 05 04 00.8 +1.3
comp=Z,16nm,0.9s
214A Organ Pipe Nat 19.17 319 ⇓P P 05 04 00.7 +1.1
baz=19,SNR=15
T29A Hugoton 19.29 353 ⇑P P 05 04 00.9 0.0
baz=19
GNAR Gosnell 19.32 20 ePn P 05 03 59.5 -1.6
comp=Z,2µm,1.0s
T28A Walsh 19.37 351 ⇓P P 05 04 01.8 +0.1
baz=19,SNR=5.2
V22A San Miguel Ran 19.45 338 ⇑P P 05 04 03.5 +0.7
baz=19,SNR=14
X18A Snowflake 19.52 330 ⇑P Pn 05 04 05.2 -0.2
baz=20,SNR=23
S33A Kaszmaul Farm, 19.54 1 ⇑P P 05 04 02.4 -1.1
baz=19
U23A El Rito 19.59 340 ⇓P P 05 04 05.3 +1.0
baz=20,SNR=86
S31A Mullinville 19.59 357 ⇑P P 05 04 04.1 0.0
baz=19,SNR=5.7
S32A Newby Ranch, P 19.65 358 ⇑P P 05 04 03.9 -0.8
baz=19
S30A Montezuma 19.68 355 ⇑P P 05 04 05.3 +0.2
baz=20
T26A Comanche Natio 19.69 347 ⇑P P 05 04 05.8 +0.4
baz=20,SNR=15
S29A Ulysses 19.73 353 ⇑P P 05 04 05.1 -0.5
baz=20,SNR=8.2
S28A Manter 19.80 351 ⇑P P 05 04 06.1 -0.3
baz=20,SNR=8.8
T25A Trinidad 19.84 345 ⇑P Pn 05 04 08.5 -0.7
baz=20,SNR=33
U22A Llaves 19.85 339 ⇑P P 05 04 07.7 +0.6
baz=20,SNR=14
W18A Petrified Fore 19.91 331 ⇓P P 05 04 08.6 +0.9
baz=20
PBMO Poplar Bluff 19.94 19 eP P 05 04 05.7 -2.2
comp=Z,73nm,1.2s
T24B San Luis 20.02 343 ⇓P P 05 04 10.4 +1.3
baz=20
PARMO Parma 20.05 20 eP P 05 04 07.0 -2.0
S26A Kim 20.10 348 ⇑P P 05 04 10.2 +0.5
baz=20,SNR=10
X16A Lo Mia Camp, P 20.18 327 ⇓P Pn 05 04 12.5 -0.7
baz=20,SNR=113
T23A Casias Ranch, 20.19 342 ⇓P P 05 04 11.7 +0.9

baz=20,SNR=25
Z14A Wintersburg 20.23 322 ⇑P Pn 05 04 12.8 -0.8
baz=20,SNR=25
R33A Olander Ranch, 20.25 1 ⇑P P 05 04 11.2 0.0
baz=20,SNR=14
R31A Burdett 20.26 357 ⇑P P 05 04 10.8 -0.6
baz=20,SNR=14
GOGA Godfrey 20.27 38 eP P 05 04 08.0 -3.5
GOGA pmax pmax
comp=Z,359nm,2.5s
GOGA Godfrey 20.27 38 eP P 05 04 08.0 -3.5
comp=Z,359nm,2.5s
WVT Waverly 20.27 25 eP P 05 04 08.6 -2.9
WVT pmax pmax
comp=Z,33nm,1.0s
WVT Waverly 20.27 25 eP P 05 04 08.6 -2.9
comp=Z,33nm,1.0s
R30A Dighton 20.30 355 ⇓P P 05 04 11.7 -0.2
baz=20,SNR=22
113A Mohawk Valley, 20.31 319 ⇑P P 05 04 12.8 +0.9
baz=20,SNR=21
SWET Sewanee 20.34 30 eP P 05 04 09.9 -2.4
comp=Z,56nm,1.4s
S25A Robets Cordova 20.35 346 ⇓P P 05 04 12.9 +0.5
baz=20,SNR=28
R32A Long Quarter, 20.37 359 ⇑P P 05 04 11.5 -1.0
baz=20,SNR=16
S24A Houchin Ranch, 20.52 344 ⇓P P 05 04 15.1 +0.7
baz=20,SNR=10.0
R28A Tribune 20.52 352 ⇓P P 05 04 13.5 -0.8
baz=20,SNR=6.5
R27A Eads 20.62 350 ⇑P P 05 04 15.5 +0.1
baz=20,SNR=23
Y14A Wickenburg 20.68 323 ⇑P P 05 04 16.9 +0.9
baz=21,SNR=81
SDCO Great Sand Dun 20.70 343 eP P 05 04 16.1 -0.3
comp=Z,29nm,1.2s
R26A Arlington 20.75 348 ⇓P P 05 04 17.7 +1.0
baz=21,SNR=21
R25A Fountain Ranch 20.78 346 ⇑P P 05 04 18.0 +0.9
baz=21,SNR=32
S23A Nye Farm, Mont 20.80 342 ⇓P P 05 04 18.1 +0.7
baz=21
Q32A Meitler Ranch, 20.93 359 ⇑P P 05 04 17.8 -0.8
baz=21,SNR=31
Q33A Connelly Farm, 20.94 1 ⇓P P 05 04 18.6 0.0
baz=21,SNR=9.2
Q29A Oakley 20.97 354 ⇓P P 05 04 20.3 +1.3
baz=21
Q31A Ellis 20.97 357 ⇓P P 05 04 19.6 +0.6
baz=21,SNR=12
Q30A Quinter 20.99 356 ⇓P Pn 05 04 21.4 -1.1
baz=21
WUAZ Wupatki 21.01 329 eP P 05 04 21.1 +1.4
comp=Z,54nm,0.9s
WUAZ Wupatki 21.01 329 ⇑P P 05 04 21.3 +1.7
baz=21,SNR=47
R24A Sanders Place, 21.05 345 ⇓P P 05 04 20.7 +0.6
baz=21,SNR=32
KSU1 Kansas State U 21.09 3 eP P 05 04 18.6 -1.6
comp=Z,43nm,0.9s
KSU1 Kansas State U 21.09 3 ⇑P P 05 04 19.0 -1.2
baz=21,SNR=7.0
S22A 4UR Ranch, Cre 21.09 341 ⇓P P 05 04 21.5 +0.9
baz=21,SNR=16
GLA Glamis 21.16 318 eP P 05 04 22.4 +1.3
GLA pmax pmax
comp=Z,49nm,0.9s
GLA Glamis 21.16 318 eP P 05 04 22.4 +1.3
comp=Z,49nm,0.9s
GLA Glamis 21.16 318 ⇑P P 05 04 22.5 +1.3
baz=21,SNR=12
SIUC Southern Illin 21.18 20 eP P 05 04 19.2 -1.9
comp=Z,168nm,1.7s
MVCO Mesa Verde 21.18 337 eP P 05 04 21.5 0.0
comp=Z,54nm,1.0s
MVCO e 05 04 43.4
MVCO Mesa Verde 21.18 337 ⇓P P 05 04 21.8 +0.3
baz=21,SNR=33
R23A Moffat 21.20 343 ⇑P P 05 04 21.9 +0.2
baz=21,SNR=14
CPCT Cooper Cave 21.22 32 eP P 05 04 20.6 -1.1
CPCT epP pP 05 04 40.6 +4.4
Q28A Sharon Springs 21.23 352 ⇑P P 05 04 21.9 0.0
baz=21,SNR=5.9
KSCO Kaye Shedlock' 21.30 350 eP P 05 04 22.5 -0.1
KSCO e 05 04 39.7
KSCO Kaye Shedlock' 21.30 350 ⇑P P 05 04 22.8 +0.1
baz=21,SNR=6.3
Q26A Hugo 21.37 349 ⇑P P 05 04 25.2 +1.8
baz=21,SNR=15
Y12C Blythe 21.44 320 ⇓P P 05 04 25.1 +1.1
baz=21,SNR=18
P31A Stockton 21.48 358 ⇓P P 05 04 24.1 -0.3
baz=21,SNR=14
Q25A Bedland, Calha 21.50 347 ⇓P P 05 04 25.0 +0.1
baz=21,SNR=12
P30A Selden 21.55 356 ⇑P P 05 04 26.2 +1.0
baz=21,SNR=7.1
P32A Huiting Farm, 21.56 359 ⇑P P 05 04 25.5 +0.2
baz=21,SNR=20
PDMCI Parker Dam,Lak 21.59 322 ⇑P P 05 04 26.4 +0.8
baz=22,SNR=40
SWSC Sam W. Stewart 21.72 317 ⇓P P 05 04 26.9 0.0
baz=22,SNR=8.9
P28A Saint Francis 21.73 353 ⇓P P 05 04 27.7 +0.5
baz=22,SNR=5.1
Q24A Divide 21.76 345 ⇑P P 05 04 28.6 +0.9
baz=22
TKL Tuckaleechee C 21.77 33 P P 05 04 26.0 -1.5
comp=Z,9.9nm,0.9s,baz=150,slow=5.8,SNR=5.9
TKL LR LR 05 14 46.9
comp=Z,107nm,19.9s,baz=180,slow=42
P27A Ficken Ranch, 21.82 351 ⇓P P 05 04 28.8 +0.5
baz=22,SNR=7.0
USIN University of 21.94 23 eP P 05 04 26.5 -2.9
BC3 Big Chuckawall 21.95 319 ⇑P P 05 04 30.5 +0.8
baz=22,SNR=54
P26A Davis Ranch, A 21.95 349 ⇓P P 05 04 30.7 +1.1
baz=22,SNR=9.8
W13A Hualapai Mount 22.02 324 ⇓P P 05 04 31.7 +1.2
baz=22,SNR=24
PV01 Paradox Valley 22.02 338 eP P 05 04 31.2 +0.7
comp=Z,2µm,0.9s
PV01 e 05 04 51.3
P25A Willow Gulch B 22.06 348 ⇓P P 05 04 31.2 +0.3
baz=22,SNR=10
MONP Monument Peak 22.10 316 ⇑P P 05 04 32.0 +0.6
baz=22,SNR=14
IRM Iron Mountain 22.10 320 ⇑P P 05 04 32.2 +1.0
baz=22,SNR=38
O31A Woolen Ranch, 22.11 358 ⇓P P 05 04 30.7 -0.5
baz=22
BAR Barrett 22.14 315 eP P 05 04 32.1 +0.6
comp=Z,84nm,1.5s
O30A MW Ranch, Wils 22.17 356 ⇓P P 05 04 30.6 -1.3
baz=22
O29A 4D Ranch, Culb 22.18 355 ⇑P P 05 04 31.7 -0.2
baz=22
U15A North Rim 22.18 329 ⇑P P 05 04 33.2 +0.9
baz=22,SNR=22
O32A Brockman Farm, 22.20 360 ⇑P P 05 04 32.6 +0.5
baz=22
NEE2 Needles Airpor 22.20 322 ⇓P P 05 04 32.0 -0.2
baz=22
P24A Kohler Place, 22.23 346 ⇑P P 05 04 33.1 +0.5
baz=22
O28A Krutsinger Ran 22.28 353 ⇓P P 05 04 33.5 +0.4
baz=22
P23A Jefferson 22.32 344 ⇑P P 05 04 34.9 +1.1
baz=22,SNR=27
PV04 Paradox Valley 22.38 337 eP P 05 04 34.0 -0.3
O27A Beecher Island 22.43 351 ⇑P P 05 04 35.4 +0.7
baz=22,SNR=5.6
SMCO Snowmass 22.45 342 eP P 05 04 35.5 +0.2
comp=Z,26nm,1.3s
OLIL Olney 22.48 21 eP P 05 04 31.5 -3.6
comp=Z,141nm,1.3s
OLIL e 05 04 46.6
BELC Belle Mtn. Jos 22.52 319 ⇑P P 05 04 36.3 +0.4
baz=22,SNR=29
109C Camp Elliot, M 22.55 315 ⇓P P 05 04 35.6 -0.4
baz=23
PFO Pinyon Flat Ob 22.57 317 eP P 05 04 36.5 +0.2
PFO pmax pmax
comp=Z,18nm,0.9s
PFO Pinyon Flat Ob 22.57 317 P P 05 04 36.9 +0.6
comp=Z,18nm,1.0s,baz=117,slow=7.4,SNR=21

PFO Pinyon Flat Ob 22.57 317 eP P 05 04 36.5 +0.2
comp=Z,18nm,0.9s
PFO Pinyon Flat Ob 22.57 317 ⇑P P 05 04 37.0 +0.7
baz=23,SNR=16
O26A Horse Wrangler 22.61 350 ⇓P P 05 04 36.7 0.0
baz=22
O25A Wiggins 22.63 348 ⇓P P 05 04 37.5 +0.5
baz=22
ISCO Idaho Springs 22.66 345 eP P 05 04 37.1 -0.3
ISCO e 05 04 58.1
ISCO pmax pmax
comp=Z,32nm,0.9s
ISCO Idaho Springs 22.66 345 eP P 05 04 37.1 -0.3
comp=Z,32nm,0.9s
ISCO e 05 04 58.1
ISCO Idaho Springs 22.66 345 ⇑P P 05 04 37.5 0.0
baz=22,SNR=46
WCI Wyandotte Cave 22.70 25 eP P 05 04 35.7 -1.9
WCI pmax pmax
comp=Z,58nm,1.1s
WCI Wyandotte Cave 22.70 25 eP P 05 04 35.7 -1.9
comp=Z,58nm,1.1s
LDFC Landfair 22.71 322 eP P 05 04 39.1 +1.4
comp=Z,42nm,1.0s
KMSC Kings Mountain 22.74 38 ⇓P P 05 04 38.0 0.0
baz=22
P22A Eagle 22.77 343 ⇑P P 05 04 38.8 +0.3
baz=23,SNR=24
N28A Pribbeno Ranch 22.80 353 ⇓P P 05 04 38.6 0.0
baz=23
GMRC Granite Mounta 22.83 321 ⇓P P 05 04 39.2 +0.2
baz=23,SNR=26
O24A Longmont 22.84 346 ⇓P P 05 04 39.7 +0.5
baz=23,SNR=9.8
N29A Votaw Ranch, W 22.85 355 ⇑P P 05 04 39.9 +0.8
baz=23
N27A Anderson Farm, 23.05 352 ⇑P P 05 04 40.8 -0.3
baz=23,SNR=5.5
MURC Murrieta 23.05 316 ⇑P P 05 04 41.6 +0.4
baz=23,SNR=6.7
O23A Lake Granby, G 23.13 345 ⇓P P 05 04 42.0 -0.1
baz=23,SNR=8.8
N26A Koester Ranch, 23.17 350 ⇑P P 05 04 42.8 +0.4
baz=23
O22A Kremmling 23.24 344 ⇓P P 05 04 43.0 -0.2
baz=23,SNR=18
HEC Hector,Ludlow 23.27 320 ⇑P P 05 04 43.9 +0.5
baz=23,SNR=8.1
M31A Lambtecht Ranc 23.29 359 ⇓P P 05 04 42.5 -0.8
baz=23,SNR=8.7
N25A Grover 23.30 349 ⇓P P 05 04 43.5 -0.2
baz=23,SNR=6.4
BGNE Belgrade 23.34 0 eP P 05 04 43.0 -0.8
comp=Z,87nm,1.1s
BGNE Belgrade 23.34 0 ⇓P P 05 04 43.0 -0.8
baz=23
TUQ Turquoise Moun 23.44 321 ⇑P P 05 04 45.7 +0.9
baz=23,SNR=48
M29A Burnside Ranch 23.48 355 ⇑P P 05 04 44.9 -0.2
baz=23
N24A Carr 23.48 347 ⇑P P 05 04 45.1 -0.1
baz=23,SNR=5.9
M28A Bar X Bar Ranc 23.49 354 ⇑P P 05 04 47.7 +2.5
baz=23
M30A Dale-Ortello V 23.52 357 ⇓P P 05 04 45.0 -0.4
baz=23
CCUT Cedar City 23.59 329 eP P 05 04 47.2 +0.8
comp=Z,17nm,1.1s
SRU San Rafael 23.62 336 eP P 05 04 46.0 -0.5
SRU e 05 08 29.4
SRU pmax pmax
comp=Z,14nm,1.0s
SRU San Rafael 23.62 336 eP P 05 04 46.0 -0.5
comp=Z,14nm,1.0s
SRU ePcP PcP 05 08 29.4 -0.2
O20A White River Ci 23.71 341 eP P 05 04 47.0 -0.4
O20A e 05 05 09.1
O20A White River Ci 23.71 341 ⇑P P 05 04 47.9 +0.4
baz=24,SNR=16
M27A Reverse DX Ran 23.73 352 ⇓P P 05 04 47.6 +0.1
baz=24
BFSC Mount Baldy Ra 23.74 317 ⇓P P 05 04 48.0 +0.4
baz=24,SNR=7.6
CIS Catalina Islan 23.74 314 ⇑P P 05 04 47.2 -0.4
baz=24
SHPR Sheep Range 23.75 324 eP P 05 04 48.1 +0.3
SHPR e 05 05 09.2
M26A McRoberts Ranc 23.78 351 ⇑P P 05 04 47.8 -0.1
baz=24
N23A Red Feather La 23.78 345 ⇑P P 05 04 48.0 -0.1
baz=24,SNR=13
MVU Marysvale 23.82 332 eP P 05 04 48.8 +0.4
comp=Z,32nm,1.4s
ARUT Antelope Range 23.82 329 eP P 05 04 49.2 +0.9
ARUT pmax pmax
comp=Z,434nm,1.0s
ARUT Antelope Range 23.82 329 eP P 05 04 49.2 +0.9
comp=Z,434nm,1.0s
N22A Wattenberg Ran 23.82 344 ⇓P P 05 04 48.8 +0.3
baz=24,SNR=10
GSC Goldstone 23.88 320 eP P 05 04 49.4 +0.6
GSC e 05 08 31.9
GSC Goldstone 23.88 320 eP P 05 04 49.4 +0.6
comp=Z,3.2nm,1.0s
GSC ePcP PcP 05 08 31.9 +1.8
GSC Goldstone 23.88 320 ⇓P P 05 04 49.4 +0.6
baz=24,SNR=11
M25A Palm-Egli Farm 23.90 349 ⇓P P 05 04 49.8 +0.7
baz=24,SNR=14
L30A Spencer Herefo 23.92 357 ⇓P P 05 04 49.4 +0.3
baz=24
SHOC Shoshone 23.96 322 ⇑P P 05 04 49.8 +0.3
baz=24,SNR=6.8
MWC Mount Wilson 23.99 316 eP P 05 04 50.9 +0.9
MWC pmax pmax
comp=Z,221nm,2.8s
MWC Mount Wilson 23.99 316 eP P 05 04 50.9 +0.9
comp=Z,221nm,2.8s
TMUT Trail Mountain 24.05 335 eP P 05 04 50.5 0.0
comp=Z,48nm,1.6s
PHWY Pilot Hill 24.05 347 eP P 05 04 50.4 -0.2
comp=Z,29nm,1.2s
PHWY epP pP 05 05 07.4 +0.6
L29A Maesberg Ranch 24.08 356 ⇓P P 05 04 51.1 +0.6
baz=24
M24A Cheyenne 24.08 348 ⇓P P 05 04 51.4 +0.7
baz=24,SNR=21
L31A Butterfield Fa 24.12 359 ⇓P P 05 04 50.8 0.0
baz=24,SNR=7.4
SCIA State Center 24.22 9 eP P 05 04 49.7 -2.0
comp=Z,35nm,0.8s
SCIA e 05 05 10.9
M23A Laramie 24.27 346 ⇓P P 05 04 52.7 +0.2
baz=24
SFIN Scholer Farm 24.29 21 eP P 05 04 50.7 -1.7
comp=Z,68nm,1.3s
SFIN epP pP 05 05 07.3 -1.4
SFIN Scholer Farm 24.29 21 ⇑P P 05 04 50.8 -1.6
baz=24
EDW2 Edwards Air Fo 24.35 318 ⇑P P 05 04 53.4 +0.3
baz=24,SNR=13
N20A Spence Gulch, 24.36 341 ⇑P P 05 04 53.4 +0.1
baz=24,SNR=13
M22A Cedar Creek Ra 24.42 345 ⇓P P 05 04 54.7 +0.8
baz=24,SNR=19
LRMC Laurel Mountai 24.54 319 ⇓P P 05 04 55.7 +0.9
baz=24,SNR=30
L25A Engebretsen Ra 24.59 350 ⇑P P 05 04 56.1 +0.9
baz=24
K30A Basset 24.64 358 ⇓P P 05 04 56.4 +0.8
baz=24,SNR=20
L24A Wheatland 24.66 348 ⇑P P 05 04 56.0 +0.1
baz=24
FURC Furnace Creek, 24.70 322 ⇓P P 05 04 56.9 +0.8
baz=25,SNR=18
K29A Lazy Trails An 24.76 356 ⇑P P 05 04 57.1 +0.4
baz=25
K28A Ten Mile Ranch 24.79 354 ⇑P P 05 04 56.9 -0.2
baz=25
MPU Maple Canyon 24.83 335 eP P 05 04 57.5 -0.1
comp=Z,15nm,0.9s
MPU e 05 05 19.4
K27A Flueckinger Fa 24.88 353 ⇑P P 05 04 57.1 -0.7
baz=25,SNR=6.4
L23A Garrett 24.89 347 ⇓P P 05 04 57.9 -0.1
baz=25,SNR=22
NLU North Lily Min 24.96 334 eP P 05 04 59.2 +0.4
comp=Z,12nm,1.0s
L22A Ellis Ranch, M 24.97 345 ⇑P P 05 04 59.2 +0.3
baz=25,SNR=16
DAC Darwin (Calif) 25.00 321 eP P 05 04 59.6 +0.4
DAC pmax pmax
comp=Z,22nm,1.0s
DAC Darwin (Calif) 25.00 321 eP P 05 04 59.6 +0.4
comp=Z,22nm,1.0s
K25A Mack Ranch, Ha 25.02 350 ⇓P P 05 04 59.2 0.0
baz=25
DAU Daniels Canyon 25.02 336 eP P 05 04 59.2 -0.2
DAU Daniels Canyon 25.02 336 eP P 05 04 59.2 -0.2
ARVC Arvin 25.05 317 ⇓P P 05 05 00.2 +0.8
baz=25,SNR=11
ISA Isabella 25.15 318 eP P 05 05 01.2 +0.8
ISA e 05 08 33.9
ISA pmax pmax
comp=Z,24nm,1.1s
ISA Isabella 25.15 318 eP P 05 05 01.2 +0.8
comp=Z,24nm,1.1s
ISA ePcP PcP 05 08 33.9 +1.0
ISA Isabella 25.15 318 ⇑P P 05 05 00.2 -0.2
baz=25,SNR=31
JLU Jordanelle 25.26 336 eP P 05 05 02.2 +0.7
comp=Z,122nm,2.9s
J30A Dallas 25.28 358 ⇓P P 05 05 00.6 -0.8
baz=25
R11A Troy Canyon, C 25.33 327 eP P 05 05 02.6 +0.4
R11A e 05 05 24.0
R11A Troy Canyon, C 25.33 327 ⇓P P 05 05 02.8 +0.6
baz=25,SNR=19
GRAC Grapevine Rang 25.36 322 ⇑P P 05 05 03.3 +1.1
baz=25,SNR=19
J27A Elkhorn Farm, 25.39 354 ⇑P P 05 05 03.7 +1.2
baz=25
J29A Okreek 25.40 356 ⇑P P 05 05 03.2 +0.7
baz=25
CTU Camp Tracy 25.46 336 eP P 05 05 03.6 +0.4
comp=Z,6.0nm,0.9s
DUG Dugway 25.47 333 eP P 05 05 03.2 -0.2
DUG e 05 05 25.5
DUG e 05 08 34.8
DUG pmax pmax
comp=Z,43nm,1.9s
DUG Dugway 25.47 333 eP P 05 05 03.2 -0.2
comp=Z,43nm,1.9s
DUG e 05 05 25.5
DUG ePcP PcP 05 08 34.8 +1.1
DUG Dugway 25.47 333 ⇑P P 05 05 03.6 +0.2
baz=25,SNR=9.2
K23A Bowen Ranch, D 25.48 347 ⇑P P 05 05 03.4 0.0
baz=25
J28A Allard Ranch, 25.49 355 ⇓P P 05 05 04.2 +0.9
baz=25
SDDR Presa de Saban 25.55 84 eP P 05 05 06.3 +2.2
comp=Z,62nm,0.9s
J26A Sides Ranch, S 25.58 352 ⇑P P 05 05 04.5 +0.3
baz=25,SNR=6.7
K22A Casper 25.58 346 eP P 05 05 04.0 -0.4
comp=Z,26nm,0.9s
K22A e 05 05 24.3
K22A Casper 25.58 346 ⇑P P 05 05 04.2 -0.1
baz=25,SNR=18
VES Vestal, Richgr 25.65 318 ⇑P P 05 05 05.7 +0.9
baz=26,SNR=12
TCUT Toone Canyon 25.69 337 eP P 05 05 05.7 +0.3
comp=Z,57nm,1.0s
ECSD EROS Data Cent 25.70 3 eP P 05 05 04.5 -0.8
comp=Z,31nm,1.1s
ECSD EROS Data Cent 25.70 3 ⇑P P 05 05 06.2 +0.9
baz=26,SNR=13
K21A Alcova 25.74 345 ⇓P P 05 05 05.9 +0.1
baz=26,SNR=8.1
JFWS Jewell Farm 25.75 14 eP P 05 05 03.2 -2.5
JFWS pmax pmax
comp=Z,38nm,1.0s
JFWS Jewell Farm 25.75 14 eP P 05 05 03.2 -2.5
comp=Z,38nm,1.0s
J25A Sunshine Ranch 25.76 351 ⇑P P 05 05 06.6 +0.7
baz=26
ACSO Alum Creek Sta 25.78 28 epP pP 05 05 21.7 -0.5
J24A Dixon Ranch, L 25.85 349 ⇓P P 05 05 07.0 +0.3
baz=26
TIN Tinemaha 25.90 321 ⇓P P 05 05 07.5 +0.3
baz=26
SMMC Simmler 25.92 316 ⇓P P 05 05 09.6 +2.2
baz=26,SNR=11
I29A Vivian Onida 26.02 357 ⇓P P 05 05 08.2 +0.2
baz=26
TPH Tonopah 26.02 324 eP P 05 05 09.1 +0.7
TPH pmax pmax
comp=Z,11nm,1.0s
TPH Tonopah 26.02 324 eP P 05 05 09.1 +0.7
comp=Z,11nm,1.0s
RCTC Rector, Farmer 26.04 319 ⇓P P 05 05 09.7 +1.4
baz=26,SNR=11
BGU Big Grassy Mou 26.17 334 eP P 05 05 10.7 +1.1
comp=Z,4.9nm,1.2s
I27A Quinn 26.20 354 ⇑P P 05 05 09.5 -0.3
baz=26
PTRM Twissleman Ran 26.26 316 eP P 05 05 11.4 +1.0
J22A Midwest 26.30 346 ⇑P P 05 05 10.6 -0.2
baz=26,SNR=18
MTUM Tungsten Hills 26.30 321 eP P 05 05 12.1 +1.2
BRSD Miller 26.39 359 ePcP PcP 05 08 36.5 +1.0
J21A Lysite 26.46 345 ⇑P P 05 05 12.5 +0.2
baz=26,SNR=30
RSSD Black Hills 26.51 351 eP P 05 05 11.3 -1.5
RSSD e 05 05 32.1
RSSD pmax pmax
comp=Z,2.0nm,0.9s
RSSD Black Hills 26.51 351 eP P 05 05 11.3 -1.5
comp=Z,2.0nm,0.9s
RSSD e 05 05 32.1
PDAR Pinedale Array 26.52 341 P P 05 05 12.2 -0.7
comp=Z,8.8nm,0.9s,baz=139,slow=12,SNR=42
PDAR LR LR 05 16 57.5
comp=Z,217nm,20.7s,baz=166,slow=39
J20A Shoshoni 26.63 344 ⇓P P 05 05 13.9 +0.1
baz=26
MLAC Mammoth Lakes 26.64 321 ⇑P P 05 05 15.0 +0.9
baz=27,SNR=5.7
H28A Mission Ridge 26.71 356 ⇓P P 05 05 14.1 -0.2
baz=26
I22A 9 Mile Ranch, 26.75 347 ⇑P P 05 05 15.3 +0.5
baz=27
ROSC El Rosal 26.75 116 LR LR 05 16 03.0
comp=Z,100nm,21.1s,baz=359,slow=37
HVU Hansel Valley 26.79 335 eP P 05 05 15.2 0.0
HVU pmax pmax
comp=Z,16nm,0.9s
HVU Hansel Valley 26.79 335 eP P 05 05 15.2 0.0
comp=Z,16nm,0.9s
NV11 Mina Array Sit 26.79 324 eP P 05 05 16.0 +0.7
NV11 ePcP PcP 05 08 38.0 +1.3
J19A Crowheart 26.82 342 ⇑P P 05 05 15.1 -0.4
baz=27,SNR=12
I21A Big Trails, Te 26.86 345 ⇓P P 05 05 15.8 -0.1
baz=27,SNR=22
NVAR Mina Array Bea 26.88 323 P P 05 05 17.3 +1.2
comp=Z,16nm,0.9s,baz=145,slow=9.5,SNR=97
NVAR PcP PcP 05 08 38.8 +1.8
comp=Z,2.0nm,0.8s,baz=161,slow=2.4,SNR=6.5
NVAR LR LR 05 17 18.6
comp=Z,510nm,18.1s,baz=228,slow=40
H25A Fruitdale 26.94 351 ⇓P P 05 05 15.8 -0.6
baz=27
ELK Elko 27.00 331 eP P 05 05 17.9 +0.6
ELK e*PP pP 05 05 40.5 +6.9
ELK Elko 27.00 331 P P 05 05 17.8 +0.5
comp=Z,8.6nm,1.0s,baz=178,slow=4.9,SNR=24
ELK LR LR 05 17 43.0
comp=Z,252nm,18.5s,baz=180,slow=40
ELK Elko 27.00 331 eP P 05 05 17.9 +0.6
ELK epP pP 05 05 40.5 +6.9
AHID Auburn Hatcher 27.02 339 ePn P 05 05 17.0 -0.3
comp=Z,24nm,1.0s
G30A Faulkton 27.07 359 ⇑P P 05 05 16.9 -0.6
baz=27
G29A Hoven 27.16 357 ⇓P P 05 05 18.0 -0.4
baz=27
I20A Worland 27.20 344 ⇑P P 05 05 19.0 +0.2
baz=27,SNR=13
H24A Dirks Ranch, A 27.21 350 ⇑P P 05 05 19.1 +0.2
baz=27
H22A Clearmont 27.39 347 ⇑P P 05 05 20.7 +0.1
baz=27
REDW Red Top Meadow 27.47 340 eP P 05 05 21.3 -0.1
comp=Z,35nm,1.0s
G26A Maurine 27.47 353 ⇑P P 05 05 20.8 -0.4
baz=27
G27A Dupree 27.49 354 ⇓P P 05 05 20.8 -0.5
baz=27
I19A Meeteetse 27.51 343 ⇓P P 05 05 21.6 -0.1
baz=27,SNR=9.3
SPMN St. Paul 27.53 8 eP P 05 05 19.5 -2.2
comp=Z,21nm,0.6s
SPMN St. Paul 27.53 8 ⇑P P 05 05 19.4 -2.2
baz=27,SNR=12
H21A Big Horn, Sher 27.58 346 ⇓P P 05 05 21.9 -0.3
baz=27,SNR=5.8
WAKR Walker 27.58 322 eP P 05 05 23.0 +0.6
LOHW Long Hollow 27.61 340 eP P 05 05 22.5 -0.1
comp=Z,31nm,0.8s
TPAW Teton Pass 27.61 340 eP P 05 05 23.1 +0.3
comp=Z,28nm,1.0s
H20A Greybull 27.67 345 ⇑P P 05 05 22.7 -0.3
baz=28,SNR=6.5
BMN Battle Mountai 27.73 328 eP P 05 05 24.6 +0.9
BMN pmax pmax
comp=Z,14nm,1.0s
BMN Battle Mountai 27.73 328 eP P 05 05 24.6 +0.9
comp=Z,14nm,1.0s
FXWY Fox Creek 27.77 340 eP P 05 05 24.0 -0.1
comp=Z,23nm,1.3s
MOOW Moose Ponds 27.78 340 eP P 05 05 23.8 -0.3
comp=Z,12nm,0.9s
MOOW ePcP PcP 05 08 40.3 +1.2
G23A Biddle 27.79 349 ⇑P P 05 05 23.3 -0.8
baz=28
CMB Columbia Colle 27.84 320 eP P 05 05 25.2 +0.6
CMB e 05 08 36.9
CMB pmax pmax
comp=Z,9.0nm,1.1s
CMB Columbia Colle 27.84 320 eP P 05 05 25.1 +0.6
comp=Z,9.2nm,1.1s
CMB ePcP PcP 05 08 36.9 -2.3
I17A Pilgrim Ck. 27.88 341 ⇓P P 05 05 25.4 +0.4
baz=28,SNR=32
G22A Birney 27.98 348 ⇓P P 05 05 25.0 -0.7
baz=28,SNR=8.3
F27A Lemmon 27.99 354 ⇑P P 05 05 25.1 -0.6
baz=28
F26A Lodgepole 28.03 353 ⇓P P 05 05 25.6 -0.6
baz=28
FLWY Flagg Ranch 28.06 341 eP P 05 05 27.0 +0.3
comp=Z,25nm,1.3s
H19A Powell 28.10 344 ⇑P P 05 05 27.1 +0.2
baz=28,SNR=30
G21A Lodge Grass 28.18 346 ⇑P P 05 05 26.7 -0.9
baz=28
F24A Ekalaka 28.26 351 ⇑P P 05 05 27.7 -0.5
baz=28
H18A Shoshone NF, C 28.29 343 ⇓P P 05 05 28.6 -0.1
baz=28,SNR=17
F23A Volborg 28.30 349 ⇓P P 05 05 27.6 -0.9
baz=28,SNR=6.9
H17A Grant Village 28.30 341 eP P 05 05 29.2 +0.4
comp=Z,26nm,1.5s
H17A Grant Village 28.30 341 ⇑P P 05 05 28.4 -0.5
baz=28
G20A Bridger 28.41 345 ⇓P P 05 05 28.4 -1.2
baz=28,SNR=5.3
RLMT Red Lodge 28.59 344 eP P 05 05 30.9 -0.4
comp=Z,59nm,1.1s
RLMT e 05 05 52.2
YNR Norris Junctio 28.63 341 eP P 05 05 32.6 +0.9
comp=Z,18nm,1.2s
YMR Madison River 28.67 341 eP P 05 05 32.1 0.0
comp=Z,37nm,1.3s
HLID Hailey 28.94 335 eP P 05 05 34.1 -0.3
comp=Z,9.6nm,0.9s
HLID e 05 05 56.4
HLID Hailey 28.94 335 ⇓P P 05 05 34.5 +0.1
baz=29,SNR=16
F20A Billings 28.94 346 ⇑P P 05 05 33.9 -0.4
baz=29,SNR=11
QLMT Earthquake Lak 28.96 340 eP P 05 05 35.5 +0.9
QLMT e 05 05 57.8
E22A Miles City 29.09 349 ⇓P P 05 05 34.4 -1.1
baz=29,SNR=5.7
F19A Roth Farm, Mol 29.18 345 ⇓P P 05 05 36.0 -0.4
baz=29,SNR=9.2
GCMT Greycliff 29.32 344 eP P 05 05 37.5 -0.2
comp=Z,27nm,1.1s
GCMT e 05 05 58.4
OHCM Honcut 29.33 321 eP P 05 05 38.9 +1.2
MFID Camas Ranch 29.40 333 eP P 05 05 36.9 -1.5
comp=Z,9.1nm,0.9s
MFID ePcP PcP 05 08 44.6 +1.6
E21A Keefer Ranch, 29.40 347 ⇓P P 05 05 38.0 -0.3
baz=29,SNR=5.7
MCMT McKenzie Canyo 29.43 339 eP P 05 05 39.8 +0.9
comp=Z,7.4nm,0.9s
D24A Glendive 29.48 352 ⇑P P 05 05 38.8 -0.2
baz=29
E20A Meyer Farm, Mu 29.60 346 ⇑P P 05 05 39.8 -0.2
baz=30,SNR=14
C30A Mose, Pekin 29.64 360 ⇑P P 05 05 39.1 -1.3
baz=29
E19A Rath Farm, Rou 29.71 345 ⇑P P 05 05 41.0 -0.2
baz=30,SNR=11
BOZ Bozeman (W) 29.76 341 eP P 05 05 41.7 +0.1
BOZ e*PP pP 05 06 03.3 +5.2
BOZ pmax pmax
comp=Z,54nm,1.9s
BOZ Bozeman (W) 29.76 341 eP P 05 05 41.7 +0.1
comp=Z,54nm,1.9s
BOZ epP pP 05 06 03.3 +5.2
D22A Cohagen 29.82 349 ⇓P P 05 05 41.6 -0.4
baz=30,SNR=7.6
D21A La Casta Ranch 29.89 348 ⇓P P 05 05 42.6 -0.1
baz=30,SNR=9.5
C24A Savage 29.90 352 ⇓P P 05 05 42.5 -0.2
baz=30
C26A Wahner Farm, P 29.93 355 ⇑P P 05 05 42.1 -0.9
baz=30
WVOR Wild Horse Val 29.93 329 eP P 05 05 42.8 -0.4
WVOR e 05 08 46.4
WVOR pmax pmax
comp=Z,44nm,1.0s
WVOR Wild Horse Val 29.93 329 eP P 05 05 42.8 -0.4
comp=Z,44nm,1.0s
WVOR ePcP PcP 05 08 46.4 +2.0
D20A Manuel Ranch, 30.15 346 ⇑P P 05 05 44.4 -0.6
baz=30,SNR=6.6
LRM Limekiln Ridge 30.18 340 eP P 05 05 45.6 +0.2
LRM e 05 06 06.8
C23A Lambert 30.28 351 ⇓P P 05 05 45.6 -0.5
baz=30
AGMN Agassiz Nation 30.29 3 eP P 05 05 44.7 -1.4
comp=Z,21nm,1.0s
AGMN e 05 06 03.5
AGMN Agassiz Nation 30.29 3 ⇑P P 05 05 44.5 -1.6
baz=30,SNR=8.3
C22A Vida 30.34 350 ⇑P P 05 05 46.6 0.0
baz=30,SNR=8.1
B30A Myrvik Farm, E 30.39 360 ⇓P P 05 05 46.1 -0.9
baz=30
D19A Cripps Ranch, 30.39 346 ⇑P P 05 05 47.0 -0.2
baz=30,SNR=13
MOD Modoc 30.40 326 eP P 05 05 47.6 +0.3
comp=Z,4.6nm,0.8s
B29A Wagenman Farm, 30.41 359 ⇑P P 05 05 46.3 -0.9
baz=30
B28A Dugan Ranch, T 30.43 357 ⇑P P 05 05 46.6 -0.8
baz=30
SJG San Juan 30.47 85 P P 05 05 48.5 +0.5
comp=Z,24nm,0.7s,baz=99,slow=0.9,SNR=6.5
SJG LR LR 05 19 01.5
comp=Z,112nm,18.1s,baz=270,slow=38
C21A Desert Coulee 30.64 348 ⇓P P 05 05 49.3 +0.1
baz=30
C20A Veseth Ranch, 30.71 347 ⇓P P 05 05 50.1 +0.2
baz=31,SNR=7.7
HRY Holter Researc 30.77 342 eP P 05 05 50.7 +0.2
A29A Manning Farm, 30.87 359 ⇑P P 05 05 50.4 -0.8
baz=31,SNR=8.9
A30A Hoffart Farm, 30.88 360 ⇓P P 05 05 50.6 -0.6
baz=31
A28A Rude Farm, Bot 30.89 357 ⇑P P 05 05 50.7 -0.7
baz=31
B23A Brockton 30.90 351 ⇑P P 05 05 51.4 -0.1
baz=31

C19A Slack Wire Ran 30.97 346 ⇓P P 05 05 52.4 +0.2
baz=31,SNR=17
SADO Sadowa 31.11 27 P P 05 05 50.8 -2.6
comp=Z,3.3nm,0.6s,baz=245,slow=2.5,SNR=3.7
M04C Macdoel 31.14 325 ⇑P P 05 05 54.3 +0.4
baz=31
BMO Blue Mountains 31.19 333 eP P 05 05 53.3 -0.9
comp=Z,8.0nm,0.9s
BMO ePcP PcP 05 08 48.9 +1.3
B20A Solberg Farm, 31.41 347 ⇑P P 05 05 55.9 -0.1
baz=31
EGMT Eagleton 31.41 345 eP P 05 05 55.0 -1.0
comp=Z,41nm,1.1s
EGMT e 05 06 16.6
EGMT Eagleton 31.41 345 ⇑P P 05 05 55.9 -0.2
baz=31,SNR=10
A22A Carney Farms, 31.55 350 ⇑P P 05 05 58.0 +0.7
baz=31
MSO Missoula 31.55 339 eP P 05 05 57.4 0.0
comp=Z,13nm,0.8s
MSO Missoula 31.55 339 ⇑P P 05 05 57.4 0.0
baz=31,SNR=18
I07A Izee 31.59 330 eP P 05 05 57.7 0.0
comp=Z,22nm,1.5s
B19A Brinkman Farms 31.62 346 ⇓P P 05 05 57.9 0.0
baz=32,SNR=30
K04D Chiloquin, OR 31.67 326 ⇓P P 05 05 58.2 -0.3
baz=32
A20A Cobblestone Ra 31.81 348 ⇑P P 05 05 59.4 -0.1
baz=32
J05D Fort Rock, OR 31.86 327 ⇓P P 05 06 00.3 +0.1
baz=32
A19A Klindworth Far 32.02 347 ⇑P P 05 06 01.2 -0.3
baz=32,SNR=9.1
F10A Beach Ranch, E 32.06 335 eP P 05 06 01.5 -0.3
comp=Z,52nm,1.3s
SWMT Swartz Lake 32.17 340 eP P 05 06 02.2 -0.5
SWMT e 05 06 23.6
ULM Lac du Bonnet 32.24 3 eP P 05 06 02.2 -1.0
ULM Lac du Bonnet 32.24 3 P P 05 06 01.2 -2.0
comp=Z,4.5nm,0.8s,baz=182,slow=9.1,SNR=7.1
ULM LR LR 05 20 08.7
comp=Z,150nm,19.3s,baz=170,slow=38
ULM Lac du Bonnet 32.24 3 eP P 05 06 02.1 -1.0
J04D Umpqua Nationa 32.29 326 ⇓P P 05 06 03.9 0.0
baz=32
JTMT Jette 32.47 340 eP P 05 06 05.2 -0.2
I05D Terrebonne, OR 32.67 329 ⇓P P 05 06 06.8 -0.3
baz=33
BLMT Blacktail Moun 32.73 340 eP P 05 06 07.8 0.0
BLMT epP pP 05 06 29.3 +4.9
BSMT Bassoo Peak 32.73 339 eP P 05 06 07.4 -0.4
I04A Tendick Farm, 32.83 327 ⇑P P 05 06 08.2 -0.3
baz=33
E09A Wood Farm, Sta 32.87 334 eP P 05 06 07.9 -0.9
comp=Z,15nm,0.8s
G06A Carlson Farm, 32.98 330 eP P 05 06 10.0 +0.2
comp=Z,143nm,2.6s
I03D Drain, OR 33.26 326 ⇓P P 05 06 12.5 +0.3
baz=33
HRV Adam Dziewonsk 33.32 37 eP P 05 06 10.9 -1.9
HRV pmax pmax
comp=Z,18nm,0.8s
HRV Adam Dziewonsk 33.32 37 eP P 05 06 10.9 -1.9
comp=Z,18nm,0.8s
H04A Detroit Lake 33.34 328 eP P 05 06 12.9 -0.1
comp=Z,27nm,0.9s
HAWA Hanford 33.37 333 eP P 05 06 12.6 -0.5
comp=Z,12nm,1.5s
WALA Waterton Lakes 33.50 341 eP P 05 06 14.5 +0.1
comp=Z,0.7nm,1.0s
D08A Wollman Farm, 33.63 334 eP P 05 06 14.7 -0.7
comp=Z,7.6nm,1.0s
E07A Sunnyside 33.63 333 eP P 05 06 15.1 -0.4
comp=Z,5.9nm,0.8s
NEW Newport 33.91 337 eP P 05 06 17.8 0.0
NEW e*PP pP 05 06 38.9 +4.4
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 33.91 337 eP P 05 06 17.8 0.0
comp=Z,9.4nm,1.0s
NEW epP pP 05 06 38.9 +4.4
NEW Newport 33.91 337 ⇓P P 05 06 17.4 -0.5
baz=34,SNR=5.1
C09A Chrisman Ranch 33.96 336 eP P 05 06 17.9 -0.3
comp=Z,18nm,0.8s
C09A epP pP 05 06 40.8 +5.8
G03D McMinnville, O 34.25 328 ⇑P P 05 06 21.1 +0.3
baz=34
LTY Liberty 34.53 333 eP P 05 06 23.6 +0.3
comp=Z,58nm,1.8s
LON Longmire 34.66 331 eP P 05 06 24.6 +0.2
LON pmax pmax
comp=Z,17nm,0.9s
LON Longmire 34.66 331 eP P 05 06 24.6 +0.2
comp=Z,17nm,0.9s
F04D Rainier, OR 34.74 329 ⇓P P 05 06 25.9 +0.9
baz=35
D05A Enumclaw 35.07 331 eP P 05 06 28.4 +0.6
comp=Z,25nm,1.0s
D05A epP pP 05 06 49.9 +5.4
E03A Lebam 35.34 329 eP P 05 06 31.0 +0.9
comp=Z,126nm,1.8s
FFC Flin Flon 36.78 356 P P 05 06 41.0 -1.4
FFC e 05 07 01.3
FFC Flin Flon 36.78 356 P P 05 06 41.0 -1.4
FFC e 05 07 01.3
EDM Edmonton 37.09 345 eP P 05 06 43.9 -1.2
EDM e*PP pP 05 07 05.1 +3.2
EDM Edmonton 37.09 345 eP P 05 06 43.9 -1.2
EDM epP pP 05 07 05.1 +3.2
FCC Fort Churchill 40.83 3 eP P 05 07 14.6 -1.5
FCC e*PP pP 05 07 36.5 +3.4
FCC Fort Churchill 40.83 3 eP P 05 07 14.6 -1.5
comp=Z,0.2nm,0.8s
FCC epP pP 05 07 36.5 +3.4
PTGA Pitinga 41.97 112 pP pP 05 07 41.4 -1.7
comp=Z,11nm,1.0s,baz=313,slow=10,SNR=5.6
SAML Samuel 43.74 125 eP P 05 07 39.6 -0.7
comp=Z,21nm,1.0s
SCHQ Schefferville 43.91 26 P P 05 07 39.5 -1.8
comp=Z,7.1nm,0.7s,baz=236,slow=8.8,SNR=12
SCHQ LR LR 05 27 16.8
comp=Z,112nm,21.7s,baz=168,slow=38
LPAZ La Paz 45.14 137 eP P 05 07 53.1 +0.9
LPAZ *PP pP 05 08 07.7 -1.8
LPAZ *SP sP 05 08 14.2 -3.2
LPAZ pmax pmax
comp=Z,8.0nm,1.4s
LPAZ La Paz 45.14 137 P P 05 07 53.1 +0.9
comp=Z,2.3nm,1.1s,baz=350,slow=7.6,SNR=4.4
LPAZ pP pP 05 08 07.7 -1.8
comp=Z,2.1nm,0.8s,baz=337,slow=8.1,SNR=4.7
LPAZ sP sP 05 08 14.2 -3.2
comp=Z,2.0nm,0.8s,baz=5.6,slow=7.5,SNR=3.8
LPAZ LR LR 05 25 50.5
comp=Z,58nm,18.5s,baz=312,slow=35
LPAZ La Paz 45.14 137 eP P 05 07 53.1 +0.9
comp=Z,8.3nm,1.4s
LPAZ pP pP 05 08 07.7 -1.8
LPAZ sP sP 05 08 14.2 -3.2
YKA Yellowknife Ar 45.91 349 P P 05 07 55.0 -2.0
comp=Z,3.6nm,0.8s,baz=156,slow=7.2,SNR=58
YKA pP pP 05 08 10.1 -4.2
comp=Z,1.0nm,0.6s,baz=155,slow=7.6,SNR=5.5
YKA sP sP 05 08 15.8 -6.3
comp=Z,4.1nm,0.8s,baz=156,slow=7.6,SNR=8.8
YKA PcP PcP 05 09 32.9 0.0
comp=Z,0.6nm,1.0s,baz=146,slow=3.7,SNR=5.8
YKW3 Yellowknife Ar 45.98 350 eP P 05 07 55.5 -2.0
comp=Z,0.1nm,0.9s
DLBC Dease Lake 46.65 338 eP P 05 08 04.3 +1.3
DLBC epP pP 05 08 26.0 +5.7
LVC Limon Verde 49.49 144 P P 05 08 23.2 -2.3
comp=Z,26nm,1.7s
HYT Haines Junctio 51.06 336 eP P 05 08 38.3 +1.5
HYT epP pP 05 09 00.1 +5.8
BMRM Bremner River 53.98 334 P P 05 08 57.6 -0.6
comp=Z,26nm,1.3s
BMRM epP pP 05 09 21.0 +5.1
RKT Rikitea 54.40 223 eLR LR 05 25 03.1
comp=Z,355nm,28.8s
INK Inuvik 54.99 345 eP P 05 09 04.5 -0.9
INK e*PP pP 05 09 26.2 +3.1
INK pmax pmax
comp=Z,20nm,1.0s

INK Inuvik 54.99 345 eP P 05 09 04.5 -0.9
comp=Z,20nm,1.0s
INK epP pP 05 09 26.2 +3.1
DOT Dot Lake 55.21 337 eP P 05 09 07.6 +0.5
comp=Z,9.8nm,1.2s
DOT epP pP 05 09 29.6 +4.8
PAX Paxson 55.38 336 eP P 05 09 09.0 +0.6
PAX Paxson 55.38 336 eP P 05 09 09.0 +0.6
PMR Palmer 56.19 333 eP P 05 09 14.7 +0.7
PMR e*PP pP 05 09 36.1 +4.3
PMR pmax pmax
comp=Z,20nm,1.3s
PMR Palmer 56.19 333 eP P 05 09 14.7 +0.7
comp=Z,20nm,1.3s
PMR epP pP 05 09 36.1 +4.3
RC01 Rabbit Creek A 56.22 333 eP P 05 09 15.0 +0.7
ILAR Eielson Array 56.86 337 P P 05 09 18.7 -0.1
comp=Z,3.9nm,0.9s,baz=128,slow=5.6,SNR=44
ILAR sP sP 05 09 39.9 -4.5
comp=Z,8.9nm,1.1s,baz=138,slow=4.0,SNR=14
ILAR LR LR 05 35 06.5
comp=Z,118nm,18.6s,baz=130,slow=38
MCK McKinley 57.11 336 eP P 05 09 20.7 +0.1
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 57.11 336 eP P 05 09 20.7 +0.1
comp=Z,6.6nm,0.8s
COLA College 57.27 337⇑eP P 05 09 21.1 -0.5
COLA College 57.27 337 eP P 05 09 21.7 +0.1
comp=Z,6.5nm,0.8s
RSO Redoubt South 57.30 331 eP P 05 09 22.6 +0.3
comp=Z,18nm,0.5s
TRF Thorofare Moun 57.52 335 eP P 05 09 23.8 +0.2
comp=Z,23nm,0.8s
TRF epP pP 05 09 45.7 +4.2
KTH Kantishna Hill 57.82 335 eP P 05 09 25.2 -0.4
comp=Z,8.9nm,0.8s
PPLA Purkeypile 58.05 334 eP P 05 09 26.4 -1.0
comp=Z,35nm,1.4s
PPLA epP pP 05 09 49.6 +4.4
PPLA esP sP 05 09 58.8 +5.8
CPUP Villa Florida 59.31 137 P P 05 09 36.4 0.0
comp=Z,1.4nm,0.6s,baz=312,slow=4.9,SNR=3.2
CPUP pP pP 05 09 52.3 -2.1
comp=Z,7.0nm,1.1s,baz=298,slow=6.1,SNR=2.9
CPUP LR LR 05 34 50.6
comp=Z,77nm,19.9s,baz=323,slow=36
BDFB Brasilia 59.69 121 P P 05 09 40.3 +1.0
comp=Z,8.7nm,0.8s,baz=283,slow=8.4,SNR=13
BDFB pP pP 05 09 56.3 -1.0
comp=Z,15nm,0.9s,baz=271,slow=6.4,SNR=11
BDFB LR LR 05 36 05.4
comp=Z,75nm,19.7s,baz=258,slow=37
PPT Papeete 61.65 238 LR LR 05 30 46.3
comp=Z,62nm,21.7s,baz=276,slow=30
PPT2 Papeete2 61.66 238 eLR LR 05 28 14.7
comp=Z,213nm,28.0s
PLCA Paso Flores 63.83 157 P P 05 10 08.1 +1.4
comp=Z,5.0nm,1.0s,baz=20,slow=0.2,SNR=3.5
PLCA pP pP 05 10 24.4 -0.5
comp=Z,5.3nm,0.9s,baz=328,slow=2.6,SNR=3.7
PLCA sP sP 05 10 29.9 -2.7
comp=Z,4.2nm,1.0s,baz=298,slow=12,SNR=2.4
PLCA LR LR 05 32 14.9
comp=Z,104nm,18.9s,baz=294,slow=31
TNA Tin City 65.39 335 eP P 05 10 16.9 +0.4
comp=Z,14nm,1.0s
TNA epP pP 05 10 38.5 +3.8
DAG Danmarks Havn 70.22 14 iP P 05 10 45.5 -1.2
DAG pmax pmax
comp=Z,6.0nm,1.0s
DAG Danmarks Havn 70.22 14 iP P 05 10 45.5 -1.2
comp=Z,5.9nm,1.0s
SPITS Spitsbergen Ar 77.37 11 LR LR 05 48 09.2
comp=Z,82nm,20.7s,baz=280,slow=38
PMAFR Mafra 78.11 53 eP P 05 11 35.5 +2.2
PCAS Casmilo, Conde 78.44 52 eP P 05 11 37.5 +2.4
comp=Z,59nm,1.6s
PCAS pP pP 05 11 58.1 +4.2
PTOM Tomar 78.61 52 eP P 05 11 36.8 +0.7
comp=Z,43nm,1.1s
POLO Lamas de Olo 78.65 50 eP P 05 11 36.3 -0.1
comp=Z,18nm,1.6s
PVIS Viseu 78.73 51 eP P 05 11 37.1 +0.3
comp=Z,30nm,1.9s
PVIS pP pP 05 11 58.4 +2.9
PNCL Nicolau / Gran 78.89 54 pP pP 05 11 59.4 +3.1
MORF Marmelete 78.99 54 eP P 05 11 33.8 -4.4
comp=Z,98nm,1.6s
MTE Manteigas 79.07 51 eP P 05 11 39.1 +0.5
comp=Z,24nm,1.7s
MTE pP pP 05 12 01.2 +3.8
EVOP Sao Brissos 79.09 53 eP P 05 11 39.0 +0.3
EVOP e*PP pP 05 12 00.8 +3.4
EVOP pmax pmax
comp=Z,37nm,1.0s
EVOP Sao Brissos 79.09 53 eP P 05 11 39.0 +0.3
comp=Z,37nm,1.0s
EVOP epP pP 05 12 00.8 +3.4
EVO Evora 79.18 53 eP P 05 11 39.0 -0.2
comp=Z,37nm,1.0s
EVO epP pP 05 12 00.8 +2.9
EVO Evora 79.18 53 eP P 05 11 39.4 +0.2
comp=Z,32nm,1.6s
PCBR Castelo Branco 79.26 52 eP P 05 11 40.2 +0.6
comp=Z,25nm,1.5s
PCBR pP pP 05 12 02.1 +3.8
MVO Moncorvo 79.26 50 eP P 05 11 40.5 +0.8
comp=Z,20nm,1.3s
PBEJ Beja 79.41 53 pP pP 05 12 04.1 +4.9
PESTR Estremoz 79.41 53 eP P 05 11 40.6 +0.1
comp=Z,26nm,1.3s
PESTR pP pP 05 12 03.0 +3.8
PMRV Marv??o 79.42 52 eP P 05 11 40.9 +0.4
comp=Z,35nm,1.6s
PVAQ Vaqueiros 79.68 54 eP P 05 11 42.0 0.0
comp=Z,69nm,1.6s
FLN La Foliniere 81.64 42 eP P 05 11 52.0 -0.2
FLN epP pP 05 12 14.2 +3.2
FLN eR
comp=Z,100nm,22.8s
FLN La Foliniere 81.64 42 eP P 05 11 52.0 -0.2
FLN e*PP pP 05 12 14.2 +3.2
FLN La Foliniere 81.64 42 eP P 05 11 52.0 -0.2
FLN epP pP 05 12 14.2 +3.2
ESDC Sonseca Array 81.91 51 P P 05 11 54.4 +0.5
comp=Z,3.0nm,0.9s,baz=296,slow=5.2,SNR=11
ESDC sP sP 05 12 16.6 -3.7
comp=Z,5.8nm,1.2s,baz=299,slow=5.0,SNR=4.0
SEY Seymchan 82.63 334⇓eP P 05 11 58.1 +1.0
SJPF Ste Jean 82.86 47 eP P 05 11 58.6 -0.1
SJPF Ste Jean 82.86 47 eP P 05 11 58.6 -0.1
SJPF Ste Jean 82.86 47 eP P 05 11 58.6 -0.1
KONO Kongsberg 83.31 29⇑eP P 05 12 02.6 +2.0
ETSF Etsaut 83.40 47 eP P 05 12 01.4 -0.2
comp=Z,19nm,1.2s
ETSF Etsaut 83.40 47 eP P 05 12 01.4 -0.2
ETSF pmax pmax
comp=Z,19nm,1.3s
ETSF Etsaut 83.40 47 eP P 05 12 01.4 -0.2
comp=Z,19nm,1.3s
NB2 NORSAR Subarra 83.45 28 P P 05 12 02.6 +1.2
comp=Z,20nm,1.1s,baz=298,slow=5.1
NB2 NORSAR Subarra 83.45 28 P P 05 12 02.6 +1.2
baz=298,slow=5.1
NOA NORSAR Array B 83.45 28 P P 05 12 02.8 +1.4
comp=Z,7.1nm,0.9s,baz=301,slow=5.2,SNR=15
NOA sP sP 05 12 24.6 -3.3
comp=Z,8.4nm,0.9s,baz=296,slow=5.3,SNR=9.1
NOA LR LR 05 51 12.4
comp=Z,23nm,18.7s,baz=290,slow=37
LFF La Frestale 83.64 45 eP P 05 12 02.3 -0.3
comp=Z,19nm,0.8s
LFF epP pP 05 12 24.7 +3.2
LFF La Frestale 83.64 45 eP P 05 12 02.3 -0.3
LFF e*PP pP 05 12 24.7 +3.2
LFF pmax pmax
comp=Z,19nm,0.8s
LFF La Frestale 83.64 45 eP P 05 12 02.3 -0.3
comp=Z,19nm,0.8s
LFF epP pP 05 12 24.7 +3.2
PETK Petropavlovsk- 83.96 324 P P 05 12 05.5 +1.4
comp=Z,17nm,0.8s,baz=88,slow=8.5,SNR=12
EPF Esparros 83.98 47 eP P 05 12 04.2 -0.3
EPF epP pP 05 12 26.5 +3.1
EPF Esparros 83.98 47 eP P 05 12 04.2 -0.3

EPF e*PP pP 05 12 26.5 +3.1
EPF Esparros 83.98 47 eP P 05 12 04.2 -0.3
EPF epP pP 05 12 26.5 +3.1
RJF Les Rejaudoux 84.03 44 eP P 05 12 03.2 -1.5
RJF epP pP 05 12 25.1 +1.5
RJF eR
comp=Z,81nm,20.5s
RJF Les Rejaudoux 84.03 44 eP P 05 12 03.2 -1.5
RJF e*PP pP 05 12 25.1 +1.5
RJF Les Rejaudoux 84.03 44 eP P 05 12 03.2 -1.5
RJF epP pP 05 12 25.1 +1.5
TCF Toulx Ste Croi 84.16 43 eP P 05 12 04.7 -0.6
TCF Toulx Ste Croi 84.16 43 eP P 05 12 04.7 -0.6
TCF Toulx Ste Croi 84.16 43 eP P 05 12 04.7 -0.6
ARCES ARCESS Array B 84.17 17 P P 05 12 04.9 0.0
comp=Z,8.6nm,0.8s,baz=308,slow=4.0,SNR=9.0
ARCES pP pP 05 12 21.5 -2.3
comp=Z,6.7nm,0.9s,baz=277,slow=4.8,SNR=3.6
ARCES sP sP 05 12 27.5 -3.8
comp=Z,12nm,0.8s,baz=285,slow=4.6,SNR=6.4
ARCES LR LR 05 52 47.3
comp=Z,47nm,18.1s,baz=352,slow=38
BGF Bois d'Agland 84.48 43 eP P 05 12 06.7 -0.2
comp=Z,28nm,1.1s
BGF Bois d'Agland 84.48 43 eP P 05 12 06.7 -0.2
BGF pmax pmax
comp=Z,28nm,1.1s
BGF Bois d'Agland 84.48 43 eP P 05 12 06.7 -0.2
comp=Z,28nm,1.1s
AVF Avril sur Loir 84.73 43 eP P 05 12 07.4 -0.7
comp=Z,8.9nm,0.9s
AVF Avril sur Loir 84.73 43 eP P 05 12 07.4 -0.7
AVF pmax pmax
comp=Z,9.0nm,0.9s
AVF Avril sur Loir 84.73 43 eP P 05 12 07.4 -0.7
comp=Z,8.9nm,0.9s
SSF Saint Saulge 84.73 42 eP P 05 12 07.8 -0.4
comp=Z,24nm,1.1s
SSF Saint Saulge 84.73 42 eP P 05 12 07.8 -0.4
SSF pmax pmax
comp=Z,24nm,1.1s
SSF Saint Saulge 84.73 42 eP P 05 12 07.8 -0.4
comp=Z,24nm,1.1s
LOR Lormes 84.88 42 eP P 05 12 08.7 -0.2
comp=Z,28nm,1.1s
LOR eR
comp=Z,96nm,17.8s
LOR Lormes 84.88 42 eP P 05 12 08.7 -0.2
LOR pmax pmax
comp=Z,28nm,1.1s
LOR Lormes 84.88 42 eP P 05 12 08.7 -0.2
comp=Z,28nm,1.1s
HFS Hagfors 84.95 28 LR LR 05 52 23.8
comp=Z,34nm,18.2s,baz=279,slow=37
TIXI Tiksi 85.08 347 eP P 05 12 09.2 -0.1
TIXI pmax pmax
comp=Z,30nm,1.1s
TIXI Tiksi 85.08 347 eP P 05 12 09.2 -0.1
comp=Z,30nm,1.1s
MTLF Montolieu 85.17 46 eP P 05 12 10.1 -0.3
comp=Z,29nm,1.2s
MTLF epP pP 05 12 32.7 +3.3
MTLF Montolieu 85.17 46 eP P 05 12 10.1 -0.3
MTLF e*PP pP 05 12 32.7 +3.3
MTLF pmax pmax
comp=Z,29nm,1.2s
MTLF Montolieu 85.17 46 eP P 05 12 10.1 -0.3
comp=Z,29nm,1.2s
MTLF epP pP 05 12 32.7 +3.3
MEZF Maizieres J'vi 85.19 41 eP P 05 12 10.5 +0.1
MEZF Maizieres J'vi 85.19 41 eP P 05 12 10.5 +0.1
SFTF Sexfontaines 85.29 41 eP P 05 12 10.4 -0.5
SFTF Sexfontaines 85.29 41 eP P 05 12 10.4 -0.5
LASF Ste Croix 86.03 45 eP P 05 12 15.0 +0.3
comp=Z,39nm,1.2s
LASF epP pP 05 12 37.4 +3.7
LASF Ste Croix 86.03 45 eP P 05 12 15.0 +0.3
comp=Z,39nm,1.2s
LASF epP pP 05 12 37.4 +3.7
CDF Champ du Feu 86.59 40 eP P 05 12 17.2 -0.3
CDF Champ du Feu 86.59 40 eP P 05 12 17.2 -0.3
CDF Champ du Feu 86.59 40 eP P 05 12 17.2 -0.3
DAVOX Davos/Dischmat 88.86 41 LR LR 05 54 57.0
comp=Z,44nm,19.2s,baz=64,slow=37
GERES GERESS Array B 90.24 38 P P 05 12 34.2 -0.5
comp=Z,0.8nm,0.7s,baz=289,slow=4.1,SNR=4.5
GERES LR LR 05 55 51.8
comp=Z,34nm,18.4s,baz=292,slow=37
DBIC Dimbokro 91.14 83 P P 05 12 40.0 +0.5
DBIC Dimbokro 91.14 83 P P 05 12 40.0 +0.5
comp=Z,5.2nm,0.9s,baz=301,slow=1.4,SNR=4.1
DBIC LR LR 05 47 16.5
comp=Z,20nm,21.5s,baz=225,slow=31
VRAC Vranov 91.68 36 LR LR 05 54 34.2
comp=Z,22nm,20.1s,baz=358,slow=36
YAK Yakutsk 91.73 340 eP P 05 12 42.7 +1.5
KEST Kesra 93.16 51 P P 05 12 49.8 +1.2
comp=Z,1.8nm,1.0s,baz=277,slow=9.8,SNR=4.0
TORD Torodi Ar. Bea 95.17 74 P P 05 12 56.8 -1.2
comp=Z,0.7nm,0.8s,baz=306,slow=4.0,SNR=3.8
TORD LR LR 05 52 23.9
comp=Z,56nm,21.0s,baz=5.0,slow=33
AKASG Malin Array Be 97.53 31 LR LR 05 57 28.9
comp=Z,31nm,21.6s,baz=295,slow=36
OBN Obninsk 97.70 24 LR LR 05 59 51.3
comp=Z,43nm,18.1s,baz=250,slow=37
HHC Hu-ho-hao-te 115.26 335 ePKP PKPdf 05 18 14.5 -1.1
HHC PP PP 05 19 18.9 +4.1
HHC SKS SKSdf 05 25 14.3 -7.7
HHC AMB AMB
comp=Z,120nm,6.8s
HHC LR LR
comp=Z,230nm,17.1s
HHC LR LR
comp=Z,260nm,17.9s
MKAR Makanchi Array 115.52 360 PKP PKPdf 05 18 15.1 -0.7
comp=Z,0.5nm,0.7s,baz=355,slow=2.7,SNR=5.4
WMQ Urumqi 118.26 355 ePKP PKPdf 05 18 20.4 -0.8
WMQ sPKP 05 18 57.8
WMQ PP PP 05 19 41.0 +4.7
WMQ PKS PKSdf 05 21 55.9 -2.0
WMQ SKS SKSdf 05 25 21.4 -6.1
WMQ LR LR
comp=Z,49nm,18.8s
WMQ LR LR
comp=Z,86nm,22.8s
WMQ LR LR
comp=Z,41nm,20.8s
GTA Gaotai 120.47 344 ePKP PKPdf 05 18 24.8 -0.9
GTA sPKP 05 19 02.7
XAN Xi'an 122.16 333 PKP PKPdf 05 18 29.0 0.0
XAN LR LR
comp=Z,160nm,16.4s
XAN LR LR
comp=Z,68nm,18.4s
LZH Lanzhou 122.31 339 ePKP PKPdf 05 18 28.2 -1.2
LZH sPKP 05 19 05.8
LZH LR LR
comp=Z,160nm,16.9s
LZH LR LR
comp=Z,160nm,17.0s
LZH LR LR
comp=Z,180nm,19.4s
KSH Kashi 122.54 5 ePKP PKPdf 05 18 29.6 -0.1
KSH esPKP 05 19 07.0
STKA Stephens Creek 124.64 243 PKP PKPdf 05 18 34.5 +0.9
comp=Z,3.1nm,0.8s,baz=84,slow=2.5,SNR=6.2
STKA pPKP pPKPdf 05 18 51.8 -1.7
comp=Z,4.8nm,1.1s,baz=180,slow=7.1,SNR=4.1
ENH Enshi 125.10 331 ePKPdf PKPdf 05 18 35.1 +0.4
CD2 Chengdu 126.99 336 PKP PKPdf 05 18 37.4 -0.9
CD2 sPKP 05 19 13.5
CD2 PP PP 05 20 38.8 +3.1
CD2 PKS PKSdf 05 22 12.7 -2.4
CD2 SKS SKSdf 05 25 38.2 -6.2
CD2 SKKS SKKSac 05 27 20.2 -8.5
CD2 SS SS 05 37 33.2 -4.2
CD2 AMB AMB
comp=Z,100nm,6.4s
GYA Guiyang 129.64 331 ePdif Pdif 05 15 28.9 -2.7
GYA PKP PKPdf 05 18 42.0 -1.6
GYA sPKP 05 19 18.5
GYA PP PP 05 20 55.6 +2.3
GYA AMB AMB
comp=Z,90nm,7.6s

WRAB Tennant Creek 130.41 259 i PKIKP PKPdf 05 18 45.9 +0.9
WRAB pmax pmax
comp=Z,36nm,1.7s
WRA Warramunga Arr 130.43 259 PKP PKPdf 05 18 45.4 +0.4
comp=Z,3.9nm,0.9s,baz=79,slow=1.4,SNR=22
ASAR Alice Springs 131.17 254 PKP PKPdf 05 18 47.2 +0.9
comp=Z,1.9nm,0.9s,baz=101,slow=1.8,SNR=12
ASAR pPKP pPKPdf 05 19 03.9 -2.3
comp=Z,1.1nm,0.9s,baz=126,slow=3.6,SNR=3.9
KMI Kunming 132.54 334 PKP PKPdf 05 18 50.0 +0.8
CMAR Chiang Mai Arr 140.05 334 PKP PKPdf 05 19 03.2 +0.1
comp=Z,1.6nm,0.6s,baz=345,slow=2.5,SNR=4.2
HYB Hyderabad 144.68 5 i P PKPab 05 19 09.0 -1.0
KSM Kuching 145.91 302 ePKPbc PKPab 05 19 15.1 +0.4
IPM Ipoh 150.70 318 ePKPbc PKPbc 05 19 27.4 +0.6

ISCJB 03 05:02:02.5±0.4, 28°.03S±0°.03×138°.18E±0°.05, h10km, mb4.1/5, Error ellipse: s-maj=6.3km s-min=4.5km az=153.3
AUST 03 05:02:03.6±99.0, 27°.98S×138°.14E, h1km, Error ellipse: s-maj=0.8km s-min=0.7km az=256.0
IDC 03 05:02:04.4±0.8, 28°.01S×138°.21E, h0km, mb4.1/5, mb1 4.3/10, mb1mx4.2/19, mbtmp4.2/10, ML4.0/4, Error ellipse: s-maj=30.4km s-min=14.6km az=60.0
ISC 03 05:02:04.8±0.6, 27°.99S±0°.05×138°.18E±0°.06, h10km, n28, σ1s63/36, mb4.2/5, 8C-6D, South Australia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 4.88 143 Pn Pn 05 03 18.2 0.0
12nm,0.3s,baz=317,slow=12,SNR=141
STKA Pg Pb 05 03 34.2 +3.9
21nm,0.3s,baz=318,slow=14,SNR=12
STKA Sn Sn 05 04 12.4 -2.4
19nm,0.3s,baz=295,slow=17,SNR=4.1
STKA Lg Lg 05 04 38.6
48nm,0.3s,baz=54,slow=16,SNR=4.9
STKA Stephens Creek 4.88 143 ⇑P Pn 05 03 18.3 0.0
baz=4.9,SNR=157
BBOO Buckleboo 5.14 200 ⇑P Pn 05 03 21.6 -0.3
baz=5.1,SNR=69
BBOO ⇑S Sn 05 04 18.5 -2.8
baz=5.1
HTT Hallett 5.46 173 ⇓P Pn 05 03 27.1 +0.8
baz=5.5,SNR=69
HTT ⇓S Sn 05 04 27.0 -2.2
baz=5.5,SNR=4.4
QLP Quilpie 5.57 77 ⇓P Pn 05 03 28.9 +1.1
baz=5.6,SNR=16
ASAR Alice Springs 5.78 317 Pn Pn 05 03 31.7 +1.0
1.9nm,0.3s,baz=140,slow=13,SNR=32
ASAR Sn Sn 05 04 36.3 -0.8
5.8nm,0.3s,baz=142,slow=19,SNR=4.8
ASAR Lg Lg 05 05 13.0
9.5nm,0.3s,baz=141,slow=25,SNR=5.4
AS15 Alice Springs 5.80 317 ⇓P Pn 05 03 32.2 +1.2
baz=5.8
QIS Mount Isa 7.51 10 ⇑P Pn 05 03 54.9 +0.3
baz=7.5,SNR=14
WRA Warramunga Arr 8.75 336 Pn Pn 05 04 10.8 -0.7
0.3nm,0.3s,baz=153,slow=13,SNR=8.9
WRA Sn Sn 05 05 45.7 -4.5
7.3nm,0.3s,baz=150,slow=27,SNR=8.4
WRA Lg Lg 05 06 43.0
2.5nm,0.3s,baz=159,slow=29,SNR=4.5
FORT Forrest 9.25 250 ⇑P Pn 05 04 17.8 -0.6
baz=9.2,SNR=15
ARPS Mount Arapiles 9.28 161 P Pn 05 04 18.4 -0.3
baz=9.3,SNR=14
ARPS P Pn 05 04 18.7 -0.1
baz=9.3,SNR=40
WRKA Warakurna 9.33 286 ⇓P Pn 05 04 19.1 -0.3
baz=9.3,SNR=15
WRKA ⇑S Sn 05 06 01.0 -3.5
baz=9.3,SNR=4.9
RMQ Roma 9.54 83 ⇑P Pn 05 04 21.8 -0.4
baz=9.6,SNR=12
CTA Charters Tower 10.78 45 Pn Pn 05 04 38.4 -1.0
2.3nm,0.3s,baz=216,slow=14,SNR=12
CTA Sn Sn 05 06 36.4 -3.8
2.0nm,0.3s,baz=310,slow=22,SNR=3.6
MTSU Mount Surprise 11.32 31 P Pn 05 04 46.7 0.0
baz=11,SNR=15
ARMA Armidale 12.00 105 P Pn 05 04 56.3 +0.2
baz=12,SNR=5.7
MGCD Mangrove Creek 12.29 118 ⇑P Pn 05 05 00.4 +0.5
baz=12,SNR=5.2
MILA Mila 12.93 137 ⇓P Pn 05 05 09.4 +0.7
baz=13,SNR=6.8
NWAO Narrogin (SRO) 18.71 250 P Pn 05 06 24.0 +0.2
0.8nm,0.3s,baz=82,slow=12,SNR=4.2
CMAR Chiang Mai Arr 59.79 316 P P 05 12 11.9 +1.5
1.2nm,0.3s,baz=150,slow=6.5,SNR=4.0
QSPA South Pole Qui 62.09 180 P P 05 12 26.4 +0.7
1.0nm,0.5s,baz=0.6,slow=3.4,SNR=3.8
SONM Songino Array 80.71 339 P P 05 14 20.3 +2.2
1.2nm,0.6s,baz=159,slow=6.0,SNR=13
PETK Petropavlovsk- 82.53 12 P P 05 14 29.7 +2.2
1.2nm,0.6s,baz=177,slow=8.1,SNR=2.3
MKAR Makanchi Array 89.91 325 P P 05 15 05.2 +1.2
0.2nm,0.6s,baz=152,slow=6.4,SNR=4.0
YKA Yellowknife Ar 122.35 32 PKP PKPdf 05 21 00.1 +0.6
0.3nm,0.6s,baz=280,slow=1.7,SNR=10
AKASG Malin Array Be 122.89 314 PKP PKPdf 05 21 00.7 -0.2
0.2nm,0.5s,baz=89,slow=1.9,SNR=3.6
TORD Torodi Ar. Bea 136.91 259 PKP PKPdf 05 21 28.9 +0.3
0.4nm,0.8s,baz=117,slow=0.1,SNR=2.5
ESDC Sonseca Array 146.69 300 PKPbc PKPab 05 21 48.4 +0.1
1.3nm,0.7s,baz=53,slow=2.9,SNR=7.5

FUNV 03 05:04:20.1, 6°.79N×73°.16W, h169km, MW3.6, 1C, Northern Colombia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CAPV Capacho 1.36 38 ⇑iP Pn 05 04 49.4 -0.7
CAPV eS Sn 05 05 11.1 -2.1
SOCV Socops 2.73 57 eP Pn 05 05 03.5 -1.5
SOCV eS Sn 05 05 35.8 -3.9
ELOV Elorza 3.66 86 eP Pn 05 05 15.5 -1.1
VIRV Villa del Rosa 3.77 11 eP Pn 05 05 16.1 -1.8
VIRV eS Sn 05 05 58.0 -5.0
QARV Quebrada Arrib 4.28 37 eP Pn 05 05 23.7 -0.9
SANV Sanarito 4.49 53 eP Pn 05 05 26.2 -1.2
CURV Curarigua 4.50 44 eP Pn 05 05 26.0 -1.5
CURV eS Sn 05 06 14.8 -5.4
DABV Dabajuro 4.81 31 eP Pn 05 05 30.4 -1.0
TEPV Terepaima 5.04 51 eP Pn 05 05 32.8 -1.7
SIQV Siquisique 5.07 41 eP Pn 05 05 33.0 -1.8
BAUV El Baul 5.51 67 eP Pn 05 05 37.5 -3.0
BAUV eS Sn 05 06 37.1 -6.5
MAPV Macapo 5.55 57 eP Pn 05 05 39.3 -1.8
MONV Montecano 6.02 31 eP Pn 05 05 45.4 -1.9
TURV Turiamo 6.40 55 eP Pn 05 05 50.5 -1.8

CSEM 03 05:04:43.6±0.1, 42°.83N×1°.04W, h2km, ML0.6, Error ellipse: s-maj=3.5km s-min=1.7km az=179.0
LDG 03 05:04:43.4±0.1, 42°.82N×1°.03W, h2km, Md1.5/2, Ml1.1/1, Error ellipse: s-maj=3.0km s-min=1.4km az=174.0
MDD 03 05:04:44.0±0.4, 42°.84N×1°.03W, h0km, mbLg0.6/6, Error ellipse: s-maj=4.6km s-min=2.3km az=167.0, PRXIMO, Pyrenees

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IELO Elcoad 0.15 273 Pg Pg 05 04 46.2 -0.7
1.1nm,0.1s,SNR=7.9
IELO Lg Lg 05 04 48.7
9.4nm,0.1s,SNR=7.9
IELO Elcoad 0.15 273 Pg Pg 05 04 46.2 -0.8
1.1nm,0.1s,SNR=7.9
IELO Lg Lg 05 04 48.7
9.4nm,0.1s,SNR=7.9
IEPA Eparoz 0.18 252 Pg Pg 05 04 47.0 -0.5
0.4nm,0.1s,SNR=7.9
IEPA Lg Lg 05 04 49.9
3.9nm,0.1s,SNR=7.9
IEPA Eparoz 0.18 252 Pg Pg 05 04 47.0 -0.6
0.4nm,0.1s,SNR=7.9
IEPA Lg Lg 05 04 49.9
3.9nm,0.1s,SNR=7.9
IPRE Itoiz 0.24 263 Lg Lg 05 04 52.7
1.4nm,0.1s,SNR=4.0
IPRE Itoiz 0.24 263 Lg Lg 05 04 52.7
1.4nm,0.1s,SNR=4.0
SJPF Ste Jean 0.31 333 ePg Pg 05 04 50.1 0.0
SJPF eSg Sg 05 04 53.7 -0.5
3.7nm,0.2s
SJPF Ste Jean 0.31 333 Pg Pg 05 04 50.1 0.0
SJPF Lg Lg 05 04 53.7
1.9nm,0.2s
SJPF Ste Jean 0.31 333 Pg Pg 05 04 50.1 0.0
SJPF eSg Sg 05 04 53.7 -0.5
1.9nm,0.2s
ATE Arette 0.35 44 Pg Pg 05 04 50.4 -0.4
0.4nm,0.2s,SNR=7.9
ATE Lg Lg 05 04 55.5
0.8nm,0.1s,SNR=7.9
ATE Arette 0.35 44 Pg Pg 05 04 50.4 -0.4
0.4nm,0.2s,SNR=7.9
ATE Lg Lg 05 04 55.5
0.8nm,0.1s,SNR=7.9
IUNC Unciti 0.35 257 Lg Lg 05 04 57.2
1.3nm,0.1s,SNR=4.0
IUNC Unciti 0.35 257 Lg Lg 05 04 57.2
1.3nm,0.1s,SNR=4.0
ETSF Etsaut 0.35 79 ePg Pg 05 04 50.4 -0.5
ETSF eSg Sg 05 04 55.6 0.0
0.9nm,0.3s
ETSF Etsaut 0.35 79 Pg Pg 05 04 50.4 -0.5
ETSF Lg Lg 05 04 55.6
0.4nm,0.3s
ETSF Etsaut 0.35 79 Pg Pg 05 04 50.4 -0.5
ETSF eSg Sg 05 04 55.6 0.0
0.4nm,0.3s
IUSE Utxeti 0.40 287 Lg Lg 05 04 56.3
0.7nm,0.1s,SNR=7.9
IUSE Utxeti 0.40 287 Lg Lg 05 04 56.3
0.7nm,0.1s,SNR=7.9
ELIZ Elizondo 0.49 312 Pg Pg 05 04 52.7 -0.7
0.8nm,0.2s,SNR=7.9
ELIZ Lg Lg 05 04 59.6
1.0nm,0.2s,SNR=7.9
ELIZ Elizondo 0.49 312 Pg Pg 05 04 52.7 -0.8
0.8nm,0.2s,SNR=7.9
ELIZ Lg Lg 05 04 59.6
1.0nm,0.2s,SNR=7.9
EALK Alkurruntz 0.52 318 Pg Pg 05 04 53.8 -0.1
0.2nm,0.1s,SNR=4.0
EALK Lg Lg 05 05 00.7
0.7nm,0.2s,SNR=7.9
EALK Alkurruntz 0.52 318 Pg Pg 05 04 53.8 -0.1
0.2nm,0.1s,SNR=4.0
EALK Lg Lg 05 05 00.7
0.7nm,0.2s,SNR=7.9
EPF Esparros 1.03 79 eSg Sg 05 05 16.1 -1.1
0.5nm,0.3s
EPF Esparros 1.03 79 Lg Lg 05 05 16.1
0.2nm,0.3s
EPF Esparros 1.03 79 eSg Sg 05 05 16.1 -1.1
0.2nm,0.3s

ISCJB 03 05:18:19.6±1.2, 43°.77N±0°.10×85°.20E±0°.08, h10km, mb3.4/2, Error ellipse: s-maj=15.7km s-min=5.8km az=26.4
IDC 03 05:18:20.3±1.6, 43°.35N×84°.88E, h0km, mb3.6/2, mb1 3.5/4, mb1mx3.3/28, mbtmp3.4/4, ML2.7/2, Error ellipse: s-maj=44.8km s-min=17.8km az=59.0
NNC 03 05:18:25.5±7.1, 44°.48N×86°.29E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=116.3km s-min=45.4km az=58.0
ISC 03 05:18:21.8±1.3, 43°.6N±0°.1×85°.05E±0°.09, h10km, n9, σ1s83/11, 3C-2D, Northern Xinjiang

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WMQ Urumqi 1.94 82 Pg Pn 05 18 56.5 +1.6
WMQ Sg Sn 05 19 19.6 +0.3
WMQ smax smax
comp=N,310nm,0.4s
WMQ smax smax
comp=E,260nm,0.4s
MK31 Makanchi Array 3.77 330 Pn Pn 05 19 22.5 +2.5
comp=E,0.2nm,0.2s,baz=142,slow=14,SNR=27
MK31 ⇑Pg Pg 05 19 34.2 +0.2
comp=E,0.6nm,0.2s,baz=145,slow=16,SNR=17
MK31 Lg Lg 05 20 21.6
comp=E,3.5nm,0.3s,baz=134,slow=29,SNR=6.6
MKAR Makanchi Array 3.77 330 Pn Pn 05 19 22.9 +2.9
comp=E,0.4nm,0.3s,baz=147,slow=14,SNR=14
MKAR Pg Pg 05 19 32.5 -1.5
comp=E,1.5nm,0.3s,baz=146,slow=16,SNR=25
MKAR Lg Lg 05 20 21.4
comp=E,5.8nm,0.3s,baz=137,slow=28,SNR=8.7
KURBB Kurchatov Arra 8.33 330 ⇓Sn Sn 05 21 56.1 -0.6
comp=E,1.5nm,0.8s
KURBB ⇓Lg Lg 05 22 46.5
comp=E,12nm,0.6s
KURBB Kurchatov Arra 8.33 330 Lg Lg 05 22 47.2
comp=E,0.3nm,0.3s,baz=142,slow=29,SNR=6.9
KURK Kurchatov 8.38 331 ⇑Sn Sn 05 21 55.4 -2.4
comp=E,1.5nm,1.4s
KURK ⇑Lg Lg 05 22 46.6
comp=E,3.6nm,1.0s
SONM Songino Array 15.50 67 Pn P 05 22 04.1 -0.8
comp=E,0.0nm,0.3s,baz=257,slow=11,SNR=4.7
TORD Torodi Ar. Bea 76.28 275 P P 05 30 10.6 -0.5
comp=E,0.4nm,0.9s,baz=51,slow=4.7,SNR=2.5
WRA Warramunga Arr 77.70 133 P P 05 30 18.2 -0.5
comp=E,0.4nm,0.7s,baz=331,slow=4.9,SNR=2.7

ISCJB 03 05:19:13.6±0.3, 42°.64N±0°.04×142°.06E±0°.05, h135km±2km, mb3.7/15, Error ellipse: s-maj=7.8km s-min=4.9km az=44.1
JMA 03 05:19:14.4±0.2, 42°.70N×142°.01E, h137km±2km, M3.7
Broadband fault plane solution: P waves. NP1: ϕs229.00000°, δ76.00000°, λ-123.00000°. NP2: ϕs119.00000°, δ35.00000°, λ-24.00000°. Principal axes: T Plg24.00000°, Azm344.0000°; N Plg32.0000°, Azm238.0000°; P Plg48.0000°, Azm104.0000°;
IDC 03 05:19:15.0±1.3, 42°.68N×142°.03E, h131km±8km, mb3.5/15, mb1 3.6/16, mb1mx3.5/29, mbtmp3.9/16 Error ellipse: s-maj=19.0km s-min=13.8km az=141.0
ISC 03 05:19:14.7±0.7, 42°.64N±0°.04×142°.06E±0°.04, h132km±5km, n41, σ0s69/50, mb3.7/15, 2C-4D, Hokkaido region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JBT2 Biratori 2 0.27 58 P Pg 05 19 33.4 +0.5
JBT2 eS Sn 05 19 47.5 +0.8
JEW Eniwo 0.49 295 ⇓P Pn 05 19 33.7 -0.2
JEW eS Sn 05 19 48.0 -0.4
JNBK Urakawa-nobuka 0.63 124 ⇑P Pn 05 19 35.5 +0.8
JNBK eS Sn 05 19 51.8 +1.9
JFR Furan 0.66 37 P Pn 05 19 34.7 -0.3
JFR eS Sn 05 19 49.3 -1.0
JNB Noboribetsu 0.77 258 ⇓P Pn 05 19 35.4 -0.3
JNB eS Sn 05 19 51.5 -0.2
JAB Ashibetsu 0.88 8 ⇓P Pn 05 19 36.8 +0.2
JAB eS Sn 05 19 53.3 0.0
JCH Churui 0.96 91 P Pn 05 19 37.2 -0.2
JCH eS Sn 05 19 53.7 -0.9
JKB Kayabe 1.07 226 P Pn 05 19 38.1 -0.2
JKB eS Sn 05 19 55.4 -0.9
JHR Hokuryu 1.13 348 ⇓P Pn 05 19 39.4 +0.4
JHR eS Sn 05 19 58.0 +0.5
JKK2 Kamakawa 2 1.33 22 P Pn 05 19 41.2 +0.1
JKK2 eS Sn 05 20 00.6 -0.6
JSK Shakotan 1.36 302 P Pn 05 19 41.4 +0.1
JAR Ashorobuto 1.42 62 P Pn 05 19 42.0 0.0
JAR eS Sn 05 20 01.9 -0.9
JOT Ohata 1.46 211 ⇑P Pn 05 19 42.4 -0.1
JOT eS Sn 05 20 03.0 -0.6
ASAJ Asahikawa 1.53 15 P Pn 05 19 44.0 +0.7
7.7nm,0.3s,baz=245,slow=10,SNR=16
ASAJ S Sn 05 20 04.6 -0.4
11nm,0.3s,baz=250,slow=16,SNR=17
JTKR Abashiri--Toko 1.90 45 P Pn 05 19 48.0 +0.5
JTKR eS Sn 05 20 13.1 +0.5
JAK Akkeshi 1.98 79 P Pn 05 19 48.0 -0.4
JAK eS Sn 05 20 12.2 -2.0
JOSM Okushiri--Mats 1.99 255 P Pn 05 19 48.6 0.0
MAT Matsushiro 6.77 207 P Pn 05 20 52.4 +0.8
MJAR Matsushiro Arr 6.77 207 P Pn 05 20 51.6 0.0
1.7nm,0.3s,baz=28,slow=13,SNR=9.8
SEY Seymchan 21.21 13 P P 05 23 48.2 -1.4
3.3nm,0.6s,baz=203,slow=8.3,SNR=9.7
SONM Songino Array 25.49 294 P P 05 24 30.7 +0.1
0.8nm,0.5s,baz=86,slow=7.8,SNR=6.4
H11N2 WAKE ISLAND Hy 30.98 130 T T 05 57 13.9
baz=329,slow=76,SNR=14
H11N1 WAKE ISLAND Hy 31.00 130 T T 05 57 12.6
baz=329,slow=76,SNR=13
H11N3 WAKE ISLAND Hy 31.00 130 T T 05 57 12.8
baz=329,slow=76,SNR=14
H11S1 WAKE ISLAND Hy 31.86 131 T T 05 58 20.8
baz=330,slow=77,SNR=19
H11S3 WAKE ISLAND Hy 31.86 131 T T 05 58 17.8
baz=330,slow=77,SNR=16
H11S2 WAKE ISLAND Hy 31.87 131 T T 05 58 19.4
baz=330,slow=77,SNR=15
ZALV Zalesovo Beam 38.70 307 P P 05 26 25.9 +0.4
3.1nm,0.6s,baz=87,slow=6.5,SNR=13
MKAR Makanchi Array 41.78 297 P P 05 26 51.2 +0.2
0.9nm,0.5s,baz=83,slow=9.8,SNR=9.3
KURBB Kurchatov Arra 43.13 303 P P 05 27 01.9 +0.1
5.3nm,0.5s,baz=73,slow=8.3,SNR=20
ILAR Eielson Array 44.57 35 P P 05 27 13.8 +0.7
0.2nm,0.5s,baz=256,slow=6.3,SNR=7.5
BVAR Borovoye Array 47.31 309 P P 05 27 35.1 +0.4
3.7nm,0.4s,baz=70,slow=8.8,SNR=13
INK Inuvik 49.22 29 P P 05 27 49.1 +0.1
0.5nm,0.3s,baz=292,slow=7.8,SNR=9.9
AKTO Aktyubinsk 55.40 309 P P 05 28 35.1 +0.2
1.2nm,0.5s,baz=61,slow=9.8,SNR=3.6
YKA Yellowknife Ar 58.76 32 P P 05 28 58.7 +0.4
0.3nm,0.5s,baz=306,slow=7.1,SNR=6.8
ARCES ARCESS Array B 58.95 338 P P 05 28 58.9 -0.7
2.4nm,0.9s,baz=48,slow=9.8,SNR=3.2
WRA Warramunga Arr 62.67 188 P P 05 29 25.6 +0.3
0.2nm,0.5s,baz=6.9,slow=7.0,SNR=3.2
NB2 NORSAR Subarra 69.22 337 P P 05 30 06.2 -0.6
comp=Z,0.1nm,0.7s,baz=42,slow=6.5
NOA NORSAR Array B 69.22 337 P P 05 30 06.5 -0.3
comp=Z,0.9nm,0.7s,baz=37,slow=6.2,SNR=4.7
AKASG Malin Array Be 70.20 321 P P 05 30 12.4 -0.4
comp=Z,0.3nm,0.3s,baz=43,slow=6.0,SNR=4.1
NVAR Mina Array Bea 71.30 55 P P 05 30 21.1 +1.0
comp=Z,0.3nm,0.6s,baz=303,slow=4.1,SNR=3.2

IDC 03 05:21:52.4±3.2, 3°.57S×151°.15E, h0km, mb3.6/2, mb1 4.0/2, mb1mx3.4/34, mbtmp3.7/2, Error ellipse: s-maj=132.5km s-min=43.4km az=118.0, New Ireland region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.10 224 P P 05 26 59.4 -0.8
1.3nm,0.5s,baz=50,slow=10.0,SNR=19
ASAR Alice Springs 26.01 218 P P 05 27 28.2 +0.9
0.5nm,0.3s,baz=52,slow=8.9,SNR=8.6
TORD Torodi Ar. Bea 148.36 289 PKPbc PKPbc 05 41 41.0 -0.9
0.3nm,0.5s,baz=96,slow=2.5,SNR=6.4

IDC 03 05:47:50.3±5.0, 7°.30S×128°.50E, h124km±48km, mb3.5/7, mb1 3.7/10, mb1mx3.5/38, mbtmp4.0/10, Error ellipse: s-maj=58.4km s-min=17.0km az=58.0
ISCJB 03 05:47:51.2±0.5, 7°.51S±0°.05×128°.33E±0°.05, h151km, mb3.6/7, Error ellipse: s-maj=7.6km s-min=6.6km az=148.1
ISC 03 05:47:53.0±0.7, 7°.68S±0°.06×128°.36E±0°.06, h151km, n18, σ2s35/24, mb3.7/7, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SOEI Soe 4.54 243 P Pn 05 48 55.9 -4.6
baz=4.4,SNR=5.1
SOEI S Sn 05 49 54.3 +1.2
baz=4.4,SNR=7.7
BATI Baumata 5.27 241 P Pn 05 49 11.7 +1.6
19nm,0.3s,baz=300,slow=3.4,SNR=12
BATI S Sn 05 50 09.5 -0.8
40nm,0.3s,baz=133,slow=19,SNR=18
MTN Manton Dam 5.82 152 P Pn 05 49 19.7 +2.4
baz=6.1,SNR=34
MTN S Sn 05 50 21.2 -2.0
baz=6.1,SNR=8.2
FAKI Fak Fak 6.11 40 P Pn 05 49 21.5 +0.3
baz=6.2,SNR=6.8
KDU Kakadu 6.42 141 P Pn 05 49 27.6 +2.3
baz=6.7,SNR=82
KDU S Sn 05 50 37.0 -0.6
baz=6.7,SNR=13
KNRA Kununurra 7.96 177 P Pn 05 49 47.0 +1.1
baz=8.2,SNR=87
KNRA S Sn 05 51 10.9 -3.8
baz=8.2,SNR=10.0
WRA Warramunga Arr 13.50 155 P Pn 05 50 58.8 +0.2
1.4nm,0.3s,baz=325,slow=13,SNR=20
WRA S Sn 05 53 23.1 -5.1
2.3nm,0.3s,baz=329,slow=22,SNR=8.5
COEN Coen 15.83 114 P P 05 51 32.2 +3.7
baz=16,SNR=4.4
ASAR Alice Springs 16.77 162 P Pn 05 51 41.6 +2.5
1.1nm,0.3s,baz=341,slow=12,SNR=130
ASAR S S 05 54 43.1 -2.5
1.0nm,0.3s,baz=325,slow=23,SNR=6.9
WRKA Warakurna 17.26 180 P Pn 05 51 47.2 +2.1
baz=18,SNR=24
STKA Stephens Creek 27.05 155 P P 05 53 24.0 +2.6
0.6nm,0.5s,baz=329,slow=12,SNR=2.9
SONM Songino Array 58.58 343 P P 05 57 32.8 -1.2
0.3nm,0.7s,baz=151,slow=9.2,SNR=3.0
MKAR Makanchi Array 67.91 328 P P 05 58 33.8 -1.5
0.3nm,0.5s,baz=113,slow=9.7,SNR=8.6
ZALV Zalesovo Beam 71.48 335 P P 05 58 55.0 -1.9
1.2nm,0.6s,baz=131,slow=4.1,SNR=7.5
KURBB Kurchatov Arra 72.24 329 P P 05 59 00.4 -1.2
0.8nm,0.4s,baz=136,slow=5.1,SNR=14
SEY Seymchan 72.78 11 P P 05 59 02.5 -2.0
0.9nm,0.4s,baz=354,slow=23,SNR=4.0
BVAR Borovoye Array 77.77 328 P P 05 59 31.9 -1.4
1.2nm,0.8s,baz=111,slow=7.9,SNR=6.1
LPAZ La Paz 151.13 146 PKPbc PKPbc 06 07 31.2 +1.1
1.1nm,0.4s,baz=292,slow=1.7,SNR=11

IDC 03 05:52:41.5±2.9, 53°.95N×86°.68E, h0km, mb1 2.9/2, mb1mx2.8/29, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=25.0km s-min=14.4km az=61.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.10 271 i 05 58 52.0
baz=89,slow=339,SNR=0.8
ZALV Zalesovo Beam 1.10 271 Pg Pg 05 53 01.2 -1.4
0.9nm,0.3s,baz=85,slow=18,SNR=8.8
ZALV Lg Lg 05 53 18.3
1.0nm,0.3s,baz=92,slow=29,SNR=5.2
KURBB Kurchatov Arra 6.01 240 Pn Pn 05 54 13.1 +1.5
0.2nm,0.3s,baz=57,slow=14,SNR=3.0
MKAR Makanchi Array 7.69 203 Pn Pn 05 54 35.7 +0.9
0.1nm,0.3s,baz=22,slow=14,SNR=6.3

ATH 03 06:38:43.0, 35°.01N×22°.52E, h4km±1km, MD3.6/21
IDC 03 06:38:43.6±1.2, 35°.51N×22°.78E, h0km, mb3.8/7, mb1 3.8/10, mb1mx3.6/38, mbtmp3.6/10, ML3.7/3, Error ellipse: s-maj=23.3km s-min=20.6km az=3.0
CSEM 03 06:38:45.7±0.6, 35°.09N×22°.65E, h2km, ML3.5, Error ellipse: s-maj=14.5km s-min=5.0km az=33.0
THE 03 06:38:46.2, 35°.14N×22°.69E, h0km±3km, ML3.5/1, Error ellipse: s-maj=4.9km s-min=1.3km az=207.0
ISC 03 06:38:44.3±1.4, 35°.04N±0°.05×22°.65E±0°.04, h8km±8km, n97, σ1s80/109, mb3.9/7, Central Mediterranean Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ANKY Antikythira Is 0.98 33 P Pg 06 39 02.5 -0.7
ANKY Antikythira Is 0.98 33 ePB Pg 06 39 02.6 -0.7
ANKY eSG Sn 06 39 18.0 -0.6
ANKY Antikythira Is 0.98 33 ePb Pg 06 39 02.6 -0.7
GVD Gavdhos 1.20 99 ePB Pn 06 39 07.7 +0.3
GVD eSB Sn 06 39 26.0 +2.2
GVD Gavdhos 1.20 99 ePb Pn 06 39 07.7 +0.3
GVD eSb Sn 06 39 26.0 +2.2
KYTH Kithira 1.28 14 P Pn 06 39 07.9 -0.6

KYTH Kithira 1.28 14 ePB Pn 06 39 08.1 -0.4
KYTH Kithira 1.28 14 ePb Pn 06 39 08.1 -0.4
VAM Vamos 1.32 73 P Pg 06 39 09.6 -0.1
VAM S Sg 06 39 28.8 +2.0
VAM Vamos 1.32 73 ePG Pg 06 39 09.6 -0.1
VAM eSB Sg 06 39 30.2 +3.4
VAM Vamos 1.32 73 P Pg 06 39 09.6 -0.1
VAM S Sg 06 39 28.8 +2.0
VAM eSb Sg 06 39 30.2 +3.4
VLI Veliai 1.69 8 P Pn 06 39 14.6 +0.4
VLI S Sb 06 39 37.1 -0.1
VLI Veliai 1.69 8 ePB Pb 06 39 15.7 0.0
VLI eSB Sg 06 39 39.7 +0.9
VLI Veliai 1.69 8 P Pn 06 39 14.6 +0.4
VLI Veliai 1.69 8 ePb Pb 06 39 15.7 0.0
VLI eSb Sg 06 39 39.7 +0.9
IDI Anoyia 1.85 82 Pn Pn 06 39 16.6 +0.2
7.7nm,0.3s,baz=307,slow=17,SNR=28
PYL PYLOS 2.00 339 ePG Pb 06 39 19.8 -1.1
PYL PYLOS 2.00 339 ePg Pb 06 39 19.8 -1.1
ITM Ithomi 2.22 345 ePN Pn 06 39 23.0 +1.6
ITM Ithomi 2.22 345 ePn Pn 06 39 23.0 +1.6
LAST Lasithi 2.32 86 P Pn 06 39 24.4 +1.5
LAST Lasithi 2.32 86 ePN Pb 06 39 26.1 -0.4
LAST eSN Sb 06 39 56.2 +0.8
LAST Lasithi 2.32 86 P Pn 06 39 24.4 +1.5
LAST Lasithi 2.32 86 ePn Pb 06 39 26.1 -0.4
LAST eSn Sb 06 39 56.2 +0.8
VLX Vlachokerasia 2.34 355 ePN Pn 06 39 24.8 +1.6
VLX Vlachokerasia 2.34 355 ePn Pn 06 39 24.8 +1.6
NPS Neapolis 2.44 84 ePN Pb 06 39 26.9 -1.5
NPS eSN Sb 06 39 59.5 +0.9
NPS Neapolis 2.44 84 ePn Pb 06 39 26.9 -1.5
NPS eSn Sb 06 39 59.5 +0.9
DID Didima 2.51 11 P Pn 06 39 25.2 -0.3
DID Didima 2.51 11 ePB Pb 06 39 27.4 -2.3
DID Didima 2.51 11 P Pn 06 39 25.2 -0.3
DID Didima 2.51 11 ePb Pb 06 39 27.4 -2.3
GUR Goura 2.90 355 P Pn 06 39 32.1 +1.2
GUR Goura 2.90 355 ePN Pn 06 39 32.6 +1.7
GUR Goura 2.90 355 P Pn 06 39 32.1 +1.2
GUR Goura 2.90 355 ePn Pn 06 39 32.6 +1.7
ZKR Zakros 2.93 87 ePN Pb 06 39 34.4 -2.3
ZKR Zakros 2.93 87 ePn Pb 06 39 34.4 -2.3
LTK Loutraki 2.99 5 ePN Pn 06 39 34.3 +2.2
LTK Loutraki 2.99 5 ePn Pn 06 39 34.3 +2.2
DRO Drossia 3.01 346 P Pn 06 39 33.4 +1.1
DRO Drossia 3.01 346 ePN Pn 06 39 33.9 +1.6
DRO Drossia 3.01 346 P Pn 06 39 33.4 +1.1
DRO Drossia 3.01 346 ePn Pn 06 39 33.9 +1.6
KLV Kalavryta, Ach 3.03 353 P Pn 06 39 33.9 +1.3
KLV Kalavryta, Ach 3.03 353 ePN Pn 06 39 34.7 +2.1
KLV eSN Sb 06 40 12.8 -2.8
KLV Kalavryta, Ach 3.03 353 P Pn 06 39 33.9 +1.3
KLV Kalavryta, Ach 3.03 353 ePn Pn 06 39 34.7 +2.1
KLV eSn Sb 06 40 12.8 -2.8
APE Apeiranthos 3.09 48 ePN Pb 06 39 36.4 -3.2
APE eSN Sb 06 40 16.0 -1.5
APE Apeiranthos 3.09 48 ePn Pb 06 39 36.4 -3.2
APE eSn Sb 06 40 16.0 -1.5
RLS Riolos of Patr 3.16 343 ePN Pn 06 39 36.6 +2.2
RLS eSN Sn 06 40 14.8 +2.5
RLS Riolos of Patr 3.16 343 ePn Pn 06 39 36.6 +2.2
RLS eSn Sn 06 40 14.8 +2.5
LAKA Lakka 3.24 351 ePN Pn 06 39 38.0 +2.5
LAKA Lakka 3.24 351 ePn Pn 06 39 38.0 +2.5
DSF Desfina 3.37 358 ePN Pn 06 39 39.2 +1.9
DSF Desfina 3.37 358 ePn Pn 06 39 39.2 +1.9
KALE Kalithea 3.37 353 P Pn 06 39 37.9 +0.6
KALE Kalithea 3.37 353 ePN Pn 06 39 39.2 +1.9
KALE Kalithea 3.37 353 P Pn 06 39 37.9 +0.6
KALE Kalithea 3.37 353 ePn Pn 06 39 39.2 +1.9
EFP Efpalio 3.44 350 ePN Pn 06 39 40.9 +2.8
EFP Efpalio 3.44 350 ePn Pn 06 39 40.9 +2.8
VLS Valsamata 3.54 333 ePN Pn 06 39 40.4 +0.7
VLS eSN Sn 06 40 24.8 +3.0
VLS Valsamata 3.54 333 ePn Pn 06 39 40.4 +0.7
VLS eSn Sn 06 40 24.8 +3.0
LKR Lokris 3.62 4 ePN Pn 06 39 41.3 +0.7
LKR Lokris 3.62 4 ePn Pn 06 39 41.3 +0.7
AXAR Agios Charalam 3.72 0 ePN Pn 06 39 44.0 +1.9
AXAR Agios Charalam 3.72 0 ePn Pn 06 39 44.0 +1.9
MRKA Markates 3.74 11 ePN Pn 06 39 45.3 +3.0
MRKA eSN Sn 06 40 30.2 +3.7
MRKA Markates 3.74 11 ePn Pn 06 39 45.3 +3.0
MRKA eSn Sn 06 40 30.2 +3.7
PDO Prodromos 3.74 342 P Pn 06 39 44.5 +2.1
PDO Prodromos 3.74 342 ePN Pn 06 39 45.0 +2.6
PDO Prodromos 3.74 342 P Pn 06 39 44.5 +2.1
PDO Prodromos 3.74 342 ePn Pn 06 39 45.0 +2.6
SMIA Simia 3.86 6 P Pn 06 39 44.7 +0.7
SMIA Simia 3.86 6 ePN Pn 06 39 45.7 +1.7
SMIA Simia 3.86 6 P Pn 06 39 44.7 +0.7
SMIA Simia 3.86 6 ePn Pn 06 39 45.7 +1.7
EVR Evrytania 3.93 350 ePN Pn 06 39 47.5 +2.5
EVR Evrytania 3.93 350 ePn Pn 06 39 47.5 +2.5
AGG Agios Georgios 3.99 356 ePN Pn 06 39 46.7 +1.0
AGG Agios Georgios 3.99 356 ePn Pn 06 39 46.7 +1.0
MAKR Makrakomi, Fth 3.99 354 P Pn 06 39 47.2 +1.4
MAKR Makrakomi, Fth 3.99 354 ePN Pn 06 39 47.3 +1.4
MAKR Makrakomi, Fth 3.99 354 P Pn 06 39 47.2 +1.4
STON Ston 8.72 335 ePn Pn 06 40 47.8 -2.9
STON Sn Sn 06 42 13.5 -16
BRTR Keskin Array B 9.91 59 Pn Pn 06 41 06.1 -1.1
0.1nm,0.3s,baz=227,slow=16,SNR=4.2
MMAI Mount Meron Ar 10.77 97 Pn Pn 06 41 13.2 -5.8
2.3nm,0.3s,baz=272,slow=11,SNR=3.6
GERES GERESS Array B 15.30 337 Pn Pn 06 42 15.7 -4.9
0.3nm,0.3s,baz=156,slow=12,SNR=3.1
AKASG Malin Array Be 16.37 15 Pn Pn 06 42 27.8 -6.5
0.4nm,0.3s,baz=203,slow=12,SNR=4.5
HFS Hagfors 25.78 350 P P 06 44 12.9 -2.4
1.3nm,0.4s,baz=172,slow=13,SNR=9.5
NOA NORSAR Array B 27.04 348 P P 06 44 23.7 -3.1
0.5nm,0.6s,baz=156,slow=8.8,SNR=3.8
TORD Torodi Ar. Bea 28.88 226 P 06 44 47.9 +4.3
0.3nm,0.5s,baz=33,slow=8.7,SNR=2.7
ARCES ARCESS Array B 34.59 2 P P 06 45 29.9 -3.4
2.2nm,0.9s,baz=188,slow=8.1,SNR=5.0
MKAR Makanchi Array 45.55 56 P P 06 47 01.8 -2.8
0.9nm,0.5s,baz=271,slow=7.6,SNR=16
ZALV Zalesovo Beam 46.57 46 P P 06 47 07.7 -4.7
0.7nm,0.3s,baz=266,slow=10,SNR=3.4
YKA Yellowknife Ar 76.92 341 P P 06 50 34.8 -2.0
0.2nm,0.5s,baz=32,slow=5.3,SNR=10

IDC 03 07:13:36.1±0.9, 6°.15S×154°.33E, h0km, mb3.7/7, mb1 4.0/10, mb1mx3.8/36, mbtmp3.8/10, ML3.1/2, MS4.3/3, Ms1 3.4/3, ms1mx3.0/25, Error ellipse: s-maj=27.9km s-min=19.2km az=109.0
ISCJB 03 07:13:42.2±0.8, 6°.29S±0°.10×154°.29E±0°.09, h61km, mb3.6/7, Error ellipse: s-maj=15.7km s-min=10.6km az=145.5
ISC 03 07:13:43.8±0.8, 6°.3S±0°.1×154°.3E±0°.1, h61km, n14, σ1s18/13, mb3.6/7, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 7.74 246 Pn Pn 07 15 32.0 -1.9
0.8nm,0.3s,baz=91,slow=9.6,SNR=1.7
PMG Sn Sn 07 17 01.4 +1.3
1.4nm,0.3s,baz=238,slow=19,SNR=3.9
PMG LR LR 07 18 57.2
comp=Z,214nm,18.1s,baz=318,slow=41
CTA Charters Tower 15.78 209 Pn Pn 07 17 21.4 -0.9
baz=40,slow=7.9,SNR=2.2
DZM Mont Dzumac 19.56 144 P Pn 07 18 07.8 -0.9
0.2nm,0.3s,baz=322,slow=17,SNR=2.3
WRA Warramunga Arr 23.68 233 P P 07 18 49.9 -0.2
0.6nm,0.6s,baz=58,slow=9.8,SNR=7.9
WRA PcP PcP 07 22 35.1 +1.9
0.6nm,0.7s,baz=68,slow=2.3,SNR=6.0
ASAR Alice Springs 26.14 227 P P 07 19 13.4 +0.9
1.6nm,0.8s,baz=62,slow=8.9,SNR=12
ASAR LR LR 07 28 46.7
comp=Z,42nm,19.7s,baz=110,slow=35
H11S3 WAKE ISLAND Hy 27.50 26 T T 07 47 25.5
baz=208,slow=74,SNR=7.3
H11S2 WAKE ISLAND Hy 27.50 26 T T 07 47 25.4
baz=208,slow=74,SNR=8.8
H11S1 WAKE ISLAND Hy 27.52 26 T T 07 47 25.8
baz=208,slow=74,SNR=6.0
STKA Stephens Creek 28.08 203 P P 07 19 30.8 +1.1
2.5nm,1.1s,baz=32,slow=14,SNR=3.0
STKA LR LR 07 29 55.3
comp=Z,144nm,18.2s,baz=21,slow=35
KSRS Korea Array 50.03 332 P P 07 22 31.2 -1.1
1.0nm,0.7s,baz=156,slow=6.5,SNR=3.5
SONM Songino Array 68.40 327 P P 07 24 39.5 +0.2
0.4nm,0.6s,baz=129,slow=4.6,SNR=3.7
MKAR Makanchi Array 82.45 319 P P 07 26 00.4 +0.7
0.2nm,0.6s,baz=108,slow=5.8,SNR=2.4
NVAR Mina Array Bea 91.82 52 P P 07 26 45.7 0.0
0.5nm,1.0s,baz=263,slow=7.7,SNR=3.1
TORD Torodi Ar. Bea 152.20 286 PKPbc PKPbc 07 33 33.7 +0.1
0.5nm,0.3s,baz=50,slow=2.3,SNR=12

IDC 03 07:21:51.2±0.5, 53°.76N×163°.06W, h0km, mb4.7/33, mb1 4.8/36, mb1mx4.7/51, mbtmp4.7/36, ML4.2/3, MS4.3/29, Ms1 4.3/29, ms1mx4.2/35, Error ellipse: s-maj=16.2km s-min=8.9km az=178.0
MOS 03 07:21:54.5±1.1, 53°.80N×163°.01W, h29km, mb5.4/75, MS4.6/12, Error ellipse: s-maj=7.6km s-min=4.5km az=92.1
ISCJB 03 07:21:54.1±0.7, 53°.74N±0°.02×162°.98W±0°.02, h26km±4km, mb5.0/235, MS4.5/52, Error ellipse: s-maj=4.2km s-min=1.9km az=12.9
BJI 03 07:21:57.5, 54°.39N×163°.77W, h31km, mB5.2/42, mb5.1/60, Ms5.0/44, Ms7 4.7/44
GCMT 03 07:21:57.1±0.2, 53°.56N×162°.89W, h18km, MW5.1/80, Moment Tensor Solution. s56,c68; s80,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr3.72±.15; Mθθ-3.68±.12; Mφφ-0.03±.10; Mrθ3.80±.31; Mθφ-1.45±.07; Mφr1.52±.28; Best double couple: M0 5.69100×10^{16} NP1: φs69.00000°, δ68.00000°, λ88.00000°. NP2: φs253.00000°, δ22.00000°, λ94.00000°. Principal axes: T 5.4600, Plg67.0000°, Azm336.0000°; N 0.4650, Plg2.0000°, Azm69.0000°; P -5.9210, Plg23.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 03 07:21:57.1±0.1, 53°.82N×163°.02W, h35km, mb5.1/121 Error ellipse: s-maj=3.6km s-min=2.1km az=183.0
SZGRF 03 07:22:11.0, 54°.43N×163°.26W, h37km, mb4.9, Unimak Island, Alaska, United States, region
ISC 03 07:21:56.4±0.4, 53°.77N±0°.05×163°.04W±0°.03, h33km±1km, h33km:pP-P, n938, σ1s03/978, mb5.1/235, MS4.5/52, 231C-163D, Unimak Island region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FALS False Pass 1.11 349 P Pb 07 22 16.4 -0.7
WESE West Dahl East 1.15 308 P Pb 07 22 16.9 +0.6
SSLN Shishaldin Nor 1.19 332 P Pb 07 22 18.4 +0.1
SSLW Shishaldin Wes 1.19 328 P Pb 07 22 17.9 -0.5
SSBA Shishaldin 1.19 328 P Pb 07 22 17.7 -0.7
SSBA S Sb 07 22 37.2 +3.7
WESN West Dahl Nort 1.21 312 P Pb 07 22 18.3 -0.5
DRIA Deer Island 1.28 20 P Pn 07 22 17.6 -0.4
DTNA Dutton South F 1.46 18 P Pn 07 22 20.1 -0.2
DOL Dolgoi Island 1.54 26 P Pn 07 22 21.4 -0.2
AKSA Akutan Strait 1.61 284 P Pn 07 22 23.1 +0.6
AKSA S Sb 07 22 45.1 -0.4
AKUT Akutan 1.66 284 P Pn 07 22 23.7 +0.6
AKUT S Sb 07 22 46.6 -0.1
PS4A Pavlof South-4 1.72 23 P Pn 07 22 24.6 +0.6
PVV Pavlof Volcano 1.76 24 P Pn 07 22 25.3 +0.7
ZRO Akutan Zero 1.77 282 P Pn 07 22 25.2 +0.5
AKGG Akutan Green G 1.80 285 P Pn 07 22 25.8 +0.8
AKRB Akutan Reef Bi 1.83 283 P Pn 07 22 25.9 +0.5
UNV Unalaska Valle 2.06 274 P Pn 07 22 28.0 -0.6
UNV S Sn 07 22 55.0 +2.0
SDPT Sand Point 2.17 42 P Pn 07 22 29.9 -0.3
SDPT S Sn 07 22 57.7 +1.8
MREP Makushin Rep't 2.20 273 P Pn 07 22 31.3 +0.7
MSW Makushin Switc 2.22 275 P Pn 07 22 30.8 -0.1
MCIR Makushin Cirqu 2.29 276 P Pn 07 22 32.3 +0.4
OKFG Magazine Ridge 2.93 265 P Pn 07 22 40.4 -0.2
NIKH Nikolski High 3.57 259 P Pn 07 22 48.8 -0.6
CHGN Chignik 3.67 45 ePn Pn 07 22 50.3 -0.5
CHIR Chirikof Islan 4.76 61 P Pn 07 23 03.6 -2.1
SPIA Saint Paul Isl 5.33 313 P Pn 07 23 15.8 +2.2
PLK4 Peulik 4 5.41 42 P Pn 07 23 15.1 +0.4
SII Sitkinak Islan 5.79 58 P Pn 07 23 17.9 -2.1
KCE Katmai Mt Ceb 6.28 41 P Pn 07 23 27.1 +0.4
KABR Katmai Barrier 6.29 43 P Pn 07 23 26.2 -0.6
KVTA Katmai Vly 10 6.33 40 P Pn 07 23 27.4 +0.1
OHAK Old Harbor 6.53 54 P Pn 07 23 27.2 -2.7
KAHC Katmai Hardscr 6.63 39 P Pn 07 23 31.7 +0.2
KOFP Korovin Flat P 6.84 262 P Pn 07 23 35.9 +1.6
KDAK Kodiak Island 7.13 52 P Pn 07 23 36.3 -2.0
KDAK Kodiak Island 7.13 52 P Pn 07 23 36.3 -2.0
GSTR Great Sitkin T 8.05 263 ePn Pn 07 23 52.5 +1.6
5.2nm,0.2s
SVW2 Sparrevohn 8.37 26 ePn Pn 07 23 55.3 +0.1
ADK Adak 8.48 263 eP Pn 07 23 57.2 +0.4
ADK Adak 8.48 263 ePn Pn 07 23 57.1 +0.4
RSO Redoubt South 8.73 36 ePn Pn 07 24 02.3 +2.0
SEW Seward 9.76 44 ePn Pn 07 24 13.2 -1.0
RC01 Rabbit Creek A 10.24 39 ePn Pn 07 24 19.9 -1.0
PPLA Purkeypile 10.76 27 ePn Pn 07 24 30.4 +2.3
PMR Palmer 10.79 38 eP Pn 07 24 25.9 -2.4
PMR Palmer 10.79 38 ePn Pn 07 24 25.9 -2.4
MID Middleton Isla 10.79 52 eP Pn 07 24 27.6 -0.8
MID Middleton Isla 10.79 52 ePn Pn 07 24 27.6 -0.8
GAMB Gambell 10.98 339 ePn Pn 07 24 37.0 +6.1
AMKA Amchitka 11.01 265 ePn Pn 07 24 30.9 -0.5
CAST Castle Rocks 11.22 26 ePn Pn 07 24 36.5 +2.3
KTH Kantishna Hill 11.63 28 ePn Pn 07 24 41.8 +1.8
TRF Thorofare Moun 11.74 29 ePn Pn 07 24 41.0 -0.4
DIV Divide 11.84 45 ePn Pn 07 24 41.6 -1.1
RAGM Ragged Mountai 11.96 49 ePn Pn 07 24 42.2 -2.2
TNA Tin City 12.08 350 ePn Pn 07 24 48.0 +2.1
BMRM Bremner River 12.25 47 ePn Pn 07 24 46.2 -2.2
MCK McKinley 12.35 30 eP Pn 07 24 51.4 +1.7
MCK McKinley 12.35 30 ePn Pn 07 24 51.4 +1.7
PAX Paxson 12.99 38 eP Pn 07 24 56.8 -1.7
PAX Paxson 12.99 38 ePn Pn 07 24 56.8 -1.7
IM04 Indian Mountai 13.07 17 ePn Pn 07 25 00.2 +0.7
COLA College 13.51 29⇓eP Pn 07 25 03.7 -1.8
COLA College 13.51 29 ePn Pn 07 25 02.9 -2.6
ILAR Eielson Array 13.72 30 Pn Pn 07 25 03.6 -4.7
0.4nm,0.3s,baz=218,slow=13,SNR=18
ILAR LR LR 07 30 51.4
comp=Z,3μm,20.7s,baz=229,slow=39
DOT Dot Lake 13.91 37 ePn Pn 07 25 08.8 -2.1
FX1 Attu Island--F 14.23 276 eP Pn 07 25 16.4 +1.0
FX1 Attu Island--F 14.23 276 Pn Pn 07 25 16.2 +0.9
5.9nm,0.3s,baz=168,slow=2.2,SNR=18
FX1 LR LR 07 31 07.3
comp=Z,2μm,18.5s,baz=118,slow=39
FX1 Attu Island--F 14.23 276 ePn Pn 07 25 16.4 +1.0
COLD Coldfoot 14.85 20 ePn Pn 07 25 24.1 +0.5
HYT Haines Junctio 15.43 53 ePn Pn 07 25 32.5 +1.1
DAWY Dawson 15.87 40 ePn Pn 07 25 34.7 -2.3
SKAG Skagway 16.20 58 eP P 07 25 43.7 -0.4
24nm,0.9s
CRAG Craig 17.35 72 eP P 07 25 56.3 -0.4
55nm,1.4s
WRAK Wrangell Islan 17.69 69 eP P 07 26 01.2 +0.7
38nm,1.1s
H02S1 DAWSON INLET T 18.13 79 T T 07 44 37.0
SNR=3.4
DLBC Dease Lake 18.87 62 P Pn 07 26 14.8 +0.5
0.2nm,0.3s,baz=265,slow=10,SNR=8.1
DLBC Dease Lake 18.87 62 eP Pn 07 26 14.7 +0.4
INK Inuvik 20.10 32 eP P 07 26 24.2 -2.5
INK 07 30 40.2
INK pmax pmax
comp=Z,19nm,0.7s
INK Inuvik 20.10 32 P P 07 26 24.3 -2.5
comp=Z,9.7nm,0.5s,baz=234,slow=11,SNR=52
INK PcP PcP 07 30 40.2 -0.4
comp=Z,1.0nm,0.5s,baz=56,slow=1.2,SNR=3.8
INK LR LR 07 35 10.4
comp=Z,4μm,18.2s,baz=234,slow=40
INK Inuvik 20.10 32 eP P 07 26 24.2 -2.5
comp=Z,19nm,0.7s
INK PcP PcP 07 30 40.2 -0.4
BILL Bilibino 20.34 326 eP P 07 26 29.7 +0.3
BILL pmax pmax
comp=Z,134nm,1.6s
BILL Bilibino 20.34 326 eP P 07 26 29.7 +0.3
comp=Z,134nm,1.6s
BBB Bella Bella 20.97 80 LR LR 07 33 09.4
comp=Z,778nm,18.7s,baz=281,slow=32
PEA0B Petropavlovsk- 23.20 284 eP P 07 27 00.1 +0.1
PETK Petropavlovsk- 23.20 284 P P 07 26 59.2 -0.8
comp=Z,14nm,0.5s,baz=84,slow=12,SNR=39
PETK LR LR 07 35 53.6
comp=Z,772nm,20.9s,baz=82,slow=36
SEY Seymchan 24.63 310⇓iP P 07 27 13.3 0.0
SEY Seymchan 24.63 310 P P 07 27 12.1 -1.2
comp=Z,11nm,0.8s,baz=97,slow=8.6,SNR=21
NLWA Neilton Lookou 25.42 88 eP P 07 27 21.6 +0.9
comp=Z,66nm,1.5s
E03A Lebam 26.03 90 epP pP 07 27 37.1 +1.5
YKW3 Yellowknife Ar 26.40 51 eP P 07 27 28.9 -0.5
comp=Z,0.2nm,0.6s
YKA Yellowknife Ar 26.41 51 P P 07 27 29.4 0.0
comp=Z,4.6nm,0.6s,baz=269,slow=8.9,SNR=81
YKA PcP PcP 07 30 53.3 -0.7
comp=Z,0.2nm,0.6s,baz=293,slow=1.4,SNR=4.1
D05A Enumclaw 26.64 87 eP P 07 27 34.6 +2.9
comp=Z,64nm,1.1s
LON Longmire 26.96 88 eP pP 07 27 45.1 +0.9
LON Longmire 26.96 88 epP pP 07 27 45.1 +0.9
LTY Liberty 27.39 86 epP pP 07 27 47.9 -0.1
H04A Detroit Lake 27.84 92 eP P 07 27 43.6 +1.0
comp=Z,33nm,1.1s
G05D Wamic, OR 28.05 91 ⇑P P 07 27 46.1 +1.7
baz=28
I04A Tendick Farm, 28.21 94 ⇓P P 07 27 47.4 +1.5
baz=28
E07A Sunnyside 28.22 87 eP P 07 27 50.3 +4.4
comp=Z,52nm,1.9s
HAWA Hanford 28.50 87 eP P 07 27 49.1 +0.8
comp=Z,25nm,1.0s
D08A Wollman Farm, 28.52 85 eP P 07 27 51.7 +3.1
comp=Z,18nm,1.3s
I05D Terrebonne, OR 28.53 92 ⇓P P 07 27 50.4 +1.7
baz=28
C09A Chrisman Ranch 28.54 84 eP P 07 27 49.1 +0.4
comp=Z,24nm,1.5s
J04D Umpqua Nationa 28.71 95 ⇓P P 07 27 52.3 +1.8
baz=29
NEW Newport 28.99 82 eP P 07 27 53.0 +0.2
NEW Newport 28.99 82 P P 07 27 52.2 -0.6
comp=Z,1.4nm,0.6s,baz=297,slow=9.5,SNR=4.8
NEW LR LR 07 37 36.8
comp=Z,408nm,19.7s,baz=295,slow=33
NEW Newport 28.99 82 eP P 07 27 53.0 +0.2
NEW Newport 28.99 82 ⇑P P 07 27 54.1 +1.3
baz=29
EDM Edmonton 29.08 71 eP P 07 27 53.8 +0.3
EDM Edmonton 29.08 71 eP P 07 27 53.8 +0.3
J05D Fort Rock, OR 29.20 94 ⇓P P 07 27 56.3 +1.5
baz=29
E09A Wood Farm, Sta 29.26 86 eP P 07 27 55.4 +0.3
comp=Z,22nm,1.1s
YBH Yreka Blue Hor 29.26 98 P P 07 27 56.4 +1.1
comp=Z,6.2nm,0.8s,baz=250,slow=4.2,SNR=10
YBH LR LR 07 36 47.6
comp=Z,722nm,19.7s,baz=296,slow=31
K04D Chiloquin, OR 29.28 95 ⇓P P 07 27 57.1 +1.6
baz=29
M02C Callahan 29.39 98 ⇓P P 07 27 58.5 +2.1
baz=29
K05A Summer Lake 29.73 94 eP P 07 28 01.3 +1.7
comp=Z,42nm,1.4s
N02D Trinity Center 29.74 99 ⇓P P 07 28 01.0 +1.5
baz=30
M04C Macdoel 29.74 97 ⇑P P 07 28 01.3 +1.7
baz=30
I07A Izee 29.77 91 eP P 07 28 01.0 +1.2
comp=Z,13nm,1.0s
F10A Beach Ranch, E 30.08 86 eP P 07 28 03.3 +0.8
comp=Z,42nm,1.7s
BSMT Bassoo Peak 30.56 81 eP P 07 28 07.3 +0.4
comp=Z,11nm,1.3s
MOD Modoc 30.58 95 eP P 07 28 08.2 +1.2
BMO Blue Mountains 30.64 88 eP P 07 28 09.3 +1.9
comp=Z,33nm,1.9s
JTMT Jette 30.91 81 eP P 07 28 09.9 +0.1
comp=Z,6.1nm,1.1s
WVOR Wild Horse Val 31.24 93 eP P 07 28 13.3 +0.5
WVOR pmax pmax
comp=Z,20nm,1.2s
WVOR Wild Horse Val 31.24 93 eP P 07 28 13.3 +0.5
comp=Z,20nm,1.2s
OHCM Honcut 31.51 100 eP P 07 28 15.3 +0.3
MFID Camas Ranch 32.33 89 eP P 07 28 23.1 +0.7
comp=Z,18nm,1.0s
CMB Columbia Colle 33.02 101 eP P 07 28 29.4 +1.1
CMB Columbia Colle 33.02 101 eP P 07 28 29.4 +1.1
HLID Hailey 33.09 88 eP P 07 28 29.4 +0.4
comp=Z,10nm,0.8s
HLID Hailey 33.09 88 ⇓P P 07 28 29.5 +0.4
baz=33,SNR=6.9
DLMT Dillon 33.15 84 epP pP 07 28 49.3 +10
WAKR Walker 33.26 99 eP P 07 28 31.8 +1.2
MCMT McKenzie Canyo 33.29 85 eP P 07 28 30.8 -0.1
comp=Z,3.5nm,0.9s
BMN Battle Mountai 33.31 95 eP P 07 28 32.1 +1.1
BMN pmax pmax
comp=Z,16nm,1.4s
BMN Battle Mountai 33.31 95 eP P 07 28 32.1 +1.1
comp=Z,16nm,1.4s
EGMT Eagleton 33.41 78 epP pP 07 28 41.7 +0.4
EGMT Eagleton 33.41 78 ⇓P P 07 28 32.4 +0.7
baz=33
RES Resolute Bay 33.43 27 eP P 07 28 31.0 -0.4
RES pmax pmax
comp=Z,4.0nm,0.6s
RES Resolute Bay 33.43 27 eP P 07 28 31.0 -0.4
comp=Z,4.4nm,0.6s
TIXI Tiksi 33.54 328⇓iP P 07 28 32.2 -0.3
TIXI pmax pmax
comp=Z,2μm,18.0s
TIXI Tiksi 33.54 328 eP P 07 28 32.2 -0.3
comp=Z,14nm,0.9s
A19A Klindworth Far 33.55 76 ⇓P P 07 28 33.3 +0.4
baz=33
BOZ Bozeman (W) 33.56 83 eP P 07 28 34.1 +1.0
BOZ pmax pmax
comp=Z,10.0nm,1.3s
BOZ Bozeman (W) 33.56 83 eP P 07 28 34.1 +1.0
comp=Z,9.7nm,1.3s
B19A Brinkman Farms 33.67 77 ⇑P P 07 28 34.2 +0.3
baz=34
C19A Slack Wire Ran 33.97 78 ⇑P P 07 28 37.1 +0.5
baz=34
NVAR Mina Array Bea 33.97 98 P P 07 28 37.4 +0.6
comp=Z,6.6nm,0.7s,baz=297,slow=8.9,SNR=56
NVAR LR LR 07 39 42.5
comp=Z,381nm,20.9s,baz=90,slow=31
A20A Cobblestone Ra 34.04 75 ⇓P P 07 28 37.2 0.0
baz=34
NV11 Mina Array Sit 34.06 98 eP P 07 28 38.1 +0.6
MLAC Mammoth Lakes 34.19 100 ⇓P P 07 28 40.1 +1.3
baz=34
B20A Solberg Farm, 34.21 76 ⇓P P 07 28 38.7 +0.1
baz=34
YUK Yuzh-Kuril'sk 34.28 275c iP P 07 28 41.0 +1.8
YUK i PPP PPP 07 30 14.9
YUK i S S 07 34 08.1 +4.2
YUK i SS SnSn 07 36 15.6 +1.4
YUK i 07 38 56.8
ELK Elko 34.29 93 eP P 07 28 40.4 +0.8
ELK Elko 34.29 93 eP P 07 28 40.4 +0.8
D19A Cripps Ranch, 34.36 79 ⇑P P 07 28 40.3 +0.3
baz=34
YMR Madison River 34.50 84 eP P 07 28 42.0 +0.6
comp=Z,14nm,0.5s
YSS Yuzh-Sakhalins 34.50 281⇑eP P 07 28 40.9 -0.2
YSS e 07 28 50.0
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=N,500nm,18.0s
YSS MLR MLR
comp=E,500nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s

YSS Yuzh-Sakhalins 34.50 281 eP P 07 28 41.0 0.0
MTUM Tungsten Hills 34.54 100 eP P 07 28 43.5 +1.7
C20A Veseth Ranch, 34.59 77 ⇓P P 07 28 42.2 +0.3
baz=34
FFC Flin Flon 34.70 63 eP P 07 28 42.3 -0.4
FFC pmax pmax
comp=Z,54nm,2.5s
FFC Flin Flon 34.70 63 eP P 07 28 42.3 -0.4
comp=Z,54nm,2.5s
B21A Ellsworth Farm 34.79 75 ⇑P P 07 28 43.4 -0.2
baz=35
E19A Rath Farm, Rou 34.79 80 ⇓P P 07 28 44.2 +0.5
baz=35
D20A Manuel Ranch, 34.83 78 ⇑P P 07 28 44.3 +0.3
baz=35
TPH Tonopah 34.84 98 eP P 07 28 45.2 +0.8
TPH pmax pmax
comp=Z,10.0nm,0.9s
TPH Tonopah 34.84 98 eP P 07 28 45.1 +0.8
comp=Z,10nm,0.9s
RCTC Rector, Farmer 34.86 102 ⇓P P 07 28 45.4 +1.1
baz=35
H17A Grant Village 34.88 84 eP P 07 28 47.5 +2.8
H17A Grant Village 34.88 84 ⇓P P 07 28 45.2 +0.6
baz=35
FLWY Flagg Ranch 34.98 84 eP P 07 28 51.4 +5.8
comp=Z,14nm,1.1s
F19A Roth Farm, Mol 35.03 81 ⇑P P 07 28 45.7 -0.1
baz=35
FXWY Fox Creek 35.05 85 eP P 07 28 48.6 +2.5
comp=Z,9.3nm,1.3s
C21A Desert Coulee 35.05 76 ⇓P P 07 28 45.9 0.0
baz=35
HVU Hansel Valley 35.12 89 eP P 07 28 47.3 +0.7
HVU pmax pmax
comp=Z,12nm,0.8s
HVU Hansel Valley 35.12 89 eP P 07 28 47.3 +0.7
comp=Z,12nm,0.8s
YAK Yakutsk 35.13 311 eP P 07 28 44.5 -1.8
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=E,15nm,1.2s
YAK MLR MLR
comp=Z,2µm,16.0s
YAK MLR MLR
comp=E,2µm,19.0s
E20A Meyer Farm, Mu 35.15 79 ⇑P P 07 28 47.1 +0.3
baz=35
MOOW Moose Ponds 35.15 85 epP pP 07 29 03.8 +7.2
I17A Pilgrim Ck. 35.15 84 ⇓P P 07 28 47.5 +0.5
baz=35
TPAW Teton Pass 35.18 85 eP P 07 28 49.5 +2.2
comp=E,39nm,1.8s
H18A Shoshone NF, C 35.26 83 ⇓P P 07 28 47.6 -0.3
baz=35
VES Vestal, Richgr 35.28 102 ⇑P P 07 28 48.8 +1.0
baz=35
REDW Red Top Meadow 35.31 85 eP P 07 28 48.7 +0.3
LOHW Long Hollow 35.31 85 epP pP 07 28 57.9 -0.1
CWC Cottonwood Cre 35.45 101 ⇓P P 07 28 50.6 +1.1
baz=35
GRAC Grapevine Rang 35.48 99 ⇑P P 07 28 50.4 +0.7
baz=35,SNR=13
BGU Big Grassy Mou 35.49 90 eP P 07 28 50.8 +0.9
comp=E,6.0nm,1.0s
D21A La Casta Ranch 35.51 77 ⇓P P 07 28 50.3 +0.5
baz=35
AHID Auburn Hatcher 35.52 86 eP P 07 28 49.8 -0.4
comp=E,15nm,1.1s
R11A Troy Canyon, C 35.62 96 ⇓P P 07 28 51.3 +0.2
baz=36,SNR=30
H19A Powell 35.66 82 ⇓P P 07 28 51.3 0.0
baz=36
ISA Isabella 35.76 102 eP P 07 28 52.1 0.0
ISA pmax pmax
comp=Z,33nm,1.0s
ISA Isabella 35.76 102 eP P 07 28 52.1 0.0
comp=Z,33nm,1.0s
ISA Isabella 35.76 102 ⇓P P 07 28 52.3 +0.2
baz=36
DAC Darwin (Calif) 35.84 100 eP P 07 28 53.7 +0.7
DAC pmax pmax
comp=Z,7.0nm,0.9s
DAC Darwin (Calif) 35.84 100 eP P 07 28 53.7 +0.7
comp=Z,7.4nm,0.9s
B23A Brockton 35.93 74 ⇓P P 07 28 53.4 -0.1
baz=36
D22A Cohagen 35.94 77 ⇓P P 07 28 53.6 +0.1
baz=36
DUG Dugway 36.08 91 eP P 07 28 55.4 +0.5
DUG pmax pmax
comp=Z,27nm,1.0s
DUG Dugway 36.08 91 eP P 07 28 55.4 +0.5
comp=Z,27nm,1.0s
DUG Dugway 36.08 91 ⇑P P 07 28 55.4 +0.5
baz=36,SNR=22
FURC Furnace Creek, 36.14 100 ⇑P P 07 28 56.1 +0.9
baz=36,SNR=16
ASAJ Asahikawa 36.16 277 eP P 07 28 54.8 -0.5
comp=Z,20nm,0.9s
C23A Lambert 36.17 75 ⇓P P 07 28 55.3 -0.2
baz=36,SNR=7.8
A24A Westby 36.26 73 ⇑P P 07 28 56.3 0.0
baz=36,SNR=6.5
LRMC Laurel Mountai 36.34 102 ⇓P P 07 28 58.1 +0.9
baz=36
CTU Camp Tracy 36.39 90 eP P 07 28 59.0 +1.4
comp=Z,9.1nm,1.1s
PDAR Pinedale Array 36.43 85 P P 07 28 57.3 -0.7
comp=Z,0.7nm,0.5s,baz=301,slow=3.5,SNR=12
PDAR LR LR 07 42 42.1
comp=Z,193nm,18.4s,baz=316,slow=34
J19A Crowheart 36.43 84 ⇓P P 07 28 58.4 +0.5
baz=36
E22A Miles City 36.45 78 ⇑P P 07 28 58.4 +0.5
baz=36
D23A Lindsay 36.49 76 ⇑P P 07 28 58.9 +0.7
baz=36
I20A Worland 36.58 83 ⇑P P 07 28 59.2 +0.1
baz=36
EDW2 Edwards Air Fo 36.59 103 ⇓P P 07 28 59.8 +0.6
baz=36
JLU Jordanelle 36.63 90 eP P 07 29 01.1 +1.4
comp=Z,14nm,1.2s
NLU North Lily Min 36.66 91 eP P 07 29 00.3 +0.3
comp=Z,9.2nm,1.0s
C24A Savage 36.75 75 ⇓P P 07 29 00.8 +0.4
baz=37
A25A Svangstu Ranch 36.76 72 ⇑P P 07 29 00.7 +0.3
baz=37
DAU Daniels Canyon 36.86 90 eP P 07 29 03.8 +2.0
DAU Daniels Canyon 36.86 90 eP P 07 29 03.8 +2.0
SHOC Shoshone 36.87 100 ⇑P P 07 29 02.5 +1.0
baz=37,SNR=10.0
MPU Maple Canyon 36.89 91 eP P 07 29 02.2 +0.3
comp=Z,71nm,2.2s
MPU epP pP 07 29 15.5 +4.0
J20A Shoshoni 36.95 83 ⇑P P 07 29 02.4 +0.1
baz=37
GSC Goldstone 36.98 101 eP P 07 29 02.5 -0.1
GSC Goldstone 36.98 101 eP P 07 29 02.5 -0.1
GSC Goldstone 36.98 101 ⇑P P 07 29 02.9 +0.4
baz=37,SNR=14
D24A Glendive 37.02 76 ⇓P P 07 29 03.2 +0.4
baz=37,SNR=7.7
FCC Fort Churchill 37.07 54 eP P 07 28 58.5 -4.4
FCC Fort Churchill 37.07 54 eP P 07 28 58.5 -4.4
SHPR Sheep Range 37.11 98 eP P 07 29 04.6 +0.8
I21A Big Trails, Te 37.15 82 ⇑P P 07 29 03.3 -0.7
baz=37
F23A Volborg 37.16 78 ⇑P P 07 29 04.0 0.0
baz=37
BFSC Mount Baldy Ra 37.24 103 ⇓P P 07 29 05.6 +0.8
baz=37
ARUT Antelope Range 37.26 95 eP P 07 29 05.5 +0.5
ARUT pmax pmax
comp=Z,288nm,1.0s
ARUT Antelope Range 37.26 95 eP P 07 29 05.5 +0.5
comp=Z,288nm,1.0s
C25A Freed Ranch, W 37.32 74 ⇑P P 07 29 05.1 -0.1
baz=37
J21A Lysite 37.33 83 ⇓P P 07 29 05.7 +0.1
baz=37
E24A Baker 37.34 77 ⇑P P 07 29 05.6 +0.2
baz=37
A26A Wade Farm, Ken 37.39 72 ⇓P P 07 29 05.5 -0.3
baz=37,SNR=10
TUQ Turquoise Moun 37.40 100 ⇑P P 07 29 07.0 +0.8
baz=37,SNR=6.1
G23A Biddle 37.47 79 ⇓P P 07 29 06.4 -0.2
baz=37
CCUT Cedar City 37.47 95 eP P 07 29 07.4 +0.6
comp=Z,35nm,1.8s
MVU Marysvale 37.52 93 eP P 07 29 08.0 +0.7
B26A Jensen Ranch, 37.55 73 ⇓P P 07 29 07.9 +0.7
baz=37
TMUT Trail Mountain 37.60 91 eP P 07 29 09.1 +1.1
comp=Z,21nm,1.0s
F24A Ekalaka 37.65 78 ⇓P P 07 29 08.4 +0.3
baz=38
J22A Midwest 37.86 82 ⇓P P 07 29 09.9 -0.2
baz=38
K21A Alcova 37.87 84 ⇓P P 07 29 09.5 -0.7
baz=38
E25A Miller Ranch, 37.89 76 ⇑P P 07 29 10.0 -0.1
baz=38
C26A Wahner Farm, P 37.92 73 ⇑P P 07 29 09.7 -0.6
baz=38,SNR=5.2
G24A Alzada 37.96 78 ⇑P P 07 29 10.3 -0.5
baz=38
GMRC Granite Mounta 38.02 100 ⇑P P 07 29 11.7 +0.3
baz=38,SNR=14
HABR Khabarovsk 38.12 288 ceP P 07 29 11.2 -0.7
HABR e*PP pP 07 29 20.8 -0.8
HABR e*SP sP 07 29 25.0 -0.6
HABR e 07 31 25.9
HABR eSS SnSn 07 37 47.8 +0.8
HABR e 07 39 19.9
HABR pmax pmax
comp=Z,145nm,1.4s
HABR pmax pmax
comp=E,93nm,1.4s
HABR pmax pmax
comp=N,34nm,1.4s
HABR MLR MLR
comp=Z,462nm,17.0s
SRU San Rafael 38.13 91 eP P 07 29 13.0 +0.6
SRU pmax pmax
comp=Z,73nm,1.7s
SRU San Rafael 38.13 91 eP P 07 29 13.0 +0.6
comp=Z,73nm,1.7s
LDFC Landfair 38.13 100 eP P 07 29 13.0 +0.7
comp=Z,34nm,1.0s
LDFC epP pP 07 29 24.9 +2.9
BELC Belle Mtn. Jos 38.37 102 ⇑P P 07 29 14.5 +0.1
baz=38
N20A Spence Gulch, 38.38 87 ⇑P P 07 29 14.2 -0.3
baz=38
A28A Rude Farm, Bot 38.38 71 ⇑P P 07 29 14.1 -0.1
baz=38,SNR=6.6
PFO Pinyon Flat Ob 38.38 103 ceP P 07 29 15.9 +1.4
PFO Pinyon Flat Ob 38.38 103 eP P 07 29 15.5 +1.0
PFO Pinyon Flat Ob 38.38 103 ⇑P P 07 29 14.7 +0.2
baz=38
ALE Alert 38.43 12 P P 07 29 14.3 +0.1
comp=Z,107nm,0.9s,SNR=6.9
E26A Carlson Angus 38.45 75 ⇓P P 07 29 14.3 -0.5
baz=38
B28A Dugan Ranch, T 38.57 72 ⇑P P 07 29 15.8 +0.1
baz=38,SNR=12
G25A Newell 38.62 78 ⇓P P 07 29 15.6 -0.7
baz=38
F26A Lodgepole 38.68 76 ⇑P P 07 29 16.5 -0.2
baz=38
I24A Kuemmerle Ranc 38.69 80 ⇓P P 07 29 16.5 -0.4
baz=38
IRM Iron Mountain 38.75 101 ⇓P P 07 29 18.3 +0.8
baz=39,SNR=8.1
O20A White River Ci 38.83 88 eP P 07 29 18.2 -0.1
O20A White River Ci 38.83 88 ⇓P P 07 29 18.1 -0.1
baz=39,SNR=8.1
W13A Hualapai Mount 38.83 98 ⇑P P 07 29 19.0 +0.6
baz=39,SNR=16
H25A Fruitdale 38.84 79 ⇑P P 07 29 17.7 -0.4
baz=39
U15A North Rim 38.86 95 ⇓P P 07 29 18.9 +0.3
baz=39,SNR=18
RSSD Black Hills 38.88 80 eP pP 07 29 30.2 +1.9
RSSD Black Hills 38.88 80 epP pP 07 29 30.2 +1.9
MONP Monument Peak 38.92 103 ⇓P P 07 29 19.2 0.0
baz=39
BAR Barrett 38.93 104 eP P 07 29 20.8 +1.8
BC3 Big Chuckawall 38.93 102 ⇑P P 07 29 18.9 -0.1
baz=39
A29A Manning Farm, 38.95 70 ⇓P P 07 29 18.6 -0.3
baz=39,SNR=9.3
E27A Carson 38.99 75 ⇓P P 07 29 18.6 -0.7
baz=39
M22A Cedar Creek Ra 39.01 85 ⇑P P 07 29 19.3 -0.5
baz=39
G26A Maurine 39.03 77 ⇓P P 07 29 19.2 -0.6
baz=39
F27A Lemmon 39.04 76 ⇓P P 07 29 19.4 -0.3
baz=39,SNR=5.7
L23A Garrett 39.10 83 ⇓P P 07 29 19.8 -0.7
baz=39
B29A Wagenman Farm, 39.13 71 ⇓P P 07 29 20.2 -0.2
baz=39,SNR=5.2
D28A Regan 39.13 73 ⇑P P 07 29 20.2 -0.3
baz=39
PDMCI Parker Dam,Lak 39.24 100 ⇓P P 07 29 22.3 +0.8
baz=39
SWSC Sam W. Stewart 39.25 103 ⇓P P 07 29 22.4 +0.8
baz=39
G27A Dupree 39.37 77 ⇓P P 07 29 22.4 -0.1
baz=39
E28A Huff 39.41 74 ⇑P P 07 29 22.8 0.0
baz=39
Y12C Blythe 39.41 101 ⇑P P 07 29 23.4 +0.5
baz=39
A30A Hoffart Farm, 39.46 70 ⇓P P 07 29 23.0 -0.2
baz=39
N22A Wattenberg Ran 39.47 85 ⇓P P 07 29 23.1 -0.5
baz=39
PV04 Paradox Valley 39.55 90 eP P 07 29 24.1 -0.2
KLR Kul'dur 39.57 291 eP P 07 29 18.9 -5.1
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,43nm,1.2s
I26A New Underwood 39.62 79 ⇑P P 07 29 24.8 +0.2
baz=39
B30A Myrvik Farm, E 39.71 70 ⇑P P 07 29 25.1 -0.2
baz=40,SNR=9.1
N23A Red Feather La 39.71 85 ⇑P P 07 29 25.7 0.0
baz=40
GLA Glamis 39.73 102 eP pP 07 29 35.8 +0.5
GLA Glamis 39.73 102 epP pP 07 29 35.8 +0.5
GLA Glamis 39.73 102 ⇓P P 07 29 26.7 +1.1
baz=40
F28A McLaughlin 39.75 75 ⇓P P 07 29 25.6 -0.1
baz=40,SNR=6.5
O22A Kremmling 39.81 86 ⇑P P 07 29 26.5 -0.1
baz=40
PV01 Paradox Valley 39.92 90 eP P 07 29 27.2 -0.3
comp=Z,2µm,0.8s
E29A Napoleon 40.01 74 ⇑P P 07 29 27.6 -0.1
baz=40
WUAZ Wupatki 40.02 96 eP P 07 29 28.8 +0.6
comp=Z,18nm,0.9s
WUAZ Wupatki 40.02 96 ⇑P P 07 29 28.7 +0.5
baz=40,SNR=14
C30A Mose, Pekin 40.03 71 ⇓P P 07 29 27.7 -0.3
baz=40
I27A Quinn 40.06 78 ⇓P P 07 29 28.3 -0.1
baz=40
ULM Lac du Bonnet 40.10 67 eP P 07 29 28.3 -0.2
ULM Lac du Bonnet 40.10 67 P P 07 29 27.9 -0.5
comp=Z,11nm,0.6s,baz=308,slow=9.0,SNR=26
ULM LR LR 07 46 15.1
comp=Z,541nm,20.4s,baz=302,slow=36
ULM Lac du Bonnet 40.10 67 eP P 07 29 28.2 -0.2
G28A Parade 40.13 76 ⇑P P 07 29 28.8 -0.1
baz=40
O23A Lake Granby, G 40.16 86 ⇓P P 07 29 29.5 +0.1
baz=40
Y14A Wickenburg 40.16 99 ⇑P P 07 29 29.6 +0.3
baz=40
SMCO Snowmass 40.19 88 eP P 07 29 29.6 -0.2
D30A Buchanan 40.21 72 ⇑P P 07 29 28.8 -0.6
baz=40,SNR=9.0
113A Mohawk Valley, 40.55 101 ⇑P P 07 29 33.3 +0.9
baz=40
MVCO Mesa Verde 40.58 91 eP P 07 29 32.5 -0.3
MVCO Mesa Verde 40.58 91 ⇓P P 07 29 32.7 -0.1
baz=40
Z14A Wintersburg 40.61 99 ⇓P P 07 29 33.6 +0.8
baz=40
G29A Hoven 40.64 76 ⇑P P 07 29 32.6 -0.3
baz=40
P23A Jefferson 40.74 87 ⇑P P 07 29 34.4 +0.1
baz=41
X16A Lo Mia Camp, P 40.74 97 ⇓P P 07 29 34.7 +0.5
baz=41,SNR=13
H29A Onida 40.80 76 ⇑P P 07 29 33.9 -0.4
baz=41
J28A Allard Ranch, 40.92 79 ⇑P P 07 29 35.9 +0.4
baz=41
H11N2 WAKE ISLAND Hy 41.06 226 T T 08 13 41.3
baz=29,slow=76,SNR=54
H11N3 WAKE ISLAND Hy 41.07 226 T T 08 13 33.1
baz=29,slow=76,SNR=74
H11N1 WAKE ISLAND Hy 41.08 226 T T 08 13 29.4
baz=29,slow=76,SNR=57
I29A Vivian Onida 41.11 77 ⇓P P 07 29 36.3 -0.6
baz=41
G30A Faulkton 41.12 75 ⇑P P 07 29 36.4 -0.6
baz=41,SNR=6.6
AGMN Agassiz Nation 41.17 69 eP P 07 29 36.6 -0.7
comp=Z,18nm,0.9s
AGMN Agassiz Nation 41.17 69 ⇑P P 07 29 36.7 -0.6
baz=41,SNR=12
S22A 4UR Ranch, Cre 41.21 89 ⇓P P 07 29 37.9 -0.3
baz=41
O25A Wiggins 41.28 85 ⇓P P 07 29 38.5 0.0
baz=41
J29A Okreek 41.46 78 ⇑P P 07 29 39.0 -0.8
baz=41
R23A Moffat 41.51 88 ⇓P P 07 29 40.0 -0.6
baz=41
X18A Snowflake 41.55 96 ⇓P P 07 29 40.7 -0.1
baz=41
BRSD Miller 41.63 76 eP P 07 29 40.7 -0.5
BRSD Miller 41.63 76 ⇓P P 07 29 40.5 -0.7
baz=42
P25A Willow Gulch B 41.64 85 ⇓P P 07 29 41.1 -0.4
baz=42
214A Organ Pipe Nat 41.70 101 eP P 07 29 42.4 +0.5
comp=Z,9.6nm,1.0s
214A Organ Pipe Nat 41.70 101 ⇓P P 07 29 43.0 +1.2
baz=42,SNR=6.6
N27A Anderson Farm, 41.78 83 ⇑P P 07 29 41.9 -0.6
baz=42
K29A Lazy Trails An 41.86 79 ⇓P P 07 29 43.0 -0.1
baz=42
Q25A Bedland, Calha 41.98 86 ⇑P P 07 29 44.5 +0.2
baz=42
J30A Dallas 42.00 78 ⇓P P 07 29 43.5 -0.7
baz=42,SNR=8.9
SDCO Great Sand Dun 42.00 88 eP P 07 29 44.3 -0.3
comp=Z,10.0nm,1.1s
P26A Davis Ranch, A 42.09 85 ⇑P P 07 29 45.4 +0.2
baz=42
U22A Llaves 42.11 91 ⇓P P 07 29 45.4 0.0
baz=42,SNR=9.9
T23A Casias Ranch, 42.15 90 ⇓P P 07 29 46.6 +0.7
baz=42
L29A Maesberg Ranch 42.20 80 ⇑P P 07 29 46.4 +0.6
baz=42
O27A Beecher Island 42.20 83 ⇑P P 07 29 46.8 +0.9
baz=42
H11S1 WAKE ISLAND Hy 42.23 225 T T 08 15 00.6
baz=26,slow=77,SNR=140
S24A Houchin Ranch, 42.24 88 ⇑P P 07 29 47.0 +0.4
baz=42
H11S2 WAKE ISLAND Hy 42.24 225 T T 08 15 01.4
baz=26,slow=77,SNR=67
H11S3 WAKE ISLAND Hy 42.25 225 T T 08 15 06.5
baz=26,slow=77,SNR=89
USRK Ussuriysk Arra 42.29 284 P P 07 29 45.0 -1.5
comp=Z,2.6nm,0.6s,baz=41,slow=7.7,SNR=7.4
USRK PcP PcP 07 31 40.0 +0.3
comp=Z,1.9nm,0.5s,baz=281,slow=1.1,SNR=5.9
USRK LR LR 07 48 25.6
comp=Z,330nm,18.9s,baz=48,slow=38
K30A Basset 42.32 78 ⇓P P 07 29 47.2 +0.3
baz=42
V22A San Miguel Ran 42.39 91 ⇓P P 07 29 47.6 -0.1
baz=42,SNR=6.3
Q26A Hugo 42.40 85 ⇑P P 07 29 47.9 +0.3
baz=42
T24B San Luis 42.53 89 ⇑P P 07 29 49.2 +0.3
baz=42
U23A El Rito 42.54 90 ⇓P P 07 29 49.6 +0.7
baz=42,SNR=22
TUC Tucson 42.63 99 eP P 07 29 49.5 0.0
TUC pmax pmax
comp=Z,14nm,1.4s
TUC Tucson 42.63 99 eP P 07 29 49.5 0.0
comp=Z,14nm,1.4s
S25A Robets Cordova 42.69 88 ⇓P P 07 29 50.9 +0.8
baz=42
R26A Arlington 42.85 86 ⇑P P 07 29 52.0 +0.7
baz=43
KSCO Kaye Shedlock' 42.87 85 epP pP 07 30 04.3 +3.0
KSCO Kaye Shedlock' 42.87 85 ⇓P P 07 29 52.1 +0.6
baz=43
V23A Ortiz Mt. (NFS 42.94 91 ⇓P P 07 29 53.5 +1.4
baz=43,SNR=6.4
T25A Trinidad 43.05 88 ⇓P P 07 29 54.6 +1.5
baz=43,SNR=7.6
N30A Hueftle Ranch, 43.21 81 ⇓P P 07 29 55.6 +1.5
baz=43
O29A 4D Ranch, Culb 43.23 82 ⇑P P 07 29 55.7 +1.4
baz=43
R27A Eads 43.25 86 ⇑P P 07 29 55.4 +0.9
baz=43
S26A Kim 43.29 87 ⇑P P 07 29 55.5 +0.7
baz=43
LAZ Ladron 43.30 93 eP P 07 29 55.4 +0.4
comp=Z,12nm,1.5s
Q28A Sharon Springs 43.31 84 ⇑P P 07 29 55.1 +0.2
baz=43
ANMO Albuquerque 43.33 92 ⇓iP P 07 29 56.9 +1.6
ANMO pmax pmax
comp=Z,27nm,1.2s
ANMO Albuquerque 43.33 92 eP P 07 29 56.7 +1.4
comp=Z,11nm,1.1s
W23A Werner Place, 43.36 92 ⇓P P 07 29 55.6 0.0
baz=43
ECSD EROS Data Cent 43.41 75 ⇑P P 07 29 54.7 -0.9
baz=43
P29A Atwood 43.49 83 ⇑P P 07 29 56.2 -0.2
baz=43
V24A Rampart Ranch, 43.49 90 ⇓P P 07 29 57.2 +0.6
baz=43
T26A Comanche Natio 43.51 87 ⇓P P 07 29 57.8 +1.0
baz=43
MJAR Matsushiro Arr 43.53 271 P P 07 29 56.5 -0.2
comp=Z,13nm,1.0s,baz=38,slow=6.6,SNR=16
MJAR LR LR 07 46 32.0
comp=Z,342nm,21.9s,baz=60,slow=34
MAJO Matsushiro 43.53 271 ⇑iP P 07 29 56.6 0.0
MAJO Matsushiro 43.53 271 eP P 07 29 57.2 +0.5
MAT Matsushiro 43.53 271 P P 07 29 56.4 -0.2
MAT eS S 07 36 22.6 -0.6
U25A Circle Dot Ran 43.55 89 ⇑P P 07 29 57.5 +0.4
baz=43
LENM Lemitar 43.56 93 eP P 07 29 58.7 +1.6
O30A MW Ranch, Wils 43.63 82 ⇓P P 07 29 57.8 +0.3
baz=44
LPM Los Pinos Moun 43.66 93 eP P 07 29 58.9 +0.9
W24A Lazy 6 Ranch, 43.77 91 ⇓P P 07 29 59.2 +0.4
baz=44,SNR=7.6
EYMN Ely 43.77 67 eP P 07 29 58.0 -0.5
comp=Z,16nm,0.9s
BNM Barren Site 43.78 93 eP P 07 29 59.0 +0.1
comp=Z,15nm,1.0s
R28A Tribune 43.79 85 ⇑P P 07 29 58.9 +0.1
baz=44
V25A Rancho No Teng 43.81 90 ⇑P P 07 29 59.1 0.0
baz=44
Q29A Oakley 43.92 84 ⇓P P 07 30 00.1 +0.2
baz=44
P30A Selden 43.93 82 ⇑P P 07 30 00.6 +0.7
baz=44
U26A Atchley Ranch, 43.95 88 ⇑P P 07 30 00.7 +0.4
baz=44
O31A Woolen Ranch, 44.08 81 ⇑P P 07 30 01.3 +0.3

baz=44
319A Douglas 44.18 98 ⇓P P 07 30 02.7 +0.6
baz=44
Z22A Elephant Butte 44.21 94 ⇓P P 07 30 02.9 +0.6
baz=44
121A Cookes Peak, D 44.23 96 eP P 07 30 02.9 +0.4
comp=Z,11nm,0.8s
121A Cookes Peak, D 44.23 96 ⇓P P 07 30 03.4 +0.8
baz=44,SNR=8.0
S28A Manter 44.24 86 ⇑P P 07 30 02.7 +0.2
baz=44
Y23A Lovelace Mesa, 44.27 93 ⇓P P 07 30 03.4 +0.6
baz=44,SNR=11
W25A X Bar L Ranch, 44.32 90 ⇑P P 07 30 04.0 +0.8
baz=44,SNR=8.3
V26A Tequesquite Ra 44.33 89 ⇑P P 07 30 03.4 +0.2
baz=44,SNR=13
T28A Walsh 44.42 86 ⇑P P 07 30 04.8 +0.8
baz=44
P31A Stockton 44.46 82 ⇑P P 07 30 04.5 +0.4
baz=44
U27A Thompson Grove 44.47 88 ⇓P P 07 30 04.9 +0.5
baz=44
Y24A Capitan 44.64 92 ⇓P P 07 30 06.4 +0.6
baz=44,SNR=9.4
SPMN St. Paul 44.66 71 eP P 07 30 05.0 -0.6
SPMN St. Paul 44.66 71 ⇓P P 07 30 05.2 -0.4
baz=44
S29A Ulysses 44.68 85 ⇑P P 07 30 05.8 -0.2
baz=44
X25A Clemmons Ranch 44.68 91 ⇓P P 07 30 06.3 +0.2
baz=44
R30A Dighton 44.74 84 ⇓P P 07 30 06.6 +0.2
baz=45
Q31A Ellis 44.78 82 ⇑P P 07 30 07.4 +0.7
baz=45
W26A Owens Ranch, T 44.83 90 ⇑P P 07 30 07.5 +0.3
baz=45
P32A Huiting Farm, 44.85 81 ⇓P P 07 30 07.6 +0.4
baz=45
U28A Mallet 44.86 87 ⇓P P 07 30 07.9 +0.5
baz=45
T29A Hugoton 44.89 86 ⇓P P 07 30 08.2 +0.6
baz=45
V27A Dan Oppiter Fa 44.92 88 ⇑P P 07 30 07.8 -0.1
baz=45
Y25A Mesa, Roswell 45.08 92 ⇑P P 07 30 10.0 +0.7
baz=45,SNR=9.5
Z24A Sheeppen Canyo 45.10 93 ⇑P P 07 30 09.5 0.0
baz=45,SNR=10
X26A CR and CF Fran 45.17 90 ⇓P P 07 30 10.2 +0.2
baz=45
R31A Burdett 45.18 83 ⇑P P 07 30 09.9 +0.1
baz=45
W27A Bowe Ranch, En 45.26 89 ⇑P P 07 30 10.7 +0.1
baz=45
Q32A Meitler Ranch, 45.28 82 ⇑P P 07 30 10.7 +0.1
baz=45
Z25A Roswell 45.52 92 ⇑P P 07 30 13.8 +1.0
baz=45
S31A Mullinville 45.65 84 ⇑P P 07 30 14.3 +0.7
baz=46
T31A Randall Ranch, 45.88 85 ⇑P P 07 30 15.8 +0.4
baz=46
Z26A Caprock 45.96 92 ⇑P P 07 30 16.2 0.0
baz=46
125A Gardner Draw, 45.99 93 ⇑P P 07 30 16.5 +0.1
baz=46
Y27A Causey 46.02 91 ⇓P P 07 30 16.5 -0.1
baz=46
W29A Amraillo 46.06 88 ⇑P P 07 30 16.7 -0.2
baz=46
X28A Dimmitt 46.15 89 ⇑P P 07 30 17.6 -0.1
baz=46
MSTX Muleshoe 46.19 90 ⇓P P 07 30 18.1 +0.1
baz=46
AMTX Amarillo 46.20 88 ⇑P P 07 30 17.8 -0.3
baz=46
MNTX Cornudas Mount 46.25 94 eP P 07 30 18.0 -0.4
comp=Z,4.9nm,0.8s
CN2 Changchun 46.26 288 ⇑P P 07 30 17.9 -0.4
CN2 pmax pmax
comp=Z,70nm,0.9s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,500nm,21.0s
CN2 LR LR
comp=Z,600nm,21.0s
CN2 LR LR
comp=Z,600nm,22.0s
U31A Nine Bar Ranch 46.27 85 ⇓P P 07 30 18.2 -0.4
baz=46
225A Deer Hill, Car 46.29 94 ⇑P P 07 30 19.0 +0.1
baz=46
126A Clayton Basin, 46.38 92 ⇑P P 07 30 19.1 -0.4
baz=46,SNR=8.5
Z27A Tatum 46.39 91 ⇑P P 07 30 19.1 -0.5
baz=46
GDL2 Guadalupe Moun 46.49 93 epP pP 07 30 38.2 +8.0
X29A Tulia 46.50 89 ⇑P P 07 30 20.2 -0.2
baz=46
Y28A McKinney Farm, 46.55 90 ⇑P P 07 30 20.2 -0.5
baz=46
226B Tecolote Peak, 46.70 93 ⇑P P 07 30 22.3 +0.4
baz=47
127A Arkansas Junct 46.75 92 ⇓P P 07 30 22.8 +0.4
baz=47
U32A Winter Ranch, 46.77 85 ⇑P P 07 30 22.3 -0.1
baz=47
Z28A Tucker Farm, M 46.90 90 ⇑P P 07 30 24.0 +0.5
baz=47
Y29A Porterfield Fa 46.92 89 ⇑P P 07 30 23.8 +0.1
baz=47
X30A Coker Ranch, T 46.99 88 ⇓P P 07 30 24.4 +0.2
baz=47
W31A Holland Ranch, 47.02 87 ⇓P P 07 30 24.6 +0.2
baz=47
425A Indio Mountain 47.14 95 ⇑P P 07 30 25.5 0.0
baz=47,SNR=12
V32A Arapaho 47.19 85 ⇓P P 07 30 25.5 -0.2
baz=47
128A Castleberry Fa 47.31 91 ⇑P P 07 30 26.5 -0.2
baz=47,SNR=16
Z29A Hungry Hill Ra 47.32 90 ⇑P P 07 30 26.3 -0.5
baz=47
326A Caldwell Ranch 47.36 94 ⇑P P 07 30 27.4 +0.3
baz=47
Y30A Stafford Cattl 47.37 89 ⇓P P 07 30 26.8 -0.4
baz=47
X31A McDonald Ranch 47.39 87 ⇑P P 07 30 26.9 -0.4
baz=47
W32A Sentinel 47.48 86 ⇓P P 07 30 28.0 +0.1
baz=47
KBS Kingsbay 47.53 1 ⇓iP P 07 30 28.5 +0.8
KBS Kingsbay 47.53 1 eP P 07 30 28.7 +1.0
JFWS Jewell Farm 47.55 72 eP P 07 30 26.8 -1.5
JFWS pmax pmax
comp=Z,19nm,0.9s
JFWS Jewell Farm 47.55 72 eP P 07 30 26.8 -1.5
comp=Z,19nm,0.9s
Z30A Sanderson Ranc 47.65 89 ⇑P P 07 30 28.5 -0.8
baz=48
129A Stewart Farms, 47.67 91 ⇓P P 07 30 28.8 -0.7
baz=48
DAG Danmarks Havn 47.78 10 iP P 07 30 29.8 +0.1
DAG pmax pmax
comp=Z,23nm,0.7s
DAG Danmarks Havn 47.78 10 iP P 07 30 29.8 +0.1
comp=Z,34nm,0.7s
426A McDonald Obser 47.79 94 ⇓P P 07 30 30.4 -0.2
baz=48
W33A Caddo, Fort Co 47.92 86 ⇓P P 07 30 31.1 -0.3
baz=48
X32A Elmer 47.95 87 ⇑P P 07 30 31.6 0.0
baz=48
JCJ Chichijima 47.95 259 LR LR 07 48 24.4
comp=Z,259nm,21.9s,baz=6.0,slow=33
328A Wristen Ranch, 48.00 93 ⇑P P 07 30 31.5 -0.6
baz=48
V34A Guthrie 48.02 84 ⇑P P 07 30 31.6 -0.4
baz=48
427A Hayter Ranch, 48.03 94 ⇑P P 07 30 31.9 -0.5
baz=48
Y32A R-V Farms, Ver 48.14 87 ⇑P P 07 30 32.9 -0.2
baz=48
526A Mary Lane Ranc 48.20 95 ⇓P P 07 30 33.9 +0.1
baz=48,SNR=8.1

Z31A Sharp Cattle R 48.21 89 ⇑P P 07 30 33.5 -0.1
baz=48
130A Snyder 48.23 90 ⇓P P 07 30 33.9 +0.1
baz=48
SUMG Summit 48.25 19 eP P 07 30 34.5 +0.6
SUMG pmax pmax
comp=Z,61nm,1.1s
SUMG Summit 48.25 19 iP P 07 30 34.8 +0.9
comp=Z,38nm,1.0s
SUMG Summit 48.25 19 eP P 07 30 34.5 +0.6
comp=Z,61nm,1.1s
X33A Lawton 48.33 86 ⇓P P 07 30 34.2 -0.3
baz=48
329A Wagon Wheel Ra 48.42 92 ⇓P P 07 30 34.9 -0.4
baz=48
527A Woodward Ranch 48.42 94 ⇓P P 07 30 34.8 -0.6
baz=48,SNR=7.3
131A Roby 48.52 89 ⇓P P 07 30 35.2 -0.8
baz=48
626A Big Bend Ranch 48.54 95 ⇓P P 07 30 35.9 -0.4
baz=48,SNR=6.9
428A Kincaid Ranch, 48.55 93 ⇓P P 07 30 36.0 -0.4
baz=48,SNR=6.1
SNY Shenyang 48.58 287 ⇑P P 07 30 36.9 +0.6
SNY pmax pmax
comp=Z,47nm,1.2s
SNY pmax pmax
comp=Z,220nm,7.4s
SNY LR LR
comp=Z,490nm,14.0s
SNY LR LR
comp=Z,470nm,16.1s
SNY LR LR
comp=Z,430nm,22.6s
Z32A Haskell 48.61 88 ⇑P P 07 30 36.1 -0.6
baz=48
230A Sterling City 48.65 91 ⇓P P 07 30 36.5 -0.5
baz=48
X34A Smith Ranch, M 48.68 86 ⇑P P 07 30 36.3 -0.9
baz=48
330A Mertzon 48.95 91 ⇑P P 07 30 38.9 -0.5
baz=49
KSRS Korea Array 48.98 280 P P 07 30 40.1 +0.7
comp=Z,9.0nm,0.6s,baz=52,slow=7.0,SNR=25
KSRS PcP PcP 07 32 04.3 +1.3
comp=Z,2.5nm,0.6s,baz=46,slow=5.3,SNR=3.0
KSRS LR LR 07 52 52.6
comp=Z,205nm,18.6s,baz=62,slow=38
TUL1 Tulsa 48.98 83 ⇑P P 07 30 38.6 -0.8
baz=49
TXAR Lajitas Array 48.98 95 P P 07 30 39.5 -0.1
comp=Z,4.7nm,0.6s,baz=301,slow=5.5,SNR=70
TXAR ScP ScP 07 35 56.5 +0.9
comp=Z,0.5nm,0.8s,baz=251,slow=2.8,SNR=3.8
TXAR LR LR 07 50 07.5
comp=Z,280nm,19.1s,baz=0.0,slow=35
ABTX Abilene, Hawle 48.99 89 eP P 07 30 39.0 -0.7
comp=Z,19nm,1.1s
ABTX Abilene, Hawle 48.99 89 ⇓P P 07 30 39.0 -0.7
baz=49
KSAR Wonju Array Be 49.01 280 P P 07 30 40.2 +0.5
KSAR 07 32 04.3
KSAR Wonju Array Be 49.01 280 P P 07 30 40.1 +0.5
KSAR PcP PcP 07 32 04.3 +1.1
Z33A Whitaker Ranch 49.05 88 ⇑P P 07 30 39.0 -1.1
baz=49
627A Terlingua Ranc 49.06 95 ⇓P P 07 30 40.0 -0.3
baz=49
231A Bronte 49.09 90 ⇑P P 07 30 39.4 -1.0
baz=49
429A Davenport Ranc 49.09 93 ⇑P P 07 30 39.9 -0.6
baz=49
Y34A Reagan Ranch, 49.17 86 ⇑P P 07 30 40.1 -0.9
baz=49
529A Stev Forest Ra 49.26 93 ⇑P P 07 30 41.3 -0.4
baz=49
628A Black Gap, Mar 49.33 94 ⇓P P 07 30 41.8 -0.5
baz=49,SNR=12
430A Baggett Ranch, 49.36 92 ⇓P P 07 30 41.8 -0.7
baz=49
133A Hamilton Ranch 49.44 88 ⇓P P 07 30 42.1 -0.9
baz=49
331A San Angelo 49.47 91 ⇑P P 07 30 42.4 -0.9
baz=49
232A Coleman 49.52 90 ⇓P P 07 30 42.9 -0.8
baz=49
530A J-C Ranch, Com 49.77 93 ⇑P P 07 30 44.9 -0.7
baz=50
431A Sonora 49.81 91 ⇑P P 07 30 45.0 -1.0
baz=50,SNR=7.0
332A Millersview 49.82 90 ⇑P P 07 30 45.2 -0.8
baz=50
233A Rising Star 49.87 89 ⇑P P 07 30 45.9 -0.4
baz=50,SNR=5.6
134A White-Moore Ra 49.96 88 ⇑P P 07 30 46.3 -0.7
baz=50
432A Menard 50.16 91 ⇓P P 07 30 47.9 -0.6
baz=50
333A Richland Sprin 50.31 90 ⇑P P 07 30 48.7 -1.0
baz=50
234A Clairette 50.33 88 ⇓P P 07 30 48.7 -1.2
baz=50
SLM Saint Louis 50.37 76 eP P 07 30 48.5 -1.5
SLM Saint Louis 50.37 76 eP P 07 30 48.5 -1.5
JCT Junction City 50.44 91 eP P 07 30 49.4 -1.3
JCT pmax pmax
comp=Z,17nm,0.9s
JCT Junction City 50.44 91 eP P 07 30 49.4 -1.3
comp=Z,17nm,0.9s
433A Art 50.66 90 ⇓P P 07 30 51.6 -0.7
baz=50
WHTX Lake Whitney 50.74 88 ⇓P P 07 30 52.1 -0.8
baz=51
334A Lometa 50.75 89 ⇓P P 07 30 52.2 -0.8
baz=51
632A Uvalde 51.15 92 ⇑P P 07 30 55.1 -0.9
baz=51
533A Kerrville 51.19 91 ⇓P P 07 30 55.1 -1.2
baz=51
OLIL Olney 51.53 75 eP P 07 30 57.6 -1.1
633A Saathoff Ranch 51.55 91 ⇓P P 07 30 58.0 -1.0
baz=51
534A Blanco 51.55 90 ⇑P P 07 30 57.7 -1.3
baz=51
SIUC Southern Illin 51.58 76 P P 07 30 58.8 -0.3
732A Laxson Ranch, 51.61 93 ⇓P P 07 30 58.3 -1.2
baz=52
SCHQ Schefferville 51.74 47 P P 07 30 59.2 -0.9
comp=Z,13nm,1.0s,baz=323,slow=6.9,SNR=9.2
SCHQ LR LR 07 55 36.0
comp=Z,845nm,18.3s,baz=318,slow=39
733A Divot King Ran 52.02 92 ⇑P P 07 31 02.2 -0.3
baz=52
535A Dale 52.09 90 ⇓P P 07 31 02.6 -0.4
baz=52
BLO Bloomington 52.13 73 eP P 07 31 01.8 -1.4
BLO Bloomington 52.13 73 eP P 07 31 01.8 -1.4
833A Chaparral WMA, 52.25 93 ⇓P P 07 31 03.5 -0.7
baz=52
USIN University of 52.30 75 eP P 07 31 03.0 -1.4
comp=Z,16nm,0.7s
734A La Parita Cree 52.37 91 ⇓P P 07 31 04.7 -0.4
baz=52
635A Leesville 52.44 90 ⇑P P 07 31 05.2 -0.4
baz=52
TLY Talaya 52.53 308 eP P 07 31 06.5 +0.5
TLY e 07 33 00.8
TLY eS S 07 38 50.9 +21
TLY pmax pmax
comp=Z,40nm,1.1s
TLY MLR MLR
comp=Z,638nm,17.0s
ULN Ulaanbaatar 53.44 303 ⇑iP P 07 31 12.7 -0.3
ULN pmax pmax
comp=Z,25nm,1.0s
ULN Ulaanbaatar 53.44 303 eP P 07 31 12.9 -0.1
comp=Z,6.4nm,0.4s
WVT Waverly 53.48 77 eP P 07 31 11.6 -1.6
WVT pmax pmax
comp=Z,15nm,0.8s
WVT Waverly 53.48 77 eP P 07 31 11.6 -1.6
comp=Z,15nm,0.8s
ZAK Zakamensk 53.57 307 eP P 07 31 10.9 -2.9
ZAK pmax pmax
comp=Z,7.0nm,1.2s
OXF Oxford 53.70 79 eP P 07 31 13.3 -1.5
OXF pmax pmax

comp=Z,95nm,1.4s
OXF Oxford 53.70 79 eP P 07 31 13.3 -1.5
comp=Z,95nm,1.4s
MOY Mondy 53.76 310 eP P 07 31 15.5 +0.3
SONM Songino Array 53.79 303 P P 07 31 15.6 +0.1
comp=Z,15nm,0.9s,baz=43,slow=7.1,SNR=91
SONM PcP PcP 07 32 21.7 +0.7
comp=Z,6.4nm,1.0s,baz=75,slow=1.8,SNR=5.2
SONM LR LR 07 57 57.7
comp=Z,436nm,18.1s,baz=36,slow=40
BJI Beijing 53.94 290 P P 07 31 16.8 +0.3
BJI S S 07 38 52.2 +2.7
BJI pmax pmax
comp=Z,21nm,0.8s
BJI pmax pmax
comp=Z,130nm,9.8s
BJI LR LR
comp=Z,570nm,22.0s
BJI LR LR
comp=Z,340nm,23.8s
BJI LR LR
comp=Z,280nm,19.2s
BJT Baijiatuau 53.96 290 eP P 07 31 16.7 0.0
BJT pmax pmax
comp=Z,14nm,0.4s
BJT Baijiatuau 53.96 290 eP P 07 31 16.7 0.0
comp=Z,14nm,0.4s
ALLY Alegheny Colle 54.00 67 eP P 07 31 15.8 -1.1
comp=Z,14nm,0.4s
HHC Hu-ho-hao-te 55.91 294 eP P 07 31 30.8 -0.1
HHC pP pP 07 31 40.4 -0.5
HHC PP PP 07 33 32.3 -3.1
HHC S S 07 39 17.6 +1.4
HHC sS sS 07 39 22.7 -10
HHC pmax pmax
comp=Z,45nm,0.8s
HHC LR LR
comp=Z,570nm,14.9s
HHC LR LR
comp=Z,600nm,14.0s
HHC LR LR
comp=Z,810nm,18.8s
TKL Tuckaleechee C 56.15 74 P P 07 31 31.6 -1.0
comp=Z,3.6nm,0.7s,baz=312,slow=16,SNR=2.4
KEV Kevo 56.57 356 eP P 07 31 32.9 -2.1
KEV pmax pmax
comp=Z,13nm,0.6s
KEV Kevo 56.57 356 ep P 07 31 32.9 -2.1
comp=Z,13nm,0.6s
ARCES ARCESS Array B 56.85 356 P P 07 31 36.3 -0.8
comp=Z,9.0nm,0.8s,baz=18,slow=7.2,SNR=18
ARCES LR LR 07 59 44.6
comp=Z,289nm,18.1s,baz=10.0,slow=40
SSE Sheshan 57.40 279 ⇓P P 07 31 42.3 +0.8
SSE pmax pmax
comp=Z,45nm,1.2s
SSE pmax pmax
comp=Z,67nm,3.5s
LVZ Lovozero 57.93 352 eP P 07 31 44.3 -0.4
LVZ pmax pmax
comp=Z,47nm,1.0s
LVZ Lovozero 57.93 352 eP P 07 31 44.3 -0.4
comp=Z,47nm,1.0s
NJ2 Nanjing 58.07 282 eP P 07 31 46.3 +0.2
NJ2 pP pP 07 31 56.8 +0.6
NJ2 sP sP 07 32 00.4 +0.3
NJ2 S S 07 39 47.0 +2.4
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 pmax pmax
comp=Z,150nm,4.4s
NJ2 LR LR
comp=Z,2μm,25.8s
NJ2 LR LR
comp=Z,2μm,29.8s
NJ2 LR LR
comp=Z,230nm,24.6s
NVS Novosibirsk 58.78 322 eP P 07 31 49.2 -1.6
NVS e 07 31 59.8
NVS pmax pmax
comp=Z,15nm,0.9s
ZAA0 Zalesovo Array 58.88 320 eP P 07 31 51.4 0.0
ZALV Zalesovo Beam 58.88 320 P P 07 31 51.4 -0.1
comp=Z,6.5nm,0.7s,baz=32,slow=6.3,SNR=32
ZALV PcP PcP 07 32 40.9 +0.3
comp=Z,1.9nm,0.7s,baz=66,slow=4.9,SNR=2.5
ZALV LR LR 08 00 09.6
comp=Z,635nm,18.6s,baz=64,slow=39
WHN Wuhan 61.78 284 P P 07 32 12.0 +0.4
WHN S S 07 40 31.7 -0.7
WHN LR LR
comp=Z,600nm,12.1s
XAN Xi'an 62.27 290 P P 07 32 14.9 -0.1
XAN pP pP 07 32 24.7 -0.4
XAN pmax pmax
comp=Z,5.0nm,1.1s
XAN LR LR
comp=Z,240nm,18.4s
XAN LR LR
comp=Z,130nm,18.4s
XAN LR LR
comp=Z,140nm,17.4s
SOKR Solikamsk 62.55 338 eP P 07 32 16.4 +0.1
SOKR pmax pmax
comp=Z,20nm,0.9s
SOKR MLR MLR
comp=Z,730nm,16.0s
PRGR Permogore 62.72 345 eP P 07 32 14.4 -3.0
PRGR e*PP pP 07 32 24.5 -3.0
PRGR S S 07 40 38.2 -5.1
PRGR pmax pmax
comp=Z,21nm,0.7s
SSLB Suanglung 62.98 274 eP P 07 32 18.7 -1.1
comp=Z,69nm,1.3s
JOF Joensuu 63.11 353 eP P 07 32 19.4 -0.6
JOF pmax pmax
comp=Z,7.0nm,0.5s
JOF Joensuu 63.11 353 ep P 07 32 19.4 -0.6
comp=Z,6.6nm,0.5s
GTA Gaotai 63.15 301 P P 07 32 19.8 -1.1
GTA pP pP 07 32 30.2 -0.8
GTA sP sP 07 32 34.1 -0.8
GTA S S 07 40 46.3 -3.4
GTA sS sS 07 41 03.4 -3.0
GTA SS SS 07 44 54.3 -0.9
GTA pmax pmax
comp=Z,15nm,1.5s
GTA pmax pmax
comp=Z,210nm,4.3s
GTA LR LR
comp=Z,500nm,18.4s
GTA LR LR
comp=Z,520nm,20.6s
GTA LR LR
comp=Z,250nm,22.3s
LZH Lanzhou 63.53 295 P P 07 32 24.2 +0.8
LZH pP pP 07 32 34.1 +0.5
LZH sP sP 07 32 38.8 +1.4
LZH PP PP 07 34 42.5 -0.4
LZH S S 07 40 52.6 -1.9
LZH sS sS 07 41 08.3 -3.0
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.4s
LZH LR LR
comp=Z,770nm,15.8s
LZH LR LR
comp=Z,930nm,15.5s
LZH LR LR
comp=Z,1μm,16.6s
KURK Kurchatov 63.76 321 c iP P 07 32 24.1 -0.4
KURK pmax pmax
comp=Z,27nm,1.0s
KURK Kurchatov 63.76 321 eP P 07 32 24.4 -0.1
comp=Z,30nm,1.0s
SVE Sverdlovsk 64.14 335 eP P 07 32 27.6 +0.7
SVE pmax pmax
comp=Z,45nm,1.4s
SVE MLR MLR
comp=Z,612nm,16.0s
KAF Kangasniemi 64.22 355 eP P 07 32 26.2 -1.2
KAF pmax pmax
comp=Z,10.0nm,0.5s
KAF Kangasniemi 64.22 355 ep P 07 32 26.2 -1.2
comp=Z,9.8nm,0.5s

KLMR Klimovskoe 64.32 348 eP P 07 32 25.4 -2.6
KLMR pmax pmax
comp=Z,36nm,1.6s
BVAR Borovoye Array 64.68 328 P P 07 32 30.9 +0.4
comp=Z,28nm,0.7s,baz=44,slow=6.6,SNR=146
BRVK Borovoye 64.68 328 ceP P 07 32 30.7 +0.2
BRVK pmax pmax
comp=Z,76nm,1.7s
BRVK Borovoye 64.68 328 eP P 07 32 30.8 +0.3
comp=Z,42nm,1.0s
ENH Enshi 64.77 287 eP P 07 32 31.4 -0.1
comp=Z,14nm,0.7s
ARU Arti 65.00 336 d iP P 07 32 32.3 -0.3
ARU 07 33 04.6
ARU 07 34 53.5
ARU S S 07 41 12.2 +0.3
ARU pmax pmax
comp=Z,43nm,1.7s
ARU MLR MLR
comp=Z,471nm,17.0s
ARU Arti 65.00 336 eP P 07 32 32.4 -0.1
comp=Z,34nm,1.2s
NB2 NORSAR Subarra 65.44 3 P P 07 32 35.3 -0.1
comp=Z,32nm,1.4s,baz=358,slow=6.5
NB2 NORSAR Subarra 65.44 3 P P 07 32 35.3 -0.1
baz=358,slow=6.5
NOA NORSAR Array B 65.44 3 P P 07 32 35.6 +0.2
comp=Z,3.6nm,0.8s,baz=358,slow=6.4,SNR=9.1
NOA LR LR 08 02 50.7
comp=Z,83nm,18.4s,baz=340,slow=38
MK31 Makanchi Array 65.51 317 eP P 07 32 35.6 -0.5
MK31 Makanchi Array 65.51 317 eP P 07 32 35.6 -0.5
MKAR Makanchi Array 65.51 317 P P 07 32 35.4 -0.6
comp=Z,7.2nm,0.8s,baz=47,slow=6.3,SNR=62
WMQ Urumqi 65.58 311 P P 07 32 37.3 +0.7
WMQ pP pP 07 32 47.6 +0.9
WMQ sP sP 07 32 51.5 +0.9
WMQ PcP PcP 07 33 08.6 +0.6
WMQ S S 07 41 18.9 -0.5
WMQ sS sS 07 41 35.9 -0.3
WMQ ScS SKSac 07 42 26.4 -2.9
WMQ pmax pmax
comp=Z,28nm,1.2s
WMQ pmax pmax
comp=Z,140nm,4.4s
WMQ LR LR
comp=Z,370nm,23.0s
WMQ LR LR
comp=Z,530nm,24.2s
WMQ LR LR
comp=Z,200nm,24.8s
CD2 Chengdu 67.49 292 P P 07 32 49.5 +0.5
CD2 pP pP 07 32 59.4 +0.2
CD2 sP sP 07 33 03.2 +0.2
CD2 PcP PcP 07 33 17.3 +1.2
CD2 PP PP 07 35 19.6 +2.0
CD2 PcS 07 37 20.6
CD2 S S 07 41 40.8 -2.1
CD2 sS sS 07 41 57.2 -2.5
CD2 ScS SKSac 07 42 41.2 -3.0
CD2 SS SS 07 46 02.3 -0.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.4s
CD2 LR LR
comp=Z,270nm,16.6s
CD2 LR LR
comp=Z,430nm,20.1s
CD2 LR LR
comp=Z,350nm,15.2s
GYA Guiyang 69.28 287 ⇑iP P 07 33 00.3 0.0
GYA pP pP 07 33 11.0 +0.5
GYA PP PP 07 35 35.8 +2.6
GYA ScP 07 37 25.4
GYA S S 07 42 03.9 -0.5
GYA sS sS 07 42 19.2 -2.1
GYA SKS SKSac 07 42 53.4 -4.6
GYA SS SS 07 46 31.0 +0.2
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,490nm,19.7s
GYA LR LR
comp=Z,380nm,20.0s
GYA LR LR
comp=Z,460nm,18.4s
MOS Moscow 69.54 348 eP pP 07 33 13.8 +2.3
OBN Obninsk 70.28 348 c iP P 07 33 05.6 -0.2
OBN i 07 33 10.3
OBN i 07 33 31.1
OBN iS S 07 42 12.5 -2.5
OBN iSS SS 07 46 53.6 +9.2
OBN pmax pmax
comp=Z,40nm,1.3s
OBN Obninsk 70.28 348 P P 07 33 05.8 0.0
comp=Z,15nm,0.3s,baz=169,slow=19,SNR=7.1
AKTO Aktyubinsk 70.58 334 P P 07 33 08.3 +0.5
comp=Z,43nm,1.0s,baz=33,slow=6.5,SNR=84
ABKAR Akbulak array 71.13 332 eP P 07 33 11.7 +0.5
comp=Z,48nm,0.6s
NACGM Naroch 71.39 354 e P 07 33 10.0 -2.6
TKM2 Tokmak 2 71.39 319 iP P 07 33 13.7 +0.6
TKM2 Tokmak 2 71.39 319 P P 07 33 13.8 +0.6
SNR=26
TKM2 Tokmak 2 71.39 319 eP P 07 33 13.7 +0.6
comp=Z,57nm,1.2s
USP Ospenovka 71.53 319 iP P 07 33 14.6 +0.9
USP Ospenovka 71.53 319 P P 07 33 14.6 +0.9
SNR=38
CHMS Chumysh 71.66 319 iP P 07 33 15.1 +0.6
CHMS Chumysh 71.66 319 P P 07 33 15.1 +0.6
SNR=17
ULHL Ulahol 71.71 318 P P 07 33 12.5 -2.5
SNR=9.2
FRU Bishkek 71.85 319 eP P 07 33 16.0 +0.4
FRU i 07 33 26.0
FRU pmax pmax
comp=Z,140nm,2.0s
FRU MLR MLR
comp=Z,700nm,18.0s
FRU MLR MLR
comp=N,700nm,18.0s
KBK Karagaybulak 71.87 319 iP P 07 33 17.1 +1.2
KBK Karagaybulak 71.87 319 P P 07 33 17.1 +1.2
SNR=26
PPT Papeete 71.98 166 LR LR 08 04 54.5
comp=N,147nm,18.3s,baz=4.5,slow=36
PPT2 Papeete2 72.01 166 eS S 07 42 38.6 +2.8
comp=N,622nm,27.2s
PPT2 Papeete2 72.01 166 eLR LR 07 55 01.2
comp=N,230nm,22.0s
AAK Ala-Archa 72.07 319 c iP P 07 33 17.8 +0.7
AAK Ala-Archa 72.07 319 P P 07 33 17.8 +0.7
SNR=42
AAK Ala-Archa 72.07 319 P P 07 33 18.0 +0.9
comp=N,19nm,0.5s,baz=127,slow=3.3,SNR=85
AAK Ala-Archa 72.07 319 eP P 07 33 17.8 +0.7
comp=N,62nm,1.1s
KZA Kyzart 72.24 318 iP P 07 33 19.6 +1.2
KZA Kyzart 72.24 318 P P 07 33 19.7 +1.2
SNR=13
EKS2 Erkin-Say 72.32 320 eP P 07 33 19.3 +0.8
EKS2 pmax pmax
comp=Z,64nm,1.1s
EKS2 Erkin-Say 72.32 320 P P 07 33 19.5 +0.9
SNR=32
EKS2 Erkin-Say 72.32 320 eP P 07 33 19.3 +0.8
comp=Z,64nm,1.1s
UCH Uchtor 72.40 319 iP P 07 33 20.4 +0.9
UCH Uchtor 72.40 319 P P 07 33 20.4 +0.9
SNR=10.0
SUW Suwalki 72.46 356 eP P 07 33 19.2 +0.2
SUW Suwalki 72.46 356 eP P 07 33 19.1 +0.1
BSEG Bad Segeberg 72.52 4 eP P 07 33 20.5 +1.2
comp=Z,12nm,0.9s
KMI Kunming 72.53 289 P P 07 33 21.1 +0.9
KMI pP pP 07 33 32.1 +1.6
KMI S S 07 42 44.1 +1.7
KMI pmax pmax
comp=Z,24nm,0.6s
KMI LR LR
comp=Z,81nm,24.5s

AML Almayashu 72.80 319 iP P 07 33 23.0 +1.2
AML Almayashu 72.80 319 P P 07 33 23.0 +1.2
SNR=31
KKAR Karatay Array 73.16 322 eP P 07 33 23.5 +0.1
KKAR pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 73.16 322 eP P 07 33 23.5 +0.1
comp=Z,8.7nm,0.6s
QIZ Qiongzhong 73.20 279 P P 07 33 24.3 +0.4
QIZ pP pP 07 33 33.6 -0.6
QIZ S S 07 42 46.1 -3.6
QIZ LR LR
comp=Z,190nm,17.6s
QIZ LR LR
comp=Z,97nm,17.6s
QIZ LR LR
comp=Z,160nm,16.8s
VRHR Novokhopersk 73.47 344 eP P 07 33 23.5 -1.6
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 73.74 346 eP P 07 33 25.5 -1.1
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s
NRDL Niedersach Rie 73.95 4 eP P 07 33 28.6 +0.9
comp=Z,9.0nm,0.8s
VORD Divnogorie 73.96 346 eP P 07 33 26.2 -1.7
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
VORD MLR MLR
comp=N,380nm,20.0s
VORD MLR MLR
comp=E,60nm,20.0s
VORD MLR MLR
comp=Z,260nm,20.0s
IBBN Ibbenburen 74.01 6 eP P 07 33 29.3 +1.1
comp=Z,14nm,0.6s
KSH Kashi 74.12 316 eP P 07 33 33.1 +3.9
KSH epP PcP 07 33 43.8 -0.4
KSH ePP PP 07 36 19.7 +5.4
KSH S S 07 43 02.1 +2.2
KSH SKS SKSac 07 43 32.1 -2.1
KSH SS SS 07 47 50.4 +6.2
KSH LR LR
comp=Z,75nm,5.3s
KSH LR LR
comp=Z,21nm,2.9s
KSH LR LR
comp=Z,120nm,5.0s
WTSB Winterswijk 74.29 7 eP P 07 33 30.5 +0.7
comp=Z,14nm,0.5s
CLZ Clausthal 74.61 4 eP P 07 33 33.1 +1.3
comp=Z,13nm,0.8s
SLVN Son La 74.84 285 eP P 07 33 33.5 0.0
comp=Z,30nm,1.1s
BUG Bochum--Univer 74.84 6 eP P 07 33 33.7 +0.7
comp=Z,15nm,0.8s
LSA Lhasa 75.17 300 P P 07 33 36.7 +0.9
LSA pmax pmax
comp=Z,20nm,1.3s
LSA Lhasa 75.17 300 eP P 07 33 36.8 +0.9
LSA pmax pmax
comp=Z,25nm,0.9s
LSA Lhasa 75.17 300 eP P 07 33 36.8 +0.9
comp=Z,26nm,0.9s
CLL Collm 75.24 3 iP P 07 33 35.7 +0.4
CLL i 07 33 45.3
CLL pmax pmax
comp=Z,42nm,1.4s
CLL Collm 75.24 3 eP P 07 33 35.8 +0.4
comp=Z,9.0nm,0.8s
CLL Collm 75.24 3 iP P 07 33 35.7 +0.4
comp=Z,42nm,1.4s
CLL ipP pP 07 33 45.3 -0.4
CLL isP sP 07 33 51.8 +2.3
CLL LmV 11 23 00.0
comp=Z,100nm,21.2s
AKASG Malin Array Be 75.39 352 ceP P 07 33 35.7 -0.5
AKASG pmax pmax
comp=Z,15nm,0.7s
AKASG Malin Array Be 75.39 352 P P 07 33 35.4 -0.8
comp=Z,16nm,0.7s,baz=8.8,slow=5.6,SNR=58
AKASG LR LR 08 08 28.3
comp=Z,260nm,19.5s,baz=325,slow=37
AKBB Malin Array Si 75.39 352 eP P 07 33 35.8 -0.4
AKBB Malin Array Si 75.39 352 eP P 07 33 35.8 -0.4
KIEV Kiev 75.40 352 c iP P 07 33 36.2 0.0
KIEV Kiev 75.40 352 eP P 07 33 35.7 -0.6
comp=Z,46nm,1.3s
AK01 Malin Array Si 75.40 352 eP P 07 33 35.8 -0.5
HGN Heimansgroeve 75.43 7 eP P 07 33 36.9 +0.5
comp=Z,38nm,1.1s
AK02 Malin Array Si 75.44 352 eP P 07 33 36.0 -0.5
SNF Seneffe 75.55 8 P P 07 33 37.9 +0.8
MEM Membach 75.58 7 P P 07 33 38.0 +0.6
comp=Z,14nm,1.0s
BRG Berggiesshubel 75.70 2 eP P 07 33 38.5 +0.5
comp=Z,20nm,1.0s
BRG e 07 33 48.2
comp=Z,34nm,1.6s
comp=N,197nm,16.7s
comp=E,208nm,16.2s
comp=Z,276nm,13.0s
BRG Berggiesshubel 75.70 2 eP P 07 33 38.5 +0.5
BRG e 07 33 48.2
BRG pmax pmax
comp=Z,20nm,1.0s
BRG pmax pmax
comp=Z,34nm,1.6s
BRG MLR MLR
comp=N,197nm,16.7s
BRG MLR MLR
comp=E,208nm,16.2s
BRG MLR MLR
comp=Z,276nm,13.0s
BRG Berggiesshubel 75.70 2 eP P 07 33 38.7 +0.7
comp=Z,8.0nm,0.8s
BCLA Clavier 75.72 8 P P 07 33 38.3 +0.2
comp=Z,17nm,1.5s
KSP Ksiaz 75.76 0 eP P 07 33 38.6 +0.3
KSP Ksiaz 75.76 0 eP P 07 33 39.0 +0.7
MOX Moxa 75.86 4 eP P 07 33 39.8 +0.9
comp=Z,15nm,0.6s
DOU Dourbes 75.98 8 P P 07 33 40.0 +0.4
comp=Z,8.1nm,1.2s
BAIF Baives 75.99 8⇑iP P 07 33 40.5 +0.9
comp=Z,27nm,0.8s
BAIF Baives 75.99 8⇑iP P 07 33 40.5 +0.9
BAIF pmax pmax
comp=Z,27nm,0.8s
BAIF Baives 75.99 8⇑iP P 07 33 40.5 +0.9
comp=Z,27nm,0.8s
GIVF Givet 76.00 8 eP P 07 33 40.3 +0.6
GIVF Givet 76.00 8 eP P 07 33 40.3 +0.6
GIVF Givet 76.00 8 eP P 07 33 40.3 +0.6
UPC Upice 76.09 1 eP P 07 33 41.0 +0.8
UPC Upice 76.09 1 eP P 07 33 41.0 +0.8
TANN Tannenbergstha 76.12 3 eP P 07 33 41.2 +0.7
comp=Z,2.0nm,0.7s
TNS Taunus Mts 76.13 6 eP P 07 33 41.4 +0.9
comp=Z,10.0nm,0.7s
DPC Dobruska-Polom 76.25 0 eP P 07 33 41.8 +0.6
DPC e 07 33 52.2
DPC Dobruska-Polom 76.25 0 eP P 07 33 41.8 +0.6
DPC epP pP 07 33 52.2 +0.7
OJC Ojcow 76.36 358 eP P 07 33 42.8 +1.1
OJC Ojcow 76.36 358 eP P 07 33 42.8 +1.1
KRLC Kraliky 76.53 0 eP P 07 33 43.7 +0.9
KRLC Kraliky 76.53 0 eP P 07 33 43.7 +0.9
WLF Walferdange 76.53 7 eP P 07 33 44.1 +1.3
comp=Z,7.0nm,0.7s
PRU Pruhonice 76.59 2 eP P 07 33 44.0 +0.9
PRU Pruhonice 76.59 2 eP P 07 33 44.0 +0.9
LVV L'vov 76.61 355 ⇓iP P 07 33 43.2 0.0
ROTZ Rotzenmuhle 76.76 3 eP P 07 33 45.3 +1.3

comp=Z,8.0nm,0.9s
OKC Ostrava-Krasne 76.76 359 eP P 07 33 44.9 +0.9
OKC e 07 33 54.5
OKC Ostrava-Krasne 76.76 359 eP P 07 33 44.9 +0.9
OKC epP pP 07 33 54.5 +0.1
FLN La Foliniere 76.78 12 eP P 07 33 44.5 +0.4
comp=Z,76nm,1.2s
FLN eR
comp=Z,404nm,20.0s
FLN La Foliniere 76.78 12 eP P 07 33 44.5 +0.4
FLN pmax pmax
comp=Z,77nm,1.2s
FLN La Foliniere 76.78 12 eP P 07 33 44.5 +0.4
comp=Z,76nm,1.2s
GRF Grafenberg Arr 76.80 4 eP P 07 33 45.5 +1.2
comp=Z,12nm,0.9s
MORC Moravsky Berou 76.83 360 eP P 07 33 44.3 -0.2
MORC pmax pmax
comp=Z,19nm,1.3s
MORC Moravsky Berou 76.83 360 ⇑iP P 07 33 45.0 +0.5
MORC Moravsky Berou 76.83 360 eP P 07 33 44.3 -0.2
comp=Z,19nm,1.3s
ROSF Rostrenen 76.83 14 eP P 07 33 45.2 +0.7
comp=Z,138nm,1.5s
ROSF Rostrenen 76.83 14 eP P 07 33 45.2 +0.7
ROSF pmax pmax
comp=Z,138nm,1.5s
ROSF Rostrenen 76.83 14 eP P 07 33 45.2 +0.7
comp=Z,138nm,1.5s
KWP Kalwaria Pacla 76.86 356 eP P 07 33 45.0 +0.4
KWP pmax pmax
comp=Z,22nm,0.6s
KWP Kalwaria Pacla 76.86 356 eP P 07 33 45.7 +1.1
KWP Kalwaria Pacla 76.86 356 eP P 07 33 45.0 +0.4
comp=Z,22nm,0.6s
LDF La Druitiere 76.99 12⇑iP P 07 33 46.4 +1.1
LDF La Druitiere 76.99 12⇑iP P 07 33 46.4 +1.1
LDF La Druitiere 76.99 12⇑iP P 07 33 46.4 +1.1
SGMF Saint Gilles 77.01 13 eP P 07 33 46.1 +0.6
comp=Z,187nm,1.6s
SGMF Saint Gilles 77.01 13 eP P 07 33 46.1 +0.6
SGMF pmax pmax
comp=Z,187nm,1.6s
SGMF Saint Gilles 77.01 13 eP P 07 33 46.1 +0.6
comp=Z,187nm,1.6s
GRR Gorron 77.10 12⇑iP P 07 33 46.5 +0.5
comp=Z,14nm,0.6s
GRR Gorron 77.10 12⇑iP P 07 33 46.5 +0.5
GRR pmax pmax
comp=Z,14nm,0.6s
GRR Gorron 77.10 12⇑iP P 07 33 46.5 +0.5
comp=Z,14nm,0.6s
STHS Stebnicka Huta 77.12 357 eP P 07 33 47.7 +1.6
STHS pmax pmax
comp=Z,19nm,0.7s
STHS Stebnicka Huta 77.12 357 eP P 07 33 47.7 +1.6
NIE Niedzica 77.14 358 eP P 07 33 47.1 +0.8
NIE e*PP PcP 07 33 57.0 0.0
NIE Niedzica 77.14 358 eP P 07 33 47.1 +0.8
NIE epP PcP 07 33 57.0 0.0
VRAC Vranov 77.30 0⇓iP P 07 33 48.0 +0.9
WET Wettzell 77.40 3 eP P 07 33 48.9 +1.2
comp=Z,4.0nm,0.8s
KHC Kasperske Hory 77.43 2 eP P 07 33 48.9 +1.0
KHC e 07 33 59.0
KHC e 07 34 04.5
KHC Kasperske Hory 77.43 2 eP P 07 33 48.9 +1.0
KHC epP PcP 07 33 59.0 +0.8
KHC esP sP 07 34 04.5 +2.4
KHC Kasperske Hory 77.43 2 eP P 07 33 48.6 +0.7
comp=Z,27nm,1.1s
KOLS Kolonicke sedl 77.57 356 eP P 07 33 49.4 +0.8
KOLS pmax pmax
comp=Z,22nm,1.3s
KOLS Kolonicke sedl 77.57 356 eP P 07 33 49.4 +0.8
MEZF Maizieres J'vi 77.60 8 eP P 07 33 49.9 +1.1
MEZF Maizieres J'vi 77.60 8 eP P 07 33 49.9 +1.1
PAGF Fort de Pagny 77.61 8⇑iP P 07 33 49.9 +1.1
comp=Z,26nm,1.0s
PAGF Fort de Pagny 77.61 8⇑iP P 07 33 49.9 +1.1
comp=Z,26nm,1.0s
CRVS Cervenica-Dubn 77.63 357 eP P 07 33 48.8 -0.1
CRVS pmax pmax
comp=Z,13nm,1.0s
CRVS Cervenica-Dubn 77.63 357 eP P 07 33 48.8 -0.1
TBI Tubuai 77.69 167 eLR LR 07 57 30.1
comp=Z,223nm,35.8s
GEC2 GERESS Array S 77.72 2 eP P 07 33 50.4 +0.8
comp=Z,7.0nm,0.7s
GERES GERESS Array B 77.72 2 P P 07 33 50.1 +0.5
comp=Z,7.0nm,0.6s,baz=0.0,slow=4.4,SNR=30
CDF Champ du Feu 77.86 7⇑iP P 07 33 51.1 +0.8
CDF Champ du Feu 77.86 7⇑iP P 07 33 51.1 +0.8
CDF Champ du Feu 77.86 7⇑iP P 07 33 51.1 +0.8
UZH Uzhgorod 77.87 356 ⇓iP P 07 33 50.2 -0.1
UZH e 07 34 01.4
SFTF Sexfontaines 77.90 8⇑iP P 07 33 51.1 +0.7
comp=Z,56nm,1.1s
SFTF Sexfontaines 77.90 8⇑iP P 07 33 51.1 +0.7
comp=Z,56nm,1.1s
BFO Black Forest 78.01 6 iP P 07 33 52.2 +1.1
BFO Black Forest 78.01 6 eP P 07 33 51.8 +0.7
comp=Z,6.0nm,0.8s
ECH Echery 78.05 7 eP P 07 33 51.4 +0.1
ECH pmax pmax
comp=Z,22nm,1.0s
ECH Echery 78.05 7 eP P 07 33 51.4 +0.1
comp=Z,22nm,1.0s
KECS Kecovo 78.08 358 eP P 07 33 52.4 +1.0
KECS pmax pmax
comp=Z,10.0nm,0.8s
KECS Kecovo 78.08 358 eP P 07 33 52.4 +1.0
HAU Haudompre 78.20 7 eP P 07 33 52.9 +0.8
comp=Z,32nm,0.9s
HAU eR
comp=Z,291nm,22.8s
HAU Haudompre 78.20 7 eP P 07 33 52.9 +0.8
HAU pmax pmax
comp=Z,32nm,0.9s
HAU Haudompre 78.20 7 eP P 07 33 52.9 +0.8
comp=Z,32nm,0.9s
TRPA Tarpa 78.36 356 ⇑iP P 07 33 54.2 +1.2
HINF Hinteralfeld 78.42 7 eP P 07 33 54.0 +0.6
comp=Z,13nm,0.7s
HINF Hinteralfeld 78.42 7 eP P 07 33 54.0 +0.6
HINF pmax pmax
comp=Z,13nm,0.7s
HINF Hinteralfeld 78.42 7 eP P 07 33 54.0 +0.6
comp=Z,13nm,0.7s
PSZ Piszkesteto 78.66 358 eP P 07 33 55.4 +0.7
PSZ pmax pmax
comp=Z,56nm,1.4s
PSZ Piszkesteto 78.66 358 ⇑iP P 07 33 56.0 +1.3
PSZ Piszkesteto 78.66 358 eP P 07 33 55.4 +0.7
comp=Z,56nm,1.4s
CONA Conrad Observa 78.67 1⇑iP P 07 33 55.5 +0.7
comp=Z,17nm,0.8s,SNR=7.1
UBPT Khong Chiam 78.71 280 P P 07 33 55.8 +0.5
comp=Z,35nm,1.2s
CMAI Chiengmai2 78.71 288 P P 07 33 56.0 +0.5
comp=Z,39nm,1.0s
BUR08 Bucovina Ar. S 78.72 354 eP P 07 33 55.4 +0.3
LOR Lormes 78.72 9⇑iP P 07 33 55.6 +0.6
comp=Z,51nm,1.2s
LOR eR
comp=Z,315nm,21.8s
LOR Lormes 78.72 9⇑iP P 07 33 55.6 +0.6
LOR pmax pmax
comp=Z,51nm,1.2s
LOR Lormes 78.72 9⇑iP P 07 33 55.6 +0.6
comp=Z,51nm,1.2s
MOA Molln 78.73 2⇑iP P 07 33 55.7 +0.7
comp=Z,14nm,1.1s,SNR=6.4
BURAR Bucovina Array 78.75 354 ⇑iP P 07 33 55.9 +0.6
RJOB Jochberg 78.81 3 eP P 07 33 56.4 +0.9
comp=Z,11nm,0.8s
TAPN Taplejung 78.83 301 eP P 07 33 56.5 +0.2
SSF Saint Saulge 78.89 9⇑iP P 07 33 56.6 +0.7
comp=Z,31nm,1.0s
SSF Saint Saulge 78.89 9⇑iP P 07 33 56.6 +0.7
SSF pmax pmax
comp=Z,31nm,1.0s
SSF Saint Saulge 78.89 9⇑iP P 07 33 56.6 +0.7
comp=Z,31nm,1.0s
MFF Saint Martin d 78.95 12⇑iP P 07 33 57.1 +0.9

MFF Saint Martin d 78.95 12⇑iP P 07 33 57.1 +0.9
MFF Saint Martin d 78.95 12⇑iP P 07 33 57.1 +0.9
GOF Gofitskoye 79.06 341⇑iP P 07 33 57.7 +0.8
GOF pmax pmax
comp=Z,100nm,1.0s
KIS Kishinev 79.10 352 eP pP 07 34 08.0 +0.6
KIS e 07 44 06.0
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=Z,700nm,22.0s
KIS Kishinev 79.10 352 eP pP 07 34 08.0 +0.6
KIS LRM MLR 08 10 04.0
comp=Z,700nm,22.0s
MOTA Moosalm 79.14 4⇑iP P 07 33 58.2 +0.8
comp=Z,34nm,1.1s,SNR=7.8
AVF Avril sur Loir 79.15 9⇑iP P 07 33 57.8 +0.5
comp=Z,21nm,0.9s
AVF Avril sur Loir 79.15 9⇑iP P 07 33 57.8 +0.5
AVF pmax pmax
comp=Z,21nm,0.9s
AVF Avril sur Loir 79.15 9⇑iP P 07 33 57.8 +0.5
comp=Z,21nm,0.9s
WATA Walderalm 79.17 4⇑iP P 07 33 58.4 +0.8
comp=Z,18nm,0.8s
WTTA Wattenberg 79.24 4⇑iP P 07 33 59.1 +1.0
comp=Z,30nm,0.7s,SNR=10
GUN Gumba 79.29 303 eP P 07 33 59.4 +0.5
comp=Z,152nm,1.0s
BGF Bois d'Agland 79.33 10 eP P 07 33 59.0 +0.7
BGF Bois d'Agland 79.33 10 eP P 07 33 59.0 +0.7
BGF Bois d'Agland 79.33 10 eP P 07 33 59.0 +0.7
SMF Signal de Mont 79.34 9⇑iP P 07 33 58.8 +0.4
comp=Z,53nm,1.1s
SMF Signal de Mont 79.34 9⇑iP P 07 33 58.8 +0.4
SMF pmax pmax
comp=Z,53nm,1.1s
SMF Signal de Mont 79.34 9⇑iP P 07 33 58.8 +0.4
comp=Z,53nm,1.1s
JIRN Jiri 79.34 302 eP P 07 33 59.6 +0.4
comp=Z,58nm,0.5s
ARSA Arzberg 79.35 1⇑iP P 07 33 59.7 +1.3
comp=Z,17nm,0.8s,SNR=5.9
ODAN Odare 79.40 301 eP P 07 33 59.5 +0.2
comp=Z,75nm,1.2s
FETA Feichten 79.44 4⇓iP P 07 34 00.2 +1.0
comp=Z,35nm,1.0s,SNR=10
KBA Koelnbreinsper 79.48 3⇓iP P 07 34 00.7 +1.3
comp=Z,39nm,0.8s,SNR=17
TCF Toulx Ste Croi 79.53 10 eP P 07 33 59.8 +0.3
comp=Z,35nm,1.2s
TCF Toulx Ste Croi 79.53 10 eP P 07 33 59.8 +0.3
TCF pmax pmax
comp=Z,35nm,1.2s
TCF Toulx Ste Croi 79.53 10 eP P 07 33 59.8 +0.3
comp=Z,35nm,1.2s
CABF La Chapelle 79.57 8 eP P 07 34 00.8 +1.1
comp=Z,46nm,1.0s
CABF La Chapelle 79.57 8 eP P 07 34 00.8 +1.1
CABF pmax pmax
comp=Z,46nm,1.0s
CABF La Chapelle 79.57 8 eP P 07 34 00.8 +1.1
comp=Z,46nm,1.0s
UTTA Uttaradit 79.59 286 P P 07 34 00.2 0.0
comp=Z,9.6nm,0.9s
CHTO Chiang Mai 79.66 288 eP P 07 34 00.2 -0.3
CHTO pmax pmax
comp=Z,3.0nm,0.5s
CHTO Chiang Mai 79.66 288 eP P 07 34 00.2 -0.3
comp=Z,2.6nm,0.5s
KKN Kakani 79.69 303 eP P 07 34 01.7 +0.8
comp=Z,187nm,1.3s
DRGR 79.69 356⇓iP P 07 34 01.0 +0.6
RAMN Ramite 79.72 302 eP P 07 34 01.0 -0.1
comp=Z,114nm,0.9s
ABTA Abfaltersbach 79.79 3⇑iP P 07 34 01.5 +0.6
comp=Z,27nm,1.0s,SNR=7.5
PKI Pulchoki 79.81 303 eP P 07 34 01.7 0.0
comp=Z,197nm,1.4s
PKIN Phulchoki 79.81 303 eP P 07 34 02.1 +0.5
GKN Gorkha 79.83 304 eP P 07 34 01.8 +0.2
comp=Z,228nm,1.2s
SOKA Soboth 79.91 1 iP P 07 34 02.6 +0.9
comp=Z,51nm,1.2s,SNR=17
DMN Daman 79.93 303 eP P 07 34 02.5 +0.3
comp=Z,146nm,1.3s
MYKA Terra Mystica 79.94 2⇑iP P 07 34 02.1 +0.4
comp=Z,13nm,0.8s,SNR=5.0
CMAR Chiang Mai Arr 79.94 287 P P 07 34 02.1 0.0
comp=Z,17nm,1.0s,baz=15,slow=5.4,SNR=45
CMAR LR LR 08 13 46.1
comp=Z,187nm,18.6s,baz=46,slow=39
PERS Pernice 79.96 1 iP P 07 34 02.9 +1.1
PERS Pernice 79.96 1 iP P 07 34 02.9 +1.1
DANN Dangsing 79.98 305 eP P 07 34 02.9 +0.4
comp=Z,278nm,1.0s
OBKA Obir 80.08 2⇑iP P 07 34 03.1 +0.6
comp=Z,59nm,0.8s,SNR=17
KOGS Kog 80.16 0 eP P 07 34 03.6 +0.8
KOGS Kog 80.16 0 eP P 07 34 03.6 +0.8
KIV Kislovodsk 80.19 341 eP P 07 34 03.7 +0.5
KIV pmax pmax
comp=Z,59nm,1.1s
KIV Kislovodsk 80.19 341 eP P 07 34 03.7 +0.5
comp=Z,59nm,1.1s
PBKT Sadao Pong 80.29 285 P P 07 34 03.9 0.0
comp=Z,17nm,1.2s
ROBS Robic 80.32 2 eP P 07 34 03.7 0.0
ROBS Robic 80.32 2 eP P 07 34 03.7 0.0
RKT Rikitea 80.33 154 eLR LR 07 59 09.6
comp=Z,311nm,30.8s
SUKH Sukhothai 80.33 286 P P 07 34 16.7 +13
CADS Cadrg 80.34 2 iP P 07 34 03.9 0.0
CADS Cadrg 80.34 2 iP P 07 34 03.9 0.0
KBZ Khabaz 80.37 341 P P 07 34 05.0 +1.1
comp=Z,19nm,0.9s,baz=326,slow=3.1,SNR=30
KBZ LR LR 08 14 03.4
comp=Z,254nm,19.7s,baz=351,slow=39
PKSM Moragy 80.38 359⇓iP P 07 34 04.9 +0.9
VRI Vrincioaia 80.39 353⇓iP P 07 34 04.9 +0.8
PLOR Plostina 80.41 353⇓iP P 07 34 06.7 +2.4
RJF Les Rejaudoux 80.42 11 eP P 07 34 04.7 +0.4
RJF eR
comp=Z,394nm,21.5s
RJF Les Rejaudoux 80.42 11 eP P 07 34 04.7 +0.4
RJF Les Rejaudoux 80.42 11 eP P 07 34 04.7 +0.4
KOLN Koldanda 80.54 304 eP P 07 34 05.6 +0.2
comp=Z,189nm,1.2s
PYUN Piuthan 80.56 305 eP P 07 34 05.7 +0.1
comp=Z,260nm,1.1s
LFF La Frestale 80.69 12 eP P 07 34 06.4 +0.7
comp=Z,81nm,1.2s
LFF La Frestale 80.69 12 eP P 07 34 06.4 +0.7
LFF pmax pmax
comp=Z,81nm,1.2s
LFF La Frestale 80.69 12 eP P 07 34 06.4 +0.7
comp=Z,81nm,1.2s
LPL La Plagne 80.70 7⇑iP P 07 34 07.7 +1.6
comp=Z,32nm,1.2s
LPL La Plagne 80.70 7⇑iP P 07 34 07.7 +1.6
LPL pmax pmax
comp=Z,32nm,1.2s
LPL La Plagne 80.70 7⇑iP P 07 34 07.7 +1.6
comp=Z,32nm,1.2s
LPG La Plagne 80.72 7 eP P 07 34 08.0 +1.7
comp=Z,38nm,1.2s
LPG La Plagne 80.72 7 eP P 07 34 08.0 +1.7
LPG pmax pmax
comp=Z,38nm,1.2s
LPG La Plagne 80.72 7 eP P 07 34 08.0 +1.7
comp=Z,38nm,1.2s
MHMT Maesarieng 80.74 288 P P 07 34 06.8 +0.4
comp=Z,19nm,1.1s
MLR Muntele Rosu 80.82 354⇑iP P 07 34 08.6 +2.0
CAF Calviac 80.86 11 eP P 07 34 07.3 +0.6
comp=Z,30nm,1.2s
CAF Calviac 80.86 11 eP P 07 34 07.3 +0.6
CAF pmax pmax
comp=Z,30nm,1.2s
CAF Calviac 80.86 11 eP P 07 34 07.3 +0.6
comp=Z,30nm,1.2s
BZS Buzias 80.91 357⇑iP P 07 34 07.5 +0.6
VOIR 80.93 354⇑iP P 07 34 07.7 +0.6
CFR Carcaliu 80.97 352⇑iP P 07 34 07.8 +0.7
ARR Arges 81.02 355⇑iP P 07 34 09.0 +1.4
ZEI Tsey 81.08 340 eP P 07 34 07.7 -0.4
ZEI pmax pmax
comp=Z,22nm,0.9s
GZR Gura Zlata 81.09 356⇓iP P 07 34 08.9 +1.0
BNI Bardonecchia 81.16 7 eP P 07 34 08.5 +0.1
BNI pmax pmax
comp=Z,27nm,1.1s
BNI Bardonecchia 81.16 7 eP P 07 34 08.5 +0.1
comp=Z,27nm,1.1s
VIVF Saint-Julien-l 81.19 9⇑iP P 07 34 09.3 +0.9
comp=Z,34nm,1.1s
VIVF Saint-Julien-l 81.19 9⇑iP P 07 34 09.3 +0.9
VIVF pmax pmax
comp=Z,34nm,1.1s
VIVF Saint-Julien-l 81.19 9⇑iP P 07 34 09.3 +0.9
comp=Z,34nm,1.1s
KBL Kabul 81.19 319 eP P 07 34 08.0 -0.9
KBL pmax pmax
comp=Z,32nm,1.1s
KBL Kabul 81.19 319 eP P 07 34 08.0 -0.9
comp=Z,32nm,1.1s
ORIF Oris-en-Rattie 81.23 8 eP P 07 34 09.1 +0.4
ORIF eR
comp=Z,354nm,21.2s
ORIF Oris-en-Rattie 81.23 8 eP P 07 34 09.1 +0.4
ORIF Oris-en-Rattie 81.23 8 eP P 07 34 09.1 +0.4
MBDF Montbardon 81.49 7⇑iP P 07 34 12.0 +1.8
comp=Z,82nm,1.1s
MBDF Montbardon 81.49 7⇑iP P 07 34 12.0 +1.8
MBDF pmax pmax
comp=Z,82nm,1.1s
MBDF Montbardon 81.49 7⇑iP P 07 34 12.0 +1.8
comp=Z,82nm,1.1s
TIRR Tirgusor 81.66 352⇓iP P 07 34 11.4 +0.6
LASF Ste Croix 81.89 10 eP P 07 34 12.3 +0.2
comp=Z,45nm,1.5s
LASF Ste Croix 81.89 10 eP P 07 34 12.3 +0.2
comp=Z,45nm,1.5s
SMRF Simiane la Rot 82.14 8⇑iP P 07 34 15.1 +1.6
comp=Z,30nm,0.9s
SMRF Simiane la Rot 82.14 8⇑iP P 07 34 15.1 +1.6
comp=Z,30nm,0.9s
SBF Sospel 82.40 7 eP P 07 34 15.7 +0.8
comp=Z,58nm,0.9s
SBF Sospel 82.40 7 eP P 07 34 15.7 +0.8
SBF pmax pmax
comp=Z,58nm,0.9s
SBF Sospel 82.40 7 eP P 07 34 15.7 +0.8
comp=Z,58nm,0.9s
MTLF Montolieu 82.44 11⇑iP P 07 34 15.8 +0.8
MTLF Montolieu 82.44 11⇑iP P 07 34 15.8 +0.8
MTLF Montolieu 82.44 11⇑iP P 07 34 15.8 +0.8
PCAB Cabril 82.50 19 eP P 07 34 16.6 +1.2
comp=Z,38nm,1.7s
ETSF Etsaut 82.54 13⇑iP P 07 34 16.7 +1.1
comp=Z,39nm,1.2s
ETSF Etsaut 82.54 13⇑iP P 07 34 16.7 +1.1
ETSF pmax pmax
comp=Z,39nm,1.2s
ETSF Etsaut 82.54 13⇑iP P 07 34 16.7 +1.1
comp=Z,39nm,1.2s
CHBT CHBT 82.55 281 P P 07 34 17.6 +1.7
comp=Z,21nm,1.3s
PBRG Braganca 82.64 18 eP P 07 34 16.9 +0.8
comp=Z,18nm,1.8s
LMR La Mourre 82.86 8 eP P 07 34 17.5 +0.4
comp=Z,50nm,1.2s
LMR La Mourre 82.86 8 eP P 07 34 17.5 +0.4
LMR pmax pmax
comp=Z,50nm,1.2s
LMR La Mourre 82.86 8 eP P 07 34 17.5 +0.4
comp=Z,50nm,1.2s
POLO Lamas de Olo 82.86 19 eP P 07 34 18.4 +1.0
comp=Z,17nm,1.6s
PVRL Vila Real 82.97 18 eP P 07 34 19.0 +1.1
comp=Z,32nm,1.5s
SRDT SRDT 83.12 285 P P 07 34 19.9 +1.0
comp=Z,58nm,1.4s
MVO Moncorvo 83.21 18 eP P 07 34 20.1 +1.0
comp=Z,27nm,2.0s
GNI Garni 83.44 339 ⇑P P 07 34 22.0 +1.6
GNI pmax pmax
comp=Z,12nm,0.8s
GNI Garni 83.44 339 eP P 07 34 21.3 +0.9
comp=Z,37nm,1.1s
PVIS Viseu 83.48 19 eP P 07 34 21.9 +1.4
comp=Z,63nm,1.3s
PGF Pioggiola 83.81 6 eP P 07 34 23.4 +1.2
PGF Pioggiola 83.81 6 eP P 07 34 23.4 +1.2
PGF Pioggiola 83.81 6 eP P 07 34 23.4 +1.2
MTE Manteigas 83.85 19 eP P 07 34 23.8 +1.4
VTS Vitosha 83.86 355⇑iP P 07 34 22.7 +0.1
PTOM Tomar 84.44 19 eP P 07 34 26.5 +1.2
comp=Z,42nm,1.6s
SKO Skopje 84.55 357 iP P 07 34 26.9 +1.0
MMB Musomiste 84.84 355⇑iP P 07 34 28.5 +1.1
VAY Valandovo 85.16 356 iP P 07 34 29.3 +0.4
ESDC Sonseca Array 85.19 16 P P 07 34 29.4 +0.1
comp=Z,3.6nm,0.6s,baz=341,slow=4.9,SNR=18
ESDC LR LR 08 15 42.1
comp=Z,160nm,18.1s,baz=315,slow=38
CTA Charters Tower 85.50 227 P P 07 34 29.8 -0.9
comp=Z,2.4nm,0.6s,baz=342,slow=3.2,SNR=4.4
ANTO Ankara 85.74 348 eP P 07 34 32.0 0.0
ANTO pmax pmax
comp=Z,40nm,1.3s
ANTO Ankara 85.74 348⇑iP P 07 34 33.7 +1.8
ANTO Ankara 85.74 348 eP P 07 34 32.0 0.0
comp=Z,40nm,1.3s
BR131 Keskin Array S 85.77 347 eP P 07 34 32.5 +0.3
comp=Z,18nm,1.0s
BRTR Keskin Array B 85.77 347ceP P 07 34 33.0 +0.8
BRTR pmax pmax
comp=Z,21nm,1.0s
BRTR Keskin Array B 85.77 347 P P 07 34 32.5 +0.3
comp=Z,20nm,1.0s,baz=39,slow=2.4,SNR=40
BRTR LR LR 08 16 20.1
comp=Z,131nm,19.5s,baz=358,slow=38
WRA Warramunga Arr 90.92 237 P P 07 34 55.0 -1.6
WRA Warramunga Arr 90.92 237 P P 07 34 55.0 -1.6
comp=Z,0.7nm,0.7s,baz=36,slow=5.7,SNR=6.4
WRA LR LR 08 12 56.2
comp=Z,65nm,20.4s,baz=130,slow=34
HYB Hyderabad 91.73 303 iP P 07 35 00.0 -0.7
ASAR Alice Springs 94.28 235 P P 07 35 11.2 -0.8
comp=Z,0.9nm,0.8s,baz=30,slow=4.6,SNR=8.9
ASAR LR LR 08 10 46.1
comp=Z,86nm,21.8s,baz=18,slow=31
STKA Stephens Creek 97.81 225 LR LR 08 15 16.2
comp=Z,84nm,21.4s,baz=28,slow=33
H03N2 Juan Fernandez 112.98 115 T T 09 43 47.5
baz=321,slow=75,SNR=18
H03N1 Juan Fernandez 112.99 115 T T 09 43 48.8
baz=321,slow=75,SNR=19
H03N3 Juan Fernandez 113.00 115 T T 09 43 47.5
baz=321,slow=75,SNR=14
TSUM Tsumeb 145.49 359 ePKPdf PKPdf 07 41 30.2 -0.8
LBTB Lobatse 150.56 344 ePKIKP PKPbc 07 41 44.5 -0.1
LBTB Lobatse 150.56 344 ePKPbc PKPbc 07 41 44.5 -0.1

ISCJB **03** *07:26:36.5±0.4, 31°.64S±0°.03×66°.42W±0°.05, h137km±2km, mb4.2/22, Error ellipse: s-maj=7.7km s-min=4.7km az=28.4*

SJA **03** *07:26:36.8±1.0, 31°.64S×66°.49W, h138km±5km, ML4.2, MW4.0*

NEIC **03** *07:26:36.8±0.5, 31°.62S×66°.35W, h128km±5km, mb4.7/15, Error ellipse: s-maj=7.9km s-min=5.6km az=80.0*

IDC **03** *07:26:36.8±0.6, 31°.58S×66°.41W, h127km±4km, mb3.8/10, mb1 4.1/14, mb1mx3.9/28, mbtmp4.3/14, Error ellipse: s-maj=13.4km s-min=8.9km az=165.0*

ISC 03 07:26:36.6±0.5, 31°.67S±0°.05×66°.40W±0°.06, h130km±3km, h129km:pP-P, n348, σ0§73/365, mb4.5/25, 145C-133D, La Rioja Province

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ACHE Chepes 0.55 336 iP Pn 07 26 57.8 +1.6
ACHE eS Sn 07 27 13.2 +2.4
APLL PUNTA DE LOS L 1.27 355 iP Pn 07 27 03.6 +1.3
APLL eS Sn 07 27 23.0 +1.2
AVFE Valle Fertil 1.35 318 iP Pn 07 27 04.1 +1.1
AVFE eS Sn 07 27 23.9 +0.6
AVFE IAML 07 27 25.3
comp=Z,2μm,0.6s
CFAA Coronel Fontan 1.57 272 P Pn 07 27 06.1 +0.6
comp=Z,51nm,0.3s,baz=104,slow=4.1,SNR=3442
CFAA S Sn 07 27 26.9 -0.6
comp=Z,16nm,0.3s,baz=82,slow=16,SNR=7.1
CFAA LR LR 07 27 50.6
comp=Z,12nm,18.8s,baz=271,slow=47
CFAA Coronel Fontan 1.57 272 IAML 07 27 28.6
comp=Z,484nm,0.3s
TCA Tanti 1.58 78 AML AML 07 27 31.8
comp=Z,1μm,0.3s
RTLL Cerro Villicun 1.80 280 iP Pn 07 27 08.9 +0.6
RTCV Cerro Valdivia 1.83 263 iP Pn 07 27 09.5 +0.8
RTCV eS Sn 07 27 33.0 -0.1
SJA San Juan 1.85 274 iP Pn 07 27 09.7 +1.0
SJA iS Sn 07 27 33.5 +0.2
SJA IAML 07 27 35.0
comp=Z,3μm,0.2s
ASAL Salagasta 2.26 245 iP Pn 07 27 15.0 +1.1
ASAL eS Sn 07 27 42.7 +0.2
ACLC CERRO LA CRUZ 2.28 348 iP Pn 07 27 15.2 +0.9
ACLC eS Sn 07 27 44.9 +1.7
ARCO CERRO ARCO 2.44 241 iP Pn 07 27 17.4 +1.2
ARCO IAML 07 27 49.0
comp=Z,2μm,0.3s
ARCO AML AML 07 27 49.5
comp=Z,3μm,0.5s
RTLS Leoncito 2.47 266 iP Pn 07 27 17.7 +1.0
AAGR Agrelo 2.49 235 iP Pn 07 27 18.0 +1.2
AAGR eS Sn 07 27 47.7 -0.1
AVIZ Vizcacheras 2.54 224 iP Pn 07 27 18.9 +1.5
AUSP Uspallata 2.60 257 iP Pn 07 27 19.3 +0.9
CYA Choya 3.25 9 iP Pn 07 27 27.4 +0.8
CYA eS Sn 07 28 04.7 -0.5
CYA IAML 07 28 08.5
comp=Z,358nm,0.5s
LCO Las Campanas 4.56 304 ePn Pn 07 27 44.4 +0.2
LCO Las Campanas 4.56 304 iP Pn 07 27 44.5 +0.4
SLA San Lorenzo 6.96 7 IAML 07 29 33.1
comp=Z,31nm,0.6s
TRQA Tornquist 7.34 152 ePn Pn 07 28 22.2 +1.1
LVC Limon Verde 9.29 345 ePn Pn 07 28 47.4 -0.3
CPUP Villa Florida 9.55 58 P Pn 07 28 50.3 -0.7
comp=Z,18nm,0.3s,baz=227,slow=12,SNR=64
PLCA Paso Flores 9.65 199 P Pn 07 28 51.8 -0.4
comp=Z,1.2nm,0.3s,baz=15,slow=12,SNR=14
PLCA Paso Flores 9.65 199 ePn Pn 07 28 51.9 -0.4
comp=Z,9.1nm,0.7s
LPAZ La Paz 15.39 354 P Pn 07 30 08.3 +0.8
comp=Z,4.2nm,0.3s,baz=133,slow=3.5,SNR=61
LPAZ La Paz 15.39 354 ePn P 07 30 08.7 -0.6
SIV San Ignacio 16.34 19 P Pn 07 30 17.5 -1.2
comp=Z,1.4nm,0.3s,baz=216,slow=11,SNR=15
BB16B Bebedouro 19.13 61⇓iP P 07 30 49.2 -0.6
BB16B i 07 30 50.6
BB16B i 07 30 57.2
BB16B i 07 31 14.3
SAML Samuel 22.80 8 eP P 07 31 28.9 +0.4
comp=Z,1.8nm,0.6s
BDFB Brasilia 23.14 51 P P 07 31 30.7 -1.0
comp=Z,4.2nm,0.4s,baz=213,slow=11,SNR=11
BDFB pP pP 07 31 57.5 +0.6
comp=Z,6.8nm,0.7s,baz=222,slow=12,SNR=4.3
BDFB sP sP 07 32 12.4 -0.5
comp=Z,13nm,0.8s,baz=225,slow=10.0,SNR=5.6
USHA Ushuaia 23.20 183 P P 07 31 32.8 +1.0
comp=Z,17nm,0.6s,baz=345,slow=7.7,SNR=34
OTAV Otavalo 33.72 338 eP P 07 33 08.3 +2.1
comp=Z,16nm,1.7s
GRGR Grenville 43.78 7 eP P 07 34 29.4 -0.2
SNAA Sanae 52.00 159 P P 07 35 33.4 +1.1
comp=Z,0.5nm,0.3s,baz=293,slow=7.7,SNR=4.4
TEIG Tepich 55.70 335 eP P 07 35 58.1 -1.5
034A Hebbronville 66.02 329 ⇓P P 07 37 10.6 +1.3
baz=66
933A Laredo 66.76 328 ⇓P P 07 37 15.0 +1.0
baz=67
834A Tilden 66.88 329 ⇓P P 07 37 16.1 +1.3
baz=67
735A Kenedy 67.20 330 ⇑P P 07 37 18.0 +1.2
baz=68
VNDA Vanda 67.27 190 P P 07 37 18.6 +1.9
comp=Z,1.1nm,0.7s,baz=146,slow=3.7,SNR=4.4
833A Chaparral WMA, 67.42 329 ⇓P P 07 37 18.7 +0.5
baz=68,SNR=13
734A La Parita Cree 67.51 330 ⇓P P 07 37 19.7 +1.0
baz=68
635A Leesville 67.65 331 ⇑P P 07 37 19.8 +0.2
baz=68
832A Faith Ranch, C 67.65 328 ⇓P P 07 37 20.1 +0.5
baz=68,SNR=13
733A Divot King Ran 67.72 329 ⇓P P 07 37 20.5 +0.4
baz=68
536A Bastrop 67.96 332 ⇑P P 07 37 22.0 +0.5
baz=68
732A Laxson Ranch, 68.03 328 ⇓P P 07 37 22.4 +0.4
baz=68,SNR=8.0
633A Saathoff Ranch 68.31 329 ⇑P P 07 37 24.0 +0.3
baz=69
534A Blanco 68.50 330 ⇓P P 07 37 24.9 -0.1
baz=69
632A Uvalde 68.61 329 ⇓P P 07 37 26.1 +0.4
baz=69
533A Kerrville 68.78 330 ⇓P P 07 37 27.1 +0.4
baz=69
631A Perdido Creek 68.88 328 ⇓P P 07 37 27.7 +0.4
baz=69
434A Burnet 69.10 331 ⇓P P 07 37 28.9 +0.2
baz=69
433A Art 69.39 330 ⇓P P 07 37 30.5 +0.1
baz=70,SNR=9.8
JCT Junction City 69.46 330 ⇑P P 07 37 31.3 +0.4
baz=70
531A Rocksprings 69.51 329 ⇓P P 07 37 31.7 +0.5
baz=70
334A Lometa 69.54 331 ⇑P P 07 37 31.9 +0.6
baz=70
432A Menard 69.80 330 ⇑P P 07 37 33.0 0.0
baz=70
333A Richland Sprin 69.84 331 ⇑P P 07 37 33.3 +0.1
baz=70,SNR=7.4
530A J-C Ranch, Com 69.85 328 ⇓P P 07 37 33.9 +0.6
baz=70
431A Sonora 69.98 329 ⇓P P 07 37 34.4 +0.2
baz=70
628A Black Gap, Mar 70.01 327 ⇑P P 07 37 35.0 +0.7
baz=70,SNR=5.4
234A Clairette 70.09 332 ⇓P P 07 37 34.4 -0.2
baz=70,SNR=5.0
332A Millersview 70.21 330 ⇑P P 07 37 35.4 -0.1
baz=70,SNR=5.4
627A Terlingua Ranc 70.22 326 ⇓P P 07 37 35.6 0.0
baz=70
529A Stev Forest Ra 70.23 327 ⇑P P 07 37 36.0 +0.3
baz=70
TXAR Lajitas Array 70.25 326 P P 07 37 36.0 +0.1
comp=Z,0.7nm,0.5s,baz=152,slow=7.4,SNR=12
430A Baggett Ranch, 70.35 329 ⇑P P 07 37 36.7 +0.4
baz=71,SNR=9.6
WVT Waverly 70.37 342 eP P 07 37 35.4 -0.9
233A Rising Star 70.41 331 ⇓P P 07 37 36.5 -0.2
baz=71,SNR=6.6
331A San Angelo 70.44 329 ⇑P P 07 37 36.9 0.0
baz=71
429A Davenport Ranc 70.51 328 ⇓P P 07 37 37.5 +0.2
baz=71,SNR=6.0
134A White-Moore Ra 70.56 332 ⇓P P 07 37 37.7 +0.2
baz=71
232A Coleman 70.61 330 ⇓P P 07 37 37.8 -0.1
baz=71,SNR=9.9
626A Big Bend Ranch 70.66 326 ⇓P P 07 37 39.0 +0.7
baz=71,SNR=5.8
330A Mertzon 70.85 329 ⇑P P 07 37 39.4 0.0
baz=71
527A Woodward Ranch 70.90 326 ⇑P P 07 37 40.0 +0.2
baz=71
Z35A Perchaven, San 70.90 333 ⇑P P 07 37 39.9 +0.3
baz=71
133A Hamilton Ranch 70.93 331 ⇑P P 07 37 39.7 -0.1
baz=71
231A Bronte 70.93 330 ⇑P P 07 37 39.9 +0.1
baz=71,SNR=6.1
428A Kincaid Ranch, 70.95 327 ⇑P P 07 37 40.6 +0.5
baz=71
526A Mary Lane Ranc 71.06 326 ⇑P P 07 37 41.4 +0.7
baz=71,SNR=6.4
Z34A Collier Ranch, 71.20 332 ⇑P P 07 37 41.4 +0.1
baz=72

230A Sterling City 71.24 329 ⇓P P 07 37 41.7 0.0
baz=72
ABTX Abilene, Hawle 71.25 331 ⇓P P 07 37 41.7 0.0
baz=72
329A Wagon Wheel Ra 71.28 328 ⇓P P 07 37 42.2 +0.2
baz=72
427A Hayter Ranch, 71.39 327 ⇑P P 07 37 42.7 0.0
baz=72
PARMO Parma 71.40 340 eP P 07 37 42.9 +0.4
Z33A Whitaker Ranch 71.46 332 ⇓P P 07 37 42.9 -0.1
baz=72,SNR=8.3
426A McDonald Obser 71.53 326 ⇑P P 07 37 44.2 +0.5
baz=72,SNR=7.9
328A Wristen Ranch, 71.56 328 ⇑P P 07 37 43.9 +0.2
baz=72,SNR=5.1
131A Roby 71.60 330 ⇑P P 07 37 44.0 +0.2
baz=72,SNR=6.2
Y34A Reagan Ranch, 71.65 333 ⇓P P 07 37 44.0 0.0
baz=72
PBMO Poplar Bluff 71.71 340 eP P 07 37 44.1 -0.2
comp=Z,19nm,0.7s
Z32A Haskell 71.77 331 ⇑P P 07 37 44.9 +0.1
baz=72
130A Snyder 71.78 330 ⇑P P 07 37 44.9 -0.1
baz=72
WCI Wyandotte Cave 71.97 344 eP P 07 37 44.8 -1.1
comp=Z,293nm,3.0s
326A Caldwell Ranch 72.05 327 ⇑P P 07 37 46.7 0.0
baz=72
Z31A Sharp Cattle R 72.06 331 ⇑P P 07 37 46.5 0.0
baz=72,SNR=12
228A UT Block 9, Go 72.09 328 ⇑P P 07 37 46.8 0.0
baz=72
425A Indio Mountain 72.09 326 ⇑P P 07 37 46.7 -0.2
baz=72
129A Stewart Farms, 72.20 329 ⇑P P 07 37 47.5 0.0
baz=72
SIUC Southern Illin 72.24 341 eP P 07 37 46.9 -0.5
comp=Z,269nm,3.0s
X34A Smith Ranch, M 72.25 333 ⇓P P 07 37 47.8 +0.2
baz=72,SNR=6.5
Y32A R-V Farms, Ver 72.36 332 ⇑P P 07 37 48.3 0.0
baz=73
Z30A Sanderson Ranc 72.44 330 ⇑P P 07 37 48.9 0.0
baz=73,SNR=5.2
128A Castleberry Fa 72.47 329 ⇓P P 07 37 48.9 -0.2
baz=73
TUL1 Tulsa 72.66 335 ⇓P P 07 37 49.8 -0.2
baz=73
Y31A Rekieta Farm, 72.66 331 ⇑P P 07 37 50.5 +0.4
baz=73
X32A Elmer 72.66 332 ⇑P P 07 37 49.9 -0.2
baz=73
Z29A Hungry Hill Ra 72.67 330 ⇑P P 07 37 50.1 -0.1
baz=73
226B Tecolote Peak, 72.77 327 ⇑P P 07 37 51.3 +0.4
baz=73
Y30A Stafford Cattl 72.85 330 ⇑P P 07 37 51.5 +0.2
baz=73
127A Arkansas Junct 72.91 328 ⇑P P 07 37 51.7 0.0
baz=73
BLO Bloomington 72.92 344 eP P 07 37 50.8 -0.6
comp=Z,15nm,0.5s
W33A Caddo, Fort Co 72.98 333 ⇑P P 07 37 52.6 +0.7
baz=73,SNR=6.5
Z28A Tucker Farm, M 72.99 329 ⇑P P 07 37 52.1 0.0
baz=73
225A Deer Hill, Car 73.11 327 ⇑P P 07 37 52.9 -0.1
baz=73
X31A McDonald Ranch 73.12 332 ⇓P P 07 37 52.7 -0.1
baz=73
Y29A Porterfield Fa 73.17 330 ⇓P P 07 37 52.9 -0.2
baz=73,SNR=9.2
126A Clayton Basin, 73.18 327 ⇑P P 07 37 53.3 0.0
baz=74
V34A Guthrie 73.22 334 ⇓P P 07 37 53.3 0.0
baz=74
W32A Sentinel 73.26 332 ⇓P P 07 37 53.8 +0.2
baz=74,SNR=7.5
X30A Coker Ranch, T 73.33 331 ⇓P P 07 37 54.3 +0.2
baz=74,SNR=6.4
Z27A Tatum 73.38 328 ⇑P P 07 37 54.1 -0.3
baz=74
Y28A McKinney Farm, 73.46 329 ⇑P P 07 37 54.7 -0.1
baz=74
125A Gardner Draw, 73.49 327 ⇑P P 07 37 54.7 -0.4
baz=74
V33A Lossen Ranch, 73.50 333 ⇑P P 07 37 55.2 +0.2
baz=74
X29A Tulia 73.68 330 ⇓P P 07 37 56.1 -0.1
baz=74
Z26A Caprock 73.69 328 ⇑P P 07 37 56.2 -0.1
baz=74,SNR=8.5
V32A Arapaho 73.70 333 ⇑P P 07 37 56.5 +0.3
baz=74
MSTX Muleshoe 73.74 329 eP P 07 37 56.6 0.0
comp=Z,6.9nm,0.8s
MSTX Muleshoe 73.74 329 ⇑P P 07 37 56.4 -0.2
baz=74
U34A Anderson Ranch 73.76 334 ⇑P P 07 37 56.4 -0.1
baz=74
Y27A Causey 73.84 329 ⇑P P 07 37 56.7 -0.4
baz=74
X28A Dimmitt 73.95 330 ⇑P P 07 37 57.5 -0.3
baz=74
Z25A Roswell 74.03 327 ⇓P P 07 37 58.5 +0.3
baz=74
AMTX Amarillo 74.05 330 ⇑P P 07 37 58.6 +0.3
baz=74
V31A Spring Creek L 74.06 332 ⇓P P 07 37 59.2 +0.9
baz=74
Y26A Elida 74.16 328 ⇓P P 07 37 59.6 +0.5
baz=74
W29A Amraillo 74.24 331 ⇓P P 07 37 59.6 +0.1
baz=74
U32A Winter Ranch, 74.26 333 ⇑P P 07 37 59.8 +0.3
baz=75
Z24A Sheeppen Canyo 74.37 327 ⇑P P 07 38 00.8 +0.4
baz=75,SNR=5.7
V30A Spur Ranch, Mi 74.39 332 ⇓P P 07 38 01.2 +0.9
baz=75
X27A F and S Farms, 74.45 329 ⇑P P 07 38 01.0 +0.3
baz=75
U31A Nine Bar Ranch 74.59 333 ⇓P P 07 38 02.2 +0.9
baz=75
T33A Patterson Ranc 74.59 334 ⇓P P 07 38 01.9 +0.6
baz=75
X26A CR and CF Fran 74.69 329 ⇑P P 07 38 02.7 +0.7
baz=75
319A Douglas 74.70 323 ⇑P P 07 38 02.7 +0.5
baz=75
W27A Bowe Ranch, En 74.79 329 ⇑P P 07 38 03.1 +0.5
baz=75
121A Cookes Peak, D 74.88 325 eP P 07 38 03.6 +0.3
comp=Z,7.2nm,1.4s
121A Cookes Peak, D 74.88 325 ⇓P P 07 38 04.5 +1.2
baz=75
U30A WK&E Inc. Balk 75.04 332 ⇓P P 07 38 04.2 +0.2
baz=75
X25A Clemmons Ranch 75.05 328 ⇓P P 07 38 04.2 0.0
baz=75
Z22A Elephant Butte 75.07 326 ⇓P P 07 38 05.0 +0.7
baz=75
W26A Owens Ranch, T 75.12 329 ⇑P P 07 38 05.0 +0.4
baz=75
X24A Lazy VL Ranch, 75.43 328 ⇑P P 07 38 07.0 +0.5
baz=76
W25A X Bar L Ranch, 75.53 329 ⇑P P 07 38 07.0 0.0
baz=76
S31A Mullinville 75.53 333 ⇑P P 07 38 07.2 +0.4
baz=76
V26A Tequesquite Ra 75.72 329 ⇑P P 07 38 08.5 +0.6
baz=76
X23A Hourglass Bar 75.79 327 ⇑P P 07 38 09.6 +1.1
baz=76
R32A Long Quarter, 75.95 334 ⇑P P 07 38 09.5 +0.5
baz=76
W24A Lazy 6 Ranch, 75.95 328 ⇑P P 07 38 09.8 +0.4
baz=76
V25A Rancho No Teng 76.12 329 ⇑P P 07 38 10.8 +0.5
baz=76
R31A Burdett 76.14 334 ⇑P P 07 38 10.3 +0.2
baz=76
T28A Walsh 76.14 331 ⇓P P 07 38 10.5 +0.2
baz=76
S29A Ulysses 76.17 332 ⇑P P 07 38 11.3 +0.8
baz=76
U26A Atchley Ranch, 76.21 330 ⇓P P 07 38 11.2 +0.4
baz=76
ANMO Albuquerque 76.22 327 eP P 07 38 11.2 +0.3
comp=Z,95nm,3.0s
W23A Werner Place, 76.25 327 ⇓P P 07 38 12.2 +1.1
baz=76,SNR=5.9
V24A Rampart Ranch, 76.32 328 ⇑P P 07 38 12.3 +0.8
baz=77
T27A Campo 76.34 331 ⇓P P 07 38 12.1 +0.6
baz=77
Q32A Meitler Ranch, 76.40 335 ⇓P P 07 38 11.9 +0.4
baz=77
R30A Dighton 76.42 333 ⇑P P 07 38 12.3 +0.5
baz=77
S28A Manter 76.46 332 ⇑P P 07 38 12.9 +0.8
baz=77
U25A Circle Dot Ran 76.50 329 ⇓P P 07 38 12.9 +0.5
baz=77
Q31A Ellis 76.72 334 ⇑P P 07 38 14.1 +0.7
baz=77
T26A Comanche Natio 76.81 330 ⇓P P 07 38 14.7 +0.5
baz=77
P32A Huiting Farm, 76.97 335 ⇓P P 07 38 15.3 +0.5
baz=77
Q30A Quinter 77.00 334 ⇓P P 07 38 15.7 +0.7
baz=77
214A Organ Pipe Nat 77.02 321 ⇓P P 07 38 15.9 +0.7
baz=77
R28A Tribune 77.07 332 ⇑P P 07 38 16.0 +0.6
baz=77
T25A Trinidad 77.12 330 ⇓P P 07 38 16.9 +1.0
baz=77
S26A Kim 77.13 331 ⇑P P 07 38 16.9 +1.0
baz=77
P31A Stockton 77.16 334 ⇑P P 07 38 16.3 +0.5
baz=78
Q29A Oakley 77.22 333 ⇓P P 07 38 16.6 +0.4
baz=78
V22A San Miguel Ran 77.22 327 ⇓P P 07 38 18.2 +1.6
baz=78,SNR=9.2
U23A El Rito 77.23 328 ⇑P P 07 38 17.8 +1.1
baz=78
O32A Brockman Farm, 77.42 336 ⇓P P 07 38 17.8 +0.5
baz=78
R27A Eads 77.42 331 ⇓P P 07 38 17.7 +0.3
baz=78
T24B San Luis 77.48 329 ⇓P P 07 38 19.5 +1.5
baz=78
S25A Robets Cordova 77.57 330 ⇑P P 07 38 19.3 +0.9
baz=78
U22A Llaves 77.58 328 ⇓P P 07 38 19.8 +1.3
baz=78
O31A Woolen Ranch, 77.70 335 ⇑P P 07 38 19.4 +0.6
baz=78
R26A Arlington 77.70 331 ⇓P P 07 38 19.5 +0.5
baz=78
P29A Atwood 77.82 333 ⇓P P 07 38 20.4 +0.9
baz=78
S24A Houchin Ranch, 77.89 329 ⇓P P 07 38 21.5 +1.2
baz=78
O30A MW Ranch, Wils 77.99 334 ⇑P P 07 38 21.0 +0.6
baz=78
X16A Lo Mia Camp, P 78.22 323 ⇑P P 07 38 23.1 +1.0
baz=78
Q26A Hugo 78.26 331 ⇓P P 07 38 23.1 +1.0
baz=78
R24A Sanders Place, 78.34 330 ⇓P P 07 38 23.6 +1.0
baz=79
P27A Ficken Ranch, 78.42 332 ⇑P P 07 38 23.6 +0.7
baz=79
Q25A Bedland, Calha 78.55 331 ⇑P P 07 38 24.6 +0.7
baz=79
R23A Moffat 78.62 329 ⇑P P 07 38 25.3 +1.0
baz=79
M31A Lambtecht Ranc 78.62 336 ⇓P P 07 38 25.1 +1.2
baz=79
Y14A Wickenburg 78.65 322 ⇑P P 07 38 25.1 +0.8
baz=79
S22A 4UR Ranch, Cre 78.69 328 ⇓P P 07 38 25.5 +0.8
baz=79
P26A Davis Ranch, A 78.73 332 ⇑P P 07 38 25.7 +1.0
baz=79
N29A Votaw Ranch, W 78.76 334 ⇑P P 07 38 25.9 +1.1
baz=79
O27A Beecher Island 78.92 333 ⇓P P 07 38 26.7 +1.1
baz=79
TOA0 Torodi Ar. Sit 78.94 67 eP P 07 38 26.3 +0.1
TORD Torodi Ar. Bea 78.94 67 P P 07 38 26.8 +0.6
comp=Z,0.8nm,0.4s,baz=277,slow=5.9,SNR=17
TORD pP pP 07 38 57.4 -1.3
comp=Z,0.7nm,0.7s,baz=259,slow=4.4,SNR=2.4
TORD sP sP 07 39 11.8 -0.7
comp=Z,0.9nm,0.5s,baz=273,slow=6.5,SNR=4.1
Q24A Divide 78.97 330 ⇑P P 07 38 27.2 +1.0
baz=79
N28A Pribbeno Ranch 78.99 334 ⇓P P 07 38 26.7 +0.7
baz=79
MVCO Mesa Verde 79.01 327 ⇓P P 07 38 27.4 +1.0
baz=79
WUAZ Wupatki 79.05 324 ⇓P P 07 38 27.8 +1.2
baz=79
L31A Butterfield Fa 79.31 336 ⇓P P 07 38 28.6 +1.0
baz=80
Y12C Blythe 79.32 321 ⇑P P 07 38 28.9 +1.1
baz=80
O25A Wiggins 79.51 332 ⇑P P 07 38 30.5 +1.6
baz=80
BC3 Big Chuckawall 79.75 320 ⇓P P 07 38 31.5 +1.1
baz=80
L29A Maesberg Ranch 79.79 335 ⇓P P 07 38 31.4 +1.2
baz=80
ISCO Idaho Springs 79.87 330 ⇑P P 07 38 31.8 +0.7
baz=80
SMCO Snowmass 79.94 329 eP P 07 38 33.0 +1.4
comp=Z,4.7nm,0.8s
ECSD EROS Data Cent 79.96 338 eP P 07 38 30.8 -0.3
comp=Z,8.0nm,0.8s
ECSD EROS Data Cent 79.96 338 ⇓P P 07 38 31.0 -0.1
baz=80
IRM Iron Mountain 79.97 321 ⇓P P 07 38 32.5 +1.1
baz=80
W13A Hualapai Mount 80.01 322 ⇓P P 07 38 32.4 +0.6
baz=80
P22A Eagle 80.19 329 ⇑P P 07 38 33.7 +1.0
baz=80
U15A North Rim 80.22 324 ⇓P P 07 38 34.3 +1.3
baz=80
O23A Lake Granby, G 80.34 330 ⇓P P 07 38 34.8 +1.2
baz=81
K29A Lazy Trails An 80.34 335 ⇑P P 07 38 33.7 +0.4
baz=81
O22A Kremmling 80.57 330 ⇑P P 07 38 35.5 +0.7
baz=81
K28A Ten Mile Ranch 80.68 335 ⇓P P 07 38 36.4 +1.4
baz=81
GMRC Granite Mounta 80.71 321 ⇓P P 07 38 36.1 +0.6
baz=81
J29A Okreek 80.91 336 ⇑P P 07 38 36.9 +0.7
baz=81
N23A Red Feather La 80.92 331 ⇑P P 07 38 36.9 +0.3
baz=81
M24A Cheyenne 80.94 332 ⇑P P 07 38 37.4 +0.8
baz=81
SCI San Clemente I 80.98 318 ⇓P P 07 38 36.8 +0.1
baz=81
N22A Wattenberg Ran 81.06 330 ⇓P P 07 38 38.5 +1.1
baz=81
HEC Hector,Ludlow 81.11 320 ⇑P P 07 38 37.7 +0.2
baz=81
J28A Allard Ranch, 81.25 335 ⇓P P 07 38 38.6 +0.5
baz=82
J27A Elkhorn Farm, 81.38 335 ⇓P P 07 38 39.5 +0.7
baz=82
I29A Vivian Onida 81.44 336 ⇑P P 07 38 39.3 +0.3
baz=82
M22A Cedar Creek Ra 81.62 331 ⇑P P 07 38 40.0 -0.2
baz=82
CCUT Cedar City 81.63 324 eP P 07 38 41.5 +1.1
comp=Z,3.3nm,0.9s
I28A Midland 81.73 335 ⇓P P 07 38 40.7 +0.2
baz=82
MVU Marysvale 81.81 325 eP P 07 38 42.5 +1.1
comp=Z,22nm,2.4s
J26A Sides Ranch, S 81.83 334 ⇓P P 07 38 42.2 +1.1
baz=82
N20A Spence Gulch, 81.86 329 ⇓P P 07 38 41.9 +0.4
baz=82
EDW2 Edwards Air Fo 82.06 319 ⇑P P 07 38 42.2 -0.3
baz=82
I27A Quinn 82.10 335 ⇓P P 07 38 42.8 +0.3
baz=82
H28A Mission Ridge 82.26 336 ⇑P P 07 38 44.0 +0.7
baz=83
G29A Hoven 82.34 337 ⇓P P 07 38 43.5 -0.1
baz=83
K23A Bowen Ranch, D 82.35 332 ⇑P P 07 38 44.7 +0.8
baz=83
G28A Parade 82.58 336 ⇓P P 07 38 45.2 +0.3
baz=83
H27A Howes 82.60 335 ⇑P P 07 38 45.5 +0.4
baz=83
FURC Furnace Creek, 82.62 321 ⇓P P 07 38 46.0 +0.7
baz=83
K22A Casper 82.62 331 ⇑P P 07 38 46.3 +0.9
baz=83
I25A Rochford 82.68 334 ⇓P P 07 38 46.2 +0.6
baz=83
ISA Isabella 82.90 320 ⇓P P 07 38 47.7 +0.9
baz=83
K21A Alcova 82.91 331 ⇓P P 07 38 47.7 +0.8
baz=83,SNR=6.6
H25A Fruitdale 83.14 334 ⇑P P 07 38 49.0 +1.1
baz=83
G27A Dupree 83.19 336 ⇑P P 07 38 48.3 +0.2
baz=84
F28A McLaughlin 83.21 337 ⇓P P 07 38 48.4 +0.2
baz=84
J22A Midwest 83.24 332 ⇓P P 07 38 48.8 +0.3
baz=84
G26A Maurine 83.36 335 ⇑P P 07 38 49.2 +0.3
baz=84
VES Vestal, Richgr 83.37 319 ⇓P P 07 38 49.9 +0.7
baz=84
R11A Troy Canyon, C 83.37 323 ⇓P P 07 38 50.1 +0.7
baz=84
G25A Newell 83.57 335 ⇓P P 07 38 50.5 +0.5
baz=84
J21A Lysite 83.58 331 ⇑P P 07 38 50.8 +0.5
baz=84
H24A Dirks Ranch, A 83.61 334 ⇑P P 07 38 50.6 +0.3
baz=84
I22A 9 Mile Ranch, 83.64 332 ⇑P P 07 38 51.0 +0.4
baz=84
F27A Lemmon 83.65 336 ⇑P P 07 38 50.8 +0.4
baz=84
D30A Buchanan 83.66 338 ⇑P P 07 38 50.5 +0.1
baz=84
E28A Huff 83.81 337 ⇓P P 07 38 51.6 +0.5
baz=84
J20A Shoshoni 83.85 331 ⇓P P 07 38 52.5 +0.9
baz=84
AGMN Agassiz Nation 83.86 341 eP P 07 38 51.5 +0.1
comp=Z,48nm,2.1s
AGMN Agassiz Nation 83.86 341 ⇓P P 07 38 51.7 +0.3
baz=84
F26A Lodgepole 83.86 335 ⇓P P 07 38 52.0 +0.5
baz=84
I21A Big Trails, Te 83.90 332 ⇓P P 07 38 52.1 +0.3
baz=84
E27A Carson 83.98 336 ⇑P P 07 38 52.4 +0.3
baz=84
PDAR Pinedale Array 83.99 330 P P 07 38 52.5 0.0
comp=Z,1.0nm,0.7s,baz=129,slow=5.3,SNR=11
G24A Alzada 84.05 334 ⇓P P 07 38 53.3 +0.8
baz=84
C30A Mose, Pekin 84.10 339 ⇑P P 07 38 53.1 +0.5
baz=84
J19A Crowheart 84.18 330 ⇓P P 07 38 54.2 +0.8
baz=84
F25A Bowman 84.21 335 ⇑P P 07 38 53.9 +0.6
baz=84
G23A Biddle 84.31 333 ⇑P P 07 38 53.7 -0.1
baz=85
E26A Carlson Angus 84.33 336 ⇑P P 07 38 54.2 +0.4
baz=85
I20A Worland 84.36 331 ⇑P P 07 38 54.8 +0.7
baz=85
H21A Big Horn, Sher 84.48 332 ⇓P P 07 38 54.8 +0.1
baz=85
F24A Ekalaka 84.50 334 ⇓P P 07 38 54.9 +0.2
baz=85
E25A Miller Ranch, 84.68 335 ⇑P P 07 38 56.1 +0.5
baz=85
B30A Myrvik Farm, E 84.72 339 ⇑P P 07 38 56.2 +0.5
baz=85
H20A Greybull 84.74 331 ⇓P P 07 38 56.0 -0.1
baz=85
I19A Meeteetse 84.79 331 ⇓P P 07 38 56.8 +0.4
baz=85
D26A Manning 84.80 336 ⇑P P 07 38 56.8 +0.6
baz=85
NVAR Mina Array Bea 84.84 322 P P 07 38 57.3 +0.4
comp=Z,0.6nm,0.7s,baz=145,slow=5.6,SNR=5.2
G21A Lodge Grass 85.04 332 ⇑P P 07 38 57.8 +0.3
baz=85
B29A Wagenman Farm, 85.05 339 ⇓P P 07 38 57.8 +0.5
baz=85
C27A Sayler Ranch, 85.08 337 ⇑P P 07 38 57.8 +0.3
baz=85
F22A Rosebud 85.13 333 ⇑P P 07 38 57.9 0.0
baz=85
A30A Hoffart Farm, 85.15 340 ⇑P P 07 38 58.3 +0.5
baz=86
D25A Fairfield 85.21 336 ⇓P P 07 38 58.9 +0.6
baz=86
H19A Powell 85.30 331 ⇓P P 07 38 59.2 +0.4
baz=86
B28A Dugan Ranch, T 85.35 338 ⇑P P 07 38 59.3 +0.5
baz=86
I17A Pilgrim Ck. 85.36 330 ⇓P P 07 39 00.2 +0.8
baz=86
A29A Manning Farm, 85.42 339 ⇑P P 07 38 59.1 0.0
baz=86
G20A Bridger 85.43 332 ⇓P P 07 38 59.5 0.0
baz=86
H18A Shoshone NF, C 85.59 331 ⇑P P 07 39 01.0 +0.6
baz=86,SNR=9.8
ULM Lac du Bonnet 85.64 342 P P 07 38 59.8 -0.5
comp=Z,5.1nm,0.8s,baz=165,slow=4.2,SNR=10
D23A Lindsay 85.91 335 ⇑P P 07 39 02.5 +0.8
baz=86
C24A Savage 85.93 335 ⇑P P 07 39 02.7 +1.0
baz=86
YMR Madison River 86.13 330 eP P 07 39 04.0 +0.9
comp=Z,14nm,1.5s
SCHQ Schefferville 86.14 360 P P 07 39 02.0 -0.6
comp=Z,3.2nm,1.0s,baz=221,slow=9.3,SNR=4.3
D22A Cohagen 86.25 334 ⇓P P 07 39 04.2 +0.8
baz=86
F19A Roth Farm, Mol 86.25 332 ⇑P P 07 39 03.8 +0.3
baz=86
A26A Wade Farm, Ken 86.28 337 ⇓P P 07 39 04.0 +0.5
baz=87
C23A Lambert 86.43 335 ⇓P P 07 39 05.1 +0.8
baz=87
E20A Meyer Farm, Mu 86.46 333 ⇑P P 07 39 04.8 +0.4
baz=87,SNR=5.8
D21A La Casta Ranch 86.48 334 ⇓P P 07 39 04.9 +0.4
baz=87
DGMT Dagmar 86.65 336 ⇓P P 07 39 06.0 +0.7
baz=87
E19A Rath Farm, Rou 86.68 332 ⇑P P 07 39 06.0 +0.4
baz=87,SNR=12
HLID Hailey 86.79 327 ⇑P P 07 39 07.2 +0.9
baz=87
D20A Manuel Ranch, 86.94 333 ⇑P P 07 39 07.1 +0.4
baz=87,SNR=5.9
B22A Reddig Ranch S 87.14 335 ⇑P P 07 39 08.3 +0.7
baz=87
C21A Desert Coulee 87.15 334 ⇓P P 07 39 07.8 0.0
baz=87,SNR=5.3
D19A Cripps Ranch, 87.29 333 ⇑P P 07 39 08.9 +0.4
baz=88
C20A Veseth Ranch, 87.40 333 ⇑P P 07 39 09.1 +0.1
baz=88
B21A Ellsworth Farm 87.62 334 ⇑P P 07 39 10.2 +0.3
baz=88
A22A Carney Farms, 87.69 335 ⇑P P 07 39 11.0 +0.6
baz=88,SNR=5.8
C19A Slack Wire Ran 87.83 333 ⇑P P 07 39 11.4 +0.4
baz=88
A20A Cobblestone Ra 88.34 334 ⇓P P 07 39 13.6 +0.2
baz=89,SNR=6.4
EGMT Eagleton 88.34 333 ⇑P P 07 39 13.6 +0.2
baz=89
B19A Brinkman Farms 88.37 333 ⇑P P 07 39 13.4 -0.1
baz=89

A19A	Klindworth Far	88.68	334	⇓P	P	07 39 15.2	+0.2
	baz=89						
YKA	Yellowknife Ar	101.47	339	P	Pdif	07 40 12.8	0.0
	comp=Z,0.3nm,0.6s,baz=142,slow=4.4,SNR=13						
WRA	Warramunga Arr	124.97	204	PKP	PKPdf	07 45 21.4	-0.6
	comp=Z,0.2nm,0.3s,baz=162,slow=1.6,SNR=9.0						
WRA				pPKP	pPKPdf	07 45 57.8	+1.0
	comp=Z,0.6nm,0.5s,baz=165,slow=1.7,SNR=4.2						
KSH	Kashi	148.59	65	ePKPbc	PKPbc	07 46 09.0	+0.5
KSH				esPKP		07 46 52.2	
KSH				AMB	AMB		
	comp=Z,150nm,4.1s						
KSH				LR	LR		
	comp=Z,33nm,4.1s						
KSH				LR	LR		
	comp=Z,37nm,4.8s						
ZALV	Zalesovo Beam	149.67	34	PKPbc	PKPbc	07 46 10.7	+0.2
	comp=Z,2.8nm,0.4s,baz=312,slow=2.9,SNR=19						
MK31	Makanchi Array	151.66	49	ePKPbc	PKPbc	07 46 15.6	+0.1
MKAR	Makanchi Array	151.66	49	PKPbc	PKPbc	07 46 15.6	+0.2
	comp=Z,1.2nm,0.6s,baz=290,slow=2.1,SNR=15						
WMQ	Urumqi	156.30	52	ePKP	PKPdf	07 46 14.8	-1.0
SONM	Songino Array	162.94	17	PKPab	PKPab	07 47 13.8	+0.5
	comp=Z,0.2nm,0.6s,baz=308,slow=3.4,SNR=3.8						
KMI	Kunming	168.43	122	PKP	PKPdf	07 46 27.3	-1.3
LZH	Lanzhou	170.77	59	ePKP	PKPdf	07 46 27.8	-1.8
LZH				pPKP	pPKPdf	07 47 01.0	-3.6
LZH				sPKP		07 47 19.4	
LZH				LR	LR		
	comp=Z,160nm,19.1s						
LZH				LR	LR		
	comp=Z,160nm,18.7s						
LZH				LR	LR		
	comp=Z,200nm,20.2s						
CD2	Chengdu	171.54	93	PKP	PKPdf	07 46 28.6	-1.4
GYA	Guiyang	172.02	129	ePKP	PKPdf	07 46 29.0	-1.4
GYA				pPKP	pPKPdf	07 47 04.8	-0.6
GYA				sPKP		07 47 17.2	
GYA				PKPab	PKPab	07 47 55.0	+0.9
GYA				PKS	PKSdf	07 50 01.0	-1.9
GYA				PP	PP	07 51 46.6	+1.4
GYA				AMB	AMB		
	comp=Z,90nm,8.2s						

*ISCJB **03** 07:53:55.9±0.3, 43.14N±0.02×13.46E±0.03, h23km±4km, Error ellipse: s-maj=4.0km s-min=3.3km az=173.1*
*CSEM **03** 07:53:55.7±0.1, 43.13N×13.42E, h20km, ML3.6/9, Error ellipse: s-maj=2.9km s-min=2.4km az=50.0*
*ROM **03** 07:53:55.7±0.2, 43.13N×13.44E, h21km±3km, Ml3.2/21, Error ellipse: s-maj=1.7km s-min=1.3km az=83.0*
ISC 03 07:53:56.0±0.9, 43.13N±0.02×13.41E±0.02, h19km±2km, n59, σ0.66/88, 10C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0401	Montottone (Fe	0.15	117	⇑iPg	Pg	07 54 00.1	-0.3
T0401				Sg	Sg	07 54 04.0	+0.6
	30μm,0.3s						
FDMO	Fiordimonte	0.26	249	⇑iPg	Pb	07 54 01.6	-0.3
FDMO				Sg	Sb	07 54 06.6	+0.5
	4μm,0.3s						
FDMO	Fiordimonte	0.26	249	⇑iPg	Pg	07 54 01.6	-0.3
FDMO				Sg	Sg	07 54 06.6	+0.5
	4μm,0.3s						
OFFI	Offida	0.28	134	Pg	Pg	07 54 02.8	+0.5
	6μm,0.3s						
OFFI	Offida	0.28	134	Pg	Pg	07 54 02.8	+0.5
	6μm,0.3s						
CING	Cingoli	0.29	327	⇑iPg	Pg	07 54 02.1	-0.5
CING				Sg	Sb	07 54 07.5	+0.4
	732nm,0.4s						
CING	Cingoli	0.29	327	⇑iPg	Pg	07 54 02.1	-0.5
CING				Sg	Sb	07 54 07.5	+0.4
	732nm,0.4s						
NRCA	Norcia	0.37	217	⇑iPg	Pg	07 54 03.3	-0.5
NRCA				Sg	Sb	07 54 09.8	+0.4
	27μm,0.1s						
NRCA	Norcia	0.37	217	⇑iPg	Pg	07 54 03.3	-0.5
NRCA				Sg	Sb	07 54 09.8	+0.4
	27μm,0.1s						
CESI	CESI - Serrava	0.39	252	⇑iPg	Pg	07 54 04.0	-0.3
CESI				Sg	Sb	07 54 11.0	+0.8
	1μm,0.5s						
CESI	CESI - Serrava	0.39	252	⇑iPg	Pg	07 54 04.0	-0.3
CESI				Sg	Sb	07 54 11.0	+0.8
	1μm,0.5s						
AOI	Ancona	0.44	18	Pg	Pg	07 54 04.4	-0.8
AOI				Sg	Sb	07 54 12.1	+0.6
	625nm,0.5s						
AOI	Ancona	0.44	18	Pg	Pg	07 54 04.4	-0.8
AOI				Sg	Sb	07 54 12.1	+0.6
	625nm,0.5s						
TRTR	Tortoreto Alta	0.49	131	Pg	Pb	07 54 06.9	+1.0
TRTR	Tortoreto Alta	0.49	131	Pg	Pb	07 54 06.9	+1.0
SMA1	SAN MARTINO	0.50	187	⇓ePg	Pb	07 54 05.2	-1.0
SMA1				Sg	Sb	07 54 13.5	+0.3
	3μm,0.3s						
ARVD	Arcevia	0.51	317	Pg	Pb	07 54 05.7	-0.6
ARVD				Sg	Sb	07 54 14.7	+1.5
	209nm,0.5s						
ARVD	Arcevia	0.51	317	Pg	Pb	07 54 05.7	-0.6
ARVD				Sg	Sb	07 54 14.7	+1.5
	209nm,0.5s						
TERO	Teramo	0.52	165	Pg	Pb	07 54 05.5	-1.1
TERO				Sg	Sg	07 54 14.1	+0.4
	1μm,0.1s						
TERO	Teramo	0.52	165	Pg	Pb	07 54 05.5	-1.1
TERO				Sg	Sg	07 54 14.1	+0.4
	1μm,0.1s						
MURB	Monte Urbino	0.66	282	Pg	Pb	07 54 08.9	0.0
MURB	Monte Urbino	0.66	282	Pg	Pb	07 54 08.9	0.0
FSSB	Fossombrone	0.73	321	Pg	Pb	07 54 10.3	+0.2
	112nm,0.2s						
FSSB	Fossombrone	0.73	321	Pg	Pb	07 54 10.3	+0.2
	112nm,0.2s						
PIEI	Pieia	0.76	303	Pg	Pb	07 54 10.2	-0.4
PIEI				Sg	Sn	07 54 22.7	0.0
	324nm,0.5s						
PIEI	Pieia	0.76	303	Pg	Pb	07 54 10.2	-0.4
PIEI				Sg	Sn	07 54 22.7	0.0
	324nm,0.5s						
T0104	Madonna delle	0.77	184	Pg	Pb	07 54 09.8	-1.0
VCEL	Villa Celiera	0.80	157	Pg	Pb	07 54 11.1	-0.2
	913nm,0.5s						
VCEL	Villa Celiera	0.80	157	Pg	Pb	07 54 11.1	-0.2
	913nm,0.5s						
CESX	Cesi	0.80	230	Pg	Pb	07 54 10.8	-0.5
CESX				Sg	Sn	07 54 23.5	-0.2
CESX	Cesi	0.80	230	Pg	Pb	07 54 10.8	-0.5
CESX				Sg	Sn	07 54 23.5	-0.2
FAGN	Fagnano	0.87	172	Pg	Pb	07 54 12.2	-0.3
	1μm,0.6s						
FAGN	Fagnano	0.87	172	Pg	Pb	07 54 12.2	-0.3
	1μm,0.6s						
FIAM	Fiamignano	0.89	194	Pg	Pb	07 54 11.8	-1.0
FIAM				Sg	Sg	07 54 25.7	+0.6
	601nm,0.5s						
FIAM	Fiamignano	0.89	194	Pg	Pb	07 54 11.8	-1.0
FIAM				Sg	Sg	07 54 25.7	+0.6
	601nm,0.5s						
MNS	Montasola	0.92	216	Pg	Pb	07 54 12.6	-0.7
MNS				Sg	Sn	07 54 26.8	+0.2
	1μm,0.3s						
MNS	Montasola	0.92	216	Pg	Pb	07 54 12.6	-0.7
MNS				Sg	Sn	07 54 26.8	+0.2
	1μm,0.3s						
BADI	Badiali	0.94	294	Pg	Pb	07 54 13.5	-0.1
	425nm,0.6s						
BADI	Badiali	0.94	294	Pg	Pb	07 54 13.5	-0.1
	425nm,0.6s						
MGAB	Montegabbione	0.98	258	Pg	Pb	07 54 14.5	+0.2
MGAB	Montegabbione	0.98	258	Pg	Pb	07 54 14.5	+0.2
PARC	Parchiule	1.00	302	Pg	Pb	07 54 14.6	-0.1
	603nm,1.3s						
PARC	Parchiule	1.00	302	Pg	Pb	07 54 14.6	-0.1
	603nm,1.3s						
CAFI	Castiglion Fio	1.08	281	Pg	Pn	07 54 16.5	+0.4
	415nm,0.8s						
CAFI	Castiglion Fio	1.08	281	Pg	Pn	07 54 16.5	+0.4
	415nm,0.8s						
PTQR	Pietraquaria	1.11	181	Pg	Pn	07 54 15.5	-1.0
	49nm,0.4s						
PTQR	Pietraquaria	1.11	181	Pg	Pn	07 54 15.5	-1.0
	49nm,0.4s						
SACS	San Casciano d	1.14	256	Pg	Pb	07 54 17.6	+0.5
	280nm,0.5s						
INTR	Introdacqua	1.17	162	Pg	Pn	07 54 17.4	0.0
	319nm,0.3s						
INTR	Introdacqua	1.17	162	Pg	Pn	07 54 17.4	0.0
	319nm,0.3s						
LPEL	Lama dei Pelig	1.22	152	Pg	Pb	07 54 19.1	+0.6
	264nm,0.5s						
LPEL	Lama dei Pelig	1.22	152	Pg	Pb	07 54 19.1	+0.6
	264nm,0.5s						
NVLJ	Novalja	1.78	36	iPn	Pn	07 54 24.9	-0.8
NVLJ				Sn	Sn	07 54 45.9	-1.8
NVLJ	Novalja	1.78	36	iPn	Pn	07 54 24.9	-0.8
NVLJ				Sn	Sn	07 54 45.9	-1.8
UDBI	Udbina	2.20	50	iPn	Pn	07 54 32.2	+0.7
UDBI				Sn	Sn	07 54 58.0	-0.2
UDBI	Udbina	2.20	50	iPn	Pn	07 54 32.2	+0.7
UDBI				Sn	Sn	07 54 58.0	-0.2
STON	Ston	3.15	93	ePn	Pn	07 54 44.4	-0.2
STON				Sn	Sn	07 55 20.9	-0.8
STON	Ston	3.15	93	ePn	Pn	07 54 44.3	-0.2
STON				Sn	Sn	07 55 20.8	-0.8
OBKA	Obir	3.48	13	⇑iPn	Pn	07 54 52.8	+3.7

IDC 03 08:17:47.3±1.9, 2.44N×127.43E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/28, mbtmp3.4/4, Error ellipse: s-maj=164.8km s-min=21.5km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.25	163	P	P	08 22 56.5	0.0
	0.8nm,0.7s,baz=343,slow=10,SNR=6.8						
ASAR	Alice Springs	26.70	167	P	P	08 23 28.2	-0.3
	0.2nm,0.6s,baz=355,slow=9.3,SNR=3.2						
MKAR	Makanchi Array	59.01	325	P	P	08 27 49.8	+0.8
	0.2nm,0.4s,baz=120,slow=7.8,SNR=5.5						
KURBB	Kurchatov Arra	63.20	327	P	P	08 28 16.8	-0.5
	0.3nm,0.2s,baz=124,slow=6.8,SNR=2.8						

JMA 03 08:21:00.1±0.5, 31.82N×142.76E, h37km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.80	298	S	Sn	08 22 16.7	+1.8
JHO	Hitachi	5.11	340	P	Pn	08 22 16.6	+2.5
JFK	Kawauchi	5.75	345	eS	Sn	08 23 27.4	-0.2

*IDC **03** 08:24:37.8±2.4, 6.27S×129.17E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/27, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=157.1km s-min=32.5km az=68.0*
ISC 03 08:24:56.0±2.9, 6.8S±0.2×130.5E±0.2, h146km, n7, σ3.15/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	Manton Dam	6.09	174	P	Pn	08 26 25.7	+1.9
	baz=5.7,SNR=11						
MTN				S	Sn	08 27 37.5	+4.9
	baz=5.7,SNR=9.3						
KDU	Kakadu	6.21	162	P	Pn	08 26 26.4	+1.0
	baz=5.8,SNR=12						
KDU				S	Sn	08 27 38.6	+3.2
	baz=5.8,SNR=5.8						
KNRA	Kununurra	9.04	191	P	Pn	08 27 03.6	+0.2
	baz=8.7,SNR=15						
KNRA				S	Sn	08 28 41.6	-2.0
	baz=8.7,SNR=9.6						
WRA	Warramunga Arr	13.63	165	Pn	Pn	08 28 04.6	+1.1
	0.4nm,0.3s,baz=342,slow=13,SNR=9.3						
WRA				Sn	Sn	08 30 30.3	-4.1
	0.4nm,0.3s,baz=338,slow=20,SNR=6.6						
COEN	Coen	14.35	121	P	P	08 28 14.1	-1.3
	baz=14,SNR=5.2						
ASAR	Alice Springs	17.13	169	P	Pn	08 28 48.1	+1.3
	0.2nm,0.3s,baz=347,slow=9.3,SNR=8.8						
ASAR				S	S	08 31 53.5	-3.9
	0.1nm,0.3s,baz=360,slow=28,SNR=3.6						
MKAR	Makanchi Array	68.30	327	P	P	08 35 33.7	-7.6
	0.4nm,0.6s,baz=120,slow=7.0,SNR=3.6						

*IDC **03** 08:29:31.9±2.3, 54.27N×86.72E, h0km, mb4.1/1, mb1 3.6/4, mb1mx3.3/35, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=22.0km s-min=14.2km az=52.0*
*NNC **03** 08:29:33.4±2.6, 54.29N×86.44E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=21.7km s-min=17.4km az=169.0*
ISC 03 08:29:36.5±2.9, 54.4N±0.1×86.5E±0.2, h35km, n9, σ1.33/13, 1C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.09	247	i		08 36 41.8	
	baz=69,slow=339,SNR=4.3						
ZALV	Zalesovo Beam	1.09	247	Pg	Pn	08 29 52.5	-2.8
	1.7nm,0.3s,baz=67,slow=17,SNR=21						
ZALV				Lg	Lg	08 30 10.8	
	2.3nm,0.3s,baz=76,slow=28,SNR=7.1						
KURK	Kurchatov	6.06	236	⇓Pn	Pn	08 31 03.0	-0.5
	0.6nm,0.6s						
KURK				⇓Sn	Sn	08 32 12.9	+1.4
	0.5nm,0.7s						
KURK				⇓Lg	Lg	08 32 45.6	
	1.2nm,0.8s						
KURBB	Kurchatov Arra	6.16	235	⇓Pn	Pn	08 31 04.6	-0.3
	2.2nm,0.6s						
KURBB				⇓Sn	Sn	08 32 15.0	+0.9
	2.8nm,0.6s						
KURBB				⇓Lg	Lg	08 32 48.5	
	4.0nm,0.7s						
KURBB	Kurchatov Arra	6.16	235	Pn	Pn	08 31 04.9	0.0
	0.5nm,0.3s,baz=54,slow=14,SNR=11						
KURBB				Lg	Lg	08 32 53.7	
	0.1nm,0.3s,baz=59,slow=33,SNR=2.9						
MK31	Makanchi Array	8.06	201	⇑Pn	Pn	08 31 30.5	-0.6
	0.2nm,0.5s,baz=22,slow=12,SNR=9.3						
MK31				⇓Sn	Sn	08 33 01.7	+0.7
	0.3nm,0.4s,baz=31,slow=24,SNR=3.9						
MK31				⇓Lg	Lg	08 33 49.5	
	2.0nm,1.2s						
MKAR	Makanchi Array	8.06	201	Pn	Pn	08 31 30.0	-1.1
	0.1nm,0.3s,baz=24,slow=13,SNR=11						
MKAR				Sn	Sn	08 33 00.9	-0.1
	0.2nm,0.3s,baz=23,slow=26,SNR=8.1						
MKAR				Lg	Lg	08 33 47.2	
	baz=24,slow=32,SNR=2.5						
BVAR	Borovoye Array	9.66	268	Pn	Pn	08 31 53.4	+0.5
	0.1nm,0.3s,baz=84,slow=13,SNR=3.0						
BVAR				Sn	Sn	08 33 38.8	-1.3
	0.2nm,0.3s,baz=76,slow=21,SNR=3.4						
KBZ	Khabaz	30.04	267	P	P	08 35 43.5	+1.7
	1.8nm,0.8s,baz=53,slow=5.1,SNR=2.9						

*LJU **03** 08:41:53.8, 46.39N×15.07E, h0km Rockburst*
CSEM 03 08:41:53.8±99.0, 46.39N×15.07E, h0km, Suspected Mining induced. After LJU, Northwestern Balkan Peninsula

*IDC **03** 08:59:59.7±2.0, 52.07N×35.80E, h0km, mb3.3/2, mb1 3.8/5, mb1mx3.4/26, mbtmp3.6/5, ML3.4/4, MS3.0/2, Ms1 3.0/2, ms1mx2.3/31, Error ellipse: s-maj=30.7km s-min=14.1km az=137.0*
ISC 03 09:00:03.2±1.4, 52.65N±0.09×35.05E±0.10, h10km, n12, σ1.90/10, 1D, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	Obninsk	2.63	19	Lg	Lg	09 01 32.1	
	4.6nm,0.3s,baz=23,slow=23,SNR=10						
AKASG	Malin Array Be	4.12	244	Pn	Pn	09 01 05.0	-1.0
	0.9nm,0.3s,baz=55,slow=11,SNR=4.9						
AKASG				Pg	Pb	09 01 16.3	+0.7
	2.0nm,0.3s,baz=59,slow=15,SNR=9.3						
AKASG				Sn	Sn	09 01 56.6	+2.4
	2.1nm,0.3s,baz=62,slow=20,SNR=4.9						
AKASG				Lg	Lg	09 02 15.8	
	4.0nm,0.3s,baz=68,slow=29,SNR=5.7						
I43RU	DUBNA INFRASON	4.27	16	i		09 25 40.0	
	baz=192,slow=310,SNR=4.0						
MICGM	Minsk	4.66	296	⇓eP	Sg	09 02 34.0	+1.5
NACGM	Naroch	5.39	298	e	Sg	09 02 54.0	-2.2
HFS	Hagfors	13.95	311	Pn	Pn	09 03 19.8	-0.8
	0.1nm,0.3s,baz=98,slow=9.2,SNR=2.7						
NOA	NORSAR Array B	15.43	312	Pn	Pn	09 03 39.3	-1.4
	0.1nm,0.3s,baz=125,slow=12,SNR=2.6						
ARCES	ARCESS Array B	17.52	349	Pn	P	09 04 09.2	+0.9
	0.3nm,0.3s,baz=160,slow=12,SNR=11						
IDI	Anoyia	18.80	207	LR	LR	09 13 08.6	
	comp=Z,37nm,18.5s,baz=258,slow=43						
MKAR	Makanchi Array	30.64	82	LR	LR	09 19 25.4	
	comp=Z,36nm,20.9s,baz=114,slow=38						
TORD	Torodi Ar. Bea	47.55	227	P	P	09 08 36.8	-1.9
	0.4nm,0.8s,baz=20,slow=9.1,SNR=2.6						
YKA	Yellowknife Ar	62.73	345	P	P	09 10 29.6	+1.9
	0.1nm,0.5s,baz=13,slow=6.7,SNR=7.3						

*ISCJB **03** 09:16:09.8±0.7, 6.86N±0.07×73.01W±0.07, h166km, mb3.2/1, Error ellipse: s-maj=13.1km s-min=6.0km az=43.0*
*FUNV **03** 09:16:10.6, 6.81N×73.16W, h166km, MW3.1*
*IDC **03** 09:16:11.8±7.0, 6.66N×75.92W, h121km±80km, mb3.0/1, mb1 3.3/2, mb1mx2.9/28, mbtmp3.5/2, Error ellipse: s-maj=154.2km s-min=40.3km az=78.0*
ISC 03 09:16:10.3±1.1, 6.84N±0.08×73.00W±0.08, h166km, n15, σ0.95/21, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.22	34	⇑iP	Pn	09 16 39.8	+0.9
CAPV				eS	Sn	09 17 00.5	-0.3
ROSC	El Rosal	2.38	214	P	Pn	09 16 50.9	-0.3
	16nm,0.3s,baz=257,slow=0.8,SNR=22						
ROSC				S	Sn	09 17 21.3	-1.6
	25nm,0.3s,baz=86,slow=18,SNR=14						
SOCV	Socops	2.56	56	⇑eP	Pn	09 16 53.8	+0.7
SOCV				eS	Sn	09 17 25.6	-0.7
ELOV	Elorza	3.50	87	eP	Pn	09 17 05.7	+1.1
ELOV				eS	Sn	09 17 47.2	+0.3
QARV	Quebrada Arrib	4.14	36	⇑iP	Pn	09 17 14.0	+1.0
QARV				eS	Sn	09 18 00.1	-1.8
SANV	Sanarito	4.33	52	eP	Pn	09 17 15.7	+0.3
CURV	Curarigua	4.36	43	eP	Pn	09 17 16.3	+0.6
CURV				eS	Sn	09 18 04.8	-2.0
DABV	Dabajuro	4.68	30	eP	Pn	09 17 20.7	+0.8
TEPV	Terepaima	4.88	50	eP	Pn	09 17 22.7	+0.2
SIQV	Siquisique	4.93	40	eP	Pn	09 17 23.2	+0.1
BAUV	El Baul	5.34	67	eP	Pn	09 17 28.1	-0.4
TURV	Turiamo	6.24	55	eP	Pn	09 17 40.2	-0.1
CUPV	Cœpira	7.82	65	eP	Pn	09 18 01.2	-0.2
YKA	Yellowknife Ar	63.28	340	P	P	09 26 22.0	+1.0
	0.2nm,0.5s,baz=136,slow=6.6,SNR=6.8						
WRA	Warramunga Arr	150.45	241	PKPbc	PKPbc	09 35 42.8	-0.4
	0.2nm,0.4s,baz=102,slow=2.7,SNR=4.5						

*PGC **03** 09:26:22.8±7.8, 49.49N×129.79W, h10km, ML2.5/7, Mw3.1, 216km Wsw of Pt. Hardy, Bc Vancouver Island Region*
*IDC **03** 09:26:25.7±3.0, 49.68N×129.29W, h0km, mb3.6/1, mb1 3.5/7, mb1mx3.3/39, mbtmp3.7/3, ML3.3/5, MS2.9/2, Ms1 2.9/2, ms1mx2.5/36, Error ellipse: s-maj=40.3km s-min=14.0km az=63.0*
ISC 03 09:26:24.6±2.5, 49.66N±0.07×129.37W±0.08, h3km±13km, n24, σ1.31/29, 3D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.15	64	⇑Pn	Pg	09 26 46.9	+0.3
BPBC				⇑Sn	Sn	09 27 05.1	+1.3
HOLB	Holberg	1.26	38	⇓Pn	Pb	09 26 48.6	-0.5
HOLB				⇓Sn	Sg	09 27 06.9	+1.7
EDB	Eliza Dome	1.47	81	⇑Pn	Pb	09 26 51.8	-0.8
EDB				⇑Sn	Sb	09 27 11.6	-0.1
FHRB	Fair Harbour	1.51	74	⇑Pn	Pn	09 26 51.7	-0.7
FHRB				⇑Sn	Sg	09 27 13.3	+0.2
MAYB	Maynard	1.60	61	⇑Pn	Pn	09 26 53.4	-0.5
PHC	Port Hardy	1.63	49	Pn	Pn	09 26 54.0	-1.3
PHC				⇑Sn	Sg	09 27 16.6	-0.3
TLCB	Telegraph Cove	1.86	60	⇑Pn	Pb	09 26 57.8	-1.3
TLCB				⇑Sn	Sb	09 27 23.0	+0.3
WOSB	Woss	1.88	73	⇑Pn	Pb	09 26 58.0	-1.6
GDR	Gold River	2.17	85	⇑Pn	Pn	09 27 01.0	-0.6
TOFB	Tofino	2.31	101	⇑Sn	Sn	09 27 32.9	+0.4
SPLB	Strathcona Par	2.42	83	⇑Pn	Pn	09 27 05.8	+0.7
BTB	Buttle Lake	2.51	93	⇑Pn	Pn	09 27 06.7	+0.3
BTB				⇑Sn	Sn	09 27 37.7	+0.1
BBB	Bella Bella	2.65	17	⇓Pn	Pn	09 27 07.9	-0.2
BBB				⇑Sn	Sn	09 27 40.4	-0.3
BBB	Bella Bella	2.65	17	Pn	Pn	09 27 08.1	0.0
	7.9nm,0.3s,baz=216,slow=12,SNR=74						
BBB				Sn	Sn	09 27 40.1	-0.7
	5.2nm,0.3s,baz=93,slow=18,SNR=7.4						
NEW	Newport	8.18	95	Pn	Pn	09 28 25.4	+1.3
	0.2nm,0.3s,baz=333,slow=12,SNR=4.4						
NEW				LR	LR	09 31 26.3	
	comp=Z,101nm,18.8s,baz=275,slow=37						
DLBC	Dease Lake	8.81	358	LR	LR	09 31 39.7	
	comp=Z,62nm,19.4s,baz=290,slow=36						
YKA	Yellowknife Ar	15.22	27	Pn	Pn	09 29 57.8	-2.3
	baz=216,slow=12,SNR=2.7						
PDAR	Pinedale Array	15.32	109	Pn	P	09 30 04.1	-2.7
	0.0nm,0.3s,baz=310,slow=11,SNR=3.4						
ILAR	Eielson Array	17.77	335	P	P	09 30 33.5	+0.1
	0.0nm,0.3s,baz=149,slow=9.0,SNR=2.7						
INK	Inuvik	18.82	355	P	Pn	09 30 48.4	+2.9
	0.0nm,0.3s,baz=172,slow=8.2,SNR=3.1						
ULM	Lac du Bonnet	21.46	76	P	P	09 31 16.3	+2.4
	2.2nm,0.8s,baz=266,slow=9.2,SNR=4.1						
H11N2	WAKE ISLAND Hy	58.27	263	T	T	10 38 54.2	
	baz=45,slow=75,SNR=10						
H11N3	WAKE ISLAND Hy	58.27	263	T	T	10 38 54.4	
	baz=45,slow=75,SNR=13						
H11N1	WAKE ISLAND Hy	58.28	263	T	T	10 38 55.4	
	baz=45,slow=75,SNR=8.3						

IDC 03 09:30:38.0±2.3, 9.99N×92.72E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.3/37, mbtmp3.5/4, ML4.3/1, Error ellipse: s-maj=74.6km s-min=26.2km az=66.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.35	35	Pn	Pn	09 33 08.1	+0.1
	0.7nm,0.3s,baz=220,slow=16,SNR=9.9						
MKAR	Makanchi Array	37.74	348	P	P	09 37 55.4	-0.2
	0.1nm,0.3s,baz=168,slow=8.5,SNR=3.8						
WRA	Warramunga Arr	50.63	126	P	P	09 39 39.1	-0.2
	0.5nm,0.9s,baz=302,slow=10.0,SNR=6.1						
ASAR	Alice Springs	52.34	130	P	P	09 39 52.2	+0.1
	0.4nm,0.5s,baz=305,slow=6.8,SNR=7.0						

IDC 03 09:54:20.5±1.6, 1.66N×126.78E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/35, mbtmp3.9/5, Error ellipse: s-maj=167.6km s-min=19.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.71	161	P	P	09 59 24.5	+0.3
	2.5nm,0.3s,baz=339,slow=11,SNR=26						
ASAR	Alice Springs	26.11	165	P	P	09 59 56.3	0.0
	1.0nm,0.5s,baz=352,slow=7.6,SNR=18						
STKA	Stephens Creek	36.19	158	P	P	10 01 24.6	-0.5
	2.7nm,0.4s,baz=330,slow=8.5,SNR=8.7						
MKAR	Makanchi Array	59.28	326	P	P	10 04 24.5	+0.4
	0.3nm,0.4s,baz=116,slow=7.9,SNR=6.2						
KURBB	Kurchatov Arra	63.51	328	P	P	10 04 52.1	-0.4
	0.3nm,0.5s,baz=127,slow=6.2,SNR=5.3						

*IDC **03** 10:16:13.7±1.1, 22.85S×112.26W, h0km, mb4.1/11, mb1 4.4/11, mb1mx4.2/33, mbtmp4.1/11, MS4.2/17, Ms1 4.2/17, ms1mx4.1/20, Error ellipse: s-maj=35.5km s-min=21.2km az=41.0*
*ISCJB **03** 10:16:14.1±0.6, 22.76S±0.08×112.15W±0.09, h10km, mb5.0/73, MS4.3/24, Error ellipse: s-maj=14.0km s-min=8.8km az=138.3*

MOS **03** 10:16:14.5±0.8, 22.71S×112.15W, h10km, mb5.2/18,
Error ellipse: s-maj=26.6km s-min=8.8km az=91.6
NEIC **03** 10:16:15.2±0.3, 22.94S×112.27W, h10km, mb5.1/61,
Error ellipse: s-maj=10.1km s-min=5.9km az=54.0
GCMT **03** 10:16:15.2±0.2, 23.08S×111.98W, h12km, MW5.0/95, Moment Tensor Solution. s58,c72; s95,c148; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.93±.08; $M_{\theta\theta}$2.22±.09; $M_{\phi\phi}$1.71±.09; $M_{r\theta}$-0.79±.26; $M_{\theta\phi}$-1.80±.07; $M_{\phi r}$-0.96±.30; Best double couple: $M_0$4.03200×10^{16} NP1: ϕ_s326.00000°, δ47.00000°, λ-68.00000°. NP2: ϕ_s116.00000°, δ47.00000°, λ-112.00000°. Principal axes: T 3.7830, Plg0.0000°, Azm41.0000°; N 0.4980, Plg16.0000°, Azm131.0000°; P -4.2810, Plg74.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI **03** 10:16:17.2, 22.90S×112.30W, h10km, mB5.3/11, Ms5.2/12, Ms7 4.8/12

ISC 03 10:16:15.1±0.4, **23.0S**±0.1×**112.23W**±0.08, **h10km, n492,** σ**1.00**/495, **mb5.0**/73, **MS4.4**/25, **144C-172D, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**20.92**	**265**	eLQ	LQ	10 24 57.7	
	1μm,29.5s						
RKT				eLR	LR	10 25 58.2	
	2μm,29.0s,baz=96						
RKT	**Rikitea**	**20.92**	**265**	eT	T	10 42 27.3	
	3.0nm,0.3s						
H03N2	**Juan Fernandez**	**31.00**	**117**	T	T	10 55 10.7	
	baz=282,slow=74,SNR=249						
H03N3	**Juan Fernandez**	**31.01**	**117**	T	T	10 55 17.6	
	baz=282,slow=74,SNR=413						
H03N1	**Juan Fernandez**	**31.02**	**117**	T	T	10 55 12.0	
	baz=282,slow=74,SNR=248						
TBI	**Tubuai**	**34.16**	**262**	eLQ	LQ	10 30 43.9	
	408nm,31.0s						
TBI				eLR	LR	10 32 05.1	
	943nm,27.8s,baz=93						
TBI	**Tubuai**	**34.16**	**262**	eT	T	10 59 01.8	
	4.1nm,0.3s						
PPT2	**Papeete2**	**35.37**	**272**	eS	**S**	**10 28 41.6**	**-4.4**
	148nm,25.5s						
PPT2				eLR	LR	10 32 28.5	
	466nm,25.2s,baz=96						
PPT	**Papeete**	**35.38**	**272**	LR	LR	10 32 36.4	
	comp=Z,98nm,19.6s,baz=166,slow=28						
ATAH	**Atahualpa**	**36.16**	**69**	P	**P**	**10 23 18.6**	**+0.2**
	3.9nm,0.6s,baz=248,slow=10,SNR=5.9						
PLCA	**Paso Flores**	**39.13**	**127**	eP	**P**	**10 23 44.8**	**+1.9**
PLCA				pmax	pmax		
	comp=Z,43nm,1.7s						
PLCA	**Paso Flores**	**39.13**	**127**	LR	LR	10 36 05.5	
	comp=Z,82nm,21.9s,baz=288,slow=30						
PLCA	**Paso Flores**	**39.13**	**127**	eP	**P**	**10 23 44.8**	**+1.9**
	comp=Z,43nm,1.7s						
CFAA	**Coronel Fontan**	**39.80**	**112**	P	**P**	**10 23 47.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=270,slow=8.6,SNR=7.7						
CFAA				LR	LR	10 36 06.3	
	comp=Z,49nm,19.6s,baz=270,slow=30						
LVC	**Limon Verde**	**39.82**	**98**	eP	**P**	**10 23 50.6**	**+1.4**
	comp=Z,42nm,1.5s						
OTAV	**Otavalo**	**40.17**	**60**	eP	**P**	**10 23 53.1**	**+0.8**
	comp=Z,43nm,1.7s						
LPAZ	**La Paz**	**41.95**	**89**	eP	**P**	**10 24 07.7**	**+0.6**
LPAZ	**La Paz**	**41.95**	**89**	P	**P**	**10 24 07.9**	**+0.8**
	comp=Z,15nm,1.2s,baz=252,slow=7.6,SNR=26						
LPAZ				LR	LR	10 37 22.4	
	comp=Z,314nm,20.1s,baz=248,slow=30						
LPAZ	**La Paz**	**41.95**	**89**	eP	**P**	**10 24 07.7**	**+0.6**
	comp=Z,68nm,1.6s						
TRQA	**Tornquist**	**45.27**	**121**	eP	**P**	**10 24 34.6**	**+1.6**
	comp=Z,107nm,2.1s						
ROSC	**El Rosal**	**46.24**	**58**	LR	LR	10 40 18.5	
	comp=Z,466nm,19.6s,baz=210,slow=31						
CPUP	**Villa Florida**	**49.69**	**106**	LR	LR	10 42 51.8	
	comp=Z,83nm,19.5s,baz=248,slow=32						
034A	**Hebbronville**	**51.49**	**15**	⇑P	**P**	**10 25 21.7**	**+0.8**
	baz=52						
SDV	**Santo Domingo**	**51.60**	**57**	eP	**P**	**10 25 21.6**	**-0.7**
	comp=Z,7.0nm,0.8s						
933A	**Laredo**	**51.87**	**15**	⇓P	**P**	**10 25 24.4**	**+0.6**
	baz=52						
832A	**Faith Ranch, C**	**52.36**	**14**	⇑P	**P**	**10 25 26.7**	**-0.7**
	baz=53						
833A	**Chaparral WMA,**	**52.53**	**14**	⇓P	**P**	**10 25 28.9**	**+0.3**
	baz=53,SNR=5.8						
834A	**Tilden**	**52.54**	**15**	⇓P	**P**	**10 25 28.3**	**-0.4**
	baz=53						
TXAR	**Lajitas Array**	**52.70**	**9**	P	**P**	**10 25 28.9**	**-1.2**
	comp=Z,1.0nm,1.0s,baz=186,slow=10,SNR=6.1						
TXAR				LR	LR	10 43 46.9	
	comp=Z,288nm,18.0s,baz=0.0,slow=32						
732A	**Laxson Ranch,**	**52.79**	**14**	⇓P	**P**	**10 25 29.9**	**-0.7**
	baz=53						
626A	**Big Bend Ranch**	**52.85**	**9**	⇑P	**P**	**10 25 31.6**	**+0.5**
	baz=53,SNR=7.2						
627A	**Terlingua Ranc**	**52.86**	**10**	⇓P	**P**	**10 25 31.7**	**+0.5**
	baz=53,SNR=6.4						
733A	**Divot King Ran**	**52.93**	**14**	⇑P	**P**	**10 25 31.4**	**-0.2**
	baz=53						
628A	**Black Gap, Mar**	**52.98**	**10**	⇑P	**P**	**10 25 32.0**	**0.0**
	baz=53						
734A	**La Parita Cree**	**53.23**	**15**	⇑P	**P**	**10 25 33.8**	**+0.1**
	baz=53						
526A	**Mary Lane Ranc**	**53.36**	**9**	⇑P	**P**	**10 25 35.0**	**+0.1**
	baz=54,SNR=7.5						
527A	**Woodward Ranch**	**53.51**	**9**	⇑P	**P**	**10 25 36.0**	**0.0**
	baz=54,SNR=6.7						
632A	**Uvalde**	**53.58**	**14**	⇓P	**P**	**10 25 35.8**	**-0.6**
	baz=54						
528A	**Cox Ranch, San**	**53.65**	**10**	⇑P	**P**	**10 25 36.9**	**-0.1**
	baz=54						
633A	**Saathoff Ranch**	**53.67**	**14**	⇑P	**P**	**10 25 37.8**	**+0.8**
	baz=54						
529A	**Stev Forest Ra**	**53.71**	**11**	⇓P	**P**	**10 25 37.2**	**-0.2**
	baz=54,SNR=6.1						
530A	**J-C Ranch, Com**	**53.89**	**12**	⇑P	**P**	**10 25 38.3**	**-0.4**
	baz=54,SNR=8.3						
425A	**Indio Mountain**	**53.95**	**8**	⇓P	**P**	**10 25 38.7**	**-0.5**
	baz=54,SNR=7.5						
426A	**McDonald Obser**	**53.96**	**9**	⇓P	**P**	**10 25 39.2**	**-0.2**
	baz=54,SNR=8.3						
531A	**Rocksprings**	**54.06**	**13**	⇓P	**P**	**10 25 39.5**	**-0.5**
	baz=54						
319A	**Douglas**	**54.16**	**3**	⇑P	**P**	**10 25 40.8**	**+0.1**
	baz=54,SNR=5.7						
428A	**Kincaid Ranch,**	**54.22**	**10**	⇑P	**P**	**10 25 41.2**	**0.0**
	baz=54						
427A	**Hayter Ranch,**	**54.23**	**9**	⇑P	**P**	**10 25 41.1**	**-0.1**
	baz=54,SNR=7.8						
429A	**Davenport Ranc**	**54.26**	**11**	⇑P	**P**	**10 25 40.8**	**-0.6**
	baz=54						
533A	**Kerrville**	**54.29**	**14**	⇑P	**P**	**10 25 40.8**	**-0.8**
	baz=54						
534A	**Blanco**	**54.38**	**15**	⇑P	**P**	**10 25 41.7**	**-0.6**
	baz=55						
JCT	**Junction City**	**54.52**	**13**	eP	**P**	**10 25 43.3**	**+0.1**
JCT				pmax	pmax		
	comp=Z,62nm,1.6s						
JCT	**Junction City**	**54.52**	**13**	eP	**P**	**10 25 43.3**	**+0.1**
	comp=Z,62nm,1.6s						
JCT	**Junction City**	**54.52**	**13**	⇑P	**P**	**10 25 42.9**	**-0.3**
	baz=55,SNR=7.5						
430A	**Baggett Ranch,**	**54.53**	**12**	⇑P	**P**	**10 25 42.9**	**-0.4**
	baz=55						
431A	**Sonora**	**54.55**	**12**	⇑P	**P**	**10 25 43.7**	**+0.2**
	baz=55,SNR=6.8						
214A	**Organ Pipe Nat**	**54.67**	**359**	⇓P	**P**	**10 25 44.6**	**+0.2**
	baz=55,SNR=7.3						
328A	**Wristen Ranch,**	**54.84**	**10**	⇓P	**P**	**10 25 45.0**	**-0.7**
	baz=55						
432A	**Menard**	**54.91**	**13**	⇑P	**P**	**10 25 45.3**	**-0.8**
	baz=55						
433A	**Art**	**54.94**	**14**	⇓P	**P**	**10 25 45.5**	**-0.8**
	baz=55						
TUC	**Tucson**	**55.04**	**1**	eP	**P**	**10 25 46.6**	**-0.4**
TUC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TUC	**Tucson**	**55.04**	**1**	eP	**P**	**10 25 46.6**	**-0.4**
	comp=Z,7.5nm,1.1s						
329A	**Wagon Wheel Ra**	**55.08**	**11**	⇑P	**P**	**10 25 47.1**	**-0.3**
	baz=55						
330A	**Mertzon**	**55.15**	**12**	⇑P	**P**	**10 25 47.0**	**-0.8**
	baz=55						
434A	**Burnet**	**55.18**	**15**	⇑P	**P**	**10 25 47.6**	**-0.4**
	baz=55,SNR=7.4						
331A	**San Angelo**	**55.20**	**12**	⇑P	**P**	**10 25 47.5**	**-0.7**
	baz=55						
225A	**Deer Hill, Car**	**55.28**	**8**	⇑P	**P**	**10 25 48.2**	**-0.8**
	baz=56						
435B	**Jarrell**	**55.31**	**15**	⇑P	**P**	**10 25 49.3**	**+0.3**
	baz=56						
226B	**Tecolote Peak,**	**55.33**	**8**	⇑P	**P**	**10 25 48.5**	**-0.6**
	baz=56,SNR=6.2						
PTGA	**Pitinga**	**55.34**	**74**	eP	**P**	**10 25 49.0**	**-0.5**
	comp=Z,46nm,1.7s						
332A	**Millersview**	**55.41**	**13**	⇑P	**P**	**10 25 49.0**	**-0.6**
	baz=56						
121A	**Cookes Peak, D**	**55.41**	**5**	⇓P	**P**	**10 25 49.7**	**-0.1**
	baz=56,SNR=6.5						
333A	**Richland Sprin**	**55.51**	**14**	⇑P	**P**	**10 25 49.6**	**-0.8**
	baz=56,SNR=5.4						
BAR	**Barrett**	**55.55**	**355**	eP	**P**	**10 25 50.8**	**+0.1**
	comp=Z,111nm,1.3s						
228A	**UT Block 9, Go**	**55.60**	**10**	⇓P	**P**	**10 25 50.2**	**-0.9**
	baz=56						
334A	**Lometa**	**55.69**	**15**	⇓P	**P**	**10 25 50.6**	**-1.0**
	baz=56						
MONP	**Monument Peak**	**55.74**	**356**	⇑P	**P**	**10 25 52.2**	**-0.1**
	baz=56						
125A	**Gardner Draw,**	**55.84**	**8**	⇑P	**P**	**10 25 52.1**	**-0.8**
	baz=56,SNR=18						
232A	**Coleman**	**55.91**	**13**	⇓P	**P**	**10 25 51.9**	**-1.4**
	baz=56						
127A	**Arkansas Junct**	**56.03**	**9**	⇓P	**P**	**10 25 52.8**	**-1.4**
	baz=56						
Z14A	**Wintersburg**	**56.08**	**359**	⇑P	**P**	**10 25 53.8**	**-0.6**
	baz=56						
128A	**Castleberry Fa**	**56.11**	**10**	⇑P	**P**	**10 25 54.2**	**-0.5**
	baz=56,SNR=7.7						
Z22A	**Elephant Butte**	**56.19**	**5**	⇓P	**P**	**10 25 55.0**	**-0.4**
	baz=56,SNR=5.7						
233A	**Rising Star**	**56.20**	**14**	⇓P	**P**	**10 25 54.4**	**-0.9**
	baz=56,SNR=6.6						
129A	**Stewart Farms,**	**56.22**	**11**	⇑P	**P**	**10 25 55.0**	**-0.5**
	baz=56,SNR=5.2						
130A	**Snyder**	**56.34**	**11**	⇑P	**P**	**10 25 55.3**	**-1.1**
	baz=57						
234A	**Clairette**	**56.35**	**14**	⇓P	**P**	**10 25 55.7**	**-0.7**
	baz=57,SNR=6.4						
Z24A	**Sheeppen Canyo**	**56.42**	**7**	⇑P	**P**	**10 25 56.4**	**-0.7**
	baz=57						
CIS	**Catalina Islan**	**56.42**	**354**	⇑P	**P**	**10 25 57.2**	**+0.3**
	baz=57						
Z25A	**Roswell**	**56.45**	**8**	⇓P	**P**	**10 25 56.8**	**-0.4**
	baz=57,SNR=9.4						
BC3	**Big Chuckawall**	**56.45**	**357**	⇓P	**P**	**10 25 57.2**	**+0.1**
	baz=57,SNR=6.9						
PFO	**Pinyon Flat Ob**	**56.46**	**356**	P	**P**	**10 25 57.9**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=170,slow=8.1,SNR=4.4						
PFO	**Pinyon Flat Ob**	**56.46**	**356**	⇓P	**P**	**10 25 56.4**	**-0.9**
	baz=57						
Y12C	**Blythe**	**56.50**	**358**	⇓P	**P**	**10 25 57.6**	**+0.2**
	baz=57,SNR=5.6						
Z26A	**Caprock**	**56.53**	**8**	⇑P	**P**	**10 25 56.4**	**-1.4**
	baz=57,SNR=12						
ABTX	**Abilene, Hawle**	**56.63**	**13**	⇑P	**P**	**10 25 57.0**	**-1.3**
	baz=57						
Y14A	**Wickenburg**	**56.65**	**359**	⇑P	**P**	**10 25 58.2**	**-0.4**
	baz=57,SNR=6.2						
Z27A	**Tatum**	**56.68**	**9**	⇓P	**P**	**10 25 57.8**	**-1.0**
	baz=57,SNR=14						
133A	**Hamilton Ranch**	**56.76**	**13**	⇑P	**P**	**10 25 58.6**	**-0.7**
	baz=57,SNR=6.5						
Z28A	**Tucker Farm, M**	**56.78**	**10**	⇓P	**P**	**10 25 58.3**	**-1.2**
	baz=57						
BELC	**Belle Mtn. Jos**	**56.82**	**356**	⇓P	**P**	**10 25 59.5**	**-0.3**
	baz=57,SNR=7.0						
Z29A	**Hungry Hill Ra**	**56.86**	**11**	⇓P	**P**	**10 25 59.1**	**-1.0**
	baz=57,SNR=8.5						
134A	**White-Moore Ra**	**56.91**	**14**	⇓P	**P**	**10 25 59.4**	**-0.9**
	baz=57						
IRM	**Iron Mountain**	**56.94**	**357**	⇓P	**P**	**10 26 00.3**	**-0.2**
	baz=57,SNR=8.7						
Y23A	**Lovelace Mesa,**	**56.94**	**6**	⇑P	**P**	**10 26 00.1**	**-0.7**
	baz=57,SNR=12						
Z30A	**Sanderson Ranc**	**56.99**	**11**	⇓P	**P**	**10 25 59.7**	**-1.2**
	baz=57,SNR=5.1						
Y24A	**Capitan**	**57.00**	**7**	⇓P	**P**	**10 26 00.8**	**-0.5**
	baz=57,SNR=12						
PDMCI	**Parker Dam,Lak**	**57.04**	**358**	⇑P	**P**	**10 26 00.7**	**-0.5**
	baz=57						
Y25A	**Mesa, Roswell**	**57.08**	**7**	⇓P	**P**	**10 26 01.1**	**-0.6**
	baz=57,SNR=8.0						
LENM	**Lemitar**	**57.09**	**5**	eP	**P**	**10 26 01.8**	**0.0**
X16A	**Lo Mia Camp, P**	**57.13**	**1**	⇓P	**P**	**10 26 02.2**	**+0.1**
	baz=57,SNR=5.5						
BFSC	**Mount Baldy Ra**	**57.18**	**355**	⇓P	**P**	**10 26 01.5**	**-0.9**
	baz=57						
Y26A	**Elida**	**57.19**	**8**	⇑P	**P**	**10 26 01.2**	**-1.3**
	baz=57,SNR=10.0						
Z31A	**Sharp Cattle R**	**57.20**	**12**	⇓P	**P**	**10 26 01.7**	**-0.7**
	baz=57,SNR=5.8						
Y27A	**Causey**	**57.25**	**9**	⇓P	**P**	**10 26 02.0**	**-0.9**
	baz=58,SNR=12						
LPM	**Los Pinos Moun**	**57.27**	**6**	eP	**P**	**10 26 02.9**	**-0.2**
X18A	**Snowflake**	**57.28**	**2**	⇑P	**P**	**10 26 03.4**	**+0.2**
	baz=58,SNR=11						
LAZ	**Ladron**	**57.31**	**5**	eP	**P**	**10 26 03.4**	**0.0**
	comp=Z,38nm,2.0s						
Z32A	**Haskell**	**57.32**	**13**	⇓P	**P**	**10 26 03.0**	**-0.3**
	baz=58,SNR=9.0						
MSTX	**Muleshoe**	**57.39**	**9**	eP	**P**	**10 26 02.5**	**-1.3**
MSTX	**Muleshoe**	**57.39**	**9**	⇓P	**P**	**10 26 02.6**	**-1.3**
	baz=58,SNR=8.8						
Y28A	**McKinney Farm,**	**57.41**	**10**	⇓P	**P**	**10 26 02.4**	**-1.6**
	baz=58						
Z33A	**Whitaker Ranch**	**57.45**	**13**	⇑P	**P**	**10 26 02.9**	**-1.3**
	baz=58						
Y29A	**Porterfield Fa**	**57.45**	**10**	⇑P	**P**	**10 26 02.7**	**-1.6**
	baz=58						
X23A	**Hourglass Bar**	**57.57**	**6**	⇓P	**P**	**10 26 04.7**	**-0.6**
	baz=58						
GMRC	**Granite Mounta**	**57.58**	**357**	⇓P	**P**	**10 26 05.3**	**+0.1**
	baz=58,SNR=12						
Y30A	**Stafford Cattl**	**57.60**	**11**	⇑P	**P**	**10 26 04.4**	**-1.0**
	baz=58						
HEC	**Hector,Ludlow**	**57.67**	**356**	⇑P	**P**	**10 26 05.5**	**-0.2**
	baz=58						
Y31A	**Rekieta Farm,**	**57.80**	**12**	⇑P	**P**	**10 26 06.0**	**-0.7**
	baz=58,SNR=5.2						
W13A	**Hualapai Mount**	**57.83**	**358**	⇓P	**P**	**10 26 06.9**	**-0.1**
	baz=58,SNR=9.3						
Z35A	**Perchaven, San**	**57.83**	**15**	⇑P	**P**	**10 26 06.4**	**-0.4**
	baz=58						
EDW2	**Edwards Air Fo**	**57.84**	**354**	⇓P	**P**	**10 26 07.1**	**+0.1**
	baz=58						
LDFC	**Landfair**	**57.85**	**357**	eP	**P**	**10 26 07.7**	**+0.6**
	comp=Z,7.5nm,0.5s						
W18A	**Petrified Fore**	**57.87**	**2**	⇓P	**P**	**10 26 07.2**	**-0.1**
	baz=58						
ANMO	**Albuquerque**	**57.91**	**6**	⇓iP	**P**	**10 26 07.4**	**-0.2**
ANMO				pmax	pmax		
	comp=Z,45nm,2.5s						
ANMO	**Albuquerque**	**57.91**	**6**	P	**P**	**10 26 07.3**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=152,slow=12,SNR=4.8						
ANMO	**Albuquerque**	**57.91**	**6**	P	**P**	**10 26 07.3**	**-0.2**
	comp=Z,27nm,2.4s						
Y32A	**R-V Farms, Ver**	**58.00**	**13**	⇓P	**P**	**10 26 07.6**	**-0.4**
	baz=58,SNR=8.0						
X27A	**F and S Farms,**	**58.01**	**9**	⇓P	**P**	**10 26 07.1**	**-1.1**
	baz=58						
X28A	**Dimmitt**	**58.01**	**10**	⇑P	**P**	**10 26 07.1**	**-1.1**
	baz=58						
X29A	**Tulia**	**58.02**	**10**	⇓P	**P**	**10 26 07.3**	**-1.0**
	baz=58						
W23A	**Werner Place,**	**58.15**	**6**	⇓P	**P**	**10 26 08.8**	**-0.6**
	baz=58,SNR=5.3						
X30A	**Coker Ranch, T**	**58.16**	**11**	⇓P	**P**	**10 26 08.7**	**-0.5**
	baz=58						
GSC	**Goldstone**	**58.17**	**356**	eP	**P**	**10 26 09.8**	**+0.5**
GSC				pmax	pmax		
	comp=Z,14nm,1.3s						
GSC	**Goldstone**	**58.17**	**356**	eP	**P**	**10 26 09.8**	**+0.5**
	comp=Z,14nm,1.3s						
GSC	**Goldstone**	**58.17**	**356**	⇓P	**P**	**10 26 09.7**	**+0.4**
	baz=58						
ARVC	**Arvin**	**58.17**	**354**	⇓P	**P**	**10 26 09.2**	**0.0**
	baz=58						
Y33A	**Hilltop Ranch,**	**58.18**	**13**	⇓P	**P**	**10 26 08.8**	**-0.4**
	baz=58						
WUAZ	**Wupatki**	**58.23**	**1**	eP	**P**	**10 26 09.5**	**-0.3**
WUAZ	**Wupatki**	**58.23**	**1**	⇓P	**P**	**10 26 09.9**	**+0.2**
	baz=58						
TUQ	**Turquoise Moun**	**58.24**	**356**	⇓P	**P**	**10 26 10.0**	**+0.1**
	baz=58						
W24A	**Lazy 6 Ranch,**	**58.28**	**7**	⇓P	**P**	**10 26 09.9**	**-0.3**
	baz=58,SNR=11						
Y34A	**Reagan Ranch,**	**58.32**	**14**	⇑P	**P**	**10 26 09.3**	**-0.9**
	baz=58						
W26A	**Owens Ranch, T**	**58.35**	**8**	⇓P	**P**	**10 26 09.8**	**-0.8**
	baz=59						
W25A	**X Bar L Ranch,**	**58.39**	**7**	⇑P	**P**	**10 26 10.3**	**-0.6**
	baz=59,SNR=11						
LRMC	**Laurel Mountai**	**58.41**	**355**	⇓P	**P**	**10 26 10.9**	**-0.1**
	baz=59,SNR=6.6						
W27A	**Bowe Ranch, En**	**58.42**	**9**	⇑P	**P**	**10 26 10.5**	**-0.6**
	baz=59,SNR=5.6						
X32A	**Elmer**	**58.44**	**13**	⇓P	**P**	**10 26 10.5**	**-0.6**
	baz=59,SNR=9.0						
AMTX	**Amarillo**	**58.45**	**10**	eP	**P**	**10 26 10.6**	**-0.7**
	comp=Z,51nm,1.8s						
AMTX	**Amarillo**	**58.45**	**10**	⇓P	**P**	**10 26 10.6**	**-0.7**
	baz=59						
X31A	**McDonald Ranch**	**58.51**	**12**	⇑P	**P**	**10 26 10.6**	**-1.0**
	baz=59						
ISA	**Isabella**	**58.66**	**354**	eP	**P**	**10 26 12.3**	**-0.4**
ISA				pmax	pmax		
	comp=Z,111nm,1.9s						
ISA	**Isabella**	**58.66**	**354**	eP	**P**	**10 26 12.3**	**-0.4**
	comp=Z,111nm,1.9s						
ISA	**Isabella**	**58.66**	**354**	⇑P	**P**	**10 26 12.3**	**-0.4**
	baz=59						
W29A	**Amraillo**	**58.69**	**10**	⇑P	**P**	**10 26 12.3**	**-0.7**
	baz=59						
SHOC	**Shoshone**	**58.73**	**356**	⇓P	**P**	**10 26 13.2**	**+0.1**
	baz=59,SNR=6.6						
W28A	**Vega**	**58.74**	**10**	⇓P	**P**	**10 26 12.4**	**-0.8**
	baz=59						
V24A	**Rampart Ranch,**	**58.80**	**7**	⇑P	**P**	**10 26 13.5**	**-0.3**
	baz=59						
V22A	**San Miguel Ran**	**58.83**	**5**	⇓P	**P**	**10 26 13.9**	**-0.2**
	baz=59,SNR=6.4						
VES	**Vestal, Richgr**	**58.90**	**353**	⇑P	**P**	**10 26 14.6**	**+0.3**
	baz=59,SNR=5.5						
X34A	**Smith Ranch, M**	**58.92**	**14**	⇓P	**P**	**10 26 13.9**	**-0.5**
	baz=59						
V25A	**Rancho No Teng**	**58.98**	**7**	⇑P	**P**	**10 26 14.4**	**-0.6**
	baz=59,SNR=6.8						
V26A	**Tequesquite Ra**	**59.04**	**8**	⇑P	**P**	**10 26 14.7**	**-0.7**
	baz=59,SNR=8.1						
W31A	**Holland Ranch,**	**59.05**	**12**	⇓P	**P**	**10 26 14.3**	**-1.1**
	baz=59						
W32A	**Sentinel**	**59.13**	**12**	⇓P	**P**	**10 26 14.5**	**-1.4**
	baz=59						
U15A	**North Rim**	**59.13**	**360**	⇓P	**P**	**10 26 16.6**	**+0.4**
	baz=59,SNR=9.8						
V27A	**Dan Oppiter Fa**	**59.13**	**9**	⇓P	**P**	**10 26 15.1**	**-0.9**
	baz=59						
DAC	**Darwin (Calif)**	**59.20**	**355**	eP	**P**	**10 26 16.1**	**-0.4**
DAC				pmax	pmax		
	comp=Z,11nm,1.3s						
DAC	**Darwin (Calif)**	**59.20**	**355**	eP	**P**	**10 26 16.1**	**-0.4**
	comp=Z,11nm,1.3s						
SHPR	**Sheep Range**	**59.27**	**357**	eP	**P**	**10 26 17.0**	**0.0**
U22A	**Llaves**	**59.30**	**5**	⇑P	**P**	**10 26 17.5**	**+0.2**
	baz=60,SNR=8.4						
U23A	**El Rito**	**59.31**	**6**	⇑P	**P**	**10 26 17.4**	**+0.1**
	baz=60,SNR=11						
W33A	**Caddo, Fort Co**	**59.31**	**13**	⇑P	**P**	**10 26 16.7**	**-0.5**
	baz=60						
FURC	**Furnace Creek,**	**59.33**	**356**	⇑P	**P**	**10 26 17.4**	**+0.2**
	baz=60,SNR=6.3						
W34A	**Bridge Creek,**	**59.54**	**14**	⇓P	**P**	**10 26 17.6**	**-1.1**
	baz=60						
U25A	**Circle Dot Ran**	**59.56**	**7**	⇑P	**P**	**10 26 18.5**	**-0.6**
	baz=60						
U26A	**Atchley Ranch,**	**59.64**	**8**	⇑P	**P**	**10 26 18.9**	**-0.8**
	baz=60						
V31A	**Spring Creek L**	**59.64**	**12**	⇑P	**P**	**10 26 19.2**	**-0.3**
	baz=60						
V32A	**Arapaho**	**59.74**	**12**	⇑P	**P**	**10 26 19.7**	**-0.5**
	baz=60						
U27A	**Thompson Grove**	**59.79**	**9**	⇑P	**P**	**10 26 19.9**	**-0.7**
	baz=60						
GRAC	**Grapevine Rang**	**59.90**	**355**	⇓P	**P**	**10 26 21.4**	**+0.2**
	baz=60						
V33A	**Lossen Ranch,**	**59.99**	**13**	⇓P	**P**	**10 26 21.4**	**-0.5**
	baz=60						
MVCO	**Mesa Verde**	**60.01**	**3**	eP	**P**	**10 26 21.7**	**-0.6**
	comp=Z,51nm,1.5s						
MVCO	**Mesa Verde**	**60.01**	**3**	⇓P	**P**	**10 26 22.1**	**-0.1**
	baz=60,SNR=9.1						
T23A	**Casias Ranch,**	**60.02**	**6**	⇓P	**P**	**10 26 22.0**	**-0.3**
	baz=60						
T24B	**San Luis**	**60.11**	**6**	⇑P	**P**	**10 26 22.6**	**-0.4**
	baz=60						
CCUT	**Cedar City**	**60.26**	**359**	eP	**P**	**10 26 24.1**	**+0.2**
	comp=Z,16nm,1.2s						
U32A	**Winter Ranch,**	**60.39**	**12**	⇑P	**P**	**10 26 24.1**	**-0.5**
	baz=61						
T26A	**Comanche Natio**	**60.43**	**8**	⇑P	**P**	**10 26 24.6**	**-0.4**
	baz=61,SNR=5.5						
T27A	**Campo**	**60.43**	**9**	⇓P	**P**	**10 26 24.0**	**-0.9**
	baz=61						
ARUT	**Antelope Range**	**60.50**	**359**	eP	**P**	**10 26 25.4**	**0.0**
ARUT	**Antelope Range**	**60.50**	**359**	eP	**P**	**10 26 25.4**	**0.0**
	comp=Z,721nm,1.9s						
T28A	**Walsh**	**60.58**	**9**	⇑P	**P**	**10 26 24.8**	**-1.1**
	baz=61						
U33A	**Lingo Farm, Me**	**60.62**	**13**	⇑P	**P**	**10 26 24.9**	**-1.2**
	baz=61						
BDFB	**Brasilia**	**60.64**	**96**	LR	LR	10 49 32.6	
	comp=Z,184nm,20.9s,baz=251,slow=33						
TUL1	**Tulsa**	**60.64**	**15**	eP	**P**	**10 26 25.2**	**-1.0**
	comp=Z,16nm,1.1s						
TUL1	**Tulsa**	**60.64**	**15**	⇓P	**P**	**10 26 25.2**	**-1.0**
	baz=61						
S22A	**4UR Ranch, Cre**	**60.66**	**5**	⇓P	**P**	**10 26 26.8**	**+0.1**
	baz=61						
S24A	**Houchin Ranch,**	**60.70**	**6**	⇑P	**P**	**10 26 26.8**	**-0.2**
	baz=61						
T29A	**Hugoton**	**60.74**	**10**	⇑P	**P**	**10 26 26.8**	**-0.2**
	baz=61						
U34A	**Anderson Ranch**	**60.75**	**14**	⇑P	**P**	**10 26 26.5**	**-0.4**
	baz=61						
T30A	**Plains**	**60.77**	**11**	⇓P	**P**	**10 26 26.7**	**-0.5**
	baz=61						
S25A	**Robets Cordova**	**60.80**	**7**	⇓P	**P**	**10 26 27.0**	**-0.6**
	baz=61						
S26A	**Kim**	**60.88**	**8**	⇓P	**P**	**10 26 27.5**	**-0.5**
	baz=61						
PV01	**Paradox Valley**	**60.93**	**3**	eP	**P**	**10 26 27.9**	**-0.6**
	comp=Z,958nm,1.6s						
TPH	**Tonopah**	**60.95**	**355**	eP	**P**	**10 26 28.6**	**0.0**
TPH				pmax	pmax		
	comp=Z,27nm,1.4s						
TPH	**Tonopah**	**60.95**	**355**	eP	**P**	**10 26 28.6**	**0.0**
	comp=Z,27nm,1.4s						
T31A	**Randall Ranch,**	**60.96**	**11**	⇑P	**P**	**10 26 28.0**	**-0.4**
	baz=61						
S28A	**Manter**	**61.07**	**9**	⇑P	**P**	**10 26 28.9**	**-0.4**
	baz=61						
R11A	**Troy Canyon, C**	**61.13**	**357**	eP	**P**	**10 26 30.1**	**+0.4**
	comp=Z,30nm,1.8s						
R11A	**Troy Canyon, C**	**61.13**	**357**	⇓P	**P**	**10 26 30.4**	**+0.6**
	baz=61,SNR=9.6						
PV04	**Paradox Valley**	**61.17**	**3**	eP	**P**	**10 26 29.1**	**-0.9**
T32A	**Huddler Ranch,**	**61.18**	**12**	⇑P	**P**	**10 26 29.6**	**-0.3**
	baz=61						
R23A	**Moffat**	**61.19**	**6**	⇓P	**P**	**10 26 30.1**	**-0.2**
	baz=61						
MVU	**Marysvale**	**61.20**	**0**	eP	**P**	**10 26 30.9**	**+0.6**
	comp=Z,22nm,1.8s						
CMB	**Columbia Colle**	**61.22**	**353**	eP	**P**	**10 26 29.9**	**-0.3**
CMB	**Columbia Colle**	**61.22**	**353**	eP	**P**	**10 26 29.9**	**-0.3**
S29A	**Ulysses**	**61.22**	**10**	⇓P	**P**	**10 26 29.8**	**-0.5**
	baz=62						
R24A	**Sanders Place,**	**61.30**	**6**	⇓P	**P**	**10 26 30.7**	**-0.2**
	baz=62						
R25A	**Fountain Ranch**	**61.30**	**7**	⇑P	**P**	**10 26 30.3**	**-0.6**
	baz=62						
S30A	**Montezuma**	**61.35**	**11**	⇓P	**P**	**10 26 30.8**	**-0.3**
	baz=62						
NVAR	**Mina Array Bea**	**61.39**	**355**	P	**P**	**10 26 30.6**	**-1.0**
	comp=Z,5.2nm,0.7s,baz=183,slow=9.1,SNR=38						
NVAR				LR	LR	10 47 12.5	
	comp=Z,313nm,20.3s,baz=190,slow=30						
S31A	**Mullinville**	**61.50**	**12**	⇓P	**P**	**10 26 31.4**	**-0.7**
	baz=62						
R26A	**Arlington**	**61.55**	**8**	⇓P	**P**	**10 26 31.7**	**-0.9**

baz=62
WAKR Walker 61.58 354 eP P 10 26 33.4 +0.7
R27A Eads 61.62 8 ⇓P P 10 26 32.5 -0.5
baz=62,SNR=6.1
S32A Newby Ranch, P 61.68 12 ⇓P P 10 26 33.0 -0.3
baz=62
R28A Tribune 61.82 9 ⇑P P 10 26 33.7 -0.6
baz=62,SNR=7.4
SRU San Rafael 61.83 2 eP P 10 26 33.6 -0.9
SRU pmax pmax
comp=Z,10.0nm,1.1s
SRU San Rafael 61.83 2 eP P 10 26 33.6 -0.9
comp=Z,10nm,1.1s
R29A Marienthal 62.00 10 ⇑P P 10 26 34.8 -0.7
baz=62
R30A Dighton 62.01 11 ⇓P P 10 26 35.0 -0.5
baz=62
Q25A Bedland, Calha 62.06 7 ⇓P P 10 26 35.6 -0.4
baz=62
P23A Jefferson 62.36 6 ⇓P P 10 26 38.1 -0.1
baz=63
KSCO Kaye Shedlock' 62.36 8 eP P 10 26 37.1 -0.9
comp=Z,61nm,1.8s
KSCO Kaye Shedlock' 62.36 8 ⇑P P 10 26 37.6 -0.4
baz=63
R32A Long Quarter, 62.42 12 ⇑P P 10 26 37.4 -0.9
baz=63
Q29A Oakley 62.48 10 ⇑P P 10 26 38.1 -0.7
baz=63
P22A Eagle 62.50 5 ⇓P P 10 26 38.6 -0.4
baz=63,SNR=6.6
Q28A Sharon Springs 62.52 9 ⇓P P 10 26 38.3 -0.7
baz=63,SNR=5.3
NLU North Lily Min 62.65 0 eP P 10 26 40.0 0.0
comp=Z,16nm,1.3s
P25A Willow Gulch B 62.66 7 ⇓P P 10 26 39.2 -0.9
baz=63
Q30A Quinter 62.69 11 ⇑P P 10 26 39.0 -1.1
baz=63
ISCO Idaho Springs 62.80 6 eP P 10 26 40.3 -0.8
ISCO pmax pmax
comp=Z,22nm,1.8s
ISCO Idaho Springs 62.80 6 eP P 10 26 40.3 -0.8
comp=Z,22nm,1.8s
ISCO Idaho Springs 62.80 6 ⇑P P 10 26 40.1 -1.0
baz=63
P26A Davis Ranch, A 62.81 8 ⇓P P 10 26 40.5 -0.5
baz=63
Q31A Ellis 62.86 11 ⇑P P 10 26 40.8 -0.4
baz=63
DUG Dugway 62.89 359 eP P 10 26 41.2 -0.3
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG Dugway 62.89 359 eP P 10 26 41.2 -0.3
comp=Z,9.9nm,1.1s
DUG Dugway 62.89 359 ⇓P P 10 26 41.2 -0.3
baz=63,SNR=8.7
P27A Ficken Ranch, 62.90 8 ⇑P P 10 26 41.4 -0.2
baz=63
O20A White River Ci 62.94 3 ⇑P P 10 26 41.7 -0.2
baz=63
P28A Saint Francis 63.04 9 ⇑P P 10 26 42.3 -0.2
baz=63
O22A Kremmling 63.08 5 ⇑P P 10 26 42.8 -0.1
baz=63
DAU Daniels Canyon 63.12 1 eP P 10 26 42.9 -0.3
DAU Daniels Canyon 63.12 1 eP P 10 26 42.9 -0.3
P29A Atwood 63.19 10 ⇑P P 10 26 43.3 -0.2
baz=63
P30A Selden 63.24 10 ⇑P P 10 26 43.4 -0.4
baz=64
O25A Wiggins 63.26 7 ⇓P P 10 26 43.5 -0.4
baz=64
BMN Battle Mountai 63.30 356 eP P 10 26 44.8 +0.6
BMN pmax pmax
comp=Z,30nm,1.6s
BMN Battle Mountai 63.30 356 eP P 10 26 44.8 +0.6
comp=Z,30nm,1.6s
JLU Jordanelle 63.30 1 eP P 10 26 43.9 -0.4
comp=Z,44nm,1.9s
P31A Stockton 63.37 11 ⇑P P 10 26 43.9 -0.6
baz=64,SNR=5.3
CTU Camp Tracy 63.39 0 eP P 10 26 44.0 -0.9
comp=Z,66nm,2.5s
ELK Elko 63.50 357 eP P 10 26 46.1 +0.4
ELK pmax pmax
comp=Z,17nm,1.6s
ELK Elko 63.50 357 eP P 10 26 46.1 +0.4
comp=Z,17nm,1.6s
O28A Krutsinger Ran 63.58 9 ⇑P P 10 26 45.8 -0.1
baz=64
P32A Huiting Farm, 63.61 12 ⇓P P 10 26 45.9 -0.2
baz=64
BGU Big Grassy Mou 63.62 359 eP P 10 26 45.5 -0.8
comp=Z,22nm,1.9s
N20A Spence Gulch, 63.64 3 ⇓P P 10 26 46.3 -0.3
baz=64,SNR=10
N22A Wattenberg Ran 63.73 5 ⇑P P 10 26 47.2 0.0
baz=64
N23A Red Feather La 63.86 5 ⇓P P 10 26 47.6 -0.5
baz=64
N24A Carr 63.89 6 ⇓P P 10 26 47.6 -0.6
baz=64
O30A MW Ranch, Wils 63.89 10 ⇓P P 10 26 47.8 -0.2
baz=64
O31A Woolen Ranch, 63.99 11 ⇓P P 10 26 48.4 -0.2
baz=64
N27A Anderson Farm, 64.14 8 ⇓P P 10 26 49.3 -0.4
baz=64
N28A Pribbeno Ranch 64.16 9 ⇓P P 10 26 49.4 -0.4
baz=64
N02D Trinity Center 64.41 351 ⇑P P 10 26 51.3 -0.1
baz=65
N29A Votaw Ranch, W 64.43 10 ⇑P P 10 26 51.2 -0.4
baz=65
M23A Laramie 64.45 5 ⇓P P 10 26 51.4 -0.5
baz=65
M24A Cheyenne 64.53 6 ⇑P P 10 26 52.1 -0.2
baz=65
MOD Modoc 65.03 353 eP P 10 26 55.4 -0.2
comp=Z,12nm,1.1s
M31A Lambtecht Ranc 65.21 11 ⇑P P 10 26 56.4 -0.2
baz=66
WVOR Wild Horse Val 65.40 355 eP P 10 26 57.8 -0.1
WVOR pmax pmax
comp=Z,30nm,1.7s
WVOR Wild Horse Val 65.40 355 eP P 10 26 57.8 -0.1
comp=Z,30nm,1.7s
K21A Alcova 65.49 4 ⇑P P 10 26 57.8 -0.8
baz=66,SNR=5.1
PDAR Pinedale Array 65.51 2 P P 10 26 56.2 -2.5
comp=Z,2.1nm,0.7s,baz=172,slow=5.9,SNR=18
PDAR LR LR 10 50 03.4
comp=Z,172nm,21.8s,baz=177,slow=31
K22A Casper 65.56 5 eP P 10 26 58.4 -0.6
K22A Casper 65.56 5 ⇑P P 10 26 58.1 -0.9
baz=66,SNR=6.2
K23A Bowen Ranch, D 65.73 5 ⇑P P 10 26 59.0 -1.1
baz=66
J19A Crowheart 66.02 3 ⇓P P 10 27 00.9 -1.1
baz=66
L31A Butterfield Fa 66.04 11 ⇓P P 10 27 01.4 -0.6
baz=66
REDW Red Top Meadow 66.07 1 eP P 10 27 01.4 -0.9
J20A Shoshoni 66.16 3 ⇓P P 10 27 01.8 -1.0
baz=66,SNR=5.9
J21A Lysite 66.19 4 ⇓P P 10 27 02.0 -1.0
baz=66,SNR=6.2
MFID Camas Ranch 66.19 357 eP P 10 27 02.2 -0.8
comp=Z,16nm,1.4s
TPAW Teton Pass 66.19 1 eP P 10 27 01.9 -1.3
comp=Z,7.0nm,0.9s
HLID Hailey 66.29 358 eP P 10 27 03.0 -0.7
comp=Z,7.2nm,1.0s
HLID Hailey 66.29 358 ⇓P P 10 27 03.2 -0.5
baz=66,SNR=12
J22A Midwest 66.32 5 ⇓P P 10 27 02.6 -1.2
baz=67
LOHW Long Hollow 66.32 1 eP P 10 27 03.0 -1.0
comp=Z,19nm,1.6s
K29A Lazy Trails An 66.37 10 ⇓P P 10 27 03.3 -0.8
baz=67
J24A Dixon Ranch, L 66.39 6 ⇓P P 10 27 03.9 -0.3
baz=67
K30A Basset 66.40 10 ⇓P P 10 27 04.3 +0.1
baz=67
MOOW Moose Ponds 66.46 1 eP P 10 27 03.8 -1.0
comp=Z,22nm,1.8s

J05D Fort Rock, OR 66.50 353 ⇓P P 10 27 04.9 -0.1
baz=67
J25A Sunshine Ranch 66.54 7 ⇓P P 10 27 04.5 -0.7
baz=67,SNR=6.8
J26A Sides Ranch, S 66.54 7 ⇓P P 10 27 04.5 -0.7
baz=67
J27A Elkhorn Farm, 66.61 8 ⇓P P 10 27 05.6 -0.1
baz=67
I17A Pilgrim Ck. 66.63 1 ⇑P P 10 27 05.3 -0.7
baz=67
I21A Big Trails, Te 66.66 4 ⇓P P 10 27 05.1 -1.0
baz=67,SNR=12
I20A Worland 66.75 3 ⇑P P 10 27 05.5 -1.1
baz=67
FLWY Flagg Ranch 66.79 1 eP P 10 27 06.4 -0.5
comp=Z,14nm,1.2s
I22A 9 Mile Ranch, 66.80 5 ⇓P P 10 27 05.8 -1.1
baz=67
I19A Meeteetse 66.80 3 ⇑P P 10 27 05.7 -1.3
baz=67,SNR=5.3
VNDA Vanda 66.81 194 LR LR 10 50 01.2
comp=Z,374nm,19.9s,baz=102,slow=30
J28A Allard Ranch, 66.89 9 ⇑P P 10 27 07.0 -0.4
baz=67,SNR=5.6
J29A Okreek 67.00 9 ⇑P P 10 27 07.6 -0.5
baz=67,SNR=5.1
I07A Izee 67.11 354 eP P 10 27 08.7 -0.1
comp=Z,33nm,1.8s
RSSD Black Hills 67.24 6 eP P 10 27 08.3 -1.5
RSSD pmax pmax
comp=Z,31nm,1.8s
RSSD Black Hills 67.24 6 eP P 10 27 08.2 -1.5
comp=Z,31nm,1.8s
H20A Greybull 67.29 3 ⇓P P 10 27 09.1 -0.9
baz=68
H18A Shoshone NF, C 67.41 2 ⇑P P 10 27 09.7 -1.2
baz=68,SNR=5.3
I27A Quinn 67.41 8 ⇓P P 10 27 09.9 -0.8
baz=68
H19A Powell 67.43 3 ⇑P P 10 27 09.5 -1.4
baz=68
MCMT McKenzie Canyo 67.52 360 eP P 10 27 11.1 -0.5
comp=Z,34nm,2.2s
QLMT Earthquake Lak 67.53 1 eP P 10 27 11.2 -0.4
comp=Z,0.4nm,0.6s
I29A Vivian Onida 67.61 9 ⇓P P 10 27 11.2 -0.7
baz=68
BMO Blue Mountains 67.70 356 eP P 10 27 11.8 -0.8
comp=Z,24nm,1.8s
H25A Fruitdale 67.78 7 ⇓P P 10 27 12.4 -0.6
baz=68,SNR=6.2
H24A Dirks Ranch, A 67.81 6 ⇑P P 10 27 11.9 -1.3
baz=68
H26A Fairpoint 67.86 7 ⇑P P 10 27 12.5 -1.0
baz=68
ECSD EROS Data Cent 67.96 12 ⇓P P 10 27 13.3 -0.8
baz=68
H27A Howes 67.97 8 ⇓P P 10 27 13.3 -0.9
baz=68
G20A Bridger 68.01 3 ⇑P P 10 27 13.0 -1.5
baz=68
DLMT Dillon 68.06 360 eP P 10 27 14.4 -0.5
comp=Z,34nm,2.0s
G21A Lodge Grass 68.07 4 ⇓P P 10 27 13.8 -1.1
baz=68
H28A Mission Ridge 68.14 9 ⇓P P 10 27 14.5 -0.7
baz=68
G23A Biddle 68.18 5 ⇓P P 10 27 14.8 -0.8
baz=68
H29A Onida 68.21 9 ⇑P P 10 27 14.8 -0.8
baz=68
G06A Carlson Farm, 68.36 354 eP P 10 27 17.0 +0.3
comp=Z,86nm,2.1s
G25A Newell 68.36 7 ⇓P P 10 27 16.3 -0.4
baz=69
G24A Alzada 68.39 6 ⇑P P 10 27 15.9 -1.0
baz=69
G05D Wamic, OR 68.44 353 ⇑P P 10 27 15.7 -1.4
baz=69
G28A Parade 68.55 9 ⇑P P 10 27 16.6 -1.2
baz=69
G26A Maurine 68.55 7 ⇑P P 10 27 16.6 -1.2
baz=69
F20A Billings 68.59 3 ⇓P P 10 27 16.8 -1.4
baz=69
F19A Roth Farm, Mol 68.61 2 ⇓P P 10 27 16.9 -1.4
baz=69
F22A Rosebud 68.69 4 ⇓P P 10 27 17.5 -1.2
baz=69
F23A Volborg 68.70 5 ⇓P P 10 27 17.8 -1.0
baz=69,SNR=5.6
G27A Dupree 68.72 8 ⇑P P 10 27 17.5 -1.3
baz=69
F10A Beach Ranch, E 68.82 356 eP P 10 27 19.0 -0.5
comp=Z,73nm,2.5s
F24A Ekalaka 68.90 6 ⇑P P 10 27 19.1 -1.0
baz=69
F25A Bowman 69.08 7 ⇓P P 10 27 20.3 -0.8
baz=69
F26A Lodgepole 69.09 7 ⇑P P 10 27 20.5 -0.7
baz=69
F27A Lemmon 69.19 8 ⇑P P 10 27 21.2 -0.6
baz=69,SNR=5.0
E19A Rath Farm, Rou 69.22 3 ⇓P P 10 27 21.0 -1.1
baz=70
E20A Meyer Farm, Mu 69.30 3 ⇓P P 10 27 21.4 -1.1
baz=70
F28A McLaughlin 69.33 9 ⇓P P 10 27 21.9 -0.7
baz=70
E22A Miles City 69.37 5 ⇑P P 10 27 22.1 -0.8
baz=70
HRY Holter Researc 69.41 0 eP P 10 27 22.9 -0.3
E09A Wood Farm, Sta 69.42 356 eP P 10 27 21.5 -1.6
comp=Z,39nm,2.0s
F29A Eureka 69.45 9 ⇓P P 10 27 22.4 -0.9
baz=70
MSO Missoula 69.54 359 eP P 10 27 23.5 -0.5
comp=Z,120nm,2.8s
MSO Missoula 69.54 359 ⇓P P 10 27 22.5 -1.5
baz=70
LAO LASA Array 69.59 4 eP P 10 27 21.9 -2.4
comp=Z,177nm,2.6s
E25A Miller Ranch, 69.66 6 ⇓P P 10 27 23.7 -1.0
baz=70
E26A Carlson Angus 69.73 7 ⇑P P 10 27 24.2 -1.0
baz=70
E27A Carson 69.80 8 ⇑P P 10 27 24.6 -0.9
baz=70
D20A Manuel Ranch, 69.88 3 ⇑P P 10 27 24.6 -1.4
baz=70
D21A La Casta Ranch 69.92 4 ⇑P P 10 27 25.6 -0.7
baz=70,SNR=5.3
D19A Cripps Ranch, 69.92 2 ⇑P P 10 27 25.1 -1.2
baz=70
D08A Wollman Farm, 70.01 355 eP P 10 27 27.0 +0.2
comp=Z,121nm,2.8s
E28A Huff 70.05 8 ⇓P P 10 27 26.1 -0.9
baz=70
D22A Cohagen 70.06 4 ⇑P P 10 27 26.4 -0.7
baz=70
D23A Lindsay 70.16 5 ⇑P P 10 27 27.2 -0.6
baz=70
D24A Glendive 70.17 6 ⇓P P 10 27 27.4 -0.4
baz=70
SPMN St. Paul 70.19 14 ⇑P P 10 27 27.8 -0.1
baz=70
E29A Napoleon 70.19 9 ⇑P P 10 27 27.4 -0.6
baz=70
D26A Manning 70.28 7 ⇓P P 10 27 28.4 -0.1
baz=70
D25A Fairfield 70.31 6 ⇓P P 10 27 27.8 -0.8
baz=71
JTMT Jette 70.47 359 eP P 10 27 28.8 -0.9
comp=Z,12nm,1.8s
C19A Slack Wire Ran 70.49 2 ⇓P P 10 27 29.1 -0.7
baz=71
C20A Veseth Ranch, 70.51 3 ⇑P P 10 27 29.2 -0.6
baz=71
C24A Savage 70.58 6 ⇓P P 10 27 30.0 -0.3
baz=71
BSMT Bassoo Peak 70.58 358 eP P 10 27 29.8 -0.7
comp=Z,24nm,2.1s
C22A Vida 70.67 5 ⇓P P 10 27 30.6 -0.3
baz=71,SNR=7.3
C21A Desert Coulee 70.67 4 ⇑P P 10 27 29.8 -1.0
baz=71
C09A Chrisman Ranch 70.70 356 eP P 10 27 31.4 +0.4
comp=Z,42nm,1.6s

EGMT Eagleton 70.75 2 eP P 10 27 31.4 +0.1
comp=Z,43nm,1.6s
EGMT Eagleton 70.75 2 ⇓P P 10 27 31.1 -0.3
baz=71,SNR=5.9
C23A Lambert 70.78 5 ⇑P P 10 27 30.7 -0.8
baz=71
D30A Buchanan 70.86 10 ⇓P P 10 27 31.0 -0.9
baz=71
C25A Freed Ranch, W 70.87 6 ⇓P P 10 27 31.5 -0.5
baz=71
NEW Newport 71.09 357 eP P 10 27 33.1 -0.3
NEW pmax pmax
comp=Z,51nm,1.9s
NEW Newport 71.09 357 eP P 10 27 33.1 -0.3
comp=Z,51nm,1.9s
NEW Newport 71.09 357 ⇓P P 10 27 33.3 -0.1
baz=71,SNR=7.4
C26A Wahner Farm, P 71.11 7 ⇓P P 10 27 32.9 -0.5
baz=71
B19A Brinkman Farms 71.21 2 ⇑P P 10 27 33.9 -0.3
baz=72
B20A Solberg Farm, 71.23 3 ⇓P P 10 27 33.9 -0.4
baz=72,SNR=6.0
B21A Ellsworth Farm 71.28 4 ⇓P P 10 27 34.0 -0.5
baz=72
B25A Knox Farm, Ray 71.43 6 ⇓P P 10 27 34.8 -0.7
baz=72
B23A Brockton 71.45 5 ⇓P P 10 27 34.8 -0.8
baz=72
DGMT Dagmar 71.53 6 ⇓P P 10 27 35.7 -0.3
baz=72
A20A Cobblestone Ra 71.68 3 ⇓P P 10 27 36.3 -0.6
baz=72
A19A Klindworth Far 71.69 2 ⇓P P 10 27 36.4 -0.7
baz=72
B06A Marblemount 71.69 354 eP P 10 27 42.1 +5.2
comp=Z,17nm,0.3s
A22A Carney Farms, 71.91 4 ⇓P P 10 27 37.8 -0.5
baz=72,SNR=5.9
B28A Dugan Ranch, T 71.94 8 ⇓P P 10 27 38.1 -0.4
baz=72
A23A Redstone 71.96 5 ⇓P P 10 27 38.1 -0.5
baz=72
A24A Westby 72.00 6 ⇑P P 10 27 38.6 -0.3
baz=72
A26A Wade Farm, Ken 72.17 7 ⇓P P 10 27 39.7 -0.1
baz=72
B30A Myrvik Farm, E 72.23 10 ⇓P P 10 27 40.0 -0.2
baz=72
A28A Rude Farm, Bot 72.40 8 ⇑P P 10 27 40.9 -0.3
baz=73
AGMN Agassiz Nation 72.50 11 ⇑P P 10 27 41.1 -0.7
baz=73
A29A Manning Farm, 72.56 9 ⇓P P 10 27 42.0 -0.1
baz=73
DZM Mont Dzumac 74.09 252 eS S 10 37 26.0 +0.6
comp=Z,114nm,29.7s
DZM Mont Dzumac 74.09 252 eLR LR 10 50 36.5
comp=Z,869nm,27.2s
ULM Lac du Bonnet 74.38 11 P P 10 27 50.8 -2.0
comp=Z,1.3nm,0.6s,baz=186,slow=11,SNR=3.7
ULM LR LR 10 56 57.8
comp=Z,168nm,19.7s,baz=199,slow=33
EDM Edmonton 75.93 359 eP P 10 28 01.1 -0.6
EDM Edmonton 75.93 359 eP P 10 28 01.1 -0.6
DLBC Dease Lake 82.49 351 eP P 10 28 37.8 +0.2
DLBC ePcP PcP 10 28 43.2 +0.6
FCC Fort Churchill 82.86 9 eP P 10 28 38.8 -0.5
FCC Fort Churchill 82.86 9 eP P 10 28 38.8 -0.5
YKA Yellowknife Ar 85.24 359 P P 10 28 50.7 -0.7
comp=Z,3.1nm,1.1s,baz=176,slow=4.8,SNR=29
HYT Haines Junctio 86.03 348 eP P 10 28 56.1 +0.6
SCHQ Schefferville 86.73 24 LR LR 11 05 57.4
comp=Z,181nm,18.8s,baz=238,slow=34
BMRM Bremner River 87.70 345 eP P 10 29 03.9 +0.2
H11S2 WAKE ISLAND Hy 89.24 290 T T 12 07 53.1
baz=118,slow=73,SNR=31
H11S1 WAKE ISLAND Hy 89.25 290 T T 12 07 52.2
baz=118,slow=73,SNR=18
H11S3 WAKE ISLAND Hy 89.26 290 T T 12 07 55.6
baz=118,slow=73,SNR=18
PMR Palmer 89.38 343 eP P 10 29 10.8 -0.6
PMR pmax pmax
comp=Z,31nm,1.7s
PMR Palmer 89.38 343 eP P 10 29 10.8 -0.6
comp=Z,31nm,1.7s
RSO Redoubt South 89.47 341 eP P 10 29 11.4 -0.8
comp=Z,6.5nm,0.8s
MAW Mawson 89.57 178 LR LR 11 05 12.9
comp=Z,455nm,20.9s,baz=169,slow=33
H11N3 WAKE ISLAND Hy 89.57 292 T T 12 08 21.7
baz=154,slow=74,SNR=6.2
H11N2 WAKE ISLAND Hy 89.59 292 T T 12 08 23.0
baz=125,slow=74,SNR=9.7
PAX Paxson 89.65 345 eP P 10 29 12.5 -0.3
PAX Paxson 89.65 345 eP P 10 29 12.5 -0.3
STKA Stephens Creek 90.80 235 eP P 10 29 20.0 +1.0
STKA Stephens Creek 90.80 235 LR LR 11 04 57.4
comp=Z,141nm,18.2s,baz=89,slow=32
TRF Thorofare Moun 91.23 344 eP P 10 29 20.0 -0.2
KTH Kantishna Hill 91.47 344 eP P 10 29 20.3 -1.0
comp=Z,46nm,1.6s
ILAR Eielson Array 91.52 346 P P 10 29 20.4 -0.9
comp=Z,0.2nm,0.8s,baz=190,slow=5.2,SNR=4.5
ILAR LR LR 11 02 43.8
comp=Z,72nm,19.1s,baz=144,slow=30
CTA Charters Tower 92.30 247 LR LR 11 06 47.8
comp=Z,195nm,18.5s,baz=154,slow=33
APA Apatity 130.62 17 ePKIKP PKPdf 10 35 32.0 +6.4
HHC Hu-ho-hao-te 139.28 306 ePKP PKPdf 10 35 45.1 +2.4
HHC PP PP 10 38 44.5 +8.0
HHC AMB AMB
comp=Z,140nm,10.8s
HHC LR LR
comp=Z,190nm,16.1s
HHC LR LR
comp=Z,300nm,13.5s
HHC LR LR
comp=Z,130nm,21.6s
AKASG Malin Array Be 139.32 37 PKP PKPdf 10 35 41.1 -1.2
comp=Z,1.2nm,0.6s,baz=282,slow=3.2,SNR=5.9
ULN Ulaanbaatar 140.15 318 i PKIKP PKPdf 10 35 41.8 -2.3
ULN pmax pmax
comp=Z,7.0nm,2.5s
OBN Obninsk 140.45 28 ⇑iPKIKP PKPdf 10 35 44.3 +0.1
OBN e 10 38 43.2
OBN pmax pmax
comp=Z,27nm,1.7s
OBN MLR MLR
comp=Z,104nm,20.0s
SONM Songino Array 140.56 319 PKP PKPdf 10 35 46.2 +1.3
comp=Z,0.6nm,0.8s,baz=24,slow=2.2,SNR=4.0
ZAK Zakamensk 141.16 324 ePKIKP PKPdf 10 35 45.5 -0.3
ZAK pmax pmax
comp=Z,2.0nm,1.6s
GSI Gunungsitoli 143.90 238 ePKPdf PKPdf 10 35 51.0 -0.6
VSR Storozhevoye 144.20 31 ePKHKP PKPpre 10 35 46.6
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,10.0nm,1.4s
VSR pmax pmax
comp=Z,10.0nm,1.4s
VORD Divnogorie 144.43 31 ePKHKP PKPpre 10 35 46.6
VORD pmax pmax
comp=N,10.0nm,1.2s
VORD pmax pmax
comp=E,8.0nm,1.2s
VORD pmax pmax
comp=Z,6.0nm,1.2s
GYA Guiyang 144.60 284 ePKP PKPdf 10 35 52.2 -0.5
GYA PP PP 10 39 12.8 +3.3
GYA PKS PKSdf 10 39 26.9 -1.6
GYA SKKS 10 46 01.4
GYA SS SS 10 57 57.0 -0.9
GYA AMB AMB
comp=Z,120nm,7.6s
GYA LR LR
comp=Z,160nm,23.0s
GYA LR LR
comp=Z,130nm,24.2s
GYA LR LR
comp=Z,140nm,22.8s
VRHR Novokhopersk 145.42 29 ePKP2 PKPbc 10 35 49.9 -3.2
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax

comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,30nm,0.9s
SVE Sverdlovsk 145.83 7 *e*PKP2 **PKPdf 10 35 52.4 -1.3**
SVE pmax pmax
comp=Z,24nm,1.4s
ARU Arti 145.95 9 *i* PKIKP **PKPdf 10 35 53.1 -0.8**
ARU 10 39 10.5
NVS Novosibirsk 146.19 344 *e*PKIKP **PKPdf 10 35 52.0 -2.3**
NVS pmax pmax
comp=Z,51nm,2.0s
NVS pmax pmax
comp=E,14nm,1.8s
LZH Lanzhou 146.22 301 *e*PKPbc **PKPdf 10 35 53.5 -1.7**
LZH pPKP **PKPab 10 35 57.4 +0.4**
LZH sPKP 10 36 03.2
LZH PP **PP 10 39 19.6 +0.8**
LZH AMB AMB
comp=E,200nm,5.6s
LZH LR LR
comp=E,170nm,18.0s
LZH LR LR
comp=E,180nm,17.7s
LZH LR LR
comp=E,200nm,19.9s
ZAA0 Zalesovo Array 146.54 342 *e*PKPbc **PKPdf 10 35 55.5 +0.6**
ZALV Zalesovo Beam 146.54 342 PKPbc **PKPbc 10 35 55.7 -0.7**
comp=E,2.3nm,0.6s,baz=29,slow=2.6,SNR=12
SLVN Son La 146.55 274 *e*PKPbc **PKPdf 10 35 55.8 -0.3**
BRTR Keskin Array B 146.69 52*c* *i* PKP2 **PKPab 10 35 58.5 -0.2**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 146.69 52 PKPbc **PKPab 10 35 58.5 -0.2**
comp=Z,2.7nm,0.7s,baz=256,slow=1.6,SNR=7.8
CD2 Chengdu 147.09 292 PKPbc **PKPdf 10 35 57.1 +0.4**
CD2 PP **PP 10 39 28.0 +4.0**
CD2 PKS **PKSdf 10 39 30.9 -1.2**
CD2 SKS **SKSdf 10 43 03.0 -2.8**
CD2 SKKS **SKKSac 10 46 15.7 -0.3**
CD2 SS **SS 10 58 26.2 +0.4**
CD2 AMB AMB
comp=Z,120nm,6.2s
CD2 LR LR
comp=Z,280nm,22.5s
KMI Kunming 148.05 281 PKPbc **PKPdf 10 35 58.7 0.0**
KMI PP **PP 10 39 32.8 +2.7**
KMI AMB AMB
comp=Z,100nm,5.6s
KMI LR LR
comp=Z,52nm,19.4s
GTA Gaotai 148.31 309 ⇑PKPbc **PKPbc 10 36 01.6 -0.4**
GTA PKPab PKPab 10 36 10.6 +5.5
GTA PP PP 10 39 37.2 +6.5
GTA SKS **SKSdf 10 43 08.7 +1.4**
GTA SKKS **SKKSac 10 46 25.6 +3.0**
GTA SS **SS 10 58 42.3 +3.5**
GTA AMB AMB
comp=Z,100nm,5.7s
GTA LR LR
comp=Z,96nm,17.3s
GTA LR LR
comp=Z,94nm,17.8s
GTA LR LR
comp=Z,69nm,19.0s
CMAR Chiang Mai Arr 150.53 267 PKPbc **PKPbc 10 36 08.2 +0.3**
comp=Z,4.0nm,0.8s,baz=36,slow=0.6,SNR=19
CHTO Chiang Mai 150.61 268 *e*PKIKP **PKPdf 10 36 02.9 +0.3**
CHTO *e* 10 36 08.5
CHTO Chiang Mai 150.61 268 *e*PKPdf **PKPdf 10 36 02.9 +0.3**
CHTO *e*PKPbc **PKiKP 10 36 08.5 -0.3**
CHTO *e*PKPab **PKPab 10 36 16.1 +1.2**
KIV Kislovodsk 150.65 39 *e*PKIKP **PKPdf 10 36 01.9 -0.2**
KIV pmax pmax
comp=Z,11nm,1.1s
KBZ Khabaz 150.90 39 PKPbc **PKPbc 10 36 08.7 +0.7**
comp=Z,11nm,0.8s,baz=235,slow=4.5,SNR=21
KURK Kurchatov 151.09 346 *e*PKIKP **PKPbc 10 36 06.6 -1.6**
ABKAR Akbulak array 153.10 11 *e*PKPdf **PKPdf 10 36 05.8 +0.4**
ABKAR *e*PKPbc **PKiKP 10 36 12.9 0.0**
ABKAR *e*PKPab **PKPab 10 36 24.6 +0.3**
WMQ Urumqi 153.54 326 PKPbc **PKPdf 10 36 06.8 +0.4**
WMQ PKS **PKSdf 10 39 39.8 -0.9**
WMQ PP **PP 10 40 04.2 +4.2**
WMQ SKS **SKSdf 10 43 08.6 -5.0**
WMQ SKKS **SKKSac 10 46 47.7 -3.1**
WMQ SS **SS 10 59 33.2 -2.3**
WMQ LR LR
comp=Z,65nm,22.2s
WMQ LR LR
comp=Z,55nm,21.0s
WMQ LR LR
comp=Z,66nm,23.0s
MK31 Makanchi Array 153.55 337 *e*PKIKP **PKPdf 10 36 05.7 -0.6**
MK31 *e* 10 36 14.1
MK31 *e* 10 36 26.0
MK31 Makanchi Array 153.55 337 *e*PKPdf **PKPdf 10 36 05.7 -0.6**
MK31 *e*PKPbc **PKiKP 10 36 14.1 0.0**
MK31 *e*PKPab **PKPab 10 36 26.0 -0.4**
MKAR Makanchi Array 153.55 337 PKPbc **PKPbc 10 36 12.2 -1.7**
comp=Z,1.7nm,0.8s,baz=60,slow=2.9,SNR=3.6
KSH Kashi 162.14 339 *e*PKP **PKPdf 10 36 19.2 +2.0**
KSH PKS **PKSdf 10 39 50.1 -0.4**
KSH PP PP 10 40 53.7 +6.8
KSH SKS **SKSdf 10 43 22.6 +0.3**
KSH SKKS **SKKSac 10 47 40.0 +3.8**
KSH SS **SS 11 01 13.4 +6.8**
KSH LR LR
comp=Z,100nm,4.4s

ISCJB ***03*** *10:16:34.9±1.3, 36°.68N±0°.09×71°.01E±0°.10, h100km, mb3.2/1, Error ellipse: s-maj=13.5km s-min=10.5km az=156.2*
IDC ***03*** *10:16:38.0±7.3, 36°.69N×71°.25E, h141km±65km, mb2.8/1, mb1 3.0/5, mb1mx2.8/37, mbtmp3.5/5, Error ellipse: s-maj=76.6km s-min=43.5km az=146.0*
NNC ***03*** *10:16:39.3±2.8, 36°.90N×70°.90E, h110km±42km, mb3.3, mpv3.8, Error ellipse: s-maj=21.4km s-min=16.3km az=13.0*
ISC 03 10:16:35.9±1.7, 36°.7N±0°.1×70°.9E±0°.1, h100km, n18, σ1°35/23, 7C-3D, Hindu Kush region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AML Almayashu 5.82 21 P **Pn 10 18 01.2 +1.2**
SNR=35
UCH Uchtor 6.17 26 P **Pn 10 18 05.6 +0.7**
SNR=17
KZA Kyzart 6.33 31 P **Pn 10 18 06.9 0.0**
SNR=7.0
KK31 Karatay Array 6.38 358 P **Pn 10 18 09.1 +1.9**
4.3nm,0.3s,baz=177,slow=12,SNR=159
KK31 ⇓S **Sn 10 19 19.4 +0.9**
3.6nm,0.5s,baz=179,slow=23,SNR=6.1
AAK Ala-Archa 6.53 24 ⇑P **Pn 10 18 10.6 +1.2**
4.3nm,0.4s
AAK ⇑S **Sn 10 19 22.2 -0.2**
5.6nm,0.6s
AAK Ala-Archa 6.53 24 P **Pn 10 18 10.7 +1.3**
SNR=6.3
AAK Ala-Archa 6.53 24 P **Pn 10 18 10.8 +1.4**
3.6nm,0.3s,baz=170,slow=5.2,SNR=29
AAK S **Sn 10 19 23.4 +1.0**
1.1nm,0.3s,baz=333,slow=22,SNR=12
KBK Karagaybulak 6.70 27 P Px 10 18 57.3
SNR=7.5
TKM2 Tokmak 2 7.17 29 ⇑P **Pn 10 18 18.6 +0.3**
2.3nm,0.6s
TKM2 ⇓S **Sn 10 19 38.1 -0.2**
3.8nm,0.8s
TKM2 Tokmak 2 7.17 29 P **Pn 10 18 18.8 +0.6**
SNR=7.6
MKAR Makanchi Array 13.17 37 P **Pn 10 19 37.6 -1.3**
0.1nm,0.3s,baz=220,slow=13,SNR=3.1
AB31 Akbulak array 14.84 331 P **Pn 10 20 01.0 +0.7**
1.3nm,0.4s,baz=144,slow=13,SNR=78
AB31 ⇑S **Sn 10 22 40.0 -3.8**
1.4nm,0.7s,baz=153,slow=23,SNR=2.7
KURBB Kurchatov Arra 14.94 19 ⇑P **P 10 20 04.3 -0.5**
1.2nm,0.6s
KURK Kurchatov 15.05 19 ⇑P **Pn 10 20 03.7 +0.7**
0.8nm,0.8s
AKTO Aktyubinsk 16.53 330 ⇓P **P 10 20 23.5 +1.1**
1.3nm,0.8s
AKTO ⇑S **Sn 10 23 24.4 -0.4**
3.7nm,1.2s
AKTO Aktyubinsk 16.53 330 P **P 10 20 23.6 +1.1**
0.2nm,0.3s,baz=162,slow=9.2,SNR=4.7
ZALV Zalesovo Beam 19.75 25 P **P 10 20 55.9 -1.7**
0.4nm,0.3s,baz=210,slow=10,SNR=6.7
TORD Torodi Ar. Bea 65.62 268 P **P 10 27 09.1 -0.5**
0.2nm,0.6s,baz=36,slow=5.8,SNR=3.1

IDC 03 10:18:16.0±4.1, 16°.90S×177°.94W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.7/32, mbtmp4.0/4, Error ellipse: s-maj=177.0km s-min=34.8km az=138.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
STKA Stephens Creek 39.51 240 P P 10 25 49.2 +0.5
2.2nm,0.5s,baz=90,slow=9.1,SNR=5.2
WRA Warramunga Arr 45.27 258 P P 10 26 35.6 -0.2
0.8nm,0.4s,baz=95,slow=7.2,SNR=23
ASAR Alice Springs 45.50 253 P P 10 26 37.0 -0.6
3.3nm,0.6s,baz=88,slow=8.5,SNR=56
ILAR Eielson Array 84.81 13 P P 10 30 52.0 0.0
0.4nm,1.0s,baz=222,slow=4.7,SNR=4.6

IDC 03 10:21:46.3±1.6, 11°.52N×142°.38E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/34, mbtmp3.6/5, Error ellipse: s-maj=175.7km s-min=23.3km az=110.0, South of Mariana Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
WRA Warramunga Arr 32.25 194 P P 10 28 15.8 -0.9
1.1nm,0.8s,baz=14,slow=9.9,SNR=5.5
ASAR Alice Springs 35.94 193 P P 10 28 49.4 +0.6
0.2nm,0.4s,baz=25,slow=11,SNR=6.1
ILAR Eielson Array 71.47 25 P P 10 33 08.0 -0.5
0.4nm,0.7s,baz=248,slow=6.0,SNR=9.1
YKA Yellowknife Ar 85.80 27 P P 10 34 27.7 +0.3
0.1nm,0.5s,baz=287,slow=4.9,SNR=4.2
NVAR Mina Array Bea 90.11 51 P P 10 34 49.6 +0.6
0.3nm,0.5s,baz=258,slow=7.3,SNR=4.0

IDC 03 10:21:47.2±55.0, 16°.67S×179°.34W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.7/29, mbtmp4.4/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/27, Error ellipse: s-maj=1003.0km s-min=141.3km az=77.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
STKA Stephens Creek 38.47 240 P P 10 29 11.6 +0.5
1.8nm,0.4s,baz=84,slow=10,SNR=11
WRA Warramunga Arr 44.00 258 P P 10 29 56.0 -0.8
0.6nm,0.3s,baz=95,slow=7.8,SNR=30
ASAR Alice Springs 44.29 253 P P 10 29 59.0 -0.1
6.6nm,0.4s,baz=89,slow=7.7,SNR=168
JCJ Chichijima 57.33 319 LR LR 10 53 35.3
comp=Z,32nm,19.8s,baz=349,slow=33

IDC 03 10:30:39.7±55.0, 19°.09S×179°.38W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/24, mbtmp3.9/3, Error ellipse: s-maj=1004.0km s-min=152.6km az=80.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
STKA Stephens Creek 37.26 242 P P 10 37 53.4 0.0
1.4nm,0.9s,baz=94,slow=11,SNR=2.7
WRA Warramunga Arr 43.53 261 P P 10 38 45.2 -0.3
0.5nm,0.7s,baz=94,slow=8.2,SNR=6.3
ASAR Alice Springs 43.60 255 P P 10 38 46.0 -0.1
2.1nm,0.5s,baz=92,slow=8.6,SNR=73

CASC 03 10:44:11.4±3.7, 13°.68N×91°.27W, h21km±38km, MD3.9, ML3.7, 1D, Near coast of Guatemala

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JAT Jato 0.73 331⇓*e*P Pb 10 44 23.6 -1.8
NBG Las Nubes 1.27 45 *e*P Pb 10 44 36.6 +1.5
NBG *e*S Sb 10 44 55.6 +4.3
RTR El Retiro 1.59 82 *e*P Pn 10 44 38.0 -0.6
SBLS San Blas 1.61 84 *e*P Pn 10 44 39.4 +0.5
SNJE San Jose 1.63 83 *e*P Pn 10 44 38.2 -1.0
BOQS Boqueron 1.94 88 *e*P Pn 10 44 48.4 +1.4
SNET Serv Nac Est T 1.98 90 *e*P Pn 10 44 44.4 +0.6
SNET *e*S Sn 10 45 06.1 -2.0
SNET AML AML 10 45 27.0
comp=Z,851nm,0.6s
MRL Marmol 2.06 48 *e*P Pn 10 44 46.3 +1.2
LFRS El Faro 2.15 91 *e*P Pn 10 44 46.2 +0.1

ISCJB ***03*** *10:52:58.5±0.7, 22°.75S±0°.09×112°.1W±0°.1, h10km, mb4.6/40, MS4.2/13, Error ellipse: s-maj=19.4km s-min=8.7km az=146.3*
NEIC ***03*** *10:52:58.8±0.4, 23°.08S×112°.29W, h10km, mb4.9/33, Error ellipse: s-maj=12.9km s-min=7.2km az=53.0*
IDC ***03*** *10:52:58.1±1.0, 22°.79S×112°.33W, h0km, mb4.0/7, mb1 4.4/7, mb1mx4.2/25, mbtmp4.0/7, ML2.6/1, MS3.8/8, Ms1 3.8/8, ms1mx3.7/17, Error ellipse: s-maj=38.5km s-min=21.3km az=53.0*
BJI ***03*** *10:53:00.8, 23°.10S×112°.30W, h10km, mB5.2/5, Ms5.1/6, Ms7 4.7/6*
ISC 03 10:52:58.7±0.5, 23°.1S±0°.1×112°.3W±0°.1, h10km, n328, σ1°03/336, mb4.8/40, MS4.1/13, 117C-123D, Easter Island region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
RPN Rapa Nui 4.82 147 Pn Pb 10 54 17.5 -5.8
0.2nm,0.3s,baz=184,slow=3.8,SNR=5.7
RKT Rikitea 20.88 265 *e*LR LR 11 02 54.2
263nm,33.0s
RKT Rikitea 20.88 265 *e*T T 11 19 07.7
1.7nm,0.3s
H03N2 Juan Fernandez 31.00 117 T T 11 31 54.4
baz=282,slow=74,SNR=113
H03N3 Juan Fernandez 31.01 117 T T 11 31 55.8
baz=282,slow=74,SNR=140
H03N1 Juan Fernandez 31.02 117 T T 11 31 56.0
baz=282,slow=74,SNR=105
TBI Tubuai 34.12 262 *e*LR LR 11 08 46.8
222nm,29.2s
TBI Tubuai 34.12 262 *e*T T 11 35 43.5
6.4nm,0.4s
PLCA Paso Flores 39.12 127 LR LR 11 12 12.4
comp=Z,71nm,19.2s,baz=191,slow=29
CFAA Coronel Fontan 39.80 112 P **P 11 00 34.1 +1.8**
0.1nm,0.4s,baz=294,slow=6.9,SNR=4.0
LVC Limon Verde 39.85 98 *e*P **P 11 00 32.9 -0.1**
2.9nm,0.9s
OTAV Otavalo 40.23 60 *e*P **P 11 00 37.1 +0.7**
LPAZ La Paz 41.98 89 P **P 11 00 52.6 +1.5**
6.3nm,1.1s,baz=256,slow=7.4,SNR=13
LPAZ LR LR 11 14 43.9
comp=Z,55nm,18.1s,baz=257,slow=31
LPAZ La Paz 41.98 89 *e*P **P 11 00 51.4 +0.4**
25nm,1.5s
TRQA Tornquist 45.27 121 *e*P **P 11 01 16.5 -0.1**
16nm,1.5s
ROSC El Rosal 46.30 58 LR LR 11 17 22.8
comp=Z,60nm,18.9s,baz=222,slow=32
SAML Samuel 49.00 82 *e*P **P 11 01 46.2 +0.3**
13nm,1.4s
933A Laredo 51.94 15 ⇑P **P 11 02 08.6 +0.7**
baz=52
832A Faith Ranch, C 52.43 14 ⇑P **P 11 02 11.5 -0.1**
baz=53
833A Chaparral WMA, 52.60 14 ⇓P **P 11 02 13.3 +0.5**
baz=53
TXAR Lajitas Array 52.77 9 P **P 11 02 14.7 +0.5**
0.4nm,0.7s,baz=184,slow=6.9,SNR=5.2
TXAR LR LR 11 20 22.6
comp=Z,74nm,18.8s,baz=0.0,slow=31
626A Big Bend Ranch 52.92 9 ⇑P **P 11 02 15.6 +0.3**
baz=53
627A Terlingua Ranc 52.93 10 ⇓P **P 11 02 16.1 +0.7**
baz=53
733A Divot King Ran 53.00 14 ⇓P **P 11 02 15.8 +0.1**
baz=53
628A Black Gap, Mar 53.04 10 ⇓P **P 11 02 16.2 +0.1**
baz=53
526A Mary Lane Ranc 53.42 9 ⇓P **P 11 02 19.6 +0.5**
baz=54
527A Woodward Ranch 53.58 9 ⇓P **P 11 02 19.9 -0.2**
baz=54
530A J-C Ranch, Com 53.96 12 ⇑P **P 11 02 23.2 +0.4**
baz=54
425A Indio Mountain 54.02 8 ⇑P **P 11 02 23.3 -0.1**
baz=54
426A McDonald Obser 54.03 9 ⇑P **P 11 02 23.3 -0.3**
baz=54
531A Rocksprings 54.13 13 ⇓P **P 11 02 24.2 +0.1**
baz=54
319A Douglas 54.23 3 ⇓P **P 11 02 25.5 +0.6**
baz=54
428A Kincaid Ranch, 54.29 10 ⇑P **P 11 02 25.4 +0.1**
baz=55
427A Hayter Ranch, 54.30 9 ⇓P **P 11 02 25.7 +0.4**
baz=55
429A Davenport Ranc 54.33 11 ⇓P **P 11 02 25.4 -0.1**
baz=55
533A Kerrville 54.36 14 ⇑P **P 11 02 25.6 -0.2**
baz=55
534A Blanco 54.45 15 ⇓P **P 11 02 26.1 -0.3**
baz=55
JCT Junction City 54.59 13 *e*P **P 11 02 27.4 0.0**
JCT Junction City 54.59 13 ⇓P **P 11 02 27.5 +0.1**
baz=55
430A Baggett Ranch, 54.60 12 ⇑P **P 11 02 27.6 0.0**
baz=55
431A Sonora 54.62 12 ⇑P **P 11 02 27.8 +0.1**
baz=55
535A Dale 54.67 16 ⇓P **P 11 02 27.8 -0.1**
baz=55
214A Organ Pipe Nat 54.73 359 ⇓P **P 11 02 29.0 +0.6**
baz=55
328A Wristen Ranch, 54.91 10 ⇑P **P 11 02 29.4 -0.3**
baz=55
433A Art 55.01 14 ⇑P **P 11 02 30.1 -0.4**
baz=55
TUC Tucson 55.10 2 *e*P **P 11 02 31.1 -0.1**
11nm,1.5s
329A Wagon Wheel Ra 55.15 11 ⇓P **P 11 02 31.4 -0.1**
baz=55
330A Mertzon 55.22 12 ⇓P **P 11 02 31.8 -0.2**
baz=56
434A Burnet 55.25 15 ⇑P **P 11 02 31.7 -0.5**
baz=56
331A San Angelo 55.26 12 ⇓P **P 11 02 31.7 -0.6**
baz=56
225A Deer Hill, Car 55.35 8 ⇓P **P 11 02 32.5 -0.6**
baz=56
226B Tecolote Peak, 55.40 8 ⇓P **P 11 02 32.9 -0.4**
baz=56
121A Cookes Peak, D 55.47 5 ⇓P **P 11 02 34.1 +0.2**
baz=56,SNR=5.5
332A Millersview 55.48 13 ⇓P **P 11 02 33.1 -0.7**
baz=56
333A Richland Sprin 55.58 14 ⇑P **P 11 02 34.2 -0.3**
baz=56
228A UT Block 9, Go 55.67 10 ⇓P **P 11 02 35.0 -0.2**
baz=56
125A Gardner Draw, 55.91 8 ⇓P **P 11 02 36.4 -0.6**
baz=56,SNR=8.2
126A Clayton Basin, 55.98 8 ⇓P **P 11 02 37.1 -0.3**
baz=56
232A Coleman 55.98 13 ⇑P **P 11 02 37.1 -0.3**
baz=56
Z14A Wintersburg 56.14 359 ⇓P **P 11 02 39.5 +1.1**
baz=56
128A Castleberry Fa 56.18 10 ⇑P **P 11 02 38.4 -0.5**
baz=56,SNR=5.3
233A Rising Star 56.27 14 ⇓P **P 11 02 38.9 -0.5**
baz=57
129A Stewart Farms, 56.29 11 ⇓P **P 11 02 39.3 -0.3**
baz=57
234A Clairette 56.42 14 ⇑P **P 11 02 40.0 -0.5**
baz=57
Z24A Sheeppen Canyo 56.49 7 ⇓P **P 11 02 41.1 -0.1**
baz=57
BC3 Big Chuckawall 56.51 357 ⇑P **P 11 02 41.8 +0.6**
baz=57
Z25A Roswell 56.51 8 ⇓P **P 11 02 41.0 -0.3**
baz=57
Y12C Blythe 56.56 358 ⇑P **P 11 02 42.0 +0.6**
baz=57
Z26A Caprock 56.60 8 ⇓P **P 11 02 40.6 -1.3**
baz=57,SNR=5.4
Y14A Wickenburg 56.71 359 ⇓P **P 11 02 43.0 +0.4**
baz=57
Z27A Tatum 56.75 9 ⇑P **P 11 02 42.3 -0.7**
baz=57,SNR=6.4
133A Hamilton Ranch 56.83 13 ⇓P **P 11 02 43.0 -0.5**
baz=57
Z28A Tucker Farm, M 56.85 10 ⇑P **P 11 02 43.6 0.0**
baz=57
BELC Belle Mtn. Jos 56.88 356 ⇓P **P 11 02 44.5 +0.6**
baz=57
Z29A Hungry Hill Ra 56.93 11 ⇑P **P 11 02 43.5 -0.7**
baz=57,SNR=5.5
134A White-Moore Ra 56.98 14 ⇑P **P 11 02 44.3 -0.2**
baz=57
IRM Iron Mountain 57.00 357 ⇓P **P 11 02 45.2 +0.6**
baz=57
Y23A Lovelace Mesa, 57.01 6 ⇑P **P 11 02 44.8 -0.1**
baz=57,SNR=7.6
Z30A Sanderson Ranc 57.06 11 ⇓P **P 11 02 44.5 -0.5**
baz=57
Y24A Capitan 57.07 7 ⇓P **P 11 02 45.0 -0.3**
baz=57
Y25A Mesa, Roswell 57.15 7 ⇓P **P 11 02 45.6 -0.3**
baz=58
X16A Lo Mia Camp, P 57.19 1 ⇑P **P 11 02 46.4 +0.2**
baz=58
BFSC Mount Baldy Ra 57.24 355 ⇑P **P 11 02 46.9 +0.5**
baz=58
Y26A Elida 57.26 8 ⇑P **P 11 02 45.4 -1.2**
baz=58,SNR=6.6
Z31A Sharp Cattle R 57.27 12 ⇓P **P 11 02 45.8 -0.8**
baz=58
Y27A Causey 57.31 9 ⇑P **P 11 02 45.9 -1.1**
baz=58,SNR=8.2
X18A Snowflake 57.34 2 ⇑P **P 11 02 47.5 +0.3**
baz=58,SNR=5.7
LAZ Ladron 57.38 5 *e*P **P 11 02 47.8 +0.2**
7.3nm,1.6s
Z32A Haskell 57.39 13 ⇓P **P 11 02 47.0 -0.4**
baz=58
MSTX Muleshoe 57.46 9 *e*P **P 11 02 47.0 -0.9**
MSTX Muleshoe 57.46 9 ⇑P **P 11 02 46.7 -1.3**
baz=58,SNR=6.5
Y28A McKinney Farm, 57.48 10 ⇓P **P 11 02 47.4 -0.7**
baz=58
Z33A Whitaker Ranch 57.52 13 ⇓P **P 11 02 47.7 -0.5**
baz=58
Y29A Porterfield Fa 57.52 10 ⇓P **P 11 02 47.8 -0.6**
baz=58
GMRC Granite Mounta 57.64 357 ⇑P **P 11 02 49.6 +0.4**
baz=58,SNR=6.0
X23A Hourglass Bar 57.64 6 ⇑P **P 11 02 48.9 -0.4**
baz=58
Y31A Rekieta Farm, 57.87 12 ⇑P **P 11 02 50.4 -0.3**
baz=58
X26A CR and CF Fran 57.88 8 ⇓P **P 11 02 50.2 -0.8**
baz=58
W13A Hualapai Mount 57.89 358 ⇑P **P 11 02 51.2 +0.1**
baz=58,SNR=5.4
EDW2 Edwards Air Fo 57.90 354 ⇓P **P 11 02 51.2 +0.2**
baz=58
Y32A R-V Farms, Ver 58.07 13 ⇑P **P 11 02 51.2 -1.0**
baz=58
X27A F and S Farms, 58.07 9 ⇓P **P 11 02 51.5 -0.8**
baz=58
X28A Dimmitt 58.08 10 ⇓P **P 11 02 51.4 -1.0**
baz=58
X29A Tulia 58.09 10 ⇓P **P 11 02 51.4 -1.0**
baz=58
W23A Werner Place, 58.22 6 ⇑P **P 11 02 52.4 -1.0**
baz=58
GSC Goldstone 58.23 356 *e*P **P 11 02 53.8 +0.5**
11nm,1.3s
GSC Goldstone 58.23 356 ⇓P **P 11 02 53.5 +0.2**
baz=58
X30A Coker Ranch, T 58.23 11 ⇓P **P 11 02 52.3 -1.1**
baz=58
Y33A Hilltop Ranch, 58.24 13 ⇑P **P 11 02 52.4 -1.0**

	baz=58						
WUAZ	Wupatki	58.29	1	eP	P	11 02 54.4	+0.6
	23nm,1.8s						
WUAZ	Wupatki	58.29	1	⇑P	P	11 02 53.6	-0.2
	baz=59						
W24A	Lazy 6 Ranch,	58.34	7	⇓P	P	11 02 53.2	-1.1
	baz=59						
Y34A	Reagan Ranch,	58.39	14	⇑P	P	11 02 53.2	-1.1
	baz=59						
W26A	Owens Ranch, T	58.42	8	⇓P	P	11 02 53.5	-1.2
	baz=59						
W25A	X Bar L Ranch,	58.46	8	⇑P	P	11 02 54.3	-0.7
	baz=59,SNR=5.4						
LRMC	Laurel Mountai	58.47	355	⇑P	P	11 02 55.6	+0.6
	baz=59						
W27A	Bowe Ranch, En	58.49	9	⇑P	P	11 02 54.9	-0.3
	baz=59						
X32A	Elmer	58.51	13	⇓P	P	11 02 53.9	-1.3
	baz=59						
AMTX	Amarillo	58.52	10	⇓P	P	11 02 55.0	-0.4
	baz=59						
X31A	McDonald Ranch	58.58	12	⇑P	P	11 02 55.5	-0.2
	baz=59						
ISA	Isabella	58.72	354	eP	P	11 02 57.2	+0.5
	5.1nm,1.2s						
ISA	Isabella	58.72	354	⇑P	P	11 02 57.4	+0.6
	baz=59						
W29A	Amraillo	58.76	10	⇑P	P	11 02 56.6	-0.4
	baz=59						
SHOC	Shoshone	58.79	356	⇑P	P	11 02 57.9	+0.7
	baz=59						
V23A	Ortiz Mt. (NFS	58.80	6	⇑P	P	11 02 57.3	-0.1
	baz=59						
V24A	Rampart Ranch,	58.87	7	⇓P	P	11 02 57.9	-0.1
	baz=59						
V22A	San Miguel Ran	58.90	5	⇓P	P	11 02 58.2	0.0
	baz=59						
VES	Vestal, Richgr	58.96	354	⇑P	P	11 02 59.1	+0.8
	baz=59						
X34A	Smith Ranch, M	58.99	14	⇓P	P	11 02 57.7	-0.8
	baz=59						
V25A	Rancho No Teng	59.05	7	⇓P	P	11 02 58.1	-1.1
	baz=59						
V26A	Tequesquite Ra	59.11	8	⇓P	P	11 02 58.8	-0.7
	baz=59						
W31A	Holland Ranch,	59.12	12	⇓P	P	11 02 58.5	-1.0
	baz=59						
U15A	North Rim	59.19	360	⇑P	P	11 03 00.6	+0.3
	baz=60						
W32A	Sentinel	59.20	12	⇑P	P	11 02 59.3	-0.7
	baz=60						
DAC	Darwin (Calif)	59.26	355	eP	P	11 03 00.1	-0.5
	39nm,2.1s						
SHPR	Sheep Range	59.33	357	eP	P	11 03 01.8	+0.7
U22A	Llaves	59.36	5	⇓P	P	11 03 01.2	-0.2
	baz=60						
U23A	El Rito	59.37	6	⇑P	P	11 03 01.4	0.0
	baz=60,SNR=7.7						
W33A	Caddo, Fort Co	59.38	13	⇑P	P	11 03 00.8	-0.4
	baz=60						
FURC	Furnace Creek,	59.39	356	⇓P	P	11 03 01.7	+0.4
	baz=60						
U24A	Moreno Valley	59.54	7	⇑P	P	11 03 02.8	+0.2
	baz=60						
U25A	Circle Dot Ran	59.63	7	⇓P	P	11 03 02.4	-0.8
	baz=60						
U26A	Atchley Ranch,	59.71	8	⇑P	P	11 03 02.9	-0.8
	baz=60						
V31A	Spring Creek L	59.71	12	⇑P	P	11 03 02.8	-0.8
	baz=60						
V32A	Arapaho	59.81	12	⇓P	P	11 03 03.4	-0.9
	baz=60						
U27A	Thompson Grove	59.85	9	⇑P	P	11 03 03.7	-0.9
	baz=60						
V33A	Lossen Ranch,	60.06	13	⇑P	P	11 03 04.8	-1.1
	baz=60						
MVCO	Mesa Verde	60.08	3	eP	P	11 03 06.3	0.0
	16nm,1.2s						
MVCO	Mesa Verde	60.08	3	⇓P	P	11 03 06.1	-0.2
	baz=60,SNR=6.4						
T24B	San Luis	60.18	6	⇑P	P	11 03 06.4	-0.7
	baz=60						
V34A	Guthrie	60.24	14	⇑P	P	11 03 06.4	-0.7
	baz=60						
CCUT	Cedar City	60.32	359	eP	P	11 03 08.9	+0.9
	10nm,1.2s						
T26A	Comanche Natio	60.49	8	⇑P	P	11 03 08.6	-0.5
	baz=61						
T27A	Campo	60.50	9	⇓P	P	11 03 08.2	-0.9
	baz=61						
T28A	Walsh	60.65	9	⇑P	P	11 03 09.1	-0.9
	baz=61						
TUL1	Tulsa	60.71	15	⇑P	P	11 03 09.4	-1.0
	baz=61						
S22A	4UR Ranch, Cre	60.72	5	⇑P	P	11 03 10.1	-0.6
	baz=61						
S24A	Houchin Ranch,	60.77	6	⇓P	P	11 03 10.8	-0.3
	baz=61						
S25A	Robets Cordova	60.87	7	⇓P	P	11 03 11.3	-0.3
	baz=61						
S26A	Kim	60.95	8	⇑P	P	11 03 11.8	-0.3
	baz=61						
TPH	Tonopah	61.02	356	eP	P	11 03 13.5	+0.9
	25nm,1.7s						
R11A	Troy Canyon, C	61.19	357	eP	P	11 03 14.5	+0.7
	18nm,2.0s						
R11A	Troy Canyon, C	61.19	357	⇓P	P	11 03 14.2	+0.4
	baz=62						
R23A	Moffat	61.25	6	⇓P	P	11 03 13.8	-0.5
	baz=62						
CMB	Columbia Colle	61.27	353	eP	P	11 03 14.7	+0.5
	24nm,1.8s						
T33A	Patterson Ranc	61.29	13	⇑P	P	11 03 14.1	-0.1
	baz=62						
R24A	Sanders Place,	61.36	6	⇑P	P	11 03 14.8	-0.3
	baz=62						
R25A	Fountain Ranch	61.37	7	⇓P	P	11 03 14.7	-0.2
	baz=62						
NVAR	Mina Array Bea	61.45	355	P	P	11 03 16.1	+0.5
	3.7nm,0.8s,baz=184,slow=10.0,SNR=32						
NVAR				LR	LR	11 23 36.4	
	comp=Z,121nm,20.4s,baz=202,slow=30						
R26A	Arlington	61.62	8	⇓P	P	11 03 16.3	-0.4
	baz=62						
R27A	Eads	61.69	8	⇑P	P	11 03 17.0	-0.1
	baz=62						
R28A	Tribune	61.89	9	⇑P	P	11 03 18.1	-0.3
	baz=62						
SRU	San Rafael	61.89	2	eP	P	11 03 18.2	-0.3
	6.9nm,1.1s						
R30A	Dighton	62.08	11	⇑P	P	11 03 19.0	-0.7
	baz=62						
Q25A	Bedland, Calha	62.13	7	⇑P	P	11 03 19.8	-0.4
	baz=62						
R31A	Burdett	62.21	11	⇓P	P	11 03 19.6	-0.9
	baz=62						
P23A	Jefferson	62.42	6	⇓P	P	11 03 22.0	-0.3
	baz=63						
Q29A	Oakley	62.55	10	⇑P	P	11 03 22.3	-0.5
	baz=63						
P22A	Eagle	62.57	5	⇑P	P	11 03 23.2	+0.1
	baz=63						
Q28A	Sharon Springs	62.59	9	⇑P	P	11 03 22.8	-0.3
	baz=63						
Q30A	Quinter	62.76	11	⇑P	P	11 03 23.5	-0.7
	baz=63						
ISCO	Idaho Springs	62.87	6	⇓P	P	11 03 24.9	-0.3
	baz=63						
P26A	Davis Ranch, A	62.88	8	⇓P	P	11 03 24.8	-0.3
	baz=63						
DUG	Dugway	62.96	360	eP	P	11 03 25.4	-0.1
	7.4nm,1.3s						
DUG	Dugway	62.96	360	⇑P	P	11 03 25.7	+0.1
	baz=63						
P27A	Ficken Ranch,	62.97	8	⇓P	P	11 03 25.2	-0.4
	baz=63						
O20A	White River Ci	63.01	3	⇓P	P	11 03 25.6	-0.4
	baz=63						
Q32A	Meitler Ranch,	63.07	12	⇓P	P	11 03 25.9	-0.4
	baz=63						
O22A	Kremmling	63.15	5	⇑P	P	11 03 26.3	-0.7
	baz=64						
P29A	Atwood	63.26	10	⇑P	P	11 03 27.2	-0.3
	baz=64						
P30A	Selden	63.31	10	⇑P	P	11 03 27.8	-0.1
	baz=64						
BMN	Battle Mountai	63.36	356	eP	P	11 03 29.3	+1.1
	15nm,1.5s						
JLU	Jordanelle	63.37	1	eP	P	11 03 28.5	+0.1
	43nm,1.9s						
P31A	Stockton	63.44	11	⇓P	P	11 03 28.3	-0.3
	baz=64						
O28A	Krutsinger Ran	63.64	9	⇓P	P	11 03 29.9	-0.1
	baz=64						
P32A	Huiting Farm,	63.68	12	⇓P	P	11 03 30.1	-0.1
	baz=64						
BGU	Big Grassy Mou	63.69	359	eP	P	11 03 30.5	0.0
	12nm,2.0s						
N20A	Spence Gulch,	63.70	3	⇑P	P	11 03 30.4	-0.2
	baz=64						
O29A	4D Ranch, Culb	63.79	10	⇑P	P	11 03 31.2	+0.2
	baz=64						
N22A	Wattenberg Ran	63.79	5	⇑P	P	11 03 31.5	+0.2
	baz=64						
N23A	Red Feather La	63.92	5	⇑P	P	11 03 32.2	+0.1
	baz=64						
O30A	MW Ranch, Wils	63.96	10	⇓P	P	11 03 32.2	+0.1
	baz=64						
M24A	Cheyenne	64.60	6	⇓P	P	11 03 36.4	0.0
	baz=65						
WVOR	Wild Horse Val	65.46	355	eP	P	11 03 42.6	+0.7
	25nm,1.9s						
K21A	Alcova	65.55	4	⇑P	P	11 03 41.4	-1.2
	baz=66						
PDAR	Pinedale Array	65.57	2	P	P	11 03 41.3	-1.5
	1.3nm,0.7s,baz=170,slow=6.5,SNR=12						
K22A	Casper	65.62	5	⇓P	P	11 03 41.1	-2.0
	baz=66						
K23A	Bowen Ranch, D	65.80	5	⇑P	P	11 03 43.5	-0.7
	baz=66						
J19A	Croweheart	66.09	3	⇓P	P	11 03 44.3	-1.8
	baz=66						
REDW	Red Top Meadow	66.13	1	eP	P	11 03 46.1	-0.3
J20A	Shoshoni	66.22	3	⇓P	P	11 03 46.2	-0.7
	baz=66						
J21A	Lysite	66.25	4	⇑P	P	11 03 45.9	-1.2
	baz=67						
MFID	Camas Ranch	66.25	357	eP	P	11 03 47.4	+0.4
	32nm,1.9s						
TPAW	Teton Pass	66.26	1	eP	P	11 03 46.6	-0.7
	63nm,2.7s						
HLID	Hailey	66.35	358	eP	P	11 03 47.9	+0.2
	7.3nm,1.1s						
HLID	Hailey	66.35	358	⇓P	P	11 03 47.7	0.0
	baz=67						
J22A	Midwest	66.38	5	⇓P	P	11 03 46.2	-1.7
	baz=67						
K29A	Lazy Trails An	66.44	10	⇓P	P	11 03 48.0	-0.2
	baz=67						
K30A	Basset	66.47	10	⇓P	P	11 03 48.4	+0.1
	baz=67						
MOOW	Moose Ponds	66.52	1	eP	P	11 03 47.8	-1.0
	46nm,2.8s						
J05D	Fort Rock, OR	66.56	353	⇑P	P	11 03 49.7	+0.7
	baz=67						
J25A	Sunshine Ranch	66.60	7	⇓P	P	11 03 48.9	-0.4
	baz=67						
J26A	Sides Ranch, S	66.61	7	⇓P	P	11 03 48.6	-0.6
	baz=67						
I21A	Big Trails, Te	66.72	4	⇓P	P	11 03 49.0	-1.1
	baz=67						
VNDA	Vanda	66.74	194	LR	LR	11 26 25.6	
	comp=Z,159nm,19.7s,baz=356,slow=30						
I20A	Worland	66.81	3	⇑P	P	11 03 49.8	-0.9
	baz=67						
I19A	Meeteetse	66.86	3	⇓P	P	11 03 50.6	-0.4
	baz=67						
J28A	Allard Ranch,	66.95	9	⇑P	P	11 03 51.1	-0.3
	baz=67						
J29A	Okreek	67.07	9	⇑P	P	11 03 51.9	-0.2
	baz=67						
J30A	Dallas	67.12	10	⇑P	P	11 03 52.2	-0.2
	baz=67						
I07A	Izee	67.17	354	eP	P	11 03 53.2	+0.3
	41nm,2.1s						
I25A	Rochford	67.23	7	⇓P	P	11 03 52.7	-0.7
	baz=68						
I26A	New Underwood	67.34	7	⇓P	P	11 03 53.9	0.0
	baz=68						
H20A	Greybull	67.36	3	⇑P	P	11 03 53.6	-0.4
	baz=68						
H18A	Shoshone NF, C	67.47	2	⇑P	P	11 03 54.3	-0.6
	baz=68						
I27A	Quinn	67.48	8	⇑P	P	11 03 54.5	-0.2
	baz=68						
I28A	Midland	67.53	9	⇑P	P	11 03 54.7	-0.4
	baz=68						
H22A	Clearmont	67.57	5	⇓P	P	11 03 54.7	-0.7
	baz=68						
MCMT	McKenzie Canyo	67.59	360	eP	P	11 03 55.1	-0.5
	2.8nm,1.4s						
BMO	Blue Mountains	67.77	356	eP	P	11 03 56.6	+0.1
	12nm,1.6s						
H25A	Fruitdale	67.84	7	⇓P	P	11 03 56.5	-0.5
	baz=68						
H24A	Dirks Ranch, A	67.87	6	⇑P	P	11 03 56.3	-1.0
	baz=68						
H26A	Fairpoint	67.93	7	⇓P	P	11 03 56.7	-0.9
	baz=68						
ECSD	EROS Data Cent	68.03	12	⇓P	P	11 03 57.0	-1.1
	baz=68						
H27A	Howes	68.03	8	⇓P	P	11 03 57.8	-0.4
	baz=68						
H28A	Mission Ridge	68.21	9	⇑P	P	11 03 58.5	-0.8
	baz=68						
G23A	Biddle	68.25	5	⇑P	P	11 03 58.8	-0.8
	baz=69						
G26A	Maurine	68.62	7	⇑P	P	11 04 00.9	-1.0
	baz=69						
G28A	Parade	68.62	9	⇓P	P	11 04 00.7	-1.2
	baz=69						
F22A	Rosebud	68.75	5	⇑P	P	11 04 01.6	-1.1
	baz=69						
F23A	Volborg	68.76	5	⇑P	P	11 04 01.5	-1.3
	baz=69						
G27A	Dupree	68.78	8	⇓P	P	11 04 02.0	-0.9
	baz=69						
F24A	Ekalaka	68.97	6	⇑P	P	11 04 03.1	-1.0
	baz=69						
F25A	Bowman	69.15	7	⇑P	P	11 04 04.7	-0.5
	baz=70						
F26A	Lodgepole	69.16	7	⇓P	P	11 04 04.3	-0.9
	baz=70						
F27A	Lemmon	69.26	8	⇑P	P	11 04 04.8	-1.1
	baz=70						
E19A	Rath Farm, Rou	69.29	3	⇓P	P	11 04 05.4	-0.7
	baz=70						
F28A	McLaughlin	69.39	9	⇓P	P	11 04 05.6	-1.1
	baz=70						
MSO	Missoula	69.60	359	eP	P	11 04 07.5	-0.5
	72nm,2.8s						
MSO	Missoula	69.60	359	⇓P	P	11 04 07.5	-0.5
	baz=70						
E25A	Miller Ranch,	69.72	7	⇑P	P	11 04 07.8	-1.0
	baz=70						
E26A	Carlson Angus	69.80	7	⇑P	P	11 04 08.9	-0.2
	baz=70						
E27A	Carson	69.86	8	⇓P	P	11 04 08.7	-0.9
	baz=70						
D20A	Manuel Ranch,	69.95	3	⇑P	P	11 04 09.7	-0.4
	baz=70						
D21A	La Casta Ranch	69.98	4	⇑P	P	11 04 10.2	-0.1
	baz=70						
D19A	Cripps Ranch,	69.99	2	⇑P	P	11 04 10.1	-0.3
	baz=70						
E28A	Huff	70.12	8	⇑P	P	11 04 10.3	-0.8
	baz=70						
D22A	Cohagen	70.12	4	⇑P	P	11 04 10.9	-0.2
	baz=70						
D23A	Lindsay	70.22	5	⇑P	P	11 04 11.8	+0.1
	baz=70						
D24A	Glendive	70.24	6	⇓P	P	11 04 11.9	0.0
	baz=71						
D26A	Manning	70.35	7	⇓P	P	11 04 12.1	-0.4
	baz=71						
D25A	Fairfield	70.37	6	⇓P	P	11 04 12.3	-0.4
	baz=71						
C19A	Slack Wire Ran	70.55	2	⇑P	P	11 04 13.3	-0.4
	baz=71						
C20A	Veseth Ranch,	70.58	3	⇓P	P	11 04 13.6	-0.3
	baz=71						
C22A	Vida	70.74	5	⇑P	P	11 04 14.4	-0.5
	baz=71						
C21A	Desert Coulee	70.74	4	⇓P	P	11 04 14.4	-0.5
	baz=71						
C09A	Chrisman Ranch	70.76	356	eP	P	11 04 15.3	+0.4
	6.9nm,0.9s						
EGMT	Eagleton	70.82	2	eP	P	11 04 15.5	+0.1
	22nm,1.4s						
EGMT	Eagleton	70.82	2	⇓P	P	11 04 15.5	+0.1
	baz=71						
C23A	Lambert	70.85	5	⇑P	P	11 04 15.4	-0.1
	baz=71						
NEW	Newport	71.16	357	eP	P	11 04 17.3	-0.1
	9.5nm,1.3s						
NEW	Newport	71.16	357	⇑P	P	11 04 17.5	+0.1
	baz=72						
C26A	Wahner Farm, P	71.17	7	⇑P	P	11 04 17.2	-0.4
	baz=72						
B19A	Brinkman Farms	71.28	2	⇑P	P	11 04 18.2	0.0
	baz=72						
C30A	Mose, Pekin	71.55	10	⇓P	P	11 04 19.7	-0.1
	baz=72						
A20A	Cobblestone Ra	71.74	3	⇓P	P	11 04 20.8	-0.1
	baz=72						
A19A	Klindworth Far	71.76	2	⇑P	P	11 04 21.3	+0.3
	baz=72						
A22A	Carney Farms,	71.97	4	⇓P	P	11 04 22.6	+0.3
	baz=72						
B28A	Dugan Ranch, T	72.00	8	⇓P	P	11 04 22.5	0.0
	baz=72						
A26A	Wade Farm, Ken	72.24	7	⇑P	P	11 04 23.5	-0.4
	baz=73						
AGMN	Agassiz Nation	72.56	11	⇓P	P	11 04 25.5	-0.3
	baz=73						
A29A	Manning Farm,	72.62	9	⇑P	P	11 04 25.7	-0.4
	baz=73						
DZM	Mont Dzumac	74.03	252	eLR	LR	11 27 23.1	
	169nm,30.4s						
ULM	Lac du Bonnet	74.44	11	P	P	11 04 35.5	-1.3
	1.3nm,0.7s,baz=214,slow=8.0,SNR=3.4						
ULM				LR	LR	11 33 33.3	
	comp=Z,86nm,19.5s,baz=218,slow=33						
DLBC	Dease Lake	82.55	351	eP	P	11 05 21.8	+0.3
DLBC				ePcP	PcP	11 05 27.6	+1.1
YKA	Yellowknife Ar	85.30	359	P	P	11 05 34.5	-0.8
	1.7nm,1.0s,baz=174,slow=4.8,SNR=22						
HYT	Haines Junctio	86.09	348	eP	P	11 05 39.2	-0.3
H11S2	WAKE ISLAND Hy	89.23	290	T	T	12 44 36.3	
	baz=118,slow=73,SNR=18						
H11S1	WAKE ISLAND Hy	89.24	290	T	T	12 44 37.8	
	baz=118,slow=73,SNR=14						
H11S3	WAKE ISLAND Hy	89.25	290	T	T	12 44 38.5	
	baz=118,slow=73,SNR=8.9						
STKA	Stephens Creek	90.73	235	LR	LR	11 38 42.7	
	comp=Z,76nm,20.6s,baz=192,slow=30						
TRF	Thorofare Moun	91.28	344	eP	P	11 06 03.1	-1.0
	14nm,1.7s						
ILAR	Eielson Array	91.58	346	P	P	11 06 04.3	-1.0
	0.5nm,1.0s,baz=180,slow=5.0,SNR=4.0						
PAF	Port-aux-Franc	107.86	182	R		11 08 00.0	
CRZF	Crozet Islands	109.33	168	R		11 08 00.0	
ESLA	Sonseca Array	118.11	56	ePKPdf	PKPdf	11 11 45.0	-1.2
BRG	Berggiesshubel	130.27	42	eP	Pdif	11 08 57.7	-0.8
	10nm,1.4s						
HHC	Hu-ho-hao-te	139.28	306	ePKP	PKPdf	11 12 27.2	+0.8
HHC				PP	PP	11 15 21.4	+1.2
HHC				LR	LR		
	comp=N,150nm,16.9s						
HHC				LR	LR		
	comp=E,330nm,14.3s						
HHC				LR	LR		
	comp=Z,110nm,16.9s						
AKASG	Malin Array Be	139.39	37	PKP	PKPdf	11 12 26.2	+0.2
	1.5nm,0.7s,baz=280,slow=3.3,SNR=5.3						
SONM	Songino Array	140.58	318	PKP	PKPdf	11 12 29.2	+0.6
	0.3nm,0.3s,baz=24,slow=2.2,SNR=3.4						
GYA	Guiyang	144.58	284	ePKP	PKPab	11 12 34.8	0.0
GYA				PP	PP	11 15 55.2	+2.2
GYA				SKKS		11 22 44.0	
GYA				SS	SS	11 34 40.9	-0.4
GYA				AMB	AMB		
	comp=Z,110nm,7.7s						
GYA				LR	LR		
	comp=N,120nm,22.6s						
GYA				LR	LR		
	comp=E,110nm,23.0s						
GYA				LR	LR		
	comp=Z,120nm,21.3s						
LZH	Lanzhou	146.22	301	ePKPbc	PKPdf	11 12 34.4	-4.5
LZH				pPKP	PKPbc	11 12 38.9	-1.0
LZH				sPKP		11 12 43.9	
LZH				LR	LR		
	comp=N,170nm,17.4s						
LZH				LR	LR		
	comp=E,170nm,17.0s						
LZH				LR	LR		
	comp=Z,190nm,19.5s						
ZAA0	Zalesovo Array	146.59	342	ePKPdf	PKPdf	11 12 38.0	-0.7
ZALV	Zalesovo Beam	146.59	342	PKPbc	PKPdf	11 12 38.9	+0.3
	2.4nm,0.6s,baz=35,slow=2.9,SNR=14						
BRTR	Keskin Array B	146.75	52	PKPbc	PKPbc	11 12 40.8	-0.6
	2.9nm,0.8s,baz=256,slow=1.5,SNR=7.6						
CD2	Chengdu	147.07	292	PKPbc	PKPdf	11 12 39.1	-1.2
CD2				pPKP	PKiKP	11 12 44.9	0.0
CD2				PP	PP	11 16 10.1	+2.5
CD2				PKS	PKSdf	11 16 12.9	-2.8
CD2				SKS	SKSdf	11 19 45.0	-4.4
CD2				SKKS	SKKSac	11 22 57.8	-1.8
CD2				SS	SS	11 35 08.5	-0.8
CD2				AMB	AMB		
	comp=Z,120nm,5.2s						
KMI	Kunming	148.03	281	PKPbc	PKPdf	11 12 42.9	+0.6
GTA	Gaotai	148.32	308	⇑PKPbc	PKPbc	11 12 46.4	+0.8
GTA				PKPab	PKPab	11 12 55.4	+6.7
GTA				PP	PP	11 16 23.6	+9.2
GTA				SKS	SKSdf	11 19 53.4	+2.5
GTA				SKKS	SKKSac	11 23 11.9	+5.6
GTA				AMB	AMB		
	comp=Z,77nm,5.0s						
GTA				LR	LR		
	comp=N,130nm,19.0s						
GTA				LR	LR		
	comp=E,90nm,18.1s						
GTA				LR	LR		
	comp=Z,110nm,19.5s						
BRVK	Borovoye	150.01	357	ePKPbc	PKPbc	11 12 49.5	+0.3
CMAR	Chiang Mai Arr	150.49	267	PKPbc	PKPbc	11 12 53.1	+1.7
	4.2nm,0.8s,baz=75,slow=0.1,SNR=24						
CHTO	Chiang Mai	150.57	268	ePKPbc	PKPbc	11 12 52.9	+1.3
CHTO				ePKPab	PKPab	11 12 59.7	+1.3
KBZ	Khabaz	150.97	39	PKPbc	PKPbc	11 12 52.2	+0.4
	11nm,0.8s,baz=200,slow=1.8,SNR=18						
KURK	Kurchatov	151.14	346	ePKPdf	PKPdf	11 12 45.5	-0.6
KURK				ePKPbc	PKPbc	11 12 51.5	-0.5
KURK				ePKPab	PKPab	11 12 58.8	-0.9
ABKAR	Akbulak array	153.17	11	ePKPdf	PKPdf	11 12 48.9	-0.3
ABKAR				ePKPbc	PKiKP	11 12 56.8	+0.1
WMQ	Urumqi	153.57	326	ePKPbc	PKPdf	11 12 49.0	-1.1
WMQ				PKS	PKSdf	11 16 22.0	-2.4
WMQ				PP	PP	11 16 47.4	+3.5
WMQ				SKS	SKSdf	11 19 50.8	-6.4
WMQ				SKKS	SKKSac	11 23 30.7	-3.9
WMQ				SS	SS	11 36 17.4	-2.1
WMQ				LR	LR		
	comp=N,41nm,24.4s						
WMQ				LR	LR		
	comp=E,29nm,22.8s						
WMQ				LR	LR		
	comp=Z,39nm,18.4s						
MK31	Makanchi Array	153.59	337	ePKPbc	PKPbc	11 12 57.0	-0.7
MK31				ePKPab	PKPab	11 13 09.6	-0.6
MKAR	Makanchi Array	153.59	337	PKPbc	PKPbc	11 12 57.1	-0.6
	1.3nm,0.8s,baz=30,slow=2.5,SNR=16						
KSH	Kashi	162.19	339	ePKP	PKPdf	11 13 02.8	+1.9
KSH				PKS	PKSdf	11 16 34.6	+0.5
KSH				ePP	PP	11 17 38.9	+8.1
KSH				SKS	SKSdf	11 20 06.3	+0.3
KSH				SKKS	SKKSac	11 24 25.8	+5.7
KSH				SS	SS	11 37 59.5	+8.8
KSH				AMB	AMB		
	comp=Z,65nm,5.4s						

*ISCJB **03** 10:53:16.3±0.5, 25.08N±0.08×124.50E±0.05, h92km±6km, mb3.5/4, Error ellipse: s-maj=15.0km s-min=5.2km az=154.8*

*JMA **03** 10:53:17.9±0.1, 25.02N×124.50E, h84km±2km, M3.1*

*IDC **03** 10:53:19.1±8.1, 25.20N×124.64E, h108km±90km, mb3.2/4, mb1 3.4/4, mb1mx3.1/32, mbtmp3.6/4, ML1.7/1, Error*

ellipse: s-maj=71.2km s-min=18.9km az=61.0
ISC 03 10:53:17.1±1.0,25.09N±0.10×124.49E±0.06,h86km±10km, n17,σ0.53/29,mb3.5/4,Northeast of Taiwan
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
JTJ Tarama 0.49 156 P Pn 10 53 31.6 +0.2
JTJ S Sn 10 53 41.7 -0.2
JISG Ishigakijimahi 0.53 198 P Pn 10 53 31.9 +0.2
JISG S Sn 10 53 42.1 -0.3
JIRB Irabujima 0.68 113 P Pn 10 53 33.1 +0.1
JIRB S Sn 10 53 44.3 -0.5
JIKM Ikemajima 0.71 103 P Pn 10 53 33.9 +0.5
JIKM S Sn 10 53 45.9 +0.5
JMJ Miyako jima 2 0.78 110 P Pn 10 53 34.5 +0.4
JMJ S Sn 10 53 46.9 +0.1
JIJ Ishigaki jima 0.79 203 P Pn 10 53 33.9 -0.3
JIJ S Sn 10 53 45.8 -1.1
JOGS Gusukube 0.90 111 P Pn 10 53 35.9 +0.5
JOGS S Sn 10 53 49.3 +0.3
JKRS Kuro-shima 0.95 207 P Pn 10 53 36.1 +0.1
JKRS S Sn 10 53 49.9 -0.2
IRIF Iriomote-Funau 1.02 223 P Pn 10 53 37.0 +0.2
IRIF S Sn 10 53 51.3 -0.2
HATJ Hateruma jima 1.20 211 P Pn 10 53 39.4 +0.4
HATJ eS Sn 10 53 55.6 +0.2
YOJ Yonaguni jima 1.48 245 P Pn 10 53 43.3 +0.9
YOJ S Sn 10 54 01.6 0.0
JKE Kume jima 2 2.41 59 P Pn 10 53 55.3 +0.6
JOW Kunigami 3.83 62 P Pn 10 54 13.8 +0.1
0.1nm,0.3s,baz=243,slow=14,SNR=7.2
JOW S Sn 10 54 56.5 -1.1
0.2nm,0.3s,baz=118,slow=19,SNR=2.3
MKAR Makanchi Array 39.83 314 P P 11 00 42.3 +0.3
0.3nm,0.4s,baz=99,slow=9.1,SNR=6.0
ZALV Zalesovo Beam 41.17 325 P P 11 00 52.1 -0.8
1.0nm,0.4s,baz=118,slow=8.9,SNR=5.6
WRA Warramunga Arr 45.78 167 P P 11 01 30.0 -0.3
0.4nm,0.6s,baz=348,slow=9.0,SNR=3.6
ASAR Alice Springs 49.32 169 P P 11 01 58.2 +0.5
0.2nm,0.4s,baz=352,slow=8.1,SNR=11

ATH 03 11:09:28.6,40.21N×19.49E,h5km±1km,MD3.5/10
TIR 03 11:09:28.1±10.0,40.17N×19.80E,h0km±31km,ML3.3
THE 03 11:09:31.8,40.13N×19.66E,h0km±3km,ML2.9/5,Error ellipse: s-maj=4.4km s-min=1.3km az=280.0
SKO 03 11:09:32.8,40.02N×19.53E,h12km,M2.3,ML2.9
CSEM 03 11:09:33.9±0.3,40.06N×19.74E,h2km,ML3.3,Error ellipse: s-maj=7.3km s-min=4.2km az=74.0
ISC 03 11:09:33.2±1.1,40.10N±0.02×19.77E±0.02,h5km±9km, n76,σ1.32/122,Albania
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
SRN Sarande 0.28 140 i PG Pg 11 09 37.2 -1.5
SRN i SG Sg 11 09 42.4 0.0
SRN Sarande 0.28 140 P Pg 11 09 37.3 -1.4
SRN S Sg 11 09 42.6 +0.2
SRN Sarande 0.28 140 i Pg Pg 11 09 37.2 -1.5
SNR=90
SRN S Sg 11 09 42.6 +0.2
KEK Kerkira 0.38 176 P Pg 11 09 39.7 -1.0
KEK S Sg 11 09 46.7 +1.0
KEK Kerkira 0.38 176 ePB Pg 11 09 39.7 -1.0
KEK eSB Sb 11 09 47.6 -1.1
KEK Kerkira 0.38 176 ePb Pg 11 09 39.7 -1.0
KEK S Sg 11 09 46.7 +1.0
KEK eSb Sb 11 09 47.6 -1.1
VLO Vlora 0.42 331 i PG Pb 11 09 41.8 -1.4
VLO i SG Sb 11 09 49.3 -0.7
VLO Vlora 0.42 331 i Pg Pb 11 09 41.8 -1.4
SNR=90
VLO i Sg Sb 11 09 49.3 -0.7
SNR=90
IGT Igoumenitsa 0.71 142 ePG Pg 11 09 46.0 -0.9
IGT eSB Sn 11 10 00.1 -1.2
IGT Igoumenitsa 0.71 142 ePg Pg 11 09 46.0 -0.9
IGT eSb Sn 11 10 00.1 -1.2
KBN Korca 0.94 56 i PG Pb 11 09 50.2 -1.1
KBN Korca 0.94 56 P Pb 11 09 49.6 -1.7
KBN S Sb 11 10 05.5 +0.6
KBN Korca 0.94 56 P Pb 11 09 49.6 -1.7
KBN S Sb 11 10 05.5 +0.6
JAN Janina 0.94 117 P Pg 11 09 50.6 -0.7
JAN S Sb 11 10 05.8 +0.9
JAN Janina 0.94 117 ePN Pg 11 09 50.7 -0.6
JAN eSB Sn 11 10 07.5 +0.5
JAN Janina 0.94 117 P Pg 11 09 50.6 -0.7
JAN S Sb 11 10 05.8 +0.9
JAN eSb Sn 11 10 07.5 +0.5
NEST Nestorio 1.03 72 ePB Pg 11 09 51.5 -1.5
NEST eSB Sb 11 10 08.2 +0.7
NEST Nestorio 1.03 72 ePb Pg 11 09 51.5 -1.5
NEST eSb Sb 11 10 08.2 +0.7
FNA Florina 1.41 60 P Pn 11 09 58.2 -1.4
FNA S Sg 11 10 20.0 +1.5
FNA Florina 1.41 60 ePB Pn 11 09 58.4 -1.2
FNA Florina 1.41 60 P Pn 11 09 58.2 -1.4
FNA S Sg 11 10 20.0 +1.5
BIA Bitola 1.50 52 ePn Pg 11 10 03.0 +1.0
BIA i Sn Sg 11 10 24.4 +2.8
BIA Bitola 1.50 52 ePn Pg 11 10 03.0 +1.0
BIA i Sn Sg 11 10 24.3 +2.8
KZN Kozani 1.55 82 P Pn 11 10 01.6 0.0
KZN S Sg 11 10 24.0 +1.0
KZN Kozani 1.55 82 ePN Pn 11 10 01.6 0.0
KZN eSN Sg 11 10 26.2 +3.2
KZN Kozani 1.55 82 P Pn 11 10 01.6 0.0
KZN S Sg 11 10 24.0 +1.0
KZN eSn Sg 11 10 26.2 +3.2
PHP Peshkopia 1.67 18 i PN Pb 11 10 04.0 -0.5
PHP i SN Sb 11 10 24.4 -1.4
PHP Peshkopia 1.67 18 i Pn Pb 11 10 04.0 -0.5
SNR=40
THL Klokotos Trika 1.81 106 P Pn 11 10 05.8 +0.7
THL S Sb 11 10 30.4 +0.6
THL Klokotos Trika 1.81 106 P Pn 11 10 05.8 +0.7
THL S Sb 11 10 30.4 +0.6
PDO Prodromos 1.86 143 ePN Pb 11 10 07.0 -0.6
PDO eSN Sg 11 10 35.6 +2.7
PDO Prodromos 1.86 143 ePn Pb 11 10 07.0 -0.6
PDO eSn Sg 11 10 35.6 +2.7
TAR1 Taranto 1.94 284 ePn Pg 11 10 12.3 +1.8
TAR1 Sn Sg 11 10 38.7 +3.0
PUK Puka 1.95 3 i PN Pn 11 10 06.6 -0.5
EVR Evrytania 1.97 126 ePN Pb 11 10 08.7 -1.0
EVR eSN Sg 11 10 38.1 +1.5
EVR Evrytania 1.97 126 ePn Pb 11 10 08.7 -1.0
EVR eSn Sg 11 10 38.1 +1.5
LIT Litokhoron 2.09 89 ePG Pb 11 10 11.2 -0.4
LIT eSN Sg 11 10 40.4 0.0
LIT Litokhoron 2.09 89 ePg Pb 11 10 11.2 -0.4
LIT eSn Sg 11 10 40.4 0.0
MAKR Makrakomi, Fth 2.12 120 ePN Pb 11 10 11.4 -0.8
MAKR eSN Sg 11 10 42.2 +0.7
MAKR Makrakomi, Fth 2.12 120 ePn Pb 11 10 11.4 -0.8
MAKR eSn Sg 11 10 42.2 +0.7
GRG Griva 2.19 66 ePN Pn 11 10 10.8 +0.5
GRG eSN Sb 11 10 41.5 +0.8
GRG Griva 2.19 66 ePn Pn 11 10 10.8 +0.5
GRG eSn Sb 11 10 41.5 +0.8
AGG Agios Georgios 2.25 118 ePN Pb 11 10 12.8 -1.6
AGG Agios Georgios 2.25 118 ePn Pb 11 10 12.8 -1.6
SKO Skopje 2.26 34 ePn Pn 11 10 18.5 +1.9
SKO eSn Sg 11 10 45.0 -0.9
SKO eLg Lg 11 10 45.7
comp=N,38nm,0.4s
SKO eLg Lg 11 10 52.9
comp=E,72nm,0.7s
SKO Skopje 2.26 34 ePn Pg 11 10 18.4 +1.9
SKO eSn Sg 11 10 44.9 -0.9
SKO eLg Lg 11 10 52.8
comp=E,72nm,0.7s
BCI Bajram Curri 2.28 6 i PN Pb 11 10 14.1 -0.8
BCI Bajram Curri 2.28 6 i Pn Pb 11 10 14.1 -0.8
SNR=40
RLS Riolos of Patr 2.43 146 ePB Pn 11 10 14.0 +0.5
RLS Riolos of Patr 2.43 146 ePb Pn 11 10 14.0 +0.5
VAY Valandovo 2.46 59 i PN Pb 11 10 17.0 -0.9
VAY i Sn Sb 11 10 48.0 -0.4
VAY eLg Lg 11 10 54.7
comp=N,87nm,1.6s
VAY eLg Lg 11 10 58.4
comp=E,18nm,0.7s
VAY Valandovo 2.46 59 i Pn Pb 11 10 16.9 -0.9
VAY i Sn Sb 11 10 48.0 -0.4
VAY eLg Lg 11 10 58.3
comp=E,18nm,0.7s
KALE Kalithea 2.51 132 ePN Pn 11 10 16.6 +1.9
KALE Kalithea 2.51 132 ePn Pn 11 10 16.6 +1.9
LAKA Lakka 2.53 136 ePB Pn 11 10 15.6 +0.6
LAKA Lakka 2.53 136 ePb Pn 11 10 15.6 +0.6
HORT Hortiatis 2.60 78 ePN Pn 11 10 17.9 +1.9
HORT eSN Sb 11 10 52.5 0.0
HORT Hortiatis 2.60 78 ePn Pn 11 10 17.9 +1.9
HORT eSn Sb 11 10 52.5 0.0
AXAR Agios Charalam 2.60 120 ePN Pn 11 10 17.7 +1.7
AXAR Agios Charalam 2.60 120 ePn Pn 11 10 17.7 +1.7
KNT Kendrikon 2.61 65 ePN Pn 11 10 16.6 +0.5
KNT Kendrikon 2.61 65 ePn Pn 11 10 16.6 +0.5
DRO Drossia 2.62 144 ePN Pn 11 10 17.2 +0.9
DRO Drossia 2.62 144 ePn Pn 11 10 17.2 +0.9
DSF Desfina 2.73 127 ePN Pn 11 10 19.6 +1.9
DSF Desfina 2.73 127 ePn Pn 11 10 19.6 +1.9
PLG Polygyros 2.83 83 ePN Pn 11 10 20.2 +1.1
PLG eSN Sb 11 10 57.5 -1.7
PLG Polygyros 2.83 83 ePn Pn 11 10 20.2 +1.1
PLG eSn Sb 11 10 57.5 -1.7
GUR Goura 2.95 136 ePB Pn 11 10 22.0 +1.2
BARS Barje 3.12 29 ePn Pn 11 10 22.7 -0.4
STON Ston 3.18 331 Sn Sn 11 10 59.0 -3.1
ITM Ithomi 3.37 149 ePN Pn 11 10 28.0 +1.5
ITM Ithomi 3.37 149 ePn Pn 11 10 28.0 +1.5
BBLS Lazići 3.78 356 ePn Pn 11 10 34.3 +2.1
GRUS Gruza 3.85 10 ePn Pn 11 10 36.1 +2.9
DIVS Divibare 4.00 2 ePn Pn 11 10 38.0 +2.7

ISCJB 03 11:16:45.4±0.2,43.16N±0.02×13.44E±0.03,h25km±3km, Error ellipse: s-maj=4.0km s-min=2.8km az=2.4
CSEM 03 11:16:45.6±0.2,43.13N×13.41E,h20km,ML3.8/10,Error ellipse: s-maj=3.6km s-min=2.8km az=93.0
ROM 03 11:16:45.6±0.1,43.13N×13.43E,h18km±2km,Ml3.3/23, Error ellipse: s-maj=1.6km s-min=1.3km az=92.0
ISC 03 11:16:45.6±0.9,43.13N±0.02×13.41E±0.02,h18km±3km, n79,σ0.84/119,15C-7D,Central Italy
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
T0402 Abbadia di Fi 0.09 356⇓ePg Pg 11 16 49.0 -0.1
T0402 Sg Sg 11 16 52.1 +0.5
35µm,0.3s
T0401 Montottone (Fe 0.15 118⇓iPg Pg 11 16 49.9 +0.1
T0401 Sg Sg 11 16 53.7 +1.0
22µm,0.4s
FDMO Fiordimonte 0.26 248⇑iPg Pg 11 16 51.3 -0.2
FDMO Sg Sb 11 16 56.3 +0.6
5µm,0.3s
FDMO Fiordimonte 0.26 248⇑iPg Pg 11 16 51.3 -0.2
FDMO Sg Sb 11 16 56.3 +0.6
5µm,0.3s
OFFI Offida 0.28 135 Pg Pb 11 16 52.6 +0.5
4µm,0.5s
OFFI Offida 0.28 135 Pg Pb 11 16 52.6 +0.5
4µm,0.5s
CING Cingoli 0.29 327⇑iPg Pg 11 16 51.9 -0.1
CING Sg Sb 11 16 57.2 +0.5
CING Cingoli 0.29 327⇑iPg Pg 11 16 51.9 -0.1
CING Sg Sb 11 16 57.2 +0.5
NRCA Norcia 0.37 216⇑ePg Pg 11 16 53.1 -0.3
NRCA Sg Sb 11 16 59.6 +0.4
7µm,0.1s
NRCA Norcia 0.37 216⇑ePg Pg 11 16 53.1 -0.3
NRCA Sg Sb 11 16 59.6 +0.4
7µm,0.1s
CESI CESI - Serrava 0.40 251⇑ePg Pg 11 16 53.7 -0.1
CESI Sg Sb 11 17 00.8 +0.9
1µm,0.4s
CESI CESI - Serrava 0.40 251⇑ePg Pg 11 16 53.7 -0.1
CESI Sg Sb 11 17 00.8 +0.9
1µm,0.4s
AOI Ancona 0.44 18 Pg Pg 11 16 54.1 -0.4
AOI Sg Sb 11 17 01.7 +0.6
2µm,0.3s
AOI Ancona 0.44 18 Pg Pg 11 16 54.1 -0.4
AOI Sg Sb 11 17 01.7 +0.6
2µm,0.3s
ARVD Arcevia 0.50 317 Pg Pg 11 16 55.4 -0.3
ARVD Sg Sb 11 17 04.4 +1.5
592nm,0.3s
ARVD Arcevia 0.50 317 Pg Pg 11 16 55.4 -0.3
ARVD Sg Sb 11 17 04.4 +1.5
592nm,0.3s
SMA1 SAN MARTINO 0.51 187 Pg Pg 11 16 55.0 -0.8
SMA1 Sg Sb 11 17 03.2 +0.1
2µm,0.4s
TERO Teramo 0.53 165 Pg Pg 11 16 55.2 -1.0
TERO Sg Sb 11 17 04.2 +0.6
809nm,0.5s
TERO Teramo 0.53 165 Pg Pg 11 16 55.2 -1.0
TERO Sg Sb 11 17 04.2 +0.6
809nm,0.5s
SENI Senigallia 0.59 347 Pg Pn 11 16 58.2 -0.8
331nm,0.2s
SENI Senigallia 0.59 347 Pg Pn 11 16 58.2 -0.8
331nm,0.2s
CAMP Campotosto 0.60 180 Pg Pg 11 16 56.5 -1.0
CAMP Sg Sb 11 17 06.4 +0.7
1µm,0.6s
CAMP Campotosto 0.60 180 Pg Pg 11 16 56.5 -1.0
CAMP Sg Sb 11 17 06.4 +0.7
1µm,0.6s
MURB Monte Urbino 0.66 281 Pg Pb 11 16 58.5 -0.1
MURB Monte Urbino 0.66 281 Pg Pb 11 16 58.5 -0.1
FSSB Fossombrone 0.73 320 Pg Pg 11 16 59.9 +0.1
257nm,0.2s
FSSB Fossombrone 0.73 320 Pg Pg 11 16 59.9 +0.1
257nm,0.2s
T0104 Madonna delle 0.78 184 Pg Pb 11 16 59.6 -1.0
VCEL Villa Celiera 0.80 157 Pg Pb 11 17 01.1 0.0
492nm,0.4s
VCEL Villa Celiera 0.80 157 Pg Pb 11 17 01.1 0.0
492nm,0.4s
CESX Cesi 0.81 230 Pg Pb 11 17 00.5 -0.6
CESX Sg Sn 11 17 13.2 -0.4
2µm,0.5s
CESX Cesi 0.81 230 Pg Pb 11 17 00.5 -0.6
CESX Sg Sn 11 17 13.2 -0.4
2µm,0.5s
FAGN Fagnano 0.88 172 Pg Pb 11 17 02.3 0.0
854nm,0.6s
FAGN Fagnano 0.88 172 Pg Pb 11 17 02.3 0.0
854nm,0.6s
FIAM Fiamignano 0.89 194 Pg Pb 11 17 01.6 -1.0
FIAM Sg Sn 11 17 15.4 -0.4
FIAM Fiamignano 0.89 194 Pg Pb 11 17 01.6 -1.0
FIAM Sg Sn 11 17 15.4 -0.4
PESA Pesaro 0.91 333 Pg Pn 11 17 03.5 +0.1
836nm,0.3s
PESA Pesaro 0.91 333 Pg Pn 11 17 03.5 +0.1
836nm,0.3s
MNS Montasola 0.92 216 Pg Pb 11 17 02.5 -0.6
MNS Sg Sn 11 17 16.7 +0.2
833nm,0.5s
MNS Montasola 0.92 216 Pg Pb 11 17 02.5 -0.6
MNS Sg Sn 11 17 16.7 +0.2
833nm,0.5s
BADI Badiali 0.93 294 Pg Pb 11 17 03.2 0.0
661nm,0.7s
BADI Badiali 0.93 294 Pg Pb 11 17 03.2 0.0
661nm,0.7s
MGAB Montegabbione 0.98 257 Pg Pg 11 17 04.8 +0.2
665nm,0.6s
MGAB Montegabbione 0.98 257 Pg Pg 11 17 04.8 +0.2
665nm,0.6s
PARC Parchiule 1.00 301 Pg Pb 11 17 04.4 0.0
348nm,0.6s
PARC Parchiule 1.00 301 Pg Pb 11 17 04.4 0.0
348nm,0.6s
CAFI Castiglion Fio 1.08 281 Pg Pb 11 17 05.9 +0.1
462nm,0.8s
CAFI Castiglion Fio 1.08 281 Pg Pb 11 17 05.9 +0.1
462nm,0.8s
SACS San Casciano d 1.14 256 Pg Pg 11 17 07.7 0.0
307nm,0.7s
INTR Introdacqua 1.18 162 Pg Pn 11 17 06.6 -0.6
345nm,0.7s
INTR Introdacqua 1.18 162 Pg Pn 11 17 06.6 -0.6
345nm,0.7s
POFI Posta Fibreno 1.43 171 Pg Pb 11 17 12.0 +0.2
POFI Posta Fibreno 1.43 171 Pg Pb 11 17 12.0 +0.2
NVLJ Novalja 1.77 36 ePn Pn 11 17 14.6 -0.8
NVLJ Sn Sn 11 17 36.3 -1.1
NVLJ Novalja 1.77 36 ePn Pn 11 17 14.5 -0.8
NVLJ Sn Sn 11 17 36.3 -1.1
UDBI Udbina 2.20 50 ePn Pn 11 17 21.6 +0.3
UDBI Sn Sn 11 17 49.2 +1.2
UDBI Udbina 2.20 50 ePn Pn 11 17 21.5 +0.3
UDBI Sn Sn 11 17 49.2 +1.2
SKDS Skadanscina 2.45 10 i Pn Pn 11 17 23.9 -0.8
SKDS i Sn Sn 11 17 53.4 -0.8
SKDS
comp=Z,27nm,0.3s
SKDS Skadanscina 2.45 10 i Pn Pn 11 17 23.9 -0.8
SKDS i Sn Sn 11 17 53.4 -0.8
comp=Z,27nm,0.3s
OBKA Obir 3.47 13⇑iPn Pn 11 17 38.4 -0.3
OBKA Obir 3.47 13 Pn Pn 11 17 38.4 -0.3
ABTA Abfaltersbach 3.67 350⇓iPn Pn 11 17 41.8 +0.3
ABTA ⇑iSn Sn 11 18 23.2 -1.1
ABTA Abfaltersbach 3.67 350 Pn Pn 11 17 41.8 +0.3
ABTA Sn Sn 11 18 23.2 -1.1
SOKA Soboth 3.73 17⇑iPn Pn 11 17 42.3 0.0
SOKA Soboth 3.73 17 Pn Pn 11 17 42.3 0.0
KBA Koelnbreinsper 3.94 359⇓iPn Pn 11 17 45.1 -0.2
KBA ⇓iSn Sn 11 18 29.7 -1.5
KBA Koelnbreinsper 3.94 359 Pn Pn 11 17 45.1 -0.2
KBA Sn Sn 11 18 29.7 -1.5
FETA Feichten 4.33 335⇑iPn Pn 11 17 51.1 +0.5
FETA ⇑iSn Sn 11 18 40.2 -0.4
FETA Feichten 4.33 335 Pn Pn 11 17 51.1 +0.5
FETA Sn Sn 11 18 40.2 -0.4
BBLS Lazići 4.42 78 ePn Pn 11 17 54.3 +2.5
STV Sant Anna di V 4.55 286 P Pn 11 17 54.1 +0.5
TRAV Traversella 4.71 302 P Pn 11 17 53.3 -2.5
MOA Molln 4.75 7⇓iPn Pn 11 17 56.5 +0.2
MOA ⇓iSn Sn 11 18 49.1 -1.9
MOA Molln 4.75 7 Pn Pn 11 17 56.5 +0.2
MOA Sn Sn 11 18 49.1 -1.9
RSP Reno Superiore 4.86 297 P Pn 11 18 00.1 +2.2
IVAS Ivanjica 4.93 83 ePn Pn 11 18 00.2 +1.4
CONA Conrad Observa 5.09 19⇑iPn Pn 11 18 01.0 0.0
CONA ⇑iSn Sn 11 18 57.0 -2.4
CONA Conrad Observa 5.09 19 Pn Pn 11 18 01.0 0.0
CONA Sn Sn 11 18 57.0 -2.4
GRUS Gruza 5.36 79 ePn Pn 11 18 08.1 +3.4

IDC 03 11:22:24.5±1.4,4.95N×125.34E,h0km,mb3.4/4, mb1 3.5/4,mb1mx3.4/32,mbtmp3.4/4,MS3.1/2,Ms1 3.2/2, ms1mx2.6/15,Error ellipse: s-maj=159.5km s-min=20.8km az=68.0,Talaud Islands
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
WRA Warramunga Arr 26.27 161 P P 11 28 01.1 -0.7
0.5nm,0.6s,baz=342,slow=10,SNR=4.6
JCJ Chichijima 27.27 34 LR LR 11 36 22.6
comp=Z,71nm,21.6s,baz=104,slow=31
CMAR Chiang Mai Arr 29.06 300 LR LR 11 40 23.3
comp=Z,21nm,21.1s,baz=145,slow=37
ASAR Alice Springs 29.64 164 P P 11 28 32.8 +0.8
0.2nm,0.6s,baz=350,slow=8.0,SNR=3.2
SONM Songino Array 45.72 342 P P 11 30 48.4 +0.8
0.2nm,0.4s,baz=148,slow=8.1,SNR=2.5
MKAR Makanchi Array 55.77 325 P P 11 32 02.4 -1.0
0.3nm,0.4s,baz=117,slow=7.4,SNR=11

IDC 03 11:23:17.5±3.7,14.69S×68.80W,h117km±41km,mb3.7/4, mb1 3.7/5,mb1mx3.4/31,mbtmp4.1/5,Error ellipse: s-maj=55.4km s-min=32.5km az=6.0,Peru-Bolivia border region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
LPAZ La Paz 1.71 158 P Pn 11 23 45.9 -2.2
9.2nm,0.3s,baz=14,slow=12,SNR=200
LPAZ S Sn 11 24 11.6 +0.2
1.4nm,0.3s,baz=155,slow=19,SNR=4.3
SIV San Ignacio 7.57 101 P Pn 11 25 06.1 +0.9
3.6nm,0.3s,baz=280,slow=12,SNR=32
BDFB Brasilia 20.09 95 P P 11 27 42.8 +0.7
1.5nm,0.4s,baz=263,slow=8.1,SNR=4.6
DBIC Dimbokro 66.85 76 P P 11 33 56.5 -1.0
4.3nm,0.8s,baz=232,slow=8.7,SNR=3.1
TORD Torodi Ar. Bea 75.06 72 P P 11 34 47.3 +0.2
1.1nm,0.4s,baz=257,slow=4.9,SNR=16
YKA Yellowknife Ar 84.83 340 P P 11 35 39.3 +0.7
0.2nm,0.4s,baz=134,slow=5.0,SNR=8.5

IDC 03 11:39:40.2±3.6,6.42S×154.19E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/21,mbtmp3.4/3,MS3.1/1,Ms1 3.1/1, ms1mx2.4/17,Error ellipse: s-maj=131.8km s-min=35.4km az=116.0,Bougainville - Solomon Islands region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
WRA Warramunga Arr 23.50 233 P P 11 44 51.1 -0.9
0.7nm,0.9s,baz=59,slow=11,SNR=3.2
ASAR Alice Springs 25.97 227 P P 11 45 16.2 +1.4
0.5nm,0.9s,baz=62,slow=9.4,SNR=3.0
ASAJ Asahikawa 51.38 349 LR LR 12 07 25.9
comp=Z,16nm,19.5s,slow=32
MKAR Makanchi Array 82.45 319 P P 11 52 05.3 +0.7
0.5nm,0.6s,baz=109,slow=6.1,SNR=7.0
TORD Torodi Ar. Bea 152.10 286 PKPbc PKPbc 11 59 37.3 -1.4
0.2nm,0.4s,baz=73,slow=4.1,SNR=3.1

IDC 03 12:16:17.9±523.0,48.56N×49.78E,h0km,Error ellipse: s-maj=192.1km s-min=113.4km az=62.0,Western Kazakhstan
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
I31KZ AKTYUBINSK INF 5.69 68 i 12 52 10.0
baz=255,slow=333,SNR=1.0
I43RU DUBNA INFRASON11.17 322 i 13 26 20.0
baz=132,slow=329,SNR=0.4
I46RU ZALESOVO INFRA22.42 63 i 14 33 30.0
baz=266,slow=346,SNR=1.6

ISCJB 03 12:19:38.3±0.5,41.30N±0.04×29.33W±0.08,h12km, mb3.7/12,MS3.6/26,Error ellipse: s-maj=9.3km s-min=5.4km az=160.8
IDC 03 12:19:39.5±0.8,41.64N×29.41W,h0km,mb3.7/12, mb1 3.9/13,mb1mx3.8/32,mbtmp3.7/13,ML4.8/1,MS3.6/27, Ms1 3.6/27,ms1mx3.5/36,Error ellipse: s-maj=27.3km s-min=19.1km az=13.0
ISC 03 12:19:40.0±0.6,41.29N±0.07×29.34W±0.07,h12km,n36, σ1.25/23,mb3.8/12,MS3.6/26,Azores Islands region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
H07S1 FLORES T-PHASE 2.38 217 eP Pn 12 20 19.9 +1.0
H07S1 eS Sn 12 20 48.6 +0.6
ROSA Rosais 2.70 161 eP Pn 12 20 23.2 0.0
ROSA eS Sn 12 20 54.2 -1.6
ROSA A A 12 20 55.3
61nm,0.3s
PMAN Manadas 2.82 160 eS Sn 12 20 56.8 -2.0
PMAN A A 12 20 58.2
41nm,0.4s
TOPO Topo 2.91 157 eP Pn 12 20 26.5 +0.4
TOPO eS Sn 12 20 59.3 -1.7
PSET Sete Cidades 4.45 140 eP Pn 12 20 47.4 +0.1
PSMN Pico do Norte, 5.42 141 eP Pn 12 21 01.0 +0.4
ESDC Sonseca Array 19.35 86 P Pn 12 24 08.7 +2.2
0.6nm,0.3s,baz=290,slow=12,SNR=3.8
ESDC LR LR 12 29 56.1
comp=Z,238nm,21.6s,baz=295,slow=32
MDT Midelt 21.41 105 LR LR 12 30 50.4
comp=Z,202nm,22.0s,baz=305,slow=31
SCHQ Schefferville 28.11 312 LR LR 12 34 56.0

	comp=Z,156nm,19.1s,baz=75,slow=33						
DAVOX	Davos/Dischmat	28.51	66	LR	LR	12 35 31.0	
	comp=Z,142nm,18.7s,baz=295,slow=34						
BBTS	Babate	28.77	154	LR	LR	12 36 01.0	
	comp=Z,81nm,18.7s,baz=134,slow=34						
KEST	Kesra	30.59	88	LR	LR	12 37 44.8	
	comp=Z,76nm,19.8s,baz=235,slow=35						
GERES	GERESS Array B	30.98	61	LR	LR	12 36 52.9	
	comp=Z,124nm,19.6s,baz=278,slow=34						
NOA	NORSAR Array B	31.47	37	LR	LR	12 36 25.7	
	comp=Z,44nm,21.5s,baz=255,slow=32						
FINES	FINESS Array B	38.55	39	LR	LR	12 41 27.4	
	comp=Z,84nm,19.5s,baz=181,slow=34						
TORD	Torodi Ar. Bea	38.96	127	P	P	12 27 08.5	+2.4
	0.7nm,0.8s,baz=318,slow=8.5,SNR=3.7						
TORD				LR	LR	12 42 11.9	
	comp=Z,48nm,18.8s,baz=300,slow=34						
ARCES	ARCESS Array B	39.83	27	LR	LR	12 41 29.0	
	comp=Z,16nm,19.6s,baz=268,slow=33						
DBIC	Dimbokro	40.79	141	LR	LR	12 42 15.1	
	comp=Z,72nm,21.9s,baz=318,slow=33						
RES	Resolute Bay	44.23	340	LR	LR	12 42 09.8	
	comp=Z,54nm,21.7s,baz=136,slow=31						
ULM	Lac du Bonnet	45.84	305	P	P	12 28 01.9	+0.1
	1.0nm,0.6s,baz=101,slow=5.2,SNR=2.5						
ULM				LR	LR	12 45 20.5	
	comp=Z,168nm,20.9s,baz=62,slow=34						
BRTR	Keskin Array B	46.96	70	LR	LR	12 46 34.8	
	comp=Z,30nm,21.8s,baz=279,slow=34						
YKA	Yellowknife Ar	52.34	324	P	P	12 28 50.0	-1.3
	0.3nm,0.8s,baz=70,slow=7.5,SNR=4.5						
YKA				PcP	PcP	12 30 01.5	-0.7
	0.6nm,1.0s,baz=68,slow=4.2,SNR=5.8						
ROSC	El Rosal	54.10	240	LR	LR	12 50 23.2	
	comp=Z,51nm,21.2s,baz=198,slow=34						
INK	Inuvik	57.21	335	P	P	12 29 25.6	-0.8
	1.4nm,1.0s,baz=42,slow=5.8,SNR=4.7						
PDAR	Pinedale Array	57.39	301	P	P	12 29 27.6	-0.9
	1.1nm,0.9s,baz=79,slow=7.7,SNR=6.8						
PDAR				LR	LR	12 53 34.5	
	comp=Z,78nm,18.3s,baz=62,slow=36						
TXAR	Lajitas Array	60.12	284	P	P	12 29 48.1	+0.6
	1.0nm,0.8s,baz=90,slow=7.5,SNR=6.4						
TXAR				LR	LR	12 55 16.1	
	comp=Z,48nm,19.4s,baz=0.0,slow=36						
ILAR	Eielson Array	63.61	335	P	P	12 30 10.7	+0.4
	0.3nm,0.6s,baz=44,slow=5.9,SNR=9.1						
ILAR				LR	LR	12 54 22.5	
	comp=Z,35nm,18.9s,baz=130,slow=33						
NVAR	Mina Array Bea	65.32	300	P	P	12 30 20.2	-2.0
	0.2nm,0.4s,baz=71,slow=6.3,SNR=4.1						
NVAR				LR	LR	12 58 55.1	
	comp=Z,123nm,18.4s,baz=291,slow=36						
LPAZ	La Paz	67.61	221	P	P	12 30 41.4	+4.0
	3.6nm,1.2s,baz=19,slow=8.3,SNR=4.9						
LPAZ				LR	LR	12 56 37.0	
	comp=Z,83nm,21.1s,baz=26,slow=33						
ZALV	Zalesovo Beam	69.64	35	P	P	12 30 49.3	+0.4
	0.4nm,0.5s,baz=324,slow=7.1,SNR=2.2						
ZALV				LR	LR	13 01 14.0	
	comp=Z,31nm,18.1s,baz=256,slow=36						
MKAR	Makanchi Array	73.34	42	P	P	12 31 10.5	-1.0
	0.9nm,0.8s,baz=321,slow=6.0,SNR=5.1						
MKAR				LR	LR	13 02 30.2	
	comp=Z,54nm,21.5s,baz=313,slow=35						
KMBO	Kilima Mbogo	73.35	107	LR	LR	13 02 58.7	
	comp=Z,80nm,19.7s,baz=92,slow=35						
SONM	Songino Array	82.98	28	P	P	12 32 05.4	+0.4
	0.3nm,0.5s,baz=315,slow=6.8,SNR=6.1						
SONM				LR	LR	13 09 18.2	
	comp=Z,18nm,18.3s,baz=318,slow=36						
PETK	Petropavlovsk-	85.78	356	LR	LR	13 10 16.4	
	comp=Z,22nm,18.6s,baz=4.6,slow=36						
KSRS	Korea Array	98.92	18	LR	LR	13 20 09.3	
	comp=Z,55nm,20.1s,baz=173,slow=37						
ASAR	Alice Springs	157.52	44	PKPab	PKPab	12 40 08.0	-0.1
	0.3nm,0.7s,baz=331,slow=4.5,SNR=5.1						

SKO 03 12:29:05.9, 41°.23N×22°.73E, h15km, M1.3, ML1.7
CSEM 03 12:29:06.2±0.1, 41°.23N×22°.75E, h6km±1km, MD3.1, Error ellipse: s-maj=3.7km s-min=2.5km az=21.0
THE 03 12:29:06.6, 41°.27N×22°.75E, h7km±1km, ML2.4/3, Error ellipse: s-maj=1.6km s-min=0.5km az=209.0
ATH 03 12:29:07.1, 41°.22N×22°.77E, h7km±2km, MD3.1/11
ISC 03 12:29:06.6±0.9, 41°.24N±0°.03×22°.75E±0°.02, h9km±6km, n37, σ0°.45/58, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNT	Kendrikon	0.14	126	P	Pg	12 29 09.8	+0.2
KNT				S	Sg	12 29 12.0	+0.3
KNT	Kendrikon	0.14	126⇑	iPG	Pg	12 29 09.8	+0.2
KNT				eSG	Sg	12 29 11.6	-0.1
KNT	Kendrikon	0.14	126	P	Pg	12 29 09.8	+0.2
KNT				eSg	Sg	12 29 11.6	-0.1
KNT				S	Sg	12 29 12.0	+0.3
VAY	Valandovo	0.16	300	P	Pg	12 29 09.2	-0.7
VAY				S	Sg	12 29 11.8	-0.4
VAY	Valandovo	0.16	300	i Pg	Pg	12 29 09.8	-0.1
VAY				i Sg	Sg	12 29 12.2	-0.1
VAY				eLg	Lg	12 29 12.3	
	comp=N,294nm,0.2s						
VAY				eLg	Lg	12 29 12.5	
	comp=E,468nm,0.6s						
VAY	Valandovo	0.16	300	P	Pg	12 29 09.2	-0.7
VAY	Valandovo	0.16	300	i Pg	Pg	12 29 09.8	-0.1
VAY				eLg	Lg	12 29 12.5	
	comp=E,468nm,0.6s						
GRG	Griva	0.39	223	P	Pg	12 29 14.4	+0.2
GRG				S	Sg	12 29 20.4	+1.0
GRG	Griva	0.39	223	ePG	Pg	12 29 14.5	+0.2
GRG				eSB	Sg	12 29 20.1	+0.7
GRG	Griva	0.39	223	P	Pg	12 29 14.4	+0.2
GRG				eSb	Sg	12 29 20.1	+0.7
SOH	Sokhos	0.62	133	P	Pg	12 29 18.4	-0.2
SOH				S	Sb	12 29 27.7	-0.8
SOH	Sokhos	0.62	133	ePB	Pg	12 29 18.4	-0.2
SOH				eSB	Sg	12 29 26.4	-0.3
SOH	Sokhos	0.62	133	P	Pg	12 29 18.4	-0.2
SOH				eSb	Sg	12 29 26.4	-0.3
THE	Thessaloniki	0.63	165	ePB	Pg	12 29 18.7	-0.1
THE	Thessaloniki	0.63	165	ePb	Pg	12 29 18.7	-0.1
SRS	Serrai	0.65	101	P	Pg	12 29 18.9	-0.2
SRS				S	Sb	12 29 28.6	-0.6
SRS	Serrai	0.65	101	ePG	Pg	12 29 18.9	-0.2
SRS	Serrai	0.65	101	P	Pg	12 29 18.9	-0.2
SRS				S	Sb	12 29 28.6	-0.6
HORT	Hortiatis	0.70	158	P	Pg	12 29 19.9	-0.1
HORT				S	Sb	12 29 30.7	0.0
HORT	Hortiatis	0.70	158	ePB	Pg	12 29 20.1	+0.1
HORT	Hortiatis	0.70	158	ePb	Pg	12 29 20.1	+0.1
NVR	Nevrokopi	0.84	82	ePB	Pg	12 29 22.8	0.0
NVR	Nevrokopi	0.84	82	ePb	Pg	12 29 22.8	0.0
PLG	Polygyros	1.02	149	ePB	Pg	12 29 25.5	-0.6
PLG	Polygyros	1.02	149	ePb	Pg	12 29 25.6	-0.6
BIA	Bitola	1.10	259	i Pg	Pg	12 29 26.9	-0.9
BIA				i Sg	Sg	12 29 41.2	-0.9
BIA	Bitola	1.10	259	i Pg	Pg	12 29 26.8	-0.9
BIA				i Sg	Sg	12 29 41.1	-0.9
SKO	Skopje	1.22	307	i Pn	Pg	12 29 30.5	+0.4
SKO				i Sn	Sb	12 29 46.5	+0.6
SKO				eLg	Lg	12 29 47.0	
	comp=N,11nm,0.3s						
SKO				eLg	Lg	12 29 49.7	
	comp=E,17nm,0.8s						
SKO	Skopje	1.22	307	i Pn	Pg	12 29 30.5	+0.4
SKO				i Sn	Sb	12 29 46.4	+0.6
SKO				eLg	Lg	12 29 49.7	
	comp=E,17nm,0.8s						
OUR	Ouranopolis	1.30	134	ePB	Pg	12 29 31.5	-0.1
OUR	Ouranopolis	1.30	134	ePb	Pg	12 29 31.5	-0.1
KAVA	Kavala	1.35	100	ePB	Pb	12 29 32.2	+0.1
KAVA	Kavala	1.35	100	ePb	Pb	12 29 32.2	+0.1
VTS	Vitosha	1.39	14	P	Pn	12 29 32.5	+0.2
VTS				S	Sb	12 29 51.1	+0.3
VTS	Vitosha	1.39	14	P	Pn	12 29 32.5	+0.2
VTS				S	Sb	12 29 51.1	+0.3
PAIG	Paliouri	1.49	151	ePG	Pn	12 29 33.8	+0.2
PAIG	Paliouri	1.49	151	ePg	Pn	12 29 33.8	+0.2

IDC 03 12:33:01.9±1.5, 66°.54N×174°.86W, h0km, mb3.6/9, mb1 3.7/9, mb1mx3.6/26, mbtmp3.6/9, Error ellipse: s-maj=48.7km s-min=22.1km az=5.0
ISC 03 12:33:04.7±1.3, 66°.9N±0°.3×174°.32W±0°.08, h10km, n11, σ1°.44/12, mb3.7/9, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR	Eielson Array	11.39	88	Pn	Pn	12 35 47.5	+0.2
	0.1nm,0.3s,baz=287,slow=14,SNR=22						
ILAR				Sn	Sn	12 37 53.5	-1.0
	0.1nm,0.3s,baz=288,slow=26,SNR=3.7						
INK	Inuvik	15.41	66	Pn	P	12 36 45.5	-0.9
	0.1nm,0.3s,baz=289,slow=13,SNR=15						
INK				Sn	Sn	12 39 30.4	-1.8
	0.0nm,0.3s,baz=21,slow=17,SNR=3.2						
YKA	Yellowknife Ar	25.01	71	P	P	12 38 28.0	-0.2
	0.1nm,0.7s,baz=299,slow=9.8,SNR=5.5						
SONM	Songino Array	43.24	285	P	P	12 41 04.6	-1.2
	0.4nm,0.9s,baz=46,slow=8.3,SNR=2.6						
ZALV	Zalesovo Beam	45.79	306	P	P	12 41 24.9	-1.1
	0.5nm,0.3s,baz=42,slow=9.0,SNR=4.9						
NOA	NORSAR Array B	52.29	357	P	P	12 42 17.4	+1.7
	0.7nm,0.7s,baz=5.8,slow=4.0,SNR=3.2						
MKAR	Makanchi Array	52.78	303	P	P	12 42 17.6	-1.9
	0.4nm,0.6s,baz=38,slow=6.1,SNR=4.6						
TXAR	Lajitas Array	55.81	95	P	P	12 42 43.5	+1.6
	0.2nm,0.7s,baz=347,slow=7.4,SNR=3.4						
AKASG	Malin Array Be	61.37	343	P	P	12 43 21.1	+0.9
	0.2nm,0.3s,baz=8.0,slow=6.6,SNR=4.8						
BRTR	Keskin Array B	71.57	338	P	P	12 44 26.4	+0.7
	1.3nm,0.9s,baz=352,slow=8.7,SNR=2.4						
CMAR	Chiang Mai Arr	71.91	274	P	P	12 44 24.5	-3.4
	0.3nm,0.4s,baz=360,slow=6.5,SNR=4.6						

DDA 03 12:38:55.0, 36°.64N×30°.02E, h7km, MD2.8
ISK 03 12:38:55.8, 37°.22N×29°.74E, h6km, MD2.6
ISCJB 03 12:38:59.6±1.5, 37°.01N±0°.08×30°.20E±0°.08, h16km±12km, Error ellipse: s-maj=15.2km s-min=8.1km az=149.6
CSEM 03 12:38:59.5±0.4, 37°.03N×30°.15E, h2km, MD2.6, Error ellipse: s-maj=13.3km s-min=8.4km az=148.0
ISC 03 12:38:59.3±1.1, 37°.03N±0°.04×30°.14E±0°.04, h7km±11km, n11, σ0°.45/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KORT	Korkueli	0.17	98	i P	Pg	12 39 02.4	-0.5
KORT				i S	Sg	12 39 05.7	+0.4
KORT	Korkueli	0.17	98	i P	Pg	12 39 02.4	-0.5
KORT				i S	Sg	12 39 05.7	+0.4
ELL	Elmali	0.33	214	ePG	Pg	12 39 06.0	+0.1
ELL				eSG	Sb	12 39 12.7	-0.5
ELL	Elmali	0.33	214	ePg	Pg	12 39 06.0	+0.1
ELL				eSg	Sb	12 39 12.7	-0.5
ANTB	Antalya	0.43	107	ePG	Pn	12 39 11.9	+0.1
GOLH	Golhisar	0.51	295	i P	Pg	12 39 08.6	-0.6
GOLH				i S	Sb	12 39 18.7	+0.4
GOLH	Golhisar	0.51	295	i P	Pg	12 39 08.6	-0.6
GOLH				i S	Sb	12 39 18.7	+0.4
BCK	Bucak	0.56	39	ePG	Pg	12 39 10.0	-0.2
BCK	Bucak	0.56	39	ePg	Pg	12 39 10.0	-0.2
SUTC	Sutluce-Ispart	0.82	56	PG	Pb	12 39 16.1	+0.1
SUTC	Sutluce-Ispart	0.82	56	i Pg	Pb	12 39 16.1	+0.1

IDC 03 12:41:00.9±2.5, 13°.38S×166°.54E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, MS3.3/2, Ms1 3.4/2, ms1mx2.7/27, Error ellipse: s-maj=118.6km s-min=28.9km az=136.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	27.73	291	LR	LR	12 58 13.2	
	comp=Z,40nm,19.5s,baz=281,slow=37						
STKA	Stephens Creek	29.36	227	P	P	12 47 06.2	+0.4
	0.6nm,0.4s,baz=50,slow=8.9,SNR=4.4						
WRA	Warramunga Ar	31.50	254	P	P	12 47 24.7	-0.1
	0.3nm,0.6s,baz=86,slow=9.5,SNR=5.3						
ASAR	Alice Springs	32.52	247	P	P	12 47 33.5	-0.3
	0.6nm,0.6s,baz=75,slow=9.2,SNR=23						
CMAR	Chiang Mai Arr	73.76	294	LR	LR	13 24 23.6	
	comp=Z,31nm,20.6s,baz=166,slow=35						
ILAR	Eielson Array	85.47	18	P	P	12 53 40.2	0.0
	0.3nm,0.5s,baz=240,slow=5.0,SNR=14						

MEX 03 12:45:55.0±0.4, 17°.11N×100°.52W, h24km±14km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.67	111	eP	Pb	12 46 03.7	-4.4
ACX				i S	Sb	12 46 11.9	-5.3
ARIG	Puente Sto Nin	1.17	8	i P	Pn	12 46 13.2	-2.8
ARIG				i S	Sn	12 46 26.8	-4.6
PLIG	Platanillo	1.60	37	eP	Pn	12 46 19.4	-2.6
PLIG				i S	Sn	12 46 38.4	-3.6
TLIG	Tlapa	1.92	76	eP	Pn	12 46 23.8	-2.6
TLIG				i S	Sn	12 46 46.5	-3.4
YAIG	Yautepec	2.22	38	eP	Pn	12 46 28.5	-2.1
YAIG				i S	Sn	12 46 54.9	-2.6
PNIG	Pinotepa	2.40	107	eP	Pn	12 46 30.7	-2.2
PNIG				i S	Sn	12 46 58.1	-3.4

ISCJB 03 13:29:16.0±0.7, 36°.55N±0°.03×1°.51E±0°.07, h10km, Error ellipse: s-maj=7.9km s-min=4.3km az=11.8
CSEM 03 13:29:17.2±0.5, 36°.37N×1°.59E, h30km, mb4.1, Error ellipse: s-maj=12.3km s-min=6.8km az=102.0
MDD 03 13:29:17.6±1.0, 36°.31N×1°.69E, h37km±18km, mb4.1/4, Error ellipse: s-maj=13.7km s-min=9.0km az=122.0, PRXIMO
CRAAG 03 13:29:20.7, 36°.06N×1°.55E, Ml2.7
ISC 03 13:29:15.6±1.0, 36°.44N±0°.05×1°.60E±0°.05, h10km, n26, σ1°.55/42, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ECHA	Ech Chlef	0.35	213	P	Pb	13 29 25.7	+1.8
ECHA	Ech Chlef	0.35	213	P	Pb	13 29 25.7	+1.8
ECHF	Ech Chlef	0.36	217	P	Pb	13 29 25.7	+1.6
ECHF	Ech Chlef	0.36	217	P	Pb	13 29 25.7	+1.6
EANR	'Ain N'Sour	0.64	220	P	Pg	13 29 27.0	-1.0
EANR	'Ain N'Sour	0.64	220	P	Pg	13 29 27.0	-1.0
EANR	'Ain N'Sour	0.64	220	P	Pg	13 29 27.0	-1.0
OKGL	Djebel Kef Gue	0.88	243	P	Pg	13 29 32.5	0.0
	15nm,0.1s,SNR=7.9						
OKGL				S	Sb	13 29 45.6	+0.9
	83nm,0.1s,SNR=7.9						
OKGL	Djebel Kef Gue	0.88	243	P	Pg	13 29 32.5	0.0
	15nm,0.1s,SNR=7.9						
OKGL				S	Sb	13 29 45.6	+0.9
	83nm,0.1s,SNR=7.9						
ETRT	Tiaret	1.08	193	P	Pg	13 29 35.5	-0.9
ETRT	Tiaret	1.08	193	P	Pg	13 29 35.5	-0.9
ETRT	Tiaret	1.08	193	P	Pg	13 29 35.5	-0.9
EIBI	Ibiza	2.59	356	P	Pn	13 29 58.7	+1.1
	3.5nm,0.2s,SNR=12						
EIBI				S	Sn	13 30 27.8	-1.3
	5.9nm,0.2s,SNR=7.9						
EIBI	Ibiza	2.59	356	P	Pn	13 29 58.7	+1.1
	3.5nm,0.2s,SNR=12						
EIBI				S	Sn	13 30 27.8	-1.3
	5.9nm,0.2s,SNR=7.9						
EBEN	Beniarda	2.68	328	P	Pn	13 29 58.8	-0.2
	0.2nm,0.1s,SNR=7.9						
EBEN				S	Sn	13 30 30.6	-1.0
	0.6nm,0.2s,SNR=7.9						
EBEN	Beniarda	2.68	328	P	Pn	13 29 58.8	-0.2
	0.2nm,0.1s,SNR=7.9						
EBEN				S	Sn	13 30 30.6	-1.0
	0.6nm,0.2s,SNR=7.9						
ETOB	Tobarra	3.33	312	P	Pn	13 30 09.1	+1.2
	1.0nm,0.2s,SNR=7.9						
ETOB				S	Sn	13 30 46.7	-0.9
	0.7nm,0.1s,SNR=7.9						
ETOB	Tobarra	3.33	312	P	Pn	13 30 09.1	+1.2
	1.0nm,0.2s,SNR=7.9						
ETOB				S	Sn	13 30 46.7	-0.9
	0.7nm,0.1s,SNR=7.9						
ETOS	Mallorca	3.45	16	P	Pn	13 30 09.5	0.0
	0.4nm,0.1s,SNR=7.9						
ETOS				S	Sn	13 30 48.5	-2.0
	1.3nm,0.3s,SNR=7.9						
ETOS	Mallorca	3.45	16	P	Pn	13 30 09.5	0.0
	0.4nm,0.1s,SNR=7.9						
ETOS				S	Sn	13 30 48.5	-2.0
	1.3nm,0.3s,SNR=7.9						
EBER	Berja	3.64	279	P	Pn	13 30 11.9	-0.3
	1.2nm,0.1s,SNR=12						
EBER				S	Sn	13 30 52.6	-2.7
	0.9nm,0.2s,SNR=7.9						
EBER	Berja	3.64	279	P	Pn	13 30 11.9	-0.3
	1.2nm,0.1s,SNR=12						
EBER				S	Sn	13 30 52.6	-2.7
	0.9nm,0.2s,SNR=7.9						
EQES	Quesada	3.98	291	P	Pn	13 30 17.7	+0.9
	0.9nm,0.1s,SNR=7.9						
EQES				S	Sn	13 31 00.5	-3.0
	0.8nm,0.1s,SNR=7.9						
EQES	Quesada	3.98	291	P	Pn	13 30 17.7	+0.9
	0.9nm,0.1s,SNR=7.9						
EQES				S	Sn	13 31 00.5	-3.0
	0.8nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	4.24	338	P	Pn	13 30 22.4	+1.9
	0.7nm,0.1s,SNR=18						
EMOS				S	Sn	13 31 07.7	-2.4
	0.8nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	4.24	338	P	Pn	13 30 22.4	+1.9
	0.7nm,0.1s,SNR=18						
EMOS				S	Sn	13 31 07.7	-2.4
	0.8nm,0.3s,SNR=7.9						

ISCJB 03 13:29:18.8±0.8, 28°.6N±0°.2×43°.6W±0°.2, h12km, mb3.7/7, MS3.4/10, Error ellipse: s-maj=24.9km s-min=20.1km az=7.8
IDC 03 13:29:18.7±1.1, 28°.53N×43°.64W, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.6/29, mbtmp3.6/7, MS3.4/10, Ms1 3.4/10, ms1mx3.1/30, Error ellipse: s-maj=33.4km s-min=25.4km az=13.0
ISC 03 13:29:20.5±1.0, 28°.5N±0°.2×43°.6W±0°.2, h12km, n21, σ0°.82/7, mb3.8/7, MS3.4/10, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJG	San Juan	23.08	248	LR	LR	13 43 35.2	
	comp=Z,45nm,18.2s,baz=90,slow=37						
BBTS	Babate	28.65	113	LR	LR	13 43 46.7	
	comp=Z,60nm,19.6s,baz=236,slow=30						
ROSC	El Rosal	37.44	237	LR	LR	13 52 24.9	
	comp=Z,32nm,18.7s,baz=203,slow=37						
DBIC	Dimbokro	42.60	113	LR	LR	13 52 21.0	
	comp=Z,64nm,18.6s,baz=266,slow=32						
TORD	Torodi Ar. Bea	44.77	100	P	P	13 37 34.2	-0.2
	0.8nm,0.8s,baz=305,slow=7.9,SNR=5.2						
TORD				LR	LR	13 54 45.6	
	comp=Z,52nm,19.8s,baz=180,slow=34						
H10N2	ASCENSION HYDR	45.81	138	T	T	14 26 18.1	
	baz=323,slow=75,SNR=28						
H10N3	ASCENSION HYDR	45.81	138	T	T	14 26 17.7	
	baz=323,slow=75,SNR=20						
H10N1	ASCENSION HYDR	45.82	138	T	T	14 26 19.0	
	baz=323,slow=75,SNR=25						
H10S1	ASCENSION HYDR	46.60	139	T	T	14 27 18.9	
	baz=324,slow=75,SNR=31						
H10S3	ASCENSION HYDR	46.60	139	T	T	14 27 19.0	
	baz=324,slow=75,SNR=31						
H10S2	ASCENSION HYDR	46.62	139	T	T	14 27 20.1	
	baz=324,slow=75,SNR=34						
NOA	NORSAR Array B	48.58	32	LR	LR	13 54 36.3	
	comp=Z,35nm,18.4s,baz=150,slow=31						
LPAZ	La Paz	50.46	211	P	P	13 38 19.3	+0.2
	1.2nm,0.9s,baz=31,slow=6.5,SNR=3.6						
TXAR	Lajitas Array	52.02	286	LR	LR	13 58 44.0	
	comp=Z,19nm,21.5s,baz=0.0,slow=34						
PDAR	Pinedale Array	54.14	304	P	P	13 38 45.2	-0.6
	0.7nm,0.8s,baz=96,slow=9.1,SNR=6.5						
PDAR				LR	LR	13 59 45.5	
	comp=Z,53nm,21.0s,baz=56,slow=34						
YKA	Yellowknife Ar	56.35	328	P	P	13 39 00.6	-0.6
	0.3nm,0.9s,baz=80,slow=7.1,SNR=3.7						
AKASG	Malin Array Be	57.89	46	P	P	13 39 12.8	+0.6
	0.2nm,0.3s,baz=271,slow=6.6,SNR=3.0						
NVAR	Mina Array Bea	61.52	300	LR	LR	14 06 09.8	
	comp=Z,35nm,18.5s,baz=266,slow=36						
BRTR	Keskin Array B	63.14	57	P	P	13 39 47.8	-0.6
	1.4nm,1.0s,baz=284,slow=5.8,SNR=3.7						
ILAR	Eielson Array	69.95	334	P	P	13 40 32.5	+1.1
	0.7nm,1.0s,baz=71,slow=2.9,SNR=6.4						
KMBO	Kilima Mbogo	82.53	95	LR	LR	14 16 44.0	
	comp=Z,60nm,21.3s,baz=87,slow=34						

ISCJB 03 13:35:25.4±0.9, 18°.62S±0°.10×169°.1E±0°.2, h200km, mb3.8/7, Error ellipse: s-maj=21.8km s-min=12.5km az=16.6
IDC 03 13:35:27.9±3.2, 18°.75S×169°.09E, h213km±32km, mb3.6/8, mb1 3.8/9, mb1mx3.5/20, mbtmp4.2/9, Error ellipse: s-maj=27.5km s-min=19.0km az=9.0
ISC 03 13:35:26.5±1.0, 18°.7S±0°.1×169°.2E±0°.2, h200km, n16, σ1°.03/16, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BAYA	Yate Dam	4.06	211	eP	Pn	13 36 28.5	-0.6
DZM	Mont Dzumac	4.23	217	P	Pn	13 36 31.5	+0.2
	20nm,0.3s,baz=236,slow=20,SNR=124						
LASL	Noumea	4.31	215	eP	Pn	13 36 31.6	-0.5
NOUC	Port Laguerre	4.33	218	eP	Pn	13 36 34.8	+2.3
URZ	Urewera	20.70	162	P	P	13 39 51.7	+0.4
	6.0nm,0.6s,baz=12,slow=0.9,SNR=7.3						
CTA	Charters Tower	21.66	263	P	P	13 40 01.2	-0.3
	3.7nm,0.7s,baz=116,slow=9.7,SNR=4.1						
WRA	Warramunga Arr	32.86	262	P	P	13 41 40.5	-1.3
	0.6nm,0.3s,baz=81,slow=6.2,SNR=19						
ASAR	Alice Springs	33.20	255	P	P	13 41 44.1	-0.6
	3.5nm,0.4s,baz=82,slow=8.7,SNR=88						
PETK	Petropavlovsk-	72.18	353	P	P	13 46 30.2	+1.0
	2.8nm,0.7s,baz=157,slow=7.1,SNR=6.3						
CMAR	Chiang Mai Arr	78.22	294	P	P	13 47 05.2	+0.7
	0.4nm,0.5s,baz=121,slow=4.5,SNR=4.4						
SONM	Songino Array	86.74	323	P	P	13 47 48.3	+0.2
	1.1nm,0.7s,baz=123,slow=5.3,SNR=7.7						
ILAR	Eielson Array	89.72	17	P	P	13 48 00.4	-1.1
	0.5nm,0.7s,baz=243,slow=4.9,SNR=15						
YKA	Yellowknife Ar	100.21	27	P	Pdif	13 48 49.9	+0.6
	0.3nm,0.7s,baz=258,slow=8.4,SNR=8.4						
MKAR	Makanchi Array	101.30	316	P	Pdif	13 48 55.9	+1.3
	0.2nm,0.5s,baz=84,slow=3.1,SNR=3.3						
ARCES	ARCESS Array B	124.52	345	PKP	PKPdf	13 54 00.5	-0.8
	1.2nm,0.7s,baz=50,slow=1.4,SNR=5.5						
GERES	GERESS Array B	143.97	332	PKP	PKPab	13 54 36.1	+0.1
	0.4nm,0.5s,baz=45,slow=7.9,SNR=4.6						

ISCJB 03 13:50:04.8±1.1, 13°.43S±0°.08×167°.0E±0°.2, h200km, mb3.6/7, Error ellipse: s-maj=26.1km s-min=10.6km az=177.5
IDC 03 13:50:05.0±4.6, 13°.50S×167°.17E, h194km±42km, mb3.4/8, mb1 3.6/9, mb1mx3.4/21, mbtmp3.9/9, Error ellipse: s-maj=33.6km s-min=24.1km az=157.0
ISC 03 13:50:05.5±0.9, 13°.49S±0°.09×167°.2E±0°.2, h200km, n13, σ0°.76/17, mb3.7/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.56	185	P	Pn	13 52 05.4	-0.7
	0.2nm,0.3s,baz=18,slow=20,SNR=3.2						
DZM				S	Sn	13 53 43.5	+1.1
	baz=73,slow=20,SNR=1.9						
CTA	Charters Tower	21.08	249	P	P	13 54 34.5	0.0
	3.0nm,0.8s,baz=87,slow=14,SNR=3.6						
STKA	Stephens Creek	29.75	228	P	P	13 55 53.5	+0.3
	1.7nm,0.4s,baz=60,slow=10.0,SNR=16						
STKA				PcP	PcP	13 58 52.1	0.0
	1.6nm,0.9s,baz=11,slow=5.2,SNR=3.2						
WRA	Warramunga Arr	32.07	254	P	P	13 56 12.9	-1.0
	0.5nm,0.5s,baz=85,slow=9.3,SNR=6.4						
ASAR	Alice Springs	33.06	247	P	P	13 56 21.5	-0.9
	1.0nm,0.5s,baz=75,slow=9.2,SNR=24						
ASAR				PcP	PcP	13 59 01.0	-0.3
	0.6nm,0.7s,baz=86,slow=2.1,SNR=7.4						
CMAR	Chiang Mai Arr	74.38	294	P	P	14 01 23.5	+1.6
	1.1nm,0.7s,baz=125,slow=5.0,SNR=7.9						
SONM	Songino Array	81.46	324	P	P	14 02 00.1	-0.4
	0.3nm,0.4s,baz=134,slow=8.2,SNR=2.3						
ILAR	Eielson Array	85.38	18	P	P	14 02 19.8	0.0
	0.3nm,0.6s,baz=249,slow=4.7,SNR=9.3						
MKAR	Makanchi Array	96.26	316	P	P	14 03 11.8	+0.7
	0.5nm,0.5s,baz=89,slow=6.8,SNR=6.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	119.04	346	PKP	PKPdf	14 08 29.2	-0.6
	1.4nm,0.7s,baz=29,slow=2.8,SNR=3.9						
FINES	FINESS Array B	124.55	339	PKP	PKPdf	14 08 40.8	+0.3
	1.2nm,0.8s,baz=64,slow=11,SNR=2.3						
KEST	Kesra	150.20	322	PKPbc	PKPbc	14 09 32.4	-0.9
	1.2nm,0.6s,baz=14,slow=4.2,SNR=3.7						
TORD	Torodi Ar. Bea	165.88	270	PKP	PKPdf	14 09 47.5	+0.2
	0.5nm,0.9s,baz=116,slow=3.4,SNR=2.6						
TORD				PKPab	PKPab	14 10 48.2	-0.1
	0.3nm,0.7s,baz=99,slow=5.4,SNR=2.6						

*ISCJB **03** 13:58:05.1±0.6, 12°.89S±0°.06×167°.1E±0°.1, h180km, mb3.9/15, Error ellipse: s-maj=14.3km s-min=8.0km az=11.6*

*IDC **03** 13:58:08.2±1.1, 13°.36S×167°.28E, h214km±7km, mb3.7/16, mb1 3.8/16, mb1mx3.7/24, mbtmp4.2/16, Error ellipse: s-maj=27.1km s-min=11.5km az=135.0*

ISC 03 13:58:05.5±0.6, 12°.95S±0°.08×167°.1E±0°.1, h180km, n34, σ1§80/40, mb4.0/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.09	184	P	Pn	14 00 15.5	+2.2
	0.5nm,0.3s,baz=356,slow=2.4,SNR=9.6						
DZM				S	Sn	14 01 56.0	+1.1
	0.3nm,0.3s,baz=288,slow=19,SNR=2.1						
EIDS	Eidsvold	19.51	228	P	P	14 02 20.4	+1.3
	baz=20,SNR=8.3						
PMG	Port Moresby	19.88	278	P	Pn	14 02 25.9	-1.1
	7.6nm,0.7s,baz=150,slow=20,SNR=3.1						
CTA	Charters Tower	21.20	248	P	P	14 02 37.3	0.0
	3.2nm,0.6s,baz=72,slow=12,SNR=7.6						
RMQ	Roma	21.86	229	P	P	14 02 44.8	+0.7
	baz=22,SNR=8.6						
MTSU	Mount Surprise	22.55	254	P	P	14 02 52.2	+1.5
	baz=23,SNR=9.4						
COEN	Coen	23.30	265	P	P	14 03 00.1	+2.6
	baz=24,SNR=6.3						
CMSA	Cobar Meteorol	27.02	223	P	P	14 03 34.3	+3.4
	baz=27,SNR=7.2						
STKA	Stephens Creek	30.05	227	P	P	14 03 57.3	-0.6
	1.3nm,0.4s,baz=60,slow=8.5,SNR=8.5						
STKA				PcP	PcP	14 06 53.8	-1.5
	2.1nm,0.7s,baz=62,slow=2.7,SNR=5.8						
STKA	Stephens Creek	30.05	227	P	P	14 03 57.9	0.0
	baz=30,SNR=5.9						
WRA	Warramunga Arr	32.15	253	P	P	14 04 15.6	-0.8
	1.1nm,0.5s,baz=86,slow=9.3,SNR=29						
WRA				ScP	ScP	14 10 23.5	-4.4
	0.5nm,0.9s,baz=86,slow=3.9,SNR=4.7						
ASAR	Alice Springs	33.20	247	P	P	14 04 24.4	-1.1
	2.2nm,0.5s,baz=76,slow=8.9,SNR=67						
ASAR				pP	pP	14 05 09.7	+6.6
	0.6nm,0.7s,baz=73,slow=9.6,SNR=1.9						
ASAR				PcP	PcP	14 07 02.0	-2.0
	0.6nm,0.6s,baz=77,slow=2.0,SNR=6.1						
ASAR				ScP	ScP	14 10 26.9	-4.6
	1.2nm,0.8s,baz=86,slow=3.2,SNR=8.7						
KDU	Kakadu	33.76	266	P	P	14 04 31.1	+0.8
	baz=34,SNR=3.5						
KDU				S	S	14 09 16.9	-24
	baz=34,SNR=5.3						
MTN	Manton Dam	35.05	266	P	P	14 04 42.8	+1.3
	baz=35,SNR=3.7						
WRKA	Warakurna	38.48	246	P	P	14 05 10.0	-0.4
	baz=39,SNR=12						
NWAO	Narrogin (SRO)	49.54	238	P	P	14 06 36.9	-1.4
	8.5nm,0.9s,baz=100,slow=11,SNR=2.8						
ASAJ	Asahikawa	61.03	340	P	P	14 08 02.8	+2.8
	3.7nm,0.6s,baz=207,slow=5.4,SNR=10						
PETK	Petropavlovsk-	66.29	354	P	P	14 08 36.4	+2.2
	2.9nm,0.7s,baz=160,slow=5.6,SNR=7.6						
CMAR	Chiang Mai Arr	74.09	294	P	P	14 09 23.8	+1.3
	1.3nm,0.8s,baz=126,slow=4.3,SNR=8.2						
SEY	Seymchan	76.51	353	P	P	14 09 36.5	+1.3
	2.4nm,1.0s,baz=131,slow=5.7,SNR=4.5						
SONM	Songino Array	80.98	323	P	P	14 10 01.3	+1.1
	0.5nm,0.6s,baz=135,slow=2.6,SNR=3.9						
ILAR	Eielson Array	84.89	18	P	P	14 10 19.2	-0.5
	2.7nm,0.6s,baz=242,slow=5.1,SNR=84						
ILAR				pP	pP	14 11 11.8	+7.6
	1.4nm,0.9s,baz=233,slow=6.1,SNR=5.0						
NVAR	Mina Array Bea	86.24	49	P	P	14 10 28.2	+0.9
	0.2nm,0.6s,baz=246,slow=8.7,SNR=2.7						
MKAR	Makanchi Array	95.81	317	P	P	14 11 12.0	+0.6
	1.1nm,0.6s,baz=93,slow=6.2,SNR=15						
ZALV	Zalesovo Beam	95.87	324	P	P	14 11 10.9	-0.6
	0.6nm,0.7s,baz=134,slow=8.3,SNR=3.6						
YKA	Yellowknife Ar	96.05	27	P	P	14 11 11.0	-1.0
	0.1nm,0.4s,baz=256,slow=5.0,SNR=4.6						
YKA				pP	pP	14 12 04.7	+7.6
	0.5nm,0.9s,baz=258,slow=4.7,SNR=5.8						
ARCES	ARCESS Array B	118.50	346	PKP	PKPdf	14 16 30.3	-0.9
	1.5nm,0.4s,baz=74,slow=1.8,SNR=32						
FINES	FINESS Array B	124.02	339	PKP	PKPdf	14 16 41.2	-0.8
	1.8nm,0.9s,baz=79,slow=3.0,SNR=6.7						
NOA	NORSAR Array B	128.88	345	PKP	PKPdf	14 16 50.8	-0.6
	0.4nm,0.5s,baz=38,slow=2.8,SNR=2.8						
AKASG	Malin Array Be	129.18	327	PKP	PKPdf	14 16 50.4	-1.8
	0.9nm,0.7s,baz=50,slow=1.4,SNR=1.9						
GERES	GERESS Array B	137.99	334	PKP	PKPdf	14 17 09.6	+0.7
	0.4nm,0.5s,baz=357,slow=2.0,SNR=3.2						
KEST	Kesra	149.73	322	PKPbc	PKPbc	14 17 33.1	-1.5
	2.3nm,0.7s,baz=93,slow=0.6,SNR=7.4						
ESDC	Sonseca Array	152.24	345	PKPbc	PKPbc	14 17 38.7	-1.5
	2.4nm,0.9s,baz=15,slow=2.1,SNR=6.1						
TORD	Torodi Ar. Bea	165.79	272	PKP	PKPdf	14 17 48.0	-1.7
	0.3nm,0.7s,baz=124,slow=2.0,SNR=2.7						
TORD				PKPab	PKPab	14 18 48.6	-1.6
	0.4nm,0.7s,baz=96,slow=4.9,SNR=3.1						

*NIED **03** 14:02:00, 38°.50N×140°.20E, h8km, Mw3.5 Best double couple: Mo1.83000×10^14 NP1:φs5.00000°, δ40.00000°, λ56.00000°. NP2:φs227.00000°, δ58.00000°, λ115.00000°.*

*IDC **03** 14:02:08.1±1.9, 38°.55N×140°.43E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.4/34, mbtmp3.4/6, ML3.4/2, Error ellipse: s-maj=36.7km s-min=24.8km az=62.0*

*ISCJB **03** 14:02:10.5±0.5, 38°.47N±0°.02×140°.21E±0°.03, h13km±3km, mb3.5/3, Error ellipse: s-maj=4.2km s-min=3.5km az=152.7*

*JMA **03** 14:02:10.8, 38°.46N×140°.19E, h11km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs334.00000°, δ61.00000°, λ35.00000°. NP2: φs225.00000°, δ60.00000°, λ146.00000°. Principal axes: T Plg44.0000°, Azm190.0000°; N Plg46.0000°, Azm8.0000°; P Plg1.0000°, Azm99.0000°;*

JMA Felt II J1.

ISC 03 14:02:09.5±1.3, 38°.49N±0°.03×140°.30E±0°.04, h5km±9km, n25, σ1§00/32, mb3.7/3, 3C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOU	Okura	0.31	113	⇓P	Pb	14 02 18.3	+0.7
JOU				S	Sb	14 02 23.6	+0.6
JYS	Shirataka	0.33	215	⇑P	Pg	14 02 16.3	+0.5
JYS				S	Sg	14 02 20.3	+0.2
JYK	Kaneyama	0.43	6	⇑P	Pb	14 02 20.1	+0.4
JYK				S	Sb	14 02 26.2	-0.3
JYA	Atsumi	0.47	283	⇓P	Pg	14 02 18.8	+0.2
JYA				eS	Sg	14 02 24.4	-0.4
JMM	Marumori	0.73	148	⇓P	Pb	14 02 24.9	+0.1
JMM				S	Sb	14 02 34.7	-0.4
JIO	Ouri	0.82	92	⇓P	Pb	14 02 27.1	+0.8
JIO				S	Sn	14 02 39.1	-1.3
JAW	Awa shima	0.83	268	⇓P	Pg	14 02 25.1	-0.3
JAW				eS	Sg	14 02 35.4	-0.7
JMK	Ichinoseki	0.85	57	P	Pn	14 02 27.7	-0.5
JMK				S	Sn	14 02 40.1	-1.0
JRG	Rokugo	0.94	16	P	Pn	14 02 29.2	-0.3
JRG				S	Sn	14 02 42.4	-0.9
JFT	Otama	0.97	178	⇑P	Pb	14 02 28.8	0.0
JFT				S	Sg	14 02 41.0	+0.3
JNS	Sasagawa	1.02	229	P	Pg	14 02 28.6	-0.6
JNS				S	Sg	14 02 40.9	-1.5
MAT	Matsushiro	2.56	221	P	Pn	14 02 52.0	+0.3
MAT				S	Sn	14 03 26.2	-1.5
MJAR	Matsushiro Arr	2.56	221	Pn	Pn	14 02 51.8	+0.2
	3.5nm,0.3s,baz=28,slow=12,SNR=27						
MJAR				Sn	Sb	14 03 26.6	-1.0
	5.1nm,0.3s,baz=17,slow=16,SNR=6.3						
ASAJ	Asahikawa	5.88	16	Pn	Pn	14 03 41.6	+4.3
	0.2nm,0.3s,baz=233,slow=20,SNR=2.6						
USRK	Ussuriysk Arra	8.46	315	Pn	Pn	14 04 12.3	-0.4
	0.1nm,0.3s,baz=121,slow=14,SNR=4.2						
KSRS	Korea Array	9.83	268	Pn	Pn	14 04 34.4	+2.9
	0.7nm,0.3s,baz=76,slow=14,SNR=8.1						
KSRS				Sn	Sn	14 06 24.6	+2.4
	0.4nm,0.3s,baz=74,slow=24,SNR=4.1						
H11N2	WAKE ISLAND Hy	29.66	122	T	T	14 38 38.4	
	baz=317,slow=76,SNR=21						
H11N1	WAKE ISLAND Hy	29.66	122	T	T	14 38 40.2	
	baz=317,slow=76,SNR=13						
H11N3	WAKE ISLAND Hy	29.67	122	T	T	14 38 38.9	
	baz=317,slow=76,SNR=14						
H11S1	WAKE ISLAND Hy	30.39	123	T	T	14 39 32.0	
	baz=320,slow=75,SNR=6.5						
H11S3	WAKE ISLAND Hy	30.39	124	T	T	14 39 29.9	
	baz=320,slow=75,SNR=6.6						
H11S2	WAKE ISLAND Hy	30.41	124	T	T	14 39 32.6	
	baz=320,slow=75,SNR=4.7						
MKAR	Makanchi Array	42.61	301	P	P	14 10 06.0	-0.6
	0.2nm,0.7s,baz=87,slow=7.4,SNR=2.4						
WRA	Warramunga Arr	58.39	187	P	P	14 12 05.7	-0.3
	0.8nm,0.8s,baz=3.7,slow=7.4,SNR=6.0						
ASAR	Alice Springs	62.12	187	P	P	14 12 31.6	+0.1
	0.4nm,0.7s,baz=354,slow=3.5,SNR=4.4						

JMA 03 14:44:57.2±0.2, 28°.05N×140°.36E, h369km, M3.8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.88	120	P	Pn	14 45 49.7	+0.2
CBIJ				eS	S	14 46 30.6	-1.0
JHHJ	Haha-jima-NKT	2.15	131	P	Pn	14 45 51.4	+0.1
JHHJ				eS	S	14 46 34.6	-0.3
JRY	Ryogami san	8.04	352	P	P	14 46 53.1	-0.8
JAG	Ashikaga	8.39	355	P	Pn	14 46 55.9	-0.1
JHO	Hitachi	8.54	1	P	P	14 46 59.1	-0.3
JHO				eS	S	14 48 34.9	-1.7

*CSEM **03** 15:03:01.6, 35°.49N×21°.11E, h7km, MD3.5, After ATH*

ATH 03 15:03:01.6, 35°.49N×21°.11E, h7km±4km, MD3.5/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PYL	PYLOS	1.49	20	ePG	Pb	15 03 29.4	-0.3
PYL	PYLOS	1.49	20	ePg	Pb	15 03 29.4	-0.3
KYTH	Kithira	1.75	63	ePN	Pb	15 03 34.7	+0.6
KYTH	Kithira	1.75	63	ePn	Pb	15 03 34.7	+0.6
ITM	Ithomi	1.81	21	ePN	Pb	15 03 35.1	0.0
ITM	Ithomi	1.81	21	ePn	Pb	15 03 35.1	0.0
ANKY	Antikythira Is	1.82	77	ePN	Pb	15 03 35.1	-0.2
ANKY	Antikythira Is	1.82	77	ePn	Pb	15 03 35.1	-0.2
VLI	Veliai	1.92	50	ePN	Pb	15 03 36.8	-0.2
VLI	Veliai	1.92	50	ePn	Pb	15 03 36.8	-0.2
AMT	Artemida-Makis	2.10	13	ePN	Pb	15 03 39.4	-0.6
AMT	Artemida-Makis	2.10	13	ePn	Pb	15 03 39.4	-0.6
GUR	Goura	2.63	22	ePN	Pb	15 03 47.0	-2.3
GUR	Goura	2.63	22	ePn	Pb	15 03 47.0	-2.3
DID	Didima	2.64	40	ePN	Pn	15 03 46.9	+2.2
DID	Didima	2.64	40	ePn	Pn	15 03 46.9	+2.2
KLV	Kalavryta, Ach	2.68	18	ePN	Pb	15 03 47.8	-2.3
KLV	Kalavryta, Ach	2.68	18	ePn	Pb	15 03 47.8	-2.3
VLS	Valsamata	2.71	351	ePN	Pb	15 03 48.6	-1.9
VLS	Valsamata	2.71	351	ePn	Pb	15 03 48.6	-1.9
LAKA	Lakka	2.83	14	ePB	Pn	15 03 49.3	+2.0
LAKA	Lakka	2.83	14	ePb	Pn	15 03 49.3	+2.0
EFP	Efpalio	3.00	12	ePN	Pn	15 03 51.4	+1.8
EFP	Efpalio	3.00	12	ePn	Pn	15 03 51.4	+1.8
KALE	Kalithea	3.01	16	ePB	Pn	15 03 52.7	+2.9
KALE	Kalithea	3.01	16	ePb	Pn	15 03 52.7	+2.9
PDO	Prodromos	3.10	1	ePN	Pn	15 03 53.3	+2.3
PDO	Prodromos	3.10	1	ePn	Pn	15 03 53.3	+2.3
MAKR	Makrakomi, Fth	3.61	13	ePN	Pn	15 04 00.6	+2.6
MAKR	Makrakomi, Fth	3.61	13	ePn	Pn	15 04 00.6	+2.6
AGG	Agios Georgios	3.66	15	ePN	Pn	15 04 00.8	+2.1
AGG	Agios Georgios	3.66	15	ePn	Pn	15 04 00.8	+2.1

IDC 03 15:40:07.2±2.1, 16°.48S×178°.49W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.8/28, mbtmp3.9/5, MS3.8/1, Ms1 3.8/1, ms1mx2.6/33, Error ellipse: s-maj=123.0km s-min=24.5km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	12.72	178	LR	LR	15 47 07.4	
	comp=Z,438nm,21.4s,baz=149,slow=33						
STKA	Stephens Creek	39.26	240	P	P	15 47 37.5	-0.3
	1.9nm,0.5s,baz=81,slow=8.6,SNR=10						
WRA	Warramunga Arr	44.83	258	P	P	15 48 23.3	-0.1
	0.6nm,0.4s,baz=92,slow=7.0,SNR=17						
ASAR	Alice Springs	45.12	253	P	P	15 48 25.7	0.0
	8.8nm,0.6s,baz=90,slow=7.8,SNR=317						
ILAR	Eielson Array	84.52	13	P	P	15 52 41.4	-0.3
	0.1nm,0.4s,baz=225,slow=4.3,SNR=6.0						
PDAR	Pinedale Array	86.37	44	P	P	15 52 52.0	+0.2
	0.2nm,0.5s,baz=224,slow=5.0,SNR=2.1						

IDC 03 15:50:06.2±4.1, 11°.14S×165°.97E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, Error ellipse: s-maj=176.4km s-min=29.8km az=136.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	20.95	242	P	P	15 54 51.6	+0.7
	2.8nm,0.8s,baz=70,slow=14,SNR=2.6						
H11S2	WAKE ISLAND Hy	29.45	1	T	T	16 26 36.3	
	baz=182						
H11S3	WAKE ISLAND Hy	29.45	1	T	T	16 26 36.5	
	baz=182						
H11S1	WAKE ISLAND Hy	29.46	1	T	T	16 26 40.5	
	baz=182						
H11N1	WAKE ISLAND Hy	30.67	2	T	T	16 28 10.8	
	baz=184,slow=76,SNR=18						
H11N3	WAKE ISLAND Hy	30.67	2	T	T	16 28 05.2	
	baz=184,slow=76,SNR=14						
H11N2	WAKE ISLAND Hy	30.68	2	T	T	16 28 09.1	
	baz=184,slow=76,SNR=13						
WRA	Warramunga Arr	31.66	250	P	P	15 56 31.5	0.0
	0.8nm,0.8s,baz=83,slow=9.5,SNR=5.1						
ASAR	Alice Springs	32.95	244	P	P	15 56 42.7	-0.2
	1.1nm,0.8s,baz=66,slow=10,SNR=12						
ILAR	Eielson Array	83.53	18	P	P	16 02 36.0	+0.3
	0.2nm,0.6s,baz=239,slow=5.1,SNR=4.8						
MKAR	Makanchi Array	93.73	317	P	P	16 03 24.4	-0.7
	0.1nm,0.5s,baz=104,slow=6.1,SNR=2.8						

IDC 03 15:57:41.1±2.1, 3°.09N×128°.66E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=154.5km s-min=23.7km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.56	167	P	P	16 02 53.2	-0.3
	0.6nm,0.4s,baz=345,slow=9.9,SNR=11						
ASAR	Alice Springs	27.08	169	P	P	16 03 24.7	-1.1
	0.4nm,0.5s,baz=352,slow=7.7,SNR=17						
STKA	Stephens Creek	36.89	162	P	P	16 04 51.6	0.0
	1.5nm,0.7s,baz=343,slow=11,SNR=3.2						
MKAR	Makanchi Array	59.18	325	P	P	16 07 45.2	+1.2
	0.2nm,0.5s,baz=113,slow=8.6,SNR=4.9						

IDC 03 16:04:12.3±1.1, 0°.25S×123°.77E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/16, Error ellipse: s-maj=85.1km s-min=19.3km az=60.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.14	153	P	P	16 09 10.1	+0.2
	0.7nm,0.5s,baz=331,slow=10,SNR=18						
PSI	Prapat	25.02	277	LR	LR	16 19 39.2	
	comp=Z,68nm,18.2s,baz=89,slow=37						
ASAR	Alice Springs	25.28	158	P	P	16 09 41.0	+0.4
	0.3nm,0.4s,baz=334,slow=9.2,SNR=8.0						
ASAR				PcP	PcP	16 13 13.0	-1.1
	0.3nm,0.6s,baz=343,slow=1.8,SNR=5.4						
CMAR	Chiang Mai Arr	30.67	309	P	P	16 10 29.4	+0.5
	1.5nm,0.7s,baz=135,slow=7.4,SNR=18						
SONM	Songino Array	50.22	345	P	P	16 13 11.3	+1.1
	0.2nm,0.4s,baz=156,slow=8.5,SNR=2.7						
MKAR	Makanchi Array	59.23	328	P	P	16 14 15.0	-0.5
	0.3nm,0.7s,baz=129,slow=6.5,SNR=3.8						
MKAR				PcP	PcP	16 15 02.4	-1.5
	0.3nm,0.6s,baz=138,slow=4.9,SNR=3.7						

MEX 03 16:04:13.8±0.3, 16°.16N×98°.36W, h2km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.32	44	eP	Pg	16 04 19.7	-0.4
PNIG				i S	Sg	16 04 24.5	+0.2
ACX	Acapulco	1.60	296	eP	Pb	16 04 44.3	+0.2
VHO	Vista Hermosa	1.80	60	i P	Pn	16 04 42.6	-3.6
VHO				i S	Sn	16 05 04.9	-5.0

*ISCJB **03** 16:20:27.3±0.3, 24°.23S±0°.04×67°.11W±0°.03, h184km±4km, mb3.6/7, Error ellipse: s-maj=6.7km s-min=4.0km az=27.0*

*SJA **03** 16:20:27.4±1.0, 24°.22S×67°.07W, h193km±10km, MD3.5, ML3.1*

*IDC **03** 16:20:28.2±1.9, 24°.25S×66°.84W, h174km±17km, mb3.5/7, mb1 3.7/11, mb1mx3.6/24, mbtmp4.0/11, Error ellipse: s-maj=20.0km s-min=17.1km az=32.0*

*NEIC **03** 16:20:30.3, 24°.06S×67°.60W, h220km, mb4.0/3, After GUC.*

*GUC **03** 16:20:30.3±0.3, 24°.06S×67°.60W, h220km, ML4.9*

ISC 03 16:20:27.7±0.7, 24°.29S±0°.05×67°.14W±0°.04, h179km±6km, n61, σ1§46/79, mb3.9/7, 10C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.55	106	i P	Pn	16 21 01.9	+1.6
SLA				i S	Sn	16 21 26.8	+1.3
SLA				AML	AML	16 21 28.8	
	comp=Z,230nm,0.7s						
AZAP	Zapla	1.89	88	i P	Pn	16 21 04.6	+0.8
AZAP				i S	Sn	16 21 32.1	+0.3
AZAP				AML	AML	16 21 34.5	
	comp=Z,39nm,0.5s						
LVC	Limon Verde	2.33	315	eP	Pn	16 21 10.3	+1.6
LVC				eS	Sn	16 21 41.8	+1.2
LVC	Limon Verde	2.33	315	i P	Pn	16 21 10.1	+1.3
LVC				i S	Sn	16 21 41.5	+1.0
ASTB	Santa Barbara	2.45	83	i P	Pn	16 21 10.7	+0.7
ASTB				i S	Sn	16 21 42.0	-0.8
PB06	Plate Boundary	2.73	305	⇑iP	Pn	16 21 14.8	+1.4
PB06				eS	Sn	16 21 48.7	-0.1
PB06				AML	AML	16 21 50.8	
	comp=N,3μm,0.1s						
PB06	Plate Boundary	2.73	305	⇑iP	Pn	16 21 14.8	+1.4
PB06				eS	Sn	16 21 48.7	-0.1
ALOL	LOMAS DE OLMED	2.93	81	i P	Pn	16 21 15.9	+0.3
ALOL				i S	Sn	16 21 51.6	-1.2
CEN1	Los Morros	2.94	287	⇓iP	Pn	16 21 17.6	+1.9
CEN1				eS	Sn	16 21 53.7	+0.5
CEN1				AML	AML	16 21 56.7	
	comp=N,1μm,0.5s						
CEN1	Los Morros	2.94	287	⇓iP	Pn	16 21 17.6	+1.9
CEN1				eS	Sn	16 21 53.7	+0.5
PB04	Plate Boundary	2.95	313	⇑eP	Pn	16 21 21.9	+6.1
PB04				eS	Sn	16 22 01.3	+8.1
PB04				AML	AML	16 22 04.0	
	comp=N,2μm,0.2s						
PB04	Plate Boundary	2.95	313	⇑eP	Pn	16 21 21.9	+6.1
PB04				eS	Sn	16 22 01.3	+8.1
ANCH	Antofagasta	3.05	281	⇑eP	Pn	16 21 16.1	-0.9
ANCH				eS	Sn	16 21 52.3	-3.0
ANCH	Antofagasta	3.05	281	⇑eP	Pn	16 21 16.1	-0.9
ANCH				eS	Sn	16 21 52.3	-3.0
PB09	Plate Boundary	3.15	322	⇑eP	Pn	16 21 19.9	+1.5
PB09				eS	Sn	16 21 57.6	-0.2
PB09				AML	AML	16 21 59.2	
	comp=N,3μm,0.6s						
PB09	Plate Boundary	3.15	322	⇑eP	Pn	16 21 19.9	+1.5
PB09				eS	Sn	16 21 57.6	-0.2
MACH	Maria Elena	3.19	310	⇓eP	Pn	16 21 20.0	+1.1
MACH				eS	Sn	16 21 57.8	-1.0
MACH	Maria Elena	3.19	310	⇓eP	Pn	16 21 20.0	+1.1
MACH				eS	Sn	16 21 57.8	-1.0
PB10	Plate Boundary	3.22	283	⇓eP	Pn	16 21 20.2	+1.1
PB10				eS	Sn	16 21 57.7	-1.4
PB10				AML	AML	16 22 01.8	
	comp=N,3μm,0.2s						
PB07	Plate Boundary	3.59	315	⇑eP	Pn	16 21 24.6	+0.6
PB07				eS	Sn	16 22 05.5	-2.2
PB07				AML	AML	16 22 07.6	
	comp=N,1μm,0.5s						
PB07	Plate Boundary	3.59	315	⇑eP	Pn	16 21 24.6	+0.6
PB07				S	Sn	16 22 05.5	-2.2
PB01	Plate Boundary	3.89	326	eP	Pn	16 21 27.7	+0.1
PB01				eS	Sn	16 22 12.3	-2.1
PB01	Plate Boundary	3.89	326	eP	Pn	16 21 27.7	+0.1
PB01				eS	Sn	16 22 12.3	-2.1
CDCH	Caldera	4.33	229	eP	Pn	16 21 32.7	-0.2
CDCH	Caldera	4.33	229	P	Pn	16 21 32.7	-0.2
PATCX	Punta Patache	4.44	320	eP	Pn	16 21 33.9	-0.6
HMBC	Humberstone	4.74	327	eP	Pn	16 21 37.1	-1.3
HMBC	Humberstone	4.74	327	P	Pn	16 21 37.1	-1.3
PB11	Plate Boundary	5.08	332	eP	Pn	16 21 41.7	-1.2
PB11	Plate Boundary	5.08	332	P	Pn	16 21 41.7	-1.2
ACLC	CERRO LA CRUZ	5.12	178	i P	Pn	16 21 44.5	+1.1
PSGC	Pisagua	5.43	329	eP	Pn	16 21 45.1	-2.3
PSGC	Pisagua	5.43	329	P	Pn	16 21 45.1	-2.3
MNMC	Minimini	5.62	336	eP	Pn	16 21 49.5	-0.5
MNMC	Minimini	5.62	336	P	Pn	16 21 49.5	-0.5
LCO	Las Campanas	5.68	213	eP	Pn	16 21 51.1	+0.3
CFAA	Coronel Fontan	7.35	187	P	Pn	16 22 13.3	+0.8
	comp=N,0.1nm,0.3s,baz=42,slow=19,SNR=7.6						
CFAA				S	Sn	16 23 31.2	-4.1
	comp=N,0.3nm,0.3s,baz=288,slow=19,SNR=7.7						
LPAZ	La Paz	8.01	353	P	Pn	16 22 22.4	+0.6
	comp=N,2.2nm,0.3s,baz=161,slow=6.9,SNR=34						
LPAZ				S	Sn	16 23 49.1	-3.0
	comp=N,0.3nm,0.3s,baz=209,slow=19,SNR=4.6						
LPAZ	La Paz	8.01	353	eP	Pn	16 22 22.1	+0.2
	comp=N,5.1nm,0.4s						
CPUP	Villa Florida	9.11	105	P	Pn	16 22 34.1	-1.5
	comp=N,0.7nm,0.3s,baz=269,slow=7.7,SNR=3.6						
SIV	San Ignacio	10.03	36	P	Pn	16 22 45.5	-2.3
	comp=N,0.5nm,0.3s,baz=219,slow=14,SNR=5.8						
H03N1	Juan Fernandez	13.76	226	T	T	16 36 23.1	
	baz=43						
H03N2	Juan Fernandez	13.77	226	T	T	16 36 22.0	
	baz=43						
H03N3	Juan Fernandez	13.78	226	T	T	16 36 24.2	
	baz=43,SNR=10						
TRQA	Tornquist	14.41	163	eP	Pn	16 23 43.5	-0.1
	comp=N,22nm,1.1s						
SAML	Samuel	15.71	15	eP	Pn	16 23 57.9	-1.8
	comp=N,1.2nm,0.5s						
BDFB	Brasilia	19.91	68	P	P	16 24 44.4	-1.5
	comp=N,0.4nm,0.3s,baz=229,slow=8.9,SNR=9.4						
TXAR	Lajitas Array	63.84	325	P	P	16 30 43.1	+1.8
	comp=N,0.3nm,0.6s,baz=139,slow=5.9,SNR=3.6						
DBIC	Dimbokro	68.01	71	P	P	16 31 05.8	-2.3
	comp=N,2.4nm,0.7s,baz=246,slow=12,SNR=2.8						
TOA0	Torodi Ar. Sit	76.79	69	eP	P	16 32 00.3	+0.3
TORD	Torodi Ar. Bea	76.79	69	P	P	16 32 00.3	+0.3
	comp=N,1.2nm,0.5s,baz=260,slow=5.5,SNR=16						
PDAR	Pinedale Array	77.33	329	P	P	16 32 04.4	+1.7
	comp=N,0.5nm,0.6s,baz=95,slow=5.1,SNR=4.2						
ULM	Lac du Bonnet	78.46	342	P	P	16 32 09.5	+1.1
	comp=N,1.9nm,0.5s,baz=159,slow=5.7,SNR=4.6						
NVAR	Mina Array Bea	78.68	321	P	P	16 32 12.2	+2.0
	comp=N,0.6nm,0.8s,baz=148,slow=5.5,SNR=4.1						
YKA	Yellowknife Ar	94.35	340	P	P	16 33 27.6	+1.2
	comp=N,0.5nm,0.5s,baz=130,slow=4.6,SNR=13						
ASAR	Alice Springs	128.14	205	PKP	PKPdf	16 39 14.5	+1.2
	comp=N,0.6nm,0.7s,baz=147,slow=1.9,SNR=10						
WRA	Warramunga Arr	131.31	207	PKP	PKPdf	16 39 20.9	+1.5
	comp=N,0.5nm,0.5s,baz=154,slow=1.9,SNR=10.0						
ZALV	Zalesovo Beam	143.71	28	PKP	PKPdf	16 39 40.6	-0.4
	comp=N,1.3nm,0.5s,baz=295,slow=4.6,SNR=8.0						
MK31	Makanchi Array	146.83	40	ePKPbc	PKPab	16 39 50.1	-0.2
MKAR	Makanchi Array	146.83	40	PKPbc	PKPbc	16 39 48.3	-0.4
	comp=N,2.1nm,0.6s,baz=313,slow=1.6,SNR=29						
SONM	Songino Array	155.95	11	PKPab	PKPab	16 40 29.4	+1.0

comp=N,0.2nm,0.5s,baz=326,slow=2.6,SNR=2.7

IDC 03 16:34:04.8±1.8,0°.45N×125°.16E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.2/22,mbtmp3.3/3,Error ellipse: s-maj=177.6km s-min=25.0km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
WRA	Warramunga Arr	22.17	157	P	P	16 39 02.8	+0.1
	0.8nm,0.5s,baz=334,slow=11,SNR=11						
ASAR	Alice Springs	25.43	161	P	P	16 39 34.4	-0.1
	0.2nm,0.4s,baz=348,slow=7.6,SNR=5.3						
MKAR	Makanchi Array	59.39	327	P	P	16 44 09.1	0.0
	0.2nm,0.4s,baz=120,slow=7.8,SNR=3.1						

ISCJB 03 16:44:47.1±0.6,21°.28S±0°.03×68°.9W±0°.1,h131km±7km, mb3.7/3,Error ellipse: s-maj=16.5km s-min=5.3km az=2.1
GUC 03 16:44:47.6±0.7,21°.25S×68°.90W,h122km±4km,ML4.4
IDC 03 16:44:50.8±6.6,21°.16S×68°.41W,h133km±45km,mb3.6/3, mb1 3.7/5,mb1mx3.4/19,mbtmp4.0/5,Error ellipse: s-maj=57.6km s-min=28.5km az=25.0
ISC 03 16:44:47.4±0.9,21°.28S±0°.04×68°.81W±0°.09,h124km±8km, n29,σ1°69/33,mb3.7/3,9C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
PB09	Plate Boundary	0.65	218	⇑iP	Pn	16 45 07.5	+0.5
PB09				eS	Sn	16 45 22.1	+0.3
PB09				AML	AML	16 45 23.5	
	comp=N,13μm,0.4s						
PB01	Plate Boundary	0.67	290	⇑iP	Pn	16 45 07.1	0.0
PB01				eS	Sn	16 45 21.3	-0.6
PB01				AML	AML	16 45 22.0	
	comp=N,11μm,0.3s						
PB07	Plate Boundary	1.09	246	⇑iP	Pn	16 45 11.1	+0.2
PB07				eS	Sn	16 45 28.2	-0.5
PB07				AML	AML	16 45 29.8	
	comp=E,6μm,0.2s						
MACH	Maria Elena	1.27	224	eP	Pn	16 45 13.0	+0.2
MACH				eS	Sn	16 45 31.7	-0.3
PATCX	Punta Patache	1.33	290	⇑eP	Pn	16 45 13.4	+0.2
PATCX				eS	Sn	16 45 32.6	-0.3
PATCX				AML	AML	16 45 34.5	
	comp=E,5μm,0.3s						
HMBC	Humberstone	1.42	315	⇑eP	Pn	16 45 14.0	-0.3
HMBC				eS	Sn	16 45 34.2	-0.5
PB06	Plate Boundary	1.58	206	⇑iP	Pn	16 45 16.9	+0.7
PB06				iS	Sn	16 45 38.4	+0.2
PB06				AML	AML	16 45 40.3	
	comp=N,3μm,0.4s						
PB11	Plate Boundary	1.71	332	⇑iP	Pn	16 45 17.7	0.0
PB11				eS	Sn	16 45 40.6	-0.1
PB11				AML	AML	16 45 41.8	
	comp=E,11μm,0.2s						
PSGC	Pisagua	2.08	324	⇑eP	Pn	16 45 21.4	-0.8
PSGC				eS	Sn	16 45 47.1	-1.6
MNMC	Minimini	2.26	341	⇑eP	Pn	16 45 24.9	+0.3
MNMC				eS	Sn	16 45 53.5	+0.3
MNMC				AML	AML	16 45 57.1	
	comp=E,3μm,0.4s						
CEN1	Los Morros	2.46	211	⇓eP	Pn	16 45 30.6	+3.6
CEN1				eS	Sn	16 46 00.7	+3.4
PB10	Plate Boundary	2.75	216	eP	Pn	16 45 30.1	-0.4
PB10				eS	Sn	16 46 00.5	-3.2
ANCH	Antofagasta	2.81	211	⇓eP	Pn	16 45 28.9	-2.4
ANCH				eS	Sn	16 46 01.2	-4.0
LPAZ	La Paz	5.01	8	P	Pn	16 46 03.1	+2.0
	comp=E,4.2nm,0.3s,baz=187,slow=6.3,SNR=62						
LPAZ				S	Sn	16 46 59.2	+0.9
	baz=208,slow=15,SNR=2.1						
SIV	San Ignacio	9.03	56	P	Pn	16 46 52.4	-2.5
	comp=E,1.7nm,0.3s,baz=249,slow=8.6,SNR=19						
SIV				S	Sn	16 48 30.7	-4.1
	baz=216,slow=19						
CFAA	Coronel Fontan	10.29	177	S	Sn	16 48 57.8	-7.6
	comp=E,0.1nm,0.3s,baz=342,slow=6.4,SNR=5.0						
H03N1	Juan Fernandez	15.06	214	T	T	17 02 53.9	
	baz=35						
H03N2	Juan Fernandez	15.07	214	T	T	17 02 53.6	
	baz=35,slow=74,SNR=2.2						
H03N3	Juan Fernandez	15.08	214	T	T	17 02 54.4	
	baz=35,slow=74,SNR=2.5						
PTGA	Pitinga	22.18	24	P	P	16 49 32.6	-1.0
	comp=E,3.6nm,0.4s,baz=208,slow=12,SNR=6.0						
TORD	Torodi Ar. Bea	77.20	70	P	P	16 56 28.2	0.0
	comp=E,0.5nm,0.4s,baz=260,slow=5.3,SNR=10						
YKA	Yellowknife Ar	91.01	341	P	P	16 57 38.9	+1.8
	comp=E,0.3nm,0.6s,baz=136,slow=4.4,SNR=9.3						
H11S2	WAKE ISLAND Hy	127.94	277	T	T	19 23 51.7	
	baz=93						
H11S1	WAKE ISLAND Hy	127.95	277	T	T	19 23 53.8	
	baz=93						
H11S3	WAKE ISLAND Hy	127.96	277	T	T	19 23 51.0	
	baz=93						
H11N3	WAKE ISLAND Hy	128.01	279	T	T	19 24 09.4	
	baz=108						
H11N2	WAKE ISLAND Hy	128.03	279	T	T	19 24 06.6	
	baz=108						
H11N1	WAKE ISLAND Hy	128.03	279	T	T	19 24 08.6	
	baz=108						
MKAR	Makanchi Array	145.40	36	PKPbc	PKPab	17 04 12.8	+1.6
	comp=E,0.7nm,0.6s,baz=309,slow=4.2,SNR=10						

IDC 03 16:49:19.2±6.5,31°.88N×50°.86E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.2/26,mbtmp3.5/4,ML3.6/1,Error ellipse: s-maj=128.9km s-min=50.6km az=108.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
BRTR	Keskin Array B	16.00	304	Pn	P	16 53 09.3	-0.1
	0.2nm,0.3s,baz=129,slow=13,SNR=9.9						
AKASG	Malin Array Be	24.70	326	P	P	16 54 40.4	-1.4
	0.5nm,0.4s,baz=136,slow=9.1,SNR=6.7						
FINES	FINESS Array B	33.69	339	P	P	16 56 06.7	+5.0
	1.5nm,1.0s,baz=134,slow=9.8,SNR=3.5						
NOA	NORSAR Array B	38.93	330	P	P	16 56 47.4	+0.8
	0.5nm,0.7s,baz=133,slow=8.6,SNR=2.6						
TORD	Torodi Ar. Bea	48.65	259	P	P	16 58 05.1	-0.1
	0.4nm,0.7s,baz=58,slow=8.7,SNR=2.9						

NEIC 03 16:54:58.7±0.3,2°.49N×128°.71E,mb4.7/12,Error ellipse: s-maj=8.6km s-min=6.0km az=66.0
ISCJB 03 16:55:00.6±0.6,2°.37N±0°.04×128°.59E±0°.04,h245km±6km, mb4.2/34,Error ellipse: s-maj=8.1km s-min=4.6km az=143.5
BJI 03 16:55:00.4,2°.48N×128°.57E,h229km,mB4.6/13,mb4.2/23
IDC 03 16:55:01.1±1.5,2°.41N×128°.59E,h237km±13km,mb3.9/14, mb1 4.0/15,mb1mx3.9/26,mbtmp4.5/15,Error ellipse: s-maj=18.9km s-min=9.0km az=60.0
KLM 03 16:55:01.0,2°.57N×128°.77E,h250km,mb4.7,ML3.5, MS5.7
ISC 03 16:55:01.0±0.4,2°.40N±0°.04×128°.61E±0°.05,h233km±2km, h233km:pP-P,n105,σ1°48/138,mb4.3/33,7C-11D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
TNTI	Ternate	2.04	218	ePn	Pn	16 55 42.4	-0.1
FAKI	Fak Fak	6.41	145	eP	Pn	16 56 35.5	+1.4
	42nm,0.6s						
FAKI	Fak Fak	6.41	145	P	Pn	16 56 35.7	+1.6
	baz=6.6,SNR=8.8						
LUWI	Luwuk	6.76	240	eP	Pn	16 56 36.9	-1.6
	236nm,0.6s						
LUWI	Luwuk	6.76	240	⇓P	Pn	16 56 38.0	-0.5
	baz=6.7,SNR=14						
PALU	Palau	7.64	50	⇓P	Pn	16 56 50.2	+0.6
	baz=7.7,SNR=3.5						
MYLDM	Lahad Datu	10.46	286	⇓P	Pn	16 57 26.8	+1.1
TSM	Tawau	10.88	280	⇓P	Pn	16 57 30.7	-0.4
KAPI	Kappang	11.51	230	eP	Pn	16 57 39.7	+0.7
SDKM	Sandakan	11.83	286	⇓P	Pn	16 57 42.3	-0.7
KDM	Kudat	12.56	291	⇓P	Pn	16 57 49.9	-0.2
SOEI	Soe	12.82	200	eP	P	16 57 57.5	-0.4
	41nm,1.0s						
SOEI	Soe	12.82	200	⇑P	P	16 57 57.5	-0.4
	baz=13,SNR=8.4						
KKM	Kota Kinabalu	12.88	287	⇑P	Pn	16 57 56.2	0.0
JAY	Jayapura	13.04	112	P	P	16 58 00.1	-0.2
	2.3nm,0.3s,baz=308,slow=6.0,SNR=13						
JAY	Jayapura	13.04	112	⇑P	P	16 58 00.3	0.0
	baz=13,SNR=12						
MTN	Manton Dam	15.35	171	P	P	16 58 24.9	-0.8
	baz=16,SNR=18						
KDU	Kakadu	15.47	166	P	P	16 58 26.9	-0.1
	baz=16,SNR=43						
BTM	Bintulu	15.53	273	⇓P	Pn	16 58 29.8	+1.4
SBUM	Sibu	16.37	271	⇑P	Pn	16 58 39.5	+1.0
KNRA	Kununurra	17.96	180	P	P	16 58 54.6	+0.3
	baz=18,SNR=64						
JAGI	Jajag, Banyuwa	18.01	233	⇓P	Pn	16 58 56.4	-1.2
	baz=18,SNR=4.4						
KSM	Kuching	18.31	267	eP	P	16 58 58.9	+0.6
	40nm,0.8s						
KSM	Kuching	18.31	267	⇑P	P	16 58 58.8	+0.6
	baz=18,SNR=24						
KSM	Kuching	18.31	267	⇓P	P	16 58 59.5	+1.3
UGM	Wanagama	20.74	240	⇑P	P	16 59 25.9	+1.6
	baz=21,SNR=5.5						
COEN	Coen	21.74	139	eP	P	16 59 32.9	-1.2
COEN	Coen	21.74	139	P	P	16 59 33.3	-0.8
	baz=22,SNR=12						
DLV	T Lat	22.08	296	eP	P	16 59 37.5	-0.1
WRAB	Tennant Creek	22.89	166	eP	P	16 59 44.3	-0.4
	37nm,0.6s						
WRA	Warramunga Arr	22.90	166	P	P	16 59 44.2	-0.5
	17nm,0.4s,baz=345,slow=10.0,SNR=176						
WRA				PcP	PcP	17 03 27.2	-0.7
	0.4nm,0.3s,baz=346,slow=2.4,SNR=2.7						
WRA				ScP	ScP	17 06 41.9	-1.6
	1.2nm,0.6s,baz=340,slow=3.0,SNR=8.3						
CISI	Cisompet, Garu	22.98	244	eP	P	16 59 44.7	-1.0
	53nm,0.7s						
CISI	Cisompet, Garu	22.98	244	⇓P	P	16 59 45.0	-0.6
	baz=23,SNR=3.1						
QIZ	Qiongzhong	24.71	313	P	P	17 00 00.8	-0.4
QIZ				pP	pP	17 00 44.6	-0.8
QIZ				sP	sP	17 01 13.3	-0.8
QIZ				S	S	17 04 07.2	+1.4
QIZ				pmax	pmax		
	comp=Z,17nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,150nm,5.0s						
QIZ				LR	LR		
	comp=Z,110nm,17.4s						
MBWA	Marble Bar	24.97	200	eP	P	17 00 02.8	-0.7
QIS	Mount Isa	25.23	155	P	P	17 00 05.7	-0.2
	baz=26,SNR=16						
MTSU	Mount Surprise	25.61	143	P	P	17 00 09.2	-0.1
	baz=26,SNR=9.7						
XMIS	Christmas Isla	26.19	240	⇓P	P	17 00 13.6	-0.9
	baz=26,SNR=3.2						
AS31	Alice Springs	26.41	169	eP	P	17 00 15.6	-0.9
ASAR	Alice Springs	26.41	169	P	P	17 00 16.1	-0.4
	13nm,0.5s,baz=355,slow=7.9,SNR=309						
ASAR				PcP	PcP	17 03 35.2	-0.4
	2.1nm,0.4s,baz=355,slow=2.3,SNR=8.1						
ASAR				ScP	ScP	17 06 52.0	-1.4
	1.5nm,0.7s,baz=353,slow=2.4,SNR=9.3						
WRKA	Warakurna	27.27	181	P	P	17 00 23.7	-0.4
	baz=28,SNR=20						
BKNI	Bangkinang	27.64	266	S	S	17 04 56.6	+4.6
	baz=28,SNR=3.5						
CTA	Charters Tower	28.27	143	P	P	17 00 33.1	+0.1
	5.4nm,0.5s,baz=306,slow=11,SNR=3.4						
PSI	Prapat	29.66	271	P	P	17 00 45.1	-0.4
	8.4nm,0.6s,baz=87,slow=5.2,SNR=8.6						
PSI	Prapat	29.66	271	⇑P	P	17 00 45.3	-0.2
	baz=30,SNR=5.7						
NJ2	Nanjing	30.90	344	eP	P	17 00 56.3	+0.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GSI	Gunungsitoli	31.04	269	eP	P	17 00 56.3	-1.2
	28nm,0.6s						
GYA	Guiyang	31.88	321	eP	P	17 01 06.0	+1.2
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
QLP	Quilpie	32.52	153	P	P	17 01 09.7	-0.5
	baz=33,SNR=4.0						
CM31	Chiang Mai Arr	33.16	301	eP	P	17 01 16.2	+0.3
	4.6nm,0.9s						
CMAR	Chiang Mai Arr	33.16	301	P	P	17 01 16.4	+0.5
	4.0nm,0.8s,baz=119,slow=7.2,SNR=36						
CMAR				ScP	ScP	17 07 15.6	+0.2
	1.1nm,1.0s,baz=156,slow=2.5,SNR=7.5						
KMI	Kunming	33.65	314	P	P	17 01 24.7	+4.4
KMI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSAR	Wonju Array Be	34.88	359	P	P	17 01 30.1	-0.3
KSRS	Korea Array	34.90	359	P	P	17 01 30.1	-0.4
	0.7nm,0.6s,baz=180,slow=11,SNR=3.6						
EIDS	Eidsvold	35.16	143	P	P	17 01 32.4	-0.5
	baz=35,SNR=4.1						
BBOO	Buckleboo	35.72	169	eP	P	17 01 37.3	-0.3
	736nm,0.6s						
BBOO	Buckleboo	35.72	169	P	P	17 01 37.4	-0.2
	baz=36,SNR=133						
STKA	Stephens Creek	36.25	161	P	P	17 01 41.8	-0.3
	9.7nm,0.3s,baz=340,slow=7.9,SNR=110						
STKA				PcP	PcP	17 04 01.7	-0.3
	3.0nm,0.5s,baz=325,slow=3.5,SNR=4.4						
STKA	Stephens Creek	36.25	161	P	P	17 01 41.8	-0.3
	baz=37,SNR=89						
NWAO	Narrogin (SRO)	36.74	196	P	P	17 01 45.5	-0.8
	6.7nm,0.9s,baz=37,slow=5.1,SNR=3.9						
CD2	Chengdu	36.83	323	P	P	17 01 48.6	+1.5
CD2				pP	pP	17 02 37.9	+3.0
CD2				sP	sP	17 03 04.9	+3.3
CD2				PP	PnPn	17 03 22.4	+2.7
CD2				PcP	PcP	17 04 05.0	+1.2
CD2				S	S	17 07 15.4	+1.5
CD2				PcS	PcS	17 07 52.4	+0.1
CD2				sS	sS	17 08 41.9	+2.8
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.4s						
CD2				LR	LR		
	comp=N,290nm,17.2s						
CD2				LR	LR		
	comp=Z,180nm,15.2s						
HTT	Hallett	36.94	166	P	P	17 01 48.3	+0.3
	baz=37,SNR=16						
CMSA	Cobar Meteorol	37.45	156	P	P	17 01 53.1	+0.9
	baz=38,SNR=6.4						
RKGY	Rocky Gully	38.40	196	P	P	17 02 00.8	+0.8
	baz=39,SNR=6.6						
BJI	Beijing	39.13	345	P	P	17 02 06.3	+0.2
BJI				S	S	17 07 48.0	-0.1
BJI				pmax	pmax		
	comp=Z,15nm,0.5s						
BJI				pmax	pmax		
	comp=Z,120nm,5.5s						
BJI				LR	LR		
	comp=N,280nm,15.6s						
BJI				LR	LR		
	comp=E,290nm,17.5s						
BJI				LR	LR		
	comp=Z,130nm,18.8s						
ARMA	Armidale	39.34	148	P	P	17 02 08.5	+0.4
	baz=40,SNR=17						
H11S3	WAKE ISLAND Hy	40.58	64	T	T	17 46 06.9	
	baz=254,slow=73,SNR=5.7						
H11S2	WAKE ISLAND Hy	40.60	64	T	T	17 46 07.9	
	baz=254,slow=73,SNR=5.5						
H11S1	WAKE ISLAND Hy	40.60	64	T	T	17 46 07.6	
	baz=254,slow=73,SNR=4.7						
LZH	Lanzhou	40.60	329	eP	P	17 02 19.7	+1.2
LZH				pP	pP	17 03 12.1	+5.0
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
ARPS	Mount Arapiles	40.87	164	P	P	17 02 21.0	+0.6
	baz=41,SNR=21						
H11N1	WAKE ISLAND Hy	41.17	62	T	T	17 46 54.9	
	baz=238						
H11N2	WAKE ISLAND Hy	41.18	62	T	T	17 46 55.7	
	baz=238						
H11N3	WAKE ISLAND Hy	41.18	62	T	T	17 46 56.3	
	baz=238						
MDJ	Mudanjiang	42.05	1	P	P	17 02 31.2	+1.3
MDJ				pP	pP	17 03 19.7	+0.9
MDJ				sP	sP	17 03 45.6	+0.3
MDJ				PP	PP	17 04 14.4	+1.9
MDJ				PcP	PcP	17 04 20.7	+0.6
MDJ				S	S	17 08 33.0	+1.9
MDJ				sS	sS	17 09 55.8	-2.1
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.6s						
MDJ				LR	LR		
	comp=N,57nm,21.4s						
MDJ				LR	LR		
	comp=E,44nm,21.4s						
MDJ				LR	LR		
	comp=Z,73nm,20.3s						
DZM	Mont Dzumac	44.24	125	P	P	17 02 48.2	+0.3
	3.0nm,0.4s,baz=350,slow=18,SNR=7.9						
LSA	Lhasa	44.72	311	eP	P	17 02 52.2	+0.2
	3.4nm,0.7s						
GTA	Gaotai	45.20	328	eP	P	17 02 55.5	+0.3
GTA				pP	pP	17 03 43.9	-1.0
GTA				sP	sP	17 04 09.2	-1.9
GTA				ScP	ScP	17 08 01.2	-0.3
GTA				S	S	17 09 18.2	+1.0
GTA				sS	sS	17 10 42.7	-2.2
GTA				SS	SS	17 12 38.9	-5.1
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,130nm,5.5s						
GTA				LR	LR		
	comp=N,160nm,17.9s						
GTA				LR	LR		
	comp=E,98nm,15.7s						
GTA				LR	LR		
	comp=Z,110nm,16.1s						
TAPN	Taplejung	46.31	306	eP	P	17 03 03.9	-0.4
ODAN	Odare	46.37	306	eP	P	17 03 04.4	-0.2
	17nm,0.6s						
RAMN	Ramite	47.05	305	eP	P	17 03 10.0	+0.1
	24nm,0.6s						
JIRN	Jiri	47.67	306	eP	P	17 03 14.6	-0.2
GUN	Gumba	48.02	306	eP	P	17 03 17.4	-0.1
	19nm,0.7s						
PKI	Pulchoki	48.27	305	eP	P	17 03 18.5	-0.8
	3.6nm,0.4s						
KKN	Kakani	48.46	306	eP	P	17 03 20.2	-0.5
DMN	Daman	48.53	305	eP	P	17 03 20.9	-0.4
SONM	Songino Array	49.16	340	P	P	17 03 24.9	-0.6
	0.2nm,0.6s,baz=149,slow=9.6,SNR=5.0						
SONM				pP	pP	17 04 12.7	-3.3
	1.0nm,0.8s,baz=147,slow=8.0,SNR=4.9						
SONM				ScP	ScP	17 08 17.0	-1.0
	0.5nm,0.8s,baz=132,slow=2.1,SNR=3.0						
KOLN	Koldanda	49.82	305	eP	P	17 03 31.0	0.0
	22nm,0.6s						
DANN	Dangsing	49.91	306	eP	P	17 03 31.4	-0.4
	26nm,0.6s						
PYUN	Piuthan	50.45	305	eP	P	17 03 35.5	-0.2
	27nm,0.4s						
WMQ	Urumqi	54.89	325	eP	P	17 04 09.0	+1.3
WMQ				pP	pP	17 04 58.9	-0.4
WMQ				sP	sP	17 05 23.4	-1.6
WMQ				PP	PP	17 06 16.2	+2.9
WMQ				pmax	pmax		
	comp=Z,12nm,1.8s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.8s						
WMQ				LR	LR		
	comp=N,99nm,19.8s						
WMQ				LR	LR		
	comp=E,110nm,20.1s						
WMQ				LR	LR		
	comp=Z,91nm,19.4s						
MK31	Makanchi Array	59.72	325	eP	P	17 04 40.5	-0.8
MKAR	Makanchi Array	59.72	325	P	P	17 04 40.8	-0.5
	1.8nm,0.7s,baz=118,slow=8.5,SNR=26						
MKAR				pP	PcP	17 05 29.4	+3.8
	1.1nm,0.6s,baz=122,slow=7.8,SNR=4.0						
MKAR				ScP	ScP	17 09 02.5	-1.5
	0.5nm,0.8s,baz=108,slow=4.7,SNR=4.1						
KSH	Kashi	60.31	315	eP	P	17 04 46.7	+1.1
KSH				esP	sP	17 06 02.4	-1.2
KSH				ePP	PP	17 07 05.0	+3.5
KSH				S	S	17 12 36.5	-4.9
KSH				SS	SS	17 16 39.8	-3.5
KSH				LR	LR		
	comp=E,55nm,5.3s						
KSH				LR	LR		
	comp=Z,150nm,4.9s						
AAK	Ala-Archa	62.60	318	pP	pP	17 05 50.5	-3.4
	0.4nm,0.6s,baz=184,slow=15,SNR=1.7						
ZALV	Zalesovo Beam	62.62	333	P	P	17 04 58.8	-1.8
	0.6nm,0.5s,baz=98,slow=6.3,SNR=3.3						
KURK	Kurchatov	63.87	327	eP	P	17 05 08.0	-0.8
	1.4nm,0.6s						
KKAR	Karatay Array	65.48	317	eP	P	17 05 17.9	-1.5
	0.3nm,0.4s						
VNDA	Vanda	81.88	173	P	P	17 06 53.8	0.0
	5.6nm,0.7s,baz=318,slow=6.4,SNR=23						
ILAR	Eielson Array	85.50	25	P	P	17 07 10.7	-1.8
	0.2nm,0.4s,baz=247,slow=5.0,SNR=6.9						
QSPA	South Pole Qui	92.31	180	eP	P	17 07 44.5	-0.1
	2.8nm,0.8s						
YKA	Yellowknife Ar	99.92	25	P	Pdif	17 08 18.5	-0.5
	0.1nm,0.6s,baz=290,slow=3.9,SNR=4.0						
TXAR	Lajitas Array	120.90	54	PKP	PKPdf	17 13 26.5	+0.1
	0.3nm,0.8s,baz=273,slow=1.5,SNR=3.4						
TORD	Torodi Ar. Bea	125.11	288	PKP	PKPdf	17 13 33.0	-1.7
	0.3nm,0.5s,baz=47,slow=1.5,SNR=3.4						
LPAZ	La Paz	158.51	131	PKPab	PKPab	17 15 08.2	-0.1
	1.5nm,0.7s,baz=208,slow=5.9,SNR=6.2						

NNC 03 17:07:10.3±4.3,37°.24N×71°.13E,h0km,mb3.7,mpv3.5, 3C-4D,Error ellipse: s-maj=36.4km s-min=28.6km az=151.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
KK31	Karatay Array	5.88	356	⇓Pn	Pn	17 08 40.7	+2.0
	2.3nm,0.3s,baz=176,slow=12,SNR=98						
KK31				⇓Sn	Sn	17 09 47.5	+0.7
	0.9nm,0.4s,baz=180,slow=19,SNR=6.5						
AAK	Ala-Archa	5.98	25	⇓Pn	Pn	17 08 40.7	+0.5
	3.6nm,0.8s						
AAK				⇓Sn	Sn	17 09 50.9	+1.4
	4.2nm,0.8s						
TKM2	Tokmak 2	6.63	30	⇑Pn	Pn	17 08 47.5	-1.7
	1.6nm,0.6s						
TKM2				⇑Sn	Sn	17 10 06.5	+0.8
	5.1nm,1.4s						
AB31	Akbulak array	14.50	329	⇑Pn	Pn	17 10 34.2	-2.5
	0.1nm,0.2s,baz=166,slow=9.4,SNR=11						

ISCJB 03 17:08:22.9±1.4,53°.55N±0°.05×162°.75W±0°.05, h31km±11km,mb3.7/13,MS3.9/4,Error ellipse: s-maj=9.1km s-min=4.6km az=172.2
NEIC 03 17:08:25.0,53°.61N×162°.84W,h18km,ML3.6(AEIC),After AEIC.
IDC 03 17:08:25.6±4.6,53°.80N×163°.02W,h28km±29km,mb3.5/14, mb1 3.7/15,mb1mx3.6/31,mbtmp3.7/15,ML3.5/1,MS3.8/5, Ms1 3.8/5,ms1mx3.0/40,Error ellipse: s-maj=30.6km s-min=15.5km az=5.0
ISC 03 17:08:24.0±1.1,53°.63N±0°.08×162°.91W±0°.05,h22km±7km, n60,σ0°94/54,mb3.8/13,MS3.8/4,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
FALS	False Pass	1.27	346	P	Pn	17 08 46.4	+0.1
FALS				S	Sn	17 09 02.3	-0.3
WESE	West Dahl East	1.30	311	P	Pn	17 08 47.0	+0.1
WESE				S	Sb	17 09 04.8	+0.7
SSLN	Shishaldin Nor	1.35	332	P	Pb	17 08 48.5	-0.1
SSLW	Shishaldin Wes	1.35	328	P	Pn	17 08 47.8	+0.3
WESN	West Dahl Nort	1.36	314	P	Pn	17 08 48.3	+0.5
WESN				S	Sb	17 09 06.5	+0.7
DRIA	Deer Island	1.39	15	P	Pn	17 08 47.1	-1.0
DT1	Dutton Round H	1.52	14	P	Pn	17 08 49.7	-0.2
DTNA	Dutton South F	1.57	14	P	Pn	17 08 50.3	-0.3
DOL	Dolgoi Island	1.64	21	P	Pn	17 08 51.3	-0.2
AKUT	Akutan	1.77	288	P	Pn	17 08 53.8	+0.5
AKUT				S	Sb	17 09 17.4	0.0
HAG	Hague Volcano	1.79	19	P	Pn	17 08 54.1	+0.6
PS4A	Pavlof South-4	1.82	19	P	Pn	17 08 54.5	+0.4
PVV	Pavlof Volcano	1.86	20	P	Pn	17 08 55.9	+1.4
PVV				S	Sb	17 09 20.9	+0.7
ZRO	Akutan Zero	1.88	285	P	Pn	17 08 54.9	+0.2

ZRO S Sn 17 09 19.0 +1.2
AKGG Akutan Green G 1.91 289 P Pn 17 08 55.9 +0.7
AKGG S Sb 17 09 20.5 -1.0
AKRB Akutan Reef Bi 1.94 286 P Pn 17 08 56.5 +0.9
UNV Unalaska Valle 2.15 277 P Pn 17 08 58.4 0.0
SDPT Sand Point 2.23 38 P Pn 17 08 59.8 +0.2
MREP Makushin Rep't 2.29 276 P Pn 17 09 01.4 +0.9
MSW Makushin Switc 2.32 279 P Pn 17 09 01.2 +0.3
MCIR Makushin Cirqu 2.39 279 P Pn 17 09 02.5 +0.7
MSOM Makushin Julie 2.41 276 P Pn 17 09 02.6 +0.5
NIKH Nikolski High 3.63 262 P Pn 17 09 18.7 -0.1
CHGN Chignik 3.72 42 eP Pn 17 09 20.3 +0.3
CHIR Chirikof Islan 4.76 60 P Pn 17 09 33.2 -1.2
SII Sitkinak Islan 5.80 56 P Pn 17 09 47.6 -1.1
OHAK Old Harbor 6.55 53 P Pn 17 09 57.2 -1.6
KDAK Kodiak Island 7.16 50 P Pn 17 10 05.8 -1.4
TT01 Tatalina 9.98 18 P Pn 17 10 47.0 +1.2
PAX Paxson 13.05 37 ePn Pn 17 11 25.3 -2.6
3.2nm,0.7s
ILAR Eielson Array 13.80 30 Pn Pn 17 11 35.0 -3.1
0.1nm,0.3s,baz=217,slow=13,SNR=6.6
ILAR LR LR 17 17 40.7
comp=Z,184nm,18.6s,baz=238,slow=41
COLD Coldfoot 14.96 19 ePn Pn 17 11 54.0 +0.3
5.1nm,0.8s
HYT Haines Junctio 15.45 52 eP P 17 12 09.7 +5.0
INK Inuvik 20.17 32 P P 17 12 55.6 -0.9
1.2nm,0.6s,baz=244,slow=13,SNR=5.9
PETK Petropavlovsk- 23.31 285 P P 17 13 29.5 -0.6
1.6nm,0.4s,baz=84,slow=13,SNR=13
SEY Seymchan 24.78 310 P P 17 13 43.2 -0.5
0.5nm,0.5s,baz=90,slow=20,SNR=2.0
YKA Yellowknife Ar 26.44 51 P P 17 13 59.5 +0.8
0.6nm,0.6s,baz=268,slow=9.1,SNR=12
NVAR Mina Array Bea 33.87 98 P P 17 15 07.0 +1.9
0.9nm,0.7s,baz=296,slow=9.0,SNR=8.3
NVAR ScP ScP 17 21 26.2 -0.3
0.3nm,0.4s,baz=255,slow=2.7,SNR=3.2
H11N2 WAKE ISLAND Hy 41.02 226 T T 18 00 17.7
baz=28,slow=76,SNR=52
H11N3 WAKE ISLAND Hy 41.03 226 T T 18 00 20.1
baz=28,slow=76,SNR=46
H11N1 WAKE ISLAND Hy 41.04 226 T T 18 00 12.0
baz=28,slow=76,SNR=35
H11S1 WAKE ISLAND Hy 42.19 226 T T 18 01 46.9
baz=26,slow=77,SNR=64
H11S2 WAKE ISLAND Hy 42.20 226 T T 18 01 45.5
baz=26,slow=77,SNR=35
H11S3 WAKE ISLAND Hy 42.21 226 T T 18 01 48.7
baz=26,slow=77,SNR=35
TXAR Lajitas Array 48.89 95 P P 17 17 09.1 +1.0
1.1nm,0.6s,baz=301,slow=5.3,SNR=14
SCHQ Schefferville 51.77 47 LR LR 17 39 40.8
comp=Z,87nm,18.2s,baz=180,slow=36
SONM Songino Array 53.93 304 P P 17 17 45.6 -0.1
0.4nm,0.6s,baz=42,slow=8.7,SNR=5.4
ZALV Zalesovo Beam 59.04 320 P P 17 18 22.2 +0.5
0.3nm,0.2s,baz=22,slow=8.0,SNR=2.8
FINES FINESS Array B 65.05 355 P P 17 19 01.3 -0.6
3.2nm,1.1s,baz=340,slow=5.1,SNR=4.6
MKAR Makanchi Array 65.67 317 P P 17 19 05.6 -0.6
0.2nm,0.4s,baz=51,slow=6.9,SNR=7.0
JAY Jayapura 72.88 241 LR LR 17 46 59.6
comp=Z,54nm,21.4s,baz=235,slow=32
AKASG Malin Array Be 75.54 352 P P 17 20 06.0 -0.3
0.3nm,0.3s,baz=11,slow=5.9,SNR=7.5
GERES GERESS Array B 77.86 2 P P 17 20 19.5 -0.1
0.3nm,0.5s,baz=34,slow=9.7,SNR=4.1
DZM Mont Dzumac 79.91 209 LR LR 17 47 21.5
comp=Z,43nm,20.6s,baz=185,slow=29
CMAR Chiang Mai Arr 80.06 287 P P 17 20 31.9 -0.1
0.5nm,0.9s,baz=17,slow=2.7,SNR=4.4
CTA Charters Tower 85.46 227 LR LR 17 55 40.3
comp=Z,97nm,19.1s,baz=325,slow=33
BRTR Keskin Array B 85.92 347 P P 17 21 02.3 +0.1
1.1nm,0.8s,baz=355,slow=9.4,SNR=3.7
H03N2 Juan Fernandez 112.85 116 T T 19 30 13.0
baz=321,slow=75,SNR=3.8
H03N1 Juan Fernandez 112.86 116 T T 19 30 19.0
baz=321,slow=75,SNR=5.0
H03N3 Juan Fernandez 112.87 116 T T 19 30 19.2
baz=321,slow=75,SNR=3.8

IDC 03 17:30:47.9±2.9, 34.36N×93.02E, h0km, mb2.9/1, mb1 3.5/4, mb1mx3.2/39, mbtmp3.3/4, ML3.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/11, Error ellipse: s-maj=76.0km s-min=34.7km az=72.0, Qinghai

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MKAR Makanchi Array 14.84 330 Pn Pn 17 34 16.4 -2.7
0.1nm,0.3s,baz=139,slow=14,SNR=4.2
AAK Ala-Archa 16.67 305 LR LR 17 42 19.7
comp=Z,57nm,19.6s,baz=66,slow=42
CMAR Chiang Mai Arr 16.69 160 Pn Pn 17 34 43.4 0.0
0.1nm,0.3s,baz=335,slow=12,SNR=12
SONM Songino Array 16.78 33 Pn Pn 17 34 44.5 0.0
0.1nm,0.3s,baz=219,slow=14,SNR=8.2
ZALV Zalesovo Beam 20.42 346 P P 17 35 26.3 -0.2
0.3nm,0.6s,baz=161,slow=9.2,SNR=2.9

IDC 03 17:32:25.8±0.6, 10.67S×74.54W, h0km, mb4.1/13, mb1 4.3/17, mb1mx4.1/36, mbtmp4.0/17, ML3.8/4, MS2.8/5, Ms1 2.8/5, ms1mx2.7/32, Error ellipse: s-maj=20.4km s-min=14.4km az=51.0
ISCJB 03 17:32:29.3±0.4, 10.79S±0.06×74.54W±0.05, h38km, mb4.1/16, MS2.6/2, Error ellipse: s-maj=8.6km s-min=7.6km az=162.8
NEIC 03 17:32:29.9±2.1, 10.79S×74.51W, h28km±16km, mb4.3/1, ML3.9(ARE), Error ellipse: s-maj=10.9km s-min=8.0km az=224.0
NEIC Felt [II] at Satipo.
ISC 03 17:32:31.1±0.5, 10.78S±0.07×74.53W±0.07, h38km, n35, σ1.26/34, mb4.0/16, Central Peru

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NNA Nana 2.57 242 Pn Pn 17 33 08.3 -2.0
100nm,0.3s,baz=59,slow=14,SNR=141
NNA Sn Sn 17 33 38.2 -2.1
48nm,0.3s,baz=340,slow=18,SNR=8.8
NNA LR LR 17 34 22.1
comp=Z,264nm,20.4s,baz=113,slow=44
ATAH Atahualpa 5.26 313 Pn Pn 17 33 50.0 +2.3
12nm,0.3s,baz=153,slow=4.6,SNR=42
LPAZ La Paz 8.29 132 Pn Pn 17 34 30.4 +0.9
0.2nm,0.3s,baz=314,slow=9.1,SNR=5.6
LPAZ Lg Lg 17 36 46.1
0.6nm,0.3s,baz=351,slow=18,SNR=3.4
LPAZ LR LR 17 38 31.6
comp=Z,43nm,21.2s,baz=321,slow=44
LPAZ La Paz 8.29 132 eP Pn 17 34 29.6 +0.2
9.8nm,0.8s
LPAZ Lg Lg 17 36 46.1
SAML Samuel 11.33 82 eP Pn 17 35 08.9 -1.6
37nm,0.6s
OTAV Otavalo 11.61 340 eP Pn 17 35 15.8 +0.9
8.2nm,0.8s
SIV San Ignacio 14.08 113 Pn Pn 17 35 45.3 -2.9
0.3nm,0.3s,baz=306,slow=8.3,SNR=4.0
SIV Lg Lg 17 39 53.0
1.6nm,0.3s,baz=227,slow=19,SNR=6.2
ROSC El Rosal 15.53 1 Lg Lg 17 40 47.2
baz=270,slow=20,SNR=3.2
PTGA Pitinga 17.58 56 P Pn 17 36 32.1 -1.3
0.7nm,0.3s,baz=238,slow=12,SNR=4.4
PTGA Lg Lg 17 41 46.9
0.1nm,0.3s,baz=311,slow=20,SNR=3.6
PTGA LR LR 17 43 12.6
comp=Z,65nm,19.0s,baz=122,slow=37
SDV Santo Domingo 19.91 11 eP Pn 17 37 01.1 -0.7
12nm,0.8s
CFAA Coronel Fontan 21.53 165 P P 17 37 17.8 +0.7
0.7nm,0.3s,baz=337,slow=13,SNR=5.3
CFAA LR LR 17 44 49.3
comp=Z,6.8nm,20.2s,baz=52,slow=34
CPUP Villa Florida 22.43 136 P P 17 37 26.8 0.0
3.4nm,0.6s,baz=300,slow=7.8,SNR=5.7
APG El Apazote 30.09 328 P P 17 38 35.5 -1.9
2.3nm,0.6s,baz=123,slow=17,SNR=3.3
TXAR Lajitas Array 48.78 326 P P 17 41 13.3 +0.6
0.9nm,0.6s,baz=146,slow=8.7,SNR=10
TXAR PcP PcP 17 42 37.9 +0.6
0.2nm,0.6s,baz=144,slow=6.7,SNR=2.4
PDAR Pinedale Array 62.17 331 P P 17 42 48.6 -0.3
1.6nm,1.1s,baz=130,slow=6.0,SNR=6.5
ULM Lac du Bonnet 63.57 345 P P 17 42 56.8 -1.0
4.9nm,0.7s,baz=154,slow=5.6,SNR=10.0
NVAR Mina Array Bea 63.75 323 P P 17 42 59.7 +0.1
0.3nm,0.5s,baz=164,slow=6.0,SNR=3.8
YBH Yreka Blue Hor 68.46 323 LR LR 18 12 27.1
comp=Z,16nm,20.0s,baz=146,slow=35
TORD Torodi Ar. Bea 79.28 74 P P 17 44 32.9 -0.4
3.0nm,0.9s,baz=263,slow=5.7,SNR=12
YKA Yellowknife Ar 79.36 342 P P 17 44 32.8 +0.1
1.1nm,0.7s,baz=138,slow=6.3,SNR=27
RAR Rarotonga 81.79 250 P P 17 44 47.9 +1.2
22nm,0.9s,baz=78,slow=0.0,SNR=2.4
ESDC Sonseca Array 82.29 47 P P 17 44 50.9 +1.9
0.5nm,0.5s,baz=250,slow=5.4,SNR=3.8
VNDA Vanda 86.39 190 P P 17 45 11.1 +2.0
1.2nm,0.8s,baz=100,slow=6.1,SNR=3.0
SUMG Summit 86.44 10 iP P 17 45 10.0 +0.3
5.3nm,1.0s
INK Inuvik 89.10 341 P P 17 45 21.1 -0.9
2.1nm,0.9s,baz=106,slow=5.5,SNR=4.8
ILAR Eielson Array 92.30 336 P P 17 45 37.0 -0.1
0.3nm,0.8s,baz=117,slow=1.9,SNR=4.7
GERES GERESS Array B 96.86 42 P P 17 45 58.6 +0.2
0.1nm,0.3s,baz=316,slow=3.7,SNR=4.7
ABKAR Akbulak array 126.25 35 ePKPdf PKPdf 17 51 30.8 +1.1
ZALV Zalesovo Beam 133.89 17 PKP PKPdf 17 51 44.5 +0.4
0.6nm,0.6s,baz=304,slow=3.4,SNR=4.1
ASAR Alice Springs 135.90 219 PKP PKPdf 17 51 47.6 -1.3
0.3nm,0.7s,baz=145,slow=1.2,SNR=3.2
WRA Warramunga Arr 138.29 223 PKP PKPdf 17 51 52.1 -1.2
1.0nm,0.8s,baz=138,slow=2.0,SNR=5.0
MKAR Makanchi Array 139.07 24 PKP PKPdf 17 51 54.3 +0.3
0.4nm,0.8s,baz=318,slow=1.9,SNR=3.3
SONM Songino Array 143.05 359 PKhKP PKPpre 17 51 58.2
0.3nm,0.5s,baz=344,slow=1.2,SNR=4.3
KSRS Korea Array 146.63 326 PKPbc PKPbc 17 52 08.9 -0.2
2.4nm,0.9s,baz=33,slow=3.0,SNR=5.8
KSAR Wonju Array Be 146.66 326 PKPbc PKPbc 17 52 08.9 -0.3

IDC 03 17:36:04.0±15.0, 0.96S×123.96E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.5/22, mbtmp4.0/3, Error ellipse: s-maj=235.4km s-min=177.6km az=166.0, Minahassa Peninsula, Sulawesi

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 21.43 152 P P 17 40 53.6 -0.3
3.5nm,0.6s,baz=330,slow=11,SNR=52
ASAR Alice Springs 24.55 158 P P 17 41 25.8 +0.1
1.1nm,0.4s,baz=345,slow=14,SNR=37
STKA Stephens Creek 34.98 153 P P 17 42 58.0 -0.1
0.7nm,0.3s,baz=328,slow=8.1,SNR=6.0

ISCJB 03 18:02:59.0±0.5, 21.54S±0.02×69.36W±0.04, h24km±4km, mb4.1/7, MS3.1/1, Error ellipse: s-maj=6.5km s-min=3.5km az=173.8
NEIC 03 18:02:59.7, 21.53S×69.42W, h23km, mb4.3/2, ML4.7(GUC), After GUC.
GUC 03 18:02:59.8±0.5, 21.53S×69.42W, h21km±2km, ML4.7
IDC 03 18:03:03.8±2.5, 21.73S×69.06W, h51km±22km, mb3.8/6, mb1 4.0/10, mb1mx3.9/20, mbtmp4.1/10, ML4.2/4, MS3.3/3, Ms1 3.3/3, ms1mx2.9/19, Error ellipse: s-maj=24.1km s-min=18.0km az=97.0
ISC 03 18:02:59.4±1.0, 21.52S±0.02×69.42W±0.04, h20km±4km, n54, σ1.01/70, mb4.0/7, 3C-18D, Northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PB09 Plate Boundary 0.32 149 ⇓iP Pb 18 03 06.5 -0.1
PB09 eS Sb 18 03 11.6 +0.2
PB09 AML AML 18 03 12.1
comp=E,308μm,0.3s
PB09 Plate Boundary 0.32 149 ⇓iP Pb 18 03 06.5 -0.1
PB09 eS Sb 18 03 11.6 +0.2
PB07 Plate Boundary 0.48 245 ⇓iP Pg 18 03 09.0 -0.3
PB07 iS Sg 18 03 15.9 -0.1
PB07 AML AML 18 03 17.7
comp=N,33μm,0.5s
PB07 Plate Boundary 0.48 245 ⇓iP Pg 18 03 09.0 -0.3
PB07 iS Sg 18 03 15.9 -0.1
PB01 Plate Boundary 0.48 352 ⇓iP Pg 18 03 09.0 -0.3
PB01 iS Sg 18 03 15.7 -0.3
PB01 AML AML 18 03 16.0
comp=N,124μm,0.2s
PB01 Plate Boundary 0.48 352 ⇓iP Pg 18 03 09.0 -0.3
PB01 iS Sg 18 03 15.7 -0.3
MACH Maria Elena 0.74 205 ⇓iP Pb 18 03 13.2 -0.7
MACH iS Sb 18 03 23.1 -0.5
MACH Maria Elena 0.74 205 ⇓iP Pb 18 03 13.2 -0.7
MACH iS Sb 18 03 23.1 -0.5
PB04 Plate Boundary 0.74 185 ⇓iP Pn 18 03 18.5 +3.6
PB04 eS Sn 18 03 32.4 +6.8
PB04 AML AML 18 03 33.2
comp=N,21μm,0.4s
PB04 Plate Boundary 0.74 185 ⇓iP Pn 18 03 18.5 +3.6
PB04 eS Sn 18 03 32.4 +6.8
PATCX Punta Patache 0.98 315 ⇑iP Pb 18 03 17.2 -0.6
PATCX eS Sb 18 03 30.4 +0.1
PATCX AML AML 18 03 34.7
comp=E,16μm,0.4s
LVC Limon Verde 1.18 157 ePn Pn 18 03 20.9 -0.3
LVC eSn Sb 18 03 35.5 -0.9
PB06 Plate Boundary 1.19 187 ⇓iP Pn 18 03 20.6 -0.5
PB06 eS Sb 18 03 36.0 -0.4
PB06 AML AML 18 03 37.0
comp=E,35μm,0.4s
PB06 Plate Boundary 1.19 187 ⇓iP Pn 18 03 20.6 -0.5
PB06 eS Sb 18 03 36.0 -0.4
HMBC Humberstone 1.31 340 ⇓iP Pn 18 03 22.7 -0.1
HMBC eS Sn 18 03 40.0 +0.2
HMBC AML AML 18 03 43.7
comp=N,18μm,0.5s
HMBC Humberstone 1.31 340 ⇓iP Pn 18 03 22.7 -0.1
HMBC eS Sn 18 03 40.0 +0.2
CEN1 Los Morros 1.99 201 ⇑eP Pb 18 03 36.1 +1.0
CEN1 eS Sg 18 04 03.8 0.0
CEN1 Los Morros 1.99 201 ⇑eP Pb 18 03 36.1 +1.0
CEN1 S Sg 18 04 03.8 0.0
PSGC Pisagua 2.02 341 ⇓iP Pn 18 03 33.2 +0.6
PSGC eS Sb 18 03 59.8 -0.8
PSGC AML AML 18 04 05.2
comp=N,9μm,0.5s
PSGC Pisagua 2.02 341 ⇓iP Pn 18 03 33.2 +0.6
PSGC eS Sb 18 03 59.8 -0.8
PB10 Plate Boundary 2.24 208 eP Pn 18 03 35.9 +0.4
PB10 eS Sn 18 04 04.1 +1.5
PB10 AML AML 18 04 12.5
comp=E,11μm,0.6s
ANCH Antofagasta 2.34 203 eP Pn 18 03 35.8 -1.0
ANCH eS Sn 18 04 05.6 +0.7
ANCH Antofagasta 2.34 203 eP Pn 18 03 35.8 -1.0
ANCH eS Sn 18 04 05.6 +0.7
MNMC Minimini 2.38 356 ⇓eP Pn 18 03 39.7 +2.0
MNMC eS Sb 18 04 10.6 -0.5
MNMC AML AML 18 04 18.2
comp=E,19μm,0.8s
MNMC Minimini 2.38 356 ⇓eP Pn 18 03 39.7 +2.0
MNMC eS Sb 18 04 10.6 -0.5
LPAZ La Paz 5.35 13 P Pn 18 04 23.9 +5.1
comp=E,3.8nm,0.3s,baz=189,slow=9.0,SNR=78
LPAZ LR LR 18 06 57.9
comp=E,513nm,19.2s,baz=198,slow=43
LPAZ La Paz 5.35 13 ePn Pn 18 04 23.8 +5.0
comp=E,73nm,0.8s
LCO Las Campanas 7.55 189 ePn Pn 18 04 49.2 +0.6
comp=E,35nm,0.4s
SIV San Ignacio 9.63 57 P Pn 18 05 17.7 +0.7
comp=E,2.6nm,0.3s,baz=252,slow=11,SNR=15
CFAA Coronel Fontan 10.10 174 P Pn 18 05 22.1 -1.4
comp=E,0.5nm,0.3s,baz=4.5,slow=14,SNR=19
CFAA S Sn 18 07 12.7 -3.5
comp=E,0.2nm,0.3s,baz=22,slow=19,SNR=2.6
CFAA LR LR 18 09 19.0
comp=E,5.4nm,22.0s,baz=319,slow=38
CPUP Villa Florida 12.05 116 P Pn 18 05 52.2 +2.1
comp=E,0.6nm,0.3s,baz=280,slow=12,SNR=5.9
CPUP LR LR 18 10 56.9
comp=E,86nm,18.5s,baz=264,slow=41
CPUP Villa Florida 12.05 116 ePn Pn 18 05 51.7 +1.6
SAML Samuel 13.87 27 ePn Pn 18 06 16.9 +1.9
H03N1 Juan Fernandez 14.55 213 T T 18 20 40.4
baz=36,slow=75,SNR=58
H03N2 Juan Fernandez 14.56 213 T T 18 20 34.3
baz=36,slow=75,SNR=40
H03N3 Juan Fernandez 14.56 213 T T 18 20 41.8
baz=36,slow=75,SNR=57
TRQA Tornquist 17.69 160 eP Pn 18 07 04.7 +0.1
comp=E,16nm,1.0s
PLCA Paso Flores 19.18 183 P Pn 18 07 22.9 0.0
comp=E,0.3nm,0.3s,baz=18,slow=10.0,SNR=2.4
BDFB Brasilia 21.11 78 P P 18 07 40.8 -2.4
comp=E,2.7nm,0.4s,baz=238,slow=8.1,SNR=4.5
BDFB LR LR 18 17 39.8
comp=E,84nm,18.6s,baz=156,slow=42
TXAR Lajitas Array 60.38 326 P P 18 13 11.1 +3.6
comp=E,0.3nm,0.6s,baz=164,slow=8.5,SNR=4.8
QSPA South Pole Qui 68.67 180 eP P 18 14 00.8 -0.6
comp=E,2.0nm,0.4s
DBIC Dimbokro 69.20 74 P P 18 14 04.4 -0.9
comp=E,14nm,0.8s,baz=218,slow=6.5,SNR=21
NVAR Mina Array Bea 75.22 322 P P 18 14 43.4 +2.3
comp=E,0.3nm,0.8s,baz=150,slow=7.3,SNR=2.2
TOA0 Torodi Ar. Sit 77.81 71 eP P 18 14 54.5 -1.5
TORD Torodi Ar. Bea 77.81 71 P P 18 14 55.0 -0.9
comp=E,4.5nm,0.7s,baz=256,slow=5.6,SNR=26
YKA Yellowknife Ar 91.05 341 P P 18 16 02.5 +0.5
comp=E,0.4nm,0.6s,baz=134,slow=4.5,SNR=11
ASAR Alice Springs 129.67 208 PKP PKPdf 18 22 07.5 -0.5
comp=E,0.4nm,0.7s,baz=128,slow=1.5,SNR=6.5
WRA Warramunga Arr 132.69 211 PKP PKPdf 18 22 13.5 -0.3
comp=E,0.9nm,0.9s,baz=155,slow=1.8,SNR=8.2
KURK Kurchatov 141.60 33 PKP PKPdf 18 22 30.4 +1.2
KURBB Kurchatov Arra 141.62 33 PKP PKPdf 18 22 30.4 +1.2
comp=E,0.3nm,1.0s,baz=293,slow=2.4,SNR=3.3
ZALV Zalesovo Beam 142.17 25 PKP PKPdf 18 22 30.1 0.0
comp=E,0.8nm,0.6s,baz=264,slow=2.1,SNR=4.7
MK31 Makanchi Array 145.93 36 eP PKPdf 18 22 36.0 -0.9
MKAR Makanchi Array 145.93 36 PKPbc PKPdf 18 22 37.1 +0.2
comp=E,0.9nm,0.7s,baz=321,slow=1.7,SNR=7.9
SONM Songino Array 153.53 6 PKPbc PKPbc 18 22 56.2 -0.5
comp=E,0.4nm,0.8s,baz=48,slow=2.1,SNR=3.6

IDC 03 18:05:38.5±1.1, 24.35N×122.38E, h0km, mb3.2/5, mb1 3.5/5, mb1mx3.3/32, mbtmp3.2/5, Error ellipse: s-maj=62.7km s-min=21.2km az=69.0
ISCJB 03 18:05:42.9±0.4, 24.15N±0.02×122.28E±0.02, h20km±4km, mb3.2/5, Error ellipse: s-maj=3.6km s-min=2.4km az=160.1
TAP 03 18:05:43.6, 24.22N×122.23E, h27km, ML3.6, C
JMA 03 18:05:43.0, 24.10N×122.25E, h36km±2km, M3.1
ISC 03 18:05:42.4±1.1, 24.14N±0.02×122.28E±0.02, h25km±10km, n64, σ0.84/109, mb3.3/5, 7C-3D, Taiwan region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ENA Nanau 0.57 300 ⇑iP Pb 18 05 53.8 +0.1
baz=300
ENA S Sb 18 06 01.2 -0.2
baz=300
TWC Suao 0.61 320 ⇑iP Pb 18 05 54.0 -0.4
baz=318
TWC S Sb 18 06 01.1 -1.5
baz=318
TWD Chiawan 0.63 264 P Pn 18 05 55.5 -0.2
baz=256
HWA Hwalien 0.64 255 eP Pb 18 05 56.1 +0.3
baz=246
JYNG Yonagunijimaku 0.68 63 P Pn 18 05 56.7 +0.3
JYNG eS Sn 18 06 06.3 +0.1
YOJ Yonaguni jima 0.74 64 P Pn 18 05 57.7 +0.5
YOJ eS Sn 18 06 08.1 +0.4
EGS 0.77 336 P Pb 18 05 57.1 0.0
baz=330
EGS S Sb 18 06 06.0 -1.2
baz=330
ILA Ilan 0.79 322 eP Pn 18 05 57.7 -0.2
baz=321
ILA eS Sb 18 06 08.1 +0.4
baz=321
TWE Neicheng 0.80 316 ⇓P Pb 18 05 57.8 +0.1
baz=320
TWE S Sb 18 06 07.0 -1.0
baz=320
ESL Shilin 0.84 247 ⇑P Pb 18 05 58.5 +0.1
baz=240
ESL S Sn 18 06 10.5 +0.3
baz=240
NNS Nan Shan 0.88 290 eP Pn 18 05 59.5 +0.2
baz=284
NNS eS Sn 18 06 11.3 0.0
baz=284
TWB1 Santiao Chiao 0.90 343 P Pb 18 05 59.3 -0.1
baz=356
TWB1 eS Sb 18 06 10.4 -0.6
baz=356
WHF Hehuan Shan 0.93 270 ⇑P Pb 18 06 00.1 +0.1
baz=264
WHF eS Sb 18 06 12.5 +0.4
baz=264
NSK Sanguang 0.99 303 eP Pb 18 06 01.4 +0.4
baz=283
NSK S Sb 18 06 13.8 +0.2
baz=283
TWT Tachien 1.01 276 eP Pb 18 06 02.4 +1.1
baz=259
NWF Wu-fen Shan 1.03 334 ⇓P Pb 18 06 01.5 0.0
baz=333
NWF S Sn 18 06 14.8 -0.1
baz=333
TWA Mucha 1.05 323 ⇓P Pb 18 06 02.5 +0.6
baz=328
TWA S Sn 18 06 15.5 +0.2
baz=328
EHY Hungye 1.08 234 eP Pn 18 06 02.2 +0.2
baz=229
EHY eS Sn 18 06 15.3 -0.8
baz=229
TAP1 Taipei 1.13 323 eP Pb 18 06 03.7 +0.6
baz=320
TAP1 eS Sb 18 06 17.9 +0.5
baz=320
TAP Taipei 1.14 322 eP Pb 18 06 03.6 +0.3
baz=320
TAP eS Sb 18 06 18.0 +0.3
baz=320
TWF1 Yuli 1.20 229 eP Pn 18 06 03.9 +0.4
baz=238
TWF1 eS Sn 18 06 19.3 +0.3
baz=238
TWS1 Kuangyinshan 1.23 321 P Pb 18 06 05.0 0.0
baz=330
TWS1 S Sb 18 06 20.8 +0.3
baz=330
NSTT Nanjuang 1.26 293 eP Pb 18 06 05.8 +0.3
baz=279
TWY Chenhua 1.28 331 eP Pb 18 06 06.0 +0.1
baz=340
TWY eS Sb 18 06 21.7 -0.3
baz=340
SMLT Sun Moon Lake 1.29 259 ⇑P Pb 18 06 05.8 -0.1
baz=245
SMLT eS Sb 18 06 22.9 +0.8
baz=245
NCU National Centr 1.29 310 eP Pb 18 06 06.5 +0.5
baz=306
NCU eS Sb 18 06 22.1 -0.1
baz=306
TYC Yuchr 1.32 260 eP Pb 18 06 06.1 -0.4
baz=255
CHKT Chengkung 1.33 219 eP Pn 18 06 04.5 -0.9
baz=203
CHKT eS Sn 18 06 20.3 -2.0
baz=203
IRIF Iriomote-Funau 1.34 82 P Pb 18 06 06.8 0.0
YUS Yu-Shan 1.38 242 eP Pb 18 06 07.7 -0.1
baz=226
TWQ1 Liyutan 1.39 279 eP Pb 18 06 08.0 +0.3
baz=274
TWQ1 eS Sb 18 06 25.9 +0.9
baz=274
NSY Sanyi 1.41 281 eP Pb 18 06 07.8 -0.2
baz=276
NSY eS Sb 18 06 25.8 +0.1
baz=276
TCU Taichung 1.46 270 eP Pb 18 06 09.2 +0.3

baz=265
TCU eS Sb 18 06 27.8 +0.7
baz=265
WNT Mingjian 1.48 260 eP Pb 18 06 09.5 +0.3
baz=255
WNT eS Sb 18 06 28.2 +0.6
baz=255
ALS Alishan 1.49 245 ⇑P Pb 18 06 09.4 -0.1
baz=229
ALS eS Sn 18 06 27.6 +1.0
baz=229
ELDTW Lidau 1.50 231 eP Pn 18 06 07.7 0.0
baz=226
ELDTW eS Sn 18 06 27.1 +0.6
baz=226
CHN5 Tsauling 1.56 250 P Pb 18 06 10.7 0.0
baz=233
CHN5 S Sb 18 06 30.8 +0.7
baz=233
JKRS Kuro-shima 1.58 86 P Pb 18 06 10.8 -0.2
JKRS eS Sb 18 06 31.2 +0.6
WGK Gukeng 1.64 254 eP Pn 18 06 10.7 +1.2
baz=250
WGK eS Sb 18 06 34.2 +2.2
baz=250
STYT Tauyuan 1.70 235 ⇑P Pb 18 06 12.0 -1.0
baz=221
STYT eS Sb 18 06 34.0 0.0
baz=221
JIJ Ishigaki jima 1.72 82 P Pb 18 06 12.1 -1.1
JIJ eS Sn 18 06 32.8 +1.0
TWG Pinlang 1.72 220 eP Pn 18 06 10.7 0.0
baz=217
TWG eS Sn 18 06 33.1 +1.2
baz=217
CHN2 Minshiung 1.76 250 eP Pb 18 06 13.0 -0.9
baz=245
WTP Ta-pu 1.77 240 P Pb 18 06 13.6 -0.5
baz=236
WTP eS Sb 18 06 35.7 -0.2
baz=236
CHY Chiayi 1.81 250 eP Pb 18 06 13.7 -1.3
baz=245
CHY eS Sb 18 06 38.3 +1.0
baz=245
TWK Hsinying 1.86 242 P Pb 18 06 15.1 -0.5
baz=237
CHN1 Nanshi 1.87 240 P Pb 18 06 15.0 -0.9
baz=236
CHN1 eS Sb 18 06 38.7 0.0
baz=236
SGST Jiashian 1.88 236 eP Pb 18 06 15.1 -0.9
baz=223
SGST eS Sb 18 06 38.7 -0.4
baz=223
JISG Ishigakijimahi 1.91 76 P Pn 18 06 14.5 +1.2
JISG eS Sn 18 06 37.3 +0.8
WSF Szhu 1.95 255 eP Pb 18 06 16.3 -0.8
baz=238
WSF eS Sb 18 06 39.8 -1.2
baz=238
ECL Taimali 1.96 219 eP Pn 18 06 14.8 +0.8
baz=214
SSD Sandimen 2.05 228 eP Pb 18 06 17.6 -1.4
baz=216
SSD S Sb 18 06 44.0 -0.2
baz=216
TWM1 Shoushan 2.15 233 eP Pb 18 06 20.2 -0.5
baz=229
EAST Anshuo 2.19 217 eP Pn 18 06 18.7 +1.5
baz=213
LAY Lan-yu 2.20 198 eP Pn 18 06 17.2 -0.2
baz=195
LAY eS Sn 18 06 44.2 +0.5
baz=195
JTJ Tarama 2.27 77 eS Sn 18 06 46.8 +1.5
SCZT Fangliau 2.33 221 eP Pb 18 06 22.3 -1.4
baz=212
SCZT eS Sn 18 06 49.4 +2.5
baz=212
PNG Penghu 2.56 258 eP Pn 18 06 23.0 +0.8
baz=253
PNG eS Sn 18 06 54.0 +1.4
baz=253
TWK1 Hengchun 2.58 212 eP Pn 18 06 24.3 +1.8
baz=208
SONM Songino Array 26.80 336 P P 18 11 19.1 -1.5
0.2nm,0.5s,baz=151,slow=10,SNR=4.5
MKAR Makanchi Array 39.06 316 P P 18 13 06.3 -1.0
0.1nm,0.4s,baz=106,slow=7.7,SNR=3.1
WRA Warramunga Arr 45.37 164 P P 18 13 58.6 -0.2
0.7nm,1.0s,baz=344,slow=8.8,SNR=6.1
ASAR Alice Springs 48.85 166 P P 18 14 28.4 +2.5
0.4nm,0.9s,baz=352,slow=14,SNR=10
YKA Yellowknife Ar 82.62 23 P P 18 18 02.2 -1.0
0.1nm,0.4s,baz=301,slow=4.8,SNR=2.8

ISCJB 03 18:07:41.1±0.6, 19.92S±0.09×177.8W±0.1, h400km, mb3.6/10, Error ellipse: s-maj=16.2km s-min=10.3km az=32.8
IDC 03 18:07:43.7±2.6, 20.12S×177.72W, h422km±27km, mb3.4/10, mb1 3.7/11, mb1mx3.4/34, mbtmp4.2/11, Error ellipse: s-maj=18.7km s-min=11.2km az=126.0
ISC 03 18:07:41.5±0.7, 20.1S±0.1×177.7W±0.1, h400km, n29, σ1s00/30, mb3.8/10, 1C, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 18.66 193 P P 18 11 31.5 -1.3
2.5nm,0.3s,baz=280,slow=4.3,SNR=11
URZ S S 18 14 43.2 -0.1
0.4nm,0.3s,baz=209,slow=13,SNR=4.5
CMSA Cobar Meteorol 34.73 243 P P 18 13 57.2 +1.3
baz=42,SNR=10
QLP Quilpie 35.46 252 P P 18 14 03.1 +0.9
baz=43,SNR=4.3
MTSU Mount Surprise 35.91 267 P P 18 14 07.0 +1.0
baz=44,SNR=5.8
COEN Coen 37.85 273 P P 18 14 23.2 +1.0
baz=46,SNR=6.2
STKA Stephens Creek 38.23 244 P P 18 14 26.1 +1.0
1.9nm,0.4s,baz=87,slow=11,SNR=21
STKA Stephens Creek 38.23 244 P P 18 14 26.6 +1.4
baz=46,SNR=18
HTT Hallett 40.68 242 P P 18 14 46.4 +1.3
baz=48,SNR=4.1
BBOO Buckleboo 42.99 243 P P 18 15 04.3 +0.7
baz=51,SNR=8.1
ASAR Alice Springs 44.90 256 P P 18 15 19.2 +0.5
5.9nm,0.5s,baz=90,slow=8.4,SNR=154
ASAR S S 18 21 24.4 -1.8
0.4nm,0.6s,baz=94,slow=14,SNR=5.6
WRA Warramunga Arr 44.95 262 P P 18 15 18.8 -0.3
1.6nm,0.3s,baz=96,slow=6.9,SNR=120
KDU Kakadu 48.24 271 P P 18 15 44.3 0.0
baz=56,SNR=4.1
WRKA Warakurna 49.86 254 P P 18 15 56.9 +0.5
baz=58,SNR=8.9
MEEK Meekatharra 58.33 251 P P 18 16 56.4 -0.3
baz=66,SNR=3.6
MJAR Matsushiro Arr 70.06 323 P P 18 18 11.4 -0.2
1.8nm,0.5s,baz=162,slow=6.4,SNR=3.9
PETK Petropavlovsk- 75.95 345 P P 18 18 44.4 -0.9
4.5nm,0.9s,baz=127,slow=6.6,SNR=6.1
NVAR Mina Array Bea 80.53 43 P P 18 19 12.2 +1.4
0.2nm,0.5s,baz=111,slow=40,SNR=3.8
TXAR Lajitas Array 86.59 57 P P 18 19 42.4 +1.1
0.5nm,0.8s,baz=210,slow=7.2,SNR=4.4
ILAR Eielson Array 87.85 13 P P 18 19 44.6 -1.6
0.8nm,0.6s,baz=226,slow=5.2,SNR=27
CMAR Chiang Mai Arr 90.26 289 P P 18 19 59.2 +0.7
1.0nm,0.9s,baz=120,slow=3.1,SNR=7.8
YKA Yellowknife Ar 96.02 25 P P 18 20 24.3 +0.4
0.1nm,0.6s,baz=240,slow=5.0,SNR=4.1
KURBB Kurchatov Arra 113.95 317 PKiKP PKiKP 18 25 31.7 -1.7
0.3nm,0.6s,baz=107,slow=1.9,SNR=6.4
BVAR Borovoye Array 118.95 320 PKP PKPdf 18 25 42.4 -0.6
0.7nm,0.5s,baz=142,slow=0.8,SNR=5.8
ARCES ARCESS Array B 128.57 350 PKP PKPdf 18 26 00.6 -0.5
2.8nm,0.8s,baz=29,slow=2.8,SNR=6.6
FINES FINESS Array B 135.46 344 PKP PKPdf 18 26 13.9 -0.3
2.0nm,0.9s,baz=228,slow=4.6,SNR=4.4
AKASG Malin Array Be 142.80 332 PKhKP PKPpre 18 26 23.6
0.8nm,0.4s,baz=42,slow=3.9,SNR=11
BRTR Keskin Array B 146.78 313 PKPbc PKPbc 18 26 37.0 -0.7
1.4nm,0.6s,baz=119,slow=3.8,SNR=7.3
GERES GERESS Array B 149.89 345 PKPbc PKPbc 18 26 45.0 -0.3
1.6nm,0.6s,baz=29,slow=3.0,SNR=12
CONA Conrad Observa 150.14 342 ⇑iPKPbc PKPbc 18 26 46.4 +0.6
3.3nm,0.7s

ISCJB 03 18:19:19.9±0.6, 37.82N±0.06×75.5E±0.1, h10km, mb3.4/6, Error ellipse: s-maj=15.3km s-min=5.0km az=152.8
IDC 03 18:19:19.7±1.3, 37.86N×75.54E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.5/30, mbtmp3.5/9, ML3.1/3, Error ellipse: s-maj=28.7km s-min=26.3km az=95.0
BJI 03 18:19:20.8, 38.00N×75.65E, h5km, ML3.4/7
NNC 03 18:19:26.1±4.2, 38.16N×75.61E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=37.4km s-min=30.2km az=62.0
ISC 03 18:19:22.2±0.8, 37.85N±0.08×75.7E±0.1, h10km, n22, σ1s31/25, mb3.5/6, 6C-3D, Tajikistan-Xinjiang border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSH Kashi 1.68 8 Pg Pn 18 19 41.8 -10
KSH Sg Sn 18 19 56.0 -17
KSH smax smax
comp=N,160nm,0.5s
KSH smax smax
comp=E,170nm,0.7s
AAK Ala-Archa 4.86 350 ⇓Pn Pn 18 20 37.4 +1.9
2.0nm,0.4s
AAK ⇓Pg Pb 18 20 49.4 +1.9
6.7nm,0.6s
AAK ⇑Sn Sn 18 21 31.3 -0.6
4.4nm,0.6s
AAK ⇓Lg Lg 18 21 55.5
29nm,1.1s
AAK Ala-Archa 4.86 350 Pn Pn 18 20 37.1 +1.6
1.2nm,0.3s,baz=144,slow=7.8,SNR=20
AAK Lg Lg 18 21 48.8
1.2nm,0.3s,baz=299,slow=19,SNR=2.4
TKM2 Tokmak 2 5.06 359 ⇑Pn Pn 18 20 39.5 +1.2
4.2nm,1.1s
TKM2 ⇑Pg Pb 18 20 50.6 -0.3
5.7nm,0.8s
TKM2 ⇑Lg Lg 18 21 52.4
7.8nm,0.5s
KK31 Karatay Array 6.56 325 Pn Pn 18 20 59.0 +0.3
1.4nm,0.5s,baz=126,slow=12,SNR=58
KK31 ⇑Sn Sn 18 22 12.7 -0.8
1.3nm,0.5s
KK31 ⇑Lg Lg 18 22 47.8
2.3nm,0.7s
MKAR Makanchi Array 10.18 27 Pn Pn 18 21 48.6 +0.3
0.1nm,0.3s,baz=207,slow=14,SNR=5.4
PYUN Piuthan 11.50 146 eP Pn 18 22 08.3 +1.7
38nm,0.3s
DANN Dangsing 11.64 142 eP Pn 18 22 09.9 +1.2
8.7nm,0.4s
GKN Gorkha 12.37 140 eP Pn 18 22 20.1 +1.7
6.4nm,0.3s
PKIN Phulchoki 13.10 139 eP Pn 18 22 29.6 +1.0
PKI Pulchoki 13.11 139 eP Pn 18 22 28.8 0.0
JIRN Jiri 13.46 136 eP Pn 18 22 34.7 +1.1
11nm,0.4s
RAMN Ramite 14.24 137 eP Pn 18 22 43.3 -0.9
BVAR Borovoye Array 15.61 348 Pn P 18 23 05.1 -1.3
0.1nm,0.3s,baz=159,slow=8.6,SNR=5.1
ZALV Zalesovo Beam 17.28 18 P P 18 23 24.2 -0.7
0.2nm,0.3s,baz=220,slow=13,SNR=3.4
AKTO Aktyubinsk 17.80 321 P P 18 23 33.1 +2.5
0.1nm,0.3s,baz=133,slow=17,SNR=3.5
SONM Songino Array 24.49 56 P P 18 24 42.2 +0.6
0.6nm,0.6s,baz=254,slow=9.9,SNR=9.0
FINES FINESS Array B 38.52 324 P P 18 26 44.2 -0.2
1.6nm,0.8s,baz=120,slow=6.8,SNR=4.2
TORD Torodi Ar. Bea 69.46 271 P P 18 30 29.2 -1.8
0.5nm,0.6s,baz=52,slow=5.7,SNR=2.7
ILAR Eielson Array 72.41 18 P P 18 30 46.6 -1.5
0.3nm,0.7s,baz=282,slow=2.8,SNR=5.3
YKA Yellowknife Ar 79.65 5 P P 18 31 28.4 -1.0
0.2nm,0.4s,baz=346,slow=5.6,SNR=7.9
ASAR Alice Springs 82.05 128 P P 18 31 42.5 -0.2
0.2nm,0.7s,baz=334,slow=4.6,SNR=4.4

ISCJB 03 18:30:09.8±0.4, 5.74S±0.04×147.20E±0.07, h100km, mb4.1/16, Error ellipse: s-maj=9.9km s-min=5.4km az=9.1
NEIC 03 18:30:11.9±1.1, 5.81S×147.22E, h111km±10km, mb4.7/2, Error ellipse: s-maj=13.0km s-min=7.6km az=80.0
IDC 03 18:30:12.3±1.5, 5.85S×147.11E, h112km±13km, mb3.9/15, mb1 4.0/18, mb1mx4.0/31, mbtmp4.3/18, MS3.3/5, Ms1 3.2/5, ms1mx2.9/23, Error ellipse: s-maj=16.0km s-min=9.2km az=91.0
ISC 03 18:30:11.4±0.4, 5.82S±0.05×147.16E±0.07, h100km, n65, σ1s32/60, mb4.2/16, Eastern New Guinea region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 3.57 180 P Pn 18 31 04.7 0.0
18nm,0.3s,baz=338,slow=5.4,SNR=71
PMG S Sn 18 31 45.9 -0.1
57nm,0.3s,baz=212,slow=19,SNR=23
PMG Port Moresby 3.57 180 P Pn 18 31 04.9 +0.2
baz=3.6,SNR=35
PMG S Sn 18 31 45.4 -0.6
baz=3.6,SNR=9.7
RABL Rabaul 5.24 72 P Pn 18 31 30.5 +3.1
baz=5.2,SNR=8.2
JAY Jayapura 7.23 297 P Pn 18 31 56.1 +1.7
8.5nm,0.3s,baz=146,slow=4.7,SNR=24
JAY Jayapura 7.23 297 P Pn 18 31 57.5 +3.1
baz=7.2,SNR=8.4
COEN Coen 8.99 206 ePn Pn 18 32 18.7 +0.3
COEN Coen 8.99 206 P Pn 18 32 18.9 +0.5
baz=9.1,SNR=79
COEN S Sn 18 33 56.1 -1.8
baz=9.1,SNR=4.8
MTSU Mount Surprise 12.55 193 P Pn 18 33 08.2 +1.7
baz=13,SNR=10
CTA Charters Tower 14.21 183 P P 18 33 32.3 -0.2
0.6nm,0.3s,baz=2.2,slow=13,SNR=7.6
CTAO Charters Tower 14.21 183 eP Pn 18 33 27.3 -0.9
FAKI Fak Fak 15.14 280 P P 18 33 43.8 +1.0
baz=15,SNR=3.3
KDU Kakadu 16.02 244 P P 18 33 51.2 +0.3
baz=16,SNR=12
QIS Mount Isa 16.39 206 P P 18 33 57.6 +1.0
baz=16,SNR=9.9
MTN Manton Dam 17.28 245 P P 18 34 08.3 +1.9
baz=17,SNR=8.2
WRAB Tennant Creek 18.76 220 eP P 18 34 23.1 +0.4
19nm,0.6s
WRA Warramunga Arr 18.78 220 P Pn 18 34 24.1 -0.4
2.2nm,0.3s,baz=40,slow=12,SNR=118
WRA S S 18 37 49.1 -2.3
0.1nm,0.3s,baz=37,slow=22,SNR=3.5
WRA PcP PcP 18 38 45.6 -0.9
0.1nm,0.3s,baz=10,slow=1.7,SNR=4.9
WRA LR LR 18 42 54.7
comp=Z,135nm,18.4s,baz=90,slow=41
EIDS Eidsvold 19.80 169 P Pn 18 34 36.7 +0.2
baz=20,SNR=3.5
KNRA Kununurra 20.54 240 P P 18 34 42.6 +0.6
baz=21,SNR=9.8
RMQ Roma 20.61 176 P Pn 18 34 47.8 +1.9
baz=21,SNR=4.7
QLP Quilpie 20.84 187 P P 18 34 47.0 +1.9
baz=21,SNR=11
AS31 Alice Springs 21.86 214 eP P 18 34 57.0 +0.9
ASAR Alice Springs 21.86 214 P P 18 34 57.0 +0.9
8.8nm,0.5s,baz=48,slow=9.1,SNR=144
ASAR PcP PcP 18 38 51.4 -0.8
2.2nm,0.8s,baz=39,slow=1.8,SNR=5.9
SOEI Soe 23.02 259 P P 18 35 09.6 +1.4
baz=23,SNR=4.8
DZM Mont Dzumac 24.67 133 P P 18 35 23.2 +0.1
5.5nm,0.8s,baz=234,slow=10,SNR=5.1
DZM LR LR 18 43 30.5
comp=Z,76nm,21.9s,baz=10,slow=32
WRKA Warakurna 26.31 221 P P 18 35 38.6 +0.6
baz=26,SNR=21
STKA Stephens Creek 26.45 191 P P 18 35 39.6 +0.7
1.9nm,0.6s,baz=346,slow=6.1,SNR=7.5
STKA LR LR 18 48 09.4
comp=Z,71nm,18.7s,baz=31,slow=41
STKA Stephens Creek 26.45 191 P P 18 35 41.6 +2.6
baz=27,SNR=8.0
HTT Hallett 28.52 195 P P 18 36 05.7 +8.1
baz=29,SNR=4.1
MBWA Marble Bar 30.64 238 eP P 18 36 17.0 +0.5
32nm,1.3s
H11S3 WAKE ISLAND Hy 30.89 38 T T 19 09 23.0
baz=220,slow=76,SNR=5.4
H11S2 WAKE ISLAND Hy 30.90 38 T T 19 09 21.7
baz=220,slow=76,SNR=4.1
H11S1 WAKE ISLAND Hy 30.91 38 T T 19 09 24.0
baz=220,slow=76,SNR=2.6
H11N1 WAKE ISLAND Hy 31.95 37 T T 19 10 41.4
baz=220
H11N3 WAKE ISLAND Hy 31.96 37 T T 19 10 42.2
baz=220
H11N2 WAKE ISLAND Hy 31.96 37 T T 19 10 42.4
baz=220
JAGI Jajag, Banyuwa 32.85 263 P P 18 36 34.7 -1.2
baz=33,SNR=4.1
MEEK Meekatharra 34.20 230 P P 18 36 48.4 +0.9
baz=34,SNR=8.2
JOW Kunigami 37.26 331 LR LR 18 52 28.1
comp=Z,11nm,19.1s,baz=152,slow=36
KLBR Kellerberrin 37.62 223 P P 18 37 16.9 +0.2
baz=38,SNR=7.0
MJAR Matsushiro Arr 42.96 349 P P 18 38 00.7 +0.1
1.5nm,0.5s,baz=164,slow=7.5,SNR=6.2
KSRS Korea Array 46.64 339 P P 18 38 29.5 -0.2
1.1nm,0.4s,baz=159,slow=8.6,SNR=5.2
KSAR Wonju Array Be 46.64 339 P P 18 38 29.5 -0.3
ASAJ Asahikawa 49.87 356 P P 18 38 55.2 +0.7
3.6nm,0.7s,baz=153,slow=16,SNR=4.0
CMAR Chiang Mai Arr 53.31 298 P P 18 39 20.1 -0.5
0.3nm,0.7s,baz=123,slow=5.7,SNR=4.3
PETK Petropavlovsk- 59.38 7 P P 18 40 03.6 +0.5
5.5nm,0.7s,baz=179,slow=7.4,SNR=4.8
SONM Songino Array 64.32 331 P P 18 40 36.4 0.0
1.5nm,0.6s,baz=151,slow=6.5,SNR=15
SEY Seymchan 68.67 3 P P 18 41 03.8 +0.1
3.0nm,0.7s,baz=226,slow=2.8,SNR=8.6
VNDA Vanda 72.08 177 P P 18 41 25.4 +1.1
5.3nm,0.6s,baz=334,slow=6.9,SNR=21
MKAR Makanchi Array 77.46 320 P P 18 41 54.5 -1.4
0.4nm,0.4s,baz=99,slow=8.0,SNR=14
ZALV Zalesovo Beam 78.94 328 P P 18 42 01.5 -2.4
0.9nm,0.4s,baz=100,slow=3.5,SNR=5.5
ZALV LR LR 19 15 13.8
comp=Z,23nm,21.8s,baz=68,slow=34
KURK Kurchatov 81.16 323 eP P 18 42 13.0 -2.9
ILAR Eielson Array 85.25 23 P P 18 42 34.8 -1.9
2.9nm,0.6s,baz=251,slow=4.9,SNR=74
HYT Haines Junctio 87.96 28 eP P 18 42 50.5 +0.5
YKA Yellowknife Ar 98.94 28 P P 18 43 39.5 -0.7
0.5nm,0.8s,baz=274,slow=4.8,SNR=8.0
YKA PKKP PKKPbc 19 00 05.0 -4.4
0.1nm,0.4s,baz=88,slow=3.0,SNR=3.9
SUMG Summit 113.22 2 iP Pdif 18 44 40.2 -4.0
GERES GERESS Array B 121.85 326 PKP PKPdf 18 48 52.9 -1.2
0.5nm,0.6s,baz=98,slow=2.7,SNR=6.1
PLCA Paso Flores 122.19 147 PKP PKPdf 18 48 54.5 -0.6
3.8nm,0.6s,baz=229,slow=2.3,SNR=4.2
CFAA Coronel Fontan 129.75 140 PKP PKPdf 18 49 08.9 -0.8
0.4nm,0.8s,baz=244,slow=3.0,SNR=7.8
LPAZ La Paz 138.75 123 PKP PKPdf 18 49 27.3 -0.3
0.8nm,0.5s,baz=322,slow=0.3,SNR=3.7
SIV San Ignacio 144.63 128 PKP PKPab 18 49 35.9 -0.3
4.7nm,0.7s,baz=246,slow=4.6,SNR=13
TORD Torodi Ar. Bea 145.20 285 PKPbc PKPbc 18 49 36.5 -1.6
1.5nm,0.7s,baz=91,slow=3.1,SNR=17
SAML Samuel 146.38 116 ePKPdf PKPdf 18 49 38.0 -2.4
PTGA Pitinga 152.14 103 PKPbc PKPbc 18 49 55.5 -0.9
3.3nm,0.6s,baz=287,slow=7.5,SNR=6.8
DBIC Dimbokro 152.17 273 PKPbc PKPbc 18 49 55.3 -1.1
1.1nm,0.5s,baz=31,slow=2.6,SNR=4.0
BDFB Brasilia 153.91 145 PKPbc PKPbc 18 49 59.2 -1.1
7.7nm,0.7s,baz=214,slow=4.0,SNR=9.4

ISCJB 03 18:30:34.1±0.3, 24.14S±0.03×67.11W±0.03, h195km±4km, mb3.8/4, Error ellipse: s-maj=6.3km s-min=4.3km az=35.6
SJA 03 18:30:34.5±0.8, 24.13S×67.06W, h200km±8km, MD3.3, ML3.3
NEIC 03 18:30:34.5±1.9, 24.21S×67.18W, h217km±38km, mb4.6/2, Error ellipse: s-maj=57.6km s-min=11.8km az=100.0
IDC 03 18:30:34.7±1.6, 24.05S×67.00W, h174km±13km, mb3.6/4, mb1 3.8/9, mb1mx3.5/25, mbtmp4.1/9, Error ellipse: s-maj=22.9km s-min=15.0km az=94.0
GUC 03 18:30:37.7±0.3, 23.93S×67.59W, h225km±13km, ML5.0
ISC 03 18:30:34.8±0.7, 24.15S±0.05×67.11W±0.04, h186km±7km, n42, σ1s44/62, mb3.9/4, 9C-4D, Chile-Argentina border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SLA San Lorenzo 1.57 112 iP Pn 18 31 09.8 +1.7
SLA iS S 18 31 35.3 +1.4
SLA AML AML 18 31 37.3
comp=Z,170nm,0.7s
AZAP Zapla 1.86 93 iP Pn 18 31 11.9 +0.7
AZAP iS S 18 31 39.6 +0.3
LVC Limon Verde 2.26 312 eP Pn 18 31 17.0 +1.6
LVC Limon Verde 2.26 312 iP Pn 18 31 16.8 +1.4
LVC iS S 18 31 48.1 +1.3
ASTB Santa Barbara 2.41 86 iP Pn 18 31 17.9 +0.9
PB06 Plate Boundary 2.68 302 ⇑iP Pn 18 31 21.8 +1.6
PB06 iS S 18 31 55.2 -0.2
PB06 AML AML 18 31 57.7
comp=E,5μm,0.4s
PB06 Plate Boundary 2.68 302 ⇑iP Pn 18 31 21.8 +1.6
PB06 iS S 18 31 55.2 -0.2
PB04 Plate Boundary 2.88 310 ⇑iP Pn 18 31 29.1 +6.7
PB04 AML AML 18 32 14.4
comp=N,2μm,0.4s
PB04 Plate Boundary 2.88 310 ⇑iP Pn 18 31 29.1 +6.7
ALOL LOMAS DE OLMED 2.89 84 iP Pn 18 31 23.0 +0.5
ALOL iS S 18 31 58.2 -1.3
CEN1 Los Morros 2.93 284 ⇓iP Pn 18 31 25.2 +2.1
CEN1 iS S 18 32 01.6 +1.0
CEN1 AML AML 18 32 03.7
comp=N,974nm,0.4s
CEN1 Los Morros 2.93 284 ⇓iP Pn 18 31 25.2 +2.1
CEN1 iS S 18 32 01.6 +1.0
ANCH Antofagasta 3.06 278 ⇑iP Pn 18 31 23.8 -0.6
ANCH iS S 18 32 00.3 -2.8
ANCH AML AML 18 32 03.0
comp=E,2μm,0.3s
ANCH Antofagasta 3.06 278 ⇑iP Pn 18 31 23.8 -0.6
ANCH iS S 18 32 00.3 -2.8
PB09 Plate Boundary 3.06 320 ⇓iP Pn 18 31 26.7 +2.0
PB09 iS S 18 32 03.6 0.0
PB09 AML AML 18 32 05.5
comp=N,4μm,0.4s
PB09 Plate Boundary 3.06 320 ⇓iP Pn 18 31 26.7 +2.0
PB09 iS S 18 32 03.6 0.0
MACH Maria Elena 3.12 308 iP Pn 18 31 26.7 +1.2
MACH iS S 18 32 04.4 -0.6
MACH Maria Elena 3.12 308 iP Pn 18 31 26.7 +1.2
MACH iS S 18 32 04.4 -0.6
PB10 Plate Boundary 3.22 281 ⇑iP Pn 18 31 27.9 +1.4
PB10 iS S 18 32 05.5 -1.1
PB10 AML AML 18 32 09.7
comp=E,4μm,0.3s
PB07 Plate Boundary 3.52 313 ⇑iP Pn 18 31 31.1 +0.8
PB07 iS S 18 32 11.9 -1.7
PB07 Plate Boundary 3.52 313 ⇑iP Pn 18 31 31.1 +0.8
PB07 iS S 18 32 11.9 -1.7
PB01 Plate Boundary 3.80 324 eP Pn 18 31 34.1 +0.4
PB01 eS S 18 32 17.6 -2.1
PB01 Plate Boundary 3.80 324 eP Pn 18 31 34.1 +0.4
PB01 eS S 18 32 17.6 -2.1
ACLC CERRO LA CRUZ 5.25 179 iP Pn 18 31 53.4 +1.0
ACLC iS S 18 32 51.2 -2.2
LCO Las Campanas 5.81 213 eP Pn 18 31 58.6 -1.0
comp=E,47nm,0.3s
CFAA Coronel Fontan 7.49 187 P Pn 18 32 22.3 +0.9
comp=E,0.2nm,0.3s,baz=355,slow=12,SNR=11
CFAA S S 18 33 42.6 -3.3
comp=E,0.3nm,0.3s,baz=157,slow=19,SNR=9.1
LPAZ La Paz 7.88 353 P Pn 18 32 27.3 +0.1
comp=E,1.2nm,0.3s,baz=127,slow=4.9,SNR=20
LPAZ S S 18 33 53.1 -3.1
comp=E,0.6nm,0.3s,baz=322,slow=25,SNR=6.8
LPAZ La Paz 7.88 353 eP Pn 18 32 27.1 -0.2
CPUP Villa Florida 9.11 106 P Pn 18 32 42.3 -0.4
comp=E,0.2nm,0.3s,baz=281,slow=16,SNR=1.8

SIV	**San Ignacio**	**9.90**	**36**	P	**Pn**	**18 32 50.9**	**-2.2**
	comp=E,1.8nm,0.3s,baz=221,slow=15,SNR=14						
SAML	**Samuel**	**15.58**	**15**	*e*P	**P**	**18 34 04.0**	**-1.1**
	comp=E,5.3nm,0.7s						
PLCA	**Paso Flores**	**16.79**	**189**	P	**Pn**	**18 34 19.6**	**+0.3**
	comp=E,0.3nm,0.3s,baz=27,slow=14,SNR=2.8						
BDFB	**Brasilia**	**19.83**	**68**	P	**P**	**18 34 51.3**	**-0.4**
	comp=E,3.6nm,0.3s,baz=243,slow=11,SNR=51						
PTGA	**Pitinga**	**24.29**	**18**	P	**P**	**18 35 33.9**	**-1.3**
	comp=E,2.5nm,0.4s,baz=200,slow=6.7,SNR=5.1						
TORD	**Torodi Ar. Bea**	**76.71**	**69**	P	**P**	**18 42 06.0**	**+0.1**
	comp=E,2.4nm,0.5s,baz=261,slow=5.7,SNR=42						
ESDC	**Sonseca Array**	**86.57**	**44**	P	**P**	**18 42 57.7**	**+0.7**
	comp=E,0.3nm,0.4s,baz=273,slow=2.4,SNR=3.5						
YKA	**Yellowknife Ar**	**94.23**	**340**	P	**P**	**18 43 33.1**	**+1.0**
	comp=E,0.2nm,0.4s,baz=135,slow=4.9,SNR=5.0						
KULLO	**Kullorsuaq**	**98.70**	**3**	*i*P	Pdif	18 43 51.1	-1.0
ASAR	**Alice Springs**	**128.28**	**205**	PKP	**PKPdf**	**18 49 21.1**	**+1.3**
	comp=E,0.6nm,0.8s,baz=144,slow=1.4,SNR=6.3						
WRA	**Warramunga Arr**	**131.45**	**207**	PKP	**PKPdf**	**18 49 27.1**	**+1.2**
	comp=E,0.7nm,0.8s,baz=158,slow=1.7,SNR=8.3						
WRA				SKPbc	**SKPab**	**18 52 35.2**	**+0.9**
	comp=E,0.5nm,0.7s,baz=155,slow=3.4,SNR=7.3						
ZALV	**Zalesovo Beam**	**143.57**	**28**	PKP	**PKPdf**	**18 49 46.6**	**-0.4**
	comp=E,0.8nm,0.6s,baz=297,slow=3.6,SNR=5.5						
MKAR	**Makanchi Array**	**146.70**	**40**	PKPbc	**PKPab**	**18 49 56.1**	**-0.1**
	comp=E,1.1nm,0.6s,baz=296,slow=3.3,SNR=17						

*IDC **03** 19:08:23.5±1.0,24°.53S×116°.29W,h0km,mb4.0/5, mb1 4.3/5,mb1mx4.1/17,mbtmp4.0/5,MS3.7/4,Ms1 3.7/4, ms1mx3.4/17,Error ellipse: s-maj=41.0km s-min=38.5km az=84.0*
*NEIC **03** 19:08:24.9±0.6,24°.63S×116°.31W,h10km,mb4.7/5,Error ellipse: s-maj=23.9km s-min=18.1km az=102.0*
ISC 03 19:08:24.5±1.0,**24°.7S**±0°.2×**116°.4W**±0°.2,**h10**km**,n34,** σ0s.**71**/25,**mb4.4**/10,**MS3.7**/4,**Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**33.78**	**114**	T	T	19 50 49.2	
	baz=276,slow=75,SNR=14						
H03N3	**Juan Fernandez**	**33.78**	**114**	T	T	19 50 52.9	
	baz=276,slow=75,SNR=18						
H03N1	**Juan Fernandez**	**33.79**	**114**	T	T	19 50 53.4	
	baz=276,slow=75,SNR=17						
PLCA	**Paso Flores**	**41.31**	**124**	LR	LR	19 28 54.1	
	comp=Z,173nm,20.0s,baz=255,slow=30						
LPAZ	**La Paz**	**45.81**	**89**	P	**P**	**19 16 48.4**	**+0.8**
	0.6nm,0.6s,baz=292,slow=5.4,SNR=2.9						
LPAZ				LR	LR	19 31 50.2	
	comp=Z,64nm,18.6s,baz=269,slow=31						
CPUP	**Villa Florida**	**52.96**	**105**	LR	LR	19 35 48.8	
	comp=Z,80nm,21.8s,baz=220,slow=31						
TXAR	**Lajitas Array**	**55.07**	**14**	P	**P**	**19 17 56.5**	**-0.2**
	0.6nm,0.9s,baz=200,slow=10,SNR=5.3						
JCT	**Junction City**	**57.10**	**17**	*e*P	**P**	**19 18 11.5**	**+0.3**
	20nm,1.1s						
121A	**Cookes Peak, D**	**57.47**	**9**	*e*P	**P**	**19 18 14.9**	**+1.0**
	4.0nm,0.8s						
MSTX	**Muleshoe**	**59.74**	**13**	*e*P	**P**	**19 18 29.0**	**-0.6**
	9.6nm,1.0s						
NVAR	**Mina Array Bea**	**62.78**	**358**	P	**P**	**19 18 50.8**	**+0.4**
	3.6nm,1.0s,baz=186,slow=8.7,SNR=14						
SDCO	**Great Sand Dun**	**62.92**	**10**	*e*P	**P**	**19 18 51.8**	**+0.5**
	1.4nm,0.7s						
BDFB	**Brasilia**	**64.30**	**96**	LR	LR	19 44 17.5	
	comp=Z,53nm,19.3s,baz=222,slow=34						
HLID	**Hailey**	**67.91**	**2**	*e*P	**P**	**19 19 24.4**	**+1.0**
	6.5nm,1.3s						
ULM	**Lac du Bonnet**	**76.78**	**13**	P	**P**	**19 20 14.8**	**-1.1**
	1.8nm,0.7s,baz=168,slow=1.8,SNR=3.4						
H11S2	**WAKE ISLAND Hy**	**86.25**	**292**	T	T	20 56 26.9	
	baz=121,slow=74,SNR=38						
H11S1	**WAKE ISLAND Hy**	**86.27**	**292**	T	T	20 56 29.2	
	baz=121,slow=74,SNR=14						
H11S3	**WAKE ISLAND Hy**	**86.27**	**292**	T	T	20 56 25.9	
	baz=121,slow=74,SNR=22						
H11N3	**WAKE ISLAND Hy**	**86.64**	**293**	T	T	20 57 06.4	
	baz=124						
H11N1	**WAKE ISLAND Hy**	**86.66**	**293**	T	T	20 57 04.3	
	baz=124,slow=74						
H11N2	**WAKE ISLAND Hy**	**86.66**	**293**	T	T	20 57 05.8	
	baz=124,slow=74						
YKA	**Yellowknife Ar**	**86.86**	**1**	P	**P**	**19 21 08.6**	**-0.2**
	2.1nm,0.9s,baz=173,slow=5.2,SNR=40						
TORD	**Torodi Ar. Bea**	**120.77**	**89**	PKP	**PKPdf**	**19 27 16.1**	**-1.6**
	0.5nm,0.9s,baz=271,slow=2.8,SNR=3.0						
SONM	**Songino Array**	**139.14**	**316**	PKP	**PKPdf**	**19 27 52.6**	**+1.0**
	0.5nm,0.8s,baz=51,slow=1.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**146.60**	**266**	PKPbc	**PKPab**	**19 28 09.3**	**+1.2**
	1.5nm,0.9s,baz=70,slow=0.6,SNR=13						
CHTO	**Chiang Mai**	**146.70**	**267**	*e*PKPdf	**PKPbc**	**19 28 06.9**	**-0.4**
ZALV	**Zalesovo Beam**	**146.72**	**337**	PKPbc	**PKPbc**	**19 28 06.3**	**0.0**
	1.6nm,0.5s,baz=45,slow=2.1,SNR=12						
ARU	**Arti**	**148.06**	**5**	*e*PKPbc	**PKPbc**	**19 28 09.6**	**-0.4**
BRTR	**Keskin Array B**	**150.72**	**52**	PKPbc	**PKPbc**	**19 28 17.2**	**-0.1**
	3.1nm,0.9s,baz=197,slow=3.9,SNR=8.1						
BVAR	**Borovoye Array**	**151.21**	**351**	PKPbc	**PKPbc**	**19 28 18.2**	**+0.3**
	1.7nm,0.7s,baz=284,slow=2.4,SNR=7.6						
KURK	**Kurchatov**	**151.51**	**340**	PKP	**PKPdf**	**19 28 12.2**	**-0.2**
KURK				PKPbc	**PKPbc**	**19 28 18.6**	**+0.1**
KURBB	**Kurchatov Arra**	**151.62**	**340**	PKP	**PKPdf**	**19 28 12.2**	**-0.3**
	2.6nm,0.9s,baz=22,slow=2.0,SNR=4.7						
KURBB				PKPbc	**PKPbc**	**19 28 18.6**	**-0.2**
	2.6nm,0.9s,baz=25,slow=2.0,SNR=26						
MKAR	**Makanchi Array**	**153.33**	**331**	PKP	**PKPdf**	**19 28 15.2**	**-0.1**
	0.5nm,0.9s,baz=35,slow=3.0,SNR=3.6						
MKAR				PKPbc	**PKPbc**	**19 28 22.0**	**-0.9**
	1.3nm,0.7s,baz=28,slow=2.9,SNR=14						
ABKAR	**Akbulak array**	**155.29**	**6**	*e*PKPab	**PKPab**	**19 28 43.0**	**0.0**

IDC 03 19:08:27.2±64.0,**12°.42N**×**51°.89E**,**h0**km**,mb3.7**/4, **mb1 3.8**/4,**mb1mx3.4**/25,**mbtmp3.7**/4,**Error ellipse: s-maj=1300.0km s-min=57.4km az=4.0,Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**42.42**	**339**	P	P	19 16 23.4	-0.2
	0.3nm,0.5s,baz=136,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**42.76**	**31**	P	P	19 16 26.8	+0.4
	0.4nm,0.9s,baz=220,slow=7.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**48.92**	**25**	P	P	19 17 14.3	-0.6
	0.5nm,0.6s,baz=213,slow=5.0,SNR=3.1						
FINES	**FINESS Array B**	**52.41**	**345**	P	P	19 17 41.1	0.0
	5.8nm,1.1s,baz=152,slow=8.4,SNR=6.9						

*ISCJB **03** 19:18:35.8±0.3,67°.06N±0°.02×20°.94E±0°.07,h0km,Error ellipse: s-maj=3.9km s-min=2.6km az=22.3*
*UPP **03** 19:18:36.8,67°.07N×20°.98E,h0km,ML2.0,Mining explosion.*
*HEL **03** 19:18:37.4±0.1,67°.07N×20°.93E,h0km,ML2.1, ML2.0(UPP),Explosion*
*CSEM **03** 19:18:37.0±0.1,67°.09N×20°.93E,h2km,ML2.0,Error ellipse: s-maj=3.7km s-min=2.6km az=109.0,Mining explosion.*
*NAO **03** 19:18:38.1±0.8,67°.01N×21°.50E,ML2.4*
*IDC **03** 19:18:38.4±1.0,67°.05N×21°.35E,h0km,mb1 3.2/5, mb1mx2.9/46,mbtmp3.2/5,ML2.2/5,Error ellipse: s-maj=18.0km s-min=8.7km az=111.0*
*BER **03** 19:18:40.4±3.1,66°.98N×21°.26E,h0km,ML2.0, ML2.4(NAO),Suspected explosion*
ISC 03 19:18:36.7±0.7,**67°.07N**±0°.02×**20°.91E**±0°.03,**h0**km**,n89,** σ0s.**94**/120,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.72**	**135**	*i*P	**Pg**	**19 18 50.0**	**-0.5**
ERTU	**Ertsjaerv**	**0.72**	**135**	P	**Pg**	**19 18 50.0**	**-0.5**
ERTU	**Ertsjaerv**	**0.72**	**135**	P	**Pg**	**19 18 50.0**	**-0.5**
HARU	**Harads**	**0.91**	**178**	*e*P	**Pg**	**19 18 53.6**	**-0.5**
HARU	**Harads**	**0.91**	**178**	P	**Pg**	**19 18 53.6**	**-0.5**
HARU	**Harads**	**0.91**	**178**	P	**Pg**	**19 18 53.6**	**-0.5**
SALU	**Saltoluokta**	**0.99**	**290**	*e*P	**Pg**	**19 18 55.7**	**0.0**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**19 18 55.6**	**0.0**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**19 18 55.7**	**0.0**
LANU	**Lannavaara**	**1.07**	**22**	*e*P	**Pg**	**19 18 56.3**	**-0.8**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**19 18 56.4**	**-0.8**
LANU				S	**Sb**	**19 19 12.2**	**-0.4**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**19 18 56.4**	**-0.8**
LANU				S	**Sb**	**19 19 12.2**	**-0.4**
NIKU	**Nikkaluokta**	**1.08**	**319**	*e*P	**Pg**	**19 18 57.1**	**-0.3**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**19 18 57.1**	**-0.3**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**19 18 57.1**	**-0.3**
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P	**Pn**	**19 19 05.8**	**-0.3**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**19 19 05.8**	**-0.3**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**19 19 05.8**	**-0.3**
HEF	**Hetta**	**1.71**	**37**	*e*P	**Pn**	**19 19 07.4**	**-0.3**
HEF				*e*SG	**Sn**	**19 19 29.8**	**-0.4**
HEF				MSG		19 19 29.8	
	comp=Z,12nm,0.3s						
HEF	**Hetta**	**1.71**	**37**	P	**Pn**	**19 19 07.4**	**-0.3**
HEF				Sg	**Sn**	**19 19 29.8**	**-0.4**
LILU	**Lilltraesk**	**1.84**	**194**	*e*P	**Pn**	**19 19 09.9**	**+0.4**
LILU	**Lilltraesk**	**1.84**	**194**	P	**Pn**	**19 19 09.9**	**+0.4**
LILU	**Lilltraesk**	**1.84**	**194**	P	**Pn**	**19 19 09.9**	**+0.4**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*PB	**Pb**	**19 19 12.6**	**-0.5**
KIF				*e*SG	**Sg**	**19 19 40.1**	**+0.9**
KIF				MSG		19 19 40.1	
	comp=Z,21nm,0.2s						
KIF	**Kilpisjarvi**	**1.95**	**359**	Pb	**Pb**	**19 19 12.5**	**-0.5**
KIF				Sg	**Sg**	**19 19 40.1**	**+0.9**
RNF	**Rovaniemi**	**2.07**	**101**	*e*P	**Pn**	**19 19 13.4**	**+0.7**
RNF				*e*SG	**Sb**	**19 19 41.6**	**+0.3**
RNF				MSG		19 19 41.6	
	comp=Z,13nm,0.3s						
RNF	**Rovaniemi**	**2.07**	**101**	P	**Pn**	**19 19 13.4**	**+0.7**
RNF				Sg	**Sb**	**19 19 41.6**	**+0.3**
KTK1	**Kautokeino**	**2.14**	**23**	*e*S	**Sb**	**19 19 43.5**	**+0.1**
KTK1				IAML		19 19 48.1	
	comp=N,46nm,0.1s						
SGF	**Sodankyl**	**2.21**	**78**	*e*PB	**Pn**	**19 19 15.8**	**+1.1**
SGF				MSG	**Sb**	**19 19 45.8**	**+0.3**
	comp=Z,7.3nm,0.3s						
SGF				*e*SG	**Sb**	**19 19 45.8**	**+0.3**
SGF	**Sodankyl**	**2.21**	**78**	Pb	**Pn**	**19 19 15.8**	**+1.1**
SGF				Sg	**Sb**	**19 19 45.8**	**+0.3**
BURU	**Burvik**	**2.50**	**175**	*e*P	**Pn**	**19 19 19.6**	**+1.0**
BURU	**Burvik**	**2.50**	**175**	P	**Pn**	**19 19 19.6**	**+1.0**
BURU	**Burvik**	**2.50**	**175**	P	**Pn**	**19 19 19.6**	**+1.0**
SVAU	**Svanoeiden**	**2.64**	**193**	*e*P	**Pn**	**19 19 21.3**	**+0.7**
SVAU	**Svanoeiden**	**2.64**	**193**	P	**Pn**	**19 19 21.2**	**+0.7**
SVAU	**Svanoeiden**	**2.64**	**193**	P	**Pn**	**19 19 21.3**	**+0.7**
MOR8	**Moi Rana**	**2.73**	**254**	*e*S	**Sn**	**19 19 55.9**	**+0.4**
MOR8				IAML		19 20 01.7	
	comp=Z,7.4nm,0.1s						
MOR8	**Moi Rana**	**2.73**	**254**	*e*S	**Sn**	**19 19 55.9**	**+0.4**
	SNR=50						
OUL	**Oulu**	**2.84**	**132**	*e*PB	**Pn**	**19 19 25.6**	**+2.3**
OUL	**Oulu**	**2.84**	**132**	Pb	**Pn**	**19 19 25.6**	**+2.3**
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn	**Pn**	**19 19 25.9**	**+0.3**
	baz=216,slow=16						
ARA0				Sn	**Sn**	**19 20 03.2**	**+0.9**
	baz=212,slow=28						
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn	**Pn**	**19 19 25.9**	**+0.3**
	baz=216,slow=16						
ARA0				Sn	**Sn**	**19 20 03.2**	**+0.9**
	baz=212,slow=28						
ARA0	**ARCESS Array S**	**3.01**	**32**	*e*P	**Pn**	**19 19 25.6**	**0.0**
ARA0				*e*		19 19 56.1	
ARA0	**ARCESS Array S**	**3.01**	**32**	P	**Pn**	**19 19 25.6**	**0.0**
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn	**Pn**	**19 19 25.9**	**+0.3**
	SNR=50						
ARA0				Sn	**Sn**	**19 20 03.2**	**+0.9**
	SNR=50						
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**19 19 26.0**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=213,slow=14,SNR=1.8						
ARCES				Sn	**Sn**	**19 20 03.3**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=212,slow=24,SNR=3.1						
ARE0	**ARCESS Array S**	**3.01**	**32**	*e*P	**Pn**	**19 19 26.0**	**+0.4**
ARE0	**ARCESS Array S**	**3.01**	**32**	P	**Pn**	**19 19 26.0**	**+0.4**
	SNR=50						
UMAU	**Umeaa**	**3.20**	**182**	*e*P	**Pn**	**19 19 28.9**	**+0.7**
UMAU	**Umeaa**	**3.20**	**182**	P	**Pn**	**19 19 28.9**	**+0.7**
UMAU	**Umeaa**	**3.20**	**182**	P	**Pn**	**19 19 28.9**	**+0.7**
BREU	**Bredtraesk**	**3.33**	**198**	*e*P	**Pn**	**19 19 30.5**	**+0.5**
BREU	**Bredtraesk**	**3.33**	**198**	P	**Pn**	**19 19 30.5**	**+0.5**
BREU	**Bredtraesk**	**3.33**	**198**	P	**Pn**	**19 19 30.5**	**+0.5**
VRF	**Varrio**	**3.43**	**75**	*e*P	**Pn**	**19 19 32.1**	**+0.8**
VRF				*e*SB	**Sb**	**19 20 19.9**	**-0.4**
VRF	**Varrio**	**3.43**	**75**	P	**Pn**	**19 19 32.1**	**+0.8**
VRF				Sb	**Sb**	**19 20 19.9**	**-0.4**
MSF	**Maaselka**	**3.46**	**106**	*e*P	**Pn**	**19 19 33.0**	**+1.2**
MSF				*e*SG	**Sb**	**19 20 22.9**	**+1.6**
MSF	**Maaselka**	**3.46**	**106**	P	**Pn**	**19 19 33.0**	**+1.2**
KEV	**Kevo**	**3.52**	**37**	*e*P	**Pn**	**19 19 33.0**	**+0.5**
KEV				*e*S	**Sn**	**19 20 15.8**	**+1.1**
KEV	**Kevo**	**3.52**	**37**	P	**Pn**	**19 19 33.0**	**+0.5**
KEV				S	**Sn**	**19 20 15.8**	**+1.1**
KU6	**Riekki**	**3.74**	**102**	*e*P	**Pn**	**19 19 36.1**	**+0.4**
KU6				*e*S	**Sn**	**19 20 21.0**	**+0.7**
KU6	**Riekki**	**3.74**	**102**	P	**Pn**	**19 19 36.0**	**+0.4**
KU6				S	**Sn**	**19 20 21.0**	**+0.7**
HUSU	**Husum**	**3.81**	**192**	*e*P	**Pn**	**19 19 37.3**	**+0.8**
HUSU	**Husum**	**3.81**	**192**	P	**Pn**	**19 19 37.3**	**+0.8**
HUSU	**Husum**	**3.81**	**192**	P	**Pn**	**19 19 37.3**	**+0.8**
VAF	**Ylistaro**	**4.11**	**169**	*e*P	**Pn**	**19 19 42.5**	**+1.7**
VAF				*e*S	**Sn**	**19 20 30.7**	**+1.3**
VAF	**Ylistaro**	**4.11**	**169**	P	**Pn**	**19 19 42.4**	**+1.7**
VAF				S	**Sn**	**19 20 30.7**	**+1.3**
SOLU	**Sollefteaa**	**4.13**	**204**	*e*P	**Pn**	**19 19 41.3**	**+0.3**
SOLU	**Sollefteaa**	**4.13**	**204**	P	**Pn**	**19 19 41.3**	**+0.3**
SOLU	**Sollefteaa**	**4.13**	**204**	P	**Pn**	**19 19 41.3**	**+0.3**
APA0	**Apatity Array**	**4.71**	**78**	Pn	**Pn**	**19 19 48.7**	**-0.2**
	baz=265,slow=12						
APA0	**Apatity Array**	**4.71**	**78**	Pn	**Pn**	**19 19 48.7**	**-0.2**
	baz=265,slow=12						
APA0	**Apatity Array**	**4.71**	**78**	Pn	**Pn**	**19 19 48.7**	**-0.2**
	SNR=50						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**19 20 08.2**	**+0.5**
	baz=332,slow=12						
FIA0				Sn	**Sn**	**19 21 13.9**	**-3.9**
	baz=348,slow=28						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**19 20 08.2**	**+0.5**
	baz=332,slow=12						
FIA0				Sn	**Sn**	**19 21 13.9**	**-3.9**
	baz=348,slow=28						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**19 20 08.1**	**+0.5**
	SNR=50						
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**19 20 08.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=346,slow=11,SNR=2.1						
FINES				Sn	**Sn**	**19 21 17.6**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=349,slow=18,SNR=2.2						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**19 20 25.7**	**0.0**
	baz=27,slow=11						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**19 20 25.7**	**0.0**
	baz=27,slow=11						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**19 20 25.7**	**0.0**
	SNR=50						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**19 20 26.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=68,slow=13,SNR=2.3						
NOA				Sn	**Sn**	**19 21 50.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=31,slow=17,SNR=1.2						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**19 20 30.1**	**+0.7**
	baz=20,slow=12						
HFS				Sn	**Sn**	**19 21 54.5**	**-2.4**
	baz=26,slow=28						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**19 20 30.1**	**+0.7**
	baz=20,slow=12						
HFS				Sn	**Sn**	**19 21 54.5**	**-2.4**
	baz=26,slow=28						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**19 20 29.5**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=24,slow=12,SNR=1.9						
HFS				Sn	**Sn**	**19 21 56.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=38,slow=24,SNR=1.2						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**19 20 30.1**	**+0.7**
	SNR=50						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**19 21 18.2**	**-0.2**
	baz=152,slow=14						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	P	**Pn**	**19 21 18.2**	**-0.2**
	baz=152,slow=14						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	P	**Pn**	**19 21 18.2**	**-0.2**
	SNR=47						
SPITS	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**19 21 18.6**	**+0.2**
	baz=155,slow=18,SNR=1.1						

MEX 03 19:26:53.4±0.4,**17°.77N**×**101°.73W**,**h18**km±90km**,MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**1.41**	**69**	*e*P	Pn	19 27 14.8	-3.5
ARIG				*i*S	Sn	19 27 31.6	-4.8
PLIG	**Platanillo**	**2.21**	**73**	*e*P	Pn	19 27 27.1	-2.3
PLIG				*i*S	Sn	19 27 52.1	-4.1
TLIG	**Tlapa**	**3.02**	**93**	*e*P	Pn	19 27 41.7	+1.1
TLIG				*i*S	Sn	19 28 13.1	-3.4
PNIG	**Pinotepa**	**3.71**	**111**	*e*P	Pn	19 27 47.5	-2.4
PNIG				*i*S	Sn	19 28 29.8	-3.4

*IDC **03** 20:27:23.6±0.8,24°.37S×116°.09W,h0km,mb4.2/10, mb1 4.5/10,mb1mx4.3/18,mbtmp4.2/10,MS4.4/25, Ms1 4.4/25,ms1mx4.3/30,Error ellipse: s-maj=31.2km s-min=20.0km az=44.0*
*ISCJB **03** 20:27:24.2±0.6,24°.40S±0°.08×116°.1W±0°.1,h12km, mb4.5/36,MS4.4/25,Error ellipse: s-maj=17.6km s-min=10.8km az=161.7*
*GCMT **03** 20:27:25.0±0.2,24°.71S×116°.16W,h18km±1km, MW5.2/106,Moment Tensor Solution. s62,c86; s106,c164; Duration: 1s.0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.13±.02; $M_{\theta\theta}$-0.57±.02; $M_{\phi\phi}$0.70±.02; $M_{r\theta}$-0.18±.04; $M_{\theta\phi}$0.52±.02; $M_{\phi r}$-0.07±.04; Best double couple: $M_0$0.84700×10^{17} NP1:ϕ_s64.00000°,δ86.00000°, λ-14.00000°. NP2:ϕ_s155.00000°,δ76.00000°, λ-176.00000°. Principal axes: T 0.9050, Plg7.0000°, Azm110.0000°; N -0.1150, Plg75.0000°, Azm229.0000°; P -0.7900, Plg13.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 20:27:25.0±0.3,24°.48S×116°.15W,h10km,mb4.9/23 Error ellipse: s-maj=14.6km s-min=8.9km az=77.0*
ISC 03 20:27:25.2±0.6,**24°.5S**±0°.1×**116°.2W**±0°.2,**h12**km**,n274,** σ0s.**67**/243,**mb4.8**/35,**MS4.5**/25,**67C-76D,Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**17.22**	**271**	*e*LQ	LQ	20 34 44.1	
	4μm,26.0s						
RKT				*e*LR	LR	20 35 23.3	
	7μm,26.2s,baz=108						
RKT	**Rikitea**	**17.22**	**271**	*e*T	T	20 48 45.7	
	2.8nm,0.3s						
TBI	**Tubuai**	**30.37**	**265**	*e*LR	LR	20 41 24.8	
	2μm,28.0s,baz=96						
TBI	**Tubuai**	**30.37**	**265**	*e*T	T	21 05 18.4	
	5.2nm,0.4s						
PPT2	**Papeete2**	**31.83**	**276**	*e*LR	LR	20 42 00.3	
	3μm,27.5s,baz=123						
H03N2	**Juan Fernandez**	**33.66**	**114**	T	T	21 09 39.2	
	baz=276,slow=75,SNR=85						
H03N3	**Juan Fernandez**	**33.66**	**114**	T	T	21 09 35.0	
	baz=276,slow=75,SNR=122						
H03N1	**Juan Fernandez**	**33.67**	**114**	T	T	21 09 39.6	
	baz=276,slow=75,SNR=152						
PLCA	**Paso Flores**	**41.23**	**124**	P	**P**	**20 35 10.6**	**+0.4**
	5.1nm,0.9s,baz=252,slow=9.5,SNR=3.4						
PLCA				LR	LR	20 47 53.6	
	comp=Z,1μm,21.1s,baz=272,slow=30						
CFAA	**Coronel Fontan**	**42.65**	**111**	P	**P**	**20 35 21.4**	**-0.4**
	0.2nm,0.4s,baz=260,slow=9.6,SNR=3.5						
LPAZ	**La Paz**	**45.62**	**89**	P	**P**	**20 35 45.9**	**-0.6**
	2.8nm,0.6s,baz=268,slow=3.7,SNR=11						
LPAZ				LR	LR	20 50 57.0	
	comp=Z,473nm,18.3s,baz=248,slow=31						
LPAZ	**La Paz**	**45.62**	**89**	*e*P	**P**	**20 35 46.8**	**+0.3**
	4.1nm,0.5s						
ROSC	**El Rosal**	**50.13**	**60**	LR	LR	20 54 22.2	
	comp=Z,226nm,18.2s,baz=204,slow=32						
CPUP	**Villa Florida**	**52.81**	**105**	LR	LR	20 54 57.5	
	comp=Z,634nm,21.0s,baz=238,slow=31						
034A	**Hebbronville**	**54.01**	**19**	P	**P**	**20 36 51.2**	**+1.8**
	baz=54						
TXAR	**Lajitas Array**	**54.89**	**13**	P	**P**	**20 36 53.9**	**-2.0**
	0.5nm,0.8s,baz=185,slow=10.0,SNR=4.9						
TXAR				LR	LR	20 55 46.7	
	comp=Z,192nm,19.1s,baz=0.0,slow=31						
833A	**Chaparral WMA,**	**54.98**	**18**	⇑P	**P**	**20 36 56.6**	**+0.2**
	baz=55						
626A	**Big Bend Ranch**	**55.01**	**13**	⇓P	**P**	**20 36 57.1**	**+0.4**
	baz=55						
627A	**Terlingua Ranc**	**55.07**	**14**	⇓P	**P**	**20 36 57.8**	**+0.7**
	baz=55						
628A	**Black Gap, Mar**	**55.21**	**14**	⇓P	**P**	**20 36 59.3**	**+1.2**
	baz=55						
526A	**Mary Lane Ranc**	**55.51**	**13**	P	**P**	**20 37 01.2**	**+0.8**
	baz=56						
527A	**Woodward Ranch**	**55.69**	**13**	⇑P	**P**	**20 37 00.8**	**-0.9**
	baz=56						
529A	**Stev Forest Ra**	**55.97**	**15**	⇓P	**P**	**20 37 04.0**	**+0.4**
	baz=56						
319A	**Douglas**	**55.98**	**7**	P	**P**	**20 37 04.5**	**+0.9**
	baz=56						
632A	**Uvalde**	**55.99**	**17**	⇑P	**P**	**20 37 03.7**	**0.0**
	baz=56						
425A	**Indio Mountain**	**56.04**	**12**	P	**P**	**20 37 04.4**	**+0.2**
	baz=56						
530A	**J-C Ranch, Com**	**56.21**	**16**	P	**P**	**20 37 05.1**	**-0.1**
	baz=56						
214A	**Organ Pipe Nat**	**56.26**	**3**	P	**P**	**20 37 06.2**	**+0.6**
	baz=56						
427A	**Hayter Ranch,**	**56.41**	**13**	⇑P	**P**	**20 37 05.3**	**-1.5**
	baz=57						
531A	**Rocksprings**	**56.42**	**16**	⇑P	**P**	**20 37 06.5**	**-0.3**
	baz=57						
428A	**Kincaid Ranch,**	**56.45**	**14**	⇑P	**P**	**20 37 07.6**	**+0.6**
	baz=57						
429A	**Davenport Ranc**	**56.53**	**15**	⇑P	**P**	**20 37 08.0**	**+0.5**
	baz=57						
533A	**Kerrville**	**56.73**	**18**	P	**P**	**20 37 09.7**	**+0.7**
	baz=57						
430A	**Baggett Ranch,**	**56.84**	**15**	P	**P**	**20 37 10.9**	**+1.2**
	baz=57						
431A	**Sonora**	**56.90**	**16**	⇑P	**P**	**20 37 10.4**	**+0.3**
	baz=57						
JCT	**Junction City**	**56.91**	**17**	⇓P	**P**	**20 37 10.6**	**+0.4**
	baz=57						
328A	**Wristen Ranch,**	**57.05**	**14**	P	**P**	**20 37 11.3**	**+0.1**
	baz=57						
121A	**Cookes Peak, D**	**57.31**	**8**	*e*P	**P**	**20 37 14.1**	**+0.9**
	9.2nm,0.8s						
121A	**Cookes Peak, D**	**57.31**	**8**	P	**P**	**20 37 14.3**	**+1.2**
	baz=58						
329A	**Wagon Wheel Ra**	**57.34**	**14**	P	**P**	**20 37 14.5**	**+1.2**
	baz=58						
330A	**Mertzon**	**57.45**	**15**	⇑P	**P**	**20 37 13.7**	**-0.3**
	baz=58						
226B	**Tecolote Peak,**	**57.45**	**12**	P	**P**	**20 37 15.6**	**+1.5**
	baz=58						
434A	**Burnet**	**57.65**	**18**	P	**P**	**20 37 15.2**	**-0.3**
	baz=58						
332A	**Millersview**	**57.78**	**17**	P	**P**	**20 37 16.0**	**-0.4**
	baz=58						
PFO	**Pinyon Flat Ob**	**57.81**	**360**	LR	LR	20 56 41.2	
	comp=Z,225nm,18.3s,baz=156,slow=30						
BC3	**Big Chuckawall**	**57.86**	**1**	P	**P**	**20 37 18.5**	**+1.5**
	baz=58						
125A	**Gardner Draw,**	**57.92**	**12**	⇓P	**P**	**20 37 17.2**	**-0.3**
	baz=58,SNR=13						
230A	**Sterling City**	**57.92**	**15**	P	**P**	**20 37 17.3**	**-0.1**
	baz=58						
333A	**Richland Sprin**	**57.93**	**17**	P	**P**	**20 37 17.0**	**-0.4**
	baz=58						
126A	**Clayton Basin,**	**58.03**	**12**	P	**P**	**20 37 18.5**	**+0.3**
	baz=58						
334A	**Lometa**	**58.15**	**18**	P	**P**	**20 37 18.9**	**0.0**
	baz=58						
BELC	**Belle Mtn. Jos**	**58.20**	**0**	P	**P**	**20 37 20.5**	**+1.1**
	baz=58						
Y14A	**Wickenburg**	**58.22**	**3**	P	**P**	**20 37 19.7**	**+0.3**
	baz=58						
232A	**Coleman**	**58.29**	**17**	P	**P**	**20 37 19.0**	**-0.9**
	baz=58						
128A	**Castleberry Fa**	**58.32**	**14**	P	**P**	**20 37 20.2**	**0.0**
	baz=59						
Z24A	**Sheeppen Canyo**	**58.45**	**11**	P	**P**	**20 37 21.7**	**+0.5**
	baz=59						
BFSC	**Mount Baldy Ra**	**58.46**	**359**	P	**P**	**20 37 22.3**	**+1.1**
	baz=59						
Z25A	**Roswell**	**58.52**	**11**	P	**P**	**20 37 21.7**	**+0.1**
	baz=59						
233A	**Rising Star**	**58.61**	**17**	P	**P**	**20 37 21.5**	**-0.6**
	baz=59						
Z26A	**Caprock**	**58.65**	**12**	⇑P	**P**	**20 37 21.5**	**-1.0**
	baz=59						
X16A	**Lo Mia Camp, P**	**58.80**	**5**	P	**P**	**20 37 25.1**	**+1.5**
	baz=59						

Z27A	Tatum baz=59	58.84	13	P	P	20 37 25.4	+1.6
Y23A	Lovelace Mesa, baz=59	58.93	10	P	P	20 37 25.3	+0.8
LENM	Lemitar 9.1nm,0.9s	59.02	9	eP	P	20 37 25.4	+0.2
Y24A	Capitan baz=59,SNR=9.6	59.03	10	⇑P	P	20 37 25.8	+0.6
HEC	Hector,Ludlow baz=59	59.03	360	P	P	20 37 26.6	+1.6
X18A	Snowflake baz=59	59.03	6	P	P	20 37 26.5	+1.2
BNM	Barren Site	59.06	9	eP	P	20 37 26.1	+0.6
EDW2	Edwards Air Fo baz=59	59.10	358	P	P	20 37 27.3	+1.7
Y25A	Mesa, Roswell baz=59,SNR=7.4	59.15	11	⇑P	P	20 37 26.5	+0.5
W13A	Hualapai Mount baz=60	59.34	2	P	P	20 37 27.5	+0.1
134A	White-Moore Ra baz=60	59.36	18	P	P	20 37 27.4	+0.1
Y27A	Causey baz=60	59.40	13	P	P	20 37 27.4	-0.3
Z31A	Sharp Cattle R baz=60	59.52	16	P	P	20 37 28.3	-0.2
MSTX	Muleshoe 13nm,1.0s	59.56	13	eP	P	20 37 28.1	-0.7
Y28A	McKinney Farm, baz=60	59.61	13	P	P	20 37 29.1	-0.1
Z32A	Haskell baz=60	59.68	16	P	P	20 37 29.5	0.0
ANMO	Albuquerque comp=Z,304nm,18.9s,baz=217,slow=32	59.87	9	LR	LR	20 58 49.2	
Y31A	Rekieta Farm, baz=60	60.11	15	P	P	20 37 32.4	-0.1
W24A	Lazy 6 Ranch, baz=60	60.29	10	P	P	20 37 34.3	+0.4
W26A	Owens Ranch, T baz=61	60.45	12	⇑P	P	20 37 35.1	+0.1
W25A	X Bar L Ranch, baz=61,SNR=7.7	60.45	11	⇓P	P	20 37 34.4	-0.6
W27A	Bowe Ranch, En baz=61	60.56	12	⇓P	P	20 37 36.2	+0.5
Y33A	Hilltop Ranch, baz=61	60.57	17	⇑P	P	20 37 36.3	+0.7
AMTX	Amarillo baz=61	60.67	14	⇑P	P	20 37 36.1	-0.3
SHPR	Sheep Range	60.71	1	eP	P	20 37 38.0	+1.3
U15A	North Rim baz=61	60.74	4	⇓P	P	20 37 37.6	+0.6
V22A	San Miguel Ran baz=61	60.75	9	⇑P	P	20 37 37.2	+0.1
X31A	McDonald Ranch baz=61	60.82	15	⇑P	P	20 37 37.9	+0.6
W29A	Amraillo baz=61	60.91	14	⇑P	P	20 37 38.7	+0.7
V25A	Rancho No Teng baz=61	61.03	11	⇓P	P	20 37 38.7	-0.2
V26A	Tequesquite Ra baz=61	61.14	12	⇓P	P	20 37 39.4	-0.1
U23A	El Rito baz=62,SNR=7.4	61.26	9	⇓P	P	20 37 41.4	+0.9
U25A	Circle Dot Ran baz=62,SNR=6.1	61.61	11	⇑P	P	20 37 42.4	-0.4
U26A	Atchley Ranch, baz=62	61.73	11	⇑P	P	20 37 42.9	-0.7
CCUT	Cedar City 8.8nm,1.0s	61.80	3	eP	P	20 37 45.5	+1.4
MVCO	Mesa Verde baz=62	61.84	7	⇓P	P	20 37 44.3	-0.1
T24B	San Luis baz=62	62.10	10	⇑P	P	20 37 46.3	0.0
T25A	Trinidad baz=63	62.34	11	⇑P	P	20 37 47.5	-0.3
V33A	Lossen Ranch, baz=63	62.37	16	⇓P	P	20 37 47.4	-0.3
T26A	Comanche Natio baz=63	62.51	11	⇑P	P	20 37 48.1	-0.1
R11A	Troy Canyon, C 12nm,1.9s	62.55	1	eP	P	20 37 50.0	+0.9
R11A	Troy Canyon, C baz=63	62.55	1	⇓P	P	20 37 49.5	+0.4
T27A	Campo baz=63	62.56	12	⇑P	P	20 37 49.1	0.0
S22A	4UR Ranch, Cre baz=63	62.57	8	⇑P	P	20 37 49.2	-0.1
NVAR	Mina Array Bea 2.2nm,0.8s,baz=189,slow=9.3,SNR=11	62.65	358	P	P	20 37 51.0	+1.1
NVAR	comp=Z,423nm,18.4s,baz=178,slow=31			LR	LR	20 59 16.7	
S24A	Houchin Ranch, baz=63	62.70	10	⇓P	P	20 37 50.1	-0.2
T28A	Walsh baz=63	62.74	13	⇑P	P	20 37 50.8	+0.5
SDCO	Great Sand Dun 10.0nm,1.1s	62.75	10	eP	P	20 37 50.5	-0.1
S25A	Robets Cordova baz=63	62.84	10	⇑P	P	20 37 51.1	0.0
S26A	Kim baz=63	62.97	11	⇓P	P	20 37 51.8	0.0
S28A	Manter baz=64	63.24	13	⇓P	P	20 37 53.4	-0.2
R25A	Fountain Ranch baz=64	63.34	11	⇓P	P	20 37 54.4	0.0
SRU	San Rafael 31nm,1.1s	63.53	5	eP	P	20 37 54.6	-1.0
R26A	Arlington baz=64	63.63	11	⇑P	P	20 37 55.6	-0.7
S31A	Mullinville baz=64	63.79	15	⇓P	P	20 37 57.1	-0.1
R28A	Tribune baz=64	63.98	13	⇓P	P	20 37 58.3	-0.2
Q25A	Bedland, Calha baz=64	64.09	10	P	P	20 37 59.6	+0.2
BDFB	Brasilia 3.4nm,0.8s,baz=235,slow=10,SNR=4.1	64.12	96	P	P	20 38 00.9	+0.9
BDFB	comp=Z,499nm,21.2s,baz=238,slow=33			LR	LR	21 02 12.8	
Q26A	Hugo baz=64	64.23	11	⇑P	P	20 38 00.3	+0.2
R30A	Dighton baz=64	64.24	14	⇓P	P	20 38 00.4	+0.2
P22A	Eagle baz=65	64.40	8	⇓P	P	20 38 01.8	+0.4
DUG	Dugway 10nm,1.0s	64.46	3	eP	P	20 38 01.6	-0.1
DUG	Dugway baz=65	64.46	3	⇓P	P	20 38 02.2	+0.5
VNDA	Vanda comp=Z,361nm,19.8s,baz=107,slow=29	64.49	194	LR	LR	20 59 02.0	
Q29A	Oakley baz=65	64.68	13	⇓P	P	20 38 03.0	-0.1
P25A	Willow Gulch B baz=65	64.69	10	⇑P	P	20 38 03.5	+0.2
ISCO	Idaho Springs baz=65	64.75	9	⇓P	P	20 38 04.0	+0.2
DAU	Daniels Canyon 8.3nm,0.9s	64.77	4	eP	P	20 38 04.5	+0.6
R33A	Olander Ranch, baz=65	64.80	16	⇓P	P	20 38 04.1	+0.4
ELK	Elko comp=Z,279nm,18.1s,baz=180,slow=31	64.94	1	LR	LR	21 01 21.1	
O22A	Kremmling baz=65,SNR=7.6	64.98	8	⇓P	P	20 38 05.5	+0.2
O23A	Lake Granby, G baz=65	65.11	9	⇑P	P	20 38 06.6	+0.5
N20A	Spence Gulch, baz=66	65.44	7	⇓P	P	20 38 08.7	+0.5
Q33A	Connelly Farm, baz=66	65.49	16	⇓P	P	20 38 08.6	+0.4
O26A	Horse Wrangler baz=66	65.55	11	⇓P	P	20 38 09.3	+0.5
N22A	Wattenberg Ran baz=66,SNR=6.5	65.62	8	⇑P	P	20 38 09.6	+0.3
P31A	Stockton baz=66	65.63	14	⇓P	P	20 38 09.1	0.0
QSPA	South Pole Qui 24nm,1.2s	65.63	180	eP	P	20 38 10.4	+1.4
N23A	Red Feather La baz=66,SNR=6.2	65.78	9	⇑P	P	20 38 10.8	+0.4
P32A	Huiting Farm, baz=66	65.90	15	⇑P	P	20 38 11.6	+0.7
YBH	Yreka Blue Hor comp=Z,235nm,20.3s,baz=186,slow=30	66.20	355	LR	LR	21 00 27.7	
M22A	Cedar Creek Ra baz=66	66.20	8	⇑P	P	20 38 13.0	0.0
MOD	Modoc 9.1nm,1.0s	66.20	357	eP	P	20 38 13.1	+0.2
M23A	Laramie baz=67	66.38	9	⇑P	P	20 38 14.1	-0.1
M24A	Cheyenne baz=67	66.50	9	⇑P	P	20 38 14.7	-0.2
L22A	Ellis Ranch, M baz=67	66.84	8	⇓P	P	20 38 16.7	-0.3
BW06	Boulder Array 4.6nm,1.0s	67.24	5	eP	P	20 38 18.7	-0.9
PDAR	Pinedale Array 2.5nm,0.8s,baz=171,slow=6.6,SNR=20	67.24	5	P	P	20 38 18.4	-1.2
PDAR	comp=Z,146nm,21.1s,baz=192,slow=31			LR	LR	21 02 32.7	
TKL	Tuckaleechee C comp=Z,175nm,20.2s,slow=33	67.27	28	LR	LR	21 04 13.5	
L25A	Engebretsen Ra baz=68	67.31	10	⇑P	P	20 38 20.1	+0.2
K21A	Alcova baz=68	67.33	7	⇓P	P	20 38 20.1	-0.1
K22A	Casper 25nm,1.0s	67.44	8	eP	P	20 38 20.6	-0.2
K22A	Casper baz=68,SNR=6.1	67.44	8	⇓P	P	20 38 21.0	+0.2
J05D	Fort Rock, OR baz=68	67.63	356	⇓P	P	20 38 22.7	+0.7
K23A	Bowen Ranch, D baz=68,SNR=7.7	67.65	8	⇓P	P	20 38 22.2	0.0
HLID	Hailey 6.8nm,0.9s	67.77	1	eP	P	20 38 23.6	+0.7
HLID	Hailey baz=68	67.77	1	⇑P	P	20 38 23.0	+0.1
J19A	Crowheart baz=68,SNR=5.1	67.78	6	⇓P	P	20 38 22.6	-0.4
J20A	Shoshoni baz=68,SNR=15	67.95	6	⇑P	P	20 38 24.3	+0.2
J22A	Midwest baz=68,SNR=5.4	68.19	8	⇓P	P	20 38 24.7	-0.9
I03D	Drain, OR baz=68	68.20	354	⇓P	P	20 38 26.1	+0.7
J24A	Dixon Ranch, L baz=69	68.35	9	⇓P	P	20 38 26.9	+0.4
I21A	Big Trails, Te baz=69,SNR=22	68.49	7	⇑P	P	20 38 26.8	-0.6
J25A	Sunshine Ranch baz=69,SNR=12	68.54	10	⇓P	P	20 38 27.3	-0.3
I20A	Worland baz=69	68.54	6	⇓P	P	20 38 27.4	-0.3
I19A	Meeteetse baz=69,SNR=7.5	68.55	6	⇓P	P	20 38 27.2	-0.6
J26A	Sides Ranch, S baz=69	68.58	10	⇑P	P	20 38 27.7	-0.1
I22A	9 Mile Ranch, baz=69,SNR=6.5	68.67	8	⇑P	P	20 38 28.6	+0.2
J28A	Allard Ranch, baz=69	69.00	12	⇑P	P	20 38 30.8	+0.3
YMR	Madison River 7.9nm,0.9s	69.02	4	eP	P	20 38 30.9	+0.1
H18A	Shoshone NF, C baz=69	69.13	5	⇓P	P	20 38 31.5	+0.1
QLMT	Earthquake Lak 0.3nm,0.5s	69.16	4	eP	P	20 38 32.0	+0.4
I25A	Rochford baz=69,SNR=5.6	69.16	10	⇓P	P	20 38 31.3	-0.3
RSSD	Black Hills 6.1nm,0.9s	69.22	9	eP	P	20 38 31.6	-0.4
I26A	New Underwood baz=70	69.31	10	⇓P	P	20 38 32.9	+0.5
H21A	Big Horn, Sher baz=70	69.33	7	⇑P	P	20 38 33.0	+0.4
H22A	Clearmont baz=70	69.37	8	⇑P	P	20 38 32.0	-0.8
I27A	Quinn baz=70	69.48	11	⇑P	P	20 38 34.1	+0.7
H24A	Dirks Ranch, A baz=70	69.76	9	⇑P	P	20 38 35.0	-0.2
H25A	Fruitdale baz=70	69.77	10	⇑P	P	20 38 35.4	+0.1
G20A	Bridger baz=70	69.79	6	⇑P	P	20 38 35.2	-0.2
G21A	Lodge Grass baz=70	69.90	7	⇓P	P	20 38 35.7	-0.3
G23A	Biddle baz=70	70.09	8	⇑P	P	20 38 36.8	-0.4
DZM	Mont Dzumac 828nm,26.3s	70.16	254	eLR	LR	21 00 07.7	
DZM	Mont Dzumac comp=Z,386nm,21.7s,baz=25,slow=29	70.16	254	LR	LR	21 01 28.3	
H28A	Mission Ridge baz=70	70.25	11	⇑P	P	20 38 38.1	0.0
ECSD	EROS Data Cent baz=70	70.27	15	⇓P	P	20 38 38.3	+0.1
F19A	Roth Farm, Mol baz=71	70.35	5	⇓P	P	20 38 38.8	0.0
F20A	Billings baz=71	70.37	6	⇓P	P	20 38 38.8	-0.1
G26A	Maurine baz=71	70.58	10	⇑P	P	20 38 40.3	+0.2
F23A	Volborg baz=71	70.60	8	⇑P	P	20 38 40.0	-0.2
F24A	Ekalaka baz=71	70.85	9	⇑P	P	20 38 41.4	-0.4
E19A	Rath Farm, Rou baz=71	70.97	5	⇑P	P	20 38 42.5	0.0
HRY	Holter Researc 6.5nm,0.9s	71.01	3	eP	P	20 38 42.5	-0.4
MSO	Missoula baz=71	71.05	2	⇓P	P	20 38 43.5	+0.5
F25A	Bowman baz=71	71.07	9	⇓P	P	20 38 43.9	+0.8
F26A	Lodgepole baz=71	71.11	10	⇑P	P	20 38 43.2	-0.2
CHMT	Chamberlain Mo 4.5nm,1.2s	71.15	2	eP	P	20 38 43.9	+0.1
F27A	Lemmon baz=72	71.24	10	⇓P	P	20 38 43.8	-0.3
E24A	Baker baz=72	71.57	9	⇓P	P	20 38 45.9	-0.2
F29A	Eureka baz=72	71.59	12	⇑P	P	20 38 46.5	+0.2
E25A	Miller Ranch, baz=72	71.64	9	⇓P	P	20 38 46.7	+0.2
D20A	Manuel Ranch, baz=72	71.65	6	⇑P	P	20 38 46.7	+0.1
D19A	Cripps Ranch, baz=72	71.66	5	⇓P	P	20 38 46.7	0.0
D21A	La Casta Ranch baz=72,SNR=17	71.74	7	⇓P	P	20 38 46.9	-0.3
D22A	Cohagen baz=72	71.91	7	⇑P	P	20 38 49.0	+0.8
JTMT	Jette 5.8nm,1.2s	71.96	1	eP	P	20 38 48.5	0.0
BSMT	Bassoo Peak 3.8nm,1.0s	72.05	1	eP	P	20 38 48.4	-0.8
D23A	Lindsay baz=72	72.05	8	⇓P	P	20 38 49.4	+0.4
E28A	Huff baz=72	72.15	11	⇓P	P	20 38 49.9	+0.4
C19A	Slack Wire Ran baz=72,SNR=7.5	72.21	5	⇑P	P	20 38 50.4	+0.4
C20A	Veseth Ranch, baz=73	72.28	6	⇓P	P	20 38 50.3	0.0
D26A	Manning baz=73	72.30	10	⇓P	P	20 38 50.9	+0.5
EGMT	Eagleton 31nm,1.4s	72.45	5	eP	P	20 38 51.3	0.0
EGMT	Eagleton baz=73	72.45	5	⇓P	P	20 38 51.3	0.0
NEW	Newport comp=Z,369nm,19.0s,baz=187,slow=32	72.46	359	LR	LR	21 05 19.2	
NEW	Newport baz=73	72.46	359	⇓P	P	20 38 51.7	+0.3
C22A	Vida baz=73	72.53	7	⇑P	P	20 38 52.4	+0.6
C23A	Lambert baz=73	72.67	8	⇑P	P	20 38 53.5	+0.8
B19A	Brinkman Farms baz=73	72.94	5	⇑P	P	20 38 54.6	+0.4
C26A	Wahner Farm, P baz=73	73.13	10	⇓P	P	20 38 56.1	+0.7
B23A	Brockton baz=74	73.35	8	⇑P	P	20 38 57.5	+0.8
A19A	Klindworth Far baz=74,SNR=11	73.42	5	⇓P	P	20 38 57.3	+0.2
A20A	Cobblestone Ra baz=74	73.45	6	⇓P	P	20 38 57.8	+0.6
DGMT	Dagmar baz=74	73.46	8	⇓P	P	20 38 57.6	+0.4
C30A	Mose, Pekin baz=74	73.65	12	⇑P	P	20 38 58.8	+0.4
A22A	Carney Farms, baz=74	73.76	7	⇓P	P	20 38 59.8	+0.7
A24A	Westby baz=74	73.93	8	⇑P	P	20 39 01.0	+1.0
B28A	Dugan Ranch, T baz=74	74.02	11	⇓P	P	20 39 01.3	+0.8
A25A	Svangstu Ranch baz=74	74.06	9	⇓P	P	20 39 01.6	+0.8
A26A	Wade Farm, Ken baz=74	74.18	10	⇓P	P	20 39 01.9	+0.4
B30A	Myrvik Farm, E baz=75	74.39	12	⇑P	P	20 39 03.2	+0.4
A28A	Rude Farm, Bot baz=75	74.48	11	⇓P	P	20 39 03.5	+0.3
A29A	Manning Farm, baz=75	74.67	12	⇓P	P	20 39 04.8	+0.4
A30A	Hoffart Farm, baz=75	74.87	12	⇑P	P	20 39 05.6	+0.1
ULM	Lac du Bonnet 2.5nm,0.7s,baz=226,slow=6.6,SNR=5.1	76.60	13	P	P	20 39 13.8	-1.5
ULM	comp=Z,234nm,19.4s,baz=224,slow=33			LR	LR	21 09 11.7	
SADO	Sadowa comp=Z,244nm,20.4s,baz=261,slow=34	76.83	26	LR	LR	21 10 26.0	
BBB	Bella Bella comp=Z,64nm,19.5s,baz=155,slow=30	77.09	353	LR	LR	21 06 15.3	
HNR	Honiara comp=Z,301nm,21.7s,baz=131,slow=30	80.58	264	LR	LR	21 07 30.3	
DLBC	Dease Lake comp=Z,68nm,19.4s,baz=148,slow=31	83.45	353	LR	LR	21 10 57.6	
DLBC	Dease Lake	83.45	353	eP	P	20 39 50.3	-1.9
FCC	Fort Churchill 0.4nm,1.0s	84.99	11	eP	P	20 39 58.1	-1.9
H11S2	WAKE ISLAND Hy baz=121,slow=74,SNR=83	86.38	292	T	T	22 15 32.3	
H11S1	WAKE ISLAND Hy baz=121,slow=74,SNR=63	86.39	292	T	T	22 15 33.5	
H11S3	WAKE ISLAND Hy baz=121,slow=74,SNR=44	86.40	292	T	T	22 15 38.2	
YKA	Yellowknife Ar 4.3nm,0.9s,baz=174,slow=5.3,SNR=63	86.73	1	P	P	20 40 08.1	-0.4
H11N3	WAKE ISLAND Hy baz=122,slow=76,SNR=17	86.77	293	T	T	22 16 00.7	
H11N1	WAKE ISLAND Hy baz=122,slow=76,SNR=23	86.78	293	T	T	22 16 02.4	
H11N2	WAKE ISLAND Hy baz=122,slow=76,SNR=28	86.78	293	T	T	22 16 05.8	
HYT	Haines Junctio	86.79	350	eP	P	20 40 09.8	+0.8
YKW3	Yellowknife Ar 0.2nm,1.0s	86.79	1	eP	P	20 40 07.1	-1.7
MAW	Mawson comp=Z,307nm,19.3s,baz=168,slow=33	88.15	180	LR	LR	21 15 38.3	
SCHQ	Schefferville comp=Z,88nm,21.7s,baz=261,slow=34	89.63	26	LR	LR	21 17 21.7	
KTH	Kantishna Hill 6.0nm,1.0s	91.94	345	eP	P	20 40 33.3	+0.1
ILAR	Eielson Array 0.3nm,0.7s,baz=178,slow=5.3,SNR=3.7	92.13	347	P	P	20 40 34.1	+0.2
ASAR	Alice Springs comp=Z,132nm,20.8s,baz=116,slow=31	96.85	240	LR	LR	21 18 06.4	
FX1	Attu Island--F comp=Z,87nm,19.8s,baz=153,slow=30	98.35	325	LR	LR	21 16 20.9	
WRA	Warramunga Arr 0.8nm,0.8s,baz=122,slow=4.3,SNR=4.8	98.36	244	P	Pdif	20 41 04.0	+0.4
TORD	Torodi Ar. Bea 0.9nm,0.8s,baz=294,slow=2.5,SNR=4.8	120.57	89	PKP	PKPdf	20 46 15.9	-1.8
SONM	Songino Array 0.7nm,0.8s,baz=123,slow=2.6,SNR=6.8	139.17	316	PKP	PKPdf	20 46 52.5	+0.4
AKASG	Malin Array Be 0.1nm,0.3s,baz=277,slow=3.0,SNR=3.6	142.71	37	PKP	PKPdf	20 46 57.0	-1.2
KMBO	Kilima Mbogo 0.7nm,0.4s,baz=300,slow=3.8,SNR=3.4	143.77	131	PKP	PKPdf	20 47 00.6	-0.9
ZAA0	Zalesovo Array	146.67	337	ePKPdf	PKPdf	20 47 05.6	+0.7
ZALV	Zalesovo Beam 5.8nm,0.8s,baz=2.9,slow=3.0,SNR=16	146.67	337	PKPbc	PKPbc	20 47 06.0	-0.5
CM31	Chiang Mai Arr	146.80	266	ePKPdf	PKPbc	20 47 07.3	-0.7
CMAR	Chiang Mai Arr 2.1nm,0.9s,baz=70,slow=0.7,SNR=19	146.80	266	PKPbc	PKPab	20 47 09.1	-0.2
CHTO	Chiang Mai	146.90	267	ePKPbc	PKPbc	20 47 08.5	+0.2
ARU	Arti	147.90	5	ePKPdf	PKPdf	20 47 08.3	+1.4
BR131	Keskin Array S	150.48	52	ePKPbc	PKPbc	20 47 16.9	-0.3
BRTR	Keskin Array B 3.4nm,0.8s,baz=245,slow=1.4,SNR=10	150.48	52	PKPbc	PKPbc	20 47 17.2	+0.1
BRTR	11nm,1.0s,baz=286,slow=0.9,SNR=13			PKPab	PKPab	20 47 22.8	-0.9
KURK	Kurchatov	151.45	340	ePKPbc	PKPbc	20 47 17.4	-1.4
MKAR	Makanchi Array 0.7nm,0.8s,baz=46,slow=3.5,SNR=6.7	153.30	331	PKP	PKPdf	20 47 15.5	-0.1
MKAR	2.2nm,0.8s,baz=35,slow=4.4,SNR=17			PKPbc	PKPbc	20 47 22.0	-1.2
MKAR	2.6nm,0.8s,baz=14,slow=4.0,SNR=11			PKPab	PKPab	20 47 35.6	+0.6
ABKAR	Akbulak array	155.13	6	ePKPdf	PKPdf	20 47 18.4	+0.3

*ISCJB **03** 20:31:41.9±0.8, 23°.8S±0°.3×179°.7W±0°.2, h532km, mb3.7/6, Error ellipse: s-maj=41.8km s-min=10.9km az=158.2*

*IDC **03** 20:31:45.2±5.9, 23°.46S×179°.92W, h556km±65km, mb3.2/6, mb1 3.5/7, mb1mx3.2/24, mbtmp4.1/7, Error ellipse: s-maj=83.8km s-min=27.4km az=151.0*

ISC 03 20:31:43.6±0.9, 23°.8S±0°.4×179°.8W±0°.1, h532km, n20, σ1§42/21, mb3.8/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue baz=11,SNR=4.8	10.33	65	P	P	20 34 04.8	+0.1
NIUE	baz=11,SNR=3.5			S	S	20 36 05.0	+4.2
DZM	Mont Dzumac 0.3nm,0.3s,baz=102,slow=17,SNR=2.9	12.76	275	P	P	20 34 31.4	+1.3
EIDS	Eidsvold baz=26,SNR=5.1	26.48	260	P	P	20 36 39.5	+1.1
MTSU	Mount Surprise baz=33,SNR=15	33.89	273	P	P	20 37 43.6	+1.3
STKA	Stephens Creek 3.5nm,0.6s,baz=95,slow=10,SNR=13	34.92	248	P	P	20 37 50.8	-0.1
STKA	Stephens Creek baz=34,SNR=5.2	34.92	248	P	P	20 37 51.6	+0.7
HTT	Hallett baz=36,SNR=5.7	37.28	246	P	P	20 38 10.6	+0.3
BBOO	Buckleboo baz=39,SNR=17	39.65	247	P	P	20 38 29.1	-0.4
ASAR	Alice Springs 5.2nm,0.8s,baz=95,slow=6.5,SNR=47	42.21	260	P	P	20 38 49.8	-0.3
WRA	Warramunga Arr 7.0nm,0.5s,baz=97,slow=8.4,SNR=213	42.57	266	P	P	20 38 52.2	-0.7
KDU	Kakadu baz=46,SNR=4.3	46.43	275	P	P	20 39 22.5	-0.2
FORT	Forrest baz=46,SNR=17	46.51	249	P	P	20 39 22.5	-0.6
WRKA	Warakurna baz=46,SNR=24	47.02	257	P	P	20 39 27.0	-0.1
KNRA	Kununurra baz=48,SNR=12	48.84	270	P	P	20 39 41.2	+0.5
MEEK	Meekatharra baz=54,SNR=6.6	55.30	253	P	P	20 40 26.5	-0.7
MORW	Morawa baz=56,SNR=6.2	57.07	250	P	P	20 40 39.3	0.0
NVAR	Mina Array Bea 0.2nm,0.4s,baz=193,slow=3.7,SNR=3.1	84.54	44	P	P	20 43 18.3	-2.5
TXAR	Lajitas Array 0.4nm,0.7s,baz=202,slow=6.5,SNR=6.5	90.22	58	P	P	20 43 47.7	0.0
ILAR	Eielson Array 0.3nm,0.7s,baz=225,slow=6.0,SNR=4.3	91.85	13	P	P	20 43 52.3	-1.9
AKASG	Malin Array Be 0.4nm,0.4s,baz=42,slow=4.0,SNR=5.2	144.93	327	PKP	PKPdf	20 50 18.5	-1.3

*THE **03** 20:44:21.9, 38°.41N×21°.94E, h5km±1km, ML2.4/8, Error ellipse: s-maj=1.4km s-min=0.6km az=289.0*

*ATH **03** 20:44:22.6, 38°.53N×21°.94E, h23km±2km, MD2.9/9*

CSEM 03 20:44:21.3±0.1, 38°.43N×21°.96E, h2km, ML2.4, Error ellipse: s-maj=3.3km s-min=2.9km az=66.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.04	268	P	Pg	20 44 22.8	+0.7
EFP				S	Sg	20 44 23.8	+1.1
EFP	Efpalio	0.04	268	ePB	Pg	20 44 22.8	+0.7
EFP	Efpalio	0.04	268	P	Pg	20 44 22.8	+0.7
EFP				S	Sg	20 44 23.8	+1.1
EFP	Efpalio	0.04	268	ePb	Pg	20 44 22.8	+0.7
KALE	Kalithea	0.15	104	P	Pg	20 44 24.9	+0.6
KALE				S	Sg	20 44 28.0	+1.7
KALE	Kalithea	0.15	104	ePB	Pg	20 44 25.0	+0.7

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KALE	Kalithea	0.15	104	P	Pg	20 44 24.9	+0.6
KALE				S	Sg	20 44 28.0	+1.7
KALE	Kalithea	0.15	104	ePb	Pg	20 44 25.0	+0.7
LAKA	Lakka	0.19	175	P	Pg	20 44 25.3	+0.3
LAKA	Lakka	0.19	175	ePB	Pg	20 44 25.3	+0.3
LAKA	Lakka	0.19	175	P	Pg	20 44 25.3	+0.3
LAKA	Lakka	0.19	175	ePb	Pg	20 44 25.3	+0.3
UPR	University Cam	0.20	223	P	Pg	20 44 25.7	+0.6
UPR				S	Sg	20 44 28.4	+0.7
UPR	University Cam	0.20	223	P	Pg	20 44 25.7	+0.6
UPR				S	Sg	20 44 28.4	+0.7
PVO	Paravola	0.39	299	P	Pg	20 44 28.7	0.0
PVO				S	Sg	20 44 35.3	+1.5
PVO	Paravola	0.39	299	P	Pg	20 44 28.7	0.0
PVO				S	Sg	20 44 35.3	+1.5
KLV	Kalavryta, Ach	0.41	158	P	Pg	20 44 29.0	-0.3
KLV				S	Sg	20 44 36.0	+1.2
KLV	Kalavryta, Ach	0.41	158	ePB	Pg	20 44 29.2	-0.1
KLV	Kalavryta, Ach	0.41	158	P	Pg	20 44 29.0	-0.3
KLV				S	Sg	20 44 36.0	+1.2
KLV	Kalavryta, Ach	0.41	158	ePb	Pg	20 44 29.2	-0.1
DSF	Desfina	0.45	92	P	Pg	20 44 29.8	-0.2
DSF				S	Sg	20 44 37.5	+1.6
DSF	Desfina	0.45	92	ePB	Pg	20 44 30.3	+0.3
DSF	Desfina	0.45	92	P	Pg	20 44 29.8	-0.2
DSF				S	Sg	20 44 37.5	+1.6
DSF	Desfina	0.45	92	ePb	Pg	20 44 30.3	+0.3
EVR	Evrytania	0.50	347	P	Pg	20 44 30.8	-0.3
EVR				S	Sb	20 44 39.6	-1.3
EVR	Evrytania	0.50	347	ePB	Pg	20 44 30.9	-0.2
EVR	Evrytania	0.50	347	ePb	Pg	20 44 30.9	-0.2
EVR				S	Sb	20 44 39.6	-1.3
DRO	Drossia	0.51	202	P	Pg	20 44 30.8	-0.4
DRO				S	Sg	20 44 38.8	+0.9
DRO	Drossia	0.51	202	P	Pg	20 44 30.8	-0.4
DRO				S	Sg	20 44 38.8	+0.9
RLS	Riolos of Patr	0.53	226	ePB	Pg	20 44 24.1	-7.4
RLS	Riolos of Patr	0.53	226	ePb	Pg	20 44 24.1	-7.4
GUR	Goura	0.58	148	P	Pg	20 44 31.8	-0.8
GUR				S	Sg	20 44 41.0	+0.8
GUR	Goura	0.58	148	ePG	Pg	20 44 31.8	-0.8
GUR	Goura	0.58	148	P	Pg	20 44 31.8	-0.8
GUR				S	Sg	20 44 41.0	+0.8
GUR	Goura	0.58	148	ePg	Pg	20 44 31.8	-0.8
MAKR	Makrakomi, Fth	0.60	13	P	Pg	20 44 33.3	+0.4
MAKR				S	Sb	20 44 43.1	-0.5
MAKR	Makrakomi, Fth	0.60	13	ePN	Pg	20 44 33.4	+0.5
MAKR	Makrakomi, Fth	0.60	13	ePn	Pg	20 44 33.4	+0.5
MAKR				S	Sb	20 44 43.1	-0.5
PDO	Prodromos	0.63	286	ePN	Pg	20 44 33.9	+0.5
PDO				eSN	Sb	20 44 43.4	-0.9
PDO	Prodromos	0.63	286	ePn	Pg	20 44 33.9	+0.5
PDO				eSn	Sb	20 44 43.4	-0.9
AXAR	Agios Charalam	0.65	58	P	Pg	20 44 33.8	0.0
AXAR				S	Sb	20 44 44.6	-0.3
AXAR	Agios Charalam	0.65	58	ePN	Pg	20 44 33.8	0.0
AXAR	Agios Charalam	0.65	58	P	Pg	20 44 33.8	0.0
AXAR				S	Sb	20 44 44.6	-0.3
AXAR	Agios Charalam	0.65	58	ePn	Pg	20 44 33.8	0.0
AGG	Agios Georgios	0.66	26	P	Pg	20 44 33.6	-0.5
AGG	Agios Georgios	0.66	26	ePN	Pg	20 44 34.1	0.0
AGG	Agios Georgios	0.66	26	P	Pg	20 44 33.6	-0.5
AGG	Agios Georgios	0.66	26	ePn	Pg	20 44 34.1	0.0
LKR	Lokris	0.85	75	ePB	Pb	20 44 38.3	-0.5
LKR				eSN	Sb	20 44 50.8	+0.2
LKR	Lokris	0.85	75	ePb	Pb	20 44 38.3	-0.5
LKR				eSn	Sb	20 44 50.8	+0.2
LTK	Loutraki	0.89	117	ePB	Pb	20 44 40.0	+0.4
LTK	Loutraki	0.89	117	ePb	Pb	20 44 40.0	+0.4
AMT	Artemida-Makis	0.92	192	ePN	Pg	20 44 35.0	-3.9
AMT	Artemida-Makis	0.92	192	ePn	Pg	20 44 35.0	-3.9
LKD2	Lefkada island	1.08	290	ePN	Pb	20 44 42.8	0.0
LKD2	Lefkada island	1.08	290	ePn	Pb	20 44 42.8	0.0
SMIA	Simia	1.08	65	ePN	Pn	20 44 43.2	-0.3
SMIA	Simia	1.08	65	ePn	Pn	20 44 43.2	-0.3
VLS	Valsamata	1.10	257	ePB	Pg	20 44 29.0	-14
VLS	Valsamata	1.10	257	ePb	Pg	20 44 29.0	-14
THL	Klokotos Trika	1.14	2	ePB	Pb	20 44 41.5	-1.6
THL	Klokotos Trika	1.14	2	ePb	Pb	20 44 41.5	-1.6
ITM	Ithomi	1.25	181	ePN	Pn	20 44 40.3	-5.0
ITM	Ithomi	1.25	181	ePn	Pn	20 44 40.3	-5.0
MRKA	Markates	1.31	77	ePN	Pb	20 44 47.2	+0.5
MRKA	Markates	1.31	77	ePn	Pb	20 44 47.2	+0.5
DID	Didima	1.37	132	P	Pn	20 44 46.8	-0.7
DID				S	Sn	20 45 06.3	+0.1
DID	Didima	1.37	132	ePN	Pn	20 44 46.9	-0.6
DID	Didima	1.37	132	P	Pn	20 44 46.8	-0.7
DID				S	Sn	20 45 06.3	+0.1
DID	Didima	1.37	132	ePn	Pn	20 44 46.9	-0.6
PYL	PYLOS	1.54	186	ePG	Pn	20 44 45.5	-4.3
PYL	PYLOS	1.54	186	ePg	Pn	20 44 45.5	-4.3
VLI	Veliai	1.88	155	ePN	Pn	20 44 53.4	-1.0
VLI	Veliai	1.88	155	ePn	Pn	20 44 53.4	-1.0
FNA	Florina	2.40	349	ePN	Pn	20 45 01.4	-0.2
FNA	Florina	2.40	349	ePn	Pn	20 45 01.4	-0.2

IDC 03 20:55:24.2±1.4, 6.54°S×154.47°E, h0km, mb3.9/10, mb1 4.1/12, mb1mx4.0/40, mbtmp4.0/12, ML3.6/2, Error ellipse: s-maj=46.4km s-min=19.2km az=111.0

ISCJB 03 20:55:29.9±0.9, 6.6°S±0.1°×154.2°E±0.1°, h48km, mb3.9/10, Error ellipse: s-maj=21.4km s-min=10.4km az=43.6

ISC 03 20:55:31.1±1.1, 6.6°S±0.2°×154.3°E±0.2°, h48km±8km, n13, σ0.89/15, mb4.0/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.62	248	Pn	Pn	20 57 19.0	-0.6
	12nm,0.3s,baz=46,slow=9.7,SNR=28						
PMG				Sn	Sn	20 58 44.5	-0.1
	2.0nm,0.3s,baz=247,slow=13,SNR=3.0						
CTA	Charters Tower	15.51	210	Pn	Pn	20 59 05.8	-1.0
	0.1nm,0.3s,baz=23,slow=13,SNR=2.2						
WRA	Warramunga Arr	23.49	234	P	P	21 00 36.5	-0.3
	5.1nm,0.8s,baz=55,slow=9.9,SNR=25						
ASAR	Alice Springs	25.93	227	P	P	21 00 59.5	+0.4
	4.1nm,1.0s,baz=61,slow=8.5,SNR=15						
STKA	Stephens Creek	27.80	204	P	P	21 01 17.1	+1.3
	3.0nm,0.8s,baz=31,slow=5.9,SNR=4.2						
CMAR	Chiang Mai Arr	60.03	296	P	P	21 05 33.6	+0.1
	1.8nm,1.0s,baz=118,slow=5.3,SNR=8.5						
SONM	Songino Array	68.67	328	P	P	21 06 29.7	0.0
	0.5nm,0.5s,baz=147,slow=6.0,SNR=7.5						
MKAR	Makanchi Array	82.69	319	P	P	21 07 50.2	+0.4
	1.2nm,0.8s,baz=109,slow=7.1,SNR=9.7						
ILAR	Eielson Array	83.28	22	P	P	21 07 50.8	-1.6
	0.4nm,0.9s,baz=226,slow=4.5,SNR=4.2						
ZALV	Zalesovo Beam	83.50	326	P	P	21 07 54.0	+0.3
	0.8nm,0.5s,baz=110,slow=6.5,SNR=5.3						
KURBB	Kurchatov Arra	86.16	322	P	P	21 08 08.3	+1.1
	0.2nm,0.3s,baz=106,slow=3.7,SNR=6.1						
BVAR	Borovoye Array	91.60	323	P	P	21 08 32.3	-0.6
	0.3nm,0.6s,baz=186,slow=3.0,SNR=4.1						
TORD	Torodi Ar. Bea	152.29	286	PKPbc	PKPbc	21 15 23.5	+0.7
	1.9nm,0.8s,baz=78,slow=2.2,SNR=9.2						
TORD				PKPab	PKPab	21 15 33.8	+1.1
	1.2nm,0.7s,baz=71,slow=2.4,SNR=6.8						

ISCJB 03 21:01:09.1±0.2, 45.11°N±0.02°×106.91°W±0.02°, h0km, Error ellipse: s-maj=2.3km s-min=2.3km az=9.4

IDC 03 21:01:09.2±1.1, 44.79°N×106.62°W, h0km, mb1 3.7/2, mb1mx3.2/28, mbtmp3.6/2, ML3.1/2, Error ellipse: s-maj=53.8km s-min=8.3km az=138.0

NEIC 03 21:01:09.6±0.5, 45.19°N×106.93°W, h0km, ML2.6, Error ellipse: s-maj=8.2km s-min=6.2km az=146.0, Suspected Mining explosion.

NEIC 45 km [25 miles] N of Sheridan.

ISC 03 21:01:09.1±0.7, 45.10°N±0.02°×106.90°W±0.02°, h0km, n65, σ0.89/90, 28C-23D, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
G21A	Lodge Grass	0.26	301	P	Pg	21 01 14.5	+0.5
	baz=0.2,SNR=218						
G22A	Birney	0.45	74	⇑P	Pg	21 01 18.4	+0.7
	baz=0.5,SNR=53						
H21A	Big Horn, Sher	0.48	193	P	Pg	21 01 19.0	+0.7
	baz=0.6,SNR=101						
H22A	Clearmont	0.63	142	⇑P	Pg	21 01 22.0	+0.8
	baz=0.7						
F21A	Absaloka Mine,	0.75	348	⇓P	Pg	21 01 23.3	-0.1
	baz=0.7,SNR=20						
F22A	Rosebud	0.82	33	⇓P	Pg	21 01 25.0	+0.2
	baz=0.8,SNR=134						
G20A	Bridger	0.94	278	⇓P	Pg	21 01 26.4	-0.7
	baz=0.9						
H20A	Greybull	0.99	233	⇑P	Pg	21 01 27.7	-0.4
	baz=1.0						
G23A	Biddle	1.07	84	⇑P	Pg	21 01 29.8	+0.1
	baz=1.1,SNR=282						
F20A	Billings	1.13	309	⇑P	Pg	21 01 30.1	-0.7
	baz=1.1						
F20A				⇑S	Sg	21 01 46.3	+0.9
	baz=1.1						
H23A	Clabaugh Cattl	1.19	116	⇓P	Pg	21 01 31.7	-0.2
	baz=1.3,SNR=23						
F23A	Volborg	1.22	59	P	Pg	21 01 32.3	-0.2
	baz=1.2,SNR=65						
F23A				⇓S	Sb	21 01 49.5	0.0
	baz=1.2						
I22A	9 Mile Ranch,	1.24	166	⇑P	Pb	21 01 33.1	-0.4
	baz=1.3						
I22A				⇑S	Sn	21 01 50.8	-0.5
	baz=1.3						
I21A	Big Trails, Te	1.31	193	⇓P	Pg	21 01 33.4	-0.8
	baz=1.4						
I20A	Worland	1.45	218	⇑P	Pn	21 01 36.0	-0.6
	baz=1.5						
I20A				⇓S	Sn	21 01 56.6	+0.3
	baz=1.5						
E21A	Keefer Ranch,	1.45	355	⇑P	Pn	21 01 36.1	-0.6
	baz=1.4,SNR=43						
E21A				⇓S	Sb	21 01 56.3	+0.2
	baz=1.4						
E22A	Miles City	1.50	26	⇑P	Pn	21 01 36.9	-0.5
	baz=1.4,SNR=62						
I23A	Meade Ranch, G	1.53	137	⇑P	Pb	21 01 38.1	-0.3
	baz=1.6,SNR=20						
H19A	Powell	1.54	255	P	Pn	21 01 38.1	+0.1
	baz=1.5,SNR=141						
H19A				⇑S	Sg	21 01 59.4	+0.7
	baz=1.5						
F19A	Roth Farm, Mol	1.63	299	P	Pn	21 01 38.9	-0.2
	baz=1.6,SNR=172						
F19A				⇓S	Sn	21 02 00.8	0.0
	baz=1.6						
E20A	Meyer Farm, Mu	1.65	329	⇑P	Pn	21 01 39.4	-0.1
	baz=1.6,SNR=28						
E20A				⇑S	Sb	21 02 02.1	+0.2
	baz=1.6						
LAO	LASA Array	1.66	16	eP	Pn	21 01 39.5	0.0
LAO				eS	Sg	21 02 02.6	+0.1
RLMT	Red Lodge	1.68	272	ePn	Pn	21 01 39.9	0.0
H24A	Dirks Ranch, A	1.70	101	⇑P	Pn	21 01 40.3	+0.2
	baz=1.7,SNR=123						
H24A				⇓S	Sg	21 02 03.5	-0.3
	baz=1.7						
J22A	Midwest	1.71	170	P	Pn	21 01 40.5	+0.2
	baz=1.8,SNR=135						
J22A				⇑S	Sg	21 02 03.8	-0.2
	baz=1.8						
G24A	Alzada	1.77	82	⇑P	Pn	21 01 41.2	+0.2
	baz=1.8,SNR=49						
G24A				⇓S	Sb	21 02 05.3	0.0
	baz=1.8						
J21A	Lysite	1.79	193	⇓P	Pn	21 01 41.8	+0.3
	baz=1.9,SNR=18						
J21A				⇓S	Sb	21 02 06.1	+0.1
	baz=1.9						
I19A	Meeteetse	1.83	236	P	Pn	21 01 42.2	+0.2
	baz=1.9,SNR=46						
I19A				⇓S	Sb	21 02 07.1	-0.2
	baz=1.9						
F24A	Ekalaka	1.88	66	⇑P	Pn	21 01 42.9	+0.3
	baz=1.9,SNR=35						
F24A				⇓Sb	Sg	21 02 09.8	+0.3
	baz=1.9						
E19A	Rath Farm, Rou	1.90	317	⇓P	Pn	21 01 42.9	0.0
	baz=1.8,SNR=24						
E19A				⇓S	Sn	21 02 08.6	+1.0
	baz=1.8						
J20A	Shoshoni	1.94	207	⇓P	Pn	21 01 44.0	+0.6
	baz=2.0,SNR=39						
J20A				⇑S	Sb	21 02 10.2	0.0
	baz=2.0						
J23A	Dilts Ranch, B	1.95	150	⇓P	Pn	21 01 44.2	+0.7
	baz=2.0,SNR=92						
J23A				⇑Sb	Sg	21 02 11.9	+0.3
	baz=2.0						
D21A	La Casta Ranch	1.97	358	⇓P	Pn	21 01 44.5	+0.6
	baz=1.9,SNR=67						
H18A	Shoshone NF, C	2.01	259	P	Pn	21 01 44.5	0.0
	baz=2.0,SNR=205						
I24A	Kuemmerle Ranc	2.04	126	⇓P	Pn	21 01 45.0	+0.1
	baz=2.1,SNR=79						
GCMT	Greycliff	2.07	291	ePn	Pn	21 01 45.5	+0.3
GCMT				eSg	Sn	21 02 12.9	+1.1
D20A	Manuel Ranch,	2.17	337	P	Pn	21 01 46.8	+0.1
	baz=2.1,SNR=76						
RSSD	Black Hills	2.26	114	ePn	Pb	21 01 49.3	-1.7
RSSD				eSg	Sb	21 02 19.9	+0.3
E24A	Baker	2.33	50	⇑P	Pn	21 01 49.2	+0.5
	baz=2.3,SNR=20						
J24A	Dixon Ranch, L	2.39	137	⇓P	Pn	21 01 50.1	+0.6
	baz=2.5,SNR=29						
D24A	Glendive	2.70	41	⇑P	Pn	21 01 54.6	+0.8
	baz=2.6,SNR=27						
H17A	Grant Village	2.71	256	ePn	Pn	21 01 55.4	+1.2
YNR	Norris Junctio	2.71	263	ePn	Pb	21 01 57.0	-1.7
E25A	Miller Ranch,	2.82	59	⇑P	Pn	21 01 56.3	+0.8
	baz=2.8						
YMR	Madison River	2.92	263	ePn	Pn	21 01 57.2	+0.2
YMR				eSn	Sb	21 02 37.2	-1.4
PDAR	Pinedale Array	3.02	220	Pn	Pn	21 02 00.7	+2.3
	2.1nm,0.3s,baz=56,slow=16,SNR=33						
PDAR				Lg	Lg	21 02 40.0	
	5.7nm,0.3s,baz=48,slow=34,SNR=16						
BW06	Boulder Array	3.02	220	ePn	Pn	21 01 60.0	+1.6
BW06				eSg	Sb	21 02 41.3	0.0
C19A	Slack Wire Ran	3.03	331	⇑P	Pn	21 01 58.6	+0.2
	baz=2.9,SNR=31						
L23A	Garrett	3.10	163	⇑P	Pn	21 01 59.7	+0.2
	baz=3.2,SNR=13						
QLMT	Earthquake Lak	3.23	267	eP	Pb	21 02 06.1	-1.4
BOZ	Bozeman (W)	3.38	281	Pn	Pn	21 02 03.1	-0.2
BOZ				eSg	Sb	21 02 51.9	+0.2
EGMT	Eagleton	3.53	327	ePn	Pn	21 02 05.0	-0.3
EGMT	Eagleton	3.53	327	⇓P	Pn	21 02 05.6	+0.3
	baz=3.4,SNR=12						
D26A	Manning	3.66	56	⇑P	Pn	21 02 07.4	+0.4
	baz=3.6,SNR=11						
HRY	Holter Researc	3.81	297	Pn	Pn	21 02 07.4	-1.7
HRY				ePg	Pb	21 02 18.3	+1.1
AHID	Auburn Hatcher	3.83	234	Pn	Pn	21 02 10.5	+1.0
DGMT	Dagmar	3.85	28	ePn	Pn	21 02 09.9	+0.2
A22A	Carney Farms,	3.96	9	⇑P	Pn	21 02 11.4	+0.3
	baz=3.9,SNR=18						
LRM	Limekiln Ridge	3.98	283	ePn	Pn	21 02 11.6	0.0
LRM				eSg	Sb	21 03 08.1	-0.8
MCMT	McKenzie Canyo	4.23	268	ePn	Pn	21 02 14.9	-0.2
MCMT				ePg	Pb	21 02 26.8	+2.2
MCMT				eSg	Sb	21 03 20.6	+4.3
CHMT	Chamberlain Mo	4.79	295	Pn	Pn	21 02 20.3	-2.4
SRU	San Rafael	6.56	206	P	Pn	21 02 46.6	-0.4
I56US	NEWPORT INFRAS	7.71	298	i		21 46 50.0	
	baz=111,slow=329,SNR=0.5						
I10CA	LAC DU BONNET	8.94	51	i		21 51 50.0	
	baz=229,slow=326,SNR=0.6						
ULM	Lac du Bonnet	9.05	51	Pn	Pn	21 03 19.5	-1.3
	0.5nm,0.3s,baz=242,slow=9.9,SNR=11						
ULM				Lg	Lg	21 05 49.1	
	0.2nm,0.3s,baz=143,slow=5.1,SNR=2.4						

IDC 03 21:03:08.3±14.0, 17.05°S×177.42°W, h356km±157km, mb3.4/9, mb1 3.7/9, mb1mx3.5/20, mbtmp4.1/9, Error ellipse: s-maj=49.9km s-min=24.4km az=6.0

ISCJB 03 21:03:11.4±0.8, 17.2°S±0.2°×177.5°W±0.2°, h403km, mb3.7/9, Error ellipse: s-maj=29.6km s-min=16.2km az=44.4

ISC 03 21:03:12.6±0.9, 17.1°S±0.2°×177.5°W±0.2°, h403km, n12, σ1.15/12, mb3.7/9, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	21.59	192	P	P	21 07 29.3	-1.8
	3.0nm,0.3s,baz=281,slow=2.5,SNR=5.9						
STKA	Stephens Creek	39.76	241	P	P	21 10 09.9	+1.4
	2.7nm,0.4s,baz=84,slow=9.5,SNR=19						
WRA	Warramunga Arr	45.62	259	P	P	21 10 55.0	-0.1
	0.8nm,0.6s,baz=91,slow=7.6,SNR=17						
ASAR	Alice Springs	45.83	253	P	P	21 10 57.4	+0.6
	8.7nm,0.8s,baz=89,slow=8.0,SNR=106						
MJAR	Matsushiro Arr	67.79	323	P	P	21 13 27.7	-1.0
	0.7nm,0.5s,baz=140,slow=6.7,SNR=2.7						
NVAR	Mina Array Bea	78.26	44	P	P	21 14 29.9	+0.4
	0.8nm,0.7s,baz=222,slow=7.8,SNR=6.0						
TXAR	Lajitas Array	84.85	57	P	P	21 15 05.0	+1.3
	1.2nm,0.8s,baz=203,slow=5.4,SNR=8.0						
ILAR	Eielson Array	84.93	13	P	P	21 15 02.4	-0.7
	1.1nm,0.6s,baz=226,slow=5.2,SNR=27						
YKA	Yellowknife Ar	93.26	24	P	P	21 15 42.0	-0.2
	0.2nm,0.4s,baz=243,slow=4.5,SNR=5.6						
GERES	GERESS Array B	147.06	346	PKPbc	PKPbc	21 22 08.0	-0.9
	0.5nm,0.6s,baz=90,slow=2.9,SNR=4.7						
CSNA	Conrad Observa	147.37	343	⇑iPKPbc	PKPbc	21 22 10.8	+1.0
	2.6nm,0.8s						
ABTA	Abfaltersbach	149.31	346	⇑iPKPdf	PKPbc	21 22 13.8	-0.9
	3.7nm,0.9s						

WEL 03 21:28:33.0±0.3, 37.21°S×175.98°E, h270km±4km, ML3.8/12, 4C, Error ellipse: s-maj=7.0km s-min=4.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	1.38	140	⇑PN	Pn	21 29 12.4	+0.1
URZ				SN	S	21 29 43.2	-0.2
HAZ	Te Kaha	1.54	111	PN	Pn	21 29 13.6	+0.3
HAZ				SN	S	21 29 44.8	-0.6
MWZ	Matawai	1.66	133	PN	Pn	21 29 14.3	0.0
RAGZ	Rawiri	1.71	139	PN	Pn	21 29 15.0	+0.2
SNGZ	Shannon Statio	1.90	146	PN	Pn	21 29 16.3	+0.1
SNGZ				SN	S	21 29 49.3	-1.3
RAHZ	Arahi	1.91	153	PN	Pn	21 29 16.8	+0.4
BKZ	Black Stump Fm	1.99	168	⇑PN	Pn	21 29 16.8	-0.3
BKZ				SN	S	21 29 50.1	-2.0
NMHZ	Naumai	1.99	161	PN	Pn	21 29 17.6	+0.5
PUZ	Puketiti	2.00	116	PN	Pn	21 29 17.2	+0.1
PUZ				SN	S	21 29 50.3	-1.8
RIGZ	Rimuhau	2.05	137	PN	Pn	21 29 17.5	-0.1
FWVZ	Far West T-bar	2.07	189	PN	Pn	21 29 18.3	+0.4
TUVZ	Tukino	2.07	187	PN	Pn	21 29 17.9	+0.1
WHHZ	Waihua	2.11	152	PN	Pn	21 29 17.7	-0.2
WNVZ	Wahianoa	2.13	188	PN	Pn	21 29 18.4	0.0
CNGZ	Carnagh Statio	2.17	126	PN	Pn	21 29 19.3	+0.7
MOVZ	Moawhango	2.20	185	PN	Pn	21 29 18.4	-0.5
KNZ	Kokohu	2.25	144	PN	Pn	21 29 18.5	-0.7
BHHZ	Black Hill Sta	2.27	178	PN	Pn	21 29 19.0	-0.5
MCHZ	McNeill Hill	2.30	166	PN	Pn	21 29 19.5	-0.2
KRHZ	Kereru	2.45	173	PN	Pn	21 29 20.2	-0.9
KAHZ	Kahuranaki	2.67	165	PN	Pn	21 29 22.3	-1.0
PNHZ	Pukenui	2.71	176	PN	Pn	21 29 22.2	-1.4
TSZ	Takapari Road	2.84	180	⇑PN	Pn	21 29 23.4	-1.6
PXZ	Pawanui	2.90	166	PN	Pn	21 29 23.9	-1.7
DVHZ	Dannevirke	3.09	177	PN	Pn	21 29 25.4	-2.2
PRHZ	Porangahau	3.10	171	PN	Pn	21 29 25.4	-2.2
ANWZ	Angora Road	3.27	173	PN	Pn	21 29 27.5	-1.9
ANWZ				SN	S	21 30 10.6	-3.8
MRZ	Mangatainoka R	3.46	185	⇑PN	Pn	21 29 28.8	-2.7
BFZ	Birch Farm	3.47	177	PN	Pn	21 29 29.1	-2.6
TIWZ	Tintock	3.56	181	PN	Pn	21 29 29.9	-2.8
OGWZ	Otaki Gorge	3.66	190	PN	Pn	21 29 31.2	-2.5
HOWZ	Holdsworth Sta	3.70	185	PN	Pn	21 29 31.2	-3.0
KIW	Kapiti Island	3.74	193	PN	Pn	21 29 32.0	-2.6
TMWZ	Te Maipa	3.89	181	PN	Pn	21 29 33.2	-3.2
MTW	Mount Morrison	3.96	185	PN	Pn	21 29 33.8	-3.3
TCW	Tory Channel	4.21	198	PN	Pn	21 29 37.1	-2.8
PLWZ	Palliser	4.39	187	PN	Pn	21 29 38.3	-3.8
NNZ	Nelson	4.48	206	PN	Pn	21 29 39.8	-3.3
QRZ	Quartz Range	4.50	216	PN	Pn	21 29 40.5	-2.9
TUWZ	Tuamarina	4.50	200	PN	Pn	21 29 40.3	-3.0
KHZ	Kahutara	5.53	199	PN	Pn	21 29 51.8	-3.8
DSZ	Denniston Nort	5.56	214	PN	Pn	21 29 52.4	-3.7

IDC 03 21:30:17.3±1.6, 47.57°S×165.50°E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.9/21, mbtmp4.0/4, ML3.9/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/21, Error ellipse: s-maj=60.8km s-min=34.8km az=13.0

NEIC 03 21:30:19.6, 47.71°S×165.35°E, h74km, ML4.8(WEL), After WEL.

ISC 03 21:30:19.7±2.2, 47.7°S±0.1°×165.60°E±0.07°, h19km±8km, n56, σ1.52/51, mb3.8/3, MS3.4/5, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYZ	Puysegur Point	1.67	27	Pn	Pn	21 30 47.5	-0.4
PYZ	Puysegur Point	1.67	27	PN	Pn	21 30 47.5	-0.4
APZ	The Paps	1.83	64	Pn	Pn	21 30 50.4	+0.2
APZ	The Paps	1.83	64	PN	Pn	21 30 50.4	+0.2
APZ				SN	Sg	21 31 18.4	-0.2
WHZ	Wether Hill Ro	2.39	43	ePn	Pn	21 30 58.1	+0.3
WHZ				eSn	Sn	21 31 28.1	+1.5
WHZ	Wether Hill Ro	2.39	43	PN	Pn	21 30 58.3	+0.4
WHZ				SN	Sn	21 31 28.3	+1.6
DCZ	Deep Cove	2.43	27	Pn	Pn	21 30 58.4	0.0
DCZ	Deep Cove	2.43	27	PN	Pn	21 30 58.3	0.0
SYZ	Scrubby Hill	2.67	66	Pn	Pn	21 31 02.7	+1.1
SYZ	Scrubby Hill	2.67	66	PN	Pn	21 31 02.7	+1.1
MLZ	Mavora Lakes	2.92	38	Pn	Pn	21 31 05.7	+0.6
MLZ				Sn	Sn	21 31 40.6	+1.0
MLZ	Mavora Lakes	2.92	38	PN	Pn	21 31 05.3	+0.2
MLZ				SN	Sn	21 31 40.6	+1.0
TUZ	Tuapeka	3.25	60	Pn	Pn	21 31 10.8	+1.2
TUZ				Sn	Sn	21 31 50.0	+2.2
TUZ	Tuapeka	3.25	60	PN	Pn	21 31 11.0	+1.3
TUZ				SN	Sn	21 31 50.0	+2.2
MSZ	Milford Sound	3.40	29	Pn	Pn	21 31 14.5	+2.8
EAZ	Earnscleugh	3.53	48	Pn	Pn	21 31 14.2	+0.7
EAZ	Earnscleugh	3.53	48	PN	Pn	21 31 13.9	+0.4
WKZ	Wanaka	3.69	41	Pn	Pn	21 31 17.8	+2.0
HHSZ	Highcliff Hill	3.87	65	PN	Pn	21 31 19.5	+1.4
JCZ	Jackson Bay	4.21	33	Pn	Pn	21 31 25.2	+2.2
JCZ	Jackson Bay	4.21	33	PN	Pn	21 31 24.7	+1.7
ODZ	Otahua Downs	4.36	55	ePn	Pn	21 31 24.3	-0.7
ODZ				eSn	Sn	21 32 15.5	+0.3
ODZ	Otahua Downs	4.36	55	PN	Pn	21 31 24.2	-0.7
LBZ	Lake Benmore	4.57	46	Pn	Pn	21 31 27.1	-0.7
LBZ	Lake Benmore	4.57	46	PN	Pn	21 31 26.8	-1.0
FOZ	Fox Glacier	5.00	37	Pn	Pn	21 31 36.8	+3.2
FOZ	Fox Glacier	5.00	37	PN	Pn	21 31 36.8	+3.2
RPZ	Rata Peaks	5.49	46	ePn	Pn	21 31 38.2	-2.2
	46nm,0.5s						
RPZ				eSn	Sn	21 32 43.1	0.0
RPZ	Rata Peaks	5.49	46	PN	Pn	21 31 38.5	-1.9
WVZ	Waitaha Valley	5.84	40	Pn	Pn	21 31 47.8	+2.6
WVZ	Waitaha Valley	5.84	40	PN	Pn	21 31 47.8	+2.6
LTZ	Lake Taylor	6.78	46	PN	Pn	21 31 58.2	+0.1
THZ	Tophouse	7.86	44	PN	Pn	21 32 15.5	+2.5
QRZ	Quartz Range	8.45	39	PN	Pn	21 32 22.0	+1.0
NNZ	Nelson	8.51	44	PN	Pn	21 32 24.4	+2.5
URZ	Urewera	12.61	46	Pn	Pn	21 33 17.3	-0.6
	0.7nm,0.3s,baz=237,slow=9.9,SNR=3.8						
URZ				Sn	Sn	21 35 33.6	-4.2
	0.5nm,0.3s,baz=93,slow=17,SNR=3.2						
STKA	Stephens Creek	24.12	302	P	P	21 35 35.0	+0.7
	2.0nm,0.8s,baz=117,slow=9.7,SNR=3.5						
STKA				LR	LR	21 43 41.7	
	comp=Z,72nm,18.1s,baz=188,slow=34						
DZM	Mont Dzumac	25.54	2	LR	LR	21 44 50.2	
	comp=Z,60nm,18.7s,baz=218,slow=34						
ASAR	Alice Springs	34.76	302	P	P	21 37 08.4	-0.5
	1.7nm,0.7s,baz=135,slow=8.1,SNR=24						
ASAR				LR	LR	21 50 25.0	
	comp=Z,104nm,18.1s,baz=155,slow=35						
WRA	Warramunga Arr	37.49	307	P	P	21 37 30.6	-1.5
	0.8nm,0.7s,baz=141,slow=8.3,SNR=8.5						
RAR	Rarotonga	38.36	59	LR	LR	21 52 26.6	
	comp=Z,61nm,18.6s,baz=45,slow=35						
HNR	Honiara	38.40	351	LR	LR	21 51 23.3	
	comp=Z,56nm,18.7s,baz=162,slow=33						
H01W1	Cape Leeuwin H	40.01	269	T	T	22 20 08.8	
	baz=125,slow=75,SNR=145						
H01W2	Cape Leeuwin H	40.02	269	T	T	22 20 09.6	
	baz=125,slow=75,SNR=140						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
H01W3	Cape Leeuwin H	40.02	269	T	T	22 20 08.8	
	baz=125,slow=75,SNR=176						
H08S2	Diego Garcia H	86.50	263	T	T	23 18 06.4	
	baz=138,slow=76,SNR=24						
H08S1	Diego Garcia H	86.51	263	T	T	23 18 05.8	
	baz=138,slow=76,SNR=14						
H08S3	Diego Garcia H	86.52	263	T	T	23 18 06.3	
	baz=138,slow=76,SNR=32						
H08N1	Diego Garcia H	88.44	262	T	T	23 20 35.8	
	baz=144,slow=75,SNR=16						
H08N3	Diego Garcia H	88.46	262	T	T	23 20 44.5	
	baz=144,slow=75,SNR=13						
H08N2	Diego Garcia H	88.47	262	T	T	23 20 45.6	
	baz=144,slow=75,SNR=15						
TORD	Torodi Ar. Bea	143.06	207	PKhKP	PKPpre	21 49 48.3	
	0.4nm,0.5s,baz=169,slow=1.9,SNR=7.2						
TORD				PKP	PKPdf	21 49 51.6	-0.9
	0.4nm,0.5s,baz=145,slow=1.8,SNR=7.9						
BRTR	Keskin Array B	144.85	275	PKP	PKPbc	21 49 54.6	+0.4
	1.2nm,0.8s,baz=125,slow=3.7,SNR=4.8						
ARCES	ARCESS Array B	150.72	333	PKPbc	PKPbc	21 50 10.3	+1.1
	3.1nm,0.7s,baz=20,slow=3.9,SNR=6.9						
AKASG	Malin Array Be	151.63	293	PKPbc	PKPbc	21 50 12.3	+0.5
	1.4nm,0.6s,baz=79,slow=2.7,SNR=11						
FINES	FINESS Array B	153.29	316	PKPbc	PKPbc	21 50 15.5	+0.4
	1.0nm,0.5s,baz=48,slow=2.1,SNR=5.1						

*ISCJB **03** 21:57:55.1±0.3, 40°.40N±0°.02×28°.81E±0°.02, h5km±3km, Error ellipse: s-maj=3.6km s-min=2.7km az=43.2*
*DDA **03** 21:57:55.5, 40°.40N×28°.87E, h12km, MD3.4*
*CSEM **03** 21:57:55.3±0.1, 40°.38N×28°.85E, h2km, ML3.5, Error ellipse: s-maj=2.4km s-min=2.1km az=39.0*
*ISK **03** 21:57:55.0, 40°.40N×28°.85E, h9km, ML3.5*
*ATH **03** 21:58:07.6, 40°.22N×27°.71E, h34km, MD3.6/10*
ISC 03 21:57:55.6±0.8**, 40°.41N**±0°.02×**28°.86E**±0°.02**, h11**km±5km**, n161,**σ1s.02/181**, 17C-11D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MDNY	Mudanya-Bursa	0.04	151	PG	Pg	21 57 57.4	-0.2
MDNY				SG	Sg	21 57 58.6	-0.4
ARMT	Armutlu	0.16	1	PG	Pg	21 57 59.5	+0.2
ARMT				eSG	Sg	21 58 02.1	+0.3
ARMT	Armutlu	0.16	1	iPg	Pg	21 57 59.5	+0.2
ULDT	Uludag	0.34	141	iP	Pg	21 58 02.6	+0.1
ULDT				iS	Sg	21 58 07.3	+0.3
ULDT	Uludag	0.34	141	iP	Pg	21 58 02.6	+0.1
ULDT				iS	Sg	21 58 07.3	+0.3
ORLT	Orhaneli	0.36	175	ePG	Pg	21 58 02.9	+0.1
ORLT	Orhaneli	0.36	175	ePg	Pg	21 58 02.9	+0.1
ISK	Istanbul-Kandi	0.68	13	ePG	Pg	21 58 08.9	+0.2
ISK	Istanbul-Kandi	0.68	13	ePg	Pg	21 58 08.9	+0.2
HRT	Hereke	0.74	56	ePG	Pg	21 58 09.7	-0.3
HRT	Hereke	0.74	56	ePg	Pg	21 58 09.7	-0.3
EDC	Edincik	0.76	266	ePG	Pg	21 58 10.0	-0.3
EDC	Edincik	0.76	266	ePg	Pg	21 58 10.0	-0.3
BGKT	Bogazkoy	0.78	355	ePG	Pg	21 58 10.5	-0.2
BGKT	Bogazkoy	0.78	355	ePg	Pg	21 58 10.5	-0.2
CAVI	Cavuskoy	0.78	105	ePG	Pg	21 58 10.3	-0.4
CAVI	Cavuskoy	0.78	105	ePg	Pg	21 58 10.3	-0.4
ELBA	Catalca	0.81	337	iP	Pg	21 58 11.4	+0.2
ELBA				iS	Sb	21 58 22.5	-0.2
ELBA	Catalca	0.81	337	iP	Pg	21 58 11.4	+0.2
ELBA				iS	Sb	21 58 22.5	-0.2
KLYT	Kilyos	0.86	9	ePG	Pb	21 58 12.2	-0.3
KLYT	Kilyos	0.86	9	ePg	Pb	21 58 12.2	-0.3
CTKS	Kestanelik-??a	0.87	342	ePG	Pg	21 58 12.4	0.0
CTKS	Kestanelik-??a	0.87	342	ePg	Pg	21 58 12.4	0.0
SILT	Sile	0.96	38	ePG	Pb	21 58 14.1	-0.1
SILT	Sile	0.96	38	ePg	Pb	21 58 14.1	-0.1
SLVT	Silivri	0.96	329	ePG	Pg	21 58 13.5	-0.6
SLVT	Silivri	0.96	329	iP	Pg	21 58 13.0	-1.1
SLVT	Silivri	0.96	329	ePg	Pg	21 58 13.5	-0.6
TVSB	Tavsanli	1.06	154	ePG	Pb	21 58 15.3	-0.8
TVSB	Tavsanli	1.06	154	ePg	Pb	21 58 15.3	-0.8
BALB	Balikesir	1.07	225	ePG	Pb	21 58 15.8	-0.4
BALB	Balikesir	1.07	225	ePg	Pb	21 58 15.8	-0.4
GPA	Golpazari	1.12	96	ePN	Pb	21 58 16.9	0.0
GPA	Golpazari	1.12	96	ePn	Pb	21 58 16.9	0.0
CRLT	Corlu	1.12	311	ePN	Pn	21 58 17.6	+0.4
CRLT	Corlu	1.12	311	ePn	Pn	21 58 17.6	+0.4
CTYL	Yal??k??y-??at	1.15	338	ePN	Pb	21 58 17.3	-0.3
CTYL	Yal??k??y-??at	1.15	338	ePn	Pb	21 58 17.3	-0.3
KRBG	Karabiga-Canak	1.19	270	ePN	Pn	21 58 17.9	-0.3
KRBG	Karabiga-Canak	1.19	270	ePn	Pn	21 58 17.9	-0.3
SART	Tekirdag	1.31	283	iP	Pg	21 58 20.8	0.0
SART				iS	Sg	21 58 39.7	+2.0
SART	Tekirdag	1.31	283	iP	Pg	21 58 20.8	0.0
SART				iS	Sg	21 58 39.8	+2.0
RKY	Sarkoy-Tekirda	1.31	283	ePN	Pb	21 58 20.2	-0.1
RKY	Sarkoy-Tekirda	1.31	283	ePn	Pb	21 58 20.2	-0.1
BORA	Eskisehir	1.33	113	iP	Pn	21 58 20.2	0.0
BORA				iS	Sg	21 58 39.6	+1.2
BORA	Eskisehir	1.33	113	iP	Pn	21 58 20.2	0.0
BORA				iS	Sg	21 58 39.6	+1.2
GDZ	Gediz	1.40	160	iP	Pn	21 58 21.5	+0.3
GDZ				iS	Sg	21 58 42.8	+2.1
GDZ	Gediz	1.40	160	iP	Pn	21 58 21.5	+0.3
GDZ				iS	Sg	21 58 42.8	+2.1
LPK	Lapseki	1.60	270	ePN	Pn	21 58 24.3	+0.4
LPK	Lapseki	1.60	270	ePn	Pn	21 58 24.3	+0.4
BTAS	Taskesti	1.64	84	iP	Pb	21 58 25.5	-0.5
BTAS				iS	Sg	21 58 48.9	+0.5
BTAS	Taskesti	1.64	84	iP	Pb	21 58 25.5	-0.5
BTAS				iS	Sg	21 58 48.9	+0.5
ALT	Altintas	1.66	144	ePN	Pn	21 58 25.4	+0.6
ALT	Altintas	1.66	144	ePn	Pn	21 58 25.4	+0.6
AKHS	Akhisar	1.72	208	iP	Pn	21 58 25.4	-0.2
AKHS				iS	Sg	21 58 52.1	+1.1
AKHS	Akhisar	1.72	208	iP	Pn	21 58 25.4	-0.2
AKHS				iS	Sg	21 58 52.1	+1.1
AKS	Akhisar	1.73	208	ePN	Pn	21 58 25.5	-0.1
AKS	Akhisar	1.73	208	ePn	Pn	21 58 25.5	-0.1
SEYT	Eskypehyr	1.77	119	iP	Pn	21 58 26.8	+0.5
SEYT	Eskypehyr	1.77	119	iP	Pn	21 58 26.8	+0.5
SEYT				iS	Sg	21 58 53.6	+1.2
MDUB	Mudurnu	1.79	87	ePN	Pn	21 58 27.0	+0.5
MDUB	Mudurnu	1.79	87	ePn	Pn	21 58 27.0	+0.5
ERIK	Erikli-Kesan	1.81	279	ePN	Pn	21 58 26.7	0.0
ERIK	Erikli-Kesan	1.81	279	ePn	Pn	21 58 26.7	0.0
GELI	Tayfur-Gelibol	1.82	271	ePN	Pn	21 58 27.3	+0.4
GELI	Tayfur-Gelibol	1.82	271	ePn	Pn	21 58 27.3	+0.4
AYVA	Ayvalik	2.00	237	iP	Pn	21 58 30.0	+0.7
AYVA	Ayvalik	2.00	237	iP	Pn	21 58 30.0	+0.7
AYVA				iS	Sg	21 59 00.8	+1.1
ENEZ	Enez	2.09	280	ePN	Pn	21 58 30.5	0.0
ENEZ	Enez	2.09	280	ePn	Pn	21 58 30.5	0.0
KHL	Karahalli	2.14	166	ePN	Pn	21 58 31.9	+0.5
KHL	Karahalli	2.14	166	ePn	Pn	21 58 31.9	+0.5
EDRB	Edirne	2.15	313	ePN	Pn	21 58 32.1	+0.7
EDRB	Edirne	2.15	313	ePn	Pn	21 58 32.1	+0.7
ALN	Alexandroupoli	2.19	284	ePN	Pn	21 58 32.5	+0.5
ALN	Alexandroupoli	2.19	284	ePb	Pn	21 58 32.7	+0.7
ALN	Alexandroupoli	2.19	284	ePn	Pn	21 58 32.5	+0.5
ALN	Alexandroupoli	2.19	284	ePb	Pn	21 58 32.7	+0.7
SVRH	Sivrihisar-ESK	2.26	114	ePN	Pn	21 58 33.5	+0.4
SVRH	Sivrihisar-ESK	2.26	114	ePn	Pn	21 58 33.5	+0.4
SHUT	Suhut-Afyon	2.27	144	ePN	Pn	21 58 33.5	+0.3
SHUT	Suhut-Afyon	2.27	144	ePn	Pn	21 58 33.5	+0.3
PRK	Paraskevi	2.30	241	ePB	Pn	21 58 33.2	-0.3
PRK	Paraskevi	2.30	241	ePb	Pn	21 58 33.2	-0.3
BLCB	Balcova	2.46	215	ePN	Pn	21 58 36.7	+1.1
BLCB	Balcova	2.46	215	ePn	Pn	21 58 36.7	+1.1
BCAM	Yenicaga	2.48	79	iP	Pn	21 58 36.8	+0.8
BCAM	Yenicaga	2.48	79	iP	Pn	21 58 36.8	+0.8
BCAM				iS	Sg	21 59 13.7	-1.5
SMTH	Samothraki Isl	2.54	273	ePB	Pn	21 58 37.1	+0.3
SMTH	Samothraki Isl	2.54	273	ePb	Pn	21 58 37.1	+0.3
AYDB	Zeytinkoy-Aydi	2.57	197	ePN	Pn	21 58 37.5	+0.2
AYDB	Zeytinkoy-Aydi	2.57	197	ePn	Pn	21 58 37.5	+0.2
SIGR	SIGRI	2.60	244	ePN	Pn	21 58 38.3	+0.7
SIGR	SIGRI	2.60	244	ePB	Pn	21 58 37.7	+0.1
SIGR	SIGRI	2.60	244	ePb	Pn	21 58 37.7	+0.1
SIGR	SIGRI	2.60	244	ePn	Pn	21 58 38.3	+0.7
RDO	Rodhopi	2.63	287	ePN	Pn	21 58 38.5	+0.5
RDO	Rodhopi	2.63	287	ePn	Pn	21 58 38.5	+0.5
JMB	Yambol	2.68	321	⇑iP	Pb	21 58 41.6	-1.9
JMB	Yambol	2.68	321	⇑iP	Pb	21 58 41.6	-1.9
URLA	Izmir	2.69	221	iP	Pg	21 58 46.3	-0.9
URLA				iS	Sg	21 59 24.3	+2.3
KIZT	Kizilcal	2.79	122	ePN	Pn	21 58 41.3	+1.0
KIZT	Kizilcal	2.79	122	ePn	Pn	21 58 41.3	+1.0
LIA	Limnos Island	2.86	261	ePN	Pn	21 58 40.8	-0.4
LIA	Limnos Island	2.86	261	ePn	Pn	21 58 40.8	-0.4
KDZ	Kurdzhali	2.88	297	⇑iP	Pb	21 58 45.3	-1.8
KDZ	Kurdzhali	2.88	297	⇑iP	Pb	21 58 45.3	-1.8
ISP	Isparta	2.89	153	⇑iP	Pg	21 58 51.6	+0.7
ISP	Isparta	2.89	153	S	Sg	21 59 31.0	+2.7
CHOS	Chios island	2.96	228	ePN	Pn	21 58 43.9	+1.2
CHOS	Chios island	2.96	228	ePN	Pn	21 58 44.1	+1.4
CHOS	Chios island	2.96	228	ePn	Pn	21 58 43.9	+1.2
SAFT	Safranbolu	3.02	73	ePN	Pn	21 58 44.3	+0.9
SAFT	Safranbolu	3.02	73	ePn	Pn	21 58 44.3	+0.9
ANTO	Ankara	3.06	99	⇓iP	Pg	21 58 53.2	-1.1
SMG	Samos	3.12	211	ePN	Pb	21 58 49.7	-1.4
SMG	Samos	3.12	211	ePn	Pb	21 58 49.7	-1.4
PSN	Preselentsi	3.31	352	⇓iP	Pn	21 58 47.8	+0.4
PSN	Preselentsi	3.31	352	S	Sn	21 59 24.7	-2.1
PSN	Preselentsi	3.31	352	⇓iP	Pn	21 58 47.8	+0.4
KAVA	Kavala	3.35	282	ePN	Pn	21 58 48.8	+0.8
KAVA	Kavala	3.35	282	ePn	Pn	21 58 48.8	+0.8
MANR	Mangalia	3.42	357	⇑iP	Pn	21 58 50.3	+1.5
MANR	Mangalia	3.42	357	⇑iP	Pn	21 58 50.3	+1.5
OUR	Ouranopolis	3.73	270	ePN	Pn	21 58 53.7	+0.6
OUR	Ouranopolis	3.73	270	ePn	Pn	21 58 53.7	+0.6
MSAB	Monastry St. A	3.76	349	⇓iP	Pn	21 58 56.0	+2.4
MSAB	Monastry St. A	3.76	349	⇓iP	Pn	21 58 56.0	+2.4
NVR	Nevrokopi	3.90	286	ePN	Pn	21 58 56.8	+1.2
NVR	Nevrokopi	3.90	286	ePn	Pn	21 58 56.8	+1.2
PAIG	Paliouri	4.00	265	ePN	Pn	21 58 57.0	+0.2
PAIG	Paliouri	4.00	265	ePn	Pn	21 58 57.0	+0.2
AOS	Alonnisos	4.03	254	ePN	Pn	21 58 57.0	-0.2
AOS	Alonnisos	4.03	254	ePn	Pn	21 58 57.0	-0.2
MMB	Musomiste	4.06	289	⇑iP	Pn	21 59 00.3	+2.6
MMB	Musomiste	4.06	289	⇑iP	Pn	21 59 00.3	+2.6
SRS	Serrai	4.06	282	ePN	Pn	21 58 58.6	+0.9
SRS	Serrai	4.06	282	ePn	Pn	21 58 58.6	+0.9
TIRR	Tirgusor	4.06	356	⇑iP	Pn	21 58 58.4	+0.7
TIRR	Tirgusor	4.06	356	⇑iP	Pn	21 58 58.4	+0.7
PLG	Polygyros	4.13	271	ePN	Pn	21 58 58.3	-0.4
PLG	Polygyros	4.13	271	ePn	Pn	21 58 58.3	-0.4
SOH	Sokhos	4.21	277	ePN	Pn	21 59 00.5	+0.7
SOH	Sokhos	4.21	277	ePn	Pn	21 59 00.5	+0.7
TLB	Topalu	4.22	352	⇓iP	Pn	21 59 01.4	+1.5
TLB	Topalu	4.22	352	⇓iP	Pn	21 59 01.4	+1.5
HORT	Hortiatis	4.39	274	ePN	Pn	21 59 03.0	+0.7
HORT	Hortiatis	4.39	274	ePn	Pn	21 59 03.0	+0.7
KNT	Kendrikon	4.59	281	ePN	Pn	21 59 06.7	+1.8
KNT	Kendrikon	4.59	281	ePn	Pn	21 59 06.7	+1.8
CFR	Carcaliu	4.80	354	⇑iP	Pn	21 59 08.1	+0.3
CFR	Carcaliu	4.80	354	S	Sn	22 00 01.6	-1.8
CFR	Carcaliu	4.80	354	⇑iP	Pn	21 59 08.1	+0.3
MTUR	Matau	5.57	331	⇓iP	Pn	21 59 20.6	+2.1
MTUR	Matau	5.57	331	⇓iP	Pn	21 59 20.6	+2.1
VRI	Vrincioaia	5.68	345	⇑iP	Pn	21 59 22.5	+2.6
VRI	Vrincioaia	5.68	345	⇑iP	Pn	21 59 22.5	+2.6
VOIR		5.75	332	⇑iP	Pn	21 59 23.3	+2.3
VOIR		5.75	332	⇑iP	Pn	21 59 23.3	+2.3
TESR	Tescani	6.31	346	⇓iP	Pn	21 59 30.2	+1.6
TESR	Tescani	6.31	346	⇓iP	Pn	21 59 30.2	+1.6

IDC 03 22:11:28.3±2.4**, 5°.26N**×**127°.09E, h0**km**, mb3.4**/3**, mb1 3.7**/3**, mb1mx3.4**/23**, mbtmp3.4**/3**, Error ellipse: s-maj=176.1km s-min=28.2km az=66.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	Warramunga Arr	26.04	164	P	P	22 17 02.4	-1.1
	0.7nm,0.6s,baz=344,slow=10,SNR=5.1						
ASAR	Alice Springs	29.51	167	P	P	22 17 35.6	+1.0
	0.3nm,0.4s,baz=336,slow=9.4,SNR=7.4						
MKAR	Makanchi Array	56.52	325	P	P	22 21 12.4	-0.1
	0.1nm,0.4s,baz=131,slow=5.2,SNR=4.0						

IDC 03 22:26:58.5±2.0**, 0°.17S**×**123°.84E, h0**km**, mb3.4**/4**, mb1 3.7**/4**, mb1mx3.4**/22**, mbtmp3.4**/4**, MS3.1**/2**, Ms1 3.2**/2**, ms1mx2.6**/16**, Error ellipse: s-maj=155.1km s-min=23.0km az=57.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	Warramunga Arr	22.18	153	P	P	22 31 55.6	-0.8
	1.3nm,0.9s,baz=335,slow=9.6,SNR=5.5						
PSI	Prapat	25.08	277	LR	LR	22 41 59.2	
	comp=Z,69nm,18.9s,baz=88,slow=36						
ASAR	Alice Springs	25.32	158	P	P	22 32 27.6	+0.4
	0.6nm,0.8s,baz=339,slow=9.9,SNR=4.0						
CMAR	Chiang Mai Arr	30.68	308	P	P	22 33 14.6	-0.5
	0.5nm,0.6s,baz=141,slow=7.4,SNR=4.7						
CMAR				LR	LR	22 46 16.8	
	comp=Z,23nm,19.7s,baz=138,slow=38						
MKAR	Makanchi Array	59.20	328	P	P	22 37 02.0	+0.5
	0.1nm,0.4s,baz=141,slow=8.2,SNR=3.4						

IDC 03 22:30:04.2±1.9**, 1°.05S**×**126°.32E, h0**km**, mb3.4**/3**, mb1 3.7**/3**, mb1mx3.4**/22**, mbtmp3.5**/3**, Error ellipse: s-maj=180.5km s-min=25.0km az=65.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	Warramunga Arr	20.36	158	P	P	22 34 41.5	-1.0
	0.9nm,0.6s,baz=336,slow=11,SNR=3.4						
ASAR	Alice Springs	23.66	162	P	P	22 35 18.2	+0.6
	1.4nm,0.5s,baz=342,slow=11,SNR=15						
MKAR	Makanchi Array	61.27	327	P	P	22 40 21.3	-0.1
	0.1nm,0.4s,baz=122,slow=7.8,SNR=3.9						

*MOS **03** 22:39:42.7±0.8, 28°.47N×57°.11E, h33km, mb4.6/35, Error ellipse: s-maj=8.1km s-min=4.5km az=124.3*
*ISCJB **03** 22:39:42.3±0.2, 28°.58N±0°.02×57°.07E±0°.03, h23km, mb4.5/99, MS3.4/15, Error ellipse: s-maj=3.3km s-min=3.2km az=145.5*
*BJI **03** 22:39:42.6, 28°.19N×57°.67E, h10km, mB4.8/12, mb4.4/24, Ms4.0/5, Ms7 3.9/5*
*IDC **03** 22:39:43.8±0.7, 28°.42N×57°.15E, h31km±4km, mb4.0/26, mb1 4.1/31, mb1mx4.0/39, mbtmp4.1/31, ML3.9/5, MS3.4/12, Ms1 3.4/12, ms1mx3.1/34, Error ellipse: s-maj=18.4km s-min=11.0km az=1.0*
*CSEM **03** 22:39:44.9±0.1, 28°.61N×57°.13E, h30km, mb4.5/71, Ms3.3, Error ellipse: s-maj=5.1km s-min=3.8km az=98.0*
*NEIC **03** 22:39:45.2, 28°.59N×57°.01E, h14km, mb4.9/41, ML4.3(THR), MN4.4(TEH), After THR.*
*THR **03** 22:39:45.2±0.6, 28°.59N×57°.01E, h14km±7km, ML4.3*
*TEH **03** 22:39:47.2, 28°.51N×57°.13E, h19km, ML4.4*
*OMAN **03** 22:39:48.9±99.0, 28°.35N×57°.51E, h35km±6km, Error ellipse: s-maj=57.3km s-min=4.4km az=3.0*
*DSN **03** 22:39:50.5±1.6, 28°.26N×56°.69E, h15km, mb4.0/6, ML4.7/5, Ms4.0/1, Error ellipse: s-maj=38.2km s-min=4.0km az=79.0*
ISC 03 22:39:43.4±0.3**, 28°.54N**±0°.03×**57°.18E**±0°.03**, h20**km±1km**, h20**km**:pP-P, n447,** σ1s.36/471**, mb4.5**/99**, MS3.4**/15**, 57C-25D, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IBND	Bandar-abas	1.23	208	e		22 40 39.4	
	comp=Z,93µm,0.2s						
IBND				⇓ePg	Pg	22 40 08.6	+1.5
BNDS	Bandar-Abbas	1.45	218	ePg	Pg	22 40 11.0	-0.3
BNDS	Bandar-Abbas	1.45	218	ePg	Pg	22 40 11.0	-0.3
	comp=Z,6µm,0.9s						
BNDS	Bandar-Abbas	1.45	218	ePg	Pg	22 40 11.0	-0.3
BNDS				AML	AML	22 40 33.4	
	comp=E,7µm,0.6s						
BNDS				AML	AML	22 40 40.3	
	comp=N,6µm,0.9s						
KRBR	Kerman	1.48	346	ePg	Pb	22 40 11.1	+0.6
KRBR	Kerman	1.48	346	ePg	Pb	22 40 11.1	+0.6
	comp=N,4µm,0.3s						
KRBR	Kerman	1.48	346	ePg	Pb	22 40 11.1	+0.6
KRBR				AML	AML	22 40 42.8	
	comp=E,3µm,0.5s						
KRBR				AML	AML	22 40 43.5	
	comp=N,4µm,0.3s						
BANOM	Banah	2.72	197	⇑P	Pn	22 40 27.7	+1.7
	SNR=87						
BANOM				⇓S	Sn	22 41 00.8	+2.4
BANOM	Banah	2.72	197	P	Pn	22 40 27.7	+1.7
	SNR=87						
BANOM				S	Sn	22 41 00.8	+2.4
IBAF	Bafgh	3.35	336	ePn	Pb	22 40 38.8	-3.4
IBAF				e		22 40 53.2	
	comp=Z,5µm,0.2s						
IBAF	Bafgh	3.35	336	Pn	Pb	22 40 38.7	-3.4
IBAF	Bafgh	3.35	336	Pn	Pb	22 40 38.7	-3.4
IMEH	Mehriz	3.61	323	ePn	Pn	22 40 42.0	+3.5
IMEH				eSg	Sg	22 41 39.9	+0.4
IMEH				e		22 41 43.0	
	comp=Z,4µm,0.3s						
IMEH	Mehriz	3.61	323	Pn	Pn	22 40 42.0	+3.5
IMEH				Sg	Sg	22 41 39.8	+0.4
IMEH	Mehriz	3.61	323	ePn	Pn	22 40 42.0	+3.5
IMEH				Sg	Sg	22 41 39.8	+0.4
GHIR	Ghir-Karzin	3.70	267	ePn	Pn	22 40 42.1	+2.5
GHIR	Ghir-Karzin	3.70	267	ePn	Pn	22 40 42.1	+2.5
	comp=Z,340nm,0.6s						
GHIR	Ghir-Karzin	3.70	267	ePn	Pn	22 40 42.1	+2.5
GHIR				AML	AML	22 41 52.9	
	comp=N,414nm,0.3s						
GHIR				AML	AML	22 42 04.1	
	comp=E,340nm,0.6s						
NAZ	Nazwa, Dubai	3.79	201	P	Pn	22 40 42.9	+2.2
	SNR=25						
NAZ	Nazwa, Dubai	3.79	201	iP	Pn	22 40 42.9	+2.2
	SNR=25						
IPAR	Pars	3.84	291	ePn	Pn	22 40 45.1	+3.5
IPAR				e		22 41 58.0	
	comp=Z,4µm,0.3s						
IPAR	Pars	3.84	291	Pn	Pn	22 40 46.0	+4.3
IPAR	Pars	3.84	291	ePn	Pn	22 40 45.2	+3.5
ASHO	Ashiyiah	3.97	195	⇑P	Pn	22 40 45.7	+2.5
	SNR=27						
ASHO	Ashiyiah	3.97	195	P	Pn	22 40 45.7	+2.5
	SNR=27						
FAQ	Al Faqa, Dubai	4.04	201	P	Pn	22 40 46.0	+1.9
	SNR=32						
FAQ	Al Faqa, Dubai	4.04	201	⇓iP	Pn	22 40 46.0	+1.9
	SNR=32						
IKOO	Kooshah	4.18	22	ePn	Pn	22 40 50.5	+4.2
IKOO				e		22 41 11.0	
	comp=Z,7µm,0.2s						
IKOO	Kooshah	4.18	22	Pn	Pn	22 40 50.6	+4.3
IKOO	Kooshah	4.18	22	ePn	Pn	22 40 50.5	+4.2
ASUD	Al Ashush, Dub	4.24	203	P	Pn	22 40 49.3	+2.5
	SNR=41						
ASUD	Al Ashush, Dub	4.24	203	⇓iP	Pn	22 40 49.3	+2.5
	SNR=41						
ICHK	Chekchek	4.40	328	ePn	Pn	22 40 53.1	+3.7
ICHK				e		22 42 14.2	
	comp=Z,2µm,0.3s						
ICHK	Chekchek	4.40	328	Pn	Pn	22 40 53.0	+3.7
ICHK	Chekchek	4.40	328	Pn	Pn	22 40 53.0	+3.7
ISAD	Sadrabad	4.52	319	ePn	Pn	22 40 54.8	+3.7
ISAD				e		22 42 15.3	
	comp=Z,2µm,0.3s						
ISAD	Sadrabad	4.52	319	Pn	Pn	22 40 55.3	+4.3
ISAD	Sadrabad	4.52	319	ePn	Pn	22 40 54.8	+3.7
IDAH	Dahanechah	4.78	28	ePn	Pn	22 40 58.6	+4.0
IDAH				e		22 41 26.5	
	comp=Z,4µm,0.3s						
IDAH	Dahanechah	4.78	28	Pn	Pn	22 40 58.5	+4.0
IDAH	Dahanechah	4.78	28	ePn	Pn	22 40 58.6	+4.0
HOQ	Hoqain	4.94	179	⇑P	Pn	22 40 56.9	+0.4
HOQ	Hoqain	4.94	179	P	Pn	22 40 56.9	+0.4
TABS	Tabas	5.09	359	ePn	Pn	22 41 02.9	+4.2
TABS	Tabas	5.09	359	ePn	Pn	22 41 02.9	+4.2
ARQ	Araqi	5.21	187	⇓P	Pn	22 41 02.9	+2.6
	SNR=24						
ARQ				⇑S	Sn	22 42 02.6	+2.7
ARQ	Araqi	5.21	187	P	Pn	22 41 02.9	+2.6
	SNR=24						
ARQ				S	Sn	22 42 02.6	+2.7
SMDO	Samad	5.51	172	⇓P	Pn	22 41 05.6	+1.1
SMDO				⇓S	Sn	22 42 06.8	-0.6
SMDO	Samad	5.51	172	P	Pn	22 41 05.6	+1.1
SMDO				S	Sn	22 42 06.8	-0.6
NASN	Na'in	5.68	320	ePn	Pn	22 41 09.9	+3.0
NASN	Na'in	5.68	320	ePn	Pn	22 41 09.9	+3.0
NASN	Na'in	5.68	320	ePn	Pn	22 41 09.9	+3.0
IZEF	Zefreh	6.03	317	ePn	Pn	22 41 14.4	+2.7
IZEF				e		22 43 14.0	
	comp=Z,430nm,0.3s						
IZEF	Zefreh	6.03	317	Pn	Pn	22 41 14.3	+2.7
IZEF	Zefreh	6.03	317	ePn	Pn	22 41 14.4	+2.7
WBK	Wadi Bani Khal	6.12	164	⇓P	Pn	22 41 13.7	+0.9
WBK				⇑S	Sn	22 42 20.1	-2.2
WBK	Wadi Bani Khal	6.12	164	P	Pn	22 41 13.7	+0.9
WBK				S	Sn	22 42 20.1	-2.2
JMDO	Jabal Madar	6.20	172	⇓P	Pn	22 41 15.7	+1.8
JMDO	Jabal Madar	6.20	172	P	Pn	22 41 15.7	+1.8
IKLH	Kolahrood	6.77	316	ePn	Pn	22 41 24.7	+2.8
IKLH				e		22 43 44.1	
	comp=Z,614nm,0.6s						
IKLH	Kolahrood	6.77	316	Pn	Pn	22 41 24.4	+2.5
IKLH	Kolahrood	6.77	316	ePn	Pn	22 41 24.7	+2.8
IPIR	Pirpir	6.81	309	ePn	Pn	22 41 25.1	+2.6
IPIR				e		22 42 45.6	
	comp=Z,711nm,0.3s						
IPIR	Pirpir	6.81	309	Pn	Pn	22 41 25.1	+2.6
IPIR	Pirpir	6.81	309	ePn	Pn	22 41 25.1	+2.6
SLWS		6.93	239	P	Pn	22 41 25.0	+1.1
SLWS				S	Sn	22 42 40.0	-2.2
SLWS		6.93	239	P	Pn	22 41 24.7	+0.8
BTHS		7.23	233	P	Pn	22 41 28.0	0.0
BTHS		7.23	233	P	Pn	22 41 28.2	+0.2
BOQSS		7.44	251	P	Pn	22 41 31.0	+0.1
BOQSS				S	Sn	22 42 53.0	-1.7
KFJS		8.15	270	P	Pn	22 41 42.0	+1.4
RAYN	Ar Rayn	11.63	247	ePn	Pn	22 42 25.1	-3.2
RAYN				eSn	Sn	22 44 20.7	-17
RAYN	Ar Rayn	11.63	247	ePn	Pn	22 42 25.1	-3.2
RAYN				eSn	Sn	22 44 20.7	-17
GNI	Garni	15.46	322	P	P	22 43 25.3	+0.4
GNI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,78nm,19.1s						
GNI	Garni	15.46	322	Pn	P	22 43 25.3	+0.4
	comp=Z,1.6nm,0.3s,baz=210,slow=0.9,SNR=16						
GNI				LR	LR	22 49 59.7	
	comp=Z,78nm,19.1s,baz=108,slow=40						
GNI	Garni	15.46	322	ePn	P	22 43 25.5	+0.7
GNI	Garni	15.46	322	ePn	P	22 43 25.5	+0.7
GNI	Garni	15.46	322	⇓iP	P	22 43 27.8	+2.9
	SNR=5.5						
ZEI	Tsey	17.82	326	eP	P	22 43 52.8	+1.8
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ZEI	Tsey	17.82	326	eP	P	22 43 52.8	+1.8
	comp=Z,7.0nm,0.6s						
ASF	Jabal al Asfar	17.88	287	P	Pn	22 43 49.8	-1.2
	comp=Z,0.6nm,0.3s,baz=287,slow=1.1,SNR=7.1						
ASF				S	Sn	22 46 54.5	-15
	comp=Z,0.2nm,0.3s,baz=72,slow=20,SNR=2.2						
KKAR	Karatay Array	18.08	33	eP	P	22 43 54.8	+1.1
KKAR	Karatay Array	18.08	33	ePn	P	22 43 54.8	+1.1
KKAR	Karatay Array	18.08	33	eP	P	22 43 54.8	+1.1
KSH	Kashi	19.00	50	eP	P	22 44 01.0	-2.9
KSH				esP	sP	22 44 07.6	-4.6
KSH				ePP	PnPn	22 44 16.6	-0.7
KSH				S	Sn	22 47 26.2	-11
KSH				sS	S	22 47 32.5	-6.4
KSH				SS	SnSn	22 47 51.8	+0.7
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,140nm,4.6s						
KSH				LR	LR		
	comp=Z,99nm,5.6s						
KSH				LR	LR		
	comp=Z,130nm,5.6s						
KSH				LR	LR		
	comp=Z,160nm,5.6s						
KBZ	Khabaz	19.00	327	P	P	22 44 02.9	-0.8
	comp=Z,0.1nm,0.3s,baz=122,slow=9.5,SNR=3.7						
MMAI	Mount Meron Ar	19.23	289	P	Pn	22 44 07.3	-0.2
	comp=Z,0.6nm,0.3s,baz=101,slow=15,SNR=3.9						
KIV	Kislovodsk	19.28	327	eP	Pn	22 44 09.1	+1.2

KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,23nm,15.0s
KIV Kislovodsk 19.28 327 ePn P 22 44 07.5 +0.6
comp=Z,29nm,1.2s
KIV Kislovodsk 19.28 327 ePn P 22 44 07.5 +0.6
comp=Z,29nm,1.2s
KIV Kislovodsk 19.28 327 eP Pn 22 44 09.1 +1.2
comp=Z,23nm,15.0s
EIL Elat 19.46 279 P P 22 44 09.6 +0.7
comp=Z,0.7nm,0.3s,baz=64,slow=4.7,SNR=6.7
EKS2 Erkin-Say 19.46 39 eP Pn 22 44 09.7 -0.5
EKS2 pmax pmax
comp=Z,20nm,1.1s
EKS2 Erkin-Say 19.46 39 ePn Pn 22 44 09.7 -0.5
comp=Z,20nm,1.1s
EKS2 Erkin-Say 19.46 39 eP Pn 22 44 09.7 -0.5
comp=Z,20nm,1.1s
AAK Ala-Archa 19.85 40 eP Pn 22 44 15.6 +0.8
AAK pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 19.85 40 P Pn 22 44 15.2 +0.4
comp=Z,0.2nm,0.3s,baz=208,slow=8.3,SNR=5.3
AAK LR LR 22 52 56.2
comp=Z,136nm,18.2s,baz=250,slow=40
AAK Ala-Archa 19.85 40 P Pn 22 44 15.2 +0.4
AAK ePn Pn 22 44 15.8 +1.0
AAK Ala-Archa 19.85 40 ePn Pn 22 44 15.8 +1.0
TKM2 Tokmak 2 20.66 41 eP P 22 44 22.3 +0.2
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 20.66 41 eP P 22 44 22.3 +0.2
comp=Z,4.5nm,0.8s
TKM2 Tokmak 2 20.66 41 eP P 22 44 22.3 +0.2
comp=Z,4.5nm,0.8s
ABKAR Akbulak array 20.80 5 ePn P 22 44 24.4 +1.1
ABKAR Akbulak array 20.80 5 ePn P 22 44 24.4 +1.1
CSS Prodhromos 21.24 294 ePn P 22 44 28.8 +0.5
comp=Z,7.8nm,1.0s
CSS Prodhromos 21.24 294 ePn P 22 44 28.8 +0.5
comp=Z,7.8nm,1.0s
AKTK Aktyubinsk 21.88 1 P P 22 44 36.5 +1.6
comp=Z,15nm,28.6s
AKTO Aktyubinsk 21.88 1 P P 22 44 36.5 +1.6
AKTO pmax pmax
comp=Z,11nm,0.8s
AKTO MLR MLR
comp=Z,15nm,28.6s
AKTO Aktyubinsk 21.88 1 P P 22 44 36.5 +1.6
comp=Z,11nm,0.8s,baz=187,slow=10,SNR=29
AKTO LR LR 22 54 45.5
comp=Z,130nm,18.1s,baz=178,slow=41
BR131 Keskin Array S 22.39 306 eP P 22 44 41.0 +0.3
comp=Z,11nm,0.8s
BR131 Keskin Array S 22.39 306 eP P 22 44 41.0 +0.3
comp=Z,11nm,0.8s
BRTR Keskin Array B 22.39 306 P P 22 44 41.4 +0.7
BRTR pmax pmax
comp=Z,15nm,0.8s
BRTR MLR MLR
comp=Z,85nm,19.1s
BRTR Keskin Array B 22.39 306 P P 22 44 41.4 +0.7
comp=Z,15nm,0.8s,baz=124,slow=12,SNR=39
BRTR LR LR 22 54 26.0
comp=Z,85nm,19.1s,baz=108,slow=39
PYUN Piuthan 22.71 85 eP P 22 44 45.6 +1.3
comp=Z,73nm,0.7s
ANTO Ankara 23.05 306 eP P 22 44 45.5 -2.0
ANTO pmax pmax
comp=Z,172nm,2.5s
ANTO Ankara 23.05 306 eP P 22 44 45.5 -2.0
comp=Z,172nm,2.5s
ANTO Ankara 23.05 306 eP P 22 44 45.5 -2.0
comp=Z,172nm,2.5s
KOLN Koldanda 23.29 86 eP P 22 44 51.1 +0.8
comp=Z,8.7nm,0.7s
DANN Dangsing 23.36 84 eP P 22 44 52.1 +1.1
comp=Z,95nm,0.7s
ISP Isparta 24.09 299 eP P 22 44 56.0 -1.7
ISP pmax pmax
comp=Z,20nm,0.8s
ISP Isparta 24.09 299 eP P 22 44 56.0 -1.7
comp=Z,20nm,0.8s
ISP Isparta 24.09 299 eP P 22 44 56.0 -1.7
comp=Z,20nm,0.8s
GKN Gorkha 24.17 85 eP P 22 44 59.0 +0.4
comp=Z,15nm,0.6s
DMN Daman 24.64 85 eP P 22 45 04.0 +1.0
KKN Kakani 24.76 85 eP P 22 45 04.6 +0.5
comp=Z,39nm,0.7s
PKIN Phulchoki 24.90 85 eP P 22 45 06.2 +0.8
comp=Z,11nm,0.5s
PKI Pulchoki 24.91 85 eP P 22 45 06.0 +0.4
comp=Z,16nm,0.6s
GUN Gumba 25.27 85 eP P 22 45 09.4 +0.6
comp=Z,67nm,0.8s
VRHR Novokhopersk 25.40 337 eP P 22 45 12.5 +3.2
VRHR pmax pmax
comp=N,40nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
JIRN Jiri 25.58 85 eP P 22 45 12.1 +0.4
comp=Z,28nm,0.8s
RAMN Ramite 26.06 86 eP P 22 45 15.8 -0.1
VORD Divnogorie 26.15 334 eP P 22 45 18.7 +2.6
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VOSK Vostochnaya 26.24 19 eP P 22 45 17.8 +0.8
VOSK pmax pmax
comp=Z,5.0nm,0.8s
VOSK Vostochnaya 26.24 19 eP P 22 45 17.8 +0.8
comp=Z,5.1nm,0.8s
VOSK Vostochnaya 26.24 19 eP P 22 45 17.8 +0.8
comp=Z,5.1nm,0.8s
BVAR Borovoye Array 26.34 18 P P 22 45 18.5 +0.6
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR MLR MLR
comp=Z,112nm,19.5s
BVAR Borovoye Array 26.34 18 P P 22 45 18.5 +0.6
comp=Z,4.8nm,0.7s,baz=198,slow=9.1,SNR=32
BVAR LR LR 22 57 21.1
comp=Z,112nm,19.5s,baz=216,slow=40
BRVK Borovoye 26.34 18 eP P 22 45 18.4 +0.5
BRVK pmax pmax
comp=Z,7.0nm,1.2s
BRVK Borovoye 26.34 18 eP P 22 45 18.4 +0.5
comp=Z,7.0nm,1.2s
VSR Storozhevoye 26.40 334 eP P 22 45 21.5 +3.1
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,7.0nm,0.6s
MKAR Makanchi Array 26.78 40 P P 22 45 22.6 +0.6
MKAR 22 48 42.2
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 26.78 40 P P 22 45 22.6 +0.6
comp=Z,1.5nm,0.7s,baz=226,slow=8.2,SNR=21
MKAR PcP PcP 22 48 42.2 -2.5
comp=Z,0.1nm,0.3s,baz=234,slow=1.2,SNR=5.5
KURBB Kurchatov Arra 27.33 30 P P 22 45 27.7 +0.9
comp=Z,0.9nm,0.8s,baz=229,slow=8.7,SNR=8.4
KURK Kurchatov 27.44 30 eP P 22 45 28.4 +0.6
KURK pmax pmax
comp=Z,1.0nm,1.2s
KURK Kurchatov 27.44 30 P P 22 45 27.7 0.0
KURK Kurchatov 27.44 30 eP P 22 45 28.4 +0.6
comp=Z,1.0nm,1.2s
ARU Arti 27.89 2 P P 22 45 32.7 +1.0
ARU 22 46 15.2
ARU S S 22 50 12.7 -1.4
ARU SS SnSn 22 51 28.9 +0.7
ARU Arti 27.89 2 P P 22 45 32.7 +1.0
TLB Topalu 28.16 313 ⇓P P 22 45 36.1 +1.8
TLB Topalu 28.16 313 ⇓iP P 22 45 36.1 +1.8
TLB Topalu 28.16 313 P P 22 45 36.1 +1.8
WMQ Urumqi 28.77 50 eP P 22 45 41.1 +1.3
WMQ pP pP 22 45 45.4 -0.5
WMQ sP sP 22 45 48.1 -0.3
WMQ PcP PcP 22 48 49.7 +0.1
WMQ S S 22 50 30.4 +2.0
WMQ sS sS 22 50 38.5 +0.1
WMQ ScS ScS 22 56 21.9 -1.5
WMQ pmax pmax
comp=Z,16nm,0.8s
WMQ pmax pmax
comp=Z,120nm,3.8s
WMQ LR LR
comp=Z,61nm,19.2s
WMQ LR LR
comp=Z,83nm,21.2s
WMQ LR LR
comp=Z,91nm,23.2s
PLOR Plostina 29.59 314 ⇓P P 22 45 48.2 +1.2
PLOR Plostina 29.59 314 ⇓iP P 22 45 48.2 +1.2
PLOR Plostina 29.59 314 P P 22 45 48.2 +1.2
TESR Tescani 29.88 315 ⇑iP P 22 45 49.1 -0.4
TESR Tescani 29.88 315 ⇑P P 22 45 49.1 -0.4
MMB Musomiste 30.12 305 ⇑P P 22 45 52.2 +0.4
MMB Musomiste 30.12 305 ⇑iP P 22 45 52.2 +0.4
MMB Musomiste 30.12 305 P P 22 45 52.2 +0.4
OBN Obninsk 30.44 336 eP P 22 45 54.1 -0.3
OBN i 22 47 02.8
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,38nm,14.0s
OBN Obninsk 30.44 336 eP P 22 45 54.1 -0.3
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 30.57 324 eP P 22 45 55.3 -0.3
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 30.57 324 P P 22 45 54.5 -1.1
comp=Z,3.5nm,0.7s,baz=130,slow=8.2,SNR=18
AKASG Malin Array Be 30.57 324 eP P 22 45 55.3 -0.3
comp=Z,3.0nm,0.6s
KIEV Kiev 30.57 324 eP P 22 45 55.0 -0.6
KIEV Kiev 30.57 324 eP P 22 45 54.7 -0.9
comp=Z,8.6nm,1.0s
KIEV Kiev 30.57 324 eP P 22 45 55.0 -0.6
VTS Vitosha 30.76 306 ⇓P P 22 45 57.3 -0.3
VTS Vitosha 30.76 306 ⇓iP P 22 45 57.3 -0.3
VTS Vitosha 30.76 306 P P 22 45 57.3 -0.3
BURAR Bucovina Array 31.24 316 ⇓P P 22 46 01.6 -0.1
BURAR Bucovina Array 31.24 316 ⇓iP P 22 46 01.6 -0.1
BURAR Bucovina Array 31.24 316 ⇓iP P 22 46 01.6 -0.1
NVS Novosibirsk 32.34 28 eP P 22 46 10.4 -0.7
NVS pmax pmax
comp=Z,30nm,3.2s
NVS pmax pmax
comp=N,27nm,3.4s
NVS pmax pmax
comp=E,24nm,3.4s
NVS Novosibirsk 32.34 28 eP P 22 46 10.4 -0.7
comp=E,30nm,3.2s
ZAA0 Zalesovo Array 32.42 31 eP P 22 46 11.9 0.0
ZAA0 Zalesovo Array 32.42 31 eP P 22 46 11.9 0.0
ZALV Zalesovo Beam 32.42 31 eP P 22 46 12.3 +0.4
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 32.42 31 P P 22 46 11.8 -0.1
comp=Z,3.0nm,0.8s,baz=230,slow=8.0,SNR=14
ZALV LR LR 23 01 07.2
comp=Z,99nm,18.2s,baz=82,slow=39
ZALV Zalesovo Beam 32.42 31 eP P 22 46 12.3 +0.4
comp=Z,3.0nm,0.7s
DRGR 32.47 314 ⇑P P 22 46 16.3 +3.9
DRGR 32.47 314 ⇑iP P 22 46 16.3 +3.9
BZS Buzias 32.77 311 ⇓P P 22 46 11.0 -4.0
BZS Buzias 32.77 311 ⇓iP P 22 46 11.0 -4.0
KWP Kalwaria Pacla 33.62 318 ⇓P P 22 46 22.2 -0.2
KWP Kalwaria Pacla 33.62 318 ⇓iP P 22 46 22.2 -0.2
KWP Kalwaria Pacla 33.62 318 eP P 22 46 20.6 -1.9
comp=Z,25nm,1.3s
KWP Kalwaria Pacla 33.62 318 P P 22 46 22.2 -0.2
PKSM Moragy 34.93 311 ⇓P P 22 46 33.7 0.0
PKSM Moragy 34.93 311 ⇓iP P 22 46 33.7 0.0
PKSM Moragy 34.93 311 P P 22 46 33.7 0.0
KMBO Kilima Mbogo 35.15 216 eP P 22 46 37.8 +1.6
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 35.15 216 P P 22 46 38.0 +1.8
comp=Z,1.4nm,0.5s,baz=34,slow=13,SNR=6.5
KMBO LR LR 23 01 55.5
comp=Z,35nm,21.1s,baz=92,slow=38
KMBO Kilima Mbogo 35.15 216 P P 22 46 38.0 +1.8
OJC Ojcow 35.58 318 eP P 22 46 39.0 -0.3
OJC Ojcow 35.58 318 eP P 22 46 39.0 -0.3
OJC Ojcow 35.58 318 eP P 22 46 38.9 -0.4
comp=Z,17nm,0.6s
OJC Ojcow 35.58 318 eP P 22 46 38.9 -0.3
comp=Z,17nm,0.6s
GTA Gaotai 36.68 61 eP P 22 46 50.0 +1.0
GTA pP pP 22 46 54.3 -0.9
GTA sP sP 22 46 57.1 -0.6
GTA S S 22 52 36.0 +4.5
GTA sS sS 22 52 43.1 +1.5
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,58nm,4.3s
GTA LR LR
comp=Z,71nm,14.0s
GTA LR LR
comp=Z,87nm,13.5s
GTA LR LR
comp=Z,66nm,13.8s
MORC Moravsky Berou 36.76 316 eP P 22 46 48.1 -1.4
MORC pmax pmax
comp=Z,4.0nm,0.7s
MORC Moravsky Berou 36.76 316 eP P 22 46 48.1 -1.4
comp=Z,4.4nm,0.7s
MORC Moravsky Berou 36.76 316 eP P 22 46 48.1 -1.4
comp=Z,4.4nm,0.7s
VRAC Vranov 37.19 315 ⇑P P 22 46 52.5 -0.6
VRAC Vranov 37.19 315 ⇑iP P 22 46 52.5 -0.6
VRAC Vranov 37.19 315 P P 22 46 52.7 -0.4
comp=Z,4.4nm,0.6s,baz=118,slow=10,SNR=9.9
CONA Conrad Observa 37.24 313 ⇑iP P 22 46 53.0 -0.6
comp=Z,3.2nm,1.0s
CONA Conrad Observa 37.24 313 P P 22 46 53.0 -0.6
comp=Z,3.2nm,1.0s
ARSA Arzberg 37.27 312 ⇑iP P 22 46 53.7 -0.2
comp=Z,3.4nm,0.7s
ARSA Arzberg 37.27 312 P P 22 46 53.7 -0.2
comp=Z,3.4nm,0.7s
DPC Dobruska-Polom 37.70 317 eP P 22 46 57.2 -0.3
DPC Dobruska-Polom 37.70 317 eP P 22 46 57.2 -0.3
DPC Dobruska-Polom 37.70 317 eP P 22 46 57.2 -0.3
AQU L'Aquila 37.82 303 eP P 22 46 59.8 +1.2
AQU pmax pmax
comp=Z,19nm,0.9s
AQU L'Aquila 37.82 303 eP P 22 46 59.8 +1.2
comp=Z,19nm,0.9s
AQU L'Aquila 37.82 303 eP P 22 46 59.8 +1.2
comp=Z,19nm,0.9s
MOA Molln 38.25 312 ⇑iP P 22 47 01.5 -0.6
comp=Z,10nm,0.9s
MOA Molln 38.25 312 P P 22 47 01.5 -0.6
comp=Z,10nm,0.9s
JOF Joensuu 38.29 341 eP P 22 47 01.2 -1.0
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 38.29 341 ep P 22 47 01.2 -1.0
comp=Z,0.9nm,0.4s
JOF Joensuu 38.29 341 eP P 22 47 01.2 -1.0
comp=Z,1.0nm,0.4s
FINES FINESS Array B 38.85 337 P P 22 47 06.3 -0.6
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 38.85 337 P P 22 47 06.3 -0.6
comp=Z,1.3nm,0.5s,baz=143,slow=8.9,SNR=8.2
GEC2 GERESS Array S 38.87 314 eP P 22 47 07.1 -0.3
GEC2 GERESS Array S 38.87 314 eP P 22 47 07.1 -0.3
GEC2 GERESS Array S 38.87 314 eP P 22 47 07.1 -0.3
GERES GERESS Array B 38.87 314 P P 22 47 06.6 -0.8
GERES 22 49 16.1
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,15nm,28.6s
GERES GERESS Array B 38.87 314 P P 22 47 06.6 -0.8
comp=Z,2.8nm,0.7s,baz=114,slow=8.5,SNR=34
GERES PcP PcP 22 49 16.1 -2.1
comp=Z,0.8nm,0.7s,baz=134,slow=4.2,SNR=6.5
GERES LR LR 23 04 53.1
comp=Z,21nm,18.6s,baz=116,slow=39
KHC Kasperske Hory 39.03 314 eP P 22 47 07.7 -0.9
KHC pmax pmax
comp=Z,10.0nm,0.8s
KHC Kasperske Hory 39.03 314 eP P 22 47 07.7 -0.9
comp=Z,9.9nm,0.8s
KHC Kasperske Hory 39.03 314 eP P 22 47 07.7 -0.9
comp=Z,9.9nm,0.8s
ABTA Abfaltersbach 39.16 310 ⇑iP P 22 47 09.1 -0.7
comp=Z,3.3nm,0.8s
ABTA Abfaltersbach 39.16 310 P P 22 47 09.1 -0.7
comp=Z,3.3nm,0.8s
KAF Kangasniemi 39.24 338 eP P 22 47 08.9 -1.2
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 39.24 338 ep P 22 47 08.9 -1.2
comp=Z,1.9nm,0.7s
KAF Kangasniemi 39.24 338 eP P 22 47 08.9 -1.2
comp=Z,2.0nm,0.7s
BRG Berggiesshubel 39.30 317 eP P 22 47 10.1 -0.8
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 39.30 317 eP P 22 47 10.1 -0.8
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 39.30 317 eP P 22 47 10.1 -0.8
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 39.42 95 LR LR 23 07 11.5
comp=Z,21nm,19.1s,baz=7.5,slow=42
LZH Lanzhou 39.84 67 eP P 22 47 16.5 +0.7
LZH pP pP 22 47 21.2 -0.7
LZH sP sP 22 47 23.8 -0.6
LZH S S 22 53 22.0 +2.5
LZH sS sS 22 53 30.1 +0.5
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.4s
LZH LR LR
comp=Z,630nm,14.0s
LZH LR LR
comp=Z,700nm,13.6s
LZH LR LR
comp=Z,830nm,15.0s
WTTA Wattenberg 39.85 311 ⇑iP P 22 47 13.9 -1.8
comp=Z,8.9nm,0.7s
WTTA Wattenberg 39.85 311 P P 22 47 13.9 -1.8
comp=Z,8.9nm,0.7s
CLL Collm 40.00 317 i P P 22 47 16.3 -0.3
CLL pmax pmax
comp=Z,11nm,1.2s
CLL Collm 40.00 317 i P P 22 47 16.3 -0.3
comp=Z,11nm,1.2s
CLL epP pP 22 47 21.0 -1.8
CLL Collm 40.00 317 i P P 22 47 16.3 -0.3
comp=Z,11nm,1.2s
VLC Villacollemand 40.23 306 eP P 22 47 17.4 -1.3
comp=Z,127nm,1.8s
VLC Villacollemand 40.23 306 eP P 22 47 17.4 -1.3
comp=Z,127nm,1.8s
CD2 Chengdu 40.29 75 P P 22 47 18.9 -0.5
CD2 pP pP 22 47 23.4 -2.2
CD2 sP sP 22 47 25.9 -2.2
CD2 PP PnPn 22 48 55.8 -0.1
CD2 PcP PcP 22 49 22.6 -0.3
CD2 PcS PcS 22 53 11.9 -1.6
CD2 S S 22 53 27.0 +0.9
CD2 sS sS 22 53 33.9 -2.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.4s
FETA Feichten 40.42 310 ⇑iP P 22 47 19.3 -1.1
comp=Z,8.2nm,0.8s
FETA Feichten 40.42 310 P P 22 47 19.3 -1.1
comp=Z,8.2nm,0.8s
RETA Reutte 40.48 311 ⇑iP P 22 47 19.1 -1.7
comp=Z,5.5nm,0.8s
RETA Reutte 40.48 311 P P 22 47 19.1 -1.7
comp=Z,5.5nm,0.8s
KMI Kunming 40.61 84 P P 22 47 22.0 -0.4
KMI pmax pmax
comp=Z,6.0nm,0.8s
FUORN Ofenpass-Fuorn 40.66 309 eP P 22 47 21.7 -0.8
comp=Z,21nm,1.7s
FUORN Ofenpass-Fuorn 40.66 309 eP P 22 47 21.7 -0.8
comp=Z,21nm,1.7s
DAVOX Davos/Dischmat 40.95 310 P P 22 47 23.7 -1.1
DAVOX pmax pmax
comp=Z,4.0nm,0.7s
DAVOX Davos/Dischmat 40.95 310 P P 22 47 23.7 -1.1
comp=Z,3.9nm,0.7s,baz=98,slow=7.1,SNR=7.7
DAVA Damuels 41.03 310 ⇑iP P 22 47 24.0 -1.5
comp=Z,14nm,0.8s
DAVA Damuels 41.03 310 P P 22 47 24.0 -1.5
comp=Z,14nm,0.8s
PGF Pioggiola 41.09 303 eP P 22 47 23.9 -2.0
comp=Z,42nm,1.0s
PGF Pioggiola 41.09 303 eP P 22 47 23.9 -2.0
PGF pmax pmax
comp=Z,43nm,1.0s
PGF Pioggiola 41.09 303 eP P 22 47 23.9 -2.0
comp=Z,42nm,1.0s
PGF Pioggiola 41.09 303 eP P 22 47 23.9 -2.0
comp=Z,21nm,1.0s
SBF Sospel 42.32 305 eP P 22 47 35.1 -0.8
comp=Z,101nm,1.0s
SBF Sospel 42.32 305 eP P 22 47 35.1 -0.8
SBF pmax pmax
comp=Z,101nm,1.0s
SBF Sospel 42.32 305 eP P 22 47 35.1 -0.8
comp=Z,101nm,1.0s
SBF Sospel 42.32 305 eP P 22 47 35.1 -0.8
comp=Z,50nm,1.0s
SONM Songino Array 42.40 49 eP P 22 47 37.0 +0.4
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 42.40 49 P P 22 47 36.6 0.0
comp=Z,0.9nm,0.7s,baz=255,slow=8.1,SNR=13
SONM LR LR 23 07 20.5
comp=Z,93nm,20.4s,baz=206,slow=39
SENIN Lac Senin/Sane 42.65 309 eP P 22 47 37.6 -1.2
SENIN Lac Senin/Sane 42.65 309 eP P 22 47 37.6 -1.2
ULN Ulaanbaatar 42.84 49 eP P 22 47 40.7 +0.5
ULN pmax pmax
comp=Z,2.0nm,0.7s
ULN Ulaanbaatar 42.84 49 eP P 22 47 40.7 +0.5
comp=Z,1.6nm,0.7s
ULN Ulaanbaatar 42.84 49 eP P 22 47 40.7 +0.5
comp=Z,1.6nm,0.7s
MBDF Montbardon 42.86 306 eP P 22 47 39.2 -1.2
comp=Z,24nm,1.1s
MBDF Montbardon 42.86 306 eP P 22 47 39.2 -1.2
MBDF pmax pmax
comp=Z,24nm,1.1s
MBDF Montbardon 42.86 306 eP P 22 47 39.2 -1.2
comp=Z,24nm,1.1s
MBDF Montbardon 42.86 306 eP P 22 47 39.2 -1.2
comp=Z,12nm,1.1s
LPG La Plagne 42.94 307 ⇑iP P 22 47 40.7 -0.5
comp=Z,15nm,0.8s
LPG La Plagne 42.94 307 ⇑iP P 22 47 40.7 -0.5
LPG pmax pmax
comp=Z,15nm,0.8s
LPG La Plagne 42.94 307 ⇑iP P 22 47 40.7 -0.5
comp=Z,15nm,0.8s
LPG La Plagne 42.94 307 ⇑iP P 22 47 40.7 -0.5
comp=Z,7.6nm,0.8s
CDF Champ du Feu 42.95 312 eP P 22 47 39.8 -1.2
comp=Z,5.6nm,0.9s
CDF Champ du Feu 42.95 312 eP P 22 47 39.8 -1.2
CDF pmax pmax
comp=Z,6.0nm,0.9s
CDF Champ du Feu 42.95 312 eP P 22 47 39.8 -1.2
comp=Z,5.6nm,0.9s
CDF Champ du Feu 42.95 312 eP P 22 47 39.8 -1.2
comp=Z,2.8nm,0.9s
BNI Bardonecchia 42.95 307 eP P 22 47 40.3 -0.8
BNI pmax pmax
comp=Z,9.0nm,0.9s
BNI Bardonecchia 42.95 307 eP P 22 47 40.3 -0.8
comp=Z,9.4nm,0.9s

BNI Bardonecchia 42.95 307 eP P 22 47 40.3 -0.8
comp=Z,9.4nm,0.9s
LPL La Plagne 42.96 307⇑iP P 22 47 40.0 -1.3
LPL La Plagne 42.96 307⇑iP P 22 47 40.0 -1.3
LPL La Plagne 42.96 307⇑iP P 22 47 40.0 -1.3
LPL La Plagne 42.96 307⇑iP P 22 47 40.0 -1.3
HFS Hagfors 43.03 330 P P 22 47 40.7 -0.7
HFS pmax pmax
comp=Z,2.0nm,0.5s
HFS Hagfors 43.03 330 P P 22 47 40.7 -0.7
comp=Z,2.0nm,0.5s,baz=126,slow=9.7,SNR=12
HAU Haudompre 43.50 311 eP P 22 47 44.2 -1.2
HAU Haudompre 43.50 311 eP P 22 47 44.2 -1.2
HAU Haudompre 43.50 311 eP P 22 47 44.2 -1.2
HAU Haudompre 43.50 311 eP P 22 47 44.2 -1.2
CABF La Chapelle 43.51 309 eP P 22 47 44.7 -0.9
comp=Z,34nm,1.3s
CABF La Chapelle 43.51 309 eP P 22 47 44.7 -0.9
CABF pmax pmax
comp=Z,34nm,1.3s
CABF La Chapelle 43.51 309 eP P 22 47 44.7 -0.9
comp=Z,34nm,1.3s
CABF La Chapelle 43.51 309 eP P 22 47 44.7 -0.9
comp=Z,17nm,1.3s
SMRF Simiane la Rot 43.67 305 eP P 22 47 44.4 -2.4
SMRF Simiane la Rot 43.67 305 eP P 22 47 44.4 -2.4
SMRF Simiane la Rot 43.67 305 eP P 22 47 44.4 -2.4
PAGF Fort de Pagny 43.99 312 eP P 22 47 48.4 -0.9
PAGF Fort de Pagny 43.99 312 eP P 22 47 48.4 -0.9
PAGF Fort de Pagny 43.99 312 eP P 22 47 48.4 -0.9
VIVF Saint-Julien-l 44.36 306 eP P 22 47 50.8 -1.6
comp=Z,16nm,1.0s
VIVF Saint-Julien-l 44.36 306 eP P 22 47 50.8 -1.6
VIVF pmax pmax
comp=Z,16nm,1.0s
VIVF Saint-Julien-l 44.36 306 eP P 22 47 50.8 -1.6
comp=Z,16nm,1.0s
VIVF Saint-Julien-l 44.36 306 eP P 22 47 50.8 -1.6
comp=Z,7.8nm,1.0s
SFTF Sexfontaines 44.40 311 eP P 22 47 51.4 -1.2
SFTF Sexfontaines 44.40 311 eP P 22 47 51.4 -1.2
SFTF Sexfontaines 44.40 311 eP P 22 47 51.4 -1.2
NB2 NORSAR Subarra 44.53 330 P P 22 47 52.3 -1.2
comp=Z,1.3nm,0.7s,baz=116,slow=7.9
NB2 NORSAR Subarra 44.53 330 P P 22 47 52.3 -1.2
comp=Z,1.3nm,0.7s,SNR=4.2
NOA NORSAR Array B 44.53 330 P P 22 47 52.2 -1.2
comp=Z,1.7nm,1.0s,baz=115,slow=7.9,SNR=3.3
NOA LR LR 23 08 52.0
comp=Z,28nm,18.1s,baz=145,slow=39
KEV Kevo 44.74 346 eP P 22 47 54.1 -0.8
KEV pmax pmax
comp=Z,6.0nm,0.8s
KEV Kevo 44.74 346 ep P 22 47 54.1 -0.8
comp=Z,6.0nm,0.8s
KEV Kevo 44.74 346 eP P 22 47 54.1 -0.8
comp=Z,6.0nm,0.8s
GIVF Givet 44.79 314 eP P 22 47 55.5 -0.2
GIVF Givet 44.79 314 eP P 22 47 55.5 -0.2
GIVF Givet 44.79 314 eP P 22 47 55.5 -0.2
GIVF Givet 44.79 314 eP P 22 47 55.5 -0.2
ARCES ARCESS Array B 44.91 345 P P 22 47 56.0 -0.3
ARCES *PP pP 22 48 05.4 +2.8
ARCES 22 49 36.2
ARCES pmax pmax
comp=Z,1.0nm,0.3s
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES pmax pmax
comp=Z,7.0nm,1.2s
ARCES ARCESS Array B 44.91 345 P P 22 47 56.0 -0.3
comp=Z,0.9nm,0.3s,baz=139,slow=7.7,SNR=18
ARCES pP pP 22 48 05.4 +2.8
comp=Z,1.2nm,0.6s,baz=133,slow=8.5,SNR=1.2
ARCES PcP PcP 22 49 36.2 -1.3
comp=Z,7.1nm,1.2s,baz=141,slow=4.4,SNR=4.6
LASF Ste Croix 44.91 305 eP P 22 47 55.8 -0.9
comp=Z,24nm,1.0s
LASF Ste Croix 44.91 305 eP P 22 47 55.8 -0.9
comp=Z,24nm,1.0s
LASF Ste Croix 44.91 305 eP P 22 47 55.8 -0.9
comp=Z,12nm,1.0s
SMF Signal de Mont 45.06 309⇑iP P 22 47 56.7 -1.2
comp=Z,30nm,0.9s
SMF Signal de Mont 45.06 309⇑iP P 22 47 56.7 -1.2
SMF pmax pmax
comp=Z,30nm,0.9s
SMF Signal de Mont 45.06 309⇑iP P 22 47 56.7 -1.2
comp=Z,30nm,0.9s
SMF Signal de Mont 45.06 309⇑iP P 22 47 56.7 -1.2
comp=Z,15nm,0.9s
LOR Lormes 45.09 310 eP P 22 47 56.7 -1.5
comp=Z,9.1nm,0.9s
LOR Lormes 45.09 310 eP P 22 47 56.7 -1.5
LOR pmax pmax
comp=Z,9.0nm,0.9s
LOR Lormes 45.09 310 eP P 22 47 56.7 -1.5
comp=Z,9.1nm,0.9s
LOR Lormes 45.09 310 eP P 22 47 56.7 -1.5
comp=Z,4.6nm,0.9s
BAIF Baives 45.18 313 eP P 22 47 58.8 0.0
comp=Z,29nm,1.1s
BAIF Baives 45.18 313 eP P 22 47 58.8 0.0
BAIF pmax pmax
comp=Z,29nm,1.1s
BAIF Baives 45.18 313 eP P 22 47 58.8 0.0
comp=Z,29nm,1.1s
BAIF Baives 45.18 313 eP P 22 47 58.8 0.0
comp=Z,14nm,1.1s
SSF Saint Saulge 45.32 309⇑iP P 22 47 58.8 -1.1
comp=Z,17nm,0.9s
SSF Saint Saulge 45.32 309⇑iP P 22 47 58.8 -1.1
SSF pmax pmax
comp=Z,17nm,0.9s
SSF Saint Saulge 45.32 309⇑iP P 22 47 58.8 -1.1
comp=Z,17nm,0.9s
SSF Saint Saulge 45.32 309⇑iP P 22 47 58.8 -1.1
comp=Z,8.3nm,0.9s
AVF Avril sur Loir 45.40 309 eP P 22 47 59.2 -1.4
AVF Avril sur Loir 45.40 309 eP P 22 47 59.2 -1.4
AVF Avril sur Loir 45.40 309 eP P 22 47 59.2 -1.4
AVF Avril sur Loir 45.40 309 eP P 22 47 59.2 -1.4
BGF Bois d'Agland 45.73 308 eP P 22 48 02.0 -1.2
comp=Z,20nm,0.9s
BGF Bois d'Agland 45.73 308 eP P 22 48 02.0 -1.2
BGF pmax pmax
comp=Z,20nm,0.9s
BGF Bois d'Agland 45.73 308 eP P 22 48 02.0 -1.2
comp=Z,20nm,0.9s
BGF Bois d'Agland 45.73 308 eP P 22 48 02.0 -1.2
comp=Z,10.0nm,0.9s
MTLF Montolieu 46.09 304⇑iP P 22 48 05.8 -0.3
comp=Z,23nm,0.9s
MTLF Montolieu 46.09 304⇑iP P 22 48 05.8 -0.3
MTLF pmax pmax
comp=Z,23nm,0.9s
MTLF Montolieu 46.09 304⇑iP P 22 48 05.8 -0.3
comp=Z,23nm,0.9s
MTLF Montolieu 46.09 304⇑iP P 22 48 05.8 -0.3
comp=Z,12nm,0.9s
TCF Toulx Ste Croi 46.16 308 eP P 22 48 05.7 -0.9
comp=Z,12nm,0.8s
TCF Toulx Ste Croi 46.16 308 eP P 22 48 05.7 -0.9
TCF pmax pmax
comp=Z,12nm,0.8s
TCF Toulx Ste Croi 46.16 308 eP P 22 48 05.7 -0.9
comp=Z,12nm,0.8s
TCF Toulx Ste Croi 46.16 308 eP P 22 48 05.7 -0.9
comp=Z,5.8nm,0.8s
CAF Calviac 46.21 306⇑iP P 22 48 06.4 -0.7
comp=Z,23nm,0.9s
CAF Calviac 46.21 306⇑iP P 22 48 06.4 -0.7
CAF pmax pmax
comp=Z,23nm,0.9s
CAF Calviac 46.21 306⇑iP P 22 48 06.4 -0.7
comp=Z,23nm,0.9s
CAF Calviac 46.21 306⇑iP P 22 48 06.4 -0.7
comp=Z,12nm,0.9s
RJF Les Rejaudoux 46.61 307⇑iP P 22 48 09.8 -0.3
comp=Z,14nm,0.7s
RJF Les Rejaudoux 46.61 307⇑iP P 22 48 09.8 -0.3
RJF pmax pmax
comp=Z,14nm,0.7s
RJF Les Rejaudoux 46.61 307⇑iP P 22 48 09.8 -0.3
comp=Z,14nm,0.7s
RJF Les Rejaudoux 46.61 307⇑iP P 22 48 09.8 -0.3
comp=Z,6.8nm,0.7s
LFF La Frestale 47.16 306⇑iP P 22 48 13.9 -0.5
comp=Z,18nm,0.7s
LFF La Frestale 47.16 306⇑iP P 22 48 13.9 -0.5
LFF pmax pmax
comp=Z,19nm,0.7s
LFF La Frestale 47.16 306⇑iP P 22 48 13.9 -0.5
comp=Z,18nm,0.7s
LFF La Frestale 47.16 306⇑iP P 22 48 13.9 -0.5
comp=Z,9.2nm,0.7s
EPF Esparros 47.47 304 eP P 22 48 15.1 -1.8
EPF Esparros 47.47 304 eP P 22 48 15.1 -1.8
EPF Esparros 47.47 304 eP P 22 48 15.1 -1.8
EPF Esparros 47.47 304 eP P 22 48 15.1 -1.8
LDF La Druitiere 47.86 311 eP P 22 48 18.0 -1.8
comp=Z,9.5nm,0.7s
LDF La Druitiere 47.86 311 eP P 22 48 18.0 -1.8
LDF pmax pmax
comp=Z,10.0nm,0.7s
LDF La Druitiere 47.86 311 eP P 22 48 18.0 -1.8
comp=Z,9.5nm,0.7s
LDF La Druitiere 47.86 311 eP P 22 48 18.0 -1.8
comp=Z,4.8nm,0.7s
ETSF Etsaut 48.13 303 eP P 22 48 21.8 -0.3
comp=Z,25nm,1.0s
ETSF Etsaut 48.13 303 eP P 22 48 21.8 -0.3
ETSF pmax pmax
comp=Z,25nm,1.0s
ETSF Etsaut 48.13 303 eP P 22 48 21.8 -0.3
comp=Z,25nm,1.0s
ETSF Etsaut 48.13 303 eP P 22 48 21.8 -0.3
comp=Z,12nm,1.0s
GRR Gorron 48.34 311 eP P 22 48 22.8 -0.7
GRR Gorron 48.34 311 eP P 22 48 22.8 -0.7
GRR Gorron 48.34 311 eP P 22 48 22.8 -0.7
GRR Gorron 48.34 311 eP P 22 48 22.8 -0.7
SJPF Ste Jean 48.61 304 eP P 22 48 25.3 -0.4
comp=Z,23nm,1.2s
SJPF Ste Jean 48.61 304 eP P 22 48 25.3 -0.4
SJPF pmax pmax
comp=Z,23nm,1.2s
SJPF Ste Jean 48.61 304 eP P 22 48 25.3 -0.4
comp=Z,23nm,1.2s
SJPF Ste Jean 48.61 304 eP P 22 48 25.3 -0.4
comp=Z,12nm,1.2s
EKA Eskdalemuir Ar 50.30 320 P P 22 48 37.2 -1.2
EKA pmax pmax
comp=Z,1.0nm,0.3s
EKA Eskdalemuir Ar 50.30 320 P P 22 48 37.2 -1.2
comp=Z,0.7nm,0.3s,baz=99,slow=7.5,SNR=13
ESDC Sonseca Array 50.95 300 P P 22 48 43.4 -0.3
comp=Z,2.3nm,0.8s,baz=71,slow=7.6,SNR=18
ESDC pP pP 22 48 52.9 +2.9
comp=Z,1.2nm,0.6s,baz=78,slow=7.5,SNR=7.4
PAB San Pablo 51.27 299 eP P 22 48 43.7 -2.3
PAB pmax pmax
comp=Z,5.0nm,0.8s
PAB San Pablo 51.27 299 eP P 22 48 43.7 -2.3
comp=Z,4.8nm,0.8s
PAB San Pablo 51.27 299 eP P 22 48 43.7 -2.3
comp=Z,4.8nm,0.8s
DSB Dublin 52.02 317 eP P 22 48 50.2 -1.2
comp=Z,85nm,1.7s
DSB Dublin 52.02 317 eP P 22 48 50.2 -1.2
comp=Z,85nm,1.7s
NJ2 Nanjing 52.73 70 eP P 22 48 56.8 -0.1
NJ2 pmax pmax
comp=Z,20nm,0.6s
PBRG Braganca 52.79 303 eP P 22 48 56.2 -1.1
comp=Z,29nm,1.8s
PBRG Braganca 52.79 303 eP P 22 48 56.2 -1.1
comp=Z,29nm,1.8s
MVO Moncorvo 53.08 302 eP P 22 48 59.3 -0.2
comp=Z,18nm,2.3s
MVO Moncorvo 53.08 302 eP P 22 48 59.3 -0.2
comp=Z,18nm,2.3s
PBAR Barrancos 53.55 298 eP P 22 49 02.7 -0.2
PBAR Barrancos 53.55 298 eP P 22 49 02.7 -0.2
MTE Manteigas 53.58 301 eP P 22 49 04.6 +1.4
comp=Z,26nm,1.4s
PMRV Marv??o 53.61 300 eP P 22 49 03.8 +0.4
comp=Z,21nm,1.5s
PMRV Marv??o 53.61 300 eP P 22 49 03.8 +0.4
comp=Z,21nm,1.5s
POLO Lamas de Olo 53.63 302 eP P 22 49 04.3 +0.8
comp=Z,12nm,1.9s
POLO Lamas de Olo 53.63 302 eP P 22 49 04.3 +0.8
comp=Z,12nm,1.9s
TORD Torodi Ar. Bea 53.63 265 P P 22 49 02.6 -1.1
comp=Z,2.3nm,0.7s,baz=62,slow=7.2,SNR=48
TORD pP pP 22 49 11.1 +1.0
comp=Z,8.9nm,0.7s,baz=58,slow=7.0,SNR=27
EVO Evora 54.24 299⇑iP P 22 49 08.2 +0.2
comp=Z,33nm,1.2s
EVO Evora 54.24 299 eP P 22 49 09.0 +1.0
comp=Z,28nm,1.6s
EVO Evora 54.24 299 eP P 22 49 09.0 +1.0
comp=Z,28nm,1.6s
EVOP Sao Brissos 54.33 299⇑iP P 22 49 08.2 -0.4
EVOP pmax pmax
comp=Z,33nm,1.2s
EVOP Sao Brissos 54.33 299⇑iP P 22 49 08.2 -0.4
comp=Z,33nm,1.2s
EVOP Sao Brissos 54.33 299⇑iP P 22 49 08.2 -0.4
comp=Z,16nm,1.2s
PCAS Casmilo, Conde 54.35 301 eP P 22 49 09.1 +0.3
comp=Z,37nm,2.1s
PCAS Casmilo, Conde 54.35 301 eP P 22 49 09.1 +0.3
comp=Z,37nm,2.1s
TIXI Tiksi 57.43 21 eP P 22 49 30.1 -0.1
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI MLR MLR
comp=Z,58nm,21.0s
KSAR Wonju Array Be 58.73 62 P P 22 49 38.6 -1.3
KSAR Wonju Array Be 58.73 62 P P 22 49 38.6 -1.3
KSAR Wonju Array Be 58.73 62 P P 22 49 38.6 -1.3
KSRS Korea Array 58.75 61 eP P 22 49 38.6 -1.5
KSRS pmax pmax
comp=Z,3.0nm,0.8s
KSRS Korea Array 58.75 61 P P 22 49 38.6 -1.5
comp=Z,3.1nm,0.8s,baz=279,slow=6.9,SNR=7.6
USRK Ussuriysk Arra 60.26 53 P P 22 49 48.9 -1.5
comp=Z,2.1nm,0.8s,baz=288,slow=5.9,SNR=5.5
LIC Lamto 62.68 262 eP P 22 50 04.7 -2.4
comp=Z,14nm,1.1s
LIC Lamto 62.68 262 eP P 22 50 04.7 -2.4
comp=Z,14nm,1.1s
LIC Lamto 62.68 262 eP P 22 50 04.7 -2.4
comp=Z,7.2nm,1.1s
BOSA Boshof 64.53 211 LR LR 23 21 34.1
comp=Z,30nm,18.1s,baz=132,slow=39
INK Inuvik 83.12 4 P P 22 52 06.0 -1.4
INK *PP pP 22 52 16.2 +2.2
INK pmax pmax
comp=Z,1.0nm,0.9s
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 83.12 4 P P 22 52 06.0 -1.4
comp=Z,1.3nm,0.9s,baz=353,slow=7.5,SNR=6.0
INK pP pP 22 52 16.1 +2.2
comp=Z,1.4nm,0.8s,baz=47,slow=8.4,SNR=4.5
SCHQ Schefferville 84.09 331 P P 22 52 10.7 -2.0
comp=Z,2.6nm,0.7s,baz=136,slow=2.0,SNR=4.8
ILAR Eielson Array 85.12 10 eP P 22 52 16.2 -1.5
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 85.12 10 P P 22 52 16.0 -1.6
comp=Z,0.8nm,0.7s,baz=332,slow=4.5,SNR=9.9
WRA Warramunga Arr 88.69 113 P P 22 52 35.9 +0.1
WRA *PP pP 22 52 44.4 +2.0
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 88.69 113 P P 22 52 35.9 +0.1
comp=Z,0.7nm,0.9s,baz=316,slow=4.0,SNR=2.9
WRA pP pP 22 52 44.4 +2.0
comp=Z,1.0nm,0.8s,baz=320,slow=4.5,SNR=2.9
YKA Yellowknife Ar 89.05 356 P P 22 52 36.2 -0.5
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 89.05 356 P P 22 52 36.2 -0.5
comp=Z,1.5nm,0.7s,baz=1.6,slow=5.0,SNR=49
ASAR Alice Springs 90.25 117 P P 22 52 42.8 -0.3
ASAR *PP pP 22 52 51.6 +1.9
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 90.25 117 P P 22 52 42.8 -0.3
comp=Z,0.3nm,0.6s,baz=313,slow=5.1,SNR=4.4
ASAR pP pP 22 52 51.6 +1.9
comp=Z,0.7nm,0.6s,baz=305,slow=5.0,SNR=5.1

IDC 03 22:57:54.9±3.5, 15.76S×173.44W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.5/4, Error ellipse: s-maj=187.2km s-min=29.8km az=147.0, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 49.72 257 P P 23 06 49.3 0.0
0.4nm,0.6s,baz=93,slow=7.2,SNR=3.1
ASAR Alice Springs 49.96 252 P P 23 06 50.1 -1.0
0.4nm,0.7s,baz=84,slow=8.6,SNR=4.7
NVAR Mina Array Bea 74.62 42 P P 23 09 36.2 -0.2
0.5nm,0.6s,baz=226,slow=7.5,SNR=5.0
ILAR Eielson Array 82.80 11 P P 23 10 19.7 -0.8
0.1nm,0.5s,baz=226,slow=6.6,SNR=4.4
BRTR Keskin Array B 146.41 321 PKPbc PKPab 23 17 39.4 +0.2
1.0nm,0.8s,baz=42,slow=4.8,SNR=3.4

IDC 03 22:58:12.9±1.2, 55.37S×27.75W, h0km, mb3.7/1, mb1 3.7/2, mb1mx3.5/17, mbtmp3.7/2, ML3.7/1, Error ellipse: s-maj=69.4km s-min=36.9km az=72.0, South Sandwich Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SNAA Sanae 19.50 156 P P 23 02 41.3 +0.1
0.2nm,0.3s,baz=291,slow=11,SNR=17
TORD Torodi Ar. Bea 72.62 30 P P 23 09 42.0 +0.1
0.6nm,0.7s,baz=190,slow=6.7,SNR=4.1
INK Inuvik 145.07 321 PKPbc PKPbc 23 17 49.5 -0.5
2.6nm,0.9s,baz=110,slow=2.2,SNR=11
ILAR Eielson Array 149.42 313 PKPbc PKPbc 23 18 01.5 -0.8
1.4nm,0.9s,baz=122,slow=2.4,SNR=12
SONM Songino Array 151.00 86 PKPbc PKPbc 23 18 06.3 -0.5
0.3nm,0.6s,baz=239,slow=3.8,SNR=3.8

ISCJB 03 23:28:25.0±0.8, 22.35S±0.07×68.82W±0.09, h125km±7km, mb3.6/1, Error ellipse: s-maj=15.5km s-min=8.9km az=139.2
GUC 03 23:28:26.1±0.4, 22.38S×68.86W, h111km±2km, ML4.0
IDC 03 23:28:39.1±9.0, 21.55S×68.07W, h187km±63km, mb3.4/1, mb1 3.3/4, mb1mx3.1/18, mbtmp3.9/4, Error ellipse: s-maj=107.1km s-min=33.9km az=9.0
ISC 03 23:28:25.9±1.0, 22.44S±0.08×68.91W±0.08, h119km±8km, n13, σ0.89/17, 7C, Northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PB04 Plate Boundary 0.56 288⇑iP Pn 23 28 50.1 +6.1
PB04 iS Sn 23 29 08.4 +11
PB04 AML AML 23 29 10.8
comp=N,2µm,0.1s
PB06 Plate Boundary 0.67 246⇑iP Pn 23 28 45.5 +0.5
PB06 eS Sn 23 29 00.2 +0.7
PB06 AML AML 23 29 01.4
comp=N,6µm,0.1s
PB09 Plate Boundary 0.71 334⇑iP Pn 23 28 45.8 +0.3
PB09 iS Sn 23 28 59.5 -0.7
PB09 AML AML 23 29 00.9
comp=N,18µm,0.5s
SPCH San Pedro de A 0.81 126⇑iP Pn 23 28 46.6 +0.2
SPCH iS Sn 23 29 01.9 +0.1
SPCH AML AML 23 29 02.4
comp=N,6µm,0.4s
MACH Maria Elena 0.82 287⇑iP Pn 23 28 46.8 +0.4
MACH iS Sn 23 29 02.3 +0.4
PB07 Plate Boundary 1.15 308⇑iP Pn 23 28 49.9 +0.4
PB07 AML AML 23 29 07.8
comp=N,4µm,0.3s
PB01 Plate Boundary 1.49 339 iP Pn 23 28 53.0 -0.3
PB01 iS Sn 23 29 13.6 -0.4
PB01 AML AML 23 29 14.6
comp=E,2µm,0.4s
PATCX Punta Patache 1.98 324⇑iP Pn 23 28 58.7 -0.5
PATCX iS Sn 23 29 24.4 -0.1
PATCX AML AML 23 29 29.4
comp=E,1µm,0.4s
LPAZ La Paz 6.16 7 P Pn 23 29 57.4 +2.2
comp=E,0.4nm,0.3s,baz=170,slow=8.2,SNR=6.6
SIV San Ignacio 9.79 50 P Pn 23 30 39.5 -4.2
comp=E,1.9nm,0.3s,baz=229,slow=12,SNR=12
SIV S Sn 23 32 18.2 -14
comp=E,0.3nm,0.3s,baz=174,slow=19,SNR=3.0
BDFB Brasilia 20.87 75 P P 23 32 57.1 -1.6
comp=E,0.9nm,0.3s,baz=247,slow=13,SNR=7.8
TORD Torodi Ar. Bea 77.67 70 P P 23 40 09.8 -0.1
comp=E,0.5nm,0.4s,baz=248,slow=4.8,SNR=13
MKAR Makanchi Array 146.39 37 PKPbc PKPbc 23 47 53.4 +0.4
comp=E,0.2nm,0.7s,baz=310,slow=3.0,SNR=3.0

IDC 03 23:30:14.3±49.0, 15.43S×172.44W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.7/32, mbtmp4.2/3, Error ellipse: s-maj=954.5km s-min=184.2km az=79.0, Samoa Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 44.83 240 P P 23 38 30.1 -0.3
2.3nm,0.7s,baz=72,slow=9.2,SNR=6.2
WRA Warramunga Arr 50.74 257 P P 23 39 16.4 -0.1
0.6nm,0.7s,baz=91,slow=7.0,SNR=3.2
ASAR Alice Springs 50.98 252 P P 23 39 18.3 0.0
5.7nm,0.6s,baz=89,slow=8.2,SNR=76

MEX 03 23:37:53.8±1.1, 16.59N×94.96W, h92km±14km, MD3.8, Oaxaca

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMIG Matias Romero 0.50 8 iP Pn 23 38 07.4 -1.4
CMIG iS Sn 23 38 18.1 -1.9
HUIG Huatulco 1.38 234 iP Pn 23 38 17.2 -1.0
HUIG eS Sn 23 38 35.0 -1.5
VHO Vista Hermosa 1.77 286 eP Pn 23 38 23.0 -0.3
VHO iS Sn 23 38 45.1 -0.7
PNIG Pinotepa 3.05 267 iP Pn 23 38 38.2 -1.8
PNIG iS Sn 23 39 13.2 -2.6

IDC 04 00:15:05.0±10.0, 20.71S×178.11W, h584km±124km, mb2.9/3, mb1 3.2/4, mb1mx3.0/19, mbtmp4.0/4, Error ellipse: s-maj=72.7km s-min=39.2km az=20.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 17.97 192 P P 00 18 40.9 0.0
2.2nm,0.3s,baz=356,slow=14,SNR=8.7
ASAR Alice Springs 44.37 257 P P 00 22 24.8 -0.2
1.1nm,0.8s,baz=91,slow=8.1,SNR=12
WRA Warramunga Arr 44.47 262 P P 00 22 25.5 -0.2
0.7nm,0.3s,baz=97,slow=7.7,SNR=3.5
ILAR Eielson Array 88.54 13 P P 00 26 55.9 +0.1
0.4nm,0.8s,baz=216,slow=6.0,SNR=2.9
AKASG Malin Array Be 143.15 331 PKP PKPab 00 33 30.9 -0.2
1.0nm,0.5s,baz=42,slow=4.4,SNR=11
BRTR Keskin Array B 146.90 312 PKPbc PKPbc 00 33 43.6 +0.5
0.5nm,0.7s,baz=146,slow=2.3,SNR=1.8

BJI 04 00:27:50.4, 46.80N×155.90E, h2km, mB4.6/4, mb4.4/9
IDC 04 00:27:51.8±0.6, 46.69N×155.91E, h0km, mb4.1/18, mb1 4.3/21, mb1mx4.2/36, mbtmp4.1/21, ML3.4/3, MS3.3/7, Ms1 3.3/7, ms1mx2.8/34, Error ellipse: s-maj=19.7km s-min=12.3km az=156.0
ISCJB 04 00:27:53.6±0.4, 46.82N±0.06×155.86E±0.06, h18km, mb4.3/35, MS3.4/6, Error ellipse: s-maj=8.5km s-min=5.2km az=157.1
NEIC 04 00:27:57.5±0.4, 46.73N×155.89E, h35km, mb4.5/17, Error ellipse: s-maj=11.2km s-min=6.1km az=164.0
SKHL 04 00:27:58.7±1.3, 47.10N×155.44E, h48km±6km, mb4.5/3
MOS 04 00:27:58.0±1.3, 46.77N×155.78E, h53km, mb4.6/22, Error ellipse: s-maj=11.1km s-min=9.0km az=104.8

ISC 04 00:27:55.4±0.5**, 46.86N**±0.07×**155.88E**±0.06**, h18**km**, n122,** σ1.29/114**, mb4.3**/36**, MS3.4**/6**, 1D, East of Kuril Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SKR Severo-Kuril's 3.83 2 *e*PN **Pn** **00 28 54.9 +1.6**
SKR pmax pmax
comp=Z,70nm,0.4s
SKR Severo-Kuril's 3.83 2 *e*P **Pn** **00 28 53.5 +0.2**
SKR AMB AMB 00 28 55.0
comp=Z,70nm,0.4s
SKR *e*S **Sn** **00 29 33.5 -4.3**
SKR A A 00 29 43.1
comp=Z,140nm,0.5s
SKR A A 00 29 43.1
comp=Z,50nm,0.5s
PAU Pauzhetka 4.65 7 *e*P **Pn** **00 29 05.0 +0.4**
PAU *e*S **Sn** **00 29 55.3 -2.8**
PAU A A 00 30 02.2
comp=Z,503nm,0.7s
KUR Kuril'sk 5.81 257 *e*rx rx 00 30 02.1
PETK Petropavlovsk- 6.36 10 Pn **Pn** **00 29 28.0 -0.2**
comp=Z,1.6nm,0.3s,baz=182,slow=14,SNR=15
PETK Sn **Sn** **00 30 42.7 +2.4**
comp=Z,0.6nm,0.3s,baz=152,slow=20,SNR=2.2
PETK LR LR 00 32 42.8
comp=Z,128nm,18.3s,baz=186,slow=44
PET Petropavlovsk 6.42 15 *e*PN Pn 00 29 37.5 +8.6
PET pmax pmax
comp=Z,25nm,0.7s
PET Petropavlovsk 6.42 15 *e*P **Pn** **00 29 29.2 +0.3**
PET AMB AMB 00 29 38.2
comp=Z,34nm,0.7s
PET *e*S **Sn** **00 30 37.7 -4.0**
PET A A 00 30 43.0
comp=Z,83nm,0.6s
PET A A 00 30 43.0
comp=Z,80nm,0.6s
ASAJ Asahikawa 9.73 258 PN **Pn** **00 30 13.0 -1.3**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 9.73 258 Pn **Pn** **00 30 13.0 -1.3**
comp=Z,1.0nm,0.3s,baz=90,slow=28,SNR=5.8
ERM Erimo 10.31 247 *e*PN **Pn** **00 30 21.8 -0.4**
ERM Erimo 10.31 247 *e*P **Pn** **00 30 21.8 -0.4**
FX1 Attu Island--F 12.66 55 Pn Pn 00 30 50.1 -4.2
comp=Z,0.7nm,0.3s,baz=281,slow=10,SNR=3.3
FX1 Sn Sn 00 33 02.6 -12
comp=Z,3.4nm,0.3s,baz=356,slow=22,SNR=5.9
HABR Khabarovsk 14.13 284 *e*P **Pn** **00 31 14.2 -0.2**
HABR *e*S **Sn** **00 33 51.6 +1.1**
HABR pmax pmax
comp=E,41nm,1.4s
HABR pmax pmax
comp=Z,41nm,1.4s
HABR pmax pmax
comp=N,5.0nm,0.7s
HABR MLR MLR
comp=Z,408nm,18.0s
HABR Khabarovsk 14.13 284 *e*P **Pn** **00 31 14.2 -0.2**
EKMR Ekimchan 15.97 301 *e*P **Pn** **00 31 35.2 -3.8**
EKMR AMB AMB 00 31 41.0
comp=Z,8.0nm,0.9s
KLR Kul'dur 16.29 287 *e*P **Pn** **00 31 44.0 +0.9**
KLR Kul'dur 16.29 287 *e*rx rx 00 31 44.0
USRK Ussuriysk Arra 16.94 270 Pn **Pn** **00 31 49.4 -1.9**
comp=Z,0.4nm,0.3s,baz=76,slow=12,SNR=4.5
BMKR Bomnak 18.72 305 *e*P **P** **00 32 10.0 -2.8**
KROS Kirovskiy 19.73 303 *e*P **P** **00 32 20.0 -3.8**
KROS AMB AMB 00 32 22.0
comp=Z,8.0nm,0.9s
YAK Yakutsk 21.29 325 *e*P **P** **00 32 43.6 +3.0**
KSRS Korea Array 22.66 256 P **P** **00 32 55.7 +0.3**
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS Korea Array 22.66 256 P **P** **00 32 55.7 +0.3**
comp=Z,1.4nm,0.7s,baz=54,slow=10,SNR=3.8
KSAR Wonju Array Be 22.69 256 P **P** **00 32 55.7 -0.1**
KSAR Wonju Array Be 22.69 256 P **P** **00 32 55.7 -0.1**
TIK Tiksi 27.91 342 *e*P **P** **00 33 44.6 +0.7**
TIXI Tiksi 27.92 342 *e*P **P** **00 33 44.6 +0.6**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 27.92 342 *e*P **P** **00 33 44.6 +0.6**
comp=Z,3.2nm,0.7s
H11N2 WAKE ISLAND Hy 28.53 158 T T 01 03 26.2
baz=347,slow=77,SNR=3.7
H11N1 WAKE ISLAND Hy 28.54 158 T T 01 03 28.7
baz=347,slow=77,SNR=5.5
H11N3 WAKE ISLAND Hy 28.54 158 T T 01 03 28.2
baz=347,slow=77,SNR=3.6
H11S1 WAKE ISLAND Hy 29.65 159 T T 01 04 52.1
baz=348,slow=78,SNR=9.5
H11S3 WAKE ISLAND Hy 29.66 159 T T 01 04 53.2
baz=348,slow=78,SNR=13
H11S2 WAKE ISLAND Hy 29.67 159 T T 01 04 51.4
baz=348,slow=78,SNR=8.9
ULN Ulaanbaatar 32.65 290 *e*P **P** **00 34 26.8 +0.5**
ULN pmax pmax
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 32.65 290 *e*P **P** **00 34 26.8 +0.5**
SONM Songino Array 33.08 290 *e*P **P** **00 34 30.7 +0.7**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 33.08 290 P **P** **00 34 29.9 -0.1**
comp=Z,1.0nm,0.8s,baz=66,slow=8.2,SNR=9.1
COLA College 34.87 38 *e*P **P** **00 34 45.8 +0.7**
COLA pmax pmax
comp=Z,7.0nm,0.7s
COLA College 34.87 38 *e*P **P** **00 34 45.8 +0.7**
comp=Z,6.7nm,0.7s
COLA College 34.87 38 *e*P **P** **00 34 45.8 +0.7**
ILAR Eielson Array 35.27 39 *e*P **P** **00 34 48.2 -0.5**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 35.27 39 P **P** **00 34 48.2 -0.5**
comp=Z,1.2nm,0.6s,baz=250,slow=7.8,SNR=42
ILAR Eielson Array 35.27 39 *e*P **P** **00 34 48.1 -0.6**
EGAK Eagle 37.73 39 *e*P **P** **00 35 09.4 -0.1**
comp=Z,6.1nm,0.8s
INK Inuvik 40.53 33 P **P** **00 35 33.8 +0.8**
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 40.53 33 P **P** **00 35 33.8 +0.8**
comp=Z,4.9nm,0.7s,baz=300,slow=6.7,SNR=26
INK Inuvik 40.53 33 *e*P **P** **00 35 33.9 +1.0**
comp=Z,4.4nm,0.7s
ZALV Zalesovo Beam 44.08 307 P **P** **00 36 02.2 +0.2**
ZALV 00 37 47.0
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,36nm,20.6s
ZALV Zalesovo Beam 44.08 307 P **P** **00 36 02.2 +0.2**
comp=Z,0.5nm,0.5s,baz=66,slow=8.3,SNR=4.0
ZALV PcP **PcP** **00 37 47.0 0.0**
comp=Z,0.3nm,0.6s,baz=64,slow=3.4,SNR=3.3
ZALV LR LR 00 55 08.6
comp=Z,36nm,20.6s,baz=74,slow=37
MK31 Makanchi Array 48.57 298 *e*P **P** **00 36 36.8 -0.6**
MK31 Makanchi Array 48.57 298 *e*P **P** **00 36 36.8 -0.6**
MKAR Makanchi Array 48.57 298 P **P** **00 36 37.6 +0.2**
comp=Z,0.7nm,0.8s,baz=66,slow=8.4,SNR=9.0
MKAR PcP **PcP** **00 38 02.6 -0.3**
comp=Z,0.3nm,0.8s,baz=46,slow=4.2,SNR=2.1
KURK Kurchatov 48.87 305 *e*P **P** **00 36 40.7 +1.0**
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURK Kurchatov 48.87 305 *e*P **P** **00 36 40.7 +1.0**
comp=Z,2.3nm,1.0s
KURK Kurchatov 48.87 305 *e*P **P** **00 36 40.3 +0.6**
YKA Yellowknife Ar 49.69 38 P **P** **00 36 46.1 +0.4**
YKA 00 38 06.7
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 49.69 38 P **P** **00 36 46.1 +0.4**
comp=Z,1.1nm,0.7s,baz=294,slow=7.3,SNR=17
YKA PcP **PcP** **00 38 06.7 +0.1**
comp=Z,0.4nm,0.7s,baz=300,slow=3.4,SNR=5.6
VOSK Vostochnaya 52.08 310 *e*P **P** **00 37 04.9 +1.0**
VOSK pmax pmax
comp=Z,5.0nm,0.8s
VOSK Vostochnaya 52.08 310 *e*P **P** **00 37 04.9 +1.0**
comp=Z,4.9nm,0.8s
BRVK Borovoye 52.28 310 *e*P **P** **00 37 06.6 +1.2**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 52.28 310 *e*P **P** **00 37 06.1 +0.7**
BRVK Borovoye 52.28 310 *e*P **P** **00 37 06.6 +1.2**
CMAR Chiang Mai Arr 54.25 259 P **P** **00 37 20.8 +0.5**
CMAR pmax pmax
comp=Z,3.0nm,0.3s
CMAR Chiang Mai Arr 54.25 259 P **P** **00 37 20.8 +0.5**
comp=Z,2.6nm,0.3s,baz=30,slow=7.6,SNR=10
CMAR Chiang Mai Arr 54.25 259 *e*P **P** **00 37 20.6 +0.3**
SVE Sverdlovsk 55.03 318 *e*P **P** **00 37 26.9 +1.5**
SVE pmax pmax
comp=Z,8.0nm,0.9s
SVE Sverdlovsk 55.03 318 *e*P **P** **00 37 26.9 +1.5**
AAK Ala-Archa 55.48 298 *e*P **P** **00 37 30.8 +1.7**
AAK pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 55.48 298 *e*P **P** **00 37 30.8 +1.7**
comp=Z,2.4nm,0.9s
AAK Ala-Archa 55.48 298 *e*P **P** **00 37 30.7 +1.7**
EKS2 Erkin-Say 55.90 298 *e*P **P** **00 37 34.0 +2.0**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 55.90 298 *e*P **P** **00 37 34.0 +2.0**
comp=Z,2.4nm,0.8s
HNR Honiara 56.16 175 LR LR 00 56 04.8
comp=Z,43nm,21.6s,baz=324,slow=30
ARU Arti 56.20 318 *d i*P **P** **00 37 34.1 +0.2**
ARU 00 39 36.0
ARU S **S** **00 45 24.5 +2.4**
ARU pmax pmax
comp=Z,12nm,1.7s
ARU Arti 56.20 318 *e*P **P** **00 37 34.2 +0.4**
comp=Z,4.2nm,0.7s
ARU Arti 56.20 318 *e*P **P** **00 37 34.0 +0.2**
KKAR Karatay Array 57.60 300 *e*P **P** **00 37 45.2 +1.2**
KKAR Karatay Array 57.60 300 *e*P **P** **00 37 45.2 +1.2**
ARCES ARCESS Array B 58.36 342 LR LR 01 06 49.0
comp=Z,53nm,20.3s,baz=36,slow=40
ABKAR Akbulak array 59.80 311 *e*P **P** **00 38 00.5 +1.3**
BOZ Bozeman (W) 60.16 54 *e*P **P** **00 38 03.4 +1.4**
BOZ pmax pmax
comp=Z,6.0nm,1.3s
BOZ Bozeman (W) 60.16 54 *e*P **P** **00 38 03.4 +1.4**
comp=Z,5.9nm,1.3s
NVAR Mina Array Bea 60.69 64 P **P** **00 38 06.1 +0.4**
comp=Z,0.4nm,0.6s,baz=311,slow=8.2,SNR=3.7
NVAR PcP **PcP** **00 38 48.9 -0.8**
comp=Z,0.4nm,0.6s,baz=286,slow=6.5,SNR=2.0
H17A Grant Village 61.53 54 *e*P **P** **00 38 12.3 +0.9**
REDW Red Top Meadow 62.02 56 *e*P **P** **00 38 15.5 +0.8**
comp=Z,11nm,1.5s
PDAR Pinedale Array 63.13 55 P **P** **00 38 22.3 +0.2**
comp=Z,1.6nm,0.9s,baz=276,slow=2.9,SNR=10
FINES FINESS Array B 64.73 336 P **P** **00 38 31.2 -0.8**
comp=Z,1.1nm,0.8s,baz=27,slow=9.4,SNR=4.3
FINES LR LR 01 08 22.7
comp=Z,29nm,22.0s,baz=89,slow=38
ULM Lac du Bonnet 65.18 42 P **P** **00 38 35.0 -0.1**
ULM pmax pmax
comp=Z,3.0nm,0.7s
ULM Lac du Bonnet 65.18 42 P **P** **00 38 35.0 -0.1**
comp=Z,2.6nm,0.7s,baz=312,slow=7.5,SNR=7.1
RSSD Black Hills 65.28 51 *e*P **P** **00 38 36.1 -0.1**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 65.28 51 *e*P **P** **00 38 36.1 -0.1**
comp=Z,4.3nm,0.8s
PHWY Pilot Hill 66.39 54 *e*P **P** **00 38 43.7 +0.2**
AGMN Agassiz Nation 66.55 44 *e*P **P** **00 38 44.0 0.0**
comp=Z,107nm,3.0s
ISCO Idaho Springs 67.32 56 *e*P **P** **00 38 50.3 +0.9**
ISCO pmax pmax
comp=Z,12nm,1.6s
ISCO Idaho Springs 67.32 56 *e*P **P** **00 38 50.3 +0.9**
comp=Z,12nm,1.6s
NOA NORSAR Array B 68.71 342 LR LR 01 14 27.6
comp=Z,12nm,18.3s,baz=40,slow=41
WRA Warramunga Arr 69.28 202 *e*P **P** **00 38 58.9 -2.4**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 69.28 202 P P 00 38 58.2 -3.2
comp=Z,2.1nm,0.8s,baz=22,slow=6.6,SNR=8.0
ECSD EROS Data Cent 69.42 48 *e*P **P** **00 39 01.6 -0.5**
comp=Z,87nm,2.7s
KBZ Khabaz 72.13 315 P **P** **00 39 19.4 +0.9**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 72.13 315 P **P** **00 39 19.4 +0.9**
comp=Z,8.5nm,0.9s,baz=54,slow=1.7,SNR=7.9
AKASG Malin Array Be 72.49 328 P **P** **00 39 20.1 -0.4**
comp=Z,0.9nm,0.5s,baz=32,slow=5.9,SNR=7.0
AKASG LR LR 01 15 41.9
comp=Z,22nm,18.7s,baz=315,slow=40
ASAR Alice Springs 72.96 201 P **P** **00 39 22.1 -1.5**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 72.96 201 P **P** **00 39 22.1 -1.5**
comp=Z,1.7nm,0.8s,baz=22,slow=5.4,SNR=10.0
TXAR Lajitas Array 75.77 62 P **P** **00 39 40.3 +0.1**
TXAR pmax pmax
comp=Z,5.0nm,0.7s
TXAR Lajitas Array 75.77 62 P **P** **00 39 40.3 +0.1**
comp=Z,5.0nm,0.7s,baz=301,slow=4.2,SNR=69
BLO Bloomington 77.85 45 *e*P **P** **00 39 53.3 +1.6**
BLO pmax pmax
comp=Z,11nm,0.8s
BLO Bloomington 77.85 45 *e*P **P** **00 39 53.3 +1.6**
comp=Z,11nm,0.8s
BR131 Keskin Array S 79.59 318 *e*P P 00 39 57.9 -3.5
comp=Z,3.2nm,0.8s
BRTR Keskin Array B 79.59 318 P **P** **00 40 01.7 +0.3**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 79.59 318 P **P** **00 40 01.6 +0.3**
comp=Z,3.0nm,0.9s,baz=50,slow=3.2,SNR=7.6
TORD Torodi Ar. Bea 115.93 332 PKP **PKPdf** **00 46 35.8 -1.5**
comp=Z,0.4nm,0.8s,baz=24,slow=1.7,SNR=2.6
DBIC Dimbokro 124.02 337 PKIKP **PKPdf** **00 46 52.1 -0.8**
DBIC pmax pmax
comp=Z,1.0nm,0.5s
DBIC Dimbokro 124.02 337 PKP **PKPdf** **00 46 52.1 -0.8**
comp=Z,0.8nm,0.5s,baz=329,slow=7.0,SNR=2.6
H03N2 Juan Fernandez 136.85 92 T T 03 19 10.5
baz=305,slow=75,SNR=9.5
H03N1 Juan Fernandez 136.87 92 T T 03 19 11.5
baz=305,slow=75,SNR=11
H03N3 Juan Fernandez 136.87 92 T T 03 19 11.6
baz=305,slow=75,SNR=9.4
PLCA Paso Flores 146.33 97 PKP2 **PKPdf** **00 47 33.6 +0.3**
PLCA pmax pmax
comp=Z,4.0nm,0.8s
PLCA Paso Flores 146.33 97 PKPbc **PKPdf** **00 47 33.6 +0.3**
comp=Z,3.8nm,0.8s,baz=280,slow=6.1,SNR=6.1
CPUP Villa Florida 146.73 64 PKP2 **PKPbc** **00 47 35.5 -0.6**
CPUP pmax pmax
comp=Z,2.0nm,0.6s
CPUP Villa Florida 146.73 64 PKPbc **PKPbc** **00 47 35.5 -0.6**
comp=Z,1.9nm,0.6s,baz=290,slow=6.9,SNR=4.1

MEX 04 00:44:45.8±0.5**, 16.33N**×**97.78W, h32**km±8km**, MD3.8, Oaxaca**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PNIG Pinotepa 0.34 281 *i* P Pb 00 44 52.3 -1.7
PNIG *i* S Sb 00 44 58.0 -1.6
VHO Vista Hermosa 1.25 53 *e*P Pn 00 45 05.4 -1.9
VHO *i* S Sn 00 45 20.1 -3.1
HUIG Huatulco 1.70 109 *e*P Pn 00 45 12.2 -1.1
HUIG *i* S Sn 00 45 31.0 -3.0
YAIG Yautepec 2.80 334 *i* P Pn 00 45 26.6 -2.1
YAIG *i* S Sn 00 45 59.1 -2.5
CMIG Matias Romero 2.88 74 *e*P Pn 00 45 28.1 -1.4
CMIG *i* S Sn 00 46 00.3 -2.7

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*ISCJB **04** 01:05:46.3±0.3, 23.17S±0.04×68.57W±0.04, h117km±4km, mb3.9/7, Error ellipse: s-maj=6.7km s-min=5.7km az=142.7*
*SJA **04** 01:05:47.2±0.7, 23.13S×68.55W, h101km±18km, ML3.2, MW3.5*
*NEIC **04** 01:05:47.5, 23.18S×68.63W, h99km, mb4.1/4, After GUC.*
*GUC **04** 01:05:47.6±0.4, 23.19S×68.64W, h97km±2km, ML4.2*
*IDC **04** 01:05:48.4±0.8, 22.89S×68.32W, h111km±6km, mb3.9/6, mb1 3.9/9, mb1mx3.6/25, mbtmp4.2/9, MS2.6/3, Ms1 2.7/3, ms1mx2.4/26, Error ellipse: s-maj=21.6km s-min=18.3km az=162.0*
ISC 04 01:05:47.3±0.6**, 23.16S**±0.04×**68.55W**±0.04**, h111**km±5km**, n48,** σ1.21/64**, mb4.1**/7**, 7C-6D, Northern Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SPCH San Pedro de A 0.41 52 ⇓*i*P **Pn** **01 06 04.0 -0.1**
SPCH *i* S **Sn** **01 06 16.1 -0.6**
SPCH AML AML 01 06 16.8
comp=E,14µm,0.3s
SPCH San Pedro de A 0.41 52 ⇓*i*P **Pn** **01 06 04.0 -0.1**
SPCH *i* S **Sn** **01 06 16.1 -0.6**
LVC Limon Verde 0.64 329 *e*Pn **Pn** **01 06 05.4 -0.2**
LVC *e*S **Sn** **01 06 18.7 -0.5**
LVC Limon Verde 0.64 329 *i* P **Pn** **01 06 05.2 -0.4**
LVC *e*S **Sn** **01 06 18.3 -0.9**
PB06 Plate Boundary 1.04 296 ⇑*i*P **Pn** **01 06 09.1 -0.1**
PB06 *i* S **Sn** **01 06 25.1 -0.6**
PB06 AML AML 01 06 26.0
comp=N,8µm,0.6s
PB06 Plate Boundary 1.04 296 ⇑*i*P **Pn** **01 06 09.1 -0.1**
PB06 *i* S **Sn** **01 06 25.1 -0.6**
PB04 Plate Boundary 1.24 316 *i* P Pn 01 06 16.2 +5.0
PB04 *i* S Sn 01 06 38.0 +8.8
PB04 AML AML 01 06 43.2
comp=N,3µm,0.3s
PB04 Plate Boundary 1.24 316 *i* P Pn 01 06 16.2 +5.0
PB04 *i* S Sn 01 06 38.0 +8.8
MACH Maria Elena 1.47 311 *i* P **Pn** **01 06 13.9 -0.2**
MACH *i* S **Sn** **01 06 33.9 -0.5**
MACH Maria Elena 1.47 311 *i* P **Pn** **01 06 13.9 -0.2**
MACH *i* S **Sn** **01 06 33.9 -0.5**
PB09 Plate Boundary 1.50 335 ⇓*i*P **Pn** **01 06 14.6 +0.2**
PB09 *i* S **Sn** **01 06 35.0 0.0**
PB09 AML AML 01 06 37.6
comp=N,10µm,0.5s
PB09 Plate Boundary 1.50 335 ⇓*i*P **Pn** **01 06 14.6 +0.2**
PB09 *i* S **Sn** **01 06 35.0 0.0**
CEN1 Los Morros 1.53 261 ⇓*i*P **Pn** **01 06 15.8 +1.2**
CEN1 *i* S **Sn** **01 06 37.3 +1.8**
CEN1 Los Morros 1.53 261 ⇓*i*P **Pn** **01 06 15.8 +1.2**
CEN1 *i* S **Sn** **01 06 37.3 +1.8**
ANCH Antofagasta 1.78 253 ⇑*i*P **Pn** **01 06 15.6 -2.0**
ANCH *i* S **Sn** **01 06 37.9 -2.8**
ANCH Antofagasta 1.78 253 ⇑*i*P **Pn** **01 06 15.6 -2.0**
ANCH *i* S **Sn** **01 06 37.9 -2.8**
PB10 Plate Boundary 1.87 259 ⇑*i*P **Pn** **01 06 18.5 -0.2**
PB10 *i* S **Sn** **01 06 41.6 -1.1**
PB10 AML AML 01 07 13.0
comp=N,3µm,0.7s
PB07 Plate Boundary 1.89 319 ⇑*i*P **Pn** **01 06 18.7 -0.4**
PB07 *i* S **Sn** **01 06 42.6 -0.8**
PB07 AML AML 01 06 45.8
comp=E,3µm,0.4s
PB07 Plate Boundary 1.89 319 ⇑*i*P **Pn** **01 06 18.8 -0.4**
AZAP Zapla 3.37 109 *i* P **Pn** **01 06 40.3 +1.9**
ASTB Santa Barbara 3.82 103 *i* P **Pn** **01 06 46.0 +1.6**
ALOL LOMAS DE OLMED 4.26 100 *i* P **Pn** **01 06 50.6 +0.4**
CYA Choya 5.81 155 *i* P **Pn** **01 07 12.4 +1.2**
CYA *e*S **Sn** **01 08 15.7 -0.9**
CYA AML AML 01 08 21.9
comp=Z,7.5nm,0.7s
LCO Las Campanas 6.13 198 *e*Pn **Pn** **01 07 13.4 -2.4**
comp=Z,34nm,0.5s
LCO *e*S Sn 01 08 34.5 +10
LPAZ La Paz 6.85 3 P **Pn** **01 07 26.2 +0.3**
comp=Z,1.3nm,0.3s,baz=182,slow=4.5,SNR=20
LPAZ S Sn 01 08 22.0 -21
comp=Z,0.6nm,0.3s,baz=158,slow=8.6,SNR=4.1
LPAZ La Paz 6.85 3 *e*Pn **Pn** **01 07 25.7 -0.2**
LPAZ *e*S Sn 01 08 21.6 -22
CFAA Coronel Fontan 8.41 178 P **Pn** **01 07 45.1 -1.4**
comp=Z,0.2nm,0.3s,baz=347,slow=7.1,SNR=21
CFAA S Sn 01 09 13.8 -5.9
comp=Z,0.2nm,0.3s,baz=245,slow=17,SNR=5.1
CFAA LR LR 01 11 34.4
comp=Z,8.8nm,20.8s,baz=139,slow=40
SIV San Ignacio 10.03 46 P Pn 01 08 04.1 -4.3
comp=Z,8.3nm,0.3s,baz=248,slow=12,SNR=70
SIV S Sn 01 09 49.8 -9.3
comp=Z,0.4nm,0.3s,baz=142,slow=19,SNR=3.2
CPUP Villa Florida 10.68 109 P **Pn** **01 08 15.1 -2.0**
comp=Z,0.3nm,0.3s,baz=53,slow=5.1,SNR=2.9
CPUP LR LR 01 11 48.1
comp=Z,42nm,21.5s,baz=211,slow=34
SAML Samuel 15.04 21 *e*Pn **Pn** **01 09 14.0 -0.2**
comp=Z,2.4nm,0.5s
TRQA Tornquist 15.88 161 *e*Pn **Pn** **01 09 25.3 +0.7**
PLCA Paso Flores 17.60 185 P **Pn** **01 09 47.7 +2.1**
comp=Z,0.2nm,0.3s,baz=354,slow=10,SNR=4.9
BDFB Brasilia 20.75 73 P **P** **01 10 18.0 -1.6**
comp=Z,5.3nm,0.3s,baz=237,slow=8.5,SNR=18
PTGA Pitinga 23.81 22 P **P** **01 10 48.0 -2.2**
comp=Z,3.5nm,0.3s,baz=198,slow=17,SNR=8.4
PTGA Pitinga 23.81 22 *e*P **P** **01 10 48.3 -1.9**
comp=Z,3.3nm,0.6s
USHA Ushuaia 31.63 180 LR LR 01 27 03.3
comp=Z,53nm,19.4s,baz=183,slow=40
TXAR Lajitas Array 62.18 325 P **P** **01 15 57.4 +0.2**
comp=Z,0.1nm,0.5s,baz=131,slow=11,SNR=2.9
QSPA South Pole Qui 67.04 180 *e*P **P** **01 16 30.4 +2.0**
comp=Z,2.5nm,0.7s
DBIC Dimbokro 68.90 73 P **P** **01 16 40.7 0.0**
comp=Z,2.5nm,0.8s,baz=224,slow=8.9,SNR=5.7
DBIC Dimbokro 68.90 73 *e*P **P** **01 16 40.5 -0.3**
comp=Z,2.5nm,0.6s
ULM Lac du Bonnet 76.99 342 P **P** **01 17 26.5 -1.2**
comp=Z,0.5nm,0.4s,baz=171,slow=5.6,SNR=3.0
TOA0 Torodi Ar. Sit 77.61 70 *e*P **P** **01 17 31.6 -0.2**
TORD Torodi Ar. Bea 77.61 70 P **P** **01 17 31.8 -0.1**
comp=Z,3.3nm,0.5s,baz=255,slow=5.5,SNR=62
YKA Yellowknife Ar 92.86 340 P **P** **01 18 47.8 +0.7**
comp=Z,0.5nm,0.8s,baz=133,slow=4.5,SNR=11
YKA pP **pP** **01 19 16.2 +0.2**
comp=Z,0.5nm,0.7s,baz=135,slow=4.4,SNR=6.7
ASAR Alice Springs 128.59 207 PKP **PKPdf** **01 24 43.0 +0.9**
comp=Z,0.6nm,0.7s,baz=145,slow=1.6,SNR=6.2
WRA Warramunga Arr 131.68 209 PKP **PKPdf** **01 24 49.4 +1.3**
comp=Z,0.6nm,0.9s,baz=134,slow=29,SNR=4.1
WRA pPKP **pPKPdf** **01 25 19.4 +1.2**
comp=Z,0.3nm,0.3s,baz=134,slow=2.4,SNR=1.7
ZALV Zalesovo Beam 143.30 26 PKP **PKPdf** **01 25 09.3 +1.0**
comp=Z,0.7nm,0.7s,baz=298,slow=3.1,SNR=3.6
ZALV pPKP **pPKPdf** **01 25 37.5 -0.9**
comp=Z,1.3nm,0.9s,baz=303,slow=8.0,SNR=1.9
MKAR Makanchi Array 146.76 38 PKPbc **PKPbc** **01 25 15.9 -0.6**
comp=Z,0.6nm,0.6s,baz=327,slow=2.6,SNR=7.8
MKAR pPKPbc pPKPbc 01 25 46.5 +0.2
comp=Z,1.6nm,0.9s,baz=318,slow=1.6,SNR=6.2

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*IDC **04** 01:17:00.9±2.8, 30.15S×69.00W, h49km±27km, mb3.4/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.8/3, ML4.1/1, Error ellipse: s-maj=60.0km s-min=30.9km az=67.0*
*ISCJB **04** 01:17:03.2±0.5, 31.53S±0.04×69.54W±0.04, h117km±5km, mb3.5/2, Error ellipse: s-maj=7.5km s-min=3.9km az=43.7*
*SJA **04** 01:17:03.1±1.4, 31.53S×69.54W, h111km±10km, ML3.6, MW4.8*
*GUC **04** 01:17:03.5±0.5, 31.58S×69.99W, h153km±4km, MD3.6, ML3.8*
ISC 04 01:17:04.0±0.9**, 31.53S**±0.04×**69.55W**±0.04**, h113**km±7km**, n31,** σ0.67/47**, 5C-7D, San Juan Province**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RTLS Leoncito 0.35 142 *i* P **Pn** **01 17 20.5 -0.1**
AUSP Uspallata 0.71 169 *i* P **Pn** **01 17 23.0 0.0**
SJA San Juan 0.84 90 *i* P **Pn** **01 17 24.2 +0.2**
SJA ⇓*e*S **Sn** **01 17 39.9 +1.0**
RTLL Cerro Villicun 0.94 78 *i* P **Pn** **01 17 24.4 -0.4**
RTLL ⇓*e*S **Sn** **01 17 40.0 -0.5**
AMOG MOGNA 1.08 57 *i* P **Pn** **01 17 26.4 +0.1**
AMOG *e*S **Sn** **01 17 41.6 -1.5**
CFAA Coronel Fontan 1.12 94 P **Pn** **01 17 26.6 -0.1**
3.8nm,0.3s,baz=299,slow=12,SNR=397
CFAA S **Sn** **01 17 43.2 -0.6**
16nm,0.3s,baz=270,slow=15,SNR=145
CFAA Coronel Fontan 1.12 94 *i* P **Pn** **01 17 26.6 -0.1**
CFAA *e*S **Sn** **01 17 43.4 -0.4**
CMCH Combarbala 1.29 285 ⇓*i*P **Pn** **01 17 28.4 -0.2**
CMCH *i* S **Sn** **01 17 47.7 +0.5**
CMCH AML AML 01 17 49.9

	comp=E,3µm,0.4s						
ARCO	CERRO ARCO	1.41	158	iP	Pn	01 17 30.5	+0.4
ARCO				⇓eS	Sn	01 17 49.7	-0.2
ARCO				AML	AML	01 17 52.4	
	comp=Z,1µm,0.4s						
JACH	Jahuel	1.46	217	⇑iP	Pn	01 17 31.0	+0.5
JACH				iS	Sn	01 17 52.0	+1.4
AAGR	Agrelo	1.67	159	iP	Pn	01 17 33.3	+0.2
AAGR				eS	Sn	01 17 54.9	-0.3
PEL	Peldehue	1.88	211	⇓iP	Pn	01 17 35.7	+0.1
PEL				iS	Sn	01 17 59.7	0.0
PEL				AML	AML	01 18 00.9	
	comp=N,1µm,0.5s						
ROCH	El Roble	1.90	220	eP	Pn	01 17 35.7	-0.3
ROCH				iS	Sn	01 18 00.2	-0.3
ROCH				AML	AML	01 18 05.0	
	comp=E,457nm,0.5s						
AVFE	Valle Fertil	1.99	65	iP	Pn	01 17 37.0	0.0
AVFE				⇓eS	Sn	01 18 02.4	+0.1
AVFE				AML	AML	01 18 04.5	
	comp=Z,160nm,0.3s						
CLCH	Cerro Calan	2.04	204	⇑iP	Pn	01 17 38.1	+0.4
CLCH				iS	Sn	01 18 04.0	+0.5
CLCH				AML	AML	01 18 06.4	
	comp=E,736nm,0.3s						
AVIZ	Vizcacheras	2.13	156	iP	Pn	01 17 38.7	-0.1
SAN	Santiago	2.14	206	⇑iP	Pn	01 17 39.1	+0.3
SAN				iS	Sn	01 18 05.7	+0.1
SAN				AML	AML	01 18 13.1	
	comp=N,376nm,0.6s						
ANTU	Antumapu	2.23	204	iP	Pn	01 17 40.1	+0.1
ANTU				iS	Sn	01 18 07.8	0.0
ANTU				AML	AML	01 18 09.7	
	comp=N,880nm,0.4s						
LMEL	Las Melosas	2.38	193	⇑iP	Pn	01 17 42.5	+0.4
LMEL				iS	Sn	01 18 12.6	+1.3
LMEL				AML	AML	01 18 18.9	
	comp=N,312nm,0.1s						
TACH	Talagante	2.42	209	⇑iP	Pn	01 17 42.0	-0.5
TACH				iS	Sn	01 18 11.3	-0.8
CHCH	Chadas Angostu	2.58	201	eP	Pn	01 17 44.4	-0.1
CHCH				iS	Sn	01 18 15.5	-0.2
LCO	Las Campanas	2.70	338	iP	Pn	01 17 46.6	+0.2
LNV	Longovilo	2.89	212	⇓iP	Pn	01 17 47.0	-1.5
LNV				iS	Sn	01 18 20.4	-2.5
ACLC	CERRO LA CRUZ	3.07	48	iP	Pn	01 17 51.5	+0.4
H03N1	Juan Fernandez	8.14	254	T	T	01 25 58.2	
	baz=78,slow=74						
H03N3	Juan Fernandez	8.15	254	T	T	01 25 58.2	
	baz=78,slow=74						
H03N2	Juan Fernandez	8.15	254	T	T	01 25 59.8	
	baz=78,slow=74						
TORD	Torodi Ar. Bea	81.38	69	P	P	01 29 08.7	+0.1
	comp=N,0.8nm,0.7s,baz=268,slow=5.3,SNR=12						
PDAR	Pinedale Array	82.55	331	P	P	01 29 14.4	+0.1
	comp=N,0.3nm,0.7s,baz=116,slow=6.1,SNR=2.9						
ZALV	Zalesovo Beam	151.02	32	PKPbc	PKPbc	01 36 43.6	+0.5
	comp=N,1.8nm,0.5s,baz=313,slow=4.5,SNR=9.7						
MKAR	Makanchi Array	153.55	47	PKPbc	PKPbc	01 36 48.9	-0.2
	comp=N,0.3nm,0.8s,baz=289,slow=2.2,SNR=3.4						

*IDC **04** 01:24:15.2±6.3, 9.20N×82.64W, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.8/24, mbtmp3.8/7, ML4.0/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=138.7km s-min=36.6km az=4.0*

ISC 04 01:24:18.6±3.6, 9.4N±0.5×82.7W±0.1, h11km, n13, σ0.94/8, mb3.6/5, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	2.34	292	Pn	Pn	01 24 56.9	-0.3
	49nm,0.3s,baz=158,slow=3.5,SNR=133						
JTS				Sn	Sb	01 25 29.9	0.0
	32nm,0.3s,baz=308,slow=23,SNR=5.5						
APG	El Apazote	9.37	307	Pn	Pn	01 26 33.5	-0.4
	0.9nm,0.3s,baz=117,slow=16,SNR=6.2						
TEIG	Tepich	11.99	334	LR	LR	01 32 05.2	
	comp=Z,70nm,20.2s,baz=138,slow=38						
H06E1	SOCORRO T-PHAS	28.84	292	T	T	02 00 17.1	
PDAR	Pinedale Array	40.67	329	P	P	01 32 00.5	+1.2
	0.3nm,0.6s,baz=133,slow=9.1,SNR=2.5						
ULM	Lac du Bonnet	42.13	347	P	P	01 32 10.8	-0.1
	1.7nm,0.7s,baz=158,slow=11,SNR=6.8						
H03N2	Juan Fernandez	42.78	175	T	T	02 16 17.1	
	baz=354,slow=76,SNR=12						
H03N1	Juan Fernandez	42.78	175	T	T	02 16 17.3	
	baz=354,slow=76,SNR=11						
H03N3	Juan Fernandez	42.80	175	T	T	02 16 18.3	
	baz=354,slow=76,SNR=14						
NVAR	Mina Array Bea	43.02	318	P	P	01 32 20.0	+1.4
	1.1nm,0.8s,baz=125,slow=9.4,SNR=6.8						
YKA	Yellowknife Ar	57.78	343	P	P	01 34 09.4	-0.2
	0.4nm,0.6s,baz=138,slow=7.2,SNR=7.8						
ILAR	Eielson Array	70.65	336	P	P	01 35 33.1	-0.9
	0.6nm,0.8s,baz=122,slow=4.2,SNR=7.3						
PPT	Papeete	71.25	248	LR	LR	02 00 42.9	
	comp=Z,265nm,21.1s,baz=192,slow=31						

*ISCJB **04** 01:24:28.4±0.7, 15.92S±0.04×72.13W±0.06, h96km±8km, mb4.3/21, Error ellipse: s-maj=10.2km s-min=6.7km az=156.9*
*NEIC **04** 01:24:30.5±0.5, 15.86S×72.14W, h100km±5km, mb4.5/12, Error ellipse: s-maj=8.5km s-min=5.0km az=57.0*
NEIC Felt [III] at Aplao, Camana and Ocona and [II] at Arequipa.
*IDC **04** 01:24:31.8±0.6, 15.90S×72.14W, h114km±3km, mb4.0/11, mb1 4.1/16, mb1mx4.0/33, mbtmp4.4/16, MS3.2/3, Ms1 3.2/3, ms1mx2.8/21, Error ellipse: s-maj=18.2km s-min=12.4km az=44.0*

ISC 04 01:24:31.4±0.4, 15.99S±0.06×72.06W±0.07, h115km±3km, h115km:pP-P, n64, σ1.45/73, mb4.4/21, 2C-7D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	0.72	131	⇓iP	Pn	01 24 51.6	+0.8
ARE				iS	Sn	01 25 07.9	+2.5
LPAZ	La Paz	3.78	95	P	Pn	01 25 33.8	+5.2
	15nm,0.3s,baz=280,slow=11,SNR=347						
LPAZ				S	Sn	01 26 10.8	-1.9
	18nm,0.3s,baz=284,slow=8.7,SNR=5.7						
LPAZ	La Paz	3.78	95	ePn	Pn	01 25 33.7	+5.1
LPAZ				eS	Sn	01 26 09.3	-3.4
MNMC	Minimini	3.91	143	⇓iP	Pn	01 25 30.8	+0.9
PSGC	Pisagua	4.04	153	⇓iP	Pn	01 25 31.0	-0.5
PB11	Plate Boundary	4.40	149	⇓iP	Pn	01 25 36.1	-0.3
HMBC	Humberstone	4.74	155	⇓iP	Pn	01 25 40.2	-0.7
PATCX	Punta Patache	5.14	160	⇓eP	Pn	01 25 44.9	-1.4
PB01	Plate Boundary	5.59	155	eP	Pn	01 25 51.5	-0.9
PB07	Plate Boundary	6.07	161	eP	Pn	01 25 58.1	-0.9
NNA	Nana	6.11	310	P	Pn	01 25 54.7	-4.8
	16nm,0.3s,baz=146,slow=12,SNR=13						
NNA				S	Sn	01 26 56.2	-12
	27nm,0.3s,baz=45,slow=21,SNR=5.0						
NNA	Nana	6.11	310	ePn	Pn	01 25 54.5	-4.9
NNA				eSn	Sn	01 26 56.7	-11
PB09	Plate Boundary	6.36	156	⇓eP	Pn	01 26 02.6	-0.3
MACH	Maria Elena	6.55	161	eP	Pn	01 26 04.7	-0.8
PB04	Plate Boundary	6.70	159	⇑iP	Pn	01 26 04.0	-3.4
PB06	Plate Boundary	7.08	161	eP	Pn	01 26 11.1	-1.6
LVC	Limon Verde	7.23	156	ePn	Pn	01 26 14.9	+0.1
LVC				eS	Sn	01 27 33.4	-2.1
CEN1	Los Morros	7.57	167	iP	Pn	01 26 19.6	+0.4
ANCH	Antofagasta	7.81	169	⇑iP	Pn	01 26 17.8	-4.6
SIV	San Ignacio	10.56	92	P	Pn	01 26 59.9	+0.2
	3.1nm,0.3s,baz=285,slow=11,SNR=32						
ATAH	Atahualpa	10.76	324	P	Pn	01 27 01.9	-0.9
	0.8nm,0.3s,baz=124,slow=7.2,SNR=9.5						
ATAH				LR	LR	01 31 30.3	
	comp=Z,106nm,18.2s,baz=161,slow=39						
SAML	Samuel	11.13	52	ePn	Pn	01 27 05.3	-2.0
CFAA	Coronel Fontan	15.93	168	P	P	01 28 10.8	+0.3
	0.2nm,0.3s,baz=345,slow=10,SNR=26						
CFAA				S	Sn	01 30 59.8	-6.2
	0.0nm,0.3s,baz=115,slow=18,SNR=2.7						
CPUP	Villa Florida	17.15	129	P	Pn	01 28 24.5	+0.5
	0.6nm,0.3s,baz=282,slow=12,SNR=5.5						
OTAV	Otavalo	17.31	338	Pn	P	01 28 25.2	-1.1
	8.0nm,1.3s						
H03N1	Juan Fernandez	18.45	198	T	T	01 47 06.6	
	baz=21,slow=75,SNR=1034						
H03N2	Juan Fernandez	18.46	198	T	T	01 47 05.1	
	baz=21,slow=75,SNR=702						
H03N3	Juan Fernandez	18.47	198	T	T	01 47 08.1	
	baz=21,slow=75,SNR=417						
PTGA	Pitinga	19.29	39	P	P	01 28 47.4	0.0
	9.8nm,0.3s,baz=226,slow=13,SNR=51						
PTGA				LR	LR	01 37 16.3	
	comp=Z,53nm,19.3s,baz=204,slow=40						
ROSC	El Rosal	20.83	354	P	P	01 29 03.9	-0.5
	4.3nm,0.4s,baz=86,slow=22,SNR=6.3						
BDFB	Brasilia	23.13	92	P	P	01 29 29.8	+1.9
	7.3nm,0.4s,baz=264,slow=12,SNR=23						
BDFB				LR	LR	01 39 36.5	
	comp=Z,78nm,18.4s,baz=351,slow=39						
TRQA	Tornquist	23.71	160	eP	P	01 29 35.6	+2.6
	266nm,2.9s						
PLCA	Paso Flores	24.69	177	P	P	01 29 43.0	+1.2
	10nm,0.8s,baz=356,slow=11,SNR=23						
PLCA	Paso Flores	24.69	177	eP	P	01 29 43.8	+2.0
SDV	Santo Domingo	24.75	3	eP	P	01 29 43.0	+0.3
	54nm,1.1s						
TXAR	Lajitas Array	54.42	326	P	P	01 33 45.9	-1.1
	1.1nm,0.9s,baz=144,slow=8.7,SNR=9.1						
TXAR				pP	pP	01 34 15.3	+0.8
	0.7nm,0.8s,baz=153,slow=8.1,SNR=3.9						
TXAR				sP	sP	01 34 25.5	-1.8
	0.8nm,1.0s,baz=151,slow=5.7,SNR=3.0						
WUAZ	Wupatki	63.34	325	eP	P	01 34 49.2	+0.6
	6.4nm,1.2s						
SMCO	Snowmass	63.84	330	eP	P	01 34 52.4	+0.2
	37nm,2.5s						
MVU	Marysvale	65.98	326	eP	P	01 35 06.5	+0.7
	4.7nm,1.1s						
AGMN	Agassiz Nation	67.43	343	eP	P	01 35 13.7	-0.8
	4.3nm,0.6s						
DUG	Dugway	67.53	327	eP	P	01 35 16.1	+0.6
	5.8nm,1.1s						
PDAR	Pinedale Array	67.87	331	P	P	01 35 17.4	-0.3
	0.7nm,0.8s,baz=125,slow=7.4,SNR=7.3						
PDAR				sP	sP	01 35 57.3	-1.4
	0.8nm,1.0s,baz=133,slow=6.5,SNR=3.6						
SNAA	Sanae	68.43	161	eP	P	01 35 22.4	+1.8
	8.6nm,0.8s						
ULM	Lac du Bonnet	69.20	344	P	P	01 35 24.5	-1.0
	2.2nm,0.5s,baz=160,slow=7.8,SNR=7.4						
NVAR	Mina Array Bea	69.33	323	P	P	01 35 26.3	-0.5
	0.5nm,0.8s,baz=133,slow=6.3,SNR=3.9						
DBIC	Dimbokro	70.20	77	P	P	01 35 32.9	+0.5
	5.6nm,0.5s,baz=235,slow=6.4,SNR=16						
DBIC	Dimbokro	70.20	77	eP	P	01 35 33.2	+0.8
MFID	Camas Ranch	71.42	328	eP	P	01 35 40.1	+0.8
	8.1nm,1.1s						
MOD	Modoc	72.78	324	eP	P	01 35 47.8	+0.3
	6.3nm,1.1s						
BMO	Blue Mountains	73.19	328	eP	P	01 35 50.4	+0.6
	6.5nm,1.3s						
EDM	Edmonton	77.53	336	eP	P	01 36 14.0	-0.4
TOA0	Torodi Ar. Sit	78.44	73	eP	P	01 36 20.8	+0.6
TOA0				epP	pP	01 36 49.4	0.0
TORD	Torodi Ar. Bea	78.44	73	P	P	01 36 21.0	+0.8
	5.7nm,0.5s,baz=270,slow=4.8,SNR=164						
TORD				pP	pP	01 36 49.1	-0.3
	3.3nm,0.7s,baz=255,slow=4.9,SNR=4.7						
TORD				sP	sP	01 37 05.2	+3.4
	2.6nm,0.7s,baz=256,slow=5.4,SNR=3.4						
ESDC	Sonseca Array	84.09	46	P	P	01 36 51.5	+1.9
	2.5nm,0.6s,baz=258,slow=5.1,SNR=23						
ESDC				pP	pP	01 37 20.3	+1.1
	0.4nm,0.7s,baz=259,slow=4.7,SNR=2.0						
YKA	Yellowknife Ar	85.03	342	P	P	01 36 53.1	-0.6
	1.9nm,0.8s,baz=136,slow=5.2,SNR=32						
YKA				pP	pP	01 37 22.4	-1.0
	0.8nm,0.6s,baz=136,slow=5.1,SNR=4.7						
YKA				sP	sP	01 37 35.7	+0.1
	1.7nm,0.8s,baz=136,slow=5.0,SNR=5.3						
ASAR	Alice Springs	133.13	213	PKP	PKPdf	01 43 34.7	+0.3
	0.3nm,0.4s,baz=151,slow=2.2,SNR=4.2						
ASAR				pPKP	pPKPdf	01 44 03.9	-1.8
	0.5nm,0.7s,baz=116,slow=2.3,SNR=3.0						
WRA	Warramunga Arr	135.87	217	PKP	PKPdf	01 43 39.9	+0.3
	0.7nm,0.4s,baz=135,slow=1.4,SNR=4.0						
WRA				pPKP	pPKPdf	01 44 11.1	+0.3
	1.0nm,0.7s,baz=145,slow=1.6,SNR=2.7						
ZALV	Zalesovo Beam	138.04	20	PKP	PKPdf	01 43 42.6	+0.1
	1.8nm,0.7s,baz=330,slow=1.8,SNR=7.9						
ZALV				pPKP	pPKPdf	01 44 14.1	+0.4
	1.3nm,0.7s,baz=274,slow=2.4,SNR=3.6						
MKAR	Makanchi Array	142.61	29	PKP	PKPdf	01 43 48.6	-2.5
	0.4nm,0.6s,baz=318,slow=2.5,SNR=4.5						
USRK	Ussuriysk Arra	145.28	329	PKPbc	PKPbc	01 43 54.6	-1.1
	2.1nm,0.5s,baz=5.4,slow=4.3,SNR=5.8						
MJAR	Matsushiro Arr	146.23	313	PKPbc	PKPbc	01 43 58.7	-0.2
	0.6nm,0.3s,baz=90,slow=1.3,SNR=4.9						
SONM	Songino Array	148.21	2	PKPbc	PKPbc	01 44 05.3	+1.1
	3.1nm,0.7s,baz=323,slow=2.1,SNR=32						
SONM				pPKPbc	pPKPbc	01 44 36.0	+0.8
	1.4nm,0.8s,baz=307,slow=1.2,SNR=3.7						
KSRS	Korea Array	152.26	324	PKPbc	PKPbc	01 44 15.1	+1.1
	2.2nm,0.6s,baz=48,slow=1.8,SNR=7.8						
KSAR	Wonju Array Be	152.29	324	PKPbc	PKPbc	01 44 15.1	+1.0

*IDC **04** 01:31:19.4±0.7, 17.70N×120.97E, h0km, mb4.0/15, mb1 4.1/15, mb1mx4.0/30, mbtmp4.0/15, MS3.1/9, Ms1 3.2/9, ms1mx3.0/27, Error ellipse: s-maj=27.1km s-min=17.1km az=69.0*
*MAN **04** 01:31:23, 17.92N×120.64E, h17km, mb4.9, ML3.9, MS3.9*
MAN INTENSITY IV - SINAIT ILOCOS SUR; INTENSITY III - STO DOMINGO ILOCOS SUR; INTENSITY II - LAOAG & PASUQUIN ILOCOS NORTE BANGUED ABRA & CALLAO PENABLANCA CAGAYAN.
*NEIC **04** 01:31:23.6±1.1, 17.74N×120.87E, h22km±7km, mb4.1/7, Error ellipse: s-maj=9.2km s-min=5.3km az=117.0*
NEIC Felt [IV PIVS] at Sinait; [III PIVS] at Santo Domingo and Vigan; [II PIVS] at Bangued, Callao, Laoag and Pasuquin.
*ISCJB **04** 01:31:24.1±0.3, 17.89N±0.03×120.70E±0.04, h30km±2km, mb4.0/19, MS3.1/8, Error ellipse: s-maj=5.8km s-min=4.2km az=13.1*

ISC 04 01:31:24.8±0.7, 17.84N±0.03×120.73E±0.04, h25km±5km, n69, σ1.05/72, mb4.0/19, MS3.0/8, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.19	185	eP	Pb	01 31 29.9	-0.4
ABRA				eS	Sb	01 31 34.4	+0.4
SIPP	Brgy, Tapao	0.27	289	⇑iP	Pb	01 31 29.8	-1.6
SIPP				eS	Sb	01 31 34.4	-1.6
SZP	Santa	0.38	223	ePg	Pb	01 31 32.1	-1.0
SZP				eS	Sn	01 31 40.6	-0.6
APYP	Conner	0.49	87	eP	Pn	01 31 34.8	-1.4
APYP				eS	Sn	01 31 43.0	-0.9
PIP	Pasuquin	0.50	348	⇑iP	Pb	01 31 33.5	-1.5
PIP				eS	Sb	01 31 42.3	+0.4
SGCP	Mt. Cagua	1.32	72	eP	Pb	01 31 48.0	-0.9
CAUP	Cauayan	1.37	130	eP	Pb	01 31 50.9	+1.1
BOLP	Bolinao	1.64	208	eP	Pn	01 31 52.0	0.0
SCZP	Santa Cruz	2.19	201	eP	Pn	01 32 00.3	+0.8
BALP	Baler	2.24	159	eP	Pn	01 32 02.1	-2.4
TGY	Tagaytay City	3.72	177	Pn	Pn	01 32 23.2	+2.6
	116nm,0.3s,baz=202,slow=13,SNR=3.1						
TGY				Lg	Lg	01 33 15.4	
	131nm,0.3s,baz=107,slow=17,SNR=2.9						
TGY				LR	LR	01 34 08.0	
	comp=Z,52nm,20.4s,baz=330,slow=47						
LQP	Lukban	3.78	168	eP	Pn	01 32 01.9	-20
TWG	Pinlang	4.97	4	ePn	Pn	01 32 38.0	+0.2
TWG				eS	Sn	01 33 34.2	-0.3
YULB	Yu-li	5.55	5	ePn	Pn	01 32 45.5	-0.4
YULB				eS	Sn	01 33 49.3	+0.4
SSLB	Suanglung	5.93	2	ePn	Pn	01 32 52.0	+1.1
SSLB				eS	Sn	01 33 55.1	-3.0
NACB	Ninganchiao	6.36	7	ePn	Pn	01 32 57.8	+0.9
NACB				eS	Sn	01 34 10.3	+1.7
YHNB	Yeheng	6.83	5	ePn	Pn	01 33 03.1	-0.3
YHNB				eS	Sn	01 34 22.8	+2.5
YOJ	Yonaguni jima	6.93	18	ePn	Pn	01 33 05.2	+0.5
KSAR	Wonju Array Be	20.52	16	P	P	01 36 01.4	+0.2
KSRS	Korea Array	20.54	17	P	P	01 36 01.4	0.0
	8.0nm,0.8s,baz=198,slow=11,SNR=17						
KSRS				LR	LR	01 44 32.5	
	comp=Z,60nm,19.2s,baz=181,slow=38						
CHTO	Chiang Mai	20.70	276	eP	P	01 36 04.8	+1.5
	4.0nm,0.6s						
CMAR	Chiang Mai Arr	20.71	275	P	P	01 36 05.2	+1.8
	4.8nm,0.8s,baz=92,slow=8.6,SNR=22						
CMAR				LR	LR	01 43 23.0	
	comp=Z,48nm,21.8s,baz=118,slow=34						
JCJ	Chichijima	21.84	61	LR	LR	01 42 55.3	
	comp=Z,64nm,21.8s,baz=346,slow=32						
MJAR	Matsushiro Arr	24.20	36	LR	LR	01 45 37.8	
	comp=Z,41nm,20.1s,baz=240,slow=36						
USRK	Ussuriysk Arra	27.94	17	LR	LR	01 48 24.6	
	comp=Z,70nm,21.9s,baz=109,slow=37						
TAPN	Taplejung	31.84	293	eP	P	01 37 48.6	+0.5
	9.6nm,0.7s						
ODAN	Odare	32.04	292	eP	P	01 37 50.3	+0.5
	23nm,0.7s						
SONM	Songino Array	32.14	342	P	P	01 37 51.1	+0.8
	0.9nm,0.7s,baz=163,slow=9.8,SNR=11						
RAMN	Ramite	32.75	292	eP	P	01 37 56.7	+0.7
	32nm,0.7s						
JIRN	Jiri	33.22	293	eP	P	01 38 00.8	+0.5
	12nm,0.5s						
GUN	Gumba	33.53	294	eP	P	01 38 03.6	+0.6
	30nm,0.7s						
PKI	Pulchoki	33.89	293	eP	P	01 38 06.1	0.0
	11nm,0.6s						
PKIN	Phulchoki	33.90	293	eP	P	01 38 06.1	0.0
	8.4nm,0.6s						
KKN	Kakani	34.04	293	eP	P	01 38 08.0	+0.7
DMN	Daman	34.16	293	eP	P	01 38 08.6	+0.2
GKN	Gorkha	34.63	294	eP	P	01 38 12.2	-0.1
	28nm,0.8s						
DANN	Dangsing	35.45	294	eP	P	01 38 19.5	-0.1
	19nm,0.9s						
KOLN	Koldanda	35.51	293	eP	P	01 38 19.9	0.0
	14nm,0.7s						
PYUN	Piuthan	36.09	293	eP	P	01 38 25.0	+0.1
	22nm,0.5s						
WRAB	Tennant Creek	39.84	160	eP	P	01 38 55.4	-1.0
	6.2nm,1.2s						
WRA	Warramunga Arr	39.85	160	P	P	01 38 52.1	-4.3
	0.4nm,0.3s,baz=341,slow=9.0,SNR=3.1						
MK31	Makanchi Array	42.79	321	eP	P	01 39 21.6	+1.2
MK31				ePcP	PcP	01 41 11.3	-0.1
MKAR	Makanchi Array	42.79	321	P	P	01 39 21.6	+1.2
	3.7nm,0.8s,baz=114,slow=8.9,SNR=38						
MKAR				PcP	PcP	01 41 11.4	0.0
	1.1nm,0.7s,baz=103,slow=3.9,SNR=5.1						
ASAR	Alice Springs	43.21	162	P	P	01 39 22.1	-1.8
	0.8nm,0.3s,baz=337,slow=7.1,SNR=12						
H11S3	WAKE ISLAND Hy	43.58	82	T	T	02 24 50.8	
	baz=278,slow=72,SNR=37						
H11S1	WAKE ISLAND Hy	43.59	82	T	T	02 24 45.1	
	baz=278,slow=72,SNR=19						
H11S2	WAKE ISLAND Hy	43.60	82	T	T	02 24 50.5	
	baz=278,slow=72,SNR=20						
H11N1	WAKE ISLAND Hy	43.65	80	T	T	02 24 45.8	
	baz=278,slow=75,SNR=5.8						
H11N2	WAKE ISLAND Hy	43.65	80	T	T	02 24 47.1	
	baz=278,slow=75,SNR=6.9						
H11N3	WAKE ISLAND Hy	43.66	80	T	T	02 24 48.0	
	baz=278,slow=75,SNR=7.0						
ZALV	Zalesovo Beam	45.45	331	P	P	01 39 42.0	+0.6
	1.5nm,0.8s,baz=111,slow=8.3,SNR=7.5						
ZALV				PcP	PcP	01 41 18.7	-1.5
	0.4nm,0.4s,baz=108,slow=3.3,SNR=2.4						
ZALV				LR	LR	01 57 52.6	
	comp=Z,18nm,20.7s,baz=68,slow=35						
KURK	Kurchatov	46.82	324	eP	P	01 39 53.1	+0.7
	3.3nm,0.9s						
KKAR	Karatay Array	49.18	312	eP	P	01 40 11.4	+0.6
	1.1nm,0.6s						
STKA	Stephens Creek	53.33	158	LR	LR	02 07 44.6	
	comp=Z,61nm,18.3s,baz=179,slow=41						
ABKAR	Akbulak array	57.68	317	eP	P	01 41 13.4	+0.4
	0.8nm,0.5s						
KTH	Kantishna Hill	73.47	28	eP	P	01 42 55.0	+0.1
	1.3nm,0.7s						
MCK	McKinley	74.33	28	eP	P	01 42 59.6	-0.3
	6.6nm,1.0s						
ILAR	Eielson Array	75.05	26	P	P	01 43 02.9	-1.1
	0.8nm,0.8s,baz=265,slow=4.9,SNR=11						
BRTR	Keskin Array B	76.64	308	P	P	01 43 13.4	-0.3
	0.8nm,0.5s,baz=137,slow=4.8,SNR=8.9						
FINES	FINESS Array B	76.71	331	P	P	01 43 13.2	-0.3
	1.0nm,0.6s,baz=48,slow=2.1,SNR=5.9						
AKASG	Malin Array Be	77.35	319	P	P	01 43 16.4	-0.9
	1.9nm,0.8s,baz=66,slow=5.7,SNR=5.6						
BUR08	Bucovina Ar. S	80.66	317	eP	P	01 43 35.7	0.0
NB2	NORSAR Subarra	83.62	333	P	P	01 43 49.9	-1.0
	comp=Z,2.3nm,0.9s,baz=66,slow=5.1						
NOA	NORSAR Array B	83.62	333	P	P	01 43 49.9	-1.0
	comp=Z,1.1nm,0.8s,baz=67,slow=4.9,SNR=5.5						
NOA				LR	LR	02 23 36.7	
	comp=Z,16nm,18.2s,baz=285,slow=37						
KMBO	Kilima Mbogo	84.13	267	P	P	01 43 55.4	+0.8
	comp=Z,1.6nm,0.8s,baz=30,slow=8.3,SNR=4.0						
DPC	Dobruska-Polom	85.30	321	eP	P	01 43 59.4	-0.2
DPC				epP	pP	01 44 08.2	+0.3
KHC	Kasperske Hory	87.42	321	eP	P	01 44 09.7	-0.3
KHC				epP	pP	01 44 19.9	+1.6
GERES	GERESS Array B	87.46	321	P	P	01 44 10.0	-0.3
	comp=Z,0.3nm,0.6s,baz=66,slow=5.5,SNR=4.4						
YKA	Yellowknife Ar	88.97	22	P	P	01 44 16.0	-1.0
	comp=Z,0.3nm,0.4s,baz=317,slow=4.5,SNR=9.3						

*IDC **04** 01:44:38.1±2.4, 31.52N×131.86E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/26, mbtmp3.6/6, Error ellipse: s-maj=135.3km s-min=21.2km az=66.0*
*JMA **04** 01:44:41.2±0.2, 31.29N×131.96E, h25km±2km, M3.4*

ISC 04 01:44:42.4±2.1, 31.35N±0.05×131.87E±0.09, h27km±13km, n13, σ1.10/20, mb3.7/6, 4C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	0.54	289	⇓P	Pb	01 44 53.5	+0.1
JNAR				S	Sn	01 45 02.1	-0.5
JTSR	Tashiro 2	0.84	258	⇑P	Pb	01 44 57.7	-0.7
JTSR				S	Sn	01 45 11.4	+1.5
JTZ	Takazaki	0.87	309	⇑P	Pb	01 44 58.3	-0.6
JTZ				S	Sn	01 45 12.0	+1.4
JTSN	Tsuno	0.94	341	⇑P	Pn	01 45 00.0	+0.1
JTSN				S	Sn	01 45 13.8	+1.3
JTN	Tanegashima 3	1.03	228	P	Pn	01 45 00.7	-0.5
JTN				S	Sn	01 45 15.7	+0.9
JSU	Suzuyama	1.22	278	⇑P	Pn	01 45 03.7	-0.1
JSU				S	Sb	01 45 20.5	+0.2
JZO	Okuchi	1.34	306	P	Pn	01 45 05.7	+0.3
JZO				S	Sb	01 45 24.9	+1.2
SONM	Songino Array	25.45	318	P	P	01 50 07.4	-0.8
	0.2nm,0.6s,baz=135,slow=8.9,SNR=2.4						
MKAR	Makanchi Array	40.77	307	P	P	01 52 19.5	-1.7
	0.4nm,0.8s,baz=90,slow=8.5,SNR=3.6						
WRA	Warramunga Arr	51.05	177	P	P	01 53 42.3	-0.1
	0.6nm,0.6s,baz=353,slow=8.3,SNR=4.3						
ASAR	Alice Springs	54.74	178	P	P	01 54 11.3	+1.8
	0.4nm,0.5s,baz=10,slow=13,SNR=7.6						
STKA	Stephens Creek	63.56	171	P	P	01 55 11.7	+1.3
	1.5nm,0.7s,baz=342,slow=13,SNR=3.7						
FINES	FINESS Array B	69.99	331	P	P	01 55 50.0	-1.2
	2.4nm,1.0s,baz=79,slow=7.2,SNR=4.6						

*ECX **04** 02:06:29.1±0.5, 32.06N×117.48W, h9km, MD3.7, ML3.8, Fault plane solution: NP1:φs150.00000°, δ60.00000°, λ0.00000°.*
*NEIC **04** 02:06:29.1, 32.06N×117.48W, h9km, ML3.6(PAS), ML3.8(ECX), After ECX.*
NEIC Felt at Chula Vista, Imperial Beach, La Mesa, Oceanside, San Diego and San Marcos, California.

ISC 04 02:06:27.6±1.5, 32.02N±0.04×117.48W±0.04, h3km±11km, n30, σ1.72/56, 1C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBX	Punta Banda	0.70	113	⇓eP	Pg	02 06 41.6	+0.6
PBX				eS	Sg	02 06 51.8	+1.6
ECNX	Esteban Cantu	0.84	116	⇓eP	Pg	02 06 43.7	+0.1
ECNX				eS	Sg	02 06 55.8	+1.3
ECNX				⇓e		02 06 59.3	
	comp=N,4µm,0.3s						
CPE	Camp Elliot	0.92	20	⇓eP	Pg	02 06 44.7	-0.5
CPE				eS	Sg	02 06 56.8	-0.5
BAR	Barrett	0.95	46	eP	Pg	02 06 45.3	-0.5
BAR	Barrett	0.95	46	ePg	Pg	02 06 45.4	-0.5
BAR				eS	Sg	02 06 57.6	-0.5
HWB	Hans Werner Br	1.09	24	⇓eP	Pg	02 06 47.3	-1.3

ZAX El Zacaton 1.15 116⇓eP Pb 02 06 48.9 -1.3
RDX Rancho Dawling 1.31 94⇓eP Pn 02 06 51.4 -1.5
RDX eS Sb 02 07 09.5 -0.8
RDX e 02 07 11.3
comp=N,1μm,0.6s
RMX La Rumorosa 1.32 64⇑eP Pn 02 06 51.9 -1.2
RMX eS Sb 02 07 08.9 -1.6
PFO Pinyon Flat Ob 1.80 28 ePn Pn 02 06 58.8 -0.9
PFO eS Sn 02 07 22.2 -1.0
CPBX Cerro Prieto 1.89 77 eP Pn 02 07 02.1 +1.4
PASC Pasadena Art C 2.22 345 ePn Pn 02 07 04.5 -0.8
PASC eS Sb 02 07 37.7 +1.3
MWC Mount Wilson 2.25 348 ePn Pn 02 07 03.0 -2.9
MWC eS Sn 02 07 35.3 +1.1
GLA Glamis 2.47 65 ePn Pn 02 07 08.3 -0.4
GLA eS Sg 02 07 46.3 -0.6
OSI Osito Adit 2.79 338 Pn Pn 02 07 12.2 -0.9
OSI ePg Pg 02 07 21.5 +0.5
OSI eS Sg 02 07 55.9 -1.2
GSC Goldstone 3.32 10 ePn Pn 02 07 19.9 -0.6
GSC ePg Pb 02 07 27.5 +0.3
GSC eS Sb 02 08 09.5 +1.5
LDFC Landfair 3.63 32 ePn Pn 02 07 27.1 +2.2
LDFC eS Sg 02 08 24.7 +0.3
ISA Isabella 3.72 347 ePn Pn 02 07 24.4 -1.7
ISA ePg Pb 02 07 36.7 +2.7
ISA eS Sb 02 08 23.2 +3.6
214A Organ Pipe Nat 3.97 90 ePn Pn 02 07 27.6 -1.7
214A ePg Pg 02 07 45.0 +1.4
DAC Darwin (Calif) 4.25 359 ePn Pn 02 07 32.2 -1.1
DAC S Sn 02 08 20.5 -3.0
SHPR Sheep Range 4.87 23 ePn Pn 02 07 42.6 +0.7
SHPR eSg Sg 02 08 59.1 -4.8
TUC Tucson 5.69 85 Pn Pn 02 07 51.9 -1.1
comp=N,2.4nm,0.8s
TUC ePg Pg 02 08 16.5 0.0
TUC eSg Sg 02 09 27.5 -2.7
SAO San Andreas Ge 5.75 326 ePn Pn 02 07 53.1 -0.8
TPH Tonopah 6.04 2 Pn Pn 02 07 56.8 -1.3
TPH ePg Pg 02 08 23.0 -0.4
TPH eS Sg 02 09 48.4 +6.7
WUAZ Wupatki 6.17 54 ePn Pn 02 08 01.9 +2.2
comp=N,3.1nm,0.6s
WUAZ eS Sb 02 09 38.1 +8.1
NV11 Mina Array Sit 6.42 355 Pg Pg 02 08 30.0 -0.6
CCUT Cedar City 6.47 30 ePn Pn 02 08 03.7 -0.2
comp=N,3.4nm,0.8s
CCUT eSg Sg 02 09 55.8 +0.3
ARUT Antelope Range 6.64 29 Pn Pn 02 08 04.3 -1.9
comp=N,230nm,1.0s
ARUT Pg Pg 02 08 35.9 +1.0
ARUT eS Sb 02 09 52.5 +8.8
MVU Marysvale 7.77 32 ePn Pn 02 08 22.3 +0.5
MVU eS Sb 02 10 21.5 +5.4
PV04 Paradox Valley 9.46 45 Pn Pn 02 08 45.3 +0.3

MAN 04 02:24:12,9°46N×122°21E, h15km, mb4.3, ML3.2, MS3.0, 1C-1D, Negros

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SNPH Sibulan 1.02 97⇓iP Pb 02 24 25.6 -5.9
SNPH iS Sb 02 24 40.5 -4.3
GUIM Jordan 1.22 18 eP Pn 02 24 33.1 -1.3
GUIM eS Sb 02 24 49.5 -0.8
LLP Lapu-Lapu 1.93 64 eP Pn 02 24 44.9 +0.5
LLP eS Sb 02 25 09.7 -1.2
PAGZ Pagadian 1.98 144 eP Pn 02 24 45.9 +0.9
PAGZ eS Sn 02 25 10.9 +1.2
RCP Roxas 2.15 14⇑eP Pb 02 24 49.7 -1.0
RCP eS Sn 02 25 15.1 +1.3
MSLP Maasin 2.70 75 eP Pn 02 24 57.0 +2.1

IDC 04 02:26:05.2±10.0, 36°55N×142°87E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.2/36, mbtmp3.5/4, ML3.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.1/29, Error ellipse: s-maj=179.5km s-min=73.2km az=141.0
JMA 04 02:26:18.1±0.2, 37°02N×141°65E, h50km±4km, M3.1
ISC 04 02:26:17.0±4.2, 37°0N±0°1×141°7E±0°2, h25km±20km, n14, σ0s66/14, mb3.4/3, Near east coast of eastern Honshu

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
ONAJ Iwakimizuishiy 0.74 278 P Pb 02 26 31.6 +0.3
ONAJ S Sb 02 26 40.7 -0.4
JFK Kawauchi 0.77 299 P Pb 02 26 31.9 +0.2
JFK S Sb 02 26 41.7 -0.1
JHO Hitachi 1.00 248 P Pb 02 26 34.8 -0.6
JHO S Sn 02 26 47.9 -0.7
JMM Marumori 1.14 320 P Pn 02 26 37.3 0.0
JIO Ouri 1.48 349 P Pn 02 26 41.6 -0.5
MJAR Matsushiro Arr 2.85 262 Pn Pn 02 27 04.1 +3.1
3.7nm,0.3s,baz=89,slow=16,SNR=14
MJAR Sn Sb 02 27 42.4 +0.8
2.2nm,0.3s,baz=74,slow=22,SNR=6.1
MAT Matsushiro 2.85 262 P Pn 02 27 01.7 +0.8
MAT S Sn 02 27 40.5 -1.2
KSRS Korea Array 11.01 277 LR LR 02 32 52.1
comp=Z,25nm,19.2s,baz=135,slow=34
H11N2 WAKE ISLAND Hy 27.92 121 T T 03 01 28.7
baz=316,slow=76,SNR=12
H11N1 WAKE ISLAND Hy 27.93 121 T T 03 01 29.7
baz=316,slow=76,SNR=11
H11N3 WAKE ISLAND Hy 27.94 121 T T 03 01 28.6
baz=316,slow=76,SNR=9.7
SONM Songino Array 28.00 304 P P 02 32 06.6 +0.6
0.3nm,0.6s,baz=98,slow=9.0,SNR=4.0
MKAR Makanchi Array 44.34 302 P P 02 34 25.1 +0.1
0.4nm,0.8s,baz=74,slow=11,SNR=4.4
KURBB Kurchatov Arra 46.21 308 P P 02 34 39.7 0.0
0.5nm,0.6s,baz=84,slow=8.0,SNR=5.2

ISCJB 04 02:50:54.4±1.3, 24°4S±0°1×179°9E±0°2, h517km, mb3.4/4, Error ellipse: s-maj=23.6km s-min=14.4km az=168.8
IDC 04 02:50:57.9±4.0, 24°59S×179°82E, h555km±43km, mb2.9/4, mb1 3.2/6, mb1mx3.0/24, mbtmp4.0/6, Error ellipse: s-maj=38.0km s-min=27.8km az=25.0
ISC 04 02:50:55.2±1.1, 24°5S±0°1×180°0E±0°2, h517km, n9, σ1s25/10, mb3.5/4, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
DZM Mont Dzumac 12.66 278 P P 02 53 42.3 +1.4
0.6nm,0.3s,baz=86,slow=18,SNR=6.5
URZ Urewera 13.92 189 P P 02 53 54.6 +0.9
0.9nm,0.3s,baz=349,slow=5.2,SNR=5.2
URZ S S 02 56 20.6 -0.2
0.7nm,0.3s,baz=126,slow=19,SNR=4.7
CTA Charters Tower 31.45 271 P P 02 56 33.9 -0.4
0.8nm,0.3s,baz=95,slow=14,SNR=5.3
ASAR Alice Springs 41.91 261 P P 02 57 59.5 -0.8
0.3nm,0.6s,baz=97,slow=7.3,SNR=4.7
WRA Warramunga Arr 42.34 267 P P 02 58 02.3 -1.5
0.8nm,0.5s,baz=104,slow=8.3,SNR=4.6
TXAR Lajitas Array 90.78 58 P P 03 03 03.4 +0.1
0.5nm,0.8s,baz=218,slow=7.4,SNR=6.3
AKASG Malin Array Be 145.47 327 PKPbc PKPdf 03 09 33.0 -0.9
0.4nm,0.4s,baz=39,slow=4.7,SNR=4.6
BRTR Keskin Array B 147.92 306 PKPbc PKPdf 03 09 40.2 +1.7
0.3nm,0.5s,baz=161,slow=9.2,SNR=3.5
TORD Torodi Ar. Bea 168.58 189 PKPab PKPab 03 11 15.1 -1.3
0.2nm,0.6s,baz=208,slow=4.6,SNR=4.0

TIR 04 02:55:11.8±1.1, 41°18N×20°24E, h6km±999km, ML2.7
ATH 04 02:55:11.1, 41°36N×20°28E, h10km±3km, MD3.5/30
SOF 04 02:55:12.9, 41°25N×20°26E, h5km, MD2.6
THE 04 02:55:13.9, 41°25N×20°38E, h0km±3km, ML3.0/2, Error ellipse: s-maj=3.1km s-min=1.0km az=76.0
BEO 04 02:55:13.6±0.7, 41°12N×20°32E, h1km±3km, ML2.7/1
PDG 04 02:55:13.5±0.5, 41°25N×20°36E, h5km, ML3.2/12, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0
CSEM 04 02:55:14.2±0.1, 41°21N×20°38E, h2km, ML3.0, Error ellipse: s-maj=3.6km s-min=2.0km az=63.0
ISC 04 02:55:11.8±0.6, 41°20N±0°01×20°28E±0°02, h4km±4km, n176, σ1s77/217, 20C-14D, Albania

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PHP Peshkopia 0.50 14 iPG Pg 02 55 21.9 +0.4
PHP iSG Sb 02 55 30.3 -0.6
PHP Peshkopia 0.50 14 P Pb 02 55 22.4 -0.8
PHP S Sb 02 55 30.3 -0.6
PHP Peshkopia 0.50 14 iPg Pg 02 55 21.9 +0.4
SNR=90
PHP iSg Sb 02 55 30.3 -0.6
SNR=90
KBN Korca 0.69 146 iPG Pb 02 55 26.1 -0.4
KBN iSG Sb 02 55 35.5 -0.9
KBN Korca 0.69 146 P Pb 02 55 26.0 -0.4
KBN S Sn 02 55 38.3 -1.3
KBN Korca 0.69 146 iPg Pb 02 55 26.1 -0.4
SNR=90
KBN iSg Sb 02 55 35.5 -0.9
SNR=90
KBN S Sn 02 55 38.3 -1.3
BIA Bitola 0.81 102 P Pg 02 55 27.3 -0.1
BIA S Sb 02 55 39.8 0.0
PUK Puka 0.89 341 iPG Pb 02 55 29.6 -0.3
PUK iSG Sn 02 55 42.8 -1.7
PUK Puka 0.89 341 iPg Pb 02 55 29.6 -0.3
SNR=90
PUK iSg Sn 02 55 42.8 -1.7
SNR=90
FNA Florina 0.93 116 P Pb 02 55 30.0 -0.5
FNA S Sb 02 55 43.5 +0.3
FNA Florina 0.93 116 ePN Pn 02 55 30.6 -1.1
FNA eSB Sn 02 55 44.8 -0.6
FNA Florina 0.93 116 P Pb 02 55 30.0 -0.5
FNA Florina 0.93 116 ePn Pn 02 55 30.6 -1.1
FNA S Sb 02 55 43.5 +0.3
FNA eSb Sn 02 55 44.8 -0.6
VLO Vlora 0.94 219 P Pn 02 55 33.7 +2.0
VLO S Sn 02 55 48.5 +2.9
VLO Vlora 0.94 219 P Pn 02 55 33.7 +2.0
VLO S Sn 02 55 48.5 +2.9
NEST Nestorio 0.98 143 P Pn 02 55 31.3 -1.1
NEST S Sn 02 55 46.6 -0.2
NEST Nestorio 0.98 143 ePG Pn 02 55 31.4 -1.0
NEST eSB Sn 02 55 46.5 -0.2
NEST Nestorio 0.98 143 ePg Pn 02 55 31.4 -1.0
NEST eSb Sn 02 55 46.5 -0.2
ULC Ulcinj 1.09 315⇓iPg Pn 02 55 32.8 -1.0
ULC eSg Sn 02 55 50.9 +1.6
ULC Ulcinj 1.09 315⇓iPg Pn 02 55 32.8 -1.0
ULC eSg Sn 02 55 50.9 +1.6
SKO Skopje 1.17 48 P Pn 02 55 34.4 -0.5
SKO Skopje 1.17 48⇑iPg Pn 02 55 34.2 -0.7
SKO Skopje 1.17 48 P Pn 02 55 34.4 -0.5
BCI Bajram Curri 1.18 352 iPG Pn 02 55 35.9 +0.8
BCI iSG Sn 02 55 52.5 +0.9
BCI Bajram Curri 1.18 352 iPg Pn 02 55 35.9 +0.8
SNR=90
BCI iSg Sn 02 55 52.5 +0.9
SNR=90
DRME Dracevica, Mon 1.28 321⇑iPg Pg 02 55 36.4 0.0
DRME eSg Sn 02 55 57.4 +3.3
DRME Dracevica, Mon 1.28 321⇑iPg Pg 02 55 36.4 0.0
DRME eSg Sn 02 55 57.4 +3.3
SRN Sarande 1.33 189 P Pg 02 55 39.7 +2.3
SRN S Sn 02 56 00.7 +5.4
SRN Sarande 1.33 189 P Pg 02 55 39.7 +2.3
PVY Plav 1.42 350⇑iPg Pg 02 55 38.5 -0.5
PVY eSg Sg 02 56 00.4 +3.1
PVY Plav 1.42 350⇑iPg Pg 02 55 38.5 -0.5
PVY eSg Sg 02 56 00.4 +3.1
KZN Kozani 1.44 128 ePB Pg 02 55 40.1 +0.6
KZN Kozani 1.44 128 ePb Pg 02 55 40.1 +0.6
PDG Podgorica 1.45 329 P Pg 02 55 39.3 -0.3
PDG S Sg 02 56 01.5 +3.1
PDG Podgorica 1.45 329⇑iPg Pg 02 55 39.2 -0.3
PDG eSg Sg 02 56 02.8 +4.4
PDG Podgorica 1.45 329⇑iPg Pg 02 55 39.2 -0.3
PDG S Sg 02 56 01.5 +3.1
PDG eSg Sg 02 56 02.6 +4.2
TTG Podgorica 1.45 329⇑iPg Pg 02 55 39.3 -0.3
TTG eSg Sg 02 56 02.6 +4.2
BUM Brajici-Budva 1.51 317⇓iPg Pg 02 55 41.1 +0.3
BUM eSg Sg 02 56 05.1 +4.7
BUM Brajici-Budva 1.51 317⇓iPg Pg 02 55 41.1 +0.3
BUM eSg Sg 02 56 05.1 +4.7
KEK Kerkira 1.53 194 P Pg 02 55 41.8 +0.7
KEK Kerkira 1.53 194 ePB Pg 02 55 43.2 +2.1
KEK Kerkira 1.53 194 P Pg 02 55 41.8 +0.7
KEK Kerkira 1.53 194 ePb Pg 02 55 43.2 +2.1
MEV Metsovon 1.59 152 P Pg 02 55 43.5 +1.2
MEV Metsovon 1.59 152 P Pg 02 55 43.5 +1.2
JAN Janina 1.60 164 P Pg 02 55 43.8 +1.3
JAN Janina 1.60 164 ePG Pg 02 55 44.2 +1.7
JAN Janina 1.60 164 P Pg 02 55 43.8 +1.3
JAN Janina 1.60 164 ePg Pg 02 55 44.2 +1.7
GRG Griva 1.62 98 P Pg 02 55 42.4 -0.6
GRG Griva 1.62 98 P Pg 02 55 42.4 -0.6
IGT Igoumenitsa 1.67 179 P Pg 02 55 44.5 +0.8
IGT Igoumenitsa 1.67 179 ePN Pg 02 55 44.5 +0.8
IGT Igoumenitsa 1.67 179 P Pg 02 55 44.5 +0.8
BEY Berane 1.70 350⇑iPn Pg 02 55 44.0 -0.3
BEY eSn Sg 02 56 08.6 +2.3
IVA Berane 1.70 350⇑iPn Pg 02 55 44.0 -0.3
IVA eSn Sg 02 56 08.6 +2.3
VAY Valandovo 1.73 85 P Pb 02 55 43.2 -1.0
VAY Valandovo 1.73 85 ePn Pg 02 55 45.3 +0.3
VAY eSg Sg 02 56 08.8 +1.3
VAY Valandovo 1.73 85 P Pb 02 55 43.2 -1.0
VAY Valandovo 1.73 85 ePn Pg 02 55 45.3 +0.3
VAY eSg Sg 02 56 08.8 +1.3
HCY Herceg Novi 1.82 314⇓iPn Pg 02 55 46.5 -0.3
HCY eSn Sg 02 56 13.6 +3.1
HCY Herceg Novi 1.82 314⇓iPn Pg 02 55 46.5 -0.3
HCY eSn Sg 02 56 13.6 +3.1
NKME Niksic 1.85 328⇑iPn Pg 02 55 46.4 -0.9
NKME eSn Sg 02 56 13.7 +2.4
NKME Niksic 1.85 328⇑iPn Pg 02 55 46.4 -0.9
NKME eSn Sg 02 56 13.7 +2.4
NKY Niksic 1.88 330⇓iPn Pg 02 55 47.1 -0.7
NKY eSn Sg 02 56 14.2 +2.1
NKY Niksic 1.88 330⇓iPn Pg 02 55 47.1 -0.7
NKY eSn Sg 02 56 14.2 +2.1
KNT Kendrikon 1.98 90 P Pb 02 55 47.2 -1.2
KNT Kendrikon 1.98 90 ePN Pb 02 55 47.1 -1.3
KNT Kendrikon 1.98 90 P Pb 02 55 47.2 -1.2
BARS Barje 1.98 35⇑iPn Pg 02 55 50.6 +0.8
BARS eSg Sg 02 56 19.2 +3.7
BARS Barje 1.98 35⇑iPn Pg 02 55 50.6 +0.8
LIT Litokhoron 2.01 122 P Pb 02 55 47.7 -1.2
LIT Litokhoron 2.01 122 ePN Pb 02 55 47.7 -1.2
LIT Litokhoron 2.01 122 P Pb 02 55 47.7 -1.2
TREB Trebinje 2.09 317 ePn Pb 02 55 49.3 -1.0
TREB eSg Sg 02 56 23.6 +4.6
TREB Trebinje 2.09 317 ePn Pb 02 55 49.3 -1.0
TREB eSg Sg 02 56 23.6 +4.6
THL Klokotos Trika 2.10 140 P Pb 02 55 49.9 -0.6
THL Klokotos Trika 2.10 140 ePN Pb 02 55 49.8 -0.7
THL Klokotos Trika 2.10 140 ePn Pb 02 55 49.8 -0.7
THE Thessaloniki 2.11 105 ePN Pb 02 55 49.2 -1.5
THE Thessaloniki 2.11 105 ePn Pb 02 55 49.2 -1.5
BRY Bratogost 2.14 323⇓iPn Pg 02 55 51.5 -1.3
BRY eSn Sg 02 56 20.5 0.0
BRY Bratogost 2.14 323⇓iPn Pg 02 55 51.5 -1.3
BRY eSn Sg 02 56 20.5 0.0
KKB Krupnik 2.21 72 P Pb 02 55 51.3 -1.0
KKB S Sg 02 56 25.4 +2.6
KKB Krupnik 2.21 72 P Pb 02 55 51.3 -1.0
HORT Hortiatis 2.22 105 ePN Pb 02 55 51.0 -1.6
HORT Hortiatis 2.22 105 ePn Pb 02 55 51.0 -1.6
PLE Pljevlja 2.23 343⇓iPn Pb 02 55 52.5 -0.2
PLE eSn Sg 02 56 22.2 -1.3
PLE Pljevlja 2.23 343⇓iPn Pb 02 55 52.5 -0.2
PLE eSn Sg 02 56 22.2 -1.3
UPM Unac-Piva 2.25 333⇑iPn Pb 02 55 53.2 +0.1
UPM eSn Sg 02 56 23.2 -0.8
UPM Unac-Piva 2.25 333⇑iPn Pb 02 55 53.2 +0.1
UPM eSn Sg 02 56 23.2 -0.8
SOH Sokhos 2.36 98 ePN Pn 02 55 52.4 +1.1
SOH Sokhos 2.36 98 ePn Pn 02 55 52.4 +1.1
IVAS Ivanjica 2.38 358 ePn Pb 02 55 55.1 -0.1
IVAS Ivanjica 2.38 358 ePn Pb 02 55 55.1 -0.1
LKD2 Lefkada island 2.42 173 P Pb 02 55 54.7 -1.3
LKD2 Lefkada island 2.42 173 ePB Pb 02 55 54.7 -1.3
LKD2 Lefkada island 2.42 173 P Pb 02 55 54.7 -1.3
SRS Serrai 2.50 91 ePN Pn 02 55 54.6 +1.3
SRS Serrai 2.50 91 ePn Pn 02 55 54.6 +1.3
PLG Polygyros 2.54 108 ePB Pn 02 55 54.5 +0.7
PLG Polygyros 2.54 108 ePb Pn 02 55 54.5 +0.7
STON Ston 2.54 312 ePn Pg 02 55 58.3 -2.3
STON Sn Sb 02 56 28.6 -1.1
STON Ston 2.54 312 ePn Pg 02 55 59.0 -1.6
STON Ston 2.54 312 ePn Pg 02 55 58.3 -2.3
STON Sn Sb 02 56 28.5 -1.1
EVR Evrytania 2.56 152 ePG Pg 02 55 59.3 -1.7
EVR Evrytania 2.56 152 ePg Pg 02 55 59.3 -1.7
VTS Vitosha 2.59 57 ePn Pb 02 55 56.4 -2.5
VTS eSn Sn 02 56 28.7 +2.1
VTS Vitosha 2.59 57 P Pb 02 55 56.6 -2.3
VTS S Sn 02 56 28.6 +2.0
VTS Vitosha 2.59 57⇑iP Pb 02 55 56.5 -2.5
VTS S Sb 02 56 31.3 +0.1
VTS Vitosha 2.59 57 ePn Pb 02 55 56.4 -2.5
VTS S Sn 02 56 28.6 +2.0
MAKR Makrakomi, Fth 2.61 146 P Pb 02 55 57.5 -1.6
MAKR Makrakomi, Fth 2.61 146 ePB Pb 02 55 57.3 -1.8
MAKR Makrakomi, Fth 2.61 146 P Pb 02 55 57.5 -1.6
MMB Musomiste 2.62 80⇑iP Pb 02 55 57.5 -1.9
MMB Musomiste 2.62 80⇑iP Pb 02 55 57.5 -1.9
AGG Agios Georgios 2.68 143 ePN Pb 02 55 57.3 -3.1
AGG Agios Georgios 2.68 143 ePn Pb 02 55 57.3 -3.1
PDO Prodromos 2.69 165 P Pb 02 55 59.1 -1.4
PDO Prodromos 2.69 165 ePB Pb 02 55 59.5 -1.0
PDO Prodromos 2.69 165 P Pb 02 55 59.1 -1.4
PDO Prodromos 2.69 165 ePb Pb 02 55 59.5 -1.0
NVR Nevrokopi 2.71 86 ePB Pn 02 55 56.3 +0.2
NVR Nevrokopi 2.71 86 ePb Pn 02 55 56.3 +0.2
GRUS Gruza 2.71 7 ePn Pb 02 55 58.5 -2.3
GRUS Gruza 2.71 7 ePn Pb 02 55 58.5 -2.3
ZAPS Zavoj 2.71 39 ePn Pb 02 55 59.3 -1.6
BBLS Lazići 2.74 347 ePn Pb 02 56 01.0 -0.4
BBLS eSn Sb 02 56 34.8 -0.6
BBLS Lazići 2.74 347 ePn Pb 02 56 01.0 -0.4
BBLS eSn Sb 02 56 34.8 -0.6
XOR Xorichti 2.88 128 ePN Pb 02 56 00.4 -3.4
XOR Xorichti 2.88 128 ePn Pb 02 56 00.4 -3.4
DIVS Divibare 2.91 356 ePn Pb 02 56 01.8 -2.4
DIVS eSn Sb 02 56 38.7 -1.4
DIVS Divibare 2.91 356 ePn Pb 02 56 01.8 -2.4
DIVS eSn Sb 02 56 38.7 -1.4
BOLS Boljevac 2.91 25 ePn Pb 02 56 01.4 -2.8
BOLS Boljevac 2.91 25 ePn Pb 02 56 01.4 -2.8
OUR Ouranopolis 2.94 106 ePN Pn 02 56 00.6 +1.3
OUR Ouranopolis 2.94 106 ePn Pn 02 56 00.6 +1.3
TRUS Trudelj 3.02 2 ePn Pb 02 56 03.1 -3.1
TRUS Trudelj 3.02 2 ePn Pb 02 56 03.1 -3.1
VLS Valsamata 3.03 175 P Pb 02 56 02.2 -4.0
VLS Valsamata 3.03 175 ePN Pb 02 56 02.5 -3.7
VLS Valsamata 3.03 175 P Pb 02 56 02.2 -4.0
VLS Valsamata 3.03 175 ePn Pb 02 56 02.5 -3.7
AXAR Agios Charalam 3.04 142 ePB Pb 02 56 04.1 -2.4
AXAR Agios Charalam 3.04 142 ePb Pb 02 56 04.1 -2.4
KALE Kalithea 3.15 152 ePB Pb 02 56 06.8 -1.6
KALE Kalithea 3.15 152 ePb Pb 02 56 06.8 -1.6
KAVA Kavala 3.21 92 ePN Pn 02 56 04.5 +1.6
KAVA Kavala 3.21 92 ePn Pn 02 56 04.5 +1.6
LAKA Lakka 3.23 156 ePB Pb 02 56 07.2 -2.6
LAKA Lakka 3.23 156 ePb Pb 02 56 07.2 -2.6
RLS Riolos of Patr 3.27 163 ePN Pb 02 56 07.8 -2.5
RLS Riolos of Patr 3.27 163 ePn Pb 02 56 07.8 -2.5
DSF Desfina 3.28 147 ePB Pb 02 56 07.8 -2.8
DSF Desfina 3.28 147 ePb Pb 02 56 07.8 -2.8
LKR Lokris 3.29 140 ePN Pb 02 56 06.9 -3.9
LKR Lokris 3.29 140 ePn Pb 02 56 06.9 -3.9
MPEP Malo Peshtene 3.35 49 P Pg 02 56 13.7 -2.4
KLV Kalavryta, Ach 3.47 155 ePN Pb 02 56 10.0 -3.8
KLV Kalavryta, Ach 3.47 155 ePn Pb 02 56 10.0 -3.8
MRKA Markates 3.56 133 ePN Pn 02 56 10.2 +2.4
MRKA Markates 3.56 133 ePn Pn 02 56 10.2 +2.4
GUR Goura 3.63 153 ePN Pb 02 56 11.9 -4.6
GUR Goura 3.63 153 ePn Pb 02 56 11.9 -4.6
AMT Artemida-Makis 3.83 163 ePN Pb 02 56 15.0 -4.9
AMT Artemida-Makis 3.83 163 ePn Pb 02 56 15.0 -4.9
FGSL Fruska Gora 3.97 355 ePn Pn 02 56 16.7 +3.2
FGSL eSn Sn 02 57 03.7 +3.3
FRGS Fruska Gora 3.97 355 ePn Pn 02 56 16.7 +3.2
FRGS eSn Sn 02 57 03.7 +3.3
DID Didima 4.34 147 ePN Pn 02 56 22.3 +3.7
DID Didima 4.34 147 ePn Pn 02 56 22.3 +3.7
BZS Buzias 4.52 12⇓iP Pn 02 56 21.0 0.0
GZR Gura Zlata 4.57 23 ePn Pn 02 56 23.4 +1.6
GZR Gura Zlata 4.57 23⇑iP Pn 02 56 22.1 +0.3
GZR S Sn 02 57 17.2 +1.9
PKSM Moragy 5.15 347⇓iP Pn 02 56 26.4 -3.2
NVLJ Novalja 5.20 312 ePn Pn 02 56 32.6 +2.3
NVLJ Sn Sn 02 57 30.8 +0.1
NVLJ Novalja 5.20 312 ePn Pn 02 56 32.6 +2.3
NVLJ Sn Sn 02 57 30.8 +0.1

KRSC 04 02:59:54.6±1.7, 51°35N×157°64E, h137km±20km, ML3.6, Near east coast of Kamchatka Peninsula

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PAU Pauzhetka 0.53 284 iP Pn 03 00 16.1 +1.5
ASAK Asacha 1.05 9 eP Pn 03 00 20.6 +1.9
ASAK eS Sn 03 00 37.8 +0.7
MIPR Malaya Ipel'ka 1.08 330 eP Pn 03 00 19.5 +0.6
MIPR eS Sn 03 00 36.5 -0.9
SKR Severo-Kuril's 1.17 236 eP Pn 03 00 20.5 +0.8
SKR eS Sn 03 00 39.1 +0.3
MTVR Mutnovka 1.19 16 eP Pn 03 00 21.7 +1.6
MTVR eS Sn 03 00 40.7 +1.1
RUS Russkaya 1.22 26 eP Pn 03 00 22.0 +1.8
RUS eS Sn 03 00 41.1 +1.4
APC Apacha 1.61 350 iP Pn 03 00 25.1 +0.7
APC iS Sn 03 00 46.6 -0.6
PET Petropavlovsk 1.79 20 eP Pn 03 00 28.0 +1.6
PET eS Sn 03 00 51.4 +0.5
UGLR Uglovaya 2.00 21 eP Pn 03 00 31.7 +2.6
UGLR S Sn 03 00 57.9 +2.3
AVH Avacha 2.04 19 eP Pn 03 00 32.2 +2.7
AVH eS Sn 03 00 58.5 +2.2
KOK Koryaka 2.04 17 eP Pn 03 00 32.2 +2.6
KOK eS Sn 03 00 58.5 +2.1
SMAR Somma 2.05 20 eP Pn 03 00 32.1 +2.3
SMAR S Sn 03 00 58.6 +1.8
KRER Koryakskii 2.08 19 eP Pn 03 00 32.4 +2.3
KRER eS Sn 03 00 59.2 +1.8
NLC Nalytchevo 2.11 29 eP Pn 03 00 31.2 +1.0
NLC eS Sn 03 00 56.6 -0.9
KRX Arik 2.11 17 eP Pn 03 00 32.6 +2.2
KRX eS Sn 03 00 59.3 +1.3
GNL Ganaly 2.36 4 eP Pn 03 00 34.4 +0.9
TUMR Tumrok 4.22 20 P Pn 03 00 59.3 +1.8
KBTR Krutoberegovo 5.76 30 P Pn 03 01 19.1 +1.3
BKI Bering 6.32 49 eP Pn 03 01 26.7 +1.5
BKI eS Sn 03 02 32.8 -3.3

IDC 04 03:10:29.0±10.0, 20°84S×178°97W, h690km±125km, mb2.9/6, mb1 3.1/6, mb1mx2.8/20, mbtmp3.9/6, Error ellipse: s-maj=56.8km s-min=37.7km az=87.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CTA Charters Tower 32.56 265 P P 03 16 08.2 -0.1
1.2nm,0.3s,baz=101,slow=10,SNR=2.2
ASAR Alice Springs 43.56 257 P P 03 17 36.5 +0.2
1.4nm,0.8s,baz=99,slow=7.5,SNR=13
WRA Warramunga Arr 43.66 263 P P 03 17 36.9 -0.2
0.3nm,0.5s,baz=96,slow=7.5,SNR=5.7
QSPA South Pole Qui 69.23 180 P P 03 20 29.6 -0.2
1.1nm,0.6s,baz=90,slow=3.3,SNR=2.2
ILAR Eielson Array 88.85 13 P P 03 22 11.9 -0.2
0.9nm,1.1s,baz=222,slow=5.5,SNR=4.5
PDAR Pinedale Array 89.83 44 P P 03 22 17.9 +0.4
0.2nm,0.7s,baz=210,slow=7.1,SNR=1.9
AKASG Malin Array Be 142.87 330 PKP PKPdf 03 28 45.8 -0.7
1.0nm,0.4s,baz=41,slow=4.3,SNR=9.8

IDC 04 03:20:40.3±1.5, 4.°49S×134.°41E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, ML4.1/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/22, Error ellipse: s-maj=99.2km s-min=25.5km az=69.0
ISC 04 03:20:43.1±1.2, **5.°0S**±0.°1×**133.°8E**±0.°3, **h22km, n6, σ2§00/6, Aru Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 14.85 178 Pn **Pn 03 24 13.7 +1.9**
0.3nm,0.3s,baz=5.9,slow=13,SNR=10
WRA Sn **Sn 03 26 53.1 -2.8**
0.2nm,0.3s,baz=3.5,slow=23,SNR=4.2
WRA LR LR 03 31 15.6
comp=Z,15nm,20.0s,baz=20,slow=41
ASAR Alice Springs 18.55 180 P Pn 03 25 04.5 +5.8
0.4nm,0.3s,baz=6.8,slow=11,SNR=21
ASAR S **Sn 03 28 25.9 +0.3**
0.1nm,0.3s,baz=350,slow=19,SNR=2.9
ASAR LR LR 03 32 53.4
comp=Z,114nm,18.0s,baz=46,slow=38
CTA Charters Tower 19.27 142 P **Pn 03 25 07.3 -0.2**
0.5nm,0.3s,baz=312,slow=15,SNR=3.5
NWAO Narrogin (SRO) 31.79 207 LR LR 03 40 43.6
comp=Z,56nm,18.6s,baz=4.5,slow=37
SONM Songino Array 57.88 339 P **P 03 30 32.6 -0.8**
0.2nm,0.6s,baz=155,slow=4.0,SNR=2.8
MKAR Makanchi Array 68.72 325 P **P 03 31 45.4 +0.2**
0.6nm,0.6s,baz=108,slow=8.1,SNR=12

MAN 04 03:31:49, 7.°98N×124.°32E, h18km, mb4.1, ML2.9, MS2.6, 2C, Mindanao

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
CGP Cagayan de Oro 0.60 38⇑eP Pb 03 32 01.2 +0.3
CGP iS Sb 03 32 09.4 +0.4
BUKP Musuan 0.74 98 eP Pn 03 32 05.1 +0.4
BUKP eS Sn 03 32 16.8 +1.3
CTBH Cotabato--PC H 0.76 186⇑iP Pb 03 32 03.6 -0.1
CTBH iS Sg 03 32 14.3 +0.3
PAGZ Pagadian 0.94 262 eP Pg 03 32 07.1 -0.2
PAGZ eS Sn 03 32 20.9 +0.7
IPIL Ipil 1.74 264 eP Pg 03 32 22.4 -0.2

IDC 04 03:51:03.2±1.6, 6.°74S×155.°16E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.6/19, mbtmp3.5/5, Error ellipse: s-maj=65.7km s-min=26.5km az=119.0
ISCJB 04 03:51:08.9±2.1, 6.°7S±0.°3×155.°0E±0.°5, h41km, mb3.4/5, Error ellipse: s-maj=78.1km s-min=21.7km az=31.6
ISC 04 03:51:09.6±1.7, **6.°8S**±0.°3×**155.°1E**±0.°4, **h41km, n9, σ1§19/8, mb3.5/5, Bougainville - Solomon Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 24.01 235 P **P 03 56 20.5 -0.3**
1.8nm,1.0s,baz=53,slow=9.4,SNR=5.6
WRA PcP **PcP 04 00 03.2 +1.0**
0.4nm,0.9s,baz=57,slow=2.7,SNR=4.9
ASAR Alice Springs 26.38 228 P **P 03 56 43.4 +1.0**
0.9nm,1.0s,baz=58,slow=8.9,SNR=7.0
ASAR PcP **PcP 04 00 06.7 -0.8**
0.5nm,0.8s,baz=48,slow=2.8,SNR=3.9
H11S3 WAKE ISLAND Hy 27.59 24 T T 04 24 52.6
baz=207,slow=76,SNR=12
H11S2 WAKE ISLAND Hy 27.60 24 T T 04 24 53.0
baz=207,slow=76,SNR=13
H11S1 WAKE ISLAND Hy 27.61 24 T T 04 24 53.5
baz=207,slow=76,SNR=7.9
SONM Songino Array 69.19 327 P **P 04 02 12.0 -0.2**
0.5nm,0.7s,baz=142,slow=5.0,SNR=6.4
ILAR Eielson Array 83.14 21 P **P 04 03 31.4 +0.4**
0.3nm,0.7s,baz=256,slow=5.7,SNR=7.2
MKAR Makanchi Array 83.29 319 P **P 04 03 32.8 +0.6**
0.1nm,0.4s,baz=96,slow=6.9,SNR=2.8
TORD Torodi Ar. Bea 153.04 286 PKPbc **PKPbc 04 11 01.9 -1.9**
0.2nm,0.4s,baz=73,slow=2.5,SNR=10

MEX 04 03:54:55.2±0.5, **16.°28N×98.°40W, h14km**±19km, **MD3.6, Near coast of Guerrero**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PNIG Pinotepa 0.29 67 iP Pg 03 55 00.8 -0.5
PNIG iS Sg 03 55 05.5 0.0
TPIG Tehuac#an 2.35 25 iP Pn 03 55 30.9 -2.7
TPIG iS Sn 03 55 58.0 -4.4
YAIG Yautepec 2.64 346 eP Pn 03 55 35.3 -2.3
YAIG iS Sn 03 56 05.7 -4.0

IDC 04 04:16:24.3±3.3, 1.°09N×127.°17E, h116km±28km, mb3.7/7, mb1 3.9/7, mb1mx3.6/21, mbtmp4.1/7, MS3.4/4, Ms1 3.4/4, ms1mx2.8/34, Error ellipse: s-maj=61.8km s-min=11.7km az=72.0
ISC 04 04:16:19.3±0.7, **1.°1N**±0.°1×**127.°1E**±0.°3, **h72km, n18, σ1§20/19, mb4.2/7, Halmahera**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 22.06 162 P **P 04 21 08.6 +0.2**
2.8nm,0.3s,baz=337,slow=11,SNR=29
WRA S **S 04 25 05.7 -2.0**
0.8nm,0.8s,baz=328,slow=22,SNR=2.9
PMG Port Moresby 22.55 118 LR LR 04 33 06.4
comp=Z,51nm,20.2s,baz=229,slow=45
QIS Mount Isa 24.75 151 P **P 04 21 36.6 +2.3**
baz=22,SNR=8.4
ASAR Alice Springs 25.46 165 P **P 04 21 42.9 +2.1**
5.1nm,0.4s,baz=346,slow=12,SNR=33
ASAR PcP **PcP 04 25 10.8 -0.5**
0.5nm,0.5s,baz=354,slow=2.3,SNR=4.8
ASAR S **S 04 26 01.1 -1.9**
0.5nm,0.7s,baz=353,slow=22,SNR=4.4
ASAR LR LR 04 31 55.0
comp=Z,40nm,19.6s,baz=137,slow=37
WRKA Warakurna 25.98 177 P **P 04 21 46.2 +0.8**
baz=23,SNR=16
MEEK Meekatharra 28.73 196 P **P 04 22 10.1 0.0**
baz=26,SNR=4.9
BBOO Buckleboo 34.74 167 P **P 04 23 03.1 +0.3**
baz=32,SNR=4.8
STKA Stephens Creek 35.54 158 P **P 04 23 10.3 +0.7**
1.1nm,0.3s,baz=332,slow=8.3,SNR=6.1
STKA Stephens Creek 35.54 158 P **P 04 23 10.4 +0.8**
baz=33,SNR=4.6
SONM Songino Array 49.92 342 P **P 04 25 06.3 +0.4**
0.6nm,0.8s,baz=160,slow=8.8,SNR=4.1
SONM PcP **PcP 04 26 25.2 0.0**
0.5nm,0.7s,baz=151,slow=3.3,SNR=2.6
MKAR Makanchi Array 59.94 326 P **P 04 26 17.8 -0.3**
0.8nm,0.4s,baz=120,slow=7.6,SNR=45
VNDA Vanda 80.76 173 P **P 04 28 23.8 -0.6**
1.5nm,0.6s,baz=325,slow=5.0,SNR=7.5
GNI Garni 83.45 310 LR LR 05 10 36.2
comp=Z,140nm,21.2s,baz=80,slow=39
KBZ Khabaz 85.05 314 LR LR 05 13 58.3
comp=Z,16nm,18.0s,baz=251,slow=41
ILAR Eielson Array 87.35 25 P **P 04 28 56.9 -1.3**
0.2nm,0.7s,baz=229,slow=5.7,SNR=5.8
TXAR Lajitas Array 122.92 54 PKP **PKPdf 04 35 08.5 +0.3**
0.3nm,1.0s,baz=255,slow=1.4,SNR=2.4
TORD Torodi Ar. Bea 124.04 287 PKP **PKPdf 04 35 10.0 -0.5**
0.5nm,0.7s,baz=30,slow=1.0,SNR=5.8
DBIC Dimbokro 131.42 280 PKP **PKPdf 04 35 25.6 +0.9**
2.5nm,0.9s,baz=79,slow=10,SNR=2.2

DDA 04 04:49:47.4, 34.°79N×26.°82E, h30km, MD3.2
IDC 04 04:49:47.4±1.6, 34.°60N×27.°75E, h0km, mb3.5/3, mb1 3.4/4, mb1mx3.3/24, mbtmp3.4/4, ML2.9/1, MS1.8/1, Ms1 1.8/1, ms1mx1.7/25, Error ellipse: s-maj=114.4km s-min=22.8km az=139.0
ATH 04 04:49:50.0, 35.°13N×27.°18E, h25km±3km, MD3.4/7
CSEM 04 04:49:51.6±0.3, 35.°19N×27.°12E, h15km, ML3.0, Error ellipse: s-maj=7.5km s-min=3.3km az=158.0
ISCJB 04 04:49:51.2±0.8, 35.°15N±0.°05×27.°19E±0.°04, h27km±6km, mb3.3/3, Error ellipse: s-maj=8.5km s-min=4.7km az=156.3
ISK 04 04:49:51.7, 35.°29N×27.°11E, h22km, MD3.2
THE 04 04:49:51.5, 35.°20N×27.°05E, h0km±2km, ML3.0/2, Error ellipse: s-maj=6.4km s-min=1.3km az=138.0
ISC 04 04:49:50.2±1.2, **35.°16N**±0.°04×**27.°12E**±0.°03, **h13km**±9km, **n80, σ0§86/100, mb3.3/3, Dodecanese Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KARP Karpathos 0.39 5 P **Pg 04 49 58.3 +0.3**
KARP S **Sb 04 50 05.5 +0.6**
KARP Karpathos 0.39 5 ePB **Pb 04 49 58.5 -0.5**
KARP eSB **Sb 04 50 06.0 +1.1**
KARP Karpathos 0.39 5 ePb **Pb 04 49 58.5 -0.5**
KARP S **Sb 04 50 05.5 +0.6**
KARP eSb **Sb 04 50 06.0 +1.1**
ZKR Zakros 0.74 267 P **Pg 04 50 04.2 -0.4**
ZKR S **Sn 04 50 16.8 -0.7**
ZKR Zakros 0.74 267 ePG **Pn 04 50 06.9 +0.5**
ZKR eSG **Sn 04 50 18.0 +0.4**
ZKR Zakros 0.74 267 P **Pg 04 50 04.2 -0.4**
ZKR Zakros 0.74 267 ePg **Pn 04 50 06.9 +0.5**
ZKR S **Sn 04 50 16.8 -0.7**
ZKR eSg **Sn 04 50 18.0 +0.4**
NPS Neapolis 1.24 275 P **Pg 04 50 14.0 -0.1**
NPS Neapolis 1.24 275 ePN **Pg 04 50 14.0 -0.1**
NPS Neapolis 1.24 275 P **Pg 04 50 14.0 -0.1**
ARG Arkhangelos 1.33 38 P **Pg 04 50 15.8 -0.1**
ARG Arkhangelos 1.33 38 ePN **Pb 04 50 15.4 +0.3**
ARG Arkhangelos 1.33 38 ePn **Pb 04 50 15.4 +0.3**
ARG Arkhangelos 1.33 38 P **Pg 04 50 15.8 -0.1**
LAST Lasithi 1.34 271 P **Pb 04 50 15.7 +0.4**
LAST S **Sg 04 50 33.6 0.0**
LAST Lasithi 1.34 271 ePN **Pb 04 50 15.7 +0.4**
LAST Lasithi 1.34 271 P **Pb 04 50 15.7 +0.4**
LAST S **Sg 04 50 33.6 0.0**
NIS1 Nisyros Isl. 1.44 2 P **Pg 04 50 17.7 -0.2**
NIS1 Nisyros Isl. 1.44 2 ePN **Pn 04 50 15.5 -0.5**
NIS1 Nisyros Isl. 1.44 2 ePn **Pn 04 50 15.5 -0.5**
NIS1 Nisyros Isl. 1.44 2 P **Pg 04 50 17.7 -0.2**
SANT Santorini 1.81 312 P **Pb 04 50 22.5 -0.8**
SANT Santorini 1.81 312 ePN **Pn 04 50 20.5 -0.7**
SANT Santorini 1.81 312 ePN **Pb 04 50 22.8 -0.5**
SANT Santorini 1.81 312 P **Pb 04 50 22.5 -0.8**
SANT Santorini 1.81 312 ePn **Pb 04 50 22.8 -0.5**
SIVA Sivas 1.90 266 ePN **Pb 04 50 23.8 +1.5**
SIVA Sivas 1.90 266 ePN **Pb 04 50 24.2 -0.5**
SIVA Sivas 1.90 266 ePn **Pb 04 50 23.8 +1.5**
BODT Bodrum 1.90 5 ePN **Pn 04 50 22.1 -0.2**
BODT Bodrum 1.90 5 ePn **Pn 04 50 22.2 -0.2**
BDRM Kayabasi 1.92 8 iP **Pn 04 50 23.2 +0.6**
BDRM iS **Sn 04 50 46.8 +0.2**
BDRM Kayabasi 1.92 8 iP **Pn 04 50 23.2 +0.6**
BDRM iS **Sn 04 50 46.8 +0.2**
DALY Dalyan (Mu¨la 2.07 37 ePN **Pn 04 50 24.9 +0.4**
DALY Dalyan (Mu¨la 2.07 37 ePn **Pn 04 50 25.0 +0.4**
YER Yerkesik 2.18 25 ePN **Pn 04 50 26.5 +0.2**
YER Yerkesik 2.18 25 ePn **Pn 04 50 26.5 +0.2**
AKAS Kas 2.29 61 iP **Pn 04 50 28.2 +0.4**
AKAS iS **Sb 04 50 59.3 -0.4**
AKAS Kas 2.29 61 iP **Pn 04 50 28.2 +0.4**
AKAS iS **Sb 04 50 59.3 -0.4**
APE Apeiranthos 2.30 326 P **Pn 04 50 28.8 +0.9**
APE S **Sn 04 50 57.2 +1.2**
APE Apeiranthos 2.30 326 ePN **Pn 04 50 27.6 -0.2**
APE Apeiranthos 2.30 326 ePn **Pn 04 50 27.6 -0.2**
APE Apeiranthos 2.30 326 P **Pn 04 50 28.8 +0.9**
APE S **Sn 04 50 57.2 +1.2**
SMG Samos 2.55 355 ePN **Pn 04 50 32.0 +0.7**
SMG Samos 2.55 355 ePn **Pn 04 50 32.0 +0.7**
ELL Elmali 2.76 54 ePN **Pn 04 50 34.6 +0.4**
ELL Elmali 2.76 54 ePn **Pn 04 50 34.7 +0.4**
AYDB Zeytinkoy-Aydi 2.85 12 ePN **Pn 04 50 35.6 +0.1**
AYDB Zeytinkoy-Aydi 2.85 12 ePn **Pn 04 50 35.6 +0.1**
GOLH Golhisar 2.86 43 iP **Pn 04 50 37.4 +1.7**
GOLH Golhisar 2.86 43 iP **Pn 04 50 37.4 +1.7**
GOLH iS **Sb 04 51 16.4 +0.2**
KORT Korkueli 3.20 54 iP **Pn 04 50 42.1 +1.8**
KORT Korkueli 3.20 54 iP **Pn 04 50 42.1 +1.8**
KORT iS **Sb 04 51 24.2 -1.6**
BLCB Balcova 3.22 359 ePN **Pn 04 50 41.3 +0.8**
BLCB Balcova 3.22 359 ePn **Pn 04 50 41.3 +0.8**
URLA Izmir 3.22 353 iP **Pn 04 50 41.5 +1.0**
URLA iS **Sn 04 51 20.1 +1.3**
URLA Izmir 3.22 353 iP **Pn 04 50 41.5 +1.0**
URLA iS **Sn 04 51 20.1 +1.3**
KULA Kula-Manisa 3.57 20 ePN **Pn 04 50 46.0 +0.6**
KULA Kula-Manisa 3.57 20 ePn **Pn 04 50 46.0 +0.6**
BCK Bucak 3.62 50 ePN **Pn 04 50 47.7 +1.6**
BCK Bucak 3.62 50 ePn **Pn 04 50 47.7 +1.6**
KHL Karahalli 3.70 31 ePN **Pn 04 50 47.3 +0.1**
KHL Karahalli 3.70 31 ePn **Pn 04 50 47.3 +0.1**
VLI Veliai 3.73 296 ePN **Pn 04 50 49.1 +1.6**
VLI Veliai 3.73 296 ePn **Pn 04 50 49.1 +1.6**
AKS Akhisar 3.75 8 ePN **Pn 04 50 47.5 -0.3**
AKS Akhisar 3.75 8 ePn **Pn 04 50 47.5 -0.3**
SUTC Sutluce-Ispart 3.89 52 ePN **Pn 04 50 51.9 +2.1**
SUTC Sutluce-Ispart 3.89 52 ePn **Pn 04 50 51.9 +2.1**
BALB Balikesir 4.51 7 ePN **Pn 04 50 59.2 +1.1**
BALB Balikesir 4.51 7 ePn **Pn 04 50 59.3 +1.1**
ALT Altintas 4.56 31 ePN **Pn 04 50 59.8 +0.7**
ALT Altintas 4.56 31 ePn **Pn 04 50 59.8 +0.7**
TVSB Tavsanli 4.67 23 ePN **Pn 04 51 01.3 +0.8**
TVSB Tavsanli 4.67 23 ePn **Pn 04 51 01.3 +0.8**
BRTR Keskin Array B 6.90 47 Pn **Pn 04 51 31.6 +0.4**
0.2nm,0.3s,baz=222,slow=16,SNR=9.4
BRTR Sn **Sn 04 52 50.0 +0.3**
0.1nm,0.3s,baz=218,slow=23,SNR=2.9
MLR Muntele Rosu 10.36 355 LR LR 04 57 26.4
comp=Z,5.2nm,21.4s,baz=250,slow=42
TORD Torodi Ar. Bea 31.74 233 P **P 04 56 13.6 -0.5**
0.1nm,0.4s,baz=30,slow=8.9,SNR=4.7
MKAR Makanchi Array 42.43 57 P **P 04 57 43.9 -0.7**
0.3nm,0.5s,baz=272,slow=8.6,SNR=8.2
ZALV Zalesovo Beam 43.84 46 P **P 04 57 54.4 -1.4**
0.5nm,0.3s,baz=260,slow=8.6,SNR=1.6

JSN 04 04:59:48.0±1.1, 19.°02N×71.°50W, h49km±999km
ISCJB 04 04:59:60.0±1.3, 18.°50N±0.°03×72.°76W±0.°02, h12km±8km, mb4.1/28, MS3.5/14, Error ellipse: s-maj=5.6km s-min=3.5km az=7.1
IDC 04 04:59:59.4±0.6, 18.°54N×72.°73W, h0km, mb4.0/19, mb1 4.2/24, mb1mx4.2/32, mbtmp4.0/24, ML3.8/5, MS3.3/15, Ms1 3.3/15, ms1mx3.1/38, Error ellipse: s-maj=15.7km s-min=12.9km az=24.0
NEIC 04 05:00:01.2±0.2, 18.°53N×72.°77W, h10km, mb4.6/7, Error ellipse: s-maj=5.5km s-min=4.5km az=196.0
NEIC Felt [V] at Port-au-Prince and [III] at Petionville. Also felt at Camp Perrin, Kenscoff and Vieux Bourg d'Aquin.
ISC 04 05:00:01.0±0.9, **18.°46N**±0.°04×**72.°75W**±0.°03, **h11km**±5km, **n88, σ1§54/102, mb4.2/28, MS3.4/14, 2C-1D, Haiti region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SDDR Presa de Saban 1.48 69 ePn **Pn 05 00 27.7 0.0**
SDDR eSn **Sb 05 00 48.0 +0.5**
GTBY Guantanamo Bay 2.66 304 ePn **Pn 05 00 42.1 -1.8**
GTBY eS **Sn 05 01 17.3 +1.1**
GRTK Grand Turk 3.40 26 ePn **Pn 05 00 54.1 +0.2**
GRTK eSn **Sn 05 01 34.4 +0.2**
YHJ Yallahs 3.60 262 iP **Pn 05 00 57.6 +0.7**
GWJ Greenwich 3.80 265 iP **Pn 05 00 59.9 +0.3**
HOJ Hope 3.82 264 iP **Pn 05 01 01.0 +1.2**
STH Stony Hill 3.87 265 iP **Pn 05 01 00.4 -0.2**
STH iS **Sb 05 01 55.9 -0.4**
PCJ Portland Cotta 4.25 261 iP **Pn 05 01 06.8 +1.1**
CVJ Coleyville 4.55 268 iP **Pn 05 01 10.0 +0.1**
MTDJ Mount Denham 4.55 268 ePn **Pn 05 01 09.9 0.0**
MTDJ eS **Sn 05 01 58.9 -4.0**
MCJ Malvern 4.72 264 iP **Pn 05 01 13.6 +1.3**
CRPR Cabo Rojo, PR 5.38 94 ePn **Pn 05 01 20.2 -1.1**
CRPR eSg **Sg 05 02 51.0 -2.9**
LSP Las Mesas 5.39 92 ePn **Pn 05 01 22.1 +0.6**
LRS Lares 5.61 91 Pn **Pn 05 01 24.8 +0.3**
AOPR Arecibo Observ 5.70 90 ePn **Pn 05 01 27.0 +1.3**
OBIP Obispado Ponce 5.86 93 ePn **Pn 05 01 28.6 +0.8**
OBIP eSn **Sn 05 02 36.2 +1.2**
CELP Cerrillos 5.88 93 ePn **Pn 05 01 28.6 +0.5**
CELP eSn **Sn 05 02 37.7 +2.1**
SJG San Juan 6.28 92 Pn **Pn 05 01 32.2 -1.5**
0.0nm,0.3s,baz=271,slow=16,SNR=3.1
SJG Sn **Sn 05 02 45.7 +0.2**
baz=270,slow=19,SNR=2.4
SJG Lg Lg 05 03 18.5
0.1nm,0.3s,baz=90,slow=21,SNR=3.6
SJG San Juan 6.28 92 ePn **Pn 05 01 33.9 +0.2**
SJG Sn **Sn 05 02 45.7 +0.2**
SJG eSg **Sg 05 03 17.6 -5.2**
SJG Lg Lg 05 03 18.5
CBYP Canovanas 6.55 91 Pn **Pn 05 01 38.7 +1.3**
SDV Santo Domingo 9.74 168 ePn **Pn 05 02 22.2 +0.9**
SDV eSn **Sn 05 04 06.1 -4.8**
LZG Guadaloupe-1 10.74 101 eP **Pn 05 02 37.6 +2.8**
FNG Fond-Bernard 10.84 101 eP **Pn 05 02 38.3 +2.0**
SSG Sans Toucher 10.84 101 eP **Pn 05 02 38.3 +2.0**
HMG Houelmont 10.85 101 eP **Pn 05 02 39.2 +2.9**
SCG Saint Claude 10.85 101 eP **Pn 05 02 38.7 +2.2**
CRG Carmichael 10.87 101 eP **Pn 05 02 39.3 +2.6**
ECG Echelle 10.87 101 eP **Pn 05 02 39.5 +2.6**
PHG Guadaloupe-2 10.89 101 eP **Pn 05 02 39.3 +2.3**
BCIP Isla Barro Col 11.52 218 ePn **Pn 05 02 44.7 -0.8**
ROSC El Rosal 13.61 187 Pn Pn 05 03 18.3 +3.8
0.8nm,0.3s,baz=86,slow=9.8,SNR=4.0
ROSC Sn **Sn 05 05 48.0 +2.0**
0.8nm,0.3s,baz=252,slow=20,SNR=3.9
JTS JuntasAbangare 14.33 237 Pn **Pn 05 03 25.2 +1.1**
0.8nm,0.3s,baz=15,slow=14,SNR=3.8
JTS LR LR 05 09 11.8
comp=Z,45nm,21.1s,baz=78,slow=38
TEIG Tepich 14.76 279 Pn **Pn 05 03 30.1 +0.3**
1.1nm,0.3s,baz=65,slow=14,SNR=3.7
TEIG Tepich 14.76 279 Pn **Pn 05 03 29.6 -0.2**
APG El Apazote 17.31 261 Pn **P 05 04 04.5 0.0**
0.4nm,0.3s,baz=129,slow=9.0,SNR=7.9
APG LR LR 05 10 54.7
comp=Z,49nm,19.3s,baz=78,slow=38
OTAV Otavalo 18.96 198 eP **Pn 05 04 24.6 +1.1**
7.0nm,0.8s
JSRW J. Sargeant Re 19.68 348 eP **P 05 04 30.5 +0.4**
TKL Tuckaleechee C 19.71 333 P **P 05 04 31.2 +0.6**
0.1nm,0.3s,baz=149,slow=9.6,SNR=2.7
TKL LR LR 05 12 25.9
comp=Z,84nm,18.8s,baz=152,slow=38
VWCC Virginia Weste 19.76 343 eP **P 05 04 29.8 -1.2**
BLA Blacksburg 19.86 342 P **Pn 05 04 33.2 -0.5**
48nm,1.4s
WVT Waverly 22.07 326 eP **P 05 04 56.1 +0.1**
7.3nm,0.7s
PTGA Pitinga 22.84 145 P **P 05 05 05.2 +0.8**
11nm,0.8s,baz=340,slow=12,SNR=12
PTGA LR LR 05 13 48.3
comp=Z,50nm,20.4s,baz=327,slow=36
SFIN Scholer Farm 25.09 334 eP **P 05 05 26.0 +0.3**
8.7nm,0.8s
ATAH Atahualpa 26.04 193 LR LR 05 17 46.9
comp=Z,46nm,18.7s,baz=5.1,slow=41
SADO Sadowa 26.77 350 LR LR 05 15 38.9
comp=Z,87nm,21.0s,baz=315,slow=35
JFWS Jewell Farm 28.52 332 eP **P 05 05 56.9 +0.2**
11nm,0.7s
SAML Samuel 28.83 160 eP **P 05 05 60.0 +0.5**
49nm,2.5s
TXAR Lajitas Array 30.18 297 P **P 05 06 12.3 +0.8**
0.5nm,0.7s,baz=112,slow=7.2,SNR=6.4
TXAR PcP **PcP 05 09 12.9 +0.2**
0.5nm,0.8s,baz=130,slow=3.7,SNR=4.3
TXAR LR LR 05 20 18.4
comp=Z,25nm,18.8s,baz=0.0,slow=40
LPAZ La Paz 34.83 172 P **P 05 06 55.5 +2.6**
0.8nm,0.5s,baz=6.1,slow=3.5,SNR=6.5
LPAZ LR LR 05 21 59.1
comp=Z,74nm,20.6s,baz=16,slow=38
SCHQ Schefferville 36.59 6 P **P 05 07 07.5 +0.6**
3.2nm,0.5s,baz=192,slow=7.4,SNR=16
ULM Lac du Bonnet 36.70 335 P **P 05 07 08.3 +0.4**
3.2nm,0.9s,baz=153,slow=8.8,SNR=6.1
ULM Lac du Bonnet 36.70 335 eP **P 05 07 07.8 -0.2**
PDAR Pinedale Array 39.41 316 P **P 05 07 29.1 -2.2**
0.2nm,0.5s,baz=112,slow=12,SNR=3.8
PDAR PcP **PcP 05 09 38.7 -0.7**
0.5nm,0.6s,baz=142,slow=4.6,SNR=4.0
PDAR LR LR 05 25 27.8
comp=Z,26nm,19.5s,baz=110,slow=39
BDFB Brasilia 41.74 143 LR LR 05 25 40.5
comp=Z,88nm,18.6s,baz=306,slow=37
FCC Fort Churchill 43.16 344 eP **P 05 08 01.0 -0.5**
NVAR Mina Array Bea 44.20 306 P **P 05 08 09.5 -1.0**
0.5nm,0.7s,baz=92,slow=7.5,SNR=5.0
NVAR PcP **PcP 05 09 56.0 +0.8**
0.5nm,0.7s,baz=111,slow=4.9,SNR=3.3
CPUP Villa Florida 46.98 161 LR LR 05 29 22.5
comp=Z,40nm,18.3s,baz=322,slow=38
YKA Yellowknife Ar 52.62 337 P **P 05 09 14.9 +0.1**
1.6nm,1.0s,baz=123,slow=7.1,SNR=10
BBB Bella Bella 54.53 322 LR LR 05 33 52.9
comp=Z,61nm,18.6s,baz=93,slow=37
DLBC Dease Lake 57.48 328 LR LR 05 34 26.2
comp=Z,53nm,20.2s,baz=291,slow=36
SUMG Summit 57.56 12 iP **P 05 09 51.2 +0.4**
7.9nm,1.0s
SUMG Summit 57.56 12 eP **P 05 09 51.6 +0.8**
PLCA Paso Flores 58.92 178 P **P 05 10 01.2 +0.9**
0.7nm,0.2s,baz=327,slow=3.7,SNR=3.4
ESDC Sonseca Array 62.28 54 P **P 05 10 22.1 -1.2**
0.9nm,0.6s,baz=294,slow=7.8,SNR=6.5
INK Inuvik 62.32 339 LR LR 05 37 18.6
comp=Z,44nm,21.3s,baz=46,slow=36
EKA Eskdalemuir Ar 63.42 37 P **P 05 10 30.2 -0.5**
1.0nm,0.6s,baz=279,slow=5.6,SNR=6.9
ILAR Eielson Array 66.70 333 P **P 05 10 51.0 -0.7**
0.4nm,0.8s,baz=100,slow=9.3,SNR=8.3
COLD Coldfoot 68.27 336 P **P 05 11 02.5 +0.9**
3.3nm,0.4s
NOA NORSAR Array B 71.12 31 P **P 05 11 18.2 -1.2**
0.8nm,0.8s,baz=287,slow=6.0,SNR=2.3
TORD Torodi Ar. Bea 71.40 82 P **P 05 11 20.7 -1.1**
0.7nm,0.6s,baz=275,slow=5.5,SNR=9.7
TORD LR LR 05 39 38.9
comp=Z,19nm,21.1s,baz=310,slow=33
ABTA Abfaltersbach 73.60 46⇑iP P 05 11 30.9 -3.7
4.8nm,1.0s
KHC Kasperske Hory 73.91 43 eP **P 05 11 37.3 +1.1**
KHC epP **pP 05 11 39.8 0.0**
GERES GERESS Array B 74.03 43 P **P 05 11 37.2 +0.1**
2.2nm,0.8s,baz=273,slow=5.2,SNR=18
MOA Molln 74.58 44⇑iP **P 05 11 41.1 +0.9**
2.9nm,0.7s
UPC Upice 75.21 41 eP **P 05 11 45.3 +1.6**
SOKA Soboth 75.31 45⇓iP **P 05 11 44.8 +0.3**
3.1nm,1.0s
DPC Dobruska-Polom 75.43 41 eP **P 05 11 45.7 +0.6**
DPC epP **pP 05 11 49.0 +0.3**
ARCES ARCESS Array B 75.72 21 P **P 05 11 46.5 +0.2**
3.9nm,0.8s,baz=302,slow=1.7,SNR=4.6
FINES FINESS Array B 78.11 29 P **P 05 11 59.9 0.0**
1.6nm,0.9s,baz=232,slow=17,SNR=2.6
MLR Muntele Rosu 82.95 44 P **P 05 12 28.2 +1.8**
0.8nm,0.7s,baz=170,slow=17,SNR=6.0
AKASG Malin Array Be 83.24 39 P **P 05 12 27.9 +0.3**
0.3nm,0.4s,baz=296,slow=4.0,SNR=2.6
KSH Kashi 115.34 26 ePKP **PKPdf 05 18 44.8 +1.4**
WMQ Urumqi 115.48 16 ePKP **PKPdf 05 18 43.4 0.0**
WMQ PP PP 05 19 51.6 +7.8
WMQ PKS **PKSdf 05 22 18.8 -1.3**
WMQ SKS **SKSdf 05 25 50.6 -5.2**
WMQ LR LR
comp=N,37nm,18.6s
WMQ LR LR
comp=E,41nm,19.8s
WMQ LR LR
comp=Z,23nm,19.2s
HHC Hu-ho-hao-te 120.86 356 ePKP **PKPdf 05 18 55.3 +1.4**
HHC PP PP 05 20 26.7 +5.7
HHC SKS **SKSdf 05 26 06.2 0.0**
HHC SKKS **SKKSac 05 27 22.1 -0.2**
HHC SS **SS 05 36 54.1 +2.8**
HHC LR LR
comp=Z,140nm,16.2s
CD2 Chengdu 130.80 4 PKP **PKPdf 05 19 12.4 -0.7**
STKA Stephens Creek 146.32 240 PKPbc **PKPdf 05 19 40.9 -0.3**
3.9nm,1.1s,baz=81,slow=5.8,SNR=2.9
WRA Warramunga Arr 154.38 262 PKPbc **PKPbc 05 20 00.9 -1.5**
1.1nm,0.8s,baz=86,slow=2.0,SNR=7.7
ASAR Alice Springs 154.61 254 PKPbc **PKPbc 05 20 01.4 -1.4**
0.5nm,0.8s,baz=87,slow=2.7,SNR=4.3

IDC 04 06:04:21.6±1.7, 17.°22S×174.°99W, h0km, mb4.0/6,

mb1 4.3/7, mb1mx3.9/33, mbtmp3.9/7, ML3.4/1, MS3.7/4, Ms1 3.7/4, ms1mx3.3/25, Error ellipse: s-maj=107.9km s-min=20.2km az=149.0
ISCJB **04** 06:04:23.8±0.6, 18.3S±0.2×174.34W±0.10, h33km, mb4.7/27, MS3.9/4, Error ellipse: s-maj=27.4km s-min=7.8km az=156.3
NEIC **04** 06:04:25.7±0.4, 18.30S×174.28W, h35km, mb4.6/14, Error ellipse: s-maj=20.5km s-min=5.9km az=154.0
BJI **04** 06:04:32.8, 17.32S×175.27W, h55km, mb4.9/9, Ms7 4.7/1
ISC 04 06:04:27.1±1.0, 17.3S±0.3×174.8W±0.2, h35km, n58, σ1.48/48, mb4.7/27, MS3.8/4, 3C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.46	41	Pn	Pn	06 05 29.6	-2.7
	1.9nm,0.3s,baz=225,slow=5.7,SNR=2.7						
AFI	Afiamalu	4.46	41	Pn	Pn	06 05 37.7	+5.4
MSVF	Nonsavu	6.87	266	ePn	Pn	06 06 11.5	+6.1
RAR	Rarotonga	14.67	108	LR	LR	06 12 03.1	
	comp=Z,185nm,18.6s,baz=225,slow=31						
DZM	Mont Dzumac	18.31	252	eLR	LR	06 13 07.2	
	754nm,25.0s						
DZM	Mont Dzumac	18.31	252	eP	Pn	06 08 38.6	+0.1
	18nm,1.1s						
PPT2	Papeete2	24.02	94	eLR	LR	06 15 15.1	
	670nm,28.2s						
PPT	Papeete	24.02	94	LR	LR	06 16 20.6	
	comp=Z,150nm,18.9s,baz=184,slow=30						
TBI	Tubuai	24.45	108	eLR	LR	06 15 16.2	
	436nm,29.2s						
HNR	Honiara	25.80	284	LR	LR	06 18 33.9	
	comp=Z,255nm,19.5s,baz=120,slow=33						
HNR	Honiara	25.80	284	eP	P	06 10 00.4	+5.2
	8.5nm,0.5s						
ARMA	Armidale	33.24	241	eP	P	06 10 58.6	-2.6
RKT	Rikitea	37.69	106	eLR	LR	06 21 23.7	
	305nm,27.5s						
STKA	Stephens Creek	41.95	241	LR	LR	06 29 43.3	
	comp=Z,126nm,18.1s,baz=31,slow=36						
STKA	Stephens Creek	41.95	241	eP	P	06 12 13.0	-1.8
WRAB	Tennant Creek	48.15	259	P	P	06 13 04.7	+0.6
	7.6nm,1.4s						
WRA	Warramunga Arr	48.15	259	P	P	06 13 02.0	-2.2
	1.7nm,0.8s,baz=96,slow=7.0,SNR=11						
AS31	Alice Springs	48.29	254	eP	P	06 13 05.0	-0.3
ASAR	Alice Springs	48.29	254	eP	P	06 13 03.0	-2.3
	5.9nm,0.8s,baz=88,slow=7.9,SNR=26						
ASAR				PcP	PcP	06 14 31.5	-0.4
	0.9nm,0.8s,baz=101,slow=4.8,SNR=3.5						
KKM	Kota Kinabalu	72.00	282	P	P	06 15 50.5	+2.5
	4.1nm,0.5s						
NVAR	Mina Array Bea	76.63	42	P	P	06 16 15.5	+0.9
	0.7nm,0.9s,baz=222,slow=8.9,SNR=5.2						
TPH	Tonopah	77.13	43	eP	P	06 16 17.9	+0.5
	7.2nm,1.2s						
NJ2	Nanjing	80.30	308	eP	P	06 16 38.1	+3.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WRAK	Wrangell Islan	81.63	22	eP	P	06 16 42.2	+1.1
	7.6nm,0.8s						
CN2	Changchun	81.74	321	eP	P	06 16 47.5	+5.4
SRU	San Rafael	82.13	45	eP	P	06 16 45.0	+0.4
	7.1nm,1.3s						
QIZ	Qiongzhong	82.42	293	P	P	06 16 49.0	+2.8
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.7s						
TXAR	Lajitas Array	82.77	56	P	P	06 16 48.4	+0.4
	0.3nm,0.9s,baz=225,slow=10,SNR=4.1						
PV01	Paradox Valley	83.00	47	eP	P	06 16 49.6	+0.5
	892nm,1.6s						
ANMO	Albuquerque	83.04	50	eP	P	06 16 50.2	+0.8
	8.0nm,1.3s						
MCMT	McKenzie Canyo	83.58	39	eP	P	06 16 52.4	+0.4
	0.6nm,1.0s						
REDW	Red Top Meadow	84.05	41	eP	P	06 16 55.5	+1.1
TPAW	Teton Pass	84.05	41	eP	P	06 16 54.4	0.0
	57nm,2.8s						
FXWY	Fox Creek	84.08	41	eP	P	06 16 55.5	+1.0
	8.8nm,1.4s						
COLA	College	84.50	11	eP	P	06 16 56.7	+0.8
	3.4nm,0.7s						
FLWY	Flagg Ranch	84.51	41	eP	P	06 16 58.3	+1.6
	18nm,1.4s						
PDAR	Pinedale Array	84.57	42	P	P	06 16 57.2	+0.1
	1.3nm,0.9s,baz=227,slow=3.7,SNR=8.5						
SMCO	Snowmass	84.59	46	eP	P	06 16 58.0	+0.5
ILAR	Eielson Array	84.59	12	P	P	06 16 56.1	-0.2
	0.8nm,0.9s,baz=229,slow=5.9,SNR=8.1						
BOZ	Bozeman (W)	84.74	39	eP	P	06 16 58.7	+1.0
	60nm,2.6s						
DAWY	Dawson	85.61	15	eP	P	06 17 02.7	+1.1
IPM	Ipoh	85.81	276	eP	P	06 17 03.9	+0.2
	37nm,1.1s						
BILL	Bilibino	86.25	353	eP	P	06 17 01.6	-3.0
	1.4nm,0.6s						
ABTX	Abilene, Hawle	87.24	55	eP	P	06 17 10.7	+0.4
	12nm,1.2s						
HHC	Hu-ho-hao-te	89.39	313	eP	P	06 17 25.7	+5.3
HHC				pP	pP	06 17 42.7	+11
HHC				PP	PP	06 20 56.7	+4.8
HHC				SKS	SKSac	06 27 49.6	+1.5
HHC				pmax	pmax		
	comp=Z,35nm,1.4s						
HHC				LR	LR		
	comp=Z,190nm,14.9s						
CD2	Chengdu	91.71	302	P	P	06 17 34.8	+3.5
CD2				pP	pP	06 17 51.4	+8.9
CD2				sP	sP	06 17 58.0	+12
CD2				SKS	SKSac	06 28 01.7	0.0
CD2				S	ScS	06 28 32.0	-0.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSH	Kashi	115.56	306	ePKP	PKPdf	06 23 09.7	+3.8
CLL	Collm	145.55	351	iPKPbc	PKPab	06 24 02.1	+0.2
	comp=Z,10.0nm,1.1s						
CLL				iPKiKP	PKiKP	06 24 07.6	+2.1
	comp=Z,6.0nm,0.9s						
CLL				ipPKPbc	pPKPbc	06 24 13.9	+0.9
UPC	Upice	145.80	348	ePKP	PKPab	06 24 03.6	+0.7
BRG	Berggiesshubel	145.83	350	iPKP	PKPab	06 24 03.2	+0.2
	comp=Z,7.1nm,1.2s						
BRG				e		06 24 38.9	
	comp=Z,10.0nm,1.5s						
BRG				e		06 25 47.5	
	comp=Z,6.1nm,1.1s						
DPC	Dobruska-Polom	145.88	347	ePKP	PKPab	06 24 03.7	+0.5
DPC				ex	x	06 24 09.9	
DPC				ex	x	06 25 48.3	
DPC				ex	x	06 26 03.0	
OKC	Ostrava-Krasne	145.95	345	ePKP	PKPab	06 24 06.3	+2.9
PRU	Pruhonice	146.58	349	ePKP	PKPab	06 24 05.6	-0.2
BRTR	Keskin Array B	146.77	318	PKPbc	PKPbc	06 24 05.8	-0.1
	comp=Z,2.4nm,0.9s,baz=46,slow=7.1,SNR=4.5						
KHC	Kasperske Hory	147.57	350	⇑ePKP	PKPbc	06 24 08.3	+0.6
KHC				ePKPAB	PKiKP	06 24 11.6	+1.8
KHC				ex	x	06 25 55.5	
KHC				ex	x	06 26 09.0	
GERES	GERESS Array B	147.83	349	PKPbc	PKPbc	06 24 07.6	-0.9
	comp=Z,0.3nm,0.3s,baz=29,slow=3.0,SNR=5.3						
DAVA	Damuels	149.89	354	⇑iPKPdf	PKPdf	06 24 08.5	-0.5
	comp=Z,4.2nm,0.9s						
ABTA	Abfaltersbach	150.06	350	⇑iPKPdf	PKPbc	06 24 11.4	-2.8
	comp=Z,6.7nm,1.1s						

ISCJB **04** 06:06:05.9±1.2, 17.4S±0.4×175.0W±0.3, h10km, mb3.9/9, Error ellipse: s-maj=68.4km s-min=16.9km az=147.5
IDC **04** 06:06:05.5±1.4, 17.44S×174.91W, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/32, mbtmp3.9/9, MS3.9/1, Ms1 3.9/1, ms1mx3.0/23, Error ellipse: s-maj=77.3km s-min=20.1km az=148.0
ISC 04 06:06:07.3±1.4, 17.2S±0.4×174.9W±0.3, h10km, n14, σ1.31/13, mb4.0/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.47	43	Pn	Pn	06 07 13.0	-2.2
	3.4nm,0.3s,baz=146,slow=7.3,SNR=2.6						
RAO	Raoul Island	12.29	192	LR	LR	06 12 30.2	
	comp=Z,596nm,21.7s,baz=110,slow=32						
STKA	Stephens Creek	41.88	241	P	P	06 13 57.8	-0.2
	2.6nm,0.8s,baz=90,slow=2.0,SNR=3.5						
WRA	Warramunga Arr	48.04	258	P	P	06 14 46.2	-1.0
	2.2nm,0.7s,baz=96,slow=7.4,SNR=12						
ASAR	Alice Springs	48.19	253	P	P	06 14 47.2	-1.1
	6.8nm,0.8s,baz=87,slow=8.2,SNR=14						
NVAR	Mina Array Bea	76.64	42	P	P	06 17 59.9	+1.1
	1.1nm,1.0s,baz=232,slow=8.3,SNR=3.9						
TXAR	Lajitas Array	82.82	56	P	P	06 18 33.3	+0.9
	0.4nm,0.9s,baz=203,slow=6.6,SNR=3.9						
SEY	Seymchan	83.90	346	P	P	06 18 39.0	+2.1
	0.7nm,0.4s,baz=127,slow=11,SNR=3.1						
ILAR	Eielson Array	84.51	12	P	P	06 18 40.6	+0.6
	0.4nm,0.6s,baz=231,slow=6.0,SNR=6.6						
PDAR	Pinedale Array	84.58	42	P	P	06 18 41.6	+0.4
	1.2nm,0.9s,baz=201,slow=2.9,SNR=5.4						
YKA	Yellowknife Ar	92.34	24	P	P	06 19 17.7	+0.2
	0.1nm,0.7s,baz=247,slow=4.6,SNR=2.6						
CLL	Collm	145.41	351	iPKPbc	PKPab	06 25 46.2	+0.6
	comp=Z,8.0nm,1.0s						
CLL				i		06 25 52.3	
	comp=Z,7.0nm,0.9s						
CLL				i		06 26 08.3	
	comp=Z,14nm,1.1s						
BRTR	Keskin Array B	146.59	318	PKPbc	PKPab	06 25 49.4	-1.3
	comp=Z,2.8nm,1.0s,baz=88,slow=8.8,SNR=4.2						
GERES	GERESS Array B	147.69	349	PKPbc	PKPbc	06 25 51.4	-1.0
	comp=Z,1.3nm,0.9s,baz=40,slow=2.3,SNR=6.0						

IDC 04 06:06:08.5±2.1, 2.07N×126.49E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/33, mbtmp3.3/3, Error ellipse: s-maj=180.6km s-min=24.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.19	161	P	P	06 11 15.4	-1.7
	0.8nm,0.6s,baz=340,slow=11,SNR=6.9						
ASAR	Alice Springs	26.58	165	P	P	06 11 50.0	+1.5
	0.2nm,0.5s,baz=343,slow=11,SNR=3.1						
MKAR	Makanchi Array	58.78	326	P	P	06 16 08.3	-0.2
	0.2nm,0.6s,baz=121,slow=6.8,SNR=3.2						

IDC **04** 06:15:01.6±8.6, 13.48N×144.41E, h94km±81km, mb3.7/15, mb1 3.9/15, mb1mx3.7/38, mbtmp4.0/15, Error ellipse: s-maj=24.2km s-min=12.9km az=74.0
ISCJB **04** 06:15:03.6±0.6, 13.44N±0.08×144.3E±0.1, h129km, mb3.8/15, Error ellipse: s-maj=20.6km s-min=11.5km az=173.6
ISC 04 06:15:05.2±0.7, 13.4N±0.1×144.4E±0.2, h129km, n23, σ0.90/16, mb3.8/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	22.05	74	T	T	06 42 42.8	
	baz=236,slow=74,SNR=6.2						
H11S1	WAKE ISLAND Hy	22.07	74	T	T	06 42 45.7	
	baz=236,slow=74,SNR=3.0						
H11S2	WAKE ISLAND Hy	22.07	74	T	T	06 42 43.6	
	baz=236						
H11N1	WAKE ISLAND Hy	22.48	71	T	T	06 42 57.5	
	baz=259,slow=75,SNR=13						
H11N2	WAKE ISLAND Hy	22.49	71	T	T	06 42 57.7	
	baz=259,slow=75,SNR=11						
H11N3	WAKE ISLAND Hy	22.50	71	T	T	06 43 01.4	
	baz=259,slow=75,SNR=13						
MJAR	Matsushiro Arr	23.66	348	P	P	06 20 04.1	-0.7
	1.4nm,0.5s,baz=174,slow=9.2,SNR=5.4						
KSRS	Korea Array	28.05	331	P	P	06 20 44.6	+0.3
	1.1nm,0.4s,baz=140,slow=10,SNR=4.1						
WRA	Warramunga Arr	34.60	197	P	P	06 21 41.8	-0.2
	1.6nm,0.9s,baz=25,slow=9.0,SNR=6.2						
ASAR	Alice Springs	38.26	196	P	P	06 22 13.8	+0.8
	0.3nm,0.4s,baz=18,slow=13,SNR=7.0						
DZM	Mont Dzumac	41.41	148	P	P	06 22 39.8	+0.6
	8.1nm,0.4s,baz=307,slow=10,SNR=19						
CMAR	Chiang Mai Arr	43.86	283	P	P	06 22 57.9	-1.2
	2.1nm,0.4s,baz=66,slow=6.8,SNR=7.6						
STKA	Stephens Creek	45.13	183	P	P	06 23 08.0	-0.8
	1.5nm,0.5s,baz=342,slow=8.0,SNR=3.3						
SONM	Songino Array	46.57	325	P	P	06 23 21.2	+1.1
	0.5nm,0.6s,baz=114,slow=6.1,SNR=3.6						
SEY	Seymchan	49.76	5	P	P	06 23 44.7	+0.5
	1.4nm,0.2s,baz=0.0,slow=20,SNR=3.4						
MKAR	Makanchi Array	61.25	316	P	P	06 25 07.4	+0.6
	0.9nm,0.5s,baz=92,slow=8.7,SNR=20						
KURBB	Kurchatov Arra	64.42	320	P	P	06 25 27.6	+0.1
	2.2nm,0.5s,baz=102,slow=6.9,SNR=13						
ILAR	Eielson Array	68.92	25	P	P	06 25 54.4	-1.5
	0.4nm,0.5s,baz=250,slow=6.2,SNR=13						
INK	Inuvik	74.70	22	P	P	06 26 31.1	+0.8
	0.4nm,0.4s,baz=270,slow=4.6,SNR=4.4						
YKA	Yellowknife Ar	83.23	27	P	P	06 27 15.8	-1.1
	0.3nm,0.3s,baz=287,slow=5.1,SNR=8.0						
NVAR	Mina Array Bea	87.41	51	P	P	06 27 38.7	+0.1
	0.6nm,0.6s,baz=265,slow=6.5,SNR=7.2						
DBIC	Dimbokro	143.47	301	PKhKP	PKPpre	06 34 22.8	
	3.1nm,0.8s,baz=37,slow=3.7,SNR=3.0						
LPAZ	La Paz	148.50	99	PKPbc	PKPbc	06 34 39.3	+0.8
	0.7nm,0.4s,baz=231,slow=6.5,SNR=6.7						

KRSC 04 06:22:33.0±1.5, 53.63N×163.23E, h40km±18km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.25	44	P	Pn	06 23 10.0	+2.4
BKI				S	Sn	06 23 35.4	+1.3
KZV	Kizimen	2.27	312	S	Sn	06 23 38.2	+3.1
TUMR	Tumrok	2.45	314	P	Pn	06 23 14.3	+3.8
TUMR				S	Sn	06 23 43.1	+3.8
KBTR	Krutoberegovo	2.60	355	P	Pn	06 23 14.3	+1.9
KBTR				S	Sn	06 23 45.0	+2.3
KBG	Krutoberegovo	2.65	354	S	Sn	06 23 47.5	+3.5
UGLR	Uglovaya	2.67	263	P	Pn	06 23 17.7	+4.1
UGLR				S	Sn	06 23 47.7	+2.9
SMAR	Somma	2.67	264	P	Pn	06 23 16.9	+3.1
SMAR				S	Sn	06 23 47.0	+1.9
KRER	Koryakskii	2.70	265	P	Pn	06 23 18.2	+4.1
KRER				S	Sn	06 23 48.8	+3.1
AVH	Avacha	2.71	264	P	Pn	06 23 18.3	+4.2
AVH				S	Sn	06 23 49.6	+3.9
KMNR	Kamenistaya	2.75	322	P	Pn	06 23 19.0	+4.3
KMNR				S	Sn	06 23 50.9	+4.2
KRX	Arik	2.75	266	P	Pn	06 23 18.5	+3.8
KRX				S	Sn	06 23 49.2	+2.4
KOK	Koryaka	2.77	265	P	Pn	06 23 18.8	+3.9
KOK				S	Sn	06 23 50.1	+3.0
PET	Petropavlovsk	2.81	259	P	Pn	06 23 18.6	+3.3
PET				S	Sn	06 23 49.9	+2.0
KLY	Klyuchi	3.07	332	S	Sn	06 23 55.6	+1.2
RUS	Russkaya	3.09	249	S	Sn	06 23 57.5	+2.7
SMKR	Semkarok	3.13	342	P	Pn	06 23 24.0	+4.2
SMKR				S	Sn	06 23 59.4	+3.4
GNL	Ganaly	3.15	273	P	Pn	06 23 24.9	+4.8
GNL				S	Sn	06 24 00.2	+3.7
BDR	Baidarnaya	3.17	339	P	Pn	06 23 24.9	+4.5
BDR				S	Sn	06 24 01.0	+4.1
MTVR	Mutnovka	3.25	251	P	Pn	06 23 25.3	+3.7
MTVR				S	Sn	06 24 02.0	+2.8
SRKR	Sorokina	3.25	340	S	Sn	06 24 05.1	+6.0
SRDR	Srediinnyy	3.37	325	P	Pn	06 23 26.8	+3.7
SRDR				S	Sn	06 24 08.5	+6.6
ASAK	Asacha	3.45	251	P	Pn	06 23 28.7	+4.4
ASAK				S	Sn	06 24 07.4	+3.4
APC	Apacha	3.71	261	P	Pn	06 23 32.6	+4.9
APC				S	Sn	06 24 13.8	+3.7

IDC **04** 06:37:19.4±3.6, 53.70N×91.11E, h0km, mb1 3.1/3, mb1mx3.0/31, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=37.8km s-min=30.1km az=43.0
ISC 04 06:37:23.7±4.4, 53.8N±0.1×91.0E±0.2, h35km, n7, σ1.52/9, 5C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.63	275	i		07 01 02.0	
	baz=95,slow=342,SNR=1.0						
ZALV	Zalesovo Beam	3.63	275	Pn	Pn	06 38 18.3	+0.9
	0.3nm,0.3s,baz=88,slow=15,SNR=5.5						
ZALV				Lg	Lg	06 39 12.4	
	2.9nm,0.3s,baz=98,slow=32,SNR=14						
KURK	Kurchatov	8.17	253	⇑Pn	Pn	06 39 17.2	-2.4
	0.8nm,0.8s						
KURK				⇑Sn	Sn	06 40 49.3	-1.3
	1.2nm,0.7s						
KURK				⇑Lg	Lg	06 41 35.8	
	5.8nm,1.2s						
KURBB	Kurchatov Arra	8.26	253	Pn	Pn	06 39 20.4	-0.5
	0.3nm,0.3s,baz=67,slow=15,SNR=3.6						
KURBB				Sn	Sn	06 40 54.9	+2.1
	0.2nm,0.3s,baz=66,slow=25,SNR=8.4						
KURBB				Lg	Lg	06 41 39.5	
	0.2nm,0.3s,baz=68,slow=32,SNR=11						
MK31	Makanchi Array	8.92	222	⇓Pn	Pn	06 39 30.0	0.0
	0.2nm,0.3s,baz=38,slow=12,SNR=14						
MK31				⇑Sn	Sn	06 41 09.0	-0.2
	1.0nm,0.8s,baz=48,slow=26						
MK31				⇑Lg	Lg	06 41 55.6	
	2.9nm,0.8s,baz=22,slow=36,SNR=4.9						
MKAR	Makanchi Array	8.92	222	Pn	Pn	06 39 30.3	+0.3
	0.2nm,0.3s,baz=41,slow=14,SNR=16						
MKAR				Sn	Sn	06 41 10.2	+1.0
	0.1nm,0.3s,baz=48,slow=24,SNR=4.7						
MKAR				Lg	Lg	06 41 56.7	
	0.0nm,0.3s,baz=45,slow=23,SNR=4.2						
SONM	Songino Array	11.43	115	Lg	Lg	06 43 15.1	
	0.1nm,0.3s,baz=298,slow=24,SNR=7.7						

ISCJB **04** 06:44:40.9±0.6, 29.15S±0.04×71.33W±0.05, h65km±6km, mb4.0/9, Error ellipse: s-maj=7.8km s-min=6.7km az=26.1
SJA **04** 06:44:41.4±1.0, 29.14S×71.19W, h58km±6km, ML4.2, MW4.6
IDC **04** 06:44:42.7±0.7, 29.25S×71.00W, h60km±5km, mb3.9/9, mb1 4.0/12, mb1mx3.8/32, mbtmp4.1/12, MS2.9/3, Ms1 3.0/3, ms1mx2.7/21, Error ellipse: s-maj=21.7km s-min=16.3km az=82.0
ISC 04 06:44:42.4±0.6, 29.15S±0.06×71.25W±0.07, h61km±6km, n45, σ1.22/49, mb4.2/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.50	74	iP	Pn	06 44 54.3	-0.4
LCO				eS	Sn	06 45 02.8	-0.9
AMOG	MOGNA	2.98	127	iP	Pn	06 45 28.9	+1.6
RTLS	Leoncito	3.13	148	iP	Pn	06 45 31.3	+1.7
RTLL	Cerro Villicun	3.23	133	iP	Pn	06 45 31.5	+0.7
SJA	San Juan	3.32	136	iP	Pn	06 45 33.0	+1.1
SJA				AML	AML	06 46 35.4	
	comp=Z,504nm,0.6s						
AUSP	Uspallata	3.46	153	iP	Pn	06 45 35.9	+1.8
CFAA	Coronel Fontan	3.57	134	P	Pn	06 45 35.9	+0.5
	comp=Z,11nm,0.3s,baz=322,slow=12,SNR=562						
CFAA				S	Sn	06 46 15.3	-1.0
	comp=Z,7.9nm,0.3s,baz=52,slow=19,SNR=11						
CFAA	Coronel Fontan	3.57	134	iP	Pn	06 45 36.0	+0.5
CFAA				eS	Sn	06 46 17.1	+0.7
RTCV	Cerro Valdivia	3.60	140	iP	Pn	06 45 36.6	+1.2
AVFE	Valle Fertil	3.62	115	iP	Pn	06 45 36.7	+0.6
AVFE				eS	Sn	06 46 18.1	+0.4
AVFE				AML	AML	06 46 22.3	
	comp=Z,1μm,0.7s						
ACLC	CERRO LA CRUZ	3.76	95	iP	Pn	06 45 38.8	+0.7
ACLC				eS	Sn	06 46 22.4	+1.2
ASAL	Salagasta	4.01	149	iP	Pn	06 45 42.8	+1.3
ARCO	CERRO ARCO	4.18	152	iP	Pn	06 45 45.3	+1.5
ARCO				eS	Sn	06 46 33.0	+1.5
ARCO				AML	AML	06 46 41.5	
	comp=Z,926nm,0.5s						
APLL	PUNTA DE LOS L	4.28	108	iP	Pn	06 45 45.4	+0.2
AAGR	Agrelo	4.43	153	iP	Pn	06 45 48.7	+1.4
ACAN	Cantantal	4.68	133	iP	Pn	06 45 50.7	+0.1
CYA	Choya	4.83	83	iP	Pn	06 45 52.5	-0.1
CYA				AML	AML	06 46 55.8	
	comp=Z,114nm,0.8s						
AVIZ	Vizcacheras	4.90	152	iP	Pn	06 45 54.3	+0.6
TCA	Tanti	6.15	112	eS	Sn	06 47 18.2	-1.7
SLA	San Lorenzo	6.76	51	iP	Pn	06 46 21.5	+2.2
SLA				AML	AML	06 48 44.5	
	comp=Z,8.2nm,0.7s						
H03N1	Juan Fernandez	7.83	235	P	Pn	06 46 32.0	-1.5
H03N1				S	Sn	06 47 50.7	-10
H03N1				T	T	06 54 25.0	
	baz=60,slow=74,SNR=326						
H03N2	Juan Fernandez	7.84	235	P	Pn	06 46 32.1	-1.5
H03N2				S	Sn	06 47 50.1	-11
H03N2				T	T	06 54 26.0	
	baz=60,slow=74,SNR=332						
H03N3	Juan Fernandez	7.84	235	P	Pn	06 46 31.8	-1.9
H03N3				S	Sn	06 47 50.2	-11
H03N3				T	T	06 54 17.9	
	baz=60,slow=74,SNR=436						
ALOL	LOMAS DE OLMED	8.41	52	iP	Pn	06 46 43.4	+1.8
PLCA	Paso Flores	11.57	177	P	Pn	06 47 26.8	+1.9
	comp=Z,0.2nm,0.3s,baz=343,slow=1.3,SNR=2.3						
PLCA				LR	LR	06 52 41.5	
	comp=Z,39nm,18.9s,baz=332,slow=42						
CPUP	Villa Florida	12.64	80	P	Pn	06 47 35.8	-3.6
	comp=Z,0.5nm,0.3s,baz=224,slow=11,SNR=3.5						
CPUP				LR	LR	06 52 57.1	
	comp=Z,110nm,18.5s,baz=228,slow=40						
LPAZ	La Paz	13.12	13	P	Pn	06 47 49.2	+2.6
	comp=Z,0.3nm,0.3s,baz=198,slow=6.9,SNR=15						
LPAZ				LR	LR	06 54 14.8	
	comp=Z,44nm,19.1s,baz=246,slow=43						
SIV	San Ignacio	16.11	38	P	Pn	06 48 25.3	+0.2
	comp=Z,0.7nm,0.3s,baz=230,slow=12,SNR=10						
BDFB	Brasilia	25.28	63	P	P	06 50 02.2	-1.2
	comp=Z,2.4nm,0.6s,baz=198,slow=10,SNR=4.9						
USHA	Ushuaia	25.74	176	P	P	06 50 06.9	-0.2
	comp=Z,9.1nm,0.8s,baz=4.8,slow=12,SNR=3.5						
SNAA	Sanae	55.84	159	P	P	06 54 12.0	-1.2
	comp=Z,1.1nm,0.6s,baz=283,slow=11,SNR=8.5						
QSPA	South Pole Qui	61.07	180	P	P	06 54 49.4	-0.4
	comp=Z,1.1nm,0.6s,baz=72,slow=6.4,SNR=10.0						
TXAR	Lajitas Array	65.89	329	P	P	06 55 23.6	+1.6
	comp=Z,0.4nm,0.5s,baz=152,slow=9.3,SNR=9.4						
TXAR				pP	pP	06 55 39.5	+1.1
	comp=Z,0.4nm,0.6s,baz=152,slow=9.3,SNR=5.3						
DBIC	Dimbokro	73.02	72	P	P	06 56 05.5	-0.7
	comp=Z,3.0nm,0.6s,baz=223,slow=5.4,SNR=6.2						
PDAR	Pinedale Array	79.77	332	P	P	06 56 45.3	+1.2
	comp=Z,0.3nm,0.6s,baz=132,slow=7.7,SNR=2.8						
PDAR				pP	pP	06 57 01.2	+0.2
	comp=Z,0.3nm,0.5s,baz=139,slow=7.0,SNR=3.0						
BOSA	Boshof	81.73	118	P	P	06 56 54.2	-0.8
	comp=Z,4.0nm,0.7s,baz=116,slow=1.4,SNR=4.4						
TORD	Torodi Ar. Bea	81.93	70	P	P	06 56 55.2	-0.8
	comp=Z,3.3nm,0.6s,baz=275,slow=5.8,SNR=46						
TORD				pP	pP	06 57 11.7	-1.2
	comp=Z,0.9nm,0.7s,baz=250,slow=4.7,SNR=3.2						
H11S2	WAKE ISLAND Hy	126.39	272	T	T	09 22 36.6	
	baz=118,slow=73,SNR=33						
H11S1	WAKE ISLAND Hy	126.40	272	T	T	09 22 37.9	
	baz=118,slow=73,SNR=22						
H11S3	WAKE ISLAND Hy	126.41	272	T	T	09 22 38.0	
	baz=118,slow=73,SNR=39						
H11N3	WAKE ISLAND Hy	126.68	274	T	T	09 23 06.2	
	baz=107						
H11N1	WAKE ISLAND Hy	126.69	274	T	T	09 23 00.1	
	baz=107						
H11N2	WAKE ISLAND Hy	126.69	274	T	T	09 23 00.2	
	baz=107						
ZALV	Zalesovo Beam	149.71	28	PKPbc	PKPbc	07 04 25.2	+0.3
	comp=Z,3.0nm,0.5s,baz=292,slow=3.4,SNR=20						
ZALV				pPKPbc	pPKPbc	07 04 43.1	+0.5
	comp=Z,1.8nm,0.4s,baz=298,slow=3.2,SNR=6.3						
MKAR	Makanchi Array	152.89	42	PKPbc	PKPbc	07 04 32.6	0.0
	comp=Z,0.9nm,0.7s,baz=330,slow=1.7,SNR=11						
MKAR				pPKPbc	pPKPbc	07 04 50.4	+0.1
	comp=Z,0.2nm,0.3s,baz=352,slow=1.9,SNR=3.1						

ISCJB **04** 06:58:08.2±0.6, 22.4S±0.1×179.4W±0.1, h579km, mb3.9/9, Error ellipse: s-maj=16.7km s-min=10.0km az=141.8
IDC **04** 06:58:08.5±2.5, 22.26S×179.46W, h567km±27km, mb3.4/9, mb1 3.7/11, mb1mx3.5/29, mbtmp4.3/11, Error ellipse: s-maj=37.2km s-min=16.9km az=152.0
ISC 04 06:58:08.8±0.7, 22.6S±0.1×179.3W±0.1, h579km, n41, σ1.27/40, mb3.9/8, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.17	269	P	P	07 00 58.6	-1.1
	1.2nm,0.3s,baz=80,slow=18,SNR=12						
URZ	Urewera	15.93	190	P	P	07 01 27.0	+0.7
	1.8nm,0.3s,baz=262,slow=3.1,SNR=6.5						
URZ				S	S	07 04 03.6	-3.7
	0.2nm,0.3s,baz=165,slow=19,SNR=2.7						
ARMA	Armidale	27.08	247	P	P	07 03 08.6	+2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=34,SNR=4.4						
EIDS	Eidsvold	27.15	258	P	P	07 03 07.7	+0.7
	baz=34,SNR=4.8						
MGCD	Mangrove Creek	28.10	241	P	P	07 03 17.8	+2.5
	baz=35,SNR=8.1						
RMQ	Roma	29.25	256	P	P	07 03 27.1	+1.8
	baz=36,SNR=6.7						
CNB	Canberra Magne	30.06	238	P	P	07 03 34.2	+2.0
	baz=37,SNR=5.3						
CMSA	Cobar Meteorol	32.29	246	P	P	07 03 52.5	+1.2
	baz=39,SNR=37						
QLP	Quilpie	33.30	256	P	P	07 04 00.5	+0.7
	baz=40,SNR=5.4						
TOO	Toolangi	33.69	236	P	P	07 04 05.0	+2.0
	baz=40,SNR=5.4						
MTSU	Mount Surprise	34.31	271	P	P	07 04 08.4	0.0
	baz=41,SNR=5.9						
STKA	Stephens Creek	35.80	246	P	P	07 04 21.6	+1.1
	7.0nm,0.5s,baz=96,slow=9.8,SNR=18						
STKA	Stephens Creek	35.80	246	P	P	07 04 21.9	+1.3
	baz=43,SNR=15						
COEN	Coen	36.54	277	P	P	07 04 27.3	+0.5
	baz=43,SNR=6.7						
HTT	Hallett	38.19	244	P	P	07 04 41.1	+1.0
	baz=45,SNR=3.9						
BBOO	Buckleboo	40.54	245	P	P	07 04 59.5	+0.6
	baz=48,SNR=9.3						
ASAR	Alice Springs	42.87	259	P	P	07 05 17.4	0.0
	8.9nm,0.7s,baz=99,slow=7.8,SNR=87						
WRA	Warramunga Arr	43.12	265	P	P	07 05 18.6	-0.8
	5.7nm,0.6s,baz=97,slow=7.9,SNR=45						
WRA				ScP	ScP	07 09 54.8	+2.4
	1.2nm,0.9s,baz=108,slow=3.8,SNR=5.3						
KDU	Kakadu	46.80	274	P	P	07 05 46.7	-0.8
	baz=54,SNR=5.7						
WRKA	Warakurna	47.73	256	P	P	07 05 54.4	-0.1
	baz=55,SNR=52						
KNRA	Kununurra	49.32	268	P	P	07 06 05.9	-0.3
	baz=56,SNR=9.3						
PETK	Petropavlovsk-	77.97	346	P	P	07 09 06.7	-1.0
	2.5nm,0.6s,baz=128,slow=9.6,SNR=4.1						
NVAR	Mina Array Bea	83.38	44	P	P	07 09 37.0	+0.8
	1.8nm,0.9s,baz=227,slow=8.4,SNR=10						
TXAR	Lajitas Array	89.21	58	P	P	07 10 05.5	+1.4
	1.4nm,0.9s,baz=216,slow=5.4,SNR=14						
ILAR	Eielson Array	90.61	13	P	P	07 10 08.2	-1.4
	0.7nm,0.9s,baz=233,slow=6.1,SNR=5.6						
PDAR	Pinedale Array	91.32	44	P	P	07 10 13.7	0.0
	1.0nm,0.9s,baz=194,slow=3.1,SNR=6.9						
YKA	Yellowknife Ar	98.91	25	P	Pdif	07 10 45.7	-1.4
	0.1nm,0.7s,baz=249,slow=5.2,SNR=2.7						
KURBB	Kurchatov Arra	114.71	317	PKP	PKPdf	07 15 42.7	-1.2
	0.3nm,0.5s,baz=115,slow=1.8,SNR=4.8						
BVAR	Borovoye Array	119.85	319	PKP	PKPdf	07 15 52.7	-1.0
	1.4nm,0.4s,baz=113,slow=2.6,SNR=7.5						
ARCES	ARCESS Array B	130.72	349	PKP	PKPdf	07 16 14.3	+0.3
	6.0nm,1.1s,baz=20,slow=0.9,SNR=5.9						
FINES	FINESS Array B	137.39	342	PKP	PKPdf	07 16 25.9	-0.8
	1.4nm,0.8s,baz=183,slow=3.8,SNR=3.9						
AKASG	Malin Array Be	144.18	329	PKP	PKPbc	07 16 37.8	-1.1
	1.8nm,0.4s,baz=44,slow=4.1,SNR=28						
BRTR	Keskin Array B	147.25	309	PKPbc	PKPbc	07 16 47.5	-0.7
	1.2nm,0.6s,baz=134,slow=5.4,SNR=5.3						
UPC	Upice	149.65	340	eP	PKPbc	07 16 53.8	+0.2
DPC	Dobruska-Polom	149.69	340	eP	PKPbc	07 16 54.2	+0.5
CLL	Collm	149.76	345	⇑iPKPbc	PKPbc	07 16 53.9	+0.1
	comp=Z,10.0nm,0.5s						
CLL				e		07 17 08.0	
KRLC	Kraliky	149.78	339	eP	PKPbc	07 16 54.3	+0.3
BRG	Berggiesshubel	149.92	343	i PKP	PKPbc	07 16 54.5	+0.3
	comp=Z,7.9nm,0.5s						
PVCC	Panska Ves	150.05	342	eP	PKPbc	07 16 55.0	+0.5
KHC	Kasperske Hory	151.59	342	eP	PKPbc	07 16 57.9	-0.3
GERES	GERESS Array B	151.81	342	PKPbc	PKPbc	07 16 58.7	0.0
	comp=Z,1.1nm,0.6s,baz=5.7,slow=2.7,SNR=7.7						

IDC 04 07:08:12.4±1.5, 53.76N×163.00W, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/43, mbtmp3.6/9, Error ellipse: s-maj=47.8km s-min=19.3km az=17.0
ISCJB 04 07:08:14.7±0.7, 53.57N±0.06×162.77W±0.06, h32km, mb3.6/8, Error ellipse: s-maj=8.2km s-min=5.3km az=169.4
NEIC 04 07:08:14.0, 53.54N×162.74W, h27km, ML3.3(AEIC), After AEIC.
ISC 04 07:08:15.9±0.8, 53.60N±0.07×163.09W±0.06, h32km, n37, σ1§56/33, mb3.8/8, Unimak Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WESE	West Dahl East	1.25	315	P	Pb	07 08 38.0	-0.9
FALS	False Pass	1.28	351	P	Pb	07 08 37.4	-2.0
FALS				S	Sb	07 08 54.7	-0.7
ISNN	Isanotski Nort	1.30	342	P	Pb	07 08 38.8	-1.0
WESN	West Dahl Nort	1.31	318	P	Pb	07 08 39.2	-0.7
SSLW	Shishaldin Wes	1.33	333	P	Pb	07 08 38.8	-1.4
SSBA	Shishaldin	1.33	333	P	Pb	07 08 38.7	-1.5
SSBA				S	Sb	07 08 58.9	+2.0
SSLN	Shishaldin Nor	1.33	337	P	Pb	07 08 39.7	-0.5
DRIA	Deer Island	1.46	19	P	Pn	07 08 37.9	-2.1
DT1	Dutton Round H	1.59	17	P	Pn	07 08 39.9	-1.8
DTNA	Dutton South F	1.63	17	P	Pn	07 08 41.0	-1.3
AKSA	Akutan Strait	1.64	290	P	Pb	07 08 44.0	-1.5
AKSA				S	Sb	07 09 06.8	+1.2
AKUT	Akutan	1.68	290	P	Pb	07 08 44.7	-1.4
AKUT				S	Sb	07 09 08.9	+2.0
AHB	Akutan Harbor	1.70	289	P	Pb	07 08 45.0	-1.5
ZRO	Akutan Zero	1.78	287	P	Pb	07 08 46.8	-1.2
HAG	Hague Volcano	1.86	21	P	Pn	07 08 44.8	-0.7
PS4A	Pavlof South-4	1.90	22	P	Pn	07 08 45.3	-0.6
UNV	Unalaska Valle	2.04	278	P	Pb	07 08 50.0	-2.3
MREP	Makushin Rep't	2.19	277	P	Pb	07 08 52.4	-2.4
MSW	Makushin Switc	2.22	280	P	Pb	07 08 52.1	-3.1
MCIR	Makushin Cirqu	2.29	280	P	Pb	07 08 54.5	-2.0
SDPT	Sand Point	2.33	40	P	Pn	07 08 50.5	-1.3
OKFG	Magazine Ridge	2.89	268	P	Pb	07 09 02.8	-3.9
INK	Inuvik	20.26	32	P	P	07 12 46.6	-1.5
	0.7nm,0.6s,baz=252,slow=11,SNR=5.8						
YKA	Yellowknife Ar	26.54	51	P	P	07 13 51.2	+0.9
	0.4nm,0.6s,baz=266,slow=8.6,SNR=9.3						
NVAR	Mina Array Bea	33.97	98	P	P	07 14 57.8	+1.3
	0.7nm,0.7s,baz=296,slow=9.4,SNR=6.9						
H11N2	WAKE ISLAND Hy	40.92	226	T	T	07 59 52.8	
	baz=29,slow=76,SNR=8.2						
H11N3	WAKE ISLAND Hy	40.92	226	T	T	07 59 53.7	
	baz=29,slow=76,SNR=13						
H11N1	WAKE ISLAND Hy	40.94	226	T	T	07 59 56.3	
	baz=29,slow=76,SNR=11						
H11S1	WAKE ISLAND Hy	42.09	225	T	T	08 01 27.0	
	baz=26,slow=77,SNR=16						
H11S2	WAKE ISLAND Hy	42.10	225	T	T	08 01 26.9	
	baz=26,slow=77,SNR=8.2						
H11S3	WAKE ISLAND Hy	42.10	225	T	T	08 01 27.1	
	baz=26,slow=77,SNR=5.1						
TXAR	Lajitas Array	48.99	95	P	P	07 16 59.9	+0.5
	0.7nm,0.5s,baz=298,slow=5.2,SNR=18						
SONM	Songino Array	53.86	303	P	P	07 17 37.1	+1.5
	0.8nm,0.5s,baz=52,slow=8.4,SNR=5.5						
KURBB	Kurchatov Arra	63.99	321	P	P	07 18 47.9	+2.2
	0.3nm,0.2s,baz=36,slow=6.5,SNR=5.0						
BVAR	Borovoye Array	64.81	328	P	P	07 18 52.0	+1.0
	0.4nm,0.5s,baz=32,slow=7.5,SNR=8						
MKAR	Makanchi Array	65.62	317	P	P	07 18 56.6	+0.2
	0.2nm,0.7s,baz=41,slow=6.1,SNR=3.1						
AKASG	Malin Array Be	75.56	352	P	P	07 19 56.3	-0.5
	0.2nm,0.3s,baz=9.3,slow=5.1,SNR=3.2						

SJA 04 07:17:07.2±1.8, 29.41S×71.34W, h70km±31km, ML3.0, MW3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LCO	Las Campanas	0.69	55	i P	Pn	07 17 22.9	+0.5
LCO				eS	Sn	07 17 34.7	+1.2
AGUA	GUANDACOL	2.49	92	i P	Pn	07 17 49.4	+3.8
AMOG	MOGNA	2.90	122	i P	Pn	07 17 54.2	+3.1
RTLS	Leoncito	2.96	144	i P	Pn	07 17 54.5	+2.2
RTLL	Cerro Villicun	3.13	128	i P	Pn	07 17 55.9	+1.7
AUSP	Uspallata	3.27	150	i P	Pn	07 17 58.6	+2.1
CFAA	Coronel Fontan	3.46	130	i P	Pn	07 18 00.4	+1.7
AVFE	Valle Fertil	3.59	111	i P	Pn	07 18 02.1	+1.5
AVFE				eS	Sn	07 18 43.2	+1.3
AVFE				AML	AML	07 18 44.2	
	comp=Z,27nm,0.3s						
ASAL	Salagasta	3.83	146	i P	Pn	07 18 06.3	+2.4
ACLC	CERRO LA CRUZ	3.83	91	i P	Pn	07 18 05.8	+1.8

CASC 04 07:23:45.0±1.3, 14.03N×92.16W, h44km±33km, MD3.8, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JAT	Jato	0.58	61	⇓eP	Pn	07 23 58.0	+1.0
JAT				eS	Sn	07 24 05.7	+0.2
RTR	El Retiro	2.45	93	i P	Pn	07 24 23.2	+0.5
RTR				eS	Sn	07 24 52.7	+1.1
SBLS	San Blas	2.47	94	i P	Pn	07 24 23.0	-0.1
SBLS				eS	Sn	07 24 53.4	+1.0
SNJE	San Jose	2.49	93	i P	Pn	07 24 23.6	+0.3
MRL	Marmol	2.60	66	eP	Pn	07 24 26.1	+1.3
LFRS	El Faro	3.04	97	i P	Pn	07 24 30.9	+0.2
LFRS				eS	Sn	07 25 06.8	+0.7

IDC 04 07:24:26.6±2.8, 53.53N×87.46E, h0km, mb1 3.0/2, mb1mx2.9/30, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=25.4km s-min=14.6km az=65.0
ISC 04 07:24:26.6±4.2, 53.7N±0.1×87.9E±0.2, h35km, n6, σ1§13/8, 5C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
I46RU	ZALESOVO INFRA	1.83	279	i		07 33 37.0	
	baz=106,slow=344,SNR=3.5						
ZALV	Zalesovo Beam	1.83	279	Pn	Pn	07 24 55.5	0.0
	3.6nm,0.3s,baz=105,slow=17,SNR=27						
ZALV				Lg	Lg	07 25 18.3	
	2.3nm,0.3s,baz=116,slow=28,SNR=9.0						
KUR14	Kurchatov Arra	6.50	245	⇑Pn	Pn	07 25 58.4	-1.2
	0.3nm,0.5s						
KUR14				⇑Sn	Sn	07 27 13.4	+1.0
	0.1nm,0.5s						
KUR14				⇑Lg	Lg	07 27 41.8	
	1.1nm,0.8s						
KURBB	Kurchatov Arra	6.53	246	Pn	Pn	07 26 00.3	+0.3
	0.4nm,0.3s,baz=62,slow=14,SNR=5.8						
KURBB				Lg	Lg	07 27 43.6	
	0.2nm,0.3s,baz=62,slow=33,SNR=6.7						
MK31	Makanchi Array	7.78	210	⇑Pn	Pn	07 26 17.1	-0.2
	0.5nm,0.6s,baz=26,slow=13,SNR=11						
MK31				⇓Sn	Sn	07 27 42.5	-1.6
	0.5nm,0.7s,baz=22,slow=19						
MK31				⇑Lg	Lg	07 28 19.2	
	1.1nm,0.6s,baz=24,slow=30,SNR=3.7						
MKAR	Makanchi Array	7.78	210	Pn	Pn	07 26 18.3	+1.1
	0.1nm,0.3s,baz=26,slow=12,SNR=9.4						
MKAR				Sn	Sn	07 27 44.5	+0.4
	0.1nm,0.3s,baz=27,slow=23,SNR=3.7						
MKAR				Lg	Lg	07 28 22.6	
	0.1nm,0.3s,baz=24,slow=28,SNR=7.5						

IDC 04 07:37:20.4±0.9, 50.06N×158.70E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.5/45, mbtmp3.8/8, ML3.2/2, Error ellipse: s-maj=24.6km s-min=16.8km az=156.0
ISCJB 04 07:37:23.3±0.7, 50.23N±0.04×159.04E±0.08, h30km, mb3.8/6, Error ellipse: s-maj=7.5km s-min=5.0km az=2.0
KRSC 04 07:37:23.8±1.7, 50.30N×158.99E, h79km±31km, ML4.0
MOS 04 07:37:23.2±1.9, 50.17N×158.85E, h43km, mb4.2/1, Error ellipse: s-maj=24.0km s-min=11.4km az=91.0
ISC 04 07:37:24.3±0.9, 50.19N±0.06×158.78E±0.06, h30km, n38, σ1§23/50, mb3.6/6, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SKR	Severo-Kuril's	1.77	287	⇓iPN	Pn	07 37 49.5	-3.4
SKR				eS	Sn	07 38 11.5	-2.9
SKR				pmax	pmax		
	comp=E,180nm,0.4s						
SKR				pmax	pmax		
	comp=Z,570nm,0.4s						
SKR				pmax	pmax		
	comp=N,110nm,0.3s						
SKR				smax	smax		
	comp=N,770nm,0.5s						
SKR				smax	smax		
	comp=E,590nm,0.4s						
SKR	Severo-Kuril's	1.77	287	P	Pb	07 37 54.9	-1.2
SKR				S	Sb	07 38 17.0	-0.9
PAU	Pauzhetka	1.79	317	P	Pb	07 37 54.9	-1.5
PAU				S	Sb	07 38 17.2	-1.1
RUS	Russkaya	2.25	356	PN	Pn	07 37 59.8	+0.2
RUS				S	Sn	07 38 24.2	-2.1
RUS	Russkaya	2.25	356	P	Pn	07 37 59.7	+0.2
RUS				S	Sn	07 38 24.6	-1.7
ASAK	Asacha	2.27	346	P	Pn	07 38 00.8	+1.0
ASAK				S	Sn	07 38 26.7	0.0
MTVR	Mutnovka	2.33	351	P	Pn	07 38 01.4	+0.7
MTVR				S	Sn	07 38 27.9	-0.5
MIPR	Malaya Ipel'ka	2.44	330	P	Pn	07 38 04.1	+1.9
MIPR				S	Sn	07 38 32.8	+1.7
PET	Petropavlovsk	2.84	359	ePN	Pn	07 38 07.8	+0.2
PET				eS	Sn	07 38 39.5	-1.3
PET				pmax	pmax		
	comp=Z,33nm,0.3s						
PET				smax	smax		
	comp=N,158nm,0.4s						
PET	Petropavlovsk	2.84	359	P	Pn	07 38 07.8	+0.2
PET				S	Sn	07 38 39.5	-1.3
APC	Apacha	2.92	340	P	Pn	07 38 10.3	+1.6
APC				S	Sn	07 38 43.6	+0.9
PETK	Petropavlovsk-	3.00	348	PN	Pn	07 38 11.4	+1.6
PETK						07 38 47.0	
PETK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PETK				smax	smax		
	comp=N,6.0nm,0.3s						
PETK	Petropavlovsk-	3.00	348	Pn	Pn	07 38 11.3	+1.6
	comp=N,7.8nm,0.3s,baz=118,slow=18,SNR=55						
PETK				Sn	Sn	07 38 47.0	+2.3
	comp=N,5.9nm,0.3s,baz=150,slow=24,SNR=5.2						
UGLR	Uglovaya	3.03	1	P	Pn	07 38 11.2	+0.9
UGLR				S	Sn	07 38 44.5	-1.0
SMAR	Somma	3.08	0	P	Pn	07 38 11.8	+0.7
SMAR				S	Sn	07 38 45.8	-1.2
AVH	Avacha	3.08	360	P	Pn	07 38 12.0	+1.0
AVH				S	Sn	07 38 46.1	-0.7
KOK	Koryaka	3.11	358	P	Pn	07 38 12.5	+1.1
KOK				S	Sn	07 38 47.2	-0.4
KRER	Koryakskii	3.12	360	P	Pn	07 38 12.6	+1.0
KRER				S	Sn	07 38 46.9	-1.1
KRX	Arik	3.18	359	P	Pn	07 38 12.7	+0.3
KRX				S	Sn	07 38 47.9	-1.4
GNL	Ganaly	3.55	352	P	Pn	07 38 18.6	+1.1
GNL				S	Sn	07 38 58.3	-0.1
TUMR	Tumrok	5.17	9	P	Pn	07 38 41.0	+1.3
TUMR				S	Sn	07 39 37.7	-0.7
KBTR	Krutoberegovo	6.50	20	PN	Pn	07 38 58.0	+0.2
BKI	Bering	6.66	38	S	Sn	07 40 07.5	-7.3
FX1	Attu Island--F	9.37	68	PN	Pn	07 39 36.0	-1.1
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	Attu Island--F	9.37	68	Pn	Pn	07 39 36.0	-1.1
	comp=Z,1.1nm,0.3s,baz=330,slow=8.9,SNR=7.1						
FX1				Sn	Sn	07 41 13.6	-7.8
	comp=Z,14nm,0.3s,baz=10,slow=22,SNR=15						
H11N2	WAKE ISLAND Hy	31.07	165	T	T	08 17 58.9	
	baz=355,slow=74,SNR=6.2						
H11N3	WAKE ISLAND Hy	31.09	165	T	T	08 17 53.9	
	baz=355,slow=74,SNR=4.6						
H11N1	WAKE ISLAND Hy	31.09	165	T	T	08 17 53.0	
	baz=355						
H11S1	WAKE ISLAND Hy	32.24	166	T	T	08 19 22.9	
	baz=353						
H11S3	WAKE ISLAND Hy	32.25	166	T	T	08 19 20.5	
	baz=353						
H11S2	WAKE ISLAND Hy	32.26	166	T	T	08 19 23.0	
	baz=353						
KURK	Kurchatov	48.61	303	P	P	07 46 06.6	+1.8
KURBB	Kurchatov Arra	48.71	303	P	P	07 46 06.6	+1.0
	comp=Z,0.3nm,0.4s,baz=58,slow=7.3,SNR=3.8						
MKAR	Makanchi Array	48.72	297	P	P	07 46 05.6	-0.2
	comp=Z,0.1nm,0.5s,baz=56,slow=6.9,SNR=4.5						
SPITS	Spitsbergen Ar	49.87	351	P	P	07 46 15.1	+0.9
	comp=Z,9.6nm,1.1s,baz=45,slow=12,SNR=8.7						
CMAR	Chiang Mai Arr	56.79	259	P	P	07 47 06.5	+0.7
	comp=Z,1.6nm,0.3s,baz=22,slow=7.8,SNR=2.9						
WRA	Warramunga Arr	73.09	204	P	P	07 48 50.2	-1.3
	comp=Z,0.4nm,0.6s,baz=19,slow=6.0,SNR=5.0						
ASAR	Alice Springs	76.76	203	P	P	07 49 13.8	+1.1
	comp=Z,0.3nm,0.7s,baz=2.0,slow=7.8,SNR=4.1						

IDC 04 07:40:49.0±2.1, 18.09N×81.82W, h0km, mb3.3/3, mb1 3.8/4, mb1mx3.4/30, mbtmp3.5/4, ML3.9/1, MS2.9/4, Ms1 2.9/4, ms1mx2.6/15, Error ellipse: s-maj=61.9km s-min=41.5km az=57.0
ISC 04 07:40:52.7±1.8, 18.0N±0.3×82.1W±0.2, h21km, n10, σ1§61/7, North of Honduras

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TEIG	Tepich	6.26	292	Pn	Pn	07 42 23.7	-0.2
	2.6nm,0.3s,baz=247,slow=1.8,SNR=58						
TEIG				Sn	Sn	07 43 33.6	-1.1
	baz=345,slow=20,SNR=2.7						
JTS	JuntasAbangare	8.17	200	LR	LR	07 46 12.3	
	comp=Z,83nm,19.6s,baz=36,slow=39						
APG	El Apazote	8.58	251	LR	LR	07 46 04.2	
	comp=Z,41nm,18.7s,baz=84,slow=36						
SJG	San Juan	15.15	87	LR	LR	07 49 54.8	
	comp=Z,45nm,21.0s,baz=270,slow=37						
TXAR	Lajitas Array	22.71	304	P	P	07 45 55.7	+2.3
	0.6nm,0.8s,baz=123,slow=9.1,SNR=6.8						
SADO	Sadowa	26.79	5	LR	LR	07 55 43.0	
	comp=Z,46nm,21.9s,baz=345,slow=34						
PDAR	Pinedale Array	33.94	323	P	P	07 47 35.8	+1.1
	0.8nm,0.9s,baz=138,slow=9.1,SNR=4.6						
YKA	Yellowknife Ar	49.85	341	P	P	07 49 42.6	-1.5
	0.0nm,0.5s,baz=136,slow=8.1,SNR=4.2						
WRA	Warramunga Arr	145.55	261	PKPbc	PKPdf	08 00 29.4	-0.8
	0.7nm,0.7s,baz=84,slow=3.4,SNR=8.4						
ASAR	Alice Springs	145.97	254	PKPbc	PKPab	08 00 32.2	+0.1
	1.1nm,0.8s,baz=86,slow=3.9,SNR=7.1						

IDC 04 07:47:30.6±2.5, 54.12N×86.45E, h0km, mb1 3.0/2, mb1mx2.9/30, mbtmp3.0/2, ML3.0/2, Error ellipse: s-maj=21.0km s-min=12.5km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
I46RU	ZALESOVO INFRA	0.98	260	i		07 53 10.0	
	baz=81,slow=341,SNR=6.9						
ZALV	Zalesovo Beam	0.98	260	Pg	Pg	07 47 48.0	-1.3
	1.0nm,0.3s,baz=78,slow=16,SNR=15						
ZALV				Lg	Lg	07 48 03.5	
	1.8nm,0.3s,baz=78,slow=31,SNR=12						
KURBB	Kurchatov Arra	5.98	237	Pn	Pn	07 49 01.1	+0.8
	0.4nm,0.3s,baz=54,slow=13,SNR=12						
MKAR	Makanchi Array	7.80	202	Pn	Pn	07 49 26.4	+1.0
	0.2nm,0.3s,baz=24,slow=14,SNR=16						

MEX 04 08:40:22.5±0.4, 15.99N×96.41W, h16km±5km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HUIG	Huatulco	0.36	128	i P	Pg	08 40 28.6	-1.4
HUIG				eS	Sg	08 40 33.8	-1.3
VHO	Vista Hermosa	1.12	344	eP	Pb	08 40 37.9	-5.9
PNIG	Pinotepa	1.70	284	eP	Pn	08 40 48.4	-3.2
PNIG				i S	Sn	08 41 07.9	-5.2
CMIG	Matias Romero	1.82	53	eP	Pn	08 40 50.0	-3.2
CMIG				eS	Sn	08 41 11.0	-5.0
TPIG	Tehuac#an	2.58	339	i P	Pn	08 41 03.7	-0.2
TPIG				eS	Sn	08 41 30.0	-5.2

NIED 04 08:41:00, 31.30N×132.00E, h23km, Mw4.3 Best double couple: M0 3.18000×10^15 NP1: φs 202.00000°, δ43.00000°, λ108.00000°. NP2: φs 358.00000°, δ49.00000°, λ74.00000°.
JMA 04 08:41:38.3±0.2, 31.28N×131.97E, h24km±2km, M4.2 JMA Felt I J1.
ISCJB 04 08:41:40.2±0.9, 31.33N±0.05×131.86E±0.08, h47km±7km, mb3.8/15, MS3.6/6, Error ellipse: s-maj=11.3km s-min=7.0km az=19.5
IDC 04 08:41:41.5±0.8, 31.38N×131.60E, h37km±6km, mb3.7/15, mb1 3.8/17, mb1mx3.8/29, mbtmp3.8/17, ML3.1/1, MS3.6/9, Ms1 3.6/9, ms1mx3.2/31, Error ellipse: s-maj=19.1km s-min=13.9km az=75.0
ISC 04 08:41:40.6±1.1, 31.33N±0.05×131.82E±0.06, h32km±7km, n29, σ1§16/34, mb3.9/15, MS3.7/6, 5C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JNAR	Kushima--Naru	0.51	293	⇓P	Pb	08 41 50.7	-0.5
JNAR				S	Sb	08 41 59.6	+1.1
JTSR	Tashiro 2	0.78	259	⇑P	Pb	08 41 55.0	-0.8
JTSR				eS	Sb	08 42 07.4	+1.2
JTZ	Takazaki	0.85	313	⇑P	Pn	08 41 55.7	-0.6
JTZ				S	Sn	08 42 09.4	+1.7
JTSN	Tsuno	0.96	344	⇑P	Pn	08 41 57.2	-0.6
JTSN				eS	Sn	08 42 11.3	+0.9
JTN	Tanegashima 3	0.98	227	⇑P	Pb	08 41 58.0	-1.1
JTN				eS	Sn	08 42 12.2	+1.2
JSU	Suzuyama	1.18	279	⇑P	Pn	08 42 01.0	+0.1
JSU				eS	Sn	08 42 17.6	+1.7
JZO	Okuchi	1.32	308	P	Pn	08 42 02.8	0.0
JZO				eS	Sn	08 42 21.3	+1.9
JNU	Nakatsue	1.96	336	Pn	Pn	08 42 12.1	+0.4
	13nm,0.3s,baz=126,slow=1.2,SNR=118						
JNU				Sn	Sb	08 42 39.9	+0.1
	42nm,0.3s,baz=46,slow=23,SNR=10.0						
KSRS	Korea Array	6.91	333	Pn	Pn	08 43 20.3	+0.6
	baz=149,slow=14,SNR=3.3						
KSRS				LR	LR	08 46 27.2	
	comp=Z,327nm,18.9s,baz=149,slow=42						
MJAR	Matsushiro Arr	7.43	44	Pn	Pn	08 43 27.1	+0.2
	0.3nm,0.3s,baz=240,slow=16,SNR=3.2						
JCJ	Chichijima	9.99	112	LR	LR	08 47 41.7	
	comp=Z,205nm,18.3s,baz=339,slow=35						
USRK	Ussuriysk Arra	12.85	1	LR	LR	08 49 32.2	
	comp=Z,99nm,18.6s,baz=179,slow=37						
SONM	Songino Array	25.44	318	P	P	08 47 04.8	-0.8
	2.3nm,0.9s,baz=132,slow=9.4,SNR=12						
PETK	Petropavlovsk-	28.73	33	LR	LR	08 59 43.9	
	comp=Z,49nm,18.3s,baz=160,slow=38						
CMAR	Chiang Mai Arr	32.33	254	P	P	08 48 06.9	-0.1
	0.9nm,0.3s,baz=54,slow=7.0,SNR=6.1						
CMAR				LR	LR	09 03 50.2	
	comp=Z,96nm,18.4s,baz=110,slow=41						
ZALV	Zalesovo Beam	40.33	318	LR	LR	09 07 40.7	
	comp=Z,92nm,18.6s,baz=72,slow=39						
MKAR	Makanchi Array	40.75	307	P	P	08 49 17.4	-1.2
	1.0nm,0.8s,baz=98,slow=9.3,SNR=10						
KURBB	Kurchatov Arra	43.56	312	P	P	08 49 40.1	-1.2
	0.8nm,0.6s,baz=98,slow=8.8,SNR=6.5						
WRA	Warramunga Arr	51.03	177	P	P	08 50 39.7	-0.1
	2.3nm,0.8s,baz=350,slow=7.9,SNR=13						
ASAR	Alice Springs	54.72	178	P	P	08 51 07.8	+0.9
	1.8nm,0.8s,baz=13,slow=12,SNR=14						
ILAR	Eielson Array	58.47	30	P	P	08 51 33.8	+0.6
	0.4nm,0.7s,baz=270,slow=5.5,SNR=8.3						
STKA	Stephens Creek	63.54	171	P	P	08 52 08.8	+1.0
	1.6nm,0.5s,baz=335,slow=5.8,SNR=7.2						
FINES	FINESS Array B	69.99	331	P	P	08 52 46.7	-2.0
	1.7nm,0.9s,baz=41,slow=6.1,SNR=4.3						
FINES				pP	pP	08 52 58.6	0.0
	3.4nm,1.0s,baz=92,slow=5.7,SNR=2.8						
FINES				LR	LR	09 27 42.4	
	comp=Z,64nm,18.7s,baz=89,slow=40						
YKA	Yellowknife Ar	72.59	26	P	P	08 53 05.2	+0.9
	0.4nm,0.9s,baz=300,slow=6.0,SNR=7.7						
YKA				pP	PcP	08 53 16.3	-5.5
	0.2nm,0.6s,baz=306,slow=5.2,SNR=4.9						
AKASG	Malin Array Be	73.70	320	P	P	08 53 09.0	-2.2
	0.2nm,0.4s,baz=55,slow=6.0,SNR=4.0						
AKASG				LR	LR	09 28 37.7	
	comp=Z,45nm,18.9s,baz=320,slow=38						
NOA	NORSAR Array B	76.12	334	P	P	08 53 23.1	-1.9
	0.7nm,0.6s,baz=48,slow=5.6,SNR=2.9						
NOA				LR	LR	09 30 23.4	
	comp=Z,56nm,18.0s,baz=350,slow=38						
NVAR	Mina Array Bea	84.74	48	P	P	08 54 13.0	+1.0
	0.7nm,0.7s,baz=304,slow=4.7,SNR=6.8						
PDAR	Pinedale Array	87.24	40	P	P	08 54 25.4	+1.1
	0.4nm,0.7s,baz=318,slow=2.0,SNR=3.5						
ULM	Lac du Bonnet	88.46	28	P	P	08 54 30.7	+1.1
	1.0nm,0.6s,baz=246,slow=7.1,SNR=3.1						

ULM pP pP 08 54 41.6 +1.8
1.4nm,0.7s,baz=226,slow=5.0,SNR=3.0

*ISCJB **04** 09:07:52.4±1.0, 1°.0S±0°.2×100°.1E±0°.3, h57km, mb4.0/10, Error ellipse: s-maj=45.5km s-min=12.4km az=147.0*
*IDC **04** 09:07:58.5±3.6, 0°.93S×100°.20E, h98km±30km, mb3.7/10, mb1 3.8/12, mb1mx3.6/32, mbtmp4.0/12, MS2.6/1, Ms1 2.6/1, ms1mx2.3/41, Error ellipse: s-maj=55.6km s-min=13.7km az=53.0*
ISC 04 09:07:53.8±1.2, 1°.1S±0°.2×100°.1E±0°.3, h57km, n16, σ1§29/13, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.03**	**344**	P	**Pn**	**09 08 55.1**	**+2.0**
	9.9nm,0.3s,baz=133,slow=12,SNR=22						
PSI				LR	LR	09 10 30.6	
	comp=Z,76nm,20.4s,baz=24,slow=40						
CMAR	**Chiang Mai Arr**	**19.46**	**357**	P	**P**	**09 12 16.8**	**+0.8**
	0.6nm,0.3s,baz=184,slow=10,SNR=6.1						
H08S2	**Diego Garcia H**	**28.24**	**256**	T	T	09 41 50.8	
	baz=78,slow=74,SNR=9.9						
H08S3	**Diego Garcia H**	**28.24**	**256**	T	T	09 41 51.3	
	baz=78,slow=74,SNR=11						
H08S1	**Diego Garcia H**	**28.26**	**256**	T	T	09 42 31.2	
	baz=78,SNR=4.6						
WRA	**Warramunga Arr**	**38.40**	**121**	P	**P**	**09 15 10.0**	**0.0**
	0.7nm,0.4s,baz=302,slow=9.0,SNR=7.6						
ASAR	**Alice Springs**	**39.73**	**127**	P	**P**	**09 15 22.0**	**+0.8**
	0.8nm,0.4s,baz=302,slow=7.8,SNR=14						
SONM	**Songino Array**	**49.04**	**6**	P	**P**	**09 16 32.7**	**-2.5**
	0.5nm,0.5s,baz=190,slow=8.4,SNR=4.6						
SONM				PcP	**PcP**	**09 17 57.4**	**-0.8**
	0.2nm,0.4s,baz=186,slow=3.5,SNR=2.7						
AAK	**Ala-Archa**	**49.25**	**335**	P	**P**	**09 16 38.1**	**+1.2**
	1.5nm,0.6s,baz=114,slow=5.1,SNR=5.3						
STKA	**Stephens Creek**	**49.70**	**132**	P	**P**	**09 16 41.2**	**+0.8**
	1.5nm,0.4s,baz=319,slow=6.9,SNR=5.0						
MKAR	**Makanchi Array**	**50.18**	**344**	P	**P**	**09 16 43.4**	**-0.4**
	0.9nm,0.3s,baz=154,slow=8.0,SNR=49						
ZALV	**Zalesovo Beam**	**56.30**	**349**	P	**P**	**09 17 27.4**	**-1.0**
	0.7nm,0.3s,baz=153,slow=7.2,SNR=9.6						
BRTR	**Keskin Array B**	**72.77**	**312**	P	**P**	**09 19 15.5**	**-1.0**
	0.9nm,0.9s,baz=112,slow=4.1,SNR=2.6						
FINES	**FINESS Array B**	**83.35**	**332**	P	**P**	**09 20 14.7**	**+0.3**
	1.5nm,0.8s,baz=111,slow=4.3,SNR=4.3						
ARCES	**ARCESS Array B**	**85.65**	**340**	P	**P**	**09 20 26.1**	**+0.1**
	1.7nm,0.7s,baz=95,slow=4.2,SNR=8.2						
TXAR	**Lajitas Array**	**143.94**	**37**	PKP	PKPbc	09 27 21.7	+0.1
	0.2nm,0.5s,baz=317,slow=1.2,SNR=5.0						

IDC 04 09:13:59.6±4.4, 9°.95S×116°.53E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/27, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=306.9km s-min=26.7km az=48.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.85**	**122**	P	Pn	09 18 33.6	-0.3
	0.1nm,0.3s,baz=305,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**21.47**	**132**	P	P	09 18 49.0	-1.0
	0.3nm,0.5s,baz=312,slow=10,SNR=6.7						
MKAR	**Makanchi Array**	**64.22**	**335**	P	P	09 24 36.4	0.0
	0.2nm,0.3s,baz=146,slow=6.1,SNR=7.4						

IDC 04 09:44:11.8±1.5, 2°.95N×128°.49E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/40, mbtmp3.6/5, Error ellipse: s-maj=163.7km s-min=19.7km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.46**	**166**	P	P	09 49 24.3	+1.1
	0.6nm,0.4s,baz=346,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**26.98**	**169**	P	P	09 49 55.1	-0.3
	0.2nm,0.3s,baz=350,slow=9.6,SNR=9.6						
STKA	**Stephens Creek**	**36.80**	**161**	P	P	09 51 20.6	-1.0
	2.0nm,0.8s,baz=338,slow=8.7,SNR=4.5						
SONM	**Songino Array**	**48.61**	**340**	P	P	09 52 57.4	0.0
	0.2nm,0.5s,baz=133,slow=6.3,SNR=2.6						
MKAR	**Makanchi Array**	**59.20**	**325**	P	P	09 54 14.9	+0.1
	0.4nm,0.5s,baz=137,slow=7.4,SNR=4.5						

*ISCJB **04** 09:54:55.5±0.6, 14°.92S±0°.06×167°.33E±0°.09, h129km, mb4.1/14, Error ellipse: s-maj=12.2km s-min=9.0km az=7.2*
*NEIC **04** 09:54:56.8±2.2, 14°.87S×167°.31E, h133km±19km, mb4.5/2, Error ellipse: s-maj=14.9km s-min=11.4km az=187.0*
*IDC **04** 09:54:56.3±0.9, 14°.88S×167°.31E, h126km±7km, mb3.8/13, mb1 4.0/14, mb1mx3.7/36, mbtmp4.2/14, Error ellipse: s-maj=17.8km s-min=12.6km az=101.0*
ISC 04 09:54:56.4±0.6, 14°.90S±0°.08×167°.4E±0°.1, h129km, n46, σ1§21/49, mb4.2/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.19**	**187**	P	**Pn**	**09 56 39.4**	**+0.3**
	10nm,0.3s,baz=180,slow=22,SNR=86						
DZM				S	**Sn**	**09 57 57.0**	**-2.4**
	1.0nm,0.3s,baz=0.0,slow=20,SNR=1.4						
EIDS	**Eidsvold**	**18.50**	**233**	eP	**P**	**09 59 02.9**	**+0.2**
EIDS	**Eidsvold**	**18.50**	**233**	P	**Pn**	**09 59 05.1**	**+0.7**
	baz=18,SNR=4.3						
CTA	**Charters Tower**	**20.80**	**253**	P	**P**	**09 59 27.0**	**-0.6**
	2.3nm,0.6s,baz=87,slow=13,SNR=4.8						
CTAO	**Charters Tower**	**20.80**	**253**	eP	**P**	**09 59 27.7**	**0.0**
RMQ	**Roma**	**20.86**	**233**	P	**P**	**09 59 30.1**	**+1.8**
	baz=20,SNR=14						
RMQ				S	S	10 02 56.9	-17
	baz=20,SNR=5.1						
ARMA	**Armidale**	**21.18**	**220**	eP	**P**	**09 59 31.8**	**+0.1**
ARMA	**Armidale**	**21.18**	**220**	P	**P**	**09 59 35.5**	**+3.8**
	baz=20,SNR=5.6						
MTSU	**Mount Surprise**	**22.35**	**259**	P	**P**	**09 59 44.8**	**+0.8**
	baz=22,SNR=5.9						
MGCD	**Mangrove Creek**	**23.46**	**216**	P	**P**	**09 59 56.5**	**+2.1**
	baz=22,SNR=7.1						
QLP	**Quilpie**	**24.53**	**238**	P	**P**	**10 00 05.0**	**+0.9**
	baz=24,SNR=11						
URZ	**Urewera**	**24.81**	**162**	P	**P**	**10 00 07.4**	**+0.8**
	16nm,0.7s,baz=305,slow=2.3,SNR=14						
CMSA	**Cobar Meteorol**	**25.84**	**226**	P	**P**	**10 00 16.6**	**+0.7**
	baz=25,SNR=12						
CNB	**Canberra Magne**	**25.99**	**215**	P	**P**	**10 00 18.7**	**+1.4**
	baz=25,SNR=7.7						
STKA	**Stephens Creek**	**28.97**	**230**	P	**P**	**10 00 45.1**	**+1.2**
	21nm,0.5s,baz=48,slow=8.0,SNR=83						
STKA				PcP	**PcP**	**10 03 50.1**	**+0.5**
	2.6nm,0.6s,baz=84,slow=4.0,SNR=3.6						
STKA	**Stephens Creek**	**28.97**	**230**	P	**P**	**10 00 45.2**	**+1.2**
	baz=28,SNR=73						
TOO	**Toolangi**	**29.78**	**217**	P	**P**	**10 00 52.4**	**+1.3**
	baz=29,SNR=4.6						
HTT	**Hallett**	**31.70**	**229**	P	**P**	**10 01 09.2**	**+1.2**
	baz=31,SNR=6.5						
WRAB	**Tennant Creek**	**31.88**	**256**	eP	**P**	**10 01 08.5**	**-1.3**
WRA	**Warramunga Arr**	**31.89**	**256**	P	**P**	**10 01 08.6**	**-1.3**
	0.9nm,0.6s,baz=85,slow=8.5,SNR=3.9						
WRA				PcP	**PcP**	**10 03 54.9**	**-2.7**
	1.2nm,0.8s,baz=89,slow=3.3,SNR=5.3						
AS31	**Alice Springs**	**32.72**	**249**	eP	**P**	**10 01 15.8**	**-1.2**
ASAR	**Alice Springs**	**32.72**	**249**	P	**P**	**10 01 15.8**	**-1.2**
	2.5nm,0.6s,baz=78,slow=9.0,SNR=53						
ASAR				PcP	**PcP**	**10 03 59.5**	**-0.2**
	0.9nm,0.8s,baz=83,slow=2.7,SNR=5.4						
BBOO	**Buckleboo**	**33.57**	**232**	P	**P**	**10 01 25.0**	**+0.8**
	baz=33,SNR=14						
KNRA	**Kununurra**	**37.23**	**264**	P	**P**	**10 01 55.7**	**-0.1**
	baz=37,SNR=3.9						
WRKA	**Warakurna**	**37.98**	**248**	P	**P**	**10 02 01.3**	**-0.7**
	baz=37,SNR=22						
FORT	**Forrest**	**39.31**	**239**	P	**P**	**10 02 13.1**	**+0.1**
	baz=38,SNR=15						
FITZ	**Fitzroy Crossi**	**40.10**	**260**	P	**P**	**10 02 19.5**	**-0.1**
	baz=39,SNR=4.0						
SOEI	**Soe**	**42.38**	**272**	P	P	10 02 47.0	+8.4
	baz=42,SNR=6.8						
MBWA	**Marble Bar**	**45.61**	**255**	P	P	10 02 57.0	-7.1
MEEK	**Meekatharra**	**46.82**	**247**	P	**P**	**10 03 13.4**	**-0.2**
	baz=46,SNR=18						
NWAO	**Narrogin (SRO)**	**48.76**	**239**	P	**P**	**10 03 27.7**	**-0.7**
	6.5nm,0.8s,baz=29,slow=4.1,SNR=5.8						
MORW	**Morawa**	**49.30**	**244**	P	**P**	**10 03 32.3**	**-0.2**
	baz=48,SNR=4.2						
VNDA	**Vanda**	**62.70**	**181**	P	**P**	**10 05 08.2**	**+1.1**
	4.7nm,0.7s,baz=352,slow=8.6,SNR=16						
CMAR	**Chiang Mai Arr**	**75.12**	**294**	P	**P**	**10 06 26.4**	**+1.4**
	1.1nm,0.4s,baz=136,slow=4.6,SNR=4.3						
CMAR				pP	**pP**	**10 06 56.4**	**-0.7**
	1.0nm,0.4s,baz=121,slow=4.6,SNR=1.5						
QSPA	**South Pole Qui**	**75.13**	**180**	eP	**P**	**10 06 24.4**	**+0.1**
	14nm,0.8s						
SONM	**Songino Array**	**82.70**	**324**	P	**P**	**10 07 06.5**	**+0.6**
	0.6nm,0.5s,baz=150,slow=4.9,SNR=6.1						
ILAR	**Eielson Array**	**86.65**	**18**	P	**P**	**10 07 23.9**	**-1.1**
	1.4nm,0.7s,baz=232,slow=5.7,SNR=16						
ILAR				pP	**pP**	**10 07 57.5**	**-0.5**
	0.5nm,0.7s,baz=243,slow=4.7,SNR=2.9						
NVAR	**Mina Array Bea**	**87.29**	**49**	P	**P**	**10 07 30.4**	**+1.2**
	0.4nm,0.8s,baz=226,slow=7.4,SNR=3.9						
SNAA	**Sanae**	**93.39**	**183**	P	**P**	**10 07 56.2**	**-0.6**
	1.3nm,0.8s,baz=187,slow=8.1,SNR=7.9						
MKAR	**Makanchi Array**	**97.40**	**316**	P	Pdif	10 08 15.4	0.0
	0.5nm,0.5s,baz=84,slow=6.2,SNR=7.1						
MKAR				pP	pP	10 08 47.7	-0.9
	0.7nm,0.7s,baz=92,slow=6.4,SNR=4.5						
YKA	**Yellowknife Ar**	**97.64**	**27**	P	**P**	**10 08 15.7**	**-0.3**
	0.2nm,0.6s,baz=256,slow=4.6,SNR=4.4						
ARCES	**ARCESS Array B**	**120.44**	**345**	PKP	**PKPdf**	**10 13 31.8**	**-0.2**
	1.7nm,0.4s,baz=78,slow=2.0,SNR=36						
FINES	**FINESS Array B**	**125.92**	**338**	PKP	**PKPdf**	**10 13 42.3**	**-0.4**
	0.7nm,0.6s,baz=119,slow=2.4,SNR=5.3						
DAVOX	**Davos/Dischmat**	**143.08**	**334**	PKP	PKPbc	10 14 13.7	+1.1
	3.5nm,0.5s,baz=300,slow=8.1,SNR=5.2						
KEST	**Kesra**	**151.41**	**321**	PKPbc	**PKPbc**	**10 14 35.9**	**+0.3**
	1.5nm,0.7s,baz=225,slow=1.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**166.01**	**265**	PKP	**PKPdf**	**10 14 46.0**	**-1.1**
	0.3nm,0.5s,baz=105,slow=0.5,SNR=3.5						
TORD				PKPab	**PKPab**	**10 15 46.2**	**-1.8**
	1.0nm,0.8s,baz=90,slow=2.3,SNR=4.8						

*IDC **04** 09:58:14.8±1.0, 50°.00N×142°.25E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/49, mbtmp3.8/10, ML2.5/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/41, Error ellipse: s-maj=29.5km s-min=18.4km az=164.0*
*SKHL **04** 09:58:14.4±1.9, 49°.97N×142°.73E, h10km, mb4.2/8*
SKHL Felt (II-III) at Pil'vo.
*ISCJB **04** 09:58:15.9±0.5, 49°.99N±0°.03×142°.51E±0°.10, h16km, mb3.7/11, Error ellipse: s-maj=9.1km s-min=4.5km az=6.1*
*MOS **04** 09:58:15.6±1.5, 50°.26N×142°.27E, h7km, mb4.1/6, Error ellipse: s-maj=24.0km s-min=14.2km az=94.6*
MOS Felt (II-III) at Pil'vo.
ISC 04 09:58:17.5±0.6, 49°.90N±0°.03×142°.43E±0°.06, h16km, n33, σ1§92/34, mb3.8/11, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.85**	**196**	⇓iPg	**Pn**	**09 58 34.0**	**-0.8**
UGL				AMB	AMB	09 58 34.5	
	59nm,0.6s						
UGL				eSg	**Sn**	**09 58 47.0**	**0.0**
UGL				A	A	09 58 48.8	
	360nm,0.5s						
UGL				A	A	09 58 48.8	
	460nm,0.5s						
UGL				A	A	09 58 48.8	
	310nm,0.5s						
UGL				A	A	09 58 50.0	
	1μm,2.0s						
UGL				A	A	09 58 50.0	
	4μm,2.0s						
UGL				AMS	AMS	09 58 52.0	
	1μm,0.5s						
UGL				AMS	AMS	09 58 52.0	
	1μm,0.5s						
UGL				AMS	AMS	09 58 52.0	
	430nm,0.5s						
TYV	**Tymovskoe**	**0.98**	**9**	ePg	Pb	09 58 32.0	-4.0
TYV				AMB	AMB	09 58 34.5	
	385nm,0.8s						
TYV				AMB	AMB	09 58 34.5	
	528nm,0.8s						
TYV				eSg	**Sb**	**09 58 44.3**	**-4.4**
TYV				A	A	09 58 45.5	
	802nm,0.4s						
YSS	**Yuzh-Sakhalins**	**2.96**	**176**	ePN	**Pb**	**09 59 08.8**	**-0.9**
YSS				e		09 59 56.0	
YSS				smax	smax		
	comp=E,60nm,0.8s						
YSS	**Yuzh-Sakhalins**	**2.96**	**176**	ePb	**Pb**	**09 59 08.8**	**-0.9**
YSS				ePg	**Pg**	**09 59 15.0**	**+0.9**
YSS				AMB	AMB	09 59 20.0	
	comp=E,16nm,0.5s						
YSS				eS	**Sn**	**09 59 39.0**	**+0.2**
YSS				eSg	**Sg**	**09 59 56.0**	**+3.6**
YSS				A	A	10 00 15.2	
	comp=E,60nm,0.8s						
NKL	**Nikolayevsk**	**3.43**	**342**	eP	Pn	09 59 05.0	-5.3
NKL				AMB	AMB	09 59 08.5	
	comp=E,17nm,0.4s						
NKL				AMB	AMB	09 59 08.5	
	comp=E,34nm,0.4s						
NKL				eS	**Sn**	**09 59 48.5**	**-2.1**
NKL				A	A	09 59 58.5	
	comp=E,600nm,1.5s						
NKL				A	A	09 59 58.5	
	comp=E,290nm,0.7s						
OKH	**Okha**	**3.67**	**5**	eP	**Pn**	**09 59 13.0**	**-0.5**
OKH				AMB	AMB	09 59 20.0	
	comp=E,100nm,0.2s						
OKH				ePg	**Pg**	**09 59 29.5**	**+1.8**
OKH				AMB	AMB	09 59 30.8	
	comp=E,71nm,0.4s						
OKH				eSg	**Sg**	**10 00 20.0**	**+4.7**
OKH				A	A	10 00 20.5	
	comp=E,72nm,0.7s						
GRNR	**Gornyy**	**3.94**	**285**	eP	**Pn**	**09 59 19.0**	**+1.7**
GRNR				AMB	AMB	09 59 24.1	
	comp=E,40nm,0.3s						
GRNR				AMB	AMB	09 59 24.1	
	comp=E,80nm,0.3s						
GRNR				AMB	AMB	09 59 24.1	
	comp=E,76nm,0.3s						
HABR	**Khabarovsk**	**5.04**	**256**	ePN	**Pb**	**09 59 42.3**	**-3.0**
HABR				pmax	pmax		
	comp=Z,24nm,0.5s						
HABR				MLR	MLR		
	comp=Z,145nm,16.0s						
YUK	**Yuzh-Kuril'sk**	**6.32**	**157**	d iPN	Pb	09 59 59.0	-8.0
YUK				S	**Sb**	**10 01 19.1**	**-3.2**
YUK				pmax	pmax		
	comp=N,64nm,0.4s						
YUK				pmax	pmax		
	comp=Z,108nm,0.4s						
YUK				pmax	pmax		
	comp=E,62nm,0.2s						
YUK				smax	smax		
	comp=N,101nm,0.3s						
YUK				smax	smax		
	comp=E,94nm,1.0s						
EKMR	**Ekimchan**	**6.71**	**302**	ePg	Pg	10 00 30.5	+4.6
EKMR				AMB	AMB	10 00 31.5	
	comp=E,4.0nm,0.5s						
EKMR				AMB	AMB	10 00 31.5	
	comp=E,5.0nm,0.5s						
KLR	**Kul'dur**	**6.98**	**269**	ePN	**Pb**	**10 00 20.2**	**+2.0**
YASR	**Yasnyy**	**9.61**	**296**	eSg	Sn	10 02 53.0	+30
BMKR	**Bomnak**	**9.61**	**305**	eSg	Sn	10 03 12.5	+50
BMKR				A	A	10 03 13.9	
	comp=E,16nm,0.8s						
PETK	**Petropavlovsk-**	**10.05**	**66**	PN	**Pn**	**10 00 42.7**	**+1.6**
PETK				MLR	MLR		
	comp=Z,14nm,28.6s						
PETK	**Petropavlovsk-**	**10.05**	**66**	Pn	**Pn**	**10 00 42.7**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=283,slow=9.0,SNR=4.8						
PETK				LR	LR	10 04 10.3	
	comp=Z,51nm,21.9s,baz=260,slow=35						
KROS	**Kirovskiy**	**10.52**	**301**	eP	Pn	10 00 51.0	+3.5
KROS				AMB	AMB	10 01 02.1	
	comp=Z,1.0nm,0.6s						
KROS				eSg	Sn	10 03 33.9	+49
KROS				A	A	10 03 46.7	
	comp=Z,27nm,1.0s						
KSRS	**Korea Array**	**16.24**	**225**	LR	LR	10 07 56.7	
	comp=Z,29nm,18.9s,baz=65,slow=36						
ZAK	**Zakamensk**	**24.90**	**286**	eP	**P**	**10 03 39.5**	**0.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ILAR	**Eielson Array**	**38.66**	**40**	eP	**P**	**10 05 39.5**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**38.66**	**40**	P	**P**	**10 05 39.5**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=281,slow=8.5,SNR=10						
MKAR	**Makanchi Array**	**39.15**	**289**	eP	**P**	**10 05 44.9**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**39.15**	**289**	P	**P**	**10 05 42.1**	**-2.1**
	comp=Z,4.0nm,0.8s,baz=67,slow=9.3,SNR=16						
KURK	**Kurchatov**	**39.62**	**297**	P	**P**	**10 05 46.3**	**-1.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**39.71**	**296**	P	**P**	**10 05 46.2**	**-2.5**
	comp=Z,2.2nm,0.8s,baz=71,slow=8.9,SNR=6.7						
INK	**Inuvik**	**42.86**	**33**	P	**P**	**10 06 13.8**	**-0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**42.86**	**33**	P	**P**	**10 06 13.8**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=315,slow=8.4,SNR=8.6						
BVAR	**Borovoye Array**	**43.25**	**303**	P	**P**	**10 06 17.3**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**43.25**	**303**	P	**P**	**10 06 17.3**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=68,slow=12,SNR=4.3						
YKA	**Yellowknife Ar**	**52.54**	**35**	P	**P**	**10 07 28.2**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=305,slow=7.1,SNR=8.0						
AKASG	**Malin Array Be**	**64.74**	**320**	eP	**P**	**10 08 55.0**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**64.74**	**320**	P	**P**	**10 08 54.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=40,slow=7.5,SNR=4.8						
PDAR	**Pinedale Array**	**68.36**	**49**	P	**P**	**10 09 18.1**	**-0.1**
	comp=Z,1.2nm,1.1s,baz=153,slow=1.0,SNR=4.6						
ASAR	**Alice Springs**	**73.63**	**188**	P	**P**	**10 09 50.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=1.1,slow=4.6,SNR=3.8						

*JSN **04** 10:03:34.1±1.1, 19°.08N×80°.98W, h13km±999km, MD4.6*
*ISCJB **04** 10:03:36.5±0.6, 18°.95N±0°.10×80°.81W±0°.06, h33km, mb3.5/5, MS3.0/6, Error ellipse: s-maj=14.7km s-min=6.6km az=20.1*
*IDC **04** 10:03:36.8±1.9, 19°.05N×81°.15W, h0km, mb3.5/4, mb1 4.0/6, mb1mx3.6/48, mbtmp3.7/6, ML3.6/2, MS3.1/9, Ms1 3.1/9, ms1mx2.9/34, Error ellipse: s-maj=37.2km s-min=31.5km az=143.0*
ISC 04 10:03:37.4±1.1, 18°.8N±0°.2×80°.94W±0°.09, h35km, n20, σ1§68/14, mb3.6/5, MS3.1/6, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**3.20**	**105**	i P	**Pn**	**10 04 24.9**	**-0.3**
CVJ	**Coleyville**	**3.27**	**99**	i P	**Pn**	**10 04 25.5**	**-0.8**
PCJ	**Portland Cotta**	**3.73**	**105**	i P	**Pn**	**10 04 32.4**	**-0.1**
STH	**Stony Hill**	**3.98**	**99**	i P	**Pn**	**10 04 35.3**	**-0.7**
STH				i S	**Sn**	**10 05 20.8**	**-0.7**
HOJ	**Hope**	**4.05**	**100**	i P	**Pn**	**10 04 35.3**	**-1.6**
GWJ	**Greenwich**	**4.06**	**99**	i P	**Pn**	**10 04 36.4**	**-0.7**
YHJ	**Yallahs**	**4.31**	**101**	i P	**Pn**	**10 04 40.5**	**-0.1**
TEIG	**Tepich**	**7.07**	**283**	Pn	**Pn**	**10 05 18.9**	**+0.4**
	37nm,0.3s,baz=87,slow=4.8,SNR=128						
TEIG				Sn	**Sn**	**10 06 33.9**	**-3.7**
	6.2nm,0.3s,baz=181,slow=22,SNR=7.2						
JTS	**JuntasAbangare**	**9.27**	**205**	Pn	Pn	10 05 54.0	+5.3
	0.8nm,0.3s,baz=323,slow=16,SNR=5.3						
JTS				LR	LR	10 09 45.5	
	comp=Z,99nm,19.0s,baz=55,slow=39						
SJG	**San Juan**	**14.05**	**90**	LR	LR	10 11 33.7	
	comp=Z,53nm,20.3s,baz=270,slow=34						
TKL	**Tuckaleechee C**	**17.02**	**352**	Pn	**Pn**	**10 07 30.5**	**-2.1**
	0.2nm,0.3s,baz=137,slow=11,SNR=2.5						
TKL				LR	LR	10 14 06.9	
	comp=Z,78nm,19.2s,baz=348,slow=38						
TXAR	**Lajitas Array**	**23.23**	**301**	P	**P**	**10 08 42.9**	**+1.2**
	1.4nm,0.9s,baz=110,slow=7.3,SNR=8.8						
TXAR				LR	LR	10 20 16.9	
	comp=Z,26nm,18.8s,baz=0.0,slow=44						
ATAH	**Atahualpa**	**25.86**	**174**	LR	LR	10 19 52.5	
	comp=Z,58nm,18.4s,baz=359,slow=37						
PTGA	**Pitinga**	**28.28**	**131**	LR	LR	10 22 23.4	
	comp=Z,26nm,19.0s,baz=314,slow=39						
PDAR	**Pinedale Array**	**34.02**	**321**	P	**P**	**10 10 20.0**	**+1.7**
	0.6nm,0.8s,baz=122,slow=12,SNR=3.9						
PDAR				LR	LR	10 25 27.4	
	comp=Z,32nm,18.2s,baz=94,slow=39						
YKA	**Yellowknife Ar**	**49.51**	**340**	P	P	10 12 32.0	+7.8
	0.1nm,0.5s,baz=128,slow=8.4,SNR=3.1						
CPUP	**Villa Florida**	**50.35**	**152**	LR	LR	10 35 43.2	
	comp=Z,25nm,18.8s,baz=162,slow=38						
ILAR	**Eielson Array**	**62.98**	**334**	P	**P**	**10 14 02.1**	**+1.8**
	0.4nm,0.6s,baz=122,slow=5.0,SNR=8.6						
EKA	**Eskdalemuir Ar**	**67.85**	**37**	P	P	10 14 36.7	+4.7
	0.5nm,0.5s,baz=263,slow=5.7,SNR=3.6						
NOA	**NORSAR Array B**	**74.81**	**30**	LR	LR	10 45 00.4	
	comp=Z,12nm,19.9s,baz=10.0,slow=33						

*ISCJB **04** 10:04:49.2±0.9, 23°.06S±0°.05×68°.4W±0°.1, h103km±10km, mb3.7/4, Error ellipse: s-maj=15.5km s-min=7.8km az=10.4*
*IDC **04** 10:04:49.4±3.1, 23°.03S×68°.39W, h90km±29km, mb3.6/4, mb1 3.8/6, mb1mx3.4/35, mbtmp3.9/6, Error ellipse: s-maj=34.1km s-min=29.1km az=103.0*
*GUC **04** 10:04:51.9±0.3, 22°.96S×68°.62W, h119km±4km, ML3.9*
ISC 04 10:04:49.1±1.1, 23°.04S±0°.07×68°.22W±0°.09, h91km±10km, n21, σ1§76/24, mb3.9/4, 3C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**Plate Boundary**	**1.29**	**284**	⇑iP	**Pn**	**10 05 13.6**	**+1.2**
PB06				i S	**Sn**	**10 05 30.2**	**+0.1**
PB06				AML	AML	10 05 32.5	
	comp=E,5μm,0.1s						
PB04	**Plate Boundary**	**1.40**	**303**	⇑iP	Pn	10 05 20.6	+7.0
PB04				i S	Sn	10 05 42.7	+10
PB04				AML	AML	10 05 47.8	
	comp=E,2μm,0.7s						
CEN1	**Los Morros**	**1.86**	**259**	⇓iP	Pn	10 05 23.1	+3.5
CEN1				eS	**Sn**	**10 05 46.0**	**+3.2**
CEN1				AML	AML	10 05 52.4	
	comp=E,936nm,0.7s						
PB07	**Plate Boundary**	**2.02**	**310**	eP	**Pn**	**10 05 22.6**	**+0.8**
PB07				i S	**Sn**	**10 05 45.8**	**-0.9**
PB07				AML	AML	10 05 49.6	
	comp=E,1μm,0.6s						
ANCH	**Antofagasta**	**2.12**	**252**	⇓iP	**Pn**	**10 05 21.1**	**-1.7**
ANCH				i S	**Sn**	**10 05 45.0**	**-3.6**
ANCH				AML	AML	10 05 49.6	
	comp=N,934nm,0.6s						
PB10	**Plate Boundary**	**2.20**	**257**	⇓iP	**Pn**	**10 05 24.5**	**+0.5**
PB10				i S	**Sn**	**10 05 48.8**	**-1.9**
PB10				AML	AML	10 05 57.4	
	comp=E,2μm,0.6s						
PB01	**Plate Boundary**	**2.31**	**329**	eP	**Pn**	**10 05 27.1**	**+1.6**
PB01				i S	**Sn**	**10 05 54.0**	**+0.6**
PB01				AML	AML	10 05 55.0	
	comp=E,600nm,0.3s						
PATCX	**Punta Patache**	**2.84**	**320**	⇑iP	**Pn**	**10 05 32.4**	**-0.2**
PATCX				i S	**Sn**	**10 06 04.0**	**-2.1**
PATCX				AML	AML	10 06 15.8	
	comp=E,419nm,0.2s						
HMBC	**Humberstone**	**3.15**	**330**	i P	**Pn**	**10 05 36.9**	**+0.1**
HMBC				i S	**Sn**	**10 06 12.6**	**-1.1**
HMBC				AML	AML	10 06 28.0	
	comp=N,300nm,0.2s						
LPAZ	**La Paz**	**6.71**	**1**	P	Pn	10 06 29.7	+4.0
	comp=N,0.8nm,0.3s,baz=201,slow=5.9,SNR=10						
CFAA	**Coronel Fontan**	**8.54**	**180**	P	**Pn**	**10 06 50.6**	**+0.7**
	comp=N,0.1nm,0.3s,baz=8.0,slow=14,SNR=2.5						
SIV	**San Ignacio**	**9.72**	**45**	P	**Pn**	**10 07 07.3**	**+1.1**
	comp=N,6.8nm,0.3s,baz=249,slow=11,SNR=88						
SIV				S	**Sn**	**10 08 49.8**	**-3.8**
	comp=N,0.3nm,0.3s,baz=143,slow=18,SNR=2.6						
H03N1	**Juan Fernandez**	**14.00**	**220**	T	T	10 20 22.1	
	baz=37						
H03N2	**Juan Fernandez**	**14.01**	**220**	T	T	10 20 44.9	
	baz=37						
H03N3	**Juan Fernandez**	**14.02**	**220**	T	T	10 20 37.2	
	baz=37						
PDAR	**Pinedale Array**	**75.75**	**330**	P	**P**	**10 16 25.7**	**+0.6**
	comp=N,0.3nm,0.7s,baz=121,slow=8.5,SNR=3.2						
ULM	**Lac du Bonnet**	**76.97**	**342**	P	**P**	**10 16 31.0**	**-0.5**
	comp=N,1.2nm,0.4s,baz=153,slow=3.0,SNR=3.1						

TORD	Torodi Ar. Bea	77.28	70	P	P	10 16 35.5	+1.5
	comp=N,2.1nm,0.5s,baz=255,slow=5.4,SNR=20						
YKA	Yellowknife Ar	92.84	340	P	P	10 17 51.5	+0.5
	comp=N,0.2nm,0.6s,baz=132,slow=4.8,SNR=6.4						
WRA	Warramunga Arr	131.94	209	PKP	PKPdf	10 23 51.5	-1.2
	comp=N,0.3nm,0.5s,baz=160,slow=1.7,SNR=3.6						
MKAR	Makanchi Array	146.47	38	PKPbc	PKPbc	10 24 19.4	-0.3
	comp=N,1.1nm,0.6s,baz=308,slow=2.7,SNR=11						

CSEM 04 10:10:19.0, 42.26N×13.53E, h9km, MD1.9/10, After ROM
ROM 04 10:10:19.0±0.1, 42.26N×13.53E, h9km, Md1.9/10, Ml1.5/4, Error ellipse: s-maj=1.3km s-min=1.0km az=44.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAGN	Fagnano	0.04	84	Pg	Pg	10 10 21.3	+0.4
FAGN				Sg	Sg	10 10 22.4	+0.1
	892nm,0.3s						
FAGN	Fagnano	0.04	84	Pg	Pg	10 10 21.3	+0.4
FAGN				Sg	Sg	10 10 22.4	+0.1
	892nm,0.3s						
AQU	L'Aquila	0.13	314	Pg	Pg	10 10 22.8	+0.7
AQU				Sg	Sg	10 10 25.1	+0.8
	139nm,0.4s						
AQU	L'Aquila	0.13	314	Pg	Pg	10 10 22.8	+0.7
AQU				Sg	Sg	10 10 25.1	+0.8
	139nm,0.4s						
T0104	Madonna delle	0.17	305	Pg	Pg	10 10 23.5	+0.7
T0104				Sg	Sg	10 10 26.5	+1.1
PTQR	Pietraquaria	0.26	202	Pg	Pg	10 10 25.1	+0.7
PTQR				Sg	Sb	10 10 29.3	-1.3
	9.0nm,0.2s						
PTQR	Pietraquaria	0.26	202	Pg	Pg	10 10 25.1	+0.7
PTQR				Sg	Sb	10 10 29.3	-1.3
	9.0nm,0.2s						
VCEL	Villa Celiera	0.27	60	Pg	Pb	10 10 25.7	-0.4
VCEL				Sg	Sb	10 10 29.6	-1.3
	81nm,0.3s						
VCEL	Villa Celiera	0.27	60	Pg	Pb	10 10 25.7	-0.4
VCEL				Sg	Sb	10 10 29.6	-1.3
	81nm,0.3s						
FIAM	Fiamignano	0.31	271	Pg	Pg	10 10 25.8	+0.5
FIAM				Sg	Sg	10 10 30.7	+1.2
FIAM	Fiamignano	0.31	271	Pg	Pg	10 10 25.8	+0.5
FIAM				Sg	Sg	10 10 30.7	+1.2
TERO	Teramo	0.36	9	Pg	Pg	10 10 26.4	+0.1
TERO				Sg	Sb	10 10 32.5	-1.1
	25nm,0.3s						
TERO	Teramo	0.36	9	Pg	Pg	10 10 26.4	+0.1
TERO				Sg	Sb	10 10 32.5	-1.1
	25nm,0.3s						
INTR	Introdacqua	0.38	132	Pg	Pg	10 10 27.2	+0.7
INTR				Sg	Sb	10 10 33.3	-0.6
INTR	Introdacqua	0.38	132	Pg	Pg	10 10 27.2	+0.7
INTR				Sg	Sb	10 10 33.3	-0.6
SMA1	SAN MARTINO	0.40	339	Pg	Pg	10 10 27.6	+0.6
SMA1				Sg	Sb	10 10 34.5	-0.1
	29nm,0.5s						
NRCA	Norcia	0.65	332	Pg	Pg	10 10 31.5	-0.2
	1.0nm,0.2s						
NRCA	Norcia	0.65	332	Pg	Pg	10 10 31.5	-0.2
	1.0nm,0.2s						

IDC 04 10:11:42.2±2.9, 54.47N×86.69E, h0km, mb1 3.2/2, mb1mx3.0/30, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=24.4km s-min=15.9km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.22	245	i		10 18 50.0	
	baz=67,slow=341,SNR=7.4						
ZALV	Zalesovo Beam	1.22	245	Pg	Pg	10 12 04.4	-1.2
	1.9nm,0.3s,baz=65,slow=16,SNR=25						
ZALV				Lg	Lg	10 12 21.4	
	1.1nm,0.3s,baz=62,slow=26,SNR=10.0						
KURBB	Kurchatov Arra	6.29	236	Pn	Pn	10 13 16.9	+0.7
	0.3nm,0.3s,baz=53,slow=14,SNR=20						
KURBB				Lg	Lg	10 15 04.7	
	0.1nm,0.3s,baz=48,slow=26,SNR=3.2						
MKAR	Makanchi Array	8.18	202	Pn	Pn	10 13 43.1	+1.0
	0.3nm,0.3s,baz=25,slow=13,SNR=11						
MKAR				Sn	Sn	10 15 14.6	-0.7
	0.1nm,0.3s,baz=28,slow=26,SNR=12						
MKAR				Lg	Lg	10 16 04.8	
	0.1nm,0.3s,baz=28,slow=32,SNR=3.7						

CSEM 04 10:11:44.1, 45.98N×15.48E, h0km, ML0.9, Mining explosion. After LJU, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CESS	Cesta pri Krsk	0.01	241	iPg	Pg	10 11 44.0	-0.4
	comp=Z,5μm,0.2s						
CESS	Cesta pri Krsk	0.01	241	iPg	Pg	10 11 44.0	-0.4
	comp=Z,5μm,0.2s						
GOLS	Golise	0.10	73	iPg	Pg	10 11 46.6	+0.4
	comp=Z,27nm,0.2s						
GOLS	Golise	0.10	73	iPg	Pg	10 11 46.6	+0.4
	comp=Z,27nm,0.2s						
LEGS	Legarje	0.12	255	iPg	Pg	10 11 46.3	-0.1
LEGS	Legarje	0.12	255	iPg	Pg	10 11 46.3	-0.1
CRES	Cresnjev	0.15	186	ePg	Pg	10 11 46.8	-0.3
CRES				eSg	Sg	10 11 49.7	+0.6
CRES	Cresnjev	0.15	186	ePg	Pg	10 11 46.8	-0.3
CRES				eSg	Sg	10 11 49.7	+0.5

CSEM 04 10:28:52.5±0.5, 36.31N×25.09E, h15km, MD3.1, Error ellipse: s-maj=19.5km s-min=8.5km az=46.0
ATH 04 10:28:56.0, 34.31N×25.93E, h10km±4km, MD3.1/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZKR	Zakros	0.84	16	ePG	Pg	10 29 11.4	-0.8
ZKR				eSB	Sg	10 29 23.5	+0.4
LAST	Lasithi	0.93	336	ePB	Pg	10 29 13.5	-0.5
LAST				eSB	Sg	10 29 26.3	+0.1
LAST	Lasithi	0.93	336	ePb	Pg	10 29 13.5	-0.5
NPS	Neapolis	0.99	345	ePG	Pg	10 29 14.6	-0.4
NPS				eSB	Sg	10 29 27.8	-0.1
NPS	Neapolis	0.99	345	ePg	Pg	10 29 14.6	-0.4
NPS				eSb	Sg	10 29 27.8	-0.1
SIVA	Sivas	1.16	308	ePN	Pb	10 29 17.8	-0.4
SIVA				eSB	Sg	10 29 33.7	+0.2
SIVA	Sivas	1.16	308	ePn	Pb	10 29 17.8	-0.4
SIVA				eSb	Sg	10 29 33.7	+0.2
KARP	Karpathos	1.60	39	ePB	Pg	10 29 26.4	-0.3
KARP				eSB	Sg	10 29 47.5	0.0
KARP	Karpathos	1.60	39	ePb	Pg	10 29 26.4	-0.3
KARP				eSb	Sg	10 29 47.5	0.0
ANKY	Antikythira Is	2.66	307	ePN	Pn	10 29 41.2	+2.3

IDC 04 10:33:36.7±2.7, 56.30N×154.17W, h0km, mb4.0/8, mb1 4.0/10, mb1mx3.7/45, mbtmp4.0/10, ML3.5/2, Error ellipse: s-maj=61.5km s-min=23.2km az=151.0
ISCJB 04 10:33:52.0±0.3, 57.66N±0.03×154.23W±0.05, h75km±3km, mb3.9/8, Error ellipse: s-maj=5.1km s-min=3.9km az=140.4
NEIC 04 10:33:54.3, 57.67N×154.29W, h44km, ML3.3(AEIC), After AEIC.
ISC 04 10:33:52.5±0.8, 57.65N±0.04×154.28W±0.03, h63km±8km, n87, σ1.18/90, mb3.9/8, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KABR	Katmai Barrier	0.61	323	P	Pn	10 34 05.4	-0.5
OHAK	Old Harbor	0.69	128	P	Pn	10 34 07.1	+0.4
OHAK				S	Sn	10 34 17.9	+0.8
KCE	Katmai Mt Cerb	0.77	321	P	Pn	10 34 08.0	+0.2
KAKN	Katmai Knife C	0.77	327	P	Pn	10 34 07.8	-0.1
KAKN				S	Sn	10 34 19.1	0.0
KAWH	Katmai	0.79	339	P	Pn	10 34 07.7	-0.2
KAWH				S	Sn	10 34 19.0	-0.3
KVTA	Katmai Vly 10	0.91	324	P	Pn	10 34 09.6	0.0
KDAK	Kodiak Island	0.92	81	P	Pn	10 34 10.1	+0.6
KDAK				S	Sn	10 34 23.3	+1.2
PLK3	Peulik 3	1.07	273	P	Pn	10 34 12.4	+0.9
PLK3				S	Sn	10 34 27.3	+1.5
KAHC	Katmai Hardscr	1.07	339	P	Pn	10 34 11.7	0.0
SII	Sitkinak Islan	1.10	177	P	Pn	10 34 12.7	+0.8
SII				S	Sn	10 34 27.6	+1.2
KELA	Mount Kelaz	1.11	316	P	Pn	10 34 12.2	0.0
PLK4	Peulik 4	1.12	270	P	Pn	10 34 13.1	+0.9
PLWL	Peulik Whale M	1.17	290	P	Pn	10 34 13.2	+0.4
PLK1	Peulik 1	1.26	278	P	Pn	10 34 14.9	+0.9
PLBL	Peulik Blue Cr	1.37	273	P	Pn	10 34 16.9	+1.5
PLK5	Peulik 5	1.44	285	P	Pn	10 34 17.1	+0.8
MCNL	McNeil River	1.54	359	P	Pn	10 34 18.3	+0.5
AUI	Augustine Isla	1.75	14	P	Pn	10 34 21.7	+1.2
AUH	Augustine H	1.77	14	P	Pn	10 34 21.9	+0.9
AUP	Augustine Pinn	1.77	14	P	Pn	10 34 22.3	+1.3
CHIR	Chirikof Islan	1.98	203	P	Pn	10 34 24.2	+0.5
OPT	Oil Point	2.08	15	P	Pn	10 34 26.5	+1.5
PDB	Pedro Bay	2.14	1	P	Pn	10 34 26.6	+0.7
ILS	Iliamna Low So	2.40	15	P	Pn	10 34 30.7	+1.3
HOM	Homer	2.44	33	P	Pn	10 34 31.8	+1.9
IVS	Iliamna South	2.44	14	P	Pn	10 34 31.5	+1.3
ILW	Iliamna West	2.49	13	P	Pn	10 34 32.1	+1.3
ILW				S	Sn	10 35 01.5	+1.5
CHGN	Chignik	2.64	241	P	Pn	10 34 33.8	+1.1
BRLK	Bradley Lake	2.76	38	P	Pn	10 34 34.9	+0.6
RDN	Redoubt North	2.98	15	P	Pn	10 34 39.0	+1.7
NCT	North Crescent	3.00	13	P	Pn	10 34 39.3	+1.6
VNHG	Veniaminof 1	3.04	244	P	Pn	10 34 40.8	+2.6
VNSG	Veniaminof 6	3.05	242	P	Pn	10 34 40.7	+2.4
DFR	Drift River	3.06	15	P	Pn	10 34 40.3	+1.8
SEW	Seward	3.51	44	P	Pn	10 34 45.5	+1.0
SVW2	Sparrevohn	3.52	350	P	Pn	10 34 45.5	+0.8
CKL	Chakachamna La	3.69	15	P	Pn	10 34 49.0	+1.9
SPBG	Spurr Blockage	3.75	14	P	Pn	10 34 50.4	+2.5
BGL	Barrier Glacie	3.75	14	P	Pn	10 34 50.0	+2.1
CGLM	Capps Glacier	3.84	17	P	Pn	10 34 51.0	+1.8
STLK	Strandline Lak	4.05	17	P	Pn	10 34 53.8	+1.8
FIB	Fire Island	4.10	29	P	Pn	10 34 54.0	+1.5
SDPT	Sand Point	4.14	239	P	Pn	10 34 54.5	+1.4
RC01	Rabbit Creek A	4.16	32	P	Pn	10 34 54.2	+0.8
SUA	Susitna One	4.22	24	P	Pn	10 34 55.3	+0.9
PWL	Port Wells	4.43	41	P	Pn	10 34 56.9	-0.2
SKT	Skwentna	4.56	17	P	Pn	10 35 00.6	+1.7
PMR	Palmer	4.74	31	P	Pn	10 35 03.7	+2.5
GLI	Glacier Island	4.90	46	P	Pn	10 35 03.7	+0.2
JPK	Jack Peak	5.20	46	P	Pn	10 35 08.5	+0.8
EYAK	Cordova Ski Ar	5.27	53	P	Pn	10 35 08.7	+0.2
TT01	Tatalina	5.34	351	P	Pn	10 35 11.1	+1.5
PPLA	Purkeypile	5.36	10	P	Pn	10 35 11.8	+1.9
SCM	Sheep Creek Mo	5.47	37	P	Pn	10 35 12.8	+1.4
SGAM	Sherman Glacie	5.48	55	P	Pn	10 35 11.6	+0.2
RAGM	Ragged Mountai	5.67	57	P	Pn	10 35 14.6	+0.6
GOAT	Goat Mountain	5.73	55	P	Pn	10 35 15.7	+0.8
KLU	Klutina	5.73	44	P	Pn	10 35 15.2	+0.3
BMRM	Bremner River	5.96	52	P	Pn	10 35 19.3	+1.2
TRF	Thorofare Moun	6.14	17	P	Pn	10 35 22.0	+1.3
KTH	Kantishna Hill	6.15	14	ePn	Pn	10 35 22.2	+1.6
	11nm,0.7s						
PS11	TAPS Pump St11	6.27	41	P	Pn	10 35 23.4	+1.1
RND	Reindeer	6.36	23	P	Pn	10 35 24.7	+1.2
MCK	McKinley	6.64	21	P	Pn	10 35 28.1	+0.9
PAX	Paxson	6.89	36	ePn	Pn	10 35 32.8	+2.0
	9.7nm,0.8s						
MENT	Mentasta	7.45	40	Pn	Pn	10 35 36.5	-2.0
WRH	Wood River Hil	7.47	21	P	Pn	10 35 38.6	0.0
MLY	Manley	7.60	11	P	Pn	10 35 41.1	+0.7
CCB	Clear Creek Bu	7.68	21	P	Pn	10 35 41.8	+0.3
IL1	Eielson Array	7.98	23	P	Pn	10 35 46.9	+1.3
ILAR	Eielson Array	7.98	23	Pn	Pn	10 35 45.3	-0.3
	0.4nm,0.3s,baz=213,slow=13,SNR=28						
ILAR				Sn	Sn	10 37 09.1	-5.1
	0.7nm,0.3s,baz=188,slow=26,SNR=5.4						
ILB	Eielson Array	7.98	23	P	Pn	10 35 45.5	0.0
BCA3	Beaver Creek A	8.22	44	P	Pn	10 35 49.0	0.0
IM04	Indian Mountai	8.36	1	ePn	Pn	10 35 52.1	+1.3
IM3	Indian Mountai	8.37	1	P	Pn	10 35 50.7	-0.1
EGAK	Eagle	9.53	36	ePn	Pn	10 36 08.2	+1.5
	10nm,1.4s						
INK	Inuvik	14.15	33	Pn	P	10 37 13.1	-2.0
	0.1nm,0.3s,baz=245,slow=11,SNR=3.8						
INK				Sn	S	10 40 00.6	-1.5
	0.0nm,0.3s,baz=290,slow=15,SNR=4.8						
YKA	Yellowknife Ar	20.13	59	P	P	10 38 20.0	-0.9
	0.1nm,0.5s,baz=272,slow=9.6,SNR=8.6						
SONM	Songino Array	55.64	306	P	P	10 43 21.8	0.0
	0.5nm,0.6s,baz=56,slow=7.2,SNR=4.8						
ZALV	Zalesovo Beam	58.88	324	P	P	10 43 45.1	+0.8
	0.3nm,0.3s,baz=38,slow=7.5,SNR=4.0						
FINES	FINESS Array B	61.24	360	P	P	10 44 00.0	-0.3
	5.2nm,1.1s,baz=353,slow=9.8,SNR=5.7						
KURK	Kurchatov	63.60	326	P	P	10 44 15.8	-0.4
KURBB	Kurchatov Arra	63.70	326	P	P	10 44 15.8	-1.1
	0.6nm,0.5s,baz=33,slow=7.0,SNR=5.3						
BVAR	Borovoye Array	63.83	332	P	P	10 44 18.1	+0.3
	1.1nm,0.5s,baz=41,slow=5.0,SNR=8.0						
MKAR	Makanchi Array	65.85	321	P	P	10 44 30.9	-0.1
	0.6nm,0.4s,baz=30,slow=6.4,SNR=16						
AKASG	Malin Array Be	71.97	358	P	P	10 45 08.9	+0.1
	2.1nm,0.5s,baz=5.1,slow=6.1,SNR=14						
BRTR	Keskin Array B	82.76	354	P	P	10 46 10.8	+1.4
	1.1nm,0.8s,baz=27,slow=7.6,SNR=3.1						

CSEM 04 10:34:55.9±0.8, 39.77N×27.66E, h2km, MD2.6, Error ellipse: s-maj=14.5km s-min=7.9km az=101.0
DDA 04 10:34:56.5, 39.79N×27.73E, h7km, MD2.6
ISC 04 10:34:55.8±4.0, 39.74N±0.09×27.7E±0.2, h12km, n6, σ0.52/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALB	Balikesir	0.20	119	ePG	Pg	10 34 59.9	-0.2
BALB				eSG	Sg	10 35 02.2	-0.8
BALB	Balikesir	0.20	119	ePg	Pg	10 34 59.9	-0.2
BALB				eSg	Sg	10 35 02.3	-0.8
ULDT	Uludag	1.21	70	iP	Pg	10 35 18.8	-0.3
ULDT				iS	Sn	10 35 35.2	+0.1
ULDT	Uludag	1.21	70	iP	Pg	10 35 18.8	-0.3
ULDT				iS	Sn	10 35 35.2	+0.1
GDZ	Gediz	1.56	114	iP	Pb	10 35 25.2	+0.6
GDZ				iS	Sg	10 35 46.1	+0.2
GDZ	Gediz	1.56	114	iP	Pb	10 35 25.2	+0.6
GDZ				iS	Sg	10 35 46.1	+0.2

IDC 04 10:42:16.3±2.8, 15.08S×173.17W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/27, mbtmp3.8/3, Error ellipse: s-maj=210.5km s-min=24.0km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	1.78	49	Pn	Pn	10 42 48.5	0.0
	39nm,0.3s,baz=182,slow=1.9,SNR=63						
AFI				Sn	Sn	10 43 08.1	-3.9
	131nm,0.3s,baz=77,slow=21,SNR=8.4						
STKA	Stephens Creek	44.39	240	P	P	10 50 28.9	+0.1
	3.4nm,1.1s,baz=98,slow=7.1,SNR=2.4						
WRA	Warramunga Arr	50.13	256	P	P	10 51 13.8	-0.1
	0.2nm,0.4s,baz=90,slow=6.9,SNR=4.6						
ASAR	Alice Springs	50.42	252	P	P	10 51 15.8	-0.3
	1.1nm,0.5s,baz=88,slow=7.8,SNR=18						

IDC 04 10:44:05.2±2.9, 54.19N×86.40E, h0km, mb1 2.5/2, mb1mx2.5/30, mbtmp2.5/2, ML2.5/2, Error ellipse: s-maj=22.2km s-min=13.4km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.96	256	i		10 49 33.0	
	baz=73,slow=342,SNR=4.5						
ZALV	Zalesovo Beam	0.96	256	Pg	Pg	10 44 23.1	-0.6
	0.9nm,0.3s,baz=73,slow=17,SNR=12						
ZALV				Lg	Lg	10 44 37.7	
	2.2nm,0.3s,baz=80,slow=30,SNR=12						
KURBB	Kurchatov Arra	5.99	237	Pn	Pn	10 45 34.6	-0.4
	0.1nm,0.3s,baz=61,slow=13,SNR=4.1						
MKAR	Makanchi Array	7.85	201	Pn	Pn	10 46 02.4	+1.8
	0.1nm,0.3s,baz=24,slow=12,SNR=4.8						

ISCJB 04 10:48:27.6±0.9, 10.99N±0.06×62.27W±0.04, h120km±8km, Error ellipse: s-maj=10.5km s-min=6.2km az=167.8
FUNV 04 10:48:28.1, 11.11N×62.14W, h118km, MW3.5
TRN 04 10:48:30.9, 11.18N×62.16W, h99km, MD3.3
ISC 04 10:48:26.1±1.6, 11.06N±0.06×62.25W±0.05, h134km±11km, n14, σ1.90/27, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.41	177	eP	Pn	10 48 45.4	+0.3
GUIV				eS	Sn	10 48 57.5	-2.1
TCE	Chacachacare	0.60	126	eP	Pn	10 48 47.8	+1.6
TCE				eS	Sn	10 49 00.5	-0.9
TRN	Trinidad (W)	0.92	116	⇑iP	Pn	10 48 50.6	+2.0
TRN				eS	Sn	10 49 04.3	-1.4
TPP	Pointe-a-Pierr	1.07	133	eP	Pn	10 48 51.8	+1.8
TPP				eS	Sn	10 49 08.0	-0.2
GRW	Mount Saint Ca	1.24	28	eP	Pn	10 48 53.0	+1.3
GRW				eS	Sn	10 49 07.4	-3.9
TBH	Brigand Hill	1.29	116	eP	Pn	10 48 54.7	+2.5
TBH				eS	Sn	10 49 11.4	-0.7
TPR	Prospect	1.45	85	eP	Pn	10 48 55.5	+1.6
TPR				eS	Sn	10 49 13.3	-1.7
BOT	Bacolet	1.51	86	eP	Pn	10 48 56.0	+1.5
BOT				eS	Sn	10 49 15.4	-0.7
PCRV	Puerto La Cruz	2.51	250	eP	Pn	10 49 08.0	+1.4
PCRV				eS	Sn	10 49 38.3	+0.6
RIOV	Rio Grande	3.00	172	eP	Pn	10 49 13.4	+0.6
RIOV				eS	Sn	10 49 48.8	-0.2
PRGV	PARIAGUAN	3.29	226	eS	Sn	10 49 54.8	-0.8
CUPV	Cœpira	3.62	254	eP	Pn	10 49 22.9	+1.9
CUPV				eS	Sn	10 50 03.8	+0.3
LUEV	Luepa	5.24	171	eP	Pn	10 49 43.4	+0.8
LUEV				eS	Sn	10 50 38.2	-4.1
BAUV	El Baul	6.08	250	eP	Pn	10 49 54.5	+0.7
BAUV				eS	Sn	10 50 59.1	-3.1

IDC 04 10:49:24.8±2.3, 54.08N×86.34E, h0km, mb1 3.7/2, mb1mx3.2/30, mbtmp3.7/2, ML3.6/2, Error ellipse: s-maj=19.6km s-min=11.3km az=61.0
NNC 04 10:49:27.5±5.7, 53.81N×86.32E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=45.3km s-min=32.0km az=12.0
ISC 04 10:49:29.3±4.8, 54.1N±0.2×86.3E±0.2, h35km, n7, σ0.36/9, 6C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.90	261	i		10 55 01.0	
	baz=83,slow=333,SNR=11						
ZALV	Zalesovo Beam	0.90	261	Pg	Pn	10 49 41.0	-4.4
	7.3nm,0.3s,baz=77,slow=16,SNR=82						
ZALV				Lg		10 49 55.3	
	4.9nm,0.3s,baz=78,slow=30,SNR=7.8						
KURK	Kurchatov	5.81	237	⇑Pn	Pn	10 50 52.4	-0.5
	0.8nm,0.5s						
KURK				⇑Sn	Sn	10 51 58.4	+0.3
	0.8nm,0.8s						
KURK				⇑Lg	Lg	10 52 24.3	
	0.8nm,0.3s						
KURBB	Kurchatov Arra	5.91	237	⇑Pn	Pn	10 50 54.0	-0.3
	3.3nm,0.3s						
KURBB				⇑Sn	Sn	10 52 00.8	+0.2
	1.2nm,0.4s						
KURBB				⇑Lg	Lg	10 52 30.1	
	4.8nm,0.8s						
KURBB	Kurchatov Arra	5.91	237	Pn	Pn	10 50 54.6	+0.4
	1.7nm,0.3s,baz=54,slow=13,SNR=37						
MK31	Makanchi Array	7.75	201	Pn	Pn	10 51 19.8	+0.2
	0.2nm,0.2s,baz=26,slow=14,SNR=88						
MK31				⇓Sn	Sn	10 52 46.1	0.0
	0.2nm,0.4s,baz=21,slow=28,SNR=3.0						
MK31				⇓Lg	Lg	10 53 27.5	
	0.8nm,0.7s,baz=23,slow=30,SNR=3.0						
MKAR	Makanchi Array	7.75	201	Pn	Pn	10 51 19.8	+0.1
	0.7nm,0.3s,baz=20,slow=12,SNR=68						
MKAR				Sn	Sn	10 52 45.7	-0.4
	0.1nm,0.3s,baz=29,slow=25,SNR=6.6						
MKAR				Lg	Lg	10 53 30.8	
	0.1nm,0.3s,baz=27,slow=29,SNR=3.8						

JMA 04 10:54:57.7±0.3, 43.85N×147.77E, h0km, M3.5
SKHL 04 10:54:58.7±0.4, 44.24N×148.03E, h48km±6km, mb4.2/2
ISC 04 10:54:55.1±3.3, 44.2N±0.1×148.1E±0.2, h15km±15km, n11, σ1.43/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHO	Shikotan	0.96	251	eP	Pb	10 55 14.0	+0.6
SHO				eS	Sg	10 55 25.2	-1.1
SHO				A	A	10 55 32.6	
	444nm,0.5s						
KUR	Kuril'sk	1.06	352	eP	Pb	10 55 15.0	-0.1
KUR				AMB	AMB	10 55 15.5	
	110nm,0.5s						
KUR				AMB	AMB	10 55 15.5	
	150nm,0.5s						
KUR				eS	Sb	10 55 27.5	-1.2
KUR				A	A	10 55 35.0	
	300nm,0.5s						
KUR				A	A	10 55 35.0	
	150nm,0.5s						
YUK	Yuzh-Kuril'sk	1.61	265	eP	Pn	10 55 24.1	+1.2
YUK				AMB	AMB	10 55 29.4	
	50nm,0.2s						
YUK				AMB	AMB	10 55 29.4	
	40nm,0.2s						
YUK				AMB	AMB	10 55 29.4	
	100nm,0.2s						
YUK				eS	Sn	10 55 43.1	-0.3
YUK				A	A	10 55 46.8	
	430nm,0.5s						
YUK				A	A	10 55 46.8	
	170nm,0.5s						
NEM2	Nemuro 2	1.89	245	P	Pn	10 55 26.7	0.0
NEM2				eS	Sn	10 55 47.4	-2.8
JRA	Rausu	2.15	264	P	Pn	10 55 32.1	+1.7
JRA				eS	Sn	10 55 56.9	+0.2
JNK	Nakash	2.51	257	P	Pn	10 55 36.8	+1.5
JNK				eS	Sn	10 56 04.5	-1.1
JAK	Akkeshi	2.74	245	P	Pn	10 55 38.9	+0.5
JAK				eS	Sn	10 56 08.7	-2.4
JTKR	Abashiri--Toko	3.02	267	P	Pn	10 55 45.7	+3.4
JAR	Ashorobuto	3.25	256	P	Pn	10 55 47.9	+2.4
JAR				eS	Sn	10 56 24.7	+0.8
JOB	Onbets	3.35	249	P	Pn	10 55 48.1	+1.3
JOB				eS	Sn	10 56 25.1	-1.1
JCH	Churui	3.79	247	P	Pn	10 55 53.8	+1.0
JCH				eS	Sn	10 56 35.2	-1.8

ISCJB 04 11:18:04.1±0.2, 7.06S±0.03×129.53E±0.04, h100km, mb4.5/33, Error ellipse: s-maj=5.8km s-min=3.5km az=161.5
BJI 04 11:18:08.6, 7.30S×129.50E, h139km, mB4.9/13, mb4.6/22
NEIC 04 11:18:09.0±0.9, 7.24S×129.49E, h137km±9km, mb4.5/12, Error ellipse: s-maj=10.6km s-min=6.5km az=220.0
IDC 04 11:18:09.6±3.6, 7.03S×129.49E, h135km±33km, mb4.1/16, mb1 4.1/17, mb1mx4.0/40, mbtmp4.5/17, MS3.6/3, Ms1 3.6/3, ms1mx3.0/33, Error ellipse: s-maj=18.5km s-min=8.7km az=50.0
KLM 04 11:18:10.6, 7.40S×129.61E, h152km, mb4.7, MS5.8
ISC 04 11:18:05.4±0.3, 7.14S±0.04×129.42E±0.05, h100km, n107, σ1.66/110, mb4.5/33, 2C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.04	114	ePn	Pn	11 18 41.9	+3.4
FAKI	Fak Fak	5.05	34	ePn	Pn	11 19 20.0	+1.1
FAKI				eSn	Sn	11 20 13.4	-2.7
FAKI	Fak Fak	5.05	34	P	Pn	11 19 19.7	+0.8
	baz=4.9,SNR=34						
FAKI				S	Sn	11 20 14.8	-1.3
	baz=4.9,SNR=15						
SOEI	Soe	5.72	243	ePn	Pn	11 19 32.8	+4.7
SOEI	Soe	5.72	243	P	Pn	11 19 32.7	+4.7
	baz=5.9,SNR=76						
SOEI				S	Sn	11 20 38.7	+6.2
	baz=5.9,SNR=8.8						
MTN	Manton Dam	5.91	164	P	Pn	11 19 32.9	+2.4
	baz=6.1,SNR=196						
MTN				S	Sn	11 20 36.0	-0.9
	baz=6.1,SNR=8.8						
KDU	Kakadu	6.27	152	P	Pn	11 19 37.1	+1.7

baz=6.4,SNR=167
KDU S Sn 11 20 44.1 -1.6
baz=6.4,SNR=7.8
MMRI Maumere 7.27 258 *e*Pn Pn 11 19 53.5 +4.5
KNRA Kununurra 8.51 184 P **Pn 11 20 06.9 +1.1**
baz=8.7,SNR=205
KNRA S **Sn 11 21 37.3 -2.8**
baz=8.7,SNR=16
KAPI Kappang 9.85 282 *e*Pn Pn 11 20 29.4 +5.2
FITZ Fitzroy Crossi 11.50 198 *e*Pn Pn 11 20 46.3 -0.2
FITZ Fitzroy Crossi 11.50 198 P **Pn 11 20 47.0 +0.5**
baz=12,SNR=5.1
FITZ S **Sn 11 22 47.9 -5.1**
baz=12,SNR=5.3
WRAB Tennant Creek 13.58 160 *e*Pn **Pn 11 21 13.1 -0.9**
WRA Warramunga Arr 13.59 160 P **Pn 11 21 12.0 -2.1**
3.3nm,0.3s,baz=342,slow=13,SNR=45
WRA S Sn 11 23 33.1 -11
3.1nm,0.3s,baz=335,slow=22,SNR=9.5
WRA ScP **ScP 11 29 53.7 -3.5**
0.2nm,0.3s,baz=317,slow=2.2,SNR=4.8
COEN Coen 15.11 118 *e*Pn **P 11 21 34.4 -2.2**
373nm,0.8s
COEN Coen 15.11 118 P **Pn 11 21 30.1 -3.6**
baz=15,SNR=12
COEN S Sn 11 24 08.1 -13
baz=15,SNR=6.6
JAGI Jajag, Banyuwa 15.19 264 *e*Pn **P 11 21 36.2 -1.2**
17nm,0.6s
JAGI Jajag, Banyuwa 15.19 264 P **Pn 11 21 32.6 -2.1**
baz=15,SNR=7.9
MYLDM Lahad Datu 16.39 318 *e*P P 11 21 55.5 +4.8
36nm,0.9s
QIS Mount Isa 16.59 145 P **P 11 21 52.6 -0.2**
baz=17,SNR=14
QIS S Sn 11 24 44.8 -11
baz=17,SNR=11
MBWA Marble Bar 16.79 213 *e*P **P 11 21 55.8 +0.7**
26nm,0.8s
AS31 Alice Springs 16.98 166 *e*P **P 11 21 57.0 -0.2**
ASAR Alice Springs 16.98 166 P **P 11 21 56.6 -0.6**
1.0nm,0.3s,baz=343,slow=13,SNR=64
ASAR S Sn 11 24 56.2 -9.5
0.8nm,0.3s,baz=351,slow=27,SNR=5.7
ASAR ScP **ScP 11 29 59.9 -3.6**
0.2nm,0.3s,baz=351,slow=1.8,SNR=5.7
SDKM Sandakan 17.61 316 ⇓P Pn 11 22 09.3 +4.6
PMG Port Moresby 17.69 99 P **Pn 11 22 08.1 +2.5**
2.9nm,0.3s,baz=288,slow=3.2,SNR=15
PMG LR LR 11 30 15.9
comp=Z,134nm,18.2s,baz=5.5,slow=41
PMG Port Moresby 17.69 99 P **Pn 11 22 08.1 +2.5**
PMG *e*Pn **Pn 11 22 08.5 +3.0**
PMG Port Moresby 17.69 99 P **Pn 11 22 08.6 +3.0**
baz=18,SNR=9.5
WRKA Warakurna 17.83 183 P **Pn 11 22 08.4 +1.3**
baz=18,SNR=42
MTSU Mount Surprise 18.16 128 P **Pn 11 22 12.5 +1.3**
baz=18,SNR=43
MTSU S S 11 25 18.3 -15
baz=18,SNR=8.4
KKM Kota Kinabalu 18.58 315 *e*P **Pn 11 22 18.1 +1.8**
UGM Wanagama 18.75 266 P **Pn 11 22 17.9 -0.4**
baz=19,SNR=4.4
BTM Bintulu 19.28 302 ⇑P **Pn 11 22 26.4 +2.0**
SBUM Sibu 19.64 298 *e*P **Pn 11 22 29.4 +0.7**
45nm,0.9s
SBUM Sibu 19.64 298 ⇑P **Pn 11 22 30.5 +1.9**
CTA Charters Tower 20.78 130 P Pn 11 22 40.7 -1.3
6.1nm,0.6s,baz=309,slow=13,SNR=14
CTA S **S 11 26 25.6 +0.4**
3.1nm,0.8s,baz=238,slow=15,SNR=2.8
CTAO Charters Tower 20.78 130 *e*P Pn 11 22 41.4 -0.6
KSM Kuching 20.91 293 *e*P Pn 11 22 43.1 -0.4
26nm,1.1s
KSM Kuching 20.91 293 ⇓P Pn 11 22 42.5 -1.0
GIRL Giralia 21.25 222 P **P 11 22 46.9 +3.3**
baz=22,SNR=5.2
MEEK Meekatharra 21.95 207 P **P 11 22 52.5 +1.5**
baz=22,SNR=9.7
MEEK S Sn 11 26 58.4 -6.3
baz=22,SNR=5.3
TGY Tagaytay City 22.73 338 P **P 11 22 59.7 +0.4**
107nm,0.4s,baz=135,slow=1.4,SNR=4.1
FORT Forrest 23.55 183 P **P 11 23 09.3 +2.5**
baz=24,SNR=8.3
QLP Quilpie 23.92 146 P **P 11 23 11.8 +1.6**
baz=24,SNR=22
MORW Morawa 25.20 208 P **P 11 23 23.3 +1.5**
baz=26,SNR=19
BLDU Ballidu 26.22 205 P **P 11 23 32.6 +1.6**
baz=26,SNR=20
KLBR Kellerberrin 26.65 203 P **P 11 23 36.9 +1.9**
baz=27,SNR=7.9
STKA Stephens Creek 27.10 157 P **P 11 23 40.5 +1.6**
7.6nm,0.6s,baz=330,slow=8.6,SNR=18
STKA Stephens Creek 27.10 157 P **P 11 23 40.4 +1.4**
baz=27,SNR=13
HTT Hallett 27.60 163 P P 11 23 49.0 +5.6
baz=28,SNR=3.3
NWAO Narrogin (SRO) 28.04 202 P **P 11 23 48.4 +1.1**
8.5nm,0.7s,baz=50,slow=7.1,SNR=15
NWAO LR LR 11 35 53.9
comp=Z,59nm,18.1s,baz=83,slow=38
CMSA Cobar Meteorol 28.63 150 P **P 11 23 54.5 +1.9**
baz=29,SNR=14
RKGY Rocky Gully 29.64 201 P P 11 24 04.8 +3.4
baz=30,SNR=7.0
PSI Prapat 32.00 287 P **P 11 24 23.7 +1.0**
26nm,0.8s,baz=138,slow=4.5,SNR=15
PSI Prapat 32.00 287 P **P 11 24 24.3 +1.6**
baz=32,SNR=11
QIZ Qiongzhong 32.39 324 P P 11 24 31.2 +5.4
QIZ S **S 11 29 37.4 +4.4**
QIZ pmax pmax
comp=Z,7.0nm,1.1s
QIZ LR LR
comp=N,650nm,19.4s
QIZ LR LR
comp=E,270nm,24.5s
QIZ LR LR
comp=Z,650nm,17.0s
DZM Mont Dzumac 38.64 117 P **P 11 25 20.1 +0.6**
5.6nm,0.8s,baz=260,slow=11,SNR=4.6
CMAR Chiang Mai Arr 39.39 311 P **P 11 25 26.4 +0.7**
2.9nm,0.6s,baz=143,slow=7.4,SNR=21
CHTO Chiang Mai 39.60 311 P **P 11 25 28.1 +0.7**
48nm,0.8s
CHTO Chiang Mai 39.60 311 *e*P **P 11 25 27.7 +0.3**
2.9nm,0.6s
GYA Guiyang 40.04 327 *e*P P 11 25 35.0 +3.9
GYA pmax pmax
comp=Z,10.0nm,0.8s
CMAI Chiengmai2 40.22 313 P **P 11 25 33.5 +0.8**
NJ2 Nanjing 40.26 346 *e*P P 11 25 35.9 +3.3
NJ2 pP pP 11 26 06.2 +10
NJ2 sP sP 11 26 20.1 +13
NJ2 S **S 11 31 35.0 +2.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,210nm,4.7s
NJ2 LR LR
comp=N,980nm,26.0s
NJ2 LR LR
comp=E,2µm,25.2s
NJ2 LR LR
comp=Z,2µm,23.6s
KMI Kunming 41.27 322 P **P 11 25 41.5 +0.2**
KMI pmax pmax
comp=Z,9.0nm,1.1s
MJAR Matsushiro Arr 44.23 10 P **P 11 26 03.1 -1.7**
1.7nm,0.7s,baz=186,slow=8.6,SNR=4.1
CD2 Chengdu 45.12 328 P P 11 26 16.0 +4.0
CD2 pP pP 11 26 47.6 +12
CD2 sP sP 11 27 03.7 +17
CD2 PcP **PcP 11 27 52.9 +1.9**
CD2 PP PP 11 28 04.9 +5.4
CD2 PcS **PcS 11 31 45.8 +0.7**
CD2 S **S 11 32 46.3 +2.2**
CD2 sS sS 11 33 41.9 +17
CD2 SS **SS 11 36 05.3 -3.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.6s
BJI Beijing 48.52 346 P **P 11 26 37.2 -1.0**
BJI pP pP 11 27 11.8 +10
BJI sP sP 11 27 27.0 +14
BJI PP PP 11 28 37.0 +4.9
BJI S S 11 33 22.6 -9.4
BJI ScS **ScS 11 36 19.8 -1.2**
BJI SS **SS 11 37 01.9 -1.6**
BJI pmax pmax
comp=Z,9.0nm,0.8s
BJI pmax pmax
comp=Z,80nm,10.3s
BJI LR LR
comp=N,2µm,15.5s
BJI LR LR
comp=E,2µm,16.4s
BJI LR LR
comp=Z,1µm,16.9s
HHC Hu-ho-hao-te 50.50 342 *e*P P 11 26 58.0 +4.5
HHC sP sP 11 27 42.3 +14
HHC PP PP 11 28 56.9 +6.6
HHC S **S 11 34 01.5 +1.5**
HHC sS sS 11 34 57.5 +16
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,170nm,6.2s
HHC LR LR
comp=N,2µm,13.7s
HHC LR LR
comp=E,3µm,17.4s
HHC LR LR
comp=Z,4µm,13.7s
CN2 Changchun 50.83 356 *e*P P 11 27 01.8 +6.0
ODAN Odare 52.92 311 *e*P **P 11 27 12.0 +0.1**
65nm,0.5s
TAPN Taplejung 52.96 312 *e*P **P 11 27 12.0 -0.2**
62nm,0.5s
RAMN Ramite 53.56 311 *e*P **P 11 27 16.6 0.0**
163nm,0.5s
GTA Gaotai 53.83 332 *e*P **P 11 27 18.9 +0.7**
GTA pP pP 11 27 51.8 +9.4
GTA sP sP 11 28 07.3 +14
GTA S **S 11 34 43.1 -2.4**
GTA sS sS 11 35 40.4 +13
GTA SS **SS 11 38 26.9 -1.2**
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,55nm,4.5s
GTA LR LR
comp=N,630nm,14.7s
GTA LR LR
comp=E,650nm,14.0s
GTA LR LR
comp=Z,870nm,14.5s
JIRN Jiri 54.25 312 *e*P **P 11 27 21.9 +0.1**
55nm,0.5s
GUN Gumba 54.62 312 *e*P **P 11 27 24.0 -0.4**
116nm,0.5s
PKI Pulchoki 54.79 311 *e*P **P 11 27 25.2 -0.4**
39nm,0.5s
PKIN Phulchoki 54.80 311 *e*P **P 11 27 25.4 -0.2**
33nm,0.5s
KKN Kakani 55.00 311 *e*P **P 11 27 26.9 -0.1**
48nm,0.5s
DMN Daman 55.03 311 *e*P **P 11 27 27.2 -0.1**
64nm,1.0s
GKN Gorkha 55.59 311 *e*P **P 11 27 30.7 -0.5**
80nm,0.6s
KOLN Koldanda 56.25 310 *e*P **P 11 27 35.8 -0.2**
DANN Dangsing 56.43 311 *e*P **P 11 27 36.5 -0.8**
PYUN Piuthan 56.89 310 *e*P **P 11 27 40.5 0.0**
120nm,0.7s
ULN Ulaanbaatar 58.23 342 *e*P **P 11 27 50.0 +0.6**
2.7nm,0.5s
SONM Songino Array 58.40 342 P **P 11 27 51.1 +0.5**
1.9nm,0.6s,baz=156,slow=6.6,SNR=20
WMQ Urumqi 63.20 327 P **P 11 28 24.1 +0.9**
WMQ pP **PcP 11 28 57.8 -1.9**
WMQ sP sP 11 29 13.3 +14
WMQ S **S 11 36 43.7 -3.3**
WMQ sS sS 11 37 42.4 +13
WMQ ScS SKSac 11 37 59.6 -7.3
WMQ SS **SS 11 40 54.8 -0.4**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,180nm,5.2s
WMQ LR LR
comp=N,390nm,18.8s
WMQ LR LR
comp=E,1µm,17.6s
WMQ LR LR
comp=Z,730nm,17.6s
PETK Petropavlovsk- 64.64 18 P **P 11 28 32.0 -0.3**
5.1nm,0.9s,baz=204,slow=3.2,SNR=4.1
KSH Kashi 67.74 318 *e*P **P 11 28 53.0 +0.4**
KSH *e*sP sP 11 29 42.9 +14
KSH *e*PP PP 11 31 28.8 +5.5
KSH S S 11 37 33.3 -9.3
KSH pmax pmax
comp=Z,8.0nm,0.7s
KSH pmax pmax
comp=Z,100nm,3.8s
KSH LR LR
comp=N,31nm,3.4s
KSH LR LR
comp=E,14nm,3.0s
KSH LR LR
comp=Z,75nm,4.5s
MK31 Makanchi Array 68.03 327 *e*P **P 11 28 54.1 0.0**
MKAR Makanchi Array 68.03 327 P **P 11 28 54.0 -0.2**
9.9nm,0.7s,baz=126,slow=7.8,SNR=103
TKM2 Tokmak 2 69.73 321 *e*P **P 11 29 04.9 -0.1**
4.5nm,0.6s
AAK Ala-Archa 70.28 320 P **P 11 29 09.1 +0.8**
4.9nm,0.9s,baz=125,slow=6.4,SNR=12
ZAA0 Zalesovo Array 71.46 334 *e*P **P 11 29 13.6 -1.4**
ZALV Zalesovo Beam 71.46 334 P **P 11 29 13.7 -1.2**
1.7nm,0.6s,baz=103,slow=4.7,SNR=10
KURBB Kurchatov Arra 72.33 329 P **P 11 29 20.0 -0.2**
5.2nm,0.5s,baz=129,slow=5.1,SNR=75
KURK Kurchatov 72.34 329 *e*P **P 11 29 20.0 -0.2**
3.9nm,0.7s
KKAR Karatay Array 73.07 319 *e*P **P 11 29 24.5 -0.3**
2.7nm,0.7s
BVAR Borovoye Array 77.88 328 P **P 11 29 52.0 -0.1**
1.6nm,0.7s,baz=133,slow=8.7,SNR=9.0
PPT Papeete 79.33 107 LR LR 12 01 34.7
comp=Z,116nm,21.4s,baz=180,slow=33
ABKAR Akbulak array 82.27 322 *e*P **P 11 30 15.1 -0.6**
2.4nm,0.4s
AKTO Aktyubinsk 83.84 322 P **P 11 30 23.6 -0.2**
2.5nm,0.6s,baz=94,slow=6.1,SNR=13
RAYN Ar Rayn 87.28 294 *e*P **P 11 30 41.1 -0.5**
6.9nm,0.6s
ILAR Eielson Array 93.72 25 P **P 11 31 08.3 -2.3**
0.2nm,0.6s,baz=275,slow=4.7,SNR=7.6
TXAR Lajitas Array 125.49 59 PKP **PKPdf 11 36 55.8 +0.1**
0.1nm,0.4s,baz=182,slow=3.2,SNR=4.4
TORD Torodi Ar. Bea 128.28 281 PKP **PKPdf 11 37 01.0 -0.2**
0.7nm,0.5s,baz=36,slow=1.8,SNR=7.3
CPUP Villa Florida 146.09 169 PKPbc **PKPdf 11 37 32.8 -0.8**
0.8nm,0.4s,baz=196,slow=3.3,SNR=3.8
LPAZ La Paz 150.95 143 PKPbc **PKPbc 11 37 49.9 +1.6**
1.2nm,0.4s,baz=51,slow=0.7,SNR=8.8
LPAZ La Paz 150.95 143 *e*PKPbc **PKPbc 11 37 47.9 -0.4**

IDC ***04*** *11:29:17.5±0.9, 19.02N×109.06E, h0km, mb4.1/8, mb1 4.1/9, mb1mx3.8/47, mbtmp4.0/9, ML3.6/1, MS4.4/1, Ms1 4.4/1, ms1mx3.0/33, Error ellipse: s-maj=54.7km s-min=17.9km az=56.0*

ISCJB ***04*** *11:29:20.4±0.8, 18.9N±0.1×108.8E±0.2, h33km, mb4.1/8, MS4.5/1, Error ellipse: s-maj=26.0km s-min=14.9km az=139.2*

ISC 04 11:29:22.7±1.0, 18.9N±0.2×108.9E±0.2, h35km, n10, σ0.75/10, mb4.1/8, Hainan Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.43**	**269**	Pn	**Pn**	**11 31 35.9**	**-0.3**
	0.2nm,0.3s,baz=81,slow=11,SNR=4.4						
CMAR				LR	LR	11 35 53.7	
	comp=Z,72nm,19.8s,baz=84,slow=41						
MKAR	**Makanchi Array**	**35.34**	**328**	P	**P**	**11 36 14.4**	**-0.3**
	1.4nm,0.6s,baz=129,slow=8.4,SNR=16						
MKAR				PcP	**PcP**	**11 38 44.0**	**-0.4**
	1.2nm,0.7s,baz=117,slow=2.7,SNR=8.2						
AAK	**Ala-Archa**	**37.44**	**317**	P	**P**	**11 36 33.6**	**+0.7**
	1.7nm,0.7s,baz=101,slow=7.2,SNR=7.6						
ZALV	**Zalesovo Beam**	**39.57**	**338**	P	**P**	**11 36 49.1**	**-1.2**
	5.6nm,0.6s,baz=132,slow=7.7,SNR=28						
KURBB	**Kurchatov Arra**	**39.76**	**330**	P	**P**	**11 36 51.5**	**-0.4**
	1.3nm,0.6s,baz=134,slow=8.1,SNR=21						
BVAR	**Borovoye Array**	**45.22**	**328**	P	**P**	**11 37 37.4**	**+1.0**
	1.2nm,0.6s,baz=124,slow=7.5,SNR=5.9						
WRA	**Warramunga Arr**	**45.98**	**146**	P	**P**	**11 37 42.4**	**-0.3**
	2.4nm,0.7s,baz=331,slow=8.6,SNR=9.6						
AKTO	**Aktyubinsk**	**50.96**	**320**	P	**P**	**11 38 21.0**	**+0.2**
	0.8nm,0.8s,baz=95,slow=11,SNR=3.8						
STKA	**Stephens Creek**	**59.45**	**148**	P	**P**	**11 39 22.6**	**+0.4**
	2.1nm,0.7s,baz=288,slow=3.2,SNR=2.8						
GERES	**GERESS Array B**	**79.31**	**318**	LR	LR	12 22 35.3	
	comp=Z,188nm,18.5s,baz=50,slow=40						

NIED ***04*** *11:29:00, 31.30N×132.00E, h23km, Mw4.8 Best double couple: M0 1.59000×10^16 NP1:φs196.00000°, δ39.00000°, λ105.00000°. NP2:φs357.00000°, δ53.00000°, λ78.00000°.*

JMA ***04*** *11:29:46.7±0.2, 31.29N×131.97E, h25km±2km, M4.3*

JMA Felt I J1.

ISCJB ***04*** *11:29:49.4±0.6, 31.34N±0.04×131.75E±0.06, h56km±4km, mb4.2/28, MS4.0/7, Error ellipse: s-maj=8.3km s-min=5.9km az=16.2*

IDC ***04*** *11:29:49.5±3.8, 31.37N×131.53E, h33km±29km, mb3.9/22, mb1 4.0/23, mb1mx4.0/44, mbtmp4.1/23, ML2.9/2, MS4.0/10, Ms1 4.0/10, ms1mx3.7/33, Error ellipse: s-maj=15.9km s-min=11.5km az=81.0*

NEIC ***04*** *11:29:50.4±0.8, 31.32N×131.59E, h44km±7km, mb4.3/8, Error ellipse: s-maj=8.1km s-min=7.3km az=119.0*

NEIC Recorded [1 JMA] in Kagoshima and Miyazaki.

ISC 04 11:29:50.0±1.2, 31.28N±0.04×131.74E±0.07, h41km±11km, n71, σ1.51/74, mb4.2/28, MS4.0/7, 6C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.47**	**301**	⇓P	**Pn**	**11 29 59.0**	**-1.4**
JNAR				S	**Sn**	**11 30 07.3**	**-0.4**
JTSR	**Tashiro 2**	**0.71**	**261**	⇑P	**Pn**	**11 30 03.4**	**-0.3**
JTSR				S	**Sn**	**11 30 16.6**	**+3.1**
JTZ	**Takazaki**	**0.83**	**318**	⇑P	**Pn**	**11 30 04.0**	**-1.3**
JTZ				*e*S	**Sn**	**11 30 17.4**	**+1.1**
JTN	**Tanegashima 3**	**0.91**	**226**	⇑P	**Pn**	**11 30 06.4**	**+0.1**
JTN				*e*S	**Sn**	**11 30 21.1**	**+2.9**
JTSN	**Tsuno**	**0.98**	**348**	⇑P	**Pn**	**11 30 05.5**	**-1.8**
JTSN				S	**Sn**	**11 30 19.4**	**-0.6**
JSU	**Suzuyama**	**1.12**	**282**	⇑P	**Pn**	**11 30 09.2**	**-0.1**
JSU				S	**Sn**	**11 30 26.9**	**+3.4**
JZO	**Okuchi**	**1.29**	**312**	⇑P	**Pn**	**11 30 11.1**	**-0.6**
JZO				*e*S	**Sn**	**11 30 28.5**	**+0.7**
JNU	**Nakatsue**	**1.97**	**339**	Pn	**Pn**	**11 30 20.4**	**-0.6**
	42nm,0.3s,baz=140,slow=1.7,SNR=217						
JNU				Sn	**Sn**	**11 30 49.9**	**+5.3**
	95nm,0.3s,baz=27,slow=22,SNR=14						
JNU				LR	LR	11 30 53.8	
	comp=Z,1µm,20.7s,baz=232,slow=35						
JOW	**Kunigami**	**5.37**	**215**	Pn	**Pn**	**11 31 07.2**	**-0.5**
	0.4nm,0.3s,baz=132,slow=22,SNR=10						
JOW				Sn	**Sn**	**11 32 04.3**	**-4.0**
	0.5nm,0.3s,baz=198,slow=20,SNR=2.8						
KSRS	**Korea Array**	**6.92**	**334**	Pn	**Pn**	**11 31 30.9**	**+2.1**
	0.2nm,0.3s,baz=150,slow=14,SNR=5.0						
KSRS				LR	LR	11 34 17.2	
	comp=Z,550nm,20.5s,baz=150,slow=40						
KSAR	**Wonju Array Be**	**6.92**	**334**	Pn	**Pn**	**11 31 30.9**	**+2.0**
MAJO	**Matsushiro**	**7.51**	**44**	*e*Pn	**Pn**	**11 31 38.0**	**+1.0**
MJAR	**Matsushiro Arr**	**7.51**	**44**	Pn	**Pn**	**11 31 35.9**	**-1.1**
	0.8nm,0.3s,baz=239,slow=14,SNR=7.0						
JCJ	**Chichijima**	**10.04**	**112**	LR	LR	11 35 49.8	
	comp=Z,1µm,18.4s,baz=297,slow=35						
USRK	**Ussuriysk Arra**	**12.90**	**1**	LR	LR	11 37 42.5	
	comp=Z,540nm,18.5s,baz=168,slow=37						
ENH	**Enshi**	**19.15**	**273**	*e*P	**P**	**11 34 08.5**	**-1.3**
	20nm,0.6s						
HIA	**Hailar**	**20.11**	**337**	P	**P**	**11 34 19.9**	**-0.4**
	4.1nm,0.6s						
ULN	**Ulaanbaatar**	**25.06**	**318**	*e*P	**P**	**11 35 09.3**	**-1.3**
	6.8nm,0.8s						
SONM	**Songino Array**	**25.42**	**318**	P	**P**	**11 35 12.7**	**-1.2**
	3.4nm,0.7s,baz=135,slow=9.9,SNR=19						
SONM				PcP	**PcP**	**11 38 45.9**	**+0.7**
	0.4nm,0.6s,baz=137,slow=1.5,SNR=3.7						
SONM				LR	LR	11 46 49.2	
	comp=Z,1µm,19.1s,baz=136,slow=40						
PETK	**Petropavlovsk-**	**28.80**	**33**	LR	LR	11 48 01.0	
	comp=Z,299nm,18.3s,baz=210,slow=38						
CMAR	**Chiang Mai Arr**	**32.25**	**254**	P	**P**	**11 36 14.3**	**-0.4**
	2.3nm,0.7s,baz=47,slow=8.9,SNR=12						
CMAR				PcP	**PcP**	**11 39 04.2**	**+1.7**
	0.7nm,0.4s,baz=34,slow=2.3,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**33.62**	**102**	T	T	12 11 58.8	
	baz=300,slow=76,SNR=81						
H11N1	**WAKE ISLAND Hy**	**33.62**	**102**	T	T	12 11 58.5	
	baz=300,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy**	**33.63**	**102**	T	T	12 12 00.0	
	baz=300,slow=76,SNR=51						
SEY	**Seymchan**	**34.31**	**17**	P	**P**	**11 36 33.9**	**+1.7**
	1.6nm,0.6s,baz=176,slow=3.5,SNR=4.9						
FX1	**Attu Island--F**	**36.86**	**42**	LR	LR	11 53 10.9	
	comp=Z,93nm,20.5s,baz=254,slow=38						
TAPN	**Taplejung**	**38.40**	**276**	*e*P	**P**	**11 37 07.3**	**-0.6**
ODAN	**Odare**	**38.82**	**275**	*e*P	**P**	**11 37 10.8**	**-0.6**
RAMN	**Ramite**	**39.47**	**275**	*e*P	**P**	**11 37 16.1**	**-0.7**
	5.8nm,0.4s						
JIRN	**Jiri**	**39.61**	**277**	*e*P	**P**	**11 37 17.7**	**-0.4**
GUN	**Gumba**	**39.80**	**277**	*e*P	**P**	**11 37 19.6**	**-0.1**
	25nm,0.4s						
KKN	**Kakani**	**40.34**	**277**	*e*P	**P**	**11 37 23.0**	**-1.0**
DMN	**Daman**	**40.54**	**277**	*e*P	**P**	**11 37 24.9**	**-0.8**
MK31	**Makanchi Array**	**40.72**	**307**	*e*P	**P**	**11 37 25.3**	**-1.4**
MKAR	**Makanchi Array**	**40.72**	**307**	P	**P**	**11 37 25.2**	**-1.5**
	1.4nm,0.8s,baz=91,slow=11,SNR=16						
MKAR				PcP	**PcP**	**11 39 26.8**	**-0.8**
	0.2nm,0.4s,baz=80,slow=2.9,SNR=4.9						
MKAR				LR	LR	11 56 10.7	
	comp=Z,607nm,18.0s,baz=98,slow=39						
GKN	**Gorkha**	**40.83**	**278**	*e*P	**P**	**11 37 27.2**	**-0.8**
	8.2nm,0.4s						
DANN	**Dangsing**	**41.48**	**279**	*e*P	**P**	**11 37 33.3**	**-0.1**
	21nm,0.5s						
KOLN	**Koldanda**	**41.78**	**278**	*e*P	**P**	**11 37 34.9**	**-0.9**
	6.8nm,0.4s						
KURK	**Kurchatov**	**43.49**	**312**	P	**P**	**11 37 48.1**	**-1.0**
KURBB	**Kurchatov Arra**	**43.53**	**312**	P	**P**	**11 37 48.1**	**-1.4**
	1.1nm,0.5s,baz=104,slow=10,SNR=13						
TKM2	**Tokmak 2**	**45.49**	**301**	*e*P	**P**	**11 38 04.7**	**-0.8**
	3.8nm,0.9s						
AAK	**Ala-Archa**	**46.33**	**301**	P	**P**	**11 38 10.9**	**-1.1**
	1.3nm,0.6s,baz=136,slow=2.1,SNR=6.2						
KNRA	**Kununurra**	**46.78**	**184**	P	**P**	**11 38 16.5**	**+1.0**
	baz=37,SNR=10						
BVAR	**Borovoye Array**	**48.72**	**315**	P	**P**	**11 38 28.9**	**-1.4**
	4.1nm,0.5s,baz=103,slow=9.5,SNR=26						
BRVK	**Borovoye**	**48.78**	**315**	*e*P	**P**	**11 38 29.5**	**-1.2**
	5.9nm,0.5s						
KKAR	**Karatay Array**	**49.18**	**302**	*e*P	**P**	**11 38 32.3**	**-1.7**
	3.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**49.45**	**188**	P	**P**	**11 38 37.2**	**+1.1**
	baz=40,SNR=7.6						
WRA	**Warramunga Arr**	**50.99**	**177**	P	**P**	**11 38 48.3**	**+0.5**
	2.9nm,0.5s,baz=352,slow=8.4,SNR=17						
CTA	**Charters Tower**	**52.95**	**163**	P	**P**	**11 39 03.2**	**+0.9**
	1.6nm,0.6s,baz=324,slow=8.7,SNR=2.5						
ASAR	**Alice Springs**	**54.68**	**178**	P	**P**	**11 39 16.1**	**+1.2**
	1.7nm,0.5s,baz=11,slow=12,SNR=21						
ABKAR	**Akbulak array**	**55.55**	**311**	*e*P	**P**	**11 39 19.9**	**-1.2**
	1.2nm,0.5s						
RSO	**Redoubt South**	**56.29**	**35**	*e*P	**P**	**11 39 26.6**	**+0.2**
	162nm,0.4s						
AKTO	**Aktyubinsk**	**56.58**	**313**	P	**P**	**11 39 29.2**	**+0.8**
	1.1nm,0.5s,baz=61,slow=13,SNR=5.8						
ILAR	**Eielson Array**	**58.54**	**30**	P	**P**	**11 39 41.9**	**-0.1**
	0.5nm,0.7s,baz=277,slow=6.5,SNR=12						
ILAR				LR	LR	12 06 46.3	
	comp=Z,45nm,19.1s,baz=284,slow=38						
DAWY	**Dawson**	**61.87**	**30**	*e*P	**P**	**11 40 04.7**	**-0.1**
INK	**Inuvik**	**63.04**	**25**	P	**P**	**11 40 13.1**	**+0.6**
	0.7nm,0.5s,baz=286,slow=7.4,SNR=5.7						
STKA	**Stephens Creek**	**63.51**	**171**	P	**P**	**11 40 17.2**	**+1.2**
	6.2nm,0.5s,baz=352,slow=7.0,SNR=17						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	63.51	171	eP	P	11 40 16.6	+0.7
	1.2nm,0.6s						
JOF	Joensuu	67.14	331	ep	P	11 40 37.9	-1.2
FINES	FINESS Array B	69.99	331	P	P	11 40 55.3	-1.7
	1.3nm,0.4s,baz=78,slow=4.9,SNR=19						
YKA	Yellowknife Ar	72.65	26	P	P	11 41 13.7	+0.7
	0.4nm,0.8s,baz=305,slow=5.6,SNR=8.1						
AKASG	Malin Array Be	73.69	320	P	P	11 41 17.8	-1.6
	0.5nm,0.3s,baz=55,slow=6.0,SNR=6.0						
NB2	NORSAR Subarra	76.13	334	P	P	11 41 31.5	-1.8
	comp=Z,2.1nm,0.7s,baz=47,slow=5.9						
NOA	NORSAR Array B	76.13	334	P	P	11 41 31.6	-1.8
	comp=Z,1.6nm,0.6s,baz=50,slow=5.6,SNR=8.6						
BRTR	Keskin Array B	76.36	308	P	P	11 41 34.0	-1.2
	comp=Z,0.7nm,0.7s,baz=72,slow=4.7,SNR=2.8						
BRTR				LR	LR	12 21 05.4	
	comp=Z,90nm,18.3s,baz=66,slow=40						
NVAR	Mina Array Bea	84.82	48	P	P	11 42 22.1	+1.5
	comp=Z,0.9nm,0.6s,baz=307,slow=5.6,SNR=9.1						
PDAR	Pinedale Array	87.32	40	P	P	11 42 33.5	+0.6
	comp=Z,0.6nm,0.7s,baz=282,slow=2.2,SNR=4.8						
ULM	Lac du Bonnet	88.53	28	P	P	11 42 40.6	+2.5
	comp=Z,1.3nm,0.7s,baz=282,slow=3.7,SNR=3.1						
SCHQ	Schefferville	92.76	11	LR	LR	12 26 06.9	
	comp=Z,56nm,21.6s,baz=7.0,slow=36						
TORD	Torodi Ar. Bea	114.82	305	PKP	PKPdf	11 48 26.5	-0.4
	comp=Z,0.2nm,0.5s,baz=348,slow=3.5,SNR=5.8						
DBIC	Dimbokro	123.93	305	PKP	PKPdf	11 48 44.7	+0.3
	comp=Z,2.0nm,0.5s,baz=110,slow=0.2,SNR=4.5						

*NOU **04** 11:31:13.1±0.7, 14°.79S×168°.54E, h30km, MD3.7, ML3.3*
*ISCJB **04** 11:31:17.8±0.6, 15°.09S±0°.04×167°.40E±0°.09, h129km, mb4.2/14, Error ellipse: s-maj=13.0km s-min=5.1km az=173.8*
*NEIC **04** 11:31:17.2±2.1, 15°.09S×167°.49E, h113km±18km, mb4.5/4, Error ellipse: s-maj=14.1km s-min=12.3km az=209.0*
*IDC **04** 11:31:18.9±2.6, 15°.08S×167°.42E, h125km±22km, mb4.1/15, mb1 4.2/16, mb1mx3.9/36, mbtmp4.5/16, MS4.3/1, Ms1 4.3/1, ms1mx2.8/28, Error ellipse: s-maj=19.0km s-min=14.9km az=80.0*
ISC 04 11:31:19.2±0.7, 15°.09S±0°.06×167°.4E±0°.1, h129km, n49, σ0.75/52, mb4.3/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.01	188	P	Pn	11 32 59.0	-0.4
	11nm,0.3s,baz=328,slow=15,SNR=64						
DZM				S	Sn	11 34 17.8	0.0
	14nm,0.3s,baz=300,slow=24,SNR=13						
DZM	Mont Dzumac	7.01	188	ePn	Pn	11 32 56.2	-3.2
	29nm,0.3s						
DZM				P	Pn	11 32 59.0	-0.4
DZM				S	Sn	11 34 17.8	0.0
BAYA	Yate Dam	7.05	184	eS	Sn	11 34 17.6	-1.0
NOUC	Port Laguerre	7.06	189	eP	Pn	11 33 00.1	+0.1
NOUC				eS	Sn	11 34 19.6	+0.7
NOUC				AMP		11 34 27.2	
	comp=Z,35nm,2.4s						
LASL	Noumea	7.16	187	eP	Pn	11 33 01.8	+0.6
LASL				eS	Sn	11 34 21.1	0.0
NORM	Noumea	7.16	187	eP	Pn	11 33 00.9	-0.5
EIDS	Eidsvold	18.43	234	eP	P	11 35 25.2	+0.4
	comp=Z,29nm,1.0s						
EIDS	Eidsvold	18.43	234	P	Pn	11 35 26.5	+0.1
	baz=18,SNR=13						
RAO	Raoul Island	19.53	139	LR	LR	11 41 33.4	
	comp=Z,1µm,21.5s,baz=133,slow=31						
PMG	Port Moresby	20.60	284	P	P	11 35 49.1	+0.8
	comp=Z,17nm,0.9s,baz=73,slow=11,SNR=4.1						
CTA	Charters Tower	20.80	253	P	P	11 35 51.5	+1.1
	comp=Z,9.2nm,0.5s,baz=81,slow=12,SNR=19						
CTAO	Charters Tower	20.80	253	eP	P	11 35 50.2	-0.2
	comp=Z,14nm,0.8s						
RMQ	Roma	20.80	234	P	P	11 35 51.9	+1.5
	baz=21,SNR=12						
ARMA	Armidale	21.07	221	eP	P	11 35 52.9	-0.4
MTSU	Mount Surprise	22.36	259	P	P	11 36 07.1	+0.2
	baz=22,SNR=52						
COEN	Coen	23.52	270	P	P	11 36 17.9	0.0
QLP	Quilpie	24.48	238	P	P	11 36 27.0	+0.6
	baz=24,SNR=23						
URZ	Urewera	24.61	161	P	P	11 36 28.8	+1.4
	comp=Z,2.2nm,0.4s,baz=277,slow=4.2,SNR=8.2						
CMSA	Cobar Meteorol	25.75	227	P	P	11 36 38.2	+0.3
	baz=26,SNR=11						
QIS	Mount Isa	27.03	254	P	P	11 36 49.2	-0.3
	baz=27,SNR=5.1						
STKA	Stephens Creek	28.89	230	P	P	11 37 06.8	+0.8
	comp=Z,22nm,0.6s,baz=50,slow=9.0,SNR=72						
STKA	Stephens Creek	28.89	230	P	P	11 37 06.8	+0.8
	baz=29,SNR=50						
HTT	Hallett	31.61	230	P	P	11 37 30.8	+0.8
	baz=31,SNR=6.0						
WRAB	Tennant Creek	31.89	256	eP	P	11 37 31.1	-1.5
WRA	Warramunga Arr	31.90	256	P	P	11 37 31.2	-1.5
	comp=Z,5.9nm,0.7s,baz=85,slow=9.0,SNR=32						
AS31	Alice Springs	32.70	250	eP	P	11 37 38.6	-1.1
ASAR	Alice Springs	32.70	250	P	P	11 37 38.6	-1.0
	comp=Z,15nm,0.6s,baz=79,slow=9.1,SNR=110						
ASAR				ScP	ScP	11 43 55.9	+1.2
	comp=Z,0.5nm,0.6s,baz=84,slow=3.7,SNR=5.1						
BBOO	Buckleboo	33.49	233	P	P	11 37 47.0	+0.6
	baz=33,SNR=22						
KDU	Kakadu	34.01	270	P	P	11 37 50.2	-0.8
	baz=34,SNR=3.7						
WRKA	Warakurna	37.96	249	P	P	11 38 23.8	-0.8
	baz=38,SNR=9.3						
FORT	Forrest	39.26	240	P	P	11 38 35.5	+0.1
	baz=39,SNR=19						
MEEK	Meekatharra	46.80	248	P	P	11 39 35.9	-0.2
	baz=46,SNR=14						
KLBR	Kellerberrin	48.08	241	P	P	11 39 45.1	-0.8
	baz=48,SNR=6.6						
NWAO	Narrogin (SRO)	48.71	239	P	P	11 39 50.0	-0.8
	comp=Z,4.7nm,0.5s,baz=74,slow=4.2,SNR=11						
MORW	Morawa	49.27	245	P	P	11 39 54.6	-0.5
	baz=49,SNR=3.2						
JNU	Nakatsue	59.31	324	P	P	11 41 07.7	+0.1
	comp=Z,5.7nm,0.9s,baz=153,slow=2.3,SNR=2.6						
VNDA	Vanda	62.51	181	P	P	11 41 28.6	0.0
	comp=Z,1.8nm,0.8s,baz=9.6,slow=7.6,SNR=3.5						
PETK	Petropavlovsk-	68.43	354	P	P	11 42 08.0	+1.1
	comp=Z,4.2nm,1.0s,baz=163,slow=5.9,SNR=3.4						
CMAR	Chiang Mai Arr	75.25	294	P	P	11 42 49.5	+1.1
	comp=Z,1.3nm,0.6s,baz=133,slow=4.4,SNR=9.2						
ULN	Ulaanbaatar	82.52	324	eP	P	11 43 27.8	+0.1
	comp=Z,3.1nm,0.8s						
SONM	Songino Array	82.88	324	P	P	11 43 29.7	+0.2
	comp=Z,1.4nm,0.6s,baz=148,slow=8.0,SNR=7.8						
ILAR	Eielson Array	86.81	18	P	P	11 43 47.6	-1.0
	comp=Z,0.3nm,0.6s,baz=245,slow=4.9,SNR=9.8						
MK31	Makanchi Array	97.58	316	eP	P	11 44 38.7	-0.2
MKAR	Makanchi Array	97.58	316	P	Pdif	11 44 39.2	+0.2
	comp=Z,1.1nm,0.6s,baz=90,slow=6.6,SNR=12						
ZALV	Zalesovo Beam	97.78	324	P	P	11 44 38.8	-0.8
	comp=Z,1.1nm,0.7s,baz=90,slow=5.3						
ARCES	ARCESS Array B	120.64	345	PKP	PKPdf	11 49 54.9	-0.3
	comp=Z,1.7nm,0.7s,baz=76,slow=2.3,SNR=11						
FINES	FINESS Array B	126.11	338	PKP	PKPdf	11 50 05.8	0.0
	comp=Z,2.4nm,1.0s,baz=358,slow=5.7,SNR=3.9						
KEST	Kesra	151.59	320	PKPbc	PKPbc	11 50 58.0	-0.7
	comp=Z,1.2nm,0.6s,baz=94,slow=4.9,SNR=3.1						
TORD	Torodi Ar. Bea	166.04	264	PKP	PKPdf	11 51 09.2	-0.6
	comp=Z,0.6nm,0.6s,baz=62,slow=0.5,SNR=5.4						

*NIED **04** 11:35:00, 31°.30N×131°.90E, h29km, Mw4.3 Best double couple: Mo2.88000×10^15 NP1:φs236.00000°, δ41.00000°, λ146.00000°. NP2:φs352.00000°, δ69.00000°, λ54.00000°.*
*IDC **04** 11:35:08.7±0.8, 31°.44N×131°.55E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.7/42, mbtmp3.7/11, ML2.4/2, Error ellipse: s-maj=28.6km s-min=15.8km az=74.0*
*JMA **04** 11:35:11.6±0.2, 31°.29N×131°.93E, h26km±2km, M4.1*
ISC 04 11:35:11.9±1.9, 31°.34N±0°.05×131°.81E±0°.08, h25km±13km, n20, σ1.57/27, mb3.8/10, 5C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	0.50	293	⇓P	Pn	11 35 23.6	+0.1
JNAR				eS	Sn	11 35 32.1	+0.8
JTSR	Tashiro 2	0.78	258	⇑P	Pn	11 35 27.8	+0.4
JTZ	Takazaki	0.84	313	⇑P	Pn	11 35 28.6	+0.5
JTZ				S	Sn	11 35 42.1	+2.4
JTSN	Tsuno	0.94	344	⇑P	Pn	11 35 30.1	+0.5
JTSN				S	Sn	11 35 43.9	+1.5
JTN	Tanegashima 3	0.98	227	⇑P	Pn	11 35 30.9	+0.7
JTN				eS	Sn	11 35 46.0	+2.7
JSU	Suzuyama	1.17	279	⇑P	Pb	11 35 33.8	+0.3
JSU				eS	Sn	11 35 50.2	+2.2
JZO	Okuchi	1.31	308	P	Pb	11 35 35.7	-0.1
JNU	Nakatsue	1.95	336	Pn	Pb	11 35 45.4	-1.4
	14nm,0.3s,baz=268,slow=3.4,SNR=22						
JNU				Sn	Sb	11 36 11.1	+0.4
	21nm,0.3s,baz=270,slow=19,SNR=7.0						
JOW	Kunigami	5.45	215	Pn	Pn	11 36 31.6	0.0
	0.1nm,0.3s,baz=144,slow=19,SNR=3.3						
JOW				Sn	Sn	11 37 30.4	-3.1
	0.4nm,0.3s,baz=57,slow=18,SNR=4.5						
MJAR	Matsushiro Arr	7.43	44	Pn	Pn	11 37 00.2	+1.4
	0.5nm,0.3s,baz=311,slow=10,SNR=5.5						
SONM	Songino Array	25.43	318	P	P	11 40 37.0	-0.7
	1.0nm,0.8s,baz=122,slow=9.5,SNR=5.5						
MKAR	Makanchi Array	40.74	307	P	P	11 42 50.1	-0.7
	0.2nm,0.6s,baz=96,slow=9.9,SNR=3.3						
KURBB	Kurchatov Arra	43.55	312	P	P	11 43 12.8	-0.7
	0.2nm,0.4s,baz=102,slow=9.7,SNR=4.3						
BVAR	Borovoye Array	48.73	315	P	P	11 43 52.7	-1.6
	1.0nm,0.5s,baz=105,slow=9.9,SNR=6.6						
WRA	Warramunga Arr	51.04	177	P	P	11 44 12.7	+0.6
	1.7nm,0.8s,baz=352,slow=8.5,SNR=11						
ASAR	Alice Springs	54.73	178	P	P	11 44 41.6	+2.3
	0.9nm,0.6s,baz=11,slow=13,SNR=11						
STKA	Stephens Creek	63.55	171	P	P	11 45 41.5	+1.3
	2.7nm,0.7s,baz=2.2,slow=5.7,SNR=6.4						
FINES	FINESS Array B	69.98	331	P	P	11 46 18.6	-2.4
	1.6nm,0.8s,baz=36,slow=11,SNR=5.3						
YKA	Yellowknife Ar	72.58	26	P	P	11 46 38.3	+1.7
	0.2nm,0.9s,baz=298,slow=6.7,SNR=2.2						
AKASG	Malin Array Be	73.69	320	P	P	11 46 42.3	-1.2
	0.2nm,0.3s,baz=58,slow=6.1,SNR=3.9						

*ISCJB **04** 11:50:28.7±0.2, 16°.71S±0°.05×73°.50W±0°.06, h30km, mb4.8/43, MS4.3/12, Error ellipse: s-maj=10.5km s-min=3.6km az=138.5*
*IDC **04** 11:50:31.3±0.6, 16°.60S×73°.47W, h31km±3km, mb4.2/14, mb1 4.3/17, mb1mx4.0/39, mbtmp4.3/17, ML4.7/2, MS4.2/14, Ms1 4.2/14, ms1mx4.0/25, Error ellipse: s-maj=19.5km s-min=13.8km az=37.0*
*NEIC **04** 11:50:34.3±0.8, 16°.69S×73°.43W, h60km±6km, mb4.8/26, Error ellipse: s-maj=9.6km s-min=5.5km az=49.0*
NEIC Felt [II] at Arequipa. Also felt at Lluta.
ISC 04 11:50:31.1±0.5, 16°.76S±0°.06×73°.50W±0°.07, h34km±1km, h34km:pP-P, n269, σ1.00/276, mb4.8/43, MS4.2/12, 98C-74D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSGC	Pisagua	4.28	132	eP	Pn	11 51 34.0	0.0
MNMC	Minimini	4.40	123	eP	Pn	11 51 36.5	+0.7
HMBC	Humberstone	4.90	136	⇑iP	Pn	11 51 42.3	-0.2
PATCX	Punta Patache	5.14	142	⇑iP	Pn	11 51 45.1	-0.7
LPAZ	La Paz	5.17	86	Pn	Pn	11 51 51.5	+4.7
	6.6nm,0.3s,baz=295,slow=7.7,SNR=142						
LPAZ				Sn	Sb	11 53 03.0	-0.1
	baz=330,slow=16,SNR=1.5						
LPAZ				LR	LR	11 54 20.4	
	comp=Z,6µm,18.2s,baz=267,slow=45						
PB01	Plate Boundary	5.71	139	eP	Pn	11 51 53.4	-0.3
NNA	Nana	5.74	325	Pn	Pn	11 51 56.4	+2.3
	7.7nm,0.3s,baz=136,slow=8.1,SNR=8.7						
NNA				Sn	Sn	11 52 56.2	-2.7
	10nm,0.3s,baz=21,slow=8.6,SNR=2.3						
NNA				LR	LR	11 54 29.2	
	comp=Z,1µm,20.9s,baz=151,slow=42						
NNA	Nana	5.74	325	ePn	Pn	11 51 57.6	+3.5
NNA				Sn	Sn	11 52 56.2	-2.7
NNA				eSn	Sn	11 53 00.5	+1.7
PB07	Plate Boundary	6.01	146	⇑iP	Pn	11 51 56.6	-1.2
PB09	Plate Boundary	6.42	142	⇑iP	Pn	11 52 03.8	+0.3
PB04	Plate Boundary	6.66	146	eP	Pn	11 52 02.0	-4.5
PB06	Plate Boundary	6.98	149	eP	Pn	11 52 10.0	-1.1
LVC	Limon Verde	7.25	144	ePn	Pn	11 52 15.5	+0.5
	37nm,0.8s						
LVC				eSn	Sn	11 53 34.9	-1.4
ATAH	Atahualpa	10.69	333	Pn	Pn	11 53 07.0	+4.6
	0.5nm,0.3s,baz=156,slow=9.9,SNR=2.1						
ATAH				Sn	Sn	11 55 16.2	+15
	1.1nm,0.3s,baz=180,slow=5.1,SNR=2.6						
SIV	San Ignacio	11.95	88	Pn	Pn	11 53 19.8	+0.5
	6.8nm,0.3s,baz=281,slow=12,SNR=56						
SIV				LR	LR	11 58 24.8	
	comp=Z,2µm,18.9s,baz=282,slow=40						
SAML	Samuel	12.70	54	ePn	Pn	11 53 31.7	+2.3
CFAA	Coronel Fontan	15.54	163	Pn	P	11 54 10.5	-1.2
	0.1nm,0.3s,baz=350,slow=11,SNR=10						
H03N1	Juan Fernandez	17.31	195	T	T	12 13 03.4	
	baz=17,slow=75,SNR=879						
H03N2	Juan Fernandez	17.32	195	T	T	12 13 03.0	
	baz=17,slow=75,SNR=964						
H03N3	Juan Fernandez	17.33	195	T	T	12 13 04.7	
	baz=17,slow=75,SNR=716						
CPUP	Villa Florida	17.79	125	P	P	11 54 37.9	+1.2
	0.5nm,0.3s,baz=247,slow=13,SNR=3.4						
CPUP				LR	LR	12 02 45.3	
	comp=Z,612nm,19.7s,baz=284,slow=41						
PTGA	Pitinga	20.77	41	P	P	11 55 09.2	-0.2
	13nm,0.8s,baz=214,slow=17,SNR=9.5						
BB16B	Bebedouro	23.94	104	eP	P	11 55 37.1	-5.3
BB16B				i		11 55 41.7	
BB16B				i		11 55 47.6	
PLCA	Paso Flores	24.03	174	P	P	11 55 44.5	+1.6
	4.2nm,0.8s,baz=348,slow=11,SNR=5.6						
PLCA				pP	pP	11 55 54.4	+1.6
	7.5nm,0.9s,baz=347,slow=9.0,SNR=4.7						
BDFB	Brasilia	24.50	91	P	P	11 55 47.7	+0.1
	15nm,0.8s,baz=254,slow=11,SNR=16						
BDFB				pP	pP	11 55 57.4	0.0
	17nm,0.9s,baz=233,slow=8.4,SNR=7.1						
BDFB				LR	LR	12 06 25.0	
	comp=Z,365nm,19.4s,baz=256,slow=39						
SDV	Santo Domingo	25.64	7	eP	P	11 55 57.1	-0.8
	64nm,0.9s						
CBYP	Canovanas	35.61	13	eP	P	11 57 23.4	-2.4
	14nm,0.9s						
433A	Art	53.27	332	⇓P	P	11 59 46.2	-0.5
	baz=54						
334A	Lometa	53.39	334	⇓P	P	11 59 46.7	-0.9
	baz=54						
531A	Rocksprings	53.44	331	⇓P	P	11 59 47.7	-0.3
	baz=54						
432A	Menard	53.69	332	⇓P	P	11 59 49.3	-0.5
	baz=54						
530A	J-C Ranch, Com	53.80	330	⇑P	P	11 59 49.6	-1.0
	baz=54						
431A	Sonora	53.90	331	⇑P	P	11 59 50.7	-0.7
	baz=54						
628A	Black Gap, Mar	54.02	328	⇓P	P	11 59 51.9	-0.4
	baz=54						
332A	Millersview	54.10	332	⇓P	P	11 59 51.4	-1.3
	baz=54						
529A	Stev Forest Ra	54.21	329	⇑P	P	11 59 53.4	-0.3
	baz=54						
627A	Terlingua Ranc	54.25	328	⇓P	P	11 59 55.5	+1.5
	baz=54						
233A	Rising Star	54.27	333	⇓P	P	11 59 52.8	-1.2
	baz=54						
430A	Baggett Ranch,	54.28	330	⇑P	P	11 59 53.6	-0.6
	baz=54						
TXAR	Lajitas Array	54.30	327	P	P	11 59 53.6	-0.7
	0.8nm,0.7s,baz=148,slow=7.8,SNR=12						
TXAR				LR	LR	12 21 33.0	
	comp=Z,146nm,18.9s,baz=0.0,slow=34						
331A	San Angelo	54.34	332	⇑P	P	11 59 56.3	+1.7
	baz=55						
134A	White-Moore Ra	54.40	334	⇑P	P	11 59 55.4	+0.5
	baz=55						
429A	Davenport Ranc	54.46	330	⇑P	P	11 59 56.2	+0.7
	baz=55						
232A	Coleman	54.48	333	⇑P	P	11 59 56.4	+0.9
	baz=55						
626A	Big Bend Ranch	54.72	327	⇑P	P	11 59 57.5	+0.2
	baz=55						
133A	Hamilton Ranch	54.78	334	⇑P	P	11 59 57.1	-0.6
	baz=55						
527A	Woodward Ranch	54.92	328	⇑P	P	11 59 58.5	-0.4
	baz=55						
526A	Mary Lane Ranc	55.10	327	⇑P	P	12 00 00.3	+0.1
	baz=55						
ABTX	Abilene, Hawle	55.11	333	eP	P	12 00 00.1	+0.1
	19nm,1.4s						
ABTX	Abilene, Hawle	55.11	333	⇑P	P	11 59 59.4	-0.7
	baz=55						
Z33A	Whitaker Ranch	55.31	334	⇑P	P	12 00 01.0	-0.5
	baz=56						
426A	McDonald Obser	55.55	328	⇑P	P	12 00 02.3	-1.3
	baz=56						
130A	Snyder	55.67	332	⇑P	P	12 00 03.4	-0.8
	baz=56						
Z31A	Sharp Cattle R	55.92	333	⇓P	P	12 00 05.2	-0.7
	baz=56						
USIN	University of	56.04	347	eP	P	12 00 05.4	-1.1
	24nm,0.8s						
326A	Caldwell Ranch	56.05	328	⇑P	P	12 00 06.3	-0.6
	baz=56						
129A	Stewart Farms,	56.11	331	⇑P	P	12 00 06.5	-0.8
	baz=56						
425A	Indio Mountain	56.14	327	⇑P	P	12 00 06.3	-1.3
	baz=56						
227A	Bennet, Jal	56.28	330	⇑P	P	12 00 07.3	-1.2
	baz=56						
Z30A	Sanderson Ranc	56.33	332	⇓P	P	12 00 07.6	-1.2
	baz=56						
MCWV	Mont Chateau	56.43	354	eP	P	12 00 08.6	-0.8
	153nm,2.3s						
Y31A	Rekieta Farm,	56.52	333	⇓P	P	12 00 09.4	-0.8
	baz=57						
226B	Tecolote Peak,	56.76	329	⇑P	P	12 00 13.1	+1.1
	baz=57						
X31A	McDonald Ranch	56.97	334	⇓P	P	12 00 12.5	-0.9
	baz=57						
Y29A	Porterfield Fa	57.05	332	⇑P	P	12 00 12.9	-1.2
	baz=57						
W32A	Sentinel	57.09	335	⇓P	P	12 00 13.8	-0.4
	baz=57						
225A	Deer Hill, Car	57.12	328	⇓P	P	12 00 13.8	-0.8
	baz=57						
126A	Clayton Basin,	57.15	329	⇓P	P	12 00 14.6	-0.2
	baz=57						
X30A	Coker Ranch, T	57.20	333	⇓P	P	12 00 13.7	-1.3
	baz=57						
Z27A	Tatum	57.31	330	⇑P	P	12 00 14.8	-1.1
	baz=58						
X29A	Tulia	57.56	332	⇓P	P	12 00 16.5	-1.1
	baz=58						
Z26A	Caprock	57.64	330	⇑P	P	12 00 16.7	-1.5
	baz=58						
Y27A	Causey	57.76	331	⇑P	P	12 00 18.8	-0.2
	baz=58						
RKT	Rikitea	57.78	253	eLR	LR	12 17 19.8	
	398nm,26.0s						
RKT	Rikitea	57.78	253	eT	T	13 02 29.3	
	2.0nm,0.2s						
Z25A	Roswell	58.01	329	⇓P	P	12 00 19.5	-1.2
	baz=58						
Z24A	Sheeppen Canyo	58.37	329	⇑P	P	12 00 22.8	-0.6
	baz=59						
319A	Douglas	58.91	324	⇓P	P	12 00 27.7	+0.6
	baz=59						
W25A	X Bar L Ranch,	59.46	331	⇓P	P	12 00 30.2	-0.7
	baz=60						
V26A	Tequesquite Ra	59.62	332	⇑P	P	12 00 32.3	+0.3
	baz=60						
U26A	Atchley Ranch,	60.10	332	⇑P	P	12 00 34.7	-0.6
	baz=60						
LAZ	Ladron	60.11	328	eP	P	12 00 35.9	+0.5
	2.9nm,1.2s						
Q32A	Meitler Ranch,	60.21	338	⇓P	P	12 00 35.0	-0.9
	baz=60						
S26A	Kim	61.00	333	⇓P	P	12 00 41.2	-0.2
	baz=61						
T25A	Trinidad	61.01	332	⇑P	P	12 00 41.1	-0.5
	baz=61						
U23A	El Rito	61.18	330	⇓P	P	12 00 42.8	+0.1
	baz=61						
V22A	San Miguel Ran	61.19	329	⇓P	P	12 00 42.9	+0.1
	baz=61						
SDCO	Great Sand Dun	62.01	332	eP	P	12 00 47.9	-0.5
	4.1nm,1.0s						
BGNE	Belgrade	62.21	339	⇓P	P	12 00 48.7	-0.7
	baz=62						
X16A	Lo Mia Camp, P	62.39	325	⇓P	P	12 00 51.6	+0.7
	baz=63						
S22A	4UR Ranch, Cre	62.62	331	⇑P	P	12 00 52.8	+0.3
	baz=63						
N28A	Pribbeno Ranch	62.81	336	⇓P	P	12 00 52.7	-0.8
	baz=63						
L31A	Butterfield Fa	63.13	339	⇓P	P	12 00 55.4	-0.1
	baz=63						
WUAZ	Wupatki	63.18	326	eP	P	12 00 57.3	+1.2
	8.9nm,1.3s						
WUAZ	Wupatki	63.18	326	⇑P	P	12 00 57.2	+1.1
	baz=63						
PV01	Paradox Valley	63.76	330	eP	P	12 00 59.9	-0.1
	803nm,1.5s						
ECSD	EROS Data Cent	63.81	342	eP	P	12 00 59.3	-0.6
	8.2nm,1.0s						
ECSD	EROS Data Cent	63.81	342	⇑P	P	12 00 59.4	-0.5
	baz=64						
K30A	Basset	63.84	339	⇓P	P	12 00 59.7	-0.4
	baz=64						
SMCO	Snowmass	63.84	331	eP	P	12 01 01.2	+0.5
	4.0nm,1.0s						
P22A	Eagle	64.08	332	⇓P	P	12 01 01.6	-0.5
	baz=64						
SPMN	St. Paul	64.14	345	eP	P	12 01 01.3	-0.6
	14nm,0.9s						
SPMN	St. Paul	64.14	345	⇓P	P	12 01 01.2	-0.8
	baz=64,SNR=5.4						
BC3	Big Chuckawall	64.14	322	⇑P	P	12 01 03.6	+1.2
	baz=64						
K29A	Lazy Trails An	64.16	338	⇑P	P	12 01 02.3	0.0
	baz=64						
O23A	Lake Granby, G	64.21	333	⇑P	P	12 01 02.8	-0.1
	baz=64						
W13A	Hualapai Mount	64.26	324	⇓P	P	12 01 04.0	+0.8
	baz=64						
U15A	North Rim	64.35	326	⇑P	P	12 01 04.7	+0.7
	baz=65						
J30A	Dallas	64.37	339	⇓P	P	12 01 03.0	-0.6
	baz=65						
O22A	Kremmling	64.45	332	⇓P	P	12 01 04.5	-0.1
	baz=65						
J29A	Okreek	64.73	339	⇑P	P	12 01 05.9	0.0
	baz=65						
J28A	Allard Ranch,	65.07	338	⇑P	P	12 01 08.1	-0.1
	baz=65						
M23A	Laramie	65.16	334	⇓P	P	12 01 09.2	+0.2
	baz=65						
BRSD	Miller	65.19	340	eP	P	12 01 08.6	-0.3
	7.8nm,0.8s						
BRSD	Miller	65.19	340	⇑P	P	12 01 08.5	-0.4
	baz=65						
O20A	White River Ci	65.19	331	⇓P	P	12 01 09.5	+0.3
	baz=65						
J27A	Elkhorn Farm,	65.20	337	⇑P	P	12 01 09.2	+0.1
	baz=65						
HEC	Hector,Ludlow	65.48	322	⇑P	P	12 01 12.3	+1.2
	baz=66						
SRU	San Rafael	65.48	329	eP	P	12 01 11.0	-0.1
	5.5nm,1.1s						
J26A	Sides Ranch, S	65.65	337	⇑P	P	12 01 11.7	-0.3
	baz=66						
CCUT	Cedar City	65.76	326	eP	P	12 01 14.6	+1.6
	66nm,2.8s						
N20A	Spence Gulch,	65.76	332	⇑P	P	12 01 13.4	+0.4
	baz=66						
H29A	Onida	65.77	339	⇑P	P	12 01 12.1	-0.6
	baz=66						
G30A	Faulkton	65.86	340	⇑P	P	12 01 12.3	-0.9
	baz=66						
MVU	Marysvale	65.87	327	eP	P	12 01 14.6	+0.9
	7.2nm,1.3s						
I27A	Quinn	65.92	338	⇑P	P	12 01 13.6	-0.1
	baz=66						
ARUT	Antelope Range	65.98	326	eP	P	12 01 15.5	+1.1
	64nm,1.0s						
H28A	Mission Ridge	66.08	339	⇑P	P	12 01 14.2	-0.5
	baz=66						
I26A	New Underwood	66.18	337	⇓P	P	12 01 15.5	+0.1
	baz=66						
SHOC	Shoshone	66.19	323	⇑P	P	12 01 16.6	+1.0
	baz=66						
F30A	Leola	66.45	341	⇑P	P	12 01 17.2	+0.2
	baz=67						
K22A	Casper	66.47	334	⇓P	P	12 01 17.4	0.0
	baz=67						

I25A Rochford 66.50 337 ⇑P P 12 01 17.5 -0.1
baz=67
F29A Eureka 66.70 340 ⇓P P 12 01 18.1 -0.6
baz=67
K21A Alcova 66.77 334 ⇓P P 12 01 19.7 +0.4
baz=67
DAU Daniels Canyon 66.84 329 eP P 12 01 20.7 +0.7
BSC Santa Cruz Isl 66.91 319 ⇑P P 12 01 22.1 +1.9
baz=67
FURC Furnace Creek, 66.93 323 ⇑P P 12 01 21.6 +1.4
baz=67
E30A Jud 67.01 341 ⇑P P 12 01 20.6 +0.1
baz=67,SNR=6.6
G27A Dupree 67.01 339 ⇓P P 12 01 20.5 -0.1
baz=67
F28A McLaughlin 67.04 340 ⇓P P 12 01 20.2 -0.6
baz=67
JLU Jordanelle 67.08 329 eP P 12 01 22.3 +0.9
4.1nm,0.7s
ARVC Arvin 67.17 321 ⇑P P 12 01 23.2 +1.4
baz=67
G26A Maurine 67.18 338 ⇓P P 12 01 21.7 0.0
baz=67
CTU Camp Tracy 67.30 329 eP P 12 01 23.1 +0.4
3.8nm,0.8s
E29A Napoleon 67.30 341 ⇓P P 12 01 22.1 -0.3
baz=68
ISA Isabella 67.32 321 ⇓P P 12 01 23.2 +0.4
baz=68
DUG Dugway 67.44 328 ⇑P P 12 01 24.2 +0.6
baz=68
F27A Lemmon 67.47 339 ⇓P P 12 01 22.8 -0.7
baz=68
I22A 9 Mile Ranch, 67.48 335 ⇑P P 12 01 23.4 -0.3
baz=68
D30A Buchanan 67.51 342 ⇑P P 12 01 23.5 -0.1
baz=68,SNR=5.1
R11A Troy Canyon, C 67.54 325 ⇑P P 12 01 25.5 +1.2
baz=68
E28A Huff 67.64 340 ⇑P P 12 01 24.6 +0.1
baz=68
F26A Lodgepole 67.68 338 ⇑P P 12 01 24.2 -0.6
baz=68
D29A Pettibone, Tap 67.72 341 ⇓P P 12 01 24.5 -0.5
baz=68
I21A Big Trails, Te 67.75 334 ⇑P P 12 01 24.7 -0.8
baz=68
AGMN Agassiz Nation 67.77 344 eP P 12 01 24.9 -0.4
4.9nm,0.8s
AGMN Agassiz Nation 67.77 344 ⇑P P 12 01 25.1 -0.2
baz=68
PDAR Pinedale Array 67.89 332 P P 12 01 26.1 -0.4
0.7nm,0.6s,baz=165,slow=6.9,SNR=5.6
PDAR LR LR 12 32 44.3
comp=Z,41nm,19.0s,baz=144,slow=37
C30A Mose, Pekin 67.96 342 ⇑P P 12 01 26.4 -0.1
baz=68,SNR=6.2
F25A Bowman 68.03 338 ⇑P P 12 01 27.3 +0.3
baz=68
J19A Crowheart 68.06 333 ⇓P P 12 01 27.6 +0.2
baz=68
G23A Biddle 68.13 336 ⇑P P 12 01 27.2 -0.5
baz=68
E26A Carlson Angus 68.15 339 ⇑P P 12 01 27.5 -0.2
baz=68
D28A Regan 68.15 340 ⇑P P 12 01 27.8 0.0
baz=68
I20A Worland 68.21 334 ⇓P P 12 01 28.3 0.0
baz=68
TPH Tonopah 68.26 324 eP P 12 01 29.9 +1.0
4.0nm,1.0s
H21A Big Horn, Sher 68.31 335 ⇑P P 12 01 28.9 -0.1
baz=68
F24A Ekalaka 68.32 337 ⇓P P 12 01 28.3 -0.6
baz=68
E25A Miller Ranch, 68.50 338 ⇓P P 12 01 30.1 +0.1
baz=69
C28A Hausauer Farms 68.55 341 ⇓P P 12 01 30.2 0.0
baz=69
F23A Volborg 68.58 337 ⇑P P 12 01 30.6 +0.1
baz=69
B30A Myrvik Farm, E 68.59 343 ⇑P P 12 01 30.1 -0.3
baz=69,SNR=5.9
HVU Hansel Valley 68.62 329 eP P 12 01 30.9 -0.1
12nm,1.4s
I19A Meeteetse 68.65 333 ⇑P P 12 01 32.2 +1.0
baz=69
G21A Lodge Grass 68.87 335 ⇓P P 12 01 32.8 +0.4
baz=69
B29A Wagenman Farm, 68.90 342 ⇑P P 12 01 32.7 +0.3
baz=69,SNR=11
C27A Sayler Ranch, 68.91 340 ⇓P P 12 01 33.2 +0.8
baz=69
F22A Rosebud 68.95 336 ⇓P P 12 01 32.9 +0.1
baz=69
A30A Hoffart Farm, 69.02 343 ⇓P P 12 01 33.2 0.0
baz=69
D25A Fairfield 69.03 339 ⇓P P 12 01 34.0 +0.7
baz=69,SNR=5.1
NVAR Mina Array Bea 69.11 324 P P 12 01 35.2 +1.0
1.1nm,0.7s,baz=153,slow=7.5,SNR=14
NVAR LR LR 12 31 22.6
comp=Z,85nm,18.2s,baz=236,slow=36
B28A Dugan Ranch, T 69.19 341 ⇑P P 12 01 34.7 +0.5
baz=69
C26A Wahner Farm, P 69.20 340 ⇑P P 12 01 34.8 +0.5
baz=69
I17A Pilgrim Ck. 69.25 332 ⇑P P 12 01 35.6 +0.6
baz=70
A29A Manning Farm, 69.28 342 ⇓P P 12 01 34.5 -0.2
baz=70,SNR=8.8
G20A Bridger 69.28 335 ⇑P P 12 01 35.0 0.0
baz=70
D24A Glendive 69.36 338 ⇓P P 12 01 36.0 +0.7
baz=70
FLWY Flagg Ranch 69.43 332 eP P 12 01 31.8 -4.3
122nm,2.7s
H18A Shoshone NF, C 69.45 333 ⇑P P 12 01 36.4 +0.2
baz=70
C25A Freed Ranch, W 69.49 339 ⇓P P 12 01 36.6 +0.5
baz=70,SNR=5.3
ULM Lac du Bonnet 69.57 345 P P 12 01 35.2 -1.2
2.1nm,0.7s,baz=158,slow=7.8,SNR=5.4
ULM LR LR 12 33 51.4
comp=Z,120nm,19.9s,baz=188,slow=38
A28A Rude Farm, Bot 69.57 342 ⇓P P 12 01 36.6 0.0
baz=70
C24A Savage 69.74 338 ⇓P P 12 01 38.8 +1.1
baz=70
B25A Knox Farm, Ray 69.94 339 ⇑P P 12 01 39.4 +0.5
baz=70
D22A Cohagen 70.06 337 ⇑P P 12 01 40.3 +0.6
baz=70,SNR=12
F19A Roth Farm, Mol 70.09 334 ⇑P P 12 01 40.2 +0.3
baz=70
A26A Wade Farm, Ken 70.12 340 ⇑P P 12 01 40.6 +0.7
baz=70
C23A Lambert 70.25 338 ⇑P P 12 01 41.0 +0.2
baz=70
E20A Meyer Farm, Mu 70.29 335 ⇑P P 12 01 41.4 +0.3
baz=70,SNR=5.1
D21A La Casta Ranch 70.30 336 ⇓P P 12 01 41.8 +0.7
baz=70,SNR=7.0
C22A Vida 70.45 337 ⇑P P 12 01 42.3 +0.3
baz=71,SNR=5.8
DGMT Dagmar 70.47 339 ⇑P P 12 01 42.7 +0.7
baz=71
A25A Svangstu Ranch 70.50 340 ⇓P P 12 01 43.1 +0.8
baz=71
E19A Rath Farm, Rou 70.52 335 ⇑P P 12 01 42.4 -0.1
baz=71
B23A Brockton 70.74 338 ⇓P P 12 01 44.7 +0.9
baz=71,SNR=6.3
HLID Hailey 70.76 330 eP P 12 01 44.9 +0.7
20nm,2.1s
HLID Hailey 70.76 330 ⇓P P 12 01 44.8 +0.6
baz=71
D20A Manuel Ranch, 70.77 336 ⇑P P 12 01 44.2 +0.2
baz=71
A24A Westby 70.79 339 ⇓P P 12 01 44.8 +0.8
baz=71,SNR=5.1
TBI Tubuai 70.94 251 eLR LR 12 23 25.6
176nm,30.8s
B22A Reddig Ranch S 70.96 338 ⇑P P 12 01 45.7 +0.5
baz=71
C21A Desert Coulee 70.97 337 ⇑P P 12 01 45.6 +0.4
baz=71,SNR=7.0
A23A Redstone 71.12 339 ⇓P P 12 01 46.4 +0.4
baz=71
D19A Cripps Ranch, 71.12 335 ⇓P P 12 01 46.2 0.0
baz=71,SNR=5.5
C20A Veseth Ranch, 71.23 336 ⇑P P 12 01 46.7 -0.1
baz=71
MFID Camas Ranch 71.34 329 eP P 12 01 48.5 +0.8
14nm,1.2s
LIC Lamto 71.42 77 eP P 12 01 48.2 -0.4
52nm,0.9s
B21A Ellsworth Farm 71.44 337 ⇑P P 12 01 48.6 +0.6
baz=72
A22A Carney Farms, 71.51 338 ⇑P P 12 01 48.9 +0.5
baz=72,SNR=6.4
SCHQ Schefferville 71.53 4 P P 12 01 47.6 -0.7
5.0nm,0.8s,baz=235,slow=8.2,SNR=7.2
TIC Toumodi 71.57 77 eP P 12 01 50.1 +0.6
6.8nm,0.3s
C19A Slack Wire Ran 71.65 336 ⇓P P 12 01 49.4 0.0
baz=72
DBIC Dimbokro 71.73 77 P P 12 01 50.5 +0.1
12nm,0.8s,baz=224,slow=5.5,SNR=13
DBIC pP pP 12 01 59.7 -1.4
25nm,0.8s,baz=221,slow=5.4,SNR=15
DBIC LR LR 12 32 29.0
comp=Z,358nm,18.1s,baz=227,slow=35
DBIC Dimbokro 71.73 77 eP P 12 01 50.9 +0.5
DBIC pP pP 12 01 59.7 -1.4
KIC Kosan Boka 71.73 77 eP P 12 01 50.5 0.0
58nm,0.8s
A20A Cobblestone Ra 72.16 337 ⇓P P 12 01 52.5 +0.2
baz=72
EGMT Eagleton 72.17 335 ⇓P P 12 01 52.7 +0.3
baz=72
B19A Brinkman Farms 72.20 336 ⇑P P 12 01 52.8 +0.3
baz=72
A19A Klindworth Far 72.50 336 ⇓P P 12 01 54.5 +0.1
baz=73,SNR=6.7
I05D Terrebonne, OR 74.82 327 ⇑P P 12 02 09.6 +1.5
baz=75
FFC Flin Flon 75.22 343 eP P 12 02 08.7 -1.4
NEW Newport 75.51 332 ⇑P P 12 02 13.5 +1.5
baz=76
EDM Edmonton 77.68 337 eP P 12 02 23.7 -0.5
TOA0 Torodi Ar. Sit 80.00 73 eP P 12 02 37.6 0.0
TORD Torodi Ar. Bea 80.00 73 P P 12 02 37.9 +0.3
8.1nm,0.8s,baz=258,slow=5.2,SNR=36
TORD pP pP 12 02 47.5 -0.9
20nm,0.8s,baz=256,slow=5.0,SNR=32
TORD LR LR 12 38 00.2
comp=Z,276nm,18.1s,baz=235,slow=36
VNDA Vanda 80.72 190 LR LR 12 31 10.1
comp=Z,132nm,21.5s,baz=105,slow=30
YKA Yellowknife Ar 85.33 342 P P 12 03 03.8 -0.5
3.9nm,0.7s,baz=136,slow=5.3,SNR=97
YKA pP pP 12 03 13.2 -2.0
3.6nm,0.7s,baz=142,slow=5.6,SNR=14
TSUM Tsumeb 85.61 109 eP P 12 03 07.0 0.0
ESDC Sonseca Array 85.62 46 P P 12 03 06.4 0.0
0.4nm,0.4s,baz=252,slow=6.2,SNR=5.5
ESDC pP pP 12 03 16.7 -0.6
1.2nm,0.5s,baz=250,slow=5.3,SNR=3.4
TAM Tamanrasset 86.68 65 eP P 12 03 13.0 +0.9
11nm,1.0s
DLBC Dease Lake 88.04 334 P P 12 03 18.4 +0.7
3.5nm,0.8s,baz=103,slow=7.2,SNR=6.1
BOSA Boshof 89.52 120 LR LR 12 40 34.7
comp=Z,150nm,18.9s,baz=226,slow=34
SUMG Summit 92.12 10 iP P 12 03 38.0 +1.1
8.0nm,0.8s
SUMG Summit 92.12 10 eP P 12 03 37.7 +0.9
73nm,2.3s
INK Inuvik 95.05 341 P P 12 03 49.4 -0.5
1.1nm,0.9s,baz=67,slow=7.7,SNR=4.5
ILAR Eielson Array 98.14 335 LR LR 12 50 59.7
comp=Z,50nm,20.4s,baz=142,slow=37
H11N3 WAKE ISLAND Hyl122.81 283 T T 14 24 18.4
baz=101,slow=75,SNR=6.8
H11N2 WAKE ISLAND Hyl122.82 283 T T 14 24 09.6
baz=101,slow=75,SNR=6.5
H11N1 WAKE ISLAND Hyl122.82 283 T T 14 24 17.6
baz=101,slow=75,SNR=4.4
H11S2 WAKE ISLAND Hyl122.83 281 T T 14 24 17.9
baz=97,SNR=31
H11S1 WAKE ISLAND Hyl122.83 281 T T 14 24 56.1
baz=97,slow=74,SNR=16
H11S3 WAKE ISLAND Hyl122.84 281 T T 14 24 29.2
baz=97,slow=74,SNR=19
ASAR Alice Springs 131.72 214 PKP PKPdf 12 09 41.8 +0.4
0.7nm,0.7s,baz=132,slow=2.1,SNR=9.0
WRA Warramunga Arr 134.41 218 PKP PKPdf 12 09 47.0 +0.4
1.2nm,0.7s,baz=137,slow=1.9,SNR=19
WRA pPKP pPKPdf 12 09 56.8 -1.0
2.2nm,0.7s,baz=141,slow=1.9,SNR=10
ZALV Zalesovo Beam 139.24 20 PKP PKPdf 12 09 55.6 +1.2
1.8nm,0.8s,baz=273,slow=2.8,SNR=8.8
ZALV pPKP pPKPdf 12 10 05.2 -0.4
2.1nm,0.9s,baz=270,slow=1.2,SNR=4.1
MKAR Makanchi Array 143.96 29 PKP PKPbc 12 10 01.3 +0.3
0.6nm,0.9s,baz=347,slow=5.0,SNR=4.6
KSH Kashi 145.08 43 ePKPbc PKPdf 12 10 06.5 +1.1
KSH epPKP pPKPdf 12 10 16.8 +0.1
KSH AMB AMB
comp=Z,82nm,5.2s
KSH LR LR
comp=N,21nm,4.5s
KSH LR LR
comp=E,24nm,2.8s
KSH LR LR
comp=Z,150nm,5.0s
TLY Talaya 145.09 3 ePKPbc PKPdf 12 10 05.1 +0.2
CN2 Changchun 148.62 333 ePKPbc PKPdf 12 10 05.8 -5.3
WMQ Urumqi 148.67 27 ePKPbc PKPbc 12 10 13.9 -1.1
WMQ PP PP 12 13 51.1 +6.8
WMQ SKKS 12 20 35.6
WMQ AMB AMB
comp=Z,110nm,7.8s
WMQ LR LR
comp=N,66nm,23.0s
WMQ LR LR
comp=E,95nm,20.0s
WMQ LR LR
comp=Z,66nm,22.4s
SONM Songino Array 149.01 0 PKPbc PKPbc 12 10 16.2 +0.4
3.0nm,0.7s,baz=335,slow=1.5,SNR=24
SONM pPKPbc pPKPbc 12 10 26.9 -0.1
2.2nm,0.7s,baz=345,slow=1.2,SNR=7.6
KSRS Korea Array 152.04 322 PKPbc PKPbc 12 10 23.6 +0.5
1.0nm,0.8s,baz=57,slow=0.8,SNR=4.8
KSRS pPKPbc PKPab 12 10 33.0 +0.4
3.5nm,1.0s,baz=43,slow=2.4,SNR=4.7
KSAR Wonju Array Be 152.07 322 PKPbc PKPbc 12 10 23.6 +0.4
KSAR pPKPbc PKPab 12 10 33.0 +0.2
HHC Hu-ho-hao-te 155.60 351 ePKP PKPdf 12 10 21.1 -0.6
HHC PP PP 12 14 27.3 +4.0
HHC SKS SKSdf 12 17 23.9 -1.9
HHC SKKS SKKSac 12 21 10.2 -1.4
HHC SS SS 12 34 07.5 +0.9
HHC AMB AMB
comp=Z,130nm,7.5s
HHC LR LR
comp=N,190nm,17.4s
HHC LR LR
comp=E,210nm,17.4s
CD2 Chengdu 165.69 10 PKP PKPdf 12 10 31.6 -1.3
CD2 pPKP pPKPdf 12 10 49.0 +4.8
CD2 sPKP 12 10 55.5
CD2 PKS PKSdf 12 14 02.9 -2.9
CD2 PP PP 12 15 20.8 +3.2
CD2 SKS SKSdf 12 17 27.8 -7.0
CD2 SKKS SKKSac 12 22 00.3 -3.7
CD2 SS SS 12 35 50.9 -1.5
CD2 AMB AMB
comp=Z,120nm,6.2s
GYA Guiyang 170.35 359 ePKP PKPdf 12 10 34.2 -2.1
GYA sPKP 12 10 58.0
GYA PKPab PKPab 12 11 52.9 +0.4
GYA PKS PKSdf 12 14 05.5 -3.5
GYA PP PP 12 15 44.4 +3.1
GYA AMB AMB
comp=Z,90nm,8.2s
KMI Kunming 170.97 22 PKP PKPdf 12 10 36.5 -0.3
CMAR Chiang Mai Arr 172.60 76 PKPab PKPab 12 12 02.8 -0.1
0.4nm,0.4s,baz=263,slow=5.4,SNR=4.4

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*IDC **04** 12:19:05.6±6.6,20°.33S×177°.69W,h475km±80km,mb3.3/9,mb1 3.6/10,mb1mx3.4/26,mbtmp4.1/10,Error ellipse: s-maj=37.4km s-min=21.9km az=179.0*
*ISCJB **04** 12:19:07.0±0.7,20°.45S±0°.2×177°.8W±0°.2,h500km,mb3.6/9, Error ellipse: s-maj=25.9km s-min=16.9km az=43.3*
ISC 04 12:19:07.4±0.9,20°.45S±0°.2×177°.8W±0°.2,h500km,n13, σ0§79/11,mb3.6/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
URZ	Urewera	18.34	193	P	P	12 22 50.1	-0.6
	1.0nm,0.3s,baz=32,slow=4.5,SNR=10						
ASAR	Alice Springs	44.75	257	P	P	12 26 36.9	+0.9
	2.2nm,0.6s,baz=97,slow=7.5,SNR=38						
WRA	Warramunga Arr	44.83	262	P	P	12 26 37.0	+0.4
	0.6nm,0.3s,baz=96,slow=7.7,SNR=31						
MJAR	Matsushiro Arr	70.26	324	P	P	12 29 30.2	+0.3
	3.6nm,0.7s,baz=156,slow=6.6,SNR=6.5						
PETK	Petropavlovsk-	76.23	345	P	P	12 30 03.3	-0.4
	3.0nm,0.7s,baz=143,slow=5.8,SNR=2.6						
NVAR	Mina Array Bea	80.81	43	P	P	12 30 29.6	+0.7
	0.8nm,0.8s,baz=225,slow=7.5,SNR=7.0						
TXAR	Lajitas Array	86.82	57	P	P	12 30 59.7	+1.0
	0.2nm,0.8s,baz=232,slow=4.4,SNR=6.0						
ILAR	Eielson Array	88.17	13	P	P	12 31 03.1	-1.0
	0.6nm,0.6s,baz=216,slow=5.6,SNR=15						
PDAR	Pinedale Array	88.74	43	P	P	12 31 07.8	+0.2
	0.5nm,0.6s,baz=206,slow=3.1,SNR=5.3						
CMAR	Chiang Mai Arr	90.28	289	P	P	12 31 16.8	+1.8
	0.5nm,0.3s,baz=141,slow=3.0,SNR=6.1						
AKASG	Malin Array Be	143.03	331	PKhKP	PKPpre	12 37 40.2	
	2.8nm,0.6s,baz=42,slow=4.5,SNR=10.0						
BRTR	Keskin Array B	146.93	313	PKPbc	PKPbc	12 37 53.1	-0.7
	1.1nm,0.8s,baz=47,slow=4.7,SNR=3.5						
GERES	GERESS Array B	150.16	345	PKPbc	PKPbc	12 38 00.8	-0.7
	0.5nm,0.6s,baz=9.5,slow=1.2,SNR=3.5						

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*NIED **04** 12:24:00,39°.70N×140°.70E,h155km,Mw4.7 Best double couple: M₀1.24000×10^16 NP1:φs340.00000°, δ16.00000°,λ-110.00000°. NP2:φs180.00000°, δ75.00000°,λ-84.00000°.*
*BJI **04** 12:24:09.4,39°.63N×140°.85E,h139km,mB4.9/34, mb4.8/60*
*ISCJB **04** 12:24:14.3±0.2,39°.85N±0°.02×140°.46E±0°.02, h150km±1km,mb4.5/151,Error ellipse: s-maj=3.8km s-min=2.5km az=152.0*
*MOS **04** 12:24:14.1±0.9,39°.90N×140°.48E,h150km,mb4.6/54, Error ellipse: s-maj=6.7km s-min=5.2km az=94.7*
*IDC **04** 12:24:15.0±1.1,39°.74N×140°.57E,h153km±10km, mb4.1/21,mb1 4.3/27,mb1mx4.2/33,mbtmp4.6/27,MS3.0/3, Ms1 3.1/3,ms1mx2.7/36,Error ellipse: s-maj=11.5km s-min=9.3km az=115.0*
*NEIC **04** 12:24:14.7±0.4,39°.76N×140°.48E,h145km±4km,mb4.7/94, MW4.7(NIED),Error ellipse: s-maj=4.5km s-min=2.8km az=148.0*
NEIC Felt at Ichinoseki. Recorded [2 JMA] in Iwate and Miyagi; [1 JMA] in Akita and Aomori.
*JMA **04** 12:24:15.5±0.1,39°.74N×140°.63E,h151km±1km,M4.6 Broadband fault plane solution: P waves. NP1: φs173.00000°,δ81.00000°,λ-75.00000°. NP2: φs294.00000°,δ18.00000°,λ-148.00000°. Principal axes: T Plg34.0000°, Azm250.0000°; N Plg15.0000°, Azm350.0000°; P Plg52.0000°, Azm100.0000°;*
JMA Felt II J1.
ISC 04 12:24:14.1±0.4,39°.83N±0°.03×140°.53E±0°.04,h143km±2km, h142km:pP-P,n735,σ1§11/796,mb4.7/151,198C-194D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JAH	Hinai	0.37	13	⇓P	Pn	12 24 36.9	+2.9
JAH				S	Sn	12 24 53.1	+3.9
JRG	Rokugo	0.44	169	⇓P	Pn	12 24 36.6	+2.3
JRG				S	Sn	12 24 52.5	+2.9
JOM	Ohasama	0.69	121	⇑P	Pn	12 24 37.2	+1.5
JOM				eS	Sn	12 24 53.9	+1.8
JIW	Iwasaki	0.86	333	⇓P	Pn	12 24 40.3	+3.3
JYK	Kaneyama	0.92	188	⇓P	Pn	12 24 39.2	+1.7
JYK				eS	Sn	12 24 57.5	+2.3
JANG	Nango	0.93	54	⇑P	Pn	12 24 39.4	+1.8
JANG				eS	Sn	12 24 57.4	+1.9
JMK	Ichinoseki	1.02	148	⇑P	Pn	12 24 39.3	+0.9
JMK				eS	Sn	12 24 57.7	+0.9
JOT	Ohata	1.60	14	⇑P	Pn	12 24 46.7	+2.5
JOT				eS	Sn	12 25 10.1	+2.8
JAW	Awa shima	1.69	216	⇓P	Pn	12 24 47.3	+2.1
JAW				eS	Sn	12 25 11.3	+2.3
JKB	Kayabe	2.09	10	P	Pn	12 24 51.9	+2.1
JKB				eS	Sn	12 25 19.6	+2.2
JNS	Sasagawa	2.22	206	P	Pn	12 24 52.9	+1.5
JNS				eS	Sn	12 25 21.4	+1.4
JFT	Otama	2.31	184	⇓P	Pn	12 24 53.5	+0.9
JFT				eS	Sn	12 25 23.0	+0.9
ERM	Erimo	2.96	41	d iP	Pn	12 25 01.1	+0.5
ERM	Erimo	2.96	41	ePn	Pn	12 25 01.1	+0.5
ERM				eSn	Sn	12 25 24.2	-12
MAJO	Matsushiro	3.75	210	c iP	Pn	12 25 12.5	+1.5
MAJO	Matsushiro	3.75	210	ePn	Pn	12 25 12.4	+1.5
MAT	Matsushiro	3.75	210	P	Pn	12 25 12.6	+1.6
MAT				S	Sn	12 25 54.1	-1.0
MJAR	Matsushiro Arr	3.75	210	P	Pn	12 25 12.3	+1.3
MJAR				S	Sn	12 25 59.3	+4.2
MJAR				pmax	pmax		
	comp=Z,12nm,0.3s						
MJAR				smax	smax		
	comp=N,2.0nm,0.3s						
MJAR	Matsushiro Arr	3.75	210	P	Pn	12 25 12.3	+1.3
	comp=N,12nm,0.3s,baz=18,slow=12,SNR=192						
MJAR				S	Sn	12 25 59.3	+4.2
	comp=N,1.6nm,0.3s,baz=308,slow=18,SNR=5.5						
ASAJ	Asahikawa	4.55	19	P	Pn	12 25 22.0	+0.6
ASAJ				S	Sn	12 26 13.2	-0.7
ASAJ				pmax	pmax		
	comp=Z,15nm,0.3s						
ASAJ				smax	smax		
	comp=N,7.0nm,0.3s						
ASAJ	Asahikawa	4.55	19	P	Pn	12 25 21.9	+0.6
	comp=N,15nm,0.3s,baz=232,slow=12,SNR=75						
ASAJ				S	Sn	12 26 13.2	-0.7
	comp=N,6.5nm,0.3s,baz=288,slow=20,SNR=7.0						
ASAJ	Asahikawa	4.55	19	ePn	Pn	12 25 21.4	0.0
ASAJ				S	Sn	12 26 13.2	-0.7
YUK	Yuzh-Kuril'sk	5.79	42	c iP	Pn	12 25 37.0	-0.8
YUK				i S	Sn	12 26 39.2	-3.9
YUK				pmax	pmax		
	comp=Z,320nm,1.1s						
YUK				pmax	pmax		
	comp=N,311nm,0.5s						
YUK				pmax	pmax		
	comp=E,210nm,0.5s						
YUK				smax	smax		
	comp=N,2μm,0.6s						
YUK				smax	smax		
	comp=E,1μm,0.6s						
VLA	Vladivostok	7.28	300	c iP	Pn	12 25 59.5	+1.8
YSS	Yuzh-Sakhalins	7.31	12	eP	Pn	12 25 58.8	+0.7
YSS				i S	Sn	12 27 19.6	0.0
YSS				smax	smax		
	comp=N,60nm,1.1s						
YSS	Yuzh-Sakhalins	7.31	12	ePn	Pn	12 25 58.9	+0.8
KUR	Kuril'sk	7.65	43	eP	Pn	12 26 03.0	+0.3
KUR				eS	Sn	12 27 27.0	-0.9
KUR				pmax	pmax		
	comp=Z,410nm,1.0s						
KUR				smax	smax		
	comp=N,1μm,1.5s						
KUR				smax	smax		
	comp=E,210nm,0.8s						
USRK	Ussuriysk Arra	7.71	307	P	Pn	12 26 06.3	+2.7
	comp=E,1.1nm,0.3s,baz=124,slow=13,SNR=48						
MDJ	Mudanjiang	9.42	304	Pn	Pn	12 26 28.3	+2.0
	comp=E,100nm,1.1s						
HABR	Khabarovsk	9.49	337	P	Pn	12 26 26.8	-0.5
HABR				pmax	pmax		
	comp=Z,35nm,1.5s						
KSRS	Korea Array	10.14	260	P	Pn	12 26 38.0	+1.9
KSRS	Korea Array	10.14	260	P	Pn	12 26 38.0	+1.9
	comp=Z,0.4nm,0.3s,baz=80,slow=13,SNR=28						
KSAR	Wonju Array Be	10.18	260	P	Pn	12 26 38.0	+1.5
KSAR	Wonju Array Be	10.18	260	P	Pn	12 26 38.0	+1.5
JNU	Nakatsue	10.25	232	P	Pn	12 26 37.7	+0.1

comp=Z,1.1nm,0.3s,baz=47,slow=11,SNR=21
JNU Nakatsue 10.25 232 ePn Pn 12 26 35.6 -2.0
KLR Kul'dur 11.29 329 eP Pn 12 26 48.3 -2.8
CN2 Changchun 11.93 294 ⇑P Pn 12 27 00.3 +0.7
CN2 esP 12 27 36.2
CN2 eS Sn 12 29 10.7 -0.6
CN2 pmax pmax
comp=Z,20nm,1.1s
CBIJ Chichi jima 12.77 173 P Pn 12 27 08.0 -2.6
JCJ Chichijima 12.77 173 P Pn 12 27 08.0 -2.6
comp=Z,12nm,0.3s,baz=301,slow=9.1,SNR=5.1
SNY Shenyang 13.00 284 ⇑P Pn 12 27 14.5 +1.1
SNY pmax pmax
comp=Z,16nm,1.3s
HIA Hailar 17.52 309 eP P 12 28 07.2 -1.3
HIA pmax pmax
comp=Z,17nm,0.8s
HIA Hailar 17.52 309 eP P 12 28 07.2 -1.3
comp=Z,17nm,0.8s
PETK Petropavlovsk- 17.72 36 LR LR 12 35 18.1
comp=Z,48nm,18.5s,baz=261,slow=37
SSE Sheshan 17.98 247 P Pn 12 28 15.2 +0.2
SSE pmax pmax
comp=Z,37nm,1.3s
SSE pmax pmax
comp=Z,160nm,3.5s
BJI Beijing 18.67 278 P P 12 28 20.1 -1.0
BJI pP pP 12 28 42.6 -3.4
BJI sP sP 12 28 59.5 -4.5
BJI S S 12 31 38.6 -7.6
BJI pmax pmax
comp=Z,43nm,0.8s
BJI pmax pmax
comp=Z,210nm,3.5s
BJT Baijiatuan 18.68 278 eP P 12 28 20.5 -0.7
BJT pmax pmax
comp=Z,28nm,0.8s
BJT Baijiatuan 18.68 278 eP P 12 28 20.5 -0.7
comp=Z,28nm,0.8s
TIA Tai'an 18.78 266 ⇓P P 12 28 22.8 +0.5
TIA pmax pmax
comp=Z,40nm,1.0s
NJ2 Nanjing 19.16 253 eP Pn 12 28 28.5 -0.4
NJ2 pP pP 12 28 50.0 -1.5
NJ2 sP sP 12 29 06.1 -3.3
NJ2 S S 12 31 57.5 +1.5
NJ2 pmax pmax
comp=Z,120nm,0.8s
NJ2 LR LR
comp=Z,170nm,20.0s
NJ2 LR LR
comp=Z,170nm,19.9s
NJ2 LR LR
comp=Z,190nm,20.7s
CLNS Chul'man 19.86 334 eP P 12 28 33.6 -0.3
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=Z,18nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.8s
HHC Hu-ho-hao-te 22.07 282 eP P 12 28 57.4 -0.2
HHC pP pP 12 29 26.4 +3.0
HHC S S 12 32 45.6 -5.4
HHC SS SnSn 12 33 40.1 +6.8
HHC pmax pmax
comp=E,42nm,1.2s
HHC pmax pmax
comp=E,130nm,7.5s
HHC LR LR
comp=E,270nm,12.4s
HHC LR LR
comp=E,260nm,14.9s
HHC LR LR
comp=E,270nm,13.7s
YULB Yu-li 23.09 231 eP P 12 29 05.4 -2.0
comp=E,17nm,0.8s
YAK Yakutsk 23.20 347 eP P 12 29 06.3 -1.6
YAK e*PP pP 12 29 34.1 -1.1
YAK e 12 32 51.2
YAK eS S 12 33 06.8 -1.8
YAK e 12 39 59.9
YAK pmax pmax
comp=Z,13nm,1.0s
YAK smax smax
comp=N,174nm,2.1s
YAK smax smax
comp=E,55nm,1.5s
WHN Wuhan 23.25 255 P P 12 29 08.4 -0.3
TWG Pinlang 23.66 230 eP P 12 29 11.5 -1.0
comp=E,153nm,1.0s
SEY Seymchan 24.21 13 P P 12 29 18.5 +1.3
SEY pmax pmax
comp=Z,12nm,1.0s
SEY Seymchan 24.21 13 P P 12 29 18.4 +1.3
comp=Z,12nm,1.0s,baz=197,slow=11,SNR=18
ULN Ulaanbaatar 25.29 300⇑iP P 12 29 27.2 -0.1
ULN pmax pmax
comp=Z,9.0nm,1.2s
ULN Ulaanbaatar 25.29 300 eP P 12 29 27.2 -0.1
comp=Z,7.6nm,0.8s
SONM Songino Array 25.73 299 P P 12 29 31.5 +0.3
comp=Z,4.6nm,0.7s,baz=94,slow=8.6,SNR=26
SONM PcP PcP 12 32 57.1 -0.3
comp=Z,0.3nm,0.6s,baz=76,slow=6.1,SNR=2.3
SONM ScP ScP 12 36 21.7 -1.7
comp=Z,3.7nm,1.0s,baz=81,slow=2.7,SNR=17
SONM LR LR 12 40 16.4
comp=Z,29nm,18.8s,baz=108,slow=37
XAN Xi'an 25.84 267 P P 12 29 31.4 -0.9
XAN pmax pmax
comp=Z,18nm,3.8s
ENH Enshi 27.03 259 eP P 12 29 42.7 -0.3
comp=Z,29nm,0.7s
IRK Irkutsk 27.76 309 eP P 12 29 47.7 -1.5
IRK pmax pmax
comp=Z,19nm,1.3s
TLY Talaya 28.03 307 eP P 12 29 52.1 +0.4
TLY pmax pmax
comp=Z,14nm,1.2s
TLY Talaya 28.03 307 eP P 12 29 52.1 +0.4
comp=Z,14nm,1.2s
ZAK Zakamensk 28.05 305 eP P 12 29 51.3 -0.7
ZAK pmax pmax
comp=Z,6.0nm,1.0s
LZH Lanzhou 29.04 274 eP P 12 30 02.3 +1.4
LZH pP pP 12 30 31.2 0.0
LZH sP sP 12 30 46.0 -1.6
LZH pmax pmax
comp=Z,19nm,1.0s
MOY Mondy 29.66 307 eP P 12 30 06.8 +0.6
H11N2 WAKE ISLAND Hy 30.23 124 T T 13 01 08.8
baz=320,slow=76,SNR=301
H11N1 WAKE ISLAND Hy 30.23 124 T T 13 01 18.1
baz=320,slow=76,SNR=898
H11N3 WAKE ISLAND Hy 30.24 124 T T 13 01 18.8
baz=320,slow=76,SNR=634
H11S1 WAKE ISLAND Hy 31.00 126 T T 13 02 12.9
baz=322,slow=76,SNR=142
H11S3 WAKE ISLAND Hy 31.01 126 T T 13 02 06.2
baz=322,slow=76,SNR=276
H11S2 WAKE ISLAND Hy 31.02 126 T T 13 02 04.3
baz=322,slow=76,SNR=164
CD2 Chengdu 31.10 265 P P 12 30 20.3 +1.3
CD2 pP pP 12 30 50.2 +0.8
CD2 sP sP 12 31 06.7 +0.9
CD2 PP PnPn 12 31 27.8 +1.1
CD2 S S 12 35 13.4 -0.6
CD2 sS sS 12 36 06.2 -1.2
CD2 PcS PcS 12 36 56.0 +0.6
CD2 SS SnSn 12 37 08.5 -4.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.4s
GYA Guiyang 31.14 255⇑iP P 12 30 18.3 -1.2
GYA pP pP 12 30 50.9 +1.0
GYA sP sP 12 31 06.7 +0.4
GYA PP PnPn 12 31 28.0 +0.7
GYA S S 12 35 13.2 -1.6
GYA sS sS 12 36 06.8 -1.4
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,120nm,4.7s

GTA Gaotai 31.18 283 eP P 12 30 19.3 -0.4
GTA pP pP 12 30 49.3 -0.8
GTA sP sP 12 31 05.7 -0.8
GTA PcP PcP 12 33 11.9 +0.8
GTA S S 12 35 12.4 -2.8
GTA sS sS 12 36 05.9 -2.7
GTA ScP ScP 12 36 39.7 -1.0
GTA ScS ScS 12 40 36.2 -2.1
GTA pmax pmax
comp=Z,110nm,5.7s
GTA LR LR
comp=Z,93nm,15.0s
GTA LR LR
comp=Z,130nm,15.0s
GTA LR LR
comp=Z,150nm,15.7s
TIXI Tiksi 32.44 353 eP P 12 30 29.7 -0.5
TIXI pmax pmax
comp=Z,2.0nm,1.1s
QIZ Qiongzhong 33.56 241 P P 12 30 40.0 -0.6
QIZ S S 12 35 53.8 +1.5
QIZ pmax pmax
comp=Z,8.0nm,1.4s
KMI Kunming 34.81 257 P P 12 30 51.4 -0.1
KMI pP pP 12 31 20.3 -2.0
KMI sP sP 12 31 39.1 +0.5
KMI pmax pmax
comp=Z,26nm,0.9s
SLVN Son La 36.20 250 eP P 12 31 03.8 +0.5
comp=Z,17nm,0.8s
TNA Tin City 38.80 31 eP P 12 31 26.1 +1.6
comp=Z,16nm,0.9s
WMQ Urumqi 39.02 294 P P 12 31 27.4 +0.7
WMQ pP pP 12 31 58.5 +0.5
WMQ sP sP 12 32 14.8 +0.6
WMQ PP PnPn 12 33 04.1 +1.1
WMQ PcP PcP 12 33 35.4 +1.5
WMQ S S 12 37 15.6 +0.5
WMQ sS sS 12 38 09.8 +0.2
WMQ ScS ScS 12 41 19.4 -1.1
WMQ pmax pmax
comp=Z,28nm,0.8s
WMQ pmax pmax
comp=Z,140nm,3.6s
WMQ LR LR
comp=Z,160nm,7.2s
WMQ LR LR
comp=Z,170nm,5.2s
WMQ LR LR
comp=Z,51nm,19.0s
UBPT Khong Chiam 39.16 241 P P 12 31 29.7 +1.7
comp=Z,29nm,0.9s
ZAA0 Zalesovo Array 39.56 310 eP P 12 31 31.3 +0.4
ZALV Zalesovo Beam 39.56 310 P P 12 31 31.5 +0.6
ZALV 12 33 35.4
ZALV pmax pmax
comp=Z,18nm,0.7s
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV pmax pmax
comp=N,4.0nm,0.8s
ZALV Zalesovo Beam 39.56 310 P P 12 31 31.5 +0.6
comp=N,18nm,0.7s,baz=87,slow=7.6,SNR=90
ZALV PcP PcP 12 33 35.4 +0.1
comp=N,1.1nm,0.6s,baz=65,slow=3.8,SNR=2.9
ZALV ScP ScP 12 37 08.5 -2.1
comp=N,4.0nm,0.8s,baz=93,slow=2.9,SNR=13
DLV T Lat 39.65 234 eP P 12 31 32.4 +0.1
comp=N,18nm,1.0s
PAYA Payao 40.38 252 P P 12 31 41.5 +3.3
comp=N,5.9nm,0.8s,comp=N,183nm
NVS Novosibirsk 40.44 311⇑iP P 12 31 38.6 +0.4
NVS e 12 32 15.5
NVS eS S 12 37 34.7 -1.1
NVS pmax pmax
comp=Z,17nm,1.1s
NVS pmax pmax
comp=E,15nm,1.2s
NVS smax smax
comp=E,37nm,2.4s
LOEI Loei 40.56 248 P P 12 31 37.3 -2.4
comp=E,15nm,0.9s,comp=E,893nm
CMAI Chiengmai2 40.63 253 P P 12 31 41.2 +0.8
comp=E,111nm,0.7s,comp=E,6µm
UTTA Uttaradit 40.92 249 P P 12 31 44.4 +1.9
comp=E,7.3nm,0.8s
LAMP Lampang 41.08 251 P P 12 31 45.3 +1.4
comp=E,5.3nm,0.9s
LSA Lhasa 41.35 272 P P 12 31 46.8 +0.2
LSA pmax pmax
comp=E,20nm,1.1s
LSA Lhasa 41.35 272 eP P 12 31 47.6 +1.0
LSA pmax pmax
comp=Z,23nm,1.0s
LSA Lhasa 41.35 272 eP P 12 31 47.6 +1.0
comp=Z,23nm,1.0s
PBKT Sadao Pong 41.40 247 P P 12 31 47.1 +0.7
comp=Z,11nm,1.2s
CMMT Chiang Mai 41.40 252 P P 12 31 46.9 +0.4
comp=Z,23nm,0.9s
CHTO Chiang Mai 41.40 252 eP P 12 31 47.1 +0.6
CHTO pmax pmax
comp=Z,18nm,1.0s
CHTO Chiang Mai 41.40 252 P P 12 31 46.9 +0.4
comp=Z,82nm,0.9s
CHTO Chiang Mai 41.40 252 eP P 12 31 47.1 +0.6
comp=Z,18nm,1.0s
CM31 Chiang Mai Arr 41.63 252 P P 12 31 47.0 -1.4
CMAR Chiang Mai Arr 41.63 252ceP P 12 31 49.2 +0.8
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 41.63 252 P P 12 31 48.4 0.0
comp=Z,3.6nm,0.9s,baz=51,slow=5.5,SNR=22
CMAR ScP ScP 12 37 18.1 -1.3
comp=Z,1.0nm,0.5s,baz=21,slow=3.9,SNR=7.1
CMAR LR LR 12 49 04.7
comp=Z,29nm,20.9s,baz=163,slow=36
SUKH Sukhothai 41.76 250 P P 12 31 50.3 +0.9
comp=Z,5.7nm,1.0s,comp=Z,61nm
MK31 Makanchi Array 42.10 299 eP P 12 31 52.5 +0.6
MK31 Makanchi Array 42.10 299 eP P 12 31 52.5 +0.6
MKAR Makanchi Array 42.10 299ceP P 12 31 52.5 +0.6
MKAR pmax pmax
comp=Z,31nm,0.9s
MKAR Makanchi Array 42.10 299 eP P 12 31 52.4 +0.5
comp=Z,31nm,0.9s,baz=85,slow=9.0,SNR=154
MKAR ScP ScP 12 37 18.6 -2.2
comp=Z,1.8nm,0.8s,baz=88,slow=3.9,SNR=9.2
KURK Kurchatov 43.70 306 eP P 12 32 05.0 +0.3
KURK pmax pmax
comp=Z,22nm,0.8s
KURK Kurchatov 43.70 306 eP P 12 32 05.0 +0.3
comp=Z,22nm,0.8s
SVW2 Sparrevohn 43.76 39 eP P 12 32 07.2 +2.2
comp=Z,12nm,0.9s
KHLT Khaolaem Dam 44.28 248 P P 12 32 11.8 +2.1
comp=Z,6.5nm,1.2s
IM04 Indian Mountai 44.62 32 eP P 12 32 12.9 +1.1
TAPN Taplejung 45.13 271 eP P 12 32 17.2 +0.5
RSO Redoubt South 45.17 40 eP P 12 32 17.7 +1.2
SBUM Sibu 45.21 222 eP P 12 32 16.9 -0.2
comp=Z,8.0nm,0.9s
PPLA Purkeypile 45.31 36 eP P 12 32 19.4 +2.0
comp=Z,46nm,1.6s
SPU Mount Spurr 45.47 39 eP P 12 32 20.2 +1.6
KDAK Kodiak Island 45.52 44 iP P 12 32 19.1 +0.1
KDAK Kodiak Island 45.52 44 eP P 12 32 19.4 +0.4
comp=Z,45nm,1.1s
ODAN Odare 45.62 270 eP P 12 32 21.0 +0.5
KTH Kantishna Hill 45.85 36 eP P 12 32 23.5 +1.8
comp=Z,36nm,1.0s
COLD Coldfoot 46.07 30 eP P 12 32 24.7 +1.5
comp=Z,17nm,1.1s
TRF Thorofare Moun 46.14 36 eP P 12 32 25.2 +1.2
comp=Z,135nm,2.7s
JIRN Jiri 46.15 272 eP P 12 32 25.3 +0.5
comp=Z,46nm,0.9s
RAMN Ramite 46.19 271 eP P 12 32 25.0 0.0
comp=Z,133nm,1.1s
GUN Gumba 46.26 273 eP P 12 32 26.1 +0.4
comp=Z,110nm,0.8s
RC01 Rabbit Creek A 46.59 39 eP P 12 32 28.1 +0.8
comp=Z,24nm,1.0s
MCK McKinley 46.73 35 eP P 12 32 29.5 +1.1
MCK pmax pmax
comp=Z,22nm,1.0s

MCK McKinley 46.73 35 eP P 12 32 29.5 +1.1
comp=Z,22nm,1.0s
KKN Kakani 46.78 273 eP P 12 32 29.9 +0.3
comp=Z,116nm,0.8s
PKI Pulchoki 46.79 272 eP P 12 32 29.9 +0.1
PKIN Phulchoki 46.80 272 eP P 12 32 29.8 0.0
PMR Palmer 46.83 38 eP P 12 32 29.8 +0.6
PMR pmax pmax
comp=Z,22nm,1.0s
PMR Palmer 46.83 38 eP P 12 32 29.8 +0.6
comp=Z,22nm,1.0s
DMN Daman 47.01 273 eP P 12 32 31.8 +0.4
comp=Z,52nm,1.0s
COLA College 47.11 34c iP P 12 32 32.2 +0.9
COLA pmax pmax
comp=Z,59nm,1.2s
COLA College 47.11 34 eP P 12 32 32.1 +0.8
comp=Z,12nm,0.9s
GKN Gorkha 47.17 273 eP P 12 32 32.8 +0.3
comp=Z,78nm,0.9s
ILAR Eielson Array 47.53 34 P P 12 32 34.9 +0.3
ILAR pmax pmax
comp=Z,10.0nm,0.8s
ILAR Eielson Array 47.53 34 P P 12 32 34.9 +0.3
comp=Z,10nm,0.8s,baz=273,slow=6.1,SNR=53
DANN Dangsing 47.68 274 eP P 12 32 37.2 +0.6
comp=Z,254nm,0.8s
TKM2 Tokmak 2 47.74 296 iP P 12 32 38.0 +1.3
TKM2 Tokmak 2 47.74 296 P P 12 32 38.1 +1.3
SNR=54
TKM2 Tokmak 2 47.74 296 eP P 12 32 38.0 +1.3
comp=Z,46nm,0.9s
VOSK Vostochnaya 47.93 310 eP P 12 32 38.2 +0.3
VOSK pmax pmax
comp=Z,12nm,1.0s
VOSK Vostochnaya 47.93 310 eP P 12 32 38.2 +0.3
comp=Z,12nm,1.0s
KOLN Koldanda 48.09 274 eP P 12 32 40.1 +0.5
comp=Z,78nm,1.0s
SURT Suratani 48.21 242 P P 12 32 43.4 +3.0
comp=Z,6.9nm,0.8s
BVA0 Borovoye Array 48.21 310 iP P 12 32 40.3 +0.3
BVA0 pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 48.26 310c iP P 12 32 40.3 -0.1
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 48.26 310 eP P 12 32 40.5 +0.2
comp=Z,6.4nm,0.9s
KZA Kyzart 48.27 295 iP P 12 32 42.9 +1.9
KZA Kyzart 48.27 295 P P 12 32 43.0 +1.9
SNR=8.4
KBK Karagaybulak 48.28 296 P P 12 32 42.1 +1.2
SNR=46
CHMS Chumysh 48.30 296 iP P 12 32 41.5 +0.7
CHMS Chumysh 48.30 296 P P 12 32 41.6 +0.7
SNR=6.3
USP Ospenovka 48.38 297 iP P 12 32 42.2 +0.8
USP Ospenovka 48.38 297 P P 12 32 42.3 +0.8
SNR=12
DIV Divide 48.50 38 eP P 12 32 43.5 +1.4
comp=Z,20nm,0.9s
AAK Ala-Archa 48.60 296 iP P 12 32 43.9 +0.6
AAK pmax pmax
comp=Z,25nm,1.0s
AAK Ala-Archa 48.60 296 P P 12 32 44.1 +0.8
SNR=10.0
AAK Ala-Archa 48.60 296 eP P 12 32 43.6 +0.3
KSH Kashi 48.69 292 eP P 12 32 48.8 +4.8
KSH pP pP 12 33 20.3 +3.9
KSH ePP PP 12 34 44.7 +6.6
KSH PcS PcS 12 38 04.7 +1.3
KSH S S 12 39 39.9 +4.4
KSH SS SS 12 43 09.4 +2.2
KSH pmax pmax
comp=Z,12nm,0.8s
KSH pmax pmax
comp=Z,89nm,2.8s
KSH LR LR
comp=Z,70nm,6.2s
KSH LR LR
comp=Z,99nm,4.7s
KSH LR LR
comp=Z,140nm,5.5s
UCH Uchtor 48.73 295 iP P 12 32 46.2 +1.6
UCH Uchtor 48.73 295 P P 12 32 46.2 +1.6
SNR=8.2
DOT Dot Lake 48.89 35 eP P 12 32 45.7 +0.6
comp=Z,9.5nm,1.0s
BMRM Bremner River 49.08 39 eP P 12 32 48.0 +1.5
comp=Z,20nm,1.0s
EKS2 Erkin-Say 49.09 296 iP P 12 32 47.8 +0.8
EKS2 Erkin-Say 49.09 296 P P 12 32 47.8 +0.8
SNR=12
EKS2 Erkin-Say 49.09 296 eP P 12 32 47.8 +0.8
MENT Mentasta 49.16 36 eP P 12 32 47.9 +0.8
PKDT Phuket 49.29 241 P P 12 32 50.1 +1.4
comp=Z,34nm,0.9s
AML Almayashu 49.33 296 iP P 12 32 50.6 +1.4
AML Almayashu 49.33 296 P P 12 32 50.6 +1.4
SNR=26
EGAK Eagle 49.97 33 eP P 12 32 53.6 +0.5
comp=Z,31nm,1.7s
IPM Ipoh 50.07 236 eP P 12 32 54.8 +0.2
comp=Z,10nm,0.9s
KK31 Karatay Array 51.16 298 iP P 12 33 02.6 +0.1
KK31 pmax pmax
comp=Z,13nm,0.8s
INK Inuvik 52.23 28 eP P 12 33 10.8 +0.9
INK pmax pmax
comp=Z,17nm,0.9s
INK Inuvik 52.23 28 eP P 12 33 10.8 +0.9
comp=Z,17nm,0.9s
HYT Haines Junctio 52.49 38 eP P 12 33 14.8 +2.6
SVE Sverdlovsk 52.62 317 eP P 12 33 14.3 +1.3
SVE pmax pmax
comp=Z,23nm,1.0s
ARU Arti 53.83 317d iP P 12 33 21.9 +0.1
ARU *PP pP 12 33 57.2 +2.3
ARU 12 34 22.1
ARU 12 35 20.5
ARU S S 12 40 45.6 +0.3
ARU SS SS 12 44 27.6 0.0
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 53.83 317 eP P 12 33 22.3 +0.5
comp=Z,12nm,0.8s
GSI Gunungsitoli 54.70 237 eP P 12 33 29.4 +0.7
comp=Z,34nm,1.1s
AB31 Akbulak array 55.64 308 iP P 12 33 35.0 0.0
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 55.64 308 eP P 12 33 35.3 +0.3
KBL Kabul 55.81 289 eP P 12 33 37.1 +0.3
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 55.81 289 eP P 12 33 37.1 +0.3
comp=Z,15nm,0.8s
AKTO Aktyubinsk 56.32 310 P P 12 33 40.1 +0.3
AKTO pmax pmax
comp=Z,6.0nm,0.8s
AKTO Aktyubinsk 56.32 310 P P 12 33 40.0 +0.3
comp=Z,5.6nm,0.8s,baz=43,slow=8.9,SNR=6.8
DLBC Dease Lake 56.87 39 eP P 12 33 44.3 +0.6
WRAB Tennant Creek 59.73 187 eP P 12 34 02.8 -1.0
WRAB pmax pmax
comp=Z,29nm,1.2s
WRAB Tennant Creek 59.73 187 eP P 12 34 02.8 -1.0
comp=Z,9.2nm,0.9s
WRA Warramunga Arr 59.74 187 P P 12 34 02.6 -1.3
WRA 12 34 48.7
WRA pmax pmax
comp=Z,8.0nm,0.6s
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 59.74 187 P P 12 34 02.6 -1.3
comp=Z,7.6nm,0.6s,baz=3.4,slow=7.1,SNR=95
WRA PcP PcP 12 34 48.6 -0.5
comp=Z,1.4nm,0.6s,baz=1.8,slow=4.1,SNR=6.4
RES Resolute Bay 60.08 15 eP P 12 34 05.3 -0.2
RES pmax pmax
comp=Z,12nm,0.9s
RES Resolute Bay 60.08 15 eP P 12 34 05.3 -0.2
comp=Z,12nm,0.9s
POO Poona 60.61 270⇓iP P 12 34 08.0 -2.0
comp=Z,20nm,1.0s

YKW3 Yellowknife Ar 61.71 31 eP P 12 34 16.7 0.0
comp=Z,0.2nm,1.3s
YKA Yellowknife Ar 61.75 31 P P 12 34 17.1 +0.1
YKA 12 34 57.0
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 61.75 31 P P 12 34 17.1 +0.1
comp=Z,2.8nm,0.8s,baz=303,slow=6.6,SNR=57
YKA PcP PcP 12 34 57.0 +0.2
comp=Z,1.3nm,0.7s,baz=304,slow=4.2,SNR=11
DAG Danmarks Havn 62.94 355 iP P 12 34 24.5 -0.1
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 62.94 355 iP P 12 34 24.5 -0.1
comp=Z,4.5nm,0.8s
JOF Joensuu 63.18 331 eP P 12 34 28.5 +2.0
JOF pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 63.18 331 ep P 12 34 28.5 +2.0
comp=Z,1.2nm,0.5s
AS31 Alice Springs 63.46 187 eP P 12 34 28.3 -0.5
ASAR Alice Springs 63.47 187 P P 12 34 27.8 -1.0
ASAR pmax pmax
comp=Z,7.0nm,0.7s
ASAR Alice Springs 63.47 187 P P 12 34 27.8 -1.0
comp=Z,6.7nm,0.7s,baz=10,slow=5.0,SNR=84
NLWA Neilton Lookou 65.35 48 eP P 12 34 43.0 +2.0
comp=Z,20nm,0.9s
A05A Maple Falls 65.49 46 eP P 12 34 42.5 +0.8
comp=Z,20nm,1.1s
CMW Cultus Mountai 65.78 46 P P 12 34 45.0 +1.2
FINES FINESS Array B 66.03 331 P P 12 34 45.1 +0.1
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 66.03 331 P P 12 34 45.1 +0.1
comp=Z,2.2nm,0.7s,baz=50,slow=7.5,SNR=4.4
B06A Marblemount 66.08 46 eP P 12 34 46.6 +1.0
comp=Z,18nm,0.9s
RPW Rockport 66.11 46 P P 12 34 46.6 +0.8
D05A Enumclaw 66.54 47 eP P 12 34 50.5 +2.0
FMW Mount Fremont 66.86 48 P P 12 34 51.9 +1.1
TDL Tradedollar La 66.87 48 P P 12 34 52.3 +1.5
ETW Entiat 67.24 46 P P 12 34 53.9 +0.8
LTY Liberty 67.24 47 eP P 12 34 53.6 +0.5
comp=Z,11nm,1.0s
WTV Waterville 67.39 46 P P 12 34 54.5 +0.5
EBG Ellensburg 67.50 47 P P 12 34 56.0 +1.4
EDM Edmonton 67.59 39 eP P 12 34 55.3 +0.2
EDM Edmonton 67.59 39 eP P 12 34 55.2 +0.2
I03D Drain, OR 67.69 51 ⇑P P 12 34 57.6 +1.8
baz=68
SAW Saint Andrews 67.70 46 P P 12 34 56.5 +0.7
TRW Toppenish Ridg 67.86 48 P P 12 34 58.1 +1.2
SUMG Summit 67.89 360 iP P 12 34 57.9 +0.8
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 67.89 360 iP P 12 34 57.9 +0.8
comp=Z,6.0nm,0.9s
SUMG Summit 67.89 360 eP P 12 34 58.3 +1.2
G05D Wamic, OR 68.02 49 ⇓P P 12 34 59.3 +1.5
baz=68
E07A Sunnyside 68.10 47 eP P 12 34 59.3 +0.9
comp=Z,17nm,1.2s
I04A Tendick Farm, 68.20 51 ⇓P P 12 35 00.5 +1.5
baz=68
OD2 Odessa Site #2 68.26 46 P P 12 34 60.0 +0.6
C09A Chrisman Ranch 68.26 45 eP P 12 35 00.1 +0.8
comp=Z,23nm,0.9s
D08A Wollman Farm, 68.34 46 eP P 12 35 00.4 +0.6
comp=Z,16nm,1.0s
HAWA Hanford 68.38 47 eP P 12 35 01.2 +1.1
comp=Z,10nm,1.0s
L02D Cave Junction, 68.40 53 ⇓P P 12 35 02.0 +1.7
baz=68
I05D Terrebonne, OR 68.52 50 ⇑P P 12 35 02.0 +1.0
baz=68
KIV Kislovodsk 68.57 310 eP P 12 35 02.1 +0.7
KIV pmax pmax
comp=Z,27nm,0.9s
KIV Kislovodsk 68.57 310 eP P 12 35 03.3 +1.9
comp=Z,28nm,1.0s
KBZ Khabaz 68.58 309 P P 12 35 01.5 +0.2
KBZ pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 68.58 309 P P 12 35 01.5 +0.2
comp=Z,7.6nm,1.0s,baz=64,slow=7.1,SNR=5.6
NEW Newport 68.62 45 eP P 12 35 02.6 +1.0
NEW pmax pmax
comp=Z,13nm,1.0s
NEW Newport 68.62 45 eP P 12 35 02.5 +1.0
comp=Z,13nm,1.0s
NEW Newport 68.62 45 ⇓P P 12 35 02.3 +0.7
baz=68,SNR=6.4
J04D Umpqua Nationa 68.69 51 ⇑P P 12 35 03.9 +1.5
baz=68
E09A Wood Farm, Sta 69.09 46 eP P 12 35 05.3 +0.9
comp=Z,22nm,1.1s
PINOR Pine Mountain 69.10 50 eP P 12 35 06.0 +1.4
comp=Z,10nm,0.8s
J05D Fort Rock, OR 69.19 51 ⇓P P 12 35 07.1 +1.8
baz=69
M02C Callahan 69.30 53 ⇓P P 12 35 08.0 +2.0
baz=69
G08A Pilot Rock 69.35 48 eP P 12 35 07.2 +1.0
comp=Z,12nm,1.4s
GNI Garni 69.50 305 eP P 12 35 07.6 +0.3
GNI pmax pmax
comp=Z,9.0nm,1.3s
N02D Trinity Center 69.63 53 ⇑P P 12 35 09.8 +1.8
baz=70
M04C Macdoel 69.70 52 ⇑P P 12 35 09.9 +1.4
baz=70
K05A Summer Lake 69.72 51 eP P 12 35 10.0 +1.3
comp=Z,16nm,0.8s
WALA Waterton Lakes 69.84 42 eP P 12 35 10.1 +0.9
F10A Beach Ranch, E 69.92 47 eP P 12 35 10.7 +1.0
comp=Z,8.3nm,1.2s
WDC Whiskeytown Da 69.96 54 eP P 12 35 11.2 +1.3
WDC pmax pmax
comp=Z,48nm,1.9s
WDC Whiskeytown Da 69.96 54 eP P 12 35 11.2 +1.3
comp=Z,48nm,1.9s
BMO Blue Mountains 70.55 48 eP P 12 35 14.2 +0.7
comp=Z,7.1nm,0.9s
MOD Modoc 70.56 51 eP P 12 35 14.8 +1.1
comp=Z,5.2nm,0.8s
MSO Missoula 71.20 44 eP P 12 35 18.1 +0.6
comp=Z,10nm,1.1s
MSO Missoula 71.20 44 ⇓P P 12 35 18.1 +0.6
baz=71,SNR=7.1
WVOR Wild Horse Val 71.23 50 eP P 12 35 18.9 +1.2
WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR Wild Horse Val 71.23 50 eP P 12 35 18.9 +1.2
comp=Z,13nm,1.1s
HFS Hagfors 71.26 335 P P 12 35 17.7 +0.3
HFS pmax pmax
comp=Z,1.0nm,0.4s
HFS Hagfors 71.26 335 P P 12 35 17.7 +0.3
comp=Z,1.1nm,0.3s,baz=47,slow=7.7,SNR=11
NB2 NORSAR Subarra 71.35 337 P P 12 35 26.3 +8.3
comp=Z,1.7nm,0.7s,baz=37,slow=6.2
STKA Stephens Creek 71.35 179 P P 12 35 17.8 -0.4
STKA pmax pmax
comp=Z,8.0nm,0.9s
STKA Stephens Creek 71.35 179 P P 12 35 17.8 -0.4
comp=Z,8.0nm,0.8s,baz=349,slow=6.9,SNR=8.8
OHCM Honcut 71.35 54 eP P 12 35 18.6 +0.3
AKASG Malin Array Be 71.68 321 eP P 12 35 19.8 -0.3
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.68 321 P P 12 35 19.7 -0.3
comp=Z,0.9nm,0.4s,baz=46,slow=6.8,SNR=8.4
KIEV Kiev 71.69 321 eP P 12 35 20.2 +0.1
FFC Flin Flon 71.73 33 eP P 12 35 20.4 0.0
FFC pmax pmax
comp=Z,14nm,0.9s
FFC Flin Flon 71.73 33 eP P 12 35 20.4 0.0
comp=Z,14nm,0.9s
FCC Fort Churchill 71.82 27 eP P 12 35 20.7 0.0
FCC Fort Churchill 71.82 27 eP P 12 35 20.7 0.0
MFID Camas Ranch 72.27 48 eP P 12 35 25.0 +1.1
comp=Z,9.3nm,1.0s
A19A Klindworth Far 72.56 40 ⇓P P 12 35 26.0 +0.5
baz=72,SNR=22
EGMT Eagleton 72.64 41 eP P 12 35 26.3 +0.3
comp=Z,18nm,0.9s
EGMT Eagleton 72.64 41 ⇑P P 12 35 26.5 +0.5
baz=72,SNR=14
B19A Brinkman Farms 72.77 41 ⇓P P 12 35 27.4 +0.7
baz=73,SNR=16
CMB Columbia Colle 72.82 55 eP P 12 35 27.4 +0.2
CMB Columbia Colle 72.82 55 eP P 12 35 27.4 +0.2
HLID Hailey 72.98 47 eP P 12 35 29.0 +0.8
comp=Z,7.2nm,1.0s
HLID Hailey 72.98 47 ⇑P P 12 35 29.3 +1.1
baz=73,SNR=12
A20A Cobblestone Ra 72.99 40 ⇓P P 12 35 28.7 +0.6
baz=73
WAKR Walker 73.13 54 eP P 12 35 30.5 +1.4
C19A Slack Wire Ran 73.19 41 ⇓P P 12 35 30.2 +1.0
baz=73,SNR=21
BOZ Bozeman (W) 73.19 44 eP P 12 35 30.1 +0.7
BOZ pmax pmax
comp=Z,13nm,0.9s
BOZ Bozeman (W) 73.19 44 eP P 12 35 30.1 +0.7
comp=Z,13nm,0.9s
B20A Solberg Farm, 73.24 40 ⇓P P 12 35 29.8 +0.3
baz=73,SNR=6.2
BMN Battle Mountai 73.30 51 eP P 12 35 31.2 +1.1
BMN pmax pmax
comp=Z,10.0nm,0.9s
BMN Battle Mountai 73.30 51 eP P 12 35 31.2 +1.1
comp=Z,10nm,0.9s
D19A Cripps Ranch, 73.65 42 ⇓P P 12 35 32.8 +0.9
baz=74,SNR=14
C20A Veseth Ranch, 73.73 41 ⇓P P 12 35 33.0 +0.7
baz=74,SNR=7.6
NVAR Mina Array Bea 73.87 53 P P 12 35 34.3 +0.7
comp=Z,8.6nm,0.8s,baz=287,slow=5.3,SNR=63
A22A Carney Farms, 73.90 39 ⇓P P 12 35 33.7 +0.4
baz=74,SNR=13
MLAC Mammoth Lakes 74.04 54 ⇑P P 12 35 36.2 +1.7
baz=74
D20A Manuel Ranch, 74.08 41 ⇑P P 12 35 35.0 +0.6
baz=74,SNR=12
C21A Desert Coulee 74.11 40 ⇑P P 12 35 34.8 +0.3
baz=74,SNR=5.3
E19A Rath Farm, Rou 74.16 42 ⇑P P 12 35 35.9 +1.0
baz=74,SNR=13
YMR Madison River 74.18 45 eP P 12 35 36.6 +1.3
comp=Z,9.2nm,0.9s
ELK Elko 74.28 50 eP P 12 35 37.3 +1.4
ELK Elko 74.28 50 eP P 12 35 37.3 +1.4
YNR Norris Junctio 74.31 45 eP P 12 35 38.5 +2.5
comp=Z,8.4nm,1.0s
B22A Reddig Ranch S 74.33 40 ⇓P P 12 35 36.0 +0.2
baz=74
PTRM Twissleman Ran 74.38 57 eP P 12 35 37.5 +1.2
A23A Redstone 74.42 38 ⇓P P 12 35 37.0 +0.6
baz=74
E20A Meyer Farm, Mu 74.47 42 ⇓P P 12 35 37.6 +0.9
baz=74,SNR=12
F19A Roth Farm, Mol 74.48 43 ⇑P P 12 35 37.6 +0.8
baz=74,SNR=11
H17A Grant Village 74.57 45 eP P 12 35 40.1 +2.5
H17A Grant Village 74.57 45 ⇓P P 12 35 40.0 +2.5
baz=74,SNR=14
D21A La Casta Ranch 74.67 41 ⇑P P 12 35 38.2 +0.4
baz=74,SNR=7.6
B23A Brockton 74.71 39 ⇓P P 12 35 38.4 +0.4
baz=74,SNR=12
FLWY Flagg Ranch 74.71 45 eP P 12 35 40.2 +1.9
comp=Z,15nm,1.3s
SMMC Simmler 74.72 57 ⇑P P 12 35 40.2 +1.9
baz=75
TPH Tonopah 74.76 53 eP P 12 35 39.5 +0.8
TPH pmax pmax
comp=Z,16nm,0.9s
TPH Tonopah 74.76 53 eP P 12 35 39.5 +0.8
comp=Z,16nm,0.9s
C22A Vida 74.77 40 ⇑P P 12 35 38.3 0.0
baz=75
RLMT Red Lodge 74.80 44 eP P 12 35 39.3 +0.5
comp=Z,15nm,1.3s
A24A Westby 74.86 38 ⇓P P 12 35 39.5 +0.6
baz=75
H18A Shoshone NF, C 74.88 44 ⇑P P 12 35 40.1 +0.8
baz=75,SNR=6.8
I17A Pilgrim Ck. 74.89 45 ⇓P P 12 35 41.2 +1.9
baz=75,SNR=23
MOOW Moose Ponds 74.91 45 eP P 12 35 40.6 +1.2
F20A Billings 74.93 42 ⇓P P 12 35 39.9 +0.5
baz=75
TPAW Teton Pass 74.96 46 eP P 12 35 41.2 +1.3
VES Vestal, Richgr 74.98 56 ⇓P P 12 35 40.0 +0.3
baz=75,SNR=5.1
D22A Cohagen 75.02 40 ⇑P P 12 35 40.2 +0.4
baz=75,SNR=8.3
HVU Hansel Valley 75.05 48 eP P 12 35 41.6 +1.3
HVU pmax pmax
comp=Z,12nm,1.0s
HVU Hansel Valley 75.05 48 eP P 12 35 41.6 +1.3
comp=Z,12nm,1.0s
C23A Lambert 75.07 39 ⇑P P 12 35 40.4 +0.3
baz=75,SNR=6.1
LOHW Long Hollow 75.07 45 eP P 12 35 41.8 +1.4
DGMT Dagmar 75.09 39 eP P 12 35 40.7 +0.5
comp=Z,19nm,1.1s
DGMT Dagmar 75.09 39 ⇑P P 12 35 40.4 +0.2
baz=75
REDW Red Top Meadow 75.10 46 eP P 12 35 42.0 +1.4
H19A Powell 75.25 44 ⇓P P 12 35 42.2 +0.9
baz=75,SNR=7.5
A25A Svangstu Ranch 75.28 38 ⇓P P 12 35 41.9 +0.7
baz=75
G20A Bridger 75.29 43 ⇑P P 12 35 41.5 0.0
baz=75,SNR=5.8
LAO LASA Array 75.32 41 eP P 12 35 42.5 +0.9
comp=Z,20nm,1.1s
GRAC Grapevine Rang 75.34 54 ⇓P P 12 35 43.0 +1.1
baz=75,SNR=6.4
AHID Auburn Hatcher 75.35 46 eP P 12 35 42.5 +0.5
comp=Z,2.7nm,0.8s
F21A Absaloka Mine, 75.45 42 ⇑P P 12 35 42.8 +0.4
baz=75,SNR=5.1
BGU Big Grassy Mou 75.45 49 eP P 12 35 43.8 +1.2
comp=Z,2.5nm,1.0s
ISA Isabella 75.48 56 eP P 12 35 41.7 -1.0
ISA pmax pmax
comp=Z,6.0nm,1.4s
ISA Isabella 75.48 56 eP P 12 35 41.7 -1.0
comp=Z,6.3nm,1.4s
ISA Isabella 75.48 56 ⇑P P 12 35 42.5 -0.2
baz=75
D23A Lindsay 75.49 40 ⇑P P 12 35 43.1 +0.6
baz=75
R11A Troy Canyon, C 75.59 52 eP P 12 35 44.1 +0.7
comp=Z,13nm,1.3s
R11A Troy Canyon, C 75.59 52 ⇓P P 12 35 44.2 +0.8
baz=75,SNR=11
ARVC Arvin 75.59 56 ⇓P P 12 35 44.2 +1.0
baz=75
E22A Miles City 75.63 41 ⇑P P 12 35 43.4 +0.1
baz=75
C24A Savage 75.63 39 ⇑P P 12 35 43.4 +0.2
baz=75
I19A Meeteetse 75.66 44 ⇓P P 12 35 44.7 +1.0
baz=76,SNR=5.7
B25A Knox Farm, Ray 75.72 38 ⇑P P 12 35 44.5 +0.7
baz=76
A26A Wade Farm, Ken 75.81 37 ⇓P P 12 35 44.5 +0.3
baz=76,SNR=6.9
G21A Lodge Grass 75.81 42 ⇑P P 12 35 45.4 +0.9
baz=76
H20A Greybull 75.89 43 ⇓P P 12 35 45.8 +0.9
baz=76
F22A Rosebud 75.92 42 ⇑P P 12 35 45.4 +0.4
baz=76
D24A Glendive 75.97 40 ⇑P P 12 35 46.1 +0.9
baz=76,SNR=10.0
FURC Furnace Creek, 75.99 54 ⇑P P 12 35 46.8 +1.3
baz=76,SNR=12
DUG Dugway 76.05 49 eP P 12 35 47.0 +1.0
DUG pmax pmax
comp=Z,13nm,1.0s
DUG Dugway 76.05 49 eP P 12 35 47.0 +1.0
comp=Z,13nm,1.0s
DUG Dugway 76.05 49 ⇑P P 12 35 47.2 +1.2
baz=76,SNR=11
C25A Freed Ranch, W 76.07 39 ⇑P P 12 35 46.4 +0.6
baz=76
B26A Jensen Ranch, 76.08 38 ⇓P P 12 35 46.6 +0.8
baz=76,SNR=5.8
LRMC Laurel Mountai 76.10 55 ⇑P P 12 35 47.4 +1.1
baz=76
A27A Ledoux Ranch, 76.14 37 ⇓P P 12 35 46.5 +0.4
baz=76
J19A Crowheart 76.15 45 ⇑P P 12 35 47.6 +1.1
baz=76,SNR=16
I20A Worland 76.19 44 ⇓P P 12 35 47.8 +1.1
baz=76,SNR=8.4
BW06 Boulder Array 76.20 45 eP P 12 35 46.5 -0.4
comp=Z,21nm,1.5s
PDAR Pinedale Array 76.20 45 P P 12 35 46.8 -0.1
comp=Z,5.0nm,0.8s,baz=324,slow=4.5,SNR=38
EDW2 Edwards Air Fo 76.28 56 ⇑P P 12 35 48.2 +1.0
baz=76,SNR=6.3
G22A Birney 76.29 42 ⇑P P 12 35 47.6 +0.5
baz=76
STHS Stebnicka Huta 76.29 324 eP P 12 35 45.9 -1.0
STHS pmax pmax
comp=Z,4.0nm,1.4s
STHS Stebnicka Huta 76.29 324 eP P 12 35 45.9 -1.0
H21A Big Horn, Sher 76.30 43 ⇓P P 12 35 47.9 +0.7
baz=76,SNR=7.3
E24A Baker 76.36 40 ⇓P P 12 35 48.1 +0.6
baz=76
F23A Volborg 76.39 41 ⇑P P 12 35 48.2 +0.5
baz=76,SNR=14
D25A Fairfield 76.43 39 ⇓P P 12 35 48.4 +0.6
baz=76
BRTR Keskin Array B 76.50 311 P P 12 35 48.6 +0.1
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 76.50 311 P P 12 35 48.6 +0.1
comp=Z,1.7nm,1.0s,baz=88,slow=4.9,SNR=3.8
C26A Wahner Farm, P 76.54 38 ⇑P P 12 35 48.8 +0.4
baz=76,SNR=6.1
CRVS Cervenica-Dubn 76.56 324 eP P 12 35 49.2 +0.7
CRVS Cervenica-Dubn 76.56 324 eP P 12 35 49.1 +0.6
JLU Jordanelle 76.58 48 eP P 12 35 50.6 +1.6
J20A Shoshoni 76.61 44 ⇑P P 12 35 49.7 +0.6
baz=76,SNR=9.9
A28A Rude Farm, Bot 76.61 36 ⇑P P 12 35 49.5 +0.6
baz=76,SNR=7.1
NLU North Lily Min 76.64 49 eP P 12 35 50.6 +1.2
H22A Clearmont 76.68 42 ⇑P P 12 35 50.2 +0.8
baz=76
I21A Big Trails, Te 76.72 44 ⇑P P 12 35 50.9 +1.2
baz=76,SNR=19
G23A Biddle 76.76 42 ⇓P P 12 35 50.1 +0.4
baz=77
GSC Goldstone 76.77 55 eP P 12 35 50.8 +0.8
GSC pmax pmax
comp=Z,8.0nm,0.9s
GSC Goldstone 76.77 55 eP P 12 35 50.8 +0.8
comp=Z,8.2nm,0.9s
GSC Goldstone 76.77 55 ⇓P P 12 35 50.8 +0.8
baz=77,SNR=6.7
F24A Ekalaka 76.79 41 ⇑P P 12 35 50.5 +0.5
baz=77,SNR=9.0
DAU Daniels Canyon 76.81 48 eP P 12 35 51.9 +1.4
DAU Daniels Canyon 76.81 48 eP P 12 35 51.9 +1.4
E25A Miller Ranch, 76.85 40 ⇓P P 12 35 50.7 +0.5
baz=77
MPU Maple Canyon 76.86 49 eP P 12 35 51.8 +1.2
BFSC Mount Baldy Ra 76.90 56 ⇓P P 12 35 51.8 +1.0
baz=77
C27A Sayler Ranch, 76.90 38 ⇓P P 12 35 51.2 +0.8
baz=77
B28A Dugan Ranch, T 76.90 37 ⇑P P 12 35 50.7 +0.3
baz=77,SNR=9.1
J21A Lysite 76.96 44 ⇑P P 12 35 51.6 +0.5
baz=77
SHPR Sheep Range 77.03 53 eP P 12 35 52.5 +1.0
A29A Manning Farm, 77.07 36 ⇑P P 12 35 52.0 +0.6
baz=77,SNR=16
I22A 9 Mile Ranch, 77.09 43 ⇑P P 12 35 52.3 +0.5
baz=77,SNR=5.2
G24A Alzada 77.17 41 ⇑P P 12 35 52.1 0.0
baz=77
F25A Bowman 77.23 40 ⇓P P 12 35 53.1 +0.7
baz=77
TUQ Turquoise Moun 77.24 54 ⇓P P 12 35 53.6 +1.0
baz=77,SNR=9.5
D27A Center 77.33 38 ⇑P P 12 35 53.3 +0.5
baz=77
E26A Carlson Angus 77.33 39 ⇑P P 12 35 53.1 +0.2
baz=77
B29A Wagenman Farm, 77.35 36 ⇓P P 12 35 53.1 +0.2
baz=77,SNR=6.7
HEC Hector,Ludlow 77.37 55 ⇓P P 12 35 54.3 +0.9
baz=77,SNR=8.6
C28A Hausauer Farms 77.42 37 ⇑P P 12 35 53.9 +0.6
baz=77
J22A Midwest 77.43 43 ⇑P P 12 35 53.7 +0.1
baz=77
CCUT Cedar City 77.45 51 eP P 12 35 55.2 +1.3
comp=Z,5.9nm,1.0s
A30A Hoffart Ranch, 77.48 35 ⇑P P 12 35 53.9 +0.3
baz=77,SNR=12
H24A Dirks Ranch, A 77.50 41 ⇓P P 12 35 54.0 +0.1
baz=77
MVU Marysvale 77.51 50 eP P 12 35 55.9 +1.6
comp=Z,8.9nm,1.1s
K21A Alcova 77.55 44 ⇓P P 12 35 54.8 +0.4
baz=77,SNR=13
ULM Lac du Bonnet 77.55 33 eP P 12 35 53.3 -0.7
ULM Lac du Bonnet 77.55 33 P P 12 35 53.0 -1.0
comp=Z,8.5nm,0.9s,baz=321,slow=5.9,SNR=14
ULM Lac du Bonnet 77.55 33 eP P 12 35 53.3 -0.7
MURC Murrieta 77.60 57 ⇓P P 12 35 55.5 +0.9
baz=78
F26A Lodgepole 77.67 40 ⇑P P 12 35 55.0 +0.2
baz=78,SNR=5.4
DPC Dobruska-Polom 77.73 327 eP P 12 36 00.9 +5.9
DPC e 12 36 04.3
DPC Dobruska-Polom 77.73 327 eP P 12 36 00.9 +5.9
DPC ePCP PcP 12 36 04.3 -0.3
G25A Newell 77.76 41 ⇑P P 12 35 55.5 +0.1
baz=78
GMRC Granite Mounta 77.82 55 ⇓P P 12 35 56.9 +1.0
baz=78,SNR=9.0
B30A Myrvik Farm, E 77.83 36 ⇓P P 12 35 55.7 +0.1
baz=78,SNR=13
K22A Casper 77.93 44 eP P 12 35 57.0 +0.5
K22A Casper 77.93 44 ⇑P P 12 35 56.7 +0.3
baz=78
F27A Lemmon 77.97 39 ⇑P P 12 35 56.8 +0.3
baz=78
LDFC Landfair 77.98 54 eP P 12 35 57.6 +0.8
comp=Z,19nm,1.1s
PFO Pinyon Flat Ob 78.07 56 eP P 12 35 57.9 +0.6
PFO Pinyon Flat Ob 78.07 56 eP P 12 35 57.9 +0.6
PFO Pinyon Flat Ob 78.07 56 ⇓P P 12 35 57.8 +0.5
baz=78,SNR=6.0
H25A Fruitdale 78.08 41 ⇓P P 12 35 57.3 +0.2
baz=78
I24A Kuemmerle Ranc 78.09 42 ⇓P P 12 35 57.4 +0.2
baz=78
SRU San Rafael 78.10 49 eP P 12 35 58.4 +0.9
SRU San Rafael 78.10 49 eP P 12 35 58.4 +0.9
G26A Maurine 78.10 40 ⇑P P 12 35 57.3 +0.1
baz=78,SNR=10.0
E28A Huff 78.11 38 ⇓P P 12 35 57.7 +0.5
baz=78
BELC Belle Mtn. Jos 78.11 56 ⇓P P 12 35 57.8 +0.3
baz=78,SNR=5.7
RSSD Black Hills 78.21 42 eP P 12 35 58.0 0.0
RSSD pmax pmax
comp=Z,8.0nm,1.0s
RSSD Black Hills 78.21 42 eP P 12 35 58.0 0.0
comp=Z,8.2nm,1.0s
N20A Spence Gulch, 78.22 46 ⇓P P 12 35 59.2 +1.0
baz=78,SNR=11
D29A Pettibone, Tap 78.27 37 ⇑P P 12 35 58.5 +0.4
baz=78
C30A Mose, Pekin 78.31 36 ⇑P P 12 35 58.3 0.0
baz=78,SNR=6.3
K23A Bowen Ranch, D 78.33 43 ⇑P P 12 35 58.1 -0.5
baz=78
G27A Dupree 78.37 40 ⇑P P 12 35 59.0 +0.3
baz=78
L22A Ellis Ranch, M 78.40 44 ⇓P P 12 35 59.9 +0.7
baz=78
I25A Rochford 78.43 42 ⇓P P 12 35 59.3 0.0
baz=78
H26A Fairpoint 78.50 41 ⇑P P 12 35 59.9 +0.5

baz=78
IRM Iron Mountain 78.54 55 ⇓P P 12 36 00.7 +0.9
baz=78,SNR=7.6
MONP Monument Peak 78.55 57 ⇓P P 12 36 01.1 +1.0
baz=78
D30A Buchanan 78.62 37 ⇓P P 12 35 59.9 -0.1
baz=78,SNR=7.8
BC3 Big Chuckawall 78.68 56 ⇓P P 12 36 01.2 +0.5
baz=78,SNR=5.7
O20A White River Ci 78.71 47 eP P 12 36 01.4 +0.6
O20A White River Ci 78.71 47 ⇓P P 12 36 01.6 +0.8
baz=78
W13A Hualapai Mount 78.72 54 ⇓P P 12 36 01.8 +0.8
baz=79,SNR=7.3
L23A Garrett 78.74 44 ⇓P P 12 36 01.0 +0.1
baz=78,SNR=6.1
M22A Cedar Creek Ra 78.75 45 ⇑P P 12 36 01.2 +0.1
baz=79,SNR=5.4
U15A North Rim 78.83 52 ⇑P P 12 36 02.7 +1.1
baz=79,SNR=16
H27A Howes 78.83 40 ⇑P P 12 36 01.3 +0.1
baz=79,SNR=10
I26A New Underwood 78.87 41 ⇓P P 12 36 01.6 +0.1
baz=79
E30A Jud 79.00 37 ⇑P P 12 36 02.0 -0.1
baz=79,SNR=12
AGMN Agassiz Nation 79.03 35 eP P 12 36 01.7 -0.5
comp=Z,6.6nm,1.0s
AGMN Agassiz Nation 79.03 35 ⇓P P 12 36 02.0 -0.1
baz=79
F29A Eureka 79.06 38 ⇓P P 12 36 02.4 0.0
baz=79
G28A Parade 79.08 39 ⇓P P 12 36 03.0 +0.4
baz=79
PDMCI Parker Dam,Lak 79.09 54 ⇑P P 12 36 03.9 +1.2
baz=79
M23A Laramie 79.18 44 ⇓P P 12 36 03.9 +0.6
baz=79,SNR=5.8
Y12C Blythe 79.20 55 ⇑P P 12 36 04.3 +1.0
baz=79,SNR=7.2
N22A Wattenberg Ran 79.24 45 ⇓P P 12 36 04.8 +1.0
baz=79,SNR=5.5
I27A Quinn 79.25 41 ⇑P P 12 36 04.1 +0.6
baz=79,SNR=9.4
J26A Sides Ranch, S 79.27 42 ⇓P P 12 36 03.8 +0.2
baz=79
H28A Mission Ridge 79.32 40 ⇑P P 12 36 04.3 +0.4
baz=79,SNR=15
PHWY Pilot Hill 79.44 44 eP P 12 36 05.4 +0.6
F30A Leola 79.44 38 ⇓P P 12 36 04.6 +0.2
baz=79
N23A Red Feather La 79.45 45 ⇑P P 12 36 05.9 +0.9
baz=79,SNR=5.9
GLA Glamis 79.47 56 eP P 12 36 06.0 +1.1
GLA Glamis 79.47 56 eP P 12 36 06.0 +1.1
GLA Glamis 79.47 56 ⇑P P 12 36 06.0 +1.1
baz=79,SNR=5.2
G29A Hoven 79.48 39 ⇓P P 12 36 04.7 0.0
baz=79
PV04 Paradox Valley 79.51 48 eP P 12 36 06.2 +1.0
L25A Engebretsen Ra 79.63 43 ⇑P P 12 36 06.3 +0.6
baz=79
O22A Kremmling 79.63 46 ⇑P P 12 36 06.5 +0.6
baz=79,SNR=7.6
K26A Motz Farm, Whi 79.65 42 ⇓P P 12 36 06.1 +0.3
baz=80
M24A Cheyenne 79.66 44 ⇓P P 12 36 07.1 +1.2
baz=80,SNR=7.5
I28A Midland 79.74 40 ⇓P P 12 36 06.5 +0.3
baz=80,SNR=9.4
H29A Onida 79.75 39 ⇓P P 12 36 06.5 +0.3
baz=80,SNR=9.9
CONA Conrad Observa 79.78 326 ⇑iPcP PcP 12 36 15.2 +1.7
comp=Z,3.4nm,0.8s
J27A Elkhorn Farm, 79.86 41 ⇓P P 12 36 07.6 +0.7
baz=80,SNR=5.6
PV01 Paradox Valley 79.88 48 eP P 12 36 06.7 -0.5
comp=Z,815nm,1.3s
G30A Faulkton 79.90 38 ⇑P P 12 36 07.0 +0.1
baz=80,SNR=22
P22A Eagle 79.91 46 ⇓P P 12 36 08.3 +1.0
baz=80,SNR=6.1
O23A Lake Granby, G 79.94 45 ⇓P P 12 36 08.8 +1.2
baz=80,SNR=10
WUAZ Wupatki 79.99 52 eP P 12 36 09.2 +1.4
comp=Z,13nm,0.9s
WUAZ Wupatki 79.99 52 ⇓P P 12 36 09.3 +1.5
baz=80,SNR=12
Y14A Wickenburg 80.03 54 ⇓P P 12 36 08.9 +1.0
baz=80,SNR=10
SMCO Snowmass 80.08 47 eP P 12 36 09.4 +0.9
comp=Z,5.5nm,0.9s
J28A Allard Ranch, 80.12 41 ⇓P P 12 36 09.1 +0.8
baz=80,SNR=6.4
I29A Vivian Onida 80.15 40 ⇓P P 12 36 08.6 +0.3
baz=80,SNR=7.7
113A Mohawk Valley, 80.33 55 ⇑P P 12 36 10.5 +1.1
baz=80,SNR=7.8
ISCO Idaho Springs 80.40 46 eP P 12 36 11.2 +1.1
ISCO pmax pmax
comp=Z,60nm,2.8s
ISCO Idaho Springs 80.40 46 eP P 12 36 11.2 +1.1
comp=Z,60nm,2.8s
ISCO Idaho Springs 80.40 46 ⇓P P 12 36 10.9 +0.8
baz=80
Z14A Wintersburg 80.45 54 ⇑P P 12 36 10.5 +0.4
baz=80
O24A Longmont 80.47 45 ⇑P P 12 36 11.3 +1.0
baz=80
BRSD Miller 80.50 39 eP P 12 36 10.3 +0.1
BRSD Miller 80.50 39 ⇓P P 12 36 10.3 +0.1
baz=80,SNR=8.1
MVCO Mesa Verde 80.56 49 eP P 12 36 11.8 +0.9
comp=Z,6.6nm,0.9s
MVCO Mesa Verde 80.56 49 ⇑P P 12 36 11.8 +0.9
baz=80
K28A Ten Mile Ranch 80.57 41 ⇑P P 12 36 11.3 +0.6
baz=80
P23A Jefferson 80.57 46 ⇓P P 12 36 12.1 +1.0
baz=80
J29A Okreek 80.59 40 ⇑P P 12 36 11.1 +0.4
baz=80
X16A Lo Mia Camp, P 80.68 53 ⇓P P 12 36 13.1 +1.6
baz=80,SNR=16
P24A Kohler Place, 80.99 45 ⇑P P 12 36 14.0 +0.9
baz=81
O25A Wiggins 80.99 45 ⇑P P 12 36 13.7 +0.6
baz=81
J30A Dallas 81.06 40 ⇓P P 12 36 13.5 +0.3
baz=81,SNR=7.5
K29A Lazy Trails An 81.07 41 ⇓P P 12 36 13.6 +0.3
baz=81
S22A 4UR Ranch, Cre 81.15 48 ⇑P P 12 36 15.2 +1.1
baz=81
EYMN Ely 81.16 32 eP P 12 36 13.9 +0.3
comp=Z,14nm,1.0s
Q24A Divide 81.24 46 ⇑P P 12 36 15.2 +0.6
baz=81
O26A Horse Wrangler 81.34 44 ⇓P P 12 36 15.3 +0.5
baz=81
N27A Anderson Farm, 81.34 43 ⇑P P 12 36 15.5 +0.7
baz=81
P25A Willow Gulch B 81.39 45 ⇓P P 12 36 16.2 +1.0
baz=81
R23A Moffat 81.41 47 ⇑P P 12 36 16.6 +1.1
baz=81,SNR=7.2
K30A Basset 81.48 40 ⇑P P 12 36 15.8 +0.4
baz=81,SNR=5.5
OGNE Ogallala 81.51 43 ⇓P P 12 36 15.8 +0.2
baz=81
X18A Snowflake 81.52 52 ⇓P P 12 36 16.9 +0.9
baz=81
M28A Bar X Bar Ranc 81.53 42 ⇓P P 12 36 16.1 +0.4
baz=81
S23A Nye Farm, Mont 81.65 47 ⇑P P 12 36 17.5 +0.8
baz=82
Q25A Bedland, Calha 81.77 45 ⇓P P 12 36 18.0 +0.7
baz=82
R24A Sanders Place, 81.78 46 ⇑P P 12 36 17.9 +0.6
baz=82
P26A Davis Ranch, A 81.81 45 ⇑P P 12 36 17.7 +0.3
baz=82
O27A Beecher Island 81.82 44 ⇓P P 12 36 17.8 +0.4
baz=82
M29A Burnside Ranch 81.84 42 ⇑P P 12 36 18.0 +0.6
baz=82
N28A Pribbeno Ranch 81.95 43 ⇓P P 12 36 18.1 +0.2
baz=82

U22A Llaves 82.08 49 ⇑P P 12 36 20.2 +1.2
baz=82
T23A Casias Ranch, 82.09 48 ⇑P P 12 36 19.6 +0.6
baz=82
S24A Houchin Ranch, 82.14 47 ⇑P P 12 36 20.1 +0.8
baz=82
ECSD EROS Data Cent 82.15 38 eP P 12 36 17.9 -1.0
ECSD EROS Data Cent 82.15 38 ⇑P P 12 36 18.7 -0.1
baz=82,SNR=7.0
Q26A Hugo 82.17 45 ⇓P P 12 36 20.0 +0.7
baz=82
P27A Ficken Ranch, 82.22 44 ⇓P P 12 36 19.5 +0.1
baz=82
L31A Butterfield Fa 82.24 40 ⇑P P 12 36 19.9 +0.5
baz=82
O28A Krutsinger Ran 82.24 43 ⇑P P 12 36 19.7 +0.2
baz=82
R25A Fountain Ranch 82.30 46 ⇑P P 12 36 20.3 +0.3
baz=82
N29A Votaw Ranch, W 82.33 42 ⇓P P 12 36 20.1 +0.1
baz=82
V22A San Miguel Ran 82.37 49 ⇑P P 12 36 21.6 +1.1
baz=82
T24B San Luis 82.45 47 ⇑P P 12 36 22.0 +1.1
baz=82
U23A El Rito 82.50 48 ⇑P P 12 36 22.4 +1.3
baz=82,SNR=14
TUC Tucson 82.51 54 eP P 12 36 22.0 +1.0
TUC Tucson 82.51 54 eP P 12 36 22.0 +1.0
S25A Robets Cordova 82.56 46 ⇑P P 12 36 21.8 +0.4
baz=82
KSCO Kaye Shedlock' 82.59 45 ⇑P P 12 36 22.0 +0.6
baz=82
N30A Hueftle Ranch, 82.62 42 ⇑P P 12 36 22.1 +0.7
baz=82
FETA Feichten 82.65 328 ⇓iP P 12 36 17.7 -3.9
comp=Z,4.2nm,0.9s
P28A Saint Francis 82.65 44 ⇓P P 12 36 22.0 +0.3
baz=82,SNR=5.5
R26A Arlington 82.65 45 ⇓P P 12 36 22.3 +0.6
baz=82,SNR=8.8
SPMN St. Paul 82.74 35 ⇑P P 12 36 22.2 +0.3
baz=82
O29A 4D Ranch, Culb 82.75 43 ⇓P P 12 36 22.3 +0.2
baz=83
M31A Lambtecht Ranc 82.79 41 ⇑P P 12 36 22.2 -0.1
baz=83
SCHQ Schefferville 82.84 16 P P 12 36 22.5 +0.3
comp=Z,5.8nm,0.9s,baz=351,slow=4.7,SNR=6.6
V23A Ortiz Mt. (NFS 82.91 49 ⇑P P 12 36 24.8 +1.6
baz=83
T25A Trinidad 82.94 47 ⇑P P 12 36 24.0 +0.7
baz=83,SNR=5.5
Q28A Sharon Springs 82.98 44 ⇓P P 12 36 23.6 +0.2
baz=83
R27A Eads 83.02 45 ⇑P P 12 36 23.9 +0.3
baz=83
P29A Atwood 83.06 43 ⇑P P 12 36 23.8 0.0
baz=83
O30A MW Ranch, Wils 83.10 42 ⇓P P 12 36 24.0 +0.1
baz=83
S26A Kim 83.12 46 ⇑P P 12 36 24.2 +0.1
baz=83
BGNE Belgrade 83.15 40 eP P 12 36 23.6 -0.5
comp=Z,18nm,1.0s
BGNE Belgrade 83.15 40 ⇑P P 12 36 24.0 -0.1
baz=83,SNR=6.2
LAZ Ladron 83.29 50 eP P 12 36 25.7 +0.5
comp=Z,4.5nm,1.2s
ANMO Albuquerque 83.31 50 eP P 12 36 24.9 -0.4
ANMO pmax pmax
comp=Z,28nm,1.0s
ANMO Albuquerque 83.31 50 eP P 12 36 26.1 +0.8
W23A Werner Place, 83.34 49 ⇓P P 12 36 26.6 +1.1
baz=83,SNR=8.5
T26A Comanche Natio 83.38 46 ⇓P P 12 36 25.8 +0.3
baz=83,SNR=5.7
V24A Rampart Ranch, 83.45 48 ⇓P P 12 36 27.4 +1.4
baz=83,SNR=9.0
P30A Selden 83.46 43 ⇓P P 12 36 25.6 -0.2
baz=83
U25A Circle Dot Ran 83.47 47 ⇓P P 12 36 26.5 +0.5
baz=83
O31A Woolen Ranch, 83.49 42 ⇑P P 12 36 25.9 0.0
baz=83
R28A Tribune 83.51 45 ⇑P P 12 36 26.1 0.0
baz=83
Q29A Oakley 83.56 44 ⇑P P 12 36 26.6 +0.3
baz=83
N32A Stulken Farm, 83.56 41 ⇓P P 12 36 25.7 -0.6
baz=83
X23A Hourglass Bar 83.73 50 ⇓P P 12 36 27.9 +0.5
baz=84
W24A Lazy 6 Ranch, 83.74 49 ⇓P P 12 36 28.9 +1.4
baz=84,SNR=13
V25A Rancho No Teng 83.75 48 ⇓P P 12 36 28.4 +0.9
baz=84
U26A Atchley Ranch, 83.85 47 ⇓P P 12 36 28.5 +0.5
baz=84
Q30A Quinter 83.89 43 ⇓P P 12 36 28.0 0.0
baz=84
P31A Stockton 83.93 42 ⇓P P 12 36 28.4 +0.2
baz=84,SNR=7.0
S28A Manter 84.01 45 ⇓P P 12 36 28.9 +0.3
baz=84
319A Douglas 84.08 54 ⇑P P 12 36 29.9 +0.7
baz=84,SNR=7.8
X24A Lazy VL Ranch, 84.18 49 ⇓P P 12 36 30.5 +0.8
baz=84
Z22A Elephant Butte 84.19 51 ⇑P P 12 36 30.7 +0.9
baz=84,SNR=12
121A Cookes Peak, D 84.20 52 eP P 12 36 30.2 +0.4
comp=Z,11nm,0.9s
121A Cookes Peak, D 84.20 52 ⇓P P 12 36 30.8 +1.0
baz=84,SNR=8.9
T28A Walsh 84.23 46 ⇓P P 12 36 29.5 -0.3
baz=84
V26A Tequesquite Ra 84.25 47 ⇓P P 12 36 30.6 +0.6
baz=84
P32A Huiting Farm, 84.26 42 ⇓P P 12 36 29.6 -0.2
baz=84,SNR=8.0
Y23A Lovelace Mesa, 84.26 50 ⇓P P 12 36 31.2 +1.0
baz=84,SNR=19
W25A X Bar L Ranch, 84.28 48 ⇑P P 12 36 31.1 +0.9
baz=84,SNR=14
U27A Thompson Grove 84.34 46 ⇑P P 12 36 31.1 +0.7
baz=84
R30A Dighton 84.38 44 ⇓P P 12 36 30.4 -0.1
baz=84,SNR=5.1
S29A Ulysses 84.41 45 ⇑P P 12 36 30.9 +0.2
baz=84
Y24A Capitan 84.63 50 ⇓P P 12 36 32.7 +0.8
baz=84,SNR=6.4
X25A Clemmons Ranch 84.65 49 ⇑P P 12 36 33.1 +1.1
baz=84,SNR=13
U28A Mallet 84.71 46 ⇓P P 12 36 32.1 -0.1
baz=84
S30A Montezuma 84.75 44 ⇓P P 12 36 32.7 +0.3
baz=85
Q32A Meitler Ranch, 84.75 42 ⇑P P 12 36 32.1 -0.1
baz=85,SNR=6.2
R31A Burdett 84.77 43 ⇑P P 12 36 32.3 -0.1
baz=85
W26A Owens Ranch, T 84.77 48 ⇑P P 12 36 33.4 +0.8
baz=85
V27A Dan Oppiter Fa 84.82 47 ⇓P P 12 36 33.1 +0.4
baz=85
P33A Williams Farm, 84.86 41 ⇑P P 12 36 33.0 +0.2
baz=85
Y25A Mesa, Roswell 85.07 49 ⇑P P 12 36 34.7 +0.7
baz=85,SNR=6.9
Z24A Sheeppen Canyo 85.09 50 ⇓P P 12 36 35.2 +0.9
baz=85
R32A Long Quarter, 85.10 43 ⇑P P 12 36 33.8 -0.2
baz=85
Q33A Connelly Farm, 85.12 42 ⇓P P 12 36 34.2 +0.1
baz=85
X26A CR and CF Fran 85.13 48 ⇓P P 12 36 35.2 +0.8
baz=85,SNR=12
U29A Oasis Ranch, S 85.18 45 ⇑P P 12 36 34.9 +0.4
baz=85
W27A Bowe Ranch, En 85.19 48 ⇓P P 12 36 35.5 +0.9
baz=85,SNR=7.1
S31A Mullinville 85.29 44 ⇑P P 12 36 34.9 -0.1
baz=85,SNR=5.5
U30A WK&E Inc. Balk 85.46 45 ⇑P P 12 36 36.4 +0.5
baz=85
V29A Stinnett 85.47 46 ⇑P P 12 36 36.5 +0.6

baz=85
X27A F and S Farms, 85.47 48 ⇑P P 12 36 37.0 +0.9
baz=85
Z25A Roswell 85.51 50 ⇓P P 12 36 37.1 +0.8
baz=85,SNR=9.5
S32A Newby Ranch, P 85.52 43 ⇑P P 12 36 36.7 +0.5
baz=85
W28A Vega 85.53 47 ⇑P P 12 36 36.7 +0.4
baz=85
R33A Olander Ranch, 85.56 42 ⇑P P 12 36 36.2 -0.1
baz=85
Y26A Elida 85.57 49 ⇑P P 12 36 37.3 +0.7
baz=85,SNR=16
T31A Randall Ranch, 85.57 44 ⇓P P 12 36 36.6 +0.2
baz=85
KSU1 Kansas State U 85.67 41 ⇓P P 12 36 36.9 +0.2
baz=86
T32A Huddler Ranch, 85.91 44 ⇑P P 12 36 38.4 +0.3
baz=86
Z26A Caprock 85.95 49 ⇓P P 12 36 39.3 +0.9
baz=86,SNR=11
Y27A Causey 85.98 48 ⇑P P 12 36 38.9 +0.3
baz=86,SNR=6.0
125A Gardner Draw, 85.98 50 ⇓P P 12 36 39.4 +0.7
baz=86,SNR=8.6
X28A Dimmitt 86.07 47 ⇓P P 12 36 39.4 +0.4
baz=86
AMTX Amarillo 86.10 47 ⇓P P 12 36 40.0 +0.9
baz=86
MSTX Muleshoe 86.14 48 ⇑P P 12 36 40.0 +0.7
baz=86
225A Deer Hill, Car 86.28 51 ⇓P P 12 36 40.8 +0.7
baz=86
Z27A Tatum 86.36 49 ⇓P P 12 36 41.2 +0.7
baz=86,SNR=15
126A Clayton Basin, 86.37 50 ⇓P P 12 36 41.2 +0.7
baz=86
X29A Tulia 86.41 47 ⇑P P 12 36 41.2 +0.6
baz=86
V31A Spring Creek L 86.46 45 ⇑P P 12 36 41.7 +0.9
baz=86
U32A Winter Ranch, 86.47 44 ⇑P P 12 36 41.3 +0.5
baz=86
Y28A McKinney Farm, 86.49 48 ⇑P P 12 36 41.6 +0.5
baz=86
226B Tecolote Peak, 86.69 50 ⇑P P 12 36 42.8 +0.7
baz=86
W31A Holland Ranch, 86.84 46 ⇑P P 12 36 43.3 +0.7
baz=87
Y29A Porterfield Fa 86.85 47 ⇑P P 12 36 43.4 +0.6
baz=87
Z28A Tucker Farm, M 86.86 48 ⇓P P 12 36 43.7 +0.8
baz=87
U33A Lingo Farm, Me 86.90 44 ⇑P P 12 36 43.2 +0.3
baz=87
V32A Arapaho 86.94 45 ⇓P P 12 36 43.2 +0.1
baz=87
425A Indio Mountain 87.12 52 ⇑P P 12 36 44.7 +0.5
baz=87,SNR=6.6
U34A Anderson Ranch 87.20 43 ⇑P P 12 36 44.9 +0.5
baz=87
X31A McDonald Ranch 87.23 46 ⇓P P 12 36 45.2 +0.7
baz=87
V33A Lossen Ranch, 87.27 44 ⇑P P 12 36 44.5 -0.2
baz=87
Z29A Hungry Hill Ra 87.27 48 ⇓P P 12 36 45.7 +0.9
baz=87,SNR=11
W32A Sentinel 87.27 45 ⇑P P 12 36 45.4 +0.6
baz=87
Y30A Stafford Cattl 87.28 47 ⇓P P 12 36 45.5 +0.7
baz=87
128A Castleberry Fa 87.28 49 ⇓P P 12 36 45.8 +0.9
baz=87
326A Caldwell Ranch 87.35 51 ⇓P P 12 36 45.9 +0.6
baz=87
Z30A Sanderson Ranc 87.58 48 ⇓P P 12 36 46.7 +0.4
baz=87,SNR=5.5
228A UT Block 9, Go 87.59 49 ⇑P P 12 36 46.5 +0.2
baz=87
X32A Elmer 87.77 46 ⇓P P 12 36 47.8 +0.7
baz=88
426A McDonald Obser 87.78 51 ⇓P P 12 36 48.1 +0.6
baz=88
328A Wristen Ranch, 87.99 50 ⇑P P 12 36 48.8 +0.6
baz=88
Y32A R-V Farms, Ver 88.00 46 ⇓P P 12 36 48.9 +0.7
baz=88
427A Hayter Ranch, 88.03 51 ⇓P P 12 36 49.2 +0.7
baz=88
Z31A Sharp Cattle R 88.11 47 ⇓P P 12 36 49.2 +0.5
baz=88
229A Bryant Ranch, 88.15 49 ⇓P P 12 36 49.9 +0.9
baz=88
526A Mary Lane Ranc 88.18 52 ⇑P P 12 36 49.9 +0.6
baz=88,SNR=5.1
329A Wagon Wheel Ra 88.40 49 ⇓P P 12 36 50.8 +0.6
baz=88
527A Woodward Ranch 88.41 51 ⇓P P 12 36 50.7 +0.3
baz=88
X34A Smith Ranch, M 88.43 45 ⇑P P 12 36 51.0 +0.8
baz=88
Y33A Hilltop Ranch, 88.44 46 ⇓P P 12 36 50.8 +0.5
baz=88
131A Roby 88.45 48 ⇓P P 12 36 51.0 +0.7
baz=88
Z32A Haskell 88.49 47 ⇑P P 12 36 51.0 +0.5
baz=88,SNR=5.6
626A Big Bend Ranch 88.51 52 ⇑P P 12 36 51.6 +0.8
baz=88
TUL1 Tulsa 88.52 43 ⇓P P 12 36 51.1 +0.6
baz=88
428A Kincaid Ranch, 88.54 50 ⇑P P 12 36 51.9 +1.1
baz=88,SNR=6.6
230A Sterling City 88.61 48 ⇑P P 12 36 51.6 +0.5
baz=88
528A Cox Ranch, San 88.89 51 ⇑P P 12 36 53.1 +0.6
baz=89,SNR=5.3
Z33A Whitaker Ranch 88.91 46 ⇓P P 12 36 52.9 +0.5
baz=89
ABTX Abilene, Hawle 88.91 47 ⇑P P 12 36 53.1 +0.6
baz=89
330A Mertzon 88.93 49 ⇓P P 12 36 53.6 +1.0
baz=89
TXAR Lajitas Array 88.95 52 P P 12 36 53.2 +0.3
TXAR pmax pmax
comp=Z,3.0nm,0.8s
TXAR Lajitas Array 88.95 52 P P 12 36 53.2 +0.3
comp=Z,3.0nm,0.8s,baz=299,slow=3.7,SNR=35
231A Bronte 89.03 48 ⇓P P 12 36 53.4 +0.3
baz=89
627A Terlingua Ranc 89.04 52 ⇓P P 12 36 53.9 +0.6
baz=89
429A Davenport Ranc 89.08 50 ⇑P P 12 36 54.2 +0.8
baz=89
SFIN Scholer Farm 89.13 34 ⇓P P 12 36 53.4 0.0
baz=89
628A Black Gap, Mar 89.31 51 ⇑P P 12 36 54.9 +0.4
baz=89
430A Baggett Ranch, 89.35 49 ⇑P P 12 36 54.9 +0.3
baz=89
331A San Angelo 89.43 48 ⇓P P 12 36 55.2 +0.2
baz=89
232A Coleman 89.45 48 ⇓P P 12 36 55.3 +0.3
baz=89
Z35A Perchaven, San 89.70 45 ⇑P P 12 36 56.5 +0.4
baz=90
530A J-C Ranch, Com 89.75 50 ⇑P P 12 36 57.2 +0.7
baz=90,SNR=6.3
332A Millersview 89.77 48 ⇓P P 12 36 57.1 +0.6
baz=90,SNR=11
233A Rising Star 89.78 47 ⇑P P 12 36 57.3 +0.7
baz=90
431A Sonora 89.79 49 ⇑P P 12 36 57.0 +0.4
baz=90
134A White-Moore Ra 89.82 46 ⇓P P 12 36 57.2 +0.4
baz=90
432A Menard 90.12 48 ⇓P P 12 36 58.1 -0.1
baz=90,SNR=6.2
531A Rocksprings 90.21 49 ⇑P P 12 36 59.1 +0.5
baz=90,SNR=5.7
333A Richland Sprin 90.25 48 ⇑P P 12 36 59.3 +0.5
baz=90,SNR=9.5
JCT Junction City 90.41 49 eP P 12 36 59.6 0.0
JCT pmax pmax
comp=Z,7.0nm,0.8s
JCT Junction City 90.41 49 eP P 12 36 59.6 0.0
comp=Z,6.6nm,0.8s
JCT Junction City 90.41 49 ⇑P P 12 36 59.9 +0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=90						
WHTX	**Lake Whitney**	**90.61**	**46**	⇓P	**P**	**12 37 00.9**	**+0.6**
	baz=90						
433A	**Art**	**90.61**	**48**	⇓P	**P**	**12 37 01.1**	**+0.7**
	baz=90						
334A	**Lometa**	**90.66**	**47**	⇑P	**P**	**12 37 01.2**	**+0.5**
	baz=90						
631A	**Perdido Creek**	**90.74**	**50**	⇑P	**P**	**12 37 01.7**	**+0.6**
	baz=91,SNR=9.7						
434A	**Burnet**	**91.03**	**47**	⇓P	**P**	**12 37 02.7**	**+0.3**
	baz=91						
632A	**Uvalde**	**91.14**	**49**	⇑P	**P**	**12 37 03.4**	**+0.5**
	baz=91						
533A	**Kerrville**	**91.15**	**48**	⇑P	**P**	**12 37 03.4**	**+0.4**
	baz=91						
534A	**Blanco**	**91.51**	**48**	⇑P	**P**	**12 37 05.0**	**+0.4**
	baz=91						
633A	**Saathoff Ranch**	**91.53**	**49**	⇑P	**P**	**12 37 05.3**	**+0.6**
	baz=91						
732A	**Laxson Ranch,**	**91.60**	**50**	⇓P	**P**	**12 37 05.9**	**+0.9**
	baz=91						
832A	**Faith Ranch, C**	**91.93**	**50**	⇓P	**P**	**12 37 07.5**	**+0.9**
	baz=92						
833A	**Chaparral WMA,**	**92.24**	**50**	⇑P	**P**	**12 37 09.0**	**+1.0**
	baz=92						
735A	**Kenedy**	**92.77**	**48**	⇓P	**P**	**12 37 11.3**	**+0.9**
	baz=93						
933A	**Laredo**	**92.84**	**50**	⇓P	**P**	**12 37 12.1**	**+1.4**
	baz=93						
TORD	**Torodi Ar. Bea**	**114.87**	**315**	PKP	PKPdf	12 42 36.3	-2.1
	comp=Z,0.6nm,1.0s,baz=32,slow=4.7,SNR=2.8						
SNAA	**Sanae**	**143.19**	**198**	P	PKPab	12 43 26.9	+0.8
VNA2	**Neumayer--Watz**	**144.79**	**198**	P	PKPbc	12 43 31.9	-0.2
	baz=122,slow=2.7						
VNA3	**Neumayer Olymp**	**145.07**	**196**	P	**PKPbc**	**12 43 32.1**	**-1.0**
VNA1	**Neumayer--Stat**	**145.18**	**198**	P	**PKPab**	**12 43 33.7**	**+0.1**

*IDC **04** 12:32:56.5±1.5,34.°14S×110.°29W,h0km,mb4.0/5, mb1 4.3/5,mb1mx4.1/18,mbtmp4.0/5,MS3.5/6,Ms1 3.5/6, ms1mx3.3/29,Error ellipse: s-maj=47.5km s-min=32.1km az=11.0*

ISC 04 12:32:57.8±1.7,**34.°2S**±0.°4×**110.°3W**±0.°3,**h10km,n15,** σ0§**46**/7,**mb4.0**/5,**MS3.5**/6,**Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**26.02**	**97**	T	T	13 06 02.0	
	baz=262,slow=74,SNR=18						
H03N3	**Juan Fernandez**	**26.02**	**97**	T	T	13 06 02.4	
	baz=262,slow=74,SNR=13						
H03N1	**Juan Fernandez**	**26.04**	**97**	T	T	13 06 02.8	
	baz=262,slow=74,SNR=16						
PLCA	**Paso Flores**	**32.00**	**114**	LR	LR	12 48 24.5	
	comp=Z,73nm,20.1s,baz=244,slow=29						
CFAA	**Coronel Fontan**	**35.23**	**98**	LR	LR	12 50 30.7	
	comp=Z,20nm,20.3s,baz=258,slow=30						
PMSA	**Palmer Station**	**41.29**	**152**	LR	LR	12 52 41.5	
	comp=Z,84nm,20.8s,baz=304,slow=29						
LPAZ	**La Paz**	**41.77**	**75**	P	**P**	**12 40 48.0**	**-0.2**
	3.2nm,1.0s,baz=231,slow=5.7,SNR=5.7						
LPAZ				LR	LR	12 53 49.5	
	comp=Z,60nm,21.2s,baz=316,slow=30						
SIV	**San Ignacio**	**47.64**	**80**	P	**P**	**12 41 34.6**	**+0.1**
	3.9nm,0.9s,baz=250,slow=8.8,SNR=6.8						
BDFB	**Brasilia**	**58.58**	**88**	LR	LR	13 03 49.0	
	comp=Z,65nm,21.8s,baz=356,slow=32						
TXAR	**Lajitas Array**	**63.52**	**6**	P	**P**	**12 43 28.8**	**+0.5**
	0.5nm,0.8s,baz=222,slow=1.7,SNR=4.1						
NVAR	**Mina Array Bea**	**72.67**	**353**	P	**P**	**12 44 25.5**	**-0.3**
	2.1nm,1.0s,baz=180,slow=6.7,SNR=7.0						
PDAR	**Pinedale Array**	**76.62**	**1**	P	**P**	**12 44 48.4**	**-0.3**
	1.4nm,0.9s,baz=143,slow=5.7,SNR=6.6						
ASAR	**Alice Springs**	**96.15**	**236**	LR	LR	13 25 04.2	
	comp=Z,87nm,18.7s,baz=30,slow=32						
SONM	**Songino Array**	**149.47**	**308**	PKPbc	**PKPbc**	**12 52 46.5**	**-0.5**
	0.8nm,1.0s,baz=132,slow=2.2,SNR=3.5						
CMAR	**Chiang Mai Arr**	**149.59**	**246**	PKPbc	**PKPbc**	**12 52 48.4**	**+0.4**
	0.4nm,0.4s,baz=346,slow=0.2,SNR=7.3						

*ISCJB **04** 12:40:15.7±0.8,16.°90S±0.°10×73.°7W±0.°1,h26km,mb3.9/5, MS3.5/1,Error ellipse: s-maj=20.7km s-min=7.9km az=142.3*

*IDC **04** 12:40:23.2±3.5,16.°62S×73.°45W,h71km±25km,mb3.7/6, mb1 3.8/10,mb1mx3.6/23,mbtmp4.0/10,MS3.3/4, Ms1 3.3/4,ms1mx2.9/42,Error ellipse: s-maj=51.6km s-min=17.9km az=25.0*

ISC 04 12:40:17.8±0.8,**16.°79S**±0.°10×**73.°47W**±0.°09,**h26km,n29,** σ1§**26**/19,**mb4.1**/5,**1C,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**4.23**	**132**	eP	**Pn**	**12 41 21.8**	**+1.0**
MNMC	**Minimini**	**4.36**	**123**	eP	**Pn**	**12 41 24.6**	**+2.0**
HMBC	**Humberstone**	**4.86**	**136**	eP	**Pn**	**12 41 30.0**	**+0.6**
PATCX	**Punta Patache**	**5.09**	**142**	⇑iP	**Pn**	**12 41 32.6**	**0.0**
LPAZ	**La Paz**	**5.14**	**85**	P	Pn	12 41 39.2	+5.4
	1.4nm,0.3s,baz=269,slow=12,SNR=12						
LPAZ				S	**Sb**	**12 42 47.2**	**-1.9**
	baz=210,slow=14,SNR=1.2						
LPAZ				LR	LR	12 43 51.2	
	comp=Z,271nm,20.9s,baz=258,slow=41						
PB01	**Plate Boundary**	**5.67**	**139**	eP	**Pn**	**12 41 41.2**	**+0.8**
NNA	**Nana**	**5.79**	**325**	P	**Pn**	**12 41 44.0**	**+1.9**
	1.9nm,0.3s,baz=130,slow=16,SNR=3.0						
NNA				S	Sn	12 42 42.9	-4.8
	11nm,0.3s,baz=261,slow=20,SNR=3.5						
PB07	**Plate Boundary**	**5.96**	**146**	eP	**Pn**	**12 41 44.9**	**+0.3**
PB09	**Plate Boundary**	**6.38**	**142**	eP	**Pn**	**12 41 51.4**	**+1.0**
ATAH	**Atahualpa**	**10.73**	**333**	P	Pn	12 42 54.5	+4.2
	0.2nm,0.3s,baz=171,slow=16,SNR=1.8						
ATAH				S	Sn	12 45 02.6	+13
	0.3nm,0.3s,baz=307,slow=20,SNR=2.8						
ATAH				LR	LR	12 46 24.5	
	comp=Z,56nm,21.7s,baz=43,slow=34						
SIV	**San Ignacio**	**11.92**	**88**	P	**Pn**	**12 43 08.6**	**+2.4**
	1.2nm,0.3s,baz=271,slow=12,SNR=9.0						
SIV				LR	LR	12 48 40.4	
	comp=Z,174nm,20.8s,baz=276,slow=42						
H03N1	**Juan Fernandez**	**17.29**	**195**	T	T	13 02 51.8	
	baz=17,slow=76,SNR=192						
H03N2	**Juan Fernandez**	**17.30**	**196**	T	T	13 02 53.3	
	baz=17,slow=76,SNR=158						
H03N3	**Juan Fernandez**	**17.31**	**195**	T	T	13 02 53.1	
	baz=17,slow=76,SNR=166						
PTGA	**Pitinga**	**20.77**	**41**	P	**P**	**12 44 56.6**	**-0.4**
	3.5nm,0.8s,baz=211,slow=12,SNR=3.2						
PTGA				LR	LR	12 53 59.5	
	comp=Z,178nm,19.6s,baz=68,slow=40						
BDFB	**Brasilia**	**24.46**	**91**	P	**P**	**12 45 35.6**	**+0.5**
	3.9nm,0.7s,baz=248,slow=10,SNR=4.6						
TXAR	**Lajitas Array**	**54.34**	**327**	P	**P**	**12 49 41.2**	**-1.3**
	0.2nm,0.4s,baz=154,slow=11,SNR=6.8						
DBIC	**Dimbokro**	**71.71**	**77**	P	**P**	**12 51 37.9**	**-0.3**
	2.0nm,0.7s,baz=260,slow=6.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**79.98**	**73**	P	**P**	**12 52 25.2**	**-0.2**
	1.6nm,0.6s,baz=260,slow=5.6,SNR=11						
YKA	**Yellowknife Ar**	**85.37**	**342**	P	**P**	**12 52 51.1**	**-1.2**
	0.7nm,0.6s,baz=138,slow=5.5,SNR=23						
H11N3	**WAKE ISLAND Hy**	**122.84**	**283**	T	T	15 13 58.0	
	baz=101						
H11N2	**WAKE ISLAND Hy**	**122.86**	**283**	T	T	15 13 53.9	
	baz=101						
H11N1	**WAKE ISLAND Hy**	**122.86**	**283**	T	T	15 14 09.6	
	baz=101						
H11S2	**WAKE ISLAND Hy**	**122.86**	**281**	T	T	15 13 43.5	
	baz=95,slow=73						
H11S1	**WAKE ISLAND Hy**	**122.87**	**281**	T	T	15 13 58.9	
	baz=95,slow=73						
H11S3	**WAKE ISLAND Hy**	**122.88**	**281**	T	T	15 13 49.1	
	baz=95,slow=73						
ASAR	**Alice Springs**	**131.71**	**214**	PKP	**PKPdf**	**12 59 28.1**	**-1.2**
	0.2nm,0.6s,baz=125,slow=1.9,SNR=3.8						
WRA	**Warramunga Arr**	**134.41**	**218**	PKP	**PKPdf**	**12 59 34.0**	**-0.5**
	0.4nm,0.8s,baz=140,slow=1.8,SNR=5.6						
SONM	**Songino Array**	**149.04**	**0**	PKPbc	**PKPbc**	**13 00 03.9**	**+0.1**
	0.7nm,0.6s,baz=10,slow=1.7,SNR=6.9						

*SZGRF **04** 13:02:32.7,21.°44S×177.°43W,h33km,Fiji Islands region*

*ISCJB **04** 13:02:35.3±0.9,20.°35S±0.°04×177.°77W±0.°03, h477km±10km,mb4.9/127,Error ellipse: s-maj=5.8km s-min=3.9km az=161.9*

*GCMT **04** 13:02:37.2±0.3,20.°39S×177.°53W,h500km±1km, MW5.3/73,Moment Tensor Solution. s73,c105; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; Mrr-1.03±.03; Mθθ0.30±.05; Mφφ0.72±.05; Mrθ-0.15±.05; Mrφ0.04±.05; Mθφ-0.58±.05; Best double couple: Mo1.06700×10^{17} NP1:φs10.00000°,δ62.00000°, λ-87.00000°. NP2:φs184.00000°,δ28.00000°, λ-95.00000°. Principal axes: T 0.9170, Plg17.0000°, Azm98.0000°; N 0.3010, Plg2.0000°, Azm189.0000°; P -1.2180, Plg73.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s.*

*NEIC **04** 13:02:37.2±0.1,20.°36S×177.°73W,mb4.9/74 Error ellipse: s-maj=6.3km s-min=3.7km az=142.0*

*MOS **04** 13:02:37.5±1.0,20.°17S×177.°81W,h499km,mb5.0/23, Error ellipse: s-maj=10.8km s-min=9.9km az=83.3*

*BJI **04** 13:02:37.2,19.°92S×177.°70W,h489km,mB5.0/33, mb5.1/50*

*IDC **04** 13:02:38.2±0.7,20.°24S×177.°78W,h498km±7km,mb4.3/26, mb1 4.4/27,mb1mx4.4/29,mbtmp5.1/27,Error ellipse: s-maj=11.6km s-min=8.1km az=136.0*

ISC 04 13:02:37.1±0.4,**20.°34S**±0.°05×**177.°71W**±0.°05, **h493km**±3km,**h494km:pP-P,n784,**σ1§**02**/845,**mb5.0**/127, **199C-184D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.77**	**302**	P	**P**	**13 04 03.6**	**+1.7**
	5μm,0.4s						
MSVF	**Nonsavu**	**4.77**	**302**	eP	**P**	**13 04 03.6**	**+1.7**
MSVF	**Nonsavu**	**4.77**	**302**	eP	**P**	**13 04 03.6**	**+1.7**
AFI	**Afiamalu**	**8.55**	**42**	eP	P	13 04 35.4	-3.9
AFI	**Afiamalu**	**8.55**	**42**	P	P	13 04 35.6	-3.7
	36nm,0.3s,baz=242,slow=15,SNR=26						
AFI				S	S	13 06 08.7	-11
	75nm,0.3s,baz=23,slow=23,SNR=14						
AFI	**Afiamalu**	**8.55**	**42**	eP	P	13 04 35.4	-3.9
AFI				P	P	13 04 35.6	-3.7
DZM	**Mont Dzumac**	**14.88**	**261**	eLR	LR	13 08 26.4	
	2μm,24.6s						
DZM	**Mont Dzumac**	**14.88**	**261**	P	**P**	**13 05 47.3**	**+1.0**
	3.3nm,0.3s,baz=87,slow=14,SNR=27						
DZM	**Mont Dzumac**	**14.88**	**261**	eP	**P**	**13 05 45.7**	**-0.6**
	22nm,0.6s						
DZM				eS	**S**	**13 08 22.1**	**-0.2**
NOUC	**Port Laguerre**	**15.01**	**260**	eP	**P**	**13 05 49.2**	**+1.6**
OUZ	**Omahuta**	**16.69**	**206**	eP	**P**	**13 06 07.0**	**+2.1**
	32nm,0.6s						
MXZ	**Matakaoa Point**	**17.51**	**191**	ePN	**P**	**13 06 12.0**	**-1.1**
HAZ	**Te Kaha**	**17.79**	**192**	ePN	**P**	**13 06 14.9**	**-0.8**
PUZ	**Puketiti**	**18.01**	**190**	PN	**P**	**13 06 17.1**	**-0.7**
PUZ				SN	**S**	**13 09 15.6**	**-2.4**
MWZ	**Matawai**	**18.40**	**192**	PN	**P**	**13 06 20.0**	**-1.4**
MWZ				eSN	**S**	**13 09 22.1**	**-2.2**
URZ	**Urewera**	**18.41**	**193**	P	**P**	**13 06 18.8**	**-2.6**
	9.7nm,0.3s,baz=281,slow=3.5,SNR=68						
URZ				S	**S**	**13 09 23.7**	**-0.7**
	0.7nm,0.3s,baz=204,slow=20,SNR=4.7						
URZ	**Urewera**	**18.41**	**193**	eP	**P**	**13 06 18.8**	**-2.6**
	43nm,0.9s						
URZ				S	**S**	**13 09 23.7**	**-0.7**
URZ	**Urewera**	**18.41**	**193**	ePN	**P**	**13 06 21.0**	**-0.4**
URZ				SN	**S**	**13 09 23.0**	**-1.4**
CNGZ	**Carnagh Statio**	**18.42**	**190**	PN	**P**	**13 06 22.2**	**+0.7**
RAGZ	**Rawiri**	**18.58**	**192**	PN	**P**	**13 06 22.5**	**-0.6**
RIGZ	**Rimuhau**	**18.72**	**191**	PN	**P**	**13 06 23.6**	**-0.6**
SNGZ	**Shannon Statio**	**18.87**	**192**	ePN	**P**	**13 06 25.2**	**-0.5**
PRGZ	**Paritu Road**	**18.91**	**191**	PN	**P**	**13 06 26.3**	**+0.3**
KNZ	**Kokohu**	**19.04**	**191**	PN	**P**	**13 06 27.0**	**-0.1**
MHGZ	**Mahia Peninsul**	**19.13**	**190**	PN	**P**	**13 06 29.1**	**+1.1**
NMHZ	**Naumai**	**19.28**	**193**	PN	**P**	**13 06 29.4**	**-0.1**
BKZ	**Black Stump Fm**	**19.42**	**194**	eP	**P**	**13 06 28.8**	**-1.9**
	23nm,0.8s						
BKZ	**Black Stump Fm**	**19.42**	**194**	PN	**P**	**13 06 29.0**	**-1.7**
BHHZ	**Black Hill Sta**	**19.82**	**194**	ePN	**P**	**13 06 32.2**	**-2.2**
KAHZ	**Kahuranaki**	**19.94**	**192**	PN	**P**	**13 06 35.6**	**+0.2**
PXZ	**Pawanui**	**20.17**	**192**	ePN	**P**	**13 06 36.0**	**-1.5**
WAZ	**Wanganui**	**20.34**	**196**	ePN	**P**	**13 06 39.0**	**-0.1**
TSZ	**Takapari Road**	**20.39**	**194**	ePN	**P**	**13 06 38.7**	**-0.8**
PRHZ	**Porangahau**	**20.44**	**192**	PN	**P**	**13 06 39.3**	**-0.6**
BFZ	**Birch Farm**	**20.92**	**193**	eP	**P**	**13 06 43.1**	**-1.2**
	24nm,0.5s						
BFZ	**Birch Farm**	**20.92**	**193**	ePN	**P**	**13 06 42.8**	**-1.5**
MRZ	**Mangatainoka R**	**21.05**	**194**	PN	**P**	**13 06 43.1**	**-2.4**
TIWZ	**Tintock**	**21.09**	**194**	PN	**P**	**13 06 44.4**	**-1.5**
OGWZ	**Otaki Gorge**	**21.30**	**195**	PN	**P**	**13 06 46.2**	**-1.5**
KIW	**Kapiti Island**	**21.40**	**195**	PN	**P**	**13 06 47.5**	**-1.2**
QRZ	**Quartz Range**	**22.05**	**200**	ePN	**P**	**13 06 54.5**	**0.0**
NNZ	**Nelson**	**22.15**	**198**	ePN	**P**	**13 06 54.5**	**-0.9**
THZ	**Tophouse**	**22.79**	**198**	PN	**P**	**13 07 00.4**	**-0.8**
DSZ	**Denniston Nort**	**23.12**	**200**	PN	**P**	**13 07 03.9**	**-0.2**
KHZ	**Kahutara**	**23.22**	**197**	eP	**P**	**13 07 04.0**	**-0.9**
	25nm,0.4s						
LTZ	**Lake Taylor**	**23.91**	**198**	PN	**P**	**13 07 09.4**	**-1.8**
OXZ	**Oxford**	**24.48**	**198**	PN	**P**	**13 07 14.7**	**-1.5**
MQZ	**McQueen's Vall**	**24.65**	**197**	PN	**P**	**13 07 13.7**	**-3.9**
WVZ	**Waitaha Valley**	**24.66**	**201**	PN	**P**	**13 07 16.4**	**-1.4**
RPZ	**Rata Peaks**	**25.13**	**199**	eP	**P**	**13 07 21.1**	**-0.9**
	26nm,1.0s						
JCZ	**Jackson Bay**	**26.22**	**202**	ePN	**P**	**13 07 30.7**	**-1.0**
TBI	**Tubuai**	**26.38**	**102**	eLR	LR	13 13 22.5	
	636nm,29.8s						
PPT2	**Papeete2**	**26.73**	**89**	eLR	LR	13 13 40.1	
	977nm,26.0s						
DCZ	**Deep Cove**	**28.01**	**203**	eP	**P**	**13 07 47.1**	**-0.2**
	21nm,1.2s						
WHZ	**Wether Hill Ro**	**28.08**	**202**	eP	**P**	**13 07 47.9**	**-0.1**
	27nm,0.9s						
EIDS	**Eidsvold**	**29.15**	**254**	eP	**P**	**13 07 58.3**	**+0.7**
	12nm,0.8s						
EIDS	**Eidsvold**	**29.15**	**254**	⇑P	**P**	**13 07 57.8**	**+0.2**
	baz=30,SNR=5.8						
ARMA	**Armidale**	**29.38**	**244**	eP	**P**	**13 08 00.7**	**+1.0**
	133nm,1.9s						
ARMA	**Armidale**	**29.38**	**244**	⇓P	**P**	**13 08 00.6**	**+0.9**
	baz=30,SNR=13						
XMAS	**Kiritimati**	**29.83**	**44**	eP	**P**	**13 08 02.8**	**-0.8**
	125nm,1.3s						
MGCD	**Mangrove Creek**	**30.52**	**239**	⇓P	**P**	**13 08 11.0**	**+1.6**
	baz=31,SNR=10						
CNB	**Canberra Magne**	**32.54**	**236**	⇓P	**P**	**13 08 27.7**	**+0.9**
	baz=33,SNR=30						
MILA	**Mila**	**33.28**	**233**	⇑P	**P**	**13 08 34.3**	**+1.3**
	baz=34,SNR=6.2						
CTA	**Charters Tower**	**33.77**	**264**	P	**P**	**13 08 37.8**	**+0.5**
	30nm,0.3s,baz=95,slow=12,SNR=103						
CTA				S	**S**	**13 13 24.4**	**-1.3**
	5.6nm,1.0s,baz=274,slow=19,SNR=4.1						
CTAO	**Charters Tower**	**33.77**	**264**	eP	**P**	**13 08 38.0**	**+0.7**
CTAO	**Charters Tower**	**33.77**	**264**	eP	**P**	**13 08 38.0**	**+0.7**
CMSA	**Cobar Meteorol**	**34.60**	**244**	⇑P	**P**	**13 08 44.7**	**+0.6**
	baz=35,SNR=29						
QLP	**Quilpie**	**35.36**	**253**	⇓P	**P**	**13 08 50.9**	**+0.3**
	baz=36,SNR=8.7						
PMG	**Port Moresby**	**35.57**	**283**	d iP	**P**	**13 08 52.8**	**+0.4**
PMG				pmax	pmax		
	comp=Z,141nm,1.0s						
PMG	**Port Moresby**	**35.57**	**283**	eP	**P**	**13 08 52.9**	**+0.4**
PMG	**Port Moresby**	**35.57**	**283**	P	**P**	**13 08 52.8**	**+0.4**
	baz=36,SNR=8.6						
MTSU	**Mount Surprise**	**35.87**	**267**	⇑P	**P**	**13 08 55.2**	**+0.3**
	baz=36,SNR=80						
TOO	**Toolangi**	**36.21**	**234**	⇓P	**P**	**13 08 58.3**	**+0.8**
	baz=37,SNR=51						
COEN	**Coen**	**37.84**	**273**	eP	**P**	**13 09 11.5**	**+0.2**
	comp=Z,283nm,0.8s						
COEN	**Coen**	**37.84**	**273**	⇑P	**P**	**13 09 11.9**	**+0.7**
	baz=38,SNR=4.4						
STKA	**Stephens Creek**	**38.10**	**244**	eP	**P**	**13 09 14.0**	**+0.9**
STKA	**Stephens Creek**	**38.10**	**244**	P	**P**	**13 09 13.7**	**+0.5**
	comp=Z,42nm,1.0s,baz=90,slow=9.8,SNR=35						
STKA	**Stephens Creek**	**38.10**	**244**	eP	**P**	**13 09 14.0**	**+0.9**
STKA	**Stephens Creek**	**38.10**	**244**	⇓P	**P**	**13 09 13.8**	**+0.6**
	baz=38,SNR=28						
ARPS	**Mount Arapiles**	**38.80**	**236**	P	**P**	**13 09 19.4**	**+0.7**
	baz=39,SNR=16						
QIS	**Mount Isa**	**39.91**	**262**	⇑P	**P**	**13 09 27.8**	**-0.2**
	baz=40,SNR=6.8						
HTT	**Hallett**	**40.54**	**242**	⇓P	**P**	**13 09 33.5**	**+0.6**
	baz=41,SNR=20						
BBOO	**Buckleboo**	**42.86**	**243**	eP	**P**	**13 09 51.6**	**+0.3**
	comp=Z,1μm,0.8s						
BBOO	**Buckleboo**	**42.86**	**243**	P	**P**	**13 09 51.5**	**+0.3**
	baz=43,SNR=43						
JAY	**Jayapura**	**44.25**	**288**	P	**P**	**13 10 03.1**	**+0.7**
	baz=44,SNR=13						
AS31	**Alice Springs**	**44.82**	**257**	eP	**P**	**13 10 06.8**	**+0.1**
ASAR	**Alice Springs**	**44.82**	**257**	P	**P**	**13 10 06.9**	**+0.2**
	comp=Z,50nm,0.7s,baz=99,slow=7.6,SNR=490						
ASAR				PcP	**pP**	**13 11 38.8**	**0.0**
	comp=Z,16nm,0.9s,baz=104,slow=3.7,SNR=10						
ASAR				S	**S**	**13 16 06.0**	**-1.7**
	comp=Z,9.3nm,0.7s,baz=93,slow=15,SNR=22						
WRAB	**Tennant Creek**	**44.88**	**262**	P	**P**	**13 10 06.0**	**-1.2**
	comp=Z,250nm,1.0s,SNR=83						
WRAB	**Tennant Creek**	**44.88**	**262**	d iP	**P**	**13 10 06.6**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,218nm,1.6s						
WRAB	**Tennant Creek**	**44.88**	**262**	eP	**P**	**13 10 06.7**	**-0.5**
	comp=Z,206nm,1.8s						
WRA	**Warramunga Arr**	**44.89**	**262**	P	**P**	**13 10 06.7**	**-0.6**
	comp=Z,12nm,0.3s,baz=97,slow=7.3,SNR=423						
WRA				PcP	**PcP**	**13 11 38.5**	**-0.1**
	comp=Z,14nm,1.0s,baz=92,slow=3.6,SNR=9.1						
WRA				S	**S**	**13 16 04.5**	**-4.2**
	comp=Z,6.6nm,1.0s,baz=95,slow=13,SNR=11						
KDU	**Kakadu**	**48.22**	**271**	⇓P	**P**	**13 10 32.1**	**-0.4**
	baz=48,SNR=36						
MTN	**Manton Dam**	**49.43**	**270**	P	**P**	**13 10 41.3**	**-0.3**
	baz=50,SNR=32						
FORT	**Forrest**	**49.60**	**246**	eP	**P**	**13 10 42.5**	**-0.2**
	comp=Z,259nm,0.9s						
FORT	**Forrest**	**49.60**	**246**	P	**P**	**13 10 42.8**	**+0.1**
	baz=50,SNR=30						
WRKA	**Warakurna**	**49.77**	**254**	⇓P	**P**	**13 10 44.2**	**+0.2**
	baz=50,SNR=290						
WRKA				⇓S	**S**	**13 17 15.6**	**-0.8**
	baz=50,SNR=10						
FAKI	**Fak Fak**	**51.73**	**283**	P	**P**	**13 10 58.8**	**+0.4**
	baz=52,SNR=5.8						
PALU	**Palau**	**54.47**	**295**	P	**P**	**13 11 19.0**	**+1.0**
	baz=55,SNR=4.0						
SOEI	**Soe**	**56.77**	**272**	eP	**P**	**13 11 35.6**	**+1.5**
	comp=Z,158nm,0.6s						
SOEI	**Soe**	**56.77**	**272**	P	**P**	**13 11 35.7**	**+1.5**
	baz=57,SNR=54						
TNTI	**Ternate**	**57.68**	**284**	eP	**P**	**13 11 39.9**	**-0.4**
	comp=Z,167nm,1.0s						
VNDA	**Vanda**	**58.09**	**185**	P	**P**	**13 11 44.1**	**+2.1**
	comp=Z,3.7nm,0.6s,baz=5.2,slow=8.2,SNR=16						
MBWA	**Marble Bar**	**58.15**	**257**	eP	**P**	**13 11 43.0**	**-0.4**
	comp=Z,80nm,0.8s						
MEEK	**Meekatharra**	**58.23**	**251**	P	**P**	**13 11 43.3**	**-0.6**
	baz=58,SNR=23						
KLBR	**Kellerberrin**	**58.37**	**245**	P	**P**	**13 11 44.9**	**+0.1**
	baz=59,SNR=31						
NWAO	**Narrogin (SRO)**	**58.68**	**243**	P	**P**	**13 11 47.2**	**+0.4**
	comp=Z,44nm,0.7s,baz=102,slow=7.0,SNR=25						
RKGY	**Rocky Gully**	**58.76**	**241**	P	**P**	**13 11 48.1**	**+0.9**
	baz=59,SNR=28						
MMRI	**Maumere**	**59.02**	**272**	eP	**P**	**13 11 48.2**	**-1.1**
	comp=Z,44nm,0.8s						
BLDU	**Ballidu**	**59.37**	**246**	P	**P**	**13 11 51.3**	**-0.1**
	baz=60,SNR=44						
MORW	**Morawa**	**60.14**	**248**	P	**P**	**13 11 56.6**	**0.0**
	baz=60,SNR=20						
WSI	**Waingapu**	**60.52**	**270**	P	**P**	**13 11 59.2**	**-0.2**
	baz=61,SNR=4.1						
KAPI	**Kappang**	**62.54**	**275**	eP	**P**	**13 12 11.6**	**-1.0**
	comp=Z,117nm,1.1s						
GIRL	**Giralia**	**62.85**	**254**	P	**P**	**13 12 16.0**	**+1.5**
	baz=63,SNR=7.0						
CASY	**Casey**	**64.22**	**205**	eP	**P**	**13 12 21.8**	**-0.7**
	comp=Z,10nm,0.5s						
CASY				ePcP	**PcP**	**13 12 53.1**	**+0.7**
JAGI	**Jajag, Banyuwa**	**66.66**	**269**	eP	**P**	**13 12 37.0**	**-1.7**
	comp=Z,107nm,1.0s						
JAGI	**Jajag, Banyuwa**	**66.66**	**269**	P	**P**	**13 12 37.5**	**-1.2**
	baz=67,SNR=11						
QSPA	**South Pole Qui**	**69.73**	**180**	P	**P**	**13 12 57.9**	**+1.3**
	comp=Z,26nm,0.6s,baz=26,slow=1.3,SNR=78						
KKM	**Kota Kinabalu**	**69.98**	**285**	eP	**P**	**13 12 58.6**	**-0.5**
	comp=Z,134nm,1.4s						
KKM	**Kota Kinabalu**	**69.98**	**285**	⇓P	**P**	**13 12 59.4**	**+0.3**
	baz=70,SNR=7.1						
UGM	**Wanagama**	**70.24**	**269**	⇓P	**P**	**13 13 00.3**	**-0.2**
	baz=70,SNR=8.5						
MJAR	**Matsushiro Arr**	**70.24**	**323**	P	**P**	**13 12 59.8**	**-0.3**
	comp=Z,17nm,0.8s,baz=159,slow=6.1,SNR=32						
MAJO	**Matsushiro**	**70.24**	**323**	c iP	**P**	**13 12 59.6**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,122nm,0.9s						
CISI	**Cisompet, Garu**	**72.89**	**268**	eP	**P**	**13 13 15.2**	**-0.9**
	comp=Z,352nm,1.5s						
CISI				ePcP	**PcP**	**13 13 29.6**	**-0.5**
CISI	**Cisompet, Garu**	**72.89**	**268**	P	**P**	**13 13 15.7**	**-0.4**
	baz=73,SNR=6.7						
LEM	**Lembang**	**73.31**	**269**	⇑P	**P**	**13 13 19.4**	**+0.7**
	baz=74,SNR=15						
FX1	**Attu Island--F**	**73.34**	**354**	P	**P**	**13 13 16.9**	**-0.8**
	comp=Z,28nm,0.7s,baz=194,slow=4.2,SNR=4.9						
KSM	**Kuching**	**73.66**	**278**	eP	**P**	**13 13 20.8**	**+0.3**
	comp=Z,140nm,1.2s						
KSM	**Kuching**	**73.66**	**278**	⇓P	**P**	**13 13 20.8**	**+0.3**
	baz=74,SNR=24						
ASAJ	**Asahikawa**	**73.72**	**331**	eP	**P**	**13 13 20.0**	**0.0**
	comp=Z,35nm,1.0s						
ASAJ				ePcP	**PcP**	**13 13 33.0**	**+0.2**
XMI	**Christmas Isla**	**73.97**	**265**	⇓P	**P**	**13 13 22.8**	**+0.6**
	baz=74,SNR=4.0						
TPUB	**Ta-pu**	**74.12**	**303**	eP	**P**	**13 13 21.2**	**-1.7**
	comp=Z,85nm,0.9s						
TPUB				ePcP	**PcP**	**13 13 33.9**	**-1.1**
YHNB	**Yeheng**	**74.24**	**304**	eP	**P**	**13 13 22.8**	**-0.8**
	comp=Z,123nm,1.4s						
YHNB				ePcP	**PcP**	**13 13 34.5**	**-1.1**
YSS	**Yuzh-Sakhalins**	**75.87**	**333**	⇓eP	**P**	**13 13 32.6**	**+0.5**
YSS				e		13 22 45.0	
YSS				pmax	pmax		
	comp=Z,110nm,1.0s						
YSS	**Yuzh-Sakhalins**	**75.87**	**333**	eP	**P**	**13 13 31.1**	**-1.0**
	comp=Z,112nm,1.0s						
PET	**Petropavlovsk**	**75.88**	**346**	iP	**P**	**13 13 31.6**	**-0.4**
PEA0B	**Petropavlovsk-**	**76.19**	**345**	eP	**P**	**13 13 33.6**	**-0.1**
PETK	**Petropavlovsk-**	**76.19**	**345**	P	**P**	**13 13 33.5**	**-0.2**
	comp=Z,39nm,0.9s,baz=134,slow=8.5,SNR=21						
QZH	**Quanzhou**	**76.55**	**303**	⇑iP	**P**	**13 13 37.3**	**+0.9**
QZH				pmax	pmax		
	comp=Z,180nm,1.2s						
KSRS	**Korea Array**	**76.95**	**318**	P	**P**	**13 13 39.1**	**+0.8**
	comp=Z,12nm,1.0s,baz=142,slow=6.5,SNR=28						
KSAR	**Wonju Array Be**	**76.96**	**318**	P	**P**	**13 13 39.1**	**+0.7**
KSAR	**Wonju Array Be**	**76.96**	**318**	P	**P**	**13 13 39.1**	**+0.7**
BSC	**Santa Cruz Isl**	**77.30**	**46**	⇑P	**P**	**13 13 40.6**	**+0.2**
	baz=78						
SCI	**San Clemente I**	**77.46**	**48**	⇓P	**P**	**13 13 41.9**	**+0.7**
	baz=78						
SAO	**San Andreas Ge**	**77.73**	**43**	eP	**P**	**13 13 42.8**	**+0.2**
SAO				pmax	pmax		
	comp=Z,16nm,1.1s						
SAO	**San Andreas Ge**	**77.73**	**43**	eP	**P**	**13 13 42.8**	**+0.2**
	comp=Z,16nm,1.1s						
SMMC	**Simmler**	**77.81**	**45**	⇑P	**P**	**13 13 45.1**	**+2.0**
	baz=78						
ARVC	**Arvin**	**78.49**	**46**	⇑P	**P**	**13 13 47.9**	**+1.2**
	baz=79						
VES	**Vestal, Richgr**	**78.73**	**45**	⇑P	**P**	**13 13 48.6**	**+0.6**
	baz=79,SNR=6.1						
MURC	**Murrieta**	**78.74**	**48**	⇑P	**P**	**13 13 49.1**	**+0.9**
	baz=79						
BFSC	**Mount Baldy Ra**	**78.78**	**47**	⇓P	**P**	**13 13 49.2**	**+0.8**
	baz=79						
MONP	**Monument Peak**	**78.90**	**49**	⇑P	**P**	**13 13 50.2**	**+1.0**
	baz=79,SNR=7.0						
EDW2	**Edwards Air Fo**	**78.91**	**46**	⇑P	**P**	**13 13 50.3**	**+1.2**
	baz=79						
USRK	**Ussuriysk Arra**	**78.98**	**326**	P	**P**	**13 13 50.5**	**+1.4**
	comp=Z,46nm,0.9s,baz=134,slow=4.2,SNR=58						
ISA	**Isabella**	**79.03**	**45**	eP	**P**	**13 13 50.4**	**+0.7**
ISA				e*PP	**pP**	**13 15 37.2**	**+0.5**
ISA				pmax	pmax		
	comp=Z,21nm,1.4s						
ISA	**Isabella**	**79.03**	**45**	eP	**P**	**13 13 50.4**	**+0.7**
	comp=Z,21nm,1.4s						
ISA				epP	**pP**	**13 15 37.1**	**+0.5**
ISA	**Isabella**	**79.03**	**45**	⇑P	**P**	**13 13 50.6**	**+1.0**
	baz=79,SNR=10						
CMB	**Columbia Colle**	**79.16**	**43**	eP	**P**	**13 13 49.7**	**-0.6**
CMB				pmax	pmax		
	comp=Z,21nm,1.3s						
CMB	**Columbia Colle**	**79.16**	**43**	eP	**P**	**13 13 49.7**	**-0.6**

comp=Z,21nm,1.3s
PFO Pinyon Flat Ob 79.27 48 P P 13 13 51.9 +0.8
comp=Z,4.1nm,0.9s,baz=207,slow=6.8,SNR=4.4
PFO Pinyon Flat Ob 79.27 48 ⇓P P 13 13 52.5 +1.4
baz=80
DLV T Lat 79.33 287 eP P 13 13 52.9 +1.0
comp=Z,67nm,1.1s
SWSC Sam W. Stewart 79.37 49 ⇓P P 13 13 52.7 +1.3
baz=80
LRMC Laurel Mountai 79.45 46 ⇓P P 13 13 53.7 +1.7
baz=80
N02D Trinity Center 79.53 39 ⇓P P 13 13 53.7 +1.5
baz=80
M02C Callahan 79.70 39 ⇑P P 13 13 54.9 +1.8
baz=80
BTDF Bukit Timah Da 79.71 275 ⇑P P 13 13 54.1 +0.4
baz=80,SNR=5.4
BELC Belle Mtn. Jos 79.80 48 ⇑P P 13 13 54.8 +0.9
baz=80,SNR=7.1
MLAC Mammoth Lakes 79.92 44 ⇓P P 13 13 55.9 +1.3
baz=80
GSC Goldstone 79.95 47 ⇓P P 13 13 56.1 +1.5
baz=80
NJ2 Nanjing 79.99 310 eP P 13 13 56.0 +1.3
NJ2 pmax pmax
comp=Z,60nm,1.2s
BC3 Big Chuckawall 80.00 49 ⇓P P 13 13 55.9 +1.0
baz=80,SNR=5.8
YBH Yreka Blue Hor 80.00 39 eP P 13 13 55.5 +0.8
YBH e*PP pP 13 15 40.7 -1.3
YBH pmax pmax
comp=Z,26nm,1.3s
YBH Yreka Blue Hor 80.00 39 eP P 13 13 55.5 +0.8
comp=Z,26nm,1.3s
YBH epP pP 13 15 40.6 -1.3
HEC Hector,Ludlow 80.02 47 ⇓P P 13 13 56.3 +1.3
baz=80
WAKR Walker 80.04 43 eP P 13 13 55.4 +0.2
comp=Z,28nm,1.2s
GLA Glamis 80.12 49 ⇑P P 13 13 57.0 +1.5
baz=80
HUMO Hull Mountain 80.40 38 eP P 13 13 56.6 -0.1
comp=Z,12nm,1.0s
HABR Khabarovsk 80.44 330 ceP P 13 13 56.0 -0.7
HABR e*PP pP 13 15 42.4 -1.7
HABR e*SP sP 13 16 33.4 -1.6
HABR e 13 17 07.8
HABR ePPP PPP 13 19 01.9
HABR eS S 13 23 23.0 +1.2
HABR eSS SS 13 28 49.8 +1.7
HABR eSSS SSS 13 32 22.1
HABR pmax pmax
comp=E,30nm,1.1s
HABR pmax pmax
comp=Z,118nm,1.1s
HABR pmax pmax
comp=N,19nm,1.1s
GMRC Granite Mounta 80.46 48 ⇓P P 13 13 58.5 +1.2
baz=81
IRM Iron Mountain 80.48 48 ⇓P P 13 13 58.6 +1.3
baz=81,SNR=8.7
GRAC Grapevine Rang 80.52 45 ⇑P P 13 13 58.8 +1.3
baz=81,SNR=7.1
M04C Macdoel 80.54 39 ⇑P P 13 13 58.5 +1.0
baz=81
MDJ Mudanjiang 80.54 325 eP P 13 13 57.0 -0.3
comp=N,65nm,1.0s
FURC Furnace Creek, 80.56 46 ⇓P P 13 13 58.9 +1.3
baz=81
KDAK Kodiak Island 80.60 13 P P 13 13 57.0 -0.3
comp=N,240nm,1.4s,SNR=5.3
KDAK Kodiak Island 80.60 13 iP P 13 13 57.3 0.0
TUQ Turquoise Moun 80.63 47 ⇓P P 13 13 59.5 +1.3
baz=81
Y12C Blythe 80.70 49 ⇑P P 13 13 59.8 +1.4
baz=81,SNR=6.4
NVAR Mina Array Bea 80.72 43 P P 13 13 59.6 +0.9
comp=N,11nm,1.0s,baz=225,slow=8.0,SNR=44
NVAR pP pP 13 15 48.5 +2.2
comp=N,1.7nm,0.9s,baz=231,slow=5.2,SNR=4.5
NVAR PKKPbc PKKPbc 13 32 35.8 +0.4
comp=N,0.2nm,0.5s,baz=86,slow=5.5,SNR=3.6
113A Mohawk Valley, 80.73 50 ⇑P P 13 13 59.7 +1.1
baz=81,SNR=5.5
NV11 Mina Array Sit 80.82 43 eP P 13 13 59.2 +0.1
NV11 pP pP 13 15 47.7 +1.0
I03D Drain, OR 80.87 37 ⇓P P 13 14 00.7 +1.6
baz=81
LDFC Landfair 81.00 47 eP P 13 14 00.5 +0.4
comp=N,46nm,1.2s
214A Organ Pipe Nat 81.00 51 ⇑P P 13 14 01.4 +1.3
baz=81
QIZ Qiongzhong 81.04 294 P P 13 14 00.2 -0.3
QIZ S S 13 23 33.0 +3.9
QIZ pmax pmax
comp=N,21nm,1.7s
QIZ pmax pmax
comp=N,97nm,10.8s
TPH Tonopah 81.22 44 eP P 13 14 00.8 -0.5
TPH pmax pmax
comp=Z,24nm,1.3s
TPH Tonopah 81.22 44 eP P 13 14 00.8 -0.5
comp=Z,24nm,1.3s
PDMCI Parker Dam,Lak 81.26 49 ⇓P P 13 14 03.0 +1.7
baz=82
J04D Umpqua Nationa 81.28 38 ⇓P P 13 14 02.9 +1.4
baz=82
I04A Tendick Farm, 81.46 37 ⇓P P 13 14 03.1 +0.9
baz=82
MOD Modoc 81.52 39 eP P 13 14 03.0 +0.3
comp=Z,32nm,1.1s
Z14A Wintersburg 81.62 50 ⇑P P 13 14 04.7 +1.5
baz=82,SNR=6.1
SHPR Sheep Range 81.73 46 eP P 13 14 04.8 +0.9
comp=Z,16nm,1.4s
MAW Mawson 81.81 200 P P 13 14 04.1 +0.6
comp=Z,11nm,0.8s,baz=153,slow=4.5,SNR=5.6
J05D Fort Rock, OR 81.81 38 ⇓P P 13 14 05.5 +1.4
baz=82
W13A Hualapai Mount 81.86 48 ⇑P P 13 14 05.6 +1.0
baz=82,SNR=6.0
Y14A Wickenburg 81.88 49 ⇑P P 13 14 05.5 +0.9
baz=82,SNR=9.0
G03D McMinnville, O 81.88 36 ⇑P P 13 14 05.8 +1.6
baz=82
CN2 Changchun 82.34 322 ⇓iP P 13 14 07.3 +0.7
CN2 eS S 13 23 44.9 +3.7
CN2 pmax pmax
comp=Z,60nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
PINOR Pine Mountain 82.34 38 eP P 13 14 07.9 +1.4
comp=Z,54nm,1.2s
I05D Terrebonne, OR 82.40 37 ⇑P P 13 14 08.1 +1.1
baz=83
R11A Troy Canyon, C 82.45 45 eP P 13 14 07.7 +0.2
comp=Z,5.4nm,1.2s
R11A Troy Canyon, C 82.45 45 ⇑P P 13 14 08.2 +0.7
baz=83,SNR=8.2
KLR Kul'dur 82.53 329 eP P 13 14 04.7 -2.7
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,67nm,1.4s
BMN Battle Mountai 82.55 42 eP P 13 14 08.0 0.0
BMN pmax pmax
comp=Z,30nm,1.3s
BMN Battle Mountai 82.55 42 eP P 13 14 08.0 0.0
comp=Z,30nm,1.3s
WHN Wuhan 82.57 306 P P 13 14 08.5 +0.5
TUC Tucson 82.67 52 eP P 13 14 08.9 +0.2
TUC pmax pmax
comp=Z,20nm,1.3s
TUC Tucson 82.67 52 eP P 13 14 08.9 +0.2
comp=Z,20nm,1.3s
WVOR Wild Horse Val 82.83 40 eP P 13 14 09.3 0.0
WVOR pmax pmax
comp=Z,26nm,1.2s
WVOR Wild Horse Val 82.83 40 eP P 13 14 09.3 0.0
comp=Z,26nm,1.2s
G05D Wamic, OR 82.97 36 ⇑P P 13 14 10.9 +1.1
baz=83
FL2 Flat Top 2 83.00 35 P P 13 14 11.5 +1.5
RSO Redoubt South 83.03 12 eP P 13 14 09.0 -0.9
comp=Z,34nm,0.7s
ERK Elk Rock 83.07 35 P P 13 14 11.8 +1.4
TDL Tradedollar La 83.17 35 P P 13 14 12.1 +1.2

X16A Lo Mia Camp, P 83.24 50 ⇓P P 13 14 12.9 +1.3
baz=83,SNR=13
OSD Olympics--Snow 83.32 33 P P 13 14 13.1 +1.4
319A Douglas 83.34 53 ⇓P P 13 14 14.0 +1.9
baz=84
UBPT Khong Chiam 83.34 289 P P 13 14 13.2 +1.0
comp=Z,50nm,1.1s,comp=Z,4µm
IPM Ipoh 83.38 277 eP P 13 14 13.3 +0.7
comp=Z,99nm,0.8s
U15A North Rim 83.66 48 ⇑P P 13 14 15.2 +1.5
baz=84
FMW Mount Fremont 83.82 35 P P 13 14 14.9 +0.7
WUAZ Wupatki 83.83 49 eP P 13 14 15.1 +0.6
comp=Z,26nm,1.5s
WUAZ Wupatki 83.83 49 ⇑P P 13 14 15.6 +1.1
baz=84,SNR=6.8
GAMB Gambell 83.97 3 eP P 13 14 14.2 0.0
comp=Z,71nm,1.2s
ELK Elko 83.98 43 P P 13 14 15.4 +0.2
comp=Z,6.1nm,1.1s,baz=165,slow=1.8,SNR=11
KULM Kulm 84.02 278 eP P 13 14 16.4 +0.7
comp=Z,28nm,0.7s
BBB Bella Bella 84.14 28 P P 13 14 15.8 +0.5
comp=Z,5.7nm,0.5s,baz=227,slow=5.3,SNR=8.2
X18A Snowflake 84.36 50 ⇓P P 13 14 18.2 +1.0
baz=85
PSI Prapat 84.75 275 ⇓P P 13 14 19.1 -0.3
baz=85,SNR=28
121A Cookes Peak, D 85.00 53 eP P 13 14 21.0 +0.6
comp=Z,14nm,1.2s
121A Cookes Peak, D 85.00 53 ⇓P P 13 14 21.8 +1.5
baz=85,SNR=9.0
BMO Blue Mountains 85.02 38 eP P 13 14 19.9 -0.2
comp=Z,12nm,1.4s
WTV Waterville 85.22 35 P P 13 14 21.3 +0.4
DUG Dugway 85.25 44 ⇑P P 13 14 22.1 +0.7
baz=86
GSI Gunungsitoli 85.49 273 eP P 13 14 24.2 +1.3
comp=Z,137nm,0.8s
Z22A Elephant Butte 85.95 52 ⇑P P 13 14 26.0 +1.1
baz=86,SNR=7.9
BJT Baijiatuau 85.96 315 eP P 13 14 24.7 +0.1
BJT pmax pmax
comp=Z,15nm,0.6s
BJT Baijiatuau 85.96 315 eP P 13 14 24.7 +0.1
comp=Z,15nm,0.6s
HLID Hailey 86.03 41 eP P 13 14 25.5 +0.4
comp=Z,8.3nm,1.1s
HLID Hailey 86.03 41 ⇓P P 13 14 26.2 +1.1
baz=86
ENH Enshi 86.17 304 eP P 13 14 26.4 +0.6
comp=Z,70nm,1.1s
SRU San Rafael 86.22 46 eP P 13 14 26.9 +0.8
SRU pmax pmax
comp=Z,13nm,1.2s
SRU San Rafael 86.22 46 eP P 13 14 26.9 +0.8
comp=Z,13nm,1.2s
SEY Seymchan 86.28 347 P P 13 14 25.3 -0.2
comp=Z,46nm,1.0s,baz=148,slow=4.9,SNR=62
425A Indio Mountain 86.34 55 ⇓P P 13 14 28.2 +1.4
baz=86,SNR=16
MNTX Cornudas Mount 86.44 54 eP P 13 14 27.5 +0.4
comp=Z,14nm,1.4s
626A Big Bend Ranch 86.47 57 ⇑P P 13 14 28.6 +1.2
baz=87,SNR=8.1
PATY Pattaya 86.58 285 P P 13 14 30.3 +2.3
comp=Z,32nm,0.9s,comp=Z,2µm
BNM Barren Site 86.61 52 eP P 13 14 28.9 +0.8
comp=Z,14nm,1.5s
526A Mary Lane Ranc 86.72 56 ⇓P P 13 14 29.7 +1.1
baz=87,SNR=6.8
TXAR Lajitas Array 86.74 57 P P 13 14 29.8 +1.1
comp=Z,2.7nm,0.6s,baz=224,slow=6.7,SNR=44
TXAR pP pP 13 16 20.2 +2.0
comp=Z,2.7nm,1.1s,baz=248,slow=4.8,SNR=7.1
TXAR PKKPbc PKKPbc 13 32 21.1 +0.5
comp=Z,0.4nm,0.7s,baz=83,slow=2.8,SNR=4.6
GYA Guiyang 86.81 300 ⇓iP P 13 14 29.9 +0.8
GYA pP pP 13 16 20.4 +1.8
GYA sP sP 13 17 08.6 -0.3
GYA PP PP 13 18 03.0 +2.2
GYA SKS SKSac 13 24 08.5 -0.5
GYA S S 13 24 27.4 +1.8
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,130nm,5.2s
Y23A Lovelace Mesa, 86.93 52 ⇑P P 13 14 30.3 +0.7
baz=87
SYO Syowa Base 86.94 193 ⇓eP P 13 14 26.4 -2.3
627A Terlingua Ranc 87.01 57 ⇑P P 13 14 31.0 +1.1
baz=87,SNR=6.9
426A McDonald Obser 87.03 56 ⇓P P 13 14 31.1 +0.9
baz=87,SNR=9.5
SURT Suratani 87.04 281 P P 13 14 32.0 +1.7
comp=Z,35nm,1.1s,comp=Z,390nm
225A Deer Hill, Car 87.05 54 ⇓P P 13 14 31.2 +1.1
baz=87,SNR=7.0
SLVN Son La 87.07 294 eP P 13 14 30.5 +0.2
comp=Z,13nm,1.0s
NEW Newport 87.09 36 P P 13 14 29.9 +0.1
comp=Z,2.9nm,0.7s,baz=256,slow=7.0,SNR=5.7
NEW Newport 87.09 36 ⇓P P 13 14 30.2 +0.4
baz=87
PKDT Phuket 87.09 279 P P 13 14 32.4 +1.9
comp=Z,55nm,1.3s,comp=Z,1µm
ANMO Albuquerque 87.09 51 diP P 13 14 30.5 +0.2
ANMO pmax pmax
comp=Z,58nm,2.0s
527A Woodward Ranch 87.13 57 ⇑P P 13 14 31.1 +0.6
baz=87,SNR=5.9
Z24A Sheeppen Canyo 87.18 53 ⇓P P 13 14 31.6 +0.9
baz=87
Y24A Capitan 87.39 52 ⇓P P 13 14 33.0 +1.3
baz=88,SNR=12
125A Gardner Draw, 87.41 54 ⇓P P 13 14 32.7 +0.9
baz=88,SNR=5.7
628A Black Gap, Mar 87.42 57 ⇓P P 13 14 32.4 +0.6
baz=88
226B Tecolote Peak, 87.53 55 ⇓P P 13 14 33.2 +0.9
baz=88,SNR=9.4
427A Hayter Ranch, 87.60 56 ⇓P P 13 14 33.8 +1.2
baz=88,SNR=15
Z25A Roswell 87.64 53 ⇓P P 13 14 34.1 +1.3
baz=88,SNR=5.5
V23A Ortiz Mt. (NFS 87.66 51 ⇓P P 13 14 34.3 +1.3
baz=88
MCMT McKenzie Canyo 87.66 40 P P 13 14 33.9 +1.1
528A Cox Ranch, San 87.78 57 ⇑P P 13 14 34.3 +0.7
baz=88,SNR=5.4
DLBC Dease Lake 87.80 23 P P 13 14 33.9 +1.0
comp=Z,4.6nm,0.8s,baz=228,slow=4.0,SNR=10
PBKT Sadao Pong 87.83 288 P P 13 14 35.5 +1.6
comp=Z,59nm,1.6s,comp=Z,882nm
U23A El Rito 87.92 50 ⇓P P 13 14 35.1 +0.9
baz=88
Y25A Mesa, Roswell 87.94 53 ⇓P P 13 14 34.8 +0.5
baz=88,SNR=5.3
IM04 Indian Mountai 87.94 10 eP P 13 14 32.7 -0.7
W24A Lazy 6 Ranch, 87.98 51 ⇑P P 13 14 34.8 +0.3
baz=88,SNR=5.2
COLA College 88.00 12 diP P 13 14 32.6 -0.9
COLA pmax pmax
comp=Z,174nm,1.1s
COLA College 88.00 12 eP P 13 14 32.5 -1.0
comp=Z,47nm,1.0s
MSO Missoula 88.08 38 ⇑P P 13 14 34.9 +0.3
baz=88
ILAR Eielson Array 88.10 13 P P 13 14 33.0 -1.1
comp=Z,11nm,0.9s,baz=231,slow=5.4,SNR=45
ILAR pP pP 13 16 25.2 +1.2
comp=Z,2.3nm,0.9s,baz=226,slow=4.6,SNR=7.3
428A Kincaid Ranch, 88.10 56 ⇑P P 13 14 35.7 +0.7
baz=88
S22A 4UR Ranch, Cre 88.11 49 ⇓P P 13 14 35.8 +0.6
baz=88,SNR=6.1
BSMT Bassoo Peak 88.15 37 eP P 13 14 34.8 -0.2
comp=Z,11nm,1.3s
SNAA Sanae 88.16 178 diP P 13 14 34.1 -0.4
SNAA pmax pmax
comp=Z,13nm,1.4s
227A Bennet, Jal 88.18 55 ⇓P P 13 14 35.8 +0.5
baz=88
Z26A Caprock 88.19 54 ⇑P P 13 14 36.0 +0.6
baz=88,SNR=7.7
529A Stev Forest Ra 88.22 57 ⇓P P 13 14 36.2 +0.7
baz=88

X25A Clemmons Ranch 88.23 52 ⇓P P 13 14 35.9 +0.3
baz=88
XAN Xi'an 88.25 307 P P 13 14 36.6 +1.0
XAN S S 13 24 40.2 +1.6
XAN pmax pmax
comp=Z,27nm,1.0s
XAN pmax pmax
comp=Z,30nm,6.4s
O20A White River Ci 88.26 46 ⇑P P 13 14 36.3 +0.7
baz=88
328A Wristen Ranch, 88.28 56 ⇓P P 13 14 36.2 +0.4
baz=88
T23A Casias Ranch, 88.35 49 ⇓P P 13 14 36.9 +0.6
baz=88
127A Arkansas Junct 88.41 54 ⇓P P 13 14 37.0 +0.6
baz=89
LRM Limekiln Ridge 88.42 39 eP P 13 14 37.0 +0.7
comp=Z,99nm,1.2s
N20A Spence Gulch, 88.57 45 ⇑P P 13 14 37.9 +0.8
baz=89,SNR=6.2
I17A Pilgrim Ck. 88.59 42 ⇓P P 13 14 38.5 +1.4
baz=89,SNR=8.4
Y26A Elida 88.59 53 ⇓P P 13 14 37.8 +0.5
baz=89,SNR=6.4
UTTA Uttaradit 88.63 289 P P 13 14 39.4 +1.8
comp=Z,11nm,1.1s,comp=Z,147nm
PDAR Pinedale Array 88.66 43 P P 13 14 37.9 +0.4
comp=Z,4.3nm,0.7s,baz=216,slow=3.9,SNR=31
PDAR PKKPbc PKKPbc 13 32 14.3 -2.4
comp=Z,0.5nm,0.7s,baz=101,slow=4.7,SNR=4.6
SRDT SRDT 88.68 286 P P 13 14 39.9 +2.0
comp=Z,195nm,0.9s,comp=Z,12µm
429A Davenport Ranc 88.68 57 ⇓P P 13 14 38.2 +0.6
baz=89,SNR=11
W25A X Bar L Ranch, 88.68 52 ⇓P P 13 14 38.0 +0.3
baz=89,SNR=8.9
HIA Hailar 88.72 324 eP P 13 14 37.0 -0.4
HIA pmax pmax
comp=Z,22nm,1.2s
HIA Hailar 88.72 324 eP P 13 14 37.0 -0.4
comp=Z,22nm,1.2s
YMR Madison River 88.72 41 eP P 13 14 38.5 +0.8
comp=Z,38nm,1.4s
228A UT Block 9, Go 88.76 55 ⇑P P 13 14 38.8 +0.8
baz=89
Z27A Tatum 88.79 54 ⇑P P 13 14 38.5 +0.3
baz=89
H17A Grant Village 88.83 41 eP P 13 14 39.6 +1.3
comp=Z,18nm,1.3s
H17A Grant Village 88.83 41 ⇓P P 13 14 40.2 +1.9
baz=89,SNR=8.2
V25A Rancho No Teng 88.84 51 ⇑P P 13 14 39.6 +1.1
baz=89
NVL N'lazarevskaya 88.89 183 eP P 13 14 37.6 -0.2
NVL pmax pmax
comp=Z,15nm,0.8s
530A J-C Ranch, Com 88.92 57 ⇓P P 13 14 39.7 +0.9
baz=89
329A Wagon Wheel Ra 88.97 56 ⇓P P 13 14 39.7 +0.7
baz=89
P22A Eagle 89.01 47 ⇑P P 13 14 40.3 +1.1
baz=89
R23A Moffat 89.02 49 ⇓P P 13 14 40.0 +0.6
baz=89
128A Castleberry Fa 89.05 55 ⇑P P 13 14 40.2 +0.8
baz=89,SNR=5.2
Y27A Causey 89.07 53 ⇑P P 13 14 39.8 +0.3
baz=89,SNR=6.1
W26A Owens Ranch, T 89.14 52 ⇑P P 13 14 40.1 +0.3
baz=89
S24A Houchin Ranch, 89.20 49 ⇓P P 13 14 40.9 +0.7
baz=89
J19A Crowheart 89.23 43 ⇑P P 13 14 40.7 +0.7
baz=89,SNR=12
631A Perdido Creek 89.23 58 ⇑P P 13 14 40.5 +0.3
baz=89,SNR=5.6
DAWY Dawson 89.23 16 eP P 13 14 39.5 +0.1
U25A Circle Dot Ran 89.23 51 ⇑P P 13 14 40.7 +0.4
baz=89
832A Faith Ranch, C 89.26 60 ⇑P P 13 14 40.6 +0.2
baz=89
KHLT Khaolaem Dam 89.32 286 P P 13 14 42.5 +1.6
comp=Z,26nm,1.0s,comp=Z,275nm
SUKH Sukhothai 89.35 289 P P 13 14 42.6 +1.6
comp=Z,25nm,0.9s,comp=Z,188nm
MSTX Muleshoe 89.40 53 eP P 13 14 41.0 0.0
comp=Z,27nm,1.7s
MSTX Muleshoe 89.40 53 ⇑P P 13 14 41.2 +0.2
baz=90
Z28A Tucker Farm, M 89.41 54 ⇑P P 13 14 41.1 0.0
baz=90
O22A Kremmling 89.42 46 ⇑P P 13 14 41.4 +0.2
baz=90,SNR=5.2
V26A Tequesquite Ra 89.43 51 ⇓P P 13 14 41.3 +0.1
baz=90
HHC Hu-ho-hao-te 89.44 314 ⇓P P 13 14 41.3 +0.3
HHC pP pP 13 16 28.4 -2.8
HHC S S 13 24 45.8 -3.5
HHC sS sS 13 28 01.0 -4.9
HHC pmax pmax
comp=Z,64nm,1.1s
HHC pmax pmax
comp=Z,170nm,7.5s
X27A F and S Farms, 89.44 53 ⇑P P 13 14 41.8 +0.6
baz=90
KMI Kunming 89.52 297 P P 13 14 43.4 +1.5
KMI pmax pmax
comp=Z,57nm,1.0s
129A Stewart Farms, 89.53 55 ⇑P P 13 14 41.6 0.0
baz=90
H18A Shoshone NF, C 89.53 41 ⇑P P 13 14 42.1 +0.5
baz=90
R24A Sanders Place, 89.54 49 ⇑P P 13 14 42.2 +0.5
baz=90
531A Rocksprings 89.56 58 ⇓P P 13 14 42.1 +0.3
baz=90
T25A Trinidad 89.56 50 ⇑P P 13 14 41.7 -0.1
baz=90
330A Mertzon 89.56 56 ⇓P P 13 14 41.6 -0.2
baz=90
933A Laredo 89.56 60 ⇑P P 13 14 41.8 0.0
baz=90
I19A Meeteetse 89.64 42 ⇑P P 13 14 42.8 +0.8
baz=90,SNR=8.6
W27A Bowe Ranch, En 89.65 52 ⇓P P 13 14 42.4 +0.2
baz=90
COLD Coldfoot 89.67 10 eP P 13 14 41.3 -0.1
comp=Z,28nm,1.1s
U26A Atchley Ranch, 89.72 51 ⇓P P 13 14 43.0 +0.4
baz=90
LAMP Lampang 89.73 290 P P 13 14 44.3 +1.6
comp=Z,43nm,0.8s,comp=Z,295nm
S25A Robets Cordova 89.77 49 ⇑P P 13 14 43.2 +0.5
baz=90,SNR=6.9
Y28A McKinney Farm, 89.77 54 ⇓P P 13 14 42.8 0.0
baz=90
N22A Wattenberg Ran 89.77 46 ⇓P P 13 14 43.5 +0.7
baz=90,SNR=5.8
230A Sterling City 89.81 56 ⇓P P 13 14 43.1 +0.2
baz=90
PAYA Payao 89.83 291 P P 13 14 44.3 +1.1
comp=Z,33nm,0.9s,comp=Z,264nm
J20A Shoshoni 89.89 43 ⇑P P 13 14 44.0 +0.9
baz=90,SNR=14
ISCO Idaho Springs 89.89 47 ⇑P P 13 14 43.8 +0.4
baz=90
633A Uvalde 89.90 58 ⇑P P 13 14 44.1 +0.8
baz=90
Z29A Hungry Hill Ra 89.91 54 ⇑P P 13 14 43.6 +0.3
baz=90
H19A Powell 89.95 42 ⇑P P 13 14 44.7 +1.4
baz=90,SNR=8.0
M22A Cedar Creek Ra 89.95 45 ⇑P P 13 14 44.0 +0.4
baz=90
X28A Dimmitt 90.06 53 ⇓P P 13 14 44.5 +0.4
baz=90
R25A Fountain Ranch 90.09 49 ⇓P P 13 14 44.7 +0.6
baz=90
K21A Alcova 90.09 44 ⇓P P 13 14 44.6 +0.4
baz=90,SNR=9.8
V27A Dan Oppiter Fa 90.11 52 ⇑P P 13 14 45.0 +0.7
baz=90
331A San Angelo 90.11 57 ⇑P P 13 14 44.8 +0.5
baz=90
035Z Hargill 90.11 62 ⇓P P 13 14 43.7 -0.6
baz=90
N23A Red Feather La 90.16 46 ⇑P P 13 14 45.7 +1.1
baz=90

T26A Comanche Natio 90.16 50 ⇑P P 13 14 45.1 +0.6
baz=90
Y29A Porterfield Fa 90.19 54 ⇑P P 13 14 45.0 +0.4
baz=90,SNR=7.8
130A Snyder 90.21 55 ⇑P P 13 14 44.9 +0.2
baz=90
JCT Junction City 90.27 58 ⇑P P 13 14 45.3 +0.3
baz=90
J21A Lysite 90.30 43 ⇓P P 13 14 45.6 +0.6
baz=90,SNR=12
CM31 Chiang Mai Arr 90.32 289 eP P 13 14 47.0 +1.5
comp=Z,83nm,1.1s
CMAR Chiang Mai Arr 90.32 289 P P 13 14 47.1 +1.6
comp=Z,39nm,0.9s,baz=119,slow=2.9,SNR=187
CMAR PKKPbc PKKPbc 13 32 11.2 -0.2
comp=Z,0.4nm,0.3s,baz=300,slow=4.4,SNR=4.6
L22A Ellis Ranch, M 90.35 45 ⇑P P 13 14 46.3 +0.9
baz=91,SNR=6.3
Z30A Sanderson Ranc 90.36 55 ⇑P P 13 14 45.4 0.0
baz=90
633A Saathoff Ranch 90.37 59 ⇓P P 13 14 46.2 +0.7
baz=90
U27A Thompson Grove 90.40 51 ⇓P P 13 14 45.7 +0.1
baz=91
432A Menard 90.43 57 ⇑P P 13 14 45.8 0.0
baz=91,SNR=5.9
CMMT Chiang Mai 90.44 290 P P 13 14 47.0 +1.0
comp=Z,103nm,1.0s,comp=Z,815nm
S26A Kim 90.44 50 ⇓P P 13 14 46.2 +0.4
baz=91,SNR=5.3
CHTO Chiang Mai 90.44 290 eP P 13 14 47.2 +1.2
CHTO pmax pmax
comp=Z,46nm,0.8s
CHTO Chiang Mai 90.44 290 P P 13 14 47.0 +1.0
comp=Z,355nm,0.9s,comp=Z,3μm
CHTO Chiang Mai 90.44 290 eP P 13 14 47.2 +1.2
comp=Z,46nm,0.8s
231A Bronte 90.45 56 ⇑P P 13 14 45.7 -0.1
baz=91,SNR=7.7
Q25A Bedland, Calha 90.45 48 ⇑P P 13 14 46.6 +0.7
baz=91
H20A Greybull 90.48 42 ⇑P P 13 14 46.3 +0.5
baz=91
F19A Roth Farm, Mol 90.55 41 ⇑P P 13 14 46.6 +0.5
baz=91,SNR=6.1
K22A Casper 90.57 44 ⇓P P 13 14 46.9 +0.6
baz=91
AMTX Amarillo 90.60 53 ⇑P P 13 14 47.1 +0.5
baz=91
I21A Big Trails, Te 90.61 43 ⇓P P 13 14 46.9 +0.5
baz=91,SNR=10
332A Millersview 90.67 57 ⇓P P 13 14 47.1 +0.2
baz=91,SNR=8.0
131A Roby 90.69 55 ⇑P P 13 14 47.3 +0.4
baz=91
G20A Bridger 90.70 41 ⇑P P 13 14 47.6 +0.8
baz=91
533A Kerrville 90.72 58 ⇑P P 13 14 47.4 +0.3
baz=91
W29A Amraillo 90.72 53 ⇓P P 13 14 47.4 +0.3
baz=91
T27A Campo 90.74 51 ⇑P P 13 14 47.5 +0.3
baz=91
R26A Arlington 90.75 49 ⇑P P 13 14 47.8 +0.7
baz=91,SNR=7.2
CMAI Chiengmai2 90.76 291 P P 13 14 48.9 +1.2
comp=Z,51nm,1.1s
P25A Willow Gulch B 90.76 48 ⇑P P 13 14 47.8 +0.5
baz=91
Y30A Stafford Cattl 90.78 54 ⇓P P 13 14 47.8 +0.5
baz=91
U28A Mallet 90.82 51 ⇑P P 13 14 48.0 +0.5
baz=91
L23A Garrett 90.87 45 ⇑P P 13 14 48.0 +0.2
baz=91,SNR=7.7
CD2 Chengdu 90.93 303 P P 13 14 48.3 +0.2
CD2 pP pP 13 16 38.8 +0.3
CD2 sP sP 13 17 27.6 -0.9
CD2 PP PP 13 18 36.4 +3.3
CD2 SKS SKSac 13 24 32.9 +0.3
CD2 S S 13 25 02.9 -0.1
CD2 sS sS 13 28 18.6 -1.8
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.6s
433A Art 90.94 58 ⇑P P 13 14 48.1 0.0
baz=91,SNR=5.9
E19A Rath Farm, Rou 90.94 40 ⇑P P 13 14 48.9 +1.1
baz=91
232A Coleman 90.95 56 ⇑P P 13 14 48.5 +0.3
baz=91
J22A Midwest 90.95 44 ⇑P P 13 14 48.4 +0.3
baz=91
Q26A Hugo 90.96 49 ⇑P P 13 14 48.8 +0.6
baz=91
936A North Padre Is 91.10 61 ⇓P P 13 14 49.1 +0.2
baz=91
EGMT Eagleton 91.13 38 ⇓P P 13 14 49.2 +0.5
baz=91
Z31A Sharp Cattle R 91.13 55 ⇓P P 13 14 49.4 +0.4
baz=91
534A Blanco 91.15 58 ⇓P P 13 14 49.3 +0.2
baz=91,SNR=11
H21A Big Horn, Sher 91.15 42 ⇑P P 13 14 50.0 +1.1
baz=91
I22A 9 Mile Ranch, 91.17 43 ⇑P P 13 14 49.3 +0.3
baz=91
M24A Cheyenne 91.17 46 ⇑P P 13 14 49.9 +0.7
baz=91
R27A Eads 91.20 49 ⇓P P 13 14 49.8 +0.5
baz=91
T28A Walsh 91.21 51 ⇓P P 13 14 49.4 +0.1
baz=91
K23A Bowen Ranch, D 91.21 45 ⇓P P 13 14 50.2 +0.9
baz=91
D19A Cripps Ranch, 91.22 40 ⇑P P 13 14 49.8 +0.7
baz=91,SNR=7.8
735A Kenedy 91.24 60 ⇑P P 13 14 49.2 -0.3
baz=91
ABTX Abilene, Hawle 91.24 56 ⇓P P 13 14 50.2 +0.8
baz=91
333A Richland Sprin 91.25 57 ⇑P P 13 14 49.8 +0.3
baz=91
Y31A Rekieta Farm, 91.30 54 ⇑P P 13 14 50.1 +0.4
baz=92
L24A Wheatland 91.35 45 ⇓P P 13 14 50.9 +1.0
baz=92
P26A Davis Ranch, A 91.36 48 ⇑P P 13 14 50.7 +0.7
baz=92
E20A Meyer Farm, Mu 91.36 40 ⇑P P 13 14 50.9 +1.2
baz=92
C19A Slack Wire Ran 91.40 39 ⇑P P 13 14 50.9 +1.0
baz=92,SNR=9.5
H22A Clearmont 91.58 43 ⇑P P 13 14 51.9 +1.0
baz=92
233A Rising Star 91.58 56 ⇓P P 13 14 51.0 -0.1
baz=92
434A Burnet 91.62 58 ⇑P P 13 14 51.4 +0.2
baz=92
KSCO Kaye Shedlock' 91.63 49 ⇑P P 13 14 51.6 +0.3
baz=92
D20A Manuel Ranch, 91.64 40 ⇓P P 13 14 52.0 +1.1
baz=92,SNR=5.9
Z32A Haskell 91.64 55 ⇑P P 13 14 51.9 +0.6
baz=92
M25A Palm-Egli Farm 91.68 46 ⇑P P 13 14 51.8 +0.4
baz=92
X31A McDonald Ranch 91.78 54 ⇑P P 13 14 52.4 +0.5
baz=92
133A Hamilton Ranch 91.80 56 ⇑P P 13 14 52.6 +0.6
baz=92
B19A Brinkman Farms 91.81 38 ⇑P P 13 14 52.4 +0.6
baz=92,SNR=9.2
EDM Edmonton 91.83 33 eP P 13 14 51.1 -0.6
EDM Edmonton 91.83 33 eP P 13 14 51.1 -0.6
334A Lometa 91.84 57 ⇓P P 13 14 52.7 +0.5
baz=92
I23A Meade Ranch, G 91.86 43 ⇓P P 13 14 52.5 +0.4
baz=92
P27A Ficken Ranch, 91.89 48 ⇑P P 13 14 53.1 +0.7
baz=92
G22A Birney 91.90 42 ⇓P P 13 14 53.3 +1.0
baz=92
R28A Tribune 91.93 50 ⇑P P 13 14 53.5 +0.9
baz=92
Y32A R-V Farms, Ver 91.94 54 ⇓P P 13 14 53.4 +0.8
baz=92

C20A Veseth Ranch, 92.01 39 ⇑P P 13 14 53.4 +0.8
baz=92,SNR=9.1
E21A Keefer Ranch, 92.02 41 ⇓P P 13 14 54.0 +1.3
baz=92
W31A Holland Ranch, 92.03 53 ⇓P P 13 14 53.7 +0.7
baz=92
YAK Yakutsk 92.07 338 eP P 13 14 50.1 -2.4
YAK pmax pmax
comp=Z,32nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK Yakutsk 92.07 338 eP P 13 14 51.3 -1.2
comp=E,66nm,1.3s
S29A Ulysses 92.14 51 ⇓P P 13 14 54.3 +0.8
baz=92
A19A Klindworth Far 92.16 38 ⇑P P 13 14 53.9 +0.6
baz=92,SNR=7.2
F22A Rosebud 92.17 42 ⇓P P 13 14 54.5 +1.0
baz=92
Z33A Whitaker Ranch 92.18 55 ⇓P P 13 14 54.3 +0.6
baz=92
Q28A Sharon Springs 92.22 49 ⇑P P 13 14 54.8 +0.9
baz=92
O27A Beecher Island 92.23 48 ⇑P P 13 14 54.4 +0.4
baz=92
K25A Mack Ranch, Ha 92.31 45 ⇑P P 13 14 55.3 +1.1
baz=92
D21A La Casta Ranch 92.31 40 ⇓P P 13 14 55.1 +1.0
baz=92
V31A Spring Creek L 92.33 53 ⇓P P 13 14 55.4 +0.9
baz=92
B20A Solberg Farm, 92.34 39 ⇓P P 13 14 55.1 +1.0
baz=93
G23A Biddle 92.46 42 ⇓P P 13 14 55.6 +0.7
baz=93
P28A Saint Francis 92.48 49 ⇓P P 13 14 55.6 +0.5
baz=93
W32A Sentinel 92.53 54 ⇓P P 13 14 55.7 +0.4
baz=93
C21A Desert Coulee 92.60 40 ⇓P P 13 14 56.7 +1.3
baz=93
A20A Cobblestone Ra 92.61 38 ⇑P P 13 14 56.1 +0.7
baz=93,SNR=14
F23A Volborg 92.68 42 ⇑P P 13 14 56.6 +0.7
baz=93
O28A Krutsinger Ran 92.69 48 ⇑P P 13 14 57.0 +0.9
baz=93
Q29A Oakley 92.75 50 ⇑P P 13 14 56.8 +0.5
baz=93
H24A Dirks Ranch, A 92.79 43 ⇑P P 13 14 57.1 +0.7
baz=93
K26A Motz Farm, Whi 92.81 45 ⇑P P 13 14 57.7 +1.2
baz=93
D22A Cohagen 92.85 40 ⇑P P 13 14 57.6 +1.1
baz=93
LZH Lanzhou 92.89 307 eP P 13 14 58.7 +1.6
LZH pP pP 13 16 52.3 +4.7
LZH pmax pmax
comp=E,31nm,1.0s
LZH pmax pmax
comp=E,150nm,5.0s
I25A Rochford 93.01 44 ⇑P P 13 14 57.2 -0.3
baz=93
R30A Dighton 93.01 50 ⇓P P 13 14 58.1 +0.6
baz=93
P29A Atwood 93.07 49 ⇓P P 13 14 58.5 +0.7
baz=93
J26A Sides Ranch, S 93.14 45 ⇓P P 13 14 58.8 +0.8
baz=93
H25A Fruitdale 93.35 43 ⇓P P 13 14 59.5 +0.5
baz=94
O29A 4D Ranch, Culb 93.38 48 ⇑P P 13 14 60.0 +0.8
baz=94
D23A Lindsay 93.45 41 ⇑P P 13 15 00.1 +0.8
baz=94
B22A Reddig Ranch S 93.48 39 ⇓P P 13 15 00.5 +1.1
baz=94
P30A Selden 93.53 49 ⇓P P 13 15 00.8 +0.9
baz=94
R31A Burdett 93.56 51 ⇑P P 13 15 00.5 +0.5
baz=94
G25A Newell 93.71 43 ⇓P P 13 15 00.9 +0.4
baz=94
C23A Lambert 93.74 40 ⇑P P 13 15 01.7 +1.1
baz=94
J27A Elkhorn Farm, 93.82 45 ⇑P P 13 15 01.6 +0.5
baz=94
A22A Carney Farms, 93.84 39 ⇑P P 13 15 01.8 +0.7
baz=94
H26A Fairpoint 93.88 44 ⇑P P 13 15 01.7 +0.4
baz=94
D24A Glendive 93.97 41 ⇓P P 13 15 01.9 +0.3
baz=94
INK Inuvik 94.05 15 eP P 13 15 00.4 -1.0
INK pmax pmax
comp=Z,17nm,1.3s
INK Inuvik 94.05 15 P P 13 15 00.9 -0.5
comp=Z,9.0nm,1.0s,baz=222,slow=4.6,SNR=19
INK Inuvik 94.05 15 eP P 13 15 00.4 -1.0
comp=Z,17nm,1.3s
C24A Savage 94.08 41 ⇑P P 13 15 03.1 +0.9
baz=94
P31A Stockton 94.14 49 ⇓P P 13 15 03.2 +0.6
baz=94
B23A Brockton 94.15 40 ⇓P P 13 15 03.4 +1.0
baz=94
R32A Long Quarter, 94.20 51 ⇓P P 13 15 03.2 +0.3
baz=94
G26A Maurine 94.28 43 ⇑P P 13 15 03.6 +0.5
baz=94
H27A Howes 94.34 44 ⇓P P 13 15 04.0 +0.6
baz=94
J28A Allard Ranch, 94.40 45 ⇓P P 13 15 04.4 +0.6
baz=95
A23A Redstone 94.43 39 ⇓P P 13 15 04.9 +1.2
baz=95
Q32A Meitler Ranch, 94.53 50 ⇑P P 13 15 04.9 +0.5
baz=95
DGMT Dagmar 94.63 40 ⇑P P 13 15 05.5 +0.9
baz=95
P32A Huiting Farm, 94.74 50 ⇓P P 13 15 05.1 -0.2
baz=95
K29A Lazy Trails An 94.76 46 ⇑P P 13 15 05.8 +0.5
baz=95
F27A Lemmon 94.89 43 ⇓P P 13 15 06.0 +0.1
baz=95
N31A Bailey Ranch, 94.94 48 ⇑P P 13 15 06.1 -0.1
baz=95
H28A Mission Ridge 95.05 44 ⇑P P 13 15 06.8 +0.2
baz=95
Q33A Connelly Farm, 95.05 50 ⇓P P 13 15 07.2 +0.4
baz=95
D26A Manning 95.10 42 ⇑P P 13 15 07.1 +0.3
baz=95
M31A Lambtecht Ranc 95.13 48 ⇑P P 13 15 07.4 +0.4
baz=95
B25A Knox Farm, Ray 95.17 40 ⇑P P 13 15 07.5 +0.4
baz=95
K30A Basset 95.20 46 ⇓P P 13 15 07.6 +0.2
baz=95
O32A Brockman Farm, 95.21 49 ⇑P P 13 15 07.3 -0.2
baz=95
ULN Ulaanbaatar 95.42 319 d iP P 13 15 08.1 -0.3
ULN pmax pmax
comp=Z,11nm,1.3s
ULN Ulaanbaatar 95.42 319 eP P 13 15 08.0 -0.3
comp=Z,6.6nm,1.0s
BGNE Belgrade 95.73 48 ⇑P P 13 15 09.9 +0.1
baz=96
SONM Songino Array 95.81 319 P P 13 15 09.7 -0.4
comp=Z,0.9nm,0.5s,baz=132,slow=4.6,SNR=13
SONM PP PP 13 19 07.3 -3.2
comp=Z,2.1nm,1.1s,baz=109,slow=7.8,SNR=6.6
A26A Wade Farm, Ken 96.11 40 ⇓P P 13 15 12.0 +0.8
baz=96
YKA Yellowknife Ar 96.26 25 P P 13 15 11.2 -0.3
comp=Z,0.4nm,0.5s,baz=238,slow=4.5,SNR=12
YKA pP pP 13 17 03.1 +0.7
comp=Z,0.5nm,0.9s,baz=249,slow=4.4,SNR=4.2
B28A Dugan Ranch, T 96.95 41 ⇓Pdiff P 13 15 14.9 -0.2
baz=97
GTA Gaotai 97.08 309 P Pdif 13 15 16.7 +0.7
GTA S S 13 25 46.7 -9.3
GTA SS SS 13 32 47.9 0.0
GTA pmax pmax
comp=Z,8.0nm,1.4s
GTA pmax pmax
comp=Z,62nm,6.2s

E30A Jud 97.12 43 ⇓Pdiff P 13 15 15.2 -0.7
baz=97
ECSD EROS Data Cent 97.63 46 ⇑Pdiff Pdif 13 15 17.7 -0.5
baz=98
A29A Manning Farm, 97.82 41 ⇑Pdiff P 13 15 19.0 0.0
baz=98
C30A Mose, Pekin 97.84 42 ⇓Pdiff Pdif 13 15 18.6 -0.4
baz=98
TIXI Tiksi 98.66 345 ⇑iP Pdif 13 15 21.4 -0.7
TIXI pmax pmax
comp=Z,6.0nm,1.0s
ZAK Zakamensk 98.68 321 eP Pdif 13 15 21.3 -1.5
ZAK pmax pmax
comp=Z,2.0nm,1.5s
ZALV Zalesovo Beam 110.54 321 PKiKP PKiKP 13 20 11.6 -1.1
comp=Z,2.4nm,0.6s,baz=106,slow=1.3,SNR=12
MKAR Makanchi Array 111.28 313 PKiKP PKiKP 13 20 13.2 -1.2
comp=Z,2.3nm,0.6s,baz=97,slow=0.2,SNR=26
MKAR PKKPbc PKKPbc 13 31 11.6 -1.0
comp=Z,0.4nm,0.6s,baz=275,slow=4.1,SNR=5.3
NVS Novosibirsk 111.55 322 ePKIKP PKiKP 13 20 12.2 -2.4
KURK Kurchatov 114.06 317 PKIKP PKPdf 13 20 18.4 -1.1
KURK Kurchatov 114.06 317 PKP PKPdf 13 20 18.4 -1.2
KURBB Kurchatov Arra 114.11 317 PKP PKPdf 13 20 18.4 -1.3
comp=Z,3.5nm,0.7s,baz=96,slow=1.9,SNR=40
KSH Kashi 115.02 305 ePKP PKPdf 13 20 22.1 +0.2
KSH sPKP 13 23 03.5
KSH PKS PKSdf 13 23 58.7 0.0
KSH SKKS 13 27 41.8
KSH AMB AMB
comp=Z,140nm,4.7s
AAK Ala-Archa 116.41 308 i PKIKP PKPdf 13 20 22.3 -2.3
BVAR Borovoye Array 119.13 320 PKP PKPdf 13 20 28.6 -0.6
comp=Z,6.9nm,0.7s,baz=114,slow=1.7,SNR=34
KKAR Karatay Array 119.36 309 ePKIKP PKPdf 13 20 29.3 -0.8
KKAR Karatay Array 119.36 309 ePKPdf PKPdf 13 20 29.3 -0.8
KBL Kabul 120.05 299 ePKIKP PKPdf 13 20 32.0 +0.1
KBL Kabul 120.05 299 ePKPdf PKPdf 13 20 32.0 +0.1
SPITS Spitsbergen Ar 121.72 357 PKIKP PKPdf 13 20 33.0 -0.6
SPITS Spitsbergen Ar 121.72 357 PKP PKPdf 13 20 33.0 -0.6
comp=Z,5.1nm,0.7s,baz=113,slow=3.7,SNR=8.4
DAG Danmarks Havn 122.55 6 i PKIKP PKPdf 13 20 33.8 -1.4
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 122.55 6 i P PKPdf 13 20 33.8 -1.4
comp=Z,2.2nm,0.8s
SVE Sverdlovsk 124.01 326 ePKIKP PKPdf 13 20 38.1 -0.4
SVE pmax pmax
comp=Z,21nm,1.3s
SUR Sutherland 124.66 199 PKP PKPdf 13 20 41.2 +0.3
comp=Z,6.9nm,0.7s,baz=255,slow=0.6,SNR=6.5
SOKR Solikamsk 125.08 330 ePKIKP PKPdf 13 20 40.1 -0.3
SOKR pmax pmax
comp=Z,20nm,0.9s
ARU Arti 125.22 326 i PKIKP PKPdf 13 20 40.1 -0.7
ARU 13 22 34.5
ARU 13 26 55.8
ARU Arti 125.22 326 ePKPdf PKPdf 13 20 40.3 -0.5
ABKAR Akbulak array 126.16 317 ePKPdf PKPdf 13 20 42.1 -0.7
BOSA Boshof 126.51 205 PKP PKPdf 13 20 44.8 +0.4
comp=Z,4.6nm,0.8s,baz=153,slow=2.4,SNR=4.1
AKTO Aktyubinsk 127.13 318 PKP PKPdf 13 20 44.6 -0.1
comp=Z,6.9nm,0.9s,baz=49,slow=2.4,SNR=18
ARCES ARCESS Array B 128.81 350 PKP PKPdf 13 20 47.2 -0.2
comp=Z,6.4nm,0.8s,baz=322,slow=1.5,SNR=9.8
PRGR Permogore 129.01 335 ePKIKP PKPdf 13 20 46.0 -1.9
LBTB Lobatse 129.54 208 PKP PKPdf 13 20 50.5 +0.2
comp=Z,2.1nm,0.6s,baz=117,slow=4.8,SNR=4.7
KLMR Klimovskoe 131.84 337 ePKIKP PKPdf 13 20 52.5 -0.8
KLMR pmax pmax
comp=Z,23nm,1.3s
FINES FINESS Array B 135.70 344 PKP PKPdf 13 21 02.2 +1.7
comp=Z,2.9nm,0.6s,baz=99,slow=3.5,SNR=3.7
MOS Moscow 135.88 332 eP Pdif 13 18 08.4 +0.4
LSZ Lusaka 136.40 218 PKP PKPdf 13 21 05.4 +2.1
comp=Z,3.2nm,0.6s,baz=120,slow=0.9,SNR=6.8
OBN Obninsk 136.75 332 ⇑iPKIKP PKPdf 13 21 02.5 -0.1
OBN i 13 23 50.1
OBN pmax pmax
comp=Z,31nm,1.4s
VSR Storozhevoye 137.80 326 ePKIKP PKPdf 13 21 03.5 -1.2
VSR e 13 23 50.8
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,7.0nm,1.2s
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR pmax pmax
comp=Z,10.0nm,1.3s
VORD Divnogorie 137.87 325 ePKIKP PKPdf 13 21 03.0 -1.8
VORD e 13 23 51.7
VORD pmax pmax
comp=N,8.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,7.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,1.2s
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.2s
NB2 NORSAR Subarra 138.85 353 PKP PKPpre 13 20 56.0
comp=Z,27nm,1.7s,baz=17,slow=2.6
NOA NORSAR Array B 138.85 353 PKhKP PKPpre 13 20 57.4
comp=Z,2.7nm,0.7s,baz=21,slow=3.9,SNR=5.6
NOA PKP PKPdf 13 21 06.5 +0.1
comp=Z,0.7nm,0.6s,baz=15,slow=4.1,SNR=3.3
KIV Kislovodsk 139.04 314 ePKIKP PKPdf 13 21 07.7 +0.4
KIV pmax pmax
comp=Z,16nm,1.0s
HFS Hagfors 139.42 351 PKhKP PKPpre 13 20 58.3
comp=Z,3.5nm,0.6s,baz=62,slow=3.9,SNR=17
KMBO Kilima Mbogo 139.65 242 PKhKP PKPpre 13 21 03.2
comp=Z,1.0nm,0.5s,baz=142,slow=3.0,SNR=4.3
EKAR Karacoban 141.05 308 i P PKPdf 13 21 07.5 -3.9
ERZM Erzurum 141.37 309 i P PKPdf 13 21 04.7 -7.1
BNGL BINGOL 141.82 308 i P PKPdf 13 21 09.5 -3.1
KAC Achnashellach 142.47 7 eP PKPdf 13 21 09.5 -3.4
MARD Mardin 142.58 305 i P PKPdf 13 21 11.0 -2.9
KPL Plockton 142.59 7 eP PKPdf 13 21 09.9 -3.1
SUW Suwalki 142.78 340 ePKIKP PKPdf 13 21 13.1 -0.5
SUW Suwalki 142.78 340 ePKP PKPdf 13 21 10.9 -2.7
SUW Suwalki 142.78 340 ePKPdf PKPdf 13 21 13.1 -0.5
KELT Kelkit 142.81 310 i P PKPdf 13 21 12.4 -1.9
AKASG Malin Array Be 143.00 331 PKhKP PKPpre 13 21 10.6
comp=Z,24nm,0.5s,baz=41,slow=4.0,SNR=284
AK02 Malin Array Si 143.04 331 ePKPdf PKPdf 13 21 14.0 -0.1
SHEL Horse Pasture 143.07 167 i PKIKP PKPdf 13 21 15.0 -0.3
HCB Kahramanmara¯ 143.24 306 i P PKPdf 13 21 20.0 +5.0
SUSE Susehri 143.54 311 i P PKPab 13 21 14.0 0.0
MUD Monsted U'grnd 143.57 354 ⇓iPKIKP PKPab 13 21 12.9 -0.4
MUD pmax pmax
comp=Z,50nm,1.1s
KEMA Kemaliye 143.67 309 i P PKPdf 13 21 15.3 -0.4
EAB Aberfoyle 143.86 6 eP PKPbc 13 21 13.4 -1.0
BSD Bornholm Skovb 143.99 348 ⇓iPKIKP PKPbc 13 21 13.9 -0.9
BSD pmax pmax
comp=Z,61nm,1.0s
SIM Simferopol' 144.04 320 dePKIKP PKPab 13 21 15.6 +0.1
SIM pmax pmax
comp=Z,143nm,1.0s
ESY Stoneypath 144.29 5 eP PKPbc 13 21 13.7 -2.0
EBL Broad Law 144.40 5 eP PKPbc 13 21 15.0 -1.1
ATAB Bozova 144.42 306 i P PKPab 13 21 17.7 +0.5
EKA Eskdalemuir Ar 144.82 5 PKP PKPdf 13 21 16.7 -0.4
comp=Z,6.4nm,0.6s,baz=341,slow=2.9,SNR=17
GZT Gaziantep 145.01 307 i P PKPab 13 21 19.2 -0.3
GKP Gorka Klasztor 145.17 344 ePKIKP PKPbc 13 21 18.7 +0.2
GKP Gorka Klasztor 145.17 344 ePKP PKPbc 13 21 18.7 +0.2
SORM Soroca 145.21 329 ⇑PKIKP PKPdf 13 21 18.2 +0.3
SORM Soroca 145.21 329 ⇑i P PKPdf 13 21 18.2 +0.3
BOYT Boyabat 145.31 315 i P PKPab 13 21 20.2 -0.3
BEL Belsk 145.40 340 ePKP2 PKPab 13 21 20.1 -0.3
BEL Belsk 145.40 340 ePKP PKPab 13 21 20.1 -0.3
KUZU Kuzuini 145.57 306 i P PKPab 13 21 21.0 +0.6
CTKT Corum 145.74 313 i P PKPbc 13 21 20.9 0.0
KIS Kishinev 145.75 327 ePKHKP PKPpre 13 21 15.0
KIS e 13 21 20.0

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KIS	Kishinev	145.75	327	ePKP	PKPpre	13 21 15.0	
ANDN	Andirin	145.84	308	i P	PKPbc	13 21 21.6	+0.4
LVV	L'vov	145.88	335	i PKIKP	PKPdf	13 21 19.9	+0.8
BSEG	Bad Segeberg	145.90	352	ePKPbc	PKPbc	13 21 20.6	0.0
ILGA	Ilgaz	146.27	315	i P	PKPbc	13 21 23.2	+0.7
HPK	Haverah Park	146.31	4	eP	PKPbc	13 21 21.1	-0.7
CDAG	Cicekdag	146.47	312	i P	PKPbc	13 21 22.4	-0.5
AVNT	Avonos	146.48	310	i P	PKPbc	13 21 22.3	-0.7
KWP	Kalwaria Pacla	146.55	336	⇓PKP2	PKPbc	13 21 22.7	+0.1
KWP	Kalwaria Pacla	146.55	336	ePKP	PKPbc	13 21 22.7	+0.1
KWP	Kalwaria Pacla	146.55	336	⇓iP	PKPbc	13 21 22.7	+0.1
LHO	Holmfirth	146.70	5	eP	PKPbc	13 21 21.7	-1.2
RUE	Ruedersdorf	146.70	347	ePKPbc	PKPbc	13 21 23.1	+0.2
ELDT	Eldivan	146.73	314	i P	PKPbc	13 21 23.5	-0.2
BR131	Keskin Array S	146.93	313	ePKPbc	PKPbc	13 21 23.9	-0.2
BRTR	Keskin Array B	146.93	313	PKPbc	PKPbc	13 21 23.6	-0.6
	comp=Z,18nm,0.8s,baz=103,slow=2.7,SNR=53						
ASF	Jabal al Asfar	146.94	298	PKPbc	PKPbc	13 21 24.4	+0.1
	comp=Z,47nm,1.0s,baz=31,slow=2.5,SNR=19						
BUR08	Bucovina Ar. S	147.04	331	ePKPbc	PKPbc	13 21 25.6	+1.4
BURAR	Bucovina Array	147.06	331	⇑PKP2	PKPbc	13 21 24.9	+0.7
BURAR	Bucovina Array	147.06	331	⇑iP	PKPbc	13 21 24.9	+0.7
OJC	Ojcow	147.11	339	ePKP2	PKPbc	13 21 23.9	-0.2
OJC	Ojcow	147.11	339	ePKP	PKPbc	13 21 23.9	-0.2
FOEL	Foel Wylfa	147.23	6	eP	PKPbc	13 21 24.0	-0.3
STHS	Stebnicka Huta	147.28	337	ePKP2	PKPbc	13 21 25.0	+0.4
STHS	Stebnicka Huta	147.28	337	ePKP	PKPbc	13 21 25.0	+0.4
KOLS	Kolonicke sedl	147.28	335	ePKIKP	PKPdf	13 21 21.4	-0.1
KOLS	Kolonicke sedl	147.28	335	ePKP	PKPdf	13 21 21.4	-0.1
CFR	Carcaliu	147.31	325	⇑PKP2	PKPbc	13 21 24.3	-0.4
CFR	Carcaliu	147.31	325	⇑iP	PKPbc	13 21 24.3	-0.4
NRDL	Niedersach Rie	147.34	351	ePKPbc	PKPbc	13 21 24.5	0.0
BBAL	Bala	147.37	313	i P	PKPbc	13 21 25.2	-0.1
ANTO	Ankara	147.45	313	⇓PKP2	PKPbc	13 21 25.5	+0.1
ANTO	Ankara	147.45	313	⇓iP	PKPbc	13 21 25.5	+0.1
ANTO	Ankara	147.45	313	ePKPbc	PKPbc	13 21 25.6	+0.1
BCAM	Yenicaga	147.48	315	i P	PKPbc	13 21 25.0	-0.5
UZH	Uzhgorod	147.52	335	⇑iPKP2	PKPbc	13 21 25.0	-0.2
VRI	Vrincioaia	147.58	327	⇓PKP2	PKPbc	13 21 25.5	0.0
VRI	Vrincioaia	147.58	327	⇓iP	PKPbc	13 21 25.5	0.0
NIE	Niedzica	147.61	338	ePKP2	PKPbc	13 21 25.9	+0.4
NIE	Niedzica	147.61	338	ePKP	PKPbc	13 21 25.9	+0.4
KSP	Ksiaz	147.62	343	ePKIKP	PKPdf	13 21 22.1	+0.2
KSP				e		13 21 29.7	
KSP	Ksiaz	147.62	343	ePKPdf	PKPdf	13 21 22.4	+0.5
KSP				ePKPbc	PKPbc	13 21 25.9	+0.5
KSP				ePKPab	PKPab	13 21 29.9	+0.6
CRVS	Cervenica-Dubn	147.62	336	ePKP2	PKPbc	13 21 25.7	+0.2
CRVS	Cervenica-Dubn	147.62	336	ePKP	PKPbc	13 21 25.7	+0.2
TIRR	Tirgusor	147.62	324	⇑PKP2	PKPbc	13 21 25.7	+0.1
TIRR	Tirgusor	147.62	324	⇑iP	PKPbc	13 21 25.7	+0.1
PLOR	Plostina	147.63	327	⇑PKP2	PKPbc	13 21 25.6	-0.1
PLOR	Plostina	147.63	327	⇑iP	PKPbc	13 21 25.6	-0.1
HLM1	Long Mynd	147.63	6	eP	PKPbc	13 21 25.0	-0.4
HARR	Harsova	147.74	325	⇓PKP2	PKPbc	13 21 26.5	+0.6
HARR	Harsova	147.74	325	⇓iP	PKPbc	13 21 26.5	+0.6
TLB	Topalu	147.74	324	⇑PKP2	PKPbc	13 21 26.3	+0.4
TLB	Topalu	147.74	324	⇑iP	PKPbc	13 21 26.3	+0.4
IBBN	Ibbenburen	147.81	354	ePKPbc	PKPbc	13 21 26.0	+0.2
IBBN				ePKPab	PKPab	13 21 30.1	+0.1
TRPA	Tarpa	147.82	334	⇓iP	PKPbc	13 21 25.8	-0.2
TRPA	Tarpa	147.82	334	⇓e	PKPbc	13 21 25.7	-0.2
CLZ	Clausthal	147.93	351	ePKPbc	PKPbc	13 21 26.4	+0.2
CLL	Collm	147.97	347	⇓ePKIKP	PKPdf	13 21 23.0	+0.5
CLL				i		13 21 30.4	
CLL				pmax	pmax		
	comp=Z,133nm,1.4s						
CLL				pmax	pmax		
	comp=Z,54nm,1.1s						
CLL	Collm	147.97	347	ePKPbc	PKPbc	13 21 26.2	-0.1
MMAI	Mount Meron Ar	147.97	300	PKPbc	PKPbc	13 21 27.5	+0.5
	comp=Z,87nm,0.9s,baz=69,slow=4.8,SNR=18						
OKC	Ostrava-Krasne	147.97	341	ePKIKP	PKPdf	13 21 22.5	0.0
OKC				e		13 21 30.9	
UPC	Upice	148.00	343	ePKIKP	PKPdf	13 21 22.5	-0.1
UPC				e		13 21 31.3	
UPC	Upice	148.00	343	ePKPDF	PKPdf	13 21 22.5	-0.1
UPC				⇑ePKP	PKPbc	13 21 26.8	+0.4
UPC				ePKPAB	PKPab	13 21 31.3	+0.5
DPC	Dobruska-Polom	148.06	343	ePKIKP	PKPdf	13 21 22.8	+0.1
DPC				e		13 21 32.0	
DPC	Dobruska-Polom	148.06	343	ePKPDF	PKPdf	13 21 22.8	+0.1
DPC				⇑ePKP	PKPbc	13 21 27.0	+0.4
DPC				ePKPAB	PKPab	13 21 32.0	+0.9
DPC				epPKP	pPKPdf	13 23 25.1	+4.8
BRG	Berggiesshubel	148.17	346	ePKHKP	PKPpre	13 21 23.1	
BRG				i		13 21 31.4	
BRG				pmax	pmax		
	comp=Z,46nm,1.9s						
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BRG	Berggiesshubel	148.17	346	ePKPbc	PKPbc	13 21 26.9	+0.1
MORC	Moravsky Berou	148.21	341	⇑PKP2	PKPbc	13 21 27.1	0.0
MORC	Moravsky Berou	148.21	341	⇑iP	PKPbc	13 21 27.1	0.0
MORC	Moravsky Berou	148.21	341	ePKPbc	PKPbc	13 21 27.0	0.0
MLR	Muntele Rosu	148.24	328	⇑PKP2	PKPbc	13 21 27.2	-0.1
MLR	Muntele Rosu	148.24	328	PKPbc	PKPbc	13 21 27.9	+0.6
	comp=Z,6.9nm,1.0s,baz=29,slow=5.1,SNR=17						
WTSB	Winterswijk	148.24	355	ePKP	PKPbc	13 21 26.8	-0.1
	comp=Z,215nm,1.7s						
MONM	Monmouth	148.31	6	eP	PKPbc	13 21 26.5	-0.6
KECS	Kecovo	148.33	337	ePKP2	PKPbc	13 21 27.4	+0.1
KECS	Kecovo	148.33	337	ePKP	PKPbc	13 21 27.4	+0.1
PVCC	Panska Ves	148.35	345	ePKPDF	PKPdf	13 21 23.3	+0.2
PVCC				⇑ePKP	PKPbc	13 21 27.8	+0.5
BUG	Bochum--Univer	148.72	354	ePKPbc	PKPbc	13 21 28.0	-0.1
VOIR		148.72	328	⇓PKP2	PKPbc	13 21 28.3	-0.2
VOIR		148.72	328	⇓iP	PKPbc	13 21 28.3	-0.2
ERMK	Ermenek	148.74	308	i P	PKPbc	13 21 29.7	+0.8
DRGR		148.79	332	⇓PKP2	PKPbc	13 21 29.1	+0.5
DRGR		148.79	332	⇓iP	PKPbc	13 21 29.1	+0.5
PRA	Prague	148.80	345	⇑ePKP	PKPbc	13 21 29.0	+0.6
PRA				PKPAB	PKPab	13 21 35.0	+0.9
PRU	Pruhonice	148.85	345	ePKPDF	PKPdf	13 21 24.0	0.0
PRU				⇑ePKP	PKPbc	13 21 28.7	+0.2
PRU				ePKPAB	PKPab	13 21 34.6	+0.3
MOX	Moxa	148.87	348	ePKPbc	PKPbc	13 21 28.7	+0.1
VRAC	Vranov	148.91	342	⇓PKP2	PKPbc	13 21 29.1	+0.4
TANN	Tannenbergstha	148.93	347	ePKPbc	PKPbc	13 21 29.0	+0.2
SEYT	Eskypehyr	148.93	314	i P	PKPbc	13 21 28.8	-0.4
ARR	Arges	148.97	329	⇓iP	PKPbc	13 21 30.4	+1.3
UBBA	Unterbreizbach	148.98	350	ePKPbc	PKPbc	13 21 28.8	+0.1
PRD	Provadia	148.99	323	⇑PKP2	PKPbc	13 21 29.9	+0.9
PRD	Provadia	148.99	323	eP	PKPbc	13 21 28.9	-0.1
BORA	Eskisehir	149.01	315	i P	PKPbc	13 21 29.0	-0.3
PSZ	Piszkesteto	149.02	337	⇓PKHKP	PKPbc	13 21 28.9	-0.2
PSZ	Piszkesteto	149.02	337	ePKPbc	PKPbc	13 21 29.2	+0.1
CSS	Prodhromos	149.03	305	ePKPbc	PKPbc	13 21 29.4	-0.1
EIL	Elat	149.06	294	PKPbc	PKPbc	13 21 30.1	+0.4
	comp=Z,49nm,1.1s,baz=356,slow=6.3,SNR=10.0						
TREC	Trest	149.24	343	⇑ePKP	PKPbc	13 21 29.5	0.0
TREC				ePKPAB	PKPab	13 21 34.4	-1.6
GAZI	Gazipasa	149.34	307	i P	PKPbc	13 21 29.5	-0.7
BEBN	Eben Emael	149.49	356	PKPbc	PKPbc	13 21 29.8	-0.2
BEBN				PKPab	PKPab	13 21 36.6	-0.3
HGN	Heimansgroeve	149.50	355	ePKP	PKPbc	13 21 29.8	-0.2
	comp=Z,59nm,1.3s						
ROTZ	Rotzenmuhle	149.59	347	ePKPbc	PKPbc	13 21 30.6	+0.3
MEM	Membach	149.65	355	PKP	PKPdf	13 21 25.1	-0.1
MEM				PKPbc	PKPbc	13 21 30.2	-0.2
MEM				PKPab	PKPab	13 21 37.0	-0.6
BUD	Budapest	149.71	337	e	PKPbc	13 21 30.9	+0.3
SZH	Strazhica	149.76	324	eP	PKPbc	13 21 30.1	-0.8
TNS	Taunus Mts	149.78	352	ePKPbc	PKPbc	13 21 30.9	+0.1
GZR	Gura Zlata	149.84	331	⇑PKIKP	PKPbc	13 21 30.9	-0.2
GZR	Gura Zlata	149.84	331	⇑iP	PKPbc	13 21 30.9	-0.2
SNF	Seneffe	149.85	357	PKPbc	PKPbc	13 21 31.1	+0.2
SNF				PKPab	PKPab	13 21 38.3	-0.1
GRF	Grafenberg Arr	149.86	348	ePKPbc	PKPbc	13 21 31.3	+0.3
GRF				ePKPab	PKPab	13 21 38.8	+0.3
PKSN	Nyarlorinc	149.88	336	e	PKPbc	13 21 31.9	+0.8
KHC	Kasperske Hory	149.88	345	ePKIKP	PKPdf	13 21 25.4	-0.3
KHC				e		13 21 39.0	
KHC	Kasperske Hory	149.88	345	ePKPDF	PKPdf	13 21 25.4	-0.3
KHC				⇑ePKP	PKPbc	13 21 31.2	+0.1
KHC				ePKPAB	PKPab	13 21 39.0	+0.3
KHC				epPKP	pPKPdf	13 23 31.5	+8.2
KHC	Kasperske Hory	149.88	345	ePKPbc	PKPbc	13 21 31.5	+0.4
BCLA	Clavier	149.89	356	PKPbc	PKPbc	13 21 31.0	0.0
BCLA				PKPab	PKPab	13 21 38.1	-0.5
JMB	Yambol	149.92	323	⇓PKP2	PKPbc	13 21 33.1	+1.8
JMB	Yambol	149.92	323	⇓iP	PKPbc	13 21 33.1	+1.8
ISP	Isparta	149.97	312	⇑iP	PKPbc	13 21 30.7	-1.0
PKSG		150.01	338	e	PKPbc	13 21 31.1	-0.3
PKS7	Kunszentmiklos	150.02	337	⇓e	PKPbc	13 21 31.3	-0.1
WET	Wettzell	150.03	346	ePKPbc	PKPbc	13 21 31.6	+0.2
WET				ePKPab	PKPab	13 21 39.6	+0.3
GDZ	Gediz	150.06	315	i P	PKPbc	13 21 31.3	-0.7
CSKK	Cs‡kako	150.08	338	e	PKPbc	13 21 31.8	+0.2
GEC2	GERESS Array S	150.12	345	ePKPbc	PKPbc	13 21 31.6	-0.1
GERES	GERESS Array B	150.12	345	PKP	PKPdf	13 21 26.9	+0.8
	comp=Z,1.2nm,0.5s,baz=48,slow=1.5,SNR=8.0						
GERES				PKPbc	PKPbc	13 21 31.9	+0.1
	comp=Z,17nm,0.9s,baz=62,slow=2.3,SNR=60						
PKS6	Bocsa	150.24	336	⇓e	PKPbc	13 21 32.2	+0.3
PKST	T`'s	150.25	338	⇓e	PKPbc	13 21 31.6	-0.4
DOU	Dourbes	150.25	357	PKPbc	PKPbc	13 21 31.8	0.0
CONA	Conrad Observa	150.37	341	⇑iPKPdf	PKPdf	13 21 26.4	-0.1
	comp=Z,7.1nm,1.1s						
CONA				i PKiKP	PKPbc	13 21 32.5	+0.1
	comp=Z,51nm,1.2s,SNR=13						
SOP	Sopron	150.37	340	⇓e	PKPbc	13 21 32.4	+0.2
KORT	Korkueli	150.46	310	i P	PKPbc	13 21 32.7	-0.3
PKS2	Kecel	150.47	336	⇑e	PKPbc	13 21 33.1	+0.7
WLF	Walferdange	150.58	355	ePKPbc	PKPbc	13 21 33.1	+0.5
PKS9	Tamasi	150.74	337	⇓e	PKPbc	13 21 32.7	-0.4
GOLH	Golhisar	150.91	311	i P	PKPbc	13 21 33.6	-0.4
PKSM	Moragy	150.92	336	⇑PKIKP	PKPbc	13 21 33.0	-0.5
PKSM	Moragy	150.92	336	⇑iP	PKPbc	13 21 33.0	-0.5
PKSM	Moragy	150.92	336	⇓e	PKPbc	13 21 33.1	-0.5
MANT	Manisa	150.99	314	i P	PKPbc	13 21 33.9	-0.4
STU	Stuttgart	151.10	351	ePKPbc	PKPbc	13 21 33.9	0.0
KDZ	Kurdzhali	151.11	322	⇓PKIKP	PKPbc	13 21 33.8	-0.3
KDZ	Kurdzhali	151.11	322	⇓iP	PKPbc	13 21 33.8	-0.3
FUR	Furstenfeldbru	151.31	347	ePKPbc	PKPbc	13 21 34.2	-0.2
FUR				ePKPab	PKPab	13 21 44.9	+0.2
AKAS	Kas	151.34	309	i P	PKPbc	13 21 34.5	-0.5
RJOB	Jochberg	151.37	345	ePKPbc	PKPbc	13 21 34.3	-0.3
RJOB				ePKPab	PKPab	13 21 45.2	+0.2
BFO	Black Forest	151.65	351	ePKIKP	PKPbc	13 21 34.7	-0.5
BFO	Black Forest	151.65	351	ePKPbc	PKPbc	13 21 34.9	-0.3
BFO				ePKPab	PKPab	13 21 45.6	-0.5
BFO	Black Forest	151.65	351	ePKPbc	PKPbc	13 21 34.7	-0.5
VTS	Vitosha	151.68	326	⇑PKIKP	PKPbc	13 21 35.1	-0.5
VTS	Vitosha	151.68	326	eP	PKPbc	13 21 35.0	-0.5
VTS	Vitosha	151.68	326	⇑iP	PKPbc	13 21 35.1	-0.5
MMB	Musomiste	152.09	324	⇑PKIKP	PKPbc	13 21 36.2	-0.2
MMB	Musomiste	152.09	324	eP	PKPbc	13 21 35.8	-0.6
MMB	Musomiste	152.09	324	⇑iP	PKPbc	13 21 36.2	-0.2
ABTA	Abfaltersbach	152.37	345	⇑iPKPdf	PKPdf	13 21 28.7	-0.9
	comp=Z,8.7nm,0.9s						
ABTA				i PKPbc	PKPbc	13 21 36.0	-0.9
	comp=Z,18nm,0.8s,SNR=5.3						
ABTA				⇑iPKPab	PKPab	13 21 48.8	-0.5
	comp=Z,18nm,0.8s						
BDRM	Kayabasi	152.47	313	i P	PKPab	13 21 54.1	+4.0
FETA	Feichten	152.51	347	⇑iPKPdf	PKPdf	13 21 29.7	-0.2
	comp=Z,7.0nm,0.9s						
FETA				⇑iPKiKP	PKiKP	13 21 37.5	0.0
	comp=Z,20nm,1.4s						
FETA				⇓iPKPab	PKPab	13 21 50.3	+0.4
	comp=Z,20nm,1.1s						
JAVS	Javornik	152.74	342	i PKPbc	PKPbc	13 21 37.0	-0.8
JAVS				i		13 21 50.0	
CEY	Cerknica	152.77	341	ePKPbc	PKPbc	13 21 37.1	-0.6
CEY				i		13 21 50.5	
DAVOX	Davos/Dischmat	152.91	349	PKPbc	PKPbc	13 21 38.2	0.0
	comp=Z,4.6nm,0.5s,baz=56,slow=3.0,SNR=11						
VAY	Valandovo	152.91	325	ePKP	PKPdf	13 21 30.3	-0.1
VAY				ePKP	PKPbc	13 21 37.2	-0.9
SKO	Skopje	153.03	327	ePKP	PKPbc	13 21 37.6	-0.7
BIA	Bitola	153.79	326	ePKP	PKPbc	13 21 38.9	-1.2
ESDC	Sonseca Array	160.00	14	PKPab	PKPab	13 22 22.3	-0.1
	comp=Z,0.4nm,0.4s,baz=344,slow=4.3,SNR=8.5						
KEST	Kesra	163.46	339	PKPab	PKPab	13 22 37.0	-0.6
	comp=Z,2.2nm,0.7s,baz=117,slow=2.3,SNR=4.4						
DBIC	Dimbokro	164.75	152	PKPab	PKPab	13 22 44.2	+0.5
	comp=Z,3.6nm,0.6s,baz=174,slow=3.2,SNR=6.2						
MDT	Midelt	166.13	25	PKPab	PKPab	13 22 49.1	-0.5
	comp=Z,3.8nm,0.6s,baz=245,slow=5.6,SNR=6.3						
TORD	Torodi Ar. Bea	172.82	175	PKP	PKPdf	13 21 48.5	-1.4
	comp=Z,5.3nm,0.9s,baz=66,slow=0.7,SNR=24						
TORD				PKPab	PKPab	13 23 20.4	+1.1
	comp=Z,2.4nm,0.7s,baz=174,slow=3.4,SNR=11						

*TIR **04** 13:23:54.6±20.0, 43.77N×17.02E, h4km±414km, ML4.0*
*PRU **04** 13:24:02.9, 43.84N×17.35E, h0km*
*PDG **04** 13:24:03.1±0.4, 43.84N×17.24E, h6km, ML3.4/12, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*CSEM **04** 13:24:03.0±0.1, 43.86N×17.18E, h2km, ML3.0, Ms3.4, Error ellipse: s-maj=4.8km s-min=2.6km az=43.0*
*BEO **04** 13:24:03.4±0.3, 43.88N×17.19E, h8km±3km, ML3.0/1*
*LDG **04** 13:24:04.1±0.1, 43.78N×17.17E, h2km, Ml3.3/12, Error ellipse: s-maj=4.2km s-min=1.9km az=28.0*
*VIE **04** 13:24:04.6±0.3, 43.96N×17.40E, h10km, mb2.9/8, ML3.0/7, Ms3.4/1, Error ellipse: s-maj=2.6km s-min=1.8km az=169.0*
ISC 04 13:24:03.7±1.1, 43.86N±0.02×17.17E±0.02, h19km±3km, n134, σ1§71/207, 23C-19D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BLY	Banja Luka	0.89	0	⇓iPg	Pb	13 24 20.1	-0.5
BLY				eSg	Sb	13 24 31.3	-0.8
BLY	Banja Luka	0.89	0	⇓iPg	Pb	13 24 20.1	-0.5
BLY				eSg	Sb	13 24 31.3	-0.8
STON	Ston	1.06	159	ePg	Pb	13 24 22.0	-1.3
STON				eSg	Sg	13 24 37.8	-0.3
STON	Ston	1.06	159	ePg	Pb	13 24 22.0	-1.3
STON				eSg	Sn	13 24 39.1	+1.5
STON	Ston	1.06	159	ePg	Pb	13 24 22.0	-1.3
STON				eSg	Sn	13 24 39.1	+1.5
UDBI	Udbina	1.22	304	ePg	Pn	13 24 26.1	+0.4
UDBI				Sg	Sg	13 24 43.6	+0.4
BRY	Bratogost	1.38	133	⇓iPg	Pn	13 24 27.7	-0.3
BRY				eSg	Sg	13 24 48.9	+0.5
BRY	Bratogost	1.38	133	⇓iPg	Pn	13 24 27.7	-0.3
BRY				eSg	Sg	13 24 48.9	+0.5
UPM	Unac-Piva	1.42	117	ePg	Pn	13 24 28.3	-0.3
UPM				eSg	Sg	13 24 49.5	-0.2
UPM	Unac-Piva	1.42	117	ePg	Pn	13 24 28.3	-0.3
UPM				eSg	Sg	13 24 49.5	-0.2
TREB	Trebinje	1.43	143	ePg	Pn	13 24 28.4	-0.1
TREB				eSg	Sg	13 24 49.8	-0.1
BBLS	Lazići	1.61	89	⇑iPg	Pn	13 24 31.6	+0.4
BBLS				eSg	Sg	13 24 55.4	-0.5
NKY	Niksic	1.69	128	ePn	Pn	13 24 32.5	+0.2
NKY				eSn	Sg	13 24 57.8	-0.4
NKY	Niksic	1.69	128	ePn	Pn	13 24 32.5	+0.2
NKY				eSn	Sg	13 24 57.8	-0.4
PLE	Pljevlja	1.69	107	⇑iPn	Pn	13 24 33.3	+1.0
PLE				eSn	Sg	13 24 57.2	-1.2
NKME	Niksic	1.69	129	⇑iPn	Pb	13 24 34.0	-0.3
NKME				eSn	Sg	13 24 57.8	-0.6
NKME	Niksic	1.69	129	⇑iPn	Pb	13 24 34.0	-0.3
NKME				eSn	Sg	13 24 57.8	-0.6
HCY	Herceg Novi	1.71	145	⇑iPn	Pb	13 24 33.9	-0.6
HCY				eSn	Sg	13 24 58.6	-0.2
HCY	Herceg Novi	1.71	145	⇑iPn	Pb	13 24 33.9	-0.6
HCY				eSn	Sg	13 24 58.6	-0.2
NVLJ	Novalja	1.80	294	ePn	Pb	13 24 36.5	+0.4
NVLJ				Sn	Sg	13 25 02.5	+0.7
NVLJ	Novalja	1.80	294	ePn	Pb	13 24 36.4	+0.4
BUM	Brajici-Budva	2.00	140	⇑iPn	Pn	13 24 38.0	+1.5
BUM				eSn	Sb	13 25 04.9	+0.9
BUM	Brajici-Budva	2.00	140	⇑iPn	Pn	13 24 38.0	+1.5
BUM				eSn	Sb	13 25 04.9	+0.9
DIVS	Divibare	2.05	82	⇑iPn	Pn	13 24 36.9	-0.3
DIVS	Divibare	2.05	82	⇑iPn	Pn	13 24 36.9	-0.3
PDG	Podgorica	2.09	132	ePg	Pb	13 24 40.7	-0.2
PDG				eSg	Sg	13 25 09.4	-1.5
PDG	Podgorica	2.09	132	⇑iPn	Pn	13 24 39.4	+1.8
PDG				eSn	Sb	13 25 07.0	+0.6
PDG				eSg	Sg	13 25 09.4	-1.5
TTG	Podgorica	2.09	132	⇑iPn	Pn	13 24 39.4	+1.8
TTG				eSn	Sb	13 25 07.0	+0.6
BOJS	Bojanci	2.14	321	i Pn	Pn	13 24 40.6	+2.2
BOJS				i Sn	Sg	13 25 11.8	-0.9
BOJS	Bojanci	2.14	321	ePn	Pn	13 24 40.4	+2.0
BOJS				eSg	Sg	13 25 11.7	-1.0
BOJS	Bojanci	2.14	321	ePn	Pn	13 24 40.4	+2.0
BOJS				eSg	Sg	13 25 11.7	-1.0
IVAS	Ivanjica	2.18	96	ePn	Pn	13 24 39.4	+0.5
IVAS	Ivanjica	2.18	96	ePn	Pn	13 24 39.4	+0.5
BEY	Berane	2.21	115	eSn	Sb	13 25 09.9	-0.3
IVA	Berane	2.21	115	⇓iPn	Pn	13 24 40.9	+1.4
IVA				eSn	Sb	13 25 09.9	-0.3
DRME	Dracevica, Mon	2.23	138	⇓iPn	Pn	13 24 41.4	+1.8
DRME				eSn	Sb	13 25 10.6	+0.1
DRME	Dracevica, Mon	2.23	138	⇓iPn	Pn	13 24 41.4	+1.8
DRME				eSn	Sb	13 25 10.6	+0.1
FGSL	Fruska Gora	2.29	54	ePn	Pb	13 24 42.9	-1.5
FRGS	Fruska Gora	2.29	54	ePn	Pb	13 24 42.9	-1.5
FRGS				eSg	Sg	13 25 15.6	-1.9
CRES	Cresnjev	2.32	329	i Pn	Pn	13 24 42.8	+2.0
CRES	Cresnjev	2.32	329	i Pn	Pn	13 24 42.8	+2.0
MS1	Monte Sant'Ang	2.33	203	ePn	Pb	13 24 45.1	-0.1
MS1				Sn	Sn	13 25 09.1	-0.1
TRUS	Trudelj	2.36	80	⇓iPn	Pn	13 24 40.1	-1.3
PVY	Plav	2.39	121	ePn	Pn	13 24 44.0	+2.0
PVY				eSn	Sb	13 25 14.7	-0.7
ULC	Ulcinj	2.43	140	⇓iPn	Pn	13 24 44.3	+2.0
ULC				eSn	Sb	13 25 15.7	-0.6
ULC	Ulcinj	2.43	140	⇓iPn	Pn	13 24 44.3	+2.0
ULC				eSn	Sb	13 25 15.7	-0.6
VISS	Visnje	2.56	320	i Pn	Pn	13 24 46.8	+2.7
VISS				eSn	Sg	13 25 24.8	-1.2
VISS	Visnje	2.56	320	i Pn	Pn	13 24 46.8	+2.7
GRUS	Gruza	2.56	88	ePn	Pn	13 24 44.9	+0.7
GRUS				eSg	Sg	13 25 25.7	-0.4
GRUS	Gruza	2.56	88	ePn	Pn	13 24 44.9	+0.7
GRUS				eSg	Sg	13 25 25.7	-0.4
PKSM	Moragy	2.58	23	⇑iPn	Pn	13 24 44.4	+0.1
PKSM	Moragy	2.58	23	⇑e	Pn	13 24 44.2	-0.1
PKSM				e		13 25 15.7	
PKSM	Moragy	2.58	23	⇑iPn	Pn	13 24 44.4	+0.1
PKSM				eSn	Sn	13 25 15.7	+0.6
BCI	Bajram Curri	2.59	124	i PN	Pb	13 24 48.5	-1.0
BCI				i SN	Sg	13 25 25.4	-1.6
BCI	Bajram Curri	2.59	124	i Pn	Pb	13 24 48.5	-1.0
	SNR=40						
BEHE	Becsehely	2.63	354	e	Pn	13 24 46.4	+1.3
BEHE				eSKPdf	Sg	13 25 32.8	+4.5
BEHE	Becsehely	2.63	354	ePn	Pn	13 24 46.4	+1.3
PUK	Puka	2.70	131	i PN	Pn	13 24 50.4	-1.0
PUK				i SN	Sb	13 25 26.7	+2.6
SKDS	Skadanscina	2.82	308	i Pn	Pb	13 24 51.4	-2.0
SKDS	Skadanscina	2.82	308	i Pn	Pb	13 24 51.4	-2.0
PKS9	Tamasi	2.84	16	e	Pn	13 24 48.1	+0.1
PKS9				e		13 25 35.6	
PKS9	Tamasi	2.84	16	ePn	Pn	13 24 48.1	+0.1
CDT	Castel del Mon	2.85	194	ePn	Pb	13 24 52.6	-1.4
CDT				Sn	Sn	13 25 22.4	+0.4
SELS	Selova	2.94	101	i Pn	Pn	13 24 49.7	+0.3
SELS	Selova	2.94	101	i Pn	Pn	13 24 49.7	+0.3
JAVS	Javornik	3.01	314	i Pn	Pn	13 24 53.7	+3.3
JAVS				i Sn	Sb	13 25 35.2	+2.2
JAVS	Javornik	3.01	314	i Pn	Pn	13 24 53.7	+3.3
PERS	Pernice	3.14	333	i Pn	Pn	13 24 53.9	+1.8
PERS	Pernice	3.14	333	i Pn	Pn	13 24 53.9	+1.8
PERS				eSn	Sn	13 25 30.8	+1.8
SOKA	Soboth	3.20	333	⇓iPn	Pn	13 24 54.6	+1.6
SOKA				⇓iSn	Sn	13 25 33.9	+3.2
SOKA	Soboth	3.20	333	Pn	Pn	13 24 54.6	+1.6
SOKA				Sn	Sn	13 25 33.9	+3.2
OBKA	Obir	3.24	326	⇓iPn	Pn	13 24 55.7	+2.1
OBKA				⇓iPg	Pg	13 25 06.7	+0.9
OBKA				⇓iSn	Sn	13 25 35.7	+4.1
OBKA	Obir	3.24	326	Pn	Pn	13 24 55.7	+2.1
PHP	Peshkopia	3.24	131	i PN	Pn	13 24 57.3	+3.8
PHP	Peshkopia	3.24	131	i Pn	Pn	13 24 57.3	+3.8
	SNR=40						
PKST	T`'s	3.46	10	⇑e	Pn	13 24 57.4	+0.9
PKST	T`'s	3.46	10	⇑ePn	Pn	13 24 57.4	+0.9
ARSA	Arzberg	3.59	342	⇑iPn	Pn	13 25 00.1	+1.8
ARSA	Arzberg	3.59	342	Pn	Pn	13 25 00.1	+1.8
CSKK	Cs‡kako	3.59	12	e	Pn	13 25 00.0	+1.7
CSKK	Cs‡kako	3.59	12	ePn	Pn	13 25 00.0	+1.7
PKSG		3.64	13	⇓e	Pn	13 25 00.0	+1.1
PKSG				e		13 25 44.1	
PKSG		3.64	13	⇓ePn	Pn	13 25 00.0	+1.1
PKSG				eSn	Sn	13 25 44.1	+2.8
SKO	Skopje	3.66	120	ePn	Pn	13 25 01.6	+2.3
SKO	Skopje	3.66	120	ePn	Pn	13 25 01.5	+2.3
ZAPS	Zavoj	4.01	96	ePn	Pn	13 25 06.3	+2.2
CONA	Conrad Observa	4.17	348	⇑iPn	Pn	13 25 07.9	+1.5
CONA				⇑iSn	Sn	13 25 56.1	+1.4
CONA	Conrad Observa	4.17	348	Pn	Pn	13 25 07.9	+1.5
CONA				Sn	Sn	13 25 56.1	+1.4
GZR	Gura Zlata	4.29	67	ePn	Pn	13 25 08.6	+0.7
GZR	Gura Zlata	4.29	67	ePn	Pn	13 25 08.6	+0.7
MOA	Molln	4.48	334	⇑iPn	Pn	13 25 12.9	+2.3
MOA				⇑iSn	Sn	13 26 05.1	+3.0
MOA	Molln	4.48	334	Pn	Pn	13 25 12.9	+2.3
MOA				Sn	Sn	13 26 05.1	+3.0
PSZ	Piszkesteto	4.49	24	e	Pn	13 25 10.1	-0.6
PSZ				e		13 26 01.3	
PSZ	Piszkesteto	4.49	24	ePn	Pn	13 25 10.1	-0.6
PSZ				eSn	Sn	13 26 01.3	-1.0
VAY	Valandovo	4.72	121	ePn	Pn	13 25 14.0	+0.2
VAY	Valandovo	4.72	121	ePn	Pn	13 25 14.0	+0.2
KECS	Kecovo	5.17	25	ePN	Pn	13 25 21.3	+1.3
KECS				eSN	Sn	13 26 17.1	-1.9
KECS	Kecovo	5.17	25	ePn	Pn	13 25 21.3	+1.3
KECS				eSn	Sn	13 26 17.1	-1.9
WTTA	Wattenberg	5.17	313	⇑iPn	Pn	13 25 22.1	+2.0
WTTA				⇓iSn	Sn	13 26 23.8	+4.4
WTTA	Wattenberg	5.17	313	Pn	Pn	13 25 22.1	+2.0
WTTA				Sn	Sn	13 26 23.8	+4.4
FETA	Feichten	5.53	307	⇓iPn	Pn	13 25 28.0	+2.9
FETA	Feichten	5.53	307	Pn	Pn	13 25 28.0	+2.9
KHC	Kasperske Hory	5.83	336	ePN	Pn	13 25 31.7	+2.6
KHC				ex	x	13 25 33.4	
KHC				ex	x	13 25 41.5	
KHC				eSN	Sn	13 26 35.9	+0.5
KHC	Kasperske Hory	5.83	336	Pn	Pn	13 25 31.7	+2.6
KHC				Sn	Sn	13 26 35.9	+0.5
CRVS	Cervenica-Dubn	5.85	29	ePN	Pn	13 25 30.9	+1.5
CRVS				eSN	Sn	13 26 33.9	-2.0
CRVS	Cervenica-Dubn	5.85	29	ePn	Pn	13 25 30.9	+1.5
OKC	Ostrava-Krasne	6.02	6	eSN	Sn	13 26 40.3	+0.3
OKC	Ostrava-Krasne	6.02	6	Sn	Sn	13 26 40.3	+0.3
PGF	Pioggiola	6.12	260	ePn	Pn	13 25 33.3	+0.2
PGF				eSn	Sn	13 26 39.6	-3.0
	0.7nm,0.3s						
PGF	Pioggiola	6.12	260	ePn	Pn	13 25 33.3	+0.2
SBF	Sospel	7.04	273	ePn	Pn	13 25 46.3	+0.5
SBF				eSg	Sg	13 27 44.7	-4.8
	5.5nm,0.4s						
SBF	Sospel	7.04	273	ePn	Pn	13 25 46.3	+0.5
SBF				eSg	Sg	13 27 44.7	-4.8
	2.8nm,0.4s						
MBDF	Montbardon	7.52	280	ePn	Pn	13 25 52.1	-0.3
MBDF				eSn	Sn	13 27 13.6	-3.5
	7.2nm,0.5s						
MBDF	Montbardon	7.52	280	ePn	Pn	13 25 52.1	-0.3
LPG	La Plagne	7.61	286	ePn	Pn	13 25 54.3	+0.5
LPG				eSn	Sn	13 27 16.2	-3.3
	8.7nm,0.5s						
LPG	La Plagne	7.61	286	ePn	Pn	13 25 54.3	+0.5
LPL	La Plagne	7.62	286	ePn	Pn	13 25 54.3	+0.4
LPL				eSn	Sn	13 27 16.5	-3.3
	4.3nm,0.3s						
LPL	La Plagne	7.62	286	ePn	Pn	13 25 54.3	+0.4
ORIF	Oris-en-Rattie	8.16	281	ePn	Pn	13 26 01.1	0.0
ORIF				eSn	Sn	13 27 29.1	-3.7
	3.0nm,0.3s						
ORIF	Oris-en-Rattie	8.16	281	ePn	Pn	13 26 01.1	0.0
HINF	Hinteralfeld	8.22	302	ePn	Pn	13 26 02.6	+0.7
HINF				eSn	Sn	13 27 31.1	-3.1
	0.9nm,0.2s						
HINF	Hinteralfeld	8.22	302	ePn	Pn	13 26 02.6	+0.7
CDF	Champ du Feu	8.24	307	ePn	Pn	13 26 03.0	+0.7
CDF				eSn	Sn	13 27 31.8	-3.1
	1.2nm,0.3s						
CDF	Champ du Feu	8.24	307	ePn	Pn	13 26 03.0	+0.7
CABF	La Chapelle	8.29	293	ePn	Pn	13 26 03.5	+0.5
CABF				eSn	Sn	13 27 32.6	-3.5
	0.7nm,0.3s						

CABF	La Chapelle	8.29	293	ePn	Pn	13 26 03.5	+0.5
HAU	Haudompre	8.61	303	ePn	Pn	13 26 07.7	+0.5
HAU				eSn	Sn	13 27 40.2	-3.5
	3.5nm,0.4s						
HAU	Haudompre	8.61	303	ePn	Pn	13 26 07.7	+0.5
VIVF	Saint-Julien-l	9.01	281	ePn	Pn	13 26 13.0	+0.2
VIVF				eSn	Sn	13 27 49.4	-4.3
	0.9nm,0.3s						
VIVF	Saint-Julien-l	9.01	281	ePn	Pn	13 26 13.0	+0.2
LOR	Lormes	9.94	295	ePn	Pn	13 26 26.0	+0.5
LOR				eSn	Sn	13 28 11.9	-4.5
	2.2nm,0.4s						
LOR	Lormes	9.94	295	ePn	Pn	13 26 26.0	+0.5
SSF	Saint Saulge	10.12	293	ePn	Pn	13 26 28.6	+0.7
SSF				eSn	Sn	13 28 16.2	-4.7
	2.1nm,0.4s						
SSF	Saint Saulge	10.12	293	ePn	Pn	13 26 28.6	+0.7

IDC 04 13:36:17.1±277.0,53.52N×33.85E,h0km,Error ellipse: s-maj=113.0km s-min=77.1km az=21.0,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.75	30	i		13 56 10.0	
	baz=214,slow=313,SNR=1.7						
I26DE	FREYUNG INFRAS	13.45	258	i		14 55 50.0	
	baz=66,slow=338,SNR=1.0						
I31KZ	AKTYUBINSK INF	15.21	92	i		15 08 30.0	
	baz=289,slow=354,SNR=0.6						
I48TN	KESRA INFRASON	24.66	234	i		16 10 40.0	
	baz=39,slow=323,SNR=0.3						
I46RU	ZALESOVO INFRA	29.63	68	i		16 40 20.0	
	baz=286,slow=341,SNR=0.8						

CSEM 04 13:39:32.8±0.6,41.07N×36.19E,h5km,MD2.6,Error ellipse: s-maj=9.0km s-min=7.4km az=86.0
DDA 04 13:39:35.5,41.13N×36.04E,h5km,MD2.6
ISC 04 13:39:32.9±5.1,41.09N±0.09×36.2E±0.2,h6km±10km,n8,σ0.45/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	Kavak	0.10	264	PG	Pg	13 39 35.1	0.0
KVT				SG	Sg	13 39 36.7	0.0
KVT	Kavak	0.10	264	i Pg	Pg	13 39 35.1	-0.1
KVT				i Sg	Sg	13 39 36.7	0.0
HAVZ	Havza	0.35	267	i P	Pg	13 39 39.7	0.0
HAVZ				i S	Sg	13 39 45.0	+0.7
HAVZ	Havza	0.35	267	i P	Pg	13 39 39.7	0.0
HAVZ				i S	Sg	13 39 45.0	+0.7
BOYT	Boyabat	1.02	289	i P	Pg	13 39 52.5	0.0
BOYT				i S	Sb	13 40 06.4	-0.2
BOYT	Boyabat	1.02	289	i P	Pg	13 39 52.5	0.0
BOYT				i S	Sb	13 40 06.4	-0.2
CTKT	Corum	1.15	247	i P	Pg	13 39 55.5	+0.4
CTKT				i S	Sg	13 40 09.3	-0.7
CTKT	Corum	1.15	247	i P	Pg	13 39 55.5	+0.4
CTKT				i S	Sg	13 40 09.3	-0.7

IDC 04 13:43:46.2±1.2,31.09N×130.93E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.4/26,mbtmp3.5/5,ML2.7/1,MS1.7/1, Ms1 1.7/1,ms1mx1.6/28,Error ellipse: s-maj=69.1km s-min=19.0km az=80.0
JMA 04 13:43:47.0±0.2,31.28N×131.98E,h25km±2km,M3.3
ISC 04 13:43:46.6±3.3,31.28N±0.07×131.89E±0.08,h8km±22km, n13,σ0.57/18,mb3.6/4,3C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	0.58	295	⇓P	Pb	13 43 59.5	+0.4
JNAR				S	Sb	13 44 08.4	+0.9
JTSR	Tashiro 2	0.84	262	⇑P	Pn	13 44 03.9	-0.9
JTZ	Takazaki	0.92	312	⇑P	Pb	13 44 04.5	-0.4
JTZ				S	Sb	13 44 17.7	+0.4
JTN	Tanegashima 3	1.00	232	P	Pn	13 44 07.0	0.0
JTN				S	Sn	13 44 21.8	+0.5
JTSN	Tsuno	1.01	341	P	Pb	13 44 06.0	-0.4
JTSN				S	Sg	13 44 19.7	+0.4
JSU	Suzuyama	1.25	281	⇑P	Pn	13 44 09.8	-0.6
JSU				eS	Sb	13 44 26.4	-0.3
JZO	Okuchi	1.40	308	P	Pb	13 44 11.8	-0.6
JZO				S	Sb	13 44 30.4	-0.5
JNU	Nakatsue	2.02	335	Pn	Pn	13 44 21.2	+0.1
	5.6nm,0.3s,baz=201,slow=4.9,SNR=67						
JNU				Sn	Sb	13 44 49.7	+0.6
	7.8nm,0.3s,baz=247,slow=18,SNR=7.3						
JOW	Kunigami	5.45	216	LR	LR	13 46 10.7	
	comp=Z,10.0nm,21.8s,baz=112,slow=30						
MKAR	Makanchi Array	40.83	307	P	P	13 51 24.9	-3.8
	0.1nm,0.5s,baz=80,slow=9.5,SNR=2.3						
WRA	Warramunga Arr	50.99	177	P	P	13 52 48.4	-0.6
	0.4nm,0.6s,baz=354,slow=8.7,SNR=7.2						
ASAR	Alice Springs	54.67	178	P	P	13 53 16.4	+0.2
	0.5nm,0.7s,baz=12,slow=13,SNR=12						
STKA	Stephens Creek	63.49	171	P	P	13 54 17.4	+0.3
	0.9nm,0.4s,baz=332,slow=8.7,SNR=4.0						

IDC 04 14:03:40.9±1.3,35.83N×27.56E,h0km,mb3.5/2, mb1 3.5/5,mb1mx3.2/35,mbtmp3.5/5,ML3.1/3,Error ellipse: s-maj=45.4km s-min=16.5km az=154.0
ATH 04 14:03:42.2,35.80N×27.53E,h26km±1km,MD3.5/13
ISK 04 14:03:42.1,35.67N×27.42E,h72km,MD3.5
CSEM 04 14:03:42.6±0.2,35.86N×27.45E,h2km,MD3.5,Error ellipse: s-maj=5.5km s-min=3.0km az=152.0
THE 04 14:03:43.0,35.79N×27.55E,h8km±2km,ML3.4/5,Error ellipse: s-maj=4.0km s-min=0.8km az=134.0
DDA 04 14:03:43.4,35.93N×27.56E,h8km,MD3.4
ISCJB 04 14:03:43.2±0.6,35.78N±0.03×27.53E±0.03,h22km±5km, mb3.4/2,Error ellipse: s-maj=5.8km s-min=3.1km az=155.5
ISC 04 14:03:42.5±1.1,35.80N±0.03×27.53E±0.02,h13km±9km, n74,σ0.97/112,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.39	230	P	Pb	14 03 50.7	-0.7
KARP				S	Sb	14 03 56.8	-0.5
KARP	Karpathos	0.39	230	ePB	Pb	14 03 51.0	-0.4
KARP				eSB	Sb	14 03 57.0	-0.3
KARP	Karpathos	0.39	230	P	Pb	14 03 50.7	-0.7
KARP	Karpathos	0.39	230	ePb	Pb	14 03 51.0	-0.4
KARP				S	Sb	14 03 56.8	-0.5
ARG	Arkhangelos	0.64	50	P	Pb	14 03 55.1	-0.4
ARG				S	Sb	14 04 04.4	+0.1
ARG	Arkhangelos	0.64	50	ePN	Pb	14 03 55.8	+0.3
ARG				eSN	Sb	14 04 04.4	+0.1
ARG	Arkhangelos	0.64	50	P	Pb	14 03 55.1	-0.4
ARG	Arkhangelos	0.64	50	ePn	Pb	14 03 55.8	+0.3
ARG				S	Sb	14 04 04.4	+0.1
NIS1	Nisyros Isl.	0.84	341	P	Pb	14 03 59.6	-0.5
NIS1				S	Sn	14 04 12.4	0.0
NIS1	Nisyros Isl.	0.84	341	ePN	Pb	14 03 58.6	-0.5
NIS1	Nisyros Isl.	0.84	341	ePn	Pb	14 03 58.6	-0.5
NIS1	Nisyros Isl.	0.84	341	P	Pb	14 03 59.6	-0.5
NIS1				S	Sn	14 04 12.4	0.0
BDRM	Kayabasi	1.26	357	i P	Pn	14 04 04.5	-1.4
BDRM				i S	Sb	14 04 21.6	-0.7
BDRM	Kayabasi	1.26	357	i P	Pn	14 04 04.5	-1.4
BDRM				i S	Sb	14 04 21.6	-0.7
BODT	Bodrum	1.27	352	ePN	Pb	14 04 05.9	-0.4
BODT				eSN	Sg	14 04 24.9	+1.5
BODT	Bodrum	1.27	352	ePn	Pb	14 04 05.9	-0.4
BODT				eSn	Sg	14 04 24.9	+1.5
ZKR	Zakros	1.27	238	ePN	Pg	14 04 06.6	-0.4
ZKR	Zakros	1.27	238	ePn	Pg	14 04 06.6	-0.4
DALY	Dalyan (Mu¯la	1.36	42	ePN	Pg	14 04 08.3	-0.3
DALY				eSN	Sg	14 04 28.4	+2.1
DALY	Dalyan (Mu¯la	1.36	42	ePn	Pg	14 04 08.3	-0.3
DALY				eSn	Sg	14 04 28.4	+2.1
NPS	Neapolis	1.65	251	P	Pn	14 04 11.8	+0.6
NPS				S	Sn	14 04 32.3	-0.1
NPS	Neapolis	1.65	251	ePN	Pb	14 04 12.2	-0.6
NPS				eSN	Sn	14 04 32.8	+0.4
NPS	Neapolis	1.65	251	P	Pn	14 04 11.8	+0.6
NPS	Neapolis	1.65	251	ePn	Pb	14 04 12.2	-0.6
NPS				S	Sn	14 04 32.3	-0.1
KSL	Kastellorizon	1.70	78	ePN	Pn	14 04 12.0	+0.1
KSL	Kastellorizon	1.70	78	ePn	Pn	14 04 12.0	+0.1
AKAS	Kas	1.74	75	i P	Pg	14 04 14.5	-1.3
AKAS				i S	Sg	14 04 39.1	+0.7
AKAS	Kas	1.74	75	i P	Pg	14 04 14.5	-1.3
AKAS				i S	Sg	14 04 39.1	+0.7
SANT	Santorini	1.77	289	P	Pn	14 04 12.6	-0.3
SANT				S	Sn	14 04 35.1	-0.2
SANT	Santorini	1.77	289	P	Pn	14 04 12.6	-0.3
SANT				S	Sn	14 04 35.1	-0.2
LAST	Lasithi	1.79	250	ePN	Pb	14 04 14.4	-0.8
LAST				eSN	Sn	14 04 36.6	+0.7
LAST	Lasithi	1.79	250	ePn	Pb	14 04 14.4	-0.8
LAST				eSn	Sn	14 04 36.6	+0.7
APE	Apeiranthos	2.05	309	P	Pn	14 04 16.5	-0.2
APE	Apeiranthos	2.05	309	ePN	Pn	14 04 16.8	+0.1
APE	Apeiranthos	2.05	309	ePN	Pn	14 04 16.5	-0.2
APE	Apeiranthos	2.05	309	P	Pn	14 04 16.5	-0.2
APE	Apeiranthos	2.05	309	ePn	Pn	14 04 16.8	+0.1
GLHS	Gihisar (BURDU	2.08	49	ePN	Pn	14 04 18.3	+1.1
GLHS	Gihisar (BURDU	2.08	49	ePn	Pn	14 04 18.3	+1.1
AYDB	Zeytinkoy-Aydi	2.16	8	ePN	Pn	14 04 18.7	+0.4
AYDB	Zeytinkoy-Aydi	2.16	8	ePn	Pn	14 04 18.7	+0.4
GOLH	Golhisar	2.17	48	i P	Pb	14 04 22.0	+0.3
GOLH				i S	Sg	14 04 50.3	-2.1
GOLH	Golhisar	2.17	48	i P	Pb	14 04 22.0	+0.3
GOLH				i S	Sg	14 04 50.3	-2.1
IDI	Anoyia	2.21	257	Pn	Pn	14 04 20.1	+1.2
	6.0nm,0.3s,baz=68,slow=16,SNR=21						
IDI				Sn	Sn	14 04 47.1	+0.8
	14nm,0.3s,baz=112,slow=19,SNR=5.7						
KORT	Korkuleli	2.57	61	i P	Pb	14 04 28.0	-0.5
KORT				i S	Sb	14 04 57.7	-2.4
KORT	Korkuleli	2.57	61	i P	Pb	14 04 28.0	-0.5
KORT				i S	Sb	14 04 57.7	-2.4
VAM	Vamos	2.74	263	ePN	Pn	14 04 26.2	0.0
VAM	Vamos	2.74	263	ePn	Pn	14 04 26.2	0.0
CHOS	Chios island	2.83	336	ePN	Pn	14 04 27.8	+0.3
CHOS	Chios island	2.83	336	ePn	Pn	14 04 27.8	+0.3
KHL	Karahalli	2.98	32	ePN	Pn	14 04 30.8	+1.3
KHL	Karahalli	2.98	32	ePn	Pn	14 04 30.8	+1.3
SUTC	Sutluce-Ispart	3.25	58	ePN	Pn	14 04 35.3	+2.0
SUTC	Sutluce-Ispart	3.25	58	ePn	Pn	14 04 35.3	+2.0
ANKY	Antikythira Is	3.44	272	P	Pn	14 04 35.7	0.0
ANKY				S	Sn	14 05 16.4	+0.1
ANKY	Antikythira Is	3.44	272	ePN	Pn	14 04 37.6	+1.9
ANKY	Antikythira Is	3.44	272	P	Pn	14 04 35.7	0.0
ANKY	Antikythira Is	3.44	272	ePn	Pn	14 04 37.6	+1.9
ANKY				S	Sn	14 05 16.4	+0.1
KYTH	Kithira	3.67	279	P	Pn	14 04 39.6	+0.6
KYTH	Kithira	3.67	279	ePN	Pn	14 04 39.9	+0.9
KYTH	Kithira	3.67	279	P	Pn	14 04 39.6	+0.6
KYTH	Kithira	3.67	279	ePn	Pn	14 04 39.9	+0.9
VLI	Veliai	3.82	285	P	Pn	14 04 41.7	+0.7
VLI				S	Sn	14 05 25.6	-0.2
VLI	Veliai	3.82	285	ePN	Pn	14 04 42.1	+1.1
VLI				eSN	Sn	14 05 26.1	+0.3
VLI	Veliai	3.82	285	P	Pn	14 04 41.7	+0.7
VLI	Veliai	3.82	285	ePn	Pn	14 04 42.1	+1.1
VLI				S	Sn	14 05 25.6	-0.2
VLI				eSn	Sn	14 05 26.1	+0.3
GAZI	Gazipasa	3.90	82	i P	Pn	14 04 42.8	+0.6
GAZI				i S	Sn	14 05 28.2	+0.3
GAZI	Gazipasa	3.90	82	i P	Pn	14 04 42.8	+0.6
GAZI				i S	Sn	14 05 28.2	+0.3
TVSB	Tavsanli	3.95	22	ePN	Pn	14 04 44.5	+1.6
TVSB	Tavsanli	3.95	22	ePn	Pn	14 04 44.5	+1.6
BRTR	Keskin Array B	6.22	49	Pn	Pn	14 05 16.0	+1.8
	0.2nm,0.3s,baz=229,slow=13,SNR=5.1						
BRTR				Sn	Sn	14 06 26.8	+1.6
	0.1nm,0.3s,baz=228,slow=19,SNR=3.7						
MMAI	Mount Meron Ar	7.08	111	Pn	Pn	14 05 25.9	0.0
	0.8nm,0.3s,baz=305,slow=12,SNR=2.9						
MMAI				Sn	Sn	14 06 43.3	-2.9
	1.2nm,0.3s,baz=305,slow=25,SNR=2.9						
TORD	Torodi Ar. Bea	32.40	232	P	P	14 10 12.7	+0.6
	0.7nm,0.4s,baz=34,slow=8.8,SNR=22						
MKAR	Makanchi Array	41.80	57	P	P	14 11 31.6	-0.2
	0.1nm,0.4s,baz=268,slow=7.3,SNR=4.3						

IDC 04 14:21:19.0±11.0,2.46N×79.30W,h0km,mb3.4/4, mb1 3.8/4,mb1mx3.5/28,mbtmp3.4/4,MS2.7/1,Ms1 2.7/1, ms1mx2.3/18,Error ellipse: s-maj=286.7km s-min=140.9km az=11.0,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	9.59	324	LR	LR	14 26 23.5	
	comp=Z,40nm,18.9s,baz=152,slow=32						
PDAR	Pinedale Array	48.37	330	P	P	14 30 02.8	-0.1
	0.3nm,0.6s,baz=144,slow=7.7,SNR=3.8						
NVAR	Mina Array Bea	50.49	320	P	P	14 30 19.1	-0.1
	0.2nm,0.4s,baz=133,slow=7.9,SNR=4.5						
YKA	Yellowknife Ar	65.39	343	P	P	14 32 02.8	-0.3
	0.1nm,0.6s,baz=144,slow=5.8,SNR=5.5						
ILAR	Eielson Array	78.36	336	P	P	14 33 21.3	+0.3
	0.2nm,0.6s,baz=111,slow=4.9,SNR=4.7						

IDC 04 14:22:46.3±8.2,18.52S×177.19W,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.5/28,mbtmp3.5/3,Error ellipse: s-maj=360.7km s-min=37.5km az=143.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.66	260	P	P	14 31 08.3	-0.9
	0.4nm,0.9s,baz=96,slow=7.0,SNR=2.9						
ASAR	Alice Springs	45.74	255	P	P	14 31 10.3	+0.5
	0.4nm,0.5s,baz=90,slow=8.3,SNR=14						
ILAR	Eielson Array	86.23	13	P	P	14 35 29.3	0.0
	0.3nm,0.6s,baz=227,slow=5.1,SNR=5.9						

GUC 04 14:40:56.1±0.3,22.77S×66.84W,h270km,ML4.1,3C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	Plate Boundary	2.50	281	eP	Pn	14 41 53.8	+9.0
PB04				eS	S	14 42 37.2	+14
PB06	Plate Boundary	2.52	271	eP	Pn	14 41 47.5	+2.3
PB06				i S	S	14 42 26.5	+2.3
PB06				AML	AML	14 42 29.0	
	comp=N,239nm,0.1s						
PB01	Plate Boundary	3.00	304	⇑iP	Pn	14 41 53.4	+3.4
PB01				i S	S	14 42 36.3	+3.5
PB07	Plate Boundary	3.00	290	eP	Pn	14 41 53.5	+3.4
PB07				i S	S	14 42 35.6	+2.5
CEN1	Los Morros	3.15	258	⇓iP	Pn	14 41 55.7	+4.1
PB10	Plate Boundary	3.49	257	⇑iP	Pn	14 41 57.6	+2.5
HMBC	Humberstone	3.77	311	⇑iP	Pn	14 42 01.4	+3.1
PB11	Plate Boundary	3.98	318	eP	Pn	14 42 04.0	+3.2
PB11				i S	S	14 42 55.5	+3.1
MNMC	Minimini	4.44	324	eP	Pn	14 42 09.9	+3.5
MNMC				i S	S	14 43 05.7	+3.3

SIGU 04 15:13:17.6,45.75N×26.61E,h150km,mb2.5
ISCJB 04 15:13:18.1±0.6,45.75N±0.03×26.58E±0.04,h144km±5km, Error ellipse: s-maj=5.0km s-min=4.4km az=163.8
CSEM 04 15:13:18.4,45.72N×26.57E,h152km,MD3.7/2,After BUC
BUC 04 15:13:18.4±0.7,45.72N×26.57E,h152km±7km,MD3.7/2, Error ellipse: s-maj=5.5km s-min=3.6km az=6.0
ISC 04 15:13:17.7±1.4,45.73N±0.03×26.57E±0.03,h153km±7km, n85,σ0.71/126,60C-21D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.13	25	⇑iP	Pn	15 13 38.7	+0.5
PLOR	Plostina	0.13	25	⇑iP	Pn	15 13 38.7	+0.5
PLOR				i S	Sn	15 13 53.4	-0.6
PLOR	Plostina	0.13	25	⇑iP	Pn	15 13 38.7	+0.5
PLOR				i S	Sn	15 13 53.4	-0.6
VRI	Vrincioaia	0.18	39	⇑iP	Pn	15 13 38.6	+0.3
VRI	Vrincioaia	0.18	39	⇑iP	Pn	15 13 38.6	+0.3
VRI				i S	Sn	15 13 53.2	-0.8
VRI	Vrincioaia	0.18	39	⇑iP	Pn	15 13 38.6	+0.3
VRI				i S	Sn	15 13 53.2	-0.8
ODBI	Odobesti	0.34	84	⇓iP	Pn	15 13 40.0	+1.3
ODBI	Odobesti	0.34	84	⇓iP	Pn	15 13 40.0	+1.3
ODBI	Odobesti	0.34	84	⇓iP	Pn	15 13 40.0	+1.3
PETR	Petresti	0.47	91	⇑iP	Pn	15 13 39.9	+0.8
PETR	Petresti	0.47	91	⇑iP	Pn	15 13 39.9	+0.8
PETR				i S	Sn	15 13 55.7	+0.2
PETR	Petresti	0.47	91	⇑iP	Pn	15 13 39.9	+0.8
PETR				i S	Sn	15 13 55.7	+0.2
MLR	Muntele Rosu	0.50	242	⇑iP	Pn	15 13 39.9	+0.4
MLR	Muntele Rosu	0.50	242	⇑iP	Pn	15 13 39.9	+0.4
MLR				i S	Sn	15 13 55.6	-0.5
MLR	Muntele Rosu	0.50	242	⇑iP	Pn	15 13 39.9	+0.4
MLR				i S	Sn	15 13 55.6	-0.5
ISR	Istrita	0.61	182	⇑iP	Pn	15 13 40.8	+0.8
ISR	Istrita	0.61	182	⇑iP	Pn	15 13 40.8	+0.8
ISR	Istrita	0.61	182	⇑iP	Pn	15 13 40.8	+0.8
SECR		0.78	207	⇓iP	Pn	15 13 41.9	+0.9
SECR		0.78	207	⇓iP	Pn	15 13 41.9	+0.9
SECR				i S	Sn	15 13 58.1	-0.7
SECR		0.78	207	⇓iP	Pn	15 13 41.9	+0.9
SECR				i S	Sn	15 13 58.1	-0.7
TESR	Tescani	0.78	4	⇑iP	Pn	15 13 41.0	0.0
TESR	Tescani	0.78	4	⇑iP	Pn	15 13 41.0	0.0
TESR				i S	Sn	15 13 58.3	-0.7
TESR	Tescani	0.78	4	⇑iP	Pn	15 13 41.0	0.0
TESR				i S	Sn	15 13 58.3	-0.7
DOPR	Dopca	0.86	286	⇑iP	Pn	15 13 42.1	+0.5
DOPR	Dopca	0.86	286	⇑iP	Pn	15 13 42.1	+0.5
DOPR				i S	Sn	15 13 59.7	-0.2
DOPR	Dopca	0.86	286	⇑iP	Pn	15 13 42.1	+0.5
DOPR				i S	Sn	15 13 59.7	-0.2
SULR		1.07	192	⇓iP	Pn	15 13 44.0	+0.7
SULR		1.07	192	⇓iP	Pn	15 13 44.0	+0.7
SULR				i S	Sn	15 14 03.3	+0.4
SULR		1.07	192	⇓iP	Pn	15 13 44.0	+0.7
SULR				i S	Sn	15 14 03.3	+0.4
VOIR		1.11	255	⇑iP	Pn	15 13 44.0	+0.3
VOIR		1.11	255	⇑iP	Pn	15 13 44.0	+0.3
VOIR				i S	Sn	15 14 02.1	-1.5
VOIR		1.11	255	⇑iP	Pn	15 13 44.0	+0.3
VOIR				i S	Sn	15 14 02.1	-1.5
GIUM	Giurgiulesti	1.18	101	⇑iP	Pn	15 13 45.2	+1.0
GIUM	Giurgiulesti	1.18	101	⇑iP	Pn	15 13 45.2	+1.0
GIUM				i S	Sn	15 14 04.1	-0.4
GIUM	Giurgiulesti	1.18	101	⇑iP	Pn	15 13 45.2	+1.0
GIUM				i S	Sn	15 14 04.1	-0.4
CFR	Carcaliu	1.23	116	⇓iP	Pn	15 13 45.0	+0.2
CFR	Carcaliu	1.23	116	⇓iP	Pn	15 13 45.0	+0.2
CFR				i S	Sn	15 14 04.1	-1.4
CFR	Carcaliu	1.23	116	⇓iP	Pn	15 13 45.0	+0.2
CFR				i S	Sn	15 14 04.1	-1.4
CIOR	Ciorogarla	1.37	201	⇑iP	Pn	15 13 46.5	+0.4
CIOR	Ciorogarla	1.37	201	⇑iP	Pn	15 13 46.5	+0.4
CIOR				i S	Sn	15 14 07.3	-0.6
CIOR	Ciorogarla	1.37	201	⇑iP	Pn	15 13 46.5	+0.4
CIOR				i S	Sn	15 14 07.3	-0.6
CIOR				i S	Sn	15 14 07.3	-0.6
LEOM	Leova	1.39	57	⇑iP	Pn	15 13 47.0	+0.8
LEOM	Leova	1.39	57	⇑iP	Pn	15 13 47.0	+0.8
LEOM	Leova	1.39	57	⇑iP	Pn	15 13 47.0	+0.8
ARR	Arges	1.41	256	⇑iP	Pn	15 13 47.9	+1.4
ARR	Arges	1.41	256	⇑iP	Pn	15 13 47.9	+1.4
ARR				i S	Sn	15 14 08.7	+0.1
ARR	Arges	1.41	256	⇑iP	Pn	15 13 47.9	+1.4
ARR				i S	Sn	15 14 08.7	+0.1
HARR	Harsova	1.42	137	⇓iP	Pn	15 13 47.0	+0.4
HARR	Harsova	1.42	137	⇓iP	Pn	15 13 47.0	+0.4
HARR	Harsova	1.42	137	⇓iP	Pn	15 13 47.0	+0.4
BUC1	Bucharest	1.43	196	⇑iP	Pn	15 13 46.7	-0.1
BUC1	Bucharest	1.43	196	⇑iP	Pn	15 13 46.7	-0.1
BUC1				i S	Sn	15 14 08.5	-0.5
BUC1	Bucharest	1.43	196	⇑iP	Pn	15 13 46.7	-0.1
BUC1				i S	Sn	15 14 08.5	-0.5
TLB	Topalu	1.55	137	⇑iP	Pn	15 13 48.3	+0.4
TLB	Topalu	1.55	137	⇑iP	Pn	15 13 48.3	+0.4
TLB				i S	Sn	15 14 10.1	-1.0
TLB	Topalu	1.55	137	⇑iP	Pn	15 13 48.3	+0.4
TLB				i S	Sn	15 14 10.1	-1.0
HUMR	Humele	1.65	224	⇑iP	Pn	15 13 49.2	+0.2
HUMR	Humele	1.65	224	⇑iP	Pn	15 13 49.2	+0.2
HUMR				i S	Sn	15 14 11.9	-1.1
HUMR	Humele	1.65	224	⇑iP	Pn	15 13 49.2	+0.2
HUMR				i S	Sn	15 14 11.9	-1.1
TLCR		1.67	108	⇑iP	Pn	15 13 50.2	+1.0
TLCR		1.67	108	⇑iP	Pn	15 13 50.2	+1.0
TLCR				i S	Sn	15 14 12.8	-0.6
TLCR		1.67	108	⇑iP	Pn	15 13 50.2	+1.0
TLCR				i S	Sn	15 14 12.8	-0.6
CVD	Cernavoda	1.76	143	⇓iP	Pn	15 13 50.5	+0.3
CVD	Cernavoda	1.76	143	⇓iP	Pn	15 13 50.5	+0.3
CVD	Cernavoda	1.76	143	⇓iP	Pn	15 13 50.5	+0.3
TIRR	Tirgusor	1.82	134	⇓iP	Pn	15 13 51.3	+0.4
TIRR	Tirgusor	1.82	134	⇓iP	Pn	15 13 51.3	+0.4
TIRR				i S	Sn	15 14 15.5	-0.9
TIRR	Tirgusor	1.82	134	⇓iP	Pn	15 13 51.3	+0.4
TIRR				i S	Sn	15 14 15.5	-0.9
LOT	Lotru	1.98	263	⇑iP	Pn	15 13 53.4	+0.5
LOT	Lotru	1.98	263	⇑iP	Pn	15 13 53.4	+0.5
LOT	Lotru	1.98	263	⇑iP	Pn	15 13 53.4	+0.5
PSN	Preselentsi	2.35	150	⇑iP	Pn	15 13 58.0	+0.9
PSN	Preselentsi	2.35	150	⇑iP	Pn	15 13 58.0	+0.9
PSN	Preselentsi	2.35	150	⇑iP	Pn	15 13 58.0	+0.9
CHRU	Chernivtsi	2.61	350	eP	Pn	15 14 00.2	+0.1
CHRU				eS	Sn	15 14 32.8	-0.3
GZR	Gura Zlata	2.68	264	⇑iP	Pn	15 14 02.2	+1.0
GZR	Gura Zlata	2.68	264	⇑iP	Pn	15 14 02.2	+1.0
GZR	Gura Zlata	2.68	264	⇑iP	Pn	15 14 02.2	+1.0
SORM	Soroca	2.70	26	⇑iP	Pn	15 14 02.1	+0.8
SORM	Soroca	2.70	26	⇑iP	Pn	15 14 02.1	+0.8
SORM	Soroca	2.70	26	⇑iP	Pn	15 14 02.1	+0.8
KMPD	K-Podol'skiy	2.83	359	eP	Pn	15 14 02.8	-0.2
KMPD				i S	Sn	15 14 37.5	-0.6
RAK	Rakhov	2.84	326	eP	Pn	15 14 03.1	+0.1
RAK				Pm		15 14 06.5	
RAK				eS	Sn	15 14 38.1	-0.1
RAK				Sm		15 14 46.3	
NDNU	Novodnistrovsk	2.92	10	i P	Pn	15 14 04.0	0.0
NDNU				Pm		15 14 04.6	
NDNU				i S	Sn	15 14 39.4	-0.6
NDNU				Sm		15 14 40.2	

IDC 04 15:55:00.2±4.9,0.95S×29.22E,h0km,mb3.5/2,mb1 3.5/3, mb1mx3.3/25,mbtmp3.5/3,ML3.2/1,MS3.3/2,Ms1 3.3/2, ms1mx2.7/24,Error ellipse: s-maj=160.4km s-min=33.2km az=6.0,Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	8.03	91	Pn	Pn	15 56 58.5	-0.1
	0.3nm,0.3s,baz=41,slow=22,SNR=2.6						
KMBO				Sn	Sn	15 58 38.5	+8.0
	0.7nm,0.3s,baz=322,slow=19,SNR=4.3						
KMBO				Lg	Lg	15 59 06.4	
	0.6nm,0.3s,baz=20,slow=23,SNR=8.9						
TORD	Torodi Ar. Bea	30.68	298	P	P	16 01 16.9	0.0
	0.6nm,0.7s,baz=106,slow=8.0,SNR=4.3						
DAVOX	Davos/Dischmat	50.47	343	LR	LR	16 24 24.1	
	comp=Z,21nm,20.4s,baz=258,slow=35						
FINES	FINESS Array B	62.27	358	LR	LR	16 32 46.7	
	comp=Z,28nm,18.2s,baz=89,slow=36						
MKAR	Makanchi Array	66.37	37	P	P	16 05 51.1	0.0
	0.3nm,0.6s,baz=234,slow=5.8,SNR=3.7						

IDC 04 16:00:37.5±1.3,25.14N×142.64E,h0km,mb3.4/6, mb1 3.6/6,mb1mx3.4/25,mbtmp3.4/6,Error ellipse: s-maj=55.1km s-min=18.9km az=84.0
ISCJB 04 16:00:40.6±1.1,25.04N±0.08×142.5E±0.4,h32km, mb3.5/6,Error ellipse: s-maj=47.9km s-min=10.5km az=176.0
ISC 04 16:00:42.5±1.2,25.19N±0.10×142.6E±0.4,h32km,n7, σ0.60/8,mb3.5/6,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.93	349	Pn	Pn	16 01 13.9	+0.8
	11nm,0.3s,baz=83,slow=24,SNR=5.4						
JCJ				Sn	Sb	16 01 39.9	-0.9
	48nm,0.3s,baz=290,slow=24,SNR=17						
WRA	Warramunga Arr	45.57	191	P	P	16 08 59.3	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
	0.3nm,0.5s,baz=12,slow=8.9,SNR=8.3						
ASAR	**Alice Springs**	**49.29**	**191**	P	**P**	**16 09 28.2**	**-0.3**
	0.6nm,1.1s,baz=12,slow=6.9,SNR=4.1						
KURBB	**Kurchatov Arra**	**54.64**	**315**	P	**P**	**16 10 08.2**	**+0.1**
	0.3nm,0.5s,baz=90,slow=8.4,SNR=6.5						
BVAR	**Borovoye Array**	**59.69**	**318**	P	**P**	**16 10 44.0**	**+0.2**
	0.3nm,0.3s,baz=95,slow=8.0,SNR=8.0						
YKA	**Yellowknife Ar**	**73.64**	**28**	P	**P**	**16 12 12.4**	**-0.1**
	0.2nm,0.8s,baz=301,slow=7.1,SNR=3.2						
FINES	**FINESS Array B**	**79.81**	**334**	P	**P**	**16 12 47.3**	**-0.1**
	0.5nm,0.5s,baz=58,slow=8.6,SNR=1.2						

MEX 04 16:05:38.0±0.9, 17.41N×101.64W, h8km±6km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ZIIG	**Zihuatanejo**	**0.25**	**41**	i P	Pg	16 05 42.3	-0.8
ZIIG				i S	Sg	16 05 47.1	+0.6
ARIG	**Puente Sto Nin**	**1.50**	**55**	eP	Pn	16 06 00.8	-4.5
ARIG				i S	Sn	16 06 20.1	-5.1
ACX	**Acapulco**	**1.79**	**107**	eP	Pn	16 06 09.0	-0.2
ACX				eS	Sn	16 06 30.2	-2.0
MMIG	**Aquila**	**1.84**	**298**	eP	Pn	16 06 07.3	-2.7
MMIG				i S	Sn	16 06 28.2	-5.3
PLIG	**Platanillo**	**2.26**	**64**	eP	Pn	16 06 12.6	-3.2
PLIG				eS	Sn	16 06 39.4	-4.6
YAIG	**Yautepec**	**2.84**	**59**	eP	Pn	16 06 21.7	-2.2
YAIG				i S	Sn	16 06 54.5	-4.0
TLIG	**Tlapa**	**2.94**	**87**	eP	Pn	16 06 22.9	-2.3
TLIG				i S	Sn	16 06 57.3	-3.5
PNIG	**Pinotepa**	**3.51**	**106**	eP	Pn	16 06 30.2	-2.8
PNIG				i S	Sn	16 07 11.7	-3.1

ISCJB 04 16:09:20.1±1.1, 6.9S±0.3×155.4E±0.2, h56km, mb3.8/7, MS3.3/1, Error ellipse: s-maj=41.5km s-min=10.6km az=150.2

IDC 04 16:09:25.6±5.7, 6.61S×154.96E, h83km±47km, mb3.5/7, mb1 3.8/8, mb1mx3.4/30, mbtmp3.8/8, ML3.0/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/18, Error ellipse: s-maj=47.6km s-min=26.0km az=122.0

ISC 04 16:09:21.7±1.3, 6.7S±0.3×155.4E±0.2, h56km, n12, σ1.34/11, mb3.6/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
PMG	**Port Moresby**	**8.55**	**251**	P	**Pn**	**16 11 22.8**	**-0.1**
	1.0nm,0.3s,baz=63,slow=9.9,SNR=3.1						
PMG				S	**Sn**	**16 13 00.2**	**+2.2**
	0.7nm,0.3s,baz=41,slow=20,SNR=3.1						
PMG				LR	LR	16 14 28.9	
	comp=Z,61nm,19.4s,baz=64,slow=37						
WRA	**Warramunga Arr**	**24.27**	**235**	P	**P**	**16 14 32.9**	**-1.0**
	0.9nm,0.5s,baz=59,slow=9.4,SNR=21						
WRA				PcP	**PcP**	**16 18 13.1**	**+0.1**
	0.3nm,0.4s,baz=62,slow=2.4,SNR=9.3						
ASAR	**Alice Springs**	**26.63**	**228**	P	**P**	**16 14 54.1**	**-1.1**
	0.7nm,0.9s,baz=58,slow=9.4,SNR=14						
ASAR				PcP	**PcP**	**16 18 18.4**	**+0.1**
	0.3nm,0.6s,baz=57,slow=2.5,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**27.43**	**24**	T	T	16 43 31.2	
	baz=203,slow=77,SNR=27						
H11S2	**WAKE ISLAND Hy**	**27.43**	**24**	T	T	16 43 30.0	
	baz=203,slow=77,SNR=25						
H11S1	**WAKE ISLAND Hy**	**27.45**	**24**	T	T	16 43 27.0	
	baz=203,slow=77,SNR=13						
STKA	**Stephens Creek**	**28.14**	**205**	LR	LR	16 25 39.4	
	comp=Z,73nm,19.5s,baz=36,slow=35						
CMAR	**Chiang Mai Arr**	**61.00**	**295**	P	**P**	**16 19 27.9**	**-2.0**
	1.4nm,0.7s,baz=125,slow=5.0,SNR=16						
ILAR	**Eielson Array**	**82.98**	**21**	P	**P**	**16 21 41.0**	**+0.5**
	0.6nm,0.9s,baz=251,slow=4.6,SNR=6.1						
MKAR	**Makanchi Array**	**83.44**	**319**	P	**P**	**16 21 42.9**	**-0.4**
	0.3nm,0.7s,baz=92,slow=4.3,SNR=4.1						
INK	**Inuvik**	**89.33**	**21**	P	**P**	**16 22 12.6**	**+1.0**
	0.8nm,0.5s,baz=232,slow=2.6,SNR=4.2						
YKA	**Yellowknife Ar**	**95.92**	**28**	P	**P**	**16 22 43.5**	**+1.3**
	0.3nm,0.5s,baz=264,slow=4.3,SNR=5.8						

MEX 04 16:09:42.7±0.5, 17.48N×101.63W, h13km±3km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ZIIG	**Zihuatanejo**	**0.21**	**51**	i P	Pg	16 09 46.4	-0.9
ZIIG				i S	Sg	16 09 50.6	+0.1
ARIG	**Puente Sto Nin**	**1.46**	**57**	eP	Pn	16 10 05.2	-3.6
ARIG				eS	Sn	16 10 22.5	-5.4
ACX	**Acapulco**	**1.80**	**109**	eP	Pn	16 10 09.4	-4.1
ACX				i S	Sn	16 10 29.8	-6.4
PLIG	**Platanillo**	**2.22**	**65**	eP	Pn	16 10 16.8	-2.6
PLIG				eS	Sn	16 10 42.1	-4.7
TLIG	**Tlapa**	**2.93**	**88**	eP	Pn	16 10 26.4	-2.7
TLIG				i S	Sn	16 11 00.3	-4.0
PNIG	**Pinotepa**	**3.52**	**107**	eP	Pn	16 10 35.9	-1.3
PNIG				i S	Sn	16 11 15.2	-3.5

WEL 04 16:19:18.3±0.4, 38.88S×179.61E, h33km, ML3.7/9, 1C-2D, Error ellipse: s-maj=3.4km s-min=1.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
CNGZ	**Carnagh Statio**	**1.17**	**289**	PN	Pn	16 19 37.7	-0.5
PUZ	**Puketiti**	**1.33**	**307**	⇓PN	Pn	16 19 39.7	-0.9
PUZ				SN	Sn	16 19 56.8	-0.4
PUZ				AML	AML	16 19 58.3	
PRGZ	**Paritu Road**	**1.35**	**268**	PN	Pn	16 19 40.2	-0.6
PRGZ				SN	Sn	16 19 56.3	-1.4
MHGZ	**Mahia Peninsul**	**1.35**	**258**	PN	Pn	16 19 40.1	-0.8
RIGZ	**Rimuhau**	**1.46**	**276**	PN	Pn	16 19 41.7	-0.7
RIGZ				SN	Sn	16 19 59.4	-0.9
KNZ	**Kokohu**	**1.52**	**264**	PN	Pn	16 19 42.8	-0.3
MXZ	**Matakaoa Point**	**1.67**	**322**	PN	Pn	16 19 45.2	0.0
MXZ				SN	Sn	16 20 04.7	-0.7
MXZ				AML	AML	16 20 06.5	
MXZ				AML	AML	16 20 07.0	
MWZ	**Matawai**	**1.72**	**288**	PN	Pn	16 19 45.2	-0.7
MWZ				AML	AML	16 20 15.5	
MWZ				AML	AML	16 20 16.4	
RAGZ	**Rawiri**	**1.76**	**282**	PN	Pn	16 19 46.3	-0.2
SNGZ	**Shannon Statio**	**1.78**	**272**	PN	Pn	16 19 46.8	0.0
HAZ	**Te Kaha**	**1.82**	**307**	⇓PN	Pn	16 19 46.7	-0.6
HAZ				SN	Sn	16 20 07.7	-1.5
RAHZ	**Arahi**	**1.97**	**268**	PN	Pn	16 19 49.3	-0.1
URZ	**Urewera**	**2.06**	**287**	PN	Pn	16 19 50.9	+0.4
URZ				SN	Sn	16 20 15.3	+0.4
URZ				AML	AML	16 20 16.1	
CKHZ	**Cape Kidnapper**	**2.12**	**248**	PN	Pn	16 19 50.9	-0.5
NMHZ	**Naumai**	**2.20**	**263**	PN	Pn	16 19 52.5	-0.1
KAHZ	**Kahuranaki**	**2.31**	**246**	PN	Pn	16 19 53.2	-0.9
MCHZ	**McNeill Hill**	**2.33**	**255**	PN	Pn	16 19 54.3	-0.1
PXZ	**Pawanui**	**2.42**	**241**	PN	Pn	16 19 54.1	-1.4
BKZ	**Black Stump Fm**	**2.45**	**262**	⇑PN	Pn	16 19 55.6	-0.4
BKZ				AML	AML	16 20 25.8	
BKZ				AML	AML	16 20 26.3	
TARZ	**Mount Tarawera**	**2.52**	**284**	PN	Pn	16 19 57.1	+0.1
PRHZ	**Porangahau**	**2.69**	**238**	PN	Pn	16 19 57.9	-1.3
WPHZ	**Waipukurau**	**2.73**	**243**	PN	Pn	16 19 58.5	-1.3
BHHZ	**Black Hill Sta**	**2.82**	**256**	PN	Pn	16 20 00.5	-0.7
PNHZ	**Pukenui**	**2.84**	**248**	PN	Pn	16 20 00.3	-1.0
ANWZ	**Angora Road**	**2.89**	**236**	PN	Pn	16 20 00.1	-1.9
DVHZ	**Dannevirke**	**3.02**	**241**	PN	Pn	16 20 02.3	-1.5
MOVZ	**Moawhango**	**3.05**	**259**	PN	Pn	16 20 04.5	+0.3
TSZ	**Takapari Road**	**3.06**	**246**	PN	Pn	16 20 03.0	-1.4
WNVZ	**Wahianoa**	**3.15**	**261**	PN	Pn	16 20 06.6	+0.8
WNVZ				AML	AML	16 20 47.1	
BFZ	**Birch Farm**	**3.16**	**234**	PN	Pn	16 20 02.8	-2.9
WPVZ	**Whakapapa**	**3.18**	**263**	PN	Pn	16 20 06.4	+0.2
TRVZ	**Turoa**	**3.19**	**261**	PN	Pn	16 20 06.5	+0.1
MTVZ	**Mangateitei**	**3.26**	**260**	PN	Pn	16 20 09.7	+2.5
PRWZ	**Pori Road**	**3.27**	**238**	PN	Pn	16 20 05.9	-1.4
POWZ	**Post Office Ro**	**3.33**	**242**	PN	Pn	16 20 06.8	-1.2
TIWZ	**Tintock**	**3.44**	**235**	PN	Pn	16 20 07.8	-1.8
TIWZ				AML	AML	16 21 00.2	
MRZ	**Mangatainoka R**	**3.58**	**239**	PN	Pn	16 20 09.4	-2.1
MRZ				AML	AML	16 20 51.2	
WAZ	**Wanganui**	**3.69**	**255**	PN	Pn	16 20 13.6	+0.6
HOWZ	**Holdsworth Sta**	**3.74**	**236**	PN	Pn	16 20 11.1	-2.6
MTW	**Mount Morrison**	**3.89**	**233**	PN	Pn	16 20 12.8	-3.0
OGWZ	**Otaki Gorge**	**3.93**	**239**	PN	Pn	16 20 14.3	-1.9
PAWZ	**Paruwai Farm**	**4.07**	**231**	AML	AML	16 21 04.1	
KIW	**Kapiti Island**	**4.12**	**240**	PN	Pn	16 20 17.9	-1.1
CAW	**Cannon Point**	**4.14**	**236**	PN	Pn	16 20 16.7	-2.5
PLWZ	**Palliser**	**4.28**	**230**	PN	Pn	16 20 19.0	-2.2
TCW	**Tory Channel**	**4.71**	**239**	PN	Pn	16 20 24.4	-2.6
CTZ	**Chatham Island**	**5.62**	**151**	PN	Pn	16 20 41.1	+1.6
QRZ	**Quartz Range**	**5.79**	**248**	PN	Pn	16 20 39.3	-2.5
KHZ	**Kahutara**	**5.81**	**231**	ePN	Pn	16 20 39.2	-2.9
LTZ	**Lake Taylor**	**6.80**	**233**	PN	Pn	16 20 53.1	-2.7

IDC 04 16:40:52.6±7.2, 18.47S×177.07W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.7/19, mbtmp4.1/2, Error ellipse: s-maj=272.1km s-min=116.7km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
WRA	**Warramunga Arr**	**45.78**	**260**	P	P	16 49 16.6	+0.1
	0.8nm,0.3s,baz=96,slow=7.6,SNR=66						
ASAR	**Alice Springs**	**45.87**	**255**	P	P	16 49 16.7	-0.4
	1.1nm,0.5s,baz=95,slow=7.8,SNR=46						
AKASG	**Malin Array Be**	**141.64**	**333**	PKP	PKPdf	17 00 25.1	-0.8
	0.7nm,0.4s,baz=42,slow=4.2,SNR=9.0						

MAN 04 17:06:28, 5.65N×124.88E, h5km, mb4.5, ML3.4, MS3.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
GSPH	**General Santos**	**0.44**	**10**	eP	Pn	17 06 40.3	-0.9
GSPH				i S	Sb	17 06 53.0	+7.6
DMPH	**Davao City--Mi**	**1.56**	**24**	⇑eP	Pg	17 06 59.3	+1.4
BUKP	**Musuan**	**2.22**	**5**	eP	Pb	17 07 09.3	+0.5
BUKP				eS	Sn	17 07 34.7	+1.2
PAGZ	**Pagadian**	**2.64**	**326**	eP	Pn	17 07 12.7	+1.4
PAGZ				eS	Sn	17 07 45.5	+1.8
IPIL	**Ipil**	**3.12**	**313**	eP	Pn	17 07 17.7	-0.3

MEX 04 17:06:32.1±0.5, 15.44N×95.74W, h8km±6km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
HUIG	**Huatulco**	**0.48**	**313**	eP	Pg	17 06 40.8	-0.7
HUIG				i S	Sg	17 06 48.1	+0.3
CMIG	**Matias Romero**	**1.84**	**27**	eP	Pn	17 07 00.6	-3.4
CMIG				eS	Sn	17 07 22.8	-4.6
PNIG	**Pinotepa**	**2.48**	**293**	eP	Pn	17 07 10.3	-2.5
PNIG				i S	Sn	17 07 38.6	-4.8

TIF 04 17:28:59.4, 42.30N×45.77E, h14km±1km

CSEM 04 17:29:00.2±0.2, 42.34N×45.76E, h2km, mb4.1, Error ellipse: s-maj=4.9km s-min=3.4km az=148.0

MOS 04 17:29:00.6±1.3, 42.39N×45.83E, h11km, mb4.1/1, Error ellipse: s-maj=13.5km s-min=10.1km az=132.3

ISC 04 17:29:00.0±1.1, 42.33N±0.03×45.78E±0.02, h9km±10km, n34, σ0.81/62, 5C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
BTLR	**Botlikh**	**0.47**	**44**	⇑iPG	**Pg**	**17 29 09.0**	**-0.1**
BTLR				i S	**Sg**	**17 29 16.0**	**+0.7**
BTLR	**Botlikh**	**0.47**	**44**	i Pg	**Pg**	**17 29 09.0**	**-0.1**
BTLR				i Sg	**Sg**	**17 29 16.0**	**+0.7**
DUS	**Dusheti**	**0.84**	**254**	P	**Pb**	**17 29 16.8**	**+0.1**
DUS	**Dusheti**	**0.84**	**254**	P	**Pb**	**17 29 16.8**	**+0.1**
DUS				S	**Sb**	**17 29 28.4**	**+0.2**
UNCR	**Uncukul**	**0.84**	**62**	ePG	**Pb**	**17 29 16.5**	**-0.3**
UNCR				eS	**Sb**	**17 29 28.0**	**-0.3**
UNCR				pmax	pmax		
	comp=Z,80nm,0.1s						
UNCR	**Uncukul**	**0.84**	**62**	ePg	**Pb**	**17 29 16.5**	**-0.3**
	comp=Z,80nm,0.1s						
UNCR				eSg	**Sb**	**17 29 28.0**	**-0.3**
SEAG	**Tbilisi Sea**	**0.92**	**233**	P	**Pg**	**17 29 16.5**	**-1.2**
SEAG	**Tbilisi Sea**	**0.92**	**233**	P	**Pg**	**17 29 16.5**	**-1.2**
SEAG				S	**Sg**	**17 29 29.6**	**-0.1**
DGRG	**David-gareji**	**0.93**	**199**	P	**Pb**	**17 29 18.5**	**+0.2**
DGRG	**David-gareji**	**0.93**	**199**	P	**Pb**	**17 29 18.5**	**+0.2**
DGRG				S	**Sn**	**17 29 33.5**	**+0.8**
TBLG	**Delisi**	**0.98**	**233**	P	**Pg**	**17 29 18.2**	**-0.6**
TBLG	**Delisi**	**0.98**	**233**	P	**Pg**	**17 29 18.2**	**-0.6**
TBLG				S	**Sb**	**17 29 31.9**	**-0.3**
GRO	**Groznyy**	**0.99**	**359**	⇑iPG	**Pg**	**17 29 18.0**	**-1.1**
GRO				i S	**Sg**	**17 29 31.8**	**-0.2**
GRO	**Groznyy**	**0.99**	**359**	i Pg	**Pg**	**17 29 18.0**	**-1.1**
GRO				i Sg	**Sg**	**17 29 31.8**	**-0.2**
SNJR	**Sundja**	**1.03**	**316**	ePG	**Pg**	**17 29 19.6**	**-0.2**
SNJR				eS	**Sb**	**17 29 33.7**	**0.0**
SNJR	**Sundja**	**1.03**	**316**	ePg	**Pg**	**17 29 19.6**	**-0.2**
SNJR				eSg	**Sb**	**17 29 33.7**	**0.0**
DBC	**Dubki**	**1.04**	**48**	⇑iPG	**Pb**	**17 29 20.3**	**+0.1**
DBC				i S	**Sb**	**17 29 34.7**	**+0.8**
DBC	**Dubki**	**1.04**	**48**	i Pg	**Pb**	**17 29 20.3**	**+0.1**
DBC				i Sg	**Sb**	**17 29 34.7**	**+0.8**
VLKR	**Vladikavkaz**	**1.09**	**312**	ePG	**Pg**	**17 29 20.4**	**-0.5**
VLKR				eS	**Sb**	**17 29 35.3**	**0.0**
VLKR	**Vladikavkaz**	**1.09**	**312**	ePg	**Pg**	**17 29 20.4**	**-0.5**
VLKR				eSg	**Sb**	**17 29 35.3**	**0.0**
LACR	**Lac**	**1.21**	**295**	⇑iPG	**Pb**	**17 29 21.7**	**-1.4**
LACR				i S	**Sb**	**17 29 37.8**	**-1.0**
LACR	**Lac**	**1.21**	**295**	i Pg	**Pb**	**17 29 21.7**	**-1.4**
LACR				i Sg	**Sb**	**17 29 37.8**	**-1.0**
ARNR	**Ardon**	**1.39**	**308**	ePG	**Pg**	**17 29 28.6**	**+1.8**
ARNR				eS	**Sg**	**17 29 47.1**	**+2.3**
ARNR	**Ardon**	**1.39**	**308**	ePg	**Pg**	**17 29 28.6**	**+1.8**
ARNR				eSg	**Sg**	**17 29 47.1**	**+2.3**
ZEI	**Tsey**	**1.46**	**289**	⇓iPG	**Pn**	**17 29 26.4**	**-0.4**
ZEI				eS	**Sn**	**17 29 45.7**	**-0.5**
ZEI	**Tsey**	**1.46**	**289**	i Pg	**Pn**	**17 29 26.4**	**-0.4**
ZEI				eSg	**Sn**	**17 29 45.7**	**-0.5**
KORR	**Kora**	**1.47**	**302**	⇑iPG	**Pg**	**17 29 28.5**	**+0.2**
KORR				eS	**Sg**	**17 29 47.8**	**+0.4**
KORR	**Kora**	**1.47**	**302**	i Pg	**Pg**	**17 29 28.5**	**+0.2**
KORR				eSg	**Sg**	**17 29 47.8**	**+0.4**
LSNR	**Lesken**	**1.73**	**304**	ePN	**Pb**	**17 29 31.7**	**-0.2**
LSNR				eS	**Sb**	**17 29 54.3**	**+0.6**
LSNR	**Lesken**	**1.73**	**304**	ePn	**Pb**	**17 29 31.7**	**-0.2**
LSNR				eSg	**Sb**	**17 29 54.3**	**+0.6**
ONI	**Oni**	**1.74**	**279**	P	**Pb**	**17 29 31.4**	**-0.8**
ONI	**Oni**	**1.74**	**279**	P	**Pb**	**17 29 31.4**	**-0.8**
ONI				S	**Sb**	**17 29 54.7**	**+0.5**
AKH	**Akhalkalaki**	**1.94**	**243**	P	**Pb**	**17 29 36.2**	**+0.6**
AKH	**Akhalkalaki**	**1.94**	**243**	P	**Pb**	**17 29 36.2**	**+0.6**
AKH				S	**Sn**	**17 29 58.7**	**+0.8**

IDC 04 17:37:30.1±6.0, 39.42N×110.71E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.1/39, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=126.4km s-min=31.6km az=84.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
SONM	**Songino Array**	**8.97**	**341**	Pn	Pn	17 39 41.3	+0.1
	0.1nm,0.3s,baz=159,slow=12,SNR=8.4						
MKAR	**Makanchi Array**	**21.94**	**299**	P	P	17 42 25.1	-0.1
	0.6nm,0.8s,baz=92,slow=12,SNR=6.8						
CMAR	**Chiang Mai Arr**	**23.24**	**209**	P	P	17 42 39.1	0.0
	0.9nm,0.8s,baz=13,slow=9.5,SNR=7.3						

SZGRF 04 17:48:07.8, 19.81S×174.12W, h33km, mb5.2, Tonga Islands

IDC 04 17:48:07.3±0.5, 19.50S×173.85W, h0km, mb5.0/25, mb1 5.2/25, mb1mx4.9/42, mbtmp5.0/25, MS5.0/28, Ms1 5.0/28, ms1mx5.0/30, Error ellipse: s-maj=18.8km s-min=13.8km az=136.0

NEIC 04 17:48:08.9±0.2, 19.43S×173.86W, h10km, mb5.4/104, MS5.2/95, MW5.5, Error ellipse: s-maj=7.6km s-min=4.0km az=143.0

GCMT 04 17:48:08.9±0.1, 19.52S×173.23W, h25km, MW5.6/112, Moment Tensor Solution. s98,c176; s112,c251; Duration: 1.5 Moment tensor: Scale 10^17Nm; Mrr1.96±.03; Mθθ0.10±.02; Mφφ-2.06±.02; Mrθ0.96±.06; Mrφ-0.64±.02; Mθφ1.53±.05; Best double couple: M0 2.77300×10^17 NP1:φs27.00000°, δ66.00000°, λ101.00000°. NP2:φs182.00000°, δ26.00000°, λ68.00000°. Principal axes: T 2.6810, Plg68.0000°, Azm317.0000°; N 0.1870, Plg10.0000°, Azm202.0000°; P -2.8650, Plg20.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

BJI 04 17:48:09.4, 19.03S×173.69W, h12km, mB5.8/47, mb5.3/49, Ms5.3/50, Ms7 5.1/48

ISCJB 04 17:48:11.3±0.1, 19.50S±0.03×173.85W±0.03, h33km, mb5.3/156, MS5.2/154, Error ellipse: s-maj=5.7km s-min=2.8km az=145.5

MOS 04 17:48:13.1±1.6, 19.00S×174.13W, h33km, mb5.4/52, MS5.2/37, Error ellipse: s-maj=10.4km s-min=8.4km az=58.0

NEIC 04 17:48:29.6±0.0, 19.13S×173.76W, h10km, Moment Tensor Solution. s124 Moment tensor: Scale 10^17Nm; Mrr1.65; Mθθ-0.27; Mφφ-1.38; Mrθ0.33; Mrφ-0.56; Mθφ1.70; Best double couple: M0 2.40000×10^17 NP1:φs210.00000°, δ22.00000°, λ105.00000°. NP2:φs14.00000°, δ68.00000°, λ84.00000°. Principal axes: T 2.4100, Plg66.0000°, Azm273.0000°; N -0.0700, Plg5.0000°, Azm16.0000°; P -2.3400, Plg23.0000°, Azm108.0000°;

ISC 04 17:48:12.0±0.4, 19.47S±0.06×173.81W±0.05, h28km±2km, h28km:pP-P, n776, σ1.22/743, mb5.3/155, MS5.2/156, 153C-105D, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
NIUE	**Niue**	**3.69**	**85**	P	Pn	17 48 57.6	-10
	baz=3.3,SNR=100						
AFI	**Afiamalu**	**5.86**	**20**	P	Pn	17 49 32.1	-5.1
AFI						17 50 28.9	
AFI				pmax	pmax		
	comp=Z,23nm,0.3s						
AFI				smax	smax		
	comp=N,57nm,0.3s						
AFI	**Afiamalu**	**5.86**	**20**	Pn	Pn	17 49 32.1	-5.1
	comp=N,23nm,0.3s,baz=180,slow=12,SNR=29						
AFI				Sn	Sn	17 50 28.9	-15
	comp=N,56nm,0.3s,baz=205,slow=23,SNR=6.6						
AFI				LR	LR	17 51 53.9	
	comp=N,11μm,19.6s,baz=186,slow=38						
MSVF	**Nonsavu**	**7.91**	**281**	eP	Pn	17 50 13.5	+8.3
MSVF	**Nonsavu**	**7.91**	**281**	eP	Pn	17 50 13.5	+8.3
RAR	**Rarotonga**	**13.28**	**100**	Pn	Pn	17 51 09.4	-9.3
	comp=N,31nm,0.3s,baz=337,slow=0.0,SNR=30						
RAR				LR	LR	17 56 33.7	
	comp=N,2μm,18.8s,baz=46,slow=38						
DZM	**Mont Dzumac**	**18.64**	**259**	eP	**Pn**	**17 52 30.9**	**+2.7**
	comp=N,393nm,0.9s						
DZM				eLR	LR	17 56 46.0	
	comp=N,11μm,22.7s						
DZM	**Mont Dzumac**	**18.64**	**259**	P	**Pn**	**17 52 29.6**	**+1.4**
	comp=N,3.3nm,0.3s,baz=75,slow=17,SNR=52						
DZM				S	**Sn**	**17 55 56.9**	**+0.9**
	comp=N,0.1nm,0.3s,baz=72,slow=11,SNR=2.0						
DZM				LR	LR	17 58 36.3	
	comp=N,10μm,20.6s,baz=87,slow=34						
DZM	**Mont Dzumac**	**18.64**	**259**	eP	**Pn**	**17 52 29.8**	**+1.6**
	comp=N,245nm,1.0s						
DZM				S	**Sn**	**17 55 56.9**	**+0.9**
DZM	**Mont Dzumac**	**18.64**	**259**	eP	**Pn**	**17 52 29.3**	**+1.1**
NOUC	**Port Laguerre**	**18.78**	**259**	eP	**Pn**	**17 52 31.0**	**+1.2**
KUZ	**Kuaotunu**	**19.51**	**206**	P*	**Pn**	**17 52 38.7**	**+0.3**
PUZ	**Puketiti**	**19.78**	**199**	eP*	**Pn**	**17 52 41.1**	**-0.6**
MKAZ	**Moumakai**	**20.05**	**206**	P*	Pn	17 52 44.6	-0.2
URZ	**Urewera**	**20.32**	**201**	P	**P**	**17 52 44.8**	**-1.0**
	comp=N,99nm,0.8s,baz=17,slow=7.3,SNR=46						
URZ				S	S	17 56 23.1	-9.2
	comp=N,10nm,0.9s,baz=217,slow=20,SNR=5.3						
URZ				LR	LR	17 59 51.6	
	comp=N,3μm,22.0s,baz=14,slow=35						
URZ	**Urewera**	**20.32**	**201**	eP	**P**	**17 52 46.6**	**+0.7**
	comp=N,123nm,0.9s						
URZ				S	S	17 56 23.1	-9.2
RAGZ	**Rawiri**	**20.43**	**200**	eP*	Pn	17 52 48.3	-1.1
FWVZ	**Far West T-bar**	**21.76**	**203**	eP*	**P**	**17 53 01.7**	**+0.1**
TRVZ	**Turoa**	**21.80**	**203**	eP*	**P**	**17 53 01.1**	**-0.9**
BFZ	**Birch Farm**	**22.79**	**200**	eP*	**P**	**17 53 11.9**	**-0.5**
TBI	**Tubuai**	**22.99**	**104**	eS	S	17 57 12.5	-11
	comp=N,2μm,27.5s						
TBI				eLQ	LQ	17 57 41.2	
	comp=N,2μm,22.8s						
TBI				eLR	LR	17 58 42.6	
	comp=N,8μm,27.2s						
TBI	**Tubuai**	**22.99**	**104**	eT	T	18 17 11.7	
	comp=N,24nm,0.3s						
PAE	**Paea**	**23.04**	**89**	eT	T	18 17 00.2	
	comp=N,13nm,0.3s						
PPT2	**Papeete2**	**23.05**	**89**	eS	S	17 57 12.3	-12
	comp=N,2μm,24.5s,baz=239						
PPT2				eLR	LR	17 58 40.3	
	comp=N,12μm,26.5s						
PPT	**Papeete**	**23.05**	**89**	LR	LR	17 59 44.9	
	comp=N,3μm,20.5s,baz=218,slow=30						
HOWZ	**Holdsworth Sta**	**23.23**	**201**	P*	**P**	**17 53 17.8**	**+0.9**
TMWZ	**Te Maipa**	**23.29**	**200**	P*	**P**	**17 53 18.4**	**+0.9**
MTW	**Mount Morrison**	**23.47**	**201**	P*	**P**	**17 53 20.1**	**+0.9**
SNZO	**South Karori**	**23.87**	**202**	eP	**P**	**17 53 22.0**	**-1.1**
	comp=N,69nm,0.9s						
THZ	**Tophouse**	**24.93**	**204**	P*	**P**	**17 53 32.5**	**-0.4**
KHZ	**Kahutara**	**25.26**	**202**	eP	**P**	**17 53 35.0**	**-0.7**
	comp=N,62nm,0.8s						
DSZ	**Denniston Nort**	**25.35**	**206**	eP*	**P**	**17 53 35.6**	**-1.1**
OXZ	**Oxford**	**26.60**	**203**	eP*	**P**	**17 53 46.8**	**-1.1**
WVZ	**Waitaha Valley**	**26.90**	**206**	eP*	**P**	**17 53 51.5**	**+0.9**
HNR	**Honiara**	**27.26**	**288**	LR	LR	18 02 52.7	
	comp=N,2μm,18.8s,baz=107,slow=32						
RPZ	**Rata Peaks**	**27.31**	**204**	eP	**P**	**17 53 53.8**	**-0.4**
	comp=N,54nm,0.6s						
FOZ	**Fox Glacier**	**27.73**	**206**	eP*	**P**	**17 53 58.4**	**+0.4**
JCZ	**Jackson Bay**	**28.54**	**207**	eP*	**P**	**17 54 06.1**	**+0.7**
WHZ	**Wether Hill Ro**	**30.35**	**206**	eP	**P**	**17 54 23.4**	**+2.1**
	comp=N,18nm,0.7s						
EIDS	**Eidsvold**	**32.91**	**253**	eP	**P**	**17 54 43.1**	**-1.0**
	comp=N,7.4nm,0.6s						
EIDS	**Eidsvold**	**32.91**	**253**	P	**P**	**17 54 43.6**	**-0.5**
	baz=33,SNR=6.2						
ARMA	**Armidale**	**33.06**	**244**	P	**P**	**17 54 45.1**	**-0.3**
	baz=33,SNR=12						
MGCD	**Mangrove Creek**	**34.11**	**239**	P	**P**	**17 54 54.9**	**+0.4**
	baz=34,SNR=8.0						
RMQ	**Roma**	**35.07**	**251**	P	**P**	**17 55 03.9**	**+1.1**
	baz=35,SNR=8.4						
CNB	**Canberra Magne**	**36.07**	**236**	P	**P**	**17 55 11.1**	**-0.3**
	baz=36,SNR=6.2						
RKT	**Rikitea**	**36.30**	**103**	eS	S	18 00 45.7	-6.9
	comp=N,739nm,28.0s						
RKT				eLR	LR	18 04 51.0	
	comp=N,6μm,26.8s,baz=271						
CAN	**Canberra**	**36.35**	**236**	eP	**P**	**17 55 13.4**	**-0.4**
CAN				pmax	pmax		
	comp=Z,32nm,1.0s						
CAN				MLR	MLR		
	comp=Z,2μm,20.0s						
CAN	**Canberra**	**36.35**	**236**	eP	**P**	**17 55 13.4**	**-0.4**
	comp=Z,32nm,1.0s						
CAN				LR	LR		
	comp=Z,2μm,20.0s						
CTA	**Charters Tower**	**37.52**	**262**	P	**P**	**17 55 22.5**	**-1.4**
	comp=Z,46nm,0.7s,baz=95,slow=12						
CTA				LR	LR	18 09 59.8	
	comp=Z,5μm,18.1s,baz=90,slow=35						
CTAO	**Charters Tower**	**37.52**	**262**	eP	**P**	**17 55 22.4**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,48nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,5μm,19.0s						
CTAO	**Charters Tower**	**37.52**	**262**	eP	**P**	**17 55 22.4**	**-1.4**
	comp=Z,48nm,0.8s						
CTAO				LR	LR		
	comp=Z,5μm,19.0s						
CMSA	**Cobar Meteorol**	**38.27**	**244**	P	**P**	**17 55 29.0**	**-1.1**
	baz=39,SNR=26						
PMG	**Port Moresby**	**39.01**	**279**	c iP	**P**	**17 55 35.4**	**-1.0**
PMG				pmax	pmax		
	comp=Z,62nm,0.8s						
PMG	**Port Moresby**	**39.01**	**279**	P	**P**	**17 55 35.6**	**-0.8**
	comp=Z,55nm,0.8s,baz=84,slow=7.7,SNR=12						

PMG LR LR 18 10 12.1
comp=Z,5µm,18.1s,baz=78,slow=34
PMG Port Moresby 39.01 279 eP P 17 55 35.2 -1.2
comp=Z,55nm,0.8s
PMG Port Moresby 39.01 279 P P 17 55 36.5 +0.1
baz=39,SNR=10
QLP Quilpie 39.12 252 P P 17 55 36.0 -1.2
baz=40,SNR=7.9
TOO Toolangi 39.69 234 P P 17 55 41.8 -0.1
baz=40,SNR=13
COEN Coen 41.48 271 eP P 17 55 56.0 -0.9
comp=Z,289nm,0.9s
COEN Coen 41.48 271 P P 17 55 56.0 -0.9
baz=42,SNR=26
STKA Stephens Creek 41.78 244 eP P 17 55 58.0 -1.2
STKA pmax pmax
comp=Z,6.0nm,0.8s
STKA Stephens Creek 41.78 244 P P 17 55 58.0 -1.2
comp=Z,28nm,0.7s,baz=95,slow=9.1,SNR=42
STKA LR LR 18 11 31.1
comp=Z,3µm,19.6s,baz=72,slow=34
STKA Stephens Creek 41.78 244 eP P 17 55 58.0 -1.2
comp=Z,6.1nm,0.8s
STKA Stephens Creek 41.78 244 P P 17 55 58.4 -0.7
baz=42,SNR=39
QIS Mount Isa 43.67 260 P P 17 56 13.3 -1.4
baz=44,SNR=4.7
HTT Hallett 44.18 242 P P 17 56 18.9 +0.2
baz=44,SNR=21
BBOO Buckleboo 46.53 243 P P 17 56 35.6 -1.6
baz=47,SNR=12
JAY Jayapura 47.52 285 P P 17 56 45.1 -0.1
baz=48,SNR=7.1
AS31 Alice Springs 48.59 255 eP P 17 56 51.9 -1.5
ASAR Alice Springs 48.59 255 P P 17 56 52.0 -1.4
ASAR 17 58 17.8
ASAR S S 18 03 49.8 -4.0
ASAR pmax pmax
comp=Z,24nm,0.6s
ASAR pmax pmax
comp=Z,10.0nm,0.7s
ASAR smax smax
comp=N,1.0nm,0.9s
ASAR MLR MLR
comp=Z,2µm,18.3s
ASAR Alice Springs 48.59 255 P P 17 56 52.0 -1.4
comp=Z,24nm,0.6s,baz=97,slow=8.1,SNR=401
ASAR PcP PcP 17 58 17.8 -1.1
comp=Z,9.5nm,0.7s,baz=92,slow=4.5,SNR=7.5
ASAR S S 18 03 49.8 -4.0
comp=Z,1.2nm,0.9s,baz=93,slow=14,SNR=3.4
ASAR LR LR 18 18 22.2
comp=Z,2µm,18.3s,baz=92,slow=37
WRAB Tennant Creek 48.64 260 c iP P 17 56 51.3 -2.5
WRAB pmax pmax
comp=Z,102nm,1.0s
WRAB Tennant Creek 48.64 260 eP P 17 56 51.8 -2.0
comp=Z,46nm,1.0s
WRA Warramunga Arr 48.65 260 P P 17 56 51.9 -2.0
WRA 17 58 19.3
WRA S S 18 03 50.7 -4.0
WRA pmax pmax
comp=Z,24nm,0.7s
WRA pmax pmax
comp=Z,7.0nm,0.8s
WRA smax smax
comp=N,1.0nm,0.9s
WRA MLR MLR
comp=Z,5µm,18.4s
WRA Warramunga Arr 48.65 260 P P 17 56 51.9 -2.0
comp=Z,24nm,0.7s,baz=97,slow=8.7,SNR=194
WRA PcP PcP 17 58 19.3 +0.1
comp=Z,7.4nm,0.8s,baz=98,slow=3.4,SNR=3.8
WRA S S 18 03 50.7 -4.0
comp=Z,1.2nm,0.9s,baz=96,slow=14,SNR=4.3
WRA LR LR 18 16 48.4
comp=Z,5µm,18.4s,baz=100,slow=35
KDU Kakadu 51.89 269 P P 17 57 17.4 -1.1
baz=52,SNR=19
GUMO Guam 52.29 306 PFAKE 17 57 30.0 +8.7
GUMO LR LR
comp=Z,1µm,19.0s
MTN Manton Dam 53.11 268 P P 17 57 26.3 -1.3
baz=54,SNR=19
FORT Forrest 53.31 246 eP P 17 57 26.8 -2.1
comp=Z,30nm,0.7s
FORT Forrest 53.31 246 P P 17 57 28.1 -0.7
baz=54,SNR=14
WRKA Warakurna 53.53 253 P P 17 57 28.8 -1.8
baz=54,SNR=81
KNRA Kununurra 54.67 264 P P 17 57 37.9 -1.0
baz=55,SNR=20
FAKI Fak Fak 55.15 280 P P 17 57 41.2 -1.2
baz=56,SNR=6.2
DRV Dumont d'Urvil 55.66 200 P P 17 57 33.0 -12
DRV S S 18 05 15.0 -14
DRV L L 18 12 00.0
DRV R 18 14 00.0
VNDA Vanda 59.31 186 P P 17 58 11.0 +0.1
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA MLR MLR
comp=Z,716nm,21.1s
VNDA Vanda 59.31 186 P P 17 58 10.9 +0.1
comp=Z,4.0nm,0.8s,baz=23,slow=8.1,SNR=4.6
VNDA LR LR 18 19 34.2
comp=Z,716nm,21.1s,baz=10,slow=32
SOEI Soe 60.43 270 eP P 17 58 19.5 -0.2
comp=Z,100nm,0.8s
SOEI Soe 60.43 270 P P 17 58 20.0 +0.4
baz=61,SNR=37
TNTI Ternate 61.05 282 eP P 17 58 22.4 -1.3
comp=Z,95nm,0.8s
MBWA Marble Bar 61.92 256 eP P 17 58 28.2 -1.4
comp=Z,75nm,1.0s
MEEK Meekatharra 61.97 250 P P 17 58 28.9 -1.0
baz=62,SNR=8.8
KLBR Kellerberrin 62.05 244 P P 17 58 29.5 -0.8
baz=62,SNR=18
JCJ Chichijima 62.94 316 LR LR 18 21 29.8
comp=Z,2µm,20.6s,baz=126,slow=32
BLDU Ballidu 63.06 245 P P 17 58 36.5 -0.6
baz=63,SNR=12
MORW Morawa 63.85 247 P P 17 58 41.9 -0.5
baz=64,SNR=8.6
DAV Davao City (W) 65.22 288 PFAKE 17 59 00.0 +8.5
DAV LR LR
comp=Z,814nm,19.0s
KAPI Kappang 66.14 273 PFAKE 17 59 10.0 +13
KAPI LR LR
comp=Z,534nm,21.0s
CASY Casey 66.57 205 eP P 17 59 00.3 +1.0
comp=Z,44nm,1.1s
CASY LR LR
comp=Z,949nm,19.0s
GIRL Giralia 66.62 253 P P 17 59 01.1 +0.7
baz=67,SNR=3.9
JAGI Jajag, Banyuwa 70.34 268 eP P 17 59 21.6 -2.2
comp=Z,94nm,1.0s
JAGI Jajag, Banyuwa 70.34 268 P P 17 59 22.3 -1.5
baz=71,SNR=16
QSPA South Pole Qui 70.60 180 eP P 17 59 25.0 +0.4
comp=Z,25nm,1.1s
MYLDM Lahad Datu 70.91 283 ⇓P P 17 59 29.5 +2.3
TSM Tawau 71.15 282 ⇑P P 17 59 29.8 +1.1
MJAR Matsushiro Arr 71.81 321 P P 17 59 31.8 -0.4
MJAR pmax pmax
comp=Z,39nm,0.8s
MJAR MLR MLR
comp=Z,637nm,21.9s
MJAR Matsushiro Arr 71.81 321 P P 17 59 31.8 -0.4
comp=Z,39nm,0.8s,baz=159,slow=6.2,SNR=73
MJAR LR LR 18 25 49.5
comp=Z,637nm,21.9s,baz=160,slow=32
MAJO Matsushiro 71.81 321 c iP P 17 59 32.1 0.0
MAJO pmax pmax
comp=Z,310nm,0.9s
MAJO Matsushiro 71.81 321 eP P 17 59 31.3 -0.8
comp=Z,59nm,0.8s
MAJO LR LR
comp=Z,939nm,21.0s
MAT Matsushiro 71.81 321 P P 17 59 31.7 -0.4
MAT S S 18 08 52.4 +1.5
SDKM Sandakan 72.29 283 ⇑P P 17 59 35.3 -0.3
FX1 Attu Island--F 72.93 352 LR LR 18 28 12.2
comp=Z,2µm,19.4s,baz=182,slow=33
ERM Erimo 72.96 328 eP P 17 59 39.7 +0.9
ERM pmax pmax
comp=Z,24nm,1.3s
ERM Erimo 72.96 328 PFAKE 17 59 50.0 +11
ERM LR LR
comp=Z,1µm,21.0s
YUK Yuzh-Kuril'sk 73.18 331 c iP P 17 59 30.6 -9.5
KKM Kota Kinabalu 73.34 283 eP P 17 59 41.5 -0.3
comp=Z,37nm,0.9s
KKM LR LR
comp=Z,563nm,21.0s
KKM Kota Kinabalu 73.34 283 ⇑P P 17 59 42.5 +0.6
baz=74,SNR=6.1
KKM Kota Kinabalu 73.34 283 ⇓P P 17 59 42.8 +0.9
UGM Wanagama 73.94 267 P P 17 59 45.4 +0.1
baz=74,SNR=5.1
SMRI Semarang 74.28 268 eP P 17 59 46.2 -1.1
comp=Z,40nm,0.8s
JNU Nakatsue 74.31 314 P P 17 59 47.0 0.0
comp=Z,32nm,0.8s,baz=92,slow=2.3,SNR=18
JNU Nakatsue 74.31 314 eP P 17 59 46.9 -0.2
comp=Z,7.4nm,0.8s
ASAJ Asahikawa 74.79 329 P P 17 59 49.7 +0.2
ASAJ pmax pmax
comp=Z,32nm,0.8s
ASAJ Asahikawa 74.79 329 P P 17 59 49.7 +0.2
comp=Z,32nm,0.8s,baz=199,slow=6.6,SNR=16
BTM Bintulu 75.20 279 ⇑P P 17 59 52.4 -0.3
BFSC Mount Baldy Ra 75.53 45 ⇑P P 17 59 54.7 +0.4
baz=76
VES Vestal, Richgr 75.55 43 ⇓P P 17 59 54.4 +0.3
baz=76
MONP Monument Peak 75.60 47 ⇑P P 17 59 54.5 -0.3
baz=76
EDW2 Edwards Air Fo 75.69 45 ⇑P P 17 59 55.0 -0.1
baz=76
SBUM Sibu 75.74 278 ⇓P P 17 59 57.4 +1.6
ISA Isabella 75.84 44 eP P 17 59 55.7 -0.1
ISA pmax pmax
comp=Z,33nm,1.6s
ISA Isabella 75.84 44 eP P 17 59 55.7 -0.1
comp=Z,33nm,1.6s
ISA Isabella 75.84 44 ⇓P P 17 59 55.8 -0.1
baz=76
PFO Pinyon Flat Ob 75.98 46 eP P 18 00 01.5 +4.7
PFO pmax pmax
comp=Z,22nm,1.4s
PFO MLR MLR
comp=Z,911nm,20.0s
PFO Pinyon Flat Ob 75.98 46 eP P 18 00 01.5 +4.7
comp=Z,22nm,1.4s
PFO LR LR
comp=Z,911nm,20.0s
PFO Pinyon Flat Ob 75.98 46 ⇓P P 17 59 56.7 -0.2
baz=76
PET Petropavlovsk 76.03 343 eP P 17 59 54.7 -1.7
PET eS S 18 09 35.1 -2.6
PET pmax pmax
comp=Z,300nm,12.1s
SWSC Sam W. Stewart 76.06 47 ⇑P P 17 59 57.5 +0.4
baz=76
TWG Pinlang 76.20 300 eP P 17 59 56.7 -1.4
comp=Z,181nm,0.7s
LRMC Laurel Mountai 76.24 44 ⇑P P 17 59 57.9 -0.3
baz=76
YULB Yu-li 76.29 301 eP P 17 59 58.1 -0.5
comp=Z,31nm,0.9s
PEA0B Petropavlovsk- 76.37 343 eP P 17 59 57.7 -0.7
PETK Petropavlovsk- 76.37 343 P P 17 59 58.6 +0.2
PETK pmax pmax
comp=Z,27nm,0.8s
PETK MLR MLR
comp=Z,429nm,19.6s
PETK Petropavlovsk- 76.37 343 P P 17 59 58.6 +0.2
comp=Z,27nm,0.8s,baz=135,slow=9.0,SNR=19
PETK LR LR 18 29 50.5
comp=Z,428nm,19.6s,baz=163,slow=33
NACB Ninganchiao 76.42 302 eP P 17 59 59.2 -0.2
comp=Z,123nm,1.2s
BELC Belle Mtn. Jos 76.52 46 ⇑P P 17 59 59.8 0.0
baz=77
CWC Cottonwood Cre 76.56 43 ⇑P P 17 59 59.8 -0.2
baz=77
N02D Trinity Center 76.58 37 ⇑P P 18 00 00.1 +0.2
baz=77
CISI Cisompet, Garu 76.60 267 eP P 17 59 59.4 -1.3
comp=Z,41nm,0.7s
CISI Cisompet, Garu 76.60 267 ⇓P P 17 59 59.7 -0.9
baz=77,SNR=6.7
BC3 Big Chuckawall 76.70 47 ⇑P P 18 00 01.2 +0.4
baz=77
GSC Goldstone 76.72 45 eP P 18 00 05.4 +4.5
GSC pmax pmax
comp=Z,28nm,1.5s
GSC Goldstone 76.72 45 eP P 18 00 05.4 +4.5
comp=Z,28nm,1.5s
GSC Goldstone 76.72 45 ⇓P P 18 00 00.8 -0.2
baz=77
SSLB Suanglung 76.75 301 eP P 17 59 58.9 -2.4
comp=Z,36nm,0.9s
M02C Callahan 76.77 37 ⇓P P 18 00 01.2 +0.2
baz=77
HEC Hector,Ludlow 76.77 45 ⇑P P 18 00 00.9 -0.3
baz=77
TPUB Ta-pu 76.78 301 eP P 18 00 00.6 -0.8
comp=Z,166nm,0.8s
GLA Glamis 76.79 48 P P 18 00 01.4 +0.1
GLA pmax pmax
comp=Z,10.0nm,1.0s
GLA Glamis 76.79 48 P P 18 00 01.4 +0.1
comp=Z,10nm,1.0s
YSS Yuzh-Sakhalins 76.82 331 eP P 18 00 00.0 -1.0
YSS e 18 00 11.4
YSS eS S 18 09 42.0 -4.6
YSS pmax pmax
comp=Z,90nm,1.0s
YSS Yuzh-Sakhalins 76.82 331 eP P 18 00 02.1 +1.0
comp=Z,76nm,1.0s
TIN Tinemaha 76.83 43 ⇑P P 18 00 01.3 -0.2
baz=77
WAKR Walker 76.95 41 eP P 18 00 02.2 -0.1
comp=Z,24nm,1.4s
LEM Lembang 77.01 267 P P 18 00 03.8 +0.7
baz=77,SNR=10
YBH Yreka Blue Hor 77.07 37 eP P 18 00 01.8 -0.9
YBH pmax pmax
comp=Z,10.0nm,0.9s
YBH Yreka Blue Hor 77.07 37 eP P 18 00 01.8 -0.9
comp=Z,9.7nm,0.9s
IRM Iron Mountain 77.19 47 ⇓P P 18 00 03.8 +0.3
baz=77
GMRC Granite Mounta 77.19 46 ⇑P P 18 00 03.7 0.0
baz=77
KSM Kuching 77.19 276 eP P 18 00 04.5 +0.6
comp=Z,90nm,1.2s
KSM LR LR
comp=Z,466nm,19.0s
KSM Kuching 77.19 276 ⇓P P 18 00 04.8 +0.9
baz=78,SNR=8.2
KSM Kuching 77.19 276 ⇑P P 18 00 05.4 +1.4
Y12C Blythe 77.39 47 ⇑P P 18 00 05.3 +0.7
baz=78
M04C Macdoel 77.60 37 ⇑P P 18 00 06.0 +0.2
baz=78
NVAR Mina Array Bea 77.61 42 P P 18 00 05.5 -0.5
comp=Z,7.3nm,0.8s,baz=225,slow=8.9,SNR=49
NVAR LR LR 18 29 24.8
comp=Z,871nm,18.2s,baz=127,slow=32
214A Organ Pipe Nat 77.62 50 eP P 18 00 08.7 +2.7
comp=Z,15nm,1.2s
214A Organ Pipe Nat 77.62 50 ⇓P P 18 00 06.5 +0.5
baz=78
NV11 Mina Array Sit 77.70 42 eP P 18 00 06.2 -0.3
PDMCI Parker Dam,Lak 77.96 47 ⇓P P 18 00 08.3 +0.6
baz=78
TPH Tonopah 78.08 42 eP P 18 00 07.8 -0.8
TPH pmax pmax
comp=Z,14nm,1.0s
TPH Tonopah 78.08 42 eP P 18 00 07.8 -0.8
comp=Z,14nm,1.0s
J04D Umpqua Nationa 78.40 36 ⇓P P 18 00 10.4 +0.1
baz=79
SHPR Sheep Range 78.51 45 eP P 18 00 10.8 -0.2
comp=Z,45nm,1.7s
Y14A Wickenburg 78.55 48 ⇓P P 18 00 11.5 +0.3
baz=79
MOD Modoc 78.56 38 eP P 18 00 10.8 -0.3
comp=Z,11nm,1.1s
W13A Hualapai Mount 78.58 46 ⇑P P 18 00 11.5 0.0
baz=79
I04A Tendick Farm, 78.59 35 ⇓P P 18 00 11.3 +0.2
baz=79
KSRS Korea Array 78.80 316 P P 18 00 13.1 +0.8
KSRS pmax pmax
comp=Z,20nm,0.9s
KSRS MLR MLR
comp=Z,17nm,28.6s
KSRS Korea Array 78.80 316 P P 18 00 13.1 +0.8
comp=Z,20nm,0.8s,baz=132,slow=6.1,SNR=39
KSRS LR LR 18 31 35.5
comp=Z,556nm,18.9s,baz=128,slow=33
KSAR Wonju Array Be 78.81 316 P P 18 00 13.1 +0.7
KSAR Wonju Array Be 78.81 316 P P 18 00 13.1 +0.7
J05D Fort Rock, OR 78.91 36 ⇓P P 18 00 13.0 0.0
baz=79
KDAK Kodiak Island 78.97 11 PFAKE 18 00 20.0 +7.3
KDAK LR LR
comp=Z,2µm,22.0s
QZH Quanzhou 79.19 301 P P 18 00 16.0 +1.3
QZH S S 18 10 17.2 +4.1
QZH pmax pmax
comp=Z,100nm,1.0s
QZH LR LR
comp=Z,2µm,23.1s
TUC Tucson 79.27 50 eP P 18 00 15.3 +0.1
TUC pmax pmax
comp=Z,33nm,1.4s
TUC Tucson 79.27 50 eP P 18 00 15.3 +0.1
comp=Z,33nm,1.4s
R11A Troy Canyon, C 79.28 43 eP P 18 00 14.7 -0.6
comp=Z,22nm,1.7s
R11A Troy Canyon, C 79.28 43 ⇑P P 18 00 15.1 -0.1
baz=80,SNR=8.1
BMN Battle Mountai 79.48 40 eP P 18 00 14.5 -1.7
BMN pmax pmax
comp=Z,34nm,1.6s
BMN Battle Mountai 79.48 40 eP P 18 00 14.5 -1.7
comp=Z,34nm,1.6s
I05D Terrebonne, OR 79.53 35 ⇓P P 18 00 16.7 +0.5
baz=80
INCN Inchon 79.66 316 PFAKE 18 00 30.0 +13
INCN LR LR
comp=Z,1µm,21.0s
WVOR Wild Horse Val 79.85 38 eP P 18 00 17.5 -0.7
WVOR pmax pmax
comp=Z,10.0nm,1.1s
WVOR Wild Horse Val 79.85 38 eP P 18 00 17.5 -0.7
comp=Z,10nm,1.1s
319A Douglas 79.90 52 ⇑P P 18 00 18.8 +0.2
baz=80
X16A Lo Mia Camp, P 79.90 48 ⇓P P 18 00 18.7 +0.1
baz=80
SSE Sheshan 80.11 308 P P 18 00 21.1 +1.5
SSE sP sP 18 00 26.0 -5.8
SSE S S 18 10 22.8 +0.2
SSE sS SKSac 18 10 29.9 -5.4
SSE pmax pmax
comp=Z,20nm,0.8s
SSE pmax pmax
comp=Z,340nm,10.2s
SSE LR LR
comp=Z,170nm,20.6s
SSE LR LR
comp=Z,320nm,20.7s
SSE LR LR
comp=Z,430nm,19.8s
ARUT Antelope Range 80.36 44 eP P 18 00 21.2 +0.1
ARUT Antelope Range 80.36 44 eP P 18 00 21.2 +0.1
comp=Z,212nm,0.8s
U15A North Rim 80.39 46 ⇓P P 18 00 21.6 +0.2
baz=81
USRK Ussuriysk Arra 80.40 324 P P 18 00 22.0 +1.1
comp=Z,4.0nm,0.6s,baz=106,slow=4.7,SNR=12
USRK LR LR 18 29 44.0
comp=Z,2µm,21.7s,baz=125,slow=31
WUAZ Wupatki 80.53 47 eP P 18 00 22.5 +0.5
comp=Z,35nm,1.6s
WUAZ Wupatki 80.53 47 ⇑P P 18 00 22.5 +0.5
baz=81
X18A Snowflake 81.01 49 ⇓P P 18 00 24.9 +0.3
baz=81
RSO Redoubt South 81.46 10 P P 18 00 26.4 0.0
comp=Z,26nm,0.7s
MVU Marysvale 81.56 44 eP P 18 00 28.0 +0.4
comp=Z,18nm,1.3s
HABR Khabarovsk 81.57 328 c eP P 18 00 25.8 -1.1
HABR e*PP pP 18 00 36.0 +0.1
HABR e*SP sP 18 00 40.3 +1.1
HABR e 18 03 31.7
HABR PPP PPP 18 05 20.5
HABR eS S 18 10 35.4 -1.6
HABR eSS SS 18 15 52.7 -2.2
HABR pmax pmax
comp=Z,135nm,1.5s
HABR pmax pmax
comp=E,25nm,1.2s
HABR pmax pmax
comp=N,22nm,2.0s
HABR MLR MLR
comp=Z,581nm,17.0s
121A Cookes Peak, D 81.58 51 eP P 18 00 33.9 +6.3
comp=Z,95nm,1.9s
121A Cookes Peak, D 81.58 51 ⇓P P 18 00 27.7 +0.1
baz=82
HAWA Hanford 81.83 35 PFAKE 18 00 40.0 +12
HAWA LR LR
comp=Z,913nm,19.0s
MDJ Mudanjiang 82.01 323 P P 18 00 31.0 +1.6
MDJ pmax pmax
comp=Z,32nm,0.9s
MDJ pmax pmax
comp=Z,460nm,5.2s
MDJ LR LR
comp=Z,370nm,20.3s
MDJ LR LR
comp=Z,730nm,18.2s
MDJ LR LR
comp=Z,1µm,17.5s
MFID Camas Ranch 82.09 39 eP P 18 00 29.2 -0.8
comp=Z,8.1nm,1.1s
BMO Blue Mountains 82.10 37 eP P 18 00 28.7 -1.3
comp=Z,12nm,1.4s
BMO LR LR
comp=Z,785nm,19.0s
DUG Dugway 82.10 43 PFAKE 18 00 40.0 +10
DUG LR LR
comp=Z,663nm,19.0s
DUG Dugway 82.10 43 ⇓P P 18 00 30.4 +0.2
baz=82
NJ2 Nanjing 82.31 308 eP P 18 00 33.1 +1.8
NJ2 pP PcP 18 00 35.1 -1.4
NJ2 S S 18 10 45.0 -0.4
NJ2 sS SKKSac 18 10 53.0 -0.9
NJ2 pmax pmax
comp=Z,20nm,0.9s
NJ2 pmax pmax
comp=Z,480nm,10.7s
NJ2 LR LR
comp=Z,670nm,26.6s
NJ2 LR LR
comp=Z,650nm,24.6s
NJ2 LR LR
comp=Z,750nm,28.2s
Z22A Elephant Butte 82.53 51 ⇑P P 18 00 32.8 +0.2
baz=83
RC01 Rabbit Creek A 82.59 12 eP P 18 00 31.6 -0.4
comp=Z,75nm,1.4s
DLV T Lat 82.61 285 eP P 18 00 35.0 +1.5
comp=Z,63nm,1.3s
TMUT Trail Mountain 82.65 44 eP P 18 00 32.2 -1.2
comp=Z,15nm,0.9s
425A Indio Mountain 82.84 54 ⇓P P 18 00 34.7 +0.4
baz=83
626A Big Bend Ranch 82.94 55 ⇑P P 18 00 34.9 +0.2
baz=83
LENM Lemitar 82.96 50 eP P 18 00 40.6 +5.7
comp=Z,4.9nm,1.1s
MNTX Cornudas Mount 82.97 53 eP P 18 00 34.5 -0.2
comp=Z,47nm,1.7s
MNTX LR LR
comp=Z,430nm,21.0s
GAMB Gambell 82.99 1 eP P 18 00 35.0 +1.0
comp=Z,35nm,1.1s
HVU Hansel Valley 83.00 41 eP P 18 00 34.3 -0.6
HVU pmax pmax

comp=Z,9.0nm,1.0s
HVU Hansel Valley 83.00 41 eP P 18 00 34.3 -0.6
comp=Z,9.0nm,1.0s
SRU San Rafael 83.00 44 eP P 18 00 35.0 0.0
SRU pmax pmax
comp=Z,29nm,1.4s
SRU San Rafael 83.00 44 eP P 18 00 35.0 0.0
comp=Z,29nm,1.4s
HLID Hailey 83.01 39 eP P 18 00 34.7 -0.2
comp=Z,13nm,1.2s
HLID LR LR
comp=Z,460nm,20.0s
HLID Hailey 83.01 39 ⇓P P 18 00 35.0 +0.1
baz=83
PMR Palmer 83.17 12 eP P 18 00 34.3 -0.7
PMR pmax pmax
comp=Z,20nm,1.3s
PMR Palmer 83.17 12 eP P 18 00 34.3 -0.7
comp=Z,20nm,1.3s
526A Mary Lane Ranc 83.20 55 ⇑P P 18 00 35.7 -0.5
baz=83
TXAR Lajitas Array 83.20 56 P P 18 00 36.9 +0.8
TXAR pmax pmax
comp=Z,4.0nm,0.9s
TXAR MLR MLR
comp=Z,564nm,18.0s
TXAR Lajitas Array 83.20 56 P P 18 00 36.9 +0.8
comp=Z,4.0nm,0.9s,baz=241,slow=5.0,SNR=2.3
TXAR LR LR 18 32 37.1
comp=Z,564nm,18.0s,baz=0.0,slow=32
BNM Barren Site 83.21 50 eP P 18 00 36.3 +0.1
comp=Z,75nm,2.0s
DAU Daniels Canyon 83.22 43 eP P 18 00 36.9 +0.7
DAU pmax pmax
comp=Z,18nm,1.4s
DAU Daniels Canyon 83.22 43 eP P 18 00 36.9 +0.7
comp=Z,18nm,1.4s
MYKOM Kota Tinggi 83.37 274 ⇑P P 18 00 38.8 +1.6
MVCO Mesa Verde 83.39 47 eP P 18 00 41.4 +4.3
comp=Z,28nm,1.4s
H03N2 Juan Fernandez 83.42 123 T T 19 33 17.6
baz=265,slow=70,SNR=35
H03N3 Juan Fernandez 83.42 123 T T 19 33 17.5
baz=265,slow=70,SNR=33
DIV Divide 83.43 13 eP P 18 00 35.7 -0.8
comp=Z,42nm,0.9s
H03N1 Juan Fernandez 83.43 123 T T 19 33 19.6
baz=265,slow=70,SNR=43
627A Terlingua Ranc 83.47 56 ⇓P P 18 00 37.7 +0.1
baz=84
TCUT Toone Canyon 83.50 42 eP P 18 00 37.9 +0.3
comp=Z,76nm,1.4s
Y23A Lovelace Mesa, 83.52 51 ⇑P P 18 00 38.1 +0.3
baz=84
426A McDonald Obser 83.52 54 ⇓P P 18 00 38.1 +0.1
baz=84
BMRM Bremner River 83.54 14 eP P 18 00 36.5 -0.5
comp=Z,75nm,1.4s
225A Deer Hill, Car 83.58 53 ⇑P P 18 00 39.0 +0.9
baz=84
HWUT Hardware Ranch 83.67 42 PFAKE 18 00 50.0 +12
HWUT LR LR
comp=Z,1μm,19.0s
KLR Kul'dur 83.71 328 eP P 18 00 34.8 -3.3
ANMO Albuquerque 83.71 50c iP P 18 00 38.9 +0.2
ANMO pmax pmax
comp=Z,75nm,2.5s
ANMO Albuquerque 83.71 50 eP P 18 00 38.9 +0.2
comp=Z,63nm,1.6s
ANMO LR LR
comp=Z,654nm,20.0s
PV04 Paradox Valley 83.71 46 eP P 18 00 38.7 0.0
X23A Hourglass Bar 83.73 50 ⇓P P 18 00 39.8 +1.0
baz=84
Z24A Sheeppen Canyo 83.74 52 ⇑P P 18 00 39.5 +0.6
baz=84
DL2 Dalian 83.74 315 P P 18 00 39.9 +1.4
DL2 pmax pmax
comp=Z,39nm,1.1s
DL2 pmax pmax
comp=Z,350nm,8.4s
DL2 LR LR
comp=Z,240nm,13.3s
DL2 LR LR
comp=Z,370nm,20.2s
DL2 LR LR
comp=Z,470nm,19.8s
PV01 Paradox Valley 83.81 46 eP P 18 00 39.0 -0.2
comp=Z,2μm,1.3s
MAW Mawson 83.83 199 LR LR 18 35 25.4
comp=Z,2μm,20.7s,baz=113,slow=34
V22A San Miguel Ran 83.86 49 ⇑P P 18 00 40.1 +0.5
baz=84
628A Black Gap, Mar 83.88 56 ⇓P P 18 00 39.6 +0.1
baz=84
KGM Kluang 83.94 274 ⇑P P 18 00 41.8 +1.6
125A Gardner Draw, 83.96 52 ⇑P P 18 00 40.5 +0.6
baz=84
Y24A Capitan 83.97 51 ⇑P P 18 00 40.5 +0.4
baz=84
W23A Werner Place, 84.04 50 ⇓P P 18 00 41.0 +0.5
baz=84
226B Tecolote Peak, 84.06 53 ⇓P P 18 00 40.6 +0.1
baz=84
QIZ Qiongzhong 84.07 292 P P 18 00 42.0 +1.4
QIZ pP PcP 18 00 43.8 -0.7
QIZ S S 18 11 04.9 +1.1
QIZ sS SKKSac 18 11 11.3 +3.6
QIZ SS SS 18 16 36.2 +3.0
QIZ pmax pmax
comp=Z,25nm,1.8s
QIZ LR LR
comp=Z,240nm,18.9s
QIZ LR LR
comp=Z,700nm,19.6s
U22A Llaves 84.12 48 ⇑P P 18 00 41.2 +0.3
baz=84
Z25A Roswell 84.20 52 ⇑P P 18 00 42.3 +1.1
baz=84
528A Cox Ranch, San 84.26 55 ⇓P P 18 00 41.8 +0.2
baz=84
NEW Newport 84.28 34 ⇓P P 18 00 41.8 +0.6
baz=84
V23A Ortiz Mt. (NFS 84.29 49 ⇓P P 18 00 42.2 +0.5
baz=84,SNR=9.5
126A Clayton Basin, 84.43 53 ⇑P P 18 00 42.8 +0.5
baz=85
Y25A Mesa, Roswell 84.52 51 ⇑P P 18 00 43.5 +0.8
baz=85,SNR=8.1
U23A El Rito 84.57 49 ⇓P P 18 00 43.7 +0.5
baz=85,SNR=12
AHID Auburn Hatcher 84.58 41 PFAKE 18 00 50.0 +7.0
AHID LR LR
comp=Z,876nm,19.0s
W24A Lazy 6 Ranch, 84.59 50 ⇑P P 18 00 43.5 +0.3
baz=85,SNR=8.8
MCMT McKenzie Canyo 84.66 39 eP P 18 00 43.0 -0.4
comp=Z,4.8nm,1.1s
KTH Kantishna Hill 84.67 10 eP P 18 00 40.5 -2.3
comp=Z,24nm,1.1s
TRF Thorofare Moun 84.68 10 eP P 18 00 41.4 -1.5
comp=Z,40nm,1.0s
227A Bennet, Jal 84.69 54 ⇓P P 18 00 44.0 +0.3
baz=85
SKAG Skagway 84.70 19 eP P 18 00 43.3 +0.4
comp=Z,40nm,1.6s
Z26A Caprock 84.74 52 ⇓P P 18 00 44.0 +0.1
baz=85
328A Wristen Ranch, 84.78 54 ⇑P P 18 00 44.6 +0.6
baz=85
S22A 4UR Ranch, Cre 84.81 47 ⇑P P 18 00 44.3 -0.1
baz=85,SNR=14
X25A Clemmons Ranch 84.82 51 ⇑P P 18 00 44.4 +0.1
baz=85
TNA Tin City 84.88 2 eP P 18 00 44.1 +0.4
comp=Z,70nm,1.1s
V24A Rampart Ranch, 84.94 49 ⇑P P 18 00 45.4 +0.3
baz=85,SNR=7.4
O20A White River Ci 85.04 44 ⇓P P 18 00 45.0 -0.3
baz=85
WHN Wuhan 85.06 305 ⇓P P 18 00 47.2 +1.8
WHN pP pP 18 00 57.4 +3.0
WHN LR LR
comp=Z,1μm,20.2s
PAX Paxson 85.14 13 eP P 18 00 43.9 -1.3
PAX pmax pmax
comp=Z,40nm,1.6s

PAX Paxson 85.14 13 eP P 18 00 43.9 -1.3
comp=Z,40nm,1.6s
429A Davenport Ranc 85.15 55 ⇓P P 18 00 46.2 +0.2
baz=85
Y26A Elida 85.16 52 ⇑P P 18 00 46.1 +0.1
baz=85,SNR=15
MCK McKinley 85.17 11 eP P 18 00 44.8 -0.5
MCK pmax pmax
comp=Z,68nm,1.1s
MCK McKinley 85.17 11 eP P 18 00 44.8 -0.5
comp=Z,68nm,1.1s
KTGM Kuala Trenggan 85.24 277 ⇓P P 18 00 49.0 +2.3
228A UT Block 9, Go 85.27 54 ⇑P P 18 00 46.6 0.0
baz=85,SNR=6.1
W25A X Bar L Ranch, 85.28 50 ⇑P P 18 00 46.5 -0.1
baz=86,SNR=15
BSMT Bassoo Peak 85.29 35 eP P 18 00 46.5 +0.1
comp=Z,18nm,1.5s
Z27A Tatum 85.33 52 ⇑P P 18 00 47.1 +0.2
baz=86,SNR=6.5
530A J-C Ranch, Com 85.38 56 ⇑P P 18 00 47.3 +0.2
baz=86
N20A Spence Gulch, 85.38 44 ⇓P P 18 00 47.6 +0.5
baz=86
COCO West Island 85.42 259 PFAKE 18 01 00.0 +12
COCO LR LR
comp=Z,1μm,20.0s
LRM Limekiln Ridge 85.45 38 eP P 18 00 46.5 -0.8
comp=Z,51nm,1.1s
X26A CR and CF Fran 85.45 51 ⇓P P 18 00 47.6 +0.1
baz=86,SNR=5.2
V25A Rancho No Teng 85.46 50 ⇑P P 18 00 47.4 -0.1
baz=86,SNR=17
329A Wagon Wheel Ra 85.46 55 ⇓P P 18 00 48.4 +0.9
baz=86
MENT Mentasta 85.48 13 eP P 18 00 47.2 +0.4
T24B San Luis 85.49 48 ⇑P P 18 00 48.0 +0.2
baz=86
QLMT Earthquake Lak 85.50 39 eP P 18 00 47.9 +0.3
comp=Z,2.1nm,1.1s
BKNI Bangkinang 85.53 272 eP P 18 00 48.4 +0.3
comp=Z,149nm,1.4s
TIA Tai'an 85.54 311 ⇑P P 18 00 48.9 +1.2
TIA S S 18 11 09.8 -8.0
TIA pmax pmax
comp=Z,50nm,0.9s
TIA pmax pmax
comp=Z,480nm,9.0s
TIA LR LR
comp=Z,600nm,21.4s
TIA LR LR
comp=Z,530nm,22.6s
TIA LR LR
comp=Z,770nm,22.0s
BW06 Boulder Array 85.55 42 eP P 18 00 46.7 -1.2
comp=Z,10nm,1.3s
BW06 LR LR
comp=Z,846nm,20.0s
PDAR Pinedale Array 85.55 42 P P 18 00 47.2 -0.6
comp=Z,2.2nm,0.8s,baz=212,slow=3.2,SNR=19
PDAR PKKPbc PKKPbc 18 18 52.3 -0.6
comp=Z,0.8nm,0.9s,baz=79,slow=4.7,SNR=4.5
PDAR LR LR 18 34 45.9
comp=Z,595nm,18.7s,baz=254,slow=33
128A Castleberry Fa 85.57 53 ⇓P P 18 00 47.9 -0.2
baz=86,SNR=12
CHMT Chamberlain Mo 85.60 37 eP P 18 00 46.7 -1.3
comp=Z,5.6nm,1.3s
DLBC Dease Lake 85.61 21 P P 18 00 47.7 +0.1
comp=Z,2.8nm,0.7s,baz=229,slow=4.5,SNR=6.2
Y27A Causey 85.63 52 ⇓P P 18 00 47.8 -0.6
baz=86,SNR=16
832A Faith Ranch, C 85.67 58 ⇑P P 18 00 49.3 +0.7
baz=86,SNR=6.5
YMR Madison River 85.69 40 eP P 18 00 48.9 +0.4
comp=Z,9.2nm,1.0s
R23A Moffat 85.72 47 ⇑P P 18 00 49.4 +0.5
baz=86
SDCO Great Sand Dun 85.73 48 eP P 18 00 48.8 -0.2
comp=Z,21nm,1.6s
W26A Owens Ranch, T 85.73 51 ⇓P P 18 00 49.3 +0.4
baz=86
P22A Eagle 85.76 46 ⇑P P 18 00 49.5 +0.4
baz=86
H17A Grant Village 85.78 40 ⇑P P 18 00 49.5 +0.4
baz=86
229A Bryant Ranch, 85.80 54 ⇑P P 18 00 49.0 -0.2
baz=86
BOZ Bozeman (W) 85.83 38 eP P 18 00 48.8 -0.3
BOZ pmax pmax
comp=Z,15nm,1.3s
BOZ MLR MLR
comp=Z,565nm,20.0s
BOZ Bozeman (W) 85.83 38 eP P 18 00 48.8 -0.3
comp=Z,15nm,1.3s
BOZ LR LR
comp=Z,565nm,20.0s
U25A Circle Dot Ran 85.87 49 ⇓P P 18 00 49.7 +0.1
baz=86
S24A Houchin Ranch, 85.88 48 ⇑P P 18 00 49.9 +0.1
baz=86
Z28A Tucker Farm, M 85.94 53 ⇑P P 18 00 49.7 -0.2
baz=86,SNR=7.2
FRIM Kepong 85.95 275 ⇓P P 18 00 51.5 +1.2
MSTX Muleshoe 85.96 52 eP P 18 00 49.8 -0.1
comp=Z,68nm,1.1s
MSTX Muleshoe 85.96 52 ⇓P P 18 00 49.8 -0.1
baz=86,SNR=10
X27A F and S Farms, 86.02 51 ⇑P P 18 00 50.5 +0.2
baz=86
V26A Tequesquite Ra 86.04 50 ⇑P P 18 00 50.5 +0.2
baz=86
DOT Dot Lake 86.04 13 eP P 18 00 49.0 -0.6
comp=Z,30nm,1.0s
J19A Crowheart 86.12 41 ⇓P P 18 00 50.6 0.0
baz=86
833A Chaparral WMA, 86.16 58 ⇑P P 18 00 51.2 +0.3
baz=86
O22A Kremmling 86.18 45 ⇓P P 18 00 50.6 -0.5
baz=86
W27A Bowe Ranch, En 86.23 51 ⇑P P 18 00 50.8 -0.5
baz=86,SNR=13
HRY Holter Researc 86.30 37 eP P 18 00 50.8 -0.5
comp=Z,4.4nm,0.8s
Y28A McKinney Farm, 86.32 52 ⇑P P 18 00 51.9 +0.1
baz=86
SEY Seymchan 86.33 345 P P 18 00 51.0 +0.1
SEY pmax pmax
comp=Z,22nm,0.9s
SEY Seymchan 86.33 345 P P 18 00 51.0 +0.1
comp=Z,22nm,0.9s,baz=145,slow=5.7,SNR=47
U26A Atchley Ranch, 86.34 49 ⇑P P 18 00 51.9 0.0
baz=86,SNR=5.9
733A Divot King Ran 86.40 58 ⇑P P 18 00 52.0 -0.1
baz=86
COLA College 86.41 11c iP P 18 00 51.0 -0.3
COLA pmax pmax
comp=Z,139nm,1.0s
COLA College 86.41 11 eP P 18 00 50.8 -0.4
comp=Z,44nm,0.9s
COLA LR LR
comp=Z,2μm,22.0s
S25A Robets Cordova 86.44 48 ⇓P P 18 00 52.1 -0.3
baz=87
Z29A Hungry Hill Ra 86.44 53 ⇓P P 18 00 52.6 +0.3
baz=87,SNR=8.4
WALA Waterton Lakes 86.46 35 eP P 18 00 51.3 -0.8
comp=Z,0.5nm,1.3s
035Z Hargill 86.48 61 ⇓P P 18 00 52.8 +0.2
baz=87
ILAR Eielson Array 86.49 11 P P 18 00 51.0 -0.7
ILAR pmax pmax
comp=Z,6.0nm,0.8s
ILAR MLR MLR
comp=Z,465nm,18.5s
ILAR Eielson Array 86.49 11 P P 18 00 51.0 -0.7
comp=Z,5.8nm,0.8s,baz=212,slow=5.7,SNR=50
ILAR LR LR 18 36 30.0
comp=Z,465nm,18.4s,baz=206,slow=34
Q24A Divide 86.55 47 ⇑P P 18 00 53.0 -0.1
baz=87
UBPT Khong Chiam 86.55 287 P P 18 00 54.4 +1.3
comp=Z,40nm,1.4s,comp=Z,743nm
N22A Wattenberg Ran 86.56 45 ⇓P P 18 00 52.4 -0.5
baz=87
I19A Meeteetse 86.56 41 ⇑P P 18 00 52.8 0.0
baz=87
O23A Lake Granby, G 86.63 45 ⇑P P 18 00 52.9 -0.5

baz=87
X28A Dimmitt 86.63 52 ⇓P P 18 00 53.3 0.0
baz=87
ISCO Idaho Springs 86.63 46 PFAKE 18 01 00.0 +6.6
ISCO LR LR
comp=Z,572nm,20.0s
ISCO Idaho Springs 86.63 46 ⇑P P 18 00 53.0 -0.4
baz=87
V27A Dan Oppiter Fa 86.71 50 ⇑P P 18 00 54.3 +0.6
baz=87
130A Snyder 86.72 54 ⇑P P 18 00 53.9 +0.2
baz=87
JCT Junction City 86.72 56 PFAKE 18 01 00.0 +6.3
JCT LR LR
comp=Z,744nm,20.0s
Y29A Porterfield Fa 86.73 52 ⇑P P 18 00 53.6 -0.1
baz=87
834A Tilden 86.75 59 ⇑P P 18 00 53.5 -0.4
baz=87
M22A Cedar Creek Ra 86.76 44 ⇓P P 18 00 53.6 -0.3
baz=87
T26A Comanche Natio 86.81 49 ⇑P P 18 00 54.6 +0.4
baz=87
Z30A Sanderson Ranc 86.89 53 ⇓P P 18 00 54.7 +0.2
baz=87
432A Menard 86.89 56 ⇓P P 18 00 54.3 -0.2
baz=87
IPM Ipoh 86.93 276 eP P 18 00 55.5 +0.4
comp=Z,103nm,0.8s
IPM Ipoh 86.93 276 ⇓P P 18 00 56.5 +1.4
231A Bronte 86.93 55 ⇑P P 18 00 54.4 -0.3
baz=87
N23A Red Feather La 86.94 45 ⇑P P 18 00 54.3 -0.5
baz=87
W28A Vega 86.95 51 ⇓P P 18 00 55.0 +0.2
baz=87
X29A Tulia 86.96 52 ⇑P P 18 00 54.8 -0.1
baz=87
U27A Thompson Grove 87.02 50 ⇓P P 18 00 55.6 +0.5
baz=87
KVTX Kingsville 87.05 60 PFAKE 18 01 10.0 +15
KVTX LR LR
comp=Z,891nm,22.0s
PLCA Paso Flores 87.08 132 LR LR 18 34 10.7
comp=Z,584nm,18.6s,baz=266,slow=32
332A Millersview 87.15 55 ⇑P P 18 00 56.5 +0.8
baz=87
533A Kerrville 87.16 57 ⇓P P 18 00 56.2 +0.4
baz=87
AMTX Amarillo 87.17 52 ⇓P P 18 00 56.2 +0.3
baz=87
L22A Ellis Ranch, M 87.17 44 ⇑P P 18 00 55.5 -0.4
baz=87
131A Roby 87.19 54 ⇓P P 18 00 56.1 +0.2
baz=87
W29A Amraillo 87.30 51 ⇓P P 18 00 56.4 -0.1
baz=88
Y30A Stafford Cattl 87.32 53 ⇓P P 18 00 56.7 +0.1
baz=88
M23A Laramie 87.36 44 ⇓P P 18 00 56.4 -0.5
baz=88
T27A Campo 87.38 49 ⇓P P 18 00 56.8 -0.1
baz=88
433A Art 87.39 56 ⇓P P 18 00 56.9 -0.1
baz=88,SNR=6.4
232A Coleman 87.43 55 ⇓P P 18 00 56.7 -0.5
baz=88,SNR=5.2
DAWY Dawson 87.44 14 eP P 18 00 56.2 -0.2
P25A Willow Gulch B 87.48 47 ⇑P P 18 00 57.4 +0.1
baz=88
F19A Roth Farm, Mol 87.53 39 ⇑P P 18 00 57.6 +0.2
baz=88
KULM Kulim 87.55 276 eP P 18 00 59.4 +1.3
comp=Z,76nm,1.3s
KULM LR LR
comp=Z,658nm,20.0s
G20A Bridger 87.64 40 ⇓P P 18 00 57.4 -0.6
baz=88
EGAK Eagle 87.65 13 eP P 18 00 56.8 -0.5
comp=Z,28nm,1.1s
EGAK LR LR
comp=Z,1μm,20.0s
Z31A Sharp Cattle R 87.65 54 ⇑P P 18 00 57.4 -0.7
baz=88,SNR=7.7
L23A Garrett 87.69 44 ⇑P P 18 00 57.9 -0.4
baz=88
ABTX Abilene, Hawle 87.74 54 eP P 18 00 58.2 -0.4
comp=Z,50nm,1.2s
ABTX Abilene, Hawle 87.74 54 ⇑P P 18 00 58.2 -0.4
baz=88,SNR=6.2
Y31A Rekieta Farm, 87.83 53 ⇑P P 18 00 58.8 -0.2
baz=88
BJT Baijiatuau 87.97 314 PFAKE 18 01 10.0 +11
BJT LR LR
comp=Z,783nm,19.0s
BJI Beijing 87.98 314 P P 18 01 00.4 +0.9
BJI PP PP 18 04 26.8 +0.4
BJI S S 18 11 38.4 -2.8
BJI SS SS 18 17 31.7 +1.9
BJI pmax pmax
comp=Z,31nm,1.4s
BJI pmax pmax
comp=Z,560nm,4.4s
BJI LR LR
comp=Z,250nm,19.7s
BJI LR LR
comp=Z,830nm,19.0s
BJI LR LR
comp=Z,580nm,23.0s
I22A 9 Mile Ranch, 88.05 42 ⇓P P 18 00 59.6 -0.3
baz=88
434A Burnet 88.06 56 ⇓P P 18 01 00.7 +0.5
baz=88
Z32A Haskell 88.15 54 ⇓P P 18 01 00.6 +0.1
baz=88,SNR=9.4
EGMT Eagleton 88.19 37 PFAKE 18 01 10.0 +10
EGMT LR LR
comp=Z,759nm,19.0s
EGMT Eagleton 88.19 37 ⇑P P 18 01 00.1 -0.3
baz=88
COLD Coldfoot 88.20 9 eP P 18 01 00.7 +0.8
comp=Z,28nm,1.4s
PSI Prapat 88.34 274 P P 18 01 02.0 0.0
PSI pmax pmax
comp=Z,41nm,1.0s
PSI Prapat 88.34 274 P P 18 01 01.9 0.0
comp=Z,41nm,1.0s,baz=138,slow=3.7,SNR=32
PSI Prapat 88.34 274 P P 18 01 02.4 +0.4
baz=89,SNR=11
C19A Slack Wire Ran 88.45 38 ⇓P P 18 01 01.4 -0.2
baz=89
Y32A R-V Farms, Ver 88.47 53 ⇑P P 18 01 01.3 -0.7
baz=89,SNR=10
BILL Bilibino 88.47 353 PFAKE 18 01 10.0 +8.8
BILL LR LR
comp=Z,16μm,22.0s
CHBT CHBT 88.52 284 P P 18 01 04.3 +1.7
comp=Z,39nm,1.5s,comp=Z,862nm
R28A Tribune 88.59 48 ⇑P P 18 01 02.1 -0.4
baz=89
X32A Elmer 88.76 53 ⇑P P 18 01 03.4 0.0
baz=89
ENH Enshi 88.76 303 PFAKE 18 01 10.0 +6.5
ENH LR LR
comp=Z,26nm,19.0s
B19A Brinkman Farms 88.88 37 ⇓P P 18 01 04.3 +0.7
baz=89
SNAA Sanae 88.88 177 eP P 18 01 03.0 -0.4
SNAA pmax pmax
comp=Z,49nm,1.6s
SNAA Sanae 88.88 177 P P 18 01 02.7 -0.8
comp=Z,2.9nm,0.9s,baz=126,slow=2.7,SNR=7.6
SNAA Sanae 88.88 177 eP P 18 01 03.0 -0.4
comp=Z,49nm,1.6s
134A White-Moore Ra 88.92 55 ⇓P P 18 01 04.9 +0.7
baz=89
W32A Sentinel 89.08 52 ⇑P P 18 01 04.9 +0.1
baz=89
GSI Gunungsitoli 89.12 272 eP P 18 01 07.0 +1.5
comp=Z,156nm,1.4s
EDM Edmonton 89.14 32 eP P 18 01 03.8 -0.9
EDM Edmonton 89.14 32 eP P 18 01 03.8 -0.9
A19A Klindworth Far 89.24 37 ⇓P P 18 01 05.5 +0.2
baz=89
LAO LASA Array 89.58 40 PFAKE 18 01 20.0 +13
LAO LR LR
comp=Z,452nm,19.0s

OGNE Ogallala 89.59 46 ⇓P P 18 01 07.2 0.0
baz=90
GYA Guiyang 89.60 298⇑iP P 18 01 08.2 +0.6
GYA PP PP 18 04 42.8 +3.0
GYA SKS SKSac 18 11 37.0 +0.4
GYA S S 18 11 57.4 0.0
GYA SS SS 18 17 56.2 +1.9
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,220nm,4.6s
GYA LR LR
comp=Z,150nm,20.8s
GYA LR LR
comp=Z,130nm,22.2s
GYA LR LR
comp=Z,160nm,21.6s
R30A Dighton 89.66 49 ⇓P P 18 01 07.6 +0.1
baz=90
H24A Dirks Ranch, A 89.68 42 ⇑P P 18 01 07.3 -0.2
baz=90
A20A Cobblestone Ra 89.68 37 ⇓P P 18 01 07.0 -0.3
baz=90
I25A Rochford 89.86 43 ⇑P P 18 01 08.4 -0.1
baz=90
PATY Pattaya 89.92 284 P P 18 01 12.4 +3.2
comp=Z,14nm,1.3s,comp=Z,867nm
X34A Smith Ranch, M 89.93 53 ⇑P P 18 01 09.9 +1.0
baz=90
SLVN Son La 90.10 293 eP P 18 01 11.4 +1.5
comp=Z,65nm,1.7s
HIA Hailar 90.19 323 PFAKE 18 01 20.0 +10
HIA LR LR
comp=Z,2μm,21.0s
P30A Selden 90.21 48 ⇑P P 18 01 10.0 -0.1
baz=90
SURT Suratani 90.51 279 P P 18 01 14.6 +2.6
comp=Z,21nm,1.3s,comp=Z,324nm
PKDT Phuket 90.58 278 P P 18 01 14.7 +2.4
comp=Z,35nm,1.4s,comp=Z,752nm
XAN Xi'an 90.68 306 P P 18 01 13.6 +1.2
XAN pP pP 18 01 19.1 -2.4
XAN SKS SKSac 18 11 44.0 +1.6
XAN S S 18 12 02.4 -4.5
XAN pmax pmax
comp=Z,7.0nm,1.5s
XAN pmax pmax
comp=Z,72nm,5.7s
XAN LR LR
comp=Z,250nm,21.4s
XAN LR LR
comp=Z,110nm,22.4s
XAN LR LR
comp=Z,110nm,21.4s
R32A Long Quarter, 90.83 49 ⇓P P 18 01 13.0 0.0
baz=91
A22A Carney Farms, 90.89 38 ⇑P P 18 01 13.1 +0.1
baz=91
PHET Kaeng Krachan 91.05 283 P P 18 01 17.5 +3.1
comp=Z,160nm,1.2s,comp=Z,2μm
PBKT Sadao Pong 91.06 287 P P 18 01 16.3 +1.9
comp=Z,46nm,1.3s,comp=Z,1μm
LOEI Loei 91.11 288 P P 18 01 14.6 -0.1
comp=Z,24nm,0.8s,comp=Z,3μm
PAF Port-aux-Franc 91.12 216 P P 18 01 00.0 -14
PAF Port-aux-Franc 91.12 216 S S 18 11 55.0 -15
PAF SS SS 18 18 02.0 -12
PAF L L 18 27 00.0
PAF R R 18 31 00.0
B23A Brockton 91.17 38 ⇑P P 18 01 14.8 +0.5
baz=91
Q32A Meitler Ranch, 91.17 49 ⇑P P 18 01 14.7 +0.1
baz=91
HHC Hu-ho-hao-te 91.50 313 eP P 18 01 17.7 +1.6
HHC pP pP 18 01 28.3 +3.1
HHC sP sP 18 01 32.0 +3.6
HHC SKS SKSac 18 11 46.3 -0.6
HHC S S 18 12 14.9 +0.8
HHC SS SS 18 18 23.0 +1.9
HHC pmax pmax
comp=Z,64nm,1.4s
HHC pmax pmax
comp=Z,490nm,7.5s
HHC LR LR
comp=Z,780nm,17.4s
HHC LR LR
comp=Z,890nm,17.4s
HHC LR LR
comp=Z,1μm,22.4s
LCO Las Campanas 91.58 121 PFAKE 18 01 30.0 +13
LCO LR LR
comp=Z,2μm,20.0s
DGMT Dagmar 91.64 39 PFAKE 18 01 30.0 +14
DGMT LR LR
comp=Z,625nm,19.0s
UTTA Uttaradit 91.83 288 P P 18 01 20.0 +2.0
comp=Z,8.5nm,1.2s,comp=Z,76nm
M31A Lambtecht Ranc 91.84 47 ⇑P P 18 01 18.0 +0.4
baz=92
SRDT SRDT 91.99 284 P P 18 01 21.6 +2.8
comp=Z,105nm,1.4s,comp=Z,3μm
INK Inuvik 92.29 14 eP P 18 01 18.7 -0.2
INK pmax pmax
comp=Z,24nm,1.3s
INK Inuvik 92.29 14 P P 18 01 18.8 -0.2
comp=Z,5.4nm,0.9s,baz=222,slow=4.8,SNR=19
INK Inuvik 92.29 14 eP P 18 01 18.7 -0.2
comp=Z,24nm,1.3s
JTS JuntasAbangare 92.31 80 eP P 18 01 19.6 -0.8
JTS pmax pmax
comp=Z,18nm,1.5s
JTS JuntasAbangare 92.31 80 eP P 18 01 21.2 +0.8
comp=Z,20nm,1.1s
JTS LR LR
comp=Z,825nm,21.0s
KMI Kunming 92.42 296 P P 18 01 22.9 +2.0
KMI pP pP 18 01 33.4 +3.4
KMI PP PP 18 05 02.5 +0.2
KMI SKS SKSac 18 11 55.2 +2.2
KMI S S 18 12 23.9 +0.5
KMI SS SS 18 18 37.7 +2.4
KMI pmax pmax
comp=Z,16nm,1.1s
KMI pmax pmax
comp=Z,190nm,5.2s
KMI LR LR
comp=Z,260nm,22.5s
KMI LR LR
comp=Z,770nm,19.7s
KMI LR LR
comp=Z,1μm,21.8s
CFAA Coronel Fontan 92.48 125 LR LR 18 35 45.3
comp=Z,50nm,18.7s,slow=31
NNA Nana 92.50 104 PFAKE 18 01 30.0 +8.7
NNA LR LR
comp=Z,697nm,21.0s
SUKH Sukhothai 92.57 288 P P 18 01 23.4 +2.0
comp=Z,12nm,1.3s,comp=Z,117nm
KSU1 Kansas State U 92.61 49 PFAKE 18 01 30.0 +8.8
KSU1 LR LR
comp=Z,671nm,19.0s
KHLT Khaolaem Dam 92.63 285 P P 18 01 24.9 +3.2
comp=Z,15nm,1.3s,comp=Z,268nm
KHLT P pP 18 01 34.8 +4.0
comp=Z,15nm,1.3s,comp=Z,268nm
YAK Yakutsk 92.68 337 eP P 18 01 19.7 -1.2
YAK pmax pmax
comp=Z,14nm,0.9s
YAK Yakutsk 92.68 337 eP P 18 01 20.2 -0.7
comp=Z,17nm,0.7s
LAMP Lampang 92.91 288 P P 18 01 25.0 +2.0
comp=Z,14nm,1.1s,comp=Z,137nm
PAYA Payao 92.98 289 P P 18 01 24.9 +1.6
comp=Z,13nm,1.2s,comp=Z,122nm
F29A Eureka 93.15 42 ⇑P P 18 01 23.5 0.0
baz=93
G30A Faulkton 93.29 43 ⇓P P 18 01 24.3 +0.1
baz=94
CMAR Chiang Mai Arr 93.51 288 P P 18 01 25.7 -0.1
CMAR pmax pmax
comp=Z,11nm,1.0s
CMAR MLR MLR
comp=Z,333nm,18.9s
CMAR Chiang Mai Arr 93.51 288 P P 18 01 25.7 -0.1
comp=Z,11nm,0.9s,baz=116,slow=2.8,SNR=62
CMAR LR LR 18 43 22.1
comp=Z,333nm,18.9s,baz=102,slow=36
CD2 Chengdu 93.58 301 ⇑P P 18 01 26.6 +0.7
CD2 pP pP 18 01 31.4 -3.6
CD2 sP sP 18 01 33.6 -4.6
CD2 PP PP 18 05 14.1 +3.0
CD2 SKS SKSac 18 11 59.5 +0.7
CD2 S S 18 12 32.3 -0.8
CD2 sS ScS 18 12 40.0 +5.4
CD2 SS SS 18 18 53.6 +2.2
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,310nm,7.0s
CD2 LR LR
comp=Z,450nm,15.6s
CD2 LR LR
comp=Z,600nm,21.6s
CD2 LR LR
comp=Z,550nm,16.6s
CMMT Chiang Mai 93.62 289 P P 18 01 27.7 +1.4
comp=Z,40nm,1.4s,comp=Z,519nm
CHTO Chiang Mai 93.63 289 eP P 18 01 27.1 +0.8
CHTO pmax pmax
comp=Z,55nm,1.4s
CHTO MLR MLR
comp=Z,503nm,20.0s
CHTO Chiang Mai 93.63 289 P P 18 01 27.7 +1.4
comp=Z,86nm,1.5s,comp=Z,2μm
CHTO Chiang Mai 93.63 289 eP P 18 01 27.1 +0.8
comp=Z,55nm,1.4s
CHTO LR LR
comp=Z,503nm,20.0s
CMAI Chiengmai2 93.90 290 P P 18 01 30.7 +3.0
comp=Z,111nm,0.7s
YKA Yellowknife Ar 93.97 24 P P 18 01 26.4 -0.4
comp=Z,2.5nm,0.8s,baz=239,slow=4.4,SNR=50
YKA PKKPbc PKKPdf 18 18 29.7 -1.8
comp=Z,0.0nm,0.3s,baz=47,slow=2.6,SNR=3.8
A28A Rude Farm, Bot 94.17 39 ⇓P P 18 01 27.9 -0.2
baz=94
ECSD EROS Data Cent 94.40 45 eP P 18 01 28.3 -1.0
comp=Z,33nm,1.4s
ECSD LR LR
comp=Z,720nm,19.0s
ECSD EROS Data Cent 94.40 45 ⇑P P 18 01 29.3 0.0
baz=95
B29A Wagenman Farm, 94.53 40 ⇓P P 18 01 29.6 -0.2
baz=95
C30A Mose, Pekin 94.76 41 ⇓P P 18 01 30.5 -0.4
baz=95
A29A Manning Farm, 94.79 40 ⇓P P 18 01 30.2 -0.7
baz=95
LZH Lanzhou 95.31 306 eP P 18 01 36.2 +2.4
LZH pP pP 18 01 41.2 -1.7
LZH sP sP 18 01 44.1 -2.1
LZH PP PP 18 05 25.0 +0.4
LZH eS S 18 12 46.2 -1.9
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,140nm,6.8s
LZH LR LR
comp=Z,230nm,15.5s
LZH LR LR
comp=Z,420nm,15.7s
LZH LR LR
comp=Z,470nm,17.0s
A30A Hoffart Farm, 95.36 40 ⇑P P 18 01 33.0 -0.6
baz=96
LVC Limon Verde 95.60 116 PFAKE 18 01 50.0 +14
LVC LR LR
comp=Z,1μm,21.0s
FFC Flin Flon 95.69 34 PFAKE 18 01 50.0 +15
FFC LR LR
comp=Z,741nm,19.0s
AGMN Agassiz Nation 96.61 41 PFAKE 18 01 50.0 +11
AGMN LR LR
comp=Z,755nm,19.0s
BCIP Isla Barro Col 96.72 83 PFAKE 18 01 50.0 +9.5
BCIP LR LR
comp=Z,637nm,19.0s
ULN Ulaanbaatar 97.19 318 eP Pdif 18 01 42.3 +0.1
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 97.19 318 eP Pdif 18 01 42.3 +0.1
comp=Z,11nm,1.4s
ULM Lac du Bonnet 97.32 39 LR LR 18 42 01.9
comp=Z,575nm,18.5s,baz=241,slow=33
SONM Songino Array 97.60 318 P Pdif 18 01 45.4 +1.4
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM MLR MLR
comp=Z,625nm,21.8s
SONM Songino Array 97.60 318 P Pdif 18 01 45.4 +1.4
comp=Z,0.9nm,0.7s,baz=125,slow=4.2
SONM LR LR 18 41 23.8
comp=Z,625nm,21.8s,baz=104,slow=33
JFWS Jewell Farm 98.46 48 PFAKE 18 02 00.0 +12
JFWS LR LR
comp=Z,774nm,19.0s
LPAZ La Paz 98.78 111 LR LR 18 36 02.0
comp=Z,610nm,21.5s,baz=248,slow=29
TIXI Tiksi 98.80 344 eP P 18 01 47.3 -1.2
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 98.80 344 eP P 18 01 47.3 -1.2
comp=Z,4.8nm,1.0s
EYMN Ely 99.23 42 PFAKE 18 02 00.0 +8.9
EYMN LR LR
comp=Z,798nm,19.0s
GTA Gaotai 99.40 308 eP Pdif 18 01 53.4 +1.2
GTA pP pP 18 01 58.2 -3.1
GTA sP sP 18 02 00.5 -4.0
GTA PP PP 18 05 59.1 +3.1
GTA SKS SKSac 18 12 30.3 +1.3
GTA S ScS 18 13 21.9 -1.0
GTA sS S 18 13 30.8 +7.1
GTA SS SS 18 20 15.4 +1.9
GTA pmax pmax
comp=Z,4.0nm,1.6s
GTA LR LR
comp=Z,300nm,18.1s
GTA LR LR
comp=Z,470nm,20.9s
GTA LR LR
comp=Z,900nm,22.3s
COWI Conover 100.20 45 PFAKE 18 02 10.0 +15
COWI LR LR
comp=Z,701nm,21.0s
GOGA Godfrey 100.74 58 PFAKE 18 02 10.0 +12
GOGA LR LR
comp=Z,901nm,19.0s
ACSO Alum Creek Sta 102.92 52 PFAKE 18 02 20.0 +12
ACSO LR LR
comp=Z,509nm,19.0s
AAM Ann Arbor 102.95 50 PFAKE 18 02 20.0 +12
AAM LR LR
comp=Z,827nm,19.0s
NHSC New Hope 103.31 59 PFAKE 18 02 20.0 +10
NHSC LR LR
comp=Z,513nm,19.0s
LSA Lhasa 103.62 297 PFAKE 18 02 20.0 +8.4
LSA LR LR
comp=Z,674nm,21.0s
BLA Blacksburg 104.13 55 PFAKE 18 02 20.0 +6.8
BLA LR LR
comp=Z,798nm,19.0s
MCWV Mont Chateau 105.13 53 PFAKE 18 06 40.0
MCWV LR LR
comp=Z,1μm,19.0s
ERPA Erie 105.56 50 PFAKE 18 06 40.0
ERPA LR LR
comp=Z,850nm,21.0s
CNNC Cliffs of the 105.66 58 PFAKE 18 06 40.0
CNNC LR LR
comp=Z,687nm,19.0s
CBN Corbin 106.70 55 PFAKE 18 06 50.0
CBN LR LR
comp=Z,760nm,19.0s
GRTK Grand Turk 108.28 73 PFAKE 18 06 50.0
GRTK LR LR
comp=Z,518nm,19.0s
BINY Binghamton 108.49 51 PFAKE 18 06 50.0
BINY LR LR
comp=Z,929nm,21.0s
WMQ Urumqi 109.24 311 ePdif Pdif 18 02 36.0 +0.2
WMQ PP PP 18 07 12.4 +3.4
WMQ S Sdif 18 14 39.9 -4.8
WMQ SS SS 18 22 26.0 -2.1
WMQ AMB AMB
comp=Z,160nm,5.2s
WMQ LR LR
comp=Z,260nm,20.6s
WMQ LR LR
comp=Z,410nm,23.0s
WMQ LR LR
comp=Z,480nm,20.4s
LONY Lake Ozonia 109.88 49 PFAKE 18 06 50.0
LONY LR LR
comp=Z,707nm,21.0s
NCB Newcomb 110.04 49 PFAKE 18 06 50.0
NCB LR LR
comp=Z,843nm,21.0s
LBNH Lisbon 111.72 49 PFAKE 18 07 00.0
LBNH LR LR
comp=Z,1μm,19.0s
ZALV Zalesovo Beam 112.16 321 i PKIKP PKiKP 18 06 43.6 -1.0
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 112.16 321 PKiKP PKiKP 18 06 43.6 -1.0
comp=Z,2.6nm,0.7s,baz=171,slow=1.9,SNR=14
MK31 Makanchi Array 113.36 313 ePKIKP PKiKP 18 06 46.4 -0.8
MK31 Makanchi Array 113.36 313 eP PKiKP 18 06 46.4 -0.8
MKAR Makanchi Array 113.36 313 Pdiff Pdif 18 02 56.3 +2.3
comp=Z,0.2nm,0.7s,baz=85,slow=5.2,SNR=2.2
MKAR PKiKP PKiKP 18 06 46.5 -0.7
comp=Z,2.3nm,0.8s,baz=67,slow=2.6,SNR=24
GRGR Grenville 114.66 85 PFAKE 18 07 00.0 +9.4
GRGR LR LR
comp=Z,351nm,19.0s
FDF Fort de France 115.81 83 PFAKE 18 07 00.0 +7.2
FDF LR LR
comp=Z,248nm,20.0s
KURK Kurchatov 115.90 318 ePKIKP PKPdf 18 06 50.6 -1.3
KURK MLR MLR
comp=Z,407nm,21.0s
KURK Kurchatov 115.90 318 eP PKPdf 18 06 50.5 -1.3
KURK PKP PKiKP 18 06 51.4 -0.5
KURK LR LR
comp=Z,407nm,21.0s
ANWB Willy Bob 115.93 79 PFAKE 18 07 00.0 +7.1
ANWB LR LR
comp=Z,449nm,22.0s
KURBB Kurchatov Arra 115.96 318 PKP PKPdf 18 06 51.4 -0.6
comp=Z,3.2nm,0.8s,baz=98,slow=1.9,SNR=25
KSH Kashi 117.53 305 ePKP PKPdf 18 07 00.9 +5.3
KSH PKS PKSdf 18 10 34.2 +1.8
KSH SKS SKSdf 18 14 09.1 +3.1
KSH SS SS 18 24 26.0 +7.8
KSH AMB AMB
comp=Z,93nm,5.3s
KSH LR LR
comp=Z,120nm,5.9s
KSH LR LR
comp=Z,190nm,5.4s
KSH LR LR
comp=Z,110nm,5.6s
AAK Ala-Archa 118.75 309 i PKIKP PKPdf 18 06 57.6 -0.3
AAK pmax pmax
comp=Z,12nm,1.7s
AAK Ala-Archa 118.75 309 PKP PKPdf 18 06 57.6 -0.3
comp=Z,2.3nm,0.7s,baz=147,slow=4.9,SNR=8.4
AAK Ala-Archa 118.75 309 PKP PKPdf 18 06 57.6 -0.3
AAK LR LR
comp=Z,448nm,22.0s
EKS2 Erkin-Say 119.28 309 PFAKE 18 07 10.0 +11
EKS2 LR LR
comp=Z,395nm,22.0s
KBS Kingsbay 120.44 359 PFAKE 18 07 10.0 +10
KBS LR LR
comp=Z,362nm,19.0s
BVAR Borovoye Array 120.80 321 PKIKP PKPdf 18 07 01.1 -0.2
BVAR pmax pmax
comp=Z,8.0nm,0.7s
BVAR Borovoye Array 120.80 321 PKP PKPdf 18 07 01.1 -0.2
comp=Z,8.2nm,0.7s,baz=93,slow=1.4,SNR=49
BRVK Borovoye 120.86 321c i PKIKP PKPdf 18 07 01.3 -0.1
BRVK pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 120.86 321 eP PKPdf 18 07 01.1 -0.3
BRVK LR LR
comp=Z,860nm,22.0s
KKAR Karatay Array 121.67 309 ePKIKP PKPdf 18 07 02.8 -0.5
KKAR Karatay Array 121.67 309 eP PKPdf 18 07 02.8 -0.5
KBL Kabul 122.84 299 ePKIKP PKPdf 18 07 06.1 0.0
KBL Kabul 122.84 299 eP PKPdf 18 07 06.0 0.0
ABPO Ambohimpanom 124.47 229 PFAKE 18 07 20.0 +10
ABPO LR LR
comp=Z,625nm,20.0s
SVE Sverdlovsk 125.33 327 i PKIKP PKPdf 18 07 10.4 +0.5
SVE pmax pmax
comp=Z,24nm,1.1s
SVE MLR MLR
comp=Z,1μm,22.0s
SVE MLR MLR
comp=E,1μm,23.0s
MSEY Mahe Island 125.91 249 PFAKE 18 07 20.0 +7.6
MSEY LR LR
comp=Z,423nm,22.0s
SOKR Solikamsk 126.15 331 i PKIKP PKPdf 18 07 12.3 +1.0
SOKR pmax pmax
comp=Z,20nm,0.8s
SOKR MLR MLR
comp=Z,510nm,26.0s
ARU Arti 126.55 327 i PKIKP PKPdf 18 07 11.7 -0.5
ARU 18 09 06.2
ARU 18 14 13.3
ARU SP SP 18 19 08.0 +0.2
ARU SS SS 18 26 05.2 -6.3
ARU MLR MLR
comp=Z,1μm,20.0s
ARU Arti 126.55 327 eP PKPdf 18 07 11.9 -0.3
ARU LR LR
comp=Z,1μm,21.0s
ABKAR Akbulak array 128.01 318 eP PKPdf 18 07 15.7 +0.4
LVZ Lovozero 128.36 347 i PKIKP PKPdf 18 07 17.3 +1.9
LVZ Lovozero 128.36 347 PFAKE 18 07 30.0 +15
LVZ LR LR
comp=Z,881nm,21.0s
ARCES ARCESS Array B 128.56 351 PKIKP PKPdf 18 07 14.6 -1.1
ARCES pmax pmax
comp=Z,10.0nm,1.0s
ARCES ARCESS Array B 128.56 351 PKP PKPdf 18 07 14.6 -1.1
comp=Z,9.9nm,1.0s,baz=21,slow=1.7,SNR=7.4
APA Apatity 128.90 347 i PKIKP PKPdf 18 07 11.6 -4.8
APA MLR MLR
comp=Z,1μm,21.0s
PRGR Permogore 129.72 337 ePKIKP PKPdf 18 07 16.4 -1.7
KLMR Klimovskoe 132.44 339 ePKIKP PKPdf 18 07 22.8 -0.4
KLMR pmax pmax
comp=Z,31nm,1.7s
JOF Joensuu 133.28 345 ePKIKP PKPdf 18 07 27.3 +2.5
JOF Joensuu 133.28 345 ep PKPdf 18 07 27.3 +2.5
KAF Kangasniemi 135.15 347 ePKIKP PKPdf 18 07 26.8 -1.5
KAF Kangasniemi 135.15 347 ep PKPdf 18 07 26.8 -1.5
FINES FINESS Array B 135.80 346 PKIKP PKPdf 18 07 28.9 -0.6
FINES pmax pmax
comp=Z,6.0nm,1.0s
FINES FINESS Array B 135.80 346 PKP PKPdf 18 07 28.9 -0.6
comp=Z,6.3nm,1.0s,baz=62,slow=5.2,SNR=7.8
OBN Obninsk 137.63 334⇑i PKIKP PKPdf 18 07 34.3 +1.2
OBN i 18 07 42.4
OBN i SS SS 18 28 50.1 +24
OBN pmax pmax
comp=Z,45nm,1.7s
OBN Obninsk 137.63 334 PFAKE 18 07 40.0 +6.9
OBN LR LR
comp=Z,680nm,19.0s
VRHR Novokhopersk 137.89 327 ePKIKP PKPdf 18 07 33.2 -0.5
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=E,40nm,0.9s
VRHR MLR MLR
comp=N,310nm,23.0s
VRHR MLR MLR
comp=E,2μm,23.0s
VRHR MLR MLR
comp=Z,1μm,23.0s

MAK Makhachkala 138.18 313 PKHKP PKPpre 18 07 26.3
MAK MLR MLR
comp=Z,421nm,4.0s
VSU Vasula 138.27 344 i PKIKP PKPdf 18 07 36.6 +2.4
VSR Storozhevoye 139.06 329 ePKIKP PKPdf 18 07 34.6 -1.3
VSR pmax pmax
comp=N,20nm,1.4s
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR MLR MLR
comp=N,1µm,24.0s
VSR MLR MLR
comp=E,400nm,24.0s
VSR MLR MLR
comp=Z,2µm,24.0s
VORD Divnogorie 139.15 328 ePKIKP PKPdf 18 07 35.3 -0.7
VORD pmax pmax
comp=N,60nm,0.8s
VORD pmax pmax
comp=E,30nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD MLR MLR
comp=N,640nm,23.0s
VORD MLR MLR
comp=E,1µm,23.0s
VORD MLR MLR
comp=Z,880nm,23.0s
LSZ Lusaka 139.25 214 ePKIKP PKPdf 18 07 37.5 0.0
LSZ MLR MLR
comp=Z,611nm,20.0s
LSZ Lusaka 139.25 214 eP PKPdf 18 07 37.5 0.0
LSZ LR LR
comp=Z,611nm,20.0s
KIV Kislovodsk 140.98 317 i PKIKP PKPdf 18 07 41.6 +1.9
KIV e 18 10 38.5
KIV eSS SS 18 29 07.7 +1.1
KIV eSSS SSS 18 34 23.1
KIV pmax pmax
comp=Z,5.0nm,0.7s
KIV MLR MLR
comp=Z,487nm,21.0s
KIV Kislovodsk 140.98 317 PFAKE 18 07 50.0 +10
KIV LR LR
comp=Z,622nm,20.0s
GNI Garni 141.11 310 PFAKE 18 07 50.0 +10
GNI LR LR
comp=Z,525nm,20.0s
SOC Sochi 143.05 318 i PKIKP PKPdf 18 07 43.2 -0.1
SOC e 18 10 50.1
SOC ePPP PPP 18 13 57.7
SOC eSSS SSS 18 34 51.4
SUW Suwalki 143.13 343 ePKIKP PKPbc 18 07 39.8 -0.2
SUW Suwalki 143.13 343 ePKP PKPbc 18 07 39.7 -0.3
SUW Suwalki 143.13 343 ePKPpre PKPpre 18 07 35.7
KMBO Kilima Mbogo 143.28 240c i PKIKP PKPdf 18 07 48.2 +3.2
KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 143.28 240 PKP PKPdf 18 07 43.7 -1.3
comp=Z,7.8nm,0.9s,baz=52,slow=3.0,SNR=24
KMBO Kilima Mbogo 143.28 240 PKP PKPdf 18 07 43.7 -1.3
KMBO ePKPdf PKPbc 18 07 43.9 +1.9
KMBO LR LR
comp=Z,519nm,19.0s
ESK Eskdalemuir 143.51 9 PFAKE 18 08 00.0 +16
ESK LR LR
comp=Z,884nm,21.0s
AKASG Malin Array Be 143.89 335 PKIKP PKPab 18 07 41.6 -0.1
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 143.89 335 PKP PKPab 18 07 41.5 -0.1
comp=Z,6.3nm,0.9s,baz=37,slow=3.8,SNR=35
AKBB Malin Array Si 143.89 335 ePKIKP PKPab 18 07 41.2 -0.5
AKBB Malin Array Si 143.89 335 ePKPpre PKPab 18 07 41.2 -0.5
AK01 Malin Array Si 143.90 335 ePKPpre PKPab 18 07 41.2 -0.5
KIEV Kiev 143.90 335 ePKIKP PKPab 18 07 41.5 -0.2
KIEV MLR MLR
comp=Z,707nm,22.0s
KIEV Kiev 143.90 335 ePKPpre PKPab 18 07 41.5 -0.2
KIEV LR LR
comp=Z,707nm,22.0s
AK02 Malin Array Si 143.93 335 ePKPpre PKPab 18 07 41.7 -0.1
GKP Gorka Klasztor 145.19 348 ePKIKP PKPdf 18 07 46.7 0.0
GKP e 18 07 58.6
GKP Gorka Klasztor 145.19 348 ePKPbc PKPdf 18 07 46.7 0.0
GKP ePKPab PKiKP 18 07 58.5 +7.9
BSEG Bad Segeberg 145.45 356 ePKPbc PKPab 18 07 47.6 +0.3
SIM Simferopol' 145.61 324c i PKIKP PKPab 18 07 48.9 +0.6
SIM pmax pmax
comp=Z,370nm,9.3s
BEL Belsk 145.72 344 ePKIKP PKPab 18 07 48.3 -0.1
BEL Belsk 145.72 344 ePKP PKPab 18 07 48.3 -0.1
ASCN Ascension 146.07 141 PFAKE 18 08 00.0 +9.1
ASCN LR LR
comp=Z,2µm,20.0s
LVV L'vov 146.53 339 ePKP2 PKPbc 18 07 50.5 -0.1
LVV MLR MLR
comp=Z,600nm,21.0s
LVV MLR MLR
comp=N,400nm,22.0s
LVV MLR MLR
comp=E,400nm,21.0s
KIS Kishinev 146.89 331 ePKP2 PKPbc 18 07 51.0 -0.7
KIS MLR MLR
comp=Z,700nm,22.0s
KIS MLR MLR
comp=Z,700nm,24.0s
KIS Kishinev 146.89 331 ePKP PKPbc 18 07 51.0 -0.7
KIS LRM MLR 19 12 04.0
comp=Z,700nm,24.0s
NRDL Niedersach Rie 146.90 356 ePKPbc PKPab 18 07 52.2 -0.6
KWP Kalwaria Pacla 147.13 340 PFAKE 18 08 00.0 +6.1
KWP LR LR
comp=Z,828nm,19.0s
IBBN Ibbenburen 147.21 358 ePKPbc PKPbc 18 07 53.0 +0.6
OJC Ojcow 147.46 344 ePKIKP PKPdf 18 07 51.0 +0.3
OJC Ojcow 147.46 344 ePKP PKPbc 18 07 53.7 +0.5
CLZ Clausthal 147.53 355 ePKPbc PKPbc 18 07 54.2 +0.8
WTSB Winterswijk 147.57 359 ePKP PKPbc 18 07 53.4 0.0
comp=Z,92nm,1.7s
KSP Ksiaz 147.69 348 ePKP2 PKPab 18 07 55.0 -1.1
KSP MLR MLR
comp=Z,3µm,20.6s
KSP Ksiaz 147.69 348 ePKP PKPbc 18 07 54.7 +0.9
KSP e 18 08 06.4
STHS Stebnicka Huta 147.77 341 ePKP2 PKPbc 18 07 52.9 -1.2
STHS Stebnicka Huta 147.77 341 ePKP PKPbc 18 07 52.9 -1.2
CLL Collm 147.78 352⇑i PKP2 PKPbc 18 07 54.7 +0.7
CLL pmax pmax
comp=Z,113nm,1.5s
CLL MLR MLR
comp=Z,500nm,20.3s
CLL Collm 147.78 352 ePKPbc PKPbc 18 07 54.5 +0.5
CLL Collm 147.78 352⇑i PKPbc PKPbc 18 07 54.7 +0.7
comp=Z,113nm,1.5s
CLL i PKiKP PKPab 18 07 57.2 +0.8
comp=Z,90nm,1.1s
CLL ePKPlp 18 07 59.0
comp=Z,400nm,20.5s
CLL i 18 08 06.8
CLL ePP PP 18 11 20.0 -0.3
CLL ePPP PPP 18 14 45.0
CLL e(PSKS) 18 21 18.0
CLL eSS SS 18 30 16.0 -6.5
CLL ePSPS 18 31 42.0
CLL eSSS SSS 18 36 16.0
CLL LmH 19 19 00.0
comp=N,400nm,20.0s
CLL LmH 19 19 00.0
comp=E,400nm,18.9s
CLL LmV 19 21 00.0
comp=Z,500nm,20.3s
BUR08 Bucovina Ar. S 147.92 335 ePKPbc PKPbc 18 07 55.1 +0.5
BURAR Bucovina Array 147.94 335 ⇑PKP2 PKPab 18 07 56.3 -1.0
BURAR Bucovina Array 147.94 335⇑i P PKPab 18 07 56.3 -1.0
NIE Niedzica 148.04 342 ePKP2 PKPbc 18 07 56.0 +1.1
UPC Upice 148.06 348 ePKIKP PKPdf 18 07 52.8 +1.1
UPC e 18 07 56.0
UPC e 18 08 07.9
UPC Upice 148.06 348⇑ePKP PKPdf 18 07 52.8 +1.1
UPC ePKPAB PKiKP 18 07 56.0 -0.6
UPC ex x 18 08 07.9
BRG Berggiesshubel 148.07 351 ePKP PKPdf 18 07 52.9 +1.2
comp=Z,21nm,1.7s
BRG i 18 07 55.8
comp=Z,46nm,1.1s
BRG i 18 08 07.8
comp=Z,48nm,1.2s
BRG
comp=N,593nm,12.7s
BRG
comp=E,348nm,18.2s
BRG
comp=Z,630nm,19.9s
BRG Berggiesshubel 148.07 351 ePKIKP PKPdf 18 07 52.8 +1.2
BRG i 18 07 55.8
BRG i 18 08 07.8
BRG pmax pmax
comp=Z,21nm,1.7s
BRG pmax pmax
comp=Z,46nm,1.1s
BRG pmax pmax
comp=Z,48nm,1.2s
BRG MLR MLR
comp=N,593nm,12.7s
BRG MLR MLR
comp=E,348nm,18.2s
BRG MLR MLR
comp=Z,630nm,19.9s
BRG Berggiesshubel 148.07 351 ePKPbc PKPbc 18 07 55.6 +0.8
BUG Bochum--Univer 148.08 359 ePKPbc PKPbc 18 07 55.4 +0.6
UZH Uzhgorod 148.13 340 ePKP2 PKPbc 18 07 54.0 -1.1
DPC Dobruska-Polom 148.15 348 ePKIKP PKPdf 18 07 53.1 +1.2
DPC e 18 07 55.8
DPC e 18 08 08.4
DPC Dobruska-Polom 148.15 348 ePKP PKPdf 18 07 53.1 +1.2
DPC epPKP PKPbc 18 07 55.8 +0.7
DPC ex x 18 08 08.4
DPC AMS AMS 19 12 10.0
CRVS Cervenica-Dubn 148.16 341 ePKP2 PKPbc 18 07 53.6 -1.6
CRVS Cervenica-Dubn 148.16 341 ePKP PKPbc 18 07 53.6 -1.6
TESR Tescani 148.22 333⇑i P PKPbc 18 07 55.8 +0.4
OKC Ostrava-Krasne 148.23 345 ePKIKP PKPdf 18 07 53.1 +1.1
OKC e 18 07 56.1
OKC e 18 08 07.6
OKC MLR MLR
comp=Z,800nm,20.2s
OKC Ostrava-Krasne 148.23 345⇑ePKP PKPdf 18 07 53.1 +1.1
OKC ePKPAB PKPbc 18 07 56.1 +0.8
OKC ex x 18 08 07.6
OKC AMS AMS 19 13 20.0
comp=Z,800nm,20.2s
PVCC Panska Ves 148.30 350 ePKIKP PKPdf 18 07 53.4 +1.3
PVCC e 18 07 56.7
PVCC MLR MLR
comp=Z,900nm,20.7s
PVCC Panska Ves 148.30 350⇑ePKP PKPdf 18 07 53.4 +1.3
PVCC ePKPAB PKiKP 18 07 56.7 -0.4
PVCC AMS AMS 19 13 20.0
comp=Z,900nm,20.7s
KRLC Kraliky 148.31 347 ePKIKP PKPdf 18 07 53.1 +0.9
KRLC e 18 07 56.4
KRLC e 18 08 08.5
KRLC Kraliky 148.31 347⇑ePKP PKPdf 18 07 53.1 +0.9
KRLC ePKPAB PKPbc 18 07 56.4 +0.8
KRLC ex x 18 08 08.5
MORC Moravsky Berou 148.43 346 ⇑PKP2 PKPbc 18 07 56.7 +0.8
MORC Moravsky Berou 148.43 346⇑i P PKPbc 18 07 56.7 +0.8
MORC Moravsky Berou 148.43 346 ePKPdf PKPdf 18 07 52.5 +0.2
TRPA Tarpa 148.48 339⇑e PKPbc 18 07 56.7 +0.7
CFR Carcaliu 148.56 330 ⇑PKP2 PKPbc 18 07 57.1 +0.8
CFR Carcaliu 148.56 330⇑i P PKPbc 18 07 57.0 +0.8
UBBA Unterbreizbach 148.57 355 ePKPbc PKPbc 18 07 57.1 +1.1
MOX Moxa 148.59 353 ePKPbc PKPbc 18 07 56.9 +0.7
MOX eL L 19 11 42.1
comp=Z,463nm,22.0s
VRI Vrincioaia 148.69 332 ⇑PKP2 PKPbc 18 07 57.2 +0.5
VRI Vrincioaia 148.69 332⇑i P PKPbc 18 07 57.2 +0.5
TANN Tannenbergstha 148.72 352 ePKPbc PKPbc 18 07 57.4 +0.8
PLOR Plostina 148.74 332 ⇓PKP2 PKPbc 18 07 57.6 +0.8
PLOR Plostina 148.74 332⇓i P PKPbc 18 07 57.6 +0.8
PRA Prague 148.77 350 ⇑PKP PKPbc 18 07 55.0 -1.7
PRA PKPAB PKiKP 18 07 58.0 -0.1
HGN Heimansgroeve 148.77 0 ePKP PKPbc 18 07 56.6 0.0
comp=Z,110nm,2.1s
PRU Pruhonice 148.83 350 ePKIKP PKPdf 18 07 54.2 +1.3
PRU e 18 07 57.7
PRU e 18 08 09.4
PRU MLR MLR
comp=Z,900nm,23.0s
PRU Pruhonice 148.83 350⇑ePKP PKPdf 18 07 54.2 +1.3
PRU ePKPAB PKiKP 18 07 57.7 -0.5
PRU ex x 18 08 09.4
PRU AMS AMS 19 14 10.0
comp=Z,900nm,23.0s
KECS Kecovo 148.83 341 ePKP2 PKPbc 18 07 57.8 +0.9
KECS Kecovo 148.83 341 ePKP PKPbc 18 07 57.8 +0.9
MEM Membach 148.93 0 PKPbc PKPbc 18 07 56.1 -0.9
BRTR Keskin Array B 148.94 316 PKIKP PKPdf 18 07 53.4 -0.3
BRTR 18 07 57.1
BRTR pmax pmax
comp=Z,9.0nm,0.7s
BRTR pmax pmax
comp=Z,16nm,0.7s
BRTR Keskin Array B 148.94 316 PKP PKPdf 18 07 53.4 -0.3
comp=Z,9.4nm,0.7s,baz=56,slow=1.7,SNR=7.9
BRTR PKPbc PKPbc 18 07 57.1 -0.5
comp=Z,16nm,0.7s,baz=90,slow=1.2,SNR=27
SNF Seneffe 148.99 2 PKPbc PKPbc 18 07 57.7 +0.5
VRAC Vranov 149.08 347 ⇑PKP2 PKPbc 18 07 58.5 +1.0
VRAC Vranov 149.08 347⇑i P PKPbc 18 07 58.5 +1.0
BCLA Clavier 149.11 1 PKPbc PKPbc 18 07 58.3 +0.8
TNS Taunus Mts 149.26 357 ePKPbc PKPbc 18 07 58.7 +0.7
TREC Trest 149.32 348 ePKIKP PKPdf 18 07 55.2 +1.4
TREC e 18 07 59.0
TREC MLR MLR
comp=Z,700nm,21.1s
TREC Trest 149.32 348⇑ePKP PKPdf 18 07 55.2 +1.4
TREC ePKPAB PKiKP 18 07 59.0 -0.3
TREC AMS AMS 19 13 20.0
comp=Z,700nm,21.1s
MLR Muntele Rosu 149.33 332 ⇑PKP2 PKPbc 18 07 59.5 +1.1
MLR Muntele Rosu 149.33 332⇑i P PKPbc 18 07 59.5 +1.1
ISR Istrita 149.35 331 ⇓PKP2 PKPbc 18 07 59.4 +1.0
ISR Istrita 149.35 331⇓i P PKPbc 18 07 59.4 +1.0
ROTZ Rotzenmuhle 149.39 352 ePKPbc PKPbc 18 07 59.2 +0.9
ANTO Ankara 149.41 317 ⇓PKP2 PKPbc 18 07 59.0 +0.3
ANTO Ankara 149.41 317⇓i P PKPbc 18 07 59.0 +0.3
ANTO Ankara 149.41 317 ePKPbc PKPbc 18 07 59.1 +0.3
ANTO LR LR
comp=Z,366nm,21.0s
DOU Dourbes 149.42 2 PKPbc PKPbc 18 07 58.5 +0.2
PSZ Piszkesteto 149.51 342 ⇑PKP2 PKPbc 18 07 59.5 +0.8
PSZ Piszkesteto 149.51 342⇑i P PKPbc 18 07 59.5 +0.8
PSZ Piszkesteto 149.51 342 ePKPbc PKPbc 18 07 59.5 +0.8
PSZ LR LR
comp=Z,603nm,19.0s
PSZ Piszkesteto 149.51 342⇑e PKPbc 18 07 59.3 +0.6
GRF Grafenberg Arr 149.58 354 ePKPbc PKPbc 18 07 59.8 +1.0
GRF eL L 19 15 42.8
comp=Z,422nm,20.8s
KHC Kasperske Hory 149.82 350 ePKHKP PKPdf 18 07 55.5 +0.9
KHC MLR MLR
comp=Z,700nm,19.2s
KHC Kasperske Hory 149.82 350 ePKPDF PKPdf 18 07 55.5 +0.9
KHC ⇑ePKP PKPbc 18 07 58.6 -0.8
KHC ex x 18 08 12.3
KHC AMS AMS 19 15 50.0
comp=Z,700nm,19.2s
KHC Kasperske Hory 149.82 350 ePKPbc PKPbc 18 07 59.7 +0.3
WLF Walferdange 149.87 0 PKPbc PKPbc 18 08 00.8 +1.4
WLF Walferdange 149.87 0 ePKP2 PKPbc 18 08 00.6 +1.2
WLF Walferdange 149.87 0 ePKPbc PKPbc 18 08 00.8 +1.4
WLF Walferdange 149.87 0 ePKPbc PKPbc 18 08 00.6 +1.2
WET Wettzell 149.91 351 ePKPbc PKPbc 18 08 00.5 +0.9
ARR Arges 149.99 334⇓i P PKPbc 18 08 01.9 +1.9
GEC2 GERESS Array S 150.07 350 ePKPbc PKPbc 18 08 00.7 +0.6
GERES GERESS Array B 150.07 350 PKP2 PKPbc 18 07 59.4 -0.7
GERES pmax pmax
comp=Z,12nm,0.9s
GERES GERESS Array B 150.07 350 PKPbc PKPbc 18 07 59.4 -0.7
comp=Z,12nm,0.9s,baz=36,slow=2.5,SNR=51
PKSG 150.42 343⇓e PKPbc 18 08 01.6 +0.8
PKS7 Kunszentmiklos 150.51 342⇓e PKPbc 18 08 02.2 +1.2
LANF Langenberg 150.53 358 PKP PKPbc 18 08 02.0 +0.9
CONA Conrad Observa 150.54 347 i PKiKP PKiKP 18 08 02.3 +0.3
comp=Z,86nm,1.8s,SNR=17
SOP Sopron 150.62 346⇑e PKPbc 18 08 02.2 +0.9
PKST T^'s 150.64 343 e PKPbc 18 08 01.8 +0.4
STU Stuttgart 150.67 356 ePKPbc PKPbc 18 08 02.0 +0.6
GZR Gura Zlata 150.72 336 ⇓PKIKP PKPbc 18 08 02.1 +0.4
GZR Gura Zlata 150.72 336⇓i P PKPbc 18 08 02.1 +0.4
PKS6 Bocsa 150.80 341⇓e PKPbc 18 08 03.0 +1.3
MOA Molln 150.94 349 i PKiKP PKiKP 18 08 02.6 -0.1
comp=Z,21nm,1.6s,SNR=5.9
BZS Buzias 150.97 337 ⇑PKIKP PKPbc 18 08 02.8 +0.6
BZS Buzias 150.97 337⇑i P PKPbc 18 08 02.8 +0.6
PKS2 Kecel 151.00 341 e PKPbc 18 08 03.1 +0.9
SZH Strazhica 151.04 329 eP PKPbc 18 08 02.5 +0.1
FUR Furstenfeldbru 151.08 353 ePKPbc PKPbc 18 08 02.8 +0.4
BFO Black Forest 151.16 357 ePKIKP PKPbc 18 08 02.8 +0.2
BFO MLR MLR
comp=Z,455nm,20.0s
BFO Black Forest 151.16 357 ePKPbc PKPbc 18 08 03.4 +0.8
BFO Black Forest 151.16 357 ePKPbc PKPbc 18 08 02.8 +0.2
BFO LR LR
comp=Z,455nm,20.0s
PKS9 Tamasi 151.19 343 e PKPbc 18 08 03.0 +0.3
RJOB Jochberg 151.29 351 ePKPbc PKPbc 18 08 03.5 +0.5
ECH Echery 151.31 359 ePKIKP PKPbc 18 08 03.1 +0.2
ECH MLR MLR
comp=Z,487nm,20.0s
ECH Echery 151.31 359 PKP PKPbc 18 08 04.4 +1.4
ECH Echery 151.31 359 ePKPbc PKPbc 18 08 03.1 +0.2
ECH LR LR
comp=Z,487nm,20.0s
THEF They Montfort 151.31 0 PKP PKPbc 18 08 03.7 +0.8
PKSM Moragy 151.42 342 ⇑PKIKP PKPbc 18 08 03.6 +0.4
PKSM Moragy 151.42 342⇑i P PKPbc 18 08 03.6 +0.4
PKSM Moragy 151.42 342⇑e PKPbc 18 08 03.4 +0.2
CSS Prodhromos 151.47 308 ePKPbc PKPbc 18 08 03.0 -0.7
CSS LR LR
comp=Z,153nm,21.0s
MOF Molkenrain 151.68 359 PKP PKPbc 18 08 03.7 -0.2
WATA Walderalm 151.86 352⇑i PKiKP PKiKP 18 08 04.7 -0.1
comp=Z,19nm,1.0s,SNR=5.6
SOKA Soboth 151.91 347⇑i PKiKP PKPbc 18 08 04.5 0.0
comp=Z,30nm,1.3s,SNR=6.3
WTTA Wattenberg 151.92 352 i PKiKP PKiKP 18 08 05.1 +0.2
comp=Z,30nm,0.8s,SNR=8.3
PERS Pernice 151.93 347 i PKPdf PKPbc 18 08 04.0 -0.5
PERS e 18 08 16.9
ISP Isparta 152.02 316 PFAKE 18 08 10.0 -4.4
ISP LR LR
comp=Z,483nm,22.0s
DAVA Damuels 152.09 355⇑i PKiKP PKPbc 18 08 04.9 0.0
comp=Z,37nm,1.1s,SNR=8.4
LOMF Lomont 152.19 359 PKP PKPbc 18 08 05.7 +0.7
MYKA Terra Mystica 152.23 349⇓i PKiKP PKPbc 18 08 04.8 -0.3
comp=Z,18nm,1.0s,SNR=5.9
FETA Feichten 152.27 353⇑i PKiKP PKiKP 18 08 05.8 +0.2
comp=Z,30nm,1.4s,SNR=7.6
ABTA Abfaltersbach 152.30 351⇑i PKiKP PKPbc 18 08 05.1 -0.2
comp=Z,38nm,1.1s,SNR=8.9
CRES Cresnjev 152.62 346 ePKPdf PKPbc 18 08 05.2 -0.7
VISS Visnje 152.78 347 i PKPdf PKPbc 18 08 06.7 +0.4
VISS i 18 08 17.5
VTS Vitosha 152.83 332 ⇑PKIKP PKPbc 18 08 06.8 +0.1
VTS Vitosha 152.83 332 eP PKPbc 18 08 06.4 -0.3
VTS Vitosha 152.83 332⇑i P PKPbc 18 08 06.8 +0.1
JAVS Javornik 152.86 348 i PKPdf PKPbc 18 08 06.8 +0.1
TUE Stuetta 152.94 355 ePKPbc PKPbc 18 08 07.4 +0.4
BOJS Bojanci 152.97 346 ePKPdf PKPbc 18 08 07.3 +0.6
MMB Musomiste 153.37 330 ⇓PKIKP PKPbc 18 08 07.9 +0.1
MMB Musomiste 153.37 330⇓i P PKPbc 18 08 07.9 +0.1
KKB Krupnik 153.46 331 eP PKPbc 18 08 08.0 0.0
PLDF La Plantade 153.49 4 PKP PKPbc 18 08 08.9 +0.9
PYM Petit Puy Mans 153.66 5 PKP PKPbc 18 08 10.0 +1.6
LBL Lubilhac 154.19 5 PKP PKPbc 18 08 10.0 +0.5
BNI Bardonecchia 154.49 359 ePKP2 PKPab 18 08 25.8 +1.2
BNI MLR MLR
comp=Z,855nm,20.0s
BNI Bardonecchia 154.49 359 ePKPab PKPab 18 08 25.8 +1.2
BNI LR LR
comp=Z,855nm,20.0s
BIA Bitola 154.93 332 ePKP PKPbc 18 08 11.5 +0.3
MTE Manteigas 156.04 27 PFAKE 18 08 10.0 +6.0
MTE LR LR
comp=Z,594nm,19.0s
AQU L'Aquila 156.38 347 PFAKE 18 08 20.0 -13
AQU LR LR
comp=Z,750nm,20.0s
CUC Castrocucco 157.93 340 PFAKE 18 08 20.0 +14
CUC LR LR
comp=Z,409nm,20.0s
ESDC Sonseca Array 158.04 21 PKPab PKPab 18 08 39.2 -0.7
comp=Z,0.2nm,0.3s,baz=330,slow=4.0,SNR=3.8
CEL Celeste 159.46 338 PFAKE 18 08 20.0 +12
CEL LR LR
comp=Z,969nm,22.0s
TORD Torodi Ar. Bea 172.38 145 PKP PKPdf 18 08 18.1 -1.1
comp=Z,2.3nm,0.8s,baz=334,slow=1.7,SNR=12
TORD PKPab PKPab 18 09 45.2 +1.7
comp=Z,1.1nm,0.9s,baz=240,slow=3.0,SNR=2.5

IDC 04 17:56:49.4±7.2**, 13°.95S**×**167°.03E, h261**km±75km**, mb3.2**/5**, mb1 3.4**/6**, mb1mx3.1**/36**, mbtmp3.8**/6**, Error ellipse: s-maj=70.2km s-min=36.1km az=162.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.10	184	P	Pn	17 58 44.0	0.0
	0.1nm,0.3s,baz=15,slow=20,SNR=3.3						
STKA	Stephens Creek	29.33	228	P	P	18 02 29.7	+1.5
	0.9nm,0.5s,baz=61,slow=10.0,SNR=2.9						
WRA	Warramunga Arr	31.80	255	P	P	18 02 49.3	-0.8
	0.4nm,0.6s,baz=86,slow=8.9,SNR=4.8						
ASAR	Alice Springs	32.74	248	P	P	18 02 57.5	-0.7
	0.7nm,0.5s,baz=74,slow=9.4,SNR=16						
CMAR	Chiang Mai Arr	74.42	294	P	P	18 08 00.3	+0.8
	0.5nm,0.8s,baz=134,slow=3.9,SNR=4.5						
MKAR	Makanchi Array	96.48	316	P	P	18 09 49.0	-0.1
	0.3nm,0.6s,baz=92,slow=6.3,SNR=3.3						
ARCES	ARCESS Array B	119.44	345	PKP	PKPdf	18 15 06.3	-1.0
	5.0nm,0.9s,baz=35,slow=2.2,SNR=3.6						

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*ISCJB **04** 17:58:51.8±1.1, 32°.73S±0°.04×71°.80W±0°.06, h15km±8km, Error ellipse: s-maj=8.9km s-min=6.8km az=2.2*
*SJA **04** 17:58:53.8±0.7, 32°.64S×71°.80W, h69km±11km, MD3.3, ML3.4*
*GUC **04** 17:58:53.3±0.5, 32°.71S×71°.66W, h34km±2km, MD3.7, ML3.9*
ISC 04 17:58:53.5±1.6**, 32°.79S**±0°.04×**71°.81W**±0°.08**, h30**km±9km**, n23, σ1s.58**/34**, 3C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.28	149	⇓i P	Pb	17 59 01.3	+0.6
IHA				i S	Sb	17 59 06.8	+1.2
ROCH	El Roble	0.70	105	⇓i P	Pb	17 59 05.7	-1.7
ROCH				i S	Sb	17 59 14.8	-2.0
PEL	Peldehue	1.01	111	⇑i P	Pn	17 59 10.6	-1.1
PEL				i S	Sb	17 59 23.4	-2.1
PEL				AML	AML	17 59 24.0	
	comp=E,12µm,0.3s						
JACH	Jahuel	1.03	84	⇓i P	Pn	17 59 10.1	-1.9
JACH				i S	Sb	17 59 22.8	-3.4
RCDM	Rinconada Maip	1.09	130	⇑i P	Pn	17 59 13.3	+0.5
RCDM				i S	Sn	17 59 27.6	+0.6
RCDM				AML	AML	17 59 30.2	
	comp=E,4µm,0.1s						
TACH	Talagante	1.13	140	i P	Pn	17 59 13.2	-0.1
SAN	Santiago	1.17	125	i P	Pn	17 59 13.4	-0.5
SAN				i S	Sn	17 59 28.0	-0.8
SAN				AML	AML	17 59 30.6	
	comp=N,3µm,0.3s						
LNV	Longovilo	1.21	164	⇑i P	Pn	17 59 14.0	-0.4
LNV				i S	Sn	17 59 30.5	+0.7
CLCH	Cerro Calan	1.23	120	⇓i P	Pn	17 59 14.0	-0.7
CLCH				i S	Sn	17 59 29.6	-0.7
CLCH				AML	AML	17 59 32.6	
	comp=N,3µm,0.6s						
ANTU	Antumapu	1.26	129	AML	AML	17 59 32.7	
	comp=N,3µm,0.4s						
FCH	Farellones	1.39	113	AML	AML	17 59 29.3	
	comp=E,5µm,0.4s						
CHCH	Chadas Angostu	1.50	140	⇓i P	Pn	17 59 18.8	+0.4

CHCH				*i* S	Sn	17 59 38.3	+1.4
LMEL	**Las Melosas**	**1.71**	**129**	⇓*e*P	**Pn**	**17 59 21.8**	**+0.4**
LMEL				*i* S	Sn	17 59 43.6	+1.2
LMEL				AML	AML	17 59 45.9	
	comp=N,3μm,0.1s						
CMCH	**Combarbala**	**1.75**	**23**	*e*P	Pn	17 59 21.0	-0.9
CMCH				*i* S	Sn	17 59 42.2	-1.0
CMCH				AML	AML	17 59 47.7	
	comp=N,4μm,0.9s						
AUSP	**Uspallata**	**2.12**	**75**	*i* P	Pn	17 59 28.8	+1.6
AUSP				*i* S	Sn	17 59 55.0	+2.3
RTLS	**Leoncito**	**2.35**	**66**	*i* P	Pn	17 59 31.6	+1.4
RTLS				*i* S	Sn	18 00 00.1	+2.0
ARCO	**CERRO ARCO**	**2.42**	**92**	*i* P	Pn	17 59 33.2	+2.0
ARCO				AML	AML	17 59 48.4	
	comp=Z,259nm,0.5s						
ASAL	**Salagasta**	**2.52**	**86**	*i* P	Pn	17 59 34.9	+2.5
ASAL				*i* S	Sn	18 00 04.3	+2.2
AAGR	**Agrelo**	**2.53**	**98**	*i* P	Pn	17 59 34.9	+2.3
CFAA	**Coronel Fontan**	**3.25**	**70**	*i* P	Pn	17 59 43.6	+1.1
AMOG	**MOGNA**	**3.37**	**58**	*i* P	Pn	17 59 45.6	+1.4
ACAN	**Cantantal**	**3.94**	**84**	*i* P	Pn	17 59 53.8	+1.9
AVFE	**Valle Fertil**	**4.28**	**61**	*i* P	Pn	17 59 57.3	+0.7
AVFE				AML	AML	18 01 18.1	
	comp=Z,27nm,0.4s						

LJU 04 18:07:00.0, 46°.39N × 15°.07E, h0km Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.25**	**7**	*i* Pg	Pg	18 07 06.1	+1.2

*IDC **04** 19:07:08.8±1.6, 43°.73N×105°.32W, h0km, mb1 3.7/5, mb1mx3.4/52, mbtmp3.4/5, ML3.5/5, Error ellipse: s-maj=42.4km s-min=8.3km az=148.0*
*ISCJB **04** 19:07:09.2±0.1, 43°.77N±0°.01×105°.30W±0°.02, h0km, Error ellipse: s-maj=2.1km s-min=1.7km az=165.9*
*NEIC **04** 19:07:09.5±0.4, 43°.79N×105°.23W, h0km, ML3.4, Error ellipse: s-maj=6.1km s-min=5.3km az=219.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 04 19:07:09.8±0.7**, 43°.76N**±0°.02×**105°.27W**±0°.02**, h0km, n177, σ0s.87**/187**, 64C-68D, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.25**	**325**	P	**Pg**	**19 07 15.4**	**+0.9**
	baz=0.2,SNR=425						
J23A	**Dilts Ranch, B**	**0.41**	**210**	P	**Pg**	**19 07 18.3**	**+0.7**
	baz=0.5,SNR=180						
I24A	**Kuemmerle Ranc**	**0.47**	**77**	P	**Pg**	**19 07 19.2**	**+0.3**
	baz=0.4,SNR=311						
J24A	**Dixon Ranch, L**	**0.61**	**134**	P	**Pg**	**19 07 22.0**	**+0.5**
	baz=0.6,SNR=143						
H23A	**Clabaugh Cattl**	**0.81**	**353**	⇓P	**Pg**	**19 07 25.0**	**-0.2**
	baz=0.8,SNR=80						
I22A	**9 Mile Ranch,**	**0.89**	**279**	P	**Pg**	**19 07 26.9**	**+0.1**
	baz=0.9,SNR=1000						
K23A	**Bowen Ranch, D**	**1.04**	**195**	⇓P	**Pg**	**19 07 29.6**	**0.0**
	baz=1.1						
K24A	**Anderson Ranch**	**1.09**	**162**	⇓P	**Pg**	**19 07 30.4**	**-0.2**
	baz=1.1,SNR=74						
H24A	**Dirks Ranch, A**	**1.11**	**27**	⇑P	**Pg**	**19 07 30.3**	**-0.8**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.13**	**109**	⇓P	**Pg**	**19 07 30.9**	**-0.4**
	baz=1.1,SNR=208						
H22A	**Clearmont**	**1.14**	**317**	⇓P	**Pg**	**19 07 31.4**	**-0.2**
	baz=1.1,SNR=138						
K22A	**Casper**	**1.44**	**220**	⇓P	**Pn**	**19 07 36.4**	**-0.8**
	baz=1.5,SNR=52						
K22A				⇓S	**Sn**	**19 07 57.8**	**+0.9**
	baz=1.5						
G23A	**Biddle**	**1.45**	**357**	⇑P	**Pn**	**19 07 36.3**	**-1.0**
	baz=1.4						
G23A				⇓S	**Sn**	**19 07 58.6**	**+1.5**
	baz=1.4						
I21A	**Big Trails, Te**	**1.47**	**273**	⇓P	**Pn**	**19 07 36.1**	**-1.5**
	baz=1.5,SNR=311						
H25A	**Fruitdale**	**1.48**	**54**	⇑P	**Pn**	**19 07 37.2**	**-0.5**
	baz=1.4,SNR=89						
K25A	**Mack Ranch, Ha**	**1.54**	**138**	⇑P	**Pn**	**19 07 38.8**	**+0.3**
	baz=1.5,SNR=46						
H21A	**Big Horn, Sher**	**1.54**	**305**	P	**Pn**	**19 07 38.5**	**-0.1**
	baz=1.5,SNR=121						
H21A				⇓S	**Sg**	**19 08 00.7**	**+1.3**
	baz=1.5						
G22A	**Birney**	**1.63**	**334**	⇑P	**Pn**	**19 07 39.8**	**-0.1**
	baz=1.6,SNR=59						
J21A	**Lysite**	**1.64**	**256**	⇓P	**Pn**	**19 07 39.4**	**-0.6**
	baz=1.7,SNR=173						
J26A	**Sides Ranch, S**	**1.66**	**105**	⇑P	**Pn**	**19 07 40.2**	**0.0**
	baz=1.6,SNR=199						
L23A	**Garrett**	**1.67**	**191**	⇓P	**Pn**	**19 07 40.3**	**-0.2**
	baz=1.7,SNR=379						
L23A				⇑S	**Sb**	**19 08 03.5**	**+0.3**
	baz=1.7						
G24A	**Alzada**	**1.68**	**21**	P	**Pn**	**19 07 40.6**	**+0.1**
	baz=1.6,SNR=94						
L24A	**Wheatland**	**1.73**	**172**	⇑P	**Pn**	**19 07 41.4**	**+0.1**
	baz=1.8,SNR=21						
L24A				⇓S	**Sg**	**19 08 05.9**	**+0.6**
	baz=1.8						
I26A	**New Underwood**	**1.76**	**80**	⇓P	**Pn**	**19 07 42.0**	**+0.4**
	baz=1.7,SNR=46						
K21A	**Alcova**	**1.84**	**233**	⇓P	**Pn**	**19 07 43.1**	**+0.3**
	baz=1.9,SNR=188						
K21A				⇓S	**Sn**	**19 08 07.3**	**+0.5**
	baz=1.9						
K26A	**Motz Farm, Whi**	**1.86**	**124**	⇓P	**Pn**	**19 07 43.5**	**+0.6**
	baz=1.8,SNR=45						
L25A	**Engebretsen Ra**	**1.87**	**149**	⇑P	**Pb**	**19 07 44.3**	**-0.5**
	baz=1.9,SNR=68						
L25A				⇓S	**Sb**	**19 08 09.2**	**+0.4**
	baz=1.9						
L22A	**Ellis Ranch, M**	**1.93**	**207**	⇓P	**Pn**	**19 07 44.9**	**+0.9**
	baz=2.0,SNR=30						
L22A				⇑S	**Sb**	**19 08 10.5**	**-0.1**
	baz=2.0						
G25A	**Newell**	**1.95**	**42**	⇓P	**Pn**	**19 07 45.1**	**+0.9**
	baz=1.9,SNR=90						
G25A				⇓S	**Sb**	**19 08 11.5**	**+0.3**
	baz=1.9						
F23A	**Volborg**	**1.96**	**357**	P	**Pn**	**19 07 44.5**	**+0.1**
	baz=1.9,SNR=258						
F23A				⇓S	**Sb**	**19 08 11.1**	**-0.4**
	baz=1.9						
H26A	**Fairpoint**	**1.99**	**64**	⇑P	**Pb**	**19 07 46.1**	**-0.8**
	baz=1.9,SNR=52						
H26A				⇑Sb	**Sg**	**19 08 14.4**	**+0.8**
	baz=1.9						
G21A	**Lodge Grass**	**2.02**	**317**	⇑P	**Pn**	**19 07 45.4**	**+0.2**
	baz=2.0,SNR=212						
I20A	**Worland**	**2.08**	**276**	⇓P	**Pn**	**19 07 46.6**	**+0.6**
	baz=2.1,SNR=408						
J20A	**Shoshoni**	**2.09**	**260**	⇓Pb	**Pb**	**19 07 48.1**	**-0.5**
	baz=2.1,SNR=314						
H20A	**Greybull**	**2.10**	**291**	⇓P	**Pn**	**19 07 46.2**	**-0.1**
	baz=2.1,SNR=154						
F22A	**Rosebud**	**2.14**	**341**	⇑P	**Pn**	**19 07 46.6**	**-0.2**
	baz=2.1,SNR=107						
F24A	**Ekalaka**	**2.17**	**15**	⇑P	**Pn**	**19 07 47.9**	**+0.7**
	baz=2.1,SNR=18						
M24A	**Cheyenne**	**2.31**	**172**	⇓P	**Pb**	**19 07 50.9**	**-1.6**
	baz=2.3,SNR=65						
M24A				⇓Sb	**Sg**	**19 08 24.3**	**+0.2**
	baz=2.3						
M23A	**Laramie**	**2.31**	**189**	⇓P	**Pn**	**19 07 50.0**	**+0.7**
	baz=2.3,SNR=43						
I27A	**Quinn**	**2.34**	**81**	⇑P	**Pn**	**19 07 51.3**	**+1.7**
	baz=2.3,SNR=60						
L26A	**Underwood Farm**	**2.35**	**136**	⇑P	**Pb**	**19 07 51.6**	**-1.5**
	baz=2.4,SNR=11						
J27A	**Elkhorn Farm,**	**2.42**	**101**	⇑P	**Pn**	**19 07 52.4**	**+1.6**
	baz=2.4,SNR=72						
G26A	**Maurine**	**2.45**	**50**	P	**Pn**	**19 07 51.9**	**+0.8**
	baz=2.4,SNR=69						
H27A	**Howes**	**2.46**	**68**	⇓P	**Pn**	**19 07 52.1**	**+1.0**
	baz=2.4,SNR=35						
M25A	**Palm-Egli Farm**	**2.49**	**159**	⇓P	**Pn**	**19 07 53.1**	**+1.4**
	baz=2.5						
F25A	**Bowman**	**2.52**	**30**	⇑P	**Pn**	**19 07 53.1**	**+1.1**
	baz=2.5,SNR=60						
M22A	**Cedar Creek Ra**	**2.55**	**203**	⇑P	**Pn**	**19 07 54.1**	**+1.5**
	baz=2.6,SNR=188						
G20A	**Bridger**	**2.57**	**306**	⇑P	**Pn**	**19 07 52.4**	**-0.4**
	baz=2.6,SNR=290						
G20A				⇑S	**Sn**	**19 08 25.6**	**+0.9**
	baz=2.6						
I19A	**Meeteetse**	**2.71**	**277**	⇓P	**Pn**	**19 07 55.6**	**+0.9**
	baz=2.7,SNR=82						
E22A	**Miles City**	**2.72**	**350**	⇓P	**Pn**	**19 07 55.4**	**+0.6**
	baz=2.7						
F26A	**Lodgepole**	**2.79**	**41**	⇓P	**Pn**	**19 07 56.8**	**+1.0**
	baz=2.7,SNR=16						
J19A	**Crowheart**	**2.80**	**261**	⇑P	**Pn**	**19 07 57.4**	**+1.4**
	baz=2.8,SNR=11						
H19A	**Powell**	**2.83**	**290**	⇑P	**Pn**	**19 07 56.7**	**+0.4**
	baz=2.8,SNR=47						
G27A	**Dupree**	**2.88**	**55**	⇓P	**Pn**	**19 07 57.6**	**+0.6**
	baz=2.8,SNR=17						
E24A	**Baker**	**2.88**	**13**	⇓P	**Pn**	**19 07 57.4**	**+0.4**
	baz=2.8,SNR=23						
F20A	**Billings**	**2.90**	**316**	P	**Pn**	**19 07 56.9**	**-0.3**
	baz=2.9,SNR=30						
N23A	**Red Feather La**	**2.91**	**190**	P	**Pn**	**19 07 58.8**	**+1.3**
	baz=2.9,SNR=67						
J28A	**Allard Ranch,**	**2.95**	**95**	⇑P	**Pn**	**19 07 59.9**	**+2.0**
	baz=2.9,SNR=21						
I28A	**Midland**	**2.97**	**84**	⇓Pb	**Pb**	**19 08 03.8**	**+0.2**
	baz=2.9,SNR=7.1						
LAO	**LASA Array**	**3.01**	**347**	*e*Pn	**Pn**	**19 07 58.6**	**-0.2**
K28A	**Ten Mile Ranch**	**3.04**	**109**	⇑P	**Pn**	**19 07 59.1**	**0.0**
	baz=3.0						
E25A	**Miller Ranch,**	**3.04**	**25**	⇓P	**Pn**	**19 08 00.4**	**+1.2**
	baz=3.0						
E21A	**Keefer Ranch,**	**3.06**	**336**	⇑P	**Pn**	**19 07 59.1**	**-0.4**
	baz=3.0						
N25A	**Grover**	**3.07**	**163**	⇑P	**Pn**	**19 08 00.4**	**+0.7**
	baz=3.1						
M27A	**Reverse DX Ran**	**3.08**	**135**	⇑Pb	**Pb**	**19 08 05.6**	**+0.2**
	baz=3.1						
N22A	**Wattenberg Ran**	**3.08**	**197**	⇓P	**Pn**	**19 08 01.1**	**+1.1**
	baz=3.1,SNR=30						
F27A	**Lemmon**	**3.13**	**46**	⇑P	**Pn**	**19 08 01.0**	**+0.6**
	baz=3.1,SNR=7.8						
RLMT	**Red Lodge**	**3.17**	**297**	*e*Pn	**Pn**	**19 08 01.2**	**+0.1**
H28A	**Mission Ridge**	**3.19**	**72**	⇓P	**Pn**	**19 08 02.3**	**+1.2**
	baz=3.1						
L28A	**Connealy Angus**	**3.26**	**121**	⇓P	**Pn**	**19 08 03.6**	**+1.3**
	baz=3.2						
BW06	**Boulder Array**	**3.29**	**254**	*e*Pn	**Pn**	**19 08 03.9**	**+1.2**
BW06				*e*Sn	**Sb**	**19 08 48.0**	**-1.8**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**19 08 03.8**	**+1.0**
	6.3nm,0.3s,baz=71,slow=15,SNR=26						
PDAR				Lg	Lg	19 08 50.3	
	14nm,0.3s,baz=72,slow=33,SNR=18						
H18A	**Shoshone NF, C**	**3.29**	**288**	⇓P	**Pn**	**19 08 02.7**	**-0.1**
	baz=3.3,SNR=31						
N26A	**Koester Ranch,**	**3.30**	**152**	⇑P	**Pn**	**19 08 03.2**	**+0.5**
	baz=3.3,SNR=7.6						
F19A	**Roth Farm, Mol**	**3.35**	**310**	⇑P	**Pn**	**19 08 03.5**	**0.0**
	baz=3.3,SNR=51						
E26A	**Carlson Angus**	**3.36**	**35**	⇓P	**Pn**	**19 08 04.0**	**+0.4**
	baz=3.3,SNR=6.9						
G28A	**Parade**	**3.38**	**66**	⇑P	**Pn**	**19 08 04.4**	**+0.5**
	baz=3.3,SNR=5.4						
E20A	**Meyer Farm, Mu**	**3.41**	**325**	⇑P	**Pn**	**19 08 04.3**	**0.0**
	baz=3.4						
D24A	**Glendive**	**3.42**	**11**	⇓P	**Pn**	**19 08 05.2**	**+0.8**
	baz=3.4,SNR=31						
D22A	**Cohagen**	**3.45**	**350**	⇓P	**Pn**	**19 08 05.8**	**+1.0**
	baz=3.4						
D21A	**La Casta Ranch**	**3.52**	**340**	⇓P	**Pn**	**19 08 05.9**	**+0.1**
	baz=3.5,SNR=9.0						
N27A	**Anderson Farm,**	**3.58**	**145**	⇓P	**Pn**	**19 08 07.7**	**+1.1**
	baz=3.6,SNR=9.8						
D25A	**Fairfield**	**3.66**	**21**	⇑P	**Pn**	**19 08 09.0**	**+1.3**
	baz=3.6,SNR=14						
N20A	**Spence Gulch,**	**3.67**	**218**	⇓P	**Pn**	**19 08 09.1**	**+1.1**
	baz=3.7,SNR=13						
OGNE	**Ogallala**	**3.69**	**138**	*e*Pn	**Pn**	**19 08 08.3**	**+0.1**
OGNE				*e*Pg	**Pg**	**19 08 18.3**	**-2.2**
O22A	**Kremmling**	**3.72**	**195**	⇓P	**Pn**	**19 08 09.8**	**+1.1**
	baz=3.8,SNR=7.5						
M28A	**Bar X Bar Ranc**	**3.72**	**128**	⇑P	**Pn**	**19 08 09.2**	**+0.7**
	baz=3.7						
GCMT	**Greycliff**	**3.73**	**304**	*e*Pn	**Pn**	**19 08 09.0**	**+0.2**
E27A	**Carson**	**3.74**	**43**	⇑P	**Pn**	**19 08 10.1**	**+1.3**
	baz=3.7						
O25A	**Wiggins**	**3.74**	**166**	⇓P	**Pn**	**19 08 10.0**	**+1.1**
	baz=3.8						
O26A	**Horse Wrangler**	**3.80**	**157**	⇑P	**Pn**	**19 08 10.3**	**+0.5**
	baz=3.8,SNR=12						
F28A	**McLaughlin**	**3.80**	**55**	⇓P	**Pn**	**19 08 10.1**	**+0.5**
	baz=3.8						
C24A	**Savage**	**3.82**	**9**	P	**Pn**	**19 08 11.0**	**+1.1**
	baz=3.8,SNR=50						
D26A	**Manning**	**3.83**	**30**	⇓P	**Pn**	**19 08 10.9**	**+0.9**
	baz=3.8,SNR=6.7						
H17A	**Grant Village**	**3.88**	**281**	*e*Pn	**Pn**	**19 08 12.4**	**+1.5**
D20A	**Manuel Ranch,**	**3.90**	**330**	⇓P	**Pn**	**19 08 11.1**	**+0.1**
	baz=3.9,SNR=50						
L29A	**Maesberg Ranch**	**3.90**	**114**	⇓P	**Pn**	**19 08 12.0**	**+1.0**
	baz=3.9,SNR=14						
ISCO	**Idaho Springs**	**3.96**	**184**	*e*Pn	**Pn**	**19 08 13.0**	**+0.9**
ISCO	**Idaho Springs**	**3.96**	**184**	⇓P	**Pn**	**19 08 13.1**	**+0.9**
	baz=4.0,SNR=8.4						
YNR	**Norris Junctio**	**4.00**	**286**	*e*Pn	**Pn**	**19 08 10.7**	**-1.9**
C22A	**Vida**	**4.01**	**354**	⇑P	**Pn**	**19 08 13.4**	**+0.9**
	baz=4.0,SNR=26						
C23A	**Lambert**	**4.04**	**1**	⇑P	**Pn**	**19 08 13.8**	**+0.8**
	baz=4.0,SNR=176						
G29A	**Hoven**	**4.08**	**68**	⇓P	**Pn**	**19 08 13.4**	**-0.1**
	baz=4.0						
M29A	**Burnside Ranch**	**4.09**	**123**	⇑Pb	**Pb**	**19 08 23.8**	**+1.0**
	baz=4.1						
O27A	**Beecher Island**	**4.13**	**149**	⇑P	**Pn**	**19 08 15.0**	**+0.9**
	baz=4.1,SNR=7.8						
N28A	**Pribbeno Ranch**	**4.13**	**137**	⇑P	**Pn**	**19 08 14.6**	**+0.4**
	baz=4.1						
YMR	**Madison River**	**4.20**	**284**	*e*Pn	**Pn**	**19 08 13.8**	**-1.4**
C25A	**Freed Ranch, W**	**4.20**	**19**	⇓P	**Pn**	**19 08 15.8**	**+0.7**
	baz=4.2,SNR=9.2						
O20A	**White River Ci**	**4.25**	**213**	*e*Pn	**Pn**	**19 08 16.6**	**+0.8**
O20A	**White River Ci**	**4.25**	**213**	⇑P	**Pn**	**19 08 16.9**	**+1.0**
	baz=4.3,SNR=13						
E28A	**Huff**	**4.29**	**47**	⇓P	**Pn**	**19 08 16.8**	**+0.5**
	baz=4.2,SNR=9.7						
P22A	**Eagle**	**4.31**	**196**	⇓P	**Pn**	**19 08 18.0**	**+1.3**
	baz=4.3						
P25A	**Willow Gulch B**	**4.32**	**169**	⇑P	**Pn**	**19 08 17.6**	**+0.7**
	baz=4.3,SNR=6.2						
C20A	**Veseth Ranch,**	**4.39**	**335**	⇑P	**Pn**	**19 08 19.1**	**+1.3**
	baz=4.4						
P23A	**Jefferson**	**4.40**	**186**	⇑P	**Pn**	**19 08 19.4**	**+1.3**
	baz=4.4,SNR=6.9						
P26A	**Davis Ranch, A**	**4.43**	**160**	⇑P	**Pn**	**19 08 19.3**	**+0.8**
	baz=4.5,SNR=51						
L30A	**Spencer Herefo**	**4.46**	**112**	⇓P	**Pn**	**19 08 19.4**	**+0.7**
	baz=4.4,SNR=10						
O28A	**Krutsinger Ran**	**4.47**	**143**	⇑P	**Pn**	**19 08 19.0**	**+0.2**
	baz=4.5,SNR=11						
B22A	**Reddig Ranch S**	**4.57**	**354**	⇓P	**Pn**	**19 08 20.1**	**-0.1**
	baz=4.5						
C26A	**Wahner Farm, P**	**4.63**	**27**	⇑P	**Pn**	**19 08 21.5**	**+0.5**
	baz=4.6,SNR=7.8						
P27A	**Ficken Ranch,**	**4.66**	**153**	P	**Pn**	**19 08 22.0**	**+0.5**
	baz=4.7,SNR=34						
B23A	**Brockton**	**4.71**	**2**	P	**Pn**	**19 08 23.0**	**+0.9**
	baz=4.7,SNR=20						
B25A	**Knox Farm, Ray**	**4.75**	**17**	⇓P	**Pn**	**19 08 23.5**	**+0.9**
	baz=4.7,SNR=13						
DGMT	**Dagmar**	**4.77**	**9**	*e*Pn	**Pn**	**19 08 23.7**	**+0.8**
DGMT	**Dagmar**	**4.77**	**9**	⇑P	**Pn**	**19 08 24.0**	**+1.1**
	baz=4.7,SNR=7.9						
C19A	**Slack Wire Ran**	**4.78**	**328**	⇑P	**Pn**	**19 08 23.3**	**+0.3**
	baz=4.8,SNR=26						
Q25A	**Bedland, Calha**	**4.90**	**171**	P	**Pn**	**19 08 25.6**	**+0.7**
	baz=4.9,SNR=7.4						
BOZ	**Bozeman (W)**	**4.91**	**295**	*e*Pn	**Pn**	**19 08 23.9**	**-1.1**
P28A	**Saint Francis**	**4.94**	**147**	⇑P	**Pn**	**19 08 25.8**	**+0.5**
	baz=5.0,SNR=9.5						
Q26A	**Hugo**	**5.01**	**164**	⇑P	**Pn**	**19 08 26.9**	**+0.6**
	baz=5.0,SNR=11						
KSCO	**Kaye Shedlock'**	**5.14**	**156**	*e*Pn	**Pn**	**19 08 27.4**	**-0.7**
	49nm,0.6s						
KSCO	**Kaye Shedlock'**	**5.14**	**156**	⇑P	**Pn**	**19 08 28.2**	**+0.1**
	baz=5.2						
A23A	**Redstone**	**5.21**	**3**	⇓P	**Pn**	**19 08 29.2**	**+0.2**
	baz=5.2,SNR=23						
A24A	**Westby**	**5.24**	**9**	⇑P	**Pn**	**19 08 29.9**	**+0.5**
	baz=5.2,SNR=12						
A22A	**Carney Farms,**	**5.25**	**355**	P	**Pn**	**19 08 29.5**	**-0.1**
	baz=5.2,SNR=10						
TCUT	**Toone Canyon**	**5.25**	**242**	P	**Pn**	**19 08 28.1**	**-1.7**
P29A	**Atwood**	**5.27**	**141**	⇓P	**Pn**	**19 08 30.1**	**+0.2**
	baz=5.3						
EGMT	**Eagleton**	**5.29**	**325**	*e*Pn	**Pn**	**19 08 28.9**	**-1.2**
	18nm,0.5s						
EGMT	**Eagleton**	**5.29**	**325**	P	**Pn**	**19 08 29.8**	**-0.3**
	baz=5.3,SNR=23						
Q28A	**Sharon Springs**	**5.36**	**150**	⇑P	**Pn**	**19 08 31.5**	**+0.5**
	baz=5.4						
HRY	**Holter Researc**	**5.50**	**305**	*e*Pn	**Pn**	**19 08 33.1**	**+0.1**
	16nm,0.4s						
LRM	**Limekiln Ridge**	**5.51**	**294**	*e*Pn	**Pn**	**19 08 33.5**	**+0.2**
	31nm,0.3s						
R24A	**Sanders Place,**	**5.52**	**179**	⇓P	**Pn**	**19 08 34.5**	**+1.1**
	baz=5.6						
MCMT	**McKenzie Canyo**	**5.55**	**284**	P	Pn	19 08 37.3	+3.5
	3.6nm,0.4s						
DAU	**Daniels Canyon**	**5.57**	**235**	*e*Pn	**Pn**	**19 08 31.3**	**-2.9**
A26A	**Wade Farm, Ken**	**5.61**	**22**	⇑P	**Pn**	**19 08 34.4**	**0.0**
	baz=5.6						
R26A	**Arlington**	**5.62**	**165**	P	**Pn**	**19 08 35.2**	**+0.4**
	baz=5.7,SNR=20						
R25A	**Fountain Ranch**	**5.66**	**172**	⇑P	**Pn**	**19 08 35.4**	**+0.2**
	baz=5.7						
BGNE	**Belgrade**	**5.75**	**112**	*e*Pn	**Pn**	**19 08 36.2**	**-0.2**
	52nm,0.4s						
R27A	**Eads**	**5.78**	**160**	⇑P	**Pn**	**19 08 37.1**	**+0.3**
	baz=5.8,SNR=12						
HVU	**Hansel Valley**	**5.87**	**253**	*e*Pn	**Pn**	**19 08 39.0**	**+0.8**
R28A	**Tribune**	**6.01**	**153**	⇑P	**Pn**	**19 08 39.7**	**-0.3**
	baz=6.0,SNR=18						
SDCO	**Great Sand Dun**	**6.01**	**182**	*e*Pn	Pn	19 08 34.9	-5.3
	2.0nm,0.8s						
S25A	**Robets Cordova**	**6.12**	**174**	⇑P	**Pn**	**19 08 41.8**	**+0.1**
	baz=6.2,SNR=7.8						
ECSD	**EROS Data Cent**	**6.27**	**87**	*e*Pn	**Pn**	**19 08 43.0**	**-0.5**
	8.4nm,0.4s						
S26A	**Kim**	**6.28**	**167**	⇑P	**Pn**	**19 08 44.0**	**+0.2**
	baz=6.3,SNR=9.7						
CHMT	**Chamberlain Mo**	**6.45**	**302**	*e*Pn	**Pn**	**19 08 46.1**	**-0.1**
	3.2nm,0.3s						
HLID	**Hailey**	**6.64**	**271**	*e*Pn	**Pn**	**19 08 49.4**	**+0.7**
	2.7nm,0.8s						
A29A	**Manning Farm,**	**6.64**	**37**	⇓P	**Pn**	**19 08 48.3**	**-0.3**
	baz=6.6,SNR=8.3						
DUG	**Dugway**	**6.65**	**240**	*e*Pn	**Pn**	**19 08 48.5**	**-0.4**
	5.2nm,0.7s						
DUG	**Dugway**	**6.65**	**240**	⇑P	**Pn**	**19 08 49.0**	**+0.1**
	baz=6.7,SNR=12						
SLMT	**Seeley Lake**	**6.75**	**304**	*e*Pn	**Pn**	**19 08 49.3**	**-0.9**
	4.8nm,0.6s						
MSO	**Missoula**	**6.84**	**300**	⇑P	**Pn**	**19 08 51.1**	**-0.3**
	baz=6.8						
T28A	**Walsh**	**7.05**	**159**	⇓P	**Pn**	**19 08 54.1**	**-0.2**
	baz=7.1						
SWMT	**Swartz Lake**	**7.18**	**305**	*e*Pn	**Pn**	**19 08 55.0**	**-1.0**
	2.8nm,0.3s						
YBMT	**Yellow Bay**	**7.36**	**307**	*e*Pn	**Pn**	**19 08 59.2**	**+0.7**
	6.3nm,0.3s						
U26A	**Atchley Ranch,**	**7.45**	**170**	⇑P	**Pn**	**19 09 00.2**	**+0.4**
	baz=7.5						
JTMT	**Jette**	**7.46**	**305**	*e*Pn	**Pn**	**19 09 00.3**	**+0.4**
	1.7nm,0.4s						
BSMT	**Bassoo Peak**	**7.81**	**305**	*e*Pn	**Pn**	**19 09 04.9**	**+0.1**
	3.5nm,0.8s						
AGMN	**Agassiz Nation**	**7.96**	**52**	*e*Pg	Pb	19 09 33.8	+5.2
	11nm,0.4s						
WALA	**Waterton Lakes**	**7.98**	**315**	*e*Pn	**Pn**	**19 09 05.9**	**-1.2**
	0.1nm,0.6s						
ELK	**Elko**	**7.99**	**251**	Pn	**Pn**	**19 09 08.7**	**+1.4**
	0.5nm,0.3s,baz=344,slow=9.9,SNR=7.3						
I10CA	**LAC DU BONNET**	**9.02**	**41**	*i*		20 03 20.0	
	baz=224,slow=328,SNR=1.1						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**19 09 19.9**	**-2.6**
	2.0nm,0.3s,baz=229,slow=14,SNR=14						
ULM				Lg	Lg	19 11 52.2	
	0.6nm,0.3s,baz=155,slow=22,SNR=3.8						
NVAR	**Mina Array Bea**	**11.18**	**246**	Pn	**Pn**	**19 09 52.0**	**+1.0**
	0.2nm,0.3s,baz=57,slow=12,SNR=4.2						
TXAR	**Lajitas Array**	**14.45**	**174**	Lg	Lg	19 14 48.7	
	0.1nm,0.3s,baz=8.3,slow=32,SNR=3.5						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**P**	**19 11 37.6**	**-1.1**
	0.1nm,0.3s,baz=156,slow=12,SNR=5.7						

MEX 04 19:34:51.6±0.7**, 15°.53N×96°.69W, h20km**±19km**, MD3.8, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.60**	**67**	*i* P	Pb	19 35 01.1	-2.4
HUIG				*e*P	Pb	19 35 01.1	-2.4
HUIG				*i* S	Sb	19 35 09.6	-2.0
VHO	**Vista Hermosa**	**1.53**	**358**	*i* P	Pn	19 35 14.9	-3.3
VHO				*i* S	Sn	19 35 32.4	-5.3
PNIG	**Pinotepa**	**1.63**	**302**	*e*P	Pn	19 35 16.5	-2.7
PNIG				*i* S	Sn	19 35 35.2	-4.5
CMIG	**Matias Romero**	**2.32**	**48**	*e*P	Pn	19 35 26.8	-1.9
CMIG				*i* S	Sn	19 35 53.2	-3.6

*NIED **04** 19:36:00, 22°.90N×122°.00E, h20km, Mw3.8 Best double couple: $M_0$5.52000×10[14] NP1:ϕ_s247.00000°, δ56.00000°, λ-175.00000°. NP2:ϕ_s154.00000°, δ85.00000°, λ-34.00000°.*
*JMA **04** 19:36:23.3±0.1, 22°.93N×122°.01E, h36km, M4.3*
*TAP **04** 19:36:24.9, 22°.92N×122°.01E, h34km, ML4.2, C*
*IDC **04** 19:36:25.2±3.3, 22°.98N×122°.05E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.4/37, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=70.3km s-min=34.6km az=147.0*
ISC 04 19:36:22.3±1.4**, 22°.91N**±0°.02×**122°.09E**±0°.02**, h9km**±10km**, n97, σ1s.48**/155**, mb3.2**/4**, 23C-7D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.70**	**286**	⇑*i*P	**Pg**	**19 36 36.2**	**+0.4**
	baz=287						
CHKT				*i* S	**Sg**	**19 36 44.0**	**-0.9**
	baz=287						
TWF1	**Yuli**	**0.86**	**301**	⇑*i*P	**Pb**	**19 36 38.8**	**-0.7**
	baz=311						
TWF1				*e*S	**Sb**	**19 36 48.6**	**-2.4**
	baz=311						
TTN	**Taitung**	**0.89**	**260**	⇑*i*P	**Pb**	**19 36 39.7**	**-0.2**
	baz=251						
TTN				S	**Sb**	**19 36 50.0**	**-1.9**
	baz=251						
EHY	**Hungye**	**0.93**	**310**	⇑*i*P	**Pb**	**19 36 39.7**	**-0.9**
	baz=318						
EHY				*i* S	**Sb**	**19 36 51.2**	**-1.9**
	baz=318						
TEGC	**Jichi Village**	**0.95**	**328**	*e*P	**Pb**	**19 36 41.0**	**+0.1**
	baz=323						
TEGC				S	**Sb**	**19 36 52.5**	**-1.1**
	baz=323						
TWG	**Pinlang**	**0.95**	**265**	⇑*i*P	**Pb**	**19 36 40.1**	**-0.9**
	baz=263						
TWG				*i* S	**Sb**	**19 36 51.5**	**-2.1**
	baz=263						
LAY	**Lan-yu**	**1.00**	**210**	⇓*i*P	**Pb**	**19 36 41.0**	**-0.9**
	baz=205						
LAY				*e*S	**Sb**	**19 36 52.3**	**-2.8**
	baz=205						
ELDTW	**Lidau**	**1.03**	**286**	⇑*i*P	**Pb**	**19 36 41.2**	**-1.2**
	baz=286						
ESL	**Shilin**	**1.09**	**326**	⇑*i*P	**Pb**	**19 36 42.0**	**-1.3**
	baz=339						
ESL				*e*S	**Sb**	**19 36 54.6**	**-3.1**
	baz=339						
ECL	**Taimali**	**1.10**	**254**	⇓*i*P	**Pb**	**19 36 42.3**	**-1.2**
	baz=251						
ECL				*e*S	**Sb**	**19 36 54.1**	**-3.8**
	baz=251						
ESF	**Shoufeng Towns**	**1.10**	**331**	*e*P	**Pb**	**19 36 42.8**	**-0.7**
	baz=334						
HWA	**Hwalien**	**1.16**	**337**	*e*P	**Pn**	**19 36 43.4**	**-1.3**
	baz=341						
HWA				*e*S	**Sb**	**19 36 57.3**	**-2.3**
	baz=341						
YUS	**Yu-Shan**	**1.20**	**299**	⇑*i*P	**Pn**	**19 36 44.8**	**-1.0**
	baz=309						
YUS				S	**Sb**	**19 36 58.5**	**-2.9**
	baz=309						
TAW	**Tawu**	**1.23**	**244**	*e*P	**Pn**	**19 36 44.5**	**-1.3**

	baz=252						
TWD	Chiawan	1.25	339	P	Pn	19 36 44.7	-1.4
	baz=342						
TWD				S	Sb	19 36 59.0	-3.5
	baz=342						
STYT	Tauyuan	1.26	282	⇑iP	Pn	19 36 45.3	-0.9
	baz=287						
STYT				S	Sb	19 36 59.1	-3.6
	baz=287						
EAST	Anshuo	1.26	246	⇓iP	Pn	19 36 45.1	-1.1
	baz=243						
EAST				S	Sb	19 36 59.2	-3.5
	baz=243						
ALS	Alishan	1.33	297	⇑iP	Pn	19 36 47.0	-0.4
	baz=305						
ALS				eS	Sb	19 37 02.8	-2.1
	baz=305						
SSD	Sandimen	1.36	264	⇑iP	Pn	19 36 46.6	-0.9
	baz=269						
SGST	Jiashian	1.40	277	⇑iP	Pn	19 36 48.6	+0.4
	baz=276						
SGST				eS	Sn	19 37 05.4	-1.4
	baz=276						
WTP	Ta-pu	1.40	284	⇑iP	Pn	19 36 48.4	+0.1
	baz=282						
WTP				eS	Sn	19 37 06.4	-0.5
	baz=282						
WHF	Hehuan Shan	1.45	328	eP	Pn	19 36 47.9	-1.2
	baz=331						
WHF				eS	Sn	19 37 05.2	-3.4
	baz=331						
SCZT	Fangliau	1.46	249	eP	Pn	19 36 48.4	-0.5
	baz=239						
SCZT				eS	Sn	19 37 06.8	-1.4
	baz=239						
SMLT	Sun Moon Lake	1.47	312	⇑iP	Pn	19 36 48.8	-0.3
	baz=321						
SMLT				S	Sn	19 37 05.7	-2.8
	baz=321						
CHN1	Nanshi	1.47	281	⇑iP	Pb	19 36 49.9	0.0
	baz=280						
CHN1				iS	Sn	19 37 07.8	-0.7
	baz=280						
CHN5	Tsauling	1.47	298	⇑P	Pn	19 36 49.6	+0.4
	baz=304						
CHN5				S	Sn	19 37 07.9	-0.7
	baz=304						
SGLT	Jiouru	1.49	263	eP	Pn	19 36 50.1	+0.8
	baz=262						
TSEB	Hengchuen, Pin	1.49	228	eP	Pn	19 36 49.7	+0.4
	baz=226						
TSEB				eS	Sn	19 37 08.6	-0.4
	baz=226						
TYC	Yuchr	1.51	311	⇑iP	Pn	19 36 49.4	-0.2
	baz=321						
TYC				eS	Sn	19 37 07.0	-2.4
	baz=321						
TWK	Hsinying	1.52	284	⇑iP	Pn	19 36 50.5	+0.7
	baz=283						
TWK				S	Sb	19 37 10.1	-0.1
	baz=283						
TWK1	Hengchun	1.53	231	eP	Pn	19 36 49.6	-0.3
	baz=235						
TWK1				eS	Sn	19 37 06.3	-3.6
	baz=235						
HEN	Hengchun	1.54	235	eP	Pn	19 36 50.2	+0.2
	baz=231						
HEN				eS	Sn	19 37 08.5	-1.7
	baz=231						
TWM1	Shoushan	1.54	267	⇑eP	Pb	19 36 51.7	+0.6
	baz=260						
ENA	Nanau	1.55	348	⇓iP	Pn	19 36 49.6	-0.5
	baz=352						
ENA				eS	Sn	19 37 07.4	-2.9
	baz=352						
TWT	Tachien	1.58	328	eP	Pn	19 36 50.6	-0.2
	baz=330						
TWT				eS	Sn	19 37 08.0	-3.5
	baz=330						
CHN3	Shinhua	1.60	276	⇑iP	Pb	19 36 53.2	+1.1
	baz=275						
CHN3				S	Sg	19 37 13.6	-0.3
	baz=275						
WGK	Gukeng	1.61	299	P	Pb	19 36 52.3	+0.1
	baz=312						
WGK				eS	Sb	19 37 12.0	-0.7
	baz=312						
CHN2	Minshiung	1.61	293	eP	Pb	19 36 52.4	0.0
	baz=292						
CHN2				eS	Sb	19 37 12.5	-0.3
	baz=292						
WNT	Mingjian	1.62	307	⇑iP	Pn	19 36 52.0	+1.0
	baz=308						
WNT				eS	Sn	19 37 11.4	-0.7
	baz=308						
CHY	Chiayi	1.65	291	eP	Pn	19 36 52.4	+1.0
	baz=291						
CHY				eS	Sn	19 37 12.3	-0.5
	baz=291						
NNS	Nan Shan	1.66	337	eP	Pn	19 36 51.6	-0.2
	baz=340						
NNS				eS	Sn	19 37 10.0	-3.4
	baz=340						
KAU	Kaohsiung	1.68	259	eP	Pb	19 36 54.5	+1.0
	baz=256						
TWP	Hsiaoliuchiu	1.69	251	eP	Pb	19 36 54.6	+0.9
	baz=238						
TWC	Suao	1.71	352	P	Pn	19 36 52.5	+0.2
	baz=356						
TWC				S	Sn	19 37 12.5	-1.9
	baz=356						
JYNG	Yonagunijimaku	1.72	27	P	Pn	19 36 52.5	0.0
JYNG				eS	Sn	19 37 12.8	-1.9
TAI1	Yung-k'ang	1.73	275	eP	Pb	19 36 54.6	+0.4
	baz=273						
TAI1				eS	Sb	19 37 15.9	-0.1
	baz=273						
YOJ	Yonaguni jima	1.76	28	P	Pn	19 36 53.3	+0.2
YOJ				S	Sn	19 37 14.7	-0.9
YOJ	Yonaguni jima	1.76	28	⇑iP	Pn	19 36 53.3	+0.2
	baz=31						
YOJ				eS	Sn	19 37 14.8	-0.8
	baz=31						
SCLT	Jiali	1.77	279	eP	Pn	19 36 54.0	+0.9
	baz=277						
SCLT				eS	Sb	19 37 16.4	-0.9
	baz=277						
CHN8	Yiju	1.79	285	eP	Pn	19 36 54.6	+1.2
	baz=283						
CHN8				eS	Sn	19 37 16.3	+0.1
	baz=283						
TCU	Taichung	1.79	314	eP	Pn	19 36 54.7	+1.2
	baz=315						
TCU				eS	Sn	19 37 16.1	-0.4
	baz=315						
TWE	Neicheng	1.85	348	⇓P	Pn	19 36 54.4	+0.2
	baz=351						
TWE				eS	Sn	19 37 15.4	-2.3
	baz=351						
WSF	Szhu	1.87	293	eP	Pn	19 36 55.0	+0.5
	baz=292						
WSF				eS	Sn	19 37 17.8	-0.4
	baz=292						
ILA	Ilan	1.88	350	eP	Pn	19 36 55.7	+1.0
	baz=354						
ILA				eS	Sn	19 37 17.2	-1.3
	baz=354						
TWQ1	Liyutan	1.88	320	⇑iP	Pn	19 36 56.1	+1.4
	baz=331						
TWQ1				eS	Sn	19 37 18.2	-0.3
	baz=331						
NSK	Sanguang	1.89	339	⇓iP	Pn	19 36 54.9	+0.1
	baz=342						
NSK				S	Sn	19 37 15.8	-3.0
	baz=342						
WTCT	Ta-ch'eng	1.92	300	⇓P	Pn	19 36 56.1	+0.9
	baz=300						
WTCT				eS	Sn	19 37 18.8	-0.7
	baz=300						
EGS		1.94	356	eP	Pn	19 36 55.3	-0.1
	baz=8.0						
NSY	Sanyi	1.94	321	eP	Pn	19 36 57.0	+1.5
	baz=332						
NSY				eS	Sn	19 37 20.8	+0.8
	baz=332						
HATJ	Hateruma jima	1.94	54	P	Pn	19 36 56.0	+0.4
HATJ				S	Sn	19 37 18.7	-1.4
NSTT	Nanjuang	1.99	330	eP	Pn	19 36 57.5	+1.3
	baz=332						
NSTT				eS	Sn	19 37 19.7	-1.5
	baz=332						
IRIF	Iriomote-Funau	2.07	46	P	Pn	19 36 57.7	+0.4
IRIF				S	Sn	19 37 22.0	-1.2
TWB1	Santiao Chiao	2.10	357	P	Pn	19 36 57.8	+0.2
	baz=11						
TWB1				S	Sn	19 37 21.9	-1.9
	baz=11						
TWA	Mucha	2.12	347	eP	Pn	19 36 59.1	+1.1
	baz=341						
TWA				eS	Sn	19 37 24.5	0.0
	baz=341						
HSN	Hsinchu	2.15	332	eP	Pb	19 37 00.7	-0.8
	baz=323						
HSN				eS	Sn	19 37 26.1	+0.9
	baz=323						
NWF	Wu-fen Shan	2.17	352	eP	Pn	19 36 59.8	+1.0
	baz=356						
NWF				eS	Sn	19 37 25.2	-0.8
	baz=356						
TAP1	Taipei	2.19	346	eP	Pn	19 37 00.3	+1.4
	baz=349						
TAP	Taipei	2.19	346	eP	Pn	19 37 00.1	+1.2
	baz=349						
JKRS	Kuro-shima	2.20	53	P	Pn	19 36 59.6	+0.5
JKRS				S	Sn	19 37 25.1	-1.4
NCU	National Centr	2.21	338	eP	Pb	19 37 01.9	-0.8
	baz=350						
NCU				eS	Sn	19 37 27.3	+0.4
	baz=350						
WDGT	Dungji	2.27	279	eP	Pn	19 36 59.9	-0.1
	baz=277						
WDGT				eS	Sn	19 37 25.9	-2.2
	baz=277						
TWS1	Kuangyinshan	2.27	344	eP	Pn	19 37 01.3	+1.2
	baz=348						
TWS1				eS	Sn	19 37 27.4	-0.8
	baz=348						
JIJ	Ishigaki jima	2.37	52	P	Pn	19 37 01.4	-0.1
JIJ				S	Sn	19 37 28.5	-2.2
PNG	Penghu	2.43	286	eP	Pn	19 37 02.4	+0.2
	baz=285						
JISG	Ishigakijimahi	2.63	50	P	Pn	19 37 04.9	-0.1
JISG				S	Sn	19 37 34.9	-2.2
JTJ	Tarama	2.95	54	P	Pn	19 37 09.7	+0.3
JTJ				S	Sn	19 37 43.7	-1.2
JIRB	Irabujima	3.41	55	P	Pn	19 37 16.2	+0.5
JIRB				S	Sn	19 37 54.6	-1.6
JMJ	Miyako jima 2	3.49	56	P	Pn	19 37 17.7	+0.9
JMJ				S	Sn	19 37 57.3	-1.0
JMJ	Miyako jima 2	3.49	56	eP	Pn	19 37 17.9	+1.0
	baz=58						
JMJ				eS	Sn	19 37 57.6	-0.7
	baz=58						
JIKM	Ikemajima	3.52	55	P	Pn	19 37 17.9	+0.7
JIKM				S	Sn	19 37 57.2	-1.7
JOGS	Gusukube	3.55	58	P	Pn	19 37 18.7	+1.0
JOGS				S	Sn	19 37 58.7	-1.1
KNM	Kinmen	3.68	295	eP	Pn	19 37 20.1	+0.6
	baz=291						
JOW	Kunigami	6.84	54	P	Pn	19 38 01.2	-1.7
JOKE	Okinoerabujima	7.36	52	P	Pn	19 38 07.7	-2.3
JTK	Tokunoshima	7.88	51	P	Pn	19 38 13.4	-3.7
JAMN	Amaminishikomi	8.31	49	P	Pn	19 38 19.5	-3.6
KSRS	Korea Array	15.34	18	Pn	Pn	19 40 00.6	+1.5
	0.1nm,0.3s,baz=200,slow=12,SNR=9.0						
CMAR	Chiang Mai Arr	22.10	263	P	P	19 41 21.5	+3.4
	0.2nm,0.2s,baz=62,slow=8.3,SNR=4.3						
SONM	Songino Array	27.86	337	P	P	19 42 16.0	+3.5
	0.2nm,0.4s,baz=149,slow=12,SNR=2.3						
MKAR	Makanchi Array	39.83	317	P	P	19 43 59.8	+3.7
	0.4nm,0.7s,baz=110,slow=8.4,SNR=6.4						
H11N1	WAKE ISLAND Hy	41.74	86	T	T	20 29 41.5	
	baz=285,slow=75,SNR=12						
H11N2	WAKE ISLAND Hy	41.74	86	T	T	20 29 42.8	
	baz=285,slow=75,SNR=22						
H11N3	WAKE ISLAND Hy	41.75	86	T	T	20 29 41.7	
	baz=285,slow=75,SNR=12						
H11S3	WAKE ISLAND Hy	41.83	87	T	T	20 29 48.0	
	baz=286,slow=73,SNR=13						
H11S1	WAKE ISLAND Hy	41.84	87	T	T	20 29 48.2	
	baz=286,slow=73,SNR=13						
H11S2	WAKE ISLAND Hy	41.85	87	T	T	20 29 49.3	
	baz=286,slow=73,SNR=17						
YKA	Yellowknife Ar	83.82	23	P	P	19 48 56.1	+4.2
	0.2nm,0.6s,baz=307,slow=5.3,SNR=5.2						

*IDC **04** 19:37:39.3±0.9, 17.49S×167.66E, h0km, mb4.2/9, mb1 4.5/10, mb1mx4.1/35, mbtmp4.3/10, ML3.7/1, MS3.9/11, Ms1 3.9/11, ms1mx3.6/39, Error ellipse: s-maj=26.7km s-min=21.1km az=133.0*

*ISCJB **04** 19:37:40.8±0.5, 17.61S±0.05×167.67E±0.07, h19km, mb4.3/10, MS3.8/11, Error ellipse: s-maj=10.1km s-min=6.8km az=11.2*

*NEIC **04** 19:37:44.6±0.4, 17.58S×167.64E, h35km, mb4.5/5, Error ellipse: s-maj=11.3km s-min=8.6km az=157.0*

ISC 04 19:37:42.6±0.6, 17.58S±0.07×167.66E±0.09, h19km, n50, σ1.06/44, mb4.2/10, MS3.8/11, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.61	194	ePn	Pn	19 38 51.6	+0.2
	28nm,0.2s						
DZM				eSn	Sn	19 39 42.8	-1.7
	104nm,0.3s						
DZM	Mont Dzumac	4.61	194	Pn	Pn	19 38 51.1	-0.2
	3.8nm,0.3s,baz=60,slow=11,SNR=23						
DZM				Sn	Sn	19 39 43.5	-1.0
	17nm,0.3s,baz=120,slow=22,SNR=8.8						
DZM	Mont Dzumac	4.61	194	eP	Pn	19 38 51.2	-0.2
DZM				eS	Sn	19 39 44.0	-0.5
NOUC	Port Laguerre	4.67	196	eP	Pn	19 38 52.6	+0.4
NOUC				eS	Sn	19 39 45.2	-0.7
MSVF	Nonsavu	9.91	92	Pn	Pn	19 40 05.4	+1.3
	66nm,1.3s						
EIDS	Eidsvold	17.25	240	eP	P	19 41 44.4	+0.3
	18nm,1.0s						
EIDS	Eidsvold	17.25	240	P	P	19 41 44.9	+0.8
	baz=13,SNR=6.2						
RMQ	Roma	19.62	240	P	Pn	19 42 13.2	+1.7
	baz=15,SNR=20						
AFI	Afiamalu	20.12	82	LR	LR	19 48 11.4	
	comp=Z,444nm,21.5s,baz=216,slow=31						
CTA	Charters Tower	20.41	260	P	P	19 42 19.7	+0.9
	13nm,0.9s,baz=84,slow=12,SNR=11						
CTAO	Charters Tower	20.41	260	eP	Pn	19 42 19.9	-1.1
	22nm,0.8s						
PMG	Port Moresby	21.51	290	LR	LR	19 48 45.3	
	comp=Z,283nm,20.7s,baz=99,slow=31						
URZ	Urewera	22.20	160	P	P	19 42 39.1	+1.2
	9.7nm,0.8s,baz=4.6,slow=7.3,SNR=6.5						
MTSU	Mount Surprise	22.23	265	P	P	19 42 39.0	+0.7
	baz=18,SNR=11						
QLP	Quilpie	23.45	243	P	P	19 42 51.7	+0.7
	baz=19,SNR=14						
CAN	Canberra	24.24	220	Pn	P	19 42 56.6	-1.9
CMSA	Cobar Meteorol	24.27	231	P	P	19 43 01.0	+2.3
	baz=20,SNR=28						
STKA	Stephens Creek	27.53	234	P	P	19 43 28.2	0.0
	8.1nm,0.7s,baz=61,slow=8.8,SNR=9.0						
STKA				LR	LR	19 53 21.1	
	comp=Z,270nm,19.5s,baz=38,slow=34						
STKA	Stephens Creek	27.53	234	eP	P	19 43 29.1	+0.9
	4.3nm,0.9s						
STKA	Stephens Creek	27.53	234	P	P	19 43 29.7	+1.5
	baz=23,SNR=6.5						
RAR	Rarotonga	30.90	102	LR	LR	19 55 39.6	
	comp=Z,56nm,18.9s,baz=226,slow=35						
WRAB	Tennant Creek	31.60	260	eP	P	19 44 03.0	-1.5
WRA	Warramunga Arr	31.61	260	P	P	19 44 03.3	-1.3
	2.3nm,0.8s,baz=92,slow=8.9,SNR=24						
WRA				PcP	PcP	19 46 56.5	-0.2
	1.1nm,1.0s,baz=90,slow=3.6,SNR=4.6						
WRA				LR	LR	19 55 47.4	
	comp=Z,248nm,18.2s,baz=95,slow=34						
AS31	Alice Springs	32.12	253	eP	P	19 44 07.7	-1.3
ASAR	Alice Springs	32.12	253	P	P	19 44 08.1	-1.0
	9.3nm,0.7s,baz=79,slow=8.9,SNR=90						
ASAR				LR	LR	19 56 32.3	
	comp=Z,412nm,19.9s,baz=76,slow=35						
KNRA	Kununurra	37.28	267	P	P	19 44 52.4	-1.2
	baz=33,SNR=5.1						
WRKA	Warakurna	37.31	252	P	P	19 44 53.3	-0.6
	baz=33,SNR=11						
TBI	Tubuai	40.47	106	eLR	LR	19 56 38.1	
	305nm,30.0s						
PPT	Papeete	40.70	97	LR	LR	19 57 18.6	
	comp=Z,402nm,21.4s,baz=124,slow=29						
MBWA	Marble Bar	45.23	257	eP	P	19 45 58.4	-0.6
MEEK	Meekatharra	46.09	250	P	P	19 46 06.4	+0.6
	baz=42,SNR=6.1						
JCJ	Chichijima	50.83	330	LR	LR	20 07 10.4	
	comp=Z,63nm,20.0s,baz=198,slow=35						
VNDA	Vanda	60.03	181	LR	LR	20 09 32.0	
	comp=Z,51nm,21.7s,baz=100,slow=32						
ASAJ	Asahikawa	65.54	340	LR	LR	20 12 24.8	
	comp=Z,102nm,19.6s,baz=162,slow=32						
PSI	Prapat	70.67	279	P	P	19 49 00.4	+2.6
	baz=67,SNR=3.7						
ENH	Enshi	73.47	310	eP	P	19 49 13.6	-0.5
CMAR	Chiang Mai Arr	76.46	295	P	P	19 49 32.1	+0.5
	1.6nm,0.8s,baz=129,slow=4.1,SNR=13						
CHTO	Chiang Mai	76.60	295	eP	P	19 49 32.8	+0.4
	12nm,1.4s						
ULN	Ulaanbaatar	84.65	324	eP	P	19 50 14.5	-0.6
	11nm,1.5s						
SONM	Songino Array	85.00	324	P	P	19 50 16.4	-0.5
	0.8nm,0.7s,baz=133,slow=6.3,SNR=3.5						
LSA	Lhasa	87.39	302	eP	P	19 50 29.5	0.0
NVAR	Mina Array Bea	88.84	49	P	P	19 50 34.3	-1.6
	1.1nm,0.8s,baz=227,slow=6.1,SNR=4.9						
ILAR	Eielson Array	89.11	18	P	P	19 50 35.7	-0.6
	0.2nm,0.3s,baz=233,slow=5.7,SNR=6.1						
MKAR	Makanchi Array	99.51	316	LR	LR	20 37 33.8	
	comp=Z,52nm,18.4s,baz=352,slow=36						
ARCES	ARCESS Array B	123.09	345	PKP	PKPdf	19 56 36.5	-0.8
	4.8nm,1.0s,baz=39,slow=3.3,SNR=6.2						
BFO	Black Forest	145.00	336	ePKPdf	PKPbc	19 57 17.7	-0.3
FETA	Feichten	145.02	332	⇓iPKPdf	PKPdf	19 57 18.8	-0.2
	8.1nm,0.9s						
DAVA	Damuels	145.19	333	⇑iPKPdf	PKPbc	19 57 18.5	-0.3
	18nm,1.1s						
DAVOX	Davos/Dischmat	145.58	333	PKPbc	PKPab	19 57 20.3	-0.1
	3.1nm,0.5s,baz=162,slow=3.2,SNR=4.5						
TUE	Stuetta	146.06	333	ePKPdf	PKPbc	19 57 21.3	-0.3

IDC 04 19:43:32.3±2.2, 1.91N×127.70E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=164.9km s-min=27.1km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.67	164	P	P	19 48 35.7	+0.3
	1.1nm,0.3s,baz=342,slow=11,SNR=20						
ASAR	Alice Springs	26.12	167	P	P	19 49 08.5	+0.3
	0.3nm,0.6s,baz=352,slow=7.4,SNR=4.3						
STKA	Stephens Creek	36.09	160	P	P	19 50 35.2	-0.8
	1.7nm,0.8s,baz=336,slow=6.1,SNR=3.7						
MKAR	Makanchi Array	59.60	325	P	P	19 53 38.2	+0.1
	0.1nm,0.3s,baz=108,slow=7.7,SNR=2.1						

*AZER **04** 19:53:22.2±2.7, 36.35N×44.85E, h2km, Error ellipse: s-maj=37.6km s-min=25.4km az=142.0*

*DDA **04** 19:53:26.7, 36.44N×44.72E, h5km, ML4.2*

*ISN **04** 19:53:26.5±2.6, 36.55N×44.88E, h0km±10km, ML3.5*

*CSEM **04** 19:53:27.3±0.2, 36.62N×45.21E, h2km, ML4.6, Error ellipse: s-maj=6.7km s-min=4.7km az=20.0*

*THR **04** 19:53:28.3±0.9, 36.69N×45.35E, h16km, ML3.6*

*MOS **04** 19:53:28.4±1.3, 36.42N×44.93E, h33km, mb4.1/11, Error ellipse: s-maj=11.8km s-min=6.6km az=100.1*

*IDC **04** 19:53:29.8±3.3, 36.60N×45.02E, h34km±26km, mb3.7/13, mb1 3.8/18, mb1mx3.6/40, mbtmp3.8/18, ML0.7/1, Error ellipse: s-maj=19.8km s-min=12.4km az=133.0*

*ISK **04** 19:53:30.8, 36.50N×44.64E, h5km, ML4.6*

*TEH **04** 19:53:30.3, 36.75N×45.28E, h23km, ML3.9*

ISC 04 19:53:27.5±0.8, 36.57N±0.02×45.08E±0.02, h13km±6km, n159, σ1.62/169, mb4.0/19, 7C-7D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	Kirkuk	1.31	207	ePG	Pg	19 53 53.6	+0.9
IKRK				eSG	Sg	19 54 11.5	+1.7
CUKT	Cukurca	1.36	300	ePN	Pn	19 53 52.9	+0.6
CUKT	Cukurca	1.36	300	ePn	Pn	19 53 52.9	+0.6
HAKT	HAKKARI	1.48	312	iP	Pn	19 53 53.8	-0.2
HAKT				iS	Sg	19 54 15.8	+0.7
HAKT	HAKKARI	1.48	312	iP	Pn	19 53 53.8	-0.2
HAKT				iS	Sg	19 54 15.8	+0.7
MSL	Mosul	1.60	264	ePN	Pn	19 53 53.2	-3.2
MSL				eSN	Sn	19 54 13.0	-2.9
IFTB	Fath-abad	1.79	36	ePn	Pn	19 53 55.9	-2.4
IFTB				eSg	Sn	19 54 19.6	-1.4
IFTB	Fath-abad	1.79	36	ePn	Pn	19 53 55.9	-2.4
IFTB				eSg	Sn	19 54 19.6	-1.4
ITBZ	Tabriz	1.86	27	ePn	Pn	19 53 57.0	-2.3
ITBZ				eSg	Sn	19 54 21.3	-1.5
ITBZ				e		19 54 30.1	
	comp=Z,12μm,0.2s						
ITBZ	Tabriz	1.86	27	ePn	Pn	19 53 57.0	-2.3
ITBZ				eSg	Sn	19 54 21.3	-1.5
IDHR	Dehrash	2.15	150	ePn	Pb	19 54 05.3	-1.1
IDHR	Dehrash	2.15	150	ePn	Pb	19 54 05.3	-1.1
SIRT	Sirnak	2.31	295	ePN	Pn	19 54 07.2	+1.9
SIRT	Sirnak	2.31	295	ePn	Pn	19 54 07.2	+1.9
SIRN	S¨rnak	2.33	294	iP	Pn	19 54 07.0	+1.5
SIRN				iS	Sb	19 54 37.2	-0.8
SIRN	S¨rnak	2.33	294	iP	Pn	19 54 07.0	+1.5
SIRN				iS	Sb	19 54 37.2	-0.8
IHRS	Heris	2.34	41	e		19 54 38.3	
	comp=Z,12μm,0.2s						
IHRS				ePn	Pn	19 54 04.3	-1.6
SNGE	Sanandaj	2.36	128	ePn	Pn	19 54 07.2	+1.1
SNGE				eSg	Sb	19 54 39.9	+0.8
	comp=Z,898nm,0.6s						
SNGE	Sanandaj	2.36	128	ePn	Pn	19 54 07.2	+1.1
SNGE				eSg	Sb	19 54 39.9	+0.8
SNGE				AML	AML	19 54 45.5	
	comp=N,898nm,0.6s						
TVAN	Van	2.37	326	iP	Pb	19 54 09.1	-1.0
TVAN	Van	2.37	326	iP	Pb	19 54 09.1	-1.0
TVAN				iS	Sg	19 54 42.5	-1.1
GEVA	Gevas	2.37	318	iP	Pn	19 54 08.4	+2.2
GEVA				iS	Sb	19 54 39.7	+0.3
GEVA	Gevas	2.37	318	iP	Pn	19 54 08.4	+2.2
GEVA				iS	Sb	19 54 39.7	+0.3
IGHG	Ghaleghazi	2.54	151	ePn	Pb	19 54 12.1	-1.0
IGHG	Ghaleghazi	2.54	151	ePn	Pb	19 54 12.1	-1.0
NAX	Nakhchivan	2.62	7	⇓P	Pn	19 54 11.7	+2.1
NAX	Nakhchivan	2.62	7	P	Pn	19 54 11.7	+2.1
CLDR	Caldiran	2.73	341	ePN	Pb	19 54 16.7	+0.4
MAKU	Maku	2.80	354	ePn	Pn	19 54 13.5	+1.4
MAKU	Maku	2.80	354	ePn	Pn	19 54 13.5	+1.4
ZNJK	Zanjan	2.90	87	ePn	Pn	19 54 12.9	-0.7
	comp=N,133nm,0.7s						
ZNJK	Zanjan	2.90	87	ePn	Pn	19 54 12.9	-0.7
ZNJK				AML	AML	19 54 57.8	
	comp=N,143nm,0.6s						
ZNJK				AML	AML	19 55 03.9	
	comp=E,133nm,0.7s						
IKOM	Komasi	3.11	140	ePn	Pb	19 54 19.9	-2.8
IKOM	Komasi	3.11	140	ePn	Pb	19 54 19.9	-2.8
GRMI	Germi	3.16	44	ePn	Pn	19 54 16.3	-0.7
GRMI	Germi	3.16	44	ePn	Pn	19 54 16.3	-0.7
BTMT	Batman	3.29	301	ePN	Pn	19 54 21.8	+3.1
BTMT	Batman	3.29	301	ePn	Pn	19 54 21.8	+3.1
LRK	Lerik	3.31	50	⇑P	Pn	19 54 18.9	-0.3
	SNR=6.7						
LRK				⇑S	Sb	19 55 05.4	-1.1
LRK	Lerik	3.31	50	P	Pn	19 54 18.9	-0.3
	SNR=6.7						
LRK				S	Sb	19 55 05.4	-1.1
BEST	Besiri	3.31	295	iP	Pb	19 54 27.1	+0.9
BEST				iS	Sg	19 55 12.7	-1.2
AGRB	Hanur-Agry	3.42	332	ePN	Pb	19 54 26.1	-2.0
SVAN	Silvan-Diyarba	3.47	298	ePN	Pn	19 54 24.5	+3.3
IBDR	Badra	3.52	168	ePn	Pn	19 54 22.0	+0.1
IBDR				eSn	Sn	19 55 04.0	+0.6
MARD	Mardin	3.52	283	iP	Pn	19 54 23.8	+1.8
MARD				iS	Sn	19 55 01.4	-2.3
GNI	Garni	3.58	356	eP	Pn	19 54 25.6	+2.7
GNI	Garni	3.58	356	Pn	Pn	19 54 26.9	+4.0
	comp=E,1.7nm,0.3s,baz=187,slow=19,SNR=7.7						

GNI	Garni	3.58	356	eP	Pn	19 54 25.6	+2.7
LKRN	Lenkeran, Azer	3.63	53	⇑P	Pn	19 54 23.3	-0.1
	SNR=3.9						
LKRN				⇓S	Sb	19 55 12.9	-2.6
LKRN	Lenkeran, Azer	3.63	53	P	Pn	19 54 23.3	-0.1
	SNR=3.9						
LKRN				S	Sb	19 55 12.9	-2.6
GLBA	Clilabad	3.74	43	⇓P	Pn	19 54 24.9	+0.1
	SNR=9.1						
GLBA				⇓S	Sn	19 55 13.4	+4.6
GLBA	Clilabad	3.74	43	P	Pn	19 54 24.9	+0.1
	SNR=9.1						
GLBA				S	Sn	19 55 13.4	+4.6
MAZI	Mazidag	3.81	285	ePN	Pn	19 54 28.0	+2.0
MAZI	Mazidag	3.81	285	ePn	Pn	19 54 28.0	+2.0
VRTB	Varto-Mus	3.86	313	ePN	Pn	19 54 30.8	+4.1
VRTB	Varto-Mus	3.86	313	ePn	Pn	19 54 30.8	+4.1
BRDA	Brd	4.04	23	⇓P	Pn	19 54 29.2	+0.2
BRDA	Brd	4.04	23	P	Pn	19 54 29.2	+0.2
DIY	Diyarbakir	4.09	290	ePN	Pn	19 54 33.5	+3.7
IGZV	Ghazvin	4.14	91	ePn	Pn	19 54 30.0	-0.7
IGZV				eSg	Sb	19 55 34.5	+4.0
IGZV				e		19 55 39.4	
	comp=Z,2μm,0.2s						
IGZV	Ghazvin	4.14	91	ePn	Pn	19 54 30.0	-0.7
IGZV				eSg	Sb	19 55 34.5	+4.0
DYBB	Diyarbakir	4.18	291	ePN	Pn	19 54 33.5	+2.5
GANJ	Ganja	4.18	13	⇑P	Pn	19 54 30.5	-0.5
GANJ	Ganja	4.18	13	P	Pn	19 54 30.5	-0.5
EZM	Erzurum	4.43	320	ePN	Pn	19 54 39.7	+5.0
QZX	Qazax, Azerbai	4.49	3	⇑P	Pn	19 54 36.0	+0.8
QZX	Qazax, Azerbai	4.49	3	P	Pn	19 54 36.0	+0.8
ASAO	Ashtian	4.51	115	ePn	Pn	19 54 37.2	+1.5
	comp=Z,44nm,0.7s						
ASAO	Ashtian	4.51	115	ePn	Pn	19 54 37.2	+1.5
ASAO				AML	AML	19 55 59.1	
	comp=E,59nm,0.7s						
ASAO				AML	AML	19 56 11.3	
	comp=N,44nm,0.7s						
IMHD	Mahdasht	4.61	99	ePn	Pn	19 54 36.5	-0.5
IMHD				e		19 54 55.1	
	comp=Z,542nm,0.2s						
IMHD	Mahdasht	4.61	99	ePn	Pn	19 54 36.4	-0.5
IML	Ismayilli	4.87	29	⇑P	Pn	19 54 41.2	+0.8
	SNR=3.1						
IML	Ismayilli	4.87	29	P	Pn	19 54 41.2	+0.8
	SNR=3.1						
KHMZ	Khomeyn	4.89	124	ePn	Pn	19 54 41.9	+0.9
	comp=Z,61nm,0.7s						
KHMZ	Khomeyn	4.89	124	ePn	Pn	19 54 41.9	+0.9
KHMZ				AML	AML	19 56 12.2	
	comp=E,46nm,0.6s						
KHMZ				AML	AML	19 56 14.4	
	comp=N,61nm,0.7s						
PTK	Pertek	5.07	299	ePN	Pn	19 54 46.3	+2.9
PTK	Pertek	5.07	299	ePn	Pn	19 54 46.3	+2.9
URFA	Urfa	5.08	282	ePN	Pn	19 54 45.9	+2.5
URFA	Urfa	5.08	282	ePn	Pn	19 54 45.9	+2.5
ERZN	Erzincan	5.19	307	ePN	Pn	19 54 49.8	+4.9
ZKTA	Zakatala	5.20	13	⇓P	Pn	19 54 44.9	-0.1
ATGJ	Altiaghaj	5.24	34	⇑S	Sn	19 55 47.5	+1.6
ATGJ	Altiaghaj	5.24	34	S	Sn	19 55 47.5	+1.6
RTB	Rutbah	5.28	229	ePn	Pn	19 54 47.4	+1.3
	SNR=39						
RTB	Rutbah	5.28	229	ePn	Pn	19 54 47.4	+1.3
RTB				eSN	Sn	19 55 42.1	-4.8
EZC	Erzincan	5.52	307	ePn	Pn	19 54 49.8	+0.3
IVRN	Varamin	5.63	104	ePn	Pn	19 54 50.6	-0.3
IVRN				e		19 55 23.3	
	comp=Z,438nm,0.2s						
IVRN	Varamin	5.63	104	ePn	Pn	19 54 50.6	-0.3
IDMV	Damavand	5.72	98	ePn	Pn	19 54 51.8	-0.5
IDMV				e		19 55 55.8	
	comp=Z,335nm,0.4s						
IDMV	Damavand	5.72	98	ePn	Pn	19 54 51.8	-0.5
IPRN	Peran	5.86	91	ePn	Pn	19 54 53.3	-0.9
IPRN				e		19 56 42.9	
	comp=Z,827nm,0.4s						
ILIC	ilic-Erzincan	5.89	301	ePN	Pn	19 54 59.1	+4.5
ILIC	ilic-Erzincan	5.89	301	ePn	Pn	19 54 59.1	+4.5
ZEI	Tsey	6.28	352	eP	Pn	19 55 04.8	+4.9
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KUZU	Kuzuini	6.44	274	iP	Pn	19 55 03.3	+1.3
KUZU	Kuzuini	6.44	274	iP	Pn	19 55 03.3	+1.3
KUZU				iS	Sg	19 56 46.2	-7.9
KMRS	Kahramanmaras	6.61	281	ePN	Pn	19 55 07.7	+3.3
KMRS	Kahramanmaras	6.61	281	ePn	Pn	19 55 07.7	+3.3
ANDN	Andirin	7.06	281	iP	Pn	19 55 11.2	+0.6
ANDN	Andirin	7.06	281	iP	Pn	19 55 11.2	+0.6
ANDN				iS	Sg	19 57 10.6	-3.3
KBZ	Khabaz	7.34	348	Pn	Pn	19 55 20.1	+5.7
	comp=Z,0.2nm,0.3s,baz=174,slow=3.8,SNR=8.1						
KIV	Kislovodsk	7.60	347	eP	Pn	19 55 20.3	+2.3
KIV				pmax	pmax		
	comp=Z,13nm,0.9s						
KIV				MLR	MLR		
	comp=Z,18nm,6.0s						
KIV	Kislovodsk	7.60	347	eP	Pn	19 55 20.3	+2.3
	comp=Z,18nm,6.0s						
ASF	Jabal al Asfar	8.06	239	P	Pn	19 55 25.0	+0.6
ASF	Jabal al Asfar	8.06	239	Pn	Pn	19 55 25.0	+0.6
	comp=Z,0.4nm,0.3s,baz=350,slow=12,SNR=3.0						
ASF				Lg	Lg	19 57 46.1	
	comp=Z,1.0nm,0.3s,baz=15,slow=20,SNR=3.7						
MMAI	Mount Meron Ar	8.71	249	Pn	Pn	19 55 34.7	+1.4
	comp=Z,2.2nm,0.3s,baz=65,slow=16,SNR=6.6						
MMAI				Lg	Lg	19 58 06.5	
	comp=Z,1.2nm,0.3s,baz=92,slow=29,SNR=2.3						
BRTR	Keskin Array B	9.55	293	Pn	Pn	19 55 46.4	+1.7
	comp=Z,0.1nm,0.3s,baz=116,slow=13,SNR=11						
EIL	Elat	10.93	234	Pn	Pn	19 56 06.3	+2.8
	comp=Z,0.2nm,0.3s,baz=101,slow=10,SNR=2.5						
EIL				Lg	Lg	19 59 23.0	
	comp=Z,0.2nm,0.3s,baz=81,slow=19,SNR=2.6						
VORD	Divnogorie	14.98	346	eP	Pn	19 57 01.8	+3.1
VORD				pmax	pmax		
	comp=N,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VORD	Divnogorie	14.98	346	eP	Pn	19 57 01.8	+3.1
VSR	Storozhevoye	15.24	346	eP	Pn	19 57 05.0	+2.8
VSR				pmax	pmax		
	comp=N,9.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,7.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VSR	Storozhevoye	15.24	346	eP	Pn	19 57 05.0	+2.8
AKTK	Aktyubinsk	16.70	30	P	Pn	19 57 22.5	+1.4
AKTO	Aktyubinsk	16.70	30	Pn	Pn	19 57 22.5	+1.5
	comp=Z,0.2nm,0.3s,baz=222,slow=14,SNR=7.1						
AKASG	Malin Array Be	18.14	326	P	Pn	19 57 38.2	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	18.14	326	P	Pn	19 57 38.2	-0.8
	comp=Z,0.6nm,0.3s,baz=135,slow=9.6,SNR=5.7						
OBN	Obninsk	19.44	345	⇓eP	Pn	19 57 55.8	+1.1
OBN				pmax	pmax		
	comp=Z,23nm,1.8s						
OBN	Obninsk	19.44	345	eP	Pn	19 57 55.8	+1.1
	comp=Z,23nm,1.8s						
KOLS	Kolonicke sedl	20.72	314	eP	P	19 58 07.9	+0.4
KOLS				pmax	pmax		
	comp=Z,61nm,2.9s						
KOLS	Kolonicke sedl	20.72	314	eP	P	19 58 07.9	+0.4
KOLS	Kolonicke sedl	20.72	314	eP	P	19 58 07.9	+0.4
	comp=Z,61nm,2.9s						
CRVS	Cervenica-Dubn	21.18	313	eP	P	19 58 13.0	+0.5
CRVS				pmax	pmax		
	comp=Z,28nm,2.4s						
CRVS	Cervenica-Dubn	21.18	313	eP	P	19 58 13.0	+0.5
CRVS	Cervenica-Dubn	21.18	313	eP	P	19 58 13.0	+0.5
	comp=Z,28nm,2.4s						
ARU	Arti	21.85	20	P	P	19 58 11.7	-7.8
AAK	Ala-Archa	23.39	66	eP	P	19 58 38.2	+2.1
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BVAR	Borovoye Array	24.16	39	P	P	19 58 43.1	-0.1
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	Borovoye Array	24.16	39	P	P	19 58 43.1	-0.1
	comp=Z,2.2nm,0.8s,baz=247,slow=7.5,SNR=8.1						
VRAC	Vranov	24.27	311	P	P	19 58 42.7	-1.6
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.4s						
VRAC	Vranov	24.27	311	P	P	19 58 42.7	-1.6
	comp=Z,1.7nm,0.4s,baz=138,slow=16,SNR=4.0						
KRLC	Kraliky	24.44	312	eP	P	19 58 45.7	-0.2
KRLC	Kraliky	24.44	312	eP	P	19 58 45.7	-0.2
KRLC				epP	pP	19 58 49.1	-0.7
KRLC	Kraliky	24.44	312	eP	P	19 58 45.7	-0.2
DPC	Dobruska-Polom	24.82	313	eP	P	19 58 49.1	-0.2
DPC	Dobruska-Polom	24.82	313	eP	P	19 58 49.1	-0.2
DPC	Dobruska-Polom	24.82	313	eP	P	19 58 49.1	-0.2
GERES	GERESS Array B	25.92	308	P	P	19 58 58.5	-0.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	GERESS Array B	25.92	308	P	P	19 58 58.5	-0.9
	comp=Z,0.5nm,0.4s,baz=108,slow=8.6,SNR=6.4						
FINES	FINESS Array B	27.63	340	P	P	19 59 12.9	-1.5
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	27.63	340	P	P	19 59 12.9	-1.5
	comp=Z,2.2nm,0.9s,baz=139,slow=11,SNR=4.5						
KURBB	Kurchatov Arra	27.73	49	P	P	19 59 14.9	-0.5
	comp=Z,0.4nm,0.7s,baz=258,slow=9.3,SNR=4.0						
KURK	Kurchatov	27.81	49	eP	P	19 59 19.8	+3.6
MKAR	Makanchi Array	29.36	58	P	P	19 59 29.8	-0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	29.36	58	P	P	19 59 29.8	-0.3
	comp=Z,0.6nm,0.7s,baz=256,slow=9.4,SNR=5.4						
ARCES	ARCESS Array B	34.70	348	P	P	20 00 15.3	-1.3
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES	ARCESS Array B	34.70	348	P	P	20 00 15.3	-1.3
	comp=Z,3.5nm,0.8s,baz=148,slow=8.6,SNR=9.4						
TORD	Torodi Ar. Bea	45.25	250	P	P	20 01 43.6	-1.3
	comp=Z,0.7nm,0.7s,baz=43,slow=7.8,SNR=5.9						
ULN	Ulaanbaatar	46.11	56	eP	P	20 01 53.5	+2.1
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CMAR	Chiang Mai Arr	50.41	96	P	P	20 02 24.9	+0.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	Chiang Mai Arr	50.41	96	P	P	20 02 24.9	+0.1
	comp=Z,0.5nm,0.6s,baz=295,slow=7.9,SNR=5.1						
DBIC	Dimbokro	54.33	249	P	P	20 02 52.6	-1.3
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
DBIC	Dimbokro	54.33	249	P	P	20 02 52.5	-1.3
	comp=Z,2.8nm,0.6s,baz=33,slow=7.2,SNR=6.6						
KIC	Kosan Boka	54.44	249	eP	P	20 02 53.7	-1.1
	comp=Z,13nm,0.8s						
TIC	Toumodi	54.47	249	eP	P	20 02 54.1	-0.9
	comp=Z,2.5nm,0.2s						
LIC	Lamto	54.75	249	eP	P	20 02 55.8	-1.2
	comp=Z,19nm,0.9s						
BOSA	Boshof	67.47	199	P	P	20 04 22.7	-0.4
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BOSA	Boshof	67.47	199	P	P	20 04 22.7	-0.4
	comp=Z,2.9nm,0.5s,baz=21,slow=5.3,SNR=9.4						
ILAR	Eielson Array	78.55	5	P	P	20 05 26.8	-1.5
	comp=Z,0.3nm,0.9s,baz=338,slow=4.1,SNR=3.0						
YKA	Yellowknife Ar	79.93	351	P	P	20 05 34.3	-1.5
	comp=Z,0.1nm,0.4s,baz=21,slow=5.4,SNR=4.4						

*IDC **04** 20:11:15.2±1.6,24°20S×115°95W, h0^{km}, mb3.8/3, mb1 4.2/3, mb1mx3.8/18, mbtmp3.8/3, MS4.1/1, Ms1 4.1/1, ms1mx3.5/32, Error ellipse: s-maj=60.2km s-min=40.2km az=19.0*

ISC 04 20:11:16.1±1.7, 24°4S±0°4×116°1W±0°3, h12^{km}, n17, σ0^{s}39/6, mb4.0/3, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	Juan Fernandez	33.59	114	T	T	20 53 24.9	
	baz=276,slow=74,SNR=64						
H03N3	Juan Fernandez	33.60	114	T	T	20 53 23.8	
	baz=276,slow=74,SNR=125						
H03N1	Juan Fernandez	33.61	114	T	T	20 53 27.8	
	baz=276,slow=74,SNR=114						
LPAZ	La Paz	45.50	89	P	P	20 19 36.4	0.0
	1.9nm,0.7s,baz=261,slow=3.9,SNR=7.2						
PTGA	Pitinga	59.11	75	LR	LR	20 42 49.3	
	comp=Z,167nm,19.3s,baz=323,slow=32						
PDAR	Pinedale Array	67.11	5	P	P	20 22 09.6	0.0
	0.8nm,0.7s,baz=193,slow=7.4,SNR=2.5						
H02S1	DAWSON INLET T	78.59	350	T	T	21 48 59.9	
H11S2	WAKE ISLAND Hy	86.45	292	T	T	21 59 30.8	
	baz=121,slow=74,SNR=11						
H11S1	WAKE ISLAND Hy	86.46	292	T	T	21 59 29.9	
	baz=121,slow=74,SNR=13						
H11S3	WAKE ISLAND Hy	86.47	292	T	T	21 59 29.5	
	baz=121,slow=74,SNR=13						
YKA	Yellowknife Ar	86.61	1	P	P	20 23 58.9	+0.2
	0.3nm,0.8s,baz=171,slow=5.4,SNR=6.4						
H11N3	WAKE ISLAND Hy	86.83	293	T	T	21 59 56.7	
	baz=122,slow=76,SNR=7.2						
H11N1	WAKE ISLAND Hy	86.84	293	T	T	21 59 58.9	
	baz=122,slow=76,SNR=12						
H11N2	WAKE ISLAND Hy	86.85	293	T	T	21 59 58.1	
	baz=122,slow=76,SNR=17						
ZALV	Zalesovo Beam	146.60	337	PKPbc	PKPbc	20 30 56.6	-0.6
	0.6nm,0.5s,baz=44,slow=4.4,SNR=3.8						
CMAR	Chiang Mai Arr	146.92	267	PKPbc	PKPab	20 31 00.6	0.0
	0.3nm,0.5s,baz=265,slow=0.5,SNR=4.2						
MKAR	Makanchi Array	153.26	331	PKPbc	PKPbc	20 31 14.2	+0.3
	0.3nm,0.6s,baz=54,slow=2.5,SNR=3.9						

IDC 04 20:15:10.2±43.0, 15°85S×172°54W, h0^{km}, mb4.3/3, mb1 4.5/3, mb1mx3.9/44, mbtmp4.3/3, Error ellipse: s-maj=839.5km s-min=169.0km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.53	241	P	P	20 23 24.2	+0.3
	2.5nm,0.6s,baz=83,slow=8.7,SNR=8.4						
WRA	Warramunga Arr	50.55	257	P	P	20 24 10.4	-0.6
	0.8nm,0.5s,baz=95,slow=7.0,SNR=22						
ASAR	Alice Springs	50.76	252	P	P	20 24 12.6	0.0
	8.2nm,0.5s,baz=90,slow=8.2,SNR=205						

*SZGRF **04** 20:20:16.9, 40°36N×126°41W, h23^{km}, mb4.8, MS5.8, Off coast of northern California, United States*

*BJI **04** 20:20:20.0, 40°40N×124°90W, h11^{km}, mB5.8/37, mb5.2/50, Ms5.7/60, Ms7 5.2/57*

*IDC **04** 20:20:20.1±0.4, 40°40N×124°79W, h0^{km}, mb5.0/30, mb1 5.1/35, mb1mx5.1/45, mbtmp5.0/35, ML5.2/5, MS5.3/37, Ms1 5.3/37, ms1mx5.2/46, Error ellipse: s-maj=9.4km s-min=7.5km az=29.0*

*MOS **04** 20:20:20.3±0.9, 40°38N×124°77W, h10^{km}, mb5.9/76, MS5.5/61, Error ellipse: s-maj=4.9km s-min=3.9km az=83.0*

*NEIC **04** 20:20:22.0, 40°41N×124°96W, h24^{km}, mb6.0/159, ME6.8, MS5.5/141, MW5.9, MW5.9, MW5.9, MW5.9(BRK), Moment Tensor Solution. s48 Moment tensor: Scale 10^{17}Nm; M_{rr}2.56; $M_{\theta\theta}$-5.73; $M_{\phi\phi}$3.18; $M_{r\theta}$1.66; $M_{\theta\phi}$-0.81; $M_{\phi r}$-7.17; Best double couple: $M_0$8.90000×10^{17} NP1:ϕ_s130.00000°, δ74.00000°, λ133.00000°. NP2:ϕ_s236.00000°, δ45.00000°, λ23.00000°. Principal axes: T 10.2000, Plg43.0000°, Azm81.0000°; N -4.1000, Plg40.0000°, Azm295.0000°; P -6.1000, Plg17.0000°, Azm189.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s218.00000°, δ85.00000°, λ-5.00000°. NP2:ϕ_s308.00000°, δ85.00000°, λ-175.00000°. Principal axes: T Plg0.0000°, Azm263.0000°; N Plg0.0000°, Azm0.0000°; P Plg7.0000°, Azm173.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism. After NCEDC.*

NEIC Felt [V] at Petrolia; [IV] at Bayside, Ferndale, Fortuna, Hydesville, Loleta, Rio Dell, Scotia and Whitethorn; [III] in the Albion-Orick area. Felt [II] at Brookings and Grant Pass, Oregon. Felt in much of northern California and parts of western Oregon from the San Francisco Bay area to the Portland area and as far east as Portola, California.

*NEIC **04** 20:20:21.0±0.0, 40°43N×124°93W, h15^{km} Best double couple: NP1:ϕ_s39.00000°, δ86.00000°, λ32.00000°. NP2:ϕ_s307.00000°, δ57.00000°, λ175.00000°. Principal axes: T 9.8600, Plg25.0000°, Azm268.0000°; N -0.1100, Plg57.0000°, Azm45.0000°; P -9.7600, Plg19.0000°, Azm168.0000°;*

*ISCJB **04** 20:20:21.7±0.7, 40°45N±0°01×124°71W±0°02, h15^{km}±4^{km}, mb5.5/266, MS5.5/225 Error ellipse: s-maj=3.2km s-min=2.0km az=150.3*

*GCMT **04** 20:20:22.0±0.1, 40°37N×125°08W, h18^{km}, MW5.9/123, Moment Tensor Solution. s108,c229; s123,c386; Duration: 2^{s}2 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.04±.01; $M_{\theta\theta}$-0.82±.01; $M_{\phi\phi}$0.86±.01; $M_{r\theta}$0.16±.02; $M_{\theta\phi}$-0.31±.01; $M_{\phi r}$-0.01±.01; Best double couple: $M_0$0.91200×10^{18} NP1:ϕ_s305.00000°, δ84.00000°, λ-171.00000°. NP2:ϕ_s214.00000°, δ81.00000°, λ-6.00000°. Principal axes: T 0.9200, Plg2.0000°, Azm80.0000°; N -0.0160, Plg80.0000°, Azm337.0000°; P -0.9040, Plg10.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **04** 20:20:44.3±0.0, 40°73N×124°76W, h10^{km}, Moment Tensor Solution. s135 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.58; $M_{\theta\theta}$-5.99; $M_{\phi\phi}$6.58; $M_{r\theta}$4.72; $M_{\theta\phi}$-2.32; $M_{\phi r}$-5.55; Best double couple: $M_0$9.80000×10^{17} NP1:ϕ_s309.00000°, δ89.00000°, λ-132.00000°. NP2:ϕ_s218.00000°, δ43.00000°, λ0.00000°. Principal axes: T 10.8000, Plg30.0000°, Azm72.0000°; N -2.0000, Plg42.0000°, Azm309.0000°; P -8.8000, Plg32.0000°, Azm184.0000°;*

ISC 04 20:20:22.9±0.3, 40°37N±0°04×124°89W±0°04, h20^{km}±1^{km}, h19^{km}:pP-P, n1357, σ1^{s}49/1316, mb5.7/277, MS5.5/231, 325C-185D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCPM	Cahto Peak	1.22	124	eP	Pn	20 20 43.8	-1.1
N02D	Trinity Center	1.77	69	⇑P	Pn	20 20 51.3	-1.2
	baz=1.8						
N02D				⇑S	Sn	20 21 12.5	-2.0
	baz=1.8						
WDC	Whiskeytown Da	1.81	83	eP	Pn	20 20 51.9	-1.0
WDC	Whiskeytown Da	1.81	83	eP	Pn	20 20 51.9	-1.0
M02C	Callahan	1.85	56	⇑P	Pn	20 20 52.0	-1.6
	baz=1.9						
M02C				⇑S	Sn	20 21 13.2	-3.4
	baz=1.9						
KBO	Bosley Butte	1.91	15	eP	Pn	20 20 51.4	-3.0
HOPS	Hopland	1.96	134	eP	Pn	20 20 53.6	-1.5
L02D	Cave Junction,	2.03	28	⇑P	Pn	20 20 53.8	-2.3
	baz=2.0						
L02D				⇓S	Sn	20 21 17.1	-3.9
	baz=2.0						
YBH	Yreka Blue Hor	2.14	50	Pn	Pn	20 20 56.4	-1.2
	408nm,0.3s,baz=249,slow=14,SNR=2679						
YBH				LR	LR	20 21 14.6	
	comp=Z,13μm,19.5s,baz=230,slow=26						
YBH				Sn	Sn	20 21 21.8	-1.8
	5μm,0.3s,baz=150,slow=18,SNR=24						
KEBM	Edson Butte	2.54	9	eP	Pn	20 21 00.3	-2.7
HUMO	Hull Mountain	2.67	32	eP	Pn	20 21 03.3	-1.5
M04C	Macdoel	2.71	58	⇓P	Pn	20 21 04.9	-0.5
	baz=2.7						
MCCM	Marconi Confer	2.72	144	eP	Pn	20 21 02.9	-2.5
SAC	San Andreas	3.39	144	eP	Pn	20 21 12.6	-2.1
SAC	San Andreas	3.39	144	eP	Pn	20 21 12.6	-2.1
I03D	Drain, OR	3.52	19	⇑P	Pn	20 21 14.6	-1.8
	baz=3.5						
I03D				⇓S	Sn	20 21 53.4	-4.1
	baz=3.5						
J04D	Umpqua Nationa	3.54	35	⇑P	Pn	20 21 16.9	-0.1
	baz=3.5						
MOD	Modoc	3.79	65	eP	Pn	20 21 18.8	-1.5
I04A	Tendick Farm,	3.89	28	⇓P	Pn	20 21 21.3	-0.3
	baz=3.9						
I04A				⇓S	Sn	20 22 04.2	-2.5
	baz=3.9						
J05D	Fort Rock, OR	4.00	42	⇑P	Pn	20 21 23.0	-0.1
	baz=4.0						
CMB	Columbia Colle	4.21	122	eP	Pn	20 21 26.2	+0.2
CMB	Columbia Colle	4.21	122	eP	Pn	20 21 26.2	+0.2
COR	Corvallis	4.38	15	eP	Pn	20 21 26.9	-1.3
COR	Corvallis	4.38	15	ePn	Pn	20 21 26.9	-1.3
SAO	San Andreas Ge	4.50	142	eP	Pn	20 21 26.5	-3.5
SAO	San Andreas Ge	4.50	142	ePn	Pn	20 21 26.5	-3.5
WAKR	Walker	4.62	112	ePn	Pn	20 21 32.2	+0.5
I05D	Terrebonne, OR	4.76	32	⇑P	Pn	20 21 33.6	0.0
	baz=4.8						
G03D	McMinnville, O	4.99	13	⇓P	Pn	20 21 35.8	-0.8
	baz=5.0						
WVOR	Wild Horse Val	5.14	64	eP	Pn	20 21 36.4	-2.5
WVOR				pmax	pmax		
	comp=Z,3μm,1.0s						
WVOR	Wild Horse Val	5.14	64	ePn	Pn	20 21 36.4	-2.5
	comp=Z,3μm,1.0s						
MLAC	Mammoth Lakes	5.45	118	⇓P	Pn	20 21 44.8	+1.5
	baz=5.5,SNR=106						
NVAR	Mina Array Bea	5.46	109	Pn	Pn	20 21 43.8	+0.4
	comp=Z,256nm,0.3s,baz=284,slow=14,SNR=2234						
NVAR				Lg	Lg	20 23 04.9	
	baz=270,slow=33,SNR=2.5						
NVAR				LR	LR	20 24 06.3	
	comp=Z,39μm,19.5s,baz=65,slow=41						
G05D	Wamic, OR	5.54	27	⇑P	Pn	20 21 44.9	+0.7
	baz=5.5						
NV11	Mina Array Sit	5.57	108	ePn	Pn	20 21 44.2	-0.5
BMN	Battle Mountai	5.86	87	eP	Pn	20 21 47.5	-1.2
BMN				pmax	pmax		
	comp=Z,1μm,1.0s						
BMN	Battle Mountai	5.86	87	ePn	Pn	20 21 47.5	-1.2
	comp=Z,1μm,1.0s						
F04D	Rainier, OR	5.87	13	⇑P	Pn	20 21 47.8	-1.0
	baz=5.8						
RCTC	Rector, Farmer	6.01	131	⇑P	Pn	20 21 50.3	-0.5
	baz=6.1,SNR=283						
TIN	Tinemaha	6.17	120	⇓P	Pn	20 21 54.8	+1.7
	baz=6.2,SNR=52						
SMMC	Simmler	6.36	141	⇑P	Pn	20 21 53.2	-2.4
	baz=6.4,SNR=84						
TPH	Tonopah	6.38	109	eP	Pn	20 21 55.7	-0.3
TPH				pmax	pmax		
	comp=Z,975nm,1.0s						
TPH	Tonopah	6.38	109	ePn	Pn	20 21 55.7	-0.3
	comp=Z,975nm,1.0s						
VES	Vestal, Richgr	6.43	133	⇑P	Pn	20 21 55.5	-1.1
	baz=6.5,SNR=726						
CWC	Cottonwood Cre	6.63	124	P	Pn	20 22 01.7	+2.2
	baz=6.7,SNR=433						
LON	Longmire	6.76	18	eP	Pn	20 22 00.3	-0.7
LON				pmax	pmax		
	comp=Z,371nm,1.0s						
LON	Longmire	6.76	18	ePn	Pn	20 22 00.3	-0.7
	comp=Z,371nm,1.0s						
ISA	Isabella	6.91	131	eP	Pn	20 22 03.0	-0.1
ISA				pmax	pmax		
	comp=Z,1μm,0.3s						
ISA	Isabella	6.91	131	ePn	Pn	20 22 03.0	-0.1
	comp=Z,1μm,0.3s						
ISA	Isabella	6.91	131	⇑P	Pn	20 22 03.6	+0.4
	baz=7.0,SNR=1000						
DAC	Darwin (Calif)	7.04	123	eP	Pn	20 22 06.6	+1.5
DAC				pmax	pmax		
	comp=Z,539nm,0.7s						
DAC	Darwin (Calif)	7.04	123	ePn	Pn	20 22 06.6	+1.5
	comp=Z,539nm,0.7s						
NLWA	Neilton Lookou	7.06	6	ePn	Pn	20 22 04.7	-0.4
	comp=Z,291nm,0.9s						
ARVC	Arvin	7.10	136	⇑P	Pn	20 22 04.7	-1.0
	baz=7.2,SNR=282						
BMO	Blue Mountains	7.17	49	ePn	Pn	20 22 07.3	+0.6
	comp=Z,1μm,0.8s						
HAWA	Hanford	7.17	31	ePn	Pn	20 22 07.6	+0.9
	comp=Z,2μm,1.5s						
SBC	Santa Barbara	7.21	144	⇑P	Pn	20 22 05.6	-1.5
	baz=7.3,SNR=7.8						
ELK	Elko	7.36	84	P	Pn	20 22 09.7	+0.2
ELK				pmax	pmax		
	comp=Z,14nm,0.3s						
ELK				MLR	MLR		
	comp=Z,44μm,21.3s						
ELK	Elko	7.36	84	Pn	Pn	20 22 09.7	+0.2
	comp=Z,14nm,0.3s,baz=0.6,slow=3.9,SNR=274						
ELK				LR	LR	20 25 27.2	

comp=Z,44µm,21.3s,baz=230,slow=42
FURC Furnace Creek, 7.41 119 ⇑P Pn 20 22 11.6 +1.7
baz=7.5,SNR=14
MFID Camas Ranch 7.42 63 ePn Pn 20 22 08.8 -1.3
comp=Z,1µm,1.3s
R11A Troy Canyon, C 7.49 103 ePn Pn 20 22 11.2 0.0
comp=Z,294nm,1.0s
R11A Troy Canyon, C 7.49 103 P Pn 20 22 11.5 +0.3
baz=7.5,SNR=124
LRMC Laurel Mountai 7.50 128 ⇑P Pn 20 22 11.9 +0.6
baz=7.6,SNR=248
OSI Osito Adit 7.55 138 ePn Pn 20 22 11.2 -0.7
comp=Z,650nm,0.6s
OSI Osito Adit 7.55 138 ⇑P Pn 20 22 12.3 +0.4
baz=7.6,SNR=52
BSC Santa Cruz Isl 7.62 145 ⇓P Pn 20 22 11.4 -1.5
baz=7.7,SNR=7.7
EDW2 Edwards Air Fo 7.75 133 ⇑P Pn 20 22 14.2 -0.4
baz=7.8,SNR=323
DECC Green Verdugo 8.04 137 ⇑P Pn 20 22 19.1 +0.5
baz=8.1,SNR=20
SHOC Shoshone 8.12 121 ⇓P Pn 20 22 21.3 +1.6
baz=8.2,SNR=136
GSC Goldstone 8.15 126 eP Pn 20 22 21.2 +1.0
GSC pmax pmax
comp=Z,920nm,0.3s
GSC Goldstone 8.15 126 ePn Pn 20 22 21.2 +1.0
comp=Z,920nm,0.3s
GSC Goldstone 8.15 126 P Pn 20 22 22.0 +1.8
baz=8.2,SNR=470
PASC Pasadena Art C 8.18 137 ePn Pn 20 22 18.9 -1.5
comp=Z,498nm,0.6s
MWC Mount Wilson 8.20 136 eP Pn 20 22 19.8 -1.2
MWC pmax pmax
comp=Z,238nm,0.4s
MWC Mount Wilson 8.20 136 ePn Pn 20 22 19.8 -1.2
comp=Z,238nm,0.4s
RRX Edison Barstow 8.32 129 ⇓P Pn 20 22 23.3 +0.9
baz=8.4,SNR=54
PGC Sidney 8.34 7 ePn Pn 20 22 18.1 -4.6
comp=Z,24nm,0.9s
BFSC Mount Baldy Ra 8.40 134 P Pn 20 22 23.7 0.0
baz=8.5,SNR=129
HLID Hailey 8.43 64 ePn Pn 20 22 24.0 -0.1
comp=Z,1µm,0.9s
HLID Hailey 8.43 64 P Pn 20 22 25.4 +1.3
baz=8.4,SNR=1000
SHPR Sheep Range 8.55 114 ePn Pn 20 22 27.1 +1.3
comp=Z,137nm,1.0s
TUQ Turquoise Moun 8.63 122 ⇓P Pn 20 22 28.8 +2.0
baz=8.7,SNR=124
CIS Catalina Islan 8.68 141 P Pn 20 22 25.1 -2.2
baz=8.7,SNR=8.1
HEC Hector,Ludlow 8.76 126 P Pn 20 22 29.4 +0.9
baz=8.8,SNR=661
BBRC Big Bear Solar 8.80 131 ⇑P Pn 20 22 29.5 +0.3
baz=8.9,SNR=63
BBRC ⇓S Sn 20 24 07.2 -0.7
baz=8.9
SCI San Clemente I 8.96 143 ⇑P Pn 20 22 31.9 +0.7
baz=9.0,SNR=16
BGU Big Grassy Mou 9.04 83 ePn Pn 20 22 32.4 0.0
comp=Z,1µm,1.2s
MURC Murrieta 9.14 135 P Pn 20 22 33.0 -0.6
baz=9.2,SNR=38
MURC ⇓S Sn 20 24 17.0 +1.1
baz=9.2
GMRC Granite Mounta 9.21 124 P Pn 20 22 35.8 +1.1
baz=9.3,SNR=235
GMRC ⇑S Sn 20 24 14.3 -3.5
baz=9.3
DUG Dugway 9.24 87 eP Pn 20 22 36.2 +1.1
DUG pmax pmax
comp=Z,1µm,1.0s
DUG Dugway 9.24 87 ePn Pn 20 22 36.2 +1.1
comp=Z,1µm,1.0s
DUG Dugway 9.24 87 P Pn 20 22 36.6 +1.5
baz=9.3,SNR=1000
HVU Hansel Valley 9.26 77 eP Pn 20 22 35.7 +0.3
HVU pmax pmax
comp=Z,3µm,1.2s
HVU Hansel Valley 9.26 77 ePn Pn 20 22 35.7 +0.3
comp=Z,3µm,1.2s
ARUT Antelope Range 9.27 102 eP Pn 20 22 36.3 +0.7
ARUT pmax pmax
comp=Z,4µm,0.7s
ARUT Antelope Range 9.27 102 ePn Pn 20 22 36.3 +0.7
comp=Z,4µm,0.7s
LDFC Landfair 9.38 121 ePn Pn 20 22 38.6 +1.6
comp=Z,510nm,0.9s
CCUT Cedar City 9.41 104 ePn Pn 20 22 38.2 +0.6
comp=Z,964nm,0.7s
SPUT South Promonto 9.48 80 ePn Pn 20 22 39.9 +1.4
comp=Z,3µm,1.5s
BELC Belle Mtn. Jos 9.52 129 P Pn 20 22 39.5 +0.4
baz=9.6,SNR=310
BELC ⇑S Sn 20 24 23.9 -1.7
baz=9.6
PFO Pinyon Flat Ob 9.54 132 P Pn 20 22 39.6 +0.3
PFO pmax pmax
comp=Z,122nm,0.3s
PFO Pinyon Flat Ob 9.54 132 Pn Pn 20 22 39.6 +0.3
comp=Z,122nm,0.3s,baz=324,slow=9.8,SNR=445
PFO Pinyon Flat Ob 9.54 132 ePn Pn 20 22 39.3 0.0
comp=Z,409nm,0.5s
PFO Pinyon Flat Ob 9.54 132 P Pn 20 22 40.0 +0.7
baz=9.6,SNR=227
PFO ⇓S Sn 20 24 29.1 +3.2
baz=9.6
NEW Newport 9.65 33 eP Pn 20 22 41.9 +1.2
NEW pmax pmax
comp=Z,232nm,1.3s
NEW Newport 9.65 33 Pn Pn 20 22 42.1 +1.4
comp=Z,3.1nm,0.3s,baz=203,slow=12,SNR=35
NEW Lg Lg 20 25 04.6
comp=Z,1.1nm,0.3s,baz=176,slow=16,SNR=2.3
NEW Newport 9.65 33 ePn Pn 20 22 41.9 +1.2
comp=Z,232nm,1.3s
NEW Lg Lg 20 25 04.6
NEW Newport 9.65 33 ⇓P Pn 20 22 41.4 +0.7
baz=9.6,SNR=40
109C Camp Elliot, M 9.74 138 ⇓P Pn 20 22 41.6 -0.2
baz=9.8
109C ⇓S Sn 20 24 31.2 +0.5
baz=9.8
NLU North Lily Min 9.82 88 ePn Pn 20 22 44.5 +1.3
comp=Z,635nm,1.0s
NEE2 Needles Airpor 9.88 121 ⇓P Pn 20 22 46.6 +2.7
baz=9.9,SNR=8.7
NEE2 ⇑S Sn 20 24 38.8 +4.5
baz=9.9
IRM Iron Mountain 9.93 126 ⇓P Pn 20 22 45.7 +1.2
baz=10.0,SNR=248
IRM ⇓S Sn 20 24 37.9 +2.4
baz=10.0
MCMT McKenzie Canyo 9.93 59 ePn Pn 20 22 45.5 +0.8
comp=Z,441nm,1.0s
MVU Marysvale 9.99 97 ePn Pn 20 22 46.7 +1.2
comp=Z,258nm,0.7s
CTU Camp Tracy 10.01 84 ePn Pn 20 22 47.3 +1.6
comp=Z,259nm,0.9s
BC3 Big Chuckawall 10.09 129 P Pn 20 22 46.9 +0.1
baz=10,SNR=213
MONP Monument Peak 10.10 135 P Pn 20 22 47.6 +0.6
baz=10,SNR=120
BAR Barrett 10.13 137 ePn Pn 20 22 45.6 -1.6
comp=Z,269nm,0.5s
MPU Maple Canyon 10.15 88 ePn Pn 20 22 49.6 +1.9
comp=Z,3µm,0.7s
W13A Hualapai Mount 10.18 118 ⇓P Pn 20 22 49.6 +1.5
baz=10,SNR=97
MSO Missoula 10.23 47 P Pn 20 22 50.3 +1.7
baz=10,SNR=918
JLU Jordanelle 10.25 84 ePn Pn 20 22 50.8 +1.7
comp=Z,299nm,1.0s
TCUT Toone Canyon 10.26 81 ePn Pn 20 22 51.5 +2.2
comp=Z,3µm,1.4s
SWSC Sam W. Stewart 10.40 133 ⇓P Pn 20 22 50.7 -0.3
baz=10,SNR=30
DAU Daniels Canyon 10.41 85 eP Pn 20 22 53.8 +2.5
DAU pmax pmax
comp=Z,2µm,1.9s
DAU Daniels Canyon 10.41 85 ePn Pn 20 22 53.8 +2.5
comp=Z,2µm,1.9s
BSMT Bassoo Peak 10.42 41 ePn Pn 20 22 52.0 +0.6
comp=Z,256nm,0.9s
PDMCI Parker Dam,Lak 10.48 122 P Pn 20 22 54.3 +2.3
baz=10,SNR=223

TMUT Trail Mountain 10.58 91 ePn Pn 20 22 56.7 +3.0
comp=Z,213nm,0.7s
Y12C Blythe 10.59 125 P Pn 20 22 54.7 +1.2
baz=11,SNR=106
LRM Limekiln Ridge 10.60 55 ePn Pn 20 22 54.0 +0.1
comp=Z,2µm,1.2s
SWMT Swartz Lake 10.61 44 ePn Pn 20 22 54.1 +0.3
comp=Z,256nm,0.9s
JTMT Jette 10.61 42 ePn Pn 20 22 53.9 0.0
comp=Z,256nm,0.9s
AHID Auburn Hatcher 10.61 72 ePn Pn 20 22 55.3 +1.3
comp=Z,818nm,1.3s
U15A North Rim 10.64 108 ⇓P Pn 20 22 57.8 +3.3
baz=11,SNR=326
CHMT Chamberlain Mo 10.67 48 ePn Pn 20 22 55.0 +0.2
comp=Z,365nm,1.0s
SLMT Seeley Lake 10.72 46 ePn Pn 20 22 56.2 +0.8
comp=Z,1µm,1.0s
BLMT Blacktail Moun 10.74 41 ePn Pn 20 22 56.3 +0.6
comp=Z,83nm,0.8s
YBMT Yellow Bay 10.82 43 ePn Pn 20 22 57.5 +0.7
comp=Z,264nm,1.0s
QLMT Earthquake Lak 10.88 61 ePn Pn 20 22 58.9 +1.3
GLA Glamis 10.88 129 eP Pn 20 22 57.2 -0.4
GLA pmax pmax
comp=Z,268nm,0.5s
GLA Glamis 10.88 129 ePn Pn 20 22 57.2 -0.4
comp=Z,268nm,0.5s
GLA Glamis 10.88 129 P Pn 20 22 57.5 -0.1
baz=11,SNR=129
BOZ Bozeman (W) 11.05 57 eP Pn 20 22 59.5 -0.4
BOZ pmax pmax
comp=Z,1µm,0.6s
BOZ Bozeman (W) 11.05 57 eP Pn 20 22 59.5 -0.4
comp=Z,1µm,0.6s
YMR Madison River 11.14 63 eP Pn 20 23 02.2 +1.0
comp=Z,8µm,1.5s
YFT Old Faithful 11.16 64 eP Pn 20 23 04.2 +2.7
comp=Z,1µm,1.5s
I17A Pilgrim Ck. 11.21 67 ⇑P Pn 20 23 03.5 +1.4
baz=11,SNR=617
H17A Grant Village 11.33 65 ⇑P Pn 20 23 07.1 +3.3
baz=11,SNR=401
YNR Norris Junctio 11.35 63 eP Pn 20 23 06.0 +1.9
comp=Z,651nm,1.1s
HRY Holter Researc 11.40 52 eP Pn 20 23 04.6 0.0
comp=Z,767nm,0.9s
Y14A Wickenburg 11.45 120 P Pn 20 23 08.5 +3.2
baz=12,SNR=119
WALA Waterton Lakes 11.67 38 eP Pn 20 23 09.2 +0.8
comp=Z,12nm,1.2s
WUAZ Wupatki 11.72 110 P Pn 20 23 13.1 +4.0
baz=12,SNR=79
113A Mohawk Valley, 11.72 127 ⇑P Pn 20 23 10.6 +1.6
baz=12,SNR=13
BW06 Boulder Array 11.74 73 eP Pn 20 23 10.1 +0.7
comp=Z,4µm,1.1s
PDAR Pinedale Array 11.74 73 Pn Pn 20 23 11.3 +1.9
comp=Z,1.3nm,0.3s,baz=248,slow=12,SNR=135
PDAR Lg Lg 20 26 23.3
baz=291,slow=15,SNR=1.7
PDAR LR LR 20 28 22.5
comp=Z,43µm,18.4s,baz=261,slow=41
Z14A Wintersburg 11.84 122 P Pn 20 23 13.6 +2.9
baz=12,SNR=92
BBB Bella Bella 12.03 350 Pn Pn 20 23 14.8 +1.8
comp=Z,2.3nm,0.3s,baz=179,slow=12,SNR=41
BBB LR LR 20 27 26.9
comp=Z,5µm,19.3s,baz=154,slow=36
H18A Shoshone NF, C 12.03 64 P Pn 20 23 15.7 +2.3
baz=12,SNR=320
J19A Crowheart 12.17 71 ⇓P Pn 20 23 16.5 +1.2
baz=12,SNR=273
X16A Lo Mia Camp, P 12.23 115 ⇓P Pn 20 23 20.0 +3.8
baz=12,SNR=120
I19A Meeteetse 12.35 68 ⇑P Pn 20 23 19.2 +1.5
baz=12,SNR=328
GCMT Greycliff 12.38 59 eP Pn 20 23 18.1 0.0
comp=Z,264nm,1.0s
RLMT Red Lodge 12.43 62 eP Pn 20 23 20.1 +1.3
comp=Z,7µm,0.7s
H19A Powell 12.50 65 ⇑P Pn 20 23 22.5 +2.8
baz=12,SNR=285
PV04 Paradox Valley 12.53 94 eP Pn 20 23 23.0 +2.8
N20A Spence Gulch, 12.65 83 ⇓P Pn 20 23 23.7 +1.8
baz=13,SNR=152
O20A White River Ci 12.73 86 eP Pn 20 23 24.8 +1.9
comp=Z,847nm,1.2s
O20A White River Ci 12.73 86 ⇓P Pn 20 23 25.0 +2.1
baz=13,SNR=211
PV01 Paradox Valley 12.85 95 eP Pn 20 23 27.0 +2.4
comp=Z,4µm,0.8s
214A Organ Pipe Nat 12.87 127 eP Pn 20 23 24.4 -0.3
comp=Z,128nm,1.0s
214A Organ Pipe Nat 12.87 127 ⇓P Pn 20 23 26.3 +1.7
baz=13,SNR=20
F19A Roth Farm, Mol 12.87 60 P Pn 20 23 24.7 -0.1
baz=13,SNR=57
J20A Shoshoni 12.88 71 ⇑P Pn 20 23 26.0 +1.1
baz=13,SNR=645
I20A Worland 12.94 68 P Pn 20 23 27.5 +1.8
baz=13,SNR=97
W18A Petrified Fore 13.09 109 eP Pn 20 23 31.0 +3.2
comp=Z,167nm,0.9s
W18A Petrified Fore 13.09 109 P Pn 20 23 31.5 +3.7
baz=13,SNR=58
H20A Greybull 13.14 66 P Pn 20 23 29.6 +1.2
baz=13,SNR=229
G20A Bridger 13.17 63 P Pn 20 23 30.0 +1.1
baz=13,SNR=1000
MVCO Mesa Verde 13.17 99 eP Pn 20 23 30.8 +1.7
comp=Z,4µm,2.0s
MVCO Mesa Verde 13.17 99 P Pn 20 23 31.5 +2.4
baz=13,SNR=220
E19A Rath Farm, Rou 13.19 57 P Pn 20 23 28.9 -0.2
baz=13,SNR=431
X18A Snowflake 13.22 111 ⇑P Pn 20 23 33.2 +3.5
baz=13,SNR=47
EGMT Eagleton 13.27 50 eP Pn 20 23 29.4 -0.8
comp=Z,651nm,1.0s
EGMT Eagleton 13.27 50 P Pn 20 23 29.6 -0.6
baz=13,SNR=122
J21A Lysite 13.34 71 P Pn 20 23 31.5 +0.2
baz=13,SNR=449
F20A Billings 13.38 61 P Pn 20 23 31.7 0.0
baz=13,SNR=93
D19A Cripps Ranch, 13.41 54 P Pn 20 23 31.5 -0.5
baz=13,SNR=355
K21A Alcova 13.42 75 P Pn 20 23 31.5 -0.8
baz=13,SNR=476
I21A Big Trails, Te 13.52 69 ⇓P Pn 20 23 33.9 +0.3
baz=14,SNR=638
C19A Slack Wire Ran 13.55 52 P Pn 20 23 33.5 -0.5
baz=14,SNR=147
E20A Meyer Farm, Mu 13.63 58 P Pn 20 23 34.5 -0.5
baz=14,SNR=469
H02S1 DAWSON INLET T 13.84 341 Pn Pn 20 23 38.5 +0.7
SNR=12
H02S1 T T 20 37 48.6
SNR=24
H21A Big Horn, Sher 13.84 66 ⇓P Pn 20 23 37.4 -0.6
baz=14,SNR=48
D20A Manuel Ranch, 13.84 55 P Pn 20 23 37.0 -0.9
baz=14,SNR=280
G21A Lodge Grass 13.86 64 P Pn 20 23 38.6 +0.4
baz=14,SNR=300
M22A Cedar Creek Ra 13.89 80 ⇓P Pn 20 23 37.7 -1.0
baz=14,SNR=210
TUC Tucson 13.92 121 eP Pn 20 23 42.1 +3.0
TUC pmax pmax
comp=Z,392nm,1.4s
TUC Tucson 13.92 121 eP Pn 20 23 42.1 +3.0
comp=Z,392nm,1.4s
P22A Eagle 13.93 87 ⇑P Pn 20 23 40.0 +0.6
baz=14,SNR=98
K22A Casper 13.96 75 eP Pn 20 23 38.6 -1.0
comp=Z,6µm,0.9s
K22A Casper 13.96 75 ⇑P Pn 20 23 38.7 -0.9
baz=14,SNR=294
B19A Brinkman Farms 13.96 49 ⇓P Pn 20 23 38.6 -0.9
baz=14,SNR=44
L22A Ellis Ranch, M 14.00 77 ⇑P Pn 20 23 39.5 -0.8
baz=14,SNR=74
O22A Kremmling 14.02 85 ⇑P Pn 20 23 41.2 +0.6
baz=14,SNR=368
N22A Wattenberg Ran 14.02 82 P Pn 20 23 40.6 -0.1
baz=14,SNR=241
F21A Absaloka Mine, 14.07 61 P Pn 20 23 40.5 -0.6

baz=14,SNR=72
I22A 9 Mile Ranch, 14.11 70 P Pn 20 23 41.5 -0.1
baz=14,SNR=407
C20A Veseth Ranch, 14.18 53 P Pn 20 23 41.5 -1.0
baz=14,SNR=215
S22A 4UR Ranch, Cre 14.28 95 P Pn 20 23 46.3 +2.0
baz=14,SNR=1000
A19A Klindworth Far 14.31 48 P Pn 20 23 42.6 -1.7
baz=14,SNR=166
H22A Clearmont 14.31 67 ⇑P Pn 20 23 43.6 -0.9
baz=14,SNR=87
E21A Keefer Ranch, 14.32 59 ⇑P Pn 20 23 43.1 -1.5
baz=14,SNR=126
N23A Red Feather La 14.40 82 P Pn 20 23 45.5 -0.4
baz=14,SNR=305
G22A Birney 14.48 64 P Pn 20 23 46.5 -0.3
baz=14,SNR=310
B20A Solberg Farm, 14.49 51 ⇑P Pn 20 23 45.1 -1.7
baz=14,SNR=48
O23A Lake Granby, G 14.49 84 ⇓P Pn 20 23 47.5 +0.4
baz=14,SNR=94
M23A Laramie 14.54 79 P Pn 20 23 46.5 -1.2
baz=14,SNR=314
L23A Garrett 14.55 77 ⇑P Pn 20 23 45.7 -2.1
baz=14,SNR=392
D21A La Casta Ranch 14.56 57 ⇓P Pn 20 23 46.4 -1.3
baz=14,SNR=487
K23A Bowen Ranch, D 14.62 74 ⇓P Pn 20 23 46.7 -2.1
baz=15,SNR=238
F22A Rosebud 14.64 62 P Pn 20 23 47.7 -1.3
baz=15,SNR=145
P23A Jefferson 14.67 88 P Pn 20 23 51.0 +1.4
baz=15,SNR=439
U22A Llaves 14.70 100 ⇑P Pn 20 23 51.4 +1.5
baz=15,SNR=197
J23A Dilts Ranch, B 14.72 72 ⇓P Pn 20 23 48.2 -1.8
baz=15,SNR=48
A20A Cobblestone Ra 14.75 49 P Pn 20 23 48.5 -1.9
baz=15,SNR=98
Q23A Hartsel 14.76 90 ⇓P Pn 20 23 51.9 +1.1
baz=15,SNR=48
ISCO Idaho Springs 14.77 86 eP Pn 20 23 50.9 -0.1
ISCO pmax pmax
comp=Z,431nm,1.0s
ISCO Idaho Springs 14.77 86 eP Pn 20 23 50.9 -0.1
comp=Z,431nm,1.0s
ISCO Idaho Springs 14.77 86 P Pn 20 23 51.2 +0.2
baz=15,SNR=352
C21A Desert Coulee 14.78 54 ⇑P Pn 20 23 49.1 -1.7
baz=15,SNR=60
V22A San Miguel Ran 14.83 102 P Pn 20 23 53.5 +1.8
baz=15,SNR=120
I23A Meade Ranch, G 14.85 70 ⇑P Pn 20 23 49.7 -2.1
baz=15,SNR=16
S23A Nye Farm, Mont 14.92 94 ⇓P Pn 20 23 55.1 +2.2
baz=15,SNR=52
LAO LASA Array 14.93 59 eP Pn 20 23 50.7 -2.0
comp=Z,631nm,1.0s
R23A Moffat 14.93 92 P Pn 20 23 54.6 +1.6
baz=15,SNR=425
H23A Clabaugh Cattl 14.98 67 ⇓P Pn 20 23 51.8 -1.7
baz=15,SNR=48
E22A Miles City 15.03 60 ⇓P Pn 20 23 52.0 -2.2
baz=15,SNR=123
EDM Edmonton 15.06 28 eP Pn 20 23 52.5 -2.0
EDM Edmonton 15.06 28 eP Pn 20 23 52.5 -2.0
B21A Ellsworth Farm 15.08 52 ⇓P Pn 20 23 53.2 -1.6
baz=15,SNR=62
T23A Casias Ranch, 15.09 97 ⇓P Pn 20 23 56.7 +1.5
baz=15,SNR=50
G23A Biddle 15.10 65 P Pn 20 23 53.8 -1.4
baz=15,SNR=228
D22A Cohagen 15.11 57 P Pn 20 23 53.8 -1.4
baz=15,SNR=184
L24A Wheatland 15.12 77 ⇓P Pn 20 23 53.2 -2.2
baz=15,SNR=148
O24A Longmont 15.14 85 ⇑P Pn 20 23 55.7 0.0
baz=15,SNR=50
F23A Volborg 15.21 63 P Pn 20 23 54.9 -1.6
baz=15,SNR=134
N24A Carr 15.21 82 ⇑P Pn 20 23 56.5 -0.2
baz=15,SNR=140
M24A Cheyenne 15.21 79 P Pn 20 23 55.5 -1.2
baz=15,SNR=121
U23A El Rito 15.21 99 ⇓P Pn 20 23 57.8 +0.9
baz=15,SNR=144
K24A Anderson Ranch 15.22 75 ⇓P Pn 20 23 54.1 -2.6
baz=15,SNR=52
Q24A Divide 15.27 89 P Pn 20 23 58.8 +1.1
baz=15,SNR=476
SDCO Great Sand Dun 15.29 94 eP Pn 20 23 59.3 +1.5
comp=Z,670nm,1.5s
P24A Kohler Place, 15.36 87 ⇓P Pn 20 23 59.8 +1.2
baz=15,SNR=23
J24A Dixon Ranch, L 15.36 72 ⇓P Pn 20 23 56.5 -2.1
baz=15
I24A Kuemmerle Ranc 15.44 70 ⇓P Pn 20 23 57.3 -2.3
baz=15,SNR=184
V23A Ortiz Mt. (NFS 15.44 101 P Pn 20 24 01.6 +1.8
baz=16,SNR=51
R24A Sanders Place, 15.47 92 P Pn 20 24 01.6 +1.5
baz=16,SNR=386
319A Douglas 15.50 121 P P 20 24 04.0 -0.8
baz=16,SNR=183
C22A Vida 15.51 55 P Pn 20 23 57.6 -2.7
baz=16,SNR=124
S24A Houchin Ranch, 15.54 94 ⇓P Pn 20 24 02.9 +1.7
baz=16,SNR=552
ANMO Albuquerque 15.56 104c iP Pn 20 24 02.6 +1.3
ANMO pmax pmax
comp=Z,1µm,1.2s
ANMO Albuquerque 15.56 104 Pn Pn 20 24 02.7 +1.3
comp=Z,3.4nm,0.3s,baz=304,slow=11,SNR=142
ANMO Lg Lg 20 28 30.6
comp=Z,0.2nm,0.3s,baz=308,slow=12,SNR=2.2
ANMO LR LR 20 30 52.3
comp=Z,13µm,20.0s,baz=299,slow=41
ANMO Albuquerque 15.56 104 eP Pn 20 24 02.4 +1.0
comp=Z,262nm,1.0s
ANMO Lg Lg 20 28 30.6
T24B San Luis 15.58 96 P Pn 20 24 03.5 +1.8
baz=16,SNR=212
H24A Dirks Ranch, A 15.61 67 P Pn 20 23 59.0 -2.7
baz=16,SNR=615
Y22D IRIS PASSCAL I 15.62 108 ⇓P P 20 24 04.9 -1.2
baz=16
B22A Reddig Ranch S 15.65 53 ⇓P Pn 20 24 00.2 -2.0
baz=16,SNR=122
W23A Werner Place, 15.70 103 ⇑P Pn 20 24 04.3 +1.2
baz=16,SNR=136
M25A Palm-Egli Farm 15.79 79 ⇑P Pn 20 24 02.7 -1.6
baz=16,SNR=37
G24A Alzada 15.80 65 P Pn 20 24 01.7 -2.6
baz=16,SNR=93
N25A Grover 15.81 82 ⇓P Pn 20 24 03.2 -1.3
baz=16,SNR=365
121A Cookes Peak, D 15.82 114 P P 20 24 07.8 -0.5
baz=16,SNR=261
L25A Engebretsen Ra 15.84 77 ⇑P Pn 20 24 03.3 -1.5
baz=16,SNR=142
O25A Wiggins 15.87 84 ⇑P Pn 20 24 04.6 -0.6
baz=16,SNR=151
RSSD Black Hills 15.89 70 eP Pn 20 24 02.0 -3.5
RSSD Black Hills 15.89 70 eP Pn 20 24 01.9 -3.5
F24A Ekalaka 15.89 63 P Pn 20 24 02.8 -2.6
baz=16,SNR=117
K25A Mack Ranch, Ha 15.91 75 ⇑P Pn 20 24 03.9 -1.9
baz=16,SNR=205
P25A Willow Gulch B 15.92 86 ⇓P Pn 20 24 06.8 +0.9
baz=16,SNR=236
X23A Hourglass Bar 15.93 105 P Pn 20 24 07.7 +1.7
baz=16,SNR=196
C23A Lambert 15.97 56 P Pn 20 24 03.9 -2.5
baz=16,SNR=366
Q25A Bedland, Calha 15.97 89 ⇑P Pn 20 24 07.1 +0.5
baz=16,SNR=240
A22A Carney Farms, 15.98 51 P Pn 20 24 04.5 -2.0
baz=16,SNR=127
J25A Sunshine Ranch 15.99 72 ⇓P Pn 20 24 04.0 -2.7
baz=16,SNR=343
Z22A Elephant Butte 16.00 111 P P 20 24 09.9 -0.5
baz=16,SNR=258
R25A Fountain Ranch 16.12 91 P Pn 20 24 09.6 +1.2
baz=16,SNR=195
S25A Robets Cordova 16.13 93 P Pn 20 24 09.7 +1.1
baz=16,SNR=490
V24A Rampart Ranch, 16.13 100 ⇓P Pn 20 24 10.2 +1.5
baz=16,SNR=274

Sta	Name	Dist	Az	Onset	Phase	Time	Res
E24A	Baker baz=16,SNR=77	16.16	61	P	Pn	20 24 06.5	-2.3
W24A	Lazy 6 Ranch, baz=16,SNR=205	16.23	102	P	Pn	20 24 11.5	+1.5
H25A	Fruitdale baz=16,SNR=306	16.26	68	P	Pn	20 24 07.8	-2.4
D24A	Glendive baz=16,SNR=864	16.30	59	P	Pn	20 24 09.5	-1.0
T25A	Trinidad baz=16,SNR=434	16.30	95	⇓P	Pn	20 24 11.9	+1.1
Y23A	Lovelace Mesa, baz=16,SNR=307	16.32	107	P	P	20 24 13.8	-0.2
B23A	Brockton baz=16,SNR=288	16.33	54	P	Pn	20 24 08.7	-2.2
C24A	Savage baz=16,SNR=194	16.36	57	P	Pn	20 24 09.7	-1.6
K26A	Motz Farm, Whi baz=16,SNR=456	16.42	75	P	Pn	20 24 10.5	-1.7
O26A	Horse Wrangler baz=16,SNR=267	16.46	83	P	Pn	20 24 12.5	-0.3
N26A	Koester Ranch, baz=16,SNR=206	16.47	81	⇑P	Pn	20 24 11.9	-0.9
G25A	Newell baz=16,SNR=181	16.47	66	P	Pn	20 24 10.6	-2.2
M26A	McRoberts Ranc baz=16,SNR=212	16.48	79	⇑P	Pn	20 24 11.7	-1.3
X24A	Lazy VL Ranch, baz=16,SNR=17	16.49	104	P	P	20 24 14.8	-1.0
L26A	Underwood Farm baz=16,SNR=58	16.50	77	⇑P	Pn	20 24 11.8	-1.4
J26A	Sides Ranch, S baz=16,SNR=763	16.52	73	P	Pn	20 24 11.5	-1.9
Q26A	Hugo baz=16,SNR=163	16.53	88	P	Pn	20 24 14.0	+0.3
P26A	Davis Ranch, A baz=16,SNR=469	16.54	86	P	Pn	20 24 13.8	0.0
U25A	Circle Dot Ran baz=17,SNR=272	16.54	97	P	Pn	20 24 14.7	+0.8
F25A	Bowman baz=17,SNR=128	16.58	63	P	Pn	20 24 11.5	-2.7
V25A	Rancho No Teng baz=17,SNR=663	16.58	99	P	Pn	20 24 15.5	+1.1
A23A	Redstone baz=17,SNR=60	16.59	52	P	Pn	20 24 11.9	-2.4
R26A	Arlington baz=17,SNR=488	16.72	90	P	Pn	20 24 16.6	+0.5
I26A	New Underwood baz=17,SNR=217	16.72	70	P	Pn	20 24 14.0	-2.0
E25A	Miller Ranch, baz=17,SNR=123	16.75	61	⇑P	Pn	20 24 13.9	-2.4
Y24A	Capitan baz=17	16.78	106	⇓P	P	20 24 19.4	+0.4
DGMT	Dagmar comp=Z,1μm,0.7s	16.82	54	eP	Pn	20 24 12.0	-5.2
DGMT	Dagmar baz=17,SNR=105	16.82	54	P	Pn	20 24 15.2	-2.0
H26A	Fairpoint baz=17,SNR=114	16.84	68	⇓P	Pn	20 24 15.4	-2.1
S26A	Kim baz=17,SNR=164	16.88	92	P	Pn	20 24 18.5	+0.5
T26A	Comanche Natio baz=17	16.91	94	⇑P	Pn	20 24 19.1	+0.6
W25A	X Bar L Ranch, baz=17,SNR=129	16.94	101	P	Pn	20 24 19.7	+0.9
D25A	Fairfield baz=17,SNR=25	16.97	59	⇓P	Pn	20 24 17.3	-1.7
N27A	Anderson Farm, baz=17,SNR=331	16.99	81	P	Pn	20 24 18.5	-0.9
M27A	Reverse DX Ran baz=17,SNR=110	17.04	79	P	Pn	20 24 18.9	-1.1
U26A	Atchley Ranch, baz=17	17.04	97	⇑P	Pn	20 24 20.6	+0.4
G26A	Maurine baz=17,SNR=91	17.06	66	P	Pn	20 24 17.6	-2.7
L27A	T5 Ranch, Ells baz=17,SNR=65	17.07	77	⇑P	Pn	20 24 18.8	-1.6
X25A	Clemmons Ranch baz=17,SNR=96	17.08	104	⇑P	P	20 24 22.0	-0.3
O27A	Beecher Island baz=17,SNR=137	17.10	83	P	Pn	20 24 20.5	-0.3
F26A	Lodgepole baz=17,SNR=345	17.11	64	P	Pn	20 24 18.5	-2.3
A24A	Westby baz=17	17.11	53	⇑P	Pn	20 24 18.7	-2.1
Z24A	Sheeppen Canyo baz=17	17.12	108	⇑P	P	20 24 23.5	+0.7
P27A	Ficken Ranch, baz=17,SNR=298	17.12	85	P	Pn	20 24 20.8	-0.4
C25A	Freed Ranch, W baz=17,SNR=76	17.17	58	P	Pn	20 24 20.0	-1.5
KSCO	Kaye Shedlock' comp=Z,2μm,0.7s	17.19	87	eP	Pn	20 24 22.2	+0.3
KSCO	Kaye Shedlock' baz=17	17.19	87	⇓P	Pn	20 24 22.3	+0.3
R27A	Eads baz=17	17.22	90	⇑P	Pn	20 24 22.7	+0.4
V26A	Tequesquite Ra baz=17,SNR=104	17.22	99	P	P	20 24 23.5	-0.4
J27A	Elkhorn Farm, baz=17,SNR=416	17.29	73	P	Pn	20 24 21.6	-1.7
S27A	Las Animas baz=17,SNR=87	17.30	92	⇑P	Pn	20 24 23.2	-0.1
I27A	Quinn baz=17,SNR=270	17.30	70	P	Pn	20 24 21.0	-2.3
Y25A	Mesa, Roswell baz=17	17.33	105	⇑P	P	20 24 25.3	+0.2
H27A	Howes baz=17,SNR=372	17.34	68	P	Pn	20 24 20.6	-3.1
OGNE	Ogallala comp=Z,2μm,0.9s	17.35	81	eP	Pn	20 24 22.4	-1.6
OGNE	Ogallala baz=17	17.35	81	⇑P	Pn	20 24 22.6	-1.4
E26A	Carlson Angus baz=17,SNR=65	17.37	62	P	Pn	20 24 21.5	-2.6
B25A	Knox Farm, Ray baz=17,SNR=83	17.40	56	P	Pn	20 24 22.5	-1.9
W26A	Owens Ranch, T baz=18,SNR=44	17.51	101	P	P	20 24 26.8	-0.3
D26A	Manning baz=18,SNR=108	17.52	60	P	Pn	20 24 23.5	-2.4
G27A	Dupree baz=18,SNR=67	17.54	66	⇑P	Pn	20 24 22.9	-3.3
F27A	Lemmon baz=18,SNR=116	17.56	64	P	Pn	20 24 23.6	-2.8
T27A	Campo baz=18	17.61	94	⇑P	Pn	20 24 26.9	-0.3
Z25A	Roswell baz=18	17.61	107	⇑P	P	20 24 29.3	+1.1
O28A	Krutsinger Ran baz=18,SNR=563	17.65	83	P	Pn	20 24 26.6	-1.0
A25A	Svangstu Ranch baz=18,SNR=34	17.66	54	⇑P	Pn	20 24 25.2	-2.4
L28A	Connealy Angus baz=18,SNR=6.8	17.66	77	⇑P	Pn	20 24 25.8	-1.9
X26A	CR and CF Fran baz=18	17.70	102	⇓P	P	20 24 28.8	-0.3
U27A	Thompson Grove baz=18,SNR=154	17.73	96	P	Pn	20 24 28.7	0.0
P28A	Saint Francis baz=18,SNR=628	17.75	85	⇓P	Pn	20 24 28.0	-0.8
N28A	Pribbeno Ranch baz=18,SNR=85	17.75	81	P	Pn	20 24 27.6	-1.3
K28A	Ten Mile Ranch baz=18,SNR=10	17.76	75	⇑P	Pn	20 24 27.1	-1.8
Q28A	Sharon Springs baz=18,SNR=204	17.79	87	⇓P	Pn	20 24 28.7	-0.7
M28A	Bar X Bar Ranc baz=18,SNR=123	17.81	79	P	Pn	20 24 28.0	-1.6
J28A	Allard Ranch, baz=18,SNR=339	17.86	72	P	Pn	20 24 28.5	-1.7
I28A	Midland baz=18,SNR=195	17.94	71	P	Pn	20 24 28.7	-2.4
C26A	Wahner Farm, P baz=18,SNR=168	17.95	58	P	Pn	20 24 28.6	-2.6
V27A	Dan Oppiter Fa baz=18	17.96	98	⇓P	Pn	20 24 31.6	+0.1
R28A	Tribune baz=18,SNR=350	17.96	89	P	Pn	20 24 30.6	-0.9
Y26A	Elida baz=18	17.97	104	⇑P	P	20 24 32.5	+0.4
MNTX	Cornudas Mount comp=Z,279nm,1.5s	17.97	113	eP	P	20 24 33.7	+1.7
125A	Gardner Draw, baz=18	17.97	109	⇓P	P	20 24 34.1	+1.9
E27A	Carson baz=18,SNR=29	17.97	63	⇑P	Pn	20 24 28.6	-2.9
B26A	Jensen Ranch, baz=18,SNR=45	18.02	56	P	Pn	20 24 29.7	-2.4
SIT	Sitka	18.03	341	eP	P	20 24 32.4	0.0
SIT	comp=Z,232nm,1.2s			pmax	pmax		
SIT	Sitka comp=Z,232nm,1.2s	18.03	341	eP	P	20 24 32.4	0.0
W27A	Bowe Ranch, En baz=18	18.05	100	⇑P	Pn	20 24 32.2	-0.4
T28A	Walsh baz=18	18.05	93	⇓P	Pn	20 24 31.8	-0.8
S28A	Manter baz=18	18.09	91	⇓P	Pn	20 24 32.3	-0.7
H28A	Mission Ridge baz=18	18.09	68	⇓P	Pn	20 24 30.1	-3.0
225A	Deer Hill, Car baz=18	18.14	111	⇓P	P	20 24 36.3	+2.2
D27A	Center baz=18	18.14	60	⇓P	Pn	20 24 30.8	-2.8
Z26A	Caprock baz=18	18.16	106	⇑P	P	20 24 35.3	+1.1
X27A	F and S Farms, baz=18	18.19	101	⇓P	Pn	20 24 34.3	-0.2
U28A	Mallet baz=18	18.20	95	⇑P	Pn	20 24 33.6	-0.9
G28A	Parade baz=18	18.21	67	⇓P	Pn	20 24 31.8	-2.6
C27A	Sayler Ranch, baz=18	18.30	59	⇑P	Pn	20 24 33.1	-2.4
A26A	Wade Farm, Ken baz=18	18.31	55	⇑P	Pn	20 24 32.7	-2.9
M29A	Burnside Ranch baz=18	18.32	79	⇑P	Pn	20 24 33.7	-2.2
P29A	Atwood baz=18	18.37	85	⇑P	P	20 24 35.2	-1.3
DLBC	Dease Lake comp=Z,0.8nm,0.3s,baz=183,slow=9.0,SNR=69	18.38	351	P	Pn	20 24 38.9	+2.4
DLBC	comp=Z,7μm,18.1s,baz=152,slow=36			LR	LR	20 31 19.3	
DLBC	Dease Lake	18.38	351	eP	Pn	20 24 38.4	+2.0
O29A	4D Ranch, Culb baz=18	18.39	83	⇑P	P	20 24 34.7	-1.9
F28A	McLaughlin baz=18	18.39	65	⇑P	P	20 24 33.8	-2.8
V28A	Channing baz=18	18.42	97	⇑P	P	20 24 36.4	-0.7
N29A	Votaw Ranch, W baz=18	18.43	81	⇑P	P	20 24 34.6	-2.4
L29A	Maesberg Ranch baz=18	18.43	77	⇓P	P	20 24 35.2	-1.9
126A	Clayton Basin, baz=18	18.44	108	⇓P	Pn	20 24 38.3	+0.9
R29A	Marienthal baz=18	18.45	88	⇑P	P	20 24 36.2	-1.2
Q29A	Oakley baz=18	18.47	87	⇑P	P	20 24 36.1	-1.4
Y27A	Causey baz=18	18.48	104	⇑P	P	20 24 37.6	-0.1
J29A	Okreek baz=18	18.52	73	⇓P	P	20 24 35.7	-2.3
K29A	Lazy Trails An baz=18	18.53	75	⇑P	P	20 24 36.1	-2.1
I29A	Vivian Onida baz=18	18.56	71	⇓P	P	20 24 35.6	-2.8
E28A	Huff baz=19	18.59	63	⇓P	P	20 24 36.1	-2.6
W28A	Vega baz=19	18.62	99	⇓P	P	20 24 38.9	-0.4
226B	Tecolote Peak, baz=19	18.63	110	⇓P	Pn	20 24 41.4	+1.8
B27A	Peters Farms, baz=19	18.65	57	⇓P	P	20 24 37.3	-2.0
H29A	Onida baz=19	18.66	69	⇓P	P	20 24 36.9	-2.7
T29A	Hugoton baz=19	18.67	92	⇑P	P	20 24 38.6	-1.1
S29A	Ulysses baz=19	18.67	91	⇑P	P	20 24 38.5	-1.3
Z27A	Tatum baz=19	18.70	105	⇓P	P	20 24 40.4	+0.2
MSTX	Muleshoe comp=Z,114nm,0.8s	18.73	103	eP	P	20 24 40.4	0.0
MSTX	Muleshoe baz=19	18.73	103	⇓P	P	20 24 39.8	-0.7
425A	Indio Mountain baz=19	18.77	114	⇑P	Pn	20 24 43.1	+1.7
D28A	Regan baz=19	18.80	61	⇓P	P	20 24 39.0	-2.0
N30A	Hueftle Ranch, baz=19	18.82	81	⇑P	P	20 24 39.1	-2.3
A27A	Ledoux Ranch, baz=19	18.83	55	⇑P	P	20 24 39.6	-1.7
P30A	Selden baz=19	18.90	84	⇑P	P	20 24 40.0	-2.2
127A	Arkansas Junct baz=19	18.91	107	⇑P	P	20 24 42.7	+0.3
U29A	Oasis Ranch, S baz=19	18.91	94	⇑P	P	20 24 40.9	-1.4
V29A	Stinnett baz=19	18.91	96	⇑P	P	20 24 41.4	-1.0
G29A	Hoven baz=19	18.92	67	⇓P	P	20 24 38.7	-3.7
M30A	Dale-Ortello V baz=19	18.92	78	⇓P	P	20 24 40.0	-2.4
X28A	Dimmitt baz=19	18.92	101	⇓P	P	20 24 42.1	-0.5
O30A	MW Ranch, Wils baz=19	18.94	82	⇑P	P	20 24 41.6	-1.1
L30A	Spencer Herefo baz=19	19.00	77	⇓P	P	20 24 41.3	-2.1
Q30A	Quinter baz=19	19.03	86	⇑P	P	20 24 42.2	-1.4
C28A	Hausauer Farms baz=19	19.04	59	⇓P	P	20 24 41.6	-2.0
K30A	Basset baz=19	19.05	75	⇓P	P	20 24 41.3	-2.6
F29A	Eureka baz=19	19.06	65	⇓P	P	20 24 40.3	-3.6
W29A	Amraillo baz=19	19.09	99	⇓P	P	20 24 43.3	-1.1
J30A	Dallas baz=19	19.13	73	⇑P	P	20 24 42.1	-2.6
R30A	Dighton baz=19	19.14	88	⇑P	P	20 24 43.6	-1.3
Y28A	McKinney Farm, baz=19	19.15	102	⇓P	P	20 24 44.6	-0.4
AMTX	Amarillo baz=19	19.16	99	⇑P	P	20 24 44.6	-0.6
S30A	Montezuma baz=19	19.17	90	⇓P	P	20 24 44.3	-0.9
326A	Caldwell Ranch baz=19	19.18	112	⇑P	Pn	20 24 47.0	+0.7
B28A	Dugan Ranch, T baz=19	19.24	57	⇑P	P	20 24 44.8	-1.1
T30A	Plains baz=19	19.29	92	⇓P	P	20 24 45.1	-1.3
227A	Bennet, Jal baz=19	19.29	109	⇑P	Pn	20 24 47.7	0.0
E29A	Napoleon baz=19	19.30	63	⇓P	P	20 24 43.4	-3.2
Z28A	Tucker Farm, M baz=19	19.32	104	⇑P	P	20 24 46.7	-0.3
X29A	Tulia baz=19	19.33	100	⇑P	P	20 24 46.8	-0.2
U30A	WK&E Inc. Balk baz=19	19.35	94	⇑P	P	20 24 45.4	-1.8
D29A	Pettibone, Tap baz=19	19.42	61	⇑P	P	20 24 45.6	-2.3
A28A	Rude Farm, Bot baz=19	19.43	56	⇓P	P	20 24 46.4	-1.5
G30A	Faulkton baz=19	19.46	67	⇓P	P	20 24 44.7	-3.6
327A	Balmorhea Ranc baz=20	19.49	111	⇑P	P	20 24 49.2	+0.4
O31A	Woolen Ranch, baz=20	19.50	82	⇑P	P	20 24 46.5	-2.2
426A	McDonald Obser baz=20	19.51	113	⇑P	Pn	20 24 51.3	+0.9
BRSD	Miller comp=Z,2μm,0.9s	19.55	69	eP	P	20 24 46.3	-2.9
BRSD	Miller baz=20	19.55	69	⇑P	P	20 24 46.0	-3.2
P31A	Stockton baz=20	19.57	84	⇑P	P	20 24 47.6	-2.0
128A	Castleberry Fa baz=20	19.57	106	⇑P	P	20 24 49.2	-0.5
V30A	Spur Ranch, Mi baz=20	19.58	96	⇓P	P	20 24 48.5	-1.3
Y29A	Porterfield Fa baz=20	19.60	102	⇓P	P	20 24 49.1	-0.8
M31A	Lambtecht Ranc baz=20	19.61	79	⇓P	P	20 24 47.4	-2.5
F30A	Leola baz=20	19.62	65	⇓P	P	20 24 46.5	-3.5
L31A	Butterfield Fa baz=20	19.65	76	⇑P	P	20 24 48.0	-2.3
Q31A	Ellis baz=20	19.66	86	⇓P	P	20 24 49.0	-1.4
N31A	Bailey Ranch, baz=20	19.68	80	⇑P	P	20 24 49.2	-1.7
R31A	Burdett baz=20	19.72	88	⇑P	P	20 24 49.7	-1.4
228A	UT Block 9, Go baz=20	19.75	108	⇑P	P	20 24 52.1	+0.6
E30A	Jud baz=20	19.79	63	⇓P	P	20 24 49.3	-2.5
526A	Mary Lane Ranc baz=20	19.82	115	⇓P	Pn	20 24 55.0	+0.9
Z29A	Hungry Hill Ra baz=20	19.84	104	⇑P	P	20 24 51.7	-0.9
427A	Hayter Ranch, baz=20	19.85	112	⇑P	Pn	20 24 54.2	-0.1
W30A	Crocket Farms baz=20	19.88	97	⇑P	P	20 24 51.9	-1.1
B29A	Wagenman Farm, baz=20	19.89	58	⇑P	P	20 24 51.4	-1.6
S31A	Mullinville baz=20	19.92	90	⇑P	P	20 24 51.9	-1.5
T31A	Randall Ranch, baz=20	19.92	91	⇑P	P	20 24 51.8	-1.6
X30A	Coker Ranch, T baz=20	19.95	100	⇓P	P	20 24 52.5	-1.2
328A	Wristen Ranch, baz=20	19.98	110	⇑P	P	20 24 54.4	+0.4
D30A	Buchanan baz=20	19.99	62	⇓P	P	20 24 51.4	-2.7
U31A	Nine Bar Ranch baz=20	20.02	93	⇓P	P	20 24 53.7	-0.7
129A	Stewart Farms, baz=20	20.02	105	⇓P	P	20 24 54.0	-0.6
A29A	Manning Farm, baz=20	20.09	56	⇑P	P	20 24 53.7	-1.3
626A	Big Bend Ranch baz=20	20.10	116	⇑P	Pn	20 24 57.3	0.0
527A	Woodward Ranch baz=20	20.11	114	⇑P	Pn	20 24 57.8	+0.3
P32A	Huiting Farm, baz=20	20.14	84	⇓P	P	20 24 53.5	-2.2
Y30A	Stafford Cattl baz=20	20.17	101	⇓P	P	20 24 54.5	-1.7
N32A	Stulken Farm, baz=20	20.19	80	⇑P	P	20 24 53.9	-2.4
SKAG	Skagway comp=Z,968nm,1.4s	20.21	344	eP	Pn	20 24 57.9	-0.3
BGNE	Belgrade comp=Z,690nm,0.8s	20.22	78	eP	P	20 24 54.1	-2.5
BGNE	Belgrade baz=20	20.22	78	⇑P	P	20 24 54.5	-2.2
V31A	Spring Creek L baz=20	20.22	95	⇑P	P	20 24 55.5	-1.2
Z30A	Sanderson Ranc baz=20	20.26	103	⇑P	P	20 24 55.9	-1.3
O32A	Brockman Farm, baz=20	20.28	82	⇑P	P	20 24 54.6	-2.6
C30A	Mose, Pekin baz=20	20.29	60	⇓P	P	20 24 55.1	-2.2
Q32A	Meitler Ranch, baz=20	20.30	85	⇓P	P	20 24 55.7	-1.7
R32A	Long Quarter, baz=20	20.31	87	⇑P	P	20 24 55.3	-2.3
S32A	Newby Ranch, P baz=20	20.32	89	⇑P	P	20 24 55.9	-1.8
LPIG	La Paz comp=Z,38nm,0.5s,baz=273,slow=3.5,SNR=22	20.33	139	P	Pn	20 25 01.2	+1.3
LPIG	comp=Z,6μm,20.5s,baz=324,slow=36			LR	LR	20 32 38.0	
W31A	Holland Ranch, baz=20	20.36	97	⇓P	P	20 24 56.7	-1.5
229A	Bryant Ranch, baz=20	20.39	107	⇓P	P	20 24 57.7	-0.9
428A	Kincaid Ranch, baz=20	20.43	111	⇓P	Pn	20 25 00.9	-0.3
T32A	Huddler Ranch, baz=20	20.47	91	⇑P	P	20 24 57.6	-1.7
329A	Wagon Wheel Ra baz=21	20.52	108	⇑P	P	20 25 00.4	+0.5
X31A	McDonald Ranch baz=20	20.55	98	⇑P	P	20 24 59.6	-0.6
B30A	Myrvik Farm, E baz=20	20.55	58	⇓P	P	20 24 58.4	-1.7
TXAR	Lajitas Array	20.55	116	P	Pn	20 25 03.0	+0.3
TXAR	comp=Z,194nm,0.9s			pmax	pmax		
TXAR	Lajitas Array comp=Z,194nm,0.9s,baz=300,slow=8.5,SNR=501	20.55	116	P	Pn	20 25 03.0	+0.2
TXAR	comp=Z,1.6nm,1.0s,baz=279,slow=26,SNR=1.9			S	Sn	20 28 56.4	+2.4
Y31A	Rekieta Farm, baz=21	20.61	100	⇓P	P	20 24 59.6	-1.3
U32A	Winter Ranch, baz=21	20.66	93	⇓P	P	20 24 59.7	-1.7
528A	Cox Ranch, San baz=21	20.67	113	⇑P	Pn	20 25 03.7	-0.4
627A	Terlingua Ranc baz=21	20.68	115	⇑P	Pn	20 25 03.9	-0.2
A30A	Hoffart Farm, baz=21	20.68	57	⇓P	P	20 24 59.8	-1.7
130A	Snyder baz=21	20.70	104	⇓P	P	20 25 01.6	-0.4
Q33A	Connelly Farm, baz=21	20.85	85	⇑P	P	20 25 01.3	-2.1
V32A	Arapaho baz=21	20.85	95	⇓P	P	20 25 01.5	-2.0
P33A	Williams Farm, baz=21	20.86	84	⇓P	P	20 25 01.5	-2.1
R33A	Olander Ranch, baz=21	20.89	87	⇓P	P	20 25 02.2	-1.7
W32A	Sentinel baz=21	20.91	96	⇓P	P	20 25 03.3	-0.9
230A	Sterling City baz=21	20.95	106	⇓P	P	20 25 04.6	+0.1
FFC	Flin Flon	20.97	39	eP	P	20 25 03.8	-0.8
FFC	comp=Z,1μm,1.0s			pmax	pmax		
FFC	comp=Z,8μm,20.0s			MLR	MLR		
FFC	Flin Flon comp=Z,1μm,1.0s	20.97	39	eP	P	20 25 03.8	-0.8
FFC	comp=Z,8μm,20.0s			LR	LR		
Z31A	Sharp Cattle R baz=21	20.98	102	⇓P	P	20 25 03.9	-1.0
628A	Black Gap, Mar baz=21	21.00	114	⇓P	P	20 25 07.3	+2.1
T33A	Patterson Ranc baz=21	21.02	90	⇑P	P	20 25 03.4	-1.9
429A	Davenport Ranc baz=21	21.05	110	⇑P	P	20 25 06.5	+0.8
S33A	Kaszmaul Farm, baz=21	21.06	89	⇑P	P	20 25 03.5	-2.3
131A	Roby baz=21	21.09	104	⇑P	P	20 25 05.4	-0.7
529A	Stev Forest Ra baz=21	21.10	112	⇑P	P	20 25 07.8	+1.6
330A	Mertzon baz=21	21.15	108	⇑P	P	20 25 07.1	+0.3
X32A	Elmer baz=21	21.16	98	⇓P	P	20 25 05.1	-1.7
Y32A	R-V Farms, Ver baz=21	21.21	99	⇓P	P	20 25 05.9	-1.4
ECSD	EROS Data Cent comp=Z,345nm,0.9s	21.22	72	eP	P	20 25 03.7	-3.8
ECSD	comp=Z,21μm,20.0s			LR	LR		
ECSD	EROS Data Cent baz=21	21.22	72	⇓P	P	20 25 03.9	-3.5
U33A	Lingo Farm, Me baz=21	21.32	92	⇓P	P	20 25 06.6	-1.9
V33A	Lossen Ranch, baz=21	21.39	94	⇑P	P	20 25 07.1	-2.2
430A	Baggett Ranch, baz=22	21.43	109	⇑P	P	20 25 10.4	+0.6
Z32A	Haskell baz=22	21.48	101	⇓P	P	20 25 09.0	-1.3
W33A	Caddo, Fort Co baz=22	21.49	96	⇑P	P	20 25 09.4	-1.0
231A	Bronte baz=22	21.51	105	⇓P	P	20 25 10.0	-0.6

ABTX Abilene, Hawle 21.67 103 eP P 20 25 11.2 -1.1
comp=Z,546nm,0.9s
ABTX Abilene, Hawle 21.67 103 ⇓P P 20 25 11.4 -1.0
baz=22
X33A Lawton 21.70 97 ⇑P P 20 25 11.3 -1.3
baz=22
530A J-C Ranch, Com 21.71 111 ⇑P P 20 25 13.7 +0.9
baz=22
331A San Angelo 21.74 107 ⇑P P 20 25 12.9 -0.3
baz=22
KSU1 Kansas State U 21.75 84 eP P 20 25 11.2 -2.0
comp=Z,5µm,1.2s
KSU1 LR LR
comp=Z,24µm,20.0s
KSU1 Kansas State U 21.75 84 ⇓P P 20 25 11.3 -1.8
baz=22
U34A Anderson Ranch 21.76 92 ⇓P P 20 25 11.3 -1.9
baz=22
Y33A Hilltop Ranch, 21.82 99 ⇑P P 20 25 12.3 -1.7
baz=22
HYT Haines Junctio 21.91 343 eP P 20 25 16.9 +2.1
431A Sonora 21.94 109 ⇓P P 20 25 15.6 +0.4
baz=22
V34A Guthrie 21.97 93 ⇓P P 20 25 13.5 -2.1
baz=22
W34A Bridge Creek, 21.99 95 ⇑P P 20 25 14.3 -1.4
baz=22
232A Coleman 22.02 105 ⇑P P 20 25 15.4 -0.7
baz=22
AGMN Agassiz Nation 22.13 59 eP P 20 25 14.4 -2.7
comp=Z,2µm,1.1s
AGMN LR LR
comp=Z,34µm,19.0s
AGMN Agassiz Nation 22.13 59 ⇓P P 20 25 15.1 -2.0
baz=22
X34A Smith Ranch, M 22.19 96 ⇑P P 20 25 16.6 -1.3
baz=22
332A Millersview 22.21 106 ⇓P P 20 25 17.5 -0.6
baz=22
531A Rocksprings 22.27 110 ⇓P P 20 25 19.7 +0.9
baz=22
432A Menard 22.43 107 ⇑P P 20 25 20.3 -0.2
baz=22
Y34A Reagan Ranch, 22.50 98 ⇓P P 20 25 19.2 -2.0
baz=22
ULM Lac du Bonnet 22.54 54 P P 20 25 19.4 -2.1
comp=Z,568nm,1.0s,baz=261,slow=9.8,SNR=267
ULM LR LR 20 34 23.4
comp=Z,17µm,20.4s,baz=259,slow=38
Z34A Collier Ranch, 22.63 99 ⇑P P 20 25 20.5 -2.1
baz=23
JCT Junction City 22.64 108 eP P 20 25 22.6 -0.1
JCT pmax pmax
comp=Z,705nm,1.2s
JCT MLR MLR
comp=Z,26µm,19.0s
JCT Junction City 22.64 108 eP P 20 25 22.6 -0.1
comp=Z,705nm,1.2s
JCT LR LR
comp=Z,26µm,19.0s
JCT Junction City 22.64 108 ⇑P P 20 25 22.8 +0.1
baz=23
631A Perdido Creek 22.68 111 ⇑P P 20 25 23.6 +0.6
baz=23
134A White-Moore Ra 22.86 101 ⇑P P 20 25 23.9 -1.2
baz=23
YKA Yellowknife Ar 23.01 12 P P 20 25 26.0 -0.2
comp=Z,27nm,1.0s,baz=200,slow=9.5,SNR=94
YKA P3KPbc 20 58 57.4
comp=Z,1.3nm,1.1s,baz=18,slow=4.3,SNR=11
433A Art 23.01 107 ⇓P P 20 25 25.9 -0.7
baz=23
234A Clairette 23.09 103 ⇓P P 20 25 26.2 -1.2
baz=23
Z35A Perchaven, San 23.15 99 ⇓P P 20 25 25.8 -2.1
baz=23
632A Uvalde 23.18 110 ⇓P P 20 25 29.4 +1.0
baz=23
TUL1 Tulsa 23.27 92 eP P 20 25 26.7 -2.4
comp=Z,1µm,1.4s
TUL1 Tulsa 23.27 92 ⇓P P 20 25 26.8 -2.4
baz=23
334A Lometa 23.34 104 ⇓P P 20 25 28.6 -1.3
baz=23
135A Vickery Place, 23.37 101 ⇓P P 20 25 29.0 -1.2
baz=23
533A Kerrville 23.41 108 ⇑P P 20 25 30.7 0.0
baz=23
732A Laxson Ranch, 23.50 112 ⇑P P 20 25 32.5 +1.0
baz=24
434A Burnet 23.58 105 ⇓P P 20 25 31.7 -0.6
baz=24
WHTX Lake Whitney 23.60 102 eP P 20 25 31.2 -1.2
comp=Z,3µm,1.9s
WHTX Lake Whitney 23.60 102 ⇑P P 20 25 31.5 -1.0
baz=24
633A Saathoff Ranch 23.65 109 ⇓P P 20 25 33.4 +0.5
baz=24
832A Faith Ranch, C 23.76 113 ⇑P P 20 25 35.1 +1.0
baz=24
SCIA State Center 23.84 76 eP P 20 25 32.0 -2.6
comp=Z,421nm,0.8s
SCIA LR LR
comp=Z,23µm,21.0s
534A Blanco 23.85 107 ⇓P P 20 25 34.3 -0.6
baz=24
BMRM Bremner River 23.93 336 eP P 20 25 36.5 +1.2
comp=Z,481nm,1.8s
SPMN St. Paul 23.95 68 eP P 20 25 33.3 -2.3
comp=Z,919nm,1.1s
SPMN St. Paul 23.95 68 ⇑P P 20 25 33.0 -2.7
baz=24
335A Moody 23.97 104 ⇓P P 20 25 35.3 -0.6
baz=24
733A Divot King Ran 23.99 111 ⇓P P 20 25 37.5 +1.3
baz=24
435B Jarrell 24.10 105 ⇑P P 20 25 37.3 +0.1
baz=24
833A Chaparral WMA, 24.15 112 ⇓P P 20 25 39.1 +1.4
baz=24
634A China Grove, S 24.29 109 ⇓P P 20 25 39.8 +0.8
baz=24
DIV Divide 24.42 335 eP P 20 25 41.5 +1.5
comp=Z,154nm,1.3s
734A La Parita Cree 24.44 110 ⇑P P 20 25 41.7 +1.3
baz=24
535A Dale 24.51 106 ⇓P P 20 25 41.4 +0.5
baz=24
933A Laredo 24.66 113 ⇓P P 20 25 43.9 +1.5
baz=25
635A Leesville 24.71 108 ⇑P P 20 25 43.7 +0.9
baz=25
536A Bastrop 24.85 106 ⇑P P 20 25 45.3 +1.3
baz=25
834A Tilden 24.87 111 ⇓P P 20 25 46.3 +2.1
baz=25
KDAK Kodiak Island 24.88 324 PFAKE 20 25 50.0 +6.0
KDAK LR LR
comp=Z,12µm,19.0s
SEW Seward 24.97 330 eP P 20 25 46.9 +2.1
comp=Z,249nm,1.5s
735A Kenedy 24.98 109 ⇓P P 20 25 47.2 +2.0
baz=25
EYMN Ely 24.98 61 eP P 20 25 43.8 -1.3
comp=Z,1µm,1.5s
EYMN LR LR
comp=Z,18µm,19.0s
934A Benavides 25.20 112 ⇑P P 20 25 49.4 +2.2
baz=25
MENT Mentasta 25.24 340 eP P 20 25 49.5 +2.2
835A Beeville 25.29 110 ⇑P P 20 25 50.9 +2.9
baz=25
034A Hebbronville 25.41 113 ⇓P P 20 25 51.7 +2.6
baz=26
MIAR Mount Ida 25.45 93 eP P 20 25 48.8 -0.6
MIAR pmax pmax
comp=Z,895nm,1.4s
MIAR MLR MLR
comp=Z,18µm,21.0s
MIAR Mount Ida 25.45 93 eP P 20 25 48.8 -0.6
comp=Z,896nm,1.4s
MIAR LR LR
comp=Z,18µm,21.0s
KVTX Kingsville 25.68 112 PFAKE 20 26 00.0 +8.5
KVTX LR LR
comp=Z,20µm,19.0s
RC01 Rabbit Creek A 25.74 332 eP P 20 25 53.6 +1.8
comp=Z,292nm,1.6s

PAX Paxson 25.75 338 eP P 20 25 53.6 +1.6
PAX pmax pmax
comp=Z,137nm,1.5s
PAX Paxson 25.75 338 eP P 20 25 53.6 +1.6
comp=Z,137nm,1.5s
NATX Nacogdoches 25.81 100 PFAKE 20 26 00.0 +7.3
NATX LR LR
comp=Z,28µm,19.0s
PMR Palmer 25.87 333 eP P 20 25 54.8 +1.9
PMR pmax pmax
comp=Z,257nm,1.4s
PMR Palmer 25.87 333 eP P 20 25 54.8 +1.9
comp=Z,258nm,1.4s
JFWS Jewell Farm 25.91 73 eP P 20 25 52.3 -1.2
JFWS pmax pmax
comp=Z,857nm,0.8s
JFWS MLR MLR
comp=Z,5µm,19.0s
JFWS Jewell Farm 25.91 73 eP P 20 25 52.3 -1.2
comp=Z,857nm,0.8s
JFWS LR LR
comp=Z,5µm,19.0s
DOT Dot Lake 25.92 340 eP P 20 25 54.8 +1.3
comp=Z,121nm,1.4s
EGAK Eagle 26.20 344 eP P 20 25 56.8 +0.9
comp=Z,442nm,1.9s
EGAK LR LR
comp=Z,5µm,19.0s
035Z Hargill 26.21 114 ⇑P P 20 25 59.7 +3.3
baz=26
UALR University of 26.30 92 eP P 20 25 57.2 0.0
comp=Z,86nm,0.8s
RSO Redoubt South 26.48 329 eP P 20 25 59.2 +0.5
comp=Z,76nm,0.6s
COWI Conover 26.52 66 eP P 20 25 59.1 0.0
comp=Z,801nm,1.2s
COWI LR LR
comp=Z,13µm,19.0s
SLM Saint Louis 26.70 82 eP P 20 25 59.7 -1.0
SLM pmax pmax
comp=Z,511nm,1.0s
SLM Saint Louis 26.70 82 eP P 20 25 59.7 -1.0
comp=Z,511nm,1.0s
FCC Fort Churchill 26.79 36 eP P 20 26 00.8 -0.5
FCC pmax pmax
comp=Z,8.0nm,1.0s
FCC Fort Churchill 26.79 36 eP P 20 26 00.8 -0.5
comp=Z,7.7nm,1.0s
MCK McKinley 27.34 337 eP P 20 26 08.0 +1.7
MCK pmax pmax
comp=Z,376nm,1.7s
MCK McKinley 27.34 337 eP P 20 26 08.0 +1.7
comp=Z,376nm,1.7s
ILAR Eielson Array 27.56 340 P P 20 26 09.1 +0.9
ILAR 20 29 25.5
ILAR pmax pmax
comp=Z,20nm,0.9s
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ILAR MLR MLR
comp=Z,5µm,20.8s
ILAR Eielson Array 27.56 340 P P 20 26 09.1 +0.9
comp=Z,20nm,0.9s,baz=152,slow=6.9,SNR=119
ILAR PcP PcP 20 29 25.4 0.0
comp=Z,4.1nm,0.8s,baz=181,slow=2.6,SNR=9.3
ILAR LR LR 20 35 07.4
comp=Z,5µm,20.8s,baz=156,slow=32
TRF Thorofare Moun 27.56 335 eP P 20 26 09.4 +1.0
comp=Z,330nm,1.6s
GNAR Gosnell 27.66 88 eP P 20 26 08.8 -0.6
comp=Z,2µm,1.1s
SIUC Southern Illin 27.72 84 eP P 20 26 08.8 -1.1
comp=Z,140nm,0.8s
PPLA Purkeypile 27.81 333 eP P 20 26 12.3 +1.7
comp=Z,566nm,1.6s
KTH Kantishna Hill 27.83 335 eP P 20 26 11.7 +0.9
comp=Z,125nm,1.4s
COLA College 27.90 339 eP P 20 26 12.0 +0.8
COLA pmax pmax
comp=Z,69nm,1.3s
COLA MLR MLR
comp=Z,4µm,19.0s
COLA College 27.90 339 eP P 20 26 12.0 +0.8
comp=Z,69nm,1.3s
COLA LR LR
comp=Z,4µm,19.0s
OLIL Olney 28.29 81 eP P 20 26 14.2 -0.8
comp=Z,135nm,0.9s
INK Inuvik 28.39 353 P P 20 26 16.1 +0.6
INK pmax pmax
comp=Z,72nm,1.2s
INK Inuvik 28.39 353 P P 20 26 16.1 +0.6
comp=Z,72nm,1.2s,baz=170,slow=9.9,SNR=56
OXF Oxford 28.64 90 eP P 20 26 18.0 -0.2
OXF pmax pmax
comp=Z,568nm,1.0s
OXF Oxford 28.64 90 eP P 20 26 18.0 -0.2
comp=Z,568nm,1.0s
SFIN Scholer Farm 28.65 78 eP P 20 26 17.3 -0.9
comp=Z,925nm,1.2s
SFIN Scholer Farm 28.65 78 ⇓P P 20 26 17.4 -0.8
baz=29
USIN University of 28.83 83 eP P 20 26 18.6 -1.2
comp=Z,398nm,1.3s
WVT Waverly 29.27 86 eP P 20 26 22.8 -0.9
WVT pmax pmax
comp=Z,165nm,1.0s
WVT Waverly 29.27 86 eP P 20 26 22.8 -0.9
comp=Z,165nm,1.0s
BLO Bloomington 29.37 80 eP P 20 26 23.4 -1.1
BLO pmax pmax
comp=Z,771nm,1.3s
BLO Bloomington 29.37 80 eP P 20 26 23.4 -1.1
comp=Z,771nm,1.3s
WCI Wyandotte Cave 29.79 81 eP P 20 26 27.1 -1.2
WCI pmax pmax
comp=Z,528nm,1.4s
WCI Wyandotte Cave 29.79 81 eP P 20 26 27.1 -1.2
comp=Z,528nm,1.4s
COLD Coldfoot 30.32 341 eP P 20 26 34.2 +1.5
comp=Z,5µm,1.5s
AAM Ann Arbor 30.81 73 eP P 20 26 37.2 -0.1
AAM pmax pmax
comp=Z,732nm,1.5s
AAM MLR MLR
comp=Z,14µm,19.0s
AAM Ann Arbor 30.81 73 eP P 20 26 37.2 -0.1
comp=Z,732nm,1.5s
AAM LR LR
comp=Z,14µm,19.0s
UNV Unalaska Valle 30.88 310 eP P 20 26 38.9 +1.2
comp=Z,287nm,1.1s
SWET Sewanee 31.04 87 eP P 20 26 38.0 -1.4
comp=Z,148nm,1.1s
LRAL Lakeview Retre 31.07 91 eP P 20 26 38.8 -0.9
comp=Z,309nm,1.2s
ACSO Alum Creek Sta 31.75 76 eP P 20 26 44.7 -0.9
comp=Z,894nm,1.1s
ACSO LR LR
comp=Z,21µm,20.0s
CPCT Cooper Cave 32.03 86 eP P 20 26 48.9 +0.8
TKL Tuckaleechee C 32.52 85 P P 20 26 51.8 -0.7
TKL pmax pmax
comp=Z,185nm,0.9s
TKL MLR MLR
comp=Z,18nm,28.6s
TKL Tuckaleechee C 32.52 85 P P 20 26 51.8 -0.7
comp=Z,185nm,0.9s,baz=275,slow=4.4,SNR=81
TKL LR LR 20 40 46.5
comp=Z,15µm,20.0s,baz=298,slow=38
POHA Pohakuloa 33.29 241 PFAKE 20 27 10.0 +11
POHA LR LR
comp=Z,5µm,19.0s
ALLY Alegheny Colle 33.51 73 eP P 20 27 01.0 0.0
comp=Z,786nm,1.1s
ERPA Erie 33.52 72 eP P 20 27 01.3 +0.3
comp=Z,554nm,1.4s
ERPA LR LR
comp=Z,21µm,21.0s
GOGA Godfrey 33.62 89 eP P 20 27 01.4 -0.6
GOGA pmax pmax
comp=Z,342nm,1.1s
GOGA MLR MLR
comp=Z,10µm,19.0s
GOGA Godfrey 33.62 89 eP P 20 27 01.4 -0.6
comp=Z,342nm,1.1s
GOGA LR LR

comp=Z,10µm,19.0s
KIP Kipapa 33.85 246 eP P 20 27 02.0 -2.1
KIP pmax pmax
comp=Z,240nm,1.7s
KIP Kipapa 33.85 246 PFAKE 20 27 10.0 +5.9
KIP LR LR
comp=Z,8µm,19.0s
MCWV Mont Chateau 34.23 76 eP P 20 27 06.9 -0.3
comp=Z,700nm,1.1s
MCWV LR LR
comp=Z,24µm,22.0s
TIGA Tifton 34.36 92 eP P 20 27 08.0 -0.5
comp=Z,671nm,1.8s
TIGA Tifton 34.36 92 ⇓P P 20 27 08.5 +0.1
baz=34
BLA Blacksburg 34.53 81 PFAKE 20 27 20.0 +10
BLA LR LR
comp=Z,19µm,21.0s
KMSC Kings Mountain 34.57 84 eP P 20 27 09.3 -0.9
comp=Z,10nm,0.8s
KMSC Kings Mountain 34.57 84 ⇑P P 20 27 10.2 0.0
baz=34
VWCC Virginia Weste 34.86 80 eP P 20 27 12.8 +0.1
TNA Tin City 35.01 330 eP P 20 27 13.9 +0.3
comp=Z,58nm,1.6s
SSPA Standing Stone 35.41 74 eP P 20 27 17.3 -0.1
comp=Z,548nm,1.4s
GAMB Gambell 35.87 326 eP P 20 27 22.2 +1.1
comp=Z,80nm,1.5s
NHSC New Hope 36.25 87 eP P 20 27 24.2 -0.4
comp=Z,904nm,1.0s
NHSC LR LR
comp=Z,10µm,19.0s
JSRW J. Sargeant Re 36.29 79 eP P 20 27 25.2 +0.3
BINY Binghamton 36.40 71 eP P 20 27 26.1 +0.2
comp=Z,535nm,1.2s
BINY LR LR
comp=Z,23µm,21.0s
CBN Corbin 36.50 78 eP P 20 27 25.7 -1.1
comp=Z,1µm,1.2s
CBN LR LR
comp=Z,18µm,22.0s
SDMD Soldier's Deli 36.52 76 eP P 20 27 27.1 +0.1
comp=Z,618nm,1.3s
LONY Lake Ozonia 36.86 66 eP P 20 27 29.0 -0.8
comp=Z,616nm,1.6s
LONY LR LR
comp=Z,5µm,19.0s
RES Resolute Bay 37.08 13 P P 20 27 32.2 +1.0
RES pmax pmax
comp=Z,20nm,1.0s
RES Resolute Bay 37.08 13 P P 20 27 32.2 +1.0
comp=Z,20nm,1.0s,baz=215,slow=11,SNR=46
TEIG Tepich 37.10 112 P P 20 27 32.8 +0.8
comp=Z,227nm,0.7s,baz=289,slow=4.3,SNR=57
TEIG Tepich 37.10 112 eP P 20 27 32.5 +0.5
comp=Z,265nm,0.8s
TEIG LR LR
comp=Z,4µm,21.0s
CNNC Cliffs of the 37.15 83 PFAKE 20 27 40.0 +7.7
CNNC LR LR
comp=Z,19µm,19.0s
NCB Newcomb 37.25 67 eP P 20 27 33.2 0.0
comp=Z,515nm,1.5s
NCB LR LR
comp=Z,10µm,21.0s
FRNY Flat Rock 37.51 66 eP P 20 27 35.3 0.0
comp=Z,293nm,1.4s
ACCN Adirondack Com 37.77 68 eP P 20 27 37.3 -0.3
comp=Z,417nm,1.2s
BRNJ Basking Ridge 37.83 73 eP P 20 27 39.6 +1.6
comp=Z,381nm,1.2s
MDV Middlebury 37.98 67 eP P 20 27 39.3 +0.1
CPNY Central Park 38.24 72 eP P 20 27 41.5 0.0
comp=Z,1µm,1.9s
LBNH Lisbon 38.80 66 eP P 20 27 47.1 +0.9
LBNH pmax pmax
comp=Z,999nm,1.4s
LBNH MLR MLR
comp=Z,13µm,20.0s
LBNH Lisbon 38.80 66 eP P 20 27 47.1 +0.9
comp=Z,999nm,1.4s
LBNH LR LR
comp=Z,13µm,20.0s
APG El Apazote 39.20 120 P P 20 27 47.9 -2.2
comp=Z,72nm,1.0s,baz=320,slow=7.0,SNR=44
HRV Adam Dziewonsk 39.49 69 eP P 20 27 52.2 +0.2
HRV pmax pmax
comp=Z,518nm,1.6s
HRV Adam Dziewonsk 39.49 69 eP P 20 27 52.2 +0.2
comp=Z,518nm,1.6s
PKME Peaks-Kenny Pk 40.39 64 eP P 20 27 60.0 +0.6
comp=Z,188nm,1.1s
PKME LR LR
comp=Z,20µm,19.0s
SCHQ Schefferville 40.53 49 P P 20 28 00.3 -0.1
comp=Z,256nm,0.9s,baz=281,slow=7.6,SNR=213
SCHQ LR LR 20 44 28.3
comp=Z,6µm,20.9s,baz=278,slow=36
FX1 Attu Island--F 43.03 308 LR LR 20 42 47.2
comp=Z,2µm,20.9s,baz=92,slow=31
MIDW Midway 44.43 271 PFAKE 20 28 40.0 +7.6
MIDW LR LR
comp=Z,4µm,20.0s
BILL Bilibino 45.45 331 PFAKE 20 28 50.0 +10
BILL LR LR
comp=Z,6µm,21.0s
KULLO Kullorsuaq 45.63 20 iP P 20 28 42.5 +1.1
KULLO pmax pmax
comp=Z,56nm,1.2s
KULLO MLR MLR
comp=Z,5µm,21.0s
KULLO Kullorsuaq 45.63 20 iP P 20 28 42.5 +1.1
comp=Z,56nm,1.1s
comp=Z,5µm,20.0s
MTDJ Mount Denham 46.17 104 eP P 20 28 47.5 +1.0
comp=Z,288nm,1.4s
MTDJ LR LR
comp=Z,4µm,22.0s
JTS JuntasAbangare 46.29 119 P P 20 28 46.5 -0.8
JTS pmax pmax
comp=Z,24nm,0.8s
JTS JuntasAbangare 46.29 119 P P 20 28 46.5 -0.8
comp=Z,24nm,0.8s,baz=327,slow=6.2,SNR=17
JTS JuntasAbangare 46.29 119 P P 20 28 46.5 -0.8
JTS LR LR
comp=Z,3µm,19.0s
ALE Alert 46.70 9 P P 20 28 51.6 +1.9
comp=Z,563nm,1.3s,SNR=8.3
STH Stony Hill 46.80 104 iP P 20 28 52.8 +1.4
GWJ Greenwich 46.87 104 iP P 20 28 53.4 +1.4
HOJ Hope 46.89 104 iP P 20 28 52.6 +0.6
GTBY Guantanamo Bay 46.94 100 eP P 20 28 53.2 +0.8
comp=Z,200nm,1.3s
GTBY LR LR
comp=Z,5µm,21.0s
YHJ Yallahs 47.15 104 iP P 20 28 55.9 +1.7
BBSR BB Station 48.31 80 eP P 20 29 03.4 +0.5
comp=Z,342nm,1.1s
BBSR LR LR
comp=Z,6µm,20.0s
GRTK Grand Turk 49.02 96 eP P 20 29 09.6 +1.1
comp=Z,478nm,1.2s
GRTK LR LR
comp=Z,5µm,20.0s
SDDR Presa de Saban 50.39 99 eP P 20 29 19.8 +0.8
comp=Z,243nm,1.1s
SDDR LR LR
comp=Z,11µm,19.0s
BCIP Isla Barro Col 50.58 115 PFAKE 20 29 30.0 +10
BCIP LR LR
comp=Z,3µm,20.0s
TAOE Nuku Hiva Isla 50.97 200 eT T 21 24 05.3
comp=Z,969nm,0.3s
SUMG Summit 50.99 23 iP P 20 29 24.1 +0.9
SUMG pmax pmax
comp=Z,55nm,1.0s
SUMG MLR MLR
comp=Z,4µm,15.0s
SUMG Summit 50.99 23 iP P 20 29 24.1 +0.9
comp=Z,55nm,1.0s
comp=Z,4µm,14.0s
SUMG Summit 50.99 23 eP P 20 29 22.9 -0.4
comp=Z,201nm,1.4s
PET Petropavlovsk 51.52 311 eP P 20 29 30.7 +3.7
PET eS S 20 36 44.9 -1.2
PET eSS SS 20 40 25.1 +3.4

PET pmax pmax
comp=Z,102nm,1.2s
PET Petropavlovsk 51.52 311 PFAKE 20 29 40.0 +13
PET LR LR
comp=Z,989nm,19.0s
PAYG Puerto Ayora 51.59 134 PFAKE 20 29 40.0 +12
PAYG LR LR
comp=Z,3μm,20.0s
SEY Seymchan 51.83 325 P **P 20 29 29.8 +0.6**
SEY pmax pmax
comp=Z,14nm,1.0s
SEY MLR MLR
comp=Z,5μm,19.4s
SEY Seymchan 51.83 325 P **P 20 29 29.8 +0.6**
comp=Z,14nm,1.0s,baz=90,slow=5.3,SNR=16
SEY LR LR 20 50 16.6
comp=Z,5μm,19.4s,baz=111,slow=35
PETK Petropavlovsk- 52.04 312 P **P 20 29 31.9 +1.0**
PETK pmax pmax
comp=Z,6.0nm,0.6s
PETK Petropavlovsk- 52.04 312 P **P 20 29 31.9 +1.0**
comp=Z,6.4nm,0.6s,baz=88,slow=11,SNR=11
AGPR Aguadilla, PR 53.86 96 *e*P **P 20 29 45.6 +0.9**
comp=Z,921nm,1.2s
LSP Las Mesas 54.05 96 *e*P **P 20 29 45.6 -0.7**
CRPR Cabo Rojo, PR 54.14 97 *e*P **P 20 29 45.5 -1.3**
comp=Z,254nm,1.0s
LRS Lares 54.17 96 *e*P **P 20 29 47.4 +0.3**
OBIP Obispado Ponce 54.50 96 *e*P **P 20 29 49.4 0.0**
comp=Z,380nm,1.2s
CELP Cerrillos 54.50 96 *e*P **P 20 29 49.5 +0.1**
DAG Danmarks Havn 54.65 16 *i* P **P 20 29 49.3 -0.4**
DAG pmax pmax
comp=Z,30nm,1.0s
DAG MLR MLR
comp=Z,6μm,18.0s
DAG Danmarks Havn 54.65 16 *i* P **P 20 29 49.3 -0.4**
comp=Z,30nm,1.0s
comp=Z,6μm,17.0s
SJG San Juan 54.80 96 *e*P **P 20 29 51.7 +0.1**
SJG pmax pmax
comp=Z,468nm,1.1s
SJG MLR MLR
comp=Z,4μm,22.0s
SJG San Juan 54.80 96 *e*P **P 20 29 51.7 +0.1**
comp=Z,468nm,1.1s
SJG LR LR
comp=Z,4μm,22.0s
CBYP Canovanas 54.93 95 *e*P **P 20 29 52.2 -0.4**
comp=Z,308nm,1.1s
CDVI St. Croix 56.07 95 *e*P **P 20 30 00.8 +0.1**
comp=Z,441nm,0.9s
TIXI Tiksi 57.02 339⇓*i*P **P 20 30 06.2 -0.6**
TIXI pmax pmax
comp=Z,37nm,1.7s
TIXI Tiksi 57.02 339 *e*P **P 20 30 06.7 -0.1**
comp=Z,61nm,1.3s
TIXI LR LR
comp=Z,2μm,21.0s
SABA Saba 57.31 94 *e*P **P 20 30 09.5 -0.1**
SDV Santo Domingo 57.32 108 *e*P **P 20 30 10.3 +0.4**
comp=Z,154nm,0.9s
SDV LR LR
comp=Z,3μm,20.0s
ROSC El Rosal 57.46 114 P **P 20 30 12.9 +1.8**
comp=Z,11nm,0.4s,baz=298,slow=9.3,SNR=16
ROSC LR LR 20 59 38.9
comp=Z,1μm,18.1s,baz=348,slow=41
OTAV Otavalo 58.05 121 *e*P **P 20 30 17.1 +1.7**
comp=Z,79nm,0.9s
OTAV LR LR
comp=Z,1μm,22.0s
KBS Kingsbay 58.31 9 PFAKE 20 30 30.0 +14
KBS LR LR
comp=Z,4μm,22.0s
ANWB Willy Bob 58.39 93 *e*P **P 20 30 14.5 -2.6**
ANWB Willy Bob 58.39 93 *e*P **P 20 30 16.6 -0.5**
comp=Z,266nm,0.9s
ANWB LR LR
comp=Z,4μm,21.0s
MBWH 58.64 94 *e*P **P 20 30 18.1 -0.9**
PMOR Pomariorio Ree 59.09 206 *e*T T 21 34 12.5
comp=Z,275nm,0.3s
VAH Vaihoa 59.22 206 *e*T T 21 34 22.5
comp=Z,226nm,0.4s
LZG Guadaloupe-1 59.32 95 *e*P **P** 20 30 27.5 +3.9
SEG Port Louis 59.37 94 *e*P **P 20 30 23.8 -0.2**
MLG Mont-d'or 59.42 95 *e*P **P 20 30 24.4 0.0**
SSG Sans Toucher 59.42 95⇑*i*P **P 20 30 24.4 -0.1**
FNG Fond-Bernard 59.44 95 *e*P **P 20 30 24.7 +0.2**
CRG Carmichael 59.46 95 *e*P **P 20 30 24.9 +0.1**
TAG Tarade 59.46 95 *e*P **P 20 30 25.1 +0.3**
LKG Breislack 59.47 95 *e*P **P 20 30 24.8 -0.1**
ECG Echelle 59.47 95 *e*P **P 20 30 25.0 +0.1**
PHG Guadaloupe-2 59.50 95⇑*i*P **P 20 30 25.3 +0.3**
TBG Guadaloupe-3 59.59 95 *e*P **P 20 30 25.5 0.0**
BORG Borgarnes 59.61 29 PFAKE 20 30 40.0 +15
BORG LR LR
comp=Z,3μm,20.0s
DEG La Desirade 59.76 94 *e*P **P 20 30 26.1 -0.6**
FDF Fort de France 60.65 95 *e*P **P 20 30 32.1 -0.8**
FDF pmax pmax
comp=Z,170nm,0.6s
FDF MLR MLR
comp=Z,3μm,20.0s
FDF Fort de France 60.65 95⇑*i*P **P 20 30 32.7 -0.2**
FDF Fort de France 60.65 95 *e*P **P 20 30 32.1 -0.8**
comp=Z,170nm,0.6s
FDF LR LR
comp=Z,3μm,20.0s
H11N3 WAKE ISLAND Hy 61.07 272 T T 21 37 09.3
baz=56,slow=75,SNR=292
H11N2 WAKE ISLAND Hy 61.07 272 T T 21 37 15.2
baz=56,slow=75,SNR=537
H11N1 WAKE ISLAND Hy 61.09 272 T T 21 37 17.5
baz=56,slow=75,SNR=270
YAK Yakutsk 61.76 329 *e*P **P 20 30 40.9 +1.3**
YAK *e* 20 31 21.6
YAK *e* 20 32 57.2
YAK *e*PPP PPP 20 34 23.9
YAK *e*S **S 20 39 02.8 +1.6**
YAK *e* 20 40 32.0
YAK *e*SS **SS 20 43 07.2 +5.0**
YAK pmax pmax
comp=Z,43nm,1.3s
YAK pmax pmax
comp=E,24nm,1.4s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=Z,120nm,3.3s
YAK pmax pmax
comp=N,59nm,2.9s
YAK pmax pmax
comp=E,81nm,3.3s
YAK smax smax
comp=N,182nm,4.7s
YAK smax smax
comp=E,349nm,4.0s
YAK MLR MLR
comp=Z,2μm,15.0s
YAK MLR MLR
comp=N,642nm,17.0s
YAK MLR MLR
comp=E,1μm,16.0s
YAK Yakutsk 61.76 329 *e*P **P 20 30 40.2 +0.6**
comp=E,58nm,0.9s
YAK LR LR
comp=Z,3μm,21.0s
MEH Mehetia 61.83 205 *e*T T 21 37 38.0
comp=Z,684nm,0.3s
GRGR Grenville 61.89 98 *e*P **P 20 30 40.5 -0.7**
GRGR Grenville 61.89 98 PFAKE 20 30 50.0 +8.8
GRGR LR LR
comp=Z,4μm,21.0s
H11S1 WAKE ISLAND Hy 61.94 271 T T 21 38 45.3
baz=54,slow=75,SNR=292
H11S2 WAKE ISLAND Hy 61.95 271 T T 21 38 46.1
baz=54,slow=75,SNR=349
H11S3 WAKE ISLAND Hy 61.96 271 T T 21 38 47.0
baz=54,slow=75,SNR=364
TIAR Tiarei 61.96 207 *e*T T 21 37 47.4
comp=Z,51nm,0.3s
PPT Papeete 62.05 207 LR LR 20 51 22.4
comp=Z,795nm,20.6s,baz=5.0,slow=30
PPT2 Papeete2 62.07 207 *e*S **S 20 39 08.9 +2.7**
comp=Z,852nm,28.0s
PPT2 *e*LQ LQ 20 46 03.7
comp=Z,11μm,28.5s
PPT2 *e*LR LR 20 48 58.8
comp=Z,3μm,29.0s
PPT2 Papeete2 62.07 207 *e*T T 21 37 55.4
comp=Z,55nm,0.3s
PAE Paea 62.14 207 *e*T T 21 38 00.7
comp=Z,14nm,0.2s
BBGH Gun Hill 62.85 96 PFAKE 20 31 00.0 +12
BBGH LR LR
comp=Z,8μm,22.0s
YUK Yuzh-Kuril'sk 62.99 306 *d i*P **P 20 30 46.5 -1.6**
YUK *i* S **S 20 39 19.1 +1.8**
YUK smax smax
comp=Z,573nm,20.0s
YUK smax smax
comp=E,881nm,20.0s
YSS Yuzh-Sakhalins 63.35 310 *e*P **P 20 30 48.2 -2.3**
YSS *e* 20 30 55.0
YSS *e*S **S 20 39 22.0 +0.3**
YSS *e*PS **PnS 20 39 35.0 -3.8**
YSS *e*PPS PPS 20 39 51.0
YSS pmax pmax
comp=Z,50nm,1.2s
YSS Yuzh-Sakhalins 63.35 310 *e*P **P 20 30 50.3 -0.2**
comp=Z,28nm,1.3s
YSS LR LR
comp=Z,340nm,21.0s
RKT Rikitea 63.86 190 *e*S **S 20 39 29.8 +1.6**
comp=Z,5μm,30.5s
RKT *e*SS **SS 20 43 36.7 -0.5**
comp=Z,901nm,31.2s
RKT *e*LQ LQ 20 47 06.4
comp=Z,12μm,31.8s
RKT *e*LR LR 20 49 48.1
comp=Z,6μm,30.2s,baz=8.1
RKT Rikitea 63.86 190 *e*T T 21 40 12.8
comp=Z,81nm,0.3s
ASAJ Asahikawa 64.95 307 *e*P **P 20 31 01.2 +0.2**
comp=Z,118nm,1.8s
PTCN Pitcairn Islan 65.28 185 PFAKE 20 31 10.0 +6.8
PTCN LR LR
comp=Z,5μm,21.0s
ERM Erimo 65.74 305 *d i*P **P 20 31 06.1 -0.1**
ERM pmax pmax
comp=Z,28nm,1.2s
ERM Erimo 65.74 305 *e*P **P 20 31 06.7 +0.5**
comp=Z,57nm,1.1s
ERM LR LR
comp=Z,1μm,19.0s
HABR Khabarovsk 66.87 315 *c e*P **P 20 31 12.0 -1.3**
HABR *e**PP **pP 20 31 15.2 -4.5**
HABR *e**SP sP 20 31 16.5 -5.6
HABR *e* 20 31 40.7
HABR 20 33 39.4
HABR PPP PPP 20 35 15.2
HABR *e*S **S 20 40 05.4 +0.5**
HABR *e* 20 41 09.1
HABR *e*SS **SS 20 44 24.2 +1.8**
HABR pmax pmax
comp=E,33nm,1.5s
HABR pmax pmax
comp=Z,98nm,1.5s
HABR pmax pmax
comp=N,13nm,1.0s
HABR MLR MLR
comp=Z,636nm,18.0s
HABR pmax pmax
comp=N,54nm,2.4s
TBI Tubuai 67.39 204 *e*S **S 20 40 12.4 +0.9**
comp=N,2μm,29.0s
TBI *e*LQ LQ 20 48 23.2
comp=N,7μm,31.0s
TBI *e*LR LR 20 51 21.5
comp=N,3μm,28.2s,baz=30
TBI Tubuai 67.39 204 *e*T T 21 44 35.0
comp=N,35nm,0.3s
TARA Tarawa 68.19 252 PFAKE 20 31 30.0 +7.9
TARA LR LR
comp=Z,2μm,19.0s
KLR Kul'dur 68.19 317 *e*P P 20 31 17.1 -4.6
KLR *e*S **S 20 40 21.0 +0.3**
KLR smax smax
comp=N,2μm,11.0s
KLR smax smax
comp=E,900nm,11.0s
KLR MLR MLR
comp=E,1μm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s
ARCES ARCESS Array B 68.26 11 P **P 20 31 22.0 +0.2**
ARCES MLR MLR
comp=Z,2μm,18.4s
ARCES ARCESS Array B 68.26 11 P **P 20 31 22.0 +0.2**
comp=Z,5.8nm,1.0s,baz=335,slow=6.2,SNR=4.0
ARCES LR LR 21 04 08.1
comp=Z,2μm,18.4s,baz=335,slow=38
KEV Kevo 68.27 10 *e*P P 20 31 25.9 +4.1
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 68.27 10 *e*p P 20 31 25.9 +4.1
comp=Z,0.8nm,0.4s
KEV Kevo 68.27 10 PFAKE 20 31 30.0 +8.2
KEV LR LR
comp=Z,3μm,21.0s
NNA Nana 68.50 129 *i* P **P 20 31 25.3 +1.3**
NNA Nana 68.50 129 *e*P **P 20 31 24.3 +0.3**
comp=Z,63nm,1.1s
NNA LR LR
comp=Z,815nm,19.0s
AFI Afiamalu 69.33 229 PFAKE 20 31 40.0 +11
AFI LR LR
comp=Z,3μm,20.0s
LVZ Lovozero 70.96 8 *e*P **P 20 31 38.3 -0.2**
LVZ pmax pmax
comp=Z,119nm,2.5s
LVZ Lovozero 70.96 8 *e*P **P 20 31 37.5 -1.0**
comp=Z,183nm,1.5s
LVZ LR LR
comp=Z,3μm,21.0s
USRK Ussuriysk Arra 71.12 312 P **P 20 31 40.1 +0.2**
comp=Z,9.4nm,0.9s,baz=47,slow=4.8,SNR=14
USRK LR LR 21 00 22.1
comp=Z,523nm,21.5s,baz=45,slow=34
APA Apatity 71.13 9⇓*i*P P 20 31 48.2 +8.7
APA *i* 20 32 05.0
APA *i* 20 41 34.0
PTGA Pitinga 71.60 107 P **P 20 31 43.7 +0.5**
comp=Z,34nm,1.0s,baz=319,slow=19
PTGA Pitinga 71.60 107 P **P 20 31 43.7 +0.5**
PTGA LR LR
comp=Z,3μm,22.0s
VLA Vladivostok 71.85 311 *e*P **P 20 31 44.5 +0.3**
VLA pmax pmax
comp=Z,13nm,1.0s
MAJO Matsushiro 72.03 303 *e*P **P 20 31 45.6 +0.2**
MAJO pmax pmax
comp=Z,65nm,1.2s
MAJO MLR MLR
comp=Z,1μm,21.0s
MAJO Matsushiro 72.03 303 *e*P **P 20 31 45.6 +0.2**
comp=Z,65nm,1.2s
MAJO LR LR
comp=Z,1μm,21.0s
MJAR Matsushiro Arr 72.03 303 P **P 20 31 45.3 -0.1**
comp=Z,14nm,1.1s,baz=36,slow=4.6,SNR=16
MJAR LR LR 20 57 43.0
comp=Z,860nm,21.9s,baz=65,slow=31
MAT Matsushiro 72.03 303 P **P 20 31 45.4 -0.1**
MAT S **S 20 41 03.8 -2.3**
MDJ Mudanjiang 72.20 314 P P 20 31 52.1 +5.8
MDJ pP PcP 20 32 20.2 +16
MDJ sP sP 20 32 36.2 +41
MDJ S **SKiKP 20 41 27.3 +5.9**
MDJ ScS **ScS 20 41 52.1 +0.5**
MDJ Mudanjiang 72.20 314 SS SS 20 46 17.4 +33
MDJ pmax pmax
comp=Z,23nm,0.8s
MDJ pmax pmax
comp=Z,300nm,5.3s
MDJ LR LR
comp=N,1μm,26.7s
MDJ LR LR
comp=E,2μm,26.7s
MDJ LR LR
comp=Z,1μm,22.2s
MDJ Mudanjiang 72.20 314 PFAKE 20 32 00.0 +14
MDJ LR LR
comp=Z,2μm,22.0s
ESK Eskdalemuir 72.54 31 *i* P **P 20 31 49.6 +1.4**
ESK Eskdalemuir 72.54 31 PFAKE 20 32 00.0 +12
ESK LR LR
comp=Z,3μm,22.0s
NB2 NORSAR Subarra 72.80 21 P **P 20 31 49.6 -0.1**
comp=Z,108nm,1.2s,baz=326,slow=5.6
NB2 NORSAR Subarra 72.80 21 P **P 20 31 49.6 -0.1**
baz=326,slow=5.6
NOA NORSAR Array B 72.80 21 P **P 20 31 49.8 +0.1**
NOA pmax pmax
comp=Z,14nm,0.9s
NOA MLR MLR
comp=Z,17nm,28.6s
NOA NORSAR Array B 72.80 21 P **P 20 31 49.8 +0.1**
comp=Z,14nm,0.9s,baz=327,slow=5.7,SNR=19
NOA LR LR 21 04 20.0
comp=Z,1μm,18.6s,baz=325,slow=36
KONO Kongsberg 73.51 22 PFAKE 20 32 00.0 +6.2
KONO LR LR
comp=Z,4μm,19.0s
HIA Hailar 74.15 322 PFAKE 20 32 10.0 +12
HIA LR LR
comp=Z,2μm,20.0s
CN2 Changchun 75.00 315 *e*P **P 20 32 02.0 -0.8**
CN2 *e*sP **sP 20 32 11.3 -0.3**
CN2 *e*S **S 20 41 36.2 -3.2**
CN2 pmax pmax
comp=Z,40nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,900nm,20.0s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,800nm,20.0s
SAML Samuel 75.05 116 *e*P **P 20 32 02.1 -1.2**
comp=Z,41nm,1.0s
SAML LR LR
comp=Z,3μm,20.0s
JCJ Chichijima 75.07 293 LR LR 20 58 01.8
comp=Z,3μm,21.9s,baz=50,slow=30
KAF Kangasniemi 75.25 14 *e*P **P 20 32 02.8 -1.1**
KAF pmax pmax
comp=Z,6.0nm,0.8s
KAF Kangasniemi 75.25 14 *e*p **P 20 32 02.8 -1.1**
comp=Z,6.3nm,0.8s
JOF Joensuu 75.31 11 *e*P **P 20 32 02.8 -1.4**
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 75.31 11 *e*p **P 20 32 02.8 -1.4**
comp=Z,4.4nm,0.8s
FINES FINESS Array B 75.83 14 P **P 20 32 07.3 +0.1**
FINES pmax pmax
comp=Z,16nm,0.9s
FINES MLR MLR
comp=Z,2μm,21.7s
FINES FINESS Array B 75.83 14 P **P 20 32 07.2 +0.1**
comp=Z,16nm,0.9s,baz=357,slow=3.8,SNR=21
FINES LR LR 21 05 06.2
comp=Z,2μm,21.7s,baz=271,slow=35
MUD Monsted U'grnd 76.02 24 *i* P P 20 32 19.0 +11
comp=Z,15nm,1.1s
comp=Z,3μm,18.0s
LPAZ La Paz 77.15 125 P **P 20 32 15.9 -0.1**
LPAZ pmax pmax
comp=Z,8.0nm,0.7s
LPAZ La Paz 77.15 125 P **P 20 32 15.9 -0.1**
comp=Z,8.1nm,0.7s,baz=332,slow=5.6,SNR=34
SNY Shenyang 77.34 315 ⇓P **P 20 32 17.6 +1.5**
SNY SKS **SKSac 20 42 22.1 -5.9**
SNY pmax pmax
comp=Z,51nm,1.1s
SNY pmax pmax
comp=Z,270nm,3.7s
SNY LR LR
comp=Z,860nm,26.1s
SNY LR LR
comp=Z,1μm,20.8s
SNY LR LR
comp=Z,1μm,25.7s
COP Copenhagen 77.67 23 *e*P P 20 32 23.5 +5.9
COP MLR MLR
comp=Z,2μm,26.0s
COP Copenhagen 77.67 23 *i* P P 20 32 23.5 +5.9
comp=Z,2μm,26.0s
ROSF Rostrenen 77.69 36⇑*i*P **P 20 32 17.9 0.0**
comp=Z,230nm,1.4s
ROSF Rostrenen 77.69 36⇑*i*P **P 20 32 17.9 0.0**
ROSF pmax pmax
comp=Z,230nm,1.4s
ROSF Rostrenen 77.69 36⇑*i*P **P 20 32 17.9 0.0**
comp=Z,230nm,1.4s
KSRS Korea Array 77.81 309 P **P 20 32 19.8 +0.9**
comp=Z,5.4nm,0.9s,baz=51,slow=6.0,SNR=11
KSRS LR LR 21 00 50.4
comp=Z,477nm,21.9s,baz=62,slow=31
KSAR Wonju Array Be 77.85 309 P **P 20 32 19.8 +0.7**
KSAR Wonju Array Be 77.85 309 P **P 20 32 19.8 +0.7**
PRGR Permogore 78.05 5⇑*i*P **P 20 32 20.0 +0.3**
PRGR *e**PP **pP 20 32 23.3 -2.9**
PRGR *i* 20 32 29.0
PRGR pmax pmax
comp=Z,60nm,1.0s
MENF Mencas 78.27 31 *e*P **P 20 32 24.2 +3.1**
KLMR Klimovskoe 78.33 8 *e*P **P 20 32 18.8 -2.4**
KLMR S S 20 42 05.2 -10
KLMR pmax pmax
comp=Z,170nm,1.8s
KLMR MLR MLR
comp=Z,3μm,21.0s
IRK Irkutsk 78.37 332 *e*P **P 20 32 23.7 +2.0**
IRK *e*S **SKSac 20 42 34.2 -1.0**
IRK pmax pmax
comp=Z,245nm,2.6s
BSEG Bad Segeberg 78.48 25 *e*P **P 20 32 23.4 +1.2**
comp=Z,13nm,0.9s
INCN Inchon 78.56 310 PFAKE 20 32 30.0 +7.0
INCN LR LR
comp=Z,721nm,22.0s
FLN La Foliniere 78.58 34⇑*i*P **P** 20 32 22.9 0.0
comp=Z,76nm,1.3s
FLN *e*R
comp=Z,4μm,19.5s
FLN La Foliniere 78.58 34⇑*i*P **P 20 32 22.9 0.0**
FLN pmax pmax
comp=Z,76nm,1.3s
FLN La Foliniere 78.58 34⇑*i*P **P 20 32 22.9 0.0**
comp=Z,76nm,1.3s
GRR Gorron 78.70 34⇑*i*P **P 20 32 24.0 +0.4**
comp=Z,312nm,1.5s
GRR Gorron 78.70 34⇑*i*P **P 20 32 24.0 +0.4**
GRR pmax pmax
comp=Z,312nm,1.5s
GRR Gorron 78.70 34⇑*i*P **P 20 32 24.0 +0.4**
comp=Z,312nm,1.5s
VSU Vasula 78.72 15 *e*P **P 20 32 23.6 +0.1**
VSU pmax pmax
comp=Z,86nm,1.3s
LDF La Druitiere 78.86 34⇑*i*P **P 20 32 24.3 -0.1**
comp=Z,248nm,1.7s
LDF La Druitiere 78.86 34⇑*i*P **P 20 32 24.3 -0.1**
LDF pmax pmax
comp=Z,248nm,1.7s
LDF La Druitiere 78.86 34⇑*i*P **P 20 32 24.3 -0.1**
comp=Z,248nm,1.7s
BSD Bornholm Skovb 78.89 22 *e*P P 20 32 30.7 +6.3
BSD MLR MLR
comp=Z,1μm,23.0s
BSD Bornholm Skovb 78.89 22 *i* P P 20 32 30.7 +6.3
comp=Z,1μm,23.0s
IBBN Ibbenburen 78.96 27 *e*P **P 20 32 26.5 +1.6**
comp=Z,5.0nm,0.7s
TLY Talaya 79.05 332 P **P 20 32 28.2 +2.7**
comp=Z,153nm,1.6s,SNR=6.3
TLY Talaya 79.05 332 *e*P **P 20 32 27.2 +1.7**
TLY pmax pmax
comp=Z,365nm,2.3s
TLY MLR MLR
comp=Z,2μm,21.0s
TLY Talaya 79.05 332 *e*P **P 20 32 27.1 +1.7**
comp=Z,365nm,2.3s
TLY LR LR

comp=Z,2µm,21.0s
BEBN Eben Emael 79.44 29 P P 20 32 28.0 +0.5
BEBN AP pP 20 32 30.7 -3.3
BAIF Baives 79.47 31⇑iP P 20 32 28.1 +0.4
comp=Z,78nm,1.3s
BAIF Baives 79.47 31⇑iP P 20 32 28.1 +0.4
BAIF pmax pmax
comp=Z,78nm,1.3s
BAIF Baives 79.47 31⇑iP P 20 32 28.1 +0.4
comp=Z,78nm,1.3s
DOU Dourbes 79.59 30 P P 20 32 29.1 +0.7
comp=Z,44nm,3.0s
BCLA Clavier 79.60 30 P P 20 32 29.2 +0.7
comp=Z,30nm,1.6s
GIVF Givet 79.67 30⇑iP P 20 32 29.3 +0.4
comp=Z,108nm,1.4s
GIVF Givet 79.67 30⇑iP P 20 32 29.3 +0.4
GIVF pmax pmax
comp=Z,108nm,1.4s
GIVF Givet 79.67 30⇑iP P 20 32 29.3 +0.4
comp=Z,108nm,1.4s
MEM Membach 79.72 29 P P 20 32 29.4 +0.4
comp=Z,21nm,1.5s
MOY Mondy 80.00 333 eP P 20 32 34.1 +3.3
MOY pmax pmax
comp=Z,147nm,2.8s
ZAK Zakamensk 80.25 331 eP P 20 32 33.5 +1.4
ZAK pmax pmax
comp=Z,21nm,1.6s
CLZ Clausthal 80.25 26 eP P 20 32 33.2 +1.2
comp=Z,6.0nm,1.0s
SOKR Solikamsk 80.38 359 eP P 20 32 32.9 +0.5
SOKR 20 35 43.5
SOKR S SKSac 20 42 50.7 +1.8
SOKR SS SS 20 47 57.8 +11
SOKR pmax pmax
comp=Z,10.0nm,0.9s
MFF Saint Martin d 80.38 35⇑iP P 20 32 33.0 +0.2
comp=Z,61nm,1.0s
MFF Saint Martin d 80.38 35⇑iP P 20 32 33.0 +0.2
MFF pmax pmax
comp=Z,61nm,1.0s
MFF Saint Martin d 80.38 35⇑iP P 20 32 33.0 +0.2
comp=Z,61nm,1.0s
DL2 Dalian 80.44 313 P P 20 32 29.8 -3.4
DL2 pmax pmax
comp=Z,34nm,1.5s
DL2 pmax pmax
comp=Z,230nm,6.7s
DL2 LR LR
comp=Z,630nm,20.4s
DL2 LR LR
comp=Z,690nm,20.0s
DL2 LR LR
comp=Z,360nm,21.2s
WLF Walferdange 80.54 30 P P 20 32 33.9 +0.3
comp=Z,45nm,2.1s
WLF Walferdange 80.54 30 eP P 20 32 33.8 +0.3
WLF pmax pmax
comp=Z,91nm,1.5s
WLF MLR MLR
comp=Z,4µm,21.0s
WLF Walferdange 80.54 30 eP P 20 32 33.8 +0.3
comp=Z,91nm,1.5s
WLF LR LR
comp=Z,4µm,21.0s
POLO Lamas de Olo 80.62 43 eP P 20 32 35.0 +0.7
comp=Z,64nm,1.9s
PVRL Vila Real 80.74 43 eP P 20 32 35.6 +0.8
comp=Z,136nm,1.3s
PVRL Vila Real 80.74 43 ePP PP 20 35 38.3 +0.1
ULN Ulaanbaatar 80.80 328 d iP P 20 32 35.3 +0.1
ULN pmax pmax
comp=Z,32nm,2.5s
ULN Ulaanbaatar 80.80 328 eP P 20 32 37.5 +2.3
comp=Z,257nm,2.2s
ULN LR LR
comp=Z,2µm,20.0s
PBRG Braganca 80.85 42 eP P 20 32 36.2 +0.8
comp=Z,106nm,1.8s
TNS Taunus Mts 80.93 28 eP P 20 32 36.7 +1.0
comp=Z,13nm,1.3s
UBBA Unterbreizbach 80.98 27 eP P 20 32 37.3 +1.5
comp=Z,3.0nm,1.0s
PVIS Viseu 81.05 43 eP P 20 32 36.9 +0.4
comp=Z,101nm,1.5s
MEZF Maizieres J'vi 81.05 31⇑iP P 20 32 36.6 +0.3
comp=Z,168nm,1.6s
MEZF Maizieres J'vi 81.05 31⇑iP P 20 32 36.6 +0.3
comp=Z,168nm,1.6s
HYF Humbligny 81.06 33⇑iP P 20 32 36.7 +0.3
HYF Humbligny 81.06 33⇑iP P 20 32 36.7 +0.3
SONM Songino Array 81.09 328 P P 20 32 38.1 +1.4
SONM pmax pmax
comp=Z,9.0nm,1.0s
SONM MLR MLR
comp=Z,3µm,19.2s
SONM Songino Array 81.09 328 P P 20 32 38.1 +1.4
comp=Z,8.9nm,1.0s,baz=36,slow=5.0,SNR=34
SONM LR LR 21 08 17.1
comp=Z,3µm,19.2s,baz=40,slow=36
GKP Gorka Klasztor 81.17 22 eP P 20 32 37.6 +0.8
GKP e*PP pP 20 32 46.6 +3.3
GKP MLR MLR
comp=Z,3µm,24.5s
GKP Gorka Klasztor 81.17 22 eP P 20 32 37.6 +0.8
GKP epP pP 20 32 46.6 +3.3
GKP ePcP PcP 20 32 50.5 +7.4
GKP LMZ LR 21 04 36.3
MVO Moncorvo 81.17 42 eP P 20 32 36.1 -1.1
comp=Z,120nm,1.4s
MVO Moncorvo 81.17 42 eLQ LQ 20 56 02.6
MVO eLR LR 20 59 44.3
comp=Z,3µm,20.0s
PCAS Casmilo, Conde 81.21 44 eP P 20 32 37.4 +0.1
comp=Z,110nm,1.7s
PAGF Fort de Pagny 81.27 31⇑iP P 20 32 37.9 +0.4
comp=Z,79nm,1.8s
PAGF Fort de Pagny 81.27 31⇑iP P 20 32 37.9 +0.4
comp=Z,79nm,1.8s
SFTF Sexfontaines 81.29 31⇑iP P 20 32 37.7 +0.1
comp=Z,288nm,1.6s
SFTF Sexfontaines 81.29 31⇑iP P 20 32 37.7 +0.1
comp=Z,288nm,1.6s
ISAL Salakas 81.29 16 eP P 20 32 36.7 -0.7
ISAL AMB AMB 20 32 51.0
comp=Z,25nm,1.1s
MTE Manteigas 81.46 43 eP P 20 32 39.8 +1.1
comp=Z,118nm,1.3s
MTE Manteigas 81.46 43 eLQ LQ 20 56 21.8
MTE eLR LR 21 00 33.8
comp=Z,3µm,20.0s
MTE Manteigas 81.46 43 PFAKE 20 32 50.0 +11
MTE LR LR
comp=Z,3µm,20.0s
LVC Limon Verde 81.47 129 eP P 20 32 39.5 +0.4
comp=Z,55nm,1.3s
LVC LR LR
comp=Z,1µm,20.0s
GUMO Guam 81.52 281 PFAKE 20 32 50.0 +11
GUMO LR LR
comp=Z,2µm,22.0s
IIGN Ignalina 81.52 16 eP P 20 32 37.8 -0.8
IIGN AMB AMB 20 32 53.3
comp=Z,19nm,1.4s
LOR Lormes 81.56 32⇑iP P 20 32 39.3 +0.2
comp=Z,234nm,1.5s
LOR eR
comp=Z,4µm,17.8s
LOR Lormes 81.56 32⇑iP P 20 32 39.3 +0.2
LOR pmax pmax
comp=Z,234nm,1.5s
LOR Lormes 81.56 32⇑iP P 20 32 39.3 +0.2
comp=Z,234nm,1.5s
PTOM Tomar 81.57 44 eP P 20 32 39.9 +0.7
comp=Z,167nm,1.4s
PTOM Tomar 81.57 44 ePP PP 20 35 45.0 -0.1
PMAFR Mafra 81.58 45 eP P 20 32 39.0 -0.3
comp=Z,377nm,1.5s
CLL Collm 81.58 25⇑iP P 20 32 39.4 +0.4
CLL eS S 20 42 56.0 +6.2
CLL pmax pmax
comp=Z,36nm,1.2s
CLL MLR MLR
comp=Z,3µm,20.6s
CLL Collm 81.58 25 eP P 20 32 39.5 +0.4
comp=Z,12nm,1.0s

CLL Collm 81.58 25⇑iP P 20 32 39.4 +0.4
comp=Z,36nm,1.2s
CLL i 20 32 51.4
comp=Z,100nm,1.4s
CLL ePP PP 20 35 47.0 +2.2
CLL eS S 20 42 56.0 +6.2
CLL e 20 43 32.0
CLL ePPS PPS 20 43 54.0
CLL eSS SS 20 48 11.0 +5.5
CLL e 20 49 01.0
CLL e 20 52 38.0
CLL eSSSS 20 54 12.0
CLL LmV 21 07 00.0
comp=Z,3µm,20.6s
CLL LmH 21 09 00.0
comp=N,3µm,18.7s
CLL LmH 21 09 00.0
comp=E,2µm,20.8s
SSF Saint Saulge 81.58 33⇑iP P 20 32 39.2 +0.1
comp=E,166nm,1.5s
SSF Saint Saulge 81.58 33⇑iP P 20 32 39.2 +0.1
SSF pmax pmax
comp=Z,166nm,1.5s
SSF Saint Saulge 81.58 33⇑iP P 20 32 39.2 +0.1
comp=Z,166nm,1.5s
THEF They Montfort 81.64 31 eP P 20 32 40.2 +0.7
TCF Toulx Ste Croi 81.65 34⇑iP P 20 32 39.4 -0.2
comp=Z,68nm,1.1s
TCF Toulx Ste Croi 81.65 34⇑iP P 20 32 39.4 -0.2
TCF pmax pmax
comp=Z,68nm,1.1s
TCF Toulx Ste Croi 81.65 34⇑iP P 20 32 39.4 -0.2
comp=Z,68nm,1.1s
MOX Moxa 81.68 26 eP P 20 32 40.4 +0.8
comp=Z,13nm,1.1s
MOX eL L 21 09 06.7
comp=Z,3µm,19.9s
BGF Bois d'Agland 81.71 33⇑iP P 20 32 39.8 0.0
comp=Z,61nm,1.0s
BGF Bois d'Agland 81.71 33⇑iP P 20 32 39.8 0.0
BGF pmax pmax
comp=Z,61nm,1.0s
BGF Bois d'Agland 81.71 33⇑iP P 20 32 39.8 0.0
comp=Z,61nm,1.0s
LANF Langenberg 81.72 29 eP P 20 32 40.4 +0.5
AVF Avril sur Loir 81.73 33⇑iP P 20 32 39.8 -0.1
comp=Z,153nm,1.5s
AVF Avril sur Loir 81.73 33⇑iP P 20 32 39.8 -0.1
AVF pmax pmax
comp=Z,153nm,1.5s
AVF Avril sur Loir 81.73 33⇑iP P 20 32 39.8 -0.1
comp=Z,153nm,1.5s
LIS Lisbon 81.82 45 eP P 20 32 39.9 -0.6
LIS eS S 20 42 53.4 +0.6
LIS AMS AMS 21 05 05.4
comp=N,8µm,20.4s
LIS Lisbon 81.82 45 eP P 20 32 39.9 -0.6
LIS eS S 20 42 53.3 +0.6
PCBR Castelo Branco 81.90 44 eP P 20 32 41.5 +0.5
comp=N,73nm,1.4s
HAU Haudompre 81.96 31⇑iP P 20 32 41.3 +0.1
comp=N,80nm,1.2s
HAU eR
comp=N,6µm,20.8s
HAU Haudompre 81.96 31⇑iP P 20 32 41.3 +0.1
HAU pmax pmax
comp=Z,80nm,1.2s
HAU Haudompre 81.96 31⇑iP P 20 32 41.3 +0.1
comp=Z,80nm,1.2s
CDF Champ du Feu 81.99 30⇑iP P 20 32 41.6 +0.2
comp=Z,166nm,1.5s
CDF Champ du Feu 81.99 30⇑iP P 20 32 41.6 +0.2
CDF pmax pmax
comp=Z,166nm,1.5s
CDF Champ du Feu 81.99 30⇑iP P 20 32 41.6 +0.2
comp=Z,166nm,1.5s
SMF Signal de Mont 82.05 33⇑iP P 20 32 41.4 -0.3
comp=Z,76nm,1.3s
SMF Signal de Mont 82.05 33⇑iP P 20 32 41.4 -0.3
SMF pmax pmax
comp=Z,76nm,1.3s
SMF Signal de Mont 82.05 33⇑iP P 20 32 41.4 -0.3
comp=Z,76nm,1.3s
NACGM Naroch 82.06 16 eP P 20 32 38.0 -3.5
SUW Suwalki 82.06 18 eP P 20 32 41.6 +0.1
SUW MLR MLR
comp=Z,2µm,27.2s
SUW Suwalki 82.06 18 eP P 20 32 41.6 +0.1
SUW epP pP 20 32 51.0 +3.0
SUW LMZ LR 21 04 42.9
SUW Suwalki 82.06 18 eP P 20 32 41.3 -0.2
comp=Z,116nm,1.3s
LFF La Frestale 82.06 36⇑iP P 20 32 41.8 +0.1
comp=Z,325nm,1.6s
LFF La Frestale 82.06 36⇑iP P 20 32 41.8 +0.1
LFF pmax pmax
comp=Z,325nm,1.6s
LFF La Frestale 82.06 36⇑iP P 20 32 41.8 +0.1
comp=Z,325nm,1.6s
ECH Echery 82.10 30 eP P 20 32 42.8 +0.9
ECH pmax pmax
comp=Z,28nm,1.4s
ECH MLR MLR
comp=Z,3µm,20.0s
ECH Echery 82.10 30 eP P 20 32 45.3 +3.4
ECH Echery 82.10 30 eP P 20 32 42.8 +0.9
comp=Z,28nm,1.4s
ECH LR LR
comp=Z,3µm,20.0s
RJF Les Rejaudoux 82.12 35⇑iP P 20 32 41.8 -0.2
comp=Z,74nm,1.1s
RJF eR
comp=Z,6µm,20.0s
RJF Les Rejaudoux 82.12 35⇑iP P 20 32 41.8 -0.2
RJF pmax pmax
comp=Z,74nm,1.1s
RJF Les Rejaudoux 82.12 35⇑iP P 20 32 41.8 -0.2
comp=Z,74nm,1.1s
NVS Novosibirsk 82.15 344⇑iP P 20 32 42.5 +0.5
NVS eS S 20 42 57.2 +1.6
NVS pmax pmax
comp=N,109nm,2.5s
NVS pmax pmax
comp=Z,366nm,2.5s
NVS pmax pmax
comp=E,119nm,2.3s
NVS pmax pmax
comp=Z,19nm,1.7s
NVS pmax pmax
comp=N,17nm,1.9s
NVS pmax pmax
comp=E,11nm,2.0s
NVS smax smax
comp=N,206nm,3.6s
TANN Tannenbergstha 82.17 26 eP P 20 32 43.1 +0.9
comp=Z,4.0nm,0.9s
PMRV Marv??o 82.25 44 eP P 20 32 43.3 +0.5
comp=Z,80nm,1.7s
PMRV Marv??o 82.25 44 ePP PP 20 35 51.5 +0.8
PMRV Marv??o 82.25 44 eLQ LQ 20 56 10.6
PMRV eLR LR 21 01 16.4
comp=Z,3µm,24.0s
BRG Berggiesshubel 82.26 25⇓iP P 20 32 43.4 +0.8
comp=Z,39nm,1.1s
BRG i 20 32 53.3
comp=Z,90nm,1.4s
BRG PP PP 20 35 57.0 +6.7
BRG SKS SKSac 20 43 06.0 +3.9
BRG S ScS 20 43 27.0 +14
BRG SS SS 20 48 16.0 +0.4
comp=N,3µm,18.8s
comp=E,1µm,15.6s
comp=Z,3µm,19.6s
BRG Berggiesshubel 82.26 25⇓iP P 20 32 43.4 +0.8
BRG 20 35 57.0
BRG 20 43 06.0
BRG SS SS 20 48 16.0 +0.4
BRG pmax pmax
comp=Z,39nm,1.1s
BRG pmax pmax
comp=Z,90nm,1.4s
BRG MLR MLR
comp=N,3µm,18.8s
BRG MLR MLR
comp=E,1µm,15.6s
BRG MLR MLR

comp=Z,3µm,19.6s
BRG Berggiesshubel 82.26 25 eP P 20 32 43.6 +1.0
comp=Z,15nm,0.9s
HINF Hinteralfeld 82.31 30⇑iP P 20 32 43.1 +0.1
comp=Z,83nm,1.4s
HINF Hinteralfeld 82.31 30⇑iP P 20 32 43.1 +0.1
HINF pmax pmax
comp=Z,83nm,1.4s
HINF Hinteralfeld 82.31 30⇑iP P 20 32 43.1 +0.1
comp=Z,83nm,1.4s
GRF Grafenberg Arr 82.36 27 eP P 20 32 44.5 +1.3
comp=Z,6.0nm,0.9s
GRF eL L 21 10 04.4
comp=Z,4µm,18.4s
MOF Molkenrain 82.39 30 eP P 20 32 43.6 +0.1
PYM Petit Puy Mans 82.41 34 eP P 20 32 44.6 +0.9
BFO Black Forest 82.45 29 iP P 20 32 45.3 +1.6
BFO Black Forest 82.45 29 eP P 20 32 44.6 +0.9
comp=Z,7.0nm,1.0s
BFO Black Forest 82.45 29 PFAKE 20 32 50.0 +6.3
BFO LR LR
comp=Z,3µm,19.0s
PLDF La Plantade 82.50 33 eP P 20 32 47.0 +2.9
EVOP Sao Brissos 82.51 45 eP P 20 32 43.8 -0.4
EVOP pmax pmax
comp=Z,104nm,1.2s
EVOP Sao Brissos 82.51 45 eP P 20 32 43.8 -0.4
comp=Z,104nm,1.2s
BJI Beijing 82.55 317 S S 20 43 03.0 +2.8
BJI Beijing 82.55 317 SS SS 20 48 19.6 -1.0
BJI pmax pmax
comp=Z,20nm,2.0s
BJI pmax pmax
comp=Z,300nm,7.3s
BJI AMB AMB
comp=Z,260nm,3.7s
BJI LR LR
comp=E,2µm,27.6s
BJI LR LR
comp=N,2µm,27.6s
BJI LR LR
comp=Z,610nm,26.8s
PESTR Estremoz 82.55 44 eP P 20 32 44.0 -0.4
comp=Z,76nm,1.5s
BJT Baijiatuau 82.57 317 PFAKE 20 32 50.0 +5.5
BJT LR LR
comp=Z,997nm,19.0s
EVO Evora 82.57 45 eP P 20 32 43.8 -0.7
comp=Z,104nm,1.2s
EVO eR
comp=Z,4µm,21.5s
EVO Evora 82.57 45 eP P 20 32 44.9 +0.4
comp=Z,82nm,1.5s
PNCL Nicolau / Gran 82.59 45 eP P 20 32 44.7 +0.1
comp=Z,96nm,1.9s
PNCL Nicolau / Gran 82.59 45 ePP PP 20 35 54.0 +0.5
ROTZ Rotzenmuhle 82.63 26 eP P 20 32 45.6 +1.0
comp=Z,5.0nm,1.0s
ZALV Zalesovo Beam 82.64 343 P P 20 32 45.4 +0.9
ZALV pmax pmax
comp=Z,5.0nm,0.8s
ZALV MLR MLR
comp=Z,1µm,21.7s
ZALV Zalesovo Beam 82.64 343 P P 20 32 45.4 +0.9
comp=Z,5.3nm,0.8s,baz=20,slow=4.7,SNR=24
ZALV LR LR 21 10 16.7
comp=Z,1µm,21.7s,baz=22,slow=36
MNK Minsk 82.65 16 eP P 20 32 42.0 -2.6
MICGM Minsk 82.66 16 eP P 20 32 42.0 -2.6
CAF Calviac 82.66 35⇑iP P 20 32 44.5 -0.4
comp=Z,94nm,1.3s
CAF Calviac 82.66 35⇑iP P 20 32 44.5 -0.4
CAF pmax pmax
comp=Z,94nm,1.3s
CAF Calviac 82.66 35⇑iP P 20 32 44.5 -0.4
comp=Z,94nm,1.3s
PVCC Panska Ves 82.76 25 eP P 20 32 45.7 +0.5
PVCC MLR MLR
comp=Z,3µm,22.6s
PVCC Panska Ves 82.76 25 eP P 20 32 45.7 +0.5
PVCC esP sP 20 32 55.1 +1.0
PVCC AMS AMS 21 07 40.0
comp=Z,3µm,22.6s
PTEO Sao Teotonio 82.89 46 ePP PP 20 35 56.5 +0.5
LBL Lubilhac 82.93 34 eP P 20 32 48.2 +1.9
MESJ Messejana 82.96 45 eP P 20 32 46.4 -0.1
MESJ eS S 20 43 04.5 0.0
MESJ AMS AMS 21 04 20.8
comp=N,5µm,23.1s
MESJ Messejana 82.96 45 eP P 20 32 46.4 -0.1
MESJ eS S 20 43 04.5 0.0
CABF La Chapelle 83.00 32⇑iP P 20 32 47.3 +0.6
comp=N,154nm,1.3s
CABF La Chapelle 83.00 32⇑iP P 20 32 47.3 +0.6
CABF pmax pmax
comp=Z,154nm,1.3s
CABF La Chapelle 83.00 32⇑iP P 20 32 47.3 +0.6
comp=Z,154nm,1.3s
PBEJ Beja 83.02 45 eP P 20 32 47.2 +0.4
comp=Z,62nm,1.9s
KSP Ksiaz 83.02 24⇑eP P 20 32 47.3 +0.7
KSP e*PP pP 20 32 56.5 +3.4
KSP eS S 20 43 04.0 -0.7
KSP MLR MLR
comp=Z,13µm,19.8s
KSP Ksiaz 83.02 24 eP P 20 32 47.3 +0.7
KSP epP pP 20 32 56.8 +3.7
KSP eS S 20 43 05.9 +1.2
KSP LMZ LR 21 03 32.8
ETSF Etsaut 83.05 38⇑iP P 20 32 47.6 +0.6
comp=Z,87nm,1.3s
ETSF Etsaut 83.05 38⇑iP P 20 32 47.6 +0.6
ETSF pmax pmax
comp=Z,87nm,1.3s
ETSF Etsaut 83.05 38⇑iP P 20 32 47.6 +0.6
comp=Z,87nm,1.3s
SVE Sverdlovsk 83.06 357⇑iP P 20 32 46.8 +0.1
SVE e 20 35 56.7
SVE eS S 20 43 04.3 -0.5
SVE e 20 48 26.4
SVE pmax pmax
comp=Z,49nm,1.1s
SVE MLR MLR
comp=Z,2µm,25.0s
MORF Marmelete 83.11 46 eP P 20 32 47.3 -0.1
MORF eS S 20 43 06.2 +0.1
MORF AMS AMS 21 04 04.8
comp=N,6µm,22.6s
MORF Marmelete 83.11 46 eP P 20 32 48.2 +0.8
comp=N,144nm,1.9s
MORF Marmelete 83.11 46 eP P 20 32 47.3 -0.1
MORF eS S 20 43 06.2 +0.1
PRA Prague 83.11 25 ⇑P P 20 32 48.0 +0.9
MOS Moscow 83.11 10 eP P 20 32 52.7 +5.8
MOS pmax pmax
comp=Z,49nm,1.0s
MOS MLR MLR
comp=Z,3µm,20.0s
PFVI Vila Bisbo 83.14 46 eP P 20 32 59.6 +12
PCVE Castro Verde 83.21 46 eP P 20 32 48.1 +0.3
comp=Z,101nm,2.1s
PCVE Castro Verde 83.21 46 ePP PP 20 35 57.8 -0.8
PRU Pruhonice 83.22 25 eP P 20 32 48.1 +0.5
PRU e 20 43 10.2
PRU eSS SS 20 48 34.0 +4.2
PRU MLR MLR
comp=Z,3µm,16.5s
PRU Pruhonice 83.22 25 eP P 20 32 48.1 +0.5
PRU esP sP 20 32 58.1 +1.6
PRU ex x 20 36 09.1
PRU eS SKSac 20 43 10.2 +1.7
PRU eSS SS 20 48 34.0 +4.2
PRU AMS AMS 21 11 50.0
comp=Z,3µm,16.5s
UPC Upice 83.23 24 eP P 20 32 48.4 +0.7
UPC Upice 83.23 24 eP P 20 32 48.4 +0.7
UPC esP sP 20 32 58.1 +1.6
PBAR Barrancos 83.35 45 eP P 20 32 48.9 +0.4
comp=Z,190nm,1.7s
PBAR Barrancos 83.35 45 ePP PP 20 35 59.6 -0.2
EPF Esparros 83.37 37⇑iP P 20 32 48.6 0.0
comp=Z,162nm,1.7s
EPF Esparros 83.37 37⇑iP P 20 32 48.6 0.0
EPF pmax pmax
comp=Z,162nm,1.7s

EPF Esparros 83.37 37⇑iP P 20 32 48.6 0.0
comp=Z,162nm,1.7s
WET Wettzell 83.39 26 eP P 20 32 49.6 +1.0
comp=Z,3.0nm,1.0s
WET epP pP 20 32 56.2 +1.1
BEL Belsk 83.43 21 eP P 20 32 49.5 +0.8
BEL MLR MLR
comp=Z,3µm,16.9s
BEL Belsk 83.43 21 eP P 20 32 49.5 +0.8
BEL epP pP 20 32 58.9 +3.7
BEL ePcP pwP 20 33 01.2 +6.0
BEL LMZ LR 21 16 50.1
SSB Saint Sauveur 83.44 33 PFAKE 20 33 00.0 +11
SSB LR LR
comp=Z,2µm,19.0s
DPC Dobruska-Polom 83.46 24 eP P 20 32 49.7 +0.7
DPC e 20 43 12.6
DPC eSS SS 20 48 37.8 +4.2
DPC Dobruska-Polom 83.46 24 eP P 20 32 49.7 +0.7
DPC esP sP 20 32 59.8 +2.0
DPC eS SKKSac 20 43 12.6 -2.2
DPC eSS SS 20 48 37.8 +4.3
DPC AMS AMS 21 09 30.0
ARU Arti 83.52 358 P P 20 32 48.8 -0.3
comp=Z,258nm,1.0s,SNR=6.8
ARU Arti 83.52 358c iP P 20 32 48.7 -0.3
ARU 20 35 59.9
ARU S S 20 43 09.4 -0.1
ARU pmax pmax
comp=Z,45nm,1.7s
ARU MLR MLR
comp=Z,1µm,21.0s
ARU Arti 83.52 358 eP P 20 32 48.6 -0.5
comp=Z,39nm,0.9s
ARU LR LR
comp=Z,1µm,20.0s
RESF Ens 83.54 37 eP P 20 32 50.5 +0.9
PVAQ Vaqueiros 83.55 45 eP P 20 32 50.5 +0.9
PVAQ Vaqueiros 83.55 45 ePP PP 20 35 50.2 -11
PVAQ Vaqueiros 83.55 45 eLQ LQ 20 56 49.4
PVAQ eLR LR 21 00 28.2
comp=Z,2µm,20.0s
OBN Obninsk 83.58 11⇑iP P 20 32 49.3 0.0
OBN i 20 32 58.5
OBN e 20 36 07.1
OBN iS S 20 43 16.1 +6.1
OBN pmax pmax
comp=Z,63nm,1.3s
OBN MLR MLR
comp=Z,3µm,19.0s
OBN Obninsk 83.58 11 eP P 20 32 49.1 -0.2
comp=Z,52nm,1.2s
OBN LR LR
comp=Z,3µm,19.0s
KHC Kasperske Hory 83.64 26 eP P 20 32 45.5 -4.4
KHC e 20 32 50.1
KHC e 20 36 05.4
KHC e 20 43 16.1
KHC eSS SS 20 48 40.6 +4.4
KHC MLR MLR
comp=Z,3µm,20.4s
KHC Kasperske Hory 83.64 26 eP P 20 32 45.5 -4.4
KHC ex x 20 32 50.1
KHC esP sP 20 32 59.7 +1.0
KHC ePP PP 20 36 05.4 +3.6
KHC eS SKKSac 20 43 16.1 0.0
KHC eSS SS 20 48 40.6 +4.4
KHC AMS AMS 21 08 30.0
comp=Z,3µm,20.4s
KHC Kasperske Hory 83.64 26 eP P 20 32 49.7 -0.2
comp=Z,77nm,1.6s
PAB San Pablo 83.75 42 eP P 20 32 50.4 -0.3
PAB pmax pmax
comp=Z,147nm,1.5s
PAB MLR MLR
comp=Z,5µm,19.0s
PAB San Pablo 83.75 42 eP P 20 32 50.4 -0.3
comp=Z,147nm,1.5s
PAB LR LR
comp=Z,5µm,19.0s
VIVF Saint-Julien-l 83.83 33⇑iP P 20 32 51.2 +0.2
comp=Z,210nm,1.6s
VIVF Saint-Julien-l 83.83 33⇑iP P 20 32 51.2 +0.2
VIVF pmax pmax
comp=Z,210nm,1.6s
VIVF Saint-Julien-l 83.83 33⇑iP P 20 32 51.2 +0.2
comp=Z,210nm,1.6s
KRLC Kraliky 83.84 24 eP P 20 32 51.6 +0.7
KRLC Kraliky 83.84 24 eP P 20 32 51.6 +0.7
KRLC esP sP 20 33 01.6 +1.8
ESDC Sonseca Array 83.85 42 P P 20 32 51.8 +0.7
comp=Z,37nm,1.1s,baz=312,slow=4.6,SNR=68
ESDC LR LR 21 08 06.8
comp=Z,3µm,18.6s,baz=325,slow=34
DAVA Damuels 83.90 29⇓iPcP P 20 32 52.3 +0.9
comp=Z,54nm,1.2s,SNR=7.7
GEC2 GERESS Array S 83.93 26 eP P 20 32 52.2 +0.8
comp=Z,13nm,1.1s
GERES GERESS Array B 83.93 26 P P 20 32 52.0 +0.6
GERES pmax pmax
comp=Z,7.0nm,1.0s
GERES MLR MLR
comp=Z,3µm,18.5s
GERES GERESS Array B 83.93 26 P P 20 32 52.0 +0.6
comp=Z,7.3nm,1.0s,baz=343,slow=4.2,SNR=38
GERES LR LR 21 11 45.9
comp=Z,3µm,18.5s,baz=316,slow=37
RSL Roselend 83.96 32 eP P 20 32 52.5 +0.7
MTLF Montolieu 83.98 36⇑iP P 20 32 51.7 0.0
comp=Z,267nm,1.7s
MTLF Montolieu 83.98 36⇑iP P 20 32 51.7 0.0
MTLF pmax pmax
comp=Z,267nm,1.7s
MTLF Montolieu 83.98 36⇑iP P 20 32 51.7 0.0
comp=Z,267nm,1.7s
LASF Ste Croix 84.11 34⇑iP P 20 32 52.6 +0.2
comp=Z,176nm,1.4s
LASF Ste Croix 84.11 34⇑iP P 20 32 52.6 +0.2
comp=Z,176nm,1.4s
TREC Trest 84.12 25 eP P 20 32 52.8 +0.5
TREC e 20 36 02.9
TREC MLR MLR
comp=Z,3µm,21.8s
TREC Trest 84.12 25 eP P 20 32 52.8 +0.5
TREC esP sP 20 33 02.6 +1.4
TREC ePP PP 20 36 02.9 -2.8
TREC AMS AMS 21 08 20.0
comp=Z,3µm,21.8s
LPL La Plagne 84.15 32⇑iP P 20 32 53.6 +0.8
comp=Z,171nm,1.5s
LPL La Plagne 84.15 32⇑iP P 20 32 53.6 +0.8
LPL pmax pmax
comp=Z,171nm,1.5s
LPL La Plagne 84.15 32⇑iP P 20 32 53.6 +0.8
comp=Z,171nm,1.5s
LPG La Plagne 84.17 32⇑iP P 20 32 54.0 +1.0
comp=Z,172nm,1.4s
LPG La Plagne 84.17 32⇑iP P 20 32 54.0 +1.0
LPG pmax pmax
comp=Z,172nm,1.4s
LPG La Plagne 84.17 32⇑iP P 20 32 54.0 +1.0
comp=Z,172nm,1.4s
HHC Hu-ho-hao-te 84.25 321 ⇓P P 20 32 54.4 +1.1
HHC pP pP 20 32 59.7 -0.1
HHC sP sP 20 33 02.2 +0.1
HHC PP PP 20 36 07.5 +0.3
HHC SKS SKSac 20 43 14.0 -1.9
HHC S S 20 43 16.5 -1.2
HHC sS sS 20 43 25.2 -3.3
HHC pmax pmax
comp=Z,46nm,1.4s
HHC LR LR
comp=Z,2µm,18.7s
HHC LR LR
comp=Z,2µm,21.1s
HHC LR LR
comp=Z,2µm,17.4s
ORIF Oris-en-Rattie 84.29 33⇑iP P 20 32 53.7 +0.4
comp=Z,235nm,1.6s
ORIF eR
comp=Z,5µm,20.0s
ORIF Oris-en-Rattie 84.29 33⇑iP P 20 32 53.7 +0.4
ORIF pmax pmax
comp=Z,235nm,1.6s
ORIF Oris-en-Rattie 84.29 33⇑iP P 20 32 53.7 +0.4
comp=Z,235nm,1.6s
OG26 St.-Nazaire-De 84.32 33 eP P 20 32 54.8 +1.3
DAVOX Davos/Dischmat 84.33 29 P P 20 32 54.9 +1.2
baz=318,slow=8.4
MORC Moravsky Berou 84.34 23 ⇑P P 20 32 54.3 +0.8
MORC Moravsky Berou 84.34 23⇑iP P 20 32 54.3 +0.8
MORC Moravsky Berou 84.34 23 eP P 20 32 53.2 -0.2
comp=Z,80nm,1.5s
TUE Stuetta 84.38 30 eP P 20 32 55.5 +1.5
comp=Z,190nm,1.6s
TUE LR LR
comp=Z,5µm,21.0s
FETA Feichten 84.44 29 i PcP P 20 32 55.4 +1.3
comp=Z,72nm,1.4s,SNR=7.2
VRAC Vranov 84.46 24 ⇑P P 20 32 55.1 +1.1
VRAC Vranov 84.46 24⇑iP P 20 32 55.1 +1.1
OKC Ostrava-Krasne 84.47 23 eP P 20 32 54.4 +0.4
OKC e 20 43 20.6
OKC eSS SS 20 48 50.7 +2.4
OKC MLR MLR
comp=Z,2µm,17.1s
OKC Ostrava-Krasne 84.47 23 eP P 20 32 54.4 +0.4
OKC esP sP 20 33 04.2 +1.3
OKC eS S 20 43 20.6 +1.3
OKC eSS SS 20 48 50.7 +2.4
OKC AMS AMS 21 11 40.0
comp=Z,2µm,17.1s
WATA Walderalm 84.48 28⇑iPcP P 20 32 55.3 +1.0
comp=Z,104nm,1.6s,SNR=7.2
BNI Bardonecchia 84.51 32 eP P 20 32 55.6 +1.1
BNI pmax pmax
comp=Z,131nm,1.4s
BNI MLR MLR
comp=Z,5µm,19.0s
BNI Bardonecchia 84.51 32 eP P 20 32 55.6 +1.1
comp=Z,131nm,1.4s
BNI LR LR
comp=Z,5µm,19.0s
WTTA Wattenberg 84.56 28 i PcP P 20 32 55.8 +1.0
comp=Z,112nm,1.8s,SNR=9.5
RJOB Jochberg 84.57 27 eP P 20 32 55.8 +1.1
comp=Z,9.0nm,1.0s
OJC Ojcow 84.61 22⇑eP P 20 32 55.2 +0.5
OJC e 20 33 04.3
OJC eS S 20 43 23.6 +2.9
OJC MLR MLR
comp=Z,4µm,20.0s
OJC Ojcow 84.61 22 eP P 20 32 55.2 +0.5
OJC e 20 33 04.3
OJC eS S 20 43 23.6 +2.9
OJC L L 21 10 38.0
comp=Z,4µm,20.0s
OG22 Abries 84.80 32 eP P 20 32 59.1 +3.0
MBDF Montbardon 84.81 32⇑iP P 20 32 56.7 +0.6
comp=Z,201nm,1.4s
MBDF Montbardon 84.81 32⇑iP P 20 32 56.7 +0.6
MBDF pmax pmax
comp=Z,201nm,1.4s
MBDF Montbardon 84.81 32⇑iP P 20 32 56.7 +0.6
comp=Z,201nm,1.4s
SMRF Simiane la Rot 84.93 33⇑iP P 20 32 57.0 +0.5
comp=Z,242nm,1.7s
SMRF Simiane la Rot 84.93 33⇑iP P 20 32 57.0 +0.5
comp=Z,242nm,1.7s
HNR Honiara 84.95 253 LR LR 21 05 34.7
comp=Z,784nm,20.6s,baz=42,slow=32
MOA Molln 84.98 26⇓iPcP P 20 32 57.2 +0.5
comp=Z,65nm,1.6s,SNR=6.2
ABTA Abfaltersbach 85.32 28⇑iPcP P 20 32 58.9 +0.4
comp=Z,56nm,1.1s,SNR=9.2
KBA Koelnbreinsper 85.33 27 i PcP P 20 32 59.2 +0.6
comp=Z,68nm,1.7s,SNR=15
LCO Las Campanas 85.40 135 PFAKE 20 33 10.0 +11
LCO LR LR
comp=Z,979nm,19.0s
CONA Conrad Observa 85.44 25⇑iPcP P 20 32 59.8 +0.7
comp=Z,80nm,1.5s,SNR=21
NIE Niedzica 85.48 22⇑eP P 20 33 00.0 +0.8
NIE Niedzica 85.48 22 eP P 20 33 00.0 +0.8
TOUF Mont Tournerai 85.59 32 eP P 20 33 00.7 +0.7
CALN Calern 85.66 33 eP P 20 33 02.0 +1.7
AUTN L'Aution 85.68 32 eP P 20 33 02.4 +1.9
FRF La Foret Royal 85.72 33⇑iP P 20 33 00.3 -0.1
comp=Z,262nm,1.5s
FRF La Foret Royal 85.72 33⇑iP P 20 33 00.3 -0.1
FRF pmax pmax
comp=Z,262nm,1.5s
FRF La Foret Royal 85.72 33⇑iP P 20 33 00.3 -0.1
comp=Z,262nm,1.5s
STHS Stebnicka Huta 85.74 21 eP P 20 33 01.2 +0.7
STHS pmax pmax
comp=Z,22nm,1.1s
STHS Stebnicka Huta 85.74 21 eP P 20 33 01.2 +0.7
MYKA Terra Mystica 85.82 27⇑iPcP P 20 33 01.2 +0.3
comp=Z,38nm,1.1s
LMR La Mourre 85.84 33⇑iP P 20 33 01.0 0.0
comp=Z,155nm,1.3s
LMR La Mourre 85.84 33⇑iP P 20 33 01.0 0.0
LMR pmax pmax
comp=Z,155nm,1.3s
LMR La Mourre 85.84 33⇑iP P 20 33 01.0 0.0
comp=Z,155nm,1.3s
REVF Revere 85.87 33 eP P 20 33 01.5 +0.3
SOP Sopron 85.88 25 eP P 20 33 02.4 +1.3
ARSA Arzberg 85.92 26⇑iPcP P 20 33 02.0 +0.6
comp=Z,30nm,1.1s,SNR=11
KWP Kalwaria Pacla 85.94 20 eP P 20 33 02.4 +1.0
KWP eS S 20 43 36.1 +2.2
KWP MLR MLR
comp=Z,2µm,24.6s
KWP Kalwaria Pacla 85.94 20 eP P 20 33 02.4 +1.0
KWP epP pP 20 33 12.5 +4.5
KWP eS S 20 43 36.1 +2.2
KWP LMZ LR 21 08 27.8
KWP Kalwaria Pacla 85.94 20 eP P 20 33 01.7 +0.2
comp=Z,317nm,1.9s
KWP LR LR
comp=Z,2µm,22.0s
BRVK Borovoye 86.02 351c iP P 20 33 02.3 +0.6
BRVK pmax pmax
comp=Z,33nm,0.9s
BRVK Borovoye 86.02 351 PFAKE 20 33 10.0 +8.3
BRVK LR LR
comp=Z,2µm,20.0s
BVA0 Borovoye Array 86.04 351 i P P 20 33 02.6 +0.7
BVA0 pmax pmax
comp=Z,412nm,2.8s
BVAR Borovoye Array 86.04 351 PKKPbc PKKPbc 20 50 59.5 -1.3
comp=Z,0.6nm,0.8s,baz=180,slow=1.2,SNR=4.1
LVV L'vov 86.12 20 eP P 20 33 01.0 -1.3
LVV MLR MLR
comp=N,2µm,17.0s
LVV MLR MLR
comp=Z,2µm,17.0s
LVV MLR MLR
comp=E,900nm,18.0s
TIY Taiyuan 86.22 318 eP P 20 33 04.3 +1.2
TIY LR LR
comp=E,1µm,14.2s
TIY LR LR
comp=E,390nm,12.9s
TIY LR LR
comp=E,1µm,17.7s
SSE Sheshan 86.22 308 eP P 20 33 00.7 -2.4
SSE S S 20 43 33.6 -3.6
SSE pmax pmax
comp=E,14nm,0.7s
SSE pmax pmax
comp=E,96nm,4.4s
SSE LR LR
comp=E,1µm,22.9s
SSE LR LR
comp=E,180nm,22.9s
SSE LR LR
comp=E,410nm,24.0s
CRVS Cervenica-Dubn 86.27 21 eP P 20 33 03.3 +0.2
CRVS pmax pmax
comp=Z,17nm,1.5s
CRVS Cervenica-Dubn 86.27 21 eP P 20 33 03.3 +0.2
KECS Kecovo 86.37 22 eP P 20 33 04.0 +0.5
KECS pmax pmax
comp=Z,9.0nm,1.0s
KECS Kecovo 86.37 22 eP P 20 33 04.0 +0.5
KOLS Kolonicke sedl 86.46 21 eP P 20 33 04.4 +0.4
KOLS pmax pmax
comp=Z,23nm,1.5s
KOLS Kolonicke sedl 86.46 21 eP P 20 33 04.4 +0.4
CRNS Crni Vrh 86.51 27 i P P 20 33 03.9 -0.4
CRNS e 20 33 16.6
AKASG Malin Array Be 86.51 16 P P 20 33 03.6 -0.6
AKASG pmax pmax
comp=Z,23nm,0.9s
AKASG MLR MLR
comp=Z,18nm,28.6s
AKASG Malin Array Be 86.51 16 P P 20 33 03.6 -0.6
comp=Z,23nm,0.9s,baz=334,slow=4.1,SNR=80
AKASG LR LR 21 13 05.4
comp=Z,2µm,19.1s,baz=345,slow=37
KIEV Kiev 86.52 16c iP P 20 33 03.5 -0.7
KIEV Kiev 86.52 16 eP P 20 33 03.1 -1.1
comp=Z,240nm,1.8s
KIEV LR LR
comp=Z,2µm,20.0s
RTC Rabat Centre 86.53 47 PFAKE 20 33 10.0 +5.4
RTC LR LR
comp=Z,3µm,21.0s
TRI Trieste 86.65 28 eP P 20 33 04.8 -0.2
TRI pmax pmax
comp=Z,128nm,1.7s
TRI Trieste 86.65 28 eP P 20 33 04.8 -0.2
comp=Z,128nm,1.7s
PSZ Piszkesteto 86.70 23 ⇓P P 20 33 06.6 +1.3
PSZ Piszkesteto 86.70 23⇓iP P 20 33 06.6 +1.3
PSZ Piszkesteto 86.70 23 eP P 20 33 06.2 +0.9
comp=Z,152nm,1.7s
PSZ LR LR
comp=Z,4µm,19.0s
PSZ Piszkesteto 86.70 23 eP P 20 33 06.4 +1.1
PKSG 86.72 24 eP P 20 33 06.6 +1.3
VLC Villacollemand 86.72 30 PFAKE 20 33 20.0 +15
VLC LR LR
comp=Z,6µm,20.0s
PKST T^'s 86.72 24 eP P 20 33 07.3 +2.0
UZH Uzhgorod 86.75 21 eP P 20 33 02.6 -2.8
UZH e 20 33 06.2
UZH e 20 36 22.8
UZH e 20 38 25.2
UZH eS S 20 43 35.0 -6.7
UZH e 20 44 37.0
UZH MLR MLR
comp=N,1µm,12.0s
UZH MLR MLR
comp=E,1µm,12.0s
UZH MLR MLR
comp=Z,700nm,12.0s
NJ2 Nanjing 86.92 310 eP P 20 33 07.1 +0.6
NJ2 pP PcP 20 33 10.3 +1.6
NJ2 sP sP 20 33 11.9 -3.5
NJ2 S S 20 43 44.0 +0.1
NJ2 sS ScS 20 43 50.5 -1.2
NJ2 pmax pmax
comp=Z,20nm,1.1s
NJ2 pmax pmax
comp=Z,660nm,5.4s
NJ2 LR LR
comp=Z,670nm,23.5s
NJ2 LR LR
comp=Z,830nm,29.5s
NJ2 LR LR
comp=Z,440nm,24.4s
KURK Kurchatov 86.98 345 PKKPbc PKKPbc 20 50 56.2 -2.3
KURK LR LR
comp=Z,613nm,19.0s
KURBB Kurchatov Arra 87.09 345 PKKPbc PKKPbc 20 50 56.2 -2.0
comp=Z,0.6nm,0.8s,baz=224,slow=2.8,SNR=5.1
PGF Pioggiola 87.52 32⇑iP P 20 33 09.4 0.0
comp=Z,71nm,1.2s
PGF Pioggiola 87.52 32⇑iP P 20 33 09.4 0.0
PGF pmax pmax
comp=Z,71nm,1.2s
PGF Pioggiola 87.52 32⇑iP P 20 33 09.4 0.0
comp=Z,71nm,1.2s
VSR Storozhevoye 87.73 10 eP P 20 33 08.5 -1.6
VSR eS SKSac 20 43 37.2 +0.2
VSR pmax pmax
comp=N,40nm,1.3s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR pmax pmax
comp=Z,50nm,1.3s
VSR smax smax
comp=N,300nm,4.2s
VSR smax smax
comp=E,290nm,4.2s
VSR smax smax
comp=Z,390nm,4.2s
VSR MLR MLR
comp=N,2µm,19.0s
VSR MLR MLR
comp=E,590nm,19.0s
VSR MLR MLR
comp=Z,3µm,19.0s
PKSM Moragy 87.85 24 ⇓P P 20 33 11.0 +0.3
PKSM Moragy 87.85 24⇓iP P 20 33 11.0 +0.3
PKSM Moragy 87.85 24 eP P 20 33 10.7 0.0
VRHR Novokhopersk 88.15 8 eP P 20 33 10.3 -1.8
VRHR eS SKSac 20 43 38.4 -1.1
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,8.0nm,1.0s
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR smax smax
comp=N,120nm,2.3s
VRHR smax smax
comp=E,80nm,2.3s
VRHR smax smax
comp=Z,70nm,2.3s
VRHR MLR MLR
comp=N,1µm,18.0s
VRHR MLR MLR
comp=E,750nm,18.0s
VRHR MLR MLR
comp=Z,2µm,18.0s
BURAR Bucovina Array 88.46 20 ⇑P P 20 33 13.5 -0.3
BURAR Bucovina Array 88.46 20⇑iP P 20 33 13.5 -0.3
SACV Santiago Islan 88.79 71 PFAKE 20 33 30.0 +14
SACV LR LR
comp=Z,3µm,20.0s
DZM Mont Dzumac 89.03 240 ePP PP 20 36 44.8 -2.2
comp=Z,136nm,25.8s
DZM eS S 20 44 03.3 -1.0
comp=Z,821nm,26.4s
DZM Mont Dzumac 89.03 240 eLQ LQ 20 56 54.6
comp=Z,3µm,40.4s
DZM eLR LR 21 01 38.0
comp=Z,6µm,29.1s
DZM Mont Dzumac 89.03 240 P P 20 33 17.1 +0.4
comp=Z,6.5nm,0.8s,baz=99,slow=16,SNR=3.3
DZM LR LR 21 04 44.0
comp=Z,2µm,21.8s,baz=42,slow=30
BZS Buzias 89.29 23 ⇑P P 20 33 17.9 +0.3
BZS Buzias 89.29 23⇑iP P 20 33 17.9 +0.3
AQU L'Aquila 89.41 30 eP P 20 33 18.4 +0.1
AQU pmax pmax
comp=Z,15nm,0.9s
AQU MLR MLR
comp=Z,3µm,20.0s
AQU L'Aquila 89.41 30 eP P 20 33 18.4 +0.1
comp=Z,16nm,0.9s
AQU LR LR
comp=Z,3µm,20.0s
AKTO Aktyubinsk 89.54 358 P P 20 33 17.5 -1.2
AKTO pmax pmax
comp=Z,11nm,0.8s
GZR Gura Zlata 89.83 22 ⇓P P 20 33 20.1 -0.1
GZR Gura Zlata 89.83 22⇓iP P 20 33 20.1 -0.1
MK31 Makanchi Array 89.89 342 i P P 20 33 21.1 +0.7
MK31 pmax pmax
comp=Z,39nm,1.5s
MKAR Makanchi Array 89.89 342 P P 20 33 20.8 +0.4
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 89.89 342 P P 20 33 20.8 +0.4
comp=Z,1.3nm,0.7s,baz=39,slow=4.8,SNR=13
KIS Kishinev 89.91 18 eP P 20 33 20.0 -0.4
KIS eS S 20 44 10.0 -1.8
KIS ePS PnS 20 45 17.0 -1.7
KIS MLR MLR
comp=Z,2µm,22.0s
KIS MLR MLR

comp=E,1μm,20.0s
KIS MLR MLR
comp=Z,1μm,23.0s
KIS Kishinev 89.91 18 *e*P **P** **20 33 20.0 -0.4**
KIS Kishinev 89.91 18 *e*PP PP 20 37 05.0 +13
KIS *e*SKS SKSac 20 43 26.0 -24
KIS *e*S **S** **20 44 10.0 -1.8**
KIS Kishinev 89.91 18 *e*PS PS 20 45 17.0 -2.2
KIS LRM MLR 21 10 40.0
comp=Z,1μm,23.0s
VSL Villasalto 90.23 34 PFAKE 20 33 30.0 +7.9
VSL LR LR
comp=Z,1μm,19.0s
BDFB Brasilia 90.33 110 P **P** **20 33 23.7 +0.8**
BDFB pmax pmax
comp=Z,7.0nm,1.0s
BDFB MLR MLR
comp=Z,2μm,21.1s
BDFB Brasilia 90.33 110 P **P** **20 33 23.6 +0.8**
comp=Z,6.8nm,1.0s,baz=346,slow=5.5,SNR=4.1
BDFB LR LR 21 17 27.9
comp=Z,2μm,21.1s,baz=306,slow=38
ARR Arges 90.38 21⇑*i*P **P** **20 33 23.0 +0.2**
TATO Taipei 90.39 304 PFAKE 20 33 30.0 +6.9
TATO LR LR
comp=Z,1μm,20.0s
VRI Vrincioaia 90.47 19 ⇑P **P** **20 33 22.3 -0.8**
VRI Vrincioaia 90.47 19⇑*i*P **P** **20 33 22.3 -0.8**
MLR Muntele Rosu 90.61 20 ⇑P **P** **20 33 23.8 -0.1**
MLR Muntele Rosu 90.61 20⇑*i*P **P** **20 33 23.8 -0.1**
WHN Wuhan 90.62 312 P **P** **20 33 24.5 +0.5**
WHN SKS **SKSac** **20 43 54.2 -0.5**
WHN LR LR
comp=Z,2μm,13.1s
WHN LR LR
comp=Z,3μm,21.6s
WHN LR LR
comp=Z,3μm,21.5s
AB31 Akbulak array 90.65 357 *i* P **P** **20 33 24.1 +0.2**
AB31 pmax pmax
comp=Z,63nm,1.3s
ABKAR Akbulak array 90.65 357 *e*P **P** **20 33 24.7 +0.8**
comp=Z,26nm,0.9s
YHNB Yeheng 90.68 304 PFAKE 20 33 30.0 +5.4
YHNB LR LR
comp=Z,970nm,21.0s
GTA Gaotai 90.73 327 *e*P **P** **20 33 26.1 +1.5**
GTA pP **pP** **20 33 34.1 +3.0**
GTA sP **sP** **20 33 37.6 +4.1**
GTA SKS **SKSac** **20 43 55.3 -0.1**
GTA S **ScS** **20 44 23.0 -0.4**
GTA pmax pmax
comp=Z,8.0nm,1.8s
GTA pmax pmax
comp=Z,270nm,5.5s
GTA LR LR
comp=Z,2μm,18.5s
GTA LR LR
comp=Z,1μm,18.5s
GTA LR LR
comp=Z,3μm,19.0s
XAN Xi'an 90.86 318 P **P** **20 33 25.9 +0.7**
XAN pP **pP** **20 33 33.7 +1.9**
XAN pmax pmax
comp=Z,2.0nm,0.8s
XAN pmax pmax
comp=Z,24nm,3.6s
XAN LR LR
comp=Z,1μm,28.6s
XAN LR LR
comp=Z,550nm,26.5s
XAN LR LR
comp=Z,110nm,21.4s
WMQ Urumqi 91.19 337 P **P** **20 33 26.6 0.0**
WMQ pP **pP** **20 33 31.4 -1.7**
WMQ sP **sP** **20 33 33.6 -1.9**
WMQ PP **PP** **20 37 05.4 +2.8**
WMQ SKS **SKSac** **20 43 56.2 -1.6**
WMQ S **S** **20 44 19.3 -4.5**
WMQ pmax pmax
comp=Z,41nm,1.6s
WMQ LR LR
comp=Z,2μm,16.2s
WMQ LR LR
comp=Z,2μm,18.4s
WMQ LR LR
comp=Z,1μm,19.6s
CPUP Villa Florida 91.31 124 P **P** **20 33 26.6 -0.5**
CPUP pmax pmax
comp=Z,4.0nm,0.7s
CPUP Villa Florida 91.31 124 P **P** **20 33 26.6 -0.5**
comp=Z,4.1nm,0.7s,baz=316,slow=7.2,SNR=4.6
LZH Lanzhou 91.71 322 *e*P **P** **20 33 31.1 +1.9**
LZH pP **pP** **20 33 38.9 +3.1**
LZH sP **sP** **20 33 41.9 +3.8**
LZH SKS **SKSac** **20 43 59.4 -1.8**
LZH *e*S **S** **20 44 26.7 -2.3**
LZH sS **sS** **20 44 39.5 -0.4**
LZH pmax pmax
comp=Z,34nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.1s
LZH LR LR
comp=Z,2μm,16.7s
LZH LR LR
comp=Z,1μm,15.1s
LZH LR LR
comp=Z,3μm,17.6s
CUC Castrocucco 92.36 29 PFAKE 20 33 40.0 +8.0
CUC LR LR
comp=Z,2μm,20.0s
VTS Vitosha 92.52 23 ⇑P **P** **20 33 32.9 +0.1**
VTS Vitosha 92.52 23 *e*P **P** **20 33 31.7 -1.1**
VTS Vitosha 92.52 23⇑*i*P **P** **20 33 32.9 +0.1**
RCBR Riachuelo 92.96 95 PFAKE 20 33 50.0 +15
RCBR LR LR
comp=Z,2μm,19.0s
SIM Simferopol' 93.00 15 P P 20 33 41.4 +6.6
SIM 20 37 16.4
SIM 20 44 10.9
SIM SS SS 20 51 09.7 +18
SIM pmax pmax
comp=Z,58nm,8.8s
KEST Kesra 93.36 36 P **P** **20 33 37.4 +0.7**
comp=Z,2.7nm,1.0s,baz=132,slow=8.6,SNR=4.6
KEST LR LR 21 17 05.1
comp=Z,1μm,18.0s,baz=288,slow=36
KEST Kesra 93.36 36 *e*P **P** **20 33 34.9 -1.9**
TIP Timpagrande 93.43 29 PFAKE 20 33 50.0 +13
TIP LR LR
comp=Z,2μm,19.0s
VAY Valandovo 93.48 24 *e*P **P** **20 33 37.5 +0.4**
ENH Enshi 93.52 315 PFAKE 20 33 50.0 +12
ENH LR LR
comp=Z,39nm,20.0s
MMB Musomiste 93.59 23 ⇓P **P** **20 33 37.8 +0.1**
MMB Musomiste 93.59 23⇓*i*P **P** **20 33 37.8 +0.1**
DIM Dimitrovgrad 93.69 22 *e*P **P** **20 33 38.4 +0.4**
CEL Celeste 93.91 30 PFAKE 20 33 50.0 +11
CEL LR LR
comp=Z,3μm,21.0s
PMG Port Moresby 94.46 262 LR LR 21 08 02.3
comp=Z,2μm,22.0s,baz=16,slow=30
URZ Urewera 94.54 222 LR LR 21 08 56.0
comp=Z,978nm,20.2s,baz=32,slow=31
PLCA Paso Flores 94.64 142 LR LR 21 10 18.9
comp=Z,849nm,18.4s,baz=348,slow=32
TKM2 Tokmak 2 95.05 345 *e*P **P** **20 33 44.4 -0.2**
TKM2 pmax pmax
comp=Z,27nm,1.4s
TKM2 MLR MLR
comp=Z,1μm,19.0s
TKM2 Tokmak 2 95.05 345 *e*P **P** **20 33 44.4 -0.2**
comp=Z,26nm,1.4s
TKM2 LR LR
comp=Z,1μm,19.0s
SOC Sochi 95.28 11 *e*P **P** **20 33 42.6 -2.7**
SOC *e* 20 37 34.1
SOC *e* 20 44 18.1
SOC *e* 20 44 59.8
SOC *e*SS SS 20 51 24.0 -0.7
SOC MLR MLR
comp=Z,3μm,21.0s
KIV Kislovodsk 95.31 9 *e*P **P** **20 33 43.8 -1.8**
KIV *e* 20 37 31.5
KIV *e* 20 44 19.6
KIV *e*SS SS 20 51 29.1 +3.7
KIV *e*SSS SSS 20 55 07.9
KIV pmax pmax
comp=Z,15nm,1.0s
KIV pmax pmax
comp=Z,19nm,2.3s
KIV MLR MLR
comp=Z,1μm,20.0s
KIV Kislovodsk 95.31 9 PFAKE 20 34 00.0 +14
KIV LR LR
comp=Z,2μm,21.0s
FRU Bishkek 95.32 346 *e*P P 20 33 50.0 +4.4
FRU *e* 20 37 32.0
WDD Wield Dalam 95.45 32 PFAKE 20 34 00.0 +14
WDD LR LR
comp=Z,2μm,19.0s
AAK Ala-Archa 95.53 346 *e*P **P** **20 33 45.8 -0.9**
AAK pmax pmax
comp=Z,8.0nm,1.4s
AAK Ala-Archa 95.53 346 PFAKE 20 34 00.0 +13
AAK LR LR
comp=Z,1μm,20.0s
KBZ Khabaz 95.56 9 P **P** **20 33 46.8 +0.2**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KBZ MLR MLR
comp=Z,2μm,20.6s
KBZ Khabaz 95.56 9 P **P** **20 33 46.8 +0.2**
comp=Z,8.6nm,0.9s,baz=309,slow=3.0,SNR=8.3
KBZ LR LR 21 18 03.3
comp=Z,2μm,20.6s,baz=326,slow=36
EKS2 Erkin-Say 95.64 346 PFAKE 20 34 00.0 +13
EKS2 LR LR
comp=Z,2μm,19.0s
KK31 Karatay Array 95.75 349 P P 20 33 39.2 -8.3
KK31 pmax pmax
comp=Z,11nm,1.2s
KKAR Karatay Array 95.75 349 *e*P **P** **20 33 47.8 +0.3**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 95.75 349 *e*P **P** **20 33 47.8 +0.3**
comp=Z,4.0nm,0.8s
CD2 Chengdu 95.97 320 P **P** **20 33 47.7 -1.1**
CD2 pP **pP** **20 33 52.5 -2.8**
CD2 sP **sP** **20 33 54.7 -3.0**
CD2 PP **PP** **20 37 41.2 +0.8**
CD2 SKS **SKSac** **20 44 22.3 -2.0**
CD2 S **S** **20 45 01.4 -5.0**
CD2 SS **SS** **20 51 33.9 -1.7**
CD2 pmax pmax
comp=Z,150nm,4.3s
CD2 LR LR
comp=Z,2μm,24.5s
CD2 LR LR
comp=Z,2μm,27.9s
CD2 LR LR
comp=Z,920nm,20.1s
MAK Makhachkala 96.77 6 P P 20 33 47.6 -4.4
MAK *e* 20 37 50.5
MAK *e*PPP PPP 20 39 55.4
MAK *e* 20 44 32.2
MAK *e*PS **PS** **20 46 35.8 +1.2**
MAK *e*SS SS 20 51 44.9 -0.7
MAK *e*SSS SSS 20 55 27.5
MAK MLR MLR
comp=Z,3μm,23.0s
TRQA Tornquist 96.97 135 PFAKE 20 34 00.0 +7.1
TRQA LR LR
comp=Z,1μm,21.0s
ANTO Ankara 97.59 17 PFAKE 20 34 10.0 +14
ANTO LR LR
comp=Z,2μm,20.0s
BRTR Keskin Array B 97.91 17 P **P** **20 33 57.2 -0.3**
comp=Z,2.2nm,0.9s,baz=351,slow=1.4,SNR=6.5
BRTR LR LR 21 22 18.7
comp=Z,824nm,18.5s,baz=328,slow=38
GYA Guiyang 98.04 315⇑*i*P **P** **20 33 57.6 -0.7**
GYA pP **pP** **20 34 03.6 -1.3**
GYA PP **PP** **20 37 56.4 -0.2**
GYA SKS **SKSac** **20 44 30.2 -5.1**
GYA S S 20 45 16.0 -8.5
GYA SS **SS** **20 52 01.0 -4.3**
GYA LR LR
comp=Z,820nm,21.4s
GYA LR LR
comp=Z,680nm,22.6s
GYA LR LR
comp=Z,760nm,21.5s
SNZO South Karori 98.05 221 PFAKE 20 34 10.0 +12
SNZO LR LR
comp=Z,1μm,20.0s
KSH Kashi 98.24 344 *e*P **P** **20 33 57.2 -1.8**
KSH *e*sP **sP** **20 34 08.5 +0.6**
KSH *e*PP **PP** **20 38 00.8 +3.3**
KSH S S 20 45 16.5 -9.3
KSH pmax pmax
comp=Z,110nm,4.6s
KSH LR LR
comp=Z,560nm,14.8s
KSH LR LR
comp=Z,2μm,16.5s
KSH LR LR
comp=Z,420nm,18.7s
TGY Tagaytay City 98.47 296 LR LR 21 10 56.5
comp=Z,31nm,21.4s,baz=301,slow=31
SANT Santorini 98.92 24 PFAKE 20 34 10.0 +8.1
SANT LR LR
comp=Z,2μm,21.0s
ISP Isparta 98.99 19 PFAKE 20 34 10.0 +7.7
ISP LR LR
comp=Z,2μm,19.0s
GNI Garni 99.31 8 PFAKE 20 34 10.0 +6.2
GNI LR LR
comp=Z,960nm,20.0s
DAV Davao City (W) 100.05 288 PFAKE 20 34 20.0 +13
DAV LR LR
comp=Z,1μm,21.0s
KMI Kunming 101.20 317 P **Pdif** **20 34 11.2 -1.3**
KMI pP pP 20 34 16.2 -3.1
KMI sP 20 34 17.7
KMI PP **PP** **20 38 23.4 +2.7**
KMI S **Sdif** **20 45 47.0 -4.3**
KMI pmax pmax
comp=Z,5.0nm,1.0s
KMI pmax pmax
comp=Z,96nm,5.3s
KMI LR LR
comp=Z,850nm,22.1s
KMI LR LR
comp=Z,1μm,22.1s
KMI LR LR
comp=Z,810nm,32.5s
CTAO Charters Tower 101.88 254 PFAKE 20 34 20.0 +4.8
CTAO LR LR
comp=Z,1μm,20.0s
QIZ Qiongzhong 102.02 308 P **Pdif** **20 34 12.2 -3.8**
QIZ S **Sdif** **20 45 53.4 -4.3**
QIZ pmax pmax
comp=Z,16nm,2.2s
QIZ LR LR
comp=Z,980nm,30.3s
QIZ LR LR
comp=Z,250nm,36.8s
QIZ LR LR
comp=Z,840nm,33.9s
QIZ Qiongzhong 102.02 308 PFAKE 20 34 30.0 +14
QIZ LR LR
comp=Z,674nm,19.0s
TAM Tamanrasset 102.04 46 PFAKE 20 34 30.0 +14
TAM LR LR
comp=Z,3μm,21.0s
CSS Prodhromos 102.40 18 PFAKE 20 34 30.0 +13
CSS LR LR
comp=Z,494nm,22.0s
LSA Lhasa 102.68 328 PFAKE 20 34 30.0 +11
LSA LR LR
comp=Z,2μm,19.0s
TOA0 Torodi Ar. Sit 107.33 55 P **PP** **20 39 01.3 -5.1**
baz=107,SNR=6.7
TORD Torodi Ar. Bea 107.33 55 Pdiff **Pdif** **20 34 39.6 0.0**
comp=Z,1.3nm,1.2s,baz=307,slow=5.0,SNR=2.8
TORD PP PKiKP 20 38 53.9 +5.5
comp=Z,8.2nm,1.1s,baz=310,slow=6.5,SNR=7.4
KKM Kota Kinabalu 107.44 294 PFAKE 20 39 00.0
KKM LR LR
comp=Z,1μm,21.0s
TIC Toumodi 107.69 65 *e*P **PP** **20 39 09.7 +0.4**
comp=Z,8.8nm,0.7s
LIC Lamto 107.98 65 *e*P **PP** **20 39 06.5 -4.9**
comp=Z,62nm,1.8s
KIC Kosan Boka 108.09 65 *e*P **PP** **20 39 10.2 -2.0**
comp=Z,100nm,1.7s
CHTO Chiang Mai 108.37 316 PFAKE 20 39 00.0
CHTO LR LR
comp=Z,597nm,20.0s
CMAR Chiang Mai Arr 108.67 316 PKiKP **PKiKP** **20 38 51.4 +0.6**
comp=Z,0.6nm,0.7s,baz=325,slow=4.4,SNR=4.4
CMAR PKKPbc **PKKPbc** **20 49 59.1 +0.8**
comp=Z,0.5nm,0.9s,baz=239,slow=3.9,SNR=4.5
CAN Canberra 109.20 240 PFAKE 20 39 00.0
CAN LR LR
comp=Z,2μm,22.0s
MILA Mila 110.12 238 P **PKiKP** **20 38 51.4 -1.6**
baz=110,SNR=6.9
WRAB Tennant Creek 110.66 261 PFAKE 20 39 00.0
WRAB LR LR
comp=Z,1μm,20.0s
WRA Warramunga Arr 110.67 261 *i* PKIKP **PKiKP** **20 38 53.5 -1.0**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 110.67 261 PKIKP **PKiKP** **20 38 53.5 -1.0**
comp=Z,0.9nm,0.7s,baz=45,slow=1.7,SNR=16
WRA PKKPbc **PKKPbc** **20 49 50.6 -1.4**
comp=Z,0.5nm,0.7s,baz=240,slow=2.9,SNR=5.8
ASCN Ascension 110.73 83 PFAKE 20 39 00.0
ASCN LR LR
comp=Z,3μm,21.0s
STKA Stephens Creek 112.26 247 *i* PKIKP **PKiKP** **20 38 56.7 -0.4**
STKA pmax pmax
comp=Z,1.0nm,0.4s
STKA Stephens Creek 112.26 247 PKiKP **PKiKP** **20 38 56.7 -0.4**
comp=Z,1.0nm,0.4s,baz=18,slow=6.1,SNR=3.4
KAPI Kappang 112.45 283 PFAKE 20 39 10.0
KAPI LR LR
comp=Z,1μm,22.0s
ASAR Alice Springs 113.18 258 PKiKP **PKiKP** **20 38 58.9 -0.3**
comp=Z,0.7nm,0.8s,baz=80,slow=2.1,SNR=8.3
ASAR PKKPbc **PKKPbc** **20 49 44.7 +0.9**
comp=Z,1.4nm,0.6s,baz=224,slow=2.7,SNR=23
TAU Tasmania Unive 114.58 234 PFAKE 20 39 10.0 +8.8
TAU LR LR
comp=Z,2μm,20.0s
KSM Kuching 114.80 295 PFAKE 20 39 10.0 +7.4
KSM LR LR
comp=Z,663nm,22.0s
PMSA Palmer Station 115.05 156 PFAKE 20 39 10.0 +8.6
PMSA LR LR
comp=Z,2μm,22.0s
WRKA Warakurna 118.16 260 P **PKPdf** **20 39 08.8 +0.1**
baz=118,SNR=3.1
KULM Kulim 118.28 306 PFAKE 20 39 20.0 +11
KULM LR LR
comp=Z,486nm,20.0s
HOPE Hope Point 120.67 137 PFAKE 20 39 20.0 +7.5
SHEL Horse Pasture 122.29 84 PFAKE 20 39 30.0 +13
SHEL LR LR
comp=Z,2μm,19.0s
MBWA Marble Bar 122.49 269 PFAKE 20 39 30.0 +13
MBWA LR LR
comp=Z,990nm,21.0s
SBA Scott Base 124.81 194 PFAKE 20 39 30.0 +10
SBA LR LR
comp=Z,1μm,19.0s
VNDA Vanda 125.58 195 PKIKP **PKPdf** **20 39 22.3 +1.0**
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 125.58 195 PKP **PKPdf** **20 39 22.3 +1.0**
comp=Z,2.5nm,0.9s,baz=141,slow=6.5,SNR=3.6
MSKU Masuku 126.20 55 PFAKE 20 39 30.0 +5.5
MEEK Meekatharra 126.35 264 P PKPdf 20 39 36.1 +12
baz=126,SNR=4.2
QSPA South Pole Qui 130.18 180 PFAKE 20 39 40.0 +10
QSPA LR LR
comp=Z,1μm,20.0s
NWAO Narrogin (SRO) 130.50 258 PFAKE 20 39 40.0 +7.9
COCO West Island 133.86 296 PFAKE 20 39 50.0 +11
COCO LR LR
comp=Z,982nm,19.0s
KMBO Kilima Mbogo 137.71 27 PKIKP **PKPdf** **20 39 45.9 -0.6**
KMBO pmax pmax
comp=Z,7.0nm,1.1s
KMBO Kilima Mbogo 137.71 27 PKP **PKPdf** **20 39 45.9 -0.6**
comp=Z,6.5nm,1.1s,baz=21,slow=5.1,SNR=9.4
KMBO Kilima Mbogo 137.71 27 PKP **PKPdf** **20 39 45.9 -0.6**
KMBO LR LR
comp=Z,2μm,21.0s
KMBO Kilima Mbogo 137.71 27 P **PKPdf** **20 39 48.5 +1.9**
baz=138,SNR=3.9
CASY Casey 139.94 211 PFAKE 20 40 00.0 +11
CASY LR LR
comp=Z,725nm,20.0s
TSUM Tsumeb 141.59 68 PKhKP PKPpre 20 39 46.8
comp=Z,4.1nm,0.9s,baz=305,slow=6.2,SNR=6.8
TSUM Tsumeb 141.59 68 PKPpre PKPpre 20 39 46.8
TSUM LR LR
comp=Z,3μm,21.0s
DGAR Diego Garcia 143.70 330 PFAKE 20 40 10.0 +13
DGAR LR LR
comp=Z,1μm,22.0s
MSEY Mahe Island 144.46 359 PFAKE 20 40 10.0 +12
MSEY LR LR
comp=Z,830nm,20.0s
LSZ Lusaka 145.73 51 PKIKP **PKPab** **20 40 01.2 -0.1**
LSZ pmax pmax
comp=Z,14nm,0.7s
LSZ Lusaka 145.73 51 PKPbc **PKPab** **20 40 01.2 -0.1**
comp=Z,14nm,0.7s,baz=20,slow=9.5,SNR=38
LSZ Lusaka 145.73 51 PKPbc **PKPab** **20 40 01.2 -0.1**
LSZ LR LR
comp=Z,2μm,19.0s
MIR Mirnyy 146.36 206 *e*PKIKP **PKPdf** **20 39 58.0 -1.8**
MIR pmax pmax
comp=Z,162nm,1.5s
MIR MLR MLR
comp=N,710nm,18.0s
MIR MLR MLR
comp=E,1μm,18.0s
MIR MLR MLR
comp=Z,1μm,18.0s
KOMG Komaggas 147.67 83 *e*P **PKPbc** **20 40 05.1 -1.0**
KOMG AMS AMS 21 39 20.4
comp=Z,3μm,7.4s
KOMG Komaggas 147.67 83 P **PKPbc** **20 40 05.1 -1.0**
UPI Upington 149.78 77 *e*P **PKPbc** **20 40 11.5 -0.1**
SYO Syowa Base 150.12 169⇑*e*P **PKPdf** **20 40 03.2 -2.8**
SYO Syowa Base 150.12 169⇓*e*P **PKPdf** **20 40 06.1 +0.1**
LBTB Lobatse 151.00 67⇑*i*P **PKPbc** **20 40 14.7 +0.1**
LBTB AMS AMS 21 48 47.5
comp=Z,2μm,19.0s
LBTB Lobatse 151.00 67 PKIKP **PKPbc** **20 40 14.8 +0.2**
LBTB pmax pmax
comp=Z,45nm,0.8s
LBTB Lobatse 151.00 67 PKPbc **PKPbc** **20 40 14.8 +0.2**
comp=Z,45nm,0.8s,baz=301,slow=2.9,SNR=53
SUR Sutherland 151.40 85 PKPbc **PKPbc** **20 40 16.0 +0.5**
comp=Z,52nm,1.0s,baz=285,slow=0.8,SNR=16
SUR Sutherland 151.40 85 PKPbc **PKPbc** **20 40 16.0 +0.5**
SUR LR LR
comp=Z,2μm,20.0s
ELIM Elim 151.48 90 *e*P **PKPbc** **20 40 15.7 +0.3**
SWZ Schweizer 152.12 71 *e*P **PKPbc** **20 40 17.1 -0.1**
MSNA Messina 152.19 57 *e*P **PKPbc** **20 40 18.1 +0.7**
MSNA AMS AMS 21 43 26.9
comp=Z,3μm,30.4s
MAW Mawson 152.38 186 PKIKP **PKPbc** **20 40 17.0 +0.7**
MAW 20 40 25.6
MAW pmax pmax
comp=Z,21nm,0.8s
MAW pmax pmax
comp=Z,51nm,0.9s
MAW Mawson 152.38 186 PKPbc **PKPbc** **20 40 17.0 +0.7**
comp=Z,21nm,0.8s,baz=180,slow=3.0,SNR=4.4
MAW PKPab **PKPab** **20 40 25.6 -0.9**
comp=Z,51nm,0.9s,baz=211,slow=7.3,SNR=6.5
KSR Koster 152.43 67 *e*P **PKPbc** **20 40 18.1 +0.1**
BOSA Boshof 152.87 74⇑*i*P **PKPbc** **20 40 19.0 +0.2**
BOSA AMS AMS 21 42 31.0
comp=Z,2μm,20.0s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	152.87	74	PKIKP	PKPbc	20 40 18.7	-0.1
BOSA				pmax	pmax		
comp=Z,17nm,0.7s							
BOSA	Boshof	152.87	74	PKPbc	PKPbc	20 40 18.7	-0.1
comp=Z,17nm,0.7s,baz=300,slow=2.7,SNR=25							
TLEK	Tau Lekoa	152.95	69	eP	PKPbc	20 40 19.2	+0.1
BFSD	Buffelsfontein	152.97	69	eP	PKPbc	20 40 18.6	-0.5
KLOF	Kloof	153.24	67	eP	PKPbc	20 40 20.0	+0.2
SLR	Silverton	153.33	65	eP	PKPbc	20 40 19.9	-0.1
SLR				AMS	AMS	21 43 01.9	
comp=Z,3µm,22.8s							
OBSV	Observatory	153.47	66	eP	PKPbc	20 40 20.5	+0.2
ERPM	east rand prop	153.68	66	eP	PKPbc	20 40 20.6	-0.2
MOPA	Mopani	153.91	57	eP	PKPbc	20 40 20.6	-0.5
MOPA				AMS	AMS	21 44 54.3	
comp=Z,3µm,28.3s							
HVD	Gariep Dam	154.10	77	eP	PKPab	20 40 30.6	-4.6
HVD				AMS	AMS	21 45 00.4	
comp=Z,2µm,18.6s							
SEK	Senekal	154.43	71	eP	PKPbc	20 40 22.1	-0.1
SEK				AMS	AMS	21 55 42.3	
comp=Z,2µm,76.8s							
BUFB	Buffelsbos	155.12	85	eP	PKPdf	20 40 17.1	+2.6
BUFB	Buffelsbos	155.12	85	P	PKPdf	20 40 17.1	+2.6
ABPO	Ambohimpanom	157.67	20	PFAKE		20 40 30.0	+12
ABPO				LR	LR		
comp=Z,2µm,21.0s							
RER	Riviere de l'E	160.84	358	PFAKE		20 40 30.0	+8.1
RER				LR	LR		
comp=Z,2µm,20.0s							
PAF	Port-aux-Franc	166.04	225	PFAKE		20 40 40.0	+14
PAF				LR	LR		
comp=Z,1µm,20.0s							
PAF	Port-aux-Franc	166.04	225	PP	PP	20 45 04.0	-10
PAF				SS	SS	21 05 40.0	-12

IDC 04 20:29:28.0±1.7, 0°.04N×125°.99E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/41, mbtmp3.3/4, Error ellipse: s-maj=186.0km s-min=22.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.47	158	P	P	20 34 17.8	-0.5
0.5nm,0.6s,baz=336,slow=10,SNR=8.3							
ASAR	Alice Springs	24.78	162	P	P	20 34 52.2	+0.4
0.4nm,0.6s,baz=349,slow=14,SNR=6.2							
MKAR	Makanchi Array	60.19	327	P	P	20 39 37.7	-0.1
0.3nm,0.5s,baz=121,slow=9,SNR=6.3							
KURBB	Kurchatov Arra	64.46	329	P	P	20 40 06.3	+0.1
0.2nm,0.6s,baz=134,slow=6.6,SNR=5.2							

IDC 04 20:33:13.9±0.9, 13°.02N×88°.20W, h0km, mb4.0/11, mb1 4.2/11, mb1mx3.9/46, mbtmp4.0/11, ML3.0/1, Error ellipse: s-maj=43.8km s-min=16.4km az=55.0
NEIC 04 20:33:20.0±1.8, 12°.94N×88°.39W, h43km±17km, mb4.8/2, Error ellipse: s-maj=30.3km s-min=10.3km az=224.0
ISCJB 04 20:33:21.4±0.5, 12°.86N±0°.07×88°.56W±0°.07, h67km, mb4.1/13, Error ellipse: s-maj=14.1km s-min=3.9km az=43.3
CASC 04 20:33:22.3±2.2, 12°.83N×88°.61W, h35km±999km, MD4.3, ML3.9
ISC 04 20:33:22.0±0.7, 12°.83N±0°.08×88°.58W±0°.07, h67km, n43, σ1°.51/49, mb4.1/13, 2C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.66	27⇓	iP	Pn	20 33 36.2	-0.5
BLLM	Bellamira	0.69	29	eP	Pn	20 33 36.2	-0.5
SNVI	San Vicente	0.82	342	eP	Pn	20 33 37.3	-1.0
LFRS	El Faro	0.92	329⇓	iP	Pn	20 33 38.4	-1.1
CAHU	Cacacuatique	1.00	21	eP	Pn	20 33 40.8	+0.1
LBRS	Las Brisas	1.01	333	eP	Pn	20 33 39.8	-0.8
LFU	La Fuente	1.05	330	eP	Pn	20 33 40.2	-0.9
SNET	Serv Nac Est T	1.06	323	eP	Pn	20 33 40.1	-1.2
SNET				eS	Sn	20 33 53.8	-1.8
SNET				AML	AML	20 33 56.6	
comp=Z,3µm,0.3s							
BOQS	Boqueron	1.13	323	eP	Pn	20 33 41.4	-0.9
BOQS				eS	Sn	20 33 56.4	-0.9
SBLS	San Blas	1.43	315	eP	Pn	20 33 45.6	-0.6
SBLS				eS	Sn	20 34 04.1	-0.2
SNJE	San Jose	1.44	316	eP	Pn	20 33 45.8	-0.5
RTR	El Retiro	1.48	316	eP	Pn	20 33 46.4	-0.5
RBDL	Robledal	1.67	320	eP	Pn	20 33 49.0	-0.4
NBG	Las Nubes	2.45	316	eP	Pn	20 34 01.2	+1.2
MRL	Marmol	2.47	334	eP	Pn	20 34 01.8	+1.6
MRL				eS	Sn	20 34 39.0	+10
APG	El Apazote	2.83	320	Pn	Pn	20 34 02.1	-3.0
comp=Z,2.1nm,0.3s,baz=135,slow=9.7,SNR=12							
JTS	JuntasAbangare	4.36	125	Pn	Pn	20 34 27.4	+1.5
comp=Z,2.8nm,0.3s,baz=301,slow=20,SNR=8.7							
JTS				Lg	Lg	20 35 28.6	
comp=Z,5.6nm,0.3s,baz=272,slow=19,SNR=4.8							
JTS	JuntasAbangare	4.36	125	eP	Pn	20 34 27.9	+2.0
JTS				Lg	Lg	20 35 28.6	
CGA2	Cerro Gallo 2	4.91	124	eP	Pn	20 34 36.6	+3.1
QCR	Quepos	5.50	128	eP	Pn	20 34 43.1	+1.8
QCR				eS	Sn	20 35 39.2	-4.1
BUS	Buena Vista	5.74	124⇑	eP	Pn	20 34 48.1	+3.0
BUS				eS	Sn	20 35 49.2	-0.7
ACR	Cerro Adams	6.75	127	eP	Pn	20 35 00.5	+2.0
TEIG	Tepich	7.36	2	Pn	Pn	20 35 07.5	+0.6
comp=Z,2.8nm,0.3s,baz=187,slow=4.7,SNR=12							
TEIG	Tepich	7.36	2	eP	Pn	20 35 09.5	+2.6
SDV	Santo Domingo	18.05	101	eP	P	20 37 27.0	-1.3
TXAR	Lajitas Array	21.59	322	P	P	20 38 08.1	+1.6
comp=Z,2.1nm,0.7s,baz=142,slow=11,SNR=14							
TXAR				PcP	PcP	20 42 06.0	-0.3
comp=Z,0.5nm,0.7s,baz=184,slow=7.1,SNR=4.2							
ANMO	Albuquerque	27.33	327	P	P	20 39 01.7	+0.7
comp=Z,0.6nm,0.4s,baz=119,slow=19,SNR=2.6							
PDAR	Pinedale Array	34.92	333	P	P	20 40 08.4	+0.8
comp=Z,1.1nm,0.7s,baz=131,slow=9.8,SNR=7.3							
PDAR				PcP	PcP	20 42 39.0	0.0
comp=Z,0.5nm,0.6s,baz=134,slow=6.4,SNR=3.7							
LPAZ	La Paz	35.30	145	P	P	20 40 12.2	+0.6
comp=Z,0.5nm,0.5s,baz=333,slow=9.0,SNR=2.7							
NVAR	Mina Array Bea	36.70	319	P	P	20 40 24.9	+2.0
comp=Z,0.6nm,0.6s,baz=136,slow=6.4,SNR=3.6							
NVAR				PcP	PcP	20 42 46.6	+2.2
comp=Z,1.1nm,0.5s,baz=112,slow=6.4,SNR=8.0							
ULM	Lac du Bonnet	37.79	352	P	P	20 40 30.6	-1.1
comp=Z,2.9nm,0.5s,baz=165,slow=9.0,SNR=6.9							
LRM	Limekiln Ridge	38.61	333	eP	P	20 40 39.7	+0.8
comp=Z,21nm,0.7s							
EGMT	Eagleton	39.28	337	eP	P	20 40 45.3	+1.0
comp=Z,6.5nm,0.6s							
SIV	San Ignacio	39.50	136	P	P	20 40 45.9	-0.5
comp=Z,2.2nm,0.8s,baz=339,slow=16,SNR=3.9							
SCHQ	Schefferville	45.24	18	P	P	20 41 31.0	-1.6
comp=Z,4.3nm,0.8s,baz=233,slow=7.7,SNR=6.5							
H03N2	Juan Fernandez	46.92	169	T	T	21 31 57.8	
baz=347,slow=75,SNR=4.5							
H03N1	Juan Fernandez	46.93	169	T	T	21 31 50.8	
baz=347,slow=75,SNR=4.5							
H03N3	Juan Fernandez	46.94	169	T	T	21 31 54.0	
baz=347,slow=75,SNR=5.2							
YKA	Yellowknife Ar	52.96	345	P	P	20 42 31.3	-0.1
comp=Z,2.6nm,0.7s,baz=141,slow=7.7,SNR=38							
YKA				PcP	PcP	20 43 39.3	-0.1
comp=Z,0.4nm,0.5s,baz=149,slow=4.3,SNR=3.8							
ILAR	Eielson Array	65.23	336	P	P	20 43 55.9	-0.4
comp=Z,1.1nm,0.6s,baz=167,slow=5.1,SNR=24							
SPITS	Spitsbergen Ar	80.56	12	P	P	20 45 26.8	+0.1
comp=Z,1.7nm,0.6s,baz=332,slow=11,SNR=5.2							
CMAR	Chiang Mai Arr	148.04	346	PKPbc	PKPdf	20 52 59.2	+1.5
comp=Z,1.0nm,0.7s,baz=329,slow=3.1,SNR=6.8							
TRD	Trivandrum	154.39	35⇑	eP	PKPbc	20 53 16.9	+1.0

CSEM 04 20:34:52.9±0.2, 38°.84N×27°.29E, h22km±3km, MD2.4, Error ellipse: s-maj=5.6km s-min=2.9km az=15.0
ISCJB 04 20:34:53.1±0.5, 38°.84N±0°.04×27°.28E±0°.04, h24km±7km, Error ellipse: s-maj=7.3km s-min=4.3km az=15.5
DDA 04 20:34:53.6, 39°.01N×27°.36E, h7km, MD2.4
THE 04 20:34:53.7, 38°.83N×27°.28E, h20km±4km, ML2.5/3, Error ellipse: s-maj=4.6km s-min=0.9km az=351.0
ISC 04 20:34:52.8±1.1, 38°.83N±0°.04×27°.27E±0°.03, h18km±9km, n20, σ0°.55/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	Akhisar	0.43	83	iP	Pg	20 35 01.3	-0.3
AKHS				iS	Sg	20 35 08.0	+0.5
AKHS	Akhisar	0.43	83	iP	Pg	20 35 01.3	-0.3
AKHS				iS	Sg	20 35 08.0	+0.5
AYVA	Ayvalik	0.66	317	iP	Pb	20 35 05.5	-0.3
AYVA				iS	Sb	20 35 13.9	-0.7
AYVA	Ayvalik	0.66	317	iP	Pb	20 35 05.5	-0.3
AYVA				iS	Sb	20 35 13.9	-0.7
PRK	Paraskevi	0.88	299	P	Pb	20 35 09.3	-0.3
PRK				S	Sb	20 35 22.2	+1.2
PRK	Paraskevi	0.88	299	P	Pb	20 35 09.3	-0.3
PRK				S	Sb	20 35 22.2	+1.2
CHOS	Chios island	1.04	246	P	Pb	20 35 12.2	-0.2
CHOS				S	Sb	20 35 26.7	+0.9
CHOS	Chios island	1.04	246	P	Pb	20 35 12.2	-0.2
CHOS				S	Sb	20 35 26.7	+0.9
MANT	Manisa	1.06	108	iP	Pb	20 35 12.5	-0.3
MANT				iS	Sb	20 35 26.7	+0.2
MANT	Manisa	1.06	108	iP	Pb	20 35 12.5	-0.3
MANT				iS	Sb	20 35 26.7	+0.2
KULA	Kula-Manisa	1.13	105	P	Pn	20 35 13.7	-0.2
KULA				S	Sb	20 35 27.9	-0.5
KULA	Kula-Manisa	1.13	105	P	Pn	20 35 13.7	-0.2
KULA				S	Sb	20 35 27.9	-0.5
SMG	Samos	1.17	197	P	Pn	20 35 13.9	-0.3
SMG				S	Sb	20 35 29.6	+0.4
SMG	Samos	1.17	197	P	Pn	20 35 13.9	-0.3
SMG				S	Sb	20 35 29.6	+0.4
SIGR	SIGRI	1.17	290	P	Pn	20 35 13.8	-0.4
SIGR	SIGRI	1.17	290	P	Pn	20 35 13.8	-0.4
GDZ	Gediz	1.75	81	iP	Pb	20 35 25.1	+0.7
GDZ	Gediz	1.75	81	iP	Pb	20 35 25.1	+0.7
ALN	Alexandroupoli	2.27	336	P	Pn	20 35 29.7	+0.2
ALN	Alexandroupoli	2.27	336	P	Pn	20 35 29.7	+0.2

ISCJB 04 20:35:07.6±0.5, 38°.83N±0°.02×27°.25E±0°.03, h3km±4km, Error ellipse: s-maj=4.0km s-min=3.5km az=164.4
ISK 04 20:35:07.2, 38°.82N×27°.23E, h5km, MD2.8
CSEM 04 20:35:07.9±0.2, 38°.84N×27°.25E, h2km, MD3.2, Error ellipse: s-maj=4.0km s-min=3.6km az=178.0
DDA 04 20:35:08.0, 38°.87N×27°.25E, h7km, MD3.2
THE 04 20:35:09.6, 38°.83N×27°.29E, h25km±5km, ML3.0/4, Error ellipse: s-maj=5.5km s-min=1.1km az=35.0
ISC 04 20:35:07.9±1.0, 38°.84N±0°.02×27°.24E±0°.02, h8km±10km, n49, σ0°.66/69, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	Akhisar	0.45	84	iP	Pg	20 35 16.7	+0.1
AKHS				iS	Sg	20 35 23.6	+1.1
AKHS	Akhisar	0.45	84	iP	Pg	20 35 16.7	+0.1
AKHS				iS	Sg	20 35 23.6	+1.1
AKS	Akhisar	0.45	84	ePG	Pg	20 35 16.9	+0.3
AKS	Akhisar	0.45	84	ePg	Pg	20 35 16.9	+0.3
BLCB	Balcova	0.48	199	ePG	Pg	20 35 16.7	-0.4
BLCB				eSG	Sg	20 35 23.6	+0.3
BLCB	Balcova	0.48	199	ePg	Pg	20 35 16.7	-0.4
BLCB				eSg	Sg	20 35 23.6	+0.3
URLA	Izmir	0.69	227	iS	Sg	20 35 30.8	+0.5
URLA	Izmir	0.69	227	iS	Sg	20 35 30.8	+0.5
PRK	Paraskevi	0.86	299	P	Pb	20 35 25.5	+0.4
PRK				S	Sb	20 35 38.0	+1.2
PRK	Paraskevi	0.86	299	P	Pb	20 35 25.5	+0.4
PRK				S	Sb	20 35 38.0	+1.2
BALB	Balikesir	0.94	31	ePG	Pg	20 35 25.5	-0.5
BALB	Balikesir	0.94	31	ePg	Pg	20 35 25.5	-0.5
AYDB	Zeytinkoy-Aydi	1.02	150	ePG	Pg	20 35 27.2	-0.3
AYDB	Zeytinkoy-Aydi	1.02	150	ePg	Pg	20 35 27.2	-0.3
CHOS	Chios island	1.03	245	P	Pg	20 35 27.6	-0.1
CHOS				S	Sb	20 35 42.0	+0.2
CHOS	Chios island	1.03	245	ePG	Pg	20 35 27.3	-0.4
CHOS	Chios island	1.03	245	ePg	Pg	20 35 27.3	-0.4
CHOS	Chios island	1.03	245	P	Pg	20 35 27.6	-0.1
CHOS				S	Sb	20 35 42.0	+0.2
SIGR	SIGRI	1.14	290	P	Pg	20 35 29.2	-0.6
SIGR				S	Sn	20 35 46.0	-0.1
SIGR	SIGRI	1.14	290	P	Pg	20 35 29.2	-0.6
SIGR				S	Sn	20 35 46.0	-0.1
KULA	Kula-Manisa	1.16	106	P	Pg	20 35 29.1	-1.0
KULA				S	Sg	20 35 43.2	-1.9
KULA	Kula-Manisa	1.16	106	ePN	Pn	20 35 29.3	-0.8
KULA	Kula-Manisa	1.16	106	P	Pg	20 35 29.1	-1.0
KULA				S	Sg	20 35 43.2	-1.9
SMG	Samos	1.17	196	P	Pg	20 35 30.2	-0.1
SMG				S	Sg	20 35 44.4	-1.1
SMG	Samos	1.17	196	P	Pg	20 35 30.2	-0.1
SMG				S	Sg	20 35 44.4	-1.1
EZN	Ezine	1.22	325	ePN	Pb	20 35 31.2	0.0
EZN	Ezine	1.22	325	ePn	Pb	20 35 31.2	0.0
KRBG	Karabiga-Canak	1.56	2	ePN	Pb	20 35 36.8	-0.2
KRBG	Karabiga-Canak	1.56	2	ePn	Pb	20 35 36.8	-0.2
LPK	Lapseki	1.58	347	ePN	Pn	20 35 36.5	+0.2
LPK	Lapseki	1.58	347	ePn	Pn	20 35 36.5	+0.2
EDC	Edincik	1.58	17	ePN	Pn	20 35 36.3	0.0
EDC	Edincik	1.58	17	ePn	Pn	20 35 36.3	0.0
GELI	Tayfur-Gelibol	1.67	339	ePN	Pn	20 35 38.1	+0.6
GELI	Tayfur-Gelibol	1.67	339	ePn	Pn	20 35 38.1	+0.6
GDZ	Gediz	1.76	81	iP	Pb	20 35 40.4	-0.2
GDZ				iS	Sg	20 36 04.6	0.0
GDZ	Gediz	1.76	81	iP	Pb	20 35 40.4	-0.2
GDZ				iS	Sg	20 36 04.6	0.0
BDRM	Kayabasi	1.77	175	iP	Pg	20 35 42.0	+0.1
BDRM				iS	Sb	20 36 03.6	+0.5
BDRM	Kayabasi	1.77	175	iP	Pg	20 35 42.0	+0.1
BDRM				iS	Sb	20 36 03.6	+0.5
TVSB	Tavsanli	1.83	70	ePN	Pn	20 35 40.6	+0.8
TVSB	Tavsanli	1.83	70	ePn	Pn	20 35 40.6	+0.8
SART	Tekirdag	1.85	359	iP	Pb	20 35 42.0	-0.1
SART				iS	Sn	20 36 03.7	-0.1
SART	Tekirdag	1.85	359	iP	Pb	20 35 42.0	-0.1
SART				iS	Sn	20 36 03.7	-0.1
KHL	Karahalli	1.86	105	ePN	Pn	20 35 40.2	+0.1
KHL	Karahalli	1.86	105	ePn	Pn	20 35 40.3	+0.1
ALT	Altintas	2.25	83	ePN	Pn	20 35 46.5	+0.9
ALT	Altintas	2.25	83	ePn	Pn	20 35 46.5	+0.9
ALN	Alexandroupoli	2.26	336	P	Pn	20 35 44.2	-1.3
ALN	Alexandroupoli	2.26	336	P	Pn	20 35 44.2	-1.3

IDC 04 20:43:17.7±0.9, 16°.22S×172°.91W, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/27, mbtmp4.0/9, Error ellipse: s-maj=49.2km s-min=17.6km az=138.0
ISCJB 04 20:43:19.9±0.9, 16°.05S±0°.2×173°.1W±0°.2, h26km, mb3.9/8, Error ellipse: s-maj=44.2km s-min=12.0km az=137.6
ISC 04 20:43:21.5±1.0, 15°.8S±0°.2×173°.0W±0°.3, h26km, n16, σ2°.13/14, mb3.8/8, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.23	31	Pn	Pn	20 43 55.4	-1.4
60nm,0.3s,baz=175,slow=3.0,SNR=37							
AFI				Sn	Sn	20 44 19.7	-3.8
135nm,0.3s,baz=283,slow=20,SNR=4.8							
DZM	Mont Dzumac	20.43	249	P	P	20 47 56.8	-0.3
5.0nm,0.8s,baz=120,slow=20,SNR=2.3							
URZ	Urewera	24.00	199	P	P	20 48 30.8	-3.3
5.5nm,0.3s,baz=0.0,slow=9.1,SNR=8.9							
H11S2	WAKE ISLAND Hy	39.54	329	T	T	21 33 16.2	
baz=151,slow=76,SNR=14							
H11S3	WAKE ISLAND Hy	39.55	329	T	T	21 33 17.7	
baz=151,slow=76,SNR=17							
H11S1	WAKE ISLAND Hy	39.56	329	T	T	21 33 17.6	
baz=151,slow=76,SNR=14							
STKA	Stephens Creek	44.19	240	P	P	20 51 27.4	-1.1
2.3nm,0.8s,baz=101,slow=8.7,SNR=5.4							
WRA	Warramunga Arr	50.16	257	P	P	20 52 14.3	-0.9
0.5nm,0.5s,baz=95,slow=6.8,SNR=20							
ASAR	Alice Springs	50.38	252	P	P	20 52 16.0	-0.9
2.0nm,0.5s,baz=91,slow=8.4,SNR=50							
NVAR	Mina Array Bea	74.37	42	P	P	20 54 59.4	+2.0
0.5nm,0.6s,baz=223,slow=9.9,SNR=4.2							
PDAR	Pinedale Array	82.30	42	P	P	20 55 42.3	+1.2
0.9nm,0.9s,baz=218,slow=5.7,SNR=3.9							
ILAR	Eielson Array	82.78	11	P	P	20 55 45.1	+2.2
0.6nm,0.6s,baz=230,slow=5.2,SNR=14							
YKA	Yellowknife Ar	90.32	23	P	P	20 56 21.6	+1.8
0.3nm,0.8s,baz=229,slow=4.7,SNR=3.3							
ARCES	ARCESS Array B	125.09	352	PKP	PKPdf	21 02 20.8	+1.8
4.3nm,0.8s,baz=43,slow=4.1,SNR=3.2							
GERES	GERESS Array B	146.62	352	PKPbc	PKPbc	21 03 00.7	-0.2
0.3nm,0.6s,baz=55,slow=3.7,SNR=5.1							
BRTR	Keskin Array B	146.75	321	PKPbc	PKPab	21 03 04.2	+1.4
1.7nm,0.9s,baz=92,slow=1.4,SNR=6.3							

IDC 04 20:57:03.6±1.3, 2°.85N×126°.34E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/33, mbtmp3.6/6, Error ellipse: s-maj=208.3km s-min=17.6km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.98	161	P	P	21 02 20.0	0.0
0.9nm,0.7s,baz=339,slow=11,SNR=13							
ASAR	Alice Springs	27.37	165	P	P	21 02 51.0	+0.1
0.2nm,0.7s,baz=356,slow=7.5,SNR=4.0							
STKA	Stephens Creek	37.46	158	P	P	21 04 18.7	-0.3
2.0nm,0.7s,baz=325,slow=9.4,SNR=3.0							
SONM	Songino Array	48.00	342	P	P	21 05 44.9	+0.3
0.3nm,0.5s,baz=152,slow=6.5,SNR=2.1							
MKAR	Makanchi Array	58.05	326	P	P	21 06 58.9	+0.3
0.4nm,0.5s,baz=110,slow=7.8,SNR=8.1							
ZALV	Zalesovo Beam	61.19	333	P	P	21 07 19.3	-0.8
0.2nm,0.3s,baz=121,slow=6.9,SNR=2.3							

IDC 04 21:08:48.1±0.8, 3°.12N×126°.97E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/38, mbtmp4.0/7, Error ellipse: s-maj=68.8km s-min=16.5km az=63.0
ISC 04 21:08:53.5±0.9, 2°.9N±0°.2×126°.7E±0°.4, h35km, n18, σ1°.46/21, mb4.1/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.86	162	P	P	21 14 04.8	+1.1
2.9nm,0.4s,baz=338,slow=11,SNR=26							
WRA				S	S	21 18 12.9	-4.8
0.3nm,0.8s,baz=348,slow=18,SNR=2.8							
ASAR	Alice Springs	27.28	166	P	P	21 14 35.9	+1.1
0.5nm,0.5s,baz=350,slow=7.0,SNR=11							
ASAR				PcP	PcP	21 17 55.1	+0.9
0.4nm,0.6s,baz=0.2,slow=2.7,SNR=4.2							
CMAR	Chiang Mai Arr	31.32	302	P	P	21 15 11.2	+0.4
0.9nm,0.7s,baz=113,slow=6.9,SNR=8.1							
STKA	Stephens Creek	37.32	159	P	P	21 16 03.2	+0.7
3.9nm,0.6s,baz=342,slow=9.4,SNR=7.3							
STKA				PcP	PcP	21 18 21.8	+0.4
1.4nm,0.7s,baz=301,slow=5.9,SNR=2.9							
TAPN	Taplejung	44.54	307	eP	P	21 17 02.4	-0.1
ODAN	Odare	44.58	306	eP	P	21 17 02.4	-0.3
5.1nm,0.6s							
RAMN	Ramite	45.26	306	eP	P	21 17 07.8	-0.3
JIRN	Jiri	45.89	307	eP	P	21 17 12.5	-0.8
4.9nm,0.6s							
GUN	Gumba	46.24	307	eP	P	21 17 15.8	-0.2
6.9nm,0.5s							
KOLN	Koldanda	48.02	305	eP	P	21 17 29.2	-0.6
12nm,0.7s							
DANN	Dangsing	48.13	306	eP	P	21 17 29.8	-0.9
13nm,0.7s							
PYUN	Piuthan	48.65	306	eP	P	21 17 34.7	+0.1
18nm,0.5s							
MKAR	Makanchi Array	58.27	326	P	P	21 18 43.7	-0.9
1.4nm,0.5s,baz=118,slow=8.0,SNR=31							
ZALV	Zalesovo Beam	61.36	333	P	P	21 19 03.9	-1.8
1.0nm,0.6s,baz=128,slow=6.4,SNR=5.6							
FINES	FINESS Array B	92.59	332	P	P	21 22 00.7	-0.5
1.2nm,1.0s,baz=122,slow=6.9,SNR=2.5							
TXAR	Lajitas Array	122.12	53	PKP	PKPdf	21 27 45.5	+0.1
0.3nm,0.6s,baz=315,slow=0.5,SNR=2.7							
TORD	Torodi Ar. Bea	123.19	288	PKP	PKPdf	21 27 48.5	+0.8
0.7nm,0.7s,baz=86,slow=1.8,SNR=5.1							
DBIC	Dimbokro	130.76	281	PKP	PKPdf	21 28 04.2	+2.0
1.8nm,0.9s,baz=124,slow=7.3,SNR=3.0							

MEX 04 21:42:12.7±0.6, 16°.47N×96°.65W, h16km±12km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	Vista Hermosa	0.60	353	eP	Pg	21 42 22.3	-2.6
VHO				iS	Sg	21 42 30.5	-2.6
HUIG	Huatulco	0.88	143	iP	Pb	21 42 26.9	-2.6
HUIG				iS	Sb	21 42 36.4	-4.6
PNIG	Pinotepa	1.42	267	eP	Pn	21 42 36.7	-1.1
PNIG				iS	Sn	21 42 51.1	-5.2

IDC 04 21:55:18.6±1.8, 22°.84S×112°.12W, h0km, mb3.6/2, mb1 4.1/2, mb1mx3.5/36, mbtmp3.6/2, Error ellipse: s-maj=125.6km s-min=55.5km az=103.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	Juan Fernandez	30.99	117	T	T	22 34 17.9	
baz=282,slow=75,SNR=8.8							
H03N3	Juan Fernandez	31.00	117	T	T	22 34 20.9	
baz=282,slow=75,SNR=13							
H03N1	Juan Fernandez	31.01	117	T	T	22 34 20.0	
baz=282,slow=75,SNR=9.6							
NVAR	Mina Array Bea	61.22	354	P	P	22 05 36.5	+1.0
1.0nm,0.8s,baz=180,slow=8.9,SNR=3.8							
PDAR	Pinedale Array	65.32	2	P	P	22 06 01.7	-1.0
0.4nm,0.7s,baz=158,slow=4.3,SNR=3.5							
H11S2	WAKE ISLAND Hy	89.28	290	T	T	23 46 56.7	
baz=109							
H11S1	WAKE ISLAND Hy	89.29	290	T	T	23 47 00.2	
baz=109							
H11S3	WAKE ISLAND Hy	89.30	290	T	T	23 46 57.9	
baz=109							
ZALV	Zalesovo Beam	146.40	342	PKPbc	PKPdf	22 15 00.1	+0.2
0.9nm,0.6s,baz=8.1,slow=2.1,SNR=5.0							
BVAR	Borovoye Array	149.80	357	PKPbc	PKPbc	22 15 10.0	-0.3
0.7nm,0.7s,baz=20,slow=2.1,SNR=4.2							
CMAR	Chiang Mai Arr	150.64	267	PKPbc	PKPbc	22 15 13.3	-0.1
0.9nm,0.8s,baz=126,slow=0.7,SNR=6.5							
KBZ	Khabaz	150.69	39	PKPbc	PKPbc	22 15 13.1	+0.3
1.2nm,0.9s,baz=238,slow=3.6,SNR=4.4							
MKAR	Makanchi Array	153.42	338	PKPbc	PKPbc	22 15 17.9	-1.0
0.4nm,0.8s,baz=31,slow=0.8,SNR=3.9							

IDC 04 22:08:53.1±1.9, 0°.66S×20°.53W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/34, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=65.6km s-min=34.9km az=109.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	9.32	140	T	T	22 20 41.9	
baz=317,slow=74,SNR=230							
H10N3	ASCENSION HYDR	9.32	140	T	T	22 20 42.8	
baz=317,slow=74,SNR=224							
H10N1	ASCENSION HYDR	9.34	140	T	T	22 20 44.1	
baz=317,slow=74,SNR=324							
H10S1	ASCENSION HYDR	10.10	145	T	T	22 21 41.0	
baz=323,slow=76,SNR=249							
H10S3	ASCENSION HYDR	10.10	145	T	T	22 21 41.3	
baz=323,slow=76,SNR=123							
H10S2	ASCENSION HYDR	10.11	145	T	T	22 21 41.2	
baz=323,slow=76,SNR=180							
DBIC	Dimbokro	17.25	65	Pn	P	22 12 56.9	-0.4
0.4nm,0.3s,baz=233,slow=14,SNR=8.1							
DBIC				Sn	Sn	22 15 53.6	-15
0.1nm,0.3s,baz=262,slow=8.4,SNR=2.1							
TORD	Torodi Ar. Bea	25.96	57	P	P	22 14 27.2	-0.4
3.0nm,0.9s,baz=245,slow=11,SNR=12							
ESDC	Sonseca Array	42.91	19	P	P	22 16 54.5	+0.8
0.9nm,0.7s,baz=213,slow=8.9,SNR=4.5							
GERES	GERESS Array B	57.49	26	P	P	22 18 43.3	-0.9
0.8nm,0.8s,baz=202,slow=6.9,SNR=6.1							
ASAR	Alice Springs	145.33	136	PKPbc	PKPbc	22 28 33.5	-0.2
1.2nm,0.5s,baz=224,slow=2.6,SNR=18							
WRA	Warramunga Arr	147.97	131	PKPbc	PKPbc	22 28 40.2	-1.3
0.2nm,0.4s,baz=226,slow=2.3,SNR=2.8							

JMA 04 22:24:02.9±0.1, 23°.91N×122°.29E, h35km±3km, M2.9
ISCJB 04 22:24:03.7±0.2, 23°.93N±0°.02×122°.36E±0°.02, h38km±17km, Error ellipse: s-maj=3.2km s-min=2.2km az=156.2

TAP 04 22:24:03.8, 23.96N×122.32E, h41km, ML3.7, C
ISC 04 22:24:03.3±1.8, 23.94N±0.03×122.36E±0.02, h29km±17km, n68, σ0.92/131, 9C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.67	304	eP	Pn	22 24 16.6	-0.4
	baz=303						
HWA	Hwalien	0.69	274	P	Pn	22 24 16.8	-0.4
	baz=263						
HWA				eS	Sn	22 24 26.4	-0.5
	baz=263						
TWD	Chiawan	0.71	282	⇑iP	Pn	22 24 16.6	-0.8
	baz=280						
TWD				S	Sn	22 24 25.9	-1.5
	baz=280						
JYNG	Yonagunijimaku	0.74	46	P	Pn	22 24 18.0	+0.1
JYNG				eS	Sn	22 24 28.2	-0.1
ENA	Nanau	0.74	311	⇑iP	Pn	22 24 17.5	-0.4
	baz=319						
ENA				eS	Sn	22 24 27.9	-0.4
	baz=319						
ESF	Shoufeng Towns	0.78	265	eP	Pn	22 24 18.4	0.0
	baz=259						
ESF				eS	Sn	22 24 29.0	-0.1
	baz=259						
TEGC	Jichi Village	0.78	253	eP	Pn	22 24 18.6	+0.2
	baz=251						
TEGC				eS	Sn	22 24 29.4	+0.3
	baz=251						
YOJ	Yonaguni jima	0.80	49	P	Pn	22 24 18.7	+0.1
YOJ				eS	Sn	22 24 29.6	+0.1
TWC	Suao	0.81	326	P	Pn	22 24 18.0	-0.9
	baz=326						
TWC				S	Sn	22 24 27.7	-2.3
	baz=326						
ESL	Shilin	0.85	262	⇑iP	Pn	22 24 18.4	-1.0
	baz=254						
ESL				eS	Sn	22 24 29.3	-1.7
	baz=254						
EGS		0.98	337	eP	Pn	22 24 20.9	-0.4
	baz=338						
EGS				eS	Sb	22 24 35.0	+0.6
	baz=338						
ILA	Ilan	0.99	326	eP	Pn	22 24 21.6	+0.3
	baz=326						
ILA				eS	Sn	22 24 34.8	+0.4
	baz=326						
TWE	Neicheng	1.00	321	⇑iP	Pn	22 24 21.6	+0.1
	baz=322						
TWE				S	Sn	22 24 34.1	-0.6
	baz=322						
WHF	Hehuan Shan	1.02	282	⇑iP	Pn	22 24 21.4	-0.7
	baz=281						
WHF				S	Sn	22 24 34.6	-1.1
	baz=281						
NNS	Nan Shan	1.03	299	P	Pn	22 24 21.7	-0.3
	baz=291						
NNS				S	Sn	22 24 34.7	-0.8
	baz=291						
EHY	Hungye	1.04	246	P	Pn	22 24 21.5	-0.5
	baz=257						
EHY				eS	Sn	22 24 34.6	-1.0
	baz=257						
TWB1	Santiao Chiao	1.12	343	eP	Pn	22 24 22.1	-1.0
	baz=343						
TWB1				eS	Sn	22 24 35.6	-1.9
	baz=343						
TWT	Tachien	1.12	287	P	Pn	22 24 23.4	+0.1
	baz=276						
TWT				S	Sn	22 24 38.2	+0.3
	baz=276						
TWF1	Yuli	1.13	239	⇑P	Pn	22 24 23.2	0.0
	baz=230						
TWF1				eS	Sn	22 24 37.6	-0.3
	baz=230						
NSK	Sanguang	1.17	309	P	Pn	22 24 23.7	-0.2
	baz=309						
NSK				eS	Sn	22 24 37.9	-1.0
	baz=309						
CHKT	Chengkung	1.23	228	eP	Pn	22 24 23.9	-0.7
	baz=218						
CHKT				eS	Sn	22 24 38.0	-2.3
	baz=218						
NWF	Wu-fen Shan	1.25	335	eP	Pn	22 24 24.9	0.0
	baz=348						
NWF				eS	Sn	22 24 39.0	-1.8
	baz=348						
TWA	Mucha	1.26	326	eP	Pn	22 24 25.3	+0.3
	baz=326						
TWA				eS	Sn	22 24 41.3	+0.4
	baz=326						
IRIF	Iriomote-Funau	1.32	72	P	Pn	22 24 26.2	+0.4
IRIF				eS	Sn	22 24 43.2	+0.8
HATJ	Hateruma jima	1.33	85	P	Pn	22 24 26.5	+0.5
HATJ				eS	Sn	22 24 43.8	+1.0
SMLT	Sun Moon Lake	1.33	268	⇑P	Pn	22 24 26.5	+0.3
	baz=267						
SMLT				eS	Sn	22 24 42.6	-0.4
	baz=267						
TAP1	Taipei	1.33	326	eP	Pn	22 24 26.4	+0.4
	baz=325						
TAP1				S	Sn	22 24 43.6	+0.8
	baz=325						
TAP	Taipei	1.34	325	P	Pn	22 24 25.9	-0.3
	baz=325						
TAP				eS	Sn	22 24 43.4	+0.3
	baz=325						
YUS	Yu-Shan	1.36	251	⇑P	Pn	22 24 27.2	+0.3
	baz=250						
YUS				S	Sn	22 24 43.2	-1.0
	baz=250						
TYC	Yuchr	1.37	269	⇑P	Pn	22 24 26.9	+0.3
	baz=268						
TYC				eS	Sn	22 24 44.3	+0.6
	baz=268						
NSTT	Nanjuang	1.42	300	P	Pn	22 24 28.1	+0.9
	baz=290						
NSTT				S	Sn	22 24 45.1	+0.2
	baz=290						
ELDTW	Lidau	1.44	239	eP	Pn	22 24 27.1	-0.5
	baz=238						
ELDTW				eS	Sn	22 24 44.2	-1.3
	baz=238						
TWS1	Kuangyinshan	1.44	324	eP	Pn	22 24 28.0	+0.5
	baz=323						
TWS1				eS	Sn	22 24 45.8	+0.3
	baz=323						
NCU	National Centr	1.48	314	eP	Pn	22 24 28.0	0.0
	baz=314						
NCU				eS	Sn	22 24 46.1	-0.4
	baz=314						
ALS	Alishan	1.48	254	eP	Pn	22 24 29.1	+0.8
	baz=253						
ALS				eS	Sn	22 24 46.8	-0.1
	baz=253						
TWY	Chenhua	1.50	333	eP	Pn	22 24 28.5	+0.1
	baz=345						
TWY				eS	Sn	22 24 47.6	+0.6
	baz=345						
TWQ1	Liyutan	1.50	286	eP	Pn	22 24 29.6	+1.2
	baz=285						
TWQ1				eS	Sn	22 24 48.1	+1.0
	baz=285						
HSN	Hsinchu	1.53	305	eP	Pn	22 24 29.3	+0.5
	baz=306						
HSN				eS	Sn	22 24 47.4	-0.3
	baz=306						
WNT	Mingjian	1.53	268	eP	Pn	22 24 30.3	+1.6
	baz=268						
NSY	Sanyi	1.53	289	eP	Pn	22 24 30.1	+1.3
	baz=288						
NSY				eS	Sn	22 24 47.3	-0.5
	baz=288						
JKRS	Kuro-shima	1.54	78	P	Pn	22 24 29.5	+0.6
JKRS				eS	Sb	22 24 50.0	-0.4
TCU	Taichung	1.55	278	eP	Pn	22 24 30.2	+1.2
	baz=277						
TCU				eS	Sn	22 24 48.8	+0.7
	baz=277						
CHN5	Tsauling	1.57	258	eP	Pn	22 24 30.8	+1.4
	baz=250						
CHN5				eS	Sn	22 24 49.9	+1.0
	baz=250						
TTN	Taitung	1.62	224	eP	Pn	22 24 30.1	+0.1
	baz=214						
TTN				eS	Sn	22 24 49.3	-0.5
	baz=214						
TWG	Pinlang	1.62	227	eP	Pn	22 24 29.7	-0.3
	baz=237						
TWG				eS	Sn	22 24 48.5	-1.4
	baz=237						
STYT	Tauyuan	1.66	243	eP	Pn	22 24 31.0	+0.5
	baz=234						
STYT				eS	Sn	22 24 50.8	-0.1
	baz=234						
WGK	Gukeng	1.66	262	eP	Pn	22 24 32.1	+1.6
	baz=261						
WGK				eS	Sb	22 24 52.9	-0.9
	baz=261						
JIJ	Ishigaki jima	1.69	75	P	Pn	22 24 30.9	0.0
JIJ				eS	Sn	22 24 51.2	-0.4
WTP	Ta-pu	1.74	247	eP	Pn	22 24 33.4	+1.7
	baz=246						
WTP				eS	Sn	22 24 53.4	+0.5
	baz=246						
CHN2	Minshiung	1.77	257	eP	Pn	22 24 32.4	+0.4
	baz=257						
CHY	Chiayi	1.82	257	eP	Pn	22 24 34.3	+1.5
	baz=256						
CHY				eS	Sn	22 24 55.5	+0.6
	baz=256						
CHN1	Nanshi	1.83	246	eP	Pn	22 24 34.6	+1.6
	baz=246						
CHN1				eS	Sn	22 24 57.0	+1.7
	baz=246						
SGST	Jiashian	1.83	243	eP	Pn	22 24 34.1	+1.1
	baz=232						
SGST				eS	Sn	22 24 57.1	+1.9
	baz=232						
TWK	Hsinying	1.84	249	eP	Pn	22 24 34.5	+1.4
	baz=248						
TWK				eS	Sn	22 24 57.2	+1.8
	baz=248						
ECL	Taimali	1.85	224	eP	Pn	22 24 32.4	-0.8
	baz=224						
ECL				eS	Sn	22 24 55.0	-0.7
	baz=224						
JISG	Ishigakijimahi	1.90	70	P	Pn	22 24 33.7	-0.1
JISG				eS	Sn	22 24 55.8	-1.0
WTCT	Ta-ch'eng	1.90	268	eP	Pn	22 24 35.1	+1.3
	baz=282						
WTCT				eS	Sn	22 24 55.8	-1.0
	baz=282						
WSF	Szhu	1.98	262	eP	Pn	22 24 36.2	+1.4
	baz=261						
WSF				eS	Sn	22 25 00.9	+2.2
	baz=261						
SSD	Sandimen	1.98	234	eP	Pn	22 24 36.1	+1.2
	baz=230						
SSD				eS	Sn	22 24 59.4	+0.6
	baz=230						
LAY	Lan-yu	2.03	202	eP	Pn	22 24 34.6	-1.0
	baz=201						
LAY				eS	Sn	22 24 58.6	-1.4
	baz=201						
EAST	Anshuo	2.08	222	eP	Pn	22 24 36.5	+0.2
	baz=222						
EAST				eS	Sn	22 25 00.5	-0.8
	baz=222						
SCZT	Fangliau	2.23	226	eP	Pn	22 24 40.3	+1.9
	baz=222						
SCZT				eS	Sn	22 25 04.7	-0.2
	baz=222						
JTJ	Tarama	2.25	71	P	Pn	22 24 38.8	+0.1
JTJ				S	Sn	22 25 05.5	0.0
HEN	Hengchun	2.43	218	eP	Pn	22 24 42.4	+1.2
	baz=211						
HEN				eS	Sn	22 25 09.3	-0.6
	baz=211						
TWK1	Hengchun	2.44	216	eP	Pn	22 24 41.8	+0.5
	baz=216						
TWK1				eS	Sn	22 25 09.7	-0.5
	baz=216						
WDGT	Dungji	2.56	255	eP	Pn	22 24 43.0	+0.1
	baz=256						
PNG	Penghu	2.59	262	eP	Pn	22 24 44.0	+0.7
	baz=262						
PNG				eS	Sn	22 25 14.2	+0.3
	baz=262						
KNM	Kinmen	3.61	278	eP	Pn	22 24 57.6	+0.2
	baz=279						

ISCJB 04 23:01:19.7±0.7, 22.19S±0.06×68.0W±0.1, h117km, mb3.7/4, Error ellipse: s-maj=15.3km s-min=8.2km az=4.7
IDC 04 23:01:20.4±2.4, 22.10S×68.19W, h110km±21km, mb3.7/5, mb1 3.7/8, mb1mx3.5/29, mbtmp4.0/8, MS2.5/1, Ms1 2.7/1, ms1mx2.3/25, Error ellipse: s-maj=26.6km s-min=24.3km az=35.0
ISC 04 23:01:20.4±0.8, 22.09S±0.07×68.1W±0.1, h117km, n9, σ2.05/12, mb3.8/4, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.77	360	P	Pn	23 02 45.0	+0.6
	5.2nm,0.3s,baz=202,slow=5.9,SNR=111						
LPAZ				LR	LR	23 05 59.1	
	comp=Z,49nm,20.1s,baz=80,slow=48						
SIV	San Ignacio	9.00	49	P	Pn	23 03 27.2	-0.4
	1.7nm,0.3s,baz=240,slow=12,SNR=17						
SIV				S	Sn	23 05 03.7	-3.6
	0.3nm,0.3s,baz=139,slow=19,SNR=4.9						
CFAA	Coronel Fontan	9.48	181	P	Pn	23 03 33.7	-0.1
	0.2nm,0.3s,baz=346,slow=13,SNR=8.5						
CFAA				S	Sn	23 05 16.4	-2.2
	0.1nm,0.3s,baz=34,slow=4.7,SNR=4.7						
NNA	Nana	13.06	319	P	P	23 04 25.0	-2.5
	1.0nm,0.3s,baz=160,slow=9.1,SNR=3.9						
BDFB	Brasilia	20.06	75	P	P	23 05 46.7	+2.0
	4.0nm,0.4s,baz=242,slow=10,SNR=6.8						
DBIC	Dimbokro	68.19	73	P	P	23 12 10.2	+1.5
	3.7nm,0.6s,baz=213,slow=8.2,SNR=8.0						
NVAR	Mina Array Bea	76.42	322	P	P	23 12 58.5	+1.2
	0.1nm,0.3s,baz=134,slow=5.1,SNR=2.2						
TORD	Torodi Ar. Bea	76.86	70	P	P	23 13 01.0	+1.0
	0.8nm,0.3s,baz=257,slow=5.4,SNR=29						
YKA	Yellowknife Ar	91.99	340	P	P	23 14 14.5	-0.9
	0.2nm,0.5s,baz=136,slow=4.4,SNR=5.2						
YKA				pP	pP	23 14 47.7	+2.0
	0.3nm,0.7s,baz=139,slow=4.4,SNR=3.6						

WEL 04 23:06:49.8±0.3, 38.03S×175.88E, h180km±3km, ML3.7/20, 2C-1D, Error ellipse: s-maj=2.8km s-min=2.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.99	104	⇑PN	Pn	23 07 17.4	0.0
URZ				SN	Sn	23 07 38.5	-0.4
BKZ	Black Stump Fm	1.23	157	PN	Pn	23 07 19.4	0.0
BKZ				SN	Sn	23 07 41.8	-0.6
TUVZ	Tukino	1.25	188	PN	Pn	23 07 20.0	+0.4
NMHZ	Naumai	1.29	146	PN	Pn	23 07 21.0	+1.0
TRVZ	Turoa	1.29	192	PN	Pn	23 07 20.3	+0.1
RAGZ	Rawiri	1.29	111	PN	Pn	23 07 20.3	+0.3
RAGZ				SN	Sn	23 07 43.6	+0.2
WNVZ	Wahianoa	1.31	190	PN	Pn	23 07 20.3	0.0
MWZ	Matawai	1.33	104	⇑PN	Pn	23 07 20.3	0.0
MWZ				SN	Sn	23 07 43.6	-0.3
MWZ				AML	AML	23 07 45.0	
MOVZ	Moawhango	1.38	184	PN	Pn	23 07 20.3	-0.4
MTVZ	Mangateitei	1.39	193	PN	Pn	23 07 20.9	+0.1
BHHZ	Black Hill Sta	1.46	174	PN	Pn	23 07 21.0	-0.5
HAZ	Te Kaha	1.53	80	PN	Pn	23 07 21.7	-0.4
MCHZ	McNeill Hill	1.55	156	PN	Pn	23 07 22.7	+0.4
RIGZ	Rimuhau	1.62	115	PN	Pn	23 07 23.1	+0.1
KRHZ	Kereru	1.65	167	PN	Pn	23 07 23.0	-0.3
KNZ	Kokohu	1.72	126	PN	Pn	23 07 23.9	0.0
PRGZ	Paritu Road	1.81	120	PN	Pn	23 07 24.7	-0.2
WAZ	Wanganui	1.86	202	PN	Pn	23 07 24.7	-0.7
CKHZ	Cape Kidnapper	1.87	150	PN	Pn	23 07 25.5	0.0
PUZ	Puketiti	1.88	92	ePN	Pn	23 07 25.4	-0.2
CNGZ	Carnagh Statio	1.89	105	PN	Pn	23 07 26.1	+0.5
PNHZ	Pukenui	1.90	173	PN	Pn	23 07 25.0	-0.8
KAHZ	Kahuranaki	1.92	157	⇓PN	Pn	23 07 25.9	-0.2
MHGZ	Mahia Peninsul	1.94	126	PN	Pn	23 07 26.3	+0.1
MXZ	Matakaoa Point	1.98	77	PN	Pn	23 07 26.7	0.0
TSZ	Takapari Road	2.02	178	PN	Pn	23 07 26.1	-1.1
WPHZ	Waipukurau	2.08	168	PN	Pn	23 07 26.7	-1.0
PXZ	Pawanui	2.14	159	PN	Pn	23 07 27.5	-0.8
PXZ				SN	Sn	23 07 55.8	-2.6
DVHZ	Dannevirke	2.27	174	PN	Pn	23 07 28.3	-1.6
POWZ	Post Office Ro	2.36	182	ePN	Pn	23 07 29.1	-1.8
ANWZ	Angora Road	2.47	169	PN	Pn	23 07 30.8	-1.3
PRWZ	Pori Road	2.52	178	PN	Pn	23 07 30.9	-1.8
MRZ	Mangatainoka R	2.63	185	PN	Pn	23 07 31.8	-2.3
MRZ				SN	Sn	23 08 04.2	-4.5
MRZ				AML	AML	23 08 07.1	
BFZ	Birch Farm	2.66	174	PN	Pn	23 07 32.2	-2.1
TIWZ	Tintock	2.74	180	PN	Pn	23 07 33.1	-2.2
TIWZ				AML	AML	23 08 07.7	
TIWZ				AML	AML	23 08 09.9	
OGWZ	Otaki Gorge	2.83	191	PN	Pn	23 07 34.1	-2.3
HOWZ	Holdsworth Sta	2.88	186	PN	Pn	23 07 34.3	-2.6
KIW	Kapiti Island	2.92	195	PN	Pn	23 07 34.7	-2.8
TMWZ	Te Maipa	3.07	180	PN	Pn	23 07 36.6	-2.7
CAW	Cannon Point	3.13	191	PN	Pn	23 07 37.2	-2.9
CAW				AML	AML	23 08 17.4	
MTW	Mount Morrison	3.13	185	PN	Pn	23 07 36.9	-3.2
DUWZ	D'Urville Isla	3.15	208	PN	Pn	23 07 38.0	-2.3
PAWZ	Paruwai Farm	3.36	186	AML	AML	23 08 21.5	
TRWZ	Traveller	3.37	182	PN	Pn	23 07 39.8	-3.1
SNZO	South Karori	3.40	195	PN	Pn	23 07 39.9	-3.4
TCW	Tory Channel	3.41	201	PN	Pn	23 07 40.4	-3.1
MSWZ	Moikau Station	3.41	188	PN	Pn	23 07 40.0	-3.5
BHW	Baring Head	3.46	193	PN	Pn	23 07 40.4	-3.6
PLWZ	Palliser	3.56	188	PN	Pn	23 07 41.8	-3.6
TUWZ	Tuamarina	3.71	203	PN	Pn	23 07 44.1	-3.0
NNZ	Nelson	3.72	210	PN	Pn	23 07 44.7	-2.7
QRZ	Quartz Range	3.81	222	PN	Pn	23 07 45.0	-3.5
BSWZ	Blackbirch Sta	3.99	202	PN	Pn	23 07 47.7	-3.1
THZ	Tophouse	4.37	211	PN	Pn	23 07 52.3	-3.4
KHZ	Kahutara	4.73	202	PN	Pn	23 07 56.3	-3.9
LTZ	Lake Taylor	5.49	209	PN	Pn	23 08 05.4	-4.7
OXZ	Oxford	6.04	208	PN	Pn	23 08 11.9	-5.4
MQZ	McQueen's Vall	6.17	202	PN	Pn	23 08 13.3	-5.7
ODZ	Otahua Downs	8.03	208	PN	Pn	23 08 38.3	-5.1
JCZ	Jackson Bay	8.08	219	PN	Pn	23 08 38.6	-5.7

IDC 04 23:20:03.4±1.3, 23.04S×171.68E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.1/18, mbtmp4.0/7, ML3.3/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/23, Error ellipse: s-maj=61.5km s-min=25.0km az=159.0
ISCJB 04 23:20:08.6±0.7, 23.0S±0.1×171.54E±0.07, h49km, mb4.1/8, MS3.7/1, Error ellipse: s-maj=21.4km s-min=9.4km az=173.4
NEIC 04 23:20:09.0±0.7, 23.12S×171.56E, h35km, mb4.5/2, Error ellipse: s-maj=24.7km s-min=11.6km az=159.0
ISC 04 23:20:10.3±0.8, 23.0S±0.2×171.55E±0.08, h49km, n21, σ1.16/22, mb4.1/8, 2C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.81	280	Pn	Pn	23 21 19.0	-1.4
	1.2nm,0.3s,baz=104,slow=16,SNR=20						
DZM				Sn	Sn	23 22 14.0	-0.9
	1.6nm,0.3s,baz=99,slow=19,SNR=2.4						
DZM				LR	LR	23 23 08.8	
	comp=Z,132nm,19.0s,baz=216,slow=38						
DZM	Mont Dzumac	4.81	280	ePn	Pn	23 21 18.9	-1.4
DZM				eSn	Sn	23 22 17.2	+2.3
MSVF	Nonsavu	8.06	50	ePn	Pn	23 22 05.3	+0.3
	126nm,1.8s						
URZ	Urewera	15.91	164	LR	LR	23 28 32.8	
	comp=Z,209nm,18.3s,baz=334,slow=32						
STKA	Stephens Creek	27.93	245	P	P	23 25 55.9	-0.2
	1.7nm,0.7s,baz=98,slow=14,SNR=2.9						
STKA	Stephens Creek	27.93	245	eP	P	23 25 55.4	-0.7
ASAR	Alice Springs	34.50	261	P	P	23 26 54.5	+0.5
	0.9nm,0.7s,baz=99,slow=8.3,SNR=11						
WRAB	Tennant Creek	34.69	268	eP	P	23 26 55.7	0.0
WRA	Warramunga Arr	34.70	268	P	P	23 26 55.5	-0.3
	1.0nm,0.6s,baz=97,slow=8.3,SNR=6.2						
VNDA	Vanda	54.75	183	LR	LR	23 49 51.9	
	comp=Z,58nm,18.1s,baz=9.5,slow=33						
QSPA	South Pole Qui	67.05	180	eP	P	23 30 57.9	-0.3
	4.0nm,0.8s						
CMAR	Chiang Mai Arr	82.01	294	P	P	23 32 27.3	+1.6
	1.9nm,0.6s,baz=134,slow=3.8,SNR=11						
CHTO	Chiang Mai	82.17	294	eP	P	23 32 28.9	+2.4
	4.6nm,1.1s						
NVAR	Mina Array Bea	89.72	48	P	P	23 33 03.7	0.0
	1.3nm,0.7s,baz=223,slow=9.1,SNR=6.7						
ILAR	Eielson Array	93.21	17	P	P	23 33 17.2	-1.7
	0.6nm,1.0s,baz=226,slow=4.9,SNR=3.2						
BRG	Berggiesshubel	147.20	334	eP	PKPab	23 39 48.8	-1.0
	3.2nm,0.9s						
CLL	Collm	147.24	335	ePKPbc	PKPab	23 39 49.0	-0.9
CONA	Conrad Observa	148.38	328	⇑iPKiKP	PKPbc	23 39 52.6	+1.0
	3.3nm,0.8s						
GERES	GERESS Array B	148.83	331	PKPbc	PKPbc	23 39 53.0	+0.5
	1.3nm,0.8s,baz=29,slow=3.0,SNR=10						
ABTA	Abfaltersbach	150.92	330	⇑iPKPbc	PKPbc	23 39 57.9	+0.3
	3.0nm,0.6s						
TORD	Torodi Ar. Bea	166.24	226	PKP	PKPdf	23 40 11.6	+0.7
	0.8nm,1.1s,baz=109,slow=0.3,SNR=2.6						
TORD				PKPab	PKPab	23 41 12.3	+0.4
	0.3nm,0.7s,baz=116,slow=2.6,SNR=2.0						

IDC 04 23:33:21.0±3.0, 29.25S×178.05W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/29, mbtmp3.7/2, Error ellipse: s-maj=115.2km s-min=45.8km az=22.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.14	266	P	P	23 41 22.3	-1.2
	0.2nm,0.5s,baz=107,slow=6.6,SNR=5.9						
WRA	Warramunga Arr	44.02	271	P	P	23 41 31.4	+0.7
	1.2nm,0.5s,baz=111,slow=7.5,SNR=9.3						
FINES	FINESS Array B	144.05	340	PKP	PKPdf	23 52 57.2	-0.7
	0.7nm,0.3s,baz=59,slow=2.8,SNR=12						
TORD	Torodi Ar. Bea	163.97	179	PKPab	PKPab	23 54 19.2	-0.3
	0.2nm,0.8s,baz=197,slow=4.5,SNR=2.3						

IDC 04 23:38:13.8±1.9, 9.24S×151.23E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.5/17, mbtmp3.4/3, ML2.7/1, Error ellipse: s-maj=66.5km s-min=29.7km az=147.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.02	267	Pn	Pn	23 39 18.6	+1.8
	3.4nm,0.3s,baz=91,slow=5.0,SNR=5.7						
PMG				Sn	Sn	23 40 03.6	-1.0
	2.6nm,0.3s,baz=117,slow=14,SNR=2.0						
WRA	Warramunga Arr	19.48	235	P	P	23 42 41.0	-1.6
	baz=62,slow=12,SNR=3.4						
ASAR	Alice Springs	21.91	227	P	P	23 43 09.8	+0.9
	0.8nm,1.1s,baz=57,slow=9.7,SNR=4.4						
ILAR	Eielson Array	86.83	22	P	P	23 50 59.9	-0.1
	0.3nm,0.9s,baz=234,slow=4.3,SNR=3.0						
TORD	Torodi Ar. Bea	149.88	280	PKPbc	PKPbc	23 58 06.5	-0.6
	0.3nm,0.6s,baz=76,slow=2.9,SNR=3.9						

NIED 04 23:39:00, 43.00N×145.40E, h41km, Mw3.9 Best double couple: M_0 8.59000×10^14 NP1: ϕ_s213.00000°, δ21.00000°, λ92.00000°. NP2: ϕ_s32.00000°, δ69.00000°, λ89.00000°.
ISCJB 04 23:39:19.5±0.6, 42.98N±0.05×145.47E±0.05, h54km±4km, mb3.9/23, Error ellipse: s-maj=9.5km s-min=4.8km az=149.1
JMA 04 23:39:20.7±0.1, 42.99N×145.42E, h47km±1km, M3.9
JMA Felt II J1.
SKHL 04 23:39:21.2±0.6, 42.97N×145.52E, h61km±2km, mb5.2/1
MOS 04 23:39:21.4±1.5, 42.98N×145.19E, h66km, mb4.3/12, Error ellipse: s-maj=13.5km s-min=8.6km az=81.6
IDC 04 23:39:23.9±3.0, 43.03N×145.46E, h75km±21km, mb3.7/21, mb1 3.8/22, mb1mx3.7/31, mbtmp4.0/22, MS2.7/1, Ms1 2.7/1, ms1mx2.2/33, Error ellipse: s-maj=25.4km s-min=17.2km az=167.0
ISC 04 23:39:20.1±1.1, 42.96N±0.06×145.50E±0.04, h44km±9km, n69, σ1.02/76, mb3.9/23, 2C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.44	24	⇑P	Pn	23 39 30.9	+0.6
NEM2				eS	Sn	23 39 38.0	+0.6
JAK	Akkeshi	0.59	274	⇓P	Pn	23 39 32.1	-0.1
JAK				eS	Sn	23 39 40.4	-0.4

JNK Nakash 0.84 318 ⇓P Pn 23 39 35.3 -0.3
JNK eS Sn 23 39 45.5 -1.4
JRA Rausu 1.01 344 ⇓P Pn 23 39 38.0 +0.1
JRA eS Sn 23 39 50.8 -0.2
YUK Yuzh-Kuril'sk 1.10 14c iPN Pn 23 39 39.7 +0.6
YUK iS Sn 23 39 53.5 +0.3
YUK pmax pmax
comp=N,47nm,0.2s
YUK pmax pmax
comp=E,38nm,0.2s
YUK pmax pmax
comp=Z,452nm,0.2s
YUK smax smax
comp=E,5μm,0.7s
YUK smax smax
comp=N,3μm,0.3s
YUK Yuzh-Kuril'sk 1.10 14 eP Pn 23 39 39.7 +0.6
YUK AMB AMB 23 39 40.3
comp=N,50nm,0.2s
YUK AMB AMB 23 39 40.3
comp=N,40nm,0.2s
YUK AMB AMB 23 39 40.3
comp=N,450nm,0.2s
YUK eS Sn 23 39 53.5 +0.3
YUK A A 23 39 55.1
comp=N,3μm,0.6s
YUK A A 23 39 55.1
comp=N,5μm,0.6s
JOB Onbets 1.22 268 ⇓P Pn 23 39 40.6 -0.2
JOB eS Sn 23 39 55.4 -0.7
JAR Ashorobuto 1.31 285 ⇓P Pn 23 39 42.0 0.0
JAR eS Sn 23 39 57.6 -0.7
SHO Shikotan 1.33 46 eP Pn 23 39 42.5 +0.3
SHO eS Sn 23 39 57.9 -0.8
SHO A A 23 40 00.2
comp=N,2μm,0.3s
JTKR Abashiri--Toko 1.54 312 ⇓P Pn 23 39 45.5 +0.5
ERM Erimo 1.98 242 ePN Pn 23 39 52.0 +1.0
ASAJ Asahikawa 2.41 300 PN Pn 23 39 58.5 +1.5
ASAJ pmax pmax
comp=Z,9.0nm,0.3s
ASAJ MLR MLR
comp=Z,15nm,28.6s
ASAJ Asahikawa 2.41 300 P Pn 23 39 58.5 +1.5
comp=Z,8.5nm,0.3s,baz=113,slow=12,SNR=32
ASAJ S Sn 23 40 29.8 +4.6
comp=Z,13nm,0.3s,baz=131,slow=11,SNR=3.7
ASAJ LR LR 23 41 12.1
comp=Z,170nm,21.2s,baz=156,slow=46
KUR Kuril'sk 2.84 36 PN Pn 23 40 11.0 +8.1
KUR eS Sn 23 40 39.0 +3.2
KUR smax smax
comp=N,300nm,0.5s
KUR smax smax
comp=E,110nm,0.5s
KUR Kuril'sk 2.84 36 eP Pn 23 40 03.5 +0.6
KUR eS Sn 23 40 35.0 -0.8
KUR A A 23 40 49.0
comp=E,300nm,0.5s
KUR A A 23 40 49.0
comp=E,110nm,0.5s
YSS Yuzh-Sakhalins 4.44 335 ePN Pn 23 40 24.8 -0.1
YSS Yuzh-Sakhalins 4.44 335 eP Pn 23 40 27.0 +2.1
MJAR Matsushiro Arr 8.52 224 PN Pn 23 41 20.5 -0.4
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 8.52 224 P Pn 23 41 20.5 -0.4
comp=Z,0.8nm,0.3s,baz=25,slow=12,SNR=4.6
MAJO Matsushiro 8.52 224 ePN Pn 23 41 23.0 +2.1
MAJO Matsushiro 8.52 224 eP Pn 23 41 23.0 +2.1
PET Petropavlovsk 13.35 37 ePN P 23 42 33.1 -2.3
ULN Ulaanbaatar 27.23 294 eP P 23 44 58.5 -1.5
ULN pmax pmax
comp=Z,2.0nm,1.6s
ULN Ulaanbaatar 27.23 294 eP P 23 44 58.5 -1.5
SONM Songino Array 27.68 294 P P 23 45 04.4 +0.4
comp=Z,2.0nm,0.7s,baz=87,slow=8.4,SNR=11
H11N2 WAKE ISLAND Hy 29.34 135 T T 00 16 19.4
baz=330,slow=76,SNR=692
H11N1 WAKE ISLAND Hy 29.35 135 T T 00 16 19.7
baz=330,slow=76,SNR=494
H11N3 WAKE ISLAND Hy 29.36 135 T T 00 16 21.6
baz=330,slow=76,SNR=465
H11S1 WAKE ISLAND Hy 30.27 137 T T 00 17 30.9
baz=332,slow=77,SNR=713
H11S3 WAKE ISLAND Hy 30.27 137 T T 00 17 29.5
baz=332,slow=77,SNR=697
H11S2 WAKE ISLAND Hy 30.28 137 T T 00 17 15.4
baz=332,slow=77,SNR=579
ZALV Zalesovo Beam 40.52 308 P P 23 46 54.4 -0.2
ZALV 23 48 56.5
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 40.52 308 P P 23 46 54.4 -0.2
comp=Z,0.3nm,0.3s,baz=72,slow=9.3,SNR=2.7
ZALV PcP PcP 23 48 56.5 +0.2
comp=Z,1.2nm,0.4s,baz=95,slow=3.1,SNR=6.4
ILAR Eielson Array 42.83 36 eP P 23 47 14.3 +0.9
ILAR Eielson Array 42.83 36 eP P 23 47 13.9 +0.6
comp=Z,0.4nm,0.4s,baz=256,slow=5.6,SNR=13
ILAR Eielson Array 42.83 36 eP P 23 47 14.3 +0.9
MKAR Makanchi Array 43.88 298 P P 23 47 21.9 -0.3
comp=Z,1.7nm,0.7s,baz=74,slow=9.1,SNR=17
MKAR PcP PcP 23 49 07.8 +0.2
comp=Z,0.2nm,0.4s,baz=63,slow=5.0,SNR=4.1
KURK Kurchatov 44.97 304 P P 23 47 30.8 +0.1
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 44.97 304 P P 23 47 30.8 +0.1
KURBB Kurchatov Arra 45.06 304 P P 23 47 30.8 -0.6
comp=Z,0.9nm,0.5s,baz=72,slow=8.9,SNR=6.6
BVAR Borovoye Array 49.07 309 P P 23 48 02.9 +0.2
BVAR 23 49 26.1
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 49.07 309 P P 23 48 02.9 +0.2
comp=Z,1.1nm,0.4s,baz=80,slow=8.0,SNR=20
BVAR PcP PcP 23 49 26.1 +0.3
comp=Z,0.4nm,0.4s,baz=99,slow=3.0,SNR=3.3
RES Resolute Bay 56.06 16 P P 23 48 54.1 +0.1
RES pmax pmax
comp=Z,2.0nm,0.5s
RES Resolute Bay 56.06 16 P P 23 48 54.1 +0.1
comp=Z,2.3nm,0.5s,baz=323,slow=7.9,SNR=18
YKA Yellowknife Ar 57.12 33 P P 23 49 01.6 -0.1
comp=Z,0.2nm,0.5s,baz=301,slow=6.8,SNR=4.4
ARCES ARCESS Array B 59.56 339 P P 23 49 18.7 0.0
ARCES pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 59.56 339 P P 23 49 18.7 0.0
comp=Z,5.8nm,1.0s,baz=359,slow=4.9,SNR=15
WRA Warramunga Arr 63.43 192 P P 23 49 46.2 +0.9
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 63.43 192 P P 23 49 46.2 +0.9
comp=Z,0.5nm,0.6s,baz=16,slow=6.8,SNR=3.9
FINES FINESS Array B 65.02 333 eP P 23 49 55.2 -0.1
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 65.02 333 P P 23 49 54.7 -0.6
comp=Z,1.6nm,0.4s,baz=44,slow=6.7,SNR=13
FINES FINESS Array B 65.02 333 eP P 23 49 55.2 -0.1
KBZ Khabaz 69.41 311 P P 23 50 23.9 +0.5
KBZ pmax pmax
comp=Z,4.0nm,1.2s
KBZ Khabaz 69.41 311 P P 23 50 23.9 +0.5
comp=Z,4.1nm,1.2s,baz=60,slow=14,SNR=1.9
NB2 NORSAR Subarra 69.89 338 P P 23 50 25.6 -0.5
comp=Z,1.9nm,0.8s,baz=33,slow=6.5
NOA NORSAR Array B 69.89 338 eP P 23 50 26.2 +0.1
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 69.89 338 P P 23 50 26.2 +0.1
comp=Z,2.2nm,0.8s,baz=36,slow=6.1,SNR=6.9
HFS Hagfors 69.94 337 P P 23 50 26.3 0.0
HFS pmax pmax
comp=Z,2.0nm,0.5s
HFS Hagfors 69.94 337 P P 23 50 26.3 0.0
comp=Z,2.1nm,0.5s,baz=40,slow=7.8,SNR=8.8
PDAR Pinedale Array 71.33 49 P P 23 50 36.0 +0.5
comp=Z,0.4nm,0.5s,baz=16,slow=0.9,SNR=4.2
AKASG Malin Array Be 71.49 323 eP P 23 50 35.6 -0.3
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 71.49 323 P P 23 50 35.6 -0.3
comp=Z,1.9nm,0.5s,baz=39,slow=5.9,SNR=8.5

MLR Muntele Rosu 76.82 321 P P 23 51 06.9 -0.4
MLR pmax pmax
comp=Z,1.0nm,1.0s
MLR Muntele Rosu 76.82 321 P P 23 51 06.9 -0.4
comp=Z,0.8nm,1.0s,baz=86,slow=18,SNR=3.1
BRTR Keskin Array B 77.20 313 P P 23 51 09.3 -0.3
comp=Z,0.4nm,0.4s,baz=8.4,slow=4.3,SNR=3.9
SCHQ Schefferville 78.75 18 P P 23 51 17.7 0.0
comp=Z,1.2nm,0.8s,baz=253,slow=18,SNR=2.7
GERES GERESS Array B 79.25 330 P P 23 51 19.9 -0.8
comp=Z,0.3nm,0.6s,baz=19,slow=4.5,SNR=3.6
IDI Anoyia 85.14 315 P P 23 51 50.9 -0.8
comp=Z,2.7nm,0.4s,baz=31,slow=18,SNR=4.7
H06E1 SOCORRO T-PHAS 86.90 67 T T 01 28 00.2

IDC 04 23:39:44.0±6.2, 6.49S×154.03E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/34, mbtmp3.6/4, Error ellipse: s-maj=185.1km s-min=30.2km az=110.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.34	233	P	P	23 44 54.1	-0.1
	0.8nm,0.5s,baz=57,slow=9.5,SNR=5.6						
ASAR	Alice Springs	25.81	226	P	P	23 45 16.9	-0.3
	0.6nm,0.7s,baz=58,slow=8.9,SNR=5.6						
SONM	Songino Array	68.40	328	P	P	23 50 48.0	+0.2
	0.3nm,0.5s,baz=132,slow=4.3,SNR=3.0						
MKAR	Makanchi Array	82.40	319	P	P	23 52 08.3	+0.1
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.2						

IDC 04 23:40:05.6±2.1, 27.40N×52.71E, h0km, mb3.9/9, mb1 3.9/9, mb1mx3.6/45, mbtmp3.9/9, Error ellipse: s-maj=49.7km s-min=24.1km az=161.0
ISCJB 04 23:40:06.4±0.7, 27.35N±0.09×52.8E±0.1, h20km, mb3.8/11, Error ellipse: s-maj=19.5km s-min=6.0km az=143.3
OMAN 04 23:40:13.8±0.0, 27.32N×53.11E, h58km±24km, Error ellipse: s-maj=11.8km s-min=3.9km az=229.0
ISC 04 23:40:08.3±0.9, 27.3N±0.1×52.8E±0.1, h20km, n18, σ1°62/19, mb3.8/11, 2C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASHO	Ashiyiah	3.95	131	⇑P	Pn	23 41 08.3	+0.4
ARQ	Araqi	5.22	139	⇓P	Pn	23 41 27.0	+1.6
ARQ				⇓S	Sn	23 42 25.1	+0.2
HOQ	Hoqain	5.54	131	⇓P	Pn	23 41 30.8	+1.1
HOQ				⇓S	Sn	23 42 27.4	-5.4
SMDO	Samad	6.39	131	⇓P	Pn	23 41 43.3	+1.8
SMDO				⇑S	Sn	23 42 54.8	+0.9
JMDO	Jabal Madar	6.91	135	⇓P	Pn	23 41 45.1	-3.4
BVAR	Borovoye Array	28.81	22	P	P	23 46 05.2	+0.3
	1.2nm,0.7s,baz=218,slow=9.4,SNR=8.3						
MKAR	Makanchi Array	30.25	42	P	P	23 46 18.1	+0.3
	0.5nm,0.7s,baz=221,slow=7.7,SNR=5.9						
ZALV	Zalesovo Beam	35.49	33	P	P	23 47 03.2	-0.2
	1.1nm,0.5s,baz=241,slow=12,SNR=7.4						
JOF	Joensuu	38.28	344	ep	P	23 47 25.8	-1.2
	1.7nm,0.7s						
JOF	Joensuu	38.28	344	ep	P	23 47 26.8	-0.2
	0.3nm,0.3s						
FINES	FINESS Array B	38.52	340	P	P	23 47 28.3	-0.7
	1.1nm,0.5s,baz=142,slow=10,SNR=11						
KAF	Kangasniemi	38.97	341	ep	P	23 47 29.4	-3.4
	0.3nm,0.3s						
KAF	Kangasniemi	38.97	341	ep	P	23 47 31.4	-1.4
	0.5nm,0.3s						
HFS	Hagfors	42.18	332	P	P	23 47 59.1	-0.3
	1.2nm,0.4s,baz=127,slow=9.4,SNR=10						
ARCES	ARCESS Array B	45.12	347	P	P	23 48 22.6	-0.3
	2.8nm,0.9s,baz=142,slow=8.6,SNR=7.6						
SONM	Songino Array	46.12	49	P	P	23 48 31.7	+0.4
	0.3nm,0.4s,baz=262,slow=9.9,SNR=3.0						
TORD	Torodi Ar. Bea	49.65	264	P	P	23 48 58.8	-0.2
	0.5nm,0.6s,baz=58,slow=8.6,SNR=7.3						
YKA	Yellowknife Ar	89.92	354	P	P	23 53 05.8	+0.1
	0.4nm,0.6s,baz=6.2,slow=5.1,SNR=10						

BUC 04 23:40:25.9±0.2, 45.17N×25.79E, h11km±3km, MD2.2/2, 8C-2D, Error ellipse: s-maj=3.0km s-min=1.6km az=335.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	Muntele Rosu	0.34	19	⇓iP	Pg	23 40 33.2	+0.2
MLR	Muntele Rosu	0.34	19	S	Sb	23 40 38.9	-0.9
MLR	Muntele Rosu	0.34	19	⇓iP	Pg	23 40 33.2	+0.2
MLR				iS	Sb	23 40 38.9	-0.9
VOIR		0.59	297	⇑iP	Pb	23 40 38.1	-0.2
VOIR		0.59	297	⇑iP	Pb	23 40 38.1	-0.2
VOIR				iS	Sb	23 40 47.4	+0.6
PLOR	Plostina	0.91	41	⇑iP	Pn	23 40 44.4	-0.3
PLOR	Plostina	0.91	41	⇑iP	Pn	23 40 44.4	-0.3
VRI	Vrincioaia	0.96	43	⇑iP	Pn	23 40 45.0	-0.3
VRI	Vrincioaia	0.96	43	⇑iP	Pn	23 40 45.0	-0.3
TLB	Topalu	1.70	109	⇑iP	Pb	23 40 56.4	-0.8
TLB				S	Sb	23 41 18.6	0.0
TLB	Topalu	1.70	109	⇑iP	Pb	23 40 56.4	-0.8
TLB				iS	Sb	23 41 18.6	0.0

VIE 04 23:42:50.3, 35.95N×31.93E, h84km, mb3.6, ML4.3
ISCJB 04 23:42:51.7±0.1, 36.12N±0.01×31.96E±0.02, h102km±2km, mb3.9/29, Error ellipse: s-maj=2.7km s-min=1.7km az=44.8
MOS 04 23:42:52.7±1.1, 36.13N×31.96E, h113km, mb4.0/11, Error ellipse: s-maj=10.8km s-min=4.6km az=109.6
IDC 04 23:42:53.1±1.2, 36.12N×31.88E, h104km±15km, mb3.6/15, mb1 3.8/24, mb1mx3.7/35, mbtmp4.1/24, MS2.3/1, Ms1 2.3/1, ms1mx1.9/31, Error ellipse: s-maj=16.4km s-min=9.2km az=29.0
ISK 04 23:42:53.1, 36.29N×32.13E, h24km, ML3.8
NSSC 04 23:42:53.3±1.4, 35.74N×32.56E, h197km±107km, ML3.5
CSEM 04 23:42:53.0±0.1, 36.15N×32.01E, h100km, mb4.0/17, Error ellipse: s-maj=2.4km s-min=1.5km az=51.0
DDA 04 23:42:53.4, 36.12N×31.92E, h75km, ML4.1
THE 04 23:42:54.6, 36.14N×31.95E, h42km±3km, ML4.4/4, Error ellipse: s-maj=4.0km s-min=1.1km az=77.0
HLW 04 23:42:54.2, 36.11N×31.94E, h44km±43km, Md4.5, Ml3.8
NIC 04 23:42:55.1, 36.25N×32.21E, h50km, mb4.2, ML3.9
GII 04 23:42:56.2±1.0, 35.70N×32.01E, h15km±40km, mb4.1/5, MD3.9/6
ISC 04 23:42:52.8±0.6, 36.15N±0.03×32.01E±0.03, h99km±6km, n404, σ1°21/485, mb3.9/29, 25C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.26	72	iP	Pn	23 43 06.9	-0.2
GAZI	Gazipasa	0.26	72	iP	Pn	23 43 06.9	-0.2
GAZI				iS	Sn	23 43 15.3	-2.5
ERMK	Ermenek	0.88	56	iP	Pn	23 43 13.0	+0.9
ERMK				iS	Sn	23 43 26.4	-0.2
ERMK	Ermenek	0.88	56	iP	Pn	23 43 13.0	+0.9
ERMK				iS	Sn	23 43 26.4	-0.2
ALFC	Alevga	1.10	154	⇑P	Pn	23 43 14.6	+0.2
	baz=344						
ALFC				S	Sn	23 43 30.2	-0.4
ALFC	Alevga	1.10	154	⇑P	Pn	23 43 14.6	+0.2
ALFC				S	Sn	23 43 30.2	-0.4
AKDN	Akdeniz- K¯-br	1.16	137	PN	Pn	23 43 16.0	+1.1
AKDN				eSN	Sn	23 43 31.7	+0.2
AKDN	Akdeniz- K¯-br	1.16	137	iPn	Pn	23 43 16.0	+1.1
AKDN				eSn	Sn	23 43 31.7	+0.2
LEF	Lefka	1.26	145	PN	Pn	23 43 16.2	+0.1
LEF	Lefka	1.26	145	iPn	Pn	23 43 16.2	+0.1
PPCY	Paphos	1.29	168	P	Pn	23 43 17.8	+1.3
	baz=355						
PPCY	Paphos	1.29	168	P	Pn	23 43 17.8	+1.3
ANTB	Antalya	1.32	305	ePN	Pn	23 43 17.1	+0.3
ANTB	Antalya	1.32	305	ePn	Pn	23 43 17.1	+0.3
MAMC	Mammari	1.39	134	⇑iP	Pn	23 43 17.9	+0.2
	baz=323						
MAMC	Mammari	1.39	134	⇑iP	Pn	23 43 17.9	+0.2
LFK	Lefkose	1.52	125	ePN	Pn	23 43 19.6	+0.3
LFK	Lefkose	1.52	125	ePn	Pn	23 43 19.6	+0.3
SUTC	Sutluce-Ispart	1.55	329	ePN	Pn	23 43 19.6	-0.2
SUTC	Sutluce-Ispart	1.55	329	ePn	Pn	23 43 19.7	-0.1
SZAC	Souni-Zanaja	1.57	153	⇑iP	Pn	23 43 21.5	+1.6
	baz=340						
SZAC	Souni-Zanaja	1.57	153	⇑iP	Pn	23 43 21.5	+1.6
KORT	Korkueli	1.58	303	iP	Pn	23 43 19.9	-0.2
KORT				iS	Sn	23 43 40.6	-0.2
KORT	Korkueli	1.58	303	iP	Pn	23 43 19.9	-0.2
KORT				iS	Sn	23 43 40.6	-0.2
CSS	Prodhromos	1.60	137	P	Pn	23 43 19.8	-0.6
CSS				S	Sn	23 43 39.1	-2.1
CSS	Prodhromos	1.60	137	ePN	Pn	23 43 20.2	-0.2
CSS				eSN	Sn	23 43 41.5	+0.3
CSS	Prodhromos	1.60	137	Pn	Pn	23 43 19.7	-0.6
CSS				Sn	Sn	23 43 38.4	-2.8
CSS	Prodhromos	1.60	137	P	Pn	23 43 19.8	-0.6
CSS				S	Sn	23 43 39.1	-2.1
CSS				eSn	Sn	23 43 41.5	+0.2
BCK	Bucak	1.73	319	ePN	Pn	23 43 22.1	+0.1
BCK	Bucak	1.73	319	ePn	Pn	23 43 22.1	+0.1
KIZK	Mersin	1.76	79	iP	Pn	23 43 23.0	+0.8
KIZK				iS	Sn	23 43 44.5	-0.1
KIZK	Mersin	1.76	79	iP	Pn	23 43 23.0	+0.8
KIZK				iS	Sn	23 43 44.5	-0.1
ELL	Elmali	1.79	290	ePN	Pn	23 43 24.3	+1.5
ELL	Elmali	1.79	290	ePn	Pn	23 43 24.3	+1.5
KONT	Konya--Tatoy	1.81	9	ePN	Pn	23 43 22.5	-0.4
KONT	Konya--Tatoy	1.81	9	ePn	Pn	23 43 22.5	-0.4
EREN	Erenkoy	1.86	109	ePN	Pn	23 43 24.1	+0.5
EREN				eSN	Sn	23 43 46.1	-0.9
EREN	Erenkoy	1.86	109	ePn	Pn	23 43 24.1	+0.5
EREN				eSn	Sn	23 43 46.1	-0.9
AKAS	Kas	1.94	273	iP	Pn	23 43 24.6	-0.2
AKAS				iS	Sn	23 43 47.8	-1.3
AKAS	Kas	1.94	273	iP	Pn	23 43 24.6	-0.2
AKAS				iS	Sn	23 43 47.8	-1.3
PHNC	Paralimni	2.01	124	⇑P	Pn	23 43 25.5	0.0
	baz=310						
PHNC	Paralimni	2.01	124	⇑P	Pn	23 43 25.5	0.0
ISP	Isparta	2.05	325	P	Pn	23 43 26.1	0.0
ISP				S	Sn	23 43 50.0	-1.4
ISP	Isparta	2.05	325	ePN	Pn	23 43 26.0	0.0
ISP	Isparta	2.05	325	iP	Pn	23 43 26.0	0.0
ISP	Isparta	2.05	325	P	Pn	23 43 26.1	0.0
ISP				S	Sn	23 43 50.0	-1.4
LADK	Ladik-KONYA	2.06	8	ePN	Pn	23 43 25.5	-0.8
LADK	Ladik-KONYA	2.06	8	ePn	Pn	23 43 25.5	-0.8
MERS	Mersin	2.15	70	ePN	Pn	23 43 26.7	-0.6
MERS	Mersin	2.15	70	ePn	Pn	23 43 26.7	-0.6
GOLH	Golhisar	2.24	300	iP	Pn	23 43 30.4	+1.8
GOLH	Golhisar	2.24	300	iP	Pn	23 43 30.4	+1.8
GOLH				iS	Sn	23 43 59.4	+3.4
SULT	Sultanhani-AKS	2.37	30	ePN	Pn	23 43 29.4	-0.9
SULT	Sultanhani-AKS	2.37	30	ePn	Pn	23 43 29.4	-0.9
SHUT	Suhut-Afyon	2.66	335	ePN	Pn	23 43 34.7	+0.6
SHUT	Suhut-Afyon	2.66	335	ePn	Pn	23 43 34.7	+0.6
KARA	Karaisali	2.69	65	ePN	Pn	23 43 34.7	+0.4
KARA	Karaisali	2.69	65	ePn	Pn	23 43 34.7	+0.4
KIZT	Kizilcal	2.72	358	ePN	Pn	23 43 34.7	-0.2
KIZT	Kizilcal	2.72	358	ePn	Pn	23 43 34.7	-0.2
CEYT	Ceyhan	3.13	73	ePN	Pn	23 43 40.3	+0.1
CEYT	Ceyhan	3.13	73	ePn	Pn	23 43 40.3	+0.1
ARG	Arkhangelos	3.14	272	P	Pn	23 43 40.4	0.0
ARG				S	Sn	23 44 15.3	-1.8
ARG	Arkhangelos	3.14	272	P	Pn	23 43 40.4	0.0
ARG				S	Sn	23 44 15.3	-1.8
ARNB	Al Arnab	3.23	94	eP	Pn	23 43 41.5	-0.2
ARNB				eS	Sn	23 44 15.6	-3.8
ARNB				AML	AML	23 44 21.6	
	comp=N,685nm,0.6s						
ARNB				AML	AML	23 44 25.4	
	comp=E,482nm,0.3s						
ARNB	Al Arnab	3.23	94	eP	Pn	23 43 41.5	-0.2
	SNR=120						
ARNB				eS	Sn	23 44 15.6	-3.8
	comp=E,482nm,0.3s,SNR=120						
ALT	Altintas	3.27	333	P	Pn	23 43 42.1	-0.1
ALT	Altintas	3.27	333	ePN	Pn	23 43 42.1	-0.1
ALT	Altintas	3.27	333	P	Pn	23 43 42.1	-0.1
SVRH	Sivrihisar-ESK	3.31	354	ePN	Pn	23 43 42.8	0.0
SVRH	Sivrihisar-ESK	3.31	354	ePn	Pn	23 43 42.8	0.0
KOZT	Kozan	3.34	65	ePN	Pn	23 43 43.2	+0.2
KOZT	Kozan	3.34	65	ePn	Pn	23 43 43.2	+0.2
AFSR	Af¯ar-Bala (A	3.40	14	ePN	Pn	23 43 44.0	+0.1
AFSR	Af¯ar-Bala (A	3.40	14	ePn	Pn	23 43 44.0	+0.1
SEYT	Eskypehyr	3.48	345	iP	Pn	23 43 45.2	+0.1
SEYT	Eskypehyr	3.48	345	iP	Pn	23 43 45.2	+0.1
SEYT				iS	Sn	23 44 20.2	-5.3
GDZ	Gediz	3.55	326	iP	Pn	23 43 46.0	0.0
GDZ				iS	Sn	23 44 25.0	-2.1
GDZ	Gediz	3.55	326	iP	Pn	23 43 46.0	0.0
GDZ				iS	Sn	23 44 25.0	-2.1
KULA	Kula-Manisa	3.56	312	P	Pn	23 43 46.4	+0.3
KULA				S	Sn	23 44 26.4	-0.9
KULA	Kula-Manisa	3.56	312	P	Pn	23 43 46.4	+0.3
KULA				S	Sn	23 44 26.4	-0.9
MANT	Manisa	3.61	311	iP	Pn	23 43 47.0	+0.2
MANT				iS	Sn	23 44 27.5	-1.1
MANT	Manisa	3.61	311	iP	Pn	23 43 47.0	+0.2
MANT				iS	Sn	23 44 26.0	-2.6
MANT				iS	Sn	23 44 27.5	-1.1
BTCH	Batrach	3.61	91	eP	Pn	23 43 45.3	-1.4
BTCH				eS	Sn	23 44 24.1	-4.4
BTCH				AML	AML	23 44 29.6	
	comp=N,859nm,0.5s						
BTCH				AML	AML	23 44 29.9	
	comp=E,388nm,0.3s						
BTCH	Batrach	3.61	91	eP	Pn	23 43 45.3	-1.4
	SNR=117						
BTCH				eS	Sn	23 44 24.1	-4.4
	comp=E,388nm,0.3s,SNR=117						
WRDH	Warideh	3.64	99	eP	Pn	23 43 46.6	-0.5
WRDH				eS	Sn	23 44 23.6	-5.6
WRDH				AML	AML	23 44 29.4	
	comp=E,250nm,0.4s						
WRDH				AML	AML	23 44 32.5	
	comp=N,156nm,0.3s						
HWQ	Hawqa	3.73	119	eP	Pn	23 43 48.8	+0.4
HWQ	Hawqa	3.73	119	eP	Pn	23 43 48.8	+0.4
BHL	Bhannes	3.74	126	eP	Pn	23 43 47.9	-0.7
BHL	Bhannes	3.74	126	eP	Pn	23 43 47.9	-0.7
ANDN	Andirin	3.76	66	iP	Pn	23 43 45.5	-3.3
ANDN				iS	Sn	23 44 29.0	-3.2
ANTO	Ankara	3.76	9	ePN	Pn	23 43 48.4	-0.4
ANTO	Ankara	3.76	9	ePn	Pn	23 43 48.4	-0.4
LOD	Lodumlu	3.78	9	ePN	Pn	23 43 48.9	-0.1
LOD	Lodumlu	3.78	9	ePn	Pn	23 43 48.9	-0.1
BDRM	Kayabasi	3.78	285	iP	Pn	23 43 49.2	+0.2
BDRM				iS	Sn	23 44 31.3	-1.2
BDRM	Kayabasi	3.78	285	iP	Pn	23 43 49.2	+0.2
BDRM				iS	Sn	23 44 31.3	-1.2
BRTR	Keskin Array B	3.79	19	iP	Pn	23 43 49.5	+0.2
BRTR				pmax	pmax		
	comp=Z,28nm,0.4s						
BRTR	Keskin Array B	3.79	19	P	Pn	23 43 49.5	+0.2
	comp=Z,9.3nm,0.3s,baz=190,slow=16,SNR=344						
BRTR				S	Sn	23 44 23.6	-9.4
	comp=Z,2.2nm,0.3s,baz=198,slow=16,SNR=6.3						
BRTR	Keskin Array B	3.79	19	iP	Pn	23 43 49.5	+0.2
	comp=Z,28nm,0.4s						
MATL	Matarih	3.81	133	eP	Pn	23 43 49.6	+0.3
MATL	Matarih	3.81	133	eP	Pn	23 43 49.7	+0.3
BORA	Eskisehir	3.92	342	iP	Pn	23 43 51.1	+0.2
BORA	Eskisehir	3.92	342	iP	Pn	23 43 51.1	+0.2
NIS1	Nisyros Isl.	3.92	278	P	Pn	23 43 51.5	+0.6
NIS1				S	Sn	23 44 35.0	-0.9
NIS1	Nisyros Isl.	3.92	278	P	Pn	23 43 51.5	+0.6
NIS1				S	Sn	23 44 35.0	-0.9
NAQL	Naqoura	3.98	139	ePN	Pn	23 43 52.0	+0.3
NAQL	Naqoura	3.98	139	ePn	Pn	23 43 52.0	+0.3
KARP	Karpathos	3.98	263	P	Pn	23 43 52.3	+0.5
KARP				S	Sn	23 44 36.6	-0.8
KARP	Karpathos	3.98	263	P	Pn	23 43 52.3	+0.5
KARP				S	Sn	23 44 36.6	-0.8
HNTI	Hanita	4.03	139	Pn	Pn	23 43 53.2	+0.9
HNTI				Sn	Sn	23 44 38.1	-0.4
HNTI	Hanita	4.03	139	Pn	Pn	23 43 53.2	+0.9
HNTI				Sn	Sn	23 44 38.1	-0.4
BNN	Bunyan	4.07	47	ePN	Pn	23 43 53.3	+0.3
BNN	Bunyan	4.07	47	eP	Pn	23 43 53.3	+0.3
FKH	Fakeheh	4.08	117	eP	Pn	23 43 53.5	+0.4
FKH	Fakeheh	4.08	117	eP	Pn	23 43 53.5	+0.4
RCY	Rachaya	4.12	129	eP	Pn	23 43 54.0	+0.3

RCY Rachaya 4.12 129 eP Pn 23 43 54.0 +0.3
KUZU Kuzuini 4.13 80 i P Pn 23 43 53.2 -0.6
KUZU Kuzuini 4.13 80 i P Pn 23 43 53.2 -0.6
KUZU i S Sn 23 44 38.3 -2.8
KMRS Kahramanmaras 4.15 70 ePN Pn 23 43 54.7 +0.7
KMRS Kahramanmaras 4.15 70 ePn Pn 23 43 54.7 +0.7
MMA0B Mount Meron ar 4.20 137 Pn Pn 23 43 55.7 +0.9
MMA0B Sn Sn 23 44 41.8 -1.0
MMA0B Mount Meron ar 4.20 137 Pn Pn 23 43 55.7 +0.9
MMA0B Sn Sn 23 44 41.8 -1.0
MMAI Mount Meron Ar 4.20 137 P Pn 23 43 55.4 +0.6
comp=Z,221nm,0.3s,baz=314,slow=12,SNR=1454
MMAI S Sn 23 44 42.1 -0.7
comp=Z,94nm,0.3s,baz=304,slow=26,SNR=6.3
BRBR Barbar 4.24 129 eP Pn 23 43 51.4 -4.1
BRBR AML AML 23 43 55.0
comp=E,118nm,0.5s
BRBR eS Sn 23 44 34.6 -9.5
BRBR AML AML 23 44 41.4
comp=N,163nm,0.5s
BRBR Barbar 4.24 129 eP Pn 23 43 51.4 -4.1
SNR=114
OFRI 'Ofer 4.30 144 Pn Pn 23 43 56.5 +0.4
OFRI 'Ofer 4.30 144 Pn Pn 23 43 56.5 +0.4
AKHS Akhisar 4.30 310 i P Pn 23 43 55.9 -0.1
AKHS Akhisar 4.30 310 i P Pn 23 43 55.9 -0.1
AKHS i S Sn 23 44 42.4 -2.8
BLGI Bet Lehem HaGe 4.31 141 Pn Pn 23 43 57.0 +0.9
BLGI Bet Lehem HaGe 4.31 141 Pn Pn 23 43 57.0 +0.9
MDUB Mudurnu 4.36 352 ePN Pn 23 43 57.2 +0.4
MDUB Mudurnu 4.36 352 ePn Pn 23 43 57.3 +0.4
CAVI Cavuskoy 4.39 338 ePN Pn 23 43 57.8 +0.6
CAVI Cavuskoy 4.39 338 ePn Pn 23 43 57.8 +0.6
SMG Samos 4.42 292 P Pn 23 43 57.0 -0.7
SMG S Sn 23 44 46.3 -1.8
SMG Samos 4.42 292 P Pn 23 43 57.0 -0.7
SMG S Sn 23 44 46.3 -1.8
BTAS Taskesti 4.48 350 i P Pn 23 43 59.1 +0.6
BTAS Taskesti 4.48 350 i P Pn 23 43 59.1 +0.6
CANT Cankiri 4.62 15 ePN Pn 23 44 01.0 +0.6
SLTI Sal'it 4.64 146 Pn Pn 23 44 01.0 +0.3
SLTI Sn Sn 23 44 50.7 -2.7
SLTI Sal'it 4.64 146 Pn Pn 23 44 01.0 +0.3
SLTI Sn Sn 23 44 50.7 -2.7
MMLI Mount Malkishu 4.66 142 Pn Pn 23 44 02.2 +1.2
MMLI Sn Sn 23 44 52.6 -1.3
MMLI Mount Malkishu 4.66 142 Pn Pn 23 44 02.2 +1.2
MMLI Sn Sn 23 44 52.6 -1.3
ZKR Zakros 4.83 259 P Pn 23 44 04.2 +1.0
ZKR S Sn 23 44 56.4 -1.5
ZKR Zakros 4.83 259 P Pn 23 44 04.2 +1.0
ZKR S Sn 23 44 56.4 -1.5
HMDT Nahal Hemdat 4.86 142 Pn Pn 23 44 05.3 +1.7
HMDT Nahal Hemdat 4.86 142 Pn Pn 23 44 05.3 +1.7
SAFT Safranbolu 5.11 6 ePN Pn 23 44 07.8 +0.8
SAFT Safranbolu 5.11 6 ePn Pn 23 44 07.8 +0.8
CHOS Chios island 5.24 297 P Pn 23 44 09.3 +0.4
CHOS Chios island 5.24 297 P Pn 23 44 09.3 +0.4
NPS Neapolis 5.28 262 P Pn 23 44 09.8 +0.5
NPS S Sn 23 45 07.0 -1.9
NPS Neapolis 5.28 262 P Pn 23 44 09.8 +0.5
NPS S Sn 23 45 07.0 -1.9
APE Apeiranthos 5.29 282 P Pn 23 44 09.8 +0.3
APE S Sn 23 45 06.9 -2.2
APE Apeiranthos 5.29 282 eP Pn 23 44 09.1 -0.3
APE Apeiranthos 5.29 282 ⇓i P Sn 23 45 05.0 -4.1
APE Apeiranthos 5.29 282 P Pn 23 44 09.8 +0.3
APE S Sn 23 45 06.9 -2.2
SANT Santorini 5.29 274 P Pn 23 44 09.8 +0.3
SANT S Sn 23 45 07.6 -1.7
SANT Santorini 5.29 274 P Pn 23 44 09.8 +0.3
SANT S Sn 23 45 07.6 -1.7
DSI Dead Sea 5.36 147 Pn Pn 23 44 11.8 +1.3
DSI Dead Sea 5.36 147 Pn Pn 23 44 11.8 +1.3
RSH 5.37 164 P Pn 23 44 11.2 +0.6
baz=163
RSH 5.37 164 P Pn 23 44 11.2 +0.6
LAST Lasithi 5.41 261 P Pn 23 44 12.0 +0.9
LAST Lasithi 5.41 261 P Pn 23 44 12.0 +0.9
RTMI Retamim 5.56 155 Pn Pn 23 44 14.1 +1.0
RTMI Sn Sn 23 45 14.5 -1.1
RTMI Retamim 5.56 155 Pn Pn 23 44 14.1 +1.0
RTMI Sn Sn 23 45 14.5 -1.1
AMAG Maghara 5.59 169 P Pn 23 44 13.8 +0.2
baz=168
AMAG Maghara 5.59 169 P Pn 23 44 13.8 +0.2
KZIT Kziot 5.60 158 Pn Pn 23 44 14.4 +0.7
KZIT Sn Sn 23 45 15.4 -1.3
KZIT Kziot 5.60 158 Pn Pn 23 44 14.4 +0.7
KZIT Sn Sn 23 45 15.4 -1.3
ASF Jabal al Asfar 5.67 133 P Pn 23 44 16.9 +2.1
ASF S Sn 23 45 22.0 +3.4
ASF pmax pmax
comp=Z,6.0nm,0.3s
ASF smax smax
comp=N,2.0nm,0.3s
ASF Jabal al Asfar 5.67 133 P Pn 23 44 16.9 +2.1
comp=N,6.1nm,0.3s,baz=276,slow=6.5,SNR=73
ASF S Sn 23 45 22.0 +3.4
comp=N,1.7nm,0.3s,baz=30,slow=20,SNR=1.8
SIGR SIGRI 5.75 304 P Pn 23 44 16.6 +0.9
SIGR SIGRI 5.75 304 P Pn 23 44 16.6 +0.9
IDI Anoyia 5.85 264 P Pn 23 44 17.1 0.0
comp=N,4.6nm,0.3s,baz=5.4,slow=8.6,SNR=45
IDI S Sn 23 45 19.2 -3.8
comp=N,16nm,0.3s,baz=346,slow=18,SNR=12
RSDY Resadiye-TOKAT 5.96 43 ePN Pn 23 44 20.2 +1.8
RSDY Resadiye-TOKAT 5.96 43 ePn Pn 23 44 20.2 +1.8
SIVA Sivas 5.97 261 P Pn 23 44 19.6 +0.9
SIVA Sivas 5.97 261 P Pn 23 44 19.6 +0.9
RMNI Mount Ramon 6.00 157 Pn Pn 23 44 20.2 +1.0
RMNI Mount Ramon 6.00 157 Pn Pn 23 44 20.2 +1.0
KOT Kottamia 6.21 181 P Pn 23 44 22.4 +0.4
baz=181
KOT AMP 23 45 00.0
comp=E,130μm,0.3s,logA/T=5.6,baz=181
KOT S Sn 23 45 27.9 -3.7
baz=181
KOT Kottamia 6.21 181 P Pn 23 44 22.4 +0.4
PRNI Paran 6.31 156 Pn Pn 23 44 23.6 +0.3
PRNI Sn Sn 23 45 32.5 -1.4
PRNI Paran 6.31 156 Pn Pn 23 44 23.6 +0.3
PRNI Sn Sn 23 45 32.5 -1.4
SUZ 6.33 173 P Pn 23 44 24.1 +0.4
baz=172
SUZ 6.33 173 P Pn 23 44 24.1 +0.4
VAM Vamos 6.39 266 P Pn 23 44 24.3 -0.1
VAM Vamos 6.39 266 P Pn 23 44 24.3 -0.1
KRMI Paran Flat 6.44 158 Pn Pn 23 44 25.2 +0.1
KRMI Sn Sn 23 45 35.6 -1.5
KRMI Paran Flat 6.44 158 Pn Pn 23 44 25.2 +0.1
KRMI Sn Sn 23 45 35.6 -1.5
PTK Pertek 6.47 63 ePN Pn 23 44 28.4 +2.7
PTK Pertek 6.47 63 ePn Pn 23 44 28.4 +2.7
HSAF As Saff 6.53 183 P Pn 23 44 26.3 0.0
baz=183
HSAF As Saff 6.53 183 P Pn 23 44 26.3 0.0
LIA Limnos Island 6.56 307 P Pn 23 44 27.1 +0.5
LIA Limnos Island 6.56 307 P Pn 23 44 27.1 +0.5
GLL Jalalah 6.56 182 P Pn 23 44 26.9 +0.1
baz=182
GLL Jalalah 6.56 182 P Pn 23 44 26.9 +0.1
HRFI Mount Harif 6.61 157 Pn Pn 23 44 28.0 +0.6
HRFI Sn Sn 23 45 40.1 -1.2
HRFI Mount Harif 6.61 157 Pn Pn 23 44 28.0 +0.6
HRFI Sn Sn 23 45 40.1 -1.2
ALN Alexandroupoli 6.65 317 P Pn 23 44 28.9 +1.0
ALN Alexandroupoli 6.65 317 P Pn 23 44 28.9 +1.0
SMTH Samothraki Isl 6.67 312 P Pn 23 44 29.4 +1.2
SMTH Samothraki Isl 6.67 312 P Pn 23 44 29.4 +1.2
ZAF 6.87 176 P Pn 23 44 31.1 +0.2
baz=175
ZAF 6.87 176 P Pn 23 44 31.1 +0.2
EIL Elat 6.92 158 P Pn 23 44 32.3 +0.6
comp=E,14nm,0.3s,baz=350,slow=4.8,SNR=210
EIL S Sn 23 45 48.7 -0.2
comp=E,8.3nm,0.3s,baz=39,slow=20,SNR=6.0
EIL LR LR 23 47 39.1
comp=E,22nm,19.9s,baz=278,slow=41
EIL Elat 6.92 158 Pn Pn 23 44 31.7 0.0
EIL Sn Sn 23 45 48.2 -0.7
EIL Elat 6.92 158 Pn Pn 23 44 31.7 0.0
EIL Sn Sn 23 45 48.2 -0.7
EDRB Edirne 7.01 326 P Pn 23 44 33.4 +0.7
EDRB Edirne 7.01 326 P Pn 23 44 33.4 +0.7
ANKY Antikythira Is 7.06 270 P Pn 23 44 33.1 -0.4
ANKY Antikythira Is 7.06 270 P Pn 23 44 33.1 -0.4
DID Didima 7.16 283 P Pn 23 44 35.9 +1.0
DID Didima 7.16 283 P Pn 23 44 35.9 +1.0
HBST Basata 7.29 161 P Pn 23 44 36.9 +0.3
baz=160
HBST Basata 7.29 161 P Pn 23 44 36.9 +0.3
HQLS 7.30 159 P Pn 23 44 37.0 +0.1
HQLS S Sn 23 45 58.0 -0.2
HQLS 7.30 159 S Sn 23 45 57.6 -0.6
HQLS 7.30 159 P Pn 23 44 36.5 -0.3
SLUM 7.32 233 P Pn 23 44 38.0 +1.0
baz=233
SLUM 7.32 233 P Pn 23 44 38.0 +1.0
VLI Veliai 7.33 277 P Pn 23 44 37.4 +0.2
VLI Veliai 7.33 277 P Pn 23 44 37.4 +0.2
NUB 7.45 162 P Pn 23 44 39.6 +0.8
baz=161
NUB S Sn 23 46 00.9 -0.8
baz=161
KDZ Kurdzhali 7.52 319 ⇓P Pn 23 44 41.4 +1.7
KDZ Kurdzhali 7.52 319 ⇓i P Pn 23 44 41.4 +1.7
KDZ Kurdzhali 7.52 319 P Pn 23 44 41.4 +1.7
JMB Yambol 7.58 328 ⇑P Pn 23 44 43.0 +2.6
JMB Yambol 7.58 328 ⇑i P Pn 23 44 43.0 +2.6
JMB Yambol 7.58 328 P Pn 23 44 43.0 +2.6
HDHB Dhahab 7.73 163 P Pn 23 44 42.8 +0.2
baz=162
HDHB Dhahab 7.73 163 P Pn 23 44 42.8 +0.2
HKAT Jabal Katrina 7.79 167 P Pn 23 44 43.6 -0.1
baz=166
HKAT Jabal Katrina 7.79 167 P Pn 23 44 43.6 -0.1
TR2 7.88 169 P Pn 23 44 44.2 -0.5
baz=168
TR2 7.88 169 P Pn 23 44 44.2 -0.5
JLOS 7.96 157 P Pn 23 44 45.0 -0.9
JLOS 7.96 157 P Pn 23 44 45.5 -0.4
BDAS Al Bad' 8.13 160 P Pn 23 44 48.0 -0.2
BDAS Al Bad' 8.13 160 P Pn 23 44 47.9 -0.2
RSHS 8.18 162 P Pn 23 44 48.0 -0.8
RSHS 8.18 162 P Pn 23 44 48.2 -0.6
AWBH 8.24 199 P Pn 23 44 49.0 -0.5
baz=200
TR1 8.29 168 P Pn 23 44 50.7 +0.5
baz=167
TR1 8.29 168 P Pn 23 44 50.7 +0.5
SHRM 8.43 167 P Pn 23 44 52.1 -0.1
baz=166
SHRM 8.43 167 P Pn 23 44 52.1 -0.1
MMB Musomiste 8.43 313 ⇑P Pn 23 44 54.5 +2.3
MMB Musomiste 8.43 313 ⇑i P Pn 23 44 54.5 +2.3
MMB Musomiste 8.43 313 P Pn 23 44 54.5 +2.3
TIRR Tirgusor 8.74 343 ⇑P Pn 23 44 56.9 +0.7
TIRR Tirgusor 8.74 343 ⇑i P Pn 23 44 56.9 +0.7
TIRR Tirgusor 8.74 343 P Pn 23 44 56.9 +0.7
TBKS Tabuk 8.79 153 P Pn 23 44 57.0 -0.1
TBKS Tabuk 8.79 153 P Pn 23 44 57.3 +0.2
SWA2 8.83 221 P Pn 23 44 57.5 0.0
baz=221
SWA2 8.83 221 P Pn 23 44 57.5 0.0
TLB Topalu 8.95 341 ⇓P Pn 23 44 59.4 +0.3
TLB Topalu 8.95 341 ⇓i P Pn 23 44 59.4 +0.3
TLB Topalu 8.95 341 P Pn 23 44 59.4 +0.3
VTS Vitosha 9.36 316 ⇑P Pn 23 45 06.9 +2.0
VTS Vitosha 9.36 316 ⇑i P Pn 23 45 06.9 +2.0
VTS Vitosha 9.36 316 P Pn 23 45 06.9 +2.0
CFR Carcaliu 9.48 343 ⇑P Pn 23 45 05.8 -0.5
CFR Carcaliu 9.48 343 ⇑i P Pn 23 45 05.8 -0.5
CFR Carcaliu 9.48 343 P Pn 23 45 05.8 -0.5
HFRF Wahat Farafira 9.51 200 P Pn 23 45 06.5 -0.4
baz=201
HFRF AMP 23 46 00.0
comp=N,40μm,0.7s,logA/T=4.8,baz=201
HFRF Wahat Farafira 9.51 200 P Pn 23 45 06.5 -0.4
MLR Muntele Rosu 10.39 336 ⇓P Pn 23 45 22.0 +3.1
MLR Muntele Rosu 10.39 336 ⇓i P Pn 23 45 22.0 +3.1
MLR Muntele Rosu 10.39 336 P Pn 23 45 20.3 +1.4
baz=188,slow=7.1
VRI Vrincioaia 10.49 339 ⇑P Pn 23 45 22.5 +2.4
VRI Vrincioaia 10.49 339 ⇑i P Pn 23 45 22.5 +2.4
VRI Vrincioaia 10.49 339 P Pn 23 45 22.5 +2.4
PLOR Plostina 10.50 339 ⇑P Pn 23 45 22.3 +2.1
PLOR Plostina 10.50 339 ⇑i P Pn 23 45 22.3 +2.1
PLOR Plostina 10.50 339 P Pn 23 45 22.3 +2.1
VOIR 10.66 333 ⇑P Pn 23 45 23.4 +0.9
VOIR 10.66 333 ⇑i P Pn 23 45 23.4 +0.9
VOIR 10.66 333 P Pn 23 45 23.4 +0.9
BZS Buzias 12.29 323 ⇓P Pn 23 45 43.1 -1.1
BZS Buzias 12.29 323 ⇓i P Pn 23 45 43.1 -1.1
BZS Buzias 12.29 323 P Pn 23 45 43.1 -1.1
BURAR Bucovina Array 12.51 338 ⇓P Pn 23 45 50.4 +3.1
BURAR Bucovina Array 12.51 338 ⇓i P Pn 23 45 50.4 +3.1
STON Ston 12.92 306 i P P 23 45 59.6 +0.3
TRPA Tarpa 13.86 333 ⇓i P P 23 46 10.6 +0.8
TRPA Tarpa 13.86 333 ⇓i P P 23 46 10.6 +0.8
KIEV Kiev 14.68 353 eP Pn 23 46 16.8 +1.6
KIEV Kiev 14.68 353 eP Pn 23 46 16.8 +1.6
AKASG Malin Array Be 14.68 353 i P P 23 46 17.2 -1.7
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 14.68 353 P Pn 23 46 15.7 +0.4
comp=Z,2.6nm,0.3s,baz=174,slow=10,SNR=12
AKASG Malin Array Be 14.68 353 i P P 23 46 17.2 -1.7
comp=Z,2.0nm,0.4s
KRLC Kraliky 17.76 326 eP Pn 23 46 54.5 +1.0
KRLC Kraliky 17.76 326 eP Pn 23 46 54.5 +1.0
KRLC Kraliky 17.76 326 eP Pn 23 46 54.5 +1.0
DPC Dobruska-Polom 18.16 326 eP Pn 23 46 59.1 +0.7
DPC Dobruska-Polom 18.16 326 eP Pn 23 46 59.1 +0.7
DPC Dobruska-Polom 18.16 326 eP Pn 23 46 59.1 +0.7
UPC Upice 18.41 326 eP P 23 47 00.5 +0.4
UPC Upice 18.41 326 eP P 23 47 00.5 +0.4
UPC Upice 18.41 326 eP P 23 47 00.5 +0.4
GERES GERESS Array B 18.46 319 P P 23 47 01.2 +0.5
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES GERESS Array B 18.46 319 P P 23 47 01.2 +0.5
comp=Z,0.5nm,0.3s,baz=124,slow=8.3,SNR=30
KHC Kasperske Hory 18.70 320 eP P 23 47 03.1 -0.2
KHC Kasperske Hory 18.70 320 eP P 23 47 03.1 -0.2
KHC Kasperske Hory 18.70 320 eP P 23 47 03.1 -0.2
PRU Pruhonice 18.75 323 eP P 23 47 01.1 -2.7
PRU Pruhonice 18.75 323 eP P 23 47 01.1 -2.7
WTTA Wattenberg 18.77 313 ⇓i P Pn 23 47 05.3 -0.5
comp=Z,10nm,0.5s,SNR=10
WTTA Wattenberg 18.77 313 P Pn 23 47 05.3 -0.5
comp=Z,10nm,0.5s,SNR=10
PGF Pioggiola 18.88 297 eP P 23 47 05.6 +0.2
PGF Pioggiola 18.88 297 eP P 23 47 05.6 +0.2
FETA Feichten 19.20 311 i P Pn 23 47 10.2 -0.7
comp=Z,7.0nm,0.8s,SNR=6.7
FETA Feichten 19.20 311 P Pn 23 47 10.2 -0.7
comp=Z,7.0nm,0.8s,SNR=6.7
OBN Obninsk 19.22 8 eP P 23 47 08.5 -0.3
OBN pmax pmax
comp=Z,5.0nm,1.3s
OBN Obninsk 19.22 8 eP P 23 47 08.5 -0.3
comp=Z,5.0nm,1.3s
RETA Reutte 19.40 312 ⇓i P P 23 47 11.3 +0.3
comp=Z,4.7nm,0.4s
RETA Reutte 19.40 312 P P 23 47 11.3 +0.3
comp=Z,4.7nm,0.4s
BRG Berggiesshubel 19.62 324 eP P 23 47 13.6 +0.3
comp=Z,6.4nm,0.7s
BRG Berggiesshubel 19.62 324 eP P 23 47 13.6 +0.3
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG Berggiesshubel 19.62 324 eP P 23 47 13.6 +0.3
comp=Z,6.0nm,0.7s
DAVOX Davos/Dischmat 19.62 310 P P 23 47 14.2 +0.7
DAVOX pmax pmax
comp=Z,1.0nm,0.3s
DAVOX Davos/Dischmat 19.62 310 P P 23 47 14.2 +0.7
comp=Z,0.6nm,0.3s,baz=156,slow=19,SNR=8.9
DAVA Damuels 19.84 311 ⇑i P P 23 47 16.0 +0.1
comp=Z,12nm,0.4s
DAVA Damuels 19.84 311 P P 23 47 16.0 +0.1
comp=Z,12nm,0.4s
SBF Sospel 20.29 300 eP P 23 47 20.9 +0.3
comp=Z,135nm,1.3s
SBF Sospel 20.29 300 eP P 23 47 20.9 +0.3
comp=Z,68nm,1.3s
FRF La Foret Royal 20.77 299 eP P 23 47 25.5 -0.3
comp=Z,28nm,1.0s
FRF La Foret Royal 20.77 299 eP P 23 47 25.5 -0.3
comp=Z,14nm,1.0s
MBDF Montbardon 20.97 302 eP P 23 47 28.1 +0.1
comp=Z,9.5nm,0.7s
MBDF Montbardon 20.97 302 eP P 23 47 28.1 +0.1
comp=Z,4.8nm,0.7s
LPG La Plagne 21.20 304 eP P 23 47 30.3 -0.3
comp=Z,8.2nm,0.5s
LPG La Plagne 21.20 304 eP P 23 47 30.3 -0.3
comp=Z,4.1nm,0.5s
LPL La Plagne 21.21 304 eP P 23 47 30.9 +0.2
comp=Z,12nm,0.8s
LPL La Plagne 21.21 304 eP P 23 47 30.9 +0.2
comp=Z,6.0nm,0.8s
ORIF Oris-en-Rattie 21.63 302 eP P 23 47 34.6 -0.4
ORIF Oris-en-Rattie 21.63 302 eP P 23 47 34.6 -0.4
CDF Champ du Feu 21.91 312 eP P 23 47 36.8 -1.1
comp=Z,4.6nm,0.6s
HINF Hinteralfeld 21.93 310 eP P 23 47 37.0 -1.1
comp=Z,6.1nm,0.5s
CABF La Chapelle 21.98 306 eP P 23 47 37.5 -1.2
comp=Z,4.7nm,0.5s
CABF La Chapelle 21.98 306 eP P 23 47 37.5 -1.2
comp=Z,2.3nm,0.5s
HAU Haudompre 22.31 310 eP P 23 47 41.3 -0.8
comp=Z,6.6nm,0.5s
VSU Vasula 22.59 353 eP P 23 47 45.8 +1.0
VSU pmax pmax
comp=Z,38nm,1.4s
VSU Vasula 22.59 353 eP P 23 47 45.8 +1.0
comp=Z,38nm,1.4s
MEZF Maizieres J'vi 23.30 310 eP P 23 47 50.8 -1.1
SMF Signal de Mont 23.47 305 eP P 23 47 53.3 -0.1
comp=Z,20nm,0.7s
AKTK Aktyubinsk 23.55 45 P P 23 47 55.0 +0.9
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 23.55 45 P P 23 47 55.0 +0.8
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 23.55 45 P P 23 47 55.0 +0.8
comp=Z,1.9nm,0.7s,baz=247,slow=10,SNR=4.5
LOR Lormes 23.64 307 eP P 23 47 54.8 -0.2
comp=Z,6.4nm,0.5s
SSF Saint Saulge 23.81 306 eP P 23 47 55.5 -1.0
AVF Avril sur Loir 23.83 305 eP P 23 47 56.7 0.0
comp=Z,13nm,0.7s
BGF Bois d'Agland 24.10 305 eP P 23 47 59.5 +0.4
BAIF Baives 24.42 313 eP P 23 48 01.3 -0.7
BAIF Baives 24.42 313 eP P 23 48 01.3 -0.7
FINES FINESS Array B 25.59 353 P P 23 48 11.5 -0.9
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 25.59 353 P P 23 48 11.5 -0.9
comp=Z,2.0nm,0.5s,baz=156,slow=12,SNR=11
HFS Hagfors 26.74 340 P P 23 48 22.8 0.0
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 26.74 340 P P 23 48 22.8 0.0
comp=Z,1.8nm,0.7s,baz=130,slow=7.8,SNR=7.3
NOA NORSAR Array B 28.20 339 P P 23 48 35.4 -0.5
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 28.20 339 P P 23 48 35.4 -0.5
comp=Z,0.6nm,0.6s,baz=141,slow=9.2,SNR=2.6
BRVK Borovoye 31.59 46 eP P 23 49 06.2 +0.3
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BRVK Borovoye 31.59 46 eP P 23 49 06.2 +0.3
comp=Z,2.0nm,1.0s
AAK Ala-Archa 33.20 66 P P 23 49 20.5 +0.3
AAK pmax pmax
comp=Z,1.0nm,0.3s
AAK Ala-Archa 33.20 66 P P 23 49 20.5 +0.3
comp=Z,1.0nm,0.3s,baz=305,slow=14,SNR=9.0
ARCES ARCESS Array B 33.63 356 P P 23 49 23.2 -0.3
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 33.63 356 P P 23 49 23.2 -0.3
comp=Z,3.8nm,0.9s,baz=159,slow=7.7,SNR=14
KURBB Kurchatov Arra 36.15 52 P P 23 49 45.7 +0.4
comp=Z,1.4nm,0.2s,baz=271,slow=8.9,SNR=12
KURK Kurchatov 36.21 51 P P 23 49 45.7 -0.2
KURK pmax pmax
comp=Z,1.0nm,0.2s
KURK Kurchatov 36.21 51 P P 23 49 45.7 -0.2
comp=Z,1.0nm,0.2s
MKAR Makanchi Array 38.55 58 i P P 23 50 06.5 +0.8
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 38.55 58 P P 23 50 06.5 +0.8
comp=Z,1.3nm,0.8s,baz=275,slow=6.8,SNR=13
ZALV Zalesovo Beam 40.28 47 P P 23 50 19.8 -0.1
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 40.28 47 P P 23 50 19.8 -0.1
comp=Z,2.5nm,0.5s,baz=267,slow=9.0,SNR=11
PYUN Piuthan 43.50 86 eP P 23 50 47.8 +1.0
comp=Z,14nm,0.4s
DANN Dangsing 44.02 85 eP P 23 50 52.4 +1.4
comp=Z,33nm,0.5s
KOLN Koldanda 44.13 86 eP P 23 50 52.7 +0.9
GKN Gorkha 44.87 85 eP P 23 50 58.5 +0.9
comp=Z,9.8nm,0.5s
DMN Daman 45.41 85 eP P 23 51 03.2 +1.2
comp=Z,15nm,0.4s
KKN Kakani 45.48 85 eP P 23 51 03.3 +0.8
PKIN Phulchoki 45.66 85 eP P 23 51 04.7 +0.7
PKI Pulchoki 45.67 85 eP P 23 51 04.8 +0.6
comp=Z,4.9nm,0.4s
GUN Gumba 45.91 84 eP P 23 51 07.4 +1.3
JIRN Jiri 46.27 85 eP P 23 51 09.7 +0.8
comp=Z,9.7nm,0.5s
RAMN Ramite 46.90 85 eP P 23 51 13.9 +0.2
ODAN Odare 47.57 85 eP P 23 51 19.1 +0.2
TAPN Taplejung 47.62 84 eP P 23 51 19.2 -0.1
GTA Gaotai 52.54 65 eP P 23 51 57.5 +1.3
GTA pP pP 23 52 00.5 -19
GTA sP sP 23 52 03.3 -28
GTA pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 54.49 53 P P 23 52 10.8 +0.5
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 54.49 53 P P 23 52 10.8 +0.5
comp=Z,0.5nm,0.5s,baz=279,slow=7.5
CMAR Chiang Mai Arr 60.94 88 P P 23 52 56.1 +0.4
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 60.94 88 P P 23 52 56.0 +0.4
comp=Z,0.8nm,0.4s,baz=289,slow=7.6,SNR=5.9
SCHQ Schefferville 65.98 321 P P 23 53 27.8 -0.5
comp=Z,0.8nm,0.4s,baz=41,slow=3.3,SNR=7.2
KSRS Korea Array 73.19 56 P P 23 54 12.6 -0.3
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS Korea Array 73.19 56 P P 23 54 12.6 -0.3
comp=Z,1.0nm,0.5s,baz=305,slow=4.3,SNR=3.6
YKA Yellowknife Ar 78.08 345 P P 23 54 40.6 +0.3
comp=Z,0.3nm,0.5s,baz=25,slow=5.6,SNR=6.8
ILAR Eielson Array 79.40 360 P P 23 54 47.9 +0.3
comp=Z,0.2nm,0.9s,baz=316,slow=3.4,SNR=4.6

IDC 04 23:51:48.9±1.2, 16°.74S×173°.54W, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/28, mbtmp4.0/6, ML3.9/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/34, Error ellipse: s-maj=53.5km s-min=21.1km az=132.0

ISC 04 23:51:53.5±1.1, 16°.7S±0°.3×173°.3W±0°.4, h35km, n18, σ1s.81/8, mb4.0/5, Tonga Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AFI Afiamalu 3.12 28 Pn Pn 23 52 40.4 +0.2
14nm,0.3s,baz=230,slow=16,SNR=4.4
AFI Sn Sn 23 53 14.3 -2.0
98nm,0.3s,baz=230,slow=23,SNR=11
RAR Rarotonga 13.57 112 LR LR 23 59 11.2
comp=Z,103nm,18.1s,baz=45,slow=32
DZM Mont Dzumac 19.84 251 LR LR 00 02 18.2
comp=Z,170nm,18.5s,baz=43,slow=32
URZ Urewera 23.10 200 P P 23 56 54.9 -1.4
3.8nm,0.4s,baz=4.7,slow=3.6,SNR=7.8

HNR	Honiara	27.02	282	LR	LR	00 06 44.6	
	comp=Z,169nm,20.3s,baz=132,slow=33						
H11S2	WAKE ISLAND Hy	40.10	330	T	T	00 41 53.1	
	baz=152						
H11S3	WAKE ISLAND Hy	40.12	330	T	T	00 41 52.5	
	baz=152						
H11S1	WAKE ISLAND Hy	40.12	330	T	T	00 41 51.9	
	baz=152						
H11N3	WAKE ISLAND Hy	41.06	331	T	T	00 42 57.5	
	baz=153						
H11N1	WAKE ISLAND Hy	41.07	331	T	T	00 42 56.1	
	baz=153						
H11N2	WAKE ISLAND Hy	41.08	331	T	T	00 42 58.0	
	baz=153						
STKA	Stephens Creek	43.50	241	P	**P**	**23 59 52.9**	**-0.8**
	1.4nm,0.4s,baz=92,slow=9.2,SNR=7.8						
WRA	Warramunga Arr	49.66	258	P	P	00 00 40.1	-2.1
	0.5nm,0.5s,baz=94,slow=7.1,SNR=7.1						
ASAR	Alice Springs	49.82	253	P	P	00 00 41.3	-2.1
	2.5nm,0.5s,baz=87,slow=9.2,SNR=22						
FX1	Attu Island--F	70.25	351	LR	LR	00 27 56.5	
	comp=Z,53nm,22.0s,baz=67,slow=31						
PDAR	Pinedale Array	83.14	42	P	**P**	**00 04 17.6**	**+1.4**
	0.4nm,0.7s,baz=237,slow=3.1,SNR=3.8						
BRTR	Keskin Array B	147.20	320	PKPbc	**PKPbc**	**00 11 35.2**	**+1.6**
	0.4nm,0.8s,baz=16,slow=2.8,SNR=2.7						
GERES	GERESS Array B	147.41	351	PKP	**PKPdf**	**00 11 29.9**	**-1.4**
	0.1nm,0.5s,baz=27,slow=1.1,SNR=3.0						
GERES				PKPbc	**PKPbc**	**00 11 35.6**	**+1.8**
	0.2nm,0.6s,baz=22,slow=1.1,SNR=3.1						

WEL 04 23:56:48.0±0.3,38°.00S×176°.20E,h161km±3km,ML3.5/7, 19C-3D,Error ellipse: s-maj=2.6km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARZ	Mount Tarawera	0.34	135	PN	Pn	23 57 11.2	+1.1
URZ	Urewera	0.76	110	⇑PN	Pn	23 57 12.2	+0.1
URZ				SN	Sn	23 57 30.0	-0.6
URZ				AML	AML	23 57 31.3	
RATZ	Rangitukua	0.93	201	⇑PN	Pn	23 57 14.0	+0.6
RAGZ	Rawiri	1.08	118	⇑PN	Pn	23 57 14.9	+0.3
RAGZ				eSN	Sn	23 57 35.1	+0.1
MWZ	Matawai	1.10	108	⇑PN	Pn	23 57 14.7	0.0
MWZ				SN	Sn	23 57 34.8	-0.4
MWZ				AML	AML	23 57 36.9	
RAHZ	Arahi	1.15	143	⇑PN	Pn	23 57 15.6	+0.4
SNGZ	Shannon Statio	1.19	131	PN	Pn	23 57 15.7	+0.3
BKZ	Black Stump Fm	1.19	169	⇑PN	Pn	23 57 15.4	-0.1
BKZ				SN	Sn	23 57 36.2	-0.6
BKZ				AML	AML	23 57 36.5	
NMHZ	Naumai	1.20	157	PN	Pn	23 57 16.2	+0.6
OTVZ	Oturere	1.24	200	⇑PN	Pn	23 57 16.7	+0.6
HAZ	Te Kaha	1.27	79	⇓PN	Pn	23 57 15.9	-0.4
TUVZ	Tukino	1.34	199	⇑PN	Pn	23 57 17.3	+0.2
WHHZ	Waihua	1.35	143	⇑PN	Pn	23 57 17.1	+0.2
FWVZ	Far West T-bar	1.35	202	PN	Pn	23 57 17.6	+0.3
TRVZ	Turoa	1.40	201	PN	Pn	23 57 17.9	+0.2
WNVZ	Wahianoa	1.41	199	⇑PN	Pn	23 57 17.8	+0.1
RIGZ	Rimuhau	1.42	120	PN	Pn	23 57 17.8	+0.2
MOVZ	Moawhango	1.45	194	PN	Pn	23 57 17.6	-0.5
BHHZ	Black Hill Sta	1.49	184	⇑PN	Pn	23 57 18.0	-0.4
MCHZ	McNeill Hill	1.49	165	PN	Pn	23 57 18.8	+0.4
MTVZ	Mangateitei	1.50	202	⇑PN	Pn	23 57 18.6	+0.1
KNZ	Kokohu	1.54	132	⇑PN	Pn	23 57 18.6	-0.2
PUZ	Puketiti	1.62	93	PN	Pn	23 57 19.4	-0.4
PUZ				SN	Sn	23 57 42.8	-1.4
KRHZ	Kereru	1.65	175	PN	Pn	23 57 19.7	-0.3
CNGZ	Carnagh Statio	1.65	108	PN	Pn	23 57 20.4	+0.4
MXZ	Matakaoa Point	1.72	76	PN	Pn	23 57 20.4	-0.3
MHGZ	Mahia Peninsul	1.76	131	⇑PN	Pn	23 57 21.1	-0.1
CKHZ	Cape Kidnapper	1.79	158	⇑PN	Pn	23 57 21.3	-0.2
KAHZ	Kahuranaki	1.87	164	⇑PN	Pn	23 57 22.1	-0.3
PNHZ	Pukenui	1.91	180	PN	Pn	23 57 21.9	-1.0
WAZ	Wanganui	1.99	208	PN	Pn	23 57 23.4	-0.4
TSZ	Takapari Road	2.07	185	⇑PN	Pn	23 57 23.6	-1.0
TSZ				AML	AML	23 57 53.0	
TSZ				AML	AML	23 57 53.3	
WPHZ	Waipukurau	2.07	175	PN	Pn	23 57 23.6	-1.0
PXZ	Pawanui	2.09	166	⇑PN	Pn	23 57 23.9	-1.0
PXZ				SN	Sn	23 57 50.6	-2.8
PXZ				AML	AML	23 57 54.4	
PRHZ	Porangahau	2.29	172	PN	Pn	23 57 26.1	-1.1
DVHZ	Dannevirke	2.30	181	PN	Pn	23 57 25.7	-1.6
POWZ	Post Office Ro	2.41	188	PN	Pn	23 57 27.0	-1.7
ANWZ	Angora Road	2.47	175	PN	Pn	23 57 27.9	-1.3
PRWZ	Pori Road	2.56	184	PN	Pn	23 57 28.8	-1.5
BFZ	Birch Farm	2.68	179	PN	Pn	23 57 29.8	-2.0
MRZ	Mangatainoka R	2.70	190	⇑PN	Pn	23 57 30.0	-2.2
MRZ				SN	Sn	23 58 02.1	-4.3
MRZ				AML	AML	23 58 05.1	
TIWZ	Tintock	2.79	185	PN	Pn	23 57 31.0	-2.2
TIWZ				AML	AML	23 58 05.3	
TIWZ				AML	AML	23 58 06.7	
CPWZ	Castlepoint	2.91	180	PN	Pn	23 57 32.9	-1.7
OGWZ	Otaki Gorge	2.93	196	PN	Pn	23 57 32.7	-2.2
HOWZ	Holdsworth Sta	2.94	190	⇓PN	Pn	23 57 32.6	-2.6
KIW	Kapiti Island	3.03	199	PN	Pn	23 57 33.6	-2.6
TMWZ	Te Maipa	3.11	184	PN	Pn	23 57 34.7	-2.6
MTW	Mount Morrison	3.20	190	PN	Pn	23 57 35.2	-3.1
CAW	Cannon Point	3.23	195	PN	Pn	23 57 35.8	-2.8
DUWZ	D'Urville Isla	3.31	212	PN	Pn	23 57 37.2	-2.5
TRWZ	Traveller	3.42	187	PN	Pn	23 57 38.0	-3.1
PAWZ	Paruwai Farm	3.43	190	PN	Pn	23 57 37.9	-3.3
MSWZ	Moikau Station	3.49	192	PN	Pn	23 57 38.5	-3.5
SNZO	South Karori	3.50	199	PN	Pn	23 57 38.9	-3.2
TCW	Tory Channel	3.54	204	PN	Pn	23 57 39.6	-3.0
BHW	Baring Head	3.56	196	PN	Pn	23 57 39.4	-3.4
PLWZ	Palliser	3.64	191	⇓PN	Pn	23 57 40.3	-3.6
TUWZ	Tuamarina	3.84	206	PN	Pn	23 57 43.1	-3.4
THZ	Tophouse	4.54	213	PN	Pn	23 57 53.0	-2.6
KHZ	Kahutara	4.86	204	PN	Pn	23 57 55.8	-3.9

MEX 05 00:10:58.7±0.4,16°.10N×97°.15W,h28km±8km,MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.99	287	*i* P	Pn	00 11 14.3	-2.4
PNIG				*i* S	Sn	00 11 26.2	-3.7
VHO	Vista Hermosa	1.05	22	*e*P	Pn	00 11 15.1	-2.7
VHO				*i* S	Sn	00 11 28.3	-3.5
HUIG	Huatulco	1.05	108	*e*P	Pn	00 11 15.2	-2.5
HUIG				*i* S	Sn	00 11 27.6	-3.8
TLIG	Tlapa	1.99	317	*e*P	Pn	00 11 29.8	-1.0
TLIG				*i* S	Sn	00 11 52.1	-2.9
TPIG	Tehuac#an	2.32	355	*e*P	Pn	00 11 33.1	-2.2
TPIG				*i* S	Sn	00 11 59.9	-3.2
CMIG	Matias Romero	2.38	65	*e*P	Pn	00 11 34.3	-1.7
CMIG				*i* S	Sn	00 12 01.2	-3.2
YAIG	Yautepec	3.31	327	*e*P	Pn	00 11 46.8	-2.1
YAIG				*i* S	Sn	00 12 25.1	-2.3
ARIG	Puente Sto Nin	3.75	306	*e*P	Pn	00 11 53.1	-1.8
ARIG				*i* S	Sn	00 12 35.5	-2.7

IDC 05 00:24:04.2±2.6,5°.84S×152°.59E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.3/23,mbtmp3.2/3,Error ellipse: s-maj=185.7km s-min=30.9km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.61	230	P	P	00 29 07.1	+0.3
	0.5nm,1.0s,baz=55,slow=10.0,SNR=3.3						
ASAR	Alice Springs	25.25	224	P	P	00 29 32.0	-0.3
	0.3nm,0.7s,baz=58,slow=9.0,SNR=4.3						
ILAR	Eielson Array	83.20	22	P	P	00 36 32.4	+0.3
	0.2nm,0.6s,baz=239,slow=5.2,SNR=4.9						
TORD	Torodi Ar. Bea	150.41	286	PKPbc	PKPbc	00 43 58.1	-0.8
	0.4nm,1.1s,baz=64,slow=3.4,SNR=1.6						

ISCJB 05 00:29:22.0±0.6, 13°.29N±0°.08×89°.19W±0°.06, h81km±6km, mb3.7/1, Error ellipse: s-maj=15.0km s-min=5.2km az=33.3

IDC 05 00:29:22.4±2.1, 13°.50N×89°.10W, h67km±23km, mb3.1/2, mb1 3.6/4, mb1mx3.2/51, mbtmp3.5/4, MS2.5/4, Ms1 2.5/4, ms1mx2.4/16, Error ellipse: s-maj=87.8km s-min=14.5km az=43.0

CASC 05 00:29:22.8±1.6, 13°.24N×89°.18W, h66km±11km, MD4.1, ML4.1

ISC 05 00:29:22.9±1.0,13°.30N±0°.09×89°.20W±0°.06,h74km±8km, n27,σ1§30/36,1D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.35	23	*e*P	**Pn**	**00 29 34.5**	**-0.5**
SNET	Serv Nac Est T	0.39	355	*e*P	**Pn**	**00 29 34.9**	**-0.3**
SNET				*e*S	**Sn**	**00 29 44.5**	**+0.3**
SNET				AML	AML	00 29 47.5	
	comp=Z,9μm,0.2s						
BOQS	Boqueron	0.44	350	*e*P	**Pn**	**00 29 35.5**	**-0.3**
BOQS				*e*S	**Sn**	**00 29 45.8**	**+0.5**
LFU	La Fuente	0.45	11	⇓*e*P	**Pn**	**00 29 35.5**	**-0.3**
LBRS	Las Brisas	0.46	19	*e*P	**Pn**	**00 29 35.2**	**-0.6**
SNVI	San Vicente	0.47	49	*e*P	**Pn**	**00 29 35.4**	**-0.5**
SNVI				*e*S	**Sn**	**00 29 45.7**	**+0.1**
SBLS	San Blas	0.68	323	*e*P	**Pn**	**00 29 38.0**	**0.0**
SNJE	San Jose	0.69	325	*e*P	**Pn**	**00 29 37.8**	**-0.4**
RTR	El Retiro	0.73	324	*e*P	**Pn**	**00 29 38.6**	**0.0**
RTR				*e*S	**Sn**	**00 29 51.8**	**+1.4**
VSM	San Miguel	0.91	82	*e*P	**Pn**	**00 29 40.3**	**-0.4**
RBDL	Robledal	0.94	330	*e*P	**Pn**	**00 29 41.1**	**+0.1**
CAHU	Cacacuatique	1.07	64	*e*P	**Pn**	**00 29 42.2**	**-0.4**
CAHU				*e*S	**Sn**	**00 29 58.4**	**+1.0**
CNCH	Conchagua	1.33	91	*e*P	**Pn**	**00 29 45.3**	**-0.6**
CNCH				*e*S	**Sn**	**00 30 02.8**	**-0.4**
IXG	Ixpaco	1.50	306	*e*P	**Pn**	**00 29 47.8**	**-0.3**
MRL	Marmol	1.82	345	*e*P	**Pn**	**00 29 53.2**	**+0.9**
MRL				*e*P	**Pn**	**00 29 54.3**	**+1.9**
APG	El Apazote	2.09	324	P	**Pn**	**00 29 53.4**	**-2.7**
	comp=Z,7.2nm,0.3s,baz=144,slow=6.3,SNR=56						
APG				LR	LR	00 30 18.7	
	comp=Z,16nm,20.3s,baz=268,slow=28						
COPN	Copaltepe	2.78	113	*e*P	**Pn**	**00 30 03.9**	**-1.3**
COPN				*e*S	**Sn**	**00 30 35.9**	**-1.8**
JTS	JuntasAbangare	5.12	125	P	**Pn**	**00 30 38.0**	**+0.8**
	comp=Z,3.9nm,0.3s,baz=319,slow=19,SNR=11						
JTS				S	**Sn**	**00 31 35.8**	**+0.8**
	comp=Z,5.7nm,0.3s,baz=164,slow=20,SNR=3.0						
JTS				LR	LR	00 33 02.5	
	comp=Z,68nm,18.6s,baz=44,slow=43						
JCR	Jicaral	5.27	130	*e*P	**Pn**	**00 30 40.0**	**+0.8**
CGA2	Cerro Gallo 2	5.67	125	*e*P	**Pn**	**00 30 46.3**	**+1.5**
BUS	Buena Vista	6.50	124	*e*P	**Pn**	**00 30 58.2**	**+1.8**
BUS				*e*S	**Sn**	**00 32 13.6**	**+4.1**
TEIG	Tepich	6.94	7	P	**Pn**	**00 31 04.0**	**+2.1**
	comp=Z,2.4nm,0.3s,baz=5.9,slow=5.5,SNR=13						
TEIG				LR	LR	00 33 21.1	
	comp=Z,28nm,20.3s,baz=91,slow=35						
TXAR	Lajitas Array	20.85	322	P	**P**	**00 33 59.9**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=143,slow=9.7,SNR=6.6						
SJG	San Juan	22.69	75	LR	LR	00 42 43.0	
	comp=Z,64nm,19.1s,baz=270,slow=36						
YKA	Yellowknife Ar	52.35	345	P	**P**	**00 38 25.4**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=147,slow=6.9,SNR=9.6						
WRA	Warramunga Arr	137.85	255	PKP	**PKPdf**	**00 48 39.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=87,slow=2.4,SNR=4.7						
ASAR	Alice Springs	137.98	249	PKP	**PKPdf**	**00 48 40.0**	**0.0**
	comp=Z,0.1nm,0.4s,baz=90,slow=1.8,SNR=4.0						

IDC 05 00:33:41.1±0.9, 24°.49S×116°.27W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/34, mbtmp4.1/11, MS4.4/14, Ms1 4.4/14, ms1mx4.2/36, Error ellipse: s-maj=34.0km s-min=21.8km az=44.0

GCMT 05 00:33:42.7±0.2, 24°.80S×116°.22W, h14km±1km, MW5.1/100, Moment Tensor Solution. s59,c76; s100,c158; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.37±.15; Mθθ-4.62±.15; Mφφ5.99±.17; Mrθ-1.23±.33; Mθφ3.21±.15; Mφr0.54±.28; Best double couple: Mo6.39800×10^16 NP1:φs152.00000°,δ79.00000°, λ-167.00000°. NP2:φs59.00000°,δ78.00000°, λ-11.00000°. Principal axes: T 6.8900, Plg1.0000°, Azm285.0000°; N -0.9840, Plg74.0000°, Azm191.0000°; P -5.9060, Plg16.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 05 00:33:42.7±0.6, 24°.57S×116°.14W, h10km, mb5.0/39, MS4.8/49 Error ellipse: s-maj=21.2km s-min=11.2km az=59.0

ISCJB 05 00:33:43.1±1.0, 24°.3S±0°.1×115°.9W±0°.2, h12km, mb4.7/47, MS4.8/63, Error ellipse: s-maj=26.7km s-min=13.0km az=139.2

BJI 05 00:33:49.1, 23°.00S×114°.70W, h10km, mB5.2/1, Ms5.1/1, Ms7 4.9/2

ISC 05 00:33:44.0±0.8,24°.4S±0°.2×116°.1W±0°.2,h12km,n290, σ0§94/224,mb4.9/49,MS4.8/63,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	Rikitea	17.33	270	*e*LR	LR	00 41 38.8	
	7μm,26.2s,baz=105						
RKT	Rikitea	17.33	270	*e*T	T	00 54 59.1	
	2.6nm,0.3s						
TBI	Tubuai	30.49	265	*e*LR	LR	00 47 38.9	
	2μm,28.8s,baz=100						
PPT2	Papeete2	31.93	276	*e*S	S	00 45 34.4	+13
	401nm,27.0s						
PPT2				*e*LR	LR	00 48 18.3	
	3μm,27.5s,baz=106						
H03N2	Juan Fernandez	33.61	114	T	T	01 16 19.7	
	baz=276,slow=74,SNR=60						
H03N3	Juan Fernandez	33.62	114	T	T	01 16 14.2	
	baz=276,slow=74,SNR=96						
H03N1	Juan Fernandez	33.63	114	T	T	01 16 19.4	
	baz=276,slow=74,SNR=49						
NNA	Nana	39.14	79	PFAKE		00 41 20.0	+8.2
NNA				LR	LR		
	comp=Z,1μm,18.0s						
ATAH	Atahualpa	39.95	71	P	**P**	**00 41 20.4**	**+1.4**
	comp=Z,3.3nm,0.7s,baz=345,slow=4.6,SNR=3.5						
ATAH				LR	LR	00 53 39.9	
	comp=Z,702nm,18.3s,baz=240,slow=30						
LCO	Las Campanas	40.63	107	PFAKE		00 41 30.0	+5.6
LCO				LR	LR		
	comp=Z,3μm,22.0s						
PLCA	Paso Flores	41.22	125	P	**P**	**00 41 29.4**	**+0.5**
	comp=Z,5.3nm,1.0s,baz=279,slow=5.6,SNR=3.7						
PLCA	Paso Flores	41.22	125	P	**P**	**00 41 29.4**	**+0.5**
PLCA				LR	LR		
	comp=Z,1μm,18.8s						
CFAA	Coronel Fontan	42.60	111	LR	LR	00 55 03.8	
	comp=Z,177nm,20.9s,baz=280,slow=30						
LVC	Limon Verde	43.15	98	PFAKE		00 42 00.0	+15
LVC				LR	LR		
	comp=Z,2μm,22.0s						
OTAV	Otavalo	43.92	62	PFAKE		00 42 00.0	+8.4
OTAV				LR	LR		
	comp=Z,300nm,19.9s						
LPAZ	La Paz	45.51	89	P	**P**	**00 42 04.4**	**0.0**
	comp=Z,4.8nm,1.0s,baz=259,slow=7.1,SNR=10						
LPAZ	La Paz	45.51	89	*e*P	**P**	**00 42 04.8**	**+0.4**
	comp=Z,13nm,1.3s						
LPAZ				LR	LR		
	comp=Z,600nm,20.9s						
JTS	JuntasAbangare	45.96	45	LR	LR	00 55 54.6	
	comp=Z,215nm,20.3s,baz=157,slow=29						
USHA	Ushuaia	46.35	144	LR	LR	00 56 58.3	
	comp=Z,727nm,20.6s,baz=276,slow=30						
APG	El Apazote	46.47	35	LR	LR	00 56 45.7	
	comp=Z,201nm,21.4s,baz=275,slow=30						
TRQA	Tornquist	47.63	120	PFAKE		00 42 30.0	+10
TRQA				LR	LR		
	comp=Z,900nm,19.5s						
LPIG	La Paz	48.53	7	LR	LR	00 57 51.0	
	comp=Z,588nm,20.9s,baz=192,slow=30						
SAML	Samuel	52.65	83	*e*P	**P**	**00 42 56.0**	**-2.4**
	comp=Z,18nm,1.6s						
SAML				LR	LR		
	comp=Z,200nm,22.0s						
AFI	Afiamalu	53.33	270	LR	LR	00 59 44.1	
	comp=Z,1μm,18.8s,baz=114,slow=29						
TX31	Lajitas Ar. Si	54.73	13	*e*P	**P**	**00 43 11.2**	**-2.2**
TXAR	Lajitas Array	54.73	13	P	**P**	**00 43 13.8**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=202,slow=9.5,SNR=3.8						
833A	Chaparral WMA,	54.82	18	P	**P**	**00 43 14.8**	**+0.9**
	baz=53						
626A	Big Bend Ranch	54.85	13	P	**P**	**00 43 15.0**	**+0.7**
	baz=54						
627A	Terlingua Ranc	54.91	14	P	**P**	**00 43 15.4**	**+0.7**
	baz=54						
628A	Black Gap, Mar	55.05	14	P	**P**	**00 43 16.6**	**+0.9**
	baz=54						
526A	Mary Lane Ranc	55.35	13	P	**P**	**00 43 18.8**	**+0.8**
	baz=54						
527A	Woodward Ranch	55.53	13	P	**P**	**00 43 20.3**	**+1.0**
	baz=54						
529A	Stev Forest Ra	55.81	15	P	**P**	**00 43 22.6**	**+1.4**
	baz=54						
319A	Douglas	55.83	7	P	**P**	**00 43 22.5**	**+1.1**
	baz=55						
425A	Indio Mountain	55.88	12	P	**P**	**00 43 22.3**	**+0.5**
	baz=55						
426A	McDonald Obser	55.95	13	P	**P**	**00 43 23.1**	**+0.7**
	baz=55						
530A	J-C Ranch, Com	56.04	15	P	**P**	**00 43 23.4**	**+0.5**
	baz=55						
214A	Organ Pipe Nat	56.11	3	P	**P**	**00 43 24.0**	**+0.7**
	baz=55						
427A	Hayter Ranch,	56.25	13	P	**P**	**00 43 24.7**	**+0.3**
	baz=55						
531A	Rocksprings	56.26	16	P	**P**	**00 43 24.9**	**+0.5**
	baz=55						
428A	Kincaid Ranch,	56.29	14	P	**P**	**00 43 25.8**	**+1.2**
	baz=55						
429A	Davenport Ranc	56.37	15	P	**P**	**00 43 25.9**	**+0.7**
	baz=55						
533A	Kerrville	56.57	18	P	**P**	**00 43 27.1**	**+0.5**
	baz=55						
TUC	Tucson	56.61	5	*e*P	**P**	**00 43 27.7**	**+0.9**
	comp=Z,20nm,1.8s						
TUC				LR	LR		
	comp=Z,500nm,20.0s						
MNTX	Cornudas Mount	56.70	11	*e*P	**P**	**00 43 27.3**	**-0.1**
	comp=Z,7.8nm,1.1s						
431A	Sonora	56.73	16	P	**P**	**00 43 28.3**	**+0.5**
	baz=55						
JCT	Junction City	56.75	17	*e*P	**P**	**00 43 27.0**	**-0.8**
	comp=Z,14nm,0.8s						
JCT	Junction City	56.75	17	P	**P**	**00 43 28.4**	**+0.5**
	baz=55						
328A	Wristen Ranch,	56.89	14	P	**P**	**00 43 28.9**	**0.0**
	baz=56						
121A	Cookes Peak, D	57.15	8	P	**P**	**00 43 31.7**	**+0.8**
	baz=56						
433A	Art	57.20	17	P	**P**	**00 43 31.0**	**0.0**
	baz=56						
225A	Deer Hill, Car	57.20	11	P	**P**	**00 43 31.1**	**-0.1**
	baz=56						
330A	Mertzon	57.29	15	P	**P**	**00 43 31.6**	**0.0**
	baz=56						
226B	Tecolote Peak,	57.29	12	P	**P**	**00 43 31.7**	**0.0**
	baz=56						
331A	San Angelo	57.38	16	P	**P**	**00 43 32.8**	**+0.5**
	baz=56						
434A	Burnet	57.48	18	P	**P**	**00 43 33.1**	**+0.1**
	baz=56						
332A	Millersview	57.62	17	P	**P**	**00 43 33.9**	**-0.1**
	baz=56						
PFO	Pinyon Flat Ob	57.67	360	LR	LR	01 02 33.6	
	comp=Z,239nm,18.1s,baz=184,slow=30						
230A	Sterling City	57.76	15	P	**P**	**00 43 34.7**	**-0.3**
	baz=56						
125A	Gardner Draw,	57.77	11	P	**P**	**00 43 35.2**	**+0.1**
	baz=56						
BKZ	Black Stump Fm	57.96	238	PFAKE		00 43 50.0	+13
BKZ				LR	LR		
	comp=Z,800nm,20.0s						
Z22A	Elephant Butte	57.98	9	P	**P**	**00 43 37.2**	**+0.6**
	baz=57						
BFZ	Birch Farm	57.98	236	PFAKE		00 43 50.0	+13
BFZ				LR	LR		
	comp=Z,1μm,22.0s						
334A	Lometa	57.98	18	P	**P**	**00 43 36.7**	**+0.2**
	baz=57						
BELC	Belle Mtn. Jos	58.06	0	P	**P**	**00 43 39.0**	**+1.8**
	baz=57						
232A	Coleman	58.13	16	P	**P**	**00 43 38.2**	**+0.6**
	baz=57						
128A	Castleberry Fa	58.16	14	P	**P**	**00 43 37.9**	**+0.1**
	baz=57						
Z24A	Sheeppen Canyo	58.30	11	P	**P**	**00 43 39.4**	**+0.4**
	baz=57						
129A	Stewart Farms,	58.30	14	P	**P**	**00 43 39.2**	**+0.4**
	baz=57						
Z25A	Roswell	58.36	11	P	**P**	**00 43 39.0**	**-0.2**
	baz=57						
233A	Rising Star	58.45	17	P	**P**	**00 43 39.6**	**-0.1**
	baz=57						
Z26A	Caprock	58.49	12	P	**P**	**00 43 39.7**	**-0.5**
	baz=57						
X16A	Lo Mia Camp, P	58.65	5	P	**P**	**00 43 42.2**	**+0.8**
	baz=58						
Z27A	Tatum	58.68	13	P	**P**	**00 43 41.7**	**+0.2**
	baz=57						
Y23A	Lovelace Mesa,	58.78	10	P	**P**	**00 43 43.1**	**+0.9**
	baz=58						
WHTX	Lake Whitney	58.82	19	*e*P	**P**	**00 43 42.0**	**-0.3**
	comp=Z,9.4nm,0.8s						
ABTX	Abilene, Hawle	58.83	16	P	**P**	**00 43 42.8**	**+0.4**
	baz=58						
Y24A	Capitan	58.87	10	P	**P**	**00 43 44.3**	**+1.4**
	baz=58						
Z29A	Hungry Hill Ra	58.94	14	P	**P**	**00 43 43.4**	**+0.1**
	baz=58						
Y25A	Mesa, Roswell	58.99	11	P	**P**	**00 43 44.1**	**+0.4**
	baz=58						
133A	Hamilton Ranch	59.00	17	P	**P**	**00 43 43.6**	**0.0**
	baz=58						
Z30A	Sanderson Ranc	59.10	15	P	**P**	**00 43 44.1**	**-0.2**
	baz=58						
PTGA	Pitinga	59.11	75	PFAKE		00 44 00.0	+15
PTGA				LR	LR		
	comp=Z,400nm,19.9s						
LDFC	Landfair	59.15	1	*e*P	P	00 43 49.2	+4.5
	comp=Z,14nm,1.3s						
LDFC				LR	LR		
	comp=Z,400nm,20.0s						
134A	White-Moore Ra	59.19	18	P	**P**	**00 43 45.1**	**+0.2**
	baz=58						
W13A	Hualapai Mount	59.20	2	P	**P**	**00 43 45.9**	**+0.7**
	baz=58						
Y27A	Causey	59.24	13	P	**P**	**00 43 45.5**	**+0.2**
	baz=58						
X23A	Hourglass Bar	59.39	9	P	**P**	**00 43 47.7**	**+1.2**
	baz=58						
MSTX	Muleshoe	59.40	13	*e*P	**P**	**00 43 45.5**	**-1.0**
	comp=Z,6.6nm,0.8s						
MSTX	Muleshoe	59.40	13	P	**P**	**00 43 46.2**	**-0.2**
	baz=58						
Y28A	McKinney Farm,	59.45	13	P	**P**	**00 43 46.8**	**0.0**
	baz=58						
W18A	Petrified Fore	59.49	6	*e*P	**P**	**00 43 47.9**	**+0.8**
	comp=Z,6.7nm,0.8s						
W18A				LR	LR		
	comp=Z,501nm,18.9s						
Z32A	Haskell	59.52	16	P	**P**	**00 43 47.0**	**-0.2**
	baz=58						
ANMO	Albuquerque	59.71	9	P	**P**	**00 43 49.2**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=135,slow=5.7,SNR=3.5						
WUAZ	Wupatki	59.74	4	*e*P	**P**	**00 43 50.1**	**+1.2**
	comp=Z,6.9nm,1.0s						
ISA	Isabella	59.77	358	PFAKE		00 44 00.0	+11
ISA				LR	LR		
	comp=Z,500nm,19.9s						
Y31A	Rekieta Farm,	59.95	15	P	**P**	**00 43 50.2**	**0.0**
	baz=59						
W24A	Lazy 6 Ranch,	60.13	10	P	**P**	**00 43 52.6**	**+1.0**
	baz=59						
W25A	X Bar L Ranch,	60.30	11	P	**P**	**00 43 53.0**	**+0.4**
	baz=59						
W27A	Bowe Ranch, En	60.40	12	P	**P**	**00 43 53.6**	**+0.3**
	baz=59						
AMTX	Amarillo	60.51	14	P	**P**	**00 43 54.0**	**0.0**
	baz=59						
SHPR	Sheep Range	60.57	1	*e*P	**P**	**00 43 55.3**	**+0.8**
U15A	North Rim	60.59	4	P	**P**	**00 43 55.7**	**+0.8**
	baz=60						
V22A	San Miguel Ran	60.60	9	P	**P**	**00 43 55.2**	**+0.4**
	baz=59						
V25A	Rancho No Teng	60.88	11	P	**P**	**00 43 57.0**	**+0.3**
	baz=60						
V26A	Tequesquite Ra	60.98	11	P	**P**	**00 43 57.5**	**+0.2**
	baz=60						
U22A	Llaves	61.06	9	P	**P**	**00 43 58.9**	**+1.0**
	baz=60						

U23A El Rito 61.11 9 P P 00 43 59.4 +1.1
baz=60
KNB Kanab 61.15 3 eP P 00 43 58.5 +0.1
comp=Z,39nm,2.0s
KNB LR LR
comp=Z,400nm,21.0s
U24A Moreno Valley 61.33 10 P P 00 44 00.2 +0.3
baz=60
U25A Circle Dot Ran 61.46 11 P P 00 44 00.9 +0.3
baz=60
W33A Caddo, Fort Co 61.53 16 P P 00 44 01.3 +0.5
baz=60
CCUT Cedar City 61.66 2 eP P 00 44 02.9 +0.9
comp=Z,82nm,2.8s
MVCO Mesa Verde 61.68 7 eP P 00 44 01.5 -0.7
comp=Z,77nm,2.4s
MVCO LR LR
comp=Z,500nm,18.9s
MVCO Mesa Verde 61.68 7 P P 00 44 03.7 +1.5
baz=60
ARUT Antelope Range 61.89 2 eP P 00 44 04.5 +1.1
T24B San Luis 61.95 10 P P 00 44 04.8 +0.8
baz=61
T26A Comanche Natio 62.35 11 P P 00 44 06.9 +0.3
baz=61
R11A Troy Canyon, C 62.41 0 eP P 00 44 08.1 +1.2
comp=Z,19nm,1.8s
PV05 Paradox Valley 62.48 6 eP P 00 44 08.6 +1.1
NV01 Mina Array Sit 62.52 358 eP P 00 44 08.5 +0.8
NVAR Mina Array Bea 62.52 358 P P 00 44 08.7 +1.0
comp=Z,1.2nm,0.7s,baz=182,slow=9.2,SNR=5.8
NVAR LR LR 01 05 26.2
comp=Z,418nm,19.2s,baz=181,slow=30
PV01 Paradox Valley 62.59 7 eP P 00 44 08.3 +0.1
SDCO Great Sand Dun 62.60 9 eP P 00 44 08.5 +0.1
comp=Z,6.8nm,0.9s
S25A Robets Cordova 62.68 10 P P 00 44 09.1 +0.4
baz=62
PV10 Paradox Valley 62.78 6 eP P 00 44 08.0 -1.5
S26A Kim 62.81 11 P P 00 44 10.0 +0.4
baz=62
PV04 Paradox Valley 62.81 6 eP P 00 44 10.7 +1.1
PV09 Paradox Valley 62.89 6 eP P 00 44 10.2 -0.1
U34A Anderson Ranch 62.98 17 P P 00 44 11.4 +0.8
baz=62
S28A Manter 63.08 13 P P 00 44 12.0 +0.7
baz=62
R25A Fountain Ranch 63.18 10 P P 00 44 12.0 0.0
baz=62
SRU San Rafael 63.38 5 eP P 00 44 13.8 +0.4
comp=Z,7.1nm,1.1s
S30A Montezuma 63.42 14 P P 00 44 13.7 +0.1
baz=62
SMCO Snowmass 63.80 8 eP P 00 44 17.8 +1.4
comp=Z,11nm,1.5s
R28A Tribune 63.82 12 P P 00 44 16.4 +0.2
baz=63
Q24A Divide 63.85 9 P P 00 44 16.1 -0.6
baz=63
AGP Aguadilla 63.92 53 PFAKE 00 44 30.0 +13
AGP LR LR
comp=Z,400nm,21.0s
BDFB Brasilia 64.03 96 P P 00 44 17.8 -0.3
comp=Z,2.6nm,0.8s,baz=229,slow=7.9,SNR=4.5
R29A Marienthal 64.04 13 P P 00 44 18.0 +0.5
baz=63
R30A Dighton 64.08 14 P P 00 44 18.2 +0.4
baz=63
P23A Jefferson 64.15 9 P P 00 44 18.9 +0.3
baz=63
MPU Maple Canyon 64.20 4 PFAKE 00 44 30.0 +11
MPU LR LR
comp=Z,900nm,20.6s
P22A Eagle 64.24 8 P P 00 44 19.5 +0.3
baz=63
DUG Dugway 64.32 3 eP P 00 44 20.4 +0.9
comp=Z,5.5nm,1.0s
DUG Dugway 64.32 3 P P 00 44 21.0 +1.5
baz=63
BMN Battle Mountai 64.49 359 eP P 00 44 21.6 +0.9
comp=Z,47nm,2.5s
ISCO Idaho Springs 64.60 9 eP P 00 44 21.3 -0.2
comp=Z,7.3nm,1.2s
ISCO Idaho Springs 64.60 9 P P 00 44 22.8 +1.2
baz=63
DAU Daniels Canyon 64.62 4 eP P 00 44 21.9 +0.3
VNDA Vanda 64.65 194 LR LR 01 06 15.4
comp=Z,298nm,18.6s,baz=94,slow=30
CBYP Canovanas 64.77 54 PFAKE 00 44 30.0 +7.2
CBYP LR LR
comp=Z,200nm,21.6s
JLU Jordanelle 64.80 4 eP P 00 44 22.1 -0.7
comp=Z,22nm,1.6s
ELK Elko 64.80 1 eP P 00 44 25.6 +2.8
comp=Z,22nm,2.0s
O22A Kremmling 64.83 8 P P 00 44 22.3 -0.8
baz=64
CTU Camp Tracy 64.87 4 eP P 00 44 26.1 +3.0
comp=Z,29nm,1.9s
WDC Whiskeytown Da 64.91 355 eP P 00 44 20.3 -2.8
comp=Z,26nm,1.1s
BGU Big Grassy Mou 65.04 3 eP P 00 44 26.6 +2.4
comp=Z,9.2nm,1.7s
Q32A Meitler Ranch, 65.15 15 P P 00 44 25.8 +1.0
baz=64
N20A Spence Gulch, 65.29 7 P P 00 44 26.5 +0.6
baz=64
Q33A Connelly Farm, 65.33 16 P P 00 44 26.4 +0.5
baz=64
P31A Stockton 65.47 14 P P 00 44 26.9 0.0
baz=64
N22A Wattenberg Ran 65.47 8 P P 00 44 27.4 +0.3
baz=64
PBMO Poplar Bluff 65.48 22 PFAKE 00 44 40.0 +13
PBMO LR LR
comp=Z,2μm,21.7s
N23A Red Feather La 65.63 8 P P 00 44 28.5 +0.4
baz=64
P32A Huiting Farm, 65.74 15 P P 00 44 29.3 +0.7
baz=64
M24A Cheyenne 66.35 9 P P 00 44 33.0 +0.4
baz=65
AHID Auburn Hatcher 66.97 4 PFAKE 00 44 50.0 +13
AHID LR LR
comp=Z,500nm,18.0s
BW06 Boulder Array 67.09 5 eP P 00 44 36.2 -1.2
PDAR Pinedale Array 67.09 5 P P 00 44 36.8 -0.6
comp=Z,1.6nm,0.7s,baz=170,slow=7.4,SNR=13
PDAR LR LR 01 08 41.0
comp=Z,188nm,21.6s,baz=189,slow=31
K21A Alcova 67.18 7 P P 00 44 38.1 +0.1
baz=66
K22A Casper 67.28 8 eP P 00 44 38.5 0.0
comp=Z,17nm,1.0s
K22A LR LR
comp=Z,297nm,20.0s
K22A Casper 67.28 8 P P 00 44 38.8 +0.2
baz=66
MFID Camas Ranch 67.47 0 eP P 00 44 42.7 +3.1
comp=Z,37nm,2.3s
K23A Bowen Ranch, D 67.50 8 P P 00 44 40.6 +0.6
baz=66
REDW Red Top Meadow 67.58 4 eP P 00 44 39.4 -1.1
comp=Z,21nm,1.6s
HLID Hailey 67.63 1 eP P 00 44 41.4 +0.7
comp=Z,40nm,2.1s
HLID Hailey 67.63 1 P P 00 44 41.5 +0.7
baz=67
J20A Shoshoni 67.81 6 P P 00 44 41.7 -0.1
baz=67
LOHW Long Hollow 67.85 4 eP P 00 44 43.4 +1.2
comp=Z,13nm,1.5s
J21A Lysite 67.86 7 P P 00 44 42.5 +0.2
baz=67
MOOW Moose Ponds 67.98 4 eP P 00 44 41.9 -1.2
comp=Z,28nm,2.2s
J22A Midwest 68.04 8 P P 00 44 43.5 +0.2
baz=67
I07A Izee 68.20 357 eP P 00 44 45.3 +1.0
comp=Z,33nm,0.5s
FLWY Flagg Ranch 68.31 4 eP P 00 44 45.3 +0.2
comp=Z,14nm,1.1s
I21A Big Trails, Te 68.34 7 P P 00 44 45.3 +0.1
baz=67
J25A Sunshine Ranch 68.38 10 P P 00 44 45.3 -0.1
baz=67
I20A Worland 68.39 6 P P 00 44 45.7 +0.2
baz=67

I19A Meeteetse 68.40 6 P P 00 44 45.9 +0.2
baz=67
J26A Sides Ranch, S 68.42 10 P P 00 44 46.0 +0.4
baz=67
H17A Grant Village 68.63 4 PFAKE 00 45 00.0 +13
H17A LR LR
comp=Z,300nm,20.4s
YMR Madison River 68.88 4 eP P 00 44 48.8 +0.2
comp=Z,13nm,1.2s
BMO Blue Mountains 68.91 359 eP P 00 44 50.1 +1.4
comp=Z,50nm,2.6s
MCMT McKenzie Canyo 68.94 2 eP P 00 44 48.7 -0.3
YNR Norris Junctio 68.94 4 PFAKE 00 45 00.0 +11
YNR LR LR
comp=Z,800nm,19.2s
H18A Shoshone NF, C 68.98 5 P P 00 44 49.2 0.0
baz=68
J29A Okreek 69.00 12 P P 00 44 49.3 +0.2
baz=68
I25A Rochford 69.01 10 P P 00 44 49.5 +0.1
baz=68
QLMT Earthquake Lak 69.01 4 eP P 00 44 49.4 -0.1
H19A Powell 69.03 5 P P 00 44 49.9 +0.4
baz=68
RSSD Black Hills 69.06 9 eP P 00 44 49.2 -0.5
comp=Z,4.3nm,0.9s
J30A Dallas 69.09 13 P P 00 44 50.0 +0.3
baz=68
G06A Carlson Farm, 69.41 357 eP P 00 44 52.9 +1.2
comp=Z,137nm,2.3s
G20A Bridger 69.64 6 P P 00 44 53.1 -0.1
baz=68
H27A Howes 69.87 11 P P 00 44 54.5 -0.1
baz=69
G23A Biddle 69.94 8 P P 00 44 54.9 -0.1
baz=69
LRM Limekiln Ridge 69.95 3 eP P 00 44 55.3 +0.1
H28A Mission Ridge 70.09 11 P P 00 44 55.9 -0.1
baz=69
ECSD EROS Data Cent 70.11 15 P P 00 44 55.8 -0.2
baz=69
DZM Mont Dzumac 70.30 254 eLR LR 01 06 38.8
comp=Z,953nm,23.2s
G26A Maurine 70.43 10 P P 00 44 58.0 0.0
baz=69
F23A Volborg 70.45 8 P P 00 44 57.7 -0.4
baz=69
HRY Holter Researc 70.87 3 eP P 00 45 00.4 -0.3
LAO LASA Array 71.30 7 eP P 00 45 03.1 -0.2
comp=Z,195nm,3.0s
D20A Manuel Ranch, 71.50 6 P P 00 45 04.5 0.0
baz=70
D19A Cripps Ranch, 71.51 5 P P 00 45 04.6 0.0
baz=70
D21A La Casta Ranch 71.59 7 P P 00 45 04.9 -0.1
baz=70
D22A Cohagen 71.76 7 P P 00 45 06.1 0.0
baz=71
JTMT Jette 71.82 1 eP P 00 45 05.6 -0.9
D23A Lindsay 71.90 8 P P 00 45 07.0 +0.1
baz=71
BSMT Bassoo Peak 71.91 1 eP P 00 45 07.4 +0.3
YBMT Yellow Bay 71.94 1 eP P 00 45 07.0 -0.1
C19A Slack Wire Ran 72.06 5 P P 00 45 08.3 +0.5
baz=71
EGMT Eagleton 72.30 4 P P 00 45 09.8 +0.6
baz=71
NEW Newport 72.32 359 eP P 00 45 09.5 +0.2
comp=Z,151nm,3.0s
NEW Newport 72.32 359 P P 00 45 09.9 +0.6
baz=71
C22A Vida 72.38 7 P P 00 45 10.5 +0.8
baz=71
D30A Buchanan 72.86 12 P P 00 45 12.8 +0.2
baz=72
C26A Wahner Farm, P 72.97 10 P P 00 45 13.7 +0.5
baz=72
A19A Klindworth Far 73.28 5 P P 00 45 15.2 +0.2
baz=72
A20A Cobblestone Ra 73.30 6 P P 00 45 15.4 +0.2
baz=72
TARA Tarawa 73.30 279 PFAKE 00 45 30.0 +14
TARA LR LR
comp=Z,2μm,21.0s
C30A Mose, Pekin 73.49 12 P P 00 45 16.3 +0.1
baz=72
A25A Svangstu Ranch 73.91 9 P P 00 45 19.1 +0.5
baz=73
A26A Wade Farm, Ken 74.03 10 P P 00 45 19.6 +0.2
baz=73
B30A Myrvik Farm, E 74.23 12 P P 00 45 20.9 +0.3
baz=73
A30A Hoffart Farm, 74.71 12 P P 00 45 23.2 -0.1
baz=74
ULM Lac du Bonnet 76.44 13 P P 00 45 32.5 -0.7
comp=Z,2.0nm,0.6s,baz=186,slow=6.7,SNR=4.5
FRNY Flat Rock 79.06 29 PFAKE 00 46 00.0 +12
FRNY LR LR
comp=Z,400nm,18.7s
WVL Waterville 80.68 32 PFAKE 00 46 10.0 +13
WVL LR LR
comp=Z,2μm,21.5s
HNR Honiara 80.70 264 LR LR 01 13 23.5
comp=Z,440nm,21.9s,baz=84,slow=30
EMMW East Machias 81.85 33 PFAKE 00 46 10.0 +7.1
EMMW LR LR
comp=Z,800nm,18.9s
PQI Presque Isle 83.01 31 PFAKE 00 46 20.0 +11
PQI LR LR
comp=Z,2μm,21.3s
FCC Fort Churchill 84.83 11 eP P 00 46 17.6 -0.3
H11S2 WAKE ISLAND Hy 86.43 292 T T 02 21 38.9
baz=121,slow=74,SNR=301
H11S1 WAKE ISLAND Hy 86.44 292 T T 02 21 40.5
baz=121,slow=74,SNR=250
H11S3 WAKE ISLAND Hy 86.44 292 T T 02 21 40.3
baz=121,slow=74,SNR=153
YKA Yellowknife Ar 86.59 1 P P 00 46 25.8 -0.8
comp=Z,1.3nm,0.8s,baz=173,slow=5.4,SNR=19
YKB5 Yellowknife Ar 86.59 1 eP P 00 46 28.0 +1.4
H11N3 WAKE ISLAND Hy 86.81 293 T T 02 22 22.0
baz=122,slow=76,SNR=9.3
H11N1 WAKE ISLAND Hy 86.83 293 T T 02 22 18.1
baz=122,slow=76,SNR=13
H11N2 WAKE ISLAND Hy 86.83 293 T T 02 22 11.8
baz=122,slow=76,SNR=15
MAW Mawson 88.29 180 LR LR 01 21 54.0
comp=Z,232nm,19.5s,baz=170,slow=33
CTAO Charters Tower 88.50 249 PFAKE 00 46 50.0 +13
CTAO LR LR
comp=Z,400nm,19.0s
SCHQ Schefferville 89.46 26 LR LR 01 24 04.3
comp=Z,84nm,21.7s,baz=240,slow=34
CAST Castle Rocks 91.99 345 PFAKE 00 47 00.0 +7.8
CAST LR LR
comp=Z,400nm,18.4s
ILAR Eielson Array 92.02 347 P P 00 46 51.3 -0.9
comp=Z,0.2nm,0.8s,baz=194,slow=2.7,SNR=2.1
PMG Port Moresby 92.23 259 PFAKE 00 47 00.0 +5.5
PMG LR LR
comp=Z,600nm,22.0s
COEN Coen 93.81 253 PFAKE 00 47 10.0 +8.3
COEN LR LR
comp=Z,2μm,19.1s
TORD Torodi Ar. Bea 120.46 89 PKP PKPdf 00 52 34.2 -2.0
comp=Z,0.3nm,0.8s,baz=307,slow=3.2,SNR=1.9
MDJ Mudanjiang 123.75 308 PKP PKPdf 00 52 51.2 +10
MDJ Mudanjiang 123.75 308 PFAKE 00 52 50.0 +8.3
MDJ LR LR
comp=Z,400nm,21.0s
TWG Pinlang 127.91 281 PFAKE 00 53 00.0 +10
TWG LR LR
comp=Z,1μm,20.4s
SSLB Suanglung 128.24 282 PFAKE 00 53 00.0 +9.1
SSLB LR LR
comp=Z,400nm,21.7s
MEM Membach 128.70 44 PFAKE 00 53 00.0 +9.1
MEM LR LR
comp=Z,400nm,19.4s
KSM Kuching 129.72 250 PFAKE 00 53 00.0 +6.0
KSM LR LR
comp=Z,100nm,19.0s
HIA Hailar 130.21 315 PFAKE 00 53 00.0 +6.1
HIA LR LR
comp=Z,400nm,22.0s
PMBI Palembang 131.90 241 PFAKE 00 53 10.0 +12
PMBI LR LR

comp=Z,300nm,18.0s
BJT Baijiatuau 133.75 303 PFAKE 00 53 10.0 +9.1
BJT LR LR
comp=Z,300nm,22.0s
MYKOM Kota Tinggi 135.35 246 PFAKE 00 53 20.0 +15
MYKOM LR LR
comp=Z,200nm,22.0s
TIP Timpagrande 137.76 58 PFAKE 00 53 20.0 +12
TIP LR LR
comp=Z,100nm,19.0s
ULN Ulaanbaatar 138.72 316 PFAKE 00 53 20.0 +10
ULN LR LR
comp=Z,300nm,20.0s
IPM Ipoh 139.18 247 PFAKE 00 53 20.0 +8.3
IPM LR LR
comp=Z,100nm,21.0s
TLY Talaya 139.27 322 PFAKE 00 53 20.0 +9.2
TLY LR LR
comp=Z,400nm,21.0s
GYA Guiyang 141.45 282 ePKP PKPdf 00 53 24.9 +9.3
GYA PP PP 00 56 37.0 +18
GYA AMB AMB
comp=Z,110nm,7.6s
AKASG Malin Array Be 142.53 36 PKP PKPdf 00 53 14.9 -1.7
comp=Z,0.1nm,0.2s,baz=278,slow=2.7,SNR=1.5
KMBO Kilima Mbogo 143.78 131 PKP PKPdf 00 53 20.2 -0.1
comp=Z,0.4nm,0.3s,baz=209,slow=8.2,SNR=3.8
KMBO Kilima Mbogo 143.78 131 PKP PKPdf 00 53 20.2 -0.1
KMBO LR LR
comp=Z,200nm,20.0s
IDI Anoyia 144.66 63 PKP PKPab 00 53 19.7 0.0
comp=Z,16nm,1.0s,baz=3.9,slow=4.0,SNR=6.0
KMI Kunming 144.81 279 PKPbc PKPdf 00 53 25.8 +4.1
GTA Gaotai 146.28 305 ePKPbc PKPab 00 53 25.7 +0.1
ZALV Zalesovo Beam 146.58 337 PKPbc PKPdf 00 53 23.1 -0.4
comp=Z,1.7nm,0.5s,baz=26,slow=1.9,SNR=9.7
CMAR Chiang Mai Arr 146.91 267 PKPbc PKPdf 00 53 25.8 +0.6
comp=Z,1.3nm,0.4s,baz=103,slow=1.3,SNR=13
BRTR Keskin Array B 150.31 52 PKPbc PKPbc 00 53 33.6 -1.9
comp=Z,4.2nm,1.1s,baz=318,slow=1.7,SNR=7.5
BRVK Borovoye 150.96 352 ePKPdf PKPab 00 53 40.6 -3.1
VOSK Vostochnaya 151.20 351 ePKPdf PKPbc 00 53 36.0 -1.0
KURK Kurchatov 151.35 340 ePKPdf PKPbc 00 53 37.3 -0.1
MKAR Makanchi Array 153.23 331 PKP PKPdf 00 53 33.5 -0.8
comp=Z,0.7nm,0.8s,baz=126,slow=2.0,SNR=2.2
MKAR PKPbc PKPbc 00 53 41.3 -0.5
comp=Z,1.8nm,0.7s,baz=42,slow=2.7,SNR=12
ABKAR Akbulak array 154.98 6 ePKPdf PKPdf 00 53 41.4 +4.8
TKM2 Tokmak 2 159.15 335 PFAKE 00 53 50.0 +7.5
TKM2 LR LR
comp=Z,200nm,20.0s

IDC 05 00:39:23.9±9.0**, 24°.59S×116°.13W, h0km, mb3.5**/3**, mb1 3.9**/3**, mb1mx3.6**/28**, mbtmp3.5**/3**, Error ellipse: s-maj=592.6km s-min=78.0km az=117.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**54.94**	**13**	P	P	00 48 57.5	+0.7
	0.3nm,0.9s,baz=182,slow=5.4,SNR=2.0						
PDAR	**Pinedale Array**	**67.30**	**5**	P	P	00 50 20.0	-0.7
	0.6nm,0.9s,baz=180,slow=7.4,SNR=3.9						
YKA	**Yellowknife Ar**	**86.79**	**1**	P	P	00 52 09.3	-0.2
	0.4nm,0.8s,baz=173,slow=5.0,SNR=4.7						
ZALV	**Zalesovo Beam**	**146.76**	**337**	PKPbc	PKPbc	00 59 07.8	+0.3
	0.3nm,0.3s,baz=26,slow=3.7,SNR=2.2						
MKAR	**Makanchi Array**	**153.40**	**331**	PKPbc	PKPbc	00 59 23.4	-0.8
	0.3nm,0.8s,baz=60,slow=2.1,SNR=2.4						

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*IDC **05** 00:44:52.6±1.7, 24°.63S×116°.33W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.7/35, mbtmp3.8/4, MS4.2/1, Ms1 4.2/1, ms1mx3.3/14, Error ellipse: s-maj=56.1km s-min=41.3km az=29.0*

ISC 05 00:44:54.1±1.6**, 24°.7S**±0°.4×**116°.3W**±0°.3**, h10km, n8,** σ**0s.95**/7**, mb4.0**/4**, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**40.24**	**71**	LR	LR	01 04 30.0	
	comp=Z,339nm,21.6s,baz=237,slow=29						
LPAZ	**La Paz**	**45.72**	**89**	P	**P**	**00 53 16.7**	**+0.2**
	1.4nm,0.8s,baz=280,slow=6.7,SNR=4.9						
NVAR	**Mina Array Bea**	**62.80**	**358**	P	**P**	**00 55 21.2**	**+1.2**
	0.8nm,0.7s,baz=167,slow=8.4,SNR=5.3						
PDAR	**Pinedale Array**	**67.40**	**5**	P	**P**	**00 55 48.5**	**-1.3**
	0.7nm,0.8s,baz=163,slow=5.7,SNR=6.2						
YKA	**Yellowknife Ar**	**86.88**	**1**	P	**P**	**00 57 38.4**	**0.0**
	0.9nm,0.9s,baz=173,slow=5.0,SNR=11						
CMAR	**Chiang Mai Arr**	**146.69**	**266**	PKPbc	**PKPbc**	**01 04 36.7**	**-0.2**
	1.1nm,0.3s,baz=159,slow=2.8,SNR=1.6						
ZALV	**Zalesovo Beam**	**146.77**	**337**	PKPbc	**PKPdf**	**01 04 34.8**	**+0.5**
	1.1nm,0.6s,baz=20,slow=4.7,SNR=4.7						
MKAR	**Makanchi Array**	**153.38**	**331**	PKPbc	**PKPbc**	**01 04 52.2**	**-0.4**
	0.3nm,0.7s,baz=54,slow=4.7,SNR=3.0						

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*ISCJB **05** 00:46:15.5±0.4, 24°.64S±0°.07×116°.00W±0°.09, h12km, mb5.0/111, MS4.9/39, Error ellipse: s-maj=11.5km s-min=9.5km az=178.6*

*GCMT **05** 00:46:16.5±0.2, 24°.78S×116°.17W, h15km±1km, MW5.1/94, Moment Tensor Solution. s34,c42; s94,c158; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.11±.23; $M_{\theta\theta}$-4.53±.17; $M_{\phi\phi}$6.64±.21; $M_{r\theta}$-0.90±.38; $M_{\theta\phi}$2.54±.14; $M_{\phi r}$-0.36±.31; Best double couple: $M_0$6.25300×10^{16} NP1:ϕ_s56.00000°, δ82.00000°, λ-13.00000°. NP2: ϕ_s148.00000°, δ78.00000°, λ-172.00000°. Principal axes: T 7.2230, Plg3.0000°, Azm102.0000°; N -1.9380, Plg75.0000°, Azm205.0000°; P -5.2840, Plg14.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **05** 00:46:16.5±0.2, 24°.67S×116°.06W, h10km, mb5.2/103, MS4.7/26 Error ellipse: s-maj=9.9km s-min=6.3km az=89.0*

*IDC **05** 00:46:16.1±0.8, 24°.57S×116°.21W, h0km, mb4.3/15, mb1 4.5/15, mb1mx4.3/35, mbtmp4.3/15, MS4.4/1, Ms1 4.4/1, ms1mx3.7/15, Error ellipse: s-maj=26.7km s-min=19.8km az=52.0*

*MOS **05** 00:46:17.4±1.0, 24°.23S×115°.95W, h10km, mb5.2/26, Error ellipse: s-maj=21.5km s-min=8.1km az=86.5*

*BJI **05** 00:46:18.0, 24°.70S×116°.10W, h10km, mB5.3/11, Ms5.2/11, Ms7 5.0/19*

ISC 05 00:46:17.3±0.4**, 24°.68S**±0°.10×**116°.05W**±0°.08**, h12km, n624,** σ**0s.98**/615**, mb5.2**/114**, MS4.8**/39**, 169C-179D, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**17.38**	**271**	eLQ	LQ	00 53 33.6	
	2μm,25.0s						
RKT				eLR	LR	00 54 13.9	
	8μm,26.5s,baz=105						
RKT	**Rikitea**	**17.38**	**271**	eT	T	01 07 36.7	
	2.5nm,0.3s						
TBI	**Tubuai**	**30.51**	**265**	eLR	LR	01 00 14.8	
	3μm,28.2s,baz=93						
PPT2	**Papeete2**	**32.00**	**276**	eLR	LR	01 00 52.0	
	4μm,27.8s,baz=99						
H03N2	**Juan Fernandez**	**33.45**	**114**	T	T	01 28 43.0	
	baz=276,slow=74,SNR=19						
H03N3	**Juan Fernandez**	**33.46**	**114**	T	T	01 28 36.6	
	baz=276,slow=74,SNR=22						
H03N1	**Juan Fernandez**	**33.47**	**114**	T	T	01 28 47.9	
	baz=276,slow=74,SNR=37						
NNA	**Nana**	**39.16**	**78**	PFAKE		00 54 00.0	+15
NNA				LR	LR		
	comp=Z,2μm,19.0s						
ATAH	**Atahualpa**	**40.01**	**71**	P	**P**	**00 53 54.8**	**+2.0**
	comp=Z,4.6nm,0.8s,baz=280,slow=1.3,SNR=4.8						
PLCA	**Paso Flores**	**41.02**	**124**	P	P	00 54 04.4	+3.9
	comp=Z,3.9nm,0.8s,baz=282,slow=11,SNR=3.5						
LVC	**Limon Verde**	**43.06**	**97**	PFAKE		00 54 30.0	+12
LVC				LR	LR		
	comp=Z,1μm,20.0s						
OTAV	**Otavalo**	**44.02**	**61**	eP	**P**	**00 54 25.1**	**-0.5**
	comp=Z,95nm,2.5s						
LPAZ	**La Paz**	**45.47**	**89**	eP	**P**	**00 54 38.9**	**+1.5**
LPAZ				pmax	pmax		
	comp=Z,40nm,1.5s						
LPAZ	**La Paz**	**45.47**	**89**	P	**P**	**00 54 39.4**	**+2.0**

comp=Z,7.8nm,1.0s,baz=300,slow=4.2,SNR=14
LPAZ La Paz 45.47 89 eP P 00 54 38.9 +1.5
comp=Z,40nm,1.5s
JTS JuntasAbangare 46.14 45 eP P 00 54 42.0 +0.1
JTS pmax pmax
comp=Z,23nm,1.2s
TRQA Tornquist 47.44 120 eP P 00 54 52.1 +0.2
comp=Z,109nm,2.3s
SAML Samuel 52.64 82 eP P 00 55 30.8 -0.9
comp=Z,124nm,2.7s
034A Hebbronville 54.11 19 ⇑P P 00 55 42.9 +0.8
baz=54
933A Laredo 54.45 18 ⇓P P 00 55 45.6 +1.0
baz=55
832A Faith Ranch, C 54.89 17 ⇓P P 00 55 47.8 0.0
baz=55
TX31 Lajitas Ar. Si 55.01 13 eP P 00 55 49.0 +0.2
TXAR Lajitas Array 55.01 13 P P 00 55 49.5 +0.7
comp=Z,1.4nm,0.9s,baz=203,slow=8.2,SNR=6.8
833A Chaparral WMA, 55.09 18 ⇓P P 00 55 49.8 +0.6
baz=55
626A Big Bend Ranch 55.13 13 ⇓P P 00 55 49.9 +0.3
baz=55,SNR=14
834A Tilden 55.14 19 ⇓P P 00 55 50.2 +0.6
baz=55
627A Terlingua Ranc 55.18 13 ⇓P P 00 55 50.2 +0.2
baz=56,SNR=6.2
732A Laxson Ranch, 55.31 17 ⇓P P 00 55 50.4 -0.4
baz=56
628A Black Gap, Mar 55.32 14 ⇓P P 00 55 51.4 +0.5
baz=56,SNR=7.1
SDV Santo Domingo 55.44 59 PFAKE 00 56 00.0 +7.7
SDV LR LR
comp=Z,400nm,18.1s
733A Divot King Ran 55.49 18 ⇑P P 00 55 52.0 -0.1
baz=56
526A Mary Lane Ranc 55.63 13 ⇓P P 00 55 53.7 +0.4
baz=56,SNR=6.3
631A Perdido Creek 55.80 16 ⇑P P 00 55 54.0 -0.4
baz=56
527A Woodward Ranch 55.81 13 ⇑P P 00 55 55.1 +0.5
baz=56,SNR=9.2
528A Cox Ranch, San 56.00 14 ⇓P P 00 55 55.9 0.0
baz=56
529A Stev Forest Ra 56.09 14 ⇑P P 00 55 56.6 +0.1
baz=56,SNR=8.2
632A Uvalde 56.10 17 ⇑P P 00 55 56.5 0.0
baz=56,SNR=5.7
319A Douglas 56.12 7 ⇓P P 00 55 57.3 +0.6
baz=56,SNR=7.0
425A Indio Mountain 56.16 11 ⇓P P 00 55 57.5 +0.4
baz=56,SNR=10
633A Saathoff Ranch 56.22 18 ⇑P P 00 55 57.5 +0.1
baz=56
426A McDonald Obser 56.23 12 ⇑P P 00 55 57.6 0.0
baz=56
530A J-C Ranch, Com 56.32 15 ⇓P P 00 55 58.7 +0.6
baz=57,SNR=13
214A Organ Pipe Nat 56.41 3 ⇑P P 00 55 59.4 +0.7
baz=57,SNR=7.2
531A Rocksprings 56.53 16 ⇑P P 00 55 60.0 +0.4
baz=57,SNR=5.7
427A Hayter Ranch, 56.53 13 ⇑P P 00 55 60.0 +0.3
baz=57,SNR=5.9
428A Kincaid Ranch, 56.56 14 ⇓P P 00 56 00.5 +0.6
baz=57,SNR=6.4
429A Davenport Ranc 56.64 15 ⇑P P 00 56 00.5 +0.1
baz=57,SNR=8.0
533A Kerrville 56.84 18 ⇓P P 00 56 01.5 -0.3
baz=57
326A Caldwell Ranch 56.87 12 ⇓P P 00 56 02.0 0.0
baz=57
TUC Tucson 56.90 5 eP P 00 56 02.3 +0.1
TUC pmax pmax
comp=Z,24nm,1.4s
TUC MLR MLR
comp=Z,500nm,18.0s
TUC Tucson 56.90 5 eP P 00 56 02.3 +0.1
comp=Z,24nm,1.4s
TUC LR LR
comp=Z,500nm,18.0s
430A Baggett Ranch, 56.95 15 ⇑P P 00 56 03.1 +0.4
baz=57,SNR=5.8
534A Blanco 56.95 18 ⇑P P 00 56 02.4 -0.2
baz=57
MNTX Cornudas Mount 56.98 11 eP P 00 56 02.4 -0.4
comp=Z,32nm,1.5s
431A Sonora 57.01 16 ⇓P P 00 56 03.6 +0.7
baz=57,SNR=10
JCT Junction City 57.02 17 eP P 00 56 02.9 -0.2
JCT pmax pmax
comp=Z,35nm,0.9s
JCT Junction City 57.02 17 eP P 00 56 02.9 -0.2
comp=Z,35nm,0.9s
JCT Junction City 57.02 17 ⇓P P 00 56 03.5 +0.5
baz=57,SNR=11
328A Wristen Ranch, 57.17 13 ⇓P P 00 56 04.3 +0.2
baz=58,SNR=6.0
113A Mohawk Valley, 57.17 2 ⇑P P 00 56 04.7 +0.7
baz=58
535A Dale 57.22 19 ⇑P P 00 56 04.7 +0.2
baz=58
MONP Monument Peak 57.25 360 ⇑P P 00 56 06.0 +1.1
baz=58
SWSC Sam W. Stewart 57.30 0 ⇑P P 00 56 05.8 +0.9
baz=58
432A Menard 57.40 17 ⇓P P 00 56 05.7 0.0
baz=58
536A Bastrop 57.41 20 ⇑P P 00 56 05.6 -0.2
baz=58
GLA Glamis 57.43 1 eP P 00 56 07.1 +1.2
GLA pmax pmax
comp=Z,11nm,0.9s
GLA Glamis 57.43 1 eP P 00 56 07.1 +1.2
comp=Z,11nm,0.9s
121A Cookes Peak, D 57.44 8 ⇑P P 00 56 07.2 +1.0
baz=58,SNR=14
329A Wagon Wheel Ra 57.45 14 ⇓P P 00 56 06.3 +0.1
baz=58
433A Art 57.47 17 ⇑P P 00 56 06.2 0.0
baz=58
225A Deer Hill, Car 57.48 11 ⇑P P 00 56 06.3 -0.2
baz=58
330A Mertzon 57.56 15 ⇑P P 00 56 06.7 -0.2
baz=58,SNR=8.7
226B Tecolote Peak, 57.57 12 ⇓P P 00 56 07.4 +0.4
baz=58,SNR=7.1
331A San Angelo 57.65 16 ⇑P P 00 56 06.8 -0.7
baz=58
434A Burnet 57.75 18 ⇓P P 00 56 07.9 -0.4
baz=58,SNR=14
Z14A Wintersburg 57.80 3 ⇓P P 00 56 09.3 +0.9
baz=58
BFZ Birch Farm 57.85 236 PFAKE 00 56 20.0 +11
BFZ LR LR
comp=Z,900nm,21.8s
332A Millersview 57.89 16 ⇑P P 00 56 08.8 -0.4
baz=58,SNR=9.0
435B Jarrell 57.92 19 ⇓P P 00 56 09.3 0.0
baz=58
228A UT Block 9, Go 57.93 13 ⇑P P 00 56 09.1 -0.4
baz=58
229A Bryant Ranch, 57.95 14 ⇑P P 00 56 09.4 -0.3
baz=58
PFO Pinyon Flat Ob 57.97 360 eP P 00 56 09.8 0.0
PFO pmax pmax
comp=Z,43nm,1.9s
PFO Pinyon Flat Ob 57.97 360 P P 00 56 11.2 +1.4
comp=Z,4.0nm,1.1s,baz=196,slow=5.1,SNR=3.6
PFO Pinyon Flat Ob 57.97 360 eP P 00 56 09.8 0.0
comp=Z,43nm,1.9s
PFO Pinyon Flat Ob 57.97 360 ⇓P P 00 56 10.7 +0.9
baz=58
BC3 Big Chuckawall 58.02 1 ⇓P P 00 56 08.7 -1.4
baz=58
230A Sterling City 58.04 15 ⇑P P 00 56 10.2 -0.1
baz=58,SNR=5.7
125A Gardner Draw, 58.05 11 ⇑P P 00 56 10.7 +0.4
baz=58,SNR=26
Y12C Blythe 58.13 1 ⇑P P 00 56 11.8 +1.1
baz=58
126A Clayton Basin, 58.15 12 ⇓P P 00 56 10.8 -0.3
baz=58
334A Lometa 58.25 18 ⇑P P 00 56 11.8 +0.2
baz=58,SNR=13
Z22A Elephant Butte 58.26 9 ⇑P P 00 56 12.9 +1.0
baz=59,SNR=7.3
231A Bronte 58.27 16 ⇑P P 00 56 11.3 -0.6
baz=59
127A Arkansas Junct 58.31 13 ⇓P P 00 56 12.2 0.0
baz=59
BELC Belle Mtn. Jos 58.36 0 ⇓P P 00 56 13.7 +1.2
baz=59,SNR=6.3
Y14A Wickenburg 58.37 3 ⇑P P 00 56 13.3 +0.8
baz=59,SNR=6.1
232A Coleman 58.40 16 ⇓P P 00 56 12.3 -0.4
baz=59,SNR=6.1
335A Moody 58.43 19 ⇑P P 00 56 13.1 +0.1
baz=59
128A Castleberry Fa 58.44 13 ⇑P P 00 56 12.7 -0.4
baz=59,SNR=8.2
IRM Iron Mountain 58.53 1 ⇑P P 00 56 14.2 +0.6
baz=59
129A Stewart Farms, 58.58 14 ⇓P P 00 56 14.1 +0.1
baz=59,SNR=6.6
Z24A Sheeppen Canyo 58.58 10 ⇓P P 00 56 14.6 +0.4
baz=59
MWC Mount Wilson 58.61 358 eP P 00 56 14.6 +0.2
MWC pmax pmax
comp=Z,185nm,2.5s
MWC Mount Wilson 58.61 358 eP P 00 56 14.6 +0.2
comp=Z,185nm,2.5s
BFSC Mount Baldy Ra 58.62 358 ⇓P P 00 56 15.3 +1.0
baz=59
Z25A Roswell 58.64 11 ⇑P P 00 56 14.9 +0.4
baz=59,SNR=14
PDMCI Parker Dam,Lak 58.69 2 ⇑P P 00 56 15.3 +0.7
baz=59
130A Snyder 58.75 15 ⇓P P 00 56 14.6 -0.6
baz=59
Z26A Caprock 58.77 12 ⇓P P 00 56 15.2 -0.2
baz=59,SNR=12
234A Clairette 58.91 18 ⇓P P 00 56 16.2 -0.1
baz=59,SNR=6.3
X16A Lo Mia Camp, P 58.94 4 ⇑P P 00 56 17.4 +0.8
baz=59,SNR=11
Z27A Tatum 58.96 13 ⇓P P 00 56 16.5 -0.2
baz=59,SNR=10
131A Roby 58.96 15 ⇓P P 00 56 16.6 -0.1
baz=59
Y23A Lovelace Mesa, 59.06 10 ⇑P P 00 56 18.5 +1.0
baz=59,SNR=21
WHTX Lake Whitney 59.09 18 eP P 00 56 16.7 -0.8
comp=Z,18nm,1.0s
WHTX Lake Whitney 59.09 18 ⇑P P 00 56 17.5 0.0
baz=59
ABTX Abilene, Hawle 59.10 16 eP P 00 56 16.8 -0.8
ABTX Abilene, Hawle 59.10 16 ⇓P P 00 56 17.5 -0.1
baz=59
Z28A Tucker Farm, M 59.10 13 ⇓P P 00 56 17.7 0.0
baz=59
GMRC Granite Mounta 59.14 0 ⇓P P 00 56 18.1 +0.2
baz=60
PTGA Pitinga 59.15 75 PFAKE 00 56 30.0 +12
PTGA LR LR
comp=Z,500nm,21.0s
Y24A Capitan 59.15 10 ⇓P P 00 56 18.8 +0.7
baz=60,SNR=17
LENM Lemitar 59.16 9 eP P 00 56 17.7 -0.4
X18A Snowflake 59.17 6 ⇑P P 00 56 19.4 +1.2
baz=60,SNR=8.9
HEC Hector,Ludlow 59.19 360 ⇓P P 00 56 18.4 +0.2
baz=60
BNM Barren Site 59.19 9 eP P 00 56 17.4 -1.1
Z29A Hungry Hill Ra 59.22 14 ⇑P P 00 56 18.4 0.0
baz=60,SNR=6.8
EDW2 Edwards Air Fo 59.27 358 ⇑P P 00 56 19.4 +0.7
baz=60
133A Hamilton Ranch 59.27 17 ⇓P P 00 56 18.6 -0.2
baz=60,SNR=8.7
Y25A Mesa, Roswell 59.27 11 ⇓P P 00 56 19.2 +0.3
baz=60,SNR=13
LPM Los Pinos Moun 59.35 9 eP P 00 56 19.8 +0.3
LAZ Ladron 59.37 9 eP P 00 56 20.1 +0.4
Z30A Sanderson Ranc 59.37 15 ⇓P P 00 56 19.2 -0.3
baz=60
Y26A Elida 59.43 12 ⇑P P 00 56 19.7 -0.3
baz=60
LDFC Landfair 59.44 1 eP P 00 56 21.7 +1.7
comp=Z,27nm,1.3s
134A White-Moore Ra 59.46 18 ⇓P P 00 56 19.7 -0.3
baz=60
W13A Hualapai Mount 59.49 2 ⇑P P 00 56 21.3 +0.8
baz=60,SNR=6.7
Y27A Causey 59.52 12 ⇓P P 00 56 20.3 -0.2
baz=60,SNR=11
GTBY Guantanamo Bay 59.61 46 eP P 00 56 21.3 0.0
comp=Z,260nm,1.8s
Z31A Sharp Cattle R 59.64 15 ⇓P P 00 56 21.1 -0.2
baz=60,SNR=5.6
GSC Goldstone 59.66 359 eP P 00 56 21.6 +0.1
GSC pmax pmax
comp=Z,52nm,2.0s
GSC Goldstone 59.66 359 eP P 00 56 21.6 +0.1
comp=Z,52nm,2.0s
GSC Goldstone 59.66 359 ⇓P P 00 56 22.2 +0.7
baz=60
X23A Hourglass Bar 59.68 9 ⇓P P 00 56 22.5 +0.7
baz=60,SNR=7.4
MSTX Muleshoe 59.68 13 eP P 00 56 20.8 -0.9
comp=Z,38nm,1.3s
MSTX Muleshoe 59.68 13 ⇓P P 00 56 21.7 0.0
baz=60,SNR=8.5
Y28A McKinney Farm, 59.73 13 ⇓P P 00 56 21.8 -0.2
baz=60
NATX Nacogdoches 59.73 21 eP P 00 56 22.9 +0.9
comp=Z,30nm,0.8s
W18A Petrified Fore 59.77 6 eP P 00 56 23.3 +0.9
comp=Z,26nm,0.8s
W18A LR LR
comp=Z,500nm,18.5s
Z32A Haskell 59.79 16 ⇑P P 00 56 22.8 +0.5
baz=60,SNR=14
TUQ Turquoise Moun 59.79 0 ⇓P P 00 56 23.1 +0.6
baz=60
Y29A Porterfield Fa 59.80 14 ⇓P P 00 56 22.5 -0.1
baz=60
X25A Clemmons Ranch 59.87 11 ⇑P P 00 56 23.0 -0.1
baz=60
Y30A Stafford Cattl 59.99 15 ⇓P P 00 56 23.3 -0.5
baz=60
ANMO Albuquerque 60.00 9 eP P 00 56 23.4 -0.5
ANMO pmax pmax
comp=Z,20nm,1.2s
ANMO Albuquerque 60.00 9 P P 00 56 23.3 -0.7
comp=Z,2.7nm,0.9s,baz=170,slow=5.6,SNR=8.4
ANMO LR LR 01 17 41.1
comp=Z,276nm,18.1s,baz=190,slow=32
ANMO Albuquerque 60.00 9 eP P 00 56 23.8 -0.1
comp=Z,21nm,1.8s
WUAZ Wupatki 60.04 4 eP P 00 56 24.3 +0.1
comp=Z,65nm,1.9s
WUAZ Wupatki 60.04 4 ⇓P P 00 56 25.3 +1.1
baz=60,SNR=7.6
X26A CR and CF Fran 60.04 12 ⇓P P 00 56 24.1 -0.1
baz=60
ISA Isabella 60.06 358 eP P 00 56 24.1 -0.1
ISA pmax pmax
comp=Z,14nm,1.4s
ISA Isabella 60.06 358 eP P 00 56 24.1 -0.1
comp=Z,14nm,1.4s
ISA Isabella 60.06 358 ⇓P P 00 56 24.9 +0.7
baz=60
Y31A Rekieta Farm, 60.22 15 ⇓P P 00 56 25.5 +0.2
baz=60,SNR=5.3
W23A Werner Place, 60.25 9 ⇓P P 00 56 26.4 +0.7
baz=61,SNR=7.4
SHOC Shoshone 60.26 360 ⇑P P 00 56 26.2 +0.8
baz=61
Z34A Collier Ranch, 60.26 17 ⇓P P 00 56 25.6 0.0
baz=61
VES Vestal, Richgr 60.27 357 ⇑P P 00 56 26.3 +0.8
baz=61
X27A F and S Farms, 60.27 12 ⇑P P 00 56 25.9 +0.1
baz=61
X28A Dimmitt 60.33 13 ⇑P P 00 56 26.2 +0.1
baz=61
X29A Tulia 60.36 14 ⇑P P 00 56 26.3 -0.1
baz=61
Z35A Perchaven, San 60.41 18 ⇓P P 00 56 26.3 -0.3
baz=61
W24A Lazy 6 Ranch, 60.41 10 ⇑P P 00 56 27.3 +0.5
baz=61,SNR=13
X30A Coker Ranch, T 60.55 14 ⇑P P 00 56 27.2 -0.3
baz=61
W26A Owens Ranch, T 60.58 12 ⇓P P 00 56 28.0 +0.1
baz=61
W25A X Bar L Ranch, 60.58 11 ⇑P P 00 56 28.2 +0.3
baz=61,SNR=14
W27A Bowe Ranch, En 60.68 12 ⇑P P 00 56 28.8 +0.2
baz=61,SNR=8.5
AMTX Amarillo 60.79 14 eP P 00 56 28.4 -0.8
comp=Z,18nm,1.0s
AMTX Amarillo 60.79 14 ⇑P P 00 56 28.9 -0.3
baz=61
V23A Ortiz Mt. (NFS 60.82 9 ⇑P P 00 56 29.8 +0.2
baz=61
Y34A Reagan Ranch, 60.85 17 ⇑P P 00 56 28.6 -1.0
baz=61
SHPR Sheep Range 60.87 1 eP P 00 56 30.2 +0.4
U15A North Rim 60.89 3 ⇓P P 00 56 31.1 +1.0
baz=61,SNR=12
V22A San Miguel Ran 60.89 8 ⇓P P 00 56 30.5 +0.4
baz=61
X32A Elmer 60.90 16 ⇑P P 00 56 29.8 -0.1
baz=61
X31A McDonald Ranch 60.93 15 ⇓P P 00 56 30.3 +0.2
baz=61
V24A Rampart Ranch, 60.94 10 ⇓P P 00 56 30.3 -0.2
baz=61
V25A Rancho No Teng 61.16 11 ⇓P P 00 56 32.1 +0.2
baz=62,SNR=6.6
V26A Tequesquite Ra 61.26 11 ⇓P P 00 56 32.5 0.0
baz=62,SNR=9.4
U22A Llaves 61.35 8 ⇑P P 00 56 33.9 +0.7
baz=62,SNR=8.0
U23A El Rito 61.39 9 ⇑P P 00 56 34.3 +0.8
baz=62,SNR=11
X34A Smith Ranch, M 61.44 17 ⇓P P 00 56 33.2 -0.3
baz=62
KNB Kanab 61.45 3 eP P 00 56 33.9 +0.2
KNB pmax pmax
comp=Z,31nm,1.6s
KNB Kanab 61.45 3 eP P 00 56 33.9 +0.2
comp=Z,31nm,1.6s
W31A Holland Ranch, 61.47 15 ⇑P P 00 56 33.8 0.0
baz=62
W32A Sentinel 61.58 16 ⇓P P 00 56 34.6 +0.1
baz=62
U25A Circle Dot Ran 61.74 11 ⇓P P 00 56 36.0 +0.2
baz=62,SNR=7.8
V29A Stinnett 61.78 13 ⇑P P 00 56 35.8 -0.1
baz=62
U26A Atchley Ranch, 61.85 11 ⇑P P 00 56 36.4 -0.1
baz=62
CCUT Cedar City 61.95 2 eP P 00 56 38.4 +1.1
comp=Z,27nm,1.3s
MVCO Mesa Verde 61.97 7 eP P 00 56 37.6 +0.3
comp=Z,74nm,1.9s
MVCO Mesa Verde 61.97 7 ⇑P P 00 56 38.0 +0.6
baz=62,SNR=8.3
U27A Thompson Grove 62.05 12 ⇑P P 00 56 38.1 +0.3
baz=62
V31A Spring Creek L 62.05 15 ⇓P P 00 56 37.8 +0.1
baz=62
W34A Bridge Creek, 62.06 17 eP P 00 56 37.1 -0.6
comp=Z,328nm,3.0s
W34A Bridge Creek, 62.06 17 ⇓P P 00 56 37.4 -0.4
baz=62
ARUT Antelope Range 62.19 2 eP P 00 56 38.0 -0.8
ARUT Antelope Range 62.19 2 eP P 00 56 38.0 -0.8
V32A Arapaho 62.19 16 ⇑P P 00 56 39.1 +0.5
baz=62
T24B San Luis 62.23 10 ⇑P P 00 56 40.0 +0.8
baz=62,SNR=5.9
TPH Tonopah 62.44 359 eP P 00 56 40.4 0.0
TPH pmax pmax
comp=Z,6.0nm,0.9s
TPH Tonopah 62.44 359 eP P 00 56 40.4 0.0
comp=Z,5.8nm,0.9s
T25A Trinidad 62.46 10 ⇑P P 00 56 41.3 +0.7
baz=63,SNR=7.0
V33A Lossen Ranch, 62.48 16 ⇑P P 00 56 40.7 +0.2
baz=63,SNR=5.9
CMB Columbia Colle 62.52 356 eP P 00 56 40.2 -0.6
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB Columbia Colle 62.52 356 eP P 00 56 40.2 -0.6
comp=Z,9.9nm,1.1s
U30A WK&E Inc. Balk 62.59 14 ⇓P P 00 56 41.5 +0.1
baz=63
T26A Comanche Natio 62.64 11 ⇑P P 00 56 42.1 +0.3
baz=63,SNR=9.8
V34A Guthrie 62.69 17 eP P 00 56 41.0 -0.9
comp=Z,20nm,1.0s
V34A Guthrie 62.69 17 ⇑P P 00 56 41.9 0.0
baz=63
S22A 4UR Ranch, Cre 62.70 8 ⇑P P 00 56 43.0 +0.7
baz=63,SNR=7.0
R11A Troy Canyon, C 62.70 0 eP P 00 56 43.7 +1.5
comp=Z,19nm,1.4s
R11A Troy Canyon, C 62.70 0 ⇓P P 00 56 43.4 +1.2
baz=63,SNR=7.8
PV05 Paradox Valley 62.77 6 eP P 00 56 43.0 +0.3
S23A Nye Farm, Mont 62.77 9 ⇓P P 00 56 42.7 0.0
baz=63
NV01 Mina Array Sit 62.82 358 eP P 00 56 42.5 -0.5
NVAR Mina Array Bea 62.82 358 P P 00 56 43.6 +0.6
comp=Z,6.0nm,0.9s,baz=186,slow=9.4,SNR=19
MCCM Marconi Confer 62.83 354 eP P 00 56 42.1 -0.6
comp=Z,262nm,1.4s
S24A Houchin Ranch, 62.83 10 ⇑P P 00 56 43.5 +0.4
baz=63
U32A Winter Ranch, 62.83 15 ⇑P P 00 56 43.1 +0.2
baz=63
T28A Walsh 62.86 12 ⇓P P 00 56 43.1 -0.1
baz=63
PV01 Paradox Valley 62.88 7 eP P 00 56 42.6 -0.9
SDCO Great Sand Dun 62.88 9 eP P 00 56 43.7 +0.2
comp=Z,18nm,1.1s
WAKR Walker 62.94 357 eP P 00 56 43.3 -0.5
MVU Marysvale 62.96 3 eP P 00 56 42.9 -1.1
comp=Z,54nm,2.2s
S25A Robets Cordova 62.97 10 ⇓P P 00 56 44.3 +0.3
baz=63,SNR=9.2
T29A Hugoton 63.06 13 ⇑P P 00 56 44.5 0.0
baz=63
PV10 Paradox Valley 63.07 6 eP P 00 56 44.2 -0.5
S26A Kim 63.09 11 ⇑P P 00 56 45.1 +0.3
baz=63
PV04 Paradox Valley 63.10 6 eP P 00 56 44.9 +0.1
U33A Lingo Farm, Me 63.10 16 ⇓P P 00 56 44.7 0.0
baz=63
PV09 Paradox Valley 63.18 6 eP P 00 56 45.2 -0.3
WHZ Wether Hill Ro 63.20 229 eP P 00 56 45.4 0.0
comp=Z,177nm,2.4s
TUL1 Tulsa 63.24 18 eP P 00 56 44.8 -0.7
comp=Z,10nm,0.8s
TUL1 Tulsa 63.24 18 ⇑P P 00 56 45.0 -0.6
baz=64
U34A Anderson Ranch 63.25 17 eP P 00 56 44.5 -1.2
comp=Z,21nm,1.1s
U34A Anderson Ranch 63.25 17 ⇓P P 00 56 45.6 -0.1
baz=64
S28A Manter 63.36 13 ⇓P P 00 56 46.6 +0.2
baz=64
T31A Randall Ranch, 63.36 15 ⇓P P 00 56 46.4 0.0
baz=64
R25A Fountain Ranch 63.47 10 ⇓P P 00 56 47.3 +0.1
baz=64,SNR=7.2
S29A Ulysses 63.54 13 ⇓P P 00 56 47.4 -0.2
baz=64
T32A Huddler Ranch, 63.61 15 ⇓P P 00 56 48.0 -0.1
baz=64
SRU San Rafael 63.67 5 eP P 00 56 48.8 +0.2
SRU pmax pmax
comp=Z,18nm,1.2s
SRU San Rafael 63.67 5 eP P 00 56 48.8 +0.2
comp=Z,18nm,1.2s
T33A Patterson Ranc 63.69 16 ⇑P P 00 56 48.3 -0.2
baz=64
S30A Montezuma 63.70 14 ⇑P P 00 56 48.7 0.0
baz=64,SNR=6.3
R26A Arlington 63.76 11 ⇑P P 00 56 49.0 -0.2
baz=64,SNR=5.8
TMUT Trail Mountain 63.81 4 eP P 00 56 48.6 -1.1
comp=Z,36nm,0.9s
R27A Eads 63.86 12 ⇓P P 00 56 49.6 -0.2
baz=64
S31A Mullinville 63.90 15 ⇓P P 00 56 49.8 -0.2
baz=64
BDFB Brasilia 63.95 96 eP P 00 56 51.6 +0.7
BDFB Brasilia 63.95 96 P P 00 56 52.0 +1.1
comp=Z,3.0nm,0.9s,baz=200,slow=9.1,SNR=3.4

BDFB Brasilia 63.95 96 eP P 00 56 51.6 +0.7
SMCO Snowmass 64.09 8 eP P 00 56 50.6 -1.0
comp=Z,24nm,1.4s
R28A Tribune 64.10 12 ⇓P P 00 56 51.2 -0.1
baz=64,SNR=12
Q24A Divide 64.13 9 ⇑P P 00 56 51.6 -0.2
baz=64
Q25A Bedland, Calha 64.22 10 ⇓P P 00 56 52.2 -0.1
baz=64
R29A Marienthal 64.31 13 ⇑P P 00 56 52.6 -0.1
baz=65,SNR=5.7
Q26A Hugo 64.35 11 ⇓P P 00 56 52.8 -0.2
baz=65
R30A Dighton 64.36 14 ⇑P P 00 56 52.9 -0.1
baz=65,SNR=6.1
NLU North Lily Min 64.41 3 eP P 00 56 52.5 -1.0
comp=Z,16nm,1.3s
P23A Jefferson 64.44 9 ⇑P P 00 56 54.7 +0.9
baz=65,SNR=8.0
MPU Maple Canyon 64.50 4 eP P 00 56 53.8 -0.2
comp=Z,14nm,1.0s
MPU LR LR
comp=Z,500nm,20.2s
R31A Burdett 64.53 14 ⇓P P 00 56 53.7 -0.4
baz=65
P22A Eagle 64.53 8 ⇑P P 00 56 55.0 +0.7
baz=65,SNR=10
KSCO Kaye Shedlock' 64.59 12 eP P 00 56 54.8 +0.2
comp=Z,69nm,1.9s
KSCO Kaye Shedlock' 64.59 12 ⇑P P 00 56 55.2 +0.6
baz=65
DUG Dugway 64.61 3 eP P 00 56 54.7 0.0
DUG pmax pmax
comp=Z,16nm,1.1s
DUG Dugway 64.61 3 eP P 00 56 54.7 0.0
comp=Z,16nm,1.1s
DUG Dugway 64.61 3 ⇓P P 00 56 56.2 +1.5
baz=65,SNR=9.9
CPD Cerro la Pandu 64.72 54 PFAKE 00 57 10.0 +14
CPD LR LR
comp=Z,4µm,19.3s
BMN Battle Mountai 64.79 359 eP P 00 56 56.0 +0.1
BMN pmax pmax
comp=Z,36nm,2.0s
BMN Battle Mountai 64.79 359 eP P 00 56 56.0 +0.1
comp=Z,36nm,2.0s
Q28A Sharon Springs 64.79 12 ⇑P P 00 56 55.9 0.0
baz=65
Q29A Oakley 64.80 13 ⇑P P 00 56 56.2 +0.4
baz=65,SNR=6.4
P25A Willow Gulch B 64.82 10 ⇑P P 00 56 56.4 +0.3
baz=65
R32A Long Quarter, 64.85 15 ⇑P P 00 56 56.1 -0.1
baz=65
ISCO Idaho Springs 64.88 9 eP P 00 56 57.0 +0.3
ISCO pmax pmax
comp=Z,19nm,1.4s
ISCO Idaho Springs 64.88 9 eP P 00 56 57.0 +0.3
comp=Z,20nm,1.4s
ISCO Idaho Springs 64.88 9 ⇓P P 00 56 57.0 +0.3
baz=65,SNR=9.1
O20A White River Ci 64.89 7 eP P 00 56 56.4 -0.2
comp=Z,22nm,1.4s
O20A White River Ci 64.89 7 ⇓P P 00 56 57.1 +0.4
baz=65
R33A Olander Ranch, 64.91 16 ⇓P P 00 56 56.3 -0.2
baz=65
CBYP Canovanas 64.91 54 PFAKE 00 57 10.0 +13
CBYP LR LR
comp=Z,200nm,19.2s
DAU Daniels Canyon 64.91 4 eP P 00 56 55.9 -1.0
DAU Daniels Canyon 64.91 4 eP P 00 56 55.9 -1.0
P26A Davis Ranch, A 65.00 11 ⇑P P 00 56 57.5 +0.3
baz=65
Q30A Quinter 65.04 14 ⇑P P 00 56 57.6 +0.2
baz=65
JLU Jordanelle 65.09 4 eP P 00 56 56.3 -1.7
comp=Z,13nm,0.9s
ELK Elko 65.10 1 eP P 00 56 58.0 0.0
ELK pmax pmax
comp=Z,27nm,1.7s
ELK Elko 65.10 1 P P 00 56 59.3 +1.4
comp=Z,2.2nm,0.9s,baz=181,slow=5.8,SNR=6.9
ELK Elko 65.10 1 eP P 00 56 58.0 0.0
comp=Z,26nm,1.7s
O22A Kremmling 65.12 8 ⇓P P 00 56 58.8 +0.6
baz=65,SNR=12
CTU Camp Tracy 65.16 4 eP P 00 56 57.5 -0.9
comp=Z,13nm,1.0s
Q31A Ellis 65.25 14 ⇑P P 00 56 58.9 +0.2
baz=66
O23A Lake Granby, G 65.25 9 ⇑P P 00 56 59.6 +0.6
baz=66
O24A Longmont 65.28 9 ⇑P P 00 56 59.3 +0.2
baz=66
P28A Saint Francis 65.30 12 ⇓P P 00 56 59.3 +0.1
baz=66
BGU Big Grassy Mou 65.33 3 eP P 00 56 57.6 -1.8
comp=Z,12nm,1.3s
CDVI St. Croix 65.39 55 PFAKE 00 57 10.0 +10
CDVI LR LR
comp=Z,300nm,19.9s
O25A Wiggins 65.41 10 ⇑P P 00 57 00.4 +0.4
baz=66
Q32A Meitler Ranch, 65.42 15 ⇓P P 00 56 59.9 0.0
baz=66
QSPA South Pole Qui 65.47 180 eP P 00 56 59.5 -0.6
comp=Z,258nm,2.8s
P29A Atwood 65.49 13 ⇑P P 00 57 00.3 0.0
baz=66
P30A Selden 65.58 13 ⇓P P 00 57 01.4 +0.5
baz=66
N20A Spence Gulch, 65.58 6 ⇓P P 00 57 02.0 +0.9
baz=66,SNR=15
Q33A Connelly Farm, 65.60 16 ⇓P P 00 57 01.1 +0.1
baz=66
TCUT Toone Canyon 65.61 4 eP P 00 57 01.1 -0.2
comp=Z,52nm,1.7s
N02D Trinity Center 65.61 354 ⇓P P 00 57 02.6 +1.5
baz=66
O26A Horse Wrangler 65.67 11 ⇓P P 00 57 02.2 +0.7
baz=66
SPUT South Promonto 65.74 3 eP P 00 57 02.8 +0.8
comp=Z,9.2nm,1.1s
P31A Stockton 65.74 14 ⇓P P 00 57 02.5 +0.6
baz=66,SNR=7.3
N22A Wattenberg Ran 65.76 8 ⇓P P 00 57 02.9 +0.6
baz=66,SNR=13
O27A Beecher Island 65.77 11 ⇑P P 00 57 02.4 +0.3
baz=66
O28A Krutsinger Ran 65.83 12 ⇓P P 00 57 03.1 +0.5
baz=66
N23A Red Feather La 65.92 8 ⇓P P 00 57 03.8 +0.5
baz=66,SNR=7.6
N24A Carr 66.00 9 ⇓P P 00 57 03.9 +0.2
baz=66
KSU1 Kansas State U 66.01 16 eP P 00 57 03.1 -0.5
comp=Z,20nm,0.8s
KSU1 Kansas State U 66.01 16 ⇑P P 00 57 03.5 -0.1
baz=66
P32A Huiting Farm, 66.02 15 ⇓P P 00 57 04.1 +0.4
baz=66,SNR=6.6
O29A 4D Ranch, Culb 66.02 13 ⇓P P 00 57 04.1 +0.4
baz=66
P33A Williams Farm, 66.05 15 ⇓P P 00 57 04.0 +0.1
baz=66
HWUT Hardware Ranch 66.08 4 eP P 00 57 04.0 -0.2
comp=Z,100nm,2.8s
HVU Hansel Valley 66.20 3 eP P 00 57 04.3 -0.7
HVU pmax pmax
comp=Z,40nm,2.2s
HVU Hansel Valley 66.20 3 eP P 00 57 04.3 -0.7
comp=Z,40nm,2.2s
O30A MW Ranch, Wils 66.23 13 ⇓P P 00 57 05.4 +0.3
baz=66
M22A Cedar Creek Ra 66.33 8 ⇓P P 00 57 06.6 +0.6
baz=67,SNR=6.7
M04C Macdoel 66.35 355 ⇓P P 00 57 07.3 +1.4
baz=67
N27A Anderson Farm, 66.36 11 ⇑P P 00 57 06.2 +0.3
baz=67
O31A Woolen Ranch, 66.36 14 ⇓P P 00 57 06.2 +0.3
baz=67
MOD Modoc 66.37 357 eP P 00 57 05.5 -0.6
comp=Z,32nm,1.4s
PHWY Pilot Hill 66.38 9 eP P 00 57 05.1 -1.2
comp=Z,9.4nm,1.0s
N28A Pribbeno Ranch 66.42 12 ⇓P P 00 57 06.8 +0.5
baz=67
SABA Saba 66.45 56 PFAKE 00 57 20.0 +13
SABA LR LR
comp=Z,300nm,19.6s
OGNE Ogallala 66.58 12 ⇑P P 00 57 07.8 +0.5
baz=67
M24A Cheyenne 66.63 9 ⇑P P 00 57 08.3 +0.5
baz=67
O32A Brockman Farm, 66.70 15 ⇑P P 00 57 08.3 +0.2
baz=67
WVOR Wild Horse Val 66.82 358 eP P 00 57 07.5 -1.4
WVOR pmax pmax
comp=Z,17nm,1.3s
WVOR Wild Horse Val 66.82 358 eP P 00 57 07.5 -1.4
comp=Z,16nm,1.3s
L22A Ellis Ranch, M 66.97 8 ⇑P P 00 57 10.4 +0.4
baz=67,SNR=5.7
M28A Bar X Bar Ranc 67.14 12 ⇑P P 00 57 11.5 +0.6
baz=68
L23A Garrett 67.15 8 ⇓P P 00 57 11.3 +0.2
baz=68
L24A Wheatland 67.18 9 ⇓P P 00 57 11.4 +0.2
baz=68
K05A Summer Lake 67.22 356 eP P 00 57 10.8 -0.7
comp=Z,97nm,1.6s
HUMO Hull Mountain 67.26 354 eP P 00 57 11.5 0.0
comp=Z,45nm,1.5s
AHID Auburn Hatcher 67.27 4 eP P 00 57 11.1 -0.7
comp=Z,20nm,1.3s
BW06 Boulder Array 67.38 5 eP P 00 57 11.8 -0.8
comp=Z,10nm,1.0s
PD31 Pinedale Array 67.38 5 eP P 00 57 11.3 -1.2
PDAR Pinedale Array 67.38 5 P P 00 57 12.3 -0.2
comp=Z,3.8nm,0.8s,baz=168,slow=7.2,SNR=23
L25A Engebretsen Ra 67.43 10 ⇓P P 00 57 13.1 +0.3
baz=68
K21A Alcova 67.47 7 ⇑P P 00 57 12.9 -0.2
baz=68,SNR=8.5
K22A Casper 67.57 8 eP P 00 57 13.2 -0.5
comp=Z,29nm,0.9s
K22A Casper 67.57 8 ⇓P P 00 57 13.8 +0.1
baz=68,SNR=9.9
MFID Camas Ranch 67.76 0 eP P 00 57 14.1 -0.7
comp=Z,14nm,1.3s
K23A Bowen Ranch, D 67.79 8 ⇑P P 00 57 15.5 +0.4
baz=68,SNR=11
J05D Fort Rock, OR 67.80 356 ⇓P P 00 57 16.0 +0.9
baz=68
BGNE Belgrade 67.82 14 eP P 00 57 14.3 -0.8
comp=Z,42nm,1.1s
BGNE Belgrade 67.82 14 ⇑P P 00 57 15.4 +0.2
baz=68
REDW Red Top Meadow 67.88 4 eP P 00 57 14.7 -1.0
comp=Z,27nm,1.6s
J19A Crowheart 67.92 6 ⇓P P 00 57 15.6 -0.3
baz=68,SNR=6.1
HLID Hailey 67.92 1 eP P 00 57 16.2 +0.2
comp=Z,22nm,1.3s
HLID Hailey 67.92 1 ⇓P P 00 57 16.6 +0.7
baz=68,SNR=13
L29A Maesberg Ranch 67.96 12 ⇑P P 00 57 16.4 +0.4
baz=68
SNOW Snow King Moun 67.98 4 eP P 00 57 15.6 -0.8
comp=Z,12nm,1.0s
KMSC Kings Mountain 67.98 30 ⇑P P 00 57 15.9 -0.3
baz=68
K26A Motz Farm, Whi 68.09 10 ⇑P P 00 57 16.4 -0.5
baz=68
J20A Shoshoni 68.09 6 ⇑P P 00 57 17.2 +0.3
baz=68,SNR=18
LOHW Long Hollow 68.14 4 eP P 00 57 16.2 -1.2
comp=Z,20nm,1.4s
J21A Lysite 68.15 7 ⇑P P 00 57 17.5 +0.1
baz=68,SNR=8.4
K27A Flueckinger Fa 68.25 11 ⇑P P 00 57 17.9 0.0
baz=69
MOOW Moose Ponds 68.27 4 eP P 00 57 16.7 -1.5
comp=Z,14nm,1.3s
L31A Butterfield Fa 68.40 14 ⇓P P 00 57 19.3 +0.5
baz=69
K28A Ten Mile Ranch 68.42 12 ⇓P P 00 57 19.5 +0.6
baz=69
I17A Pilgrim Ck. 68.45 4 ⇓P P 00 57 19.7 +0.4
baz=69
I07A Izee 68.50 357 eP P 00 57 20.8 +1.4
comp=Z,28nm,1.4s
FLWY Flagg Ranch 68.60 4 eP P 00 57 19.6 -0.6
comp=Z,23nm,1.1s
I21A Big Trails, Te 68.63 7 ⇑P P 00 57 20.5 +0.2
baz=69,SNR=25
K29A Lazy Trails An 68.66 12 ⇓P P 00 57 21.1 +0.7
baz=69,SNR=5.9
J25A Sunshine Ranch 68.67 10 ⇓P P 00 57 20.8 +0.3
baz=69,SNR=5.4
I20A Worland 68.68 6 ⇓P P 00 57 20.4 -0.2
baz=69,SNR=8.1
I19A Meeteetse 68.69 5 ⇓P P 00 57 20.6 -0.2
baz=69,SNR=10
J26A Sides Ranch, S 68.70 10 ⇑P P 00 57 21.2 +0.5
baz=69,SNR=6.7
I22A 9 Mile Ranch, 68.80 7 ⇓P P 00 57 21.2 -0.2
baz=69,SNR=8.1
J27A Elkhorn Farm, 68.82 11 ⇓P P 00 57 21.3 -0.2
baz=69
I05D Terrebonne, OR 68.86 356 ⇓P P 00 57 22.5 +0.9
baz=69
H17A Grant Village 68.92 4 eP P 00 57 20.7 -1.6
comp=Z,6.1nm,1.1s
YFT Old Faithful 68.96 4 eP P 00 57 20.8 -1.7
comp=Z,14nm,1.1s
J28A Allard Ranch, 69.13 11 ⇑P P 00 57 23.6 +0.3
baz=69,SNR=8.0
YMR Madison River 69.17 4 eP P 00 57 23.6 -0.1
comp=Z,13nm,1.0s
BMO Blue Mountains 69.21 359 eP P 00 57 22.0 -1.8
comp=Z,115nm,2.8s
MCMT McKenzie Canyo 69.23 2 eP P 00 57 23.4 -0.8
H18A Shoshone NF, C 69.27 5 ⇓P P 00 57 24.2 -0.2
baz=70
J29A Okreek 69.28 12 ⇑P P 00 57 24.5 +0.3
baz=70,SNR=7.8
QLMT Earthquake Lak 69.31 4 eP P 00 57 23.8 -0.7
H19A Powell 69.32 5 ⇓P P 00 57 24.6 0.0
baz=70
RSSD Black Hills 69.35 9 eP P 00 57 24.2 -0.7
RSSD pmax pmax
comp=Z,13nm,1.0s
RSSD Black Hills 69.35 9 eP P 00 57 24.2 -0.7
comp=Z,13nm,1.0s
J30A Dallas 69.36 13 ⇑P P 00 57 24.6 -0.1
baz=70
I26A New Underwood 69.44 10 ⇑P P 00 57 25.4 +0.1
baz=70
H21A Big Horn, Sher 69.46 7 ⇑P P 00 57 25.2 -0.3
baz=70
H22A Clearmont 69.51 7 ⇑P P 00 57 25.7 0.0
baz=70
SCIA State Center 69.54 18 eP P 00 57 24.0 -1.8
comp=Z,15nm,0.8s
I27A Quinn 69.61 11 ⇓P P 00 57 26.6 +0.3
baz=70,SNR=5.4
G08A Pilot Rock 69.69 358 eP P 00 57 25.9 -0.9
comp=Z,28nm,1.5s
I28A Midland 69.70 11 ⇓P P 00 57 27.0 +0.2
baz=70
RLMT Red Lodge 69.74 5 eP P 00 57 25.0 -2.3
comp=Z,159nm,3.0s
G05D Wamic, OR 69.75 356 ⇑P P 00 57 27.8 +0.7
baz=70
DLMT Dillon 69.78 3 eP P 00 57 25.6 -1.9
comp=Z,10nm,1.1s
DLMT LR LR
comp=Z,300nm,19.9s
H24A Dirks Ranch, A 69.89 9 ⇓P P 00 57 27.8 -0.2
baz=70,SNR=6.5
H25A Fruitdale 69.90 9 ⇑P P 00 57 28.1 0.0
baz=70
G20A Bridger 69.93 6 ⇑P P 00 57 28.1 -0.3
baz=70,SNR=15
H26A Fairpoint 70.02 10 ⇓P P 00 57 28.3 -0.5
baz=70
G21A Lodge Grass 70.04 7 ⇓P P 00 57 27.8 -1.1
baz=70
BOZ Bozeman (W) 70.11 3 eP P 00 57 27.3 -2.1
BOZ pmax pmax
comp=Z,41nm,2.3s
BOZ Bozeman (W) 70.11 3 eP P 00 57 27.2 -2.1
comp=Z,41nm,2.3s
SFIN Scholer Farm 70.12 23 eP P 00 57 27.8 -1.6
comp=Z,120nm,2.5s
G22A Birney 70.13 7 ⇑P P 00 57 28.8 -0.7
baz=70
H27A Howes 70.15 11 ⇓P P 00 57 29.6 0.0
baz=70,SNR=6.5
G23A Biddle 70.22 8 ⇑P P 00 57 29.5 -0.6
baz=70,SNR=7.2
LRM Limekiln Ridge 70.24 3 eP P 00 57 27.3 -3.1
DZM Mont Dzumac 70.27 254 eLR LR 01 18 53.4
comp=Z,991nm,23.0s
F10A Beach Ranch, E 70.33 359 eP P 00 57 29.8 -0.9
comp=Z,64nm,2.3s
GCMT Greycliff 70.38 5 eP P 00 57 29.8 -1.2
H28A Mission Ridge 70.38 11 ⇓P P 00 57 31.0 +0.1
baz=71,SNR=6.7
ECSD EROS Data Cent 70.38 15 eP P 00 57 29.7 -1.3
comp=Z,30nm,1.4s
ECSD EROS Data Cent 70.38 15 ⇑P P 00 57 30.2 -0.7
baz=71,SNR=7.2
G24A Alzada 70.48 9 ⇑P P 00 57 31.2 -0.4
baz=71,SNR=5.4
H29A Onida 70.48 12 ⇓P P 00 57 31.2 -0.3
baz=71
G25A Newell 70.49 9 ⇑P P 00 57 31.0 -0.6
baz=71
F19A Roth Farm, Mol 70.50 5 ⇓P P 00 57 31.3 -0.5
baz=71,SNR=6.6
F20A Billings 70.51 6 ⇓P P 00 57 31.7 -0.1
baz=71
BRSD Miller 70.55 13 eP P 00 57 30.1 -1.8
comp=Z,44nm,0.3s
F22A Rosebud 70.69 7 ⇓P P 00 57 32.7 -0.1
baz=71
G26A Maurine 70.71 10 ⇓P P 00 57 32.8 -0.2
baz=71,SNR=7.9
F23A Volborg 70.73 8 ⇓P P 00 57 32.8 -0.3
baz=71,SNR=6.1
G28A Parade 70.78 11 ⇑P P 00 57 33.2 -0.2
baz=71
E09A Wood Farm, Sta 70.89 358 eP P 00 57 33.6 -0.3
comp=Z,11nm,1.1s
F24A Ekalaka 70.98 9 ⇑P P 00 57 34.4 -0.3
baz=71
E19A Rath Farm, Rou 71.11 5 ⇓P P 00 57 35.3 -0.1
baz=71,SNR=8.1
HRY Holter Researc 71.16 3 eP P 00 57 35.6 -0.1
G30A Faulkton 71.17 13 ⇑P P 00 57 35.0 -0.8
baz=72
MSO Missoula 71.20 2 eP P 00 57 36.1 +0.1
comp=Z,77nm,2.5s
MSO Missoula 71.20 2 ⇑P P 00 57 36.5 +0.5
baz=72
E20A Meyer Farm, Mu 71.21 6 ⇑P P 00 57 36.2 +0.1
baz=72
F26A Lodgepole 71.24 10 ⇓P P 00 57 36.5 +0.3
baz=72,SNR=8.4
CHMT Chamberlain Mo 71.31 2 eP P 00 57 36.1 -0.7
E21A Keefer Ranch, 71.35 7 ⇓P P 00 57 37.0 +0.1
baz=72
E22A Miles City 71.38 7 ⇓P P 00 57 36.9 0.0
baz=72
D08A Wollman Farm, 71.45 358 eP P 00 57 37.1 -0.2
comp=Z,53nm,2.0s
F28A McLaughlin 71.55 11 ⇓P P 00 57 38.2 +0.1
baz=72
LAO LASA Array 71.59 7 eP P 00 57 36.7 -1.6
comp=Z,20nm,1.0s
SLMT Seeley Lake 71.62 2 eP P 00 57 38.5 -0.1
E24A Baker 71.70 9 ⇑P P 00 57 39.2 +0.2
baz=72
URVA University of 71.73 31 eP P 00 57 38.2 -1.1
E25A Miller Ranch, 71.77 9 ⇑P P 00 57 39.8 +0.5
baz=72
D20A Manuel Ranch, 71.79 6 ⇓P P 00 57 39.8 +0.2
baz=72,SNR=6.5
D19A Cripps Ranch, 71.80 5 ⇓P P 00 57 40.0 +0.4
baz=72
F30A Leola 71.87 12 ⇑P P 00 57 39.9 -0.1
baz=72
SWMT Swartz Lake 71.88 1 eP P 00 57 40.1 0.0
D21A La Casta Ranch 71.88 6 ⇑P P 00 57 40.5 +0.5
baz=72,SNR=14
E26A Carlson Angus 71.88 10 ⇑P P 00 57 40.3 +0.3
baz=72
E27A Carson 71.98 10 ⇓P P 00 57 41.0 +0.4
baz=72
D22A Cohagen 72.05 7 ⇑P P 00 57 41.7 +0.7
baz=72,SNR=11
NLWA Neilton Lookou 72.08 354 eP P 00 57 39.1 -2.1
comp=Z,42nm,1.4s
JTMT Jette 72.11 1 eP P 00 57 41.0 -0.5
C09A Chrisman Ranch 72.17 358 eP P 00 57 42.1 +0.4
comp=Z,28nm,1.4s
BSMT Bassoo Peak 72.21 1 eP P 00 57 41.7 -0.5
YBMT Yellow Bay 72.23 1 eP P 00 57 43.5 +1.3
D24A Glendive 72.24 8 ⇓P P 00 57 42.8 +0.6
baz=73
E28A Huff 72.27 11 ⇓P P 00 57 42.7 +0.4
baz=73
C19A Slack Wire Ran 72.36 5 ⇑P P 00 57 43.9 +1.0
baz=73,SNR=17
D25A Fairfield 72.42 9 ⇑P P 00 57 44.0 +0.8
baz=73
C20A Veseth Ranch, 72.42 6 ⇑P P 00 57 43.9 +0.6
baz=73
D26A Manning 72.43 10 ⇑P P 00 57 44.0 +0.7
baz=73
E29A Napoleon 72.46 12 ⇑P P 00 57 43.9 +0.4
baz=73
E30A Jud 72.53 12 ⇑P P 00 57 44.2 +0.3
baz=73
EGMT Eagleton 72.59 4 eP P 00 57 44.5 +0.2
comp=Z,48nm,1.6s
EGMT Eagleton 72.59 4 ⇓P P 00 57 45.2 +0.9
baz=73,SNR=8.2
NEW Newport 72.62 359 eP P 00 57 43.6 -0.8
NEW pmax pmax
comp=Z,15nm,1.1s
NEW Newport 72.62 359 P P 00 57 45.4 +1.0
comp=Z,5.6nm,1.0s,baz=197,slow=7.3,SNR=8.5
NEW Newport 72.62 359 eP P 00 57 43.6 -0.8
comp=Z,14nm,1.1s
NEW Newport 72.62 359 ⇓P P 00 57 45.4 +1.0
baz=73,SNR=6.3
C21A Desert Coulee 72.62 6 ⇓P P 00 57 44.6 +0.2
baz=73
C24A Savage 72.64 8 ⇓P P 00 57 45.0 +0.5
baz=73
D27A Center 72.65 10 ⇓P P 00 57 44.9 +0.3
baz=73
C22A Vida 72.67 7 ⇑P P 00 57 45.4 +0.7
baz=73,SNR=14
SPMN St. Paul 72.73 17 ⇓P P 00 57 45.1 0.0
baz=73
C23A Lambert 72.81 8 ⇑P P 00 57 46.1 +0.5
baz=73,SNR=7.1
D28A Regan 72.89 11 ⇑P P 00 57 46.3 +0.2
baz=73
D29A Pettibone, Tap 72.94 12 ⇓P P 00 57 46.4 +0.1
baz=73
AAM Ann Arbor 73.06 25 eP P 00 57 45.2 -1.9
AAM pmax pmax
comp=Z,40nm,1.4s
AAM Ann Arbor 73.06 25 eP P 00 57 45.2 -1.9
comp=Z,40nm,1.4s
B19A Brinkman Farms 73.08 5 ⇓P P 00 57 48.4 +1.2
baz=73,SNR=7.6
B20A Solberg Farm, 73.14 6 ⇑P P 00 57 48.5 +0.9
baz=74,SNR=6.7
D30A Buchanan 73.14 12 ⇓P P 00 57 48.2 +0.7
baz=74,SNR=6.3
C26A Wahner Farm, P 73.26 10 ⇑P P 00 57 48.7 +0.5
baz=74,SNR=7.1
TARA Tarawa 73.39 279 PFAKE 00 58 00.0 +10
TARA LR LR
comp=Z,2µm,18.0s
C28A Hausauer Farms 73.43 11 ⇓P P 00 57 50.0 +0.8
baz=74
WALA Waterton Lakes 73.43 1 eP P 00 57 48.4 -0.9
B23A Brockton 73.48 8 ⇑P P 00 57 50.1 +0.6
baz=74
B25A Knox Farm, Ray 73.53 9 ⇓P P 00 57 50.4 +0.5
baz=74
A19A Klindworth Far 73.57 5 ⇓P P 00 57 51.0 +0.9
baz=74,SNR=9.9
A20A Cobblestone Ra 73.59 6 ⇓P P 00 57 50.9 +0.8
baz=74,SNR=8.3

DGMT Dagmar 73.59 8 eP P 00 57 48.9 -1.2
comp=Z,42nm,1.1s
DGMT Dagmar 73.59 8 ⇑P P 00 57 50.6 +0.5
baz=74,SNR=6.0
C30A Mose, Pekin 73.77 12 ⇓P P 00 57 51.4 +0.3
baz=74,SNR=7.9
B26A Jensen Ranch, 73.77 10 ⇑P P 00 57 52.0 +0.7
baz=74
A22A Carney Farms, 73.90 7 ⇓P P 00 57 52.4 +0.5
baz=74
A23A Redstone 73.98 8 ⇑P P 00 57 53.0 +0.6
baz=74
A24A Westby 74.06 8 ⇑P P 00 57 53.2 +0.3
baz=74
B28A Dugan Ranch, T 74.14 11 ⇑P P 00 57 53.7 +0.3
baz=74
A25A Svangstu Ranch 74.19 9 ⇓P P 00 57 54.2 +0.5
baz=74
A26A Wade Farm, Ken 74.31 10 ⇑P P 00 57 54.8 +0.5
baz=75,SNR=8.7
B29A Wagenman Farm, 74.34 11 ⇑P P 00 57 54.6 +0.2
baz=75
B30A Myrvik Farm, E 74.51 12 ⇑P P 00 57 55.7 +0.2
baz=75,SNR=10
A28A Rude Farm, Bot 74.61 11 ⇓P P 00 57 56.6 +0.5
baz=75,SNR=5.6
A29A Manning Farm, 74.80 11 ⇓P P 00 57 57.0 -0.1
baz=75
AGMN Agassiz Nation 74.87 14 eP P 00 57 56.9 -0.6
comp=Z,53nm,2.3s
AGMN Agassiz Nation 74.87 14 ⇑P P 00 57 57.3 -0.2
baz=75
A30A Hoffart Farm, 74.99 12 ⇑P P 00 57 58.1 -0.2
baz=75
EYMN Ely 75.59 17 eP P 00 58 00.8 -0.9
comp=Z,130nm,2.8s
ODNJ Ogdensburg 75.90 31 PFAKE 00 58 10.0 +6.4
ODNJ LR LR
comp=Z,500nm,21.8s
ULM Lac du Bonnet 76.72 13 eP P 00 58 05.9 -2.2
ULM pmax pmax
comp=Z,126nm,2.8s
ULM Lac du Bonnet 76.72 13 P P 00 58 07.7 -0.3
comp=Z,3.2nm,0.8s,baz=206,slow=7.3,SNR=5.8
ULM Lac du Bonnet 76.72 13 eP P 00 58 05.9 -2.2
comp=Z,126nm,2.8s
EDM Edmonton 77.61 2 eP P 00 58 12.7 -0.4
EDM Edmonton 77.61 2 eP P 00 58 12.7 -0.4
WES Weston 78.47 32 PFAKE 00 58 30.0 +12
WES LR LR
comp=Z,2μm,20.4s
PTN Potsdam (NY) 78.48 29 PFAKE 00 58 30.0 +12
PTN LR LR
comp=Z,1μm,22.0s
FFC Flin Flon 80.00 8 eP P 00 58 24.5 -1.6
FFC pmax pmax
comp=Z,28nm,1.5s
FFC Flin Flon 80.00 8 eP P 00 58 24.5 -1.6
comp=Z,28nm,1.5s
WVL Waterville 80.90 32 PFAKE 00 58 40.0 +8.8
WVL LR LR
comp=Z,900nm,21.5s
CASY Casey 82.71 197 eP P 00 58 39.6 -0.9
comp=Z,12nm,0.9s
DLBC Dease Lake 83.62 353 eP P 00 58 44.7 -0.5
FCC Fort Churchill 85.11 11 eP P 00 58 51.7 -0.9
SKAG Skagway 85.33 350 eP P 00 58 52.4 -1.3
comp=Z,117nm,2.6s
H11S2 WAKE ISLAND Hy 86.58 292 T T 02 34 18.9
baz=121,slow=74,SNR=41
H11S1 WAKE ISLAND Hy 86.59 292 T T 02 34 28.1
baz=121,slow=74,SNR=22
H11S3 WAKE ISLAND Hy 86.60 292 T T 02 34 31.2
baz=121,slow=74,SNR=10
YKA Yellowknife Ar 86.88 1 P P 00 59 00.8 -0.5
comp=Z,4.5nm,0.9s,baz=172,slow=5.1,SNR=43
YKB5 Yellowknife Ar 86.88 1 eP P 00 59 00.3 -1.1
H11N3 WAKE ISLAND Hy 86.97 293 T T 02 34 57.6
HYT Haines Junctio 86.97 350 eP P 00 59 01.8 -0.3
H11N1 WAKE ISLAND Hy 86.98 293 T T 02 34 57.6
H11N2 WAKE ISLAND Hy 86.99 293 T T 02 34 57.5
SNR=5.7
RC01 Rabbit Creek A 89.72 344 eP P 00 59 14.1 -0.8
comp=Z,269nm,3.0s
SML Sawmill 90.02 345 PFAKE 00 59 30.0 +14
SML LR LR
comp=Z,100nm,20.9s
TRF Thorofare Moun 91.89 345 PFAKE 00 59 40.0 +15
TRF LR LR
comp=Z,300nm,18.5s
KTH Kantishna Hill 92.13 345 eP P 00 59 23.8 -2.4
comp=Z,96nm,2.1s
CAST Castle Rocks 92.29 345 PFAKE 00 59 40.0 +13
CAST LR LR
comp=Z,400nm,19.6s
ILAR Eielson Array 92.32 347 P P 00 59 26.2 -0.6
comp=Z,0.3nm,1.0s,baz=184,slow=5.0,SNR=3.1
COLA College 92.61 347 eP P 00 59 28.2 0.0
COLA pmax pmax
comp=Z,10.0nm,1.3s
ASAR Alice Springs 96.90 240 P P 00 59 51.0 +1.9
ASAR Alice Springs 96.90 240 P P 00 59 51.0 +1.9
comp=Z,0.5nm,0.8s,baz=123,slow=3.4,SNR=3.6
BILL Bilibino 108.17 337 PFAKE 01 05 00.0
BILL LR LR
comp=Z,300nm,18.0s
TOA0 Torodi Ar. Sit 120.42 89 ePKPdf PKPdf 01 05 07.7 -1.8
TORD Torodi Ar. Bea 120.42 89 PKP PKPdf 01 05 08.2 -1.3
comp=Z,0.7nm,0.8s,baz=276,slow=2.3,SNR=3.8
MDJ Mudanjiang 123.96 308 PKP PKPdf 01 05 13.7 -1.7
CN2 Changchun 126.93 307 ePKP PKPdf 01 05 19.9 -1.2
CN2 ePP PP 01 07 22.0 +2.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,300nm,18.0s
MEM Membach 128.88 44 PFAKE 01 05 40.0 +15
MEM LR LR
comp=Z,1107μm,21.0s
KSM Kuching 129.66 250 PFAKE 01 05 40.0 +13
KSM LR LR
comp=Z,100nm,19.0s
NJ2 Nanjing 131.57 292 ePKP PKPdf 01 05 32.2 +1.9
NJ2 LR LR
comp=Z,300nm,16.4s
DAVA Damuels 131.88 48⇑iPKPdf PKPdf 01 05 29.3 -1.3
comp=Z,19nm,1.7s
BJI Beijing 133.94 303 PKP PKPdf 01 05 32.9 -1.6
BJI PKS PKSdf 01 09 01.7 -1.7
BJI SKKS 01 14 54.9
BJI LR LR
comp=Z,280nm,23.3s
BJI LR LR
comp=Z,250nm,24.3s
KHC Kasperske Hory 133.97 45 iPKIKP PKPdf 01 05 37.4 +3.1
QIZ Qiongzhong 137.19 272 PKP PKPdf 01 05 42.3 +1.1
QIZ PP PP 01 08 26.6 +0.6
QIZ SS SS 01 26 35.2 +2.3
QIZ LR LR
comp=Z,220nm,22.0s
HHC Hu-ho-hao-te 137.38 304 ePKP PKPdf 01 05 39.3 -1.7
HHC PP PP 01 08 26.1 -0.6
HHC SKS SKSdf 01 12 44.4 -7.4
HHC SKKS SKKSac 01 15 15.5 -5.6
HHC SS SS 01 26 29.8 -4.4
HHC AMB AMB
comp=Z,80nm,7.5s
HHC LR LR
comp=Z,350nm,20.4s
HHC LR LR
comp=Z,260nm,19.8s
HHC LR LR
comp=Z,170nm,19.4s
TIP Timpagrande 137.88 58 PFAKE 01 05 50.0 +8.0
TIP LR LR
comp=Z,100nm,21.0s
ULN Ulaanbaatar 138.96 316 iPKIKP PKPdf 01 05 45.2 +1.4
IPM Ipoh 139.10 247 PFAKE 01 06 00.0 +15
IPM LR LR
comp=Z,100nm,21.0s
TLY Talaya 139.53 322 iPKIKP PKPdf 01 05 44.8 +0.3
ZAK Zakamensk 140.31 321 ePKIKP PKPdf 01 05 46.9 +0.8
ZAK e 01 08 39.7
ZAK pmax pmax
comp=Z,2.0nm,1.5s
GYA Guiyang 141.56 282 ePKP PKPdf 01 05 47.0 -2.1
GYA PP PP 01 08 54.2 +1.2
GYA PKS PKSdf 01 09 21.6 -3.6
GYA SKKS 01 15 42.4
GYA SS SS 01 27 22.9 -1.5
GYA AMB AMB
comp=Z,120nm,7.6s
GYA LR LR
comp=Z,140nm,24.0s
GYA LR LR
comp=Z,120nm,25.1s
GYA LR LR
comp=Z,150nm,23.6s
AK11 Malin Array Si 142.72 37 ePKPdf PKPdf 01 05 49.6 -0.6
KIEV Kiev 142.74 37 ePKIKP PKPdf 01 05 50.6 +0.3
AKASG Malin Array Be 142.74 37 PKP PKPdf 01 05 50.0 -0.3
comp=Z,0.2nm,0.2s,baz=295,slow=1.9,SNR=4.9
OBN Obninsk 143.51 26 ePKIKP PKPdf 01 05 52.8 +1.3
OBN Obninsk 143.51 26 ePKPdf PKPdf 01 05 51.0 -0.5
KMBO Kilima Mbogo 143.55 131 ePKIKP PKPdf 01 05 52.0 -1.2
KMBO Kilima Mbogo 143.55 131 PKP PKPdf 01 05 52.9 -0.3
comp=Z,3.0nm,1.0s,baz=211,slow=3.8,SNR=3.5
KMBO Kilima Mbogo 143.55 131 ePKPdf PKPdf 01 05 52.0 -1.2
LZH Lanzhou 143.99 298 ePKP PKPab 01 05 50.5 0.0
LZH pPKP pPKPdf 01 05 57.2 -0.1
LZH sPKP 01 06 00.3
LZH LR LR
comp=Z,470nm,16.6s
CD2 Chengdu 144.38 289 PKP PKPdf 01 05 54.7 +0.8
CD2 PP PP 01 09 14.3 +4.5
CD2 PKS PKSdf 01 09 28.9 -0.7
CD2 SKS SKSdf 01 13 00.9 -2.5
CD2 SKKS SKKSac 01 16 01.4 -0.9
CD2 SS SS 01 27 57.6 +0.9
CD2 AMB AMB
comp=Z,160nm,6.2s
CD2 LR LR
comp=Z,220nm,16.6s
CD2 LR LR
comp=Z,290nm,19.6s
CD2 LR LR
comp=Z,340nm,19.6s
KMI Kunming 144.90 279 PKP PKPdf 01 05 55.8 +0.6
KMI pPKP pPKPdf 01 06 00.9 +1.6
KMI sPKP 01 06 02.7
KMI PP PP 01 09 14.2 +0.9
KMI SS SS 01 28 03.4 +0.1
KMI AMB AMB
comp=Z,83nm,5.7s
KMI LR LR
comp=Z,130nm,17.3s
KMI LR LR
comp=Z,150nm,19.1s
KMI LR LR
comp=Z,270nm,27.8s
GTA Gaotai 146.49 305 ⇑PKPbc PKPbc 01 05 59.1 +0.3
GTA PKPab PKiKP 01 06 03.8 +2.1
GTA PP PP 01 09 26.3 +4.3
GTA SKS SKSdf 01 13 06.3 0.0
GTA SKKS SKKSac 01 16 16.1 +2.1
GTA SS SS 01 28 22.7 +2.6
GTA AMB AMB
comp=Z,170nm,6.2s
GTA LR LR
comp=Z,110nm,17.1s
GTA LR LR
comp=Z,170nm,20.0s
GTA LR LR
comp=Z,360nm,20.9s
NVS Novosibirsk 146.66 340 ePKIKP PKPdf 01 05 55.8 -1.1
ZAA0 Zalesovo Array 146.87 337 ePKPdf PKPdf 01 05 57.4 0.0
ZALV Zalesovo Beam 146.87 337 PKPbc PKPbc 01 05 58.6 -0.6
comp=Z,4.8nm,0.8s,baz=24,slow=2.6,SNR=14
CM01 Chiang Mai Arr 146.91 266 ePKPdf PKPbc 01 05 59.6 -0.8
CMAR Chiang Mai Arr 146.94 266 PKPbc PKPbc 01 06 00.9 +0.4
comp=Z,1.5nm,0.4s,baz=76,slow=1.4,SNR=13
CHTO Chiang Mai 147.04 267 ePKIKP PKPdf 01 05 59.0 +0.3
CHTO Chiang Mai 147.04 267 ePKPdf PKPdf 01 05 59.0 +0.3
VSR Storozhevoye 147.38 29 ePKP2 PKPdf 01 05 59.4 +1.1
VSR pmax pmax
comp=N,10.0nm,1.5s
VSR pmax pmax
comp=E,6.0nm,1.5s
VSR pmax pmax
comp=Z,20nm,1.5s
SVE Sverdlovsk 147.80 3 ePKP2 PKPbc 01 06 02.5 +0.8
SVE pmax pmax
comp=Z,30nm,1.6s
ARU Arti 148.04 6 ePKIKP PKPdf 01 05 59.7 +0.5
ARU Arti 148.04 6 ePKPdf PKPdf 01 05 59.7 +0.5
VRHR Novokhopersk 148.53 27 ePKIKP PKPdf 01 06 01.8 +1.7
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,6.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
BRTR Keskin Array B 150.46 52 PKPbc PKPbc 01 06 08.6 -0.5
comp=Z,5.7nm,0.9s,baz=153,slow=0.8,SNR=16
FURI Furi 151.24 119 ePKPdf PKPdf 01 06 03.1 -2.9
BRVK Borovoye 151.26 352 ePKIKP PKPdf 01 06 03.1 -1.3
BRVK Borovoye 151.26 352 ePKPdf PKPdf 01 06 03.1 -1.3
VOSK Vostochnaya 151.50 351 ePKIKP PKPdf 01 06 05.0 +0.2
VOSK MLR MLR
comp=Z,200nm,20.0s
VOSK Vostochnaya 151.50 351 ePKPdf PKPdf 01 06 05.0 +0.2
VOSK LR LR
comp=Z,200nm,20.0s
KURK Kurchatov 151.65 340 ePKIKP PKPdf 01 06 03.0 -2.1
KURK Kurchatov 151.65 340 ePKPdf PKPdf 01 06 03.0 -2.1
WMQ Urumqi 152.78 320 ePKPbc PKPdf 01 06 08.2 +1.1
WMQ SKS SKSdf 01 13 10.2 -4.0
WMQ SKKS SKKSac 01 16 46.2 -2.1
WMQ SS SS 01 29 27.0 -2.2
WMQ LR LR
comp=Z,140nm,20.8s
WMQ LR LR
comp=Z,230nm,22.6s
WMQ LR LR
comp=Z,160nm,21.8s
MKAR Makanchi Array 153.51 331 ePKIKP PKPdf 01 06 08.1 +0.1
MKAR 01 06 13.9
MKAR Makanchi Array 153.51 331 PKP PKPdf 01 06 08.5 +0.5
comp=Z,1.1nm,1.1s,baz=29,slow=2.8,SNR=4.6
MKAR PKPbc PKPbc 01 06 13.9 -1.8
comp=Z,2.0nm,0.9s,baz=42,slow=2.0,SNR=8.2
MKAR Makanchi Array 153.51 331 ePKPdf PKPdf 01 06 08.1 +0.1
MKAR PKPbc PKPbc 01 06 13.9 -1.8
MK01 Makanchi Array 153.53 331 ePKPdf PKPdf 01 06 07.8 -0.2
ABKAR Akbulak array 155.27 6 ePKPdf PKPdf 01 06 11.1 +0.7
LSA Lhasa 155.32 288 ePKIKP PKPdf 01 06 10.7 -1.0
LSA Lhasa 155.32 288 ePKPdf PKPdf 01 06 10.7 -1.0
KSH Kashi 162.07 328 ePKP PKPdf 01 06 22.2 +3.3
KSH PKS PKSdf 01 09 54.2 +2.0
KSH ePP PP 01 10 57.1 +8.4
KSH SKS SKSdf 01 13 26.0 +2.2
KSH SKKS SKKSac 01 17 44.4 +6.8
KSH SS SS 01 31 17.0 +8.9
KSH LR LR
comp=Z,100nm,7.2s

WEL 05 00:53:40.2±0.3, 37°.32S×176°.65E, h190km±2km, ML4.1/16, 12C-4D, Error ellipse: s-maj=2.8km s-min=2.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.53	188	PN	Pn	00 54 06.3	+0.1
TARZ	Mount Tarawera	0.92	187	⇓PN	Pn	00 54 09.1	+0.7
HAZ	Te Kaha	1.00	116	⇑PN	Pn	00 54 08.7	-0.1
HAZ				SN	Sn	00 54 31.2	+0.2
URZ	Urewera	1.00	159	⇑PN	Pn	00 54 08.6	-0.2
URZ				SN	Sn	00 54 30.7	-0.5
URZ				AML	AML	00 54 32.3	
MKAZ	Moumakai	1.20	280	PN	Pn	00 54 10.5	+0.1
MWZ	Matawai	1.23	146	⇑PN	Pn	00 54 10.2	-0.4
MWZ				SN	Sn	00 54 33.7	-0.7
MWZ				AML	AML	00 54 40.1	
MWZ				AML	AML	00 54 40.4	
MWZ				AML	AML	00 54 42.0	
RAGZ	Rawiri	1.32	153	⇑PN	Pn	00 54 11.4	0.0
RAGZ				SN	Sn	00 54 35.8	0.0
MXZ	Matakaoa Point	1.34	101	⇑PN	Pn	00 54 11.9	+0.5
MXZ				AML	AML	00 54 38.0	
MXZ				AML	AML	00 54 39.1	
PUZ	Puketiti	1.48	121	PN	Pn	00 54 12.7	-0.1
PUZ				AML	AML	00 54 39.5	
PUZ				AML	AML	00 54 40.8	
SNGZ	Shannon Statio	1.55	160	PN	Pn	00 54 13.4	-0.1
SNGZ				SN	Sn	00 54 38.5	-0.9
RAHZ	Arahi	1.63	168	⇓PN	Pn	00 54 14.1	0.0
RIGZ	Rimuhau	1.64	148	⇑PN	Pn	00 54 14.5	+0.2
RIGZ				SN	Sn	00 54 40.6	-0.2
CNGZ	Carnagh Statio	1.69	134	PN	Pn	00 54 15.4	+0.7
NMHZ	Naumai	1.78	176	⇓PN	Pn	00 54 15.7	0.0
WHHZ	Waihua	1.81	165	PN	Pn	00 54 15.6	-0.3
BKZ	Black Stump Fm	1.84	184	PN	Pn	00 54 15.1	-1.2
BKZ				AML	AML	00 54 44.3	
BKZ				AML	AML	00 54 44.3	
PRGZ	Paritu Road	1.87	149	PN	Pn	00 54 16.5	0.0
KNZ	Kokohu	1.88	155	⇑PN	Pn	00 54 16.3	-0.2
TWVZ	Taurewa	1.99	208	PN	Pn	00 54 17.3	-0.6
OTVZ	Oturere	2.00	203	PN	Pn	00 54 17.5	-0.5
NGZ	Ngauruhoe	2.03	204	PN	Pn	00 54 17.8	-0.5
NGZ				SN	Sn	00 54 47.6	-0.6
WPVZ	Whakapapa	2.07	205	PN	Pn	00 54 17.8	-1.0
MHGZ	Mahia Peninsul	2.08	152	PN	Pn	00 54 18.4	-0.3
TUVZ	Tukino	2.09	202	PN	Pn	00 54 18.0	-1.1
FWVZ	Far West T-bar	2.11	204	PN	Pn	00 54 18.7	-0.6
MCHZ	McNeill Hill	2.12	179	PN	Pn	00 54 18.5	-0.7
TRVZ	Turoa	2.15	203	PN	Pn	00 54 18.7	-1.1
WNVZ	Wahianoa	2.17	202	⇑PN	Pn	00 54 18.7	-1.2
MOVZ	Moawhango	2.20	198	PN	Pn	00 54 18.6	-1.5
BHHZ	Black Hill Sta	2.21	192	PN	Pn	00 54 18.7	-1.5
PKVZ	Pokaka	2.22	207	PN	Pn	00 54 19.3	-1.0
MTVZ	Mangateitei	2.26	204	PN	Pn	00 54 19.6	-1.2
KRHZ	Kereru	2.33	185	PN	Pn	00 54 20.0	-1.4
CKHZ	Cape Kidnapper	2.36	172	PN	Pn	00 54 20.8	-1.0
KAHZ	Kahuranaki	2.47	176	⇓PN	Pn	00 54 22.0	-1.1
PNHZ	Pukenui	2.61	188	PN	Pn	00 54 22.7	-2.0
PXZ	Pawanui	2.71	177	PN	Pn	00 54 23.8	-2.0
PXZ				AML	AML	00 55 01.4	
PXZ				AML	AML	00 55 01.4	
PXZ				AML	AML	00 55 01.5	
PXZ				AML	AML	00 55 01.5	
WPHZ	Waipukurau	2.74	183	⇑PN	Pn	00 54 24.1	-2.0
TSZ	Takapari Road	2.79	191	PN	Pn	00 54 24.4	-2.3
TSZ				AML	AML	00 55 01.0	
TSZ				AML	AML	00 55 02.0	
PRHZ	Porangahau	2.94	180	PN	Pn	00 54 26.2	-2.3
DVHZ	Dannevirke	3.00	187	PN	Pn	00 54 26.5	-2.7
ANWZ	Angora Road	3.14	182	PN	Pn	00 54 28.2	-2.6
POWZ	Post Office Ro	3.14	192	⇑PN	Pn	00 54 28.1	-2.8
BFZ	Birch Farm	3.37	185	⇑PN	Pn	00 54 30.4	-3.2
MRZ	Mangatainoka R	3.44	194	PN	Pn	00 54 30.9	-3.6
MRZ				AML	AML	00 55 12.9	
MRZ				AML	AML	00 55 13.6	
TIWZ	Tintock	3.50	190	PN	Pn	00 54 31.9	-3.4
TIWZ				AML	AML	00 55 15.8	
TIWZ				AML	AML	00 55 18.7	
CPWZ	Castlepoint	3.60	185	PN	Pn	00 54 33.6	-2.8
OGWZ	Otaki Gorge	3.67	198	PN	Pn	00 54 33.7	-3.7
HOWZ	Holdsworth Sta	3.68	194	⇑PN	Pn	00 54 33.5	-4.0
KIW	Kapiti Island	3.78	200	PN	Pn	00 54 35.0	-3.8
KIW				AML	AML	00 55 20.2	
TMWZ	Te Maipa	3.83	189	PN	Pn	00 54 35.3	-4.0
MTW	Mount Morrison	3.93	193	PN	Pn	00 54 36.1	-4.5
MTW				AML	AML	00 55 23.4	
MTW				AML	AML	00 55 24.0	
CAW	Cannon Point	3.97	198	PN	Pn	00 54 36.9	-4.3
CAW				AML	AML	00 55 24.2	
CAW				AML	AML	00 55 25.0	
DUWZ	D'Urville Isla	4.07	211	PN	Pn	00 54 38.3	-4.1
TRWZ	Traveller	4.14	190	PN	Pn	00 54 38.9	-4.4
TRWZ				AML	AML	00 55 28.4	
PAWZ	Paruwai Farm	4.16	193	PN	Pn	00 54 38.7	-4.9
PAWZ				AML	AML	00 55 29.4	
PAWZ				AML	AML	00 55 30.8	
MSWZ	Moikau Station	4.23	194	PN	Pn	00 54 39.6	-4.8
MSWZ				AML	AML	00 55 29.8	
MSWZ				AML	AML	00 55 29.9	
SNZO	South Karori	4.26	200	PN	Pn	00 54 40.2	-4.5
TCW	Tory Channel	4.30	205	PN	Pn	00 54 40.9	-4.4
TCW				AML	AML	00 55 32.3	
TCW				AML	AML	00 55 33.0	
PLWZ	Palliser	4.38	194	PN	Pn	00 54 41.4	-4.9
TUWZ	Tuamarina	4.61	206	PN	Pn	00 54 44.3	-4.9
THZ	Tophouse	5.29	212	PN	Pn	00 54 53.9	-4.2
KHZ	Kahutara	5.62	204	PN	Pn	00 54 56.9	-5.3
LTZ	Lake Taylor	6.40	210	PN	Pn	00 55 07.0	-5.5
OXZ	Oxford	6.95	209	PN	Pn	00 55 13.3	-6.4
MQZ	McQueen's Vall	7.07	204	PN	Pn	00 55 14.4	-6.7
MQZ				SN	Sn	00 56 27.9	-13
WVZ	Waitaha Valley	7.31	216	PN	Pn	00 55 19.1	-5.2
ODZ	Otahua Downs	8.94	209	ePN	Pn	00 55 39.2	-6.5
ODZ				SN	Sn	00 57 13.9	-12

ATH 05 00:54:04.8, 39°.41N×20°.76E, h25km±1km, MD2.7/9
TIR 05 00:54:05.3±11.0, 39°.44N×20°.75E, h0km±176km, ML3.2
CSEM 05 00:54:05.0±0.2, 39°.41N×20°.75E, h16km±2km, MD2.7, Error ellipse: s-maj=6.7km s-min=5.3km az=58.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.26	18	ePB	Pg	00 54 10.8	0.0
JAN				eSB	Sb	00 54 15.8	+0.2
JAN	Janina	0.26	18	ePb	Pg	00 54 10.8	0.0
JAN				eSb	Sb	00 54 15.8	+0.2
IGT	Igoumenitsa	0.34	291	ePB	Pg	00 54 12.4	+0.2
IGT				eSB	Sb	00 54 18.2	+0.2
IGT	Igoumenitsa	0.34	291	ePb	Pg	00 54 12.4	+0.2
IGT				eSb	Sb	00 54 18.2	+0.2
LKD2	Lefkada island	0.62	186	ePN	Pb	00 54 17.5	-0.1
LKD2	Lefkada island	0.62	186	ePn	Pb	00 54 17.5	-0.1
SRN	Sarande	0.74	309	iPG	Pg	00 54 19.0	-0.5
SRN				iSG	Sn	00 54 30.7	-1.1
SRN	Sarande	0.74	309	iPg	Pg	00 54 19.0	-0.5
	SNR=90						
SRN				iSg	Sn	00 54 30.7	-1.1
	SNR=90						
KEK	Kerkira	0.79	293	ePN	Pg	00 54 20.7	+0.2
KEK	Kerkira	0.79	293	ePn	Pg	00 54 20.7	+0.2
EVR	Evrytania	0.96	121	ePN	Pb	00 54 22.7	-0.7
EVR	Evrytania	0.96	121	ePn	Pb	00 54 22.7	-0.7
THL	Klokotos Trika	0.99	81	ePN	Pg	00 54 24.1	-0.1
THL	Klokotos Trika	0.99	81	ePn	Pg	00 54 24.1	-0.1
NEST	Nestorio	1.03	13	ePN	Pb	00 54 24.4	-0.2
NEST	Nestorio	1.03	13	ePn	Pb	00 54 24.4	-0.2
VLS	Valsamata	1.24	186	ePN	Pb	00 54 28.6	-0.3
VLS	Valsamata	1.24	186	ePn	Pb	00 54 28.6	-0.3
AGG	Agios Georgios	1.29	107	ePN	Pb	00 54 28.8	-0.1
AGG	Agios Georgios	1.29	107	ePn	Pb	00 54 28.8	-0.1
LIT	Litokhoron	1.51	62	ePN	Pb	00 54 32.1	-0.6
LIT	Litokhoron	1.51	62	ePn	Pb	00 54 32.1	-0.6

IDC 05 01:06:02.5±0.8, 2°.82S×129°.64E, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.2/34, mbtmp4.4/10, ML4.5/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/28, Error ellipse: s-maj=36.6km s-min=17.6km az=71.0
ISCJB 05 01:06:05.0±0.3, 2°.85S±0°.03×129°.67E±0°.04, h28km, mb4.5/27, MS3.8/4, Error ellipse: s-maj=6.8km s-min=3.8km az=150.4
NEIC 05 01:06:09.9±0.7, 2°.85S×129°.71E, h56km±7km, mb4.6/22, Error ellipse: s-maj=7.6km s-min=5.1km az=46.0
ISC 05 01:06:07.0±0.4, 2°.85S±0°.06×129°.71E±0°.06, h28km, n71, σ1º30/71, mb4.6/27, MS3.8/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.54	92	ePn	Pn	01 06 48.1	+1.7
FAKI				eSn	Sn	01 07 16.8	+0.4
FAKI	Fak Fak	2.54	92	P	Pn	01 06 48.2	+1.8
	baz=2.7,SNR=99						
SOEI	Soe	8.73	218	ePn	Pn	01 08 12.4	+0.7
	80nm,1.1s						
TOLI	Toli-Toli	9.74	294	ePn	Pn	01 08 27.9	+2.5

205nm,0.4s
MTN Manton Dam 10.03 172 P Pn 01 08 32.0 +2.7
baz=10.0,SNR=8.8
MTN S Sn 01 10 22.9 +1.9
baz=10.0,SNR=8.4
KDU Kakadu 10.15 165 P Pn 01 08 32.9 +1.9
baz=10,SNR=7.8
KDU S Sn 01 10 24.6 +0.7
baz=10,SNR=4.1
KAPI Kappang 10.16 257 ePn Pn 01 08 34.1 +2.9
117nm,1.0s
KNRA Kununurra 12.78 184 P Pn 01 09 08.2 +1.2
baz=13,SNR=18
KKM Kota Kinabalu 16.11 303 ePn P 01 09 53.6 -1.3
COEN Coen 17.28 130 ePn Pn 01 10 03.8 -2.7
97nm,0.8s
COEN Coen 17.28 130 P P 01 10 07.3 -0.5
baz=17,SNR=10
WRAB Tennant Creek 17.57 165 ePn Pn 01 10 07.5 -2.5
20nm,0.8s
WRAB eSn Sn 01 13 21.4 -3.8
WRA Warramunga Arr 17.58 165 P Pn 01 10 07.9 -2.2
1.6nm,0.3s,baz=348,slow=11,SNR=13
WRA S Sn 01 13 17.8 -7.5
0.3nm,0.3s,baz=355,slow=19,SNR=2.8
WRA LR LR 01 18 18.5
comp=Z,173nm,19.2s,baz=0.0,slow=42
MANU Manus Island 17.66 88 P P 01 10 17.0 +5.0
baz=18,SNR=11
MANU S Sn 01 13 13.2 -14
baz=18,SNR=3.2
PMG Port Moresby 18.52 111 eP Pn 01 10 22.1 +0.3
17nm,0.9s
QIS Mount Isa 20.07 152 P Pn 01 10 39.8 -0.5
baz=20,SNR=13
MBWA Marble Bar 20.63 207 eP Pn 01 10 46.2 -0.6
21nm,0.9s
MTSU Mount Surprise 20.88 138 P Pn 01 10 49.9 +0.1
baz=21,SNR=18
AS31 Alice Springs 21.09 169 eP P 01 10 49.8 +0.4
ASAR Alice Springs 21.09 169 P P 01 10 49.9 +0.5
25nm,0.8s,baz=348,slow=11,SNR=115
ASAR S S 01 14 41.1 -1.8
8.4nm,0.9s,baz=347,slow=21,SNR=18
WRKA Warakurna 22.10 183 P P 01 10 59.5 -0.8
baz=22,SNR=69
CTAO Charters Tower 23.55 138 eP P 01 11 16.8 +1.5
19nm,0.9s
MEEK Meekatharra 25.93 203 P P 01 11 38.1 +1.0
baz=26,SNR=4.1
FORT Forrest 27.82 183 eP P 01 11 53.2 -0.8
23nm,0.9s
IPM Ipoh 29.57 284 eP P 01 12 10.2 +0.3
11nm,0.9s
EIDS Eidsvold 30.41 139 P P 01 12 22.1 +5.0
baz=30,SNR=5.5
STKA Stephens Creek 30.97 160 P P 01 12 22.2 +0.3
3.8nm,0.8s,baz=323,slow=7.5,SNR=6.3
STKA Stephens Creek 30.97 160 P P 01 12 23.3 +1.3
baz=31,SNR=3.7
PSI Prapat 31.28 280 P P 01 12 24.1 -1.0
4.9nm,0.6s,baz=87,slow=2.0,SNR=6.5
PSI Prapat 31.28 280 P P 01 12 24.4 -0.7
baz=31,SNR=3.1
CMAR Chiang Mai Arr 36.96 306 LR LR 01 29 48.9
comp=Z,51nm,21.3s,baz=105,slow=39
CHTO Chiang Mai 37.15 307 eP P 01 13 16.2 +0.5
4.7nm,1.0s
LSA Lhasa 49.07 314 eP P 01 14 53.3 +0.7
3.5nm,0.7s
TAPN Taplejung 50.38 309 eP P 01 15 01.8 -0.6
ODAN Odare 50.39 309 eP P 01 15 01.7 -0.7
16nm,0.8s
RAMN Ramite 51.05 308 eP P 01 15 07.0 -0.4
23nm,0.6s
JIRN Jiri 51.71 309 eP P 01 15 11.8 -0.7
10nm,0.6s
GUN Gumba 52.07 309 eP P 01 15 14.4 -0.8
19nm,0.6s
PKI Pulchoki 52.28 308 eP P 01 15 15.5 -1.2
5.9nm,0.6s
KKN Kakani 52.48 309 eP P 01 15 16.9 -1.2
9.3nm,0.5s
DMN Daman 52.53 308 eP P 01 15 17.6 -0.9
GKN Gorkha 53.09 308 eP P 01 15 21.6 -0.8
20nm,0.7s
KOLN Koldanda 53.79 308 eP P 01 15 27.2 -0.5
37nm,0.9s
DANN Dangsing 53.93 308 eP P 01 15 28.0 -0.8
25nm,0.7s
ULN Ulaanbaatar 54.26 341 eP P 01 15 31.0 +0.3
1.8nm,0.8s
PYUN Piuthan 54.42 308 eP P 01 15 31.7 -0.6
27nm,0.5s
SONM Songino Array 54.45 341 P P 01 15 33.3 +1.3
0.2nm,0.3s,baz=153,slow=4.7,SNR=1.4
PETK Petropavlovsk- 60.51 19 P P 01 16 15.2 +0.8
8.0nm,0.8s,baz=193,slow=4.6,SNR=5.9
PETK LR LR 01 39 58.5
comp=Z,148nm,21.9s,baz=131,slow=34
MK31 Makanchi Array 64.63 326 eP P 01 16 41.4 -0.8
MKAR Makanchi Array 64.63 326 P P 01 16 41.6 -0.6
3.9nm,0.8s,baz=114,slow=7.7,SNR=48
TKM2 Tokmak 2 66.64 320 eP P 01 16 54.9 -0.6
4.7nm,1.0s
AAK Ala-Archa 67.22 319 eP P 01 16 58.8 -0.3
11nm,1.5s
EKS2 Erkin-Say 67.71 319 eP P 01 17 01.9 -0.2
12nm,1.4s
ZAA0 Zalesovo Array 67.76 333 eP P 01 17 00.7 -1.4
ZALV Zalesovo Beam 67.76 333 P P 01 17 00.7 -1.4
3.5nm,0.7s,baz=117,slow=5.3,SNR=19
KBL Kabul 67.91 309 eP P 01 17 02.8 -0.9
2.3nm,0.8s
KURK Kurchatov 68.86 328 eP P 01 17 07.9 -1.1
7.3nm,0.8s
KKAR Karatay Array 70.06 318 eP P 01 17 16.2 -0.5
8.3nm,1.2s
BRVK Borovoye 74.50 327 eP P 01 17 41.9 -1.0
7.5nm,1.0s
VNDA Vanda 76.58 173 LR LR 01 49 06.6
comp=Z,51nm,19.8s,baz=325,slow=34
ABKAR Akbulak array 79.10 321 eP P 01 18 08.2 -0.8
ARU Arti 82.05 328 eP P 01 18 24.1 -0.5
10nm,1.2s
RAYN Ar Rayn 85.82 294 eP P 01 18 44.3 -0.3
9.4nm,0.8s
QSPA South Pole Qui 87.10 180 eP P 01 18 50.1 0.0
3.6nm,0.9s
MCK McKinley 88.71 26 eP P 01 18 58.1 +0.4
23nm,1.7s
ILAR Eielson Array 89.74 25 P P 01 19 00.9 -1.6
0.7nm,0.9s,baz=263,slow=4.1,SNR=5.7
ILAR LR LR 01 56 06.0
comp=Z,33nm,19.1s,baz=258,slow=34
KIV Kislovodsk 89.81 314 eP P 01 19 03.6 +0.2
12nm,1.2s
AKASG Malin Array Be 98.84 321 P P 01 19 43.9 -0.6
0.2nm,0.3s,baz=76,slow=2.8,SNR=4.6
LVC Limon Verde 148.84 145 ePKPbc PKPbc 01 25 52.2 -1.1
LVC ePKPab PKiKP 01 25 55.7 +1.0
CPUP Villa Florida 150.20 167 PKPbc PKPbc 01 25 56.6 +0.4
3.4nm,0.7s,baz=278,slow=0.5,SNR=6.2
LPAZ La Paz 154.07 138 ePKPbc PKPbc 01 26 04.1 -1.9
LPAZ ePKPab PKPab 01 26 18.3 -1.1

IDC 05 01:27:17.1±1.1, 12.10N×143.83E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/30, mbtmp3.6/6, MS3.7/2, Ms1 3.7/2, ms1mx3.0/31, Error ellipse: s-maj=54.3km s-min=22.7km az=100.0
ISCJB 05 01:27:19.3±0.9, 12.1N±0.1×143.7E±0.4, h26km, mb3.5/6, MS3.7/2, Error ellipse: s-maj=50.5km s-min=19.6km az=9.9
ISC 05 01:27:21.1±1.1, 12.1N±0.2×143.8E±0.4, h26km, n8, σ0.92/6, mb3.5/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	31.94	358	LR	LR	01 45 44.2	
	comp=Z,167nm,20.1s,baz=128,slow=35						
WRA	Warramunga Arr	33.15	196	P	P	01 33 55.2	-0.4
	0.3nm,0.5s,baz=17,slow=9.7,SNR=6.2						
ASAR	Alice Springs	36.82	195	P	P	01 34 27.6	+0.4
	0.2nm,0.7s,baz=17,slow=9.7,SNR=2.8						
MKAR	Makanchi Array	61.85	317	P	P	01 37 38.6	+0.5
	0.2nm,0.7s,baz=106,slow=5.1,SNR=3.5						

ILAR Eielson Array 70.37 25 P P 01 38 31.8 -0.7
0.3nm,0.6s,baz=261,slow=6.0,SNR=4.1
YKA Yellowknife Ar 84.67 27 P P 01 39 53.4 +1.0
0.2nm,0.4s,baz=286,slow=5.2,SNR=5.3
NVAR Mina Array Bea 88.68 51 LR LR 02 20 24.8
comp=Z,28nm,18.2s,baz=31,slow=36
FINES FINESS Array B 92.07 335 P P 01 40 27.1 -0.7
1.1nm,0.7s,baz=76,slow=8.0,SNR=3.9

ATH 05 01:36:34.8, 38.42N×21.93E, h7km, MD2.7/13
THE 05 01:36:34.7, 38.40N×21.91E, h8km±1km, ML1.8/6, Error ellipse: s-maj=1.6km s-min=0.6km az=253.0
CSEM 05 01:36:34.4±0.1, 38.41N×21.93E, h10km, MD2.7, Error ellipse: s-maj=2.3km s-min=1.8km az=95.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.02	314	P	Pg	01 36 36.1	-0.1
EFP				S	Sg	01 36 37.3	-0.2
EFP	Efpalio	0.02	314	ePG	Pg	01 36 36.1	-0.1
EFP				eSG	Sg	01 36 37.2	-0.3
EFP	Efpalio	0.02	314	P	Pg	01 36 36.1	-0.1
EFP				eSg	Sg	01 36 37.2	-0.3
KALE	Kalithea	0.17	97	P	Pg	01 36 38.3	+0.1
KALE				S	Sg	01 36 41.6	+0.8
KALE	Kalithea	0.17	97	ePG	Pg	01 36 38.4	+0.2
KALE				eSG	Sg	01 36 41.2	+0.4
KALE	Kalithea	0.17	97	ePg	Pg	01 36 38.4	+0.2
KALE				eSg	Sg	01 36 41.2	+0.4
LAKA	Lakka	0.17	167	P	Pg	01 36 38.5	+0.3
LAKA	Lakka	0.17	167	ePG	Pg	01 36 38.6	+0.4
LAKA	Lakka	0.17	167	ePg	Pg	01 36 38.6	+0.4
KLV	Kalavryta, Ach	0.41	154	P	Pg	01 36 41.8	-0.7
KLV				S	Sg	01 36 49.1	+1.0
KLV	Kalavryta, Ach	0.41	154	ePB	Pg	01 36 42.7	+0.2
KLV				eSB	Sg	01 36 49.0	+1.0
KLV	Kalavryta, Ach	0.41	154	P	Pg	01 36 41.8	-0.7
KLV	Kalavryta, Ach	0.41	154	ePb	Pg	01 36 42.7	+0.2
KLV				S	Sg	01 36 49.0	+1.0
DSF	Desfina	0.47	90	P	Pg	01 36 43.4	-0.3
DSF				S	Sb	01 36 51.1	-0.9
DSF	Desfina	0.47	90	ePB	Pg	01 36 43.7	0.0
DSF				eSB	Sg	01 36 50.3	+0.3
DSF	Desfina	0.47	90	P	Pg	01 36 43.4	-0.3
DSF	Desfina	0.47	90	ePb	Pg	01 36 43.7	0.0
DSF				eSb	Sg	01 36 50.3	+0.3
DSF				S	Sb	01 36 51.1	-0.9
RLS	Riolos of Patr	0.51	226	ePB	Pg	01 36 44.7	+0.4
RLS				eSB	Sb	01 36 52.0	-0.8
RLS	Riolos of Patr	0.51	226	ePb	Pg	01 36 44.7	+0.4
RLS				eSb	Sb	01 36 52.0	-0.8
EVR	Evrytania	0.51	350	P	Pg	01 36 44.4	-0.2
EVR				S	Sb	01 36 52.6	-0.7
EVR	Evrytania	0.51	350	ePB	Pg	01 36 44.4	-0.2
EVR				eSB	Sb	01 36 52.7	-0.6
EVR	Evrytania	0.51	350	P	Pg	01 36 44.4	-0.2
EVR				S	Sb	01 36 52.6	-0.7
GUR	Goura	0.58	145	ePG	Pg	01 36 45.7	-0.1
GUR				eSB	Sg	01 36 54.1	+0.7
GUR	Goura	0.58	145	ePg	Pg	01 36 45.7	-0.1
GUR				eSb	Sg	01 36 54.1	+0.7
MAKR	Makrakomi, Fth	0.62	15	P	Pg	01 36 46.6	0.0
MAKR				S	Sb	01 36 56.7	+0.4
MAKR	Makrakomi, Fth	0.62	15	ePB	Pg	01 36 46.8	+0.2
MAKR				eSB	Sb	01 36 55.9	-0.4
MAKR	Makrakomi, Fth	0.62	15	P	Pg	01 36 46.6	0.0
MAKR				eSb	Sb	01 36 55.9	-0.4
MAKR				S	Sg	01 36 56.7	+1.9
AGG	Agios Georgios	0.69	27	ePG	Pg	01 36 47.6	-0.2
AGG				eSB	Sg	01 36 56.9	0.0
AGG	Agios Georgios	0.69	27	ePg	Pg	01 36 47.6	-0.2
AGG				eSb	Sg	01 36 56.9	0.0
LKR	Lokris	0.87	74	ePG	Pg	01 36 51.1	-0.2
LKR				eSB	Sb	01 37 04.3	+0.9
LKR	Lokris	0.87	74	ePg	Pg	01 36 51.1	-0.2
LKR				eSb	Sb	01 37 04.3	+0.9
AMT	Artemida-Makis	0.89	191	ePB	Pb	01 36 52.2	+0.1
AMT	Artemida-Makis	0.89	191	ePb	Pb	01 36 52.2	+0.1
VLS	Valsamata	1.08	258	ePN	Pn	01 36 55.4	-0.2
VLS	Valsamata	1.08	258	ePn	Pn	01 36 55.4	-0.2
THL	Klokotos Trika	1.15	3	ePN	Pb	01 36 56.4	-0.1
THL				eSB	Sn	01 37 12.3	-0.2
THL	Klokotos Trika	1.15	3	ePn	Pb	01 36 56.4	-0.1
THL				eSb	Sn	01 37 12.3	-0.2

ISCJB 05 01:41:21.7±0.2, 52.49N±0.03×173.94W±0.02, h152km±1km, mb4.4/190, Error ellipse: s-maj=5.0km s-min=2.1km az=178.1
MOS 05 01:41:21.3±0.9, 52.60N×173.94W, h144km, mb4.6/72, Error ellipse: s-maj=8.0km s-min=4.6km az=89.5
NEIC 05 01:41:22.9±0.1, 52.49N×173.95W, h150km±1km, mb4.6/112, Error ellipse: s-maj=3.8km s-min=1.7km az=169.0
IDC 05 01:41:23.7±1.7, 52.65N×173.95W, h153km±14km, mb4.0/27, mb1 4.2/29, mb1mx4.0/53, mbtmp4.4/29, Error ellipse: s-maj=15.7km s-min=9.7km az=178.0
BJI 05 01:41:24.0, 52.98N×174.56W, h150km, mB5.0/20, mb4.8/33
SZGRF 05 01:41:28.6, 53.32N×173.35W, h33km, mb4.6, Andreanof Islands, Aleutian Islands, United States
ISC 05 01:41:22.6±0.4, 52.55N±0.07×173.97W±0.03, h146km±2km, h145km:pP-P, n841, σ0.77/916, mb4.5/190, 201C-202D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONE	Korovin Northe	0.18	210	P	Pn	01 41 42.8	+0.5
KONE				S	Sn	01 41 57.9	+0.6
KOWE	Korovin West	0.25	223	P	Pn	01 41 43.0	+0.5
KOKL	Mount Kliuchef	0.26	212	P	Pn	01 41 43.1	+0.5
KOKL				S	Sn	01 41 57.9	+0.2
KOFP	Korovin Flat P	0.28	196	P	Pn	01 41 42.6	0.0
GSTR	Great Sitkin T	1.36	251	ePn	Pn	01 41 50.5	+0.2
GSTR				eSn	Sn	01 42 11.3	-0.3
GSMY	Great Sitkin M	1.38	249	P	Pn	01 41 50.3	-0.2
GSTD	Great Sitkin T	1.42	251	P	Pn	01 41 50.9	-0.1
GSTD				S	Sn	01 42 11.8	-1.0
GSCK	Great Sitkin C	1.45	249	P	Pn	01 41 51.2	0.0
ETKA	Kagalaska Isla	1.65	246	P	Pn	01 41 53.5	+0.2
ETKA				S	Sn	01 42 16.5	-0.5
ADK	Adak	1.79	249	P	Pn	01 41 55.0	0.0
ADK				S	Sn	01 42 19.4	-0.5
ADK	Adak	1.79	249	P	Pn	01 41 55.0	0.0
ADK				S	Sn	01 42 19.4	-0.5
KIRH	Kanaga Island	2.03	253	P	Pn	01 41 58.2	+0.5
KIKV	Kanaga Island	2.08	252	P	Pn	01 41 58.8	+0.5
KIKV				S	Sn	01 42 25.2	-0.6
KICM	Kanaga Island	2.08	254	P	Pn	01 41 58.6	+0.3
TAFL	Tanaga Flats	2.54	253	P	Pn	01 42 04.6	+0.7
TAFP	Tanaga Falls P	2.55	257	P	Pn	01 42 04.6	+0.5
TAFP				S	Sn	01 42 35.5	-0.5
TASE	Tanaga Southea	2.60	256	P	Pn	01 42 05.4	+0.7
TANO	Tanaga North	2.63	258	P	Pn	01 42 05.8	+0.8
GAEA	Gareloi East	3.04	257	P	Pn	01 42 10.8	+0.6
NIKH	Nikolski High	3.14	80	P	Pn	01 42 11.0	-0.5
OKSP	Okmok Steeple	3.51	76	P	Pn	01 42 17.0	+0.7
OKFG	Magazine Ridge	3.77	74	P	Pn	01 42 20.2	+0.7
CERAA	Semis' Rag'd T	3.95	263	P	Pn	01 42 23.4	+1.4
CESW	Semis' Southwe	4.03	263	P	Pn	01 42 24.2	+1.2
CETU	Semis' Tuman	4.06	264	P	Pn	01 42 24.7	+1.4
AMKA	Amchitka	4.32	257	P	Pn	01 42 27.3	+0.5
MSOM	Makushin Julie	4.41	70	P	Pn	01 42 28.2	+0.2
MSOM	Makushin Julie	4.41	70	P	Pn	01 42 28.2	+0.2
MREP	Makushin Rep't	4.53	71	P	Pn	01 42 30.4	+0.8
MSW	Makushin Switc	4.53	70	P	Pn	01 42 30.0	+0.3
UNV	Unalaska Valle	4.68	71	P	Pn	01 42 31.6	0.0
AKRB	Akutan Reef Bi	5.00	68	P	Pn	01 42 36.7	+1.0
ZRO	Akutan Zero	5.04	69	P	Pn	01 42 37.0	+0.7
SPIA	Saint Paul Isl	5.12	23	P	Pn	01 42 40.6	+3.3
AHB	Akutan Harbor	5.14	69	P	Pn	01 42 38.0	+0.4
WESN	West Dahl Nort	5.95	66	P	Pn	01 42 48.7	+0.2
SSLW	Shishaldin Wes	6.27	65	P	Pn	01 42 53.4	+0.7
FALS	False Pass	6.68	66	P	Pn	01 42 59.1	+1.0
DOL	Dolgoi Island	7.62	65	P	Pn	01 43 10.1	-0.7
FX1	Attu Island--F	7.82	278	P	Pn	01 43 17.8	+4.3
	1.7nm,0.3s,baz=90,slow=17,SNR=1.5						
FX1				S	Sn	01 44 37.9	-2.6

2.8nm,0.3s,baz=287,slow=22,SNR=1.4
CHGN Chignik 9.81 61 ePn Pn 01 43 38.6 -1.3
GAMB Gambell 11.33 5 ePn Pn 01 44 01.3 +1.5
OHAK Old Harbor 12.78 60 ePn Pn 01 44 15.9 -2.8
SVW2 Sparrevohn 13.18 42 ePn Pn 01 44 25.7 +1.9
KDAK Kodiak Island 13.28 58 eP Pn 01 44 23.3 -1.8
KDAK e 01 46 51.5
KDAK Kodiak Island 13.28 58 ePn Pn 01 44 23.3 -1.8
KDAK eP P 01 44 29.4 -0.2
KDAK eSn Sn 01 46 51.5 -0.3
TNA Tin City 13.41 11 ePn Pn 01 44 28.5 +1.7
TNA eP P 01 44 33.6 +2.7
RSO Redoubt South 14.09 47 ePn Pn 01 44 36.6 +0.9
SEW Seward 15.49 51 ePn Pn 01 44 51.5 -1.3
45nm,0.7s
SEW eSn Sn 01 47 36.8 -8.1
PPLA Purkeypile 15.49 40 ePn P 01 44 54.9 +0.5
123nm,1.4s
RC01 Rabbit Creek A 15.70 47 ePn Pn 01 44 55.9 +0.4
22nm,0.9s
RC01 eSn Sn 01 47 44.0 -5.9
CAST Castle Rocks 15.82 38 eP P 01 44 59.6 +1.8
21nm,0.6s
PMR Palmer 16.16 46 eP P 01 45 01.4 -0.2
PMR pmax pmax
comp=Z,12nm,0.5s
PMR Palmer 16.16 46 ePn P 01 45 01.4 -0.2
comp=Z,12nm,0.5s
KTH Kantishna Hill 16.33 39 eP P 01 45 05.4 +1.9
comp=Z,172nm,0.9s
TRF Thorofare Moun 16.52 39 eP P 01 45 07.0 +1.3
comp=Z,75nm,1.2s
IM04 Indian Mountai 16.84 29 ePn Pn 01 45 10.0 +0.7
PETK Petropavlovsk- 17.09 283 P Pn 01 45 13.4 +1.0
comp=Z,0.4nm,0.3s,baz=120,slow=17,SNR=5.9
MCK McKinley 17.18 40 eP Pn 01 45 13.5 0.0
MCK pmax pmax
comp=Z,36nm,0.8s
MCK McKinley 17.18 40 eP Pn 01 45 13.5 0.0
comp=Z,36nm,0.8s
DIV Divide 17.53 50 eP Pn 01 45 17.7 -0.1
comp=Z,32nm,0.5s
BMRM Bremner River 18.03 51 eP P 01 45 22.3 +0.1
comp=Z,43nm,0.6s
COLA College 18.16 37 eP P 01 45 23.3 -0.2
COLA pmax pmax
comp=Z,22nm,0.8s
COLA College 18.16 37 eP P 01 45 23.2 -0.2
comp=Z,22nm,0.8s
BILL Bilibino 18.21 336 eP Pn 01 45 26.9 +1.2
BILL pmax pmax
comp=Z,44nm,0.9s
BILL Bilibino 18.21 336 ePn Pn 01 45 26.9 +1.2
comp=Z,44nm,0.9s
PAX Paxson 18.27 44 eP P 01 45 25.6 +0.8
PAX pmax pmax
comp=Z,18nm,1.0s
PAX Paxson 18.27 44 eP P 01 45 25.6 +0.8
comp=Z,18nm,1.0s
ILAR Eielson Array 18.47 38 P P 01 45 25.6 -1.3
comp=Z,4.6nm,0.3s,baz=243,slow=10,SNR=88
ILAR ScP ScP 01 53 09.8 -1.8
comp=Z,0.1nm,0.3s,baz=271,slow=3.1,SNR=8.4
COLD Coldfoot 18.74 29 eP Pn 01 45 31.3 -0.6
comp=Z,36nm,0.9s
MENT Mentasta 19.01 45 eP P 01 45 33.8 +1.0
DOT Dot Lake 19.11 43 eP P 01 45 34.1 +0.2
comp=Z,76nm,0.8s
SEY Seymchan 20.49 314 P Pn 01 45 51.0 -1.4
comp=Z,5.1nm,0.5s,baz=118,slow=10,SNR=12
SEY ScP ScP 01 53 15.8 -0.5
comp=Z,1.6nm,0.5s,baz=333,slow=20,SNR=4.7
EGAK Eagle 20.71 41 eP P 01 45 51.0 +0.1
comp=Z,41nm,0.6s
EGAK ePcP PcP 01 49 54.2 +0.1
HYT Haines Junctio 21.42 53 eP P 01 45 59.0 +0.2
INK Inuvik 24.79 35 P P 01 46 30.8 +0.4
comp=Z,18nm,0.6s,baz=254,slow=8.0,SNR=58
INK PcP PcP 01 50 02.5 0.0
comp=Z,2.7nm,0.5s,baz=322,slow=1.2,SNR=6.3
INK ScP ScP 01 53 26.2 -1.2
comp=Z,1.5nm,0.8s,baz=217,slow=4.6,SNR=4.1
DLBC Dease Lake 25.21 59 P P 01 46 35.1 +0.7
comp=Z,3.1nm,0.6s,baz=253,slow=7.0,SNR=7.9
ERM Erimo 30.50 267 eP P 01 47 22.5 +0.9
ERM pmax pmax
comp=Z,3.0nm,0.6s
YAK Yakutsk 30.92 310 eP P 01 47 24.3 -0.7
TIXI Tiksi 31.13 329 eP P 01 47 26.3 -0.5
TIXI pmax pmax
comp=Z,1.0nm,1.1s
HABR Khabarovsk 32.12 283 eP P 01 47 35.3 -0.4
HABR e*PP pP 01 48 05.1 -1.6
HABR e*SP sP 01 48 21.4 -2.1
HABR 01 48 47.3
HABR e 01 50 20.1
HABR eS S 01 52 38.4 +1.4
HABR e*SS sS 01 53 31.6 0.0
HABR eSS SnSn 01 54 47.1 +2.4
HABR e 01 57 49.6
HABR pmax pmax
comp=Z,30nm,2.3s
HABR MLR MLR
comp=Z,136nm,16.0s
YKW3 Yellowknife Ar 32.22 48 eP P 01 47 35.8 -0.7
comp=Z,0.2nm,0.9s
YKA Yellowknife Ar 32.24 48 P P 01 47 36.0 -0.5
comp=Z,1.2nm,0.4s,baz=282,slow=6.7,SNR=38
YKA PcP PcP 01 50 21.5 +0.3
comp=Z,2.3nm,0.6s,baz=286,slow=2.9,SNR=21
YKA ScP ScP 01 53 50.2 -0.7
comp=Z,1.2nm,0.7s,baz=291,slow=3.3,SNR=21
H04A Detroit Lake 34.47 82 eP P 01 47 57.6 +1.5
comp=Z,11nm,0.7s
I04A Tendick Farm, 34.81 83 ⇑P P 01 48 00.7 +1.5
baz=35
I05D Terrebonne, OR 35.17 82 ⇓P P 01 48 03.6 +1.5
baz=35
HAWA Hanford 35.18 78 eP P 01 48 02.8 +0.7
comp=Z,7.5nm,0.8s
C09A Chrisman Ranch 35.23 75 eP P 01 48 03.1 +0.5
comp=Z,57nm,2.3s
EDM Edmonton 35.62 64 eP P 01 48 06.2 +0.2
EDM Edmonton 35.62 64 eP P 01 48 06.2 +0.2
NEW Newport 35.68 74 eP P 01 48 06.2 -0.3
NEW pmax pmax
comp=Z,9.0nm,0.6s
NEW Newport 35.68 74 eP P 01 48 06.2 -0.3
comp=Z,8.6nm,0.6s
NEW Newport 35.68 74 ⇑P P 01 48 06.7 +0.1
baz=36,SNR=9.4
J05D Fort Rock, OR 35.81 83 ⇑P P 01 48 09.3 +1.5
baz=36
USRK Ussuriysk Arra 36.09 279 PcP PcP 01 50 33.1 +0.5
comp=Z,2.7nm,0.6s,baz=51,slow=5.9,SNR=5.1
MAJO Matsushiro 36.90 264 eP P 01 48 17.3 +0.3
MAJO pmax pmax
comp=Z,18nm,0.9s
MAJO Matsushiro 36.90 264 eP P 01 48 17.3 +0.3
comp=Z,18nm,0.9s
MJAR Matsushiro Arr 36.90 264 P P 01 48 18.1 +1.1
comp=Z,3.7nm,0.7s,baz=52,slow=6.2,SNR=7.3
WALA Waterton Lakes 37.16 71 eP P 01 48 19.5 +0.3
comp=Z,3.6nm,2.8s
BSMT Bassoo Peak 37.25 73 eP P 01 48 20.4 +0.4
MDJ Mudanjiang 37.30 281 P P 01 48 20.0 -0.2
MDJ pP pP 01 48 50.3 -1.6
MDJ sP sP 01 49 06.8 -1.7
MDJ PP PP 01 49 47.7 -0.4
MDJ S S 01 53 58.4 +1.7
MDJ ScP ScP 01 54 10.6 +1.1
MDJ PcS PcS 01 54 24.9 +0.2
MDJ pmax pmax
comp=Z,3.0nm,1.1s
BMO Blue Mountains 37.32 79 eP P 01 48 20.7 +0.2
comp=Z,44nm,2.6s
BLMT Blacktail Moun 37.42 72 eP P 01 48 21.8 +0.4
RES Resolute Bay 37.42 25 eP P 01 48 20.1 -0.7
RES pmax pmax
comp=Z,2.0nm,0.4s
RES Resolute Bay 37.42 25 eP P 01 48 20.1 -0.7
comp=Z,2.1nm,0.4s
JTMT Jette 37.60 73 eP P 01 48 22.8 0.0
YBMT Yellow Bay 37.70 72 eP P 01 48 23.6 -0.1
WVOR Wild Horse Val 37.86 83 eP P 01 48 25.5 +0.4

WVOR pmax pmax
comp=Z,7.0nm,0.8s
WVOR Wild Horse Val 37.86 83 eP P 01 48 25.5 +0.4
comp=Z,6.9nm,0.8s
MSO Missoula 38.27 74 eP P 01 48 28.7 +0.3
comp=Z,5.1nm,0.6s
MSO Missoula 38.27 74 ⇑P P 01 48 28.5 +0.1
baz=38,SNR=8.2
SLMT Seeley Lake 38.31 73 eP P 01 48 29.1 +0.2
SLMT ePcP PcP 01 50 39.1 -0.5
CHMT Chamberlain Mo 38.62 73 eP P 01 48 31.2 -0.4
CHMT ePcP PcP 01 50 40.5 -0.1
HRY Holter Researc 39.56 73 eP P 01 48 39.6 +0.4
HLID Hailey 39.76 78 eP P 01 48 41.6 +0.6
comp=Z,3.9nm,0.8s
HLID ePcP PcP 01 50 44.9 +0.6
HLID Hailey 39.76 78 ⇑P P 01 48 41.4 +0.4
baz=40,SNR=6.9
BMN Battle Mountai 39.90 84 eP P 01 48 43.4 +1.2
BMN pmax pmax
comp=Z,5.0nm,0.6s
BMN Battle Mountai 39.90 84 eP P 01 48 43.4 +1.2
comp=Z,4.8nm,0.6s
MCMT McKenzie Canyo 39.98 76 eP P 01 48 42.7 -0.2
comp=Z,2.8nm,0.5s
MCMT ePcP PcP 01 50 45.6 +0.6
EGMT Eagleton 40.07 70 eP P 01 48 43.5 +0.1
comp=Z,7.9nm,0.8s
EGMT Eagleton 40.07 70 ⇑P P 01 48 43.4 +0.1
baz=40,SNR=8.1
A19A Klindworth Far 40.18 68 ⇑P P 01 48 44.2 -0.1
baz=40,SNR=12
BOZ Bozeman (W) 40.25 74 eP P 01 48 45.2 +0.2
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ Bozeman (W) 40.25 74 eP P 01 48 45.1 +0.2
comp=Z,4.5nm,0.8s
B19A Brinkman Farms 40.31 69 ⇓P P 01 48 45.1 -0.2
baz=40,SNR=6.4
NVAR Mina Array Bea 40.48 88 P P 01 48 47.9 +1.0
comp=Z,3.0nm,0.7s,baz=300,slow=7.4,SNR=14
NVAR PcP PcP 01 50 47.5 +0.8
comp=Z,0.9nm,0.6s,baz=252,slow=3.7,SNR=4.1
HIA Hailar 40.60 293 eP P 01 48 47.0 -0.7
HIA pmax pmax
comp=Z,7.0nm,0.6s
HIA Hailar 40.60 293 eP P 01 48 47.0 -0.7
comp=Z,7.5nm,0.6s
C19A Slack Wire Ran 40.63 70 ⇓P P 01 48 48.6 +0.6
baz=40,SNR=25
A20A Cobblestone Ra 40.67 68 ⇓P P 01 48 48.3 0.0
baz=40,SNR=34
ELK Elko 40.92 83 eP P 01 48 51.5 +0.9
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 40.92 83 eP P 01 48 51.5 +0.9
comp=Z,4.4nm,0.8s
FFC Flin Flon 41.02 57 eP P 01 48 49.4 -1.5
FFC pmax pmax
comp=Z,3.0nm,0.7s
FFC Flin Flon 41.02 57 eP P 01 48 49.4 -1.5
comp=Z,3.3nm,0.7s
D19A Cripps Ranch, 41.03 71 ⇑P P 01 48 51.7 +0.5
baz=41,SNR=8.4
YMR Madison River 41.19 75 eP P 01 48 53.3 +0.6
comp=Z,6.6nm,0.8s
C20A Veseth Ranch, 41.24 69 ⇓P P 01 48 53.5 +0.6
baz=41
TPH Tonopah 41.36 87 eP P 01 48 54.3 +0.1
TPH pmax pmax
comp=Z,2.0nm,0.4s
TPH Tonopah 41.36 87 eP P 01 48 54.3 +0.1
comp=Z,2.0nm,0.4s
B21A Ellsworth Farm 41.42 68 ⇓P P 01 48 55.0 +0.6
baz=41
E19A Rath Farm, Rou 41.47 71 ⇓P P 01 48 55.1 +0.3
baz=41
D20A Manuel Ranch, 41.50 70 ⇑P P 01 48 55.8 +0.8
baz=41
H17A Grant Village 41.57 75 eP P 01 48 56.7 +0.8
comp=Z,5.1nm,0.6s
H17A ePcP PcP 01 50 52.2 +1.9
H17A Grant Village 41.57 75 ⇑P P 01 48 56.9 +1.0
baz=41,SNR=6.1
VES Vestal, Richgr 41.67 91 ⇓P P 01 48 57.2 +0.8
baz=42
FLWY Flagg Ranch 41.68 75 eP P 01 48 58.1 +1.4
comp=Z,5.5nm,0.9s
C21A Desert Coulee 41.70 69 ⇑P P 01 48 57.0 +0.3
baz=42,SNR=5.3
F19A Roth Farm, Mol 41.71 72 ⇑P P 01 48 57.0 +0.2
baz=42
A22A Carney Farms, 41.74 67 ⇓P P 01 48 56.8 -0.1
baz=42,SNR=28
HVU Hansel Valley 41.78 80 eP P 01 48 57.4 -0.1
HVU e 01 50 51.1
HVU pmax pmax
comp=Z,6.0nm,0.9s
HVU Hansel Valley 41.78 80 eP P 01 48 57.4 -0.1
comp=Z,6.1nm,0.9s
HVU ePcP PcP 01 50 51.1 +0.2
E20A Meyer Farm, Mu 41.82 71 ⇓P P 01 48 58.0 +0.3
baz=42
RLMT Red Lodge 41.93 73 eP P 01 48 58.7 -0.1
comp=Z,4.8nm,0.8s
RLMT epP pP 01 49 32.6 +1.6
H18A Shoshone NF, C 41.95 74 ⇑P P 01 48 58.8 -0.2
baz=42
B22A Reddig Ranch S 42.06 68 ⇓P P 01 48 60.0 +0.4
baz=42
ISA Isabella 42.16 91 ⇓P P 01 49 01.4 +0.8
baz=42
D21A La Casta Ranch 42.17 70 ⇓P P 01 49 00.8 +0.4
baz=42,SNR=6.7
R11A Troy Canyon, C 42.19 86 eP P 01 49 01.5 +0.7
comp=Z,4.8nm,0.8s
R11A Troy Canyon, C 42.19 86 ⇑P P 01 49 01.3 +0.5
baz=42,SNR=8.5
F20A Billings 42.20 72 ⇑P P 01 49 01.3 +0.5
baz=42
A23A Redstone 42.34 66 ⇑P P 01 49 01.9 +0.1
baz=42,SNR=18
H19A Powell 42.35 74 ⇓P P 01 49 02.6 +0.5
baz=42,SNR=8.0
E21A Keefer Ranch, 42.41 70 ⇓P P 01 49 03.1 +0.7
baz=42
C22A Vida 42.43 68 ⇓P P 01 49 02.6 +0.1
baz=42,SNR=6.9
G20A Bridger 42.49 73 ⇑P P 01 49 03.3 +0.1
baz=42,SNR=11
B23A Brockton 42.54 67 ⇑P P 01 49 03.4 0.0
baz=42,SNR=35
D22A Cohagen 42.59 69 ⇓P P 01 49 04.6 +0.8
baz=42,SNR=24
FURC Furnace Creek, 42.61 89 ⇑P P 01 49 05.3 +1.2
baz=42
I19A Meeteetse 42.71 74 ⇑P P 01 49 05.8 +0.8
baz=42
DUG Dugway 42.72 82 eP P 01 49 05.0 -0.1
DUG e 01 50 54.6
DUG pmax pmax
comp=Z,12nm,1.3s
DUG Dugway 42.72 82 eP P 01 49 05.0 -0.1
comp=Z,12nm,1.3s
DUG ePcP PcP 01 50 54.6 +0.6
DUG Dugway 42.72 82 ⇑P P 01 49 05.8 +0.7
baz=43,SNR=9.1
C23A Lambert 42.79 68 ⇑P P 01 49 05.5 +0.1
baz=43,SNR=24
LAO LASA Array 42.81 70 eP P 01 49 06.3 +0.6
comp=Z,12nm,0.6s
A24A Westby 42.85 66 ⇑P P 01 49 05.8 -0.1
baz=43,SNR=28
FCC Fort Churchill 42.97 49 eP P 01 49 06.0 -0.6
FCC e 01 50 53.2
FCC Fort Churchill 42.97 49 eP P 01 49 06.0 -0.6
comp=Z,0.2nm,0.8s
FCC ePcP PcP 01 50 53.2 -1.0
DGMT Dagmar 42.98 66 eP P 01 49 06.8 -0.2
comp=Z,27nm,1.0s
DGMT Dagmar 42.98 66 ⇑P P 01 49 06.9 -0.1
baz=43,SNR=7.0
G21A Lodge Grass 43.07 72 ⇑P P 01 49 07.5 -0.4
baz=43,SNR=8.1
E22A Miles City 43.11 70 ⇑P P 01 49 08.7 +0.6
baz=43,SNR=9.5
BW06 Boulder Array 43.12 76 eP P 01 49 08.0 -0.4
comp=Z,9.9nm,1.1s
BW06 epP pP 01 49 41.4 +0.5
PDAR Pinedale Array 43.12 76 P P 01 49 08.4 +0.1
comp=Z,7.1nm,0.7s,baz=303,slow=4.2,SNR=57
PDAR ScP ScP 01 54 31.7 -0.9
comp=Z,0.6nm,0.9s,baz=5.7,slow=3.0,SNR=4.2
J19A Crowheart 43.12 75 ⇓P P 01 49 09.4 +1.0
baz=43
D23A Lindsay 43.13 68 ⇑P P 01 49 08.7 +0.5
baz=43
I20A Worland 43.27 74 ⇑P P 01 49 09.9 +0.5
baz=43
JLU Jordanelle 43.29 80 eP P 01 49 10.8 +1.0
comp=Z,26nm,2.1s
F22A Rosebud 43.31 71 ⇓P P 01 49 10.2 +0.5
baz=43
A25A Svangstu Ranch 43.33 65 ⇑P P 01 49 09.9 +0.2
baz=43,SNR=21
C24A Savage 43.37 68 ⇑P P 01 49 10.9 +0.8
baz=43,SNR=11
GSC Goldstone 43.42 90 eP P 01 49 11.5 +0.8
GSC pmax pmax
comp=Z,7.0nm,0.9s
GSC Goldstone 43.42 90 eP P 01 49 11.5 +0.8
comp=Z,6.9nm,0.9s
GSC Goldstone 43.42 90 ⇓P P 01 49 11.3 +0.6
baz=43,SNR=7.1
H21A Big Horn, Sher 43.51 73 ⇑P P 01 49 11.8 +0.4
baz=43
DAU Daniels Canyon 43.52 80 eP P 01 49 12.4 +0.6
DAU Daniels Canyon 43.52 80 eP P 01 49 12.4 +0.6
G22A Birney 43.60 71 ⇓P P 01 49 11.8 -0.3
baz=43,SNR=7.0
BFSC Mount Baldy Ra 43.61 92 ⇑P P 01 49 13.1 +0.8
baz=44
J20A Shoshoni 43.64 75 ⇓P P 01 49 13.0 +0.5
baz=44
D24A Glendive 43.66 68 ⇑P P 01 49 12.9 +0.5
baz=44,SNR=11
B25A Knox Farm, Ray 43.67 66 ⇑P P 01 49 12.2 -0.3
baz=44,SNR=6.8
F23A Volborg 43.83 70 ⇑P P 01 49 13.7 -0.2
baz=44,SNR=7.0
I21A Big Trails, Te 43.84 74 ⇑P P 01 49 13.5 -0.5
baz=44,SNR=7.0
ARUT Antelope Range 43.85 85 eP P 01 49 14.3 +0.1
ARUT pmax pmax
comp=Z,63nm,0.7s
ARUT Antelope Range 43.85 85 eP P 01 49 14.3 +0.1
comp=Z,64nm,0.7s
TUQ Turquoise Moun 43.87 89 ⇓P P 01 49 15.4 +1.1
baz=44
C25A Freed Ranch, W 43.93 67 ⇓P P 01 49 14.3 -0.2
baz=44
H22A Clearmont 43.93 72 ⇓P P 01 49 14.8 +0.1
baz=44,SNR=6.9
A26A Wade Farm, Ken 43.95 65 ⇓P P 01 49 14.3 -0.4
baz=44,SNR=16
E24A Baker 43.98 69 ⇑P P 01 49 15.4 +0.3
baz=44,SNR=6.1
HEC Hector,Ludlow 44.02 90 ⇑P P 01 49 16.7 +1.2
baz=44
J21A Lysite 44.02 74 ⇑P P 01 49 15.6 +0.1
baz=44
CCUT Cedar City 44.05 85 eP P 01 49 17.0 +1.1
comp=Z,2.8nm,0.6s
B26A Jensen Ranch, 44.13 65 ⇓P P 01 49 16.3 +0.1
baz=44
G23A Biddle 44.14 71 ⇑P P 01 49 16.0 -0.3
baz=44,SNR=5.9
MVU Marysvale 44.14 83 eP P 01 49 17.6 +1.0
comp=Z,3.0nm,0.7s
D25A Fairfield 44.21 67 ⇓P P 01 49 17.4 +0.6
baz=44
TMUT Trail Mountain 44.24 81 eP P 01 49 18.6 +1.1
comp=Z,7.9nm,0.7s
I22A 9 Mile Ranch, 44.27 73 ⇓P P 01 49 17.9 +0.5
baz=44,SNR=7.9
F24A Ekalaka 44.31 70 ⇑P P 01 49 18.0 +0.4
baz=44,SNR=6.2
A27A Ledoux Ranch, 44.36 64 ⇑P P 01 49 17.7 -0.3
baz=44
GMRC Granite Mounta 44.46 90 ⇓P P 01 49 19.8 +0.8
baz=44
C26A Wahner Farm, P 44.51 66 ⇑P P 01 49 19.2 0.0
baz=44,SNR=19
E25A Miller Ranch, 44.53 68 ⇑P P 01 49 20.0 +0.6
baz=44,SNR=7.4
J22A Midwest 44.55 74 ⇑P P 01 49 19.6 -0.1
baz=44,SNR=12
K21A Alcova 44.56 75 ⇑P P 01 49 19.5 -0.4
baz=44
LDFC Landfair 44.60 89 eP P 01 49 20.4 +0.3
comp=Z,22nm,1.6s
G24A Alzada 44.62 70 ⇓P P 01 49 19.9 -0.3
baz=44,SNR=9.4
B27A Peters Farms, 44.65 65 ⇑P P 01 49 20.2 -0.1
baz=44,SNR=5.1
D26A Manning 44.77 67 ⇓P P 01 49 21.3 0.0
baz=45
SRU San Rafael 44.77 81 eP P 01 49 22.4 +0.8
SRU pmax pmax
comp=Z,6.0nm,0.7s
SRU San Rafael 44.77 81 eP P 01 49 22.4 +0.8
comp=Z,5.5nm,0.7s
BELC Belle Mtn. Jos 44.78 91 ⇓P P 01 49 22.2 +0.6
baz=45
F25A Bowman 44.83 69 ⇓P P 01 49 22.1 +0.3
baz=45,SNR=5.0
H24A Dirks Ranch, A 44.88 71 ⇑P P 01 49 21.9 -0.4
baz=45
C27A Sayler Ranch, 44.91 66 ⇓P P 01 49 22.4 +0.1
baz=45,SNR=7.5
A28A Rude Farm, Bot 44.92 64 ⇑P P 01 49 22.3 -0.1
baz=45,SNR=16
K22A Casper 44.98 75 ⇑P P 01 49 23.2 +0.1
baz=45
N20A Spence Gulch, 45.06 78 ⇓P P 01 49 24.5 +0.6
baz=45
E26A Carlson Angus 45.08 68 ⇓P P 01 49 23.6 -0.1
baz=45,SNR=9.2
B28A Dugan Ranch, T 45.12 64 ⇓P P 01 49 24.0 0.0
baz=45,SNR=12
IRM Iron Mountain 45.19 90 ⇑P P 01 49 25.6 +0.9
baz=45
D27A Center 45.24 67 ⇑P P 01 49 25.1 +0.1
baz=45
F26A Lodgepole 45.32 69 ⇓P P 01 49 25.7 +0.1
baz=45
W13A Hualapai Mount 45.33 88 ⇑P P 01 49 26.7 +0.6
baz=45
I24A Kuemmerle Ranc 45.37 72 ⇓P P 01 49 26.2 +0.1
baz=45
L22A Ellis Ranch, M 45.41 75 ⇑P P 01 49 27.1 +0.5
baz=45
U15A North Rim 45.43 85 ⇓P P 01 49 28.0 +1.1
baz=45,SNR=17
A29A Manning Farm, 45.48 63 ⇓P P 01 49 26.0 -0.8
baz=45,SNR=5.0
O20A White River Ci 45.50 78 eP P 01 49 27.4 0.0
comp=Z,10nm,0.6s
O20A White River Ci 45.50 78 ⇓P P 01 49 27.4 0.0
baz=45,SNR=6.2
H25A Fruitdale 45.51 71 ⇑P P 01 49 26.7 -0.4
baz=45
C28A Hausauer Farms 45.53 65 ⇓P P 01 49 26.7 -0.4
baz=45
RSSD Black Hills 45.55 71 eP P 01 49 27.4 -0.3
RSSD e 01 51 03.3
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD Black Hills 45.55 71 eP P 01 49 27.4 -0.3
comp=Z,6.0nm,1.0s
RSSD ePcP PcP 01 51 03.3 -0.4
E27A Carson 45.61 67 ⇓P P 01 49 27.7 -0.1
baz=45,SNR=6.3
J24A Dixon Ranch, L 45.66 73 ⇑P P 01 49 28.4 0.0
baz=46
B29A Wagenman Farm, 45.67 64 ⇓P P 01 49 28.2 -0.1
baz=46,SNR=5.8
F27A Lemmon 45.67 68 ⇓P P 01 49 28.5 +0.1
baz=46,SNR=12
G26A Maurine 45.69 69 ⇓P P 01 49 28.3 -0.2
baz=46,SNR=11
M22A Cedar Creek Ra 45.70 76 ⇑P P 01 49 28.7 -0.2
baz=46
PDMCI Parker Dam,Lak 45.71 89 ⇓P P 01 49 29.3 +0.6
baz=46
D28A Regan 45.73 66 ⇑P P 01 49 29.1 +0.4
baz=46,SNR=15
I25A Rochford 45.79 71 ⇓P P 01 49 29.2 -0.3
baz=46
L23A Garrett 45.79 75 ⇑P P 01 49 29.2 -0.4
baz=46,SNR=12
Y12C Blythe 45.85 90 ⇑P P 01 49 29.9 0.0
baz=46
A30A Hoffart Farm, 45.97 63 ⇑P P 01 49 30.0 -0.7
baz=46,SNR=12
H26A Fairpoint 45.99 70 ⇓P P 01 49 30.9 0.0
baz=46
E28A Huff 46.01 67 ⇓P P 01 49 31.1 +0.1
baz=46
G27A Dupree 46.02 69 ⇑P P 01 49 30.7 -0.4
baz=46,SNR=9.6
GLA Glamis 46.14 91 ⇓P P 01 49 33.0 +0.8
baz=46
N22A Wattenberg Ran 46.15 77 ⇓P P 01 49 32.9 +0.4
baz=46
PV04 Paradox Valley 46.21 81 eP P 01 49 33.2 +0.3
B30A Myrvik Farm, E 46.24 63 ⇑P P 01 49 32.1 -0.6
baz=46,SNR=18
I26A New Underwood 46.29 71 ⇑P P 01 49 33.1 -0.1
baz=46
D29A Pettibone, Tap 46.34 66 ⇓P P 01 49 33.3 -0.3
baz=46
H27A Howes 46.38 70 ⇓P P 01 49 34.0 +0.1
baz=46
F28A McLaughlin 46.38 68 ⇑P P 01 49 33.4 -0.5
baz=46,SNR=6.5
O22A Kremmling 46.50 77 ⇑P P 01 49 35.2 -0.1
baz=46
ULM Lac du Bonnet 46.53 60 eP P 01 49 34.1 -0.8
ULM pmax pmax
comp=Z,97nm,2.9s
ULM Lac du Bonnet 46.53 60 P P 01 49 34.1 -0.8
comp=Z,2.4nm,0.3s,baz=314,slow=7.5,SNR=10
ULM Lac du Bonnet 46.53 60 eP P 01 49 34.1 -0.8
comp=Z,97nm,2.9s
PV01 Paradox Valley 46.58 81 eP P 01 49 35.4 -0.4
comp=Z,553nm,0.8s
WUAZ Wupatki 46.59 86 eP P 01 49 36.8 +1.0
comp=Z,6.6nm,0.7s
WUAZ Wupatki 46.59 86 ⇓P P 01 49 36.7 +0.9
baz=46,SNR=5.9
C30A Mose, Pekin 46.59 64 ⇓P P 01 49 34.7 -0.7
baz=46,SNR=6.2
J26A Sides Ranch, S 46.60 72 ⇓P P 01 49 36.2 +0.5
baz=46
E29A Napoleon 46.61 66 ⇓P P 01 49 35.0 -0.6
baz=46
M24A Cheyenne 46.70 75 ⇑P P 01 49 36.5 -0.2
baz=46
I27A Quinn 46.73 70 ⇓P P 01 49 36.8 +0.1
baz=47,SNR=7.2
G28A Parade 46.77 68 ⇑P P 01 49 37.2 +0.2
baz=47
D30A Buchanan 46.78 65 ⇓P P 01 49 36.3 -0.7
baz=47,SNR=8.1
O23A Lake Granby, G 46.84 77 ⇓P P 01 49 38.6 +0.7
baz=47
F29A Eureka 46.94 67 ⇑P P 01 49 37.7 -0.5
baz=47
H28A Mission Ridge 46.95 69 ⇑P P 01 49 38.6 +0.2
baz=47,SNR=16
E30A Jud 47.05 66 ⇓P P 01 49 38.2 -1.0
baz=47,SNR=6.4
N24A Carr 47.07 76 ⇑P P 01 49 39.3 -0.2
baz=47
MVCO Mesa Verde 47.22 82 eP P 01 49 40.2 -0.6
comp=Z,12nm,1.4s
MVCO Mesa Verde 47.22 82 ⇓P P 01 49 41.3 +0.5
baz=47
J27A Elkhorn Farm, 47.25 71 ⇓P P 01 49 40.9 +0.1
baz=47
G29A Hoven 47.27 68 ⇓P P 01 49 40.1 -0.7
baz=47
I28A Midland 47.28 70 ⇓P P 01 49 41.0 +0.1
baz=47,SNR=14
X16A Lo Mia Camp, P 47.28 87 ⇑P P 01 49 42.2 +1.0
baz=47
ISCO Idaho Springs 47.28 77 ⇑P P 01 49 42.0 +0.7
baz=47
F30A Leola 47.39 67 ⇑P P 01 49 41.2 -0.5
baz=47
P23A Jefferson 47.42 78 ⇓P P 01 49 41.7 -0.8
baz=47
H29A Onida 47.44 69 ⇓P P 01 49 42.2 0.0
baz=47,SNR=5.8
K27A Flueckinger Fa 47.45 72 ⇓P P 01 49 42.6 +0.3
baz=47
J28A Allard Ranch, 47.59 70 ⇑P P 01 49 43.5 +0.1
baz=47,SNR=12
AGMN Agassiz Nation 47.66 62 eP P 01 49 42.9 -0.9
comp=Z,7.6nm,0.8s
AGMN Agassiz Nation 47.66 62 ⇑P P 01 49 42.8 -1.0
baz=48,SNR=7.5
G30A Faulkton 47.74 67 ⇑P P 01 49 43.6 -0.9
baz=48,SNR=11
I29A Vivian Onida 47.76 69 ⇓P P 01 49 43.9 -0.7
baz=48,SNR=5.5
S22A 4UR Ranch, Cre 47.88 80 ⇑P P 01 49 46.5 +0.6
baz=48
X18A Snowflake 48.11 86 ⇑P P 01 49 48.4 +0.8
baz=48
J29A Okreek 48.12 70 ⇑P P 01 49 47.2 -0.3
baz=48,SNR=16
214A Organ Pipe Nat 48.13 90 ⇓P P 01 49 48.2 +0.6
baz=48
R23A Moffat 48.19 79 ⇓P P 01 49 48.7 +0.4
baz=48
BRSD Miller 48.27 68 eP P 01 49 48.1 -0.4
comp=Z,41nm,0.9s
BRSD Miller 48.27 68 ⇓P P 01 49 48.1 -0.4
baz=48,SNR=5.1
P25A Willow Gulch B 48.33 76 ⇓P P 01 49 49.9 +0.7
baz=48
ULN Ulaanbaatar 48.39 298 eP P 01 49 50.2 +0.7
ULN pmax pmax
comp=Z,9.0nm,1.2s
ULN Ulaanbaatar 48.39 298 eP P 01 49 50.2 +0.7
comp=Z,8.5nm,1.2s
S23A Nye Farm, Mont 48.40 79 ⇑P P 01 49 49.6 -0.2
baz=48
N27A Anderson Farm, 48.47 74 ⇓P P 01 49 50.9 +0.7
baz=48
K29A Lazy Trails An 48.53 71 ⇓P P 01 49 50.8 +0.2
baz=48
R24A Sanders Place, 48.59 78 ⇓P P 01 49 51.9 +0.6
baz=48
J30A Dallas 48.65 70 ⇑P P 01 49 51.2 -0.3
baz=48,SNR=7.6
Q25A Bedland, Calha 48.66 77 ⇑P P 01 49 52.4 +0.5
baz=48
OGNE Ogallala 48.67 74 ⇑P P 01 49 52.4 +0.7
baz=48
SDCO Great Sand Dun 48.67 79 eP P 01 49 52.1 +0.1
comp=Z,1.1nm,0.5s
U22A Llaves 48.76 81 ⇑P P 01 49 53.3 +0.7
baz=49,SNR=5.7
M28A Bar X Bar Ranc 48.77 73 ⇑P P 01 49 52.8 +0.3
baz=49,SNR=6.1
P26A Davis Ranch, A 48.78 76 ⇑P P 01 49 53.4 +0.7
baz=49
L29A Maesberg Ranch 48.87 71 ⇓P P 01 49 53.3 +0.1
baz=49
ZAK Zakamensk 48.88 303 eP P 01 49 53.1 -0.1
ZAK pmax pmax
comp=Z,3.0nm,1.7s
O27A Beecher Island 48.89 75 ⇓P P 01 49 53.8 +0.4
baz=49
S24A Houchin Ranch, 48.91 79 ⇑P P 01 49 54.1 +0.2
baz=49
K30A Basset 48.99 70 ⇑P P 01 49 54.2 +0.2
baz=49,SNR=7.2
V22A San Miguel Ran 49.03 82 ⇑P P 01 49 55.1 +0.4
baz=49
TUC Tucson 49.12 88 eP P 01 49 55.8 +0.5
TUC pmax pmax
comp=Z,4.0nm,0.8s
TUC Tucson 49.12 88 eP P 01 49 55.8 +0.5
comp=Z,3.6nm,0.8s
N28A Pribbeno Ranch 49.12 73 ⇓P P 01 49 56.1 +1.0
baz=49
R25A Fountain Ranch 49.14 78 ⇓P P 01 49 55.7 +0.3
baz=49
M29A Burnside Ranch 49.14 72 ⇓P P 01 49 55.7 +0.4

baz=49
U23A El Rito 49.19 81 ⇑P P 01 49 56.6 +0.7
baz=49,SNR=8.0
T24B San Luis 49.19 80 ⇓P P 01 49 56.4 +0.4
baz=49
S25A Robets Cordova 49.37 78 ⇓P P 01 49 57.6 +0.4
baz=49,SNR=5.4
L30A Spencer Herefo 49.38 71 ⇑P P 01 49 57.0 -0.1
baz=49
R26A Arlington 49.54 77 ⇑P P 01 49 58.7 +0.3
baz=49
M30A Dale-Ortello V 49.56 72 ⇓P P 01 49 58.6 +0.2
baz=49
KSCO Kaye Shedlock' 49.56 76 ⇓P P 01 49 59.1 +0.5
baz=49
N29A Votaw Ranch, W 49.58 73 ⇑P P 01 49 58.8 +0.3
baz=49
V23A Ortiz Mt. (NFS 49.58 82 ⇓P P 01 49 59.9 +1.0
baz=49,SNR=6.7
P28A Saint Francis 49.71 75 ⇓P P 01 50 00.3 +0.7
baz=50
T25A Trinidad 49.73 79 ⇑P P 01 50 00.5 +0.6
baz=50,SNR=6.4
L31A Butterfield Fa 49.75 70 ⇓P P 01 49 60.0 +0.1
baz=50
LAZ Ladron 49.91 84 eP P 01 50 02.0 +0.7
comp=Z,1.6nm,0.6s
O29A 4D Ranch, Culb 49.92 74 ⇑P P 01 50 01.3 +0.2
baz=50,SNR=7.2
R27A Eads 49.93 77 ⇓P P 01 50 01.5 +0.1
baz=50
ANMO Albuquerque 49.95 83 eP P 01 50 01.2 -0.5
ANMO pmax pmax
comp=Z,15nm,2.5s
S26A Kim 49.97 78 ⇑P P 01 50 01.5 -0.2
baz=50,SNR=6.4
W23A Werner Place, 50.00 82 ⇑P P 01 50 02.5 +0.5
baz=50
DAG Danmarks Havn 50.00 7 iP P 01 50 00.8 -0.4
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 50.00 7 iP P 01 50 00.8 -0.4
comp=Z,2.8nm,0.9s
Q28A Sharon Springs 50.00 75 ⇓P P 01 50 01.9 +0.1
baz=50
ECSD EROS Data Cent 50.03 67 eP P 01 50 00.6 -1.3
comp=Z,8.2nm,0.9s
ECSD EROS Data Cent 50.03 67 ⇓P P 01 50 00.4 -1.5
baz=50,SNR=7.9
V24A Rampart Ranch, 50.15 81 ⇑P P 01 50 04.1 +0.9
baz=50,SNR=6.6
P29A Atwood 50.18 74 ⇑P P 01 50 03.3 +0.2
baz=50,SNR=6.1
T26A Comanche Natio 50.19 78 ⇑P P 01 50 03.3 -0.1
baz=50
M31A Lambtecht Ranc 50.20 71 ⇑P P 01 50 03.2 0.0
baz=50
HHC Hu-ho-hao-te 50.20 288 eP P 01 50 03.9 +0.5
HHC pP pP 01 50 35.8 -0.9
HHC sP sP 01 50 51.8 -1.1
HHC PP PP 01 52 01.7 +2.0
HHC S S 01 57 01.3 -2.8
HHC sS sS 01 57 59.4 -2.4
HHC SS SS 02 00 34.6 -4.1
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,350nm,5.3s
EYMN Ely 50.21 60 eP P 01 50 02.0 -1.2
comp=Z,6.8nm,0.6s
U25A Circle Dot Ran 50.22 80 ⇑P P 01 50 03.9 +0.3
baz=50,SNR=5.8
O30A MW Ranch, Wils 50.32 73 ⇓P P 01 50 05.1 +0.9
baz=50
BNM Barren Site 50.39 83 eP P 01 50 05.3 +0.3
comp=Z,1.7nm,0.4s
W24A Lazy 6 Ranch, 50.41 82 ⇑P P 01 50 05.8 +0.7
baz=50,SNR=5.7
V25A Rancho No Teng 50.47 80 ⇓P P 01 50 05.6 +0.1
baz=50
N31A Bailey Ranch, 50.55 72 ⇑P P 01 50 06.0 +0.2
baz=50
Q29A Oakley 50.62 75 ⇓P P 01 50 06.1 -0.3
baz=50
P30A Selden 50.62 74 ⇑P P 01 50 06.7 +0.3
baz=50,SNR=5.8
U26A Atchley Ranch, 50.62 79 ⇓P P 01 50 07.2 +0.6
baz=50,SNR=8.1
BGNE Belgrade 50.63 71 eP P 01 50 06.2 -0.3
comp=Z,26nm,0.7s
BGNE Belgrade 50.63 71 ⇑P P 01 50 06.1 -0.3
baz=50,SNR=7.0
319A Douglas 50.69 88 ⇓P P 01 50 07.6 +0.5
baz=50
O31A Woolen Ranch, 50.76 73 ⇑P P 01 50 07.4 -0.1
baz=51
121A Cookes Peak, D 50.80 86 eP P 01 50 08.5 +0.5
comp=Z,15nm,1.3s
121A Cookes Peak, D 50.80 86 ⇓P P 01 50 08.8 +0.8
baz=51,SNR=5.3
R29A Marienthal 50.83 75 ⇓P P 01 50 08.4 +0.4
baz=51
Y23A Lovelace Mesa, 50.89 83 ⇓P P 01 50 09.5 +0.9
baz=51,SNR=7.4
S28A Manter 50.93 77 ⇑P P 01 50 09.2 +0.4
baz=51,SNR=7.5
N32A Stulken Farm, 50.97 71 ⇑P P 01 50 08.3 -0.6
baz=51
W25A X Bar L Ranch, 50.98 81 ⇓P P 01 50 09.8 +0.5
baz=51,SNR=6.2
V26A Tequesquite Ra 50.99 80 ⇓P P 01 50 09.5 +0.2
baz=51,SNR=7.7
T28A Walsh 51.11 77 ⇓P P 01 50 10.0 -0.2
baz=51,SNR=5.3
P31A Stockton 51.14 73 ⇓P P 01 50 10.1 -0.2
baz=51
U27A Thompson Grove 51.15 79 ⇓P P 01 50 10.7 +0.1
baz=51
SPMN St. Paul 51.21 64 eP P 01 50 09.8 -0.9
comp=Z,21nm,1.4s
SPMN St. Paul 51.21 64 ⇓P P 01 50 09.8 -0.9
baz=51,SNR=6.6
Y24A Capitan 51.27 83 ⇓P P 01 50 12.6 +1.1
baz=51,SNR=18
O32A Brockman Farm, 51.30 72 ⇑P P 01 50 11.3 -0.1
baz=51
S29A Ulysses 51.37 76 ⇓P P 01 50 12.9 +0.8
baz=51
SUMG Summit 51.41 16 eP P 01 50 12.3 +0.1
SUMG pmax pmax
comp=Z,90nm,2.3s
SUMG Summit 51.41 16 iP P 01 50 12.7 +0.5
comp=Z,3.7nm,0.7s
SUMG Summit 51.41 16 eP P 01 50 12.3 +0.1
comp=Z,90nm,2.3s
R30A Dighton 51.43 75 ⇑P P 01 50 12.5 0.0
baz=51,SNR=8.6
Q31A Ellis 51.47 74 ⇓P P 01 50 12.7 0.0
baz=51
P32A Huiting Farm, 51.53 73 ⇑P P 01 50 12.8 -0.4
baz=51,SNR=6.0
U28A Mallet 51.54 78 ⇓P P 01 50 13.5 +0.1
baz=51
Z24A Sheeppen Canyo 51.72 83 ⇑P P 01 50 15.5 +0.6
baz=52,SNR=6.9
Y25A Mesa, Roswell 51.72 82 ⇓P P 01 50 15.2 +0.4
baz=52,SNR=6.1
NJ2 Nanjing 51.73 275 eP P 01 50 15.1 +0.4
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
S30A Montezuma 51.74 76 ⇓P P 01 50 15.5 +0.6
baz=52
X26A CR and CF Fran 51.82 81 ⇓P P 01 50 16.0 +0.5
baz=52
R31A Burdett 51.87 75 ⇑P P 01 50 15.8 +0.1
baz=52
W27A Bowe Ranch, En 51.92 80 ⇑P P 01 50 16.4 +0.1
baz=52
Q32A Meitler Ranch, 51.97 73 ⇓P P 01 50 16.2 -0.2
baz=52,SNR=10
U29A Oasis Ranch, S 52.06 77 ⇑P P 01 50 17.3 +0.1
baz=52
T30A Plains 52.10 76 ⇓P P 01 50 17.5 0.0
baz=52
Z25A Roswell 52.15 83 ⇓P P 01 50 18.3 +0.4
baz=52
R32A Long Quarter, 52.26 74 ⇑P P 01 50 18.0 -0.5
baz=52

S31A Mullinville 52.34 75 ⇑P P 01 50 18.7 -0.5
baz=52
U30A WK&E Inc. Balk 52.38 77 ⇓P P 01 50 19.3 -0.3
baz=52
Q33A Connelly Farm, 52.39 73 ⇑P P 01 50 18.9 -0.6
baz=52,SNR=7.8
T31A Randall Ranch, 52.57 76 ⇓P P 01 50 20.6 -0.3
baz=52
Z26A Caprock 52.60 82 ⇑P P 01 50 21.8 +0.5
baz=52,SNR=6.3
125A Gardner Draw, 52.61 83 ⇑P P 01 50 21.9 +0.5
baz=52,SNR=5.4
Y27A Causey 52.67 81 ⇓P P 01 50 22.1 +0.3
baz=52,SNR=9.9
R33A Olander Ranch, 52.76 73 ⇓P P 01 50 22.5 +0.2
baz=53
X28A Dimmitt 52.82 80 ⇓P P 01 50 22.9 +0.1
baz=53
MSTX Muleshoe 52.85 81 eP P 01 50 22.9 -0.1
comp=Z,7.9nm,1.1s
MSTX Muleshoe 52.85 81 ⇓P P 01 50 23.1 -0.1
baz=53
AMTX Amarillo 52.88 79 eP P 01 50 23.5 +0.2
comp=Z,48nm,2.3s
AMTX Amarillo 52.88 79 ⇓P P 01 50 23.8 +0.6
baz=53
225A Deer Hill, Car 52.89 84 ⇓P P 01 50 23.8 +0.3
baz=53,SNR=5.6
T32A Huddler Ranch, 52.96 75 ⇓P P 01 50 23.9 +0.1
baz=53
Z27A Tatum 53.03 82 ⇑P P 01 50 24.3 -0.2
baz=53,SNR=5.9
SCIA State Center 53.12 67 eP P 01 50 24.4 -0.4
comp=Z,22nm,0.9s
Y28A McKinney Farm, 53.20 80 ⇓P P 01 50 26.0 +0.3
baz=53
S33A Kaszmaul Farm, 53.23 74 ⇑P P 01 50 25.9 +0.2
baz=53
226B Tecolote Peak, 53.31 84 ⇓P P 01 50 26.6 +0.1
baz=53,SNR=7.2
127A Arkansas Junct 53.38 82 ⇓P P 01 50 26.9 -0.1
baz=53
U32A Winter Ranch, 53.46 76 ⇓P P 01 50 27.1 -0.3
baz=53
Z28A Tucker Farm, M 53.55 81 ⇓P P 01 50 27.9 -0.3
baz=53
Y29A Porterfield Fa 53.58 80 ⇓P P 01 50 28.5 +0.1
baz=53,SNR=5.6
X30A Coker Ranch, T 53.66 79 ⇓P P 01 50 29.0 +0.1
baz=54
W31A Holland Ranch, 53.71 78 ⇓P P 01 50 29.3 0.0
baz=54
425A Indio Mountain 53.72 85 ⇓P P 01 50 29.7 +0.2
baz=54,SNR=8.6
227A Bennet, Jal 53.89 83 ⇓P P 01 50 30.9 +0.2
baz=54
128A Castleberry Fa 53.95 82 ⇓P P 01 50 30.8 -0.3
baz=54,SNR=5.5
326A Caldwell Ranch 53.96 84 ⇓P P 01 50 31.7 +0.5
baz=54
Z29A Hungry Hill Ra 53.98 81 ⇑P P 01 50 31.1 -0.2
baz=54,SNR=5.6
Y30A Stafford Cattl 54.04 80 ⇓P P 01 50 31.9 +0.2
baz=54,SNR=10
X31A McDonald Ranch 54.07 78 ⇑P P 01 50 32.1 +0.2
baz=54
JFWS Jewell Farm 54.11 64 eP P 01 50 30.5 -1.5
JFWS pmax pmax
comp=Z,20nm,0.6s
JFWS Jewell Farm 54.11 64 eP P 01 50 30.4 -1.5
comp=Z,20nm,0.6s
W32A Sentinel 54.17 77 ⇓P P 01 50 32.9 +0.3
baz=54
228A UT Block 9, Go 54.24 82 ⇓P P 01 50 33.4 +0.2
baz=54
V33A Lossen Ranch, 54.26 76 ⇓P P 01 50 33.5 +0.3
baz=54
U34A Anderson Ranch 54.28 75 ⇓P P 01 50 33.3 -0.1
baz=54
Z30A Sanderson Ranc 54.31 80 ⇑P P 01 50 33.1 -0.5
baz=54,SNR=5.3
129A Stewart Farms, 54.32 81 ⇓P P 01 50 33.7 0.0
baz=54
426A McDonald Obser 54.38 85 ⇑P P 01 50 34.2 -0.2
baz=54,SNR=5.3
328A Wristen Ranch, 54.62 83 ⇑P P 01 50 35.7 -0.3
baz=54,SNR=10
X32A Elmer 54.63 78 ⇑P P 01 50 35.5 -0.4
baz=54
427A Hayter Ranch, 54.64 84 ⇓P P 01 50 36.3 +0.2
baz=54
V34A Guthrie 54.71 75 ⇓P P 01 50 36.0 -0.4
baz=54
526A Mary Lane Ranc 54.78 85 ⇑P P 01 50 37.3 +0.1
baz=55,SNR=7.5
Z31A Sharp Cattle R 54.88 79 ⇓P P 01 50 37.6 -0.1
baz=55
130A Snyder 54.89 81 ⇑P P 01 50 37.8 -0.1
baz=55
527A Woodward Ranch 55.01 85 ⇓P P 01 50 38.8 0.0
baz=55
X33A Lawton 55.01 77 ⇓P P 01 50 38.6 -0.1
baz=55
329A Wagon Wheel Ra 55.05 82 ⇑P P 01 50 39.3 +0.3
baz=55
626A Big Bend Ranch 55.11 86 ⇓P P 01 50 39.6 +0.1
baz=55,SNR=16
428A Kincaid Ranch, 55.16 84 ⇑P P 01 50 40.2 +0.3
baz=55,SNR=15
131A Roby 55.18 80 ⇑P P 01 50 40.0 +0.1
baz=55
Z32A Haskell 55.28 79 ⇓P P 01 50 40.4 -0.3
baz=55,SNR=7.2
230A Sterling City 55.29 81 ⇓P P 01 50 40.5 -0.2
baz=55,SNR=12
ZALV Zalesovo Beam 55.35 315 P P 01 50 40.5 -0.2
comp=Z,0.8nm,0.5s,baz=42,slow=7.5,SNR=5.6
528A Cox Ranch, San 55.50 84 ⇓P P 01 50 42.3 0.0
baz=55,SNR=12
TXAR Lajitas Array 55.55 86 P P 01 50 42.8 +0.1
comp=Z,3.7nm,0.5s,baz=301,slow=5.6,SNR=103
TXAR PcP PcP 01 51 41.2 +0.4
comp=Z,0.8nm,0.6s,baz=270,slow=1.5,SNR=3.6
TXAR ScP ScP 01 55 25.2 -0.4
comp=Z,0.4nm,0.6s,baz=297,slow=2.9,SNR=5.8
330A Mertzon 55.59 82 ⇓P P 01 50 42.5 -0.4
baz=55
627A Terlingua Ranc 55.64 85 ⇑P P 01 50 43.1 -0.2
baz=56,SNR=7.2
ABTX Abilene, Hawle 55.66 80 eP P 01 50 43.6 +0.2
comp=Z,42nm,2.0s
ABTX epP pP 01 51 17.3 0.0
ABTX Abilene, Hawle 55.66 80 ⇑P P 01 50 43.4 +0.1
baz=56,SNR=5.1
TUL1 Tulsa 55.67 74 eP P 01 50 43.1 -0.2
comp=Z,6.9nm,0.8s
TUL1 Tulsa 55.67 74 ⇑P P 01 50 43.1 -0.2
baz=56
429A Davenport Ranc 55.71 83 ⇓P P 01 50 43.3 -0.5
baz=56
Z33A Whitaker Ranch 55.73 79 ⇓P P 01 50 43.4 -0.4
baz=56
231A Bronte 55.74 81 ⇑P P 01 50 43.7 -0.2
baz=56
Y34A Reagan Ranch, 55.86 77 ⇑P P 01 50 44.8 +0.1
baz=56
529A Stev Forest Ra 55.87 84 ⇓P P 01 50 45.0 +0.1
baz=56
628A Black Gap, Mar 55.92 85 ⇓P P 01 50 45.3 0.0
baz=56,SNR=13
430A Baggett Ranch, 55.99 82 ⇓P P 01 50 45.6 -0.2
baz=56,SNR=12
133A Hamilton Ranch 56.11 79 ⇑P P 01 50 46.7 +0.2
baz=56
331A San Angelo 56.12 81 ⇓P P 01 50 46.4 -0.2
baz=56
232A Coleman 56.18 80 ⇑P P 01 50 46.8 -0.3
baz=56,SNR=5.8
530A J-C Ranch, Com 56.39 83 ⇑P P 01 50 48.5 0.0
baz=56,SNR=15
431A Sonora 56.45 82 ⇓P P 01 50 48.3 -0.7
baz=56,SNR=8.4
332A Millersview 56.48 81 ⇑P P 01 50 49.0 -0.1
baz=56
233A Rising Star 56.53 80 ⇓P P 01 50 49.6 0.0
baz=56
Z35A Perchaven, San 56.60 77 ⇓P P 01 50 50.0 +0.1
baz=56

134A White-Moore Ra 56.64 79 ⇑P P 01 50 50.2 0.0
baz=56
432A Menard 56.80 81 ⇑P P 01 50 50.9 -0.6
baz=57
531A Rocksprings 56.85 82 ⇓P P 01 50 51.6 -0.2
baz=57
234A Clairette 57.00 79 ⇓P P 01 50 52.8 0.0
baz=57,SNR=5.5
135A Vickery Place, 57.05 78 ⇑P P 01 50 53.2 +0.1
baz=57
JCT Junction City 57.08 82 eP P 01 50 53.0 -0.5
JCT pmax pmax
comp=Z,7.0nm,0.6s
JCT Junction City 57.08 82 eP P 01 50 53.0 -0.5
comp=Z,6.7nm,0.6s
JCT Junction City 57.08 82 ⇓P P 01 50 53.3 -0.1
baz=57
SCHQ Schefferville 57.20 41 P P 01 50 52.4 -1.5
comp=Z,5.0nm,0.6s,baz=310,slow=6.7,SNR=15
433A Art 57.31 81 ⇓P P 01 50 54.9 -0.1
baz=57
631A Perdido Creek 57.37 83 ⇓P P 01 50 55.0 -0.5
baz=57
ARCES ARCESS Array B 57.40 352 P P 01 50 54.3 -0.7
comp=Z,4.1nm,1.0s,baz=24,slow=5.3,SNR=11
ARCES PcP PcP 01 51 46.5 -0.7
comp=Z,4.1nm,0.7s,baz=31,slow=5.0,SNR=5.6
334A Lometa 57.42 80 ⇑P P 01 50 55.6 -0.2
baz=57,SNR=9.1
WHTX Lake Whitney 57.42 79 ⇑P P 01 50 56.2 +0.4
baz=57
SFIN Scholer Farm 57.56 65 eP P 01 50 55.9 -0.7
comp=Z,20nm,0.8s
SFIN Scholer Farm 57.56 65 ⇓P P 01 50 55.6 -0.9
baz=57,SNR=5.1
434A Burnet 57.77 80 ⇓P P 01 50 57.9 -0.3
baz=58,SNR=8.4
632A Uvalde 57.78 82 ⇑P P 01 50 58.1 -0.2
baz=58
533A Kerrville 57.84 81 ⇑P P 01 50 58.6 -0.2
baz=58
GTA Gaotai 57.86 294 eP P 01 50 59.0 +0.1
GTA pP pP 01 51 33.2 +0.1
GTA sP sP 01 51 49.5 +0.5
GTA pmax pmax
comp=Z,7.0nm,1.0s
LZH Lanzhou 57.88 289 eP P 01 50 59.8 +0.7
LZH pP pP 01 51 34.3 +1.0
LZH sP sP 01 51 47.8 -1.5
LZH pmax pmax
comp=Z,16nm,1.0s
MIAR Mount Ida 57.92 74 eP P 01 50 59.0 -0.2
MIAR pmax pmax
comp=Z,9.0nm,0.8s
MIAR Mount Ida 57.92 74 eP P 01 50 59.0 -0.2
comp=Z,9.3nm,0.8s
OLIL Olney 58.14 67 eP P 01 50 59.1 -1.5
comp=Z,20nm,1.1s
PBMO Poplar Bluff 58.18 70 eP P 01 50 59.6 -1.4
comp=Z,50nm,1.9s
435B Jarrell 58.20 80 ⇓P P 01 51 01.8 +0.6
baz=58
534A Blanco 58.20 81 ⇓P P 01 51 01.1 -0.2
baz=58
732A Laxson Ranch, 58.23 83 ⇓P P 01 51 01.2 -0.2
baz=58,SNR=5.8
832A Faith Ranch, C 58.55 84 ⇓P P 01 51 03.8 +0.1
baz=58,SNR=9.9
ENH Enshi 58.66 280 eP P 01 51 04.0 -0.4
comp=Z,4.3nm,0.5s
833A Chaparral WMA, 58.88 83 ⇑P P 01 51 06.6 +0.7
baz=59
USIN University of 58.92 67 eP P 01 51 05.4 -0.7
comp=Z,25nm,0.8s
734A La Parita Cree 59.00 82 ⇑P P 01 51 07.4 +0.7
baz=59
635A Leesville 59.09 81 ⇓P P 01 51 07.9 +0.6
baz=59
636A Smothers Creek 59.45 80 ⇓P P 01 51 10.3 +0.5
baz=59
835A Beeville 59.85 82 ⇑P P 01 51 13.5 +0.9
baz=60
KURK Kurchatov 60.32 316 eP P 01 51 15.3 -0.1
KURK pmax pmax
comp=Z,9.0nm,0.6s
KURK Kurchatov 60.32 316 eP P 01 51 15.3 -0.1
comp=Z,8.8nm,0.6s
OXF Oxford 60.37 71 eP P 01 51 15.6 -0.4
OXF pmax pmax
comp=Z,36nm,0.6s
OXF Oxford 60.37 71 eP P 01 51 15.6 -0.4
comp=Z,36nm,0.6s
ALLY Alegheny Colle 60.41 59 eP P 01 51 15.9 -0.3
comp=Z,37nm,0.9s
WMQ Urumqi 61.16 305 eP P 01 51 24.2 +2.8
WMQ pP pP 01 51 57.6 +1.7
WMQ PcP PcP 01 52 05.2 +2.5
WMQ sP sP 01 52 13.2 +1.4
WMQ S S 01 59 30.6 +1.5
WMQ sS sS 02 00 30.4 +1.7
WMQ ScS SKKSac 02 00 57.7 -0.4
WMQ pmax pmax
comp=Z,14nm,0.6s
WMQ pmax pmax
comp=Z,250nm,4.8s
WMQ LR LR
comp=Z,100nm,20.0s
WMQ LR LR
comp=Z,210nm,22.2s
WMQ LR LR
comp=Z,86nm,23.8s
MK31 Makanchi Array 61.59 311 eP P 01 51 23.6 -0.6
MK31 Makanchi Array 61.59 311 eP P 01 51 23.6 -0.6
MKAR Makanchi Array 61.59 311 P P 01 51 23.7 -0.4
comp=Z,2.4nm,0.4s,baz=47,slow=6.0,SNR=66
CD2 Chengdu 61.62 285 P P 01 51 25.3 +0.7
CD2 pP pP 01 51 59.9 +0.8
CD2 PcP PcP 01 52 05.6 +0.9
CD2 sP sP 01 52 16.0 +1.0
CD2 PP PP 01 53 44.5 +2.9
CD2 PcS PcS 01 56 07.1 -0.9
CD2 S S 01 59 33.0 -2.1
CD2 sS sS 02 00 33.3 -1.5
CD2 SS SS 02 03 37.8 -0.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.4s
BVA0 Borovoye Array 61.87 322 iP P 01 51 26.2 +0.3
BVA0 pmax pmax
comp=Z,16nm,0.4s
VOSK Vostochnaya 61.88 321 eP P 01 51 26.4 +0.4
VOSK pmax pmax
comp=Z,7.0nm,0.9s
VOSK Vostochnaya 61.88 321 eP P 01 51 26.4 +0.4
comp=Z,7.4nm,0.9s
BRVK Borovoye 61.88 322 eP P 01 51 26.4 +0.5
BRVK pmax pmax
comp=Z,13nm,1.3s
BRVK Borovoye 61.88 322 eP P 01 51 26.8 +0.9
comp=Z,9.2nm,0.7s
PRGR Permogore 61.90 340 ⇑iP P 01 51 26.3 +0.4
PRGR pmax pmax
comp=Z,2.0nm,0.4s
SVE Sverdlovsk 62.16 330 eP P 01 51 28.5 +0.8
SVE pmax pmax
comp=Z,11nm,0.5s
BINY Binghamton 62.17 56 eP P 01 51 27.2 -0.9
comp=Z,27nm,0.9s
SSPA Standing Stone 62.33 59 eP P 01 51 28.7 -0.4
comp=Z,21nm,0.6s
TKL Tuckaleechee C 62.75 66 eP P 01 51 31.0 -1.0
TKL Tuckaleechee C 62.75 66 eP P 01 51 31.0 -1.0
LRAL Lakeview Retre 62.83 71 eP P 01 51 31.6 -0.9
comp=Z,81nm,2.3s
ARU Arti 63.12 330 eP P 01 51 34.4 +0.3
ARU Arti 63.12 330 eP P 01 51 34.4 +0.3
GYA Guiyang 63.13 279 eP P 01 51 36.0 +1.2
GYA pP PcP 01 52 11.8 +0.8
GYA sP sP 01 52 26.6 +1.3
GYA PP PP 01 53 57.4 +2.3
GYA S S 01 59 52.9 -1.4
GYA sS sS 02 00 53.4 -0.9
GYA pmax pmax
comp=Z,10.0nm,1.0s
JOF Joensuu 63.17 347 eP P 01 51 33.5 -0.8

JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 63.17 347 ep P 01 51 33.5 -0.8
comp=Z,4.7nm,0.5s
JSRW J. Sargeant Re 64.49 61 eP P 01 51 42.5 -0.9
KMSC Kings Mountain 64.49 65 ⇓P P 01 51 43.4 0.0
baz=64
KAF Kangasniemi 64.56 350 eP P 01 51 43.2 -0.2
KAF pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 64.56 350 ep P 01 51 43.2 -0.2
comp=Z,6.0nm,0.6s
FINES FINESS Array B 65.24 350 P P 01 51 47.9 +0.1
comp=Z,2.1nm,0.6s,baz=27,slow=6.7,SNR=14
KMI Kunming 66.48 281 P P 01 51 57.4 +0.8
KMI pmax pmax
comp=Z,13nm,0.6s
NB2 NORSAR Subarra 66.69 357 P P 01 51 57.0 -0.1
comp=Z,3.2nm,0.8s,baz=0.3,slow=6.2
NOA NORSAR Array B 66.69 357 P P 01 51 57.5 +0.3
comp=Z,1.7nm,0.8s,baz=360,slow=6.2,SNR=5.8
HFS Hagfors 67.50 356 P P 01 52 01.8 -0.4
HFS pmax pmax
comp=Z,2.0nm,0.4s
HFS Hagfors 67.50 356 P P 01 52 01.8 -0.4
comp=Z,1.7nm,0.3s,baz=19,slow=2.7,SNR=22
TKM2 Tokmak 2 67.62 312 eP P 01 52 03.7 +0.1
TKM2 pmax pmax
comp=Z,6.0nm,0.9s
TKM2 Tokmak 2 67.62 312 eP P 01 52 03.7 +0.1
comp=Z,5.6nm,0.9s
USP Ospenovka 67.84 313 i P P 01 52 05.7 +1.0
USP Ospenovka 67.84 313 P P 01 52 05.8 +1.0
SNR=6.2
KBK Karagaybulak 68.12 312 i P P 01 52 07.6 +1.0
KBK Karagaybulak 68.12 312 P P 01 52 07.6 +1.0
SNR=5.7
AAK Ala-Archa 68.35 312 eP P 01 52 08.7 +0.7
AAK pmax pmax
comp=Z,11nm,0.7s
AAK Ala-Archa 68.35 312 P P 01 52 08.8 +0.8
SNR=10
AAK Ala-Archa 68.35 312 eP P 01 52 08.7 +0.7
comp=Z,11nm,0.7s
AKTO Aktyubinsk 68.39 327 P P 01 52 08.1 +0.2
AKTO pmax pmax
comp=Z,22nm,0.6s
EKS2 Erkin-Say 68.65 313 i P P 01 52 10.9 +1.1
EKS2 Erkin-Say 68.65 313 P P 01 52 11.0 +1.1
SNR=9.3
EKS2 Erkin-Say 68.65 313 eP P 01 52 11.1 +1.3
comp=Z,14nm,0.6s
AB31 Akbulak array 68.74 325 i P P 01 52 10.4 +0.3
AB31 pmax pmax
comp=Z,8.0nm,0.5s
ABKAR Akbulak array 68.74 325 eP P 01 52 10.5 +0.4
AML Almayashu 69.11 313 i P P 01 52 14.3 +1.3
AML Almayashu 69.11 313 P P 01 52 14.3 +1.3
SNR=6.2
KK31 Karatay Array 69.73 315 i P P 01 52 16.1 -0.2
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 69.73 315 eP P 01 52 16.5 +0.2
KKAR pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 69.73 315 eP P 01 52 16.5 +0.2
comp=Z,7.3nm,0.6s
OBN Obninsk 69.76 342 i P P 01 52 16.0 -0.2
LSA Lhasa 69.81 293 eP P 01 52 18.8 +1.2
LSA pmax pmax
comp=Z,18nm,0.6s
LSA Lhasa 69.81 293 eP P 01 52 18.8 +1.2
comp=Z,18nm,0.6s
KSH Kashi 70.13 309 eP P 01 52 22.9 +3.9
KSH esP sP 01 53 12.2 +2.1
KSH ePP PP 01 55 01.5 +6.0
KSH S S 02 01 18.1 -0.1
KSH SKS SKSac 02 02 02.0 -4.4
KSH SS SS 02 05 54.5 +4.6
KSH pmax pmax
comp=Z,12nm,0.6s
KSH LR LR
comp=Z,19nm,2.6s
KSH LR LR
comp=Z,22nm,2.1s
KSH LR LR
comp=Z,160nm,6.4s
EKA Eskdalemuir Ar 72.22 5 P P 01 52 30.9 -0.2
comp=Z,1.5nm,0.5s,baz=346,slow=4.0,SNR=7.1
VRHR Novokhopersk 72.45 337 eP P 01 52 31.2 -1.3
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 72.90 339 eP P 01 52 35.0 -0.2
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
VORD Divnogorie 73.11 339 eP P 01 52 36.0 -0.4
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=E,5.0nm,0.5s
TAPN Taplejung 73.54 293 eP P 01 52 40.2 +0.5
comp=E,26nm,0.7s
CHTO Chiang Mai 73.54 279 eP P 01 52 39.6 +0.1
CHTO pmax pmax
comp=Z,3.0nm,0.5s
CHTO Chiang Mai 73.54 279 eP P 01 52 39.6 +0.1
comp=Z,2.7nm,0.5s
CMAR Chiang Mai Arr 73.82 279 P P 01 52 41.8 +0.7
comp=Z,4.0nm,0.6s,baz=24,slow=7.1,SNR=20
GUN Gumba 74.13 295 eP P 01 52 43.2 0.0
comp=Z,22nm,0.6s
JIRN Jiri 74.15 295 eP P 01 52 44.0 +0.6
comp=Z,30nm,0.6s
RAMN Ramite 74.47 294 eP P 01 52 45.3 +0.2
comp=Z,36nm,0.7s
KKN Kakani 74.55 295 eP P 01 52 45.9 +0.4
PKI Pulchoki 74.65 295 eP P 01 52 46.2 0.0
comp=Z,12nm,0.6s
PKIN Phulchoki 74.65 295 eP P 01 52 46.0 -0.1
comp=Z,4.5nm,0.4s
GKN Gorkha 74.74 296 eP P 01 52 46.5 0.0
comp=Z,20nm,0.5s
DMN Daman 74.79 295 eP P 01 52 47.2 +0.3
DANN Dangsing 74.95 297 eP P 01 52 48.1 +0.2
AKASG Malin Array Be 75.27 345 P P 01 52 48.4 -0.5
comp=Z,3.5nm,0.4s,baz=17,slow=5.9,SNR=18
AKBB Malin Array Si 75.27 345 eP P 01 52 47.9 -1.1
AKBB Malin Array Si 75.27 345 eP P 01 52 47.9 -1.1
KIEV Kiev 75.28 345 eP P 01 52 48.0 -1.0
KIEV pmax pmax
comp=Z,6.0nm,0.5s
KIEV Kiev 75.28 345 eP P 01 52 48.0 -1.0
comp=Z,5.5nm,0.5s
KOLN Koldanda 75.49 297 eP P 01 52 51.0 +0.2
comp=Z,18nm,0.8s
PYUN Piuthan 75.56 297 eP P 01 52 51.4 +0.1
comp=Z,52nm,0.7s
CLZ Clausthal 75.92 357 eP P 01 52 53.7 +1.0
comp=Z,6.0nm,0.8s
CLL Collm 76.35 356 eP P 01 52 55.0 -0.1
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 76.35 356 eP P 01 52 55.4 +0.3
comp=Z,4.0nm,0.7s
CLL Collm 76.35 356 eP P 01 52 55.0 -0.1
comp=Z,5.0nm,0.7s
NEUB Neuenburg 76.50 356 eP P 01 52 56.9 +1.0
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 76.74 355 eP P 01 52 57.3 +0.1
comp=Z,6.7nm,0.8s
BRG Berggiesshubel 76.74 355 eP P 01 52 57.3 +0.1
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG Berggiesshubel 76.74 355 eP P 01 52 57.8 +0.6
comp=Z,5.0nm,0.8s
LVV L'vov 76.87 348 eP P 01 52 52.6 -5.4
MOX Moxa 77.08 356 eP P 01 52 59.9 +0.7
comp=Z,4.0nm,0.8s
DPC Dobruska-Polom 77.11 353 eP P 01 52 59.7 +0.3
DPC Dobruska-Polom 77.11 353 eP P 01 52 59.7 +0.3
KWP Kalwaria Pacla 77.22 349 ⇑P P 01 53 00.4 +0.4
KWP Kalwaria Pacla 77.22 349 ⇑iP P 01 53 00.4 +0.4
KRLC Kraliky 77.35 353 eP P 01 53 00.3 -0.4
KRLC Kraliky 77.35 353 eP P 01 53 00.3 -0.4
KBL Kabul 77.40 311 eP P 01 53 01.0 -0.5
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 77.40 311 eP P 01 53 01.0 -0.5
comp=Z,5.5nm,0.8s
OKC Ostrava-Krasne 77.47 352 eP P 01 53 00.9 -0.5
OKC Ostrava-Krasne 77.47 352 eP P 01 53 00.9 -0.5
MORC Moravsky Berou 77.58 352 eP P 01 53 01.4 -0.7
MORC pmax pmax
comp=Z,4.0nm,0.9s
MORC Moravsky Berou 77.58 352 eP P 01 53 01.4 -0.7
comp=Z,4.2nm,0.9s
PRU Pruhonice 77.59 354 eP P 01 53 02.1 +0.1
PRU Pruhonice 77.59 354 eP P 01 53 02.1 +0.1
TNS Taunus Mts 77.59 358 eP P 01 53 02.7 +0.6
comp=Z,4.0nm,0.8s
BAIF Baives 77.76 1 eP P 01 53 03.4 +0.5
comp=Z,8.3nm,0.8s
BAIF Baives 77.76 1 eP P 01 53 03.4 +0.5
BAIF pmax pmax
comp=Z,8.0nm,0.8s
BAIF Baives 77.76 1 eP P 01 53 03.4 +0.5
comp=Z,8.3nm,0.8s
ROTZ Rotzenmuhle 77.93 356 eP P 01 53 05.0 +1.1
comp=Z,3.0nm,0.8s
GRF Grafenberg Arr 78.04 357 eP P 01 53 05.7 +1.1
comp=Z,9.0nm,0.8s
VRAC Vranov 78.12 353 P P 01 53 05.0 0.0
VRAC Vranov 78.12 353 P P 01 53 05.0 0.0
comp=Z,7.4nm,0.7s,baz=348,slow=5.9,SNR=12
WLF Walferdange 78.17 360 eP P 01 53 05.1 -0.1
WLF Walferdange 78.17 360 eP P 01 53 05.1 -0.1
KHC Kasperske Hory 78.50 355 eP P 01 53 07.6 +0.5
KHC Kasperske Hory 78.50 355 eP P 01 53 07.6 +0.5
KHC Kasperske Hory 78.50 355 eP P 01 53 07.7 +0.5
comp=Z,6.1nm,1.0s
WET Wettzell 78.52 355 eP P 01 53 07.4 +0.2
comp=Z,1.0nm,0.7s
TRPA Tarpa 78.72 349 ⇓iP P 01 53 08.9 +0.7
GEC2 GERESS Array S 78.77 355 eP P 01 53 09.2 +0.5
comp=Z,4.0nm,0.8s
GERES GERESS Array B 78.77 355 P P 01 53 09.0 +0.3
comp=Z,2.8nm,0.8s,baz=15,slow=5.5,SNR=23
KIV Kislovodsk 78.82 334 eP P 01 53 09.0 0.0
KIV pmax pmax
comp=Z,6.0nm,0.6s
KIV Kislovodsk 78.82 334 eP P 01 53 09.0 0.0
comp=Z,6.5nm,0.6s
BUR08 Bucovina Ar. S 78.85 347 eP P 01 53 08.8 -0.4
BURAR Bucovina Array 78.88 347 ⇓P P 01 53 09.3 0.0
BURAR Bucovina Array 78.88 347 ⇓iP P 01 53 09.3 0.0
FLN La Foliniere 78.92 4 eP P 01 53 09.4 +0.1
FLN La Foliniere 78.92 4 eP P 01 53 09.4 +0.1
FLN La Foliniere 78.92 4 eP P 01 53 09.4 +0.1
KBZ Khabaz 78.97 334 P P 01 53 09.9 +0.2
comp=Z,6.0nm,0.8s,baz=134,slow=4.5,SNR=11
LDF La Druitiere 79.10 4 eP P 01 53 10.1 -0.2
LDF La Druitiere 79.10 4 eP P 01 53 10.1 -0.2
LDF La Druitiere 79.10 4 eP P 01 53 10.1 -0.2
GRR Gorron 79.27 5 eP P 01 53 11.3 0.0
GRR Gorron 79.27 5 eP P 01 53 11.3 0.0
GRR Gorron 79.27 5 eP P 01 53 11.3 0.0
PAGF Fort de Pagny 79.28 0 eP P 01 53 12.1 +0.8
comp=Z,8.3nm,0.8s
PAGF Fort de Pagny 79.28 0 eP P 01 53 12.1 +0.8
comp=Z,8.3nm,0.8s
SGMF Saint Gilles 79.31 6 eP P 01 53 11.6 +0.1
SGMF Saint Gilles 79.31 6 eP P 01 53 11.6 +0.1
SGMF Saint Gilles 79.31 6 eP P 01 53 11.6 +0.1
MEZF Maizieres J'vi 79.33 1 eP P 01 53 12.4 +0.8
comp=Z,7.0nm,0.5s
MEZF Maizieres J'vi 79.33 1 eP P 01 53 12.4 +0.8
comp=Z,7.0nm,0.4s
CDF Champ du Feu 79.41 359 ⇑iP P 01 53 12.5 +0.3
comp=Z,12nm,0.6s
CDF Champ du Feu 79.41 359 ⇑iP P 01 53 12.5 +0.3
CDF pmax pmax
comp=Z,12nm,0.6s
CDF Champ du Feu 79.41 359 ⇑iP P 01 53 12.5 +0.3
comp=Z,12nm,0.6s
BFO Black Forest 79.48 358 eP P 01 53 12.8 +0.3
comp=Z,3.0nm,0.8s
CONA Conrad Observa 79.55 353 ⇓iP P 01 53 13.7 +0.8
comp=Z,9.5nm,1.1s
QUIF Quistinic 79.61 6 eP P 01 53 13.4 +0.3
QUIF Quistinic 79.61 6 eP P 01 53 13.4 +0.3
QUIF Quistinic 79.61 6 eP P 01 53 13.4 +0.3
SFTF Sexfontaines 79.62 1 ⇑iP P 01 53 13.6 +0.4
comp=Z,11nm,0.5s
SFTF Sexfontaines 79.62 1 ⇑iP P 01 53 13.6 +0.4
comp=Z,11nm,0.5s
HAU Haudompre 79.83 360 ⇑iP P 01 53 14.7 +0.4
comp=Z,12nm,0.6s
HAU Haudompre 79.83 360 ⇑iP P 01 53 14.7 +0.4
HAU pmax pmax
comp=Z,12nm,0.6s
HAU Haudompre 79.83 360 ⇑iP P 01 53 14.7 +0.4
comp=Z,12nm,0.6s
RJOB Jochberg 79.93 355 eP P 01 53 15.6 +0.7
comp=Z,5.0nm,0.8s
HINF Hinteralfeld 80.01 359 ⇑iP P 01 53 15.5 +0.2
comp=Z,8.9nm,0.5s
HINF Hinteralfeld 80.01 359 ⇑iP P 01 53 15.5 +0.2
HINF pmax pmax
comp=Z,9.0nm,0.5s
HINF Hinteralfeld 80.01 359 ⇑iP P 01 53 15.5 +0.2
comp=Z,8.9nm,0.5s
DRGR 80.01 348 ⇓P P 01 53 15.2 -0.2
DRGR 80.01 348 ⇓iP P 01 53 15.2 -0.2
WTTA Wattenberg 80.45 356 ⇑iP P 01 53 18.2 +0.3
comp=Z,4.7nm,0.8s
LOR Lormes 80.55 1 ⇑iP P 01 53 18.5 +0.3
comp=Z,8.4nm,0.5s
LOR Lormes 80.55 1 ⇑iP P 01 53 18.5 +0.3
LOR pmax pmax
comp=Z,8.0nm,0.5s
LOR Lormes 80.55 1 ⇑iP P 01 53 18.5 +0.3
comp=Z,8.4nm,0.5s
KBA Koelnbreinsper 80.56 355 ⇓iP P 01 53 19.3 +0.9
comp=Z,11nm,0.6s
TLCR 80.69 344 ⇓P P 01 53 19.6 +0.7
TLCR 80.69 344 ⇓iP P 01 53 19.6 +0.7
FETA Feichten 80.73 357 ⇑iP P 01 53 19.9 +0.5
comp=Z,12nm,1.2s
SSF Saint Saulge 80.75 2 ⇑iP P 01 53 19.5 +0.3
comp=Z,21nm,0.7s
SSF Saint Saulge 80.75 2 ⇑iP P 01 53 19.5 +0.3
SSF pmax pmax
comp=Z,21nm,0.7s
SSF Saint Saulge 80.75 2 ⇑iP P 01 53 19.5 +0.3
comp=Z,21nm,0.7s
CFR Carcaliu 80.81 344 ⇑P P 01 53 21.1 +1.5
CFR Carcaliu 80.81 344 ⇑iP P 01 53 21.1 +1.5
MLR Muntele Rosu 80.85 346 ⇓P P 01 53 20.9 +0.9
MLR Muntele Rosu 80.85 346 ⇓iP P 01 53 20.9 +0.9
MLR Muntele Rosu 80.85 346 P P 01 53 20.5 +0.6
comp=Z,0.5nm,0.5s,baz=353,slow=10,SNR=13
SOKA Soboth 80.85 354 ⇑iP P 01 53 20.2 +0.3
comp=Z,3.9nm,0.7s
ABTA Abfaltersbach 80.93 355 ⇓iP P 01 53 19.5 -0.8
comp=Z,5.3nm,1.2s
DAVOX Davos/Dischmat 81.00 357 P P 01 53 20.3 -0.5
comp=Z,4.5nm,0.6s,baz=349,slow=15,SNR=11
AVF Avril sur Loir 81.01 2 ⇑iP P 01 53 20.7 +0.1
comp=Z,8.3nm,0.5s
AVF Avril sur Loir 81.01 2 ⇑iP P 01 53 20.7 +0.1
AVF pmax pmax
comp=Z,8.0nm,0.5s
AVF Avril sur Loir 81.01 2 ⇑iP P 01 53 20.7 +0.1
comp=Z,8.3nm,0.5s
VOIR 81.03 347 ⇓P P 01 53 22.1 +1.2
VOIR 81.03 347 ⇓iP P 01 53 22.1 +1.2
MFF Saint Martin d 81.09 4 eP P 01 53 21.3 +0.3
comp=Z,9.2nm,0.6s
MFF Saint Martin d 81.09 4 eP P 01 53 21.3 +0.3
MFF pmax pmax
comp=Z,9.0nm,0.6s
MFF Saint Martin d 81.09 4 eP P 01 53 21.3 +0.3
comp=Z,9.2nm,0.6s
SMF Signal de Mont 81.17 2 ⇑iP P 01 53 21.7 +0.2
comp=Z,20nm,0.7s
SMF Signal de Mont 81.17 2 ⇑iP P 01 53 21.7 +0.2
SMF pmax pmax
comp=Z,20nm,0.7s
SMF Signal de Mont 81.17 2 ⇑iP P 01 53 21.7 +0.2
comp=Z,20nm,0.7s
CABF La Chapelle 81.22 360 ⇑iP P 01 53 22.5 +0.6
comp=Z,30nm,0.9s
CABF La Chapelle 81.22 360 ⇑iP P 01 53 22.5 +0.6
CABF pmax pmax
comp=Z,30nm,0.9s
CABF La Chapelle 81.22 360 ⇑iP P 01 53 22.5 +0.6
comp=Z,30nm,0.9s
BGF Bois d'Agland 81.24 2 eP P 01 53 21.9 +0.1
BGF Bois d'Agland 81.24 2 eP P 01 53 21.9 +0.1
BGF Bois d'Agland 81.24 2 eP P 01 53 21.9 +0.1
BZS Buzias 81.30 349 ⇓P P 01 53 22.1 -0.1
BZS Buzias 81.30 349 ⇓iP P 01 53 22.1 -0.1
JTS JuntasAbangare 81.33 84 eP P 01 53 22.4 -0.4
JTS JuntasAbangare 81.33 84 eP P 01 53 22.4 -0.4
GZR Gura Zlata 81.38 348 ⇑P P 01 53 22.8 +0.1
GZR Gura Zlata 81.38 348 ⇑iP P 01 53 22.8 +0.1
TLB Topalu 81.41 344 ⇓P P 01 53 23.1 +0.4
TLB Topalu 81.41 344 ⇓iP P 01 53 23.1 +0.4
TIRR Tirgusor 81.47 344 ⇓P P 01 53 23.9 +0.9
TIRR Tirgusor 81.47 344 ⇓iP P 01 53 23.9 +0.9
TCF Toulx Ste Croi 81.49 3 ⇑iP P 01 53 23.2 0.0
comp=Z,10nm,0.6s
TCF Toulx Ste Croi 81.49 3 ⇑iP P 01 53 23.2 0.0
TCF pmax pmax
comp=Z,10.0nm,0.6s
TCF Toulx Ste Croi 81.49 3 ⇑iP P 01 53 23.2 0.0
comp=Z,10nm,0.6s
LPL La Plagne 82.31 359 ⇑iP P 01 53 29.0 +1.2
LPL La Plagne 82.31 359 ⇑iP P 01 53 29.0 +1.2
LPL La Plagne 82.31 359 ⇑iP P 01 53 29.0 +1.2
LPG La Plagne 82.33 359 ⇑iP P 01 53 29.4 +1.4
LPG La Plagne 82.33 359 ⇑iP P 01 53 29.4 +1.4
LPG La Plagne 82.33 359 ⇑iP P 01 53 29.4 +1.4
BNI Bardonecchia 82.78 360 eP P 01 53 29.9 -0.2
BNI pmax pmax
comp=Z,10.0nm,0.8s
BNI Bardonecchia 82.78 360 eP P 01 53 29.9 -0.2
comp=Z,10nm,0.8s
LFF La Frestale 82.79 4 eP P 01 53 30.3 +0.4
comp=Z,7.9nm,0.6s
LFF La Frestale 82.79 4 eP P 01 53 30.3 +0.4
LFF pmax pmax
comp=Z,8.0nm,0.6s
LFF La Frestale 82.79 4 eP P 01 53 30.3 +0.4
comp=Z,7.9nm,0.6s
CAF Calviac 82.85 3 eP P 01 53 31.4 +1.1
CAF Calviac 82.85 3 eP P 01 53 31.4 +1.1
CAF Calviac 82.85 3 eP P 01 53 31.4 +1.1
ORIF Oris-en-Rattie 82.91 0 eP P 01 53 31.6 +0.9
comp=Z,7.5nm,0.7s
ORIF Oris-en-Rattie 82.91 0 eP P 01 53 31.6 +0.9
ORIF pmax pmax
comp=Z,8.0nm,0.7s
ORIF Oris-en-Rattie 82.91 0 eP P 01 53 31.6 +0.9
comp=Z,7.5nm,0.7s
VIVF Saint-Julien-l 82.97 1 eP P 01 53 31.5 +0.6
comp=Z,8.8nm,0.8s
VIVF Saint-Julien-l 82.97 1 eP P 01 53 31.5 +0.6
VIVF pmax pmax
comp=Z,9.0nm,0.8s
VIVF Saint-Julien-l 82.97 1 eP P 01 53 31.5 +0.6
comp=Z,8.8nm,0.8s
KULM Kulim 83.02 270 eP P 01 53 31.7 +0.1
comp=Z,4.9nm,0.6s
MBDF Montbardon 83.10 359 eP P 01 53 32.8 +1.0
comp=Z,12nm,0.7s
MBDF Montbardon 83.10 359 eP P 01 53 32.8 +1.0
MBDF pmax pmax
comp=Z,12nm,0.7s
MBDF Montbardon 83.10 359 eP P 01 53 32.8 +1.0
comp=Z,12nm,0.7s
IPM Ipoh 83.43 269 eP P 01 53 33.2 -0.5
SMRF Simiane la Rot 83.86 0 eP P 01 53 36.8 +1.3
comp=Z,60nm,1.2s
SMRF Simiane la Rot 83.86 0 eP P 01 53 36.8 +1.3
comp=Z,60nm,1.2s
SBF Sospel 83.96 359 eP P 01 53 36.4 +0.3
SBF Sospel 83.96 359 eP P 01 53 36.4 +0.3
SBF Sospel 83.96 359 eP P 01 53 36.4 +0.3
VTS Vitosha 84.08 347 ⇓P P 01 53 36.8 0.0
VTS Vitosha 84.08 347 ⇓iP P 01 53 36.8 0.0
FRF La Foret Royal 84.27 360 eP P 01 53 38.0 +0.5
comp=Z,12nm,0.5s
FRF La Foret Royal 84.27 360 eP P 01 53 38.0 +0.5
FRF pmax pmax
comp=Z,12nm,0.5s
FRF La Foret Royal 84.27 360 eP P 01 53 38.0 +0.5
comp=Z,12nm,0.5s
MTLF Montolieu 84.43 3 eP P 01 53 38.9 +0.5
comp=Z,14nm,0.8s
MTLF Montolieu 84.43 3 eP P 01 53 38.9 +0.5
MTLF pmax pmax
comp=Z,14nm,0.8s
MTLF Montolieu 84.43 3 eP P 01 53 38.9 +0.5
comp=Z,14nm,0.8s
LMR La Mourre 84.50 360 eP P 01 53 39.2 +0.5
comp=Z,11nm,0.7s
LMR La Mourre 84.50 360 eP P 01 53 39.2 +0.5
LMR pmax pmax
comp=Z,11nm,0.7s
LMR La Mourre 84.50 360 eP P 01 53 39.2 +0.5
comp=Z,11nm,0.7s
SJPF Ste Jean 84.51 5 eP P 01 53 39.6 +0.8
comp=Z,9.2nm,0.7s
SJPF Ste Jean 84.51 5 eP P 01 53 39.6 +0.8
SJPF pmax pmax
comp=Z,9.0nm,0.7s
SJPF Ste Jean 84.51 5 eP P 01 53 39.6 +0.8
comp=Z,9.2nm,0.7s
EPF Esparros 84.67 4 eP P 01 53 40.4 +0.8
EPF Esparros 84.67 4 eP P 01 53 40.4 +0.8
EPF Esparros 84.67 4 eP P 01 53 40.4 +0.8
ETSF Etsaut 84.76 5 eP P 01 53 40.7 +0.6
comp=Z,13nm,0.8s
ETSF Etsaut 84.76 5 eP P 01 53 40.7 +0.6
ETSF pmax pmax
comp=Z,13nm,0.8s
ETSF Etsaut 84.76 5 eP P 01 53 40.7 +0.6
comp=Z,13nm,0.8s
WRAB Tennant Creek 84.96 228 eP P 01 53 40.8 -0.3
WRAB pmax pmax
comp=Z,9.0nm,1.4s
WRAB Tennant Creek 84.96 228 eP P 01 53 40.8 -0.3
comp=Z,8.8nm,1.4s
WRA Warramunga Arr 84.97 228 P P 01 53 40.6 -0.6
comp=Z,0.5nm,0.4s,baz=34,slow=5.9,SNR=4.0
MMB Musomiste 85.00 347 ⇓P P 01 53 42.2 +0.9
MMB Musomiste 85.00 347 ⇓iP P 01 53 42.2 +0.9
BR131 Keskin Array S 85.02 339 eP P 01 53 41.7 +0.1
comp=Z,4.9nm,1.1s
BRTR Keskin Array B 85.02 339 ceP P 01 53 42.2 +0.6
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 85.02 339 P P 01 53 41.8 +0.2
comp=Z,3.2nm,0.9s,baz=25,slow=1.3,SNR=13
PGF Pioggiola 85.25 358 eP P 01 53 42.6 0.0
comp=Z,46nm,0.9s
PGF Pioggiola 85.25 358 eP P 01 53 42.6 0.0
PGF pmax pmax
comp=Z,46nm,0.9s
PGF Pioggiola 85.25 358 eP P 01 53 42.6 0.0
comp=Z,46nm,0.9s
AQU L'Aquila 85.26 355 eP P 01 53 42.7 +0.1
AQU pmax pmax
comp=Z,17nm,1.0s
AQU L'Aquila 85.26 355 eP P 01 53 42.7 +0.1
comp=Z,17nm,1.0s
VAY Valandovo 85.42 348 i P P 01 53 43.8 +0.5
BIA Bitola 85.87 348 i P P 01 53 44.9 -0.7
ESDC Sonseca Array 87.74 8 P P 01 53 53.5 -1.2
comp=Z,1.1nm,0.6s,baz=344,slow=5.4,SNR=5.4
TIP Timpagrande 88.17 352 eP P 01 53 56.2 -0.6
comp=Z,9.1nm,1.3s
AS31 Alice Springs 88.41 226 eP P 01 53 57.5 -0.4
ASAR Alice Springs 88.41 226 P P 01 53 58.1 +0.3
comp=Z,1.0nm,0.6s,baz=25,slow=5.0,SNR=17

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
MBWA	Marble Bar	93.15	239	eP	P	01 54 19.6	-0.3
	comp=Z,55nm,1.7s						
TORD	Torodi Ar. Bea	114.47	5	PKP	PKPdf	01 59 44.0	-1.3
	comp=Z,0.5nm,0.4s,baz=342,slow=2.4,SNR=16						
DBIC	Dimbokro	120.29	13	PKIKP	PKPdf	01 59 55.4	-1.0
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DBIC	Dimbokro	120.29	13	PKP	PKPdf	01 59 55.4	-1.0
	comp=Z,0.9nm,0.3s,baz=69,slow=1.6,SNR=6.5						
DBIC	Dimbokro	120.29	13	ePKPdf	PKPdf	01 59 55.7	-0.8
LCO	Las Campanas	120.32	99	ePKPdf	PKPdf	01 59 56.5	+0.2
KMBO	Kilima Mbogo	122.52	322c	iPKIKP	PKPdf	02 00 02.0	+1.0
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KMBO	Kilima Mbogo	122.52	322	PKP	PKPdf	02 00 01.6	+0.6
	comp=Z,1.2nm,0.7s,baz=354,slow=7.9,SNR=4.7						
KMBO	Kilima Mbogo	122.52	322	ePKPdf	PKPdf	02 00 01.3	+0.3
PLCA	Paso Flores	128.50	109	ePKIKP	PKPdf	02 00 11.5	+0.1
PLCA	Paso Flores	128.50	109	ePKPdf	PKPdf	02 00 11.5	+0.1
TSUM	Tsumeb	145.52	340	ePKPbc	PKPbc	02 00 43.3	0.0
LBTB	Lobatse	148.77	324	ePKP2	PKPbc	02 00 52.2	-0.4
LBTB	Lobatse	148.77	324	ePKPbc	PKPbc	02 00 52.2	-0.4
BOSA	Boshof	152.16	322	ePKIKP	PKPbc	02 00 59.7	-0.9
BOSA	Boshof	152.16	322	PKPbc	PKPbc	02 01 00.3	-0.2
	comp=Z,5.6nm,0.4s,baz=40,slow=2.1,SNR=21						
BOSA	Boshof	152.16	322	ePKPbc	PKPbc	02 00 59.7	-0.9

KRSC 05 01:45:09.3±1.0,49.75N×157.16E,h53km±23km,ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
SKR	Severo-Kuril's	1.15	325	P	Pn	01 45 29.9	+0.9
SKR				S	Sn	01 45 44.8	+1.1
MIPR	Malaya Ipel'ka	2.54	355	P	Pn	01 45 51.4	+3.3
ASAK	Asacha	2.68	10	S	Sn	01 46 25.4	+4.0
MTVR	Mutnovka	2.81	13	P	Pn	01 45 55.2	+3.2
MTVR				S	Sn	01 46 28.9	+4.1
RUS	Russkaya	2.82	17	P	Pn	01 45 54.9	+3.1
RUS				S	Sn	01 46 28.1	+3.5
UGLR	Uglovaya	3.62	16	P	Pn	01 46 06.3	+3.4
AVH	Avacha	3.66	15	P	Pn	01 46 06.5	+3.1
AVH				S	Sn	01 46 48.4	+3.0
SMAR	Somma	3.67	16	P	Pn	01 46 06.9	+3.2
KOK	Koryaka	3.67	14	P	Pn	01 46 06.9	+3.3
KOK				S	Sn	01 46 49.0	+3.4
KRER	Koryakskii	3.70	15	P	Pn	01 46 07.6	+3.5
KRER				S	Sn	01 46 50.1	+3.5
KRX	Arik	3.74	14	P	Pn	01 46 07.5	+2.9
KRX				S	Sn	01 46 50.5	+3.1
GNL	Ganaly	3.98	7	P	Pn	01 46 11.8	+3.9
TUMR	Tumrok	5.84	17	P	Pn	01 46 36.6	+3.3

IDC 05 02:01:29.3±1.4,37.16S×177.44E,h0km,mb4.2/2, mb1 4.5/2,mb1mx3.9/2,mbtmp4.2/2,Error ellipse: s-maj=40.9km s-min=20.8km az=91.0
ISCJB 05 02:01:30.7±0.4,39.55S×177.37E±0.05,h47km±5km, mb4.0/2,Error ellipse: s-maj=6.1km s-min=3.3km az=20.7
NEIC 05 02:01:32.1,39.48S×177.28E,h30km,ML4.3(WEL),After WEL.
NEIC Felt at Napier.
WEL 05 02:01:32.1±0.1,39.50S×177.31E,h27km,ML4.3/47,Error ellipse: s-maj=1.1km s-min=0.8km az=90.0
WEL Felt in the Hawke''s Bay region, maximum reported intensity MM 4.
ISC 05 02:01:30.8±1.0,39.52S±0.03×177.36E±0.03,h30km±8km, n176,σ0§82/177,20C-12D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
CKHZ	Cape Kidnapper	0.26	237	⇑P*	Pn	02 01 39.0	+0.3
CKHZ				S*	Sn	02 01 44.4	+0.8
CKHZ	Cape Kidnapper	0.26	237	P*	Pn	02 01 39.0	+0.3
CKHZ				S*	Sn	02 01 44.5	+0.8
WHHZ	Waihua	0.45	348	⇓P*	Pb	02 01 40.4	-0.1
WHHZ				S*	Sb	02 01 47.2	+0.1
KAHZ	Kahuranaki	0.46	233	⇓P*	Pn	02 01 42.6	+1.2
KAHZ				S*	Sn	02 01 51.5	+2.8
KAHZ	Kahuranaki	0.46	233	P*	Pn	02 01 42.7	+1.2
KAHZ				S*	Sn	02 01 51.8	+3.1
MCHZ	McNeill Hill	0.52	278	⇓P*	Pb	02 01 41.6	0.0
MCHZ				S*	Sb	02 01 49.4	+0.5
MCHZ	McNeill Hill	0.52	278	P*	Pb	02 01 41.6	0.0
MCHZ				S*	Sb	02 01 49.4	+0.5
KNZ	Kokohu	0.55	26	P*	Pn	02 01 43.2	+0.5
KNZ	Kokohu	0.55	26	P*	Pn	02 01 43.2	+0.5
MHGZ	Mahia Peninsul	0.56	50	⇓P*	Pn	02 01 44.3	+1.5
NMHZ	Naumai	0.60	314	⇓P*	Pb	02 01 42.4	-0.5
NMHZ				S*	Sb	02 01 50.7	-0.5
NMHZ	Naumai	0.60	314	P*	Pb	02 01 42.4	-0.5
NMHZ				S*	Sb	02 01 50.7	-0.5
RAHZ	Arahi	0.64	341	⇓P*	Pb	02 01 43.4	-0.1
RAHZ	Arahi	0.64	341	P*	Pb	02 01 43.4	-0.1
PXZ	Pawanui	0.64	216	⇑P*	Pn	02 01 44.8	+0.9
PXZ				AML	AML	02 02 01.0	
PXZ				AML	AML	02 02 01.0	
PXZ				AML	AML	02 02 03.5	
PXZ				AML	AML	02 02 03.5	
PXZ	Pawanui	0.64	216	P*	Pn	02 01 44.8	+0.9
PRGZ	Paritu Road	0.72	35	⇓P*	Pn	02 01 46.1	+1.1
PRGZ	Paritu Road	0.72	35	Pn	Pn	02 01 46.1	+1.1
SNGZ	Shannon Statio	0.74	359	⇑P*	Pn	02 01 45.5	+0.3
SNGZ				S*	Sb	02 01 55.2	+0.3
BKZ	Black Stump Fm	0.76	297	P*	Pb	02 01 44.9	-0.6
BKZ				AML	AML	02 01 55.9	
BKZ				AML	AML	02 01 56.0	
BKZ	Black Stump Fm	0.76	297	Pn	Pb	02 01 44.9	-0.6
KRHZ	Kereru	0.77	260	⇑P*	Pn	02 01 46.0	+0.1
RIGZ	Rimuhau	0.87	21	PN	Pb	02 01 47.9	+0.5
WPHZ	Waipukurau	0.89	232	⇑PN	Pb	02 01 48.3	+0.4
WPHZ	Waipukurau	0.89	232	Pn	Pb	02 01 48.3	+0.4
PRHZ	Porangahau	0.93	216	PN	Pb	02 01 48.5	+0.1
PNHZ	Pukenui	0.98	246	PN	Pn	02 01 48.8	+0.3
PNHZ	Pukenui	0.98	246	Pn	Pn	02 01 48.9	+0.3
BHHZ	Black Hill Sta	1.00	271	⇑PN	Pn	02 01 49.1	+0.2
BHHZ	Black Hill Sta	1.00	271	Pn	Pn	02 01 49.1	+0.2
RAGZ	Rawiri	1.02	3	⇑PN	Pn	02 01 49.5	+0.3
ANWZ	Angora Road	1.16	215	PN	Pb	02 01 51.6	-0.7
HATZ	Hinemaiaia	1.17	302	PN	Pn	02 01 51.5	+0.5
HATZ				AML	AML	02 02 11.4	
HATZ				AML	AML	02 02 12.4	
HATZ	Hinemaiaia	1.17	302	Pn	Pn	02 01 51.6	+0.5
MWZ	Matawai	1.19	6	⇑PN	Pn	02 01 51.6	+0.1
MWZ				AML	AML	02 02 19.5	
MWZ				AML	AML	02 02 19.5	
MWZ				AML	AML	02 02 22.6	
MWZ				AML	AML	02 02 22.6	
MWZ	Matawai	1.19	6	Pn	Pn	02 01 51.3	-0.2
DVHZ	Dannevirke	1.20	229	⇑PN	Pn	02 01 52.1	+0.4
DVHZ	Dannevirke	1.20	229	Pn	Pn	02 01 52.1	+0.4
TSZ	Takapari Road	1.20	243	⇓PN	Pn	02 01 51.6	0.0
TSZ				AML	AML	02 02 12.6	
TSZ				AML	AML	02 02 13.3	
TSZ	Takapari Road	1.20	243	Pn	Pn	02 01 51.6	0.0
CNGZ	Carnagh Statio	1.23	33	PN	Pb	02 01 53.0	-0.4
CNGZ	Carnagh Statio	1.23	33	Pn	Pb	02 01 53.0	-0.4
ALRZ	Allen Road	1.24	320	PN	Pn	02 01 52.4	+0.3
ALRZ	Allen Road	1.24	320	Pn	Pn	02 01 52.8	+0.7
MOVZ	Moawhango	1.25	275	⇑PN	Pn	02 01 53.1	+0.8
MOVZ				AML	AML	02 02 18.3	
MOVZ				AML	AML	02 02 19.6	
MOVZ	Moawhango	1.25	275	Pn	Pn	02 01 53.1	+0.8
PRRZ	Plateau Road	1.27	323	⇑PN	Pn	02 01 52.7	+0.2
PRRZ	Plateau Road	1.27	323	Pn	Pn	02 01 52.9	+0.4
URZ	Urewera	1.27	351	⇑PN	Pn	02 01 52.8	+0.3
URZ				AML	AML	02 02 18.7	
URZ				AML	AML	02 02 25.8	
URZ	Urewera	1.27	351	LR	LR	02 01 51.2	
	comp=Z,58nm,20.7s,baz=248,slow=19						
URZ				Pn	Pn	02 01 52.9	+0.3
	209nm,0.3s,baz=211,slow=7.0,SNR=693						
URZ				Sn	Sn	02 02 08.8	+0.3
	258nm,0.3s,baz=218,slow=5.7,SNR=6.0						
URZ	Urewera	1.27	351	Pn	Pn	02 01 52.9	+0.3
URZ				Sn	Sn	02 02 08.8	+0.3
RITZ	Rihia Road	1.28	294	Pn	Pn	02 01 53.4	+0.7
RITZ				AML	AML	02 02 18.5	
RITZ				AML	AML	02 02 19.3	
RITZ	Rihia Road	1.28	294	Pn	Pn	02 01 53.6	+0.9
TUVZ	Tukino	1.34	280	⇑PN	Pn	02 01 54.6	+1.0
TUVZ				AML	AML	02 02 17.9	
TUVZ				AML	AML	02 02 20.5	
TUVZ	Tukino	1.34	280	Pn	Pn	02 01 54.7	+1.0
RRRZ	Republican Roa	1.35	331	PN	Pn	02 01 53.6	-0.1
RRRZ	Republican Roa	1.35	331	Pn	Pn	02 01 53.7	0.0
OTVZ	Oturere	1.36	285	⇑PN	Pn	02 01 54.7	+0.8
OTVZ				AML	AML	02 02 17.2	
OTVZ				AML	AML	02 02 20.9	
OTVZ	Oturere	1.36	285	Pn	Pn	02 01 54.7	+0.8
WNVZ	Wahianoa	1.38	277	⇑PN	Pn	02 01 55.0	+0.9
WNVZ				AML	AML	02 02 17.7	
WNVZ				AML	AML	02 02 22.1	
WNVZ	Wahianoa	1.38	277	Pn	Pn	02 01 55.0	+0.9
WHTZ	Whakaora	1.38	308	PN	Pn	02 01 54.4	+0.3
WHTZ	Whakaora	1.38	308	Pn	Pn	02 01 54.8	+0.6
WHVZ	Whangaehu Hut	1.39	279	PN	Pn	02 01 55.1	+0.7
RATZ	Rangitukua	1.39	297	⇓PN	Pn	02 01 54.6	+0.4
RATZ				AML	AML	02 02 28.6	
RATZ				AML	AML	02 02 38.7	
RATZ	Rangitukua	1.39	297	Pn	Pn	02 01 55.3	+1.1
KRVZ	Karewarewa	1.40	287	PN	Pn	02 01 54.9	+0.6
KRVZ				AML	AML	02 02 21.4	
KRVZ				AML	AML	02 02 23.1	
KRVZ	Karewarewa	1.40	287	Pn	Pn	02 01 55.0	+0.6
KATZ	Kakaramea	1.40	292	PN	Pn	02 01 54.9	+0.5
KATZ				AML	AML	02 02 18.2	
KATZ				AML	AML	02 02 19.2	
KATZ	Kakaramea	1.40	292	Pn	Pn	02 01 55.0	+0.5
HRRZ	Handcock Road	1.40	323	Pn	Pn	02 01 54.5	+0.1
HRRZ	Handcock Road	1.40	323	Pn	Pn	02 01 54.8	+0.4
NGZ	Ngauruhoe	1.40	284	⇑PN	Pn	02 01 55.3	+0.8
NGZ				AML	AML	02 02 17.2	
NGZ				AML	AML	02 02 25.6	
NGZ	Ngauruhoe	1.40	284	Pn	Pn	02 01 55.3	+0.8
DRZ	Dome Shelter	1.41	279	AML	AML	02 02 23.3	
DRZ				AML	AML	02 02 24.4	
DRZ	Dome Shelter	1.41	279	Pn	Pn	02 01 55.7	+0.9
TRVZ	Turoa	1.42	278	PN	Pn	02 01 55.4	+0.7
TRVZ				AML	AML	02 02 17.5	
TRVZ				AML	AML	02 02 22.5	
FWVZ	Far West T-bar	1.42	280	PN	Pn	02 01 55.5	+0.7
FWVZ				AML	AML	02 02 19.5	
FWVZ				AML	AML	02 02 20.1	
FWVZ	Far West T-bar	1.42	280	Pn	Pn	02 01 55.5	+0.7
WTVZ	West Tongariro	1.43	286	PN	Pn	02 01 55.4	+0.6
WTVZ				AML	AML	02 02 22.7	
WTVZ				AML	AML	02 02 22.8	
WTVZ	West Tongariro	1.43	286	Pn	Pn	02 01 55.5	+0.7
WPVZ	Whakapapa	1.44	282	⇑PN	Pn	02 01 55.7	+0.8
WPVZ				AML	AML	02 02 20.5	
WPVZ				AML	AML	02 02 20.9	
WPVZ	Whakapapa	1.44	282	Pn	Pn	02 01 55.8	+0.8
BFZ	Birch Farm	1.44	216	⇓PN	Pn	02 01 55.0	+0.1
BFZ	Birch Farm	1.44	216	Pn	Pn	02 01 55.0	+0.1
COVZ	Chateau Observ	1.44	282	⇑PN	Pn	02 01 55.7	+0.7
TARZ	Mount Tarawera	1.44	332	⇑PN	Pn	02 01 55.2	+0.2
TARZ	Mount Tarawera	1.44	332	Pn	Pn	02 01 55.2	+0.2
MTVZ	Mangateitei	1.47	275	PN	Pn	02 01 56.4	+1.1
MTVZ				AML	AML	02 02 20.8	
MTVZ				AML	AML	02 02 28.5	
MTVZ	Mangateitei	1.47	275	Pn	Pn	02 01 56.4	+1.1
HLRZ	Highlands Stat	1.49	328	PN	Pb	02 01 57.4	-0.5
PRWZ	Pori Road	1.49	225	PN	Pn	02 01 56.2	+0.7
EDRZ	Edgecumbe	1.49	341	PN	Pn	02 01 55.7	0.0
EDRZ				AML	AML	02 02 25.0	
EDRZ				AML	AML	02 02 27.9	
EDRZ	Edgecumbe	1.49	341	Pn	Pn	02 01 55.9	+0.2
WATZ	Wairara	1.50	302	⇓PN	Pn	02 01 55.8	+0.1
WATZ				AML	AML	02 02 12.5	
WATZ				AML	AML	02 02 32.5	
WATZ	Wairara	1.50	302	Pn	Pn	02 01 55.8	+0.1
POWZ	Post Office Ro	1.50	234	PN	Pn	02 01 56.3	+0.6
POWZ	Post Office Ro	1.50	234	Pn	Pn	02 01 56.3	+0.6
MKRZ	Makatiti	1.54	333	PN	Pn	02 01 57.1	+0.8
MKRZ				AML	AML	02 02 11.7	
MKRZ				AML	AML	02 02 12.9	
MKRZ	Makatiti	1.54	333	Pn	Pn	02 01 57.1	+0.8
TWVZ	Taurewa	1.55	286	PN	Pn	02 01 57.1	+0.6
TWVZ				AML	AML	02 02 23.4	
TWVZ				AML	AML	02 02 25.1	
TWVZ	Taurewa	1.55	286	Pn	Pn	02 01 57.1	+0.6
PKVZ	Pokaka	1.57	278	⇑PN	Pn	02 01 57.5	+0.7
PKVZ				AML	AML	02 02 33.9	
PKVZ				AML	AML	02 02 39.6	
PKVZ	Pokaka	1.57	278	Pn	Pn	02 01 57.5	+0.7
OMRZ	Omania	1.60	331	PN	Pn	02 01 57.4	+0.2
PUZ	Puketiti	1.60	26	AML	AML	02 02 37.7	
PUZ				AML	AML	02 02 40.9	
MARZ	Manawahe	1.62	341	Pn	Pn	02 01 57.7	+0.3
CPWZ	Castlepoint	1.65	212	PN	Pn	02 01 58.5	+0.7
TIWZ	Tintock	1.69	221	PN	Pn	02 01 58.4	0.0
TIWZ	Tintock	1.69	221	Pn	Pn	02 01 58.4	0.0
MRZ	Mangatainoka R	1.78	229	⇓PN	Pn	02 01 59.4	-0.2
MRZ				AML	AML	02 02 37.5	
MRZ				AML	AML	02 02 40.2	
MRZ	Mangatainoka R	1.78	229	Pn	Pn	02 01 59.4	-0.2
OPRZ	Ohinepanea	1.78	339	PN	Pn	02 01 59.1	-0.5
OPRZ	Ohinepanea	1.78	339	Pn	Pn	02 01 59.1	-0.5
HAZ	Te Kaha	1.79	11	PN	Pn	02 01 60.0	+0.3
WAZ	Wanganui	1.85	262	AML	AML	02 02 50.8	
WAZ				AML	AML	02 02 53.4	
WAZ	Wanganui	1.85	262	Pn	Pn	02 02 02.1	+1.7
TLZ	Tolley Road	1.85	309	PN	Pn	02 01 60.0	-0.6
TMWZ	Te Maipa	1.94	215	PN	Pn	02 02 01.3	-0.6
TMWZ	Te Maipa	1.94	215	Pn	Pn	02 02 01.3	-0.6
HOWZ	Holdsworth Sta	1.97	225	PN	Pn	02 02 01.9	-0.4
HOWZ	Holdsworth Sta	1.97	225	Pn	Pn	02 02 01.9	-0.4
VRZ	Vera Road	2.05	280	AML	AML	02 02 43.6	
VRZ				AML	AML	02 02 47.5	
VRZ	Vera Road	2.05	280	Pn	Pn	02 02 04.0	+0.7
MXZ	Matakaoa Point	2.09	21	PN	Pn	02 02 03.5	-0.2
MXZ				AML	AML	02 02 57.3	
MXZ				AML	AML	02 02 57.3	
MXZ				AML	AML	02 03 01.2	
MXZ				AML	AML	02 03 01.2	
OGWZ	Otaki Gorge	2.12	232	Pn	Pn	02 02 04.1	-0.2
MTW	Mount Morrison	2.17	220	PN	Pn	02 02 03.9	-1.0
MTW				AML	AML	02 03 02.9	
MTW				AML	AML	02 03 11.5	
MTW	Mount Morrison	2.17	220	Pn	Pn	02 02 03.9	-1.0
HIZ	Hauiti	2.19	296	AML	AML	02 02 46.8	
HIZ				AML	AML	02 02 49.7	
TRWZ	Traveller	2.27	214	AML	AML	02 03 04.1	
TRWZ				AML	AML	02 03 05.0	
TRWZ	Traveller	2.27	214	Pn	Pn	02 02 04.9	-1.4
KIW	Kapiti Island	2.31	234	PN	Pn	02 02 06.7	-0.1
KIW				AML	AML	02 02 59.9	
KIW				AML	AML	02 03 07.3	
KIW	Kapiti Island	2.31	234	Pn	Pn	02 02 06.7	-0.1
CAW	Cannon Point	2.36	227	PN	Pn	02 02 07.2	-0.4
CAW				AML	AML	02 03 02.0	
CAW				AML	AML	02 03 07.5	
CAW	Cannon Point	2.36	227	Pn	Pn	02 02 07.2	-0.4
PAWZ	Paruwai Farm	2.37	218	PN	Pn	02 02 06.9	-0.8
PAWZ				AML	AML	02 03 11.5	
PAWZ				AML	AML	02 03 19.0	
PAWZ	Paruwai Farm	2.37	218	Pn	Pn	02 02 06.9	-0.8
MSWZ	Moikau Station	2.48	220	PN	Pn	02 02 08.1	-1.2
MSWZ				AML	AML	02 03 20.4	
MSWZ				AML	AML	02 03 24.2	
MSWZ	Moikau Station	2.48	220	Pn	Pn	02 02 08.1	-1.2
DFE	Dawson Falls	2.53	273	PN	Pn	02 02 11.3	+1.4
KHEZ	Kahui Hut	2.60	274	PN	Pn	02 02 13.0	+2.1
PLWZ	Palliser	2.60	217	PN	Pn	02 02 09.2	-1.7
BHW	Baring Head	2.68	224	AML	AML	02 03 13.8	
BHW				AML	AML	02 03 15.6	
BHW	Baring Head	2.68	224	Pn	Pn	02 02 10.7	-1.2
SNZO	South Karori	2.70	228	PN	Pn	02 02 11.3	-0.9
SNZO	South Karori	2.70	228	Pn	Pn	02 02 11.3	-0.9
TCW	Tory Channel	2.90	233	PN	Pn	02 02 14.1	-0.8
TCW				AML	AML	02 03 17.8	
TCW				AML	AML	02 03 29.9	
TCW	Tory Channel	2.90	233	Pn	Pn	02 02 14.1	-0.8
DUWZ	D'Urville Isla	2.93	243	PN	Pn	02 02 14.8	-0.6
DUWZ				AML	AML	02 03 09.8	
DUWZ				AML	AML	02 03 22.5	
DUWZ	D'Urville Isla	2.93	243	Pn	Pn	02 02 15.3	-0.1
CMWZ	Cape Campbell	3.27	226	AML	AML	02 03 40.3	
CMWZ				AML	AML	02 03 49.4	
BSWZ	Blackbirch Sta	3.44	229	ePN	Pn	02 02 21.1	-1.3
BSWZ				AML	AML	02 03 41.6	
BSWZ				AML	AML	02 03 48.8	
NNZ	Nelson	3.48	240	AML	AML	02 03 34.2	
NNZ				AML	AML	02 03 34.3	
QRZ	Quartz Range	3.92	249	PN	Pn	02 02 27.7	-1.3
THZ	Tophouse	4.06	235	ePN	Pn	02 02 29.0	-2.0
THZ				AML	AML	02 03 54.2	
THZ				AML	AML	02 04 04.6	
KHZ	Kahutara	4.09	224	AML	AML	02 03 18.3	
LTZ	Lake Taylor	5.04	228	AML	AML	02 04 21.6	
LTZ				AML	AML	02 04 30.2	
MQZ	McQueen's Vall	5.47	219	PN	Pn	02 02 47.9	-2.4
CTZ	Chatham Island	6.17	135	ePN	Pn	02 03 01.1	+1.2
RPZ	Rata Peaks	6.32	226	ePn	Pn	02 03 00.8	-1.1
	16nm,0.4s						
LBZ	Lake Benmore	7.23	225	PN	Pn	02 03 12.2	-2.2
JCZ	Jackson Bay	7.87	232	PN	Pn	02 03 20.4	-2.9
ASAR	Alice Springs	39.84	280	P	P	02 09 01.8	+0.1
	3.2nm,0.8s,baz=128,slow=7.8,SNR=23						
ASAR	Alice Springs	39.84	280	P	P	02 09 01.8	+0.1
WRA	Warramunga Arr	41.67	285	P	P	02 09 16.3	-0.5
	2.0nm,0.5s,baz=122,slow=8.0,SNR=21						
WRA	Warramunga Arr	41.67	285	P	P	02 09 16.3	-0.5
MKAR	Makanchi Array	120.49	307	PKP	PKPdf	02 20 18.6	-0.3
	0.6nm,0.9s,baz=218,slow=1.9,SNR=4.3						
MKAR	Makanchi Array	120.49	307	PKP	PKPdf	02 20 18.6	-0.3
KURK	Kurchatov	124.33	310	PKP	PKPdf	02 20 26.2	+0.1
KURBB	Kurchatov Arra	124.34	310	PKP	PKPdf	02 20 26.2	+0.1
	0.2nm,0.3s,baz=118,slow=1.5,SNR=4.9						
ARCES	ARCESS Array B	146.43	343	PKP	PKPbc	02 21 07.8	+0.1
	2.6nm,0.7s,baz=51,slow=4.2,SNR=15						
ARCES	ARCESS Array B	146.43	343	PKP	PKPbc	02 21 07.8	+0.1
FINES	FINESS Array B	151.86	331	PKPbc	PKPbc	02 21 21.0	-0.7
	1.0nm,0.5s,baz=49,slow=3.8,SNR=11						
FINES	FINESS Array B	151.86	331	PKPbc	PKPbc	02 21 21.0	-0.7
BRTR	Keskin Array B	152.17	282	PKPbc	PKPbc	02 21 23.4	0.0
	0.9nm,0.8s,baz=149,slow=5.8,SNR=4.5						
BRTR	Keskin Array B	152.17	282	PKPbc	PKPbc	02 21 23.4	0.0

DSN 05 02:21:38.2±99.0,36.49N×48.39E,h15km,mb4.4/4, Ms5.0/4,Error ellipse: s-maj=2101.0km s-min=23.5km az=330.0
IDC 05 02:22:49.1±1.0,31.14N×50.09E,h0km,mb4.1/20, mb1 4.1/22,mb1mx4.0/45,mbtmp4.1/22,ML3.8/2,Error ellipse: s-maj=24.9km s-min=14.3km az=170.0
CSEM 05 02:22:50.9±0.2,30.98N×49.99E,h10km,mb4.5/6,Error ellipse: s-maj=6.4km s-min=5.3km az=68.0
ISCJB 05 02:22:50.9±0.2,30.89N±0.02×49.99E±0.03,h30km, mb4.1/25,Error ellipse: s-maj=4.1km s-min=3.5km az=176.7
THR 05 02:22:50.9±0.6,30.96N×50.19E,h18km±14km,ML3.8
TEH 05 02:22:53.1,31.07N×50.19E,h3km,ML3.9
ISC 05 02:22:52.6±0.5,30.98N±0.03×50.14E±0.03,h30km,n113, σ1§35/121,mb4.2/25,9C-9D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
SHGR	Shooshtar-Gavs	1.60	315	ePg	Pb	02 23 21.0	-0.6
SHGR				eSg	Sb	02 23 43.1	+1.7
	2μm,0.8s						
SHGR	Shooshtar-Gavs	1.60	315	ePg	Pb	02 23 21.1	-0.6
SHGR				eSg	Sb	02 23 43.1	+1.7
SHGR				AML	AML	02 23 50.4	
	comp=E,1μm,0.5s						
SHGR				AML	AML	02 23 52.0	
	comp=N,2μm,0.8s						
IPIR	Pirpir	1.82	21	ePn	Pb	02 23 24.1	-1.4
IPIR				e		02 23 50.9	
	comp=Z,19μm,0.2s						
IPIR	Pirpir	1.82	21	ePn	Pb	02 23 24.1	-1.4
IGAR	Gharneh	2.16	48	ePn	Pn	02 23 27.9	+1.1
IGAR				e		02 23 31.2	
	comp=E,661nm,0.0s						
IGAR				eSg	Sb	02 23 57.7	+0.1
SHI	Shiraz	2.45	122	ePn	Pb	02 23 34.5	-1.6
SHI				e		02 24 13.6	
	comp=N,11μm,0.1s						
SHI	Shiraz	2.45	122	ePn	Pb	02 23 34.5	-1.6
IKLH	Kolahrood	2.63	27	ePn	Pn	02 23 35.1	+1.7
IKLH				eSg	Sb	02 24 12.0	+0.6
IKLH				e		02 24 19.1	
	comp=N,8μm,0.3s						
IKLH	Kolahrood	2.63	27	ePn	Pn	02 23 35.1	+1.7
IKLH				eSg	Sb	02 24 12.0	+0.6
IZEF	Zefreh	2.67	44	ePn	Pn	02 23 35.6	+1.7
IZEF				e		02 23 43.9	
	comp=Z,3μm,0.1s						
IZEF	Zefreh	2.67	44	ePn	Pn	02 23 35.6	+1.7
KHMZ	Khomeyn	2.76	357	ePn	Pn	02 23 37.0	+2.0
	comp=Z,178nm,0.5s						
KHMZ	Khomeyn	2.76	357	ePn	Pn	02 23 37.0	+2.0
KHMZ				AML	AML	02 24 27.4	
	comp=E,259nm,0.6s						
KHMZ				AML	AML	02 24 32.1	
	comp=N,178nm,0.5s						
IPAR	Pars	2.76	114	ePn	Pn	02 23 37.4	+2.3
IPAR				e		02 24 31.8	
	comp=E,5μm,0.3s						
IPAR	Pars	2.76	114	ePn	Pn	02 23 37.4	+2.3
NASN	Na'in	2.91	51	ePn	Pn	02 23 38.6	+1.4
NASN	Na'in	2.91	51	ePn	Pn	02 23 38.6	+1.4
QAM	Ghamsar	2.98	21	ePn	Pb	02 23 42.4	-2.9
ISAD	Sadrabad	3.17	72	ePn	Pn	02 23 42.8	+2.0
ISAD				e		02 23 47.8	
	comp=Z,6μm,0.1s						
ISAD	Sadrabad	3.17	72	ePn	Pn	02 23 42.8	+2.0
KFJS		3.38	215	P	Pn	02 23 45.0	+1.7
KFJS		3.38	215	P	Pn	02 23 45.1	+1.7
GHIR	Ghir-Karzin	3.66	137	ePn	Pn	02 23 48.2	+0.9
	comp=Z,241nm,0.7s						
GHIR	Ghir-Karzin	3.66	137	ePn	Pn	02 23 48.2	+0.9
GHIR				AML	AML	02 24 38.8	
	comp=N,169nm,0.4s						
GHIR				AML	AML	02 25 02.0	
	comp=E,241nm,0.7s						
ICHK	Chekchek	3.86	70	ePn	Pn	02 23 51.9	+1.8
ICHK				e		02 23 53.1	
	comp=Z,4μm,0.1s						
ICHK	Chekchek	3.86	70	ePn	Pn	02 23 51.9	+1.8
IMEH	Mehriz	3.86	83	ePn	Pn	02 23 52.1	+1.9
IMEH				e		02 23 58.5	
	comp=Z,1μm,0.1s						
IMEH	Mehriz	3.86	83	ePn	Pn	02 23 52.1	+1.9
IVRN	Varamin	4.22	18	ePn	Pn	02 23 56.6	+1.6
IVRN	Varamin	4.22	18	ePn	Pn	02 23 56.6	+1.6
IBAF	Bafgh	4.69	81	e		02 24 04.8	
	comp=Z,1μm,0.1s						
IBAF				ePn	Pn	02 24 03.3	+1.8
IMHD	Mahdasht	4.71	5	e		02 24 06.8	
	comp=Z,749nm,0.1s						
IMHD				ePn	Pn	02 24 03.2	+1.3
IDMV	Damavand	4.85	19	e		02 24 08.3	
	comp=Z,933nm,0.1s						
IDMV				ePn	Pn	02 24 05.2	+1.3
DAMV	Damavand	4.89	18	ePn	Pn	02 24 05.7	+1.4
DAMV	Damavand	4.89	18	ePn	Pn	02 24 05.7	+1.4
CHTH	Charan	4.99	9	ePn	Pn	02 24 07.2	+1.5
CHTH	Charan	4.99	9	ePn	Pn	02 24 07.2	+1.5
BOQSS		5.13	188	P	Pn	02 24 09.0	+1.5
BOQSS		5.13	188	P	Pn	02 24 08.7	+1.2
IFIR	Firoozkooh	5.14	25	e		02 24 11.5	
	comp=Z,2μm,0.1s						
IFIR				ePn	Pn	02 24 09.3	+1.4
IGZV	Ghazvin	5.39	1	ePn	Pn	02 24 12.5	+1.3
IGZV				e		02 25 20.6	
	comp=Z,434nm,0.3s						
IGZV	Ghazvin	5.39	1	ePn	Pn	02 24 12.5	+1.3
ASYS		6.13	237	P	Pn	02 24 21.0	-0.3
ASYS		6.13	237	S	Sn	02 25 28.1	-2.4
ASYS		6.13	237	P	Pn	02 24 20.7	-0.6
SLWS		6.17	176	P	Pn	02 24 23.0	+1.2
SLWS				S	Sn	02 25 31.0	-0.4
SLWS		6.17	176	P	Pn	02 24 22.9	+1.2
BTHS		6.94	175	P	Pn	02 24 33.0	+0.8
BTHS				S	Sn	02 25 50.0	-0.1
BTHS		6.94	175	S	Sn	02 25 49.9	-0.2
BTHS		6.94	175	P	Pn	02 24 32.8	+0.6
BANOM	Banah	7.40	131	P	Pn	02 24 38.1	-0.6

SNR=54
FAQ Al Faqa, Dubai 7.87 141 P Pn 02 24 46.3 +1.3
SNR=7.7
FAQ Al Faqa, Dubai 7.87 141 ⇓iP Pn 02 24 46.3 +1.3
SNR=7.7
HATD Hatta, Dubai 8.10 138 P Pn 02 24 48.9 +0.6
HATD Hatta, Dubai 8.10 138 ⇓P Pn 02 24 48.9 +0.6
ASHO Ashiyiah 8.17 139 ⇑P Pn 02 24 48.9 -0.3
SNR=49
ARQ Araqi 9.50 142 ⇓P Pn 02 25 07.4 0.0
JMDO Jabal Madar 11.14 138 P Pn 02 25 31.5 +1.6
SNR=10.0
ASF Jabal al Asfar 11.36 279 Pn Pn 02 25 31.5 -1.4
comp=Z,1.1nm,0.3s,baz=24,slow=3.9,SNR=14
ASF Sn Sn 02 27 35.1 -3.7
comp=Z,0.4nm,0.3s,baz=122,slow=17,SNR=1.8
BRTR Keskin Array B 16.02 307 Pn Pn 02 26 36.0 +0.1
comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=23
AKTO Aktyubinsk 20.31 15 P P 02 27 25.5 -0.5
comp=Z,2.8nm,0.5s,baz=205,slow=9.2,SNR=12
IDI Anoyia 21.55 288 P P 02 27 41.0 +1.3
comp=Z,4.9nm,0.5s,baz=118,slow=7.1,SNR=13
CFR Carcaliu 22.28 316 ⇑iP P 02 27 45.8 -1.5
CFR Carcaliu 22.28 316 ⇑iP P 02 27 45.8 -1.5
MLR Muntele Rosu 23.77 314 ⇓iP P 02 28 04.8 +2.2
MLR Muntele Rosu 23.77 314 P P 02 28 04.5 +1.8
comp=Z,0.4nm,0.4s,baz=3.2,slow=11,SNR=9.0
MLR Muntele Rosu 23.77 314 ⇓iP P 02 28 04.8 +2.2
VOIR 24.30 314 ⇑iP P 02 28 09.0 +1.5
VOIR 24.30 314 ⇑iP P 02 28 09.0 +1.5
AKASG Malin Array Be 25.11 328 P P 02 28 14.1 -0.5
comp=Z,0.7nm,0.3s,baz=126,slow=7.3,SNR=9.4
BURAR Bucovina Array 25.29 318 ⇑iP P 02 28 16.9 +0.5
BURAR Bucovina Array 25.29 318 ⇑iP P 02 28 16.9 +0.5
GZR Gura Zlata 25.72 312 ⇑iP P 02 28 20.4 +0.1
GZR Gura Zlata 25.72 312 ⇑iP P 02 28 20.4 +0.1
OBN Obninsk 25.99 342 P P 02 28 22.1 -0.4
comp=Z,6.8nm,0.4s,baz=312,slow=19,SNR=3.3
DRGR 26.37 315 ⇓iP P 02 28 27.2 +1.0
DRGR 26.37 315 ⇓iP P 02 28 27.2 +1.0
BVAR Borovoye Array 26.50 28 P P 02 28 27.8 +0.6
comp=Z,2.3nm,0.7s,baz=227,slow=7.1,SNR=15
BZS Buzias 26.56 311 ⇓iP P 02 28 25.6 -2.2
BZS Buzias 26.56 311 ⇓iP P 02 28 25.6 -2.2
KURBB Kurchatov Arra 28.82 39 P P 02 28 48.4 +0.4
comp=Z,0.4nm,0.2s,baz=241,slow=9.5,SNR=7.2
MKAR Makanchi Array 29.34 48 P P 02 28 53.5 +0.8
comp=Z,0.5nm,0.4s,baz=243,slow=8.3,SNR=11
GERES GERESS Array B 32.76 314 P P 02 29 22.4 -0.5
comp=Z,0.3nm,0.4s,baz=95,slow=11,SNR=2.6
ZALV Zalesovo Beam 33.84 37 P P 02 29 32.1 0.0
comp=Z,1.0nm,0.5s,baz=256,slow=9.2,SNR=6.1
JOF Joensuu 34.16 345 *e*P P 02 29 33.6 -1.2
comp=Z,3.6nm,0.5s
JOF Joensuu 34.16 345 *e*P P 02 29 33.6 -1.2
comp=Z,3.6nm,0.5s
FINES FINESS Array B 34.31 340 P P 02 29 35.3 -0.8
comp=Z,2.1nm,0.4s,baz=149,slow=11,SNR=28
KAF Kangasniemi 34.77 341 *e*P P 02 29 38.8 -1.3
comp=Z,1.7nm,0.4s
KAF Kangasniemi 34.77 341 *e*P P 02 29 38.8 -1.3
comp=Z,1.7nm,0.4s
LPG La Plagne 36.57 306 *e*P P 02 29 56.0 -0.1
comp=Z,7.9nm,0.7s
LPG La Plagne 36.57 306 *e*P P 02 29 56.0 -0.1
comp=Z,7.0nm,0.7s
HINF Hinteralfeld 36.89 310 *e*P P 02 29 57.1 -1.4
HINF Hinteralfeld 36.89 310 *e*P P 02 29 57.1 -1.4
CABF La Chapelle 37.19 308 *e*P P 02 30 00.7 -0.5
comp=Z,17nm,0.8s
CABF La Chapelle 37.19 308 *e*P P 02 30 00.7 -0.5
comp=Z,16nm,0.8s
SMF Signal de Mont 38.73 307 *e*P P 02 30 12.9 -1.1
comp=Z,15nm,0.8s
SMF Signal de Mont 38.73 307 *e*P P 02 30 12.9 -1.1
comp=Z,14nm,0.8s
SSF Saint Saulge 39.01 308 *e*P P 02 30 16.8 +0.4
SSF Saint Saulge 39.01 308 *e*P P 02 30 16.8 +0.4
NB2 NORSAR Subarra 39.41 331 P P 02 30 18.2 -1.3
comp=Z,0.9nm,0.5s,baz=124,slow=8.6
NB2 NORSAR Subarra 39.41 331 P P 02 30 18.2 -1.3
comp=Z,0.9nm,0.5s,SNR=5.3
NOA NORSAR Array B 39.41 331 P P 02 30 18.3 -1.3
comp=Z,0.9nm,0.6s,baz=124,slow=8.4,SNR=5.1
ARCES ARCESS Array B 41.06 347 P P 02 30 33.1 +0.1
comp=Z,4.1nm,1.1s,baz=150,slow=11,SNR=6.1
GRR Gorron 42.09 309 *e*P P 02 30 41.1 -0.6
GRR Gorron 42.09 309 *e*P P 02 30 41.1 -0.6
CMAR Chiang Mai Arr 45.73 94 P P 02 31 12.4 +1.1
comp=Z,1.4nm,0.3s,baz=290,slow=10,SNR=4.7
TORD Torodi Ar. Bea 47.87 259 P P 02 31 28.9 +0.8
comp=Z,1.3nm,0.6s,baz=58,slow=7.2,SNR=11
DBIC Dimbokro 56.73 257 P P 02 32 35.9 +1.9
comp=Z,3.1nm,0.8s,baz=19,slow=5.3,SNR=5.2
KSRS Korea Array 62.95 61 P P 02 33 16.8 +0.4
comp=Z,1.1nm,0.5s,baz=277,slow=7.9,SNR=3.5
SEY Seymchan 68.15 29 P P 02 33 50.4 +0.8
comp=Z,1.4nm,0.6s,baz=272,slow=8.7,SNR=3.7
SCHQ Schefferville 78.91 328 P P 02 34 52.7 -0.3
comp=Z,0.9nm,0.3s,baz=56,slow=7.3,SNR=12
ILAR Eielson Array 83.64 7 P P 02 35 17.5 -0.4
comp=Z,0.6nm,0.6s,baz=321,slow=4.2,SNR=14
YKA Yellowknife Ar 86.05 353 P P 02 35 29.8 -0.2
comp=Z,0.4nm,0.6s,baz=16,slow=5.2,SNR=9.7

ROM 05 02:36:09.5±0.2, 44.37N×7.25E, h14km±2km, Md2.8/16, Ml3.0/11, Error ellipse: s-maj=2.7km s-min=1.4km az=50.0
ISCJB 05 02:36:10.0±0.2, 44.37N±0.01×7.26E±0.02, h22km±2km, Error ellipse: s-maj=2.1km s-min=1.8km az=13.8
STR 05 02:36:10.8±0.1, 44.35N×7.25E, h5km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
VIE 05 02:36:10.4±0.6, 44.43N×7.27E, h10km, mb2.6/4, ML2.9/5, Error ellipse: s-maj=5.5km s-min=2.9km az=18.0 76 km SSW of Turin
LDG 05 02:36:10.4±0.1, 44.35N×7.35E, h2km, Md2.3/3, Ml3.3/40, Error ellipse: s-maj=2.4km s-min=1.9km az=78.0
GEN 05 02:36:10.1, 44.35N×7.25E, h12km, ML2.9
CSEM 05 02:36:10.0±0.1, 44.39N×7.28E, h10km, ML3.5/36, Error ellipse: s-maj=1.8km s-min=1.5km az=79.0
ISC 05 02:36:10.1±0.8, 44.38N±0.01×7.27E±0.01, h15km±4km, n168, σ1.09/313, 4C-2D, Northern Italy

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DOI San Damiano 0.13 352 Pg Pg 02 36 14.0 +0.1
DOI Sg Sg 02 36 16.3 -0.1
7μm,0.2s
DOI San Damiano 0.13 352 Pg Pg 02 36 14.0 +0.1
DOI Sg Sg 02 36 16.3 -0.1
7μm,0.2s
STV Sant Anna di V 0.14 163 Pg Pg 02 36 13.4 -0.5
STV Sg Sg 02 36 15.4 -1.0
4μm,0.1s
STV Sant Anna di V 0.14 163 Pg Pg 02 36 13.4 -0.5
STV Sg Sg 02 36 15.4 -1.0
4μm,0.1s
PZZ Stroppo 0.17 320 Pg Pg 02 36 14.4 -0.1
PZZ Sg Sg 02 36 17.1 -0.3
4μm,0.3s
PZZ Stroppo 0.17 320 P Pg 02 36 14.4 -0.1
PZZ S Sg 02 36 17.1 -0.3
SURF Saint Ours 0.34 288 Pg Pg 02 36 17.1 -0.2
SURF Sg Sg 02 36 22.2 0.0
SURF Saint Ours 0.34 288 Pg Pg 02 36 17.1 -0.2
SURF Sg Sg 02 36 22.2 0.0
TOUF Mont Tournerai 0.36 183 Pg Pg 02 36 17.2 -0.4
TOUF Sg Sg 02 36 21.8 -0.9
TOUF Mont Tournerai 0.36 183 Pg Pg 02 36 17.2 -0.4
TOUF Sg Sg 02 36 21.8 -0.9
AUTN L'Aution 0.40 163 Pg Pg 02 36 18.1 -0.1
AUTN Sg Sg 02 36 23.1 -0.6
AUTN L'Aution 0.40 163 Pg Pg 02 36 18.1 -0.1
AUTN Sg Sg 02 36 23.1 -0.6
BHB Bricherasio 0.47 359 Pg Pg 02 36 19.0 -0.4
BHB Sg Sg 02 36 25.1 -0.6
BHB Bricherasio 0.47 359 P Pg 02 36 19.0 -0.4
BHB Sg Sg 02 36 25.1 -0.6
LUCF Luceram 0.49 174 Pg Pg 02 36 19.6 -0.2
LUCF Sg Sg 02 36 26.1 -0.2
LUCF Luceram 0.49 174 Pg Pg 02 36 19.6 -0.2
LUCF Sg Sg 02 36 26.1 -0.2
MVIF Mont Vial 0.49 190 Pg Pg 02 36 19.6 -0.2
MVIF Sg Sg 02 36 26.1 -0.3
MVIF Mont Vial 0.49 190 Pg Pg 02 36 19.6 -0.2
MVIF Sg Sg 02 36 26.1 -0.3
MBDF Montbardon 0.50 315 *e*Pg Pg 02 36 20.0 -0.1
MBDF *e*Sg Sg 02 36 26.9 0.0
1μm,0.3s
MBDF Montbardon 0.50 315 *e*Pg Pg 02 36 20.0 -0.1
MBDF *e*Sg Sg 02 36 26.9 0.0
562nm,0.3s
OG22 Abries 0.50 333 Pg Pb 02 36 21.7 +1.0
OG22 Sg Sb 02 36 28.6 +0.6
OG22 Abries 0.50 333 Pg Pb 02 36 21.7 +1.0
OG22 Sg Sb 02 36 28.6 +0.6
SBF Sospel 0.53 167 *e*Pg Pg 02 36 20.3 -0.2
SBF *e*Sg Sg 02 36 27.2 -0.3
852nm,0.3s
SBF Sospel 0.53 167 *e*Pg Pg 02 36 20.3 -0.2
SBF *e*Sg Sg 02 36 27.2 -0.3
426nm,0.3s
NEGI Seborga 0.61 149 P Pg 02 36 21.9 -0.2
NEGI S Sg 02 36 29.6 -0.7
RORO Rocca Rossa 0.63 114 Pg Pg 02 36 22.3 -0.1
RORO Sg Sg 02 36 30.6 -0.2
690nm,0.2s
RORO Rocca Rossa 0.63 114 Pg Pg 02 36 22.3 -0.1
RORO S Sg 02 36 30.2 -0.6
RORO Sg Sg 02 36 30.6 -0.2
690nm,0.2s
REVF Revere 0.64 174 Pg Pb 02 36 23.3 +0.4
REVF Sg Sg 02 36 31.3 +0.2
REVF Revere 0.64 174 Pg Pb 02 36 23.3 +0.4
REVF Sg Sg 02 36 31.3 +0.2
CALN Calern 0.68 204 Pg Pg 02 36 23.3 -0.1
CALN Sg Sg 02 36 32.5 0.0
CALN Calern 0.68 204 Pg Pg 02 36 23.3 -0.1
CALN Sg Sg 02 36 32.5 0.0
QLNO Quiliano 0.77 93 Pg Pg 02 36 25.1 0.0
QLNO Sg Sg 02 36 35.2 -0.1
375nm,0.3s
QLNO Quiliano 0.77 93 Pg Pg 02 36 25.1 0.0
QLNO Sg Sg 02 36 35.2 -0.1
375nm,0.3s
RSP Reno Superiore 0.77 360 Pg Pg 02 36 23.9 -1.3
RSP Sg Sg 02 36 34.8 -0.6
RSP Reno Superiore 0.77 360 P Pg 02 36 23.9 -1.3
RSP S Sg 02 36 33.8 -1.6
RSP Sg Sg 02 36 34.8 -0.6
FINB Finale Ligure 0.78 104 Pg Pg 02 36 25.1 -0.2
FINB Sg Sg 02 36 35.3 -0.3
1μm,0.3s
FINB Finale Ligure 0.78 104 Pg Pg 02 36 25.1 -0.2
FINB Sg Sg 02 36 35.3 -0.3
1μm,0.3s
BNI Bardonecchia 0.80 328 Pg Pg 02 36 25.5 -0.1
BNI Sg Sg 02 36 35.1 -1.1
98nm,0.6s
BNI Bardonecchia 0.80 328 Pg Pg 02 36 25.5 -0.1
BNI Sg Sg 02 36 35.1 -1.1
98nm,0.6s
MONC Moncucco Torin 0.84 34 Pg Pg 02 36 26.4 0.0
MONC Sg Sg 02 36 36.7 -0.8
614nm,0.4s
MONC Moncucco Torin 0.84 34 Pg Pg 02 36 26.4 0.0
MONC Sg Sg 02 36 36.7 -0.8
614nm,0.4s
ROTM Rocchetta Tana 0.91 58 P Pb 02 36 28.3 +0.8
ROTM S Sb 02 36 40.2 +0.9
PCP Piancastagn 0.93 79 Pg Pg 02 36 27.8 -0.2
PCP Sg Sg 02 36 40.3 +0.1
241nm,0.3s
PCP Piancastagn 0.93 79 P Pg 02 36 27.8 -0.2
PCP S Sg 02 36 39.7 -0.5
PCP Sg Sg 02 36 40.3 +0.1
241nm,0.3s
FRF La Foret Royal 0.93 209 *e*Pg Pg 02 36 27.3 -0.8
FRF *e*Sg Sg 02 36 38.8 -1.5
581nm,0.2s
FRF La Foret Royal 0.93 209 *e*Pg Pg 02 36 27.3 -0.8
FRF *e*Sg Sg 02 36 38.8 -1.5
290nm,0.2s
ORIF Oris-en-Rattie 1.13 299 *e*Pg Pb 02 36 31.2 -0.2
ORIF *e*Sg Sb 02 36 45.8 -0.1
340nm,0.4s
ORIF Oris-en-Rattie 1.13 299 *e*Pg Pb 02 36 31.2 -0.2
ORIF *e*Sg Sb 02 36 45.8 -0.1
170nm,0.4s
GDM Grand'Maison 1.17 316 Pg Pb 02 36 32.3 +0.3
GDM Grand'Maison 1.17 316 Pg Pb 02 36 32.3 +0.3
LMR La Mourre 1.18 208 *e*Pg Pn 02 36 31.7 -0.2
LMR *e*Sg Sb 02 36 46.6 -0.5
764nm,0.2s
LMR La Mourre 1.18 208 *e*Pg Pn 02 36 31.7 -0.2
LMR *e*Sg Sb 02 36 46.6 -0.5
382nm,0.2s
LPG La Plagne 1.18 342 *e*Pg Pn 02 36 32.0 -0.3
LPG *e*Sg Sb 02 36 47.2 -0.3
134nm,0.3s
LPG La Plagne 1.18 342 *e*Pg Pn 02 36 32.0 -0.3
LPG *e*Sg Sb 02 36 47.2 -0.3
67nm,0.3s
TRAV Traversella 1.19 16 Pg Pn 02 36 30.5 -1.7
TRAV Sg Sb 02 36 47.2 -0.3
66nm,0.4s
TRAV Traversella 1.19 16 Pg Pn 02 36 30.5 -1.7
TRAV Sg Sb 02 36 47.2 -0.3
66nm,0.4s
LPL La Plagne 1.20 342 *e*Pg Pn 02 36 32.3 -0.2
LPL *e*Sg Sb 02 36 48.2 +0.1
94nm,0.3s
LPL La Plagne 1.20 342 *e*Pg Pn 02 36 32.3 -0.2
LPL *e*Sg Sb 02 36 48.2 +0.1
47nm,0.3s
SMRF Simiane la Rot 1.28 252 *e*Pg Pb 02 36 34.4 +0.5
SMRF *e*Sg Sn 02 36 50.9 +0.5
479nm,0.4s
SMRF Simiane la Rot 1.28 252 *e*Pg Pb 02 36 34.4 +0.5
SMRF *e*Sg Sn 02 36 50.9 +0.5
240nm,0.4s
GRN Grenoble 1.39 309 Pg Pg 02 36 37.0 +0.2
GRN Sg Sg 02 36 56.2 +1.3
GRN Grenoble 1.39 309 Pg Pg 02 36 37.0 +0.2
GRN Sg Sg 02 36 56.2 +1.3
RSL Roselend 1.39 341 Pg Pg 02 36 37.1 +0.2
RSL Roselend 1.39 341 Pg Pg 02 36 37.1 +0.2
MRGE Morge 1.40 354 Pg Pn 02 36 34.9 -0.3
MRGE Morge 1.40 354 Pg Pn 02 36 34.9 -0.3
OG26 St.-Nazaire-De 1.42 279 Pg Pg 02 36 37.6 +0.1
OG26 St.-Nazaire-De 1.42 279 Pg Pg 02 36 37.6 +0.1
SC2M Scurtabo 1.62 88 Pg Pn 02 36 37.7 -0.4
181nm,1.0s
SC2M Scurtabo 1.62 88 Pg Pn 02 36 37.7 -0.4
181nm,1.0s
VARE Varese 1.83 35 Pg Pn 02 36 41.5 +0.4
VARE Varese 1.83 35 Pg Pn 02 36 41.5 +0.4
VIVF Saint-Julien-l 1.92 285 *e*Pn Pn 02 36 43.2 +1.0
VIVF *e*Sn Sn 02 37 06.7 +0.7
VIVF *e*Sg Sg 02 37 12.1 +0.4
111nm,0.3s
VIVF Saint-Julien-l 1.92 285 *e*Pn Pn 02 36 43.2 +1.0
VIVF *e*Sn Sn 02 37 06.7 +0.7
VIVF *e*Sg Sg 02 37 12.1 +0.4
56nm,0.3s
SSB Saint Sauveur 2.14 296 Pn Pn 02 36 46.5 +1.2
SSB Saint Sauveur 2.14 296 Pn Pn 02 36 46.5 +1.2
PGF Pioggiola 2.22 145 *e*Pn Pn 02 36 45.4 -1.0
PGF *e*Sn Sn 02 37 11.2 -2.3
21nm,0.2s
PGF Pioggiola 2.22 145 *e*Pn Pn 02 36 45.4 -1.0
PGF *e*Sn Sn 02 37 11.2 -2.3
10nm,0.2s
GSCL Gusciola 2.38 89 Pg Pn 02 36 49.8 +1.3
42nm,1.1s
CABF La Chapelle 2.39 340 *e*Pn Pn 02 36 49.9 +1.2
CABF *e*Sn Sn 02 37 17.8 +0.1
CABF *e*Sg Sg 02 37 26.8 0.0
30nm,0.5s
CABF La Chapelle 2.39 340 *e*Pn Pn 02 36 49.9 +1.2
CABF *e*Sn Sn 02 37 17.8 +0.1
CABF *e*Sg Sg 02 37 26.8 0.0
15nm,0.5s
PII Pisa 2.44 104 Pg Pn 02 36 48.9 -0.3
12nm,0.2s
LASF Ste Croix 2.47 264 *e*Pn Pn 02 36 50.1 +0.3
LASF *e*Sn Sn 02 37 19.5 -0.2
31nm,0.3s
LASF Ste Croix 2.47 264 *e*Pn Pn 02 36 50.1 +0.3
LASF *e*Sn Sn 02 37 19.5 -0.2
15nm,0.3s
MAGA Magasa 2.76 58 Pg Pn 02 36 53.8 0.0
SEI Scarperia 2.96 95 Pg Pn 02 36 57.5 +1.1
LBL Lubilhac 2.99 288 Pn Pn 02 36 57.8 +0.9
LBL Lubilhac 2.99 288 Pn Pn 02 36 57.8 +0.9
LOMF Lomont 2.99 354 Pn Pn 02 36 58.1 +1.1
LOMF Lomont 2.99 354 Pn Pn 02 36 58.1 +1.1
PLDF La Plantade 3.03 303 Pn Pn 02 36 58.0 +0.5
PLDF La Plantade 3.03 303 Pn Pn 02 36 58.0 +0.5
BBS Basel-Blauen 3.09 3 Pn Pn 02 36 59.1 +0.8
SMF Signal de Mont 3.31 314 *e*Pn Pn 02 37 02.7 +1.4
SMF *e*Sn Sn 02 37 40.0 -0.4
SMF *e*Sg Sg 02 37 55.6 -0.8
16nm,0.3s
SMF Signal de Mont 3.31 314 *e*Pn Pn 02 37 02.7 +1.4
SMF *e*Sn Sn 02 37 40.0 -0.4
SMF *e*Sg Sg 02 37 55.6 -0.8
7.8nm,0.3s
PYM Petit Puy Mans 3.32 296 Pn Pn 02 37 02.6 +1.1
PYM Petit Puy Mans 3.32 296 Pn Pn 02 37 02.6 +1.1
AGO Saint Agoulin 3.37 301 Pn Pn 02 37 02.6 +0.5
AGO Saint Agoulin 3.37 301 Pn Pn 02 37 02.6 +0.5
DAVA Damuels 3.44 31 ⇓iPn Pn 02 37 03.6 +0.4
DAVA ⇑iSn Sn 02 37 45.3 +1.7
HINF Hinteralfeld 3.45 355 *e*Pn Pn 02 37 03.8 +0.5
HINF *e*Sn Sn 02 37 43.3 -0.6
5.5nm,0.2s
MOF Molkenrain 3.48 358 Pn Pn 02 37 04.0 +0.3
FETA Feichten 3.59 41 ⇑iPn Pn 02 37 05.4 +0.2
FETA ⇑iSn Sn 02 37 48.9 +1.5
AVF Avril sur Loir 3.66 313 *e*Pn Pn 02 37 07.7 +1.6
AVF *e*Sg Sg 02 38 06.5 -1.1
9.3nm,0.4s
AVF Avril sur Loir 3.66 313 *e*Pn Pn 02 37 07.7 +1.6
AVF *e*Sg Sg 02 38 06.5 -1.1
4.7nm,0.4s
HAU Haudompre 3.69 350 *e*Pn Pn 02 37 06.7 +0.2
HAU *e*Sn Sn 02 37 48.8 -0.8
25nm,0.3s
SJAF Saint Jean de 3.71 241 P Pn 02 37 07.0 +0.2
11nm,0.2s,SNR=7.9
SJAF S Sn 02 37 52.9 +2.6
11nm,0.3s,SNR=7.9
EJON La Jonquera 3.73 240 P Pn 02 37 07.4 +0.3
3.0nm,0.2s,SNR=7.9
EJON S Sn 02 37 51.7 +1.0
1.9nm,0.3s,SNR=7.9
LOR Lormes 3.75 322 *e*Pn Pn 02 37 09.1 +1.8
LOR *e*Sn Sn 02 37 50.6 -0.6
LOR *e*Sg Sg 02 38 09.4 -1.0
11nm,0.4s
LOR Lormes 3.75 322 *e*Pn Pn 02 37 09.1 +1.8
LOR *e*Sn Sn 02 37 50.6 -0.6
LOR *e*Sg Sg 02 38 09.4 -1.0
5.3nm,0.4s
CAF Calviac 3.76 280 *e*Pn Pn 02 37 08.6 +1.2
CAF *e*Sn Sn 02 37 50.6 -0.8
13nm,0.4s
CAF Calviac 3.76 280 *e*Pn Pn 02 37 08.6 +1.2
CAF *e*Sn Sn 02 37 50.6 -0.8
6.7nm,0.4s
SSF Saint Saulge 3.76 317 *e*Pn Pn 02 37 09.1 +1.6
SSF *e*Sn Sn 02 37 50.8 -0.7
SSF *e*Sg Sg 02 38 09.8 -1.1
15nm,0.5s
SSF Saint Saulge 3.76 317 *e*Pn Pn 02 37 09.1 +1.6
SSF *e*Sn Sn 02 37 50.8 -0.7
SSF *e*Sg Sg 02 38 09.8 -1.1
7.6nm,0.5s
MTLF Montolieu 3.80 256 *e*Pn Pn 02 37 08.4 +0.4
MTLF *e*Sn Sn 02 37 51.3 -1.1
17nm,0.3s
MTLF Montolieu 3.80 256 *e*Pn Pn 02 37 08.4 +0.4
MTLF *e*Sn Sn 02 37 51.3 -1.1
8.6nm,0.3s
BGF Bois d'Agland 3.80 307 *e*Pn Pn 02 37 09.6 +1.6
BGF *e*Sn Sn 02 37 51.9 -0.5
31nm,0.5s
BGF Bois d'Agland 3.80 307 *e*Pn Pn 02 37 09.6 +1.6
BGF *e*Sn Sn 02 37 51.9 -0.5
15nm,0.5s
ECH Echery 3.84 359 Pn Pn 02 37 09.0 +0.4
ECH Echery 3.84 359 Pn Pn 02 37 09.0 +0.4
THEF They Montfort 3.95 347 Pn Pn 02 37 11.3 +1.2
THEF They Montfort 3.95 347 Pn Pn 02 37 11.3 +1.2
CDF Champ du Feu 4.04 0 *e*Pn Pn 02 37 11.5 +0.1
CDF *e*Sn Sn 02 37 57.2 -1.2
7.3nm,0.2s
CDF Champ du Feu 4.04 0 *e*Pn Pn 02 37 11.5 +0.1
CDF *e*Sn Sn 02 37 57.2 -1.2
3.7nm,0.2s
TCF Toulx Ste Croi 4.05 300 *e*Pn Pn 02 37 12.3 +0.8
TCF *e*Sn Sn 02 37 57.6 -1.0
TCF *e*Sg Sg 02 38 18.7 -1.3
3.8nm,0.3s
TCF Toulx Ste Croi 4.05 300 *e*Pn Pn 02 37 12.3 +0.8
TCF *e*Sn Sn 02 37 57.6 -1.0
TCF *e*Sg Sg 02 38 18.7 -1.3
1.9nm,0.3s
SFTF Sexfontaines 4.13 339 *e*Pn Pn 02 37 12.9 +0.3
SFTF *e*Sn Sn 02 37 59.6 -1.0
13nm,0.3s
SFTF Sexfontaines 4.13 339 *e*Pn Pn 02 37 12.9 +0.3
SFTF *e*Sn Sn 02 37 59.6 -1.0
6.5nm,0.3s
RJF Les Rejaudoux 4.20 285 *e*Pn Pn 02 37 13.4 -0.1
RJF *e*Sn Sn 02 38 01.0 -1.2
RJF *e*Sg Sg 02 38 23.3 -1.5
7.6nm,0.3s
RJF Les Rejaudoux 4.20 285 *e*Pn Pn 02 37 13.4 -0.1
RJF *e*Sn Sn 02 38 01.0 -1.2
RJF *e*Sg Sg 02 38 23.3 -1.5
3.8nm,0.3s
WTTA Wattenberg 4.20 45 ⇑iPn Pn 02 37 14.3 +0.6
WTTA ⇓iSn Sn 02 38 04.2 +1.6
WTTA Wattenberg 4.20 45 Pn Pn 02 37 14.3 +0.6
WTTA Sn Sn 02 38 04.2 +1.6
CLLI Llivia 4.30 246 P Pn 02 37 16.3 +1.3
0.7nm,0.1s,SNR=7.9
CLLI S Sn 02 38 06.0 +1.1
0.6nm,0.2s,SNR=7.9
PAGF Fort de Pagny 4.32 346 *e*Pn Pn 02 37 15.6 +0.5
PAGF *e*Sn Sn 02 38 03.8 -1.3
3.4nm,0.3s
PAGF Fort de Pagny 4.32 346 *e*Pn Pn 02 37 15.6 +0.5
PAGF *e*Sn Sn 02 38 03.8 -1.3
1.7nm,0.3s
HYF Humbligny 4.34 313 *e*Pn Pn 02 37 17.6 +2.1
HYF *e*Sn Sn 02 38 04.6 -1.2
CFON Fontmartina 4.40 235 P Pn 02 37 16.3 0.0
3.9nm,0.2s,SNR=7.9
CFON S Sn 02 38 07.9 +0.6
12nm,0.2s,SNR=7.9
MEZF Maizieres J'vi 4.40 340 *e*Pn Pn 02 37 16.8 +0.5
MEZF *e*Sn Sn 02 38 06.1 -1.1
11nm,0.3s
MEZF Maizieres J'vi 4.40 340 *e*Pn Pn 02 37 16.8 +0.5
MEZF *e*Sn Sn 02 38 06.1 -1.1
5.6nm,0.3s
LFF La Frestale 4.69 279 *e*Pn Pn 02 37 21.6 +1.3
LFF *e*Sn Sn 02 38 13.0 -1.4
LFF *e*Sg Sg 02 38 38.5 -2.2
11nm,0.5s
LFF La Frestale 4.69 279 *e*Pn Pn 02 37 21.6 +1.3
LFF *e*Sn Sn 02 38 13.0 -1.4
LFF *e*Sg Sg 02 38 38.5 -2.2
5.5nm,0.5s
EMIR Miracle 4.87 242 P Pn 02 37 23.7 +0.9
0.4nm,0.2s,SNR=7.9
EMIR S Sn 02 38 21.6 +2.7
1.8nm,0.4s,SNR=7.9
CSOR Sort 4.90 248 P Pn 02 37 25.5 +2.3
0.4nm,0.4s,SNR=7.9
CSOR S Sn 02 38 22.7 +3.0
SNR=7.9
EPF Esparros 5.20 257 *e*Pn Pn 02 37 27.6 +0.3
EPF *e*Sn Sn 02 38 25.0 -2.0
EPF *e*Sg Sg 02 38 54.3 -2.7
6.6nm,0.3s
EPF Esparros 5.20 257 *e*Pn Pn 02 37 27.6 +0.3
EPF *e*Sn Sn 02 38 25.0 -2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EPF				eSg	Sg	02 38 54.3	-2.7
	3.3nm,0.3s						
MFF	**Saint Martin d**	**5.67**	**296**	ePn	**Pn**	**02 37 35.3**	**+1.6**
MFF				eSn	**Sn**	**02 38 36.4**	**-2.1**
	2.6nm,0.4s						
MFF	**Saint Martin d**	**5.67**	**296**	ePn	**Pn**	**02 37 35.3**	**+1.6**
ETSF	**Etsaut**	**5.87**	**258**	ePn	**Pn**	**02 37 37.4**	**+0.9**
ETSF				eSn	**Sn**	**02 38 40.8**	**-2.8**
	14nm,0.6s						
ETSF	**Etsaut**	**5.87**	**258**	ePn	**Pn**	**02 37 37.4**	**+0.9**
ATE	**Arette**	**5.92**	**260**	P	**Pn**	**02 37 39.5**	**+2.4**
	0.8nm,0.2s,SNR=7.9						
ATE				S	**Sn**	**02 38 48.0**	**+3.4**
	0.5nm,0.1s,SNR=7.9						
GIVF	**Givet**	**5.97**	**345**	ePn	**Pn**	**02 37 37.6**	**-0.1**
GIVF				eSn	**Sn**	**02 38 43.4**	**-2.3**
	1.5nm,0.2s						
GIVF	**Givet**	**5.97**	**345**	ePn	**Pn**	**02 37 37.6**	**-0.1**
BAIF	**Baives**	**6.06**	**341**	ePn	**Pn**	**02 37 39.1**	**+0.1**
BAIF				eSn	**Sn**	**02 38 45.5**	**-2.4**
	1.3nm,0.3s						
BAIF	**Baives**	**6.06**	**341**	ePn	**Pn**	**02 37 39.1**	**+0.1**
ERTA	**Horta de San J**	**6.15**	**239**	P	**Pn**	**02 37 42.6**	**+2.3**
	0.5nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**02 38 51.4**	**+1.0**
	0.4nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**6.36**	**259**	P	**Pn**	**02 37 45.8**	**+2.5**
	0.3nm,0.3s,SNR=7.9						
IELO				S	**Sn**	**02 38 57.4**	**+1.7**
	0.2nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**6.40**	**259**	P	**Pn**	**02 37 46.8**	**+3.0**
	0.8nm,0.2s,SNR=7.9						
IEPA				S	**Sn**	**02 38 58.5**	**+1.9**
	0.2nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**6.46**	**263**	P	**Pn**	**02 37 45.3**	**+0.8**
	0.1nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**6.49**	**262**	P	**Pn**	**02 37 45.6**	**+0.7**
	0.5nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**6.55**	**260**	P	**Pn**	**02 37 47.6**	**+1.7**
	0.1nm,0.2s,SNR=7.9						
IUSE				S	**Sn**	**02 39 01.6**	**+1.2**
	0.9nm,0.2s,SNR=7.9						
LDF	**La Druitiere**	**6.62**	**312**	ePn	**Pn**	**02 37 48.7**	**+2.0**
LDF				eSn	**Sn**	**02 38 59.1**	**-2.8**
	1.1nm,0.2s						
LDF	**La Druitiere**	**6.62**	**312**	ePn	**Pn**	**02 37 48.7**	**+2.0**
GRR	**Gorron**	**6.91**	**308**	ePn	**Pn**	**02 37 50.9**	**+0.3**
GRR				eSn	**Sn**	**02 39 05.8**	**-3.1**
	1.6nm,0.3s						
GRR	**Gorron**	**6.91**	**308**	ePn	**Pn**	**02 37 50.9**	**+0.3**
FLN	**La Foliniere**	**6.91**	**312**	ePn	**Pn**	**02 37 52.6**	**+1.9**
FLN				eSn	**Sn**	**02 39 06.1**	**-2.9**
	2.2nm,0.3s						
FLN	**La Foliniere**	**6.91**	**312**	ePn	**Pn**	**02 37 52.6**	**+1.9**
EIBI	**Ibiza**	**6.94**	**222**	P	**Pn**	**02 37 52.8**	**+1.6**
	0.2nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**02 39 08.9**	**-1.0**
	0.7nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**9.09**	**268**	P	**Pn**	**02 38 21.6**	**+1.0**
	0.2nm,0.1s,SNR=7.9						

*IDC **05** 02:48:02.9±1.6, 5°.42N×126°.22E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.7/36, mbtmp4.0/7, MS3.2/3, Ms1 3.3/3, ms1mx2.7/37, Error ellipse: s-maj=225.2km s-min=18.7km az=67.0*
*ISCJB **05** 02:48:06.8±0.5, 5°.09N±0°.05×125°.7E±0°.1, h35km, mb4.1/11, MS3.2/3, Error ellipse: s-maj=14.4km s-min=7.1km az=0.4*
*NEIC **05** 02:48:09.6±3.0, 5°.28N×125°.99E, h47km±26km, mb4.3/4, Error ellipse: s-maj=36.0km s-min=6.5km az=57.0*
*MAN **05** 02:48:10, 5°.22N×126°.39E, h42km, mb4.9, ML3.8, MS3.8*
ISC 05 02:48:08.8±0.7, 5°.15N±0°.08×125°.9E±0°.1, h35km, n24, σ1°.03/20, mb4.2/11, MS3.0/3, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.83**	**12**	eP	**Pn**	**02 48 39.3**	**+1.6**
MATI				eS	**Sn**	**02 49 00.3**	**+0.7**
BUKP	**Musuan**	**2.84**	**343**	eP	Pn	02 48 56.2	+4.5
BIPH	**Bislig**	**3.06**	**9**	iS	Sn	02 49 34.6	+4.6
PAGZ	**Pagadian**	**3.66**	**317**	eP	Pn	02 49 11.8	+8.2
KKM	**Kota Kinabalu**	**9.67**	**276**	ePn	**Pn**	**02 50 27.3**	**+1.7**
COEN	**Coen**	**25.58**	**138**	eP	**P**	**02 53 34.5**	**-0.4**
WRAB	**Tennant Creek**	**26.27**	**162**	eP	**P**	**02 53 41.6**	**+0.5**
	9.8nm,1.1s						
WRA	**Warramunga Arr**	**26.28**	**162**	P	**P**	**02 53 41.8**	**+0.6**
	1.1nm,0.6s,baz=343,slow=10,SNR=12						
PSI	**Prapat**	**27.00**	**266**	LR	LR	03 06 53.8	
	comp=Z,38nm,18.2s,baz=34,slow=41						
CMAR	**Chiang Mai Arr**	**29.45**	**299**	LR	LR	03 06 29.3	
	comp=Z,22nm,19.8s,baz=62,slow=37						
ASAR	**Alice Springs**	**29.69**	**165**	P	**P**	**02 54 12.1**	**+0.5**
	0.3nm,0.6s,baz=345,slow=6.7,SNR=2.0						
STKA	**Stephens Creek**	**39.74**	**159**	P	**P**	**02 55 39.1**	**+1.0**
	2.4nm,0.8s,baz=309,slow=6.1,SNR=3.6						
MK31	**Makanchi Array**	**55.92**	**325**	eP	**P**	**02 57 42.9**	**-0.5**
MKAR	**Makanchi Array**	**55.92**	**325**	P	**P**	**02 57 43.0**	**-0.4**
	0.9nm,0.7s,baz=123,slow=7.6,SNR=18						
MKAR				PcP	**PcP**	**02 58 41.0**	**-0.8**
	0.8nm,0.8s,baz=127,slow=4.4,SNR=4.1						
TKM2	**Tokmak 2**	**58.14**	**318**	eP	**P**	**02 57 59.0**	**-0.3**
	14nm,1.6s						
ZALV	**Zalesovo Beam**	**58.95**	**333**	P	**P**	**02 58 04.2**	**-0.4**
	0.7nm,0.6s,baz=123,slow=7.1,SNR=2.5						
KURK	**Kurchatov**	**60.10**	**327**	eP	**P**	**02 58 11.6**	**-1.0**
	1.9nm,0.9s						
BRVK	**Borovoye**	**65.75**	**327**	eP	**P**	**02 58 49.0**	**-1.1**
	2.1nm,0.7s						
ABKAR	**Akbulak array**	**70.53**	**321**	eP	**P**	**02 59 19.4**	**-0.7**
ARCES	**ARCESS Array B**	**88.84**	**340**	P	**P**	**03 00 57.9**	**-1.1**
	5.8nm,1.1s,baz=82,slow=7.5,SNR=1.4						
FINES	**FINESS Array B**	**90.20**	**332**	P	**P**	**03 01 03.3**	**-2.1**
	1.2nm,1.0s,baz=64,slow=6.3,SNR=1.5						
NOA	**NORSAR Array B**	**97.15**	**334**	LR	LR	03 47 48.9	
	comp=Z,26nm,19.5s,baz=40,slow=37						
TOA0	**Torodi Ar. Sit**	**121.68**	**289**	ePKPdf	**PKPdf**	**03 06 59.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**121.68**	**289**	PKP	**PKPdf**	**03 06 59.2**	**-0.8**
	0.5nm,1.0s,baz=53,slow=2.1,SNR=3.5						

IDC 05 02:55:33.0±3.7, 8°.27S×156°.62E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/29, mbtmp3.5/3, Error ellipse: s-maj=102.6km s-min=44.2km az=103.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.49**	**239**	P	P	03 00 54.2	-0.1
	0.4nm,0.6s,baz=68,slow=9.6,SNR=6.5						
STKA	**Stephens Creek**	**27.33**	**209**	P	P	03 01 20.1	+0.4
	1.9nm,0.9s,baz=20,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**85.42**	**318**	P	P	03 08 12.3	-0.3
	0.2nm,0.6s,baz=95,slow=5.3,SNR=2.1						

IDC 05 03:15:28.0±1.9, 16°.83S×178°.86W, h521km±29km, mb3.2/7, mb1 3.6/8, mb1mx3.2/36, mbtmp4.1/8, Error ellipse: s-maj=84.9km s-min=12.8km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.42**	**68**	P	P	03 17 17.5	-1.8
	7.6nm,0.3s,baz=60,slow=7.3,SNR=7.3						
STKA	**Stephens Creek**	**38.78**	**240**	P	P	03 22 07.8	0.0
	3.1nm,0.7s,baz=111,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**44.41**	**259**	P	P	03 22 52.6	+0.2
	1.1nm,0.5s,baz=97,slow=5.9,SNR=50						
ASAR	**Alice Springs**	**44.68**	**253**	P	P	03 22 54.8	+0.3
	12nm,0.6s,baz=88,slow=8.0,SNR=177						
ASAR				S	S	03 28 51.4	-1.6
	1.0nm,0.9s,baz=87,slow=16,SNR=7.6						
ILAR	**Eielson Array**	**84.94**	**13**	P	P	03 27 07.2	-0.2
	0.4nm,0.4s,baz=227,slow=5.0,SNR=13						
TXAR	**Lajitas Array**	**85.79**	**58**	P	P	03 27 13.0	+0.5
	0.2nm,0.6s,baz=193,slow=5.1,SNR=3.8						
PDAR	**Pinedale Array**	**86.87**	**44**	P	P	03 27 16.6	-0.8
	0.5nm,0.7s,baz=241,slow=2.5,SNR=4.1						
YKA	**Yellowknife Ar**	**93.54**	**25**	P	P	03 27 47.2	-0.4
	0.3nm,0.6s,baz=246,slow=4.6,SNR=8.5						
GERES	**GERESS Array B**	**146.46**	**345**	PKPbc	PKPbc	03 34 10.6	-0.1
	0.5nm,0.8s,baz=10,slow=1.5,SNR=3.5						
DAVOX	**Davos/Dischmat**	**149.27**	**348**	PKPbc	PKPbc	03 34 18.0	0.0
	baz=198,slow=3.2						

IDC 05 03:31:19.6±2.7, 7°.66S×118°.97E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/33, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=234.4km s-min=28.5km az=52.0, Flores Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.26**	**131**	P	P	03 35 45.0	-1.0
	0.2nm,0.3s,baz=302,slow=12,SNR=20						
ASAR	**Alice Springs**	**21.42**	**140**	P	P	03 36 10.2	+0.8
	1.0nm,0.5s,baz=316,slow=10.0,SNR=14						
MKAR	**Makanchi Array**	**63.26**	**333**	P	P	03 41 50.0	-0.1
	0.1nm,0.6s,baz=126,slow=7.3,SNR=2.4						

IDC 05 03:33:34.0±2.0, 1°.78N×126°.63E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/31, mbtmp3.6/3, Error ellipse: s-maj=171.4km s-min=23.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.87**	**161**	P	P	03 38 39.0	-0.4
	1.2nm,0.5s,baz=340,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.26**	**165**	P	P	03 39 11.6	+0.3
	0.3nm,0.4s,baz=352,slow=13,SNR=6.6						
MKAR	**Makanchi Array**	**59.10**	**326**	P	P	03 43 36.2	-0.1
	0.3nm,0.3s,baz=119,slow=7.9,SNR=11						

*MOS **05** 03:52:09.7±0.8, 36°.58N×70°.91E, h178km, mb4.3/16, Error ellipse: s-maj=11.3km s-min=5.8km az=99.7*
*ISCJB **05** 03:52:09.9±0.2, 36°.54N±0°.02×70°.96E±0°.04, h188km, mb4.2/27, Error ellipse: s-maj=4.5km s-min=2.9km az=154.4*
*BJI **05** 03:52:09.1, 36°.74N×70°.72E, h181km, mB4.7/7, mb4.5/9*
*IDC **05** 03:52:10.6±2.2, 36°.51N×70°.99E, h182km±20km, mb3.7/11, mb1 3.8/14, mb1mx3.5/43, mbtmp4.2/14, Error ellipse: s-maj=13.6km s-min=12.3km az=34.0*
*NEIC **05** 03:52:10.7±0.7, 36°.62N×70°.84E, h171km±7km, mb4.4/13, Error ellipse: s-maj=10.7km s-min=7.6km az=128.0*
*NNC **05** 03:52:14.3±2.5, 36°.90N×70°.85E, h188km±26km, mb3.3, mpv4.6, Error ellipse: s-maj=22.1km s-min=15.3km az=5.0*
ISC 05 03:52:11.1±0.4, 36°.56N±0°.04×71°.00E±0°.04, h188km, n140, σ1°.83/174, mb4.2/27, 14C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.57**	**219**	ePN	**Pn**	**03 52 53.4**	**-1.9**
KBL	**Kabul**	**2.57**	**219**	ePn	**Pn**	**03 52 53.4**	**-1.9**
KBL				eSn	**Sn**	**03 53 24.9**	**-4.7**
CEP	**Cherat**	**2.83**	**164**	⇑P	**Pn**	**03 52 58.1**	**-0.1**
CEP				S	**Sn**	**03 53 33.0**	**-2.0**
CHCP	**Chirah Chowk**	**3.44**	**147**	⇑P	**Pn**	**03 53 05.8**	**+0.3**
THW	**Thamme Wali**	**3.81**	**171**	P	**Pn**	**03 53 09.5**	**-0.6**
SARP	**Sargodha**	**4.83**	**163**	P	**Pn**	**03 53 21.8**	**-1.2**
SARP				S	**Sn**	**03 54 14.0**	**-5.6**
KSH	**Kashi**	**4.91**	**52**	P	Pn	03 53 20.0	-4.1
KSH				S	Sn	03 54 10.3	-11
KSH				smax	smax		
	comp=N,440nm,0.5s						
KSH				smax	smax		
	comp=E,210nm,0.6s						
DLH	**Dalhousie**	**5.73**	**133**	eP	**Pn**	**03 53 34.0**	**-0.9**
DLH				eS	**Sn**	**03 54 37.0**	**-3.9**
AML	**Almayashu**	**5.94**	**20**	P	**Pn**	**03 53 37.3**	**-0.4**
	SNR=96						
DHRM	**DHARAMSHALA**	**6.14**	**133**	eP	**Pn**	**03 53 39.7**	**-0.5**
DHRM				eS	**Sn**	**03 54 46.8**	**-3.6**
DHRM				AML	AML	03 54 48.9	
	comp=N,946nm,0.8s						
DHRM				AML	AML	03 54 49.4	
	comp=E,940nm,0.2s						
PONG	**Pong**	**6.16**	**137**	eS	**Sn**	**03 54 45.5**	**-5.0**
UCH	**Uchtor**	**6.28**	**25**	P	**Pn**	**03 53 41.8**	**-0.4**
	SNR=19						
KZA	**Kyzart**	**6.42**	**30**	P	**Pn**	**03 53 43.1**	**-0.8**
	SNR=7.6						
EKS2	**Erkin-Say**	**6.46**	**19**	ePN	**Pn**	**03 53 43.8**	**-0.4**
EKS2				pmax	pmax		
	comp=Z,12nm,0.5s						
EKS2	**Erkin-Say**	**6.46**	**19**	P	**Pn**	**03 53 44.1**	**-0.1**
	SNR=12						
EKS2	**Erkin-Say**	**6.46**	**19**	ePn	**Pn**	**03 53 43.8**	**-0.4**
	comp=Z,12nm,0.5s						
EKS2				eSn	**Sn**	**03 54 52.9**	**-4.9**
KK31	**Karatay Array**	**6.55**	**357**	⇓P	**Pn**	**03 53 44.4**	**-0.9**
	comp=Z,43nm,0.6s,baz=187,slow=13,SNR=576						
KK31				⇑S	**Sn**	**03 54 54.8**	**-4.9**
	comp=Z,39nm,0.3s						
KK31	**Karatay Array**	**6.55**	**357**	i PN	**Pn**	**03 53 44.2**	**-1.0**
KK31				pmax	pmax		
	comp=Z,20nm,0.2s						
KKAR	**Karatay Array**	**6.55**	**357**	ePN	**Pn**	**03 53 44.0**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,32nm,0.3s						
KKAR	**Karatay Array**	**6.55**	**357**	ePn	**Pn**	**03 53 44.0**	**-1.2**
	comp=Z,32nm,0.3s						
KKAR				eSn	**Sn**	**03 54 54.5**	**-5.2**
AAK	**Ala-Archa**	**6.64**	**23**	⇑P	**Pn**	**03 53 46.5**	**0.0**
	comp=Z,14nm,0.5s						
AAK				⇑S	**Sn**	**03 55 00.5**	**-1.6**
	comp=Z,51nm,0.6s						
AAK	**Ala-Archa**	**6.64**	**23**	PN	**Pn**	**03 53 46.6**	**0.0**
AAK				S	**Sn**	**03 54 59.9**	**-2.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
AAK				smax	smax		
	comp=N,2.0nm,0.3s						
AAK	**Ala-Archa**	**6.64**	**23**	P	**Pn**	**03 53 46.7**	**+0.1**
	SNR=18						
AAK	**Ala-Archa**	**6.64**	**23**	P	**Pn**	**03 53 46.6**	**0.0**
	comp=N,5.8nm,0.3s,baz=179,slow=5.9,SNR=64						
AAK				S	**Sn**	**03 54 59.9**	**-2.2**
	comp=N,2.0nm,0.3s,baz=203,slow=24,SNR=3.6						
AAK	**Ala-Archa**	**6.64**	**23**	ePn	**Pn**	**03 53 46.3**	**-0.3**
	comp=N,22nm,0.6s						
AAK				eSn	**Sn**	**03 55 00.0**	**-2.1**
KBK	**Karagaybulak**	**6.81**	**25**	P	**Pn**	**03 53 49.4**	**+0.6**
	SNR=21						
BHK	**Bhakra**	**6.82**	**137**	eS	**Sn**	**03 55 01.5**	**-4.8**
ULHL	**Ulahol**	**6.98**	**34**	P	**Pn**	**03 53 50.9**	**-0.2**
	SNR=6.3						
CHMS	**Chumysh**	**7.05**	**23**	P	**Pn**	**03 53 51.3**	**-0.5**
	SNR=22						
SDNR	**Sundarnagar**	**7.07**	**134**	eP	**Pn**	**03 53 50.6**	**-1.6**
SDNR				eS	Sn	03 55 05.6	-6.7
USP	**Ospenovka**	**7.22**	**21**	P	**Pn**	**03 53 53.3**	**-0.7**
	SNR=9.4						
TKM2	**Tokmak 2**	**7.27**	**28**	⇓P	**Pn**	**03 53 54.7**	**-0.2**
	comp=N,41nm,0.9s						
TKM2				⇓S	**Sn**	**03 55 14.6**	**-2.5**
	comp=N,18nm,0.8s						
TKM2	**Tokmak 2**	**7.27**	**28**	PN	**Pn**	**03 53 54.3**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,22nm,0.6s						
TKM2	**Tokmak 2**	**7.27**	**28**	P	**Pn**	**03 53 55.0**	**+0.1**
	SNR=26						
TKM2	**Tokmak 2**	**7.27**	**28**	ePn	**Pn**	**03 53 54.8**	**-0.2**
	comp=Z,43nm,0.8s						
DDI	**Dehra Dun**	**8.57**	**135**	eP	**Pn**	**03 54 12.2**	**+0.3**
DDI				eS	**Sn**	**03 55 43.1**	**-4.8**
DDI				AML	AML	03 55 44.2	
	comp=N,289nm,0.4s						
DDI				AML	AML	03 55 46.5	
	comp=E,330nm,0.4s						
NDI	**New Delhi**	**9.44**	**145**	eP	**Pn**	**03 54 21.0**	**-2.2**
NDI				eS	Sn	03 56 00.0	-8.6
PYUN	**Piuthan**	**13.18**	**126**	eP	**Pn**	**03 55 09.2**	**-2.2**
	comp=E,88nm,0.3s						
MK31	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**03 55 12.2**	**+0.4**
	comp=E,2.0nm,0.7s,baz=221,slow=14,SNR=13						
MK31	**Makanchi Array**	**13.24**	**36**	eP	**Pn**	**03 55 12.2**	**+0.4**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**13.24**	**36**	ePn	**Pn**	**03 55 10.9**	**-0.9**
MKAR	**Makanchi Array**	**13.24**	**36**	cePP	**P**	**03 55 13.5**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**03 55 12.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=224,slow=14,SNR=11						
DANN	**Dangsing**	**13.52**	**124**	eP	**Pn**	**03 55 14.3**	**-1.5**
	comp=Z,40nm,0.5s						
KOLN	**Koldanda**	**13.80**	**126**	eP	**Pn**	**03 55 18.1**	**-1.1**
	comp=Z,22nm,0.2s						
GKN	**Gorkha**	**14.34**	**123**	eP	**Pn**	**03 55 24.9**	**-0.9**
	comp=Z,63nm,0.4s						
BHPL	**Bhopal**	**14.39**	**156**	eP	**P**	**03 55 28.1**	**+0.1**
BHPL				ex	x	03 57 56.2	
WMQ	**Urumqi**	**14.66**	**55**	eP	**P**	**03 55 30.5**	**-0.4**
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,150nm,3.8s						
DMN	**Daman**	**14.90**	**123**	eP	**P**	**03 55 33.3**	**-0.7**
	comp=Z,79nm,0.7s						
KKN	**Kakani**	**14.91**	**122**	eP	**P**	**03 55 33.0**	**-0.9**
	comp=Z,70nm,0.8s						
AB31	**Akbulak array**	**15.03**	**331**	P	**Pn**	**03 55 32.5**	**-1.5**
	comp=Z,2.4nm,0.3s,baz=147,slow=11,SNR=158						
AB31	**Akbulak array**	**15.03**	**331**	eP	**Pn**	**03 55 32.5**	**-1.5**
AB31				S	Sn	03 58 08.0	-14
AB31				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AB31				smax	smax		
	comp=N,1.0nm,0.3s						
ABKAR	**Akbulak array**	**15.03**	**331**	ePn	**Pn**	**03 55 32.2**	**-1.8**
	comp=N,5.1nm,0.3s						
ABKAR				eS	Sn	03 58 07.8	-14
KURBB	**Kurchatov Arra**	**15.07**	**19**	⇑P	**Pn**	**03 55 32.4**	**-1.9**
	comp=N,2.1nm,0.5s						
KURBB	**Kurchatov Arra**	**15.07**	**19**	P	**Pn**	**03 55 34.5**	**+0.1**
	comp=N,0.3nm,0.3s,baz=210,slow=11,SNR=5.9						
PKIN	**Phulchoki**	**15.12**	**122**	eP	**P**	**03 55 35.8**	**-0.6**
	comp=N,31nm,0.3s						
PKI	**Pulchoki**	**15.14**	**122**	eP	**P**	**03 55 36.2**	**-0.4**
	comp=N,124nm,0.7s						
KURK	**Kurchatov**	**15.18**	**19**	⇑P	**Pn**	**03 55 35.2**	**-0.5**
	comp=N,1.3nm,1.0s						
KURK	**Kurchatov**	**15.18**	**19**	eP	**Pn**	**03 55 35.5**	**-0.2**
KURK	**Kurchatov**	**15.18**	**19**	ePn	**Pn**	**03 55 35.5**	**-0.2**
GUN	**Gumba**	**15.25**	**120**	eP	**P**	**03 55 37.6**	**-0.2**
	comp=N,28nm,0.5s						
JIRN	**Jiri**	**15.62**	**120**	eP	**P**	**03 55 41.8**	**-0.1**
	comp=N,74nm,0.4s						
VOSK	**Vostochnaya**	**16.16**	**360**	⇑P	**Pn**	**03 55 47.1**	**-0.2**
	comp=N,5.7nm,1.3s						
RAMN	**Ramite**	**16.35**	**121**	eP	**Pn**	**03 55 50.1**	**-0.3**
	comp=N,36nm,0.5s						
BVA0	**Borovoye Array**	**16.47**	**359**	⇓P	**Pn**	**03 55 52.2**	**+0.8**
	comp=N,6.3nm,1.2s,baz=206,slow=38,SNR=5.2						
BVA0	**Borovoye Array**	**16.47**	**359**	P	**P**	**03 55 46.4**	**-4.3**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BVAR	**Borovoye Array**	**16.47**	**359**	P	**Pn**	**03 55 51.5**	**+0.1**
BVAR				S	**S**	**03 58 51.1**	**-1.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**16.47**	**359**	P	**Pn**	**03 55 51.5**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=159,slow=11,SNR=14						
BVAR				S	**S**	**03 58 51.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=165,slow=24,SNR=3.6						
BRVK	**Borovoye**	**16.51**	**358**	c iP	**Pn**	**03 55 51.6**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**16.51**	**358**	eP	**Pn**	**03 55 51.7**	**0.0**
	comp=Z,5.0nm,0.8s						
AKTO	**Aktyubinsk**	**16.73**	**330**	P	**Pn**	**03 55 54.5**	**0.0**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.73**	**330**	P	**Pn**	**03 55 54.5**	**0.0**
	comp=Z,2.7nm,0.3s,baz=142,slow=11,SNR=48						
TAPN	**Taplejung**	**16.87**	**118**	eP	**Pn**	**03 55 58.3**	**+1.5**
	comp=Z,17nm,0.4s						
ODAN	**Odare**	**16.95**	**120**	eP	**Pn**	**03 55 58.9**	**+1.3**
	comp=Z,31nm,0.6s						
LSA	**Lhasa**	**18.19**	**106**	eP	**Pn**	**03 56 13.6**	**+1.2**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LSA	**Lhasa**	**18.19**	**106**	eP	**Pn**	**03 56 13.6**	**+1.2**
	comp=Z,4.5nm,0.6s						
ZAA0	**Zalesovo Array**	**19.86**	**25**	eP	**P**	**03 56 28.4**	**+0.9**
ZALV	**Zalesovo Beam**	**19.86**	**25**	P	**P**	**03 56 28.6**	**+1.1**
ZALV				S	**S**	**04 00 00.7**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**19.86**	**25**	P	**P**	**03 56 28.6**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=222,slow=11,SNR=38						
ZALV				S	**S**	**04 00 00.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=220,slow=21,SNR=4.0						
NVS	**Novosibirsk**	**20.13**	**21**	eP	**P**	**03 56 27.8**	**-2.5**
SHL	**Shillong**	**20.93**	**116**	eP	Pn	03 56 52.6	+7.3
ARU	**Arti**	**21.58**	**341**	c iP	**P**	**03 56 46.2**	**+0.5**
ARU				pmax	pmax		
	comp=Z,15nm,1.2s						
ARU	**Arti**	**21.58**	**341**	eP	**P**	**03 56 46.1**	**+0.5**
	comp=Z,16nm,1.1s						
KBZ	**Khabaz**	**22.57**	**297**	P	**P**	**03 56 55.6**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBZ	**Khabaz**	**22.57**	**297**	P	**P**	**03 56 55.5**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=123,slow=8.7,SNR=6.5						
VSR	**Storozhevoye**	**26.96**	**313**	eP	**P**	**03 57 34.8**	**-0.1**
CD2	**Chengdu**	**27.73**	**92**	P	**P**	**03 57 45.2**	**+3.1**
CD2				pP	**pP**	**03 58 20.3**	**-0.2**
CD2				sP	**sP**	**03 58 40.3**	**-1.9**
CD2				PP	**PnPn**	**03 58 42.1**	**+2.8**
CD2				PcP	**PcP**	**04 00 57.1**	**+3.2**
CD2				S	**S**	**04 02 14.0**	**+3.4**
CD2				sS	**sS**	**04 03 16.1**	**-2.9**
CD2				SS	**SnSn**	**04 03 50.1**	**+3.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.4s						
OBN	**Obninsk**	**29.89**	**319**	eP	**P**	**03 58 00.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.48**	**119**	ceP	**P**	**03 58 09.1**	**+2.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.48**	**119**	P	**P**	**03 58 07.6**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=298,slow=8.6,SNR=6.4						
CSS	**Prodhromos**	**30.48**	**278**	eP	**P**	**03 58 07.5**	**+1.2**
	comp=Z,12nm,1.3s						
HHC	**Hu-ho-hao-te**	**31.74**	**70**	eP	**P**	**03 58 20.0**	**+2.6**
HHC				pP	**pP**	**03 59 00.4**	**+4.2**
HHC				sP	**sP**	**03 59 15.1**	**-2.7**
HHC				PP	**PP**	**03 59 32.7**	**-0.2**
HHC				S	**S**	**04 03 15.1**	**+1.8**
HHC				sS	**sS**	**04 04 20.0**	**-2.0**
HHC				SS	**SnSn**	**04 05 21.5**	**-2.8**
HHC				pmax	pmax		
	comp=Z,27nm,1.0s						
HHC				pmax	pmax		
	comp=Z,260nm,5.2s						
GYA	**Guiyang**	**31.87**	**98**	eP	P	03 58 22.2	+3.5
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKASG	**Malin Array Be**	**32.91**	**309**	ceP	**P**	**03 58 27.8**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKASG	**Malin Array Be**	**32.91**	**309**	P	**P**	**03 58 27.9**	**+0.6**
	comp=Z,3.0nm,0.6s,baz=81,slow=7.3,SNR=35						
AKBB	**Malin Array Si**	**32.91**	**309**	eP	**P**	**03 58 27.4**	**+0.1**
AKBB	**Malin Array Si**	**32.91**	**309**	eP	**P**	**03 58 27.4**	**+0.1**
AK02	**Malin Array Si**	**32.91**	**309**	eP	**P**	**03 58 27.8**	**+0.4**
AK01	**Malin Array Si**	**32.91**	**309**	eP	**P**	**03 58 27.7**	**+0.3**
KIEV	**Kiev**	**32.92**	**309**	eP	**P**	**03 58 27.5**	**+0.1**
KIEV	**Kiev**	**32.92**	**309**	eP	**P**	**03 58 27.5**	**+0.1**
	comp=Z,6.2nm,0.6s						
JOF	**Joensuu**	**35.82**	**330**	eP	**P**	**03 58 52.8**	**+0.7**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JOF	**Joensuu**	**35.82**	**330**	ep	**P**	**03 58 52.8**	**+0.7**
	comp=Z,4.9nm,0.3s						
KWP	**Kalwaria Pacla**	**36.98**	**306**	eP	**P**	**03 59 03.6**	**+1.5**
KWP	**Kalwaria Pacla**	**36.98**	**306**	eP	**P**	**03 59 03.6**	**+1.5**
KOLS	**Kolonicke sedl**	**37.24**	**305**	eP	**P**	**03 59 05.4**	**+1.0**
KOLS				pmax	pmax		
	comp=Z,24nm,2.2s						
KOLS	**Kolonicke sedl**	**37.24**	**305**	eP	**P**	**03 59 05.4**	**+1.0**
FINES	**FINESS Array B**	**37.44**	**326**	ceP	**P**	**03 59 06.8**	**+1.0**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**03 59 06.8**	**+1.0**
	comp=Z,4.1nm,0.7s,baz=123,slow=11,SNR=22						
KAF	**Kangasniemi**	**37.58**	**327**	eP	**P**	**03 59 07.1**	**+0.2**
KAF				pmax	pmax		

comp=Z,1.0nm,0.3s
KAF Kangasniemi 37.58 327 ep P 03 59 07.1 +0.2
comp=Z,1.0nm,0.3s
STHS Stebnicka Huta 37.92 306 eP P 03 59 10.7 +0.6
STHS pmax pmax
comp=Z,4.0nm,1.6s
STHS Stebnicka Huta 37.92 306 eP P 03 59 10.7 +0.6
MORC Moravsky Berou 40.33 306 eP P 03 59 30.6 +0.6
MORC pmax pmax
comp=Z,2.0nm,0.8s
MORC Moravsky Berou 40.33 306 eP P 03 59 30.6 +0.6
comp=Z,2.4nm,0.8s
GKP Gorka Klasztor 40.53 312 eP P 03 59 32.9 +1.4
GKP Gorka Klasztor 40.53 312 eP P 03 59 32.8 +1.3
KEV Kevo 40.75 338 eP P 03 59 34.0 +0.9
KEV pmax pmax
comp=Z,3.0nm,0.3s
KEV Kevo 40.75 338 ep P 03 59 34.0 +0.9
comp=Z,3.4nm,0.3s
ARCES ARCESS Array B 41.09 338 P P 03 59 37.3 +1.4
ARCES pmax pmax
comp=Z,6.0nm,0.5s
ARCES ARCESS Array B 41.09 338 P P 03 59 37.3 +1.4
comp=Z,5.9nm,0.5s,baz=114,slow=8.4,SNR=63
BRG Berggiesshubel 42.59 308 eP P 03 59 49.5 +1.2
comp=Z,6.2nm,1.1s
BRG Berggiesshubel 42.59 308 eP P 03 59 49.5 +1.2
BRG pmax pmax
comp=Z,6.0nm,1.1s
NB2 NORSAR Subarra 44.33 323 P P 04 00 02.4 +0.3
comp=Z,8.6nm,0.6s,baz=97,slow=7.9
NOA NORSAR Array B 44.33 323 P P 04 00 02.6 +0.5
NOA pmax pmax
comp=Z,8.0nm,0.6s
NOA NORSAR Array B 44.33 323 P P 04 00 02.6 +0.5
comp=Z,7.8nm,0.6s,baz=97,slow=7.9,SNR=32
MDJ Mudanjiang 44.37 61 P P 04 00 03.9 +1.2
MDJ pP pP 04 00 40.6 -2.8
MDJ sP sP 04 01 00.5 -4.1
MDJ ScP ScP 04 05 20.1 +2.9
MDJ PcS PcS 04 05 38.2 +1.6
MDJ S S 04 06 25.6 +3.0
MDJ ScS SS 04 09 43.4 -3.3
MDJ pmax pmax
comp=Z,2.0nm,0.4s
MDJ pmax pmax
comp=Z,68nm,5.0s
NAO01 NORSAR Array S 44.48 323 eP P 04 00 03.7 +0.5
TOA0 Torodi Ar. Sit 65.72 269 eP P 04 02 34.3 -1.6
TORD Torodi Ar. Bea 65.72 269 P P 04 02 34.0 -1.8
comp=Z,1.8nm,0.7s,baz=48,slow=5.9,SNR=26
ILAR Eielson Array 74.72 16 P P 04 03 30.6 +0.9
comp=Z,0.4nm,0.8s,baz=314,slow=5.2,SNR=4.7
MCK McKinley 75.14 17 eP P 04 03 34.2 +2.1
MCK pmax pmax
comp=Z,15nm,1.6s
MCK McKinley 75.14 17 eP P 04 03 34.2 +2.1
comp=Z,15nm,1.6s
BOSA Boshof 77.79 220 eP P 04 03 49.3 +1.7
BOSA pmax pmax
comp=Z,11nm,1.3s
BOSA Boshof 77.79 220 eP P 04 03 49.3 +1.7
comp=Z,11nm,1.3s
YKW3 Yellowknife Ar 81.12 3 eP P 04 04 05.0 +0.1
YKA Yellowknife Ar 81.19 3 P P 04 04 06.6 +1.4
comp=Z,0.4nm,0.3s,baz=350,slow=5.4,SNR=25
WRA Warramunga Arr 82.02 122 P P 04 04 09.9 -0.4
comp=Z,0.6nm,0.5s,baz=324,slow=4.9,SNR=11
ASAR Alice Springs 84.29 125 P P 04 04 21.6 -0.3
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 84.29 125 P P 04 04 21.6 -0.3
comp=Z,0.7nm,0.6s,baz=312,slow=5.0,SNR=13

NIED 05 03:53:00, 46.°20N×152.°40E, h11km, Mw4.1 Best double couple: M0 1.38000×10^15 NP1:φs219.00000°, δ35.00000°, λ141.00000°. NP2:φs342.00000°, δ69.00000°, λ61.00000°.
BJI 05 03:53:21.2, 46.°13N×153.°18E, h33km, mB4.6/5, mb4.3/10, Ms4.1/1
JMA 05 03:53:26.7±0.8, 46.°17N×152.°44E, h30km, M4.8
MOS 05 03:53:27.9±0.9, 46.°38N×152.°24E, h40km, mb4.5/16, Error ellipse: s-maj=12.5km s-min=9.0km az=55.4
ISCJB 05 03:53:27.1±0.5, 46.°18N±0.°06×152.°27E±0.°07, h41km, mb4.1/22, MS3.3/5, Error ellipse: s-maj=9.5km s-min=3.8km az=143.3
SKHL 05 03:53:28.0±0.3, 46.°02N×152.°50E, h63km±5km, mb4.7/8, msh5.3/1
IDC 05 03:53:34.1±2.6, 46.°32N×152.°15E, h83km±23km, mb3.7/17, mb1 3.9/20, mb1mx3.7/38, mbtmp4.1/20, MS3.2/6, Ms1 3.3/6, ms1mx2.8/35, Error ellipse: s-maj=23.3km s-min=13.2km az=147.0
ISC 05 03:53:28.7±0.6, 46.°18N±0.°08×152.°29E±0.°07, h41km, n128, σ1.°42/110, mb4.2/22, MS3.4/5, 4C, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 3.24 255 i PN Pn 03 54 18.2 +1.3
KUR Kuril'sk 3.24 255 eP Pn 03 54 17.0 +0.1
KUR AMB AMB 03 54 19.0
430nm,0.9s
KUR eS Sn 03 54 54.0 -0.2
KUR A A 03 55 07.8
260nm,0.7s
KUR A A 03 55 07.8
790nm,0.7s
KUR A A 03 55 08.0
2μm,2.0s
SHO Shikotan 4.50 241 eP Pn 03 54 33.9 -0.4
SHO AMB AMB 03 54 38.3
132nm,0.6s
SHO eS Sn 03 55 23.2 -2.2
SHO A A 03 55 35.1
341nm,0.5s
SHO A A 03 55 35.1
355nm,0.5s
YUK Yuzh-Kuril'sk 5.03 247 i PN Pn 03 54 43.1 +1.6
YUK Yuzh-Kuril'sk 5.03 247 eP Pn 03 54 43.0 +1.6
YUK AMB AMB 03 54 49.4
50nm,0.3s
YUK AMB AMB 03 54 49.4
130nm,0.3s
YUK AMB AMB 03 54 49.4
235nm,0.3s
YUK eS Sn 03 55 39.2 +0.9
YUK A A 03 55 46.4
450nm,0.5s
YUK A A 03 55 46.4
410nm,0.5s
SKR Severo-Kuril's 5.18 28 eP Pn 03 54 43.0 -0.5
SKR AMB AMB 03 54 45.5
60nm,0.5s
SKR eS Sn 03 55 39.6 -2.3
SKR A A 03 56 03.1
60nm,0.7s
SKR A A 03 56 03.1
200nm,0.7s
SKR A A 03 56 03.1
160nm,0.7s
NEM2 Nemuro 2 5.44 241 P Pn 03 54 46.3 -0.9
NEM2 eS Sn 03 55 44.9 -3.6
JRA Rausu 5.55 249 P Pn 03 54 50.6 +2.0
JNK Nakash 5.97 247 P Pn 03 54 55.5 +1.1
JAK Akkeshi 6.28 242 P Pn 03 54 57.9 -0.8
JAK eS Sn 03 56 05.0 -4.2
JTKR Abashiri--Toko 6.33 253 P Pn 03 55 01.2 +1.8
YSS Yuzh-Sakhalins 6.62 280 i PN Pn 03 55 05.5 +2.2
YSS Yuzh-Sakhalins 6.62 280 eP Pn 03 55 06.0 +2.7
YSS AMB AMB 03 55 08.7
30nm,0.9s
YSS eS Sn 03 56 18.8 +1.4
JMP Maruseppu 6.68 254 P Pn 03 55 06.7 +2.5
JAR Ashorobuto 6.71 248 eS Sn 03 56 19.8 0.0
JOB Onbets 6.87 245 P Pn 03 55 06.6 -0.2
JSE Soyaes 6.92 263 P Pn 03 55 11.5 +4.1
HRK Horoka 7.05 251 eP Pn 03 55 11.4 +2.0
JKK2 Kamakawa 2 7.14 255 P Pn 03 55 13.3 +2.8
JKA Kamikawa-asahi 7.15 257 eP Pn 03 55 14.4 +3.7
ASAJ Asahikawa 7.16 257 PN Pn 03 55 14.4 +3.7
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ Asahikawa 7.16 257 P Pn 03 55 14.3 +3.7
ASAJ Asahikawa 7.16 257 P Pn 03 55 14.3 +3.7

comp=Z,3.7nm,0.3s,baz=79,slow=23,SNR=14
JCH Churui 7.32 244 P Pn 03 55 12.7 -0.2
JCH eS Sn 03 56 31.0 -3.6
UGL Uglegorsk 7.49 296 eP Pn 03 55 18.0 +2.8
UGL AMB AMB 03 55 19.3
comp=Z,57nm,0.9s
MYR Moyori 7.54 242 eP Pn 03 55 16.0 0.0
PETK Petropavlovsk- 7.77 25 PN Pn 03 55 24.2 +5.1
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 7.77 25 P Pn 03 55 24.2 +5.1
comp=Z,0.8nm,0.3s,baz=203,slow=15,SNR=8.5
ERM Erimo 7.78 241 ePN Pn 03 55 20.9 +1.7
ERM Erimo 7.78 241 eP Pn 03 55 20.9 +1.7
JBT2 Biratori 2 7.87 248 P Pn 03 55 20.7 +0.2
JNBK Urakawa-nobuka 7.88 244 P Pn 03 55 18.5 -2.1
TYV Tymovskoe 7.92 310 eP Pn 03 55 24.0 +2.8
TYV AMB AMB 03 55 26.2
comp=Z,11nm,0.8s
PET Petropavlovsk 8.00 29 i PN Pn 03 55 20.5 -1.7
JANG Nango 9.76 237 P Pn 03 55 43.3 -3.1
JANG eS Sn 03 57 24.1 -11
JTH Tanohata 9.85 234 eS Sn 03 57 25.9 -11
OFUJ Ofunato 10.55 232 P Pn 03 55 54.4 -2.9
HABR Khabarovsk 11.92 287 ePN Pn 03 56 13.2 -2.7
HABR eSS Sn 03 58 37.7 +10
HABR pmax pmax
comp=Z,38nm,1.7s
HABR MLR MLR
comp=Z,154nm,17.0s
MJA0 Matsu Arr-Jizo 14.26 232 eP P 03 56 55.8 +1.4
MJA0 pmax pmax
comp=Z,1.0nm,0.3s
EKMR Ekimchan 14.28 306 eP Pn 03 56 45.0 -3.0
EKMR AMB AMB 03 56 57.5
comp=Z,4.0nm,0.5s
MAJO Matsushiro 14.28 233 i P Pn 03 56 51.0 +2.9
MAT Matsushiro 14.28 233 P Pn 03 56 45.1 -3.0
MJAR Matsushiro Arr 14.28 233 P P 03 56 55.1 +0.5
comp=Z,0.9nm,0.3s,baz=33,slow=9.2,SNR=14
MJAR LR LR 04 02 58.5
comp=Z,30nm,19.1s,baz=45,slow=40
USRK Ussuriysk Arra 14.45 269 P P 03 56 54.2 -2.2
comp=Z,0.4nm,0.3s,baz=63,slow=12,SNR=6.4
VLA Vladivostok 14.84 265 eP Pn 03 56 55.4 -0.1
VLA Vladivostok 14.84 265 eP Pn 03 56 55.4 -0.1
BMKR Bomnak 17.13 308 eP Pn 03 57 24.5 -0.3
BMKR AMB AMB 03 57 27.5
comp=Z,3.0nm,0.7s
KROS Kirovskiy 18.08 306 eP Pn 03 57 35.4 -1.0
KROS AMB AMB 03 57 37.1
comp=Z,5.0nm,0.6s
KSRS Korea Array 20.08 253 eP Pn 03 58 01.1 +0.6
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS Korea Array 20.08 253 P Pn 03 58 00.2 -0.3
comp=Z,2.3nm,0.7s,baz=53,slow=11,SNR=6.9
KSRS LR LR 04 04 53.5
comp=Z,43nm,20.2s,baz=150,slow=34
KSRS Korea Array 20.08 253 eP Pn 03 58 01.1 +0.6
YAK Yakutsk 20.50 329 eP Pn 03 58 05.7 +0.4
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=E,16nm,1.3s
YAK pmax pmax
comp=N,23nm,1.3s
TIK Tiksi 27.84 344 eP P 03 59 12.7 -1.1
TIXI Tiksi 27.86 344 i P P 03 59 12.7 -1.2
TIXI pmax pmax
comp=Z,1.0nm,1.2s
H11N2 WAKE ISLAND Hy 28.99 151 T T 04 29 50.1
SNR=414
H11N1 WAKE ISLAND Hy 29.00 151 T T 04 30 27.7
baz=341,slow=74,SNR=192
H11N3 WAKE ISLAND Hy 29.01 151 T T 04 30 58.5
baz=176,slow=74,SNR=223
H11S1 WAKE ISLAND Hy 30.06 152 T T 04 31 16.0
H11S3 WAKE ISLAND Hy 30.07 152 T T 04 31 16.0
H11S2 WAKE ISLAND Hy 30.08 152 T T 04 31 26.0
SNR=198
COLA College 36.94 38 i P P 04 00 34.2 +1.0
COLA pmax pmax
comp=Z,35nm,1.7s
COLA College 36.94 38 eP P 04 00 34.2 +1.0
ILAR Eielson Array 37.35 38 eP P 04 00 37.2 +0.4
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 37.35 38 P P 04 00 37.2 +0.4
comp=Z,0.6nm,0.7s,baz=260,slow=7.4,SNR=15
ILAR Eielson Array 37.35 38 eP P 04 00 37.1 +0.3
INK Inuvik 42.44 32 P P 04 01 20.3 +1.4
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 42.44 32 P P 04 01 20.3 +1.4
comp=Z,0.8nm,0.4s,baz=212,slow=32,SNR=7.4
ZALV Zalesovo Beam 42.48 306 LR LR 04 20 14.8
comp=Z,70nm,18.4s,baz=70,slow=38
MKAR Makanchi Array 46.70 297 eP P 04 01 55.3 +2.1
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 46.70 297 P P 04 01 53.3 +0.1
comp=Z,0.8nm,0.5s,baz=64,slow=7.2,SNR=8.3
MKAR LR LR 04 22 28.0
comp=Z,43nm,18.6s,baz=61,slow=37
MKAR Makanchi Array 46.70 297 eP P 04 01 55.3 +2.1
KURK Kurchatov 47.20 304 eP P 04 01 57.4 +0.4
BRVK Borovoye 50.82 310⇑iP P 04 02 25.1 +0.4
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BRVK Borovoye 50.82 310 eP P 04 02 25.1 +0.4
RES Resolute Bay 51.56 18 P P 04 02 29.6 -0.3
RES pmax pmax
comp=Z,1.0nm,0.6s
RES Resolute Bay 51.56 18 P P 04 02 29.6 -0.3
comp=Z,0.7nm,0.6s,baz=309,slow=8.0,SNR=4.2
CMAR Chiang Mai Arr 51.68 256 eP P 04 02 33.3 +1.7
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 51.68 256 P P 04 02 33.0 +1.4
comp=Z,1.9nm,0.3s,baz=36,slow=7.3,SNR=11
CMAR LR LR 04 26 16.1
comp=Z,18nm,19.1s,baz=105,slow=38
CMAR Chiang Mai Arr 51.68 256 eP P 04 02 33.3 +1.7
YKA Yellowknife Ar 51.72 36 P P 04 02 31.6 +0.3
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 51.72 36 P P 04 02 31.6 +0.3
comp=Z,0.7nm,0.9s,baz=297,slow=7.1,SNR=7.5
YKA Yellowknife Ar 51.72 36 eP P 04 02 32.2 +0.9
TAPN Taplejung 53.56 273 eP P 04 02 43.9 -1.9
comp=Z,4.3nm,0.4s
AAK Ala-Archa 53.58 296⇑iP P 04 02 44.2 -1.3
AAK pmax pmax
comp=Z,10.0nm,1.4s
ODAN Odare 54.09 273 eP P 04 02 46.3 -3.3
comp=Z,10nm,0.3s
JIRN Jiri 54.42 274 eP P 04 02 51.8 -0.3
comp=Z,10nm,0.5s
GUN Gumba 54.48 275 eP P 04 02 52.4 -0.1
RAMN Ramite 54.58 273 eP P 04 02 52.3 -0.8
ARU Arti 55.05 317 eP P 04 02 54.2 -1.6
GKN Gorkha 55.28 276 eP P 04 02 58.9 +0.8
comp=Z,14nm,0.5s
DANN Dangsing 55.67 277 eP P 04 03 02.2 +1.1
comp=Z,34nm,0.6s
KOLN Koldanda 56.14 276 eP P 04 03 04.9 +0.6
comp=Z,17nm,0.6s
PYUN Piuthan 56.36 277 eP P 04 03 07.3 +1.4
comp=Z,31nm,0.4s
ARCES ARCESS Array B 58.20 341 P P 04 03 18.2 +0.2
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 58.20 341 P P 04 03 18.2 +0.2
comp=Z,4.1nm,1.0s,baz=34,slow=6.6,SNR=2.4
FINES FINESS Array B 64.31 335 P P 04 03 58.5 -0.9
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 64.31 335 P P 04 03 58.5 -0.9
comp=Z,1.9nm,0.7s,baz=32,slow=7.7,SNR=13
OBN Obninsk 65.45 325 eP P 04 04 07.0 +0.1
NB2 NORSAR Subarra 68.58 341 P P 04 04 26.5 -0.3
comp=Z,2.1nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 68.58 341 P P 04 04 26.9 +0.1
NOA pmax pmax

comp=Z,1.0nm,0.5s
NOA NORSAR Array B 68.58 341 P P 04 04 26.9 +0.1
comp=Z,1.4nm,0.5s,baz=30,slow=6.6,SNR=15
KBZ Khabaz 70.84 314 P P 04 04 41.1 +0.2
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 70.84 314 P P 04 04 41.0 +0.2
comp=Z,5.8nm,1.0s,baz=70,slow=3.9,SNR=5.6
ASAR Alice Springs 71.49 198 P P 04 04 46.1 +1.1
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 71.49 198 P P 04 04 46.0 +1.1
comp=Z,0.5nm,0.6s,baz=13,slow=5.5,SNR=5.7
AKASG Malin Array Be 71.70 326 eP P 04 04 45.8 -0.2
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.70 326 P P 04 04 45.1 -0.8
comp=Z,1.0nm,0.4s,baz=33,slow=6.0,SNR=12
AKASG LR LR 04 38 52.6
comp=Z,43nm,18.3s,baz=30,slow=38
SCHQ Schefferville 74.05 22 P P 04 05 00.1 +0.2
comp=Z,2.0nm,0.8s,baz=264,slow=10,SNR=2.0
CLL Collm 76.74 335⇑iP P 04 05 15.3 0.0
CLL pmax pmax
comp=Z,4.0nm,0.5s
CLL Collm 76.74 335⇑iP P 04 05 15.3 0.0
comp=Z,4.0nm,0.5s
CLL Collm 76.74 335 eP P 04 05 15.3 0.0
BRG Berggiesshubel 76.85 334 e(P) P 04 05 16.1 +0.1
comp=Z,1.4nm,0.5s
BRG Berggiesshubel 76.85 334 eP P 04 05 16.1 +0.1
BRG pmax pmax
comp=Z,1.0nm,0.5s
BRG Berggiesshubel 76.85 334 eP P 04 05 16.1 +0.1
TXAR Lajitas Array 78.27 60 P P 04 05 25.6 +1.2
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 78.27 60 P P 04 05 25.6 +1.2
comp=Z,1.8nm,0.8s,baz=300,slow=4.6,SNR=23
BRTR Keskin Array B 78.41 316 eP P 04 05 25.9 +0.8
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 78.41 316 P P 04 05 25.9 +0.8
comp=Z,1.8nm,0.8s,baz=106,slow=3.1,SNR=6.6
KHC Kasperske Hory 78.50 334 eP P 04 05 25.5 +0.3
KHC Kasperske Hory 78.50 334 eP P 04 05 25.5 +0.3
KHC Kasperske Hory 78.50 334 eP P 04 05 25.5 +0.3
GERES GERESS Array B 78.71 334 P P 04 05 26.7 +0.2
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 78.71 334 P P 04 05 26.6 +0.2
comp=Z,1.6nm,0.6s,baz=34,slow=5.2,SNR=16
TORD Torodi Ar. Bea 115.28 328 PKP PKPdf 04 12 05.1 -0.9
comp=Z,0.2nm,0.5s,baz=344,slow=1.8,SNR=4.3
H03N2 Juan Fernandez 139.32 90 T T 06 48 35.7
baz=305,slow=75,SNR=11
H03N1 Juan Fernandez 139.34 90 T T 06 48 34.7
baz=305,slow=75,SNR=10
H03N3 Juan Fernandez 139.34 90 T T 06 48 37.9
baz=305,slow=75,SNR=14
CPUP Villa Florida 149.25 60 PKPbc PKPbc 04 13 13.1 +0.4
comp=Z,0.4nm,0.4s,baz=302,slow=18,SNR=3.1

MOS 05 04:38:53.0±1.1, 0.°84S×99.°94E, h75km, mb4.9/17, Error ellipse: s-maj=12.8km s-min=6.8km az=109.9
BJI 05 04:38:54.2, 0.°90S×99.°80E, h78km, mB5.1/8, mb4.8/31, Ms4.7/10, Ms7 4.4/8
NEIC 05 04:38:54.9±0.3, 0.°90S×99.°85E, mb4.8/26, Error ellipse: s-maj=7.8km s-min=5.5km az=48.0
NEIC Felt [III] at Padang and [II] at Padangpanjang.
KLM 05 04:38:55.3, 1.°10S×99.°86E, h80km, mb4.7, ML4.3, MS5.7
ISCJB 05 04:38:55.1±0.7, 0.°86S±0.°04×99.°84E±0.°04, h94km±5km, mb4.6/54, Error ellipse: s-maj=8.7km s-min=4.5km az=141.1
IDC 05 04:38:55.4±0.6, 0.°77S×99.°98E, h80km±4km, mb4.2/17, mb1 4.3/19, mb1mx4.2/26, mbtmp4.5/19, MS3.0/4, Ms1 3.1/4, ms1mx2.8/32, Error ellipse: s-maj=20.4km s-min=10.1km az=65.0
ISC 05 04:38:55.3±0.4, 0.°94S±0.°04×99.°78E±0.°05, h81km±2km, h81km:pP-P, n178, σ1.°56/222, mb4.8/54, 8C-8D, Southern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BKNI Bangkinang 1.78 45 ePn Pn 04 39 23.9 -0.4
BKNI eSn Sn 04 39 43.5 -2.9
BKNI Bangkinang 1.78 45 P Pn 04 39 24.0 -0.4
baz=0.9,SNR=17
GSI Gunungsitoli 3.13 315 ePn Pn 04 39 43.6 +1.1
PSI Prapat 3.81 347 P Pn 04 39 50.3 -1.5
18nm,0.3s,baz=197,slow=1.2,SNR=40
PSI LR LR 04 41 36.9
comp=Z,202nm,20.4s,baz=152,slow=45
PSI Prapat 3.81 347 P Pn 04 39 50.4 -1.5
baz=3.5,SNR=26
FRIM Kepong 4.54 24 ⇓P Pn 04 40 01.4 -0.2
KGM Kluang 4.60 50 ⇓P Pn 04 40 02.4 0.0
BTDF Bukit Timah Da 4.60 60 P Pn 04 40 02.2 -0.3
baz=3.7,SNR=7.7
MNAI Manna 4.65 137 P Pn 04 40 04.5 +1.4
baz=4.6,SNR=12
MNAI S Sn 04 40 58.4 +2.6
baz=4.6,SNR=4.8
MYKOM Kota Tinggi 4.89 56 ePn Pn 04 40 06.2 -0.3
MYKOM Kota Tinggi 4.89 56 ⇓P Pn 04 40 06.7 +0.2
IPM Ipoh 5.53 13 ePn Pn 04 40 15.9 +0.8
IPM Ipoh 5.53 13 ⇑P Pn 04 40 16.4 +1.3
KULM Kulim 6.25 8 ePn Pn 04 40 24.9 -0.1
KULM Kulim 6.25 8 ⇑P Pn 04 40 25.4 +0.4
LHMI Lhok Sumawe 6.75 335 P Pn 04 40 32.3 +0.5
baz=6.7,SNR=4.9
KTGM Kuala Trenggan 7.07 28 ⇓P Pn 04 40 36.3 +0.1
KSM Kuching 10.80 77 ⇓P Pn 04 41 30.1 +3.0
SBUM Sibu 12.88 75 ⇑P Pn 04 41 58.4 +3.0
BTM Bintulu 13.92 73 ⇑P Pn 04 42 09.2 +0.1
KKM Kota Kinabalu 17.82 67 ePn P 04 42 57.4 -0.5
KKM Kota Kinabalu 17.82 67 ⇑P Pn 04 43 00.1 +1.9
SUKH Sukhothai 18.31 360 P Pn 04 43 10.5 +6.6
SDKM Sandakan 18.58 69 ⇓P Pn 04 43 06.3 +0.1
KDM Kudat 18.72 65 ⇓P Pn 04 43 09.0 0.0
CMAR Chiang Mai Arr 19.30 358 eP P 04 43 13.8 -0.1
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR Chiang Mai Arr 19.30 358 P P 04 43 12.6 -1.3
comp=Z,0.7nm,0.3s,baz=188,slow=9.5,SNR=9.8
CMAR LR LR 04 50 45.4
comp=Z,19nm,19.8s,baz=210,slow=37
LAMP Lampang 19.34 360 P Pn 04 43 19.7 +3.4
comp=Z,6.4nm,0.7s
CHTO Chiang Mai 19.65 358 eP P 04 43 16.4 -1.4
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 19.65 358 eP P 04 43 16.4 -1.4
comp=Z,5.2nm,0.8s
MYLDM Lahad Datu 19.66 72 ePn Pn 04 43 20.1 0.0
comp=Z,76nm,1.6s
MYLDM Lahad Datu 19.66 72 ⇓P Pn 04 43 19.1 -1.0
PAYA Payao 20.18 0 P Pn 04 43 27.5 +1.4
comp=Z,5.6nm,0.6s,comp=Z,147nm
KAPI Kappang 20.35 102 eP P 04 43 26.6 +1.2
comp=Z,53nm,0.7s
PALK Pallekele 20.71 294 eP P 04 43 29.8 +0.5
PALK Pallekele 20.71 294 eP P 04 43 29.8 +0.5
CMAI Chiengmai2 20.76 358 P P 04 43 30.6 +0.7
comp=Z,6.8nm,0.9s,comp=Z,868nm
QIZ Qiongzhong 22.17 26 P P 04 43 45.9 +1.0
QIZ S S 04 47 47.0 +2.7
QIZ pmax pmax
comp=Z,18nm,1.9s
MMRI Maumere 23.63 110 epP pP 04 44 16.0 -1.2
KMI Kunming 26.07 6 P P 04 44 27.5 +5.9
KMI pmax pmax
comp=Z,6.0nm,1.1s
MBWA Marble Bar 27.98 137 eP P 04 44 38.8 +0.2
comp=Z,7.0nm,0.8s
H08S2 Diego Garcia H 28.00 255 T T 05 13 00.9
baz=77,slow=75,SNR=185
H08S3 Diego Garcia H 28.00 256 T T 05 12 57.5
baz=77,slow=75,SNR=939
H08S1 Diego Carcia H 28.02 255 T T 05 13 02.1
baz=77,slow=75,SNR=148
GYA Guiyang 28.04 13 eP P 04 44 41.6 +2.4

GYA pP pP 04 45 01.0 +3.0
GYA sP sP 04 45 10.2 +2.7
GYA PP PnPn 04 45 34.8 +3.7
GYA S S 04 49 19.5 +1.4
GYA sS sS 04 49 51.7 +1.1
GYA SS SnSn 04 50 47.6 +6.1
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=Z,510nm,16.5s
GYA LR LR
comp=Z,420nm,17.0s
GYA LR LR
comp=Z,530nm,16.8s
H08N1 Diego Garcia H 29.19 259 T T 05 14 59.7
baz=281,slow=80,SNR=4.6
H08N2 Diego Garcia H 29.20 259 T T 05 14 59.7
baz=281,slow=80,SNR=6.2
H08N3 Diego Garcia H 29.22 259 T T 05 14 59.7
baz=281,slow=80,SNR=5.6
ODAN Odare 30.11 338 eP P 04 44 58.3 +0.6
comp=Z,26nm,0.5s
TAPN Taplejung 30.43 338 eP P 04 45 01.1 +0.5
comp=Z,12nm,0.3s
RAMN Ramite 30.50 336 eP P 04 45 02.3 +1.2
comp=Z,12nm,0.4s
JIRN Jiri 31.29 336 eP P 04 45 09.2 +0.9
comp=Z,30nm,0.4s
PKI Pulchoki 31.54 335 eP P 04 45 10.5 +0.1
comp=Z,9.7nm,0.5s
LSA Lhasa 31.57 346 eP P 04 45 11.1 +0.4
LSA pmax pmax
comp=Z,7.0nm,0.4s
LSA Lhasa 31.57 346 eP P 04 45 11.1 +0.4
comp=Z,7.1nm,0.4s
GUN Gumba 31.64 336 eP P 04 45 12.0 +0.7
comp=Z,73nm,0.4s
KKN Kakani 31.78 335 eP P 04 45 13.0 +0.6
comp=Z,30nm,0.5s
CD2 Chengdu 31.90 6 P P 04 45 16.3 +3.1
CD2 pP pP 04 45 34.8 +2.7
CD2 sP sP 04 45 44.5 +2.9
CD2 PP PP 04 46 25.5 -1.2
CD2 PcP PcP 04 48 04.3 +2.2
CD2 S S 04 50 21.4 +3.0
CD2 sS sS 04 50 53.6 +2.6
CD2 PcS PcS 04 51 47.9 +1.0
CD2 SS SnSn 04 52 18.8 +3.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.4s
GKN Gorkha 32.24 334 eP P 04 45 16.9 +0.5
comp=Z,14nm,0.3s
ENH Enshi 32.39 16 eP P 04 45 13.9 -3.6
comp=Z,8.5nm,0.5s
KOLN Koldanda 32.51 333 eP P 04 45 19.6 +0.9
DANN Dangsing 32.93 333 eP P 04 45 23.1 +0.6
comp=Z,27nm,0.5s
PYUN Piuthan 33.07 332 eP P 04 45 24.2 +0.6
comp=Z,25nm,0.2s
MTN Manton Dam 33.24 112 P P 04 45 32.8 +7.7
baz=33,SNR=4.5
MTN S S 04 50 39.0 -0.5
baz=33,SNR=4.7
KDU Kakadu 34.44 111 P P 04 45 40.0 +4.5
baz=34,SNR=9.7
NWAO Narrogin (SRO) 35.80 154 LR LR 04 58 33.6
comp=Z,28nm,20.7s,baz=242,slow=33
XAN Xi'an 35.84 13 P P 04 45 43.9 -3.4
XAN pmax pmax
comp=Z,3.0nm,0.5s
XAN LR LR
comp=N,93nm,12.3s
H01W3 Cape Leeuwin H 36.33 160 T T 05 24 23.1
baz=335,slow=76,SNR=8.2
H01W2 Cape Leeuwin H 36.34 160 T T 05 24 23.5
baz=335,slow=76,SNR=8.3
H01W1 Cape Leeuwin H 36.34 160 T T 05 24 22.2
baz=335,slow=76,SNR=6.9
WRKA Warakurna 36.50 133 P P 04 45 53.5 +0.4
baz=36,SNR=11
LZH Lanzhou 37.03 5 eP P 04 45 58.3 +0.7
LZH pP pP 04 46 17.0 +0.2
LZH sP sP 04 46 26.2 0.0
LZH pmax pmax
comp=N,15nm,1.0s
NJ2 Nanjing 37.46 27 eP P 04 46 00.8 -0.2
NJ2 pmax pmax
comp=N,10.0nm,0.7s
WRA Warramunga Arr 38.72 121 P P 04 46 10.1 -1.8
comp=N,4.6nm,0.5s,baz=302,slow=9.0,SNR=43
WRA PcP PcP 04 48 21.8 -0.5
comp=N,1.1nm,0.5s,baz=318,slow=2.6,SNR=9.6
WRAB Tennant Creek 38.73 121 c iP P 04 46 09.6 -2.3
WRAB pmax pmax
comp=Z,41nm,1.7s
WRAB Tennant Creek 38.73 121 eP P 04 46 10.0 -1.9
comp=Z,95nm,2.8s
FORT Forrest 39.99 141 eP P 04 46 23.8 +1.6
comp=Z,18nm,0.6s
FORT Forrest 39.99 141 P P 04 46 23.9 +1.6
baz=40,SNR=8.0
AS31 Alice Springs 40.05 127 eP P 04 46 21.8 -1.1
ASAR Alice Springs 40.05 127 P P 04 46 22.1 -0.9
comp=Z,2.9nm,0.6s,baz=302,slow=7.7,SNR=45
ASAR PcP PcP 04 48 27.1 +0.6
comp=Z,1.5nm,0.5s,baz=312,slow=3.3,SNR=8.5
ASAR S S 04 52 18.7 -4.6
comp=Z,0.9nm,1.0s,baz=293,slow=15,SNR=6.5
GTA Gaotai 40.16 0 eP P 04 46 22.5 -1.1
GTA pP pP 04 46 41.0 -2.1
GTA sP sP 04 46 50.0 -2.4
GTA pmax pmax
comp=Z,7.0nm,1.0s
HHC Hu-ho-hao-te 42.96 13 eP P 04 46 49.4 +2.9
HHC pP pP 04 47 05.8 -0.3
HHC sP sP 04 47 16.4 +1.0
HHC PP PP 04 48 28.3 +0.6
HHC S S 04 53 09.3 +3.5
HHC sS sS 04 53 43.2 +3.8
HHC SS SS 04 56 18.6 -2.0
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.4s
HHC LR LR
comp=Z,160nm,14.2s
HHC LR LR
comp=Z,160nm,14.8s
HHC LR LR
comp=Z,190nm,13.3s
JNU Nakatsue 44.80 38 P P 04 46 59.3 -2.0
comp=Z,32nm,0.9s,baz=193,slow=3.2,SNR=10
JNU Nakatsue 44.80 38 eP P 04 47 00.4 -0.8
comp=Z,10nm,0.8s
KSH Kashi 45.79 334 eP P 04 47 07.7 -1.4
KSH esP sP 04 47 34.2 -4.0
KSH ePP PP 04 48 56.7 -1.3
KSH PcS PcS 04 52 34.1 -5.8
KSH S S 04 53 41.3 -5.7
KSH SS ScS 04 56 59.6 +2.1
KSH pmax pmax
comp=Z,3.0nm,0.8s
KSH pmax pmax
comp=Z,20nm,2.6s
KSH LR LR
comp=Z,140nm,5.1s
KSH LR LR
comp=Z,120nm,4.6s
KSH LR LR
comp=Z,120nm,5.7s
WMQ Urumqi 45.86 348 P P 04 47 10.4 +0.9
WMQ pP pP 04 47 29.0 -0.3
WMQ sP sP 04 47 37.9 -0.7
WMQ PcP PcP 04 48 47.2 +1.6
WMQ PP PP 04 48 59.1 +0.6
WMQ ScP ScP 04 52 28.4 -3.1
WMQ PcS PcS 04 52 40.2 +0.3
WMQ S S 04 53 47.1 -0.6
WMQ ScS ScS 04 56 56.3 -1.3
WMQ pmax pmax
comp=Z,47nm,0.7s
WMQ pmax pmax
comp=Z,190nm,5.2s
WMQ LR LR
comp=Z,76nm,21.0s
WMQ LR LR
comp=Z,100nm,23.4s
WMQ LR LR
comp=Z,45nm,18.6s
KSAR Wonju Array Be 46.20 31 P P 04 47 10.9 -1.4
KSAR Wonju Array Be 46.20 31 P P 04 47 10.8 -1.4
KSRS Korea Array 46.23 31 P P 04 47 10.8 -1.6
comp=Z,7.8nm,0.6s,baz=224,slow=8.2,SNR=26
PMG Port Moresby 47.88 102 eP P 04 47 25.8 +0.2
PMG pmax pmax
comp=Z,18nm,1.0s
PMG Port Moresby 47.88 102 eP P 04 47 25.8 +0.2
comp=Z,18nm,1.0s
TKM2 Tokmak 2 48.78 336 eP P 04 47 33.2 +0.8
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
TKM2 Tokmak 2 48.78 336 eP P 04 47 33.2 +0.8
comp=Z,9.5nm,0.8s
HTT Hallett 48.90 136 P P 04 47 34.2 +1.0
baz=49,SNR=4.5
SONM Songino Array 48.92 6 P P 04 47 32.3 -0.9
comp=Z,7.5nm,0.7s,baz=190,slow=9.1,SNR=16
SONM PcP PcP 04 48 55.7 -0.8
comp=Z,3.7nm,0.6s,baz=182,slow=4.1,SNR=6.4
AAK Ala-Archa 48.99 335 eP P 04 47 33.7 -0.3
AAK pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 48.99 335 eP P 04 47 34.9 +0.9
comp=Z,3.4nm,0.8s
CTAO Charters Tower 49.25 116 eP P 04 47 34.7 -1.4
CTAO pmax pmax
comp=Z,7.0nm,1.0s
CTAO Charters Tower 49.25 116 eP P 04 47 34.7 -1.4
comp=Z,6.9nm,1.0s
EKS2 Erkin-Say 49.32 335 eP P 04 47 37.7 +1.3
EKS2 pmax pmax
comp=Z,11nm,1.1s
EKS2 Erkin-Say 49.32 335 eP P 04 47 37.7 +1.3
comp=Z,11nm,1.1s
QLP Quilpie 49.73 125 P P 04 47 39.8 +0.2
baz=50,SNR=8.7
MK31 Makanchi Array 49.96 344 eP P 04 47 40.6 -0.5
MK31 Makanchi Array 49.96 344 eP P 04 47 40.6 -0.5
MKAR Makanchi Array 49.96 344 P P 04 47 40.9 -0.2
comp=Z,10nm,0.4s,baz=147,slow=8.0,SNR=235
MKAR pP pP 04 48 00.8 -0.3
comp=Z,4.0nm,0.6s,baz=143,slow=7.9,SNR=4.0
MKAR S S 04 54 44.1 -1.4
comp=Z,1.6nm,1.0s,baz=160,slow=14,SNR=7.3
STKA Stephens Creek 50.02 132 eP P 04 47 42.2 +0.4
STKA e*PP pP 04 48 01.7 -0.1
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 50.02 132 P P 04 47 41.9 +0.1
comp=Z,9.9nm,0.5s,baz=313,slow=7.0,SNR=23
STKA Stephens Creek 50.02 132 eP P 04 47 42.2 +0.4
comp=Z,2.6nm,0.8s
STKA epP pP 04 48 01.7 -0.1
STKA Stephens Creek 50.02 132 P P 04 47 42.1 +0.4
baz=50,SNR=16
CN2 Changchun 50.11 24 eP P 04 47 40.1 -2.2
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KKAR Karatay Array 51.12 333 eP P 04 47 49.6 -0.3
KKAR Karatay Array 51.12 333 eP P 04 47 49.6 -0.3
MJAR Matsushiro Arr 51.60 40 P P 04 47 51.0 -2.6
MJAR Matsushiro Arr 51.60 40 P P 04 47 51.0 -2.6
comp=Z,1.9nm,0.6s,baz=231,slow=7.9,SNR=3.9
MDJ Mudanjiang 52.54 27 P P 04 48 01.4 +1.0
MDJ pP pP 04 48 19.2 -1.4
MDJ sP sP 04 48 27.3 -2.5
MDJ ScP ScP 04 53 01.5 +1.6
MDJ PcS PcS 04 53 09.4 +1.2
MDJ S S 04 55 23.6 +2.4
MDJ SS SS 04 59 00.9 +0.4
MDJ pmax pmax
comp=Z,4.0nm,1.6s
MDJ pmax pmax
comp=Z,75nm,4.1s
MDJ LR LR
comp=Z,41nm,24.5s
MDJ LR LR
comp=Z,39nm,20.1s
CMSA Cobar Meteorol 52.95 130 P P 04 48 04.3 +0.7
baz=53,SNR=36
USRK Ussuriysk Arra 53.33 29 P P 04 48 05.0 -1.3
comp=Z,14nm,0.7s,baz=231,slow=4.9,SNR=21
KURK Kurchatov 54.54 344 eP P 04 48 14.6 -0.3
KURK pmax pmax
comp=Z,10.0nm,0.7s
KURK Kurchatov 54.54 344 eP P 04 48 14.6 -0.3
comp=Z,10.0nm,0.7s
EIDS Eidsvold 55.08 121 P P 04 48 19.1 -0.2
baz=55,SNR=3.3
ZAA0 Zalesovo Array 56.09 349 eP P 04 48 24.8 -1.2
ZALV Zalesovo Beam 56.09 349 P P 04 48 25.2 -0.8
comp=Z,9.7nm,0.3s,baz=181,slow=6.2,SNR=84
ZALV pP pP 04 48 45.9 -0.6
comp=Z,3.6nm,0.4s,baz=156,slow=7.1,SNR=4.4
ZALV S S 04 56 06.4 -2.2
comp=Z,0.5nm,0.3s,baz=162,slow=19,SNR=4.2
KLR Kul'dur 57.06 24 eP P 04 48 27.8 -5.2
ARMA Armidale 57.20 126 P P 04 48 35.9 +1.4
baz=57,SNR=5.8
NVS Novosibirsk 57.24 349 eP P 04 48 32.4 -1.7
VOSK Vostochnaya 58.67 340 eP P 04 48 43.4 -0.8
VOSK pmax pmax
comp=Z,8.0nm,0.4s
VOSK Vostochnaya 58.67 340 eP P 04 48 43.4 -0.8
comp=Z,7.6nm,0.4s
BVA0 Borovoye Array 59.12 340 iP P 04 48 44.9 -2.4
BVA0 pmax pmax
comp=Z,4.0nm,0.5s
BRVK Borovoye 59.19 340 eP P 04 48 46.7 -1.0
BRVK pmax pmax
comp=Z,7.0nm,0.5s
BRVK Borovoye 59.19 340 eP P 04 48 46.7 -1.0
comp=Z,6.9nm,0.5s
AB31 Akbulak array 60.61 331 iP P 04 48 56.3 -1.3
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 60.61 331 eP P 04 48 56.9 -0.7
ABKAR epP pP 04 49 17.1 -1.1
YSS Yuzh-Sakhalins 60.71 32 eP P 04 48 57.4 -0.8
YSS pmax pmax
comp=Z,31nm,0.9s
YSS Yuzh-Sakhalins 60.71 32 eP P 04 48 57.4 -0.8
comp=Z,32nm,0.9s
LSZ Lusaka 72.00 254 eP P 04 50 12.0 +0.8
LSZ pmax pmax
comp=Z,1.0nm,0.6s
LSZ Lusaka 72.00 254 eP P 04 50 12.0 +0.8
comp=Z,0.8nm,0.6s
PETK Petropavlovsk- 72.11 32 P P 04 50 09.4 -1.6
comp=Z,3.9nm,0.8s,baz=212,slow=5.1,SNR=3.2
BR131 Keskin Array S 72.45 312 eP P 04 50 13.0 -0.4
comp=Z,1.4nm,0.8s
BRTR Keskin Array B 72.45 312 P P 04 50 13.3 -0.2
comp=Z,0.9nm,0.9s,baz=150,slow=6.5,SNR=3.2
SEY Seymchan 74.73 22 P P 04 50 24.8 -1.3
baz=197,slow=19,SNR=1.3
TIXI Tiksi 74.85 9 eP P 04 50 24.2 -2.5
TIXI e*PP pP 04 50 46.8 -1.2
TIXI pmax pmax
comp=Z,14nm,1.6s
TIXI Tiksi 74.85 9 eP P 04 50 24.2 -2.5
comp=Z,14nm,1.6s
TIXI epP pP 04 50 46.8 -1.2
AKASG Malin Array Be 78.52 322 P P 04 50 46.4 -1.3
comp=Z,0.3nm,0.3s,baz=78,slow=6.9,SNR=3.2
AKASG pP pP 04 51 08.7 -0.6
comp=Z,0.7nm,0.5s,baz=86,slow=5.8,SNR=2.3
BKZ Black Stump Fm 79.11 130 eP P 04 50 51.9 +0.5
comp=Z,19nm,1.2s
SUR Sutherland 80.18 237 eP pP 04 51 17.9 -1.2
BUR08 Bucovina Ar. S 80.34 319 eP P 04 50 58.9 +1.1
BUR08 epP pP 04 51 18.8 -0.7
JOF Joensuu 81.17 334 eP P 04 51 01.2 -0.6
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 81.17 334 ep P 04 51 01.2 -0.6
comp=Z,2.7nm,0.6s
FINES FINESS Array B 83.08 332 ceP P 04 51 12.1 +0.3
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 83.08 332 P P 04 51 11.8 0.0
comp=Z,3.3nm,0.4s,baz=119,slow=5.8,SNR=48
FINES pP pP 04 51 32.5 -1.1
comp=Z,1.3nm,0.4s,baz=109,slow=5.9,SNR=2.9
KAF Kangasniemi 83.15 333 eP P 04 51 12.0 -0.1
KAF pmax pmax
comp=Z,8.0nm,0.5s
KAF Kangasniemi 83.15 333 ep P 04 51 12.0 -0.1
comp=Z,7.7nm,0.5s
VNDA Vanda 83.23 169 P P 04 51 14.0 +1.6
VNDA Vanda 83.23 169 P P 04 51 13.9 +1.6
comp=Z,2.7nm,0.7s,baz=298,slow=2.8,SNR=8.3
KEV Kevo 84.96 341 eP P 04 51 20.5 -0.7
KEV Kevo 84.96 341 ep P 04 51 20.5 -0.7
ARCES ARCESS Array B 85.41 340 P P 04 51 22.8 -0.7
comp=Z,2.1nm,0.5s,baz=99,slow=6.0,SNR=41
ARCES pP pP 04 51 44.9 -0.4
comp=Z,4.3nm,0.9s,baz=98,slow=5.1,SNR=2.2
MORC Moravsky Berou 85.69 320 eP P 04 51 25.1 -0.3
MORC pmax pmax
comp=Z,2.0nm,0.7s
MORC Moravsky Berou 85.69 320 eP P 04 51 25.1 -0.3
comp=Z,2.0nm,0.7s
GERES GERESS Array B 88.11 319 P P 04 51 37.1 0.0
comp=Z,0.6nm,0.7s,baz=63,slow=0.6,SNR=6.1
GERES pP pP 04 51 58.3 -0.9
comp=Z,0.2nm,0.4s,baz=91,slow=5.3,SNR=2.8
NOA NORSAR Array B 90.12 331 LR LR 05 35 53.5
comp=Z,22nm,18.6s,baz=280,slow=38
NAO01 NORSAR Array S 90.27 331 eP P 04 51 46.8 -0.2
comp=Z,14nm,1.1s
TUE Stuetta 90.97 316 eP P 04 51 53.2 +2.4
COLD Coldfoot 98.53 22 eP P 04 52 23.9 -0.7
comp=Z,5.8nm,0.5s
COLD epP pP 04 52 45.3 -1.4
BOZ Bozeman (W) 127.61 27 ePKIKP PKPdf 04 57 52.0 +0.4
BOZ Bozeman (W) 127.61 27 ePKPdf PKPdf 04 57 52.0 +0.4
NVAR Mina Array Bea 128.92 39 PKP PKPdf 04 57 54.5 0.0
comp=Z,0.3nm,0.4s,baz=172,slow=2.1,SNR=3.8
DUG Dugway 130.98 33 ePKIKP PKPdf 04 57 58.8 +0.6
DUG Dugway 130.98 33 ePKPdf PKPdf 04 57 58.8 +0.6
MNTX Cornudas Mount 141.25 35 ePKPdf PKPdf 04 58 17.1 -0.2
TXAR Lajitas Array 143.99 36 PKP PKPbc 04 58 20.3 -0.1
comp=Z,3.7nm,0.6s,baz=273,slow=0.4,SNR=95
TXAR pPKP pPKPdf 04 58 42.4 -2.9
comp=Z,0.7nm,0.6s,baz=250,slow=0.2,SNR=2.0
BDFB Brasilia 144.17 241 PKP PKPdf 04 58 23.4 +0.5
comp=Z,1.1nm,0.5s,baz=156,slow=7.9,SNR=5.1
BDFB pPKP pPKPdf 04 58 44.9 -1.0
comp=Z,2.7nm,0.6s,baz=109,slow=6.4,SNR=3.3
MIAR Mount Ida 144.31 19 ePKIKP PKPab 04 58 20.3 -0.4
MIAR Mount Ida 144.31 19 ePKPdf PKPab 04 58 20.3 -0.4
CPUP Villa Florida 145.03 218 PKPbc PKPdf 04 58 24.1 0.0
comp=Z,0.7nm,0.4s,baz=37,slow=5.1,SNR=3.0
CPUP pPKPbc pPKPbc 04 58 47.0 +0.7
comp=Z,2.9nm,0.6s,baz=67,slow=5.4,SNR=3.6
JCT Junction City 145.23 30 ePKIKP PKPbc 04 58 23.5 -0.7
JCT Junction City 145.23 30 ePKPbc PKPbc 04 58 23.5 -0.7
LCO Las Campanas 148.85 196 ePKPbc PKPdf 04 58 32.6 +1.8

IDC 05 04:44:47.2±3.6,15.37S×71.31W,h176km±26km,mb3.1/3, mb1 3.3/5,mb1mx3.1/26,mbtmp3.6/5,Error ellipse: s-maj=64.8km s-min=34.2km az=29.0,Southern Peru

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 3.19 107 P Pn 04 45 38.0 -0.9
6.6nm,0.3s,baz=302,slow=12,SNR=100
LPAZ S Sn 04 46 19.8 +0.7
1.0nm,0.3s,baz=4.9,slow=22,SNR=3.7
CPUP Villa Florida 17.00 132 P P 04 48 32.5 -1.2
0.3nm,0.3s,baz=311,slow=9.3,SNR=2.2
BDFB Brasilia 22.45 94 P P 04 49 31.3 -0.6
0.9nm,0.4s,baz=262,slow=14,SNR=4.1
TORD Torodi Ar. Bea 77.57 73 P P 04 56 24.5 +0.2
0.7nm,0.5s,baz=270,slow=6.3,SNR=17
YKA Yellowknife Ar 84.68 341 P P 04 57 00.5 -0.2
0.1nm,0.5s,baz=139,slow=5.2,SNR=4.1
WRA Warramunga Arr 136.79 216 PKP PKPdf 05 03 51.2 +1.6
0.1nm,0.3s,baz=134,slow=1.9,SNR=4.5

IDC 05 04:48:07.7±2.4,2.91S×129.25E,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.6/21,mbtmp3.6/3,ML3.7/1,MS3.0/1, Ms1 3.0/1,ms1mx2.5/20,Error ellipse: s-maj=169.2km s-min=27.7km az=69.0,Seram

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 17.64 164 P Pn 04 52 13.5 -1.7
0.2nm,0.3s,baz=347,slow=12,SNR=6.6
ASAR Alice Springs 21.12 168 P P 04 52 55.1 +0.8
2.1nm,0.5s,baz=345,slow=9.6,SNR=27
ASAR LR LR 05 00 55.3
comp=Z,46nm,20.6s,baz=22,slow=36
MKAR Makanchi Array 64.42 326 P P 04 58 45.9 0.0
0.2nm,0.4s,baz=109,slow=7.8,SNR=5.0

IDC 05 05:37:09.9±2.0,11.78N×92.00E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.4/31,mbtmp3.5/5,ML3.7/1,MS3.4/1, Ms1 3.4/1,ms1mx2.5/40,Error ellipse: s-maj=69.1km s-min=23.8km az=64.0,Andaman Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 9.44 44 Pn Pn 05 39 27.1 -0.1
0.2nm,0.3s,baz=239,slow=15,SNR=4.4
H08S3 Diego Garcia H 27.36 226 T T 06 11 55.5
baz=45,slow=75,SNR=39
H08S2 Diego Garcia H 27.36 226 T T 06 11 56.0
baz=45,slow=75,SNR=72
H08S1 Diego Garcia H 27.38 226 T T 06 11 58.7
baz=45,slow=75,SNR=38
MKAR Makanchi Array 35.86 349 P P 05 44 11.4 -0.1
0.5nm,0.8s,baz=160,slow=7.6,SNR=4.8
KSRS Korea Array 41.07 45 LR LR 06 02 42.0
comp=Z,44nm,18.3s,baz=149,slow=37
ZALV Zalesovo Beam 42.45 354 P P 05 45 06.4 -0.1
0.6nm,0.6s,baz=182,slow=7.1,SNR=3.6
WRA Warramunga Arr 52.25 127 P P 05 46 23.1 -0.3
0.7nm,0.7s,baz=307,slow=8.4,SNR=18
ASAR Alice Springs 54.03 131 P P 05 46 36.5 0.0
0.5nm,0.9s,baz=321,slow=7.2,SNR=4.1

IDC 05 05:57:06.8±0.8,27.61N×52.30E,h0km,mb4.0/23, mb1 4.1/27,mb1mx4.0/38,mbtmp4.0/27,ML3.7/3,MS3.2/2, Ms1 3.2/2,ms1mx2.6/43,Error ellipse: s-maj=19.8km s-min=13.7km az=178.0
THR 05 05:57:07.3±0.5,27.55N×52.22E,h14km±7km,ML3.9
ISCJB 05 05:57:08.5±0.3,27.73N±0.03×52.22E±0.03,h15km, mb4.0/26,MS3.6/3,Error ellipse: s-maj=4.5km s-min=4.0km az=150.7
CSEM 05 05:57:10.1±0.2,27.73N×52.25E,h10km,ML3.9,Error ellipse: s-maj=6.3km s-min=5.2km az=86.0
TEH 05 05:57:10.5,27.75N×52.09E,h6km,ML3.8
OMAN 05 05:57:59.8±99.0,25.75N×55.80E,h58km±127km,Error ellipse: s-maj=290.3km s-min=13.9km az=307.0
ISC 05 05:57:09.8±0.5,27.75N±0.04×52.28E±0.04,h15km,n79, σ1§17/83,mb4.1/26,MS3.0/3,2C-3D,Southern Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GHIR Ghir-Karzin 0.82 49 ePg Pb 05 57 26.0 +0.1
GHIR eSg Sn 05 57 40.0 +1.1
3μm,0.6s
GHIR Ghir-Karzin 0.82 49 ePg Pb 05 57 25.9 +0.1
GHIR eSg Sn 05 57 40.0 +1.1
GHIR AML AML 05 57 43.8
comp=N,3μm,0.5s
GHIR AML AML 05 57 44.6
comp=E,3μm,0.6s
IKAZ Kazeroun 2.06 349 ePn Pb 05 57 45.5 -1.7
IKAZ e 05 58 25.8
comp=Z,13μm,0.3s
IKAZ Kazeroun 2.06 349 ePn Pb 05 57 45.5 -1.7
IPAR Pars 2.19 18 ePn Pb 05 57 48.4 -1.0
IPAR eSg Sg 05 58 20.4 0.0
IPAR e 05 58 27.5
comp=Z,3μm,0.3s
IPAR Pars 2.19 18 ePn Pb 05 57 48.4 -1.0

BOQSS 3.20 235 P Pn 05 58 01.0 +1.5
BOQSS 3.20 235 S Sg 05 58 54.7 +2.1
BOQSS 3.20 235 P Pn 05 58 00.8 +1.3
SLWS 3.28 207 P Pn 05 58 02.0 +1.3
SLWS 3.28 207 P Pn 05 58 01.8 +1.1
BNDS Bandar-Abbas 3.47 95 ePn Pn 05 58 03.8 +0.4
BNDS Bandar-Abbas 3.47 95 ePn Pn 05 58 03.8 +0.4
BTHS 3.90 200 P Pn 05 58 10.0 +0.8
BTHS 3.90 200 P Pn 05 58 09.9 +0.7
BANOM Banah 4.02 116 P Pn 05 58 11.4 +0.5
SNR=20
BANOM Banah 4.02 116 P Pn 05 58 11.4 +0.5
SNR=20
NAZ Nazwa, Dubai 4.09 131 P Pn 05 58 13.3 +1.6
SNR=12
NAZ Nazwa, Dubai 4.09 131⇓iP Pn 05 58 13.3 +1.6
SNR=12
ASUD Al Ashush, Dub 4.14 138 P Pn 05 58 14.2 +1.8
SNR=7.4
ASUD Al Ashush, Dub 4.14 138⇑iP Pn 05 58 14.2 +1.8
SNR=7.4
IMEH Mehriz 4.16 29 ePn Pn 05 58 15.6 +2.6
IMEH e 05 58 19.9
comp=Z,3μm,0.1s
IMEH Mehriz 4.16 29 ePn Pn 05 58 15.6 +2.6
FAQ Al Faqa, Dubai 4.21 134 P Pn 05 58 14.5 +1.0
FAQ Al Faqa, Dubai 4.21 134 ⇓P Pn 05 58 14.5 +1.0
ISAD Sadrabad 4.33 16 ePn Pn 05 58 17.0 +1.7
ISAD e 05 58 40.4
comp=E,760nm,0.2s
ISAD Sadrabad 4.33 16 ePn Pn 05 58 17.0 +1.7
HATD Hatta, Dubai 4.51 129 P Pn 05 58 18.4 +0.8
SNR=18
HATD Hatta, Dubai 4.51 129⇑iP Pn 05 58 18.4 +0.8
SNR=18
KRBR Kerman 4.51 59 ePn Pn 05 58 19.7 +1.8
comp=E,69nm,0.7s
KRBR Kerman 4.51 59 ePn Pn 05 58 19.7 +1.8
KRBR AML AML 05 59 21.1
comp=N,61nm,0.4s
KRBR AML AML 05 59 49.2
comp=E,69nm,0.7s
ASHO Ashiyiah 4.56 131 P Pn 05 58 19.1 +0.8
SNR=25
ASHO Ashiyiah 4.56 131 P Pn 05 58 19.1 +0.8
SNR=25
ICHK Chekchek 4.85 22 ePn Pn 05 58 24.5 +2.1
ICHK e 05 59 27.5
comp=Z,883nm,0.2s
ICHK Chekchek 4.85 22 ePn Pn 05 58 24.5 +2.1
IPIR Pirpir 5.07 347 ePn Pn 05 58 25.5 0.0
IPIR e 05 59 31.7
comp=Z,592nm,0.2s
IPIR Pirpir 5.07 347 ePn Pn 05 58 25.5 0.0
IZEF Zefreh 5.13 0 ePn Pn 05 58 27.4 +1.0
IZEF e 05 58 56.4
comp=Z,379nm,0.3s
IZEF Zefreh 5.13 0 ePn Pn 05 58 27.4 +1.0
SHGR Shooshtar-Gavs 5.29 326 ePn Pn 05 58 30.0 +1.7
comp=Z,94nm,0.8s
SHGR Shooshtar-Gavs 5.29 326 ePn Pn 05 58 30.0 +1.7
SHGR Sn Sn 05 59 30.5 +1.4
SHGR AML AML 05 59 38.9
comp=N,94nm,0.8s
SHGR AML AML 06 00 19.3
comp=E,64nm,0.6s
IKLH Kolahrood 5.59 354 ePn Pn 05 58 33.4 +0.8
IKLH e 05 59 06.7
comp=Z,420nm,0.3s
ARQ Araqi 5.82 138 ⇓P Pn 05 58 35.8 +0.1
ASYS 7.05 270 P Pn 05 58 52.0 -0.5
JMDO Jabal Madar 7.51 134 P Pn 05 58 58.4 -0.5
SNR=12
SNGE Sanandaj 8.45 331 ePN5 Pn 05 59 13.6 +1.7
ASF Jabal al Asfar 14.05 292 Pn Pn 06 00 27.2 -1.1
comp=Z,0.3nm,0.3s,baz=343,slow=8.7,SNR=3.1
EIL Elat 15.33 281 Pn Pn 06 00 46.0 +0.3
comp=Z,0.3nm,0.3s,baz=93,slow=18,SNR=3.6
MMAI Mount Meron Ar 15.48 294 Pn Pn 06 00 47.4 -0.3
baz=112,slow=19,SNR=2.5
BRTR Keskin Array B 19.53 312 P P 06 01 37.0 +0.2
comp=Z,0.3nm,0.3s,baz=136,slow=12,SNR=11
AKTO Aktyubinsk 23.08 9 P P 06 02 16.1 +1.4
comp=Z,1.9nm,0.5s,baz=167,slow=15,SNR=7.7
AKTO LR LR 06 13 28.4
comp=Z,47nm,18.6s,baz=106,slow=42
AAK Ala-Archa 23.36 45 P P 06 02 19.8 +2.0
comp=Z,1.2nm,0.5s,baz=230,slow=17,SNR=2.6
AAK LR LR 06 12 25.2
comp=Z,54nm,18.1s,baz=227,slow=39
IDI Anoyia 24.48 295 P P 06 02 29.6 +1.1
comp=Z,6.5nm,0.6s,baz=100,slow=15,SNR=8.0
MLR Muntele Rosu 27.39 317 P P 06 02 56.2 +1.5
comp=Z,0.3nm,0.5s,baz=93,slow=18,SNR=2.5
BVAR Borovoye Array 28.61 23 P P 06 03 05.7 +0.4
comp=Z,1.9nm,0.7s,baz=214,slow=7.2,SNR=7.5
AKASG Malin Array Be 28.84 329 P P 06 03 07.2 -0.2
comp=Z,0.3nm,0.4s,baz=132,slow=8.0,SNR=5.7
MKAR Makanchi Array 30.25 43 P P 06 03 20.6 +0.6
comp=Z,0.8nm,0.6s,baz=239,slow=9.9,SNR=14
MKAR PcP PcP 06 06 19.6 -0.9
comp=Z,0.3nm,0.5s,baz=243,slow=3.0,SNR=5.1
KURBB Kurchatov Arra 30.31 34 P P 06 03 21.1 +0.7
comp=Z,2.5nm,0.8s,baz=234,slow=9.0,SNR=20
ZALV Zalesovo Beam 35.39 33 P P 06 04 04.8 +0.1
comp=Z,6.3nm,0.7s,baz=242,slow=9.1,SNR=24
JOF Joensuu 37.77 344 ep P 06 04 24.6 -0.3
comp=Z,1.6nm,0.4s
FINES FINESS Array B 37.98 340 P P 06 04 26.8 +0.1
comp=Z,1.4nm,0.4s,baz=150,slow=10,SNR=22
KAF Kangasniemi 38.43 341 ep P 06 04 29.2 -1.3
comp=Z,2.1nm,0.6s
HFS Hagfors 41.61 332 P P 06 04 56.9 -0.1
comp=Z,3.3nm,0.4s,baz=120,slow=8.8,SNR=40
NB2 NORSAR Subarra 43.13 332 P P 06 05 08.8 -0.6
comp=Z,1.1nm,0.5s,baz=121,slow=8.6
NB2 NORSAR Subarra 43.13 332 P P 06 05 08.8 -0.6
comp=Z,1.1nm,0.5s,SNR=6.3
NOA NORSAR Array B 43.13 332 P P 06 05 09.0 -0.4
comp=Z,0.6nm,0.5s,baz=128,slow=9.0,SNR=7.4
CMAR Chiang Mai Arr 43.69 92 P P 06 05 13.3 -1.1
comp=Z,1.7nm,0.3s,baz=275,slow=10,SNR=4.8
KEV Kevo 44.51 348 ep P 06 05 19.0 -1.3
comp=Z,16nm,1.1s
ARCES ARCESS Array B 44.62 347 P P 06 05 21.4 +0.2
comp=Z,1.5nm,0.7s,baz=156,slow=9.1,SNR=13
ESDC Sonseca Array 47.58 300 P P 06 05 45.1 +0.1
comp=Z,0.9nm,0.3s,baz=69,slow=8.1,SNR=3.5
EKA Eskdalemuir Ar 48.14 321 P P 06 05 48.2 -0.8
comp=Z,0.3nm,0.4s,baz=110,slow=7.9,SNR=5.1
TORD Torodi Ar. Bea 49.25 263 P P 06 05 58.0 -0.1
comp=Z,1.5nm,0.8s,baz=58,slow=8.0,SNR=8.5
SPITS Spitsbergen Ar 53.05 351 P P 06 06 25.8 0.0
comp=Z,3.0nm,0.7s,baz=135,slow=12,SNR=13
DBIC Dimbokro 57.92 260 P P 06 07 01.5 -0.2
comp=Z,2.5nm,0.5s,baz=20,slow=5.8,SNR=9.2
JCJ Chichijima 77.81 66 LR LR 06 45 38.1
comp=Z,466nm,21.3s,baz=110,slow=37
ILAR Eielson Array 86.58 8 P P 06 09 51.6 -0.5
comp=Z,0.6nm,0.8s,baz=324,slow=4.0,SNR=4.7
YKA Yellowknife Ar 89.46 354 P P 06 10 06.1 +0.3
comp=Z,1.6nm,0.7s,baz=8.4,slow=5.3,SNR=36
WRA Warramunga Arr 92.39 111 P P 06 10 18.9 -1.3
comp=Z,0.3nm,0.5s,baz=311,slow=4.1,SNR=7.6
ASAR Alice Springs 93.81 115 P P 06 10 25.3 -1.4
comp=Z,0.5nm,0.4s,baz=308,slow=4.6,SNR=10.0

ISCJB 05 06:11:24.7±0.5, 51.°63N±0.°02×16.°06E±0.°04, h0km, Error ellipse: s-maj=3.4km s-min=3.1km az=25.7
CSEM 05 06:11:27.4±0.3, 51.°57N×16.°01E, h2km, ML3.5/6, Error ellipse: s-maj=4.7km s-min=4.3km az=168.0
PRU 05 06:11:28.6, 51.°55N×16.°02E, h0km
IDC 05 06:11:28.6±0.8, 51.°58N×15.°92E, h0km, mb1 3.2/6, mb1mx3.1/27, mbtmp3.1/6, ML2.7/6, Error ellipse: s-maj=12.7km s-min=7.9km az=117.0
VIE 05 06:11:30.5±0.5, 51.°34N×15.°98E, h0km, mb2.2/4, ML2.9/4, Error ellipse: s-maj=3.2km s-min=2.8km az=8.0 77 km WNW of Wroclaw Suspected Mining induced.
ISC 05 06:11:25.9±0.7, 51.°66N±0.°03×16.°04E±0.°03, h0km, n38, σ1°10/72, 4C, Poland

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSP Ksiaz 0.83 169 ePg Pb 06 11 42.7 -0.5
KSP eSg Sg 06 11 52.9 +0.4
KSP Ksiaz 0.83 169 e Pn 06 11 44.6 -0.3
KSP i 06 11 56.9
KSP Ksiaz 0.83 169 ePg Pb 06 11 42.8 -0.5
KSP iSg Sg 06 11 53.0 +0.4
UPC Upice 1.15 181 ePG Pb 06 11 48.5 -0.2
UPC eSG Sg 06 12 02.5 -0.4
UPC Upice 1.15 181 Pg Pb 06 11 48.5 -0.2
UPC Sg Sg 06 12 02.5 -0.4
DPC Dobruska-Polom 1.32 172 ePG Pb 06 11 51.6 0.0
DPC eSG Sg 06 12 07.6 -0.7
DPC Dobruska-Polom 1.32 172 Pg Pb 06 11 51.6 0.0
DPC Sg Sg 06 12 07.6 -0.7
PVCC Panska Ves 1.47 220 ePG Pg 06 11 54.2 +0.3
PVCC eSG Sg 06 12 12.9 0.0
151nm,0.3s
PVCC Panska Ves 1.47 220 Pg Pg 06 11 54.2 +0.3
PVCC Sg Sg 06 12 12.9 0.0
151nm,0.3s
BRG Berggiesshubel 1.54 240 PN Pb 06 11 55.6 +0.4
BRG PG Pg 06 11 56.0 +0.7
BRG SG Sn 06 12 15.9 +0.7
76nm,0.4s
KRLC Kraliky 1.65 163 ePG Pn 06 11 56.7 +0.5
KRLC eSG Sn 06 12 18.2 0.0
KRLC Kraliky 1.65 163 Pg Pn 06 11 56.7 +0.5
KRLC Sg Sn 06 12 18.2 0.0
PRA Prague 1.89 213 PG Pb 06 12 01.0 -0.2
PRA SG Sb 06 12 25.0 -0.4
PRU Pruhonice 1.93 210 ePN Pn 06 12 00.2 +0.3
PRU ePG Pb 06 12 02.2 +0.4
PRU eSG Sb 06 12 26.5 +0.1
30nm,0.3s
PRU Pruhonice 1.93 210 Pn Pn 06 12 00.2 +0.3
31nm,0.5s
CLL Collm 1.93 261 iPn Pn 06 12 00.3 +0.3
CLL iPg Pg 06 12 03.3 +0.4
CLL i 06 12 07.2
CLL eSg Sg 06 12 29.0 +1.1
comp=Z,20nm,0.5s
MORC Moravsky Berou 2.11 153 ePn Pn 06 12 03.0 +0.5
MORC eSg Sb 06 12 32.5 +0.7
OKC Ostrava-Krasne 2.26 143 ePG Pg 06 12 09.6 +0.4
OKC eSG Sb 06 12 37.0 +0.9
comp=Z,31nm,0.3s
OKC Ostrava-Krasne 2.26 143 Pg Pg 06 12 09.6 +0.4
OKC Sg Sb 06 12 37.0 +0.9
comp=Z,31nm,0.3s
VRAC Vranov 2.38 171 Pn Pn 06 12 07.0 +0.8
comp=Z,1.2nm,0.3s,baz=350,slow=13,SNR=7.2
VRAC Lg Lg 06 12 40.8
comp=Z,4.7nm,0.3s,baz=75,slow=21,SNR=10
VRAC Vranov 2.38 171 ePn Pn 06 12 07.7 +1.5
VRAC eSg Sb 06 12 40.5 +1.0
TREC Trest 2.39 189 eSG Sb 06 12 40.7 +0.8
comp=Z,27nm,0.5s
TREC Trest 2.39 189 Sg Sb 06 12 40.7 +0.8
comp=Z,27nm,0.5s
OJC Ojcow 2.78 120 ePn Pn 06 12 12.8 +1.2
OJC ePg Pg 06 12 20.4 +1.3
OJC eSn Sn 06 12 44.5 -1.4
OJC eSg Sg 06 12 56.4 +1.3
OJC Ojcow 2.78 120 ePn Pn 06 12 12.8 +1.2
KHC Kasperske Hory 2.98 213 ePN Pn 06 12 15.5 +1.0
KHC ePG Pb 06 12 21.5 +1.6
KHC eSN Sn 06 12 49.0 -1.9
KHC Kasperske Hory 2.98 213 Pn Pn 06 12 15.5 +1.0
GERES GERESS Array B 3.19 209 Pn Pn 06 12 18.4 +1.0
comp=Z,0.8nm,0.3s,baz=30,slow=13,SNR=24
GERES Pg Pb 06 12 25.2 +1.7
comp=Z,2.1nm,0.3s,baz=27,slow=19,SNR=37
GERES Lg Lg 06 13 05.7
comp=Z,3.0nm,0.3s,baz=29,slow=25,SNR=8.6
BSD Bornholm Skovb 3.53 349 iP Pn 06 12 23.5 +1.6
BSD iS Sn 06 13 02.7 -1.5
BSD Bornholm Skovb 3.53 349 iP Pn 06 12 23.5 +1.6
BSD iS Sn 06 13 02.7 -1.5
CONA Conrad Observa 3.74 182⇑iPn Pn 06 12 25.0 +0.1
CONA ⇑iSg Sg 06 13 23.2 -2.7
comp=Z,20nm,0.4s
CONA Conrad Observa 3.74 182 Pn Pn 06 12 25.0 +0.1
CONA Sg Sg 06 13 23.2 -2.7
comp=Z,20nm,0.4s
MOA Molln 3.98 197⇑iPn Pn 06 12 29.2 +1.0
MOA ⇑iSg Sg 06 13 31.5 -2.3
comp=Z,7.1nm,0.3s
MOA Molln 3.98 197 Pn Pn 06 12 29.2 +1.0
MOA Sg Sg 06 13 31.5 -2.3
comp=Z,7.1nm,0.3s
AKASG Malin Array Be 8.34 91 Pn Pn 06 13 29.0 +1.1
comp=Z,0.4nm,0.3s,baz=279,slow=12,SNR=4.0
AKASG Sn Sn 06 14 59.7 -3.1
comp=Z,0.5nm,0.3s,baz=276,slow=22,SNR=2.9
HFS Hagfors 8.60 352 Pn Pn 06 13 31.2 -0.2
comp=Z,0.1nm,0.3s,baz=152,slow=12,SNR=2.4
FINES FINESS Array B 11.24 25 Pn Pn 06 14 07.4 -0.3
comp=Z,0.1nm,0.3s,baz=213,slow=14,SNR=2.8
ARCES ARCESS Array B 18.48 11 Pn P 06 15 42.0 -1.1
comp=Z,0.0nm,0.3s,baz=195,slow=16,SNR=2.7

IDC 05 06:19:06.8±3.0, 55.°73S×26.°47W, h0km, mb4.1/2, mb1 4.2/2, mb1mx3.8/16, mbtmp4.1/2, Error ellipse: s-maj=116.5km s-min=48.2km az=164.0, South Sandwich Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 50.53 304 P P 06 28 07.2 -0.3
1.2nm,0.8s,baz=158,slow=5.4,SNR=2.9
TORD Torodi Ar. Bea 72.57 29 P P 06 30 35.6 0.0
2.3nm,0.7s,baz=198,slow=6.7,SNR=18
YKA Yellowknife Ar 136.20 318 PKP PKPdf 06 38 27.2 -1.3
0.2nm,0.8s,baz=135,slow=2.0,SNR=3.3
INK Inuvik 145.81 321 PKPbc PKPbc 06 38 46.0 -0.1
1.8nm,0.5s,baz=121,slow=5.9,SNR=3.5
ILAR Eielson Array 150.20 312 PKPbc PKPbc 06 38 57.7 -0.4
0.6nm,0.3s,baz=126,slow=2.0,SNR=10

ISCJB 05 06:27:00.5±0.3, 27.°23N±0.°04×127.°55E±0.°05, h100km±4km, mb3.9/17, Error ellipse: s-maj=9.3km s-min=3.3km az=138.1
NIED 05 06:27:00, 27.°20N×127.°60E, h89km, Mw4.1 Best double couple: M0 1.85000×10^15 NP1:ϕs53.00000°, δ21.00000°, λ41.00000°. NP2:ϕs284.00000°, δ76.00000°, λ106.00000°.
IDC 05 06:27:00.7±0.5, 27.°21N×127.°54E, h87km±5km, mb3.7/17, mb1 3.9/21, mb1mx3.9/33, mbtmp4.1/21, MS3.0/2, Ms1 3.0/2, ms1mx2.6/40, Error ellipse: s-maj=15.8km s-min=9.0km az=54.0
JMA 05 06:27:02.2±0.2, 27.°25N×127.°57E, h88km±2km, M3.9 JMA Felt I J1.
ISC 05 06:27:01.5±0.6, 27.°22N±0.°05×127.°60E±0.°04, h96km±5km, n43, σ1°02/66, mb4.0/17, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JIH Iheya 0.38 119 P Pn 06 27 16.4 +0.4
JIH eS Sn 06 27 26.3 -0.4
JAGN Aguni-jima 0.70 207 P Pn 06 27 18.7 +0.2
JAGN eS Sn 06 27 31.7 +0.5
JOW Kunigami 0.72 122 P Pn 06 27 19.2 +0.5
JOW eS Sn 06 27 31.3 -0.2
JOW Kunigami 0.72 122 P Pn 06 27 18.9 +0.3
42nm,0.3s,baz=114,slow=13,SNR=1325
JOW S Sn 06 27 31.1 -0.4
191nm,0.3s,baz=163,slow=19,SNR=66
JOW LR LR 06 27 49.4
comp=Z,13nm,20.3s,baz=129,slow=65
JNTH Nagotoyohara 0.79 151 P Pn 06 27 20.2 +0.8
JNTH eS Sn 06 27 32.8 0.0
JOKE Okinoerabujima 0.88 80 P Pn 06 27 20.8 +0.5
JOKE eS Sn 06 27 34.2 -0.2
JJT2 Tamagusuku 2 1.08 173 P Pn 06 27 23.8 +1.3
JJT2 S Sn 06 27 39.0 +0.7
JKE Kume jima 2 1.15 219 P Pn 06 27 23.5 +0.2
JKE eS Sn 06 27 39.3 -0.3
JTK Tokunoshima 1.33 65 P Pn 06 27 26.0 +0.6
JTK eS Sn 06 27 43.7 +0.2
JAMN Amaminishikomi 1.73 54 P Pn 06 27 30.9 +0.5
JAMN eS Sn 06 27 51.7 -0.7
JAM Amami Oshima 2.14 56 P Pn 06 27 36.7 +1.0
JAM eS Sn 06 28 02.1 +0.3
JIKM Ikemajima 3.11 223 P Sn 06 27 49.2 +0.6
JIKM S Sn 06 28 26.3 +1.3
JOGS Gusukube 3.14 219 P Sn 06 27 49.9 +0.8
JOGS S Sn 06 28 26.6 +0.8
JIRB Irabujima 3.23 223 P Pn 06 27 50.2 0.0
JMZ Minamidaito 2 3.53 112 P Pn 06 27 53.1 -1.2
JMZ S Sn 06 28 30.6 -4.5
JTJ Tarama 3.66 226 P Pn 06 27 55.8 -0.2
JTJ S Sn 06 28 36.7 -1.5
JISG Ishigakijimahi 3.95 229 P Pn 06 27 59.2 -0.8
JISG S Sn 06 28 43.2 -2.1
JIJ Ishigaki jima 4.22 228 P Pn 06 28 02.4 -1.1
JIJ S Sn 06 28 52.6 +0.9
JKRS Kuro-shima 4.39 228 P Pn 06 28 04.9 -1.0
JKRS S Sn 06 28 56.2 +0.3
JYNG Yonagunijimaku 5.02 238 P Pn 06 28 14.3 -0.1
JYNG S Sn 06 29 10.6 -0.5
JNU Nakatsue 6.53 25 P Pn 06 28 36.0 +1.0
21nm,0.3s,baz=224,slow=2.5,SNR=44
KSRS Korea Array 10.21 1 P Pn 06 29 25.2 +0.2
0.5nm,0.3s,baz=179,slow=14,SNR=26
KSRS LR LR 06 33 22.4
comp=Z,36nm,20.4s,baz=164,slow=37
MJAR Matsushiro Arr 12.94 41 P Pn 06 30 03.6 +1.9
1.5nm,0.3s,baz=247,slow=14,SNR=7.6
USRK Ussuriysk Arra 17.31 11 P Pn 06 30 57.1 +0.1
0.3nm,0.3s,baz=195,slow=8.4,SNR=5.3
MKAR Makanchi Array 40.46 311 P P 06 34 29.9 -0.7
0.4nm,0.6s,baz=97,slow=11,SNR=6.9
MKAR pP pP 06 34 50.8 -2.1
0.3nm,0.5s,baz=104,slow=9.4,SNR=3.1
MKAR ScP ScP 06 40 12.9 +0.5
0.2nm,0.5s,baz=105,slow=3.4,SNR=4.0
ZALV Zalesovo Beam 41.12 322 P P 06 34 34.5 -1.4
0.6nm,0.4s,baz=104,slow=11,SNR=3.5
ZALV pP pP 06 34 56.8 -1.4
1.0nm,0.6s,baz=123,slow=5.5,SNR=2.9
ZALV ScP ScP 06 40 14.1 -0.7
0.9nm,0.6s,baz=126,slow=3.6,SNR=3.7
KURBB Kurchatov Arra 43.75 316 P P 06 34 56.1 -1.2
0.2nm,0.4s,baz=102,slow=8.7,SNR=4.1
KURBB pP pP 06 35 19.1 -0.7
0.5nm,0.5s,baz=102,slow=8.7,SNR=3.8
AAK Ala-Archa 45.45 304 P P 06 35 09.9 -1.2
2.1nm,0.6s,baz=294,slow=20,SNR=4.0
WRA Warramunga Arr 47.33 171 P P 06 35 26.1 +0.3
6.8nm,0.7s,baz=353,slow=8.4,SNR=60
BVAR Borovoye Array 49.16 318 P P 06 35 40.2 +0.6
0.4nm,0.4s,baz=93,slow=7.5,SNR=3.5
ASAR Alice Springs 50.95 173 P P 06 35 54.4 +1.0
2.2nm,0.5s,baz=360,slow=14,SNR=12
AKTO Aktyubinsk 56.74 314 LR LR 07 00 43.2
comp=Z,36nm,20.7s,baz=36
STKA Stephens Creek 60.26 166 P P 06 37 00.2 +0.3
1.7nm,0.6s,baz=341,slow=4.4,SNR=4.5
NWAO Narrogin (SRO) 60.62 190 P P 06 37 02.8 +0.5
5.9nm,0.9s,baz=55,slow=16,SNR=3.2
ILAR Eielson Array 63.84 28 P P 06 37 23.1 -0.3
1.1nm,0.6s,baz=259,slow=5.0,SNR=22
INK Inuvik 68.21 23 P P 06 37 52.1 +0.8
4.4nm,0.5s,baz=305,slow=6.4,SNR=12
FINES FINESS Array B 71.73 330 P P 06 38 12.6 -0.4
0.7nm,0.5s,baz=58,slow=5.1,SNR=7.1
AKASG Malin Array Be 74.42 319 P P 06 38 28.3 -0.7
0.2nm,0.4s,baz=56,slow=6.5,SNR=2.1
BRTR Keskin Array B 75.98 308 P P 06 38 38.7 +0.3
2.3nm,1.1s,baz=48,slow=1.8,SNR=3.6
YKA Yellowknife Ar 77.87 25 P P 06 38 49.2 +0.9
2.1nm,0.7s,baz=298,slow=5.4,SNR=28
NB2 NORSAR Subarra 78.18 334 P P 06 38 49.9 -0.3
comp=Z,4.4nm,1.2s,baz=54,slow=6.2
NOA NORSAR Array B 78.18 334 P P 06 38 49.9 -0.3
comp=Z,1.2nm,0.8s,baz=53,slow=5.7,SNR=3.2
PDAR Pinedale Array 92.74 38 P P 06 40 03.9 +0.4
comp=Z,0.6nm,0.9s,baz=45,slow=2.3,SNR=3.7

IDC 05 06:30:44.3±0.8, 54.°52N×161.°80E, h0km, mb3.6/12, mb1 3.9/13, mb1mx3.7/29, mbtmp3.6/13, ML3.7/1, Error ellipse: s-maj=25.4km s-min=14.8km az=15.0
KRSC 05 06:30:48.1±1.1, 54.°39N×162.°24E, h58km±22km, ML4.2
ISCJB 05 06:30:49.7±0.4, 54.°39N±0.°02×162.°24E±0.°05, h62km±5km, mb3.7/14, Error ellipse: s-maj=5.0km s-min=2.6km az=26.1
MOS 05 06:30:49.7±1.6, 54.°45N×162.°10E, h61km, mb4.4/5, Error ellipse: s-maj=14.7km s-min=9.0km az=78.4
ISC 05 06:30:50.7±1.1, 54.°40N±0.°03×162.°21E±0.°03, h51km±11km, n75, σ1°16/117, mb3.6/14, Near east coast of Kamchatka Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KZV Kizimen 1.32 303 eP Pn 06 31 11.3 -1.6
KZV eS Sn 06 31 27.6 -1.8
TUMR Tumrok 1.48 307 eP Pn 06 31 14.2 -0.9
TUMR eS Sn 06 31 32.6 -0.8
KII Karymskiy 1.66 258 eP Pn 06 31 16.6 -0.9
KII eS Sn 06 31 37.6 -0.1
KMNR Kamenistaya 1.77 321 eP Pn 06 31 18.8 -0.2
KMNR eS Sn 06 31 41.1 +0.8
BZGR Bezymyannyi-Gr 1.77 331 eP Pn 06 31 19.0 0.0
BZGR eS Sn 06 31 41.1 +0.7
ZLN Zelenaya 1.81 334 eP Pn 06 31 20.1 +0.6
ZLN eS Sn 06 31 43.5 +2.2
BZMR Bezymyannaya 1.83 328 eP Pn 06 31 19.3 -0.5
BZMR eS Sn 06 31 41.4 -0.4
KBTR Krutoberegovo 1.84 11 PN Pn 06 31 20.1 +0.2
KBTR S Sn 06 31 41.9 -0.1
KBTR Krutoberegovo 1.84 11 eP Pn 06 31 20.1 +0.2
KBTR eS Sn 06 31 42.2 +0.2
BZWR Bezymyannyi-We 1.85 329 eP Pn 06 31 20.3 +0.2
BZWR eS Sn 06 31 43.7 +1.3
KBG Krutoberegovo 1.88 8 eP Pn 06 31 19.9 -0.4
KBG eS Sn 06 31 43.5 +0.7
KIRR Kirishev 1.89 326 eP Pn 06 31 20.6 0.0
KIRR eS Sn 06 31 43.3 0.0
LGNR Loginova 1.90 333 eP Pn 06 31 21.1 +0.2
LGNR eS Sn 06 31 44.2 +0.5
KPT Kopyto 1.94 325 eP Pn 06 31 21.3 0.0
KPT eS Sn 06 31 45.0 +0.5
KRSR Krestovskiy 2.05 333 eP Pn 06 31 23.0 +0.2
KRSR eS Sn 06 31 48.2 +1.0
NLC Nalytchevo 2.10 235 PN Pn 06 31 22.8 -0.5
NLC S Sn 06 31 46.5 -1.7
NLC Nalytchevo 2.10 235 eP Pn 06 31 22.8 -0.8
NLC eS Sn 06 31 47.7 -0.5
KLY Klyuchi 2.11 336 PN Pn 06 31 23.3 -0.3
KLY S Sn 06 31 47.7 -0.9
KLY Klyuchi 2.11 336 eP Pn 06 31 23.2 -0.3
KLY eS Sn 06 31 47.9 -0.7
KOZR Kozyr 2.13 322 PN Pn 06 31 24.2 +0.4
KOZR S Sn 06 31 49.0 -0.1
KOZ Kozyrevsk 2.13 322 eP Pn 06 31 24.2 +0.4
KOZ eS Sn 06 31 50.4 +1.3
SMKR Semkarok 2.23 349 eP Pn 06 31 25.7 +0.5
SMKR eS Sn 06 31 52.6 +1.1
BDR Baidarnaya 2.25 346 eP Pn 06 31 26.7 +1.3
BDR eS Sn 06 31 54.9 +2.9
SDLR Sedlovina 2.27 242 iP Pn 06 31 26.0 +0.2
SDLR iS Sn 06 31 53.4 +0.8
SMAR Somma 2.32 242 eP Pn 06 31 26.9 +0.3
SMAR eS Sn 06 31 54.7 +0.7
BKI Bering 2.32 68 PN Pn 06 31 26.3 -0.1
BKI S Sn 06 31 52.0 -1.7
BKI Bering 2.32 68 eP Pn 06 31 26.1 -0.3
BKI eS Sn 06 31 52.4 -1.3
KRER Koryakskii 2.33 243 eP Pn 06 31 27.3 +0.6
KRER eS Sn 06 31 55.0 +0.9
SRKR Sorokina 2.33 346 eP Pn 06 31 26.9 +0.3
SRKR eS Sn 06 31 54.9 +0.8
UGLR Uglovaya 2.34 241 iP Pn 06 31 27.2 +0.5
UGLR eS Sn 06 31 55.4 +1.1
AVH Avacha 2.35 242 iP Pn 06 31 27.6 +0.7
AVH eS Sn 06 31 56.5 +1.9
KRX Arik 2.35 245 iP Pn 06 31 27.2 +0.2
KRX eS Sn 06 31 54.9 +0.2
SRDR Sredinnyy 2.39 324 eP Pn 06 31 26.9 -0.5
SRDR eS Sn 06 31 54.6 -0.9
KOK Koryaka 2.39 244 eP Pn 06 31 28.1 +0.6
KOK eS Sn 06 31 56.8 +1.2
PET Petropavlovsk 2.52 238 PN Pn 06 31 29.5 +0.3

PET				S	Sn	06 31 58.0	-0.7
PET	Petropavlovsk	2.52	238	eP	Pn	06 31 29.2	0.0
PET				iS	Sn	06 31 58.5	-0.2
ESO	Esso	2.53	309	PN	Pn	06 31 28.9	-0.3
ESO				S	Sn	06 31 56.9	-1.9
ESO	Esso	2.53	309	eP	Pn	06 31 28.8	-0.4
ESO				eS	Sn	06 31 57.5	-1.3
GNL	Ganaly	2.61	256	eP	Pn	06 31 31.1	+0.6
GNL				eS	Sn	06 32 02.4	+1.3
RUS	Russkaya	2.96	230	PN	Pn	06 31 35.0	-0.2
RUS				S	Sn	06 32 07.8	-1.7
RUS	Russkaya	2.96	230	iP	Pn	06 31 34.8	-0.4
RUS				iS	Sn	06 32 08.2	-1.3
PETK	Petropavlovsk-	2.98	246	PN	Pn	06 31 35.1	-0.3
PETK						06 32 12.5	
PETK				pmax	pmax		
	comp=Z,24nm,0.3s						
PETK				smax	smax		
	comp=N,9.0nm,0.3s						
PETK	Petropavlovsk-	2.98	246	Pn	Pn	06 31 35.1	-0.3
	comp=N,24nm,0.3s,baz=82,slow=18,SNR=135						
PETK				Sn	Sn	06 32 12.5	+2.7
	comp=N,8.9nm,0.3s,baz=72,slow=31,SNR=7.1						
MTVR	Mutnovka	3.08	233	eP	Pn	06 31 37.4	+0.5
MTVR				eS	Sn	06 32 13.1	+0.5
ASAK	Asacha	3.28	234	eP	Pn	06 31 40.6	+1.0
ASAK				eS	Sn	06 32 17.8	+0.5
APC	Apacha	3.35	246	eP	Pn	06 31 41.8	+1.3
APC				eS	Sn	06 32 20.1	+1.2
MIPR	Malaya Ipel'ka	3.90	239	eP	Pn	06 31 49.1	+1.1
PAU	Pauzhetka	4.39	230	PN	Pn	06 31 55.5	+0.7
PAU	Pauzhetka	4.39	230	iP	Pn	06 31 55.8	+1.0
SKR	Severo-Kuril's	5.26	227	eP	Pn	06 32 07.4	+0.7
TILK	Tilichiki	6.42	18	eP	Pn	06 32 23.3	+0.8
FX1	Attu Island--F	6.69	99	Pn	Pn	06 32 26.1	-0.2
	comp=N,4.4nm,0.3s,baz=303,slow=5.1,SNR=9.4						
FX1				Sn	Sn	06 33 37.9	-3.1
	comp=N,6.4nm,0.3s,baz=135,slow=16,SNR=5.8						
ILAR	Eielson Array	27.00	47	P	P	06 36 28.6	+1.2
	comp=N,0.3nm,0.7s,baz=270,slow=9.0,SNR=3.3						
H11N2	WAKE ISLAND Hy	34.80	172	T	T	07 14 49.3	
	baz=357,slow=77,SNR=205						
H11N3	WAKE ISLAND Hy	34.81	172	T	T	07 14 50.9	
	baz=357,slow=77,SNR=166						
H11N1	WAKE ISLAND Hy	34.81	172	T	T	07 14 52.3	
	baz=357,slow=77,SNR=204						
YKA	Yellowknife Ar	41.35	44	P	P	06 38 32.8	+1.8
	comp=N,0.3nm,0.7s,baz=300,slow=8.1,SNR=4.8						
KURK	Kurchatov	48.11	302	P	P	06 39 23.6	-1.3
KURBB	Kurchatov Arra	48.21	302	P	P	06 39 23.6	-2.1
	comp=N,0.3nm,0.5s,baz=56,slow=7.8,SNR=3.7						
MKAR	Makanchi Array	48.72	296	P	P	06 39 27.5	-2.2
	comp=N,0.1nm,0.3s,baz=47,slow=7.0,SNR=3.1						
NVAR	Mina Array Bea	54.13	72	P	P	06 40 14.0	+3.4
	comp=N,0.4nm,0.5s,baz=325,slow=7.7,SNR=3.4						
JOF	Joensuu	56.90	336	eP	P	06 40 27.9	-1.9
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
JOF	Joensuu	56.90	336	ep	P	06 40 27.9	-1.9
	comp=Z,1.6nm,0.4s						
KAF	Kangasniemi	58.77	338	eP	P	06 40 39.9	-2.9
KAF				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KAF	Kangasniemi	58.77	338	ep	P	06 40 39.9	-2.9
	comp=Z,1.6nm,0.3s						
FINES	FINESS Array B	59.41	337	P	P	06 40 46.9	-0.4
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	FINESS Array B	59.41	337	P	P	06 40 46.9	-0.4
	comp=Z,2.5nm,0.5s,baz=41,slow=6.6,SNR=18						
NOA	NORSAR Array B	62.62	345	P	P	06 41 08.5	-0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	62.62	345	P	P	06 41 08.5	-0.7
	comp=Z,0.8nm,0.7s,baz=39,slow=5.7,SNR=3.2						
AKASG	Malin Array Be	68.12	330	P	P	06 41 43.2	-1.6
	comp=Z,0.3nm,0.4s,baz=28,slow=6.9,SNR=3.5						
TXAR	Lajitas Array	68.98	69	P	P	06 41 53.2	+2.6
	comp=Z,0.3nm,0.7s,baz=298,slow=3.9,SNR=5.0						
WRA	Warramunga Arr	77.81	207	P	P	06 42 43.5	+1.1
	comp=Z,0.4nm,0.7s,baz=13,slow=5.7,SNR=2.9						
ASAR	Alice Springs	81.48	206	P	P	06 43 03.9	+1.7
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	81.48	206	P	P	06 43 03.9	+1.7
	comp=Z,0.6nm,0.8s,baz=16,slow=7.0,SNR=4.0						
ESDC	Sonseca Array	85.54	349	P	P	06 43 22.2	-0.9
	comp=Z,0.2nm,0.3s,baz=357,slow=5.8,SNR=2.7						

BJI **05** *06:32:07.2, 1.97S×99.30E, h23km, mB4.9/19, mb4.5/28, Ms4.7/11, Ms7 4.4/10*
IDC **05** *06:32:08.2±0.6, 1.52S×99.31E, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.3/26, mbtmp4.3/18, ML4.1/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/45, Error ellipse: s-maj=23.5km s-min=14.0km az=51.0*
ISCJB **05** *06:32:10.6±1.5, 1.52S±0.05×99.32E±0.06, h25km±10km, mb4.4/34, MS4.1/6, Error ellipse: s-maj=11.7km s-min=5.2km az=144.2*
NEIC **05** *06:32:12.3±2.2, 1.55S×99.30E, h28km±15km, mb4.5/9, Error ellipse: s-maj=11.9km s-min=5.2km az=53.0*
DJA **05** *06:32:14.5±1.6, 1.S±4×9.9E±, h28km±15km, M4.5/12, mB5.0/6, mb4.6/12, MLv4.5/11, Mw(mB)4.3/6*
KLM **05** *06:32:46.0, 0.97N×101.03E, h10km, mb4.0, ML3.6, MS5.2*
ISC 05 06:32:13.2±0.5**, 1.58S**±0.05×**99.33E**±0.06**, h29**km±2km**, n101,** σ1.57/108**, mb4.5**/34**, MS4.0**/6**, 9C-6D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	2.38	6	P	Pn	06 32 48.3	-1.9
BKNI	Bangkinang	2.56	42	P	Pn	06 32 51.9	-0.7
BKNI	Bangkinang	2.56	42	eP	Pn	06 32 51.9	-0.7
BKNI				eSn	Sb	06 33 29.2	-0.2
BKNI	Bangkinang	2.56	42	P	Pn	06 32 54.0	+1.4
	baz=3.0,SNR=13						
GSI	Gunungsitoli	3.36	329	P	Pn	06 33 04.6	+0.9
GSI	Gunungsitoli	3.36	329	eP	Pn	06 33 01.8	-1.9
PSI	Prapat	4.37	355	Pn	Pn	06 33 15.2	-2.6
	2.3nm,0.3s,baz=180,slow=11,SNR=7.8						
PSI				LR	LR	06 35 09.6	
	comp=Z,521nm,19.6s,baz=168,slow=43						
PSI	Prapat	4.37	355	P	Pn	06 33 15.3	-2.5
	baz=4.6,SNR=5.7						
MNAI	Manna	4.55	127	eP	Pn	06 33 21.6	+1.4
MNAI				eSn	Sn	06 34 14.9	+2.7
MNAI	Manna	4.55	127	P	Pn	06 33 21.4	+1.3
	baz=4.7,SNR=30						
MNAI				S	Sn	06 34 14.1	+1.9
	baz=4.7,SNR=14						
LHSI	Lahat	4.75	118	P	Pn	06 33 26.4	+3.6
TPTI		5.27	336	P	Pn	06 33 31.0	+1.1
	17nm,0.8s,16μm0.2nm						
FRIM	Kepong	5.31	26	⇓P	Pn	06 33 27.2	-3.3
FRIM	Kepong	5.31	26	⇑S	Sn	06 33 49.6	-41
KGM	Kluang	5.36	48	⇑P	Pn	06 33 30.0	-1.2
KGM	Kluang	5.36	48	⇓S	Sn	06 33 58.0	-34
MYKOM	Kota Tinggi	5.63	53	eP	Pn	06 33 35.7	+0.8
MYKOM	Kota Tinggi	5.63	53	⇑P	Pn	06 33 36.4	+1.5
MYKOM	Kota Tinggi	5.63	53	⇑S	Sn	06 34 05.3	-33
MDSI	Maura Dua	5.64	121	P	Pn	06 33 37.0	+2.0
	51nm,0.8s,0.2nm						
IPM	Ipoh	6.26	16	eP	Pn	06 33 43.8	+0.3
IPM	Ipoh	6.26	16	⇑P	Pn	06 33 38.1	-5.5
KASI	Kota Agung	6.48	127	P	Pn	06 33 47.6	+1.0
	73nm,0.8s,1μm0.5nm						
KULM	Kulim	6.95	11	eP	Pn	06 33 51.1	-2.0
KULM	Kulim	6.95	11	⇑P	Pn	06 33 52.6	-0.5
KTGM	Kuala Trenggan	7.85	29	⇑P	Pn	06 34 02.9	-2.5
CGJI	Cibinong	8.08	128	P	Pn	06 34 08.4	-0.2
	40nm,0.9s,1μm						
CISI	Cisompet, Garu	10.33	125	eP	Pn	06 34 37.0	-2.5
CISI	Cisompet, Garu	10.33	125	P	Pn	06 34 37.5	-2.1
	baz=10,SNR=5.6						
KSM	Kuching	11.39	75	⇓P	Pn	06 35 05.1	+11
SBUM	Sibu	13.50	73	eP	Pn	06 35 22.9	0.0
SBUM	Sibu	13.50	73	⇓P	Pn	06 35 32.6	+0.9
KKM	Kota Kinabalu	18.49	66	⇑P	Pn	06 36 35.0	+7.6
SDKM	Sandakan	19.23	68	⇓P	Pn	06 36 44.1	+7.7
KDM	Kudat	19.40	64	⇓P	Pn	06 36 41.7	+3.3
CMAR	Chiang Mai Arr	19.92	359	P	P	06 36 41.9	-0.8
	0.8nm,0.3s,baz=187,slow=9.9,SNR=16						
MYLDM	Lahad Datu	20.30	71	⇑P	Pn	06 36 56.8	+7.8
SPSI	Sidrap Palu	20.55	97	P	Pn	06 37 01.4	+9.4
KAPI	Kappang	20.67	100	eP	P	06 36 50.5	-0.4
	79nm,1.0s						
BNSI	Bone	20.94	98	P	P	06 36 54.3	+0.5
	38nm,0.9s						
BKSI	Bulukumba	21.08	101	P	P	06 36 55.1	-0.3
	24nm,0.9s						
MRSI	Marisa	22.70	85	P	P	06 37 12.7	-0.1
	38nm,0.7s						
QIZ	Qiongzhong	22.94	26	P	P	06 37 13.2	-2.0
QIZ				S	S	06 41 25.4	+1.8
QIZ				pmax	pmax		
	comp=Z,20nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,47nm,4.3s						
QIZ				LR	LR		
	comp=N,180nm,13.0s						
QIZ				LR	LR		
	comp=Z,230nm,12.6s						
GTOI	Gorontalo	23.78	85	P	P	06 37 31.0	+7.4
KMI	Kunming	26.75	7	P	P	06 37 52.0	+1.3
KMI				pP	pP	06 37 59.7	+0.4
KMI				sP	sP	06 38 02.4	-0.5
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
KMI				LR	LR		
	comp=N,240nm,13.0s						
KMI				LR	LR		
	comp=E,96nm,9.9s						
KMI				LR	LR		
	comp=Z,170nm,15.6s						
H08S2	Diego Garcia H	27.40	256	T	T	07 05 53.0	
	baz=78,slow=75,SNR=322						
H08S3	Diego Garcia H	27.41	256	T	T	07 05 54.2	
	baz=78,slow=75,SNR=330						
H08S1	Diego Carcia H	27.42	256	T	T	07 05 54.3	
	baz=78,slow=75,SNR=280						
H08N1	Diego Carcia H	28.63	260	T	T	07 08 06.6	
	baz=145,slow=74,SNR=6.9						
H08N2	Diego Garcia H	28.64	260	T	T	07 08 07.2	
	baz=145,slow=74,SNR=6.4						
H08N3	Diego Garcia H	28.65	260	T	T	07 08 05.7	
	baz=145,slow=74,SNR=5.7						
GYA	Guiyang	28.76	14	eP	P	06 38 11.0	+2.4
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LSA	Lhasa	32.07	347	eP	P	06 38 38.4	+0.2
CD2	Chengdu	32.59	7	P	P	06 38 45.0	+2.8
CD2				pP	pP	06 38 51.9	+1.1
CD2				sP	sP	06 38 55.2	+0.8
CD2				PP	PP	06 39 54.5	-1.7
CD2				PcP	PcP	06 41 30.3	+2.0
CD2				S	S	06 43 59.1	+3.0
CD2				sS	sS	06 44 10.6	+0.2
CD2				PcS	PcS	06 45 14.4	+0.9
CD2				SS	SnSn	06 45 57.4	+5.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.4s						
H01W3	Cape Leeuwin H	35.89	159	T	T	07 16 58.0	
	baz=332						
H01W2	Cape Leeuwin H	35.90	159	T	T	07 16 59.0	
	baz=332						
H01W1	Cape Leeuwin H	35.91	159	T	T	07 16 59.2	
	baz=332						
WRKA	Warakurna	36.40	132	P	P	06 39 19.2	+3.9
	baz=36,SNR=4.9						
XAN	Xi'an	36.56	13	P	P	06 39 13.5	-3.1
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,14nm,6.7s						
NJ2	Nanjing	38.23	27	eP	P	06 39 29.2	-1.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WRA	Warramunga Arr	38.78	120	P	P	06 39 34.9	-0.7
	5.1nm,0.8s,baz=301,slow=9.1,SNR=37						
WRA				PcP	PcP	06 41 46.2	-0.6
	0.9nm,0.7s,baz=314,slow=2.5,SNR=6.1						
WRA				S	S	06 45 26.9	-4.6
	0.4nm,0.7s,baz=296,slow=16,SNR=3.5						
WRAB	Tennant Creek	38.79	120	eP	P	06 39 34.5	-1.1
	7.7nm,0.8s						
ASAR	Alice Springs	40.04	126	P	P	06 39 45.6	-0.4
	1.5nm,0.6s,baz=296,slow=7.9,SNR=19						
ASAR				PcP	PcP	06 41 50.7	0.0
	1.3nm,0.8s,baz=322,slow=3.2,SNR=7.1						
ASAR				S	S	06 45 49.5	-0.9
	0.7nm,0.8s,baz=297,slow=14,SNR=8.9						
GTA	Gaotai	40.80	1	eP	P	06 39 54.1	+2.0
GTA				pP	pP	06 40 01.2	+0.3
GTA				sP	sP	06 40 04.8	+0.4
GTA				S	S	06 46 04.3	+3.0
GTA				SS	SS	06 49 02.9	-0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,60nm,5.0s						
GTA				LR	LR		
	comp=N,710nm,14.7s						
GTA				LR	LR		
	comp=E,490nm,12.6s						
GTA				LR	LR		
	comp=Z,960nm,14.7s						
HHC	Hu-ho-hao-te	43.68	13	eP	P	06 40 17.6	+2.0
HHC				sP	sP	06 40 29.3	+1.4
HHC				PP	PcP	06 42 03.5	+1.1
HHC				S	S	06 46 44.6	+0.8
HHC				sS	sS	06 46 59.1	+0.8
HHC				pmax	pmax		
	comp=Z,38nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,5.9s						
HHC				LR	LR		
	comp=N,400nm,13.6s						
HHC				LR	LR		
	comp=E,680nm,12.3s						
HHC				LR	LR		
	comp=Z,670nm,15.0s						
JNU	Nakatsue	45.58	38	P	P	06 40 29.9	-0.9
	11nm,1.0s,baz=171,slow=18,SNR=2.9						
KSH	Kashi	46.17	335	eP	P	06 40 36.9	+1.4
KSH				sP	sP	06 40 46.6	-1.2
WMQ	Urumqi	46.39	348	P	P	06 40 37.5	+0.5
WMQ				pP	pP	06 40 45.0	-0.9
WMQ				sP	sP	06 40 48.3	-1.1
WMQ				PcP	PcP	06 42 12.6	+0.9
WMQ				PP	PP	06 42 26.1	-0.3
WMQ				S	S	06 47 22.7	-0.1
WMQ				SS	SS	06 50 40.9	-8.1
WMQ				pmax	pmax		
	comp=Z,20nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,170nm,5.4s						
WMQ				LR	LR		
	comp=N,73nm,19.0s						
WMQ				LR	LR		
	comp=E,190nm,21.0s						
WMQ				LR	LR		
	comp=Z,180nm,20.2s						
KSAR	Wonju Array Be	46.98	31	P	P	06 40 40.3	-1.4
KSRS	Korea Array	47.01	31	P	P	06 40 40.3	-1.6
	1.1nm,0.6s,baz=218,slow=5.7,SNR=3.7						
HTT	Hallett	48.76	135	P	P	06 40 57.1	+1.5
	baz=49,SNR=8.5						
CTAO	Charters Tower	49.38	115	eP	P	06 40 59.9	-0.6
	3.9nm,0.7s						
SONM	Songino Array	49.60	6	P	P	06 41 01.9	0.0
	2.3nm,0.6s,baz=186,slow=8.7,SNR=3.9						
STKA	Stephens Creek	49.93	132	P	P	06 41 05.2	+0.6
	6.1nm,0.7s,baz=309,slow=8.0,SNR=13						
STKA	Stephens Creek	49.93	132	eP	P	06 41 05.1	+0.6
	1.7nm,0.8s						
STKA	Stephens Creek	49.93	132	P	P	06 41 05.6	+1.1
	baz=50,SNR=6.1						
MK31	Makanchi Array	50.45	345	eP	P	06 41 07.8	-0.5
MKAR	Makanchi Array	50.45	345	P	P	06 41 07.7	-0.5
	5.8nm,0.7s,baz=150,slow=8.1,SNR=86						
MDJ	Mudanjiang	53.32	27	P	P	06 41 30.5	+0.9
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,63nm,5.2s						
USRK	Ussuriysk Arra	54.11	29	P	P	06 41 34.2	-1.2
	2.2nm,0.5s,baz=221,slow=5.7,SNR=5.0						
KURK	Kurchatov	55.02	344	eP	P	06 41 40.9	-1.0
	3.5nm,0.8s						
ZAA0	Zalesovo Array	56.64	350	eP	P	06 41 52.5	-0.9
ZALV	Zalesovo Beam	56.64	350	P	P	06 41 52.7	-0.7
	9.0nm,0.8s,baz=179,slow=5.4,SNR=39						
VOSK	Vostochnaya	59.12	340	eP	P	06 42 09.4	-1.4
	12nm,1.5s						
ABKAR	Akbulak array	60.95	332	eP	P	06 42 22.1	-1.5
	2.2nm,0.7s						
KMBO	Kilima Mbogo	62.06	270	P	P	06 42 33.0	+1.0
	3.4nm,0.8s,baz=62,slow=10.0,SNR=10.0						
KMBO	Kilima Mbogo	62.06	270	eP	P	06 42 33.2	+1.2
	2.5nm,0.8s						
KBZ	Khabaz	67.55	319	P	P	06 43 06.0	-0.9
	4.7nm,0.8s,baz=147,slow=7.3,SNR=7.3						
MMAI	Mount Meron Ar	69.25	306	LR	LR	07 16 10.9	
	comp=Z,24nm,18.7s,baz=65,slow=38						
BRTR	Keskin Array B	72.55	313	P	P	06 43 35.8	-2.1
	1.3nm,0.7s,baz=130,slow=7.0,SNR=6.5						
TIXI	Tiksi	75.56	9	eP	P	06 43 53.1	-1.5
	4.4nm,0.5s						
AKASG	Malin Array Be	78.75	322	P	P	06 44 11.1	-1.8
	0.4nm,0.5s,baz=84,slow=5.2,SNR=5.7						
BUR08	Bucovina Ar. S	80.52	319	eP	P	06 44 23.3	+0.5
FINES	FINESS Array B	83.43	332	P	P	06 44 36.8	-0.8
	2.5nm,0.8s,baz=117,slow=5.9,SNR=10						
ARCES	ARCESS Array B	85.86	340	P	P	06 44 48.0	-1.7
	1.4nm,0.8s,baz=54,slow=7.9,SNR=2.5						
GERES	GERESS Array B	88.29	319	P	P	06 45 01.1	-1.0
	0.9nm,0.7s,baz=62,slow=3.2,SNR=7.9						
PDAR	Pinedale Array	131.54	28	PKP	PKPdf	06 51 23.2	-0.5
	0.2nm,0.6s,baz=323,slow=1.4,SNR=2.1						
CPUP	Villa Florida	144.25	217	PKP	PKPbc	06 51 46.3	+1.0
	5.6nm,0.7s,baz=98,slow=3.8,SNR=8.5						
TXAR	Lajitas Array	144.77	36	PKP	PKPbc	06 51 47.3	+0.3
	3.8nm,0.7s,baz=277,slow=1.4,SNR=58						
MIAR	Mount Ida	145.06	19	ePKPdf	PKPbc	06 51 47.3	-0.4
JCT	Junction City	146.01	30	ePKPdf	PKPdf	06 51 50.3	+0.2

SZGRF **05** *06:47:32.1, 40.57N×137.39E, h33km, mb5.0, Eastern Sea of Japan*
NIED **05** *06:48:00, 40.60N×136.20E, h420km, Mw5.2 Best double couple: $M_0$7.79000×10^16 NP1:ϕ_s82.00000°, δ10.00000°, λ143.00000°. NP2:ϕ_s208.00000°, δ84.00000°, λ82.00000°.*
BJI **05** *06:48:07.9, 40.64N×135.92E, h378km, mB4.9/32, mb5.1/70*
ISCJB **05** *06:48:08.9±0.2, 40.70N±0.02×135.76E±0.02, h361km±1km, mb4.9/322, Error ellipse: s-maj=2.9km s-min=2.0km az=162.4*
JMA **05** *06:48:08.4±0.2, 40.56N×136.21E, h401km±3km, M4.9*
MOS **05** *06:48:08.5±0.9, 40.72N×135.72E, h359km, mb5.1/101, Error ellipse: s-maj=6.0km s-min=3.9km az=107.0*
IDC **05** *06:48:09.8±0.5, 40.66N×135.77E, h365km±4km, mb4.5/30, mb1 4.7/36, mb1mx4.6/39, mbtmp5.3/36, Error ellipse: s-maj=6.6km s-min=6.3km az=95.0*
NEIC **05** *06:48:11.9±0.1, 40.67N×135.63E, mb5.1/220, MW5.2(NIED), Error ellipse: s-maj=2.8km s-min=1.9km az=146.0*
GCMT **05** *06:48:11.9±0.5, 40.82N×135.73E, h388km±2km, MW5.2/40, Moment Tensor Solution. s40,c56; Duration: 1.0 Moment tensor: Scale 10^16Nm; M_{rr}4.24±.30; $M_{\theta\theta}$-1.91±.44; $M_{\phi\phi}$-2.34±.50; $M_{r\theta}$-2.16±.45; $M_{\theta\phi}$-4.17±.46; $M_{\phi r}$-6.62±.42; Best double couple: $M_0$8.86900×10^16 NP1:ϕ_s201.00000°, δ73.00000°, λ71.00000°. NP2: ϕ_s72.00000°, δ25.00000°, λ138.00000°. Principal axes: T 8.3570, Plg57.0000°, Azm86.0000°; N 1.0130, Plg18.0000°, Azm207.0000°; P -9.3800, Plg26.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s.*
ISC 05 06:48:11.0±0.3**, 40.63N**±0.03×**135.82E**±0.03**, h376**km±2km**, h375km:pP-P, n1222,** σ1.20/1437**, mb5.0**/324**, 234C-268D, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	Hegura jima	2.91	163	P	Pn	06 49 09.9	-1.7
JHG				S	S	06 49 58.8	-1.7
JOSM	Okushiri--Mats	3.11	61	eS	S	06 49 59.4	-4.1
JIW	Iwasaki	3.19	89	P	Pn	06 49 11.1	-2.9
JIW				S	S	06 50 02.1	-2.7
JSD	Sado	3.21	143	P	Pn	06 49 11.3	-2.9
JSD				S	S	06 50 01.7	-3.5
JAW	Awa shima	3.43	128	P	Pn	06 49 13.2	-3.0
VLA	Vladivostok	3.84	312c	iP	Pn	06 49 18.9	-1.0
JOT	Ohata	4.03	78	P	Pn	06 49 18.7	-3.1
JKB	Kayabe	4.13	71	P	Pn	06 49 20.1	-2.6
JMK	Ichinoseki	4.49	110	P	Pn	06 49 22.6	-3.8
JMK				eS	S	06 50 22.1	-5.5
MAJO	Matsushiro	4.49	155d	iP	Pn	06 49 23.8	-2.8
MAJO	Matsushiro	4.49	155	ePn	Pn	06 49 24.0	-2.6
MAT	Matsushiro	4.49	155	P	Pn	06 49 23.8	-2.8
MAT				eS	S	06 50 25.1	-2.7
MJAR	Matsushiro Arr	4.49	155	P	Pn	06 49 24.2	-2.4
	15nm,0.3s,baz=336,slow=11,SNR=289						
USRK	Ussuriysk Arra	4.55	323	P	Pn	06 49 25.7	-1.3
	53nm,0.3s,baz=140,slow=9.4,SNR=647						
USRK				S	S	06 50 28.6	-0.1
	2.0nm,0.3s,baz=130,slow=20,SNR=12						
KSULL	Ulleungdo	4.96	232	⇓P	Pn	06 49 29.8	-1.6
	SNR=18						
JRY	Ryogami san	5.21	151	P	Pn	06 49 31.6	-2.6
JRY				S	S	06 50 37.4	-4.2
JHR	Hokuryu	5.38	53	P	Pn	06 49 34.0	-1.7
JHR				S	S	06 50 38.1	-6.5
ERM	Erimo	5.70	74	Pn	Pn	06 49 36.4	-2.8
	8μm,0.4s						
ERM	Erimo	5.70	74c	iP	Pn	06 49 35.9	-3.3
ERM				pmax	pmax		
	comp=Z,569nm,0.6s						
ERM	Erimo	5.70	74	ePn	Pn	06 49 36.1	-3.2
ERM				eSn	S	06 50 45.5	-5.5
JOD2	Odawara 2	5.95	153	P	Pn	06 49 38.6	-3.7
JOD2				S	S	06 50 49.4	-7.1
JCH	Churui	5.99	68	P	Pn	06 49 38.5	-4.0
JCH				S	S	06 50 47.8	-9.2
JHS	Saijyo	6.02	202	P	Pn	06 49 41.4	-1.6
JHS				eS	S	06 50 57.1	-0.7
MDJ	Mudanjiang	6.08	313	P	Pn	06 49 42.6	-0.8
MDJ				sP	S	06 50 51.0	-7.7
MDJ				S	S	06 50 56.7	-2.0
MDJ				ScP	ScP	06 58 52.3	-0.3
MDJ				PcS	PcS	06 59 30.7	+0.6
MDJ				pmax	pmax		
	comp=Z,540nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,800nm,4.6s						
MDJ	Mudanjiang	6.08	313	ePn	Pn	06 49 42.7	-0.8
	comp=Z,370nm,0.8s						
MDJ				eSn	S	06 50 57.8	-0.9
ASAJ	Asahikawa	6.11	53	P	Pn	06 49 41.3	-2.5
ASAJ				S	S	06 50 53.0	-6.4
ASAJ				pmax	pmax		
	comp=Z,382nm,0.3s						
ASAJ				smax	smax		
	comp=N,62nm,0.3s						
ASAJ	Asahikawa	6.11	53	P	Pn	06 49 41.3	-2.5
	comp=N,382nm,0.3s,baz=237,slow=12,SNR=579						
ASAJ				S	S	06 50 53.0	-6.4
	comp=N,62nm,0.3s,baz=325,slow=32,SNR=19						
KSSKC	Sokcho	6.11	250	⇓P	Pn	06 49 43.2	-0.7
	SNR=11						
KSJMJ	Jumunjin	6.13	246	⇑P	Pn	06 49 43.4	-0.8
	SNR=12						
JIE	Ise	6.27	173	P	Pn	06 49 44.4	-1.4
JIE				S	S	06 50 59.6	-3.4
KSDGY	Daegwallycong	6.28	244	⇑P	Pn	06 49 45.5	-0.4
	SNR=88						
SEHB	SEOHWA	6.31	250	⇓P	Pn	06 49 45.7	-0.5
	SNR=90						
KSULJ	Uljin	6.37	234	⇓P	Pn	06 49 46.9	+0.1
	SNR=47						
JWK2	Keihoku	6.46	42	P	Pn	06 49 46.2	-1.5
JWK2				S	S	06 51 01.7	-4.9
KSIJA	INJE	6.53	249	⇑P	Pn	06 49 48.3	-0.4
	SNR=15						
KSCHC	Chuncheon	6.84	248	⇑P	Pn	06 49 51.9	-0.2
	SNR=7.1						
KSWJU	Wonju	6.85	244	⇓P	Pn	06 49 52.0	-0.3
	SNR=7.7						

JTKR Abashiri--Toko 6.86 58 P Pn 06 49 48.8 -3.5
JTKR eS S 06 51 06.2 -8.7
KSRS Korea Array 6.91 245 P Pn 06 49 53.0 0.0
comp=N,27nm,0.3s,baz=60,slow=11,SNR=390
KSRS S S 06 51 18.1 +1.9
baz=69,slow=18,SNR=2.0
KSRS ScP ScP 06 58 54.9 +1.5
comp=N,0.3nm,0.3s,baz=233,slow=1.0,SNR=6.6
KSAR Wonju Array Be 6.95 245 P Pn 06 49 53.1 -0.3
KSAR S S 06 51 18.1 +1.2
KSAR Wonju Array Be 6.95 245 P Pn 06 49 53.0 -0.3
KSAR S S 06 51 18.1 +1.2
KSAR ScP ScP 06 58 54.9 +1.4
TTO1 TONANKAI O.B.S 7.04 173 P Pn 06 49 53.8 -0.4
TTO1 S S 06 51 14.4 -4.1
JWZ Kozaga 7.09 181 P Pn 06 49 53.0 -2.1
JWZ S S 06 51 16.4 -3.6
BSO1 Boso 1 7.24 144 P Pn 06 49 51.6 -4.6
BSO1 eS S 06 51 12.9 -9.3
INCN Inchon 7.81 249 ePn Pn 06 50 03.4 0.0
comp=N,36nm,0.6s
HABR Khabarovsk 7.86 356 deP Pn 06 50 00.7 -3.0
HABR eS S 06 51 31.4 -4.4
HABR pmax pmax
comp=N,205nm,1.9s
HABR pmax pmax
comp=Z,448nm,1.9s
HABR pmax pmax
comp=E,47nm,1.9s
HABR smax smax
comp=Z,103nm,3.0s
HABR smax smax
comp=E,230nm,3.0s
HABR smax smax
comp=N,67nm,3.0s
NEM2 Nemuro 2 7.88 66 P Pn 06 49 59.4 -4.6
NEM2 S S 06 51 23.9 -13
JTU Tsushima 7.94 222 P Pn 06 50 04.3 -0.6
YSS Yuzh-Sakhalins 8.07 36 eP Pn 06 50 04.0 -2.1
YSS e 06 51 34.4
YSS Yuzh-Sakhalins 8.07 36 ePn Pn 06 50 04.0 -2.1
YSS eSn S 06 51 34.4 -6.0
JHJ2 Mitsune 8.16 156 P Pn 06 50 03.1 -4.4
JHJ2 eS S 06 51 35.7 -7.1
JHJ2 Mitsune 8.16 156 ePn Pn 06 50 03.3 -4.1
CN2 Changchun 8.32 296 eP Pn 06 50 09.0 -0.1
CN2 esP sP 06 51 23.5
CN2 eS S 06 51 41.9 -4.0
CN2 pmax pmax
comp=N,20nm,1.0s
CN2 pmax pmax
comp=N,200nm,3.0s
JNU Nakatsue 8.47 209 P Pn 06 50 11.2 0.0
comp=N,6.4nm,0.3s,baz=43,slow=11,SNR=33
KLR Kul'dur 9.06 343 αiP Pn 06 50 13.0 -4.8
KLR eS S 06 51 55.5 -6.3
KLR pmax pmax
comp=N,240nm,1.0s
KLR pmax pmax
comp=E,600nm,1.0s
KLR pmax pmax
comp=Z,1μm,1.0s
KLR smax smax
comp=N,2μm,11.0s
KLR smax smax
comp=E,3μm,11.0s
SNY Shenyang 9.30 281 ⇓P P 06 50 21.3 -0.1
SNY S S 06 52 09.3 +2.3
SNY ScS ScS 07 02 30.1 +0.1
SNY pmax pmax
comp=E,320nm,0.9s
SNY LR LR
comp=E,670nm,9.0s
SNY LR LR
comp=E,510nm,8.7s
SNY LR LR
comp=E,1μm,12.0s
DL2 Dalian 11.06 266 ⇓iP Pn 06 50 41.9 +0.6
DL2 S S 06 52 44.9 +0.5
DL2 ScS ScS 07 02 33.0 -0.4
DL2 pmax pmax
comp=E,880nm,3.6s
HIA Hailar 14.26 313 eP P 06 51 15.5 -0.7
HIA pmax pmax
comp=Z,201nm,0.8s
HIA Hailar 14.26 313 ePn P 06 51 15.5 -0.7
comp=Z,201nm,0.8s
CBIJ Chichi jima 14.49 157 ePn P 06 51 17.1 -1.8
CBIJ S S 06 53 50.1 -4.5
JCJ Chichijima 14.49 157 P P 06 51 17.1 -1.9
comp=Z,52nm,0.3s,baz=353,slow=18,SNR=40
JCJ S S 06 53 50.1 -4.6
comp=Z,62nm,0.3s,baz=243,slow=22,SNR=9.6
BJI Beijing 14.99 274 P P 06 51 23.6 -0.6
BJI S S 06 54 02.2 -2.1
BJI PcP PcP 06 56 05.8 -1.0
BJI ScP ScP 06 59 02.3 -2.0
BJI ScS ScS 07 02 40.9 -1.5
BJI pmax pmax
comp=Z,360nm,0.8s
BJT Baijiatuau 15.00 274 eP P 06 51 24.0 -0.4
BJT pmax pmax
comp=Z,293nm,0.8s
BJT Baijiatuau 15.00 274 ePn P 06 51 24.0 -0.4
comp=Z,293nm,0.8s
SSE Sheshan 15.19 236 P P 06 51 26.3 -0.1
SSE S S 06 54 07.0 -1.4
SSE PcP PcP 06 56 06.9 -0.3
SSE pmax pmax
comp=Z,58nm,0.7s
SSE LR LR
comp=Z,130nm,19.0s
SSE LR LR
comp=Z,82nm,18.8s
SSE LR LR
comp=Z,120nm,15.7s
TIA Tai'an 15.30 259 ⇓P P 06 51 27.4 -0.2
TIA sP sP 06 52 58.0 -10
TIA S S 06 54 10.0 -0.5
TIA pmax pmax
comp=Z,420nm,0.9s
TIA pmax pmax
comp=Z,840nm,3.0s
TIA LR LR
comp=Z,470nm,8.4s
TIA LR LR
comp=Z,520nm,8.7s
TIA LR LR
comp=Z,600nm,10.0s
NJ2 Nanjing 16.11 243 eP P 06 51 35.8 -0.6
NJ2 S S 06 54 27.0 +0.4
NJ2 pmax pmax
comp=Z,100nm,1.3s
NJ2 pmax pmax
comp=Z,210nm,5.3s
NJ2 LR LR
comp=Z,510nm,13.6s
NJ2 LR LR
comp=Z,460nm,15.5s
NJ2 LR LR
comp=Z,480nm,11.1s
CLNS Chul'man 17.71 340 eP P 06 51 50.5 -2.7
CLNS eS S 06 54 52.3 -5.0
CLNS pmax pmax
comp=Z,117nm,1.0s
CLNS pmax pmax
comp=N,72nm,0.8s
CLNS pmax pmax
comp=E,41nm,0.9s
CLNS smax smax
comp=E,215nm,8.8s
CLNS smax smax
comp=N,285nm,12.0s
TIY Taiyuan 18.35 268 eP P 06 51 59.1 -1.3
TIY S S 06 55 09.1 -1.1
HHC Hu-ho-hao-te 18.37 279 eP P 06 51 59.1 -1.5
HHC sP sP 06 53 40.9 -1.2
HHC S S 06 55 02.9 -7.7
HHC pmax pmax
comp=N,170nm,1.4s
HHC pmax pmax
comp=N,600nm,5.1s
CIT Chita 19.05 314 eP P 06 52 05.6 -1.9
CIT pmax pmax
comp=Z,605nm,2.0s
PETK Petropavlovsk- 19.39 43 P P 06 52 08.6 -2.2
comp=Z,0.6nm,0.3s,baz=216,slow=8.1,SNR=6.8
PETK ScP ScP 06 59 14.4 +1.3
comp=Z,0.3nm,0.3s,baz=177,slow=3.0,SNR=5.7
PET Petropavlovsk 19.84 44 eP P 06 52 16.9 +1.7
PET pmax pmax
comp=Z,22nm,0.6s
PET Petropavlovsk 19.84 44 eP P 06 52 16.9 +1.7
comp=Z,22nm,0.6s
YHNB Yeheng 19.99 222 eP P 06 52 15.8 -1.4
comp=Z,18nm,0.5s
WHN Wuhan 20.11 247 P P 06 52 19.5 +1.4
WHN S S 06 55 36.0 -4.0
WHN pmax pmax
comp=Z,350nm,0.6s
WHN LR LR
comp=Z,400nm,13.0s
YULB Yu-li 21.09 220 eP P 06 52 28.2 +1.1
comp=Z,16nm,0.7s
TPUB Ta-pu 21.50 221 eP P 06 52 29.4 -1.4
comp=Z,68nm,0.8s
TWG Pinlang 21.69 219 eP P 06 52 31.9 -0.6
comp=Z,241nm,0.6s
YAK Yakutsk 21.75 352 eP P 06 52 31.1 -1.4
YAK eS S 06 56 02.6 -3.2
YAK e 07 03 00.2
YAK pmax pmax
comp=E,14nm,0.8s
YAK pmax pmax
comp=Z,161nm,0.9s
YAK pmax pmax
comp=N,88nm,1.1s
YAK smax smax
comp=E,88nm,1.1s
YAK smax smax
comp=N,86nm,1.0s
YAK Yakutsk 21.75 352 eP P 06 52 31.7 -0.8
comp=N,183nm,0.8s
SONM Songino Array 22.18 299 ScP ScP 06 59 21.5 +1.2
baz=90,slow=2.9
XAN Xi'an 22.32 261 P P 06 52 37.1 -1.2
XAN S S 06 56 10.9 -4.9
XAN pmax pmax
comp=N,28nm,1.2s
XAN pmax pmax
comp=N,37nm,3.0s
XAN LR LR
comp=N,170nm,15.4s
XAN LR LR
comp=N,96nm,11.3s
XAN LR LR
comp=N,95nm,17.4s
ENH Enshi 23.73 252 eP P 06 52 49.6 -1.3
comp=N,65nm,0.8s
SEY Seymchan 24.42 18 P P 06 52 56.2 -0.5
comp=N,3.5nm,0.2s,baz=194,slow=5.0,SNR=13
SEY S S 06 56 49.4 +1.2
comp=N,1.1nm,0.3s,baz=86,slow=22,SNR=6.7
SEY ScP ScP 06 59 27.3 +1.5
comp=N,3.2nm,0.6s,baz=243,slow=3.9,SNR=4.6
IRK Irkutsk 24.44 309 eP P 06 52 55.9 -1.2
IRK pmax pmax
comp=Z,160nm,1.7s
ZAK Zakamensk 24.62 304 eP P 06 52 57.7 -1.1
ZAK pmax pmax
comp=Z,81nm,0.8s
TLY Talaya 24.67 307 P P 06 52 59.6 +0.4
comp=Z,865nm,0.7s,SNR=34
TLY Talaya 24.67 307 eP P 06 52 58.7 -0.5
TLY pmax pmax
comp=Z,95nm,0.7s
TLY Talaya 24.67 307 eP P 06 52 58.7 -0.5
comp=Z,96nm,0.7s
LZH Lanzhou 25.40 270 eP P 06 53 06.4 +0.4
LZH pP pP 06 54 05.8 -4.1
LZH sP sP 06 54 58.8 +0.7
LZH PcP PcP 06 56 24.4 -2.3
LZH eS S 06 57 03.1 -1.4
LZH ScP ScP 06 59 32.4 +3.0
LZH ScS ScS 07 03 19.6 +0.5
LZH pmax pmax
comp=Z,41nm,1.0s
LZH pmax pmax
comp=Z,360nm,5.3s
MOY Mondy 26.28 307 eP P 06 53 13.2 -0.4
MOY pmax pmax
comp=Z,53nm,1.0s
SZP Santa 26.55 214 eP P 06 53 16.8 +0.7
comp=Z,87nm,0.8s
GTA Gaotai 27.48 279 P P 06 53 23.6 -0.8
GTA pP pP 06 54 30.4 -2.1
GTA sP sP 06 55 16.9 -0.1
GTA PcP PcP 06 56 33.0 +1.5
GTA S S 06 57 33.8 -3.3
GTA sS ScP 06 59 36.4 +0.9
GTA PcS PcS 07 00 14.4 +0.6
GTA ScS ScS 07 03 27.1 -1.0
GTA pmax pmax
comp=Z,58nm,1.2s
GTA pmax pmax
comp=Z,130nm,4.5s
GTA LR LR
comp=Z,210nm,14.5s
GTA LR LR
comp=Z,350nm,16.4s
GTA LR LR
comp=Z,400nm,16.4s
CD2 Chengdu 27.63 260 P P 06 53 26.1 +0.4
CD2 pP pP 06 54 35.4 +1.3
CD2 sP sP 06 55 20.7 +2.4
CD2 PcP PcP 06 56 33.4 +1.5
CD2 S S 06 57 38.0 -1.5
CD2 ScP ScP 06 59 36.2 +0.2
CD2 sS sS 06 59 42.0 -4.4
CD2 ScS ScS 07 03 27.1 -1.7
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,260nm,5.6s
GYA Guiyang 27.96 249 ⇑iP P 06 53 26.0 -2.7
GYA pP pP 06 54 38.6 +1.2
GYA sP sP 06 55 23.4 +2.0
GYA PcP PcP 06 56 33.2 +0.3
GYA S S 06 57 40.5 -4.3
GYA ScP ScP 06 59 37.0 -0.2
GYA PcS PcS 07 00 14.2 -1.5
GYA ScS ScS 07 03 28.4 -2.2
GYA pmax pmax
comp=Z,30nm,0.7s
GYA pmax pmax
comp=Z,140nm,4.8s
FX1 Attu Island--F 28.04 51 P P 06 53 28.0 -0.9
comp=Z,12nm,0.4s,baz=268,slow=16,SNR=8.2
QIZ Qiongzhong 30.96 234 P P 06 53 55.3 +0.3
QIZ S S 06 58 30.6 -0.9
QIZ pmax pmax
comp=Z,25nm,1.8s
TIXI Tiksi 31.29 356 diP P 06 53 55.8 -1.3
TIXI pmax pmax
comp=Z,29nm,0.7s
TIXI Tiksi 31.29 356 eP P 06 53 56.0 -1.0
comp=Z,39nm,0.8s
KMI Kunming 31.57 251 P P 06 54 00.0 -0.4
KMI pP pP 06 55 11.7 +1.5
KMI S S 06 58 40.0 -1.2
KMI SS SS 07 01 09.7 -6.5
KMI pmax pmax
comp=Z,23nm,0.7s
KMI LR LR
comp=Z,190nm,13.8s
KMI LR LR
comp=Z,170nm,13.8s
KMI LR LR
comp=Z,190nm,13.6s
KRAR Krasnoyarsk 31.83 313 eP P 06 54 01.2 -0.8
KRAR pmax pmax
comp=Z,57nm,1.1s
SLVN Son La 33.18 244 eP P 06 54 13.9 -0.2
comp=Z,7.1nm,0.8s
WMQ Urumqi 35.38 291 P P 06 54 33.8 +1.2
WMQ pP pP 06 55 46.8 +3.3
WMQ PP PnPn 06 56 08.0 +0.8
WMQ sP sP 06 56 29.0 +2.1
WMQ PcP PcP 06 56 53.0 +0.1
WMQ S S 06 59 40.6 +1.8
WMQ PcS PcS 07 00 40.8 +0.3
WMQ sS sS 07 01 49.6 +1.5
WMQ pmax pmax
comp=Z,55nm,0.8s
WMQ pmax pmax
comp=Z,250nm,3.5s
WMQ LR LR
comp=Z,190nm,22.0s
WMQ LR LR
comp=Z,95nm,20.1s
WMQ LR LR
comp=Z,93nm,20.8s
ZAA0 Zalesovo Array 36.26 309 eP P 06 54 38.9 -0.7
ZAA0 ePcP PcP 06 56 55.4 +0.1
ZALV Zalesovo Beam 36.26 309 P P 06 54 38.5 -1.2
comp=Z,18nm,0.3s,baz=90,slow=6.2,SNR=131
ZALV PcP PcP 06 56 55.2 0.0
comp=Z,3.8nm,0.5s,baz=114,slow=3.6,SNR=4.3
ZALV ScP ScP 07 00 05.5 +0.4
comp=Z,3.3nm,0.5s,baz=107,slow=5.0,SNR=8.7
NVS Novosibirsk 37.19 311 eP P 06 54 45.1 -2.3
NVS e 06 56 20.7
NVS e 07 00 02.3
NVS e 07 04 14.6
NVS pmax pmax
comp=E,36nm,1.1s
NVS pmax pmax
comp=Z,53nm,1.1s
PAYA Payao 37.30 246 P P 06 54 56.8 +8.0
DLV T Lat 37.34 228 eP P 06 54 50.2 +0.8
comp=Z,5.3nm,0.4s
DLV epP pP 06 56 07.8 +6.7
CMAI Chiengmai2 37.50 248 P P 06 54 51.6 +1.0
comp=Z,48nm,0.7s
LSA Lhasa 37.75 268 P P 06 54 52.3 -0.7
LSA Lhasa 37.75 268 eP P 06 54 53.5 +0.5
LSA pmax pmax
comp=Z,27nm,0.8s
LSA Lhasa 37.75 268 eP P 06 54 53.5 +0.5
comp=Z,27nm,0.8s
UTTA Uttaradit 37.93 244 P P 06 54 55.8 +1.8
comp=Z,14nm,0.8s,comp=Z,96nm
LAMP Lampang 38.03 245 P P 06 54 55.7 +0.8
comp=Z,34nm,0.8s,comp=Z,229nm
GAMB Gambell 38.09 35 eP P 06 54 54.6 -0.1
comp=Z,23nm,1.2s
CMMT Chiang Mai 38.31 246 P P 06 54 57.2 0.0
comp=Z,152nm,0.7s,comp=Z,1μm
CHTO Chiang Mai 38.31 246 eP P 06 54 58.1 +0.9
CHTO e*PP pP 06 56 11.6 +2.4
CHTO pmax pmax
comp=Z,73nm,0.7s
CHTO Chiang Mai 38.31 246 P P 06 54 57.3 +0.1
comp=Z,518nm,0.8s,comp=Z,4μm
CHTO Chiang Mai 38.31 246 eP P 06 54 58.1 +0.9
comp=Z,74nm,0.7s
CHTO epP pP 06 56 11.6 +2.4
PBKT Sadao Pong 38.48 242 P P 06 55 00.7 +2.2
comp=Z,14nm,0.7s,comp=Z,2μm
MK31 Makanchi Array 38.54 298 eP P 06 54 57.5 -1.3
MK31 e 06 56 36.6
MK31 Makanchi Array 38.54 298 eP P 06 54 57.5 -1.3
MK31 ePP PP 06 56 36.6 +0.1
MK31 eScP ScP 07 00 14.1 +0.2
MKAR Makanchi Array 38.54 298 P P 06 54 57.5 -1.3
comp=Z,41nm,0.8s,baz=86,slow=9.0,SNR=228
MKAR PP PP 06 56 37.7 +1.2
comp=Z,4.6nm,0.9s,baz=84,slow=11,SNR=3.6
MKAR ScP ScP 07 00 14.3 +0.4
comp=Z,3.0nm,0.9s,baz=75,slow=5.1,SNR=6.5
CM31 Chiang Mai Arr 38.55 246 eP P 06 55 00.3 +1.1
comp=Z,9.3nm,0.5s
CMAR Chiang Mai Arr 38.55 246 P P 06 54 59.2 +0.1
comp=Z,27nm,0.8s,baz=51,slow=9.7,SNR=75
CMAR ScP ScP 07 00 15.8 +1.4
comp=Z,4.4nm,0.6s,baz=14,slow=2.9,SNR=13
MYLDM Lahad Datu 38.57 208 eP P 06 55 00.9 +1.6
comp=Z,46nm,1.2s
SUKH Sukhothai 38.75 244 P P 06 55 02.2 +1.5
comp=Z,11nm,0.9s,comp=Z,81nm
TNA Tin City 40.03 33 eP P 06 55 10.6 0.0
comp=Z,35nm,0.9s
KURK Kurchatov 40.28 304 P P 06 55 12.0 -0.9
KURK S S 07 00 50.3 -1.2
KURK pmax pmax
comp=Z,54nm,0.6s
KURK smax smax
comp=N,4.0nm,1.0s
KURK Kurchatov 40.28 304 eP P 06 55 11.5 -1.4
comp=N,65nm,0.8s
KURK ScP ScP 07 00 21.0 +0.4
KURK S S 07 00 50.3 -1.2
KURBB Kurchatov Arra 40.35 304 P P 06 55 12.0 -1.4
comp=N,54nm,0.6s,baz=81,slow=8.3,SNR=481
KURBB ScP ScP 07 00 21.0 +0.2
comp=N,2.3nm,0.8s,baz=83,slow=2.9,SNR=9.5
KURBB S S 07 00 50.3 -2.2
comp=N,3.9nm,1.0s,baz=82,slow=13,SNR=7.6
CHBT CHBT 40.40 236 P P 06 55 16.5 +2.3
comp=N,14nm,0.7s,comp=N,2μm
TAPN Taplejung 41.54 267 eP P 06 55 23.1 -0.6
comp=N,87nm,0.7s
PHET Kaeng Krachan 42.02 239 P P 06 55 29.2 +2.0
comp=N,45nm,0.8s,comp=N,2μm
ODAN Odare 42.04 266 eP P 06 55 27.2 -0.4
comp=N,65nm,0.7s
JIRN Jiri 42.54 268 eP P 06 55 31.1 -0.6
comp=N,165nm,0.5s
RAMN Ramite 42.59 267 eP P 06 55 31.2 -0.8
comp=N,98nm,0.5s
GUN Gumba 42.65 269 eP P 06 55 31.6 -1.0
comp=N,221nm,0.4s
KKN Kakani 43.16 269 eP P 06 55 36.2 -0.3
comp=N,196nm,0.7s
PKI Pulchoki 43.18 269 eP P 06 55 35.7 -1.1
comp=N,59nm,0.5s
PKIN Phulchoki 43.18 269 eP P 06 55 36.2 -0.5
comp=N,67nm,0.7s
DMN Daman 43.39 269 eP P 06 55 37.6 -0.7
comp=N,140nm,0.8s
FAKI Fak Fak 43.47 185 eP P 06 55 39.2 +0.5
comp=N,108nm,0.8s
GKN Gorkha 43.55 270 eP P 06 55 38.3 -1.2
comp=N,142nm,0.6s
SBUM Sibu 43.59 215 eP P 06 55 40.3 +0.6
DANN Dangsing 44.04 271 eP P 06 55 42.8 -0.7
comp=N,648nm,0.7s
TKM2 Tokmak 2 44.12 294 eP P 06 55 43.5 -0.4
TKM2 pmax pmax
comp=Z,139nm,1.5s
TKM2 Tokmak 2 44.12 294 P P 06 55 43.6 -0.3
SNR=33
TKM2 Tokmak 2 44.12 294 eP P 06 55 43.5 -0.4
comp=Z,139nm,1.5s
TKM2 epP pP 06 57 01.7 +3.5
KOLN Koldanda 44.45 270 eP P 06 55 46.0 -0.6
comp=Z,161nm,1.0s
KZA Kyzart 44.64 293 iP P 06 55 49.2 +1.0
KZA Kyzart 44.64 293 P P 06 55 49.2 +1.0
SNR=8.2
KBK Karagaybulak 44.66 294 iP P 06 55 47.9 -0.2
KBK Karagaybulak 44.66 294 P P 06 55 47.9 -0.2
SNR=6.6
CHMS Chumysh 44.69 294 iP P 06 55 48.1 +0.1
CHMS Chumysh 44.69 294 P P 06 55 48.2 +0.1
SNR=5.4
PYUN Piuthan 44.75 271 eP P 06 55 48.5 -0.5
comp=Z,215nm,0.6s
USP Ospenovka 44.78 295 iP P 06 55 48.7 0.0
USP Ospenovka 44.78 295 P P 06 55 48.8 0.0
SNR=6.4
BVA0 Borovoye Array 44.92 309 iP P 06 55 48.7 -0.9
BVA0 pmax pmax
comp=Z,15nm,0.5s
BVAR Borovoye Array 44.92 309 P P 06 55 48.8 -0.9
comp=Z,23nm,0.6s,baz=82,slow=7.4,SNR=111
BVAR ScP ScP 07 00 40.5 +1.2
comp=Z,5.8nm,0.9s,baz=117,slow=2.3,SNR=8.3
BVAR S S 07 01 57.1 -1.4
comp=Z,3.2nm,0.8s,baz=71,slow=14,SNR=5.6
BRVK Borovoye 44.97 309 P P 06 55 49.0 -1.1
comp=Z,253nm,0.4s,SNR=15
BRVK Borovoye 44.97 309 diP P 06 55 49.4 -0.7
BRVK pmax pmax
comp=Z,25nm,1.2s
BRVK Borovoye 44.97 309 eP P 06 55 49.3 -0.8
comp=Z,43nm,1.2s

AAK Ala-Archa 44.99 294 P P 06 55 50.8 +0.2
comp=Z,139nm,0.8s,SNR=10
AAK Ala-Archa 44.99 294 eP P 06 55 49.9 -0.7
AAK 06 57 44.6
AAK pmax pmax
comp=Z,52nm,1.5s
AAK Ala-Archa 44.99 294 P P 06 55 50.7 +0.2
SNR=14
AAK Ala-Archa 44.99 294 P P 06 55 49.8 -0.7
comp=Z,8.6nm,0.3s,baz=119,slow=7.1,SNR=24
AAK PP PP 06 57 44.6 +2.3
comp=Z,8.8nm,1.0s,baz=94,slow=9.4,SNR=5.1
AAK ScP ScP 07 00 40.3 +0.3
comp=Z,3.5nm,0.9s,baz=94,slow=7.0,SNR=3.9
AAK Ala-Archa 44.99 294 eP P 06 55 49.9 -0.7
comp=Z,52nm,1.5s
AAK PP PP 06 57 44.6 +2.3
AAK ScP ScP 07 00 40.3 +0.3
KSH Kashi 45.02 289 eP P 06 55 54.7 +3.9
KSH ePP PP 06 57 47.6 +5.0
KSH esP sP 06 57 52.9 +5.1
KSH PcS PcS 07 01 20.4 +1.5
KSH S S 07 02 04.5 +3.9
KSH SS SS 07 05 28.9 +0.1
KSH pmax pmax
comp=Z,26nm,1.0s
KSH pmax pmax
comp=Z,150nm,2.6s
KSH LR LR
comp=Z,340nm,4.1s
KSH LR LR
comp=Z,280nm,7.0s
KSH LR LR
comp=Z,370nm,7.0s
UCH Uchtor 45.11 293 i P P 06 55 52.3 +0.5
UCH Uchtor 45.11 293 P P 06 55 52.4 +0.5
SNR=10
KSM Kuching 45.31 217 eP P 06 55 54.2 +1.1
comp=Z,54nm,1.1s
SVW2 Sparrevohn 45.42 39 eP P 06 55 54.6 +1.2
comp=Z,45nm,1.0s
EKS2 Erkin-Say 45.48 294 eP P 06 55 53.8 -0.5
EKS2 e 06 57 48.1
EKS2 pmax pmax
comp=Z,12nm,0.8s
EKS2 Erkin-Say 45.48 294 P P 06 55 54.3 0.0
SNR=5.9
EKS2 Erkin-Say 45.48 294 eP P 06 55 53.8 -0.5
comp=Z,12nm,0.8s
EKS2 e 06 57 48.1
EKS2 eScP ScP 07 00 42.7 +0.7
SURT Suratani 45.52 236 P P 06 55 58.5 +3.7
comp=Z,6.5nm,0.6s
AML Almayashu 45.71 293 i P P 06 55 57.2 +0.7
AML Almayashu 45.71 293 P P 06 55 57.2 +0.7
SNR=9.1
IM04 Indian Mountai 45.87 33 eP P 06 55 57.3 +0.5
IM04 ePcP PcP 06 57 28.2 +1.5
IM04 eScP ScP 07 00 45.0 +2.0
PPLA Purkeypile 46.81 37 eP P 06 56 06.0 +1.7
comp=Z,203nm,1.5s
RSO Redoubt South 46.88 40 eP P 06 56 05.9 +1.0
COLD Coldfoot 47.21 31 eP P 06 56 08.2 +1.1
comp=Z,34nm,1.0s
COLD eS S 07 02 33.7 +3.2
KULM Kulim 47.24 231 eP P 06 56 08.5 +0.5
comp=Z,18nm,1.0s
KTH Kantishna Hill 47.30 36 eP P 06 56 08.6 +0.7
comp=Z,142nm,0.8s
KDAK Kodiak Island 47.43 44 P P 06 56 08.3 -0.6
comp=Z,599nm,0.6s,SNR=25
KDAK Kodiak Island 47.43 44 i P P 06 56 08.4 -0.5
KDAK Kodiak Island 47.43 44 eP P 06 56 08.9 0.0
comp=Z,73nm,0.7s
KK31 Karatay Array 47.58 296 i P P 06 56 09.4 -0.9
KK31 pmax pmax
comp=Z,3.0nm,0.3s
KKAR Karatay Array 47.58 296 eP P 06 56 09.7 -0.6
KKAR pmax pmax
comp=Z,61nm,1.2s
KKAR Karatay Array 47.58 296 eP P 06 56 09.7 -0.6
comp=Z,61nm,1.2s
TRF Thorofare Moun 47.59 36 eP P 06 56 11.2 +0.9
comp=Z,37nm,0.7s
TRF ePcP PcP 06 57 34.1 +1.0
KAPI Kappang 47.76 202 P P 06 56 12.1 +0.2
comp=Z,326nm,1.0s,SNR=6.5
KAPI Kappang 47.76 202 eP P 06 56 12.1 +0.2
comp=Z,328nm,1.1s
KAPI epP PcP 06 57 32.9 -1.3
MCK McKinley 48.15 35 eP P 06 56 15.0 +0.7
MCK e 06 57 35.9
MCK pmax pmax
comp=Z,82nm,0.9s
MCK McKinley 48.15 35 eP P 06 56 15.0 +0.7
comp=Z,82nm,0.9s
MCK ePcP PcP 06 57 35.9 +0.9
RC01 Rabbit Creek A 48.23 39 eP P 06 56 14.9 0.0
comp=Z,56nm,0.8s
PMR Palmer 48.43 38 eP P 06 56 16.5 +0.2
PMR e 06 57 36.6
PMR pmax pmax
comp=Z,64nm,0.6s
PMR Palmer 48.43 38 eP P 06 56 16.5 +0.2
comp=Z,64nm,0.6s
PMR ePcP PcP 06 57 36.6 +0.7
COLA College 48.44 34c i P P 06 56 17.1 +0.7
COLA pmax pmax
comp=Z,412nm,0.9s
COLA College 48.44 34 eP P 06 56 17.4 +1.0
comp=Z,116nm,0.8s
SEW Seward 48.56 40 eP P 06 56 17.1 -0.3
comp=Z,70nm,0.7s
ILAR Eielson Array 48.87 34 P P 06 56 19.6 -0.1
comp=Z,34nm,0.6s,baz=265,slow=5.6,SNR=478
ILAR PcP PcP 06 57 37.0 -0.5
comp=Z,4.8nm,0.7s,baz=273,slow=3.8,SNR=5.9
ILAR ScP ScP 07 00 56.5 +0.8
comp=Z,0.7nm,0.7s,baz=270,slow=3.6,SNR=3.7
ILAR S S 07 02 55.1 +1.6
comp=Z,0.9nm,1.1s,baz=271,slow=11,SNR=4.3
SVE Sverdlovsk 49.54 316c i P P 06 56 24.7 -0.1
SVE pmax pmax
comp=Z,239nm,0.9s
PAX Paxson 49.83 36 eP P 06 56 27.5 +0.5
PAX pmax pmax
comp=Z,18nm,1.0s
PAX Paxson 49.83 36 eP P 06 56 27.5 +0.5
comp=Z,18nm,1.0s
DIV Divide 50.11 38 eP P 06 56 29.8 +0.7
comp=Z,71nm,0.7s
PSI Prapat 50.25 231 P P 06 56 29.9 -0.9
comp=Z,6.9nm,0.6s,baz=351,slow=2.5,SNR=7.7
PSI ScP ScP 07 01 03.4 +0.8
comp=Z,3.9nm,0.4s,baz=339,slow=7.2,SNR=6.2
DOT Dot Lake 50.30 35 eP P 06 56 30.1 -0.2
comp=Z,52nm,1.1s
MENT Mentasta 50.62 36 eP P 06 56 34.1 +1.4
BMRM Bremner River 50.70 38 eP P 06 56 34.2 +0.8
comp=Z,72nm,1.0s
BMRM ePcP PcP 06 57 45.5 +1.0
ARU Arti 50.75 316 P P 06 56 33.3 -0.5
comp=Z,1µm,0.6s,SNR=47
ARU Arti 50.75 316 eP P 06 56 33.3 -0.5
ARU pmax pmax
comp=Z,158nm,0.7s
ARU Arti 50.75 316 eP P 06 56 33.3 -0.5
comp=Z,158nm,0.7s
SOKR Solikamsk 50.79 320 eP P 06 56 34.8 +0.9
SOKR pmax pmax
comp=Z,40nm,0.8s
RAGM Ragged Mountai 50.81 39 eP P 06 56 35.3 +1.1
comp=Z,173nm,1.4s
PMG Port Moresby 50.88 166 eP P 06 56 34.2 -1.0
PMG pmax pmax
comp=Z,15nm,0.8s
EGAK Eagle 51.27 33 eP P 06 56 37.5 +0.1
comp=Z,162nm,1.5s
KBL Kabul 52.13 286 eP P 06 56 43.4 -1.1
KBL pmax pmax
comp=Z,72nm,1.0s
KBL Kabul 52.13 286 eP P 06 56 43.4 -1.1
comp=Z,72nm,1.0s
DAWY Dawson 52.19 34 eP P 06 56 44.6 +0.3
GSI Gunungsitoli 52.25 232 eP P 06 56 44.8 -0.5
comp=Z,18nm,0.8s

AB31 Akbulak array 52.28 307 i P P 06 56 44.0 -1.1
AB31 pmax pmax
comp=Z,57nm,0.4s
ABKAR Akbulak array 52.28 307 eP P 06 56 44.3 -0.8
AKTO Aktyubinsk 53.02 309 P P 06 56 50.1 -0.3
comp=Z,35nm,0.6s,baz=91,slow=9.0,SNR=84
INK Inuvik 53.21 28 P P 06 56 51.4 -0.1
INK 06 57 54.6
INK pmax pmax
comp=Z,27nm,0.5s
INK pmax pmax
comp=Z,14nm,0.9s
INK Inuvik 53.21 28 P P 06 56 51.4 -0.1
comp=Z,27nm,0.5s,baz=293,slow=6.9,SNR=87
INK PcP PcP 06 57 54.5 +0.9
comp=Z,14nm,0.8s,baz=293,slow=5.8,SNR=4.7
INK Inuvik 53.21 28 eP P 06 56 51.9 +0.4
comp=Z,53nm,1.0s
INK ePcP PcP 06 57 54.6 +1.0
HYT Haines Junctio 54.05 37 eP P 06 56 59.8 +1.9
HYB Hyderabad 54.13 262 i P P 06 56 58.5 -0.4
HYB e 06 57 14.5
COEN Coen 54.74 171 eP P 06 57 03.4 +0.3
comp=Z,328nm,0.8s
PRGR Permogore 55.34 325 ⇓i P P 06 57 06.3 -0.4
PRGR e*PP pP 06 58 21.6 -3.4
PRGR 06 59 13.5
PRGR i S S 07 04 22.5 +1.9
PRGR pmax pmax
comp=Z,121nm,1.0s
SKAG Skagway 55.56 38 eP P 06 57 09.8 +1.5
comp=Z,25nm,1.0s
SPA0 Spitsbergen Ar 56.11 348 eP P 06 57 11.8 -0.2
KBS Kingsbay 56.33 349 eP P 06 57 13.4 0.0
KBS pmax pmax
comp=Z,17nm,1.1s
KBS Kingsbay 56.33 349 eP P 06 57 14.5 +1.1
KBS eS S 07 04 34.9 +1.7
KBS Kingsbay 56.33 349 eP P 06 57 13.4 0.0
comp=Z,17nm,1.1s
SIT Sitka 56.52 41 eP P 06 57 16.8 +1.7
SIT pmax pmax
comp=Z,96nm,1.0s
SIT Sitka 56.52 41 eP P 06 57 16.8 +1.7
comp=Z,96nm,1.0s
HSPB Hornsund (broa 56.98 347 eP P 06 57 18.1 +0.2
HSPB IAmb IAmb 06 57 26.4
comp=Z,171nm,1.8s
LVZ Lovozero 57.00 334 eP P 06 57 17.6 -0.7
LVZ pmax pmax
comp=Z,21nm,1.1s
APA Apatity 57.57 334 ⇓i P P 06 57 22.0 -0.2
APA i 06 58 11.0
APA i *PP pP 06 58 35.2 -6.0
APA i 06 59 34.8
APA i S S 07 04 48.0 -1.6
APA i SS SS 07 08 50.0 +4.3
APA pmax pmax
comp=Z,49nm,0.6s
APA MLR MLR
comp=Z,600nm,14.0s
ABKT Ailbek 58.31 295 P P 06 57 27.3 -0.6
comp=Z,516nm,0.6s,SNR=10.0
KLMR Klimovskoe 58.35 325 eP P 06 57 25.4 -2.2
KLMR e 06 59 40.9
KLMR pmax pmax
comp=Z,54nm,0.9s
KEV Kevo 58.49 337 eP P 06 57 28.4 0.0
KEV pmax pmax
comp=Z,296nm,2.3s
KEV Kevo 58.49 337 ep P 06 57 27.9 -0.5
comp=Z,25nm,0.6s
KEV Kevo 58.49 337 eP P 06 57 28.4 0.0
comp=Z,296nm,2.3s
DLBC Dease Lake 58.49 38 eP P 06 57 30.3 +1.5
KIP Kipapa 58.53 88 eP P 06 57 29.7 +0.2
KIP pmax pmax
comp=Z,52nm,1.0s
ARCES ARCESS Array B 59.05 337 P P 06 57 31.9 -0.4
comp=Z,12nm,0.6s,baz=59,slow=8.4,SNR=99
ARCES PP PP 06 59 48.5 +1.1
comp=Z,3.1nm,0.7s,baz=53,slow=6.5,SNR=4.6
ARE0 ARCESS Array S 59.05 337 eP P 06 57 32.0 -0.2
KTK1 Kautokeino 60.01 337 eP P 06 57 39.1 +0.3
WRAB Tennant Creek 60.27 182 P P 06 57 40.0 -1.1
comp=Z,362nm,0.8s,SNR=34
WRAB Tennant Creek 60.27 182 eP P 06 57 40.5 -0.6
WRAB e 06 58 23.0
WRAB pmax pmax
comp=Z,51nm,0.8s
WRAB Tennant Creek 60.27 182 eP P 06 57 40.5 -0.6
comp=Z,51nm,0.8s
WRAB ePcP PcP 06 58 23.0 +0.9
WRAB epP pP 06 59 05.0 +3.9
WRA Warramunga Arr 60.28 182 P P 06 57 40.2 -1.0
comp=Z,42nm,0.8s,baz=357,slow=7.0,SNR=166
WRA PcP PcP 06 58 22.9 +0.7
comp=Z,11nm,0.7s,baz=354,slow=4.2,SNR=9.6
WRA ScP ScP 07 01 48.0 +1.8
comp=Z,0.5nm,0.3s,baz=0.4,slow=5.0,SNR=13
WRA PKP2bc 07 27 04.3
comp=Z,1.2nm,1.0s,baz=179,slow=2.2,SNR=5.2
JOF Joensuu 60.69 329 eP P 06 57 42.0 -1.4
JOF pmax pmax
comp=Z,19nm,0.4s
JOF Joensuu 60.69 329 ep P 06 57 42.0 -1.4
comp=Z,18nm,0.4s
TRO Tromso 60.85 339 eP P 06 57 44.1 -0.3
CTA Charters Tower 61.18 169 P P 06 57 46.7 -0.5
comp=Z,23nm,1.0s,baz=351,slow=7.4,SNR=21
CTAO Charters Tower 61.18 169 eP P 06 57 47.1 -0.1
CTAO pmax pmax
comp=Z,35nm,1.1s
CTAO Charters Tower 61.18 169 eP P 06 57 47.1 -0.1
comp=Z,35nm,1.1s
POHA Pohakuloa 61.38 88 eP P 06 57 50.4 +1.4
comp=Z,109nm,0.8s
MOS Moscow 61.73 321 eP P 06 57 49.4 -1.0
MOS e 07 00 09.0
MOS e 07 05 42.2
MOS e 07 07 01.2
MOS pmax pmax
comp=Z,118nm,1.3s
DAG Danmarks Havn 61.76 354 i P P 06 57 49.5 -0.8
DAG Danmarks Havn 61.76 354 i P P 06 57 49.5 -0.8
comp=Z,4.3nm,0.7s
VRHR Novokhopersk 62.07 315 eP P 06 57 50.3 -2.4
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=Z,50nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.6s
OBN Obninsk 62.57 320 eP P 06 57 55.3 -0.6
comp=E,19nm,0.4s
YKW3 Yellowknife Ar 62.82 29 eP P 06 57 57.5 0.0
comp=E,1.1nm,1.3s
YKW3 ePcP PcP 06 58 33.0 +1.0
PUL Pulkovo 62.83 327 eP P 06 57 57.7 +0.1
PUL pmax pmax
comp=Z,68nm,0.8s
YKA Yellowknife Ar 62.86 29 P P 06 57 57.7 0.0
comp=Z,9.3nm,0.5s,baz=308,slow=5.9,SNR=317
YKA PcP PcP 06 58 33.0 +0.9
comp=Z,4.1nm,0.6s,baz=308,slow=3.6,SNR=10
YKA pP pP 06 59 16.4 -1.9
comp=Z,3.3nm,0.8s,baz=305,slow=6.5,SNR=1.8
YKA ScP ScP 07 01 58.1 +1.0
comp=Z,1.2nm,1.0s,baz=311,slow=4.8,SNR=3.8
YKA PKP2bc 07 26 59.0
comp=Z,0.6nm,1.0s,baz=122,slow=2.2,SNR=4.1
STEI Steigen 62.98 339 eP P 06 57 58.0 -0.4
KAF Kangasniemi 63.06 330 eP P 06 57 58.2 -0.8
KAF pmax pmax
comp=Z,36nm,0.5s
KAF Kangasniemi 63.06 330 ep P 06 57 58.2 -0.8
comp=Z,36nm,0.5s
MBWA Marble Bar 63.27 197 eP P 06 58 00.5 -0.4
comp=Z,43nm,0.7s
VSR Storozhevoye 63.33 316 eP P 06 57 59.8 -1.1
VSR pmax pmax
comp=Z,60nm,0.7s
VSR pmax pmax
comp=N,50nm,0.9s
VSR pmax pmax
comp=E,50nm,0.9s

VORD Divnogorie 63.39 315 eP P 06 57 59.5 -1.9
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=Z,30nm,0.8s
VORD pmax pmax
comp=E,30nm,0.9s
FIA1 FINESS Array S 63.55 330 eP P 06 58 01.5 -0.7
FINES FINESS Array B 63.55 330 P P 06 58 01.6 -0.7
comp=E,52nm,0.6s,baz=78,slow=6.3,SNR=140
AS31 Alice Springs 63.99 182 eP P 06 58 05.2 -0.4
ASAR Alice Springs 63.99 182 P P 06 58 05.3 -0.2
comp=E,14nm,0.9s,baz=2.7,slow=5.5,SNR=107
ASAR PcP PcP 06 58 38.3 +1.0
comp=E,5.2nm,0.9s,baz=358,slow=3.9,SNR=5.3
ASAR pP pP 06 59 25.9 -0.7
comp=E,1.9nm,0.8s,baz=352,slow=5.3,SNR=2.3
ASAR PKP2bc 07 26 57.2
comp=E,1.1nm,1.0s,baz=137,slow=2.4,SNR=6.4
MOR8 Moi Rana 64.42 337 eP P 06 58 06.2 -1.6
MOR8 IAmb IAmb 06 58 07.4
comp=Z,34nm,0.6s
GOF Gofitskoye 64.44 308 eP P 06 58 08.6 +0.4
GOF pmax pmax
comp=Z,130nm,0.8s
KULLO Kullorsuaq 64.74 4 i P P 06 58 09.3 -0.4
KULLO pmax pmax
comp=Z,14nm,0.9s
KULLO Kullorsuaq 64.74 4 i P P 06 58 09.3 -0.4
comp=Z,14nm,0.8s
VSU Vasula 65.10 327d i P P 06 58 11.8 -0.4
VSU pmax pmax
comp=Z,188nm,1.4s
ZEI Tsey 65.14 306 eP P 06 58 12.1 -1.0
ZEI pmax pmax
comp=Z,14nm,0.6s
KBZ Khabaz 65.25 307 P P 06 58 13.9 +0.5
comp=Z,29nm,0.8s,baz=58,slow=2.8,SNR=43
KIV Kislovodsk 65.25 307 P P 06 58 14.3 +0.7
comp=Z,889nm,0.9s,SNR=14
KIV Kislovodsk 65.25 307 eP P 06 58 14.7 +1.1
KIV pmax pmax
comp=Z,135nm,0.9s
KIV Kislovodsk 65.25 307 eP P 06 58 14.7 +1.1
comp=Z,135nm,0.9s
UOSS Wadi Hilu 66.63 283 P P 06 58 22.3 -0.2
comp=Z,324nm,0.6s,SNR=6.0
SUMG Summit 67.02 358 eP P 06 58 24.9 +0.4
SUMG e*PP pP 06 59 48.4 +2.0
SUMG pmax pmax
comp=Z,45nm,1.1s
SUMG Summit 67.02 358 i P P 06 58 25.0 +0.4
comp=Z,23nm,0.8s
SUMG Summit 67.02 358 eP P 06 58 24.9 +0.4
comp=Z,45nm,1.1s
SUMG epP pP 06 59 48.4 +2.0
MICGM Minsk 67.03 323 eP P 06 58 23.0 -1.4
MNK Minsk 67.05 323 eP P 06 58 23.0 -1.6
MNK pmax pmax
comp=Z,190nm,1.0s
EIDS Eidsvold 67.18 165 eP P 06 58 26.2 +0.5
comp=Z,12nm,0.9s
ARTV Artvin 67.26 305 i P P 06 58 27.0 +0.6
NACGM Naroch 67.28 324 e P 06 58 23.0 -3.0
NLWA Neilton Lookou 67.46 46 eP P 06 58 28.5 +1.2
comp=Z,127nm,1.2s
A05A Maple Falls 67.47 44 eP P 06 58 27.9 +0.6
comp=Z,81nm,1.4s
DBAD Bademkaya 67.50 305 i P P 06 58 27.9 +0.1
HDW Hoodsport 67.75 46 P P 06 58 30.6 +1.4
B06A Marblemount 68.08 44 eP P 06 58 31.9 +0.9
comp=Z,55nm,1.0s
E03A Lebam 68.12 47 eP P 06 58 32.7 +1.4
comp=Z,83nm,0.8s
D05A Enumclaw 68.61 46 eP P 06 58 36.1 +1.8
comp=Z,67nm,0.8s
F04D Rainier, OR 68.71 47 ⇑P P 06 58 35.7 +0.8
baz=68
AKASG Malin Array Be 68.75 319 P P 06 58 34.2 -0.9
comp=Z,24nm,0.6s,baz=49,slow=6.1,SNR=154
AKASG PP PP 07 01 09.2 -2.8
comp=Z,3.3nm,0.7s,baz=42,slow=8.6,SNR=4.8
AKASG S S 07 07 06.7 -0.5
comp=Z,0.3nm,0.3s,baz=54,slow=12,SNR=5.9
AKBB Malin Array Si 68.75 319 eP P 06 58 34.1 -1.0
AKBB Malin Array Si 68.75 319 eP P 06 58 34.1 -1.0
AK01 Malin Array Si 68.76 319 eP P 06 58 34.1 -1.1
KIEV Kiev 68.76 319d i P P 06 58 34.0 -1.1
KIEV Kiev 68.76 319 eP P 06 58 34.5 -0.6
comp=Z,36nm,0.8s
AK02 Malin Array Si 68.79 319 eP P 06 58 34.5 -0.8
RCM Mount Rainier- 68.96 46 P P 06 58 38.3 +1.4
LON Longmire 68.97 46 eP P 06 58 37.5 +0.9
LON pmax pmax
comp=Z,12nm,0.8s
LON Longmire 68.97 46 eP P 06 58 37.5 +0.9
comp=Z,12nm,0.8s
G03D McMinnville, O 69.09 48 ⇑P P 06 58 38.1 +0.9
baz=69
NB2 NORSAR Subarra 69.12 335 P P 06 58 36.5 -0.8
comp=Z,16nm,0.7s,baz=38,slow=6.5
NB2 NORSAR Subarra 69.12 335 P P 06 58 36.5 -0.8
baz=38,slow=6.5
NOA NORSAR Array B 69.12 335 P P 06 58 36.5 -0.8
comp=Z,17nm,0.8s,baz=41,slow=6.1,SNR=41
NOA PP PP 07 01 14.5 -0.6
comp=Z,5.9nm,0.9s,baz=46,slow=8.6,SNR=5.4
F04A Amboy 69.13 47 eP P 06 58 38.7 +1.2
comp=Z,53nm,0.8s
EDM Edmonton 69.17 37 eP P 06 58 38.2 +0.5
EDM Edmonton 69.17 37 eP P 06 58 38.2 +0.5
NC602 NORSAR Array S 69.24 334 eP P 06 58 37.0 -0.9
TWW Teanaway 69.25 45 P P 06 58 39.7 +1.4
LTY Liberty 69.28 45 eP P 06 58 39.0 +0.5
comp=Z,30nm,1.0s
NAO01 NORSAR Array S 69.38 335 eP P 06 58 38.5 -0.2
comp=Z,3.6nm,0.4s
WTV Waterville 69.39 44 P P 06 58 39.6 +0.4
COR Corvallis 69.44 49 eP P 06 58 41.0 +1.6
COR pmax pmax
comp=Z,84nm,0.9s
COR Corvallis 69.44 49 eP P 06 58 41.0 +1.6
comp=Z,84nm,0.9s
SUW Suwalki 69.46 324 eP P 06 58 38.9 -0.5
SUW Suwalki 69.46 324 eP P 06 58 38.9 -0.5
VLL Laurance Lake 69.83 47 P P 06 58 43.2 +1.3
I03D Drain, OR 69.95 49 ⇑P P 06 58 43.7 +1.2
baz=70
H04A Detroit Lake 70.02 48 eP P 06 58 43.8 +0.8
comp=Z,48nm,0.8s
VFP Flag Point 70.03 47 P P 06 58 44.3 +1.1
MSVF Nonsavu 70.08 137 eP P 06 58 46.2 +2.6
MSVF pmax pmax
comp=Z,83nm,1.1s
MSVF Nonsavu 70.08 137 eP P 06 58 46.2 +2.6
comp=Z,84nm,1.1s
E07A Sunnyside 70.15 45 eP P 06 58 44.4 +0.6
comp=Z,36nm,0.9s
G05D Wamic, OR 70.16 47 ⇓P P 06 58 44.9 +1.1
baz=70
C09A Chrisman Ranch 70.22 44 eP P 06 58 44.5 +0.4
comp=Z,57nm,0.7s
C09A epP pP 07 00 09.7 +2.9
LOCW Locke Island 70.28 45 P P 06 58 45.3 +0.9
D08A Wollman Farm, 70.34 44 eP P 06 58 45.2 +0.4
comp=Z,30nm,0.8s
ILULI Ilulissat 70.35 3 i P P 06 58 45.1 +0.7
ILULI pmax pmax
comp=Z,17nm,0.8s
ILULI Ilulissat 70.35 3 i P P 06 58 45.1 +0.7
comp=Z,17nm,0.7s
BLTW Bickleton 70.38 46 P P 06 58 46.2 +1.1
HAWA Hanford 70.43 45 eP P 06 58 46.5 +1.1
comp=Z,30nm,0.8s
HAWA epP pP 07 00 10.9 +2.8
I04A Tendick Farm, 70.43 49 ⇑P P 06 58 46.3 +0.8
baz=70
KEMA Kemaliye 70.51 305 i P P 06 58 46.7 +0.6
NEW Newport 70.52 43 eP P 06 58 45.8 -0.1
NEW e*PP pP 07 00 11.2 +2.5
NEW pmax pmax
comp=Z,23nm,0.8s
NEW Newport 70.52 43 eP P 06 58 45.8 -0.1
comp=Z,23nm,0.8s
NEW epP pP 07 00 11.2 +2.5
NEW Newport 70.52 43 ⇑P P 06 58 46.1 +0.2

baz=70,SNR=19
KONO Kongsberg 70.70 334 eP P 06 58 46.7 0.0
I05D Terrebonne, OR 70.71 48 ⇓P P 06 58 47.6 +0.5
baz=70
L02D Cave Junction, 70.74 51 ⇑P P 06 58 48.1 +0.8
baz=71
HUMO Hull Mountain 70.84 50 eP P 06 58 49.4 +1.5
comp=Z,137nm,2.1s
J04D Umpqua Nationa 70.94 49 ⇑P P 06 58 49.4 +0.6
baz=71
E09A Wood Farm, Sta 71.10 45 eP P 06 58 50.0 +0.6
comp=Z,42nm,0.8s
E09A epP pP 07 00 15.3 +3.1
FORT Forrest 71.42 187 eP P 06 58 51.3 +0.1
comp=Z,72nm,0.7s
J05D Fort Rock, OR 71.42 49 ⇓P P 06 58 52.5 +1.0
baz=71
G08A Pilot Rock 71.43 46 eP P 06 58 52.5 +0.9
comp=Z,19nm,1.2s
KHMM Horse Mountain 71.45 52 eP P 06 58 53.1 +1.4
comp=Z,42nm,0.8s
RUND Rundenannen 71.45 337 eP P 06 58 50.7 -0.4
YBH Yreka Blue Hor 71.53 51 eP P 06 58 53.6 +1.5
YBH pmax pmax
comp=Z,33nm,1.1s
YBH Yreka Blue Hor 71.53 51 eP P 06 58 53.6 +1.5
comp=Z,33nm,1.1s
WALA Waterton Lakes 71.63 41 eP P 06 58 53.1 +0.5
comp=Z,1.0nm,0.8s
WALA epP pP 07 00 18.1 +2.5
M02C Callahan 71.65 51 ⇓P P 06 58 54.3 +1.5
baz=72
KMRM Mail Ridge 71.86 52 eP P 06 58 55.9 +1.8
comp=Z,51nm,0.7s
LVV L'vov 71.86 321 eP P 06 58 53.4 -0.4
I07A Izee 71.90 47 eP P 06 58 55.3 +1.1
comp=Z,34nm,1.1s
F10A Beach Ranch, E 71.93 45 eP P 06 58 55.2 +0.8
comp=Z,20nm,1.0s
CTKT Corum 71.95 308 iP P 06 58 55.4 +0.7
BSMT Bassoo Peak 71.99 42 eP P 06 58 56.0 +1.2
N02D Trinity Center 72.00 51 ⇓P P 06 58 56.1 +1.2
baz=72
BEL Belsk 72.00 324 eP P 06 58 54.4 -0.1
BEL Belsk 72.00 324 eP P 06 58 54.3 -0.2
M04C Macdoel 72.01 50 ⇑P P 06 58 55.9 +1.0
baz=72
BLMT Blacktail Moun 72.10 42 eP P 06 58 56.8 +1.3
BLMT epP pP 07 00 21.4 +2.8
BSD Bornholm Skovb 72.16 329 iP P 06 58 55.5 +0.1
BSD pmax pmax
comp=Z,22nm,0.8s
BSD Bornholm Skovb 72.16 329 iP P 06 58 55.5 +0.1
comp=Z,22nm,0.8s
ARMA Armidale 72.20 166 eP P 06 58 57.5 +1.5
comp=Z,20nm,0.8s
GZT Gaziantep 72.25 304 iP P 06 58 57.6 +1.1
JTMT Jette 72.31 42 eP P 06 58 57.4 +0.8
JTMT epP pP 07 00 22.7 +2.8
WDC Whiskeytown Da 72.34 52 eP P 06 58 57.9 +1.2
WDC pmax pmax
comp=Z,30nm,1.0s
WDC Whiskeytown Da 72.34 52 eP P 06 58 57.9 +1.2
comp=Z,30nm,1.0s
STKA Stephens Creek 72.34 175 eP P 06 58 57.2 +0.5
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 72.34 175 P P 06 58 57.0 +0.4
comp=Z,15nm,0.8s,baz=346,slow=6.1,SNR=23
STKA Stephens Creek 72.34 175 eP P 06 58 57.1 +0.5
comp=Z,1.7nm,0.8s
YBMT Yellow Bay 72.37 42 eP P 06 58 58.2 +1.2
YBMT epP pP 07 00 22.7 +2.4
SWMT Swartz Lake 72.61 42 eP P 06 58 59.2 +0.8
SWMT epP pP 07 00 24.2 +2.5
BMO Blue Mountains 72.61 45 eP P 06 58 58.6 +0.2
comp=Z,35nm,0.8s
BMO epP pP 07 00 24.1 +2.3
FCC Fort Churchill 72.65 25 eP P 06 58 58.3 +0.1
FCC Fort Churchill 72.65 25 eP P 06 58 58.3 +0.1
comp=Z,1.4nm,0.9s
BUR08 Bucovina Ar. S 72.74 318 eP P 06 58 59.1 0.0
TESR Tescani 72.75 317⇓iP P 06 58 59.3 +0.3
BURAR Bucovina Array 72.75 318⇑iP P 06 58 59.2 0.0
CDAG Cicekdag 72.82 308 iP P 06 58 59.9 +0.2
MOD Modoc 72.82 49 eP P 06 59 00.6 +0.9
comp=Z,59nm,1.4s
CFR Carcaliu 72.84 315⇑iP P 06 58 59.1 -0.4
ANDN Andirin 72.88 305 iP P 06 59 00.8 +0.7
FFC Flin Flon 72.96 31 P P 06 58 59.5 -0.6
comp=Z,576nm,0.7s,SNR=32
FFC Flin Flon 72.96 31 eP P 06 58 59.7 -0.4
FFC pmax pmax
comp=Z,77nm,0.8s
FFC Flin Flon 72.96 31 eP P 06 58 59.6 -0.4
comp=Z,77nm,0.8s
FFC epP pP 07 00 26.9 +3.5
SLMT Seeley Lake 73.05 42 eP P 06 59 01.6 +0.7
SLMT epP pP 07 00 27.1 +2.7
BBOO Buckleboo 73.08 180 eP P 06 59 01.1 +0.2
comp=Z,964nm,1.1s
MSO Missoula 73.09 42 eP P 06 59 01.9 +0.7
comp=Z,45nm,1.3s
MSO epP pP 07 00 27.8 +3.2
MSO Missoula 73.09 42 ⇓P P 06 59 00.8 -0.4
baz=73,SNR=9.1
VRI Vrincioaia 73.13 316⇑iP P 06 59 00.9 -0.4
TIRR Tirgusor 73.16 314⇑iP P 06 59 01.8 +0.4
BR131 Keskin Array S 73.19 308 eP P 06 59 01.7 -0.2
comp=Z,3.8nm,0.4s
BRTR Keskin Array B 73.19 308 P P 06 59 02.0 0.0
BRTR Keskin Array B 73.19 308 P P 06 59 01.9 0.0
comp=Z,6.2nm,0.6s,baz=115,slow=3.4,SNR=49
TLB Topalu 73.27 315⇑iP P 06 59 02.0 -0.1
MUD Monsted U'grnd 73.30 332 iP P 06 59 03.0 +1.0
MUD pmax pmax
comp=Z,16nm,1.0s
MUD Monsted U'grnd 73.30 332 iP P 06 59 03.0 +1.0
comp=Z,16nm,1.0s
KOLS Kolonicke sedl 73.31 321 eP P 06 59 02.3 0.0
KOLS pmax pmax
comp=Z,14nm,0.7s
KOLS Kolonicke sedl 73.31 321 eP P 06 59 02.3 0.0
CHMT Chamberlain Mo 73.39 42 eP P 06 59 03.2 +0.2
WVOR Wild Horse Val 73.44 48 eP P 06 59 03.6 +0.3
WVOR pmax pmax
comp=Z,34nm,0.9s
WVOR Wild Horse Val 73.44 48 eP P 06 59 03.6 +0.3
comp=Z,34nm,0.9s
BCAM Yenicaga 73.44 310 iP P 06 59 04.6 +1.3
STHS Stebnicka Huta 73.47 322 eP P 06 59 04.7 +1.5
STHS pmax pmax
comp=Z,22nm,0.6s
STHS Stebnicka Huta 73.47 322 eP P 06 59 04.7 +1.5
UZH Uzhgorod 73.51 321 eP P 06 59 01.8 -1.6
UZH e 07 00 24.2
OJC Ojcow 73.58 323⇓eP P 06 59 03.8 0.0
OJC e*PP pP 07 00 26.6 -0.7
OJC Ojcow 73.58 323 eP P 06 59 03.8 0.0
OJC epP pP 07 00 26.6 -0.7
ANTO Ankara 73.61 309 eP P 06 59 04.3 +0.1
ANTO pmax pmax
comp=Z,22nm,0.7s
ANTO Ankara 73.61 309⇑iP P 06 59 04.5 +0.3
ANTO Ankara 73.61 309 eP P 06 59 04.3 +0.1
comp=Z,22nm,0.7s
MSAB Monastry St. A 73.72 314⇑iP P 06 59 05.2 +0.6
CRVS Cervenica-Dubn 73.72 321 eP P 06 59 04.6 0.0
CRVS pmax pmax
comp=Z,17nm,0.9s
CRVS Cervenica-Dubn 73.72 321 eP P 06 59 04.6 0.0
ISR Istrita 73.72 316⇑iP P 06 59 05.5 +0.7
TRPA Tarpa 73.73 320⇑iP P 06 59 05.2 +0.6
MLR Muntele Rosu 73.79 316⇑iP P 06 59 05.3 +0.1
NIE Niedzica 73.90 322 eP P 06 59 06.4 +0.7
NIE Niedzica 73.90 322 eP P 06 59 06.4 +0.7
CJR Cluj-Napoca 74.18 319⇓iP P 06 59 08.6 +1.3
A19A Klindworth Far 74.22 38 ⇑P P 06 59 07.9 +0.4
baz=74,SNR=45
BTAS Taskesti 74.22 310 iP P 06 59 07.6 -0.1
HRY Holter Researc 74.25 41 eP P 06 59 08.5 +0.7
HRY epP pP 07 00 34.6 +3.0
VOIR 74.30 317⇑iP P 06 59 09.3 +1.2
MFID Camas Ranch 74.36 46 eP P 06 59 08.5 0.0
comp=Z,56nm,0.8s
MFID epP pP 07 00 35.9 +3.6
EGMT Eagleton 74.36 39 eP P 06 59 08.9 +0.4
comp=Z,96nm,0.8s
EGMT epP pP 07 00 34.7 +2.5
EGMT Eagleton 74.36 39 ⇓P P 06 59 08.5 +0.1
baz=74,SNR=55
B19A Brinkman Farms 74.45 39 ⇑P P 06 59 09.3 +0.4
baz=74,SNR=14
KECS Kecovo 74.48 321 eP P 06 59 09.4 +0.5
KECS pmax pmax
comp=Z,5.0nm,0.4s
KECS Kecovo 74.48 321 eP P 06 59 09.4 +0.5
LRM Limekiln Ridge 74.53 42 eP P 06 59 09.9 +0.3
LRM epP pP 07 00 35.9 +2.5
ARR Arges 74.56 317⇓iP P 06 59 10.5 +0.9
DRGR 74.57 319⇑iP P 06 59 10.5 +0.9
OKC Ostrava-Krasne 74.60 324 eP P 06 59 10.6 +1.0
OKC MLR MLR
comp=Z,2μm,17.2s
OKC Ostrava-Krasne 74.60 324 eP P 06 59 10.6 +1.0
A20A Cobblestone Ra 74.63 38 ⇓P P 06 59 10.2 +0.3
baz=74,SNR=17
KSP Ksiaz 74.70 325⇓eP P 06 59 10.3 +0.2
KSP Ksiaz 74.70 325 eP P 06 59 10.2 +0.1
DLMT Dillon 74.77 43 eP P 06 59 11.3 +0.4
comp=Z,99nm,0.8s
DLMT epP pP 07 00 32.5 -2.3
BSEG Bad Segeberg 74.82 330 eP P 06 59 11.6 +0.9
comp=Z,14nm,0.7s
B20A Solberg Farm, 74.90 38 ⇓P P 06 59 11.3 -0.1
baz=75,SNR=18
C19A Slack Wire Ran 74.91 39 ⇓P P 06 59 12.0 +0.6
baz=75,SNR=57
MORC Moravsky Berou 74.92 324 eP P 06 59 11.2 -0.3
MORC pmax pmax
comp=Z,24nm,0.8s
MORC Moravsky Berou 74.92 324⇑iP P 06 59 11.9 +0.4
MORC Moravsky Berou 74.92 324 eP P 06 59 11.2 -0.3
comp=Z,24nm,0.8s
MCMT McKenzie Canyo 75.00 43 eP P 06 59 12.6 +0.3
comp=Z,3.3nm,0.6s
HLID Hailey 75.03 45 eP P 06 59 13.0 +0.6
comp=Z,26nm,0.9s
HLID Hailey 75.03 45 ⇓P P 06 59 12.9 +0.5
baz=75,SNR=45
KRLC Kraliky 75.04 324 eP P 06 59 12.3 +0.1
KRLC Kraliky 75.04 324 eP P 06 59 12.3 +0.1
DPC Dobruska-Polom 75.05 325 eP P 06 59 12.6 +0.4
DPC Dobruska-Polom 75.05 325 eP P 06 59 12.6 +0.4
DPC Dobruska-Polom 75.05 325 eP P 06 59 12.6 +0.4
UPC Upice 75.07 325 eP P 06 59 13.2 +1.0
UPC Upice 75.07 325 eP P 06 59 13.2 +1.0
BOZ Bozeman (W) 75.08 42 eP P 06 59 13.4 +0.8
BOZ e*PP pP 07 00 39.7 +3.2
BOZ pmax pmax
comp=Z,56nm,0.8s
BOZ Bozeman (W) 75.08 42 eP P 06 59 13.4 +0.8
comp=Z,56nm,0.8s
BOZ epP pP 07 00 39.7 +3.2
PSZ Piszkesteto 75.16 321 eP P 06 59 13.6 +0.7
PSZ pmax pmax
comp=Z,42nm,1.0s
PSZ Piszkesteto 75.16 321⇑iP P 06 59 13.6 +0.7
PSZ Piszkesteto 75.16 321 eP P 06 59 13.6 +0.7
comp=Z,42nm,1.0s
PSZ Piszkesteto 75.16 321⇑e P 06 59 14.1 +1.2
NWAO Narrogin (SRO) 75.18 196 P P 06 59 12.8 -0.1
comp=Z,42nm,1.1s,baz=12,slow=6.5,SNR=9.0
CMB Columbia Colle 75.24 52 eP P 06 59 14.1 +0.6
CMB pmax pmax
comp=Z,56nm,0.7s
CMB Columbia Colle 75.24 52 eP P 06 59 14.1 +0.6
comp=Z,56nm,0.7s
RAYN Ar Rayn 75.31 288 eP P 06 59 14.0 -0.1
comp=Z,94nm,1.6s
RAYN epP pP 07 00 40.0 +1.8
B21A Ellsworth Farm 75.38 38 ⇓P P 06 59 14.3 +0.2
baz=75,SNR=26
D19A Cripps Ranch, 75.39 40 ⇓P P 06 59 14.5 +0.3
baz=75,SNR=64
C20A Veseth Ranch, 75.42 39 ⇑P P 06 59 14.6 +0.2
baz=75,SNR=25
JMB Yambol 75.47 314⇑iP P 06 59 15.9 +1.2
A22A Carney Farms, 75.48 37 ⇓P P 06 59 14.6 -0.1
baz=75,SNR=48
GZR Gura Zlata 75.50 318⇑iP P 06 59 15.1 +0.2
WAKR Walker 75.51 52 eP P 06 59 16.4 +1.2
BMN Battle Mountai 75.55 49 eP P 06 59 16.4 +1.1
BMN pmax pmax
comp=Z,54nm,1.1s
BMN Battle Mountai 75.55 49 eP P 06 59 16.4 +1.1
comp=Z,54nm,1.1s
ULDT Uludag 75.58 311 iP P 06 59 15.6 +0.1
PVCC Panska Ves 75.67 326 eP P 06 59 16.0 +0.3
PVCC Panska Ves 75.67 326 eP P 06 59 16.0 +0.3
VRAC Vranov 75.68 324⇑iP P 06 59 16.5 +0.7
BRG Berggiesshubel 75.69 326 iP P 06 59 16.0 +0.3
comp=Z,20nm,0.8s
BRG epP pP 07 00 41.1 +1.3
comp=Z,5.1nm,1.0s
BRG ePP PP 07 02 10.2 -0.5
comp=Z,9.9nm,1.2s
BRG ePKKP PKKPdf 07 18 12.2 -1.5
comp=Z,9.7nm,1.1s
comp=N,2μm,17.5s
comp=E,2μm,18.6s
comp=Z,3μm,18.7s
BRG Berggiesshubel 75.69 326 iP P 06 59 16.0 +0.3
BRG e*PP pP 07 00 41.1 +1.3
BRG e 07 02 10.2
BRG pmax pmax
comp=Z,20nm,0.8s
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG MLR MLR
comp=N,2μm,17.5s
BRG MLR MLR
comp=E,2μm,18.6s
BRG MLR MLR
comp=Z,3μm,18.7s
BRG Berggiesshubel 75.69 326 eP P 06 59 16.4 +0.7
comp=Z,11nm,0.7s
QLMT Earthquake Lak 75.74 43 eP P 06 59 17.7 +1.3
CLL Collm 75.75 327⇓iP P 06 59 15.8 -0.3
CLL e*PP pP 07 00 40.0 -0.2
CLL pmax pmax
comp=Z,30nm,0.7s
CLL Collm 75.75 327 eP P 06 59 16.5 +0.4
comp=Z,18nm,0.7s
CLL Collm 75.75 327⇓iP P 06 59 15.8 -0.3
comp=Z,30nm,0.7s
CLL epP pP 07 00 40.0 -0.2
CLL ePP PP 07 02 13.0 +1.8
C21A Desert Coulee 75.77 38 ⇑P P 06 59 16.3 -0.1
baz=76,SNR=14
D20A Manuel Ranch, 75.80 39 ⇓P P 06 59 17.0 +0.5
baz=76,SNR=44
BZS Buzias 75.93 319⇑iP P 06 59 17.1 -0.1
E19A Rath Farm, Rou 75.93 40 ⇓P P 06 59 18.0 +0.7
baz=76,SNR=51
B22A Reddig Ranch S 75.94 37 ⇓P P 06 59 17.2 0.0
baz=76,SNR=7.2
A23A Redstone 75.98 36 ⇑P P 06 59 17.8 +0.4
baz=76,SNR=18
GDZ Gediz 76.07 310 iP P 06 59 18.2 -0.1
PRU Pruhonice 76.09 325 eP P 06 59 18.3 +0.3
PRU MLR MLR
comp=Z,3μm,20.0s
PRU Pruhonice 76.09 325 eP P 06 59 18.3 +0.3
YMR Madison River 76.09 42 eP P 06 59 19.5 +1.1
comp=Z,48nm,0.7s
YMR epP pP 07 00 45.4 +2.8
TREC Trest 76.19 324 eP P 06 59 19.1 +0.5
TREC Trest 76.19 324 eP P 06 59 19.1 +0.5
YNR Norris Junctio 76.20 42 eP P 06 59 21.0 +2.0
comp=Z,36nm,1.1s
E20A Meyer Farm, Mu 76.22 40 ⇓P P 06 59 19.5 +0.6
baz=76,SNR=39
NVAR Mina Array Bea 76.23 51 P P 06 59 20.1 +0.8
comp=Z,38nm,0.6s,baz=292,slow=5.5,SNR=215
F19A Roth Farm, Mol 76.28 41 ⇓P P 06 59 19.6 +0.3
baz=76,SNR=40
B23A Brockton 76.29 37 ⇓P P 06 59 19.1 -0.1
baz=76,SNR=49
YFT Old Faithful 76.31 43 eP P 06 59 22.4 +2.8
comp=Z,44nm,0.8s
YFT epP pP 07 00 49.0 +5.1
NV11 Mina Array Sit 76.32 51 eP P 06 59 20.5 +0.8
NEUB Neuenburg 76.33 328 eP P 06 59 19.9 +0.6
comp=Z,20nm,0.8s
D21A La Casta Ranch 76.37 39 ⇑P P 06 59 19.8 +0.1
baz=76,SNR=33
A24A Westby 76.39 36 ⇓P P 06 59 20.0 +0.2
baz=76,SNR=20
C22A Vida 76.40 38 ⇓P P 06 59 19.2 -0.6
baz=76,SNR=20
CLZ Clausthal 76.41 329 eP P 06 59 20.7 +0.9
comp=Z,9.0nm,0.8s
MLAC Mammoth Lakes 76.44 52 ⇓P P 06 59 21.4 +0.9
baz=76,SNR=6.8
ELK Elko 76.47 48 eP P 06 59 21.1 +0.5
ELK pmax pmax
comp=Z,23nm,1.1s
ELK Elko 76.47 48 eP P 06 59 21.1 +0.5
comp=Z,23nm,1.1s
H17A Grant Village 76.48 43 eP P 06 59 22.5 +1.8
comp=Z,80nm,0.8s
H17A epP pP 07 00 49.4 +4.5
H17A Grant Village 76.48 43 ⇓P P 06 59 22.7 +2.1
baz=76,SNR=80
FLWY Flagg Ranch 76.64 43 eP P 06 59 23.4 +2.0
comp=Z,86nm,1.3s
FLWY epP pP 07 00 49.8 +4.0
RLMT Red Lodge 76.64 41 eP P 06 59 22.1 +0.7
comp=Z,26nm,0.6s
RLMT epP pP 07 00 48.4 +2.7
DGMT Dagmar 76.64 36 eP P 06 59 21.6 +0.4
comp=Z,82nm,0.8s
DGMT Dagmar 76.64 36 ⇑P P 06 59 21.1 0.0
baz=76,SNR=30
TANN Tannenbergstha 76.65 327 eP P 06 59 21.8 +0.6
comp=Z,5.0nm,0.9s
KDZ Kurdzhali 76.66 314⇑iP P 06 59 22.1 +0.7
C23A Lambert 76.68 37 ⇑P P 06 59 21.5 +0.2
baz=76,SNR=14
D22A Cohagen 76.69 38 ⇓P P 06 59 21.9 +0.4
baz=76,SNR=34
E21A Keefer Ranch, 76.70 39 ⇓P P 06 59 21.9 +0.4
baz=76,SNR=6.1
F20A Billings 76.71 40 ⇑P P 06 59 21.8 +0.1
baz=76,SNR=16
PGB Panagyurishte 76.73 315 eP P 06 59 22.9 +1.1
H18A Shoshone NF, C 76.75 42 ⇑P P 06 59 22.3 +0.2
baz=76,SNR=25
A25A Svangstu Ranch 76.78 35 ⇑P P 06 59 22.2 +0.3
baz=76,SNR=26
MTUM Tungsten Hills 76.78 52 eP P 06 59 23.5 +1.2
I17A Pilgrim Ck. 76.81 43 ⇓P P 06 59 23.8 +1.4
baz=77,SNR=95
MOX Moxa 76.83 327 eP P 06 59 22.8 +0.7
comp=Z,4.0nm,0.8s
MOOW Moose Ponds 76.84 43 eP P 06 59 23.5 +0.9
comp=Z,44nm,1.0s
MOOW epP pP 07 00 45.4 -1.6
PKSM Moragy 76.97 321⇓iP P 06 59 23.1 +0.2
PKSM Moragy 76.97 321⇑e P 06 59 23.2 +0.3
LAO LASA Array 77.00 39 eP P 06 59 24.3 +1.0
comp=Z,47nm,0.9s
LAO epP pP 07 00 50.6 +3.0
LOHW Long Hollow 77.01 43 eP P 06 59 25.1 +1.5
comp=Z,28nm,1.1s
RZN Rozhen 77.02 314 eP P 06 59 24.6 +1.0
CONA Conrad Observa 77.03 323 iP P 06 59 24.4 +1.1
SNR=9.1
REDW Red Top Meadow 77.06 43 eP P 06 59 24.8 +1.0
comp=Z,39nm,1.0s
REDW epP pP 07 00 51.7 +3.4
RCTC Rector, Farmer 77.06 53 ⇑P P 06 59 23.4 -0.2
baz=77
G20A Bridger 77.09 41 ⇓P P 06 59 23.6 -0.2
baz=77,SNR=15
H19A Powell 77.10 41 ⇑P P 06 59 23.9 0.0
baz=77,SNR=18
TPH Tonopah 77.11 51 eP P 06 59 24.9 +0.8
TPH pmax pmax
comp=Z,64nm,0.8s
TPH Tonopah 77.11 51 eP P 06 59 24.9 +0.8
comp=Z,64nm,0.8s
HVU Hansel Valley 77.13 46 eP P 06 59 25.3 +1.2
HVU pmax pmax
comp=Z,34nm,0.9s
HVU Hansel Valley 77.13 46 eP P 06 59 25.3 +1.2
comp=Z,34nm,0.9s
MANZ Manzenberg 77.13 327 eP P 06 59 24.6 +0.8
comp=Z,6.0nm,0.7s
D23A Lindsay 77.13 38 ⇑P P 06 59 24.4 +0.5
baz=77,SNR=43
KHC Kasperske Hory 77.15 325 eP P 06 59 23.5 -0.4
KHC Kasperske Hory 77.15 325 eP P 06 59 23.5 -0.4
KHC ex x 07 03 25.0
TIN Tinemaha 77.18 52 ⇑P P 06 59 25.0 +0.6
baz=77,SNR=5.1
F21A Absaloka Mine, 77.20 40 ⇑P P 06 59 24.7 +0.4
baz=77
VTS Vitosha 77.21 316 eP P 06 59 24.8 +0.3
VTS Vitosha 77.21 316⇑iP P 06 59 24.9 +0.4
C24A Savage 77.23 37 ⇓P P 06 59 24.3 -0.1
baz=77,SNR=5.5
GOLH Golhisar 77.24 308 iP P 06 59 24.2 -0.5
SMMC Simmler 77.25 54 ⇓P P 06 59 25.3 +0.5
baz=77
ROTZ Rotzenmuhle 77.25 326 eP P 06 59 25.7 +1.3
comp=Z,8.0nm,0.8s
B25A Knox Farm, Ray 77.25 36 ⇑P P 06 59 25.2 +0.7
baz=77,SNR=20
A26A Wade Farm, Ken 77.28 35 ⇑P P 06 59 24.9 +0.2
baz=77,SNR=17
GEC2 GERESS Array S 77.31 325 eP P 06 59 25.4 +0.5
comp=Z,5.0nm,0.8s
GERES GERESS Array B 77.31 325 P P 06 59 24.8 -0.1
comp=Z,3.7nm,0.5s,baz=38,slow=5.4,SNR=35
GERES PP PP 07 02 23.4 -0.9
comp=Z,1.7nm,0.7s,baz=32,slow=7.8,SNR=3.7
E22A Miles City 77.32 39 ⇓P P 06 59 24.7 -0.3
baz=77,SNR=6.7
AHID Auburn Hatcher 77.34 44 eP P 06 59 26.3 +1.0
comp=Z,13nm,0.9s
WET Wettzell 77.44 326 eP P 06 59 26.5 +1.0
comp=Z,8.0nm,0.9s
VES Vestal, Richgr 77.46 53 ⇑P P 06 59 25.4 -0.5
baz=77,SNR=13
I19A Meeteetse 77.54 42 ⇓P P 06 59 27.0 +0.6
baz=77,SNR=16
BGU Big Grassy Mou 77.57 46 eP P 06 59 27.7 +1.2
comp=Z,67nm,2.2s
D24A Glendive 77.58 37 ⇓P P 06 59 26.8 +0.4
baz=77,SNR=37
A27A Ledoux Ranch, 77.58 35 ⇓P P 06 59 26.4 +0.1
baz=77
G21A Lodge Grass 77.59 40 ⇑P P 06 59 26.5 0.0
baz=77,SNR=15
B26A Jensen Ranch, 77.59 35 ⇓P P 06 59 26.7 +0.4
baz=77
MMB Musomiste 77.63 315 eP P 06 59 26.7 0.0
MMB Musomiste 77.63 315⇑iP P 06 59 27.0 +0.3
C25A Freed Ranch, W 77.63 36 ⇑P P 06 59 27.1 +0.5
baz=77,SNR=6.4
SPUT South Promonto 77.63 46 eP P 06 59 28.0 +1.1
comp=Z,38nm,1.1s
F22A Rosebud 77.65 39 ⇓P P 06 59 26.8 0.0
baz=77,SNR=17
CWC Cottonwood Cre 77.68 52 ⇑P P 06 59 27.3 +0.1
baz=78
ARSA Arzberg 77.68 323⇑iP P 06 59 27.5 +0.6
comp=Z,17nm,1.3s
GRF Grafenberg Arr 77.72 327 eP P 06 59 28.2 +1.2
comp=Z,20nm,0.8s
H20A Greybull 77.72 41 ⇓P P 06 59 26.9 -0.4
baz=78,SNR=32
GRAC Grapevine Rang 77.73 52 ⇑P P 06 59 27.9 +0.5
baz=78,SNR=32
R11A Troy Canyon, C 77.88 50 eP P 06 59 28.9 +0.6
comp=Z,11nm,0.6s
R11A Troy Canyon, C 77.88 50 ⇓P P 06 59 28.6 +0.3
baz=78,SNR=31
ISA Isabella 77.95 53 eP P 06 59 28.6 0.0
ISA pmax pmax
comp=Z,9.0nm,0.8s
ISA Isabella 77.95 53 eP P 06 59 28.6 0.0
comp=Z,9.5nm,0.8s
ISA Isabella 77.95 53 ⇓P P 06 59 27.7 -0.9

baz=78,SNR=6.4
B27A Peters Farms, 77.99 35 ⇑P P 06 59 28.6 0.0
baz=78
SBC Santa Barbara 77.99 55 ⇓P P 06 59 29.5 +0.8
baz=78
E24A Baker 78.00 38 ⇓P P 06 59 28.7 0.0
baz=78,SNR=11
D25A Fairfield 78.02 37 ⇓P P 06 59 29.1 +0.4
baz=78,SNR=17
A28A Rude Farm, Bot 78.03 34 ⇓P P 06 59 29.2 +0.4
baz=78,SNR=23
G22A Birney 78.04 40 ⇓P P 06 59 29.1 +0.1
baz=78,SNR=15
I20A Worland 78.04 42 ⇑P P 06 59 29.7 +0.7
baz=78,SNR=29
J19A Crowheart 78.06 43 ⇓P P 06 59 29.2 0.0
baz=78,SNR=52
C26A Wahner Farm, P 78.06 36 ⇓P P 06 59 29.2 +0.2
baz=78,SNR=11
DAC Darwin (Calif) 78.08 52 eP P 06 59 30.0 +0.6
DAC pmax pmax
comp=Z,31nm,1.1s
DAC Darwin (Calif) 78.08 52 eP P 06 59 30.0 +0.6
comp=Z,30nm,1.1s
ARVC Arvin 78.09 54 ⇑P P 06 59 29.1 -0.2
baz=78
H21A Big Horn, Sher 78.10 40 ⇑P P 06 59 29.2 -0.1
baz=78,SNR=22
F23A Volborg 78.10 39 ⇑P P 06 59 29.2 0.0
baz=78,SNR=54
BW06 Boulder Array 78.15 43 eP P 06 59 29.7 -0.1
comp=Z,40nm,0.8s
BW06 epP pP 07 00 56.6 +2.1
PDAR Pinedale Array 78.15 43 P P 06 59 29.8 0.0
comp=Z,39nm,0.8s,baz=298,slow=0.7,SNR=218
PDAR pP pP 07 00 52.3 -2.1
comp=Z,8.6nm,1.0s,baz=318,slow=1.2,SNR=5.0
DUG Dugway 78.19 47 eP P 06 59 30.8 +0.8
DUG pmax pmax
comp=Z,30nm,0.9s
DUG Dugway 78.19 47 eP P 06 59 30.8 +0.8
comp=Z,30nm,0.9s
DUG Dugway 78.19 47 ⇓P P 06 59 30.5 +0.5
baz=78,SNR=33
PERS Pernice 78.32 323 iP P 06 59 30.4 0.0
TCUT Toone Canyon 78.33 45 eP P 06 59 31.3 +0.5
comp=Z,66nm,0.7s
TCUT epP pP 07 00 58.3 +2.8
SOKA Soboth 78.33 323 iP P 06 59 31.0 +0.5
SNR=14
B28A Dugan Ranch, T 78.35 34 ⇑P P 06 59 30.3 -0.1
baz=78,SNR=22
FURC Furnace Creek, 78.39 52 ⇓P P 06 59 31.6 +0.7
baz=78,SNR=35
C27A Sayler Ranch, 78.41 35 ⇓P P 06 59 31.4 +0.6
baz=78,SNR=7.9
CTU Camp Tracy 78.44 46 eP P 06 59 32.2 +0.9
comp=Z,28nm,1.1s
TNS Taunus Mts 78.44 329 eP P 06 59 31.6 +0.6
comp=Z,5.0nm,0.7s
VAY Valandovo 78.44 315 eP P 06 59 31.2 +0.2
VAY Valandovo 78.44 315 iP P 06 59 31.2 +0.2
H22A Clearmont 78.46 40 ⇑P P 06 59 31.3 0.0
baz=78,SNR=6.6
A29A Manning Farm, 78.46 33 ⇑P P 06 59 31.1 +0.1
baz=78,SNR=17
E25A Miller Ranch, 78.46 37 ⇓P P 06 59 31.3 +0.2
baz=78,SNR=17
F24A Ekalaka 78.46 38 ⇑P P 06 59 31.4 +0.2
baz=78,SNR=18
G23A Biddle 78.49 39 ⇓P P 06 59 31.1 -0.2
baz=78,SNR=16
J20A Shoshoni 78.49 42 ⇑P P 06 59 31.8 +0.3
baz=78,SNR=22
OSI Osito Adit 78.49 54 ⇑P P 06 59 31.7 +0.1
baz=78
D26A Manning 78.51 36 ⇓P P 06 59 31.6 +0.2
baz=78,SNR=29
RJOB Jochberg 78.54 325 eP P 06 59 32.7 +1.1
comp=Z,10.0nm,0.8s
LRMC Laurel Mountai 78.55 53 ⇑P P 06 59 32.3 +0.3
baz=78
I21A Big Trails, Te 78.56 41 ⇑P P 06 59 32.0 +0.1
baz=78,SNR=34
SKO Skopje 78.58 316 iP P 06 59 32.9 +1.0
BDRM Kayabasi 78.61 309 iP P 06 59 32.0 -0.1
JLU Jordanelle 78.66 46 eP P 06 59 33.5 +0.9
comp=Z,68nm,1.6s
OBKA Obir 78.68 323⇑iP P 06 59 32.3 -0.1
comp=Z,9.7nm,0.7s
B29A Wagenman Farm, 78.77 34 ⇓P P 06 59 32.7 0.0
baz=78,SNR=15
EDW2 Edwards Air Fo 78.77 54 ⇓P P 06 59 33.0 -0.1
baz=79,SNR=7.9
NLU North Lily Min 78.77 47 eP P 06 59 34.5 +1.3
comp=Z,26nm,0.9s
ULM Lac du Bonnet 78.78 31 eP P 06 59 32.5 -0.3
ULM *PP pP 07 00 54.3 -3.3
ULM pmax pmax
comp=Z,41nm,0.8s
ULM Lac du Bonnet 78.78 31 P P 06 59 32.5 -0.3
comp=Z,42nm,0.6s,baz=320,slow=6.1,SNR=78
ULM pP pP 07 00 54.3 -3.3
comp=Z,5.0nm,0.8s,baz=295,slow=4.9,SNR=2.8
ULM Lac du Bonnet 78.78 31 eP P 06 59 32.5 -0.3
comp=Z,41nm,0.8s
ULM pP pP 07 00 54.3 -3.3
ULM epP pP 07 00 58.7 +1.1
KBA Koelnbreinsper 78.80 324⇑iP P 06 59 33.9 +0.8
comp=Z,21nm,0.9s
PDKS Podkum 78.81 322 iP P 06 59 32.8 -0.3
J21A Lysite 78.82 42 ⇑P P 06 59 33.5 +0.2
baz=79,SNR=8.9
A30A Hoffart Farm, 78.84 33 ⇑P P 06 59 32.9 -0.2
baz=79,SNR=24
D27A Center 78.86 36 ⇑P P 06 59 33.8 +0.5
baz=79
G24A Alzada 78.86 39 ⇓P P 06 59 32.8 -0.6
baz=79,SNR=18
F25A Bowman 78.87 38 ⇑P P 06 59 33.5 +0.2
baz=79,SNR=11
C28A Hausauer Farms 78.90 35 ⇓P P 06 59 33.4 -0.1
baz=79,SNR=6.1
DAU Daniels Canyon 78.90 46 eP P 06 59 35.3 +1.3
DAU Daniels Canyon 78.90 46 eP P 06 59 35.2 +1.3
I22A 9 Mile Ranch, 78.91 41 ⇓P P 06 59 33.5 -0.2
baz=79,SNR=14
E26A Carlson Angus 78.92 37 ⇓P P 06 59 33.7 0.0
baz=79,SNR=28
H23A Clabaugh Cattl 78.95 40 ⇓P P 06 59 33.7 -0.2
baz=79
MPU Maple Canyon 78.97 46 eP P 06 59 35.5 +1.2
comp=Z,32nm,0.8s
MPU epP pP 07 01 01.2 +2.0
DECC Green Verdugo 78.98 54 ⇓P P 06 59 34.1 -0.1
baz=79
MYKA Terra Mystica 79.00 324⇑iP P 06 59 33.4 -0.7
comp=Z,9.4nm,0.6s
MEM Membach 79.08 330 P P 06 59 34.0 -0.3
MEM Membach 79.08 330 eP P 06 59 35.5 +1.2
MEM pmax pmax
comp=Z,25nm,0.9s
MEM Membach 79.08 330 eP P 06 59 35.5 +1.2
comp=Z,25nm,0.9s
PASC Pasadena Art C 79.12 54 eP P 06 59 35.3 +0.4
comp=Z,8.6nm,0.9s
SHOC Shoshone 79.12 52 ⇓P P 06 59 34.9 0.0
baz=79,SNR=11
MWC Mount Wilson 79.16 54 eP P 06 59 36.1 +0.7
MWC pmax pmax
comp=Z,40nm,1.1s
MWC Mount Wilson 79.16 54 eP P 06 59 36.1 +0.7
comp=Z,40nm,1.1s
GSC Goldstone 79.21 53 eP P 06 59 36.2 +0.8
GSC pmax pmax
comp=Z,41nm,1.1s
GSC Goldstone 79.21 53 eP P 06 59 36.2 +0.8
comp=Z,41nm,1.1s
GSC Goldstone 79.21 53 ⇓P P 06 59 35.3 -0.1
baz=79,SNR=16
B30A Myrvik Farm, E 79.21 33 ⇓P P 06 59 35.0 -0.1
baz=79,SNR=25
D28A Regan 79.22 35 ⇑P P 06 59 35.3 +0.1
baz=79,SNR=6.1
H24A Dirks Ranch, A 79.22 39 ⇑P P 06 59 34.9 -0.4
baz=79,SNR=25
J22A Midwest 79.26 41 ⇑P P 06 59 35.2 -0.4
baz=79,SNR=30
F26A Lodgepole 79.29 37 ⇓P P 06 59 35.5 -0.1
baz=79,SNR=20
BIA Bitola 79.32 316 iP P 06 59 34.1 -1.8
E27A Carson 79.36 36 ⇑P P 06 59 36.1 +0.2
baz=79,SNR=48
FMP Fort Macarthur 79.36 55 ⇓P P 06 59 36.2 0.0
baz=79
RRX Edison Barstow 79.37 53 ⇑P P 06 59 37.0 +0.7
baz=79
SHPR Sheep Range 79.38 51 eP P 06 59 37.5 +1.1
BFSC Mount Baldy Ra 79.40 54 ⇑P P 06 59 36.4 -0.1
baz=79,SNR=8.9
G25A Newell 79.43 38 ⇓P P 06 59 36.2 -0.2
baz=79,SNR=8.9
K21A Alcova 79.43 42 ⇑P P 06 59 36.5 -0.1
baz=79,SNR=90
CIS Catalina Islan 79.49 55 ⇑P P 06 59 36.5 -0.4
baz=79
BCLA Clavier 79.49 330 P P 06 59 36.2 -0.4
comp=Z,10nm,1.3s
ARUT Antelope Range 79.50 49 eP P 06 59 37.9 +0.9
ARUT pmax pmax
comp=Z,497nm,1.1s
ARUT Antelope Range 79.50 49 eP P 06 59 37.9 +0.9
comp=Z,497nm,1.1s
F27A Lemmon 79.57 37 ⇑P P 06 59 37.4 +0.3
baz=79
MOTA Moosalm 79.58 325 iPcP P 06 59 38.8 +1.5
SNR=5.9
RETA Reutte 79.62 326 iP P 06 59 37.8 +0.5
SNR=6.5
E28A Huff 79.63 36 ⇑P P 06 59 37.3 -0.1
baz=79,SNR=6.6
TUQ Turquoise Moun 79.65 52 ⇑P P 06 59 38.0 +0.1
baz=80,SNR=20
SCI San Clemente I 79.69 55 ⇓P P 06 59 37.5 -0.5
baz=80
MVU Marysvale 79.70 48 eP P 06 59 39.3 +1.1
comp=Z,57nm,1.3s
CCUT Cedar City 79.71 49 eP P 06 59 39.4 +1.1
comp=Z,16nm,0.8s
TMUT Trail Mountain 79.71 47 eP P 06 59 39.5 +1.2
comp=Z,34nm,1.1s
J23A Dilts Ranch, B 79.72 41 ⇑P P 06 59 37.3 -0.8
baz=80
C30A Mose, Pekin 79.73 34 ⇑P P 06 59 37.2 -0.7
baz=80,SNR=10
G26A Maurine 79.74 38 ⇑P P 06 59 37.9 -0.2
baz=80,SNR=33
D29A Pettibone, Tap 79.74 35 ⇓P P 06 59 37.8 -0.2
baz=80
H25A Fruitdale 79.77 39 ⇓P P 06 59 37.9 -0.4
baz=80,SNR=7.8
WLF Walferdange 79.78 329 eP P 06 59 38.8 +0.7
comp=Z,8.0nm,0.7s
K22A Casper 79.79 42 eP P 06 59 38.8 +0.2
comp=Z,18nm,0.9s
K22A Casper 79.79 42 ⇑P P 06 59 37.8 -0.7
baz=80,SNR=10
SNF Seneffe 79.80 331 P P 06 59 37.9 -0.3
HEC Hector,Ludlow 79.81 53 ⇑P P 06 59 38.6 0.0
baz=80,SNR=23
BBRC Big Bear Solar 79.84 53 ⇑P P 06 59 38.7 -0.3
baz=80
I24A Kuemmerle Ranc 79.84 40 ⇓P P 06 59 38.3 -0.5
baz=80
GIVF Givet 79.93 330 eP P 06 59 38.0 -0.9
GIVF Givet 79.93 330 eP P 06 59 38.0 -0.9
GIVF Givet 79.93 330 eP P 06 59 38.0 -0.9
RSSD Black Hills 79.94 39 eP P 06 59 39.4 +0.1
RSSD e*PP pP 07 01 06.6 +2.1
RSSD pmax pmax
comp=Z,38nm,0.9s
RSSD Black Hills 79.94 39 eP P 06 59 39.4 +0.1
comp=Z,38nm,0.9s
RSSD epP pP 07 01 06.5 +2.1
BFO Black Forest 79.98 327 P P 06 59 39.9 +0.7
comp=Z,137nm,1.0s,SNR=5.5
BFO Black Forest 79.98 327 iP P 06 59 39.8 +0.6
BFO Black Forest 79.98 327 eP P 06 59 39.8 +0.6
comp=Z,13nm,0.8s
BFO Black Forest 79.98 327 eP P 06 59 38.5 -0.7
comp=Z,113nm,1.9s
G27A Dupree 79.98 37 ⇓P P 06 59 39.2 -0.2
baz=80,SNR=21
FETA Feichten 79.99 325⇓iP P 06 59 39.2 -0.3
comp=Z,15nm,1.3s
DOU Dourbes 80.02 331 P P 06 59 39.0 -0.3
comp=Z,14nm,2.0s
D30A Buchanan 80.07 34 ⇑P P 06 59 39.4 -0.3
baz=80,SNR=23
E29A Napoleon 80.10 35 ⇑P P 06 59 39.6 -0.4
baz=80,SNR=8.8
MURC Murrieta 80.11 54 ⇓P P 06 59 40.1 -0.1
baz=80,SNR=9.8
F28A McLaughlin 80.14 36 ⇑P P 06 59 40.0 -0.1
baz=80,SNR=24
DAVA Damuels 80.15 326 iP P 06 59 40.6 +0.3
SNR=5.7
H26A Fairpoint 80.17 38 ⇓P P 06 59 40.7 +0.3
baz=80,SNR=6.9
K23A Bowen Ranch, D 80.17 41 ⇓P P 06 59 39.6 -0.9
baz=80
BAIF Baives 80.20 331 eP P 06 59 39.4 -0.9
BAIF Baives 80.20 331 eP P 06 59 39.4 -0.9
BAIF Baives 80.20 331 eP P 06 59 39.4 -0.9
N20A Spence Gulch, 80.21 44 ⇓P P 06 59 41.5 +0.7
baz=80,SNR=54
SRU San Rafael 80.22 46 eP P 06 59 41.9 +1.0
SRU pmax pmax
comp=Z,57nm,1.2s
SRU San Rafael 80.22 46 eP P 06 59 41.9 +1.0
comp=Z,57nm,1.2s
J24A Dixon Ranch, L 80.22 40 ⇓P P 06 59 40.2 -0.5
baz=80
GMRC Granite Mounta 80.25 52 ⇓P P 06 59 41.0 -0.1
baz=80,SNR=29
L22A Ellis Ranch, M 80.29 42 ⇓P P 06 59 41.3 +0.1
baz=80,SNR=17
CDF Champ du Feu 80.34 328 eP P 06 59 40.8 -0.4
comp=Z,11nm,0.6s
CDF Champ du Feu 80.34 328 eP P 06 59 40.8 -0.4
CDF pmax pmax
comp=Z,11nm,0.6s
CDF Champ du Feu 80.34 328 eP P 06 59 40.8 -0.4
comp=Z,11nm,0.6s
AGMN Agassiz Nation 80.34 32 eP P 06 59 40.8 -0.3
comp=Z,19nm,0.8s
AGMN epP pP 07 01 07.7 +1.4
AGMN Agassiz Nation 80.34 32 ⇑P P 06 59 40.4 -0.7
baz=80,SNR=16
LDFC Landfair 80.38 52 eP P 06 59 42.3 +0.6
comp=Z,90nm,1.2s
E30A Jud 80.47 35 ⇓P P 06 59 41.6 -0.3
baz=80,SNR=28
H27A Howes 80.48 38 ⇑P P 06 59 41.7 -0.2
baz=80,SNR=27
PFO Pinyon Flat Ob 80.56 54 P P 06 59 43.9 +1.2
comp=Z,259nm,0.9s,SNR=14
PFO Pinyon Flat Ob 80.56 54 eP P 06 59 43.2 +0.5
PFO pmax pmax
comp=Z,85nm,1.3s
PFO Pinyon Flat Ob 80.56 54 eP P 06 59 43.2 +0.5
comp=Z,85nm,1.3s
PFO Pinyon Flat Ob 80.56 54 ⇓P P 06 59 42.3 -0.4
baz=80,SNR=10
I26A New Underwood 80.57 39 ⇑P P 06 59 42.4 0.0
baz=80,SNR=14
BELC Belle Mtn. Jos 80.58 53 ⇓P P 06 59 42.1 -0.7
baz=80,SNR=17
F29A Eureka 80.59 36 ⇓P P 06 59 42.3 -0.2
baz=80,SNR=11
J25A Sunshine Ranch 80.59 40 ⇓P P 06 59 41.9 -0.7
baz=80,SNR=8.3
L23A Garrett 80.60 42 ⇓P P 06 59 42.0 -0.9
baz=80,SNR=20
109C Camp Elliot, M 80.65 55 ⇓P P 06 59 43.0 +0.1
baz=80
M22A Cedar Creek Ra 80.66 43 ⇑P P 06 59 42.9 -0.4
baz=80,SNR=21
G28A Parade 80.68 37 ⇓P P 06 59 42.9 -0.1
baz=80,SNR=24
O20A White River Ci 80.72 44 eP P 06 59 43.7 +0.2
comp=Z,32nm,0.8s
O20A White River Ci 80.72 44 ⇑P P 06 59 43.3 -0.2
baz=80,SNR=28
PAGF Fort de Pagny 80.84 329 eP P 06 59 43.5 -0.2
comp=Z,13nm,0.8s
PAGF epP pP 07 01 12.1 +3.1
PAGF Fort de Pagny 80.84 329 eP P 06 59 43.5 -0.2
comp=Z,13nm,0.8s
PAGF epP pP 07 01 12.1 +3.1
I27A Quinn 80.92 38 ⇑P P 06 59 44.8 +0.5
baz=81,SNR=30
H28A Mission Ridge 80.94 37 ⇑P P 06 59 44.6 +0.3
baz=81,SNR=63
F30A Leola 80.94 35 ⇓P P 06 59 43.9 -0.4
baz=81,SNR=10
IRM Iron Mountain 80.98 53 ⇓P P 06 59 45.6 +0.8
baz=81,SNR=27
HINF Hinteralfeld 80.99 328 eP P 06 59 43.6 -0.9
comp=Z,13nm,0.7s
HINF Hinteralfeld 80.99 328 eP P 06 59 43.6 -0.9
HINF pmax pmax
comp=Z,13nm,0.7s
HINF Hinteralfeld 80.99 328 eP P 06 59 43.6 -0.9
comp=Z,13nm,0.7s
J26A Sides Ranch, S 81.00 39 ⇓P P 06 59 44.9 +0.1
baz=81,SNR=28
TUE Stuetta 81.02 326 eP P 06 59 45.0 0.0
comp=Z,25nm,1.0s
L24A Wheatland 81.04 41 ⇓P P 06 59 45.8 +0.8
baz=81
HAU Haudompre 81.04 328 eP P 06 59 44.0 -0.8
comp=Z,22nm,0.7s
HAU Haudompre 81.04 328 eP P 06 59 44.0 -0.8
comp=Z,22nm,0.7s
G29A Hoven 81.04 36 ⇓P P 06 59 44.5 -0.3
baz=81,SNR=16
BAR Barrett 81.06 55 eP P 06 59 45.3 +0.1
comp=Z,105nm,0.8s
M23A Laramie 81.06 42 ⇓P P 06 59 45.0 -0.3
baz=81,SNR=17
MONP Monument Peak 81.07 54 ⇑P P 06 59 45.2 -0.3
baz=81,SNR=13
W13A Hualapai Mount 81.09 51 ⇓P P 06 59 46.0 +0.4
baz=81,SNR=36
U15A North Rim 81.10 49 ⇓P P 06 59 46.4 +0.7
baz=81,SNR=96
K25A Mack Ranch, Ha 81.14 40 ⇑P P 06 59 45.4 -0.2
baz=81
BC3 Big Chuckawall 81.14 53 ⇑P P 06 59 46.0 +0.3
baz=81,SNR=15
N22A Wattenberg Ran 81.17 43 ⇓P P 06 59 46.4 +0.5
baz=81,SNR=23
PHWY Pilot Hill 81.32 42 eP P 06 59 47.3 +0.6
comp=Z,26nm,0.9s
H29A Onida 81.34 37 ⇑P P 06 59 46.5 0.0
baz=81,SNR=30
N23A Red Feather La 81.37 42 ⇓P P 06 59 47.2 +0.3
baz=81,SNR=12
I28A Midland 81.39 38 ⇑P P 06 59 46.6 -0.1
baz=81,SNR=28
SFTF Sexfontaines 81.39 329 eP P 06 59 46.0 -0.6
comp=Z,11nm,0.5s
SFTF Sexfontaines 81.39 329 eP P 06 59 46.0 -0.6
comp=Z,11nm,0.4s
K26A Motz Farm, Whi 81.41 40 ⇑P P 06 59 46.7 -0.2
baz=81,SNR=8.9
SWSC Sam W. Stewart 81.42 54 ⇓P P 06 59 47.1 +0.1
baz=81,SNR=8.6
L25A Engebretsen Ra 81.44 41 ⇓P P 06 59 47.5 +0.4
baz=81
G30A Faulkton 81.44 36 ⇑P P 06 59 46.9 0.0
baz=81,SNR=46
PDMCI Parker Dam,Lak 81.49 52 ⇑P P 06 59 47.2 -0.2
baz=81,SNR=23
M24A Cheyenne 81.52 41 ⇓P P 06 59 48.2 +0.6
baz=81,SNR=11
PV10 Paradox Valley 81.55 46 eP P 06 59 48.9 +0.9
comp=Z,2μm,0.7s
J27A Elkhorn Farm, 81.56 39 ⇑P P 06 59 48.1 +0.4
baz=81,SNR=20
O22A Kremmling 81.59 43 ⇓P P 06 59 48.2 0.0
baz=81,SNR=27
PV04 Paradox Valley 81.61 46 eP P 06 59 49.3 +1.1
Y12C Blythe 81.64 52 ⇓P P 06 59 48.5 +0.3
baz=82,SNR=40
I29A Vivian Onida 81.77 37 ⇑P P 06 59 48.5 -0.2
baz=82,SNR=19
J28A Allard Ranch, 81.79 38 ⇓P P 06 59 49.0 +0.2
baz=82,SNR=12
K27A Flueckinger Fa 81.86 39 ⇑P P 06 59 49.0 -0.2
baz=82,SNR=5.8
O23A Lake Granby, G 81.89 43 ⇑P P 06 59 50.1 +0.4
baz=82,SNR=23
P22A Eagle 81.90 44 ⇓P P 06 59 50.2 +0.5
baz=82,SNR=42
M25A Palm-Egli Farm 81.93 41 ⇓P P 06 59 50.3 +0.5
baz=82
GLA Glamis 81.94 53 eP P 06 59 50.6 +0.8
GLA pmax pmax
comp=Z,41nm,1.0s
GLA Glamis 81.94 53 eP P 06 59 50.6 +0.8
comp=Z,42nm,1.0s
GLA Glamis 81.94 53 ⇓P P 06 59 50.1 +0.4
baz=82,SNR=7.0
L26A Underwood Farm 81.96 40 ⇓P P 06 59 49.4 -0.4
baz=82
N24A Carr 81.96 42 ⇑P P 06 59 50.4 +0.4
baz=82,SNR=6.5
PV01 Paradox Valley 81.98 46 eP P 06 59 50.8 +0.7
comp=Z,2μm,0.7s
PV01 epP pP 07 01 18.1 +2.3
BRSD Miller 82.06 36 ⇑P P 06 59 49.9 -0.2
baz=82,SNR=17
SMCO Snowmass 82.09 44 eP P 06 59 51.0 +0.1
comp=Z,31nm,0.8s
J29A Okreek 82.23 38 ⇑P P 06 59 51.0 0.0
baz=82,SNR=16
CABF La Chapelle 82.27 328 eP P 06 59 50.6 -0.7
CABF La Chapelle 82.27 328 eP P 06 59 50.6 -0.7
CABF La Chapelle 82.27 328 eP P 06 59 50.6 -0.7
WUAZ Wupatki 82.27 49 eP P 06 59 52.7 +1.1
comp=Z,50nm,0.9s
WUAZ Wupatki 82.27 49 ⇓P P 06 59 52.5 +0.9
baz=82,SNR=53
K28A Ten Mile Ranch 82.27 39 ⇑P P 06 59 51.6 +0.2
baz=82,SNR=5.8
EYMN Ely 82.34 30 eP P 06 59 51.4 -0.1
comp=Z,60nm,1.3s
EYMN epP pP 07 01 18.6 +1.4
ISCO Idaho Springs 82.35 43 eP P 06 59 53.2 +1.1
ISCO pmax pmax
comp=Z,17nm,0.8s
ISCO Idaho Springs 82.35 43 eP P 06 59 53.2 +1.1
comp=Z,17nm,0.8s
ISCO Idaho Springs 82.35 43 ⇓P P 06 59 52.2 +0.1
baz=82,SNR=11
M26A McRoberts Ranc 82.36 41 ⇑P P 06 59 52.4 +0.6
baz=82
O24A Longmont 82.39 43 ⇑P P 06 59 52.6 +0.5
baz=82,SNR=10
Y14A Wickenburg 82.42 51 ⇓P P 06 59 52.7 +0.4
baz=82,SNR=35
P23A Jefferson 82.54 43 ⇓P P 06 59 53.4 +0.3
baz=82
LOR Lormes 82.62 329 eP P 06 59 52.2 -0.7
comp=Z,33nm,0.9s
LOR epP pP 07 01 21.1 +2.4
LOR Lormes 82.62 329 eP P 06 59 52.2 -0.7
LOR pmax pmax
comp=Z,33nm,0.9s
LOR Lormes 82.62 329 eP P 06 59 52.2 -0.7
comp=Z,33nm,0.9s
LOR epP pP 07 01 21.1 +2.4
J30A Dallas 82.68 37 ⇑P P 06 59 53.3 0.0
baz=82,SNR=32
M27A Reverse DX Ran 82.68 40 ⇓P P 06 59 53.4 -0.1
baz=82
MVCO Mesa Verde 82.69 47 eP P 06 59 54.1 +0.3
comp=Z,50nm,1.1s
MVCO epP pP 07 01 22.2 +2.7
MVCO Mesa Verde 82.69 47 ⇑P P 06 59 54.1 +0.3
baz=82,SNR=30
K29A Lazy Trails An 82.73 38 ⇓P P 06 59 53.7 0.0
baz=82,SNR=13
L28A Connealy Angus 82.74 39 ⇑P P 06 59 53.2 -0.6
baz=82
113A Mohawk Valley, 82.78 53 ⇑P P 06 59 53.9 0.0
baz=83,SNR=25
N26A Koester Ranch, 82.80 41 ⇓P P 06 59 53.9 -0.3
baz=83
Z14A Wintersburg 82.86 52 ⇓P P 06 59 54.3 -0.1

baz=83,SNR=12
LPL La Plagne 82.88 327 eP P 06 59 54.2 -0.4
comp=Z,17nm,0.5s
LPL La Plagne 82.88 327 eP P 06 59 54.2 -0.4
LPL pmax pmax
comp=Z,17nm,0.5s
LPL La Plagne 82.88 327 eP P 06 59 54.2 -0.4
comp=Z,17nm,0.5s
O25A Wiggins 82.88 42 ⇓P P 06 59 54.5 -0.1
baz=83,SNR=6.0
LPG La Plagne 82.89 327 eP P 06 59 54.4 -0.3
comp=Z,21nm,0.5s
LPG La Plagne 82.89 327 eP P 06 59 54.4 -0.3
LPG pmax pmax
comp=Z,21nm,0.5s
LPG La Plagne 82.89 327 eP P 06 59 54.4 -0.3
comp=Z,21nm,0.5s
P24A Kohler Place, 82.92 43 ⇑P P 06 59 55.0 +0.2
baz=83
SSF Saint Saulge 82.92 329 eP P 06 59 54.5 0.0
comp=Z,18nm,0.8s
SSF Saint Saulge 82.92 329 eP P 06 59 54.5 0.0
SSF pmax pmax
comp=Z,18nm,0.8s
SSF Saint Saulge 82.92 329 eP P 06 59 54.5 0.0
comp=Z,18nm,0.8s
SCHQ Schefferville 82.95 13 P P 06 59 53.4 -1.0
comp=Z,5.9nm,0.6s,baz=350,slow=4.9,SNR=24
SCHQ pP pP 07 01 17.0 -3.3
comp=Z,11nm,1.2s,baz=358,slow=9.1,SNR=2.2
SCHQ Schefferville 82.95 13 eP P 06 59 54.7 +0.2
comp=Z,22nm,1.2s
SCHQ epP pP 07 01 22.2 +1.9
FLN La Foliniere 82.97 333 eP P 06 59 53.6 -1.1
comp=Z,7.0nm,0.4s
FLN La Foliniere 82.97 333 eP P 06 59 53.6 -1.1
FLN pmax pmax
comp=Z,7.0nm,0.4s
FLN La Foliniere 82.97 333 eP P 06 59 53.6 -1.1
comp=Z,7.0nm,0.4s
LDF La Druitiere 82.99 332 eP P 06 59 54.2 -0.6
comp=Z,15nm,0.6s
LDF La Druitiere 82.99 332 eP P 06 59 54.2 -0.6
LDF pmax pmax
comp=Z,15nm,0.6s
LDF La Druitiere 82.99 332 eP P 06 59 54.2 -0.6
comp=Z,15nm,0.6s
X16A Lo Mia Camp, P 83.01 50 ⇑P P 06 59 55.8 +0.4
baz=83,SNR=86
K30A Basset 83.13 38 ⇑P P 06 59 55.9 +0.2
baz=83,SNR=23
SMF Signal de Mont 83.14 329 eP P 06 59 54.6 -1.0
comp=Z,21nm,0.8s
SMF Signal de Mont 83.14 329 eP P 06 59 54.6 -1.0
SMF pmax pmax
comp=Z,21nm,0.8s
SMF Signal de Mont 83.14 329 eP P 06 59 54.6 -1.0
comp=Z,21nm,0.8s
N27A Anderson Farm, 83.16 41 ⇑P P 06 59 56.1 +0.2
baz=83,SNR=5.2
O26A Horse Wrangler 83.19 41 ⇓P P 06 59 55.7 -0.4
baz=83,SNR=8.0
Q24A Divide 83.21 43 ⇑P P 06 59 56.5 0.0
baz=83,SNR=6.4
AVF Avril sur Loir 83.21 329 eP P 06 59 55.5 -0.4
comp=Z,33nm,0.9s
AVF epP pP 07 01 24.4 +2.6
AVF Avril sur Loir 83.21 329 eP P 06 59 55.5 -0.4
AVF pmax pmax
comp=Z,33nm,0.9s
AVF Avril sur Loir 83.21 329 eP P 06 59 55.5 -0.4
comp=Z,33nm,0.9s
AVF epP pP 07 01 24.4 +2.6
S22A 4UR Ranch, Cre 83.21 45 ⇑P P 06 59 57.0 +0.5
baz=83,SNR=26
M28A Bar X Bar Ranc 83.28 40 ⇑P P 06 59 56.1 -0.4
baz=83,SNR=6.1
OGNE Ogallala 83.30 40 eP P 06 59 56.8 +0.2
comp=Z,37nm,0.9s
OGNE Ogallala 83.30 40 ⇓P P 06 59 56.3 -0.3
baz=83,SNR=5.8
P25A Willow Gulch B 83.31 42 ⇓P P 06 59 57.1 +0.3
baz=83
R23A Moffat 83.42 44 ⇓P P 06 59 57.6 +0.1
baz=83
GRR Gorron 83.42 333 eP P 06 59 55.4 -1.6
comp=Z,7.6nm,0.3s
GRR Gorron 83.42 333 eP P 06 59 55.4 -1.6
GRR pmax pmax
comp=Z,8.0nm,0.3s
GRR Gorron 83.42 333 eP P 06 59 55.4 -1.6
comp=Z,7.6nm,0.3s
W18A Petrified Fore 83.50 49 eP P 06 59 59.2 +1.4
comp=Z,37nm,1.1s
W18A Petrified Fore 83.50 49 ⇑P P 06 59 58.1 +0.2
baz=83,SNR=13
MBDF Montbardon 83.50 326 eP P 06 59 56.4 -1.2
comp=Z,21nm,0.7s
MBDF Montbardon 83.50 326 eP P 06 59 56.4 -1.2
MBDF pmax pmax
comp=Z,21nm,0.7s
MBDF Montbardon 83.50 326 eP P 06 59 56.4 -1.2
comp=Z,21nm,0.7s
M29A Burnside Ranch 83.57 39 ⇑P P 06 59 57.8 -0.2
baz=83
L30A Spencer Herefo 83.64 38 ⇑P P 06 59 58.5 +0.2
baz=83,SNR=17
O27A Beecher Island 83.65 41 ⇓P P 06 59 58.2 -0.2
baz=83
ECSD EROS Data Cent 83.66 35 eP P 06 59 58.1 -0.1
comp=Z,39nm,0.9s
ECSD epP pP 07 01 25.7 +1.4
ECSD EROS Data Cent 83.66 35 ⇑P P 06 59 58.2 0.0
baz=83,SNR=34
S23A Nye Farm, Mont 83.68 45 ⇓P P 06 59 59.7 +0.9
baz=84,SNR=15
P26A Davis Ranch, A 83.69 42 ⇑P P 06 59 58.6 -0.1
baz=84,SNR=6.6
Q25A Bedland, Calha 83.71 43 ⇑P P 06 59 58.4 -0.5
baz=84,SNR=6.7
ORIF Oris-en-Rattie 83.72 327 eP P 06 59 58.0 -0.7
ORIF Oris-en-Rattie 83.72 327 eP P 06 59 58.0 -0.7
ORIF Oris-en-Rattie 83.72 327 eP P 06 59 58.0 -0.7
N28A Pribbeno Ranch 83.74 40 ⇓P P 06 59 58.5 -0.3
baz=84,SNR=9.1
R24A Sanders Place, 83.77 44 ⇓P P 06 59 59.5 +0.3
baz=84
X18A Snowflake 83.79 49 ⇑P P 07 00 00.1 +0.8
baz=84,SNR=45
L31A Butterfield Fa 83.88 38 ⇑P P 06 59 59.4 0.0
baz=84,SNR=25
M30A Dale-Ortello V 83.89 39 ⇓P P 06 59 59.2 -0.4
baz=84
214A Organ Pipe Nat 83.92 53 eP P 07 00 00.4 +0.6
comp=Z,39nm,0.9s
214A Organ Pipe Nat 83.92 53 ⇓P P 07 00 00.2 +0.4
baz=84,SNR=23
SDCO Great Sand Dun 83.92 44 eP P 07 00 00.4 +0.3
comp=Z,16nm,0.9s
O28A Krutsinger Ran 84.05 41 ⇑P P 07 00 00.0 -0.4
baz=84,SNR=6.0
SPMN St. Paul 84.06 32 eP P 07 00 00.5 +0.2
comp=Z,25nm,0.9s
SPMN St. Paul 84.06 32 ⇓P P 06 59 59.7 -0.6
baz=84,SNR=12
TCF Toulx Ste Croi 84.07 330 eP P 06 59 59.1 -1.2
comp=Z,9.0nm,0.6s
TCF Toulx Ste Croi 84.07 330 eP P 06 59 59.1 -1.2
TCF pmax pmax
comp=Z,9.0nm,0.6s
TCF Toulx Ste Croi 84.07 330 eP P 06 59 59.1 -1.2
comp=Z,9.0nm,0.6s
Q26A Hugo 84.08 42 ⇓P P 07 00 00.1 -0.5
baz=84
N29A Votaw Ranch, W 84.08 39 ⇑P P 07 00 00.1 -0.4
baz=84,SNR=10
P27A Ficken Ranch, 84.08 41 ⇓P P 07 00 00.2 -0.4
baz=84,SNR=12
S24A Houchin Ranch, 84.15 44 ⇓P P 07 00 01.5 +0.3
baz=84,SNR=20
T23A Casias Ranch, 84.16 45 ⇑P P 07 00 02.0 +0.8
baz=84,SNR=32
CEL Celeste 84.19 317 eP P 07 00 01.4 +0.3
comp=Z,20nm,0.8s
U22A Llaves 84.20 46 ⇓P P 07 00 02.1 +0.7
baz=84,SNR=20
PGF Pioggiola 84.26 324 eP P 07 00 01.5 +0.1
PGF Pioggiola 84.26 324 eP P 07 00 01.5 +0.1
PGF Pioggiola 84.26 324 eP P 07 00 01.5 +0.1
R25A Fountain Ranch 84.27 43 ⇓P P 07 00 01.0 -0.6
baz=84,SNR=17
VIVF Saint-Julien-l 84.27 327 eP P 07 00 01.3 0.0
VIVF Saint-Julien-l 84.27 327 eP P 07 00 01.3 0.0
VIVF Saint-Julien-l 84.27 327 eP P 07 00 01.3 0.0
ROSF Rostrenen 84.30 334 eP P 07 00 00.5 -0.8
comp=Z,56nm,0.8s
ROSF Rostrenen 84.30 334 eP P 07 00 00.5 -0.8
ROSF pmax pmax
comp=Z,56nm,0.8s
ROSF Rostrenen 84.30 334 eP P 07 00 00.5 -0.8
comp=Z,56nm,0.8s
N30A Hueftle Ranch, 84.35 39 ⇑P P 07 00 01.8 0.0
baz=84
M31A Lambtecht Ranc 84.46 38 ⇓P P 07 00 02.0 -0.4
baz=84,SNR=21
KSCO Kaye Shedlock' 84.47 42 eP P 07 00 03.0 +0.5
comp=Z,52nm,1.1s
KSCO Kaye Shedlock' 84.47 42 ⇓P P 07 00 02.4 -0.2
baz=84,SNR=8.3
P28A Saint Francis 84.48 41 ⇓P P 07 00 02.2 -0.4
baz=84,SNR=20
FRF La Foret Royal 84.49 326 eP P 07 00 02.5 +0.1
comp=Z,18nm,0.8s
FRF La Foret Royal 84.49 326 eP P 07 00 02.5 +0.1
FRF pmax pmax
comp=Z,18nm,0.8s
FRF La Foret Royal 84.49 326 eP P 07 00 02.5 +0.1
comp=Z,18nm,0.8s
T24B San Luis 84.49 45 ⇑P P 07 00 03.6 +0.7
baz=84,SNR=14
V22A San Miguel Ran 84.51 46 ⇓P P 07 00 03.5 +0.6
baz=84,SNR=24
O29A 4D Ranch, Culb 84.53 40 ⇓P P 07 00 02.4 -0.3
baz=84,SNR=9.5
S25A Robets Cordova 84.55 44 ⇑P P 07 00 02.4 -0.7
baz=84,SNR=14
R26A Arlington 84.59 43 ⇓P P 07 00 02.6 -0.6
baz=84,SNR=22
U23A El Rito 84.60 46 ⇓P P 07 00 03.9 +0.6
baz=84,SNR=46
QUIF Quistinic 84.62 334 eP P 07 00 02.3 -0.6
comp=Z,24nm,0.8s
QUIF Quistinic 84.62 334 eP P 07 00 02.3 -0.6
QUIF pmax pmax
comp=Z,24nm,0.8s
QUIF Quistinic 84.62 334 eP P 07 00 02.3 -0.6
comp=Z,24nm,0.8s
MFF Saint Martin d 84.69 331 eP P 07 00 02.3 -1.0
comp=Z,29nm,0.8s
MFF Saint Martin d 84.69 331 eP P 07 00 02.3 -1.0
MFF pmax pmax
comp=Z,29nm,0.8s
MFF Saint Martin d 84.69 331 eP P 07 00 02.3 -1.0
comp=Z,29nm,0.8s
LMR La Mourre 84.73 325 eP P 07 00 03.8 +0.2
comp=Z,21nm,0.9s
LMR La Mourre 84.73 325 eP P 07 00 03.8 +0.2
LMR pmax pmax
comp=Z,21nm,0.9s
LMR La Mourre 84.73 325 eP P 07 00 03.8 +0.2
comp=Z,21nm,0.9s
BGNE Belgrade 84.80 38 eP P 07 00 04.0 0.0
comp=Z,108nm,0.9s
BGNE Belgrade 84.80 38 ⇑P P 07 00 03.8 -0.2
baz=85,SNR=15
Q28A Sharon Springs 84.83 41 ⇓P P 07 00 03.8 -0.5
baz=85,SNR=8.0
O30A MW Ranch, Wils 84.85 40 ⇓P P 07 00 03.7 -0.7
baz=85,SNR=8.8
P29A Atwood 84.87 40 ⇑P P 07 00 04.0 -0.4
baz=85
N31A Bailey Ranch, 84.88 38 ⇓P P 07 00 03.6 -0.8
baz=85
TUC Tucson 84.89 51 eP P 07 00 04.5 -0.2
TUC pmax pmax
comp=Z,22nm,1.1s
TUC Tucson 84.89 51 eP P 07 00 04.5 -0.2
comp=Z,22nm,1.1s
R27A Eads 84.93 42 ⇓P P 07 00 04.4 -0.4
baz=85,SNR=23
T25A Trinidad 84.95 44 ⇑P P 07 00 05.0 -0.1
baz=85,SNR=29
V23A Ortiz Mt. (NFS 85.03 46 ⇑P P 07 00 06.8 +1.3
baz=85,SNR=21
U24A Moreno Valley 85.03 45 ⇑P P 07 00 06.1 +0.5
baz=85,SNR=10
S26A Kim 85.08 43 ⇓P P 07 00 05.2 -0.5
baz=85,SNR=9.6
O31A Woolen Ranch, 85.22 39 ⇓P P 07 00 05.4 -0.7
baz=85,SNR=10
N32A Stulken Farm, 85.24 38 ⇑P P 07 00 05.3 -0.9
baz=85
P30A Selden 85.25 40 ⇑P P 07 00 06.1 -0.2
baz=85,SNR=7.8
CAF Calviac 85.26 329 eP P 07 00 06.1 -0.1
CAF Calviac 85.26 329 eP P 07 00 06.1 -0.1
CAF Calviac 85.26 329 eP P 07 00 06.1 -0.1
S27A Las Animas 85.34 43 ⇑P P 07 00 06.4 -0.5
baz=85
T26A Comanche Natio 85.36 44 ⇑P P 07 00 06.8 -0.3
baz=85,SNR=20
Q29A Oakley 85.39 41 ⇓P P 07 00 06.5 -0.5
baz=85
R28A Tribune 85.39 42 ⇑P P 07 00 07.0 -0.1
baz=85,SNR=11
ANMO Albuquerque 85.47 47 eP P 07 00 07.9 +0.3
ANMO pmax pmax
comp=Z,104nm,1.4s
ANMO Albuquerque 85.47 47 eP P 07 00 08.2 +0.6
W23A Werner Place, 85.48 47 ⇓P P 07 00 08.3 +0.6
baz=85,SNR=32
LAZ Ladron 85.49 48 eP P 07 00 09.3 +1.6
comp=Z,10.0nm,1.2s
U25A Circle Dot Ran 85.51 45 ⇓P P 07 00 08.2 +0.4
baz=85,SNR=15
V24A Rampart Ranch, 85.54 46 ⇓P P 07 00 09.1 +1.0
baz=85,SNR=26
O32A Brockman Farm, 85.64 38 ⇑P P 07 00 07.3 -0.8
baz=85
R29A Marienthal 85.67 41 ⇓P P 07 00 07.9 -0.6
baz=85
P31A Stockton 85.69 40 ⇑P P 07 00 07.9 -0.5
baz=86,SNR=19
Q30A Quinter 85.70 40 ⇑P P 07 00 08.3 -0.3
baz=86,SNR=12
LENM Lemitar 85.75 48 eP P 07 00 10.1 +1.1
LFF La Frestale 85.76 330 eP P 07 00 07.8 -0.8
LFF La Frestale 85.76 330 eP P 07 00 07.8 -0.8
LFF La Frestale 85.76 330 eP P 07 00 07.8 -0.8
V25A Rancho No Teng 85.81 45 ⇓P P 07 00 09.6 +0.3
baz=86,SNR=14
LPM Los Pinos Moun 85.84 47 eP P 07 00 10.1 +0.7
Y22D IRIS PASSCAL I 85.85 48 ⇓P P 07 00 10.1 +0.7
baz=86
W24A Lazy 6 Ranch, 85.85 46 ⇓P P 07 00 10.5 +1.0
baz=86,SNR=18
U26A Atchley Ranch, 85.86 44 ⇑P P 07 00 09.6 0.0
baz=86,SNR=15
X23A Hourglass Bar 85.89 47 ⇓P P 07 00 10.1 +0.4
baz=86
T27A Campo 85.90 43 ⇓P P 07 00 09.4 -0.2
baz=86,SNR=9.1
S28A Manter 85.92 42 ⇑P P 07 00 09.5 -0.2
baz=86,SNR=24
BNM Barren Site 85.96 47 eP P 07 00 11.2 +1.2
comp=Z,21nm,1.2s
P32A Huiting Farm, 85.99 39 ⇓P P 07 00 09.1 -0.7
baz=86,SNR=21
Q31A Ellis 86.08 40 ⇓P P 07 00 09.8 -0.5
baz=86
T28A Walsh 86.17 43 ⇑P P 07 00 10.5 -0.4
baz=86
R30A Dighton 86.21 41 ⇓P P 07 00 10.6 -0.4
baz=86,SNR=13
V26A Tequesquite Ra 86.29 45 ⇓P P 07 00 11.4 -0.2
baz=86,SNR=17
S29A Ulysses 86.30 42 ⇑P P 07 00 11.1 -0.3
baz=86,SNR=12
U27A Thompson Grove 86.33 44 ⇑P P 07 00 11.5 -0.2
baz=86,SNR=18
W25A X Bar L Ranch, 86.36 45 ⇓P P 07 00 12.5 +0.6
baz=86,SNR=14
Z22A Elephant Butte 86.42 48 ⇑P P 07 00 12.8 +0.5
baz=86,SNR=20
Y23A Lovelace Mesa, 86.44 47 ⇓P P 07 00 12.8 +0.5
baz=86,SNR=13
319A Douglas 86.45 51 ⇓P P 07 00 12.5 +0.2
baz=86,SNR=11
121A Cookes Peak, D 86.48 49 eP P 07 00 13.5 +0.9
comp=Z,37nm,1.4s
121A Cookes Peak, D 86.48 49 ⇑P P 07 00 12.6 +0.1
baz=86,SNR=13
Q32A Meitler Ranch, 86.50 39 ⇓P P 07 00 11.8 -0.5
baz=86,SNR=29
T29A Hugoton 86.56 42 ⇓P P 07 00 12.3 -0.4
baz=86,SNR=5.1
P33A Williams Farm, 86.56 39 ⇑P P 07 00 12.1 -0.5
baz=86,SNR=6.2
R31A Burdett 86.58 40 ⇑P P 07 00 12.2 -0.5
baz=86,SNR=14
SCIA State Center 86.61 34 eP P 07 00 13.7 +1.0
comp=Z,94nm,1.3s
SCIA epP pP 07 01 41.6 +2.2
S30A Montezuma 86.61 41 ⇓P P 07 00 12.8 -0.2
baz=86,SNR=35
U28A Mallet 86.68 43 ⇓P P 07 00 13.1 -0.3
baz=86,SNR=7.2
X25A Clemmons Ranch 86.77 46 ⇑P P 07 00 14.3 +0.4
baz=87,SNR=6.9
Y24A Capitan 86.79 47 ⇑P P 07 00 14.1 +0.1
baz=87,SNR=8.5
V27A Dan Oppiter Fa 86.83 44 ⇓P P 07 00 13.8 -0.2
baz=87,SNR=11
W26A Owens Ranch, T 86.83 45 ⇑P P 07 00 14.6 +0.4
baz=87,SNR=5.4
Q33A Connelly Farm, 86.84 39 ⇓P P 07 00 13.6 -0.4
baz=87,SNR=20
R32A Long Quarter, 86.87 40 ⇑P P 07 00 14.0 -0.1
baz=87,SNR=6.5
JFWS Jewell Farm 87.01 32 eP P 07 00 14.3 -0.4
JFWS pmax pmax
comp=Z,28nm,1.1s
JFWS Jewell Farm 87.01 32 eP P 07 00 14.2 -0.4
comp=Z,28nm,1.1s
T30A Plains 87.03 42 ⇓P P 07 00 14.9 -0.1
baz=87,SNR=6.1
U29A Oasis Ranch, S 87.11 43 ⇑P P 07 00 15.2 -0.1
baz=87
S31A Mullinville 87.12 41 ⇓P P 07 00 14.8 -0.5
baz=87,SNR=8.6
URZ Urewera 87.13 149 eP P 07 00 14.9 0.0
V28A Channing 87.15 44 ⇓P P 07 00 15.5 -0.1
baz=87,SNR=6.3
Y25A Mesa, Roswell 87.20 46 ⇓P P 07 00 16.1 +0.2
baz=87,SNR=16
X26A CR and CF Fran 87.22 45 ⇑P P 07 00 16.4 +0.4
baz=87,SNR=11
W27A Bowe Ranch, En 87.23 45 ⇓P P 07 00 16.7 +0.7
baz=87,SNR=13
Z24A Sheeppen Canyo 87.27 47 ⇑P P 07 00 16.7 +0.4
baz=87,SNR=6.4
R33A Olander Ranch, 87.31 39 ⇓P P 07 00 16.1 -0.1
baz=87,SNR=6.1
S32A Newby Ranch, P 87.33 40 ⇓P P 07 00 16.0 -0.3
baz=87
KSU1 Kansas State U 87.34 38 eP P 07 00 16.6 +0.4
comp=Z,32nm,0.6s
KSU1 Kansas State U 87.34 38 ⇑P P 07 00 16.0 -0.3
baz=87,SNR=5.7
U30A WK&E Inc. Balk 87.37 42 ⇑P P 07 00 16.6 0.0
baz=87,SNR=6.2
T31A Randall Ranch, 87.43 41 ⇑P P 07 00 16.6 -0.2
baz=87,SNR=13
V29A Stinnett 87.43 43 ⇓P P 07 00 16.5 -0.3
baz=87
EPF Esparros 87.52 329 eP P 07 00 16.7 -0.4
EPF Esparros 87.52 329 eP P 07 00 16.7 -0.4
EPF Esparros 87.52 329 eP P 07 00 16.7 -0.4
X27A F and S Farms, 87.53 45 ⇓P P 07 00 17.6 +0.2
baz=87,SNR=6.1
W28A Vega 87.54 44 ⇓P P 07 00 17.7 +0.3
baz=87
Z25A Roswell 87.67 47 ⇓P P 07 00 18.3 +0.2
baz=88,SNR=26
BKZ Black Stump Fm 87.67 150 eP P 07 00 18.2 +0.6
comp=Z,24nm,1.1s
Y26A Elida 87.68 46 ⇑P P 07 00 18.3 +0.2
baz=88
T32A Huddler Ranch, 87.74 41 ⇓P P 07 00 18.6 +0.3
baz=88,SNR=9.0
S33A Kaszmaul Farm, 87.87 40 ⇑P P 07 00 19.1 +0.3
baz=88
U31A Nine Bar Ranch 87.91 42 ⇑P P 07 00 19.4 +0.4
baz=88
W29A Amraillo 87.94 44 ⇑P P 07 00 19.5 +0.2
baz=88
V30A Spur Ranch, Mi 87.94 43 ⇑P P 07 00 19.0 -0.3
baz=88
ETSF Etsaut 87.99 330 eP P 07 00 19.8 +0.5
comp=Z,11nm,0.7s
ETSF Etsaut 87.99 330 eP P 07 00 19.8 +0.5
ETSF pmax pmax
comp=Z,11nm,0.7s
ETSF Etsaut 87.99 330 eP P 07 00 19.8 +0.5
comp=Z,11nm,0.7s
Y27A Causey 88.07 46 ⇑P P 07 00 19.8 -0.1
baz=88,SNR=5.7
Z26A Caprock 88.08 46 ⇓P P 07 00 20.1 +0.1
baz=88,SNR=21
AMTX Amarillo 88.10 44 eP P 07 00 21.0 +0.9
comp=Z,39nm,1.1s
AMTX Amarillo 88.10 44 ⇑P P 07 00 20.3 +0.3
baz=88
X28A Dimmitt 88.11 44 ⇓P P 07 00 20.1 0.0
baz=88
T33A Patterson Ranc 88.15 40 ⇑P P 07 00 20.4 +0.3
baz=88,SNR=8.9
125A Gardner Draw, 88.17 47 ⇓P P 07 00 20.8 +0.4
baz=88,SNR=16
MSTX Muleshoe 88.22 45 eP P 07 00 20.9 +0.3
comp=Z,8.6nm,0.9s
MSTX Muleshoe 88.22 45 ⇓P P 07 00 20.7 +0.1
baz=88
U32A Winter Ranch, 88.33 41 ⇓P P 07 00 21.3 +0.3
baz=88,SNR=5.5
V31A Spring Creek L 88.37 42 ⇑P P 07 00 22.0 +0.8
baz=88,SNR=10
X29A Tulia 88.43 44 ⇓P P 07 00 21.8 +0.2
baz=88,SNR=11
Z27A Tatum 88.47 46 ⇓P P 07 00 22.0 +0.1
baz=88,SNR=19
MNTX Cornudas Mount 88.47 48 eP P 07 00 22.4 +0.6
comp=Z,5.9nm,1.1s
225A Deer Hill, Car 88.48 48 ⇓P P 07 00 22.4 +0.4
baz=88
126A Clayton Basin, 88.53 47 ⇓P P 07 00 21.9 -0.2
baz=88
Y28A McKinney Farm, 88.54 45 ⇓P P 07 00 22.1 0.0
baz=88,SNR=6.2
U33A Lingo Farm, Me 88.73 41 ⇑P P 07 00 23.2 +0.4
baz=88,SNR=8.2
W31A Holland Ranch, 88.78 43 ⇓P P 07 00 23.6 +0.5
baz=89,SNR=14
V32A Arapaho 88.82 42 ⇓P P 07 00 23.8 +0.5
baz=89,SNR=6.3
X30A Coker Ranch, T 88.86 44 ⇓P P 07 00 23.5 0.0
baz=89
127A Arkansas Junct 88.87 46 ⇓P P 07 00 23.7 0.0
baz=89
226B Tecolote Peak, 88.88 47 ⇓P P 07 00 24.2 +0.5
baz=89
Y29A Porterfield Fa 88.89 45 ⇓P P 07 00 24.2 +0.5
baz=89
Z28A Tucker Farm, M 88.94 45 ⇑P P 07 00 23.8 -0.2
baz=89,SNR=5.9
U34A Anderson Ranch 89.01 40 ⇓P P 07 00 24.6 +0.5
baz=89,SNR=6.1
V33A Lossen Ranch, 89.12 41 ⇓P P 07 00 25.0 +0.3
baz=89,SNR=5.1
W32A Sentinel 89.18 42 ⇑P P 07 00 25.3 +0.3
baz=89,SNR=14
X31A McDonald Ranch 89.19 43 ⇓P P 07 00 25.2 +0.1
baz=89,SNR=17
Y30A Stafford Cattl 89.29 44 ⇓P P 07 00 25.5 -0.1
baz=89,SNR=12
Z29A Hungry Hill Ra 89.33 45 ⇑P P 07 00 26.2 +0.4
baz=89,SNR=34
425A Indio Mountain 89.38 49 ⇓P P 07 00 26.5 +0.4
baz=89,SNR=21
128A Castleberry Fa 89.39 46 ⇑P P 07 00 26.1 0.0
baz=89,SNR=9.4
227A Bennet, Jal 89.41 47 ⇓P P 07 00 26.3 +0.1

baz=89
V34A Guthrie 89.50 41 ⇓P P 07 00 26.9 +0.4
baz=89,SNR=9.7
326A Caldwell Ranch 89.55 48 ⇓P P 07 00 26.9 0.0
baz=89,SNR=14
W33A Caddo, Fort Co 89.56 42 ⇓P P 07 00 27.2 +0.5
baz=89
Y31A Rekieta Farm, 89.56 44 ⇓P P 07 00 26.8 0.0
baz=89,SNR=5.7
Z30A Sanderson Ranc 89.62 45 ⇑P P 07 00 27.1 0.0
baz=89,SNR=22
X32A Elmer 89.71 43 ⇑P P 07 00 27.4 0.0
baz=90,SNR=22
228A UT Block 9, Go 89.72 46 ⇓P P 07 00 27.8 +0.1
baz=90,SNR=7.1
129A Stewart Farms, 89.72 45 ⇑P P 07 00 27.5 -0.2
baz=90
RPZ Rata Peaks 89.77 155 eP P 07 00 29.7 +2.5
comp=Z,14nm,0.7s
327A Balmorhea Ranc 89.78 47 ⇓P P 07 00 28.5 +0.6
baz=90
W34A Bridge Creek, 89.84 41 ⇓P P 07 00 28.6 +0.6
baz=90,SNR=6.0
426A McDonald Obser 90.01 48 ⇑P P 07 00 29.2 0.0
baz=90,SNR=11
X33A Lawton 90.02 42 ⇑P P 07 00 29.0 +0.1
baz=90,SNR=17
AAM Ann Arbor 90.05 28 eP P 07 00 30.0 +1.2
AAM pmax pmax
comp=Z,15nm,1.0s
AAM Ann Arbor 90.05 28 eP P 07 00 30.0 +1.2
comp=Z,15nm,1.0s
Z31A Sharp Cattle R 90.12 44 ⇓P P 07 00 29.5 +0.1
baz=90,SNR=13
328A Wristen Ranch, 90.16 47 ⇑P P 07 00 29.9 +0.3
baz=90,SNR=21
427A Hayter Ranch, 90.23 48 ⇓P P 07 00 30.3 +0.3
baz=90,SNR=12
130A Snyder 90.24 45 ⇑P P 07 00 30.3 +0.3
baz=90,SNR=5.2
229A Bryant Ranch, 90.26 46 ⇑P P 07 00 30.1 0.0
baz=90,SNR=9.0
TUL1 Tulsa 90.28 40 eP P 07 00 30.9 +0.9
comp=Z,22nm,0.9s
TUL1 Tulsa 90.28 40 ⇑P P 07 00 30.1 +0.1
baz=90,SNR=5.6
X34A Smith Ranch, M 90.31 42 ⇓P P 07 00 30.3 0.0
baz=90,SNR=16
Y33A Hilltop Ranch, 90.37 43 ⇓P P 07 00 30.4 -0.1
baz=90,SNR=11
SFIN Scholer Farm 90.41 31 eP P 07 00 31.5 +1.0
comp=Z,33nm,0.8s
SFIN epP pP 07 02 00.0 +2.2
SFIN Scholer Farm 90.41 31 ⇑P P 07 00 31.1 +0.6
baz=90,SNR=9.0
526A Mary Lane Ranc 90.43 49 ⇓P P 07 00 31.5 +0.4
baz=90,SNR=22
Z32A Haskell 90.48 44 ⇓P P 07 00 31.0 -0.1
baz=90,SNR=19
131A Roby 90.49 45 ⇑P P 07 00 31.1 0.0
baz=90,SNR=11
329A Wagon Wheel Ra 90.53 46 ⇑P P 07 00 31.4 0.0
baz=90,SNR=16
527A Woodward Ranch 90.64 48 ⇓P P 07 00 32.2 +0.2
baz=90,SNR=20
230A Sterling City 90.70 45 ⇑P P 07 00 32.2 0.0
baz=90,SNR=29
428A Kincaid Ranch, 90.72 47 ⇑P P 07 00 32.7 +0.4
baz=90,SNR=35
626A Big Bend Ranch 90.79 49 ⇑P P 07 00 32.7 +0.1
baz=91,SNR=20
Y34A Reagan Ranch, 90.86 42 ⇓P P 07 00 32.7 -0.1
baz=91,SNR=7.9
Z33A Whitaker Ranch 90.86 43 ⇓P P 07 00 32.7 -0.1
baz=91
ABTX Abilene, Hawle 90.92 44 eP P 07 00 33.8 +0.7
comp=Z,19nm,0.9s
ABTX Abilene, Hawle 90.92 44 ⇑P P 07 00 33.2 +0.1
baz=91,SNR=10
330A Mertzon 91.04 46 ⇓P P 07 00 33.5 -0.2
baz=91,SNR=15
528A Cox Ranch, San 91.09 48 ⇓P P 07 00 34.5 +0.4
baz=91,SNR=17
231A Bronte 91.10 45 ⇓P P 07 00 33.7 -0.2
baz=91,SNR=15
TXAR Lajitas Array 91.22 49 P P 07 00 35.4 +0.8
comp=Z,14nm,0.7s,baz=294,slow=3.1,SNR=152
Z34A Collier Ranch, 91.24 42 ⇓P P 07 00 34.3 -0.2
baz=91,SNR=9.4
429A Davenport Ranc 91.24 47 ⇓P P 07 00 34.5 -0.2
baz=91,SNR=8.5
627A Terlingua Ranc 91.29 49 ⇓P P 07 00 34.9 -0.1
baz=91,SNR=11
133A Hamilton Ranch 91.32 44 ⇑P P 07 00 34.3 -0.6
baz=91
OLIL Olney 91.41 33 eP P 07 00 36.0 +0.9
comp=Z,46nm,1.4s
529A Stev Forest Ra 91.44 47 ⇑P P 07 00 35.5 -0.1
baz=91,SNR=9.1
430A Baggett Ranch, 91.48 46 ⇑P P 07 00 35.5 -0.3
baz=91,SNR=22
232A Coleman 91.49 45 ⇑P P 07 00 35.7 0.0
baz=91,SNR=14
331A San Angelo 91.52 45 ⇑P P 07 00 35.9 -0.1
baz=91,SNR=13
628A Black Gap, Mar 91.55 48 ⇓P P 07 00 36.2 +0.1
baz=91,SNR=7.0
MMNY Mt. Morris Dam 91.59 24 eP P 07 00 36.5 +0.6
comp=Z,38nm,0.7s
Z35A Perchaven, San 91.61 42 ⇓P P 07 00 36.0 -0.2
baz=91,SNR=9.2
134A White-Moore Ra 91.78 43 ⇓P P 07 00 37.2 +0.1
baz=92,SNR=9.5
SIUC Southern Illin 91.80 34 eP P 07 00 37.8 +0.8
comp=Z,38nm,0.9s
332A Millersview 91.83 45 ⇓P P 07 00 37.3 0.0
baz=92,SNR=23
431A Sonora 91.90 46 ⇓P P 07 00 37.5 -0.2
baz=92,SNR=5.2
530A J-C Ranch, Com 91.91 47 ⇑P P 07 00 37.7 -0.1
baz=92,SNR=12
PBMO Poplar Bluff 92.06 35 eP P 07 00 38.8 +0.6
comp=Z,10nm,0.8s
ESDC Sonseca Array 92.06 330 PP PP 07 04 22.5 -0.6
comp=Z,1.7nm,0.7s,baz=25,slow=7.5,SNR=4.2
ACSO Alum Creek Sta 92.11 29 eP P 07 00 39.1 +0.7
comp=Z,22nm,0.8s
ACSO epP pP 07 02 08.4 +2.6
135A Vickery Place, 92.14 43 ⇓P P 07 00 38.9 +0.2
baz=92
234A Clairette 92.20 43 ⇑P P 07 00 38.8 -0.2
baz=92,SNR=12
432A Menard 92.20 45 ⇓P P 07 00 39.2 +0.1
baz=92,SNR=18
531A Rocksprings 92.34 46 ⇓P P 07 00 39.7 0.0
baz=92,SNR=11
MIAR Mount Ida 92.45 39 eP P 07 00 40.2 +0.1
MIAR pmax pmax
comp=Z,17nm,0.8s
MIAR Mount Ida 92.45 39 eP P 07 00 40.2 +0.1
comp=Z,17nm,0.8s
JCT Junction City 92.50 45 eP P 07 00 40.6 +0.1
JCT pmax pmax
comp=Z,23nm,0.8s
JCT Junction City 92.50 45 eP P 07 00 40.6 +0.1
comp=Z,24nm,0.8s
JCT Junction City 92.50 45 ⇓P P 07 00 40.2 -0.3
baz=92,SNR=16
WHTX Lake Whitney 92.56 43 eP P 07 00 41.8 +1.1
comp=Z,18nm,0.9s
WHTX Lake Whitney 92.56 43 ⇑P P 07 00 41.0 +0.4
baz=92
433A Art 92.67 45 ⇓P P 07 00 40.8 -0.4
baz=92,SNR=6.2
334A Lometa 92.67 44 ⇓P P 07 00 41.2 0.0
baz=92
631A Perdido Creek 92.90 47 ⇓P P 07 00 42.0 -0.2
baz=93,SNR=24
434A Burnet 93.06 44 ⇓P P 07 00 42.8 -0.2
baz=93
533A Kerrville 93.23 45 ⇓P P 07 00 43.5 -0.3
baz=93,SNR=6.2
632A Uvalde 93.26 46 ⇑P P 07 00 44.0 0.0
baz=93,SNR=6.6
534A Blanco 93.57 45 ⇓P P 07 00 45.2 -0.2
baz=93
633A Saathoff Ranch 93.63 46 ⇓P P 07 00 45.7 +0.1
baz=93,SNR=6.2

732A Laxson Ranch, 93.76 47 ⇑P P 07 00 46.4 +0.2
baz=94,SNR=7.5
832A Faith Ranch, C 94.11 47 ⇓P P 07 00 47.8 0.0
baz=94
733A Divot King Ran 94.14 46 ⇓P P 07 00 48.1 +0.1
baz=94,SNR=5.9
833A Chaparral WMA, 94.40 47 ⇑P P 07 00 49.3 +0.2
baz=94,SNR=5.0
734A La Parita Cree 94.45 46 ⇑P P 07 00 49.6 +0.3
baz=94
636A Smothers Creek 94.76 44 ⇑P P 07 00 51.4 +0.7
baz=95
735A Kenedy 94.85 45 ⇑P P 07 00 51.9 +0.8
baz=95
834A Tilden 95.01 46 ⇑P P 07 00 52.6 +0.6
baz=95
933A Laredo 95.01 47 ⇓P P 07 00 52.8 +0.9
baz=95
835A Beeville 95.28 46 ⇑P P 07 00 53.9 +0.7
baz=95
034A Hebbronville 95.77 47 ⇑P P 07 00 56.4 +1.0
baz=96
PAF Port-aux-Franc 106.57 218 R 07 07 00.0
PAF Port-aux-Franc 106.57 218 R 07 07 00.0
TORD Torodi Ar. Bea 111.69 311 PKiKP PKiKP 07 06 01.4 -0.5
comp=Z,0.4nm,0.4s,baz=37,slow=1.1,SNR=5.1
TORD PP PP 07 06 46.3 -3.4
comp=Z,5.2nm,1.0s,baz=30,slow=7.1,SNR=8.8
TORD PKKPbc PKKPbc 07 16 56.9 +2.2
comp=Z,3.3nm,0.9s,baz=217,slow=2.8,SNR=11
DBIC Dimbokro 120.66 313 PKP PKPdf 07 06 17.7 -1.4
comp=Z,2.9nm,0.6s,baz=0.4,slow=3.9,SNR=4.5
DBIC PP PP 07 07 50.4 -1.5
comp=Z,3.7nm,0.8s,baz=1.2,slow=7.9,SNR=3.7
LBTB Lobatse 120.76 262 PKP PKPdf 07 06 19.1 0.0
comp=Z,5.7nm,0.7s,baz=109,slow=4.1,SNR=7.7
LBTB PKKPbc PKKPab 07 16 26.6 +0.9
comp=Z,1.5nm,0.4s,baz=241,slow=4.4,SNR=7.2
LBTB Lobatse 120.76 262 PKP PKPdf 07 06 19.1 0.0
LBTB ePKPdf PKiKP 07 06 19.4 +0.2
LBTB PKKPbc PKKPab 07 16 26.6 +0.9
TSUM Tsumeb 123.53 273 PKP PKPdf 07 06 24.8 +0.2
comp=Z,3.2nm,0.8s,baz=146,slow=3.6,SNR=4.6
SDV Santo Domingo 125.01 33 ePKPdf PKPdf 07 06 27.4 -0.3
ROSC El Rosal 126.96 39 PKP PKPdf 07 06 32.1 +0.3
comp=Z,4.9nm,0.6s,baz=82,slow=4.4,SNR=4.8
ROSC El Rosal 126.96 39 PKP PKPdf 07 06 32.1 +0.3
ROSC ePKPdf PKiKP 07 06 32.4 +0.1
QSPA South Pole Qui 130.37 180 PKP PKPdf 07 06 36.5 +0.4
comp=Z,6.7nm,0.7s,baz=276,slow=0.7,SNR=20
QSPA PP PP 07 08 58.5 +2.4
comp=Z,24nm,1.1s,baz=234,slow=4.9,SNR=3.4
QSPA SKPbc SKPab 07 09 24.2 +0.5
comp=Z,31nm,0.8s,baz=26,slow=0.5,SNR=6.8
ATAH Atahualpa 134.80 52 SKPbc SKPbc 07 09 41.4 +0.6
comp=Z,6.5nm,0.8s,baz=111,slow=7.4,SNR=5.2
PTGA Pitinga 137.78 24 PKP PKPdf 07 06 51.7 +0.1
comp=Z,2.4nm,0.3s,baz=319,slow=2.8,SNR=5.4
PTGA SKPbc SKPbc 07 09 50.0 +0.8
comp=Z,1.8nm,0.2s,baz=86,slow=3.5,SNR=9.6
NNA Nana 139.53 54 PKP PKPdf 07 06 54.6 -0.2
comp=Z,11nm,0.8s,baz=284,slow=7.2,SNR=3.8
NNA SKPbc SKPbc 07 09 55.1 +1.1
comp=Z,18nm,1.1s,baz=294,slow=6.5,SNR=4.7
SNAA Sanae 142.76 200 PKhKP PKPpre 07 06 55.2
comp=Z,5.6nm,0.6s,baz=214,slow=6.3,SNR=23
SAML Samuel 144.21 33 ePKPdf PKPbc 07 07 02.1 0.0
RCBR Riachuelo 144.56 346 PKP PKPbc 07 07 02.6 -0.8
comp=Z,40nm,1.0s,baz=343,slow=3.0,SNR=9.4
LPAZ La Paz 148.08 47 ePKIKP PKPdf 07 07 11.1 +0.8
LPAZ La Paz 148.08 47 PKPbc PKPdf 07 07 11.2 +1.0
comp=Z,19nm,0.9s,baz=7.2,slow=3.7,SNR=12
LPAZ La Paz 148.08 47 ePKPdf PKPdf 07 07 11.1 +0.8
LPAZ PKPbc PKPdf 07 07 11.2 +1.0
SIV San Ignacio 151.40 36 PKP PKPdf 07 07 15.4 +0.6
comp=Z,5.8nm,0.8s,baz=167,slow=0.5,SNR=12
SIV PKPbc PKiKP 07 07 21.5 0.0
comp=Z,23nm,0.7s,baz=309,slow=1.1,SNR=40
SIV PKPab PKPab 07 07 30.2 -0.7
comp=Z,18nm,0.7s,baz=312,slow=6.1,SNR=13
LVC Limon Verde 152.47 57 ePKPbc PKPbc 07 07 24.7 +1.0
LVC ePKPab PKPab 07 07 36.3 +0.7
BDFB Brasilia 154.88 9 PKP PKPdf 07 07 19.6 -0.3
comp=Z,2.8nm,0.8s,baz=262,slow=7.0,SNR=4.1
BDFB PKPbc PKPbc 07 07 29.0 +0.2
comp=Z,3.9nm,0.8s,baz=190,slow=3.4,SNR=5.4
BDFB PKPab PKPab 07 07 44.9 -0.8
comp=Z,6.2nm,1.0s,baz=15,slow=6.1,SNR=4.8
CFAA Coronel Fontan 158.63 73 PKP PKPdf 07 07 23.6 -0.5
comp=Z,0.2nm,0.6s,baz=183,slow=1.6,SNR=3.6
CFAA PKPab PKPab 07 08 01.7 -0.1
comp=Z,1.4nm,0.7s,baz=290,slow=3.6,SNR=18
PLCA Paso Flores 160.02 99 PKP PKPdf 07 07 25.2 -0.2
comp=Z,1.8nm,0.7s,baz=321,slow=0.6,SNR=3.6
PLCA PKPab PKPab 07 08 08.7 +1.0
comp=Z,8.4nm,1.0s,baz=292,slow=5.1,SNR=7.1
PLCA Paso Flores 160.02 99 PKP PKPdf 07 07 25.2 -0.2
PLCA PKPab PKPab 07 08 08.7 +1.0
PLCA ePKPab PKPab 07 08 09.2 +1.5
CPUP Villa Florida 162.04 41 PKP PKPdf 07 07 27.6 -0.2
comp=Z,2.2nm,0.7s,baz=195,slow=1.4,SNR=3.8
CPUP PKPab PKPab 07 08 16.1 -0.5
comp=Z,9.6nm,0.9s,baz=298,slow=6.6,SNR=6.2
TRQA Tornquist 165.99 85 ePKPab PKPab 07 08 33.7 -0.3

*ISCJB **05** 06:50:16.0±1.0, 37.°6N±0.°1×138.°0E±0.°2, h200km, mb3.8/7, Error ellipse: s-maj=31.1km s-min=10.2km az=150.3*
*IDC **05** 06:50:17.1±1.0, 37.°39N×137.°89E, h200km±6km, mb3.6/7, mb1 3.7/8, mb1mx3.5/28, mbtmp4.1/8, Error ellipse: s-maj=45.5km s-min=16.5km az=62.0*
ISC 05 06:50:17.2±1.0, 37.°4N±0.°2×137.°9E±0.°2, h200km, n10, σ0.s78/12, mb3.8/7, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	Matsushiro	0.92	165	P	Pn	06 50 46.9	+0.3
MAT				S	Sn	06 51 09.5	+0.3
MJAR	Matsushiro Arr	0.92	165	P	Pn	06 50 46.9	+0.4
	92nm,0.3s,baz=284,slow=2.9,SNR=25						
MJAR				S	Sn	06 51 09.1	-0.1
	baz=273,slow=7.2,SNR=2.3						
KSRS	Korea Array	7.95	273	P	Pn	06 52 10.1	+0.3
	baz=102,slow=13,SNR=2.7						
MKAR	Makanchi Array	41.53	301	P	P	06 57 44.8	-0.1
	0.9nm,0.4s,baz=81,slow=10,SNR=4.1						
KURBB	Kurchatov Arra	43.55	307	P	P	06 58 01.1	+0.1
	4.7nm,0.7s,baz=76,slow=7.1,SNR=7.2						
BVAR	Borovoye Array	48.23	312	P	P	06 58 36.7	-0.8
	2.6nm,0.4s,baz=110,slow=9.4,SNR=6.2						
WRA	Warramunga Arr	57.17	184	P	P	06 59 41.6	-1.6
	1.7nm,0.4s,baz=0.0,slow=7.6,SNR=6.6						
ASAR	Alice Springs	60.89	184	P	P	07 00 09.8	+1.0
	1.2nm,0.8s,baz=359,slow=4.9,SNR=4.2						
FINES	FINESS Array B	67.14	331	P	P	07 00 49.6	+0.7
	0.7nm,0.3s,baz=87,slow=8.4,SNR=2.7						
AKASG	Malin Array Be	72.25	321	P	P	07 01 19.9	-0.5
	0.6nm,0.3s,baz=45,slow=6.9,SNR=4.1						

*IDC **05** 06:53:35.3±1.0, 4.°30N×78.°41W, h0km, mb3.7/7, mb1 4.1/9, mb1mx3.9/24, mbtmp3.9/9, ML3.7/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/32, Error ellipse: s-maj=40.4km s-min=17.6km az=46.0*
*ISCJB **05** 06:53:36.1±0.7, 4.°4N±0.°1×78.°3W±0.°1, h11km, mb3.7/7, MS2.8/1, Error ellipse: s-maj=18.7km s-min=11.9km az=140.3*
ISC 05 06:53:37.3±0.9, 4.°3N±0.°1×78.°4W±0.°1, h11km, n13, σ1.s08/10, mb3.7/7, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	4.06	82	Pn	Pn	06 54 39.8	0.0
	38nm,0.3s,baz=336,slow=2.2,SNR=130						
JTS	JuntasAbangare	8.83	313	LR	LR	06 58 44.3	
	comp=Z,81nm,21.5s,baz=152,slow=35						
NNA	Nana	16.25	175	Pn	P	06 57 28.8	-0.2
	0.5nm,0.3s,baz=312,slow=14,SNR=1.6						
PTGA	Pitinga	19.05	105	P	P	06 57 58.9	-1.0
	1.1nm,0.3s,baz=292,slow=15,SNR=10.0						
LPAZ	La Paz	22.83	154	P	P	06 58 41.4	+0.1
	1.6nm,0.5s,baz=332,slow=5.1,SNR=5.8						
SIV	San Ignacio	26.45	140	P	P	06 59 14.5	-0.1
	0.8nm,0.5s,baz=338,slow=8.8,SNR=2.7						
SIV				LR	LR	07 10 37.2	
	comp=Z,27nm,18.9s,baz=107,slow=39						

TXAR Lajitas Array 34.56 319 P P 07 00 27.1 +0.8
0.3nm,0.6s,baz=120,slow=8.4,SNR=4.3
PDAR Pinedale Array 47.26 329 P P 07 02 11.6 +0.6
1.1nm,0.6s,baz=126,slow=10,SNR=4.1
YKA Yellowknife Ar 63.93 342 P P 07 04 08.5 -1.6
0.9nm,0.7s,baz=134,slow=6.6,SNR=16
ILAR Eielson Array 77.06 336 P P 07 05 29.6 -0.7
0.5nm,0.7s,baz=111,slow=4.1,SNR=8.0
TORD Torodi Ar. Bea 79.37 77 P P 07 05 45.9 +1.8
0.4nm,0.4s,baz=290,slow=6.4,SNR=2.8
ASAR Alice Springs 143.40 235 PKP PKPbc 07 13 09.9 -0.1
1.5nm,0.8s,baz=124,slow=3.9,SNR=9.1
WRA Warramunga Arr 144.56 241 PKP PKPbc 07 13 13.7 +0.1
1.6nm,0.8s,baz=108,slow=3.1,SNR=11

*IDC **05** 06:59:04.1±0.3, 47.°92S×99.°56E, h0km, mb4.9/22, mb1 5.0/22, mb1mx5.0/24, mbtmp4.9/22, MS6.1/22, Ms1 6.1/22, ms1mx5.9/27, Error ellipse: s-maj=15.2km s-min=11.6km az=153.0*
*ISCJB **05** 06:59:04.3±0.2, 47.°94S±0.°03×99.°61E±0.°04, h10km, mb5.5/121, MS6.1/179, Error ellipse: s-maj=4.8km s-min=4.1km az=149.3*
*NEIC **05** 06:59:05.5±0.1, 47.°91S×99.°59E, h1km, mb5.7/67, MS6.2/135, MW6.2, MW6.2, MW6.2, Error ellipse: s-maj=6.2km s-min=5.2km az=153.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^{18}Nm; M_{rr}0.30; $M_{\theta\theta}$1.38; $M_{\phi\phi}$-1.67; $M_{r\theta}$-2.00; $M_{\theta\phi}$0.84; $M_{\phi r}$-0.53; Best double couple: $M_0$2.70000×10^{18} NP1:ϕ_s205.00000°, δ66.00000°, λ152.00000°. NP2:ϕ_s307.00000°, δ65.00000°, λ27.00000°. Principal axes: T 3.1100, Plg36.0000°, Azm165.0000°; N -1.2200, Plg53.0000°, Azm347.0000°; P -1.8800, Plg0.0000°, Azm256.0000°;*
*GCMT **05** 06:59:05.6±0.1, 47.°89S×99.°51E, h12km, MW6.2/128, Moment Tensor Solution. s124,c277; s128,c486; Duration: 3.s2 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.03±.01; $M_{\theta\theta}$2.58±.01; $M_{\phi\phi}$-2.55±.01; $M_{r\theta}$0.23±.04; $M_{\theta\phi}$0.88±.01; $M_{\phi r}$0.10±.04; Best double couple: $M_0$2.72200×10^{18} NP1:ϕ_s35.00000°, δ87.00000°, λ176.00000°. NP2:ϕ_s126.00000°, δ86.00000°, λ3.00000°. Principal axes: T 2.7470, Plg5.0000°, Azm350.0000°; N -0.0470, Plg85.0000°, Azm186.0000°; P -2.6980, Plg1.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **05** 06:59:05.7, 47.°38S×98.°78E, h6km, mB5.9/65, mb5.3/49, Ms6.2/73, Ms7 6.1/69*
*MOS **05** 06:59:05.7±2.0, 47.°85S×99.°53E, h10km, mb5.7/22, MS6.1/28, Error ellipse: s-maj=14.3km s-min=9.3km az=72.6*
*NEIC **05** 06:59:06.0±0.0, 47.°95S×99.°62E, h15km Best double couple: NP1:ϕ_s214.00000°, δ83.00000°, λ170.00000°. NP2:ϕ_s305.00000°, δ80.00000°, λ7.00000°. Principal axes: T 2.1400, Plg11.0000°, Azm169.0000°; N 0.0300, Plg78.0000°, Azm359.0000°; P -2.1700, Plg1.0000°, Azm260.0000°;*
*NEIC **05** 06:59:24.5±0.0, 47.°72S×99.°87E, h10km, Moment Tensor Solution. s142 Moment tensor: Scale 10^{18}Nm; M_{rr}0.10; $M_{\theta\theta}$2.38; $M_{\phi\phi}$-2.49; $M_{r\theta}$0.71; $M_{\theta\phi}$0.73; $M_{\phi r}$0.26; Best double couple: $M_0$2.60000×10^{18} NP1:ϕ_s128.00000°, δ76.00000°, λ9.00000°. NP2:ϕ_s36.00000°, δ81.00000°, λ166.00000°. Principal axes: T 2.7000, Plg16.0000°, Azm351.0000°; N -0.1000, Plg73.0000°, Azm183.0000°; P -2.6100, Plg3.0000°, Azm82.0000°;*
ISC 05 06:59:07.4±0.3, 47.°94S±0.°04×99.°51E±0.°05, h16km±1km, h15km:pP-P, n921, σ1.s37/872, mb5.5/121, MS6.2/182, 31C-32D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	16.99	45	T	T	07 20 19.1	
	baz=215,slow=74,SNR=2007						
H01W3	Cape Leeuwin H	17.00	45	T	T	07 20 19.9	
	baz=215,slow=74,SNR=2898						
H01W1	Cape Leeuwin H	17.00	45	T	T	07 20 12.6	
	baz=215,slow=74,SNR=2533						
RKGY	Rocky Gully	18.64	51	⇑P	P	07 03 23.7	-0.6
	baz=18,SNR=41						
AIS	Amsterdam Isla	18.95	294	P	P	07 03 14.0	-14
AIS				S	Sn	07 06 39.0	-21
AIS				R		07 07 00.0	
MIR	Mirnyy	18.97	188	⇑iP	Pn	07 03 29.0	+0.6
MIR				pmax	pmax		
	comp=Z,3µm,2.0s						
MIR				pmax	pmax		
	comp=Z,53µm,8.0s						
MIR				MLR	MLR		
	comp=N,117µm,18.0s						
MIR				MLR	MLR		
	comp=E,43µm,18.0s						
MIR				MLR	MLR		
	comp=Z,143µm,18.0s						
CASY	Casey	19.29	166	eP	P	07 03 30.6	-0.5
	comp=Z,975nm,1.9s						
PAF	Port-aux-Franc	19.36	255	eP	P	07 03 32.6	+0.6
PAF				pmax	pmax		
	comp=Z,534nm,1.7s						
PAF	Port-aux-Franc	19.36	255	eP	P	07 03 32.6	+0.6
	comp=Z,534nm,1.7s						
NWAO	Narrogin (SRO)	20.09	48	P	P	07 03 39.4	-0.8
	comp=Z,181nm,1.3s,baz=217,slow=10,SNR=34						
NWAO				LR	LR	07 09 25.4	
	comp=Z,63µm,21.2s,baz=216,slow=31						
KLBR	Kellerberrin	21.43	47	⇓P	P	07 03 53.3	-1.3
	baz=21,SNR=63						
BLDU	Ballidu	21.74	43	P	P	07 03 57.2	-0.8
	baz=21,SNR=57						
MORW	Morawa	22.76	40	P	P	07 04 08.0	-0.9
	baz=22,SNR=35						
MEEK	Meekatharra	26.00	42	⇓P	P	07 04 38.4	-1.1
	baz=26,SNR=28						
MAW	Mawson	27.08	210	P	P	07 04 46.8	-1.9
	comp=Z,27nm,1.1s,baz=50,slow=15,SNR=3.3						
MAW				LR	LR	07 12 47.7	
	comp=Z,41µm,20.8s,baz=54,slow=30						
FORT	Forrest	27.72	62	eP	P	07 04 54.5	-0.3
	comp=Z,1µm,1.7s						
FORT	Forrest	27.72	62	⇓P	P	07 04 53.4	-1.5
	baz=27,SNR=17						
DRV	Dumont d'Urvil	28.05	147	P	P	07 04 23.0	-34
DRV				L	L	07 10 00.0	
DRV				R		07 12 00.0	
MBWA	Marble Bar	31.29	38	eP	P	07 05 25.8	-0.8
	comp=Z,208nm,1.4s						
MBWA				LR	LR		
	comp=Z,19µm,20.0s						
BBOO	Buckleboo	31.34	75	eP	P	07 05 25.0	-2.0
	comp=Z,16µm,2.0s						
BBOO	Buckleboo	31.34	75	⇑P	P	07 05 25.3	-1.7
	baz=31,SNR=14						
WRKA	Warakurna	32.21	55	P	P	07 05 33.4	-1.3
	baz=32,SNR=24						
ARPS	Mount Arapiles	32.83	86	⇑P	P	07 05 38.7	-1.2
	baz=32,SNR=15						
HTT	Hallett	32.83	78	⇓P	P	07 05 38.2	-1.9
	baz=32,SNR=8.5						
TAU	Tasmania Unive	33.50	99	eP	P	07 05 46.2	+0.4
TAU				pmax	pmax		
	comp=Z,154nm,1.2s						
TAU				MLR	MLR		
	comp=Z,42µm,21.0s						
TAU	Tasmania Unive	33.50	99	eP	P	07 05 46.2	+0.4
	comp=Z,154nm,1.2s						
TAU				LR	LR		
	comp=Z,42µm,21.0s						
TOO	Toolangi	34.85	90	⇓P	P	07 05 57.8	+0.3
	baz=34,SNR=5.7						
STKA	Stephens Creek	35.55	79	eP	P	07 06 01.9	-1.8
STKA				pmax	pmax		
	comp=Z,81nm,1.6s						
STKA	Stephens Creek	35.55	79	P	P	07 06 01.8	-1.8
	comp=Z,36nm,0.9s,baz=218,slow=8.8,SNR=25						
STKA				LR	LR	07 17 45.0	
	comp=Z,57µm,21.4s,baz=225,slow=32						
STKA	Stephens Creek	35.55	79	eP	P	07 06 01.9	-1.8
	comp=Z,81nm,1.6s						
STKA	Stephens Creek	35.55	79	P	P	07 06 01.9	-1.8
	baz=35,SNR=29						
COCO	West Island	35.70	356	iP	P	07 06 12.9	+7.9

COCO West Island 35.70 356 PFAKE 07 06 20.0 +15
COCO LR LR
comp=Z,34µm,20.0s
SYO Syowa Base 35.72 212⇑eX P 07 06 02.4 -2.3
AS11 Alice Springs 36.45 61 ⇑P P 07 06 09.5 -2.0
baz=36
ASAR Alice Springs 36.47 61 P P 07 06 09.6 -2.0
comp=Z,36nm,1.0s,baz=217,slow=8.2,SNR=99
ASAR PcP PcP 07 08 34.0 -1.3
comp=Z,9.1nm,0.8s,baz=209,slow=2.4,SNR=8.0
ASAR LR LR 07 19 23.5
comp=Z,40µm,18.4s,baz=216,slow=34
AS31 Alice Springs 36.47 61 eP P 07 06 09.4 -2.2
AS14 Alice Springs 36.48 61 ⇑P P 07 06 09.7 -2.0
baz=36
AS01 Alice Springs 36.50 61 ⇓P P 07 06 09.8 -2.1
baz=36
AS06 Alice Springs 36.52 61 ⇑P P 07 06 10.0 -2.0
baz=36
MCQ Macquarie Isla 36.81 123 ⇑P P 07 06 14.9 +0.8
baz=36
VNDA Vanda 37.78 162 P P 07 06 20.9 -1.2
comp=Z,19nm,0.8s,baz=281,slow=9.0,SNR=10
VNDA LR LR 07 20 45.3
comp=Z,69µm,18.2s,baz=288,slow=34
VNDA Vanda 37.78 162 eP P 07 06 21.9 -0.2
comp=Z,477nm,2.4s
CAN Canberra 38.44 89 PFAKE 07 06 40.0 +12
CAN LR LR
comp=Z,39µm,22.0s
CAN Canberra 38.44 89 ⇑P P 07 06 26.1 -2.2
baz=38
CMSA Cobar Meteorol 38.48 82 ⇓P P 07 06 26.8 -1.8
baz=38,SNR=15
YNG Young 38.63 88 ⇑P P 07 06 27.3 -2.5
baz=38,SNR=7.4
CNB Canberra Magne 38.69 90 ⇓P P 07 06 28.2 -2.2
baz=38,SNR=4.1
SBA Scott Base 38.88 162 PFAKE 07 06 40.0 +8.6
SBA LR LR
comp=Z,51µm,20.0s
WRA Warramunga Arr 39.62 57 P P 07 06 36.3 -1.9
comp=Z,70nm,1.1s,baz=214,slow=7.9,SNR=126
WRA PP PP 07 08 08.4 -0.8
comp=Z,38nm,1.3s,baz=221,slow=11,SNR=5.1
WRA PcP PcP 07 08 44.1 -1.0
comp=Z,6.5nm,0.9s,baz=225,slow=2.7,SNR=4.8
WRA LR LR 07 20 59.2
comp=Z,59µm,21.1s,baz=215,slow=33
WRAB Tennant Creek 39.64 57 P P 07 06 36.3 -2.1
comp=Z,1µm,0.9s,SNR=32
WRAB Tennant Creek 39.64 57 d iP P 07 06 36.2 -2.1
WRAB pmax pmax
comp=Z,1µm,1.5s
WRAB Tennant Creek 39.64 57 eP P 07 06 36.4 -2.1
comp=Z,353nm,1.2s
WRAB LR LR
comp=Z,59µm,21.0s
KNRA Kununurra 40.19 47 ⇓P P 07 06 41.2 -1.7
baz=40,SNR=6.4
QLP Quilpie 40.78 75 P P 07 06 46.8 -0.9
baz=40,SNR=86
PCJI Pacitan 40.82 18 P P 07 06 50.9 +2.8
comp=Z,147nm,1.4s,comp=Z,3µm
CISI Cisompet, Garu 40.85 13 P P 07 06 49.0 +0.5
comp=Z,228nm,1.5s
CISI Cisompet, Garu 40.85 13 eP P 07 06 47.9 -0.5
comp=Z,250nm,1.1s
UGM Wanagama 40.97 17 P P 07 06 53.7 +4.3
comp=Z,417nm,1.8s,comp=Z,5µm
UGM Wanagama 40.97 17 eP P 07 06 49.8 +0.4
comp=Z,506nm,1.3s
UGM Wanagama 40.97 17 ⇓P P 07 06 50.5 +1.1
baz=41,SNR=5.2
CNJI Cibinong 41.00 12 P P 07 06 56.1 +6.5
comp=Z,168nm,1.9s,comp=Z,3µm
PWJI Pagerwojo 41.12 19 P P 07 06 51.0 +0.4
comp=Z,141nm,1.2s,comp=Z,2µm
JAGI Jajag, Banyuwa 41.24 22 P P 07 06 52.3 +0.7
comp=Z,104nm,1.3s,comp=Z,2µm
JAGI Jajag, Banyuwa 41.24 22 eP P 07 06 51.0 -0.6
comp=Z,212nm,1.4s
JAGI Jajag, Banyuwa 41.24 22 ⇑P P 07 06 51.8 +0.2
baz=41,SNR=3.3
KPJI Karang Pucung 41.25 14 P P 07 06 53.2 +1.6
comp=Z,143nm,2.2s,comp=Z,3µm
GMJI Gumukmas 41.26 21 P P 07 06 53.6 +1.9
comp=Z,193nm,1.8s,comp=Z,4µm
LEM Lembang 41.54 12 P P 07 06 56.9 +2.7
comp=Z,346nm,1.7s,comp=Z,6µm
LEM Lembang 41.54 12 ⇓P P 07 06 55.5 +1.2
baz=41
NGJI Ngawi 41.69 18 P P 07 06 58.6 +3.4
comp=Z,208nm,2.3s,comp=Z,6µm
DBJI Dramaga 41.69 11 P P 07 07 03.1 +7.8
comp=Z,319nm,1.2s,comp=Z,6µm
SMRI Semarang 41.79 16 P P 07 06 59.0 +2.9
comp=Z,305nm,1.6s,comp=Z,8µm
SMRI Semarang 41.79 16 eP P 07 06 57.7 +1.6
comp=Z,1µm,1.8s
SMRI Semarang 41.79 16 ⇓P P 07 06 57.7 +1.6
baz=42
BLJI Banyuglugur 41.80 21 P P 07 06 57.4 +1.2
comp=Z,122nm,1.1s,comp=Z,3µm
CBJI Citeko 41.84 11 P P 07 07 03.2 +6.7
comp=Z,641nm,1.4s,comp=Z,29µm
SRBI Singaraja 41.89 24 P P 07 07 06.2 +9.3
ABJI Asem Bagus 41.91 22 P P 07 06 58.7 +1.6
comp=Z,178nm,1.4s,comp=Z,3µm
QSPA South Pole Qui 42.21 180 P P 07 06 58.3 -0.9
comp=Z,27nm,0.6s,baz=290,slow=1.6,SNR=29
QSPA LR LR 07 23 34.7
comp=Z,69µm,18.4s,baz=318,slow=35
QIS Mount Isa 42.23 64 ⇓P P 07 06 57.9 -1.9
baz=42,SNR=26
GRJI Gresik 42.34 19 P P 07 07 03.7 +3.1
comp=Z,114nm,1.1s,comp=Z,844nm
ARMA Armidale 43.15 85 eP P 07 07 06.9 -0.3
comp=Z,173nm,1.4s
ARMA Armidale 43.15 85 ⇓P P 07 07 05.9 -1.3
baz=43,SNR=7.7
SOEI Soe 43.40 37 P P 07 07 12.2 +2.8
comp=Z,114nm,1.6s,comp=Z,3µm
SOEI Soe 43.40 37 eP P 07 07 10.2 +0.9
comp=Z,97nm,1.0s
SOEI Soe 43.40 37 ⇑P P 07 07 10.0 +0.7
baz=43,SNR=4.8
MNAI Manna 43.51 5 ⇓P P 07 07 12.5 +2.4
baz=43
MRIV Mauritius Mete 43.60 294 eP P 07 07 12.2 +1.4
MMRI Maumere 43.64 34 P P 07 07 13.7 +2.6
comp=Z,119nm,2.5s,comp=Z,4µm
MMRI Maumere 43.64 34 eP P 07 07 11.2 +0.1
comp=Z,185nm,1.3s
MTN Manton Dam 43.78 48 ⇑P P 07 07 11.1 -1.2
baz=43
RMQ Roma 43.80 79 P P 07 07 11.4 -1.0
baz=43,SNR=4.3
RER Riviere de l'E 44.04 292 eP P 07 07 16.5 +2.1
comp=Z,71nm,0.9s
RER LR LR
comp=Z,16µm,20.0s
LHSI Lahat 44.08 6 P P 07 07 16.9 +2.3
comp=Z,220nm,1.2s,comp=Z,4µm
KDU Kakadu 44.59 49 ⇓P P 07 07 17.9 -0.9
baz=44,SNR=11
NVL N'lazarevskaya 44.98 208 eP P 07 07 20.7 -0.5
NVL e 07 09 03.1
NVL ePPP PPP 07 09 51.7
NVL eS S 07 13 53.7 -4.8
NVL eSS ScS 07 17 10.4 -6.7
NVL eSSS SSS 07 18 13.6
NVL pmax pmax
comp=Z,61nm,0.9s
DCZ Deep Cove 45.10 113 eP P 07 07 24.9 +2.4
comp=Z,148nm,1.3s
WHZ Wether Hill Ro 45.38 114 eP P 07 07 26.5 +1.7
comp=Z,531nm,2.3s
BKSI Bulukumba 45.98 29 P P 07 07 30.0 +0.3
comp=Z,46nm,1.4s,comp=Z,1µm
EIDS Eidsvold 46.09 80 eP P 07 07 29.1 -1.5
comp=Z,626nm,2.3s
EIDS Eidsvold 46.09 80 ⇑P P 07 07 29.3 -1.3
baz=46,SNR=6.3
KAPI Kappang 46.15 29 P P 07 07 30.7 -0.4
comp=Z,166nm,1.5s,SNR=6.4
KAPI Kappang 46.15 29 eP P 07 07 30.6 -0.5
comp=Z,559nm,1.6s

KAPI LR LR
comp=Z,11µm,19.0s
H08S2 Diego Garcia H 46.24 321 T T 07 56 59.0
baz=154,slow=76,SNR=290
H08S1 Diego Garcia H 46.25 321 T T 07 56 59.7
baz=154,slow=76,SNR=265
JMBI JAMBI 46.26 6 P P 07 07 40.8 +8.9
comp=Z,567nm,1.3s,comp=Z,9µm
H08S3 Diego Garcia H 46.26 321 T T 07 57 00.6
baz=154,slow=76,SNR=305
DGAR Diego Garcia 46.47 322⇓eP P 07 07 34.1 +0.5
DGAR Diego Garcia 46.47 322 PFAKE 07 07 50.0 +16
DGAR LR LR
comp=Z,22µm,20.0s
CTA Charters Tower 46.70 70 LR LR 07 25 21.1
comp=Z,24µm,21.4s,baz=218,slow=34
CTA Charters Tower 46.70 70 ⇓P P 07 07 33.8 -1.6
baz=46
CTAO Charters Tower 46.70 70 eP P 07 07 33.8 -1.6
CTAO pmax pmax
comp=Z,226nm,1.1s
CTAO MLR MLR
comp=Z,28µm,22.0s
CTAO Charters Tower 46.70 70 eP P 07 07 33.8 -1.6
comp=Z,226nm,1.1s
CTAO LR LR
comp=Z,28µm,22.0s
KBKI Kotabaru 46.73 23 P P 07 07 36.5 +0.9
comp=Z,83nm,1.6s,comp=Z,2µm
BNSI Bone 46.84 29 P P 07 07 37.3 +0.8
comp=Z,154nm,1.4s,comp=Z,3µm
MTSU Mount Surprise 46.95 67 ⇑P P 07 07 36.1 -1.3
baz=46,SNR=10.0
SPSI Sidrap Palu 47.14 28 P P 07 07 39.0 +0.2
comp=Z,74nm,2.1s,comp=Z,3µm
ODZ Otahua Downs 47.46 114 eP P 07 07 43.2 +2.2
comp=Z,274nm,1.8s
TTSI Tana Toraja 48.02 28 P P 07 07 46.6 +0.9
comp=Z,105nm,1.6s,comp=Z,3µm
H08N1 Diego Garcia H 48.04 320 T T 07 59 34.7
baz=305
H08N3 Diego Garcia H 48.05 320 T T 07 59 28.9
baz=305
H08N2 Diego Garcia H 48.06 320 T T 07 59 33.5
baz=305
BKNI Bangkinang 48.09 2 eP P 07 07 47.8 +1.6
comp=Z,228nm,0.9s
BKNI Bangkinang 48.09 2 ⇓P P 07 07 46.4 +0.2
baz=48
RPZ Rata Peaks 48.39 113 eP P 07 07 48.5 +0.1
comp=Z,237nm,2.1s
WVZ Waitaha Valley 48.53 112 eP* P 07 07 49.2 -0.2
SNAA Sanae 48.96 204 P P 07 07 53.2 +0.8
SNAA Sanae 48.96 204 S S 07 14 59.2 +3.7
SNAA Sanae 48.96 204 P P 07 07 51.9 -0.5
comp=Z,12nm,0.9s,baz=142,slow=10,SNR=11
GSI Gunungsitoli 49.07 357 eP P 07 07 55.3 +1.6
comp=Z,181nm,1.4s
GSI Gunungsitoli 49.07 357 ⇓P P 07 07 54.9 +1.2
baz=49
COEN Coen 49.48 62 eP P 07 07 57.2 +0.2
comp=Z,3µm,2.1s
COEN Coen 49.48 62 ⇓P P 07 07 55.4 -1.6
baz=49,SNR=6.2
MYKOM Kota Tinggi 49.67 6 eP P 07 07 58.3 0.0
MYKOM Kota Tinggi 49.67 6 ⇓P P 07 07 59.6 +1.3
KGM Kluang 49.86 5 ⇑P P 07 07 59.7 -0.1
KSM Kuching 50.10 14 eP P 07 08 02.0 +0.4
comp=Z,54nm,1.1s
KSM LR LR
comp=Z,22µm,20.0s
KSM Kuching 50.10 14 ⇓P P 07 08 02.8 +1.2
BNDI Bandanaira 50.49 41 P P 07 08 15.6 +11
PSI Prapat 50.53 359 LR LR 07 27 39.5
comp=Z,18µm,18.1s,baz=166,slow=34
PSI Prapat 50.53 359 ⇑P P 07 08 04.0 -1.0
baz=50,SNR=13
VNA2 Neumayer--Watz 50.60 204 P P 07 08 05.4 +0.6
baz=114,slow=6.7
VNA2 Neumayer--Watz 50.60 204 PP PP 07 10 05.5 +5.2
VNA2 Neumayer--Watz 50.60 204 S S 07 15 21.2 +2.9
FRIM Kepong 50.99 3 ⇓P P 07 08 07.9 -0.5
VNA1 Neumayer--Stat 50.99 204 P P 07 08 08.8 +1.1
ABPO Ambohimpanom 51.03 286 PFAKE 07 08 20.0 +11
ABPO LR LR
comp=Z,21µm,20.0s
VNA3 Neumayer Olymp 51.03 203 P P 07 08 08.8 +0.7
VNA3 Neumayer Olymp 51.03 203 PP PP 07 10 06.1 +1.9
VNA3 Neumayer Olymp 51.03 203 S S 07 15 33.1 +8.8
SANI Sanana 51.11 35 P P 07 08 20.7 +11
OPO Ambohidratompo 51.38 286 P P 07 08 11.8 +0.3
comp=Z,6.1nm,1.0s,baz=100,slow=7.7,SNR=6.2
SBUM Sibu 51.39 16 eP P 07 08 11.6 +0.3
SBUM Sibu 51.39 16 ⇑P P 07 08 12.3 +0.9
SNZO South Karori 51.96 112 eP P 07 08 14.1 -1.3
comp=Z,167nm,1.5s
SNZO LR LR
comp=Z,9µm,20.0s
MRSI Marisa 52.02 29 P P 07 08 16.1 +0.1
comp=Z,88nm,1.3s,comp=Z,2µm
IPM Ipoh 52.21 2 eP P 07 08 20.3 +2.9
comp=Z,18nm,1.0s
IPM Ipoh 52.21 2 ⇑P P 07 08 18.2 +0.7
BTM Bintulu 52.29 17 ⇓P P 07 08 19.2 +1.1
FAKI Fak Fak 52.96 43 eP P 07 08 22.9 -0.2
comp=Z,447nm,1.7s
FAKI Fak Fak 52.96 43 ⇓P P 07 08 23.1 +0.1
baz=53
LHMI Lhok Sumawe 52.98 357 eP P 07 08 23.9 +0.7
KULM Kulim 53.01 1 eP P 07 08 26.8 +3.5
comp=Z,132nm,1.6s
KULM LR LR
comp=Z,21µm,22.0s
KULM Kulim 53.01 1 ⇓P P 07 08 23.6 +0.2
KTGM Kuala Trenggan 53.13 5 ⇑P P 07 08 25.4 +1.1
BFZ Birch Farm 53.28 113 eP P 07 08 25.9 +0.8
comp=Z,252nm,1.7s
BKZ Black Stump Fm 54.31 111 eP P 07 08 31.6 -1.3
comp=Z,395nm,1.7s
CMBY CAMPBELL BAY 54.93 353 eP P 07 08 35.1 -2.3
KSD Kokstad 55.13 261 P P 07 08 41.1 +2.1
comp=Z,51nm,2.5s
URZ Urewera 55.24 111 eP P 07 08 38.8 -0.7
comp=Z,100nm,1.5s
GRM Grahamstown 55.30 257 P P 07 08 39.1 -1.0
GRM pmax pmax
comp=Z,110nm,2.4s
GRM Grahamstown 55.30 257 P P 07 08 39.1 -1.0
comp=Z,110nm,2.4s
PMG Port Moresby 55.45 62 d iP P 07 08 40.3 -0.8
PMG pmax pmax
comp=Z,355nm,1.8s
PMG Port Moresby 55.45 62 eP P 07 08 42.0 +0.8
comp=Z,735nm,1.9s
PMG LR LR
comp=Z,19µm,21.0s
PMG Port Moresby 55.45 62 ⇑P P 07 08 40.4 -0.8
baz=55
MYLDM Lahad Datu 55.46 23 ⇓P P 07 08 41.5 +0.3
SDKM Sandakan 55.57 22 ⇑P P 07 08 41.3 -0.8
KKM Kota Kinabalu 55.73 20 eP P 07 08 43.3 +0.1
comp=Z,26nm,0.8s
KKM LR LR
comp=Z,8µm,20.0s
KKM Kota Kinabalu 55.73 20 ⇑P P 07 08 44.3 +1.0
KDM Kudat 56.71 21 ⇓P P 07 08 51.8 +1.7
MSEY Mahe Island 57.19 304 PFAKE 07 09 10.0 +16
MSEY LR LR
comp=Z,14µm,20.0s
PALK Pallekele 57.42 338 i P P 07 09 05.4 +10
JAY Jayapura 57.47 51 ⇑P P 07 08 54.8 -0.8
baz=57,SNR=3.0
HVD Gariep Dam 57.68 259 P P 07 08 58.2 +1.0
HVD pmax pmax
comp=Z,77nm,1.4s
HVD Gariep Dam 57.68 259 P P 07 08 58.1 +1.0
comp=Z,76nm,1.4s
SEK Senekal 57.75 262 P P 07 08 58.0 +0.3
comp=Z,139nm,2.8s
DZM Mont Dzumac 58.61 89 eP P 07 09 03.6 -0.1
comp=Z,153nm,1.6s
DZM eS S 07 17 06.2 -1.1
comp=Z,20µm,31.1s
DZM eLR LR 07 26 15.3
comp=Z,48µm,27.9s
ERPM east rand prop 58.64 264 P P 07 09 04.8 +0.9

comp=Z,89nm,2.7s
BOSA Boshof 59.13 260 eP P 07 09 07.9 +0.6
BOSA pmax pmax
comp=Z,90nm,1.5s
BOSA Boshof 59.13 260 P P 07 09 07.1 -0.2
comp=Z,16nm,0.9s,baz=137,slow=6.5,SNR=16
BOSA LR LR 07 29 48.4
comp=Z,22µm,18.4s,baz=144,slow=31
BOSA Boshof 59.13 260 eP P 07 09 07.9 +0.6
comp=Z,90nm,1.5s
DAV Davao City (W) 59.40 30 PFAKE 07 09 20.0 +11
DAV LR LR
comp=Z,6µm,21.0s
SUR Sutherland 59.60 254 P P 07 09 09.0 -1.6
comp=Z,26nm,0.9s,baz=117,slow=7.3,SNR=11
SUR Sutherland 59.60 254 eP P 07 09 12.3 +1.7
comp=Z,550nm,2.2s
SUR LR LR
comp=Z,29µm,20.0s
PBA Port Blair 59.63 352 eP P 07 09 08.2 -2.3
TRD Trivandrum 59.63 334 eP P 07 09 09.4 -1.2
MSNA Messina 60.14 269 P P 07 09 14.2 0.0
comp=Z,111nm,2.8s
DLV T Lat 60.14 10 eP P 07 09 14.1 -0.2
comp=Z,46nm,1.2s
DGPR DIGLIPUR 61.12 353 eP P 07 09 18.9 -1.8
LBTB Lobatse 61.30 264 eP P 07 09 22.0 -0.1
LBTB pmax pmax
comp=Z,400nm,2.5s
LBTB Lobatse 61.30 264 P P 07 09 20.4 -1.8
comp=Z,12nm,0.9s,baz=165,slow=7.2,SNR=12
LBTB Lobatse 61.30 264 eP P 07 09 22.0 -0.1
comp=Z,400nm,2.5s
UPI Upington 61.94 258 P P 07 09 24.9 -1.5
comp=Z,58nm,4.7s
MDRS Chennai 63.11 339 eP P 07 09 30.4 -3.7
HNR Honiara 63.39 74 LR LR 07 34 32.4
comp=Z,25µm,20.2s,baz=240,slow=34
KOMG Komaggas 63.45 254 P P 07 09 35.1 -1.3
comp=Z,79nm,2.5s
RAO Raoul Island 64.16 106 LR LR 07 31 06.9
comp=Z,7µm,21.7s,baz=204,slow=30
CM31 Chiang Mai Arr 66.09 359 eP P 07 09 52.9 -0.6
comp=Z,96nm,1.1s
CMAR Chiang Mai Arr 66.09 359 i P P 07 09 53.2 -0.2
CMAR pmax pmax
comp=Z,22nm,0.9s
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 66.09 359 P P 07 09 53.2 -0.2
comp=Z,22nm,0.9s,baz=204,slow=5.5,SNR=62
CMAR LR LR 07 35 34.6
comp=Z,27µm,19.6s,baz=196,slow=33
LSZ Lusaka 66.32 273 eP P 07 09 56.0 +0.7
LSZ pmax pmax
comp=Z,93nm,1.4s
LSZ MLR MLR
comp=Z,17µm,20.0s
LSZ Lusaka 66.32 273 P P 07 09 54.7 -0.6
comp=Z,11nm,0.9s,baz=92,slow=6.5,SNR=19
LSZ Lusaka 66.32 273 eP P 07 09 56.0 +0.7
comp=Z,93nm,1.4s
LSZ LR LR
comp=Z,17µm,20.0s
CHTO Chiang Mai 66.44 359 eP P 07 09 55.9 +0.1
CHTO pmax pmax
comp=Z,47nm,1.2s
CHTO MLR MLR
comp=Z,25µm,20.0s
CHTO Chiang Mai 66.44 359 eP P 07 09 55.9 +0.1
comp=Z,47nm,1.2s
CHTO LR LR
comp=Z,25µm,20.0s
PMSA Palmer Station 66.90 188 PFAKE 07 10 10.0 +12
PMSA LR LR
comp=Z,42µm,20.0s
VIS Vishakhapatnam 66.94 343 eP P 07 09 56.1 -2.8
VIS AMB AMB 07 10 15.8
comp=Z,91nm,2.0s
GOA Goa 67.18 333 eP P 07 09 58.9 -1.5
QIZ Qiongzhong 67.30 11 P P 07 09 59.4 -1.8
QIZ pP pP 07 10 04.2 -2.2
QIZ sP sP 07 10 08.7 +0.4
QIZ PP PP 07 12 28.6 -1.3
QIZ S S 07 19 00.4 +4.8
QIZ sS sS 07 19 06.8 +2.6
QIZ pmax pmax
comp=Z,730nm,10.7s
QIZ LR LR
comp=Z,12µm,21.0s
QIZ LR LR
comp=Z,2µm,20.6s
QIZ LR LR
comp=Z,17µm,22.2s
QIZ Qiongzhong 67.30 11 PFAKE 07 10 10.0 +8.8
QIZ LR LR
comp=Z,17µm,20.0s
HYB Hyderabad 67.71 338 eP P 07 10 03.0 -0.8
HYB e*PP pP 07 10 06.0 -3.0
HYB e*SP sP 07 10 09.0 -2.0
HYB 07 10 31.5
HYB e 07 12 32.0
HYB eS S 07 19 00.0 -0.7
HYB Hyderabad 67.71 338 i P P 07 10 03.0 -0.8
HYB ePP PP 07 12 32.0 -1.5
HYB eS S 07 19 00.0 -0.7
HYB LR LR 07 28 00.0
comp=Z,13nm,24.0s
HYB Hyderabad 67.71 338 eP P 07 10 00.2 -3.6
HYB Hyderabad 67.71 338 eP P 07 10 03.0 -0.8
HYB epP pP 07 10 06.0 -3.0
HYB esP sP 07 10 09.0 -2.0
HYB PcP PcP 07 10 31.5 +0.9
HYB ePP PP 07 12 32.0 -1.5
HYB eS S 07 19 00.0 -0.7
WIN Windhoek 68.62 260 P P 07 10 10.2 +0.3
WIN pmax pmax
comp=Z,15nm,3.1s
WIN Windhoek 68.62 260 P P 07 10 10.2 +0.3
comp=Z,14nm,3.1s
SLVN Son La 69.06 4 eP P 07 10 12.7 +0.4
comp=Z,90nm,1.7s
MSVF Nonsavu 69.43 94 eP P 07 10 15.9 +1.0
MSVF pmax pmax
comp=Z,173nm,1.5s
MSVF MLR MLR
comp=Z,8µm,20.0s
MSVF Nonsavu 69.43 94 eP P 07 10 15.9 +1.0
comp=Z,173nm,1.5s
MSVF LR LR
comp=Z,8µm,20.0s
POO Poona 70.04 334 eP P 07 10 16.8 -1.6
POO AMB AMB 07 10 28.0
comp=Z,66nm,0.7s
POO i PCP PcP 07 10 39.0 -1.4
POO ePP PP 07 12 52.0 -1.7
RUDU RUNDU 70.14 265 P P 07 10 19.7 +0.4
comp=Z,82nm,2.9s
TSUM Tsumeb 70.66 263 P P 07 10 22.4 -0.1
comp=Z,8.4nm,0.9s,baz=138,slow=5.5,SNR=14
TSUM Tsumeb 70.66 263 eP P 07 10 23.1 +0.6
comp=Z,36nm,1.4s
TSUM LR LR
comp=Z,25µm,19.0s
KMBO Kilima Mbogo 70.89 291 eP P 07 10 25.8 +1.8
KMBO pmax pmax
comp=Z,100nm,1.8s
KMBO Kilima Mbogo 70.89 291 P P 07 10 23.7 -0.3
comp=Z,6.9nm,0.9s,baz=137,slow=6.6,SNR=16
KMBO LR LR 07 34 41.5
comp=Z,7µm,22.0s,baz=136,slow=30
KMBO Kilima Mbogo 70.89 291 eP P 07 10 25.8 +1.8
comp=Z,100nm,1.8s
HKC Hong Kong Obse 71.14 14 P P 07 10 32.0 +7.1
KMI Kunming 72.78 3 P P 07 10 35.5 +0.5
KMI pP pP 07 10 42.6 +2.4
KMI sP sP 07 10 45.0 +2.9
KMI S SKiKP 07 20 04.2 -3.8
KMI SKS SKSac 07 20 34.7 -4.9
KMI pmax pmax
comp=Z,33nm,1.2s
KMI pmax pmax
comp=Z,810nm,7.0s
KMI LR LR
comp=Z,9µm,22.8s
KMI LR LR

comp=Z,3μm,25.6s
KMI LR LR
comp=Z,16μm,24.2s
GUMO Guam 73.34 46 PFAKE 07 10 50.0 +12
GUMO LR LR
comp=Z,4μm,21.0s
SHL Shillong 73.48 353 *e*P **P 07 10 37.0 -2.0**
SHL AMB AMB 07 10 57.1
comp=Z,92nm,1.2s
BHPL Bhopal 73.58 339 *e*P P 07 10 35.9 -3.7
SSLB Suanglung 73.95 20 *e*P P 07 10 45.4 +3.7
comp=Z,20nm,1.0s
GYA Guiyang 74.33 7⇑*i*P P 07 10 47.8 +3.9
GYA S **S 07 20 21.8 +4.4**
GYA SKS **SKSac 07 20 50.4 -0.5**
GYA pmax pmax
comp=Z,80nm,1.0s
GYA pmax pmax
comp=Z,340nm,6.8s
GYA LR LR
comp=Z,4μm,19.5s
GYA LR LR
comp=Z,2μm,20.0s
GYA LR LR
comp=Z,5μm,18.8s
NACB Ninganchiao 74.47 21 *e*P **P 07 10 44.6 -0.1**
comp=Z,38nm,0.9s
QZH Quanzhou 74.54 18 P **P 07 10 46.1 +1.1**
QZH S **S 07 20 24.0 +4.5**
QZH pmax pmax
comp=Z,2μm,6.8s
QZH LR LR
comp=Z,8μm,17.9s
QZH LR LR
comp=Z,2μm,14.5s
QZH LR LR
comp=Z,14μm,37.4s
YHNB Yeheng 74.90 21 PFAKE 07 11 00.0 +13
YHNB LR LR
comp=Z,7μm,22.0s
TATO Taipei 75.22 21 PFAKE 07 11 00.0 +11
TATO LR LR
comp=Z,6μm,22.0s
ODAN Odare 75.24 349 *e*P **P 07 10 48.3 -1.1**
comp=Z,473nm,1.7s
RAMN Ramite 75.44 348 *e*P **P 07 10 49.1 -1.4**
comp=Z,179nm,1.0s
TAPN Taplejung 75.69 349 *e*P **P 07 10 51.4 -0.6**
comp=Z,204nm,1.1s
BHJ Bhuj 75.77 332 *e*P **P 07 10 50.9 -1.3**
JIRN Jiri 76.19 348 *e*P **P 07 10 53.8 -1.2**
comp=Z,261nm,1.4s
PKI Pulchoki 76.22 347 *e*P **P 07 10 53.2 -1.9**
comp=Z,476nm,1.7s
PKIN Phulchoki 76.23 347 *e*P **P 07 10 53.3 -1.7**
comp=Z,101nm,1.3s
DMN Daman 76.30 347 *e*P **P 07 10 54.0 -1.4**
comp=Z,187nm,0.9s
KKN Kakani 76.45 347 *e*P **P 07 10 55.0 -1.3**
comp=Z,185nm,1.1s
GUN Gumba 76.48 348 *e*P **P 07 10 55.0 -1.6**
comp=Z,968nm,1.4s
KOLN Koldanda 76.70 346 *e*P **P 07 10 56.0 -1.6**
comp=Z,470nm,1.4s
GKN Gorkha 76.76 347 *e*P **P 07 10 56.3 -1.6**
comp=Z,256nm,1.0s
PYUN Piuthan 77.13 345 *e*P **P 07 10 58.2 -1.8**
comp=Z,368nm,0.8s
DANN Dangsing 77.24 346 *e*P **P 07 10 59.1 -1.7**
comp=Z,261nm,0.9s
AJM Ajmer 77.37 337 *e*P **P 07 11 00.0 -1.2**
LSA Lhasa 77.64 353 P **P 07 11 02.8 -0.4**
LSA S **S 07 20 50.6 -3.9**
LSA LR LR
comp=Z,8μm,30.4s
LSA LR LR
comp=Z,4μm,28.6s
LSA LR LR
comp=Z,17μm,30.4s
LSA Lhasa 77.64 353 *e*P **P 07 11 03.0 -0.2**
LSA pmax pmax
comp=Z,184nm,1.8s
LSA MLR MLR
comp=Z,8μm,22.0s
LSA Lhasa 77.64 353 *e*P **P 07 11 03.0 -0.2**
comp=Z,184nm,1.8s
LSA LR LR
comp=Z,8μm,22.0s
ENH Enshi 78.36 9 *e*P **P 07 11 06.5 -0.1**
comp=Z,27nm,1.0s
CD2 Chengdu 78.58 4 P P 07 11 11.5 +3.7
CD2 pP **PcP 07 11 16.2 -0.6**
CD2 sP sP 07 11 18.5 +3.5
CD2 PcP pP 07 11 20.5 +7.4
CD2 S **S 07 21 08.9 +5.3**
CD2 sS sS 07 21 16.2 +3.8
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,1μm,5.9s
CD2 LR LR
comp=Z,14μm,22.1s
CD2 LR LR
comp=Z,8μm,19.6s
CD2 LR LR
comp=Z,16μm,22.0s
JOW Kunigami 78.79 26 LR LR 07 45 56.1
comp=Z,189nm,19.3s,baz=218,slow=36
AFI Afiamalu 78.96 98 LR LR 07 38 55.3
comp=Z,7μm,21.7s,baz=224,slow=30
DAMY Dhamar 79.20 306 *e*P **P 07 11 14.9 +2.9**
comp=Z,127nm,1.4s
WHN Wuhan 79.25 13 P **P 07 11 10.5 -0.9**
WHN S **S 07 21 11.3 +0.6**
WHN pmax pmax
comp=Z,1μm,14.1s
WHN LR LR
comp=Z,13μm,19.9s
WHN LR LR
comp=Z,6μm,16.2s
WHN LR LR
comp=Z,20μm,25.5s
TARA Tarawa 79.95 77 PFAKE 07 11 30.0 +14
TARA LR LR
comp=Z,7μm,20.0s
DDI Dehra Dun 80.25 341 *e*P **P 07 11 15.3 -1.7**
SSE Sheshan 81.04 19 P **P 07 11 23.7 +2.6**
SSE sP **sP 07 11 30.7 +2.4**
SSE S **S 07 21 30.3 +0.8**
SSE SS **SS 07 26 45.9 +0.8**
SSE pmax pmax
comp=Z,22nm,0.7s
SSE pmax pmax
comp=Z,460nm,6.2s
SSE LR LR
comp=Z,3μm,18.1s
SSE LR LR
comp=Z,3μm,19.1s
SSE LR LR
comp=Z,4μm,18.9s
RAR Rarotonga 81.40 112 LR LR 07 40 34.6
comp=Z,3μm,19.3s,baz=226,slow=31
NJ2 Nanjing 81.49 17 *e*P **P 07 11 23.9 +0.4**
NJ2 S **S 07 21 39.0 +4.8**
NJ2 sS **SKKSac 07 21 48.0 +3.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,700nm,6.3s
NJ2 LR LR
comp=Z,3μm,17.8s
NJ2 LR LR
comp=Z,6μm,23.4s
NJ2 LR LR
comp=Z,4μm,20.7s
BHK Bhakra 81.67 340 *e*x P 07 11 29.0 +4.5
XAN Xi'an 82.04 8 P **P 07 11 26.0 -0.4**
XAN pP **PcP 07 11 32.1 +0.3**
XAN S **S 07 21 39.7 -0.2**
XAN SS **SS 07 26 55.2 -4.8**
XAN pmax pmax
comp=Z,180nm,7.0s
XAN LR LR
comp=Z,10μm,23.6s
XAN LR LR
comp=Z,1μm,24.6s
XAN LR LR
comp=Z,5μm,22.5s
DHRM DHARAMSHALA 82.49 340 *e*P **P 07 11 27.3 -1.7**
DHRM AMB AMB 07 11 48.8
comp=Z,164nm,2.3s
LZH Lanzhou 83.74 4 *e*P **P 07 11 36.3 +1.0**
LZH pP **PcP 07 11 39.7 +0.3**
LZH sP **sP 07 11 41.8 -0.7**
LZH PP **PP 07 14 46.1 -2.8**
LZH SKS **SKSac 07 21 55.4 -1.8**
LZH *e*S **S 07 21 58.0 +0.7**
LZH sS **sS 07 22 06.4 +0.3**
LZH pmax pmax
comp=Z,100nm,1.2s
LZH pmax pmax
comp=Z,470nm,4.8s
LZH LR LR
comp=Z,10μm,17.4s
LZH LR LR
comp=Z,2μm,17.6s
LZH LR LR
comp=Z,16μm,18.5s
TIA Tai'an 85.24 14 ⇓P **P 07 11 42.8 +0.1**
TIA pP **pP 07 11 51.6 +3.6**
TIA PP **PP 07 14 58.0 -3.0**
TIA S **S 07 22 13.2 +1.2**
TIA pmax pmax
comp=Z,50nm,1.4s
TIA pmax pmax
comp=Z,1μm,6.0s
TIA LR LR
comp=Z,3μm,24.0s
TIA LR LR
comp=Z,3μm,25.0s
TIA LR LR
comp=Z,8μm,25.0s
JNU Nakatsue 85.45 26 *e*P **P 07 11 43.7 -0.2**
comp=Z,21nm,1.3s
RAYN Ar Rayn 86.04 312 *e*P **P 07 11 48.5 +1.4**
comp=Z,88nm,1.4s
KBL Kabul 86.52 335 *e*P **P 07 11 48.8 -0.5**
KBL pmax pmax
comp=Z,166nm,1.1s
KBL Kabul 86.52 335 *e*P **P 07 11 48.8 -0.5**
comp=Z,166nm,1.1s
GTA Gaotai 86.97 0 *e*P **P 07 11 49.6 -1.7**
GTA pP **PcP 07 11 54.5 +1.0**
GTA sP **sP 07 11 56.7 -1.9**
GTA SKS **SKSac 07 22 14.1 -3.3**
GTA S **SKKSac 07 22 27.5 +1.4**
GTA sS **ScS 07 22 35.0 -1.6**
GTA pmax pmax
comp=Z,460nm,6.4s
GTA LR LR
comp=Z,10μm,21.4s
GTA LR LR
comp=Z,4μm,22.3s
GTA LR LR
comp=Z,11μm,20.9s
SHEL Horse Pasture 88.17 248 PFAKE 07 12 10.0 +12
SHEL LR LR
comp=Z,7μm,19.0s
INCN Inchon 88.42 21 PFAKE 07 12 10.0 +12
INCN LR LR
comp=Z,3μm,19.0s
DL2 Dalian 88.67 17 P **P 07 11 59.0 -0.3**
DL2 PP **PP 07 15 30.3 +1.7**
DL2 S **S 07 22 47.4 +2.4**
DL2 pmax pmax
comp=Z,39nm,1.2s
DL2 pmax pmax
comp=Z,350nm,6.7s
DL2 LR LR
comp=Z,2μm,17.7s
DL2 LR LR
comp=Z,520nm,15.9s
DL2 LR LR
comp=Z,2μm,19.8s
KSAR Wonju Array Be 88.69 22 P **P 07 11 57.3 -2.1**
KSAR Wonju Array Be 88.69 22 P **P 07 11 57.3 -2.1**
KSRS Korea Array 88.71 22 P **P 07 11 57.3 -2.2**
comp=Z,4.5nm,0.8s,baz=198,slow=5.1,SNR=11
KSRS LR LR 07 49 26.8
comp=Z,3μm,22.0s,baz=209,slow=34
BJT Baijiatuau 88.81 13 *e*P **P 07 12 00.5 +0.6**
BJT pmax pmax
comp=Z,62nm,1.1s
BJT MLR MLR
comp=Z,8μm,20.0s
BJT Baijiatuau 88.81 13 *e*P **P 07 12 00.5 +0.6**
comp=Z,62nm,1.1s
BJT LR LR
comp=Z,8μm,20.0s
BJI Beijing 88.84 13 P **P 07 12 00.1 +0.1**
BJI PP **PP 07 15 31.9 +2.0**
BJI S **S 07 22 48.3 +1.9**
BJI pmax pmax
comp=Z,24nm,1.6s
BJI pmax pmax
comp=Z,570nm,11.1s
BJI LR LR
comp=Z,5μm,20.8s
BJI LR LR
comp=Z,3μm,19.2s
BJI LR LR
comp=Z,7μm,25.9s
HHC Hu-ho-hao-te 89.05 9 *e*P **P 07 12 03.4 +2.2**
HHC sP **sP 07 12 09.1 +0.7**
HHC PP **PP 07 15 33.4 +1.7**
HHC SKS **SKSac 07 22 30.9 +1.1**
HHC S **S 07 22 50.4 +1.7**
HHC pmax pmax
comp=Z,33nm,1.1s
HHC pmax pmax
comp=Z,820nm,6.7s
HHC LR LR
comp=Z,7μm,19.6s
HHC LR LR
comp=Z,11μm,19.6s
HHC LR LR
comp=Z,7μm,18.6s
KSH Kashi 89.55 342 *e*P **P 07 12 01.6 -2.0**
KSH *e*sP **sP 07 12 08.8 -2.0**
KSH *e*PP **PP 07 15 35.7 -0.1**
KSH S **SKKSac 07 22 44.8 -0.7**
KSH SS SS 07 28 43.3 -7.2
KSH pmax pmax
comp=Z,40nm,2.0s
KSH pmax pmax
comp=Z,190nm,4.4s
KSH LR LR
comp=Z,3μm,18.1s
KSH LR LR
comp=Z,10μm,18.3s
KSH LR LR
comp=Z,6μm,18.4s
PPT2 Papeete2 90.38 117 *e*S **S 07 22 58.9 -3.4**
comp=Z,5μm,26.2s
PPT2 *e*SS **SS 07 29 01.8 +0.1**
comp=Z,4μm,27.2s
PPT2 *e*LQ LQ 07 37 06.7
comp=Z,22μm,29.8s
PPT2 *e*LR LR 07 40 56.4
comp=Z,11μm,25.5s,baz=210
PPT Papeete 90.40 117 LR LR 07 46 55.3
comp=Z,2μm,18.0s,baz=220,slow=32
MAJO Matsushiro 90.92 30 PFAKE 07 12 20.0 +10
MAJO LR LR
comp=Z,2μm,21.0s
MJAR Matsushiro Arr 90.92 30 P **P 07 12 09.1 -0.9**
comp=Z,3.7nm,0.8s,baz=191,slow=4.7,SNR=5.2
PLCA Paso Flores 91.28 188 P **P 07 12 12.3 +0.3**
comp=Z,6.0nm,0.9s,baz=208,slow=4.1,SNR=7.6
PLCA LR LR 07 51 51.2
comp=Z,27μm,20.5s,baz=172,slow=35
SNY Shenyang 91.88 18 ⇑P P 07 12 08.7 -5.5
SNY PP **PP 07 15 52.3 -1.8**
SNY Shenyang 91.88 18 SKS **SKSac 07 22 46.3 +0.4**
SNY Shenyang 91.88 18 S **S 07 23 15.3 +0.9**
SNY Shenyang 91.88 18 SS SS 07 29 27.5 +3.7
SNY pmax pmax
comp=Z,230nm,11.7s
SNY LR LR
comp=N,2μm,19.8s
SNY LR LR
comp=E,2μm,21.0s
SNY LR LR
comp=Z,4μm,21.6s
WMQ Urumqi 91.96 351 P **P 07 12 15.1 +0.5**
WMQ pP **pP 07 12 19.9 -0.1**
WMQ sP **sP 07 12 22.1 +0.2**
WMQ PP **PP 07 15 57.3 +2.5**
WMQ SKS **SKSac 07 22 45.8 -0.6**
WMQ S **S 07 23 13.8 -1.5**
WMQ sS **sS 07 23 21.8 -2.4**
WMQ pmax pmax
comp=Z,40nm,1.3s
WMQ pmax pmax
comp=Z,670nm,4.8s
WMQ LR LR
comp=Z,9μm,22.2s
WMQ LR LR
comp=Z,4μm,18.4s
WMQ LR LR
comp=Z,13μm,24.4s
TRQA Tornquist 92.81 195 *e*P **P 07 12 18.7 -0.3**
comp=Z,23nm,1.3s
TRQA LR LR
comp=Z,15μm,19.0s
AAK Ala-Archa 92.85 342 P **P 07 12 16.3 -2.6**
AAK MLR MLR
comp=Z,7μm,21.0s
AAK Ala-Archa 92.85 342 P **P 07 12 16.3 -2.6**
comp=Z,0.6nm,0.3s,baz=180,slow=9.1,SNR=3.0
AAK Ala-Archa 92.85 342 P **P 07 12 16.3 -2.6**
AAK LR LR
comp=Z,7μm,21.0s
TKM2 Tokmak 2 92.90 343 PFAKE 07 12 30.0 +11
TKM2 LR LR
comp=Z,7μm,19.0s
EKS2 Erkin-Say 93.03 341 *e*P **P 07 12 21.6 +1.9**
EKS2 pmax pmax
comp=Z,20nm,1.3s
EKS2 MLR MLR
comp=Z,6μm,19.0s
EKS2 Erkin-Say 93.03 341 *e*P **P 07 12 21.6 +1.9**
comp=Z,20nm,1.3s
EKS2 LR LR
comp=Z,6μm,19.0s
RKT Rikitea 94.05 131 *e*S **S 07 23 34.5 -0.5**
comp=Z,3μm,28.2s
RKT *e*SS **SS 07 29 53.8 +0.1**
comp=Z,4μm,31.8s
RKT *e*LQ LQ 07 38 39.8
comp=Z,5μm,31.8s
RKT *e*LR LR 07 42 38.9
comp=Z,7μm,24.2s,baz=212
RKT Rikitea 94.05 131 *e*T T 08 56 47.1
comp=Z,10nm,0.2s
CN2 Changchun 94.17 19 *e*P **P 07 12 26.2 +1.5**
CN2 *e*sP **sP 07 12 33.2 +1.3**
CN2 *e*PP **PP 07 16 16.7 +4.7**
CN2 *e*S **ScS 07 23 35.5 -0.4**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,700nm,18.0s
CN2 LR LR
comp=Z,1μm,19.0s
KKAR Karatay Array 94.20 339 *e*P P 07 12 30.0 +5.1
KKAR pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 94.20 339 *e*P P 07 12 30.0 +5.1
comp=Z,7.5nm,1.0s
PTCN Pitcairn Islan 94.78 136 PFAKE 07 12 40.0 +12
PTCN LR LR
comp=Z,5μm,20.0s
MK31 Makanchi Array 95.54 348 *e*P **P 07 12 33.3 +2.4**
MK31 Makanchi Array 95.54 348 *e*P **P 07 12 33.3 +2.4**
MKAR Makanchi Array 95.54 348 P **P 07 12 30.1 -0.8**
comp=Z,1.1nm,1.0s,baz=182,slow=5.7,SNR=6.2
MKAR PKKPbc **PKKPbc 07 29 21.0 -1.6**
comp=Z,0.7nm,1.0s,baz=352,slow=2.7,SNR=4.0
MKAR LR LR 07 52 20.5
comp=Z,8μm,21.6s,baz=169,slow=34
SONM Songino Array 95.57 5 P **P 07 12 31.5 +0.3**
comp=Z,2.2nm,0.8s,baz=177,slow=2.9,SNR=2.8
SONM LR LR 07 55 43.9
comp=Z,8μm,19.2s,baz=178,slow=36
MDJ Mudanjiang 95.88 21 P **P 07 12 34.6 +2.1**
MDJ pP **pP 07 12 37.7 -0.2**
MDJ sP **sP 07 12 39.9 +0.1**
MDJ S **ScS 07 23 51.2 +1.0**
MDJ pmax pmax
comp=Z,4.0nm,0.4s
MDJ pmax pmax
comp=Z,140nm,4.6s
MDJ LR LR
comp=Z,2μm,20.7s
MDJ LR LR
comp=Z,1μm,18.9s
MDJ LR LR
comp=Z,3μm,20.7s
MDJ Mudanjiang 95.88 21 PFAKE 07 12 40.0 +7.5
MDJ LR LR
comp=Z,4μm,22.0s
USRK Ussuriysk Arra 96.10 23 LR LR 07 59 36.8
comp=Z,2μm,18.4s,baz=196,slow=38
ERM Erimo 97.52 31 PFAKE 07 12 50.0 +10
ERM LR LR
comp=Z,3μm,20.0s
ZAK Zakamensk 97.99 2 *e*P P 07 12 37.9 -4.2
ZAK pmax pmax
comp=Z,7.0nm,1.9s
HIA Hailar 98.39 13 PFAKE 07 13 00.0 +16
HIA LR LR
comp=Z,6μm,21.0s
TLY Talaya 99.30 3 PFAKE 07 13 00.0 +12
TLY LR LR
comp=Z,10μm,21.0s
ASCN Ascension 99.68 247 PFAKE 07 13 00.0 +9.5
ASCN LR LR
comp=Z,6μm,20.0s
KURK Kurchatov 99.90 347 *e*P **Pdif 07 12 54.0 +3.6**
KURK pmax pmax
comp=Z,5.0nm,1.2s
KURK MLR MLR
comp=Z,6μm,22.0s
KURK Kurchatov 99.90 347 *e*Pdif **Pdif 07 12 54.0 +3.6**
comp=Z,5.1nm,1.2s
KURK LR LR
comp=Z,6μm,22.0s
XMAS Kiritimati 100.25 98 PFAKE 07 13 00.0 +7.0
XMAS LR LR
comp=Z,7μm,19.0s
GNI Garni 100.25 320 PFAKE 07 13 00.0 +7.5
GNI LR LR
comp=Z,6μm,22.0s
CSS Prodhromos 101.49 310 PFAKE 07 13 10.0 +12
CSS LR LR
comp=Z,2μm,22.0s
YSS Yuzh-Sakhalins 101.75 29 PFAKE 07 13 10.0 +11
YSS LR LR
comp=Z,1μm,20.0s
ZALV Zalesovo Beam 102.27 351 P **Pdif 07 12 58.3 -2.6**
comp=Z,0.4nm,0.3s,baz=176,slow=4.2,SNR=2.5
LCO Las Campanas 102.90 189 PFAKE 07 13 20.0 +15
LCO LR LR
comp=Z,7μm,20.0s
BRVK Borovoye 103.64 342 PFAKE 07 13 20.0 +13
BRVK LR LR
comp=Z,6μm,20.0s
KIV Kislovodsk 104.25 321 PFAKE 07 13 20.0 +10
KIV LR LR
comp=Z,4μm,21.0s
TORD Torodi Ar. Bea 104.85 273 Pdiff **Pdif 07 13 13.8 +0.4**
comp=Z,0.6nm,0.8s,baz=134,slow=4.2,SNR=3.3
TORD PP **PKiKP 07 17 29.8 +1.2**
comp=Z,0.8nm,0.8s,baz=169,slow=2.3,SNR=4.4
ISP Isparta 105.13 310 PFAKE 07 17 40.0
ISP LR LR
comp=Z,3μm,19.0s
ANTO Ankara 105.55 313 PFAKE 07 17 40.0
ANTO LR LR
comp=Z,4μm,20.0s
MIDW Midway 106.08 66 PFAKE 07 17 40.0
MIDW LR LR
comp=Z,8μm,20.0s

SANT Santorini 106.73 306 PFAKE 07 17 40.0
SANT LR LR
comp=Z,3µm,21.0s
LVC Limon Verde 109.01 191 PFAKE 07 17 50.0
LVC LR LR
comp=Z,11µm,21.0s
TAM Tamanrasset 109.16 283 PFAKE 07 17 50.0
TAM LR LR
comp=Z,6µm,20.0s
ARU Arti 109.47 337 PFAKE 07 17 50.0
ARU LR LR
comp=Z,6µm,20.0s
YAK Yakutsk 112.25 15 PFAKE 07 17 50.0
YAK LR LR
comp=Z,4µm,20.0s
PET Petropavlovsk 112.43 34 PFAKE 07 17 50.0
PET LR LR
comp=Z,3µm,20.0s
WDD Wield Dalam 112.58 299 PFAKE 07 17 50.0
WDD LR LR
comp=Z,7µm,22.0s
KIS Kishinev 112.79 316 *e*PKIKP PKiKP 07 17 44.0 +1.6
KIS *e* 07 18 34.0
KIS *e*PS PS 07 28 04.0 -1.2
KIS *e*SS SS 07 34 20.0 +7.0
KIS *e*SSS SSS 07 38 22.0
KIS Kishinev 112.79 316 *e*PKP PKiKP 07 17 44.0 +1.6
KIS Kishinev 112.79 316 *e*PP PP 07 18 34.0 +2.8
KIS Kishinev 112.79 316 *e*PPS PPS 07 29 54.0
KIS *e*SS SS 07 34 20.0 +7.0
KIS *e*SSS SSS 07 38 22.0
KIS *e*LR LR 07 53 50.0
comp=Z,1µm,24.0s
CEL Celeste 113.42 302 PFAKE 07 18 00.0
CEL LR LR
comp=Z,4µm,21.0s
TIP Timpagrande 113.56 303 PFAKE 07 18 00.0
TIP LR LR
comp=Z,2µm,19.0s
RCBR Riachuelo 113.69 230 PFAKE 07 18 00.0
RCBR LR LR
comp=Z,7µm,21.0s
KIP Kipapa 113.84 84 PFAKE 07 18 00.0
KIP LR LR
comp=Z,7µm,21.0s
POHA Pohakuloa 114.34 87 PFAKE 07 18 00.0 +13
POHA LR LR
comp=Z,6µm,19.0s
CUC Castrocucco 114.65 303 PFAKE 07 18 00.0 +14
CUC LR LR
comp=Z,3µm,21.0s
AKASG Malin Array Be 115.28 319 PKP PKPdf 07 17 46.7 -0.4
comp=Z,0.7nm,0.6s,baz=92,slow=2.0,SNR=5.4
KIEV Kiev 115.28 319 PFAKE 07 18 00.0 +13
KIEV LR LR
comp=Z,6µm,21.0s
OBN Obninsk 115.47 325 PFAKE 07 18 00.0 +13
OBN LR LR
comp=Z,3µm,20.0s
UZH Uzhgorod 117.07 313 *i* PKIKP PKPdf 07 17 53.0 +2.4
PRGR Permogore 117.45 334 *e*PKIKP PKPdf 07 17 51.9 +1.0
PRGR pmax pmax
comp=Z,10.0nm,0.9s
KWP Kalwaria Pacla 117.55 314 PFAKE 07 18 00.0 +8.5
KWP LR LR
comp=Z,3µm,20.0s
AQU L'Aquila 117.58 303 PFAKE 07 18 00.0 +8.1
AQU LR LR
comp=Z,3µm,20.0s
PSZ Piszkesteto 117.78 312 PFAKE 07 18 00.0 +7.9
PSZ LR LR
comp=Z,3µm,21.0s
VSL Villasalto 118.04 299 PFAKE 07 18 10.0 +17
VSL LR LR
comp=Z,3µm,19.0s
OBKA Obir 119.63 308⇑*i*PKPdf PKPdf 07 17 57.5 +1.7
comp=Z,10nm,1.5s
CONA Conrad Observa 119.85 310⇑*i*PKPdf PKPdf 07 17 57.3 +1.2
comp=Z,3.3nm,0.9s
OKC Ostrava-Krasne 119.91 312 *e*SS SS 07 35 49.2 +3.2
OKC AMS AMS 08 09 10.0
comp=Z,2µm,17.2s
NNA Nana 120.26 184 PFAKE 07 18 10.0 +12
NNA LR LR
comp=Z,9µm,20.0s
VLC Villacollemand 120.43 303 PFAKE 07 18 10.0 +13
VLC LR LR
comp=Z,2µm,20.0s
ABTA Abfaltersbach 120.87 307⇑*i*PKPdf PKPdf 07 17 59.2 +1.0
comp=Z,6.5nm,1.0s
TIXI Tiksi 121.09 10 *e*PKIKP PKPdf 07 17 57.8 +0.1
TIXI MLR MLR
comp=Z,7µm,22.0s
TIXI Tiksi 121.09 10 *e*PKPdf PKPdf 07 17 57.8 +0.1
TIXI LR LR
comp=Z,7µm,22.0s
DPC Dobruska-Polom 121.15 312 *e*PKP PKPdf 07 18 06.7 +8.2
DPC *e*SS SS 07 35 59.0 -3.0
SAML Samuel 121.33 200 PFAKE 07 18 10.0 +10
SAML LR LR
comp=Z,6µm,20.0s
GERES GERESS Array B 121.55 309 PKP PKPdf 07 17 58.5 -0.8
comp=Z,1.6nm,0.7s,baz=113,slow=3.0,SNR=9.6
PRU Pruhonice 121.82 311 *e*SKKS SKKSdf 07 35 52.0 +6.8
PRU AMS AMS 08 20 10.0
comp=Z,3µm,20.0s
PVCC Panska Ves 122.14 311 *e*PKP PKPdf 07 18 09.6 +9.3
ADK Adak 122.40 47 PFAKE 07 18 10.0 +9.3
ADK LR LR
comp=Z,5µm,21.0s
TUE Stuetta 122.43 305 PFAKE 07 18 10.0 +8.7
TUE LR LR
comp=Z,4µm,20.0s
BRG Berggiesshubel 122.66 311 *e*PKP PKPdf 07 18 03.9 +2.5
comp=Z,2.9nm,0.9s
BRG Berggiesshubel 122.66 311 *e*PKIKP PKPdf 07 18 03.8 +2.5
BRG pmax pmax
comp=Z,3.0nm,0.9s
JOF Joensuu 122.94 330 *e*PKIKP PKPdf 07 18 01.7 +0.3
JOF pmax pmax
comp=Z,9.0nm,1.1s
JOF Joensuu 122.94 330 *e*p PKPdf 07 18 01.7 +0.3
comp=Z,9.2nm,1.1s
SACV Santiago Islan 123.03 255 PFAKE 07 18 20.0 +17
SACV LR LR
comp=Z,3µm,21.0s
BNI Bardonecchia 123.07 302 PFAKE 07 18 10.0 +7.5
BNI LR LR
comp=Z,5µm,20.0s
CLL Collm 123.40 311 *e*PKIKP PKPdf 07 18 04.0 +1.3
CLL *e* 07 18 12.0
CLL MLR MLR
comp=Z,2µm,21.1s
CLL Collm 123.40 311 *e*PKPdf PKPdf 07 18 04.0 +1.3
CLL *e* 07 18 12.0
CLL *e*PP PP 07 19 36.0 -8.7
CLL *e*SKKSac SKKSac 07 26 58.0 +16
CLL *e*Sdif Sdif 07 27 50.0 +11
CLL *e* 07 28 18.0
CLL *e*PSKS 07 29 54.0
CLL *e*(PPS) 07 31 54.0
CLL *e*SS SS 07 36 29.0 -1.5
CLL *e*(PSS) 07 37 30.0
CLL *e*SSS SSS 07 40 48.0
CLL *e*SSSS 07 44 48.0
CLL Lm MLR 08 16 00.0
comp=Z,2µm,21.1s
FINES FINESS Array B 123.85 326 PKP PKPdf 07 18 01.9 -1.3
comp=Z,3.1nm,0.8s,baz=101,slow=3.9,SNR=8.6
BFO Black Forest 124.09 306 PFAKE 07 18 20.0 +16
BFO LR LR
comp=Z,3µm,19.0s
KAF Kangasniemi 124.18 327 *e*PKIKP PKPdf 07 18 03.8 0.0
KAF pmax pmax
comp=Z,7.0nm,0.8s
KAF Kangasniemi 124.18 327 *e*p PKPdf 07 18 03.8 0.0
comp=Z,7.2nm,0.8s
SSB Saint Sauveur 124.42 301 PFAKE 07 18 20.0 +15
SSB LR LR
comp=Z,3µm,21.0s
ECH Echery 124.66 306 PFAKE 07 18 20.0 +15
ECH LR LR
comp=Z,3µm,20.0s
RTC Rabat Centre 124.70 284 PFAKE 07 18 20.0 +14
RTC LR LR
comp=Z,10µm,22.0s
LVZ Lovozero 125.24 335 PFAKE 07 18 20.0 +14
LVZ LR LR
comp=Z,5µm,21.0s
APA Apatity 125.38 335⇑*i*PKIKP PKPdf 07 18 10.4 +4.4
APA *i* 07 29 54.0
APA *i* SS SS 07 37 00.0 +5.3
APA MLR MLR
comp=Z,6µm,21.0s
BILL Bilibino 125.87 25 PFAKE 07 18 20.0 +13
BILL LR LR
comp=Z,5µm,21.0s
WLF Walferdange 126.03 307 PFAKE 07 18 20.0 +12
WLF LR LR
comp=Z,4µm,21.0s
ESDC Sonseca Array 126.27 291 PKP PKPdf 07 18 09.3 +0.7
comp=Z,1.9nm,0.9s,baz=81,slow=3.1,SNR=4.4
PAB San Pablo 126.43 291 PFAKE 07 18 20.0 +11
PAB LR LR
comp=Z,6µm,22.0s
PTGA Pitinga 128.34 207 PKP PKPdf 07 18 13.9 +0.5
comp=Z,1.7nm,0.3s,baz=109,slow=4.7,SNR=6.2
PTGA Pitinga 128.34 207 PKP PKPdf 07 18 13.9 +0.5
PTGA LR LR
comp=Z,8µm,21.0s
KEV Kevo 128.57 335 PFAKE 07 18 20.0 +8.0
KEV LR LR
comp=Z,5µm,20.0s
ARCES ARCESS Array B 128.88 334 PKP PKPdf 07 18 12.7 0.0
comp=Z,3.7nm,0.7s,baz=95,slow=1.3,SNR=4.7
ARE0 ARCESS Array S 128.88 334 *e*PP PP 07 20 17.5 -3.2
ARE0 IAMs_20 IAMs_20 08 13 43.6
comp=Z,6µm,22.7s
MTE Manteigas 128.94 290 PFAKE 07 18 30.0 +16
MTE LR LR
comp=Z,6µm,20.0s
KONO Kongsberg 129.57 319 PFAKE 07 18 30.0 +16
KONO LR LR
comp=Z,4µm,19.0s
PAYG Puerto Ayora 130.84 167 PFAKE 07 18 30.0 +12
PAYG LR LR
comp=Z,6µm,20.0s
TRO Tromso 130.90 333 *e*PP PP 07 20 34.0 +0.2
TRO IAMs_20 IAMs_20 08 13 51.4
comp=Z,4µm,20.3s
OTAV Otavalo 132.46 183 *e*PKPdf PKPdf 07 18 22.8 +1.0
OTAV LR LR
comp=Z,7µm,21.0s
HOPEN Hopen 132.63 342 *e*PP PP 07 20 45.4 +0.6
HOPEN *e*SS SS 07 38 28.9 +5.0
HOPEN IAMs_20 IAMs_20 08 15 19.1
comp=Z,8µm,21.2s
BJO Bjornoya 133.04 339 *e*SS SS 07 38 33.9 +4.9
ESK Eskdalemuir 133.78 309 PFAKE 07 18 30.0 +7.7
ESK LR LR
comp=Z,6µm,22.0s
HSPB Hornsund (broa 134.83 341 *e*PP PP 07 20 55.4 -3.3
SPA0 Spitsbergen Ar 135.05 343 *e*PP PP 07 21 05.4 +5.3
SPA0 IAMs_20 IAMs_20 08 16 34.4
comp=Z,7µm,21.4s
KBS Kingsbay 136.11 344 *e* PKPdf 07 18 35.0 +8.9
KBS *e*PP PP 07 21 07.8 +1.0
KBS *e*SS SS 07 39 11.8 +6.0
KBS Kingsbay 136.11 344 PFAKE 07 18 40.0 +14
KBS LR LR
comp=Z,7µm,20.0s
ROSC El Rosal 136.76 189 PKP PKPdf 07 18 29.7 0.0
comp=Z,7.1nm,0.9s,baz=89,slow=7.1,SNR=6.0
ROSC El Rosal 136.76 189 *e*PKPdf PKPdf 07 18 30.2 +0.4
KDAK Kodiak Island 137.37 49 PFAKE 07 18 40.0 +11
KDAK LR LR
comp=Z,4µm,21.0s
IM04 Indian Mountai 138.97 37 *e*PKPdf PKPdf 07 18 31.7 0.0
TRF Thorofare Moun 139.96 41 *e*PKPdf PKPdf 07 18 35.0 +1.2
PMR Palmer 140.10 44 *e*PKIKP PKPdf 07 18 35.7 +1.9
PMR Palmer 140.10 44 *e*PKPdf PKPdf 07 18 35.6 +1.9
SDV Santo Domingo 140.20 195 PFAKE 07 18 50.0 +14
SDV LR LR
comp=Z,10µm,20.0s
COLD Coldfoot 140.58 35 *e*PKPpre PKPpre 07 18 30.5
MCK McKinley 140.60 41 *e*PKIKP PKPdf 07 18 34.6 -0.1
MCK McKinley 140.60 41 *e*PKPdf PKPdf 07 18 34.6 -0.1
GRGR Grenville 140.98 210 PFAKE 07 18 50.0 +13
GRGR LR LR
comp=Z,4µm,19.0s
BBGH Gun Hill 141.18 214 PFAKE 07 18 50.0 +13
BBGH LR LR
comp=Z,8µm,22.0s
COLA College 141.24 39 *e*PKIKP PKPdf 07 18 36.3 +0.6
COLA MLR MLR
comp=Z,4µm,20.0s
COLA College 141.24 39 *e*PKPdf PKPdf 07 18 36.3 +0.6
COLA LR LR
comp=Z,4µm,20.0s
BCIP Isla Barro Col 141.36 181 PFAKE 07 18 50.0 +12
BCIP LR LR
comp=Z,4µm,19.0s
ILAR Eielson Array 141.64 39 PKhKP PKPpre 07 18 29.1
comp=Z,1.2nm,0.8s,baz=273,slow=3.7,SNR=12
H06E1 SOCORRO T-PHAS141.83 129 T T 09 56 51.1
SNR=12
PAX Paxson 142.03 42 *e*PKPpre PKPpre 07 18 33.5
JTS JuntasAbangare 142.29 173 PKIKP PKPdf 07 18 38.0 -1.3
JTS MLR MLR
comp=Z,9µm,22.0s
JTS JuntasAbangare 142.29 173 PKP PKPdf 07 18 38.0 -1.3
comp=Z,10nm,1.1s,baz=98,slow=7.6,SNR=3.0
JTS JuntasAbangare 142.29 173 PKP PKPdf 07 18 38.0 -1.3
JTS LR LR
comp=Z,9µm,22.0s
DAG Danmarks Havn 142.50 341 *e*PKIKP PKPdf 07 18 33.9 -3.8
DAG MLR MLR
comp=Z,4µm,20.0s
DAG Danmarks Havn 142.50 341 *i* P PKPdf 07 18 33.9 -3.8
comp=Z,3µm,20.0s
DOT Dot Lake 142.74 41 *e*PKPdf PKPdf 07 18 40.0 +1.5
FDF Fort de France 143.22 212 PFAKE 07 18 50.0 +9.1
FDF LR LR
comp=Z,4µm,20.0s
EGAK Eagle 144.09 40 *e*PKPpre PKPpre 07 18 37.7
EGAK LR LR
comp=Z,5µm,22.0s
TBG Guadaloupe-3 144.43 212 *e*P PKPbc 07 18 41.6 +0.2
PHG Guadaloupe-2 144.58 212 *e*P PKPbc 07 18 42.1 +0.1
ECG Echelle 144.61 212 *e*P PKPbc 07 18 42.5 +0.4
LKG Breislack 144.62 212 *e*P PKPbc 07 18 42.2 0.0
CRG Carmichael 144.62 212 *e*P PKPdf 07 18 43.0 -0.5
MLG Mont-d'or 144.65 212 *e*P PKPdf 07 18 43.2 -0.2
SSG Sans Toucher 144.66 212 *e*P PKPbc 07 18 42.7 +0.4
BORG Borgarnes 144.73 320 PFAKE 07 18 50.0 +8.1
BORG LR LR
comp=Z,5µm,20.0s
SEG Port Louis 144.89 213 *e*P PKPab 07 18 42.6 -0.2
HYT Haines Junctio 145.55 47 *e*PKPdf PKPab 07 18 44.4 +0.2
APG El Apazote 146.14 163 PKPbc PKPdf 07 18 43.9 -2.4
comp=Z,35nm,1.1s,baz=212,slow=5.5,SNR=16
ANWB Willy Bob 146.15 213 *e*P PKPab 07 18 47.8 +0.4
ANWB Willy Bob 146.15 213 PFAKE 07 19 00.0 +13
ANWB LR LR
comp=Z,3µm,20.0s
SIT Sitka 146.25 54 *e*PKP2 PKPab 07 18 47.5 +0.8
SIT Sitka 146.25 54 *e*PKPbc PKPab 07 18 47.5 +0.8
LPIG La Paz 146.48 125 PKPbc PKPab 07 18 48.2 -0.4
comp=Z,31nm,1.0s,baz=297,slow=2.8,SNR=4.9
SKAG Skagway 146.52 49 *e*PKPbc PKPab 07 18 48.2 +0.4
SABA Saba 146.63 211 *e*P PKPab 07 18 50.0 +0.7
INK Inuvik 146.87 33 *e*PKIKP PKPdf 07 18 45.1 -0.4
INK *e* 07 18 48.4
INK Inuvik 146.87 33 *e*PKPdf PKPdf 07 18 45.1 -0.4
INK *e*PKPbc PKPab 07 18 48.4 -0.4
WRAK Wrangell Islan 147.79 55 *e*PKPbc PKPbc 07 18 51.1 +0.8
WRAK LR LR
comp=Z,5µm,19.0s
SJG San Juan 148.03 206 *e*PKP2 PKPbc 07 18 51.5 -0.6
SJG MLR MLR
comp=Z,4µm,19.0s
SJG San Juan 148.03 206 *e*PKPdf PKPbc 07 18 51.5 -0.6
SJG LR LR
comp=Z,4µm,19.0s
CBYP Canovanas 148.09 207 *e*PKPdf PKPbc 07 18 52.2 -0.2
OBIP Obispado Ponce 148.10 206 *e*PKPdf PKPbc 07 18 51.4 -0.9
CELP Cerrillos 148.12 206 *e*PKPdf PKPbc 07 18 51.8 -0.5
KCPM Cahto Peak 148.18 89 *e*PKPbc PKPab 07 18 53.9 -1.2
CRPR Cabo Rojo, PR 148.21 205 *e*PKPbc PKPab 07 18 54.1 -1.3
LSP Las Mesas 148.36 205 *e*PKPdf PKPbc 07 18 53.0 0.0
LRS Lares 148.40 205 *e*PKPdf PKPdf 07 18 50.5 +0.9
OSI Osito Adit 148.67 101 *e*PKPbc PKPab 07 18 55.4 -1.8
PASC Pasadena Art C 148.76 102 *e*PKPdf PKPdf 07 18 51.2 +1.5
PASC *e*PKPbc PKiKP 07 18 55.1 +0.1
BAR Barrett 148.81 106 *e*PKPbc PKPbc 07 18 55.1 +1.3
MWC Mount Wilson 148.87 102 *e*PKIKP PKPdf 07 18 50.8 +0.6
MWC *e* 07 18 55.5
MWC Mount Wilson 148.87 102 *e*PKPdf PKPdf 07 18 50.8 +0.6
MWC *e*PKPbc PKiKP 07 18 55.5 0.0
SUMG Summit 148.90 337 *i* PKP2 PKPbc 07 18 53.9 +0.6
SUMG pmax pmax
comp=Z,32nm,1.1s
SUMG MLR MLR
comp=Z,3µm,17.0s
SUMG Summit 148.90 337 *i* P PKPbc 07 18 53.9 +0.6
comp=Z,32nm,1.1s
comp=Z,3µm,16.0s
SUMG Summit 148.90 337 *e*PKPbc PKPbc 07 18 54.0 +0.7
MONP Monument Peak 149.11 106 P PKPdf 07 18 51.6 +1.0
baz=149
BFSC Mount Baldy Ra 149.14 103 P PKPdf 07 18 51.5 +1.0
baz=149
DLBC Dease Lake 149.21 51 *e*PKPbc PKPbc 07 18 53.8 -0.2
EDW2 Edwards Air Fo 149.31 101 P PKPdf 07 18 52.3 +1.6
baz=149
N02D Trinity Center 149.38 87 P PKPdf 07 18 51.2 +0.6
baz=149
ISA Isabella 149.45 100 *e*PKPdf PKPdf 07 18 51.7 +0.8
ISA *e*PKPbc PKiKP 07 18 56.9 +0.4
ISA Isabella 149.45 100 P PKPdf 07 18 51.6 +0.6
baz=150
M02C Callahan 149.47 86 P PKPdf 07 18 51.6 +0.8
baz=150
CMB Columbia Colle 149.49 94 *e*PKPdf PKPdf 07 18 52.6 +1.8
PFO Pinyon Flat Ob 149.54 105 *e*PKPdf PKPdf 07 18 53.0 +1.8
PFO *e*PKPbc PKiKP 07 18 57.3 +0.5
PFO *e*PKPab PKPab 07 19 03.6 +2.8
PFO LR LR
comp=Z,5µm,21.0s
SWSC Sam W. Stewart 149.54 107 P PKPdf 07 18 52.6 +1.6
baz=150
HUMO Hull Mountain 149.93 84 *e*PKPdf PKPdf 07 18 52.7 +1.3
HUMO *e*PKPbc PKiKP 07 18 57.0 -0.2
BELC Belle Mtn. Jos 150.08 105 P PKPdf 07 18 53.7 +1.7
baz=150
I03D Drain, OR 150.12 82 P PKPdf 07 18 53.8 +2.3
baz=150
CWC Cottonwood Cre 150.16 99 P PKPdf 07 18 53.7 +1.6
baz=150
SDDR Presa de Saban 150.16 198 *e*PKPbc PKPbc 07 18 57.4 -0.2
SDDR LR LR
comp=Z,4µm,22.0s
BC3 Big Chuckawall 150.22 106 P PKPdf 07 18 53.7 +1.5
baz=150
GLA Glamis 150.24 107 *e*PKIKP PKPbc 07 18 58.4 +1.1
GLA Glamis 150.24 107 *e*PKPbc PKPbc 07 18 58.4 +1.1
GLA Glamis 150.24 107 P PKPdf 07 18 53.5 +1.3
baz=150
MTDJ Mount Denham 150.27 186 PFAKE 07 19 00.0 +2.1
MTDJ LR LR
comp=Z,3µm,21.0s
GSC Goldstone 150.34 102 *e*PKIKP PKPdf 07 18 54.5 +2.1
GSC *e* 07 18 58.1
GSC Goldstone 150.34 102 *e*PKPdf PKPdf 07 18 54.5 +2.1
GSC *e*PKPbc PKiKP 07 18 58.1 -0.3
GSC Goldstone 150.34 102 P PKPdf 07 18 54.0 +1.7
baz=150
WAKR Walker 150.37 94 *e*PKPbc PKPbc 07 18 59.4 +1.7
DAC Darwin (Calif) 150.39 99 *e*PKIKP PKPbc 07 18 57.6 -0.2
DAC Darwin (Calif) 150.39 99 *e*PKPbc PKPbc 07 18 57.6 -0.2
214A Organ Pipe Nat 150.80 111 *e*PKPbc PKPbc 07 18 59.1 +0.4
NLWA Neilton Lookou 151.06 75 *e*PKPbc PKPbc 07 18 59.4 +0.6
NLWA LR LR
comp=Z,5µm,20.0s
NVAR Mina Array Bea 151.09 95 PKPbc PKPbc 07 18 58.8 -0.7
comp=Z,7.5nm,0.9s,baz=187,slow=1.9,SNR=10
NV11 Mina Array Sit 151.19 95 *e*PKPbc PKPbc 07 19 00.2 +0.6
LDFC Landfair 151.32 104 *e*PKPdf PKPdf 07 18 55.7 +1.8
LDFC *e*PKPbc PKiKP 07 19 00.8 +0.4
MOD Modoc 151.41 87 *e*PKPbc PKPbc 07 18 59.9 -0.1
KULLO Kullorsuaq 151.45 347 *i* PKIKP PKPbc 07 18 56.8 -2.0
KULLO pmax pmax
comp=Z,27nm,0.9s
KULLO MLR MLR
comp=Z,3µm,19.0s
KULLO Kullorsuaq 151.45 347 *i* P PKPbc 07 18 56.8 -2.0
comp=Z,27nm,0.9s
comp=Z,3µm,19.0s
TPH Tonopah 151.63 97 *e*PKIKP PKPdf 07 18 56.7 +2.3
TPH *e* 07 19 01.7
TPH Tonopah 151.63 97 *e*PKPdf PKPdf 07 18 56.6 +2.3
TPH *e*PKPbc PKiKP 07 19 01.7 +0.6
TEIG Tepich 151.65 164 PKPbc PKPbc 07 19 00.2 -0.7
comp=Z,71nm,1.2s,baz=146,slow=2.5,SNR=5.9
TEIG Tepich 151.65 164 *e*PKPbc PKPbc 07 19 01.9 +1.0
TEIG LR LR
comp=Z,5µm,22.0s
GTBY Guantanamo Bay 151.72 191 PFAKE 07 19 10.0 +0.2
GTBY LR LR
comp=Z,3µm,20.0s
SHPR Sheep Range 152.13 101 *e*PKPdf PKPdf 07 18 57.2 +2.0
SHPR *e*PKPbc PKiKP 07 19 02.6 +0.4
W13A Hualapai Mount 152.13 105 P PKPdf 07 18 55.9 +0.6
baz=152
LON Longmire 152.21 77 *e*PKIKP PKPbc 07 19 02.6 +1.1
LON Longmire 152.21 77 *e*PKPbc PKPbc 07 19 02.6 +1.1
TUC Tucson 152.30 113 *e*PKIKP PKPdf 07 18 56.4 +1.0
TUC *e* 07 19 03.2
TUC MLR MLR
comp=Z,3µm,20.0s
TUC Tucson 152.30 113 *e*PKPdf PKPdf 07 18 56.4 +1.0
TUC *e*PKPbc PKiKP 07 19 03.2 +0.7
TUC LR LR
comp=Z,3µm,20.0s
RES Resolute Bay 152.45 8 *e*PKIKP PKPdf 07 18 54.9 +0.7
RES *e* 07 19 02.3
RES Resolute Bay 152.45 8 *e*PKPdf PKPdf 07 18 54.9 +0.7
RES *e*PKPbc PKiKP 07 19 02.3 +0.9
319A Douglas 152.56 117 P PKPdf 07 18 56.6 +0.7
baz=153
GRTK Grand Turk 152.58 199 PFAKE 07 19 10.0 -3.4
GRTK LR LR
comp=Z,4µm,19.0s
WVOR Wild Horse Val 152.76 87 *e*PKIKP PKPbc 07 19 02.5 -0.5
WVOR MLR MLR
comp=Z,4µm,20.0s
WVOR Wild Horse Val 152.76 87 *e*PKPbc PKPbc 07 19 02.5 -0.5
WVOR LR LR
comp=Z,4µm,20.0s
BMN Battle Mountai 152.81 92 *e*PKPbc PKPbc 07 19 04.6 +1.4
BMN *e*PKPab PKPab 07 19 15.1 +0.8
R11A Troy Canyon, C 152.86 98 *e*PKPdf PKPdf 07 18 56.8 +0.6
R11A *e*PKPbc PKiKP 07 19 04.9 +1.3
R11A Troy Canyon, C 152.86 98 P PKPdf 07 18 56.9 +0.6
baz=153
X16A Lo Mia Camp, P 153.28 109 P PKPdf 07 18 57.8 +0.9
baz=153
HAWA Hanford 153.60 79 *e*PKPbc PKPbc 07 19 03.4 -1.1
HAWA LR LR
comp=Z,5µm,20.0s
CCUT Cedar City 153.90 101 *e*PKPdf PKPdf 07 18 59.4 +1.6
CCUT *e*PKPbc PKiKP 07 19 06.4 +0.6
CCUT *e*PKPab PKPab 07 19 20.3 +1.3
U15A North Rim 153.96 104 P PKPdf 07 18 59.5 +1.5
baz=154
ARUT Antelope Range 153.99 101 *e*PKPbc PKPbc 07 19 07.8 +1.9
ARUT *e*PKPab PKPab 07 19 20.4 +1.1
WUAZ Wupatki 154.01 107 *e*PKPdf PKPdf 07 18 58.5 +0.6
WUAZ LR LR
comp=Z,5µm,19.0s
WUAZ Wupatki 154.01 107 P PKPdf 07 18 59.0 +1.1
baz=154
626A Big Bend Ranch 154.15 127 P PKPdf 07 18 58.7 +0.5
baz=154
TXAR Lajitas Array 154.23 128 PKP PKPdf 07 18 58.2 -0.2
comp=Z,2.0nm,1.0s,baz=242,slow=2.7,SNR=13
TXAR PKPbc PKPbc 07 19 06.5 0.0
comp=Z,3.2nm,0.9s,baz=197,slow=2.8,SNR=13
TXAR PKPab PKPab 07 19 18.5 -1.9
comp=Z,9.1nm,1.0s,baz=249,slow=3.5,SNR=14
121A Cookes Peak, D 154.28 117 *e*PKPdf PKPdf 07 18 59.8 +1.4
121A *e*PKPbc PKiKP 07 19 07.3 +0.6
121A Cookes Peak, D 154.28 117 P PKPdf 07 18 59.1 +0.7

baz=154
X18A Snowflake 154.29 111 P PKPdf 07 18 59.1 +0.8
baz=154
627A Terlingua Ranc 154.47 128 P PKPdf 07 18 59.1 +0.4
baz=154
526A Mary Lane Ranc 154.57 126 P PKPdf 07 18 59.1 +0.3
baz=155
BMO Blue Mountains 154.58 83 ePKIKP PKPdf 07 18 59.0 +0.7
BMO e 07 19 07.3
BMO MLR MLR
comp=Z,6µm,21.0s
BMO Blue Mountains 154.58 83 ePKPdf PKPdf 07 18 59.0 +0.7
BMO ePKPbc PKiKP 07 19 07.3 +0.4
BMO ePKPab PKPab 07 19 21.7 +0.1
BMO LR LR
comp=Z,6µm,21.0s
425A Indio Mountain 154.63 124 P PKPdf 07 18 59.0 +0.1
baz=155
628A Black Gap, Mar 154.76 129 P PKPdf 07 18 59.3 +0.3
baz=155
034A Hebbronville 154.77 139 P PKPdf 07 18 59.4 +0.4
baz=155
W18A Petrified Fore 154.80 110 ePKPdf PKPdf 07 19 00.4 +1.3
W18A Petrified Fore 154.80 110 P PKPdf 07 18 59.5 +0.4
baz=155
527A Woodward Ranch154.89 127 P PKPdf 07 18 59.3 0.0
baz=155
933A Laredo 154.98 137 P PKPdf 07 19 00.3 +1.0
baz=155
MFID Camas Ranch 155.04 87 ePKPdf PKPdf 07 19 01.0 +2.0
MFID ePKPbc PKPbc 07 19 09.5
MFID ePKPab PKPab 07 19 23.8 +0.2
426A McDonald Obser 155.07 125 P PKPdf 07 18 60.0 +0.3
baz=155
MNTX Cornudas Mount 155.09 122 ePKPdf PKPdf 07 18 59.6 +0.2
MNTX LR LR
comp=Z,3µm,20.0s
MVU Marysvale 155.19 101 ePKPdf PKPdf 07 19 02.5 +2.9
MVU ePKPbc PKPbc 07 19 10.5
832A Faith Ranch, C 155.23 135 P PKPdf 07 19 00.4 +0.8
baz=155
Z22A Elephant Butte 155.28 117 P PKPdf 07 19 00.6 +0.9
baz=155
934A Benavides 155.31 139 P PKPdf 07 19 00.6 +0.9
baz=155
528A Cox Ranch, San 155.35 128 P PKPdf 07 19 00.2 +0.3
baz=155
833A Chaparral WMA, 155.53 136 P PKPdf 07 19 01.0 +1.0
baz=156
427A Hayter Ranch, 155.56 126 P PKPdf 07 19 01.0 +0.9
baz=156
326A Caldwell Ranch 155.59 124 P PKPdf 07 19 01.1 +1.0
baz=156
732A Laxson Ranch, 155.60 135 P PKPdf 07 19 01.2 +1.1
baz=156
529A Stev Forest Ra 155.62 129 P PKPdf 07 19 01.2 +1.0
baz=156
DUG Dugway 155.66 97 ePKIKP PKPdf 07 19 02.2 +2.2
DUG e 07 19 28.1
DUG MLR MLR
comp=Z,4µm,19.0s
DUG Dugway 155.66 97 ePKPdf PKPdf 07 19 02.2 +2.2
DUG ePKPbc PKPbc 07 19 11.4
DUG ePKPab PKPab 07 19 28.1 +1.8
DUG LR LR
comp=Z,4µm,19.0s
DUG Dugway 155.66 97 P PKPdf 07 19 01.3 +1.3
baz=156
NEW Newport 155.68 75 PFAKE 07 19 10.0 +10
NEW LR LR
comp=Z,4µm,19.0s
NEW Newport 155.68 75 P PKPdf 07 19 00.6 +1.0
baz=156
225A Deer Hill, Car 155.71 122 P PKPdf 07 19 01.4 +1.0
baz=156
834A Tilden 155.75 138 P PKPdf 07 19 01.2 +0.8
baz=156
428A Kincaid Ranch, 155.85 127 P PKPdf 07 19 01.0 +0.5
baz=156
BGU Big Grassy Mou 155.86 95 ePKPdf PKPdf 07 19 02.3 +2.0
631A Perdido Creek 155.88 133 P PKPdf 07 19 01.0 +0.6
baz=156
LAZ Ladron 155.95 114 ePKPdf PKPdf 07 19 01.8 +1.2
HLID Hailey 156.05 88 ePKPdf PKPdf 07 19 01.5 +1.1
HLID LR LR
comp=Z,4µm,20.0s
HLID Hailey 156.05 88 P PKPdf 07 19 01.1 +0.6
baz=156
226B Tecolote Peak, 156.06 123 P PKPdf 07 19 00.9 +0.2
baz=156
YKA Yellowknife Ar 156.07 40 PKP PKPdf 07 18 60.0 +0.4
comp=Z,0.4nm,0.7s,baz=268,slow=0.8,SNR=9.5
YKA PKPbc PKPbc 07 19 09.7
comp=Z,2.0nm,0.7s,baz=288,slow=2.5,SNR=26
YKA PKPab PKPab 07 19 26.8 -0.4
comp=Z,2.7nm,0.8s,baz=294,slow=3.0,SNR=12
530A J-C Ranch, Com 156.09 130 P PKPdf 07 19 01.8 +1.0
baz=156
BNM Barren Site 156.09 116 ePKPdf PKPdf 07 19 02.9 +2.0
BNM ePKPab PKPab 07 19 29.4 +1.0
429A Davenport Ranc 156.18 129 P PKPdf 07 19 01.2 +0.2
baz=156
LPM Los Pinos Moun 156.20 115 ePKPab PKPab 07 19 30.4 +1.5
125A Gardner Draw, 156.21 121 P PKPdf 07 19 01.1 +0.2
baz=156
TMUT Trail Mountain 156.27 100 ePKPdf PKPdf 07 19 03.5 +2.4
TMUT ePKPab PKPab 07 19 30.2 +1.0
Z24A Sheeppen Canyo 156.28 119 P PKPdf 07 19 01.6 +0.5
baz=156
328A Wristen Ranch, 156.29 126 P PKPdf 07 19 01.2 +0.2
baz=156
Y23A Lovelace Mesa, 156.29 117 P PKPdf 07 19 01.7 +0.6
baz=156
632A Uvalde 156.34 134 P PKPdf 07 19 02.0 +0.9
baz=156
MPU Maple Canyon 156.35 98 ePKPdf PKPdf 07 19 02.5 +1.4
HVU Hansel Valley 156.42 93 ePKIKP PKPdf 07 19 03.3 +2.3
HVU Hansel Valley 156.42 93 ePKPdf PKPdf 07 19 03.3 +2.3
HVU ePKPab PKPab 07 19 30.2 +0.6
SPUT South Promonto 156.42 94 ePKPdf PKPdf 07 19 02.3 +1.3
SPUT ePKPab PKPab 07 19 30.8 +1.2
227A Bennet, Jal 156.50 124 P PKPdf 07 19 02.1 +0.8
baz=156
531A Rocksprings 156.51 132 P PKPdf 07 19 02.0 +0.7
baz=156
126A Clayton Basin, 156.56 122 P PKPdf 07 19 01.7 +0.3
baz=157
633A Saathoff Ranch 156.59 135 P PKPdf 07 19 02.0 +0.6
baz=157
CTU Camp Tracy 156.60 96 ePKPdf PKPdf 07 19 03.5 +2.2
CTU ePKPab PKPab 07 19 32.1 +1.7
Z25A Roswell 156.62 120 P PKPdf 07 19 01.8 +0.3
baz=157
SRU San Rafael 156.62 101 ePKIKP PKPdf 07 19 02.2 +0.8
SRU San Rafael 156.62 101 ePKPdf PKPdf 07 19 02.2 +0.8
SRU ePKPab PKPab 07 19 31.2 +0.6
X23A Hourglass Bar 156.65 115 P PKPdf 07 19 02.3 +0.7
baz=157
430A Baggett Ranch, 156.66 130 P PKPdf 07 19 01.8 +0.3
baz=157
Y24A Capitan 156.66 118 P PKPdf 07 19 02.1 +0.5
baz=157
735A Kenedy 156.71 139 P PKPdf 07 19 02.1 +0.6
baz=157
ANMO Albuquerque 156.74 114 PKIKP PKPdf 07 18 59.4 -2.2
ANMO e 07 19 03.1
ANMO MLR MLR
comp=Z,6µm,20.0s
ANMO Albuquerque 156.74 114 PKP PKPdf 07 18 59.4 -2.2
comp=Z,0.6nm,0.6s,baz=296,slow=2.9,SNR=3.2
ANMO PKPab PKPab 07 19 31.9 +0.8
comp=Z,12nm,0.9s,baz=225,slow=5.0,SNR=15
ANMO Albuquerque 156.74 114 PKP PKPdf 07 18 59.4 -2.2
ANMO ePKPdf PKPdf 07 19 03.1 +1.5
ANMO ePKPab PKPab 07 19 31.8 +0.6
ANMO PKPab PKPab 07 19 31.9 +0.7
ANMO LR LR
comp=Z,6µm,20.0s
329A Wagon Wheel Ra 156.81 127 P PKPdf 07 19 02.5 +0.8
baz=157
MVCO Mesa Verde 156.88 107 ePKPdf PKPdf 07 19 02.6 +0.7
MVCO LR LR
comp=Z,4µm,21.0s
MVCO Mesa Verde 156.88 107 P PKPdf 07 19 02.9 +1.0
baz=157
431A Sonora 156.89 131 P PKPdf 07 19 02.0 +0.2
baz=157
127A Arkansas Junct 156.96 123 P PKPdf 07 19 03.0 +1.0
baz=157
228A UT Block 9, Go 156.97 125 P PKPdf 07 19 02.6 +0.7
baz=157
TCUT Toone Canyon 157.03 96 ePKPdf PKPdf 07 19 03.7 +1.7
TCUT ePKPab PKPab 07 19 33.7 +1.3
Z26A Caprock 157.04 121 P PKPdf 07 19 02.5 +0.5
baz=157
V22A San Miguel Ran 157.09 112 P PKPdf 07 19 02.8 +0.6
baz=157
Y25A Mesa, Roswell 157.09 119 P PKPdf 07 19 02.8 +0.7
baz=157
JCT Junction City 157.13 133 ePKIKP PKPdf 07 19 01.4 -0.7
JCT MLR MLR
comp=Z,5µm,20.0s
JCT Junction City 157.13 133 ePKPdf PKPdf 07 19 01.4 -0.7
JCT LR LR
comp=Z,5µm,20.0s
JCT Junction City 157.13 133 P PKPdf 07 19 01.7 -0.4
baz=157
533A Kerrville 157.17 135 P PKPdf 07 19 02.5 +0.3
baz=157
330A Mertzon 157.18 129 P PKPdf 07 19 02.7 +0.6
baz=157
635A Leesville 157.18 138 P PKPdf 07 19 02.7 +0.6
baz=157
229A Bryant Ranch, 157.28 127 P PKPdf 07 19 03.4 +1.1
baz=157
PV04 Paradox Valley 157.30 104 ePKPdf PKPdf 07 19 03.3 +1.1
PV01 Paradox Valley 157.37 105 ePKPdf PKPdf 07 19 04.4 +2.0
128A Castleberry Fa 157.41 125 P PKPdf 07 19 02.9 +0.5
baz=157
U22A Llaves 157.41 111 P PKPdf 07 19 03.1 +0.5
baz=157
JTMT Jette 157.42 78 ePKPdf PKPdf 07 19 02.8 +0.8
MSO Missoula 157.42 80 P PKPdf 07 19 02.9 +0.8
baz=157
V23A Ortiz Mt. (NFS 157.43 113 P PKPdf 07 19 03.1 +0.5
baz=157
432A Menard 157.46 132 P PKPdf 07 19 03.0 +0.5
baz=157
331A San Angelo 157.49 130 P PKPdf 07 19 03.0 +0.5
baz=158
Z27A Tatum 157.51 122 P PKPdf 07 19 02.8 +0.2
baz=158
SWMT Swartz Lake 157.55 79 ePKPdf PKPdf 07 19 02.5 +0.3
MCMT McKenzie Canyo 157.55 86 ePKPdf PKPdf 07 19 03.7 +1.3
MCMT ePKPab PKPab 07 19 36.1 +1.6
W24A Lazy 6 Ranch, 157.55 115 P PKPdf 07 19 02.8 0.0
baz=158
636A Smothers Creek 157.58 139 P PKPdf 07 19 02.8 +0.1
baz=158
230A Sterling City 157.59 128 P PKPdf 07 19 02.8 +0.1
baz=158
433A Art 157.71 134 P PKPdf 07 19 02.9 +0.1
baz=158
129A Stewart Farms, 157.76 126 P PKPdf 07 19 02.9 0.0
baz=158
U23A El Rito 157.80 112 P PKPdf 07 19 04.1 +1.1
baz=158
535A Dale 157.82 138 P PKPdf 07 19 04.6 +1.7
baz=158
SLMT Seeley Lake 157.82 79 ePKPdf PKPdf 07 19 02.8 +0.2
332A Millersview 157.90 131 P PKPdf 07 19 03.6 +0.6
baz=158
CHMT Chamberlain Mo 157.90 80 ePKPdf PKPdf 07 19 01.3 -1.4
CHMT ePKPab PKPab 07 19 35.8 -0.1
WALA Waterton Lakes 157.92 75 ePKPdf PKPdf 07 19 03.0 +0.4
WALA ePKPab PKPab 07 19 36.1 +0.2
Y27A Causey 157.96 121 P PKPdf 07 19 03.6 +0.5
baz=158
AHID Auburn Hatcher 157.96 92 ePKPdf PKPdf 07 19 03.6 +0.7
AHID LR LR
comp=Z,5µm,19.0s
Z28A Tucker Farm, M 157.96 124 P PKPdf 07 19 03.6 +0.5
baz=158
V24A Rampart Ranch, 157.98 115 P PKPdf 07 19 03.4 +0.1
baz=158
231A Bronte 158.04 130 P PKPdf 07 19 03.2 0.0
baz=158
X26A CR and CF Fran 158.06 119 P PKPdf 07 19 03.7 +0.5
baz=158
W25A X Bar L Ranch, 158.13 117 P PKPdf 07 19 03.6 +0.2
baz=158
LRM Limekiln Ridge 158.13 84 ePKPdf PKPdf 07 19 04.8 +1.7
LRM ePKPab PKPab 07 19 38.1 +1.1
434A Burnet 158.15 135 P PKPdf 07 19 03.6 +0.3
baz=158
130A Snyder 158.22 127 P PKPdf 07 19 03.6 +0.2
baz=158
MSTX Muleshoe 158.24 122 ePKPdf PKPdf 07 19 04.0 +0.5
MSTX ePKPab PKPab 07 19 38.6 +1.0
MSTX Muleshoe 158.24 122 P PKPdf 07 19 03.6 +0.1
baz=158
S22A 4UR Ranch, Cre 158.26 108 P PKPdf 07 19 04.4 +0.7
baz=158
Z29A Hungry Hill Ra 158.32 125 P PKPdf 07 19 03.9 +0.4
baz=158
T23A Casias Ranch, 158.34 111 P PKPdf 07 19 04.0 +0.3
baz=158
232A Coleman 158.35 131 P PKPdf 07 19 04.3 +0.8
baz=158
V25A Rancho No Teng 158.45 115 P PKPdf 07 19 03.9 +0.1
baz=158
W26A Owens Ranch, T 158.46 118 P PKPdf 07 19 03.9 +0.2
baz=158
Y28A McKinney Farm, 158.50 123 P PKPdf 07 19 04.0 +0.3
baz=158
X27A F and S Farms, 158.54 120 P PKPdf 07 19 04.7 +0.9
baz=158
131A Roby 158.58 128 P PKPdf 07 19 04.0 +0.2
baz=159
334A Lometa 158.60 134 P PKPdf 07 19 04.0 +0.2
baz=159
EDM Edmonton 158.60 63 ePKIKP PKPdf 07 19 03.2 0.0
EDM e 07 19 39.5
EDM Edmonton 158.60 63 ePKPdf PKPdf 07 19 03.2 0.0
EDM ePKPab PKPab 07 19 39.5 +0.9
BOZ Bozeman (W) 158.63 85 ePKIKP PKPdf 07 19 05.3 +1.7
BOZ e 07 19 39.8
BOZ MLR MLR
comp=Z,6µm,20.0s
BOZ Bozeman (W) 158.63 85 ePKPdf PKPdf 07 19 05.3 +1.7
BOZ ePKPab PKPab 07 19 39.8 +0.8
BOZ LR LR
comp=Z,6µm,20.0s
Z30A Sanderson Ranc 158.66 126 P PKPdf 07 19 04.1 +0.2
baz=159
O20A White River Ci 158.66 101 ePKPdf PKPdf 07 19 05.2 +1.3
O20A White River Ci 158.66 101 P PKPdf 07 19 04.6 +0.7
baz=159
I17A Pilgrim Ck. 158.76 90 P PKPdf 07 19 05.7 +1.8
baz=159
T24B San Luis 158.76 112 P PKPdf 07 19 05.4 +1.2
baz=159
Y29A Porterfield Fa 158.79 124 P PKPdf 07 19 05.2 +1.1
baz=159
HRY Holter Researc 158.79 82 ePKPab PKPab 07 19 39.8 +0.1
W27A Bowe Ranch, En 158.85 119 P PKPdf 07 19 05.2 +1.0
baz=159
V26A Tequesquite Ra 158.92 117 P PKPdf 07 19 05.3 +1.0
baz=159
ABTX Abilene, Hawle 158.94 130 ePKPdf PKPdf 07 19 04.3 +0.1
ABTX Abilene, Hawle 158.94 130 P PKPdf 07 19 05.2 +0.9
baz=159
U25A Circle Dot Ran 158.95 114 P PKPdf 07 19 05.3 +1.0
baz=159
X28A Dimmitt 158.97 122 P PKPdf 07 19 05.6 +1.2
baz=159
N20A Spence Gulch, 159.00 99 P PKPdf 07 19 05.7 +1.4
baz=159
BW06 Boulder Array 159.00 93 PFAKE 07 19 20.0 +16
BW06 LR LR
comp=Z,4µm,19.0s
PDAR Pinedale Array 159.00 93 PKP PKPdf 07 19 04.2 0.0
comp=Z,4.7nm,1.2s,baz=209,slow=1.5,SNR=12
PDAR PKPab PKPab 07 19 39.6 -1.2
comp=Z,5.8nm,1.1s,baz=204,slow=1.5,SNR=7.4
SDCO Great Sand Dun 159.11 110 ePKPdf PKPdf 07 19 06.5 +1.9
SDCO LR LR
comp=Z,5µm,20.0s
R23A Moffat 159.17 109 P PKPdf 07 19 06.0 +1.4
baz=159
234A Clairette 159.20 134 P PKPdf 07 19 04.9 +0.3
baz=159
X29A Tulia 159.20 123 P PKPdf 07 19 05.6 +1.0
baz=159
Z31A Sharp Cattle R 159.21 127 P PKPdf 07 19 05.1 +0.6
baz=159
S24A Houchin Ranch, 159.23 111 P PKPdf 07 19 05.8 +1.0
baz=159
Y30A Stafford Cattl 159.23 125 P PKPdf 07 19 05.3 +0.7
baz=159
133A Hamilton Ranch 159.29 131 P PKPdf 07 19 06.2 +1.5
baz=159
U26A Atchley Ranch, 159.35 115 P PKPdf 07 19 05.1 +0.2
baz=159
P22A Eagle 159.35 104 P PKPdf 07 19 05.1 +0.3
baz=159
T25A Trinidad 159.42 113 P PKPdf 07 19 05.3 +0.4
baz=159
V27A Dan Oppiter Fa 159.47 118 P PKPdf 07 19 05.0 +0.1
baz=160
WHTX Lake Whitney 159.51 135 P PKPdf 07 19 05.2 +0.4
baz=160
AMTX Amarillo 159.53 122 P PKPdf 07 19 05.3 +0.3
baz=160
J19A Crowheart 159.54 93 P PKPdf 07 19 05.9 +1.1
baz=160
Z32A Haskell 159.56 129 P PKPdf 07 19 05.3 +0.4
baz=160
H18A Shoshone NF, C 159.64 88 P PKPdf 07 19 05.8 +0.8
baz=160
Y31A Rekieta Farm, 159.64 126 P PKPdf 07 19 05.6 +0.6
baz=160
R24A Sanders Place, 159.65 109 P PKPdf 07 19 06.0 +0.9
baz=160
X30A Coker Ranch, T 159.66 124 P PKPdf 07 19 05.8 +0.7
baz=160
134A White-Moore Ra 159.69 133 P PKPdf 07 19 05.8 +0.7
baz=160
S25A Robets Cordova 159.73 112 P PKPdf 07 19 06.2 +1.0
baz=160
O22A Kremmling 159.79 103 P PKPdf 07 19 06.2 +0.8
baz=160
Z33A Whitaker Ranch 159.91 130 P PKPdf 07 19 06.3 +1.0
baz=160
U27A Thompson Grove159.92 117 P PKPdf 07 19 05.8 +0.5
baz=160
RLMT Red Lodge 160.05 87 PFAKE 07 19 20.0 +15
RLMT LR LR
comp=Z,7µm,21.0s
R25A Fountain Ranch 160.12 111 P PKPdf 07 19 05.9 +0.4
baz=160
N22A Wattenberg Ran 160.18 101 P PKPdf 07 19 06.5 +0.8
baz=160
ISCO Idaho Springs 160.21 105 PFAKE 07 19 20.0 +14
ISCO LR LR
comp=Z,6µm,21.0s
ISCO Idaho Springs 160.21 105 P PKPdf 07 19 06.5 +0.7
baz=160
J20A Shoshoni 160.22 93 P PKPdf 07 19 06.0 +0.4
baz=160
O23A Lake Granby, G 160.23 104 P PKPdf 07 19 07.2 +1.3
baz=160
X31A McDonald Ranch 160.29 125 P PKPdf 07 19 06.0 +0.3
baz=160
S26A Kim 160.30 113 P PKPdf 07 19 06.9 +1.1
baz=160
BBSR BB Station 160.38 223 PFAKE 07 19 20.0 +14
BBSR LR LR
comp=Z,3µm,20.0s
T27A Campo 160.40 116 P PKPdf 07 19 06.7 +0.8
baz=160
Z34A Collier Ranch, 160.41 132 P PKPdf 07 19 06.5 +0.6
baz=160
I20A Worland 160.42 91 P PKPdf 07 19 06.5 +0.9
baz=160
EGMT Eagleton 160.46 79 PFAKE 07 19 20.0 +14
EGMT LR LR
comp=Z,6µm,22.0s
EGMT Eagleton 160.46 79 P PKPdf 07 19 06.7 +1.2
baz=160
F19A Roth Farm, Mol 160.49 86 P PKPdf 07 19 06.5 +0.8
baz=160
K21A Alcova 160.49 96 P PKPdf 07 19 06.7 +0.8
baz=160
X32A Elmer 160.51 127 P PKPdf 07 19 06.5 +0.5
baz=160
N23A Red Feather La 160.56 102 P PKPdf 07 19 06.7 +0.6
baz=161
NATX Nacogdoches 160.57 141 PFAKE 07 19 20.0 +14
NATX LR LR
comp=Z,6µm,22.0s
Q25A Bedland, Calha 160.59 109 P PKPdf 07 19 06.8 +0.7
baz=161
J21A Lysite 160.65 94 P PKPdf 07 19 07.0 +1.0
baz=161
H20A Greybull 160.69 90 P PKPdf 07 19 06.8 +0.9
baz=161
O24A Longmont 160.73 105 P PKPdf 07 19 06.8 +0.6
baz=161
R26A Arlington 160.74 112 P PKPdf 07 19 06.9 +0.7
baz=161
E19A Rath Farm, Rou 160.76 84 P PKPdf 07 19 06.7 +0.8
baz=161
L22A Ellis Ranch, M 160.77 98 P PKPdf 07 19 07.2 +0.9
baz=161
G20A Bridger 160.79 88 P PKPdf 07 19 07.1 +1.0
baz=161
T28A Walsh 160.81 116 P PKPdf 07 19 07.0 +0.6
baz=161
D19A Cripps Ranch, 160.86 82 P PKPdf 07 19 07.1 +1.1
baz=161
C19A Slack Wire Ran 160.87 80 P PKPdf 07 19 06.9 +0.9
baz=161
I21A Big Trails, Te 160.93 93 P PKPdf 07 19 07.2 +0.9
baz=161
Y34A Reagan Ranch, 160.95 131 P PKPdf 07 19 07.1 +0.7
baz=161
K22A Casper 160.98 96 ePKPdf PKPdf 07 19 07.8 +1.4
K22A ePKPab PKPab 07 19 50.0 +0.6
K22A Casper 160.98 96 P PKPdf 07 19 06.2 -0.2
baz=161
X33A Lawton 161.02 128 P PKPdf 07 19 06.6 +0.1
baz=161
W32A Sentinel 161.06 126 P PKPdf 07 19 07.2 +0.7
baz=161
B19A Brinkman Farms 161.06 78 P PKPdf 07 19 07.2 +1.1
baz=161
R27A Eads 161.13 113 P PKPdf 07 19 07.7 +1.0
baz=161
E20A Meyer Farm, Mu 161.21 84 P PKPdf 07 19 07.5 +1.1
baz=161
A19A Klindworth Far 161.26 76 P PKPdf 07 19 07.0 +0.6
baz=161
L23A Garrett 161.29 99 P PKPdf 07 19 07.2 +0.4
baz=161
J22A Midwest 161.32 94 P PKPdf 07 19 06.8 +0.1
baz=161
T29A Hugoton 161.32 118 P PKPdf 07 19 07.6 +0.8
baz=161
D20A Manuel Ranch, 161.34 82 P PKPdf 07 19 07.8 +1.3
baz=161
X34A Smith Ranch, M 161.42 129 P PKPdf 07 19 07.8 +0.9
baz=161
I22A 9 Mile Ranch, 161.50 93 P PKPdf 07 19 07.0 +0.1
baz=162
W33A Caddo, Fort Co 161.50 127 P PKPdf 07 19 07.9 +0.9
baz=162
P26A Davis Ranch, A 161.54 109 P PKPdf 07 19 07.7 +0.7
baz=162
C20A Veseth Ranch, 161.56 80 P PKPdf 07 19 07.7 +1.0
baz=162
M24A Cheyenne 161.57 102 P PKPdf 07 19 07.1 0.0
baz=162
B20A Solberg Farm, 161.67 78 P PKPdf 07 19 07.5 +0.8
baz=162
R28A Tribune 161.78 114 P PKPdf 07 19 07.9 +0.6
baz=162
A20A Cobblestone Ra 161.79 77 P PKPdf 07 19 07.9 +1.0
baz=162
H22A Clearmont 161.84 91 P PKPdf 07 19 07.9 +0.8
baz=162
D21A La Casta Ranch 162.10 83 P PKPdf 07 19 08.3 +1.1
baz=162
V33A Lossen Ranch, 162.10 126 P PKPdf 07 19 08.3 +0.7
baz=162
U32A Winter Ranch, 162.12 123 P PKPdf 07 19 08.5 +0.9
baz=162
S30A Montezuma 162.14 118 P PKPdf 07 19 08.5 +0.9
baz=162
C21A Desert Coulee 162.18 80 P PKPdf 07 19 08.5 +1.2
baz=162

Q28A Sharon Springs 162.20 112 P PKPdf 07 19 08.7 +1.0
baz=162
T31A Randall Ranch, 162.24 121 P PKPdf 07 19 08.0 +0.3
baz=162
F22A Rosebud 162.27 87 P PKPdf 07 19 08.8 +1.3
baz=162
B21A Ellsworth Farm 162.33 79 P PKPdf 07 19 08.6 +1.2
baz=162
LAO LASA Array 162.53 85 ePKPdf PKPdf 07 19 08.6 +0.9
LAO ePKPab PKPab 07 19 57.4 +1.4
LAO LR LR
comp=Z,5μm,21.0s
V34A Guthrie 162.53 128 P PKPdf 07 19 08.5 +0.5
baz=162
P28A Saint Francis 162.55 111 P PKPdf 07 19 09.1 +1.1
baz=163
U33A Lingo Farm, Me 162.65 125 P PKPdf 07 19 08.9 +0.8
baz=163
E22A Miles City 162.65 85 P PKPdf 07 19 08.8 +0.9
baz=163
D22A Cohagen 162.66 83 P PKPdf 07 19 08.8 +1.0
baz=163
R30A Dighton 162.67 117 P PKPdf 07 19 08.8 +0.7
baz=163
G23A Biddle 162.68 90 P PKPdf 07 19 08.8 +0.9
baz=163
K25A Mack Ranch, Ha 162.73 99 P PKPdf 07 19 09.2 +1.1
baz=163
F23A Volborg 162.82 88 P PKPdf 07 19 09.2 +1.1
baz=163
O28A Krutsinger Ran 162.86 109 P PKPdf 07 19 08.7 +0.4
baz=163
C22A Vida 162.97 81 P PKPdf 07 19 09.1 +1.0
baz=163
L26A Underwood Farm 162.99 102 P PKPdf 07 19 09.0 +0.6
baz=163
T33A Patterson Ranc 163.04 123 P PKPdf 07 19 09.0 +0.6
baz=163
P29A Atwood 163.08 112 P PKPdf 07 19 09.1 +0.6
baz=163
H24A Dirks Ranch, A 163.10 92 P PKPdf 07 19 08.3 -0.1
baz=163
J25A Sunshine Ranch 163.10 97 P PKPdf 07 19 09.0 +0.5
baz=163
A22A Carney Farms, 163.12 77 P PKPdf 07 19 09.0 +0.8
baz=163
R31A Burdett 163.12 118 P PKPdf 07 19 09.5 +0.9
baz=163
OGNE Ogallala 163.13 107 PFAKE 07 19 20.0 +11
OGNE LR LR
comp=Z,6μm,19.0s
Q30A Quinter 163.15 115 P PKPdf 07 19 08.9 +0.3
baz=163
RSSD Black Hills 163.23 94 ePKIKP PKPdf 07 19 09.5 +0.8
RSSD e 07 19 59.6
RSSD Black Hills 163.23 94 ePKPdf PKPdf 07 19 09.5 +0.8
RSSD ePKPab PKPab 07 19 59.6 +0.3
K26A Motz Farm, Whi 163.23 100 P PKPdf 07 19 09.7 +1.1
baz=163
D23A Lindsay 163.31 83 P PKPdf 07 19 09.5 +1.1
baz=163
N28A Pribbeno Ranch 163.31 108 P PKPdf 07 19 09.3 +0.6
baz=163
G24A Alzada 163.38 90 P PKPdf 07 19 09.5 +0.9
baz=163
I25A Rochford 163.39 95 P PKPdf 07 19 09.3 +0.5
baz=163
MIAR Mount Ida 163.43 139 PFAKE 07 19 20.0 +11
MIAR LR LR
comp=Z,7μm,21.0s
C23A Lambert 163.44 81 P PKPdf 07 19 08.8 +0.3
baz=163
P30A Selden 163.47 113 P PKPdf 07 19 09.2 +0.4
baz=164
TUL1 Tulsa 163.48 131 ePKPdf PKPdf 07 19 09.0 +0.1
TUL1 Tulsa 163.48 131 P PKPdf 07 19 09.2 +0.3
baz=164
J26A Sides Ranch, S 163.56 98 P PKPdf 07 19 09.8 +0.9
baz=164
B23A Brockton 163.67 79 P PKPdf 07 19 10.0 +1.3
baz=164
R32A Long Quarter, 163.69 119 P PKPdf 07 19 09.7 +0.6
baz=164
A23A Redstone 163.80 77 P PKPdf 07 19 09.9 +1.1
baz=164
K27A Flueckinger Fa 163.85 101 P PKPdf 07 19 09.2 +0.1
baz=164
D24A Glendive 163.89 84 P PKPdf 07 19 09.4 +0.4
baz=164
O30A MW Ranch, Wils 163.97 112 P PKPdf 07 19 10.3 +1.0
baz=164
I26A New Underwood 163.98 96 P PKPdf 07 19 09.2 0.0
baz=164
P31A Stockton 164.00 115 P PKPdf 07 19 09.2 -0.1
baz=164
Q32A Meitler Ranch, 164.16 118 P PKPdf 07 19 10.7 +1.2
baz=164
DGMT Dagmar 164.19 79 PFAKE 07 19 20.0 +11
DGMT LR LR
comp=Z,5μm,22.0s
DGMT Dagmar 164.19 79 P PKPdf 07 19 10.4 +1.2
baz=164
J27A Elkhorn Farm, 164.24 99 P PKPdf 07 19 10.7 +1.2
baz=164
H26A Fairpoint 164.25 94 P PKPdf 07 19 10.3 +0.9
baz=164
A24A Westby 164.37 78 P PKPdf 07 19 10.3 +1.0
baz=164
E25A Miller Ranch, 164.37 87 P PKPdf 07 19 10.4 +1.0
baz=164
O31A Woolen Ranch, 164.41 113 P PKPdf 07 19 10.3 +0.7
baz=164
P32A Huiting Farm, 164.53 116 P PKPdf 07 19 10.3 +0.5
baz=164
I27A Quinn 164.54 96 P PKPdf 07 19 10.3 +0.6
baz=164
D25A Fairfield 164.57 84 P PKPdf 07 19 10.1 +0.5
baz=165
G26A Maurine 164.59 92 P PKPdf 07 19 10.4 +0.7
baz=165
Q33A Connelly Farm, 164.59 119 P PKPdf 07 19 10.4 +0.5
baz=165
F26A Lodgepole 164.70 90 P PKPdf 07 19 10.6 +0.8
baz=165
C25A Freed Ranch, W 164.71 82 P PKPdf 07 19 10.7 +1.0
baz=165
H27A Howes 164.72 94 P PKPdf 07 19 10.2 +0.4
baz=165
J28A Allard Ranch, 164.83 100 P PKPdf 07 19 10.8 +0.9
baz=165
FFC Flin Flon 164.98 55 PFAKE 07 19 20.0 +10
FFC LR LR
comp=Z,5μm,22.0s
E26A Carlson Angus 165.00 87 P PKPdf 07 19 11.2 +1.2
baz=165
G27A Dupree 165.06 92 P PKPdf 07 19 10.8 +0.7
baz=165
I28A Midland 165.10 98 P PKPdf 07 19 10.2 +0.1
baz=165
O32A Brockman Farm, 165.12 114 P PKPdf 07 19 10.4 +0.1
baz=165
F27A Lemmon 165.14 90 P PKPdf 07 19 10.6 +0.5
baz=165
NHSC New Hope 165.19 181 PFAKE 07 19 20.0 +10
NHSC LR LR
comp=Z,6μm,21.0s
M31A Lambtecht Ranc 165.30 110 P PKPdf 07 19 10.9 +0.5
baz=165
GOGA Godfrey 165.32 170 PFAKE 07 19 20.0 +9.4
GOGA LR LR
comp=Z,5μm,22.0s
KSU1 Kansas State U 165.37 121 PFAKE 07 19 20.0 +10
KSU1 LR LR
comp=Z,6μm,19.0s
J29A Okreek 165.42 101 P PKPdf 07 19 10.6 +0.2
baz=165
H28A Mission Ridge 165.44 95 P PKPdf 07 19 10.5 +0.1
baz=165
C26A Wahner Farm, P 165.50 82 P PKPdf 07 19 11.0 +0.7
baz=166
E27A Carson 165.59 88 P PKPdf 07 19 11.1 +0.6
baz=166
G28A Parade 165.65 94 P PKPdf 07 19 11.0 +0.5
baz=166
A26A Wade Farm, Ken 165.66 78 P PKPdf 07 19 11.1 +0.6
baz=166
I29A Vivian Onida 165.68 99 P PKPdf 07 19 11.1 +0.5
baz=166
L31A Butterfield Fa 165.82 107 P PKPdf 07 19 11.5 +0.7
baz=166
BGNE Belgrade 165.85 111 ePKPdf PKPdf 07 19 10.7 -0.2
BGNE ePKPab PKPab 07 20 10.9 +0.3
BGNE Belgrade 165.85 111 P PKPdf 07 19 11.6 +0.7
baz=166
C27A Sayler Ranch, 165.88 83 P PKPdf 07 19 11.1 +0.5
baz=166
J30A Dallas 165.94 102 P PKPdf 07 19 11.2 +0.3
baz=166
F28A McLaughlin 165.96 91 P PKPdf 07 19 11.2 +0.4
baz=166
H29A Onida 165.97 96 P PKPdf 07 19 11.7 +0.9
baz=166
A27A Ledoux Ranch, 166.19 78 P PKPdf 07 19 11.6 +0.8
baz=166
E28A Huff 166.21 88 P PKPdf 07 19 11.6 +0.7
baz=166
G29A Hoven 166.35 94 P PKPdf 07 19 11.4 +0.3
baz=166
F29A Eureka 166.61 92 P PKPdf 07 19 12.3 +1.0
baz=167
C28A Hausauer Farms 166.63 84 P PKPdf 07 19 12.1 +0.9
baz=167
B28A Dugan Ranch, T 166.73 80 P PKPdf 07 19 12.4 +1.1
baz=167
A28A Rude Farm, Bot 166.83 78 P PKPdf 07 19 11.6 +0.3
baz=167
G30A Faulkton 166.85 95 P PKPdf 07 19 11.7 +0.2
baz=167
E29A Napoleon 166.91 89 P PKPdf 07 19 11.9 +0.4
baz=167
D29A Pettibone, Tap 167.05 87 P PKPdf 07 19 12.2 +0.6
baz=167
F30A Leola 167.15 93 P PKPdf 07 19 12.2 +0.6
baz=167
CNNC Cliffs of the 167.17 190 PFAKE 07 19 20.0 +8.0
CNNC LR LR
comp=Z,6μm,21.0s
E30A Jud 167.39 90 P PKPdf 07 19 12.2 +0.3
baz=167
B29A Wagenman Farm, 167.40 81 P PKPdf 07 19 11.9 +0.2
baz=167
A29A Manning Farm, 167.51 78 P PKPdf 07 19 12.3 +0.4
baz=168
D30A Buchanan 167.62 87 P PKPdf 07 19 12.0 0.0
baz=168
C30A Mose, Pekin 167.90 84 P PKPdf 07 19 12.2 0.0
baz=168
SIUC Southern Illin 167.95 145 ePKPdf PKPdf 07 19 13.6 +1.2
SIUC ePKPab PKPab 07 20 23.5 +3.7
ECSD EROS Data Cent 168.00 105 ePKPdf PKPdf 07 19 12.0 -0.3
ECSD ePKPab PKPab 07 20 19.6 -0.5
ECSD LR LR
comp=Z,7μm,21.0s
ECSD EROS Data Cent 168.00 105 P PKPdf 07 19 12.4 0.0
baz=168
B30A Myrvik Farm, E 168.08 81 P PKPdf 07 19 12.6 +0.3
baz=168
A30A Hoffart Farm, 168.12 79 P PKPdf 07 19 12.6 +0.3
baz=168
SCIA State Center 169.16 119 PFAKE 07 19 20.0 +6.9
SCIA LR LR
comp=Z,6μm,22.0s
BLA Blacksburg 169.28 180 PFAKE 07 19 20.0 +6.6
BLA LR LR
comp=Z,5μm,20.0s
WCI Wyandotte Cave 169.42 154 ePKIKP PKPdf 07 19 13.5 0.0
WCI Wyandotte Cave 169.42 154 ePKPdf PKPdf 07 19 13.5 0.0
ULM Lac du Bonnet 169.64 71 PKP PKPdf 07 19 11.8 -1.3
comp=Z,4.2nm,1.1s,baz=166,slow=2.2,SNR=4.3
AGMN Agassiz Nation 169.71 82 PFAKE 07 19 20.0 +6.7
AGMN LR LR
comp=Z,6μm,22.0s
AGMN Agassiz Nation 169.71 82 P PKPdf 07 19 13.7 +0.5
baz=170
CBN Corbin 170.01 194 PFAKE 07 19 30.0 +16
CBN LR LR
comp=Z,5μm,20.0s
JFWS Jewell Farm 171.50 123 PFAKE 07 19 30.0 +16
JFWS LR LR
comp=Z,7μm,20.0s
MCWV Mont Chateau 171.71 183 PFAKE 07 19 30.0 +15
MCWV LR LR
comp=Z,9μm,20.0s
PKME Peaks-Kenny Pk 171.84 255 PFAKE 07 19 30.0 +16
PKME LR LR
comp=Z,3μm,20.0s
ACSO Alum Creek Sta 172.09 166 PFAKE 07 19 30.0 +15
ACSO LR LR
comp=Z,4μm,22.0s
EYMN Ely 172.61 86 PFAKE 07 19 30.0 +15
EYMN LR LR
comp=Z,6μm,20.0s
LBNH Lisbon 172.99 241 PFAKE 07 19 30.0 +15
LBNH LR LR
comp=Z,5μm,20.0s
BINY Binghamton 173.44 211 PFAKE 07 19 30.0 +15
BINY LR LR
comp=Z,7μm,19.0s
AAM Ann Arbor 173.94 157 PFAKE 07 19 30.0 +15
AAM LR LR
comp=Z,5μm,21.0s
NCB Newcomb 174.10 230 PFAKE 07 19 30.0 +15
NCB LR LR
comp=Z,7μm,22.0s
ERPA Erie 174.17 184 PFAKE 07 19 30.0 +14
ERPA LR LR
comp=Z,7μm,21.0s
LONY Lake Ozonia 174.73 233 PFAKE 07 19 30.0 +14
LONY LR LR
comp=Z,5μm,21.0s

IDC 05 07:01:52.7±1.1, 12°.85N×87°.07W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.6/40, mbtmp3.8/5, ML2.5/2, Error ellipse: s-maj=72.5km s-min=13.2km az=54.0
ISCJB 05 07:01:53.0±0.8, 12°.9N±0°.2×87°.1W±0°.3, h13km, mb3.9/5, Error ellipse: s-maj=46.1km s-min=11.5km az=141.9
ISC 05 07:01:54.4±0.9, 12°.8N±0°.2×87°.2W±0°.3, h13km, n7, σ1§16/8, mb4.0/5, Near coast of Nicaragua

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JTS JuntasAbangare 3.30 138 Pn Pn 07 02 44.8 -1.0
0.6nm,0.3s,baz=336,slow=18,SNR=4.6
JTS Pg Pb 07 02 52.3 -0.6
1.4nm,0.3s,baz=308,slow=17,SNR=11
JTS Lg Lg 07 03 35.3
1.4nm,0.3s,baz=278,slow=19,SNR=2.8
APG El Apazote 3.88 305 Pn Pn 07 02 52.9 -1.2
0.3nm,0.3s,baz=27,slow=7.7,SNR=3.6
ATAH Atahualpa 21.62 156 P P 07 06 46.8 +1.8
9.0nm,0.7s,baz=53,slow=5.1,SNR=5.7
TXAR Lajitas Array 22.49 320 P P 07 06 54.2 +0.3
4.4nm,0.8s,baz=135,slow=10,SNR=28
PDAR Pinedale Array 35.61 331 P P 07 08 52.6 +0.5
0.4nm,0.6s,baz=131,slow=11,SNR=4.3
YKA Yellowknife Ar 53.37 345 P P 07 11 13.0 -0.4
0.3nm,0.7s,baz=133,slow=8.6,SNR=8.4
INK Inuvik 62.97 342 P P 07 12 21.1 +0.6
1.0nm,0.5s,baz=172,slow=7.9,SNR=4.2

IDC 05 07:12:15.6±1.9, 2°.29N×127°.71E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/29, mbtmp3.8/4, Error ellipse: s-maj=133.0km s-min=24.6km az=66.0, Northern Molucca Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.03 164 P P 07 17 23.6 +1.0
2.6nm,0.5s,baz=342,slow=10,SNR=30
ASAR Alice Springs 26.50 167 P P 07 17 55.1 +0.2
1.2nm,0.5s,baz=354,slow=7.7,SNR=21
STKA Stephens Creek 36.45 160 P P 07 19 20.7 -1.6
1.0nm,0.4s,baz=344,slow=7.5,SNR=7.5
MKAR Makanchi Array 59.29 325 P P 07 22 19.8 +0.5
0.3nm,0.8s,baz=120,slow=7.6,SNR=4.7

NNC 05 07:28:20.2±5.5, 55°.04N×88°.23E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=58.6km s-min=41.9km az=102.0
IDC 05 07:28:40.1±2.4, 54°.23N×85°.81E, h0km, mb1 2.9/2, mb1mx2.8/30, mbtmp2.9/2, ML3.0/2, Error ellipse: s-maj=17.5km s-min=9.4km az=55.0
ISC 05 07:28:28.3±6.0, 55°.2N±0°.3×87°.2E±0°.4, h35km, n7, σ0§06/6, 3C-3D, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.88 230 *i* 07 33 37.0
baz=61,slow=355,SNR=13
ZALV Zalesovo Beam 1.88 230 Pg Pn 07 28 51.8 -6.0
0.9nm,0.3s,baz=62,slow=17,SNR=5.9
ZALV Lg Lg 07 29 01.8
3.5nm,0.3s,baz=68,slow=29,SNR=19
KURK Kurchatov 6.87 233 ⇑Pn Pn 07 30 06.4 0.0
0.3nm,0.7s
KURK ⇓Lg Lg 07 32 15.6
2.8nm,1.0s
KURBB Kurchatov Arra 6.97 233 ⇓Pn Pn 07 30 07.7 0.0
1.3nm,0.5s
KURBB ⇓Lg Lg 07 32 17.4
6.0nm,0.9s
KURBB Kurchatov Arra 6.97 233 Pn Pn 07 30 07.8 0.0
0.4nm,0.3s,baz=50,slow=13,SNR=4.2
MK31 Makanchi Array 8.96 202 Pn Pn 07 30 35.2 +0.1
0.6nm,0.8s,baz=26,slow=13,SNR=14
MK31 ⇑Sn Sn 07 32 14.7 0.0
2.0nm,1.1s,baz=37,slow=24,SNR=5.7
MK31 ⇑Lg Lg 07 33 04.6
1.7nm,0.9s,baz=28,slow=28,SNR=3.6
MKAR Makanchi Array 8.96 202 Pn Pn 07 30 35.0 -0.1
0.2nm,0.3s,baz=16,slow=12,SNR=11

IDC 05 07:28:56.6±3.4, 53°.63N×87°.89E, h0km, mb1 2.9/2, mb1mx2.8/30, mbtmp2.9/2, ML2.9/2, Error ellipse: s-maj=35.6km s-min=18.2km az=87.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.85 281 *i* 07 41 12.0
baz=99,slow=348,SNR=2.2
ZALV Zalesovo Beam 1.85 281 Pn Pn 07 29 29.6 0.0
2.8nm,0.3s,baz=103,slow=16,SNR=8.1
ZALV Sn Sb 07 29 55.4 +0.4
4.0nm,0.3s,baz=97,slow=23,SNR=9.1
KURBB Kurchatov Arra 6.50 246 Pn Pn 07 30 33.3 -0.1
0.3nm,0.3s,baz=64,slow=15,SNR=4.9
KURBB Lg Lg 07 32 22.4
0.2nm,0.3s,baz=62,slow=35,SNR=4.7
MKAR Makanchi Array 7.72 210 Pn Pn 07 30 51.8 +1.4
0.1nm,0.3s,baz=28,slow=13,SNR=5.2
MKAR Sn Sn 07 32 18.9 +0.5
0.1nm,0.3s,baz=32,slow=26,SNR=4.5
MKAR Lg Lg 07 33 00.8
0.0nm,0.3s,baz=39,slow=28,SNR=2.3

IDC 05 08:00:54.0±1.9, 4°.66N×126°.33E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/34, mbtmp3.7/4, Error ellipse: s-maj=150.9km s-min=24.4km az=64.0, Talaud Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 25.69 162 P P 08 06 25.3 -0.7
2.2nm,0.7s,baz=342,slow=10,SNR=16
ASAR Alice Springs 29.11 166 P P 08 06 56.5 -0.2
0.2nm,0.4s,baz=348,slow=7.2,SNR=3.9
STKA Stephens Creek 39.14 159 P P 08 08 24.1 +0.7
1.1nm,0.5s,baz=325,slow=12,SNR=2.8
MKAR Makanchi Array 56.57 325 P P 08 10 38.4 -0.1
0.2nm,0.3s,baz=117,slow=7.4,SNR=6.3

IDC 05 08:27:34.8±2.9, 53°.68N×87°.00E, h0km, mb1 2.6/2, mb1mx2.6/30, mbtmp2.6/2, ML2.6/2, Error ellipse: s-maj=28.4km s-min=16.0km az=66.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.32 283 *i* 08 35 30.0
baz=101,slow=357,SNR=4.1
ZALV Zalesovo Beam 1.32 283 Pg Pg 08 27 59.4 -0.7
0.9nm,0.3s,baz=104,slow=16,SNR=8.2
ZALV Lg Lg 08 28 16.8
0.9nm,0.3s,baz=100,slow=24,SNR=8.3
KURBB Kurchatov Arra 6.04 243 Pn Pn 08 29 06.6 +1.3
0.1nm,0.3s,baz=62,slow=14,SNR=1.9
KURBB Sn Sn 08 30 07.5 -7.7
0.2nm,0.3s,baz=66,slow=20,SNR=5.2
MKAR Makanchi Array 7.53 205 Pn Pn 08 29 26.7 +0.9
0.1nm,0.3s,baz=23,slow=17,SNR=6.8

IDC 05 08:32:21.2±7.1, 2°.89N×126°.85E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/38, mbtmp3.8/3, Error ellipse: s-maj=169.8km s-min=111.6km az=74.0, Northern Molucca Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.86 162 P P 08 37 36.7 +0.3
1.3nm,0.4s,baz=340,slow=10,SNR=25
ASAR Alice Springs 27.28 166 P P 08 38 07.8 +0.2
0.3nm,0.6s,baz=350,slow=7.7,SNR=6.1
STKA Stephens Creek 37.31 159 P P 08 39 34.5 -0.7
1.7nm,0.6s,baz=354,slow=9.2,SNR=4.0

IDC 05 08:39:36.3±2.6, 53°.54N×88°.05E, h0km, mb1 3.3/3, mb1mx3.1/31, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=23.5km s-min=15.1km az=74.0
NNC 05 08:39:39.1±2.5, 53°.54N×87°.63E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=19.0km s-min=17.6km az=27.0
ISC 05 08:39:39.6±3.9, 53°.7N±0°.1×88°.0E±0°.2, h35km, n8, σ1§43/13, 4C-4D, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.93 280 *i* 08 50 33.1
baz=100,slow=344,SNR=2.1
ZALV Zalesovo Beam 1.93 280 Pn Pn 08 40 08.9 -1.1
3.3nm,0.3s,baz=100,slow=17,SNR=39
ZALV Sn Sn 08 40 35.5 +2.6
8.6nm,0.3s,baz=105,slow=24,SNR=15
KURK Kurchatov 6.49 247 ⇓Pn Pn 08 41 12.9 +0.4
1.1nm,0.8s
KURK ⇑Lg Lg 08 42 59.2
5.7nm,0.9s
KURBB Kurchatov Arra 6.59 246 ⇑Pn Pn 08 41 12.3 -1.6
2.8nm,0.8s
KURBB ⇓Sn Sn 08 42 27.2 -0.6
4.2nm,0.6s
KURBB ⇑Lg Lg 08 42 59.8
14nm,0.9s
KURBB Kurchatov Arra 6.59 246 Pn Pn 08 41 13.4 -0.5
0.5nm,0.3s,baz=62,slow=14,SNR=5.6
KURBB Sn Sn 08 42 28.1 +0.4
0.4nm,0.3s,baz=65,slow=25,SNR=6.9
KURBB Lg Lg 08 43 02.7
0.2nm,0.3s,baz=64,slow=33,SNR=5.5
MK31 Makanchi Array 7.79 211 ⇓Pn Pn 08 41 31.2 +0.8
0.6nm,0.6s,baz=29,slow=13,SNR=23
MK31 ⇑Sn Sn 08 42 58.0 +0.8
1.9nm,0.8s,baz=39,slow=23,SNR=6.0
MK31 ⇓Lg Lg 08 43 40.3
2.4nm,0.8s,baz=32,slow=31,SNR=3.6
MKAR Makanchi Array 7.79 211 Pn Pn 08 41 30.4 0.0
0.2nm,0.3s,baz=28,slow=13,SNR=19
MKAR Sn Sn 08 42 58.8 +1.5
0.2nm,0.3s,baz=46,slow=19,SNR=8.0
MKAR Lg Lg 08 43 42.1
0.2nm,0.3s,baz=40,slow=32,SNR=6.5
BVAR Borovoye Array 10.57 274 Pn Pn 08 42 09.7 +1.2
0.2nm,0.3s,baz=81,slow=14,SNR=4.2
BVAR Sn Sn 08 44 03.5 -2.1
0.3nm,0.3s,baz=71,slow=24,SNR=4.5

IDC 05 08:48:59.3±1.7, 23°.62N×141°.96E, h117km±14km, mb3.7/11, mb1 3.8/14, mb1mx3.6/35, mbtmp4.1/14, Error ellipse: s-maj=27.1km s-min=12.2km az=97.0
ISCJB 05 08:49:03.7±0.9, 24°.03N±0°.06×141°.7E±0°.2, h151km, mb3.8/11, Error ellipse: s-maj=20.0km s-min=8.3km az=7.1
JMA 05 08:49:03.7±0.2, 24°.02N×141°.53E, h162km, M4.4

ISC 05 08:49:05.4±1.1,24°.06N±0°.10×141°.7E±0°.2,h151km,n22, σ1s25/28,mb3.8/11,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	2.60	10	P	Pn	08 49 47.6	-0.1
JHHJ				S	Sn	08 50 22.1	+1.6
JCJ	Chichijima	3.06	8	P	Pn	08 49 53.4	-0.1
	183nm,0.3s,baz=92,slow=23,SNR=120						
JCJ				S	Sn	08 50 31.6	+0.8
	149nm,0.3s,baz=292,slow=23,SNR=24						
CBIJ	Chichi jima	3.06	8	P	Pn	08 49 53.3	-0.2
CBIJ				S	Sn	08 50 31.5	+0.7
BSO1	Boso 1	10.57	357	P	Pn	08 51 31.4	-1.0
BSO1				eS	Sn	08 53 29.3	+0.2
BSO3	Boso 3	10.75	355	P	Pn	08 51 33.7	-1.3
BSO3				eS	Sn	08 53 31.2	-2.6
BSO4	Boso 4	10.96	354	P	Pn	08 51 37.1	-0.7
BSO4				eS	Sn	08 53 37.8	-1.1
JOD2	Odawara 2	11.39	349	P	Pn	08 51 42.6	-1.0
JRY	Ryogami san	12.16	349	P	Pn	08 51 52.3	-1.3
JHO	Hitachi	12.55	356	P	Pn	08 51 56.7	-1.9
MJAR	Matsushiro Arr	12.80	347	P	Pn	08 52 01.3	-0.6
	0.8nm,0.3s,baz=165,slow=11,SNR=6.2						
KSRS	Korea Array	17.81	322	P	Pn	08 53 04.7	+0.9
	baz=142,slow=12,SNR=2.8						
SEY	Seymchan	39.52	8	P	P	08 56 22.7	+1.6
	1.4nm,0.7s,baz=96,slow=23,SNR=7.0						
WRA	Warramunga Arr	44.32	190	P	P	08 56 55.1	-5.4
	2.8nm,0.4s,baz=10,slow=8.7,SNR=56						
WRA				ScP	ScP	09 02 17.1	-2.9
	0.5nm,1.0s,baz=7.4,slow=4.5,SNR=6.3						
ASAR	Alice Springs	48.04	190	P	P	08 57 23.6	-5.9
	0.8nm,0.6s,baz=17,slow=11,SNR=22						
ASAR				ScP	ScP	09 02 34.1	-1.3
	0.4nm,0.8s,baz=14,slow=4.1,SNR=4.3						
MKAR	Makanchi Array	52.10	311	P	P	08 58 01.6	+1.6
	0.3nm,0.5s,baz=84,slow=11,SNR=6.4						
MKAR				PcP	PcP	08 59 10.0	+0.2
	0.6nm,0.5s,baz=75,slow=12,SNR=8.9						
STKA	Stephens Creek	55.62	180	P	P	08 58 18.4	-7.2
	1.4nm,0.6s,baz=33,slow=3.1,SNR=3.3						
ILAR	Eielson Array	60.59	28	P	P	08 58 58.6	-1.1
	1.4nm,0.7s,baz=253,slow=5.5,SNR=14						
INK	Inuvik	65.97	24	P	P	08 59 35.2	+0.2
	3.7nm,0.5s,baz=212,slow=2.3,SNR=15						
YKA	Yellowknife Ar	75.02	28	P	P	09 00 29.6	-0.3
	2.6nm,0.4s,baz=293,slow=5.9,SNR=77						
ARCES	ARCESS Array B	76.25	341	P	P	09 00 37.5	+0.6
	1.9nm,0.9s,baz=79,slow=9.5,SNR=3.9						
FINES	FINESS Array B	80.46	334	P	P	09 01 00.0	-0.1
	1.2nm,0.6s,baz=90,slow=4.3,SNR=8.8						
AKASG	Malin Array Be	84.79	324	P	P	09 01 22.7	0.0
	0.2nm,0.4s,baz=53,slow=5.4,SNR=3.0						

MEX 05 08:53:58.1±0.6,17°.45N×100°.93W,h30km±21km,MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.99	34	iP	Pn	08 54 13.1	-3.0
ARIG				eS	Sn	08 54 26.1	-3.0
PLIG	Platanillo	1.65	55	eP	Pn	08 54 23.2	-2.0
PLIG				iS	Sn	08 54 42.8	-2.8
TLIG	Tlapa	2.26	87	eP	Pn	08 54 32.2	-1.4
TLIG				iS	Sn	08 54 57.5	-3.1
YAIG	Yautepec	2.26	51	eP	Pn	08 54 31.8	-1.9
YAIG				iS	Sn	08 54 57.6	-3.1

MAN 05 09:03:30,13°.24N×120°.33E,h43km,mb4.5,ML3.3,MS3.2, 1C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.49	351	eP	Pn	09 03 42.5	+1.7
LUBP				eS	Sn	09 03 51.4	+2.9
PGP	Puerto Galera	0.66	67	⇑iP	Pn	09 03 41.6	-1.4
SJMP	San Jose	1.09	135	eP	Pn	09 03 48.2	-0.7
SJMP				eS	Sn	09 04 04.4	+1.6
BUSP	Coron	1.24	186	eP	Pn	09 03 51.5	+0.6
LQP	Lukban	1.46	54	⇓eP	Pn	09 03 54.6	+0.4
BOAC	Boac	1.49	82	eP	Pn	09 03 55.4	+1.1
OTRP	Odiongan	1.87	118	eP	Pn	09 04 06.0	+6.5
ENPP	El Nido	2.21	204	eP	Pn	09 04 05.5	+1.2
CUYO	Cuyo Island	2.47	164	eP	Pn	09 04 06.3	-1.5

IDC 05 09:11:27.9±4.3,2°.07S×151°.43E,h0km,mb3.3/2, mb1 3.6/2,mb1mx3.3/2,mbtmp3.3/2,Error ellipse: s-maj=185.9km s-min=47.9km az=111.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.38	222	P	P	09 16 49.3	+1.2
	0.3nm,0.3s,baz=47,slow=9.4,SNR=7.9						
ASAR	Alice Springs	27.36	217	P	P	09 17 14.3	-0.8
	0.1nm,0.3s,baz=48,slow=8.3,SNR=3.7						
TORD	Torodi Ar. Bea	148.09	292	PKPbc	PKPbc	09 31 15.6	-1.1
	0.4nm,0.3s,baz=95,slow=2.5,SNR=9.3						

NNC 05 09:14:03.1±7.3,53°.88N×87°.26E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=62.6km s-min=52.7km az=54.0
IDC 05 09:14:05.9±2.4,54°.03N×86°.49E,h0km,mb1 3.1/2, mb1mx2.9/30,mbtmp3.1/2,ML3.2/2,Error ellipse: s-maj=20.9km s-min=11.4km az=64.0
ISC 05 09:14:09.1±5.6,54°.1N±0°.2×86°.6E±0°.3,h35km,n7,σ0s21/7, 4C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.08	263	i		09 20 07.0	
	baz=83,slow=351,SNR=1.9						
ZALV	Zalesovo Beam	1.08	263	Pg	Pn	09 14 23.0	-4.7
	1.3nm,0.3s,baz=83,slow=16,SNR=16						
ZALV				Lg	Lg	09 14 39.3	
	2.4nm,0.3s,baz=89,slow=30,SNR=8.4						
ZALV				Rg	Rg	09 14 44.4	
	2.4nm,0.3s,baz=85,slow=23,SNR=9.6						
KURK	Kurchatov	5.96	239	⇓Pn	Pn	09 15 34.6	-0.1
	1.3nm,1.2s						
KURK				⇑Lg	Lg	09 17 16.3	
	0.8nm,0.8s						
KURBB	Kurchatov Arra	6.06	238	⇓Pn	Pn	09 15 36.1	-0.1
	1.3nm,0.3s						
KURBB				⇑Lg	Lg	09 17 21.9	
	1.8nm,0.6s						
KURBB	Kurchatov Arra	6.06	238	Pn	Pn	09 15 36.3	+0.2
	0.5nm,0.3s,baz=56,slow=14,SNR=24						
MK31	Makanchi Array	7.82	202	⇑Pn	Pn	09 16 00.1	-0.2
	0.5nm,0.6s,baz=24,slow=13,SNR=34						
MK31				⇑Sn	Sn	09 17 27.6	+0.1
	0.2nm,0.5s,baz=26,slow=27						
MKAR	Makanchi Array	7.82	202	Pn	Pn	09 16 00.5	+0.2
	0.3nm,0.3s,baz=22,slow=13,SNR=27						
MKAR				Sn	Sn	09 17 27.4	-0.1
	0.1nm,0.3s,baz=22,slow=26,SNR=4.1						
MKAR				Lg	Lg	09 18 15.6	
	0.1nm,0.3s,baz=35,slow=35,SNR=3.0						

ISCJB 05 09:16:53.9±0.8,32°.97S±0°.04×70°.79W±0°.07,h84km±7km, Error ellipse: s-maj=10.5km s-min=6.1km az=9.9
NEIC 05 09:16:54.1,32°.96S×70°.78W,h80km,MD3.8(GUC),After GUC.
NEIC Felt [III] at Santiago and [II] at Los Andes.
GUC 05 09:16:54.1±0.3,32°.96S×70°.78W,h80km±1km,ML3.9
ISC 05 09:16:54.7±1.3,32°.96S±0°.04×70°.79W±0°.06,h78km±10km, n22,σ0s55/44,9C-9D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PEL	Peldehue	0.20	155	⇓iP	Pn	09 17 05.9	-0.6
PEL				iS	Sn	09 17 15.1	+0.1
JACH	Jahuel	0.32	30	⇑iP	Pn	09 17 06.9	-0.3
JACH				iS	Sn	09 17 16.7	+0.5
JACH	Jahuel	0.32	30	⇑iP	Pn	09 17 06.9	-0.3
JACH				iS	Sn	09 17 16.7	+0.5
CLCH	Cerro Calan	0.48	154	⇑iP	Pn	09 17 08.0	-0.3
CLCH				iS	Sn	09 17 18.4	+0.1
CLCH				AML	AML	09 17 19.2	
	comp=E,7μm,0.2s						
CLCH				AML	AML	09 17 19.9	
	comp=E,9μm,0.3s						
SAN	Santiago	0.50	168	⇓iP	Pn	09 17 08.0	-0.5
SAN				iS	Sn	09 17 18.5	0.0
SAN	Santiago	0.50	168	⇓iP	Pn	09 17 08.0	-0.5
SAN				iS	Sn	09 17 18.5	0.0
ANTU	Antumapu	0.62	168	⇑iP	Pn	09 17 09.1	-0.4
ANTU				iS	Sn	09 17 20.5	0.0
ANTU				AML	AML	09 17 20.8	
	comp=N,11μm,0.1s						
ANTU	Antumapu	0.62	168	⇑iP	Pn	09 17 09.1	-0.4
ANTU				iS	Sn	09 17 20.5	0.0
TACH	Talagante	0.70	190	⇑iP	Pn	09 17 10.0	-0.4
TACH				iS	Sn	09 17 22.1	+0.2
TACH	Talagante	0.70	190	⇑iP	Pn	09 17 10.0	-0.4
TACH				iS	Sn	09 17 22.1	+0.2
IHA	Instituto Hidr	0.72	265	⇓iP	Pn	09 17 09.9	-0.5
IHA				iS	Sn	09 17 22.1	-0.1
IHA	Instituto Hidr	0.72	265	⇓iP	Pn	09 17 09.9	-0.5
IHA				iS	Sn	09 17 22.1	-0.1
LCCH	Las Cruces	0.83	232	⇓iP	Pn	09 17 11.7	-0.1
LCCH				iS	Sn	09 17 24.9	+0.5
LCCH	Las Cruces	0.83	232	⇓iP	Pn	09 17 11.7	-0.1
LCCH				iS	Sn	09 17 24.9	+0.5
CHCH	Chadas Angostu	0.98	173	⇓iP	Pn	09 17 13.2	-0.3
CHCH				iS	Sn	09 17 27.6	+0.1
CHCH	Chadas Angostu	0.98	173	⇓iP	Pn	09 17 13.2	-0.3
CHCH				iS	Sn	09 17 27.6	+0.1
LNV	Longovilo	1.12	208	⇑iP	Pn	09 17 14.8	-0.4
LNV				iS	Sn	09 17 30.6	+0.2
LNV	Longovilo	1.12	208	⇑iP	Pn	09 17 14.8	-0.4
LNV				iS	Sn	09 17 30.6	+0.2
CMCH	Combarbala	1.79	354	eP	Pn	09 17 23.7	-0.2
CMCH				iS	Sn	09 17 46.3	+0.2
CMCH	Combarbala	1.79	354	eP	Pn	09 17 23.7	-0.2
CMCH				iS	Sn	09 17 46.3	+0.2
LCO	Las Campanas	3.94	1	ePn	Pn	09 17 53.6	+0.5
LCO				eSn	Sn	09 18 40.0	+1.7
LVC	Limon Verde	10.44	10	ePn	Pn	09 19 22.3	+0.4
LVC				eSn	Sn	09 21 15.1	-2.1

ISCJB 05 09:48:05.0±0.7,31°.7S±0°.1×58°.4E±0°.1,h10km,mb4.2/12, MS3.7/1,Error ellipse: s-maj=24.6km s-min=10.2km az=37.0
IDC 05 09:48:05.0±0.7,31°.67S×58°.41E,h0km,mb4.2/10, mb1 4.3/11,mb1mx4.0/37,mbtmp4.2/11,ML4.6/1,MS3.7/1, Ms1 3.7/1,ms1mx3.0/31,Error ellipse: s-maj=28.0km s-min=17.9km az=29.0
NEIC 05 09:48:05.8±0.5,31°.91S×58°.27E,h10km,mb4.4/4,Error ellipse: s-maj=18.5km s-min=9.9km az=218.0
ISC 05 09:48:06.7±0.7,31°.6S±0°.2×58°.3E±0°.1,h10km,n32, σ0s86/23,mb4.3/12,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABPO	Ambohimpanom	16.05	319	ePn	Pn	09 51 53.0	+0.3
	16nm,0.8s						
ABPO				eSn	Sn	09 54 48.7	-2.1
OPO	Ambohidratompo	16.43	320	Pn	P	09 52 00.0	-0.3
	2.2nm,0.3s,baz=119,slow=13,SNR=17						
OPO				Sn	Sn	09 54 49.3	-11
	0.8nm,0.3s,baz=209,slow=19,SNR=3.7						
H08S1	Diego Garcia H	27.26	32	T	T	10 22 02.0	
	baz=205,slow=76,SNR=23						
H08S2	Diego Garcia H	27.27	32	T	T	10 22 02.8	
	baz=205,slow=76,SNR=17						
H08S3	Diego Garcia H	27.28	32	T	T	10 22 05.4	
	baz=205,slow=76,SNR=29						
H08N3	Diego Garcia H	27.80	28	T	T	10 22 47.3	
	baz=203,slow=76,SNR=28						
H08N1	Diego Garcia H	27.81	28	T	T	10 22 47.9	
	baz=203,slow=76,SNR=11						
H08N2	Diego Garcia H	27.82	28	T	T	10 22 50.6	
	baz=203,slow=76,SNR=28						
KMBO	Kilima Mbogo	36.28	323	LR	LR	10 07 05.5	
	comp=Z,122nm,20.9s,baz=72,slow=31						
TSUM	Tsumeb	38.61	279	P	P	09 55 31.2	+0.8
	4.1nm,0.9s,baz=124,slow=11,SNR=7.1						
H01W2	Cape Leeuwin H	46.28	110	T	T	10 45 44.6	
	baz=257,slow=74,SNR=43						
H01W3	Cape Leeuwin H	46.28	110	T	T	10 45 45.0	
	baz=257,slow=74,SNR=37						
H01W1	Cape Leeuwin H	46.30	110	T	T	10 45 45.9	
	baz=257,slow=74,SNR=40						
QSPA	South Pole Qui	58.55	180	P	P	09 58 02.9	-0.3
	2.1nm,0.2s,baz=293,slow=2.4,SNR=6.5						
QSPA	South Pole Qui	58.55	180	eP	P	09 57 58.5	-4.7
	3.6nm,0.6s						
CMAR	Chiang Mai Arr	63.23	44	P	P	09 58 35.9	+0.5
	4.1nm,0.7s,baz=233,slow=7.3,SNR=11						
ASAR	Alice Springs	66.23	104	P	P	09 58 54.4	-0.8
	2.9nm,0.7s,baz=239,slow=6.0,SNR=25						
WRA	Warramunga Arr	68.23	101	P	P	09 59 07.2	-0.7
	3.2nm,0.7s,baz=243,slow=5.2,SNR=13						
WRAB	Tennant Creek	68.25	101	eP	P	09 59 07.5	-0.5
	3.1nm,0.7s						
STKA	Stephens Creek	68.95	115	P	P	09 59 11.9	-0.3
	2.4nm,0.7s,baz=255,slow=11,SNR=4.6						
STKA	Stephens Creek	68.95	115	eP	P	09 59 12.2	0.0
TORD	Torodi Ar. Bea	70.17	300	P	P	09 59 20.4	+0.6
	0.6nm,0.9s,baz=147,slow=8.1,SNR=2.5						
BRTR	Keskin Array B	74.59	340	P	P	09 59 45.6	-0.3
	0.7nm,0.7s,baz=148,slow=5.8,SNR=3.7						
ABKAR	Akbulak array	80.53	1	eP	P	10 00 19.0	+0.4
	1.5nm,0.7s						
MK31	Makanchi Array	80.99	16	eP	P	10 00 21.6	+0.4
MKAR	Makanchi Array	80.99	16	P	P	10 00 21.6	+0.4
	0.8nm,0.9s,baz=217,slow=5.9,SNR=3.9						
KURK	Kurchatov	83.92	13	eP	P	10 00 37.9	+1.5
AKASG	Malin Array Be	85.91	342	P	P	10 00 46.2	-0.1
	0.6nm,0.6s,baz=162,slow=4.6,SNR=3.2						
PAX	Paxson	145.16	19	ePKPbc	PKPdf	10 07 44.0	+0.2
YKA	Yellowknife Ar	148.78	354	PKPbc	PKPbc	10 07 53.0	-0.5
	1.6nm,0.8s,baz=358,slow=2.6,SNR=31						
ULM	Lac du Bonnet	153.26	322	PKPbc	PKPbc	10 08 04.2	-0.3
	2.0nm,0.6s,baz=48,slow=0.9,SNR=3.7						
GCMT	Greycliff	163.06	330	ePKPdf	PKPdf	10 08 07.6	-1.7
GCMT				ePKPab	PKPab	10 09 00.0	+1.0

BJI 05 09:48:44.0,45°.17S×167°.85E,h5km,mB5.4/2,mb5.0/6, Ms5.1/4,Ms7 4.8/6
IDC 05 09:48:45.2±0.6,44°.49S×167°.89E,h0km,mb4.3/7, mb1 4.4/8,mb1mx4.2/29,mbtmp4.3/8,ML5.3/1,MS4.2/6, Ms1 4.2/6,ms1mx3.8/18,Error ellipse: s-maj=25.4km s-min=19.1km az=48.0
ISCJB 05 09:48:46.3±0.3,44°.60S±0°.03×167°.52E±0°.04,h10km, mb4.6/14,MS4.4/9,Error ellipse: s-maj=4.3km s-min=3.3km az=136.7
WEL 05 09:48:46.7±0.3,44°.73S×167°.41E,h5km,ML5.0/43,Error ellipse: s-maj=2.4km s-min=2.0km az=90.0
WEL Felt from Otago to Southland, maximum reported intensity MM 5.
NEIC 05 09:48:46.8,44°.73S×167°.39E,h5km,mb4.6/6, ML5.1(WEL),After WEL.
NEIC Felt [IV] at Douglasvale, Queenstown and Te Anau. Felt in Otago and Southland as far as Bluff and Dunedin.
ISC 05 09:48:48.3±0.4,44°.78S±0°.03×167°.56E±0°.04,h10km,n195, σ1s51/200,mb4.7/14,MS4.3/9,4C-11D,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.29	68	⇓ePG	Pb	09 48 54.6	-0.9
MSZ				SG	Sg	09 48 58.6	+0.7
MSZ				AML	AML	09 48 59.3	
MSZ				AML	AML	09 48 59.3	
MSZ	Milford Sound	0.29	68	ePg	Pb	09 48 54.6	-0.9
MLZ	Mavora Lakes	0.71	143	⇓P*	Pb	09 49 02.7	-0.2
MLZ				AML	AML	09 49 17.8	
MLZ				AML	AML	09 49 20.1	
MLZ	Mavora Lakes	0.71	143	P*	Pb	09 49 02.7	-0.2
DCZ	Deep Cove	0.75	202	P*	Pg	09 49 01.3	-1.5
DCZ				S*	Sg	09 49 11.9	-0.7
DCZ				S*	Sg	09 49 12.3	-0.3
DCZ				AML	AML	09 49 13.1	
DCZ				AML	AML	09 49 13.2	
DCZ	Deep Cove	0.75	202	P*	Pg	09 49 01.3	-1.5
DCZ				ePn	Pb	09 49 01.5	-2.0
DCZ				S*	Sg	09 49 12.3	-0.3
WKZ	Wanaka	1.04	93	⇓eP*	Pn	09 49 08.6	-0.4
WKZ				AML	AML	09 49 30.6	
WKZ				AML	AML	09 49 30.6	
WKZ				AML	AML	09 49 31.8	
WKZ				AML	AML	09 49 31.8	
WKZ	Wanaka	1.04	93	eP*	Pn	09 49 08.6	-0.4
JCZ	Jackson Bay	1.11	51	P*	Pb	09 49 08.1	-1.6
JCZ				AML	AML	09 49 26.7	
JCZ				AML	AML	09 49 29.2	
WHZ	Wether Hill Ro	1.15	166	⇓P*	Pb	09 49 09.7	-0.5
WHZ				AML	AML	09 49 30.2	
WHZ				AML	AML	09 49 32.2	
WHZ	Wether Hill Ro	1.15	166	ePn	Pb	09 49 09.7	-0.5
EAZ	Earnscleugh	1.32	111	⇓PN	Pg	09 49 13.3	-0.4
EAZ				AML	AML	09 49 36.7	
EAZ				AML	AML	09 49 36.7	
EAZ				AML	AML	09 49 37.5	
EAZ				AML	AML	09 49 37.5	
EAZ	Earnscleugh	1.32	111	Pn	Pg	09 49 13.3	-0.4
TUZ	Tuapeka	1.88	129	PN	Pb	09 49 21.8	-0.8
TUZ				AML	AML	09 49 50.8	
TUZ				AML	AML	09 49 54.2	
TUZ	Tuapeka	1.88	129	Pn	Pb	09 49 21.7	-0.9
LBZ	Lake Benmore	1.92	79	⇓PN	Pb	09 49 22.1	-1.2
LBZ				AML	AML	09 49 52.5	
LBZ				AML	AML	09 49 52.5	
LBZ				AML	AML	09 49 53.4	
LBZ				AML	AML	09 49 53.4	
LBZ	Lake Benmore	1.92	79	Pn	Pn	09 49 21.9	+0.8
FOZ	Fox Glacier	1.96	52	PN	Pn	09 49 21.2	-0.2
FOZ				AML	AML	09 49 57.7	
FOZ				AML	AML	09 49 57.8	
FOZ				AML	AML	09 49 58.4	
FOZ				AML	AML	09 49 58.5	
FOZ	Fox Glacier	1.96	52	Pn	Pn	09 49 21.3	-0.2
APZ	The Paps	2.07	172	PN	Pn	09 49 23.4	+0.2
APZ				AML	AML	09 49 54.5	
APZ				AML	AML	09 49 57.1	
APZ	The Paps	2.07	172	Pn	Pn	09 49 24.0	+0.8
SYZ	Scrubby Hill	2.08	148	⇑PN	Pn	09 49 24.0	+0.8
SYZ				AML	AML	09 49 52.2	
SYZ				AML	AML	09 49 52.3	
SYZ				AML	AML	09 50 02.7	
SYZ				AML	AML	09 50 02.7	
SYZ	Scrubby Hill	2.08	148	Pn	Pn	09 49 24.0	+0.8
ODZ	Otahua Downs	2.21	98	⇓PN	Pn	09 49 25.8	+0.8
ODZ	Otahua Downs	2.21	98	ePn	Pn	09 49 25.9	+0.8
HHSZ	Highcliff Hill	2.41	118	PN	Pn	09 49 29.0	+1.2
RPZ	Rata Peaks	2.73	68	PN	Pn	09 49 31.9	-0.2
RPZ				AML	AML	09 50 21.2	
RPZ				AML	AML	09 50 24.9	
RPZ	Rata Peaks	2.73	68	ePn	Pn	09 49 32.5	+0.3
WVZ	Waitaha Valley	2.86	55	PN	Pn	09 49 32.0	-1.9
OXZ	Oxford	3.54	67	ePN	Pn	09 49 41.6	-1.7
MQZ	McQueen's Vall	3.81	75	PN	Pn	09 49 46.4	-0.7
MQZ	McQueen's Vall	3.81	75	Pn	Pn	09 49 46.7	-0.4
CRLZ	Canterbury Las	3.84	73	ePN	Pn	09 49 46.8	-0.5
CRLZ				AML	AML	09 51 02.1	
CRLZ				AML	AML	09 51 06.9	
CRLZ	Canterbury Las	3.84	73	Pn	Pn	09 49 47.1	-0.2
LTZ	Lake Taylor	3.95	61	PN	Pn	09 49 47.6	-1.4
LTZ				AML	AML	09 50 45.5	
LTZ				AML	AML	09 51 10.5	
LTZ	Lake Taylor	3.95	61	Pn	Pn	09 49 47.8	-1.2
THZ	Tophouse	4.93	54	PN	Pn	09 50 00.7	-1.8
THZ				AML	AML	09 51 09.5	
THZ				AML	AML	09 51 46.7	
THZ	Tophouse	4.93	54	Pn	Pn	09 50 01.5	-1.0
KHZ	Kahutara	4.95	64	ePN	Pn	09 50 01.5	-1.1
KHZ	Kahutara	4.95	64	ePn	Pn	09 50 03.4	+0.8
QRZ	Quartz Range	5.38	45	PN	Pn	09 50 06.7	-1.9
QRZ	Quartz Range	5.38	45	Pn	Pn	09 50 06.8	-1.8
BSWZ	Blackbirch Sta	5.54	59	ePN	Pn	09 50 10.9	+0.1
BSWZ				AML	AML	09 52 03.6	
BSWZ				AML	AML	09 52 20.0	
BSWZ	Blackbirch Sta	5.54	59	Pn	Pn	09 50 10.9	+0.1
NNZ	Nelson	5.56	52	ePN	Pn	09 50 09.8	-1.2
NNZ				AML	AML	09 51 17.4	
NNZ				AML	AML	09 51 22.1	
NNZ	Nelson	5.56	52	Pn	Pn	09 50 10.0	-1.0
CMWZ	Cape Campbell	5.73	60	ePN	Pn	09 50 15.1	+1.7
CMWZ				AML	AML	09 52 19.6	
CMWZ				AML	AML	09 52 32.4	
CMWZ	Cape Campbell	5.73	60	Pn	Pn	09 50 15.3	+1.9
TUWZ	Tuamarina	5.75	57	ePN	Pn	09 50 13.0	-0.6
TUWZ				AML	AML	09 51 22.5	
TUWZ				AML	AML	09 51 24.7	
TUWZ	Tuamarina	5.75	57	Pn	Pn	09 50 13.3	-0.3
TCW	Tory Channel	6.08	56	ePN	Pn	09 50 17.5	-0.7
TCW				AML	AML	09 51 29.3	
TCW				AML	AML	09 51 32.1	
TCW	Tory Channel	6.08	56	Pn	Pn	09 50 18.7	+0.5
DUWZ	D'Urville Isla	6.14	52	ePN	Pn	09 50 18.1	-1.0
DUWZ				AML	AML	09 51 36.0	
DUWZ				AML	AML	09 51 37.2	
DUWZ	D'Urville Isla	6.14	52	Pn	Pn	09 50 18.4	-0.7
SNZO	South Karori	6.28	59	ePN	Pn	09 50 19.0	-1.9
SNZO				AML	AML	09 52 43.4	
SNZO				AML	AML	09 52 50.6	
SNZO	South Karori	6.28	59	ePn	Pn	09 50 21.5	+0.6
BHW	Baring Head	6.33	60	ePN	Pn	09 50 20.4	-1.1
BHW				AML	AML	09 51 42.8	
BHW				AML	AML	09 51 53.8	
BHW	Baring Head	6.33	60	Pn	Pn	09 50 20.6	-0.9
PLWZ	Palliser	6.48	63	ePN	Pn	09 50 22.0	-1.7
PLWZ	Palliser	6.48	63	Pn	Pn	09 50 23.1	-0.6
MSWZ	Moikau Station	6.56	62	ePN	Pn	09 50 22.6	-2.2
MSWZ	Moikau Station	6.56	62	Pn	Pn	09 50 23.4	-1.4
CAW	Cannon Point	6.62	59	ePN	Pn	09 50 22.8	-2.9
CAW				AML	AML	09 51 50.3	
CAW				AML	AML	09 51 50.3	
CAW	Cannon Point	6.62	59	Pn	Pn	09 50 23.6	-2.1
KIW	Kapiti Island	6.67	57	ePN	Pn	09 50 24.7	-1.7
KIW				AML	AML	09 51 54.9	
KIW				AML	AML	09 52 12.2	
KIW	Kapiti Island	6.67	57	Pn	Pn	09 50 24.8	-1.6
OGWZ	Otaki Gorge	6.86	57	ePN	Pn	09 50 26.6	-2.2
OGWZ	Otaki Gorge	6.86	57	Pn	Pn	09 50 26.7	-2.1
MTW	Mount Morrison	6.86	61	ePN	Pn	09 50 26.7	-2.2
MTW				AML	AML	09 52 07.1	
MTW				AML	AML	09 52 09.4	
MTW	Mount Morrison	6.86	61	Pn	Pn	09 50 26.9	-2.0
NMEZ	Namu Road	7.13	43	ePN	Pn	09 50 31.1	-1.5
MRZ	Mangatainoka R	7.20	58	ePN	Pn	09 50 29.7	-3.8
MRZ				AML	AML	09 52 10.2	
MRZ				AML	AML	09 52 19.5	
MRZ	Mangatainoka R	7.20	58	Pn	Pn	09 50 30.6	-2.9
NWEZ	Newall Road	7.23	43	ePN	Pn	09 50 32.3	-1.7
NWEZ	Newall Road	7.23	43	Pn	Pn	09 50 32.4	-1.6
KHEZ	Kahui Hut	7.29	43	PN	Pn	09 50 33.3	-1.6
DFE	Dawson Falls	7.31	44	ePN	Pn	09 50 33.8	-1.4
DFE	Dawson Falls	7.31	44	Pn	Pn	09 50 33.9	-1.3
TIWZ	Tintock	7.32	60	ePN	Pn	09 50 32.3	-2.9
TIWZ				AML	AML	09 52 20.6	
TIWZ				AML	AML	09 52 22.9	
TIWZ	Tintock	7.32	60	Pn	Pn	09 50 32.5	-2.7
NEZ	North Egmont	7.35	44	ePN	Pn	09 50 34.1	-1.5
NEZ	North Egmont	7.35	44	Pn	Pn	09 50 34.3	-1.3
PKE	Pukeiti	7.35	43	ePN	Pn	09 50 34.1	-1.6
PKE				AML	AML	09 52 10.2	
PKE				AML	AML	09 52 13.2	
PKE	Pukeiti	7.35	43	Pn	Pn	09 50 34.2	-1.6
LREZ	Lake Rotokare	7.36	46	ePN	Pn	09 50 34.8	-1.0
WAZ	Wanganui	7.45	50	ePN	Pn	09 50 36.4	-0.7
WAZ				AML	AML	09 52 12.3	
WAZ				AML	AML	09 52 51.3	
WAZ	Wanganui	7.45	50	Pn	Pn	09 50 36.8	-0.2
DREZ	Durham Road	7.46	44	ePN	Pn	09 50 35.7	-1.4
DREZ	Durham Road	7.46	44	Pn	Pn	09 50 36.0	-1.1
RAEZ	Rainy Point	7.48	45	Pn	Pn	09 50 32.3	-5.1
BFZ	Birch Farm	7.59	60	ePN	Pn	09 50 35.7	-3.3
BFZ	Birch Farm	7.59	60	ePn	Pn	09 50 40.4	+1.4
MHEZ	Mangahewa	7.61	44	Pn	Pn	09 50 37.5	-1.7
VRZ	Vera Road	7.79	46	ePN	Pn	09 50 40.8	-0.8
VRZ				AML	AML	09 52 14.4	
VRZ				AML	AML	09 52 20.6	
VRZ	Vera Road	7.79	46	Pn	Pn	09 50 40.7	-0.9
PKVZ	Pokaka	7.98	49	Pn	Pn	09 50 40.6	-3.7
TRVZ	Turoa	8.08	50	ePN	Pn	09 50 45.2	-0.6
TRVZ				AML	AML	09 52 42.9	

TRVZ AML AML 09 53 10.1
TRVZ Turoa 8.08 50 Pn Pn 09 50 45.4 -0.5
WNVZ Wahianoa 8.09 50 AML AML 09 52 41.6
WNVZ AML AML 09 52 51.1
WNVZ Wahianoa 8.09 50 Pn Pn 09 50 44.9 -1.1
FWVZ Far West T-bar 8.12 50 ePN Pn 09 50 46.6 +0.3
FWVZ AML AML 09 52 27.8
FWVZ AML AML 09 52 37.7
WPVZ Whakapapa 8.15 50 ePN Pn 09 50 46.5 -0.2
WPVZ AML AML 09 51 34.5
WPVZ Whakapapa 8.15 50 Pn Pn 09 50 46.5 -0.2
TUVZ Tukino 8.16 50 ePN Pn 09 50 46.8 -0.1
TUVZ Tukino 8.16 50 Pn Pn 09 50 47.0 +0.1
NGZ Ngauruhoe 8.20 50 ePN Pn 09 50 46.9 -0.5
NGZ AML AML 09 52 49.0
NGZ AML AML 09 54 08.7
NGZ Ngauruhoe 8.20 50 Pn Pn 09 50 47.0 -0.4
WTVZ West Tongariro 8.23 49 ePN Pn 09 50 47.4 -0.5
WTVZ AML AML 09 52 42.3
WTVZ AML AML 09 53 01.6
WTVZ West Tongariro 8.23 49 Pn Pn 09 50 47.5 -0.4
BHHZ Black Hill Sta 8.24 53 Pn Pn 09 50 49.2 +1.3
KRVZ Karewarewa 8.28 49 ePN Pn 09 50 48.8 +0.3
KRVZ AML AML 09 52 39.9
KRVZ AML AML 09 52 41.5
KRVZ Karewarewa 8.28 49 Pn Pn 09 50 49.1 +0.7
HIZ Hauiti 8.31 44 PN Pn 09 50 46.9 -1.9
HIZ AML AML 09 52 50.6
HIZ AML AML 09 53 49.3
BKZ Black Stump Fm 8.70 53 AML AML 09 53 16.1
BKZ AML AML 09 54 01.1
BKZ Black Stump Fm 8.70 53 Pn Pn 09 50 54.0 -0.2
TLZ Tolley Road 8.79 46 ePN Pn 09 50 53.4 -2.0
TOZ Tahuroa Road 9.24 43 PN Pn 09 50 60.0 -1.5
TOZ Tahuroa Road 9.24 43 Pn Pn 09 51 00.2 -1.3
TARZ Mount Tarawera 9.37 49 Pn Pn 09 51 04.7 +1.3
KBAZ Karaka Road Bo 9.47 38 ePN Pn 09 51 03.5 -1.1
WTAZ Waiatarua 9.47 37 ePN Pn 09 51 03.5 -1.2
WTAZ Waiatarua 9.47 37 Pn Pn 09 51 03.6 -1.1
MKAZ Moumakai 9.58 40 ePN Pn 09 51 05.0 -1.1
MKAZ AML AML 09 54 46.5
MKAZ Moumakai 9.58 40 Pn Pn 09 51 05.1 -1.1
RVAZ Riverhead Bore 9.61 36 ePN Pn 09 51 04.8 -1.8
URZ Urewera 9.68 51 Pn Pn 09 51 01.9 -5.7
0.3nm,0.3s,baz=260,slow=11,SNR=2.3
URZ Sn Sn 09 52 47.6 -8.7
1.8nm,0.3s,baz=96,slow=18,SNR=4.4
URZ Urewera 9.68 51 ePn Pn 09 51 06.6 -0.9
MTAZ Motutapu 9.73 37 ePN Pn 09 51 06.5 -1.8
MTAZ Motutapu 9.73 37 Pn Pn 09 51 06.7 -1.6
MWZ Matawai 9.86 53 Pn Pn 09 51 08.9 -1.1
WCZ Waipu Caves 10.23 33 PN Pn 09 51 13.3 -1.9
WCZ SN Sn 09 52 58.7 -11
WCZ Waipu Caves 10.23 33 Pn Pn 09 51 13.5 -1.6
HAZ Te Kaha 10.41 51 ePN Pn 09 51 17.1 -0.4
OUZ Omahuta 10.61 28 PN Pn 09 51 18.5 -1.8
OUZ AML AML 09 53 50.8
OUZ Omahuta 10.61 28 ePn Pn 09 51 18.8 -1.5
MOO Moorlands 14.94 272 ⇓P Pn 09 52 17.4 -2.0
baz=15,SNR=5.7
TOO Toolangi 18.07 286 ⇑P P 09 53 00.9 +1.0
baz=18,SNR=7.4
DZM Mont Dzumac 22.67 357 eLR LR 09 59 20.7
667nm,22.9s
DZM Mont Dzumac 22.67 357 LR LR 10 02 19.2
comp=Z,1μm,18.3s,baz=181,slow=36
DZM Mont Dzumac 22.67 357 eP P 09 53 45.8 -4.0
52nm,1.4s
STKA Stephens Creek 23.98 294 P P 09 54 04.0 +1.1
6.1nm,0.9s,baz=102,slow=12,SNR=5.9
STKA LR LR 10 01 49.9
comp=Z,240nm,21.9s,baz=37,slow=33
STKA Stephens Creek 23.98 294 eP P 09 54 03.5 +0.6
8.2nm,1.7s
STKA Stephens Creek 23.98 294 ⇑P P 09 54 04.3 +1.4
baz=24,SNR=4.6
AS31 Alice Springs 34.54 296 eP P 09 55 36.2 -0.8
ASAR Alice Springs 34.54 296 P P 09 55 36.3 -0.6
1.4nm,0.7s,baz=132,slow=6.8,SNR=15
ASAR PcP PcP 09 58 09.7 -2.0
1.1nm,0.8s,baz=132,slow=4.1,SNR=4.1
WRA Warramunga Arr 37.01 301 P P 09 55 56.8 -1.3
2.5nm,0.7s,baz=136,slow=7.5,SNR=12
WRA PcP PcP 09 58 16.9 -2.1
1.9nm,1.1s,baz=140,slow=2.9,SNR=6.7
WRAB Tennant Creek 37.01 301 eP P 09 55 57.4 -0.7
3.0nm,0.7s
WRKA Warakurna 37.28 289 ⇓P P 09 56 01.0 +0.5
baz=37,SNR=3.7
H01W1 Cape Leeuwin H 41.52 265 T T 10 40 31.8
baz=120,slow=75,SNR=301
H01W2 Cape Leeuwin H 41.53 265 T T 10 40 29.8
baz=120,slow=75,SNR=384
H01W3 Cape Leeuwin H 41.53 265 T T 10 40 31.9
baz=120,slow=75,SNR=336
KNRA Kununurra 43.68 299 ⇑P P 09 56 53.8 +0.4
baz=44,SNR=4.9
PPT2 Papeete2 44.87 67 eLR LR 10 09 43.0
675nm,24.0s
QSPA South Pole Qui 45.34 180 P P 09 57 08.5 +2.2
12nm,0.8s,baz=16,slow=2.6,SNR=19
QSPA South Pole Qui 45.34 180 eP P 09 57 08.2 +1.9
36nm,1.2s
SOEI Soe 51.01 300 ⇓P P 09 57 50.9 +0.3
baz=51,SNR=3.8
MAW Mawson 54.60 207 LR LR 10 19 21.3
comp=Z,743nm,20.2s,baz=100,slow=33
MAW Mawson 54.60 207 eP P 09 58 17.2 +0.9
4.5nm,1.1s
SYO Syowa Base 60.20 219⇓eP P 09 58 54.6 -1.2
SNAA Sanae 63.65 183 P P 09 59 20.9 +1.8
SNAA Sanae 63.65 183 P P 09 59 18.4 -0.7
3.5nm,1.1s,baz=185,slow=11,SNR=5.5
SNAA Sanae 63.65 183 eP P 09 59 19.9 +0.8
23nm,1.3s
VNA3 Neumayer Olymp 64.27 181 P P 09 59 23.3 +0.2
VNA2 Neumayer--Watz 64.55 182 P P 09 59 25.3 +0.4
VNA1 Neumayer--Stat 64.84 182 P P 09 59 26.0 -0.8
PLCA Paso Flores 80.19 139 P P 10 00 58.9 +0.1
3.4nm,0.8s,baz=241,slow=13,SNR=5.2
PLCA LR LR 10 28 50.9
comp=Z,216nm,21.6s,baz=238,slow=30
QIZ Qiongzhong 82.39 306 P P 10 01 10.6 0.0
QIZ S S 10 11 29.9 +3.1
QIZ pmax pmax
comp=Z,19nm,1.9s
H08S2 Diego Garcia H 88.25 261 T T 11 38 53.9
baz=135,slow=76,SNR=713
H08S1 Diego Garcia H 88.27 261 T T 11 38 51.3
baz=135,slow=76,SNR=349
H08S3 Diego Garcia H 88.27 261 T T 11 38 55.4
baz=135,slow=76,SNR=780
NJ2 Nanjing 88.38 320 eP P 10 01 39.3 -0.8
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 88.53 298 P P 10 01 40.4 -0.8
1.3nm,0.4s,baz=151,slow=3.9,SNR=7.8
CMAR LR LR 10 46 15.0
comp=Z,47nm,18.2s,baz=155,slow=39
GYA Guiyang 90.03 308 P P 10 01 49.4 +1.2
GYA PP PP 10 05 24.5 +2.8
GYA SKS SKSac 10 12 18.8 -0.3
GYA S S 10 12 40.6 -0.7
GYA SS SS 10 18 43.4 +3.0
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=N,510nm,20.6s
GYA LR LR
comp=E,480nm,21.4s
GYA LR LR
comp=Z,500nm,20.7s
H08N1 Diego Garcia H 90.21 261 T T 11 41 23.1
baz=132,slow=76,SNR=60
H08N3 Diego Garcia H 90.22 261 T T 11 41 15.8
baz=132,slow=76,SNR=125
H08N2 Diego Garcia H 90.23 261 T T 11 41 23.0
baz=132,slow=76,SNR=59
KMI Kunming 91.25 305 P P 10 01 54.8 +0.8
KMI pmax pmax
comp=Z,7.0nm,1.3s
ASAJ Asahikawa 91.26 342 LR LR 10 39 54.6

comp=Z,69nm,18.9s,baz=183,slow=34
CD2 Chengdu 95.08 309 P P 10 02 13.0 +1.7
CD2 pP pP 10 02 17.8 +3.1
CD2 sP sP 10 02 20.0 +4.1
CD2 PP PP 10 06 05.2 +3.8
CD2 SKS SKSac 10 12 48.0 +1.0
CD2 S S 10 13 25.9 -0.2
CD2 sS sS 10 13 32.9 +1.2
CD2 SS SS 10 19 56.1 +3.4
MDJ Mudanjiang 95.19 334 P P 10 02 13.2 +1.8
HHC Hu-ho-hao-te 98.93 320 eP Pdif 10 02 30.9 +2.3
HHC PP PP 10 06 31.3 +0.3
HHC SKS SKSac 10 13 06.9 +0.4
HHC S S 10 13 58.5 -0.3
HHC SS SS 10 20 50.1 +3.2
HHC LR LR
comp=N,180nm,16.3s
HHC LR LR
comp=E,190nm,18.0s
HHC LR LR
comp=Z,180nm,16.7s
WMQ Urumqi 113.18 309 ePKP PKiKP 10 07 21.2 -4.3
WMQ PP PP 10 08 16.5 +0.4
WMQ PKS PKSdf 10 10 56.7 -5.4
WMQ SKS SKSdf 10 14 28.5 -8.9
WMQ LR LR
comp=N,72nm,17.2s
WMQ LR LR
comp=E,55nm,20.4s
WMQ LR LR
comp=Z,64nm,20.8s
ILAR Eielson Array 114.87 20 PKP PKPdf 10 07 25.6 -2.3
0.7nm,0.9s,baz=295,slow=2.8,SNR=7.4
KSH Kashi 117.40 299 ePKP PKPdf 10 07 35.7 +1.9
KSH ePP PP 10 08 53.6 +7.7
KSH SKS SKSdf 10 14 46.2 +0.4
KSH SKKS SKKSac 10 15 45.2 -0.8
KSH SS SS 10 25 01.0 +4.3
KSH LR LR
comp=N,46nm,4.5s
KSH LR LR
comp=E,36nm,4.4s
KSH LR LR
comp=Z,160nm,5.6s
MKAR Makanchi Array 118.02 309 PKP PKPdf 10 07 33.0 -1.7
1.1nm,1.0s,baz=96,slow=1.2,SNR=5.3
YKA Yellowknife Ar 123.51 33 PKP PKPdf 10 07 42.2 -2.4
0.5nm,0.8s,baz=258,slow=1.7,SNR=11
YKA PKKPbc PKKPbc 10 17 33.9 +0.3
0.3nm,0.7s,baz=49,slow=4.4,SNR=7.2
KULLO Kullorsuaq 144.26 19 i P PKPab 10 08 19.5 -1.4
11nm,0.9s
SCHQ Schefferville 144.34 54 PKP PKPab 10 08 19.1 -2.6
1.8nm,0.8s,baz=252,slow=3.2,SNR=3.1
BRTR Keskin Array B 145.88 278 PKPbc PKPdf 10 08 26.4 -0.6
2.6nm,0.7s,baz=140,slow=5.5,SNR=11
TORD Torodi Ar. Bea 146.24 205 PKPbc PKPdf 10 08 26.8 -1.4
8.4nm,0.7s,baz=156,slow=2.2,SNR=21
DAG Danmarks Havn 147.80 3 i P PKPdf 10 08 28.8 -0.1
3.8nm,1.0s
ILULI Ilulissat 148.68 25 i P PKPdf 10 08 32.1 +1.6
13nm,0.8s
ARCES ARCESS Array B 148.72 335 PKPbc PKPbc 10 08 32.9 -1.6
4.9nm,0.9s,baz=76,slow=2.1,SNR=13
AKASG Malin Array Be 151.65 297 PKPbc PKPbc 10 08 40.5 -1.6
3.9nm,0.7s,baz=77,slow=2.7,SNR=16
FINES FINESS Array B 152.06 320 PKPbc PKPbc 10 08 40.0 -2.7
3.1nm,0.8s,baz=76,slow=8.0,SNR=5.9

ISCJB 05 10:19:07.3±0.9,21.°98N±0.°09×143.°0E±0.°2,h250km, mb3.6/8,Error ellipse: s-maj=31.5km s-min=12.2km az=175.9
IDC 05 10:19:08.7±2.1,22.°01N×142.°95E,h247km±18km,mb3.4/8, mb1 3.5/10,mb1mx3.3/34,mbtmp4.0/10,Error ellipse: s-maj=25.1km s-min=15.6km az=89.0
ISC 05 10:19:09.0±1.1,22.°0N±0.°1×142.°9E±0.°3,h250km±,n12, σ1.°12/13,mb3.6/8,Volcano Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JCJ Chichijima 5.10 352 P Pn 10 20 27.1 +1.1
8.4nm,0.3s,baz=286,slow=19,SNR=9.1
JCJ S S 10 21 25.3 -2.2
9.5nm,0.3s,baz=292,slow=22,SNR=7.4
MJAR Matsushiro Arr 15.04 345 P Pn 10 22 30.3 +0.6
0.5nm,0.3s,baz=133,slow=11,SNR=5.3
KSRS Korea Array 20.12 323 P P 10 23 25.8 +1.5
5.2nm,0.7s,baz=145,slow=8.9,SNR=25
WRA Warramunga Arr 42.54 192 P P 10 26 40.1 -0.4
0.9nm,0.8s,baz=8.1,slow=8.5,SNR=23
ZALV Zalesovo Beam 53.81 322 P P 10 28 05.7 -0.3
1.4nm,0.4s,baz=125,slow=7.6,SNR=7.8
MKAR Makanchi Array 54.31 312 P P 10 28 09.8 0.0
0.7nm,0.6s,baz=91,slow=8.7,SNR=8.4
ILAR Eielson Array 61.86 27 P P 10 29 01.6 0.0
0.3nm,0.6s,baz=258,slow=5.3,SNR=4.3
YKA Yellowknife Ar 76.28 28 P P 10 30 30.6 +0.6
0.4nm,0.5s,baz=292,slow=5.8,SNR=16
KEV Kevo 77.98 341 ep P 10 30 38.3 -1.0
ARCES ARCESS Array B 78.54 341 P P 10 30 42.3 -0.1
1.3nm,0.6s,baz=19,slow=5.1,SNR=11
JOF Joensuu 79.92 334 ep P 10 30 48.8 -1.2
2.1nm,0.3s
FINES FINESS Array B 82.79 334 P P 10 31 04.0 -1.0
2.0nm,0.3s,baz=79,slow=4.7,SNR=24

NEIC 05 10:20:26.1,19.°09N×66.°40W,h110km,MD3.5(RSPR), After RSPR.
RSPR 05 10:20:26.1,19.°09N×66.°40W,h110km±8km,MD3.5/4,10C, Puerto Rico region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AOPR Arecibo Observ 0.81 205⇑eP Pn 10 20 44.2 -1.2
AOPR Arecibo Observ 0.81 205⇑eP Pn 10 20 44.2 -1.2
AOPR eS Sn 10 20 59.7 -0.3
LRS Lares 0.90 208 ePn Pn 10 20 45.6 -0.7
LRS eSn Sn 10 21 01.3 -0.2
CBYP Canovanas 0.96 148 ePn Pn 10 20 46.4 -0.6
CBYP eSn Sn 10 21 01.1 -1.5
CELP Cerrillos 1.02 190 ePn Pn 10 20 48.2 +0.7
CELP eSn Sn 10 21 04.4 +0.8
LSP Las Mesas 1.12 216⇑eP Pn 10 20 48.1 -0.5
LSP Las Mesas 1.12 216⇑eP Pn 10 20 48.1 -0.5
LSP eS Sn 10 21 04.8 -0.8
CPD Cerro la Pandu 1.14 156⇑eP Pn 10 20 48.8 0.0
CPD Cerro la Pandu 1.14 156⇑eP Pn 10 20 48.8 0.0
CPD eS Sn 10 21 06.2 +0.2
CRPR Cabo Rojo, PR 1.27 212⇑eP Pn 10 20 49.4 -0.8
CRPR Cabo Rojo, PR 1.27 212⇑eP Pn 10 20 49.4 -0.8
CRPR eS Sn 10 21 08.4 0.0
PCDR Punta Cana, DR 1.97 253⇑eP Pn 10 20 58.3 -0.3
PCDR Punta Cana, DR 1.97 253⇑eP Pn 10 20 58.3 -0.3
PCDR eS Sn 10 21 24.3 +0.8

IDC 05 10:32:26.9±4.8,54.°20N×86.°96E,h0km,mb1 2.8/2, mb1mx2.7/30,mbtmp2.8/2,ML2.8/2,Error ellipse: s-maj=51.6km s-min=19.1km az=70.0,Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.29 260 i 10 40 51.3
baz=80,slow=359
ZALV Zalesovo Beam 1.29 260 Pn Pg 10 32 50.7 -0.8
3.7nm,0.3s,baz=79,slow=17,SNR=39
ZALV Sn Sn 10 33 11.9 +1.9
1.8nm,0.3s,baz=78,slow=28,SNR=8.1
KURBB Kurchatov Arra 6.28 239 Pn Pn 10 34 01.3 +0.7
0.4nm,0.5s,baz=54,slow=13,SNR=10
MKAR Makanchi Array 7.99 204 Pn Pn 10 34 25.5 +1.4
0.1nm,0.3s,baz=14,slow=11,SNR=3.5

NNC 05 10:33:21.7±15.0,53.°58N×87.°82E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=109.6km s-min=96.0km az=41.0
IDC 05 10:33:23.0±3.1,54.°14N×87.°22E,h0km,mb1 3.1/2, mb1mx3.0/30,mbtmp3.1/2,ML2.9/2,Error ellipse: s-maj=29.4km s-min=17.4km az=63.0
ISC 05 10:33:26.2±4.5,54.°2N±0.°2×87.°2E±0.°2,h35km,n7,σ2.°17/8, 6C-2D,Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.41 260 i 10 41 43.0
baz=81,slow=352,SNR=10
ZALV Zalesovo Beam 1.41 260 Pg Pn 10 33 47.7 -1.7
5.7nm,0.3s,baz=78,slow=16,SNR=23
ZALV Lg Lg 10 34 09.0
1.0nm,0.3s,baz=84,slow=26,SNR=5.8
KURK Kurchatov 6.29 240 ⇑Pn Pn 10 34 57.5 +1.2
1.8nm,1.1s
KURK ⇑Sn Sn 10 36 07.5 +0.6
KURK ⇑Lg Lg 10 36 47.0
6.6nm,1.2s
KURBB Kurchatov Arra 6.39 239 ⇑Pn Pn 10 34 58.9 +1.2
3.9nm,1.1s
KURBB ⇑Sn Sn 10 36 10.1 +0.7
KURBB ⇓Lg Lg 10 36 48.6
9.9nm,0.8s
KURBB Kurchatov Arra 6.39 239 Pn Pn 10 34 59.1 +1.4
0.4nm,0.3s,baz=54,slow=13,SNR=8.7
MK31 Makanchi Array 8.05 205 ⇓Sn Sn 10 36 46.6 -3.6
0.6nm,0.6s,baz=199,slow=14,SNR=9.6
MK31 ⇑Lg Lg 10 37 30.9
4.8nm,0.9s,baz=33,slow=30,SNR=6.1
MKAR Makanchi Array 8.05 205 Pn Pn 10 35 21.9 +1.4
0.1nm,0.3s,baz=27,slow=14,SNR=6.0
MKAR Lg Lg 10 37 33.2
0.1nm,0.3s,baz=35,slow=30,SNR=3.0

CSEM 05 10:34:30.5,35.°59N×40.°66E,h67km,ML1.8,After NSSC
NSSC 05 10:34:30.5±4.0,35.°59N×40.°66E,h67km±335km,MD1.3, ML1.8
ISC 05 10:34:27.7±3.3,35.°6N±0.°2×40.°7E±0.°1,h10km,n12, σ1.°87/19,Jordan - Syria region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SFNV Sufian 0.94 329 eP Pn 10 34 50.8 +3.7
SFNV eS Sn 10 35 03.4 +2.9
SFNV AML AML 10 35 30.6
comp=Z,23nm,0.4s
SFNV Sufian 0.94 329 eP Pn 10 34 51.0 +4.0
SFNV AML AML 10 35 30.6
comp=Z,23nm,0.4s
SFNV Sufian 0.94 329 eP Pn 10 34 51.0 +4.0
SNR=113
MNKR ALMNKUR 1.22 286 eP Pb 10 34 50.6 -0.3
MNKR eS Sb 10 35 07.5 +0.8
MNKR AML AML 10 35 11.3
comp=Z,37nm,0.2s
MNKR ALMNKUR 1.22 286 eP Pb 10 34 53.0 +2.1
MNKR eS Sb 10 35 07.2 +0.5
MNKR AML AML 10 35 11.3
comp=Z,37nm,0.2s
MNKR ALMNKUR 1.22 286 eP Pb 10 34 53.0 +2.1
SNR=108
MNKR eS Sb 10 35 07.2 +0.5
comp=Z,37nm,0.2s,SNR=108
KBSD Kabsdagh 1.39 354 eP Pn 10 34 53.8 +0.6
KBSD eS Sn 10 35 09.3 -2.3
KBSD AML AML 10 35 15.4
comp=Z,17nm,0.3s
KBSD Kabsdagh 1.39 354 eP Pn 10 34 53.7 +0.5
KBSD eS Sn 10 35 09.7 -1.9
KBSD AML AML 10 35 15.5
comp=Z,17nm,0.3s
KBSD Kabsdagh 1.39 354 eP Pn 10 34 53.7 +0.5
SNR=104
KBSD eS Sn 10 35 09.7 -1.9
comp=Z,17nm,0.3s,SNR=104
KSRV Kasrt alli 1.41 280 eP Pn 10 34 52.9 -0.7
KSRV eS Sb 10 35 10.2 -2.1
KSRV AML AML 10 35 13.0
comp=Z,17nm,0.2s
KSRV Kasrt alli 1.41 280 eP Pn 10 34 53.7 +0.2
KSRV eS Sb 10 35 09.2 -3.1
KSRV AML AML 10 35 13.0
comp=Z,17nm,0.2s
KSRV Kasrt alli 1.41 280 eP Pn 10 34 53.7 +0.2
SNR=104
KSRV eS Sb 10 35 09.2 -3.1
comp=Z,17nm,0.2s,SNR=104

IDC 05 10:36:39.7±2.7,53.°43N×87.°52E,h0km,mb1 3.0/2, mb1mx2.9/30,mbtmp3.0/2,ML2.8/2,Error ellipse: s-maj=25.7km s-min=16.1km az=65.0,Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.69 289 i 10 47 26.0
baz=109,slow=349,SNR=5.7
ZALV Zalesovo Beam 1.69 289 Pn Pn 10 37 09.2 -1.2
1.8nm,0.3s,baz=107,slow=16,SNR=19
ZALV Lg Lg 10 37 33.0
0.9nm,0.3s,baz=107,slow=29,SNR=5.3
KURBB Kurchatov Arra 6.22 247 Pn Pn 10 38 13.4 +0.8
0.2nm,0.3s,baz=62,slow=16,SNR=6.1
KURBB Lg Lg 10 39 58.6
0.1nm,0.3s,baz=62,slow=33,SNR=4.1
MKAR Makanchi Array 7.44 209 Pn Pn 10 38 30.6 +1.2
0.2nm,0.3s,baz=26,slow=14,SNR=9.0

GUC 05 10:40:22.1±0.3,35.°03S×72.°60W,h37km±2km,ML3.5,1D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TALC Talca 0.87 115 eP Pn 10 40 37.6 -0.2
TALC eS Sn 10 40 49.2 -0.1
TALC AML AML 10 40 49.6
comp=N,3μm,0.1s
COCH Cobquecura 1.10 188⇓iP Pn 10 40 40.8 -0.2
COCH i S Sn 10 40 55.6 +0.6
LNV Longovilo 1.46 43 i P Pn 10 40 46.5 +0.6
LNV i S Sn 10 41 05.2 +1.4
CHCH Chadas Angostu 1.95 56 i P Pn 10 40 53.6 +0.8
CHCH eS Sn 10 41 17.6 +1.6
LMEL Las Melosas 2.31 60 i P Pn 10 40 58.8 +0.9
LMEL i S Sn 10 41 26.7 +1.6

IDC 05 10:44:40.2±485.0,56.°67N×31.°69E,h0km,Error ellipse: s-maj=190.3km s-min=65.8km az=87.0,Baltic States - Belarus - Northwestern Russia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I43RU DUBNA INFRASON 3.05 87 i 11 02 00.0
baz=271,slow=319,SNR=1.0
I26DE FREYUNG INFRAS13.38 242 i 12 09 10.0
baz=43,slow=335,SNR=0.5
I31KZ AKTYUBINSK INF 16.80 101 i 12 26 09.2
baz=305,slow=332,SNR=1.5
I46RU ZALESOVO INFRA29.73 72 i 13 50 00.0
baz=290,slow=348,SNR=0.8

VIE 05 10:47:10.6±0.3,50.°47N×13.°92E,h0km,mb2.1/1,ML2.5/4, Error ellipse: s-maj=2.4km s-min=1.7km az=26.0 59 km NW of Praha Suspected Mining explosion.
ISC 05 10:47:07.8±5.1,50.°6N±0.°1×13.°9E±0.°3,h0km,n3,σ0.°25/5, 1C-2D,Czech and Slovak Republics

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSP Ksiaz 1.51 82 ePg Pb 10 47 36.9 +0.1
KSP eSg Sn 10 47 56.5 -0.1
MOA Molln 2.81 175⇓iSg Sg 10 48 38.1 +0.2
13nm,0.7s
CONA Conrad Observa 3.00 154⇓iPg Pg 10 48 05.0 -0.2
CONA ⇑iSg Sg 10 48 44.2 +0.1
8.8nm,0.4s

IDC 05 10:47:22.3±19.0,15.°51S×176.°94W,h0km,mb4.5/4, mb1 4.7/4,mb1mx3.9/35,mbtmp4.5/4,Error ellipse: s-maj=370.2km s-min=46.9km az=56.0
ISC 05 10:47:15.3±10.0,14.°6S±1.°0×17.°6W±°,h35km,n12, σ1.°24/11,mb4.4/4,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	24.45	194	P	P	10 52 31.8	+0.9
	2.3nm,0.3s,baz=333,slow=9.0,SNR=9.1						
RMQ	Roma	35.24	245	P	P	10 54 07.5	+0.8
	baz=31,SNR=6.4						
QLP	Quilpie	39.23	246	P	P	10 54 40.4	-0.2
	baz=35,SNR=7.4						
COEN	Coen	39.85	266	P	P	10 54 53.5	+7.7
	baz=36,SNR=6.1						
STKA	Stephens Creek	42.57	239	P	P	10 55 06.9	-1.1
	2.8nm,0.4s,baz=83,slow=9.8,SNR=13						
STKA	Stephens Creek	42.57	239	P	P	10 55 06.9	-1.1
	baz=38,SNR=4.8						
HTT	Hallett	45.13	237	P	P	10 55 27.3	-1.3
	baz=40,SNR=4.0						
BBOO	Buckleboo	47.35	239	P	P	10 55 44.3	-1.7
	baz=43,SNR=11						
WRA	Warramunga Arr	47.90	256	P	P	10 55 52.0	+1.5
	2.4nm,0.5s,baz=92,slow=9.6,SNR=101						
ASAR	Alice Springs	48.29	251	P	P	10 55 54.2	+0.7
	21nm,0.6s,baz=89,slow=8.1,SNR=396						
WRKA	Warakurna	53.42	250	P	P	10 56 32.3	+0.2
	baz=49,SNR=36						
MEEK	Meekatharra	62.10	247	P	P	10 57 32.1	-1.0
	baz=58,SNR=3.2						

*ISCJB **05** 11:04:28.6±0.5, 13.73N±0.06×90.49W±0.05, h82km±6km, mb3.6/4, Error ellipse: s-maj=11.9km s-min=4.4km az=33.7*
*IDC **05** 11:04:30.3±2.0, 13.90N×90.23W, h76km±12km, mb3.4/4, mb1 3.7/5, mb1mx3.4/39, mbtmp3.8/5, Error ellipse: s-maj=41.3km s-min=12.5km az=53.0*
*CASC **05** 11:04:30.0±1.4, 13.65N×90.46W, h30km±4km, MD4.1, ML4.2*
*MEX **05** 11:04:47.9±0.4, 14.56N×91.65W, h105km±18km, MD4.3*
ISC 05 11:04:29.8±0.9, **13.77N**±0.07×**90.45W**±0.05, **h72**km±8km, **n38**, σ1.37/47, **mb3.9**/4, **3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCG	Pacaya	0.64	346	⇓eP	Pn	11 04 45.0	+0.5
RTR	El Retiro	0.79	81	eP	Pn	11 04 46.1	+0.1
RTR				eS	Sn	11 04 57.0	-1.0
SBLS	San Blas	0.80	85	⇓eP	Pn	11 04 45.8	-0.5
GCG	Guatemala City	0.82	354	eP	Pn	11 04 47.6	+1.3
GCG				eS	Sn	11 05 01.4	+2.7
NBG	Las Nubes	0.82	7	eP	Pn	11 04 48.2	+1.7
SNJE	San Jose	0.82	83	⇓eP	Pn	11 04 46.3	-0.2
BOQS	Boqueron	1.13	92	eP	Pn	11 04 50.2	-0.1
BOQS				eS	Sn	11 05 06.3	+0.7
SNET	Serv Nac Est T	1.18	94	eP	Pn	11 04 50.6	-0.2
SNET				eS	Sn	11 05 06.3	-0.2
SNET				AML	AML	11 05 10.8	
	comp=Z,6µm,0.4s						
APG	El Apazote	1.23	359	P	Pn	11 04 48.8	-2.7
	comp=Z,101nm,0.3s,baz=162,slow=10,SNR=238						
APG				S	Sn	11 05 06.6	-1.2
	comp=Z,136nm,0.3s,baz=238,slow=18,SNR=20						
JAT	Jato	1.28	295	eP	Pn	11 04 51.6	-0.3
LFRS	El Faro	1.35	96	eP	Pn	11 04 53.0	0.0
LBRS	Las Brisas	1.36	91	eP	Pn	11 04 53.1	0.0
LBRS				eS	Sn	11 05 11.4	+0.7
MRL	Marmol	1.48	29	eP	Pn	11 04 56.0	+1.2
SNVI	San Vicente	1.57	95	eP	Pn	11 04 56.2	+0.3
SNVI				eS	Sn	11 05 16.1	+0.6
VSM	San Miguel	2.14	99	eP	Pn	11 05 04.0	+0.4
CAHU	Cacacuatique	2.17	90	eP	Pn	11 05 04.2	+0.2
CNCH	Conchagua	2.59	101	eP	Pn	11 05 09.6	+0.1
CNCH				eS	Sn	11 05 41.0	+0.9
CCIG	Comitan	2.99	327	iP	Pn	11 05 16.6	+1.6
CCIG				iS	Sn	11 05 39.5	-10
PCIG		3.30	306	eP	Pn	11 05 18.8	-0.3
PCIG				eS	Sn	11 05 41.6	-16
COPN	Copaltepe	4.08	112	eP	Pn	11 05 28.9	-0.8
CMIG	Matias Romero	5.41	308	eP	Pn	11 05 46.5	-1.4
CMIG				iS	Sn	11 06 31.9	-17
HUIG	Huatulco	5.83	291	iP	Pn	11 05 52.3	-1.4
HUIG				iS	Sn	11 06 42.7	-16
JTS	JuntasAbangare	6.39	122	P	Pn	11 06 01.9	+0.5
	comp=Z,4.3nm,0.3s,baz=315,slow=17,SNR=19						
JTS				S	Sn	11 07 11.5	-1.5
	comp=Z,2.0nm,0.3s,baz=278,slow=18,SNR=2.2						
JCR	Jicaral	6.51	126	eP	Pn	11 06 04.3	+1.2
TEIG	Tepich	6.75	18	P	Pn	11 06 08.5	+2.2
	comp=Z,4.9nm,0.3s,baz=234,slow=5.3,SNR=12						
VHO	Vista Hermosa	6.89	299	eP	Pn	11 06 06.3	-2.1
VHO				iS	Sn	11 07 07.7	-18
CGA2	Cerro Gallo 2	6.94	122	eP	Pn	11 06 11.8	+2.8
QCR	Quepos	7.52	124	eP	Pn	11 06 18.6	+1.8
BUS	Buena Vista	7.77	122	eP	Pn	11 06 23.0	+2.3
BUS				eS	Sn	11 07 34.1	-14
TXAR	Lajitas Array	19.75	324	P	P	11 08 57.2	+1.1
	comp=Z,0.2nm,0.3s,baz=147,slow=11,SNR=14						
H06E1	SOCORRO T-PHAS	20.27	287	T	T	11 29 26.5	
	SNR=4.8						
TKL	Tuckaleechee C	22.61	14	P	P	11 09 24.3	-0.3
	comp=Z,3.1nm,0.5s,baz=188,slow=13,SNR=5.2						
NVAR	Mina Array Bea	34.81	320	P	P	11 11 15.2	+1.2
	comp=Z,0.7nm,0.6s,baz=129,slow=7.7,SNR=4.9						
SCHQ	Schefferville	44.93	19	P	P	11 12 35.0	-2.4
	comp=Z,2.4nm,0.9s,baz=225,slow=11,SNR=6.8						
YKA	Yellowknife Ar	51.61	346	P	P	11 13 27.0	-1.6
	comp=Z,0.1nm,0.5s,baz=137,slow=6.7,SNR=6.4						
YKA				pP	pP	11 13 45.1	-1.6
	comp=Z,0.9nm,1.0s,baz=147,slow=7.5,SNR=9.4						
WRA	Warramunga Arr	136.80	255	PKP	PKPdf	11 23 44.6	-0.3
	comp=Z,0.2nm,0.6s,baz=92,slow=2.6,SNR=5.5						
ASAR	Alice Springs	137.01	250	PKP	PKPdf	11 23 47.2	+1.9
	comp=Z,0.3nm,0.7s,baz=94,slow=3.7,SNR=3.1						
CMAR	Chiang Mai Arr	146.67	344	PKPbc	PKPbc	11 24 03.7	-0.5
	comp=Z,0.7nm,0.4s,baz=331,slow=3.8,SNR=4.3						

MAN 05 11:22:05, 16.88N×120.49E, h90km, mb3.9, ML2.7, MS2.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOLP	Bolinao	0.74	228	eP	Pn	11 22 23.5	+1.5
BOLP				eS	Sn	11 22 38.1	+3.5
APYP	Conner	1.22	36	eP	Pn	11 22 28.3	+1.1
CAUP	Cauayan	1.28	87	eP	Pn	11 22 29.9	+2.0
PIP	Pasuquin	1.45	5	⇑iP	Pn	11 22 31.6	+1.5
PIP				eS	Sn	11 22 50.9	+1.8
BALP	Baler	1.54	137	eP	Pn	11 22 32.3	+1.1

*DJA **05** 11:22:59.7±0.9, 3°S±5°×12°0E±°, h10km, M3.5/5, MLv3.5/5*
*IDC **05** 11:23:00.3±1.7, 2.56S×120.42E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/26, mbtmp3.2/3, Error ellipse: s-maj=288.3km s-min=26.3km az=58.0*
ISC 05 11:23:00.8±3.5, **2.9S**±0.2×**119.9E**±0.2, **h10**km, **n7**, σ1.68/8, **mb2.9**/3, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.18	216	P	Pg	11 23 04.2	-0.6
TTSI				S	Sg	11 23 08.2	+0.7
SPSI	Sidrap Palu	1.07	188	P	Pb	11 23 20.5	-1.0
SPSI				S	Sn	11 23 38.1	+1.2
BNSI	Bone	1.51	173	P	Pb	11 23 28.8	-0.1
BKSI	Bulukumba	2.42	175	P	Pb	11 23 43.0	-1.5
WRA	Warramunga Arr	22.02	141	P	P	11 27 54.5	+1.2
	0.4nm,0.7s,baz=317,slow=11,SNR=2.8						
ASAR	Alice Springs	24.68	148	P	P	11 28 24.9	+2.7
	0.3nm,0.9s,baz=325,slow=7.9,SNR=3.5						
MKAR	Makanchi Array	59.54	331	P	P	11 33 05.1	+0.6
	0.7nm,0.9s,baz=124,slow=8.1,SNR=5.1						

*ISCJB **05** 12:20:10.6±0.4, 28.93S±0.04×68.46W±0.07, h114km±6km, mb3.9/6, Error ellipse: s-maj=9.6km s-min=6.1km az=10.0*
*SJA **05** 12:20:10.4±0.7, 28.92S×68.52W, h114km±7km, MD3.9, ML3.8, MW3.6*
*IDC **05** 12:20:12.4±0.7, 29.06S×68.56W, h115km±5km, mb3.7/6, mb1 3.9/7, mb1mx3.6/24, mbtmp4.1/7, Error ellipse: s-maj=28.5km s-min=10.8km az=84.0*
ISC 05 12:20:11.7±0.7, **28.93S**±0.05×**68.50W**±0.06, **h110**km±6km, **n32**, σ0.90/40, **mb3.9**/6, **La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGUA	GUANDACOL	0.55	179	iP	Pn	12 20 28.8	-0.1
LCO	Las Campanas	1.93	267	iP	Pn	12 20 43.9	-0.1
LCO				eS	Sn	12 21 08.3	-0.4
RTLL	Cerro Villicun	2.39	179	iP	Pn	12 20 49.8	+0.1
RTLL				eS	Sn	12 21 18.7	-0.2
CYA	Choya	2.42	79	iP	Pn	12 20 50.4	+0.2
CYA				AML	AML	12 21 20.3	
	comp=Z,525nm,0.5s						
SJA	San Juan	2.58	181	AML	AML	12 21 31.7	
	comp=Z,204nm,0.4s						
CFAA	Coronel Fontan	2.67	175	P	Pn	12 20 53.5	+0.1
	baz=352,slow=15						
CFAA				S	Sn	12 21 24.3	-1.2
	comp=Z,14nm,0.3s,baz=108,slow=20,SNR=22						
CFAA	Coronel Fontan	2.67	175	iP	Pn	12 20 53.5	+0.1
CFAA				eS	Sn	12 21 24.9	-0.6
RTCV	Cerro Valdivia	2.92	181	iP	Pn	12 20 57.0	+0.4
RTLS	Leoncito	2.94	193	iP	Pn	12 20 57.4	+0.3
RTLS				eS	Sn	12 21 33.3	+1.2
AUSP	Uspallata	3.37	193	iP	Pn	12 21 03.2	+0.3
ACAN	Cantantal	3.52	162	iP	Pn	12 21 04.9	+0.3
ASAL	Salagasta	3.66	184	iP	Pn	12 21 06.7	+0.2
ARCO	CERRO ARCO	3.91	185	iP	Pn	12 21 10.1	0.0
ARCO				eS	Sn	12 21 54.5	-0.7
ARCO				AML	AML	12 22 29.2	
	comp=Z,99nm,0.5s						
AAGR	Agrelo	4.15	184	iP	Pn	12 21 12.9	-0.3
AAGR				iP	Pn	12 21 12.9	-0.3
SLA	San Lorenzo	4.98	33	iP	Pn	12 21 24.9	+0.5
SLA				AML	AML	12 22 12.2	
	comp=Z,24nm,0.8s						
SUCO	SUCO	5.38	146	AML	AML	12 22 45.0	
	comp=E,187nm,0.6s						
AZAP	Zapla	5.61	34	iP	Pn	12 21 32.7	-0.3
ASTB	Santa Barbara	6.13	37	iP	Pn	12 21 40.1	+0.1
CPUP	Villa Florida	10.24	78	P	Pn	12 22 32.4	-3.2
	comp=E,1.4nm,0.3s,baz=243,slow=12,SNR=5.5						
LPAZ	La Paz	12.59	2	P	Pn	12 23 05.8	-1.7
	comp=E,0.6nm,0.3s,baz=150,slow=4.6,SNR=11						
SIV	San Ignacio	14.59	30	P	Pn	12 23 30.2	-2.6
	comp=E,0.2nm,0.3s,baz=238,slow=15,SNR=3.7						
TXAR	Lajitas Array	66.97	327	P	P	12 30 53.6	+0.9
	comp=E,0.4nm,0.8s,baz=148,slow=7.4,SNR=5.2						
TORD	Torodi Ar. Bea	79.60	69	P	P	12 32 07.8	+0.7
	comp=E,2.6nm,0.7s,baz=278,slow=5.1,SNR=19						
TORD				pP	pP	12 32 35.8	+0.5
	comp=E,0.6nm,0.6s,baz=275,slow=5.1,SNR=2.7						
BOSA	Boshof	79.70	117	P	P	12 32 07.2	-0.5
	comp=E,3.5nm,0.6s,baz=252,slow=3.5,SNR=8.3						
PDAR	Pinedale Array	80.73	331	P	P	12 32 13.6	+0.8
	comp=E,0.5nm,0.6s,baz=126,slow=7.7,SNR=6.3						
ULM	Lac du Bonnet	82.49	343	P	P	12 32 21.6	+0.1
	comp=E,0.9nm,0.4s,baz=180,slow=2.0,SNR=2.6						
YKA	Yellowknife Ar	98.28	340	P	P	12 33 35.5	-0.5
	comp=E,0.2nm,0.6s,baz=138,slow=4.4,SNR=5.5						
ASAR	Alice Springs	123.43	205	PKP	PKPdf	12 38 55.8	-0.7
	comp=E,0.4nm,0.6s,baz=139,slow=1.7,SNR=7.3						
WRA	Warramunga Arr	126.64	207	PKP	PKPdf	12 39 02.3	-0.4
	comp=E,0.6nm,0.4s,baz=158,slow=1.8,SNR=24						
WRA				pPKP	pPKPdf	12 39 31.7	-1.0
	comp=E,0.2nm,0.5s,baz=152,slow=1.8,SNR=2.5						
KURBB	Kurchatov Arra	147.08	40	PKPbc	PKPbc	12 39 42.3	+0.9
	comp=E,1.8nm,0.6s,baz=299,slow=3.4,SNR=9.3						
ZALV	Zalesovo Beam	148.34	30	PKPbc	PKPbc	12 39 45.6	+0.9
	comp=E,4.3nm,0.4s,baz=297,slow=3.6,SNR=21						
ZALV				pPKPbc	pPKPbc	12 40 15.9	+1.5
	comp=E,0.9nm,0.4s,baz=316,slow=4.1,SNR=2.7						
MKAR	Makanchi Array	151.09	44	PKPbc	PKPbc	12 39 52.1	+0.5
	comp=E,2.7nm,0.6s,baz=286,slow=1.9,SNR=37						
MKAR				pPKPbc	pPKPbc	12 40 23.9	+2.3
	comp=E,1.0nm,0.6s,baz=308,slow=1.9,SNR=4.6						

*CSEM **05** 12:26:03.1±0.1, 38.93N×22.53E, h17km, MD2.7, Error ellipse: s-maj=3.6km s-min=2.1km az=81.0*
*ATH **05** 12:26:04.0, 38.91N×22.49E, h17km±2km, MD2.7/7*
THE 05 12:26:05.0, 38.87N×22.46E, h2km±19km, ML1.4/5, Error ellipse: s-maj=19.2km s-min=0.3km az=52.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGG	Agios Georgios	0.18	325	P	Pg	12 26 08.1	-0.5
AGG				S	Sg	12 26 11.4	+0.3
AGG	Agios Georgios	0.18	325	ePB	Pg	12 26 08.1	-0.5
AGG				eSB	Sg	12 26 11.6	+0.5
AGG	Agios Georgios	0.18	325	P	Pg	12 26 08.1	-0.5
AGG				S	Sg	12 26 11.4	+0.3
AXAR	Agios Charalam	0.18	124	P	Pg	12 26 08.5	-0.1
AXAR				S	Sg	12 26 11.3	+0.2
AXAR	Agios Charalam	0.18	124	P	Pg	12 26 08.5	-0.1
AXAR				S	Sg	12 26 11.3	+0.2
MAKR	Makrakomi, Fth	0.29	299	P	Pg	12 26 10.8	0.0
MAKR				S	Sg	12 26 15.1	+0.4
MAKR	Makrakomi, Fth	0.29	299	ePB	Pg	12 26 10.7	-0.1
MAKR				eSB	Sg	12 26 15.0	+0.3
MAKR	Makrakomi, Fth	0.29	299	P	Pg	12 26 10.8	0.0
MAKR				S	Sg	12 26 15.1	+0.4
DSF	Desfina	0.46	174	P	Pg	12 26 13.8	-0.2
DSF				S	Sg	12 26 20.6	+0.6
DSF	Desfina	0.46	174	ePB	Pg	12 26 14.0	0.0
DSF				eSB	Sg	12 26 21.3	+1.3
DSF	Desfina	0.46	174	P	Pg	12 26 13.8	-0.2
DSF				S	Sg	12 26 20.6	+0.6
DSF				eSb	Sb	12 26 21.3	-2.0
EVR	Evrytania	0.51	275	P	Pg	12 26 14.7	-0.3
EVR				S	Sg	12 26 21.9	+0.1
EVR	Evrytania	0.51	275	ePN	Pg	12 26 14.8	-0.2
EVR				eSN	Sg	12 26 22.0	+0.2
EVR	Evrytania	0.51	275	ePn	Pg	12 26 14.8	-0.2
EVR				eSn	Sg	12 26 22.0	+0.2
KALE	Kalithea	0.54	208	P	Pg	12 26 15.2	-0.3
KALE				S	Sg	12 26 23.1	+0.5
KALE	Kalithea	0.54	208	ePN	Pg	12 26 15.1	-0.4
KALE				eSN	Sg	12 26 23.8	+1.2
KALE	Kalithea	0.54	208	P	Pg	12 26 15.2	-0.3
KALE				S	Sg	12 26 23.1	+0.5
EFP	Efpalio	0.62	225	ePB	Pg	12 26 16.4	-0.5
EFP				eSN	Sb	12 26 26.6	-1.2
EFP	Efpalio	0.62	225	ePb	Pg	12 26 16.4	-0.5
EFP				eSn	Sb	12 26 26.6	-1.2
LAKA	Lakka	0.74	211	ePB	Pg	12 26 18.4	-0.8
LAKA	Lakka	0.74	211	ePb	Pg	12 26 18.4	-0.8
THL	Klokotos Trika	0.78	333	ePN	Pg	12 26 18.5	-1.4
THL				eSN	Sg	12 26 29.1	-0.9
THL	Klokotos Trika	0.78	333	ePn	Pg	12 26 18.5	-1.4
THL				eSn	Sg	12 26 29.1	-0.9
KLV	Kalavryta, Ach	0.86	197	ePN	Pg	12 26 21.7	+0.1
KLV	Kalavryta, Ach	0.86	197	ePn	Pg	12 26 21.7	+0.1

*ISCJB **05** 12:31:48.0±0.6, 46.97N±0.07×139.5E±0.1, h500km, mb3.3/4, Error ellipse: s-maj=12.8km s-min=7.2km az=149.2*
*IDC **05** 12:31:48.8±1.6, 47.13N×139.30E, h477km±37km, mb2.9/4, mb1 2.9/8, mb1mx2.6/48, mbtmp3.7/8, Error ellipse: s-maj=45.2km s-min=32.5km az=168.0*
ISC 05 12:31:48.4±1.0, **46.95N**±0.09×**139.7E**±0.1, **h500**km, **n22**, σ1.58/26, **mb3.4**/4, **Primorye**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWK2	Keihoku	2.25	136	P	P	12 32 55.3	+0.5
JSE	Soyaes	2.85	133	P	P	12 32 58.8	+0.5
ASAJ	Asahikawa	3.50	143	P	P	12 33 04.1	+1.2
	1.8nm,0.3s,baz=336,slow=5.1,SNR=25						
JHR	Hokuryu	3.52	155	P	P	12 33 04.6	+1.5
JKK2	Kamakawa 2	3.76	144	P	P	12 33 06.1	+1.1
JTKR	Abashiri--Toko	4.21	133	P	P	12 33 10.0	+1.5
JAR	Ashorobuto	4.67	140	P	P	12 33 13.7	+1.3
JCH	Churui	5.07	147	P	P	12 33 16.1	+0.1
JNBK	Urakawa-nobuka	5.16	154	P	P	12 33 18.7	+1.9
JAK	Akkeshi	5.32	136	P	P	12 33 19.9	+1.6
NEM2	Nemuro 2	5.59	128	P	P	12 33 21.8	+1.0
NEM2				eS	S	12 34 33.8	-2.5
JOT	Ohata	5.65	169	eS	S	12 34 37.3	-0.1
USRK	Ussuriysk Arra	6.05	246	P	P	12 33 22.9	-2.2
	0.5nm,0.3s,baz=66,slow=11,SNR=8.5						
JANG	Nango	6.71	168	P	P	12 33 33.6	+1.9
JANG				eS	S	12 34 53.2	-3.0
JOM	Ohasama	7.57	170	P	P	12 33 42.0	+1.6
JOM				eS	S	12 35 10.1	-2.0
JMK	Ichinoseki	8.07	171	P	P	12 33 47.5	+1.9
JMK				eS	S	12 35 21.2	-0.5
MJAR	Matsushiro Arr	10.46	186	P	P	12 34 12.7	+2.0
	0.3nm,0.3s,baz=356,slow=11,SNR=4.0						
KSRS	Korea Array	12.86	227	P	P	12 34 36.6	+0.6
	0.1nm,0.3s,baz=34,slow=10,SNR=4.5						
MKAR	Makanchi Array	38.46	292	P	P	12 38 26.2	-0.3
	0.4nm,0.5s,baz=78,slow=8.8,SNR=7.8						
KURBB	Kurchatov Arra	39.45	299	P	P	12 38 33.6	-0.8
	0.5nm,0.4s,baz=72,slow=8.7,SNR=4.4						
FINES	FINESS Array B	59.53	329	P	P	12 41 02.6	+0.2
	1.4nm,0.8s,baz=44,slow=8.5,SNR=5.1						
HFS	Hagfors	64.58	333	P	P	12 41 36.0	+0.7
	0.6nm,0.3s,baz=32,slow=5.6,SNR=4.6						

IDC 05 12:34:49.2±488.0, 56.82N×31.29E, h0km, Error ellipse: s-maj=190.5km s-min=67.9km az=90.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.26	89	i		12 54 02.3	
	baz=275,slow=329,SNR=1.2						
I26DE	FREYUNG INFRAS	13.26	240	i		13 57 00.0	
	baz=45,slow=340,SNR=0.7						
I31KZ	AKTYUBINSK INF	17.04	101	i		14 18 34.2	
	baz=305,slow=333,SNR=1.6						
I46RU	ZALESOVO INFRA	29.90	72	i		15 40 40.0	
	baz=291,slow=350,SNR=1.3						

*ISCJB **05** 12:47:16.1±2.0, 58.11N±0.08×154.0W±0.4, h75km, mb3.1/1, Error ellipse: s-maj=27.5km s-min=11.2km az=173.3*
*NEIC **05** 12:47:19.4, 58.03N×153.96W, h47km, ML2.5(AEIC), After AEIC.*
*IDC **05** 12:47:41.7±9.3, 59.41N×151.37W, h114km±161km, mb3.0/1, mb1 2.8/3, mb1mx2.7/33, mbtmp2.8/3, ML2.5/2, Error ellipse: s-maj=198.1km s-min=91.6km az=112.0*
ISC 05 12:47:17.7±2.4, **58.04N**±0.08×**154.0W**±0.2, **h75**km, **n5**, σ0.88/6, **Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDAK	Kodiak Island	0.80	108	ePn	Pn	12 47 33.6	-0.3
KDAK				eSn	Sn	12 47 45.6	-0.5
OHAK	Old Harbor	0.90	155	ePn	Pn	12 47 34.6	-0.6
OHAK				eSn	Sn	12 47 48.7	+0.5
ILAR	Eielson Array	7.57	24	P	Pn	12 49 04.5	-0.5
	0.1nm,0.3s,baz=209,slow=13,SNR=4.9						
ILAR				S	Sn	12 50 19.8	-9.4
	0.0nm,0.3s,baz=319,slow=34,SNR=3.1						
YKA	Yellowknife Ar	19.80	60	P	P	12 51 42.7	+1.1
	0.0nm,0.3s,baz=273,slow=9.8,SNR=7.3						
NVAR	Mina Array Bea	30.29	115	P	P	12 53 37.1	+15
	0.3nm,0.6s,baz=290,slow=10,SNR=3.7						

*IDC **05** 12:50:19.8±1.0, 5.05S×153.36E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.8/24, mbtmp3.8/7, ML3.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/21, Error ellipse: s-maj=29.8km s-min=22.2km az=122.0*
*ISCJB **05** 12:50:25.5±0.9, 5.2S±0.1×153.3E±0.1, h56km, mb3.6/6, Error ellipse: s-maj=21.5km s-min=11.7km az=143.0*
ISC 05 12:50:27.4±1.0, **5.2S**±0.2×**153.3E**±0.1, **h56**km, **n11**, σ1.33/11, **mb3.6**/6, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.43	235	Pn	Pn	12 52 12.6	-0.6
	2.1nm,0.3s,baz=58,slow=10,SNR=8.2						
PMG				Sn	Sn	12 53 36.3	+0.1
	1.9nm,0.3s,baz=143,slow=20,SNR=3.4						
PMG				LR	LR	12 54 59.0	
	comp=Z,75nm,21.7s,baz=38,slow=37						
DZM	Mont Dzumac	21.07	144	P	P	12 55 07.8	+0.6
	5.8nm,0.5s,baz=307,slow=12,SNR=11						
WRA	Warramunga Arr	23.61	230	P	P	12 55 32.4	-1.1
	1.7nm,0.6s,baz=54,slow=10.0,SNR=29						
WRA				PcP	PcP	12 59 18.4	+1.2
	0.4nm,0.5s,baz=51,slow=2.6,SNR=6.4						
ASAR	Alice Springs	26.24	224	P	P	12 55 56.5	-0.9
	0.2nm,0.4s,baz=54,slow=9.0,SNR=15						
ASAR				PcP	PcP	12 59 25.0	+1.9
	0.4nm,0.6s,baz=68,slow=3.7,SNR=4.7						
H11S3	WAKE ISLAND Hy	26.95	29	T	T	13 24 20.4	
	baz=208,slow=76,SNR=5.5						
H11S2	WAKE ISLAND Hy	26.95	29	T	T	13 24 26.2	
	baz=208,slow=76,SNR=5.0						
H11S1	WAKE ISLAND Hy	26.96	29	T	T	13 24 21.9	
	baz=208,slow=76,SNR=3.0						
CMAR	Chiang Mai Arr	58.50	295	P	P	13 00 19.2	+0.9
	0.4nm,0.3s,baz=122,slow=7.1,SNR=5.0						
MKAR	Makanchi Array	80.94	319	P	P	13 02 36.8	+0.9
	0.4nm,0.6s,baz=92,slow=8.6,SNR=6.3						
ILAR	Eielson Array	82.30	22	P	P	13 02 40.4	-2.2
	0.2nm,0.9s,baz=250,slow=5.4,SNR=2.8						
TORD	Torodi Ar. Bea	150.91	288	PKPbc	PKPbc	13 10 15.1	+0.2
	1.1nm,0.3s,baz=83,slow=1.7,SNR=26						

*NNC **05** 12:59:27.9±5.2, 36.89N×70.89E, h194km±75km, mb2.6, mpv3.6, Error ellipse: s-maj=51.9km s-min=28.3km az=17.0*
ISC 05 12:59:26.5±3.3, **36.8N**±0.2×**71.0E**±0.2, **h200**km, **n10**, σ1.03/12, **6C, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.74	21	P	Pn	13 00 51.4	+0.7
	SNR=10						
UCH	Uchtor	6.08	26	P	Pn	13 00 55.9	+0.7
	SNR=16						
KZA	Kyzart	6.23	31	P	Pn	13 00 57.1	0.0
	SNR=7.3						
EKS2	Erkin-Say	6.25	19	P	Pn	13 00 58.2	+1.1
	SNR=6.3						
KK31	Karatay Array	6.32	357	P	Pn	13 00 59.1	+1.2
	0.9nm,0.4s,baz=178,slow=11,SNR=29						
KK31				⇑S	Sn	13 02 09.7	-0.7
	5.3nm,0.5s,baz=180,slow=22,SNR=27						
AAK	Ala-Archa	6.44	24	⇑P	Pn	13 00 59.7	+0.2
	7.6nm,0.9s						
AAK				⇑S	Sn	13 02 13.0	-0.3
	9.0nm,1.2s						
AAK	Ala-Archa	6.44	24	P	Pn	13 01 01.4	+1.9
	SNR=6.5						
TKM2	Tokmak 2	7.08	29	⇑P	Pn	13 01 07.9	-0.1
	7.5nm,1.2s						
AB31	Akbulak array	14.83	331	⇑P	P	13 02 47.5	+0.1
	0.2nm,0.3s,baz=155,slow=11,SNR=12						
AKTO	Aktyubinsk	16.53	330	⇑P	Pn	13 03 05.7	-1.3
	1.5nm,0.6s						

SJA 05 13:10:41.4±0.7, 31.33S×69.07W, h110km±4km, MD3.1, ML4.2, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTLS	Leoncito	0.50	203	iP	Pn	13 10 59.5	+0.8
RTLS				iS	Sn	13 11 13.4	+1.9
RTLS				AML	AML	13 11 13.4	
	comp=Z,4µm,0.0s						
RTLL	Cerro Villicun	0.51	90	iP	Pn	13 10 58.8	+0.4
RTLL				iS	Sn	13 11 11.7	+0.5
AMOG	MOGNA	0.63	52	iP	Pn	13 11 00.1	+0.8
AMOG				iS	Sn	13 11 13.5	+0.8
RTCV	Cerro Valdivia	0.69	140	iP	Pn	13 11 00.6	+0.8
RTCV				iS	Sn	13 11 14.8	+1.2
CFAA	Coronel Fontan	0.76	111	iP	Pn	13 11 00.9	+0.5
CFAA				iS	Sn	13 11 15.9	+1.3
CFAA				AML	AML	13 11 17.7	
	comp=Z,16µm,1.1s						
AUSP	Uspallata	0.93	197	iP	Pn	13 11 03.1	+0.8
AUSP				iS	Sn	13 11 19.7	+1.7
AUSP				AML	AML	13 11 20.4	
	comp=Z,1µm,0.0s						
ACAN	Cantantal	1.85	121	iP	Pn	13 11 13.5	+0.9
AGUA	GUANDACOL	1.91	15	iP	Pn	13 11 14.8	+1.4

ISCJB 05 13:15:27.8±0.6, 34.89N±0.05×25.12E±0.03, h52km±4km, mb3.9/6, Error ellipse: s-maj=8.8km s-min=4.5km az=2.4
ATH 05 13:15:27.2, 34.77N×25.15E, h28km±1km, MD3.1/7
IDC 05 13:15:27.4±2.7, 34.91N×25.19E, h34km±16km, mb3.8/6, mb1 3.8/8, mb1mx3.5/39, mbtmp3.8/8, ML3.5/2, Error ellipse: s-maj=34.2km s-min=18.8km az=153.0
CSEM 05 13:15:29.1±0.3, 34.89N×25.11E, h30km, ML3.1, Error ellipse: s-maj=8.4km s-min=3.5km az=174.0
THE 05 13:15:29.4, 34.94N×25.11E, h22km, ML3.1/5, Error ellipse: s-maj=1.2km s-min=0.4km az=173.0
ISC 05 13:15:28.2±0.9, 34.91N±0.05×25.13E±0.02, h34km±2km, n52, σ1§17/81, mb3.9/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.28	293	P	Pn	13 15 35.5	-0.2
SIVA	Sivas	0.28	293	ePB	Pn	13 15 35.7	0.0
SIVA				eSB	Sb	13 15 42.3	+1.3
SIVA	Sivas	0.28	293	ePb	Pn	13 15 35.7	0.0
SIVA				eSb	Sb	13 15 42.3	+1.3
LAST	Lasithi	0.39	49	P	Pb	13 15 37.0	-0.2
LAST				S	Sb	13 15 43.4	0.0
LAST	Lasithi	0.39	49	ePB	Pb	13 15 37.0	-0.2
LAST				eSB	Sn	13 15 45.1	+1.7
LAST	Lasithi	0.39	49	P	Pb	13 15 37.0	-0.2
LAST				S	Sb	13 15 43.4	0.0
LAST				eSb	Sb	13 15 45.1	+1.7
IDI	Anoyia	0.42	333	Pg	Pb	13 15 37.3	-0.5
	111nm,0.3s,baz=155,slow=18,SNR=347						
IDI				Lg	Lg	13 15 45.4	
	365nm,0.3s,baz=252,slow=20,SNR=46						
NPS	Neapolis	0.53	48	P	Pb	13 15 39.4	0.0
NPS				S	Sb	13 15 47.8	+0.6
NPS	Neapolis	0.53	48	ePN	Pb	13 15 39.6	+0.2
NPS				eSN	Sn	13 15 48.5	+1.3
NPS	Neapolis	0.53	48	P	Pb	13 15 39.4	0.0
NPS				S	Sn	13 15 47.8	+0.6
NPS				eSn	Sn	13 15 48.5	+1.3
GVD	Gavdhos	0.86	266	P	Pb	13 15 44.7	0.0
GVD				S	Sb	13 15 56.8	+0.9
GVD	Gavdhos	0.86	266	ePN	Pb	13 15 44.3	-0.3
GVD				eSN	Sb	13 15 57.2	+1.3
GVD	Gavdhos	0.86	266	ePn	Pb	13 15 44.3	-0.3
GVD	Gavdhos	0.86	266	P	Pb	13 15 44.7	0.0
GVD				S	Sb	13 15 56.8	+0.9
GVD				eSn	Sn	13 15 57.2	+2.1
VAM	Vamos	0.91	304	P	Pb	13 15 45.2	-0.3
VAM				S	Sb	13 15 57.4	+0.1
VAM	Vamos	0.91	304	ePB	Pb	13 15 45.2	-0.3
VAM				eSN	Sb	13 16 01.5	+4.2
VAM	Vamos	0.91	304	P	Pb	13 15 45.2	-0.3
VAM				S	Sb	13 15 57.4	+0.1
VAM				eSn	Sn	13 16 01.5	+5.1
ZKR	Zakros	0.92	77	P	Pb	13 15 45.7	0.0
ZKR				S	Sb	13 15 58.7	+1.0
ZKR	Zakros	0.92	77	ePN	Pb	13 15 45.7	0.0
ZKR				eSN	Sb	13 15 58.9	+1.2
ZKR	Zakros	0.92	77	P	Pb	13 15 45.7	0.0
ZKR				S	Sb	13 15 58.7	+1.0
SANT	Santorini	1.48	10	ePN	Pb	13 15 56.1	+0.9
SANT	Santorini	1.48	10	ePn	Pb	13 15 56.1	+0.9
ANKY	Antikythira Is	1.77	303	P	Pb	13 15 59.0	-1.0
ANKY	Antikythira Is	1.77	303	P	Pb	13 15 59.0	-1.0
KARP	Karpathos	1.79	68	P	Pn	13 15 58.2	+1.6
KARP				S	Sn	13 16 19.6	+1.4
KARP	Karpathos	1.79	68	ePN	Pb	13 15 59.5	-0.8
KARP	Karpathos	1.79	68	P	Pn	13 15 58.2	+1.6
KARP	Karpathos	1.79	68	ePn	Pb	13 15 59.5	-0.8
KARP				S	Sn	13 16 19.6	+1.4
APE	Apeiranthos	2.18	9	P	Pn	13 16 03.0	+0.9
APE				S	Sn	13 16 29.6	+1.6
APE	Apeiranthos	2.18	9	P	Pn	13 16 03.0	+0.9
APE				S	Sn	13 16 29.6	+1.6
KYTH	Kithira	2.18	309	P	Pn	13 16 03.3	+1.2
KYTH	Kithira	2.18	309	P	Pn	13 16 03.3	+1.2
VLI	Veliai	2.53	316	P	Pn	13 16 08.2	+1.3
VLI				S	Sn	13 16 37.7	+1.1
VLI	Veliai	2.53	316	P	Pn	13 16 08.2	+1.3
VLI				S	Sn	13 16 37.7	+1.1
DID	Didima	3.01	330	P	Pn	13 16 14.4	+0.9
DID				S	Sn	13 16 49.8	+1.4
DID	Didima	3.01	330	P	Pn	13 16 14.4	+0.9
DID				S	Sn	13 16 49.8	+1.4
SMG	Samos	3.12	26	ePN	Pn	13 16 17.9	+2.9
SMG	Samos	3.12	26	ePn	Pn	13 16 17.9	+2.9
VLX	Vlachokerasia	3.31	319	P	Pn	13 16 18.8	+1.1
VLX				S	Sn	13 16 56.7	+0.8
VLX	Vlachokerasia	3.31	319	P	Pn	13 16 18.8	+1.1
VLX				S	Sn	13 16 56.7	+0.8
PYL	PYLOS	3.39	307	P	Pn	13 16 20.2	+1.6
PYL				S	Sn	13 16 58.3	+0.7
PYL	PYLOS	3.39	307	P	Pn	13 16 20.2	+1.6
PYL				S	Sn	13 16 58.3	+0.7
ITM	Ithomi	3.44	312	P	Pn	13 16 20.4	+1.0
ITM	Ithomi	3.44	312	P	Pn	13 16 20.4	+1.0
BRTR	Keskin Array B	8.31	52	Pn	Pn	13 17 25.7	-0.7
	0.1nm,0.3s,baz=237,slow=14,SNR=3.0						
AKASG	Malin Array Be	16.06	9	Pn	Pn	13 19 11.0	-0.4
	1.5nm,0.3s,baz=202,slow=11,SNR=14						
AKTO	Aktyubinsk	28.44	47	P	P	13 21 18.3	-1.3
	1.0nm,0.5s,baz=253,slow=11,SNR=4.5						
TORD	Torodi Ar. Bea	30.31	230	P	P	13 21 36.2	-0.3
	1.0nm,0.4s,baz=36,slow=8.9,SNR=27						
MKAR	Makanchi Array	43.94	56	P	P	13 23 31.1	-0.7
	1.4nm,0.6s,baz=280,slow=7.0,SNR=20						
ZALV	Zalesovo Beam	45.20	46	P	P	13 23 40.1	-1.6
	0.4nm,0.3s,baz=274,slow=8.8,SNR=3.6						
SCHQ	Schefferville	63.36	320	P	P	13 25 53.1	-0.7
	2.7nm,0.5s,baz=67,slow=4.4,SNR=12						
YKA	Yellowknife Ar	77.68	342	P	P	13 27 19.5	-1.4
	0.5nm,0.4s,baz=32,slow=5.3,SNR=15						

IDC 05 13:20:53.2±4.4, 8.94S×170.28E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/27, mbtmp3.4/3, Error ellipse: s-maj=224.8km s-min=30.1km az=137.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.40	249	P	P	13 27 59.6	-0.2
	0.6nm,0.7s,baz=80,slow=8.9,SNR=8.1						
ASAR	Alice Springs	37.72	243	P	P	13 28 10.9	-0.1
	0.2nm,0.7s,baz=68,slow=9.8,SNR=3.9						
ILAR	Eielson Array	80.15	17	P	P	13 33 04.9	0.0
	0.3nm,0.7s,baz=204,slow=5.9,SNR=3.6						

WEL 05 13:22:09.6±0.5, 36.06S×177.99E, h211km±4km, ML3.7/14, 1C, Error ellipse: s-maj=7.5km s-min=5.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.53	171	PN	Pn	13 22 44.7	+0.2
MXZ				SN	S	13 23 11.4	-0.1
HAZ	Te Kaha	1.71	186	PN	Pn	13 22 46.2	+0.1
HAZ				SN	S	13 23 14.4	+0.1
PUZ	Puketiti	2.03	174	PN	Pn	13 22 49.1	-0.1
PUZ				SN	S	13 23 19.9	0.0
MWZ	Matawai	2.31	189	PN	Pn	13 22 52.3	+0.2
URZ	Urewera	2.31	197	⇑PN	Pn	13 22 52.4	+0.4
URZ				SN	S	13 23 25.6	+0.6
CNGZ	Carnagh Statio	2.43	176	PN	Pn	13 22 54.0	+0.6
RAGZ	Rawiri	2.48	190	PN	Pn	13 22 54.5	+0.5
RIGZ	Rimuhau	2.65	184	PN	Pn	13 22 55.9	0.0
SNGZ	Shannon Statio	2.77	191	PN	Pn	13 22 57.2	0.0
RAHZ	Arahi	2.95	194	PN	Pn	13 22 59.3	+0.1
KNZ	Kokohu	2.97	185	PN	Pn	13 22 58.9	-0.5
MHGZ	Mahia Peninsul	3.10	181	ePN	Pn	13 23 00.3	-0.6
NMHZ	Naumai	3.18	197	PN	Pn	13 23 02.3	+0.4
BKZ	Black Stump Fm	3.33	200	PN	Pn	13 23 03.0	-0.7
MCHZ	McNeill Hill	3.54	196	PN	Pn	13 23 06.1	0.0
CKHZ	Cape Kidnapper	3.67	191	PN	Pn	13 23 06.3	-1.4
BHHZ	Black Hill Sta	3.75	203	PN	Pn	13 23 07.8	-1.0
KRHZ	Kereru	3.81	199	PN	Pn	13 23 08.3	-1.1
KAHZ	Kahuranaki	3.84	193	PN	Pn	13 23 09.1	-0.7
PXZ	Pawanui	4.07	192	PN	Pn	13 23 11.2	-1.3
PNHZ	Pukenui	4.11	200	PN	Pn	13 23 11.7	-1.4
WPHZ	Waipukurau	4.19	197	PN	Pn	13 23 13.0	-1.0
TSZ	Takapari Road	4.31	201	PN	Pn	13 23 13.9	-1.7
PRHZ	Porangahau	4.34	194	PN	Pn	13 23 14.7	-1.2
ANWZ	Angora Road	4.56	195	PN	Pn	13 23 17.4	-1.2
BFZ	Birch Farm	4.82	196	PN	Pn	13 23 20.1	-1.8
MRZ	Mangatainoka R	4.97	202	PN	Pn	13 23 21.7	-2.2
TIWZ	Tintock	5.00	199	PN	Pn	13 23 22.1	-2.1
HOWZ	Holdsworth Sta	5.21	201	PN	Pn	13 23 24.3	-2.6
OGWZ	Otaki Gorge	5.25	204	PN	Pn	13 23 25.1	-2.2
TMWZ	Te Maipa	5.31	197	PN	Pn	13 23 25.8	-2.4
KIW	Kapiti Island	5.37	206	PN	Pn	13 23 26.4	-2.6
MTW	Mount Morrison	5.46	200	PN	Pn	13 23 27.3	-2.7
SNZO	South Karori	5.84	205	PN	Pn	13 23 31.5	-3.4
TCW	Tory Channel	5.91	208	PN	Pn	13 23 32.7	-3.1
TUWZ	Tuamarina	6.23	209	ePN	Pn	13 23 36.5	-3.4
QRZ	Quartz Range	6.41	220	ePN	Pn	13 23 38.7	-3.5
THZ	Tophouse	6.94	213	ePN	Pn	13 23 46.1	-3.1
LTZ	Lake Taylor	8.04	212	ePN	Pn	13 23 60.0	-3.4
MQZ	McQueen's Vall	8.67	207	SN	S	13 25 39.2	-10

IDC 05 13:28:22.9±1.6, 5.14S×146.26E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/24, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=42.6km s-min=25.8km az=98.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.33	168	Pn	Pn	13 29 28.9	-1.1
	3.0nm,0.3s,baz=120,slow=8.1,SNR=15						
PMG				Sn	Sn	13 30 13.4	-7.9
	6.4nm,0.3s,baz=324,slow=19,SNR=8.0						
WRA	Warramunga Arr	18.74	217	P	P	13 32 42.8	-0.7
	0.2nm,0.3s,baz=34,slow=11,SNR=18						
ASAR	Alice Springs	21.93	212	P	P	13 33 18.1	-0.2
	0.4nm,0.6s,baz=39,slow=12,SNR=10						
CMAR	Chiang Mai Arr	52.20	298	P	P	13 37 37.1	+1.1
	0.3nm,0.3s,baz=120,slow=6.5,SNR=2.8						
ILAR	Eielson Array	84.99	23	P	P	13 40 59.3	-0.7
	0.2nm,0.6s,baz=252,slow=5.1,SNR=5.0						

IDC 05 13:38:13.1±4.9, 19.97S×177.07W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.6/27, mbtmp4.0/3, ML4.0/1, Error ellipse: s-maj=95.9km s-min=53.0km az=65.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	18.91	194	P	P	13 42 35.2	-0.2
	0.5nm,0.3s,baz=335,slow=14,SNR=4.5						
ASAR	Alice Springs	45.49	256	P	P	13 46 33.5	-1.1
	0.9nm,0.6s,baz=96,slow=7.3,SNR=25						
WRA	Warramunga Arr	45.54	261	P	P	13 46 35.9	+0.9
	1.0nm,0.4s,baz=98,slow=8.5,SNR=59						
NOA	NORSAR Array B	138.55	354	PKP	PKPdf	13 57 40.0	-0.5
	1.5nm,0.8s,baz=16,slow=4.2,SNR=3.5						

IDC 05 13:49:32.8±3.3, 5.12S×153.26E, h16km±19km, mb4.2/13, mb1 4.3/14, mb1mx4.1/40, mbtmp4.4/14, ML3.4/1, MS3.7/8, Ms1 3.7/8, ms1mx3.3/29, Error ellipse: s-maj=22.0km s-min=14.5km az=88.0
ISCJB 05 13:49:36.0±0.5, 5.15S±0.05×153.25E±0.07, h56km, mb4.3/17, MS3.7/6, Error ellipse: s-maj=10.7km s-min=7.0km az=10.8
NEIC 05 13:49:35.1±0.5, 5.10S×153.27E, h35km, mb4.6/3, Error ellipse: s-maj=14.6km s-min=8.8km az=106.0
ISC 05 13:49:37.6±0.6, 5.20S±0.06×153.30E±0.08, h56km, n66, σ1§71/62, mb4.3/17, MS3.7/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.51	311	P	Pn	13 50 00.6	-1.8
	baz=1.7,SNR=212						
RABL				S	Sn	13 50 23.7	+2.6
	baz=1.7,SNR=6.5						
PMG	Port Moresby	7.39	235	Pn	Pn	13 51 21.9	-1.0
	3.3nm,0.3s,baz=48,slow=10,SNR=14						
PMG				Sn	Sn	13 52 47.3	+1.9
	6.2nm,0.3s,baz=25,slow=15,SNR=6.4						
PMG				LR	LR	13 54 20.2	
	comp=Z,410nm,21.6s,baz=58,slow=39						
PMG	Port Moresby	7.39	235	ePn	Pn	13 51 21.4	-1.5
	42nm,0.8s						
PMG				eSn	Sn	13 52 43.7	-1.7
PMG	Port Moresby	7.39	235	P	Pn	13 51 24.1	+1.2
	baz=7.7,SNR=9.1						
PMG				S	Sn	13 52 39.7	-5.7
	baz=7.7,SNR=4.7						
HNR	Honiara	7.82	123	LR	LR	13 54 25.7	
	comp=Z,318nm,20.3s,baz=324,slow=37						
COEN	Coen	13.24	228	ePn	Pn	13 52 42.6	-0.4
	91nm,1.0s						
COEN	Coen	13.24	228	P	P	13 52 53.4	+2.3
	baz=14,SNR=6.7						
MTSU	Mount Surprise	15.57	214	P	P	13 53 17.0	0.0
	baz=16,SNR=4.4						
CTA	Charters Tower	16.31	204	Pn	P	13 53 25.2	0.0
	0.1nm,0.3s,baz=9.7,slow=14,SNR=5.1						
CTAO	Charters Tower	16.31	204	ePn	Pn	13 53 21.7	-1.4
CTAO				eS	S	13 56 34.2	+0.9
EIDS	Eidsvold	20.17	186	P	P	13 54 03.2	-4.3
	baz=20,SNR=6.2						
QIS	Mount Isa	20.25	220	P	Pn	13 54 12.3	+1.4
	baz=20,SNR=5.7						
DZM	Mont Dzumac	21.05	144	P	P	13 54 18.5	+1.2
	21nm,0.6s,baz=294,slow=7.8,SNR=17						
DZM				LR	LR	14 01 16.6	
	comp=Z,208nm,21.5s,baz=199,slow=33						
FAKI	Fak Fak	21.12	275	P	P	13 54 11.9	-6.1
	baz=21,SNR=5.6						
RMQ	Roma	21.61	191	P	P	13 54 26.3	+3.3
	baz=22,SNR=4.5						
KDU	Kakadu	21.86	249	P	P	13 54 25.3	-0.6
	baz=22,SNR=31						
MTN	Manton Dam	23.16	249	P	P	13 54 40.5	+1.0
	baz=24,SNR=5.8						
WRAB	Tennant Creek	23.55	230	eP	P	13 54 41.2	-2.0
	20nm,0.8s						
WRA	Warramunga Arr	23.56	230	P	P	13 54 42.4	-1.0
	8.0nm,0.6s,baz=54,slow=10.0,SNR=46						
WRA				PcP	PcP	13 58 29.1	+1.7
	2.2nm,0.7s,baz=54,slow=2.5,SNR=6.3						
WRA				ScP	ScP	14 02 05.8	+4.8
	1.3nm,0.9s,baz=54,slow=3.2,SNR=6.1						
ARMA	Armidale	25.14	183	eP	P	13 54 58.4	+0.8
	5.5nm,1.1s						
AS31	Alice Springs	26.20	224	eP	P	13 55 05.3	-2.0
ASAR	Alice Springs	26.20	224	P	P	13 55 06.8	-0.6
	2.2nm,1.0s,baz=55,slow=8.5,SNR=22						
ASAR				PcP	PcP	13 58 35.1	+1.8
	1.3nm,0.6s,baz=68,slow=2.4,SNR=5.9						
ASAR				ScP	ScP	14 02 13.0	+4.5
	1.0nm,0.8s,baz=66,slow=3.2,SNR=5.6						
KNRA	Kununurra	26.25	245	P	P	13 55 07.4	-0.4
	baz=27,SNR=76						
H11S3	WAKE ISLAND Hy	26.99	29	T	T	14 23 37.7	
	baz=208,slow=76,SNR=11						
H11S2	WAKE ISLAND Hy	27.00	29	T	T	14 23 34.4	
	baz=208,slow=76,SNR=13						
H11S1	WAKE ISLAND Hy	27.01	29	T	T	14 23 34.9	
	baz=208,slow=76,SNR=10						
STKA	Stephens Creek	28.72	201	P	P	13 55 28.8	-1.0
	1.4nm,0.6s,baz=24,slow=10.0,SNR=4.3						
STKA				LR	LR	14 07 28.3	
	comp=Z,119nm,18.1s,baz=26,slow=37						
STKA	Stephens Creek	28.72	201	eP	P	13 55 28.4	-1.3
	0.4nm,0.8s						
FITZ	Fitzroy Crossi	29.91	242	eP	P	13 55 39.9	-0.6
	16nm,0.6s						
LUWI	Luwuk	30.75	277	P	P	13 55 52.4	+4.4
	baz=31,SNR=3.2						
WRKA	Warakurna	31.06	228	P	P	13 55 49.5	-1.1
	baz=31,SNR=19						
WRKA				S	S	14 01 21.2	+29
	baz=31,SNR=7.8						
JAGI	Jajag, Banyuwa	38.99	263	S	S	14 02 57.6	+3.4
	baz=39,SNR=5.1						
MEEK	Meekatharra	39.36	233	P	P	13 57 01.6	-0.4
	baz=40,SNR=25						
URZ	Urewera	39.39	150	P	P	13 57 02.7	+0.7
	5.3nm,0.7s,baz=340,slow=2.5,SNR=4.2						
GIRL	Giralia	41.51	241	P	P	13 57 25.6	+5.9
	baz=42,SNR=3.3						
MORW	Morawa	42.49	232	P	P	13 57 33.1	+5.4
	baz=43,SNR=5.8						
MJAR	Matsushiro Arr	43.86	342	LR	LR	14 13 41.3	
	comp=Z,28nm,21.4s,baz=140,slow=33						
CISI	Cisompet, Garu	45.25	265	P	P	13 57 49.4	-0.6
	baz=46,SNR=3.2						
KSRS	Korea Array	48.58	333	P	P	13 58 15.9	+0.3
	1.9nm,0.8s,baz=143,slow=6.9,SNR=4.3						
KSAR	Wonju Array Be	48.59	333	P	P	13 58 15.9	+0.3
ASAJ	Asahikawa	50.03	350	P	P	13 58 26.1	-0.4
	7.9nm,1.1s,baz=170,slow=12,SNR=2.6						
PETK	Petropavlovsk-	58.21	3	P	P	13 59 25.3	-0.6
	4.5nm,0.9s,baz=170,slow=6.1,SNR=4.4						
CMAR	Chiang Mai Arr	58.49	295	P	P	13 59 28.6	0.0
	4.1nm,0.8s,baz=119,slow=5.3,SNR=20						
TAPN	Taplejung	71.04	301	eP	P	14 00 50.8	+0.3
	14nm,1.0s						
ODAN	Odare	71.17	301	eP	P	14 00 50.3	-1.0
	12nm,0.8s						
RAMN	Ramite	71.88	300	eP	P	14 00 53.3	-2.2
JIRN	Jiri	72.42	301	eP	P	14 00 59.2	+0.3
GUN	Gumba	72.75	301	eP	P	14 01 00.8	-0.1
	12nm,0.8s						
PKI	Pulchoki	73.06	301	eP	P	14 01 01.3	-1.4
PKIN	Phulchoki	73.08	301	eP	P	14 01 01.8	-0.9
	5.4nm,0.6s						
KKN	Kakani	73.23	301	eP	P	14 01 03.3	-0.2
DMN	Daman	73.33	301	eP	P	14 01 04.3	+0.1
	24nm,0.9s						
GKN	Gorkha	73.84	301	eP	P	14 01 07.0	0.0
KOLN	Koldanda	74.67	300	eP	P	14 01 11.7	-0.2
DANN	Dangsing	74.67	301	eP	P	14 01 12.8	+0.8
	9.0nm,0.8s						
PYUN	Piuthan	75.27	301	eP	P	14 01 14.9	-0.5
	20nm,0.8s						
MK31	Makanchi Array	80.95	319	eP	P	14 01 45.5	-0.8
MKAR	Makanchi Array	80.95	319	P	P	14 01 47.0	+0.8
	1.8nm,0.6s,baz=93,slow=7.8,SNR=18						
ZALV	Zalesovo Beam	81.76	326	P	P	14 01 49.3	-1.0
	1.3nm,0.4s,baz=106,slow=4.7,SNR=7.9						
ILAR	Eielson Array	82.34	22	P	P	14 01 50.4	-2.7
	1.2nm,0.8s,baz=242,slow=5.6,SNR=11						
ILAR				LR	LR	14 37 10.3	
	comp=Z,44nm,18.3s,baz=227,slow=35						
QSPA	South Pole Qui	84.76	180	P	P	14 02 06.6	+0.9
	5.7nm,0.9s,baz=342,slow=2.9,SNR=24						
NVAR	Mina Array Bea	91.94	52	LR	LR	14 36 23.1	
	comp=Z,72nm,20.8s,baz=78,slow=30						
YKA	Yellowknife Ar	95.55	28	P	P	14 02 55.2	-1.2
	0.2nm,0.8s,baz=274,slow=3.7,SNR=3.7						
PDAR	Pinedale Array	98.75	48	LR	LR	14 44 03.6	
	comp=Z,65nm,18.2s,baz=274,slow=33						
GERES	GERESS Array B	124.65	329	PKP	PKPdf	14 08 31.6	+0.4
	0.8nm,0.5s,baz=48,slow=2.0,SNR=7.9						
TORD	Torodi Ar. Bea	150.90	288	PKPbc	PKPbc	14 09 24.6	-0.5
	4.8nm,0.6s,baz=88,slow=1.6,SNR=33						

ISCJB 05 13:52:23.9±1.3, 15.3S±0.6×175.0W±0.2, h262km, mb3.7/4, Error ellipse: s-maj=83.5km s-min=12.0km az=159.5
IDC 05 13:52:24.7±1.4, 15.37S×174.94W, h254km±31km, mb3.5/4, mb1 3.9/5, mb1mx3.3/40, mbtmp4.2/5, Error ellipse: s-maj=146.8km s-min=17.2km az=147.0
ISC 05 13:52:24.9±1.8, 15.45S±0.6×174.9W±0.3, h262km, n7, σ0§40/8, mb3.5/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.36	64	P	Pn	13 53 22.3	+0.1
	14nm,0.3s,baz=222,slow=12,SNR=22						
AFI				S	S	13 54 07.4	-0.1
	5.4nm,0.3s,baz=201,slow=21,SNR=4.5						
WRA	Warramunga Arr	48.45	257	P	P	14 00 41.4	-0.1
	1.2nm,0.6s,baz=92,slow=6.9,SNR=10						
ASAR	Alice Springs	48.74	252	P	P	14 00 43.6	-0.2
	7.4nm,0.4s,baz=90,slow=7.6,SNR=104						
ILAR	Eielson Array	82.74	12	P	P	14 04 18.7	-0.4
	0.3nm,0.4s,baz=213,slow=5.4,SNR=11						
PDAR	Pinedale Array	83.24	42	P	P	14 04 22.5	0.0
	0.7nm,0.6s,baz=214,slow=3.7,SNR=6.3						
BRTR	Keskin Array B	145.25	320	PKPbc	PKPab	14 11 33.3	+0.7
	0.8nm,0.6s,baz=92,slow=3.2,SNR=3.8						
GERES	GERESS Array B	145.92	350	PKPbc	PKPbc	14 11 33.8	+0.1
	0.5nm,0.5s,baz=46,slow=4.2,SNR=4.4						

ISCJB 05 14:02:06.3±0.5, 7.91S±0.04×107.26E±0.03, h48km±16km, Error ellipse: s-maj=7.0km s-min=4.9km az=4.7
DJA 05 14:02:06.7±0.5, 8°S±3°×10°7E±°, h31km±4km, M4.0/16, MLv4.0/16
ISC 05 14:02:07.1±1.2, 7.90S±0.05×107.27E±0.03, h41km±35km, n18, σ1§08/28, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	0.60	346	P	Pn	14 02 18.9	-0.3
CNJI				S	Sn	14 02 27.7	-0.1
CISI	Cisompet, Garu	0.63	58	P	Pn	14 02 20.1	+0.4
CISI				S	Sn	14 02 28.1	-0.6
CISI	Cisompet, Garu	0.63	58	P	Pn	14 02 19.6	-0.1
	baz=0.8,SNR=489						
LEM	Lembang	1.11	18	P	Pn	14 02 25.9	-0.5
LEM				S	Sn	14 02 43.6	+3.0
LEM	Lembang	1.11	18	P	Pn	14 02 26.4	0.0
	baz=1.2,SNR=86						
SKJI	Sukabumi	1.14	321	P	Pn	14 02 26.8	+0.3
SKJI				S	Sn	14 02 41.8	+0.9
CMJI	Cimerak	1.17	85	P	Pn	14 02 26.6	-0.4
CMJI				S	Sn	14 02 41.2	-0.5
DBJI	Dramaga	1.43	339	P	Pn	14 02 30.6	0.0
DBJI				S	Sn	14 02 47.8	-0.4
KPJI	Karang Pucung	1.73	71	P	Pn	14 02 34.9	+0.2
KPJI				S	Sn	14 02 56.8	+1.1
CGJI	Cibinong	2.02	309	P	Pn	14 02 38.4	-0.3
CGJI				S	Sn	14 03 00.2	-2.5
XMI	Christmas Isla	2.98	212	P	Pn	14 02 52.5	+0.6
	baz=2.9,SNR=3.5						
XMI				S	Sn	14 03 27.6	+1.2
	baz=2.9,SNR=3.6						
XMIS	Christmas Isla	3.03	212	P	Pn	14 02 52.9	+0.3
	baz=3.0,SNR=11						
XMIS				S	Sn	14 03 26.5	-1.1
	baz=3.0,SNR=4.6						
UGM	Wanagama	3.22	91	P	Pn	14 02 55.2	0.0
UGM				S	Sn	14 03 32.1	-0.2
UGM	Wanagama	3.22	91	P	Pn	14 02 58.7	+3.5
	baz=3.5,SNR=3.7						
KASI	Kota Agung	3.63	310	P	Pn	14 03 01.2	+0.4
PCJI	Pacitan	3.88	95	P	Pn	14 03 04.8	+0.6
PWJI	Pagerwojo	4.49	92	P	Pn	14 03 13.0	+0.4
PWJI				S	Sn	14 04 01.3	-2.3
JAGI	Jajag, Banyuwa	6.83	95	P	Pn	14 03 49.2	+4.4
	baz=7.1,SNR=4.2						

IDC 05 14:04:11.6±0.8, 42.75N×46.13E, h0km, mb3.8/12, mb1 4.0/15, mb1mx3.8/38, mbtmp3.8/15, ML3.4/3, Error ellipse: s-maj=20.1km s-min=11.2km az=175.0
ISCJB 05 14:04:20.6±0.2, 42.87N±0.02×46.13E±0.02, h94km±2km, mb3.8/13, Error ellipse: s-maj=3.9km s-min=2.4km az=34.7
MOS 05 14:04:20.1±0.8, 42.90N×46.18E, h86km, mb4.3/8, Error ellipse: s-maj=8.6km s-min=5.8km az=37.7
TIF 05 14:04:21.8, 42.71N×46.15E, h36km±1km
CSEM 05 14:04:21.5±0.1, 42.85N×46.09E, h91km±1km, mb4.1/9, Error ellipse: s-maj=4.1km s-min=2.6km az=35.0
AZER 05 14:04:22.6±0.0, 42.62N×46.03E, h26km, Error ellipse: s-maj=1.5km s-min=1.1km az=324.0
NNC 05 14:04:26.9±3.5, 43.11N×47.41E, h0km, mb4.1, Error ellipse: s-maj=28.1km s-min=25.6km az=80.0
ISC 05 14:04:21.0±0.6, 42.84N±0.03×46.10E±0.02, h83km±5km, n151, σ1§33/209, mb3.9/13, 25C-30D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	Dylym	0.45	60	iP	Pn	14 04 34.5	-0.2
DLMR	Dylym	0.45	60	iP	Pn	14 04 34.5	-0.2
GRO	Groznyy	0.54	332	⇓iP	Pn	14 04 35.5	+0.1
GRO				iS	Sn	14 04 45.8	-0.3
GRO	Groznyy	0.54	332	iP	Pn	14 04 35.5	+0.1
DBC	Dubki	0.57	71	P	Pn	14 04 37.5	+1.8
DBC	Dubki	0.57	71	P	Pn	14 04 37.5	+1.8
KRNR	Karanay	0.60	91	iP	Pn	14 04 36.0	0.0
KRNR				eS	Sn	14 04 47.0	-0.2

KRNR Karanay 0.60 91 i P Pn 14 04 36.0 0.0
BUJR Buynaksk 0.74 91 i P Pn 14 04 36.0 -1.4
BUJR eS Sn 14 04 47.0 -2.6
GNBR Gunib 0.78 125 eP Pn 14 04 38.9 +1.0
GNBR eS Sn 14 04 51.6 +1.2
GNBR Gunib 0.78 125 eP Pn 14 04 38.9 +1.0
GNBR eS Sn 14 04 51.6 +1.2
SNJR Sundja 0.97 284 ⇑iP Pn 14 04 41.3 +1.4
SNJR eS Sn 14 04 54.8 +0.7
SNJR Sundja 0.97 284 i P Pn 14 04 41.3 +1.4
SNJR eS Sn 14 04 54.8 +0.7
MAK Makhachkala 1.04 83 eP Pn 14 04 42.2 +1.5
MAK e 14 04 59.0
MAK pmax pmax
comp=Z,971nm,0.4s
MAK smax smax
comp=N,9μm,0.5s
MAK smax smax
comp=E,4μm,0.5s
MAK Makhachkala 1.04 83 eP Pn 14 04 42.2 +1.5
comp=E,971nm,0.4s
MAK eS Sn 14 04 59.0 +3.5
comp=E,9μm,0.5s
VLKR Vladikavkaz 1.06 282 ⇓iP Pn 14 04 42.4 +1.4
VLKR eS Sn 14 04 57.2 +1.2
VLKR Vladikavkaz 1.06 282 i P Pn 14 04 42.4 +1.4
VLKR eS Sn 14 04 57.2 +1.2
GUDG Gudauri 1.25 253 P Pn 14 04 44.9 +1.3
GUDG Gudauri 1.25 253 P Pn 14 04 44.9 +1.3
GUDG S Sn 14 05 03.2 +2.8
DUS Dusheti 1.27 234 P Pn 14 04 48.2 +4.5
DUS Dusheti 1.27 234 P Pn 14 04 48.2 +4.5
DUS S Sn 14 05 03.6 +2.9
LACR Lac 1.32 270 ⇓iP Pn 14 04 44.7 +0.4
LACR i S Sn 14 05 02.6 +0.7
LACR Lac 1.32 270 i P Pn 14 04 44.7 +0.4
LACR i S Sn 14 05 02.6 +0.7
TRKR Terskaya 1.33 312 ⇑iP Pn 14 04 45.7 +1.4
TRKR i S Sn 14 05 04.0 +2.2
TRKR Terskaya 1.33 312 i P Pn 14 04 45.7 +1.4
TRKR i S Sn 14 05 04.0 +2.2
ARNR Ardon 1.37 285 eP Pn 14 04 46.0 +1.2
ARNR i S Sn 14 05 04.7 +1.9
ARNR Ardon 1.37 285 eP Pn 14 04 46.0 +1.2
ARNR i S Sn 14 05 04.7 +1.9
DGRG David-gareji 1.49 201 P Pn 14 04 47.9 +1.5
DGRG David-gareji 1.49 201 P Pn 14 04 47.9 +1.5
DGRG S Sn 14 05 08.1 +2.6
TBLG Delisi 1.50 223 P Pn 14 04 47.5 +1.0
TBLG Delisi 1.50 223 P Pn 14 04 47.5 +1.0
TBLG S Sn 14 05 07.4 +1.7
KORR Kora 1.51 280 eP Pn 14 04 47.6 +1.0
KORR i S Sn 14 05 08.0 +2.1
KORR Kora 1.51 280 eP Pn 14 04 47.6 +1.0
KORR i S Sn 14 05 08.0 +2.1
STDR Stavd-Durt 1.58 290 ⇓iP Pn 14 04 48.9 +1.4
STDR i S Sn 14 05 10.0 +2.5
STDR Stavd-Durt 1.58 290 i P Pn 14 04 48.9 +1.4
STDR i S Sn 14 05 10.0 +2.5
PRTR Priterechnaya 1.61 305 ⇑iP Pn 14 04 48.8 +1.0
PRTR i S Sn 14 05 10.2 +2.1
PRTR Priterechnaya 1.61 305 i P Pn 14 04 48.8 +1.0
PRTR i S Sn 14 05 10.2 +2.1
ZEI Tsey 1.62 269 ⇓iP Pn 14 04 48.4 +0.2
ZEI i S Sn 14 05 08.1 -0.6
ZEI Tsey 1.62 269 i P Pn 14 04 48.4 +0.2
ZEI i S Sn 14 05 08.1 -0.6
LSNR Lesken 1.72 285 ⇑iP Pn 14 04 50.4 +1.0
LSNR i S Sn 14 05 12.4 +1.6
LSNR Lesken 1.72 285 i P Pn 14 04 50.4 +1.0
LSNR i S Sn 14 05 12.4 +1.6
SEKA Sheki 1.83 153 ⇑P Pn 14 04 51.3 +0.5
SEKA ⇑S Sn 14 05 13.7 +0.3
SEKA Sheki 1.83 153 P Pn 14 04 51.3 +0.5
SEKA S Sn 14 05 13.7 +0.3
DIGR Digorskoe uzhe 1.85 273 ⇑iP Pn 14 04 51.4 +0.2
DIGR i S Sn 14 05 13.5 -0.6
DIGR Digorskoe uzhe 1.85 273 i P Pn 14 04 51.4 +0.2
DIGR i S Sn 14 05 13.5 -0.6
QZX Qazax, Azerbai 1.86 197 ⇓P Pn 14 04 51.5 +0.3
QZX ⇓S Sn 14 05 12.6 -1.5
QZX Qazax, Azerbai 1.86 197 P Pn 14 04 51.5 +0.3
QZX S Sn 14 05 12.6 -1.5
KZR Kazreti 1.92 221 P Pn 14 04 52.8 +0.8
KZR Kazreti 1.92 221 P Pn 14 04 52.8 +0.8
KZR S Sn 14 05 15.8 +0.2
NCK Nalchik 1.94 291 d iP Pn 14 04 53.4 +1.1
NCK Nalchik 1.94 291 i P Pn 14 04 53.4 +1.1
ONI Oni 1.96 264 eP Pn 14 04 54.5 +1.9
ONI Oni 1.96 264 P Pn 14 04 54.6 +1.9
ONI Oni 1.96 264 eP Pn 14 04 54.5 +1.9
MNGR Mingechevir, A 2.19 160 ⇓P Pn 14 04 56.7 +1.1
MNGR ⇓S Sn 14 05 22.0 0.0
MNGR Mingechevir, A 2.19 160 P Pn 14 04 56.7 +1.1
MNGR S Sn 14 05 22.0 0.0
GANJ Ganja 2.20 176 ⇑P Pn 14 04 55.7 0.0
GANJ ⇑S Sn 14 05 21.3 -0.9
GANJ Ganja 2.20 176 P Pn 14 04 55.7 0.0
GANJ S Sn 14 05 21.3 -0.9
QUBA Quba, Azerbaij 2.32 129 ⇑P Pn 14 04 59.8 +2.5
QUBA ⇑S Sn 14 05 27.3 +2.2
QUBA Quba, Azerbaij 2.32 129 P Pn 14 04 59.8 +2.5
QUBA S Sn 14 05 27.3 +2.2
KBZ Khabaz 2.50 292 P Pn 14 04 59.1 -0.5
KBZ 14 05 26.6
KBZ pmax pmax
comp=Z,13nm,0.3s
KBZ smax smax
comp=N,58nm,0.3s
KBZ Khabaz 2.50 292 Pn Pn 14 04 59.1 -0.5
comp=N,13nm,0.3s,baz=107,slow=4.1,SNR=633
KBZ Sn Sn 14 05 26.6 -2.6
comp=N,58nm,0.3s,baz=127,slow=20,SNR=19
NEY Neytrino 2.51 281 i P Pn 14 05 00.8 +0.9
NEY Neytrino 2.51 281 i P Pn 14 05 00.8 +0.9
IML Ismayilli 2.57 142 ⇑P Pn 14 05 01.7 +1.0
IML ⇓S Sn 14 05 30.4 -0.7
IML Ismayilli 2.57 142 P Pn 14 05 01.7 +1.0
IML S Sn 14 05 30.4 -0.7
BRDA Brd 2.70 162 ⇑P Pn 14 05 03.8 +1.4
BRDA ⇓S Sn 14 05 35.1 +1.0
BRDA Brd 2.70 162 P Pn 14 05 03.8 +1.4
BRDA S Sn 14 05 35.1 +1.0
KIV Kislovodsk 2.72 295 i P Pn 14 05 02.8 0.0
KIV Kislovodsk 2.72 295 i P Pn 14 05 02.8 0.0
SIZA Siyzn 2.73 129 ⇓P Pn 14 05 04.9 +2.0
SIZA ⇓S Sn 14 05 36.2 +1.1
SIZA Siyzn 2.73 129 P Pn 14 05 04.9 +2.0
SIZA S Sn 14 05 36.2 +1.1
PQL Pirkuli 2.77 137 ⇓P Pn 14 05 04.7 +1.2
PQL Pirkuli 2.77 137 P Pn 14 05 04.7 +1.2
GNI Garni 2.88 201 ⇓eP Pn 14 05 06.1 +1.2
GNI Garni 2.88 201 Pn Pn 14 05 07.1 +2.2
comp=N,2.3nm,0.3s,baz=359,slow=4.9,SNR=13
GNI Sn Sn 14 05 41.6 +3.0
comp=N,9.7nm,0.3s,baz=78,slow=19,SNR=6.5
GNI Garni 2.88 201 eP Pn 14 05 06.1 +1.2
GOF Gofitskoye 3.13 316 eP Pn 14 05 08.9 +0.8
GOF eS Sn 14 05 44.0 -0.4
GOF pmax pmax
comp=Z,140nm,0.2s
GOF smax smax
comp=N,890nm,1.0s
GOF smax smax
comp=E,750nm,0.8s
GOF Gofitskoye 3.13 316 eP Pn 14 05 08.9 +0.8
comp=E,890nm,1.0s
GOF eS Sn 14 05 44.0 -0.4
ALIB Äli-Bayra 3.62 142 ⇑P Pn 14 05 17.3 +2.5
ALIB Äli-Bayra 3.62 142 P Pn 14 05 17.3 +2.5
GOBA Gobu 3.66 131 ⇓P Pn 14 05 17.8 +2.5
GOBA ⇓S Sn 14 05 59.4 +2.1
GOBA Gobu 3.66 131 P Pn 14 05 17.8 +2.5
GOBA S Sn 14 05 59.4 +2.1
NAX Nakhchivan 3.69 187 ⇓P Pn 14 05 15.8 -0.1
NAX ⇓S Sn 14 05 56.5 -1.8
NAX Nakhchivan 3.69 187 P Pn 14 05 15.8 -0.1
NAX S Sn 14 05 56.5 -1.8
GALA Gala 3.89 127 ⇑S Sn 14 06 05.6 +2.6
GALA Gala 3.89 127 S Sn 14 06 05.6 +2.6
GLBA Clilabad 3.99 153 ⇑P Pn 14 05 20.4 +0.5
GLBA ⇑S Sn 14 06 04.4 -1.1
GLBA Clilabad 3.99 153 P Pn 14 05 20.4 +0.5
GLBA S Sn 14 06 04.4 -1.1
LKRN Lenkeran, Azer 4.60 153 ⇓Pn Pn 14 05 28.3 +0.2
LKRN Lenkeran, Azer 4.60 153 Pn Pn 14 05 28.3 +0.2
VORD Divnogorie 9.36 333 eP Pn 14 06 34.2 +1.2
VORD pmax pmax
comp=Z,8.0nm,0.6s
VORD pmax pmax
comp=N,70nm,0.8s
VORD pmax pmax
comp=E,160nm,0.8s
VORD Divnogorie 9.36 333 eP Pn 14 06 34.2 +1.2
comp=E,8.0nm,0.6s
VSR Storozhevoye 9.62 333 eP Pn 14 06 37.0 +0.6
VSR pmax pmax
comp=Z,4.0nm,0.7s
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,5.0nm,0.7s
VSR Storozhevoye 9.62 333 eP Pn 14 06 37.0 +0.6
comp=E,6.0nm,0.9s
BRTR Keskin Array B 9.88 256 Pn Pn 14 06 38.8 -1.4
comp=E,0.1nm,0.3s,baz=64,slow=11,SNR=2.1
AKTO Aktyubinsk 11.16 43 ⇓Pn Pn 14 06 56.5 -1.0
comp=E,4.1nm,0.7s
AKTO ⇓Sn Sn 14 08 52.5 -7.8
comp=E,6.1nm,0.6s
AKTO Aktyubinsk 11.16 43 P Pn 14 06 55.8 -1.7
AKTO 14 08 53.8
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO smax smax
comp=N,1.0nm,0.3s
AKTO Aktyubinsk 11.16 43 Pn Pn 14 06 55.8 -1.7
comp=N,1.1nm,0.3s,baz=224,slow=13,SNR=18
AKTO Sn Sn 14 08 53.8 -6.5
comp=N,1.1nm,0.3s,baz=198,slow=20,SNR=5.0
AKTO Aktyubinsk 11.16 43 Pn Pn 14 06 56.5 -1.0
comp=N,4.1nm,0.7s
AB31 Akbulak array 11.56 52 Pn Pn 14 07 01.4 -1.4
comp=N,1.9nm,0.5s,baz=234,slow=12,SNR=46
AB31 ⇑Sn Sn 14 09 01.9 -8.0
comp=N,2.8nm,0.5s,baz=229,slow=21,SNR=8.7
AB31 Akbulak array 11.56 52 Pn Pn 14 07 01.4 -1.4
comp=N,1.9nm,0.5s,baz=234,slow=12,SNR=46
MSAB Monastry St. A 13.33 282 ⇑iP P 14 07 33.4 +0.1
MSAB Monastry St. A 13.33 282 ⇑iP P 14 07 33.4 +0.1
AKASG Malin Array Be 13.96 310 P Pn 14 07 33.2 -1.7
AKASG 14 09 59.8
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG smax smax
comp=N,2.0nm,0.3s
AKASG Malin Array Be 13.96 310 Pn Pn 14 07 33.2 -1.7
comp=N,1.2nm,0.3s,baz=117,slow=12,SNR=4.6
AKASG Sn Sn 14 09 59.8 -8.4
comp=N,2.2nm,0.3s,baz=121,slow=24,SNR=4.1
TESR Tescani 14.31 292 ⇑iP Pn 14 07 40.3 +0.8
MLR Muntele Rosu 14.70 287 ⇑iP P 14 07 49.6 +0.9
MLR Muntele Rosu 14.70 287 ⇑iP P 14 07 49.6 +0.9
VOIR 15.33 287 ⇑iP Pn 14 07 23.9 -29
BURAR Bucovina Array 15.45 295 ⇓P Pn 14 07 54.7 +0.5
BURAR Bucovina Array 15.45 295 ⇓iP Pn 14 07 54.6 +0.4
BURAR Bucovina Array 15.45 295 ⇓iP Pn 14 07 54.6 +0.4
GZR Gura Zlata 16.93 287 ⇓iP P 14 08 15.7 +2.4
GZR Gura Zlata 16.93 287 ⇓iP P 14 08 15.7 +2.4
KK31 Karatay Array 17.86 81 P P 14 08 22.9 -0.6
comp=N,1.4nm,0.5s,baz=271,slow=13,SNR=22
KK31 ⇑S Sn 14 11 34.1 -8.5
comp=N,2.4nm,0.7s,baz=277,slow=30,SNR=4.8
KK31 Karatay Array 17.86 81 P P 14 08 22.9 -0.6
comp=N,1.4nm,0.5s,baz=271,slow=13,SNR=22
KLMR Klimovskoe 18.47 350 eP P 14 08 29.7 -0.3
KLMR pmax pmax
comp=Z,18nm,1.5s
KLMR Klimovskoe 18.47 350 eP P 14 08 29.7 -0.3
comp=Z,18nm,1.5s
BVAR Borovoye Array 19.11 49 P Pn 14 08 37.6 -1.2
comp=Z,0.3nm,0.3s,baz=250,slow=11,SNR=7.4
MORC Moravsky Berou 20.82 299 ⇓P P 14 08 55.8 +0.1
MORC Moravsky Berou 20.82 299 ⇓iP P 14 08 55.5 -0.2
MORC Moravsky Berou 20.82 299 P P 14 08 55.8 +0.1
AAK Ala-Archa 20.82 81 P P 14 08 56.4 +0.4
comp=Z,1.1nm,0.4s,baz=252,slow=6.4,SNR=6.7
JOF Joensuu 21.89 342 eP P 14 09 06.8 -0.1
JOF pmax pmax
comp=Z,2.0nm,0.2s
JOF Joensuu 21.89 342 ep P 14 09 06.8 -0.1
comp=Z,2.0nm,0.2s
JOF Joensuu 21.89 342 eP P 14 09 06.8 -0.1
comp=Z,2.0nm,0.2s
FINES FINESS Array B 22.14 334 P P 14 09 09.1 -0.5
FINES S S 14 13 06.2 -2.1
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES smax smax
comp=N,2.0nm,0.7s
FINES FINESS Array B 22.14 334 P P 14 09 09.1 -0.5
comp=N,3.5nm,0.4s,baz=146,slow=11,SNR=39
FINES S S 14 13 06.2 -2.1
comp=N,1.8nm,0.7s,baz=140,slow=18,SNR=4.2
KAF Kangasniemi 22.58 336 eP P 14 09 14.0 -0.3
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 22.58 336 ep P 14 09 14.0 -0.3
comp=Z,4.6nm,0.5s
KAF Kangasniemi 22.58 336 eP P 14 09 14.0 -0.3
comp=Z,5.0nm,0.5s
GERES GERESS Array B 23.23 296 P P 14 09 21.5 +0.5
comp=Z,0.8nm,0.5s,baz=98,slow=9.4,SNR=7.3
KURBB Kurchatov Arra 23.41 59 P P 14 09 23.1 +0.6
comp=Z,1.1nm,0.6s,baz=268,slow=8.9,SNR=9.2
KURK Kurchatov 23.48 59 P P 14 09 23.1 0.0
KURK Kurchatov 23.48 59 P P 14 09 23.1 0.0
MKAR Makanchi Array 25.83 69 P P 14 09 45.3 +0.8
comp=Z,0.4nm,0.7s,baz=271,slow=8.3,SNR=3.5
HFS Hagfors 26.19 323 P P 14 09 47.4 -0.1
HFS pmax pmax
comp=Z,5.0nm,0.6s
HFS Hagfors 26.19 323 P P 14 09 47.4 -0.1
comp=Z,4.5nm,0.6s,baz=125,slow=10,SNR=29
NB2 NORSAR Subarra 27.69 323 P P 14 10 00.2 -0.8
comp=Z,1.6nm,0.7s,baz=118,slow=8.6
NB2 NORSAR Subarra 27.69 323 P P 14 10 00.2 -0.8
comp=Z,1.6nm,0.7s,baz=118,slow=8.3,SNR=6.5
NOA NORSAR Array B 27.69 323 P P 14 10 00.5 -0.5
NOA pmax pmax
comp=Z,3.0nm,1.2s
NOA NORSAR Array B 27.69 323 P P 14 10 00.5 -0.5
comp=Z,3.1nm,1.2s,baz=128,slow=8.5,SNR=7.6
ARCES ARCESS Array B 28.79 345 P P 14 10 11.1 +0.4
ARCES pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 28.79 345 P P 14 10 11.1 +0.4
comp=Z,0.7nm,0.3s,baz=150,slow=10,SNR=34
TORD Torodi Ar. Bea 48.32 246 P P 14 12 54.2 0.0
comp=Z,0.9nm,0.6s,baz=40,slow=8.1,SNR=5.5
CMAR Chiang Mai Arr 50.59 102 P P 14 13 12.2 +0.7
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 50.59 102 P P 14 13 12.2 +0.7
comp=Z,1.7nm,0.6s,baz=304,slow=8.6,SNR=15
DBIC Dimbokro 57.42 246 P P 14 14 00.7 -0.5
DBIC pmax pmax
comp=Z,1.0nm,0.3s
DBIC Dimbokro 57.42 246 P P 14 14 00.7 -0.5
comp=Z,1.1nm,0.3s,baz=48,slow=8.6,SNR=3.7
YKA Yellowknife Ar 73.88 351 P P 14 15 46.6 +0.3
comp=Z,0.2nm,0.4s,baz=9.3,slow=5.7,SNR=6.9

IDC 05 14:11:30.2±0.7, 55.45S×26.84W, h0km, mb4.3/6, mb1 4.3/7, mb1mx4.0/28, mbtmp4.2/7, ML3.7/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/21, Error ellipse: s-maj=31.2km s-min=19.2km az=70.0
ISCJB 05 14:11:31.9±0.7, 55.42S±0.09×26.9W±0.1, h25km, mb4.3/7, MS3.7/5, Error ellipse: s-maj=15.3km s-min=8.1km az=33.4
NEIC 05 14:11:35.2±0.4, 55.52S×26.96W, h35km, mb4.6/3, Error ellipse: s-maj=15.8km s-min=10.9km az=46.0
ISC 05 14:11:33.9±0.7, 55.55S±0.1×26.9W±0.1, h25km, n31, σ1.51/25, mb4.6/6, MS3.7/5, South Sandwich Islands

region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HOPE Hope Point 5.67 278 ePn Pn 14 12 55.5 -0.9
47nm,0.6s
HOPE eSn Sn 14 14 01.6 +0.9
VNA3 Neumayer Olymp 17.48 161 P P 14 15 36.6 0.0
VNA2 Neumayer--Watz 17.67 159 P P 14 15 39.3 +0.6
baz=325,slow=8.0
SNAA Sanae 19.20 157 P P 14 15 54.6 -1.0
SNAA Sanae 19.20 157 P Pn 14 15 56.0 -0.6
0.2nm,0.3s,baz=295,slow=12,SNR=12
SNAA LR LR 14 23 42.7
comp=Z,34nm,18.6s,baz=26,slow=38
SNAA Sanae 19.20 157 eP P 14 15 54.1 -1.5
6.9nm,0.6s
QSPA South Pole Qui 34.78 180 P P 14 18 21.6 -0.5
4.8nm,0.6s,baz=184,slow=2.2,SNR=19
CPUP Villa Florida 36.56 310 LR LR 14 34 58.9
comp=Z,84nm,18.1s,baz=144,slow=38
CFAA Coronel Fontan 37.49 292 P P 14 18 44.8 -0.7
0.9nm,0.9s,baz=149,slow=7.2,SNR=8.9
MAW Mawson 40.51 144 LR LR 14 33 50.0
comp=Z,118nm,21.0s,baz=222,slow=33
BDFB Brasilia 42.95 329 LR LR 14 36 50.6
comp=Z,130nm,18.0s,baz=188,slow=35
LVC Limon Verde 45.16 299 eP P 14 19 49.1 +0.4
7.2nm,0.6s
BOSA Boshof 45.66 76 LR LR 14 36 06.1
comp=Z,95nm,18.4s,baz=185,slow=32
VNDA Vanda 47.16 183 P P 14 20 04.5 +1.0
4.5nm,0.7s,baz=186,slow=4.2,SNR=8.5
VNDA LR LR 14 41 21.8
comp=Z,51nm,18.3s,baz=252,slow=38
H10S2 ASCENSION HYDR 47.40 17 T T 15 11 42.7
baz=189,slow=75,SNR=5.4
H10S3 ASCENSION HYDR 47.40 17 T T 15 11 34.8
baz=189,slow=75,SNR=5.5
H10S1 ASCENSION HYDR 47.41 17 T T 15 11 39.7
baz=189,slow=75,SNR=6.4
LPAZ La Paz 50.19 304 P P 14 20 28.8 +0.6
2.8nm,0.8s,baz=179,slow=4.1,SNR=12
LPAZ La Paz 50.19 304 eP P 14 20 27.8 -0.3
5.8nm,0.7s
TOA0 Torodi Ar. Sit 72.47 29 eP P 14 22 57.2 -0.8
TORD Torodi Ar. Bea 72.47 29 P P 14 22 57.9 -0.2
3.3nm,0.7s,baz=197,slow=6.4,SNR=18
ASAR Alice Springs 99.49 162 P Pdif 14 25 13.4 -1.2
0.5nm,0.8s,baz=185,slow=3.6,SNR=7.0
WRA Warramunga Arr 103.20 162 Pdiff Pdif 14 25 37.0 +5.9
0.3nm,0.7s,baz=184,slow=4.6,SNR=7.1
CMAR Chiang Mai Arr 125.10 110 PKP PKPdf 14 30 31.6 -0.3
0.9nm,0.8s,baz=226,slow=4.1,SNR=8.8
BVAR Borovoye Array 134.32 57 PKP PKPdf 14 30 49.3 +1.0
1.9nm,0.9s,baz=158,slow=1.6,SNR=6.7
YKA Yellowknife Arr 135.85 318 PKP PKPdf 14 30 51.8 +1.0
0.3nm,0.5s,baz=131,slow=2.1,SNR=8.7
MKAR Makanchi Array 136.54 71 PKP PKPdf 14 30 52.1 -0.5
0.4nm,0.7s,baz=199,slow=3.3,SNR=3.8
KURBB Kurchatov Arra 136.90 64 PKP PKPdf 14 30 54.5 +1.4
0.2nm,0.5s,baz=224,slow=2.9,SNR=4.4
KURK Kurchatov 137.00 64 PKP PKPdf 14 30 54.5 +1.2
INK Inuvik 145.46 321 PKPbc PKPab 14 31 08.3 0.0
2.8nm,0.3s,baz=135,slow=1.4,SNR=7.1
ILAR Eielson Array 149.86 312 PKPbc PKPbc 14 31 20.2 -0.1
2.2nm,0.8s,baz=127,slow=1.9,SNR=24

IDC 05 14:22:04.9±7.4, 1.86N×124.41E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/38, mbtmp3.7/3, Error ellipse: s-maj=186.0km s-min=117.0km az=66.0, Minahassa Peninsula, Sulawesi
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.76 156 P P 14 27 19.5 +0.3
0.8nm,0.5s,baz=334,slow=10,SNR=13
ASAR Alice Springs 27.00 161 P P 14 27 48.9 0.0
0.1nm,0.3s,baz=342,slow=7.2,SNR=11
STKA Stephens Creek 37.31 155 P P 14 29 18.6 -0.4
2.6nm,1.1s,baz=318,slow=14,SNR=3.1

IDC 05 14:22:14.5±4.6, 15.52S×172.50W, h176km±21km, mb3.0/3, mb1 3.3/3, mb1mx3.0/37, mbtmp3.5/3, Error ellipse: s-maj=130.9km s-min=24.8km az=137.0, Samoa Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 1.75 24 P Pn 14 22 49.7 +0.9
5.0nm,0.3s,baz=210,slow=8.1,SNR=16
AFI S Sn 14 23 15.2 -0.1
27nm,0.3s,baz=195,slow=20,SNR=9.1
WRA Warramunga Arr 50.66 257 P P 14 30 56.0 -0.2
0.2nm,0.4s,baz=96,slow=6.0,SNR=10.0
ASAR Alice Springs 50.90 252 P P 14 30 57.8 -0.2
1.3nm,0.6s,baz=90,slow=7.7,SNR=37
ILAR Eielson Array 82.40 11 P P 14 34 16.4 +0.1
0.2nm,0.6s,baz=148,slow=5.2,SNR=5.7

MAN 05 14:34:02, 16.91N×120.19E, h25km, mb4.6, ML3.4, MS3.3, 1C, Luzon
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BOLP Bolinao 0.59 207 eP Pn 14 34 15.0 +0.2
BOLP eS Sn 14 34 25.2 +1.7
BCPH Baguio City Da 0.65 144 ⇑iP Pb 14 34 12.0 -3.0
BCPH i S Sb 14 34 20.2 -3.5
ABRA Dolores 0.89 34 eP Pb 14 34 18.4 -0.4
SCZP Santa Cruz 1.16 193 eP Pn 14 34 22.1 -0.5
APYP Conner 1.38 47 eP Pb 14 34 25.8 +0.1
CAUP Cauayan 1.57 88 eP Pb 14 34 29.6 -0.7
BALP Baler 1.77 131 eP Pn 14 34 30.8 -0.3

IDC 05 14:39:24.6±0.5, 51.17N×160.54E, h0km, mb4.2/34, mb1 4.4/38, mb1mx4.3/56, mbtmp4.2/38, ML3.9/4, MS3.4/14, Ms1 3.4/14, ms1mx3.2/36, Error ellipse: s-maj=13.2km s-min=9.2km az=165.0
KRSC 05 14:39:26.3±2.4, 51.21N×160.66E, h80km±26km, ML4.7
BJI 05 14:39:26.9, 51.67N×160.08E, h10km, mB4.9/13, mb4.6/20, Ms4.2/2, Ms7 4.1/1
ISCJB 05 14:39:27.9±0.6, 51.19N±0.03×160.61E±0.04, h37km±5km, mb4.4/55, MS3.5/13, Error ellipse: s-maj=5.3km s-min=3.7km az=159.7
NEIC 05 14:39:27.2±2.5, 51.15N×160.52E, h20km±15km, mb4.7/24, Error ellipse: s-maj=6.9km s-min=4.4km az=162.0
MOS 05 14:39:28.3±1.0, 51.22N×160.51E, h40km, mb4.7/17, Error ellipse: s-maj=9.3km s-min=5.2km az=93.8
ISC 05 14:39:26.7±0.9, 51.14N±0.05×160.63E±0.04, h17km±5km, n186, σ1.20/213, mb4.5/55, MS3.5/13, 5C-2D, Off east coast of Kamchatka Peninsula
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RUS Russkaya 1.84 315 PN Pn 14 39 56.7 -0.8
RUS S Sn 14 40 17.9 -2.4
RUS Russkaya 1.84 315 eP Pn 14 39 56.7 -0.8
RUS eS Sn 14 40 17.9 -2.4
SPN Mys Shipunski 1.99 349 PN Pn 14 39 58.7 -0.8
SPN S Sn 14 40 20.9 -3.1
SPN Mys Shipunski 1.99 349 P Pn 14 39 58.7 -0.8
SPN eS Sn 14 40 20.9 -3.1
MTVR Mutnovka 2.03 312 eP Pn 14 40 00.1 0.0
MTVR eS Sn 14 40 23.2 -1.9
ASAK Asacha 2.10 307 eP Pn 14 40 01.6 +0.5
ASAK eS Sn 14 40 26.3 -0.6
NLC Nalytchevo 2.18 339 PN Pn 14 40 02.2 +0.1
NLC S Sn 14 40 27.4 -1.2
NLC Nalytchevo 2.18 339 eP Pn 14 40 02.2 +0.1
NLC eS Sn 14 40 27.4 -1.2
PET Petropavlovsk 2.25 328 PN Pn 14 40 02.7 -0.3
PET S Sn 14 40 28.5 -1.7
PET Petropavlovsk 2.25 328 eP Pn 14 40 02.7 -0.3
PET eS Sn 14 40 28.5 -1.7
PET Petropavlovsk 2.25 328 ePn Pn 14 40 02.6 -0.4
UGLR Uglovaya 2.35 332 eP Pn 14 40 04.9 +0.4
UGLR S Sn 14 40 31.5 -1.5
SMAR Somma 2.40 333 P Pn 14 40 06.4 +1.0
PAU Pauzhetka 2.42 279 PN Pn 14 40 05.8 +0.4

PAU S Sn 14 40 33.8 -0.8
PAU Pauzhetka 2.42 279 eP Pn 14 40 05.8 +0.4
PAU eS Sn 14 40 33.7 -0.8
AVH Avacha 2.42 332 eP Pn 14 40 06.6 +1.1
AVH S Sn 14 40 34.5 -0.3
KRER Koryakskii 2.46 333 eP Pn 14 40 07.0 +1.0
KRER eS Sn 14 40 35.4 -0.3
KOK Koryaka 2.48 331 eP Pn 14 40 07.5 +1.2
KOK eS Sn 14 40 36.2 +0.1
KRX Arik 2.53 332 eP Pn 14 40 07.4 +0.3
KRX eS Sn 14 40 36.1 -1.4
MIPR Malaya Ipel'ka 2.67 297 eP Pn 14 40 09.8 +1.0
MIPR eS Sn 14 40 40.7 +0.1
PEA0B Petropavlovsk- 2.67 319 ePn Pn 14 40 08.0 -0.8
PEA0B eSn Sn 14 40 40.0 -0.9
PETK Petropavlovsk- 2.67 319 Pn Pn 14 40 09.4 +0.5
46nm,0.3s,baz=127,slow=19,SNR=1186
PETK Sn Sn 14 40 42.8 +2.0
67nm,0.3s,baz=132,slow=19,SNR=9.7
APC Apacha 2.79 311 eP Pn 14 40 11.7 +1.2
APC eS Sn 14 40 43.7 0.0
SKR Severo-Kuril's 2.90 263 i PN Pn 14 40 11.9 0.0
SKR Severo-Kuril's 2.90 263 eP Pn 14 40 11.7 -0.2
SKR eS Sn 14 40 43.9 -2.4
GNL Ganaly 3.04 328 eP Pn 14 40 15.0 +1.0
GNL eS Sn 14 40 49.1 -0.9
KZV Kizimen 3.98 357 P Pn 14 40 27.6 +0.6
KZV S Sn 14 41 11.0 -2.3
TUMR Tumrok 4.16 356 i P Pn 14 40 30.4 +1.0
TUMR S Sn 14 41 15.4 -2.1
KMNR Kamenistaya 4.63 357 eP Pn 14 40 37.5 +1.7
KMNR eS Sn 14 41 28.4 -0.7
KPT Kopyto 4.84 357 P Pn 14 40 40.0 +1.3
ESO Esso 4.93 347 PN Pn 14 40 41.2 +1.4
ESO Esso 4.93 347 eP Pn 14 40 41.2 +1.4
KOZ Kozyrevsk 4.95 355 P Pn 14 40 40.5 +0.4
KOZR Kozyr 4.95 355 PN Pn 14 40 40.5 +0.3
KRSR Krestovskiy 5.08 360 P Pn 14 40 43.2 +1.1
KLY Klyuchi 5.18 0 PN Pn 14 40 43.9 +0.7
KLY Klyuchi 5.18 0 eP Pn 14 40 43.9 +0.7
KLY eS Sn 14 41 39.3 -3.2
BKI Bering 5.18 36 PN Pn 14 40 42.0 -1.3
BKI Bering 5.18 36 eP Pn 14 40 42.0 -1.3
BKI eS Sn 14 41 35.4 -7.1
SRDR Sredinnyy 5.21 354 P Pn 14 40 44.4 +0.6
KBTR Krutoberegovo 5.24 13 PN Pn 14 40 43.6 -0.5
KBTR Krutoberegovo 5.24 13 eP Pn 14 40 43.6 -0.5
KBTR eS Sn 14 41 38.4 -5.6
BDR Baidarnaya 5.45 3 eP Pn 14 40 48.0 +1.0
SMKR Semkarok 5.47 5 eP Pn 14 40 47.9 +0.6
SMKR eS Sn 14 41 46.8 -3.0
SRKR Sorokina 5.53 3 eP Pn 14 40 49.2 +1.0
SRKR eS Sn 14 41 50.3 -1.0
FX1 Attu Island--F 7.93 72 Pn Pn 14 41 20.3 -0.7
15nm,0.3s,baz=319,slow=5.3,SNR=16
FX1 Sn Sn 14 42 43.7 -6.4
8.8nm,0.3s,baz=288,slow=20,SNR=4.0
FX1 Attu Island--F 7.93 72 ePn Pn 14 41 19.9 -1.0
FX1 eSn Sn 14 42 50.8 +0.6
TILK Tilichiki 9.82 16 P Pn 14 41 47.7 +0.8
SEY Seymchan 12.63 343 Pn Pn 14 42 26.9 +1.7
0.1nm,0.3s,baz=142,slow=12,SNR=13
ASAJ Asahikawa 14.03 247 P Pn 14 42 44.0 -0.5
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 14.03 247 Pn Pn 14 42 44.0 -0.5
comp=Z,1.4nm,0.3s,baz=72,slow=16,SNR=21
ASAJ LR LR 14 47 52.2
comp=Z,31nm,18.6s,baz=5.5,slow=36
HABR Khabarovsk 16.70 271 ceP Pn 14 43 18.3 -1.3
HABR eS Sn 14 46 22.5 -2.0
HABR pmax pmax
comp=Z,24nm,1.7s
HABR pmax pmax
comp=Z,68nm,2.3s
BILL Bilibino 17.17 7 eP Pn 14 43 26.0 +0.6
BILL pmax pmax
comp=Z,40nm,1.0s
BILL Bilibino 17.17 7 ePn Pn 14 43 26.0 +0.6
comp=Z,40nm,1.0s
KLR Kul'dur 18.55 275 eP Pn 14 43 39.2 -3.0
KLR MLR MLR
comp=Z,800nm,11.0s
GAMB Gambell 19.32 39 eP Pn 14 43 51.5 -0.2
comp=Z,24nm,1.6s
YAK Yakutsk 20.01 315 eP P 14 43 56.4 -1.7
YAK eS S 14 47 33.9 -8.3
YAK pmax pmax
comp=E,12nm,1.0s
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,27nm,0.9s
YAK smax smax
comp=N,39nm,1.6s
YAK smax smax
comp=E,18nm,1.3s
YAK Yakutsk 20.01 315 eP P 14 43 56.1 -2.0
comp=E,43nm,0.7s
USRK Ussuriysk Arra 20.41 261 P P 14 44 02.7 0.0
comp=E,2.0nm,0.6s,baz=63,slow=10,SNR=5.0
TNA Tin City 21.59 36 eP P 14 44 15.5 +0.4
comp=E,18nm,1.4s
MJAR Matsushiro Arr 21.66 236 P P 14 44 16.9 +0.7
comp=E,6.0nm,1.0s,baz=37,slow=8.1,SNR=7.8
MJAR LR LR 14 54 35.9
comp=E,40nm,18.1s,baz=50,slow=42
MAJO Matsushiro 21.67 236 eP P 14 44 16.4 +0.2
MAJO pmax pmax
comp=Z,7.0nm,0.7s
MAJO Matsushiro 21.67 236 eP P 14 44 16.4 +0.2
comp=Z,7.0nm,0.7s
TIXI Tiksi 25.00 337 ⇑iP P 14 44 49.6 +0.6
TIXI pmax pmax
comp=Z,7.0nm,0.5s
TIXI Tiksi 25.00 337 eP P 14 44 49.0 0.0
comp=Z,9.5nm,0.5s
HIA Hailar 26.00 282 eP P 14 44 56.4 -2.0
HIA pmax pmax
comp=Z,12nm,0.8s
HIA Hailar 26.00 282 eP P 14 44 56.4 -2.0
comp=Z,12nm,0.8s
KSRS Korea Array 26.86 252 P P 14 45 08.0 +1.8
KSRS pmax pmax
comp=Z,3.0nm,0.7s
KSRS Korea Array 26.86 252 P P 14 45 08.0 +1.8
comp=Z,3.2nm,0.7s,baz=49,slow=9.1,SNR=9.7
KSRS LR LR 14 55 16.7
comp=Z,41nm,19.1s,baz=46,slow=36
KSAR Wonju Array Be 26.89 252 P P 14 45 08.0 +1.5
KSAR Wonju Array Be 26.89 252 P P 14 45 08.0 +1.5
KDAK Kodiak Island 27.52 58 i P P 14 45 13.8 +2.0
JNU Nakatsue 28.20 242 LR LR 14 56 20.8
comp=Z,50nm,19.1s,baz=36,slow=36
ILAR Eielson Array 29.99 43 P P 14 45 33.5 -0.3
comp=Z,0.6nm,0.7s,baz=246,slow=7.7,SNR=21
ILAR PcP PcP 14 48 34.6 -0.9
comp=Z,0.4nm,0.6s,baz=290,slow=3.9,SNR=6.3
H11N2 WAKE ISLAND Hy 31.73 169 T T 15 20 15.9
baz=352,slow=77,SNR=6.4
H11N3 WAKE ISLAND Hy 31.75 169 T T 15 20 22.8
baz=352,slow=77,SNR=6.1
H11N1 WAKE ISLAND Hy 31.75 169 T T 15 20 20.0
baz=352,slow=77,SNR=7.8
EGAK Eagle 32.44 43 eP P 14 45 54.4 -1.0
comp=Z,9.9nm,0.4s
H11S1 WAKE ISLAND Hy 32.92 169 T T 15 21 46.0
baz=352,slow=78,SNR=8.0
H11S3 WAKE ISLAND Hy 32.93 169 T T 15 21 39.6
baz=352,slow=78,SNR=13
H11S2 WAKE ISLAND Hy 32.94 169 T T 15 21 48.6
baz=352,slow=78,SNR=7.0
TLY Talaya 34.77 294 eP P 14 46 12.2 -3.7
TLY pmax pmax
comp=Z,6.0nm,1.1s
TLY Talaya 34.77 294 eP P 14 46 12.2 -3.7
comp=Z,5.7nm,1.1s
INK Inuvik 35.23 36 eP P 14 46 20.2 +0.6
INK pmax pmax
comp=Z,124nm,2.9s
INK Inuvik 35.23 36 P P 14 46 20.7 +1.1
comp=Z,2.3nm,0.7s,baz=323,slow=4.1,SNR=5.0
INK Inuvik 35.23 36 eP P 14 46 20.2 +0.6
comp=Z,124nm,2.9s
ZAK Zakamensk 35.49 292 eP P 14 46 22.5 +0.3
ZAK pmax pmax
comp=Z,3.0nm,1.1s
DLBC Dease Lake 38.97 51 P P 14 46 53.2 +1.7
comp=Z,1.8nm,0.7s,baz=113,slow=6.6,SNR=4.9
GTA Gaotai 43.20 279 eP P 14 47 27.2 +0.6
GTA pP pP 14 47 31.9 -0.1
GTA sP sP 14 47 34.2 +0.1
GTA PcP PcP 14 49 16.7 +1.0
GTA pmax pmax
comp=Z,2.0nm,1.2s
ZAA0 Zalesovo Array 44.14 305 eP P 14 47 32.2 -1.6
ZALV Zalesovo Beam 44.14 305 P P 14 47 33.1 -0.6
comp=Z,1.0nm,0.6s,baz=62,slow=6.9,SNR=6.5
ZALV PcP PcP 14 49 19.8 +1.4
comp=Z,0.8nm,0.5s,baz=82,slow=3.1,SNR=3.5
ZALV LR LR 15 09 03.5
comp=Z,71nm,18.4s,baz=70,slow=40
YKA Yellowknife Ar 44.39 41 P P 14 47 36.5 +0.8
comp=Z,2.0nm,0.8s,baz=296,slow=7.8,SNR=28
YKA PcP PcP 14 49 20.3 +1.1
comp=Z,0.3nm,0.7s,baz=304,slow=4.0,SNR=3.8
NVS Novosibirsk 44.52 306 i P P 14 47 35.0 -1.8
RES Resolute Bay 45.02 21 P P 14 47 41.4 +0.9
comp=Z,1.0nm,0.7s,baz=298,slow=9.3,SNR=3.9
KURK Kurchatov 49.07 304 P P 14 48 13.1 +0.6
KURK PcP 14 49 36.9
KURK Kurchatov 49.07 304 P P 14 48 13.1 +0.6
KURK PcP PcP 14 49 36.9 +1.0
SPITS Spitsbergen Ar 49.12 351 P P 14 48 13.7 +1.1
comp=Z,1.9nm,0.4s,baz=60,slow=8.8,SNR=12
KURBB Kurchatov Arra 49.17 304 P P 14 48 13.1 -0.1
comp=Z,4.4nm,0.8s,baz=61,slow=7.8,SNR=25
KURBB PcP PcP 14 49 36.9 +0.6
comp=Z,1.4nm,0.7s,baz=55,slow=3.3,SNR=7.0
MK31 Makanchi Array 49.33 297 eP P 14 48 13.8 -0.8
MK31 Makanchi Array 49.33 297 eP P 14 48 13.8 -0.8
MKAR Makanchi Array 49.33 297 ceP P 14 48 14.6 0.0
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 49.33 297 P P 14 48 14.4 -0.1
comp=Z,1.2nm,0.5s,baz=60,slow=6.5,SNR=30
MKAR LR LR 15 10 50.1
comp=Z,47nm,18.0s,baz=29,slow=38
BVAR Borovoye Array 51.88 310 P P 14 48 33.4 -0.3
comp=Z,2.0nm,0.5s,baz=64,slow=8.0,SNR=21
BRVK Borovoye 51.91 310 ⇓iP P 14 48 33.8 -0.1
BRVK pmax pmax
comp=Z,9.0nm,1.6s
BRVK Borovoye 51.91 310 eP P 14 48 32.9 -1.0
comp=Z,7.3nm,1.2s
BSMT Bassoo Peak 52.11 58 eP P 14 48 34.8 -0.9
MOD Modoc 52.70 67 eP P 14 48 40.9 +0.8
comp=Z,16nm,1.5s
SLVN Son La 52.91 258 eP P 14 48 40.8 -1.0
comp=Z,18nm,1.3s
WVOR Wild Horse Val 53.33 66 eP P 14 48 45.8 +1.1
WVOR pmax pmax
comp=Z,9.0nm,1.3s
WVOR Wild Horse Val 53.33 66 eP P 14 48 45.8 +1.1
comp=Z,9.0nm,1.3s
FCC Fort Churchill 54.81 38 eP P 14 48 55.1 0.0
FCC Fort Churchill 54.81 38 eP P 14 48 55.1 0.0
ARU Arti 55.07 318 eP P 14 48 56.7 -0.3
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 55.07 318 eP P 14 48 56.7 -0.3
comp=Z,9.2nm,0.8s
ARCES ARCESS Array B 55.25 342 P P 14 48 59.0 +0.8
comp=Z,7.5nm,1.2s,baz=51,slow=8.4,SNR=3.9
ARCES LR LR 15 16 28.9
comp=Z,43nm,18.8s,baz=29,slow=40
BMN Battle Mountai 55.43 67 eP P 14 49 02.0 +1.9
BMN pmax pmax
comp=Z,76nm,2.6s
BMN Battle Mountai 55.43 67 eP P 14 49 02.0 +1.9
comp=Z,76nm,2.6s
SUMG Summit 55.86 7 eP P 14 49 02.2 -0.8
SUMG pmax pmax
comp=Z,12nm,1.1s
SUMG Summit 55.86 7 i P P 14 49 04.0 +1.0
comp=Z,6.1nm,1.0s
SUMG Summit 55.86 7 eP P 14 49 02.2 -0.8
comp=Z,12nm,1.1s
NVAR Mina Array Bea 56.11 69 P P 14 49 06.5 +1.5
comp=Z,2.6nm,0.7s,baz=294,slow=7.3,SNR=17
H17A Grant Village 56.56 59 eP P 14 49 11.0 +2.8
FLWY Flagg Ranch 56.70 60 eP P 14 49 10.3 +1.2
TPH Tonopah 56.98 69 eP P 14 49 12.1 +0.9
TPH Tonopah 56.98 69 eP P 14 49 12.1 +0.9
LOHW Long Hollow 57.06 60 eP P 14 49 12.8 +1.0
CHTO Chiang Mai 57.86 260 eP P 14 49 16.3 -1.1
CHTO Chiang Mai 57.86 260 eP P 14 49 16.3 -1.1
CMAR Chiang Mai Arr 58.13 260 ceP P 14 49 21.5 +2.2
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 58.13 260 P P 14 49 20.8 +1.5
comp=Z,4.7nm,0.8s,baz=27,slow=7.1,SNR=34
CMAR LR LR 15 14 49.5
comp=Z,19nm,22.0s,baz=200,slow=37
KKAR Karatay Array 58.14 300 eP P 14 49 17.9 -1.2
KKAR pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 58.14 300 eP P 14 49 17.9 -1.2
comp=Z,5.1nm,1.0s
PDAR Pinedale Array 58.20 60 P P 14 49 21.0 +1.2
comp=Z,3.0nm,0.8s,baz=304,slow=3.0,SNR=20
TAPN Taplejung 58.70 276 eP P 14 49 23.8 +0.2
comp=Z,22nm,0.9s
ODAN Odare 59.25 276 eP P 14 49 28.7 +1.4
comp=Z,8.9nm,0.7s
ABKAR Akbulak array 59.33 312 eP P 14 49 25.9 -1.3
comp=Z,8.0nm,1.0s
AKTO Aktyubinsk 59.40 314 P P 14 49 27.8 +0.1
comp=Z,1.9nm,0.6s,baz=42,slow=8.0,SNR=3.6
JIRN Jiri 59.44 277 eP P 14 49 29.4 +0.6
comp=Z,10nm,0.6s
GUN Gumba 59.45 278 eP P 14 49 29.6 +0.8
comp=Z,15nm,0.6s
CCUT Cedar City 59.59 67 eP P 14 49 31.1 +1.6
comp=Z,6.3nm,1.2s
RAMN Ramite 59.68 276 eP P 14 49 31.1 +0.8
comp=Z,20nm,0.5s
KKN Kakani 59.91 278 eP P 14 49 33.2 +1.3
ULM Lac du Bonnet 59.92 46 P P 14 49 32.3 +0.9
comp=Z,2.1nm,0.6s,baz=330,slow=8.9,SNR=3.9
PKI Pulchoki 59.99 278 eP P 14 49 33.1 +0.6
comp=Z,11nm,0.6s
PKIN Phulchoki 59.99 278 eP P 14 49 34.0 +1.6
comp=Z,7.3nm,0.5s
SRU San Rafael 60.14 64 eP P 14 49 33.2 -0.1
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael 60.14 64 eP P 14 49 33.1 -0.1
comp=Z,5.6nm,0.9s
DMN Daman 60.15 278 eP P 14 49 34.5 +1.0
comp=Z,28nm,0.8s
GKN Gorkha 60.16 278 eP P 14 49 34.3 +0.8
comp=Z,22nm,0.8s
RSSD Black Hills 60.22 56 eP P 14 49 34.0 +0.3
RSSD pmax pmax
comp=Z,5.0nm,0.6s
RSSD Black Hills 60.22 56 eP P 14 49 34.0 +0.3
comp=Z,4.5nm,0.6s
DANN Dangsing 60.46 279 eP P 14 49 36.3 +0.6
comp=Z,15nm,0.5s
KOLN Koldanda 60.97 279 eP P 14 49 39.7 +0.6
comp=Z,13nm,0.8s
PYUN Piuthan 61.12 280 eP P 14 49 40.5 +0.4
comp=Z,60nm,0.8s
FINES FINESS Array B 62.05 337 P P 14 49 45.6 +0.1
comp=Z,1.4nm,0.5s,baz=45,slow=6.5,SNR=10.0
FINES LR LR 15 20 41.7
comp=Z,87nm,18.1s,baz=276,slow=40
ISCO Idaho Springs 62.39 60 eP P 14 49 48.6 0.0
ISCO pmax pmax
comp=Z,29nm,2.1s
ISCO Idaho Springs 62.39 60 eP P 14 49 48.6 0.0
comp=Z,29nm,2.1s
NB2 NORSAR Subarra 65.51 344 P P 14 50 08.8 +0.4
comp=Z,1.4nm,0.6s,baz=25,slow=6.9
NOA NORSAR Array B 65.51 344 P P 14 50 08.5 +0.1
comp=Z,1.2nm,0.9s,baz=34,slow=8.8,SNR=3.3
NOA LR LR 15 20 38.3
comp=Z,31nm,21.8s,baz=235,slow=38
HFS Hagfors 65.91 343 P P 14 50 11.5 +0.6
comp=Z,0.8nm,0.5s,baz=35,slow=7.8,SNR=3.3
AKASG Malin Array Be 70.46 330 ceP P 14 50 39.2 -0.4
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 70.46 330 P P 14 50 39.3 -0.3
comp=Z,2.4nm,0.5s,baz=30,slow=6.7,SNR=9.8
AKASG LR LR 15 26 36.7
comp=Z,56nm,18.2s,baz=320,slow=40
AK01 Malin Array Si 70.47 330 eP P 14 50 39.3 -0.5
AK02 Malin Array Si 70.51 330 eP P 14 50 39.2 -0.7
TXAR Lajitas Array 71.10 67 P P 14 50 44.6 +0.6
comp=Z,2.9nm,0.6s,baz=298,slow=4.9,SNR=40
KBZ Khabaz 71.19 317 P P 14 50 44.3 +0.1
comp=Z,7.7nm,1.1s,baz=45,slow=13,SNR=4.4
EKA Eskdalemuir Ar 73.04 350 P P 14 50 54.9 -0.1
comp=Z,1.3nm,0.7s,baz=12,slow=28,SNR=3.0
CLL Collm 74.30 340 eP P 14 51 03.0 +0.5
CLL Collm 74.30 340 eP P 14 51 03.0 +0.5
BUR08 Bucovina Ar. S 74.41 330 eP P 14 51 02.4 -1.0
WRAB Tennant Creek 74.45 206 d iP P 14 51 03.2 -0.4
WRAB pmax pmax
comp=Z,71nm,1.7s
WRAB Tennant Creek 74.45 206 eP P 14 51 03.2 -0.4
comp=Z,22nm,1.1s
WRA Warramunga Arr 74.46 206 i P P 14 51 03.5 -0.2
WRA pmax pmax
comp=Z,6.0nm,0.6s
WRA Warramunga Arr 74.46 206 P P 14 51 03.5 -0.2
comp=Z,6.3nm,0.6s,baz=25,slow=6.3,SNR=109
MLR Muntele Rosu 76.09 329 P P 14 51 14.3 +1.1
comp=Z,0.6nm,0.6s,baz=349,slow=5.2,SNR=4.4
GERES GERESS Array B 76.45 338 P P 14 51 15.8 +0.7
comp=Z,0.6nm,0.6s,baz=32,slow=5.2,SNR=6.4
GERES LR LR 15 32 35.3
comp=Z,48nm,18.1s,baz=341,slow=42
AS31 Alice Springs 78.12 205 eP P 14 51 22.9 -1.6
ASAR Alice Springs 78.12 205 P P 14 51 25.1 +0.6
comp=Z,5.3nm,0.7s,baz=18,slow=5.4,SNR=90
BRTR Keskin Array B 78.34 321 P P 14 51 26.2 +0.3
comp=Z,1.2nm,0.8s,baz=43,slow=8.7,SNR=3.3
BRTR LR LR 15 29 46.1
comp=Z,38nm,18.2s,baz=325,slow=39
MMAI Mount Meron Ar 83.35 316 P P 14 51 53.3 +0.7
comp=Z,6.6nm,1.0s,baz=39,slow=47,SNR=2.3
STKA Stephens Creek 84.35 196 P P 14 51 57.8 +0.5
comp=Z,3.9nm,0.9s,baz=344,slow=3.8,SNR=3.8
ESDC Sonseca Array 88.56 348 P P 14 52 17.6 -0.6
comp=Z,0.3nm,0.3s,baz=7.3,slow=3.9,SNR=4.5
KEST Kesra 89.88 337 LR LR 15 37 54.5
comp=Z,20nm,18.6s,baz=288,slow=39
H03N2 Juan Fernandez 133.85 91 T T 17 27 09.3
baz=312,slow=75,SNR=10
H03N1 Juan Fernandez 133.87 91 T T 17 27 06.4
baz=312,slow=75,SNR=13
H03N3 Juan Fernandez 133.87 91 T T 17 27 15.2
baz=312,slow=75,SNR=9.2

SJA 05 14:47:20.9±0.5, 31.55S×68.99W, h107km±4km, ML4.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.36	226	i P	Pn	14 47 38.3	+1.4
RTLS				i S	Sn	14 47 50.6	+1.7
RTLL	Cerro Villicun	0.49	64	i P	Pn	14 47 38.0	+0.6
RTLL				i S	Sn	14 47 50.9	+1.1
RTLL				AML	AML	14 47 51.3	
	comp=Z,29μm,0.3s						
CFAA	Coronel Fontan	0.65	95	i P	Pn	14 47 39.0	+0.5
CFAA				i S	Sn	14 47 52.9	+1.1
AMOG	MOGNA	0.74	35	i P	Pn	14 47 40.2	+0.7
AMOG				i S	Sn	14 47 54.0	+0.7
AMOG				AML	AML	14 47 56.0	
	comp=Z,4μm,0.1s						
AUSP	Uspallata	0.76	206	i P	Pn	14 47 40.8	+1.0
AUSP				i S	Sn	14 47 55.5	+1.4

ISCJB 05 15:10:01.0±0.4, 28.69N±0.03×16.14W±0.03, h10km, Error ellipse: s-maj=4.3km s-min=3.5km az=155.5
CSEM 05 15:10:04.5±0.2, 28.40N×16.21W, h35km±3km, ML4.0, Error ellipse: s-maj=8.4km s-min=4.0km az=171.0
CNRM 05 15:10:04.1, 28.43N×16.26W, h30km, MD3.5
MDD 05 15:10:06.6±0.1, 28.44N×16.23W, h28km±1km, mbLg4.0/12, Error ellipse: s-maj=1.4km s-min=0.7km az=160.0, PRXIMO TT_MODEL: Canary
MDD EMS: IV INTENSIDAD MAXIMA.

ISC 05 15:10:01.7±0.8, 28.49N±0.04×16.21W±0.02, h10km, n47, σ2§42/63, 4C-5D, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBAJ	Bajamar	0.13	291	⇑P	Pg	15 10 11.7	+7.0
	2μm,0.2s,SNR=18						
EBAJ				⇑S	Sg	15 10 14.9	+8.1
	17μm,0.2s,SNR=18						
EBAJ	Bajamar	0.13	291	P	Pg	15 10 11.7	+7.0
	2μm,0.2s,SNR=18						
EBAJ				S	Sg	15 10 14.9	+8.1
	17μm,0.2s,SNR=18						
CRAJ	Montana Rajada	0.41	236	⇓P	Pn	15 10 14.0	0.0
	868nm,0.2s,SNR=18						
CRAJ				S	Sb	15 10 18.7	+1.0
	8μm,0.2s,SNR=12						
CRAJ	Montana Rajada	0.41	236	P	Pn	15 10 14.0	0.0
	868nm,0.2s,SNR=18						
CRAJ				S	Sb	15 10 18.7	+1.0
	8μm,0.2s,SNR=12						
CCAN	Las Canadas	0.44	232	P	Pb	15 10 14.2	+2.4
	216nm,0.1s,SNR=989						
CCAN	Las Canadas	0.44	232	P	Pb	15 10 14.2	+2.4
	216nm,0.1s,SNR=989						
CICO	Icod de los Vi	0.48	253	⇑P	Pn	15 10 15.4	+0.7
	12nm,0.2s,SNR=18						
CICO	Icod de los Vi	0.48	253	P	Pn	15 10 15.4	+0.7
	12nm,0.2s,SNR=18						
EOSO	Osorio	0.71	126	⇓P	Pn	15 10 18.6	+0.7
	32nm,0.1s,SNR=18						
EOSO				S	Sg	15 10 26.8	+1.9
	510nm,0.1s,SNR=7.9						
EOSO	Osorio	0.71	126	P	Pn	15 10 18.6	+0.7
	32nm,0.1s,SNR=18						
EOSO				S	Sg	15 10 26.8	+1.9
	510nm,0.1s,SNR=7.9						
EGOM	La Gomera	0.94	250	⇓P	Pb	15 10 21.1	+1.0
	100nm,0.1s,SNR=18						
EGOM				S	Sg	15 10 31.8	-0.4
	4μm,0.2s						
EGOM	La Gomera	0.94	250	P	Pb	15 10 21.1	+1.0
	100nm,0.1s,SNR=18						
EGOM				S	Sg	15 10 31.8	-0.4
	4μm,0.2s						
EHIG	Higuera	1.41	273	P	Pn	15 10 28.4	+0.9
	77nm,0.2s,SNR=7.9						
EHIG				S	Sn	15 10 44.1	-2.1
	195nm,0.1s,SNR=7.9						
EHIG	Higuera	1.41	273	P	Pn	15 10 28.4	+0.9
	77nm,0.2s,SNR=7.9						
EHIG				S	Sn	15 10 44.1	-2.1
	195nm,0.1s,SNR=7.9						
CHIE	El Hierro	1.73	244	P	Pn	15 10 31.9	+0.1
	12nm,0.2s,SNR=15						
CHIE				S	Sn	15 10 50.2	-3.7
	485nm,0.2s,SNR=12						
CHIE	El Hierro	1.73	244	P	Pn	15 10 31.9	+0.1
	12nm,0.2s,SNR=15						
CHIE				S	Sn	15 10 50.2	-3.7
	485nm,0.2s,SNR=12						
CFTV	Fuerteventura	1.87	92	⇑P	Pn	15 10 34.8	+0.9
	79nm,0.2s,SNR=18						
CFTV				S	Sn	15 10 54.4	-3.2
	109nm,0.2s,SNR=8.4						
CFTV	Fuerteventura	1.87	92	P	Pn	15 10 34.8	+0.9
	79nm,0.2s,SNR=18						
CFTV				S	Sn	15 10 54.4	-3.2
	109nm,0.2s,SNR=8.4						
CFUE	Fuerteventura	2.00	85	⇓P	Pn	15 10 36.6	+1.0
	74nm,0.2s,SNR=18						
CFUE				S	Sn	15 10 58.1	-2.7
	531nm,0.2s,SNR=7.9						
CFUE	Fuerteventura	2.00	85	P	Pn	15 10 36.6	+1.0
	74nm,0.2s,SNR=18						
CFUE				S	Sn	15 10 58.1	-2.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	531nm,0.2s,SNR=7.9						
EFAM	Famara	2.43	74	⇓P	Pn	15 10 43.1	+1.6
	85nm,0.2s,SNR=18						
EFAM				S	Sn	15 11 09.1	-2.2
	259nm,0.2s						
EFAM	Famara	2.43	74	P	Pn	15 10 43.1	+1.6
	85nm,0.2s,SNR=18						
EFAM				S	Sn	15 11 09.1	-2.2
	259nm,0.2s						
FUL	Funchal	4.18	352	eSn	Sn	15 11 52.0	-2.5
FUL				A	A	15 11 55.4	
	91nm,0.3s						
FUL	Funchal	4.18	352	S	Sn	15 11 52.0	-2.5
	46nm,0.3s						
FUL	Funchal	4.18	352	S	Sn	15 11 52.0	-2.5
	46nm,0.3s						
PMAR	Madeira	4.26	352	ePn	Pn	15 11 08.7	+1.9
PMAR				eSn	Sn	15 11 52.9	-3.8
PMAR				A	A	15 11 57.3	
	135nm,0.3s						
PMAR	Madeira	4.26	352	P	Pn	15 11 08.7	+1.9
PMAR				S	Sn	15 11 52.9	-3.8
	67nm,0.3s						
PMAR	Madeira	4.26	352	P	Pn	15 11 08.7	+1.9
PMAR				S	Sn	15 11 52.9	-3.8
	67nm,0.3s						
PMPS	Porto Santo	4.55	359	P	Pn	15 11 13.6	+3.0
PMPS				S	Sn	15 12 00.3	-3.3
	61nm,0.4s						
PMPST	Porto Santo, M	4.57	359	ePn	Pn	15 11 13.6	+2.7
PMPST				eSn	Sn	15 12 00.3	-3.8
PMPST				A	A	15 12 03.5	
	121nm,0.4s						
PMPST	Porto Santo, M	4.57	359	ePn	Pn	15 11 13.6	+2.7
PMPST				eSn	Sn	15 12 00.3	-3.8
	121nm,0.4s						
YBT	Youssef Ben Ta	6.02	75	P	Pn	15 11 31.0	+0.2
YBT				S	Sn	15 12 36.0	-3.8
YBT	Youssef Ben Ta	6.02	75	P	Pn	15 11 31.0	+0.2
YBT				iS	Sn	15 12 36.0	-3.8
CIA	Chichaoua	7.15	63	P	Pn	15 11 47.0	+0.7
CIA				S	Sn	15 13 03.0	-4.6
CIA	Chichaoua	7.15	63	P	Pn	15 11 47.0	+0.7
CIA				iS	Sn	15 13 03.0	-4.6
OUK	Oukaimeden	7.73	67	P	Pn	15 11 56.0	+1.4
OUK				S	Sn	15 13 19.0	-3.5
OUK	Oukaimeden	7.73	67	P	Pn	15 11 56.0	+1.4
OUK				S	Sn	15 13 19.0	-3.5
EGRO	El Granado	11.61	37	S	Sn	15 14 48.8	-8.3
	2.9nm,0.2s,SNR=7.9						
EGRO	El Granado	11.61	37	S	Sn	15 14 48.8	-8.3
	2.9nm,0.2s,SNR=7.9						
ESPR	Espera	12.07	44	S	Sn	15 15 00.2	-8.1
	2.0nm,0.2s,SNR=7.9						
ESPR	Espera	12.07	44	S	Sn	15 15 00.2	-8.1
	2.0nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	12.21	38	S	Sn	15 15 03.1	-8.9
	0.2nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	12.21	38	S	Sn	15 15 03.1	-8.9
	0.2nm,0.1s,SNR=7.9						
ECAB	El Cabril	13.13	41	S	Sn	15 15 25.4	-9.1
	0.4nm,0.1s,SNR=7.9						
ECAB	El Cabril	13.13	41	S	Sn	15 15 25.4	-9.1
	0.4nm,0.1s,SNR=7.9						
EQES	Quesada	14.38	46	S	Sn	15 15 54.4	-11
	0.4nm,0.1s,SNR=7.9						
EQES	Quesada	14.38	46	S	Sn	15 15 54.3	-11
	0.4nm,0.1s,SNR=7.9						

IDC 05 15:22:23.4±2.4, 22.07N×143.97E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/41, mbtmp3.5/4, Error ellipse: s-maj=70.1km s-min=31.6km az=75.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CMAR	Chiang Mai Arr	42.28	274	P	P	15 30 18.7	-0.3
	0.2nm,0.3s,baz=82,slow=6.6,SNR=3.4						
WRA	Warramunga Arr	42.80	193	P	P	15 30 23.1	0.0
	0.4nm,0.5s,baz=17,slow=8.8,SNR=11						
ASAR	Alice Springs	46.50	193	P	P	15 30 52.5	-0.2
	0.2nm,0.6s,baz=18,slow=13,SNR=4.1						
FINES	FINESS Array B	83.16	335	P	P	15 34 51.2	+0.1
	1.4nm,0.8s,baz=56,slow=7.1,SNR=4.2						

IDC 05 16:15:34.8±1.6, 1.88N×96.59E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/26, mbtmp3.4/6, ML3.2/2, Error ellipse: s-maj=38.6km s-min=22.6km az=49.0
ISCJB 05 16:15:38.3±0.9, 1.91N±0.07×96.68E±0.07, h28km, mb3.4/4, Error ellipse: s-maj=11.7km s-min=7.4km az=138.0
DJA 05 16:15:40.4±0.6, 2°N±4°×9°7E±°, h10km, M3.0/4, MLv3.0/4
ISC 05 16:15:39.5±1.0, 2.05N±0.07×96.74E±0.06, h28km, n13, σ0.70/13, mb3.4/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SNSI	Sinabang, Aceh	0.55	311	P	Pn	16 15 51.4	0.0
SNSI				S	Sn	16 16 00.2	+0.5
GSI	Gunungsitoli	1.11	131	P	Pb	16 15 59.7	-0.4
TPTI		1.28	20	P	Pn	16 16 02.2	+0.6
TPTI				S	Sb	16 16 20.0	+0.9
KCSI	Kotacane, Aceh	1.79	35	P	Pb	16 16 10.4	-1.3
PSI	Prapat	2.31	71	Pn	Pn	16 16 16.5	+0.7
	1.2nm,0.3s,baz=267,slow=18,SNR=2.5						
PSI				Sn	Sb	16 16 48.5	-0.2
	1.6nm,0.3s,baz=278,slow=19,SNR=4.8						
CMAR	Chiang Mai Arr	16.45	7	Pn	P	16 19 30.4	-0.6
	0.2nm,0.3s,baz=197,slow=11,SNR=9.9						
H08S2	Diego Garcia H	26.03	248	T	T	16 48 00.7	
	baz=69,slow=75,SNR=41						
H08S3	Diego Garcia H	26.04	248	T	T	16 47 56.3	
	baz=69,slow=75,SNR=43						
H08S1	Diego Garcia H	26.05	248	T	T	16 47 59.9	
	baz=69,slow=75,SNR=47						
WRA	Warramunga Arr	42.87	122	P	P	16 23 35.5	-0.2
	0.3nm,0.6s,baz=301,slow=9.1,SNR=6.9						
ASAR	Alice Springs	44.27	127	P	P	16 23 46.8	-0.2
	0.1nm,0.5s,baz=302,slow=8.7,SNR=3.7						
MKAR	Makanchi Array	46.32	346	P	P	16 24 03.6	+0.7
	0.5nm,0.6s,baz=163,slow=7.1,SNR=7.2						
ZALV	Zalesovo Beam	52.66	351	P	P	16 24 51.2	+0.1
	0.9nm,0.6s,baz=163,slow=5.7,SNR=5.9						

ISCJB 05 16:20:45.5±0.5, 31.25N±0.05×130.3E±0.1, h162km±4km, mb3.4/4, Error ellipse: s-maj=16.1km s-min=7.7km az=10.6
IDC 05 16:20:46.0±1.2, 31.29N×130.02E, h148km±13km, mb3.2/4, mb1 3.3/5, mb1mx3.0/25, mbtmp3.6/5, Error ellipse: s-maj=32.7km s-min=12.5km az=102.0
JMA 05 16:20:48.2±0.1, 31.32N×130.45E, h150km±1km, M3.1
ISC 05 16:20:46.4±0.9, 31.25N±0.06×130.32E±0.10, h161km±6km, n14, σ1.19/22, mb3.3/4, Kyushu

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JSU	Suzuyama	0.28	24	P	Pn	16 21 08.6	+0.4
JSU				S	Sn	16 21 24.6	-0.3
JTSR	Tashiro 2	0.52	99	P	Pn	16 21 09.4	+0.3
JTSR				S	Sn	16 21 25.0	-1.4
JSJ	Shimokoshiki	0.67	309	P	Pn	16 21 10.8	+0.9
JSJ				S	Sn	16 21 28.2	+0.3
JTN	Tanegashima 3	0.82	136	P	Pn	16 21 11.4	+0.5
JTN				S	Sn	16 21 29.2	-0.4
JTZ	Takazaki	0.92	45	P	Pn	16 21 11.5	0.0
JTZ				eS	Sn	16 21 28.8	-2.1
JYAK	Yakushimahirau	1.03	171	P	Pn	16 21 13.4	+1.0
JYAK				S	Sn	16 21 32.0	-0.4
JIU2	Izumi 2	1.35	18	P	Pn	16 21 15.5	+0.2
JIU2				eS	Sn	16 21 35.9	-1.8
JNU	Nakatsue	1.92	14	P	Pn	16 21 21.1	-0.2
	8.9nm,0.3s,baz=203,slow=15,SNR=139						
JOW	Kunigami	4.76	203	P	Pn	16 21 56.3	-0.5
	0.1nm,0.3s,baz=130,slow=18,SNR=5.4						
JOW				S	Sn	16 22 49.0	-2.8
	0.1nm,0.3s,baz=36,slow=19,SNR=3.3						
MJAR	Matsushiro Arr	8.41	49	P	Pn	16 22 46.2	+1.0
	0.7nm,0.3s,baz=239,slow=11,SNR=14						
WRA	Warramunga Arr	51.05	175	P	P	16 29 33.2	+0.9
	0.3nm,0.6s,baz=354,slow=8.0,SNR=5.1						
ASAR	Alice Springs	54.72	176	P	P	16 30 00.8	+1.7
	0.3nm,0.6s,baz=357,slow=6.1,SNR=9.3						
FINES	FINESS Array B	69.42	330	P	P	16 31 36.5	-0.1
	0.6nm,0.3s,baz=72,slow=5.1,SNR=7.7						
AKASG	Malin Array Be	72.92	319	P	P	16 31 57.4	-0.5
	0.2nm,0.3s,baz=57,slow=6.1,SNR=3.0						

IDC 05 16:29:23.7±3.1, 16.18S×173.34W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/32, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=152.9km s-min=23.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AFI	Afiamalu	2.71	34	Pn	Pn	16 30 07.7	-1.0
	3.5nm,0.3s,baz=206,slow=4.6,SNR=12						
AFI				Sn	Sn	16 30 36.5	-5.9
	22nm,0.3s,baz=71,slow=22,SNR=14						
WRA	Warramunga Arr	49.72	257	P	P	16 38 18.2	0.0
	0.2nm,0.6s,baz=97,slow=6.1,SNR=5.1						
ASAR	Alice Springs	49.93	253	P	P	16 38 19.2	-0.4
	0.9nm,0.7s,baz=90,slow=8.0,SNR=18						
PDAR	Pinedale Array	82.81	42	P	P	16 41 50.7	+0.4
	0.3nm,0.7s,baz=237,slow=4.2,SNR=4.0						
ILAR	Eielson Array	83.19	11	P	P	16 41 51.6	+0.2
	0.2nm,0.7s,baz=218,slow=5.7,SNR=3.1						

ISCJB 05 16:37:36.1±0.6, 6.92N±0.06×73.03W±0.08, h166km, mb3.2/1, Error ellipse: s-maj=12.5km s-min=6.4km az=36.1
FUNV 05 16:37:37.7, 6.79N×73.08W, h150km, MW3.1
IDC 05 16:37:38.8±7.0, 6.80N×75.74W, h127km±83km, mb2.9/1, mb1 3.2/2, mb1mx2.9/24, mbtmp3.4/2, Error ellipse: s-maj=182.7km s-min=36.2km az=80.0
ISC 05 16:37:36.6±1.1, 6.88N±0.07×72.99W±0.09, h166km, n20, σ0.91/24, 4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CAPV	Capacho	1.18	35	⇓iP	Pn	16 38 05.7	+1.0
CAPV				eS	Sn	16 38 24.5	-1.9
ROSC	El Rosal	2.42	214	P	Pn	16 38 18.0	0.0
	12nm,0.3s,baz=103,slow=19,SNR=15						
ROSC				S	Sn	16 38 48.7	-1.3
	26nm,0.3s,baz=92,slow=19,SNR=12						
SOCV	Socops	2.53	57	⇓eP	Pn	16 38 19.7	+0.7
SOCV				eS	Sn	16 38 50.7	-1.1
ELOV	Elorza	3.48	88	eP	Pn	16 38 30.7	0.0
VIRV	Villa del Rosa	3.64	9	⇓iP	Pn	16 38 32.4	-0.3
VIRV				eS	Sn	16 39 14.9	-1.6
QARV	Quebrada Arrib	4.11	36	⇓iP	Pn	16 38 40.0	+1.3
SANV	Sanarito	4.30	53	eP	Pn	16 38 42.0	+0.7
CURV	Curarigua	4.32	44	eP	Pn	16 38 42.1	+0.6
DABV	Dabajuro	4.64	30	eP	Pn	16 38 46.5	+0.9
TEPV	Terepaima	4.85	51	eP	Pn	16 38 49.5	+1.1
SIQV	Siquisique	4.89	40	eP	Pn	16 38 49.1	+0.2
BAUV	El Baul	5.31	67	eP	Pn	16 38 54.1	-0.4
MAPV	Macapo	5.36	57	eP	Pn	16 38 55.8	+0.7
MONV	Montecano	5.85	30	eP	Pn	16 39 01.5	-0.1
TURV	Turiamo	6.20	55	eP	Pn	16 39 06.9	+0.7
BIRV	Birongo	7.54	61	eP	Pn	16 39 24.2	+0.2
CUPV	Cœpira	7.79	66	eP	Pn	16 39 27.6	+0.3
YKA	Yellowknife Ar	63.25	340	P	P	16 47 48.0	+0.9
	0.2nm,0.5s,baz=130,slow=7.1,SNR=5.2						
ASAR	Alice Springs	149.25	234	PKPbc	PKPbc	16 57 06.7	+0.2
	0.3nm,1.0s,baz=104,slow=3.7,SNR=3.4						
WRA	Warramunga Arr	150.48	241	PKPbc	PKPbc	16 57 09.7	+0.1
	0.3nm,1.0s,baz=106,slow=2.7,SNR=5.2						

JMA 05 16:37:56.7±0.4, 21.92N×123.47E, h46km, M3.9, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HATJ	Hateruma jima	2.15	8	P	Pn	16 38 31.1	+1.0
HATJ				S	Sn	16 38 56.4	+0.9
JKRS	Kuro-shima	2.36	12	S	Sn	16 39 01.7	+1.0
IRIF	Iriomote-Funau	2.42	6	eS	Sn	16 39 03.9	+1.8
JYNG	Yonagunijimaku	2.56	349	P	Pn	16 38 37.4	+1.6
YOJ	Yonaguni jima	2.56	351	P	Pn	16 38 37.3	+1.5
JISG	Ishigakijimahi	2.77	16	P	Pn	16 38 39.9	+1.4
JTJ	Tarama	2.94	22	P	Pn	16 38 41.6	+0.7

IDC 05 17:15:29.9±1.6, 0.89N×125.43E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=170.3km s-min=26.2km az=64.0
DJA 05 17:15:35.1±0.4, 1°N±5°×12°6E±°, h10km, M3.6/5, MLv3.6/5
ISCJB 05 17:15:36.3±0.8, 1.07N±0.09×126.19E±0.05, h44km, mb3.6/4, Error ellipse: s-maj=12.7km s-min=6.7km az=7.1
ISC 05 17:15:36.4±0.9, 1.12N±0.07×126.19E±0.06, h44km, n11, σ1.26/12, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TNTI	Ternate	1.23	106	P	Pn	17 15 57.4	+0.3
TNTI				S	Sn	17 16 13.4	+0.8
LBMI	Labuha	2.19	143	P	Pn	17 16 12.5	+2.2
KMSI	Cibinong	2.27	256	P	Pn	17 16 12.3	+0.8
KMSI				S	Sn	17 16 39.3	+1.0
SGSI	Sangihe	2.63	345	P	Pn	17 16 18.1	+1.7
SANI	Sanana	3.16	184	P	Pn	17 16 24.3	+0.7
GTOI	Gorontalo	3.21	261	P	Pn	17 16 32.7	+8.3
APSI	Ampana	4.97	246	P	Pn	17 16 53.7	+5.2
WRA	Warramunga Arr	22.41	160	P	P	17 20 30.6	-0.9
	1.2nm,0.3s,baz=336,slow=11,SNR=27						
ASAR	Alice Springs	25.76	164	P	P	17 21 03.1	-0.1
	0.3nm,0.3s,baz=346,slow=11,SNR=24						
ASAR				PcP	PcP	17 24 32.0	-0.4
	0.2nm,0.4s,baz=344,slow=2.2,SNR=8.0						
STKA	Stephens Creek	35.92	157	P	P	17 22 32.4	-0.3
	2.4nm,0.9s,baz=315,slow=5.7,SNR=2.8						
MKAR	Makanchi Array	59.39	326	P	P	17 25 32.8	-1.6
	0.1nm,0.5s,baz=119,slow=7.4,SNR=3.0						

MEX 05 17:23:33.5±0.4, 15.63N×93.82W, h91km±5km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PCIG		0.59	83	eP	Pn	17 23 47.6	-1.4
PCIG				iS	Sn	17 23 59.0	-1.6
CCIG	Comitan	1.75	68	eP	Pn	17 24 01.3	-1.4
CCIG				iS	Sn	17 24 23.0	-1.8
CMIG	Matias Romero	1.77	325	eP	Pn	17 24 01.8	-1.0
CMIG				iS	Sn	17 24 23.2	-1.8
HUIG	Huatulco	2.21	274	eP	Pn	17 24 07.2	-1.0
HUIG				iS	Sn	17 24 33.5	-1.6

NNC 05 17:32:29.3±1.4, 38.73N×69.42E, h0km, mb4.0, mpv3.5, 7C-1D, Error ellipse: s-maj=10.7km s-min=8.5km az=173.0, Tajikistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KK31	Karatay Array	4.45	10	Pn	Pn	17 33 37.2	-0.9
	1.2nm,0.1s,baz=3.4,slow=42,SNR=17						
KK31				Pg	Pb	17 33 49.7	+1.3
	4.1nm,0.3s,baz=194,slow=16,SNR=15						
KK31				⇑Sn	Sn	17 34 31.9	+1.3
	1.8nm,0.3s						
KK31				⇑Lg	Lg	17 34 49.8	
	8.8nm,0.5s,baz=191,slow=33,SNR=9.6						
AAK	Ala-Archa	5.49	43	⇑Pn	Pn	17 33 53.3	+0.8
	2.9nm,0.6s						
AAK				⇓Sn	Sn	17 34 58.0	+1.4
	2.6nm,0.5s						
AAK				⇑Lg	Lg	17 35 23.3	
	8.1nm,0.8s						
TKM2	Tokmak 2	6.28	46	⇑Pn	Pn	17 34 02.6	-1.0
	4.0nm,0.8s						
TKM2				⇑Sn	Sn	17 35 17.3	+1.0
	9.7nm,0.8s						
AB31	Akbulak array	12.53	330	P	Pn	17 35 30.4	+1.6
	1.4nm,0.7s,baz=145,slow=13,SNR=28						
AKTO	Aktyubinsk	14.23	329	⇑P	Pn	17 35 52.2	+0.2
	3.3nm,0.9s						

SZGRF 05 17:32:12.3, 22.48S×176.97W, h33km, South of Fiji Islands
ISCJB 05 17:32:47.0±0.3, 22.60S±0.03×178.29W±0.06, h352km, mb4.2/31, Error ellipse: s-maj=8.0km s-min=4.3km az=9.6
NEIC 05 17:32:46.2±1.1, 22.63S×178.01W, h342km±11km, mb4.6/17, Error ellipse: s-maj=19.0km s-min=10.9km az=98.0
IDC 05 17:32:48.5±2.0, 22.42S×178.65W, h351km±19km, mb3.6/14, mb1 3.9/15, mb1mx3.9/19, mbtmp4.4/15, Error ellipse: s-maj=16.5km s-min=12.5km az=140.0
BJI 05 17:32:49.0, 22.03S×178.71W, h341km, mB4.7/12, mb4.4/21
ISC 05 17:32:48.0±0.4, 22.63S±0.06×178.22W±0.07, h352km, n132, σ1.62/155, mb4.4/31, 19C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MSVF	Nonsavu	6.00	324	ePn	Pn	17 34 20.8	+1.7
RAO	Raoul Island	6.60	178	ePn	Pn	17 34 19.5	-6.2
RAO				eS	S	17 35 52.5	+7.4
NIUE	Niue	8.52	67	P	P	17 34 51.9	+1.0
	baz=8.2,SNR=7.6						
NIUE				S	S	17 36 24.7	-2.0
	baz=8.2,SNR=9.5						
AFI	Afiamalu	10.61	36	P	Pn	17 35 09.6	-3.9
	15nm,0.3s,baz=181,slow=3.5,SNR=18						
AFI				S	S	17 36 59.0	-14
	20nm,0.3s,baz=267,slow=22,SNR=12						
AFI	Afiamalu	10.61	36	ePn	Pn	17 35 09.9	-3.5
AFI				eS	S	17 36 59.0	-14
DZM	Mont Dzumac	14.21	269	P	Pn	17 35 57.4	+1.7
	6.9nm,0.3s,baz=189,slow=20,SNR=69						
DZM				S	S	17 38 06.2	-22
	baz=6.0,slow=19,SNR=4.4						
DZM	Mont Dzumac	14.21	269	eP	Pn	17 35 59.2	+3.4
	89nm,0.8s						
DZM	Mont Dzumac	14.21	269	eP	Pn	17 35 58.5	+2.8
NOUC	Port Laguerre	14.33	269	eP	Pn	17 35 59.4	+2.3
MXZ	Matakaoa Point	15.18	191	PN	P	17 36 04.9	+0.6
MXZ				SN	S	17 38 45.1	-2.2
HAZ	Te Kaha	15.46	192	ePN	P	17 36 07.3	-0.1
PUZ	Puketiti	15.69	190	ePN	P	17 36 09.1	-0.8
PUZ				SN	S	17 38 54.4	-2.9
MWZ	Matawai	16.07	192	ePN	P	17 36 13.9	-0.2
URZ	Urewera	16.09	193	P	P	17 36 14.0	-0.2
	25nm,0.3s,baz=338,slow=1.3,SNR=90						
URZ				S	S	17 39 07.4	+2.2
	5.8nm,0.3s,baz=90,slow=20,SNR=16						
URZ	Urewera	16.09	193	eP	P	17 36 14.1	-0.1
	74nm,0.4s						
URZ				eS	S	17 39 04.2	-1.0
URZ	Urewera	16.09	193	ePN	P	17 36 13.3	-0.9
RAGZ	Rawiri	16.25	192	ePN	P	17 36 15.2	-0.8
RIGZ	Rimuhau	16.39	191	ePN	P	17 36 18.8	+1.2
KNZ	Kokohu	16.71	191	ePN	P	17 36 21.1	+0.2
BKZ	Black Stump Fm	17.09	194	eP	P	17 36 25.1	0.0
	14nm,0.4s						
BKZ				eS	S	17 39 23.1	-2.1
BKZ	Black Stump Fm	17.09	194	ePN	P	17 36 25.2	+0.1
KAHZ	Kahuranaki	17.61	193	ePN	P	17 36 31.7	+1.0
PXZ	Pawanui	17.84	192	PN	P	17 36 31.9	-1.1
PXZ				SN	S	17 39 38.3	-1.3
ANWZ	Angora Road	18.34	193	ePN	P	17 36 39.2	+0.9
BFZ	Birch Farm	18.60	193	eP	P	17 36 41.8	+0.7
	43nm,1.3s						
BFZ				eS	S	17 39 56.5	+2.2
BFZ	Birch Farm	18.60	193	ePN	P	17 36 41.0	-0.1
BFZ				SN	S	17 39 51.8	-2.6
TIWZ	Tintock	18.77	194	PN	P	17 36 44.8	+2.0
SNZO	South Karori	19.55	196	eP	P	17 36 51.0	-0.1
	12nm,0.5s						
QRZ	Quartz Range	19.75	201	ePN	P	17 36 54.1	+0.8
NNZ	Nelson	19.84	199	ePN	P	17 36 54.5	+0.4
THZ	Tophouse	20.48	199	ePN	P	17 37 01.7	+1.4
RPZ	Rata Peaks	22.83	200	eP	P	17 37 23.2	+1.8
	33nm,1.5s						
CTAO	Charters Tower	33.14	268	eP	P	17 38 52.5	-0.2
	7.2nm,0.5s						
MTSU	Mount Surprise	35.34	270	P	P	17 39 12.1	+0.5
	baz=35,SNR=12						
PMG	Port Moresby	35.68	286	eP	P	17 39 13.6	-0.8
	26nm,0.8s						
PMG	Port Moresby	35.68	286	P	P	17 39 14.1	-0.3
	baz=36,SNR=5.9						
STKA	Stephens Creek	36.72	247	P	P	17 39 21.2	-1.8
	1.7nm,0.5s,baz=87,slow=11,SNR=5.5						
STKA	Stephens Creek	36.72	247	eP	P	17 39 23.5	+0.5
	0.7nm,0.9s						
STKA	Stephens Creek	36.72	247	P	P	17 39 23.9	+1.0
	baz=37,SNR=4.2						
AS31	Alice Springs	43.87	259	P	P	17 40 20.5	-0.7
ASAR	Alice Springs	43.87	259	P	P	17 40 20.8	-0.4
	2.0nm,0.6s,baz=97,slow=7.5,SNR=43						
ASAR				ScP	ScP	17 45 17.9	-0.1
	1.0nm,0.9s,baz=111,slow=5.2,SNR=4.1						
WRAB	Tennant Creek	44.14	264	P	P	17 40 18.5	-4.7
	4.6nm,0.9s						
WRA	Warramunga Arr	44.15	264	P	P	17 40 19.2	-4.1
	1.2nm,0.3s,baz=103,slow=9.4,SNR=32						
WRA				ScP	ScP	17 45 19.3	+0.2
	1.2nm,0.9s,baz=90,slow=4.6,SNR=4.6						
WRA				S	S	17 46 22.4	-7.1
	1.0nm,0.9s,baz=97,slow=15,SNR=3.7						
KDU	Kakadu	47.83	273	P	P	17 40 51.1	-0.7
	baz=48,SNR=4.1						
MBWA	Marble Bar	57.22	259	eP	P	17 41 58.8	-1.2
	5.4nm,0.5s						
QSPA	South Pole Qui	67.45	180	P	P	17 43 08.7	+2.2
	4.3nm,0.8s,baz=23,slow=0.4,SNR=22						
QSPA	South Pole Qui	67.45	180	eP	P	17 43 08.1	+1.5
	70nm,2.4s						
MJAR	Matsushiro Arr	71.81	324	P	P	17 43 31.6	-1.6
	3.7nm,0.7s,baz=158,slow=5.7,SNR=8.4						
MAT	Matsushiro	71.81	324	P	P	17 43 33.3	+0.1
KSM	Kuching	73.52	279	eP	P	17 43 43.1	-0.6
	6.4nm,0.6s						
YSS	Yuzh-Sakhalins	77.71	334	eP	P	17 44 06.6	+0.2
	5.8nm,0.6s						
PEA0B	Petropavlovsk-	78.27	345	P	P	17 44 09.4	+0.1
PETK	Petropavlovsk-	78.27	345	P	P	17 44 07.9	-1.4
	6.2nm,0.7s,baz=150,slow=5.8,SNR=12						
KSRS	Korea Array	78.35	319	P	P	17 44 09.6	-0.5
	0.6nm,0.6s,baz=132,slow=5.9,SNR=2.6						
USRK	Ussuriysk Arra	80.61	326	P	P	17 44 20.9	-1.1
	5.3nm,0.8s,baz=134,slow=4.2,SNR=7.7						
NJ2	Nanjing	81.08	310	eP	P	17 44 23.3	-1.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
QIZ	Qiongzhong	81.55	295	P	P	17 44 26.6	-0.9
QIZ				S	S	17 54 12.3	+2.6
QIZ				pmax	pmax		
	comp=Z,17nm,1.8s						
MDJ	Mudanjiang	82.14	325	P	P	17 44 31.3	+1.3
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NVAR	Mina Array Bea	82.71	43	P	P	17 44 33.5	+0.2
	0.6nm,0.5s,baz=246,slow=6.8,SNR=4.5						
GAMB	Gambell	86.27	3	eP	P	17 44 50.4	+0.3
	67nm,2.6s						
ENH	Enshi	87.07	304	eP	P	17 44 55.6	+0.8
GYA	Guiyang	87.53	300	eP	P	17 44 58.0	+0.8
GYA				pP	pP	17 46 18.2	-1.1
GYA				sP	sP	17 46 52.8	-3.1
GYA				PP	PP	17 48 31.2	+3.0
GYA				SKS	SKSac	17 54 50.6	-0.5
GYA				S	S	17 55 08.7	+0.4
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TXAR	Lajitas Array	88.37	57	P	P	17 45 02.3	+1.3
	0.8nm,0.9s,baz=232,slow=4.4,SNR=5.7						
TRF	Thorofare Moun	88.56	12	eP	P	17 44 59.7	-1.5
	11nm,0.8s						
MCK	McKinley	89.09	13	eP	P	17 45 02.9	-0.5
	94nm,2.6s						
ILAR	Eielson Array	90.43	13	P	P	17 45 08.9	-0.7
	1.7nm,0.7s,baz=218,slow=5.0,SNR=27						
CMAR	Chiang Mai Arr	90.64	290	P	P	17 45 10.4	-1.3
	2.9nm,0.8s,baz=127,slow=3.3,SNR=22						
PDAR	Pinedale Array	90.64	43	P	P	17 45 11.3	-0.2
	1.2nm,0.7s,baz=182,slow=2.2,SNR=7.2						
HHC	Hu-ho-hao-te	90.69	314	eP	P	17 45 12.0	+0.4
HHC				pP	pP	17 46 32.0	-2.1
HHC				sP	sP	17 47 06.8	-3.8
HHC				SKS	SKSac	17 55 05.0	-3.9
HHC				S	S	17 55 35.9	-0.9

HHC				pmax	pmax		
	comp=Z,28nm,1.1s						
HHC				pmax	pmax		
	comp=Z,130nm,5.4s						
CHTO	Chiang Mai	90.78	290	eP	P	17 45 13.0	+0.6
	4.4nm,0.8s						
CD2	Chengdu	91.77	303	P	P	17 45 17.9	+1.2
CD2				pP	pP	17 46 38.7	-0.6
CD2				sP	sP	17 47 13.4	-2.3
CD2				SKS	SKSac	17 55 16.3	+1.0
CD2				S	S	17 55 47.3	+0.6
CD2				sS	sS	17 58 10.0	-3.8
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.2s						
YKA	Yellowknife Ar	98.52	25	P	P	17 45 47.3	+0.7
	0.1nm,0.4s,baz=244,slow=4.6,SNR=4.3						
ZALV	Zalesovo Beam	112.01	321	PKiKP	PKiKP	17 50 42.1	+0.7
	0.3nm,0.4s,baz=96,slow=2.9,SNR=2.8						
MKAR	Makanchi Array	112.50	313	Pdiff	Pdif	17 46 50.4	+1.3
	0.3nm,0.8s,baz=107,slow=1.5,SNR=2.8						
MKAR				PKiKP	PKiKP	17 50 43.2	+0.6
	0.2nm,0.4s,baz=81,slow=2.2,SNR=7.5						
MKAR				PKKPbc	PKKPbc	18 01 31.1	-3.1
	0.1nm,0.3s,baz=282,slow=1.3,SNR=5.4						
KSH	Kashi	115.92	304	ePKP	PKPdf	17 50 51.7	+2.1
ARCES	ARCESS Array B	130.97	349	PKP	PKPdf	17 51 16.5	-0.8
	2.5nm,0.6s,baz=29,slow=2.1,SNR=15						
FINES	FINESS Array B	137.75	343	PKhKP	PKPpre	17 51 24.0	
	0.7nm,0.6s,baz=48,slow=2.1,SNR=5.3						
FINES				PKP	PKPdf	17 51 30.7	+0.5
	1.8nm,0.6s,baz=29,slow=3.2,SNR=8.3						
GNI	Garni	139.82	306	PKPdf	PKPdf	17 51 34.2	-0.7
NB2	NORSAR Subarra	141.06	353	PKP	PKPpre	17 51 31.0	
	comp=Z,4.3nm,1.1s,baz=10,slow=3.2						
NOA	NORSAR Array B	141.06	353	PKhKP	PKPpre	17 51 32.4	
	comp=Z,0.7nm,0.6s,baz=30,slow=4.5,SNR=6.0						
AKASG	Malin Array Be	144.76	329	PKP	PKPbc	17 51 41.4	-1.5
	comp=Z,12nm,0.6s,baz=42,slow=4.3,SNR=108						
AK01	Malin Array Si	144.77	329	ePKPdf	PKPbc	17 51 41.4	-1.6
KIEV	Kiev	144.77	329	ePKPdf	PKPbc	17 51 41.3	-1.7
AK02	Malin Array Si	144.77	329	ePKPdf	PKPbc	17 51 41.4	-1.6
BRTR	Keskin Array B	148.08	310	PKPbc	PKPbc	17 51 52.1	-0.8
	comp=Z,1.8nm,0.6s,baz=112,slow=1.6,SNR=9.5						
BSEG	Bad Segeberg	148.08	350	ePKPbc	PKPab	17 51 55.0	-1.1
KWP	Kalwaria Pacla	148.41	334	⇓iP	PKPbc	17 51 52.9	-0.3
KWP	Kalwaria Pacla	148.41	334	ePKPdf	PKPbc	17 51 52.5	-0.8
KWP				ePKPbc	PKiKP	17 51 55.3	+0.8
KWP				ePKPab	PKPab	17 51 58.8	+1.2
BUR08	Bucovina Ar. S	148.78	329	ePKPdf	PKPdf	17 51 50.0	-0.1
BUR08				ePKPbc	PKiKP	17 51 55.7	+0.2
BURAR	Bucovina Array	148.79	329	⇑iP	PKPdf	17 51 51.3	+1.2
CFR	Carcaliu	148.87	323	⇓iP	PKPbc	17 51 56.0	+1.5
KOLS	Kolonicke sedl	149.13	333	ePKP	PKPbc	17 51 55.6	+0.6
STHS	Stebnicka Huta	149.17	335	ePKP	PKPbc	17 51 55.5	+0.4
HARR	Harsova	149.29	322	⇑iP	PKPbc	17 51 55.8	+0.3
CRVS	Cervenica-Dubn	149.49	334	ePKP	PKPbc	17 51 55.8	-0.1
TRPA	Tarpa	149.64	332	⇓iP	PKPbc	17 51 56.3	+0.1
CSS	Prodhromos	149.88	301	ePKPbc	PKPbc	17 51 56.3	-1.0
CSS				ePKPab	PKPab	17 52 04.9	+0.7
OKC	Ostrava-Krasne	149.95	339	⇑ePKP	PKPbc	17 51 59.3	+2.4
UPC	Upice	150.03	342	⇑ePKP	PKPbc	17 51 59.5	+2.4
CLL	Collm	150.08	346	ePKPbc	PKPbc	17 51 59.9	+2.7
CLL	Collm	150.08	346	i PKPbc	PKPbc	17 51 57.0	-0.2
	comp=Z,5.0nm,0.9s						
CLL				⇑iPKPbc(2)		17 51 59.5	
	comp=Z,17nm,0.6s						
DPC	Dobruska-Polom	150.08	341	⇑ePKP	PKPbc	17 51 57.5	+0.2
DPC				ex	x	17 52 00.1	
DPC				ePKPAB	PKPab	17 52 06.1	+1.6
KRLC	Kraliky	150.18	340	⇑ePKP	PKPbc	17 51 59.8	+2.2
MORC	Moravsky Berou	150.20	339	⇓iP	PKPbc	17 52 00.1	+2.5
KECS	Kecovo	150.21	335	ePKP	PKPbc	17 51 57.2	-0.4
BRG	Berggiesshubel	150.26	344	ePKP	PKPbc	17 51 57.6	0.0
	comp=Z,3.1nm,0.6s						
BRG				i		17 51 59.9	
	comp=Z,9.5nm,0.6s						
BRG	Berggiesshubel	150.26	344	ePKPbc	PKPbc	17 52 00.5	+2.9
VOIR		150.38	326	⇑iP	PKPbc	17 52 00.6	+2.4
PVCC	Panska Ves	150.41	343	⇑ePKP	PKPbc	17 52 00.7	+2.7
NEUB	Neuenburg	150.43	347	ePKPbc	PKPbc	17 52 00.9	+2.9
PRA	Prague	150.87	343	⇑PKP	PKPbc	17 52 02.0	+2.9
PRU	Pruhonice	150.91	343	⇑ePKP	PKPbc	17 52 01.3	+2.1
VRAC	Vranov	150.91	340	⇑iP	PKPbc	17 52 01.7	+2.4
BUG	Bochum--Univer	150.93	353	ePKPbc	PKPbc	17 52 01.7	+2.5
MOX	Moxa	151.00	347	ePKPbc	PKPbc	17 52 02.1	+2.7
TANN	Tannenbergstha	151.03	346	ePKPbc	PKPbc	17 52 02.4	+2.8
UBBA	Unterbreizbach	151.14	349	ePKPbc	PKPbc	17 52 02.1	+2.5
TREC	Trest	151.27	341	⇑ePKP	PKPbc	17 52 02.3	+2.2
MANZ	Manzenberg	151.51	346	ePKPbc	PKPbc	17 52 03.4	+2.8
GZR	Gura Zlata	151.56	328	⇑iP	PKPbc	17 51 59.3	-1.6
ROTZ	Rotzenmuhle	151.70	346	ePKPbc	PKPbc	17 52 03.9	+2.9
BZS	Buzias	151.95	330	⇓iP	PKPdf	17 51 58.0	+3.1
KHC	Kasperske Hory	151.95	343	⇑ePKP	PKPbc	17 52 03.6	+1.9
KHC				ePKPAB	PKPab	17 52 13.4	+1.0
TNS	Taunus Mts	151.97	351	ePKPbc	PKPbc	17 52 04.4	+2.7
GEC2	GERESS Array S	152.18	343	ePKPbc	PKPbc	17 52 04.7	+2.5
GERES	GERESS Array B	152.18	343	PKPbc	PKPbc	17 52 02.0	-0.2
	comp=Z,4.2nm,0.8s,baz=29,slow=2.2,SNR=20						
CONA	Conrad Observa	152.36	339	⇑iPKiKP	PKPbc	17 52 02.6	-0.1
	comp=Z,5.2nm,0.8s						
PKSM	Moragy	152.79	334	⇑iP	PKPbc	17 52 05.4	+1.9
MOA	Molln	152.92	341	⇑iPKiKP	PKPbc	17 52 03.3	-0.5
	comp=Z,2.9nm,0.8s						
VTS	Vitosha	153.27	323	⇑iP	PKPbc	17 52 05.9	+1.0
SANT	Santorini	155.34	309	PKPdf	PKPdf	17 51 59.3	-0.7
TORD	Torodi Ar. Bea	170.57	179	PKP	PKPdf	17 52 17.6	+2.6
	comp=Z,0.9nm,0.7s,baz=275,slow=1.4,SNR=5.2						
TORD				PKPab	PKPab	17 53 34.5	+0.3
	comp=Z,0.5nm,0.6s,baz=178,slow=3.4,SNR=3.7						

IDC **05** *17:32:50.4±3.5, 35.43N×141.49E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, ML3.0/1, MS3.0/2, Ms1 3.1/2, ms1mx2.7/37, Error ellipse: s-maj=111.2km s-min=29.0km az=60.0*

ISCJB **05** *17:32:52.9±1.2, 35.37N±0.04×141.34E±0.09, h26km±6km, mb3.5/3, MS2.8/1, Error ellipse: s-maj=13.0km s-min=7.2km az=171.3*

JMA **05** *17:32:53.7±0.2, 35.37N×141.26E, h31km±2km, M3.2*

ISC 05 17:32:53.3±1.8, 35.37N±0.04×141.27E±0.09, h16km±13km, n17, σ1.39/20, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.47	315	P	Pb	17 33 03.6	+0.4
CHOJ				S	Sb	17 33 10.2	+0.3
BSO1	Boso 1	0.75	199	P	Pg	17 33 07.5	-0.3
BSO1				S	Sb	17 33 18.8	+1.4
I30JP	ISUMI INFRASON	0.78	266	Pn	Pn	17 33 13.0	+3.4
	baz=278,slow=275,SNR=11						
I30JP				Sn	Sb	17 33 20.8	+2.0
KTR	Katsuura	0.81	255	P	Pb	17 33 08.6	-0.3
BSO3	Boso 3	0.84	228	P	Pb	17 33 09.1	-0.2
BSO3				S	Sb	17 33 21.4	+1.2
BSO4	Boso 4	0.85	244	P	Pb	17 33 09.4	-0.1
JCN	Nagara	0.87	274	P	Pb	17 33 10.3	+0.3
JYT	Yasato	1.22	315	P	Pn	17 33 15.2	-0.5
JHO	Hitachi	1.36	336	P	Pb	17 33 17.6	-0.8
JOD2	Odawara 2	1.79	267	P	Pn	17 33 22.4	-1.0
JOD2				S	Sn	17 33 41.5	-4.3
MJAR	Matsushiro Arr	2.74	296	Pn	Pn	17 33 37.5	+0.9
	2.3nm,0.3s,baz=102,slow=14,SNR=19						
MAT	Matsushiro	2.75	296	P	Pn	17 33 37.4	+0.8
MAT				eS	Sn	17 34 10.5	+1.0
KSRS	Korea Array	10.96	285	LR	LR	17 39 45.7	
	comp=Z,90nm,19.3s,baz=64,slow=37						
CMAR	Chiang Mai Arr	40.98	257	LR	LR	17 57 07.8	
	comp=Z,13nm,18.7s,baz=140,slow=35						
ZALV	Zalesovo Beam	42.96	314	P	P	17 40 51.1	-0.2
	0.4nm,0.6s,baz=74,slow=11,SNR=2.4						
MKAR	Makanchi Array	44.92	304	P	P	17 41 07.8	+0.7
	0.3nm,0.6s,baz=89,slow=9.4,SNR=4.6						
WRA	Warramunga Arr	55.40	188	P	P	17 42 27.0	+0.2
	0.6nm,0.5s,baz=4.3,slow=7.6,SNR=7.3						

ISCJB **05** *17:53:18.2±0.3, 29.87N±0.03×138.82E±0.07, h421km, mb3.6/21, Error ellipse: s-maj=8.1km s-min=4.1km az=168.8*

JMA **05** *17:53:19.0±0.2, 29.98N×139.39E, h459km, M4.1*

IDC **05** *17:53:20.0±1.1, 29.88N×138.79E, h427km±12km, mb3.3/18, mb1 3.5/23, mb1mx3.4/30, mbtmp4.1/23, Error ellipse: s-maj=14.6km s-min=9.5km az=92.0*

ISC 05 17:53:19.4±0.5, 29.93N±0.06×138.86E±0.09, h421km, n48, σ1.59/63, mb3.6/21, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.28	14	P	P	17 54 29.0	+2.8
JHJ2				S	S	17 55 20.8	+0.1
CBIJ	Chichi jima	4.07	133	P	P	17 54 33.4	+0.1
CBIJ				S	S	17 55 30.6	-2.9
JCJ	Chichijima	4.07	133	P	P	17 54 32.9	-0.4
	12nm,0.3s,baz=1.3,slow=18,SNR=13						
JCJ				S	S	17 55 29.7	-3.8
	31nm,0.3s,baz=285,slow=20,SNR=6.6						
JHHJ	Haha-jima-NKT	4.40	138	P	P	17 54 36.6	+0.1
JHHJ				S	S	17 55 36.6	-2.6
BSO1	Boso 1	5.04	20	P	P	17 54 43.9	+2.0
BSO1				S	S	17 55 50.7	+1.1
BSO3	Boso 3	5.06	16	P	P	17 54 44.8	+2.4
BSO3				S	S	17 55 50.0	-0.3
BSO4	Boso 4	5.20	14	S	S	17 55 54.9	+1.6
JOD2	Odawara 2	5.32	2	P	P	17 54 46.8	+1.4
JOD2				S	S	17 55 58.2	+2.4
JNY	Yasuok	5.48	351	P	P	17 54 50.0	+2.9
JEG	Eigenji	5.59	339	P	P	17 54 52.2	+4.0
JHU	Hanno	5.92	3	P	P	17 54 51.9	+0.4
JHU				S	S	17 56 04.0	-3.1
JRY	Ryogami san	6.07	0	P	P	17 54 54.6	+1.4
JYT	Yasato	6.38	10	P	P	17 54 56.3	-0.1
JYT				S	S	17 56 12.1	-4.0
JAG	Ashikaga	6.50	4	P	P	17 54 57.6	-0.1
JAG				S	S	17 56 14.7	-3.8
MJAR	Matsushiro Arr	6.62	355	P	P	17 54 59.6	+0.1
	4.2nm,0.3s,baz=356,slow=7.3,SNR=33						
MJAR				S	S	17 56 18.7	-2.2
	0.5nm,0.3s,baz=77,slow=18,SNR=3.2						
MAT	Matsushiro	6.62	355	P	P	17 54 59.9	+0.4
MAT				eS	S	17 56 19.4	-1.5
JHO	Hitachi	6.82	12	P	P	17 55 01.3	-0.3
JNU	Nakatsue	7.52	297	P	P	17 55 10.7	+1.3
	1.0nm,0.3s,baz=124,slow=7.3,SNR=12						
JFK	Kawauchi	7.61	12	P	P	17 55 10.7	+0.4
JFK				S	S	17 56 38.2	-2.6
JMK	Ichinoseki	9.21	12	P	P	17 55 29.6	+1.9
KSRS	Korea Array	11.79	312	P	P	17 55 58.1	+1.9
	0.3nm,0.3s,baz=126,slow=9.9,SNR=9.2						
USRK	Ussuriysk Arra	15.25	341	P	P	17 56 35.1	+1.4
	0.6nm,0.3s,baz=158,slow=12,SNR=11						
SEY	Seymchan	34.16	11	P	P	17 59 28.1	+1.2
	0.3nm,0.3s,baz=63,slow=22,SNR=4.2						
CMAR	Chiang Mai Arr	37.98	262	P	P	17 59 59.7	+0.1
	0.3nm,0.2s,baz=64,slow=4.9,SNR=4.9						
ZALV	Zalesovo Beam	45.44	318	PcP	PcP	18 02 28.7	-0.5
	0.8nm,0.4s,baz=100,slow=4.0,SNR=4.9						
MKAR	Makanchi Array	46.43	308	P	P	18 01 06.2	-0.1
	0.1nm,0.3s,baz=88,slow=8.0,SNR=4.2						
MKAR				PcP	PcP	18 02 32.3	-0.7
	0.5nm,0.5s,baz=83,slow=4.5,SNR=6.7						
WRA	Warramunga Arr	49.77	186	P	P	18 01 31.3	-0.4
	1.8nm,0.3s,baz=2.4,slow=7.7,SNR=85						
WRA				ScP	ScP	18 05 58.5	-1.4
	0.2nm,0.6s,baz=359,slow=4.5,SNR=5.0						
ASAR	Alice Springs	53.50	186	P	P	18 01 58.4	-0.4
	1.0nm,0.5s,baz=0.9,slow=5.9,SNR=58						
ILAR	Eielson Array	56.67	30	P	P	18 02 20.9	+0.2
	0.7nm,0.6s,baz=263,slow=4.8,SNR=12						
ILAR				PcP	PcP	18 03 10.9	-0.2
	0.3nm,1.0s,baz=282,slow=3.7,SNR=4.3						
STKA	Stephens Creek	61.52	177	P	P	18 02 54.2	+0.4
	1.8nm,0.5s,baz=355,slow=7.3,SNR=6.1						
INK	Inuvik	61.69	25	P	P	18 02 55.3	+0.9
	1.0nm,0.4s,baz=283,slow=14,SNR=5.2						
KEV	Kevo	69.34	340	ep	P	18 03 41.0	-1.6
ARCES	ARCESS Array B	69.90	340	P	P	18 03 46.7	+0.6
	3.1nm,0.5s,baz=64,slow=9.2,SNR=12						
RES	Resolute Bay	69.99	13	P	P	18 03 47.1	+0.7
	0.8nm,0.7s,baz=343,slow=5.8,SNR=5.5						
YKA	Yellowknife Ar	71.04	28	P	P	18 03 53.5	+0.6
	0.8nm,0.5s,baz=296,slow=6.1,SNR=18						
JOF	Joensuu	71.24	333	ep	P	18 03 53.8	-0.3
	2.7nm,0.5s						
KAF	Kangasniemi	73.65	333	ep	P	18 04 06.7	-1.5
	1.7nm,0.3s						
FINES	FINESS Array B	74.11	333	P	P	18 04 10.5	-0.3
	1.6nm,0.4s,baz=82,slow=4.5,SNR=20						
AKASG	Malin Array Be	78.60	322	P	P	18 04 35.1	-0.8
	0.5nm,0.4s,baz=51,slow=5.6,SNR=5.9						
NB2	NORSAR Subarra	79.89	337	P	P	18 04 42.1	-0.5
	comp=Z,1.5nm,0.5s,baz=46,slow=5.1						
NOA	NORSAR Array B	79.89	337	P	P	18 04 42.1	-0.5
	comp=Z,0.7nm,0.5s,baz=28,slow=3.4,SNR=7.6						
NVAR	Mina Array Bea	81.04	51	P	P	18 04 50.0	+0.7
	comp=Z,1.0nm,0.2s,baz=294,slow=6.6,SNR=4.4						
ELK	Elko	81.83	48	P	P	18 04 54.7	+1.2
	comp=Z,0.7nm,0.6s,baz=210,slow=18,SNR=3.8						
BRTR	Keskin Array B	81.94	311	P	P	18 04 53.5	-0.4
	comp=Z,1.2nm,0.7s,baz=56,slow=4.3,SNR=4.5						
PDAR	Pinedale Array	84.22	43	P	P	18 05 05.8	+0.2
	comp=Z,0.5nm,0.7s,baz=279,slow=2.9,SNR=4.8						
GERES	GERESS Array B	87.57	327	P	P	18 05 20.2	-1.1
	comp=Z,0.3nm,0.4s,baz=44,slow=7.1,SNR=4.1						
TORD	Torodi Ar. Bea	120.53	310	PKP	PKPdf	18 11 21.6	-1.1
	comp=Z,0.2nm,0.5s,baz=27,slow=2.0,SNR=2.9						
LPAZ	La Paz	151.79	67	PKPbc	PKPbc	18 12 27.4	+0.8
	comp=Z,0.7nm,0.4s,baz=290,slow=7.5,SNR=4.8						

ISCJB **05** *18:00:17.4±0.4, 19.92S±0.05×177.74W±0.07, h550km, mb4.3/35, Error ellipse: s-maj=9.1km s-min=6.2km az=25.1*

NEIC **05** *18:00:18.7±0.9, 19.94S×177.54W, h574km±10km, mb4.6/19, Error ellipse: s-maj=17.4km s-min=12.9km az=116.0*

IDC **05** *18:00:18.1±1.9, 19.95S×177.74W, h545km±20km, mb3.6/11, mb1 3.8/14, mb1mx3.5/36, mbtmp4.6/14, Error ellipse: s-maj=23.4km s-min=14.3km az=139.0*

BJI **05** *18:00:23.2, 19.16S×178.33W, h574km, mB4.9/13, mb4.5/22*

ISC 05 18:00:18.1±0.5, 20.00S±0.07×177.59W±0.08, h550km, n93, σ1.52/112, mb4.4/35, 10C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.71	298	eP	P	18 01 47.8	+2.2
AFI	Afiamalu	8.22	43	P	P	18 02 18.3	+0.1
	9.1nm,0.3s,baz=137,slow=2.0,SNR=8.9						
AFI				S	S	18 03 54.5	-2.0
	5.8nm,0.3s,baz=53,slow=20,SNR=7.7						
AFI	Afiamalu	8.22	43	eP	P	18 02 18.7	+0.5
AFI				eS	S	18 03 54.8	-1.8
DZM	Mont Dzumac	15.05	259	P	P	18 03 28.1	-0.2
	0.3nm,0.3s,baz=176,slow=19,SNR=4.3						
MWZ	Matawai	18.76	192	PN	P	18 04 03.7	+0.9
MWZ				SN	S	18 07 04.0	-1.4
URZ	Urewera	18.77	193	P	P	18 04 03.0	+0.1
	9.6nm,0.3s,baz=285,slow=2.8,SNR=40						
URZ				S	S	18 07 00.8	-4.8
	0.4nm,0.3s,baz=225,slow=20,SNR=6.4						
URZ	Urewera	18.77	193	eP	P	18 04 02.9	0.0
	20nm,0.4s						
RIGZ	Rimuhau	19.07	191	PN	P	18 04 07.3	+1.7
SNGZ	Shannon Statio	19.23	192	PN	P	18 04 07.7	+0.6
BKZ	Black Stump Fm	19.78	194	eP	P	18 04 11.5	-0.6
	33nm,1.7s						
SNZO	South Karori	22.24	195	eP	P	18 04 34.3	+0.2
	12nm,0.7s						
WHZ	Wether Hill Ro	28.45	201	eP	P	18 05 31.0	+2.1
	34nm,0.5s						
EIDS	Eidsvold	29.36	254	eP	P	18 05 36.1	-1.0
	8.6nm,1.0s						
RMQ	Roma	31.53	252	P	P	18 05 56.2	+0.5
	baz=32,SNR=6.8						
RABL	Rabaul	33.39	294	P	P	18 06 12.6	+0.9
	baz=34,SNR=5.1						
CTA	Charters Tower	33.93	264	P	P	18 06 15.6	-0.5
	19nm,0.5s,baz=90,slow=11,SNR=42						
CTAO	Charters Tower	33.93	264	eP	P	18 06 15.3	-0.8
	19nm,0.5s						
QLP	Quilpie	35.58	252	P	P	18 06 29.6	-0.2
	baz=36,SNR=3.6						
PMG	Port Moresby	35.61	282	eP	P	18 06 29.0	-1.2
	19nm,0.8s						
PMG	Port Moresby	35.61	282	P	P	18 06 29.4	-0.8
	baz=36,SNR=4.4						
MTSU	Mount Surprise	36.01	266	P	P	18 06 32.7	-0.8
	baz=36,SNR=19						
COEN	Coen	37.94	273	eP	P	18 06 48.7	-0.6
	92nm,0.8s						
COEN	Coen	37.94	273	P	P	18 06 48.7	-0.6
	baz=38,SNR=25						
STKA	Stephens Creek	38.36	244	P	P	18 06 52.0	-0.5
	4.3nm,0.9s,baz=85,slow=11,SNR=4.2						
STKA	Stephens Creek	38.36	244	eP	P	18 06 52.4	-0.1
	1.9nm,1.1s						
HTT	Hallett	40.80	242	P	P	18 07 12.5	+0.3
	baz=41,SNR=3.6						
AS31	Alice Springs	45.01	256	eP	P	18 07 44.0	-1.2
AS31				ePcP	PcP	18 09 14.0	-0.5
ASAR	Alice Springs	45.01	256	P	P	18 07 44.4	-0.8
	14nm,0.8s,baz=84,slow=7.9,SNR=207						
ASAR				PcP	PcP	18 09 13.9	-0.6
	3.7nm,1.0s,baz=104,slow=3.8,SNR=8.3						
WRAB	Tennant Creek	45.05	261	eP	P	18 07 44.0	-1.5
	26nm,1.3s						
WRAB				eS	S	18 13 44.7	0.0
WRA	Warramunga Arr	45.06	261	P	P	18 07 44.0	-1.5
	4.5nm,0.5s,baz=97,slow=7.7,SNR=105						
WRA				PcP	PcP	18 09 14.5	-0.1
	1.3nm,0.8s,baz=92,slow=4.0,SNR=5.2						
KDU	Kakadu	48.33	271	P	P	18 08 09.1	-1.1
	baz=48,SNR=4.9						
WRKA	Warakurna	49.98	254	P	P	18 08 21.6	-0.8
	baz=50,SNR=31						
KNRA	Kununurra	51.08	266	P	P	18 08 29.5	-1.0
	baz=51,SNR=6.3						
SOEI	Soe	56.88	271	eP	P	18 09 11.7	+0.2
	55nm,0.5s						
MBWA	Marble Bar	58.34	257	eP	P	18 09 19.5	-1.7
	8.8nm,0.7s						
MEEK	Meekatharra	58.45	250	P	P	18 09 20.7	-1.2
	baz=58,SNR=7.6						
KLBR	Kellerberrin	58.62	245	P	P	18 09 22.5	-0.4
	baz=59,SNR=6.3						
GIRL	Giralia	63.06	254	P	P	18 09 52.8	+0.6
	baz=63,SNR=3.3						
KKM	Kota Kinabalu	70.01	284	eP	P	18 10 34.3	-1.1
	12nm,0.6s						
MJAR	Matsushiro Arr	70.04	323	P	P	18 10 34.1	-0.9
	4.5nm,0.5s,baz=156,slow=6.1,SNR=21						
MAJO	Matsushiro	70.04	323	P	P	18 10 34.2	-0.8
	6.5nm,0.5s						
MAT	Matsushiro	70.04	323	P	P	18 10 34.3	-0.7
QSPA	South Pole Qui	70.07	180	eP	P	18 10 37.5	+2.6
	2.2nm,0.8s						
UGM	Wanagama	70.36	269	P	P	18 10 36.7	-0.8
	baz=70,SNR=4.0						
KSM	Kuching	73.73	278	eP	P	18 10 56.4	-0.6
	9.9nm,0.6s						
YSS	Yuzh-Sakhalins	75.62	333	eP	P	18 11 07.0	+0.3
	13nm,0.8s						
PETK	Petropavlovsk-	75.89	345	P	P	18 11 07.6	-0.5
	4.2nm,0.7s,baz=156,slow=7.4,SNR=4.3						
KSRS	Korea Array	76.77	318	P	P	18 11 13.0	-0.2
	1.3nm,0.8s,baz=133,slow=7.1,SNR=4.3						
USRK	Ussuriysk Arra	78.77	326	P	P	18 11 24.8	+0.8
	5.7nm,0.8s,baz=133,slow=3.5,SNR=9.9						
NJ2	Nanjing	79.86	309	eP	P	18 11 28.1	-1.9
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MDJ	Mudanjiang	80.33	325	P	P	18 11 32.1	-0.1
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,27nm,4.4s						
QIZ	Qiongzhong	81.01	294	P	P	18 11 35.0	-1.2
QIZ				S	S	18 20 58.2	-2.5
QIZ				pmax	pmax		
	comp=Z,17nm,2.4s						
IPM	Ipoh	83.45	277	eP	P	18 11 48.6	-0.2
	16nm,0.6s						
TXAR	Lajitas Array	86.46	57	P	P	18 12 05.7	+2.6
	0.2nm,0.5s,baz=232,slow=5.6,SNR=3.9						
GYA	Guiyang	86.74	300	eP	P	18 12 04.0	-0.5
GYA				pP	pP	18 14 08.2	+3.9
GYA				sP	sP	18 15 03.6	+3.8
GYA				PP	PP	18 15 39.7	+2.2
GYA				SKS	SKSac	18 21 35.3	-4.1
GYA				S	SKKSac	18 21 53.0	+3.0
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ILAR	Eielson Array	87.74	13	P	P	18 12 08.0	-0.2
	0.8nm,0.8s,baz=226,slow=5.8,SNR=10.0						
XAN	Xi'an	88.14	307	P	P	18 12 11.1	+0.3
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HHC	Hu-ho-hao-te	89.28	314	eP	P	18 12 12.5	-3.5
HHC				pP	pP	18 14 22.0	+5.4
HHC				PP	PP	18 15 58.8	+1.6
HHC				S	S	18 22 12.1	-7.4
HHC				pmax	pmax		
	comp=Z,24nm,1.0s						
HHC				pmax	pmax		
	comp=Z,210nm,5.0s						
COLD	Coldfoot	89.31	10	eP	P	18 12 12.8	-2.7
	3.3nm,0.6s						
KMI	Kunming	89.47	297	P	P	18 12 18.7	+1.3
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CMAR	Chiang Mai Arr	90.31	289	P	P	18 12 22.2	+1.1
	3.4nm,0.9s,baz=120,slow=3.1,SNR=27						
CHTO	Chiang Mai	90.44	290	eP	P	18 12 21.4	-0.3
	4.2nm,0.8s						
CD2	Chengdu	90.85	303	P	P	18 12 22.3	-1.1
CD2				pP	pP	18 14 27.3	+3.1
CD2				sP	sP	18 15 23.2	+3.8
CD2				PP	PP	18 16 11.2	+1.7
CD2				SKS	SKSac	18 21 59.6	-3.4
CD2				sS	sS	18 26 10.9	+1.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.4s						
WMQ	Urumqi	106.89	311	ePdif	Pdif	18 13 33.4	-1.8
WMQ				PP	PP	18 18 10.3	+0.7
WMQ				AMB	AMB		
	comp=Z,21nm,12.4s						
ZALV	Zalesovo Beam	110.34	321	PKiKP	PKiKP	18 17 46.0	-1.6
	0.5nm,0.6s,baz=80,slow=1.6,SNR=2.8						
MKAR	Makanchi Array	111.14	314	PKiKP	PKiKP	18 17 47.9	-1.5
	0.3nm,0.6s,baz=88,slow=1.3,SNR=8.0						
KSH	Kashi	114.92	305	ePKP	PKPdf	18 17 59.1	+2.1
KSH				PKS	PKSdf	18 21 34.5	+0.7
KSH				AMB	AMB		
	comp=Z,38nm,5.4s						
ARCES	ARCESS Array B	128.50	350	PKP	PKPdf	18 18 22.4	+0.4
	1.0nm,0.5s,baz=22,slow=1.0,SNR=8.1						
FINES	FINESS Array B	135.40	344	PKP	PKPdf	18 18 35.8	+0.7
	2.0nm,0.9s,baz=93,slow=2.8,SNR=5.5						
HFS	Hagfors	139.10	351	PKhKP	PKPpre	18 18 33.3	
	0.8nm,0.4s,baz=0.0,slow=1.4,SNR=7.8						
AKASG	Malin Array Be	142.76	332	PKhKP	PKPpre	18 18 44.9	
	2.0nm,0.4s,baz=43,slow=4.1,SNR=29						
AK01	Malin Array Si	142.77	332	ePKPdf	PKPpre	18 18 45.0	
KIEV	Kiev	142.77	332	ePKPdf	PKPdf	18 18 45.2	-3.6
AK02	Malin Array Si	142.80	332	ePKPdf	PKPdf	18 18 45.3	-3.6
EKA	Eskdalemuir Ar	144.47	5	PKP	PKPbc	18 18 51.6	-0.1
	0.7nm,0.4s,baz=349,slow=2.9,SNR=6.7						
BRTR	Keskin Array B	146.78	313	PKPbc	PKPbc	18 18 58.5	-0.6
	2.7nm,0.6s,baz=49,slow=1.8,SNR=14						
BUR08	Bucovina Ar. S	146.80	331	ePKPbc	PKPbc	18 18 59.7	+0.9
BURAR	Bucovina Array	146.81	331	⇑iP	PKPab	18 19 00.6	-1.3
ANTO	Ankara	147.29	314	⇑iP	PKPbc	18 19 00.6	+0.2
TRPA	Tarpa	147.56	335	⇓iP	PKPbc	18 19 00.8	+0.2
CLL	Collm	147.66	348	⇓iPKPbc	PKPbc	18 19 01.0	+0.2
	comp=Z,6.0nm,0.6s						
CLL				i PKPab	PKPab	18 19 04.7	-0.3
	comp=Z,10.0nm,1.2s						
DPC	Dobruska-Polom	147.76	343	⇑ePKP	PKPbc	18 19 01.6	+0.4
DPC				ePKPAB	PKPab	18 19 06.2	+0.7
BRG	Berggiesshubel	147.87	346	ePKP	PKPbc	18 19 01.7	+0.3
	comp=Z,4.9nm,0.9s						
PVCC	Panska Ves	148.04	345	⇑ePKP	PKPbc	18 19 02.5	+0.7
VOIR		148.49	329	⇑iP	PKPbc	18 19 03.3	+0.1
PRU	Pruhonice	148.55	345	⇑ePKP	PKPbc	18 19 03.7	+0.6
KHC	Kasperske Hory	149.58	345	⇑ePKP	PKPbc	18 19 06.4	+0.7
KHC				ePKPAB	PKPab	18 19 13.4	+0.3
KHC	Kasperske Hory	149.58	345	ePKPbc	PKPbc	18 19 06.2	+0.5

GZR Gura Zlata 149.59 331⇑iP PKPbc 18 19 06.0 +0.1
GERES GERESS Array B 149.82 345 PKPbc PKPbc 18 19 06.7 +0.4
comp=Z,3.0nm,0.8s,baz=31,slow=2.5,SNR=23
BZS Buzias 149.94 333⇑iP PKPbc 18 19 06.2 -0.4
KDZ Kurdzhali 150.91 323⇑iP PKPbc 18 19 08.7 -0.3
TORD Torodi Ar. Bea 173.16 174 PKP PKPdf 18 19 24.9 -0.3
comp=Z,0.9nm,0.9s,baz=267,slow=1.4,SNR=3.6

IDC 05 18:06:27.8±13.0, 23°.64S×179°.15W, h478km±124km, mb3.4/5, mb1 3.6/5, mb1mx3.2/32, mbtmp4.3/5, Error ellipse: s-maj=105.5km s-min=49.4km az=122.0

ISC 05 18:06:22.9±1.6, 23°.3S±0°.3×179°.2W±0°.2, h417km, n24, σ1º15/22, mb3.9/5, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMSA Cobar Meteorol 32.17 247 P P 18 12 16.0 +1.7
baz=32,SNR=7.6
QLP Quilpie 33.29 257 P P 18 12 25.4 +1.4
baz=33,SNR=7.6
MTSU Mount Surprise 34.48 272 P P 18 12 35.9 +1.7
baz=34,SNR=12
STKA Stephens Creek 35.68 247 P P 18 12 43.6 -0.5
1.6nm,0.6s,baz=85,slow=10,SNR=5.3
STKA Stephens Creek 35.68 247 P P 18 12 45.6 +1.5
baz=36,SNR=3.9
ASAR Alice Springs 42.90 260 P P 18 13 43.2 +0.1
4.4nm,0.7s,baz=96,slow=7.0,SNR=60
WRA Warramunga Arr 43.22 265 P P 18 13 45.3 -0.4
2.3nm,0.3s,baz=93,slow=8.5,SNR=167
JAY Jayapura 43.98 292 P P 18 13 49.8 -1.8
baz=44,SNR=3.1
KDU Kakadu 47.00 274 P P 18 14 14.4 -0.5
baz=47,SNR=4.2
FORT Forrest 47.26 249 P P 18 14 16.3 -0.4
baz=47,SNR=7.6
WRKA Warakurna 47.73 257 P P 18 14 20.2 -0.2
baz=48,SNR=77
MTN Manton Dam 48.18 273 P P 18 14 23.3 -0.5
baz=48,SNR=3.1
KNRA Kununurra 49.46 269 P P 18 14 33.3 -0.1
baz=49,SNR=5.3
MEEK Meekatharra 56.04 253 P P 18 15 19.7 -1.2
baz=56,SNR=3.3
MORW Morawa 57.82 249 P P 18 15 32.3 -0.7
baz=58,SNR=3.6
WSI Waingapu 59.24 272 P P 18 15 37.4 -5.5
baz=59,SNR=4.2
PETK Petropavlovsk- 78.65 346 P P 18 17 41.3 +1.4
2.3nm,0.8s,baz=149,slow=6.7,SNR=3.5
CMAR Chiang Mai Arr 90.02 290 P P 18 18 37.9 +0.8
0.8nm,0.7s,baz=116,slow=3.8,SNR=6.8
ARCES ARCESS Array B 131.40 349 PKP PKPdf 18 24 45.6 -0.3
4.3nm,1.1s,baz=46,slow=2.6,SNR=4.6
FINES FINESS Array B 138.07 342 PKP PKPdf 18 24 57.4 -1.1
1.2nm,0.9s,baz=52,slow=2.3,SNR=3.2
HFS Hagfors 142.05 350 PKhKP PKPpre 18 25 01.1
1.6nm,0.3s,baz=56,slow=3.6,SNR=24
AKASG Malin Array Be 144.83 328 PKPbc PKPdf 18 25 09.6 -1.4
1.0nm,0.4s,baz=42,slow=4.2,SNR=15
BRTR Keskin Array B 147.79 308 PKPbc PKPdf 18 25 18.1 +1.6
0.3nm,0.4s,baz=125,slow=5.0,SNR=3.8
EKA Eskdalemuir Ar 147.82 4 PKPbc PKPbc 18 25 18.7 -0.7
0.8nm,0.4s,baz=8.1,slow=3.5,SNR=5.1

CSEM 05 18:18:18.7, 37°.29N×20°.16E, h10km, MD3.5, After ATH

ATH 05 18:18:18.7, 37°.29N×20°.16E, h10km±2km, MD3.5/14, Ionian Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SFD Strofades 0.68 93 ePB Pg 18 18 31.3 -0.6
SFD eSB Sg 18 18 41.1 +0.2
SFD Strofades 0.68 93 ePb Pg 18 18 31.3 -0.6
SFD eSb Sg 18 18 41.1 +0.2
VLS Valsamata 0.95 21 ePG Pg 18 18 36.1 -0.9
VLS Valsamata 0.95 21 ePg Pg 18 18 36.1 -0.9
AMT Artemida-Makis 1.26 78 ePB Pg 18 18 43.0 +0.1
AMT Artemida-Makis 1.26 78 ePb Pg 18 18 43.0 +0.1
RLS Riolos of Patr 1.29 53 ePB Pg 18 18 43.4 -0.1
RLS Riolos of Patr 1.29 53 ePb Pg 18 18 43.4 -0.1
PYL PYLOS 1.32 107 ePB Pb 18 18 43.6 -0.1
PYL PYLOS 1.32 107 ePb Pb 18 18 43.6 -0.1
ITM Ithomi 1.41 94 ePB Pg 18 18 45.6 -0.3
ITM Ithomi 1.41 94 ePb Pg 18 18 45.6 -0.3
LKD2 Lefkada island 1.55 15 ePB Pg 18 18 48.2 -0.3
LKD2 Lefkada island 1.55 15 ePb Pg 18 18 48.2 -0.3
LAKA Lakka 1.73 56 ePG Pb 18 18 50.9 +0.3
LAKA Lakka 1.73 56 ePg Pb 18 18 50.9 +0.3
KLV Kalavryta, Ach 1.75 64 ePN Pb 18 18 50.4 -0.6
KLV Kalavryta, Ach 1.75 64 ePn Pb 18 18 50.4 -0.6
EFP Efpalio 1.79 50 ePN Pb 18 18 51.6 0.0
EFP Efpalio 1.79 50 ePn Pb 18 18 51.6 0.0
GUR Goura 1.85 69 ePN Pb 18 18 52.7 -0.1
GUR Goura 1.85 69 ePn Pb 18 18 52.7 -0.1
KALE Kalithea 1.91 54 ePN Pb 18 18 53.3 -0.5
KALE Kalithea 1.91 54 ePn Pb 18 18 53.3 -0.5
EVR Evrytania 2.08 38 ePN Pb 18 18 56.3 -0.4
EVR Evrytania 2.08 38 ePn Pb 18 18 56.3 -0.4
MAKR Makrakomi, Fth 2.32 41 ePN Pb 18 18 59.7 -1.0
MAKR Makrakomi, Fth 2.32 41 ePn Pb 18 18 59.7 -1.0
AGG Agios Georgios 2.43 44 ePN Pb 18 19 00.8 -1.8
AGG Agios Georgios 2.43 44 ePn Pb 18 19 00.8 -1.8
KYTH Kithira 2.52 113 ePN Pb 18 19 02.1 -2.0
KYTH Kithira 2.52 113 ePn Pb 18 19 02.1 -2.0
THL Klokotos Trika 2.70 32 ePB Pn 18 19 03.8 +1.7
THL Klokotos Trika 2.70 32 ePb Pn 18 19 03.8 +1.7

GUC 05 18:31:58.1±0.5, 21°.07S×68°.21W, h181km±6km, ML3.6, 3C, Chile-Bolivia border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PB01 Plate Boundary 1.19 271 eP Pn 18 32 27.8 +0.3
PB01 eS Sn 18 32 50.3 +0.2
PB09 Plate Boundary 1.20 233 eP Pn 18 32 28.3 +0.6
PB09 eS Sn 18 32 51.1 +0.5
PB07 Plate Boundary 1.69 247 eP Pn 18 32 33.0 +0.8
PB07 eS Sn 18 32 59.2 +0.6
PB07 AML AML 18 33 00.6
comp=N,123nm,0.4s
HMBC Humberstone 1.75 296⇑eP Pn 18 32 33.2 +0.4
HMBC eS Sn 18 33 00.2 +0.5
HMBC AML AML 18 33 03.5
comp=N,268nm,0.1s
PB11 Plate Boundary 1.88 314⇑eP Pn 18 32 34.5 +0.3
PB11 eS Sn 18 33 02.2 +0.1
PB11 AML AML 18 33 04.1
comp=E,2µm,0.1s
PB06 Plate Boundary 2.06 218 eP Pn 18 32 36.7 +0.7
PB06 eS Sn 18 33 05.8 +0.2
PB06 AML AML 18 33 06.8
comp=E,100nm,0.2s
PSGC Pisagua 2.31 309 eP Pn 18 32 39.0 +0.1
PSGC eS Sn 18 33 10.5 -0.1
PSGC AML AML 18 33 12.9
comp=N,109nm,0.5s
MNMC Minimini 2.33 326⇑eP Pn 18 32 40.0 +0.8
MNMC eS Sn 18 33 11.8 +0.6
MNMC AML AML 18 33 18.1
comp=E,327nm,0.3s

IDC 05 18:36:51.2±2.2, 4°.95S×152°.36E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/31, mbtmp3.3/3, Error ellipse: s-maj=154.7km s-min=30.1km az=127.0, New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.02 228 P P 18 41 57.7 -0.4
0.5nm,0.8s,baz=54,slow=10.0,SNR=4.3
ASAR Alice Springs 25.75 222 P P 18 42 23.9 +0.2
0.3nm,0.8s,baz=53,slow=9.2,SNR=5.9
ILAR Eielson Array 82.46 22 P P 18 49 15.4 +0.1
0.3nm,0.7s,baz=252,slow=5.4,SNR=4.3

IDC 05 18:43:14.0±5.6, 4°.26S×150°.19E, h96km±53km, mb2.9/3, mb1 3.3/4, mb1mx3.1/17, mbtmp3.5/4, Error ellipse: s-maj=132.8km s-min=34.9km az=125.0, New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 5.93 210 P Pn 18 44 41.3 +2.0
14nm,0.3s,baz=27,slow=6.8,SNR=52
PMG S Sn 18 45 45.1 -0.8
4.3nm,0.3s,baz=122,slow=17,SNR=7.6
WRA Warramunga Arr 21.94 223 P P 18 47 59.1 -0.9
0.4nm,0.4s,baz=49,slow=10,SNR=7.1
ASAR Alice Springs 24.88 218 P P 18 48 29.0 +0.9
0.2nm,0.4s,baz=55,slow=9.1,SNR=8.0
ILAR Eielson Array 82.66 23 P P 18 55 26.1 -0.5
0.2nm,0.6s,baz=251,slow=5.6,SNR=3.4

ISCJB 05 18:47:14.5±1.0, 58°.1N±0°.2×32°.1W±0°.3, h14km, mb3.6/6, MS3.4/13, Error ellipse: s-maj=32.7km s-min=19.5km az=26.1

IDC 05 18:47:14.3±1.4, 58°.11N×32°.14W, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/31, mbtmp3.6/6, MS3.5/16, Ms1 3.5/16, ms1mx3.2/44, Error ellipse: s-maj=42.5km s-min=25.0km az=21.0

ISC 05 18:47:16.4±1.2, 58°.1N±0°.3×32°.2W±0°.2, h14km, n21, σ0º94/6, mb3.6/6, MS3.4/13, Reykjanes Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SFJD Kangerlussuaq 12.27 324 LR LR 18 54 09.1
comp=Z,199nm,18.4s,baz=130,slow=34
FRB Frobisher Bay 18.35 303 LR LR 18 57 28.2
comp=Z,210nm,18.7s,baz=62,slow=33
SCHQ Schefferville 19.27 275 LR LR 18 57 35.9
comp=Z,192nm,18.5s,baz=290,slow=32
NOA NORSAR Array B 21.89 64 LR LR 18 58 48.3
comp=Z,49nm,19.5s,baz=240,slow=32
HFS Hagfors 23.29 65 LR LR 18 59 40.1
comp=Z,74nm,19.5s,baz=260,slow=33
DAVOX Davos/Dischmat 27.58 96 LR LR 19 02 16.8
comp=Z,128nm,18.1s,baz=284,slow=33
RES Resolute Bay 28.16 330 LR LR 19 04 10.0
comp=Z,69nm,18.4s,baz=123,slow=36
GERES GERESS Array B 28.33 89 LR LR 19 02 59.5
comp=Z,100nm,18.5s,baz=304,slow=33
FINES FINESS Array B 28.69 58 LR LR 19 04 25.8
comp=Z,73nm,19.4s,baz=270,slow=36
VRAC Vranov 29.59 86 LR LR 19 05 19.1
comp=Z,109nm,18.3s,baz=287,slow=37
ULM Lac du Bonnet 36.78 286 LR LR 19 07 21.6
comp=Z,62nm,18.0s,baz=344,slow=33
YKA Yellowknife Arr 38.46 312 P P 18 54 37.4 +0.2
0.7nm,1.0s,baz=59,slow=9.5,SNR=7.6
BRTR Keskin Array B 45.01 84 LR LR 19 14 59.3
comp=Z,37nm,19.1s,baz=283,slow=37
ILAR Eielson Array 47.89 328 P P 18 55 54.5 +1.0
1.3nm,0.9s,baz=30,slow=6.4,SNR=11
PDAR Pinedale Array 48.78 287 P P 18 55 60.0 -0.9
0.9nm,0.9s,baz=59,slow=7.4,SNR=6.0
TORD Torodi Ar. Bea 51.62 136 P P 18 56 22.7 +0.4
0.7nm,0.9s,baz=333,slow=8.2,SNR=2.9
TORD LR LR 19 16 11.8
comp=Z,47nm,19.1s,baz=325,slow=34
DBIC Dimbokro 55.50 146 LR LR 19 17 33.2
comp=Z,74nm,18.2s,baz=342,slow=33
NVAR Mina Array Bea 56.43 290 LR LR 19 19 17.4
comp=Z,32nm,18.4s,baz=26,slow=34
KURBB Kurchatov Arra 57.77 45 P P 18 57 05.9 -0.6
0.4nm,0.7s,baz=324,slow=7.4,SNR=5.1
MKAR Makanchi Array 62.34 45 P P 18 57 37.5 -0.4
0.5nm,0.9s,baz=308,slow=7.2,SNR=3.6
ATAH Atahualpa 74.91 228 LR LR 19 28 25.6
comp=Z,14nm,21.0s,baz=358,slow=33

IDC 05 18:48:18.8±3.5, 54°.34N×111°.08E, h0km, mb3.1/3, mb1 3.2/5, mb1mx3.1/30, mbtmp3.1/5, ML2.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/16, Error ellipse: s-maj=104.1km s-min=24.6km az=162.0

MOS 05 18:48:20.4±1.3, 54°.66N×111°.01E, h5km, mb4.5/1, Error ellipse: s-maj=13.5km s-min=7.3km az=71.9

BYKL 05 18:48:21.8±0.2, 54°.70N×110°.90E, h16km±5km

ISC 05 18:48:21.6±0.6, 54°.67N±0°.02×110°.85E±0°.02, h10km, n57, σ2º13/94, 7C-11D, Lake Baykal region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
YLYR Ulyunkhan 0.28 41⇓iPG Pg 18 48 26.5 -0.8
YLYR i 18 48 29.8
YLYR pmax pmax
comp=Z,1µm,0.1s
YLYR smax smax
comp=N,5µm,0.2s
YLYR Ulyunkhan 0.28 41⇓iPg Pg 18 48 26.5 -0.8
comp=N,868nm,0.3s
YLYR ⇓iPg Pg 18 48 26.5 -0.8
comp=N,604nm,0.3s
YLYR ⇓iPg Pg 18 48 26.5 -0.8
comp=N,2µm,0.3s
YLYR iSg Sg 18 48 30.0 -1.0
YLYR Pmax
comp=N,415nm,0.1s
YLYR Smax
comp=N,4µm,0.2s
SYVR Suvo 1.13 207 ePG Pn 18 48 43.4 0.0
SYVR e 18 48 59.8
SYVR pmax pmax
comp=Z,133nm,0.5s
SYVR smax smax
comp=E,934nm,0.4s
SYVR Suvo 1.13 207⇓iPg Pn 18 48 43.5 0.0
SYVR iPb Pg 18 48 44.4 +1.1
SYVR iSg Sn 18 48 59.9 +0.9
SYVR eSb Sg 18 49 02.2 +4.3
SYVR max
comp=E,123nm,0.5s
SYVR max
comp=E,909nm,0.7s
KMO Kumora 1.24 9 ePG Pn 18 48 43.3 -1.7
KMO e 18 48 59.2
KMO pmax pmax
comp=Z,209nm,0.4s
KMO smax smax
comp=N,1µm,0.7s
KMO Kumora 1.24 9⇑iPg Pn 18 48 43.5 -1.5
KMO eSg Sb 18 49 00.0 -1.1
KMO eSb Sn 18 49 03.0 +1.2
KMO Pmax
comp=N,220nm,0.2s
KMO max
comp=N,1µm,0.7s
NIZ Nizh Angarsk 1.34 327⇑iPG Pb 18 48 46.4 -0.3
NIZ e 18 49 05.1
NIZ pmax pmax
comp=Z,182nm,0.6s
NIZ smax smax
comp=N,596nm,0.4s
NIZ Nizh Angarsk 1.34 327⇑iPg Pb 18 48 46.5 -0.3
comp=N,50nm,0.7s
NIZ ⇓iPg Pb 18 48 46.5 -0.3
comp=N,14nm,0.7s
NIZ ⇑iPg Pb 18 48 46.5 -0.3
comp=N,152nm,0.7s
NIZ ePb Pg 18 48 47.6 +0.3
NIZ e 18 48 53.4
NIZ eSg Sg 18 49 05.0 +0.4
NIZ Pmax
comp=N,222nm,0.6s
NIZ Smax
comp=N,683nm,0.5s
YOA Uoyan 1.55 19⇑iPG Pn 18 48 49.3 0.0
YOA e 18 49 10.8
YOA pmax pmax
comp=Z,167nm,0.2s
YOA smax smax
comp=N,2µm,0.4s
YOA Uoyan 1.55 19⇓iPg Pn 18 48 49.3 0.0
YOA i 18 48 52.3
YOA iSg Sg 18 49 10.8 -0.7
YOA eSb Sb 18 49 13.0 +2.9
YOA max
comp=N,261nm,0.2s
YOA max
comp=N,2µm,0.5s
MXMB Maximikha 1.88 222⇓iPn Pb 18 48 54.7 -1.3
MXMB ePg Pg 18 48 56.5 -1.1
MXMB eSg Sg 18 49 22.9 +1.0
MXMB Pmax
comp=N,117nm,0.6s
MXMB Smax
comp=N,617nm,0.7s
SVKR Severomuysk 2.12 46 ePN Pb 18 48 58.9 -1.3
SVKR e 18 49 27.2
SVKR pmax pmax
comp=Z,267nm,0.5s
SVKR smax smax
comp=N,2µm,0.6s
SVKR Severomuysk 2.12 46⇑iPg Pb 18 48 59.1 -1.1
SVKR e 18 49 04.1
SVKR iSg Sb 18 49 27.4 +0.8
SVKR e 18 49 34.5
SVKR Pmax
comp=N,118nm,0.2s
SVKR Smax
comp=N,2µm,0.6s
OGRR Ongureny 2.17 243 ePN Pb 18 48 59.2 -1.8
OGRR e 18 49 01.9
OGRR e 18 49 30.8
OGRR pmax pmax
comp=Z,91nm,0.7s
OGRR smax smax
comp=N,629nm,0.5s
OGRR Ongureny 2.17 243⇓iPn Pb 18 48 59.2 -1.8
OGRR ePg Pg 18 49 01.5 -1.7
OGRR iSg Sg 18 49 30.7 -0.6
OGRR Pmax
comp=N,91nm,0.6s
OGRR Smax
comp=N,531nm,0.5s
ZRHB Zarechye 3.05 228 ePn Pn 18 49 07.6 -2.3
ZRHB ePg Pb 18 49 16.7 +0.7
ZRHB e 18 49 29.3
ZRHB eSg Sg 18 49 57.8 -1.8
ZRHB Pmax
comp=N,43nm,0.8s
ZRHB Smax
comp=N,431nm,0.6s
CIT Chita 3.11 147 ePN Pn 18 49 11.9 +1.2
CIT e 18 49 17.4
CIT eS Sn 18 49 47.6 -0.3
CIT e 18 49 56.4
CIT pmax pmax
comp=Z,81nm,0.7s
CIT smax smax
comp=E,370nm,0.4s
CIT Chita 3.11 147 ePg Pb 18 49 16.9 -0.1
CIT eSg Sg 18 49 58.3 -3.1
CIT Pmax
comp=E,47nm,0.3s
CIT Smax
comp=E,368nm,0.4s
TRG Tyrgan 3.29 236 ePN Pn 18 49 13.6 +0.4
TRG e 18 49 22.5
TRG eS Sn 18 49 53.7 +1.4
TRG e 18 50 04.1
TRG pmax pmax
comp=Z,14nm,0.4s
TRG smax smax
comp=E,163nm,0.4s
TRG Tyrgan 3.29 236 ePn Pn 18 49 12.6 -0.6
TRG e 18 49 14.6
TRG ePg Pb 18 49 20.6 +0.6
TRG eSg Sg 18 50 04.0 -3.1
TRG eSgSg SbSb 18 50 09.6 +4.5
TRG Pmax
comp=E,12nm,0.4s
TRG Smax
comp=E,160nm,0.4s
NLYR Nelyaty 3.31 54 e Pn 18 49 16.8 +3.3
NLYR eSg Sb 18 50 02.3 +1.6
NLYR Smax
comp=E,392nm,1.5s
UUDB Ulan-Yde 3.40 216 ePn Pn 18 49 11.9 -2.8
UUDB e 18 49 22.1
UUDB ePg Pb 18 49 23.7 +1.8
UUDB eSg Sg 18 50 09.8 -0.8
UUDB eSgSg SbSb 18 50 13.8 +5.5
UUDB Pmax
comp=E,32nm,0.8s
UUDB Smax
comp=E,133nm,0.5s
BOD Bodaibo 3.62 28 e Pn 18 49 18.9 +1.2
BOD ePg Pb 18 49 24.2 -1.4
BOD eSn Sn 18 50 00.2 -0.2
BOD eSg Sb 18 50 11.0 +1.5
BOD Pmax
comp=E,19nm,0.6s
BOD Smax
comp=E,129nm,1.3s
KAB Kabansk 3.63 225 ePN Pg 18 49 29.2 -1.9
KAB e 18 50 17.1
KAB pmax pmax
comp=Z,1µm,0.5s
KAB smax smax
comp=E,366nm,1.2s
KAB Kabansk 3.63 225 e Pg 18 49 42.2 +11
KAB eSg Sg 18 50 17.1 -1.0
KAB e 18 50 27.9
KAB Pmax
comp=E,340nm,1.0s
LSTR Listvyanka 4.57 235⇓iPn Pn 18 49 31.9 +1.1
LSTR e 18 49 38.1
LSTR ePg Pb 18 49 43.4 +1.5
LSTR eSg Sg 18 50 43.4 -4.9
LSTR Pmax
comp=E,4.0nm,0.5s
LSTR Smax
comp=E,127nm,1.4s
IRK Irkutsk 4.62 241 ePN Pn 18 49 34.4 +3.0
IRK e 18 49 45.9
IRK e 18 50 46.4
IRK pmax pmax
comp=Z,53nm,0.1s
IRK smax smax
comp=N,226nm,0.4s
IRK Irkutsk 4.62 241 eSg Sg 18 50 46.5 -3.3
IRK e 18 50 51.8
IRK Smax
comp=N,218nm,0.5s
CRS Chara 4.75 59 ePg Pb 18 49 45.7 +0.8
CRS e 18 49 52.8
CRS e 18 50 28.9
CRS eSg Sb 18 50 46.6 +4.5
CRS Smax
comp=N,147nm,1.4s
VTMR Vitim 4.87 10 e Pn 18 49 40.3 +5.4
VTMR eSg Sg 18 50 51.4 -6.6
KPC Khapcheranga 5.06 169 ePN Pb 18 49 53.8 +3.5
KPC e 18 50 59.6
KPC pmax pmax
comp=Z,7.0nm,0.2s
KPC smax smax
comp=E,128nm,1.3s
KPC Khapcheranga 5.06 169 ePn Pn 18 49 40.5 +2.9
KPC ePg Pb 18 49 52.9 +2.6
KPC eSn Sn 18 50 35.8 -0.3
KPC eSg Sg 18 50 59.6 -4.4
KPC Pmax
comp=E,6.0nm,0.4s
KPC Smax
comp=E,102nm,0.9s
TLY Talaya 5.26 238 ePN Pb 18 49 56.8 +3.1
TLY Talaya 5.26 238 ePn Pn 18 49 43.3 +3.0
TLY eSg Sg 18 51 03.7 -6.8
TLY e 18 51 12.6
TLY Smax
comp=E,46nm,0.5s
TUP Tupik 5.31 89 ePN Pn 18 49 40.6 -0.3
TUP e 18 49 56.0
TUP e 18 51 03.3
TUP pmax pmax
comp=Z,11nm,0.5s
TUP smax smax
comp=N,195nm,0.8s
TUP Tupik 5.31 89 ePn Pn 18 49 39.9 -1.0
TUP e 18 49 44.6
TUP ePg Pb 18 49 56.1 +1.6
TUP e 18 50 14.2
TUP iSn Sn 18 50 37.0 -5.1
TUP eSg Sg 18 51 04.6 -7.3

TUP				Pmax			
	comp=N,11nm,0.4s						
TUP				Smax			
	comp=N,196nm,0.8s						
KHNR	Khani	5.63	63	e	Sn	18 50 51.4	+1.5
KHNR				eSg	Sg	18 51 14.7	-7.4
ARS	Arshan	5.75	245	ePN	Pn	18 49 51.5	+4.4
ARS				e		18 50 04.1	
ARS				e		18 51 20.0	
ARS				pmax	pmax		
	comp=Z,23nm,0.5s						
ARS				smax	smax		
	comp=E,260nm,0.6s						
ARS	Arshan	5.75	245	ePn	Pn	18 49 49.8	+2.7
ARS				ePg	Pb	18 50 03.9	+1.9
ARS				eSn	Sn	18 50 48.2	-4.9
ARS				eSg	Sb	18 51 18.4	+7.4
ARS				Pmax			
	comp=E,19nm,0.5s						
ARS				Smax			
	comp=E,260nm,0.6s						
ZAK	Zakamensk	6.30	230	e	Pn	18 50 01.7	+7.1
ZAK				e		18 50 08.1	
ZAK				ePg	Pb	18 50 14.9	+3.5
ZAK				e		18 50 22.4	
ZAK				eSg	Sg	18 51 38.7	-5.1
ZAK				e		18 51 46.4	
ZAK				max			
	comp=E,2.0nm,0.5s						
ZAK				max			
	comp=E,18nm,1.0s						
MOY	Mondy	6.64	247	ePN	Pn	18 50 03.7	+4.4
MOY				e		18 50 22.7	
MOY				eS	Sn	18 51 14.6	-0.5
MOY				e		18 51 47.0	
MOY				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MOY				smax	smax		
	comp=E,73nm,1.0s						
MOY	Mondy	6.64	247	e	Pn	18 49 59.8	+0.5
MOY				e		18 50 03.8	
MOY				e		18 51 14.9	
MOY				eSg	Sg	18 51 47.6	-7.1
MOY				Smax			
	comp=E,74nm,1.2s						
ORL	Orlik	6.91	257	ePN	Pn	18 50 04.2	+1.3
ORL				e		18 50 26.7	
ORL				eS	Sn	18 51 21.6	+0.1
ORL				e		18 51 57.9	
ORL				pmax	pmax		
	comp=Z,14nm,0.7s						
ORL				smax	smax		
	comp=N,87nm,1.4s						
ORL	Orlik	6.91	257⇓	i	Pn	18 50 05.1	+2.2
ORL			⇑	i		18 50 10.8	
ORL				ePg	Pb	18 50 27.0	+5.3
ORL				eSn	Sn	18 51 22.3	+0.8
ORL				eSg	Sg	18 51 56.8	-6.3
ORL				e		18 51 59.0	
ORL				max			
	comp=N,14nm,1.1s						
ORL				max			
	comp=N,80nm,1.1s						
ULN	Ulaanbaatar	7.21	201	i PN	Pn	18 50 08.1	+0.9
ULN	Ulaanbaatar	7.21	201	e	Sn	18 51 33.2	+4.0
ULN				e		18 51 41.1	
ULN				eSg	Sg	18 52 08.1	-4.9
IENR	Iengra	8.12	73	e	Pn	18 50 07.0	-13
IENR				ePg	Pb	18 50 48.1	+5.8
IENR				eSg	Sg	18 52 32.6	-9.4
CLNS	Chul'man	8.22	69	e	Sn	18 51 46.9	-6.8
CLNS				eSg	Sg	18 52 34.5	-11
CLNS				e		18 52 38.0	
ZALV	Zalesovo Beam	15.18	278	eP	P	18 52 04.5	+3.5
ZALV	Zalesovo Beam	15.18	278	Pn	Pn	18 51 56.3	+0.4
	comp=N,0.1nm,0.3s,baz=74,slow=11,SNR=2.4						
ZALV				Lg	Lg	18 56 26.6	
	comp=N,0.1nm,0.3s,baz=77,slow=33,SNR=3.6						
ZALV				LR	LR	18 58 12.9	
	comp=N,65nm,19.3s,baz=248,slow=39						
HABR	Khabarovsk	16.23	102	eP	Pn	18 52 08.2	-1.3
HABR				eSS	Sn	18 55 07.7	-1.7
HABR				pmax	pmax		
	comp=Z,40nm,1.7s						
MKAR	Makanchi Array	19.61	258	i P	Pn	18 52 57.4	+6.1
MKAR	Makanchi Array	19.61	258	P	P	18 52 48.7	-1.2
	comp=Z,0.0nm,0.3s,baz=54,slow=8.5,SNR=2.5						
KURK	Kurchatov	19.82	272	P	Pn	18 52 54.2	+0.5
KURBB	Kurchatov Arra	19.92	272	P	Pn	18 52 54.1	-0.7
	comp=Z,0.3nm,0.8s,baz=66,slow=12,SNR=3.0						
BVAR	Borovoye Array	23.70	283	P	P	18 53 33.9	+0.7
	comp=Z,0.2nm,0.4s,baz=88,slow=13,SNR=2.6						
ILAR	Eielson Array	46.96	35	P	P	18 56 52.1	+0.1
	comp=Z,0.5nm,0.8s,baz=306,slow=7.4,SNR=6.8						

ATH 05 18:57:15.9, 40.20N×19.45E, h5km±4km, MD3.6/20
TIR 05 18:57:15.0±2.3, 40.10N×19.69E, h3km±639km, ML3.4
CSEM 05 18:57:20.1±0.3, 40.12N×19.69E, h2km, ML2.8, Error ellipse: s-maj=7.0km s-min=3.9km az=89.0
THE 05 18:57:21.4, 40.09N×19.78E, h0km±3km, ML2.8/4, Error ellipse: s-maj=3.7km s-min=1.1km az=256.0
ISC 05 18:57:19.9±1.2, 40.12N±0.02×19.69E±0.03, h1km±10km, n95, σ0.99/124, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	Sarande	0.34	134	i PG	Pg	18 57 25.4	-0.9
SRN				i SG	Sg	18 57 30.4	-0.3
SRN	Sarande	0.34	134	P	Pg	18 57 25.3	-0.9
SRN				S	Sg	18 57 30.6	0.0
SRN	Sarande	0.34	134	i Pg	Pg	18 57 25.4	-0.9
	SNR=92						
SRN				S	Sg	18 57 30.6	0.0
VLO	Vlora	0.38	337	P	Pb	18 57 29.5	+0.1
VLO				S	Sb	18 57 37.1	+1.2
VLO	Vlora	0.38	337	P	Pb	18 57 29.5	+0.1
VLO				S	Sb	18 57 37.1	+1.2
KEK	Kerkira	0.41	168	P	Pg	18 57 27.7	0.0
KEK				S	Sg	18 57 34.9	+1.9
KEK	Kerkira	0.41	168	ePB	Pg	18 57 26.8	-0.9
KEK				eSB	Sg	18 57 34.5	+1.5
KEK	Kerkira	0.41	168	ePb	Pg	18 57 26.8	-0.9
KEK	Kerkira	0.41	168	P	Pg	18 57 27.7	0.0
KEK				eSb	Sg	18 57 34.5	+1.5
IGT	Igoumenitsa	0.77	139	P	Pg	18 57 33.8	-0.7
IGT				S	Sg	18 57 44.7	+0.3
IGT	Igoumenitsa	0.77	139	ePG	Pg	18 57 33.5	-1.0
IGT	Igoumenitsa	0.77	139	ePg	Pg	18 57 33.5	-1.0
IGT	Igoumenitsa	0.77	139	P	Pg	18 57 33.8	-0.7
IGT				S	Sg	18 57 44.7	+0.3
KBN	Korca	0.98	58	i PG	Pg	18 57 38.7	0.0
KBN				i SG	Sb	18 57 53.5	+0.3
KBN	Korca	0.98	58	P	Pg	18 57 38.4	-0.3
KBN				S	Sg	18 57 52.3	+0.9
KBN	Korca	0.98	58	P	Pg	18 57 38.4	-0.3
KBN	Korca	0.98	58	i Pg	Pg	18 57 38.7	0.0
	SNR=91						
KBN				S	Sg	18 57 52.3	+0.9
KBN				i Sg	Sb	18 57 53.5	+0.3
	SNR=91						
JAN	Janina	1.00	117	P	Pg	18 57 38.8	-0.3
JAN				S	Sb	18 57 53.4	-0.4
JAN	Janina	1.00	117	ePB	Pg	18 57 38.8	-0.3
JAN	Janina	1.00	117	P	Pg	18 57 38.8	-0.3
JAN				S	Sb	18 57 53.4	-0.4
NEST	Nestorio	1.08	74	P	Pg	18 57 39.1	-1.5
NEST	Nestorio	1.08	74	ePN	Pg	18 57 38.6	-2.0
NEST	Nestorio	1.08	74	ePn	Pg	18 57 38.6	-2.0
NEST	Nestorio	1.08	74	P	Pg	18 57 39.1	-1.5
FNA	Florina	1.45	62	P	Pn	18 57 46.4	-0.9
FNA				S	Sn	18 58 08.3	+1.3
FNA	Florina	1.45	62	ePB	Pn	18 57 46.3	-1.0
FNA	Florina	1.45	62	P	Pn	18 57 46.4	-0.9
FNA				S	Sn	18 58 08.3	+1.3
LKD2	Lefkada island	1.52	150	ePB	Pn	18 57 48.4	+0.2
LKD2	Lefkada island	1.52	150	ePb	Pn	18 57 48.4	+0.2
BIA	Bitola	1.54	54	P	Pn	18 57 48.0	-0.5
BIA	Bitola	1.54	54	ePn	Pn	18 57 47.1	-1.5
BIA				eSg	Sg	18 58 11.2	+1.9
BIA	Bitola	1.54	54	ePn	Pn	18 57 47.0	-1.5
BIA	Bitola	1.54	54	P	Pn	18 57 48.0	-0.5
BIA				eSg	Sg	18 58 11.2	+1.9
KZN	Kozani	1.61	82	ePN	Pn	18 57 49.7	+0.3
KZN	Kozani	1.61	82	ePn	Pn	18 57 49.7	+0.3
PHP	Peshkopia	1.67	20	i PG	Pb	18 57 51.1	-0.3
PHP	Peshkopia	1.67	20	P	Pb	18 57 51.1	-0.3
PHP	Peshkopia	1.67	20	P	Pb	18 57 51.1	-0.3
THL	Klokotos Trika	1.87	106	P	Pn	18 57 53.8	+0.7
THL				S	Sb	18 58 18.4	-0.4
THL	Klokotos Trika	1.87	106	ePN	Pn	18 57 53.8	+0.7
THL	Klokotos Trika	1.87	106	P	Pn	18 57 53.7	+0.7
THL				S	Sb	18 58 18.4	-0.4
PUK	Puka	1.93	5	i PG	Pn	18 57 54.6	+0.7
PUK	Puka	1.93	5	i Pg	Pn	18 57 54.6	+0.7
	SNR=90						
EVR	Evrytania	2.03	125	P	Pn	18 57 56.1	+0.8
EVR	Evrytania	2.03	125	ePN	Pn	18 57 56.4	+1.1
EVR	Evrytania	2.03	125	P	Pn	18 57 56.1	+0.8
EVR	Evrytania	2.03	125	ePn	Pn	18 57 56.4	+1.1
VLS	Valsamata	2.06	160	ePN	Pn	18 57 55.5	-0.1
VLS	Valsamata	2.06	160	ePn	Pn	18 57 55.5	-0.1
LIT	Litokhoron	2.15	89	ePN	Pn	18 57 58.0	+1.1
LIT	Litokhoron	2.15	89	ePn	Pn	18 57 58.0	+1.1
MAKR	Makrakomi, Fth	2.19	119	ePG	Pb	18 57 59.5	-0.7
MAKR	Makrakomi, Fth	2.19	119	ePg	Pb	18 57 59.5	-0.7
AGG	Agios Georgios	2.31	117	P	Pn	18 57 59.9	+0.8
AGG	Agios Georgios	2.31	117	ePN	Pn	18 58 00.1	+1.0
AGG	Agios Georgios	2.31	117	P	Pn	18 57 59.9	+0.8
EFP	Efpalio	2.41	134	ePN	Pn	18 58 01.4	+1.0
EFP	Efpalio	2.41	134	ePn	Pn	18 58 01.4	+1.0
RLS	Riolos of Patr	2.48	145	ePN	Pn	18 58 02.0	+0.7
RLS	Riolos of Patr	2.48	145	ePn	Pn	18 58 02.0	+0.7
VAY	Valandovo	2.50	60	i P	Pg	18 58 07.0	-0.8
VAY				i S	Sb	18 58 38.6	+1.8
VAY	Valandovo	2.50	60	ePn	Pn	18 58 03.4	+1.7
VAY				eSg	Sg	18 58 39.8	-0.4
VAY	Valandovo	2.50	60	ePn	Pn	18 58 03.3	+1.7
VAY				eSg	Sg	18 58 39.7	-0.4
KALE	Kalithea	2.57	131	ePN	Pn	18 58 03.9	+1.3
KALE	Kalithea	2.57	131	ePn	Pn	18 58 03.9	+1.3
LAKA	Lakka	2.58	136	ePN	Pn	18 58 03.8	+1.0
LAKA	Lakka	2.58	136	ePn	Pn	18 58 03.8	+1.0
HORT	Hortiatis	2.65	78	ePN	Pn	18 58 03.9	+0.1
HORT	Hortiatis	2.65	78	ePn	Pn	18 58 03.9	+0.1
KNT	Kendrikon	2.66	66	ePN	Pn	18 58 04.3	+0.5
KNT	Kendrikon	2.66	66	ePn	Pn	18 58 04.3	+0.5
DSF	Desfina	2.78	127	ePN	Pn	18 58 06.7	+1.1
DSF	Desfina	2.78	127	ePn	Pn	18 58 06.7	+1.1
KLV	Kalavryta, Ach	2.82	136	ePN	Pn	18 58 06.8	+0.7
KLV	Kalavryta, Ach	2.82	136	ePn	Pn	18 58 06.8	+0.7
PLG	Polygyros	2.89	84	ePN	Pn	18 58 07.2	+0.2
PLG	Polygyros	2.89	84	ePn	Pn	18 58 07.2	+0.2
GUR	Goura	3.00	136	P	Pn	18 58 09.3	+0.7
GUR	Goura	3.00	136	ePN	Pn	18 58 09.8	+1.2
GUR	Goura	3.00	136	P	Pn	18 58 09.3	+0.7
GUR	Goura	3.00	136	ePn	Pn	18 58 09.8	+1.2
AMT	Artemida-Makis	3.02	148	ePN	Pn	18 58 09.8	+0.9
AMT	Artemida-Makis	3.02	148	ePn	Pn	18 58 09.8	+0.9
KKB	Krupnik	3.11	55	i P	Pn	18 58 09.3	-0.7
KKB				i S	Sn	18 58 47.0	-0.8
KKB	Krupnik	3.11	55	i P	Pn	18 58 09.3	-0.7
KKB				i S	Sn	18 58 47.0	-0.8
STON	Ston	3.13	332	i Pn	Pn	18 58 09.7	-0.7
STON				Sn	Sn	18 58 46.6	-1.7
STON	Ston	3.13	332	i Pn	Pn	18 58 09.6	-0.7
STON				Sn	Sn	18 58 46.6	-1.7
MMB	Musomiste	3.40	63	i P	Pn	18 58 16.3	+2.2
MMB	Musomiste	3.40	63	i P	Pn	18 58 16.3	+2.2
PYL	PYLOS	3.60	153	ePN	Pn	18 58 16.4	-0.3
PYL	PYLOS	3.60	153	ePn	Pn	18 58 16.4	-0.3
DID	Didima	3.80	132	ePN	Pn	18 58 20.1	+0.5
DID	Didima	3.80	132	ePn	Pn	18 58 20.1	+0.5
RZN	Rozhen	4.12	66	i P	Pn	18 58 25.8	+1.7
RZN	Rozhen	4.12	66	i P	Pn	18 58 25.8	+1.7

MAN 05 18:59:16, 9.24N×126.31E, h28km, mb4.4, ML3.3, MS3.1, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.73	249	eP	Pn	18 59 30.4	-0.1
BUTP				eS	Sn	18 59 42.5	+1.9
SCPH	Surigao	0.97	304⇓	eP	Pb	18 59 34.8	+0.5
SCPH				eS	Sb	18 59 47.5	+0.7
BIPH	Bislig	1.05	177	eP	Pb	18 59 35.3	-0.2
CGP	Cagayan de Oro	1.77	244⇓	eP	Pn	18 59 45.7	+0.9
CGP				eS	Sn	19 00 08.0	+1.5
BUKP	Musuan	1.83	223	eP	Pb	18 59 49.1	+0.3
BUKP				eS	Sb	19 00 09.9	-1.4

ISCJB 05 19:24:46.2±1.1, 24.29S±0.07×69.4W±0.1, h75km±16km, mb3.6/3, Error ellipse: s-maj=17.8km s-min=7.5km az=31.1
GUC 05 19:24:49.7±0.3, 23.93S×69.28W, h18km±6km, ML4.0
IDC 05 19:24:50.5±0.9, 24.11S×69.32W, h90km±5km, mb3.6/3, mb1 3.7/5, mb1mx3.5/18, mbtmp3.9/5, MS2.4/1, Ms1 2.5/1, ms1mx2.0/21, Error ellipse: s-maj=31.6km s-min=24.1km az=116.0
ISC 05 19:24:49.1±0.7, 24.17S±0.07×69.54W±0.09, h89km±6km, n20, σ1.28/27, mb3.8/3, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	Antofagasta	0.93	301⇑	iP	Pn	19 25 06.7	-1.3
ANCH				eS	Sn	19 25 20.6	-1.4
ANCH				AML	AML	19 25 22.4	
	comp=N,11μm,0.4s						
CEN1	Los Morros	0.98	322⇓	eP	Pn	19 25 07.5	-1.2
CEN1				eS	Sn	19 25 21.3	-2.0
PB10	Plate Boundary	1.14	305⇑	eP	Pn	19 25 10.9	+0.6
PB10				i S	Sn	19 25 27.1	+0.9
PB10				AML	AML	19 25 28.8	
	comp=E,8μm,0.3s						
PB04	Plate Boundary	1.90	2	eP	Pn	19 25 20.4	+0.5
PB04				i S	Sn	19 25 43.2	-0.2
PB09	Plate Boundary	2.38	7	eP	Pn	19 25 26.0	-0.5
PB09				eS	Sn	19 25 53.3	-1.8
PB09				AML	AML	19 26 04.1	
	comp=E,2μm,0.5s						
PB07	Plate Boundary	2.45	352	eP	Pn	19 25 28.1	+0.7
PB07				AML	AML	19 26 23.8	
	comp=E,694nm,0.6s						
PB01	Plate Boundary	3.11	1	eP	Pn	19 25 36.8	+0.5
PB01				AML	AML	19 26 39.8	
	comp=E,427nm,0.5s						
CFAA	Coronel Fontan	7.50	171	P	Pn	19 26 35.6	-0.1
	comp=E,0.1nm,0.3s,baz=355,slow=16,SNR=7.0						
CFAA				S	Sn	19 27 50.2	-8.9
	baz=251,slow=19,SNR=1.7						
LPAZ	La Paz	7.95	10	P	Pn	19 26 41.0	-1.6
	comp=E,0.3nm,0.3s,baz=204,slow=10.0,SNR=4.7						
LPAZ				LR	LR	19 30 20.6	
	comp=E,26nm,19.1s,baz=78,slow=42						
SIV	San Ignacio	11.38	46	P	Pn	19 27 25.6	-3.1
	comp=E,1.5nm,0.3s,baz=240,slow=11,SNR=24						
H03N1	Juan Fernandez	12.36	220	P	Pn	19 27 40.1	-1.4
	baz=19,slow=15,SNR=7.6						
H03N1				T	T	19 39 36.3	
	baz=42,slow=74,SNR=15						
H03N2	Juan Fernandez	12.37	220	P	Pn	19 27 40.4	-1.2
	baz=19,slow=15,SNR=9.1						
H03N2				T	T	19 39 37.1	
	baz=42,slow=74,SNR=16						
H03N3	Juan Fernandez	12.37	220	P	Pn	19 27 40.1	-1.7
	baz=19,slow=15,SNR=5.8						
H03N3				T	T	19 39 39.2	
	baz=42,slow=74,SNR=16						
BDFB	Brasilia	21.93	71	P	P	19 29 33.2	-2.4
	comp=E,2.9nm,0.5s,baz=223,slow=8.8,SNR=4.1						
TORD	Torodi Ar. Bea	78.80	70	P	P	19 36 43.7	+0.9
	comp=E,0.8nm,0.6s,baz=261,slow=5.2,SNR=12						
TORD				pP	pP	19 37 06.6	+0.7
	comp=E,2.5nm,0.8s,baz=250,slow=5.0,SNR=9.4						
TORD				sP	sP	19 37 17.0	+1.5
	comp=E,1.0nm,0.6s,baz=255,slow=4.8,SNR=3.6						
YKA	Yellowknife Ar	93.50	341	P	P	19 37 55.4	+1.0
	comp=E,0.1nm,0.6s,baz=137,slow=4.5,SNR=5.6						
YKA				pP	pP	19 38 18.7	+0.6
	comp=E,0.3nm,0.9s,baz=137,slow=4.9,SNR=3.6						
ASAR	Alice Springs	127.28	207	PKP	PKPdf	19 43 44.6	+0.4
	comp=E,0.3nm,0.8s,baz=121,slow=1.4,SNR=3.9						
WRA	Warramunga Arr	130.36	210	PKP	PKPdf	19 43 51.1	+1.1
	comp=E,0.6nm,0.9s,baz=157,slow=1.8,SNR=7.2						
ZALV	Zalesovo Beam	144.60	26	PKP	PKPbc	19 44 15.1	+1.2
	comp=E,1.7nm,0.7s,baz=321,slow=2.0,SNR=9.5						
ZALV				pPKP	pPKPdf	19 44 39.8	0.0
	comp=E,1.0nm,0.6s,baz=285,slow=2.8,SNR=3.5						
MKAR	Makanchi Array	148.11	38	PKPbc	PKPbc	19 44 25.9	+1.3
	comp=E,0.9nm,0.6s,baz=311,slow=2.6,SNR=14						
MKAR				pPKPbc	pPKPbc	19 44 50.0	+1.0
	comp=E,0.9nm,0.6s,baz=305,slow=2.8,SNR=7.9						

IDC 05 19:27:37.0±2.6, 3.58S×130.24E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/27, mbtmp3.4/4, ML3.4/1, MS2.4/1, Ms1 2.6/1, ms1mx2.3/19, Error ellipse: s-maj=132.2km s-min=25.3km az=66.0
ISCJB 05 19:27:41.5±0.6, 3.84S±0.06×129.63E±0.05, h33km, mb3.5/2, MS2.4/1, Error ellipse: s-maj=9.3km s-min=6.0km az=40.3
DJA 05 19:27:41.2±0.3, 4°S±3°×13°E±°, h10km, M3.4/6, MLv3.4/6
ISC 05 19:27:42.8±0.9, 3.88S±0.07×129.61E±0.06, h35km, n11, σ1.28/11, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.70	156	P	Pn	19 27 55.1	-1.2
BNDI				S	Sn	19 28 05.9	0.0
MSAI	Masohi	0.86	308	P	Pn	19 27 56.9	-1.6
MSAI				S	Sn	19 28 08.0	-1.9
NLAI	Namlea	2.59	284	P	Pn	19 28 27.1	+4.9
FAKI	Fak Fak	2.80	70	P	Pn	19 28 24.9	-0.2
FAKI				S	Sn	19 28 56.7	-1.0
LBMI	Labuha	3.85	327	P	Pn	19 28 43.0	+3.4
LBMI				S	Sn	19 29 06.4	-17
SANI	Sanana	4.05	297	P	Pn	19 28 42.9	+0.6
TNTI	Ternate	5.13	334	P	Pn	19 28 49.4	-7.9
WRA	Warramunga Arr	16.62	164	Pn	P	19 31 34.5	-0.8
	0.1nm,0.3s,baz=348,slow=11,SNR=8.1						
ASAR	Alice Springs	20.11	168	P	P	19 32 14.0	+0.3
	0.8nm,0.3s,baz=347,slow=9.7,SNR=24						
CMAR	Chiang Mai Arr	37.49	307	P	P	19 34 55.4	+1.9
	0.4nm,0.6s,baz=134,slow=7.3,SNR=6.6						
CMAR				LR	LR	19 50 19.4	
	comp=Z,6.6nm,21.6s,baz=5.0,slow=36						
MKAR	Makanchi Array	65.42	326	P	P	19 38 22.4	+0.3
	0.2nm,0.4s,baz=114,slow=7.0,SNR=8.6						

JSN 05 19:33:01.4±1.4, 19.60N×75.60W, h29km±463km, MD3.7, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	Greenwich	1.85	215	i P	Pn	19 33 30.1	-1.3
YHJ	Yallahs	1.90	207	i P	Pn	19 33 31.4	-0.6
STH	Stony Hill	1.90	217	i P	Pn	19 33 30.6	-1.3
STH				i S	Sn	19 33 53.4	-1.5
HOJ	Hope	1.92	215	i P	Pn	19 33 30.6	-1.6
PCJ	Portland Cotta	2.36	219	i P	Pn	19 33 38.0	-0.3
MBJ	Montego Bay	2.45	241	i S	Pn	19 34 06.5	-2.0
MCJ	Malvern	2.58	230	i P	Pn	19 33 41.9	+0.5

DJA 05 19:52:52.0±1.0, 8°S±7°×10°7E±°, h18km±7km, M3.5/11, MLv3.5/11
ISC 05 19:52:49.8±1.6, 8.19S±0.05×107.25E±0.04, h24km±18km, n18, σ1.38/22, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.84	42	P	Pb	19 53 05.8	0.0
CISI				S	Sb	19 53 15.8	-0.9
CISI	Cisompet, Garu	0.84	42	P	Pb	19 53 05.1	-0.7
	baz=0.9,SNR=535						
CNJI	Cibinong	0.88	352	P	Pb	19 53 06.3	-0.1
CNJI				S	Sb	19 53 17.1	-0.6
CMJI	Cimerak	1.25	71	P	Pn	19 53 11.7	-0.1
CMJI				S	Sn	19 53 26.8	-1.2
SKJI	Sukabumi	1.36	330	S	Sb	19 53 32.4	+0.8
LEM	Lembang	1.40	15	P	Pn	19 53 14.5	+0.5
LEM	Lembang	1.40	15	P	Pn	19 53 14.9	+0.9
	baz=1.4,SNR=13						
DBJI	Dramaga	1.69	343	P	Pn	19 53 19.3	+1.3
KPJI	Karang Pucung	1.87	63	P	Pn	19 53 21.2	+0.9
CGJI	Cibinong	2.20	315	P	Pn	19 53 25.2	+0.4
XMI	Christmas Isla	2.73	214	P	Pn	19 53 33.4	+1.3
	baz=2.7,SNR=6.2						
XMI				S	Sn	19 54 03.4	-1.0
	baz=2.7,SNR=4.7						
XMIS	Christmas Isla	2.77	215	P	Pn	19 53 33.7	+0.9
	baz=2.8,SNR=18						
XMIS				S	Sn	19 54 03.0	-2.6
	baz=2.8,SNR=5.7						
UGM	Wanagama	3.25	85	P	Pn	19 53 41.0	+1.6
UGM	Wanagama	3.25	85	P	Pn	19 53 40.1	+0.7
	baz=3.3,SNR=11						
KASI	Kota Agung	3.80	314	P	Pn	19 53 48.6	+1.6
PCJI	Pacitan	3.89	90	P	Pn	19 53 49.9	+1.8
PWJI	Pagerwojo	4.51	88	P	Pn	19 54 00.5	+3.8
JAGI	Jajag, Banyuwa	6.84	93	P	Pn	19 54 31.5	+2.8
	baz=6.9,SNR=4.3						

MAN 05 20:00:50, 13.61N×119.89E, h34km, mb4.9, ML3.8, MS3.8, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.37	70	eP	Pn	20 00 58.9	-0.1
TGY	Tagaytay City	1.13	64⇑	eP	Pn	20 01 10.7	-0.4
BUSP	Coron	1.62	169	eP	Pn	20 01 16.9	+0.6
SJMP	San Jose	1.65	133	eP	Pn	20 01 17.6	+1.0
ENPP	El Nido	2.43	191	eP	Pn	20 01 29.6	+2.2
CUYO	Cuyo Island	2.95	158	eP	Pn	20 01 34.2	-0.4

ISCJB 05 20:02:58.7±0.5, 13.62N±0.04×120.00E±0.05, h57km±5km, mb4.1/20, MS3.1/4, Error ellipse: s-maj=8.1km s-min=5.9km az=5.4
IDC 05 20:03:02.3±1.3, 13.64N×120.22E, h80km±11km, mb3.7/18, mb1 3.9/18, mb1mx3.8/28, mbtmp4.0/18, MS3.2/4, Ms1 3.2/4, ms1mx2.8/41, Error ellipse: s-maj=23.0km s-min=12.3km az=67.0
ISC 05 20:03:01.2±1.0, 13.66N±0.06×120.08E±0.08, h68km±10km, n51, σ0.96/53, mb4.2/20, 9C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.18	65	eP	Pn	20 03 07.2	-4.2
LUBP				eS	Sn	20 03 12.9	-6.0
PGP	Puerto Galera	0.86	100⇑	eP	Pn	20 03 16.2	-1.7
TGY	Tagaytay City	0.94	62	P	Pn	20 03 18.6	-0.3
	5μm,0.3s,baz=52,slow=5.3,SNR=191						
TGY				S	Sn	20 03 33.5	+1.5
	4μm,0.3s,baz=34,slow=22,SNR=9.5						
TGY				LR	LR	20 03 42.1	
	comp=Z,8μm,18.7s,baz=241,slow=48						
TGY	Tagaytay City	0.94	62⇑	eP	Pn	20 03 18.4	-0.5
TGY				eS	Sn	20 03 32.8	+0.8
LQP	Lukban	1.49	72⇑	eP	Pn	20 03 25.2	-0.9
SJMP	San Jose	1.56	140	eP	Pn	20 03 25.1	-1.8
BUSP	Coron	1.65	176	eP	Pn	20 03 25.0	-3.1
BOAC	Boac	1.73	96	eP	Pn	20 03 27.8	-1.3
OTRP	Odiongan	2.29	124	eP	Pn	20 03 35.2	-1.5
GQP	Guinayangan	2.31	84⇑	eP	Pn	20 03 37.0	0.0
GQP				eS	Sn	20 04 06.7	+2.3
ENPP	El Nido	2.52	195	eP	Pn	20 03 36.8	-3.1
AUQP	San Andres	2.55	97	eP	Pn	20 03 39.9	-0.3
BOLP	Bolinao	2.71	357	eP	Pn	20 03 40.5	-1.9
BCPH	Baguio City Da	2.75	10⇑	iP	Pn	20 03 42.1	-1.0
BCPH				i S	Sn	20 04 14.4	-0.9
CUYO	Cuyo Island	2.94	162	eP	Pn	20 03 42.8	-2.8
RCP	Roxas	3.33	128⇑	eP	Pn	20 03 50.1	-0.9
SDKM	Sandakan	8.46	200⇓	P	Pn	20 05 19.8	+19
MYLDM	Lahad Datu	8.57	191⇑	P	Pn	20 05 03.8	+1.2
SBUM	Sibu	13.58	216⇑	P	Pn	20 06 09.9	-1.0
KSM	Kuching	15.49	219⇑	P	Pn	20 06 36.7	+0.9
CMAR	Chiang Mai Arr	20.86	286	P	P	20 07 39.6	+1.8
	5.8nm,0.8s,baz=96,slow=9.1,SNR=52						
CMAR				PcP	PcP	20 11 45.3	+1.2
	0.7nm,0.7s,baz=98,slow=1.0,SNR=8.4						
CMAR				LR	LR	20 16 03.3	
	comp=Z,34nm,18.2s,baz=114,slow=37						

PSI	Prapat	23.53	245	LR	LR	20 16 58.0	
	comp=Z,50nm,19.8s,baz=74,slow=35						
KSRS	Korea Array	24.71	15	P	P	20 08 16.4	+0.4
	1.5nm,0.6s,baz=203,slow=10,SNR=9.2						
KSRS				LR	LR	20 18 27.0	
	comp=Z,58nm,19.9s,baz=206,slow=38						
RAMN	Ramite	33.95	298	eP	P	20 09 39.0	+0.4
JIRN	Jiri	34.50	299	eP	P	20 09 43.8	+0.3
PKI	Pulchoki	35.14	299	eP	P	20 09 48.6	-0.3
	4.9nm,0.5s						
PKIN	Phulchoki	35.15	299	eP	P	20 09 49.1	+0.1
	2.8nm,0.4s						
DMN	Daman	35.41	299	eP	P	20 09 51.3	+0.1
	6.0nm,0.5s						
WRA	Warramunga Arr	36.22	157	P	P	20 09 56.5	-1.3
	6.8nm,0.6s,baz=336,slow=9.5,SNR=124						
DANN	Dangsing	36.76	299	eP	P	20 10 02.4	-0.3
	7.1nm,0.4s						
PYUN	Piuthan	37.35	299	eP	P	20 10 08.2	+0.6
ASAR	Alice Springs	39.48	160	P	P	20 10 24.8	-0.5
	3.5nm,0.5s,baz=339,slow=6.9,SNR=83						
MKAR	Makanchi Array	45.71	324	P	P	20 11 15.8	+0.3
	0.5nm,0.7s,baz=112,slow=8.7,SNR=9.5						
MKAR				PcP	PcP	20 12 53.1	+0.6
	1.0nm,0.6s,baz=121,slow=3.0,SNR=9.7						
MKAR				LR	LR	20 31 32.8	
	comp=Z,48nm,18.5s,baz=322,slow=37						
ZALV	Zalesovo Beam	48.82	333	P	P	20 11 39.9	+0.4
	0.5nm,0.4s,baz=121,slow=5.6,SNR=4.4						
ZALV				PcP	PcP	20 13 03.4	+0.1
	0.3nm,0.5s,baz=120,slow=5.5,SNR=2.3						
STKA	Stephens Creek	49.75	156	P	P	20 11 46.3	-0.6
	2.5nm,0.6s,baz=331,slow=8.0,SNR=6.2						
KURBB	Kurchatov Arra	49.89	326	P	P	20 11 48.4	+0.7
	1.6nm,0.7s,baz=133,slow=7.3,SNR=12						
KURBB				PcP	PcP	20 13 07.8	+0.5
	0.1nm,0.4s,baz=118,slow=3.5,SNR=4.5						
SEY	Seymchan	54.23	18	P	P	20 12 20.2	+0.5
	1.6nm,0.6s,baz=232,slow=5.1,SNR=3.7						
BVAR	Borovoye Array	55.47	326	P	P	20 12 28.2	-0.7
	0.6nm,0.4s,baz=111,slow=8.0,SNR=6.4						
BVAR				PcP	PcP	20 13 28.2	-0.1
	0.7nm,0.5s,baz=134,slow=5.4,SNR=3.7						
AKTO	Aktyubinsk	61.86	320	P	P	20 13 14.4	+1.1
	0.5nm,0.4s,baz=90,slow=12,SNR=3.8						
JOF	Joensuu	77.40	332	eP	P	20 14 49.4	+0.7
	4.4nm,0.3s						
KEV	Kevo	78.36	339	ep	P	20 14 53.5	-0.4
	2.1nm,0.4s						
ARCES	ARCESS Array B	78.91	339	P	P	20 14 57.3	+0.4
	2.0nm,0.4s,baz=85,slow=6.9,SNR=37						
ILAR	Eielson Array	79.05	26	P	P	20 14 55.5	-2.3
	0.5nm,0.6s,baz=303,slow=4.2,SNR=7.3						
KAF	Kangasniemi	79.80	332	ep	P	20 15 02.2	+0.3
	1.0nm,0.3s						
FINES	FINESS Array B	80.03	331	P	P	20 15 02.8	-0.3
	1.2nm,0.5s,baz=51,slow=5.5,SNR=17						
AKASG	Malin Array Be	80.10	320	P	P	20 15 03.0	-0.8
	0.1nm,0.4s,baz=352,slow=11,SNR=2.5						
NB2	NORSAR Subarra	87.02	333	P	P	20 15 39.2	+0.1
	comp=Z,1.2nm,0.7s,baz=67,slow=5.1						
NOA	NORSAR Array B	87.02	333	P	P	20 15 38.6	-0.4
	comp=Z,1.2nm,0.6s,baz=68,slow=4.7,SNR=5.2						
GERES	GERESS Array B	90.28	321	P	P	20 15 56.0	+1.2
	comp=Z,0.2nm,0.5s,baz=55,slow=5.1,SNR=3.6						
YKA	Yellowknife Ar	93.04	22	P	P	20 16 06.6	-0.5
	comp=Z,0.4nm,0.5s,baz=308,slow=4.3,SNR=11						
PLCA	Paso Flores	151.47	163	PKPbc	PKPbc	20 22 47.3	-0.6
	comp=Z,2.6nm,0.6s,baz=210,slow=1.7,SNR=4.8						

IDC 05 20:12:22.1±3.2, 13.17S×167.69E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/29, mbtmp3.7/4, Error ellipse: s-maj=154.1km s-min=30.3km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.63	254	P	P	20 18 55.9	0.0
	0.1nm,0.6s,baz=85,slow=9.2,SNR=5.1						
ASAR	Alice Springs	33.63	247	P	P	20 19 05.0	+0.3
	0.6nm,0.6s,baz=75,slow=9.3,SNR=9.7						
ILAR	Eielson Array	84.92	18	P	P	20 24 59.4	+0.7
	0.4nm,0.5s,baz=236,slow=5.1,SNR=12						
MKAR	Makanchi Array	96.36	316	P	P	20 25 52.3	-0.6
	0.2nm,0.5s,baz=89,slow=6.4,SNR=3.6						
ARCES	ARCESS Array B	118.85	346	PKP	PKPdf	20 31 10.8	-1.2
	6.0nm,1.1s,baz=66,slow=2.3,SNR=14						

CSEM 05 20:13:38.1±0.3, 36.74N×22.91E, h15km, MD3.0, Error ellipse: s-maj=12.0km s-min=6.7km az=69.0
ATH 05 20:13:38.3, 36.73N×22.92E, h14km, MD3.0/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	Veliai	0.02	131	ePG	Pg	20 13 41.0	+0.2
VLI				eSG	Sg	20 13 42.7	+0.2
VLI	Veliai	0.02	131	ePg	Pg	20 13 41.0	+0.2
VLI				eSg	Sg	20 13 42.7	+0.2
KYTH	Kithira	0.46	168	ePB	Pg	20 13 47.8	+0.3
KYTH	Kithira	0.46	168	ePb	Pg	20 13 47.8	+0.3
VLX	Vlachokerasia	0.77	326	ePG	Pg	20 13 52.9	-0.6
VLX	Vlachokerasia	0.77	326	ePg	Pg	20 13 52.9	-0.6
DID	Didima	0.81	18	ePB	Pg	20 13 53.9	-0.3
DID				eSB	Sb	20 14 05.3	0.0
DID	Didima	0.81	18	ePb	Pg	20 13 53.9	-0.3
DID				eSb	Sb	20 14 05.3	0.0
ANKY	Antikythira Is	0.92	160	ePB	Pb	20 13 55.8	-0.1
ANKY				eSB	Sg	20 14 08.4	+0.4
ANKY	Antikythira Is	0.92	160	ePb	Pb	20 13 55.8	-0.1
ANKY				eSb	Sg	20 14 08.4	+0.4
PYL	PYLOS	0.96	280	ePG	Pb	20 13 56.4	-0.3
PYL				eSB	Sg	20 14 10.1	+0.6
PYL	PYLOS	0.96	280	ePg	Pb	20 13 56.4	-0.3
PYL				eSb	Sg	20 14 10.1	+0.6
GUR	Goura	1.29	339	ePB	Pb	20 14 02.6	+0.1
GUR	Goura	1.29	339	ePb	Pb	20 14 02.6	+0.1

CSEM 05 20:13:59.8±0.1, 38.28N×22.09E, h15km, MD2.9, Error ellipse: s-maj=3.4km s-min=2.9km az=99.0
ATH 05 20:14:00.4, 38.30N×22.09E, h11km±1km, MD2.9/10
THE 05 20:14:00.6, 38.29N×22.11E, h10km±1km, ML1.8/7, Error ellipse: s-maj=1.4km s-min=0.3km az=246.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	Kalithea	0.10	15	P	Pg	20 14 03.1	-0.3
KALE				S	Sg	20 14 05.2	-0.2
KALE	Kalithea	0.10	15	ePG	Pg	20 14 03.1	-0.3
KALE				eSG	Sg	20 14 05.3	-0.1
KALE	Kalithea	0.10	15	ePg	Pg	20 14 03.1	-0.3
KALE				eSg	Sg	20 14 05.3	-0.1
LAKA	Lakka	0.11	243	P	Pg	20 14 03.0	-0.5
LAKA	Lakka	0.11	243	ePG	Pg	20 14 03.0	-0.5
LAKA	Lakka	0.11	243	P	Pg	20 14 03.0	-0.5
EFP	Efpalio	0.21	311	P	Pg	20 14 04.6	-0.4
EFP				S	Sg	20 14 08.5	+0.6
EFP	Efpalio	0.21	311	ePG	Pg	20 14 04.6	-0.4
EFP				eSG	Sg	20 14 07.8	-0.1
EFP	Efpalio	0.21	311	P	Pg	20 14 04.6	-0.4
EFP				eSg	Sg	20 14 07.8	-0.1
EFP				S		20 14 08.5	
KLV	Kalavryta, Ach	0.25	172	P	Pg	20 14 05.4	-0.4
KLV				S	Sg	20 14 09.6	+0.3
KLV	Kalavryta, Ach	0.25	172	ePB	Pg	20 14 05.4	-0.4
KLV	Kalavryta, Ach	0.25	172	P	Pg	20 14 05.4	-0.4
UPR	University Cam	0.25	268	P	Pg	20 14 05.7	-0.1
UPR				S	Sg	20 14 09.9	+0.7
UPR	University Cam	0.25	268	P	Pg	20 14 05.7	-0.1
DSF	Desfina	0.35	70	P	Pg	20 14 07.6	-0.1
DSF				S	Sg	20 14 13.1	+0.6
DSF	Desfina	0.35	70	ePB	Pg	20 14 07.5	-0.2
DSF				eSB	Sg	20 14 12.6	+0.1
DSF	Desfina	0.35	70	ePb	Pg	20 14 07.5	-0.2
DSF				eSb	Sg	20 14 12.6	+0.1
DSF				S	Sb	20 14 13.1	-1.6
DSF	Desfina	0.35	70	P	Pg	20 14 07.6	-0.1
GUR	Goura	0.40	152	P	Pg	20 14 08.5	-0.2
GUR				S	Sg	20 14 14.7	+0.6
GUR	Goura	0.40	152	P	Pg	20 14 08.5	-0.2
GUR				S	Sg	20 14 14.7	+0.6
AXAR	Agios Charalam	0.64	42	P	Pg	20 14 12.8	-0.3
AXAR				S	Sg	20 14 22.2	+0.6
AXAR	Agios Charalam	0.64	42	ePB	Pg	20 14 12.8	-0.3
AXAR				eSB	Sb	20 14 22.4	-0.6
AXAR	Agios Charalam	0.64	42	ePb	Pg	20 14 12.8	-0.3
AXAR				S	Sg	20 14 22.2	+0.6
EVR	Evrytania	0.67	340	P	Pg	20 14 13.0	-0.7
EVR				S	Sb	20 14 23.4	-0.5
EVR	Evrytania	0.67	340	ePB	Pg	20 14 12.9	-0.8
EVR	Evrytania	0.67	340	ePb	Pg	20 14 12.9	-0.8
EVR				S	Sb	20 14 23.4	-0.5
MAKR	Makrakomi, Fth	0.72	2	P	Pg	20 14 14.5	-0.1
MAKR				S	Sb	20 14 24.8	-0.5
MAKR	Makrakomi, Fth	0.72	2	ePB	Pg	20 14 14.5	-0.1
MAKR				eSB	Sg	20 14 23.9	-0.2
MAKR	Makrakomi, Fth	0.72	2	ePb	Pg	20 14 14.5	-0.1
MAKR				eSb	Sg	20 14 23.9	-0.2
MAKR				S	Sb	20 14 24.8	-0.5
AGG	Agios Georgios	0.75	13	P	Pg	20 14 14.3	-0.9
AGG				S	Sb	20 14 25.7	-0.5
AGG	Agios Georgios	0.75	13	ePB	Pg	20 14 14.0	-1.2
AGG	Agios Georgios	0.75	13	ePb	Pg	20 14 14.0	-1.2
AGG				S	Sb	20 14 25.7	-0.5
LKR	Lokris	0.79	63	ePB	Pg	20 14 15.4	-0.4
LKR	Lokris	0.79	63	ePb	Pg	20 14 15.4	-0.4
AMT	Artemida-Makis	0.82	203	ePB	Pg	20 14 16.1	-0.4
AMT	Artemida-Makis	0.82	203	ePb	Pg	20 14 16.1	-0.4
VLS	Valsamata	1.20	265	ePN	Pb	20 14 22.0	-1.4
VLS	Valsamata	1.20	265	ePn	Pb	20 14 22.0	-1.4
LKD2	Lefkada island	1.24	294	ePN	Pn	20 14 23.0	-1.0
LKD2	Lefkada island	1.24	294	ePn	Pn	20 14 23.0	-1.0
THL	Klokotos Trika	1.27	357	ePB	Pb	20 14 24.7	0.0
THL	Klokotos Trika	1.27	357	ePb	Pb	20 14 24.7	0.0

IDC 05 20:15:13.3±2.5, 6.12S×154.01E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, ML2.7/1, Error ellipse: s-maj=75.8km s-min=42.1km az=126.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.53	244	Pn	Pn	20 17 06.6	+2.1
	0.6nm,0.3s,baz=41,slow=11,SNR=2.6						
PMG				Sn	Sn	20 18 35.6	+4.9
	0.5nm,0.3s,baz=59,slow=18,SNR=2.5						
WRA	Warramunga Arr	23.54	232	P	P	20 20 24.9	-0.5
	1.2nm,0.7s,baz=55,slow=9.4,SNR=15						
ASAR	Alice Springs	26.05	226	P	P	20 20 47.8	-0.8
	0.3nm,0.7s,baz=56,slow=8.9,SNR=4.4						
STKA	Stephens Creek	28.13	203	P	P	20 21 06.9	-0.2
	1.7nm,0.8s,baz=28,slow=15,SNR=3.8						
TORD	Torodi Ar. Bea	151.85	286	PKPbc	PKPbc	20 35 11.6	+0.4
	0.4nm,0.7s,baz=65,slow=2.2,SNR=4.3						

JMA 05 20:22:34.1±0.1, 37.29N×138.20E, h25km±2km, M1.3, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	Hiroka	0.65	93	P	Pb	20 22 46.1	-0.8
JHK				S	Sb	20 22 55.4	-0.2
MAT	Matsushiro	0.75	180	P	Pb	20 22 48.2	-0.3
MAT				S	Sb	20 22 58.7	+0.4
MAT	Matsushiro	0.75	180	P	Pb	20 22 48.2	-0.3
MAT				S	Sb	20 22 58.7	+0.4
JNS	Sasagawa	1.03	59	P	Pb	20 22 53.2	-0.1
JNS				S	Sn	20 23 06.8	+0.1

IDC 05 20:43:14.8±4.8, 17.51S×167.11E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.7/18, mbtmp3.6/5, ML3.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/23, Error ellipse: s-maj=94.3km s-min=41.2km az=80.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.58	188	Pn	Pn	20 44 23.6	-2.0
	0.8nm,0.3s,baz=35,slow=8.9,SNR=15						
DZM				Sn	Sn	20 45 14.4	-5.3
	1.8nm,0.3s,baz=288,slow=19,SNR=3.8						
STKA	Stephens Creek	27.15	233	P	P	20 49 00.9	+0.9
	2.1nm,0.8s,baz=80,slow=11,SNR=2.4						
WRA	Warramunga Arr	31.11	260	P	P	20 49 34.0	-1.3
	0.3nm,0.8s,baz=84,slow=8.1,SNR=3.7						
ASAR	Alice Springs	31.64	253	P	P	20 49 40.1	+0.2
	0.7nm,0.6s,baz=81,slow=8.7,SNR=9.8						
ASAR				LR	LR	21 01 57.1	
	comp=Z,46nm,18.8s,baz=88,slow=36						
CMAR	Chiang Mai Arr	75.95	295	P	P	20 55 04.8	+0.7
	0.4nm,0.8s,baz=125,slow=6.1,SNR=3.5						

IDC 05 20:45:02.1±1.8, 34.71N×138.32E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.2/42, mbtmp3.3/2, Error ellipse: s-maj=47.8km s-min=22.9km az=88.0
ISCJB 05 20:45:03.9±0.7, 35.47N±0.05×140.13E±0.07, h82km±6km, mb3.3/2, Error ellipse: s-maj=10.1km s-min=7.2km az=137.0
JMA 05 20:45:04.8±0.2, 35.57N×140.11E, h69km±2km, M2.7
ISC 05 20:45:04.9±1.1, 35.51N±0.05×140.12E±0.06, h76km±8km, n17, σ0.79/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.11	143	P	Pn	20 45 15.8	0.0
JCN				S	Sn	20 45 24.4	+0.6
TOK	Tokyo	0.34	301	P	Pn	20 45 17.0	+0.1
BSO3	Boso 3	0.77	155	P	Pn	20 45 21.0	+0.3
JOD2	Odawara 2	0.88	254	P	Pn	20 45 21.9	-0.3
JOD2				S	Sn	20 45 34.1	-1.0
JAG	Ashikaga	1.06	330	P	Pn	20 45 23.7	-0.8
BSO1	Boso 1	1.10	140	P	Pn	20 45 24.4	0.0
JRY	Ryogami san	1.11	298	P	Pn	20 45 25.2	+0.1
JRY				S	Sn	20 45 40.6	+0.3
JYN	Shimob	1.29	270	P	Pn	20 45 27.3	0.0
JYN				S	Sn	20 45 43.9	-0.3
JIZS	Izushimoda	1.29	233	P	Pn	20 45 27.6	+0.3
JIZS				S	Sn	20 45 43.4	-0.7
JKT	Katashina	1.44	331	P	Pn	20 45 28.9	-0.5
JKT				S	Sn	20 45 46.9	-0.9
MJAR	Matsushiro Arr	1.86	304	Pn	Pn	20 45 34.8	0.0
	3.5nm,0.3s,baz=176,slow=18,SNR=32						
MJAR				Sn	Sn	20 45 59.6	+2.0
	2.3nm,0.3s,baz=138,slow=15,SNR=5.7						
MAT	Matsushiro	1.86	304	P	Pn	20 45 35.1	+0.2
MAT				S	Sn	20 45 59.4	+1.8
H11N2	WAKE ISLAND Hy	28.33	117	T	T	21 20 30.7	
	baz=313						
H11N1	WAKE ISLAND Hy	28.34	117	T	T	21 20 36.9	
	baz=313						
H11N3	WAKE ISLAND Hy	28.35	117	T	T	21 20 25.9	
	baz=313						
MKAR	Makanchi Array	44.06	303	P	P	20 53 04.9	-0.3
	0.2nm,0.7s,baz=73,slow=7.2,SNR=4.3						
WRA	Warramunga Arr	55.42	187	P	P	20 54 31.6	+0.1
	0.6nm,1.0s,baz=2.1,slow=7.6,SNR=5.2						

YARS 05 20:50:21.7±0.3, 56.91N±0.02×125.99E±0.03, h10km, MSV1.4, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLNS	Chul'man	0.61	264	eP	Pg	20 50 32.9	-0.7
CLNS				Pm		20 50 32.9	
	comp=Z,4.0nm,0.1s						
CLNS				eS	Sg	20 50 39.8	-1.8
CLNS				Sm		20 50 39.8	
	comp=N,19nm,0.3s						
CLNS	Chul'man	0.61	264	eP	Pg	20 50 32.9	-0.7
CLNS				Pm		20 50 32.9	
	comp=Z,4.0nm,0.1s						
CLNS				eS	Sg	20 50 39.8	-1.8
CLNS				Sm		20 50 39.8	
	comp=N,19nm,0.3s						
IENR	Iengra	0.93	223	eP	Pg	20 50 39.4	-0.3
IENR				Pm		20 50 39.4	
	comp=Z,5.0nm,0.1s						
IENR				eS	Sg	20 50 50.8	-1.1
IENR				Sm		20 50 50.8	
	comp=N,12nm,0.3s						
IENR	Iengra	0.93	223	eP	Pg	20 50 39.4	-0.3
IENR				Pm		20 50 39.4	
	comp=Z,5.0nm,0.1s						
IENR				eS	Sg	20 50 50.8	-1.1
ALDR	Aldan	1.73	350	eS	Sb	20 51 15.5	-0.1
ALDR				Sm		20 51 15.5	
	comp=N,16nm,0.2s						
ALDR	Aldan	1.73	350	eS	Sb	20 51 15.5	-0.1
ALDR				Sm		20 51 15.5	
	comp=N,16nm,0.2s						
BMKR	Bomnak	2.73	143	eP	Pb	20 51 10.4	-0.2
BMKR				eS	Sb	20 51 46.4	+2.3

DDA 05 21:02:14.8, 34.96N×27.02E, h2km, ML4.1
IDC 05 21:02:18.4±0.8, 35.11N×27.25E, h0km, mb3.8/9, mb1 3.7/14, mb1mx3.7/28, mbtmp3.6/14, ML3.6/5, Error ellipse: s-maj=17.2km s-min=13.6km az=180.0
ISCJB 05 21:02:19.7±0.8, 35.05N±0.03×27.25E±0.02, h12km±5km, mb3.6/9, Error ellipse: s-maj=4.8km s-min=2.5km az=176.0
ATH 05 21:02:20.1, 35.10N×27.18E, h21km±1km, MD3.8/19
CSEM 05 21:02:21.4±0.2, 35.13N×27.19E, h8km, ML3.5, Error ellipse: s-maj=4.8km s-min=2.3km az=167.0
ISK 05 21:02:22.1, 35.25N×27.25E, h18km, MD3.8
THE 05 21:02:22.0, 35.16N×27.18E, h0km, ML3.5/5, Error ellipse: s-maj=2.2km s-min=0.7km az=141.0
ISC 05 21:02:20.2±1.2, 35.07N±0.04×27.21E±0.02, h11km±8km, n175, σ1.37/217, mb3.8/9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.48	355	P	Pg	21 02 29.5	-0.1
KARP				S	Sg	21 02 36.7	+0.7
KARP	Karpathos	0.48	355	ePB	Pg	21 02 29.2	-0.4
KARP				eSB	Sg	21 02 36.2	+0.2
KARP	Karpathos	0.48	355	ePb	Pg	21 02 29.2	-0.4
KARP	Karpathos	0.48	355	P	Pg	21 02 29.5	-0.1
KARP				eSb	Sg	21 02 36.2	+0.2
ZKR	Zakros	0.82	274	P	Pg	21 02 35.2	-0.7
ZKR				S	Sb	21 02 47.6	+0.2
ZKR	Zakros	0.82	274	ePN	Pg	21 02 35.2	-0.7
ZKR				eSN	Sb	21 02 47.2	-0.2
ZKR	Zakros	0.82	274	ePn	Pg	21 02 35.2	-0.7
ZKR				eSn	Sb	21 02 47.2	-0.2
NPS	Neapolis	1.32	279	P	Pg	21 02 45.4	-0.2
NPS				S	Sg	21 03 04.1	+1.3
NPS	Neapolis	1.32	279	ePN	Pn	21 02 44.8	+0.2
NPS				eSN	Sb	21 03 01.8	-0.2
NPS	Neapolis	1.32	279	ePn	Pn	21 02 44.8	+0.2
NPS	Neapolis	1.32	279	P	Pg	21 02 45.4	-0.2
NPS				eSn	Sb	21 03 01.8	-0.2
NPS				S	Sg	21 03 04.1	+1.3
ARG	Arkhangelos	1.37	33	P	Pg	21 02 46.4	-0.1
ARG				S	Sg	21 03 04.8	+0.5
ARG	Arkhangelos	1.37	33	ePN	Pn	21 02 46.3	-0.2
ARG	Arkhangelos	1.37	33	ePn	Pn	21 02 46.3	-0.2
ARG				S	Sg	21 03 04.8	+0.5
LAST	Lasithi	1.42	274	P	Pb	21 02 46.8	0.0
LAST				S	Sg	21 03 06.8	+0.8
LAST	Lasithi	1.42	274	ePN	Pn	21 02 46.2	+0.2
LAST	Lasithi	1.42	274	ePn	Pn	21 02 46.2	+0.2
LAST	Lasithi	1.42	274	P	Pb	21 02 46.8	0.0
LAST				S	Sg	21 03 06.8	+0.8
NIS1	Nisyros Isl.	1.53	359	P	Pn	21 02 48.0	+0.5
NIS1				S	Sb	21 03 08.2	+0.1
NIS1	Nisyros Isl.	1.53	359	ePN	Pn	21 02 47.3	-0.2
NIS1	Nisyros Isl.	1.53	359	ePn	Pn	21 02 47.3	-0.2
NIS1	Nisyros Isl.	1.53	359	P	Pn	21 02 48.0	+0.5
NIS1				S	Sb	21 03 08.2	+0.1
IDI	Anoyia	1.91	277	Pn	Pb	21 02 54.1	-1.0
	20nm,0.3s,baz=86,slow=17,SNR=111						
IDI				Sn	Sb	21 03 19.6	+0.5
	33nm,0.3s,baz=343,slow=21,SNR=8.0						
SANT	Santorini	1.93	313	P	Pn	21 02 53.4	+0.4
SANT				S	Sn	21 03 18.3	+1.1
SANT	Santorini	1.93	313	ePN	Pn	21 02 53.8	+0.8
SANT	Santorini	1.93	313	P	Pn	21 02 53.4	+0.4
SANT	Santorini	1.93	313	ePn	Pn	21 02 53.8	+0.8
SANT				S	Sn	21 03 18.3	+1.1
SIVA	Sivas	1.97	269	P	Pb	21 02 55.7	-0.3
SIVA				S	Sb	21 03 20.4	-0.2
SIVA	Sivas	1.97	269	ePN	Pn	21 02 54.6	+1.1
SIVA	Sivas	1.97	269	ePn	Pn	21 02 54.6	+1.1
SIVA	Sivas	1.97	269	P	Pb	21 02 55.7	-0.3
SIVA				S	Sb	21 03 20.4	-0.2
BODT	Bodrum	1.99	2	ePN	Pn	21 02 53.5	-0.4
BODT	Bodrum	1.99	2	ePn	Pn	21 02 53.5	-0.4
BDRM	Kayabasi	2.00	5	iP	Pn	21 02 53.8	-0.2
BDRM				iS	Sn	21 03 19.4	+0.3
BDRM	Kayabasi	2.00	5	iP	Pn	21 02 53.8	-0.2
BDRM				iS	Sn	21 03 19.4	+0.3
DALY	Dalyan (Mu˘la	2.10	33	ePN	Pn	21 02 55.4	+0.1
DALY	Dalyan (Mu˘la	2.10	33	ePn	Pn	21 02 55.4	+0.1
KSL	Kastellorizon	2.22	60	ePN	Pn	21 02 57.8	+1.0
KSL	Kastellorizon	2.22	60	ePn	Pn	21 02 57.8	+1.0
YER	Yerkesik	2.24	23	ePN	Pn	21 02 57.8	+0.5
YER	Yerkesik	2.24	23	ePn	Pn	21 02 57.8	+0.5
AKAS	Kas	2.27	58	iP	Pn	21 02 58.9	+1.1
AKAS				iS	Sn	21 03 26.7	+0.9
AKAS	Kas	2.27	58	iP	Pn	21 02 58.9	+1.1
AKAS				iS	Sn	21 03 26.7	+0.9
APE	Apeiranthos	2.42	326	ePN	Pn	21 03 00.0	+0.3
APE	Apeiranthos	2.42	326	ePN	Pn	21 02 59.7	0.0
APE	Apeiranthos	2.42	326	ePn	Pn	21 03 00.0	+0.3
VAM	Vamos	2.49	279	P	Pn	21 03 02.0	+1.4
VAM				S	Sb	21 03 33.5	-2.0
VAM	Vamos	2.49	279	ePN	Pn	21 03 00.9	+0.3
VAM	Vamos	2.49	279	ePn	Pn	21 03 00.9	+0.3
VAM	Vamos	2.49	279	P	Pn	21 03 02.0	+1.4
VAM				S	Sb	21 03 33.5	-2.0
GVD	Gavdhos	2.58	266	P	Pn	21 03 03.6	+1.8
GVD				S	Sn	21 03 35.3	+2.2
GVD	Gavdhos	2.58	266	ePN	Pb	21 03 04.9	-1.4
GVD	Gavdhos	2.58	266	ePN	Pn	21 03 02.7	+0.9
GVD	Gavdhos	2.58	266	ePn	Pn	21 03 02.7	+0.9
GVD	Gavdhos	2.58	266	P	Pn	21 03 03.6	+1.8
GVD				S	Sn	21 03 35.3	+2.2
ELL	Elmali	2.76	52	ePN	Pn	21 03 04.9	+0.4
ELL	Elmali	2.76	52	ePn	Pn	21 03 04.9	+0.4
GOLH	Golhisar	2.88	41	iP	Pn	21 03 08.3	+2.2
GOLH				iS	Sb	21 03 46.8	-0.2
GOLH	Golhisar	2.88	41	iP	Pn	21 03 08.3	+2.2
GOLH				iS	Sb	21 03 46.8	-0.2
AYDB	Zeytinkoy-Aydi	2.93	11	ePN	Pn	21 03 06.6	-0.1
AYDB	Zeytinkoy-Aydi	2.93	11	ePn	Pn	21 03 06.6	-0.1
KORT	Korkueli	3.19	52	iP	Pn	21 03 12.4	+1.9
KORT				iS	Sn	21 03 51.9	+3.3
KORT	Korkueli	3.19	52	iP	Pn	21 03 12.4	+1.9
KORT				iS	Sn	21 03 51.9	+3.3
ANKY	Antikythira Is	3.29	285	P	Pn	21 03 12.4	+0.8
ANKY				S	Sn	21 03 53.0	+2.3
ANKY	Antikythira Is	3.29	285	ePN	Pn	21 03 12.1	+0.5
ANKY	Antikythira Is	3.29	285	ePn	Pn	21 03 12.1	+0.5
ANKY	Antikythira Is	3.29	285	P	Pn	21 03 12.4	+0.8
ANKY				S	Sn	21 03 53.0	+2.3
CHOS	Chios island	3.44	345	ePN	Pn	21 03 14.5	+0.7
CHOS	Chios island	3.44	345	ePn	Pn	21 03 14.5	+0.7
KYTH	Kithira	3.61	291	P	Pn	21 03 16.9	+0.9
KYTH	Kithira	3.61	291	ePN	Pn	21 03 17.1	+1.1
KYTH	Kithira	3.61	291	ePn	Pn	21 03 17.1	+1.1
BCK	Bucak	3.63	48	ePN	Pn	21 03 17.5	+1.1
BCK	Bucak	3.63	48	ePn	Pn	21 03 17.5	+1.1
KULA	Kula-Manisa	3.63	18	ePN	Pn	21 03 16.7	+0.3
KULA	Kula-Manisa	3.63	18	ePn	Pn	21 03 16.7	+0.3
KHL	Karahalli	3.74	29	ePN	Pn	21 03 17.9	-0.1
KHL	Karahalli	3.74	29	ePn	Pn	21 03 17.9	-0.1
AKS	Akhisar	3.84	7	ePN	Pn	21 03 19.0	-0.2
AKS	Akhisar	3.84	7	ePn	Pn	21 03 19.0	-0.2
VLI	Veliai	3.84	297	P	Pn	21 03 20.0	+0.8
VLI				S	Sn	21 04 06.0	+1.7
VLI	Veliai	3.84	297	ePN	Pn	21 03 19.4	+0.2
VLI	Veliai	3.84	297	ePn	Pn	21 03 19.4	+0.2
VLI	Veliai	3.84	297	P	Pn	21 03 20.0	+0.8
VLI				S	Sn	21 04 06.0	+1.7
SUTC	Sutluce-Ispart	3.89	51	ePN	Pn	21 03 21.4	+1.3
SUTC	Sutluce-Ispart	3.89	51	ePn	Pn	21 03 21.4	+1.3
PTL	Penteli	4.01	319	ePN	Pn	21 03 22.4	+0.8
PTL	Penteli	4.01	319	ePn	Pn	21 03 22.4	+0.8
DID	Didima	4.03	308	ePN	Pn	21 03 23.1	+1.3

DID	Didima	4.03	308	ePn	Pn	21 03 23.1	+1.3
SIGR	SIGRI	4.28	346	ePN	Pn	21 03 25.0	-0.2
SIGR	SIGRI	4.28	346	ePn	Pn	21 03 25.0	-0.2
GAZI	Gazipasa	4.32	73	iP	Pn	21 03 25.8	0.0
GAZI				iS	Sn	21 04 14.5	-1.6
GAZI	Gazipasa	4.32	73	iP	Pn	21 03 25.8	0.0
GAZI				iS	Sn	21 04 14.5	-1.6
SHUT	Suhut-Afyon	4.39	37	ePN	Pn	21 03 26.9	0.0
SHUT	Suhut-Afyon	4.39	37	ePn	Pn	21 03 26.9	0.0
LTK	Loutraki	4.51	312	ePN	Pn	21 03 30.1	+1.6
LTK	Loutraki	4.51	312	ePn	Pn	21 03 30.1	+1.6
VLX	Vlachokerasia	4.53	302	ePN	Pn	21 03 30.3	+1.5
VLX	Vlachokerasia	4.53	302	ePn	Pn	21 03 30.3	+1.5
BALB	Balikesir	4.60	6	ePN	Pn	21 03 29.6	0.0
BALB	Balikesir	4.60	6	ePn	Pn	21 03 29.6	0.0
ALT	Altintas	4.61	29	ePN	Pn	21 03 30.4	+0.5
ALT	Altintas	4.61	29	ePn	Pn	21 03 30.4	+0.5
MRKA	Markates	4.65	322	ePN	Pn	21 03 31.3	+1.0
MRKA	Markates	4.65	322	ePn	Pn	21 03 31.3	+1.0
LEF	Lefka	4.66	88	ePN	Pn	21 03 33.5	+3.1
LEF	Lefka	4.66	88	ePn	Pn	21 03 33.5	+3.1
TVSB	Tavsanli	4.73	22	ePN	Pn	21 03 31.9	+0.4
TVSB	Tavsanli	4.73	22	ePn	Pn	21 03 31.9	+0.4
ITM	Ithomi	4.77	298	ePN	Pn	21 03 32.9	+0.9
ITM	Ithomi	4.77	298	ePn	Pn	21 03 32.9	+0.9
PYL	PYLOS	4.79	294	ePN	Pn	21 03 31.9	-0.4
PYL	PYLOS	4.79	294	ePn	Pn	21 03 31.9	-0.4
GUR	Goura	4.86	308	ePN	Pn	21 03 35.2	+2.0
GUR	Goura	4.86	308	ePn	Pn	21 03 35.2	+2.0
LKR	Lokris	4.92	318	ePN	Pn	21 03 35.8	+1.8
LKR	Lokris	4.92	318	ePn	Pn	21 03 35.8	+1.8
SMIA	Simia	4.97	321	ePN	Pn	21 03 36.7	+1.9
SMIA	Simia	4.97	321	ePn	Pn	21 03 36.7	+1.9
CSS	Prodhromos	5.02	89	ePN	Pn	21 03 38.5	+3.0
CSS	Prodhromos	5.02	89	ePn	Pn	21 03 38.5	+3.0
DSF	Desfina	5.03	313	ePN	Pn	21 03 37.5	+1.9
DSF	Desfina	5.03	313	ePn	Pn	21 03 37.5	+1.9
KLV	Kalavryta, Ach	5.04	308	ePN	Pn	21 03 38.0	+2.2
KLV	Kalavryta, Ach	5.04	308	ePn	Pn	21 03 38.0	+2.2
KONT	Konya--Tatoy	5.05	54	ePN	Pn	21 03 37.5	+1.7
KONT	Konya--Tatoy	5.05	54	ePn	Pn	21 03 37.5	+1.7
LFK	Lefkose	5.18	86	ePN	Pn	21 03 40.1	+2.4
LFK	Lefkose	5.18	86	ePn	Pn	21 03 40.1	+2.4
AXAR	Agios Charalam	5.19	317	ePN	Pn	21 03 39.8	+2.0
AXAR	Agios Charalam	5.19	317	ePn	Pn	21 03 39.8	+2.0
LADK	Ladik-KONYA	5.19	51	ePN	Pn	21 03 39.6	+1.7
LADK	Ladik-KONYA	5.19	51	ePn	Pn	21 03 39.6	+1.7
KALE	Kalithea	5.25	311	ePN	Pn	21 03 39.5	+0.8
KALE	Kalithea	5.25	311	ePn	Pn	21 03 39.5	+0.8
LAKA	Lakka	5.26	309	ePN	Pn	21 03 40.6	+1.8
LAKA	Lakka	5.26	309	ePn	Pn	21 03 40.6	+1.8
LPK	Lapseki	5.31	356	ePN	Pn	21 03 40.7	+1.3
LPK	Lapseki	5.31	356	ePn	Pn	21 03 40.7	+1.3
GELI	Tayfur-Gelibol	5.35	354	ePN	Pn	21 03 41.3	+1.3
GELI	Tayfur-Gelibol	5.35	354	ePn	Pn	21 03 41.3	+1.3
EFP	Efpalio	5.42	310	ePN	Pn	21 03 43.3	+2.4
EFP	Efpalio	5.42	310	ePn	Pn	21 03 43.3	+2.4
SVRH	Sivrihisar-ESK	5.56	37	ePN	Pn	21 03 44.8	+1.8
SVRH	Sivrihisar-ESK	5.56	37	ePn	Pn	21 03 44.8	+1.8
ERIK	Erikli-Kesan	5.62	355	ePN	Pn	21 03 45.2	+1.5
ERIK	Erikli-Kesan	5.62	355	ePn	Pn	21 03 45.2	+1.5
MAKR	Makrakomi, Fth	5.66	316	ePN	Pn	21 03 46.5	+2.3
MAKR	Makrakomi, Fth	5.66	316	ePn	Pn	21 03 46.5	+2.3
EVR	Evrytania	5.78	313	ePN	Pn	21 03 48.5	+2.5
EVR	Evrytania	5.78	313	ePn	Pn	21 03 48.5	+2.5
SULT	Sultanhani-AKS	5.96	57	ePN	Pn	21 03 50.6	+2.2
SULT	Sultanhani-AKS	5.96	57	ePn	Pn	21 03 50.6	+2.2
THL	Klokotos Trika	6.11	319	ePN	Pn	21 03 51.4	+1.1
THL	Klokotos Trika	6.11	319	ePn	Pn	21 03 51.4	+1.1
MDUB	Mudurnu	6.25	29	ePN	Pn	21 03 54.1	+1.7
MDUB	Mudurnu	6.25	29	ePn	Pn	21 03 54.1	+1.7
KARA	Karaisali	6.71	69	ePN	Pn	21 04 01.8	+3.1
KARA	Karaisali	6.71	69	ePn	Pn	21 04 01.8	+3.1
BRTR	Keskin Array B	6.91	46	Pn	Pn	21 04 02.4	+0.8
	0.4nm,0.3s,baz=223,slow=11,SNR=11						
BRTR				Sn	Sn	21 05 21.6	+1.3
	0.2nm,0.3s,baz=214,slow=26,SNR=5.4						
MMAI	Mount Meron Ar	7.10	104	Pn	Pn	21 04 03.9	-0.2
	1.6nm,0.3s,baz=298,slow=16,SNR=13						
MMAI				Sn	Sn	21 05 25.6	+0.8
	3.5nm,0.3s,baz=315,slow=22,SNR=8.0						
MMAI				Lg	Lg	21 06 03.9	
	baz=303,slow=29,SNR=3.8						
EIL	Elat	8.47	127	Pn	Pn	21 04 22.5	-0.3
	0.4nm,0.3s,baz=324,slow=1.4,SNR=7.8						
EIL				Sn	Sn	21 05 54.0	-4.5
	0.7nm,0.3s,baz=326,slow=16,SNR=6.7						
ASF	Jabal al Asfar	8.58	107	Sn	Sn	21 06 04.1	+2.9
	0.2nm,0.3s,baz=74,slow=20,SNR=2.2						
AKASG	Malin Array Be	15.70	5	Pn	Pn	21 06 00.9	-0.2
	0.4nm,0.3s,baz=195,slow=11,SNR=3.3						
GERES	GERESS Array B	17.01	328	Pn	P	21 06 19.9	0.0
	0.1nm,0.3s,baz=137,slow=13,SNR=5.4						
ESDC	Sonseca Array	25.13	290	P	P	21 07 44.2	-0.9
	0.2nm,0.4s,baz=81,slow=10,SNR=3.1						
FINES	FINESS Array B	26.41	359	P	P	21 07 57.6	+1.2
	2.1nm,1.0s,baz=193,slow=11,SNR=3.0						
HFS	Hagfors	26.58	345	P	P	21 07 56.9	-1.1
	2.3nm,1.0s,baz=146,slow=13,SNR=3.3						
TORD	Torodi Ar. Bea	31.74	233	P	P	21 08 44.2	-0.1
	0.7nm,0.6s,baz=34,slow=8.9,SNR=9.2						
ARCES	ARCESS Array B	34.54	359	P	P	21 09 06.4	-1.8
	5.7nm,1.1s,baz=183,slow=14,SNR=3.0						
MKAR	Makanchi Array	42.42	57	P	P	21 10 14.1	-0.7
	0.5nm,0.4s,baz=273,slow=8.3,SNR=15						
ZALV	Zalesovo Beam	43.86	46	P	P	21 10 25.5	-0.7
	0.5nm,0.5s,baz=282,slow=6.6,SNR=3.4						
BOSA	Boshof	63.37	182	P	P	21 12 50.6	+1.1
	1.5nm,0.7s,baz=0.0,slow=11,SNR=2.4						
YKA	Yellowknife Ar	78.04	343	P	P	21 14 17.3	-1.1
	0.2nm,0.7s,baz=36,slow=5.7,SNR=4.1						

ISCJB 05 21:22:56.5±0.3, 33°.89N±0°.03×27°.93E±0°.03, h33km, mb3.6/3, Error ellipse: s-maj=4.0km s-min=3.8km az=16.3
IDC 05 21:22:56.0±2.4, 33°.89N×28°.00E, h0km, mb3.8/3, mb1 3.6/7, mb1mx3.4/26, mbtmp3.5/7, ML3.0/4, Error ellipse: s-maj=46.1km s-min=23.2km az=30.0
CSEM 05 21:22:57.5±0.3, 33°.87N×27°.89E, h20km, MD3.4, Error ellipse: s-maj=10.8km s-min=5.5km az=104.0
HLW 05 21:22:60.0, 33°.87N×27°.91E, h32km±26km, Md3.8, Ml2.9
DDA 05 21:23:09.1, 34°.99N×28°.17E, h15km, MD3.4
ISC 05 21:22:58.9±0.9, 33°.92N±0°.04×27°.88E±0°.04, h35km, n61, σ1°.66/73, mb3.6/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	1.73	340	eP	Pn	21 23 27.4	+0.9
ZKR	Zakros	1.82	311	eP	Pn	21 23 28.3	+0.6
ARG	Arkhangelos	2.30	5	eP	Pn	21 23 33.4	-0.9
NPS	Neapolis	2.30	306	eP	Pn	21 23 35.4	+1.1
LAST	Lasithi	2.34	303	eP	Pn	21 23 35.8	+0.9
AKAS	Kas	2.71	31	iP	Pn	21 23 40.3	+0.3
AKAS				iS	Sn	21 24 09.7	-1.9
AKAS	Kas	2.71	31	iP	Pn	21 23 40.3	+0.3
AKAS				iS	Sn	21 24 09.7	-1.9
SIVA	Sivas	2.76	294	eP	Pn	21 23 41.9	+1.2
IDI	Anoyia	2.82	300	Pn	Pn	21 23 42.7	+1.2
	3.6nm,0.3s,baz=182,slow=8.6,SNR=42						
IDI				Sn	Sn	21 24 14.4	+0.1
	6.8nm,0.3s,baz=18,slow=22,SNR=14						
HMAT	Matruh	2.90	193	AMP		21 24 00.0	
	comp=N,70μm,0.6s,logA/T=5.0,baz=195						
DALY	Dalyan (Mu¯la	2.96	12	ePN	Pn	21 23 42.0	-1.3
SANT	Santorini	3.15	322	ePN	Pn	21 23 43.6	-2.5
SANT	Santorini	3.15	322	eP	Pn	21 23 45.7	-0.3
BDRM	Kayabasi	3.16	354	iP	Pn	21 23 46.2	+0.1
BDRM				iS	Sn	21 24 17.5	-5.1
BDRM	Kayabasi	3.16	354	iP	Pn	21 23 46.2	+0.1
BDRM				iS	Sn	21 24 17.5	-5.1
YER	Yerkesik	3.22	6	ePN	Pn	21 23 45.7	-1.4
GVD	Gavdhos	3.27	287	eP	Pn	21 23 48.3	+0.7
ELL	Elmali	3.27	30	ePN	Pn	21 23 47.2	-0.5
SLUM		3.31	224	P	Pn	21 23 48.0	-0.1
	baz=225						
SLUM				AMP		21 24 00.0	
	comp=N,20μm,0.1s,logA/T=5.3,baz=225						
SLUM				S	Sn	21 24 24.0	-2.2
	baz=225						
SLUM		3.31	224	P	Pn	21 23 48.0	-0.1
SLUM				S	Sn	21 24 24.0	-2.2
VAM	Vamos	3.38	297	eP	Pn	21 23 50.2	+1.1
GOLH	Golhisar	3.58	22	iP	Pn	21 23 53.9	+1.9
GOLH				iS	Sn	21 24 32.1	-1.0
GOLH	Golhisar	3.58	22	iP	Pn	21 23 53.9	+1.9
GOLH				iS	Sn	21 24 32.1	-1.0
KORT	Korkueli	3.67	33	eP	Pn	21 23 54.8	+1.5
KORT				eS	Sn	21 24 31.8	-3.7
KORT	Korkueli	3.67	33	eP	Pn	21 23 54.8	+1.5
KORT				eS	Sn	21 24 31.8	-3.7
APE	Apeiranthos	3.68	329	ePN	Pn	21 23 51.7	-1.6
APE	Apeiranthos	3.68	329	eP	Pn	21 23 52.5	-0.8
AYDB	Zeytinkoy-Aydi	4.02	0	ePN	Pn	21 23 56.3	-1.7
BCK	Bucak	4.16	31	ePN	Pn	21 23 59.4	-0.6
ANKY	Antikythira Is	4.24	299	eP	Pn	21 24 01.0	+0.1
GAZI	Gazipasa	4.31	56	iP	Pn	21 24 01.5	-0.4
GAZI				iS	Sn	21 24 40.8	-10
GAZI	Gazipasa	4.31	56	iP	Pn	21 24 01.5	-0.4
GAZI				iS	Sn	21 24 40.8	-10
SUTC	Sutluce-Ispart	4.36	35	ePN	Pn	21 24 02.6	-0.2
KYTH	Kithira	4.62	302	eP	Pn	21 24 05.5	-0.7
CSS	Prodhromos	4.62	75	ePN	Pn	21 24 06.7	+0.4
KULA	Kula-Manisa	4.63	8	ePN	Pn	21 24 05.7	-0.6
VLI	Veliai	4.91	306	eP	Pn	21 24 09.0	-1.2
SWA2		5.10	205	P	Pn	21 24 12.6	-0.2
	baz=206						
SWA2		5.10	205	P	Pn	21 24 12.6	-0.2
DID	Didima	5.20	315	eP	Pn	21 24 13.6	-0.6
HSAF	As Saff	5.31	143	P	Pn	21 24 15.2	-0.5
	baz=142						
HSAF	As Saff	5.31	143	P	Pn	21 24 15.2	-0.5
KONT	Konya--Tatoy	5.42	41	ePN	Pn	21 24 17.9	+0.8
GLL	Jalalah	5.42	142	P	Pn	21 24 16.5	-0.7
	baz=141						
GLL	Jalalah	5.42	142	P	Pn	21 24 16.5	-0.7
AWBH		5.65	171	P	Pn	21 24 19.8	-0.6
	baz=170						
AWBH		5.65	171	P	Pn	21 24 19.8	-0.6
LTK	Loutraki	5.71	317	eP	Pn	21 24 20.9	-0.3
PYL	PYLOS	5.83	302	eP	Pn	21 24 20.9	-1.9
SUZ		5.85	133	P	Pn	21 24 22.1	-1.1
	baz=132						
SUZ		5.85	133	P	Pn	21 24 22.1	-1.1
DSF	Desfina	6.23	318	eP	Pn	21 24 27.2	-1.2
MMAI	Mount Meron Ar	6.35	96	Pn	Pn	21 24 29.8	-0.2
	comp=N,0.4nm,0.3s,baz=279,slow=11,SNR=6.0						
MMAI				Sn	Sn	21 25 38.6	-2.7
	comp=N,1.7nm,0.3s,baz=268,slow=26,SNR=7.5						
HFRF	Wahat Farafira	6.76	177	P	Pn	21 24 35.2	-0.4
	baz=176						
HFRF				AMP		21 25 00.0	
	comp=N,10μm,0.2s,logA/T=4.7,baz=176						
HFRF	Wahat Farafira	6.76	177	P	Pn	21 24 35.2	-0.4
EIL	Elat	7.36	123	Pn	Pn	21 24 42.8	-1.0
	comp=N,0.3nm,0.3s,baz=0.0,slow=14,SNR=14						
EIL				Sn	Sn	21 26 01.8	-4.3
	comp=N,0.8nm,0.3s,baz=79,slow=4.3,SNR=7.4						
BRTR	Keskin Array B	7.41	37	Pn	Pn	21 24 44.3	-0.3
	comp=N,0.1nm,0.3s,baz=213,slow=15,SNR=2.8						
LKD2	Lefkada island	7.59	312	eP	Pn	21 24 45.1	-1.8
FINES	FINESS Array B	27.56	358	P	P	21 28 44.0	+1.8
	comp=N,1.1nm,0.7s,baz=166,slow=14,SNR=8.1						
ARCES	ARCESS Array B	35.69	359	P	P	21 29 55.3	+1.8
	comp=N,2.4nm,0.9s,baz=163,slow=8.9,SNR=5.1						
MKAR	Makanchi Array	42.60	56	P	P	21 30 53.9	+2.4
	comp=N,0.2nm,0.6s,baz=296,slow=7.5,SNR=2.7						

NEIC 05 22:09:45.0, 16°.83S×71°.97W, h27km, ML4.0(ARE), 1C, After ARE., Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	0.59	52⇑	iP	Pb	22 09 55.0	-2.2
ARE				iS	Sb	22 10 02.6	-2.8
LPAZ	La Paz	3.72	82	ePn	Pn	22 10 43.7	+2.2
LVC	Limon Verde	6.43	154	ePn	Pn	22 11 18.6	+0.2
LVC				eSn	Sn	22 12 29.3	-1.9
NNA	Nana	6.74	315	Pn	Pn	22 11 26.9	+4.5
NNA				eSn	Sn	22 12 36.2	-2.2

IDC 05 22:26:31.8±1.4, 39°.36N×110°.53E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/38, mbtmp3.7/8, Error ellipse: s-maj=30.1km s-min=25.6km az=131.0
ISCJB 05 22:26:35.2±1.1, 39°.4N±0°.1×110°.6E±0°.2, h33km, mb3.6/8, Error ellipse: s-maj=24.0km s-min=11.7km az=31.7
ISC 05 22:26:37.0±1.4, 39°.4N±0°.2×110°.5E±0°.2, h35km, n21, σ0°.69/21, mb3.7/8, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	21.81	299	P	P	22 31 26.1	+0.1
	4.0nm,0.8s,baz=92,slow=12,SNR=57						
TAPN	Taplejung	22.41	245	eP	P	22 31 34.0	+1.1
	12nm,0.8s						
ZALV	Zalesovo Beam	22.70	318	P	P	22 31 36.4	+1.1
	0.8nm,0.8s,baz=104,slow=11,SNR=4.0						
ODAN	Odare	22.94	244	eP	P	22 31 39.1	+0.7
CMAR	Chiang Mai Arr	23.11	209	P	P	22 31 39.6	-0.3
	3.7nm,0.7s,baz=12,slow=9.6,SNR=30						
JIRN	Jiri	23.30	247	eP	P	22 31 42.2	+0.1
GUN	Gumba	23.38	248	eP	P	22 31 43.0	+0.1
RAMN	Ramite	23.44	245	eP	P	22 31 43.1	-0.2
KKN	Kakani	23.88	249	eP	P	22 31 48.2	+0.7
PKI	Pulchoki	23.92	248	eP	P	22 31 47.1	-0.9
PKIN	Phulchoki	23.92	248	eP	P	22 31 48.6	+0.6
	3.0nm,0.6s						
DMN	Daman	24.11	249	eP	P	22 31 48.9	-0.8
GKN	Gorkha	24.23	250	eP	P	22 31 50.7	0.0
DANN	Dangsing	24.68	252	eP	P	22 31 54.5	-0.4
	9.7nm,0.8s						
KURBB	Kurchatov Arra	25.05	307	P	P	22 31 58.1	+0.4
	1.6nm,0.7s,baz=107,slow=9.6,SNR=6.3						
KOLN	Koldanda	25.12	251	eP	P	22 31 58.7	-0.1
	9.6nm,0.8s						
PYUN	Piuthan	25.38	252	eP	P	22 32 01.7	+0.5
	29nm,0.8s						
FINES	FINESS Array B	53.82	324	P	P	22 35 54.3	-1.5
	1.7nm,0.8s,baz=64,slow=3.2,SNR=3.1						
AKASG	Malin Array Be	55.78	311	P	P	22 36 10.2	+0.1
	0.6nm,0.6s,baz=59,slow=7.2,SNR=3.2						
ILAR	Eielson Array	60.12	29	P	P	22 36 40.5	+0.1
	0.2nm,0.9s,baz=276,slow=2.6,SNR=2.8						
YKA	Yellowknife Ar	72.22	20	P	P	22 37 58.5	+0.6
	0.5nm,0.8s,baz=323,slow=5.5,SNR=9.8						

ISCJB 05 22:30:45.8±1.0, 23°.90S±0°.07×66°.95W±0°.10, h208km±20km, Error ellipse: s-maj=15.9km s-min=9.7km az=146.3
SJA 05 22:30:45.6±0.6, 23°.93S×66°.87W, h211km±26km, ML3.1, MW3.0
GUC 05 22:30:48.7±0.3, 23°.67S×67°.37W, h232km±11km, ML4.6
ISC 05 22:30:45.6±2.4, 23°.88S±0°.09×66°.87W±0°.08, h209km±29km, n13, σ1°.22/19, 6C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.26	303	iP	Pn	22 31 28.9	+1.2
LVC				eS	S	22 32 00.7	+0.7
ALOL	LOMAS DE OLMED	2.66	89	iP	Pn	22 31 32.3	+0.5
PB06	Plate Boundary	2.74	295⇑	eP	Pn	22 31 34.1	+1.2
PB06				iS	S	22 32 08.1	-1.3
PB06				AML	AML	22 32 10.6	
	comp=E,922nm,0.3s						
PB04	Plate Boundary	2.89	303⇑	eP	Pn	22 31 41.2	+6.7
PB04				eS	S	22 32 21.0	+8.9
PB04				AML	AML	22 32 27.1	
	comp=N,794nm,0.4s						
PB09	Plate Boundary	3.01	313⇑	eP	Pn	22 31 37.9	+1.9
PB09				eS	S	22 32 15.0	0.0
PB09				AML	AML	22 32 17.6	
	comp=N,1μm,0.3s						
PB10	Plate Boundary	3.39	275⇑	eP	Pn	22 31 41.1	+0.8
PB10			⇑	iP	Pn	22 31 41.1	+0.8
PB10				eS	S	22 32 21.2	-1.5
PB10				AML	AML	22 32 24.1	
	comp=E,1μm,0.7s						
PB07	Plate Boundary	3.51	307⇑	eP	Pn	22 31 42.8	+0.9
PB07				iS	S	22 32 23.7	-1.8
PB01	Plate Boundary	3.71	319⇓	eP	Pn	22 31 45.4	+1.0
PB01				eS	S	22 32 28.5	-1.5
HMBC	Humberstone	4.54	321	eP	Pn	22 31 53.2	-1.4
CYA	Choya	4.65	168	iP	Pn	22 31 56.2	+0.5
CYA				IAML		22 31 57.3	
	comp=Z,13nm,0.5s						
PB11	Plate Boundary	4.84	327⇓	eP	Pn	22 31 58.5	+0.1
MNMC	Minimini	5.36	331	eP	Pn	22 32 05.7	+0.6
ACLC	CERRO LA CRUZ	5.53	181	iP	Pn	22 32 06.7	-0.3

IDC 05 22:31:27.3±4.5, 1°.70N×127°.50E, h99km±42km, mb3.9/7, mb1 4.0/7, mb1mx3.7/21, mbtmp4.2/7, MS2.1/1, Ms1 2.1/1, ms1mx2.0/28, Error ellipse: s-maj=48.8km s-min=12.8km az=74.0
ISCJB 05 22:31:28.1±0.6, 1°.63N±0°.06×127°.28E±0°.05, h128km, mb4.1/7, Error ellipse: s-maj=8.0km s-min=7.2km az=161.4
DJA 05 22:31:28.9±0.8, 2°N±4°×12°7E±°, h59km±17km, M4.5/9, mb4.7/4, mB4.8/2, MLv4.5/9, Mw(mB)4.1/2
ISC 05 22:31:29.7±0.7, 1°.72N±0°.06×127°.29E±0°.07, h128km, n29, σ1°.76/30, mb4.1/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.95	175	P	Pn	22 31 47.3	-4.6
LBMI	Labuha	2.35	175	P	Pn	22 32 05.6	-2.4
LBMI				S	Sn	22 32 44.1	+6.7
SGSI	Sangihe	2.63	318	S	Sn	22 32 38.5	-5.0
KMSI	Cibinong	3.50	251	P	Pn	22 32 21.4	-1.4
KMSI				S	Sn	22 33 01.0	-2.8
SANI	Sanana	3.97	199	P	Pn	22 32 25.2	-3.8
SANI				S	Sn	22 33 11.9	-3.0
GTOI	Gorontalo	4.41	256	P	Pn	22 32 33.6	-1.3
GTOI				S	Sn	22 33 33.8	+8.3
NLAI	Namlea	4.93	182	P	Pn	22 32 39.3	-2.5
LUWI	Luwuk	5.29	239	P	Pn	22 32 44.8	-1.8
	84nm,0.8s,1.0nm						
LUWI				S	Sn	22 33 47.1	+0.6
	84nm,0.8s,1.0nm						
LUWI	Luwuk	5.29	239	P	Sn	22 33 47.5	+1.0
	baz=4.8,SNR=5.9						
MRSI	Marisa	5.49	257	P	Pn	22 32 49.4	+0.1
	37nm,0.9s,565nm0.2nm						
APSI	Ampana	6.22	245	P	Pn	22 32 59.9	+0.8
	68nm,0.9s,2μm0.4nm						
SPSI	Sidrap Palu	9.40	233	P	Pn	22 33 40.2	-1.9
MTN	Manton Dam	14.96	165	P	P	22 34 58.3	+1.1
	baz=12,SNR=4.2						
KDU	Kakadu	15.21	160	P	P	22 35 01.0	+1.1
	baz=12,SNR=6.9						
KNRA	Kununurra	17.35	175	P	P	22 35 22.7	-0.8
	baz=14,SNR=21						
WRA	Warramunga Arr	22.61	163	P	P	22 36 18.9	-1.0
	5.2nm,0.6s,baz=342,slow=10,SNR=36						
WRA				S	S	22 40 20.2	+2.0
	0.4nm,0.7s,baz=331,slow=21,SNR=2.4						
JOW	Kunigami	24.98	2	LR	LR	22 45 57.8	
	comp=Z,5.1nm,21.4s,baz=75,slow=35						
QIS	Mount Isa	25.22	152	P	P	22 36 45.3	+1.6
	baz=22,SNR=3.4						
ASAR	Alice Springs	26.04	166	P	P	22 36 50.9	-0.4
	2.2nm,0.5s,baz=347,slow=7.3,SNR=45						
WRKA	Warakurna	26.62	178	P	P	22 36 56.5	+0.2
	baz=23,SNR=17						
MEEK	Meekatharra	29.41	196	P	P	22 37 21.3	+0.1
	baz=26,SNR=5.0						
MORW	Morawa	32.46	199	P	P	22 37 48.1	+0.2
	baz=29,SNR=3.1						
BBOO	Buckleboo	35.33	167	P	P	22 38 12.5	-0.2
	baz=32,SNR=12						
STKA	Stephens Creek	36.07	159	P	P	22 38 18.9	-0.1
	5.6nm,0.8s,baz=337,slow=9.4,SNR=9.8						
STKA	Stephens Creek	36.07	159	P	P	22 38 19.2	+0.2
	baz=33,SNR=8.3						
MJAR	Matsushiro Arr	36.09	15	P	P	22 38 18.7	-0.4
	2.6nm,0.8s,baz=184,slow=9.0,SNR=3.0						
PETK	Petropavlovsk-	57.08	21	P	P	22 41 03.0	+0.6
	3.8nm,0.9s,baz=216,slow=12,SNR=2.6						
MKAR	Makanchi Array	59.52	326	P	P	22 41 21.3	+1.8
	0.7nm,0.7s,baz=108,slow=7.5,SNR=11						
KURBB	Kurchatov Arra	63.72	328	P	P	22 41 49.1	+1.5
	0.7nm,0.6s,baz=128,slow=6.2,SNR=6.5						

SJA 05 22:43:57.5±1.2, 31°.55S×69°.93W, h115km±65km, ML2.7, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	1.44	92	iP	Pn	22 44 24.3	+0.3
CFAA				eS	Sn	22 44 45.4	+1.3
ARCO	CERRO ARCO	1.54	147	iP	Pn	22 44 25.8	+0.5
ARCO				eS	Sn	22 44 47.6	+1.1
ARCO				AML	AML	22 44 49.7	
	comp=Z,61nm,0.3s						
AAGR	Agrelo	1.79	149	iP	Pn	22 44 29.3	+1.0
AAGR				eS	Sn	22 44 52.9	+1.2
AGUA	GUANDACOL	2.40	31	iP	Pn	22 44 38.0	+1.9
AGUA				eS	Sn	22 45 05.8	+0.3

ATH 05 23:02:50.8, 36°.11N×22°.39E, h13km±1km, MD3.7/14
CSEM 05 23:02:51.1±0.4, 36°.13N×22°.39E, h2km, ML2.5, Error ellipse: s-maj=9.6km s-min=3.8km az=50.0
THE 05 23:02:51.7, 36°.16N×22°.43E, h0km±1km, ML2.5/5, Error ellipse: s-maj=1.4km s-min=0.5km az=223.0
ISC 05 23:02:51.1±1.3, 36°.12N±0°.04×22°.38E±0°.04, h1km±13km, n58, σ0°.57/84, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.55	73	P	Pg	23 03 01.6	-0.1
KYTH	Kithira	0.55	73	ePB	Pg	23 03 01.6	-0.1
KYTH	Kithira	0.55	73	P	Pg	23 03 01.6	-0.1
VLI	Veliai	0.75	36	P	Pg	23 03 05.1	-0.4
VLI				S	Sg	23 03 15.4	+0.2
VLI	Veliai	0.75	36	ePG	Pg	23 03 05.1	-0.4
VLI				eSB	Sg	23 03 15.4	+0.2
VLI	Veliai	0.75	36	P	Pg	23 03 05.1	-0.4
VLI				S	Sg	23 03 15.4	+0.2
ANKY	Antikythira Is	0.78	108	P	Pg	23 03 05.8	-0.4
ANKY				S	Sg	23 03 17.5	+1.2
ANKY	Antikythira Is	0.78	108	ePB	Pg	23 03 05.9	-0.3
ANKY				eSB	Sg	23 03 16.6	+0.3
ANKY	Antikythira Is	0.78	108	ePb	Pg	23 03 05.9	-0.3
ANKY				eSb	Sg	23 03 16.6	+0.3
ANKY				S	Sg	23 03 17.5	+1.2
PYL	PYLOS	0.93	327	P	Pg	23 03 08.8	-0.2
PYL				S	Sb	23 03 22.7	-0.3
PYL	PYLOS	0.93	327	ePG	Pg	23 03 08.3	-0.7
PYL				eSB	Sg	23 03 21.9	+0.8
PYL	PYLOS	0.93	327	ePg	Pg	23 03 08.3	-0.7
PYL				eSb	Sg	23 03 21.9	+0.8
ITM	Ithomi	1.12	341	P	Pg	23 03 12.2	-0.5
ITM				S	Sb	23 03 28.6	+0.1
ITM	Ithomi	1.12	341	ePN	Pg	23 03 12.1	-0.6
ITM				eSB	Sg	23 03 27.6	+0.4
ITM	Ithomi	1.12	341	ePn	Pg	23 03 12.1	-0.6
ITM				eSb	Sg	23 03 27.6	+0.4
ITM				S	Sb	23 03 28.6	+0.1
VLX	Vlachokerasia	1.25	360	P	Pg	23 03 14.8	-0.4
VLX				S	Sg	23 03 31.9	+0.5
VLX	Vlachokerasia	1.25	360	ePB	Pg	23 03 14.7	-0.4
VLX				eSB	Sb	23 03 32.4	+0.1
VLX	Vlachokerasia	1.25	360	P	Pg	23 03 14.8	-0.4
VLX				S	Sg	23 03 31.9	+0.5
VLX				eSb	Sb	23 03 32.4	+0.1
AMT	Artemida-Makis	1.51	339	P	Pn	23 03 19.1	-0.3
AMT				S	Sg	23 03 40.4	+0.6
AMT	Artemida-Makis	1.51	339	ePG	Pn	23 03 19.2	-0.2
AMT				eSB	Sg	23 03 40.2	+0.4
AMT	Artemida-Makis	1.51	339	ePg	Pn	23 03 19.2	-0.2
AMT				eSb	Sg	23 03 40.2	+0.4
DID	Didima	1.55	26	ePB	Pn	23 03 19.9	0.0
DID				eSB	Sg	23 03 41.7	+0.9
DID	Didima	1.55	26	ePb	Pn	23 03 19.9	0.0
DID				eSb	Sg	23 03 41.7	+0.9
VAM	Vamos	1.64	115	P	Pn	23 03 21.0	-0.1
VAM				S	Sb	23 03 43.3	0.0
VAM	Vamos	1.64	115	ePG	Pn	23 03 20.9	-0.1
VAM				eSB	Sg	23 03 44.1	+0.3
VAM	Vamos	1.64	115	P	Pn	23 03 21.0	-0.1
VAM				eSb	Sg	23 03 44.1	+0.3
GUR	Goura	1.82	359	ePG	Pb	23 03 24.9	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GUR	Goura	1.82	359	ePg	Pg	23 03 24.9	-0.3
GVD	Gavdhos	1.89	132	ePN	Pn	23 03 25.0	+0.5
GVD	Gavdhos	1.89	132	ePn	Pn	23 03 25.0	+0.5
KLV	Kalavryta, Ach	1.93	355	ePG	Pg	23 03 26.4	-0.8
KLV	Kalavryta, Ach	1.93	355	ePg	Pg	23 03 26.4	-0.8
LTK	Loutraki	1.96	14	ePN	Pn	23 03 25.8	+0.3
LTK	Loutraki	1.96	14	ePn	Pn	23 03 25.8	+0.3
RLS	Riolos of Patr	2.07	340	ePN	Pn	23 03 27.8	+0.8
RLS	Riolos of Patr	2.07	340	ePn	Pn	23 03 27.8	+0.8
LAKA	Lakka	2.14	351	ePN	Pn	23 03 29.0	+0.9
LAKA	Lakka	2.14	351	ePn	Pn	23 03 29.0	+0.9
SIVA	Sivas	2.26	118	ePN	Pn	23 03 30.2	+0.6
SIVA	Sivas	2.26	118	ePn	Pn	23 03 30.2	+0.6
KALE	Kalithea	2.28	355	ePB	Pb	23 03 29.7	-0.2
KALE	Kalithea	2.28	355	ePb	Pb	23 03 29.7	-0.2
DSF	Desfina	2.29	3	ePN	Pn	23 03 30.7	+0.6
DSF	Desfina	2.29	3	ePn	Pn	23 03 30.7	+0.6
EFP	Efpalio	2.34	351	ePN	Pn	23 03 32.2	+1.5
EFP	Efpalio	2.34	351	ePn	Pn	23 03 32.2	+1.5
SANT	Santorini	2.50	83	ePB	Pb	23 03 32.6	-0.3
SANT	Santorini	2.50	83	ePb	Pb	23 03 32.6	-0.3
LKR	Lokris	2.58	11	ePB	Pb	23 03 34.2	+0.2
LKR	Lokris	2.58	11	ePb	Pb	23 03 34.2	+0.2
LAST	Lasithi	2.69	110	ePN	Pn	23 03 35.8	+0.1
LAST	Lasithi	2.69	110	ePn	Pn	23 03 35.8	+0.1
NPS	Neapolis	2.76	107	ePN	Pn	23 03 35.8	-0.8
NPS	Neapolis	2.76	107	ePn	Pn	23 03 35.8	-0.8
MAKR	Makrakomi, Fth	2.90	356	ePN	Pn	23 03 39.2	+0.8
MAKR	Makrakomi, Fth	2.90	356	ePn	Pn	23 03 39.2	+0.8
THL	Klokotos Trika	3.45	355	ePN	Pn	23 03 46.8	+0.8
THL	Klokotos Trika	3.45	355	ePn	Pn	23 03 46.8	+0.8

*JMA **05** 23:15:37.5±0.1, 23.19N×121.38E, h42km±3km, M3.6*
*ISCJB **05** 23:15:38.5±0.3, 23.16N±0.02×121.49E±0.02, h31km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=140.7*
*TAP **05** 23:15:39.0, 23.19N×121.38E, h39km, ML3.9, B*
ISC 05 23:15:39.0±1.0, 23.16N±0.02×121.44E±0.02, h33km±3km, n72, σ0.98/124, 15C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
CHKT	Chengkung baz=174	0.09	228	⇑iP	Pb	23 15 45.6	+0.9
CHKT	baz=174			S	Sb	23 15 50.6	+1.9
TWF1	Yuli baz=327	0.23	325	⇑iP	Pn	23 15 46.0	+0.2
TWF1	baz=327			iS	Sb	23 15 50.7	-0.1
EHY	Hungye baz=345	0.36	342	⇑iP	Pb	23 15 47.1	-0.5
EHY	baz=345			iS	Sb	23 15 52.7	-0.8
ELDTW	Lidau baz=268	0.39	274	⇑iP	Pb	23 15 47.5	-0.6
ELDTW	baz=268			S	Sb	23 15 53.1	-1.2
TWG	Pinlang baz=216	0.48	225	⇓iP	Pb	23 15 48.3	-1.0
TWG	baz=216			iS	Sb	23 15 55.2	-1.3
TTN	Taitung baz=205	0.49	214	eP	Pb	23 15 49.4	-0.1
TTN	baz=205			iS	Sn	23 15 57.7	+0.7
TEGC	Jichi Village baz=8.0	0.55	9	eP	Pb	23 15 51.4	+0.9
TEGC	baz=8.0			eS	Sn	23 16 00.5	+1.9
YUS	Yu-Shan baz=307	0.56	306	⇑iP	Pn	23 15 50.7	-0.3
YUS	baz=307			iS	Sn	23 15 58.8	-0.6
STYT	Tauyuan baz=261	0.63	270	⇑iP	Pn	23 15 51.3	-0.4
STYT	baz=261			iS	Sn	23 15 59.8	-0.9
ESL	Shilin baz=6.0	0.65	359	⇓P	Pn	23 15 50.6	-1.3
ESL	baz=6.0			eS	Sn	23 15 58.4	-2.7
ALS	Alishan baz=301	0.68	301	⇑iP	Pn	23 15 52.7	+0.1
ALS	baz=301			eS	Sn	23 16 02.3	0.0
ESF	Shoufeng Towns baz=5.0	0.71	5	eP	Pn	23 15 52.5	-0.3
ESF	baz=5.0			eS	Sn	23 16 01.3	-1.2
ECL	Taimali baz=207	0.72	219	⇓iP	Pn	23 15 51.2	-1.7
WTP	Ta-pu baz=274	0.77	276	⇑iP	Pn	23 15 53.6	0.0
WTP	baz=274			iS	Sn	23 16 04.1	+0.1
SGST	Jiashian baz=261	0.79	264	⇑iP	Pn	23 15 54.4	+0.4
SGST	baz=261			S	Sb	23 16 05.3	+0.3
CHN4	Tsaushan baz=282	0.80	284	⇑iP	Pn	23 15 54.2	+0.1
CHN4	baz=282			iS	Sb	23 16 05.9	+0.6
CHN5	Tsauling baz=302	0.82	302	⇑iP	Pn	23 15 54.7	+0.3
CHN5	baz=302			iS	Sb	23 16 06.9	+1.0
HWA	Hwalien baz=9.0	0.82	10	eP	Pn	23 15 52.3	-2.1
CHN1	Nanshi baz=269	0.84	272	⇑iP	Pn	23 15 54.9	+0.3
CHN1	baz=269			eS	Sb	23 16 06.7	+0.4
SSD	Sandimen baz=235	0.85	241	eP	Pn	23 15 54.3	-0.4
SMLT	Sun Moon Lake baz=334	0.87	325	⇑iP	Pn	23 15 55.4	+0.3
SMLT	baz=334			eS	Sn	23 16 06.8	+0.1
TWK	Hsinying baz=275	0.88	277	⇑iP	Pn	23 15 55.4	+0.2
TWK	baz=275			S	Sb	23 16 07.6	0.0
TYC	Yuchr baz=328	0.91	324	⇑iP	Pn	23 15 56.0	+0.5
TYC	baz=328			S	Sn	23 16 08.0	+0.4
TWD	Chiawan baz=15	0.93	9	⇓P	Pn	23 15 54.7	-1.0
TWD	baz=15			eS	Sn	23 16 05.5	-2.4
TAW	Tawu baz=199	0.95	212	eP	Pn	23 15 54.5	-1.5
EAST	Anshuo baz=204	0.95	215	⇓P	Pn	23 15 54.7	-1.4
CHN2	Minshiung baz=279	0.96	293	eP	Pn	23 15 56.4	+0.2
CHN2	baz=279			S	Sb	23 16 10.5	+0.8
WGK	Gukeng baz=313	0.96	303	eP	Pn	23 15 56.8	+0.5
WGK	baz=313			eS	Sb	23 16 10.3	+0.6
SGLT	Jiouru baz=240	0.98	244	eP	Pb	23 15 58.9	+1.4
WHF	Hehuan Shan baz=5.0	0.99	351	⇓iP	Pn	23 15 56.2	-0.8
WHF	baz=5.0			iS	Sn	23 16 08.7	-1.4
CHY	Chiayi baz=289	0.99	290	eP	Pn	23 15 56.2	-0.4
CHN3	Shinhua baz=274	0.99	265	eP	Pb	23 15 58.7	+0.9
WNT	Mingjian baz=318	1.00	316	P	Pn	23 15 57.4	+0.7
WNT	baz=318			S	Sb	23 16 10.7	0.0
TWM1	Shoushan baz=247	1.00	250	eP	Pb	23 15 58.6	+0.7
TWM1	baz=247			eS	Sb	23 16 14.5	+3.8
SCZT	Fangliau baz=210	1.09	224	⇓eP	Pn	23 15 57.8	-0.3
TWT	Tachien baz=357	1.11	347	P	Pn	23 15 58.6	+0.1
TWT	baz=357			iS	Sn	23 16 11.7	-1.1
LAY	Lan-yu baz=164	1.12	175	⇓eP	Pn	23 15 57.8	-0.7
CHN8	Yiju baz=278	1.15	279	eP	Pn	23 15 59.2	+0.4
CHN8	baz=278			eS	Sn	23 16 14.2	+0.8
KAU	Kaohsiung baz=252	1.20	241	eP	Pb	23 16 01.6	+0.4
TCU	Taichung baz=316	1.21	325	eP	Pb	23 16 00.9	-0.5
TCU	baz=316			S	Sb	23 16 16.2	-0.5
WSF	Szhu baz=293	1.22	293	eP	Pn	23 15 59.9	+0.2
WSF	baz=293			eS	Sn	23 16 15.4	+0.3
NNS	Nan Shan baz=13	1.27	357	eP	Pn	23 16 00.1	-0.5
NNS	baz=13			eS	Sn	23 16 16.0	-0.7
WTCT	Ta-ch'eng baz=304	1.27	304	eP	Pn	23 16 00.6	+0.1
WTCT	baz=304			eS	Sn	23 16 16.9	+0.5
TWP	Hsiaoliuchiu baz=225	1.28	231	eP	Pb	23 16 02.9	+0.2
ENA	Nanau baz=7.0	1.29	12	⇓eP	Pn	23 15 59.9	-0.8
ENA	baz=7.0			eS	Sn	23 16 14.9	-2.0
HEN	Hengchun baz=192	1.32	210	eP	Pb	23 16 02.9	-0.4
TWQ1	Liyutan baz=337	1.33	333	eP	Pn	23 16 02.6	+1.3
TWQ1	baz=337			eS	Sb	23 16 20.2	0.0
TWK1	Hengchun baz=190	1.35	206	⇓eP	Pn	23 16 00.6	-1.0
TWK1	baz=190			eS	Sn	23 16 17.9	-0.4
TSEB	Hengchuen, Pin baz=189	1.35	202	eP	Pn	23 16 00.3	-1.3
NSY	Sanyi baz=337	1.40	334	eP	Pb	23 16 03.6	-0.9
NSY	baz=337			S	Sb	23 16 22.2	+0.1
TWC	Suao baz=11	1.49	14	eP	Pn	23 16 03.1	-0.4
TWC	baz=11			eS	Sn	23 16 21.9	+0.2
NSK	Sanguang baz=14	1.51	357	⇓iP	Pn	23 16 04.1	+0.2
NSK	baz=14			iS	Sn	23 16 21.5	-0.9
NSTT	Nanjuang baz=348	1.52	345	eP	Pn	23 16 04.5	+0.6
NSTT	baz=348			eS	Sn	23 16 23.8	+1.3
TWE	Neicheng baz=14	1.57	8	eP	Pn	23 16 04.0	-0.6
WDGT	Dungji baz=272	1.64	274	eP	Pn	23 16 03.2	-2.4
EGS	baz=11	1.73	15	eP	Pn	23 16 07.7	+0.9
PNG	Penghu baz=282	1.78	283	eP	Pn	23 16 06.9	-0.6
PNG	baz=282			eS	Sn	23 16 27.3	-1.7
NCU	National Centr baz=344	1.81	353	eP	Pb	23 16 10.0	-1.6
TWA	Mucha baz=19	1.81	4	eP	Pn	23 16 08.3	+0.3
TWA	baz=19			eS	Sn	23 16 30.1	+0.2
JYNG	Yonagunijimaku	1.88	47	P	Pn	23 16 09.8	+0.9
JYNG				eS	Sn	23 16 32.4	+0.9
TWB1	Santiao Chiao baz=12	1.91	15	eP	Pn	23 16 09.8	+0.6
TWB1	baz=12			eS	Sn	23 16 33.4	+1.3
NWF	Wu-fen Shan baz=15	1.93	9	eP	Pn	23 16 09.8	+0.2
NWF	baz=15			eS	Sn	23 16 32.7	0.0
TWS1	Kuangyinshan baz=20	1.93	359	eP	Pn	23 16 10.3	+0.7
YOJ	Yonaguni jima	1.93	48	P	Pn	23 16 10.5	+0.9
YOJ				eS	Sn	23 16 33.9	+1.1
YOJ	Yonaguni jima baz=47	1.93	48	eP	Pn	23 16 10.5	+0.9
YOJ	baz=47			eS	Sn	23 16 32.1	-0.7
HATJ	Hateruma jima	2.34	67	P	Pn	23 16 15.9	+0.7
HATJ				eS	Sn	23 16 43.7	+0.8
IRIF	Iriomote-Funau	2.40	60	P	Pn	23 16 17.0	+1.0
IRIF				eS	Sn	23 16 45.5	+1.2
JKRS	Kuro-shima	2.59	65	P	Pn	23 16 19.4	+0.8
JKRS				eS	Sn	23 16 49.8	+0.9
JIJ	Ishigaki jima	2.75	64	P	Pn	23 16 21.0	+0.2
JIJ				eS	Sn	23 16 52.6	-0.3
JISG	Ishigakijimahi	2.98	61	P	Pn	23 16 24.3	+0.2
JISG				eS	Sn	23 16 58.1	-0.6
KNM	Kinmen baz=294	3.02	295	eP	Pn	23 16 25.4	+0.8
JTJ	Tarama	3.33	63	P	Pn	23 16 27.9	-0.9
JTJ				eS	Sn	23 17 07.1	-0.1

*ISCJB **06** 00:16:48.0±0.8, 50.82N±0.07×172.93W±0.05, h10km, mb3.7/5, MS3.2/1, Error ellipse: s-maj=10.4km s-min=4.8km az=5.9*
*NEIC **06** 00:16:51.2, 50.86N×172.96W, h10km, ML3.5(AEIC), After AEIC.*
*IDC **06** 00:16:52.4±4.7, 51.65N×173.67W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/37, mbtmp3.7/6, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/33, Error ellipse: s-maj=115.0km s-min=29.1km az=173.0*
ISC 06 00:16:49.4±1.4, 50.9N±0.1×172.93W±0.05, h10km, n25, σ1.01/30, mb3.9/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
KOFP	Korovin Flat P	1.61	334	P	Pn	00 17 18.2	+0.3
KOFP				S	Sn	00 17 38.3	-0.4
KOSE	Korovin Southe	1.66	336	P	Pn	00 17 19.2	+0.6
KOKL	Mount Kliuchef	1.68	332	P	Pn	00 17 19.3	+0.4
KOKL				S	Sn	00 17 39.8	-0.6
KONE	Korovin Northe	1.72	335	P	Pn	00 17 20.2	+0.8
KONE				S	Sn	00 17 41.5	+0.2
KOWE	Korovin West	1.73	332	P	Pn	00 17 20.4	+0.8
GSMY	Great Sitkin M	2.29	303	P	Pn	00 17 27.1	-0.2
GSMY				S	Sn	00 17 53.6	-2.0
GSCK	Great Sitkin C	2.33	301	P	Pn	00 17 27.9	+0.1
GSTD	Great Sitkin T	2.35	302	P	Pn	00 17 28.0	0.0
GSTD				S	Sn	00 17 55.0	-1.9
ETKA	Kagalaska Isla	2.40	296	P	Pn	00 17 28.6	-0.2
ETKA				S	Sn	00 17 55.6	-2.7
ADAG	Mount Adagdak	2.56	298	P	Pn	00 17 31.5	+0.6
ADAG				S	Sn	00 18 01.6	-0.6
TAFL	Tanaga Flats	3.25	288	P	Pn	00 17 41.0	+0.6
NIKH	Nikolski High	3.31	48	P	Pn	00 17 40.3	-0.9
TAFP	Tanaga Falls P	3.34	290	P	Pn	00 17 42.4	+0.8
TAFP				S	Sn	00 18 20.5	-0.8
TASE	Tanaga Southea	3.35	289	P	Pn	00 17 42.8	+0.9
OKSP	Okmok Steeple	3.75	48	P	Pn	00 17 46.9	-0.3
MSOM	Makushin Julie	4.72	49	P	Pn	00 18 00.5	-0.1
MREP	Makushin Rep't	4.82	50	P	Pn	00 18 02.3	+0.3
UNV	Unalaska Valle	4.96	50	P	Pn	00 18 03.5	-0.4
ILAR	Eielson Array 0.2nm,0.3s,baz=225,slow=9.5,SNR=21	19.46	34	P	P	00 21 14.7	-1.3
DLBC	Dease Lake 2.3nm,0.8s,baz=218,slow=12,SNR=4.7	25.58	56	P	P	00 22 23.9	+5.5
INK	Inuvik 2.0nm,0.6s,baz=286,slow=8.4,SNR=5.0	25.84	33	P	P	00 22 20.8	+0.3
YKA	Yellowknife Ar 0.2nm,0.4s,baz=273,slow=7.8,SNR=12	32.91	47	P	P	00 23 25.3	+1.9
KSRS	Korea Array comp=Z,31nm,20.4s,baz=122,slow=34	43.36	276	LR	LR	00 40 51.1	
MKAR	Makanchi Array 0.1nm,0.4s,baz=56,slow=5.3,SNR=6.5	63.20	312	P	P	00 27 15.6	-1.9
FINES	FINESS Array B 1.5nm,0.9s,baz=16,slow=11,SNR=2.3	67.03	350	P	P	00 27 41.9	-0.1

BUC 06 00:22:13.4±0.9, 45.75N×26.57E, h114km±8km, MD2.7/2, 16C-4D, Error ellipse: s-maj=6.9km s-min=6.5km az=90.0, Romania

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
PLOR	Plostina	0.12	30	⇑iP	Pn	00 22 29.1	0.0
PLOR	Plostina	0.12	30	⇑iP	Pn	00 22 29.1	0.0
PLOR				iS	Sn	00 22 39.9	-1.1
VRI	Vrincioaia	0.16	44	⇑iP	Pn	00 22 29.2	0.0
VRI	Vrincioaia	0.16	44	⇑iP	Pn	00 22 29.2	0.0
VRI				iS	Sn	00 22 40.3	-0.8
PETR	Petresti	0.47	93	S	Sn	00 22 43.2	0.0
PETR	Petresti	0.47	93	iS	Sn	00 22 43.2	0.0
MLR	Muntele Rosu	0.51	240	⇑iP	Pn	00 22 30.9	0.0
MLR	Muntele Rosu	0.51	240	⇑iP	Pn	00 22 30.9	0.0
MLR				iS	Sn	00 22 43.1	-0.9
TESR	Tescani	0.77	4	⇑iP	Pn	00 22 33.1	+0.4
TESR	Tescani	0.77	4	⇑iP	Pn	00 22 33.1	+0.4
TESR				iS	Sn	00 22 46.9	-0.3
DOPR	Dopca	0.85	285	⇑iP	Pn	00 22 33.8	+0.3
DOPR	Dopca	0.85	285	⇑iP	Pn	00 22 33.8	+0.3
SULR		1.09	192	S	Sn	00 22 52.5	-0.3
SULR		1.09	192	iS	Sn	00 22 52.5	-0.3
VOIR		1.11	254	⇑iP	Pn	00 22 36.1	0.0
VOIR		1.11	254	⇑iP	Pn	00 22 36.1	0.0
CFR	Carcaliu	1.24	117	⇑iP	Pn	00 22 37.4	0.0
CFR	Carcaliu	1.24	117	⇑iP	Pn	00 22 37.4	0.0
TLB	Topalu	1.56	138	⇓iP	Pn	00 22 41.1	0.0
TLB	Topalu	1.56	138	⇓iP	Pn	00 22 41.1	0.0
TLB				iS	Sn	00 23 00.9	-1.3
TIRR	Tirgusor	1.84	134	⇓iP	Pn	00 22 44.6	+0.1
TIRR	Tirgusor	1.84	134	⇓iP	Pn	00 22 44.6	+0.1
TIRR				iS	Sn	00 23 06.4	-1.8
MSAB	Monastry St. A	1.88	151	⇑iP	Pn	00 22 45.3	+0.2
MSAB	Monastry St. A	1.88	151	⇑iP	Pn	00 22 45.3	+0.2

KRSC 06 00:32:27.6±0.8, 53.90N×160.84E, h59km±19km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
KII	Karymskiy	0.83	280	eP	Pn	00 32 44.8	+1.3
KII				eS	Sn	00 32 56.0	+0.8
SPN	Mys Shipunski	0.94	212	eP	Pn	00 32 46.2	+1.5
SPN				eS	Sn	00 32 58.1	+0.7
NLC	Nalytchevo	1.15	231	eP	Pn	00 32 49.1	+1.6
NLC				eS	Sn	00 33 03.5	+1.2
KZV	Kizimen	1.26	346	eP	Pn	00 32 51.2	+2.0
KZV				eS	Sn	00 33 06.3	+1.0
SDLR	Sedlovina	1.32	243	eP	Pn	00 32 52.1	+2.2
SDLR				eS	Sn	00 33 08.1	+1.4
SMAR	Somma	1.37	243	eP	Pn	00 32 52.9	+2.2
SMAR				eS	Sn	00 33 09.2	+1.1
KRER	Koryakskii	1.38	245	eP	Pn	00 32 53.1	+2.3
KRER				eS	Sn	00 33 09.1	+0.8
UGLR	Uglovaya	1.39	241	eP	Pn	00 32 53.0	+2.2
UGLR				eS	Sn	00 33 09.2	+1.0
AVH	Avacha	1.40	244	eP	Pn	00 32 53.5	+2.5
AVH				eS	Sn	00 33 10.9	+2.3
KRX	Arik	1.41	248	eP	Pn	00 32 53.2	+2.0
KRX				S	Sn	00 33 10.1	+1.2
KOK	Koryaka	1.45	246	eP	Pn	00 32 53.7	+2.1
KOK				eS	Sn	00 33 11.6	+2.0
TUMR	Tumrok	1.45	344	eP	Pn	00 32 54.1	+2.5
TUMR				eS	Sn	00 33 11.7	+2.0
PET	Petropavlovsk	1.57	237	eP	Pn	00 32 55.4	+2.3
PET				S	Sn	00 33 14.1	+1.7
GNL	Ganaly	1.73	264	eP	Pn	00 32 57.7	+2.3
GNL				eS	Sn	00 33 17.4	+0.8
KMNR	Kamenistaya	1.89	350	eP	Pn	00 33 01.3	+3.6
KMNR				eS	Sn	00 33 24.5	+4.0
RUS	Russkaya	2.03	225	eP	Pn	00 33 02.2	+2.9
RUS				eS	Sn	00 33 24.7	+1.2
MTVR	Mutnovka	2.13	229	eP	Pn	00 33 04.3	+3.3
MTVR				eS	Sn	00 33 29.0	+2.5
KOZ	Kozyrevsk	2.23	346	eP	Pn	00 33 05.2	+3.0
KOZ				eS	Sn	00 33 31.2	+2.5
ASAK	Asacha	2.33	231	eP	Pn	00 33 06.5	+2.9
ASAK				eS	Sn	00 33 33.5	+2.4
ESO	Esso	2.38	330	eP	Pn	00 33 06.4	+2.3
ESO				eS	Sn	00 33 33.8	+1.7
APC	Apacha	2.41	248	eP	Pn	00 33 07.5	+3.0
APC				eS	Sn	00 33 35.4	+2.6
KLY	Klyuchi	2.42	358	eS	Sn	00 33 35.4	+2.3
SRDR	Sredinnyy	2.51	346	eP	Pn	00 33 08.1	+2.1
SRDR				S	Sn	00 33 36.8	+1.4
KBTR	Krutoberegovo	2.58	25	eP	Pn	00 33 10.5	+3.6
KBTR				eS	Sn	00 33 39.3	+2.3
KBG	Krutoberegovo	2.59	24	eP	Pn	00 33 10.6	+3.6
KBG				eS	Sn	00 33 40.4	+3.1
BDR	Baidarnaya	2.69	4	eP	Pn	00 33 11.3	+2.9
BDR				eS	Sn	00 33 42.6	+2.8
SMKR	Semkarok	2.71	7	eP	Pn	00 33 11.8	+3.0
SMKR				eS	Sn	00 33 42.5	+2.0
SRKR	Sorokina	2.77	4	eP	Pn	00 33 13.4	+3.9
SRKR				eS	Sn	00 33 44.7	+2.9
BKI	Bering	3.27	64	eP	Pn	00 33 19.3	+3.1
BKI				S	Sn	00 33 54.2	+0.5

*CSEM **06** 00:38:27.5±0.3, 42.86N×17.70E, h2km, ML2.2, Error ellipse: s-maj=8.4km s-min=3.9km az=28.0*
BEO 06 00:38:27.4±0.5, 42.88N×17.66E, h0km, ML2.2/8, 4D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
STON	Ston	0.03	106	iPg	Pg	00 38 27.3	-0.7
STON				Sg	Sg	00 38 27.8	-0.5
STON	Ston	0.03	106	⇓iPg	Pg	00 38 27.3	-0.7
STON				eSg	Sg	00 38 27.9	-0.5
STON	Ston	0.03	106	⇓iPg	Pg	00 38 27.3	-0.7
TREB	Trebinje	0.53	108	⇓iPg	Pg	00 38 36.0	-1.7
TREB	Trebinje	0.53	108	⇓iPg	Pg	00 38 36.0	-1.7
PDG	Podgorica	1.26	110	ePg	Pg	00 38 50.7	-0.9
PDG				eSg	Sb	00 39 08.4	-0.4
PDG	Podgorica	1.26	110	ePg	Pg	00 38 50.7	-0.9
PDG				eSg	Sb	00 39 08.4	-0.4
BLY	Banja Luka	1.90	350	ePn	Pn	00 39 01.8	+0.7
BLY				eSg	Sg	00 39 28.9	+0.4
BLY	Banja Luka	1.90	350	ePn	Pn	00 39 01.8	+0.7
BLY				eSg	Sg	00 39 28.9	+0.4
IVAS	Ivanjica	1.95	68	ePn	Pn	00 39 01.1	-0.8
IVAS				eSg	Sg	00 39 29.6	-0.7
IVAS	Ivanjica	1.95	68	ePn	Pn	00 39 01.1	-0.8
IVAS				eSg	Sg	00 39 29.6	-0.7
DIVS	Divibare	2.09	54	ePn	Pn	00 39 03.7	-0.1
DIVS				eSg	Sb	00 39 33.7	+0.8
DIVS	Divibare	2.09	54	ePn	Pn	00 39 03.7	-0.1
DIVS				eSg	Sb	00 39 33.7	+0.8
TRUS	Trudelj	2.41	55	ePn	Pn	00 39 08.0	-0.1
TRUS	Trudelj	2.41	55	ePn	Pn	00 39 08.0	-0.1
GRUS	Gruza	2.44	65	ePn	Pn	00 39 07.9	-0.7
GRUS	Gruza	2.44	65	ePn	Pn	00 39 07.9	-0.7
SELS	Selova	2.56	81	ePn	Pn	00 39 10.4	+0.2
SELS	Selova	2.56	81	ePn	Pn	00 39 10.4	+0.2
NVLJ	Novalja	2.63	311	ePn	Pn	00 39 11.6	+0.5
NVLJ				Sn	Sn	00 39 45.4	+1.7
NVLJ	Novalja	2.63	311	ePn	Pn	00 39 11.6	+0.5
NVLJ				Sn	Sn	00 39 45.4	+1.7
BARS	Barje	3.06	90	ePn	Pn	00 39 17.5	+0.5
BARS				eSn	Sn	00 39 54.8	+0.5
BOJS	Bojanci	3.14	327	ePn	Pn	00 39 18.4	+0.2
BOJS	Bojanci	3.14	327	ePn	Pn	00 39 18.4	+0.2
PKSM	Moragy	3.40	12	ePn	Pn	00 39 21.1	-0.6
PKSM	Moragy	3.40	12	ePn	Pn	00 39 21.1	-0.6

*NIED **06** 00:50:00, 31.90N×137.90E, h500km, Mw4.5 Best double couple: Mo5.57000×10^15 NP1:φs28.00000°, δ33.00000°, λ180.00000°. NP2:φs119.00000°, δ90.00000°, λ57.00000°.*
*BJI **06** 00:50:28.2, 31.57N×138.16E, h422km, mB4.6/18, mb4.3/30*
*JMA **06** 00:50:31.2±0.4, 31.88N×137.93E, h464km, M3.5*
*ISCJB **06** 00:50:33.8±0.4, 31.92N±0.05×137.64E±0.05,*

h432km±3km, mb4.0/32, Error ellipse: s-maj=8.5km s-min=5.9km az=148.7

*NEIC **06** 00:50:34.8±1.8, 31.91N×137.45E, h422km±8km, mb4.6/12, MW4.4(NIED), Error ellipse: s-maj=22.2km s-min=16.0km az=122.0*

*IDC **06** 00:50:35.0±1.0, 32.01N×137.60E, h424km±10km, mb3.2/14, mb1 3.1/19, mb1mx3.3/32, mbtmp4.0/19, Error ellipse: s-maj=14.4km s-min=10.1km az=109.0*

ISC 06 00:50:34.0±0.5, 31.90N±0.06×137.63E±0.06, h420km±3km, n81, σ1.42/111, mb4.1/32, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
TTO1	TONANKAI O.B.S	1.86	338	P	P	00 51 33.5	+3.0
TTO2	TONANKAI O.B.S	1.90	345	P	P	00 51 33.8	+3.1
TTO3	TONANKAI O.B.S	1.97	354	P	P	00 51 34.4	+3.1
TK02	Tokai 2	2.04	3	P	P	00 51 34.5	+2.9
JHJ2	Mitsune	2.21	56	P	P	00 51 33.2	+0.3
JHJ2	Mitsune	2.21	56	eP	P	00 51 34.4	+1.5
JWZ	Kozaga	2.29	316	S	S	00 52 22.9	+1.1
JKN2	Miekihoku	2.60	334	P	P	00 51 37.5	+2.0
JIE	Ise	2.60	343	P	P	00 51 37.6	+2.0
JAI	Aioi	3.28	306	P	P	00 51 43.3	+2.5
JAI				S	S	00 52 36.3	+1.2
JOD2	Odawara 2	3.57	20	P	P	00 51 44.2	+1.0
JOD2				eS	S	00 52 40.4	+0.7
JMN	Monobe	3.65	301	P	P	00 51 46.5	+2.5
JYN	Shimob	3.67	12	P	P	00 51 45.4	+1.2
BSO1	Boso 1	3.92	45	P	P	00 51 45.8	+0.1
JTO	Tosashimizu	4.20	284	P	P	00 51 51.1	+2.2
JRY	Ryogami san	4.24	14	P	P	00 51 50.0	+0.7
JRY				S	S	00 52 49.7	-1.1
MJAR	Matsushiro Arr	4.66	6	P	P	00 51 53.5	+0.3
	9.1nm,0.3s,baz=179,slow=10,SNR=113						
MJAR				S	S	00 52 56.0	-2.1
	0.8nm,0.3s,baz=219,slow=26,SNR=4.9						
MAJO	Matsushiro	4.66	6	eP	P	00 51 53.7	+0.4
MAT	Matsushiro	4.66	6	P	P	00 51 53.7	+0.4
MAT				S	S	00 52 55.4	-2.7
JNU	Nakatsue	5.83	284	P	P	00 52 08.1	+2.7
	0.7nm,0.3s,baz=31,slow=17,SNR=2.5						
JNU				S	S	00 53 09.2	-11
	0.6nm,0.3s,baz=209,slow=19,SNR=3.9						
JCJ	Chichijima	6.22	139	S	S	00 53 23.1	-4.6
	41nm,0.3s,baz=282,slow=23,SNR=8.4						
JOW	Kunigami	9.60	241	P	P	00 52 48.2	+1.4
	0.4nm,0.3s,baz=104,slow=16,SNR=6.3						
KSRS	Korea Array	9.72	307	P	P	00 52 49.3	+1.3
	0.6nm,0.3s,baz=120,slow=10,SNR=7.7						
USRK	Ussuriysk Arra	13.06	342	P	P	00 53 24.6	+0.1
	0.8nm,0.3s,baz=150,slow=10,SNR=13						
CN2	Changchun	15.27	325	eP	P	00 53 56.0	+7.5
CN2				esP	sP	00 55 37.0	-1.3
CN2				eS	S	00 56 33.9	+4.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
NJ2	Nanjing	15.94	276	eP	P	00 53 54.0	-1.9
NJ2				pmax	pmax		
	comp=Z,30nm,1.1s						
BJI	Beijing	19.14	301	P	P	00 54 29.4	+0.3
BJI				S	S	00 57 40.8	-0.6
BJI				PcP	PcP	00 58 32.5	+0.7
BJI				ScS	ScS	01 05 10.0	+0.8
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,140nm,9.5s						
HHC	Hu-ho-hao-te	22.75	300	eP	P	00 55 01.2	-0.9
HHC				sP	sP	00 56 57.8	-3.1
HHC				S	S	00 58 37.4	-2.1
HHC				PcP	PcP	00 58 41.1	+2.1
HHC				ScP	ScP	01 01 36.7	+0.5
HHC				PcS	PcS	01 02 18.2	-0.2
HHC				ScS	ScS	01 05 21.5	-1.0
HHC				pmax	pmax		
	comp=Z,33nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,7.3s						
ENH	Enshi	24.13	274	eP	P	00 55 13.9	-0.7
	comp=Z,9.9nm,0.8s						
XAN	Xi'an	24.15	283	P	P	00 55 14.8	+0.1
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,52nm,6.0s						
GYA	Guiyang	27.52	267	eP	P	00 55 44.6	-0.2
GYA				pP	pP	00 56 59.0	0.0
GYA				sP	sP	00 57 49.2	+0.6
GYA				S	S	00 59 53.8	-1.2
GYA				ScP	ScP	01 01 50.6	+0.4
GYA				ScS	ScS	01 05 41.4	-1.7
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
QIZ	Qiongzhong	28.08	250	P	P	00 55 48.5	-1.1
QIZ				S	S	01 00 02.7	-0.9
QIZ				pmax	pmax		
	comp=Z,15nm,1.6s						
CD2	Chengdu	28.86	277	P	P	00 55 55.9	-0.6
CD2				pP	pP	00 57 11.2	-0.4
CD2				sP	sP	00 58 00.2	-0.5
CD2				PcP	PcP	00 58 54.5	+1.1
CD2				S	S	01 00 13.9	-1.9
CD2				PcS	PcS	01 02 36.3	-0.4
CD2				ScS	ScS	01 05 47.5	-1.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.2s						
SEY	Seymchan	32.45	13	P	P	00 56 27.6	+0.6
	comp=Z,1.0nm,0.2s,baz=182,slow=5.9,SNR=4.4						
CHTO	Chiang Mai	37.11	259	eP	P	00 57 06.7	-0.3
	comp=Z,9.1nm,0.9s						
CMAR	Chiang Mai Arr	37.28	258	P	P	00 57 09.0	+0.6
	comp=Z,2.1nm,0.6s,baz=47,slow=7.6,SNR=17						
CM01	Chiang Mai Arr	37.29	258	eP	P	00 57 06.8	-1.6
SBUM	Sibu	37.82	224	eP	P	00 57 13.0	+0.2
	comp=Z,13nm,1.1s						
KAPI	Kappang	40.47	208	eP	P	00 57 34.6	+0.2
	comp=Z,64nm,0.9s						
WMQ	Urumqi	40.62	302	eP	P	00 57 36.1	+0.7
WMQ				pP	pP	00 58 55.8	+0.8
WMQ				sP	sP	00 59 41.6	-1.3
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,140nm,7.2s						
ZALV	Zalesovo Beam	43.28	317	P	P	00 57 56.2	0.0
	comp=Z,0.2nm,0.3s,baz=86,slow=7.4,SNR=2.8						
ZALV				ScP	ScP	01 02 45.9	-1.0
	comp=Z,0.3nm,0.3s,baz=116,slow=5.6,SNR=3.7						
TAPN	Taplejung	43.33	277	eP	P	00 57 57.7	+0.2
	comp=Z,9.5nm,0.5s						
ODAN	Odare	43.76	277	eP	P	00 58 01.0	+0.2
	comp=Z,17nm,0.4s						
RAMN	Ramite	44.40	277	eP	P	00 58 06.0	+0.2
MK01	Makanchi Array	44.40	306	eP	P	00 58 04.9	-0.3
MKAR	Makanchi Array	44.40	306	P	P	00 58 05.5	+0.2
	comp=Z,1.4nm,0.8s,baz=90,slow=10,SNR=20						
MKAR				ScP	ScP	01 02 50.5	-1.3
	comp=Z,0.3nm,0.5s,baz=91,slow=4.2,SNR=4.9						
JIRN	Jiri	44.51	278	eP	P	00 58 07.5	+0.7
	comp=Z,25nm,0.4s						
GUN	Gumba	44.70	279	eP	P	00 58 09.1	+0.9
	comp=Z,14nm,0.4s						
PKI	Pulchoki	45.20	279	eP	P	00 58 12.3	+0.2
PKIN	Phulchoki	45.21	279	eP	P	00 58 12.3	+0.2
KKN	Kakani	45.24	279	eP	P	00 58 12.8	+0.5
GKN	Gorkha	45.71	279	eP	P	00 58 16.4	+0.6
	comp=Z,11nm,0.7s						
DANN	Dangsing	46.34	280	eP	P	00 58 21.7	+0.9
KOLN	Koldanda	46.65	280	eP	P	00 58 23.7	+0.6
TNA	Tin City	46.85	28	eP	P	00 58 25.3	+1.6
	comp=Z,3.8nm,0.8s						
PYUN	Piuthan	47.06	280	eP	P	00 58 26.2	0.0
	comp=Z,28nm,0.6s						
GSI	Gunungsitoli	48.49	239	eP	P	00 58 35.5	-1.4
	comp=Z,67nm,0.4s						
WRA	Warramunga Arr	51.64	184	P	P	00 59 00.9	+0.9
	comp=Z,1.3nm,0.3s,baz=360,slow=7.6,SNR=17						
KDAK	Kodiak Island	53.02	39	eP	P	00 59 10.4	+0.8
	comp=Z,281nm,2.0s						
KKAR	Karatay Array	53.11	302	eP	P	00 59 10.7	+0.1
PPLA	Purkeypile	53.16	33	eP	P	00 59 12.3	+1.6
	comp=Z,72nm,1.9s						
AS01	Alice Springs	55.36	184	eP	P	00 59 27.5	+0.8
ASAR	Alice Springs	55.37	184	P	P	00 59 28.4	+1.8
	comp=Z,0.7nm,0.7s,baz=14,slow=12,SNR=11						
MBWA	Marble Bar	55.47	200	eP	P	00 59 27.7	+0.2
	comp=Z,36nm,1.5s						
IL1	Eielson Array	55.49	30	eP	P	00 59 27.0	0.0
ILAR	Eielson Array	55.49	30	P	P	00 59 27.3	+0.3
	comp=Z,1.0nm,0.7s,baz=270,slow=5.5,SNR=18						
BMRM	Bremner River	56.84	35	eP	P	00 59 37.7	+1.2
	comp=Z,204nm,2.7s						
ABKAR	Akbulak array	58.93	312	eP	P	00 59 51.3	+0.3
INK	Inuvik	60.36	25	eP	P	00 59 59.4	-0.8
	comp=Z,5.5nm,0.8s						
ARCES	ARCESS Array B	67.69	339	P	P	01 00 46.9	-0.4
	comp=Z,5.9nm,1.0s,baz=57,slow=8.8,SNR=7.1						
RES	Resolute Bay	68.32	13	eP	P	01 00 51.7	+0.7
	comp=Z,39nm,2.2s						
YKA	Yellowknife Ar	69.80	28	P	P	01 01 00.2	0.0
	comp=Z,0.7nm,0.6s,baz=298,slow=6.1,SNR=18						
YKB5	Yellowknife Ar	69.80	28	eP	P	01 00 59.7	-0.5
FINES	FINESS Array B	71.88	332	P	P	01 01 12.3	-0.2
	comp=Z,1.1nm,0.5s,baz=77,slow=5.0,SNR=19						
AKASG	Malin Array Be	76.41	322	P	P	01 01 38.4	-0.1
	comp=Z,0.1nm,0.3s,baz=53,slow=5.3,SNR=5.3						
NOA	NORSAR Array B	77.67	336	P	P	01 01 45.3	-0.1
	comp=Z,1.0nm,0.8s,baz=42,slow=5.5,SNR=2.8						
BUR04	Bucovina Ar. S	80.34	321	eP	P	01 02 00.5	+0.4
NVAR	Mina Array Bea	80.61	51	P	P	01 02 02.9	+1.1
	comp=Z,0.4nm,0.6s,baz=265,slow=5.3,SNR=3.2						
BW06	Boulder Array	83.51	43	eP	P	01 02 18.5	+1.9
PDAR	Pinedale Array	83.52	43	P	P	01 02 18.2	+1.6
	comp=Z,0.6nm,0.7s,baz=308,slow=2.5,SNR=4.9						
TOA0	Torodi Ar. Sit	118.46	310	ePKPdf	PKPdf	01 08 31.8	-1.5

*ISCJB **06** 01:33:46.4±1.7, 16.75S±0.05×73.44W±0.07, h30km±12km, mb4.8/41, MS4.5/14, Error ellipse: s-maj=13.5km s-min=5.4km az=144.4*

*IDC **06** 01:33:49.1±0.8, 16.43S×73.47W, h29km±4km, mb4.0/11, mb1 4.2/14, mb1mx4.0/30, mbtmp4.1/14, ML4.5/2, MS4.4/16, Ms1 4.4/16, ms1mx4.3/22, Error ellipse: s-maj=23.0km s-min=16.5km az=35.0*

*GCMT **06** 01:33:51.3±0.5, 16.87S×73.85W, h26km±1km, MW5.2/58, Moment Tensor Solution. s30,c38; s58,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr3.36±.25; Mθθ-0.34±.14; Mφφ-3.02±.18; Mrθ2.11±.29; Mrφ1.70±.11; Mθφ-5.39±.48; Best double couple: M0 6.81800×10^{16} NP1:φs158.00000°, δ74.00000°, λ93.00000°. NP2: φs329.00000°, δ16.00000°, λ81.00000°. Principal axes: T 6.5860, Plg61.0000°, Azm72.0000°; N 0.4690, Plg2.0000°, Azm337.0000°; P -7.0510, Plg29.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 01:33:51.3±0.9, 16.67S×73.44W, h53km±8km, mb4.8/29 Error ellipse: s-maj=11.9km s-min=6.3km az=52.0*

NEIC Felt [III] at Camana and Ocona and [II] at Acari and Arequipa. Also felt at Mollendo.

*BJI **06** 01:33:51.1, 16.70S×73.30W, h34km, mB5.0/6, Ms5.2/4, Ms7 5.1/5*

ISC 06 01:33:48.8±0.4, 16.79S±0.06×73.49W±0.07, h40km±2km, h40km:pP-P, n111, σ1.59/124, mb4.7/41, MS4.3/14, 2C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	1.94	81	⇑iP	Pn	01 34 21.1	+1.6
PSGC	Pisagua	4.25	132	eP	Pn	01 34 51.1	0.0
MNMC	Minimini	4.38	123	eP	Pn	01 34 54.0	+1.0
PB11	Plate Boundary	4.69	130	eP	Pn	01 34 57.4	+0.2
HMBC	Humberstone	4.87	136	eP	Pn	01 34 59.8	+0.1
PATCX	Punta Patache	5.10	142	⇑eP	Pn	01 35 02.5	-0.3
LPAZ	La Paz	5.16	85	Pn	Pn	01 35 08.6	+4.5
	4.6nm,0.3s,baz=308,slow=6.1,SNR=99						
LPAZ				Lg	Lg	01 36 25.1	
	baz=17,slow=17,SNR=3.8						
LPAZ				LR	LR	01 37 38.3	
	comp=Z,10μm,18.2s,baz=264,slow=45						
PB01	Plate Boundary	5.68	139	eP	Pn	01 35 11.1	+0.4
NNA	Nana	5.78	325	Pn	Pn	01 35 13.1	+1.0
	7.4nm,0.3s,baz=145,slow=15,SNR=9.9						
NNA				Lg	Lg	01 36 31.1	
	59nm,0.3s,baz=57,slow=24,SNR=7.6						
NNA				LR	LR	01 37 46.9	
	comp=Z,2μm,20.6s,baz=151,slow=43						
NNA	Nana	5.78	325	ePn	Pn	01 35 12.4	+0.4
NNA				eSn	Sn	01 36 18.3	+1.2
NNA				Lg	Lg	01 36 31.1	
PB07	Plate Boundary	5.97	146	⇓eP	Pn	01 35 14.4	-0.5
PB09	Plate Boundary	6.39	142	eP	Pn	01 35 21.3	+0.7
PB04	Plate Boundary	6.62	146	eP	Pn	01 35 19.0	-4.6
PB06	Plate Boundary	6.95	149	eP	Pn	01 35 27.4	-0.7
LVC	Limon Verde	7.22	144	ePn	Pn	01 35 32.8	+0.8
LVC				eSn	Sn	01 36 52.9	0.0
ATAH	Atahualpa	10.73	333	Pn	Pn	01 36 28.3	+8.0
	0.4nm,0.3s,baz=111,slow=14,SNR=3.2						
ATAH				Lg	Lg	01 39 11.7	
	1.2nm,0.3s,baz=70,slow=22,SNR=4.9						
SIV	San Ignacio	11.94	88	Pn	Pn	01 36 37.3	+0.7
	4.1nm,0.3s,baz=276,slow=11,SNR=26						
SIV				LR	LR	01 42 00.7	
	comp=Z,5μm,18.3s,baz=283,slow=41						
SAML	Samuel	12.71	53	ePn	Pn	01 36 43.8	-3.2
CFAA	Coronel Fontan	15.50	163	Pn	P	01 37 30.8	+2.2
	0.0nm,0.3s,baz=332,slow=8.3,SNR=7.5						
H03N1	Juan Fernandez	17.29	195	T	T	01 56 19.2	
	baz=17,slow=75,SNR=700						
H03N2	Juan Fernandez	17.29	195	T	T	01 56 20.3	
	baz=17,slow=75,SNR=652						
H03N3	Juan Fernandez	17.30	195	T	T	01 56 21.2	
	baz=17,slow=75,SNR=468						
OTAV	Otavalo	17.61	343	ePn	Pn	01 37 51.3	-0.4
	21nm,1.4s						
CPUP	Villa Florida	17.76	125	P	P	01 37 56.6	+3.1
	0.3nm,0.3s,baz=246,slow=8.1,SNR=3.2						
CPUP				LR	LR	01 46 03.1	
	comp=Z,1μm,19.4s,baz=284,slow=41						
PTGA	Pitinga	20.78	41	P	P	01 38 25.1	-1.5
	8.0nm,0.7s,baz=216,slow=13,SNR=9.5						
PTGA				LR	LR	01 47 29.9	
	comp=Z,3μm,19.1s,baz=224,slow=40						
PTGA	Pitinga	20.78	41	eP	P	01 38 25.9	-0.7
	11nm,0.7s						
ROSC	El Rosal	21.52	358	eP	P	01 38 35.8	+0.9
TRQA	Tornquist	23.48	157	eP	P	01 38 55.0	+0.1
	181nm,2.9s						
BB16B	Bebedouro	23.92	104	eP	P	01 38 58.9	-0.4
BB16B				i		01 39 04.2	
BB16B				i		01 39 10.0	
BB16B				i		01 39 15.9	
PLCA	Paso Flores	24.00	175	P	P	01 39 06.0	+6.2
	4.9nm,0.9s,baz=344,slow=12,SNR=4.4						
BDFB	Brasilia	24.48	91	P	P	01 39 06.2	+1.7
	9.4nm,0.8s,baz=255,slow=12,SNR=16						
BDFB				LR	LR	01 49 43.1	
	comp=Z,551nm,19.9s,baz=258,slow=39						
SDV	Santo Domingo	25.66	7	eP	P	01 39 14.4	-0.9
	52nm,0.9s						
TXAR	Lajitas Array	54.33	327	P	P	01 43 10.9	-0.6
	0.9nm,0.9s,baz=152,slow=8.0,SNR=8.4						
TXAR				LR	LR	02 04 22.7	
	comp=Z,256nm,18.7s,baz=0.0,slow=34						
ABTX	Abilene, Hawle	55.14	333	eP	P	01 43 19.3	+2.0
	11nm,1.1s						
WCI	Wyandotte Cave	56.03	348	eP	P	01 43 22.9	-0.7
	33nm,1.2s						
GDL2	Guadalupe Moun	56.99	329	eP	P	01 43 32.4	+1.7
RKT	Rikitea	57.79	253	eS	S	01 51 34.2	+1.1
	275nm,30.8s						
RKT				eLR	LR	02 00 43.0	
	691nm,24.5s,baz=96						
ASCN	Ascension	58.25	89	eP	P	01 43 38.8	-1.0
	158nm,1.2s						
LAZ	Ladron	60.14	328	eP	P	01 43 53.3	+0.6
	4.4nm,1.1s						
ANMO	Albuquerque	60.23	329	eP	P	01 43 54.7	+1.4
	4.5nm,1.1s						
SDCO	Great Sand Dun	62.04	332	eP	P	01 44 05.8	+0.3
	5.9nm,0.9s						
WUAZ	Wupatki	63.21	326	eP	P	01 44 14.4	+1.1
	64nm,2.7s						
ECSD	EROS Data Cent	63.84	342	eP	P	01 44 16.1	-1.0
	149nm,2.6s						
SMCO	Snowmass	63.87	331	eP	P	01 44 21.6	+3.7
	5.3nm,1.0s						
SPMN	St. Paul	64.17	345	eP	P	01 44 18.6	-0.5
	24nm,1.0s						
SRU	San Rafael	65.51	329	eP	P	01 44 29.0	+0.7
	12nm,1.5s						
CCUT	Cedar City	65.79	326	eP	P	01 44 32.8	+2.6
	100nm,2.8s						
MVU	Marysvale	65.90	327	eP	P	01 44 32.2	+1.3
	68nm,2.7s						
ARUT	Antelope Range	66.01	326	eP	P	01 44 33.4	+1.9
	161nm,1.1s						
SHPR	Sheep Range	66.02	324	eP	P	01 44 32.5	+0.9
	4.6nm,1.0s						
DUG	Dugway	67.48	328	eP	P	01 44 42.0	+1.2
	9.4nm,1.2s						
R11A	Troy Canyon, C	67.58	325	eP	P	01 44 43.4	+1.9
	18nm,1.8s						
PDAR	Pinedale Array	67.92	332	P	P	01 44 44.0	+0.4
	0.3nm,0.6s,baz=161,slow=9.6,SNR=3.2						
PDAR				LR	LR	02 14 34.7	
	comp=Z,141nm,21.8s,baz=146,slow=36						
HWUT	Hardware Ranch	67.94	330	eP	P	01 44 45.1	+1.4
	7.7nm,1.1s						
SNAA	Sanae	68.11	161	eP	P	01 44 45.6	+1.3
	7.2nm,1.0s						
HVU	Hansel Valley	68.66	329	eP	P	01 44 49.0	+0.8
	92nm,2.8s						
NVAR	Mina Array Bea	69.15	324	P	P	01 44 52.0	+0.6
	0.4nm,0.3s,baz=197,slow=4.6,SNR=3.9						
NVAR				LR	LR	02 12 05.0	
	comp=Z,132nm,18.7s,baz=222,slow=33						
FLWY	Flagg Ranch	69.47	332	eP	P	01 44 54.2	+1.0
	10nm,1.0s						
ULM	Lac du Bonnet	69.60	345	P	P	01 44 53.1	-0.6
	2.5nm,0.7s,baz=161,slow=8.4,SNR=5.0						
ULM				LR	LR	02 16 59.3	
	comp=Z,162nm,21.7s,baz=183,slow=37						
MFID	Camas Ranch	71.38	329	eP	P	01 45 05.6	+0.8
	23nm,1.6s						
LIC	Lamto	71.41	77	eP	P	01 45 06.0	+0.5
	40nm,1.4s						
TIC	Toumodi	71.56	77	eP	P	01 45 06.7	+0.3
	15nm,1.0s						
DBIC	Dimbokro	71.72	77	P	P	01 45 08.0	+0.7
	7.8nm,0.7s,baz=232,slow=7.2,SNR=17						
DBIC				pP	pP	01 45 17.6	-1.8
	12nm,0.8s,baz=239,slow=7.8,SNR=10.0						
DBIC				LR	LR	02 15 55.8	
	comp=Z,630nm,18.1s,baz=224,slow=35						
DBIC	Dimbokro	71.72	77	eP	P	01 45 07.6	+0.2
	18nm,0.9s						
DBIC				pP	pP	01 45 17.6	-1.8
KIC	Kosan Boka	71.73	77	eP	P	01 45 07.6	+0.2
	38nm,0.9s						
PPT2	Papeete2	72.19	257	eS	S	01 54 32.1	+1.7
	124nm,23.2s						
PPT2	Papeete2	72.19	257	eLR	LR	02 07 25.5	
	232nm,22.8s						
F10A	Beach Ranch, E	73.92	330	eP	P	01 45 21.3	+1.4
	62nm,2.3s						
FFC	Flin Flon	75.25	343	eP	P	01 45 27.2	0.0
	7.7nm,1.0s						
FCC	Fort Churchill	77.16	349	eP	P	01 45 37.9	+0.1
EDM	Edmonton	77.72	337	eP	P	01 45 41.1	-0.2
TOA0	Torodi Ar. Sit	79.99	73	eP	P	01 45 55.1	+0.6
TOA0				epP	pP	01 46 05.2	-1.4
TORD	Torodi Ar. Bea	79.99	73	P	P	01 45 55.8	+1.2
	5.9nm,0.6s,baz=253,slow=5.5,SNR=50						
TORD				pP	pP	01 46 04.8	-1.9
	13nm,0.8s,baz=255,slow=5.1,SNR=21						
TORD				LR	LR	02 20 00.1	
	comp=Z,480nm,20.6s,baz=245,slow=35						
YKA	Yellowknife Ar	85.36	342	P	P	01 46 21.3	0.0
	1.9nm,0.6s,baz=136,slow=5.2,SNR=54						
TSUM	Tsumeb	85.59	109	eP	P	01 46 25.7	+2.0
	3.0nm,0.7s						
ESDC	Sonseca Array	85.64	46	P	P	01 46 23.9	+0.5
	0.7nm,0.7s,baz=258,slow=3.8,SNR=5.1						
ESDC				pP	pP	01 46 34.8	-0.8
	2.3nm,0.8s,baz=251,slow=5.2,SNR=5.6						
ESDC				LR	LR	02 23 52.0	
	comp=Z,118nm,18.1s,baz=265,slow=35						
TAM	Tamanrasset	86.68	65	eP	P	01 46 31.5	+2.5
	4.2nm,0.9s						
TAM				epP	pP	01 46 41.8	+0.5
BOSA	Boshof	89.50	120	LR	LR	02 24 50.2	
	comp=Z,344nm,18.3s,baz=245,slow=34						
KEST	Kesra	93.99	54	LR	LR	02 31 02.0	
	comp=Z,76nm,18.6s,baz=215,slow=37						
ILAR	Eielson Array	98.17	335	LR	LR	02 34 16.9	
	comp=Z,111nm,20.2s,baz=126,slow=37						
DZM	Mont Dzumac	109.75	239	eLR	LR	02 24 47.6	
	198nm,27.1s						
KIV	Kislovodsk	120.24	49	ePKPdf	PKPdf	01 52 35.8	0.0
H11N3	WAKE ISLAND Hyl	122.83	283	T	T	04 07 48.0	
	baz=103,slow=74,SNR=3.3						
H11N2	WAKE ISLAND Hyl	122.84	283	T	T	04 07 41.9	
	baz=176,slow=74,SNR=5.0						
H11S2	WAKE ISLAND Hyl	122.85	281	T	T	04 07 34.8	
	baz=231,slow=74,SNR=16						
H11S1	WAKE ISLAND Hyl	122.86	281	T	T	04 07 39.4	
	baz=100,slow=74,SNR=8.4						
H11S3	WAKE ISLAND Hyl	122.86	281	T	T	04 08 14.5	
	SNR=9.6						
ARU	Arti	126.52	31	ePKPdf	PKPdf	01 52 47.7	+0.4
ABKAR	Akbulak array	130.41	39	ePKPdf	PKPdf	01 52 56.9	+1.9
AS31	Alice Springs	131.70	214	ePKPdf	PKPdf	01 52 59.9	+1.6
ASAR	Alice Springs	131.70	214	PKP	PKPdf	01 52 59.1	+0.8
	0.3nm,0.6s,baz=125,slow=1.7,SNR=6.3						
ASAR				pPKP	pPKPdf	01 53 09.2	-1.8
	0.7nm,0.7s,baz=110,slow=1.9,SNR=5.1						
PMG	Port Moresby	132.11	240	ePKPdf	PKPdf	01 53 00.4	+1.2
BRVK	Borovoye	134.05	30	ePKPdf	PKPdf	01 53 02.5	+0.5
WRA	Warramunga Arr	134.40	218	PKP	PKPdf	01 53 04.5	+1.1
	0.8nm,0.5s,baz=137,slow=1.8,SNR=6.7						
WRA				pPKP	pPKPdf	01 53 14.5	-1.6
	2.1nm,0.7s,baz=138,slow=1.9,SNR=8.1						
WRAB	Tennant Creek	134.40	218	ePKPdf	PKPdf	01 53 04.4	+0.9
ZALV	Zalesovo Beam	139.26	20	PKP	PKPdf	01 53 12.8	+1.4
	0.8nm,0.7s,baz=241,slow=1.5,SNR=4.4						
KURK	Kurchatov	139.45	27	ePKPdf	PKPdf	01 53 09.6	-2.2
MBWA	Marble Bar	140.12	199	ePKPdf	PKPdf	01 53 13.8	-0.2
AAK	Ala-Archa	142.47	40	ePKPpre	PKPpre	01 53 14.2	
MK31	Makanchi Array	143.98	29	ePKPdf	PKPdf	01 53 20.1	0.0
MKAR	Makanchi Array	143.98	29	PKP	PKPdf	01 53 19.9	-0.2
	0.4nm,0.7s,baz=338,slow=2.0,SNR=4.6						
MKAR				pPKP	pPKPdf	01 53 29.7	-3.0
	0.7nm,0.7s,baz=343,slow=3.8,SNR=6.0						
KSH	Kashi	145.09	43	ePKP	PKPdf	01 53 23.8	+1.4
KSH				esPKP		01 53 39.7	
KSH				SKS	SKSdf	02 00 28.9	+0.2
KSH				SKKS	SKKSac	02 03 32.5	+2.0
KSH				SS	SS	02 15 29.8	+1.4
KSH				LR	LR		
	comp=N,6.0nm,4.6s						
KSH				LR	LR		
	comp=E,24nm,4.4s						
KSH				LR	LR		
	comp=Z,100nm,7.1s						
MAJO	Matsushiro	145.75	311	ePKPbc	PKPab	01 53 24.9	+0.6
CN2	Changchun	148.66	333	ePKPbc	PKPbc	01 53 31.0	-0.8
WMQ	Urumqi	148.69	27	ePKPbc	PKPdf	01 53 30.4	+2.2
WMQ				PKS	PKSdf	01 57 04.0	+0.8
WMQ				SKS	SKSdf	02 00 33.4	-0.1
WMQ				SKKS	SKKSac	02 03 52.1	+1.8
WMQ				AMB	AMB		
	comp=Z,26nm,11.2s						
WMQ				LR	LR		
	comp=N,160nm,19.4s						
WMQ				LR	LR		
	comp=E,120nm,19.8s						
WMQ				LR	LR		
	comp=Z,120nm,23.6s						
DL2	Dalian	154.30	332	ePKPbc	PKPbc	01 53 43.8	-1.2
DL2				pPKP	PKPab	01 53 54.7	-4.3
DL2				sPKP		01 53 58.3	
HHC	Hu-ho-hao-te	155.63	351	ePKP	PKPdf	01 53 39.8	+1.2
HHC				pPKP	pPKPdf	01 53 50.1	-1.3
HHC				sPKP		01 53 54.7	
HHC				PKS	PKSdf	01 57 12.2	-0.5
HHC				PP	PP	01 57 46.6	+6.1
HHC				SKS	SKSdf	02 00 41.4	-0.7
HHC				SKKS	SKKSac	02 04 30.8	+2.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HHC				SS	SS	02 17 27.1	+3.7
HHC				AMB	AMB		
	comp=Z,100nm,8.8s						
HHC				LR	LR		
	comp=N,150nm,22.1s						
HHC				LR	LR		
	comp=E,200nm,22.0s						
HHC				LR	LR		
	comp=Z,180nm,21.0s						
LZH	Lanzhou	160.63	7	PKP	PKPdf	01 53 49.0	+4.0
LZH				pPKP	pPKPdf	01 54 00.2	+2.5
LZH				sPKP		01 54 04.5	
NJ2	Nanjing	161.13	326	ePKP	PKPdf	01 53 44.0	-1.4
CD2	Chengdu	165.72	10	PKP	PKPdf	01 53 48.8	-1.0
CD2				pPKP	pPKPdf	01 54 03.8	+1.2
CD2				sPKP		01 54 09.2	
CD2				PKS	PKSdf	01 57 20.1	-2.6
CD2				PP	PP	01 58 37.8	+3.2
CD2				SKS	SKSdf	02 00 46.0	-5.1
CD2				SKKS	SKKSac	02 05 18.2	-2.3
CD2				SS	SS	02 19 08.5	-0.7
CD2				AMB	AMB		
	comp=Z,120nm,5.6s						
GYA	Guiyang	170.38	359	ePKP	PKPdf	01 53 52.0	-1.2
GYA				sPKP		01 54 13.8	
GYA				PKPab	PKPab	01 55 11.4	+1.9
GYA				PKS	PKSdf	01 57 23.2	-2.7
GYA				PP	PP	01 59 02.7	+4.3
GYA				AMB	AMB		
	comp=Z,110nm,8.2s						

*ISCJB **06** 01:53:22.8±0.4, 15°.79S±0°.07×49°.76E±0°.07, h10km, mb4.2/13, Error ellipse: s-maj=12.2km s-min=6.6km az=40.2*

*IDC **06** 01:53:23.9±0.7, 15°.62S×49°.83E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.7/34, mbtmp3.9/7, ML4.0/1, MS2.9/2, Ms1 2.9/2, ms1mx2.7/34, Error ellipse: s-maj=25.7km s-min=16.6km az=136.0*

*NEIC **06** 01:53:25.5±0.2, 15°.70S×49°.86E, h0km, mb4.5/9, Error ellipse: s-maj=7.6km s-min=6.1km az=140.0*

ISC 06 01:53:24.8±0.5**, 15°.87S**±0°.07×**49°.89E**±0°.07**, h10km, n42, σ1s17**/48**, mb4.2**/13**, Madagascar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	3.73	223	Pn	Pn	01 54 25.0	+2.4
	11nm,0.3s,baz=32,slow=13,SNR=105						
OPO				Pg	Pg	01 54 35.5	-0.8
	60nm,0.3s,baz=42,slow=13,SNR=85						
OPO				LR	LR	01 55 12.1	
	comp=Z,65nm,21.7s,baz=18,slow=28						
OPO				Lg	Lg	01 55 25.4	
	611nm,0.3s,baz=119,slow=22,SNR=17						
I33MG	ANTANANARIVO I	3.98	218	Pg	Pg	01 54 39.1	-2.1
I33MG				Lg	Lg	01 55 32.4	
	baz=36,slow=28						
ABPO	Ambohimpanom	4.03	219	ePn	Pn	01 54 28.6	+1.8
ABPO				ePg	Pg	01 54 40.8	-1.4
ABPO				eSg	Sg	01 55 34.4	-0.1
MRIV	Mauritius Mete	8.47	122	ePn	Pn	01 55 29.5	+1.8
MRIV				eSn	Sn	01 56 59.6	-3.9
KMBO	Kilima Mbogo	19.23	318	LR	LR	02 04 08.8	
	comp=Z,97nm,20.6s,baz=282,slow=34						
LSZ	Lusaka	20.91	269	P	P	01 58 07.5	-0.4
	1.1nm,0.4s,baz=72,slow=13,SNR=5.3						
LSZ	Lusaka	20.91	269	eP	P	01 58 08.5	+0.6
	4.3nm,0.6s						
LBTB	Lobatse	24.48	244	eP	P	01 58 43.9	-0.6
	51nm,1.9s						
KULM	Kulim	54.46	71	eP	P	02 02 54.0	+1.1
	6.9nm,0.8s						
KIV	Kislovodsk	59.89	354	eP	P	02 03 30.8	-0.1
	9.4nm,1.0s						
AAK	Ala-Archa	62.46	20	eP	P	02 03 46.9	-1.6
	4.1nm,1.2s						
TKM2	Tokmak 2	63.09	21	eP	P	02 03 52.9	+0.2
	4.6nm,1.1s						
ABKAR	Akbulak array	65.44	7	eP	P	02 04 07.7	-0.1
MK31	Makanchi Array	68.85	23	eP	P	02 04 29.0	-0.5
MKAR	Makanchi Array	68.85	23	P	P	02 04 29.1	-0.4
	0.4nm,0.7s,baz=211,slow=6.8,SNR=5.0						
KAPI	Kappang	69.29	89	eP	P	02 04 33.0	0.0
BRVK	Borovoye	70.86	13	eP	P	02 04 41.1	-0.6
	2.4nm,1.1s						
KURK	Kurchatov	70.93	19	eP	P	02 04 41.8	-0.3
	1.5nm,1.0s						
GERES	GERESS Array B	71.99	336	P	P	02 04 47.1	-1.7
	0.7nm,0.8s,baz=145,slow=4.9,SNR=4.7						
ZALV	Zalesovo Beam	75.69	20	P	P	02 05 09.0	-1.1
	0.9nm,0.7s,baz=245,slow=5.7,SNR=4.6						
ASAR	Alice Springs	78.44	111	P	P	02 05 27.8	+1.2
	1.3nm,0.7s,baz=260,slow=5.4,SNR=21						
AS31	Alice Springs	78.44	111	eP	P	02 05 27.6	+1.1
WRA	Warramunga Arr	79.65	108	P	P	02 05 34.8	+1.6
	1.4nm,0.8s,baz=263,slow=4.2,SNR=8.5						
WRAB	Tennant Creek	79.66	108	eP	P	02 05 34.2	+1.0
	3.7nm,1.0s						
FX1	Attu Island--F	122.42	37	eP	Pdif	02 08 51.1	+1.2
ILAR	Eielson Array	129.82	9	PKP	PKPdf	02 12 33.4	-0.7
	0.3nm,0.8s,baz=332,slow=3.4,SNR=4.1						
YKA	Yellowknife Ar	132.16	350	PKP	PKPdf	02 12 38.3	-0.2
	0.2nm,0.6s,baz=13,slow=1.9,SNR=7.3						
JTMT	Jette	145.62	341	ePKPbc	PKPab	02 13 04.7	+0.5
NEW	Newport	145.97	344	ePKPbc	PKPab	02 13 05.3	0.0
BOZ	Bozeman (W)	146.50	336	ePKPbc	PKPab	02 13 07.7	+0.1
BW06	Boulder Array	147.93	331	ePKPbc	PKPbc	02 13 10.9	0.0
PDAR	Pinedale Array	147.93	331	PKPbc	PKPbc	02 13 11.3	+0.4
	2.5nm,0.8s,baz=78,slow=3.9,SNR=17						
SDCO	Great Sand Dun	149.23	320	ePKPbc	PKPbc	02 13 15.2	+0.8
HLID	Hailey	149.32	337	ePKPbc	PKPbc	02 13 15.2	+0.8
HWUT	Hardware Ranch	149.76	332	ePKPbc	PKPbc	02 13 15.9	+0.4
HWUT				ePKPab	PKPab	02 13 21.0	+0.2
PV04	Paradox Valley	150.82	324	ePKPbc	PKPbc	02 13 18.7	+0.6
DUG	Dugway	151.46	332	ePKPbc	PKPbc	02 13 20.5	+0.9
ANMO	Albuquerque	151.53	316	ePKPbc	PKPbc	02 13 20.7	+0.7
WVOR	Wild Horse Val	151.75	342	ePKPbc	PKPbc	02 13 20.8	+0.7
WVOR				ePKPab	PKPab	02 13 29.1	+0.2
TXAR	Lajitas Array	152.23	303	PKPbc	PKPbc	02 13 22.4	+0.8
	0.5nm,0.6s,baz=103,slow=2.7,SNR=9.1						
TXAR				PKPab	PKPab	02 13 30.5	-0.8
	0.8nm,0.9s,baz=57,slow=4.6,SNR=6.0						
MNTX	Cornudas Mount	152.52	309	ePKPbc	PKPbc	02 13 22.4	+0.3
MNTX				ePKPab	PKPab	02 13 30.3	-2.1
NVAR	Mina Array Bea	155.24	337	PKPbc	PKPbc	02 13 29.4	
	0.6nm,0.7s,baz=35,slow=3.9,SNR=5.6						

IDC 06 02:06:38.2±1.7**, 17°.22N×92°.62E, h0km, mb3.5**/4**, mb1 3.7**/5**, mb1mx3.5**/28**, mbtmp3.5**/5**, ML3.9**/1**, MS3.4**/1**, Ms1 3.3**/1**, ms1mx2.6**/32**, Error ellipse: s-maj=61.3km s-min=22.2km az=60.0, Bay of Bengal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.15	77	Pn	Pn	02 08 10.0	-0.3
	0.7nm,0.3s,baz=256,slow=14,SNR=2.4						
MKAR	Makanchi Array	30.71	346	P	P	02 12 54.2	-0.5
	0.1nm,0.5s,baz=177,slow=9.0,SNR=4.6						
ZALV	Zalesovo Beam	37.15	352	P	P	02 13 50.7	+0.1
	0.3nm,0.4s,baz=163,slow=5.4,SNR=2.3						
KBZ	Khabaz	49.41	313	LR	LR	02 39 00.0	
	comp=Z,42nm,21.8s,baz=238,slow=39						
WRA	Warramunga Arr	55.16	130	P	P	02 16 12.5	-0.3
	0.6nm,0.7s,baz=315,slow=7.6,SNR=4.5						
ASAR	Alice Springs	57.24	134	P	P	02 16 28.1	+0.3
	0.5nm,0.5s,baz=312,slow=6.9,SNR=9.4						

MEX 06 02:09:11.8±1.1**, 18°.41N×102°.91W, h10km**±**15km, MD3.6, Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.43	255	eP	Pg	02 09 19.7	-0.7
MMIG				iS	Sg	02 09 26.8	+0.7
EZ5V		1.25	328	eP	Pn	02 09 32.3	-3.5
EZ5V				iS	Sb	02 09 48.1	-4.4
R15V		1.27	307	eP	Pn	02 09 31.1	-4.7
R15V				iS	Sb	02 09 47.5	-5.0
ZIIG	Zihuatanejo	1.58	120	iP	Pn	02 09 36.5	-3.4
ZIIG				iS	Sn	02 09 55.6	-4.9
ARIG	Puente Sto Nin	2.43	93	eP	Pn	02 09 49.4	-2.3
ARIG				iS	Sn	02 10 17.4	-4.1

*IDC **06** 02:40:52.7±0.7, 21°.74S×175°.18W, h0km, mb4.3/12, mb1 4.5/14, mb1mx4.4/35, mbtmp4.3/14, ML4.5/2, MS4.2/18, Ms1 4.2/18, ms1mx4.0/30, Error ellipse: s-maj=30.5km s-min=17.1km az=146.0*

*ISCJB **06** 02:40:56.5±0.4, 21°.99S±0°.07×175°.17W±0°.08, h33km, mb4.7/36, MS4.3/19, Error ellipse: s-maj=12.2km s-min=6.8km az=42.8*

*GCMT **06** 02:41:00.4±0.3, 22°.07S×174°.41W, h24km, MW5.1/71, Moment Tensor Solution. s40,c55; s71,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.80±.24; $M_{\theta\theta}$-0.70±.17; $M_{\phi\phi}$-4.11±.15; $M_{r\theta}$0.98±.28; $M_{\theta\phi}$-2.10±.10; $M_{\phi r}$1.84±.19; Best double couple: $M_0$5.37500×10^{16} NP1:ϕ_s26.00000°, δ56.00000°, λ91.00000°. NP2: ϕ_s204.00000°, δ34.00000°, λ88.00000°. Principal axes: T 5.2210, Plg79.0000°, Azm301.0000°; N 0.2990, Plg1.0000°, Azm206.0000°; P -5.5290, Plg11.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 02:41:00.4±3.3, 21°.72S×175°.32W, h48km±28km, mb4.8/18 Error ellipse: s-maj=14.6km s-min=10.6km az=161.0*

*BJI **06** 02:41:12.8, 22°.10S×176°.10W, h138km, mB5.3/14, mb4.8/25*

ISC 06 02:40:59.2±0.5**, 22°.00S**±0°.08×**175°.1W**±0°.1**, h33km, n148, σ1s74**/125**, mb4.8**/36**, MS4.4**/19**, 18C-12D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	7.65	199	Sn	Sn	02 44 13.2	-0.7
	87nm,0.3s,baz=83,slow=21,SNR=6.8						
AFI	Afiamalu	8.65	22	Pn	Pn	02 42 57.0	-5.3
	8.1nm,0.3s,baz=78,slow=20,SNR=2.4						
AFI				LR	LR	02 45 55.7	
	comp=Z,814nm,21.2s,baz=199,slow=36						
RAR	Rarotonga	14.31	90	Pn	Pn	02 44 08.8	-11
	4.1nm,0.3s,baz=234,slow=0.0,SNR=8.6						
RAR	Rarotonga	14.31	90	ePn	Pn	02 44 08.5	-11
DZM	Mont Dzumac	17.09	266	eLR	LR	02 48 58.1	
	2μm,22.0s						
URZ	Urewera	17.53	201	P	Pn	02 45 01.3	+0.3
	1.2nm,0.3s,baz=312,slow=24,SNR=7.0						
URZ				S	Sn	02 48 03.5	-12
	0.9nm,0.3s,baz=178,slow=22,SNR=6.9						
URZ	Urewera	17.53	201	ePn	Pn	02 45 03.1	+2.0
	12nm,0.8s						
URZ				eSn	Sn	02 48 03.5	-12
PAE	Paea	24.41	84	eT	T	03 10 47.3	
	13nm,0.3s						
PPT2	Papeete2	24.43	84	eS	S	02 50 15.0	-18
	231nm,24.8s						
PPT2				eLQ	LQ	02 50 42.2	
	2μm,28.0s						
PPT2				eLR	LR	02 51 56.6	
	1μm,26.5s,baz=250						
PPT2	Papeete2	24.43	84	eT	T	03 10 49.9	
	14nm,0.4s						
PPT	Papeete	24.43	84	LR	LR	02 53 12.4	
	comp=Z,441nm,21.2s,baz=265,slow=30						
RPZ	Rata Peaks	24.50	205	eP	P	02 46 17.3	+1.8
	28nm,1.2s						
HNR	Honiara	27.00	294	LR	LR	02 55 45.3	
	comp=Z,377nm,21.4s,baz=115,slow=33						
RMQ	Roma	33.16	255	P	P	02 47 33.3	+0.4
	baz=32,SNR=8.7						
CTAO	Charters Tower	36.03	266	eP	P	02 47 57.0	-0.7
	11nm,0.8s						
CMSA	Cobar Meteorol	36.09	246	P	P	02 47 58.6	+0.5
	baz=35,SNR=6.2						
RKT	Rikitea	37.02	100	eS	S	02 53 31.1	-19
	196nm,27.5s						
RKT				eLR	LR	02 57 31.2	
	857nm,31.8s,baz=266						
RKT	Rikitea	37.02	100	eT	T	03 25 54.2	
	1.9nm,0.3s						
QLP	Quilpie	37.21	255	P	P	02 48 06.7	-1.0
	baz=36,SNR=7.0						
MTSU	Mount Surprise	38.21	268	P	P	02 48 16.0	-0.3
	baz=37,SNR=8.3						
PMG	Port Moresby	38.29	283	P	P	02 48 14.9	-2.0
	15nm,0.9s,baz=162,slow=3.2,SNR=4.2						
PMG	Port Moresby	38.29	283	eP	P	02 48 15.4	-1.5
	11nm,0.6s						
STKA	Stephens Creek	39.59	246	P	P	02 48 26.6	-1.1
	3.9nm,0.8s,baz=91,slow=9.2,SNR=8.5						
STKA				LR	LR	03 04 25.2	
	comp=Z,635nm,18.2s,baz=69,slow=36						
STKA	Stephens Creek	39.59	246	eP	P	02 48 27.4	-0.3
STKA	Stephens Creek	39.59	246	P	P	02 48 27.6	-0.1
	baz=39,SNR=4.7						
COEN	Coen	40.35	274	eP	P	02 48 33.5	-0.8
AS31	Alice Springs	46.80	258	eP	P	02 49 24.3	-1.8
ASAR	Alice Springs	46.80	258	P	P	02 49 24.5	-1.6
	10.0nm,0.8s,baz=91,slow=8.1,SNR=76						
ASAR				LR	LR	03 08 49.7	
	comp=Z,620nm,18.2s,baz=98,slow=36						
WRAB	Tennant Creek	47.05	263	eP	P	02 49 25.4	-2.7
	12nm,0.9s						
WRA	Warramunga Arr	47.06	263	P	P	02 49 26.0	-2.1
	11nm,0.8s,baz=98,slow=7.8,SNR=23						
WRA				LR	LR	03 07 58.7	
	comp=Z,500nm,20.4s,baz=100,slow=35						
KDU	Kakadu	50.66	271	P	P	02 49 54.2	-1.6
	baz=49,SNR=4.6						
FORT	Forrest	51.18	248	eP	P	02 49 57.5	-2.0
	16nm,0.6s						
WRKA	Warakurna	51.65	255	P	P	02 50 01.4	-1.7
	baz=50,SNR=20						
MTN	Manton Dam	51.86	271	P	P	02 50 03.9	-0.8
	baz=50,SNR=3.5						
KNRA	Kununurra	53.24	266	P	P	02 50 13.4	-1.6
	baz=52,SNR=14						
VNDA	Vanda	56.68	186	LR	LR	03 13 44.5	
	comp=Z,96nm,19.3s,baz=356,slow=35						
SOEI	Soe	59.22	272	eP	P	02 50 57.9	0.0
MBWA	Marble Bar	60.14	258	eP	P	02 51 02.1	-1.9
	8.1nm,0.8s						
MORW	Morawa	61.74	248	P	P	02 51 15.5	+0.7
	baz=61,SNR=3.2						
JCJ	Chichijima	63.93	318	LR	LR	03 13 07.5	
	comp=Z,179nm,21.8s,baz=64,slow=30						
KAPI	Kappang	65.08	275	eP	P	02 51 34.6	-2.4
QSPA	South Pole Qui	68.08	180	eP	P	02 51 55.6	0.0
	13nm,1.0s						
FX1	Attu Island--F	75.26	353	LR	LR	03 20 43.3	
	comp=Z,266nm,20.2s,baz=192,slow=32						
PETK	Petropavlovsk-	78.42	344	P	P	02 52 54.5	-1.9
	8.0nm,1.0s,baz=98,slow=11,SNR=4.5						
YSS	Yuzh-Sakhalins	78.45	332	eP	P	02 52 56.2	-0.4
	14nm,0.6s						
WAKR	Walker	79.66	41	eP	P	02 53 02.5	-1.3
KSRS	Korea Array	79.79	317	LR	LR	03 22 28.0	
	comp=Z,98nm,21.0s,baz=126,slow=31						
NVAR	Mina Array Bea	80.31	42	P	P	02 53 06.1	-1.2
	0.7nm,0.7s,baz=224,slow=7.7,SNR=4.3						
MAW	Mawson	81.05	199	LR	LR	03 28 59.7	
	comp=Z,156nm,18.6s,baz=116,slow=36						
SHPR	Sheep Range	81.16	45	eP	P	02 53 10.8	-1.0
	30nm,1.8s						
USRK	Ussuriysk Arra	81.72	325	P	P	02 53 10.3	-4.1
	3.5nm,0.9s,baz=48,slow=2.1,SNR=2.2						
TUC	Tucson	81.83	50	eP	P	02 53 16.3	+0.9
	6.0nm,1.2s						
NJ2	Nanjing	82.90	309	eP	P	02 53 22.1	+1.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
QIZ	Qiongzhong	83.91	293	P	P	02 53 28.1	+1.8
QIZ				S	S	03 03 39.2	-8.9
QIZ				pmax	pmax		
	comp=Z,12nm,1.9s						
CN2	Changchun	85.13	321	⇑P	P	02 53 37.2	+5.3
CN2				esP	sP	02 54 23.0	+37
CN2				eS	SKSac	03 03 54.0	-0.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
LAZ	Ladron	85.52	50	eP	P	02 53 34.4	+0.1
	5.9nm,1.5s						
GAMB	Gambell	85.53	2	eP	P	02 53 32.4	-1.0
	14nm,1.2s						
TXAR	Lajitas Array	85.64	56	P	P	02 53 32.5	-2.5
	0.2nm,0.9s,baz=182,slow=4.5,SNR=3.0						
TXAR				LR	LR	03 26 22.1	
	comp=Z,89nm,18.1s,baz=0.0,slow=32						
LPM	Los Pinos Moun	85.84	51	eP	P	02 53 36.4	+0.5
	1.3nm,0.5s						
SYO	Syowa Base	85.84	192	⇓eP	P	02 53 45.0	+10
ANMO	Albuquerque	86.28	50	eP	P	02 53 35.8	-2.3
	7.9nm,1.1s						
PLCA	Paso Flores	86.30	133	LR	LR	03 25 56.8	
	comp=Z,116nm,18.5s,baz=264,slow=31						
KULM	Kulim	86.62	277	eP	P	02 53 38.0	-2.0
	13nm,1.0s						
PSI	Prapat	87.28	274	P	P	02 53 43.2	-0.2
	baz=86,SNR=4.0						
TRF	Thorofare Moun	87.38	11	eP	P	02 53 41.8	-1.0
GSI	Gunungsitoli	87.97	272	eP	P	02 53 46.7	+0.1
PDAR	Pinedale Array	88.24	42	P	P	02 53 44.9	-2.5
	0.2nm,0.5s,baz=224,slow=5.0,SNR=3.2						
PDAR				LR	LR	03 26 58.9	
	comp=Z,140nm,19.1s,baz=294,slow=31						
COLA	College	89.12	11	eP	P	02 53 47.4	-3.3
IM04	Indian Mountai	89.19	9	eP	P	02 53 48.1	-3.0
ILAR	Eielson Array	89.20	12	P	P	02 53 48.0	-3.1
	0.8nm,1.0s,baz=247,slow=5.4,SNR=7.0						
ILAR				LR	LR	03 27 05.8	
	comp=Z,53nm,19.8s,baz=233,slow=31						
GYA	Guiyang	89.71	299	eP	P	02 53 56.8	+2.2
GYA				pP	pP	02 54 29.6	+24
GYA				sP	sP	02 54 44.0	+35
GYA				PP	PP	02 57 30.2	+2.9
GYA				SKS	SKSac	03 04 11.9	-11
GYA				S	SKKSac	03 04 32.3	-3.7
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
COLD	Coldfoot	90.88	9	eP	P	02 53 57.7	-1.3
	2.1nm,0.8s						
XAN	Xi'an	91.17	306	P	P	02 54 00.5	-0.6
XAN				pP	pP	02 54 32.0	+20
XAN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,86nm,6.5s						
HHC	Hu-ho-hao-te	92.32	313	eP	P	02 54 09.0	+2.6
HHC				pP	pP	02 54 41.6	+25
HHC				sP	sP	02 54 55.1	+34
HHC				PP	PP	02 57 50.9	+3.3
HHC				SKS	SKSac	03 04 28.4	-9.0
HHC				S	SKKSac	03 04 57.1	+2.3
HHC				sS	sS	03 05 53.8	+29
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,270nm,7.4s						
HHC				LR	LR		
	comp=N,240nm,21.5s						
HHC				LR	LR		
	comp=E,160nm,20.2s						
HHC				LR	LR		
	comp=Z,280nm,21.5s						
KMI	Kunming	92.41	296	P	P	02 54 07.6	+0.3
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
CMAR	Chiang Mai Arr	93.13	289	P	P	02 54 07.2	-3.3
	1.4nm,0.3s,baz=119,slow=3.0,SNR=5.7						
CHTO	Chiang Mai	93.26	289	eP	P	02 54 07.3	-3.8
	5.9nm,0.8s						
CD2	Chengdu	93.85	302	P	P	02 54 16.6	+3.0
CD2				pP	pP	02 54 49.9	+26
CD2				sP	sP	02 55 03.7	+36
CD2				PP	PP	02 58 04.8	+5.0
CD2				SKS	SKSac	03 04 37.1	-9.1
CD2				S	SKKSac	03 05 10.0	+3.6
CD2				sS	sS	03 06 08.3	+29
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.2s						
CD2				LR	LR		
	comp=Z,260nm,16.1s						
YKA	Yellowknife Ar	96.77	24	P	P	02 54 23.0	-3.1
	0.3nm,0.7s,baz=240,slow=4.2,SNR=5.6						
SONM	Songino Array	98.64	318	LR	LR	03 35 25.9	
	comp=Z,96nm,19.5s,baz=134,slow=33						
LPAZ	La Paz	99.02	112	LR	LR	03 33 14.2	
	comp=Z,104nm,18.1s,baz=300,slow=32						
ULM	Lac du Bonnet	100.05	40	LR	LR	03 35 29.3	
	comp=Z,166nm,18.5s,baz=250,slow=33						
MKAR	Makanchi Array	114.17	313	PKiKP	PKPdf	02 59 32.9	-2.4
	0.2nm,0.6s,baz=64,slow=2.8,SNR=3.6						
KSH	Kashi	117.94	304	ePKP	PKPdf	02 59 43.6	+0.8
KSH				PKS	PKSdf	03 03 17.6	-2.0
KSH				SKS	SKSdf	03 06 36.7	-16
KSH				SKKS	SKKSac	03 07 36.6	-19
KSH				SS	SS	03 16 56.9	-13
KSH				AMB	AMB		
	comp=Z,85nm,3.8s						
KSH				LR	LR		
	comp=N,34nm,3.8s						
KSH				LR	LR		
	comp=E,23nm,3.1s						
KSH				LR	LR		
	comp=Z,97nm,4.1s						
BRVK	Borovoye	122.00	320	ePKPdf	PKPdf	02 59 48.8	-1.2
KKAR	Karatay Array	122.27	308	ePKPdf	PKPdf	02 59 49.4	-1.5
ARU	Arti	127.95	325	ePKPdf	PKPdf	02 59 59.1	-2.2
ABKAR	Akbulak array	129.01	316	ePKPdf	PKPdf	03 00 02.6	-0.9
ARCES	ARCESS Array B	130.85	351	PKP	PKPdf	03 00 06.3	-0.2
	3.9nm,0.9s,baz=323,slow=1.4,SNR=3.6						
TSUM	Tsumeb	137.21	198	ePKPdf	PKPdf	03 00 17.9	-2.3
FINES	FINESS Array B	137.93	345	PKP	PKPdf	03 00 18.9	-1.0
	0.9nm,0.8s,baz=321,slow=3.8,SNR=3.3						
NAO01	NORSAR Array S	140.96	355	ePKPdf	PKPdf	03 00 26.2	+0.7
GNI	Garni	141.73	307	ePKPdf	PKPdf	03 00 26.5	-1.3
ASCN	Ascension	144.78	146	ePKPbc	PKPbc	03 00 34.6	+2.0
SUW	Suwalki	145.15	341	ePKP	PKPbc	03 00 30.7	-1.9
SUW	Suwalki	145.15	341	ePKPbc	PKPbc	03 00 30.8	-1.8
AKASG	Malin Array Be	145.59	332	PKPbc	PKPdf	03 00 32.2	-1.7
	9.1nm,0.7s,baz=38,slow=4.2,SNR=66						
AKBB	Malin Array Si	145.59	332	ePKPbc	PKPdf	03 00 32.2	-1.7
AK01	Malin Array Si	145.61	332	ePKPbc	PKPdf	03 00 32.1	-1.8
KIEV	Kiev	145.61	332	ePKPbc	PKPdf	03 00 31.9	-2.0
AK02	Malin Array Si	145.64	332	ePKPbc	PKPdf	03 00 32.3	-1.7
KWP	Kalwaria Pacla	149.02	337	ePKP	PKPdf	03 00 42.1	+2.4
KWP	Kalwaria Pacla	149.02	337	⇓iP	PKPdf	03 00 42.9	+3.2
KWP	Kalwaria Pacla	149.02	337	ePKPbc	PKPdf	03 00 42.9	+3.2
BUR08	Bucovina Ar. S	149.64	332	ePKPbc	PKPbc	03 00 45.0	-0.5
BURAR	Bucovina Array	149.65	332	⇑iP	PKPbc	03 00 45.7	+0.1
KOLS	Kolonicke sedl	149.76	337	ePKP	PKPbc	03 00 44.8	-0.9
BR131	Keskin Array S	149.82	312	ePKPbc	PKPdf	03 00 44.6	+3.1
BRTR	Keskin Array B	149.82	312	PKPbc	PKPdf	03 00 44.6	+3.1
	5.1nm,0.8s,baz=132,slow=2.4,SNR=24						
KSP	Ksiaz	149.85	346	ePKP	PKPbc	03 00 45.2	-0.6
CFR	Carcaliu	150.03	326	⇓iP	PKPbc	03 00 45.1	-1.3
CLL	Collm	150.06	350	i PKPbc	PKPdf	03 00 44.3	+3.0
	comp=Z,19nm,1.3s						
CLL				i PKPab	PKiKP	03 00 49.8	+2.6
	comp=Z,8.0nm,0.8s						
CLL				i		03 00 56.0	
CLL				epPKPab	pPKPab	03 01 04.0	+1.2
CRVS	Cervenica-Dubn	150.08	338	ePKP	PKPbc	03 00 45.6	-0.8
UPC	Upice	150.23	346	⇑ePKP	PKPbc	03 00 46.1	-0.6
VRI	Vrincioaia	150.26	328	⇓iP	PKPdf	03 00 41.9	+0.1
OKC	Ostrava-Krasne	150.30	343	⇑ePKP	PKPbc	03 00 45.9	-1.0
DPC	Dobruska-Polom	150.31	345	⇑ePKP	PKPbc	03 00 46.3	-0.7
DPC				epPKP	PKPab	03 00 58.6	+5.4
BRG	Berggiesshubel	150.32	348	ePKP	PKPbc	03 00 45.6	-1.4
	comp=Z,16nm,1.2s						
ANTO	Ankara	150.33	313	⇑iP	PKPbc	03 00 47.2	-0.2
ANTO	Ankara	150.33	313	ePKPbc	PKPbc	03 00 46.8	-0.7
TRPA	Tarpa	150.33	336	⇓iP	PKPbc	03 00 46.0	-1.0
KRLC	Kraliky	150.45	344	⇑ePKP	PKPbc	03 00 46.3	-1.0
TLB	Topalu	150.48	325	⇓iP	PKPbc	03 00 46.2	-1.3
MORC	Moravsky Berou	150.52	343	⇓iP	PKPbc	03 00 46.5	-1.0
MORC	Moravsky Berou	150.52	343	ePKPbc	PKPdf	03 00 45.4	+3.2
PVCC	Panska Ves	150.52	347	⇑ePKP	PKPdf	03 00 45.8	+3.8
KECS	Kecovo	150.78	338	ePKP	PKPbc	03 00 46.9	-1.2
MLR	Muntele Rosu	150.91	329	⇓iP	PKPbc	03 00 47.6	-1.1
MSAB	Monastry St. A	150.93	325	⇑iP	PKPbc	03 00 47.6	-1.0
PRA	Prague	150.99	347	⇑PKP	PKPbc	03 00 48.0	-0.5
PRU	Pruhonice	151.04	347	⇑ePKP	PKPbc	03 00 47.6	-1.1
CJR	Cluj-Napoca	151.05	333	⇑iP	PKPdf	03 00 46.9	+3.8
VRAC	Vranov	151.20	344	⇑iP	PKPbc	03 00 48.4	-0.7
DRGR		151.35	334	⇓iP	PKPbc	03 00 48.1	-1.5
VOIR		151.38	330	⇑iP	PKPbc	03 00 49.2	-0.5
PSZ	Piszkesteto	151.46	339	⇓iP	PKPab	03 00 57.6	-0.5
PSZ	Piszkesteto	151.46	339	ePKPbc	PKPbc	03 00 48.5	-1.4
PSZ				ePKPab	PKPab	03 00 57.4	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TREC	Trest	151.49	345	⇑ ePKP	PKPbc	03 00 48.5	-1.3
ARR	Arges	151.62	330	⇑ iP	PKPbc	03 00 49.6	-0.7
CSS	Prodhromos	151.95	304	ePKPbc	PKPdf	03 00 47.7	+3.0
KHC	Kasperske Hory	152.05	348	⇑ ePKP	PKPbc	03 00 50.0	-1.1
KHC				ePKPAB	PKPab	03 01 01.1	+0.6
GERES	GERESS Array B	152.30	347	PKPbc	PKPbc	03 00 49.9	-1.8
	comp=Z,1.0nm,0.8s,baz=34,slow=0.5,SNR=7.9						
WLF	Walferdange	152.37	358	ePKPbc	PKPbc	03 00 50.9	-0.8
GZR	Gura Zlata	152.44	332	⇑ iP	PKPbc	03 00 50.3	-1.8
BZS	Buzias	152.75	334	⇓ iP	PKPbc	03 00 51.4	-1.3
VTS	Vitosha	154.38	328	⇓ iP	PKPbc	03 00 55.3	-1.2
TOA0	Torodi Ar. Sit	170.69	161	ePKPab	PKPab	03 02 25.5	+3.2
TORD	Torodi Ar. Bea	170.69	161	PKP	PKPdf	03 01 05.5	+0.7
	comp=Z,0.5nm,0.9s,baz=279,slow=1.9,SNR=3.7						
TORD				PKPab	PKPab	03 02 21.1	-1.2
	comp=Z,0.4nm,0.7s,baz=222,slow=1.9,SNR=3.4						

IDC 06 02:42:42.9±6.0,39.°71N×78.°31E,h0km,mb3.4/1, mb1 3.1/3,mb1mx3.0/47,mbtmp3.1/3,ML2.4/2,Error ellipse: s-maj=172.3km s-min=26.2km az=127.0
KRNET 06 02:42:48.1±0.1,40.°39N×77.°78E,h3km,mb3.5
NNC 06 02:42:52.5±3.5,40.°55N×77.°78E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=31.1km s-min=23.0km az=169.0
ISC 06 02:42:49.4±2.9,40.°2N±0.°1×77.°5E±0.°1,h30km±20km,n31, σ2§13/35,20C-6D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	2.23	335	P	Pb	02 43 28.5	-0.7
	SNR=61						
ULHL	Ulahol	2.23	335	⇑ iP	Pb	02 43 28.4	-0.8
	baz=328						
ULHL				⇑ iS	Sb	02 43 56.6	+0.1
	baz=328						
KZA	Kyzart	2.51	318	P	Pb	02 43 33.8	-0.3
	SNR=32						
KZA	Kyzart	2.51	318	⇑ iP	Pb	02 43 33.8	-0.3
	baz=312						
KZA				⇑ iS	Sb	02 44 06.6	+1.8
	baz=312						
BOOM	Boomskoye usch	2.55	333	eP	Pb	02 43 34.0	-0.6
	baz=327						
BOOM				eS	Sb	02 44 08.4	+2.8
	baz=327						
ANVS	Anan'yevo	2.56	3	iP	Pb	02 43 34.5	-0.4
	baz=358						
ANVS				eS	Sb	02 44 08.1	+2.1
	baz=358						
ARLS	Aral	2.91	305	⇓ iP	Pb	02 43 38.3	-2.3
	baz=300						
ARLS				⇓ iS	Sb	02 44 19.9	+4.1
	baz=300						
UCH	Uchtor	3.01	313	P	Pb	02 43 40.7	-1.9
	SNR=11						
UCH	Uchtor	3.01	313	⇑ iP	Pb	02 43 40.3	-2.3
	baz=308						
UCH				⇑ iS	Sb	02 44 21.5	+2.4
	baz=308						
KNDC	Almaty	3.02	353	⇑ Pn	Pb	02 43 38.5	-4.0
	18nm,0.5s						
KNDC				⇓ Lg	Lg	02 44 21.2	
	152nm,0.7s						
TKM2	Tokmak 2	3.05	333	⇓ Pn	Pb	02 43 40.5	-2.7
	9.2nm,0.5s						
TKM2				⇑ Lg	Lg	02 44 22.7	
	66nm,0.8s						
TKM2	Tokmak 2	3.05	333	P	Pb	02 43 40.8	-2.4
	SNR=6.3						
TKM2	Tokmak 2	3.05	333	⇑ iP	Pb	02 43 40.4	-2.7
	baz=328						
TKM2				⇑ iS	Sb	02 44 22.4	+2.4
	baz=328						
SFK	Sufi-Kurgan	3.07	267	eP	Pb	02 43 43.2	-0.2
	baz=265						
KBK	Karagaybulak	3.10	323	P	Pb	02 43 41.9	-2.0
	SNR=12						
KBK	Karagaybulak	3.10	323	eP	Pn	02 43 28.0	-8.4
	baz=12						
KBK				eS	Sn	02 43 56.4	-16
	baz=12						
KBK	Karagaybulak	3.10	323	⇑ iP	Pb	02 43 42.4	-1.5
	baz=318						
KBK				⇑ iS	Sb	02 44 25.1	+3.8
	baz=318						
AAK	Ala-Archa	3.30	318	⇑ Pn	Pb	02 43 44.6	-2.8
	17nm,0.7s						
AAK				⇑ Lg	Lg	02 44 31.2	
	42nm,0.7s						
AAK	Ala-Archa	3.30	318	P	Pb	02 43 44.8	-2.6
	SNR=13						
AAK	Ala-Archa	3.30	318	⇑ iP	Pb	02 43 44.4	-3.0
	baz=313						
AAK				⇑ iS	Sb	02 44 31.3	+4.1
	baz=313						
AML	Almayashu	3.44	305	P	Pb	02 43 47.1	-2.9
	SNR=7.5						
AML	Almayashu	3.44	305	⇑ iP	Pb	02 43 48.1	-1.8
	baz=301						
AML				⇑ iS	Sb	02 44 36.0	+4.5
	baz=301						
CHMS	Chumysh	3.46	324	P	Pb	02 43 46.6	-3.3
	SNR=6.0						
ARSB	Arslanbob	3.60	289	eP	Pb	02 43 51.3	-1.1
	baz=286						
ARSB				eS	Sb	02 44 41.0	+5.3
	baz=286						
EKS	Erkin-Say	3.71	313	eP	Pb	02 43 51.5	-2.7
	baz=308						
USP	Ospenovka	3.78	325	P	Pb	02 43 56.3	+0.8
	SNR=28						
KK31	Karatay Array	5.97	301	⇓ Pg	Pb	02 44 38.0	+5.3
	0.6nm,0.6s,baz=119,slow=16,SNR=5.0						
KK31				⇑ Lg	Lg	02 45 55.6	
	2.2nm,0.6s,baz=111,slow=29,SNR=7.0						
MK31	Makanchi Array	7.44	26	Pn	Pn	02 44 36.6	+0.7
	0.6nm,0.9s,baz=204,slow=15,SNR=7.2						
MK31				⇑ Sn	Sn	02 45 56.9	-2.4
	0.7nm,0.7s,baz=204,slow=22,SNR=4.2						
MK31				⇓ Lg	Lg	02 46 35.7	
	1.2nm,0.7s						
MKAR	Makanchi Array	7.44	26	Pn	Pn	02 44 36.9	+1.0
	0.1nm,0.3s,baz=205,slow=15,SNR=5.8						
MKAR				Sn	Sn	02 46 01.7	+2.5
	0.2nm,0.3s,baz=202,slow=24,SNR=5.2						
MKAR				Lg	Lg	02 46 36.8	
	0.1nm,0.3s,baz=215,slow=25,SNR=3.2						
ZALV	Zalesovo Beam	14.60	17	Pn	P	02 46 16.7	-3.1
	0.1nm,0.3s,baz=202,slow=11,SNR=2.6						
TORD	Torodi Ar. Bea	70.83	271	P	P	02 54 05.5	+2.0
	0.2nm,0.7s,baz=45,slow=4.5,SNR=4.8						

ISCJB 06 02:51:43.4±0.5,7.°81S±0.°06×119.°21E±0.°05,h33km, mb3.8/4,Error ellipse: s-maj=8.1km s-min=7.6km az=18.9
DJA 06 02:51:43.7±0.8,8.°S±2.°×11.°9E±.°,h12km±7km,M4.1/16, mb4.2/4,MLv4.0/16
IDC 06 02:51:44.4±1.6,7.°61S×119.°32E,h41km±8km,mb3.6/4, mb1 3.7/5,mb1mx3.5/37,mbtmp3.7/5,ML3.8/1,Error ellipse: s-maj=181.0km s-min=16.3km az=56.0
ISC 06 02:51:44.8±0.8,7.°75S±0.°06×119.°23E±0.°07,h35km,n16, σ1§34/20,mb3.8/4,Flores Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WSI	Waingapu	2.17	151	P	Pn	02 52 18.6	+0.1
WSI				S	Sn	02 52 46.7	+2.5
BKSI	Bulukumba	2.57	20	P	Pn	02 52 24.7	+0.7
MMRI	Maumere	3.10	107	P	Pn	02 52 32.1	+0.8
BNSI	Bone	3.44	15	P	Pn	02 52 37.6	+1.6
SPSI	Sidrap Palu	3.80	8	P	Pn	02 52 42.2	+1.3
BBSI	Bau Bau	4.01	56	P	Pn	02 52 45.1	+1.4
TTSI	Tana Toraja	4.71	7	P	Pn	02 52 54.9	+1.5
JAGI	Jajag, Banyuwa	5.08	262	P	Pn	02 52 59.4	+0.9
	34nm,1.0s,0.2nm						
GMJI	Gumukmas	5.75	264	P	Pn	02 53 08.8	+1.1
	22nm,1.2s,0.1nm						
GRJI	Gresik	6.75	277	P	Pn	02 53 22.4	+1.0
	62nm,1.2s,0.3nm						
PWJI	Pagerwojo	7.36	267	P	Pn	02 53 31.3	+1.5
WRA	Warramunga Arr	19.00	131	P	P	02 56 02.8	-0.9
	0.3nm,0.3s,baz=305,slow=13,SNR=9.0						
ASAR	Alice Springs	21.18	140	P	P	02 56 27.2	-0.1
	2.1nm,0.7s,baz=316,slow=9.2,SNR=13						
STKA	Stephens Creek	31.78	142	P	P	02 58 05.1	-0.8
	1.4nm,0.5s,baz=315,slow=4.8,SNR=3.8						
STKA				pP	pP	02 58 17.0	+1.0
	0.8nm,0.4s,baz=282,slow=9.3,SNR=1.9						
MKAR	Makanchi Array	63.46	333	P	P	03 02 09.9	-1.2
	0.6nm,0.7s,baz=141,slow=7.1,SNR=7.5						
MKAR				pP	pP	03 02 21.9	0.0
	0.9nm,0.6s,baz=143,slow=8.0,SNR=7.6						
ZALV	Zalesovo Beam	67.97	339	P	P	03 02 37.9	-2.1
	0.5nm,0.6s,baz=144,slow=5.2,SNR=2.9						
ZALV				pP	pP	03 02 49.9	-0.9
	0.7nm,0.6s,baz=134,slow=6.4,SNR=2.9						

IDC 06 02:59:09.8±0.8,5.°21S×151.°69E,h0km,mb4.3/8, mb1 4.5/9,mb1mx4.2/30,mbtmp4.3/9,ML3.2/1,MS3.8/3, Ms1 3.8/3,ms1mx3.2/28,Error ellipse: s-maj=42.0km s-min=14.4km az=127.0
ISCJB 06 02:59:16.4±0.5,5.°38S±0.°07×151.°63E±0.°10,h57km, mb4.3/17,MS3.8/3,Error ellipse: s-maj=15.5km s-min=6.2km az=30.9
NEIC 06 02:59:16.9±1.8,5.°27S×151.°61E,h49km±16km,mb4.4/10, Error ellipse: s-maj=14.8km s-min=11.2km az=130.0
ISC 06 02:59:17.7±0.7,5.°4S±0.°1×151.°7E±0.°1,h57km,n44, σ0§84/40,mb4.3/17,MS3.9/3,New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.27	24	P	Pn	02 59 39.4	+0.1
	baz=1.2,SNR=210						
RABL				S	Sn	02 59 59.7	+4.2
	baz=1.2,SNR=6.1						
PMG	Port Moresby	6.00	228	Pn	Pn	03 00 43.1	-0.8
	4.0nm,0.3s,baz=41,slow=9.3,SNR=14						
PMG				Sn	Sn	03 01 51.6	+0.3
	5.6nm,0.3s,baz=195,slow=20,SNR=6.3						
PMG	Port Moresby	6.00	228	P	Pn	03 00 46.5	+2.6
	baz=6.1,SNR=8.7						
PMG				S	Sn	03 01 51.9	+0.6
	baz=6.1,SNR=7.3						
MTSU	Mount Surprise	14.57	209	P	P	03 02 47.3	+1.3
	baz=15,SNR=4.7						
CTAO	Charters Tower	15.55	199	ePn	P	03 02 55.1	-1.6
QIS	Mount Isa	19.11	217	P	Pn	03 03 36.3	-1.1
	baz=19,SNR=6.9						
EIDS	Eidsvold	19.90	182	P	P	03 03 43.9	-0.7
	baz=20,SNR=4.1						
KDU	Kakadu	20.28	248	P	Pn	03 03 49.0	-2.3
	baz=20,SNR=22						
RMQ	Roma	21.18	187	P	P	03 03 59.2	+0.7
	baz=22,SNR=8.1						
MTN	Manton Dam	21.57	248	P	P	03 04 05.4	+2.7
	baz=22,SNR=9.0						
DZM	Mont Dzumac	21.92	141	LR	LR	03 11 48.7	
	comp=Z,188nm,18.0s,baz=240,slow=34						
WRAB	Tennant Creek	22.20	228	eP	P	03 04 09.1	-0.4
	10nm,0.8s						
WRA	Warramunga Arr	22.22	228	P	P	03 04 09.7	0.0
	6.3nm,0.7s,baz=52,slow=10.0,SNR=35						
QLP	Quilpie	22.25	198	P	P	03 04 09.1	-0.9
	baz=22,SNR=4.1						
KNRA	Kununurra	24.70	244	P	P	03 04 34.0	+0.3
	baz=25,SNR=22						
AS31	Alice Springs	24.96	221	eP	P	03 04 37.3	+1.2
ASAR	Alice Springs	24.97	221	P	P	03 04 35.9	-0.3
	5.5nm,0.7s,baz=61,slow=8.0,SNR=49						
ASAR				S	S	03 09 04.3	+8.2
	1.7nm,1.1s,baz=43,slow=16,SNR=6.5						
WRKA	Warakurna	29.74	226	P	P	03 05 18.1	-0.8
	baz=30,SNR=14						
KAPI	Kappang	31.77	269	eP	P	03 05 35.8	-1.2
	64nm,1.1s						
ARPS	Mount Arapiles	32.52	195	P	P	03 05 52.6	+9.4
	baz=33,SNR=11						
MBWA	Marble Bar	34.70	240	eP	P	03 06 03.2	+0.8
	8.7nm,0.9s						
MEEK	Meekatharra	37.95	233	P	P	03 06 29.8	-0.3
	baz=38,SNR=16						
MORW	Morawa	41.10	231	P	P	03 06 59.5	+3.2
	baz=41,SNR=8.3						
PALK	Pallekele	71.90	279	eP	P	03 10 35.7	+0.1
MK31	Makanchi Array	80.00	319	eP	P	03 11 21.4	+0.3
MKAR	Makanchi Array	80.00	319	P	P	03 11 21.2	+0.1
	1.4nm,0.8s,baz=100,slow=6.6,SNR=11						
MKAR				LR	LR	03 45 56.8	
	comp=Z,51nm,20.6s,baz=90,slow=35						
ZALV	Zalesovo Beam	80.99	327	P	P	03 11 25.3	-0.9
	1.0nm,0.4s,baz=113,slow=3.9,SNR=7.3						
MCK	McKinley	81.82	23	eP	P	03 11 30.2	-0.3
	4.3nm,0.9s						
COLA	College	82.80	22	eP	P	03 11 35.2	-0.3
	2.8nm,0.7s						
ILAR	Eielson Array	83.11	22	P	P	03 11 35.8	-1.3
	1.1nm,0.7s,baz=249,slow=5.1,SNR=12						
TKM2	Tokmak 2	83.50	314	eP	P	03 11 40.0	+0.2
	1.9nm,0.6s						
KURK	Kurchatov	83.51	322	eP	P	03 11 38.8	-0.6
	2.8nm,1.1s						
AAK	Ala-Archa	84.22	314	eP	P	03 11 43.9	+0.4
	2.5nm,0.8s						
EKS2	Erkin-Say	84.75	314	eP	P	03 11 46.4	+0.3
	6.6nm,1.0s						
BRVK	Borovoye	89.08	323	eP	P	03 12 06.8	+0.1
	2.3nm,0.9s						
NVAR	Mina Array Bea	93.33	52	P	P	03 12 28.1	+1.0
	2.0nm,0.8s,baz=260,slow=6.3,SNR=14						
ABKAR	Akbulak array	95.14	319	eP	P	03 12 34.3	-0.5
AKTO	Aktyubinsk	96.42	320	LR	LR	03 54 44.6	
	comp=Z,43nm,19.7s,baz=68,slow=35						
YKA	Yellowknife Ar	96.46	28	P	P	03 12 40.3	-0.2
	0.1nm,0.3s,baz=273,slow=4.7,SNR=4.2						
PDAR	Pinedale Array	100.07	48	P	Pdif	03 12 57.1	-0.4
	0.8nm,0.8s,baz=270,slow=3.0,SNR=6.9						
GERES	GERESS Array B	123.93	328	PKP	PKPdf	03 18 09.7	-0.1
	1.4nm,0.6s,baz=77,slow=1.8,SNR=15						
TOA0	Torodi Ar. Sit	149.38	287	ePKPbc	PKPbc	03 19 00.9	-0.5
TORD	Torodi Ar. Bea	149.38	287	PKPbc	PKPbc	03 19 01.3	-0.2
	7.7nm,0.7s,baz=76,slow=2.2,SNR=47						
BDFB	Brasilia	151.45	137	PKPbc	PKPbc	03 19 06.1	-0.4
	3.0nm,0.6s,baz=217,slow=4.9,SNR=6.8						

MEX 06 03:06:43.3±0.3,15.°45N×92.°71W,h124km±6km,MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.55	297	iP	Pn	03 07 00.7	-1.3
PCIG				iS	Sn	03 07 14.3	-1.8
CCIG	Comitan	0.99	34	iP	Pn	03 07 04.5	-1.3
CCIG				iS	Sn	03 07 21.0	-1.9
CMIG	Matias Romero	2.65	308	iP	Pn	03 07 24.3	-0.9
CMIG				iS	Sn	03 07 55.6	-1.9

MEX 06 03:11:36.8±0.4,15.°22N×92.°72W,h108km±4km,MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		0.53	125	eP	Pn	03 11 52.4	-1.3
PCIG		0.69	315	eP	Pn	03 11 53.5	-1.4
PCIG				eS	Sn	03 12 06.8	-1.6
CCIG	Comitan	1.20	28	eP	Pn	03 11 59.0	-1.3
CCIG				iS	Sn	03 12 16.2	-1.7
CMIG	Matias Romero	2.80	312	eP	Pn	03 12 19.2	-0.9
CMIG				iS	Sn	03 12 51.3	-2.1

MAN 06 03:24:46,17.°89N×120.°61E,h39km,mb3.9,ML2.7,MS2.3, 2C,Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	0.15	283	⇑ iP	Pn	03 24 55.2	+0.6
SIPP				eS	Sn	03 25 03.6	+1.7
ABRA	Dolores	0.26	159	eP	Pn	03 24 55.0	+0.9
ABRA				eS	Sn	03 25 01.6	+1.2
PIP	Pasuquin	0.43	1	⇑ iP	Pn	03 24 57.1	+1.3
PIP				eS	Sn	03 25 05.6	+2.9
APYP	Conner	0.60	93	eP	Pn	03 24 59.7	+1.5
APYP				eS	Sn	03 25 10.0	+3.3

MEX 06 03:25:32.1±0.5,17.°65N×97.°47W,h58km±5km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TPIG	Tehuac#an	0.77	8	eP	Pn	03 25 45.9	-1.5
TPIG				eS	Sn	03 25 56.5	-2.1
VHO	Vista Hermosa	0.91	129	iP	Pn	03 25 48.0	-1.1
VHO				iS	Sn	03 26 00.1	-1.5
TLIG	Tlapa	1.05	266	eP	Pn	03 25 49.2	-1.6
TLIG				iS	Sn	03 26 03.4	-1.4
PNIG	Pinotepa	1.40	207	eP	Pn	03 25 53.5	-1.9
PNIG				iS	Sn	03 26 10.8	-2.1
YAIG	Yautepec	1.94	309	iP	Pn	03 26 02.0	-0.9
YAIG				iS	Sn	03 26 24.0	-2.3
PLIG	Platanillo	2.07	291	eP	Pn	03 26 03.9	-0.8
PLIG				iS	Sn	03 26 26.6	-2.7
HUIG	Huatulco	2.28	145	iP	Pn	03 26 05.5	-1.8
HUIG				iS	Sn	03 26 31.8	-2.6
LVIG	Laguna Verde	2.29	26	eP	Pn	03 26 04.7	-2.9
LVIG				iS	Sn	03 26 31.1	-3.5
ACX	Acapulco	2.41	252	iP	Pn	03 26 07.2	-2.0
CMIG	Matias Romero	2.53	102	iP	Pn	03 26 09.7	-1.1
CMIG				iS	Sn	03 26 39.0	-1.5
ARIG	Puente Sto Nin	2.81	283	eP	Pn	03 26 13.9	-0.7
ARIG				iS	Sn	03 26 45.8	-1.5

NNC 06 03:36:04.5±4.6,37.°69N×71.°60E,h233km±59km,mb2.2, mpv3.5,3C-5D,Error ellipse: s-maj=47.1km s-min=28.6km az=17.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.42	23	⇓ P	Pn	03 37 24.9	-0.3
	1.7nm,0.4s						
AAK				⇓ S	S	03 38 29.8	+0.5
	5.1nm,0.9s						
KK31	Karatay Array	5.48	352	P	Pn	03 37 25.4	-0.3
	4.0nm,0.5s,baz=176,slow=13,SNR=50						
KK31				⇑ S	S	03 38 30.9	+0.6
	0.4nm,0.5s,baz=169,slow=21,SNR=4.8						
MK31	Makanchi Array	12.06	38	⇓ Pn	Pn	03 38 50.8	+1.6
	0.6nm,0.7s,baz=108,slow=15,SNR=13						
MK31				⇓ Sn	Sn	03 40 17.2	-46
	0.7nm,0.5s,baz=116,slow=23						
MK31				⇓ Lg	Lg	03 40 58.8	
	0.8nm,0.7s,baz=129,slow=28,SNR=4.1						
AB31	Akbulak array	14.31	328	⇑ P	P	03 39 18.4	+0.9
	0.1nm,0.3s,baz=139,slow=15,SNR=15						
AB31				⇑ S	S	03 41 54.5	-0.5
	0.6nm,0.8s						

KLM 06 03:58:40.3,2.°54N×129.°02E,h198km,mb5.0,MS5.4
DJA 06 03:58:42.7±0.5,3.°N±5.°×12.°9E±.°,h137km±7km,M4.8/21, mB5.4/11,mb4.8/21,MLv4.8/17,Mw(mB)4.8/11
BJI 06 03:58:43.4,2.°10N×128.°51E,h241km,mB4.6/17,mb4.4/24
ISCJB 06 03:58:44.5±0.5,2.°38N±0.°04×128.°59E±0.°05,h241km±5km, mb4.4/35,Error ellipse: s-maj=8.4km s-min=4.4km az=145.0
NEIC 06 03:58:46.0±0.8,2.°39N×128.°61E,h245km±7km,mb4.4/18, Error ellipse: s-maj=10.3km s-min=5.3km az=56.0
IDC 06 03:58:46.2±1.7,2.°31N×128.°47E,h246km±15km,mb4.1/13, mb1 4.2/13,mb1mx3.8/38,mbtmp4.6/13,Error ellipse: s-maj=24.0km s-min=8.0km az=70.0
ISC 06 03:58:46.0±0.4,2.°30N±0.°04×128.°49E±0.°06,h241km±3km, n123,σ1§67/160,mb4.4/35,1C-4D,Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.89	217	P	Pn	03 59 25.9	-0.9
TNTI				S	S	03 59 53.3	-5.5
TNTI	Ternate	1.89	217	ePn	Pn	03 59 26.6	-0.2
LBMI	Labuha	3.08	199	P	Pn	03 59 38.6	-0.3
SGSI	Sangihe	3.27	295	P	Pn	03 59 38.9	-2.1
SGSI				S	S	04 00 07.9	-16
SWI	Sorong	4.18	139	P	Pn	03 59 51.4	-0.3
KMSI	Cibinong	4.83	249	P	Pn	03 59 59.1	-0.3
	468nm,0.6s,6.9nm						
SANI	Sanana	4.99	210	P	Pn	03 59 59.7	-1.8
	96nm,0.5s,3μm0.6nm						
MSAI	Masohi	5.62	176	P	Pn	04 00 11.1	+1.8
	16nm,0.9s,0.1nm						
NLAI	Namlea	5.67	194	P	Pn	04 00 12.2	+2.3
	60nm,1.2s,0.2nm						
GTOI	Gorontalo	5.72	253	P	Pn	04 00 10.7	+0.1
	131nm,0.6s,2μm0.9nm						
FAKI	Fak Fak	6.40	144	P	Pn	04 00 19.5	+0.4
	28nm,0.9s,0.1nm						
FAKI	Fak Fak	6.40	144	ePn	Pn	04 00 20.5	+1.3
FAKI	Fak Fak	6.40	144	P	Pn	04 00 20.4	+1.3
	baz=6.6,SNR=4.0						
LUWI	Luwuk	6.61	240	P	Pn	04 00 21.2	-0.6
	153nm,0.8s,3μm1.3nm						
LUWI	Luwuk	6.61	240	ePn	Pn	04 00 21.5	-0.3
	74nm,0.4s						
LUWI	Luwuk	6.61	240	P	Pn	04 00 21.8	+0.1
	baz=6.7,SNR=4.0						
MRSI	Marisa	6.79	255	P	Pn	04 00 23.0	-1.1
	112nm,0.5s,2μm0.4nm						
RKPI	Ransiki, Papua	6.83	124	P	Pn	04 00 22.6	-1.9
	170nm,0.9s,7μm0.7nm						
BNDI	Bandanaira	6.92	168	P	Pn	04 00 28.6	+3.0
	75nm,1.2s,0.3nm						
APSI	Ampana	7.55	245	P	Pn	04 00 33.4	-0.2
	116nm,0.5s,2μm0.6nm						
TTSI	Tana Toraja	10.17	239	P	Pn	04 01 07.5	+0.6
	45nm,0.7s						
MYLDM	Lahad Datu	10.38	286	ePn	P	04 01 12.6	-2.6
SPSI	Sidrap Palu	10.71	235	P	P	04 01 17.3	-1.6
	41nm,0.7s						
KAPI	Kappang	11.36	230	ePn	Pn	04 01 23.3	+1.4
	78nm,1.0s						
KDM	Kudat	12.49	292	⇓ P	Pn	04 01 36.8	+0.8
GENI	Genyem	12.64	113	P	P	04 01 41.2	+0.8
	213nm,1.0s,6μm						
SOEI	Soe	12.69	199	P	Pn	04 01 34.0	-4.6
SOEI	Soe	12.69	199	ePn	P	04 01 42.0	+0.9
SOEI	Soe	12.69	199	P	Pn	04 01 32.9	-5.7
	baz=13,SNR=3.2						
KKM	Kota Kinabalu	12.80	287	ePn	Pn	04 01 39.9	-0.1
KKM	Kota Kinabalu	12.80	287	⇑ P	Pn	04 01 40.4	+0.4
MTKI	Muara Teweh, K	13.97	257	P	P	04 01 57.0	+1.8
	70nm,0.8s,28μm						
MTN	Manton Dam	15.27	170	P	P	04 02 09.0	-0.4
	baz=16,SNR=44						
KDU	Kakadu	15.40	165	P	Pn	04 02 11.3	-0.2
	baz=16,SNR=17						
KDU				S	S	04 05 08.1	+7.1
	baz=16,SNR=8.0						
SBUM	Sibu	16.26	271	eP	Pn	04 02 23.0	+1.3
	45nm,0.7s						
SBUM	Sibu	16.26	271	⇓ P	Pn	04 02 23.0	+1.3
STKI	Sintang	17.16	263	P	Pn	04 02 34.4	+2.1
	55nm,0.6s,24μm						
KNRA	Kununurra	17.86	179	P	P	04 02 38.9	+1.1
	baz=18,SNR=82						
KSM	Kuching	18.19	268	eP	Pn	04 02 42.9	-1.7
	48nm,1.0s						
KSM	Kuching	18.19	268	P	Pn	04 02 43.4	-1.1
	baz=18,SNR=9.0						
KSM	Kuching	18.19	268	⇓ P	Pn	04 02 43.4	-1.1
COEN	Coen	21.74	138	eP	P	04 03 17.7	-0.8
COEN	Coen	21.74	138	P	P	04 03 18.0	-0.5
	baz=22,SNR=9.6						
DLV	T Lat	22.02	297	eP	P	04 03 22.4	+1.0
	16nm,0.7s						
TPUB	Ta-pu	22.23	341	eP	P	04 03 21.4	-1.6
WRAB	Tennant Creek	22.83	166	eP	P	04 03 28.6	+0.1
	22nm,0.7s						
WRA	Warramunga Arr	22.83	166	P	P	04 03 28.1	-0.4
	21nm,0.8s,baz=345,slow=11,SNR=93						
WRA				S	S	04 07 18.9	-0.7
	0.4nm,0.6s,baz=347,slow=18,SNR=2.5						
WRA				ScP	ScP	04 10 26.9	+0.3
	0.2nm,0.4s,baz=343,slow=3.3,SNR=7.8						
QIZ	Qiongzhong	24.70	314	P	P	04 03 46.9	+1.4
QIZ				S	S	04 07 52.8	+3.5
QIZ				pmax	pmax		
	comp=Z,14nm,1.4s						
MBWA	Marble Bar	24.84	200	eP	P	04 03 48.6	+1.9
	4.5nm,0.7s						
QIS	Mount Isa	25.19	155	P	P	04 03 50.3	+0.4
	baz=26,SNR=13						
KTGM	Kuala Trenggan	25.48	278	⇓ P	P	04 03 54.8	+2.2

MTSU	Mount Surprise	25.59	143	P	P	04 03 54.1	+0.6
	baz=26,SNR=9.9						
AS31	Alice Springs	26.34	169	eP	P	04 04 00.4	+0.2
ASAR	Alice Springs	26.34	169	P	P	04 04 00.6	+0.4
	11nm,0.6s,baz=355,slow=8.2,SNR=219						
ASAR				PcP	PcP	04 07 20.0	+0.4
	1.3nm,0.4s,baz=346,slow=1.9,SNR=5.8						
ASAR				S	S	04 08 14.6	-0.5
	0.6nm,0.8s,baz=347,slow=19,SNR=3.7						
ASAR				ScP	ScP	04 10 36.9	+0.4
	1.3nm,0.7s,baz=343,slow=2.6,SNR=11						
WRKA	Warakurna	27.17	180	P	P	04 04 08.1	+0.6
	baz=28,SNR=5.5						
IPM	Ipoh	27.50	275	eP	P	04 04 11.9	+1.2
	19nm,0.3s						
CTAO	Charters Tower	28.26	143	eP	P	04 04 18.1	+0.9
	5.0nm,0.7s						
GIRL	Giralia	28.43	209	P	P	04 04 20.1	+1.5
	baz=29,SNR=4.4						
PSI	Prapat	29.54	272	P	P	04 04 28.1	-0.8
	4.9nm,0.6s,baz=88,slow=6.0,SNR=7.8						
PSI	Prapat	29.54	272	P	P	04 04 29.9	+1.1
	baz=30,SNR=4.3						
MEEK	Meekatharra	30.31	198	P	P	04 04 35.2	0.0
	baz=31,SNR=6.4						
SLVN	Son La	30.52	310	eP	P	04 04 37.9	+0.6
GYA	Guiyang	31.88	321	eP	P	04 04 50.2	+1.0
GYA				pP	pP	04 05 39.7	+2.3
GYA				sP	sP	04 06 07.4	+2.1
GYA				S	S	04 09 44.0	+1.9
GYA				ScP	ScP	04 10 53.5	-0.7
GYA				PcS	PcS	04 11 18.8	-0.2
GYA				ScS	ScS	04 14 52.6	-0.8
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.9s						
QLP	Quilpie	32.49	153	P	P	04 04 54.3	+0.1
	baz=33,SNR=4.1						
CMAR	Chiang Mai Arr	33.11	301	P	P	04 04 60.0	+0.1
	5.0nm,0.6s,baz=120,slow=7.6,SNR=30						
ENH	Enshi	33.15	329	eP	P	04 05 00.2	+0.2
	5.3nm,0.5s						
CHTO	Chiang Mai	33.27	302	eP	P	04 05 01.9	+0.7
	9.9nm,0.8s						
BLDU	Ballidu	34.60	198	P	P	04 05 12.7	+0.2
	baz=35,SNR=5.3						
KSAR	Wonju Array Be	34.98	359	P	P	04 05 15.3	-0.2
KSRS	Korea Array	34.99	359	P	P	04 05 15.3	-0.3
	3.0nm,0.6s,baz=174,slow=9.6,SNR=9.2						
MAJO	Matsushiro	35.24	14	eP	P	04 05 17.1	-0.8
BBOO	Buckleboo	35.64	169	eP	P	04 05 21.8	+0.5
	530nm,0.5s						
BBOO	Buckleboo	35.64	169	P	P	04 05 21.9	+0.6
	baz=36,SNR=82						
STKA	Stephens Creek	36.19	161	P	P	04 05 26.5	+0.6
	13nm,0.4s,baz=345,slow=7.5,SNR=49						
STKA	Stephens Creek	36.19	161	eP	P	04 05 26.5	+0.6
	3.7nm,0.8s						
STKA	Stephens Creek	36.19	161	P	P	04 05 26.5	+0.6
	baz=37,SNR=40						
CD2	Chengdu	36.84	323	eP	P	04 05 33.0	+1.5
CD2				pP	pP	04 06 22.3	+1.6
CD2				sP	sP	04 06 49.2	+0.8
CD2				PP	PnPn	04 07 06.9	+2.4
CD2				PcP	PcP	04 07 49.2	+1.2
CD2				S	S	04 11 00.1	+2.4
CD2				PcS	PcS	04 11 36.6	+0.1
CD2				sS	sS	04 12 26.5	+0.9
CD2				SS	SS	04 13 45.8	-4.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.4s						
CD2				LR	LR		
	comp=N,260nm,12.2s						
CD2				LR	LR		
	comp=E,370nm,9.8s						
CD2				LR	LR		
	comp=Z,310nm,13.7s						
HTT	Hallett	36.87	165	P	P	04 05 32.8	+1.1
	baz=37,SNR=6.5						
BJT	Baijiatuau	39.18	345	eP	P	04 05 50.3	-0.5
BJI	Beijing	39.20	345	P	P	04 05 50.4	-0.5
BJI				pP	pP	04 06 37.3	-3.4
BJI				sP	sP	04 07 04.0	-4.2
BJI				S	S	04 11 31.7	-1.1
BJI				SS	SS	04 14 31.4	-5.4
BJI				ScS	ScS	04 15 29.1	-3.6
BJI				pmax	pmax		
	comp=Z,15nm,0.6s						
BJI				pmax	pmax		
	comp=Z,170nm,8.2s						
ARMA	Armidale	39.31	148	P	P	04 05 53.1	+0.9
	baz=40,SNR=6.5						
LZH	Lanzhou	40.63	329	eP	P	04 06 04.1	+1.1
LZH				pP	pP	04 06 57.1	+4.0
LZH				sP	sP	04 07 25.3	+4.8
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,90nm,4.3s						
ARPS	Mount Arapiles	40.80	164	P	P	04 06 05.6	+1.4
	baz=41,SNR=18						
HHC	Hu-ho-hao-te	41.32	340	eP	P	04 06 11.5	+3.1
HHC				pP	pP	04 06 58.2	-0.5
HHC				sP	sP	04 07 24.2	-1.8
HHC				PP	PP	04 07 52.7	+3.3
HHC				PcS	PcS	04 11 55.5	+1.9
HHC				S	S	04 12 10.8	+6.4
HHC				ScS	ScS	04 15 48.1	+2.4
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,7.3s						
HHC				LR	LR		
	comp=E,1μm,25.4s						
CN2	Changchun	41.42	357	eP	P	04 06 13.1	+4.1
CN2				esP	sP	04 07 31.0	+4.3
CN2				eS	S	04 12 11.3	+5.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
USRK	Ussuriysk Arra	41.84	4	P	P	04 06 11.9	-0.6
	1.3nm,0.5s,baz=193,slow=8.9,SNR=4.5						
LSA	Lhasa	44.70	311	eP	P	04 06 36.2	+0.1
	7.3nm,0.3s						
TAPN	Taplejung	46.28	306	eP	P	04 06 48.4	+0.1
ODAN	Odare	46.33	306	eP	P	04 06 49.1	+0.5
	39nm,0.7s						
RAMN	Ramite	47.01	305	eP	P	04 06 54.4	+0.5
	59nm,0.6s						
JIRN	Jiri	47.63	306	eP	P	04 06 59.3	+0.5
	40nm,0.5s						
GUN	Gumba	47.99	306	eP	P	04 07 01.8	+0.3
	49nm,0.7s						
PKI	Pulchoki	48.23	306	eP	P	04 07 03.1	-0.2
	11nm,0.5s						
KKN	Kakani	48.42	306	eP	P	04 07 04.6	-0.1
DMN	Daman	48.49	306	eP	P	04 07 05.3	0.0
ULN	Ulaanbaatar	49.03	341	eP	P	04 07 08.5	-0.3
	4.4nm,0.8s						
GKN	Gorkha	49.03	306	eP	P	04 07 09.1	-0.1
KOLN	Koldanda	49.78	305	eP	P	04 07 15.4	+0.4
	55nm,0.6s						
DANN	Dangsing	49.88	306	eP	P	04 07 16.0	+0.2
PYUN	Piuthan	50.41	305	eP	P	04 07 19.9	+0.3
	72nm,0.4s						
HYB	Hyderabad	51.26	290	iP	P	04 07 26.0	+0.1
MK31	Makanchi Array	59.73	325	eP	P	04 08 25.2	-0.4
MKAR	Makanchi Array	59.73	325	P	P	04 08 25.4	-0.2
	5.7nm,0.4s,baz=116,slow=8.2,SNR=177						
MKAR				ScP	ScP	04 12 46.7	-0.7
	0.5nm,0.8s,baz=98,slow=4.6,SNR=4.6						
KSH	Kashi	60.30	315	eP	P	04 08 30.8	+1.1
KSH				ePP	PP	04 10 48.8	+3.0
KSH				S	S	04 16 20.0	-4.8
KSH				pmax	pmax		
	comp=Z,14nm,2.1s						
KSH				LR	LR		
	comp=N,72nm,6.0s						
KSH				LR	LR		
	comp=E,140nm,4.8s						
KSH				LR	LR		
	comp=Z,160nm,5.3s						
TKM2	Tokmak 2	61.98	318	eP	P	04 08 40.7	-0.3
	2.3nm,0.5s						
AAK	Ala-Archa	62.59	318	eP	P	04 08 45.8	+0.8
	1.1nm,0.6s						
ZALV	Zalesovo Beam	62.66	333	P	P	04 08 43.6	-1.4
	1.4nm,0.3s,baz=103,slow=6.5,SNR=6.1						
EKS2	Erkin-Say	63.09	318	eP	P	04 08 48.2	0.0
	4.0nm,0.7s						
KURBB	Kurchatov Arra	63.89	327	P	P	04 08 52.6	-0.5
	12nm,0.6s,baz=127,slow=6.0,SNR=158						
KURK	Kurchatov	63.89	327	eP	P	04 08 52.3	-0.8
KKAR	Karatay Array	65.47	317	eP	P	04 09 03.1	-0.5
BRVK	Borovoye	69.55	327	eP	P	04 09 28.4	-0.4
ABKAR	Akbulak array	74.37	321	eP	P	04 09 56.2	-1.2
ARU	Arti	77.08	328	eP	P	04 10 11.2	-1.4
	1.6nm,0.4s						
VNDA	Vanda	81.80	173	P	P	04 10 37.0	-0.6
	4.1nm,0.7s,baz=321,slow=7.0,SNR=7.0						
BR131	Keskin Array S	92.29	310	eP	P	04 11 27.8	-1.5
ARCES	ARCESS Array B	92.39	340	P	P	04 11 26.7	-2.2
	2.8nm,0.9s,baz=82,slow=6.5,SNR=6.0						
FINES	FINESS Array B	93.92	332	P	P	04 11 34.3	-1.8
	0.6nm,0.6s,baz=72,slow=6.2,SNR=5.4						
BUR08	Bucovina Ar. S	97.24	318	eP	P	04 11 50.8	-0.9
TORD	Torodi Ar. Bea	125.03	288	PKP	PKPdf	04 17 18.3	-0.3
	0.1nm,0.3s,baz=75,slow=1.4,SNR=7.0						
JTS	JuntasAbangare	144.43	69	ePKPdf	PKPab	04 17 53.1	-0.5
LCO	Las Campanas	147.75	147	ePKPdf	PKPdf	04 17 58.7	-1.6
LCO				ePKPbc	PKPbc	04 18 02.5	-0.9
LCO				ePKPab	PKiKP	04 18 04.7	-0.5
OTAV	Otavalo	152.94	85	ePKPdf	PKPdf	04 18 09.2	+0.3
OTAV				ePKPbc	PKPbc	04 18 15.8	-0.6

*ISCJB **06** 04:05:03.9±1.8, 40°.30N±0°.06×125°.0W±0°.2, h13km, mb2.7/1, Error ellipse: s-maj=22.2km s-min=7.6km az=169.0*
*IDC **06** 04:05:05.7±2.2, 40°.46N×124°.60W, h0km, mb2.7/2, mb1 3.6/5, mb1mx3.3/53, mbtmp3.2/5, ML3.8/2, Error ellipse: s-maj=26.8km s-min=12.1km az=105.0*
*NEIC **06** 04:05:05.2, 40°.37N×124°.97W, h11km, MW3.6(BRK), After NCEDC.*
NEIC Felt [II] at Arcata. Also felt at Eureka and Whitethorn.
ISC 06 04:05:06.7±2.1, **40°.39N**±0°.07×**124°.8W**±0°.2, **h13**km, **n23**, σ1§40/21, **Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMRM	Mail Ridge	0.85	101	ePg	Pg	04 05 23.3	0.0
KHMM	Horse Mountain	0.95	59	ePn	Pb	04 05 24.3	-0.8
KIPM	Iron Peak	1.17	119	ePn	Pn	04 05 27.3	-1.6
KSXB	Camp Six Broad	1.60	26	P	Pn	04 05 32.2	-2.6
WDC	Whiskeytown Da	1.74	83	ePn	Pn	04 05 35.3	-1.3
LAMM	Antelope Mount	2.05	53	P	Pn	04 05 39.6	-1.4
YBH	Yreka Blue Hor	2.07	49	Pn	Pn	04 05 39.7	-1.6
	15nm,0.3s,baz=243,slow=8.4,SNR=264						
YBH				Lg	Lg	04 06 05.1	
	40nm,0.3s,baz=126,slow=8.7,SNR=16						
HUMO	Hull Mountain	2.61	31	ePn	Pn	04 05 49.6	+0.9
OHCM	Honcut	2.76	111	ePn	Pn	04 05 49.1	-1.6
MOD	Modoc	3.72	65	ePn	Pn	04 06 04.4	+0.4
K05A	Summer Lake	3.72	50	ePn	Pn	04 06 04.1	-0.3
CMB	Columbia Colle	4.16	123	ePn	Pn	04 06 10.6	+0.6
WAKR	Walker	4.56	113	ePn	Pn	04 06 17.4	+1.8
WVOR	Wild Horse Val	5.07	64	ePn	Pn	04 06 24.4	+1.9
I07A	Izee	5.39	45	ePn	Pn	04 06 29.0	+2.1
NVAR	Mina Array Bea	5.40	109	Pn	Pn	04 06 26.6	-0.5
	1.4nm,0.3s,baz=285,slow=14,SNR=32						
PTRM	Twissleman Ran	5.96	141	ePg	Pg	04 07 01.4	+0.6
BMO	Blue Mountains	7.10	49	ePn	Pn	04 06 52.0	+1.6
PFO	Pinyon Flat Ob	9.50	133	Pn	Pn	04 07 24.0	+0.6
	0.6nm,0.3s,baz=324,slow=15,SNR=5.0						
MSO	Missoula	10.16	47	ePn	Pn	04 07 35.9	+3.5
PDAR	Pinedale Array	11.66	73	Pn	Pn	04 07 56.9	+3.8
	baz=253,slow=9.1,SNR=4.7						
TXAR	Lajitas Array	20.50	116	P	P	04 09 44.8	+0.2
	0.8nm,0.9s,baz=299,slow=8.5,SNR=7.6						
YKA	Yellowknife Ar	22.97	12	P	P	04 10 10.4	-0.2
	0.1nm,0.3s,baz=203,slow=9.2,SNR=3.8						

*MAN **06** 04:13:51, 15°.08N×119°.46E, h26km, mb4.8, ML3.7, MS3.7*
*ISCJB **06** 04:13:54.7±0.3, 14°.94N±0°.04×119°.85E±0°.07, h55km, mb4.2/22, MS3.0/1, Error ellipse: s-maj=10.0km s-min=5.2km az=177.8*
*IDC **06** 04:13:54.1±2.5, 14°.97N×119°.84E, h33km±20km, mb3.9/13, mb1 4.1/13, mb1mx3.8/44, mbtmp4.1/13, MS3.2/1, Ms1 3.4/1, ms1mx2.6/45, Error ellipse: s-maj=25.5km s-min=15.4km az=65.0*
*NEIC **06** 04:13:55.5±0.9, 14°.98N×119°.95E, h45km±9km, mb4.4/10, Error ellipse: s-maj=11.0km s-min=6.3km az=75.0*
ISC 06 04:13:56.6±0.5, **15°.01N**±0°.05×**119°.80E**±0°.09, **h55**km, **n43**, σ1§31/44, **mb4.2**/22, **2C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	1.34	161	eP	Pn	04 14 16.8	-2.2
LUBP				eS	Sn	04 14 26.2	-10
TGY	Tagaytay City	1.43	129	Pg	Pn	04 14 18.9	-1.3
	597nm,0.3s,baz=304,slow=5.5,SNR=25						
TGY				Lg	Lg	04 14 41.0	
	776nm,0.3s,baz=125,slow=14,SNR=7.2						
TGY	Tagaytay City	1.43	129	⇓iP	Pn	04 14 20.2	0.0
BCPH	Baguio City Da	1.56	29	⇑iP	Pn	04 14 20.7	-1.4
BCPH				iS	Sn	04 14 41.7	+0.4
SZP	Santa	2.60	14	ePn	Pn	04 14 34.1	-2.2
GQP	Guinayangan	2.79	113	⇑eP	Pn	04 14 40.8	+2.0
SJMP	San Jose	2.84	153	eP	Pn	04 14 40.4	+0.9
SJMP				eS	Sn	04 15 02.3	-10
BUSP	Coron	3.02	173	eP	Pn	04 14 40.3	-1.6
ENPP	El Nido	3.80	186	eP	Pn	04 14 50.7	-2.0
CUYO	Cuyo Island	4.30	164	eP	Pn	04 15 05.1	+5.5
KKM	Kota Kinabalu	9.58	202	ePn	Pn	04 16 11.2	-0.8
CMAR	Chiang Mai Arr	20.26	283	P	P	04 18 28.6	+1.0
	1.7nm,0.3s,baz=105,slow=9.8,SNR=12						
CMAR				LR	LR	04 26 33.0	
	comp=Z,71nm,19.4s,baz=88,slow=37						
KSAR	Wonju Array Be	23.47	16	P	P	04 19 00.2	-1.0
KSRS	Korea Array	23.49	16	P	P	04 19 00.2	-1.2
	0.7nm,0.4s,baz=199,slow=11,SNR=4.4						
SOEI	Soe	25.00	170	eP	P	04 19 17.3	+1.7
	13nm,0.9s						
MBWA	Marble Bar	35.94	180	eP	P	04 20 51.1	-0.9
	6.6nm,0.7s						
COEN	Coen	36.92	140	eP	P	04 20 58.5	-1.9
WRAB	Tennant Creek	37.56	157	eP	P	04 21 03.1	-2.6
	17nm,1.0s						
WRA	Warramunga Arr	37.56	157	P	P	04 21 03.7	-2.1
	4.1nm,0.3s,baz=335,slow=9.6,SNR=45						
AS31	Alice Springs	40.84	160	eP	P	04 21 31.6	-1.6
ASAR	Alice Springs	40.84	160	P	P	04 21 31.8	-1.4
	3.6nm,0.4s,baz=336,slow=7.7,SNR=60						
CTAO	Charters Tower	43.51	143	eP	P	04 21 54.2	-0.7
	4.8nm,1.0s						
MK31	Makanchi Array	44.47	323	eP	P	04 22 04.0	+1.7
MKAR	Makanchi Array	44.47	323	P	P	04 22 03.6	+1.3
	1.3nm,1.2s,baz=135,slow=9.9,SNR=4.0						
MKAR				PcP	PcP	04 23 46.2	+1.1
	1.0nm,0.9s,baz=108,slow=4.0,SNR=5.2						
PETK	Petropavlovsk-	48.31	30	P	P	04 22 31.1	-1.3
	3.7nm,0.8s,baz=157,slow=7.9,SNR=3.8						
KURBB	Kurchatov Arra	48.62	326	P	P	04 22 34.8	+0.1
	1.0nm,0.9s,baz=121,slow=8.5,SNR=8.2						
KURK	Kurchatov	48.62	326	eP	P	04 22 36.2	+1.4
	1.5nm,0.8s						
KKAR	Karatay Array	50.44	314	eP	P	04 22 49.8	+1.0
	1.0nm,0.9s						
SEY	Seymchan	53.03	18	P	P	04 23 07.4	-0.4
	1.3nm,0.6s,baz=219,slow=7.2,SNR=3.9						
TIXI	Tiksi	56.88	3	eP	P	04 23 35.4	0.0
	2.7nm,0.5s						
ABKAR	Akbulak array	59.18	319	eP	P	04 23 52.9	+1.0
MCK	McKinley	77.23	27	eP	P	04 25 44.8	+0.1
	8.0nm,1.1s						
COLA	College	77.54	26	eP	P	04 25 46.6	+0.3
	2.2nm,0.5s						
ARCES	ARCESS Array B	77.56	339	P	P	04 25 45.6	-0.7
	1.2nm,0.6s,baz=72,slow=12,SNR=7.7						
BR131	Keskin Array S	77.66	308	eP	P	04 25 48.6	+1.0
	1.6nm,0.9s						
ILAR	Eielson Array	77.96	26	P	P	04 25 50.0	+1.4
	0.7nm,1.0s,baz=295,slow=3.6,SNR=4.6						
FINES	FINESS Array B	78.72	331	P	P	04 25 53.3	+0.4
	0.9nm,0.5s,baz=62,slow=4.2,SNR=15						
BUR08	Bucovina Ar. S	82.11	317	eP	P	04 26 12.2	+0.6
NB2	NORSAR Subarra	85.70	332	P	P	04 26 29.7	+0.2
	comp=Z,7.6nm,1.2s,baz=69,slow=5.1						
NOA	NORSAR Array B	85.70	332	P	P	04 26 29.8	+0.4
	comp=Z,2.3nm,0.8s,baz=67,slow=4.9,SNR=5.3						
YKA	Yellowknife Ar	91.90	22	P	P	04 26 59.2	+0.4
	comp=Z,0.7nm,0.6s,baz=308,slow=4.3,SNR=21						
TXAR	Lajitas Array	119.14	43	PKP	PKPdf	04 32 41.4	+1.2
	comp=Z,0.3nm,0.6s,baz=251,slow=0.9,SNR=5.9						
PLCA	Paso Flores	152.83	163	PKPbc	PKPbc	04 33 48.6	+0.7
	comp=Z,2.4nm,0.9s,baz=282,slow=5.0,SNR=3.8						

*IDC **06** 04:15:58.4±0.9, 4°.59S×153°.83E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.1/32, mbtmp4.2/10, MS3.5/4, Ms1 3.5/4, ms1mx3.2/29, Error ellipse: s-maj=31.1km s-min=18.9km az=89.0*
*ISCJB **06** 04:16:01.7±0.5, 4°.62S±0°.06×153°.88E±0°.07, h33km, mb4.3/18, MS3.4/3, Error ellipse: s-maj=9.5km s-min=9.2km az=178.7*
*NEIC **06** 04:16:06.0±2.4, 4°.66S×153°.86E, h58km±22km, mb4.5/9, Error ellipse: s-maj=14.1km s-min=11.3km az=59.0*
ISC 06 04:16:03.5±0.6, **4°.64S**±0°.09×**153°.82E**±0°.09, **h35**km, **n38**, σ1§16/37, **mb4.4**/18, **MS3.4**/3, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	1.71	285	P	Pn	04 16 29.9	-1.0
	baz=1.2,SNR=68						
RABL				S	Sn	04 16 52.4	+0.8
	baz=1.2,SNR=6.0						
PMG	Port Moresby	8.13	234	Pn	Pn	04 17 52.5	-6.7
	6.3nm,0.3s,baz=56,slow=10.0,SNR=9.2						
PMG				Sn	Sn	04 19 13.4	-16
	4.4nm,0.3s,baz=339,slow=8.6,SNR=3.6						
PMG				LR	LR	04 20 49.0	
	comp=Z,279nm,21.2s,baz=34,slow=36						
PMG	Port Moresby	8.13	234	P	Pn	04 17 52.5	-6.7
	baz=6.8,SNR=5.8						
PMG				S	Sn	04 19 12.0	-18
	baz=6.8,SNR=4.0						
COEN	Coen	14.00	228	ePn	Pn	04 19 21.4	+2.0
	130nm,1.4s						
CTAO	Charters Tower	17.03	205	ePn	P	04 20 00.8	+0.2
DZM	Mont Dzumac	21.21	146	P	P	04 20 46.4	0.0
	8.9nm,0.5s,baz=292,slow=3.9,SNR=12						
DZM	Mont Dzumac	21.21	146	eP	P	04 20 46.6	+0.2
	14nm,0.7s						
KDU	Kakadu	22.55	248	P	P	04 20 53.2	-7.6
	baz=20,SNR=25						
MTN	Manton Dam	23.84	249	P	P	04 21 08.0	-5.7
	baz=22,SNR=9.5						
WRA	Warramunga Arr	24.32	230	P	P	04 21 17.4	-0.7
	5.6nm,0.7s,baz=52,slow=9.8,SNR=16						
WRA				PcP	PcP	04 24 57.4	-0.1
	1.2nm,0.6s,baz=57,slow=2.8,SNR=5.2						
WRA				LR	LR	04 30 32.7	
	comp=Z,105nm,19.8s,baz=205,slow=36						
KNRA	Kununurra	26.96	244	P	P	04 21 36.1	-5.9
	baz=25,SNR=10						
ASAR	Alice Springs	26.96	224	P	P	04 21 43.8	+1.8
	1.6nm,0.6s,baz=46,slow=8.4,SNR=12						
ASAR				PcP	PcP	04 25 03.5	0.0
	0.8nm,0.5s,baz=55,slow=2.8,SNR=4.4						
ASAR				LR	LR	04 31 44.0	
	comp=Z,112nm,21.2s,baz=56,slow=35						
STKA	Stephens Creek	29.42	202	P	P	04 22 04.4	+0.5
	1.6nm,0.7s,baz=2.7,slow=7.2,SNR=3.1						
STKA				LR	LR	04 33 38.6	
	comp=Z,112nm,19.6s,baz=23,slow=36						
KKM	Kota Kinabalu	39.02	285	eP	P	04 23 27.1	-0.2
	11nm,0.8s						
MEEK	Meekatharra	40.11	233	P	P	04 23 35.9	-0.3
	baz=38,SNR=5.4						
MEEK				S	S	04 29 35.5	-5.0
	baz=38,SNR=3.2						
GIRL	Giralia	42.23	241	P	P	04 23 54.5	+0.9
	baz=40,SNR=3.7						
MORW	Morawa	43.24	232	P	P	04 24 01.5	-0.2
	baz=42,SNR=3.9						
JNU	Nakatsue	43.40	332	P	P	04 24 03.1	+0.2
	9.2nm,0.8s,baz=320,slow=15,SNR=3.5						
KSRS	Korea Array	48.32	332	P	P	04 24 41.1	-0.5
	1.0nm,0.4s,baz=147,slow=7.1,SNR=5.1						
KSAR	Wonju Array Be	48.33	332	P	P	04 24 41.1	-0.6
CMAR	Chiang Mai Arr	58.73	295	P	P	04 25 58.7	+0.3
	1.0nm,0.3s,baz=125,slow=5.1,SNR=5.4						
ULN	Ulaanbaatar	66.40	328	eP	P	04 26 50.5	+1.2
	1.1nm,0.5s						
MCK	McKinley	80.33	22	eP	P	04 28 11.3	+0.5
	2.8nm,0.8s						
MK31	Makanchi Array	80.88	319	eP	P	04 28 14.7	+0.6
MKAR	Makanchi Array	80.88	319	P	P	04 28 14.8	+0.7
	1.4nm,0.6s,baz=90,slow=8.2,SNR=35						
ZALV	Zalesovo Beam	81.59	326	P	P	04 28 17.3	-0.4
	2.0nm,0.4s,baz=108,slow=5.9,SNR=10						
ILAR	Eielson Array	81.63	22	P	P	04 28 18.4	+0.7
	0.6nm,0.9s,baz=243,slow=4.3,SNR=7.1						
KURK	Kurchatov	84.27	322	eP	P	04 28 31.6	-0.1
	1.6nm,0.3s						
TKM2	Tokmak 2	84.56	314	eP	P	04 28 33.8	+0.2
	2.6nm,0.6s						
AAK	Ala-Archa	85.30	313	eP	P	04 28 37.9	+0.6
	3.2nm,0.9s						
EKS2	Erkin-Say	85.82	313	eP	P	04 28 40.3	+0.5
	2.9nm,0.8s						
BRVK	Borovoye	89.79	323	eP	P	04 28 58.1	-0.3
	3.7nm,0.8s						
ABKAR	Akbulak array	96.02	319	eP	P	04 29 27.2	-0.1
HWUT	Hardware Ranch	96.50	49	eP	P	04 29 28.3	-1.5
BUR08	Bucovina Ar. S	118.68	323	ePKPdf	PKPdf	04 34 47.6	-0.6
GERES	GERESS Array B	124.44	329	PKP	PKPdf	04 34 59.9	+0.7
	0.8nm,0.6s,baz=56,slow=1.5,SNR=8.4						
TOA0	Torodi Ar. Sit	151.22	289	ePKPbc	PKPbc	04 35 52.9	-1.4
TORD	Torodi Ar. Bea	151.22	289	PKPbc	PKPbc	04 35 53.4	-0.9
	3.6nm,0.4s,baz=77,slow=1.6,SNR=127						

DJA 06 04:43:07.8±0.6, **8°S**±4°×**10°7E**±°, **h16**km±6km, **M4.4**/14, **MLv4.4**/14, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.78	43	P	Pb	04 43 22.7	-0.4
CISI				S	Sg	04 43 32.7	-0.8
CNJI	Cibinong	0.83	350	P	Pb	04 43 23.3	-0.5
CNJI				S	Sb	04 43 33.8	-1.0
CMJI	Cimerak	1.21	74	P	Pn	04 43 28.6	-1.4
CMJI				S	Sb	04 43 43.5	-2.2
SKJI	Sukabumi	1.33	327	P	Pn	04 43 30.6	-1.1
SKJI				S	Sn	04 43 48.2	-0.9
DBJI	Dramaga	1.65	341	P	Pn	04 43 36.0	-0.2
KPJI	Karang Pucung	1.82	64	P	Pn	04 43 38.1	-0.3
KPJI				S	Sn	04 44 01.1	-0.1
CGJI	Cibinong	2.18	314	P	Pn	04 43 42.1	-1.3
CGJI				S	Sn	04 44 06.4	-3.7
UGM	Wanagama	3.22	86	P	Pn	04 43 56.9	-0.9
SMRI	Semarang	3.31	71	P	Pn	04 44 00.1	+1.1
KASI	Kota Agung	3.79	313	P	Pn	04 44 04.9	-0.7
PCJI	Pacitan	3.86	91	P	Pn	04 44 06.1	-0.4
PWJI	Pagerwojo	4.48	89	P	Pn	04 44 14.8	-0.3
MDSI	Maura Dua	4.75	319	P	Pn	04 44 18.6	-0.3

*NIED **06** 04:44:00, 46°.60N×153°.30E, h59km, Mw6.1 Best double couple: M0 1.41000×10^18 NP1:φs254.00000°, δ16.00000°, λ80.00000°. NP2:φs85.00000°, δ75.00000°, λ93.00000°.*
*KRSC **06** 04:44:54.3±2.1, 46°.38N×153°.30E, h63km±42km, ML5.8*
*BJI **06** 04:44:55.2, 47°.07N×153°.38E, h41km, mB5.5/57, mb5.5/72, Ms5.7/88, Ms7 5.7/83*
*JMA **06** 04:44:56.4±0.8, 46°.57N×153°.32E, h30km, M6.1*
*NEIC **06** 04:44:58.4±0.1, 46°.84N×152°.73E, h30km, mb5.9/224, ME5.1, MS5.7/159, MW6.0, MW5.9, MW6.0, Error ellipse: s-maj=3.9km s-min=2.4km az=151.0, Moment Tensor Solution. s167 Moment tensor: Scale 10^17Nm; Mrr5.13; Mθθ-5.88; Mφφ0.75; Mrθ4.84; Mrφ-2.50; Mθφ-1.09; Best double couple: M0 7.80000×10^17 NP1:φs93.00000°, δ66.00000°, λ112.00000°. NP2:φs228.00000°, δ32.00000°, λ50.00000°. Principal axes: T 7.5100, Plg62.0000°, Azm36.0000°; N 0.6400, Plg19.0000°, Azm263.0000°; P -8.1500, Plg18.0000°, Azm166.0000°; Broadband fault*

plane solution: P waves. NP1:ϕ_s290.00000°,δ15.00000°, λ90.00000°. NP2:ϕ_s110.00000°,δ75.00000°,λ90.00000°. Principal axes: T Plg60.0000°, Azm20.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm200.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

*GCMT **06** 04:44:58.4±0.1, 46°.65N×152°.96E, $h51^{km}$, MW6.0/136, Moment Tensor Solution. s131,c308; s136,c439; Duration: 2^{s}4 Moment tensor: Scale 10^{18}Nm; M_{rr}0.76±.01; $M_{\theta\theta}$-0.90±.01; $M_{\phi\phi}$0.13±.01; $M_{r\theta}$0.76±.01; $M_{\theta\phi}$-0.41±.01; $M_{\phi r}$-0.28±.01; Best double couple: $M_0 1.23700\times10^{18}$ NP1:ϕ_s97.00000°,δ68.00000°, λ117.00000°. NP2:ϕ_s224.00000°,δ34.00000°,λ42.00000°. Principal axes: T 1.2200, Plg58.0000°, Azm44.0000°; N 0.0350, Plg25.0000°, Azm266.0000°; P -1.2540, Plg19.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*ISCJB **06** 04:44:58.3±0.3, 46°.76N±0°.01×152°.82E±0°.02, $h42^{km}\pm2^{km}$, mb5.7/370, MS5.7/241 Error ellipse: s-maj=2.7km s-min=1.4km az=152.7*

*SKHL **06** 04:44:58.3±1.4, 46°.53N×153°.19E, $h59^{km}\pm7^{km}$, mb6.3/9, mbh6.1/8, Ms5.8/10, msh6.1/8*

*MOS **06** 04:44:59.0±1.1, 46°.86N×152°.79E, $h48^{km}$, mb6.0/93, MS5.8/44, Error ellipse: s-maj=5.8km s-min=3.8km az=92.4*

*IDC **06** 04:44:59.7±1.6, 46°.84N×152°.81E, $h41^{km}\pm13^{km}$, mb5.3/40, mb1 5.3/44, mb1mx5.3/53, mbtmp5.5/44, ML4.6/4, MS5.5/34, Ms1 5.5/34, ms1mx5.4/42, Error ellipse: s-maj=11.0km s-min=9.2km az=125.0*

*NEIC **06** 04:44:59.0±0.0, 46°.97N×152°.73E, $h50^{km}$ Best double couple: NP1:ϕ_s94.00000°,δ73.00000°,λ110.00000°. NP2:ϕ_s221.00000°,δ26.00000°,λ39.00000°. Principal axes: T 1.0500, Plg56.0000°, Azm31.0000°; N 0.0400, Plg19.0000°, Azm268.0000°; P -1.0900, Plg25.0000°, Azm168.0000°;*

*NEIC **06** 04:45:17.0±0.0, 46°.53N×152°.89E, $h52^{km}$ Best double couple: NP1:ϕ_s230.00000°,δ26.00000°,λ52.00000°. NP2:ϕ_s91.00000°,δ69.00000°,λ107.00000°. Principal axes: T 1.2300, Plg61.0000°, Azm26.0000°; N -0.0500, Plg15.0000°, Azm264.0000°; P -1.1800, Plg22.0000°, Azm168.0000°;*

ISC 06 04:45:00.0±0.2, **46°.75N**±0°.03×**152°.78E**±0°.02, **$h44^{km}$**$\pm1^{km}$, **$h44^{km}$:pP-P, n1872,** σ**1^{s}23**/1865, **mb5.8**/378, **MS5.7**/246, **293C-259D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.75	248	⇑iPN	Pn	04 45 57.2	+1.9
KUR				i		04 46 40.8	
KUR				pmax	pmax		
	comp=N,663nm,0.8s						
KUR				pmax	pmax		
	comp=Z,2μm,0.8s						
KUR				pmax	pmax		
	comp=E,454nm,0.8s						
KUR				pmax	pmax		
	comp=Z,408μm,1.1s						
KUR	Kuril'sk	3.75	248	eP	Pn	04 45 56.9	+1.6
KUR				AMB	AMB	04 46 04.0	
	comp=Z,12μm,5.0s						
KUR				AMB	AMB	04 46 04.0	
	comp=Z,18μm,5.0s						
KUR				AMB	AMB	04 46 04.0	
	comp=Z,20μm,5.0s						
KUR				AMB	AMB	04 46 12.9	
	comp=Z,3μm,0.7s						
KUR				AMB	AMB	04 46 12.9	
	comp=Z,2μm,0.7s						
KUR				AMB	AMB	04 46 12.9	
	comp=Z,7μm,0.7s						
KUR				eS	Sn	04 46 41.0	+2.9
KUR				A	A	04 46 46.0	
	comp=Z,188μm,1.0s						
KUR				A	A	04 46 46.0	
	comp=Z,54μm,1.0s						
KUR				A	A	04 46 47.0	
	comp=Z,81μm,3.0s						
KUR				A	A	04 46 47.0	
	comp=Z,25μm,3.0s						
SKR	Severo-Kuril's	4.51	28	eP	Pn	04 46 05.6	-0.1
SKR				eS	Sn	04 46 57.0	+0.2
SKR	Severo-Kuril's	4.51	28	eP	Pn	04 46 06.0	+0.9
SKR				AMB	AMB	04 46 19.1	
	comp=Z,506nm,0.6s						
SKR				eS	Sn	04 46 56.4	-0.4
SKR				A	A	04 47 13.9	
	comp=Z,6μm,0.8s						
SKR				AMS	AMS	04 48 17.0	
	comp=Z,25μm,12.0s						
SKR				AMS	AMS	04 48 17.0	
	comp=Z,51μm,12.0s						
SKR				AMS	AMS	04 48 17.0	
	comp=Z,57μm,12.0s						
SKR				AMS	AMS	04 48 17.0	
	comp=Z,26μm,12.0s						
SKR				AMS	AMS	04 48 17.0	
	comp=Z,50μm,12.0s						
SKR				AMS	AMS	04 48 17.0	
	comp=Z,56μm,12.0s						
SHO	Shikotan	5.09	238	S	Sn	04 47 11.1	-0.1
SHO	Shikotan	5.09	238	eP	Pn	04 46 13.4	-0.3
SHO				eS	Sn	04 47 10.9	-0.3
PAU	Pauzhetka	5.41	28	PN	Pn	04 46 18.0	-0.1
PAU				S	Sn	04 47 20.7	+1.8
PAU	Pauzhetka	5.41	28	eP	Pn	04 46 18.0	-0.1
PAU				eS	Sn	04 47 20.7	+1.8
PAU	Pauzhetka	5.41	28	eP	Pn	04 46 17.9	-0.1
PAU				AMB	AMB	04 46 39.6	
	comp=Z,382nm,0.5s						
YUK	Yuzh-Kuril'sk	5.58	243	d iPN	Pn	04 46 22.3	+1.9
YUK				iS	Sn	04 47 25.5	+2.3
YUK				pmax	pmax		
	comp=Z,6μm,2.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.5s						
YUK				pmax	pmax		
	comp=E,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				smax	smax		
	comp=N,20μm,2.6s						
YUK				smax	smax		
	comp=E,28μm,5.2s						
YUK				smax	smax		
	comp=N,6μm,0.6s						
YUK				smax	smax		
	comp=E,30μm,0.7s						
YUK				MLR	MLR		
	comp=E,58μm,18.0s						
YUK				MLR	MLR		
	comp=N,71μm,19.0s						
YUK				MLR	MLR		
	comp=Z,53μm,19.0s						
YUK	Yuzh-Kuril'sk	5.58	243	eP	Pn	04 46 22.3	+1.9
YUK				AMB	AMB	04 46 37.1	
	comp=Z,6μm,2.2s						
YUK				AMB	AMB	04 46 37.2	
	comp=Z,1μm,0.5s						
YUK				AMB	AMB	04 46 37.2	
	comp=Z,2μm,0.5s						
YUK				AMB	AMB	04 46 37.2	
	comp=Z,3μm,0.5s						
YUK				erx	rx	04 46 42.0	
YUK				eS	Sn	04 47 25.5	+2.3
YUK				A	A	04 47 32.4	
	comp=Z,21μm,4.0s						
YUK				A	A	04 47 32.4	
	comp=Z,29μm,4.0s						
YUK				A	A	04 47 48.6	
	comp=Z,6μm,0.7s						
YUK				A	A	04 47 48.6	
	comp=Z,30μm,0.7s						
YUK				AMS	AMS	04 48 35.5	
	comp=Z,71μm,19.0s						
YUK				AMS	AMS	04 48 35.5	
	comp=Z,58μm,19.0s						
YUK				AMS	AMS	04 48 35.5	
	comp=Z,53μm,19.0s						
NEM2	Nemuro 2	6.03	238	⇓P	Pn	04 46 25.8	-0.8
NEM2				eS	Sn	04 47 32.8	-1.4
JRA	Rausu	6.09	245	P	Pn	04 46 29.5	+2.1
JRA				eS	Sn	04 47 39.5	+3.8
MIPR	Malaya Ipel'ka	6.10	24	eP	Pn	04 46 28.2	+0.6
JNK	Nakash	6.52	244	P	Pn	04 46 34.5	+1.2
JNK				eS	Sn	04 47 49.6	+3.3
ASAK	Asacha	6.54	29	eP	Pn	04 46 33.4	-0.3
ASAK				eS	Sn	04 47 49.4	+2.4
MTVR	Mutnovka	6.72	29	eP	Pn	04 46 35.8	-0.4
MTVR				S	Sn	04 47 52.2	+0.7
APC	Apacha	6.79	23	P	Pn	04 46 37.9	+0.9
APC				S	Sn	04 47 56.9	+3.9
RUS	Russkaya	6.79	31	PN	Pn	04 46 34.9	-2.2
RUS				S	Sn	04 47 53.4	+0.4
RUS	Russkaya	6.79	31	eP	Pn	04 46 34.9	-2.2
RUS				S	Sn	04 47 53.4	+0.4
JTKR	Abashiri--Toko	6.84	249	⇓P	Pn	04 46 40.3	+2.6
JAK	Akkeshi	6.86	240	P	Pn	04 46 37.3	-0.7
JAK				eS	Sn	04 47 52.7	-2.0
YSS	Yuzh-Sakhalins	6.88	275	⇑iPN	Pn	04 46 42.0	+3.8
YSS				iS	Sn	04 47 59.3	+4.2
YSS				pmax	pmax		
	comp=E,2μm,5.0s						
YSS				pmax	pmax		
	comp=Z,1μm,5.0s						
YSS				pmax	pmax		
	comp=N,220nm,1.0s						
YSS				pmax	pmax		
	comp=E,650nm,1.0s						
YSS				pmax	pmax		
	comp=Z,710nm,1.0s						
YSS				smax	smax		
	comp=N,6μm,7.0s						
YSS				smax	smax		
	comp=E,4μm,7.0s						
YSS				smax	smax		
	comp=N,1μm,0.8s						
YSS				smax	smax		
	comp=E,2μm,0.8s						
YSS				MLR	MLR		
	comp=Z,31μm,20.0s						
YSS				MLR	MLR		
	comp=N,33μm,17.0s						
YSS				MLR	MLR		
	comp=E,25μm,17.0s						
YSS	Yuzh-Sakhalins	6.88	275	ePn	Pn	04 46 42.3	+4.1
YSS				eSn	Sn	04 47 58.0	+2.9
YSS	Yuzh-Sakhalins	6.88	275	eP	Pn	04 46 42.0	+3.8
YSS				AMB	AMB	04 46 50.0	
	comp=E,2μm,5.0s						
YSS				AMB	AMB	04 46 50.0	
	comp=E,1μm,5.0s						
YSS				AMB	AMB	04 46 50.2	
	comp=E,220nm,1.0s						
YSS				AMB	AMB	04 46 50.2	
	comp=E,650nm,1.0s						
YSS				AMB	AMB	04 46 50.2	
	comp=E,710nm,1.0s						
YSS				eS	Sn	04 47 58.0	+2.9
YSS				A	A	04 48 05.0	
	comp=E,6μm,7.0s						
YSS				A	A	04 48 05.0	
	comp=E,4μm,7.0s						
YSS				A	A	04 48 07.1	
	comp=E,1μm,0.8s						
YSS				A	A	04 48 07.1	
	comp=E,2μm,0.8s						
YSS				AMS	AMS	04 49 11.0	
	comp=E,31μm,15.0s						
YSS				AMS	AMS	04 49 11.0	
	comp=E,23μm,15.0s						
YSS				AMS	AMS	04 49 11.0	
	comp=E,36μm,15.0s						
YSS				AMS	AMS	04 49 11.0	
	comp=E,33μm,18.0s						
YSS				AMS	AMS	04 49 11.0	
	comp=E,25μm,18.0s						
YSS				AMS	AMS	04 49 11.0	
	comp=E,31μm,18.0s						
PEA0B	Petropavlovsk-	7.11	25	ePn	Pn	04 46 42.1	+0.7
PEA0B				eSn	Sn	04 47 59.6	-1.1
PETK	Petropavlovsk-	7.11	25	P	Pn	04 46 41.2	-0.1
	comp=E,15nm,0.3s,baz=184,slow=15,SNR=116						
PETK				LR	LR	04 49 40.0	
	comp=E,34μm,18.9s,baz=219,slow=40						
JMP	Maruseppu	7.18	251	P	Pn	04 46 45.5	+3.1
JAR	Ashorobuto	7.26	245	⇓P	Pn	04 46 45.1	+1.6
JAR				eS	Sn	04 48 06.8	+2.3
PET	Petropavlovsk	7.33	29c	iPN	Pn	04 46 44.6	+0.2
PET				pmax	pmax		
	comp=Z,4μm,8.0s						
PET				pmax	pmax		
	comp=Z,4μm,14.4s						
PET				pmax	pmax		
	comp=Z,853nm,1.3s						
PET				MLR	MLR		
	comp=Z,33μm,19.0s						
PET				MLR	MLR		
	comp=Z,35μm,13.0s						
PET	Petropavlovsk	7.33	29	eP	Pn	04 46 45.8	+1.4
PET				eS	Sn	04 48 05.6	-0.6
PET	Petropavlovsk	7.33	29	ePn	Pn	04 46 44.3	-0.1
PET				eSn	Sn	04 48 04.0	-2.2
PET	Petropavlovsk	7.33	29	eP	Pn	04 46 44.8	+0.4
PET				AMB	AMB	04 47 07.1	
	comp=Z,495nm,0.6s						
PET				eS	Sn	04 48 03.3	-2.9
PET				A	A	04 48 31.6	
	comp=Z,720nm,0.5s						
PET				A	A	04 48 31.6	
	comp=Z,960nm,0.5s						
PET				AMS	AMS	04 49 49.2	
	comp=Z,35μm,13.0s						
JSE	Soyaes	7.34	260	P	Pn	04 46 49.5	+4.9
JSE				eS	Sn	04 48 17.2	+11
INSR	Institute	7.35	29	P	Pn	04 46 47.7	+3.0
INSR				S	Sn	04 48 09.1	+2.4
JOB	Onbets	7.43	242	P	Pn	04 46 46.4	+0.6
JOB				eS	Sn	04 48 08.4	-0.4
UGLR	Uglovaya	7.54	29	eP	Pn	04 46 48.3	+0.9
UGLR				S	Sn	04 48 13.5	+1.9
KOK	Koryaka	7.55	28	eP	Pn	04 46 48.4	+0.9
KOK				eS	Sn	04 48 13.4	+1.6
AVH	Avacha	7.56	28	P	Pn	04 46 49.4	+1.7
AVH				eS	Sn	04 48 13.5	+1.5
UGL	Uglegorsk	7.57	292	eP	Pn	04 46 52.6	+5.0
UGL				AMB	AMB	04 46 56.0	
	comp=Z,1μm,2.0s						
UGL				AMB	AMB	04 46 56.0	
	comp=Z,2μm,2.0s						
UGL				AMB	AMB	04 46 56.0	
	comp=Z,4μm,2.0s						
UGL				AMB	AMB	04 46 57.0	
	comp=Z,1μm,0.8s						
UGL				eS	Sn	04 48 17.5	+5.5
UGL				A	A	04 48 24.5	
	comp=Z,740nm,0.7s						
UGL				A	A	04 48 24.5	
	comp=Z,810nm,0.7s						
UGL				A	A	04 48 24.5	
	comp=Z,280nm,0.7s						
UGL				AMS	AMS	04 50 09.0	
	comp=Z,33μm,15.0s						
UGL				AMS	AMS	04 50 09.0	
	comp=Z,28μm,15.0s						
UGL				AMS	AMS	04 50 09.0	
	comp=Z,36μm,15.0s						
HRK	Horoka	7.58	248	eP	Pn	04 46 49.8	+1.9
SMAR	Somma	7.58	29	P	Pn	04 46 50.0	+2.0
SMAR				S	Sn	04 48 14.7	+2.0
KRER	Koryakskii	7.60	28	eP	Pn	04 46 48.7	+0.4
KRER				eS	Sn	04 48 14.5	+1.4
KRX	Arik	7.61	28	eP	Pn	04 46 48.8	+0.4
KRX				eS	Sn	04 48 15.1	+1.8
SDLR	Sedlovina	7.62	29	eP	Pn	04 46 48.5	0.0
SDLR				S	Sn	04 48 14.5	+1.0
JKA	Kamikawa-asahi	7.63	253	eP	Pn	04 46 51.9	+3.3
ASAJ	Asahikawa	7.63	253	PN	Pn	04 46 51.9	+3.3
ASAJ				pmax	pmax		
	comp=Z,15nm,0.3s						
ASAJ	Asahikawa	7.63	253	P	Pn	04 46 52.4	+3.8
ASAJ	Asahikawa	7.63	253	P	Pn	04 46 51.9	+3.3
	comp=Z,15nm,0.3s,baz=83,slow=14,SNR=54						
ASAJ	Asahikawa	7.63	253	ePn	Pn	04 46 52.3	+3.7
JKK2	Kamakawa 2	7.64	251	P	Pn	04 46 51.8	+3.1
GNL	Ganaly	7.70	24	P	Pn	04 46 50.4	+0.9
JWK2	Keihoku	7.71	263	P	Pn	04 46 56.2	+6.6
TYV	Tymovskoe	7.85	305	eP	Pn	04 46 55.0	+3.5
TYV				AMB	AMB	04 47 02.5	
	comp=Z,710nm,1.0s						
TYV				AMB	AMB	04 47 02.5	
	comp=Z,1μm,1.0s						
TYV				AMB	AMB	04 47 05.0	
	comp=Z,3μm,8.0s						
TYV				AMB	AMB	04 47 05.0	
	comp=Z,4μm,8.0s						
TYV				AMB	AMB	04 47 05.0	
	comp=Z,5μm,8.0s						
TYV				eS	Sn	04 48 24.0	+5.1
TYV				A	A	04 48 35.0	
	comp=Z,451nm,0.8s						
TYV				A	A	04 48 40.0	
	comp=Z,12μm,9.0s						
TYV				AMS	AMS	04 51 15.0	
	comp=Z,32μm,10.0s						
TYV				AMS	AMS	04 51 15.0	
	comp=Z,18μm,10.0s						
SPN	Mys Shipunski	7.88	34	eP	Pn	04 46 52.5	+0.6
SPN				S	Sn	04 48 17.4	-2.3
JCH	Churui	7.88	242	P	Pn	04 46 52.1	+0.1
JCH				eS	Sn	04 48 17.7	-2.1
JSS	Shosan	8.02	257	P	Pn	04 46 59.8	+5.9
JFR	Furan	8.07	247	P	Pn	04 46 56.5	+1.9
MYR	Moyori	8.12	240	eP	Pn	04 46 54.5	-0.7
JAB	Ashibetsu	8.14	250	P	Pn	04 46 58.9	+3.3
ERM	Erimo	8.36	239	Pn	Pn	04 47 00.9	+2.3
	comp=Z,5μm,0.5s,SNR=28						
ERM	Erimo	8.36	239	iPN	Pn	04 46 59.5	+0.9
ERM	Erimo	8.36	239	ePn	Pn	04 46 59.9	+1.3
	comp=Z,898nm,0.6s						
ERM				eSn	Sn	04 48 32.8	+1.2
ERM	Erimo	8.36	239	eP	Pn	04 46 59.5	+0.9
JEM	Erimo	8.36	239	eS	Sn	04 48 29.4	-2.1
JHR	Hokuryu	8.36	253	P	Pn	04 47 02.6	+4.0
JBT2	Biratori 2	8.41	246	P	Pn	04 46 59.6	+0.4
KII	Karymskiy	8.44	28	eP	Pn	04 47 01.8	+2.1
JNBK	Urakawa-nobuka	8.44	242	P	Pn	04 46 58.6	-1.1
JEW	Eniwo	8.96	248	P	Pn	04 47 09.0	+2.3
OKH	Okha	9.28	321	eP	Pn	04 47 15.0	+3.9
OKH				AMB	AMB	04 47 18.0	
	comp=Z,6μm,4.5s						
OKH				AMB	AMB	04 47 18.0	
	comp=Z,6μm,4.5s						
OKH				AMB	AMB	04 47 18.0	
	comp=Z,8μm,4.5s						
OKH				AMB	AMB	04 47 19.0	
	comp=Z,1μm,1.0s						
OKH				eS	Sn	04 49 00.5	+6.5
OKH				A	A	04 49 17.8	
	comp=Z,4μm,11.0s						
OKH				A	A	04 49 17.8	
	comp=Z,17μm,11.0s						
OKH				A	A	04 49 17.8	
	comp=Z,15μm,11.0s						
OKH				AMS	AMS	04 51 49.6	
	comp=Z,48μm,15.0s						
OKH				AMS	AMS	04 51 49.6	
	comp=Z,28μm,15.0s						
OKH				AMS	AMS	04 51 49.6	
	comp=Z,41μm,15.0s						
JSK	Shakotan	9.35	253	P	Pn	04 47 16.4	+4.3
JNB	Noboribetsu	9.40	247	P	Pn	04 47 13.2	+0.3
KZV	Kizimen	9.61	27	eP	Pn	04 47 17.1	+1.3
TUMR	Tumrok	9.71	26	eP	Pn	04 47 16.7	-0.4
TUMR				eS	Sn	04 49 04.1	-0.7
JKB	Kayabe	9.72	244	P	Pn	04 47 16.3	-0.9
ESO	Esso	9.90	20	PN	Pn	04 47 21.2	+1.6
ESO	Esso	9.90	20	eP	Pn	04 47 21.2	+1.6
ESO				eS	Sn	04 49 10.8	+1.6
ESO	Esso	9.90	20	eP	Pn	04 47 21.2	+1.6
JSH	Shimam	9.95	250	P	Pn	04 47 21.8	+1.4
JYM2	Yakumo 2	10.01	247	P	Pn	04 47 21.5	+0.3
NKL	Nikolayevsk	10.08	314	eP	Pn	04 47 25.0	+3.0
NKL				AMB	AMB	04 47 31.0	
	comp=Z,2μm,7.0s						
NKL				AMB	AMB	04 47 31.0	
	comp=Z,4μm,7.0s						
NKL				AMB	AMB	04 47 31.0	
	comp=Z,5μm,7.0s						
NKL				AMB	AMB	04 47 31.5	
	comp=Z,300nm,1.0s						
NKL				AMB	AMB	04 47 31.5	
	comp=Z,370nm,1.0s						
NKL				AMB	AMB	04 47 31.5	
	comp=Z,860nm,1.0s						
NKL				eS	Sn	04 49 17.0	+3.4
NKL				A	A	04 49 36.0	
	comp=Z,10μm,10.0s						
NKL				AMS	AMS	04 51 33.0	
	comp=Z,48μm,19.0s						
NKL				AMS	AMS	04 51 33.0	
	comp=Z,42μm,19.0s						
NKL				AMS	AMS	04 51 33.0	
	comp=Z,58μm,19.0s						
KMNR	Kamenistaya	10.15	25	P	Pn	04 47 24.8	+1.8
JSR	Shiriuchi	10.30	244	P	Pn	04 47 24.7	-0.4
JSR				eS	Sn	04 49 15.3	-3.9
KOZ	Kozyrevsk	10.31	23	eP	Pn	04 47 26.4	+1.2
KOZR	Kozyr	10.32	23	PN	Pn	04 47 26.4	+1.0
KPT	Kopyto	10.32	24	eP	Pn	04 47 26.6	+1.1
KIRR	Kirishev	10.35	24	eP	Pn	04 47 28.2	+2.4
JTM	Tenmabayashi	10.35	239	P	Pn	04 47 24.0	-1.9
JTM				eS	Sn	04 49 12.7	-7.8
JANG	Nango	10.36	236	P	Pn	04 47 22.4	-3.6
JANG				eS	Sn	04 49 11.0	-10
BZMR	Bezymyannaya	10.37	25	eP	Pn	04 47 26.1	-0.1
BZWR	Bezymyannyi-We	10.40	25	eP	Pn	04 47 28.0	+1.4
JTH	Tanohata	10.46	233	P	Pn	04 47 23.6	-3.8
KRSR	Krestovskiy	10.64	24	eP	Pn	04 47 31.0	+1.2
KLY	Klyuchi	10.75	24	PN	Pn	04 47 31.8	+0.7
KLY	Klyuchi	10.75	24	eP	Pn	04 47 31.8	+0.7
BDR	Baidarnaya	11.12	25	eP	Pn	04 47 35.0	-1.4
OFUJ	Ofunato	11.18	231	P	Pn	04 47 33.1	-4.1
SRKR	Sorokina	11.19	25	eP	Pn	04 47 38.6	+1.4
SMKR	Semkarok	11.21	25	eP	Pn	04 47 38.7	+1.1
KBG	Krutoberegovo	11.33	29	eP	Pn	04 47 37.7	-1.4
KBTR	Krutoberegovo	11.34	30	eP	Pn	04 47 37.1	-2.1
TEY	Ternei	11.41	267	eP	Pn	04 47 43.0	+2.8
TEY				AMB	AMB	04 47 48.2	
	comp=Z,2μm,5.0s						
TEY				AMB	AMB	04 47 48.2	
	comp=Z,2μm,5.0s						
TEY				AMB	AMB	04 47 48.2	
	comp=Z,39nm,0.5s						
TEY				eS	Sn	04 49 47.5	+1.3
TEY				A	A	04 50 02.0	
	comp=Z,11μm,10.0s						
TEY				A	A	04 50 02.0	
	comp=Z,2μm,10.0s						
TEY				AMS	AMS	04 53 38.0	
	comp=Z,11μm,16.0s						
TEY				AMS	AMS	04 53 38.0	
	comp=Z,14μm,16.0s						
TEY				AMS	AMS	04 53 38.0	
	comp=Z,22μm,16.0s						
GRNR	Gornyy	11.52	296	eP	Pn	04 47 46.0	+4.3
GRNR				AMB	AMB	04 47 49.2	
	comp=Z,230nm,1.2s						
GRNR				AMB	AMB	04 47 49.2	
	comp=Z,320nm,1.2s						
GRNR				AMB	AMB	04 47 49.2	
	comp=Z,220nm,1.2s						
JRG	Rokugo	11.52	235	P	Pn	04 47 39.5	-2.3
JIO	Ouri	11.81	229	P	Pn	04 47 39.4	-6.4
BKI	Bering	11.84	40	PN	Pn	04 47 43.2	-2.9
BKI	Bering	11.84	40	eP	Pn	04 47 43.2	-2.9
HABR	Khabarovsk	12.09	285	d ePN	Pn	04 47 52.2	+2.7
HABR				eS	Sn	04 50 06.8	+4.0
HABR				pmax	pmax		
	comp=E,118nm,1.8s						
HABR				pmax	pmax		
	comp=N,38nm,1.8s						
HABR				pmax	pmax		
	comp=Z,147nm,1.8s						
HABR				MLR	MLR		
	comp=Z,19μm,17.0s						
HABR	Khabarovsk	12.09	285	eP	Pn	04 47 52.2	+2.7
JYA	Atsumi	12.60	234	P	Pn	04 47 53.4	-3.1
PALN	Palana	13.08	17	eP	Pn	04 48 03.6	+0.6

JFY Yanaizu 13.46 231 P Pn 04 48 05.5 -2.8
OSSR Ossora 13.94 22 P Pn 04 48 13.6 -1.0
JHK Hiroka 13.94 232 P Pn 04 48 11.8 -3.1
JHK S Sn 04 50 42.5 -5.6
EKMR Ekimchan 14.23 304 eP Pn 04 48 19.0 +0.3
EKMR AMB AMB 04 48 29.3
comp=Z,43nm,0.5s
EKMR AMB AMB 04 48 29.3
comp=Z,86nm,0.5s
EKMR AMB AMB 04 48 29.3
comp=Z,120nm,0.5s
KLR Kul'dur 14.29 288 eP Pn 04 48 20.8 +1.3
KLR eS Sn 04 51 05.5 +8.9
KLR pmax pmax
comp=E,300nm,1.8s
KLR pmax pmax
comp=Z,250nm,1.8s
KLR MLR MLR
comp=N,12μm,11.0s
KLR MLR MLR
comp=Z,26μm,11.0s
KLR Kul'dur 14.29 288 eP Pn 04 48 20.8 +1.3
KLR AMB AMB 04 48 26.8
comp=Z,300nm,1.8s
KLR AMB AMB 04 48 26.8
comp=Z,250nm,1.8s
KLR AMS AMS 04 56 46.5
comp=Z,12μm,11.0s
KLR AMS AMS 04 56 46.5
comp=Z,26μm,11.0s
JAG Ashikaga 14.33 229 P Pn 04 48 17.1 -3.0
FX1 Attu Island--F 14.49 58 P Pn 04 48 20.8 -1.3
FX1 pmax pmax
comp=Z,42nm,0.3s
FX1 Attu Island--F 14.49 58 P Pn 04 48 20.8 -1.3
comp=Z,42nm,0.3s,baz=188,slow=9.5,SNR=22
FX1 Attu Island--F 14.49 58 ePn Pn 04 48 21.1 -1.1
USRK Ussuriysk Arra 14.80 268 P Pn 04 48 27.7 +1.3
comp=Z,6.9nm,0.3s,baz=76,slow=14,SNR=51
USRK LR LR 04 53 59.7
comp=Z,12μm,21.2s,baz=74,slow=36
USRK ScP ScP 04 57 05.8 +0.8
comp=Z,0.2nm,0.3s,baz=69,slow=10,SNR=4.1
MAJO Matsushiro 14.90 232 i P Pn 04 48 24.4 -3.3
MAJO Matsushiro 14.90 232 ePn Pn 04 48 25.4 -2.3
comp=Z,164nm,0.8s
MAJO eP P 04 48 33.7 +1.1
MAT Matsushiro 14.90 232 P Pn 04 48 24.6 -3.1
MAT S Sn 04 51 13.2 +1.7
MAT Matsushiro 14.90 232 P Pn 04 48 24.8 -2.9
MJAR Matsushiro Arr 14.90 232 P Pn 04 48 24.7 -3.0
comp=Z,1.9nm,0.3s,baz=28,slow=13,SNR=18
JRY Ryogami san 14.93 229 P Pn 04 48 25.6 -2.5
JNG Nsakai 15.06 232 P Pn 04 48 27.2 -2.6
VLA Vladivostok 15.23 264⇓eP P 04 48 34.5 -1.7
VLA pmax pmax
comp=Z,100nm,0.9s
JYN Shimob 15.51 229 P Pn 04 48 34.1 -1.6
JGN Niukaw 15.62 233 P Pn 04 48 34.7 -2.4
TILK Tilichiki 15.80 25 eP Pn 04 48 38.5 -0.6
JNY Yasuok 15.97 230 P Pn 04 48 39.9 -1.8
SEY Seymchan 16.22 359 P Pn 04 48 43.8 -0.6
comp=Z,1.7nm,0.3s,baz=182,slow=8.5,SNR=31
SEY LR LR 04 55 28.2
comp=Z,32μm,18.4s,baz=168,slow=39
MDJ Mudanjiang 16.34 271 P P 04 48 48.0 -0.4
MDJ S Sn 04 51 46.0 -0.2
MDJ PcP PcP 04 53 40.9 +3.8
MDJ pmax pmax
comp=Z,37nm,0.9s
MDJ pmax pmax
comp=Z,2μm,8.1s
MDJ LR LR
comp=Z,9μm,15.0s
MDJ LR LR
comp=Z,12μm,15.0s
MDJ LR LR
comp=Z,18μm,16.4s
MDJ Mudanjiang 16.34 271 ePn P 04 48 47.8 -0.7
comp=Z,126nm,0.7s
MDJ eP pP 04 48 53.3 -5.7
BMKR Bomnak 17.05 307 eP Pn 04 48 53.1 -1.9
BMKR AMB AMB 04 49 01.5
comp=Z,155nm,0.5s
ZEA Zeya 17.70 303 eP Pn 04 49 03.0 0.0
ZEA AMB AMB 04 49 10.1
comp=Z,120nm,1.0s
ZEA AMB AMB 04 49 10.1
comp=Z,230nm,1.0s
ZEA AMB AMB 04 49 13.0
comp=Z,1μm,7.0s
ZEA AMB AMB 04 49 13.0
comp=Z,2μm,7.0s
ZEA AMB AMB 04 49 13.0
comp=Z,3μm,7.0s
ZEA eS Sn 04 52 12.0 -7.0
ZEA A A 04 52 30.0
comp=Z,6μm,10.0s
ZEA A A 04 52 30.0
comp=Z,1μm,10.0s
ZEA A A 04 52 30.0
comp=Z,4μm,10.0s
ZEA AMS AMS 04 56 48.0
comp=Z,9μm,14.0s
ZEA AMS AMS 04 56 48.0
comp=Z,13μm,14.0s
ZEA AMS AMS 04 56 48.0
comp=Z,19μm,14.0s
KROS Kirovskiy 18.02 305 eP P 04 49 04.0 -3.0
KROS AMB AMB 04 49 11.4
comp=Z,77nm,0.9s
KROS AMB AMB 04 49 11.4
comp=Z,300nm,0.9s
KROS AMB AMB 04 49 11.4
comp=Z,340nm,0.9s
CN2 Changchun 19.42 271 ⇑P P 04 49 21.9 -0.5
CN2 esP sP 04 49 36.4 -2.2
CN2 eS S 04 52 52.2 -7.3
CN2 LR LR
comp=Z,11μm,19.0s
CN2 LR LR
comp=Z,8μm,19.0s
CN2 LR LR
comp=Z,13μm,19.0s
KSSKC Sokcho 19.72 253 P Pn 04 49 31.9 +4.5
SNR=7.8
KSJMJ Jumunjin 19.79 252 P Pn 04 49 34.0 +5.7
SNR=5.6
CLNS Chul'man 19.84 311 eP Pn 04 49 30.4 +1.6
KSTBA Taebaek 20.10 250 P Pn 04 49 35.1 +3.0
SNR=6.5
KSIJA INJE 20.16 253 P Pn 04 49 35.8 +3.2
SNR=12
YAK Yakutsk 20.20 328c iP P 04 49 31.6 +0.9
YAK e 04 49 48.0
YAK eS S 04 53 14.7 +0.1
YAK eSS SnSn 04 53 33.6 -0.2
YAK e 04 53 45.2
YAK e 05 00 56.0
YAK pmax pmax
comp=Z,184nm,0.8s
YAK pmax pmax
comp=E,51nm,0.8s
YAK pmax pmax
comp=Z,1μm,1.5s
YAK pmax pmax
comp=N,1μm,1.5s
YAK pmax pmax
comp=E,1μm,1.5s
YAK smax smax
comp=E,2μm,2.2s
YAK smax smax
comp=N,2μm,2.3s
YAK MLR MLR
comp=Z,14μm,13.0s
YAK MLR MLR
comp=N,7μm,14.0s
YAK MLR MLR
comp=E,7μm,13.0s
YAK Yakutsk 20.20 328 eP P 04 49 31.5 +0.8
comp=E,541nm,0.6s
YAK eS S 04 53 10.1 -4.5
YAK LR LR
comp=Z,24μm,22.0s
YAK Yakutsk 20.20 328 eP P 04 49 31.4 +0.8
KSCWO Cheorwon 20.50 254 P Pn 04 49 43.6 +6.9

SNR=15
KSWJU Wonju 20.52 252 P Pn 04 49 41.4 +4.4
SNR=7.4
KSRS Korea Array 20.58 252 P Pn 04 49 37.0 -0.6
KSRS Korea Array 20.58 252 P Pn 04 49 37.0 -0.7
comp=Z,19nm,0.5s,baz=54,slow=11,SNR=38
KSRS S Sn 04 53 31.4 +2.8
comp=Z,1.9nm,0.7s,baz=66,slow=14,SNR=2.2
KSRS ScP ScP 04 57 18.3 +1.1
comp=Z,5.0nm,1.0s,baz=33,slow=1.0,SNR=8.3
KSRS Korea Array 20.58 252 eP Pn 04 49 37.0 -0.6
KSAR Wonju Array Be 20.61 252 P P 04 49 37.0 +1.6
KSAR Wonju Array Be 20.61 252 P P 04 49 37.0 +1.6
KSAR S Sn 04 53 31.4 +2.0
KSAR ScP ScP 04 57 18.3 +1.1
KSDDC Dongducheon 20.90 254 P Pn 04 49 46.3 +4.9
SNR=9.5
KSICN Icheon 21.00 252 P P 04 49 42.6 +2.9
SNR=12
KSMUS Musan 21.11 255 P P 04 49 48.2 +7.5
SNR=25
KSBON Boeun 21.21 250 P P 04 49 44.3 +2.4
SNR=8.4
KSCPR CHUPUNGNYEONG 21.27 249 P P 04 49 45.6 +3.1
SNR=8.4
KSSWO Suwon 21.31 253 P P 04 49 48.0 +5.1
SNR=24
CBIJ Chichi jima 21.33 207 eP P 04 49 43.0 -0.2
comp=Z,183nm,1.0s
JCJ Chichijima 21.33 207 P P 04 49 43.5 +0.3
comp=Z,266nm,0.8s,baz=353,slow=13,SNR=4.7
JCJ LR LR 05 00 58.2
comp=Z,5μm,18.0s,baz=10,slow=45
KSCEA Cheonan 21.38 252 P P 04 49 51.7 +8.1
SNR=6.9
SNY Shenyang 21.41 267 ⇑P P 04 49 45.6 +1.7
SNY S S 04 53 34.3 -4.7
SNY LR LR
comp=Z,6μm,14.9s
SNY LR LR
comp=Z,17μm,16.1s
SNY LR LR
comp=Z,18μm,16.7s
KSGAH Ganghwa 21.41 255 P P 04 49 49.4 +5.4
SNR=9.0
INCN Inchon 21.41 254 PFAKE 04 50 00.0 +16
INCN LR LR
comp=Z,19μm,20.0s
JNU Nakatsue 21.53 239 P P 04 49 45.1 -0.1
comp=Z,78nm,0.6s,baz=200,slow=2.9,SNR=18
JNU LR LR 04 59 21.8
comp=Z,6μm,20.0s,baz=46,slow=40
TJN Taejon 21.57 250 i P P 04 49 47.4 +1.7
JTA Tamana 21.84 239 P P 04 49 49.8 +1.2
HIA Hailar 22.15 289 eP P 04 49 50.4 -1.4
HIA eS S 04 53 46.9 -6.2
HIA pmax pmax
comp=Z,67nm,0.7s
HIA MLR MLR
comp=Z,13μm,21.0s
HIA Hailar 22.15 289 eP P 04 49 50.4 -1.4
comp=Z,67nm,0.7s
HIA eS S 04 53 46.9 -6.2
HIA LR LR
comp=Z,13μm,21.0s
KSBAR Backryungdo 22.42 257 P P 04 50 01.8 +7.0
SNR=9.9
BILL Bilibino 22.44 13c iP P 04 49 53.7 -1.1
BILL e*PP pP 04 50 05.7 +0.2
BILL e*SP sP 04 50 15.3 +4.2
BILL e 04 50 19.5
BILL e 04 53 48.5
BILL i SS SnSn 04 54 30.9 +2.2
BILL pmax pmax
comp=Z,139nm,1.0s
BILL MLR MLR
comp=Z,33μm,19.0s
BILL Bilibino 22.44 13 eP P 04 49 53.4 -1.4
comp=Z,138nm,0.9s
BILL LR LR
comp=Z,27μm,19.0s
BILL Bilibino 22.44 13 eP P 04 49 53.7 -1.1
NGSJ Nagasakinomoza 22.51 239 P P 04 49 57.4 +1.6
DL2 Dalian 24.04 262 ⇓P P 04 50 11.5 +0.7
DL2 S S 04 54 25.1 +0.3
DL2 pmax pmax
comp=Z,160nm,0.8s
DL2 pmax pmax
comp=Z,770nm,6.7s
DL2 LR LR
comp=Z,4μm,15.7s
DL2 LR LR
comp=Z,5μm,13.7s
CIT Chita 25.84 296 eP sP 04 50 43.4 -0.7
CIT e 04 50 55.1
CIT e 04 51 03.3
CIT e 04 51 05.8
CIT e 04 51 20.2
CIT pmax pmax
comp=Z,315nm,2.0s
BJI Beijing 27.25 269 P P 04 50 42.8 +3.0
BJI sP sP 04 50 52.6 -4.2
BJI PcP PcP 04 54 00.3 +1.6
BJI S S 04 55 13.2 -2.6
BJI ScS ScS 05 01 22.8 -3.8
BJI pmax pmax
comp=Z,170nm,0.8s
BJI pmax pmax
comp=Z,1μm,11.7s
BJI LR LR
comp=Z,7μm,14.5s
BJI LR LR
comp=Z,15μm,16.4s
BJI LR LR
comp=Z,11μm,18.9s
BJT Baijiatuau 27.26 269 eP P 04 50 40.9 +0.9
BJT pmax pmax
comp=Z,129nm,0.8s
BJT MLR MLR
comp=Z,15μm,20.0s
BJT Baijiatuau 27.26 269 eP P 04 50 40.9 +0.9
comp=Z,129nm,0.8s
BJT LR LR
comp=Z,15μm,20.0s
TIXI Tiksi 27.40 344 ⇑iP P 04 50 38.2 -2.6
TIXI pmax pmax
comp=Z,44nm,1.7s
TIXI Tiksi 27.40 344 eP P 04 50 38.4 -2.4
TIXI ePcP PcP 04 53 58.1 -0.3
TIXI LR LR
comp=Z,24μm,21.0s
JOW Kunigami 27.74 233 P P 04 50 44.8 +0.4
comp=Z,4.3nm,0.7s,baz=58,slow=12,SNR=3.1
JOW Kunigami 27.74 233 eP P 04 50 44.9 +0.5
comp=Z,182nm,1.2s
TIA Tai'an 28.49 261 ⇑P P 04 50 53.2 +2.2
TIA S S 04 55 33.0 -2.5
TIA pmax pmax
comp=Z,60nm,0.7s
TIA pmax pmax
comp=Z,1μm,11.4s
TIA LR LR
comp=Z,7μm,23.2s
TIA LR LR
comp=Z,5μm,20.2s
TIA LR LR
comp=Z,8μm,19.6s
SSE Sheshan 28.89 248 P P 04 50 58.3 +3.8
SSE pP pP 04 51 09.2 +2.9
SSE S S 04 55 43.6 +1.9
SSE sS sS 04 56 08.2 +6.7
SSE pmax pmax
comp=Z,31nm,0.7s
SSE pmax pmax
comp=Z,650nm,4.9s
SSE LR LR
comp=Z,12μm,23.9s
SSE LR LR
comp=Z,4μm,23.9s
SSE LR LR
comp=Z,9μm,26.2s
H11N2 WAKE ISLAND Hy 29.33 152 T T 05 22 24.3
baz=342,slow=76
H11N1 WAKE ISLAND Hy 29.34 152 T T 05 22 29.1
baz=342,slow=76
H11N3 WAKE ISLAND Hy 29.34 152 T T 05 22 28.7

baz=342,slow=76
WAKE Wake Island 29.67 153 PFAKE 04 51 10.0 +8.5
WAKE LR LR
comp=Z,8μm,22.0s
NJ2 Nanjing 29.78 253 eP P 04 51 07.7 +5.3
NJ2 pP pP 04 51 14.2 0.0
NJ2 sP sP 04 51 17.7 -1.8
NJ2 S S 04 55 55.0 -0.7
NJ2 pmax pmax
comp=Z,50nm,0.8s
NJ2 pmax pmax
comp=Z,650nm,10.8s
NJ2 LR LR
comp=Z,10μm,21.0s
NJ2 LR LR
comp=Z,20μm,17.0s
NJ2 LR LR
comp=Z,17μm,16.8s
MIDW Midway 29.80 118 PFAKE 04 51 20.0 +17
MIDW LR LR
comp=Z,6μm,21.0s
HHC Hu-ho-hao-te 30.07 274 eP P 04 51 03.2 -1.8
HHC S S 04 55 56.4 -3.9
HHC S S 04 56 12.0 +12
HHC PcS PcS 04 57 48.2 -1.2
HHC pmax pmax
comp=Z,24nm,0.6s
HHC pmax pmax
comp=Z,400nm,6.1s
HHC LR LR
comp=Z,12μm,15.7s
HHC LR LR
comp=Z,20μm,15.7s
HHC LR LR
comp=Z,18μm,15.1s
H11S1 WAKE ISLAND Hy 30.41 153 T T 05 23 52.3
baz=343,slow=77,SNR=7717
H11S3 WAKE ISLAND Hy 30.42 153 T T 05 23 45.1
baz=343,slow=77,SNR=4545
H11S2 WAKE ISLAND Hy 30.43 153 T T 05 23 45.8
baz=343,slow=77,SNR=6974
ULN Ulaanbaatar 30.68 289 ⇑iP P 04 51 09.9 -0.5
ULN pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 30.68 289 eP P 04 51 10.8 +0.4
comp=Z,108nm,0.9s
ULN ePcP PcP 04 54 07.9 +0.5
ULN eScP ScP 04 57 46.6 +0.3
ULN LR LR
comp=Z,11μm,20.0s
ULN Ulaanbaatar 30.68 289 eP P 04 51 09.9 -0.5
TIY Taiyuan 30.92 268 eP P 04 51 14.8 +2.3
TIY S S 04 56 16.1 +2.4
TIY pmax pmax
comp=Z,530nm,4.9s
TIY LR LR
comp=Z,6μm,23.4s
TIY LR LR
comp=Z,9μm,18.5s
TIY LR LR
comp=Z,11μm,17.6s
SONM Songino Array 31.12 289 LR LR 05 04 49.8
comp=Z,11μm,20.0s,baz=76,slow=38
IRK Irkutsk 31.49 298 ⇓iP P 04 51 17.3 -0.1
IRK e 04 51 33.1
IRK e 04 54 09.7
IRK pmax pmax
comp=Z,26nm,0.8s
IRK Irkutsk 31.49 298 eP P 04 51 17.3 -0.1
TLY Talaya 31.97 297 P P 04 51 21.5 -0.2
comp=Z,245nm,0.7s,SNR=11
TLY Talaya 31.97 297 eP P 04 51 21.9 +0.3
TLY e 04 52 24.6
TLY e 04 52 51.3
TLY eS S 04 56 30.8 +1.0
TLY eSS SS 04 58 47.3 -0.6
TLY pmax pmax
comp=Z,25nm,0.7s
TLY MLR MLR
comp=Z,21μm,15.0s
TLY Talaya 31.97 297 eP P 04 51 21.1 -0.6
comp=Z,31nm,0.7s
TLY ePcP PcP 04 54 11.3 +0.7
TLY eScP ScP 04 57 51.0 +0.7
TLY LR LR
comp=Z,12μm,19.0s
TLY Talaya 31.97 297 eP P 04 51 21.4 -0.2
ZAK Zakamensk 32.47 295 ⇑iP P 04 51 24.9 -1.2
ZAK pmax pmax
comp=Z,21nm,1.1s
SVW2 Sparrevohn 32.65 45 eP P 04 51 27.7 +0.2
comp=Z,102nm,1.2s
TATO Taipei 33.06 240 PFAKE 04 51 40.0 +8.7
TATO LR LR
comp=Z,10μm,19.0s
YHNB Yeheng 33.35 240 PFAKE 04 51 50.0 +16
YHNB LR LR
comp=Z,9μm,20.0s
WHN Wuhan 33.71 255 P P 04 51 37.8 +0.9
WHN S S 04 56 55.5 -1.6
WHN LR LR
comp=Z,15μm,17.9s
WHN LR LR
comp=Z,9μm,16.0s
WHN LR LR
comp=Z,18μm,17.8s
GUMO Guam 33.72 194 PFAKE 04 51 50.0 +13
GUMO LR LR
comp=Z,7μm,20.0s
IM04 Indian Mountai 33.88 36 eP P 04 51 37.9 -0.2
IM04 ePcP PcP 04 54 15.4 -0.3
IM04 eScP ScP 04 57 56.0 -0.7
SSLB Suanglung 34.27 239 eP P 04 51 42.6 +0.7
comp=Z,56nm,1.0s
KDAK Kodiak Island 34.28 51 i P P 04 51 40.3 -1.2
KDAK Kodiak Island 34.28 51 PFAKE 04 51 50.0 +8.4
KDAK LR LR
comp=Z,10μm,22.0s
PPLA Purkeypile 34.31 42 eP P 04 51 41.9 -0.1
comp=Z,616nm,1.5s
PPLA eScP ScP 04 58 00.6 +2.2
SPU Mount Spurr 34.36 45 eP P 04 51 43.5 +1.1
YULB Yu-li 34.37 238 eP P 04 51 43.1 +0.4
comp=Z,27nm,0.7s
CAST Castle Rocks 34.38 41 eP P 04 51 43.6 +1.2
comp=Z,58nm,0.9s
QZH Quanzhou 34.83 243 ⇑iP P 04 51 52.0 +5.3
QZH S S 04 57 14.3 -0.1
QZH pmax pmax
comp=Z,1μm,4.9s
QZH LR LR
comp=Z,11μm,21.9s
QZH LR LR
comp=Z,7μm,15.8s
QZH LR LR
comp=Z,18μm,27.3s
TPUB Ta-pu 34.83 239 eP P 04 51 47.7 +0.9
comp=Z,69nm,0.7s
TWG Pinlang 34.94 238 eP P 04 51 48.0 +0.3
comp=Z,776nm,1.1s
XAN Xi'an 35.29 265 P P 04 51 50.9 +0.3
XAN pP pP 04 51 59.9 -2.7
XAN sP sP 04 52 03.9 -3.9
XAN PP PnPn 04 53 08.7 -0.9
XAN S S 04 57 18.2 -3.3
XAN pmax pmax
comp=Z,32nm,0.9s
XAN pmax pmax
comp=Z,160nm,12.2s
XAN LR LR
comp=Z,4μm,17.3s
XAN LR LR
comp=Z,2μm,15.8s
MCK McKinley 35.80 40 eP P 04 51 54.2 -0.4
MCK pmax pmax
comp=Z,221nm,1.1s
MCK McKinley 35.80 40 eP P 04 51 54.2 -0.4
comp=Z,221nm,1.1s
MCK McKinley 35.80 40 eP P 04 51 54.2 -0.4
COLA College 36.28 38c iP P 04 51 59.2 +0.6
COLA pmax pmax
comp=Z,1μm,0.9s
COLA College 36.28 38 eP P 04 51 59.0 +0.4
comp=Z,353nm,1.0s
COLA LR LR
comp=Z,10μm,20.0s

COLA College 36.28 38 eP P 04 51 59.2 +0.6
ILAR Eielson Array 36.69 39 P P 04 52 01.6 -0.6
comp=Z,144nm,1.2s,baz=259,slow=6.4,SNR=136
ILAR LR LR 05 09 06.7
comp=Z,9µm,19.9s,baz=288,slow=40
ILAR P3KPbc 05 22 36.9
comp=Z,0.3nm,0.8s,baz=72,slow=4.2,SNR=5.5
ENH Enshi 37.14 259 eP P 04 52 07.4 +1.0
comp=Z,43nm,0.7s
ENH ePcP PcP 04 54 28.2 +2.3
ENH eScP ScP 04 58 08.0 -1.1
ENH LR LR
comp=Z,186nm,21.0s
PAX Paxson 37.38 42 eP P 04 52 08.2 0.0
PAX e 04 54 26.3
PAX pmax pmax
comp=Z,94nm,1.3s
PAX Paxson 37.38 42 eP P 04 52 08.2 0.0
comp=Z,94nm,1.3s
PAX ePcP PcP 04 54 26.3 +0.1
PAX eScP ScP 04 58 09.0 -0.6
LZH Lanzhou 37.66 272 eP P 04 52 12.9 +1.9
LZH pP pP 04 52 24.6 +1.6
LZH sP sP 04 52 28.7 +0.5
LZH PP PnPn 04 53 40.6 +2.0
LZH PcP PcP 04 54 30.3 +2.7
LZH eS S 04 57 56.4 -1.4
LZH sS sS 04 58 16.0 -1.9
LZH SS SnSn 05 00 36.6 -3.0
LZH pmax pmax
comp=Z,58nm,1.0s
LZH pmax pmax
comp=Z,490nm,5.9s
LZH LR LR
comp=Z,5µm,13.4s
LZH LR LR
comp=Z,10µm,15.6s
LZH LR LR
comp=Z,9µm,16.9s
BMRM Bremner River 37.99 45 eP P 04 52 13.1 -0.2
comp=Z,334nm,1.1s
BMRM ePcP PcP 04 54 28.1 +0.1
MENT Mentasta 38.18 41 eP P 04 52 14.9 0.0
EGAK Eagle 39.14 38 eP P 04 52 22.4 -0.5
comp=Z,261nm,1.0s
EGAK LR LR
comp=Z,7µm,20.0s
GZH Guangzhou 39.45 247 P P 04 52 25.0 -0.9
GZH LR LR
comp=Z,14µm,23.5s
GZH LR LR
comp=Z,7µm,22.1s
DAWY Dawson 39.98 39 eP P 04 52 29.3 -0.6
CD2 Chengdu 40.65 265⇓iP P 04 52 36.9 +1.0
CD2 pP pP 04 52 47.1 -0.8
CD2 sP sP 04 52 51.4 -1.8
CD2 PP PnPn 04 54 14.5 +0.3
CD2 PcP PcP 04 54 39.4 +2.4
CD2 PcS PcS 04 58 28.9 +1.0
CD2 S S 04 58 43.6 +0.9
CD2 pmax pmax
comp=Z,230nm,0.9s
CD2 pmax pmax
comp=Z,890nm,6.8s
CD2 LR LR
comp=Z,5µm,18.8s
CD2 LR LR
comp=Z,5µm,21.2s
CD2 LR LR
comp=Z,5µm,25.5s
GYA Guiyang 41.49 257⇑iP P 04 52 42.9 0.0
GYA pP pP 04 52 55.0 0.0
GYA PP PnPn 04 54 24.2 0.0
GYA ScP ScP 04 58 28.3 +2.2
GYA S S 04 58 55.3 -0.1
GYA sS sS 04 59 14.0 -1.6
GYA pmax pmax
comp=Z,70nm,0.9s
GYA pmax pmax
comp=Z,180nm,5.3s
GYA LR LR
comp=Z,13µm,17.8s
GYA LR LR
comp=Z,19µm,18.0s
GYA LR LR
comp=Z,20µm,17.0s
INK Inuvik 41.77 32 eP P 04 52 45.0 +0.5
INK pmax pmax
comp=Z,153nm,0.8s
INK Inuvik 41.77 32 eP P 04 52 45.0 +0.5
comp=Z,153nm,0.8s
ZAA0 Zalesovo Array 42.42 306 eP P 04 52 48.8 -1.2
ZAA0 ePcP PcP 04 54 42.6 +0.3
ZAA0 eScP ScP 04 58 27.9 -1.3
ZALV Zalesovo Beam 42.42 306 P P 04 52 48.1 -1.9
comp=Z,21nm,0.6s,baz=64,slow=8.0,SNR=32
ZALV PcP PcP 04 54 42.5 +0.2
comp=Z,44nm,0.8s,baz=74,slow=2.2,SNR=15
ZALV ScP ScP 04 58 28.2 -1.0
comp=Z,6.3nm,1.1s,baz=31,slow=3.4,SNR=3.3
ZALV LR LR 05 11 41.1
comp=Z,24µm,19.9s,baz=68,slow=38
NVS Novosibirsk 43.01 307 eP P 04 52 52.9 -1.8
NVS i 04 54 42.7
NVS iS S 04 59 13.7 -3.1
NVS pmax pmax
comp=Z,76nm,1.9s
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,32nm,1.6s
NVS smax smax
comp=N,11nm,1.2s
NVS smax smax
comp=E,15nm,0.8s
SIT Sitka 43.54 49 eP P 04 53 02.5 +3.6
SIT pmax pmax
comp=Z,730nm,2.2s
SIT Sitka 43.54 49 eP P 04 53 02.5 +3.6
comp=Z,730nm,2.2s
QIZ Qiongzhong 44.64 247 P P 04 53 13.6 +5.4
QIZ pP pP 04 53 19.4 -1.1
QIZ sP sP 04 53 25.6 0.0
QIZ PP PP 04 54 56.8 +3.8
QIZ S S 04 59 44.6 +3.2
QIZ sS sS 04 59 59.9 -1.8
QIZ pmax pmax
comp=Z,28nm,1.0s
QIZ pmax pmax
comp=Z,730nm,13.4s
QIZ LR LR
comp=Z,5µm,20.5s
QIZ LR LR
comp=Z,6µm,25.5s
QIZ Qiongzhong 44.64 247 PFAKE 04 53 20.0 +12
QIZ LR LR
comp=Z,6µm,22.0s
WMQ Urumqi 44.71 291 P P 04 53 09.4 +0.7
WMQ pP pP 04 53 19.3 -1.6
WMQ sP sP 04 53 23.2 -2.9
WMQ PcP PP 04 54 52.4 -1.0
WMQ PP PcP 04 54 54.7 +4.3
WMQ ScP ScP 04 58 40.7 +1.9
WMQ PcS PcS 04 58 44.6 +0.7
WMQ S S 04 59 42.6 +0.5
WMQ sS sS 04 59 58.9 -3.6
WMQ ScS ScS 05 03 02.1 -0.1
WMQ pmax pmax
comp=Z,52nm,0.7s
WMQ pmax pmax
comp=Z,370nm,6.0s
WMQ LR LR
comp=Z,13µm,13.8s
WMQ LR LR
comp=Z,7µm,14.8s
WMQ LR LR
comp=Z,8µm,17.4s
KMI Kunming 45.02 259 P P 04 53 11.9 +0.4
KMI pP pP 04 53 24.1 +0.4
KMI sP sP 04 53 31.0 +2.1
KMI PP PP 04 54 54.8 -2.3
KMI ScP ScP 04 58 41.9 +1.3
KMI S S 04 59 44.2 -3.0
KMI SS ScS 05 03 03.8 -1.2
KMI pmax pmax
comp=Z,63nm,0.9s
KMI pmax pmax
comp=Z,770nm,4.6s
KMI LR LR
comp=Z,2µm,16.3s
KMI LR LR
comp=Z,4µm,22.2s
KMI LR LR
comp=Z,6µm,21.3s
WRAK Wrangell Islan 45.30 49 eP P 04 53 14.4 +1.4
comp=Z,127nm,1.1s
WRAK LR LR
comp=Z,4µm,20.0s
DLBC Dease Lake 45.76 46 eP P 04 53 18.3 +1.5
DAV Davao City (W) 45.91 219 PFAKE 04 53 30.0 +12
DAV LR LR
comp=Z,4µm,19.0s
MK31 Makanchi Array 46.74 297 iP P 04 53 22.9 -1.6
MK31 pmax pmax
comp=Z,44nm,0.7s
MK31 Makanchi Array 46.74 297 eP P 04 53 23.1 -1.4
MKAR Makanchi Array 46.74 297 iP P 04 53 23.2 -1.4
MKAR pmax pmax
comp=Z,32nm,0.8s
MKAR Makanchi Array 46.74 297 P P 04 53 23.3 -1.2
comp=Z,32nm,0.8s,baz=68,slow=7.3,SNR=82
MKAR PcP PcP 04 54 57.3 0.0
comp=Z,31nm,0.9s,baz=225,slow=1.6,SNR=4.6
MKAR ScP ScP 04 58 46.6 -0.5
comp=Z,3.2nm,0.8s,baz=66,slow=4.7,SNR=3.1
MKAR LR LR 05 14 14.7
comp=Z,22µm,18.4s,baz=60,slow=38
MKAR P4KPbc 05 31 12.5
comp=Z,0.4nm,0.7s,baz=58,slow=4.1,SNR=5.0
KIP Kipapa 46.98 105c iP P 04 53 27.4 +0.7
KIP pmax pmax
comp=Z,146nm,2.5s
KIP Kipapa 46.98 105 eP P 04 53 28.1 +1.5
comp=Z,1µm,2.6s
KURK Kurchatov 47.17 303 eP P 04 53 26.5 -1.3
KURK S S 05 00 13.3 -3.8
KURK pmax pmax
comp=Z,61nm,0.8s
KURK MLR MLR
comp=Z,9µm,20.0s
KURK Kurchatov 47.17 303 eP P 04 53 26.5 -1.3
comp=Z,61nm,0.8s
KURK eS S 05 00 11.8 -5.2
KURK S S 05 00 13.3 -3.8
KURK LR LR
comp=Z,9µm,20.0s
KURK Kurchatov 47.17 303 eP P 04 53 26.7 -1.1
KURBB Kurchatov Arra 47.26 303 S S 05 00 13.3 -5.1
comp=Z,1.6nm,0.8s,baz=67,slow=14,SNR=3.0
TARA Tarawa 48.52 153 PFAKE 04 53 50.0 +11
TARA LR LR
comp=Z,7µm,20.0s
ALE Alert 49.76 6 P P 04 53 46.0 -1.4
comp=Z,928nm,0.8s,SNR=48
POHA Pohakuloa 49.80 105 PFAKE 04 54 00.0 +11
POHA LR LR
comp=Z,5µm,22.0s
LSA Lhasa 50.05 273 P P 04 53 53.0 +2.2
LSA pmax pmax
comp=Z,30nm,1.0s
LSA Lhasa 50.05 273 eP P 04 53 52.0 +1.3
LSA pmax pmax
comp=Z,178nm,0.6s
LSA MLR MLR
comp=Z,7µm,20.0s
LSA Lhasa 50.05 273 eP P 04 53 52.0 +1.3
comp=Z,178nm,0.6s
LSA LR LR
comp=Z,7µm,20.0s
UBPT Khong Chiam 50.20 247 P P 04 53 56.6 +5.1
comp=Z,67nm,1.6s
KDM Kudat 50.25 229 ⇓P P 04 53 54.1 +2.3
GENI Genyem 50.38 196 P P 04 53 55.7 +2.9
comp=Z,146nm,1.3s,comp=Z,4µm
VOSK Vostochnaya 50.51 309 iP P 04 53 51.4 -2.0
VOSK pmax pmax
comp=Z,54nm,1.2s
VOSK Vostochnaya 50.51 309 eP P 04 53 51.7 -1.7
comp=Z,28nm,0.6s
BVA0 Borovoye Array 50.68 309 iP P 04 53 53.4 -1.3
BVA0 pmax pmax
comp=Z,51nm,1.2s
BVAR Borovoye Array 50.68 309 S S 05 00 59.2 -7.1
comp=Z,1.7nm,0.9s,baz=68,slow=9.5,SNR=2.9
BRVK Borovoye 50.72 309c iP P 04 53 54.9 -0.1
BRVK pmax pmax
comp=Z,64nm,1.5s
BRVK Borovoye 50.72 309 eP P 04 53 53.2 -1.7
comp=Z,28nm,0.6s
BRVK LR LR
comp=Z,16µm,19.0s
BRVK Borovoye 50.72 309 eP P 04 53 54.9 -0.1
MYLDM Lahad Datu 50.88 226 eP P 04 53 59.6 +3.0
comp=Z,156nm,1.2s
MYLDM Lahad Datu 50.88 226 ⇓P P 04 53 58.7 +2.2
DLV T Lat 50.88 242 eP P 04 53 57.8 +0.9
RES Resolute Bay 50.91 18 LR LR 05 18 25.4
comp=Z,5µm,19.7s,baz=316,slow=40
YKW3 Yellowknife Ar 51.02 37 eP P 04 53 56.7 -0.3
comp=Z,3.3nm,1.1s
CMAI Chiengmai2 51.04 257 P P 04 54 00.1 +2.1
comp=Z,61nm,0.7s
YKA Yellowknife Ar 51.06 37 P P 04 53 57.5 +0.1
comp=Z,57nm,0.9s,baz=298,slow=7.2,SNR=134
YKA PcP PcP 04 55 12.6 0.0
comp=Z,13nm,0.8s,baz=297,slow=3.3,SNR=7.6
YKA PKPPKP P'P'df 05 24 18.0 -28
comp=Z,0.3nm,0.8s,baz=151,slow=3.2,SNR=4.0
SDKM Sandakan 51.14 228 ⇓P P 04 53 59.7 +1.1
KKM Kota Kinabalu 51.31 229 eP P 04 54 00.8 +0.9
comp=Z,61nm,1.3s
KKM LR LR
comp=Z,4µm,20.0s
KKM Kota Kinabalu 51.31 229 ⇓P P 04 54 04.3 +4.4
UTTA Uttaradit 51.59 254 P P 04 54 03.8 +1.9
comp=Z,32nm,0.9s,comp=Z,249nm
LAMP Lampang 51.64 256 P P 04 54 04.2 +1.9
comp=Z,41nm,0.9s,comp=Z,284nm
CMMT Chiang Mai 51.90 256 P P 04 54 05.5 +1.3
comp=Z,123nm,0.7s,comp=Z,1µm
CHTO Chiang Mai 51.90 256 eP P 04 54 04.8 +0.6
CHTO pmax pmax
comp=Z,56nm,0.6s
CHTO MLR MLR
comp=Z,6µm,20.0s
CHTO Chiang Mai 51.90 256 P P 04 54 05.5 +1.3
comp=Z,426nm,0.7s,comp=Z,5µm
CHTO Chiang Mai 51.90 256 eP P 04 54 04.8 +0.6
comp=Z,56nm,0.6s
CHTO LR LR
comp=Z,6µm,20.0s
SHL Shillong 52.14 268 eP P 04 54 06.4 +0.2
SHL AMB AMB 04 54 11.1
comp=Z,192nm,0.9s
SHL ex x 05 02 07.5
CM31 Chiang Mai Arr 52.15 256 eP P 04 54 06.8 +0.8
comp=Z,50nm,0.8s
CMAR Chiang Mai Arr 52.15 256 P P 04 54 07.8 +1.7
comp=Z,47nm,0.8s,baz=36,slow=7.3,SNR=44
CMAR PcP PcP 04 55 19.8 +2.4
comp=Z,14nm,0.8s,baz=10,slow=3.3,SNR=4.4
CMAR ScP ScP 04 59 11.6 +1.0
comp=Z,1.5nm,0.3s,baz=14,slow=3.5,SNR=5.3
CMAR LR LR 05 19 10.4
comp=Z,6µm,19.4s,baz=58,slow=39
PBKT Sadao Pong 52.16 253 P P 04 54 07.5 +1.4
comp=Z,92nm,0.7s,comp=Z,1µm
SUKH Sukhothai 52.38 255 P P 04 54 09.5 +1.7
comp=Z,27nm,0.7s,comp=Z,228nm
KBS Kingsbay 52.46 351 iP P 04 54 07.3 -0.3
KBS Kingsbay 52.46 351 eP P 04 54 07.2 -0.4
KBS eS S 05 01 30.2 +0.1
KBS IAMs_20 IAMs_20 05 16 46.8
comp=Z,7µm,19.2s
KBS Kingsbay 52.46 351 PFAKE 04 54 20.0 +12
KBS LR LR
comp=Z,6µm,20.0s
SPA0 Spitsbergen Ar 52.57 350 eP P 04 54 08.0 -0.4
SPA0 eS S 05 01 31.4 -0.3
SPITS Spitsbergen Ar 52.57 350 P P 04 54 07.5 -1.0
comp=Z,26nm,0.7s,baz=56,slow=8.1,SNR=45
HOPEN Hopen 52.63 346 eP P 04 54 08.2 -0.7
HOPEN eS S 05 01 30.7 -1.8
HOPEN IAMs_20 IAMs_20 05 19 57.3
comp=Z,16µm,17.8s
FAKI Fak Fak 52.67 206 P sP 04 54 28.8 +1.3
FAKI Fak Fak 52.67 206 eP P 04 54 10.7 +0.8
ULHL Ulahol 52.76 295 iP P 04 54 11.0 +0.5
ULHL Ulahol 52.76 295 P P 04 54 11.1 +0.5
SNR=5.1
TKM2 Tokmak 2 52.79 296 iP P 04 54 10.3 -0.5
TKM2 Tokmak 2 52.79 296 P P 04 54 10.4 -0.5
SNR=21
TKM2 Tokmak 2 52.79 296 eP P 04 54 10.0 -0.9
comp=Z,31nm,0.8s
TKM2 LR LR
comp=Z,15µm,20.0s
CHMS Chumysh 53.27 296 iP P 04 54 14.5 +0.4
CHMS Chumysh 53.27 296 P P 04 54 14.6 +0.4
SNR=17
USP Ospenovka 53.28 297 iP P 04 54 15.3 +1.1
USP Ospenovka 53.28 297 P P 04 54 15.4 +1.1
SNR=21
KBK Karagaybulak 53.34 296 iP P 04 54 14.1 -0.7
KBK Karagaybulak 53.34 296 P P 04 54 14.1 -0.7
SNR=19
FRU Bishkek 53.44 296 eP P 04 54 15.0 -0.4
FRU eS S 05 01 40.0 -4.6
FRU e 05 04 02.0
FRU pmax pmax
comp=Z,70nm,1.8s
FRU MLR MLR
comp=Z,12µm,17.0s
FRU Bishkek 53.44 296 eP P 04 54 15.0 -0.4
KZA Kyzart 53.47 295 iP P 04 54 17.8 +1.8
KZA Kyzart 53.47 295 P P 04 54 17.9 +1.8
SNR=16
AAK Ala-Archa 53.63 296 iP P 04 54 17.4 +0.5
AAK Ala-Archa 53.63 296 P P 04 54 17.5 +0.5
SNR=28
AAK Ala-Archa 53.63 296 eP P 04 54 15.8 -1.1
comp=Z,54nm,0.9s
AAK LR LR
comp=Z,12µm,19.0s
AAK Ala-Archa 53.63 296 eP P 04 54 17.4 +0.5
HSPB Hornsund (broa 53.63 349 eP P 04 54 17.2 +0.9
SVE Sverdlovsk 53.67 317⇓iP P 04 54 16.1 -0.7
SVE e 04 56 16.9
SVE eS S 05 01 43.3 -3.9
SVE e 05 03 52.6
SVE pmax pmax
comp=Z,53nm,0.9s
SVE MLR MLR
comp=Z,9µm,18.0s
SVE MLR MLR
comp=E,7µm,17.0s
SVE MLR MLR
comp=N,4µm,17.0s
SVE Sverdlovsk 53.67 317 eP P 04 54 16.1 -0.7
UMPA Umpang Tak 53.81 254 P P 04 54 23.3 +4.9
comp=N,96nm,0.5s,comp=N,9µm
TAPN Taplejung 53.87 273 eP P 04 54 20.0 +0.9
comp=N,246nm,0.7s
SOKR Solikamsk 53.94 321 eP P 04 54 18.4 -0.2
SOKR S S 05 01 45.6 -5.0
SOKR pmax pmax
comp=Z,20nm,1.1s
SOKR MLR MLR
comp=Z,14µm,20.0s
SANI Sanana 54.02 214 P P 04 54 16.5 -3.3
comp=Z,174nm,1.1s,comp=Z,2µm
EKS2 Erkin-Say 54.05 297 eP P 04 54 19.3 -0.7
EKS2 pmax pmax
comp=Z,62nm,0.9s
EKS2 MLR MLR
comp=Z,13µm,21.0s
EKS2 Erkin-Say 54.05 297 eP P 04 54 19.3 -0.7
comp=Z,62nm,0.9s
EKS2 LR LR
comp=Z,13µm,21.0s
NLWA Neilton Lookou 54.06 56 eP P 04 54 20.9 +1.1
comp=Z,134nm,1.0s
NLWA LR LR
comp=Z,5µm,22.0s
CHBT CHBT 54.10 248 P P 04 54 25.6 +5.2
comp=Z,139nm,0.7s
A05A Maple Falls 54.21 54 eP P 04 54 15.4 -5.4
comp=Z,129nm,1.1s
LUWI Luwuk 54.40 218 eP P 04 54 23.0 +0.5
comp=Z,234nm,1.1s
AML Almayashu 54.40 296 iP P 04 54 23.8 +0.9
AML Almayashu 54.40 296 P P 04 54 23.8 +0.9
SNR=14
ODAN Odare 54.40 273 eP P 04 54 23.5 +0.6
comp=Z,248nm,0.8s
KSH Kashi 54.44 292 eP P 04 54 26.9 +4.1
KSH esP sP 04 54 41.8 +1.3
KSH ePP PP 04 56 30.5 +5.5
KSH PcS PcS 04 59 24.8 -0.9
KSH S S 05 02 00.7 +2.4
KSH ScS ScS 05 04 12.6 +4.3
KSH SS SS 05 05 43.6 +3.0
KSH pmax pmax
comp=Z,20nm,1.1s
KSH pmax pmax
comp=Z,180nm,2.6s
KSH LR LR
comp=Z,5µm,13.2s
KSH LR LR
comp=Z,9µm,13.8s
KSH LR LR
comp=Z,17µm,18.5s
E03A Lebam 54.70 57 eP P 04 54 26.6 +2.1
comp=Z,109nm,1.1s
JIRN Jiri 54.72 274 eP P 04 54 26.3 +1.0
comp=Z,562nm,0.7s
JIRN Jiri 54.72 274 eP S 05 02 03.2 +0.4
GUN Gumba 54.77 275 eP P 04 54 26.0 +0.3
comp=Z,407nm,0.7s
B06A Marblemount 54.80 54 eP P 04 54 25.1 0.0
comp=Z,127nm,1.1s
ARU Arti 54.85 317 P P 04 54 24.3 -1.1
comp=Z,367nm,0.8s,SNR=13
ARU Arti 54.85 317c iP P 04 54 23.3 -2.1
ARU *PP pP 04 54 40.3 +2.4
ARU 04 55 25.2
ARU 04 56 27.9
ARU PPP PPP 04 57 38.7
ARU S S 05 01 59.1 -4.0
ARU 05 04 05.0
ARU pmax pmax
comp=Z,75nm,1.7s
ARU MLR MLR
comp=Z,11µm,19.0s
ARU Arti 54.85 317 eP P 04 54 23.3 -2.1
comp=Z,47nm,0.8s
ARU LR LR
comp=Z,11µm,19.0s
RAMN Ramite 54.89 273 eP P 04 54 27.0 +0.6
comp=Z,854nm,0.9s
PATY Pattaya 54.91 250 P P 04 54 31.7 +5.4
comp=Z,19nm,0.8s
KHLT Khaolaem Dam 55.01 253 P P 04 54 30.2 +3.1
comp=Z,31nm,0.7s,comp=Z,465nm
BJO Bjornoya 55.11 346 eP P 04 54 25.2 -1.8
D05A Enumclaw 55.25 56 eP P 04 54 29.6 +1.1
comp=Z,124nm,1.0s
KKN Kakani 55.26 275 eP P 04 54 30.1 +1.1
comp=Z,375nm,0.6s
KKN Kakani 55.26 275 eP S 05 02 11.6 +1.9
comp=Z,59nm,0.9s
PKI Pulchoki 55.31 275 eP P 04 54 30.2 +0.7
PKI Pulchoki 55.31 275 eP S 05 02 11.9 +1.3
comp=Z,36nm,0.7s
PKIN Phulchoki 55.31 275 eP P 04 54 30.0 +0.5
comp=Z,237nm,0.6s
PKIN Phulchoki 55.31 275 eP S 05 02 11.9 +1.3
DMN Daman 55.49 275 eP P 04 54 31.7 +0.9
comp=Z,726nm,0.8s
DMN Daman 55.49 275 eP S 05 02 14.7 +1.8
comp=Z,127nm,1.2s
GKN Gorkha 55.56 276 eP P 04 54 31.9 +0.7
comp=Z,684nm,0.8s
GKN Gorkha 55.56 276 eP S 05 02 16.4 +2.7
NLW Nelson Butte 55.69 54 P P 04 54 31.8 +0.1
F04A Amboy 55.70 57 eP P 04 54 31.9 +0.2
comp=Z,67nm,0.8s
PHET Kaeng Krachan 55.72 251 P P 04 54 34.5 +2.4

comp=Z,388nm,0.8s,comp=Z,3µm
KK31 Karatay Array 55.80 299 iP P 04 54 32.2 -0.3
KK31 pmax pmax
comp=Z,11nm,0.6s
KKAR Karatay Array 55.80 299 eP P 04 54 31.7 -0.8
KKAR pmax pmax
comp=Z,15nm,0.7s
KKAR Karatay Array 55.80 299 eP P 04 54 31.7 -0.8
comp=Z,15nm,0.7s
COR Corvallis 55.94 59 eP P 04 54 34.3 +0.9
COR pmax pmax
comp=Z,167nm,1.0s
COR Corvallis 55.94 59 eP P 04 54 34.3 +0.9
comp=Z,167nm,1.0s
DANN Dangsing 55.95 277 eP P 04 54 35.2 +1.2
comp=Z,424nm,0.6s
DANN Dangsing 55.95 277 eP S 05 02 23.7 +4.7
comp=Z,79nm,1.1s
ETW Entiat 55.95 55 P P 04 54 33.6 -0.1
LTY Liberty 55.96 55 eP P 04 54 33.5 -0.1
comp=Z,123nm,1.4s
WTV Waterville 56.11 54 P P 04 54 34.3 -0.4
PMG Port Moresby 56.13 187 eP P 04 54 34.3 -0.7
PMG pmax pmax
comp=Z,67nm,1.3s
PMG MLR MLR
comp=Z,3µm,22.0s
PMG Port Moresby 56.13 187 eP P 04 54 34.3 -0.7
comp=Z,67nm,1.3s
PMG LR LR
comp=Z,3µm,22.0s
I03D Drain, OR 56.42 60 ⇑P P 04 54 38.3 +1.5
baz=56
KOLN Koldanda 56.42 276 eP P 04 54 38.3 +1.0
comp=Z,500nm,0.9s
KOLN Koldanda 56.42 276 eP S 05 02 28.0 +2.8
SBUM Sibu 56.45 231 eP P 04 54 39.5 +2.1
comp=Z,22nm,1.0s
SBUM Sibu 56.45 231 ⇑P P 04 54 38.6 +1.3
H04A Detroit Lake 56.54 58 eP P 04 54 38.4 +0.7
comp=Z,222nm,1.1s
VFP Flag Point 56.60 57 P P 04 54 38.9 +0.6
PYUN Piuthan 56.63 277 eP P 04 54 39.5 +0.7
comp=Z,647nm,0.8s
PYUN Piuthan 56.63 277 eP S 05 02 32.0 +4.1
DAG Danmarks Havn 56.63 358 iP P 04 54 36.6 -1.3
DAG pmax pmax
comp=Z,50nm,0.9s
DAG MLR MLR
comp=Z,4µm,16.0s
DAG Danmarks Havn 56.63 358 iP P 04 54 36.6 -1.3
comp=Z,59nm,0.9s
LVZ Lovozero 56.67 336 PFAKE 04 54 50.0 +12
LVZ LR LR
comp=Z,9µm,19.0s
G05D Wamic, OR 56.73 57 ⇓P P 04 54 40.0 +0.9
baz=56
E07A Sunnyside 56.81 55 eP P 04 54 40.0 +0.3
comp=Z,154nm,1.3s
I04A Tendick Farm, 56.92 59 ⇓P P 04 54 41.1 +0.6
baz=57
OD2 Odessa Site #2 56.98 54 P P 04 54 40.5 -0.4
C09A Chrisman Ranch 56.99 53 eP P 04 54 40.7 -0.1
comp=Z,118nm,1.0s
D08A Wollman Farm, 57.05 55 eP P 04 54 41.2 -0.1
comp=Z,91nm,1.3s
HAWA Hanford 57.09 55 PFAKE 04 54 50.0 +8.4
HAWA LR LR
comp=Z,3µm,22.0s
G06A Carlson Farm, 57.13 57 eP P 04 54 42.8 +0.8
comp=Z,161nm,1.4s
L02D Cave Junction, 57.15 62 ⇑P P 04 54 42.3 +0.1
baz=57
I05D Terrebonne, OR 57.24 58 ⇑P P 04 54 43.3 +0.6
baz=57
PRGR Permogore 57.24 327 ⇑iP P 04 54 41.8 -0.5
PRGR e 04 55 34.9
PRGR eS S 05 02 35.3 +0.7
PRGR pmax pmax
comp=Z,59nm,0.9s
APA Apatity 57.24 337 ⇑iP P 04 54 41.0 -1.3
APA i 04 55 39.4
APA i PPP PPP 04 58 19.0
APA i S S 05 02 28.0 -6.5
APA i 05 04 30.0
APA i SS SS 05 06 27.0 +3.8
APA MLR MLR
comp=Z,9µm,21.0s
KEV Kevo 57.26 340 eP P 04 54 40.3 -2.1
KEV pmax pmax
comp=Z,8.0nm,0.5s
KEV Kevo 57.26 340 ep P 04 54 40.3 -2.1
comp=Z,7.9nm,0.5s
KEV Kevo 57.26 340 PFAKE 04 54 50.0 +7.6
KEV LR LR
comp=Z,8µm,20.0s
KULLO Kullorsuaq 57.29 9 iP P 04 54 41.7 -0.9
KULLO MLR MLR
comp=Z,11µm,20.0s
KULLO Kullorsuaq 57.29 9 iP P 04 54 41.7 -0.9
NEW Newport 57.35 53 eP P 04 54 43.5 0.0
NEW e 04 56 48.1
NEW pmax pmax
comp=Z,116nm,1.1s
NEW Newport 57.35 53 LR LR 05 20 28.6
comp=Z,2µm,18.2s,baz=318,slow=37
NEW Newport 57.35 53 eP P 04 54 43.5 0.0
comp=Z,116nm,1.1s
NEW ePP PP 04 56 48.1 -2.6
NEW Newport 57.35 53 eP P 04 54 43.5 0.0
NEW Newport 57.35 53 ⇑P P 04 54 43.3 -0.2
baz=57,SNR=64
J04D Umpqua Nationa 57.42 60 P P 04 54 44.5 +0.3
baz=57
BOK Bokaro 57.42 271 eP P 04 54 45.4 +1.2
BOK AMB AMB 04 54 49.6
comp=Z,126nm,0.7s
VIPM Ingram Point 57.56 58 P P 04 54 45.8 +0.7
VIPM Ingram Point 57.56 58 P P 04 54 45.8 +0.7
PTH Pithoragarh 57.60 280 eP P 04 54 43.9 -1.7
LGTI Lohaghat 57.64 280 ex pP 04 55 01.1 +2.8
ARCES ARCESS Array B 57.77 341 P P 04 54 45.6 -0.5
comp=Z,5.6nm,0.4s,baz=42,slow=7.4,SNR=66
ARCES PcP PcP 04 55 39.1 +0.8
comp=Z,22nm,0.8s,baz=58,slow=4.7,SNR=7.3
ARCES LR LR 05 22 41.7
comp=Z,7µm,20.4s,baz=34,slow=39
ARE0 ARCESS Array S 57.77 341 eP P 04 54 45.4 -0.7
ARE0 eS S 05 02 39.4 -2.1
ARE0 IAMs_20 IAMs_20 05 22 23.2
comp=Z,8µm,19.9s
ARE0 ARCESS Array S 57.77 341 eP P 04 54 45.7 -0.3
ARE0 ePcP PcP 04 55 39.0 +0.7
ARE0 eScP ScP 04 59 30.8 -3.7
E09A Wood Farm, Sta 57.80 55 eP P 04 54 46.8 +0.2
comp=Z,170nm,1.1s
KHMM Horse Mountain 57.83 63 eP P 04 54 49.1 +2.0
comp=Z,76nm,1.1s
J05D Fort Rock, OR 57.91 59 ⇑P P 04 54 48.7 +1.1
baz=58
M02C Callahan 58.06 62 ⇓P P 04 54 49.3 +0.7
baz=58
G08A Pilot Rock 58.06 56 eP P 04 54 48.8 +0.2
comp=Z,74nm,1.1s
AB31 Akbulak array 58.25 310 iP P 04 54 48.4 -1.2
AB31 pmax pmax
comp=Z,9.0nm,0.4s
ABKAR Akbulak array 58.25 310 eP P 04 54 48.0 -1.7
KSM Kuching 58.30 233 PFAKE 04 55 00.0 +10
KSM LR LR
comp=Z,2µm,22.0s
KSM Kuching 58.30 233 ⇓P P 04 54 52.1 +1.8
SPSI Sidrap Palu 58.31 220 P P 04 54 49.6 -0.8
comp=Z,60nm,1.6s
N02D Trinity Center 58.40 62 ⇑P P 04 54 52.2 +1.3
baz=58
M04C Macdoel 58.44 61 ⇑P P 04 54 52.3 +1.0
baz=58
K05A Summer Lake 58.44 60 eP P 04 54 52.5 +1.1
comp=Z,98nm,0.9s
I07A Izee 58.46 58 eP P 04 54 52.0 +0.6
comp=Z,86nm,1.3s
DHRM DHARAMSHALA 58.55 285 eP P 04 54 52.6 +0.3
DHRM AMB AMB 04 54 56.4
comp=Z,224nm,1.3s
BNSI Bone 58.55 219 P P 04 54 51.1 -1.0
comp=Z,84nm,1.5s,comp=Z,1µm
AKTO Aktyubinsk 58.55 312 P P 04 54 51.5 -0.3
comp=Z,7.1nm,0.6s,baz=49,slow=9.8
SDNR Sundarnagar 58.57 284 ex P 04 54 58.0 +5.8
DDI Dehra Dun 58.58 282 eP P 04 54 53.1 +0.9
DDI AMB AMB 04 54 54.8
comp=Z,287nm,0.7s
DLH Dalhousie 58.59 286 eP P 04 54 52.0 -0.5
DLH ex x 04 55 10.0
KCPM Cahto Peak 58.62 64 eP P 04 54 53.4 +0.8
comp=Z,75nm,1.2s
F10A Beach Ranch, E 58.64 55 eP P 04 54 52.8 +0.2
comp=Z,90nm,1.1s
KTK1 Kautokeino 58.69 341 eP P 04 54 52.5 0.0
WDC Whiskeytown Da 58.73 63 eP P 04 54 53.3 +0.1
WDC pmax pmax
comp=Z,65nm,1.1s
WDC Whiskeytown Da 58.73 63 eP P 04 54 53.2 +0.1
comp=Z,65nm,1.1s
STKI Sintang 58.84 230 P P 04 54 58.5 +4.3
BSMT Bassoo Peak 58.87 52 P P 04 54 54.7 +0.4
BHK Bhakra 58.99 284 eP P 04 54 55.0 -0.1
TRO Tromso 59.11 343 eP P 04 54 55.8 +0.5
TRO eS S 05 02 58.3 -0.4
SURT Suratani 59.22 248 P P 04 55 01.7 +4.9
comp=Z,19nm,0.7s,comp=Z,427nm
KAPI Kappang 59.25 219 eP P 04 54 58.1 +1.2
comp=Z,693nm,1.3s
KAPI LR LR
comp=Z,2µm,22.0s
BMO Blue Mountains 59.26 56 PFAKE 04 55 10.0 +13
BMO LR LR
comp=Z,3µm,22.0s
KTGM Kuala Trenggan 59.32 242 ⇓P P 04 54 59.2 +1.7
BKSI Bulukumba 59.37 219 P P 04 54 56.9 -0.9
comp=Z,42nm,1.0s,comp=Z,845nm
KBKI Kotabaru 59.37 224 P P 04 54 57.9 +0.1
comp=Z,53nm,1.4s,comp=Z,3µm
SLMT Seeley Lake 59.93 52 eP P 04 55 01.4 -0.1
MSO Missoula 59.94 52 eP P 04 55 01.8 +0.3
comp=Z,226nm,1.2s
MSO Missoula 59.94 52 ⇑P P 04 55 01.0 -0.6
baz=60,SNR=51
DGPR DIGLIPUR 59.94 257 eP P 04 55 01.5 -0.3
DGPR AMB AMB 04 55 08.5
comp=Z,183nm,0.6s
WVOR Wild Horse Val 59.95 59 PFAKE 04 55 10.0 +8.3
WVOR LR LR
comp=Z,2µm,19.0s
KLMR Klimovskoe 59.98 329 eP P 04 54 59.7 -1.8
KLMR S S 05 03 00.1 -10
KLMR pmax pmax
comp=Z,37nm,0.8s
KLMR MLR MLR
comp=Z,7µm,22.0s
OHCM Honcut 60.13 63 eP P 04 55 03.0 +0.3
BBKI Banjar Baru 60.15 225 P P 04 55 03.5 +0.3
comp=Z,128nm,1.2s,comp=Z,128nm,1.2s
NDI New Delhi 60.18 281 iP P 04 55 02.5 -0.8
NDI eS S 05 03 13.0 -0.7
PKDT Phuket 60.32 248 P P 04 55 09.3 +4.9
comp=Z,68nm,1.4s,comp=Z,3µm
AYAN Aya Nagar 60.37 281 eP P 04 55 04.8 +0.2
SONA Sohna 60.54 281 eP P 04 55 05.8 0.0
AGRA Agra 60.62 280 eP P 04 55 06.6 +0.3
SUMG Summit 60.71 4 iP P 04 55 06.5 -0.3
SUMG pmax pmax
comp=Z,360nm,1.0s
SUMG MLR MLR
comp=Z,7µm,19.0s
SUMG Summit 60.71 4 iP P 04 55 06.5 -0.3
comp=Z,359nm,1.0s
KULM Kulim 60.87 244 eP P 04 55 09.0 +0.9
comp=Z,101nm,1.0s
KULM LR LR
comp=Z,2µm,19.0s
KULM Kulim 60.87 244 ⇑P P 04 55 10.1 +2.0
FFC Flin Flon 60.88 40 eP P 04 55 07.8 +0.1
FFC pmax pmax
comp=Z,307nm,1.0s
FFC MLR MLR
comp=Z,5µm,21.0s
FFC Flin Flon 60.88 40 eP P 04 55 07.8 +0.1
comp=Z,307nm,1.0s
FFC LR LR
comp=Z,5µm,21.0s
FFC Flin Flon 60.88 40 eP P 04 55 07.8 +0.1
KUDL Kundal 61.01 281 eP P 04 55 08.9 -0.1
KUDL AMB AMB 04 55 11.9
comp=Z,127nm,1.1s
COEN Coen 61.04 191 eP P 04 55 09.2 +0.1
comp=Z,469nm,1.1s
PBKI Pangkalan Bun 61.09 229 P P 04 55 09.7 +0.1
comp=Z,24nm,0.4s
JOF Joensuu 61.23 334 eP P 04 55 08.7 -1.2
JOF pmax pmax
comp=Z,41nm,0.7s
JOF Joensuu 61.23 334 ep P 04 55 08.7 -1.2
comp=Z,41nm,0.7s
IPM Ipoh 61.27 243 eP P 04 55 12.0 +1.1
comp=Z,55nm,1.0s
IPM epP pP 04 55 25.8 +2.3
IPM Ipoh 61.27 243 ⇓P P 04 55 12.7 +1.8
STEI Steigen 61.28 343 eP P 04 55 10.8 +0.7
A19A Klindworth Far 61.38 48 ⇓P P 04 55 11.6 +0.3
baz=61,SNR=111
FCC Fort Churchill 61.38 33 eP P 04 55 10.5 -0.5
FCC Fort Churchill 61.38 33 eP P 04 55 10.5 -0.5
comp=Z,3.9nm,0.7s
EGMT Eagleton 61.43 49 PFAKE 04 55 20.0 +8.3
EGMT LR LR
comp=Z,4µm,20.0s
EGMT Eagleton 61.43 49 ⇓P P 04 55 11.4 -0.3
baz=61,SNR=93
MMRI Maumere 61.49 215 P P 04 55 10.5 -1.8
comp=Z,139nm,1.2s,comp=Z,2µm
MMRI Maumere 61.49 215 eP P 04 55 13.6 +1.3
comp=Z,107nm,1.0s
KHET Khetri 61.52 282 eP P 04 55 12.4 0.0
B19A Brinkman Farms 61.58 49 ⇑P P 04 55 12.6 0.0
baz=61,SNR=145
DLMT Dillon 61.58 53 eP P 04 55 12.8 0.0
comp=Z,234nm,1.8s
CMB Columbia Colle 61.61 64 eP P 04 55 13.2 +0.3
CMB pmax pmax
comp=Z,57nm,0.9s
CMB Columbia Colle 61.61 64 eP P 04 55 13.2 +0.3
comp=Z,57nm,0.9s
HLID Hailey 61.70 56 PFAKE 04 55 30.0 +16
HLID LR LR
comp=Z,2µm,20.0s
HLID Hailey 61.70 56 ⇓P P 04 55 13.4 -0.3
baz=61,SNR=83
MYKOM Kota Tinggi 61.70 239 eP P 04 55 18.4 +4.7
comp=Z,52nm,0.8s
SOEI Soe 61.75 212 P P 04 55 11.6 -2.5
comp=Z,192nm,1.0s,comp=Z,2µm
SOEI Soe 61.75 212 eP P 04 55 14.4 +0.3
comp=Z,230nm,1.1s
MCMT McKenzie Canyo 61.78 54 eP P 04 55 13.8 -0.5
comp=Z,18nm,1.1s
JMIC Jan Mayen 61.80 353 eP P 04 55 15.3 +1.7
JMIC eS S 05 03 36.4 +3.3
JMIC Jan Mayen 61.80 353 P P 04 55 13.3 -0.3
comp=Z,211nm,0.9s,baz=55,slow=5.0,SNR=9.0
A20A Cobblestone Ra 61.83 48 ⇑P P 04 55 14.0 -0.3
baz=62,SNR=164
KBL Kabul 61.85 291 eP P 04 55 13.8 -1.1
KBL pmax pmax
comp=Z,63nm,0.8s
KBL Kabul 61.85 291 eP P 04 55 13.8 -1.1
comp=Z,62nm,0.8s
BOZ Bozeman (W) 61.93 52 PFAKE 04 55 30.0 +15
BOZ LR LR
comp=Z,3µm,21.0s
C19A Slack Wire Ran 61.98 49 ⇑P P 04 55 15.7 +0.3
baz=62,SNR=122
XMAS Kiritimati 62.00 120 PFAKE 04 55 30.0 +14
XMAS LR LR
comp=Z,6µm,20.0s
B20A Solberg Farm, 62.06 48 ⇑P P 04 55 15.9 0.0
baz=62,SNR=166
D19A Cripps Ranch, 62.44 50 ⇑P P 04 55 18.4 0.0
baz=62,SNR=67
C20A Veseth Ranch, 62.54 49 ⇓P P 04 55 19.4 +0.4
baz=62,SNR=176
B21A Ellsworth Farm 62.58 48 ⇓P P 04 55 20.2 +0.9
baz=62,SNR=7.4
NVAR Mina Array Bea 62.63 62 P P 04 55 20.4 +0.3
comp=Z,26nm,0.7s,baz=297,slow=6.9,SNR=92
NVAR LR LR 05 16 51.6
comp=Z,828nm,21.9s,baz=51,slow=30
NVAR PKP2bc 05 24 31.1
comp=Z,0.8nm,0.8s,baz=85,slow=4.8,SNR=4.3
NV11 Mina Array Sit 62.72 62 eP P 04 55 20.4 -0.2
A22A Carney Farms, 62.77 47 ⇑P P 04 55 20.9 +0.3
baz=62,SNR=325
MLAC Mammoth Lakes 62.81 63 P P 04 55 22.6 +1.3
baz=63
D20A Manuel Ranch, 62.87 49 ⇓P P 04 55 21.6 +0.4
baz=63,SNR=116
YMR Madison River 62.92 53 eP P 04 55 21.9 +0.1
comp=Z,245nm,1.4s
C21A Desert Coulee 62.93 48 P P 04 55 22.2 +0.5
baz=63
KONS Konsvik 62.94 343 eP P 04 55 20.9 -0.4
KONS IAmb IAmb 04 55 22.6
comp=Z,88nm,0.8s
E19A Rath Farm, Rou 62.94 50 ⇑P P 04 55 22.1 +0.3
baz=63,SNR=54
MOR8 Moi Rana 62.95 342 eP P 04 55 19.4 -2.1
MOR8 IAmb IAmb 04 55 21.7
comp=Z,203nm,0.7s
ELK Elko 63.00 58 eP P 04 55 22.9 +0.4
ELK pmax pmax
comp=Z,299nm,2.3s
ELK Elko 63.00 58 LR LR 05 18 22.1
comp=Z,1µm,20.2s,baz=340,slow=32
ELK Elko 63.00 58 eP P 04 55 22.9 +0.4
comp=Z,298nm,2.3s
ILULI Ilulissat 63.01 9 iP P 04 55 21.5 -0.2
ILULI MLR MLR
comp=Z,8µm,22.0s
ILULI Ilulissat 63.01 9 iP P 04 55 21.5 -0.2
FLOS Flostrand 63.03 343 eP P 04 55 21.5 -0.4
FLOS IAmb IAmb 04 55 23.2
comp=Z,191nm,1.2s
STOK Stokkvaagen 63.10 343 eP P 04 55 21.3 -1.0
MTUM Tungsten Hills 63.16 63 eP P 04 55 24.2 +0.8
B22A Reddig Ranch S 63.18 47 ⇑P P 04 55 23.9 +0.6
baz=63,SNR=36
PTRM Twissleman Ran 63.22 66 eP P 04 55 24.1 +0.4
LHMI Lhok Sumawe 63.24 247 eP P 04 55 25.7 +1.7
comp=Z,108nm,0.7s
F19A Roth Farm, Mol 63.25 51 ⇑P P 04 55 24.5 +0.6
baz=63,SNR=68
E20A Meyer Farm, Mu 63.25 50 ⇓P P 04 55 24.2 +0.4
baz=63,SNR=48
VIS Vishakhapatnam 63.28 268 eP P 04 55 25.2 +1.0
H17A Grant Village 63.31 53 ⇑P P 04 55 26.0 +1.5
baz=63,SNR=77
A23A Redstone 63.31 46 ⇑P P 04 55 23.8 -0.3
baz=63,SNR=46
KAF Kangasniemi 63.34 335 eP P 04 55 22.0 -2.0
KAF pmax pmax
comp=Z,42nm,0.6s
KAF Kangasniemi 63.34 335 ep P 04 55 22.0 -2.0
comp=Z,42nm,0.6s
RCTC Rector, Farmer 63.41 65 P P 04 55 24.6 -0.3
baz=63
FLWY Flagg Ranch 63.44 53 eP P 04 55 26.5 +1.2
comp=Z,570nm,2.5s
D21A La Casta Ranch 63.48 49 ⇑P P 04 55 25.7 +0.3
baz=63,SNR=62
TPH Tonopah 63.52 62 eP P 04 55 25.8 -0.1
TPH pmax pmax
comp=Z,82nm,0.9s
TPH Tonopah 63.52 62 eP P 04 55 25.8 -0.1
comp=Z,82nm,0.9s
TPH eScP 04 59 58.8
RLMT Red Lodge 63.55 52 eP P 04 55 26.1 +0.1
comp=Z,223nm,1.5s
RLMT LR LR
comp=Z,3µm,20.0s
TIN Tinemaha 63.55 63 ⇑P P 04 55 27.0 +1.0
baz=63,SNR=12
SMMC Simmler 63.57 66 ⇑P P 04 55 27.2 +1.2
baz=63,SNR=8.5
B23A Brockton 63.58 47 ⇑P P 04 55 25.6 -0.3
baz=63,SNR=102
BHPL Bhopal 63.59 276 eP P 04 55 26.6 +0.3
BHPL AMB AMB 04 55 28.9
comp=Z,202nm,0.0s
C22A Vida 63.60 48 ⇑P P 04 55 26.7 +0.7
baz=63,SNR=45
I17A Pilgrim Ck. 63.61 53 ⇑P P 04 55 26.6 +0.2
baz=63,SNR=38
H18A Shoshone NF, C 63.62 52 ⇓P P 04 55 27.3 +0.8
baz=63,SNR=38
MOOW Moose Ponds 63.63 53 eP P 04 55 27.4 +0.9
comp=Z,99nm,1.3s
KMMI Kalianget 63.69 224 P P 04 55 26.8 -0.1
comp=Z,121nm,1.6s
F20A Billings 63.70 50 ⇑P P 04 55 27.8 +0.9
baz=63,SNR=12
HVU Hansel Valley 63.76 56 eP P 04 55 26.9 -0.5
HVU pmax pmax
comp=Z,46nm,0.9s
HVU Hansel Valley 63.76 56 eP P 04 55 26.9 -0.5
comp=Z,46nm,0.9s
A24A Westby 63.76 46 ⇓P P 04 55 27.7 +0.6
baz=64,SNR=84
E21A Keefer Ranch, 63.78 49 ⇓P P 04 55 28.3 +1.0
baz=64,SNR=22
LOHW Long Hollow 63.80 54 eP P 04 55 28.6 +0.9
comp=Z,207nm,1.5s
VES Vestal, Richgr 63.80 65 ⇑P P 04 55 27.2 -0.3
baz=64,SNR=18
REDW Red Top Meadow 63.82 54 eP P 04 55 27.9 +0.1
comp=Z,182nm,1.1s
D22A Cohagen 63.84 48 ⇓P P 04 55 28.1 +0.4
baz=64,SNR=61
PSI Prapat 63.88 244 LR LR 05 24 27.0
comp=Z,2µm,20.3s,baz=29,slow=37
C23A Lambert 63.92 47 ⇑P P 04 55 28.5 +0.3
baz=64,SNR=36
FIA1 FINESS Array S 63.94 335 eP P 04 55 27.0 -0.9
FIA1 ePcP PcP 04 56 03.5 +0.3
FIA1 ePP PP 04 57 50.2 +1.9
FINES FINESS Array B 63.94 335 P P 04 55 27.2 -0.7
comp=Z,72nm,0.4s,baz=39,slow=6.1,SNR=290
FINES PcP PcP 04 56 04.3 +1.1
comp=Z,41nm,0.7s,baz=50,slow=5.6,SNR=5.2
FINES LR LR 05 26 02.7
comp=Z,9µm,20.8s,baz=89,slow=39
DGMT Dagmar 63.97 46 eP P 04 55 28.6 +0.1
comp=Z,260nm,0.9s
DGMT LR LR
comp=Z,7µm,22.0s
DGMT Dagmar 63.97 46 ⇓P P 04 55 28.8 +0.3
baz=64,SNR=88
H19A Powell 63.99 52 ⇑P P 04 55 29.5 +0.7
baz=64,SNR=28
SRBI Singaraja 64.01 222 P P 04 55 28.7 -0.3
comp=Z,154nm,0.9s,comp=Z,2µm
KCSI Kotacane, Aceh 64.03 245 P sP 04 55 48.9 +1.8
G20A Bridger 64.05 51 ⇓P P 04 55 29.2 0.0
baz=64,SNR=37
AHID Auburn Hatcher 64.07 55 eP P 04 55 29.4 -0.1
comp=Z,120nm,1.3s
AHID LR LR
comp=Z,2µm,19.0s
GRAC Grapevine Rang 64.12 63 ⇓P P 04 55 29.8 +0.2
baz=64,SNR=35
LAO LASA Array 64.13 49 PFAKE 04 55 40.0 +10
LAO LR LR
comp=Z,5µm,20.0s
BGU Big Grassy Mou 64.17 57 eP P 04 55 28.9 -1.1
comp=Z,34nm,1.5s
A25A Svangstu Ranch 64.19 45 ⇑P P 04 55 30.8 +0.9
baz=64,SNR=75
ABJI Asem Bagus 64.21 223 P P 04 55 30.2 -0.1
F21A Absaloka Mine, 64.23 50 ⇑P P 04 55 30.6 +0.4
baz=64,SNR=16
SPUT South Promonto 64.25 56 eP P 04 55 31.1 +0.5
comp=Z,127nm,1.3s
GRJI Gresik 64.29 225 P P 04 55 30.9 0.0
ISA Isabella 64.30 65 ⇓P P 04 55 30.4 -0.4
baz=64,SNR=20
MOS Moscow 64.31 325 eP P 04 55 30.3 -0.2
MOS e 04 56 03.5
MOS pmax pmax
comp=Z,55nm,0.9s

MOS MLR MLR
comp=Z,7µm,17.0s
MOS MLR MLR
comp=N,6µm,19.0s
SBC Santa Barbara 64.31 66 ⇓P P 04 55 30.0 -0.9
baz=64
D23A Lindsay 64.33 48 ⇑P P 04 55 31.8 +0.9
baz=64,SNR=29
R11A Troy Canyon, C 64.33 61 ⇓P P 04 55 30.8 -0.4
baz=64,SNR=70
I19A Meeteetse 64.40 52 ⇓P P 04 55 30.3 -1.3
baz=64,SNR=37
ARVC Arvin 64.42 65 ⇓P P 04 55 32.2 +0.6
baz=64,SNR=8.7
C24A Savage 64.48 47 ⇑P P 04 55 32.5 +0.7
baz=64,SNR=41
TBJI Tambak Boyo 64.52 226 P P 04 55 32.6 +0.3
BKNI Bangkinang 64.54 240 eP P 04 55 32.4 -0.2
comp=N,250nm,0.8s
HWUT Hardware Ranch 64.56 56 PFAKE 04 55 40.0 +7.3
HWUT LR LR
comp=Z,2µm,19.0s
G21A Lodge Grass 64.58 50 ⇓P P 04 55 32.6 0.0
baz=64,SNR=12
TPTI 64.61 246 P P 04 55 38.9 +5.9
comp=Z,155nm,1.5s,comp=Z,116µm
B25A Knox Farm, Ray 64.61 46 ⇑P P 04 55 33.0 +0.3
baz=64,SNR=47
H20A Greybull 64.64 51 ⇑P P 04 55 33.4 +0.4
baz=64,SNR=13
IGBI Denpasar 64.69 222 P P 04 55 32.9 -0.5
comp=Z,65nm,0.9s
F22A Rosebud 64.71 49 ⇑P P 04 55 33.8 +0.4
baz=64,SNR=80
A26A Wade Farm, Ken 64.74 45 ⇓P P 04 55 33.5 0.0
baz=64,SNR=41
DUG Dugway 64.77 58 eP P 04 55 34.3 +0.3
DUG pmax pmax
comp=Z,121nm,1.1s
DUG MLR MLR
comp=Z,2µm,20.0s
DUG Dugway 64.77 58 eP P 04 55 34.2 +0.3
comp=Z,121nm,1.1s
DUG LR LR
comp=Z,2µm,20.0s
DUG Dugway 64.77 58 eP P 04 55 34.3 +0.3
DUG Dugway 64.77 58 ⇓P P 04 55 34.4 +0.5
baz=64,SNR=97
FURC Furnace Creek, 64.77 63 ⇓P P 04 55 34.4 +0.6
baz=65,SNR=63
D24A Glendive 64.81 47 ⇓P P 04 55 34.7 +0.6
baz=64,SNR=120
OSI Osito Adit 64.82 66 ⇑P P 04 55 35.6 +1.3
baz=65
JAGI Jajag, Banyuwa 64.84 223 P P 04 55 34.1 -0.4
comp=Z,33nm,1.1s
J19A Crowheart 64.88 53 ⇑P P 04 55 35.3 +0.7
baz=65,SNR=51
NSS Namsos 64.89 342 eS S 05 04 10.8 -1.0
NSS IAMs_20 IAMs_20 05 27 26.1
comp=Z,9µm,19.8s
LRMC Laurel Mountai 64.90 64 ⇑P P 04 55 35.3 +0.4
baz=65,SNR=11
BW06 Boulder Array 64.93 54 eP P 04 55 34.8 -0.3
comp=Z,125nm,1.2s
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 64.93 54 P **P 04 55 35.0 -0.1**
comp=Z,44nm,0.9s,baz=270,slow=1.6,SNR=101
PDAR PKP2bc 05 24 33.4
comp=Z,1.1nm,1.0s,baz=108,slow=3.3,SNR=4.1
I20A Worland 64.93 52 ⇑P P 04 55 35.9 +1.0
baz=65,SNR=19
C25A Freed Ranch, W 64.95 46 ⇑P P 04 55 35.8 +0.9
baz=65,SNR=45
TCUT Toone Canyon 64.97 56 eP P 04 55 35.5 +0.1
comp=Z,110nm,1.2s
B26A Jensen Ranch, 65.00 45 ⇑P P 04 55 35.7 +0.5
baz=65
GMJI Gumukmas 65.00 224 P P 04 55 35.6 +0.1
CTU Camp Tracy 65.05 57 eP P 04 55 35.6 -0.3
comp=Z,56nm,1.0s
H21A Big Horn, Sher 65.06 51 ⇑P P 04 55 36.1 +0.3
baz=65,SNR=56
G22A Birney 65.07 50 ⇓P P 04 55 35.5 -0.3
baz=65,SNR=38
A27A Ledoux Ranch, 65.09 44 ⇑P P 04 55 36.1 +0.3
baz=65
EDW2 Edwards Air Fo 65.11 65 ⇑P P 04 55 36.3 +0.2
baz=65,SNR=31
FRB Frobisher Bay 65.12 19 LR LR 05 27 10.9
comp=Z,6µm,20.4s,baz=335,slow=39
OBN Obninsk 65.18 325 ⇑iP P 04 55 35.1 -1.0
OBN e*PP **pP 04 55 52.7 +3.8**
OBN pmax pmax
comp=Z,84nm,0.9s
OBN MLR MLR
comp=Z,7µm,16.0s
OBN Obninsk 65.18 325 P P 04 55 34.1 -2.1
comp=Z,78nm,0.8s,baz=44,slow=4.4,SNR=19
OBN Obninsk 65.18 325 P P 04 55 34.1 -2.1
OBN LR LR
comp=Z,8µm,19.0s
NGJI Ngawi 65.19 226 P P 04 55 37.3 +0.6
SFJD Kangerlussuaq 65.19 10 iP P 04 55 35.0 -1.0
SFJD MLR MLR
comp=Z,6µm,19.0s
SFJD Kangerlussuaq 65.19 10 iP P 04 55 35.0 -1.0
SFJD Kangerlussuaq 65.19 10 P P 04 55 34.4 -1.6
comp=Z,40nm,0.8s,baz=342,slow=6.5,SNR=18
SFJD Kangerlussuaq 65.19 10 eP P 04 55 35.4 -0.6
comp=Z,61nm,1.0s
SFJD LR LR
comp=Z,8µm,20.0s
E24A Baker 65.19 48 ⇑P P 04 55 37.2 +0.6
baz=65,SNR=22
F23A Volborg 65.19 49 ⇑P P 04 55 36.8 +0.2
baz=65,SNR=91
D25A Fairfield 65.29 47 ⇑P P 04 55 36.9 -0.3
baz=65,SNR=22
DECC Green Verdugo 65.30 66 ⇑P P 04 55 37.9 +0.6
baz=65,SNR=5.9
J20A Shoshoni 65.35 52 ⇑P P 04 55 37.7 0.0
baz=65,SNR=35
SMRI Semarang 65.42 227 P P 04 55 39.6 +1.4
comp=Z,198nm,2.3s
C26A Wahner Farm, P 65.44 46 ⇑P P 04 55 38.4 +0.3
baz=65,SNR=48
PASC Pasadena Art C 65.44 66 eP P 04 55 37.8 -0.5
comp=Z,72nm,1.1s
B27A Peters Farms, 65.45 45 ⇓P P 04 55 38.1 0.0
baz=65,SNR=25
H22A Clearmont 65.45 50 ⇓P P 04 55 38.2 -0.1
baz=65,SNR=20
I21A Big Trails, Te 65.47 52 ⇓P P 04 55 38.5 0.0
baz=65,SNR=85
SHOC Shoshone 65.50 63 ⇑P P 04 55 38.8 +0.2
baz=65,SNR=5.1
DAU Daniels Canyon 65.52 57 eP P 04 55 39.2 +0.1
DAU Daniels Canyon 65.52 57 eP P 04 55 39.2 +0.1
G23A Biddle 65.55 49 ⇓P P 04 55 38.6 -0.3
baz=65,SNR=48
GSC Goldstone 65.56 64 ⇓P P 04 55 39.3 +0.1
baz=65,SNR=21
PWJI Pagerwojo 65.58 225 P P 04 55 38.8 -0.4
A28A Rude Farm, Bot 65.58 44 ⇑P P 04 55 38.6 -0.3
baz=65,SNR=43
F24A Ekalaka 65.61 48 ⇑P P 04 55 39.3 0.0
baz=65,SNR=64
E25A Miller Ranch, 65.69 47 ⇓P P 04 55 40.4 +0.6
baz=65,SNR=49
J21A Lysite 65.70 52 ⇓P P 04 55 40.3 +0.3
baz=65,SNR=33
BFSC Mount Baldy Ra 65.73 65 ⇓P P 04 55 40.4 +0.1
baz=66,SNR=9.5
SNSI Sinabang, Aceh 65.80 246 P P 04 55 47.6 +6.9
CIS Catalina Islan 65.81 66 ⇑P P 04 55 41.9 +1.2
baz=66
C27A Sayler Ranch, 65.81 45 ⇑P P 04 55 41.1 +0.6
baz=66,SNR=49
D26A Manning 65.82 46 ⇑P P 04 55 41.2 +0.6
baz=66,SNR=22
I22A 9 Mile Ranch, 65.85 51 ⇑P P 04 55 41.6 +0.6
baz=66,SNR=35
B28A Dugan Ranch, T 65.86 44 ⇓P P 04 55 41.3 +0.6
baz=66,SNR=72
WOJI Wonogiri, Jawa 65.86 226 P P 04 55 41.4 +0.4
comp=Z,81nm,1.7s,comp=Z,4µm

PDSI Padang 65.87 240 P P 04 55 45.8 +4.6
comp=Z,36nm,1.4s,comp=Z,3µm
G24A Alzada 65.97 49 ⇓P P 04 55 41.9 +0.3
baz=66,SNR=37
ARUT Antelope Range 65.97 60 eP P 04 55 41.9 +0.1
ARUT pmax pmax
comp=Z,742nm,0.9s
ARUT Antelope Range 65.97 60 eP P 04 55 41.9 +0.1
comp=Z,742nm,0.9s
H23A Clabaugh Cattl 65.98 50 ⇑P P 04 55 41.7 0.0
baz=66
VRHR Novokhopersk 65.98 320 eP P 04 55 39.4 -2.0
VRHR e*SP **sP** 04 56 02.7 +3.4
VRHR eS S 05 04 15.3 -10
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,60nm,0.8s
VRHR smax smax
comp=N,270nm,1.8s
VRHR smax smax
comp=E,180nm,1.8s
VRHR smax smax
comp=Z,60nm,1.0s
VRHR MLR MLR
comp=N,6µm,24.0s
VRHR MLR MLR
comp=E,4µm,24.0s
VRHR MLR MLR
comp=Z,11µm,24.0s
TUQ Turquoise Moun 66.02 63 ⇓P P 04 55 42.2 +0.1
baz=66,SNR=41
F25A Bowman 66.06 48 ⇓P P 04 55 42.8 +0.6
baz=66,SNR=31
A29A Manning Farm, 66.06 43 ⇓P P 04 55 42.6 +0.6
baz=66,SNR=109
VSU Vasula 66.11 332c iP P 04 55 41.4 -0.7
VSU pmax pmax
comp=Z,261nm,0.8s
HEC Hector,Ludlow 66.17 64 ⇓P P 04 55 43.5 +0.5
baz=66,SNR=14
BBRC Big Bear Solar 66.17 65 ⇑P P 04 55 44.2 +0.9
baz=66,SNR=8.8
J22A Midwest 66.18 52 ⇑P P 04 55 43.7 +0.6
baz=66,SNR=79
E26A Carlson Angus 66.19 47 ⇑P P 04 55 43.3 +0.3
baz=66,SNR=42
D27A Center 66.22 46 ⇓P P 04 55 43.7 +0.6
baz=66,SNR=18
K21A Alcova 66.29 53 ⇓P P 04 55 44.4 +0.6
baz=66,SNR=55
TMUT Trail Mountain 66.29 57 eP P 04 55 44.0 0.0
comp=Z,48nm,0.9s
H24A Dirks Ranch, A 66.30 49 ⇓P P 04 55 43.7 0.0
baz=66,SNR=61
B29A Wagenman Farm, 66.33 44 ⇑P P 04 55 44.4 +0.6
baz=66,SNR=78
I23A Meade Ranch, G 66.35 51 ⇑P P 04 55 44.7 +0.6
baz=66
C28A Hausauer Farms 66.35 45 ⇓P P 04 55 44.6 +0.6
baz=66,SNR=12
TBLU Trondheim 66.38 343 eP P 04 55 42.8 -1.0
ABKT Alibek 66.40 301 P P 04 55 45.8 +1.4
comp=Z,417nm,0.7s,SNR=6.4
MURC Murrieta 66.44 66 ⇑P P 04 55 44.7 0.0
baz=66,SNR=19
A30A Hoffart Farm, 66.49 43 ⇓P P 04 55 44.7 0.0
baz=66,SNR=76
F26A Lodgepole 66.51 48 ⇓P P 04 55 45.0 0.0
baz=66,SNR=65
G25A Newell 66.58 48 ⇑P P 04 55 45.8 +0.3
baz=66,SNR=28
GMRC Granite Mounta 66.61 64 ⇓P P 04 55 46.3 +0.4
baz=66,SNR=26
MASI Maura Aman, Be 66.62 237 P P 04 55 50.9 +4.9
comp=Z,378nm,1.1s,comp=Z,7µm
D28A Regan 66.63 45 ⇑P P 04 55 46.3 +0.6
baz=66,SNR=25
E27A Carson 66.67 46 ⇓P P 04 55 46.3 +0.3
baz=66,SNR=54
ULM Lac du Bonnet 66.67 41 P P 04 55 45.2 -0.7
comp=Z,77nm,0.9s,baz=313,slow=7.1,SNR=73
ULM LR LR 05 27 32.4
comp=Z,2µm,19.6s,baz=323,slow=38
K22A Casper 66.67 52 eP P 04 55 45.9 -0.3
comp=Z,143nm,1.2s
K22A Casper 66.67 52 ⇓P P 04 55 46.5 +0.3
baz=66,SNR=41
J23A Dilts Ranch, B 66.68 51 ⇑P P 04 55 46.6 +0.3
baz=66,SNR=7.5
HYB Hyderabad 66.77 271 ⇑iP P 04 55 46.0 -1.0
HYB eS **S 05 04 38.0 +1.9**
HYB eSKS **SKSac 05 05 40.0 -0.4**
HYB eSS **SS 05 08 58.0 +3.8**
HYB Hyderabad 66.77 271 eP P 04 55 47.1 +0.1
CTAO Charters Tower 66.79 187 eP P 04 55 45.8 -1.0
CTAO pmax pmax
comp=Z,174nm,1.6s
CTAO MLR MLR
comp=Z,2µm,20.0s
CTAO Charters Tower 66.79 187 eP P 04 55 45.8 -1.0
comp=Z,174nm,1.6s
CTAO LR LR
comp=Z,2µm,20.0s
SRU San Rafael 66.81 57 eP P 04 55 47.0 -0.2
SRU pmax pmax
comp=Z,95nm,0.8s
SRU San Rafael 66.81 57 eP P 04 55 47.0 -0.2
comp=Z,95nm,0.8s
B30A Myrvik Farm, E 66.82 43 ⇓P P 04 55 47.5 +0.6
baz=66,SNR=193
F27A Lemmon 66.82 47 ⇑P P 04 55 47.0 0.0
baz=66,SNR=36
I24A Kuemmerle Ranc 66.86 50 ⇓P P 04 55 46.8 -0.6
baz=67,SNR=11
H25A Fruitdale 66.88 49 ⇑P P 04 55 47.4 0.0
baz=67,SNR=25
PFO Pinyon Flat Ob 66.90 65 i P P 04 55 48.3 +0.6
PFO Pinyon Flat Ob 66.90 65 LR LR 05 19 58.9
comp=Z,2µm,21.9s,baz=330,slow=31
PFO Pinyon Flat Ob 66.90 65 ⇑P P 04 55 47.9 +0.1
baz=67,SNR=7.6
BELC Belle Mtn. Jos 66.92 65 ⇑P P 04 55 47.4 -0.5
baz=67,SNR=12
G26A Maurine 66.93 48 ⇑P P 04 55 47.7 0.0
baz=67,SNR=103
N20A Spence Gulch, 66.94 55 ⇓P P 04 55 48.6 +0.6
baz=67,SNR=65
VSR Storozhevoye 66.97 321 eP P 04 55 46.3 -1.4
VSR e*SP **sP 04 56 09.5 +3.9**
VSR eS S 05 04 30.8 -6.6
VSR pmax pmax
comp=N,40nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,60nm,0.9s
VSR smax smax
comp=N,130nm,2.0s
VSR smax smax
comp=Z,40nm,2.0s
VSR smax smax
comp=E,110nm,1.6s
VSR MLR MLR
comp=N,6µm,18.0s
VSR MLR MLR
comp=E,7µm,18.0s
VSR MLR MLR
comp=Z,11µm,18.0s
109C Camp Elliot, M 66.97 66 ⇑P P 04 55 48.4 +0.4
baz=67,SNR=8.8
E28A Huff 67.00 46 ⇑P P 04 55 48.1 0.0
baz=67,SNR=10
K23A Bowen Ranch, D 67.08 52 ⇑P P 04 55 49.3 +0.5
baz=67,SNR=19
VORD Divnogorie 67.09 321 eP P 04 55 47.0 -1.5
VORD pmax pmax
comp=N,50nm,0.9s
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,70nm,0.9s
VORD MLR MLR
comp=N,6µm,20.0s
VORD MLR MLR
comp=E,9µm,20.0s
VORD MLR MLR
comp=Z,12µm,20.0s

LWLI Liwa 67.12 234 P P 04 55 51.5 +2.2
comp=Z,123nm,0.8s
L22A Ellis Ranch, M 67.14 53 ⇑P P 04 55 49.7 +0.5
baz=67,SNR=31
D29A Pettibone, Tap 67.20 45 ⇓P P 04 55 49.6 +0.3
baz=67,SNR=28
J24A Dixon Ranch, L 67.21 51 ⇑P P 04 55 49.6 0.0
baz=67,SNR=11
G27A Dupree 67.21 48 ⇑P P 04 55 49.5 0.0
baz=67,SNR=41
I25A Rochford 67.22 50 ⇓P P 04 55 49.4 -0.4
baz=67
C30A Mose, Pekin 67.28 44 ⇓P P 04 55 49.5 -0.3
baz=67,SNR=33
H26A Fairpoint 67.31 49 ⇓P P 04 55 50.3 +0.2
baz=67,SNR=27
IRM Iron Mountain 67.34 64 ⇓P P 04 55 50.1 -0.4
baz=67,SNR=46
BAR Barrett 67.38 66 eP P 04 55 50.7 0.0
comp=Z,146nm,0.8s
MONP Monument Peak 67.40 66 ⇓P P 04 55 51.7 +0.7
baz=67,SNR=5.4
O20A White River Ci 67.42 55 eP P 04 55 50.2 -0.9
comp=Z,129nm,1.4s
O20A White River Ci 67.42 55 ⇑P P 04 55 51.1 0.0
baz=67,SNR=19
F28A McLaughlin 67.45 47 ⇑P P 04 55 50.7 -0.3
baz=67,SNR=13
M22A Cedar Creek Ra 67.48 53 ⇑P P 04 55 51.4 -0.1
baz=67,SNR=47
L23A Garrett 67.48 52 ⇑P P 04 55 50.8 -0.7
baz=67,SNR=27
BC3 Big Chuckawall 67.49 64 ⇓P P 04 55 51.3 -0.2
baz=67,SNR=23
W13A Hualapai Mount 67.49 62 ⇓P P 04 55 50.9 -0.7
baz=67
E29A Napoleon 67.52 45 ⇓P P 04 55 51.1 -0.3
baz=67,SNR=20
K24A Anderson Ranch 67.54 51 ⇓P P 04 55 51.7 0.0
baz=67
MOL Molde 67.54 343 eP P 04 55 51.8 +0.6
U15A North Rim 67.56 60 ⇑P P 04 55 52.5 +0.4
baz=67,SNR=58
D30A Buchanan 67.57 45 ⇑P P 04 55 51.7 0.0
baz=67,SNR=68
J25A Sunshine Ranch 67.62 50 ⇑P P 04 55 51.9 -0.3
baz=67,SNR=12
H27A Howes 67.66 48 ⇓P P 04 55 52.3 +0.1
baz=67,SNR=34
I26A New Underwood 67.67 49 ⇓P P 04 55 52.5 0.0
baz=67,SNR=35
SWSC Sam W. Stewart 67.75 65 ⇑P P 04 55 53.6 +0.6
baz=68,SNR=9.1
PDMCl Parker Dam,Lak 67.87 63 ⇑P P 04 55 54.6 +0.9
baz=68,SNR=34
M23A Laramie 67.91 53 ⇓P P 04 55 54.4 +0.2
baz=68,SNR=14
E30A Jud 67.92 45 ⇑P P 04 55 53.9 0.0
baz=68,SNR=43
G28A Parade 67.94 47 ⇑P P 04 55 54.1 0.0
baz=68,SNR=35
L24A Wheatland 67.95 52 ⇑P P 04 55 53.4 -0.9
baz=68
F29A Eureka 67.95 46 ⇓P P 04 55 53.8 -0.3
baz=68,SNR=42
N22A Wattenberg Ran 67.97 54 ⇓P P 04 55 54.8 +0.3
baz=68,SNR=23
Y12C Blythe 68.00 64 ⇓P P 04 55 55.5 +0.9
baz=68,SNR=21
J26A Sides Ranch, S 68.06 50 ⇑P P 04 55 55.2 +0.4
baz=68,SNR=18
I27A Quinn 68.06 49 ⇓P P 04 55 54.9 +0.1
baz=68,SNR=46
AGMN Agassiz Nation 68.08 42 PFAKE 04 56 10.0 +15
AGMN LR LR
comp=Z,4µm,21.0s
AGMN Agassiz Nation 68.08 42 ⇓P P 04 55 54.2 -0.6
baz=68,SNR=52
MSVF Nonsavu 68.11 154 PFAKE 04 56 10.0 +15
MSVF LR LR
comp=Z,5µm,20.0s
K25A Mack Ranch, Ha 68.12 51 ⇑P P 04 55 56.0 +0.6
baz=68
NB2 NORSAR Subarra 68.15 341 P P 04 55 54.5 -0.6
comp=Z,198nm,0.8s,baz=28,slow=6.2
NB2 NORSAR Subarra 68.15 341 P P 04 55 54.5 -0.6
baz=28,slow=6.2
NOA NORSAR Array B 68.15 341 P P 04 55 54.4 -0.6
comp=Z,186nm,0.8s,baz=29,slow=6.2,SNR=178
NOA LR LR 05 28 57.8
comp=Z,6µm,20.1s,baz=30,slow=39
H28A Mission Ridge 68.17 48 ⇑P P 04 55 55.8 +0.4
baz=68,SNR=86
PHWY Pilot Hill 68.17 53 eP P 04 55 56.0 +0.1
comp=Z,38nm,1.2s
N23A Red Feather La 68.18 53 ⇓P P 04 55 56.2 +0.2
baz=68,SNR=36
AFI Afiamalu 68.25 143 PFAKE 04 56 10.0 +14
AFI LR LR
comp=Z,5µm,19.0s
GLA Glamis 68.28 65 ⇑P P 04 55 56.3 -0.1
baz=68,SNR=17
F30A Leola 68.34 46 ⇓P P 04 55 57.2 +0.6
baz=68,SNR=18
NC602 NORSAR Array S 68.35 341 eP P 04 55 55.4 -0.9
NC602 IAMs_20 IAMs_20 05 29 45.7
comp=Z,12µm,18.7s
G29A Hoven 68.35 47 ⇓P P 04 55 56.2 -0.4
baz=68,SNR=16
O22A Kremmling 68.35 54 ⇑P P 04 55 57.3 +0.2
baz=68,SNR=19
HFS Hagfors 68.37 339 P P 04 55 55.6 -0.8
comp=Z,248nm,0.7s,baz=53,slow=5.7,SNR=238
L25A Engebretsen Ra 68.39 51 ⇓P P 04 55 57.1 0.0
baz=68
NAO01 NORSAR Array S 68.40 341 eP P 04 55 56.0 -0.6
comp=Z,132nm,0.9s
M24A Cheyenne 68.40 52 ⇓P P 04 55 58.1 +0.9
baz=68,SNR=26
K26A Motz Farm, Whi 68.43 50 ⇑P P 04 55 57.6 +0.4
baz=68,SNR=9.8
WRAB Tennant Creek 68.43 199 i P P 04 55 56.5 -0.7
WRAB pmax pmax
comp=Z,51nm,1.2s
WRAB Tennant Creek 68.43 199 eP P 04 55 56.0 -1.2
comp=Z,63nm,1.1s
WRAB LR LR
comp=Z,2µm,20.0s
WRA Warramunga Arr 68.44 199 P P 04 55 56.5 -0.8
comp=Z,13nm,0.7s,baz=16,slow=6.5,SNR=23
WRA LR LR 05 23 32.8
comp=Z,2µm,21.2s,baz=15,slow=34
WRA PKP2bc 05 24 11.7
comp=Z,5.0nm,0.9s,baz=196,slow=2.9,SNR=13
I28A Midland 68.56 48 ⇑P P 04 55 58.4 +0.4
baz=68,SNR=50
PV01 Paradox Valley 68.59 57 eP P 04 55 58.0 -0.6
H29A Onida 68.61 47 ⇑P P 04 55 57.7 -0.5
baz=68,SNR=25
P22A Eagle 68.62 55 ⇑P P 04 55 59.3 +0.6
baz=68,SNR=36
J27A Elkhorn Farm, 68.66 49 ⇓P P 04 55 59.0 +0.3
baz=68,SNR=25
O23A Lake Granby, G 68.67 54 ⇑P P 04 55 59.5 +0.5
baz=68,SNR=45
WUAZ Wupatki 68.73 61 PFAKE 04 56 10.0 +11
WUAZ LR LR
comp=Z,2µm,22.0s
WUAZ Wupatki 68.73 61 ⇓P P 04 56 00.2 +0.9
baz=68,SNR=28
BORG Borgarnes 68.74 357 P P 04 55 58.3 -0.4
BORG pmax pmax
comp=Z,45nm,0.8s
BORG Borgarnes 68.74 357 P P 04 55 58.3 -0.4
comp=Z,45nm,0.8s,baz=6.3,slow=3.9,SNR=15
BORG Borgarnes 68.74 357 eP P 04 56 01.1 +2.4
comp=Z,121nm,0.9s
BORG LR LR
comp=Z,4µm,20.0s
G30A Faulkton 68.78 46 ⇑P P 04 55 59.1 -0.2
baz=68,SNR=66
SMCO Snowmass 68.79 55 eP P 04 55 59.8 -0.1
comp=Z,55nm,1.0s
Y14A Wickenburg 68.81 63 ⇑P P 04 56 00.5 +0.8
baz=69,SNR=52

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N24A  Carr             68.81  53 ⇓P     P      04 56 00.8 +1.1
      baz=68,SNR=13
IDAH  Dahanechah       68.81 295 eP     P      04 56 01.0 +1.0
M25A  Palm-Egli Farm   68.84  52 ⇑P     P      04 56 00.5 +0.6
      baz=69,SNR=24
BHJ   Bhuj             68.86 282 eP     P      04 55 59.0 -1.0
MICGM Minsk            68.88 329⇓iP     P      04 55 58.0 -1.7
MAK   Makhachkala      68.89 311 eP     P      04 55 57.5 -2.5
MAK                              e             04 58 29.2
MAK                              ePPP   PPP    05 00 11.7
MAK                              eS     S      05 04 58.0 -2.7
MAK                              pmax   pmax
      comp=Z,216nm,1.5s
MAK                              MLR    MLR
      comp=Z,20µm,19.0s
MNK   Minsk            68.90 329⇓iP     P      04 55 58.0 -1.8
MNK                              e*PP   pP     04 56 16.0 +3.4
MNK                              eS     S      05 04 54.0 -6.4
MNK                              e             05 05 44.0
MNK                              eSSS   SSS    05 12 32.0
MNK                              pmax   pmax
      comp=Z,610nm,1.0s
MNK                              MLR    MLR
      comp=Z,19µm,18.0s
FOO   Floro            68.92 344 eP     P      04 55 59.6 -0.2
K27A  Flueckinger Fa   68.92  50 ⇓P     P      04 56 01.0 +0.7
      baz=69,SNR=17
J28A  Allard Ranch,    68.94  49 ⇓P     P      04 56 01.3 +1.0
      baz=69,SNR=50
NACGM Naroch           68.94 330 eP     P      04 55 57.0 -3.1
L26A  Underwood Farm   68.94  51 ⇑P     P      04 56 00.2 -0.3
      baz=69
I29A  Vivian Onida     68.99  48 ⇓P     P      04 56 01.0 +0.4
      baz=69,SNR=26
HYA   Hoyanger         69.09 343 eP     P      04 56 01.0 +0.1
HYA                              IAmb   IAmb   04 56 02.4
      comp=Z,201nm,0.9s
ISCO  Idaho Springs    69.12  54 PFAKE         04 56 10.0 +8.1
ISCO                             LR     LR
      comp=Z,3µm,20.0s
ISCO  Idaho Springs    69.12  54 ⇑P     P      04 56 02.3 +0.4
      baz=69,SNR=64
113A  Mohawk Valley,   69.13  64 ⇑P     P      04 56 02.5 +0.9
      baz=69,SNR=27
O24A  Longmont         69.20  53 ⇑P     P      04 56 03.1 +1.0
      baz=69,SNR=17
POO   Poona            69.23 275 eP     P      04 56 02.7 +0.3
POO                              AMB    AMB    04 56 06.4
      comp=Z,215nm,0.9s
Z14A  Wintersburg      69.23  63 ⇓P     P      04 56 02.2 -0.1
      baz=69,SNR=8.9
OSL   Oslo             69.25 341 eP     P      04 56 01.9 +0.1
N25A  Grover           69.26  52 ⇑P     P      04 56 03.4 +1.0
      baz=69,SNR=6.8
MVCO  Mesa Verde       69.27  58 PFAKE         04 56 10.0 +7.3
MVCO                             LR     LR
      comp=Z,2µm,19.0s
MVCO  Mesa Verde       69.27  58 ⇓P     P      04 56 02.8 +0.1
      baz=69,SNR=46
P23A  Jefferson        69.29  54 ⇓P     P      04 56 03.4 +0.5
      baz=69,SNR=16
M26A  McRoberts Ranc   69.31  51 ⇓P     P      04 56 03.7 +1.0
      baz=69,SNR=8.3
BRSD  Miller           69.37  47 ⇑P     P      04 56 02.4 -0.5
      baz=69,SNR=22
K28A  Ten Mile Ranch   69.37  49 ⇑P     P      04 56 02.6 -0.4
      baz=69,SNR=21
ITEG  Tejag            69.40 296 eP     P      04 56 04.5 +0.9
J29A  Okreek           69.42  48 ⇑P     P      04 56 02.4 -0.8
      baz=69,SNR=47
X16A  Lo Mia Camp, P   69.43  61 ⇑P     P      04 56 04.5 +0.8
      baz=69,SNR=72
SUE   Sulen            69.47 344 eP     P      04 56 03.1 -0.1
IKOO  Kooshah          69.56 296 eP     P      04 56 05.7 +1.0
DZM   Mont Dzumac      69.61 166 eS     S      05 05 18.5 +9.0
      comp=Z,3µm,26.7s
DZM   Mont Dzumac      69.61 166 eLR    LR     05 17 19.4
      comp=Z,7µm,22.3s
DZM   Mont Dzumac      69.61 166 P      P      04 56 05.9 +1.3
      comp=Z,18nm,1.0s,baz=320,slow=17,SNR=2.4
Q23A  Hartsel          69.62  55 ⇑P     P      04 56 05.8 +0.8
      baz=69
GOF   Gofitskoye       69.66 315 eP     P      04 56 04.3 -0.4
GOF                              pmax   pmax
      comp=Z,120nm,1.0s
M27A  Reverse DX Ran   69.67  51 ⇓P     P      04 56 05.6 +0.7
      baz=69
P24A  Kohler Place,    69.71  54 ⇓P     P      04 56 06.3 +0.9
      baz=69,SNR=16
N26A  Koester Ranch,   69.71  52 ⇓P     P      04 56 05.9 +0.7
      baz=69,SNR=14
O25A  Wiggins          69.73  53 ⇓P     P      04 56 06.4 +1.0
      baz=70,SNR=18
KONO  Kongsberg        69.76 341 eP     P      04 56 03.5 -1.5
KONO                             eS     S      05 05 09.7 -0.7
KONO  Kongsberg        69.76 341 PFAKE         04 56 20.0 +15
KONO                             LR     LR
      comp=Z,5µm,20.0s
S22A  4UR Ranch, Cre   69.86  56 ⇓P     P      04 56 07.3 +0.9
      baz=70,SNR=71
K29A  Lazy Trails An   69.88  49 ⇑P     P      04 56 06.2 +0.1
      baz=70,SNR=68
J30A  Dallas           69.90  48 ⇓P     P      04 56 05.7 -0.5
      baz=70,SNR=35
RUND  Rundenannen      69.95 343 eP     P      04 56 04.8 -1.4
Q24A  Divide           69.96  54 ⇓P     P      04 56 07.6 +0.5
      baz=70,SNR=21
W18A  Petrified Fore   69.98  60 eP     P      04 56 07.2 +0.2
      comp=Z,35nm,1.1s
W18A  Petrified Fore   69.98  60 ⇓P     P      04 56 07.9 +0.8
      baz=70,SNR=6.0
BER   Bergen           69.98 343 eP     P      04 56 07.6 +1.3
O26A  Horse Wrangler   70.08  52 ⇑P     P      04 56 07.3 -0.2
      baz=70
N27A  Anderson Farm,   70.10  51 ⇓P     P      04 56 08.0 +0.4
      baz=70,SNR=46
R23A  Moffat           70.12  55 ⇓P     P      04 56 08.4 +0.4
      baz=70,SNR=49
P25A  Willow Gulch B   70.12  53 ⇑P     P      04 56 08.5 +0.7
      baz=70,SNR=30
ODD1  Odda             70.15 343 eP     P      04 56 07.7 +0.2
ODD1                             IAmb   IAmb   04 56 09.7
      comp=Z,213nm,0.9s
X18A  Snowflake        70.25  60 ⇓P     P      04 56 09.0 +0.3
      baz=70,SNR=25
214A  Organ Pipe Nat   70.27  64 eP     P      04 56 08.2 -0.5
      comp=Z,66nm,1.3s
214A  Organ Pipe Nat   70.27  64 ⇑P     P      04 56 09.0 +0.3
      baz=70,SNR=23
L29A  Maesberg Ranch   70.30  49 ⇓P     P      04 56 09.1 +0.4
      baz=70,SNR=13
M28A  Bar X Bar Ranc   70.30  50 ⇓P     P      04 56 08.9 +0.1
      baz=70,SNR=9.7
K30A  Basset           70.31  48 ⇓P     P      04 56 08.5 -0.2
      baz=70,SNR=44
EYMN  Ely              70.31  40 eP     P      04 56 07.9 -0.8
      comp=Z,168nm,1.1s
EYMN                             LR     LR
      comp=Z,4µm,19.0s
S23A  Nye Farm, Mont   70.36  56 ⇑P     P      04 56 09.9 +0.5
      baz=70,SNR=34
R24A  Sanders Place,   70.50  55 ⇓P     P      04 56 10.4 +0.2
      baz=70,SNR=28
Q25A  Bedland, Calha   70.50  54 ⇑P     P      04 56 10.4 +0.2
      baz=70,SNR=41
NCK   Nalchik          70.51 313⇓iP     P      04 56 10.9 +0.9
P26A  Davis Ranch, A   70.54  53 ⇑P     P      04 56 10.1 -0.2
      baz=70,SNR=20
O27A  Beecher Island   70.57  52 ⇑P     P      04 56 09.6 -0.8
      baz=70,SNR=26
SDCO  Great Sand Dun   70.61  55 eP     P      04 56 10.5 -0.5
      comp=Z,84nm,1.5s
SDCO                             LR     LR
      comp=Z,2µm,19.0s
M29A  Burnside Ranch   70.63  50 ⇓P     P      04 56 10.3 -0.5
      baz=70,SNR=6.4
KIV   Kislovodsk       70.63 314 P      P      04 56 12.2 +1.4
      comp=Z,588nm,0.7s,SNR=8.3
KIV   Kislovodsk       70.63 314c iP    P      04 56 12.6 +1.8
KIV                              e             04 56 31.3
KIV                              e             04 58 45.8
KIV                              eSS    SS     05 09 55.9 +3.2
KIV                              pmax   pmax
      comp=Z,43nm,0.8s
KIV   Kislovodsk       70.63 314 eP     P      04 56 11.7 +0.9
KIV                              LR     LR
      comp=Z,8µm,20.0s
KBZ   Khabaz           70.69 314 P      P      04 56 10.2 -0.7
      comp=Z,35nm,0.7s,baz=40,slow=3.4,SNR=47
KBZ                              LR     LR     05 32 06.6
      comp=Z,12µm,18.4s,baz=38,slow=40
N28A  Pribbeno Ranch   70.72  51 ⇑P     P      04 56 11.5 +0.1
      baz=70,SNR=19
L30A  Spencer Herefo   70.77  49 ⇑P     P      04 56 11.8 +0.1
      baz=70,SNR=9.6
U22A  Llaves           70.80  57 ⇓P     P      04 56 12.8 +0.7
      baz=70,SNR=31
T23A  Casias Ranch,    70.81  56 ⇑P     P      04 56 12.2  0.0
      baz=71,SNR=16
GUDG  Gudauri          70.81 312 P      P      04 56 12.9 +0.8
S24A  Houchin Ranch,   70.85  55 ⇑P     P      04 56 12.4 -0.1
      baz=71,SNR=30
ZEI   Tsey             70.87 313 eP     P      04 56 11.9 -0.5
ZEI                              pmax   pmax
      comp=Z,39nm,0.9s
ZEI                              MLR    MLR
      comp=Z,18µm,18.0s
ZEI                              MLR    MLR
      comp=N,22µm,22.0s
ZEI                              MLR    MLR
      comp=E,7µm,15.0s
ZEI   Tsey             70.87 313 eP     P      04 56 11.9 -0.5
SUW   Suwalki          70.88 331 eP     P      04 56 10.8 -1.2
SUW                              MLR    MLR
      comp=Z,8µm,22.3s
SUW   Suwalki          70.88 331 eP     P      04 56 10.8 -1.2
SUW                              LMZ    LR     05 28 46.6
SUW   Suwalki          70.88 331 eP     P      04 56 10.6 -1.3
      comp=Z,233nm,1.1s
Q26A  Hugo             70.89  53 ⇓P     P      04 56 12.3 -0.2
      baz=71,SNR=31
P27A  Ficken Ranch,    70.96  52 ⇑P     P      04 56 12.6 -0.3
      baz=71,SNR=18
DUS   Dusheti          70.97 312 P      P      04 56 22.5 +10
M30A  Dale-Ortello V   70.99  49 ⇓P     P      04 56 12.1 -0.8
      baz=71
O28A  Krutsinger Ran   70.99  51 ⇑P     P      04 56 12.5 -0.5
      baz=71,SNR=17
R25A  Fountain Ranch   71.02  54 ⇓P     P      04 56 13.4 +0.1
      baz=71,SNR=18
ECSD  EROS Data Cent   71.05  46 PFAKE         04 56 30.0 +17
ECSD                             LR     LR
      comp=Z,4µm,19.0s
ECSD  EROS Data Cent   71.05  46 ⇑P     P      04 56 13.0 -0.2
      baz=71,SNR=82
L31A  Butterfield Fa   71.06  48 ⇓P     P      04 56 13.8 +0.4
      baz=71,SNR=72
KMY   Karmoy           71.08 343 eP     P      04 56 13.9 +0.9
KMY                              IAmb   IAmb   04 56 15.4
      comp=Z,170nm,1.0s
DGRG  David-gareji     71.08 311 P      P      04 56 14.0 +0.5
V22A  San Miguel Ran   71.09  58 ⇑P     P      04 56 14.6 +0.7
      baz=71,SNR=25
N29A  Votaw Ranch, W   71.11  50 ⇑P     P      04 56 13.5 -0.2
      baz=71,SNR=8.4
NEY   Neytrino         71.13 314 iP     P      04 56 15.9 +2.0
T24B  San Luis         71.16  56 ⇑P     P      04 56 15.0 +0.6
      baz=71,SNR=31
ILAS  Lasjerd          71.17 302 eP     P      04 56 16.0 +1.6
TBLG  Delisi           71.21 311 P      P      04 56 15.5 +1.2
U23A  El Rito          71.21  57 ⇓P     P      04 56 15.3 +0.7
      baz=71,SNR=92
ONI   Oni              71.24 313 P      P      04 56 16.7 +2.2
S25A  Robets Cordova   71.28  55 ⇓P     P      04 56 15.3 +0.4
      baz=71,SNR=16
TUC   Tucson           71.28  63 PFAKE         04 56 30.0 +15
TUC                              LR     LR
      comp=Z,1µm,20.0s
KSCO  Kaye Shedlock'   71.32  53 eP     P      04 56 15.0 -0.1
      comp=Z,227nm,1.5s
KSCO  Kaye Shedlock'   71.32  53 ⇑P     P      04 56 15.6 +0.5
      baz=71,SNR=20
R26A  Arlington        71.37  54 ⇓P     P      04 56 15.9 +0.4
      baz=71,SNR=28
P28A  Saint Francis    71.40  52 ⇑P     P      04 56 15.9 +0.4
      baz=71,SNR=16
N30A  Hueftle Ranch,   71.40  50 ⇑P     P      04 56 15.3 -0.2
      baz=71
AKASG Malin Array Be   71.42 326 iP     P      04 56 14.3 -1.0
AKASG                            pmax   pmax
      comp=Z,160nm,0.7s
AKASG Malin Array Be   71.42 326 P      P      04 56 14.4 -0.9
      comp=Z,160nm,0.7s,baz=33,slow=6.2,SNR=91
AKASG                            LR     LR     05 29 41.7
      comp=Z,9µm,20.2s,baz=35,slow=38
AKBB  Malin Array Si   71.42 326 eP     P      04 56 14.5 -0.8
AKBB  Malin Array Si   71.42 326 eP     P      04 56 14.5 -0.8
KIEV  Kiev             71.43 326c iP    P      04 56 15.3  0.0
KIEV  Kiev             71.43 326 eP     P      04 56 14.1 -1.2
      comp=Z,209nm,0.8s
KIEV                             LR     LR
      comp=Z,9µm,20.0s
KIEV  Kiev             71.43 326 eP     P      04 56 15.3  0.0
AK01  Malin Array Si   71.43 326 eP     P      04 56 14.0 -1.4
AK02  Malin Array Si   71.46 326 eP     P      04 56 14.2 -1.3
SNART Snartemo         71.47 342 eP     P      04 56 15.6 +0.1
SNART                            IAmb   IAmb   04 56 19.8
      comp=Z,171nm,0.7s
O29A  4D Ranch, Culb   71.51  51 ⇓P     P      04 56 16.0 -0.2
      baz=71,SNR=31
IDMV  Damavand         71.58 302 eP     P      04 56 18.3 +1.4
M31A  Lambtecht Ranc   71.59  49 ⇑P     P      04 56 16.4 -0.2
      baz=71,SNR=10
V23A  Ortiz Mt. (NFS   71.62  57 ⇑P     P      04 56 18.0 +0.9
      baz=71,SNR=32
T25A  Trinidad         71.66  55 ⇑P     P      04 56 17.6 +0.4
      baz=71,SNR=29
U24A  Moreno Valley    71.68  56 ⇑P     P      04 56 17.8 +0.3
      baz=71,SNR=22
Q28A  Sharon Springs   71.72  52 ⇓P     P      04 56 18.2 +0.7
      baz=71,SNR=18
R27A  Eads             71.74  53 ⇑P     P      04 56 17.8 +0.1
      baz=72,SNR=18
SPMN  St. Paul         71.77  43 eP     P      04 56 16.1 -1.5
      comp=Z,160nm,1.0s
SPMN  St. Paul         71.77  43 ⇓P     P      04 56 17.8 +0.3
      baz=71,SNR=36
EIDS  Eidsvold         71.80 182 eP     P      04 56 17.9 +0.2
      comp=Z,34nm,1.1s
P29A  Atwood           71.82  51 ⇓P     P      04 56 18.5 +0.4
      baz=72,SNR=17
S26A  Kim              71.84  54 ⇓P     P      04 56 18.4 +0.1
      baz=72,SNR=16
O30A  MW Ranch, Wils   71.87  50 ⇑P     P      04 56 18.1 -0.2
      baz=72,SNR=37
BGNE  Belgrade         71.97  48 ⇑P     P      04 56 18.7 -0.2
      baz=72,SNR=23
N31A  Bailey Ranch,    71.98  49 ⇓P     P      04 56 18.4 -0.5
      baz=72
LAZ   Ladron           72.01  59 eP     P      04 56 19.6 +0.2
      comp=Z,35nm,1.3s
ANMO  Albuquerque      72.03  58c iP    P      04 56 19.8 +0.3
ANMO                             pmax   pmax
      comp=Z,181nm,1.5s
ANMO  Albuquerque      72.03  58 LR     LR     05 24 14.2
      comp=Z,2µm,21.8s,baz=355,slow=33
ANMO  Albuquerque      72.03  58 eP     P      04 56 19.3 -0.2
      comp=Z,37nm,1.1s
IGZV  Ghazvin          72.05 304 eP     P      04 56 20.7 +1.0
W23A  Werner Place,    72.06  58 ⇑P     P      04 56 19.8 +0.1
      baz=72,SNR=21
AKH   Akhalkalaki      72.08 312 P      P      04 56 22.7 +3.0
T26A  Comanche Natio   72.09  55 ⇑P     P      04 56 19.6 -0.2
      baz=72,SNR=54
S27A  Las Animas       72.12  54 ⇓P     P      04 56 19.7 -0.2
      baz=72
AS31  Alice Springs    72.14 198 eP     P      04 56 20.0 +0.1
ASAR  Alice Springs    72.14 198 P      P      04 56 20.2 +0.4
      comp=Z,18nm,0.7s,baz=11,slow=6.0,SNR=103
ASAR                             PKPPKP P'P'df 05 24 01.7 -0.1
      comp=Z,0.8nm,1.0s,baz=132,slow=1.9,SNR=4.1
ASAR                             LR     LR     05 26 09.7
      comp=Z,2µm,21.9s,baz=12,slow=34
IVRN  Varamin          72.16 302 eP     P      04 56 21.1 +1.0
V24A  Rampart Ranch,   72.17  57 ⇓P     P      04 56 20.4 +0.1
      baz=72,SNR=46
U25A  Circle Dot Ran   72.18  56 ⇓P     P      04 56 20.8 +0.4
      baz=72,SNR=36
P30A  Selden           72.23  51 ⇓P     P      04 56 20.0 -0.5
      baz=72,SNR=29
IR3   Iran Long-Peri   72.23 303 eP     P      04 56 22.1 +1.5
R28A  Tribune          72.25  53 ⇓P     P      04 56 20.8 +0.1
      baz=72,SNR=23
IBAF  Bafgh            72.25 297 eP     P      04 56 21.0 +0.2
O31A  Woolen Ranch,    72.28  50 ⇓P     P      04 56 20.2 -0.5
      baz=72,SNR=31
IMHD  Mahdasht         72.29 303 eP     P      04 56 22.0 +1.0
Q29A  Oakley           72.31  52 ⇑P     P      04 56 20.8 -0.1
      baz=72,SNR=58
GNI   Garni            72.35 310c iP    P      04 56 22.6 +1.3
GNI                              pmax   pmax
      comp=Z,113nm,1.6s
GNI   Garni            72.35 310 P      P      04 56 21.7 +0.4
      comp=Z,18nm,0.5s,baz=148,slow=3.9,SNR=14
GNI   Garni            72.35 310 eP     P      04 56 22.4 +1.1
      comp=Z,46nm,0.7s
GNI                              LR     LR
      comp=Z,11µm,21.0s
GNI   Garni            72.35 310⇑iP     P      04 56 23.2 +1.8
      SNR=11
SOC   Sochi            72.36 315c iP    P      04 56 21.7 +0.7
SOC                              e*PP   PcP    04 56 38.3 -0.5
SOC                              e             04 58 59.5
SOC                              ePPP   PPP    05 00 40.8
SOC                              eS     S      05 05 40.3 -0.7
SOC                              e*SS   sS     05 06 10.9 +8.3
SOC                              pmax   pmax
      comp=Z,116nm,0.8s
N32A  Stulken Farm,    72.37  49 ⇓P     P      04 56 20.4 -0.8
      baz=72
Y22D  IRIS PASSCAL I   72.37  59 ⇓P     P      04 56 22.4 +0.9
      baz=72
LPM   Los Pinos Moun   72.37  59 eP     P      04 56 21.9 +0.3
LPM                              epP    pP     04 56 35.4 +0.9
X23A  Hourglass Bar    72.44  58 ⇑P     P      04 56 22.6 +0.7
      baz=72,SNR=7.6
W24A  Lazy 6 Ranch,    72.45  57 ⇓P     P      04 56 22.5 +0.5
      baz=72,SNR=39
V25A  Rancho No Teng   72.46  56 ⇓P     P      04 56 22.8 +0.7
      baz=72,SNR=23
PALK  Pallekele        72.47 262 eP     P      04 56 22.0 -0.2
PALK                             pmax   pmax
      comp=Z,173nm,0.9s
PALK  Pallekele        72.47 262 eP     P      04 56 22.0 -0.2
      comp=Z,173nm,0.9s
PALK  Pallekele        72.47 262 ⇓P     P      04 56 23.1 +0.9
ICHK  Chekchek         72.50 298 eP     P      04 56 23.2 +0.8
R29A  Marienthal       72.55  52 ⇓P     P      04 56 21.4 -1.1
      baz=72,SNR=62
U26A  Atchley Ranch,   72.56  55 ⇓P     P      04 56 23.1 +0.4
      baz=72,SNR=17
COP   Copenhagen       72.62 338 iP     P      04 56 23.5 +1.1
COP                              i             04 56 52.5
Q30A  Quinter          72.65  51 ⇓P     P      04 56 22.5 -0.5
      baz=72,SNR=45
T27A  Campo            72.66  54 ⇓P     P      04 56 23.3 +0.1
      baz=72
P31A  Stockton         72.71  50 ⇓P     P      04 56 23.1 -0.1
      baz=72,SNR=38
S28A  Manter           72.74  53 ⇑P     P      04 56 23.4 -0.1
      baz=72,SNR=34
MUD   Monsted U'grnd   72.74 340 iP     P      04 56 23.4 +0.3
MUD                              MLR    MLR
      comp=Z,4µm,24.0s
MUD   Monsted U'grnd   72.74 340 iP     P      04 56 23.4 +0.3
MUD                              i             04 57 25.9
O32A  Brockman Farm,   72.75  49 ⇑P     P      04 56 23.6 +0.1
      baz=72,SNR=7.9
319A  Douglas          72.84  62 ⇑P     P      04 56 24.7 +0.4
      baz=73,SNR=101
DIGO  Kars             72.87 311 iP     P      04 56 26.6 +2.1
IRAZ  Razeghan         72.91 304 eP     P      04 56 25.1 +0.4
Z22A  Elephant Butte   72.92  60 ⇓P     P      04 56 25.1 +0.3
      baz=73,SNR=30
121A  Cookes Peak, D   72.94  61 eP     P      04 56 25.1 +0.2
      comp=Z,96nm,1.3s
121A  Cookes Peak, D   72.94  61 ⇑P     P      04 56 26.1 +1.2
      baz=73,SNR=28
T28A  Walsh            72.96  54 ⇑P     P      04 56 24.4 -0.4
      baz=73,SNR=26
V26A  Tequesquite Ra   72.96  56 ⇓P     P      04 56 24.6 -0.4
      baz=73,SNR=16
IMEH  Mehriz           72.97 298 eP     P      04 56 25.0 -0.3
Y23A  Lovelace Mesa,   72.98  59 ⇑P     P      04 56 25.4 +0.2
      baz=73,SNR=28
W25A  X Bar L Ranch,   72.99  57 ⇑P     P      04 56 25.7 +0.5
      baz=73,SNR=48
LLD   Lille Linde      72.99 338 iP     P      04 56 23.1 -1.5
LLD                              i             04 56 47.9
LLD   Lille Linde      72.99 338 iP     P      04 56 23.1 -1.5
P32A  Huiting Farm,    73.04  50 ⇓P     P      04 56 23.6 -1.7
      baz=73,SNR=32
ARTV  Artvin           73.05 312 iP     P      04 56 26.3 +0.9
DBOC  Borcka           73.06 313 iP     P      04 56 25.7 +0.4
U27A  Thompson Grove   73.06  55 ⇓P     P      04 56 25.1 -0.4
      baz=73,SNR=23
Q31A  Ellis            73.07  51 ⇑P     P      04 56 24.7 -0.7
      baz=73
R30A  Dighton          73.12  52 ⇓P     P      04 56 25.0 -0.7
      baz=73,SNR=31
DAGI  Agillar          73.13 312 iP     P      04 56 25.1 -0.7
S29A  Ulysses          73.14  53 ⇑P     P      04 56 25.8 -0.1
      baz=73,SNR=18
ISAD  Sadrabad         73.17 299 eP     P      04 56 27.0 +0.6
IZEF  Zefreh           73.29 300 eP     P      04 56 28.0 +0.9
Y24A  Capitan          73.34  58 ⇑P     P      04 56 27.8 +0.5
      baz=73,SNR=34
DYDN  Diyadin          73.35 310 iP     P      04 56 28.8 +1.5
DDEM  Demirkent        73.35 312 iP     P      04 56 27.4 +0.2
X25A  Clemmons Ranch   73.37  57 ⇓P     P      04 56 27.9 +0.5
      baz=73,SNR=18
T29A  Hugoton          73.38  53 ⇓P     P      04 56 26.9 -0.5
      baz=73,SNR=10
SCHQ  Schefferville    73.39  23 P      P      04 56 26.1 -0.9
      comp=Z,37nm,0.9s,baz=314,slow=4.7,SNR=31
SCHQ                             LR     LR     05 33 54.8
      comp=Z,3µm,19.2s,baz=348,slow=40
SCHQ  Schefferville    73.39  23 eP     P      04 56 27.1 +0.1
      comp=Z,56nm,0.9s
RGN   Rugen            73.40 337 eP     P      04 56 26.4 -0.5
      comp=Z,237nm,0.5s
U28A  Mallet           73.43  54 ⇑P     P      04 56 26.9 -0.7
      baz=73,SNR=7.1
IKLH  Kolahrood        73.43 301 eP     P      04 56 29.1 +1.2
W26A  Owens Ranch, T   73.48  56 ⇓P     P      04 56 28.6 +0.6
      baz=73,SNR=6.2
S30A  Montezuma        73.49  52 ⇑P     P      04 56 27.8 -0.1
      baz=73,SNR=25
CLDR  Caldiran         73.52 310 eP     P      04 56 29.3 +1.0
R31A  Burdett          73.52  51 ⇓P     P      04 56 27.4 -0.7
      baz=73,SNR=16
Q32A  Meitler Ranch,   73.53  50 ⇓P     P      04 56 27.4 -0.7
      baz=73,SNR=24
V27A  Dan Oppiter Fa   73.53  55 ⇑P     P      04 56 28.4 +0.1
      baz=73,SNR=16
P33A  Williams Farm,   73.65  50 ⇓P     P      04 56 28.3 -0.5
      baz=73,SNR=6.8
AGRB  Hanur-Agry       73.69 311 eP     P      04 56 30.4 +1.0
Y25A  Mesa, Roswell    73.78  58 ⇓P     P      04 56 29.9 +0.1
      baz=74,SNR=27
Z24A  Sheeppen Canyo   73.81  59 ⇓P     P      04 56 30.3 +0.3
      baz=74,SNR=28
SORM  Soroca           73.82 325⇑iP     P      04 56 30.3 +0.7
X26A  CR and CF Fran   73.84  57 ⇓P     P      04 56 30.5 +0.3
      baz=74,SNR=14
R32A  Long Quarter,    73.86  51 ⇓P     P      04 56 29.4 -0.7
      baz=74,SNR=11
T30A  Plains           73.88  53 ⇓P     P      04 56 30.0 -0.3
      baz=74
MBWA  Marble Bar       73.90 212 eP     P      04 56 30.2  0.0
      comp=Z,51nm,1.1s
MBWA                             LR     LR
      comp=Z,1µm,20.0s
W27A  Bowe Ranch, En   73.90  56 ⇑P     P      04 56 29.9 -0.6
      baz=74,SNR=12
HOMI  Horasan          73.90 312 iP     P      04 56 30.9 +0.3
Q33A  Connelly Farm,   73.91  50 ⇓P     P      04 56 29.0 -1.3
      baz=74,SNR=45
U29A  Oasis Ranch, S   73.91  54 ⇓P     P      04 56 30.5 +0.1
      baz=74
TUTA  Tutak            73.91 311 iP     P      04 56 31.6 +1.0
SIM   Simferopol'      73.92 320c iP    P      04 56 30.9 +0.7
SIM                              iS     SKiKP  05 05 52.0 -2.8
SIM                              pmax   pmax
      comp=Z,76nm,0.8s
SIM                              MLR    MLR
      comp=Z,7µm,21.0s
MVH1  Achvaich         73.95 347 eP     P      04 56 30.1 -0.1
S31A  Mullinville      74.03  52 ⇓P     P      04 56 30.2 -0.9
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baz=74,SNR=9.0
LVV L'vov 74.07 328 eP P 04 56 31.2 +0.1
LVV eS SKiKP 05 05 52.8 -2.1
LVV ePS PnS 05 06 35.8 -2.0
LVV eSS SS 05 10 48.6 +4.0
LVV eSSS SSS 05 14 02.6
LVV MLR MLR
comp=Z,7µm,21.0s
LVV MLR MLR
comp=E,4µm,22.0s
LVV MLR MLR
comp=N,6µm,20.0s
SCIA State Center 74.07 45 PFAKE 04 56 40.0 +8.8
SCIA LR LR
comp=Z,4µm,22.0s
MCD Coleburn Disti 74.14 347 eP P 04 56 30.4 -0.9
TRD Trivandrum 74.14 266 eP P 04 56 32.1 +0.2
TRD AMB AMB 04 56 36.9
comp=Z,178nm,0.6s
TRD ⇓ex x 04 56 42.9
X27A F and S Farms, 74.18 56 ⇑P P 04 56 32.5 +0.4
baz=74,SNR=14
V29A Stinnett 74.19 54 ⇓P P 04 56 32.1 0.0
baz=74
U30A WK&E Inc. Balk 74.19 53 ⇓P P 04 56 31.6 -0.5
baz=74,SNR=8.6
Z25A Roswell 74.22 58 ⇓P P 04 56 32.9 +0.5
baz=74,SNR=14
W28A Vega 74.25 55 ⇓P P 04 56 32.9 +0.4
baz=74,SNR=13
S32A Newby Ranch, P 74.27 51 ⇓P P 04 56 32.0 -0.5
baz=74,SNR=15
Y26A Elida 74.28 57 ⇓P P 04 56 32.6 -0.1
baz=74,SNR=7.3
EZM Erzurum 74.29 312 eP P 04 56 33.7 +0.8
IPIR Pirpir 74.29 301 eP P 04 56 33.6 +0.6
T31A Randall Ranch, 74.31 52 ⇑P P 04 56 32.5 -0.2
baz=74,SNR=11
R33A Olander Ranch, 74.33 50 ⇓P P 04 56 32.2 -0.6
baz=74,SNR=8.1
MDO Dochfour 74.44 347 eP P 04 56 32.0 -1.1
KSU1 Kansas State U 74.47 49 eP P 04 56 32.0 -1.5
comp=Z,63nm,0.8s
KSU1 LR LR
comp=Z,5µm,20.0s
KSU1 Kansas State U 74.47 49 ⇓P P 04 56 32.1 -1.5
baz=74,SNR=14
KAC Achnashellach 74.52 348 eP P 04 56 32.4 -1.1
KIS Kishinev 74.55 324 eP P 04 56 32.0 -1.9
KIS eS SKiKP 05 05 58.0 +2.4
KIS pmax pmax
comp=Z,400nm,1.6s
KIS pmax pmax
comp=Z,900nm,14.0s
KIS pmax pmax
comp=Z,900nm,20.0s
KIS smax smax
comp=E,1µm,8.0s
KIS smax smax
comp=N,800nm,7.0s
KIS MLR MLR
comp=N,7µm,17.0s
KIS MLR MLR
comp=Z,10µm,17.0s
KIS MLR MLR
comp=E,4µm,16.0s
KIS MLR MLR
comp=Z,11µm,17.0s
KIS Kishinev 74.55 324 ⇑iP P 04 56 34.7 +0.8
KIS Kishinev 74.55 324 eP P 04 56 32.0 -1.9
comp=Z,400nm,1.6s
KIS Kishinev 74.55 324 ePP PP 04 59 34.0 +14
KIS eS SKiKP 05 05 58.0 +2.4
comp=Z,800nm,7.0s
GEVA Gevas 74.59 310 iP P 04 56 36.4 +1.9
Z26A Caprock 74.66 58 ⇑P P 04 56 35.0 0.0
baz=74
T32A Huddler Ranch, 74.66 52 ⇓P P 04 56 34.4 -0.4
baz=74,SNR=15
W29A Amraillo 74.66 55 ⇑P P 04 56 35.1 +0.2
baz=74,SNR=13
Y27A Causey 74.69 57 ⇑P P 04 56 35.0 -0.1
baz=74,SNR=37
KWP Kalwaria Pacla 74.70 329 eP P 04 56 34.7 0.0
KWP LMZ LR 05 29 48.2
KWP Kalwaria Pacla 74.70 329 PFAKE 04 56 50.0 +15
KWP LR LR
comp=Z,10µm,20.0s
125A Gardner Draw, 74.70 59 ⇑P P 04 56 35.2 +0.1
baz=74,SNR=26
JFWS Jewell Farm 74.72 43 PFAKE 04 56 50.0 +15
JFWS LR LR
comp=Z,4µm,22.0s
KPL Plockton 74.73 348 eP P 04 56 34.8 +0.1
V30A Spur Ranch, Mi 74.73 54 ⇓P P 04 56 35.8 +0.5
baz=74
U31A Nine Bar Ranch 74.75 53 ⇓P P 04 56 35.4 +0.1
baz=74,SNR=15
X28A Dimmitt 74.78 56 ⇓P P 04 56 35.6 0.0
baz=74,SNR=16
HAKT HAKKARI 74.80 309 iP P 04 56 36.6 +0.8
AMTX Amarillo 74.81 55 eP P 04 56 35.7 0.0
comp=Z,112nm,0.9s
AMTX Amarillo 74.81 55 ⇑P P 04 56 36.3 +0.5
baz=75
GUMT Gumushane 74.82 313 eP P 04 56 36.6 +0.8
KSB Sheil Bridge 74.82 348 eP P 04 56 34.4 -0.8
S33A Kaszmaul Farm, 74.85 51 ⇓P P 04 56 36.2 +0.4
baz=75
MSTX Muleshoe 74.85 56 eP P 04 56 35.5 -0.5
comp=Z,123nm,1.3s
MSTX Muleshoe 74.85 56 ⇓P P 04 56 36.4 +0.3
baz=75,SNR=24
IAS Iasi 74.89 325 ⇑iP P 04 56 37.4 +1.6
CPRX Cap Rock 74.90 58 eP P 04 56 37.1 +0.8
MNTX Cornudas Mount 74.96 60 eP P 04 56 35.9 -0.7
comp=Z,49nm,1.3s
MNTX LR LR
comp=Z,2µm,20.0s
225A Deer Hill, Car 75.00 59 ⇑P P 04 56 37.0 0.0
baz=75,SNR=17
IPAR Pars 75.02 298 eP P 04 56 37.8 +0.5
Z27A Tatum 75.07 57 ⇑P P 04 56 37.1 -0.2
baz=75,SNR=78
CUKT Cukurca 75.08 309 eP P 04 56 38.6 +1.3
126A Clayton Basin, 75.08 58 ⇑P P 04 56 37.1 -0.2
baz=75,SNR=11
T33A Patterson Ranc 75.10 51 ⇓P P 04 56 36.9 -0.3
baz=75
BNGL BINGOL 75.11 311 iP P 04 56 39.4 +1.8
X29A Tulia 75.12 55 ⇑P P 04 56 37.3 -0.2
baz=75,SNR=41
V31A Spring Creek L 75.19 53 ⇑P P 04 56 38.0 +0.1
baz=75,SNR=26
Y28A McKinney Farm, 75.20 56 ⇓P P 04 56 38.3 +0.3
baz=75,SNR=11
LEOM Leova 75.20 324 ⇓iP P 04 56 37.8 +0.2
GDL2 Guadalupe Moun 75.20 59 eP P 04 56 38.4 +0.3
U32A Winter Ranch, 75.21 52 ⇑P P 04 56 37.6 -0.3
baz=75
W30A Crocket Farms 75.22 54 ⇑P P 04 56 38.5 +0.4
baz=75,SNR=7.3
PRAR RASCA 75.28 326 ⇓iP P 04 56 39.7 +1.6
226B Tecolote Peak, 75.41 59 ⇑P P 04 56 39.3 +0.1
baz=75,SNR=45
BUR08 Bucovina Ar. S 75.44 326 eP P 04 56 38.7 -0.5
CLNB Carlsbad 75.44 58 eP P 04 56 39.2 -0.2
comp=Z,38nm,0.8s
127A Arkansas Junct 75.45 58 ⇑P P 04 56 38.9 -0.6
baz=75
BURAR Bucovina Array 75.46 326 ⇑iP P 04 56 38.9 -0.4
SIRT Sirnak 75.52 310 eP P 04 56 41.4 +1.6
SIRN S¨rnak 75.53 310 iP P 04 56 40.7 +0.8
Y29A Porterfield Fa 75.56 56 ⇓P P 04 56 40.0 -0.1
baz=75,SNR=17
W31A Holland Ranch, 75.56 54 ⇑P P 04 56 39.9 -0.1
baz=75,SNR=18
Z28A Tucker Farm, M 75.57 57 ⇓P P 04 56 40.1 -0.1
baz=75,SNR=15
X30A Coker Ranch, T 75.59 55 ⇓P P 04 56 40.5 +0.4
baz=75,SNR=23
EAB Aberfoyle 75.65 347 eP P 04 56 38.8 -1.3
U33A Lingo Farm, Me 75.65 52 ⇑P P 04 56 40.3 -0.1
baz=75,SNR=17
V32A Arapaho 75.67 53 ⇓P P 04 56 41.1 +0.6
baz=75,SNR=15

SVAN Silvan-Diyarba 75.68 311 eP P 04 56 40.9 +0.3
BANOM Banah 75.77 293 P P 04 56 42.4 +1.1
SNR=9.1
KSP Ksiaz 75.80 333 eP P 04 56 39.7 -1.3
KSP LMZ LR 05 33 26.6
IKAZ Kazeroun 75.80 298 eP P 04 56 41.8 +0.1
TESR Tescani 75.81 325 ⇓iP P 04 56 40.6 -0.6
425A Indio Mountain 75.85 60 ⇓P P 04 56 42.2 +0.3
baz=76,SNR=50
RSDY Resadiye-TOKAT 75.93 315 eP P 04 56 40.0 -2.0
X31A McDonald Ranch 75.95 54 ⇓P P 04 56 42.4 +0.2
baz=76,SNR=27
DIKM Dikmen 75.96 317 eP P 04 56 41.9 -0.2
U34A Anderson Ranch 75.96 52 ⇓P P 04 56 42.1 -0.1
baz=76,SNR=20
227A Bennet, Jal 75.97 58 ⇓P P 04 56 42.7 +0.3
baz=76,SNR=7.9
Z29A Hungry Hill Ra 75.98 56 ⇑P P 04 56 42.4 -0.1
baz=76,SNR=37
Y30A Stafford Cattl 75.99 55 ⇓P P 04 56 42.9 +0.4
baz=76,SNR=7.1
128A Castleberry Fa 76.00 57 ⇑P P 04 56 42.6 +0.1
baz=76,SNR=28
W32A Sentinel 76.00 53 ⇑P P 04 56 42.6 +0.2
baz=76,SNR=24
V33A Lossen Ranch, 76.01 52 ⇑P P 04 56 42.2 -0.3
baz=76,SNR=12
TLCR 76.01 323 ⇑iP P 04 56 42.2 -0.1
GIUM Giurgiulesti 76.02 323 ⇓iP P 04 56 42.7 +0.4
TRPA Tarpa 76.02 328 epPn P 04 56 43.2 +0.9
PGBU Glenifferbraes 76.03 347 eP P 04 56 41.2 -1.0
PGBU AMB AMB 04 56 45.8
comp=Z,126nm,1.8s
PTK Pertek 76.05 312 eP P 04 56 42.4 -0.6
BMR Baia Mare 76.06 327 ⇓iP P 04 56 43.0 +0.5
326A Caldwell Ranch 76.07 59 ⇓P P 04 56 42.8 -0.2
baz=76,SNR=40
HAVZ Havza 76.19 316 iP P 04 56 42.2 -1.2
DPC Dobruska-Polom 76.22 333 eS S 05 06 22.5 -1.7
DPC ex x 05 12 00.9
DPC AMS AMS 05 34 20.0
KEMA Kemaliye 76.22 313 iP P 04 56 44.3 +0.5
PETR Petresti 76.22 324 ⇓iP P 04 56 44.8 +1.3
EKA Eskdalemuir Ar 76.28 346 P P 04 56 43.2 -0.4
comp=Z,4.9nm,0.5s,baz=20,slow=5.2,SNR=27
Y31A Rekieta Farm, 76.29 55 ⇓P P 04 56 44.3 +0.2
baz=76,SNR=20
Z30A Sanderson Ranc 76.29 56 ⇓P P 04 56 44.1 -0.1
baz=76,SNR=36
CFR Carcaliu 76.30 323 ⇑iP P 04 56 43.4 -0.5
228A UT Block 9, Go 76.30 58 ⇑P P 04 56 44.5 +0.2
baz=76,SNR=14
BOYT Boyabat 76.30 317 iP P 04 56 45.0 +0.9
ESK Eskdalemuir 76.30 346 iP P 04 56 45.6 +1.8
ESK Eskdalemuir 76.30 346 eP P 04 56 42.4 -1.4
comp=Z,50nm,1.0s
ESK LR LR
comp=Z,4µm,19.0s
VRI Vrincioaia 76.31 324 ⇓iP P 04 56 44.4 +0.4
129A Stewart Farms, 76.35 57 ⇓P P 04 56 44.3 -0.2
baz=76,SNR=22
PLOR Plostina 76.35 324 ⇓iP P 04 56 46.3 +2.0
CLL Collm 76.37 335 eP P 04 56 44.0 -0.2
CLL eS S 05 06 25.0 -0.6
CLL MLR MLR
comp=Z,7µm,18.9s
CLL Collm 76.37 335 eP P 04 56 44.0 -0.2
comp=Z,700nm,25.4s
CLL ePP PP 04 59 42.0 +6.6
CLL ePPP PPP 05 01 30.0
CLL eS S 05 06 25.0 -0.6
CLL ePS PnS 05 07 18.0 +11
CLL eSS SS 05 11 30.0 +11
CLL e 05 12 18.0
CLL e 05 15 42.0
CLL LmV 05 36 00.0
comp=Z,7µm,18.9s
CLL Collm 76.37 335 eP P 04 56 44.0 -0.2
DYBB Diyarbakir 76.38 311 eP P 04 56 45.8 +1.1
WBK Wadi Bani Khal 76.39 288 P P 04 56 47.2 +2.4
SNR=15
TOKA Tokat 76.40 315 iP P 04 56 44.6 -0.1
W33A Caddo, Fort Co 76.41 53 ⇓P P 04 56 44.9 +0.2
baz=76,SNR=11
V34A Guthrie 76.42 52 ⇓P P 04 56 44.4 -0.4
baz=76,SNR=29
BRG Berggiesshubel 76.48 335 S S 05 06 24.0 -2.9
BRG SS SS 05 11 36.0 +15
X32A Elmer 76.49 54 ⇑P P 04 56 45.0 -0.2
baz=76,SNR=18
426A McDonald Obser 76.51 60 ⇑P P 04 56 45.5 -0.1
baz=76,SNR=23
UOSS Wadi Hilu 76.52 292 P P 04 56 45.9 +0.3
comp=Z,2µm,0.8s,SNR=32
MARD Mardin 76.53 311 iP P 04 56 46.3 +0.7
MAZI Mazidag 76.59 311 eP P 04 56 46.7 +0.8
GRER 76.61 324 ⇑iP P 04 56 49.1 +3.4
HATD Hatta, Dubai 76.65 292 ⇓iP P 04 56 46.6 +0.3
SNR=45
SMDO Samad 76.67 289 P P 04 56 48.1 +1.6
SNR=16
328A Wristen Ranch, 76.71 58 ⇑P P 04 56 46.5 -0.1
baz=76,SNR=48
Y32A R-V Farms, Ver 76.72 54 ⇓P P 04 56 46.3 -0.2
baz=76,SNR=16
W34A Bridge Creek, 76.72 52 ⇓P P 04 56 46.7 +0.1
baz=76,SNR=9.8
427A Hayter Ranch, 76.75 59 ⇑P P 04 56 47.0 +0.1
baz=76,SNR=22
DOPR Dopca 76.75 325 ⇑iP P 04 56 48.2 +1.6
TIRR Tirgusor 76.77 323 ⇑iP P 04 56 46.4 -0.2
HOQ Hoqain 76.78 290 P P 04 56 47.9 +0.9
SNR=32
HARR Harsova 76.78 323 ⇓iP P 04 56 46.9 +0.2
ASHO Ashiyiah 76.80 292 P P 04 56 48.2 +1.1
SNR=16
ARMA Armidale 76.82 181 eP P 04 56 47.9 +0.9
comp=Z,127nm,1.6s
TLB Topalu 76.82 323 ⇑iP P 04 56 46.7 -0.2
CJR Cluj-Napoca 76.82 327 ⇑iP P 04 56 47.3 +0.3
Z31A Sharp Cattle R 76.83 55 ⇑P P 04 56 46.7 -0.4
baz=77,SNR=32
NAZ Nazwa, Dubai 76.84 292 ⇓iP P 04 56 47.5 +0.1
SNR=15
X33A Lawton 76.84 53 ⇓P P 04 56 47.7 +0.5
baz=77,SNR=5.0
229A Bryant Ranch, 76.86 57 ⇓P P 04 56 47.7 +0.2
baz=77,SNR=22
130A Snyder 76.89 56 ⇓P P 04 56 47.8 +0.2
baz=77,SNR=7.6
526A Mary Lane Ranc 76.91 60 ⇓P P 04 56 47.7 -0.1
baz=77,SNR=28
MLR Muntele Rosu 76.93 325 ⇑iP P 04 56 47.6 -0.1
MLR Muntele Rosu 76.93 325 P P 04 56 47.8 +0.2
comp=Z,37nm,0.8s,baz=158,slow=10,SNR=70
HCB Kahramanmara¨ 76.96 311 iP P 04 56 57.0 +9.1
CTKT Corum 76.98 316 iP P 04 56 48.1 0.0
EFOR EFORIE 76.98 322 ⇑iP P 04 56 50.1 +2.3
KESW Keswick, Cumbr 76.99 346 eP P 04 56 47.7 +0.1
KESW AMS AMS 05 24 02.1
comp=Z,3µm,39.6s
PGOR Pogoanele 76.99 324 ⇑iP P 04 56 49.0 +1.2
ISR Istrita 77.00 324 ⇑iP P 04 56 48.8 +0.8
MDB Medias 77.00 326 ⇓iP P 04 56 49.3 +1.4
TOS Tosya 77.02 317 eP P 04 56 50.1 +1.9
COCO West Island 77.05 236 PFAKE 04 57 00.0 +12
COCO LR LR
comp=Z,1µm,22.0s
FAQ Al Faqa, Dubai 77.05 292 ⇓iP P 04 56 48.5 -0.1
SNR=45
DRGR 77.09 327 ⇑iP P 04 56 48.1 -0.4
AMRR Amara 77.09 323 ⇓iP P 04 56 50.4 +2.0
329A Wagon Wheel Ra 77.11 58 ⇓P P 04 56 48.8 -0.1
baz=77,SNR=36
JMDO Jabal Madar 77.12 289 P P 04 56 49.8 +0.8
SNR=40
527A Woodward Ranch 77.13 60 ⇑P P 04 56 49.1 0.0
baz=77,SNR=19
PSZ Piszkesteto 77.14 330 PFAKE 04 57 00.0 +11
PSZ LR LR
comp=Z,11µm,19.0s
ILGA Ilgaz 77.15 317 iP P 04 56 50.0 +0.9
131A Roby 77.16 56 ⇑P P 04 56 48.9 -0.2
baz=77,SNR=27
X34A Smith Ranch, M 77.16 53 ⇑P P 04 56 48.7 -0.4

baz=77,SNR=12
Y33A Hilltop Ranch, 77.17 54 ⇑P P 04 56 48.5 -0.6
baz=77,SNR=24
Z32A Haskell 77.21 55 ⇓P P 04 56 48.3 -1.0
baz=77,SNR=26
MANR Mangalia 77.22 322 ⇓iP P 04 56 50.9 +1.8
626A Big Bend Ranch 77.25 60 ⇑P P 04 56 49.7 0.0
baz=77,SNR=42
SECR 77.26 324 ⇑iP P 04 56 51.9 +2.5
428A Kincaid Ranch, 77.26 59 ⇓P P 04 56 49.4 -0.3
baz=77,SNR=28
DARE Darende-Malaty 77.26 313 eP P 04 56 51.1 +1.5
TUL1 Tulsa 77.28 51 ⇑P P 04 56 49.2 -0.5
baz=77,SNR=15
ASUD Al Ashush, Dub 77.31 292 ⇑iP P 04 56 50.5 +0.5
SNR=36
MSAB Monastry St. A 77.31 323 ⇑iP P 04 56 49.9 +0.2
230A Sterling City 77.32 57 ⇓P P 04 56 49.7 -0.3
baz=77,SNR=23
VOIR 77.33 325 ⇑iP P 04 56 50.1 +0.2
HPK Haverah Park 77.33 345 eP P 04 56 49.4 -0.1
HPK AMS AMS 05 25 23.9
comp=Z,3µm,32.5s
URFA Urfa 77.45 312 eP P 04 56 50.6 -0.1
ARQ Araqi 77.46 291 P P 04 56 51.9 +1.0
SNR=24
SULR 77.47 324 ⇑iP P 04 56 50.8 +0.3
SAFT Safranbolu 77.48 318 eP P 04 56 51.9 +1.3
YOZ Yozgat 77.49 315 eP P 04 56 51.1 +0.1
PSN Preselentsi 77.50 322 iP P 04 56 52.0 +1.3
PSN Preselentsi 77.50 322 ⇑iP P 04 56 52.6 +1.9
MTUR Matau 77.50 325 ⇑iP P 04 56 50.7 -0.1
CANT Cankiri 77.54 317 eP P 04 56 53.7 +2.6
ARR Arges 77.55 325 ⇓iP P 04 56 52.3 +1.2
LMK Market Rasen 77.57 344 AMS AMS 05 35 32.9
comp=Z,4µm,19.6s
528A Cox Ranch, San 77.61 59 ⇓P P 04 56 51.6 -0.1
baz=77,SNR=29
ABTX Abilene, Hawle 77.62 55 eP P 04 56 51.5 -0.2
comp=Z,525nm,2.6s
ABTX Abilene, Hawle 77.62 55 ⇑P P 04 56 51.4 -0.2
baz=77,SNR=18
Z33A Whitaker Ranch 77.62 54 ⇑P P 04 56 51.1 -0.5
baz=77,SNR=20
330A Mertzon 77.64 57 ⇑P P 04 56 51.4 -0.4
baz=77,SNR=26
Y34A Reagan Ranch, 77.68 53 ⇑P P 04 56 51.7 -0.2
baz=77,SNR=15
TXAR Lajitas Array 77.69 60 P P 04 56 51.9 -0.3
comp=Z,14nm,0.5s,baz=298,slow=3.7,SNR=94
TXAR PKKPbc PKKPbc 05 15 57.9 +5.8
comp=Z,0.7nm,0.8s,baz=146,slow=2.7,SNR=7.7
ATAB Bozova 77.69 312 iP P 04 56 53.6 +1.6
ELDT Eldivan 77.73 317 iP P 04 56 52.8 +0.5
231A Bronte 77.75 56 ⇓P P 04 56 51.8 -0.5
baz=78,SNR=31
LHO Holmfirth 77.77 345 eP P 04 56 51.0 -1.0
627A Terlingua Ranc 77.77 60 ⇓P P 04 56 52.6 -0.1
baz=78,SNR=29
DEV Deva 77.78 327 ⇑iP P 04 56 53.0 +0.7
429A Davenport Ranc 77.80 58 ⇑P P 04 56 52.4 -0.3
baz=78,SNR=18
CIOR Ciorogarla 77.82 324 ⇑iP P 04 56 53.0 +0.5
LOT Lotru 77.82 326 ⇓iP P 04 56 52.5 -0.1
BUD Budapest 77.82 330 eP P 04 56 53.5 +1.1
BNN Bunyan 77.85 315 eP P 04 56 53.2 +0.3
GOLR 77.86 325 ⇑iP P 04 56 52.5 -0.2
CDAG Cicekdag 77.96 316 iP P 04 56 53.4 -0.1
529A Stev Forest Ra 77.97 59 ⇑P P 04 56 53.5 -0.1
baz=78,SNR=34
KBI1 Birley Grange 77.99 345 eP P 04 56 52.1 -1.1
SADO Sadowa 78.02 35 LR LR 05 33 22.6
comp=Z,3µm,21.8s,baz=358,slow=37
Z34A Collier Ranch, 78.03 54 ⇑P P 04 56 53.8 -0.1
baz=78,SNR=12
628A Black Gap, Mar 78.04 60 ⇑P P 04 56 53.7 -0.3
baz=78,SNR=18
133A Hamilton Ranch 78.04 55 ⇓P P 04 56 53.6 -0.4
baz=78,SNR=24
430A Baggett Ranch, 78.06 58 ⇓P P 04 56 53.5 -0.6
baz=78,SNR=45
BCAM Yenicaga 78.10 318 iP P 04 56 55.1 +0.8
PKSG 78.11 330 eP P 04 56 54.5 +0.4
KHC Kasperske Hory 78.13 334 eP P 04 56 51.6 -2.6
KHC eS S 05 06 43.4 -1.6
KHC MLR MLR
comp=Z,9µm,20.3s
KHC Kasperske Hory 78.13 334 eP P 04 56 51.6 -2.6
KHC eS S 05 06 43.4 -1.6
KHC ex x 05 12 39.7
KHC AMS AMS 05 33 20.0
comp=Z,9µm,20.3s
331A San Angelo 78.14 57 ⇑P P 04 56 54.2 -0.4
baz=78,SNR=39
PKS7 Kunszentmiklos 78.15 330 eP P 04 56 56.2 +2.0
GZT Gaziantep 78.15 313 iP P 04 56 55.7 +1.0
232A Coleman 78.16 56 ⇓P P 04 56 54.5 -0.2
baz=78,SNR=32
SFIN Scholer Farm 78.17 42 ⇑P P 04 56 53.8 -0.7
baz=78,SNR=10
AAM Ann Arbor 78.18 39 eP P 04 56 54.0 -0.5
AAM pmax pmax
comp=Z,27nm,0.7s
AAM MLR MLR
comp=Z,4µm,21.0s
AAM Ann Arbor 78.18 39 eP P 04 56 54.0 -0.5
comp=Z,27nm,0.7s
AAM LR LR
comp=Z,4µm,21.0s
BR131 Keskin Array S 78.23 317 eP P 04 56 54.7 -0.3
comp=Z,57nm,0.8s
BRTR Keskin Array B 78.23 317 P P 04 56 55.3 +0.2
comp=Z,59nm,0.8s,baz=69,slow=3.1,SNR=84
BRTR LR LR 05 37 36.2
comp=Z,4µm,18.3s,baz=26,slow=40
GZR Gura Zlata 78.24 327 ⇑iP P 04 56 54.5 -0.4
PKST T¨'s 78.35 330 eP P 04 56 56.8 +1.4
GERES GERESS Array B 78.35 334 LR LR 05 35 48.6
comp=Z,9µm,18.1s,baz=30,slow=39
KMRS Kahramanmaras 78.37 313 eP P 04 56 56.5 +0.7
AVNT Avonos 78.39 315 iP P 04 56 55.5 -0.5
Z35A Perchaven, San 78.43 53 ⇑P P 04 56 55.3 -0.8
baz=78,SNR=8.2
530A J-C Ranch, Com 78.47 58 ⇓P P 04 56 56.2 -0.3
baz=78,SNR=34
332A Millersview 78.48 56 ⇓P P 04 56 56.3 -0.2
baz=78,SNR=50
BZS Buzias 78.49 327 ⇑iP P 04 56 55.4 -0.8
233A Rising Star 78.49 55 ⇑P P 04 56 56.2 -0.3
baz=78,SNR=27
431A Sonora 78.50 57 ⇑P P 04 56 56.3 -0.3
baz=78,SNR=30
LOD Lodumlu 78.51 317 eP P 04 56 57.4 +0.8
ANTO Ankara 78.51 317 eP P 04 56 56.2 -0.3
ANTO Ankara 78.51 317 ⇑iP P 04 56 57.3 +0.8
ANTO Ankara 78.51 317 PFAKE 04 57 10.0 +13
ANTO LR LR
comp=Z,4µm,19.0s
134A White-Moore Ra 78.54 54 ⇓P P 04 56 56.3 -0.4
baz=78,SNR=13
ANDN Andirin 78.59 313 iP P 04 56 57.5 +0.5
BBAL Bala 78.62 317 iP P 04 56 57.6 +0.4
FOEL Foel Wylfa 78.63 345 eP P 04 56 56.0 -0.8
FOEL AMB AMB 04 57 00.9
comp=Z,114nm,1.7s
AFSR Af¨ar-Bala (A 78.72 317 eP P 04 56 59.1 +1.4
BEBN Eben Emael 78.77 339 PN P 04 56 55.2 -2.4
MDUB Mudurnu 78.77 319 eP P 04 56 58.8 +0.8
SZH Strazhica 78.77 323 iP P 04 56 57.7 -0.1
BTAS Taskesti 78.78 319 iP P 04 56 58.9 +0.9
432A Menard 78.83 57 ⇑P P 04 56 58.2 -0.2
baz=79,SNR=22
KUZU Kuzuini 78.85 312 iP P 04 57 00.1 +1.7
STKA Stephens Creek 78.92 190 P P 04 56 58.9 +0.5
STKA pmax pmax
comp=Z,9.0nm,0.9s
STKA MLR MLR
comp=Z,1µm,18.0s
STKA Stephens Creek 78.92 190 P P 04 56 58.9 +0.5
comp=Z,8.8nm,0.9s,baz=342,slow=11,SNR=4.9
STKA LR LR 05 36 52.6
comp=Z,1µm,18.0s,baz=8.7,slow=39
STKA Stephens Creek 78.92 190 eP P 04 56 59.6 +1.1
531A Rocksprings 78.92 58 ⇑P P 04 56 58.7 -0.2
baz=79,SNR=33

135A Vickery Place, 78.92 54 ⇑P P 04 56 58.5 -0.3
baz=79,SNR=6.7
KOZT Kozan 78.93 314 eP P 04 56 59.2 +0.5
234A Clairette 78.93 55 ⇓P P 04 56 58.6 -0.3
baz=79,SNR=17
333A Richland Sprin 78.96 56 ⇓P P 04 56 58.5 -0.5
baz=79,SNR=43
SPNC Sapanca-Adapaz 79.00 319 eP P 04 56 58.3 -0.8
OLIL Olney 79.00 44 eP P 04 56 58.0 -1.1
comp=Z,186nm,1.2s
NIG Nigde 79.03 315 eP P 04 57 01.0 +1.3
PVL Pavlikeni 79.06 324 iP P 04 57 00.8 +1.5
KLYT Kilyos 79.10 320 eP P 04 57 01.2 +1.6
JCT Junction City 79.12 57 PFAKE 04 57 10.0 +10
JCT LR LR
comp=Z,2μm,21.0s
JCT Junction City 79.12 57 ⇓P P 04 56 59.8 -0.2
baz=79,SNR=33
JMB Yambol 79.16 323 iP P 04 57 02.0 +2.1
JMB Yambol 79.16 323 ⇑iP P 04 57 01.1 +1.2
HRT Hereke 79.18 320 eP P 04 57 00.2 +0.1
CTYL Yal??k??y-??at 79.25 321 eP P 04 56 56.9 -3.6
BGKT Bogazkoy 79.28 320 eP P 04 56 59.8 -0.8
433A Art 79.32 56 ⇓P P 04 57 00.4 -0.6
baz=79,SNR=32
WHTX Lake Whitney 79.32 54 ⇑P P 04 57 00.8 -0.2
baz=79,SNR=27
CEYT Ceyhan 79.33 313 eP P 04 57 03.1 +2.2
CTKS Kestanelik-??a 79.35 321 eP P 04 57 01.7 +0.7
SNF Seneffe 79.37 340 P P 04 57 00.8 -0.1
334A Lometa 79.38 55 ⇓P P 04 57 00.4 -0.9
baz=79,SNR=33
PBMO Poplar Bluff 79.39 47 eP P 04 57 00.6 -0.7
comp=Z,312nm,1.4s
SVRH Sivrihisar-ESK 79.44 318 eP P 04 57 00.7 -0.9
MCH1 Michaelchurch 79.45 345 eP P 04 57 01.2 -0.1
MCH1 AMB AMB 04 57 02.9
comp=Z,168nm,1.8s
MCH1 AMS AMS 05 25 49.4
comp=Z,3μm,26.8s
PHSR Pinarhisar 79.45 321 eP P 04 56 59.8 -1.8
ELBA Catalca 79.46 321 iP P 04 57 01.7 +0.1
631A Perdido Creek 79.46 58 ⇓P P 04 57 01.4 -0.4
baz=79,SNR=56
ELSH Elham, Standar 79.46 342 AMS AMS 05 36 45.1
comp=Z,5μm,20.3s
KARA Karaisali 79.48 314 eP P 04 57 03.2 +1.4
SULT Sultanhani-AKS 79.49 316 eP P 04 57 00.7 -1.2
MIAR Mount Ida 79.50 50 PFAKE 04 57 10.0 +8.1
MIAR LR LR
comp=Z,4μm,19.0s
STRD Stroud 79.52 344 eP P 04 57 00.8 -0.8
STRD AMB AMB 04 57 04.1
comp=Z,194nm,1.9s
LPW Lampeter 79.53 346 eP P 04 57 02.2 +0.5
LPW AMS AMS 05 25 30.3
comp=Z,3μm,33.2s
MONM Monmouth 79.57 345 eP P 04 57 01.1 -0.9
BORA Eskisehir 79.58 319 iP P 04 57 02.4 0.0
CAVI Cavuskoy 79.60 319 eP P 04 57 04.1 +1.7
EDRB Edirne 79.61 322 eP P 04 57 01.2 -1.2
DOU Dourbes 79.68 340 P P 04 57 02.6 0.0
comp=Z,54nm,1.5s
SEYT Eskypehyr 79.69 318 iP P 04 57 03.3 +0.2
SWN1 Swindon 79.70 344 eP P 04 57 02.2 -0.4
SWN1 AMB AMB 04 57 08.3
comp=Z,217nm,1.9s
SWN1 AMS AMS 05 26 31.6
comp=Z,4μm,30.7s
WLF Walferdange 79.70 339 PFAKE 04 57 10.0 +7.3
WLF LR LR
comp=Z,11μm,22.0s
GEMT Gemlik 79.70 320 eP P 04 57 01.7 -1.2
434A Burnet 79.75 56 ⇑P P 04 57 02.8 -0.5
baz=80,SNR=16
CRLT Corlu 79.77 321 eP P 04 57 01.7 -1.6
PTN Potsdam (NY) 79.78 33 eP P 04 57 02.0 -1.2
PTN pmax pmax
comp=Z,89nm,0.8s
PTN Potsdam (NY) 79.78 33 eP P 04 57 02.0 -1.2
comp=Z,89nm,0.8s
WOL Wolverton 79.78 344 eP P 04 57 02.2 -0.9
WOL AMB AMB 04 57 10.8
comp=Z,265nm,2.3s
WOL AMS AMS 05 37 21.9
comp=Z,4μm,22.6s
PARMO Parma 79.82 46 eP P 04 57 03.2 -0.4
632A Uvalde 79.85 58 ⇑P P 04 57 03.7 -0.2
baz=80,SNR=19
533A Kerrville 79.86 57 ⇑P P 04 57 03.2 -0.8
baz=80,SNR=37
BATH Bath 79.86 344 eP P 04 57 04.7 +1.2
PERS Pernice 79.86 332 eP P 04 57 03.8 +0.1
LONY Lake Ozonia 79.88 32 PFAKE 04 57 20.0 +16
LONY LR LR
comp=Z,3μm,19.0s
ERPA Erie 79.88 37 eP P 04 57 02.8 -1.1
comp=Z,149nm,0.6s
ERPA LR LR
comp=Z,4μm,21.0s
MDNY Mudanya-Bursa 79.89 320 eP P 04 57 04.6 +0.7
HMNX Herstmonceux 79.89 343 AMS AMS 05 34 02.9
comp=Z,5μm,22.9s
LANF Langenberg 79.90 337 eP P 04 57 03.5 -0.4
DIM Dimitrovgrad 79.95 323 iP P 04 57 05.0 +0.8
ULDT Uludag 79.97 320 iP P 04 57 04.6 0.0
KBA Koelnbreinsper 80.03 333 ⇑iP P 04 57 05.9 +1.1
comp=Z,251nm,0.7s
LADK Ladik-KONYA 80.04 316 eP P 04 57 05.2 +0.2
MERS Mersin 80.05 314 eP P 04 57 06.5 +1.6
FRNY Flat Rock 80.06 32 eP P 04 57 03.3 -1.4
comp=Z,15nm,1.0s
ORLT Orhaneli 80.15 320 eP P 04 57 05.6 +0.2
ACSO Alum Creek Sta 80.16 40 eP P 04 57 04.7 -0.7
comp=Z,129nm,0.8s
ACSO LR LR
comp=Z,5μm,20.0s
RAO Raoul Island 80.16 154 PFAKE 04 57 20.0 +15
RAO LR LR
comp=Z,5μm,19.0s
ALLY Alegheny Colle 80.21 37 eP P 04 57 04.8 -0.8
comp=Z,168nm,0.8s
534A Blanco 80.22 56 ⇓P P 04 57 05.5 -0.4
baz=80,SNR=36
HBAR Harrisburg 80.23 48 eP P 04 57 05.3 -0.6
GNAR Gosnell 80.24 47 eP P 04 57 05.6 -0.3
633A Saathoff Ranch 80.24 57 ⇑P P 04 57 05.8 -0.2
baz=80,SNR=18
KONT Konya--Tatoy 80.25 316 eP P 04 57 05.9 -0.1
WCI Wyandotte Cave 80.26 43 eP P 04 57 05.0 -1.0
WCI pmax pmax
comp=Z,147nm,1.0s
WCI Wyandotte Cave 80.26 43 eP P 04 57 05.0 -1.0
comp=Z,147nm,1.0s
MRMT Marmara Adasi 80.27 321 eP P 04 57 06.3 +0.2
732A Laxson Ranch, 80.32 58 ⇑P P 04 57 06.5 +0.1
baz=80,SNR=35
BNT Bandirma 80.33 320 eP P 04 57 04.1 -2.2
KDZ Kurdzhali 80.33 323 ⇑iP P 04 57 06.7 +0.4
FORT Forrest 80.34 201 eP P 04 57 06.7 +0.5
comp=Z,115nm,0.8s
WATA Walderalm 80.34 334 ⇑iP P 04 57 06.7 +0.3
comp=Z,119nm,0.7s
EDC Edincik 80.36 321 eP P 04 57 08.5 +2.0
BFO Black Forest 80.36 337 iP P 04 57 07.5 +1.1
BFO Black Forest 80.36 337 PFAKE 04 57 20.0 +14
BFO LR LR
comp=Z,5μm,22.0s
SART Tekirdag 80.38 321 iP P 04 57 06.3 -0.3
RKY Sarkoy-Tekirda 80.38 321 eP P 04 57 07.5 +0.9
TVSB Tavsanli 80.38 319 eP P 04 57 06.5 -0.2
WTTA Wattenberg 80.39 334 ⇑iP P 04 57 07.9 +1.1
comp=Z,223nm,0.8s
ALT Altintas 80.41 318 eP P 04 57 06.5 -0.3
VTS Vitosha 80.44 325 eP P 04 57 06.6 -0.4
VTS Vitosha 80.44 325 iP P 04 57 06.9 -0.1
VTS Vitosha 80.44 325 ⇑iP P 04 57 06.8 -0.2
HEX Exmoor 80.49 345 eP P 04 57 07.7 +0.7
KIZK Mersin 80.55 314 iP P 04 57 07.5 0.0
CDF Champ du Feu 80.56 338 eP P 04 57 07.2 -0.3
comp=Z,492nm,1.3s
CDF Champ du Feu 80.56 338 eP P 04 57 07.2 -0.3
CDF pmax pmax
comp=Z,492nm,1.3s
CDF Champ du Feu 80.56 338 eP P 04 57 07.2 -0.3
comp=Z,492nm,1.3s
KRBG Karabiga-Canak 80.57 321 eP P 04 57 08.0 +0.5
NCB Newcomb 80.57 32 eP P 04 57 05.8 -1.7
comp=Z,69nm,1.0s
NCB LR LR
comp=Z,3μm,19.0s
SHUT Suhut-Afyon 80.61 318 eP P 04 57 08.6 +0.6
VAL Valentia 80.61 349 eP P 04 57 06.7 -0.8
BBOO Buckleboo 80.62 194 eP P 04 57 10.8 +3.1
comp=Z,2μm,1.6s
832A Faith Ranch, C 80.65 59 ⇓P P 04 57 08.2 -0.1
baz=80,SNR=24
GDZ Gediz 80.67 319 iP P 04 57 08.2 -0.1
ALN Alexandroupoli 80.69 322 eP P 04 57 08.4 +0.2
ALN Alexandroupoli 80.69 322 eP P 04 57 08.0 -0.2
733A Divot King Ran 80.72 58 ⇓P P 04 57 09.0 +0.4
baz=80,SNR=10
535A Dale 80.73 56 ⇑P P 04 57 08.5 -0.1
baz=80
H06S1 SOCORRO T 80.75 73 T T 06 25 05.1
SNR=30
634A China Grove, S 80.77 57 ⇑P P 04 57 09.0 +0.1
baz=80
ENEZ Enez 80.78 322 eP P 04 57 08.0 -0.7
ECH Echery 80.78 338 eP P 04 57 08.1 -0.5
ECH Echery 80.78 338 PFAKE 04 57 20.0 +11
ECH LR LR
comp=Z,4μm,21.0s
LPK Lapseki 80.82 321 eP P 04 57 09.9 +1.0
BOJS Bojanci 80.82 331 eP P 04 57 08.6 -0.2
PAGF Fort de Pagny 80.83 339 eP P 04 57 08.9 0.0
comp=Z,136nm,1.1s
PAGF Fort de Pagny 80.83 339 eP P 04 57 08.9 0.0
comp=Z,136nm,1.1s
FETA Feichten 80.87 335 ⇓iPcP P 04 57 11.5 +2.2
comp=Z,148nm,1.2s
GELI Tayfur-Gelibol 80.92 321 eP P 04 57 09.7 +0.3
MDV Middlebury 80.93 32 eP P 04 57 08.7 -0.7
BALB Balikesir 80.93 320 eP P 04 57 07.5 -2.0
833A Chaparral WMA, 80.96 58 ⇑P P 04 57 10.4 +0.5
baz=81,SNR=11
536A Bastrop 80.98 55 ⇓P P 04 57 09.7 -0.2
baz=81
NATX Nacogdoches 81.05 53 eP P 04 57 10.1 -0.2
comp=Z,204nm,1.0s
MEZF Maizieres J'vi 81.05 339 eP P 04 57 09.9 -0.1
comp=Z,246nm,0.9s
MEZF Maizieres J'vi 81.05 339 eP P 04 57 09.9 -0.1
comp=Z,246nm,0.9s
734A La Parita Cree 81.05 57 ⇓P P 04 57 11.1 +0.8
baz=81,SNR=6.6
THEF They Montfort 81.07 338 eP P 04 57 09.4 -0.7
MMB Musomiste 81.07 324 iP P 04 57 10.3 0.0
MMB Musomiste 81.07 324 ⇑iP P 04 57 10.3 0.0
KKB Krupnik 81.10 324 iP P 04 57 10.0 -0.4
635A Leesville 81.10 56 ⇑P P 04 57 10.9 +0.3
baz=81,SNR=9.9
MOF Molkenrain 81.12 337 eP P 04 57 10.3 -0.2
FKH Fakeheh 81.16 311 eP P 04 57 11.4 +0.5
PKME Peaks-Kenny Pk 81.16 29 eP P 04 57 10.3 -0.4
comp=Z,44nm,1.0s
PKME LR LR
comp=Z,3μm,19.0s
LBNH Lisbon 81.17 31 PFAKE 04 57 20.0 +9.3
LBNH LR LR
comp=Z,5μm,21.0s
HAU Haudompre 81.18 338 eP P 04 57 10.4 -0.4
comp=Z,186nm,1.0s
HAU eR
comp=Z,9μm,22.8s
HAU Haudompre 81.18 338 eP P 04 57 10.4 -0.4
HAU pmax pmax
comp=Z,186nm,1.0s
HAU Haudompre 81.18 338 eP P 04 57 10.4 -0.4
comp=Z,186nm,1.0s
ISP Isparta 81.21 317 eP P 04 57 09.7 -1.5
ISP Isparta 81.21 317 ⇓iP P 04 57 11.9 +0.7
ISP Isparta 81.21 317 PFAKE 04 57 20.0 +8.8
ISP LR LR
comp=Z,6μm,20.0s
NVR Nevrokopi 81.22 324 eP P 04 57 10.9 -0.2
HINF Hinteralfeld 81.22 338 eP P 04 57 10.4 -0.6
comp=Z,105nm,0.9s
HINF Hinteralfeld 81.22 338 eP P 04 57 10.4 -0.6
HINF pmax pmax
comp=Z,105nm,0.9s
HINF Hinteralfeld 81.22 338 eP P 04 57 10.4 -0.6
comp=Z,105nm,0.9s
KAVA Kavala 81.25 323 eP P 04 57 11.3 +0.1
PMOR Pomariorio Ree 81.25 123 eT T 06 26 47.6
comp=Z,172nm,0.2s
SMTH Samothraki Isl 81.26 322 eP P 04 57 10.9 -0.4
SUTC Sutluce-Ispart 81.27 317 eP P 04 57 11.5 0.0
EREN Erenkoy 81.28 314 eP P 04 57 11.8 +0.4
SFTF Sexfontaines 81.33 339 eP P 04 57 11.2 -0.3
comp=Z,466nm,0.9s
SFTF Sexfontaines 81.33 339 eP P 04 57 11.2 -0.3
comp=Z,466nm,0.9s
DAVOX Davos/Dischmat 81.34 335 P P 04 57 11.9 +0.1
comp=Z,109nm,0.9s,baz=28,slow=10,SNR=17
BINY Binghamton 81.42 34 eP P 04 57 10.6 -1.5
comp=Z,101nm,1.3s
BINY LR LR
comp=Z,3μm,20.0s
EZN Ezine 81.46 321 eP P 04 57 12.3 0.0
735A Kenedy 81.48 57 ⇑P P 04 57 13.4 +0.8
baz=81,SNR=21
HNH Hanover 81.50 31 eP P 04 57 12.3 -0.2
comp=Z,38nm,0.8s
KULA Kula-Manisa 81.50 319 eP P 04 57 11.8 -0.9
SRS Serrai 81.52 324 eP P 04 57 12.7 0.0
933A Laredo 81.56 59 ⇓P P 04 57 14.0 +0.9
baz=81,SNR=30
MANT Manisa 81.57 319 iP P 04 57 13.1 -0.2
AKHS Akhisar 81.58 320 iP P 04 57 11.7 -1.3
AKS Akhisar 81.58 320 eP P 04 57 13.0 -0.1
834A Tilden 81.60 58 ⇑P P 04 57 13.9 +0.7
baz=81,SNR=24
GAZI Gazipasa 81.64 315 iP P 04 57 11.4 -1.9
SKO Skopje 81.66 326 eP P 04 57 12.5 -0.9
WVL Waterville 81.66 29 eP P 04 57 13.0 -0.3
comp=Z,75nm,1.0s
LOMF Lomont 81.66 337 eP P 04 57 13.3 -0.1
AYVA Ayvalik 81.73 321 iP P 04 57 13.3 -0.4
VAY Valandovo 81.76 324 eP P 04 57 13.3 -0.6
CAN Canberra 81.77 183 PFAKE 04 57 30.0 +16
CAN LR LR
comp=Z,3μm,20.0s
TUE Stuetta 81.77 335 PFAKE 04 57 30.0 +16
TUE LR LR
comp=Z,7μm,19.0s
LFK Lefkose 81.80 314 eP P 04 57 14.3 0.0
BHL Bhannes 81.81 312 eP P 04 57 14.5 0.0
TRY Troy 81.84 33 eP P 04 57 14.0 -0.3
comp=Z,36nm,0.8s
LIA Limnos Island 81.88 322 eP P 04 57 14.1 -0.4
835A Beeville 81.89 57 ⇓P P 04 57 16.2 +1.4
baz=82,SNR=10
KORT Korkueli 81.96 317 iP P 04 57 13.9 -1.2
934A Benavides 82.01 58 ⇓P P 04 57 15.9 +0.5
baz=82,SNR=18
OUR Ouranopolis 82.02 323 eP P 04 57 13.7 -1.6
OUR Ouranopolis 82.02 323 eP P 04 57 15.2 -0.1
RCY Rachaya 82.04 311 eP P 04 57 16.5 +0.8
MAMC Mammari 82.04 314 P P 04 57 15.9 +0.4
KSPA Keystone Colle 82.05 35 eP P 04 57 14.6 -0.8
FLN La Foliniere 82.06 343 eP P 04 57 14.9 -0.4
comp=Z,64nm,0.8s
FLN eR
comp=Z,9μm,22.2s
FLN La Foliniere 82.06 343 eP P 04 57 14.9 -0.4
FLN pmax pmax
comp=Z,64nm,0.8s
FLN La Foliniere 82.06 343 eP P 04 57 14.9 -0.4
comp=Z,64nm,0.8s
GOLH Golhisar 82.13 318 iP P 04 57 14.9 -1.2
LDF La Druitiere 82.15 342 eP P 04 57 15.2 -0.6
comp=Z,83nm,0.9s
LDF La Druitiere 82.15 342 eP P 04 57 15.2 -0.6
LDF pmax pmax
comp=Z,83nm,0.9s
LDF La Druitiere 82.15 342 eP P 04 57 15.2 -0.6
comp=Z,83nm,0.9s
CSS Prodhromos 82.15 314 eP P 04 57 17.3 +1.2
CSS Prodhromos 82.15 314 eP P 04 57 15.8 -0.2
comp=Z,43nm,0.7s
CSS LR LR
comp=Z,957nm,21.0s
SIGR SIGRI 82.17 321 eP P 04 57 15.4 -0.7
SIGR SIGRI 82.17 321 eP P 04 57 15.7 -0.3
PLG Polygyros 82.21 323 eP P 04 57 15.7 -0.6
LEF Lefka 82.24 314 eP P 04 57 15.2 -1.3
034A Hebbronville 82.32 59 ⇑P P 04 57 17.0 -0.1
baz=82,SNR=28
AYDB Zeytinkoy-Aydi 82.32 319 eP P 04 57 16.7 -0.4
PPT Papeete 82.35 126 LR LR 05 26 30.5
comp=Z,1μm,21.4s,baz=316,slow=30
ALFC Alevga 82.36 314 P P 04 57 17.0 -0.2
PPT2 Papeete2 82.36 126 eS S 05 07 34.5 +4.5
comp=Z,3μm,25.5s
PPT2 eSS SS 05 12 55.2 +3.3
comp=Z,1μm,25.0s
PPT2 eLQ LQ 05 19 08.6
comp=Z,2μm,25.5s
PPT2 eLR LR 05 22 59.4
comp=Z,7μm,25.0s,baz=326
PPT2 Papeete2 82.36 126 eT T 06 28 14.1
comp=Z,12nm,0.3s
ELL Elmali 82.37 317 eP P 04 57 17.6 +0.3
KVTX Kingsville 82.42 58 eP P 04 57 20.5 +2.9
comp=Z,78nm,1.0s
SENIN Lac Senin/Sane 82.44 337 eP P 04 57 16.4 -1.3
TIAR Tiarei 82.47 125 eT T 06 28 21.0
comp=Z,12nm,0.3s
PAIG Paliouri 82.49 323 eP P 04 57 18.3 +0.6
LOR Lormes 82.49 339 eP P 04 57 17.3 -0.4
comp=Z,178nm,0.9s
LOR eR
comp=Z,5μm,19.0s
LOR Lormes 82.49 339 eP P 04 57 17.3 -0.4
comp=Z,178nm,0.9s
GRR Gorron 82.50 343 eP P 04 57 17.2 -0.4
comp=Z,278nm,1.1s
GRR Gorron 82.50 343 eP P 04 57 17.2 -0.4
GRR pmax pmax
comp=Z,278nm,1.1s
GRR Gorron 82.50 343 eP P 04 57 17.2 -0.4
comp=Z,278nm,1.1s
ASF Jabal al Asfar 82.52 310 P P 04 57 18.9 +0.7
comp=Z,73nm,0.9s,baz=346,slow=3.9,SNR=51
SZAC Souni-Zanaja 82.54 314 P P 04 57 18.7 +0.6
CABF La Chapelle 82.54 338 eP P 04 57 17.8 -0.2
comp=Z,84nm,0.8s
CABF La Chapelle 82.54 338 eP P 04 57 17.8 -0.2
comp=Z,84nm,0.8s
MMAI Mount Meron Ar 82.64 311 P P 04 57 19.4 +0.7
comp=Z,138nm,0.7s,baz=51,slow=7.9,SNR=83
FNA Florina 82.69 325 eP P 04 57 18.0 -0.9
PPCY Paphos 82.70 314 P P 04 57 18.3 -0.6
035A Encino 82.75 58 ⇑P P 04 57 19.6 +0.3
baz=82
CHOS Chios island 82.77 321 eP P 04 57 17.9 -1.4
CHOS Chios island 82.77 321 eP P 04 57 19.2 -0.1
SSF Saint Saulge 82.77 339 eP P 04 57 18.8 -0.3
comp=Z,85nm,0.8s
SSF Saint Saulge 82.77 339 eP P 04 57 18.8 -0.3
comp=Z,85nm,0.8s
HYF Humbligny 82.78 340 eP P 04 57 19.3 +0.1
HYF Humbligny 82.78 340 eP P 04 57 19.3 +0.1
YER Yerkesik 82.80 318 eP P 04 57 18.1 -1.4
HRV Adam Dziewonsk 82.81 31 eP P 04 57 20.5 +1.1
HRV pmax pmax
comp=Z,75nm,0.9s
HRV Adam Dziewonsk 82.81 31 eP P 04 57 20.5 +1.1
comp=Z,74nm,0.9s
LIT Litokhoron 82.83 324 eP P 04 57 19.6 +0.1
SWET Sewanee 82.85 45 eP P 04 57 18.8 -1.0
comp=Z,272nm,0.9s
DALY Dalyan (Mu~la 82.89 318 eP P 04 57 20.2 +0.3
TZTN Tazewell 82.91 42 eP P 04 57 19.7 -0.3
comp=Z,61nm,0.9s
ODNJ Ogdensburg 82.91 34 eP P 04 57 19.0 -0.9
comp=Z,37nm,0.8s
VBMS Vicksburg 82.91 50 eP P 04 57 20.6 +0.5
comp=Z,191nm,1.2s
AKAS Kas 82.93 317 iP P 04 57 18.6 -1.7
KZN Kozani 82.94 324 eP P 04 57 19.0 -1.2
SGMF Saint Gilles 82.96 344 eP P 04 57 19.7 -0.3
comp=Z,167nm,0.9s
SGMF Saint Gilles 82.96 344 eP P 04 57 19.7 -0.3
SGMF pmax pmax
comp=Z,167nm,0.9s
SGMF Saint Gilles 82.96 344 eP P 04 57 19.7 -0.3
comp=Z,167nm,0.9s
SMG Samos 82.98 320 eP P 04 57 19.9 -0.5
ROSF Rostrenen 83.02 344 eP P 04 57 20.1 -0.2
comp=Z,182nm,0.9s
ROSF Rostrenen 83.02 344 eP P 04 57 20.1 -0.2
ROSF pmax pmax
comp=Z,182nm,0.9s
ROSF Rostrenen 83.02 344 eP P 04 57 20.1 -0.2
comp=Z,182nm,0.9s
AOS Alonnisos 83.04 322 eP P 04 57 20.2 -0.5
AOS Alonnisos 83.04 322 eP P 04 57 20.4 -0.2
AVF Avril sur Loir 83.06 339 eP P 04 57 20.5 -0.1
comp=Z,282nm,1.1s
AVF Avril sur Loir 83.06 339 eP P 04 57 20.5 -0.1
comp=Z,282nm,1.1s
SMF Signal de Mont 83.08 339 eP P 04 57 20.5 -0.2
comp=Z,879nm,1.4s
SMF Signal de Mont 83.08 339 eP P 04 57 20.5 -0.2
comp=Z,879nm,1.4s
035Z Hargill 83.13 59 ⇑P P 04 57 21.4 +0.2
baz=83
NEST Nestorio 83.14 325 eP P 04 57 20.4 -0.8
MVL Millersville 83.15 36 eP P 04 57 20.6 -0.5
comp=Z,57nm,0.8s
RBK Rabkut 83.15 288 P P 04 57 22.0 +0.4
SNR=8.3
XOR Xorichti 83.16 323 eP P 04 57 20.6 -0.7
BDRM Kayabasi 83.24 319 iP P 04 57 19.7 -2.0
PAL Palisades 83.24 34 eP P 04 57 20.7 -0.9
PAL pmax pmax
comp=Z,347nm,0.8s
PAL Palisades 83.24 34 eP P 04 57 20.7 -0.9
comp=Z,347nm,0.8s
BRNJ Basking Ridge 83.27 34 eP P 04 57 21.2 -0.5
comp=Z,95nm,0.9s
BODT Bodrum 83.31 319 eP P 04 57 21.5 -0.5
CPCT Cooper Cave 83.34 44 eP P 04 57 22.6 +0.4
LPL La Plagne 83.38 337 eP P 04 57 22.9 +0.4
comp=Z,122nm,0.8s
LPL La Plagne 83.38 337 eP P 04 57 22.9 +0.4
comp=Z,122nm,0.8s
LPG La Plagne 83.39 337 eP P 04 57 23.0 +0.3
comp=Z,246nm,0.9s
LPG La Plagne 83.39 337 eP P 04 57 23.0 +0.3
comp=Z,246nm,0.9s
QUIF Quistinic 83.40 344 eP P 04 57 21.9 -0.4
comp=Z,248nm,1.2s
QUIF Quistinic 83.40 344 eP P 04 57 21.9 -0.4
QUIF pmax pmax
comp=Z,248nm,1.2s
QUIF Quistinic 83.40 344 eP P 04 57 21.9 -0.4
comp=Z,248nm,1.2s
BGF Bois d'Agland 83.40 340 eP P 04 57 22.0 -0.4
comp=Z,359nm,1.6s
BGF Bois d'Agland 83.40 340 eP P 04 57 22.0 -0.4
BGF pmax pmax
comp=Z,359nm,1.5s
BGF Bois d'Agland 83.40 340 eP P 04 57 22.0 -0.4
comp=Z,359nm,1.5s
MEH Mehetia 83.44 125 eT T 06 29 33.9
comp=Z,39nm,0.3s
THL Klokotos Trika 83.48 324 eP P 04 57 18.3 -4.5
TKL Tuckaleechee C 83.52 43 eP P 04 57 21.6 -1.6
TKL Tuckaleechee C 83.52 43 eP P 04 57 21.6 -1.6
MRKA Markates 83.56 322 eP P 04 57 22.5 -0.8
VLC Villacollemand 83.57 334 eP P 04 57 23.0 -0.3
comp=Z,103nm,0.9s
VLC LR LR
comp=Z,6μm,19.0s
ARG Arkhangelos 83.63 318 eP P 04 57 24.0 +0.3
PLDF La Plantade 83.76 339 eP P 04 57 24.9 +0.6
BLA Blacksburg 83.78 40 eP P 04 57 23.6 -0.9
BLA pmax pmax
comp=Z,93nm,1.0s
BLA MLR MLR
comp=Z,4μm,20.0s
BLA Blacksburg 83.78 40 eP P 04 57 23.6 -0.9
comp=Z,93nm,1.0s

BLA LR LR
comp=Z,4μm,20.0s
TCF Toulx Ste Croi 83.81 340 eP P 04 57 24.3 -0.2
comp=Z,138nm,1.1s
TCF Toulx Ste Croi 83.81 340 eP P 04 57 24.3 -0.2
TCF pmax pmax
comp=Z,138nm,1.1s
TCF Toulx Ste Croi 83.81 340 eP P 04 57 24.3 -0.2
comp=Z,138nm,1.1s
AGO Saint Agoulin 83.81 339 eP P 04 57 25.1 +0.6
AGG Agios Georgios 83.81 323 eP P 04 57 23.1 -1.5
BNI Bardonecchia 83.82 337 eP P 04 57 25.1 +0.4
comp=Z,43nm,0.8s
BNI LR LR
comp=Z,7μm,20.0s
BNI Bardonecchia 83.82 337 eP P 04 57 25.1 +0.4
comp=Z,7μm,20.0s
GDM Grand'Maison 83.83 337 eP P 04 57 25.0 +0.2
LKR Lokris 83.85 323 eP P 04 57 23.1 -1.7
ABTO Aybut 83.85 289 P P 04 57 25.7 +0.6
SNR=23
JAN Janina 83.87 325 eP P 04 57 24.8 -0.1
AXAR Agios Charalam 83.89 323 eP P 04 57 24.1 -0.9
GRN Grenoble 83.90 337 eP P 04 57 25.6 +0.6
MAKR Makrakomi, Fth 83.90 324 eP P 04 57 24.0 -1.1
PTL Penteli 83.99 322 eP P 04 57 24.1 -1.5
MFF Saint Martin d 84.04 342 eP P 04 57 25.5 -0.1
comp=Z,304nm,1.5s
MFF Saint Martin d 84.04 342 eP P 04 57 25.5 -0.1
MFF pmax pmax
comp=Z,305nm,1.5s
MFF Saint Martin d 84.04 342 eP P 04 57 25.5 -0.1
comp=Z,304nm,1.5s
APE Apeiranthos 84.09 320 eP P 04 57 26.4 +0.3
APE Apeiranthos 84.09 320c iP P 04 57 25.5 -0.6
APE pmax pmax
comp=Z,82nm,1.1s
APE Apeiranthos 84.09 320⇓iP P 04 57 24.9 -1.2
EVR Evrytania 84.11 324 eP P 04 57 26.1 -0.2
PYM Petit Puy Mans 84.12 339 eP P 04 57 26.2 +0.1
COLF Collangettes 84.17 339 eP P 04 57 27.3 +0.9
IGT Igoumenitsa 84.18 325 eP P 04 57 26.0 -0.4
SSB Saint Sauveur 84.18 338 eP P 04 57 26.2 -0.2
SSB Saint Sauveur 84.18 338 eP P 04 57 26.3 -0.2
comp=Z,95nm,1.0s
SSB ePP PP 05 00 33.8 -6.4
SSB LR LR
comp=Z,4μm,19.0s
AQU L'Aquila 84.23 331 eP P 04 57 26.8 0.0
comp=Z,198nm,1.0s
AQU LR LR
comp=Z,9μm,22.0s
KEK Kerkira 84.23 325 eP P 04 57 26.7 0.0
DSF Desfina 84.25 323 eP P 04 57 25.2 -1.7
CBN Corbin 84.25 37 eP P 04 57 26.1 -0.8
comp=Z,216nm,0.3s
CBN LR LR
comp=Z,5μm,21.0s
SURF Saint Ours 84.31 336 eP P 04 57 26.1 -1.2
LTK Loutraki 84.39 322 eP P 04 57 26.2 -1.4
KALE Kalithea 84.42 323 eP P 04 57 26.0 -1.8
JSRW J. Sargeant Re 84.47 38 eP P 04 57 27.4 -0.5
EFP Efpalio 84.49 323 eP P 04 57 29.5 +1.5
VIVF Saint-Julien-l 84.54 338 eP P 04 57 28.4 +0.2
comp=Z,152nm,1.0s
VIVF Saint-Julien-l 84.54 338 eP P 04 57 28.4 +0.2
comp=Z,152nm,1.0s
LBL Lubilhac 84.55 339 eP P 04 57 29.8 +1.5
FRNF Fournols 84.57 339 eP P 04 57 28.2 -0.2
AUTN L'Aution 84.58 336 eP P 04 57 29.4 +0.7
LAKA Lakka 84.62 323 eP P 04 57 29.2 +0.5
TOUF Mont Tournerai 84.62 336 eP P 04 57 28.7 -0.1
KARP Karpathos 84.62 318 eP P 04 57 28.2 -0.6
LKD2 Lefkada island 84.69 324 eP P 04 57 28.2 -0.9
LUCF Luceram 84.70 336 eP P 04 57 28.0 -1.1
SBF Sospel 84.70 336 eP P 04 57 28.4 -0.7
comp=Z,201nm,0.9s
SBF Sospel 84.70 336 eP P 04 57 28.4 -0.7
comp=Z,201nm,0.9s
SANT Santorini 84.71 320 eP P 04 57 22.6 -6.6
SANT Santorini 84.71 320 PFAKE 04 57 40.0 +11
SANT LR LR
comp=Z,4μm,20.0s
KLV Kalavryta, Ach 84.72 323 eP P 04 57 27.8 -1.5
DID Didima 84.72 322 eP P 04 57 27.1 -2.1
GUR Goura 84.73 323 eP P 04 57 28.3 -1.1
MVIF Mont Vial 84.75 336 eP P 04 57 30.1 +0.6
REVF Revere 84.84 336 eP P 04 57 30.0 +0.2
RJF Les Rejaudoux 84.90 340 eP P 04 57 29.4 -0.6
comp=Z,34nm,0.8s
RJF eR
comp=Z,8μm,23.0s
RJF Les Rejaudoux 84.90 340 eP P 04 57 29.4 -0.6
RJF pmax pmax
comp=Z,35nm,0.8s
RJF Les Rejaudoux 84.90 340 eP P 04 57 29.4 -0.6
comp=Z,34nm,0.8s
CALN Calern 84.96 336 eP P 04 57 30.4 -0.1
RLS Riolos of Patr 84.98 323 eP P 04 57 29.9 -0.6
KMSC Kings Mountain 85.08 42 eP P 04 57 30.2 -0.8
comp=Z,57nm,0.9s
KMSC Kings Mountain 85.08 42 ⇑P P 04 57 31.0 0.0
baz=85,SNR=9.4
SMRF Simiane la Rot 85.12 337 eP P 04 57 31.5 +0.4
comp=Z,258nm,1.5s
SMRF Simiane la Rot 85.12 337 eP P 04 57 31.5 +0.4
comp=Z,258nm,1.5s
CAF Calviac 85.12 340 eP P 04 57 31.0 -0.2
comp=Z,56nm,0.7s
CAF Calviac 85.12 340 eP P 04 57 31.0 -0.2
CAF pmax pmax
comp=Z,56nm,0.7s
CAF Calviac 85.12 340 eP P 04 57 31.0 -0.2
comp=Z,56nm,0.7s
VLX Vlachokerasia 85.19 322 eP P 04 57 29.6 -2.1
FRF La Foret Royal 85.21 336 eP P 04 57 31.0 -0.5
comp=Z,349nm,1.5s
FRF La Foret Royal 85.21 336 eP P 04 57 31.0 -0.5
FRF pmax pmax
comp=Z,349nm,1.5s
FRF La Foret Royal 85.21 336 eP P 04 57 31.0 -0.5
comp=Z,349nm,1.5s
VLS Valsamata 85.24 324 eP P 04 57 31.0 -0.8
AMT Artemida-Makis 85.33 323 eP P 04 57 31.8 -0.5
LFF La Frestale 85.42 340 eP P 04 57 32.5 -0.1
comp=Z,84nm,0.9s
LFF La Frestale 85.42 340 eP P 04 57 32.5 -0.1
LFF pmax pmax
comp=Z,84nm,0.9s
LFF La Frestale 85.42 340 eP P 04 57 32.5 -0.1
comp=Z,84nm,0.9s
PGF Pioggiola 85.45 334 eP P 04 57 32.5 -0.4
comp=Z,183nm,1.0s
PGF Pioggiola 85.45 334 eP P 04 57 32.5 -0.4
comp=Z,183nm,1.0s
LMR La Mourre 85.45 336 eP P 04 57 32.6 -0.2
comp=Z,334nm,1.2s
LMR La Mourre 85.45 336 eP P 04 57 32.6 -0.2
comp=Z,334nm,1.2s
LASF Ste Croix 85.47 338 eP P 04 57 33.4 +0.5
comp=Z,88nm,1.1s
LASF Ste Croix 85.47 338 eP P 04 57 33.4 +0.5
comp=Z,88nm,1.1s
CUC Castrocucco 85.48 328 eP P 04 57 33.0 -0.1
comp=Z,53nm,0.9s
CUC LR LR
comp=Z,8μm,22.0s
GOGA Godfrey 85.50 44 eP P 04 57 33.9 +0.7
GOGA pmax pmax
comp=Z,266nm,2.0s
GOGA MLR MLR
comp=Z,4μm,20.0s
GOGA Godfrey 85.50 44 eP P 04 57 33.9 +0.7
comp=Z,266nm,2.0s
GOGA LR LR
comp=Z,4μm,20.0s
VLI Veliai 85.51 322 eP P 04 57 30.9 -2.3
EIL Elat 85.51 309 P P 04 57 33.7 +0.4
comp=Z,85nm,0.8s,baz=36,slow=1.6,SNR=33
ITM Ithomi 85.54 323 eP P 04 57 31.7 -1.7
NPS Neapolis 85.56 319 eP P 04 57 31.9 -1.6
TIP Timpagrande 85.85 327 eP P 04 57 34.5 -0.5
comp=Z,65nm,1.0s
TIP LR LR
comp=Z,5μm,22.0s

PYL PYLOS 85.86 323 eP P 04 57 33.0 -1.9
IDI Anoyia 85.86 320 P P 04 57 33.8 -1.3
comp=Z,81nm,0.7s,baz=51,slow=11,SNR=44
VAM Vamos 86.07 320 eP P 04 57 36.0 0.0
ANKY Antikythira Is 86.07 321 eP P 04 57 35.9 -0.1
CNNC Cliffs of the 86.54 39 eP P 04 57 39.6 +1.3
comp=Z,129nm,1.1s
CNNC LR LR
comp=Z,6μm,20.0s
MTLF Montolieu 86.58 339 eP P 04 57 37.8 -0.5
comp=Z,48nm,0.8s
MTLF Montolieu 86.58 339 eP P 04 57 37.8 -0.5
MTLF pmax pmax
comp=Z,48nm,0.8s
MTLF Montolieu 86.58 339 eP P 04 57 37.8 -0.5
comp=Z,48nm,0.8s
GVD Gavdhos 86.60 320 eP P 04 57 37.9 -0.7
comp=Z,176nm,0.7s
CEL Celeste 86.98 327 PFAKE 04 57 50.0 +10
CEL LR LR
comp=Z,5μm,20.0s
TIGA Tifton 87.05 45 ⇓P P 04 57 41.4 +0.5
baz=87,SNR=6.9
MLS Moulis 87.21 340 eP P 04 57 40.3 -1.2
FILF Fillols 87.22 338 eP P 04 57 40.8 -0.8
NHSC New Hope 87.30 42 PFAKE 04 57 50.0 +8.0
NHSC LR LR
comp=Z,6μm,21.0s
EPF Esparros 87.32 340 eP P 04 57 41.9 -0.1
comp=Z,78nm,1.1s
EPF Esparros 87.32 340 eP P 04 57 41.9 -0.1
EPF pmax pmax
comp=Z,79nm,1.1s
EPF Esparros 87.32 340 eP P 04 57 41.9 -0.1
comp=Z,78nm,1.1s
URZ Urewera 87.40 161 eP P 04 57 49.2 +7.3
comp=Z,20nm,0.9s
VALF Valcebollere 87.51 339 eP P 04 57 43.1 0.0
RESF Ens 87.53 340 eP P 04 57 42.8 -0.3
SJPF Ste Jean 87.60 341 eP P 04 57 43.2 -0.1
comp=Z,320nm,1.9s
SJPF Ste Jean 87.60 341 eP P 04 57 43.2 -0.1
SJPF pmax pmax
comp=Z,320nm,1.9s
SJPF Ste Jean 87.60 341 eP P 04 57 43.2 -0.1
comp=Z,320nm,1.9s
ETSF Etsaut 87.65 341 eP P 04 57 42.8 -0.9
comp=Z,60nm,1.2s
ETSF Etsaut 87.65 341 eP P 04 57 42.8 -0.9
ETSF pmax pmax
comp=Z,60nm,1.2s
ETSF Etsaut 87.65 341 eP P 04 57 42.8 -0.9
comp=Z,60nm,1.2s
VSL Villasalto 88.12 333 eP P 04 57 49.1 +3.2
comp=Z,105nm,1.4s
VSL LR LR
comp=Z,2μm,19.0s
BKZ Black Stump Fm 88.13 162 eP P 04 57 48.3 +2.7
comp=Z,29nm,1.0s
DGAR Diego Garcia 88.77 258 PFAKE 04 58 00.0 +11
DGAR LR LR
comp=Z,2μm,20.0s
TAU Tasmania Unive 89.41 184 PFAKE 04 58 00.0 +8.6
TAU LR LR
comp=Z,6μm,22.0s
WDD Wield Dalam 89.61 327 PFAKE 04 58 00.0 +7.1
WDD LR LR
comp=Z,3μm,20.0s
SNZO South Karori 89.83 164 PFAKE 04 58 10.0 +17
SNZO LR LR
comp=Z,3μm,22.0s
PBRG Braganca 89.96 345 eP P 04 57 54.5 0.0
comp=Z,70nm,2.1s
PCAB Cabril 90.28 346 eP P 04 57 55.5 -0.5
POLO Lamas de Olo 90.57 346 eP P 04 57 56.2 -1.2
comp=Z,48nm,1.0s
MVO Moncorvo 90.64 345 eP P 04 57 56.4 -1.3
comp=Z,120nm,1.6s
MVO Moncorvo 90.64 345 eLR LR 05 30 18.0
comp=Z,5μm,20.0s
PVRL Vila Real 90.65 345 eP P 04 57 56.6 -1.1
comp=Z,185nm,1.2s
PVIS Viseu 91.22 345 eP P 04 57 59.3 -1.1
comp=Z,54nm,1.9s
CMAH Djebel Manchou 91.36 333 P P 04 58 01.7 +0.6
CMAH Djebel Manchou 91.36 333 P P 04 58 01.7 +0.6
MTE Manteigas 91.47 345 eP P 04 58 00.9 -0.7
comp=Z,101nm,1.1s
MTE Manteigas 91.47 345 eLR LR 05 30 04.1
comp=Z,2μm,20.0s
MTE Manteigas 91.47 345 eP P 04 58 00.6 -1.0
comp=Z,32nm,0.8s
MTE LR LR
comp=Z,3μm,21.0s
ESDC Sonseca Array 91.48 342 P P 04 58 00.4 -1.2
comp=Z,21nm,1.0s,baz=12,slow=3.7,SNR=39
ESDC LR LR 05 42 49.6
comp=Z,4μm,21.8s,baz=20,slow=38
ESLA Sonseca Array 91.48 342 eP P 04 57 59.8 -1.8
comp=Z,19nm,1.3s
RPZ Rata Peaks 91.53 167 eP P 04 58 02.6 +1.3
KEST Kesra 91.56 331 P P 04 58 00.8 -1.3
comp=Z,9.7nm,1.0s,baz=51,slow=0.7,SNR=13
KEST LR LR 05 43 33.4
comp=Z,1μm,18.4s,baz=330,slow=38
KEST Kesra 91.56 331 eP P 04 58 02.4 +0.3
DAMY Dhamar 91.63 293 eP P 04 58 04.6 +1.7
comp=Z,116nm,1.5s
ABSA Djebel Ababsia 91.67 333 P P 04 58 02.5 -0.1
ABSA Djebel Ababsia 91.67 333 P P 04 58 02.5 -0.1
PAB San Pablo 91.68 343 PFAKE 04 58 10.0 +7.4
PAB LR LR
comp=Z,5μm,22.0s
CKFL Kef-Lekhel 91.79 333 P P 04 58 03.7 +0.5
CKFL Kef-Lekhel 91.79 333 P P 04 58 03.7 +0.5
DFRA Djebel Bou Aff 91.91 334 P P 04 58 07.7 +3.9
DFRA Djebel Bou Aff 91.91 334 P P 04 58 07.7 +3.9
PCAS Casmilo, Conde 91.97 346 eP P 04 58 03.0 -0.8
comp=Z,70nm,1.0s
CASM Ain Smara 91.99 333 P P 04 58 04.8 +0.8
CASM Ain Smara 91.99 333 P P 04 58 04.8 +0.8
PCBR Castelo Branco 92.00 345 eP P 04 58 03.9 0.0
comp=Z,75nm,1.6s
CTEI Djebel Teioual 92.20 333 P P 04 58 06.0 +0.9
CTEI Djebel Teioual 92.20 333 P P 04 58 06.0 +0.9
SET Setif 92.38 334 P P 04 58 06.0 +0.1
SET Setif 92.38 334 P P 04 58 06.0 +0.1
PTOM Tomar 92.38 346 eP P 04 58 06.3 +0.6
comp=Z,76nm,1.7s
PMRV Marv??o 92.39 345 eLR LR 05 30 14.9
comp=Z,4μm,22.0s
CKHR Kef el Ahmar 92.51 334 P P 04 58 07.8 +1.2
CKHR Kef el Ahmar 92.51 334 P P 04 58 07.8 +1.2
PESTR Estremoz 92.97 345 eP P 04 58 07.0 -1.5
comp=Z,65nm,1.3s
EVO Evora 93.37 345 eP P 04 58 10.2 -0.1
comp=Z,70nm,1.1s
EVO eR
comp=Z,6μm,19.5s
EVO Evora 93.37 345 eP P 04 58 08.1 -2.2
comp=Z,58nm,2.2s
EVOP Sao Brissos 93.39 345 eP P 04 58 10.2 -0.2
EVOP pmax pmax
comp=Z,70nm,1.1s
EVOP Sao Brissos 93.39 345 eP P 04 58 10.2 -0.2
comp=Z,70nm,1.1s
PBAR Barrancos 93.54 344 eP P 04 58 09.3 -1.8
comp=Z,40nm,1.1s
TEIG Tepich 93.61 55 PFAKE 04 58 20.0 +8.4
TEIG LR LR
comp=Z,2μm,21.0s
PBEJ Beja 93.83 345 eP P 04 58 11.3 -1.1
comp=Z,54nm,1.3s
MESJ Messejana 94.08 345 eP P 04 58 13.8 +0.3
MESJ AMS AMS 05 45 56.8
comp=Z,3μm,18.2s
MESJ Messejana 94.08 345 eP P 04 58 13.8 +0.3
PCVE Castro Verde 94.25 345 eP P 04 58 13.7 -0.6
comp=Z,108nm,1.2s
BBSR BB Station 94.29 31 PFAKE 04 58 30.0 +15
BBSR LR LR
comp=Z,3μm,21.0s
PVAQ Vaqueiros 94.41 345 eP P 04 58 13.6 -1.5
comp=Z,38nm,2.0s
PVAQ Vaqueiros 94.41 345 eLR LR 05 30 56.1
comp=Z,4μm,20.0s

PVAQ eLR LR 05 31 23.4
comp=Z,4μm,20.0s
PBDV Barranco-do-Ve 94.61 345 eP P 04 58 15.3 -0.7
comp=Z,80nm,1.7s
MORF Marmelete 94.67 345 eP P 04 58 16.6 +0.2
MORF AMS AMS 05 46 50.3
comp=Z,3μm,21.5s
MORF Marmelete 94.67 345 eP P 04 58 15.9 -0.5
comp=Z,128nm,1.8s
MORF Marmelete 94.67 345 eP P 04 58 16.6 +0.2
PFVI Vila Bisbo 94.87 345 eP P 04 58 17.9 +0.7
RKT Rikitea 95.19 118 ePP PP 05 02 08.0 -1.3
comp=Z,131nm,26.8s
RKT eS S 05 09 32.0 +1.5
comp=Z,3μm,29.8s
RKT eSS SS 05 16 05.8 +7.6
comp=Z,2μm,29.5s
RKT eLQ LQ 05 24 13.3
comp=Z,3μm,38.5s
RKT eLR LR 05 28 51.0
comp=Z,4μm,31.8s,baz=321
RTC Rabat Centre 97.56 343 PFAKE 04 58 40.0 +11
RTC LR LR
comp=Z,2μm,20.0s
MDT Midelt 98.21 341 P P 04 58 30.2 -2.4
comp=Z,4.5nm,0.8s,baz=38,slow=4.4,SNR=11
MSEY Mahe Island 98.39 272 PFAKE 04 58 40.0 +6.5
MSEY LR LR
comp=Z,1μm,20.0s
GTBY Guantanamo Bay 100.82 45 PFAKE 04 59 00.0 +16
GTBY LR LR
comp=Z,3μm,22.0s
MTDJ Mount Denham 101.05 48 PFAKE 04 59 00.0 +15
MTDJ LR LR
comp=Z,3μm,20.0s
GRTK Grand Turk 101.33 41 PFAKE 04 59 00.0 +14
GRTK LR LR
comp=Z,3μm,20.0s
JTS JuntasAbangare 103.44 59 PFAKE 04 59 10.0 +14
JTS LR LR
comp=Z,1μm,21.0s
SDDR Presa de Saban 103.46 43 PFAKE 04 59 10.0 +14
SDDR LR LR
comp=Z,3μm,21.0s
TAM Tamanrasset 104.72 329 eP Pdif 04 59 01.5 -0.2
TAM pmax pmax
comp=Z,8.0nm,1.5s
TAM MLR MLR
comp=Z,4μm,22.0s
TAM Tamanrasset 104.72 329 ePdif Pdif 04 59 01.5 -0.2
comp=Z,7.9nm,1.5s
TAM LR LR
comp=Z,4μm,22.0s
SJG San Juan 106.52 39 PFAKE 05 03 30.0
SJG LR LR
comp=Z,2μm,21.0s
BCIP Isla Barro Col 107.29 55 PFAKE 05 03 30.0
BCIP LR LR
comp=Z,2μm,21.0s
AIS Amsterdam Isla 107.70 234 PP PP 05 03 49.0 +5.5
AIS S SP 05 12 42.0 -19
AIS SS SS 05 18 58.0 +6.4
AIS R 05 36 00.0
KMBO Kilima Mbogo 108.09 288 PFAKE 05 03 40.0
KMBO LR LR
comp=Z,2μm,21.0s
PAYG Puerto Ayora 108.66 70 PFAKE 05 03 40.0
PAYG LR LR
comp=Z,977nm,20.0s
ANWB Willy Bob 108.71 35 PFAKE 05 03 40.0
ANWB LR LR
comp=Z,1μm,21.0s
RER Riviere de l'E 109.83 260 PFAKE 05 03 40.0
RER LR LR
comp=Z,870nm,19.0s
FDF Fort de France 111.62 36 PFAKE 05 03 40.0
FDF LR LR
comp=Z,2μm,22.0s
SDV Santo Domingo 112.47 47 ePKP 05 03 31.2
SDV LR LR
comp=Z,3μm,22.0s
BBGH Gun Hill 113.69 35 PFAKE 05 03 50.0
BBGH LR LR
comp=Z,6μm,22.0s
GRGR Grenville 113.76 37 PFAKE 05 03 50.0
GRGR LR LR
comp=Z,940nm,20.0s
ABPO Ambohimpanom 114.18 268 PFAKE 05 03 50.0 +15
ABPO LR LR
comp=Z,2μm,22.0s
TOA0 Torodi Ar. Sit 114.97 329 ePKP PKPdf 05 03 36.8 +0.4
TORD Torodi Ar. Bea 114.97 329 PKP PKPdf 05 03 35.2 -1.1
comp=Z,4.3nm,0.8s,baz=27,slow=1.9,SNR=20
TORD PP PP 05 04 34.0 -0.8
comp=Z,4.8nm,0.8s,baz=15,slow=7.2,SNR=4.7
TORD PKKPbc PKKPbc 05 14 15.0 +4.3
comp=Z,0.6nm,0.5s,baz=198,slow=2.5,SNR=13
OTAV Otavalo 115.31 60 ePKPdf PKPdf 05 03 38.0 +0.4
OTAV LR LR
comp=Z,1μm,22.0s
CASY Casey 117.27 198 PFAKE 05 03 50.0 +11
CASY LR LR
comp=Z,2μm,20.0s
SACV Santiago Islan 118.48 356 PFAKE 05 03 50.0 +6.9
SACV LR LR
comp=Z,1μm,20.0s
ATAH Atahualpa 121.16 65 PKP PKPdf 05 03 48.4 -0.4
comp=Z,8.8nm,0.9s,baz=11,slow=2.2,SNR=4.6
DBIC Dimbokro 123.22 333 PKP PKPdf 05 03 51.8 -0.4
comp=Z,18nm,0.8s,baz=40,slow=1.6,SNR=26
DBIC Dimbokro 123.22 333 ePKPdf PKPdf 05 03 51.1 -1.1
TIC Toumodi 123.29 333 ePKIKP PKPdf 05 03 51.1 -1.3
comp=Z,36nm,0.8s
KIC Kosan Boka 123.47 333 ePKIKP PKPdf 05 03 51.6 -1.1
comp=Z,40nm,0.9s
LIC Lamto 123.69 333 ePKIKP PKPdf 05 03 51.9 -1.2
comp=Z,42nm,0.9s
LIC eR
comp=Z,4μm,22.8s
LIC Lamto 123.69 333 ePKIKP PKPdf 05 03 51.9 -1.2
comp=Z,58nm,0.9s
LIC Lamto 123.69 333 ePKPdf PKPdf 05 03 51.9 -1.2
VNDA Vanda 124.13 178 PKP PKPdf 05 03 52.3 +0.3
comp=Z,7.6nm,0.7s,baz=303,slow=4.1,SNR=7.9
VNDA Vanda 124.13 178 ePKPdf PKPdf 05 03 52.8 +0.8
LSZ Lusaka 124.53 285 ePKIKP PKPdf 05 03 54.1 -0.7
LSZ MLR MLR
comp=Z,2μm,19.0s
LSZ Lusaka 124.53 285 ePKPdf PKPdf 05 03 54.1 -0.7
LSZ LR LR
comp=Z,2μm,19.0s
SBA Scott Base 124.63 176 PFAKE 05 04 10.0 +17
SBA LR LR
comp=Z,3μm,22.0s
NNA Nana 125.85 67 ePKIKP PKPdf 05 03 56.0 -1.2
NNA MLR MLR
comp=Z,1μm,20.0s
NNA Nana 125.85 67 PKP PKPdf 05 03 57.2 0.0
comp=Z,14nm,0.7s,baz=355,slow=4.7,SNR=5.7
NNA Nana 125.85 67 ePKPdf PKPdf 05 03 56.0 -1.2
NNA LR LR
comp=Z,1μm,20.0s
PTGA Pitinga 125.98 42 PKP PKPdf 05 03 57.0 -0.5
comp=Z,11nm,0.8s,baz=328,slow=3.1,SNR=10
PTGA PP PP 05 05 51.1 +0.7
comp=Z,8.6nm,0.8s,baz=349,slow=5.7,SNR=6.0
PTGA Pitinga 125.98 42 ePKPdf PKPdf 05 03 56.6 -0.9
PTGA ePP PP 05 05 49.7 -0.6
PTGA LR LR
comp=Z,882nm,20.0s
CRZF Crozet Islands 127.92 239 PP PP 05 05 57.0 -6.8
CRZF SS SS 05 22 46.0 -28
CRZF R 05 45 00.0
SAML Samuel 131.46 51 ePKPdf PKPdf 05 04 07.5 -0.4
SAML ePP PP 05 06 19.0 -7.5
SAML eSKPbc SKPbc 05 07 27.7 -1.6
SAML LR LR
comp=Z,1μm,20.0s
LBTB Lobatse 133.03 279 ePKIKP PKPdf 05 04 11.6 +1.0
LBTB e 05 06 33.3
LBTB Lobatse 133.03 279 ePKPdf PKPdf 05 04 11.6 +1.0
LBTB ePP PP 05 06 33.3 -4.0
LBTB eSKPbc SKPbc 05 07 34.0 -0.7
TSUM Tsumeb 134.30 291 ePKPpre PKPpre 05 04 05.2
TSUM eSKPbc SKPbc 05 07 38.1 -1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM				LR	LR		
	comp=Z,2µm,20.0s						
LPAZ	La Paz	134.54	62	PKhKP	PKPpre	05 04 06.5	
	comp=Z,1.3nm,0.8s,baz=336,slow=2.6,SNR=2.7						
LPAZ				PKP	PKiKP	05 04 15.6	-0.2
	comp=Z,9.6nm,0.8s,baz=358,slow=5.6,SNR=18						
LPAZ	La Paz	134.54	62	ePKPdf	PKPdf	05 04 14.5	+0.2
BOSA	Boshof	135.57	275	PKHKP	PKPpre	05 04 05.6	
BOSA						05 04 16.3	
BOSA						05 06 52.3	
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOSA	Boshof	135.57	275	PKhKP	PKPpre	05 04 05.6	
	comp=Z,3.4nm,0.8s,baz=174,slow=1.8,SNR=5.1						
BOSA				PKP	PKPdf	05 04 16.2	+0.9
	comp=Z,8.7nm,0.7s,baz=61,slow=1.9,SNR=9.0						
BOSA				PP	PP	05 06 52.3	-1.1
	comp=Z,3.6nm,0.8s,baz=46,slow=5.9,SNR=3.0						
BOSA	Boshof	135.57	275	ePKPdf	PKPdf	05 04 14.7	-0.7
BOSA				PP	PP	05 06 52.3	-1.1
BOSA				eSKPbc	SKPbc	05 07 42.2	-0.7
MNMC	Minimini	135.79	66	eP	PKPdf	05 04 14.0	-2.2
MNMC	Minimini	135.79	66	eP	PKPdf	05 04 14.0	-2.2
PB11	Plate Boundary	136.22	67	eP	PKPdf	05 04 13.2	-3.6
PB11	Plate Boundary	136.22	67	eP	PKPdf	05 04 13.2	-3.6
QSPA	South Pole Qui	136.49	180	ePKPpre	PKPpre	05 04 07.8	
QSPA				ePKPdf	PKPdf	05 04 16.0	+0.2
QSPA				LR	LR		
	comp=Z,1µm,22.0s						
PB01	Plate Boundary	137.26	68	eP	PKPdf	05 04 12.7	-6.0
PB09	Plate Boundary	137.97	68	eP	PKPdf	05 04 16.6	-3.4
PB06	Plate Boundary	138.41	70	eP	PKPdf	05 04 15.8	-5.0
SIV	San Ignacio	138.42	54	PKhKP	PKPpre	05 04 10.7	
	comp=Z,2.8nm,0.9s,baz=306,slow=3.7,SNR=5.4						
SIV				PKP	PKPdf	05 04 20.5	-0.3
	comp=Z,14nm,1.0s,baz=351,slow=1.2,SNR=12						
RCBR	Riachuelo	138.54	13	PFAKE		05 04 30.0	+8.8
RCBR				LR	LR		
	comp=Z,2µm,21.0s						
LVC	Limon Verde	138.77	69	ePKPdf	PKPdf	05 04 20.7	-0.9
LVC				LR	LR		
	comp=Z,2µm,21.0s						
H03N2	Juan Fernandez	138.98	90	T	T	07 39 56.5	
	baz=305,slow=75,SNR=2388						
H03N1	Juan Fernandez	139.00	90	T	T	07 39 51.0	
	baz=305,slow=75,SNR=1234						
H03N3	Juan Fernandez	139.00	90	T	T	07 39 57.7	
	baz=305,slow=75,SNR=1560						
ASCN	Ascension	139.78	340	PFAKE		05 04 40.0	+17
ASCN				LR	LR		
	comp=Z,2µm,20.0s						
SUR	Sutherland	140.90	274	ePKPdf	PKPdf	05 04 22.4	-2.7
SUR				LR	LR		
	comp=Z,3µm,22.0s						
LCO	Las Campanas	141.94	78	ePKPdf	PKPdf	05 04 24.7	-2.4
LCO				LR	LR		
	comp=Z,1µm,20.0s						
ROCH	El Roble	144.15	83	eP	PKPab	05 04 26.3	-2.3
BDFB	Brasilia	144.47	36	PKP	PKPab	05 04 29.6	-0.6
	comp=Z,61nm,0.9s,baz=272,slow=3.8,SNR=51						
SHEL	Horse Pasture	144.48	323	PFAKE		05 04 40.0	+8.3
SHEL				LR	LR		
	comp=Z,2µm,20.0s						
CLCH	Cerro Calan	144.72	84	eP	PKPab	05 04 30.3	-0.3
LMEL	Las Melosas	145.20	84	eP	PKPbc	05 04 31.9	-0.5
LMEL	Las Melosas	145.20	84	eP	PKPbc	05 04 31.9	-0.5
CFAA	Coronel Fontan	145.22	79	PKPbc	PKPbc	05 04 31.4	-0.9
	comp=Z,20nm,0.9s,baz=285,slow=3.0,SNR=110						
PLCA	Paso Flores	148.44	95	PKPbc	PKPdf	05 04 38.2	+0.5
	comp=Z,23nm,1.0s,baz=240,slow=5.0,SNR=11						
PLCA	Paso Flores	148.44	95	ePKPdf	PKPdf	05 04 36.2	-1.5
PLCA				ePKPbc	PKPbc	05 04 41.7	+0.4
CPUP	Villa Florida	148.66	60	PKPbc	PKPdf	05 04 39.8	+1.4
	comp=Z,16nm,0.5s,baz=339,slow=2.2,SNR=34						
CPUP	Villa Florida	148.66	60	ePKPdf	PKPdf	05 04 38.3	-0.1
CPUP				ePKPbc	PKiKP	05 04 43.2	-0.4
BB16B	Bebedouro	149.01	41	eP	PKPdf	05 04 36.6	-2.6
BB16B				i		05 04 44.0	
BB16B				i		05 04 57.3	
BB16B				i		05 05 29.0	
COYC	Coyhaique	149.22	104	eP	PKPbc	05 04 43.0	0.0
COYC	Coyhaique	149.22	104	eP	PKPbc	05 04 43.0	0.0
CHRN	Cochrane	149.25	108	eP	PKPbc	05 04 43.4	+0.3
CHRN	Cochrane	149.25	108	eP	PKPbc	05 04 43.4	+0.3
SNAA	Sanae	152.49	196	P	PKPbc	05 04 49.6	-0.4
SNAA	Sanae	152.49	196	PKPbc	PKPdf	05 04 49.2	-0.8
	comp=Z,12nm,0.9s,baz=205,slow=4.8,SNR=38						
SNAA	Sanae	152.49	196	ePKPbc	PKPbc	05 04 50.6	+0.6
USHA	Ushuaia	153.06	123	PKPbc	PKPbc	05 04 52.0	+0.4
	comp=Z,16nm,1.0s,baz=286,slow=3.3,SNR=3.5						
TRQA	Tornquist	153.08	84	ePKPdf	PKPdf	05 04 43.8	-1.1
TRQA				ePKPbc	PKiKP	05 04 52.9	+0.4
TRQA				LR	LR		
	comp=Z,2µm,22.0s						
PMSA	Palmer Station	153.11	145	ePKPbc	PKPbc	05 04 52.3	+0.9
PMSA				LR	LR		
	comp=Z,2µm,20.0s						
VNA2	Neumayer--Watz	153.95	195	P	PKPbc	05 04 53.4	+0.3
	baz=77,slow=1.5						
VNA3	Neumayer Olymp	154.05	193	P	PKPbc	05 04 52.2	-1.2
VNA1	Neumayer--Stat	154.34	194	P	PKPbc	05 04 54.7	+0.8
HOPE	Hope Point	170.43	145	PFAKE		05 05 10.0	+8.0
HOPE				LR	LR		
	comp=Z,2µm,19.0s						

SJA 06 04:52:08.7±1.2, 31.46S×67.76W, h20km±3km, ML3.0, MW3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	0.43	251	i P	Pb	04 52 18.4	+0.7
CFAA				i P	Pn	04 52 18.4	-1.4
CFAA				eS	Sb	04 52 25.3	+1.4
CFAA				eS	Sn	04 52 25.6	-1.7
SJA	San Juan	0.69	264	i P	Pb	04 52 22.5	+0.3
SJA				eS	Sb	04 52 32.4	+1.1
ACHE	Chepes	0.98	73	i P	Pb	04 52 27.2	0.0
ACHE				eS	Sn	04 52 42.5	+1.5
ARCO	CERRO ARCO	1.70	216	i P	Pb	04 52 39.9	+0.4
ARCO				eS	Sb	04 53 02.4	+1.8
ARCO				AML	AML	04 53 08.0	
	comp=Z,160nm,0.3s						
AAGR	Agrelo	1.86	209	i P	Pb	04 52 41.4	-0.7
AAGR				eS	Sb	04 53 06.5	+1.5
AGUA	GUANDACOL	2.07	342	i P	Pn	04 52 44.0	+1.5
AGUA				eS	Sb	04 53 11.4	+0.3
ACLC	CERRO LA CRUZ	2.15	19	i P	Pb	04 52 46.7	-0.5
ACLC				eS	Sb	04 53 13.9	+0.4

BJI 06 04:55:14.6, 52.01N×15.70E, h5km, mB5.1/11, mb4.8/25, Ms5.3/9, Ms7 4.9/9
ISCJB 06 04:55:14.9±0.1, 51.370N±0.009×16.05E±0.01, h0km, mb4.8/80, MS4.7/4, Error ellipse: s-maj=1.4km s-min=1.3km az=44.9
LDG 06 04:55:15.0±0.1, 51.47N×16.10E, h1km, Ml5.0/30, Error ellipse: s-maj=2.7km s-min=2.0km az=144.0, Suspected Mining induced.
MOS 06 04:55:15.4±1.4, 51.44N×16.03E, h10km, mb4.9/25, Error ellipse: s-maj=5.7km s-min=3.8km az=84.2
CSEM 06 04:55:16.0±0.1, 51.44N×16.07E, h0km, mb4.9/56, ML4.8/14, Error ellipse: s-maj=1.9km s-min=1.7km az=159.0
NEIC 06 04:55:17.0±0.1, 51.35N×16.07E, h5km, mb4.9/51, Error ellipse: s-maj=3.7km s-min=3.2km az=151.0
NEIC Felt in the Legnica-Wroclaw area. Also felt at Dresden and Niesky, Germany.
IDC 06 04:55:16.2±0.4, 51.46N×15.99E, h0km, mb4.5/16, mb1 4.6/26, mb1mx4.4/52, mbtmp4.4/26, ML4.3/9, MS3.2/4, Ms1 3.2/4, ms1mx2.9/45, Error ellipse: s-maj=8.4km s-min=5.6km az=109.0
BGR 06 04:55:16.6±0.4, 51.45N×16.12E, h1km, ML4.3/15, Error ellipse: s-maj=4.4km s-min=2.2km az=13.0
PRU 06 04:55:16.6, 51.47N×16.11E, h0km, M4.9, Felt In Harrachov
BNS 06 04:55:17.3±0.3, 51.33N×16.10E, h2km, ML4.0
STR 06 04:55:18.1±0.3, 51.26N×15.96E, h5km, Ml5.0, Error

ellipse: s-maj=0.0km s-min=0.0km az=0.0

ISC 06 04:55:15.9±0.3, 51.46N±0.02×16.10E±0.01, h0km, n880, σ1.25/990, mb4.8/80, MS4.9/4, 129C-165D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	169	ePg	Pg	04 55 28.7	+0.7
KSP				eSg	Sg	04 55 37.4	+1.2
KSP	Ksiaz	0.63	169⇓	i P	Pg	04 55 28.8	+0.8
KSP				e		04 55 40.5	
KSP	Ksiaz	0.63	169	ePg	Pg	04 55 28.8	+0.8
KSP				eSg	Sb	04 55 37.9	-1.3
KSP	Ksiaz	0.63	169	P	Pg	04 55 28.2	+0.2
KSP	Ksiaz	0.63	169	P	Pg	04 55 28.2	+0.2
KSP	Ksiaz	0.63	169	Pg	Pg	04 55 28.7	+0.7
KSP				Sg	Sg	04 55 37.4	+1.2
KSP				eS	Sb	04 55 40.5	+1.3
UPC	Upice	0.96	183	eP	Pg	04 55 34.8	+0.5
UPC				e		04 55 47.8	
UPC	Upice	0.96	183	ePG	Pg	04 55 34.8	+0.5
UPC				eSG	Sb	04 55 47.8	-0.8
UPC	Upice	0.96	183	Pg	Pg	04 55 34.8	+0.5
UPC				Sg	Sb	04 55 47.8	-0.8
DPC	Dobruska-Polom	1.12	173	ePg	Pg	04 55 37.6	+0.2
DPC				eSg	Sg	04 55 52.6	+0.6
DPC	Dobruska-Polom	1.12	173	eP	Pg	04 55 37.7	+0.3
DPC				e		04 55 52.5	
DPC				MLR	MLR		
	comp=Z,25µm,3.8s						
DPC	Dobruska-Polom	1.12	173	ePG	Pg	04 55 37.7	+0.3
DPC				eSG	Sg	04 55 52.5	+0.5
DPC				AMS	AMS	04 56 00.0	
	comp=Z,25µm,3.8s						
DPC	Dobruska-Polom	1.12	173	ePb	Pg	04 55 37.6	+0.2
DPC	Dobruska-Polom	1.12	173	Pg	Pg	04 55 37.6	+0.2
DPC				Sg	Sg	04 55 52.5	+0.5
PVCC	Panska Ves	1.35	227	eP	Pg	04 55 41.7	0.0
PVCC				e		04 56 00.5	
PVCC				smax	smax		
	comp=N,6µm,0.7s						
PVCC				MLR	MLR		
	comp=Z,6µm,4.0s						
PVCC	Panska Ves	1.35	227	ePG	Pg	04 55 41.7	0.0
PVCC				eSG	Sn	04 56 00.5	-0.1
	comp=Z,6µm,0.7s						
PVCC				AMS	AMS	04 56 10.0	
	comp=Z,6µm,4.0s						
PVCC	Panska Ves	1.35	227	Pg	Pg	04 55 41.7	0.0
PVCC				Sg	Sn	04 56 00.5	-0.1
	comp=Z,6µm,0.7s						
KRLC	Kraliky	1.46	162	eP	Pn	04 55 43.2	-0.3
KRLC				e		04 56 02.6	
KRLC	Kraliky	1.46	162	ePG	Pn	04 55 43.2	-0.3
KRLC				eSG	Sg	04 56 02.6	0.0
KRLC	Kraliky	1.46	162	Pg	Pn	04 55 43.2	-0.3
KRLC				Sg	Sg	04 56 02.6	0.0
BRG	Berggiesshubel	1.48	247	PN	Pn	04 55 43.1	-0.8
BRG				PG	Pg	04 55 44.9	+0.6
BRG				SG	Sn	04 56 04.7	+0.8
	comp=Z,3µm,0.8s						
	comp=N,4µm,4.0s						
	comp=E,4µm,3.4s						
	comp=Z,5µm,4.0s						
BRG	Berggiesshubel	1.48	247	ePg	Pn	04 55 43.0	-0.8
BRG				eSg	Sg	04 56 02.5	-1.0
BRG	Berggiesshubel	1.48	247	P	Pn	04 55 43.1	-0.8
BRG						04 56 04.7	
BRG				smax	smax		
	comp=N,3µm,0.9s						
BRG				MLR	MLR		
	comp=N,4µm,4.0s						
BRG				MLR	MLR		
	comp=E,4µm,3.4s						
BRG				MLR	MLR		
	comp=Z,5µm,4.1s						
BRG	Berggiesshubel	1.48	247	P	Pn	04 55 43.1	-0.8
BRG				Sg	Sg	04 56 02.5	-1.0
BRG				S	Sn	04 56 04.7	+0.8
	comp=Z,5µm,4.1s						
PRA	Prague	1.75	218	PN	Pn	04 55 47.0	-0.5
PRA				PG	Pb	04 55 48.0	-0.9
PRA				SG	Sn	04 56 10.0	-0.5
RUE	Ruedersdorf	1.76	306	ePn	Pn	04 55 46.3	-1.3
RUE				ePg	Pg	04 55 50.3	+0.6
RUE				eSn	Sg	04 56 12.8	+0.3
RUE				eSg	Sb	04 56 15.4	+3.7
RUE	Ruedersdorf	1.76	306	ePn	Pn	04 55 46.3	-1.3
PRU	Pruhonice	1.78	215	eP	Pn	04 55 47.6	-0.3
PRU				e		04 56 12.1	
PRU				smax	smax		
	comp=N,1µm,0.8s						
PRU				MLR	MLR		
	comp=Z,5µm,4.6s						
PRU	Pruhonice	1.78	215	ePN	Pn	04 55 47.6	-0.3
PRU				ePG	Pb	04 55 49.4	0.0
PRU				eSG	Sb	04 56 12.1	-0.1
	comp=Z,1µm,0.8s						
PRU				AMS	AMS	04 56 20.0	
	comp=Z,5µm,4.6s						
PRU	Pruhonice	1.78	215	Pn	Pn	04 55 47.6	-0.3
FBE	Freiberg	1.81	254	ePn	Pn	04 55 47.8	-0.6
FBE				ePg	Pg	04 55 50.7	0.0
FBE				eSg	Sg	04 56 15.0	+0.9
FBE	Freiberg	1.81	254	Pn	Pn	04 55 47.8	-0.6
RAC	Raciborz	1.92	135	eP	Pn	04 55 48.9	-0.9
RAC				e		04 56 18.1	
RAC	Raciborz	1.92	135	eP	Pn	04 55 48.9	-0.9
RAC	Raciborz	1.92	135	ePg	Pg	04 55 52.4	-0.2
RAC				eSg	Sg	04 56 18.1	+0.7
MORC	Moravsky Berou	1.92	151	ePn	Pn	04 55 49.1	-0.8
MORC	Moravsky Berou	1.92	151	eP	Pn	04 55 48.9	-1.0
MORC				e		04 56 15.3	
MORC	Moravsky Berou	1.92	151	ePn	Pn	04 55 48.9	-1.0
MORC				ePg	Pb	04 55 51.7	-0.1
MORC				eSg	Sn	04 56 15.3	+0.5
MORC	Moravsky Berou	1.92	151	Pn	Pn	04 55 49.1	-0.8
MORC	Moravsky Berou	1.92	151	ePg	Pb	04 55 51.7	-0.1
MORC				eS	Sn	04 56 15.3	+0.5
MORC				eSg	Sb	04 56 16.4	0.0
GKP	Gorka Klasztor	1.94	21	eP	Pn	04 55 50.7	+0.6
GKP				e		04 56 18.5	
GKP	Gorka Klasztor	1.94	21	ePn	Pn	04 55 50.6	+0.5
GKP				ePg	Pg	04 55 54.1	+1.0
GKP				eSn	Sg	04 56 18.4	+0.3
GKP	Gorka Klasztor	1.94	21	eP	Pn	04 55 50.7	+0.6
GKP	Gorka Klasztor	1.94	21	ePg	Pg	04 55 54.1	+1.0
GKP				eS	Sg	04 56 18.5	+0.3
CLL	Collm	1.95	267	ePn	Pn	04 55 49.3	-0.9
CLL	Collm	1.95	267	i P	Pn	04 55 49.4	-0.9
CLL				e		04 56 19.0	
CLL	Collm	1.95	267	i Pn	Pn	04 55 49.4	-0.9
CLL				i Pg	Pb	04 55 52.7	+0.4
CLL				e		04 55 57.0	
CLL				eSg	Sg	04 56 19.0	+0.5
	comp=Z,1µm,0.9s						
CLL	Collm	1.95	267	i P	Pn	04 55 49.4	-0.9
CLL				eS	Sg	04 56 19.0	+0.5
OKC	Ostrava-Krasne	2.08	141	ePn	Pn	04 55 51.0	-1.1
OKC				ePg	Pg	04 55 55.7	-0.1
OKC				eSg	Sb	04 56 21.4	+0.4
OKC	Ostrava-Krasne	2.08	141	eP	Pn	04 55 51.0	-1.1
OKC				e		04 56 21.4	
OKC	Ostrava-Krasne	2.08	141	ePN	Pn	04 55 51.0	-1.1
OKC				ePG	Pg	04 55 55.3	-0.5
OKC				eSG	Sb	04 56 21.4	+0.4
OKC				AMS	AMS	04 56 30.0	
	comp=Z,2µm,4.6s						
OKC	Ostrava-Krasne	2.08	141	eP	Pn	04 55 51.0	-1.1
OKC	Ostrava-Krasne	2.08	141	Pg	Pg	04 55 55.7	-0.1
OKC				eS	Sb	04 56 21.4	+0.4
CHZP	Chorzow	2.17	122	ePn	Pn	04 55 52.0	-1.4
CHZP				ePg	Pg	04 55 57.3	-0.3
CHZP				eSg	Sg	04 56 26.2	+0.5
VRAC	Vranov	2.18	172	Pn	Pn	04 55 53.5	+0.1
	comp=Z,31nm,0.3s,baz=343,slow=15,SNR=185						
VRAC				LR	LR	04 56 16.5	
	comp=Z,61nm,20.2s,baz=283,slow=28						
VRAC				Lg	Lg	04 56 26.0	
	comp=Z,68nm,0.3s,baz=92,slow=22,SNR=12						
TREC	Trest	2.21	191	eP	Pn	04 55 53.8	0.0
TREC				e		04 56 26.2	
TREC				smax	smax		
	comp=N,2µm,1.0s						
TREC	Trest	2.21	191	ePN	Pn	04 55 53.8	0.0
TREC				ePG	Pg	04 55 58.0	-0.2
TREC				eSG	Sg	04 56 26.2	-0.6
	comp=N,2µm,1.0s						
TREC				AMS	AMS	04 56 40.0	
	comp=N,3µm,5.8s						
TREC	Trest	2.21	191	Pn	Pn	04 55 53.8	0.0
TANN	Tannenbergstha	2.53	247	ePn	Pn	04 55 58.1	-0.2
TANN				ePg	Pg	04 56 05.0	+0.6
TANN	Tannenbergstha	2.53	247	Pn	Pn	04 55 58.1	-0.2
TANN	Tannenbergstha	2.53	247	Pg	Pg	04 56 05.0	+0.6
WERD	Werda	2.61	249	ePn	Pn	04 55 59.1	-0.2
WERD				ePg	Pg	04 56 06.1	+0.2
WERD				eSg	Sg	04 56 40.0	+0.3
WERD	Werda	2.61	249	Pn	Pn	04 55 59.1	-0.2
WERD	Werda	2.61	249	Pg	Pg	04 56 06.1	+0.2
WERD				Sg	Sg	04 56 40.0	+0.3
OJC	Ojcow	2.65	117	ePn	Pn	04 55 58.1	-1.8
OJC				ePg	Pg	04 56 05.7	-1.0
OJC				eSg	Sg	04 56 41.4	+0.3
OJC	Ojcow	2.65	117	eP	Pn	04 55 57.9	-2.0
OJC	Ojcow	2.65	117	ePn	Pn	04 55 57.9	-2.0
OJC				eP	Pb	04 56 05.3	+1.0
OJC				ePg	Pg	04 56 06.7	-0.1
OJC				eSn	Sn	04 56 28.9	-3.9
OJC				eSg	Sg	04 56 42.1	+1.0
OJC	Ojcow	2.65	117	Pn	Pn	04 55 58.1	-1.8
OJC	Ojcow	2.65	117	Pg	Pg	04 56 05.7	-1.0
OJC				eSn	Sn	04 56 28.9	-3.9
OJC				Sg	Sg	04 56 41.4	+0.3
KHC	Kasperske Hory	2.84	216	eP	Pn	04 56 01.5	-1.1
KHC				e		04 56 34.5	
KHC	Kasperske Hory	2.84	216	ePN	Pn	04 56 02.2	-0.4
KHC				ePG	Pb	04 56 08.9	+1.4
KHC				eSG	Sg	04 56 47.3	+0.1
	comp=N,576nm,0.8s						
KHC				AMS	AMS	04 57 00.0	
	comp=N,2µm,5.5s						
KHC	Kasperske Hory	2.84	216	ePn	Pn	04 56 01.5	-1.1
KHC				ePg	Pb	04 56 08.7	+1.2
KHC				eSn	Sn	04 56 34.5	-3.0
KHC	Kasperske Hory	2.84	216	eP	Pn	04 56 01.5	-1.1
KHC	Kasperske Hory	2.84	216	Pn	Pn	04 56 02.2	-0.4
KHC	Kasperske Hory	2.84	216	Pg	Pb	04 56 08.9	+1.4
KHC				eS	Sn	04 56 34.5	-3.0
KHC				Sg	Sg	04 56 47.3	+0.1
	comp=N,576nm,0.8s						
MANZ	Manzenberg	2.94	241	ePn	Pn	04 56 04.1	+0.2
MANZ				ePg	Pg	04 56 12.7	+0.5
MANZ	Manzenberg	2.94	241	Pn	Pn	04 56 04.1	+0.2
BEL	Belsk	2.94	81	eP	Pn	04 56 04.3	+0.3
BEL	Belsk	2.94	81	ePn	Pn	04 56 04.2	+0.3
BEL				ePg	Pg	04 56 12.5	+0.2
BEL				eSg	Sg	04 56 55.5	+5.0
BEL	Belsk	2.94	81	eP	Pn	04 56 04.3	+0.3
MOX	Moxa	2.95	256	ePn	Pn	04 56 03.6	-0.4
MOX				ePg	Pg	04 56 11.6	-0.8
MOX				eSg	Sg	04 56 50.9	+0.3
MOX	Moxa	2.95	256	Pn	Pn	04 56 03.6	-0.4
ROTZ	Rotzenmuhle	3.01	237	ePn	Pn	04 56 04.6	-0.2
ROTZ				eSg	Sg	04 56 51.4	-1.1
ROTZ	Rotzenmuhle	3.01	237	Pn	Pn	04 56 04.6	-0.2
ROTZ				Sg	Sg	04 56 51.4	-1.1
I26DE	FREYUNG INFRAS	3.03	211	i		05 15 48.1	
	baz=33,slow=333,SNR=0.5						
GEC2	GERESS Array S	3.04	211	ePn	Pn	04 56 05.0	-0.3
GEC2				ePg	Pb	04 56 12.4	+1.4
GEC2				eSg	Sg	04 56 52.2	-1.4
GEC2	GERESS Array S	3.04	211	eP	Pn	04 56 05.3	-0.1
GEC2	GERESS Array S	3.04	211	ePn	Pn	04 56 05.2	-0.1
GEC2	GERESS Array S	3.04	211	ePn	Pn	04 56 05.2	-0.1
GERES	GERESS Array B	3.04	211	Pn	Pn	04 56 05.1	-0.3
	comp=N,18nm,0.3s,baz=28,slow=12,SNR=303						
GERES				Pg	Pb	04 56 12.5	+1.4
	comp=N,44nm,0.3s,baz=33,slow=14,SNR=99						
GERES				Lg	Lg	04 56 51.7	
	comp=N,82nm,0.3s,baz=33,slow=27,SNR=16						
GERES				LR	LR	04 57 04.6	
	comp=N,193nm,19.6s,baz=278,slow=36						
SMOL	Smolenice	3.07	163	eP	Pn	04 56 07.7	+2.0
SMOL	Smolenice	3.07	163	ePN	Pn	04 56 07.7	+2.0
SMOL				eSG	Sg	04 56 55.1	+0.5
SMOL	Smolenice	3.07	163	eP	Pn	04 56 07.7	+2.0
SMOL				eSg	Sg	04 56 55.1	+0.5
WET	Wettzell	3.11	223	ePn	Pn	04 56 06.0	-0.2
WET	Wettzell	3.11	223	Pn	Pn	04 56 06.0	-0.2
NIE	Niedzica	3.38	126	eP	Pn	04 56 10.2	+0.2
NIE	Niedzica	3.38	126	ePn	Pn	04 56 10.2	+0.2
NIE				ePg	Pg	04 56 20.1	-0.6
NIE				eSg	Sg	04 57 05.3	+0.8
NIE	Niedzica	3.38	126	eP	Pn	04 56 10.2	+0.2
CONA	Conrad Observa	3.54	183⇑	i Pn	Pn	04 56 12.4	+0.1
	SNR=33						
CONA			⇑	i Sg	Sg	04 57 09.3	-0.4
	comp=N,506nm,0.5s						
CONA	Conrad Observa	3.54	183	Pn	Pn	04 56 12.4	+0.1
	SNR=33						
CONA				Sg	Sg	04 57 09.3	-0.4
	comp=N,506nm,0.5s						
GRA1	Grafenberg Arr	3.58	242	Pn	Pn	04 56 12.9	+0.2
GRF	Grafenberg Arr	3.58	242	ePn	Pn	04 56 12.9	+0.2
BSD	Bornholm Skovb	3.73	349	i P	Pn	04 56 13.0	-1.7
	comp=Z,6µm,24.0s						
BSD	Bornholm Skovb	3.73	349	i P	Pn	04 56 13.0	-1.7
SOP	Sopron	3.79	175⇓	epPn	Pn	04 56 15.7	+0.1
MOA	Molln	3.81	199⇓	i Pn	Pn	04 56 15.9	+0.1
	SNR=34						
MOA			⇑	i Sg	Sg	04 57 17.8	-0.4
	comp=Z,1µm,1.0s						
MOA	Molln	3.81	199	Pn	Pn	04 56 15.9	+0.1
	SNR=34						
MOA				Sg	Sg	04 57 17.8	-0.4
	comp=Z,1µm,1.0s						
STHS	Stebnicka Huta	3.87	120	eP	Pn	04 56 16.2	-0.5
STHS				e		04 56 56.0	
STHS				pmax	pmax		
	comp=N,658nm,1.1s						
STHS	Stebnicka Huta	3.87	120	ePN	Pn	04 56 16.2	-0.5
STHS				ePG	Pg	04 56 31.3	+1.2
STHS				e		04 56 56.0	
STHS	Stebnicka Huta	3.87	120	eP	Pn	04 56 16.2	-0.5
KECS	Kecovo	4.11	135	eP	Pn	04 56 18.4	-1.6
KECS				pmax	pmax		
	comp=N,168nm,1.0s						
KECS	Kecovo	4.11	135	ePN	Pn	04 56 18.4	-1.6
KECS				ePG	Pg	04 56 36.5	+1.8
KECS	Kecovo	4.11	135	eP	Pn	04 56 18.4	-1.6
	comp=N,168nm,1.0s						
ARSA	Arzberg	4.23	185⇓	i Pn	Pn	04 56 22.4	+0.7
	SNR=12						
ARSA			⇑	i Sg	Sg	04 57 31.4	-0.5
	comp=N,426nm,0.7s						
ARSA	Arzberg	4.23	185	Pn	Pn	04 56 22.4	+0.7
	SNR=12						
ARSA				Sg	Sg	04 57 31.4	-0.5
	comp=N,426nm,0.7s						
CRVS	Cervenica-Dubn	4.29	125	eP	Pn	04 56 22.1	-0.4
CRVS				pmax	pmax		
	comp=N,258nm,0.9s						
CRVS	Cervenica-Dubn	4.29	125	ePN	Pn	04 56 22.1	-0.4
CRVS				ePG	Pg	04 56 40.2	+2.0
CRVS				e		04 57 40.0	
CRVS	Cervenica-Dubn	4.29	125	eP	Pn	04 56 22.1	-0.4
	comp=N,258nm,0.9s						
PSZ	Piszkesteto	4.32	144	eP	Pn	04 56 22.9	0.0
PSZ	Piszkesteto	4.32	144⇑	i P	Pn	04 56 23.4	+0.5
PSZ	Piszkesteto	4.32	144	ePn	Pn	04 56 22.9	0.0
PSZ				ePg	Pg	04 56 38.3	-0.3
PSZ	Piszkesteto	4.32	144⇓	ePn	Pn	04 56 23.0	0.0
PSZ	Piszkesteto	4.32	144	eP	Pn	04 56 22.9	0.0
CSKK	Csˆ‡kako	4.34	160⇓	ePn	Pn	04 56 23.2	+0.1
CSKK	Csˆ‡kako	4.34	160⇓	eP	Pn	04 56 23.2	+0.1
PKSG		4.34	159⇑	ePn	Pn	04 56 23.4	+0.3
PKSG		4.34	159⇑	eP	Pn	04 56 23.4	+0.3
PKST	Tˆ's	4.39	163	ePn	Pn	04 56 22.0	-1.9
PKST	Tˆ's	4.39	163	eP	Pn	04 56 22.0	-1.9
BUD	Budapest	4.42	153	epPn	Pn	04 56 24.6	+0.5
BUD	Budapest	4.42	153	eP	Pn	04 56 24.6	+0.5
KWP	Kalwaria Pacla	4.59	111	ePn	Pn	04 56 25.8	-0.8
KWP	Kalwaria Pacla	4.59	111⇓	i P	Pn	04 56 25.4	-1.2
KWP	Kalwaria Pacla	4.59	111	ePn	Pn	04 56 26.1	-0.5
KWP				ePb	Pb	04 56 36.6	-0.8

KWP				ePg	Pg	04 56 42.8	-1.1
KWP				eSg	Sg	04 57 41.8	-1.6
KWP	Kalwaria Pacla	4.59	111	eP	Pn	04 56 26.1	-0.5
SIND	Sindeldorf	4.66	246	P	Pn	04 56 26.7	-0.8
SIND	Sindeldorf	4.66	246	P	Pn	04 56 26.7	-0.8
KOLS	Kolonicke sedl	4.70	120	ePN	Pn	04 56 27.2	-0.9
KOLS	Kolonicke sedl	4.70	120	eP	Pn	04 56 27.2	-0.9
KBA	Koelnbreinsper	4.75	203	⇑iPn	Pn	04 56 29.3	+0.4
	SNR=20						
KBA				⇑iSg	Sg	04 57 48.5	+0.2
	comp=N,487nm,1.0s						
KBA	Koelnbreinsper	4.75	203	Pn	Pn	04 56 29.3	+0.4
	SNR=20						
KBA				Sg	Sg	04 57 48.5	+0.2
	comp=N,487nm,1.0s						
HDH	Heidenheim-Cha	4.77	235	P	Pn	04 56 28.4	-0.6
HDH	Heidenheim-Cha	4.77	235	P	Pn	04 56 28.4	-0.6
PERS	Pernice	4.88	188	iPn	Pn	04 56 31.2	+0.7
PERS	Pernice	4.88	188	iPn	Pn	04 56 31.2	+0.7
UZH	Uzhgorod	4.89	123	eP	Pn	04 56 30.8	+0.1
UZH				e		04 56 45.0	
UZH				e		04 57 00.8	
UZH	Uzhgorod	4.89	123	eP	Pn	04 56 30.8	+0.1
UZH				eS	Sn	04 57 27.4	-0.6
UZH	Uzhgorod	4.89	123	eP	Pn	04 56 30.8	+0.1
UZH				eS	Sn	04 57 27.4	-0.6
TNS	Taunus Mts	5.01	259	⇓P	Pn	04 56 31.7	-0.6
TNS				S	Sg	04 57 57.9	+1.2
TNS	Taunus Mts	5.01	259	P	Pn	04 56 31.7	-0.6
TOD	Tromm	5.01	251	P	Pn	04 56 31.4	-1.0
TOD	Tromm	5.01	251	P	Pn	04 56 31.4	-1.0
TOD				S	Sn	04 57 32.8	+1.8
BEHE	Becsehely	5.02	175	⇓ePn	Pn	04 56 33.6	+1.2
BEHE	Becsehely	5.02	175	⇓eP	Pn	04 56 33.6	+1.2
KOGS	Kog	5.02	179	ePn	Pn	04 56 33.6	+1.1
KOGS	Kog	5.02	179	ePn	Pn	04 56 33.6	+1.1
WATA	Walderalm	5.08	217	⇓iPn	Pn	04 56 33.3	-0.1
	SNR=32						
WATA	Walderalm	5.08	217	Pn	Pn	04 56 33.3	-0.1
	SNR=32						
PKS9	Tamasi	5.09	163	ePn	Pn	04 56 34.8	+1.4
PKS9	Tamasi	5.09	163	eP	Pn	04 56 34.8	+1.4
WTTA	Wattenberg	5.12	216	⇓iPn	Pn	04 56 34.4	+0.4
	SNR=15						
WTTA				⇑iSg	Sg	04 58 00.4	+0.2
	comp=N,147nm,0.6s						
WTTA	Wattenberg	5.12	216	Pn	Pn	04 56 34.4	+0.4
	SNR=15						
WTTA				Sg	Sg	04 58 00.4	+0.2
	comp=N,147nm,0.6s						
SWS	Schriesheim-Wi	5.12	250	P	Pn	04 56 32.8	-1.1
SWS				S	Sn	04 57 32.2	-1.5
SWS	Schriesheim-Wi	5.12	250	P	Pn	04 56 32.8	-1.1
SWS				S	Sn	04 57 32.2	-1.5
STU	Stuttgart	5.20	241	⇓P	Pn	04 56 34.3	-0.6
STU	Stuttgart	5.20	241	eP	Pn	04 56 32.5	-2.4
STU	Stuttgart	5.20	241	ePn	Pn	04 56 32.5	-2.4
STU				ePg	Pg	04 56 53.7	-1.8
STU				eSg	Sg	04 57 57.8	-5.0
STU	Stuttgart	5.20	241	ePn	Pn	04 56 32.5	-2.4
STU	Stuttgart	5.20	241	P	Pn	04 56 34.3	-0.6
ABTA	Abfaltersbach	5.28	208	⇑iPn	Pn	04 56 36.9	+0.8
	SNR=14						
ABTA				⇓iSg	Sg	04 58 06.0	+0.7
	comp=N,256nm,0.7s						
ABTA	Abfaltersbach	5.28	208	Pn	Pn	04 56 36.9	+0.8
	SNR=14						
ABTA				Sg	Sg	04 58 06.0	+0.7
	comp=N,256nm,0.7s						
RETA	Reutte	5.29	223	⇑iPn	Pn	04 56 35.9	-0.3
	SNR=10						
RETA				⇓iSg	Sg	04 58 07.3	+1.7
	comp=N,257nm,0.8s						
RETA	Reutte	5.29	223	Pn	Pn	04 56 35.9	-0.3
	SNR=10						
RETA				Sg	Sg	04 58 07.3	+1.7
	comp=N,257nm,0.8s						
BUCH	Bad Urach	5.30	238	P	Pn	04 56 35.7	-0.6
BUCH	Bad Urach	5.30	238	P	Pn	04 56 35.7	-0.6
TRPA	Tarpa	5.34	126	⇓iP	Pn	04 56 35.9	-0.9
TRPA	Tarpa	5.34	126	⇓ePn	Pn	04 56 37.1	+0.3
TRPA	Tarpa	5.34	126	⇓eP	Pn	04 56 37.1	+0.3
PKS6	Bocsa	5.37	154	ePn	Pn	04 56 37.2	-0.1
PKS6	Bocsa	5.37	154	eP	Pn	04 56 37.2	-0.1
KOE	Koeppel	5.39	262	ePn	Pn	04 56 37.4	-0.2
KOE	Koeppel	5.39	262	Pn	Pn	04 56 37.4	-0.2
TUBL	Tuebingen-Lenn	5.40	240	⇓P	Pn	04 56 37.3	-0.4
TUBL	Tuebingen-Lenn	5.40	240	P	Pn	04 56 37.3	-0.4
UBR	Ueberruh	5.43	228	⇑P	Pn	04 56 37.7	-0.5
UBR				Sg	Sg	04 58 11.6	+1.2
UBR	Ueberruh	5.43	228	P	Pn	04 56 37.7	-0.5
UBR				Sg	Sg	04 58 11.6	+1.2
LBG	Lerchenberg	5.48	242	P	Pn	04 56 36.6	-2.2
LBG				Sg	Sg	04 58 11.4	-0.4
LBG	Lerchenberg	5.48	242	P	Pn	04 56 36.6	-2.2
LBG				Sg	Sg	04 58 11.4	-0.4
PKSM	Moragy	5.52	161	⇑iP	Pn	04 56 39.0	-0.3
PKSM	Moragy	5.52	161	⇓ePn	Pn	04 56 39.3	0.0
PKSM				eP	Pg	04 56 58.1	-3.5
PKSM	Moragy	5.52	161	⇓eP	Pn	04 56 39.3	0.0
LJU	Ljubljana	5.52	191	iPn	Pn	04 56 40.5	+1.1
HOBG	Hohbusch	5.53	268	ePn	Pn	04 56 39.5	0.0
HOBG	Hohbusch	5.53	268	Pn	Pn	04 56 39.5	0.0
OBER	Oberstdorf	5.55	225	P	Pn	04 56 39.6	-0.2
OBER				Sg	Sg	04 58 15.1	+0.9
OBER	Oberstdorf	5.55	225	P	Pn	04 56 39.7	-0.2
OBER				Sg	Sg	04 58 15.1	+0.9
KTD	Kalmit	5.56	250	P	Pn	04 56 39.0	-0.9
GUT	Gutenstein	5.66	236	P	Pn	04 56 40.4	-0.9
GUT	Gutenstein	5.66	236	P	Pn	04 56 40.4	-0.9
ABH	Alteburg	5.67	257	P	Pn	04 56 41.4	0.0
ABH	Alteburg	5.67	257	P	Pn	04 56 41.0	-0.4
FETA	Feichten	5.67	220	⇓iPn	Pn	04 56 41.8	+0.3
	SNR=7.2						
FETA	Feichten	5.67	220	Pn	Pn	04 56 41.8	+0.3
	SNR=7.2						
BGG	Burgeitz	5.70	261	ePn	Pn	04 56 41.4	-0.3
BGG				eSn	Sn	04 57 44.8	-2.9
	comp=N,74nm,0.8s						
BGG	Burgeitz	5.70	261	Pn	Pn	04 56 41.4	-0.3
BGG				Sn	Sn	04 57 44.8	-2.9
	comp=N,74nm,0.8s						
VISS	Visnje	5.73	189	iPn	Pn	04 56 43.3	+1.2
VISS	Visnje	5.73	189	eP	Pg	04 57 06.3	+0.7
LAUG	Laupendahl	5.73	272	ePn	Pn	04 56 41.9	-0.3
LAUG	Laupendahl	5.73	272	Pn	Pn	04 56 41.9	-0.3
JAVS	Javornik	5.74	194	iPn	Pn	04 56 42.8	+0.4
JAVS	Javornik	5.74	194	eP	Pg	04 57 04.7	-1.1
WTSB	Winterswijk	5.81	279	ePn	Pn	04 56 43.4	+0.2
	comp=N,23nm,0.7s						
WTSB				eX		04 56 49.5	
	comp=N,252nm,1.1s						
WTSB				eSn	Sg	04 58 30.3	+8.0
SPAK	Spaichingen-Ko	5.81	237	P	Pn	04 56 42.2	-1.2
DAVA	Damuels	5.83	227	⇓iPn	Pn	04 56 43.2	-0.5
	SNR=8.6						
DAVA				⇓iSg	Sg	04 58 24.2	+1.2
	comp=N,373nm,0.8s						
DAVA	Damuels	5.83	227	Pn	Pn	04 56 43.2	-0.5
	SNR=8.6						
DAVA				Sg	Sg	04 58 24.2	+1.2
	comp=N,373nm,0.8s						
LANF	Langenberg	5.88	248	P	Pn	04 56 43.3	-0.9
LANF	Langenberg	5.88	248	P	Pn	04 56 43.3	-0.9
LANF				S	Sn	04 57 54.1	+1.8
LANF	Langenberg	5.88	248	P	Pn	04 56 43.3	-0.9
LANF				S	Sn	04 57 54.1	+1.8
OPP	Oppenau	5.91	243	P	Pn	04 56 43.0	-1.6
OPP	Oppenau	5.91	243	P	Pn	04 56 43.0	-1.6
STB	Steinbach	5.91	265	ePn	Pn	04 56 44.5	-0.2
STB	Steinbach	5.91	265	Pn	Pn	04 56 44.5	-0.2
BFO	Black Forest	5.92	241	P	Pn	04 56 43.6	-1.3
BFO	Black Forest	5.92	241	eP	Pn	04 56 43.2	-1.6
BFO				e		04 57 51.0	
BFO	Black Forest	5.92	241	ePn	Pn	04 56 43.2	-1.6
BFO				ePg	Pg	04 57 06.6	-2.7
BFO				eSn	Sn	04 57 51.0	-2.4
BFO				eSg	Sb	04 58 13.6	+2.2
BFO	Black Forest	5.92	241	ePn	Pn	04 56 43.2	-1.6
BFO	Black Forest	5.92	241	P	Pn	04 56 43.6	-1.3
BFO	Black Forest	5.92	241	ePg	Pg	04 57 06.6	-2.7
BFO				eS	Sn	04 57 51.0	-2.4

SISB	Singen-Schiene	5.99	234	P	Pn	04 56 44.8	-1.0
SISB	Singen-Schiene	5.99	234	P	Pn	04 56 44.8	-1.0
BOJS	Bojanci	5.99	186	iPn	Pn	04 56 46.8	+1.0
RUP	Ruppelstein	6.02	257	⇓P	Pn	04 56 46.6	+0.3
RUP	Ruppelstein	6.02	257	P	Pn	04 56 46.0	-0.3
HILG	Hillesheim	6.08	263	ePn	Pn	04 56 46.5	-0.5
HILG				eSn	Sn	04 57 55.0	-2.3
HILG	Hillesheim	6.08	263	Pn	Pn	04 56 46.5	-0.5
HILG				Sn	Sn	04 57 55.0	-2.3
SLE	Schleitheim	6.18	236	P	Pn	04 56 47.2	-1.2
SLE	Schleitheim	6.18	236	P	Pn	04 56 47.2	-1.2
FUORN	Ofenpass-Fuorn	6.18	221	ePn	Pn	04 56 49.4	+0.8
FUORN	Ofenpass-Fuorn	6.18	221	ePn	Pn	04 56 49.4	+0.8
DAVOX	Davos/Dischmat	6.21	223	Pn	Pn	04 56 48.9	-0.1
	comp=N,2.8nm,0.3s,baz=30,slow=12,SNR=20						
DAVOX				Lg	Lg	04 58 33.8	
	comp=N,4.8nm,0.3s,baz=230,slow=20,SNR=3.5						
KLL	Kalltalsperre	6.23	266	ePn	Pn	04 56 48.7	-0.4
KLL	Kalltalsperre	6.23	266	Pn	Pn	04 56 48.7	-0.4
DREG	Dreilaegerbach	6.27	267	ePn	Pn	04 56 49.4	-0.3
DREG	Dreilaegerbach	6.27	267	Pn	Pn	04 56 49.4	-0.3
KIZ	Kirchzarten	6.36	240	⇓P	Pn	04 56 49.4	-1.5
KIZ				Sg	Sg	04 58 41.0	+0.8
KIZ	Kirchzarten	6.36	240	P	Pn	04 56 49.4	-1.5
KIZ				Sg	Sg	04 58 41.0	+0.8
FELD	Feldberg im Sc	6.36	239	P	Pn	04 56 50.0	-1.1
MEM	Membach	6.43	266	PN	Pn	04 56 51.5	-0.3
MEM	Membach	6.43	266	eP	Pn	04 56 52.2	+0.4
	comp=N,135nm,0.9s						
MEM	Membach	6.43	266	ePn	Pn	04 56 52.2	+0.4
MEM	Membach	6.43	266	eP	Pn	04 56 52.2	+0.4
HGN	Heimansgroeve	6.44	268	ePn	Pn	04 56 51.8	-0.2
	comp=N,89nm,1.9s						
HGN				eX		04 56 57.2	
	comp=N,218nm,1.2s						
HGN				eSn	Sg	04 58 42.4	-0.4
HGN	Heimansgroeve	6.44	268	ePn	Pn	04 56 51.8	-0.2
	comp=N,89nm,1.9s						
CDF	Champ du Feu	6.46	245	ePn	Pn	04 56 50.9	-1.5
CDF				eSg	Sg	04 58 37.1	-6.3
	comp=N,618nm,1.1s						
CDF	Champ du Feu	6.46	245	eP	Pn	04 56 50.9	-1.5
CDF	Champ du Feu	6.46	245	ePn	Pn	04 56 50.9	-1.5
CDF				eSg	Sg	04 58 37.1	-6.3
CDF	Champ du Feu	6.46	245	ePn	Pn	04 56 50.9	-1.5
WLF	Walferdange	6.59	258	P	Pn	04 56 53.1	-0.9
WLF	Walferdange	6.59	258	ePn	Pn	04 56 54.2	+0.2
WLF				ePg	Pb	04 57 14.4	+3.0
WLF				eSg	Sg	04 58 42.7	-4.7
WLF	Walferdange	6.59	258	eP	Pn	04 56 54.2	+0.2
ECH	Echery	6.63	244	P	Pn	04 56 52.9	-1.8
ECH	Echery	6.63	244	ePn	Pn	04 56 53.3	-1.3
	comp=N,272nm,1.4s						
ECH				ePb	Pb	04 57 09.0	-3.1
ECH				eSg	Sg	04 58 48.0	-0.9
ECH	Echery	6.63	244	eP	Pn	04 56 53.3	-1.3
	comp=N,272nm,1.4s						
TUE	Stuetta	6.69	224	ePn	Pn	04 56 55.4	-0.1
TUE				ePg	Pb	04 57 14.8	+1.7
TUE				eSg	Sg	04 58 43.7	-6.9
TUE	Stuetta	6.69	224	ePn	Pn	04 56 55.4	-0.1
BCLA	Clavier	6.91	266	PN	Pn	04 56 58.7	+0.3
BCLA	Clavier	6.91	266	Pn	Pn	04 56 58.6	+0.3
UDBI	Udbina	6.94	182	P	Pn	04 57 00.4	+1.5
UDBI	Udbina	6.94	182	iP	Pn	04 57 00.4	+1.5
NVLJ	Novalja	6.95	187	P	Pn	04 56 59.8	+0.8
NVLJ	Novalja	6.95	187	iP	Pn	04 56 59.8	+0.8
HINF	Hinteralfeld	7.03	242	ePn	Pn	04 56 58.6	-1.5
HINF				eSg	Sg	04 58 53.9	-7.6
	comp=N,234nm,0.8s						
HINF	Hinteralfeld	7.03	242	eP	Pn	04 56 58.6	-1.5
HINF	Hinteralfeld	7.03	242	ePn	Pn	04 56 58.6	-1.5
HINF				eSg	Sg	04 58 53.9	-7.6
HINF	Hinteralfeld	7.03	242	ePn	Pn	04 56 58.6	-1.5
HAU	Haudompre	7.21	245	ePn	Pn	04 57 01.4	-1.1
HAU				eSg	Sg	04 59 00.5	-6.7
	comp=N,478nm,1.1s						
HAU	Haudompre	7.21	245	eP	Pn	04 57 01.4	-1.1
HAU	Haudompre	7.21	245	ePn	Pn	04 57 01.4	-1.1
HAU				eSg	Sg	04 59 00.5	-6.7
HAU	Haudompre	7.21	245	ePn	Pn	04 57 01.4	-1.1
GIVF	Givet	7.28	264	ePn	Pn	04 57 01.6	-1.9
GIVF				eSg	Sg	04 59 02.9	-6.7
	comp=N,403nm,1.0s						
GIVF	Givet	7.28	264	eP	Pn	04 57 01.8	-1.7
	comp=N,368nm,1.3s						
GIVF	Givet	7.28	264	eP	Pn	04 57 01.8	-1.7
	comp=N,368nm,1.3s						
GIVF	Givet	7.28	264	ePn	Pn	04 57 01.6	-1.9
GIVF				eSg	Sg	04 59 02.9	-6.7
GIVF	Givet	7.28	264	ePn	Pn	04 57 01.6	-1.9
TEKS	Tekeris	7.29	160	iP	Pn	04 57 06.1	+2.5
PAGF	Fort de Pagny	7.29	251	ePn	Pn	04 57 02.7	-1.0
PAGF				eSg	Sg	04 59 01.5	-8.5
	comp=N,194nm,1.1s						
PAGF	Fort de Pagny	7.29	251	ePn	Pn	04 57 02.7	-1.0
PAGF				eSg	Sg	04 59 01.5	-8.5
PAGF	Fort de Pagny	7.29	251	ePn	Pn	04 57 02.7	-1.0
THEF	They Montfort	7.30	248	P	Pn	04 57 03.1	-0.6
THEF	They Montfort	7.30	248	P	Pn	04 57 02.8	-0.9
THEF	They Montfort	7.30	248	P	Pn	04 57 03.1	-0.6
BAIF	Baives	7.67	264	ePn	Pn	04 57 03.1	-5.8
BAIF				eSg	Sg	04 59 15.4	-6.8
	comp=N,369nm,1.2s						
BAIF	Baives	7.67	264	eP	Pn	04 57 02.9	-6.0
	comp=N,116nm,1.0s						
BAIF	Baives	7.67	264	eP	Pn	04 57 02.9	-6.0
	comp=N,116nm,1.0s						
BAIF	Baives	7.67	264	ePn	Pn	04 57 03.1	-5.8
BAIF				eSg	Sg	04 59 15.4	-6.8
MEZF	Maizieres J'vi	7.71	252	ePn	Pn	04 57 08.5	-0.9
MEZF				eSg	Sg	04 59 15.9	-7.6
	comp=N,577nm,1.2s						
MEZF	Maizieres J'vi	7.71	252	ePn	Pn	04 57 08.5	-0.9
MEZF				eSg	Sg	04 59 15.9	-7.6
MEZF	Maizieres J'vi	7.71	252	ePn	Pn	04 57 08.5	-0.9
MICGM	Minsk	7.73	62	eP	Pg	04 57 38.0	-5.9
SFTF	Sexfontaines	7.86	250	ePn	Pn	04 57 10.1	-1.4
SFTF				eSg	Sg	04 59 20.2	-8.0
	comp=N,679nm,1.3s						
SFTF	Sexfontaines	7.86	250	ePn	Pn	04 57 10.1	-1.4
SFTF				eSg	Sg	04 59 20.2	-8.0
SFTF	Sexfontaines	7.86	250	ePn	Pn	04 57 10.1	-1.4
CABF	La Chapelle	8.18	237	ePn	Pn	04 57 14.4	-1.4
CABF				eSg	Sg	04 59 31.1	-7.2
	comp=N,625nm,1.1s						
CABF	La Chapelle	8.18	237	ePn	Pn	04 57 14.4	-1.4
CABF				eSg	Sg	04 59 31.1	-7.2
CABF	La Chapelle	8.18	237	ePn	Pn	04 57 14.4	-1.4
KIEV	Kiev	8.29	90	eP	Pn	04 57 17.0	-0.3
KIEV	Kiev	8.29	90	ePn	Pn	04 57 17.0	-0.3
KIEV				ePg	Pg	04 57 50.7	-4.0
KIEV				eSg	Sg	04 59 40.3	-1.7
KIEV	Kiev	8.29	90	eP	Pn	04 57 17.0	-0.3
AKASG	Malin Array Be	8.30	90	iP	Pn	04 57 15.6	-1.9
AKASG				pmax	pmax		
	comp=Z,18nm,0.6s						
AKASG	Malin Array Be	8.30	90	Pn	Pn	04 57 15.6	-1.9
	comp=Z,7.7nm,0.3s,baz=276,slow=12,SNR=9.8						
AKASG				Pg	Pg	04 57 48.2	-6.6
	comp=Z,3.9nm,0.3s,baz=280,slow=16,SNR=13						
AKASG				Sn	Sn	04 58 45.5	-6.3
	comp=Z,7.7nm,0.3s,baz=274,slow=24,SNR=4.7						
AKASG				Lg	Lg	04 59 45.9	
	comp=Z,1.3nm,0.3s,baz=268,slow=27,SNR=6.5						
AKASG	Malin Array Be	8.30	90	iP	Pn	04 57 15.6	-1.9
	comp=Z,18nm,0.6s						
AKBB	Malin Array Si	8.30	90	eP	Pn	04 57 15.2	-2.2
AKBB	Malin Array Si	8.30	90	ePn	Pn	04 57 15.2	-2.2
AKBB				ePg	Pg	04 57 51.2	-3.7
AKBB				eSg	Sg	04 59 40.1	-2.2
LPL	La Plagne	8.61	230	ePn	Pn	04 57 20.8	-1.1
LPL				eSg	Sg	04 59 45.1	-7.0
	comp=Z,329nm,1.4s						
LPL	La Plagne	8.61	230	ePn	Pn	04 57 20.8	-1.1
LPL				eSg	Sg	04 59 45.1	-7.0
LPL	La Plagne	8.61	230	ePn	Pn	04 57 20.8	-1.1
LPG	La Plagne	8.61	230	ePn	Pn	04 57 22.0	0.0
LPG				eSg	Sg	04 59 45.2	-7.1
	comp=Z,321nm,1.3s						
LPG	La Plagne	8.61	230	ePn	Pn	04 57 22.0	0.0
LPG				eSg	Sg	04 59 45.2	-7.1

LPG	La Plagne	8.61	230	ePn	Pn	04 57 22.0	0.0
HFS	Hagfors	8.80	352	Pn	Pn	04 57 22.0	-2.2
	comp=Z,2.9nm,0.3s,baz=181,slow=13,SNR=5.2						
HFS				Sn	Sn	04 58 58.7	-5.3
	comp=Z,2.6nm,0.3s,baz=163,slow=26,SNR=3.5						
HFS				Lg	Lg	04 59 58.1	
	baz=164,slow=27,SNR=2.9						
HFS				LR	LR	05 00 42.1	
	comp=Z,563nm,18.2s,baz=206,slow=37						
LOR	Lormes	9.02	247	eSg	Sn	04 59 57.8	+48
	comp=Z,357nm,1.3s						
LOR	Lormes	9.02	247	eSg	Sn	04 59 57.8	+48
	comp=Z,178nm,1.3s						
MBDF	Montbardon	9.18	226	ePn	Pn	04 57 26.0	-3.7
MBDF	Montbardon	9.18	226	eP	Pn	04 57 25.9	-3.8
	comp=Z,93nm,0.7s						
MBDF	Montbardon	9.18	226	eP	Pn	04 57 25.9	-3.8
	comp=Z,93nm,0.7s						
MBDF	Montbardon	9.18	226	ePn	Pn	04 57 26.0	-3.7
MBDF	Montbardon	9.18	226	eSg	Sn	05 00 02.9	+49
	comp=Z,152nm,1.2s						
MBDF	Montbardon	9.18	226	eSg	Sn	05 00 02.9	+49
VSU	Vasula	9.29	37	iP	Pn	04 57 29.3	-1.7
VSU	Vasula	9.29	37	iP	Pn	04 57 29.3	-1.7
SSF	Saint Saulge	9.34	247	eSg	Sn	05 00 07.2	+50
	comp=Z,310nm,1.4s						
SMF	Signal de Mont	9.38	244	eSg	Sn	05 00 08.6	+50
	comp=Z,240nm,1.1s						
ORIF	Oris-en-Rattie	9.45	230	ePn	Pn	04 57 26.6	-6.8
ORIF	Oris-en-Rattie	9.45	230	eP	Pn	04 57 26.7	-6.7
	comp=Z,252nm,0.9s						
ORIF				eR			
	comp=Z,9µm,22.2s						
ORIF	Oris-en-Rattie	9.45	230	eP	Pn	04 57 26.7	-6.7
	comp=Z,252nm,0.9s						
ORIF	Oris-en-Rattie	9.45	230	ePn	Pn	04 57 26.6	-6.8
ORIF	Oris-en-Rattie	9.45	230	eSg	Sn	05 00 10.9	+50
ORIF	Oris-en-Rattie	9.45	230	eSg	Sn	05 00 10.9	+50
	comp=Z,137nm,1.1s						
AVF	Avril sur Loir	9.57	246	eSg	Sn	05 00 14.8	+52
	comp=Z,295nm,1.1s						
SBF	Sospel	9.59	221	ePn	Pn	04 57 27.6	-7.6
SBF	Sospel	9.59	221	ePn	Pn	04 57 27.6	-7.6
HYF	Humbligny	9.73	250	eSg	Sn	05 00 19.4	+52
NAO01	NORSAR Array S	9.84	345	ePn	Pn	04 57 34.9	-3.7
NOA	NORSAR Array B	9.97	346	Pn	Pn	04 57 37.2	-3.2
	comp=Z,2.1nm,0.3s,baz=167,slow=12,SNR=4.0						
BGF	Bois d'Agland	9.99	246	eSg	Sn	05 00 28.4	+55
	comp=Z,400nm,1.3s						
VIVF	Saint-Julien-l	10.09	234	eSg	Sn	05 00 31.5	+55
	comp=Z,134nm,1.2s						
FRF	La Foret Royal	10.16	223	ePn	Pn	04 57 38.8	-4.2
FRF	La Foret Royal	10.16	223	eP	Pn	04 57 38.8	-4.2
FRF	La Foret Royal	10.16	223	ePn	Pn	04 57 38.8	-4.2
TCF	Toulx Ste Croi	10.51	246	eSg	Sn	05 00 43.6	+57
	comp=Z,310nm,1.4s						
LDF	La Druitiere	10.83	261	eSg		05 00 53.8	
	comp=Z,261nm,1.4s						
FLN	La Foliniere	10.99	262	eSg		05 00 59.2	
	comp=Z,177nm,1.2s						
LASF	Ste Croix	11.06	233	eSg		05 01 00.5	
	comp=Z,225nm,1.5s						
GRR	Gorron	11.36	261	eSg		05 01 10.6	
	comp=Z,275nm,1.6s						
FINES	FINESS Array B	11.41	25	Pn	Pn	04 57 57.4	-2.6
	comp=Z,3.4nm,0.3s,baz=201,slow=12,SNR=16						
FINES				Sn	Sn	05 00 00.6	-7.3
	comp=Z,5.2nm,0.3s,baz=214,slow=21,SNR=9.8						
CAF	Calviac	11.42	241	eSg		05 01 12.9	
	comp=Z,98nm,1.3s						
RJF	Les Rejaudoux	11.48	243	eSg		05 01 14.3	
	comp=Z,222nm,1.3s						
MFF	Saint Martin d	11.71	252	eSg		05 01 22.2	
	comp=Z,137nm,1.2s						
KAF	Kangasniemi	12.03	24	eP	Pn	04 58 05.5	-3.0
KAF				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KAF	Kangasniemi	12.03	24	ep	Pn	04 58 05.5	-3.0
	comp=Z,9.1nm,0.5s						
EKA	Eskdalemuir Ar	12.12	296	Pn	Pn	04 58 05.2	-4.6
	baz=102,slow=13,SNR=8.6						
LFF	La Frestale	12.14	243	eSg		05 01 35.2	
	comp=Z,245nm,1.3s						
ESK	Eskdalemuir	12.14	296	eP	Pn	04 58 09.1	-0.9
ESK	Eskdalemuir	12.14	296	ePn	Pn	04 58 09.1	-0.9
ESK	Eskdalemuir	12.14	296	eP	Pn	04 58 09.1	-0.9
OBN	Obninsk	12.77	65	⇓eP	Pn	04 58 19.4	+0.9
OBN				pmax	pmax		
	comp=Z,54nm,1.1s						
OBN	Obninsk	12.77	65	Pn	Pn	04 58 14.0	-4.5
	comp=Z,5.8nm,0.3s,baz=233,slow=21,SNR=4.5						
OBN	Obninsk	12.77	65	eP	Pn	04 58 19.4	+0.9
	comp=Z,54nm,1.1s						
MOS	Moscow	13.46	63	eP	Pn	04 58 22.3	-5.7
MOS				eSS	SS	05 01 09.1	
MOS				pmax	pmax		
	comp=Z,102nm,1.2s						
JOF	Joensuu	14.08	30	eP	Pn	04 58 33.7	-2.8
JOF				pmax	pmax		
	comp=Z,9.0nm,0.5s						
JOF	Joensuu	14.08	30	ep	Pn	04 58 33.7	-2.8
	comp=Z,8.6nm,0.5s						
VOR	Voronezh	14.35	80	eP	Pn	04 58 31.0	-9.2
VOR				pmax	pmax		
	comp=Z,400nm,1.0s						
VSR	Storozhevoye	14.41	82	eP	Pn	04 58 32.9	-8.1
VSR				pmax	pmax		
	comp=N,30nm,1.4s						
VSR				pmax	pmax		
	comp=E,90nm,1.4s						
VSR				pmax	pmax		
	comp=Z,40nm,1.4s						
VORD	Divnogorie	14.53	83	eP	Pn	04 58 34.7	-8.0
VORD				pmax	pmax		
	comp=N,40nm,1.0s						
VORD				pmax	pmax		
	comp=E,20nm,1.0s						
VORD				pmax	pmax		
	comp=Z,20nm,1.0s						
VRHR	Novokhopersk	15.95	81	eP	Pn	04 58 54.2	-7.3
VRHR				pmax	pmax		
	comp=Z,110nm,1.2s						
VRHR				pmax	pmax		
	comp=N,20nm,1.0s						
VRHR				pmax	pmax		
	comp=E,230nm,1.2s						
KLMR	Klimovskoe	15.99	45	eP	Pn	04 58 53.8	-8.1
KLMR				pmax	pmax		
	comp=Z,59nm,1.5s						
BRTR	Keskin Array B	16.93	127	PcP	PcP	05 04 01.1	0.0
	comp=Z,0.1nm,0.3s,baz=284,slow=1.4,SNR=4.9						
GVD	Gavdhos	17.59	158	ePn	Pn	04 59 22.3	0.0
GVD	Gavdhos	17.59	158	ePn	Pn	04 59 22.3	0.0
APA	Apatity	18.26	21	⇑iP	Pn	04 59 26.4	-4.0
APA				iS	Sn	05 02 45.0	-10
APA				MLR	MLR		
	comp=Z,2µm,24.0s						
ESDC	Sonseca Array	18.27	238	P	Pn	04 59 30.2	-0.6
	baz=43,slow=12,SNR=2.8						
ARCES	ARCESS Array B	18.67	10	Pn	P	04 59 30.5	-4.6
	comp=Z,4.1nm,0.3s,baz=192,slow=13,SNR=27						
GOF	Gofitskoye	18.98	99	eP	P	04 59 38.5	-0.2
GOF	Gofitskoye	18.98	99	eP	P	04 59 38.5	-0.2
PRGR	Permogore	19.02	46	P	P	04 59 32.5	-6.5
PRGR				S	Sn	05 03 09.7	-3.3
PRGR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KEV	Kevo	19.06	12	eP	P	04 59 37.7	-1.7
KEV				pmax	pmax		
	comp=Z,18nm,0.5s						
KEV	Kevo	19.06	12	ep	P	04 59 35.1	-4.3
	comp=Z,19nm,0.5s						
KEV	Kevo	19.06	12	eP	P	04 59 37.7	-1.7
	comp=Z,18nm,0.5s						
KEV	Kevo	19.06	12	eP	P	04 59 37.7	-1.7
	comp=Z,18nm,0.5s						
KIV	Kislovodsk	19.32	102	eP	P	04 59 43.1	+0.5
KIV				pmax	pmax		
	comp=E,16nm,1.1s						
KIV	Kislovodsk	19.32	102	eP	P	04 59 43.1	+0.5
CSS	Prodhromos	20.64	136	eP	P	04 59 57.2	+0.3
	comp=E,9.1nm,1.3s						
CSS	Prodhromos	20.64	136	eP	P	04 59 57.2	+0.3
	comp=E,9.1nm,1.3s						
GNI	Garni	22.80	109	⇑eP	P	05 00 20.4	+0.2
GNI				pmax	pmax		

comp=Z,41nm,1.4s
GNI Garni 22.80 109 eP P 05 00 20.9 +0.7
comp=Z,36nm,1.2s
GNI Garni 22.80 109 eP P 05 00 20.9 +0.7
comp=Z,36nm,1.2s
MAK Makhachkala 22.82 100 eP P 05 00 20.9 +0.7
MAK eS S 05 04 29.3 -1.0
MAK pmax pmax
comp=Z,211nm,1.7s
MAK Makhachkala 22.82 100 eP P 05 00 20.9 +0.7
comp=Z,211nm,1.7s
MAK eS S 05 04 29.3 -1.0
SOKR Solikamsk 24.08 54 eP P 05 00 33.7 +1.1
SOKR pmax pmax
comp=Z,50nm,1.0s
SOKR Solikamsk 24.08 54 eP P 05 00 33.7 +1.1
comp=Z,50nm,1.0s
ARU Arti 25.16 62 d iP P 05 00 41.6 -1.0
ARU 05 01 15.3
ARU S S 05 05 07.7 -0.6
ARU pmax pmax
comp=Z,42nm,1.0s
ARU Arti 25.16 62 eP P 05 00 42.1 -0.5
comp=Z,38nm,1.0s
ARU Arti 25.16 62 eP P 05 00 42.1 -0.5
comp=Z,38nm,1.0s
ARU S S 05 05 07.7 -0.6
EIL Elat 25.91 140 LR LR 05 12 10.9
comp=Z,280nm,21.5s,baz=54,slow=39
AKTK Aktyubinsk 26.17 76 P P 05 00 51.8 0.0
AKTO Aktyubinsk 26.17 76 P P 05 00 51.8 0.0
comp=Z,17nm,1.1s,baz=280,slow=8.2,SNR=7.9
SVE Sverdlovsk 26.25 61 ⇓iP P 05 00 52.7 +0.3
SVE pmax pmax
comp=Z,54nm,1.6s
SVE Sverdlovsk 26.25 61 iP P 05 00 52.7 +0.3
comp=Z,54nm,1.6s
SPITS Spitsbergen Ar 26.82 0 P P 05 00 56.9 -0.6
comp=Z,2.8nm,0.5s,baz=149,slow=12,SNR=11
TAM Tamanrasset 29.77 200 eP P 05 01 25.5 +1.2
TAM pmax pmax
comp=Z,7.0nm,1.3s
TAM Tamanrasset 29.77 200 eP P 05 01 25.5 +1.2
comp=Z,7.1nm,1.3s
TAM Tamanrasset 29.77 200 eP P 05 01 25.5 +1.2
comp=Z,7.0nm,1.3s
BRVK Borovoye 32.54 65 d iP P 05 01 49.0 +0.7
BRVK pmax pmax
comp=Z,28nm,1.3s
BRVK Borovoye 32.54 65 eP P 05 01 49.6 +1.3
comp=Z,22nm,1.1s
BRVK Borovoye 32.54 65 iP P 05 01 49.0 +0.7
comp=Z,28nm,1.3s
BVAR Borovoye Array 32.61 66 P P 05 01 49.9 +1.0
comp=Z,7.7nm,0.9s,baz=282,slow=7.4,SNR=10.0
BVAR PP PnPn 05 02 58.6 +2.4
comp=Z,4.7nm,1.0s,baz=270,slow=4.4,SNR=3.8
KURBB Kurchatov Arra 38.20 66 P P 05 02 37.1 +0.1
comp=Z,8.5nm,1.0s,baz=298,slow=8.9,SNR=10
KURBB PP PnPn 05 04 07.2 +1.8
comp=Z,4.4nm,1.1s,baz=292,slow=12,SNR=8.5
KURK Kurchatov 38.21 66 eP P 05 02 36.7 -0.4
KURK 05 04 07.2
KURK pmax pmax
comp=Z,10.0nm,1.1s
KURK Kurchatov 38.21 66 eP P 05 02 36.7 -0.4
comp=Z,9.7nm,1.1s
KURK PP PnPn 05 04 07.2 +1.7
KURK Kurchatov 38.21 66 eP P 05 02 36.7 -0.4
comp=Z,10.0nm,1.1s
NVS Novosibirsk 39.01 58 eP P 05 02 43.4 -0.3
NVS i 05 04 14.8
NVS pmax pmax
comp=N,8.0nm,1.3s
NVS pmax pmax
comp=E,15nm,1.3s
NVS pmax pmax
comp=Z,27nm,1.3s
NVS Novosibirsk 39.01 58 eP P 05 02 43.4 -0.3
EKS2 Erkin-Say 39.33 80 eP P 05 02 47.8 +1.1
EKS2 pmax pmax
comp=Z,8.0nm,1.1s
EKS2 Erkin-Say 39.33 80 eP P 05 02 47.8 +1.1
comp=Z,7.8nm,1.1s
EKS2 Erkin-Say 39.33 80 eP P 05 02 47.8 +1.1
comp=Z,8.0nm,1.1s
AAK Ala-Archa 39.79 79 d eP P 05 02 51.8 +1.2
AAK pmax pmax
comp=Z,79nm,1.5s
AAK Ala-Archa 39.79 79 P P 05 02 50.8 +0.2
comp=Z,20nm,1.1s,baz=329,slow=8.0,SNR=4.7
AAK Ala-Archa 39.79 79 eP P 05 02 52.0 +1.4
comp=Z,23nm,1.1s
AAK Ala-Archa 39.79 79 eP P 05 02 51.8 +1.2
comp=Z,79nm,1.5s
TOA0 Torodi Ar. Sit 39.95 202 eP P 05 02 51.8 -0.2
TOA0 Torodi Ar. Sit 39.95 202 eP P 05 02 51.8 -0.2
TORD Torodi Ar. Bea 39.95 202 P P 05 02 50.4 -1.6
comp=Z,10nm,1.0s,baz=9.6,slow=8.4,SNR=32
TORD PP PP 05 04 18.1 -5.6
comp=Z,2.9nm,0.7s,baz=20,slow=7.4,SNR=3.7
ZAA0 Zalesovo Array 40.23 59 eP P 05 02 54.5 +0.6
ZAA0 Zalesovo Array 40.23 59 eP P 05 02 54.5 +0.6
ZALV Zalesovo Beam 40.23 59 P P 05 02 54.5 +0.6
comp=Z,14nm,1.1s,baz=319,slow=6.5,SNR=14
ZALV PP PP 05 04 24.2 -1.8
comp=Z,2.5nm,0.8s,baz=294,slow=11,SNR=4.1
MK31 Makanchi Array 42.23 69 eP P 05 03 11.7 +1.1
MK31 Makanchi Array 42.23 69 eP P 05 03 11.7 +1.1
MK31 Makanchi Array 42.23 69 eP P 05 03 11.7 +1.1
MKAR Makanchi Array 42.23 69 P P 05 03 11.2 +0.6
comp=Z,3.8nm,1.0s,baz=284,slow=7.0,SNR=6.5
MKAR PP PP 05 04 52.3 +4.4
comp=Z,3.2nm,1.0s,baz=294,slow=8.8,SNR=3.9
KSH Kashi 42.49 82 eP P 05 03 14.3 +1.4
KSH ePP PP 05 04 55.9 +4.9
KSH PcS PcS 05 08 56.0 -1.7
KSH S S 05 09 35.6 -0.3
KSH SS SS 05 12 38.3 -6.4
KSH ScS ScS 05 13 14.7 -1.1
KSH pmax pmax
comp=Z,23nm,1.2s
KSH pmax pmax
comp=Z,240nm,7.5s
KSH LR LR
comp=Z,660nm,10.8s
KSH LR LR
comp=Z,480nm,15.8s
KSH LR LR
comp=Z,3µm,15.8s
WMQ Urumqi 47.06 70 P P 05 03 50.3 +1.2
WMQ pP 05 03 54.8
WMQ sP 05 03 57.3
WMQ PP PP 05 05 40.6 +1.3
WMQ pmax pmax
comp=Z,12nm,1.2s
WMQ pmax pmax
comp=Z,550nm,6.4s
WMQ LR LR
comp=Z,2µm,14.6s
WMQ LR LR
comp=Z,1µm,13.2s
WMQ LR LR
comp=Z,640nm,15.4s
TIXI Tiksi 48.45 23 iP P 05 03 59.3 -0.1
TIXI pmax pmax
comp=Z,3.0nm,1.5s
TIXI Tiksi 48.45 23 iP P 05 03 59.3 -0.1
comp=Z,3.0nm,1.5s
TLY Talaya 51.16 53 eP P 05 04 21.9 +1.5
TLY pmax pmax
comp=Z,5.0nm,1.1s
TLY Talaya 51.16 53 eP P 05 04 21.9 +1.5
comp=Z,5.3nm,1.1s
TLY Talaya 51.16 53 eP P 05 04 21.9 +1.5
comp=Z,5.0nm,1.1s
ZAK Zakamensk 51.75 55 eP P 05 04 23.8 -1.1
ZAK pmax pmax
comp=Z,6.0nm,1.4s
ZAK Zakamensk 51.75 55 eP P 05 04 23.8 -1.1
comp=Z,6.0nm,1.4s
YAK Yakutsk 55.25 32 iP P 05 04 49.2 -1.0
YAK Yakutsk 55.25 32 iP P 05 04 49.2 -1.0
ULN Ulaanbaatar 55.26 55 ⇑iP P 05 04 52.4 +1.6
ULN pmax pmax
comp=Z,5.0nm,1.2s
ULN Ulaanbaatar 55.26 55 eP P 05 04 51.4 +0.5
comp=Z,3.8nm,0.9s
ULN Ulaanbaatar 55.26 55 eP P 05 04 51.3 +0.5
comp=Z,3.8nm,0.9s
LSA Lhasa 58.33 81 eP P 05 05 14.0 +0.8
LSA pmax pmax
comp=Z,15nm,1.1s
LSA Lhasa 58.33 81 eP P 05 05 14.0 +0.8
comp=Z,15nm,1.1s
LSA Lhasa 58.33 81 eP P 05 05 14.0 +0.8
comp=Z,15nm,1.1s
BILL Bilibino 58.75 13 ⇓iP P 05 05 15.7 +0.7
BILL pmax pmax
comp=Z,16nm,1.4s
BILL Bilibino 58.75 13 eP P 05 05 15.2 +0.1
comp=Z,16nm,1.3s
BILL Bilibino 58.75 13 iP P 05 05 15.7 +0.7
comp=Z,16nm,1.4s
YKW3 Yellowknife Ar 59.84 336 eP P 05 05 22.6 0.0
comp=Z,0.4nm,1.1s
YKW3 Yellowknife Ar 59.84 336 eP P 05 05 22.6 0.0
comp=Z,0.4nm,1.1s
YKA Yellowknife Ar 59.90 336 P P 05 05 23.3 +0.3
comp=Z,4.9nm,0.6s,baz=28,slow=7.0,SNR=61
LZH Lanzhou 61.48 67 eP P 05 05 36.2 +1.8
LZH pP pP 05 05 41.2
LZH sP 05 05 44.7
LZH pmax pmax
comp=Z,30nm,1.1s
LZH pmax pmax
comp=Z,120nm,4.3s
FFC Flin Flon 62.31 325 eP P 05 05 39.6 +0.1
FFC pmax pmax
comp=Z,9.0nm,1.2s
FFC Flin Flon 62.31 325 eP P 05 05 39.6 +0.1
comp=Z,8.9nm,1.2s
FFC Flin Flon 62.31 325 eP P 05 05 39.6 +0.1
comp=Z,9.0nm,1.2s
DAWY Dawson 63.23 348 eP P 05 05 45.8 +0.2
DAWY Dawson 63.23 348 eP P 05 05 45.8 +0.2
ILAR Eielson Array 63.35 352 P P 05 05 46.4 +0.1
comp=Z,0.9nm,0.9s,baz=350,slow=7.9,SNR=8.7
MCK McKinley 64.55 353 eP P 05 05 54.2 0.0
MCK pmax pmax
comp=Z,6.0nm,1.1s
MCK McKinley 64.55 353 eP P 05 05 54.2 0.0
comp=Z,6.5nm,1.1s
MCK McKinley 64.55 353 eP P 05 05 54.2 0.0
comp=Z,6.0nm,1.1s
CD2 Chengdu 65.12 71 eP P 05 06 00.2 +1.8
CD2 pP pP 05 06 04.9
CD2 sP 05 06 07.2
CD2 PcP PcP 05 06 33.1 +1.9
CD2 PP PP 05 08 25.2 +4.0
CD2 PcS 05 10 35.8
CD2 S S 05 14 41.2 -0.9
CD2 sS 05 14 47.9
CD2 SKS SKSac 05 15 52.6 -2.1
CD2 SS SS 05 18 54.7 +1.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.4s
XAN Xi'an 65.85 65 P P 05 06 03.5 +0.4
XAN pP pP 05 06 09.1
XAN pmax pmax
comp=Z,3.0nm,1.1s
SPMN St. Paul 65.88 313 ⇓P P 05 06 03.5 +0.5
baz=66
B29A Wagenman Farm, 66.22 319 ⇓P P 05 06 05.8 +0.6
baz=66
A28A Rude Farm, Bot 66.24 320 ⇓P P 05 06 05.1 -0.3
baz=66
B28A Dugan Ranch, T 66.64 320 ⇑P P 05 06 08.7 +0.7
baz=66
D30A Buchanan 67.04 318 ⇓P P 05 06 10.9 +0.4
baz=67
CN2 Changchun 67.17 48 eP P 05 06 13.5 +2.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
EDM Edmonton 67.40 330 eP P 05 06 13.3 +0.6
EDM Edmonton 67.40 330 eP P 05 06 13.3 +0.6
EDM Edmonton 67.40 330 eP P 05 06 13.3 +0.6
A24A Westby 67.70 322 ⇑P P 05 06 15.1 +0.4
baz=68
E29A Napoleon 67.83 318 ⇑P P 05 06 15.9 +0.3
baz=68
C26A Wahner Farm, P 67.84 320 ⇑P P 05 06 16.0 +0.4
baz=68
F30A Leola 68.16 317 ⇑P P 05 06 17.4 -0.3
baz=68
MDJ Mudanjiang 68.41 45 P P 05 06 18.9 -0.3
MDJ pmax pmax
comp=Z,11nm,1.3s
B23A Brockton 68.46 322 ⇓P P 05 06 19.7 +0.3
baz=68
D26A Manning 68.62 320 ⇑P P 05 06 19.7 -0.8
baz=68
ECSD EROS Data Cent 68.76 314 ⇓P P 05 06 20.8 -0.6
baz=68
G30A Faulkton 68.77 317 ⇓P P 05 06 20.8 -0.7
baz=68
D25A Fairfield 68.87 320 ⇓P P 05 06 21.7 -0.4
baz=69
ENH Enshi 68.94 68 eP P 05 06 23.2 +0.4
ENH Enshi 68.94 68 eP P 05 06 23.2 +0.4
B22A Reddig Ranch S 68.97 323 ⇑P P 05 06 22.8 +0.1
baz=69
C24A Savage 69.00 321 ⇓P P 05 06 23.7 +0.8
baz=69
G29A Hoven 69.05 317 ⇓P P 05 06 24.0 +0.8
baz=69
C23A Lambert 69.07 322 ⇓P P 05 06 24.5 +1.2
baz=69
E26A Carlson Angus 69.08 319 ⇓P P 05 06 24.1 +0.7
baz=69
A20A Cobblestone Ra 69.21 324 ⇓P P 05 06 25.0 +0.8
baz=69
D24A Glendive 69.30 321 ⇑P P 05 06 24.9 +0.1
baz=69
F27A Lemmon 69.38 319 ⇓P P 05 06 25.9 +0.7
baz=69
C22A Vida 69.39 322 ⇓P P 05 06 26.1 +0.8
baz=69
E25A Miller Ranch, 69.43 320 ⇓P P 05 06 27.1 +1.4
baz=69
G28A Parade 69.56 318 ⇓P P 05 06 27.2 +0.8
baz=69
D23A Lindsay 69.60 322 ⇓P P 05 06 27.5 +0.9
baz=69
B20A Solberg Farm, 69.61 324 ⇑P P 05 06 27.2 +0.5
baz=69,SNR=7.8
F26A Lodgepole 69.67 319 ⇓P P 05 06 27.2 +0.1
baz=69
C21A Desert Coulee 69.78 323 ⇑P P 05 06 28.6 +0.9
baz=70
USRK Ussuriysk Arra 69.78 44 P P 05 06 28.4 +0.7
comp=Z,7.2nm,1.1s,baz=308,slow=9.4,SNR=4.3
F25A Bowman 69.92 320 ⇑P P 05 06 28.8 +0.1
baz=70
H28A Mission Ridge 69.93 317 ⇓P P 05 06 28.3 -0.4
baz=70
B19A Brinkman Farms 69.94 325 ⇑P P 05 06 28.9 +0.2
baz=70
D22A Cohagen 69.99 322 ⇑P P 05 06 29.1 +0.1
baz=70
G26A Maurine 70.09 319 ⇑P P 05 06 29.1 -0.6
baz=70
GYA Guiyang 70.11 72 eP P 05 06 31.0 +0.9
GYA PP PP 05 09 07.2 +2.4
GYA S S 05 15 40.0 -2.3
GYA SS SS 05 20 11.8 +0.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.5s
GYA LR LR
comp=Z,460nm,19.8s
GYA LR LR
comp=Z,340nm,20.0s
GYA LR LR
comp=Z,450nm,19.0s
C20A Veseth Ranch, 70.21 324 ⇑P P 05 06 31.4 +1.1
baz=70,SNR=8.0
J30A Dallas 70.36 316 ⇓P P 05 06 32.1 +0.8
baz=70
TSUM Tsumeb 70.37 179 eP P 05 06 31.1 -0.4
comp=Z,6.4nm,1.1s
TSUM Tsumeb 70.37 179 eP P 05 06 31.1 -0.4
comp=Z,6.4nm,1.1s
D21A La Casta Ranch 70.37 323 ⇓P P 05 06 32.3 +0.9
baz=70,SNR=5.0
F24A Ekalaka 70.39 320 ⇑P P 05 06 33.1 +1.5
baz=70
LAO LASA Array 70.39 322 eP P 05 06 32.9 +1.4
comp=Z,27nm,1.3s
LAO LASA Array 70.39 322 eP P 05 06 32.9 +1.4
comp=Z,27nm,1.3s
H27A Howes 70.41 318 ⇑P P 05 06 32.0 +0.4
baz=70
E22A Miles City 70.49 322 ⇑P P 05 06 31.9 -0.2
baz=70
G25A Newell 70.51 319 ⇑P P 05 06 33.0 +0.8
baz=70
C19A Slack Wire Ran 70.58 324 ⇓P P 05 06 32.2 -0.5
baz=70
EGMT Eagleton 70.59 325 eP P 05 06 33.8 +1.1
comp=Z,27nm,1.1s
EGMT Eagleton 70.59 325 eP P 05 06 33.8 +1.1
comp=Z,27nm,1.1s
EGMT Eagleton 70.59 325 ⇓P P 05 06 33.4 +0.6
baz=70,SNR=7.3
J29A Okreek 70.65 316 ⇓P P 05 06 33.5 +0.4
baz=70
H26A Fairpoint 70.71 319 ⇓P P 05 06 34.0 +0.5
baz=70
D20A Manuel Ranch, 70.78 323 ⇓P P 05 06 34.9 +1.0
baz=70,SNR=10
G24A Alzada 70.80 320 ⇓P P 05 06 35.2 +1.1
baz=71
F23A Volborg 70.87 321 ⇑P P 05 06 35.1 +0.6
baz=71
K30A Basset 70.93 315 ⇑P P 05 06 34.6 -0.3
baz=71
D19A Cripps Ranch, 71.00 324 ⇑P P 05 06 36.1 +0.9
baz=71
J28A Allard Ranch, 71.03 317 ⇓P P 05 06 35.8 +0.4
baz=71
H25A Fruitdale 71.05 319 ⇑P P 05 06 35.6 +0.1
baz=71
CHTO Chiang Mai 71.10 83 eP P 05 06 36.7 +0.6
CHTO pmax pmax
comp=Z,18nm,1.4s
CHTO Chiang Mai 71.10 83 eP P 05 06 36.7 +0.6
comp=Z,18nm,1.4s
CHTO Chiang Mai 71.10 83 eP P 05 06 36.7 +0.6
comp=Z,18nm,1.4s
F22A Rosebud 71.16 321 ⇓P P 05 06 37.0 +0.8
baz=71
E20A Meyer Farm, Mu 71.27 323 ⇑P P 05 06 37.8 +0.9
baz=71
BGNE Belgrade 71.29 314 ⇓P P 05 06 37.2 +0.2
baz=71
G23A Biddle 71.30 320 ⇑P P 05 06 37.7 +0.6
baz=71
H24A Dirks Ranch, A 71.33 320 ⇑P P 05 06 36.1 -1.2
baz=71
CMAR Chiang Mai Arr 71.37 84 iP P 05 06 38.2 +0.5
CMAR pmax pmax
comp=Z,10.0nm,1.2s
CMAR Chiang Mai Arr 71.37 84 P P 05 06 38.2 +0.5
comp=Z,9.7nm,1.2s,baz=310,slow=6.9,SNR=20
J27A Elkhorn Farm, 71.50 317 ⇑P P 05 06 39.2 +0.9
baz=71
E19A Rath Farm, Rou 71.56 323 ⇑P P 05 06 39.7 +1.1
baz=71
I25A Rochford 71.60 319 ⇓P P 05 06 39.5 +0.5
baz=71
G22A Birney 71.64 321 ⇑P P 05 06 39.2 0.0
baz=71
M31A Lambtecht Ranc 71.72 314 ⇓P P 05 06 40.4 +0.8
baz=72
G21A Lodge Grass 71.99 322 ⇓P P 05 06 42.4 +1.1
baz=72
F19A Roth Farm, Mol 72.13 323 ⇓P P 05 06 43.2 +1.1
baz=72,SNR=9.2
BLMT Blacktail Moun 72.21 328 eP P 05 06 43.8 +1.1
BLMT Blacktail Moun 72.21 328 eP P 05 06 43.8 +1.1
YBMT Yellow Bay 72.22 327 eP P 05 06 42.8 +0.1
comp=Z,5.5nm,1.1s
YBMT Yellow Bay 72.22 327 eP P 05 06 42.8 +0.1
comp=Z,5.5nm,1.1s
O32A Brockman Farm, 72.27 313 ⇑P P 05 06 42.9 0.0
baz=72
G20A Bridger 72.38 322 ⇑P P 05 06 44.9 +1.2
baz=72,SNR=9.6
M29A Burnside Ranch 72.40 315 ⇓P P 05 06 45.0 +1.3
baz=72
JTMT Jette 72.41 327 eP P 05 06 44.0 +0.2
JTMT Jette 72.41 327 eP P 05 06 44.0 +0.2
H21A Big Horn, Sher 72.42 321 ⇑P P 05 06 44.7 +0.8
baz=72
HRY Holter Researc 72.45 325 eP P 05 06 44.6 +0.6
HRY Holter Researc 72.45 325 eP P 05 06 44.6 +0.6
BSMT Bassoo Peak 72.49 328 eP P 05 06 45.2 +0.9
BSMT Bassoo Peak 72.49 328 eP P 05 06 45.2 +0.9
SWMT Swartz Lake 72.52 327 eP P 05 06 45.2 +0.8
SWMT Swartz Lake 72.52 327 eP P 05 06 45.2 +0.8
SLMT Seeley Lake 72.58 327 eP P 05 06 45.2 +0.4
SLMT Seeley Lake 72.58 327 eP P 05 06 45.2 +0.4
I22A 9 Mile Ranch, 72.82 320 ⇓P P 05 06 47.1 +0.8
baz=73,SNR=6.3
O31A Woolen Ranch, 72.83 314 ⇓P P 05 06 47.2 +1.0
baz=73
NJ2 Nanjing 72.86 60 eP P 05 06 48.6 +2.1
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NEW Newport 72.89 329 eP P 05 06 47.3 +0.7
NEW pmax pmax
comp=Z,60nm,2.3s
NEW Newport 72.89 329 eP P 05 06 47.2 +0.7
comp=Z,60nm,2.3s
NEW Newport 72.89 329 eP P 05 06 47.2 +0.7
comp=Z,60nm,2.3s
NEW Newport 72.89 329 ⇓P P 05 06 47.6 +1.1
baz=73
H20A Greybull 72.92 322 ⇓P P 05 06 47.7 +0.8
baz=73
M27A Reverse DX Ran 73.07 316 ⇓P P 05 06 49.8 +2.1
baz=73
Q33A Connelly Farm, 73.07 312 ⇑P P 05 06 48.1 +0.5
baz=73
MSO Missoula 73.09 327 eP P 05 06 48.3 +0.5
comp=Z,18nm,1.3s
MSO Missoula 73.09 327 eP P 05 06 48.3 +0.5
comp=Z,18nm,1.3s
MSO Missoula 73.09 327 ⇑P P 05 06 48.5 +0.7
baz=73
O30A MW Ranch, Wils 73.14 314 ⇓P P 05 06 49.1 +0.9
baz=73
H19A Powell 73.14 322 ⇑P P 05 06 49.4 +1.2
baz=73,SNR=7.7
I21A Big Trails, Te 73.20 321 ⇑P P 05 06 48.7 +0.1
baz=73,SNR=5.6
J22A Midwest 73.22 320 ⇑P P 05 06 48.9 +0.2
baz=73,SNR=5.0
KSAR Wonju Array Be 73.29 51 P P 05 06 48.6 -0.4
KSAR Wonju Array Be 73.29 51 P P 05 06 48.6 -0.4
KSAR Wonju Array Be 73.29 51 P P 05 06 48.6 -0.4
BOZ Bozeman (W) 73.29 325 eP P 05 06 49.7 +0.6
BOZ pmax pmax
comp=Z,16nm,1.2s
BOZ Bozeman (W) 73.29 325 eP P 05 06 49.7 +0.6
comp=Z,16nm,1.2s
BOZ Bozeman (W) 73.29 325 eP P 05 06 49.7 +0.6
comp=Z,16nm,1.2s
KSRS Korea Array 73.30 50 P P 05 06 48.6 -0.4
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS Korea Array 73.30 50 P P 05 06 48.6 -0.4
comp=Z,2.2nm,0.8s,baz=332,slow=3.6,SNR=7.3
P31A Stockton 73.36 313 ⇓P P 05 06 50.5 +1.1
baz=73
N28A Pribbeno Ranch 73.39 315 ⇑P P 05 06 50.9 +1.3
baz=73
H18A Shoshone NF, C 73.39 323 ⇓P P 05 06 50.9 +1.1
baz=73,SNR=5.9
Q32A Meitler Ranch, 73.41 312 ⇓P P 05 06 50.2 +0.4
baz=73
I20A Worland 73.42 321 ⇑P P 05 06 50.5 +0.7
baz=73
K23A Bowen Ranch, D 73.42 319 ⇓P P 05 06 50.5 +0.7
baz=73
LRM Limekiln Ridge 73.44 325 eP P 05 06 51.2 +1.2

LRM	Limekiln Ridge	73.44	325	eP	P	05 06 51.2	+1.2
O29A	4D Ranch, Culb	73.51	315	⇓P	P	05 06 51.0	+0.7
	baz=73						
J21A	Lysite	73.66	321	⇑P	P	05 06 51.4	+0.1
	baz=73						
C09A	Chrisman Ranch	73.67	330	eP	P	05 06 51.8	+0.7
	comp=Z,6.9nm,0.6s						
C09A	Chrisman Ranch	73.67	330	eP	P	05 06 51.8	+0.7
	comp=Z,6.9nm,0.6s						
I19A	Meeteetse	73.68	322	⇓P	P	05 06 52.4	+1.0
	baz=73,SNR=6.6						
P30A	Selden	73.74	314	⇑P	P	05 06 52.7	+1.1
	baz=74						
K22A	Casper	73.87	320	eP	P	05 06 53.1	+0.6
K22A	Casper	73.87	320	eP	P	05 06 53.2	+0.6
K22A	Casper	73.87	320	⇑P	P	05 06 52.4	-0.2
	baz=74						
DLMT	Dillon	73.89	325	eP	P	05 06 53.7	+1.2
	comp=Z,14nm,1.0s						
DLMT	Dillon	73.89	325	eP	P	05 06 53.7	+1.2
	comp=Z,14nm,1.0s						
J20A	Shoshoni	73.90	321	⇑P	P	05 06 54.3	+1.6
	baz=74,SNR=6.9						
QLMT	Earthquake Lak	73.92	324	eP	P	05 06 54.9	+2.1
QLMT	Earthquake Lak	73.92	324	eP	P	05 06 54.9	+2.1
R32A	Long Quarter,	73.94	312	⇑P	P	05 06 53.2	+0.3
	baz=74						
O28A	Krutsinger Ran	73.95	315	⇑P	P	05 06 53.0	+0.1
	baz=74						
H17A	Grant Village	73.98	323	eP	P	05 06 56.3	+3.1
H17A	Grant Village	73.98	323	⇑P	P	05 06 55.3	+2.1
	baz=74,SNR=7.7						
L23A	Garrett	73.98	319	⇑P	P	05 06 54.0	+0.7
	baz=74						
P29A	Atwood	74.00	314	⇑P	P	05 06 53.9	+0.6
	baz=74						
K21A	Alcova	74.18	320	⇑P	P	05 06 54.8	+0.5
	baz=74						
O27A	Beecher Island	74.20	316	⇓P	P	05 06 54.8	+0.3
	baz=74						
ATTU	Attu Island--F	74.25	14	eP	P	05 06 55.3	+1.0
FX1	Attu Island--F	74.25	14	eP	P	05 06 55.3	+1.0
FX1	Attu Island--F	74.25	14	eP	P	05 06 55.3	+1.0
FX1	Attu Island--F	74.25	14	eP	P	05 06 55.3	+1.0
FLWY	Flagg Ranch	74.29	323	eP	P	05 06 57.1	+2.1
	comp=Z,93nm,2.6s						
FLWY	Flagg Ranch	74.29	323	eP	P	05 06 57.1	+2.1
	comp=Z,93nm,2.6s						
L22A	Ellis Ranch, M	74.35	319	⇓P	P	05 06 55.2	-0.2
	baz=74						
J19A	Crowheart	74.36	322	⇓P	P	05 06 55.5	+0.1
	baz=74						
I17A	Pilgrim Ck.	74.38	323	⇓P	P	05 06 56.5	+1.0
	baz=74						
P28A	Saint Francis	74.39	315	⇑P	P	05 06 56.4	+0.9
	baz=74						
R31A	Burdett	74.43	313	⇑P	P	05 06 56.0	+0.3
	baz=74						
MCMT	McKenzie Canyo	74.44	325	eP	P	05 06 56.8	+0.9
	comp=Z,2.4nm,1.0s						
MCMT	McKenzie Canyo	74.44	325	eP	P	05 06 56.8	+0.9
	comp=Z,2.4nm,1.0s						
O26A	Horse Wrangler	74.52	316	⇓P	P	05 06 56.2	-0.1
	baz=74						
D08A	Wollman Farm,	74.53	330	eP	P	05 06 57.2	+1.1
	comp=Z,34nm,1.4s						
D08A	Wollman Farm,	74.53	330	eP	P	05 06 57.2	+1.1
	comp=Z,34nm,1.4s						
M23A	Laramie	74.53	319	⇓P	P	05 06 56.0	-0.5
	baz=74						
TUL1	Tulsa	74.56	309	⇓P	P	05 06 56.6	+0.1
	baz=74						
MOOW	Moose Ponds	74.59	323	eP	P	05 06 58.6	+1.8
	comp=Z,16nm,1.3s						
MOOW	Moose Ponds	74.59	323	eP	P	05 06 58.6	+1.8
	comp=Z,16nm,1.3s						
Q29A	Oakley	74.60	314	⇓P	P	05 06 56.0	-0.7
	baz=74						
E09A	Wood Farm, Sta	74.77	329	eP	P	05 06 57.8	+0.3
	comp=Z,22nm,1.1s						
E09A	Wood Farm, Sta	74.77	329	eP	P	05 06 57.8	+0.3
	comp=Z,22nm,1.1s						
P27A	Ficken Ranch,	74.77	315	⇑P	P	05 06 56.5	-1.3
	baz=74						
R30A	Dighton	74.78	313	⇓P	P	05 06 57.6	-0.1
	baz=75						
T33A	Patterson Ranc	74.80	311	⇓P	P	05 06 57.3	-0.6
	baz=75						
Q28A	Sharon Springs	74.84	315	⇓P	P	05 06 58.8	+0.6
	baz=75						
M22A	Cedar Creek Ra	74.94	319	⇓P	P	05 06 59.2	+0.3
	baz=75						
F10A	Beach Ranch, E	74.94	328	eP	P	05 06 58.9	+0.3
	comp=Z,13nm,1.3s						
F10A	Beach Ranch, E	74.94	328	eP	P	05 06 58.9	+0.3
	comp=Z,13nm,1.3s						
BW06	Boulder Array	74.97	322	eP	P	05 06 59.2	+0.1
	comp=Z,4.0nm,1.0s						
BW06	Boulder Array	74.97	322	eP	P	05 06 59.2	+0.1
	comp=Z,4.0nm,1.0s						
PDAR	Pinedale Array	74.97	322	P	P	05 06 59.2	+0.2
	comp=Z,2.0nm,0.7s,baz=61,slow=6.6,SNR=20						
O25A	Wiggins	74.98	317	⇑P	P	05 07 00.4	+1.4
	baz=75						
P26A	Davis Ranch, A	75.10	316	⇑P	P	05 07 01.6	+1.9
	baz=75						
KSCO	Kaye Shedlock'	75.24	315	⇓P	P	05 07 01.3	+0.8
	baz=75						
E07A	Sunnyside	75.27	330	eP	P	05 07 01.8	+1.4
	comp=Z,14nm,1.1s						
E07A	Sunnyside	75.27	330	eP	P	05 07 01.8	+1.4
	comp=Z,14nm,1.1s						
HAWA	Hanford	75.31	330	eP	P	05 07 02.0	+1.4
	comp=Z,10nm,1.1s						
HAWA	Hanford	75.31	330	eP	P	05 07 02.0	+1.4
	comp=Z,10nm,1.1s						
S30A	Montezuma	75.38	313	⇓P	P	05 07 02.0	+0.7
	baz=75						
N22A	Wattenberg Ran	75.39	319	⇓P	P	05 07 01.6	+0.1
	baz=75						
R28A	Tribune	75.42	314	⇑P	P	05 07 02.2	+0.6
	baz=75						
V34A	Guthrie	75.46	310	⇑P	P	05 07 01.9	+0.2
	baz=75						
P25A	Willow Gulch B	75.50	316	⇑P	P	05 07 03.5	+1.5
	baz=75						
O23A	Lake Granby, G	75.66	318	⇑P	P	05 07 03.3	+0.2
	baz=75						
S29A	Ulysses	75.70	313	⇑P	P	05 07 04.4	+1.3
	baz=76						
Q26A	Hugo	75.70	316	⇓P	P	05 07 03.6	+0.4
	baz=76						
V33A	Lossen Ranch,	75.84	310	⇑P	P	05 07 04.6	+0.8
	baz=76						
R27A	Eads	75.91	315	⇑P	P	05 07 04.9	+0.6
	baz=76						
BMO	Blue Mountains	75.96	328	eP	P	05 07 04.5	0.0
	comp=Z,51nm,1.4s						
BMO	Blue Mountains	75.96	328	eP	P	05 07 04.5	0.0
	comp=Z,51nm,1.4s						
O22A	Kremmling	75.96	318	⇑P	P	05 07 05.9	+1.0
	baz=76						
Q25A	Bedland, Calha	76.03	316	⇓P	P	05 07 06.8	+1.7
	baz=76						
S28A	Manter	76.08	314	⇑P	P	05 07 06.7	+1.4
	baz=76						
HLID	Hailey	76.09	325	eP	P	05 07 06.7	+1.3
	comp=Z,14nm,1.4s						
HLID	Hailey	76.09	325	eP	P	05 07 06.7	+1.3
	comp=Z,14nm,1.4s						
HLID	Hailey	76.09	325	⇓P	P	05 07 06.8	+1.4
	baz=76						
N20A	Spence Gulch,	76.10	320	⇑P	P	05 07 07.2	+1.6
	baz=76,SNR=12						
R26A	Arlington	76.19	315	⇑P	P	05 07 07.6	+1.7
	baz=76						
V32A	Arapaho	76.28	311	⇓P	P	05 07 08.6	+2.2
	baz=76						
P23A	Jefferson	76.33	317	⇓P	P	05 07 09.0	+2.1
	baz=76						
P22A	Eagle	76.53	318	⇑P	P	05 07 09.5	+1.5
	baz=76,SNR=7.4						
T28A	Walsh	76.56	314	⇓P	P	05 07 10.2	+2.1
	baz=76						
O20A	White River Ci	76.68	319	eP	P	05 07 09.9	+1.1
O20A	White River Ci	76.68	319	eP	P	05 07 09.9	+1.1
O20A	White River Ci	76.68	319	⇓P	P	05 07 09.7	+0.9
	baz=76						
G06A	Carlson Farm,	76.69	330	eP	P	05 07 10.7	+2.1
	comp=Z,23nm,1.3s						
G06A	Carlson Farm,	76.69	330	eP	P	05 07 10.7	+2.1
	comp=Z,23nm,1.3s						
MFID	Camas Ranch	76.72	326	eP	P	05 07 09.7	+0.8
	comp=Z,11nm,1.3s						
MFID	Camas Ranch	76.72	326	eP	P	05 07 09.6	+0.8
	comp=Z,11nm,1.3s						
HWUT	Hardware Ranch	76.74	322	eP	P	05 07 09.9	+0.8
	comp=Z,12nm,1.1s						
HWUT	Hardware Ranch	76.74	322	eP	P	05 07 09.9	+0.8
	comp=Z,12nm,1.1s						
R24A	Sanders Place,	76.97	316	⇓P	P	05 07 11.5	+1.0
	baz=77						
HVU	Hansel Valley	77.05	323	eP	P	05 07 12.6	+1.8
HVU				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HVU	Hansel Valley	77.05	323	eP	P	05 07 12.6	+1.8
	comp=Z,6.6nm,1.1s						
HVU	Hansel Valley	77.05	323	eP	P	05 07 12.6	+1.8
	comp=Z,7.0nm,1.1s						
S25A	Robets Cordova	77.15	315	⇓P	P	05 07 12.7	+1.2
	baz=77						
T26A	Comanche Natio	77.18	315	⇓P	P	05 07 13.1	+1.5
	baz=77						
NATX	Nacogdoches	77.31	305	eP	P	05 07 11.1	-1.1
NATX	Nacogdoches	77.31	305	eP	P	05 07 11.1	-1.1
R23A	Moffat	77.31	317	⇓P	P	05 07 13.3	+0.8
	baz=77						
I07A	Izee	77.37	329	eP	P	05 07 13.9	+1.4
I07A	Izee	77.37	329	eP	P	05 07 13.9	+1.4
U27A	Thompson Grove	77.46	314	⇑P	P	05 07 14.4	+1.3
	baz=77						
S24A	Houchin Ranch,	77.51	316	⇓P	P	05 07 14.9	+1.3
	baz=77						
G03D	McMinnville, O	77.51	332	⇑P	P	05 07 15.2	+2.1
	baz=77						
SDCO	Great Sand Dun	77.54	316	eP	P	05 07 14.5	+0.7
	comp=Z,8.0nm,1.4s						
SDCO	Great Sand Dun	77.54	316	eP	P	05 07 14.5	+0.7
	comp=Z,8.0nm,1.4s						
JLU	Jordanelle	77.56	322	eP	P	05 07 16.1	+2.2
JLU	Jordanelle	77.56	322	eP	P	05 07 16.0	+2.2
T25A	Trinidad	77.57	315	⇑P	P	05 07 14.9	+1.0
	baz=77						
CTU	Camp Tracy	77.60	322	eP	P	05 07 15.5	+1.6
	comp=Z,12nm,1.3s						
CTU	Camp Tracy	77.60	322	eP	P	05 07 15.5	+1.6
	comp=Z,12nm,1.3s						
BGU	Big Grassy Mou	77.88	323	eP	P	05 07 17.1	+1.6
	comp=Z,9.9nm,1.2s						
BGU	Big Grassy Mou	77.88	323	eP	P	05 07 17.1	+1.6
	comp=Z,9.9nm,1.2s						
U26A	Atchley Ranch,	77.90	314	⇑P	P	05 07 16.9	+1.2
	baz=78						
T24B	San Luis	78.06	316	⇑P	P	05 07 18.4	+1.7
	baz=78,SNR=6.1						
S22A	4UR Ranch, Cre	78.11	317	⇑P	P	05 07 18.6	+1.6
	baz=78,SNR=7.1						
MPU	Maple Canyon	78.13	322	eP	P	05 07 18.4	+1.5
MPU	Maple Canyon	78.13	322	eP	P	05 07 18.4	+1.5
X30A	Coker Ranch, T	78.19	311	⇓P	P	05 07 18.8	+1.7
	baz=78						
U25A	Circle Dot Ran	78.19	315	⇓P	P	05 07 18.2	+0.9
	baz=78,SNR=5.2						
Y31A	Rekieta Farm,	78.29	310	⇓P	P	05 07 18.4	+0.7
	baz=78						
NLU	North Lily Min	78.36	322	eP	P	05 07 20.3	+2.1
NLU	North Lily Min	78.36	322	eP	P	05 07 20.3	+2.1
134A	White-Moore Ra	78.37	308	⇑P	P	05 07 18.6	+0.5
	baz=78						
T23A	Casias Ranch,	78.37	316	⇓P	P	05 07 19.3	+0.9
	baz=78						
V26A	Tequesquite Ra	78.41	314	⇑P	P	05 07 18.1	-0.3
	baz=78						
DUG	Dugway	78.43	323	eP	P	05 07 20.1	+1.6
DUG				pmax	pmax		
	comp=Z,14nm,1.1s						
DUG	Dugway	78.43	323	eP	P	05 07 20.1	+1.6
	comp=Z,14nm,1.1s						
DUG	Dugway	78.43	323	eP	P	05 07 20.1	+1.6
	comp=Z,14nm,1.1s						
DUG	Dugway	78.43	323	⇓P	P	05 07 19.7	+1.2
	baz=78						
PV04	Paradox Valley	78.43	319	eP	P	05 07 20.3	+1.7
PV04	Paradox Valley	78.43	319	eP	P	05 07 20.3	+1.7
Z32A	Haskell	78.45	310	⇓P	P	05 07 18.9	+0.4
	baz=78						
SRU	San Rafael	78.48	320	eP	P	05 07 20.0	+1.2
SRU	San Rafael	78.48	320	eP	P	05 07 19.9	+1.2
SRU	San Rafael	78.48	320	eP	P	05 07 20.0	+1.2
I04A	Tendick Farm,	78.54	331	⇓P	P	05 07 19.6	+0.6
	baz=78						
WVOR	Wild Horse Val	78.55	328	eP	P	05 07 20.2	+1.1
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WVOR	Wild Horse Val	78.55	328	eP	P	05 07 20.1	+1.1
	comp=Z,9.1nm,1.2s						
WVOR	Wild Horse Val	78.55	328	eP	P	05 07 20.1	+1.0
	comp=Z,9.1nm,1.2s						
U24A	Moreno Valley	78.56	315	⇑P	P	05 07 20.0	+0.5
	baz=78						
J05D	Fort Rock, OR	78.64	330	⇓P	P	05 07 21.9	+2.3
	baz=78						
ELK	Elko	78.86	324	eP	P	05 07 23.0	+2.0
ELK	Elko	78.86	324	eP	P	05 07 23.0	+2.0
ELK	Elko	78.86	324	eP	P	05 07 23.0	+2.0
K05A	Summer Lake	79.03	329	eP	P	05 07 23.8	+2.0
K05A	Summer Lake	79.03	329	eP	P	05 07 23.8	+2.0
U23A	El Rito	79.03	316	⇓P	P	05 07 23.4	+1.4
	baz=79						
Y29A	Porterfield Fa	79.04	311	⇓P	P	05 07 23.7	+1.8
	baz=79						
V24A	Rampart Ranch,	79.13	315	⇑P	P	05 07 23.7	+1.1
	baz=79						
W25A	X Bar L Ranch,	79.20	314	⇓P	P	05 07 22.6	-0.2
	baz=79						
233A	Rising Star	79.22	308	⇓P	P	05 07 23.6	+0.8
	baz=79						
MVCO	Mesa Verde	79.27	318	⇑P	P	05 07 24.4	+1.1
	baz=79						
Y28A	McKinney Farm,	79.27	312	⇓P	P	05 07 23.7	+0.5
	baz=79						
U22A	Llaves	79.28	316	⇑P	P	05 07 25.3	+1.9
	baz=79,SNR=6.2						
131A	Roby	79.41	310	⇑P	P	05 07 24.5	+0.6
	baz=79						
334A	Lometa	79.45	308	⇓P	P	05 07 25.0	+0.9
	baz=79						
MOD	Modoc	79.58	328	eP	P	05 07 26.4	+1.6
	comp=Z,23nm,1.3s						
MOD	Modoc	79.58	328	eP	P	05 07 26.4	+1.6
	comp=Z,23nm,1.3s						
W24A	Lazy 6 Ranch,	79.63	315	⇓P	P	05 07 26.9	+1.7
	baz=79						
MVU	Marysvale	79.67	321	eP	P	05 07 27.1	+1.7
MVU	Marysvale	79.67	321	eP	P	05 07 27.1	+1.7
232A	Coleman	79.69	309	⇓P	P	05 07 26.3	+0.9
	baz=80						
V22A	San Miguel Ran	79.69	316	⇑P	P	05 07 27.3	+1.7
	baz=80						
333A	Richland Sprin	79.83	308	⇓P	P	05 07 26.4	+0.2
	baz=80						
536A	Bastrop	79.88	306	⇑P	P	05 07 27.0	+0.6
	baz=80						
434A	Burnet	79.89	307	⇓P	P	05 07 27.0	+0.5
	baz=80						
231A	Bronte	79.98	309	⇓P	P	05 07 27.3	+0.4
	baz=80						
Y26A	Elida	79.99	313	⇓P	P	05 07 27.4	+0.3
	baz=80						
BOSA	Boshof	80.14	172	eP	P	05 07 26.4	-1.2
BOSA				pmax	pmax		
	comp=Z,66nm,1.6s						
BOSA	Boshof	80.14	172	eP	P	05 07 26.4	-1.2
	comp=Z,66nm,1.6s						
BOSA	Boshof	80.14	172	eP	P	05 07 26.4	-1.2
	comp=Z,66nm,1.6s						
129A	Stewart Farms,	80.15	311	⇑P	P	05 07 28.8	+0.8
	baz=80						
332A	Millersview	80.15	309	⇑P	P	05 07 28.5	+0.6
	baz=80						
M04C	Macdoel	80.18	329	⇓P	P	05 07 28.3	+0.3
	baz=80						
Z27A	Tatum	80.21	312	⇓P	P	05 07 28.7	+0.4
	baz=80						
ANMO	Albuquerque	80.31	315	eP	P	05 07 30.3	+1.4
ANMO	Albuquerque	80.31	315	eP	P	05 07 30.3	+1.4
ANMO	Albuquerque	80.31	315	eP	P	05 07 30.3	+1.4
433A	Art	80.34	308	⇓P	P	05 07 29.1	+0.1
	baz=80						
Y25A	Mesa, Roswell	80.38	314	⇑P	P	05 07 29.7	+0.5
	baz=80						
L02D	Cave Junction,	80.39	331	⇑P	P	05 07 29.7	+0.7
	baz=80						
230A	Sterling City	80.40	310	⇑P	P	05 07 30.4	+1.1
	baz=80						
128A	Castleberry Fa	80.45	311	⇓P	P	05 07 30.4	+0.8
	baz=80						
432A	Menard	80.59	308	⇓P	P	05 07 31.1	+0.8
	baz=80						
Z26A	Caprock	80.60	313	⇓P	P	05 07 32.1	+1.7
	baz=80						
534A	Blanco	80.63	307	⇓P	P	05 07 31.6	+1.1
	baz=80						
Y24A	Capitan	80.72	314	⇑P	P	05 07 32.6	+1.5
	baz=80						
Z25A	Roswell	80.93	313	⇑P	P	05 07 33.9	+1.7
	baz=81						
CCUT	Cedar City	80.94	322	eP	P	05 07 34.1	+1.8
CCUT	Cedar City	80.94	322	eP	P	05 07 34.1	+1.8
Y23A	Lovelace Mesa,	80.99	315	⇑P	P	05 07 34.0	+1.5
	baz=81						
R11A	Troy Canyon, C	81.09	324	⇓P	P	05 07 34.6	+1.6
	baz=81						
SDV	Santo Domingo	81.09	273	eP	P	05 07 31.4	-1.9
SDV	Santo Domingo	81.09	273	eP	P	05 07 31.4	-1.9
126A	Clayton Basin,	81.14	312	⇑P	P	05 07 34.1	+0.8
	baz=81						
329A	Wagon Wheel Ra	81.15	310	⇑P	P	05 07 33.7	+0.4
	baz=81						
431A	Sonora	81.15	309	⇓P	P	05 07 34.3	+1.0
	baz=81						
Z24A	Sheeppen Canyo	81.18	314	⇑P	P	05 07 34.6	+0.9
	baz=81						
Y22D	IRIS PASSCAL I	81.25	315	⇑P	P	05 07 35.4	+1.5
	baz=81						
227A	Bennet, Jal	81.33	312	⇓P	P	05 07 35.9	+1.6
	baz=81						
430A	Baggett Ranch,	81.37	309	⇓P	P	05 07 35.6	+1.1
	baz=81						
125A	Gardner Draw,	81.42	313	⇑P	P	05 07 35.6	+0.8
	baz=81						
U15A	North Rim	81.50	320	⇑P	P	05 07 36.5	+1.2
	baz=81						
531A	Rocksprings	81.54	309	⇓P	P	05 07 36.3	+0.9
	baz=81						
328A	Wristen Ranch,	81.63	311	⇑P	P	05 07 36.4	+0.6
	baz=81						
226B	Tecolote Peak,	81.68	312	⇓P	P	05 07 36.6	+0.4
	baz=82						
WUAZ	Wupatki	81.91	319	eP	P	05 07 39.4	+2.0
WUAZ	Wupatki	81.91	319	eP	P	05 07 39.4	+2.0
WUAZ	Wupatki	81.91	319	⇑P	P	05 07 38.2	+0.8
	baz=82						
530A	J-C Ranch, Com	81.94	309	⇓P	P	05 07 38.0	+0.5
	baz=82						
Z22A	Elephant Butte	81.96	315	⇓P	P	05 07 38.0	+0.3
	baz=82						
NVAR	Mina Array Bea	82.00	325	P	P	05 07 38.5	+0.6
	comp=Z,3.6nm,1.1s,baz=36,slow=3.8,SNR=11						
326A	Caldwell Ranch	82.23	312	⇑P	P	05 07 39.2	+0.1
	baz=82						
427A	Hayter Ranch,	82.35	311	⇓P	P	05 07 40.5	+0.8
	baz=82						
833A	Chaparral WMA,	82.48	307	⇓P	P	05 07 41.9	+1.7
	baz=82						
KULM	Kulim	82.49	91	eP	P	05 07 40.3	-0.2
	comp=Z,14nm,1.1s						
KULM	Kulim	82.49	91	eP	P	05 07 40.3	-0.2
	comp=Z,14nm,1.1s						
MNTX	Cornudas Mount	82.56	313	eP	P	05 07 40.7	0.0
MNTX	Cornudas Mount	82.56	313	eP	P	05 07 40.7	0.0
934A	Benavides	82.63	306	⇓P	P	05 07 43.1	+2.1
	baz=82						
426A	McDonald Obser	82.80	311	⇑P	P	05 07 43.5	+1.3
	baz=83						
832A	Faith Ranch, C	82.81	307	⇑P	P	05 07 42.9	+1.0
	baz=83						
X16A	Lo Mia Camp, P	82.89	319	⇑P	P	05 07 44.1	+1.6
	baz=83						
MLAC	Mammoth Lakes	82.91	326	⇑P	P	05 07 42.8	+0.1
	baz=83						
GRAC	Grapevine Rang	82.94	324	⇓P	P	05 07 43.8	+1.2
	baz=83						
121A	Cookes Peak, D	82.94	315	⇑P	P	05 07 43.1	+0.3
	baz=83						
035A	Encino	82.96	305	⇑P	P	05 07 42.3	-0.5
	baz=83						
527A	Woodward Ranch	83.04	311	⇑P	P	05 07 44.5	+1.2
	baz=83						
425A	Indio Mountain	83.15	312	⇑P	P	05 07 44.2	+0.3
	baz=83						
034A	Hebbronville	83.15	305	⇑P	P	05 07 45.9	+2.1
	baz=83						
628A	Black Gap, Mar	83.24	310	⇓P	P	05 07 44.5	+0.2
	baz=83						
W13A	Hualapai Mount	83.28	321	⇑P	P	05 07 45.8	+1.1
	baz=83						
526A	Mary Lane Ranc	83.33	311	⇓P	P	05 07 45.2	+0.3
	baz=83						
SHOC	Shoshone	83.51	323	⇑P	P	05 07 46.6	+1.1
	baz=83						
627A	Terlingua Ranc	83.51	310	⇓P	P	05 07 46.7	+0.9
	baz=83						
TXAR	Lajitas Array	83.74	310	P	P	05 07 47.0	+0.1
	comp=Z,4.5nm,1.2s,baz=55,slow=4.8,SNR=6.6						
626A	Big Bend Ranch	83.78	311	⇑P	P	05 07 48.5	+1.4
	baz=84						
TUQ	Turquoise Moun	83.78	322	⇓P	P	05 07 47.5	+0.4
	baz=84						
LDFC	Landfair	83.78	322	eP	P	05 07 48.5	+1.5
	comp=Z,22nm,1.1s						
LDFC	Landfair	83.78	322	eP	P	05 07 48.5	+1.5
	comp=Z,22nm,1.1s						
Y14A	Wickenburg	83.94	320	⇓P	P	05 07 49.0	+1.2
	baz=84						
PDMCI	Parker Dam,Lak	84.08	321	⇓P	P	05 07 49.2	+0.7
	baz=84						
RCTC	Rector, Farmer	84.23	325	⇑P	P	05 07 49.5	+0.4
	baz=84						
GSC	Goldstone	84.23	323	⇑P	P	05 07 51.3	+2.0
	baz=84						
GMRC	Granite Mounta	84.26	322	⇓P	P	05 07 51.3	+1.8
	baz=84						
LRMC	Laurel Mountai	84.41	324	⇓P	P	05 07 52.1	+1.9
	baz=84						
Z14A	Wintersburg	84.42	319	⇓P	P	05 07 52.6	+2.4
	baz=84						
TUC	Tucson	84.43	317	eP	P	05 07 51.7	+1.3
TUC				pmax	pmax		
	comp=Z,8.0nm,1.3s						
TUC	Tucson	84.43	317	eP	P	05 07 51.7	+1.3
	comp=Z,8.3nm,1.3s						
TUC	Tucson	84.43	317	eP	P	05 07 51.7	+1.3
	comp=Z,8.0nm,1.3s						
HEC	Hector,Ludlow	84.47	322	⇓P	P	05 07 52.4	+1.8
	baz=84						
ISA	Isabella	84.53	324	eP	P	05 07 52.4	+1.6
ISA	Isabella	84.53	324	eP	P	05 07 52.4	+1.6
ISA	Isabella	84.53	324	eP	P	05 07 52.4	+1.6
ISA	Isabella	84.53	324	⇓P	P	05 07 53.5	+2.6
	baz=84						
319A	Douglas	84.58	316	⇓P	P	05 07 53.0	+1.8
	baz=84						
VES	Vestal, Richgr	84.59	325	⇓P	P	05 07 53.2	+2.2
	baz=84						
IRM	Iron Mountain	84.61	321	⇓P	P	05 07 53.5	+2.3
	baz=84						
Y12C	Blythe	84.72	321	⇑P	P	05 07 53.9	+2.2
	baz=84						
EDW2	Edwards Air Fo	85.05	324	⇓P	P	05 07 55.6	+2.1
	baz=85						
BC3	Big Chuckawall	85.17	321	⇓P	P	05 07 55.4	+1.3
	baz=85						
113A	Mohawk Valley,	85.27	320	⇓P	P	05 07 56.3	+1.8
	baz=85						
OTAV	Otavalo	92.66	274	eP	P	05 08 32.0	+1.6
	comp=Z,8.4nm,1.3s						
OTAV	Otavalo	92.66	274	eP	P	05 08 32.0	+1.6
	comp=Z,8.4nm,1.3s						
ASAR	Alice Springs	125.38	84	PKP	PKPdf	05 14 17.2	-1.5
	comp=Z,1.4nm,1.0s,baz=346,slow=1.6,SNR=8.1						

KRNET 06 04:59:01.7±0.1, 40.85N×74.91E, h3km, mb3.6
IDC 06 04:59:05.8±1.6, 41.07N×73.84E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/48, mbtmp3.4/3, ML2.5/1, Error ellipse: s-maj=38.5km s-min=13.9km az=121.0
NNC 06 04:59:06.5±1.2, 40.96N×74.83E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=9.1km s-min=8.0km az=122.0
ISC 06 04:59:01.9±1.5, 40.84N±0.04×74.96E±0.04, h0km±11km, n36, σ0s85/50, 22C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**1.13**	**335**	*i* P	**Pg**	**04 59 23.4**	**-0.1**
	baz=336						
ARLS				*e*S	**Sg**	**04 59 37.5**	**-0.6**
	baz=336						
KZA	**Kyzart**	**1.26**	**10**	P	**Pn**	**04 59 26.8**	**-0.2**
	SNR=14						
KZA	**Kyzart**	**1.26**	**10**	⇑*i*P	**Pb**	**04 59 26.7**	**0.0**
	baz=12						
KZA				⇑*i*S	**Sb**	**04 59 43.5**	**-0.1**
	baz=12						
SFK	**Sufi-Kurgan**	**1.38**	**234**	*e*P	**Pn**	**04 59 27.0**	**-1.6**
	baz=233						
SFK				*e*S	**Sg**	**04 59 44.3**	**-2.0**
	baz=233						
UCH	**Uchtor**	**1.43**	**347**	P	**Pg**	**04 59 29.7**	**+0.4**
	SNR=21						
UCH	**Uchtor**	**1.43**	**347**	⇑*i*P	**Pg**	**04 59 29.9**	**+0.7**
	baz=348						
UCH				⇑*i*S	**Sn**	**04 59 48.5**	**-0.6**
	baz=348						
ARSB	**Arslanbob**	**1.57**	**289**	*e*P	Pg	04 59 34.7	+2.7
	baz=289						
ARSB				*e*S	**Sg**	**04 59 55.7**	**+3.4**
	baz=289						
AML	**Almayashu**	**1.60**	**324**	P	**Pg**	**04 59 33.0**	**+0.4**
	SNR=13						
AML	**Almayashu**	**1.60**	**324**	⇑*i*P	**Pg**	**04 59 32.6**	**0.0**
	baz=325						
AML				⇑*i*S	**Sb**	**04 59 53.0**	**-0.5**
	baz=325						
OHH	**Osh**	**1.68**	**260**	*e*P	**Pg**	**04 59 34.8**	**+0.7**
	baz=259						
OHH				*e*S	**Sg**	**04 59 57.8**	**+1.9**
	baz=259						
ULHL	**Ulahol**	**1.70**	**34**	P	**Pg**	**04 59 35.3**	**+0.7**
	SNR=81						
ULHL	**Ulahol**	**1.70**	**34**	⇑*i*P	**Pg**	**04 59 35.1**	**+0.6**
	baz=35						
ULHL				⇑*i*S	**Sb**	**04 59 57.0**	**+0.8**
	baz=35						
BOOM	**Boomskoye usch**	**1.81**	**24**	*e*P	**Pb**	**04 59 36.0**	**+0.1**
	baz=25						
BOOM				*e*S	**Sb**	**04 59 59.0**	**-0.1**
	baz=25						
KBK	**Karagaybulak**	**1.81**	**360**	P	**Pg**	**04 59 37.2**	**+0.5**
	SNR=14						
KBK	**Karagaybulak**	**1.81**	**360**	⇑*i*P	**Pg**	**04 59 37.1**	**+0.5**
	baz=1.0						
KBK				⇑*i*S	**Sg**	**05 00 00.1**	**-0.1**
	baz=1.0						
AAK	**Ala-Archa**	**1.82**	**349**	⇓P	**Pg**	**04 59 37.0**	**+0.2**
	37nm,0.7s						
AAK				⇑S	**Sg**	**05 00 00.3**	**-0.2**
	196nm,0.6s						
AAK	**Ala-Archa**	**1.82**	**349**	P	**Pg**	**04 59 37.1**	**+0.2**
	SNR=17						
AAK	**Ala-Archa**	**1.82**	**349**	Pg	**Pg**	**04 59 36.9**	**0.0**
	14nm,0.3s,baz=139,slow=8.8,SNR=93						
AAK				Lg	Lg	04 59 59.8	
	38nm,0.3s,baz=45,slow=20,SNR=14						
AAK	**Ala-Archa**	**1.82**	**349**	⇑*i*P	**Pg**	**04 59 37.1**	**+0.2**
	baz=350						
AAK				⇑*i*S	**Sg**	**05 00 00.4**	**-0.1**
	baz=350						
FRU	**Bishkek**	**2.01**	**353**	*i* P	**Pg**	**04 59 41.0**	**+0.6**
	baz=354						
FRU				*e*S	**Sb**	**05 00 04.5**	**-0.3**
	baz=354						
EKS2	**Erkin-Say**	**2.02**	**335**	P	**Pg**	**04 59 40.8**	**+0.1**
	SNR=36						
EKS2	**Erkin-Say**	**2.02**	**335**	⇑*i*P	**Pg**	**04 59 40.7**	**+0.1**
	baz=335						
EKS2				⇑*i*S	**Sg**	**05 00 06.3**	**-0.6**
	baz=335						
EKS	**Erkin-Say**	**2.03**	**335**	*e*P	**Pg**	**04 59 40.0**	**-0.7**
	baz=336						
EKS				*e*S	**Sg**	**05 00 07.5**	**+0.5**
	baz=336						
TKM2	**Tokmak 2**	**2.13**	**13**	⇓Pn	**Pg**	**04 59 42.8**	**0.0**
	20nm,0.3s						
TKM2				⇑Lg	Lg	05 00 10.7	
	171nm,0.5s						
TKM2	**Tokmak 2**	**2.13**	**13**	P	**Pg**	**04 59 43.0**	**+0.2**
	SNR=101						
TKM2	**Tokmak 2**	**2.13**	**13**	⇑*i*P	**Pg**	**04 59 42.6**	**-0.2**
	baz=14						
TKM2				⇑*i*S	**Sg**	**05 00 09.8**	**-0.6**
	baz=14						
CHMS	**Chumysh**	**2.16**	**356**	P	**Pg**	**04 59 43.2**	**-0.1**
	SNR=37						
CHMS	**Chumysh**	**2.16**	**356**	⇓*i*P	**Pg**	**04 59 43.1**	**-0.2**
	baz=357						
CHMS				⇓*i*S	**Sg**	**05 00 10.1**	**-1.3**
	baz=357						
ARK	**Arkit**	**2.45**	**294**	*e*P	**Pg**	**04 59 48.3**	**-0.5**
	baz=294						
ARK				*e*S	**Sg**	**05 00 20.3**	**-0.3**
	baz=294						
USP	**Ospenovka**	**2.45**	**352**	P	**Pg**	**04 59 48.5**	**-0.3**
	SNR=35						
KNDC	**Almaty**	**2.81**	**32**	⇓Pg	**Pg**	**04 59 55.8**	**+0.1**
KNDC				⇑Lg	Lg	05 00 33.1	
KK31	**Karatay Array**	**4.01**	**306**	⇑Pn	Pn	05 00 08.0	+3.5
	0.7nm,0.6s,baz=117,slow=12,SNR=23						
KK31				⇓Pg	Pg	05 00 15.5	-3.3
	2.2nm,0.5s,baz=128,slow=16,SNR=19						
KK31				⇓Lg	Lg	05 01 06.9	
	6.9nm,0.3s,baz=123,slow=28,SNR=10.0						
MK31	**Makanchi Array**	**7.97**	**39**	⇑Pn	Pn	05 01 03.8	+4.9
	1.5nm,0.7s,baz=221,slow=15,SNR=4.8						
MK31				⇑Lg	Lg	05 03 15.6	
	11nm,1.1s,baz=46,slow=36,SNR=3.8						
MKAR	**Makanchi Array**	**7.97**	**39**	Pn	Pn	05 01 09.6	+11
	0.1nm,0.3s,baz=233,slow=15,SNR=2.6						
MKAR				Lg	Lg	05 03 19.9	
	0.4nm,0.3s,baz=246,slow=24,SNR=4.7						
TORD	**Torodi Ar. Bea**	**68.89**	**269**	P	**P**	**05 10 08.4**	**-0.3**
	0.5nm,1.0s,baz=61,slow=4.9,SNR=2.8						
YKA	**Yellowknife Ar**	**76.73**	**5**	P	**P**	**05 10 55.9**	**+1.5**
	0.2nm,0.5s,baz=348,slow=6.0,SNR=5.0						

IDC 06 05:12:45.3±1.0, 18.58N×121.47E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/36, mbtmp3.6/8, ML3.9/1, MS3.7/1, Ms1 3.7/1, ms1mx3.2/31, Error ellipse: s-maj=35.2km s-min=20.4km az=66.0
MAN 06 05:12:49, 18.62N×121.03E, h3km, mb4.4, ML3.2, MS3.0
ISCJB 06 05:12:50.9±0.7, 18.70N±0.05×121.00E±0.07, h41km, mb3.3/6, MS3.6/1, Error ellipse: s-maj=9.6km s-min=7.2km az=165.2
ISC 06 05:12:51.9±0.8, 18.65N±0.07×120.92E±0.07, h41km, n18, σ2s30/16, mb3.4/6, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.43**	**221**	⇑*i*P	**Pn**	**05 12 59.4**	**-2.4**
PIP				*e*S	**Sn**	**05 13 08.8**	**+0.1**
APYP	**Conner**	**0.84**	**158**	*e*P	**Pn**	**05 13 05.5**	**-1.8**
ABRA	**Dolores**	**1.01**	**191**	*e*P	**Pn**	**05 13 09.6**	**0.0**
ABRA				*e*S	**Sn**	**05 13 19.2**	**-3.5**
CVP	**Callao Caves**	**1.27**	**137**	*e*P	**Pn**	**05 13 11.5**	**-1.7**
CVP				*e*S	**Sn**	**05 13 29.8**	**+0.6**
CAUP	**Cauayan**	**1.90**	**153**	*e*P	**Pn**	**05 13 24.7**	**+2.8**
BCPH	**Baguio City Da**	**2.28**	**188**	⇑*i*P	**Pn**	**05 13 28.6**	**+1.3**
BCPH				*i* S	**Sn**	**05 13 56.9**	**+2.7**
KSRS	**Korea Array**	**19.72**	**17**	P	**P**	**05 17 15.8**	**-2.1**
	0.4nm,0.3s,baz=192,slow=11,SNR=4.2						
CMAR	**Chiang Mai Arr**	**20.84**	**273**	P	Pn	05 17 33.8	+0.8
	1.3nm,0.3s,baz=77,slow=9.4,SNR=3.4						
JAY	**Jayapura**	**28.66**	**135**	LR	LR	05 30 32.9	
	comp=Z,150nm,18.2s,baz=345,slow=38						
WRA	**Warramunga Arr**	**40.55**	**160**	P	P	05 20 23.6	-3.9
	0.4nm,0.6s,baz=342,slow=9.1,SNR=5.9						
MKAR	**Makanchi Array**	**42.28**	**320**	P	**P**	**05 20 42.4**	**+0.9**
	0.2nm,0.5s,baz=122,slow=8.3,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**43.33**	**81**	T	T	06 06 48.4	
	baz=281,slow=74,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**43.34**	**81**	T	T	06 06 49.2	
	baz=281						
H11N3	**WAKE ISLAND Hy**	**43.35**	**81**	T	T	06 06 49.6	
	baz=281,slow=74,SNR=5.8						
ASAR	**Alice Springs**	**43.93**	**163**	P	**P**	**05 20 53.3**	**-1.7**
	0.3nm,0.8s,baz=342,slow=7.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**44.83**	**330**	P	**P**	**05 21 04.3**	**+2.6**
	0.2nm,0.4s,baz=88,slow=11,SNR=2.4						
BRTR	**Keskin Array B**	**76.29**	**308**	P	**P**	**05 24 39.8**	**+3.0**
	0.9nm,0.9s,baz=61,slow=7.1,SNR=3.0						
YKA	**Yellowknife Ar**	**88.15**	**23**	P	**P**	**05 25 36.3**	**-1.9**
	0.3nm,0.7s,baz=308,slow=4.6,SNR=7.9						

JMA 06 05:13:23.8±0.2, 44.02N×148.28E, h8km, M3.8
SKHL 06 05:13:23.4±0.9, 44.47N×148.53E, h63km±3km, mb4.5/2
ISC 06 05:13:21.2±3.9, 44.4N±0.1×148.7E±0.2, h55km, n7, σ1s41/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.98**	**325**	*e*P	**Pn**	**05 13 39.0**	**+0.3**
KUR				AMB	AMB	05 13 39.5	
	170nm,0.5s						
KUR				*e*S	**Sn**	**05 13 50.5**	**-1.2**
KUR				A	A	05 13 51.2	
	820nm,0.4s						
KUR				A	A	05 13 51.2	
	180nm,0.4s						
SHO	**Shikotan**	**1.44**	**247**	*e*P	**Pn**	**05 13 45.2**	**+0.3**
SHO				*e*S	**Sn**	**05 14 02.2**	**-0.6**
SHO				A	A	05 14 02.8	
	539nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.06**	**260**	*e*P	**Pn**	**05 13 54.2**	**+0.9**
YUK				AMB	AMB	05 13 56.6	
	30nm,0.1s						
YUK				AMB	AMB	05 13 56.6	
	40nm,0.1s						
YUK				AMB	AMB	05 13 56.6	
	120nm,0.1s						
YUK				*e*S	**Sn**	**05 14 18.1**	**+0.3**
YUK				A	A	05 14 22.9	
	320nm,0.4s						
YUK				A	A	05 14 22.9	
	500nm,0.4s						
NEM2	**Nemuro 2**	**2.37**	**244**	P	**Pn**	**05 13 58.0**	**+0.4**
NEM2				*e*S	**Sn**	**05 14 22.9**	**-2.6**
JRA	**Rausu**	**2.60**	**260**	P	**Pn**	**05 14 02.6**	**+1.9**
JRA				*e*S	**Sn**	**05 14 31.3**	**+0.2**
JNK	**Nakash**	**2.98**	**255**	P	**Pn**	**05 14 07.5**	**+1.6**
JNK				*e*S	**Sn**	**05 14 38.9**	**-1.4**
JAK	**Akkeshi**	**3.22**	**245**	P	**Pn**	**05 14 10.1**	**+0.9**
JAK				*e*S	**Sn**	**05 14 44.5**	**-1.8**

ISK 06 05:15:06.6, 40.59N×37.76E, h11km, MD2.9
DDA 06 05:15:07.5, 40.37N×37.71E, h7km, MD3.1
CSEM 06 05:15:07.2±0.2, 40.49N×37.77E, h12km, MD2.9, Error ellipse: s-maj=9.7km s-min=3.3km az=9.0
ISCJB 06 05:15:08.1±0.8, 40.35N±0.05×37.73E±0.04, h13km±6km, Error ellipse: s-maj=7.6km s-min=4.6km az=4.5
ISC 06 05:15:07.9±1.0, 40.38N±0.04×37.71E±0.02, h22km±6km, n20, σ0s99/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	**0.29**	**274**	*e*PG	**Pb**	**05 15 14.7**	**0.0**
RSDY	**Resadiye-TOKAT**	**0.29**	**274**	*e*Pg	**Pb**	**05 15 14.7**	**0.0**
SUSE	**Susehri**	**0.41**	**114**	*i* P	**Pb**	**05 15 16.1**	**-0.5**
SUSE				*i* S	**Sb**	**05 15 21.9**	**-0.6**
SUSE	**Susehri**	**0.41**	**114**	*i* P	**Pb**	**05 15 16.1**	**-0.5**
SUSE				*i* S	**Sb**	**05 15 21.9**	**-0.6**
GRSN	**GIRESUNGRSN**	**0.69**	**38**	*i* P	**Pn**	**05 15 21.5**	**-0.9**
GRSN				*i* S	**Sn**	**05 15 31.1**	**-1.3**
GRSN	**GIRESUNGRSN**	**0.69**	**38**	*i* P	**Pn**	**05 15 21.5**	**-0.9**
GRSN				*i* S	**Sn**	**05 15 31.1**	**-1.3**
TOKA	**Tokat**	**0.94**	**267**	*i* P	**Pb**	**05 15 26.3**	**+0.6**
TOKA				*i* S	**Sb**	**05 15 38.7**	**+1.0**
TOKA	**Tokat**	**0.94**	**267**	*i* P	**Pb**	**05 15 26.3**	**+0.6**
TOKA				*i* S	**Sb**	**05 15 38.7**	**+1.0**
KELT	**Kelkit**	**1.20**	**101**	*i* P	**Pn**	**05 15 30.0**	**+0.4**
KELT				*i* S	**Sn**	**05 15 44.8**	**-0.5**
KELT	**Kelkit**	**1.20**	**101**	*i* P	**Pn**	**05 15 29.9**	**+0.4**
KELT				*i* S	**Sn**	**05 15 44.8**	**-0.5**
KEMA	**Kemaliye**	**1.26**	**151**	*i* P	**Pn**	**05 15 31.1**	**+0.8**
KEMA				*i* S	**Sn**	**05 15 45.7**	**-0.9**
KEMA	**Kemaliye**	**1.26**	**151**	*i* P	**Pn**	**05 15 31.1**	**+0.8**
KEMA				*i* S	**Sn**	**05 15 45.7**	**-0.9**
GUMT	**Gumushane**	**1.35**	**86**	*e*PN	**Pn**	**05 15 31.6**	**0.0**
GUMT				*e*SN	**Sb**	**05 15 49.5**	**0.0**
GUMT	**Gumushane**	**1.35**	**86**	*e*Pn	**Pn**	**05 15 31.6**	**0.0**
GUMT				*e*Sn	**Sb**	**05 15 49.5**	**0.0**
KVT	**Kavak**	**1.45**	**299**	*e*PN	**Pn**	**05 15 32.5**	**-0.3**
KVT	**Kavak**	**1.45**	**299**	*e*Pn	**Pn**	**05 15 32.5**	**-0.3**
MACK	**Trabzon**	**1.66**	**70**	*i* P	**Pb**	**05 15 38.7**	**+0.8**
MACK				*i* S	**Sb**	**05 16 01.0**	**+2.6**
MACK	**Trabzon**	**1.66**	**70**	*i* P	**Pb**	**05 15 38.7**	**+0.8**
MACK				*i* S	**Sb**	**05 16 01.0**	**+2.6**
YOZ	**Yozgat**	**1.98**	**249**	*e*PN	**Pb**	**05 15 42.8**	**-0.5**
YOZ	**Yozgat**	**1.98**	**249**	*e*Pn	**Pb**	**05 15 42.8**	**-0.5**

DDA 06 05:15:13.5, 38.38N×38.79E, h24km, MD3.1
CSEM 06 05:15:13.6±0.3, 38.37N×38.77E, h10km, MD3.0, Error ellipse: s-maj=7.7km s-min=6.9km az=136.0
ISK 06 05:15:13.1, 38.34N×38.78E, h9km, MD3.0
ISCJB 06 05:15:14.8±0.7, 38.37N±0.03×38.82E±0.04, h15km±9km, Error ellipse: s-maj=6.0km s-min=4.7km az=140.4
NSSC 06 05:15:20.0±2.0, 37.65N×38.68E, h0km±15km, MD1.6, ML2.1
ISC 06 05:15:13.8±1.1, 38.36N±0.02×38.78E±0.02, h14km±10km, n40, σ1s22/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.72**	**42**	*e*PG	**Pg**	**05 15 27.0**	**-0.9**
PTK				*e*SG	**Sb**	**05 15 38.3**	**+0.3**
PTK	**Pertek**	**0.72**	**42**	*e*Pg	**Pg**	**05 15 27.0**	**-0.9**
PTK				*e*Sg	**Sb**	**05 15 38.3**	**+0.3**
URFA	**Urfa**	**0.92**	**178**	*e*PG	**Pg**	**05 15 30.8**	**-0.8**
URFA	**Urfa**	**0.92**	**178**	*e*Pg	**Pg**	**05 15 30.8**	**-0.8**
ATAB	**Bozova**	**0.97**	**204**	*i* P	**Pb**	**05 15 32.9**	**+0.5**
ATAB				*i* S	**Sb**	**05 15 46.3**	**+1.4**
ATAB	**Bozova**	**0.97**	**204**	*i* P	**Pb**	**05 15 32.9**	**+0.5**
ATAB				*i* S	**Sb**	**05 15 46.3**	**+1.4**
DARE	**Darende-Malaty**	**1.04**	**282**	*e*PG	**Pg**	**05 15 33.5**	**-0.5**
DARE				*e*SG	**Sn**	**05 15 48.7**	**+0.2**
DARE	**Darende-Malaty**	**1.04**	**282**	*e*Pg	**Pg**	**05 15 33.5**	**-0.5**
DARE				*e*Sg	**Sn**	**05 15 48.7**	**+0.2**
ILIC	**ilic-Erzincan**	**1.10**	**351**	*e*PN	**Pg**	**05 15 35.0**	**-0.2**
ILIC	**ilic-Erzincan**	**1.10**	**351**	*e*Pn	**Pg**	**05 15 35.0**	**-0.2**
DYBB	**Diyarbakir**	**1.15**	**110**	*e*PN	**Pb**	**05 15 35.4**	**0.0**
DIY	**Diyarbakir**	**1.23**	**112**	*e*Pn	**Pb**	**05 15 35.4**	**-1.3**
GZT	**Gaziantep**	**1.39**	**224**	*i* P	**Pg**	**05 15 41.4**	**+0.8**
GZT				*i* S	**Sg**	**05 15 59.2**	**+0.5**
ERZN	**Erzincan**	**1.43**	**31**	*e*PN	**Pb**	**05 15 40.5**	**+0.1**
EZC	**Erzincan**	**1.46**	**18**	*e*Pn	**Pb**	**05 15 40.5**	**+0.6**
MAZI	**Mazidag**	**1.59**	**124**	*e*PN	**Pn**	**05 15 42.0**	**+0.4**
MAZI	**Mazidag**	**1.59**	**124**	*e*Pn	**Pn**	**05 15 42.1**	**+0.4**
KMRS	**Kahramanmaras**	**1.71**	**241**	*e*PN	**Pn**	**05 15 43.6**	**+0.3**
KMRS	**Kahramanmaras**	**1.71**	**241**	*e*Pn	**Pn**	**05 15 43.6**	**+0.3**
MARD	**Mardin**	**1.90**	**123**	*i* P	**Pn**	**05 15 47.4**	**+1.5**
MARD				*i* S	**Sn**	**05 16 09.9**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.92**	**95**	*e*PN	**Pn**	**05 15 46.3**	**+0.3**
KBSD	**Kabsdagh**	**1.95**	**134**	*e*P	**Pb**	**05 15 49.6**	**+0.5**
KBSD				*e*S	**Sn**	**05 16 11.2**	**+0.5**
KBSD				AML	AML	05 16 24.1	
	comp=Z,39nm,0.4s						
KBSD	**Kabsdagh**	**1.95**	**134**	*e*P	**Pb**	**05 15 49.6**	**+0.5**
	SNR=57						
KBSD				*e*S	**Sn**	**05 16 11.2**	**+0.5**
	comp=Z,39nm,0.4s,SNR=49						
BEST	**Besiri**	**2.02**	**103**	*i* P	**Pn**	**05 15 48.7**	**+1.1**
BEST				*i* S	**Sn**	**05 16 14.8**	**-0.6**
ANDN	**Andirin**	**2.08**	**249**	*i* P	**Pb**	**05 15 52.3**	**+1.0**
ANDN				*i* S	**Sg**	**05 16 20.1**	**-0.5**
ANDN	**Andirin**	**2.08**	**249**	*i* P	**Pb**	**05 15 52.3**	**+1.0**
ANDN				*i* S	**Sg**	**05 16 20.1**	**-0.5**
KUZU	**Kuzuini**	**2.08**	**221**	*i* P	**Pg**	**05 15 53.8**	**0.0**
KUZU				*i* S	**Sg**	**05 16 20.6**	**-0.2**
KUZU	**Kuzuini**	**2.08**	**221**	*i* P	**Pg**	**05 15 53.8**	**0.0**
KUZU				*i* S	**Sg**	**05 16 20.6**	**-0.2**
BTMT	**Batman**	**2.14**	**94**	*e*PN	**Pn**	**05 15 50.2**	**+1.1**
BTMT	**Batman**	**2.14**	**94**	*e*Pn	**Pn**	**05 15 50.2**	**+1.1**
SFNV	**Sufian**	**2.21**	**151**	*e*P	**Pn**	**05 15 51.7**	**+1.6**
SFNV				AML	AML	05 16 24.9	
	comp=Z,55nm,0.3s						
SFNV	**Sufian**	**2.21**	**151**	*e*P	**Pn**	**05 15 51.7**	**+1.6**
	SNR=57						
MNKR	**ALMNKUR**	**2.44**	**171**	*e*P	**Pn**	**05 15 51.5**	**-1.8**
MNKR				*e*S	Sn	05 16 15.7	-7.2
MNKR	**ALMNKUR**	**2.44**	**171**	*e*P	**Pn**	**05 15 51.5**	**-1.8**
	SNR=45						
MNKR				*e*S	Sn	05 16 15.7	-7.2
	SNR=40						
KOZT	**Kozan**	**2.49**	**250**	*e*PN	**Pn**	**05 15 54.1**	**+0.1**
KOZT	**Kozan**	**2.49**	**250**	*e*Pn	**Pn**	**05 15 54.1**	**+0.1**
KSRV	**Kasrt alli**	**2.50**	**176**	*e*P	**Pb**	**05 15 59.3**	**+0.9**
KSRV				*e*S	**Sb**	**05 16 29.8**	**+0.8**
KSRV				AML	AML	05 16 40.6	
	comp=Z,16nm,0.5s						
KSRV	**Kasrt alli**	**2.50**	**176**	*e*P	**Pb**	**05 15 59.3**	**+0.9**
	SNR=45						
KSRV				*e*S	**Sb**	**05 16 29.8**	**+0.8**
	comp=Z,16nm,0.5s,SNR=40						
BTCH	**Batrach**	**2.97**	**219**	*e*P	**Pn**	**05 16 00.6**	**+0.1**
BTCH				*e*S	**Sn**	**05 16 31.1**	**-4.8**
BTCH				AML	AML	05 16 51.8	
	comp=E,17nm,0.7s						
BTCH	**Batrach**	**2.97**	**219**	*e*P	**Pn**	**05 16 00.6**	**+0.1**
	SNR=45						
BTCH				*e*S	**Sn**	**05 16 31.1**	**-4.8**
	comp=E,17nm,0.7s,SNR=40						

IDC 06 05:28:51.7±7.3, 18.67S×176.62W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/26, mbtmp3.7/3, Error ellipse: s-maj=317.1km s-min=38.0km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.17**	**260**	P	P	05 37 18.3	-0.3
	0.3nm,0.4s,baz=95,slow=8.0,SNR=10						
ASAR	**Alice Springs**	**46.23**	**255**	P	P	05 37 19.1	0.0
	2.9nm,0.7s,baz=91,slow=8.2,SNR=47						
ILAR	**Eielson Array**	**86.25**	**12**	P	P	05 41 34.8	0.0
	0.1nm,0.4s,baz=223,slow=5.5,SNR=5.2						

SKHL 06 06:06:55.0, 46.55N×153.16E, h38km±2km, mb4.8/1
MOS 06 06:06:57.4±1.4, 46.82N×152.52E, h33km, mb4.2/3, Error ellipse: s-maj=43.8km s-min=15.9km az=76.6
ISCJB 06 06:07:01.2±0.8, 46.8N±0.1×152.5E±0.2, h67km, mb3.3/8, Error ellipse: s-maj=24.1km s-min=12.3km az=37.5
IDC 06 06:07:01.9±4.8, 46.76N×152.59E, h55km±43km, mb3.2/8, mb1 3.4/9, mb1mx3.2/40, mbtmp3.5/9, ML2.7/1, Error ellipse: s-maj=27.4km s-min=21.8km az=99.0
ISC 06 06:07:03.5±0.9, 46.8N±0.2×152.5E±0.2, h67km, n25, σ1s18/15, mb3.4/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.56**	**31**	*e*PN	Pn	06 08 02.5	-7.3
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**4.56**	**31**	*e*P	Pn	06 08 02.5	-7.3
SKR				AMB	AMB	06 08 02.7	
	comp=Z,80nm,0.5s						
SKR				*e*rx	rx	06 08 07.4	
SKR				*e*S	Sn	06 08 52.8	-8.6
SKR				A	A	06 09 08.0	
	comp=Z,80nm,0.5s						
SKR				A	A	06 09 08.0	
	comp=Z,60nm,0.5s						
PETK	**Petropavlovsk-**	**7.14**	**26**	PN	**Pn**	**06 08 44.0**	**-1.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.14**	**26**	P	**Pn**	**06 08 44.0**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=194,slow=13,SNR=10						
MYR	**Moyori**	**7.96**	**239**	*e*P	**Pn**	**06 08 55.6**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**29.50**	**152**	T	T	06 44 21.8	
	baz=342,slow=76,SNR=259						
H11N1	**WAKE ISLAND Hy**	**29.52**	**152**	T	T	06 44 11.0	
	baz=342,slow=76,SNR=208						
H11N3	**WAKE ISLAND Hy**	**29.52**	**151**	T	T	06 44 11.2	
	baz=342,slow=76,SNR=124						
H11S1	**WAKE ISLAND Hy**	**30.58**	**153**	T	T	06 45 52.6	
	baz=343,slow=77,SNR=149						
H11S3	**WAKE ISLAND Hy**	**30.59**	**153**	T	T	06 45 46.9	
	baz=343,slow=77,SNR=148						
H11S2	**WAKE ISLAND Hy**	**30.60**	**153**	T	T	06 45 38.3	
	baz=343,slow=77,SNR=97						
MKAR	**Makanchi Array**	**46.50**	**297**	P	**P**	**06 15 24.3**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=69,slow=7.9,SNR=2.3						
YKA	**Yellowknife Ar**	**51.13**	**37**	P	**P**	**06 15 58.5**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=295,slow=7.2,SNR=3.1						
FINES	**FINESS Array B**	**63.77**	**334**	P	**P**	**06 17 28.3**	**+0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**63.77**	**334**	P	**P**	**06 17 28.3**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=36,slow=7.3,SNR=14						
NOA	**NORSAR Array B**	**68.01**	**341**	P	**P**	**06 17 55.8**	**+0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	**68.01**	**341**	P	**P**	**06 17 55.8**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=25,slow=6.6,SNR=3.6						
WRA	**Warramunga Arr**	**68.44**	**198**	P	**P**	**06 17 57.2**	**-1.0**
	comp=Z,0.2nm,0.8s,baz=6.9,slow=6.0,SNR=2.7						
AKASG	**Malin Array Be**	**71.23**	**326**	P	**P**	**06 18 15.3**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.23**	**326**	P	**P**	**06 18 15.3**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=33,slow=7.0,SNR=2.9						
ASAR	**Alice Springs**	**72.14**	**198**	P	**P**	**06 18 21.2**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=11,slow=4.7,SNR=4.1						
TXAR	**Lajitas Array**	**77.85**	**60**	P	**P**	**06 18 53.5**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=310,slow=3.4,SNR=3.5						
TXAR				pP	**PcP**	**06 19 06.8**	**+3.2**
	comp=Z,0.2nm,0.5s,baz=310,slow=5.3,SNR=5.1						
H03N2	**Juan Fernandez**	**139.21**	**90**	T	T	09 01 47.8	
	baz=305,slow=75,SNR=9.4						
H03N1	**Juan Fernandez**	**139.22**	**90**	T	T	09 01 48.3	
	baz=305,slow=75,SNR=10						
H03N3	**Juan Fernandez**	**139.22**	**90**	T	T	09 01 50.2	
	baz=305,slow=75,SNR=16						

IDC 06 06:07:48.5±3.2, 53.59N×88.03E, h0km, mb1 2.9/2, mb1mx2.9/30, mbtmp2.9/2, ML3.0/2, Error ellipse: s-maj=34.3km s-min=17.9km az=86.0
NNC 06 06:07:52.6±5.2, 53.59N×87.38E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=44.3km s-min=36.0km az=12.0
ISC 06 06:07:54.8±3.8, 53.6N±0.1×87.7E±0.2, h35km, n8, σ2s59/12, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**282**	*i*		06 18 30.0	
	baz=98,slow=349,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.73**	**282**	Pn	**Pn**	**06 08 22.5**	**0.0**
	6.2nm,0.3s,baz=98,slow=16,SNR=82						
ZALV				Sn	**Sn**	**06 08 49.0**	**+5.7**
	9.0nm,0.3s,baz=104,slow=24,SNR=26						
KURK	**Kurchatov**	**6.29**	**246**	⇓Pn	**Pn**	**06 09 24.9**	**-0.1**
	0.8nm,0.8s						
KURK				⇑Sn	**Sn**	**06 10 36.5**	**+0.9**
	0.4nm,0.5s						
KURK				⇓Lg	Lg	06 11 07.8	
	1.2nm,1.0s						
KURBB	**Kurchatov Arra**	**6.39**	**246**	⇓Pn	**Pn**	**06 09 26.6**	**+0.3**
	0.8nm,0.3s,baz=64,slow=14						
KURBB				⇓Sn	**Sn**	**06 10 38.6**	**+0.6**
	3.6nm,0.6s,baz=295,slow=30						
KURBB				⇑Lg	Lg	06 11 09.9	
	3.1nm,0.5s,baz=60,slow=33						
KURBB	**Kurchatov Arra**	**6.39**	**246**	Pn	**Pn**	**06 09 26.3**	**0.0**
	0.4nm,0.3s,baz=62,slow=14,SNR=9.5						
KURBB				Lg	Lg	06 11 17.6	
	0.2nm,0.3s,baz=61,slow=34,SNR=5.2						
MK31	**Makanchi Array**	**7.65**	**209**	Pn	**Pn**	**06 09 44.0**	**+0.2**
	0.5nm,0.8s,baz=28,slow=13,SNR=16						

MKAR Makanchi Array 7.65 209 Pn Pn 06 09 43.8 0.0
0.1nm,0.3s,baz=29,slow=14,SNR=8.4
MKAR Sn Sn 06 11 10.5 +1.3
0.3nm,0.3s,baz=31,slow=28,SNR=7.0
MKAR Lg Lg 06 11 54.2
0.2nm,0.3s,baz=26,slow=34,SNR=4.2
VOSK Vostochnaya 10.07 272 ⇓Pn Pn 06 10 13.8 -3.1
2.6nm,1.1s
VOSK ⇑Sn Sn 06 12 04.6 -3.9
2.6nm,1.2s

IDC 06 06:17:48.9±55.0, 22.46S×174.04W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/30, mbtmp3.8/3, Error ellipse: s-maj=1041.0km s-min=168.4km az=87.0, Tonga Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 40.33 247 P P 06 25 27.1 -1.2
0.9nm,0.6s,baz=76,slow=8.3,SNR=2.8
ASAR Alice Springs 47.69 258 P P 06 26 27.5 -0.1
0.6nm,0.8s,baz=89,slow=6.5,SNR=9.3
WRA Warramunga Arr 48.00 263 P P 06 26 30.7 +0.7
1.3nm,0.4s,baz=100,slow=8.2,SNR=19

ISCJB 06 06:39:30.9±0.4, 46.71N±0.06×152.88E±0.08, h40km, mb4.0/21, Error ellipse: s-maj=11.8km s-min=3.1km az=139.2
SKHL 06 06:39:31.8±0.7, 46.52N×153.11E, h57km±6km, mb5.1/5
MOS 06 06:39:32.3±1.5, 46.62N×152.85E, h59km, mb4.3/12, Error ellipse: s-maj=16.3km s-min=7.9km az=68.8
IDC 06 06:39:33.6±0.7, 46.79N×152.67E, h45km±7km, mb3.7/17, mb1 4.0/18, mb1mx3.9/31, mbtmp4.0/18, ML3.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/41, Error ellipse: s-maj=18.2km s-min=13.8km az=132.0
ISC 06 06:39:32.6±0.5, 46.64N±0.07×152.98E±0.06, h40km, n99, σ1§32/97, mb4.0/21, 2D, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 3.83 250 eP Pn 06 40 29.8 +0.8
KUR AMB AMB 06 40 30.5
60nm,0.5s
KUR AMB AMB 06 40 30.5
150nm,0.5s
KUR eS Sn 06 41 13.0 +0.2
KUR A A 06 41 23.0
470nm,0.5s
KUR A A 06 41 23.0
150nm,0.5s
SKR Severo-Kuril's 4.55 26 ePN Pn 06 40 34.5 -4.3
SKR pmax pmax
comp=N,80nm,0.5s
SKR pmax pmax
comp=E,110nm,0.5s
SKR pmax pmax
comp=Z,150nm,0.5s
SKR Severo-Kuril's 4.55 26 eP Pn 06 40 39.7 +0.9
SKR AMB AMB 06 40 42.4
comp=Z,80nm,0.5s
SKR AMB AMB 06 40 42.4
comp=Z,110nm,0.5s
SKR AMB AMB 06 40 42.4
comp=Z,150nm,0.5s
SKR eS Sn 06 41 30.0 -0.3
SKR A A 06 41 44.0
comp=Z,150nm,0.5s
SKR A A 06 41 44.0
comp=Z,80nm,0.5s
SHO Shikotan 5.15 240 eP Pn 06 40 46.1 -1.0
SHO eS Sn 06 41 42.4 -2.8
SHO A A 06 42 09.0
comp=Z,300nm,0.6s
SHO A A 06 42 09.0
comp=Z,350nm,0.6s
PAU Pauzhetka 5.45 26 eP Pn 06 40 52.1 +0.9
PAU AMB AMB 06 40 52.8
comp=Z,363nm,0.7s
PAU eS Sn 06 41 52.3 -0.2
YUK Yuzh-Kuril'sk 5.65 245 d iPN Pn 06 40 55.4 +1.4
YUK iS Sn 06 41 57.8 +0.2
YUK pmax pmax
comp=N,46nm,0.4s
YUK pmax pmax
comp=E,33nm,0.4s
YUK pmax pmax
comp=Z,157nm,0.4s
YUK smax smax
comp=N,361nm,0.7s
YUK smax smax
comp=E,99nm,0.7s
YUK Yuzh-Kuril'sk 5.65 245 eP Pn 06 40 55.4 +1.4
YUK AMB AMB 06 40 59.0
comp=E,50nm,0.4s
YUK AMB AMB 06 40 59.0
comp=E,33nm,0.4s
YUK AMB AMB 06 40 59.0
comp=E,160nm,0.4s
YUK eS Sn 06 41 57.8 +0.2
YUK A A 06 42 17.8
comp=E,360nm,0.7s
YUK A A 06 42 17.8
comp=E,100nm,0.7s
NEM2 Nemuro 2 6.08 240 P Pn 06 40 58.5 -1.5
NEM2 eS Sn 06 42 04.2 -4.1
JRA Rausu 6.17 247 P Pn 06 41 03.0 +2.0
JNK Nakash 6.59 245 P Pn 06 41 07.7 +0.8
JNK eS Sn 06 42 20.3 -0.5
JAK Akkeshi 6.92 241 P Pn 06 41 10.3 -1.2
JTKR Abashiri--Toko 6.93 251 P Pn 06 41 13.1 +1.6
YSS Yuzh-Sakhalins 7.02 276 PN Pn 06 41 22.0 +9.2
YSS Yuzh-Sakhalins 7.02 276 erx rx 06 41 22.0
PETK Petropavlovsk- 7.15 23 PN Pn 06 41 16.2 +1.6
PETK pmax pmax
comp=Z,2.0nm,0.3s
PETK Petropavlovsk- 7.15 23 P Pn 06 41 16.2 +1.6
comp=Z,1.5nm,0.3s,baz=179,slow=13,SNR=18
JAR Ashorobuto 7.34 246 P Pn 06 41 17.9 +0.8
PET Petropavlovsk 7.37 28 ePN Pn 06 41 21.4 +3.9
PET pmax pmax
comp=Z,38nm,0.7s
PET MLR MLR
comp=Z,200nm,13.0s
PET Petropavlovsk 7.37 28 eP Pn 06 41 18.2 +0.7
PET AMB AMB 06 41 26.4
comp=Z,40nm,0.7s
PET eS Sn 06 42 38.6 -1.0
PET A A 06 42 50.0
comp=Z,50nm,0.6s
PET AMS AMS 06 43 03.7
comp=Z,230nm,13.0s
JOB Onbets 7.50 243 P Pn 06 41 20.2 +0.8
HRK Horoka 7.66 249 eP Pn 06 41 23.2 +1.5
JKK2 Kamakawa 2 7.73 253 P Pn 06 41 24.8 +2.3
JKA Kamikawa-asahi 7.73 255 eP Pn 06 41 25.6 +3.1
ASAJ Asahikawa 7.73 255 PN Pn 06 41 25.6 +3.0
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,15nm,28.6s
ASAJ Asahikawa 7.73 255 P Pn 06 41 25.9 +3.3
ASAJ Asahikawa 7.73 255 P Pn 06 41 25.6 +3.0
comp=Z,1.1nm,0.3s,baz=86,slow=14,SNR=10.0
ASAJ LR LR 06 44 28.2
comp=Z,210nm,19.4s,baz=100,slow=39
JCH Churui 7.95 243 P Pn 06 41 25.1 -0.5
JCH eS Sn 06 42 49.8 -4.4
MYR Moyori 8.18 241 eP Pn 06 41 28.1 -0.6
ERM Erimo 8.42 240 ePN Pn 06 41 31.9 -0.1
ERM Erimo 8.42 240 eP Pn 06 41 31.9 -0.1
JNB Noboribetsu 9.49 248 P Pn 06 41 47.2 +0.6
JKB Kayabe 9.79 245 P Pn 06 41 50.1 -0.7
EKMR Ekimchan 14.40 304 eP Pn 06 42 55.2 +1.5
FX1 Attu Island--F 14.44 57 P Pn 06 42 53.9 -0.2
FX1 pmax pmax
comp=Z,7.0nm,0.3s
FX1 Attu Island--F 14.44 57 P Pn 06 42 53.9 -0.2
comp=Z,6.7nm,0.3s,baz=186,slow=9.2,SNR=5.0
MAJO Matsushiro 14.94 233 eP Pn 06 42 57.4 -3.5
MAJO pmax pmax
comp=Z,84nm,1.6s
MAJO Matsushiro 14.94 233 eP Pn 06 42 57.4 -3.5
MJAR Matsushiro Arr 14.94 233 P P 06 43 06.1 +0.2
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 14.94 233 P P 06 43 06.1 +0.2
comp=Z,0.6nm,0.3s,baz=36,slow=9.8,SNR=4.9
SEY Seymchan 16.33 359 eP P 06 43 21.5 +0.4
KSRS Korea Array 20.68 253 pP pP 06 44 20.5 +1.6
comp=Z,1.1nm,0.5s,baz=59,slow=9.5,SNR=3.6
BILL Bilibino 22.52 13 eP P 06 44 28.1 -0.4
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL Bilibino 22.52 13 eP P 06 44 28.1 -0.4
H11N2 WAKE ISLAND Hy 29.17 152 T T 07 16 56.1
baz=342,slow=76,SNR=412
H11N1 WAKE ISLAND Hy 29.18 152 T T 07 16 59.5
baz=342,slow=76,SNR=326
H11N3 WAKE ISLAND Hy 29.18 152 T T 07 16 54.8
baz=342,slow=76,SNR=240
H11S1 WAKE ISLAND Hy 30.25 153 T T 07 18 31.9
baz=343,slow=77,SNR=241
H11S3 WAKE ISLAND Hy 30.26 153 T T 07 18 11.0
baz=343,slow=77,SNR=225
H11S2 WAKE ISLAND Hy 30.27 153 T T 07 18 13.4
baz=343,slow=77,SNR=230
COLA College 36.28 38 ⇓iP P 06 46 33.1 +1.5
COLA pmax pmax
comp=Z,31nm,0.8s
COLA College 36.28 38 eP P 06 46 33.1 +1.5
ILAR Eielson Array 36.69 38 eP P 06 46 35.3 +0.1
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 36.69 38 P P 06 46 35.4 +0.1
comp=Z,2.2nm,1.0s,baz=256,slow=6.2,SNR=14
INK Inuvik 41.79 32 P P 06 47 18.6 +1.0
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 41.79 32 P P 06 47 18.6 +1.0
comp=Z,3.6nm,0.8s,baz=283,slow=6.6,SNR=6.0
ZALV Zalesovo Beam 42.60 306 P P 06 47 22.6 -1.8
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 42.60 306 P P 06 47 22.6 -1.8
comp=Z,0.6nm,0.5s,baz=88,slow=7.4,SNR=3.0
MKAR Makanchi Array 46.91 297 P P 06 47 56.8 -2.1
MKAR 06 49 30.5
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 46.91 297 P P 06 47 56.8 -2.1
comp=Z,0.2nm,0.5s,baz=69,slow=7.7,SNR=3.8
MKAR PcP PcP 06 49 30.4 -0.6
comp=Z,0.5nm,0.6s,baz=66,slow=2.9,SNR=4.3
YKA Yellowknife Ar 51.07 37 P P 06 48 30.9 +0.5
YKA *PP pP 06 48 43.2 +1.3
YKA 06 49 45.9
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 51.07 37 P P 06 48 30.9 +0.5
comp=Z,0.7nm,0.7s,baz=295,slow=7.2,SNR=11
YKA pP pP 06 48 43.2 +1.3
comp=Z,1.0nm,0.8s,baz=296,slow=7.1,SNR=5.4
YKA PcP PcP 06 49 45.9 +0.2
comp=Z,0.2nm,0.6s,baz=305,slow=3.8,SNR=4.4
ARCES ARCESS Array B 57.92 341 P P 06 49 19.0 -1.1
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 57.92 341 P P 06 49 19.0 -1.1
comp=Z,3.0nm,1.0s,baz=32,slow=7.4,SNR=4.1
ARCES ARCESS Array B 57.92 341 eP P 06 49 19.0 -1.1
SUMG Summit 60.81 4 iP P 06 49 40.3 -0.2
SUMG pmax pmax
comp=Z,4.0nm,0.8s
SUMG Summit 60.81 4 iP P 06 49 40.3 -0.2
comp=Z,3.9nm,0.8s
FFC Flin Flon 60.88 40 eP P 06 49 42.1 +1.4
NVAR Mina Array Bea 62.57 62 P P 06 49 54.1 +1.5
comp=Z,0.8nm,0.5s,baz=295,slow=6.5,SNR=5.3
FINES FINESS Array B 64.10 335 iP P 06 50 00.7 -1.3
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 64.10 335 P P 06 50 00.7 -1.3
comp=Z,2.2nm,0.4s,baz=41,slow=7.0,SNR=32
FINES FINESS Array B 64.10 335 eP P 06 50 00.6 -1.4
PDAR Pinedale Array 64.89 54 P P 06 50 08.4 +0.6
comp=Z,0.8nm,0.8s,baz=280,slow=1.4,SNR=7.2
ULM Lac du Bonnet 66.66 41 eP P 06 50 18.5 -0.4
ULM pmax pmax
comp=Z,3.0nm,0.8s
ULM Lac du Bonnet 66.66 41 P P 06 50 18.9 0.0
comp=Z,2.9nm,0.8s,baz=242,slow=6.1,SNR=4.2
ULM Lac du Bonnet 66.66 41 eP P 06 50 18.5 -0.4
NB2 NORSAR Subarra 68.30 341 P P 06 50 27.9 -1.2
comp=Z,1.9nm,0.6s,baz=28,slow=6.5
NOA NORSAR Array B 68.30 341 eP P 06 50 28.2 -0.9
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA NORSAR Array B 68.30 341 P P 06 50 28.2 -0.9
comp=Z,3.7nm,0.8s,baz=30,slow=6.6,SNR=13
WRA Warramunga Arr 68.38 199 P P 06 50 31.3 +1.4
WRA *PP pP 06 50 43.1 +1.2
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 68.38 199 P P 06 50 31.3 +1.4
comp=Z,0.7nm,0.8s,baz=7.8,slow=6.5,SNR=6.6
WRA pP pP 06 50 43.0 +1.2
comp=Z,1.2nm,0.9s,baz=16,slow=6.8,SNR=5.0
AKASG Malin Array Be 71.58 326 P P 06 50 47.8 -1.5
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 71.58 326 P P 06 50 47.8 -1.5
comp=Z,2.0nm,0.5s,baz=34,slow=6.4,SNR=12
ANMO Albuquerque 71.97 58 eP P 06 50 49.7 -2.5
ANMO pmax pmax
comp=Z,32nm,3.8s
ASAR Alice Springs 72.08 198 P P 06 50 53.2 +0.7
ASAR *PP pP 06 51 07.3 +2.8
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 72.08 198 P P 06 50 53.1 +0.7
comp=Z,0.5nm,0.6s,baz=8.5,slow=5.5,SNR=10
ASAR pP pP 06 51 07.2 +2.8
comp=Z,0.7nm,0.8s,baz=11,slow=5.7,SNR=5.4
ASAR Alice Springs 72.08 198 eP P 06 50 53.4 +0.9
CLL Collm 76.52 335 iP P 06 51 17.3 -0.8
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 76.52 335 iP P 06 51 17.3 -0.8
comp=Z,6.0nm,0.9s
CLL Collm 76.52 335 eP P 06 51 17.3 -0.8
TXAR Lajitas Array 77.63 60 P P 06 51 25.3 +0.4
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 77.63 60 P P 06 51 25.3 +0.4
comp=Z,0.5nm,0.6s,baz=299,slow=4.6,SNR=9.1
KHC Kasperske Hory 78.29 334 eP P 06 51 27.5 -0.7
BRTR Keskin Array B 78.40 317 eP P 06 51 28.8 -0.3
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 78.40 317 P P 06 51 28.4 -0.7
comp=Z,1.2nm,0.8s,baz=46,slow=5.5,SNR=4.4
GERES GERESS Array B 78.51 334 P P 06 51 29.1 -0.4
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 78.51 334 P P 06 51 29.1 -0.4
comp=Z,0.7nm,0.7s,baz=37,slow=6.9,SNR=6.5
H03N2 Juan Fernandez 138.84 90 T T 09 34 26.3
baz=305,slow=75,SNR=26
H03N1 Juan Fernandez 138.86 90 T T 09 34 31.2
baz=305,slow=75,SNR=33
H03N3 Juan Fernandez 138.86 90 T T 09 34 26.0
baz=305,slow=75,SNR=31

IDC 06 07:04:24.5±2.5, 2.37S×98.28E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/40, mbtmp3.6/40, ML3.3/1, Error ellipse: s-maj=94.0km s-min=20.5km az=60.0
ISC 06 07:04:31.2±2.5, 2.05S±0.3×98.7E±0.5, h35km, n13, σ0§88/6, mb3.8/4, Southwest of Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PSI Prapat 4.80 2 Pn Pn 07 05 41.5 +0.3
1.0nm,0.3s,baz=158,slow=11,SNR=4.9
CMAR Chiang Mai Arr 20.36 1 P Pn 07 09 07.7 +0.6
1.4nm,0.3s,baz=202,slow=7.6,SNR=4.3
H08S2 Diego Garcia H 26.73 257 T T 07 38 16.8
baz=78,slow=75,SNR=29
H08S3 Diego Garcia H 26.74 257 T T 07 38 19.3
baz=78,slow=75,SNR=36
H08S1 Diego Garcia H 26.75 257 T T 07 38 14.1
baz=78,slow=75,SNR=28
H01W3 Cape Leeuwin H 35.69 158 T T 07 49 28.3
baz=330
H01W2 Cape Leeuwin H 35.70 158 T T 07 49 28.3
baz=330
H01W1 Cape Leeuwin H 35.71 158 T T 07 49 28.7
baz=330
WRA Warramunga Arr 39.06 120 P P 07 11 54.5 -0.7
0.6nm,0.5s,baz=299,slow=8.9,SNR=3.7
ASAR Alice Springs 40.26 125 P P 07 12 05.8 +0.8
0.6nm,0.6s,baz=300,slow=7.8,SNR=8.8
MKAR Makanchi Array 50.73 345 P P 07 13 27.9 +0.3
0.7nm,0.3s,baz=158,slow=8.9,SNR=14
ZALV Zalesovo Beam 56.98 350 P P 07 14 12.1 -1.0
0.7nm,0.5s,baz=171,slow=9.3,SNR=4.1
TXAR Lajitas Array 145.48 36 PKPbc PKPab 07 24 07.0 +0.3
0.4nm,0.6s,baz=258,slow=0.6,SNR=11

IDC 06 07:07:09.9±0.7, 5.19S×152.08E, h0km, mb4.3/14, mb1 4.5/15, mb1mx4.3/34, mbtmp4.3/15, ML3.3/1, MS4.0/5, Ms1 4.0/5, ms1mx3.5/20, Error ellipse: s-maj=25.4km s-min=16.3km az=119.0
ISCJB 06 07:07:14.5±0.3, 5.38S±0.05×152.13E±0.06, h45km, mb4.6/38, MS4.1/8, Error ellipse: s-maj=10.2km s-min=6.1km az=33.4
BJI 06 07:07:14.9, 5.43S×152.02E, h49km, mB5.0/10, mb4.7/16, Ms4.7/4, Ms7 4.3/5
NEIC 06 07:07:17.0±1.6, 5.29S×152.08E, h53km±15km, mb4.6/19, Error ellipse: s-maj=11.3km s-min=10.1km az=128.0
ISC 06 07:07:16.5±0.5, 5.39S±0.06×152.15E±0.08, h45km, n54, σ1§31/82, mb4.5/37, MS4.2/8, New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 6.36 231 Pn Pn 07 08 47.1 -0.6
3.8nm,0.3s,baz=46,slow=15,SNR=10
PMG Sn Sn 07 09 58.0 -1.0
17nm,0.3s,baz=306,slow=18,SNR=9.1
PMG Port Moresby 6.36 231 ePn Pn 07 08 48.2 +0.6
PMG eSn Sn 07 09 58.9 -0.2
COEN Coen 12.28 225 ePn Pn 07 10 08.4 -0.3
CTAO Charters Tower 15.70 201 eP P 07 10 57.5 -0.5
7.5nm,1.2s
EIDS Eidsvold 19.90 183 eP P 07 11 44.4 +0.1
52nm,1.9s
DZM Mont Dzumac 21.60 142 P P 07 12 02.9 +0.2
9.7nm,0.9s,baz=0.0,slow=20,SNR=3.4
DZM LR LR 07 19 41.4
comp=Z,546nm,19.6s,baz=242,slow=34
WRAB Tennant Creek 22.56 229 eP P 07 12 12.0 -1.1
12nm,0.6s
WRA Warramunga Arr 22.57 229 P P 07 12 12.9 -0.3
1.6nm,0.3s,baz=51,slow=9.9,SNR=15
AS31 Alice Springs 25.28 222 eP P 07 12 38.9 0.0
ASAR Alice Springs 25.28 222 P P 07 12 39.1 +0.3
3.2nm,0.8s,baz=56,slow=9.0,SNR=25
STKA Stephens Creek 28.15 199 P P 07 13 06.2 +1.7
1.4nm,0.6s,baz=34,slow=11,SNR=6.0
STKA Stephens Creek 28.15 199 eP P 07 13 06.4 +1.8
1.0nm,1.1s
MJAR Matsushiro Arr 43.70 344 LR LR 07 32 15.0
comp=Z,94nm,21.4s,baz=170,slow=35
QIZ Qiongzhong 48.21 301 P P 07 15 52.5 -0.5
QIZ S S 07 22 48.9 -0.7
QIZ pmax pmax
comp=Z,16nm,1.9s
GYA Guiyang 54.24 308 eP P 07 16 39.0 +0.7
GYA pmax pmax
comp=Z,10.0nm,1.0s
CN2 Changchun 54.57 336 eP P 07 16 42.1 +1.9
CMAR Chiang Mai Arr 57.54 296 P P 07 17 01.8 -0.2
1.1nm,0.3s,baz=82,slow=3.0,SNR=5.1
PETK Petropavlovsk- 58.46 4 P P 07 17 08.0 +0.2
1.9nm,0.7s,baz=122,slow=2.3,SNR=4.4
CD2 Chengdu 58.63 311 eP P 07 17 10.6 +1.2
CD2 pP pP 07 17 23.7 +1.5
CD2 sP sP 07 17 29.1 +1.7
CD2 PcP PcP 07 18 00.2 +1.0
CD2 PP PP 07 19 22.2 +2.6
CD2 PcS PcS 07 22 00.3 -0.7
CD2 S S 07 25 09.5 -1.3
CD2 sS sS 07 25 31.6 -0.5
CD2 SS SS 07 29 04.4 0.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.6s
CD2 LR LR
comp=N,240nm,19.1s
CD2 LR LR
comp=E,280nm,17.6s
CD2 LR LR
comp=Z,250nm,19.1s
HHC Hu-ho-hao-te 59.15 325 eP P 07 17 13.5 +0.6
HHC pP pP 07 17 26.7 +1.0
HHC sP sP 07 17 31.4 +0.6
HHC PP PP 07 19 26.4 +2.4
HHC ScP ScP 07 21 56.8 -1.5
HHC PcS PcS 07 22 02.1 -1.0
HHC S S 07 25 16.6 -0.7
HHC sS sS 07 25 38.3 -0.3
HHC pmax pmax
comp=Z,26nm,0.7s
HHC pmax pmax
comp=Z,200nm,6.9s
HHC LR LR
comp=Z,160nm,15.2s
LZH Lanzhou 61.20 316 eP P 07 17 27.1 0.0
LZH pP pP 07 17 38.0 -2.0
LZH sP sP 07 17 43.0 -2.1
LZH pmax pmax
comp=Z,24nm,1.1s
LZH pmax pmax
comp=Z,160nm,4.8s
ULN Ulaanbaatar 66.15 329 eP P 07 17 59.1 -0.4
1.5nm,0.8s
GAMB Gambell 74.12 16 eP P 07 18 47.7 0.0
4.2nm,1.0s
WMQ Urumqi 75.73 318 eP P 07 18 57.8 +0.2
WMQ pP pP 07 19 11.2 +0.4
WMQ sP sP 07 19 16.2 +0.3
WMQ PP PP 07 21 49.6 +1.6
WMQ S S 07 28 34.2 -2.0
WMQ sS sS 07 28 56.3 -2.0
WMQ pmax pmax
comp=Z,9.0nm,0.8s
WMQ pmax pmax
comp=Z,140nm,5.0s
WMQ LR LR
comp=N,73nm,15.2s
WMQ LR LR
comp=E,53nm,13.4s
RC01 Rabbit Creek A 79.97 25 eP P 07 19 19.8 -1.0
31nm,1.1s
MK31 Makanchi Array 80.34 319 eP P 07 19 21.6 -1.4
MKAR Makanchi Array 80.34 319 P P 07 19 22.1 -1.0
1.5nm,0.8s,baz=108,slow=6.1,SNR=15
MKAR LR LR 07 53 03.5
comp=Z,72nm,21.4s,baz=358,slow=34
MKAR Makanchi Array 80.34 319 eP P 07 19 22.5 -0.6
PMR Palmer 80.48 24 eP P 07 19 22.1 -1.3
91nm,2.0s
KTH Kantishna Hill 80.80 22 eP P 07 19 23.4 -1.8
16nm,0.9s
TRF Thorofare Moun 80.99 23 eP P 07 19 24.9 -1.4
89nm,2.4s
IM04 Indian Mountai 81.13 20 eP P 07 19 26.4 -0.5
ZALV Zalesovo Beam 81.28 327 P P 07 19 25.1 -2.7
0.8nm,0.4s,baz=104,slow=6.3,SNR=5.8
MCK McKinley 81.65 23 eP P 07 19 28.0 -1.7
29nm,1.0s
COLA College 82.63 22 eP P 07 19 33.2 -1.5
15nm,0.8s
KSH Kashi 82.82 311 eP P 07 19 38.4 +1.9

KSH eSP sP 07 19 56.9 +2.0
KSH ePP PP 07 22 51.1 +3.9
KSH S S 07 29 50.8 -1.0
KSH sS sS 07 30 13.5 -0.6
KSH SS SS 07 35 18.0 +2.6
KSH pmax pmax
comp=Z,6.0nm,1.3s
KSH LR LR
comp=N,29nm,3.0s
KSH LR LR
comp=E,36nm,3.7s
KSH LR LR
comp=Z,130nm,4.9s
ILAR Eielson Array 82.94 22 P P 07 19 34.6 -1.7
6.9nm,0.7s,baz=246,slow=5.5,SNR=101
COLD Coldfoot 83.02 19 eP P 07 19 35.6 -1.1
9.8nm,1.3s
KURK Kurchatov 83.83 322 eP P 07 19 39.8 -1.4
2.8nm,1.2s
TKM2 Tokmak 2 83.87 314 eP P 07 19 40.3 -1.6
5.0nm,1.2s
AAK Ala-Archa 84.60 314 eP P 07 19 44.7 -0.8
1.6nm,0.8s
MAW Mawson 84.78 203 LR LR 07 55 06.9
comp=Z,101nm,19.7s,baz=118,slow=34
EKS2 Erkin-Say 85.12 314 eP P 07 19 48.4 +0.3
4.4nm,0.9s
EGAK Eagle 85.15 23 eP P 07 19 47.6 0.0
15nm,1.1s
KKAR Karatay Array 87.56 314 eP P 07 19 58.9 -1.0
0.9nm,0.7s
DLBC Dease Lake 88.22 31 P P 07 20 03.5 +0.8
7.6nm,1.0s,baz=239,slow=8.5,SNR=4.9
INK Inuvik 89.23 21 eP P 07 20 06.3 -0.9
7.1nm,1.3s
NVAR Mina Array Bea 92.95 52 P P 07 20 26.1 +0.6
0.9nm,0.7s,baz=256,slow=7.3,SNR=7.0
NEW Newport 94.46 42 P P 07 20 31.7 -0.3
2.1nm,0.9s,baz=321,slow=6.5,SNR=3.8
YKA Yellowknife Ar 96.24 28 P P 07 20 39.5 -0.2
0.6nm,0.7s,baz=274,slow=4.9,SNR=15
PDAR Pinedale Array 99.72 48 P Pdif 07 20 56.4 +0.3
0.5nm,0.8s,baz=346,slow=1.9,SNR=3.9
PDAR LR LR 08 04 14.1
comp=Z,63nm,18.2s,baz=284,slow=34
GERES GERESS Array B 124.21 328 PKP PKPdf 07 26 09.1 -1.4
0.3nm,0.4s,baz=66,slow=1.6,SNR=5.3
TOA0 Torodi Ar. Sit 149.86 287 ePKPbc PKPbc 07 27 01.8 -1.0
TORD Torodi Ar. Bea 149.86 287 PKPbc PKPbc 07 27 00.9 -1.9
2.9nm,0.7s,baz=73,slow=2.7,SNR=17

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*BJI **06** 07:55:47.3, 8°.15S×148°.10E, h114km, mB5.1/26, mb5.0/44*
*IDC **06** 07:55:47.3±1.7, 8°.05S±0°.03×147°.95E, h87km±13km, mb4.3/16, mb1 4.4/17, mb1mx4.2/35, mbtmp4.6/17, MS3.6/6, Ms1 3.5/6, ms1mx3.2/25, Error ellipse: s-maj=24.9km s-min=12.5km az=93.0*
*ISCJB **06** 07:55:47.1±0.7, 8°.05S±0°.03×147°.81E±0°.04, h94km±7km, mb5.2/101, Error ellipse: s-maj=7.1km s-min=5.0km az=10.6*
*MOS **06** 07:55:47.0±0.9, 8°.00S×147°.81E, h92km, mb4.9/13, Error ellipse: s-maj=11.4km s-min=7.9km az=93.8*
*NEIC **06** 07:55:49.9±0.9, 8°.07S×147°.82E, h109km±7km, mb5.1/32, Error ellipse: s-maj=8.3km s-min=6.0km az=76.0*
NEIC Felt at Port Moresby.
*DJA **06** 07:55:51.8±0.9, 8°S±6°×14°8E±°, h105km±6km, M5.4/73, mb5.5/73, mB5.9/31, MLv5.1/2, Mw(mB)5.5/31*
ISC 06 07:55:50.9±0.5, 8°.16S±0°.04×147°.75E±0°.07, h114km±2km, h114km:pP-P, n237, σ1°32/275, mb5.2/101, 25C-21D, Eastern New Guinea region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 1.37 205 d iP Pn 07 56 14.2 -2.2
PMG pmax pmax
comp=Z,4μm,1.0s
PMG Port Moresby 1.37 205 P Pn 07 56 14.3 -2.1
comp=Z,1μm,0.3s,baz=352,slow=5.7,SNR=743
PMG S Sn 07 56 33.6 -2.2
comp=Z,898nm,0.3s,baz=54,slow=19,SNR=16
PMG Port Moresby 1.37 205 ePn Pn 07 56 16.6 +0.2
PMG eSn Sn 07 56 39.0 +3.2
PMG Port Moresby 1.37 205 P Pn 07 56 14.5 -2.0
baz=1.6,SNR=654
PMG S Sn 07 56 38.7 +2.8
baz=1.6,SNR=4.7
RABL Rabaul 5.90 48 P Pn 07 57 10.2 -5.8
baz=5.7,SNR=10
COEN Coen 7.30 217 ePn Pn 07 57 34.5 -0.5
COEN eSn Sn 07 58 55.2 -1.1
COEN Coen 7.30 217 ⇓P Pn 07 57 34.4 -0.6
baz=7.6,SNR=24
JAY Jayapura 8.97 308 ⇓P Pn 07 57 55.4 -2.2
baz=9.0
MTSU Mount Surprise 10.46 198 P Pn 07 58 17.5 -0.3
baz=11,SNR=90
CTA Charters Tower 11.95 187 ⇓P Pn 07 58 39.3 +1.7
baz=12
CTAO Charters Tower 11.95 187 eP Pn 07 58 39.6 +2.0
CTAO Charters Tower 11.95 187 ePn Pn 07 58 39.6 +2.0
QIS Mount Isa 14.63 212 ⇓P Pn 07 59 13.7 +1.4
baz=15,SNR=26
KDU Kakadu 15.68 252 ⇑P Pn 07 59 25.6 +0.1
baz=16,SNR=7.5
FAKI Fak Fak 16.27 288 P P 07 59 33.2 -0.6
comp=Z,78nm,1.2s,comp=Z,2μm
FAKI Fak Fak 16.27 288 eP P 07 59 33.0 -0.8
comp=Z,88nm,1.1s
FAKI Fak Fak 16.27 288 ⇓P P 07 59 33.0 -0.8
baz=16,SNR=4.7
MTN Manton Dam 16.98 253 ⇑P P 07 59 42.3 +0.7
baz=17,SNR=4.5
EIDS Eidsvold 17.41 170 eP Pn 07 59 47.0 +0.3
comp=Z,36nm,0.9s
EIDS Eidsvold 17.41 170 ⇑P Pn 07 59 47.2 +0.5
baz=18,SNR=8.7
WRAB Tennant Creek 17.47 227 P Pn 07 59 47.2 -0.3
comp=Z,405nm,0.5s,SNR=75
WRAB Tennant Creek 17.47 227 c iP Pn 07 59 47.3 -0.3
WRAB pmax pmax
comp=Z,130nm,1.7s
WRAB Tennant Creek 17.47 227 eP Pn 07 59 47.1 -0.5
comp=Z,43nm,0.7s
WRAB eS Sn 08 02 58.3 -4.2
WRA Warramunga Arr 17.49 227 P P 07 59 47.0 -0.1
comp=Z,2.9nm,0.3s,baz=52,slow=11,SNR=34
WRA S Sn 08 02 56.2 -6.6
comp=Z,0.3nm,0.3s,baz=48,slow=24,SNR=16
WRA LR LR 08 06 45.1
comp=Z,162nm,21.9s,baz=55,slow=37
WRA ScP ScP 08 07 51.3 +4.5
comp=Z,0.0nm,0.3s,baz=36,slow=1.7,SNR=8.8
SWI Sorong 17.95 293 P Pn 07 59 53.5 +0.2
comp=Z,41nm,0.8s,comp=Z,2μm
RMQ Roma 18.25 177 ⇓P Pn 07 59 57.6 +0.8
baz=18,SNR=82
QLP Quilpie 18.62 190 P Pn 08 00 01.4 +0.2
baz=19,SNR=25
KNRA Kununurra 20.01 246 ⇑P P 08 00 14.8 +0.1
baz=20,SNR=8.6
AS17 Alice Springs 20.29 219 ⇑P P 08 00 18.9 +1.3
baz=21
AS05 Alice Springs 20.30 219 ⇑P P 08 00 19.2 +1.3
baz=21
AS31 Alice Springs 20.34 219 eP P 08 00 19.4 +1.2
AS31 eS Sn 08 04 09.9 -1.3
ASAR Alice Springs 20.34 219 P P 08 00 19.2 +1.0
comp=Z,32nm,0.7s,baz=55,slow=9.3,SNR=446
ASAR S S 08 04 01.0 +0.9
comp=Z,6.9nm,0.8s,baz=37,slow=23,SNR=7.2
ASAR LR LR 08 08 31.5
comp=Z,200nm,18.4s,baz=32,slow=37
ARMA Armidale 22.44 171 eP P 08 00 40.5 -0.1
comp=Z,49nm,1.1s
ARMA Armidale 22.44 171 ⇑P P 08 00 40.3 -0.2
baz=23,SNR=21
SANI Sanana 22.49 284 P P 08 00 41.2 +0.1
comp=Z,111nm,1.1s,comp=Z,1μm
DZM Mont Dzumac 22.70 130 LR LR 08 08 41.6
comp=Z,77nm,18.7s,baz=330,slow=34
SOEI Soe 23.25 264 P P 08 00 50.4 +1.9
comp=Z,171nm,0.9s,comp=Z,2μm
SOEI Soe 23.25 264 eP P 08 00 49.6 +1.1
SOEI Soe 23.25 264 ⇓P P 08 00 48.5 0.0
baz=23
CMSA Cobar Meteorol 23.34 184 P P 08 00 49.7 +0.6
baz=24,SNR=6.5
STKA Stephens Creek 24.29 193 eP P 08 00 58.1 +0.5
STKA pmax pmax
comp=Z,10.0nm,1.0s
STKA Stephens Creek 24.29 193 P P 08 00 58.0 +0.5
comp=Z,9.3nm,0.5s,baz=358,slow=9.5,SNR=14
STKA LR LR 08 10 49.4
comp=Z,217nm,20.0s,baz=17,slow=37
STKA Stephens Creek 24.29 193 eP P 08 00 58.1 +0.5
comp=Z,9.9nm,1.0s
STKA Stephens Creek 24.29 193 ⇑P P 08 00 58.2 +0.5
baz=25,SNR=8.8
WRKA Warakurna 25.02 226 ⇓P P 08 01 04.7 +0.3
baz=25,SNR=119
MGCD Mangrove Creek 25.12 173 ⇓P P 08 01 06.2 +1.0
baz=25,SNR=6.4
KMSI Cibinong 25.23 289 P P 08 01 11.3 +4.9
comp=Z,308nm,0.9s
MMRI Maumere 25.24 267 P P 08 01 06.4 -0.1
comp=Z,522nm,0.6s,comp=Z,7μm
MMRI Maumere 25.24 267 eP P 08 01 06.0 -0.5
comp=Z,364nm,0.5s
YNG Young 26.02 179 P P 08 01 14.8 +1.4
baz=26,SNR=8.4
GTOI Gorontalo 26.16 288 P P 08 01 16.1 +1.3
comp=Z,185nm,0.8s,comp=Z,2μm
HTT Hallett 26.44 197 P P 08 01 18.9 +1.7
baz=27,SNR=6.8
BBOO Buckleboo 26.82 202 ⇓P P 08 01 23.4 +3.0
baz=27,SNR=10
APSI Ampana 26.98 284 P P 08 01 22.9 +0.8
comp=Z,150nm,1.1s,comp=Z,1μm
CAN Canberra 27.06 178 ⇑P P 08 01 23.4 +0.7
baz=27
CNB Canberra Magne 27.07 177 ⇑P P 08 01 24.0 +1.1
baz=27,SNR=6.1
BKSI Bulukumba 27.57 274 P P 08 01 27.7 +0.2
comp=Z,24nm,1.1s
BNSI Bone 27.72 276 P P 08 01 29.2 +0.4
comp=Z,34nm,1.4s
KAPI Kappang 27.98 275 P P 08 01 31.6 +0.5
comp=Z,352nm,0.8s,SNR=5.5
KAPI Kappang 27.98 275 eP P 08 01 31.5 +0.5
comp=Z,240nm,0.9s
TTSI Tana Toraja 28.24 279 P P 08 01 34.6 +1.2
comp=Z,25nm,0.9s
ARPS Mount Arapiles 28.98 190 ⇓P P 08 01 40.3 +0.6
baz=29
FORT Forrest 29.07 217 eP P 08 01 41.0 +0.4
comp=Z,66nm,0.6s
FORT Forrest 29.07 217 ⇓P P 08 01 41.0 +0.4
baz=29,SNR=21
MBWA Marble Bar 29.96 241 eP P 08 01 48.7 +0.2
comp=Z,15nm,0.7s
IGBI Denpasar 32.24 266 P P 08 02 07.8 -0.9
comp=Z,251nm,0.3s,comp=Z,6μm
BBKI Banjar Baru 33.05 276 P P 08 02 16.5 +0.7
comp=Z,109nm,1.0s
MEEK Meekatharra 33.19 233 ⇑P P 08 02 17.4 +0.5
baz=34,SNR=48
JAGI Jajag, Banyuwa 33.24 267 P P 08 02 15.4 -2.0
comp=Z,372nm,0.8s,comp=Z,3μm
JAGI Jajag, Banyuwa 33.24 267 eP P 08 02 15.2 -2.2
comp=Z,278nm,0.8s
JAGI Jajag, Banyuwa 33.24 267 ⇓P P 08 02 15.1 -2.4
baz=33,SNR=16
GMJI Gumukmas 33.94 267 P P 08 02 23.2 -0.3
comp=Z,55nm,0.9s
KKM Kota Kinabalu 34.46 293 eP P 08 02 27.0 -1.2
comp=Z,27nm,0.9s
KKM Kota Kinabalu 34.46 293 ⇑P P 08 02 27.0 -1.2
baz=35,SNR=4.1
GIRL Giralia 35.26 242 ⇑P P 08 02 35.8 +1.0
baz=36
PWJI Pagerwojo 35.58 268 P P 08 02 37.3 -0.3
comp=Z,79nm,0.7s
PCJI Pacitan 36.19 267 P P 08 02 42.1 -0.7
comp=Z,137nm,1.2s
MORW Morawa 36.34 231 ⇓P P 08 02 44.5 +0.5
baz=37,SNR=17
KLBR Kellerberrin 36.37 226 ⇑P P 08 02 44.4 +0.3
baz=37,SNR=27
WOJI Wonogiri, Jawa 36.46 268 P P 08 02 44.5 -0.6
comp=Z,195nm,0.9s,comp=Z,3μm
BLDU Ballidu 36.61 228 ⇑P P 08 02 47.0 +0.8
baz=37,SNR=11
UGM Wanagama 36.85 268 P P 08 02 48.4 -0.1
comp=Z,140nm,0.9s
UGM Wanagama 36.85 268 eP P 08 02 48.1 -0.4
UGM Wanagama 36.85 268 ⇓P P 08 02 48.1 -0.4
baz=37,SNR=12
SBUM Sibu 36.96 285 eP P 08 02 49.9 +0.5
SMRI Semarang 36.98 269 ⇑P P 08 02 49.4 -0.2
baz=37,SNR=3.9
STKI Sintang 37.06 281 P P 08 02 51.5 +1.3
comp=Z,64nm,1.0s,comp=Z,23μm
KPJI Karang Pucung 38.46 268 P P 08 03 02.2 +0.2
comp=Z,216nm,0.8s
KSM Kuching 38.53 283 eP P 08 03 03.2 +0.6
comp=Z,27nm,0.8s
KSM Kuching 38.53 283 ⇑P P 08 03 02.8 +0.2
baz=39,SNR=6.3
RKGY Rocky Gully 38.62 223 ⇓P P 08 03 04.2 +1.2
baz=39,SNR=8.5
CMJI Cimerak 38.91 268 P P 08 03 04.8 -0.9
comp=Z,542nm,0.9s,comp=Z,4μm
JCJI Jatiwangi 39.18 270 P P 08 03 08.5 +0.5
comp=Z,512nm,0.9s,comp=Z,7μm
CISI Cisompet, Garu 39.55 268 P P 08 03 10.5 -0.7
comp=Z,347nm,1.0s,comp=Z,4μm
CISI Cisompet, Garu 39.55 268 eP P 08 03 09.9 -1.3
comp=Z,314nm,0.9s
CISI Cisompet, Garu 39.55 268 ⇑P P 08 03 10.3 -0.9
baz=40,SNR=7.0
LEM Lembang 39.80 269 P P 08 03 13.7 +0.3
comp=Z,188nm,0.8s
LEM Lembang 39.80 269 ⇓P P 08 03 13.6 +0.3
baz=40,SNR=4.4
CNJI Cibinong 40.24 268 P P 08 03 16.4 -0.4
comp=Z,403nm,1.1s,comp=Z,4μm
TPI Tanjungpandan 40.25 275 P P 08 03 18.2 +1.3
comp=Z,113nm,1.1s,comp=Z,940nm
CBJI Citeko 40.59 270 P P 08 03 19.7 0.0
comp=Z,479nm,0.8s
DBJI Dramaga 40.68 269 P P 08 03 20.5 +0.1
comp=Z,99nm,0.9s
SKJI Sukabumi 40.83 269 P P 08 03 22.0 +0.3
comp=Z,451nm,0.7s
TPUB Ta-pu 41.00 320 eP P 08 03 22.1 -0.7
comp=Z,39nm,0.4s
XMIS Christmas Isla 41.58 263 eP P 08 03 28.4 +0.6
comp=Z,465nm,1.0s
CGJI Cibinong 41.72 269 P P 08 03 28.1 -0.8
comp=Z,340nm,0.9s,comp=Z,2μm
KASI Kota Agung 43.01 271 P P 08 03 37.9 -1.5
comp=Z,125nm,0.9s,comp=Z,1μm
MDSI Maura Dua 43.44 272 P P 08 03 41.9 -0.9
comp=Z,72nm,1.1s,comp=Z,656nm
LWLI Liwa 43.49 271 P P 08 03 43.0 -0.4
comp=Z,163nm,0.9s,comp=Z,5μm
DSRI Dabo 43.68 278 P P 08 03 46.0 +1.2
comp=Z,155nm,1.0s
DLV T Lat 43.85 297 eP P 08 03 45.6 -0.7
comp=Z,40nm,1.0s
TPRI Tanjung Pinang 44.02 280 P P 08 03 48.8 +1.3
comp=Z,208nm,0.8s
JNU Nakatsue 44.08 340 P P 08 03 46.7 -1.0
comp=Z,11nm,0.9s,baz=103,slow=4.9,SNR=4.3
JNU Nakatsue 44.08 340 eP P 08 03 47.4 -0.3
comp=Z,11nm,1.1s
LHSI Lahat 44.17 273 P P 08 03 48.9 +0.2
comp=Z,86nm,1.1s
MNAI Manna 44.66 272 ⇑P P 08 03 51.8 -0.8
baz=45,SNR=5.5
MYKOM Kota Tinggi 44.87 281 eP P 08 03 55.5 +1.2
comp=Z,39nm,0.9s
MJAR Matsushiro Arr 45.36 349 P P 08 03 56.5 -1.2
comp=Z,7.3nm,0.8s,baz=104,slow=13,SNR=8.1
MAJO Matsushiro 45.36 349 ⇑eP P 08 03 57.0 -0.7
MAJO pmax pmax
comp=Z,171nm,1.0s
MAJO Matsushiro 45.36 349 eP P 08 03 56.7 -1.0
comp=Z,14nm,0.8s
QIZ Qiongzhong 46.11 306 P P 08 04 04.5 +0.6
QIZ S S 08 10 43.0 +1.6
QIZ pmax pmax
comp=Z,27nm,1.4s
BKNI Bangkinang 47.30 278 eP P 08 04 14.2 +0.9
comp=Z,118nm,1.1s
PDSI Padang 47.64 276 P P 08 04 16.1 +0.1
comp=Z,27nm,0.6s,comp=Z,8μm
IPM Ipoh 48.26 283 eP P 08 04 21.3 +0.5
comp=Z,100nm,0.7s
NJ2 Nanjing 48.58 327 eP P 08 04 22.3 -0.5
NJ2 pmax pmax
comp=Z,20nm,0.6s
MNSI Mandailing Nat 48.83 278 P P 08 04 25.2 +0.1
comp=Z,54nm,1.0s,comp=Z,4μm
KULM Kulim 48.83 284 eP P 08 04 25.4 +0.3
comp=Z,51nm,0.8s
KSRS Korea Array 49.02 339 P P 08 04 25.4 -0.7
comp=Z,4.6nm,0.8s,baz=158,slow=8.6,SNR=13
KSRS LR LR 08 24 19.1
comp=Z,44nm,19.4s,baz=155,slow=35
KSAR Wonju Array Be 49.02 339 P P 08 04 25.4 -0.7
KSAR Wonju Array Be 49.02 339 P P 08 04 25.4 -0.7
PSI Prapat 49.89 281 P P 08 04 32.9 -0.4
comp=Z,12nm,0.5s,baz=126,slow=4.2,SNR=20
PSI Prapat 49.89 281 ⇓P P 08 04 33.1 -0.2
baz=50,SNR=14
COCO West Island 50.21 261 eP P 08 04 37.5 +1.9
COCO West Island 50.21 261 eP P 08 04 37.5 +1.9
comp=Z,235nm,1.3s
KCSI Kotacane, Aceh 51.18 281 P P 08 04 41.6 -1.3
comp=Z,85nm,0.8s,comp=Z,870nm
TPTI 51.69 281 P P 08 04 46.0 -0.7
comp=Z,85nm,1.0s
SLVN Son La 52.07 305 eP P 08 04 49.9 +0.4
comp=Z,22nm,1.3s
SNSI Sinabang, Aceh 52.34 279 P P 08 04 52.0 +0.5
comp=Z,143nm,0.9s
GYA Guiyang 52.66 312 P P 08 04 54.0 +0.2
GYA pP pP 08 05 23.2 +2.2
GYA sP sP 08 05 36.8 +3.1
GYA PP PP 08 06 57.4 +3.2
GYA S S 08 12 14.7 +1.7
GYA sS sS 08 13 01.0 +1.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.0s
ENH Enshi 53.00 318 eP P 08 04 55.9 -0.2
comp=Z,6.3nm,0.4s
USRK Ussuriysk Arra 54.03 346 P P 08 05 02.2 -1.0
comp=Z,2.7nm,0.8s,baz=173,slow=7.7,SNR=4.5
BSI Banda Aceh 54.04 283 ⇑P P 08 05 02.6 -1.4
baz=54
KMI Kunming 54.90 308 P P 08 05 11.2 +0.9
KMI pmax pmax
comp=Z,19nm,1.0s
CMAR Chiang Mai Arr 54.93 299 c eP P 08 05 11.6 +1.3
CMAR pmax pmax
comp=Z,15nm,0.7s
CMAR Chiang Mai Arr 54.93 299 P P 08 05 11.4 +1.1
comp=Z,15nm,0.7s,baz=120,slow=4.4,SNR=54
MDJ Mudanjiang 55.03 344 P P 08 05 12.1 +1.6
MDJ pmax pmax
comp=Z,12nm,1.3s
MDJ pmax pmax
comp=Z,140nm,4.5s
YSS Yuzh-Sakhalins 55.05 356 eP P 08 05 10.9 +0.3
CHTO Chiang Mai 55.08 300 eP P 08 05 12.3 +0.9
CHTO pmax pmax
comp=Z,37nm,1.3s
CHTO Chiang Mai 55.08 300 eP P 08 05 12.3 +0.9
comp=Z,37nm,1.3s
CN2 Changchun 55.53 341 eP P 08 05 18.0 +3.9
CN2 esP sP 08 05 59.0 +4.8
CN2 eS S 08 12 54.0 +3.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
XAN Xi'an 55.81 321 P P 08 05 15.5 -0.9
XAN pP pP 08 05 41.6 -2.3
XAN sP sP 08 05 54.6 -1.9
XAN pmax pmax
comp=Z,5.0nm,1.3s
BJI Beijing 56.13 331 P P 08 05 17.6 -0.9
BJI sP sP 08 05 57.1 -1.5
BJI PcP PcP 08 06 15.3 +0.2
BJI S S 08 13 00.2 +1.4
BJI sS sS 08 13 46.2 +0.1
BJI ScS ScS 08 14 50.2 -6.4
BJI SS SS 08 16 43.2 -4.0
BJI pmax pmax
comp=Z,10.0nm,1.5s
BJI pmax pmax
comp=Z,140nm,4.5s
CD2 Chengdu 57.30 315 eP P 08 05 30.0 +2.9
CD2 pP pP 08 05 57.6 +3.0
CD2 sP sP 08 06 10.5 +3.2
CD2 PcP PcP 08 06 22.3 +2.3
CD2 PP PP 08 07 40.4 +4.8
CD2 PcS PcS 08 10 22.0 +0.7
CD2 S S 08 13 16.1 +1.4
CD2 sS sS 08 14 04.1 +2.0
CD2 SS SS 08 17 08.9 +2.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.4s
HABR Khabarovsk 57.49 350 eP P 08 05 26.3 -1.6
HABR e*PP pP 08 05 52.8 -2.7
HABR e 08 06 18.7
HABR 08 07 35.6
HABR ePPP PPP 08 08 53.5
HABR e 08 15 04.6
HABR pmax pmax
comp=Z,28nm,1.8s
HHC Hu-ho-hao-te 59.05 329 eP P 08 05 42.4 +3.3
HHC pP pP 08 06 09.3 +2.5
HHC sP sP 08 06 21.6 +2.2
HHC PcP PcP 08 06 29.4 +2.6
HHC PcS PcS 08 10 29.7 +0.9
HHC S S 08 13 40.4 +3.2
HHC ScS ScS 08 15 17.1 -1.2
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,150nm,6.8s
LZH Lanzhou 60.32 320 eP P 08 05 48.8 +0.8
LZH pP pP 08 06 17.5 +1.7
LZH sP sP 08 06 31.2 +2.8
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,230nm,5.4s
PETK Petropavlovsk- 61.61 7 P P 08 05 55.8 -0.4
comp=Z,3.6nm,0.5s,baz=169,slow=7.3,SNR=8.6
LSA Lhasa 66.12 307 eP P 08 06 27.8 +1.0
LSA pmax pmax
comp=Z,18nm,0.7s
LSA Lhasa 66.12 307 eP P 08 06 27.8 +1.0
comp=Z,18nm,0.7s
ULN Ulaanbaatar 66.34 331 ⇑eP P 08 06 27.4 -0.1
ULN pmax pmax
comp=Z,9.0nm,1.5s
ULN Ulaanbaatar 66.34 331 eP P 08 06 27.2 -0.3
comp=Z,7.1nm,1.3s
SONM Songino Array 66.64 331 LR LR 08 36 02.8
comp=Z,40nm,20.4s,baz=147,slow=36
TAPN Taplejung 67.95 304 eP P 08 06 38.6 +0.4
ODAN Odare 68.03 303 eP P 08 06 38.9 +0.3
comp=Z,52nm,1.1s
PALK Pallekele 68.57 281 eP P 08 06 42.7 +0.7
PALK pmax pmax
comp=Z,61nm,1.0s
PALK Pallekele 68.57 281 eP P 08 06 42.7 +0.7
comp=Z,61nm,1.0s
RAMN Ramite 68.72 303 eP P 08 06 43.3 +0.3
JIRN Jiri 69.32 304 eP P 08 06 47.2 +0.4
comp=Z,14nm,0.6s
GUN Gumba 69.67 304 eP P 08 06 49.1 +0.2
comp=Z,61nm,0.9s
VNDA Vanda 69.73 177 P P 08 06 48.0 0.0
VNDA Vanda 69.73 177 P P 08 06 48.0 0.0
comp=Z,4.3nm,0.6s,baz=346,slow=8.7,SNR=7.8
ZAK Zakamensk 69.88 331 eP P 08 06 48.3 -1.1
ZAK pmax pmax
comp=Z,4.0nm,1.1s
PKI Pulchoki 69.93 303 eP P 08 06 50.5 0.0

PKIN Phulchoki 69.94 303 eP P 08 06 50.6 +0.1
KKN Kakani 70.12 303 eP P 08 06 51.8 +0.3
DMN Daman 70.20 303 eP P 08 06 52.5 +0.5
comp=Z,60nm,0.9s
TLY Talaya 70.59 333 eP P 08 06 53.4 -0.2
TLY pmax pmax
comp=Z,4.0nm,1.5s
GKN Gorkha 70.72 303 eP P 08 06 55.3 +0.2
comp=Z,54nm,0.8s
SEY Seymchan 70.97 2 P P 08 06 54.7 -0.9
comp=Z,1.0nm,0.5s,baz=194,slow=5.6,SNR=6.6
YAK Yakutsk 71.37 351 eP P 08 06 58.3 +0.3
KOLN Koldanda 71.50 303 eP P 08 07 00.1 +0.2
DANN Dangsing 71.57 303 eP P 08 07 00.2 -0.2
comp=Z,28nm,0.8s
PYUN Piuthan 72.12 303 eP P 08 07 03.2 -0.4
HYB Hyderabad 72.91 291 iP P 08 07 07.0 -1.2
WMQ Urumqi 74.90 319 P P 08 07 19.9 +0.5
WMQ PcP PcP 08 07 33.6 +0.9
WMQ pP pP 08 07 48.1 -0.1
WMQ sP sP 08 08 01.7 +1.2
WMQ PP PP 08 10 11.1 +2.5
WMQ S S 08 16 46.5 -1.0
WMQ SKS SKSac 08 17 13.3 -4.5
WMQ sS sS 08 17 35.3 -1.8
WMQ pmax pmax
comp=Z,30nm,1.0s
WMQ pmax pmax
comp=Z,160nm,4.6s
WMQ LR LR
comp=Z,63nm,17.8s
WMQ LR LR
comp=Z,67nm,21.0s
WMQ LR LR
comp=Z,41nm,17.2s
BILL Bilibino 77.15 7 eP P 08 07 32.0 +0.5
BILL e 08 10 31.9
BILL pmax pmax
comp=Z,3.0nm,1.3s
MK31 Makanchi Array 79.62 321 iP P 08 07 45.3 -0.3
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 79.62 321 eP P 08 07 45.1 -0.5
MKAR Makanchi Array 79.62 321 P P 08 07 45.5 -0.1
comp=Z,7.4nm,0.8s,baz=109,slow=6.1,SNR=92
MKAR Makanchi Array 79.62 321 ⇓P P 08 07 45.7 +0.1
baz=80
TIXI Tiksi 80.62 354 P P 08 07 50.1 -0.2
TIXI pmax pmax
comp=Z,2.0nm,0.9s
ZAA0 Zalesovo Array 81.22 328 eP P 08 07 52.2 -1.7
ZALV Zalesovo Beam 81.22 328 P P 08 07 52.5 -1.4
comp=Z,5.1nm,0.7s,baz=116,slow=5.0,SNR=21
KSH Kashi 81.36 312 eP P 08 07 56.4 +1.2
KSH esP sP 08 08 37.3 +0.6
KSH ePP PP 08 11 06.1 +3.4
KSH S S 08 17 53.3 -3.8
KSH SS SS 08 23 17.1 +1.3
KSH pmax pmax
comp=Z,9.0nm,1.2s
KSH LR LR
comp=Z,85nm,5.2s
KSH LR LR
comp=Z,140nm,5.4s
KSH LR LR
comp=Z,83nm,5.7s
KZA Kyzart 82.67 314 iP P 08 08 03.3 +1.0
KZA Kyzart 82.67 314 P P 08 08 03.4 +1.0
SNR=14
TKM2 Tokmak 2 82.69 315 eP P 08 08 01.9 -0.2
TKM2 pmax pmax
comp=Z,16nm,0.6s
TKM2 Tokmak 2 82.69 315 P P 08 08 01.7 -0.4
SNR=9.9
TKM2 Tokmak 2 82.69 315 eP P 08 08 01.9 -0.2
comp=Z,16nm,0.6s
UCH Uchtor 83.24 314 iP P 08 08 05.5 +0.2
UCH Uchtor 83.24 314 P P 08 08 05.5 +0.2
SNR=14
CHMS Chumysh 83.30 315 iP P 08 08 05.3 +0.2
CHMS Chumysh 83.30 315 P P 08 08 05.3 +0.2
SNR=8.1
KURK Kurchatov 83.37 323 eP P 08 08 04.5 -0.7
KURK pmax pmax
comp=Z,21nm,1.5s
KURK Kurchatov 83.37 323 eP P 08 08 04.5 -0.7
comp=Z,21nm,1.5s
AAK Ala-Archa 83.37 315 P P 08 08 05.8 +0.1
comp=Z,78nm,0.8s,SNR=6.9
AAK Ala-Archa 83.37 315 c iP P 08 08 05.5 -0.2
AAK pmax pmax
comp=Z,50nm,1.6s
AAK Ala-Archa 83.37 315 P P 08 08 05.8 +0.1
SNR=10
AAK Ala-Archa 83.37 315 P P 08 08 05.8 +0.1
comp=Z,7.5nm,0.8s,baz=132,slow=4.9,SNR=20
AAK Ala-Archa 83.37 315 eP P 08 08 05.5 -0.2
comp=Z,23nm,1.4s
KURBB Kurchatov Arra 83.39 323 P P 08 08 04.4 -0.9
comp=Z,4.6nm,0.6s,baz=116,slow=3.7,SNR=19
USP Ospenovka 83.56 315 iP P 08 08 06.4 0.0
USP Ospenovka 83.56 315 P P 08 08 06.5 0.0
SNR=18
AML Almayashu 83.79 314 iP P 08 08 08.6 +0.5
AML Almayashu 83.79 314 P P 08 08 08.6 +0.5
SNR=17
EKS2 Erkin-Say 83.89 315 eP P 08 08 08.0 -0.2
EKS2 pmax pmax
comp=Z,17nm,0.9s
EKS2 Erkin-Say 83.89 315 P P 08 08 08.6 +0.4
SNR=19
EKS2 Erkin-Say 83.89 315 eP P 08 08 08.0 -0.2
comp=Z,17nm,0.9s
KK31 Karatay Array 86.32 314 iP P 08 08 19.5 -0.7
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 86.32 314 eP P 08 08 19.2 -1.0
KKAR pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 86.32 314 eP P 08 08 19.2 -1.0
comp=Z,8.4nm,1.0s
ILAR Eielson Array 87.16 23 P P 08 08 21.2 -2.6
comp=Z,1.1nm,0.7s,baz=252,slow=4.8,SNR=20
BRVK Borovoye 89.01 324 eP P 08 08 31.5 -1.3
BRVK pmax pmax
comp=Z,3.0nm,0.8s
ABKAR Akbulak array 94.68 319 ⇓P P 08 08 57.4 -1.7
baz=95
LSZ Lusaka 115.75 249 ePKIKP PKPdf 08 14 21.8 +0.8
LSZ Lusaka 115.75 249 ePKPdf PKPdf 08 14 21.8 +0.8
TSUM Tsumeb 123.87 240 ePKPdf PKPdf 08 14 36.9 +0.3
GERES GERESS Array B 124.09 325 PKP PKPdf 08 14 35.5 -0.6
comp=Z,0.8nm,0.6s,baz=94,slow=1.7,SNR=9.3
TOA0 Torodi Ar. Sit 146.29 281 ePKPdf PKPbc 08 15 18.9 -0.3
TORD Torodi Ar. Bea 146.29 281 PKPbc PKPbc 08 15 19.3 +0.1
comp=Z,19nm,0.7s,baz=76,slow=2.7,SNR=105
BDFB Brasilia 151.67 147 PKPbc PKPbc 08 15 32.7 -0.3
comp=Z,10nm,0.8s,baz=236,slow=1.8,SNR=13
KIC Kosan Boka 152.65 268 ePKIKP PKPbc 08 15 35.1 -0.1
comp=Z,36nm,0.8s
DBIC Dimbokro 152.79 269 ePKIKP PKPbc 08 15 35.1 -0.4
DBIC e 08 15 47.3
DBIC Dimbokro 152.79 269 PKPbc PKPbc 08 15 35.2 -0.3
comp=Z,14nm,0.6s,baz=107,slow=3.5,SNR=24
DBIC Dimbokro 152.79 269 ePKPbc PKPbc 08 15 35.1 -0.4
DBIC ePKPab PKPab 08 15 47.3 +0.5
LIC Lamto 152.92 268 ePKIKP PKPbc 08 15 35.6 -0.2
comp=Z,54nm,0.7s
TIC Toumodi 152.95 269 ePKIKP PKPbc 08 15 35.6 -0.3

IDC 06 08:00:13.9±0.8, 14.°44N×53.°92E, h0km, mb4.1/13, mb1 4.1/13, mb1mx3.9/46, mbtmp4.1/13, MS3.8/21, Ms1 3.8/21, ms1mx3.7/38, Error ellipse: s-maj=22.7km s-min=16.7km az=85.0
ISCJB 06 08:00:15.4±0.5, 14.°55N±0.°05×53.°75E±0.°08, h19km, mb4.1/17, MS3.8/21, Error ellipse: s-maj=11.1km s-min=7.3km az=4.0
NEIC 06 08:00:16.1±0.5, 14.°47N×53.°79E, h10km, mb4.4/6, Error ellipse: s-maj=12.0km s-min=10.5km az=69.0
ISC 06 08:00:17.2±0.7, 14.°50N±0.°08×53.°8E±0.°1, h19km, n51, σ1.°53/33, mb4.1/17, MS3.8/21, Owen Fracture Zone region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DAMY Dhamar 9.06 272 ePn Pn 08 02 28.2 +0.8
RAYN Ar Rayn 11.88 320 ePn Pn 08 03 04.5 -1.4
11nm,0.7s
IKAZ Kazeroun 15.31 354 eP Pn 08 03 53.1 +0.4
IMEH Mehriz 16.83 3 eP Pn 08 04 09.4 -2.6
IBAF Bafgh 17.09 5 eP Pn 08 04 11.8 -3.5
ISAD Sadrabad 17.33 360 eP Pn 08 04 16.5 -1.9
IPIR Pirpir 18.29 352 eP P 08 04 29.4 -0.9
IZEF Zefreh 18.36 356 eP P 08 04 29.7 -1.3
IKLH Kolahrood 18.84 354 eP P 08 04 35.4 -0.9
MSEY Mahe Island 19.13 175 eP Pn 08 04 39.0 -1.3
20nm,1.0s
IKOM Komasi 20.38 345 eP P 08 04 52.8 -0.4
IVRN Varamin 20.49 355 eP P 08 04 55.1 +1.0
IR3 Iran Long-Peri 21.03 354 eP P 08 05 00.5 +0.5
IDHR Dehrash 21.18 343 eP P 08 05 00.6 -1.2
KMBO Kilima Mbogo 22.54 228 P P 08 05 15.1 -1.5
7.2nm,0.9s,baz=40,slow=12,SNR=18
KMBO LR LR 08 13 49.0
comp=Z,381nm,19.3s,baz=42,slow=36
KMBO Kilima Mbogo 22.54 228 eP P 08 05 14.7 -1.8
8.4nm,0.9s
EIL Elat 23.00 314 P P 08 05 22.8 +1.8
3.1nm,0.7s,baz=50,slow=13,SNR=3.8
EIL LR LR 08 13 44.4
comp=Z,411nm,18.0s,baz=132,slow=35
ASF Jabal al Asfar 23.37 322 P P 08 05 26.2 +1.3
3.2nm,0.9s,baz=144,slow=1.1,SNR=4.2
ASF LR LR 08 14 58.6
comp=Z,466nm,18.6s,baz=92,slow=38
KBL Kabul 24.26 32 eP P 08 05 34.5 +1.0
13nm,1.0s
MMAI Mount Meron Ar 24.86 321 P P 08 05 41.1 +2.3
7.3nm,0.9s,baz=120,slow=13,SNR=6.8
MMAI LR LR 08 14 45.6
comp=Z,181nm,21.6s,baz=165,slow=35
GNI Garni 26.74 345 LR LR 08 18 18.7
comp=Z,142nm,19.9s,baz=142,slow=40
H08N2 Diego Garcia H 26.85 139 T T 08 33 38.1
baz=320,slow=76,SNR=111
H08N3 Diego Garcia H 26.86 139 T T 08 33 40.5
baz=320,slow=76,SNR=90
H08N1 Diego Garcia H 26.87 139 T T 08 33 39.8
baz=320,slow=76,SNR=102
KBZ Khabaz 30.57 344 LR LR 08 20 53.3
comp=Z,378nm,20.3s,baz=150,slow=40
BRTR Keskin Array B 30.70 329 P P 08 06 32.5 +1.4
1.1nm,0.8s,baz=135,slow=14,SNR=5.2
BRTR LR LR 08 20 16.1
comp=Z,171nm,18.1s,baz=102,slow=39
AAK Ala-Archa 33.24 28 LR LR 08 22 04.1
comp=Z,134nm,19.8s,baz=333,slow=39
ABKAR Akbulak array 35.03 7 eP P 08 07 08.4 -0.1
3.7nm,0.8s
AKTO Aktyubinsk 36.00 5 LR LR 08 25 22.0
comp=Z,112nm,18.5s,baz=160,slow=42
MKAR Makanchi Array 40.06 31 LR LR 08 25 53.5
comp=Z,157nm,19.4s,baz=237,slow=38
BVAR Borovoye Array 40.63 15 P P 08 07 55.9 0.0
2.3nm,0.7s,baz=200,slow=7.4,SNR=12
AKASG Malin Array Be 41.20 336 P P 08 07 59.8 -0.8
1.2nm,0.8s,baz=142,slow=7.7,SNR=9.1
AKASG LR LR 08 28 26.9
comp=Z,131nm,18.8s,baz=310,slow=41
CMAR Chiang Mai Arr 43.43 78 P P 08 08 21.4 +2.1
1.2nm,0.3s,baz=276,slow=9.0,SNR=5.6
CMAR LR LR 08 24 17.2
comp=Z,40nm,21.7s,baz=336,slow=33
KEST Kesra 44.96 306 LR LR 08 28 07.9
comp=Z,99nm,18.5s,baz=220,slow=37
PSI Prapat 46.05 100 LR LR 08 24 38.0
comp=Z,116nm,21.4s,baz=252,slow=32
LBTB Lobatse 47.92 215 P P 08 08 56.0 +1.3
6.2nm,1.0s,baz=44,slow=11,SNR=5.0
TOA0 Torodi Ar. Sit 50.48 275 eP P 08 09 17.2 +2.8
TORD Torodi Ar. Bea 50.48 275 P P 08 09 14.2 -0.2
1.4nm,0.9s,baz=84,slow=5.8,SNR=7.2
TORD LR LR 08 31 08.0
comp=Z,40nm,18.4s,baz=185,slow=37
FINES FINESS Array B 50.92 343 P P 08 09 16.6 -0.4
1.9nm,0.7s,baz=157,slow=14,SNR=6.0
FINES LR LR 08 33 13.8
comp=Z,146nm,18.4s,baz=89,slow=39
BOSA Boshof 50.96 213 P P 08 09 18.6 +0.7
2.8nm,0.9s,baz=27,slow=6.8,SNR=2.7
NOA NORSAR Array B 55.62 337 LR LR 08 35 43.9
comp=Z,77nm,21.4s,baz=120,slow=38
ARCES ARCESS Array B 57.79 349 LR LR 08 38 04.8
comp=Z,145nm,20.3s,baz=104,slow=39
KSRS Korea Array 68.84 55 LR LR 08 42 12.1
comp=Z,97nm,19.7s,baz=142,slow=37
H01W3 Cape Leeuwin H 75.41 132 T T 09 34 14.2
baz=300,slow=75,SNR=8.5
H01W2 Cape Leeuwin H 75.42 132 T T 09 34 15.0
baz=300,slow=75,SNR=8.7
H01W1 Cape Leeuwin H 75.43 132 T T 09 34 15.9
baz=300,slow=75,SNR=7.9
WRA Warramunga Arr 86.29 112 P P 08 12 57.3 -1.1
0.7nm,0.9s,baz=298,slow=3.9,SNR=3.6
WRAB Tennant Creek 86.30 112 eP P 08 12 58.9 +0.4
4.4nm,1.0s
ASAR Alice Springs 86.99 115 P P 08 13 00.6 -1.3
1.5nm,0.7s,baz=293,slow=4.8,SNR=11
FX1 Attu Island--F 95.18 32 LR LR 08 58 24.0
comp=Z,66nm,20.3s,baz=64,slow=37
STKA Stephens Creek 95.72 121 LR LR 08 54 24.5
comp=Z,33nm,18.1s,baz=55,slow=34

ISCJB 06 08:01:05.3±1.5, 9.°0S±0.°3×149.°1E±0.°1, h33km, mb3.8/1, Error ellipse: s-maj=37.6km s-min=15.0km az=161.5
IDC 06 08:01:14.3±4.1, 8.°74S×148.°54E, h92km±33km, mb3.4/2, mb1 3.9/3, mb1mx3.4/31, mbtmp3.9/3, Error ellipse: s-maj=66.8km s-min=34.9km az=125.0
ISC 06 08:01:07.5±1.3, 8.°9S±0.°3×149.°0E±0.°2, h35km, n6, σ0.°83/6, Eastern New Guinea region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 1.89 254 P Pn 08 01 41.9 +4.6
15nm,0.3s,baz=188,slow=10,SNR=21
PMG S Sn 08 02 00.1 +0.3
21nm,0.3s,baz=48,slow=16,SNR=8.8
WRA Warramunga Arr 17.94 231 P Pn 08 05 13.3 -1.1
1.3nm,0.3s,baz=55,slow=12,SNR=14
ASAR Alice Springs 20.61 223 P P 08 05 44.4 +0.5
2.3nm,0.7s,baz=57,slow=9.0,SNR=9.1
ILAR Eielson Array 87.35 23 P P 08 13 50.2 -0.3
0.4nm,0.7s,baz=252,slow=4.7,SNR=4.8
TORD Torodi Ar. Bea 147.64 281 PKPbc PKPdf 08 20 47.1 +0.5
0.6nm,0.6s,baz=68,slow=2.9,SNR=4.2
BDFB Brasilia 150.38 145 PKPbc PKPbc 08 20 56.9 +0.4
1.8nm,0.4s,baz=198,slow=3.2,SNR=3.7

IDC 06 08:01:33.6±2.8, 46.°55N×153.°04E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.4/48, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=56.9km s-min=45.5km az=34.0
SKHL 06 08:01:37.9±0.6, 47.°01N×153.°22E, h29km±3km, mb4.8/1
MOS 06 08:01:38.0±2.4, 46.°86N×153.°40E, h27km, mb4.2/1, Error ellipse: s-maj=88.1km s-min=19.7km az=78.4
ISC 06 08:01:43.0±1.3, 47.°1N±0.°2×152.°9E±0.°2, h56km, n21, σ2.°27/13, mb3.6/3, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 3.97 244 eP Pn 08 02 40.0 -1.2
KUR eS Sn 08 03 27.0 +0.5
KUR A A 08 03 46.0
130nm,0.7s
KUR A A 08 03 46.0
90nm,0.7s
SKR Severo-Kuril's 4.17 29 ePN Pn 08 02 39.0 -5.0
SKR pmax pmax
comp=Z,80nm,0.5s
SKR Severo-Kuril's 4.17 29 eP Pn 08 02 39.9 -4.1
SKR AMB AMB 08 02 39.9
comp=Z,80nm,0.5s
SKR eS Sn 08 03 26.0 -5.4
SHO Shikotan 5.35 235 eP Pn 08 03 00.0 -0.2
SHO eS Sn 08 03 59.3 -1.2
SHO A A 08 04 20.7
comp=Z,132nm,0.6s
PETK Petropavlovsk- 6.76 25 PN Pn 08 03 21.2 +1.7
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 6.76 25 Pn Pn 08 03 21.1 +1.7
comp=Z,0.8nm,0.3s,baz=192,slow=14,SNR=6.5
MYR Moyori 8.37 239 eP Pn 08 03 39.5 -2.0
SEY Seymchan 15.88 359 Pn P 08 05 25.3 0.0
comp=Z,0.3nm,0.3s,baz=157,slow=17,SNR=5.1
H11N2 WAKE ISLAND Hy 29.59 153 T T 08 39 05.1
baz=342,slow=77,SNR=245
H11N1 WAKE ISLAND Hy 29.60 153 T T 08 39 28.8
baz=342,slow=77,SNR=260
H11N3 WAKE ISLAND Hy 29.60 153 T T 08 39 32.5
baz=342,slow=77,SNR=207
H11S1 WAKE ISLAND Hy 30.67 154 T T 08 40 53.3
baz=344,slow=77,SNR=114
H11S3 WAKE ISLAND Hy 30.68 154 T T 08 40 26.7
baz=344,slow=77,SNR=96
H11S2 WAKE ISLAND Hy 30.69 154 T T 08 40 27.8
baz=344,slow=77,SNR=90
YKA Yellowknife Ar 50.73 37 P P 08 10 37.9 +1.3
comp=Z,0.4nm,0.7s,baz=295,slow=7.1,SNR=5.5
FINES FINESS Array B 63.67 335 P P 08 12 09.8 +1.9
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 63.67 335 P P 08 12 09.8 +1.9
comp=Z,1.1nm,0.8s,baz=36,slow=10,SNR=3.1
TXAR Lajitas Array 77.44 60 P P 08 13 31.6 -0.7
comp=Z,0.1nm,0.4s,baz=301,slow=4.9,SNR=4.2
H03N2 Juan Fernandez 138.89 90 T T 10 56 04.5
baz=306,slow=75,SNR=13
H03N1 Juan Fernandez 138.90 90 T T 10 56 22.7
baz=306,slow=75,SNR=18
H03N3 Juan Fernandez 138.90 90 T T 10 56 26.9
baz=306,slow=75,SNR=17

ISCJB 06 08:31:05.4±0.4, 52.°0N±0.°1×178.°10E±0.°06, h113km±3km, mb3.8/16, Error ellipse: s-maj=17.3km s-min=5.1km az=9.3
NEIC 06 08:31:05.4, 51.°90N×178.°12E, h107km, MG3.5(AEIC), After AEIC.
IDC 06 08:31:06.2±2.7, 51.°97N×178.°18E, h102km±23km, mb3.5/16, mb1 3.6/18, mb1mx3.5/36, mbtmp3.8/18, Error ellipse: s-maj=21.9km s-min=13.0km az=175.0
ISC 06 08:31:06.6±0.8, 51.°9N±0.°1×178.°10E±0.°05, h108km±6km, n46, σ0.°82/47, mb3.8/16, Rat Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LSSA Little Sitkin 0.26 82 P Pn 08 31 22.1 +0.2
LSSA S Sn 08 31 34.7 +1.2
LSNW Little Sitkin 0.27 77 P Pn 08 31 21.3 -0.6
LSPA Little Sitkin 0.30 81 P Pn 08 31 22.4 +0.3
CETU Semis' Tuman 0.87 86 P Pn 08 31 26.0 -0.2
CESW Semis' Southwe 0.91 90 P Pn 08 31 26.0 -0.6
CEAP Semis' Anvil P 0.92 84 P Pn 08 31 26.5 -0.2
CEAP S Sn 08 31 41.5 -0.5
AMKA Amchitka 0.92 125 P Pn 08 31 26.1 -0.6
AMKA S Sn 08 31 40.7 -1.3
CERB Semis' Cerberu 0.95 88 P Pn 08 31 27.0 -0.1
CERB S Sn 08 31 42.2 -0.3
CERAA Semis' Rag'd T 0.98 90 P Pn 08 31 26.9 -0.4
CERAA S Sn 08 31 42.9 -0.2
TANO Tanaga North 2.34 88 P Pn 08 31 43.7 -0.1
TASE Tanaga Southea 2.40 90 P Pn 08 31 44.5 -0.1
TAFP Tanaga Falls P 2.43 89 P Pn 08 31 44.2 -0.7
TAFL Tanaga Flats 2.49 92 P Pn 08 31 45.4 -0.3
SMY Shemya 2.59 290 P Pn 08 31 46.4 -0.6
SMY S Sn 08 32 18.2 +0.2
KIKV Kanaga Island 2.93 89 P Pn 08 31 51.3 -0.2
FX1 Attu Island--F 3.17 290 P Pn 08 31 54.1 -0.7
25nm,0.3s,baz=176,slow=4.8,SNR=42
FX1 S Sn 08 32 29.5 -2.4
50nm,0.3s,baz=251,slow=22,SNR=14
ADAG Mount Adagdak 3.28 87 P Pn 08 31 56.0 -0.2
ETKA Kagalaska Isla 3.41 89 P Pn 08 31 57.7 -0.2
GSCK Great Sitkin C 3.55 86 P Pn 08 31 59.4 -0.4
GSMY Great Sitkin M 3.62 86 P Pn 08 32 00.3 -0.4
KOWE Korovin West 4.74 82 P Pn 08 32 16.3 +0.6
KOKL Mount Kliuchef 4.76 82 P Pn 08 32 17.7 +1.6
NIKH Nikolski High 8.05 77 P Pn 08 33 01.5 +1.0
PETK Petropavlovsk- 12.48 284 P Pn 08 34 02.1 +1.9
0.6nm,0.3s,baz=90,slow=18,SNR=7.5
ILAR Eielson Array 22.07 41 P P 08 35 50.7 -1.6
0.3nm,0.5s,baz=248,slow=8.6,SNR=18
H11N2 WAKE ISLAND Hy 33.30 199 T T 09 12 57.1
baz=13,slow=76,SNR=26
H11N3 WAKE ISLAND Hy 33.31 199 T T 09 13 05.2
baz=13,slow=76,SNR=23
H11N1 WAKE ISLAND Hy 33.31 199 T T 09 12 57.0
baz=13,slow=76,SNR=27
H11S1 WAKE ISLAND Hy 34.52 199 T T 09 14 31.6
baz=29,SNR=3.5
H11S3 WAKE ISLAND Hy 34.54 199 T T 09 14 39.9
baz=29
H11S2 WAKE ISLAND Hy 34.54 199 T T 09 14 46.8
baz=29
YKA Yellowknife Ar 36.26 46 P P 08 37 58.9 0.0
0.8nm,0.7s,baz=285,slow=7.9,SNR=14
NVAR Mina Array Bea 45.39 81 P P 08 39 14.9 +0.6
0.5nm,0.5s,baz=292,slow=7.8,SNR=4.2
PDAR Pinedale Array 47.97 71 P P 08 39 33.1 -1.3
0.5nm,0.4s,baz=332,slow=5.9,SNR=6.0
ARCES ARCESS Array B 57.21 349 P P 08 40 41.2 -0.5
3.8nm,0.9s,baz=24,slow=8.1,SNR=8.6
KURBB Kurchatov Arra 57.34 312 P P 08 40 42.9 0.0
0.4nm,0.4s,baz=44,slow=6.4,SNR=4.1
MKAR Makanchi Array 58.17 306 P P 08 40 48.2 -0.6
0.3nm,0.3s,baz=45,slow=6.8,SNR=9.7
BVAR Borovoye Array 59.21 318 P P 08 40 56.0 +0.1
1.2nm,0.3s,baz=48,slow=7.5,SNR=11
TXAR Lajitas Array 60.47 79 P P 08 41 04.8 -0.2
0.2nm,0.3s,baz=303,slow=5.9,SNR=10.0
SCHQ Schefferville 60.76 37 P P 08 41 06.3 -0.1
0.9nm,0.6s,baz=349,slow=10,SNR=2.6
FINES FINESS Array B 64.81 346 P P 08 41 32.3 -0.8
1.1nm,0.8s,baz=25,slow=4.6,SNR=4.1
AAK Ala-Archa 65.02 308 P P 08 41 36.0 +0.9
0.6nm,0.5s,baz=360,slow=5.2,SNR=2.9
AKTO Aktyubinsk 66.11 323 P P 08 41 43.0 +1.3
1.0nm,0.5s,baz=41,slow=6.1,SNR=5.1
AKASG Malin Array Be 74.41 340 P P 08 42 32.0 -0.2
0.4nm,0.3s,baz=19,slow=5.9,SNR=4.1
WRA Warramunga Arr 81.10 221 P P 08 43 10.0 +0.3
0.8nm,0.5s,baz=32,slow=6.2,SNR=7.3
ASAR Alice Springs 84.61 220 P P 08 43 28.2 +0.5
0.4nm,0.6s,baz=24,slow=4.8,SNR=6.4

IGQ 06 08:56:55.0±0.6, 1.°16S×77.°52W, h5km±12km, Mb4.4, Error ellipse: s-maj=4.9km s-min=2.8km az=241.8
ISCJB 06 08:56:56.8±0.2, 0.°86S±0.°03×77.°08W±0.°03, h200km, mb4.5/109, Error ellipse: s-maj=4.8km s-min=3.8km az=159.2
IDC 06 08:56:58.0±1.2, 0.°99S×77.°39W, h206km±11km, mb4.0/17, mb1 4.2/21, mb1mx4.0/42, mbtmp4.7/21, MS3.1/1, Ms1 3.1/1, ms1mx2.6/27, Error ellipse: s-maj=14.7km s-min=7.8km az=57.0
NEIC 06 08:56:59.2±0.5, 1.°10S×77.°40W, h218km±4km, mb4.6/96, MD4.3(IGQ), Error ellipse: s-maj=6.2km s-min=4.0km az=57.0
ISC 06 08:56:57.7±0.3, 1.°08S±0.°04×77.°33W±0.°06, h200km, n618, σ0.°93/617, mb4.6/110, 212C-215D, Ecuador

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LAV4 Lava4-Reventad 1.03 343 ⇓P Pn 08 57 31.6 +3.6
ANTI Antisana 1.04 307 ⇓P Pn 08 57 30.5 +2.0
CHAR Charly 1.05 341 ⇓P Pn 08 57 32.0 +3.7
CONE Cono NE Rev Vo 1.05 343 ⇓P Pn 08 57 31.9 +3.6
PISA Pisayambo 1.05 271 ⇓P Pn 08 57 30.9 +2.5
COV1 Cotopaxi Volc 1.10 292 P Pn 08 57 31.2 +2.4
COV1 Cotopaxi Volc 1.10 292 S Sn 08 58 00.7 +7.7
TAMB Tambo 1.11 290 ⇑P Pn 08 57 30.4 +1.6
BRUN Tungurahua Vol 1.13 253 ⇑P Pn 08 57 30.1 +1.2
BULB Ulba Tungurahu 1.13 252 ⇑P Pn 08 57 30.9 +2.1
ULBA Ulba 1.14 251 ⇑P Pn 08 57 30.9 +2.1
BTAM Cotopaxi Volca 1.14 291 ⇑P Pn 08 57 31.6 +2.5
RUN5 Runtun 1.14 253 ⇑P Pn 08 57 31.0 +2.1
VC1 Cotopaxi 1 1.16 292 ⇑P Pn 08 57 31.9 +2.7
BVC2 Cotopaxi Volca 1.16 291 ⇑P Pn 08 57 31.9 +2.6
MOV1 Cotopaxi Vol s 1.17 288 P Pn 08 57 31.6 +2.2
RETU Refugio 1.17 252 ⇑P Pn 08 57 30.4 +1.1

BPAT	Tungurahua Vol	1.18 249	⇑P	Pn	08 57 30.2 +1.0
BMOR	Cotopaxi Volca	1.18 287	⇑P	Pn	08 57 31.8 +2.4
BMOR	Cotopaxi Volca	1.18 287	⇑S	Sn	08 57 54.3 +0.4
BREF	Cotopaxi Volca	1.18 290	⇑P	Pn	08 57 31.3 +1.8
PAT1	Patacocha	1.18 249	⇑P	Pn	08 57 30.2 +0.8
JUI6	Juive	1.19 253	⇑P	Pn	08 57 30.1 +0.9
ARRY	Arrayan	1.20 250	P	Pn	08 57 30.2 +0.9
BBIL	Ulba Tungurahu	1.21 253	⇑P	Pn	08 57 30.4 +1.0
NAS2	Nasa	1.22 291	⇑P	Pn	08 57 32.5 +2.9
BMAS	Trigal station	1.22 250	⇑P	Pn	08 57 30.3 +0.8
CAMI	Rancho Maria	1.24 289	⇑P	Pn	08 57 32.6 +2.8
ANGU	Angureal	1.31 329	P	Pn	08 57 34.9 +4.4
CAYA	Cayambe	1.32 330	⇓P	Pn	08 57 33.9 +3.3
PAST	Pastocalle	1.37 286	⇓P	Pn	08 57 32.1 +1.3
IGUA	Igualata	1.37 253	⇑P	Pn	08 57 32.5 +1.6
JUA2	San Juan 2	1.54 304	P	Pn	08 57 33.0 +0.7
GGP	Refugio Guagua	1.55 306	⇑P	Pn	08 57 34.8 +2.3
TERV	Terraza Guagua	1.56 305	P	Pn	08 57 35.7 +3.2
PINO	Pino	1.57 306	⇑P	Pn	08 57 34.0 +1.3
OTAV	Otavalo	1.73 320	ePn	Pn	08 57 34.8 +0.8
OTAV			eSn	Sn	08 58 03.3 +1.1
OTAV	Otavalo	1.73 320	⇓P	Pn	08 57 35.9 +1.9
OTAV	Otavalo	1.73 320	⇓S	Sn	08 58 04.0 +1.8
MAG1	Magdalena	2.64 292	⇓P	Pn	08 57 43.9 +0.7
PECV	Mancha de Ca P	2.73 276	⇑P	Pn	08 57 47.9 +3.7
ATAH	Atahualpa	6.10 190	P	Pn	08 58 27.0 +0.3
	91nm,0.3s,baz=16,slow=9.3,SNR=432				
ATAH			S	Sn	08 59 34.9 -2.3
	64nm,0.3s,baz=248,slow=23,SNR=10.0				
ROSC	El Rosal	6.62 27	P	Pn	08 58 37.7 +4.4
	4.2nm,0.3s,baz=274,slow=3.0,SNR=12				
ROSC	El Rosal	6.62 27	ePn	Pn	08 58 36.5 +3.1
BCIP	Isla Barro Col	10.48 346	ePn	Pn	08 59 25.0 +1.8
BCIP			eSn	S	09 01 29.5 +8.7
NNA	Nana	10.84 177	P	Pn	08 59 28.4 +0.5
	11nm,0.3s,baz=354,slow=11,SNR=20				
NNA			S	Sn	09 01 19.6 -9.4
	12nm,0.3s,baz=98,slow=20,SNR=8.0				
NNA	Nana	10.84 177	ePn	Pn	08 59 27.6 -0.3
NNA			eSn	Sn	09 01 19.6 -9.5
SDV	Santo Domingo	11.94 34	ePn	Pn	08 59 44.4 +2.3
PAYG	Puerto Ayora	12.96 272	ePn	Pn	08 59 54.1 -0.7
JTS	JuntasAbangare	13.61 326	P	Pn	09 00 04.9 +2.0
	0.7nm,0.3s,baz=144,slow=5.3,SNR=19				
JTS			LR	LR	09 04 36.2
	comp=Z,76nm,19.0s,baz=166,slow=34				
SAML	Samuel	16.11 119	eP	P	09 00 33.7 +0.9
	16nm,0.7s				
ARE	Arequipa	16.33 160	eP	Pn	09 00 39.0 +2.7
PTGA	Pitinga	17.37 89	P	P	09 00 48.6 +1.9
	2.3nm,0.3s,baz=265,slow=12,SNR=15				
PTGA	Pitinga	17.37 89	eP	P	09 00 49.5 +2.7
	23nm,1.1s				
LPAZ	La Paz	17.62 150	P	P	09 00 52.2 +2.1
	2.4nm,0.3s,baz=355,slow=6.8,SNR=60				
LPAZ	La Paz	17.62 150	ePn	P	09 00 52.4 +2.2
	14nm,0.6s				
MTDJ	Mount Denham	19.19 359	eP	P	09 01 09.0 +2.5
	117nm,0.6s				
GRGR	Grenville	20.37 49	eP	P	09 01 19.1 0.0
	276nm,1.4s				
APG	El Apazote	20.60 321	P	P	09 01 20.4 -1.4
	8.5nm,0.8s,baz=147,slow=9.5,SNR=11				
GTBY	Guantanamo Bay	20.99 6	eP	P	09 01 27.7 +2.0
	109nm,0.8s				
CRPR	Cabo Rojo, PR	21.47 27	eP	P	09 01 29.6 -1.1
	54nm,0.9s				
SIV	San Ignacio	21.83 134	P	P	09 01 35.4 +1.0
	4.4nm,0.5s,baz=310,slow=11,SNR=14				
LRS	Lares	21.84 28	eP	P	09 01 36.4 +1.9
AOPR	Arecibo Observ	21.93 28	eP	P	09 01 36.4 +1.1
	79nm,0.6s				
SJG	San Juan	22.02 29	P	P	09 01 36.8 +0.6
	27nm,0.6s,baz=262,slow=0.6,SNR=11				
SJG	San Juan	22.02 29	eP	P	09 01 36.7 +0.5
	19nm,0.6s				
CBYP	Canovanas	22.30 30	eP	P	09 01 38.5 -0.4
	15nm,0.6s				
LVC	Limon Verde	22.91 160	eP	P	09 01 46.5 +1.9
	22nm,0.6s				
TEIG	Tepich	23.74 334	P	P	09 01 50.1 -1.7
	14nm,0.7s,baz=159,slow=17,SNR=6.6				
TEIG	Tepich	23.74 334	eP	P	09 01 51.6 -0.2
	20nm,1.0s				
BDFB	Brasilia	32.34 118	P	P	09 03 09.7 +1.1
	11nm,0.4s,baz=282,slow=10,SNR=19				
TIGA	Tifton	32.89 350	⇓P	P	09 03 14.4 +1.5
	baz=33				
035Z	Hargill	33.92 325	⇓P	P	09 03 23.1 +1.2
	baz=34				
NHSC	New Hope	34.11 356	eP	P	09 03 24.5 +1.0
	1µm,2.0s				
035A	Encino	34.30 326	⇓P	P	09 03 26.3 +1.1
	baz=34				
BB16B	Bebedouro	34.35 127	⇑iP	P	09 03 25.7 -0.1
BB16B			i		09 03 28.7
BB16B			i		09 03 46.8
034A	Hebbronville	34.73 325	⇑P	P	09 03 30.0 +1.2
	baz=35,SNR=7.8				
934A	Benavides	35.05 326	⇓P	P	09 03 32.8 +1.1
	baz=35				
LRAL	Lakeview Retre	35.14 346	eP	P	09 03 31.9 -0.4
	302nm,2.5s				
835A	Beeville	35.21 328	⇓P	P	09 03 33.9 +1.0
	baz=35				
834A	Tilden	35.47 327	⇑P	P	09 03 36.1 +0.9
	baz=36				
933A	Laredo	35.48 325	⇓P	P	09 03 36.3 +0.9
	baz=36,SNR=12				
735A	Kenedy	35.65 328	⇑P	P	09 03 37.3 +0.6
	baz=36				
734A	La Parita Cree	36.04 327	⇓P	P	09 03 40.3 +0.3
	baz=36				
635A	Leesville	36.06 329	⇓P	P	09 03 40.1 -0.1
	baz=36				
833A	Chaparral WMA,	36.10 326	⇓P	P	09 03 41.0 +0.4
	baz=36,SNR=5.0				
KMSC	Kings Mountain	36.23 354	eP	P	09 03 41.9 +0.4
	21nm,0.2s				
KMSC	Kings Mountain	36.23 354	⇓P	P	09 03 42.4 +0.9
	baz=36,SNR=6.0				
536A	Bastrop	36.26 330	⇑P	P	09 03 41.9 0.0
	baz=36				
733A	Divot King Ran	36.34 326	⇑P	P	09 03 42.7 +0.1
	baz=36				
634A	China Grove, S	36.35 328	⇓P	P	09 03 42.6 -0.1
	baz=36				
832A	Faith Ranch, C	36.40 325	⇓P	P	09 03 43.5 +0.4
	baz=36,SNR=13				
535A	Dale	36.47 330	⇑P	P	09 03 43.8 +0.1
	baz=37				
732A	Laxson Ranch,	36.73 326	⇓P	P	09 03 46.2 +0.4
	baz=37,SNR=13				
633A	Saathoff Ranch	36.85 327	⇓P	P	09 03 47.1 +0.2
	baz=37,SNR=10				
534A	Blanco	36.93 329	⇑P	P	09 03 47.2 -0.5
	baz=37				
SWET	Sewanee	37.00 348	eP	P	09 03 47.2 -0.8
	12nm,0.7s				
435B	Jarrell	37.09 330	⇑P	P	09 03 49.4 +0.5
	baz=37				
632A	Uvalde	37.23 327	⇓P	P	09 03 50.7 +0.6
	baz=37,SNR=14				
533A	Kerrville	37.26 328	⇓P	P	09 03 50.6 +0.2
	baz=37				
335A	Moody	37.42 331	⇓P	P	09 03 52.2 +0.6
	baz=38,SNR=7.6				
434A	Burnet	37.46 330	⇑P	P	09 03 51.6 -0.4
	baz=38				
631A	Perdido Creek	37.59 326	⇑P	P	09 03 53.6 +0.4
	baz=38,SNR=15				
433A	Art	37.83 329	⇑P	P	09 03 55.1 -0.1
	baz=38,SNR=10				
334A	Lometa	37.86 330	⇓P	P	09 03 55.0 -0.4
	baz=38,SNR=15				
JCT	Junction City	37.99 328	eP	P	09 03 56.8 +0.3
	8.7nm,0.7s				
JCT	Junction City	37.99 328	⇓P	P	09 03 56.4 -0.1
	baz=38,SNR=6.5				
WHTX	Lake Whitney	38.02 332	⇓P	P	09 03 57.2 +0.5
	baz=38				
531A	Rocksprings	38.15 326	⇓P	P	09 03 58.4 +0.5
	baz=38,SNR=12				
333A	Richland Sprin	38.23 329	⇓P	P	09 03 58.4 -0.1
	baz=38,SNR=9.4				
432A	Menard	38.30 328	⇓P	P	09 03 59.3 +0.2
	baz=38,SNR=7.8				
UALR	University of	38.35 340	eP	P	09 03 58.5 -0.8
	33nm,0.8s				
234A	Clairette	38.36 331	⇓P	P	09 03 59.4 -0.1
	baz=38,SNR=14				
135A	Vickery Place,	38.47 332	⇓P	P	09 04 00.8 +0.4
	baz=39				
MIAR	Mount Ida	38.58 338	eP	P	09 03 59.7 -1.5
	8.0nm,0.9s				
530A	J-C Ranch, Com	38.58 326	⇑P	P	09 04 02.8 +1.4
	baz=39,SNR=18				
431A	Sonora	38.58 327	⇓P	P	09 04 02.2 +0.7
	baz=39,SNR=11				
332A	Millersview	38.67 329	⇑P	P	09 04 02.5 +0.3
	baz=39,SNR=22				
233A	Rising Star	38.74 330	⇓P	P	09 04 03.2 +0.4
	baz=39,SNR=5.8				
134A	White-Moore Ra	38.80 331	⇑P	P	09 04 03.3 +0.1
	baz=39				
331A	San Angelo	38.97 328	⇓P	P	09 04 04.8 +0.1
	baz=39,SNR=7.7				
628A	Black Gap, Mar	38.99 323	⇑P	P	09 04 05.4 +0.5
	baz=39				
430A	Baggett Ranch,	39.01 326	⇓P	P	09 04 05.2 +0.2
	baz=39				
232A	Coleman	39.02 329	⇓P	P	09 04 05.0 0.0
	baz=39,SNR=11				
Z35A	Perchaven, San	39.04 333	⇓P	P	09 04 05.3 +0.2
	baz=39,SNR=5.2				
529A	Stev Forest Ra	39.07 325	⇓P	P	09 04 05.7 +0.2
	baz=39				
133A	Hamilton Ranch	39.23 331	⇓P	P	09 04 06.9 +0.1
	baz=39,SNR=10				
429A	Davenport Ranc	39.25 326	⇓P	P	09 04 07.5 +0.5
	baz=39,SNR=8.3				
627A	Terlingua Ranc	39.27 323	⇑P	P	09 04 08.0 +0.7
	baz=39,SNR=9.4				
TXAR	Lajitas Array	39.35 322	P	P	09 04 08.2 +0.2
	0.9nm,0.5s,baz=148,slow=8.4,SNR=32				
TXAR			PcP	PcP	09 06 12.3 0.0
	1.0nm,0.8s,baz=152,slow=5.8,SNR=6.3				
TXAR			ScP	ScP	09 09 39.7 -2.3
	0.8nm,0.9s,baz=154,slow=7.2,SNR=7.6				
Z34A	Collier Ranch,	39.38 332	⇑P	P	09 04 08.4 +0.4
	baz=40				
231A	Bronte	39.40 328	⇓P	P	09 04 08.4 +0.2
	baz=40,SNR=6.4				
TRQA	Tornquist	39.41 161	eP	P	09 04 08.6 +0.4
	26nm,1.3s				
528A	Cox Ranch, San	39.42 324	⇑P	P	09 04 08.9 +0.3
	baz=40				
330A	Mertzon	39.45 327	⇑P	P	09 04 08.9 +0.2
	baz=40				
PBMO	Poplar Bluff	39.59 343	eP	P	09 04 08.2 -1.4
	24nm,0.7s				
ABTX	Abilene, Hawle	39.60 330	eP	P	09 04 10.3 +0.4
	26nm,0.9s				
ABTX	Abilene, Hawle	39.60 330	⇓P	P	09 04 10.3 +0.4
	baz=40,SNR=6.9				
Z33A	Whitaker Ranch	39.71 331	⇓P	P	09 04 11.3 +0.5
	baz=40,SNR=5.7				
428A	Kincaid Ranch,	39.78 325	⇑P	P	09 04 12.2 +0.8
	baz=40				
230A	Sterling City	39.79 328	⇓P	P	09 04 11.7 +0.3
	baz=40,SNR=13				
626A	Big Bend Ranch	39.80 322	⇑P	P	09 04 12.4 +0.8
	baz=40,SNR=14				
Y34A	Reagan Ranch,	39.80 333	⇑P	P	09 04 11.6 +0.3
	baz=40				
527A	Woodward Ranch	39.90 323	⇓P	P	09 04 13.0 +0.5
	baz=40,SNR=12				
PLCA	Paso Flores	39.94 172	P	P	09 04 13.5 +0.9
	13nm,0.6s,baz=350,slow=8.4,SNR=31				
PLCA	Paso Flores	39.94 172	eP	P	09 04 12.9 +0.3
	17nm,0.9s				
329A	Wagon Wheel Ra	39.95 326	⇓P	P	09 04 13.2 +0.4
	baz=40,SNR=9.1				
USIN	University of	40.01 347	eP	P	09 04 11.8 -1.3
	32nm,0.8s				
131A	Roby	40.02 329	⇓P	P	09 04 13.7 +0.3
	baz=40,SNR=8.8				
Z32A	Haskell	40.07 331	⇑P	P	09 04 14.2 +0.5
	baz=40,SNR=17				
526A	Mary Lane Ranc	40.13 323	⇑P	P	09 04 15.1 +0.7
	baz=40,SNR=7.0				
SIUC	Southern Illin	40.14 345	eP	P	09 04 12.5 -1.6
	54nm,0.8s				
229A	Bryant Ranch,	40.23 327	⇑P	P	09 04 15.6 +0.5
	baz=40				
Y33A	Hilltop Ranch,	40.24 332	⇑P	P	09 04 15.8 +0.7
	baz=40				
130A	Snyder	40.26 328	⇓P	P	09 04 15.7 +0.4
	baz=40,SNR=9.5				
427A	Hayter Ranch,	40.29 324	⇑P	P	09 04 15.6 0.0
	baz=40				
328A	Wristen Ranch,	40.34 325	⇓P	P	09 04 16.1 +0.2
	baz=40				
X34A	Smith Ranch, M	40.37 334	⇓P	P	09 04 16.6 +0.5
	baz=40				
Z31A	Sharp Cattle R	40.41 330	⇑P	P	09 04 16.8 +0.3
	baz=40,SNR=11				
426A	McDonald Obser	40.53 323	⇑P	P	09 04 17.4 -0.3
	baz=41				
X33A	Lawton	40.62 333	⇓P	P	09 04 18.4 +0.2
	baz=41,SNR=13				
Y32A	R-V Farms, Ver	40.62 331	⇑P	P	09 04 18.5 +0.3
	baz=41,SNR=11				
TUL1	Tulsa	40.63 337	eP	P	09 04 17.3 -0.9
	22nm,1.0s				
TUL1	Tulsa	40.63 337	⇓P	P	09 04 17.9 -0.3
	baz=41,SNR=5.2				
129A	Stewart Farms,	40.77 328	⇓P	P	09 04 19.8 +0.4
	baz=41				
228A	UT Block 9, Go	40.77 326	⇓P	P	09 04 19.3 -0.2
	baz=41				
W34A	Bridge Creek,	40.88 334	⇓P	P	09 04 20.3 +0.1
	baz=41				
X32A	Elmer	40.89 332	⇓P	P	09 04 20.9 +0.6
	baz=41,SNR=12				
Z30A	Sanderson Ranc	40.89 329	⇑P	P	09 04 21.2 +0.8
	baz=41,SNR=15				
MVL	Millersville	40.90 1	eP	P	09 04 21.7 +1.5
	24nm,0.7s				
BLO	Bloomington	40.94 349	eP	P	09 04 19.0 -1.7
	23nm,0.6s				
326A	Caldwell Ranch	40.97 324	⇑P	P	09 04 21.6 +0.4
	baz=41				
Y31A	Rekieta Farm,	40.98 330	⇓P	P	09 04 22.0 +0.9
	baz=41,SNR=10				
227A	Bennet, Jal	41.08 326	⇓P	P	09 04 22.4 +0.4
	baz=41				
128A	Castleberry Fa	41.09 327	⇑P	P	09 04 22.6 +0.4
	baz=41				
W33A	Caddo, Fort Co	41.11 333	⇑P	P	09 04 22.7 +0.5
	baz=41				
Z29A	Hungry Hill Ra	41.17 328	⇑P	P	09 04 22.8 0.0
	baz=41				
Y30A	Stafford Cattl	41.23 330	⇓P	P	09 04 24.1 +0.9
	baz=41,SNR=9.6				
V34A	Guthrie	41.27 335	⇓P	P	09 04 23.0 -0.5
	baz=41,SNR=6.4				
X31A	McDonald Ranch	41.39 331	⇑P	P	09 04 24.9 +0.4
	baz=42,SNR=26				
ACSO	Alum Creek Sta	41.44 353	eP	P	09 04 24.0 -0.7
	33nm,0.8s				
W32A	Sentinel	41.45 332	⇓P	P	09 04 25.2 +0.3
	baz=42,SNR=34				
Z28A	Tucker Farm, M	41.55 328	⇓P	P	09 04 25.7 -0.1
	baz=42				
V33A	Lossen Ranch,	41.59 334	⇓P	P	09 04 25.9 -0.2
	baz=42				
127A	Arkansas Junct	41.62 326	⇓P	P	09 04 26.2 -0.3
	baz=42				
Y29A	Porterfield Fa	41.62 329	⇑P	P	09 04 26.7 +0.3
	baz=42,SNR=22				
226B	Tecolote Peak,	41.63 325	⇓P	P	09 04 26.9 +0.3
	baz=42,SNR=7.9				
X30A	Coker Ranch, T	41.68 330	⇑P	P	09 04 27.3 +0.5
	baz=42,SNR=18				
U34A	Anderson Ranch	41.79 335	⇓P	P	09 04 27.6 -0.1
	baz=42,SNR=5.9				
W31A	Holland Ranch,	41.82 332	⇓P	P	09 04 28.3 +0.3
	baz=42,SNR=7.8				
V32A	Arapaho	41.85 333	⇓P	P	09 04 28.6 +0.4
	baz=42,SNR=11				
Y28A	McKinney Farm,	41.95 328	⇓P	P	09 04 29.4 +0.3
	baz=42,SNR=9.0				
126A	Clayton Basin,	41.97 325	⇓P	P	09 04 29.8 +0.6
	baz=42				
Z27A	Tatum	42.02 327	⇓P	P	09 04 29.7 +0.1
	baz=42,SNR=10				
U33A	Lingo Farm, Me	42.03 335	⇓P	P	09 04 29.7 0.0
	baz=42				
225A	Deer Hill, Car	42.04 324	⇑P	P	09 04 30.6 +0.7
	baz=42,SNR=5.6				
X29A	Tulia	42.09 329	⇓P	P	09 04 30.4 +0.2
	baz=42,SNR=13				
W30A	Crocket Farms	42.12 331	⇑P	P	09 04 31.1 +0.7
	baz=42,SNR=5.8				
SFIN	Scholer Farm	42.22 349	⇑P	P	09 04 31.9 +0.9
	baz=42				
V31A	Spring Creek L	42.26 332	⇑P	P	09 04 32.5 +1.0
	baz=42,SNR=9.3				
MSTX	Muleshoe	42.28 328	eP	P	09 04 31.8 +0.1
	28nm,1.0s				
MSTX	Muleshoe	42.28 328	⇑P	P	09 04 31.9 +0.1
	baz=42,SNR=12				
125A	Gardner Draw,	42.34 325	⇓P	P	09 04 32.9 +0.6
	baz=42,SNR=6.9				
U32A	Winter Ranch,	42.38 334	⇑P	P	09 04 32.6 +0.2
	baz=42				
X28A	Dimmitt	42.40 329	⇓P	P	09 04 32.8 +0.1
	baz=42,SNR=7.2				
Z26A	Caprock	42.41 326	⇑P	P	09 04 33.5 +0.6
	baz=42,SNR=14				
Y27A	Causey	42.42 327	⇑P	P	09 04 33.0 +0.1
	baz=42,SNR=11				
AMTX	Amarillo	42.43 330	eP	P	09 04 32.9 -0.1
	26nm,0.8s				
AMTX	Amarillo	42.43 330	⇑P	P	09 04 33.1 +0.1
	baz=43				
KSPA	Keystone Colle	42.47 2	eP	P	09 04 34.3 +1.3
W29A	Amraillo	42.60 330	⇑P	P	09 04 34.6 +0.3
	baz=43,SNR=8.3				
T33A	Patterson Ranc	42.64 335	⇑P	P	09 04 35.0 +0.5
	baz=43				
U31A	Nine Bar Ranch	42.75 333	⇑P	P	09 04 35.8 +0.4
	baz=43,SNR=8.3				
Y26A	Elida	42.81 327	⇓P	P	09 04 36.3 +0.2
	baz=43				
Z25A	Roswell	42.83 325	⇓P	P	09 04 37.0 +0.8
	baz=43,SNR=9.9				
X27A	F and S Farms,	42.97 328	⇓P	P	09 04 37.8 +0.5
	baz=43,SNR=7.3				
W28A	Vega	42.98 330	⇑P	P	09 04 37.8 +0.4
	baz=43				
T32A	Huddler Ranch,	43.01 334	⇓P	P	09 04 37.7 +0.1
	baz=43				
V29A	Stinnett	43.13 331	⇓P	P	09 04 39.1 +0.6
	baz=43				
Z24A	Sheeppen Canyo	43.23 325	⇓P	P	09 04 40.6 +1.1
	baz=43,SNR=9.1				
U30A	WK&E Inc. Balk	43.25 332	⇑P	P	09 04 40.3 +0.8
	baz=43,SNR=8.6				
T31A	Randall Ranch,	43.27 334	⇓P	P	09 04 39.9 +0.3
	baz=43				
W27A	Bowe Ranch, En	43.27 329	⇓P	P	09 04 40.2 +0.4
	baz=43,SNR=8.9				
Y25A	Mesa, Roswell	43.29 326	⇑P	P	09 04 40.3 +0.4
	baz=43				
V28A	Channing	43.38 330	⇑P	P	09 04 41.0 +0.4
	baz=44,SNR=7.1				
S32A	Newby Ranch, P	43.46 335	⇑P	P	09 04 41.4 +0.3
	baz=44,SNR=9.1				
U29A	Oasis Ranch, S	43.48 332	⇓P	P	09 04 42.1 +0.8
	baz=44				
R33A	Olander Ranch,	43.58 336	⇑P	P	09 04 42.0 0.0
	baz=44				
T30A	Plains	43.62 333	⇑P	P	09 04 43.4 +1.0
	baz=44,SNR=5.2				
S31A	Mullinville	43.62 334	⇑P	P	09 04 43.2 +0.7
	baz=44,SNR=7.6				
W26A	Owens Ranch, T	43.66 328	⇓P	P	09 04 43.6 +0.7
	baz=44				
V27A	Dan Oppiter Fa	43.70 330	⇓P	P	09 04 44.0 +0.8
	baz=44				
Y24A	Capitan	43.71 325	⇑P	P	09 04 44.4 +1.1
	baz=44,SNR=7.2				
X25A	Clemmons Ranch	43.72 327	⇓P	P	09 04 44.0 +0.6
	baz=44				
KSU1	Kansas State U	43.73 338	eP	P	09 04 42.1 -1.1
	37nm,0.8s				
U28A	Mallet	43.88 331	⇑P	P	09 04 44.6 +0.1
	baz=44				
R32A	Long Quarter,	43.97 336	⇑P	P	09 04 45.5 +0.3
	baz=44				
T29A	Hugoton	44.06 332	⇓P	P	09 04 46.4 +0.5
	baz=44,SNR=7.8				
Y23A	Lovelace Mesa,	44.06 325	⇓P	P	09 04 47.0 +0.8
	baz=44,SNR=5.3				
S30A	Montezuma	44.07 333	⇑P	P	09 04 46.4 +0.4
	baz=44,SNR=14				
Q33A	Connelly Farm,	44.11 337	⇑P	P	09 04 46.0 -0.2
	baz=44,SNR=6.8				
Z22A	Elephant Butte	44.12 323	⇓P	P	09 04 47.1 +0.5
	baz=44				
W25A	X Bar L Ranch,	44.13 328	⇑P	P	09 04 47.3 +0.7
	baz=44				
R31A	Burdett	44.20 335	⇑P	P	09 04 47.5 +0.5
	baz=44,SNR=5.7				
U27A	Thompson Grove	44.21 330	⇓P	P	09 04 47.4 +0.2
	baz=44,SNR=5.9				
V26A	Tequesquite Ra	44.21 329	⇓P	P	09 04 47.7 +0.4
	baz=44,SNR=27				
319A	Douglas	44.28 320	⇓P	P	09 04 48.4 +0.5
	baz=44				
S29A	Ulysses	44.35 333	⇓P	P	09 04 49.0 +0.8
	baz=44,SNR=28				
Q32A	Meitler Ranch,	44.40 336	⇑P	P	09 04 48.4 -0.1
	baz=44				
T28A	Walsh	44.42 331	⇑P	P	09 04 49.1 +0.3
	baz=44,SNR=5.6				
P33A	Williams Farm,	44.44 337	⇓P	P	09 04 48.5 -0.3
	baz=45				
R30A	Dighton	44.52 334	⇓P	P	09 04 50.3 +0.7
	baz=45,SNR=27				
X23A	Hourglass Bar	44.61 325	⇑P	P	09 04 51.1 +0.6
	baz=45				
W24A	Lazy 6 Ranch,	44.64 327	⇓P	P	09 04 51.2 +0.5
	baz=45,SNR=6.3				
U26A	Atchley Ranch,	44.65 329	⇑P	P	09 04 51.4 +0.6
	baz=45,SNR=12				
T27A	Campo	44.66 331	⇑P	P	09 04 51.1 +0.3
	baz=45,SNR=6.2				
V25A	Rancho No Teng	44.68 328	⇑P	P	09 04 51.7 +0.7
	baz=45,SNR=9.0				
S28A	Manter	44.69 332	⇓P	P	09 04 51.4 +0.4
	baz=45,SNR=15				
Q31A	Ellis	44.75 335	⇓P	P	09 04 51.8 +0.5
	baz=45				
V24A	Rampart Ranch,	44.95 327	⇓P	P	09 04 53.8 +0.6
	baz=45,SNR=11				
P32A	Huiting Farm,	44.95 337	⇑P	P	09 04 52.7 -0.2
	baz=45,SNR=6.2				
U25A	Circle Dot Ran	45.00 329	⇓P	P	09 04 54.1 +0.6
	baz=45,SNR=7.7				
W23A	Werner Place,	45.01 326	⇑P	P	09 04 53.8 +0.1
	baz=45,SNR=5.2				
R29A	Marienthal	45.02 333	⇓P	P	09 04 53.9 +0.4
	baz=45,SNR=16				
ANMO	Albuquerque	45.03 326	eP	P	09 04 54.4 +0.6
	13nm,0.7s				
Q30A	Quinter	45.08 335	⇑P	P	09 04 54.6 +0.7
	baz=45,SNR=7.1				
SCIA	State Center	45.14 343	eP	P	09 04 52.6 -1.7
	35nm,0.8s				
P31A	Stockton	45.18 336	⇓P	P	09 04 55.1 +0.4
	baz=45				
T26A	Comanche Natio	45.18 330	⇑P	P	09 04 54.9 -0.1
	baz=45				
S27A	Las Animas	45.24 331	⇑P	P	09 04 55.8 +0.4
	baz=45				
R28A	Tribune	45.26 333	⇑P	P	09 04 55.9 +0.5
	baz=45,SNR=11				
JFWS	Jewell Farm	45.32 347	eP	P	09 04 53.6 -2.0
	42nm,0.8s				
Q29A	Oakley	45.33 334	⇓P	P	09 04 56.4 +0.5
	baz=46,SNR=11				
O32A	Brockman Farm,	45.38 337	⇑P	P	09 04 55.6 -0.6
	baz=46				
V23A	Ortiz Mt. (NFS	45.46 327	⇑P	P	09 04 58.4 +1.3
	baz=46,SNR=6.0				
U24A	Moreno Valley	45.46 328	⇑P	P	09 04 58.1 +0.9
	baz=46				
S26A	Kim	45.47 331	⇓P	P	09 04 57.8 +0.7
	baz=46,SNR=16				
PTN	Potsdam (NY)	45.50 2	eP	P	09 04 57.8 +0.7

34nm,0.8s
P30A Selden 45.56 335 ⇓P P 09 04 58.2 +0.4
baz=46
T25A Trinidad 45.57 329 ⇑P P 09 04 59.1 +1.1
baz=46,SNR=9.8
LONY Lake Ozonia 45.57 3 eP P 09 04 57.9 +0.3
12nm,0.6s
R27A Eads 45.67 332 ⇑P P 09 04 58.9 +0.2
baz=46,SNR=15
O31A Woolen Ranch, 45.70 336 ⇑P P 09 04 58.4 -0.3
baz=46,SNR=5.7
N32A Stulken Farm, 45.82 338 ⇑P P 09 04 59.9 +0.2
baz=46
Q28A Sharon Springs 45.85 333 ⇓P P 09 05 00.5 +0.5
baz=46,SNR=8.5
TUC Tucson 45.86 319 eP P 09 05 00.5 +0.3
U23A El Rito 45.89 327 ⇑P P 09 05 01.6 +1.0
baz=46,SNR=11
P29A Atwood 45.90 334 ⇑P P 09 05 00.5 +0.1
baz=46,SNR=5.8
S25A Robets Cordova 45.98 330 ⇑P P 09 05 01.7 +0.5
baz=46,SNR=14
V22A San Miguel Ran 45.98 326 ⇓P P 09 05 01.9 +0.6
baz=46
R26A Arlington 45.99 331 ⇓P P 09 05 01.7 +0.5
baz=46,SNR=12
T24B San Luis 46.01 328 ⇑P P 09 05 02.8 +1.2
baz=46
O30A MW Ranch, Wils 46.01 336 ⇑P P 09 05 01.6 +0.3
baz=46,SNR=8.4
KSCO Kaye Shedlock' 46.17 333 eP P 09 05 02.7 +0.1
6.9nm,0.6s
KSCO Kaye Shedlock' 46.17 333 ⇓P P 09 05 03.2 +0.6
baz=46,SNR=5.2
P28A Saint Francis 46.24 334 ⇓P P 09 05 03.5 +0.5
baz=46,SNR=9.1
O29A 4D Ranch, Culb 46.28 335 ⇑P P 09 05 03.6 +0.3
baz=46
R25A Fountain Ranch 46.28 330 ⇓P P 09 05 04.2 +0.7
baz=46
U22A Llaves 46.29 327 ⇓P P 09 05 04.7 +1.0
baz=46,SNR=5.1
BGNE Belgrade 46.32 338 eP P 09 05 02.0 -1.6
29nm,0.7s
BGNE Belgrade 46.32 338 ⇑P P 09 05 03.0 -0.6
baz=46,SNR=5.5
T23A Casias Ranch, 46.33 328 ⇑P P 09 05 04.9 +0.8
baz=46
S24A Houchin Ranch, 46.36 329 ⇑P P 09 05 05.0 +0.7
baz=46,SNR=8.7
Q26A Hugo 46.52 332 ⇑P P 09 05 05.8 +0.5
baz=47
M31A Lambtecht Ranc 46.58 338 ⇑P P 09 05 05.5 -0.1
baz=47
SDCO Great Sand Dun 46.59 329 eP P 09 05 06.4 +0.4
19nm,0.9s
P27A Ficken Ranch, 46.59 333 ⇑P P 09 05 06.3 +0.5
baz=47,SNR=5.2
O28A Krutsinger Ran 46.70 334 ⇑P P 09 05 06.8 +0.2
baz=47,SNR=5.7
R24A Sanders Place, 46.76 330 ⇓P P 09 05 08.1 +0.9
baz=47,SNR=5.2
N29A Votaw Ranch, W 46.79 336 ⇑P P 09 05 07.4 +0.1
baz=47
X18A Snowflake 46.79 322 ⇓P P 09 05 08.2 +0.7
baz=47
S23A Nye Farm, Mont 46.82 329 ⇑P P 09 05 08.9 +1.1
baz=47
Q25A Bedland, Calha 46.86 331 ⇓P P 09 05 08.3 +0.2
baz=47
P26A Davis Ranch, A 46.95 332 ⇓P P 09 05 09.1 +0.5
baz=47
214A Organ Pipe Nat 46.99 318 ⇑P P 09 05 09.8 +0.9
baz=47
N28A Pribbeno Ranch 47.06 335 ⇓P P 09 05 09.6 +0.2
baz=47,SNR=21
O27A Beecher Island 47.06 334 ⇑P P 09 05 10.1 +0.6
baz=47
R23A Moffat 47.09 329 ⇓P P 09 05 10.7 +0.8
baz=47,SNR=5.7
L31A Butterfield Fa 47.24 338 ⇑P P 09 05 10.4 -0.3
baz=47,SNR=11
S22A 4UR Ranch, Cre 47.28 328 ⇑P P 09 05 12.4 +1.0
baz=47,SNR=9.4
P25A Willow Gulch B 47.30 332 ⇓P P 09 05 11.9 +0.5
baz=47,SNR=8.2
L30A Spencer Herefo 47.38 337 ⇓P P 09 05 11.5 -0.4
baz=48
O26A Horse Wrangler 47.48 333 ⇑P P 09 05 12.8 +0.1
baz=48
M28A Bar X Bar Ranc 47.58 335 ⇑P P 09 05 13.7 +0.3
baz=48,SNR=5.8
N27A Anderson Farm, 47.59 334 ⇓P P 09 05 14.1 +0.6
baz=48
X16A Lo Mia Camp, P 47.64 321 ⇓P P 09 05 15.3 +1.2
baz=48,SNR=6.2
P24A Kohler Place, 47.65 331 ⇓P P 09 05 14.6 +0.5
baz=48
O25A Wiggins 47.75 332 ⇑P P 09 05 15.2 +0.4
baz=48
MVCO Mesa Verde 47.80 326 eP P 09 05 15.1 -0.3
2.6nm,0.6s
MVCO Mesa Verde 47.80 326 ⇑P P 09 05 15.3 -0.1
baz=48
ECSD EROS Data Cent 47.84 341 eP P 09 05 12.7 -2.6
7.6nm,0.9s
ECSD EROS Data Cent 47.84 341 ⇓P P 09 05 13.5 -1.8
baz=48
K30A Basset 47.96 338 ⇑P P 09 05 15.9 -0.3
baz=48,SNR=8.0
P23A Jefferson 48.00 330 ⇓P P 09 05 18.0 +1.0
baz=48,SNR=6.5
SPMN St. Paul 48.11 345 eP P 09 05 14.8 -2.5
13nm,1.0s
SPMN St. Paul 48.11 345 ⇓P P 09 05 15.4 -1.9
baz=48
O24A Longmont 48.20 331 ⇑P P 09 05 18.8 +0.5
baz=48,SNR=8.7
ISCO Idaho Springs 48.22 331 eP P 09 05 18.4 -0.2
4.1nm,0.7s
ISCO Idaho Springs 48.22 331 ⇑P P 09 05 19.1 +0.5
baz=48,SNR=6.3
N25A Grover 48.29 333 ⇑P P 09 05 19.8 +0.9
baz=48
K29A Lazy Trails An 48.31 337 ⇑P P 09 05 18.5 -0.4
baz=48
WUAZ Wupatki 48.32 322 eP P 09 05 20.3 +1.0
11nm,0.9s
WUAZ Wupatki 48.32 322 ⇑P P 09 05 20.2 +1.0
baz=48,SNR=9.2
Y14A Wickenburg 48.33 320 ⇑P P 09 05 19.6 +0.4
baz=48
SMCO Snowmass 48.42 329 eP P 09 05 21.0 +0.7
48nm,2.3s
J30A Dallas 48.48 338 ⇑P P 09 05 19.3 -0.9
baz=49,SNR=9.7
PV01 Paradox Valley 48.50 327 eP P 09 05 21.2 +0.5
779nm,1.1s
P22A Eagle 48.63 330 ⇑P P 09 05 22.0 +0.4
baz=49,SNR=11
K28A Ten Mile Ranch 48.68 336 ⇓P P 09 05 22.0 +0.2
baz=49,SNR=13
O23A Lake Granby, G 48.68 331 ⇑P P 09 05 22.7 +0.6
baz=49,SNR=17
M25A Palm-Egli Farm 48.77 333 ⇓P P 09 05 23.3 +0.8
baz=49
L26A Underwood Farm 48.83 335 ⇑P P 09 05 23.3 +0.3
baz=49
J29A Okreek 48.86 338 ⇑P P 09 05 23.0 -0.1
baz=49,SNR=8.4
PV04 Paradox Valley 48.87 327 eP P 09 05 23.7 +0.2
PV10 Paradox Valley 48.94 327 eP P 09 05 23.9 -0.1
146nm,0.9s
O22A Kremmling 48.95 330 ⇓P P 09 05 24.1 -0.1
baz=49,SNR=8.7
K27A Flueckinger Fa 49.02 336 ⇑P P 09 05 24.7 +0.2
baz=49,SNR=7.3
M24A Cheyenne 49.15 333 ⇓P P 09 05 25.8 +0.3
baz=49
Y12C Blythe 49.22 318 ⇑P P 09 05 26.1 +0.2
baz=49
N23A Red Feather La 49.22 331 ⇑P P 09 05 26.5 +0.3
baz=49
J28A Allard Ranch, 49.22 337 ⇑P P 09 05 25.6 -0.2
baz=49,SNR=9.7
BRSD Miller 49.26 340 eP P 09 05 24.6 -1.5
30nm,0.8s
BRSD Miller 49.26 340 ⇑P P 09 05 25.0 -1.0
baz=49,SNR=5.7
PDMCI Parker Dam,Lak 49.30 319 ⇑P P 09 05 26.3 -0.2
baz=49
PHWY Pilot Hill 49.31 332 eP P 09 05 26.8 -0.1
58nm,2.0s
I29A Vivian Onida 49.38 338 ⇑P P 09 05 26.2 -0.8
baz=50
J27A Elkhorn Farm, 49.39 336 ⇓P P 09 05 27.6 +0.5
baz=50,SNR=9.6
N22A Wattenberg Ran 49.40 331 ⇓P P 09 05 27.7 +0.2
baz=50
U15A North Rim 49.48 323 ⇑P P 09 05 27.9 -0.3
baz=50
M23A Laramie 49.56 332 ⇓P P 09 05 29.0 +0.3
baz=50
W13A Hualapai Mount 49.62 320 ⇓P P 09 05 30.0 +0.7
baz=50
K25A Mack Ranch, Ha 49.64 334 ⇓P P 09 05 29.7 +0.6
baz=50
L24A Wheatland 49.65 333 ⇓P P 09 05 29.2 0.0
baz=50
I28A Midland 49.69 338 ⇓P P 09 05 28.9 -0.4
baz=50,SNR=18
O20A White River Ci 49.79 329 ⇓P P 09 05 30.2 -0.2
baz=50
H29A Onida 49.86 339 ⇓P P 09 05 29.9 -0.7
baz=50
J26A Sides Ranch, S 49.87 336 ⇓P P 09 05 31.4 +0.6
baz=50,SNR=9.7
IRM Iron Mountain 49.88 318 ⇓P P 09 05 30.7 -0.3
baz=50
G30A Faulkton 49.92 340 ⇓P P 09 05 29.8 -1.3
baz=50,SNR=11
M22A Cedar Creek Ra 49.93 331 ⇓P P 09 05 31.6 +0.2
baz=50
L23A Garrett 50.06 333 ⇓P P 09 05 32.6 +0.2
baz=50
I27A Quinn 50.09 337 ⇑P P 09 05 32.5 +0.1
baz=50,SNR=15
H28A Mission Ridge 50.20 338 ⇑P P 09 05 32.6 -0.6
baz=50
J25A Sunshine Ranch 50.24 335 ⇓P P 09 05 34.0 +0.4
baz=50
G29A Hoven 50.25 339 ⇓P P 09 05 32.3 -1.3
baz=50
SRU San Rafael 50.27 326 eP P 09 05 33.6 -0.5
9.4nm,1.1s
N20A Spence Gulch, 50.32 330 ⇑P P 09 05 34.7 +0.3
baz=50,SNR=9.7
L22A Ellis Ranch, M 50.33 332 ⇑P P 09 05 35.3 +0.9
baz=50
EYMN Ely 50.37 348 eP P 09 05 32.5 -1.9
25nm,0.6s
I26A New Underwood 50.38 336 ⇓P P 09 05 34.8 +0.3
baz=50,SNR=11
F30A Leola 50.50 340 ⇑P P 09 05 34.2 -1.2
baz=51
G28A Parade 50.51 338 ⇓P P 09 05 34.9 -0.6
baz=51,SNR=7.3
K23A Bowen Ranch, D 50.53 333 ⇑P P 09 05 36.0 +0.2
baz=51
H27A Howes 50.57 337 ⇑P P 09 05 35.7 -0.3
baz=51,SNR=11
GMRC Granite Mounta 50.59 319 ⇓P P 09 05 36.4 0.0
baz=51
I25A Rochford 50.72 336 ⇑P P 09 05 38.2 +0.9
baz=51
F29A Eureka 50.77 340 ⇑P P 09 05 36.6 -0.8
baz=51
MVU Marysvale 50.81 325 eP P 09 05 39.0 +0.9
95nm,2.9s
H26A Fairpoint 50.83 337 ⇑P P 09 05 37.8 -0.1
baz=51
K22A Casper 50.86 332 eP P 09 05 37.9 -0.4
5.3nm,0.7s
K22A Casper 50.86 332 ⇑P P 09 05 38.3 0.0
baz=51
RSSD Black Hills 50.93 335 eP P 09 05 38.6 -0.3
7.3nm,0.9s
MURC Murrieta 50.94 316 ⇓P P 09 05 39.3 +0.4
baz=51
E30A Jud 51.05 341 ⇑P P 09 05 38.9 -0.6
baz=51,SNR=9.1
BBRC Big Bear Solar 51.13 317 ⇑P P 09 05 40.8 +0.3
baz=51
F28A McLaughlin 51.13 339 ⇑P P 09 05 40.0 -0.1
baz=51,SNR=5.5
G27A Dupree 51.14 338 ⇓P P 09 05 40.0 -0.3
baz=51,SNR=8.4
H25A Fruitdale 51.16 336 ⇑P P 09 05 40.4 0.0
baz=51,SNR=10
K21A Alcova 51.18 332 ⇓P P 09 05 41.0 +0.2
baz=51
G26A Maurine 51.33 337 ⇑P P 09 05 41.3 -0.3
baz=52,SNR=8.0
E29A Napoleon 51.35 340 ⇓P P 09 05 41.0 -0.7
baz=52,SNR=7.5
J22A Midwest 51.43 333 ⇑P P 09 05 42.6 +0.1
baz=52,SNR=9.0
MPU Maple Canyon 51.52 326 eP P 09 05 43.3 0.0
5.3nm,0.9s
D30A Buchanan 51.54 341 ⇓P P 09 05 42.5 -0.5
baz=52,SNR=14
G25A Newell 51.56 337 ⇑P P 09 05 43.1 -0.3
baz=52
DAU Daniels Canyon 51.59 327 eP P 09 05 44.6 +0.7
F27A Lemmon 51.59 338 ⇑P P 09 05 43.2 -0.4
baz=52,SNR=11
GSC Goldstone 51.65 318 ⇓P P 09 05 44.7 +0.4
baz=52
H24A Dirks Ranch, A 51.66 335 ⇓P P 09 05 44.0 -0.1
baz=52
SHOC Shoshone 51.66 319 ⇓P P 09 05 43.8 -0.4
baz=52
E28A Huff 51.72 340 ⇑P P 09 05 44.0 -0.5
baz=52,SNR=11
AGMN Agassiz Nation 51.76 344 eP P 09 05 43.3 -1.4
28nm,0.7s
AGMN Agassiz Nation 51.76 344 ⇓P P 09 05 43.5 -1.1
baz=52,SNR=19
D29A Pettibone, Tap 51.77 341 ⇓P P 09 05 44.0 -0.8
baz=52,SNR=6.8
I22A 9 Mile Ranch, 51.81 333 ⇓P P 09 05 45.2 -0.1
baz=52,SNR=7.1
F26A Lodgepole 51.82 338 ⇓P P 09 05 44.8 -0.5
baz=52,SNR=13
J21A Lysite 51.82 332 ⇑P P 09 05 45.6 +0.1
baz=52
JLU Jordanelle 51.83 327 eP P 09 05 45.8 +0.2
8.9nm,0.8s
E27A Carson 51.90 339 ⇑P P 09 05 45.8 -0.1
baz=52,SNR=16
C30A Mose, Pekin 51.98 342 ⇓P P 09 05 45.6 -0.7
baz=52,SNR=9.6
CTU Camp Tracy 52.05 327 eP P 09 05 47.4 +0.2
7.4nm,1.2s
G24A Alzada 52.07 336 ⇓P P 09 05 47.1 -0.1
baz=52,SNR=7.1
I21A Big Trails, Te 52.11 333 ⇑P P 09 05 47.4 -0.2
baz=52
J20A Shoshoni 52.13 332 ⇓P P 09 05 48.3 +0.6
baz=52,SNR=7.2
TCUT Toone Canyon 52.17 328 eP P 09 05 48.1 0.0
17nm,0.7s
F25A Bowman 52.19 337 ⇑P P 09 05 48.0 0.0
baz=52
D28A Regan 52.21 340 ⇑P P 09 05 47.4 -0.6
baz=52,SNR=6.9
E26A Carlson Angus 52.26 338 ⇑P P 09 05 48.2 -0.3
baz=52,SNR=12
DUG Dugway 52.30 326 eP P 09 05 49.1 +0.1
9.4nm,0.9s
DUG Dugway 52.30 326 ⇑P P 09 05 49.6 +0.6
baz=52,SNR=9.8
H22A Clearmont 52.30 334 ⇑P P 09 05 49.0 +0.1
baz=52
FURC Furnace Creek, 52.38 320 ⇑P P 09 05 49.3 -0.1
baz=52
G23A Biddle 52.38 335 ⇓P P 09 05 49.1 -0.3
baz=52,SNR=5.2
PDAR Pinedale Array 52.40 330 P P 09 05 49.2 -0.6
2.7nm,0.7s,baz=129,slow=9.5,SNR=19
PDAR PcP PcP 09 06 56.4 -1.5
0.8nm,0.5s,baz=134,slow=7.0,SNR=5.2
F24A Ekalaka 52.51 336 ⇓P P 09 05 50.2 -0.1
baz=53
J19A Crowheart 52.52 331 ⇓P P 09 05 50.5 -0.1
baz=53,SNR=6.0
HWUT Hardware Ranch 52.59 328 eP P 09 05 50.5 -0.7
12nm,1.1s
B30A Myrvik Farm, E 52.60 343 ⇓P P 09 05 50.2 -0.7
baz=53,SNR=27
C28A Hausauer Farms 52.60 341 ⇑P P 09 05 51.1 +0.2
baz=53
I20A Worland 52.60 332 ⇓P P 09 05 51.0 -0.1
baz=53
H21A Big Horn, Sher 52.63 334 ⇓P P 09 05 51.1 -0.2
baz=53
E25A Miller Ranch, 52.64 338 ⇑P P 09 05 51.2 -0.1
baz=53,SNR=7.7
R11A Troy Canyon, C 52.72 322 ⇓P P 09 05 52.0 -0.2
baz=53
D26A Manning 52.73 339 ⇑P P 09 05 51.6 -0.3
baz=53,SNR=8.1
G22A Birney 52.77 335 ⇓P P 09 05 52.2 -0.1
baz=53,SNR=8.7
F23A Volborg 52.80 336 ⇑P P 09 05 52.0 -0.5
baz=53,SNR=12
SPUT South Promonto 52.86 327 eP P 09 05 52.8 -0.3
22nm,1.0s
B29A Wagenman Farm, 52.92 342 ⇑P P 09 05 52.8 -0.5
baz=53,SNR=26
H20A Greybull 52.96 333 ⇓P P 09 05 52.9 -0.7
baz=53,SNR=9.0
C27A Sayler Ranch, 52.98 340 ⇑P P 09 05 53.3 -0.4
baz=53
A30A Hoffart Farm, 53.03 343 ⇓P P 09 05 53.2 -0.8
baz=53,SNR=23
E24A Baker 53.04 337 ⇓P P 09 05 54.1 -0.2
baz=53
I19A Meeteetse 53.08 332 ⇓P P 09 05 54.6 -0.1
baz=53
D25A Fairfield 53.15 338 ⇑P P 09 05 55.5 +0.5
baz=53,SNR=12
G21A Lodge Grass 53.17 334 ⇓P P 09 05 54.9 -0.3
baz=53
F22A Rosebud 53.20 335 ⇓P P 09 05 55.0 -0.4
baz=53
B28A Dugan Ranch, T 53.23 341 ⇑P P 09 05 55.5 0.0
baz=53
C26A Wahner Farm, P 53.28 339 ⇑P P 09 05 55.8 -0.1
baz=53,SNR=6.7
A29A Manning Farm, 53.29 342 ⇓P P 09 05 55.5 -0.5
baz=54,SNR=13
HVU Hansel Valley 53.36 327 eP P 09 05 56.5 -0.2
4.6nm,0.8s
VES Vestal, Richgr 53.48 318 ⇑P P 09 05 57.8 +0.3
baz=54
REDW Red Top Meadow 53.48 330 eP P 09 05 57.6 -0.1
8.5nm,1.0s
B27A Peters Farms, 53.49 340 ⇑P P 09 05 58.4 +1.0
baz=54
D24A Glendive 53.51 337 ⇑P P 09 05 57.8 +0.2
baz=54,SNR=6.6
LOHW Long Hollow 53.54 330 eP P 09 05 57.6 -0.5
6.0nm,0.9s
ULM Lac du Bonnet 53.55 345 P P 09 05 55.9 -1.9
31nm,0.6s,baz=157,slow=7.7,SNR=56
ULM Lac du Bonnet 53.55 345 eP P 09 05 56.0 -1.8
H19A Powell 53.55 332 ⇑P P 09 05 58.2 +0.2
baz=54
C25A Freed Ranch, W 53.60 338 ⇓P P 09 05 58.5 +0.2
baz=54,SNR=10.0
E22A Miles City 53.60 336 ⇓P P 09 05 58.3 0.0
baz=54
A28A Rude Farm, Bot 53.60 341 ⇑P P 09 05 58.0 -0.2
baz=54
G20A Bridger 53.62 333 ⇓P P 09 05 58.1 -0.5
baz=54
MOOW Moose Ponds 53.71 330 eP P 09 05 59.1 -0.2
2.8nm,0.8s
I17A Pilgrim Ck. 53.75 331 ⇓P P 09 06 00.2 +0.5
baz=54,SNR=7.7
B26A Jensen Ranch, 53.80 340 ⇓P P 09 05 59.7 0.0
baz=54,SNR=7.5
H18A Shoshone NF, C 53.88 332 ⇑P P 09 06 00.6 +0.1
baz=54
C24A Savage 53.89 338 ⇓P P 09 06 00.6 +0.3
baz=54
D23A Lindsay 53.90 337 ⇓P P 09 06 01.2 +0.8
baz=54,SNR=6.9
FLWY Flagg Ranch 53.93 331 eP P 09 06 00.8 -0.1
16nm,1.0s
A27A Ledoux Ranch, 53.96 341 ⇓P P 09 06 00.9 +0.1
baz=54
B25A Knox Farm, Ray 54.04 339 ⇑P P 09 06 02.2 +0.8
baz=54
F20A Billings 54.04 334 ⇓P P 09 06 01.9 +0.3
baz=54
H17A Grant Village 54.10 331 ⇓P P 09 06 02.8 +0.6
baz=54
E21A Keefer Ranch, 54.15 335 ⇓P P 09 06 02.3 +0.1
baz=54
A26A Wade Farm, Ken 54.18 340 ⇓P P 09 06 02.7 +0.3
baz=54
D22A Cohagen 54.27 336 ⇑P P 09 06 03.7 +0.6
baz=54,SNR=15
C23A Lambert 54.40 337 ⇑P P 09 06 04.4 +0.4
baz=55,SNR=7.6
F19A Roth Farm, Mol 54.43 333 ⇓P P 09 06 04.4 0.0
baz=55
NVAR Mina Array Bea 54.46 321 P P 09 06 03.8 -1.1
1.4nm,0.6s,baz=118,slow=9.2,SNR=5.9
NVAR PcP PcP 09 07 05.7 -0.2
2.3nm,1.1s,baz=126,slow=4.6,SNR=3.8
YMR Madison River 54.49 331 eP P 09 06 05.3 +0.3
5.9nm,1.0s
D21A La Casta Ranch 54.53 335 ⇓P P 09 06 05.3 +0.3
baz=55
E20A Meyer Farm, Mu 54.58 334 ⇓P P 09 06 05.5 +0.2
baz=55,SNR=10.0
DGMT Dagmar 54.58 338 eP P 09 06 05.0 -0.2
6.1nm,0.8s
DGMT Dagmar 54.58 338 ⇓P P 09 06 05.8 +0.5
baz=55
A25A Svangstu Ranch 54.58 339 ⇓P P 09 06 05.5 +0.2
baz=55
C22A Vida 54.63 337 ⇑P P 09 06 06.0 +0.3
baz=55,SNR=13
E19A Rath Farm, Rou 54.83 334 ⇓P P 09 06 07.5 +0.3
baz=55,SNR=6.7
B23A Brockton 54.87 338 ⇓P P 09 06 08.2 +0.8
baz=55,SNR=10
A24A Westby 54.89 339 ⇑P P 09 06 08.2 +0.7
baz=55,SNR=12
D20A Manuel Ranch, 55.04 335 ⇑P P 09 06 08.8 +0.2
baz=55,SNR=8.8
B22A Reddig Ranch S 55.13 337 ⇑P P 09 06 09.7 +0.4
baz=55
C21A Desert Coulee 55.18 336 ⇓P P 09 06 10.3 +0.7
baz=55
A23A Redstone 55.24 338 ⇑P P 09 06 10.7 +0.7
baz=55
D19A Cripps Ranch, 55.41 334 ⇓P P 09 06 11.5 +0.1
baz=56,SNR=12
HLID Hailey 55.47 328 eP P 09 06 11.7 -0.2
4.0nm,1.0s
HLID Hailey 55.47 328 ⇑P P 09 06 12.0 +0.1
baz=56,SNR=6.7
C20A Veseth Ranch, 55.47 335 ⇓P P 09 06 11.8 +0.1
baz=56
BOZ Bozeman (W) 55.53 331 eP P 09 06 11.7 -0.5
12nm,1.2s
MCMT McKenzie Canyo 55.54 330 eP P 09 06 12.3 -0.2
2.0nm,1.0s
B21A Ellsworth Farm 55.63 336 ⇑P P 09 06 13.5 +0.7
baz=56
A22A Carney Farms, 55.66 338 ⇑P P 09 06 13.7 +0.7
baz=56
C19A Slack Wire Ran 55.93 335 ⇓P P 09 06 15.3 +0.3
baz=56,SNR=5.9
B20A Solberg Farm, 56.05 336 ⇓P P 09 06 16.1 +0.3
baz=56
MFID Camas Ranch 56.13 327 eP P 09 06 16.7 +0.1
18nm,1.0s
A20A Cobblestone Ra 56.36 336 ⇑P P 09 06 18.3 +0.3
baz=56
SCHQ Schefferville 56.40 7 P P 09 06 17.6 -0.5
5.7nm,0.8s,baz=201,slow=5.1,SNR=12
SCHQ PcP PcP 09 07 12.6 -0.1
4.5nm,0.9s,baz=232,slow=8.4,SNR=3.9
SCHQ Schefferville 56.40 7 eP P 09 06 17.2 -0.9
6.5nm,0.8s
SCHQ PcP PcP 09 07 12.6 -0.1
B19A Brinkman Farms 56.44 335 ⇓P P 09 06 18.5 0.0
baz=57,SNR=6.3

EGMT Eagleton 56.45 334 eP P 09 06 18.4 -0.2
11nm,1.1s
EGMT Eagleton 56.45 334 ⇑P P 09 06 18.8 +0.1
baz=57
A19A Klindworth Far 56.73 336 ⇑P P 09 06 20.6 0.0
baz=57,SNR=7.8
WVOR Wild Horse Val 57.09 324 eP P 09 06 23.4 +0.1
11nm,1.1s
MSO Missoula 57.49 331 eP P 09 06 26.2 +0.2
103nm,3.0s
MSO Missoula 57.49 331 ⇑P P 09 06 26.2 +0.2
baz=58
BMO Blue Mountains 57.88 327 eP P 09 06 27.6 -1.1
14nm,1.6s
YBMT Yellow Bay 58.26 332 eP P 09 06 31.2 -0.2
F10A Beach Ranch, E 58.57 328 eP P 09 06 33.5 0.0
114nm,2.5s
I07A Izee 58.60 325 eP P 09 06 34.0 +0.2
6.9nm,0.8s
M04C Macdoel 58.62 322 ⇑P P 09 06 34.0 +0.1
baz=59
BSMT Bassoo Peak 58.62 331 eP P 09 06 33.5 -0.5
G08A Pilot Rock 59.05 327 eP P 09 06 37.0 +0.1
9.2nm,0.9s
WALA Waterton Lakes 59.07 333 eP P 09 06 36.0 -0.9
J05D Fort Rock, OR 59.12 324 ⇓P P 09 06 37.9 +0.4
baz=59
FFC Flin Flon 59.21 344 eP P 09 06 36.9 -0.7
12nm,0.8s
E09A Wood Farm, Sta 59.40 328 eP P 09 06 39.1 0.0
87nm,2.7s
J04D Umpqua Nationa 59.62 323 ⇓P P 09 06 41.3 +0.4
baz=60
I05D Terrebonne, OR 59.81 325 ⇓P P 09 06 42.6 +0.7
baz=60
NEW Newport 60.04 330 eP P 09 06 42.2 -1.3
11nm,1.3s
NEW Newport 60.04 330 ⇓P P 09 06 43.0 -0.5
baz=60
G05D Wamic, OR 60.33 326 ⇑P P 09 06 46.2 +0.7
baz=60
I03D Drain, OR 60.62 323 ⇓P P 09 06 47.6 +0.2
baz=61
D05A Enumclaw 61.88 327 eP P 09 06 56.0 +0.2
231nm,2.3s
EDM Edmonton 61.88 336 eP P 09 06 53.9 -1.9
YKA Yellowknife Ar 69.34 343 P P 09 07 41.8 -1.4
4.0nm,0.7s,baz=138,slow=5.9,SNR=112
SFJD Kangerlussuaq 70.50 11 iP P 09 07 49.2 -1.0
7.2nm,0.9s
DLBC Dease Lake 72.38 334 eP P 09 08 01.9 +0.1
ILULI Ilulissat 72.38 10 iP P 09 08 01.0 -0.4
12nm,0.7s
LIC Lamto 72.53 83 eP P 09 08 02.9 -0.6
62nm,0.6s
TIC Toumodi 72.56 83 eP P 09 08 03.0 -0.7
44nm,0.6s
DBIC Dimbokro 72.73 83 P P 09 08 04.2 -0.4
21nm,0.4s,baz=267,slow=4.5,SNR=56
DBIC Dimbokro 72.73 83 eP P 09 08 04.1 -0.5
39nm,0.8s
KIC Kosan Boka 72.83 83 eP P 09 08 04.8 -0.4
132nm,0.7s
RES Resolute Bay 76.40 355 P P 09 08 23.1 -1.3
1.8nm,0.7s,baz=190,slow=11,SNR=3.2
KULLO Kullorsuaq 76.52 5 iP P 09 08 24.6 -0.6
23nm,0.7s
SUMG Summit 77.49 11 iP P 09 08 30.8 -0.3
19nm,0.7s
SUMG Summit 77.49 11 eP P 09 08 30.8 -0.3
17nm,0.6s
INK Inuvik 79.08 342 eP P 09 08 38.9 -0.5
18nm,0.8s
TOA0 Torodi Ar. Sit 79.56 77 eP P 09 08 41.7 -1.4
TORD Torodi Ar. Bea 79.56 77 P P 09 08 42.0 -1.1
3.5nm,0.5s,baz=277,slow=5.4,SNR=66
EGAK Eagle 80.10 337 eP P 09 08 44.5 -0.5
25nm,0.9s
PAX Paxson 81.18 335 eP P 09 08 50.3 -0.6
6.6nm,0.8s
EKA Eskdalemuir Ar 81.93 34 P P 09 08 53.5 -1.3
0.4nm,0.5s,baz=250,slow=2.4,SNR=5.1
ILAR Eielson Array 82.38 336 P P 09 08 56.0 -1.0
7.0nm,0.8s,baz=123,slow=4.0,SNR=70
COLA College 82.80 336 eP P 09 08 58.7 -0.4
7.3nm,0.9s
MCK McKinley 82.90 335 eP P 09 08 58.8 -0.9
10nm,0.9s
KTH Kantishna Hill 83.70 334 eP P 09 09 02.7 -1.2
14nm,0.9s
TAM Tamanrasset 83.83 67 eP P 09 09 06.3 +0.8
4.9nm,0.9s
PPLA Purkeypile 84.09 334 eP P 09 09 05.2 -0.8
36nm,1.0s
DAG Danmarks Havn 84.18 11⇑iP P 09 09 05.0 -0.9
6.3nm,0.8s
COLD Coldfoot 84.42 338 eP P 09 09 06.7 -0.6
4.6nm,0.8s
TSUM Tsumeb 94.29 109 eP P 09 09 55.3 +0.2
4.2nm,1.0s
AKTO Aktyubinsk 117.99 31 PKP PKPdf 09 15 19.7 -0.9
0.7nm,0.8s,baz=295,slow=4.3,SNR=4.2
BVAR Borovoye Array 121.71 22 PKP PKPdf 09 15 27.1 -0.6
0.7nm,0.5s,baz=293,slow=1.5,SNR=4.8
ZAA0 Zalesovo Array 125.29 13 ePKPdf PKPdf 09 15 32.9 -1.6
ZALV Zalesovo Beam 125.29 13 PKP PKPdf 09 15 33.5 -1.0
3.4nm,0.5s,baz=250,slow=2.9,SNR=16
KURK Kurchatov 126.51 19 PKP PKPdf 09 15 36.6 -0.4
KURBB Kurchatov Arra 126.56 19 PKP PKPdf 09 15 36.6 -0.5
3.4nm,0.6s,baz=318,slow=2.4,SNR=40
MK31 Makanchi Array 131.12 19 ePKPdf PKPdf 09 15 44.6 -1.3
MKAR Makanchi Array 131.12 19 PKP PKPdf 09 15 44.9 -1.1
1.4nm,0.4s,baz=293,slow=2.9,SNR=40
AAK Ala-Archa 131.54 28 PKP PKPdf 09 15 47.4 +0.4
2.8nm,0.8s,baz=163,slow=0.9,SNR=9.2
AAK Ala-Archa 131.54 28 ePKPdf PKPdf 09 15 47.2 +0.2
AAK PKP PKPdf 09 15 47.4 +0.4
KSH Kashi 134.66 29 ePKP PKPdf 09 15 50.5 -2.4
KSH esPKP 09 17 11.6
KSH PKS PKSdf 09 19 26.1 -3.3
KSH SKKS 09 24 57.9
KSH SS SS 09 36 01.5 -1.3
KSH AMB AMB
comp=Z,91nm,9.0s
WMQ Urumqi 135.41 15 ePKP PKPdf 09 15 52.4 -1.7
WMQ LR LR
comp=N,180nm,21.2s
WMQ LR LR
comp=E,120nm,20.0s
WMQ LR LR
comp=Z,70nm,22.6s
KSRS Korea Array 136.97 330 PKP PKPdf 09 15 55.0 -2.1
1.5nm,0.7s,baz=23,slow=2.3,SNR=6.8
KSAR Wonju Array Be 137.00 330 PKP PKPdf 09 15 55.0 -2.2
DL2 Dalian 138.55 337 ePKP PKPdf 09 16 03.5 +3.5
HHC Hu-ho-hao-te 139.60 350 ePKP PKPdf 09 15 59.8 -2.2
HHC sPKP 09 17 20.7
HHC PP PP 09 18 57.8 0.0
HHC PKS PKSdf 09 19 33.5 -4.6
HHC SKS SKSdf 09 22 46.0 -7.7
HHC SKKS SKKSac 09 25 25.8 -7.3
HHC SS SS 09 36 58.4 -2.1
HHC AMB AMB
comp=Z,140nm,7.6s
ASAR Alice Springs 140.93 229 PKhKP PKPpre 09 15 56.2
0.8nm,0.5s,baz=125,slow=3.6,SNR=17
ASAR PKP PKPdf 09 16 05.8 +0.9
2.0nm,0.8s,baz=121,slow=2.1,SNR=11
ASAR SKP 09 19 19.4
3.3nm,1.0s,baz=114,slow=3.4,SNR=14
WRA Warramunga Arr 142.58 234 PKhKP PKPpre 09 16 02.5
2.6nm,0.7s,baz=129,slow=2.7,SNR=24
WRA SKP 09 19 23.8
5.3nm,0.9s,baz=122,slow=2.2,SNR=22
LZH Lanzhou 145.16 358 PKPbc PKPbc 09 16 12.3 +0.3
NJ2 Nanjing 145.62 335 ePKPbc PKPbc 09 16 11.0 -1.7
XAN Xi'an 146.70 351 PKPbc PKPbc 09 16 15.6 +1.0
PYUN Piuthan 147.19 33 eP PKPdf 09 16 17.7 +1.9
131nm,0.4s
DANN Dangsing 147.41 32 eP PKPdf 09 16 18.7 +2.4
146nm,0.7s
KOLN Koldanda 147.78 33 eP PKPdf 09 16 19.0 +2.2
34nm,0.6s
GKN Gorkha 148.15 31 eP PKPdf 09 16 20.2 +2.9
KKN Kakani 148.65 31 eP PKPdf 09 16 21.6 +3.4
73nm,0.6s
DMN Daman 148.71 31 eP PKPdf 09 16 21.8 +3.4
42nm,0.5s
GUN Gumba 148.85 30 eP PKPbc 09 16 22.4 -0.4
121nm,1.0s
PKIN Phulchoki 148.88 31 eP PKPdf 09 16 21.9 +3.2
47nm,0.7s
PKI Pulchoki 148.90 31 eP PKPdf 09 16 21.9 +3.1
63nm,0.7s
JIRN Jiri 149.21 29 eP PKPbc 09 16 23.0 -0.8
28nm,0.6s
RAMN Ramite 150.00 30 eP PKPbc 09 16 24.7 -0.9
44nm,0.6s
TAPN Taplejung 150.20 28 eP PKPbc 09 16 25.4 -0.7
51nm,0.6s
CD2 Chengdu 150.32 358 PKPbc PKPdf 09 16 18.9 -1.7
ODAN Odare 150.46 29 eP PKPbc 09 16 25.9 -0.7
66nm,0.7s
GYA Guiyang 154.48 352 ePKPbc PKPdf 09 16 23.8 -3.1
GYA PKPab PKPab 09 16 50.4 0.0
GYA pPKP pPKPdf 09 17 19.6 +0.6
GYA sPKP 09 17 40.0
GYA PKS PKSdf 09 19 55.2 -6.2
GYA PP PP 09 20 27.4 +2.5
GYA AMB AMB
comp=Z,90nm,7.8s
CMAR Chiang Mai Arr 162.35 12 PKPab PKPab 09 17 23.4 -1.1
2.0nm,0.3s,baz=333,slow=3.8,SNR=5.9

IDC 06 09:11:59.8±3.2, 54°.17N×87°.17E, h0km, mb1 2.8/2, mb1mx2.8/30, mbtmp2.8/2, ML2.8/2, Error ellipse: s-maj=30.4km s-min=17.8km az=58.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase Op ID ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.41 262 i 09 21 10.0
baz=79,slow=349,SNR=13
ZALV Zalesovo Beam 1.41 262 Pg Pn 09 12 25.0 -1.6
2.7nm,0.3s,baz=80,slow=16,SNR=23
ZALV Lg Lg 09 12 44.5
1.0nm,0.3s,baz=83,slow=24,SNR=6.1
KURBB Kurchatov Arra 6.37 240 Pn Pn 09 13 35.9 +1.1
0.2nm,0.3s,baz=54,slow=14,SNR=7.2
MKAR Makanchi Array 8.01 205 Pn Pn 09 13 58.4 +1.0
0.1nm,0.3s,baz=27,slow=14,SNR=7.7

BKK 06 09:16:11.1±1.1, 16°N±7°×9°5E±°, h10km, M4.1/7, mb4.4/5, mB4.4/5, MLv4.2/7, Mw(mB)3.6/5
IDC 06 09:16:31.6±1.7, 15°.89N×96°.22E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.1/41, mbtmp3.2/4, ML3.8/1, MS2.7/1, Ms1 2.9/1, ms1mx2.5/14, Error ellipse: s-maj=35.8km s-min=19.6km az=51.0
ISC 06 09:16:32.1±1.3, 15°.93N±0°.06×96°.29E±0°.08, h10km, n14, σ1°.68/19, mb3.2/3, Near south coast of Myanmar

Code Station Name Δ° AZ° Phase Op ID ISC Time h m s Res ISC
KHLT Khaolaem Dam 2.49 117 P Pb 09 17 14.5 -2.5
KHLT S Sg 09 17 52.4 +0.1
SRDT SRDT 3.16 120 P Pb 09 17 29.4 +1.0
SRDT S Sg 09 18 12.1 -1.5
SUKH Sukhothai 3.56 64 P Pn 09 17 31.2 +3.8
32nm,0.8s,284nm0.1nm
SUKH S Sg 09 18 30.1 +3.7
32nm,0.8s,284nm0.1nm
CMAR Chiang Mai Arr 3.57 45 Pn Pn 09 17 27.5 -0.2
2.1nm,0.3s,baz=236,slow=15,SNR=20
CMAR Pg Pg 09 17 39.2 -1.4
2.4nm,0.3s,baz=231,slow=20,SNR=21
CMAR LR LR 09 19 13.6
comp=Z,93nm,18.9s,baz=178,slow=44
CHTO Chiang Mai 3.83 41 P Pn 09 17 30.1 -1.1
161nm,1.0s,2μm0.8nm
CMMT Chiang Mai 3.83 41 P Pn 09 17 29.7 -1.5
46nm,1.0s,632nm0.2nm
LAMP Lampang 4.11 51 P Pn 09 17 34.8 -0.2
12nm,0.6s,218nm0.1nm
UTTA Uttaradit 4.47 66 P Pn 09 17 40.5 +0.6
UTTA S Sg 09 18 55.5 -0.1
PBKT Sadao Pong 4.54 81 S Sg 09 19 00.4 +2.3
CMAI Chiengmai2 4.77 33 S Sg 09 19 03.8 -1.5
PAYA Payao 4.83 45 P Pn 09 17 43.2 -1.7
PAYA S Sg 09 19 07.4 +0.2
MKAR Makanchi Array 32.90 342 P P 09 23 08.6 +2.1
0.2nm,0.6s,baz=156,slow=11,SNR=2.8
KURBB Kurchatov Arra 37.45 341 P P 09 23 46.6 +1.1
0.1nm,0.5s,baz=156,slow=7.9,SNR=2.9
WRA Warramunga Arr 51.67 132 P P 09 25 40.2 +0.6
0.2nm,0.6s,baz=315,slow=7.1,SNR=2.6

IDC 06 09:19:51.8±1.3, 15°.07S×173°.85W, h0km, mb4.4/10, mb1 4.7/10, mb1mx4.4/30, mbtmp4.4/10, MS4.0/14, Ms1 4.0/14, ms1mx3.7/29, Error ellipse: s-maj=58.8km s-min=20.8km az=151.0
ISCJB 06 09:19:52.4±0.3, 15°.0S±0°.1×173°.90W±0°.07, h10km, mb4.8/65, MS4.1/12, Error ellipse: s-maj=17.4km s-min=8.1km az=155.0
NEIC 06 09:19:53.8±0.2, 15°.03S×173°.84W, h10km, mb4.8/32, Error ellipse: s-maj=12.4km s-min=4.2km az=151.0
ISC 06 09:19:53.6±0.7, 15°.15S±0°.2×173°.8W±0°.1, h10km, n367, σ0°.61/341, mb4.9/65, MS4.1/12, 128C-134D, Tonga Islands

Code Station Name Δ° AZ° Phase Op ID ISC Time h m s Res ISC
AFI Afiamalu 2.25 59 Pn Pn 09 20 24.1 -6.8
49nm,0.3s,baz=205,slow=3.0,SNR=42
AFI Sn Sn 09 20 44.6 -14
121nm,0.3s,baz=69,slow=8.8,SNR=8.0
AFI LR LR 09 21 25.3
comp=Z,833nm,21.4s,baz=236,slow=40
AFI Afiamalu 2.25 59 Pn Pn 09 20 24.1 -6.8
AFI Sn Sn 09 20 44.6 -14
AFI eSn Sb 09 20 45.8 -17
MSVF Nonsavu 8.29 250 ePn Pn 09 21 54.9 +0.9
53nm,1.1s
RAR Rarotonga 14.64 117 LR LR 09 27 24.9
comp=Z,600nm,20.1s,baz=46,slow=31
DZM Mont Dzumac 20.00 247 eLR LR 09 29 23.5
369nm,25.4s
PPT Papeete 23.35 99 LR LR 09 31 34.5
comp=Z,204nm,20.6s,baz=273,slow=30
PAE Paea 23.35 100 eT T 09 48 38.2
5.6nm,0.3s
PPT2 Papeete2 23.35 100 eLQ LQ 09 29 28.7
662nm,27.8s
PPT2 eLR LR 09 30 29.9
860nm,26.2s
PPT2 Papeete2 23.35 100 eT T 09 48 38.7
6.1nm,0.3s
TVO Taravao 23.67 100 eT T 09 49 02.7
3.7nm,0.4s
RKT Rikitea 37.44 108 eLR LR 09 37 02.4
680nm,29.8s
RKT Rikitea 37.44 108 eT T 10 06 26.1
5.8nm,0.4s
H11S2 WAKE ISLAND Hy 38.49 329 T T 10 08 04.6
baz=152,slow=77,SNR=274
H11S3 WAKE ISLAND Hy 38.51 329 T T 10 08 05.5
baz=152,slow=77,SNR=306
H11S1 WAKE ISLAND Hy 38.51 329 T T 10 08 05.9
baz=152,slow=77,SNR=332
H11N3 WAKE ISLAND Hy 39.45 331 T T 10 09 18.2
baz=152,slow=77,SNR=124
H11N1 WAKE ISLAND Hy 39.45 331 T T 10 09 15.6
baz=152,slow=77,SNR=154
H11N2 WAKE ISLAND Hy 39.46 331 T T 10 09 14.6
baz=152,slow=77,SNR=125
WRAB Tennant Creek 49.56 257 eP P 09 28 44.0 +0.8
WRA Warramunga Arr 49.57 257 P P 09 28 44.6 -0.7
1.1nm,0.8s,baz=92,slow=7.8,SNR=10.0
WRA LR LR 09 48 05.2
comp=Z,110nm,19.1s,baz=90,slow=34
AS31 Alice Springs 49.88 252 eP P 09 28 46.8 -0.8
ASAR Alice Springs 49.88 252 P P 09 28 46.1 -1.5
8.8nm,0.8s,baz=85,slow=8.1,SNR=36
ASAR LR LR 09 47 49.1
comp=Z,217nm,21.5s,baz=90,slow=34
JCJ Chichijima 59.87 314 LR LR 09 50 29.4
comp=Z,198nm,18.7s,baz=349,slow=31
MJAR Matsushiro Arr 68.45 320 LR LR 09 55 20.4
comp=Z,100nm,21.9s,baz=120,slow=31
FX1 Attu Island--F 68.60 352 LR LR 09 54 32.5
comp=Z,148nm,22.0s,baz=190,slow=30
ASAJ Asahikawa 71.07 328 LR LR 09 55 23.3
comp=Z,112nm,21.8s,baz=125,slow=30
OSI Osito Adit 71.92 45 ⇑P P 09 31 17.6 +0.2
baz=72
PETK Petropavlovsk- 72.20 342 P P 09 31 18.7 +0.1
1.3nm,0.6s,baz=148,slow=8.0,SNR=5.9
VES Vestal, Richgr 72.35 44 ⇓P P 09 31 19.8 0.0
baz=72
EDW2 Edwards Air Fo 72.56 45 ⇓P P 09 31 20.4 -0.8
baz=73
MONP Monument Peak 72.61 48 ⇑P P 09 31 20.9 -0.8
baz=73
ISA Isabella 72.66 45 ⇓P P 09 31 20.8 -1.0
baz=73
CMB Columbia Colle 72.75 42 eP P 09 31 22.5 +0.2
10nm,1.1s
SWSC Sam W. Stewart 73.08 48 ⇓P P 09 31 22.8 -1.4
baz=73
N02D Trinity Center 73.08 38 ⇑P P 09 31 23.9 -0.4
baz=73
M02C Callahan 73.25 38 ⇑P P 09 31 26.0 +0.8
baz=74
L02D Cave Junction, 73.30 37 ⇓P P 09 31 26.4 +1.0
baz=74
BELC Belle Mtn. Jos 73.49 47 ⇑P P 09 31 27.6 +0.7
baz=74
MLAC Mammoth Lakes 73.52 43 ⇓P P 09 31 28.3 +1.2
baz=74
YBH Yreka Blue Hor 73.55 37 eP P 09 31 27.7 +0.7
96nm,2.1s
WAKR Walker 73.63 42 eP P 09 31 28.0 +0.4
HEC Hector,Ludlow 73.69 46 ⇑P P 09 31 27.5 -0.5
baz=74
BC3 Big Chuckawall 73.69 48 ⇓P P 09 31 27.3 -0.8
baz=74
GLA Glamis 73.84 49 ⇑P P 09 31 29.3 +0.5
baz=74
M04C Macdoel 74.09 38 ⇑P P 09 31 30.9 +0.7
baz=74
GMRC Granite Mounta 74.13 47 ⇑P P 09 31 30.7 +0.1
baz=74
GRAC Grapevine Rang 74.14 44 ⇑P P 09 31 30.9 +0.4
baz=74
IRM Iron Mountain 74.17 47 ⇑P P 09 31 31.2 +0.4
baz=74
FURC Furnace Creek, 74.20 45 ⇓P P 09 31 30.6 -0.2
baz=74
SHOC Shoshone 74.29 45 ⇓P P 09 31 32.1 +0.8
baz=74
TUQ Turquoise Moun 74.29 46 ⇓P P 09 31 31.9 +0.4
baz=74
NVAR Mina Array Bea 74.32 42 P P 09 31 31.9 +0.2
6.9nm,0.9s,baz=227,slow=10,SNR=31
Y12C Blythe 74.41 48 ⇓P P 09 31 32.1 0.0
baz=75
I03D Drain, OR 74.42 35 ⇑P P 09 31 33.0 +1.1
baz=75
113A Mohawk Valley, 74.47 49 ⇓P P 09 31 32.9 +0.5
baz=75
K04D Chiloquin, OR 74.66 37 ⇓P P 09 31 34.6 +1.1
baz=75
LDFC Landfair 74.67 47 eP P 09 31 34.1 +0.3
22nm,1.1s
214A Organ Pipe Nat 74.78 50 ⇑P P 09 31 34.2 -0.1
baz=75
TPH Tonopah 74.83 43 eP P 09 31 35.2 +0.5
20nm,1.1s
PDMCI Parker Dam,Lak 74.96 48 ⇓P P 09 31 35.7 +0.5
baz=75
QSPA South Pole Qui 74.98 180 eP P 09 31 34.8 -0.2
4.4nm,0.9s
MOD Modoc 75.08 38 eP P 09 31 36.3 +0.3
12nm,1.0s
K05A Summer Lake 75.22 37 eP P 09 31 36.9 0.0
25nm,1.1s
Z14A Wintersburg 75.36 49 ⇓P P 09 31 38.5 +0.9
baz=76
J05D Fort Rock, OR 75.36 37 ⇓P P 09 31 38.7 +1.2
baz=76
SHPR Sheep Range 75.38 45 eP P 09 31 38.3 +0.4
W13A Hualapai Mount 75.55 47 ⇓P P 09 31 39.4 +0.5
baz=76
Y14A Wickenburg 75.60 49 ⇑P P 09 31 39.6 +0.6
baz=76
I05D Terrebonne, OR 75.95 36 ⇑P P 09 31 41.8 +1.0
baz=76
R11A Troy Canyon, C 76.06 44 ⇑P P 09 31 42.5 +0.7
baz=76
F04D Rainier, OR 76.12 34 ⇑P P 09 31 43.1 +1.5
baz=76
WVOR Wild Horse Val 76.40 39 eP P 09 31 43.7 +0.2
13nm,1.0s
TUC Tucson 76.46 51 eP P 09 31 44.5 +0.6
11nm,1.0s
I07A Izee 76.85 37 eP P 09 31 45.5 -0.5
13nm,1.2s
USRK Ussuriysk Arra 76.90 323 LR LR 09 59 43.2
comp=Z,149nm,21.2s,baz=118,slow=31
X16A Lo Mia Camp, P 76.96 49 ⇓P P 09 31 47.7 +0.7
baz=77
CCUT Cedar City 77.15 45 eP P 09 31 48.4 +0.4
16nm,1.4s
319A Douglas 77.17 52 ⇓P P 09 31 48.5 +0.5
baz=77
ARUT Antelope Range 77.22 45 eP P 09 31 48.6 +0.3
504nm,1.8s
U15A North Rim 77.33 47 ⇓P P 09 31 49.5 +0.4
baz=78
WUAZ Wupatki 77.54 48 eP P 09 31 51.2 +1.1
14nm,1.3s
WUAZ Wupatki 77.54 48 ⇑P P 09 31 50.5 +0.3
baz=78
ELK Elko 77.57 42 eP P 09 31 50.3 +0.1
7.0nm,0.9s
G08A Pilot Rock 77.88 36 eP P 09 31 51.7 0.0
20nm,1.4s
X18A Snowflake 78.10 49 ⇑P P 09 31 54.3 +1.0
baz=78
E07A Sunnyside 78.13 35 eP P 09 31 53.0 +0.1
5.8nm,0.8s
HAWA Hanford 78.21 35 eP P 09 31 53.5 +0.1
9.2nm,1.0s
MVU Marysvale 78.41 45 eP P 09 31 55.4 +0.3
12nm,1.0s
BMO Blue Mountains 78.58 37 eP P 09 31 55.7 +0.1
15nm,1.6s
MFID Camas Ranch 78.65 39 eP P 09 31 56.0 -0.1
16nm,1.3s
121A Cookes Peak, D 78.82 52 eP P 09 31 57.9 +0.5
18nm,1.2s
121A Cookes Peak, D 78.82 52 ⇑P P 09 31 58.3 +1.0
baz=79
DUG Dugway 78.86 43 eP P 09 31 57.0 -0.3
12nm,1.0s
DUG Dugway 78.86 43 ⇓P P 09 31 57.9 +0.6
baz=79
D08A Wollman Farm, 78.94 35 eP P 09 31 57.2 -0.2
7.1nm,1.0s
F10A Beach Ranch, E 79.26 36 eP P 09 31 59.1 -0.2
26nm,1.8s
TMUT Trail Mountain 79.48 44 eP P 09 32 01.3 +0.3
25nm,0.9s
PPLA Purkeypile 79.52 10 eP P 09 31 58.8 -1.6
52nm,1.2s
MPU Maple Canyon 79.55 44 eP P 09 32 01.3 +0.1
13nm,1.1s
HLID Hailey 79.60 39 eP P 09 32 01.8 +0.5
14nm,1.0s
HLID Hailey 79.60 39 ⇓P P 09 32 02.3 +1.0
baz=80,SNR=19
HVU Hansel Valley 79.69 42 eP P 09 32 02.4 +0.5
17nm,0.9s
Z22A Elephant Butte 79.76 52 ⇓P P 09 32 03.5 +1.1
baz=80
CTU Camp Tracy 79.81 43 eP P 09 32 03.2 +0.7
7.7nm,0.9s
SRU San Rafael 79.86 45 eP P 09 32 03.4 +0.6
12nm,1.0s
JLU Jordanelle 79.97 43 eP P 09 32 03.3 -0.2
12nm,0.9s
LAZ Ladron 80.12 50 eP P 09 32 05.0 +0.6
16nm,1.8s
TCUT Toone Canyon 80.25 43 eP P 09 32 05.3 +0.3
33nm,0.8s
MVCO Mesa Verde 80.38 47 ⇑P P 09 32 06.0 +0.2
baz=81
HWUT Hardware Ranch 80.39 42 eP P 09 32 05.4 -0.3

	6.3nm,0.8s						
626A	Big Bend Ranch	80.44	56	⇑P	P	09 32 05.9	-0.2
	baz=81,SNR=11						
LPM	Los Pinos Moun	80.46	51	eP	P	09 32 06.4	+0.2
TNA	Tin City	80.51	2	eP	P	09 32 05.9	+0.5
	12nm,1.0s						
NEW	Newport	80.64	34	⇓P	P	09 32 06.2	-0.5
	baz=81						
PV04	Paradox Valley	80.64	46	eP	P	09 32 07.7	+0.6
526A	Mary Lane Ranc	80.67	55	⇑P	P	09 32 08.1	+0.8
	baz=81,SNR=10						
TXAR	Lajitas Array	80.72	56	P	P	09 32 08.3	+0.7
	5.1nm,1.0s,baz=235,slow=4.4,SNR=32						
Y23A	Lovelace Mesa,	80.73	51	⇓P	P	09 32 08.1	+0.4
	baz=81						
PV01	Paradox Valley	80.75	46	eP	P	09 32 08.2	+0.5
	2μm,1.3s						
ANMO	Albuquerque	80.86	50	eP	P	09 32 09.2	+0.8
	27nm,1.7s						
225A	Deer Hill, Car	80.92	53	⇓P	P	09 32 08.9	+0.2
	baz=81,SNR=9.5						
V22A	San Miguel Ran	80.95	49	⇓P	P	09 32 09.3	+0.4
	baz=81						
426A	McDonald Obser	80.96	55	⇓P	P	09 32 08.9	-0.1
	baz=81,SNR=25						
627A	Terlingua Ranc	80.99	56	⇓P	P	09 32 10.1	+1.0
	baz=81,SNR=13						
Z24A	Sheeppen Canyo	81.00	52	⇑P	P	09 32 09.9	+0.7
	baz=81,SNR=6.0						
527A	Woodward Ranch	81.08	56	⇑P	P	09 32 10.6	+1.0
	baz=81,SNR=10						
W23A	Werner Place,	81.18	50	⇓P	P	09 32 11.0	+0.9
	baz=81,SNR=8.0						
U22A	Llaves	81.19	49	⇓P	P	09 32 10.5	+0.4
	baz=81						
Y24A	Capitan	81.19	51	⇓P	P	09 32 11.0	+0.9
	baz=81,SNR=8.6						
MCMT	McKenzie Canyo	81.22	39	eP	P	09 32 10.4	+0.3
	5.8nm,1.2s						
326A	Caldwell Ranch	81.26	54	⇑P	P	09 32 11.2	+0.8
	baz=81						
125A	Gardner Draw,	81.27	53	⇑P	P	09 32 11.5	+1.0
	baz=81,SNR=5.0						
GDL2	Guadalupe Moun	81.31	53	eP	P	09 32 11.8	+1.1
V23A	Ortiz Mt. (NFS	81.41	50	⇑P	P	09 32 12.4	+1.1
	baz=82,SNR=5.7						
628A	Black Gap, Mar	81.41	56	⇓P	P	09 32 12.1	+0.9
	baz=82,SNR=6.2						
226B	Tecolote Peak,	81.41	54	⇓P	P	09 32 12.0	+0.8
	baz=82						
Z25A	Roswell	81.47	52	⇑P	P	09 32 12.6	+1.0
	baz=82,SNR=5.3						
427A	Hayter Ranch,	81.53	55	⇓P	P	09 32 12.5	+0.7
	baz=82,SNR=13						
MSO	Missoula	81.63	37	eP	P	09 32 11.7	-0.3
	11nm,1.2s						
MSO	Missoula	81.63	37	⇓P	P	09 32 13.2	+1.1
	baz=82						
U23A	El Rito	81.65	49	⇓P	P	09 32 13.6	+1.0
	baz=82,SNR=12						
DLMT	Dillon	81.65	39	eP	P	09 32 12.8	+0.6
	11nm,1.2s						
BSMT	Bassoo Peak	81.70	36	eP	P	09 32 12.3	-0.2
REDW	Red Top Meadow	81.72	41	eP	P	09 32 13.3	+0.5
	28nm,1.4s						
528A	Cox Ranch, San	81.75	56	⇑P	P	09 32 14.1	+1.0
	baz=82,SNR=12						
126A	Clayton Basin,	81.75	53	⇑P	P	09 32 13.5	+0.5
	baz=82						
W24A	Lazy 6 Ranch,	81.75	50	⇓P	P	09 32 13.6	+0.5
	baz=82,SNR=6.4						
Y25A	Mesa, Roswell	81.76	52	⇓P	P	09 32 13.6	+0.5
	baz=82,SNR=6.7						
DOT	Dot Lake	81.76	13	eP	P	09 32 10.2	-2.0
	18nm,1.2s						
S22A	4UR Ranch, Cre	81.81	47	⇑P	P	09 32 14.6	+1.2
	baz=82,SNR=18						
O20A	White River Ci	81.90	45	⇓P	P	09 32 13.7	0.0
	baz=82						
MOOW	Moose Ponds	81.98	41	eP	P	09 32 14.4	+0.3
	7.6nm,1.2s						
LOHW	Long Hollow	82.00	41	eP	P	09 32 14.1	-0.1
	8.1nm,1.1s						
X25A	Clemmons Ranch	82.03	51	⇑P	P	09 32 14.9	+0.4
	baz=82						
Z26A	Caprock	82.03	53	⇓P	P	09 32 14.9	+0.3
	baz=82,SNR=11						
428A	Kincaid Ranch,	82.05	55	⇑P	P	09 32 15.8	+1.2
	baz=82,SNR=6.1						
T23A	Casias Ranch,	82.07	48	⇑P	P	09 32 15.6	+0.8
	baz=82						
227A	Bennet, Jal	82.07	54	⇑P	P	09 32 15.4	+0.8
	baz=82						
V24A	Rampart Ranch,	82.07	50	⇓P	P	09 32 15.6	+0.8
	baz=82						
QLMT	Earthquake Lak	82.09	40	eP	P	09 32 15.9	+1.2
COLA	College	82.10	11	eP	P	09 32 13.8	-0.1
	18nm,1.0s						
SEY	Seymchan	82.11	345	P	P	09 32 13.7	-0.3
	2.5nm,1.0s,baz=168,slow=3.9,SNR=4.4						
I17A	Pilgrim Ck.	82.17	41	⇓P	P	09 32 16.0	+0.9
	baz=82,SNR=7.1						
FLWY	Flagg Ranch	82.17	40	eP	P	09 32 15.6	+0.5
	16nm,1.0s						
529A	Stev Forest Ra	82.19	56	⇓P	P	09 32 15.7	+0.4
	baz=82,SNR=8.1						
ILAR	Eielson Array	82.19	11	P	P	09 32 13.7	-0.8
	2.2nm,0.8s,baz=232,slow=6.4,SNR=32						
328A	Wristen Ranch,	82.20	55	⇑P	P	09 32 15.8	+0.4
	baz=82,SNR=7.1						
N20A	Spence Gulch,	82.20	44	⇑P	P	09 32 16.0	+0.6
	baz=82						
PDAR	Pinedale Array	82.26	42	P	P	09 32 15.3	-0.3
	4.8nm,0.9s,baz=215,slow=3.7,SNR=31						
127A	Arkansas Junct	82.28	53	⇑P	P	09 32 15.9	+0.1
	baz=82						
YMR	Madison River	82.30	40	eP	P	09 32 16.9	+1.2
	20nm,1.1s						
SMCO	Snowmass	82.34	46	eP	P	09 32 16.6	+0.3
	13nm,1.1s						
U24A	Moreno Valley	82.35	49	⇑P	P	09 32 16.2	-0.2
	baz=82						
BOZ	Bozeman (W)	82.38	39	eP	P	09 32 16.3	+0.2
	30nm,1.6s						
S23A	Nye Farm, Mont	82.38	48	⇓P	P	09 32 16.6	+0.2
	baz=82						
H17A	Grant Village	82.40	40	eP	P	09 32 18.1	+1.7
	10.0nm,1.2s						
H17A	Grant Village	82.40	40	⇓P	P	09 32 17.9	+1.5
	baz=83,SNR=5.2						
Y26A	Elida	82.42	52	⇑P	P	09 32 16.7	+0.2
	baz=83						
W25A	X Bar L Ranch,	82.46	51	⇑P	P	09 32 16.9	+0.1
	baz=83						
T24B	San Luis	82.55	49	⇑P	P	09 32 17.9	+0.6
	baz=83,SNR=5.2						
V25A	Rancho No Teng	82.60	50	⇓P	P	09 32 18.1	+0.6
	baz=83,SNR=8.8						
429A	Davenport Ranc	82.64	56	⇑P	P	09 32 17.9	+0.2
	baz=83,SNR=20						
Z27A	Tatum	82.64	53	⇑P	P	09 32 17.9	+0.3
	baz=83,SNR=5.3						
228A	UT Block 9, Go	82.66	54	⇑P	P	09 32 17.9	+0.1
	baz=83						
P22A	Eagle	82.67	46	⇓P	P	09 32 18.2	+0.4
	baz=83,SNR=6.9						
X26A	CR and CF Fran	82.68	51	⇓P	P	09 32 18.2	+0.3
	baz=83						
R23A	Moffat	82.71	47	⇓P	P	09 32 18.6	+0.5
	baz=83,SNR=7.2						
HRY	Holter Researc	82.80	38	eP	P	09 32 18.0	-0.2
J19A	Crowheart	82.82	42	⇑P	P	09 32 18.5	0.0
	baz=83,SNR=7.7						
329A	Wagon Wheel Ra	82.89	55	⇑P	P	09 32 18.8	-0.2
	baz=83,SNR=7.1						
Y27A	Causey	82.90	52	⇑P	P	09 32 18.7	-0.3
	baz=83,SNR=5.7						
530A	J-C Ranch, Com	82.91	56	⇓P	P	09 32 19.4	+0.3
	baz=83						
S24A	Houchin Ranch,	82.92	48	⇓P	P	09 32 19.9	+0.7
	baz=83,SNR=7.7						
W26A	Owens Ranch, T	82.93	51	⇓P	P	09 32 19.5	+0.3
	baz=83						
128A	Castleberry Fa	82.93	54	⇓P	P	09 32 18.9	-0.3
	baz=83,SNR=7.6						
U25A	Circle Dot Ran	82.99	50	⇓P	P	09 32 20.1	+0.6
	baz=83,SNR=6.7						
O22A	Kremmling	83.07	45	⇑P	P	09 32 19.7	-0.3
	baz=83,SNR=8.2						
H18A	Shoshone NF, C	83.11	40	⇓P	P	09 32 20.3	+0.3
	baz=83						
V26A	Tequesquite Ra	83.20	50	⇑P	P	09 32 20.7	+0.1
	baz=83						
229A	Bryant Ranch,	83.21	54	⇑P	P	09 32 21.2	+0.5
	baz=83						
P23A	Jefferson	83.22	46	⇑P	P	09 32 20.7	-0.1
	baz=83						
I19A	Meeteetse	83.22	41	⇓P	P	09 32 20.6	0.0
	baz=83,SNR=5.2						
430A	Baggett Ranch,	83.22	56	⇑P	P	09 32 20.9	+0.2
	baz=83						
MSTX	Muleshoe	83.24	52	eP	P	09 32 21.1	+0.3
	16nm,0.9s						
MSTX	Muleshoe	83.24	52	⇑P	P	09 32 21.3	+0.5
	baz=83,SNR=5.6						
R24A	Sanders Place,	83.24	48	⇑P	P	09 32 20.7	-0.2
	baz=83,SNR=5.6						
631A	Perdido Creek	83.25	57	⇓P	P	09 32 20.8	0.0
	baz=83,SNR=12						
X27A	F and S Farms,	83.26	52	⇓P	P	09 32 21.2	+0.3
	baz=83						
Z28A	Tucker Farm, M	83.27	53	⇓P	P	09 32 21.2	+0.3
	baz=83,SNR=5.7						
T25A	Trinidad	83.29	49	⇓P	P	09 32 21.2	+0.1
	baz=84						
832A	Faith Ranch, C	83.34	59	⇓P	P	09 32 21.1	-0.1
	baz=84						
N22A	Wattenberg Ran	83.41	45	⇑P	P	09 32 22.3	+0.5
	baz=84,SNR=7.7						
129A	Stewart Farms,	83.42	54	⇓P	P	09 32 22.0	+0.3
	baz=84,SNR=5.5						
W27A	Bowe Ranch, En	83.45	51	⇓P	P	09 32 21.9	0.0
	baz=84,SNR=6.0						
U26A	Atchley Ranch,	83.47	50	⇓P	P	09 32 22.1	+0.1
	baz=84,SNR=8.1						
J20A	Shoshoni	83.48	42	⇑P	P	09 32 22.3	+0.4
	baz=84,SNR=9.5						
S25A	Robets Cordova	83.49	48	⇑P	P	09 32 22.6	+0.5
	baz=84,SNR=7.8						
330A	Mertzon	83.50	55	⇑P	P	09 32 21.5	-0.6
	baz=84						
O23A	Lake Granby, G	83.52	46	⇑P	P	09 32 22.2	-0.1
	baz=84						
Q24A	Divide	83.52	47	⇑P	P	09 32 22.4	0.0
	baz=84						
H19A	Powell	83.53	41	⇓P	P	09 32 22.9	+0.9
	baz=84,SNR=9.5						
531A	Rocksprings	83.55	57	⇓P	P	09 32 22.9	+0.6
	baz=84,SNR=6.7						
ISCO	Idaho Springs	83.56	46	⇑P	P	09 32 22.5	0.0
	baz=84						
M22A	Cedar Creek Ra	83.58	44	⇑P	P	09 32 22.5	0.0
	baz=84						
Y28A	McKinney Farm,	83.61	53	⇓P	P	09 32 22.7	0.0
	baz=84						
933A	Laredo	83.68	59	⇑P	P	09 32 23.5	+0.5
	baz=84						
K21A	Alcova	83.70	43	⇓P	P	09 32 23.3	+0.3
	baz=84,SNR=8.5						
230A	Sterling City	83.73	55	⇓P	P	09 32 23.1	-0.2
	baz=84						
I20A	Worland	83.73	41	⇓P	P	09 32 23.5	+0.4
	baz=84,SNR=10						
Z29A	Hungry Hill Ra	83.78	53	⇓P	P	09 32 23.7	+0.1
	baz=84						
R25A	Fountain Ranch	83.80	48	⇓P	P	09 32 23.6	0.0
	baz=84						
N23A	Red Feather La	83.80	45	⇓P	P	09 32 23.9	+0.2
	baz=84						
833A	Chaparral WMA,	83.83	59	⇑P	P	09 32 24.4	+0.6
	baz=84						
COLD	Coldfoot	83.87	9	eP	P	09 32 24.5	+1.4
	17nm,1.4s						
X28A	Dimmitt	83.89	52	⇑P	P	09 32 24.1	0.0
	baz=84						
V27A	Dan Oppiter Fa	83.89	51	⇓P	P	09 32 24.4	+0.3
	baz=84						
J21A	Lysite	83.89	42	⇓P	P	09 32 24.4	+0.4
	baz=84,SNR=25						
T26A	Comanche Natio	83.90	49	⇑P	P	09 32 24.3	+0.1
	baz=84						
632A	Uvalde	83.93	57	⇑P	P	09 32 24.6	+0.3
	baz=84						
L22A	Ellis Ranch, M	83.97	44	⇓P	P	09 32 24.8	+0.4
	baz=84,SNR=60						
034A	Hebbronville	83.98	60	⇑P	P	09 32 25.3	+0.7
	baz=84						
Y29A	Porterfield Fa	84.04	53	⇑P	P	09 32 25.0	+0.1
	baz=84,SNR=5.5						
733A	Divot King Ran	84.05	58	⇑P	P	09 32 25.3	+0.4
	baz=84						
331A	San Angelo	84.06	56	⇓P	P	09 32 24.9	-0.1
	baz=84						
H20A	Greybull	84.06	41	⇑P	P	09 32 25.0	+0.2
	baz=84,SNR=9.4						
130A	Snyder	84.11	54	⇓P	P	09 32 25.2	0.0
	baz=84						
F19A	Roth Farm, Mol	84.12	39	⇑P	P	09 32 25.3	+0.3
	baz=84,SNR=6.5						
Q25A	Bedland, Calha	84.14	47	⇓P	P	09 32 25.9	+0.5
	baz=84						
S26A	Kim	84.17	49	⇑P	P	09 32 25.6	+0.1
	baz=84						
K22A	Casper	84.19	43	eP	P	09 32 25.8	+0.3
	15nm,1.4s						
K22A	Casper	84.19	43	⇑P	P	09 32 26.1	+0.6
	baz=84,SNR=104						
M23A	Laramie	84.20	44	⇑P	P	09 32 25.8	+0.1
	baz=84						
I21A	Big Trails, Te	84.21	42	⇓P	P	09 32 25.7	+0.2
	baz=84,SNR=11						
X29A	Tulia	84.24	52	⇓P	P	09 32 26.0	+0.1
	baz=84						
Z30A	Sanderson Ranc	84.24	53	⇑P	P	09 32 25.9	0.0
	baz=84						
G20A	Bridger	84.27	40	⇑P	P	09 32 25.7	-0.1
	baz=84,SNR=82						
231A	Bronte	84.38	55	⇑P	P	09 32 26.4	-0.1
	baz=84,SNR=8.6						
633A	Saathoff Ranch	84.41	58	⇑P	P	09 32 27.2	+0.5
	baz=85,SNR=5.5						
432A	Menard	84.41	56	⇑P	P	09 32 27.2	+0.5
	baz=85						
AMTX	Amarillo	84.42	52	⇑P	P	09 32 26.6	-0.2
	baz=85						
P25A	Willow Gulch B	84.44	47	⇑P	P	09 32 28.2	+1.3
	baz=85,SNR=8.1						
834A	Tilden	84.46	59	⇓P	P	09 32 28.0	+1.0
	baz=85,SNR=5.2						
R26A	Arlington	84.46	48	⇓P	P	09 32 27.2	+0.2
	baz=85,SNR=8.1						
T27A	Campo	84.49	49	⇑P	P	09 32 27.6	+0.4
	baz=85						
L23A	Garrett	84.50	44	⇑P	P	09 32 27.2	+0.1
	baz=85,SNR=5.7						
N24A	Carr	84.50	45	⇑P	P	09 32 27.2	0.0
	baz=85,SNR=5.7						
E19A	Rath Farm, Rou	84.50	39	⇑P	P	09 32 27.4	+0.5
	baz=85,SNR=5.6						
W29A	Amraillo	84.54	52	⇓P	P	09 32 27.7	+0.3
	baz=85						
J22A	Midwest	84.56	42	⇓P	P	09 32 27.5	+0.2
	baz=85,SNR=10						
F20A	Billings	84.58	40	⇑P	P	09 32 28.1	+0.8
	baz=85						
131A	Roby	84.59	54	⇓P	P	09 32 27.7	0.0
	baz=85						
332A	Millersview	84.63	56	⇓P	P	09 32 27.8	0.0
	baz=85,SNR=6.0						
Y30A	Stafford Cattl	84.64	53	⇑P	P	09 32 28.1	+0.2
	baz=85						
Q26A	Hugo	84.66	48	⇓P	P	09 32 28.1	+0.2
	baz=85						
EGMT	Eagleton	84.68	37	⇓P	P	09 32 28.1	+0.3
	baz=85						
H21A	Big Horn, Sher	84.74	41	⇓P	P	09 32 27.9	-0.3
	baz=85,SNR=23						
533A	Kerrville	84.74	57	⇑P	P	09 32 29.0	+0.6
	baz=85						
I22A	9 Mile Ranch,	84.77	42	⇓P	P	09 32 28.7	+0.3
	baz=85,SNR=24						
D19A	Cripps Ranch,	84.78	38	⇓P	P	09 32 28.3	0.0
	baz=85,SNR=6.0						
M24A	Cheyenne	84.81	45	⇑P	P	09 32 29.1	+0.4
	baz=85						
K23A	Bowen Ranch, D	84.83	43	⇓P	P	09 32 28.9	+0.2
	baz=85						
X30A	Coker Ranch, T	84.87	52	⇑P	P	09 32 29.3	+0.3
	baz=85						
232A	Coleman	84.89	55	⇑P	P	09 32 29.4	+0.3
	baz=85,SNR=7.0						
R27A	Eads	84.92	48	⇓P	P	09 32 29.4	+0.2
	baz=85						
E20A	Meyer Farm, Mu	84.92	39	⇓P	P	09 32 29.4	+0.4
	baz=85						
433A	Art	84.93	56	⇑P	P	09 32 29.5	+0.2
	baz=85						
C19A	Slack Wire Ran	84.96	38	⇓P	P	09 32 29.8	+0.7
	baz=85,SNR=9.2						
T28A	Walsh	84.96	50	⇓P	P	09 32 29.5	0.0
	baz=85						
Z31A	Sharp Cattle R	85.02	54	⇓P	P	09 32 29.7	-0.1
	baz=85,SNR=5.3						
P26A	Davis Ranch, A	85.04	47	⇑P	P	09 32 30.5	+0.6
	baz=85						
835A	Beeville	85.11	59	⇓P	P	09 32 31.0	+0.7
	baz=85						
ABTX	Abilene, Hawle	85.16	55	eP	P	09 32 30.6	+0.1
	31nm,1.0s						
ABTX	Abilene, Hawle	85.16	55	⇓P	P	09 32 30.5	0.0
	baz=85,SNR=15						
H22A	Clearmont	85.16	41	⇑P	P	09 32 30.4	+0.1
	baz=85,SNR=20						
Y31A	Rekieta Farm,	85.16	53	⇓P	P	09 32 30.5	+0.1
	baz=85						
534A	Blanco	85.18	57	⇑P	P	09 32 31.2	+0.6
	baz=85,SNR=7.2						
D20A	Manuel Ranch,	85.20	39	⇓P	P	09 32 30.9	+0.5
	baz=85						
333A	Richland Sprin	85.22	56	⇑P	P	09 32 31.4	+0.6
	baz=85,SNR=5.2						
O26A	Horse Wrangler	85.34	46	⇑P	P	09 32 31.9	+0.5
	baz=86						
B19A	Brinkman Farms	85.36	37	⇑P	P	09 32 31.7	+0.5
	baz=86,SNR=8.1						
EDM	Edmonton	85.39	32	eP	P	09 32 30.7	-0.4
233A	Rising Star	85.53	55	⇓P	P	09 32 32.8	+0.4
	baz=86						
635A	Leesville	85.53	58	⇑P	P	09 32 33.0	+0.7
	baz=86						
Z32A	Haskell	85.53	54	⇓P	P	09 32 32.6	+0.3
	baz=86,SNR=14						
C20A	Veseth Ranch,	85.57	38	⇓P	P	09 32 33.0	+0.8
	baz=86,SNR=5.5						
P27A	Ficken Ranch,	85.59	47	⇑P	P	09 32 33.2	+0.7
	baz=86						
E21A	Keefer Ranch,	85.59	39	⇑P	P	09 32 33.8	+1.5
	baz=86						
434A	Burnet	85.62	57	⇓P	P	09 32 32.1	-0.7
	baz=86,SNR=6.1						
N26A	Koester Ranch,	85.65	46	⇓P	P	09 32 32.9	+0.1
	baz=86						
R28A	Tribune	85.66	49	⇑P	P	09 32 33.4	+0.5
	baz=86						
A19A	Klindworth Far	85.71	37	⇓P	P	09 32 33.3	+0.4
	baz=86,SNR=7.5						
133A	Hamilton Ranch	85.73	55	⇓P	P	09 32 34.1	+0.8
	baz=86,SNR=7.0						
F22A	Rosebud	85.75	40	⇓P	P	09 32 33.5	+0.4
	baz=86,SNR=39						
Y32A	R-V Farms, Ver	85.81	53	⇑P	P	09 32 34.2	+0.5
	baz=86						
334A	Lometa	85.82	56	⇓P	P	09 32 33.7	0.0
	baz=86,SNR=5.1						
W31A	Holland Ranch,	85.86	52	⇓P	P	09 32 33.8	-0.1
	baz=86						
D21A	La Casta Ranch	85.88	39	⇓P	P	09 32 34.5	+0.8
	baz=86,SNR=11						
O27A	Beecher Island	85.91	47	⇓P	P	09 32 34.7	+0.5
	baz=86						
535A	Dale	85.91	58	⇑P	P	09 32 34.8	+0.6
	baz=86						
G23A	Biddle	86.04	41	⇑P	P	09 32 35.2	+0.6
	baz=86						
X32A	Elmer	86.08	53	⇑P	P	09 32 35.2	+0.2
	baz=86						
Z33A	Whitaker Ranch	86.08	54	⇓P	P	09 32 35.7	+0.7
	baz=86						
N27A	Anderson Farm,	86.11	46	⇑P	P	09 32 35.6	+0.4
	baz=86						
234A	Clairette	86.13	56	⇓P	P	09 32 35.8	+0.5
	baz=86,SNR=6.6						
V31A	Spring Creek L	86.15	52	⇓P	P	09 32 36.2	+0.8
	baz=86						
A20A	Cobblestone Ra	86.16	37	⇓P	P	09 32 36.1	+1.0
	baz=86						
C21A	Desert Coulee	86.16	38	⇑P	P	09 32 35.1	0.0
	baz=86						
P28A	Saint Francis	86.18	47	⇓P	P	09 32 37.4	+1.9
	baz=86						
R29A	Marienthal	86.18	49	⇑P	P	09 32 35.1	-0.4
	baz=86						
E22A	Miles City	86.24	40	⇑P	P	09 32 36.2	+0.7
	baz=86						
F23A	Volborg	86.26	41	⇑P	P	09 32 36.3	+0.6
	baz=86,SNR=22						
536A	Bastrop	86.34	58	⇓P	P	09 32 37.5	+1.2
	baz=86						
W32A	Sentinel	86.37	52	⇓P	P	09 32 37.0	+0.5
	baz=86						
134A	White-Moore Ra	86.38	55	⇑P	P	09 32 36.9	+0.4
	baz=86						
H24A	Dirks Ranch, A	86.39	42	⇑P	P	09 32 36.9	+0.5
	baz=87						
D22A	Cohagen	86.41	39	⇓P	P	09 32 37.0	+0.6
	baz=87						
Q29A	Oakley	86.47	48	⇑P	P	09 32 37.2	+0.3
	baz=87						
I25A	Rochford	86.61	43	⇓P	P	09 32 38.0	+0.3
	baz=87						
WHTX	Lake Whitney	86.67	56	⇑P	P	09 32 38.7	+0.7
	baz=87						
X33A	Lawton	86.73	53	⇑P	P	09 32 39.0	+0.8
	baz=87						
R30A	Dighton	86.75	49	⇑P	P	09 32 38.3	+0.1
	baz=87						
J26A	Sides Ranch, S	86.76	44	⇑P	P	09 32 38.3	+0.1
	baz=87						
N28A	Pribbeno Ranch	86.76	46	⇓P	P	09 32 38.1	-0.2
	baz=87						
C22A	Vida	86.86	39	⇓P	P	09 32 39.2	+0.6
	baz=87						
135A	Vickery Place,	86.90	55	⇑P	P	09 32 39.8	+0.7
	baz=87						
Z35A	Perchaven, San	87.29	55	⇑P	P	09 32 41.2	+0.3
	baz=87						
G25A	Newell	87.30	42	⇓P	P	09 32 41.2	+0.4
	baz=88						
C23A	Lambert	87.31	39	⇑P	P	09 32 41.6	+0.9
	baz=88,SNR=22						
D24A	Glendive	87.53	40	⇑P	P	09 32 42.6	+0.7
	baz=88						
C24A	Savage	87.65	39	⇑P	P	09 32 42.5	+0.1
	baz=88,SNR=14						
B23A	Brockton	87.71	38	⇑P	P	09 32 43.6	+1.0
	baz=88						
I27A	Quinn	87.74	43	⇑P	P	09 32 42.1	-0.8
	baz=88						
R32A	Long Quarter,	87.95	49	⇓P	P	09 32 43.6	-0.4
	baz=88						
MAW	Mawson	87.99	199	LR	LR	10 09 07.7	
	comp=Z,122nm,20.7s,baz=114,slow=34						
INK	Inuvik	88.03	14	P	P	09 32 43.6	0.0
	3.9nm,1.1s,baz=183,slow=3.3,SNR=3.4						
DGMT	Dagmar	88.19	39	⇓P	P	09 32 45.0	+0.1
	baz=88						
E26A	Carlson Angus	88.44	41	⇑P	P	09 32 47.3	+1.1
	baz=89						
D26A	Manning	88.68	40	⇓P	P	09 32 47.8	+0.5
	baz=89						
B25A	Knox Farm, Ray	88.73	39	⇓P	P	09 32 48.0	+0.5
	baz=89						
K30A	Basset	88.85	45	⇓P	P	09 32 47.8	-0.4
	baz=89						
G28A	Parade	88.88	43	⇓P	P	09 32 48.2	0.0
	baz=89						
YKA	Yellowknife Ar	89.93	23	P	P	09 32 52.1	-0.6
	0.6nm,0.7s,baz=242,slow=4.8,SNR=13						
PLCA	Paso Flores	90.00	132	LR	LR	10 04 32.9	
	comp=Z,57nm,18.9s,baz=274,slow=30						
CMAR	Chiang Mai Arr	92.17	288	LR	LR	10 08 49.6	
	comp=Z,48nm,21.9s,baz=65,slow=32						
SONM	Songino Array	94.36	318	LR	LR	10 15 19.8	
	comp=Z,116nm,18.4s,baz=114,slow=35						
BRTR	Keskin Array B	145.67	321	PKPbc	PKPab	09 39 32.6	-0.8

	2.4nm,0.8s,baz=109,slow=1.9,SNR=12						
GERES	GERESS Array B	145.76	351	PKPbc	PKPab	09 39 33.4	0.0
	0.8nm,0.7s,baz=29,slow=3.0,SNR=8.0						

*ISCJB **06** 09:38:49.6±1.0,56°.09N±0°.03×164°.76E±0°.04,h8km±6km, mb4.0/19,MS3.3/1,Error ellipse: s-maj=5.7km s-min=3.8km az=0.8*
*MOS **06** 09:38:49.1±0.7,56°.11N×164°.70E,h5km,mb4.3/10,Error ellipse: s-maj=10.9km s-min=9.0km az=69.5*
*KRSC **06** 09:38:50.9±0.9,56°.07N×164°.76E,h57km±23km,ML4.4*
*IDC **06** 09:38:50.5±0.6,56°.24N×164°.57E,h0km,mb3.7/13, mb1 4.0/16,mb1mx3.8/49,mbtmp3.8/16,ML3.7/3,MS2.2/1, Ms1 3.2/1,ms1mx2.7/34,Error ellipse: s-maj=17.6km s-min=11.9km az=0.0*

ISC 06 09:38:49.9±1.4,56°.13N±0°.04×164°.68E±0°.03,h1km±8km, n88,σ1°.26/107,mb4.0/19,5C-1D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.04	275	PN	Pg	09 39 09.6	-0.3
KBTR				S	Sg	09 39 23.8	+0.5
KBTR	Krutoberegovo	1.04	275	iP	Pg	09 39 09.6	-0.3
KBTR				iS	Sg	09 39 23.8	+0.5
KBG	Krutoberegovo	1.11	277	PN	Pb	09 39 10.5	-1.4
KBG				S	Sb	09 39 25.9	-0.9
KBG	Krutoberegovo	1.11	277	iP	Pb	09 39 10.5	-1.4
KBG				iS	Sb	09 39 25.9	-0.9
BKI	Bering	1.19	141	PN	Pb	09 39 11.1	-2.1
BKI				S	Sb	09 39 25.8	-3.2
BKI	Bering	1.19	141	iP	Pb	09 39 11.1	-2.1
BKI				eS	Sb	09 39 25.8	-3.2
SMKR	Semkarok	1.84	286	iP	Pn	09 39 22.9	+0.1
SMKR				eS	Sb	09 39 47.6	-0.4
BDR	Baidarnaya	1.98	284	iP	Pb	09 39 25.2	-1.6
BDR				iS	Sb	09 39 51.2	-0.8
SRKR	Sorokina	2.02	287	iP	Pn	09 39 25.7	+0.5
SRKR				eS	Sb	09 39 51.7	-1.4
BZGR	Bezymyannyi-Gr	2.24	267	eP	Pn	09 39 28.1	-0.2
BZGR				iS	Sb	09 39 57.9	-1.6
KLY	Klyuchi	2.25	276	PN	Pn	09 39 26.8	-1.5
KLY				S	Sn	09 39 53.9	-2.9
KLY	Klyuchi	2.25	276	eP	Pn	09 39 26.8	-1.5
KLY				eS	Sn	09 39 53.9	-2.9
KRSR	Krestovskiy	2.30	274	eP	Pn	09 39 29.3	+0.2
KRSR				eS	Sb	09 39 59.2	-2.0
BZWR	Bezymyannyi-We	2.35	268	eP	Pn	09 39 28.4	-1.4
BZWR				eS	Sb	09 40 00.4	-2.3
BZMR	Bezymyannaya	2.36	267	eP	Pn	09 39 30.2	+0.3
BZMR				eS	Sn	09 40 00.3	+0.8
KIRR	Kirishev	2.44	268	iP	Pn	09 39 32.1	+1.1
KIRR				eS	Sn	09 40 02.6	+1.1
KPT	Kopyto	2.50	268	eP	Pn	09 39 32.8	+0.9
KPT				eS	Sb	09 40 05.0	-2.1
KMNR	Kamenistaya	2.52	263	eP	Pn	09 39 33.5	+1.3
KMNR				eS	Sn	09 40 03.6	0.0
KOZR	Kozyr	2.68	271	PN	Pb	09 39 36.0	-2.7
KOZR				S	Sn	09 40 08.5	+1.2
KZV	Kizimen	2.69	249	eP	Pn	09 39 35.1	+0.7
KOZ	Kozyrevsk	2.69	270	eP	Pn	09 39 36.0	+1.6
KOZ				eS	Sn	09 40 08.5	+0.9
TUMR	Tumrok	2.70	254	iP	Pn	09 39 35.7	+1.1
SRDR	Sredinnyy	2.77	276	iP	Pn	09 39 36.8	+1.2
SRDR				iS	Sn	09 40 11.4	+1.7
OSSR	Ossora	3.25	345	eP	Pn	09 39 41.4	-0.6
ESO	Esso	3.36	269	PN	Pn	09 39 44.6	+1.0
ESO				S	Sn	09 40 23.5	-0.6
ESO	Esso	3.36	269	eP	Pn	09 39 44.6	+1.0
ESO				eS	Sn	09 40 23.5	-0.6
SDLR	Sedlovina	4.41	232	eP	Pn	09 39 58.4	+0.3
KRER	Koryakskii	4.45	233	eP	Pn	09 39 58.8	+0.1
SMAR	Somma	4.46	232	eP	Pn	09 39 59.1	+0.3
KRX	Arik	4.46	234	eP	Pn	09 39 59.2	+0.4
AVH	Avacha	4.48	233	eP	Pn	09 40 00.2	+1.1
UGLR	Uglovaya	4.48	232	eP	Pn	09 39 59.8	+0.7
KOK	Koryaka	4.51	233	eP	Pn	09 39 59.9	+0.4
GNL	Ganaly	4.59	241	eP	Pn	09 40 01.6	+1.1
PET	Petropavlovsk	4.69	231	PN	Pn	09 40 01.1	-0.6
PET	Petropavlovsk	4.69	231	eP	Pn	09 40 01.1	-0.6
PET				eS	Sn	09 40 54.7	-2.0
PETK	Petropavlovsk-	5.06	236	PN	Pn	09 40 07.9	+1.0
PETK						09 41 08.4	
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,254nm,18.4s						
PETK	Petropavlovsk-	5.06	236	Pn	Pn	09 40 07.8	+1.0
	comp=Z,1.7nm,0.3s,baz=72,slow=17,SNR=26						
PETK				Sn	Sn	09 41 08.3	+2.4
	comp=Z,1.1nm,0.3s,baz=72,slow=41,SNR=3.3						
PETK				LR	LR	09 42 17.7	
	comp=Z,254nm,18.4s,baz=56,slow=41						
RUS	Russkaya	5.17	227	PN	Pn	09 40 09.0	+0.6
RUS	Russkaya	5.17	227	eP	Pn	09 40 09.0	+0.6
MTVR	Mutnovka	5.27	229	eP	Pn	09 40 10.6	+0.7
MTVR				eS	Sn	09 41 11.4	0.0
APC	Apacha	5.43	237	eP	Pn	09 40 14.6	+2.7
ASAK	Asacha	5.46	229	eP	Pn	09 40 14.0	+1.5
FX1	Attu Island--F	5.92	120	PN	Pn	09 40 19.6	+0.9
FX1				pmax	pmax		
	comp=Z,11nm,0.3s						
FX1	Attu Island--F	5.92	120	P	Pn	09 40 19.6	+0.9
	comp=Z,11nm,0.3s,baz=342,slow=6.8,SNR=12						
MIPR	Malaya Ipel'ka	6.04	234	P	Pn	09 40 21.8	+1.4
PAU	Pauzhetka	6.59	228	PN	Pn	09 40 28.6	+0.6
PAU	Pauzhetka	6.59	228	eP	Pn	09 40 28.6	+0.6
BILL	Bilibino	11.97	3	ePN	Pn	09 41 47.6	+6.0
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,242nm,17.0s						
ASAJ	Asahikawa	18.47	239	P	Pn	09 43 08.0	+1.0
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	18.47	239	P	Pn	09 43 08.0	+1.0
	comp=Z,0.9nm,0.3s,baz=68,slow=11,SNR=9.0						
ERM	Erimo	19.84	234	eP	Pn	09 43 22.7	-0.8
TIXI	Tiksi	21.61	330⇑	eP	P	09 43 42.3	+1.4
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,84nm,15.0s						
COLA	College	24.38	50	P	P	09 44 10.0	+0.8
COLA				pmax	pmax		
	comp=Z,62nm,2.3s						
ILAR	Eielson Array	24.80	50	P	P	09 44 13.6	+0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	24.80	50	P	P	09 44 13.6	+0.5
	comp=Z,1.0nm,0.8s,baz=260,slow=9.9,SNR=11						
MAJO	Matsushiro	26.51	234	eP	P	09 44 29.9	+1.1
MAJO				pmax	pmax		
	comp=Z,153nm,0.9s						
MJAR	Matsushiro Arr	26.51	234	P	P	09 44 29.5	+0.7
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	Matsushiro Arr	26.51	234	P	P	09 44 29.5	+0.7
	comp=Z,1.7nm,0.6s,baz=30,slow=7.0,SNR=4.6						
KSRS	Korea Array	30.82	248	P	P	09 45 07.2	0.0
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KSRS	Korea Array	30.82	248	P	P	09 45 07.2	0.0
	comp=Z,0.8nm,0.5s,baz=29,slow=8.8,SNR=6.4						
ULN	Ulaanbaatar	35.47	281	P	P	09 45 49.0	+1.2
ULN				pmax	pmax		
	comp=Z,8.0nm,3.8s						
H11N2	WAKE ISLAND Hy	36.38	176	T	T	10 25 04.6	
	baz=359,slow=76,SNR=171						
H11N3	WAKE ISLAND Hy	36.40	176	T	T	10 25 02.2	
	baz=359,slow=76,SNR=181						
H11N1	WAKE ISLAND Hy	36.40	176	T	T	10 25 02.9	
	baz=359,slow=76,SNR=171						
H11S1	WAKE ISLAND Hy	37.59	177	T	T	10 26 13.8	
	baz=342,slow=15,SNR=4.8						
H11S3	WAKE ISLAND Hy	37.60	177	T	T	10 26 15.8	
	baz=342,slow=15,SNR=3.7						
H11S2	WAKE ISLAND Hy	37.61	177	T	T	10 26 23.0	
	baz=342,slow=15,SNR=4.4						
YKA	Yellowknife Ar	39.12	47	P	P	09 46 18.6	+0.2
	comp=Z,0.2nm,0.6s,baz=297,slow=7.7,SNR=4.8						
KURK	Kurchatov	48.39	302	eP	P	09 47 33.1	0.0
MKAR	Makanchi Array	49.23	296	ceP	P	09 47 44.4	+4.7
MKAR	Makanchi Array	49.23	296	P	P	09 47 39.0	-0.7
	comp=Z,0.4nm,0.5s,baz=46,slow=6.7,SNR=7.2						
BVAR	Borovoye Array	50.58	309	P	P	09 47 49.8	0.0
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BVAR	Borovoye Array	50.58	309	P	P	09 47 49.8	0.0
	comp=Z,2.5nm,0.6s,baz=55,slow=7.2,SNR=5.8						
BRVK	Borovoye	50.60	309	c iP	P	09 47 50.3	+0.4
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
NVAR	Mina Array Bea	52.29	75	P	P	09 48 04.6	+1.5
	comp=Z,0.3nm,0.6s,baz=302,slow=9.1,SNR=2.8						
ARU	Arti	52.94	318	c iP	P	09 48 07.6	+0.2
ARU						09 50 05.1	
ARU				S	S	09 55 36.4	-0.7
ARU				SS	SS	09 59 11.0	-4.2
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
PDAR	Pinedale Array	53.77	66	P	P	09 48 14.8	+0.8
	comp=Z,0.4nm,0.6s,baz=146,slow=1.1,SNR=3.7						
AAK	Ala-Archa	56.09	297⇓	iP	P	09 48 30.7	0.0
AAK				pmax	pmax		
	comp=Z,11nm,1.7s						
FINES	FINESS Array B	58.34	338	ceP	P	09 48 46.4	+0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	58.34	338	P	P	09 48 45.7	-0.3
	comp=Z,1.4nm,0.7s,baz=12,slow=9.8,SNR=4.2						
NB2	NORSAR Subarra	61.31	346	P	P	09 49 06.4	-0.2
	comp=Z,0.7nm,0.7s,baz=17,slow=6.9						
NOA	NORSAR Array B	61.31	346	P	P	09 49 06.7	+0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	61.31	346	P	P	09 49 06.7	+0.1
	comp=Z,1.0nm,0.7s,baz=18,slow=6.6,SNR=5.0						
CMAR	Chiang Mai Arr	61.37	260	P	P	09 49 08.3	+0.9
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	Chiang Mai Arr	61.37	260	P	P	09 49 08.3	+0.9
	comp=Z,1.7nm,0.6s,baz=22,slow=6.5,SNR=5.5						
TXAR	Lajitas Array	67.06	71	P	P	09 49 44.2	-0.6
	comp=Z,0.4nm,0.8s,baz=289,slow=3.8,SNR=4.7						
GERES	GERESS Array B	72.62	340	P	P	09 50 18.8	0.0
	comp=Z,0.4nm,0.6s,baz=27,slow=6.1,SNR=3.8						

MEX 06 10:08:49.5±0.6,15°.87N×96°.29W,h48km±5km,MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.20	119	eP	Pn	10 08 56.4	-1.3
HUIG				iS	Sn	10 09 01.7	-1.7
VHO	Vista Hermosa	1.27	341	eP	Pn	10 09 09.6	-1.6
VHO				iS	Sn	10 09 24.6	-2.6
CMIG	Matias Romero	1.82	48	eP	Pn	10 09 16.7	-1.7
CMIG				iS	Sn	10 09 38.1	-2.2
PNIG	Pinotepa	1.84	287	eP	Pn	10 09 17.0	-1.7
PNIG				iS	Sn	10 09 38.1	-2.7
TLIG	Tlapa	2.75	308	iP	Pn	10 09 30.5	-0.8
TLIG				iS	Sn	10 10 01.9	-1.7
PCIG		2.96	93	eP	Pn	10 09 33.7	-0.4
PCIG				iS	Sn	10 10 06.4	-2.1

CSEM 06 10:12:05.9,46°.23N×12°.45E,h9km,MD0.5,3C-7D,After TRI,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIMO	Cimolais	0.08	357⇓	ePg	Pg	10 12 08.0	-0.3
CIMO				eSg	Sg	10 12 09.7	-0.2
CIMO	Cimolais	0.08	357⇓	ePg	Pg	10 12 08.0	-0.2
CIMO				eSg	Sg	10 12 09.7	-0.2
MLNI	Malnisio	0.14	125⇓	ePg	Pg	10 12 08.7	-0.4
MLNI				eSg	Sg	10 12 11.2	-0.1
MLNI	Malnisio	0.14	125⇓	ePg	Pg	10 12 08.7	-0.4
MLNI				eSg	Sg	10 12 11.2	-0.1
POLC	Polcenigo	0.21	170⇑	ePg	Pg	10 12 10.1	-0.1
POLC				eSg	Sg	10 12 14.3	+1.2
CAE	Caneva	0.22	182⇓	ePg	Pg	10 12 10.1	-0.5
CAE				eSg	Sg	10 12 14.2	+0.4
CAE	Caneva	0.22	182⇓	ePg	Pg	10 12 10.1	-0.5
CAE				eSg	Sg	10 12 14.1	+0.3
CSMI	Casera Mimoias	0.32	27⇑	ePg	Pg	10 12 11.9	-0.5
CSMI				eSg	Sg	10 12 17.4	+0.5
CSMI	Casera Mimoias	0.32	27⇑	ePg	Pg	10 12 11.9	-0.6
CSMI				eSg	Sg	10 12 17.4	+0.5
ZOU	Zoufplan	0.49	48⇓	iPg	Pg	10 12 15.6	-0.1

IDC 06 10:48:35.8±1.9,5°.14S×151°.96E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.4/30,mbtmp3.6/4,ML2.3/1,Error ellipse: s-maj=133.1km s-min=23.0km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.38	228	Pn	Pn	10 50 11.6	+0.5
	0.4nm,0.3s,baz=30,slow=20,SNR=2.3						
PMG				Sn	Sn	10 51 24.6	-0.2
	2.4nm,0.3s,baz=180,slow=19,SNR=7.0						
WRA	Warramunga Arr	22.60	228	P	P	10 53 38.6	+0.4
	0.5nm,0.5s,baz=52,slow=9.9,SNR=12						
ASAR	Alice Springs	25.34	222	P	P	10 54 04.5	-0.3
	0.5nm,0.6s,baz=56,slow=9.2,SNR=17						
ILAR	Eielson Array	82.79	22	P	P	11 01 01.6	0.0
	0.6nm,0.7s,baz=247,slow=5.3,SNR=12						

DJA 06 10:49:25.7±0.5,1°S±4°×12°0E±°,h10km,M4.0/11, MLv4.0/11,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.95	87	P	Pn	10 49 58.6	-0.3
APSI				S	Sb	10 50 24.7	-1.1
TTSI	Tana Toraja	2.00	177	P	Pn	10 49 59.2	-0.4
TTSI				S	Sn	10 50 25.0	+0.2
MRSI	Marisa	2.69	56	P	Pn	10 50 06.9	-2.2
SPSI	Sidrap Palu	2.92	179	P	Pn	10 50 12.3	+0.1
LUWI	Luwuk	3.07	90	P	Pn	10 50 14.4	+0.1
BNSI	Bone	3.37	173	P	Pn	10 50 18.8	+0.3
GTOI	Gorontalo	3.70	63	P	Pn	10 50 22.4	-0.6
BKSI	Bulukumba	4.28	174	P	Pn	10 50 31.8	+0.8

MAN 06 10:51:03,16°.77N×120°.00E,h19km,mb4.8,ML3.7,MS3.7, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.40	192	eP	Pn	10 51 13.0	-0.8
BOLP				eS	Sn	10 51 22.1	+1.4
BCPH	Baguio City Da	0.68	125⇑	iP	Pb	10 51 16.4	-0.1
BCPH				iS	Sn	10 51 34.9	+6.7
SCZP	Santa Cruz	1.00	185	eP	Pb	10 51 21.4	-0.2
APYP	Conner	1.61	48	eP	Pn	10 51 30.7	+0.3
CAUP	Cauayan	1.76	84	eP	Pn	10 51 32.3	-0.2
BALP	Baler	1.83	124	eP	Pb	10 51 36.0	+0.1

IDC 06 10:51:06.2±2.8,53°.74N×86°.86E,h0km,mb1 2.9/2, mb1mx2.8/30,mbtmp2.9/2,ML2.9/1,Error ellipse: s-maj=26.1km s-min=14.5km az=66.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.23	281	i		10 58 30.0	
	baz=100,slow=344,SNR=5.6						
ZALV	Zalesovo Beam	1.23	281	Pg	Pg	10 51 28.8	-0.9
	1.6nm,0.3s,baz=102,slow=17,SNR=24						
ZALV				Lg	Lg	10 51 46.4	
	1.4nm,0.3s,baz=98,slow=27,SNR=11						
KURBB	Kurchatov Arra	6.00	242	Pn	Pn	10 52 37.0	+0.9
	baz=57,slow=13,SNR=1.9						
MKAR	Makanchi Array	7.54	205	Pn	Pn	10 52 58.7	+1.2
	0.2nm,0.3s,baz=26,slow=14,SNR=8.0						

*IDC **06** 10:59:51.8±1.3,0°.81N×126°.26E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/31,mbtmp3.7/4,Error ellipse: s-maj=135.3km s-min=21.1km az=68.0*
*ISCJB **06** 10:59:57.0±0.9,1°.28N±0°.09×126°.69E±0°.09,h35km, mb3.6/4,Error ellipse: s-maj=15.7km s-min=8.3km az=137.5*
*DJA **06** 10:59:58.2±0.8,1°N±20°×12°7E±1°5,h19km±28km,M4.0/5, MLv4.0/5*

ISC 06 10:59:58.0±1.1,1°.21N±0°.10×126°.76E±0°.08,h35km,n9, σ2°.34/11,mb3.9/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.74	126	P	Pn	11 00 13.0	+1.0
TNTI				S	Sn	11 00 23.9	+1.9
LBMI	Labuha	1.98	158	P	Pn	11 00 30.2	+1.2
LBMI				S	Sn	11 00 55.2	+2.7
SANI	Sanana	3.33	193	P	Pn	11 00 47.4	-0.1
GTOI	Gorontalo	3.79	261	P	Pn	11 00 55.9	+1.9
NLAI	Namlea	4.43	176	P	Pn	11 01 03.8	+1.1
WRA	Warramunga Arr	22.29	161	P	P	11 04 48.8	-3.7
	1.7nm,0.3s,baz=337,slow=11,SNR=73						
ASAR	Alice Springs	25.68	165	P	P	11 05 21.4	-3.4
	1.1nm,0.4s,baz=348,slow=14,SNR=4.5						
SONM	Songino Array	49.69	342	P	P	11 08 46.8	+0.3
	0.1nm,0.6s,baz=134,slow=6.2,SNR=2.6						
MKAR	Makanchi Array	59.64	326	P	P	11 09 58.5	-0.2
	0.4nm,0.4s,baz=116,slow=7.4,SNR=13						

MAN 06 11:10:53,16°.65N×120°.43E,h30km,mb4.3,ML3.1,MS2.9, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.31	151⇑	iP	Pn	11 11 02.9	+1.1
BCPH				iS	Sn	11 11 09.2	+1.8
BOLP	Bolinao	0.56	241	eP	Pn	11 11 05.5	+0.5
BOLP				eS	Sn	11 11 15.6	+2.4
BALP	Baler	1.43	129	eP	Pb	11 11 21.2	+2.2

*ISCJB **06** 11:30:53.0±0.3,38°.45N±0°.01×21°.94E±0°.02,h6km±2km, mb3.5/7,Error ellipse: s-maj=2.4km s-min=2.0km az=17.2*
*ATH **06** 11:30:52.7,38°.43N×21°.94E,h14km±1km,MD3.5/36, ML3.3*
*CSEM **06** 11:30:53.2±0.1,38°.43N×21°.94E,h5km,ML3.3,Error ellipse: s-maj=2.2km s-min=1.9km az=110.0*
*IDC **06** 11:30:53.3±1.1,38°.47N×22°.12E,h0km,mb3.5/7, mb1 3.6/9,mb1mx3.4/53,mbtmp3.5/9,ML3.2/2,Error ellipse: s-maj=23.0km s-min=21.8km az=49.0*
*THE **06** 11:30:53.7,38°.43N×21°.96E,h0km±1km,ML3.4/18,Error ellipse: s-maj=1.7km s-min=0.6km az=275.0*

ISC 06 11:30:53.7±0.8,38°.44N±0°.01×21°.95E±0°.01,h4km±5km, n182,σ0°.86/270,mb3.7/7,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.04	244	P	Pg	11 30 54.2	-0.5
EFP	Efpalio	0.04	244	ePG	Pg	11 30 54.4	-0.3
EFP	Efpalio	0.04	244	P	Pg	11 30 54.2	-0.5
EFP				S	Sg	11 30 55.2	-0.3
KALE	Kalithea	0.16	109	P	Pg	11 30 57.0	+0.2
KALE				S	Sg	11 31 00.7	+1.7
KALE	Kalithea	0.16	109	ePG	Pg	11 30 57.1	+0.2
KALE				eSG	Sg	11 30 59.9	+0.9
KALE	Kalithea	0.16	109	P	Pg	11 30 57.0	+0.2
KALE				S	Sg	11 30 59.2	+0.2
LAKA	Lakka	0.20	174	P	Pg	11 30 57.6	-0.1
LAKA	Lakka	0.20	174	ePG	Pg	11 30 57.6	-0.1
LAKA	Lakka	0.20	174	P	Pg	11 30 57.6	-0.1
UPR	University Cam	0.20	219	P	Pg	11 30 57.5	-0.2
UPR				S	Sg	11 31 01.4	+1.0
UPR	University Cam	0.20	219	P	Pg	11 30 57.4	-0.2
UPR				S	Sg	11 31 00.8	+0.4
KLV	Kalavryta, Ach	0.43	158	P	Pg	11 31 01.5	-0.5
KLV				S	Sg	11 31 07.3	-0.3
KLV	Kalavryta, Ach	0.43	158	ePB	Pg	11 31 01.6	-0.5
KLV	Kalavryta, Ach	0.43	158	P	Pg	11 31 01.5	-0.5
KLV				S	Sg	11 31 06.8	-0.8
DSF	Desfina	0.46	94	P	Pg	11 31 01.8	-0.7
DSF				S	Sb	11 31 10.6	-0.9
DSF	Desfina	0.46	94	ePB	Pg	11 31 01.5	-1.0
DSF				eSB	Sg	11 31 08.8	+0.4
DSF	Desfina	0.46	94	ePb	Pg	11 31 01.5	-1.0
DSF	Desfina	0.46	94	P	Pg	11 31 01.8	-0.7
DSF				eSb	Sg	11 31 08.8	+0.4
DSF				S	Sb	11 31 09.3	-2.2
EVR	Evrytania	0.48	347	P	Pg	11 31 02.4	-0.7
EVR				S	Sb	11 31 11.4	-1.0
EVR	Evrytania	0.48	347	ePB	Pg	11 31 02.3	-0.8
EVR				eSB	Sg	11 31 08.8	-0.6
EVR	Evrytania	0.48	347	P	Pg	11 31 02.4	-0.7
EVR				eSb	Sg	11 31 08.8	-0.6
EVR				S	Sb	11 31 09.9	-2.5
RLS	Riolos of Patr	0.54	225	P	Pg	11 31 03.4	-0.7
RLS				S	Sg	11 31 11.7	+0.6
RLS	Riolos of Patr	0.54	225	ePB	Pg	11 31 03.4	-0.7
RLS				eSB	Sg	11 31 10.6	-0.5
RLS	Riolos of Patr	0.54	225	P	Pg	11 31 03.4	-0.7
RLS				eSb	Sg	11 31 10.6	-0.5
MAKR	Makrakomi, Fth	0.59	14	P	Pg	11 31 04.9	0.0
MAKR				S	Sb	11 31 14.8	-0.4
MAKR	Makrakomi, Fth	0.59	14	ePB	Pg	11 31 05.0	0.0
MAKR				eSB	Sg	11 31 13.0	+0.4
MAKR	Makrakomi, Fth	0.59	14	P	Pg	11 31 04.7	-0.3
MAKR	Makrakomi, Fth	0.59	14	ePb	Pg	11 31 05.0	0.0
MAKR				S	Sg	11 31 13.0	+0.4
GUR	Goura	0.59	148	P	Pg	11 31 04.5	-0.6
GUR				S	Sg	11 31 13.1	+0.3
GUR	Goura	0.59	148	ePB	Pg	11 31 04.3	-0.8
GUR				eSB	Sg	11 31 12.4	-0.4
GUR	Goura	0.59	148	P	Pg	11 31 04.5	-0.6
GUR				eSb	Sg	11 31 12.4	-0.4
AXAR	Agios Charalam	0.64	60	P	Pg	11 31 05.3	-0.8
AXAR				S	Sb	11 31 16.4	-0.4
AXAR	Agios Charalam	0.64	60	ePB	Pg	11 31 05.3	-0.8
AXAR				eSB	Sg	11 31 14.9	+0.5
AXAR	Agios Charalam	0.64	60	P	Pg	11 31 05.3	-0.8
AXAR				eSb	Sg	11 31 14.9	+0.5
AXAR				S	Sb	11 31 15.7	-1.1
AGG	Agios Georgios	0.65	27	P	Pg	11 31 05.8	-0.4
AGG				S	Sg	11 31 15.4	+0.7
AGG	Agios Georgios	0.65	27	ePB	Pg	11 31 05.9	-0.3
AGG				eSB	Sg	11 31 15.1	+0.4
AGG	Agios Georgios	0.65	27	P	Pg	11 31 05.8	-0.4
AGG				eSb	Sg	11 31 15.1	+0.4
LKR	Lokris	0.85	76	P	Pg	11 31 08.7	-1.3
LKR				S	Sb	11 31 22.4	-0.3
LKR	Lokris	0.85	76	ePG	Pg	11 31 08.7	-1.3
LKR				eSB	Sb	11 31 21.7	-1.0
LKR	Lokris	0.85	76	P	Pg	11 31 08.7	-1.3
LKR				eSb	Sb	11 31 21.7	-1.0
LKR				S	Sb	11 31 22.4	-0.3
LTK	Loutraki	0.91	117	P	Pg	11 31 10.7	-0.4
LTK	Loutraki	0.91	117	ePB	Pg	11 31 10.4	-0.7
LTK	Loutraki	0.91	117	P	Pg	11 31 10.4	-0.7
AMT	Artemida-Makis	0.93	192	P	Pg	11 31 11.1	-0.4
AMT				S	Sn	11 31 26.5	-0.8
AMT	Artemida-Makis	0.93	192	ePB	Pg	11 31 10.5	-1.0
AMT				eSB	Sg	11 31 22.8	-0.8
AMT	Artemida-Makis	0.93	192	ePb	Pg	11 31 10.5	-1.0
AMT	Artemida-Makis	0.93	192	P	Pg	11 31 11.1	-0.4
AMT				eSb	Sg	11 31 22.8	-0.8
AMT				S	Sb	11 31 25.0	-0.1
KFL	Anninata	0.97	250	P	Pg	11 31 11.2	-1.2
KFL				S	Sb	11 31 26.8	+0.5
KFL	Anninata	0.97	250	P	Pg	11 31 11.2	-1.2
KFL				S	Sb	11 31 26.8	+0.5
LKD2	Lefkada island	1.07	289	P	Pg	11 31 13.5	-0.7
LKD2				S	Sn	11 31 30.7	-0.1
LKD2	Lefkada island	1.07	289	ePN	Pg	11 31 13.2	-1.0
LKD2				eSB	Sg	11 31 28.2	+0.1
LKD2	Lefkada island	1.07	289	ePn	Pg	11 31 13.2	-1.0
LKD2	Lefkada island	1.07	289	P	Pg	11 31 13.5	-0.7
LKD2				eSb	Sg	11 31 28.2	+0.1
LKD2				S	Sn	11 31 30.7	-0.1
SMIA	Simia	1.08	66	P	Pg	11 31 13.2	-1.2
SMIA				S	Sb	11 31 29.2	-0.2
SMIA	Simia	1.08	66	ePN	Pg	11 31 13.5	-0.9

SMIA eSB Sg 11 31 27.9 -0.5
SMIA Simia 1.08 66 P Pg 11 31 13.2 -1.2
SMIA Simia 1.08 66 ePn Pg 11 31 13.5 -0.9
SMIA eSb Sg 11 31 27.9 -0.5
SMIA S Sb 11 31 29.2 -0.2
VLS Valsamata 1.10 256 P Pg 11 31 13.0 -1.8
VLS S Sb 11 31 30.2 +0.1
VLS Valsamata 1.10 256 ePG Pg 11 31 12.7 -2.1
VLS eSB Sg 11 31 28.5 -0.6
VLS Valsamata 1.10 256 ePg Pg 11 31 12.7 -2.1
VLS Valsamata 1.10 256 P Pg 11 31 13.0 -1.8
VLS eSb Sg 11 31 28.5 -0.6
VLS S Sb 11 31 30.2 +0.1
THL Klokotos Trika 1.12 3 P Pg 11 31 14.4 -0.8
THL S Sg 11 31 30.2 +0.5
THL Klokotos Trika 1.12 3 ePB Pg 11 31 14.3 -0.9
THL Klokotos Trika 1.12 3 P Pg 11 31 14.4 -0.8
THL S Sg 11 31 30.2 +0.5
VLX Vlachokerasia 1.12 162 P Pg 11 31 14.8 -0.5
VLX S Sb 11 31 31.3 +0.5
VLX Vlachokerasia 1.12 162 ePB Pg 11 31 13.9 -1.4
VLX Vlachokerasia 1.12 162 ePb Pg 11 31 13.9 -1.4
VLX Vlachokerasia 1.12 162 P Pg 11 31 14.8 -0.5
VLX S Sb 11 31 31.3 +0.5
ITM Ithomi 1.26 181 P Pg 11 31 17.6 -0.3
ITM S Sn 11 31 36.4 +0.9
ITM Ithomi 1.26 181 ePB Pg 11 31 16.7 -1.2
ITM Ithomi 1.26 181 ePb Pg 11 31 16.7 -1.2
ITM Ithomi 1.26 181 P Pg 11 31 17.6 -0.3
ITM S Sn 11 31 36.4 +0.9
MRKA Markates 1.31 78 P Pg 11 31 17.9 -0.9
MRKA S Sn 11 31 38.8 +2.1
MRKA Markates 1.31 78 ePB Pg 11 31 17.8 -1.0
MRKA Markates 1.31 78 P Pg 11 31 17.9 -0.9
MRKA S Sn 11 31 38.8 +2.1
NEO Neokhori 1.32 49 P Pg 11 31 17.9 -1.0
NEO S Sn 11 31 37.7 +0.8
NEO Neokhori 1.32 49 ePB Pg 11 31 18.2 -0.7
NEO Neokhori 1.32 49 P Pg 11 31 17.9 -1.0
NEO Neokhori 1.32 49 ePb Pg 11 31 18.2 -0.7
NEO S Sn 11 31 37.7 +0.8
XOR Xorichti 1.34 46 P Pb 11 31 19.9 +0.5
XOR S Sb 11 31 37.2 +0.4
XOR Xorichti 1.34 46 ePB Pg 11 31 18.2 -1.1
XOR Xorichti 1.34 46 ePb Pg 11 31 18.2 -1.1
XOR Xorichti 1.34 46 P Pb 11 31 19.9 +0.5
XOR S Sb 11 31 37.2 +0.4
DID Didima 1.38 132 P Pn 11 31 19.1 -0.7
DID S Sn 11 31 39.4 +0.9
DID Didima 1.38 132 ePB Pn 11 31 19.1 -0.7
DID Didima 1.38 132 P Pn 11 31 19.1 -0.7
DID S Sn 11 31 39.4 +0.9
SKIA Skiathos 1.39 58 ePG Pn 11 31 18.9 -0.9
SKIA Skiathos 1.39 58 ePg Pn 11 31 18.9 -0.9
MEV Metsovon 1.45 338 P Pn 11 31 20.6 -0.3
MEV Metsovon 1.45 338 P Pn 11 31 20.6 -0.3
ERET Eretria 1.46 89 P Pn 11 31 20.6 -0.3
ERET Eretria 1.46 89 P Pn 11 31 20.6 -0.3
ATH Athens Observa 1.47 108 P Pn 11 31 20.4 -0.5
ATH S Sg 11 31 39.9 -1.0
ATH Athens Observa 1.47 108 ePB Pn 11 31 20.5 -0.5
ATH Athens Observa 1.47 108 P Pn 11 31 20.4 -0.5
ATH S Sg 11 31 39.9 -1.0
JAN Janina 1.48 325 P Pn 11 31 21.3 +0.1
JAN Janina 1.48 325 P Pn 11 31 21.3 +0.1
ATHU Athens Univers 1.52 108 P Pn 11 31 21.0 -0.7
ATHU S Sg 11 31 42.0 -0.6
ATHU Athens Univers 1.52 108 P Pn 11 31 21.0 -0.7
ATHU S Sg 11 31 42.0 -0.6
PYL PYLOS 1.55 186 P Pn 11 31 21.9 -0.2
PYL S Sg 11 31 44.5 +0.9
PYL PYLOS 1.55 186 ePB Pn 11 31 21.6 -0.5
PYL PYLOS 1.55 186 ePb Pn 11 31 21.6 -0.5
PYL PYLOS 1.55 186 P Pn 11 31 21.9 -0.2
PYL S Sg 11 31 44.5 +0.9
PTL Penteli 1.56 104 P Pn 11 31 21.6 -0.6
PTL S Sg 11 31 43.8 0.0
PTL Penteli 1.56 104 ePB Pn 11 31 21.6 -0.6
PTL Penteli 1.56 104 P Pn 11 31 21.6 -0.6
PTL S Sg 11 31 43.8 0.0
IGT Igoumenitsa 1.66 311 ePG Pn 11 31 24.5 +0.8
IGT Igoumenitsa 1.66 311 ePg Pn 11 31 24.5 +0.8
AOS Alonnisos 1.67 64 P Pn 11 31 22.6 -1.2
AOS S Sn 11 31 45.5 -0.2
AOS Alonnisos 1.67 64 ePN Pn 11 31 22.3 -1.5
AOS Alonnisos 1.67 64 ePB Pn 11 31 22.8 -1.0
AOS Alonnisos 1.67 64 ePn Pn 11 31 22.3 -1.5
AOS Alonnisos 1.67 64 ePb Pn 11 31 22.8 -1.0
AOS S Sn 11 31 45.5 -0.2
LIT Litokhoron 1.71 14 P Pn 11 31 24.1 -0.2
LIT S Sg 11 31 48.7 +0.1
LIT Litokhoron 1.71 14 ePN Pn 11 31 23.8 -0.5
LIT eSN Sb 11 31 47.5 0.0
LIT Litokhoron 1.71 14 ePn Pn 11 31 23.8 -0.5
LIT Litokhoron 1.71 14 P Pn 11 31 24.1 -0.2
LIT eSn Sb 11 31 47.5 0.0
LIT S Sg 11 31 48.7 +0.1
KZN Kozani 1.87 356 P Pn 11 31 27.1 +0.6
KZN S Sg 11 31 53.8 +0.1
KZN Kozani 1.87 356 P Pn 11 31 27.1 +0.6
KZN S Sg 11 31 53.8 +0.1
VLI Veliai 1.89 155 P Pn 11 31 26.4 -0.4
VLI S Sn 11 31 50.9 -0.2
VLI Veliai 1.89 155 ePN Pn 11 31 26.1 -0.7
VLI Veliai 1.89 155 ePn Pn 11 31 26.1 -0.7
VLI Veliai 1.89 155 P Pn 11 31 26.4 -0.4
VLI S Sn 11 31 50.9 -0.2
MRMA Marmari 1.95 101 P Pn 11 31 27.1 -0.5
MRMA Marmari 1.95 101 P Pn 11 31 27.1 -0.5
PAIG Paliouri 2.00 42 ePB Pn 11 31 27.2 -1.1
PAIG Paliouri 2.00 42 ePb Pn 11 31 27.2 -1.1
NEST Nestorio 2.09 341 P Pb 11 31 31.4 -0.8
NEST Nestorio 2.09 341 ePN Pn 11 31 30.5 +0.9
NEST Nestorio 2.09 341 ePn Pn 11 31 30.5 +0.9
NEST Nestorio 2.09 341 P Pb 11 31 31.4 -0.8
KYTH Kithira 2.33 158 P Pn 11 31 33.8 +1.0
KYTH Kithira 2.33 158 P Pn 11 31 33.8 +1.0
FNA Florina 2.38 349 P Pn 11 31 34.1 +0.6
FNA Florina 2.38 349 ePN Pn 11 31 33.7 +0.2
FNA Florina 2.38 349 ePn Pn 11 31 33.7 +0.2
FNA Florina 2.38 349 P Pn 11 31 34.1 +0.6
OUR Ouranopolis 2.46 39 ePN Pn 11 31 31.9 -2.6
OUR Ouranopolis 2.46 39 ePB Pn 11 31 34.3 -0.2
OUR Ouranopolis 2.46 39 ePn Pn 11 31 32.0 -2.6
OUR Ouranopolis 2.46 39 ePb Pn 11 31 34.3 -0.2
SOH Sokhos 2.61 24 ePN Pn 11 31 37.4 +0.7
SOH Sokhos 2.61 24 ePn Pn 11 31 37.4 +0.7
BIA Bitola 2.62 350 ePn Pn 11 31 36.5 -0.3
BIA Bitola 2.62 350 ePn Pn 11 31 36.5 -0.3
ANKY Antikythira Is 2.79 157 ePN Pn 11 31 39.4 +0.3
ANKY Antikythira Is 2.79 157 ePn Pn 11 31 39.4 +0.3
KNT Kendrikon 2.81 15 ePB Pn 11 31 40.3 +0.9
KNT Kendrikon 2.81 15 ePb Pn 11 31 40.3 +0.9
VAY Valandovo 2.91 9 ePn Pn 11 31 39.1 -1.8
VAY eSg Sn 11 32 17.6 +1.4
VAY Valandovo 2.91 9 ePn Pn 11 31 39.0 -1.8
SRS Serrai 2.96 25 ePN Pn 11 31 41.6 +0.2
SRS Serrai 2.96 25 ePn Pn 11 31 41.6 +0.2
SIGR SIGRI 3.15 75 ePN Pn 11 31 44.1 +0.2
SIGR SIGRI 3.15 75 ePB Pn 11 31 43.8 -0.2
SIGR SIGRI 3.15 75 ePn Pn 11 31 43.8 -0.2
APE Apeiranthos 3.15 115 ePN Pn 11 31 43.3 -0.8
APE Apeiranthos 3.15 115 ePn Pn 11 31 43.3 -0.8
CHOS Chios island 3.23 90 ePN Pn 11 31 45.5 +0.3
CHOS Chios island 3.23 90 ePN Pn 11 31 44.9 -0.3
CHOS Chios island 3.23 90 ePn Pn 11 31 44.9 -0.3
EZN Ezine 3.67 67 ePN Pn 11 31 50.5 -0.7
EZN Ezine 3.67 67 ePn Pn 11 31 50.5 -0.7
IDI Anoyia 3.93 142 Pn Pn 11 31 55.2 +0.3
0.9nm,0.3s,baz=299,slow=5.2,SNR=7.6
IDI Sn Sn 11 32 38.1 -3.4
1.1nm,0.3s,baz=41,slow=20,SNR=2.2
ALN Alexandroupoli 4.00 51 ePN Pn 11 31 55.1 -0.6
ALN Alexandroupoli 4.00 51 ePn Pn 11 31 55.1 -0.6
GELI Tayfur-Gelibol 4.01 59 ePN Pn 11 31 54.6 -1.3
GELI Tayfur-Gelibol 4.01 59 ePn Pn 11 31 54.6 -1.3
LPK Lapseki 4.19 61 ePN Pn 11 31 58.1 -0.3
LPK Lapseki 4.19 61 ePn Pn 11 31 58.1 -0.3
AYDB Zeytinkoy-Aydi 4.71 94 ePN Pn 11 32 06.4 +0.8
AYDB Zeytinkoy-Aydi 4.71 94 ePn Pn 11 32 06.4 +0.8
BRTR Keskin Array B 9.18 78 Pn Pn 11 33 08.7 +1.6
0.4nm,0.3s,baz=260,slow=12,SNR=13
HFS Hagfors 22.33 349 P P 11 35 53.6 +1.4
2.9nm,0.9s,baz=148,slow=14,SNR=3.4
NB2 NORSAR Subarra 23.60 347 P P 11 36 05.9 +0.6
comp=Z,2.2nm,1.0s,baz=158,slow=9.3
NB2 NORSAR Subarra 23.60 347 P P 11 36 05.9 +0.6
comp=Z,2.2nm,1.0s,baz=158,slow=9.1,SNR=2.6
NOA NORSAR Array B 23.60 347 P P 11 36 05.9 +0.6
comp=Z,0.9nm,0.8s,baz=173,slow=6.8,SNR=2.9
EKA Eskdalemuir Ar 23.88 323 P P 11 36 09.9 +1.9
comp=Z,1.2nm,0.7s,baz=126,slow=11,SNR=4.6
TORD Torodi Ar. Bea 30.95 221 P P 11 37 13.2 +1.2
comp=Z,0.4nm,0.7s,baz=46,slow=8.9,SNR=3.9
MKAR Makanchi Array 44.20 59 P P 11 39 02.8 -1.0
comp=Z,0.5nm,0.4s,baz=277,slow=7.3,SNR=19
ZALV Zalesovo Beam 44.68 48 P P 11 39 06.2 -1.1
comp=Z,0.5nm,0.4s,baz=268,slow=10.0,SNR=3.3
YKA Yellowknife Ar 73.52 341 P P 11 42 26.1 -1.1
comp=Z,0.1nm,0.5s,baz=33,slow=5.5,SNR=3.0

NIED 06 11:46:00, 33°.00N×140°.70E, h56km, Mw4.4 Best double couple: M₀3.87000×10¹⁵ NP1:φs183.00000°, δ39.00000°, λ95.00000°. NP2:φs357.00000°, δ51.00000°, λ86.00000°.
BJI 06 11:46:33.3, 32°.45N×141°.29E, h67km, mB4.8/19, mb4.4/27, Ms4.4/13, Ms7 4.2/12
ISCJB 06 11:46:39.6±0.5, 32°.74N±0°.03×140°.59E±0°.04, h67km±3km, mb4.5/73, Error ellipse: s-maj=5.4km s-min=4.9km az=151.3
MOS 06 11:46:40.3±1.6, 32°.85N×140°.63E, h72km, mb4.8/29, Error ellipse: s-maj=10.2km s-min=5.5km az=108.9
JMA 06 11:46:40.8±0.1, 32°.94N×140°.77E, h34km, M4.6
JMA Felt I J1.
IDC 06 11:46:41.5±1.6, 32°.75N×140°.60E, h72km±13km, mb4.1/23, mb1 4.3/25, mb1mx4.3/33, mbtmp4.4/25, MS3.2/9, Ms1 3.2/9, ms1mx3.0/37, Error ellipse: s-maj=14.4km s-min=9.9km az=80.0
NEIC 06 11:46:41.3±0.5, 32°.70N×140°.50E, h69km±4km, mb4.8/30, MW4.3(NIED), Error ellipse: s-maj=5.2km s-min=4.9km az=219.0
NEIC Felt at Ayase, Honshu. Recorded [1 JMA] on Aogo-shima and Hachijo-jima.

ISC 06 11:46:40.2±0.5, 32°.74N±0°.04×140°.66E±0°.04, h63km±3km, h62km:pP-P, n190, σ1§39/224, mb4.6/73, 6C-3D, Southeast of Honshu

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JHCJ Hachijojimakas 0.80 295 P Pn 11 46 56.0 +0.2
JHCJ S Sn 11 47 06.6 -0.7
JHJ2 Mitsune 0.80 298 ⇓P Pn 11 46 56.1 +0.3
JHJ2 eS Sn 11 47 07.5 +0.1
JHJ2 Mitsune 0.80 298 ePn Pn 11 46 56.2 +0.3
JHJ2 eSn Sn 11 47 05.8 -1.6
JMY Miyakejima3 1.64 325 P Pn 11 47 07.2 +0.3
JMY S Sn 11 47 25.3 -1.8
JKO Kozu shima 1.93 319 P Pn 11 47 11.5 +0.8
JKO S Sn 11 47 34.0 +0.1
BSO1 Boso 1 1.93 8 P Pn 11 47 09.4 -0.9
JNIO Niijimaoohara 1.99 325 P Pn 11 47 11.9 +0.4
JNIO S Sn 11 47 34.3 -1.1
BSO2 Boso 2 2.01 2 S Sn 11 47 35.1 -0.5
BSO3 Boso 3 2.06 357 P Pn 11 47 11.7 -0.7
BSO3 S Sn 11 47 36.2 -0.7
JIM2 Oshima 3 2.23 333 P Pn 11 47 14.6 -0.2
JIM2 S Sn 11 47 39.2 -2.1
JIZS Izushimoda 2.47 324 P Pn 11 47 18.9 +0.8
JIZS S Sn 11 47 46.2 -1.0
TK02 Tokai 2 2.71 297 P Pn 11 47 23.0 +1.8
JOD2 Odawara 2 2.84 333 P Pn 11 47 23.2 0.0
JOD2 S Sn 11 47 53.3 -2.9
TK04 Tokai 4 2.85 306 P Pn 11 47 25.1 +1.9
SHZ3 Shizuoka 3 3.09 319 P Pn 11 47 28.5 +1.9
JYN Shimob 3.27 328 P Pn 11 47 30.6 +1.5
TTO1 TONANKAI O.B.S 3.37 286 P Pn 11 47 32.9 +2.8
MJAR Matsushiro Arr 4.30 333 P Pn 11 47 43.8 +0.7
13nm,0.3s,baz=134,slow=7.6,SNR=96
MJAR S Sn 11 48 32.8 +0.8
10.0nm,0.3s,baz=144,slow=12,SNR=4.2
MJAR LR LR 11 49 34.0
comp=Z,167nm,20.5s,baz=165,slow=41
MAJO Matsushiro 4.30 333 eP Pn 11 47 44.2 +1.0
MAJO Matsushiro 4.30 333 ePn Pn 11 47 44.2 +1.0
MAT Matsushiro 4.30 333 P Pn 11 47 43.9 +0.7
MAT S Sn 11 48 31.3 -0.8
CBIJ Chichi jima 5.77 166 P Pn 11 48 03.1 -0.2
CBIJ S Sn 11 49 03.3 -4.9
CBIJ eSn Sn 11 49 04.3 -4.0
JCJ Chichijima 5.77 166 P Pn 11 48 03.1 -0.2
15nm,0.3s,baz=142,slow=19,SNR=3.3
JCJ S Sn 11 49 03.3 -5.0
23nm,0.3s,baz=287,slow=19,SNR=2.7
JNU Nakatsue 8.23 275 P Pn 11 48 40.4 +3.4
2.5nm,0.3s,baz=93,slow=3.7,SNR=27
JNU LR LR 11 51 46.4
comp=Z,260nm,21.7s,baz=140,slow=37
JNU Nakatsue 8.23 275 Pn Pn 11 48 37.6 +0.6
ERM Erimo 9.47 11 eP Pn 11 48 51.8 -2.0
KSRS Korea Array 11.44 298 P Pn 11 49 25.6 +4.8
0.2nm,0.3s,baz=116,slow=14,SNR=14
KSRS LR LR 11 53 56.0
comp=Z,123nm,18.3s,baz=142,slow=38
ASAJ Asahikawa 11.46 7 P Pn 11 49 17.6 -3.5
3.4nm,0.3s,baz=223,slow=8.8,SNR=42
ASAJ S Sn 11 51 14.8 -13
0.9nm,0.3s,baz=245,slow=17,SNR=2.7
KSAR Wonju Array Be 11.47 298 P Pn 11 49 25.6 +4.5
KSAR Wonju Array Be 11.47 298 P Pn 11 49 25.6 +4.5
JOW Kunigami 12.26 245 LR LR 11 54 11.6
comp=Z,16nm,18.9s,baz=156,slow=37
USRK Ussuriysk Arra 13.30 332 LR LR 11 54 15.1
comp=Z,74nm,20.1s,baz=121,slow=34
YSS Yuzh-Sakhalins 14.29 6 eP Pn 11 49 56.5 -2.7
MDJ Mudanjiang 14.66 327 P Pn 11 50 04.6 +0.5
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,110nm,4.8s
CN2 Changchun 16.24 317 eP P 11 50 26.2 -0.1
CN2 esP sP 11 50 47.0 -0.5
CN2 eS Sn 11 53 23.5 -0.1
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
HABR Khabarovsk 16.28 347 eP Pn 11 50 23.4 -1.3
HABR eS Sn 11 53 22.3 -2.0
HABR pmax pmax
comp=Z,38nm,1.9s
KLR Kul'dur 17.78 341 eP Pn 11 50 40.0 -3.2
NJ2 Nanjing 18.43 274 eP P 11 50 50.3 -0.2
NJ2 pmax pmax
comp=Z,20nm,1.1s
HHC Hu-ho-hao-te 24.59 298 eP P 11 51 54.1 -0.4
HHC pP pP 11 52 08.4 -1.2
HHC sP sP 11 52 15.9 -1.2
HHC PcP PcP 11 55 32.4 +1.5
HHC S S 11 56 08.2 -3.0
HHC ScP ScP 11 59 04.2 -0.1
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,210nm,7.1s
HHC LR LR
comp=Z,300nm,13.1s
HHC LR LR
comp=Z,230nm,14.5s
HHC LR LR
comp=Z,170nm,13.2s
H11N2 WAKE ISLAND Hy 26.78 112 T T 12 21 10.0
baz=308,slow=76,SNR=96
H11N1 WAKE ISLAND Hy 26.78 112 T T 12 21 18.7
baz=308,slow=76,SNR=86
H11N3 WAKE ISLAND Hy 26.80 112 T T 12 21 15.2
baz=308,slow=76,SNR=104
H11S3 WAKE ISLAND Hy 27.33 115 T T 12 21 46.4
baz=309,slow=74,SNR=26
H11S1 WAKE ISLAND Hy 27.33 115 T T 12 21 47.1
baz=309,slow=74,SNR=17
H11S2 WAKE ISLAND Hy 27.34 115 T T 12 21 43.9
baz=309,slow=74,SNR=15
ULN Ulaanbaatar 29.48 311 eP P 11 52 39.0 +0.6
ULN pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 29.48 311 eP P 11 52 39.0 +0.6
comp=Z,3.2nm,0.7s
SONM Songino Array 29.89 310 P P 11 52 42.1 +0.1
comp=Z,2.0nm,0.6s,baz=104,slow=9.4
SONM LR LR 12 05 17.1
comp=Z,125nm,18.2s,baz=146,slow=37
GYA Guiyang 30.13 267 eP P 11 52 44.8 +0.5
GYA pP pP 11 53 01.2 +1.6
GYA PP PnPn 11 53 43.4 -0.4
GYA S S 11 57 37.0 -1.9
GYA sS sS 11 58 04.7 -0.3
GYA ScP ScP 11 59 21.2 -0.1
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.9s
GYA LR LR
comp=Z,490nm,17.8s
GYA LR LR
comp=Z,390nm,19.0s
GYA LR LR
comp=Z,460nm,18.0s
YAK Yakutsk 30.15 350 eP P 11 52 45.4 +1.5
QIZ Qiongzhong 30.77 251 P P 11 52 49.3 -0.6
QIZ S S 11 57 47.9 -1.0
QIZ pmax pmax
comp=Z,7.0nm,1.7s
SEY Seymchan 31.12 10 P P 11 52 52.9 +0.4
comp=Z,5.5nm,0.8s,baz=199,slow=6.2,SNR=15
CD2 Chengdu 31.31 277 eP P 11 52 55.0 +0.4
CD2 pP pP 11 53 10.4 +0.5
CD2 sP sP 11 53 18.1 +0.8
CD2 PP PnPn 11 53 59.6 +0.6
CD2 PcP PcP 11 55 48.8 +1.3
CD2 S S 11 57 55.0 -2.2
CD2 PcS PcS 11 59 31.9 0.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
CD2 LR LR
comp=Z,210nm,13.2s
CD2 LR LR
comp=Z,300nm,15.2s
ZAK Zakamensk 32.63 314 eP P 11 53 07.7 +1.7
ZAK pmax pmax
comp=Z,2.0nm,1.3s
TLY Talaya 32.84 316 eP P 11 53 09.1 +1.3
TLY e 11 53 23.1
TLY pmax pmax
comp=Z,7.0nm,1.0s
TLY Talaya 32.84 316 eP P 11 53 08.8 +1.0
comp=Z,4.5nm,0.8s
BILL Bilibino 38.32 15⇑eP P 11 53 54.4 -0.1
BILL e 11 56 07.9
BILL pmax pmax
comp=Z,8.0nm,1.1s
BILL Bilibino 38.32 15 eP P 11 53 54.3 -0.1
comp=Z,4.7nm,0.7s
TIXI Tiksi 39.48 354⇓eP P 11 54 03.9 -0.2
TIXI pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 39.48 354 eP P 11 54 03.5 -0.6
comp=Z,3.8nm,0.8s
TIXI ePcP PcP 11 56 11.0 +0.4
CMAR Chiang Mai Arr 39.96 260 P P 11 54 08.2 -0.6
comp=Z,1.9nm,0.7s,baz=51,slow=7.5,SNR=11
CMAR LR LR 12 11 35.6
comp=Z,34nm,19.7s,baz=26,slow=37
ZAA0 Zalesovo Array 44.45 316 eP P 11 54 44.3 -0.6
ZAA0 ePcP PcP 11 56 27.1 -0.2
ZALV Zalesovo Beam 44.45 316 P P 11 54 44.6 -0.2
comp=Z,1.8nm,0.5s,baz=96,slow=9.1,SNR=9.1
ZALV PcP PcP 11 56 26.6 -0.8
comp=Z,1.9nm,0.5s,baz=96,slow=3.4,SNR=5.7
ZALV ScP ScP 12 00 12.0 -2.1
comp=Z,0.4nm,0.6s,baz=178,slow=4.5,SNR=3.5
ZALV LR LR 12 13 16.5
comp=Z,49nm,18.3s,baz=66,slow=36
TNA Tin City 44.92 27 eP P 11 54 49.6 +1.2
comp=Z,28nm,1.9s
NVS Novosibirsk 45.45 317 eP P 11 54 49.8 -3.0
NVS pmax pmax
comp=N,2.0nm,1.2s
NVS pmax pmax
comp=E,18nm,1.2s
NVS pmax pmax
comp=Z,11nm,1.2s
MK31 Makanchi Array 45.99 306 eP P 11 54 57.1 -0.1
MK31 Makanchi Array 45.99 306 eP P 11 54 57.1 -0.1
MKAR Makanchi Array 45.99 306 P P 11 54 57.2 0.0
comp=Z,4.7nm,0.6s,baz=89,slow=9.9,SNR=52
MKAR ScP ScP 12 00 18.8 -1.9
comp=Z,0.6nm,0.6s,baz=82,slow=4.8,SNR=7.4
MKAR LR LR 12 17 15.4
comp=Z,49nm,18.4s,baz=79,slow=40
RAMN Ramite 46.83 278 eP P 11 55 02.1 -2.2
JIRN Jiri 46.92 279 eP P 11 55 04.8 -0.4
comp=Z,14nm,0.4s
KURK Kurchatov 48.19 311 eP P 11 55 13.8 -0.4
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 48.19 311 eP P 11 55 13.8 -0.4
comp=Z,6.2nm,0.9s
DANN Dangsing 48.71 281 eP P 11 55 18.5 -0.4
PYUN Piuthan 49.43 281 eP P 11 55 23.9 -0.4
comp=Z,44nm,0.5s
KDAK Kodiak Island 50.76 39 iP P 11 55 34.1 +0.5
PPLA Purkeypile 51.08 33 eP P 11 55 38.1 +2.0
comp=Z,5.5nm,0.5s
TKM2 Tokmak 2 51.23 301 eP P 11 55 37.3 -0.4
TKM2 pmax pmax
comp=Z,40nm,2.3s
TKM2 Tokmak 2 51.23 301 eP P 11 55 37.2 -0.4
comp=Z,40nm,2.3s
KSH Kashi 51.70 297 eP P 11 55 43.8 +2.7
KSH esP sP 11 56 05.3 +0.8
KSH ePP PP 11 57 43.3 +4.3
KSH PcS PcS 12 00 52.5 +0.5
KSH S S 12 02 58.2 +0.1
KSH pmax pmax
comp=Z,2.0nm,0.3s
KSH pmax pmax
comp=Z,77nm,3.4s
KSH LR LR
comp=Z,120nm,5.0s
KSH LR LR
comp=Z,110nm,5.5s
KSH LR LR
comp=Z,170nm,5.7s
AAK Ala-Archa 52.08 301 P P 11 55 45.0 +1.0
AAK pmax pmax
comp=Z,5.0nm,1.0s
RC01 Rabbit Creek A 52.19 35 eP P 11 55 45.3 +1.1
comp=Z,2.5nm,0.4s
MCK McKinley 52.57 32 eP P 11 55 47.9 +0.8
MCK pmax pmax
comp=Z,15nm,1.2s
MCK McKinley 52.57 32 eP P 11 55 47.9 +0.8
comp=Z,15nm,1.2s
WRA Warramunga Arr 52.73 187 P P 11 55 48.4 -0.3
comp=Z,6.2nm,0.3s,baz=5.7,slow=7.7,SNR=165
WRA PcP PcP 11 56 58.9 +1.3
comp=Z,7.2nm,0.7s,baz=360,slow=3.9,SNR=14
WRA ScP ScP 12 00 48.3 -1.2
comp=Z,0.4nm,0.7s,baz=5.6,slow=5.5,SNR=4.1
VOSK Vostochnaya 52.76 314 eP P 11 55 48.2 -0.4
VOSK pmax pmax
comp=Z,6.0nm,0.7s
VOSK Vostochnaya 52.76 314 eP P 11 55 48.2 -0.4
comp=Z,5.8nm,0.7s
COLA College 53.06 30⇑eP P 11 55 51.8 +1.1
COLA pmax pmax
comp=Z,17nm,0.7s
COLA College 53.06 30 eP P 11 55 51.4 +0.7
comp=Z,129nm,2.8s
BRVK Borovoye 53.13 315⇑iP P 11 55 50.7 -0.7
BRVK pmax pmax
comp=Z,8.0nm,1.3s
BRVK Borovoye 53.13 315 eP P 11 55 51.4 0.0
comp=Z,19nm,1.6s
ILAR Eielson Array 53.48 31 P P 11 55 53.7 0.0

comp=Z,4.8nm,0.7s,baz=270,slow=7.1,SNR=80
DOT Dot Lake 54.75 32 eP P 11 56 03.5 +0.4
comp=Z,10.0nm,0.6s
KK31 Karatay Array 54.83 303 iP P 11 56 03.9 0.0
KK31 pmax pmax
comp=Z,1.0nm,0.3s
AS31 Alice Springs 56.45 187 eP P 11 56 15.6 0.0
AS31 ePcP PcP 11 57 13.4 +1.5
ASAR Alice Springs 56.45 187 P P 11 56 15.7 0.0
comp=Z,3.0nm,0.4s,baz=3.3,slow=6.6,SNR=135
ASAR PcP PcP 11 57 13.3 +1.4
comp=Z,3.9nm,0.6s,baz=3.1,slow=4.2,SNR=11
HYT Haines Junctio 58.14 35 eP P 11 56 30.4 +3.1
INK Inuvik 58.50 26 eP P 11 56 30.3 +0.8
INK pmax pmax
comp=Z,12nm,0.8s
INK Inuvik 58.50 26 P P 11 56 30.3 +0.8
comp=Z,10nm,0.6s,baz=295,slow=5.9,SNR=16
INK Inuvik 58.50 26 eP P 11 56 30.3 +0.8
comp=Z,12nm,0.8s
ARU Arti 59.21 320d iP P 11 56 34.3 -0.4
ARU *PP pP 11 56 51.9 +0.7
ARU S S 12 04 37.4 -0.1
ARU SS SS 12 08 26.9 -5.3
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 59.21 320 eP P 11 56 34.3 -0.4
AB31 Akbulak array 60.29 312 iP P 11 56 41.5 -0.6
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 60.29 312 eP P 11 56 41.0 -1.1
PRGR Permogore 64.05 328 P P 11 57 05.1 -2.0
STKA Stephens Creek 64.27 179 P P 11 57 09.0 +0.2
comp=Z,3.5nm,0.6s,baz=339,slow=7.9,SNR=11
ARCES ARCESS Array B 67.80 340 P P 11 57 31.1 0.0
comp=Z,7.7nm,0.9s,baz=48,slow=6.9,SNR=12
YKA Yellowknife Ar 67.84 29 P P 11 57 31.3 -0.1
comp=Z,2.1nm,0.7s,baz=296,slow=6.1,SNR=39
JOF Joensuu 69.47 333 eP P 11 57 40.1 -1.4
JOF pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 69.47 333 ep P 11 57 40.1 -1.4
comp=Z,1.4nm,0.5s
OBN Obninsk 71.18 324 eP P 11 57 54.2 +2.1
OBN pmax pmax
comp=Z,13nm,1.4s
KAF Kangasniemi 71.85 333 eP P 11 57 54.6 -1.4
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 71.85 333 ep P 11 57 54.6 -1.4
comp=Z,2.2nm,0.6s
FINES FINESS Array B 72.33 333 P P 11 57 58.5 -0.4
comp=Z,1.3nm,0.4s,baz=77,slow=5.2,SNR=17
D08A Wollman Farm, 73.23 45 eP P 11 58 06.0 +1.5
comp=Z,79nm,2.3s
C09A Chrisman Ranch 73.24 44 eP P 11 58 06.2 +1.6
comp=Z,7.2nm,0.7s
KBZ Khabaz 73.25 311 P P 11 58 05.1 +0.5
comp=Z,7.0nm,1.0s,baz=197,slow=4.0,SNR=5.8
NEW Newport 73.67 43 eP P 11 58 08.6 +1.4
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 73.67 43 eP P 11 58 08.6 +1.4
comp=Z,5.1nm,0.8s
GNI Garni 73.80 307⇑iP P 11 58 11.9 +3.7
GNI pmax pmax
comp=Z,25nm,2.5s
OUZ Omahuta 74.33 152 eP P 11 58 11.8 +0.9
SUMG Summit 74.97 360 eP P 11 58 15.9 +1.2
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 74.97 360 eP P 11 58 15.9 +1.2
comp=Z,8.3nm,0.8s
BMO Blue Mountains 75.33 46 eP P 11 58 18.1 +1.2
comp=Z,4.2nm,0.9s
SWMT Swartz Lake 75.85 42 eP P 11 58 21.1 +1.2
MFID Camas Ranch 76.99 47 eP P 11 58 28.1 +1.7
comp=Z,40nm,2.2s
AKASG Malin Array Be 77.32 323c eP P 11 58 31.0 +3.1
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 77.32 323 P P 11 58 27.5 -0.4
comp=Z,1.9nm,0.5s,baz=48,slow=6.1,SNR=16
AK01 Malin Array Si 77.33 323 eP P 11 58 28.1 +0.1
KIEV Kiev 77.33 323⇑eP P 11 58 30.8 +2.8
KIEV Kiev 77.33 323 eP P 11 58 32.4 +4.4
comp=Z,32nm,2.0s
AK02 Malin Array Si 77.36 323 eP P 11 58 27.6 -0.5
HRY Holter Researc 77.52 42 eP P 11 58 30.4 +1.1
comp=Z,2.1nm,0.6s
FFC Flin Flon 77.66 32 eP P 11 58 30.0 +0.2
FFC Flin Flon 77.66 32 eP P 11 58 30.0 +0.2
LRM Limekiln Ridge 77.67 43 eP P 11 58 31.7 +1.3
NB2 NORSAR Subarra 77.91 337 P P 11 58 30.5 -0.6
comp=Z,1.0nm,0.6s,baz=41,slow=5.6
NOA NORSAR Array B 77.91 337 P P 11 58 30.6 -0.4
comp=Z,3.0nm,0.9s,baz=42,slow=5.5,SNR=7.0
NVAR Mina Array Bea 78.09 52 P P 11 58 34.2 +1.4
comp=Z,1.9nm,0.8s,baz=283,slow=5.3,SNR=10.0
FCC Fort Churchill 78.12 26 eP P 11 58 31.9 -0.3
FCC pmax pmax
comp=Z,3.0nm,2.9s
FCC Fort Churchill 78.12 26 eP P 11 58 31.9 -0.3
comp=Z,2.9nm,2.9s
BOZ Bozeman (W) 78.25 43 eP P 11 58 34.7 +1.3
BOZ pmax pmax
comp=Z,4.0nm,1.0s
BOZ Bozeman (W) 78.25 43 eP P 11 58 34.7 +1.3
comp=Z,3.6nm,1.0s
ELK Elko 78.82 49 eP P 11 58 38.4 +1.6
ELK Elko 78.82 49 eP P 11 58 38.4 +1.6
TPH Tonopah 79.00 52 eP P 11 58 39.2 +1.5
TPH pmax pmax
comp=Z,8.0nm,1.4s
TPH Tonopah 79.00 52 eP P 11 58 39.2 +1.5
comp=Z,8.4nm,1.4s
H17A Grant Village 79.58 44 eP P 11 58 44.1 +3.2
HVU Hansel Valley 79.78 47 eP P 11 58 44.0 +2.1
HVU pmax pmax
comp=Z,67nm,2.7s
HVU Hansel Valley 79.78 47 eP P 11 58 44.0 +2.1
comp=Z,67nm,2.7s
HWUT Hardware Ranch 80.61 46 eP P 11 58 48.0 +1.6
comp=Z,11nm,1.3s
DUG Dugway 80.66 48 eP P 11 58 48.2 +1.6
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway 80.66 48 eP P 11 58 48.2 +1.6
comp=Z,6.0nm,1.0s
PDAR Pinedale Array 81.14 45 P P 11 58 49.8 +0.6
comp=Z,0.8nm,0.7s,baz=334,slow=0.4,SNR=7.4
BR131 Keskin Array S 81.24 312 eP P 11 58 49.8 +0.1
comp=Z,0.9nm,0.5s
BRTR Keskin Array B 81.24 312 iP P 11 58 50.2 +0.5
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 81.24 312 P P 11 58 50.1 +0.5
comp=Z,1.4nm,0.6s,baz=119,slow=3.1,SNR=7.4
BUR08 Bucovina Ar. S 81.29 322 eP P 11 58 49.8 0.0
BUR08 ePcP PcP 11 58 55.3 -0.5
ARUT Antelope Range 81.64 50 eP P 11 58 53.0 +1.1
ARUT pmax pmax
comp=Z,48nm,0.9s
ARUT Antelope Range 81.64 50 eP P 11 58 53.0 +1.1
comp=Z,48nm,0.9s
RAYN Ar Rayn 81.72 293 eP P 11 58 52.8 +0.4
comp=Z,12nm,0.6s
MVU Marysvale 82.01 49 eP P 11 58 55.4 +1.4
comp=Z,85nm,2.8s
SRU San Rafael 82.72 48 eP P 11 58 58.6 +1.0
SRU pmax pmax
comp=Z,9.0nm,0.7s
SRU San Rafael 82.72 48 eP P 11 58 58.6 +1.0
comp=Z,8.7nm,0.7s
ULM Lac du Bonnet 83.44 33 P P 11 58 59.4 -1.4
comp=Z,0.9nm,0.4s,baz=307,slow=4.4,SNR=3.2
KRLC Kraliky 83.75 327 eP P 11 59 07.3 +4.8
KRLC Kraliky 83.75 327 eP P 11 59 07.3 +4.8
DPC Dobruska-Polom 83.76 328 eP P 11 59 08.3 +5.8
DPC Dobruska-Polom 83.76 328 eP P 11 59 08.3 +5.8
PV04 Paradox Valley 84.17 48 eP P 11 59 06.4 +1.4
WUAZ Wupatki 84.31 51 eP P 11 59 07.2 +1.4
comp=Z,6.4nm,1.0s
PVCC Panska Ves 84.41 329 eP P 11 59 02.6 -3.1
PVCC Panska Ves 84.41 329 eP P 11 59 02.6 -3.1
BRG Berggiesshubel 84.43 329 eP P 11 59 05.7 -0.1
comp=Z,1.9nm,0.5s
BRG i 11 59 23.4
comp=Z,4.6nm,0.9s
BRG Berggiesshubel 84.43 329 eP P 11 59 05.7 -0.1
BRG i 11 59 23.4
BRG pmax pmax
comp=Z,2.0nm,0.5s
BRG pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 84.50 330 iP P 11 59 05.9 -0.3
CLL i *PP pP 11 59 23.1 -0.5
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 84.50 330 iP P 11 59 05.9 -0.3
comp=Z,6.0nm,1.0s
CLL i PcP PcP 11 59 08.5 -1.2
CLL i 11 59 11.3
CLL i pP pP 11 59 23.1 -0.5
comp=Z,10.0nm,0.8s
PV01 Paradox Valley 84.53 48 eP P 11 59 07.7 +0.7
comp=Z,958nm,1.0s
SMCO Snowmass 84.88 46 eP P 11 59 10.2 +1.4
BRSD Miller 85.97 38 eP P 11 59 13.8 +0.1
GERES GERESS Array B 86.03 328 P P 11 59 13.6 -0.3
comp=Z,0.6nm,0.5s,baz=36,slow=7.1,SNR=5.4
SCHQ Schefferville 89.63 15 P P 11 59 31.0 0.0
comp=Z,3.0nm,0.9s,baz=326,slow=3.6,SNR=3.8
TUE Stuetta 89.75 329 eP P 11 59 27.7 -4.3
TXAR Lajitas Array 93.24 52 P P 11 59 49.3 +1.0
comp=Z,4.1nm,0.7s,baz=299,slow=3.1,SNR=64
H06E1 SOCORRO T-PHAS 94.59 64 T T 13 43 11.3
SNR=4.6
TORD Torodi Ar. Bea 119.84 312 PKP PKPdf 12 05 23.2 -0.8
comp=Z,0.5nm,0.4s,baz=33,slow=1.2,SNR=9.6
PMSA Palmer Station 144.53 162 ePKPdf PKPdf 12 06 08.2 -0.4
SAML Samuel 147.65 48 ePKPbc PKPbc 12 06 18.6 +0.3
LPAZ La Paz 149.25 65 PKPdf PKPdf 12 06 20.5 +1.7
comp=Z,4.5nm,0.5s,baz=22,slow=5.4,SNR=14
LPAZ La Paz 149.25 65 ePKPbc PKPbc 12 06 24.2 +1.1
PLCA Paso Flores 153.85 117 PKPbc PKPbc 12 06 33.0 +0.6
comp=Z,2.8nm,0.8s,baz=175,slow=0.9,SNR=3.8
PLCA PKPab PKPab 12 06 47.3 +1.6
comp=Z,1.5nm,0.7s,baz=234,slow=7.3,SNR=3.5

JMA 06 11:49:24.0±0.1,32.95N×140.70E,h45km,M3.5, Southeast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JHJ2 Mitsune 0.76 282 P Pn 11 49 38.5 +0.2
JHJ2 eS Sn 11 49 49.0 +0.2
JHCJ Hachijojimakas 0.77 279 P Pn 11 49 38.5 0.0
JHCJ eS Sn 11 49 49.0 0.0
JIM2 Oshima 3 2.06 329 P Pn 11 49 57.2 +1.1
JIM2 eS Sn 11 50 21.5 +0.9

ISCJB 06 12:01:23.4±1.3,5.6S±0.3×152.5E±0.3,h40km,mb3.6/5, Error ellipse: s-maj=64.5km s-min=11.3km az=135.7
IDC 06 12:01:25.2±6.0,5.64S×152.52E,h43km±52km,mb3.6/5, mb1 3.9/6,mb1mx3.5/35,mbtmp3.8/6,ML2.8/1,Error ellipse: s-maj=71.7km s-min=31.7km az=127.0
ISC 06 12:01:24.6±1.6,5.6S±0.4×152.6E±0.4,h40km,n7,σ0.73/8, mb3.7/5,New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 6.56 235 P Pn 12 02 59.4 +0.8
1.2nm,0.3s,baz=39,slow=15,SNR=6.6
PMG S Sn 12 04 11.6 -0.5
15nm,0.3s,baz=309,slow=19,SNR=10
WRA Warramunga Arr 22.74 230 P P 12 06 22.6 -1.0
1.8nm,0.6s,baz=53,slow=9.8,SNR=35
ASAR Alice Springs 25.40 223 P P 12 06 48.5 0.0
1.2nm,0.7s,baz=56,slow=9.0,SNR=20
MKAR Makanchi Array 80.82 319 P P 12 13 34.2 -0.1
0.2nm,0.7s,baz=110,slow=3.5,SNR=3.1
ILAR Eielson Array 83.01 22 P P 12 13 45.8 +0.4
1.4nm,0.7s,baz=246,slow=5.5,SNR=27
YKA Yellowknife Ar 96.26 28 P P 12 14 47.8 -0.6
0.2nm,0.8s,baz=265,slow=4.8,SNR=3.6
TORD Torodi Ar. Bea 150.36 287 PKPbc PKPbc 12 21 13.2 +0.4
0.2nm,0.4s,baz=67,slow=0.5,SNR=4.4

IDC 06 12:03:36.1±47.0,22.93S×172.74W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.7/31,mbtmp4.0/3,Error ellipse: s-maj=901.3km s-min=183.5km az=88.0,Tonga Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 41.27 247 P P 12 11 21.7 -1.6
1.5nm,0.8s,baz=78,slow=14,SNR=4.0
ASAR Alice Springs 48.77 258 P P 12 12 23.2 0.0
1.1nm,0.4s,baz=94,slow=7.4,SNR=52
WRA Warramunga Arr 49.14 263 P P 12 12 26.8 +0.7
1.1nm,0.4s,baz=100,slow=6.9,SNR=68

IDC 06 12:13:56.8±14.0,17.62S×178.11W,h476km±175km, mb3.0/5,mb1 3.3/5,mb1mx3.0/24,mbtmp3.9/5,Error ellipse: s-maj=100.7km s-min=48.8km az=166.0,Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 39.01 241 P P 12 20 41.1 -0.3
4.7nm,1.2s,baz=75,slow=8.3,SNR=7.3
WRA Warramunga Arr 44.96 259 P P 12 21 28.9 +0.2
0.7nm,0.5s,baz=97,slow=6.8,SNR=38
ASAR Alice Springs 45.14 254 P P 12 21 29.8 -0.3
2.2nm,0.6s,baz=89,slow=8.7,SNR=46
ILAR Eielson Array 85.55 13 P P 12 25 43.0 -0.4
0.1nm,0.4s,baz=224,slow=4.8,SNR=5.7
TXAR Lajitas Array 85.61 58 P P 12 25 44.8 +0.2
0.3nm,0.7s,baz=216,slow=6.2,SNR=5.6
GERES GERESS Array B 147.41 345 PKPbc PKPbc 12 32 45.9 -0.7
0.6nm,0.6s,baz=24,slow=1.6,SNR=5.6

IDC 06 12:38:10.8±5.3,6.14S×149.56E,h50km±44km,mb3.6/3, mb1 3.8/4,mb1mx3.3/29,mbtmp3.9/4,ML3.0/1,Error ellipse: s-maj=104.0km s-min=27.7km az=117.0,New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 4.02 216 P Pn 12 39 11.0 +1.0
7.7nm,0.3s,baz=9.5,slow=6.1,SNR=30
PMG S Sn 12 39 56.3 +0.4
7.4nm,0.3s,baz=43,slow=19,SNR=6.4
WRA Warramunga Arr 20.18 226 P P 12 42 41.3 -0.1
1.3nm,0.7s,baz=49,slow=10,SNR=15
WRA PcP PcP 12 46 52.7 -1.9
0.5nm,1.0s,baz=41,slow=1.7,SNR=4.8
ASAR Alice Springs 23.03 219 P P 12 43 11.5 -0.5
0.6nm,0.6s,baz=56,slow=9.1,SNR=16
PETK Petropavlovsk- 59.43 6 P P 12 48 07.8 -0.4
9.3nm,1.1s,baz=165,slow=7.3,SNR=6.3
TORD Torodi Ar. Bea 147.59 285 PKPbc PKPab 12 57 52.0 -1.0
0.2nm,0.4s,baz=64,slow=2.0,SNR=4.9

IDC 06 12:51:27.8±0.8,12.19N×143.80E,h0km,mb4.1/13, mb1 4.3/13,mb1mx4.0/49,mbtmp4.0/13,MS3.2/1, Ms1 3.2/1,ms1mx2.6/29,Error ellipse: s-maj=26.0km s-min=20.2km az=106.0
ISCJB 06 12:51:30.4±0.6,12.2N±0.1×143.6E±0.2,h26km,mb4.1/14, MS3.0/1,Error ellipse: s-maj=22.2km s-min=16.9km az=10.2
ISC 06 12:51:31.8±0.9,12.2N±0.2×143.8E±0.2,h26km,n21, σ1.22/14,mb4.2/14,South of Mariana Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 21.70 171 LR LR 13 05 00.7
comp=Z,62nm,19.9s,baz=250,slow=37
H11S3 WAKE ISLAND Hy 22.96 71 T T 13 20 40.0
baz=248
H11S1 WAKE ISLAND Hy 22.98 71 T T 13 20 54.4
baz=248
H11S2 WAKE ISLAND Hy 22.98 71 T T 13 20 31.5
baz=248
H11N1 WAKE ISLAND Hy 23.44 68 T T 13 21 15.7
baz=258,slow=75,SNR=4.3
H11N2 WAKE ISLAND Hy 23.45 68 T T 13 21 09.9
baz=258,slow=75,SNR=3.4
H11N3 WAKE ISLAND Hy 23.46 68 T T 13 21 15.7
baz=258,slow=75,SNR=3.3
WRA Warramunga Arr 33.24 196 P P 12 58 05.7 -1.3
1.4nm,0.8s,baz=20,slow=9.9,SNR=15
ASAR Alice Springs 36.90 195 P P 12 58 39.8 +1.1
0.4nm,0.9s,baz=17,slow=10,SNR=4.3
CMAR Chiang Mai Arr 43.60 284 P P 12 59 34.3 0.0
0.5nm,0.4s,baz=84,slow=6.8,SNR=4.5
SONM Songino Array 47.29 326 P P 13 00 03.6 +0.3
0.6nm,0.6s,baz=138,slow=7.3,SNR=8.6
MKAR Makanchi Array 61.77 317 P P 13 01 49.2 +0.9
0.5nm,0.6s,baz=88,slow=7.2,SNR=6.6
ILAR Eielson Array 70.30 25 P P 13 02 41.2 -1.5
1.2nm,0.7s,baz=250,slow=5.9,SNR=29
BVAR Borovoye Array 70.38 322 P P 13 02 44.0 +0.5
1.3nm,0.5s,baz=90,slow=9.0,SNR=8.5
YKA Yellowknife Ar 84.60 27 P P 13 04 02.8 +0.1
1.1nm,0.5s,baz=286,slow=5.0,SNR=40
NEW Newport 86.99 41 P P 13 04 15.9 +0.9
3.5nm,0.7s,baz=276,slow=6.2
ARCES ARCESS Array B 88.09 342 P P 13 04 19.4 -0.4
2.8nm,0.7s,baz=52,slow=7.9,SNR=8.5
NVAR Mina Array Bea 88.64 51 P P 13 04 24.4 +1.1
1.1nm,0.7s,baz=263,slow=6.5,SNR=7.4
JOF Joensuu 89.12 335 ep P 13 04 22.4 -2.3
2.1nm,0.7s
ELK Elko 90.31 48 P P 13 04 32.1 +1.0
0.7nm,0.8s,baz=291,slow=8.6,SNR=3.3
FINES FINESS Array B 91.98 335 P P 13 04 37.0 -1.1
1.7nm,0.6s,baz=84,slow=4.4,SNR=12

IDC 06 12:59:56.0±1.4,35.74N×25.60E,h0km,Error ellipse: s-maj=317.1km s-min=24.1km az=141.0
ISCJB 06 12:59:57.9±1.5,34.87N±0.09×26.32E±0.05,h22km±8km, Error ellipse: s-maj=15.0km s-min=7.0km az=169.8
ATH 06 12:59:57.4,34.93N×26.41E,h21km±1km,MD3.3/5
CSEM 06 12:59:58.4±0.5,34.88N×26.29E,h15km,MD3.3,Error ellipse: s-maj=12.2km s-min=5.5km az=168.0
ISC 06 12:59:58.1±1.7,34.88N±0.06×26.29E±0.05,h17km±12km, n48,σ0.96/54,Crete

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ZKR Zakros 0.24 345 eP Pb 13 00 03.3 -0.8
ZKR eS Sb 13 00 08.2 0.0
ZKR Zakros 0.24 345 ePB Pb 13 00 03.4 -0.8
ZKR eSB Sb 13 00 07.4 -0.8
ZKR Zakros 0.24 345 ePb Pb 13 00 03.4 -0.8
ZKR eSb Sb 13 00 07.4 -0.8
ZKR eS Sb 13 00 08.2 0.0
NPS Neapolis 0.68 305 ePN Pb 13 00 11.4 -0.1
NPS eSN Sn 13 00 21.1 -2.1
NPS Neapolis 0.68 305 ePn Pb 13 00 11.4 -0.1
NPS eSn Sn 13 00 21.1 -2.1
LAST Lasithi 0.73 293 ePN Pb 13 00 12.0 -0.4
LAST Lasithi 0.73 293 ePn Pb 13 00 12.0 -0.4
SIVA Sivas 1.23 277 eP Pg 13 00 21.8 0.0
SIVA Sivas 1.23 277 ePN Pg 13 00 22.3 +0.5
SIVA Sivas 1.23 277 eP Pg 13 00 21.8 0.0
SIVA Sivas 1.23 277 ePn Pg 13 00 22.3 +0.5
SANT Santorini 1.64 336 eP Pb 13 00 26.9 -1.0
SANT Santorini 1.64 336 ePN Pb 13 00 27.3 -0.6
SANT Santorini 1.64 336 eP Pb 13 00 26.9 -1.0
SANT Santorini 1.64 336 ePn Pb 13 00 27.3 -0.6
GVD Gavdhos 1.81 269 eP Pb 13 00 29.7 -1.2
GVD Gavdhos 1.81 269 eP Pb 13 00 29.7 -1.2
NIS1 Nisyros Isl. 1.87 22 eP Pn 13 00 29.8 +0.5
NIS1 Nisyros Isl. 1.87 22 eP Pn 13 00 29.8 +0.5
ARG Arkhangelos 2.00 48 ePN Pn 13 00 30.8 -0.4
ARG Arkhangelos 2.00 48 ePn Pn 13 00 30.8 -0.4
APE Apeiranthos 2.27 344 eP Pn 13 00 35.9 +0.9
APE Apeiranthos 2.27 344 eP Pn 13 00 35.9 +0.9
BODT Bodrum 2.33 20 eP Pn 13 00 36.6 +0.9
BODT Bodrum 2.33 20 eP Pn 13 00 36.6 +0.9
DALY Dalyan (Mu˘la 2.72 44 eP Pn 13 00 40.9 -0.2
DALY Dalyan (Mu˘la 2.72 44 eP Pn 13 00 40.9 -0.2
YER Yerkesik 2.77 35 eP Pn 13 00 42.1 +0.3
YER Yerkesik 2.77 35 eP Pn 13 00 42.1 +0.3
AYDB Zeytinkoy-Aydi 3.32 22 eP Pn 13 00 50.3 +0.8
AYDB Zeytinkoy-Aydi 3.32 22 eP Pn 13 00 50.3 +0.8
ELL Elmali 3.48 57 eP Pn 13 00 51.5 -0.1
ELL Elmali 3.48 57 eP Pn 13 00 51.5 -0.1
KULA Kula-Manisa 4.10 27 eP Pn 13 01 00.9 +0.9
KULA Kula-Manisa 4.10 27 eP Pn 13 01 00.9 +0.9
SIGR SIGRI 4.34 355 eP Pn 13 01 04.6 +1.3
SIGR SIGRI 4.34 355 eP Pn 13 01 04.6 +1.3
SUTC Sutluce-Ispart 4.61 54 eP Pn 13 01 07.6 +0.5
SUTC Sutluce-Ispart 4.61 54 eP Pn 13 01 07.6 +0.5
ALT Altintas 5.17 35 eP Pn 13 01 16.2 +1.4
ALT Altintas 5.17 35 eP Pn 13 01 16.2 +1.4
TVSB Tavsanli 5.22 28 eP Pn 13 01 17.1 +1.6
TVSB Tavsanli 5.22 28 eP Pn 13 01 17.1 +1.6
ONI Oni 15.43 55 S S 13 06 43.5 +2.0
TORD Torodi Ar. Bea 31.03 232 P P 13 06 16.4 +1.3
baz=35,slow=8.8
KURBB Kurchatov Arra 40.58 51 P P 13 07 35.9 -0.6
baz=281,slow=9.4
MKAR Makanchi Array 43.15 56 P P 13 07 58.3 +0.5
baz=267,slow=8.7
ZALV Zalesovo Beam 44.53 46 P P 13 08 07.7 -0.9
baz=272,slow=9.6

IDC 06 13:17:39.8±1.2,23.88N×142.61E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.4/37,mbtmp3.5/5,Error ellipse: s-maj=56.8km s-min=23.8km az=88.0,Volcano Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 44.29 191 P P 13 25 51.0 -0.6
0.2nm,0.3s,baz=6.8,slow=8.6,SNR=8.9
ASAR Alice Springs 48.01 191 P P 13 26 21.2 +0.3
0.4nm,1.0s,baz=19,slow=7.0,SNR=3.4
MKAR Makanchi Array 52.85 312 P P 13 26 57.0 -0.4
0.4nm,1.0s,baz=70,slow=8.3,SNR=3.0
YKA Yellowknife Ar 74.79 28 P P 13 29 21.4 -0.2
0.2nm,0.7s,baz=292,slow=5.9,SNR=3.7
FINES FINESS Array B 81.00 334 P P 13 29 56.6 +0.5
2.8nm,1.1s,baz=61,slow=3.5,SNR=2.8

IDC 06 13:21:54.5±1.9,8.10S×129.62E,h0km,mb3.3/1, mb1 3.2/3,mb1mx3.1/26,mbtmp3.1/3,ML3.1/2,Error ellipse: s-maj=98.8km s-min=27.6km az=67.0,Timor Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 12.63 159 Pn Pn 13 24 55.0 -0.6
0.1nm,0.3s,baz=338,slow=13,SNR=13
WRA Sn Sn 13 27 19.9 +2.8
0.1nm,0.3s,baz=349,slow=24,SNR=5.0
ASAR Alice Springs 16.01 166 Pn Pn 13 25 41.3 0.0
0.1nm,0.3s,baz=340,slow=9.1,SNR=8.9
MKAR Makanchi Array 68.94 327 P P 13 33 01.5 0.0
0.3nm,0.7s,baz=147,slow=6.8,SNR=2.5

NIED 06 13:49:00,29.20N×130.60E,h32km,Mw4.1 Best double couple: M_0 1.84000×10^15 NP1:ϕ_s151.00000°,δ76.00000°, λ-2.00000°. NP2:ϕ_s242.00000°,δ88.00000°, λ-166.00000°.
ISCJB 06 13:49:05.0±0.6,29.16N±0.03×130.64E±0.07,h47km±4km, mb3.5/11,MS3.2/2,Error ellipse: s-maj=10.2km s-min=3.3km az=22.9
JMA 06 13:49:04.8,29.16N×130.63E,h62km±2km,M3.6
IDC 06 13:49:06.3±3.3,29.20N×130.47E,h36km±28km,mb3.5/11, mb1 3.6/13,mb1mx3.5/34,mbtmp3.7/13,ML2.7/3,MS3.2/3, Ms1 3.4/2,ms1mx2.7/25,Error ellipse: s-maj=23.9km s-min=15.1km az=95.0
ISC 06 13:49:06.2±0.7,29.17N±0.04×130.59E±0.08,h39km±5km, n39,σ0.50/54,mb3.5/11,Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNN Nakanoshima 0.92 317 P Pn 13 49 22.4 -0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN				S	Sn	13 49 35.2	+0.6
JZK	Kikaishima	1.01	213	P	Pn	13 49 23.3	-0.5
JZK				S	Sn	13 49 37.0	+0.2
JYAK	Yakushimahirau	1.07	356	P	Pn	13 49 24.2	-0.4
JYAK				eS	Sn	13 49 39.1	+0.8
JAM	Amami Oshima	1.15	229	P	Pn	13 49 25.2	-0.5
JAM				eS	Sn	13 49 41.0	+0.8
JTAJ	Takarajima	1.21	270	P	Pn	13 49 26.7	+0.1
JKC	Kuchinoerabu	1.33	345	P	Pn	13 49 28.0	-0.3
JKC				eS	Sn	13 49 44.9	+0.1
JTN	Tanegashima 3	1.52	13	P	Pn	13 49 30.2	-0.7
JTN				eS	Sn	13 49 49.3	-0.1
JAMN	Amaminishikomi	1.55	234	P	Pn	13 49 30.9	-0.3
JAMN				eS	Sn	13 49 50.2	+0.1
JTK	Tokunoshima	2.00	227	P	Pn	13 49 37.5	+0.1
JTK				eS	Sn	13 50 01.5	+0.3
JTSR	Tashiro 2	2.01	8	P	Pn	13 49 37.6	0.0
JTSR				eS	Sn	13 50 01.5	-0.1
JSU	Suzuyama	2.33	357	P	Pn	13 49 41.4	-0.7
JSU				eS	Sn	13 50 09.3	-0.2
JNAR	Kushima--Naru	2.42	14	P	Pn	13 49 43.2	-0.1
JNAR				eS	Sn	13 50 11.4	-0.3
JOKE	Okinoerabujima	2.53	225	P	Pn	13 49 44.7	-0.1
JOKE				eS	Sn	13 50 14.6	+0.2
JSJ	Shimokoshiki	2.61	343	P	Pn	13 49 45.5	-0.4
JSJ				S	Sn	13 50 17.4	+1.0
JOW	Kunigami	3.10	222	Pn	Pn	13 49 52.4	-0.2
	0.2nm,0.3s,baz=52,slow=19,SNR=4.3						
JOW				Sn	Sn	13 50 27.8	-0.6
	0.3nm,0.3s,baz=72,slow=20,SNR=3.9						
JNU	Nakatsue	3.95	4	Pn	Pn	13 50 04.5	+0.3
	2.6nm,0.3s,baz=193,slow=13,SNR=24						
JNU				Sn	Sn	13 50 49.2	-0.1
	1.7nm,0.3s,baz=219,slow=17,SNR=3.8						
MJAR	Matsushiro Arr	9.75	39	Pn	Pn	13 51 24.4	+0.6
	0.3nm,0.3s,baz=239,slow=14,SNR=3.6						
SONM	Songino Array	26.39	322	P	P	13 54 37.8	-1.1
	0.4nm,0.6s,baz=141,slow=10,SNR=3.7						
CMAR	Chiang Mai Arr	30.76	257	P	P	13 55 18.4	+0.3
	0.3nm,0.6s,baz=54,slow=8.1,SNR=3.0						
CMAR				LR	LR	14 08 45.9	
	comp=Z,44nm,19.1s,baz=100,slow=38						
ODAN	Odare	38.05	277	eP	P	13 56 21.0	-0.3
	5.3nm,0.3s						
JIRN	Jiri	38.91	279	eP	P	13 56 28.8	+0.2
GUN	Gumba	39.12	279	eP	P	13 56 30.4	0.0
	14nm,0.4s						
PKI	Pulchoki	39.60	279	eP	P	13 56 33.9	-0.5
	7.0nm,0.4s						
PKIN	Phulchoki	39.61	279	eP	P	13 56 33.9	-0.5
	7.1nm,0.4s						
KKN	Kakani	39.66	279	eP	P	13 56 34.5	-0.3
	8.2nm,0.4s						
DMN	Daman	39.86	279	eP	P	13 56 35.8	-0.6
	5.4nm,0.5s						
GKN	Gorkha	40.17	280	eP	P	13 56 38.4	-0.5
	7.2nm,0.5s						
DANN	Dangsing	40.85	281	eP	P	13 56 44.5	-0.1
	13nm,0.6s						
KOLN	Koldanda	41.12	280	eP	P	13 56 46.5	-0.3
MKAR	Makanchi Array	41.23	309	P	P	13 56 46.8	-0.4
	0.5nm,0.6s,baz=94,slow=9.6,SNR=8.1						
MKAR				LR	LR	14 14 55.6	
	comp=Z,40nm,19.3s,baz=94,slow=38						
ZALV	Zalesovo Beam	41.26	320	P	P	13 56 46.4	-0.9
	0.4nm,0.4s,baz=101,slow=7.8,SNR=2.7						
PYUN	Piuthan	41.57	281	eP	P	13 56 50.4	-0.1
	21nm,0.5s						
WRA	Warramunga Arr	48.96	175	P	P	13 57 48.6	-0.1
	0.5nm,0.8s,baz=354,slow=8.1,SNR=3.5						
ASAR	Alice Springs	52.63	176	P	P	13 58 17.1	+0.7
	0.3nm,0.8s,baz=11,slow=13,SNR=6.4						
KBZ	Khabaz	68.93	309	P	P	14 00 07.1	0.0
	2.6nm,0.8s,baz=349,slow=11,SNR=4.4						
FINES	FINESS Array B	71.34	331	P	P	14 00 21.2	-0.3
	1.1nm,0.7s,baz=76,slow=4.7,SNR=6.4						
AKASG	Malin Array Be	74.66	320	P	P	14 00 41.2	-0.1
	0.9nm,0.4s,baz=58,slow=6.0,SNR=5.1						
YKA	Yellowknife Ar	74.98	26	P	P	14 00 44.4	+1.4
	0.1nm,0.7s,baz=290,slow=6.1,SNR=2.8						
BRTR	Keskin Array B	76.88	308	P	P	14 00 55.1	+0.6
	1.3nm,0.7s,baz=103,slow=5.3,SNR=6.8						

IDC 06 14:27:31.7±4.4,23.99N×94.47E,h96km±42km,mb2.9/2, mb1 3.1/3,mb1mx2.8/39,mbtmp3.1/3,Error ellipse: s-maj=73.4km s-min=22.3km az=69.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.90	142	P	Pn	14 29 10.3	0.0
	0.3nm,0.3s,baz=318,slow=13,SNR=6.4						
MKAR	Makanchi Array	24.77	340	P	P	14 32 44.3	-0.1
	0.1nm,0.4s,baz=158,slow=8.1,SNR=4.2						
SONM	Songino Array	25.62	19	P	P	14 32 52.4	+0.1
	baz=205,slow=6.4						
WRA	Warramunga Arr	58.44	135	P	P	14 37 17.7	-0.1
	0.3nm,0.7s,baz=322,slow=7.0,SNR=4.5						

IDC 06 14:34:50.8±1.3,11.09N×122.96E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.2/34,mbtmp3.5/4,Error ellipse: s-maj=60.3km s-min=23.3km az=75.0,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.80	160	P	P	14 41 25.3	-0.8
	0.1nm,0.3s,baz=338,slow=9.1,SNR=8.9						
ASAR	Alice Springs	36.16	163	P	P	14 41 55.8	+0.7
	0.1nm,0.3s,baz=349,slow=15,SNR=4.5						
MKAR	Makanchi Array	49.43	324	P	P	14 43 42.6	-0.1
	0.2nm,0.8s,baz=113,slow=3.7,SNR=3.9						
PETK	Petropavlovsk-	50.30	27	P	P	14 43 48.9	-0.2
	3.5nm,0.9s,baz=234,slow=6.9,SNR=6.3						

IDC 06 14:51:40.8±1.1,12.38N×144.14E,h0km,mb3.3/7, mb1 3.6/7,mb1mx3.4/32,mbtmp3.3/7,Error ellipse: s-maj=36.7km s-min=21.7km az=96.0
ISCJB 06 14:51:43.1±0.9,12.4N±0.1×144.1E±0.2,h27km,mb4.7/7, Error ellipse: s-maj=31.1km s-min=18.1km az=4.5
ISC 06 14:51:45.0±1.1,12.4N±0.2×144.1E±0.2,h27km,n13, σ0.44/7,mb3.4/7,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	22.60	72	T	T	15 20 09.4	
	baz=259,slow=73,SNR=5.9						
H11S1	WAKE ISLAND Hy	22.61	72	T	T	15 20 12.3	
	baz=259,slow=73,SNR=4.9						
H11S2	WAKE ISLAND Hy	22.61	72	T	T	15 20 12.0	
	baz=259,slow=73,SNR=8.5						
H11N1	WAKE ISLAND Hy	23.07	69	T	T	15 20 45.0	
	baz=258,slow=75,SNR=25						
H11N2	WAKE ISLAND Hy	23.08	69	T	T	15 20 49.9	
	baz=258,slow=75,SNR=22						
H11N3	WAKE ISLAND Hy	23.09	69	T	T	15 20 46.4	
	baz=258,slow=75,SNR=19						
WRA	Warramunga Arr	33.51	197	P	P	14 58 22.1	-0.3
	0.6nm,0.7s,baz=20,slow=9.8,SNR=7.6						
ASAR	Alice Springs	37.17	196	P	P	14 58 54.3	+0.4
	0.6nm,0.9s,baz=17,slow=8.4,SNR=6.1						
CMAR	Chiang Mai Arr	43.87	284	P	P	14 59 49.5	0.0
	0.4nm,0.4s,baz=77,slow=9.3,SNR=4.3						
SONM	Songino Array	47.31	326	P	P	15 00 16.8	+0.4
	0.3nm,0.8s,baz=111,slow=6.3,SNR=2.7						
MKAR	Makanchi Array	61.86	317	P	P	15 02 01.6	-0.4
	0.1nm,0.6s,baz=108,slow=4.7,SNR=2.7						
ILAR	Eielson Array	69.99	25	P	P	15 02 53.5	-0.4
	0.3nm,0.8s,baz=250,slow=5.7,SNR=5.2						
YKA	Yellowknife Ar	84.29	27	P	P	15 04 14.5	+0.4
	0.1nm,0.6s,baz=294,slow=5.3,SNR=3.2						

IDC 06 15:33:00.5±1.5,48.00S×99.88E,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.7/16,mbtmp3.7/4,MS3.7/8,Ms1 3.7/8, ms1mx3.4/16,Error ellipse: s-maj=51.8km s-min=26.2km az=110.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	16.86	44	T	T	15 54 26.7	
	baz=215,slow=74,SNR=40						
H01W1	Cape Leeuwin H	16.88	44	T	T	15 54 25.6	
	baz=215,slow=74,SNR=68						
H01W3	Cape Leeuwin H	16.88	44	T	T	15 54 27.9	
	baz=215,slow=74,SNR=59						
NWAO	Narrogin (SRO)	19.96	47	LR	LR	15 43 20.9	
	comp=Z,102nm,19.3s,baz=220,slow=31						
STKA	Stephens Creek	35.33	78	LR	LR	15 51 30.5	
	comp=Z,83nm,21.0s,baz=207,slow=31						
ASAR	Alice Springs	36.29	60	P	P	15 40 05.1	-0.6
	0.7nm,0.8s,baz=218,slow=7.8,SNR=7.5						
ASAR				LR	LR	15 53 20.7	
	comp=Z,55nm,18.1s,baz=212,slow=34						
VNDA	Vanda	37.64	162	LR	LR	15 54 21.2	
	comp=Z,107nm,21.8s,baz=308,slow=34						
WRA	Warramunga Arr	39.45	57	P	P	15 40 32.8	+0.3
	1.6nm,0.9s,baz=218,slow=9.1,SNR=14						
QSPA	South Pole Qui	42.14	180	P	P	15 40 54.1	-0.2
	1.9nm,1.0s,baz=327,slow=8.2,SNR=12						
H08S2	Diego Garcia H	46.45	321	T	T	16 30 52.8	
	baz=155						
H08S1	Diego Garcia H	46.45	321	T	T	16 30 51.7	
	baz=155						
H08S3	Diego Garcia H	46.47	321	T	T	16 30 48.9	
	baz=155						
BOSA	Boshof	59.36	260	LR	LR	16 03 21.1	
	comp=Z,54nm,20.2s,baz=194,slow=31						
CMAR	Chiang Mai Arr	66.16	359	P	P	15 43 49.6	0.0
	0.5nm,0.8s,baz=190,slow=5.9,SNR=5.1						
CMAR				LR	LR	16 09 21.8	
	comp=Z,41nm,20.0s,baz=158,slow=33						
AFI	Afiamalu	78.71	98	LR	LR	16 13 25.5	
	comp=Z,187nm,19.4s,slow=31						
PLCA	Paso Flores	91.24	187	LR	LR	16 25 12.6	
	comp=Z,45nm,20.8s,baz=282,slow=34						
NVAR	Mina Array Bea	150.84	95	PKPab	PKPab	15 53 01.8	-0.2
	0.5nm,0.6s,baz=216,slow=4.0,SNR=3.7						

DJA 06 16:18:28.6±0.7,8°S±6°×12°3E±°,h10km,M4.1/4,mb4.9/1, mB5.0/1,MLv3.7/4,Mw(mB)4.4/1
IDC 06 16:18:31.8±4.2,8.46S×123.24E,h106km±31km,mb3.4/2, mb1 3.3/4,mb1mx3.2/26,mbtmp3.6/4,Error ellipse: s-maj=246.6km s-min=24.4km az=58.0
ISC 06 16:18:31.3±1.0,8.7S±0.1×123.0E±0.1,h100km,n13, σ1.71/13,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMRI	Maumere	0.76	277	P	Pn	16 18 49.2	0.0
MMRI				S	Sn	16 19 01.6	-1.1
SOEI	Soe	1.62	129	P	Pn	16 19 04.7	+5.6
SOEI				S	Sn	16 19 35.5	+15
SOEI	Soe	1.62	129	P	Pn	16 19 04.8	+5.7
	baz=1.3,SNR=24						
SOEI				S	Sn	16 19 13.1	-7.2
	baz=1.3,SNR=5.3						
WSI	Waingapu	2.82	250	P	Pn	16 19 16.1	+1.5
	baz=2.7,SNR=3.5						
WSI				S	Sn	16 19 43.3	-4.8
	baz=2.7,SNR=3.4						
KNRA	Kununurra	8.91	141	P	Pn	16 20 37.8	+0.5
	baz=8.4,SNR=16						
KNRA				S	Sn	16 22 12.4	-3.6
	baz=8.4,SNR=3.6						
MTN	Manton Dam	8.98	118	P	Pn	16 20 41.0	+2.9
	baz=8.6,SNR=30						
KDU	Kakadu	10.11	114	P	Pn	16 20 55.8	+2.3
	baz=9.8,SNR=8.4						
WRA	Warramunga Arr	15.64	137	P	Pn	16 22 05.3	-0.9
	0.4nm,0.3s,baz=310,slow=12,SNR=14						
WRA				S	Sn	16 24 50.6	-8.7
	0.2nm,0.3s,baz=122,slow=12,SNR=2.1						
WRKA	Warakurna	16.99	163	P	P	16 22 24.3	+1.2
	baz=16,SNR=4.1						
ASAR	Alice Springs	18.16	146	P	Pn	16 22 38.1	+1.1
	0.2nm,0.3s,baz=323,slow=12,SNR=16						
ASAR				S	S	16 25 49.0	-10
	0.1nm,0.3s,baz=319,slow=23,SNR=3.0						
ASAR				ScP	ScP	16 30 30.5	-1.3
	baz=338,slow=2.9,SNR=4.2						
QIS	Mount Isa	19.89	128	P	Pn	16 22 58.5	+1.0
	baz=20,SNR=6.2						
MKAR	Makanchi Array	66.08	331	P	P	16 29 06.9	-0.7
	0.3nm,0.5s,baz=143,slow=8.3,SNR=7.4						
ZALV	Zalesovo Beam	70.26	337	P	P	16 29 32.4	-1.1
	0.5nm,0.4s,baz=132,slow=5.0,SNR=3.1						

MAN 06 16:52:38,16.16N×119.84E,h22km,mb4.9,ML3.8,MS3.8
ISCJB 06 16:52:41.1±0.7,16.35N±0.06×119.99E±0.06,h33km, mb3.1/3,Error ellipse: s-maj=9.6km s-min=6.9km az=33.0
IDC 06 16:52:45.1±3.5,16.15N×120.21E,h76km±37km,mb3.0/4, mb1 3.2/4,mb1mx2.9/34,mbtmp3.3/4,ML4.2/1,Error ellipse: s-maj=52.4km s-min=21.5km az=59.0
ISC 06 16:52:40.2±0.8,16.21N±0.05×120.00E±0.06,h33km,n13, σ1.19/16,mb3.2/3,2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOLP	Bolinao	0.19	335	eP	Pn	16 52 45.2	-0.9
BCPH	Baguio City Da	0.59	73	⇑iP	Pn	16 52 50.9	-1.4
BCPH				iS	Sb	16 52 59.7	-0.9
BALP	Baler	1.59	107	eP	Pn	16 53 06.9	+0.9
BALP				eS	Sb	16 53 28.5	-0.2
ABRA	Dolores	1.59	25	eP	Pn	16 53 06.4	+0.4
ABRA				eS	Sb	16 53 29.0	+0.3
CAUP	Cauayan	1.90	67	eP	Pb	16 53 13.7	-0.5
APYP	Conner	2.03	36	eP	Pn	16 53 12.8	+0.7
PIP	Pasuquin	2.19	16	⇑iP	Pn	16 53 14.0	-0.3
TGY	Tagaytay City	2.28	156	P	Pb	16 53 19.1	-1.7
	66nm,0.3s,baz=287,slow=8.1,SNR=2.3						
TGY				S	Sb	16 53 50.1	+1.5
	58nm,0.3s,baz=121,slow=21,SNR=2.1						
CMAR	Chiang Mai Arr	20.22	279	P	Pn	16 57 16.4	+1.7
	0.6nm,0.3s,baz=89,slow=8.4,SNR=8.4						
SONM	Songino Array	33.47	343	P	P	16 59 18.2	+1.8
	0.2nm,0.5s,baz=142,slow=7.3,SNR=3.2						
ASAR	Alice Springs	41.90	161	P	P	17 00 27.1	-0.6
	0.4nm,0.8s,baz=343,slow=7.9,SNR=2.2						
MKAR	Makanchi Array	43.63	322	P	P	17 00 43.1	+1.5
	0.1nm,0.3s,baz=106,slow=11,SNR=4.3						
ONI	Oni	69.38	310	P	P	17 03 43.5	-1.4

IDC 06 16:53:45.6±1.4,4.99S×133.56E,h0km,mb3.9/4, mb1 4.1/6,mb1mx3.8/26,mbtmp3.9/6,ML3.9/2,MS3.6/2, Ms1 3.6/2,ms1mx2.9/25,Error ellipse: s-maj=55.7km s-min=27.4km az=81.0
ISCJB 06 16:53:46.0±0.6,4.86S±0.04×133.67E±0.08,h25km, mb3.7/4,MS3.5/1,Error ellipse: s-maj=11.2km s-min=5.5km az=172.0
DJA 06 16:53:48.9±0.9,5°S±4°×13°4E±°,h19km±12km,M4.6/9, mb5.0/4,mB5.2/2,MLv4.3/9,Mw(mB)4.6/2
ISC 06 16:53:47.2±0.8,4.73S±0.06×133.72E±0.09,h25km,n23, σ2.08/24,mb3.7/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	1.06	359	P	Pn	16 54 05.8	-0.7
FAKI	Fak Fak	2.32	321	P	Pn	16 54 22.9	-1.0
FAKI				S	Sn	16 54 47.5	-4.1
FAKI	Fak Fak	2.32	321	P	Pn	16 54 23.3	-0.6
	baz=2.3,SNR=12						
FAKI				S	Sn	16 54 48.4	-3.2
	baz=2.3,SNR=5.0						
BNDI	Bandanaira	3.81	273	P	Pn	16 54 44.8	+0.5
SWI	Sorong	4.56	327	P	Pn	16 54 54.8	+0.1
MSAI	Masohi	4.97	286	P	Pn	16 55 01.2	+0.8
WAMI	Wamena	5.05	81	P	Pn	16 55 09.2	+7.8
	133nm,0.7s,0.5nm						
NLAI	Namlea	6.77	282	P	Pn	16 55 26.8	+1.8
KDU	Kakadu	8.00	189	P	Pn	16 55 42.7	+0.7
	baz=8.1,SNR=40						
KDU				S	Sn	16 57 10.2	-1.6
	baz=8.1,SNR=4.9						
SANI	Sanana	8.16	289	P	Pn	16 55 41.8	-2.4
	23nm,0.8s,0.1nm						
MTN	Manton Dam	8.46	197	P	Pn	16 55 48.5	+0.2
	baz=8.5,SNR=51						
MTN				S	Sn	16 57 23.8	+0.8
	baz=8.5,SNR=5.6						
SOEI	Soe	10.62	241	P	Pn	16 56 18.0	0.0
	baz=11,SNR=11						
KNRA	Kununurra	11.92	204	P	Pn	16 56 33.7	-2.0
	baz=12,SNR=40						
COEN	Coen	13.08	135	P	Pn	16 56 50.0	-1.6
	baz=13,SNR=4.1						
WRA	Warramunga Arr	15.13	178	Pn	Pn	16 57 16.1	-3.4
	0.4nm,0.3s,baz=354,slow=13,SNR=16						
WRA				Sn	Sn	16 59 55.0	-12
	0.5nm,0.3s,baz=359,slow=23,SNR=9.4						
QIS	Mount Isa	16.74	161	P	P	16 57 44.3	+1.9
	baz=17,SNR=4.6						
MTSU	Mount Surprise	16.88	143	P	P	16 57 44.8	+1.0
	baz=17,SNR=7.9						
ASAR	Alice Springs	18.83	179	P	P	16 58 04.8	-0.5
	0.7nm,0.3s,baz=360,slow=10,SNR=42						
ASAR				S	Sn	17 01 26.1	-10
	0.1nm,0.3s,baz=0.8,slow=28,SNR=6.8						
ASAR				LR	LR	17 06 30.2	
	comp=Z,182nm,19.7s,baz=348,slow=41						
STKA	Stephens Creek	28.00	166	LR	LR	17 11 36.1	
	comp=Z,120nm,19.6s,baz=15,slow=38						
CMAR	Chiang Mai Arr	41.30	305	P	P	17 01 34.0	+2.9
	0.7nm,0.9s,baz=133,slow=8.8,SNR=4.3						
PETK	Petropavlovsk-	61.08	16	P	P	17 04 03.5	+4.6
	2.9nm,0.9s,baz=151,slow=3.3,SNR=4.6						
MKAR	Makanchi Array	68.44	325	P	P	17 04 49.7	+2.6
	0.2nm,0.3s,baz=111,slow=7.8,SNR=5.9						
ZALV	Zalesovo Beam	71.26	332	P	P	17 05 07.5	+3.2
	0.5nm,0.7s,baz=140,slow=3.4,SNR=2.7						

IDC 06 17:17:05.4±10.0,6.12S×130.52E,h98km±104km,mb3.4/3, mb1 3.6/5,mb1mx3.3/28,mbtmp3.8/5,ML4.0/2,MS2.8/1, Ms1 3.0/1,ms1mx2.4/10,Error ellipse: s-maj=109.9km s-min=31.1km az=66.0
ISCJB 06 17:17:08.7±0.4,6.24S±0.03×130.68E±0.05,h150km, mb3.5/3,Error ellipse: s-maj=7.4km s-min=4.3km az=171.2
DJA 06 17:17:10.8±0.5,6°S±4°×13°1E±°,h157km±10km,M4.3/9, mb4.4/3,mB5.5/2,MLv4.2/9,Mw(mB)5.0/2
ISC 06 17:17:09.8±0.7,6.23S±0.05×130.73E±0.07,h150km,n23, σ1.40/23,mb3.7/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.84	162	P	Pn	17 17 47.1	+4.0
BNDI	Bandanaira	1.88	334	P	Pn	17 17 44.4	+0.8
BNDI				S	Sn	17 18 10.6	+1.1
MSAI	Masohi	3.38	328	P	Pn	17 18 01.3	-0.7
FAKI	Fak Fak	3.62	25	P	Pn	17 18 05.5	+0.3
FAKI				S	Sn	17 18 46.4	-1.7
NLAI	Namlea	4.68	309	P	Pn	17 18 23.0	+4.0
SWI	Sorong	5.35	6	P	Pn	17 18 26.8	-1.2
	40nm,0.6s,12μm1.6nm						
SANI	Sanana	6.29	311	P	Pn	17 18 39.0	-1.4
	15nm,2.4s,0.1nm						
MTN	Manton Dam	6.59	177	P	Pn	17 18 45.8	+1.4
	baz=6.0,SNR=136						
MTN				S	Sn	17 19 57.4	-1.2
	baz=6.0,SNR=9.3						
KDU	Kakadu	6.65	165	P	Pn	17 18 46.5	+1.2
	baz=6.2,SNR=104						
KDU				S	Sn	17 19 58.3	-1.7
	baz=6.2,SNR=7.3						
SOEI	Soe	7.30	241	P	Pn	17 18 54.0	0.0
	baz=6.3,SNR=7.5						
SOEI				S	Sn	17 20 13.5	-2.3
	baz=6.3,SNR=4.8						
KNRA	Kununurra	9.59	191	P	Pn	17 19 23.8	-0.6
	baz=8.8,SNR=27						
KNRA				S	Sn	17 21 03.2	-7.6
	baz=8.8,SNR=10.0						
FITZ	Fitzroy Crossi	12.81	202	P	Pn	17 20 04.7	-1.9
	baz=12,SNR=12						
FITZ				S	Sn	17 22 17.5	-11
	baz=12,SNR=4.9						
WRA	Warramunga Arr	14.08	166	P	Pn	17 20 21.1	-1.8
	0.7nm,0.3s,baz=348,slow=13,SNR=25						
WRA				S	Sn	17 22 50.7	-8.3
	1.2nm,0.3s,baz=330,slow=23,SNR=7.4						
COEN	Coen	14.46	123	S	Sn	17 23 05.9	-2.2
	baz=15,SNR=6.0						
QIS	Mount Isa	16.65	150	P	Pn	17 21 04.0	+9.4
	baz=16,SNR=3.2						
ASAR	Alice Springs	17.61	170	P	Pn	17 21 07.6	+1.5
	0.7nm,0.3s,baz=350,slow=11,SNR=37						
ASAR				S	S	17 24 14.0	-6.5
	0.1nm,0.3s,baz=347,slow=24,SNR=3.3						
WRKA	Warakurna	18.85	187	P	P	17 21 20.1	+1.6
	baz=18,SNR=11						
WRKA				S	S	17 24 45.5	+0.5
	baz=18,SNR=3.5						
MEEK	Meekatharra	23.35	208	P	P	17 22 05.6	+0.7
	baz=22,SNR=3.5						
STKA	Stephens Creek	27.47	160	P	P	17 22 43.5	+1.5
	1.1nm,0.4s,baz=331,slow=7.8,SNR=11						
STKA	Stephens Creek	27.47	160	P	P	17 22 44.1	+2.1
	baz=27,SNR=9.8						
CMAR	Chiang Mai Arr	39.80	309	LR	LR	17 44 59.1	
	comp=Z,11nm,18.0s,baz=0.0,slow=42						
SONM	Songino Array	57.95	341	P	P	17 26 46.6	0.0
	0.4nm,1.1s,baz=159,slow=4.3,SNR=2.2						
MKAR	Makanchi Array	67.98	326	P	P	17 27 52.6	-0.1
	0.4nm,0.3s,baz=114,slow=7.3,SNR=16						

IDC 06 17:30:32.5±7.6,34.59N×24.03E,h0km,mb3.2/1, mb1 3.3/3,mb1mx3.1/30,mbtmp3.3/3,ML3.3/2,Error ellipse: s-maj=132.2km s-min=45.3km az=22.0
ATH 06 17:30:35.8,35.16N×24.01E,h18km±2km,MD3.3/8
ISCJB 06 17:30:37.1±0.6,35.13N±0.03×24.08E±0.04,h11km±5km, mb3.1/1,Error ellipse: s-maj=6.0km s-min=4.3km az=137.7
CSEM 06 17:30:37.3±0.2,35.14N×24.08E,h10km,ML2.8,Error ellipse: s-maj=5.7km s-min=4.2km az=44.0
THE 06 17:30:37.1,35.14N×24.08E,h2km±2km,ML2.8/2,Error ellipse: s-maj=2.9km s-min=0.8km az=139.0
ISC 06 17:30:37.1±0.9,35.15N±0.02×24.08E±0.03,h11km±7km, n36,σ0.74/53,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAM	Vamos	0.28	21	P	Pg	17 30 42.6	-0.2
VAM				S	Sg	17 30 47.4	+0.8
VAM	Vamos	0.28	21	ePB	Pg	17 30 42.7	-0.1
VAM				eSB	Sg	17 30 47.5	+0.8
VAM	Vamos	0.28	21	ePb	Pg	17 30 42.7	-0.1
VAM				S	Sg	17 30 47.4	+0.8
GVD	Gavdhos	0.30	178	P	Pg	17 30 42.8	-0.5
GVD				S	Sg	17 30 47.9	+0.5
GVD	Gavdhos	0.30	178	ePG	Pb	17 30 44.0	-0.6
GVD				eSG	Sg	17 30 48.0	+0.7
GVD	Gavdhos	0.30	178	ePB	Pg	17 30 42.9	-0.4
GVD	Gavdhos	0.30	178	ePb	Pg	17 30 42.9	-0.4
GVD	Gavdhos	0.30	178	ePg	Pb	17 30 44.0	-0.6
GVD				S	Sg	17 30 47.9	+0.5
SIVA	Sivas	0.61	102	P	Pg	17 30 48.4	-0.7
SIVA				S	Sb	17 30 58.3	-0.3
SIVA	Sivas	0.61	102	ePB	Pg	17 30 48.3	-0.8
SIVA				eSN	Sb	17 30 58.8	+0.2
SIVA	Sivas	0.61	102	P	Pg	17 30 48.4	-0.7
SIVA				S	Sb	17 30 58.3	-0.3
ANKY	Antikythira Is	0.96	319	P	Pg	17 30 54.9	-0.7
ANKY				S	Sb	17 31 08.6	+0.1
ANKY	Antikythira Is	0.96	319	P	Pg	17 30 54.9	-0.7
ANKY				S	Sb	17 31 08.6	+0.1
LAST	Lasithi	1.15	89	P	Pb	17 30 57.9	-1.2
LAST				S	Sb	17 31 14.5	+0.4
LAST	Lasithi	1.15	89	ePB	Pb	17 30 57.9	-1.2
LAST	Lasithi	1.15	89	P	Pb	17 30 57.9	-1.2
LAST				S	Sb	17 31 14.5	+0.4
NPS	Neapolis	1.26	84	P	Pn	17 31 00.8	0.0
NPS				S	Sn	17 31 18.5	+0.8
NPS	Neapolis	1.26	84	ePN	Pn	17 31 00.0	-0.8
NPS				eSN	Sn	17 31 18.6	+0.8
NPS	Neapolis	1.26	84	ePn	Pn	17 31 00.0	-0.8
NPS	Neapolis	1.26	84	P	Pn	17 31 00.8	0.0
NPS				eSn	Sn	17 31 18.6	+0.8
KYTH	Kithira	1.41	324	P	Pn	17 31 03.3	+0.4
KYTH	Kithira	1.41	324	P	Pn	17 31 03.3	+0.4
SANT	Santorini	1.66	42	ePN	Pb	17 31 07.2	-0.6
SANT	Santorini	1.66	42	ePN	Pn	17 31 06.8	+0.5
SANT	Santorini	1.66	42	ePn	Pn	17 31 06.8	+0.5
ZKR	Zakros	1.75	90	ePN	Pn	17 31 08.3	+0.8
ZKR	Zakros	1.75	90	ePn	Pn	17 31 08.3	+0.8
VLI	Veliai	1.82	330	P	Pn	17 31 09.2	+0.8

VLI S Sb 17 31 32.9 -0.4
VLI Veliai 1.82 330 P Pn 17 31 09.2 +0.8
VLI S Sb 17 31 32.9 -0.4
APE Apeiranthos 2.25 31 ePN Pb 17 31 16.5 -1.4
APE Apeiranthos 2.25 31 ePn Pb 17 31 16.5 -1.4
KARP Karpathos 2.55 80 ePB Pn 17 31 20.0 +1.5
KARP Karpathos 2.55 80 ePb Pn 17 31 20.0 +1.5
BRTR Keskin Array B 8.87 56 Pn Pn 17 32 48.8 +3.4
0.1nm,0.3s,baz=235,slow=10,SNR=3.2
GERES GERESS Array B 15.69 334 Pn P 17 34 22.6 +0.4
0.1nm,0.3s,baz=150,slow=10,SNR=4.9
MKAR Makanchi Array 44.52 56 P P 17 38 48.4 -0.4
0.2nm,0.6s,baz=262,slow=8.3,SNR=3.4

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*PDG **06** 17:53:50.9±0.6, 43.87N×17.14E, h4km±1km, MD3.8/2, ML3.7/11, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*ISCJB **06** 17:53:50.6±0.4, 43.97N±0.01×17.18E±0.02, h9km±2km, mb3.4/6, Error ellipse: s-maj=2.6km s-min=1.5km az=40.7*
*IDC **06** 17:53:51.5±0.9, 44.09N×17.57E, h0km, mb3.5/6, mb1 3.6/11, mb1mx3.5/44, mbtmp3.5/11, ML3.6/6, MS3.1/1, Ms1 3.1/1, ms1mx2.2/33, Error ellipse: s-maj=19.1km s-min=11.5km az=67.0*
*BEO **06** 17:53:51.6±0.3, 43.90N×17.23E, h10km±2km, ML3.6/2*
*THE **06** 17:53:52.7, 44.11N×17.20E, h23km±34km, Error ellipse: s-maj=42.9km s-min=2.6km az=293.0*
*LDG **06** 17:53:52.8±0.1, 44.03N×17.30E, h3km, Ml3.9/30, Error ellipse: s-maj=3.4km s-min=2.3km az=11.0*
*CSEM **06** 17:53:52.6±0.1, 43.96N×17.23E, h10km, ML3.6, Error ellipse: s-maj=3.1km s-min=1.9km az=31.0*
*PRU **06** 17:54:54.5, 44.01N×17.29E, h7km*
*STR **06** 17:54:02.6±0.4, 44.27N×16.30E, h5km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 06 17:53:52.5±1.0, **43.98N**±0.02×**17.15E**±0.02, **h11**km±6km, **n323**, σ1§79/448, **mb3.7**/6, **41C-54D, Northwestern Balkan Peninsula**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BLY Banja Luka 0.77 2⇑iPg Pb 17 54 08.0 +0.1
BLY Banja Luka 0.77 2⇑iPg Pb 17 54 08.0 +0.1
UDBI Udbina 1.14 300 ePg Pb 17 54 13.9 -0.3
UDBI Sg Sn 17 54 31.7 +1.7
UDBI Udbina 1.14 300 ePg Pb 17 54 13.8 -0.3
UDBI Sg Sn 17 54 31.7 +1.7
STON Ston 1.18 160 ePg Pn 17 54 09.8 -5.0
STON Sg Sb 17 54 26.0 -4.0
STON Ston 1.18 160⇑iPg Pn 17 54 09.8 -5.0
STON eSg Sb 17 54 25.7 -4.2
STON Ston 1.18 160 ePg Pn 17 54 09.7 -5.0
STON Sg Sb 17 54 25.9 -4.0
BRY Bratogost 1.48 136⇓iPg Pn 17 54 16.1 -3.0
BRY eSg Sb 17 54 39.1 +0.3
BRY Bratogost 1.48 136⇓iPg Pn 17 54 16.1 -3.0
BRY eSg Sb 17 54 39.1 +0.3
UPM Unac-Piva 1.49 121⇓iPg Pn 17 54 16.7 -2.7
UPM eSg Sg 17 54 40.6 +0.1
UPM Unac-Piva 1.49 121⇓iPg Pn 17 54 16.7 -2.7
UPM eSg Sg 17 54 40.6 +0.1
TREB Trebinje 1.53 145 iPg Pn 17 54 16.0 -3.8
TREB eSg Sn 17 54 38.7 -1.0
SISC Sisak 1.59 340 ePn Pb 17 54 21.4 -0.5
SISC Sn Sg 17 54 44.7 +0.9
SISC Sisak 1.59 340 ePn Pb 17 54 21.4 -0.5
SISC Sn Sg 17 54 44.6 +0.9
NVLJ Novalja 1.74 291 ePn Pb 17 54 24.8 +0.4
NVLJ Sg Sg 17 54 50.7 +2.4
NVLJ Novalja 1.74 291 ePn Pb 17 54 24.7 +0.4
NVLJ Sg Sg 17 54 50.7 +2.4
PLE Pljevlja 1.75 111⇓iPn Pn 17 54 21.3 -1.6
PLE eSn Sb 17 54 47.3 +0.6
PLE Pljevlja 1.75 111⇓iPn Pn 17 54 21.3 -1.6
PLE eSn Sb 17 54 47.3 +0.6
NKY Niksic 1.78 130⇓iPn Pn 17 54 22.6 -0.6
NKY eSn Sb 17 54 47.3 -0.1
NKY Niksic 1.78 130⇓iPn Pn 17 54 22.6 -0.6
NKY eSn Sb 17 54 47.3 -0.1
NKME Niksic 1.79 132⇑iPn Pn 17 54 22.0 -1.3
NKME eSn Sb 17 54 47.8 +0.2
NKME Niksic 1.79 132⇑iPn Pn 17 54 22.0 -1.3
NKME eSn Sb 17 54 47.8 +0.2
TEKS Tekeris 1.80 71 iPg Pn 17 54 22.3 -1.2
TEKS eSg Sb 17 54 48.7 +0.6
HCY Herceg Novi 1.82 147⇓iPn Pn 17 54 22.6 -1.1
HCY eSn Sb 17 54 47.3 -1.2
HCY Herceg Novi 1.82 147⇓iPn Pn 17 54 22.6 -1.1
HCY eSn Sb 17 54 47.3 -1.2
BOJS Bojanci 2.04 319 iPn Pn 17 54 28.2 +1.5
BOJS iSn Sg 17 54 60.0 +2.0
BOJS Bojanci 2.04 319⇑iPn Pn 17 54 28.2 +1.5
BOJS eSg Sg 17 54 59.5 +1.5
BOJS Bojanci 2.04 319⇑iPn Pn 17 54 28.2 +1.5
BOJS eSg Sg 17 54 59.5 +1.5
DIVS Divibare 2.06 86 P Pn 17 54 25.3 -1.7
DIVS S Sn 17 54 49.4 -3.3
DIVS Divibare 2.06 86⇓iPn Pn 17 54 25.3 -1.7
DIVS eSg Sb 17 54 56.1 +0.7
DIVS Divibare 2.06 86 P Pn 17 54 25.3 -1.7
DIVS S Sn 17 54 49.4 -3.3
DIVS eSg Sb 17 54 56.1 +0.7
BUM Brajici-Budva 2.11 142⇓iPn Pn 17 54 26.6 -1.1
BUM eSn Sb 17 54 55.1 -1.8
BUM Brajici-Budva 2.11 142⇓iPn Pn 17 54 26.6 -1.1
BUM eSn Sb 17 54 55.1 -1.8
PDG Podgorica 2.18 134 P Pn 17 54 28.5 -0.2
PDG S Sb 17 54 56.9 -2.0
PDG Podgorica 2.18 134 ePG Pn 17 54 30.0 +1.4
PDG eSG Sb 17 54 58.6 -0.3
PDG Podgorica 2.18 134 iPg Pn 17 54 28.8 +0.1
PDG eSg Sb 17 54 57.8 -1.1
PDG Podgorica 2.18 134 P Pn 17 54 28.5 -0.2
PDG Podgorica 2.18 134⇓iPn Pn 17 54 28.8 +0.1
PDG Podgorica 2.18 134 ePg Pn 17 54 30.0 +1.4
PDG S Sb 17 54 56.9 -2.0
PDG eSn Sb 17 54 57.3 -1.6
PDG eSg Sb 17 54 58.6 -0.3
TTG Podgorica 2.18 134⇓iPn Pn 17 54 28.8 +0.1
TTG eSn Sb 17 54 57.3 -1.6
IVAS Ivanjica 2.21 99 ePn Pn 17 54 27.6 -1.6
IVAS Ivanjica 2.21 99 ePn Pn 17 54 27.6 -1.6
FGSL Fruska Gora 2.24 57⇓iPn Pn 17 54 28.0 -1.5
FGSL eSn Sn 17 54 55.6 -1.5
FRGS Fruska Gora 2.24 57⇓iPn Pn 17 54 28.0 -1.5
FRGS eSn Sn 17 54 55.6 -1.5
GBRS Gornja Briga 2.28 314 iPn Pn 17 54 33.7 +0.1
BEY Berane 2.28 118⇑iPn Pn 17 54 30.0 -0.2
BEY eSn Sb 17 55 00.5 -1.5
IVA Berane 2.28 118⇑iPn Pn 17 54 30.0 -0.2
IVA eSn Sb 17 55 00.5 -1.5
DRME Dracevica, Mon 2.33 139⇑iPn Pn 17 54 30.6 -0.1
DRME eSn Sn 17 55 00.6 +1.3
DRME Dracevica, Mon 2.33 139⇑iPn Pn 17 54 30.6 -0.1
DRME eSn Sn 17 55 00.6 +1.3
TRUS Trudelj 2.36 83⇓iPn Pn 17 54 28.4 -2.7
TRUS Trudelj 2.36 83⇓iPn Pn 17 54 28.4 -2.7
MS1 Monte Sant'Ang 2.44 202 ePn Pb 17 54 35.0 -1.3
MS1 Sn Sb 17 55 04.7 -1.7
VISS Visnje 2.46 319 iPn Pb 17 54 38.2 +1.6
VISS Visnje 2.46 319 iPn Pb 17 54 38.2 +1.6
PKSM Moragy 2.47 25⇓iPn Pn 17 54 32.3 -0.4
PKSM Moragy 2.47 25⇓iP Pn 17 54 32.4 -0.3
PKSM Moragy 2.47 25⇓e Pn 17 54 32.4 -0.3
PKSM Moragy 2.47 25⇓iP Pn 17 54 32.4 -0.3
PVY Plav 2.47 123 ePn Pn 17 54 32.5 -0.3
PVY eSn Sb 17 55 04.9 -2.6
BEHE Becsehely 2.51 354⇑e Pn 17 54 34.8 +1.6
BEHE e 17 55 05.6
BEHE Becsehely 2.51 354⇑ePn Pn 17 54 34.8 +1.6
BEHE eSn Sn 17 55 05.6 +1.9
BEO Beograd 2.52 70 ePn Pn 17 54 32.5 -0.9
BEO eSg Sb 17 55 10.2 +1.4
BEO Beograd 2.52 70 ePn Pn 17 54 32.5 -0.9
BEO eSg Sb 17 55 10.2 +1.4
ULC Ulcinj 2.53 142⇑iPn Pn 17 54 32.9 -0.6
ULC eSn Sn 17 55 05.6 +1.2
ULC Ulcinj 2.53 142⇑iPn Pn 17 54 32.9 -0.6
ULC eSn Sn 17 55 05.6 +1.2
GRUS Gruza 2.58 91⇓iPn Pn 17 54 32.6 -1.5
GRUS eSg Sg 17 55 12.8 -2.5
GRUS Gruza 2.58 91⇓iPn Pn 17 54 32.6 -1.5
GRUS eSg Sg 17 55 12.8 -2.5
BCI Bajram Curri 2.67 126 iPN Pn 17 54 35.1 -0.4
BCI iSN Sn 17 55 04.5 -3.4
BCI Bajram Curri 2.67 126 iPn Pn 17 54 35.1 -0.4
BCI iSn Sn 17 55 04.5 -3.4
PKS9 Tamasi 2.73 17⇓e Pn 17 54 36.3 +0.1
PKS9 e 17 54 45.0
PKS9 e 17 55 22.8
PKS9 Tamasi 2.73 17⇓ePn Pn 17 54 36.3 +0.1
PKS9 Tamasi 2.73 17 ePg Pg 17 54 45.0 +0.2
LJU Ljubljana 2.78 319 iPn Pb 17 54 39.8 -2.3
LJU e 17 55 23.3
LJU Ljubljana 2.78 319 iPn Pb 17 54 39.8 -2.3
LJU iSg Sg 17 55 23.3 +1.5
PUK Puka 2.79 133 iPN Pn 17 54 38.9 +1.8
PUK iSN Sn 17 55 12.9 +2.1
PUK Puka 2.79 133 iPn Pn 17 54 38.9 +1.8
PUK iSn Sn 17 55 12.9 +2.1
BAI Bari 2.87 184 ePn Pb 17 54 42.4 -1.3
BAI Sn Sb 17 55 13.2 +0.5
JAVS Javornik 2.91 312 ePn Pn 17 54 40.6 +1.8
JAVS Javornik 2.91 312 ePn Pn 17 54 40.6 +1.8
SVIS Svilajnac 2.94 83 ePn Pn 17 54 38.4 -0.7
SVIS Svilajnac 2.94 83 ePn Pn 17 54 38.4 -0.7
CDT Castel del Mon 2.96 193 ePn Pb 17 54 44.5 -0.8
SELS Selova 2.98 103 ePn Pn 17 54 37.6 -2.1
SELS eSn Sn 17 55 11.6 -3.9
SELS Selova 2.98 103 ePn Pn 17 54 37.6 -2.1
PERS Pernice 3.02 332 ePn Pn 17 54 41.8 +1.5
PERS eSn Sn 17 55 18.1 +1.6
PERS Pernice 3.02 332 ePn Pn 17 54 41.8 +1.5
PERS eSn Sn 17 55 18.1 +1.6
SOKA Soboth 3.09 332 iPn Pn 17 54 42.7 +1.5
SNR=27
SOKA ⇑iSn Sn 17 55 19.7 +1.6
SOKA Soboth 3.09 332 Pn Pn 17 54 42.7 +1.5
SNR=27
SOKA Sn Sn 17 55 19.7 +1.6
OBKA Obir 3.13 325⇑iPn Pn 17 54 43.7 +1.9
SNR=10
OBKA Obir 3.13 325 Pn Pn 17 54 43.7 +1.9
SNR=10
PKS6 Bocsa 3.13 32 e Pn 17 54 40.6 -1.1
PKS6 e 17 55 19.4
PKS6 Bocsa 3.13 32 ePn Pn 17 54 40.6 -1.1
PKS6 eSn Sn 17 55 19.4 +0.4
PHP Peshkopia 3.33 132 iPN Pn 17 54 44.4 -0.1
PHP iSN Sn 17 55 22.9 -1.3
PHP Peshkopia 3.33 132 P Pn 17 54 45.3 +0.7
PHP S Sn 17 55 24.5 +0.4
PHP Peshkopia 3.33 132 iPn Pn 17 54 44.4 -0.1
PHP Peshkopia 3.33 132 P Pn 17 54 45.3 +0.7
PHP iSn Sn 17 55 22.9 -1.3
PHP S Sn 17 55 24.5 +0.4
PKST T˝s 3.34 10⇓e Pn 17 54 45.5 +0.9
PKST e 17 54 48.9
PKST e 17 55 24.6
PKST T˝s 3.34 10⇓ePn Pn 17 54 45.5 +0.9
PKST eSn Sn 17 55 24.6 +0.3
PKS7 Kunszentmiklos 3.38 24⇓e Pn 17 54 45.6 +0.5
PKS7 e 17 55 43.2
PKS7 Kunszentmiklos 3.38 24⇓ePn Pn 17 54 45.6 +0.5
ARSA Arzberg 3.47 341 ePn Pn 17 54 47.9 +1.5
ARSA Arzberg 3.47 341 iPn Pn 17 54 47.8 +1.5
SNR=104
ARSA ⇓iSn Sn 17 55 28.5 +1.1
ARSA Arzberg 3.47 341 ePn Pn 17 54 47.9 +1.5
ARSA Sn Sn 17 55 28.5 +1.1
BOLS Boljevac 3.48 91⇑iPn Pn 17 54 43.5 -3.0
CSKK Csˆ‡kako 3.48 13⇑e Pn 17 54 47.4 +0.9
CSKK e 17 55 29.3
CSKK Csˆ‡kako 3.48 13⇑ePn Pn 17 54 47.4 +0.9
CSKK eSn Sn 17 55 29.3 +1.7
PKSG 3.53 14⇓e Pn 17 54 47.8 +0.7
PKSG e 17 55 30.7
PKSG 3.53 14⇓ePn Pn 17 54 47.8 +0.7
PKSG eSn Sn 17 55 30.7 +1.9
BZS Buzias 3.58 61⇑iPn Pn 17 54 46.2 -1.7
BZS eSn Sn 17 55 26.9 -3.2
BZS Buzias 3.58 61⇑iP Pn 17 54 46.5 -1.4
BZS Buzias 3.58 61 S Sn 17 55 26.7 -3.4
BZS Buzias 3.58 61⇑iPn Pn 17 54 46.2 -1.7
BZS Buzias 3.58 61⇑iP Pn 17 54 46.5 -1.4
BZS S Sn 17 55 26.7 -3.4
BARS Barje 3.59 107 eSn Sn 17 55 28.1 -2.4
BARS Barje 3.59 107 eSn Sn 17 55 28.1 -2.4
MYKA Terra Mystica 3.63 318⇓iPn Pn 17 54 51.1 +2.5
SNR=4.7
MYKA Terra Mystica 3.63 318 Pn Pn 17 54 51.1 +2.5
SNR=4.7
SOP Sopron 3.73 354⇓e Pn 17 54 51.0 +1.0
SOP e 17 55 35.1
SOP Sopron 3.73 354⇓ePn Pn 17 54 51.0 +1.0
SOP eSn Sn 17 55 35.1 +1.2
SKO Skopje 3.73 121 ePG Pn 17 54 51.9 +1.9
SKO Skopje 3.73 121 ePn Pb 17 54 57.5 -0.9
SKO eSg Sg 17 55 51.9 -0.4
ZAPS Zavoj 4.04 98⇓iPn Pn 17 54 53.7 -0.6
CONA Conrad Observa 4.05 348 iPn Pn 17 54 55.8 +1.3
SNR=38
CONA ⇑iSn Sn 17 55 44.0 +2.0
CONA Conrad Observa 4.05 348 Pn Pn 17 54 55.8 +1.3
SNR=38
CONA Sn Sn 17 55 44.0 +2.0
GZR Gura Zlata 4.26 69 ePn Pn 17 54 55.8 -1.5
GZR Gura Zlata 4.26 69⇑iP Pn 17 54 55.9 -1.4
GZR Gura Zlata 4.26 69 S Sn 17 55 43.4 -3.5
GZR Gura Zlata 4.26 69⇑iP Pn 17 54 55.9 -1.4
GZR S Sn 17 55 43.4 -3.5
BIA Bitola 4.27 132 ePn Pn 17 54 59.0 +1.5
BIA eSg Sn 17 55 47.2 -0.2
BIA Bitola 4.27 132 ePn Pn 17 54 59.0 +1.5
ABTA Abfaltersbach 4.28 312⇓iPn Pn 17 54 59.9 +2.3
SNR=32
ABTA Abfaltersbach 4.28 312 Pn Pn 17 54 59.9 +2.3
SNR=32
KBN Korca 4.30 140 iPN Pn 17 55 00.6 +2.7
KBN iSN Sn 17 55 51.2 +3.1
KBN Korca 4.30 140 iPn Pn 17 55 00.6 +2.7
KBN iSn Sn 17 55 51.2 +3.1
MOA Molln 4.37 334⇑iPn Pn 17 55 01.3 +2.6
SNR=81
MOA Molln 4.37 334 Pn Pn 17 55 01.3 +2.6
SNR=81
PSZ Piszkesteto 4.38 25⇑iP Pn 17 54 58.3 -0.7
PSZ Piszkesteto 4.38 25⇓e Pn 17 54 58.8 -0.2
PSZ e 17 55 47.9
PSZ Piszkesteto 4.38 25⇑iP Pn 17 54 58.3 -0.7
PSZ Piszkesteto 4.38 25⇓ePn Pn 17 54 58.8 -0.2
PSZ eSn Sn 17 55 47.9 -2.2
SRE Strehaia 4.40 79⇑iP Pn 17 54 58.9 -0.3
SRE Strehaia 4.40 79⇑iP Pn 17 54 58.9 -0.3
FNA Florina 4.47 134 P Pn 17 55 00.3 +0.1
FNA S Sn 17 55 52.5 +0.3
FNA Florina 4.47 134 eP Pn 17 55 00.4 +0.2
FNA Florina 4.47 134 P Pn 17 55 00.3 +0.1
FNA S Sn 17 55 52.5 +0.3
SMOL Smolenice 4.54 2 eSN Sn 17 55 51.0 -2.9
SMOL Smolenice 4.54 2 eSn Sn 17 55 51.0 -2.9
NEST Nestorio 4.59 140 P Pn 17 55 01.6 -0.3
NEST Nestorio 4.59 140 eP Pn 17 55 01.8 -0.1
NEST Nestorio 4.59 140 P Pn 17 55 01.6 -0.3
VTS Vitosha 4.64 105 P Pn 17 55 01.6 -1.0
VTS Vitosha 4.64 105 ePG Pn 17 55 04.4 +1.8
VTS Vitosha 4.64 105 ePn Pn 17 55 01.5 -1.0
VTS Vitosha 4.64 105⇓iP Pn 17 55 02.5 0.0
VTS Vitosha 4.64 105 S Pb 17 55 16.7 +2.8
VTS Vitosha 4.64 105 P Pn 17 55 01.6 -1.0
KEK Kerkira 4.70 154 eP Pn 17 55 03.9 +0.6
VAY Valandovo 4.80 122 ePn Pn 17 55 03.6 -1.0
VAY Valandovo 4.80 122 ePn Pn 17 55 03.3 -1.3
VAY eSg Sb 17 56 08.8 -5.5
VAY Valandovo 4.80 122 ePn Pn 17 55 03.6 -1.0
DRGR 4.83 52 ePn Pn 17 55 05.7 +0.6
DRGR 4.83 52⇓iP Pn 17 55 05.0 -0.1
DRGR 4.83 52 S Sn 17 55 58.0 -3.0
DRGR 4.83 52⇓iP Pn 17 55 05.0 -0.1
DRGR 4.83 52 ePn Pn 17 55 05.7 +0.6
DRGR S Sn 17 55 58.0 -3.0
LOT Lotru 4.94 70⇓iP Pn 17 55 05.4 -1.3
LOT Lotru 4.94 70 S Sn 17 56 01.5 -2.4
LOT Lotru 4.94 70⇓iP Pn 17 55 05.4 -1.3
LOT S Sn 17 56 01.5 -2.4
KZN Kozani 5.03 135 P Pn 17 55 07.7 -0.1
KZN Kozani 5.03 135 P Pn 17 55 07.7 -0.1
IGT Igoumenitsa 5.04 151 eP Pn 17 55 07.1 -0.8
KECS Kecovo 5.07 26 ePN Pn 17 55 08.4 +0.1
KECS Kecovo 5.07 26 ePn Pn 17 55 08.4 +0.1
KNT Kendrikon 5.09 122 P Pn 17 55 09.0 +0.3
KNT Kendrikon 5.09 122 eP Pn 17 55 09.0 +0.3
KNT Kendrikon 5.09 122 P Pn 17 55 09.0 +0.3
WATA Walderalm 5.15 313 iPn Pn 17 55 12.9 +3.3
SNR=58
WATA ⇑iSn Sn 17 56 11.3 +2.2
WATA Walderalm 5.15 313 Pn Pn 17 55 12.9 +3.3
SNR=58
WATA Sn Sn 17 56 11.3 +2.2
VRAC Vranov 5.35 356⇑iP Pn 17 55 13.2 +1.0
VRAC Vranov 5.35 356 S Sn 17 56 12.6 -1.1
VRAC Vranov 5.35 356 Pn Pn 17 55 13.2 +1.0
0.9nm,0.3s,baz=199,slow=13,SNR=7.1
VRAC Sn Sn 17 56 12.3 -1.4
6.8nm,0.3s,baz=258,slow=23,SNR=13
VRAC Vranov 5.35 356⇑iP Pn 17 55 13.2 +1.0
VRAC eSn Sn 17 56 11.8 -1.9
MMB Musomiste 5.40 114⇑iP Pn 17 55 15.3 +2.4
MMB Musomiste 5.40 114⇑iP Pn 17 55 15.3 +2.4
GERES GERESS Array B 5.42 335 Pn Pn 17 55 15.3 +2.0
2.0nm,0.3s,baz=155,slow=13,SNR=66
GERES Sn Sn 17 56 16.6 +0.9
7.0nm,0.3s,baz=143,slow=24,SNR=14
FETA Feichten 5.44 306⇓iPn Pn 17 55 16.4 +2.8
SNR=16
FETA Feichten 5.44 306 Pn Pn 17 55 16.4 +2.8
SNR=16
SC2M Scurtabo 5.49 277 P Pn 17 55 17.0 +2.8
LIT Litokhoron 5.55 132 P Pn 17 55 14.6 -0.4
LIT Litokhoron 5.55 132 eP Pn 17 55 14.3 -0.7
LIT Litokhoron 5.55 132 P Pn 17 55 14.6 -0.4
SRS Serrai 5.55 119 eP Pn 17 55 15.3 +0.3
HORT Hortiatis 5.56 125 eP Pn 17 55 15.1 0.0
TRPA Tarpa 5.60 40⇓iP Pn 17 55 15.4 -0.2
TRPA Tarpa 5.60 40 S Sn 17 56 16.6 -3.2
TRPA Tarpa 5.60 40 e Pn 17 55 14.9 -0.7
TRPA e 17 56 16.5
TRPA Tarpa 5.60 40 ePn Pn 17 55 14.9 -0.7
TRPA Tarpa 5.60 40⇓iP Pn 17 55 15.4 -0.2
RETA Reutte 5.68 310⇑iPn Pn 17 55 19.1 +2.2
SNR=31
RETA Reutte 5.68 310 Pn Pn 17 55 19.1 +2.2
SNR=31
KHC Kasperske Hory 5.71 336 ePN Pn 17 55 19.3 +2.1
KHC ex x 17 55 23.0
KHC ex x 17 55 30.0
KHC eSN Sn 17 56 22.7 -0.1
KHC Kasperske Hory 5.71 336 Pn Pn 17 55 19.3 +2.1
KHC Sn Sn 17 56 22.7 -0.1
THL Klokotos Trika 5.71 139 eP Pn 17 55 16.2 -1.0
CRVS Cervenica-Dubn 5.76 30 ePN Pn 17 55 18.6 +0.8
CRVS Cervenica-Dubn 5.76 30 ePn Pn 17 55 18.6 +0.8
MORC Moravsky Berou 5.81 3⇑iP Pn 17 55 19.5 +0.9
MORC Moravsky Berou 5.81 3 S Sn 17 56 23.2 -2.0
MORC Moravsky Berou 5.81 3⇑iP Pn 17 55 19.5 +0.9
MORC eSn Sn 17 56 24.9 -0.3
VOIR 5.82 73⇓iP Pn 17 55 19.0 +0.3
VOIR 5.82 73⇓iP Pn 17 55 19.0 +0.3
DAVOX Davos/Dischmat 5.84 301 Pn Pn 17 55 21.8 +2.7
15nm,0.3s,baz=118,slow=13,SNR=104
DAVOX Sn Sn 17 56 27.8 +1.8
baz=345,slow=23,SNR=1.5
PLG Polygyros 5.90 125 eP Pn 17 55 20.1 +0.3
DAVA Damuels 6.08 306⇓iPn Pn 17 55 24.2 +1.9
SNR=9.4
DAVA Damuels 6.08 306 Pn Pn 17 55 24.2 +1.9
SNR=9.4
KOLS Kolonicke sedl 6.09 34 ePN Pn 17 55 23.9 +1.5
KOLS eSN Sn 17 56 33.0 +0.9
KOLS Kolonicke sedl 6.09 34 ePn Pn 17 55 23.9 +1.5
KOLS eSn Sn 17 56 33.0 +0.9
KRLC Kraliky 6.11 358 ePN Pn 17 55 24.6 +2.0
KRLC eSN Sn 17 56 31.0 -1.5
KRLC Kraliky 6.11 358 Pn Pn 17 55 24.6 +2.0
PGF Pioggiola 6.12 259 ePn Pn 17 55 23.3 +0.4
PGF eSn Sn 17 56 30.9 -2.0
11nm,0.5s
PGF Pioggiola 6.12 259 ePn Pn 17 55 23.3 +0.4
STHS Stebnicka Huta 6.13 26 ePN Pn 17 55 25.3 +2.4
STHS eSN Sn 17 56 31.9 -1.0
STHS Stebnicka Huta 6.13 26 ePn Pn 17 55 25.4 +2.5
STHS eSn Sn 17 56 31.9 -1.0
EVR Evrytania 6.15 144 eP Pn 17 55 23.1 -0.2
PCP Piancastagn 6.20 278 P Pn 17 55 24.1 +0.1
KAVA Kavala 6.21 116 eP Pn 17 55 25.1 +1.1
MAKR Makrakomi, Fth 6.21 141 eP Pn 17 55 24.0 -0.1
PRU Pruhonice 6.27 344 ePN Pn 17 55 27.1 +2.2
PRU Pruhonice 6.27 344 Pn Pn 17 55 27.1 +2.2
AGG Agios Georgios 6.29 140 eP Pn 17 55 24.6 -0.6
DPC Dobruska-Polom 6.40 355 ePN Pn 17 55 28.8 +2.1
DPC eSN Sn 17 56 38.9 -0.8
DPC Dobruska-Polom 6.40 355 Pn Pn 17 55 28.8 +2.1
DPC Sn Sn 17 56 38.9 -0.8
MLR Muntele Rosu 6.45 73⇑iP Pn 17 55 35.2 +7.8
OJC Ojcow 6.50 15 ePn Pn 17 55 31.0 +3.0
OJC eSn Sn 17 56 40.3 -1.8
OJC Ojcow 6.50 15 ePn Pn 17 55 31.0 +3.0
NEO Neokhori 6.52 134 eP Pn 17 55 27.5 -0.8
EFP Efpalio 6.60 145 eP Pn 17 55 29.2 -0.2
AXAR Agios Charalam 6.65 140 eP Pn 17 55 30.2 +0.1
BURAR Bucovina Array 6.71 54⇓iP Pn 17 55 29.4 -1.6
BURAR Bucovina Array 6.71 54⇓iP Pn 17 55 29.4 -1.6
KALE Kalithea 6.73 144 eP Pn 17 55 31.9 +0.7
TRAV Traversella 6.87 286 P Pn 17 55 32.5 -0.6
LKR Lokris 6.91 138 eP Pn 17 55 32.7 -0.9
SBF Sospel 7.02 272 ePn Pn 17 55 34.8 -0.3
SBF eSn Sn 17 56 52.0 -2.9
20nm,0.3s
SBF Sospel 7.02 272 ePn Pn 17 55 34.8 -0.3
STV Sant Anna di V 7.08 276 P Pn 17 55 35.5 -0.5
SPAK Spaichingen-Ko 7.13 308 P Pn 17 55 38.0 +1.3
SPAK S Sn 17 56 57.5 -0.3
GUR Goura 7.20 145 eP Pn 17 55 37.5 -0.2
BRG Berggiesshubel 7.23 344 PN Pn 17 55 39.2 +1.1
BRG PG Pb 17 55 59.8 +1.8
BRG SG Sb 17 57 13.6 -11
6.3nm,0.8s
ALN Alexandroupoli 7.26 112 ePG Pn 17 55 41.5 +3.1
FELD Feldberg im Sc 7.47 305 P Pn 17 55 42.9 +1.4
MBDF Montbardon 7.48 279 ePn Pn 17 55 40.4 -1.2
MBDF eSn Sn 17 57 03.0 -3.4
18nm,0.3s
MBDF Montbardon 7.48 279 ePn Pn 17 55 40.4 -1.2
LPG La Plagne 7.56 285 ePn Pn 17 55 42.5 -0.3
LPG eSn Sn 17 57 05.1 -3.5
92nm,0.7s
LPG La Plagne 7.56 285 ePn Pn 17 55 42.5 -0.3
LPL La Plagne 7.57 285 ePn Pn 17 55 43.6 +0.6
LPL eSn Sn 17 57 05.0 -3.9
60nm,0.6s
LPL La Plagne 7.57 285 ePn Pn 17 55 43.6 +0.6
BBS Basel-Blauen 7.59 301 P Pn 17 55 44.6 +1.6
FRF La Foret Royal 7.61 271 ePn Pn 17 55 43.1 -0.2
FRF eSn Sn 17 57 06.3 -3.2
6.4nm,0.3s
FRF La Foret Royal 7.61 271 ePn Pn 17 55 43.1 -0.2
LMR La Mourre 7.74 269 ePn Pn 17 55 45.2 +0.1
LMR eSn Sn 17 57 09.5 -3.2
2.7nm,0.2s
LMR La Mourre 7.74 269 ePn Pn 17 55 45.2 +0.1
CLL Collm 7.85 341 ePn Pn 17 55 49.0 +2.5
CLL ePg Pg 17 56 21.0 -1.7
CLL e(Sn) Sn 17 57 14.0 -1.3
CLL e 17 57 29.0
CLL eSb Sb 17 57 45.0 +3.1
CLL eSg Sg 17 58 03.0 -1.2
LOMF Lomont 7.98 299 P Pn 17 55 49.9 +1.6
LOMF Lomont 7.98 299 P Pn 17 55 49.9 +1.6
MOF Molkenrain 7.99 303 P Pn 17 55 49.7 +1.2
MOF S Sn 17 57 19.4 +0.6
MOF Molkenrain 7.99 303 P Pn 17 55 49.7 +1.2
MOF S Sn 17 57 19.4 +0.6
TOD Tromm 8.03 317 P Pn 17 55 51.4 +2.4

TOD S Sn 17 57 21.4 +1.7
ORIF Oris-en-Rattie 8.12 281 ePn Pn 17 55 50.7 +0.4
ORIF eSn Sn 17 57 18.5 -3.6
22nm,0.5s
ORIF Oris-en-Rattie 8.12 281 ePn Pn 17 55 50.7 +0.4
ECH Echery 8.13 305 P Pn 17 55 51.1 +0.7
ECH S Sn 17 57 23.2 +0.9
ECH Echery 8.13 305 P Pn 17 55 51.1 +0.7
ECH S Sn 17 57 23.2 +0.9
HINF Hinteralfeld 8.14 302 ePn Pn 17 55 51.7 +1.1
HINF eSn Sn 17 57 18.1 -4.5
11nm,0.5s
HINF Hinteralfeld 8.14 302 ePn Pn 17 55 51.7 +1.1
CDF Champ du Feu 8.16 306 ePn Pn 17 55 51.6 +0.8
CDF eSn Sn 17 57 18.3 -4.7
2.9nm,0.3s
CDF Champ du Feu 8.16 306 ePn Pn 17 55 51.6 +0.8
LANF Langenberg 8.16 311 P Pn 17 55 52.0 +1.2
LANF Langenberg 8.16 311 P Pn 17 55 52.0 +1.2
CABF La Chapelle 8.23 293 ePn Pn 17 55 52.9 +1.1
CABF eSn Sn 17 57 20.7 -4.1
21nm,0.7s
CABF La Chapelle 8.23 293 ePn Pn 17 55 52.9 +1.1
SMRF Simiane la Rot 8.35 274 ePn Pn 17 55 54.4 +1.0
SMRF eSn Sn 17 57 23.5 -4.1
3.5nm,0.4s
SMRF Simiane la Rot 8.35 274 ePn Pn 17 55 54.4 +1.0
HAU Haudompre 8.53 302 ePn Pn 17 55 56.6 +0.7
HAU eSn Sn 17 57 27.3 -4.7
18nm,0.4s
HAU Haudompre 8.53 302 ePn Pn 17 55 56.6 +0.7
THEF They Montfort 8.84 303 P Pn 17 56 00.5 +0.4
THEF They Montfort 8.84 303 P Pn 17 56 00.5 +0.4
RUP Ruppelstein 8.97 313 P Pn 17 56 04.0 +2.0
VIVF Saint-Julien-l 8.97 280 ePn Pn 17 56 01.2 -0.8
VIVF eSn Sn 17 57 38.7 -4.3
5.7nm,0.3s
VIVF Saint-Julien-l 8.97 280 ePn Pn 17 56 01.2 -0.8
PAGF Fort de Pagny 9.14 304 ePn Pn 17 56 05.2 +1.0
PAGF eSn Sn 17 57 41.6 -5.4
2.3nm,0.7s
PAGF Fort de Pagny 9.14 304 ePn Pn 17 56 05.2 +1.0
SFTF Sexfontaines 9.41 301 ePn Pn 17 56 08.6 +0.6
SFTF eSn Sn 17 57 48.4 -5.4
3.4nm,0.3s
SFTF Sexfontaines 9.41 301 ePn Pn 17 56 08.6 +0.6
MEZF Maizieres J'vi 9.52 303 ePn Pn 17 56 09.0 -0.4
MEZF eSn Sn 17 57 50.9 -5.5
2.4nm,0.5s
MEZF Maizieres J'vi 9.52 303 ePn Pn 17 56 09.0 -0.4
LASF Ste Croix 9.58 275 ePn Pn 17 56 10.6 +0.4
LASF eSn Sn 17 57 53.6 -4.2
1.7nm,0.3s
LASF Ste Croix 9.58 275 ePn Pn 17 56 10.6 +0.4
SMF Signal de Mont 9.75 291 ePn Pn 17 56 12.1 -0.5
SMF eSn Sn 17 57 57.0 -5.0
21nm,0.7s
SMF Signal de Mont 9.75 291 ePn Pn 17 56 12.1 -0.5
LOR Lormes 9.88 294 ePn Pn 17 56 15.2 +0.9
LOR eSn Sn 17 58 00.1 -5.0
15nm,0.4s
LOR Lormes 9.88 294 ePn Pn 17 56 15.2 +0.9
SSF Saint Saulge 10.06 293 ePn Pn 17 56 17.2 +0.4
SSF eSn Sn 17 58 04.4 -5.2
13nm,0.7s
SSF Saint Saulge 10.06 293 ePn Pn 17 56 17.2 +0.4
AVF Avril sur Loir 10.11 291 ePn Pn 17 56 17.3 -0.1
AVF eSn Sn 17 58 05.1 -5.6
2.3nm,0.4s
AVF Avril sur Loir 10.11 291 ePn Pn 17 56 17.3 -0.1
KEST Kesra 10.18 219 Pn Pn 17 56 23.4 +4.8
0.1nm,0.3s,baz=350,slow=17,SNR=2.7
GIVF Givet 10.40 310 ePn Pn 17 56 21.8 +0.4
GIVF eSn Sn 17 58 11.4 -6.5
2.4nm,0.3s
GIVF Givet 10.40 310 ePn Pn 17 56 21.8 +0.4
BGF Bois d'Agland 10.41 289 ePn Pn 17 56 21.9 +0.3
BGF eSn Sn 17 58 12.7 -5.4
20nm,0.5s
BGF Bois d'Agland 10.41 289 ePn Pn 17 56 21.9 +0.3
HYF Humbligny 10.68 293 ePn Pn 17 56 26.7 +1.4
HYF eSn Sn 17 58 19.0 -5.9
HYF Humbligny 10.68 293 ePn Pn 17 56 26.7 +1.4
BAIF Baives 10.72 309 ePn Pn 17 56 25.5 -0.3
BAIF Baives 10.72 309 ePn Pn 17 56 25.5 -0.3
TCF Toulx Ste Croi 10.81 288 ePn Pn 17 56 27.2 +0.1
TCF eSn Sn 17 58 22.4 -5.5
8.8nm,0.5s
TCF Toulx Ste Croi 10.81 288 ePn Pn 17 56 27.2 +0.1
EKA Eskdalemuir Ar 17.30 318 Pn P 17 57 57.6 +2.4
baz=129,slow=13,SNR=4.7
FINES FINESS Array B 18.28 14 P P 17 58 06.0 +0.1
0.1nm,0.3s,baz=185,slow=12,SNR=5.4
FINES LR LR 18 04 45.3
comp=Z,52nm,18.7s,baz=271,slow=36
TORD Torodi Ar. Bea 33.46 208 P P 18 00 35.1 +3.6
0.3nm,0.8s,baz=31,slow=8.0,SNR=2.3
ZALV Zalesovo Beam 43.92 52 P P 18 01 57.2 -1.8
0.6nm,0.5s,baz=264,slow=13,SNR=3.5
MKAR Makanchi Array 44.66 62 P P 18 02 03.3 -1.7
0.1nm,0.6s,baz=308,slow=7.1,SNR=3.6
SONM Songino Array 58.82 52 P P 18 03 50.1 -0.8
0.4nm,0.6s,baz=297,slow=5.0,SNR=5.0
YKA Yellowknife Ar 67.07 338 P P 18 04 44.6 -0.7
0.6nm,1.1s,baz=40,slow=5.3,SNR=4.3
CMAR Chiang Mai Arr 71.61 82 P P 18 05 11.9 -2.2
0.4nm,0.5s,baz=306,slow=7.3,SNR=6.4

TEH 06 18:00:17.5,38.82N×48.75E, h3km, ML3.5
ISCJB 06 18:00:18.8±0.6,38.85N±0.03×48.69E±0.05,h20km±5km, Error ellipse: s-maj=7.2km s-min=4.6km az=165.1
CSEM 06 18:00:19.0±0.2,38.84N×48.66E,h20km,ML3.5,Error ellipse: s-maj=7.2km s-min=5.0km az=69.0
AZER 06 18:00:19.0±0.0,38.92N×48.39E,h21km,Error ellipse: s-maj=0.8km s-min=0.1km az=274.0
ISC 06 18:00:18.9±1.2,38.85N±0.03×48.65E±0.04,h16km±8km, n42,σ1§37/61,12C-14D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRK	Lerik	0.32	230	⇑P	Pb	18 00 27.1	+0.8
LRK				⇓S	Sb	18 00 33.6	+2.4
LRK	Lerik	0.32	230	P	Pb	18 00 27.1	+0.8
LRK				S	Sb	18 00 33.6	+2.4
GLBA	Clilabad	0.44	333	⇓P	Pg	18 00 27.3	-0.6
	SNR=213						
GLBA				⇓S	Sg	18 00 34.2	+0.3
GLBA	Clilabad	0.44	333	P	Pg	18 00 27.3	-0.6
	SNR=213						
GLBA				S	Sg	18 00 34.2	+0.3
ALIB	Äli-Bayra	1.14	14	⇑P	Pb	18 00 40.6	+0.3
	SNR=7.7						
ALIB				⇑S	Sn	18 00 58.2	+2.6
ALIB	Äli-Bayra	1.14	14	⇑P	Pb	18 00 40.6	+0.3
	SNR=7.7						
IHRS	Heris	1.36	248	ePg	Pn	18 00 43.1	-0.4
IHRS				eSg	Sb	18 01 02.0	+0.5
IHRS				e		18 01 03.3	
	comp=Z,15µm,0.1s						
IHRS	Heris	1.36	248	ePg	Pn	18 00 43.1	-0.4
IHRS				eSg	Sb	18 01 02.0	+0.5
KDMR	Kurdemir	1.57	347	⇓P	Pn	18 00 45.2	-0.9
KDMR				⇑S	Sn	18 01 05.2	-0.9
GOBA	Gobu	1.76	28	⇑S	Sn	18 01 13.6	+0.9
BRDA	Brd	1.81	322	⇑Pg	Pn	18 00 48.9	-0.5
	SNR=5.9						
BRDA	Brd	1.81	322	Pg	Pn	18 00 48.9	-0.5
	SNR=5.9						
PQL	Pirkuli	1.94	359	⇓Pg	Pn	18 00 51.5	+0.2
	SNR=7.6						
PQL				⇑S	Sn	18 01 16.8	+1.3
PQL	Pirkuli	1.94	359	Pg	Pn	18 00 51.5	+0.2
	SNR=7.6						
PQL				S	Sn	18 01 16.8	+1.3
IML	Ismayilli	1.98	350	⇑Pg	Pn	18 00 52.3	+0.5
IML				⇑S	Sn	18 01 16.4	+0.2
IML	Ismayilli	1.98	350	Pg	Pn	18 00 52.3	+0.5
IML				S	Sn	18 01 16.4	+0.2
ITBZ	Tabriz	2.06	253	ePn	Pn	18 00 54.8	+1.8
ITBZ				e		18 00 56.3	
	comp=Z,831nm,0.1s						
ITBZ	Tabriz	2.06	253	ePn	Pn	18 00 54.8	+1.8
SIZA	Siyzn	2.23	5	⇓Pn	Pn	18 00 56.9	+1.6
	SNR=3.1						
SIZA	Siyzn	2.23	5	Pn	Pn	18 00 56.9	+1.6
	SNR=3.1						
MNGR	Mingechevir, A	2.27	328	⇓S	Sn	18 01 20.4	-2.9
IMRD	Marand	2.31	268	ePn	Pn	18 00 57.2	+0.8
IMRD				e		18 01 32.5	
	comp=Z,2µm,0.2s						
IMRD	Marand	2.31	268	ePn	Pn	18 00 57.2	+0.8
NAX	Nakhchivan	2.48	279	⇑Pn	Pn	18 00 57.7	-1.0
	SNR=4.1						
NAX	Nakhchivan	2.48	279	Pn	Pn	18 00 57.7	-1.0
	SNR=4.1						
QUBA	Quba, Azerbaij	2.51	357	⇓Pn	Pn	18 00 59.9	+0.8
QUBA				⇓S	Sn	18 01 30.2	+0.9
QUBA	Quba, Azerbaij	2.51	357	Pn	Pn	18 00 59.9	+0.8
QUBA				S	Sn	18 01 30.2	+0.9
GANJ	Ganja	2.54	316	⇓Pn	Pn	18 00 58.2	-1.3
	SNR=3.4						
GANJ				⇓S	Sn	18 01 27.8	-2.3
GANJ	Ganja	2.54	316	Pn	Pn	18 00 58.2	-1.3
	SNR=3.4						
GANJ				S	Sn	18 01 27.8	-2.3
SEKA	Sheki	2.61	335	⇑Pn	Pn	18 00 58.9	-1.6
	SNR=3.6						
SEKA				⇑S	Sn	18 01 29.6	-2.2
SEKA	Sheki	2.61	335	Pn	Pn	18 00 58.9	-1.6
	SNR=3.6						
SEKA				S	Sn	18 01 29.6	-2.2
IGZV	Ghazvin	2.75	153	ePn	Pn	18 01 01.6	-1.1
IGZV				e		18 01 37.0	
	comp=Z,1µm,0.1s						
IGZV	Ghazvin	2.75	153	ePn	Pn	18 01 01.6	-1.1
ZKTA	Zakatala	3.19	332	⇓Pn	Pn	18 01 07.6	-0.8
ZKTA				⇓S	Sn	18 01 44.4	-1.7
QZX	Qazax, Azerbai	3.35	312	⇓Pn	Pn	18 01 08.8	-1.8
QZX	Qazax, Azerbai	3.35	312	Pn	Pn	18 01 08.8	-1.8
IRAZ	Razeghan	3.58	163	ePn	Pn	18 01 13.1	-1.0
IRAZ				e		18 01 57.4	
	comp=Z,180nm,0.1s						
IRAZ	Razeghan	3.58	163	ePn	Pn	18 01 13.1	-1.0
IPRN	Peran	3.92	130	ePn	Pn	18 01 16.9	-1.6
IPRN				e		18 02 05.2	
	comp=Z,2µm,0.0s						
IALA	Alasht	4.31	129	ePn	Pn	18 01 22.6	-1.5
IALA				e		18 02 18.4	
	comp=Z,576nm,0.1s						
IALA	Alasht	4.31	129	ePn	Pn	18 01 22.6	-1.5
IGLO	Ghaloghah	4.73	118	ePn	Pn	18 01 28.2	-1.6
IGLO				e		18 02 29.4	
	comp=Z,693nm,0.1s						

IDC 06 18:05:27.6±2.6,2.90N×127.86E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.1/36,mbtmp3.1/3,Error ellipse: s-maj=217.0km s-min=25.4km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.58	165	P	P	18 10 40.1	-0.1
	0.2nm,0.7s,baz=344,slow=10,SNR=3.0						
ASAR	Alice Springs	27.06	168	P	P	18 11 11.9	-0.1
	0.1nm,0.5s,baz=354,slow=7.3,SNR=6.9						
MKAR	Makanchi Array	58.87	325	P	P	18 15 28.5	+0.1
	0.1nm,0.2s,baz=132,slow=8.0,SNR=7.0						

KLM 06 18:07:52.2,5.86N×116.76E,h10km,mb3.1,ML2.5,MS4.3, 2C-6D,Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDKM	Sandakan	0.49	117	⇓P	Pg	18 08 01.2	-0.7
SDKM	Sandakan	0.49	117	⇓S	Sb	18 08 10.7	+0.5
KKM	Kota Kinabalu	0.57	288	⇑P	Pg	18 08 02.9	-0.6
KKM	Kota Kinabalu	0.57	288	⇓S	Sg	18 08 11.7	+0.6
KDM	Kudat	1.05	4	⇑P	Pn	18 08 13.1	+0.1
KDM	Kudat	1.05	4	⇓S	Sn	18 08 29.5	+1.8
MYLDM	Lahad Datu	1.86	111	⇓P	Pg	18 08 30.6	+2.6
SBUM	Sibu	5.66	233	⇓P	Pn	18 09 18.3	+1.9

MAN 06 18:24:16,7.22N×126.76E,h31km,mb4.7,ML3.6,MS3.6
ISCJB 06 18:24:19.9±0.8,7.38N±0.07×126.58E±0.06,h71km, mb3.3/5,Error ellipse: s-maj=10.0km s-min=7.6km az=28.5
IDC 06 18:24:23.1±15.0,7.26N×126.22E,h75km±134km,mb3.1/5, mb1 3.3/5,mb1mx3.0/36,mbtmp3.4/5,MS2.6/1,Ms1 2.8/1, ms1mx2.3/14,Error ellipse: s-maj=209.6km s-min=20.8km az=64.0
ISC 06 18:24:22.3±0.9,7.32N±0.08×126.46E±0.09,h71km,n19, σ1§20/16,mb3.4/5,4C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	Davao City--Mi	0.97	256	⇑eP	Pn	18 24 38.8	-1.7
DMPH				eS	Sn	18 24 56.1	+2.0
KCP	Kidapawan	1.39	257	⇑eP	Pn	18 24 44.4	-1.6
KCP				eS	Sn	18 25 04.6	+0.8
BUKP	Musuan	1.49	292	eP	Pn	18 24 46.2	-1.0
BUKP				eS	Sn	18 25 07.7	+1.7
BUTP	Butuan	1.83	333	eP	Pn	18 24 49.4	-2.4
CGP	Cagayan de Oro	2.08	303	⇑eP	Pn	18 24 53.5	-1.6
CGP				i S	Sn	18 25 20.7	+0.7
SCPH	Surigao	2.63	339	⇑eP	Pn	18 25 01.8	-0.6
PAGZ	Pagadian	3.10	280	eP	Pn	18 25 08.0	-0.8
WRA	Warramunga Arr	28.18	164	P	P	18 30 09.2	+0.9
	0.2nm,0.5s,baz=344,slow=9.0,SNR=4.6						
CMAR	Chiang Mai Arr	28.97	295	LR	LR	18 42 24.1	
	comp=Z,13nm,20.2s,baz=10.0,slow=38						
ASAR	Alice Springs	31.65	167	P	P	18 30 39.2	+0.3
	0.2nm,0.3s,baz=340,slow=7.1,SNR=13						
ASAR				PcP	PcP	18 33 30.0	+0.3
	0.5nm,0.9s,baz=352,slow=3.1,SNR=4.9						
H11S3	WAKE ISLAND Hy	40.66	70	T	T	19 15 27.6	
	baz=268,slow=76,SNR=14						
H11S1	WAKE ISLAND Hy	40.67	70	T	T	19 15 24.8	
	baz=268,slow=76,SNR=9.2						
H11S2	WAKE ISLAND Hy	40.67	70	T	T	19 15 25.4	
	baz=268,slow=76,SNR=8.9						
H11N1	WAKE ISLAND Hy	41.08	68	T	T	19 15 56.7	
	baz=268,slow=75,SNR=13						
H11N2	WAKE ISLAND Hy	41.09	68	T	T	19 15 57.3	
	baz=268,slow=75,SNR=7.9						
H11N3	WAKE ISLAND Hy	41.10	68	T	T	19 15 57.6	
	baz=268,slow=75,SNR=12						
STKA	Stephens Creek	41.57	160	P	P	18 32 03.2	0.0
	1.6nm,0.9s,baz=320,slow=7.9,SNR=2.4						
MKAR	Makanchi Array	45.49	324	P	P	18 33 42.6	-0.1
	0.3nm,0.7s,baz=107,slow=8.4,SNR=7.2						
BVAR	Borovoye Array	64.19	326	P	P	18 34 49.2	-0.3
	0.2nm,0.5s,baz=148,slow=6.8,SNR=2.4						

IDC 06 18:30:45.8±6.3,20.38S×174.03W,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/26,mbtmp3.4/3,Error ellipse: s-maj=327.5km s-min=42.0km az=149.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	48.16	256	P	P	18 39 27.3	-1.0
	0.2nm,0.6s,baz=97,slow=6.9,SNR=5.3						
WRA	Warramunga Arr	48.30	261	P	P	18 39 29.9	+0.5
	0.3nm,0.3s,baz=97,slow=8.2,SNR=14						
YKA	Yellowknife Ar	94.88	24	P	P	18 44 09.2	-0.1
	0.2nm,0.8s,baz=242,slow=5.4,SNR=4.1						

MEX 06 18:44:47.2±0.8,16.30N×95.57W,h57km±15km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.74	225	eP	Pn	18 45 00.0	-1.8
HUIG				eS	Sn	18 45 11.1	-1.4
CMIG	Matias Romero	1.03	40	eP	Pn	18 45 03.8	-1.7
CMIG				i S	Sn	18 45 17.4	-1.7
VHO	Vista Hermosa	1.36	305	i P	Pn	18 45 08.6	-1.5
VHO				i S	Sn	18 45 24.5	-2.8
PCIG		2.34	104	eP	Pn	18 45 27.1	+3.9
PCIG				i S	Sn	18 45 51.4	+3.3
PNIG	Pinotepa	2.46	273	i P	Pn	18 45 23.4	-1.5
PNIG				i S	Sn	18 45 51.4	-2.5

ISCJB 06 18:49:05.4±0.8,30.07S±0.07×177.4W±0.1,h35km, mb4.5/8,Error ellipse: s-maj=15.3km s-min=9.4km az=165.7
NEIC 06 18:49:07.4±5.4,30.01S×177.46W,h34km±36km,mb4.7/5, Error ellipse: s-maj=19.7km s-min=15.4km az=146.0
IDC 06 18:49:10.9±1.7,29.82S×177.78W,h53km±13km,mb4.0/4, mb1 4.2/4,mb1mx3.7/31,mbtmp4.2/4,MS3.0/1,Ms1 3.0/1, ms1mx2.5/25,Error ellipse: s-maj=27.8km s-min=23.7km az=120.0
ISC 06 18:49:08.4±0.7,29.98S±0.08×177.5W±0.1,h35km,n41, σ1§26/34,mb4.6/8,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.81	334	P	Pn	18 49 23.9	+0.5
	1µm,0.3s,baz=100,slow=9.1,SNR=55						
RAO				S	Sn	18 49 34.3	+0.1
	5µm,0.3s,baz=214,slow=22,SNR=23						
RAO	Raoul Island	0.81	334	ePn	Pn	18 49 23.6	+0.2
RAO				eSn	Sn	18 49 33.1	-1.1
RAO				S	Sn	18 49 34.3	+0.1
DZM	Mont Dzumac	16.43	295	LR	LR	18 57 51.6	
	comp=Z,47nm,18.1s,baz=208,slow=32						
AFI	Afiamalu	16.85	20	P	Pn	18 53 00.8	-1.0
	91nm,1.1s						
RMQ	Roma	29.86	268	P	P	18 55 14.4	+1.7
	baz=32,SNR=7.9						
CTAO	Charters Tower	34.16	278	eP	P	18 55 51.1	+0.6
	9.9nm,0.8s						
STKA	Stephens Creek	34.99	256	P	P	18 55 57.5	0.0
	2.9nm,0.5s,baz=97,slow=10,SNR=15						
STKA	Stephens Creek	34.99	256	P	P	18 55 58.2	+0.7
	baz=37,SNR=12						
MTSU	Mount Surprise	36.64	280	P	P	18 56 12.9	+1.1
	baz=39,SNR=5.2						
HTT	Hallett	37.03	253	P	P	18 56 15.3	+0.3
	baz=39,SNR=3.1						
AS31	Alice Springs	43.56	266	eP	P	18 57 07.8	-1.4
ASAR	Alice Springs	43.56	266	P	P	18 57 07.5	-1.7
	1.8nm,0.6s,baz=103,slow=7.3,SNR=50						
WRAB	Tennant Creek	44.51	271	eP	P	18 57 15.9	-0.9
	7.1nm,0.8s						
WRA	Warramunga Arr	44.51	271	P	P	18 57 15.1	-1.7
	3.6nm,0.3s,baz=110,slow=8.1,SNR=98						
WRKA	Warakurna	47.96	262	P	P	18 57 42.0	-1.9
	baz=50,SNR=5.8						
MBWA	Marble Bar	56.70	263	eP	P	18 58 41.3	-7.4
	12nm,1.1s						
QSPA	South Pole Qui	60.13	180	P	P	18 59 14.0	+1.9
	0.8nm,0.7s,baz=39,slow=11,SNR=4.7						
QSPA	South Pole Qui	60.13	180	P	P	18 59 13.5	+1.3
	3.6nm,0.9s						
SNAA	Sanae	78.56	178	P	P	19 01 03.6	-2.3
PLCA	Paso Flores	82.48	133	P	P	19 01 23.9	-3.6
PETK	Petropavlovsk-	85.52	345	P	P	19 01 44.9	+2.5
	4.6nm,1.0s,baz=130,slow=8.8,SNR=4.5						
MKAR	Makanchi Array	117.83	310	PKP	PKPdf	19 07 50.0	-0.9
	0.3nm,0.6s,baz=86,slow=1.7,SNR=3.0						
KURK	Kurchatov	121.07	314	PKP	PKPdf	19 07 56.0	-1.0
KURBB	Kurchatov Arra	121.11	314	PKP	PKPdf	19 07 56.0	-1.0
	0.7nm,0.7s,baz=102,slow=2.2,SNR=8.2						
BVAR	Borovoye Array	126.41	316	PKP	PKPdf	19 08 07.0	-0.1
	0.7nm,0.5s,baz=37,slow=0.9,SNR=6.7						
H10S2	ASCENSION HYDR	137.92	154	T	T	21 43 39.8	
	baz=204,slow=75,SNR=11						
H10S3	ASCENSION HYDR	137.92	154	T	T	21 43 37.9	
	baz=204,slow=75,SNR=13						
H10S1	ASCENSION HYDR	137.93	154	T	T	21 43 39.0	
	baz=204,slow=75,SNR=17						
ARCES	ARCESS Array B	138.27	348	PKhKP	PKPpre	19 08 20.8	
	4.0nm,0.9s,baz=48,slow=2.7,SNR=3.2						
H10N3	ASCENSION HYDR	139.00	154	T	T	21 45 04.6	
	baz=203,slow=75,SNR=8.7						
H10N1	ASCENSION HYDR	139.00	154	T	T	21 45 01.4	
	baz=203,slow=75,SNR=9.0						
H10N2	ASCENSION HYDR	139.01	154	T	T	21 45 03.0	
	baz=203,slow=75,SNR=8.8						
JOF	Joensuu	142.19	339	epkp	PKPdf	19 08 38.6	+2.4
KAF	Kangasniemi	144.30	341	epkp	PKPab	19 08 36.7	-1.3
FINES	FINESS Array B	144.90	340	PKP	PKPab	19 08 39.8	-0.5
	3.4nm,0.3s,baz=67,slow=3.6,SNR=68						
NB2	NORSAR Subarra	148.40	352	PKP	PKPbc	19 08 49.9	-0.7
	comp=Z,1.0nm,0.7s,baz=15,slow=2.9						
NOA	NORSAR Array B	148.40	352	PKPbc	PKPbc	19 08 50.2	-0.3
	comp=Z,1.7nm,0.8s,baz=14,slow=4.3,SNR=5.3						
HFS	Hagfors	148.92	349	PKPbc	PKPbc	19 08 51.7	-0.1
	comp=Z,2.0nm,0.8s,baz=48,slow=2.2,SNR=10						
AKASG	Malin Array Be	151.22	324	PKPbc	PKPbc	19 08 57.0	-0.6
	comp=Z,1.5nm,0.5s,baz=46,slow=2.9,SNR=14						
BRTR	Keskin Array B	152.77	299	PKPbc	PKPbc	19 09 01.1	-0.7
	comp=Z,0.4nm,0.4s,baz=124,slow=4.3,SNR=4.2						
TORD	Torodi Ar. Bea	163.23	177	PKPab	PKPab	19 09 58.8	+0.8
	comp=Z,0.6nm,0.8s,baz=186,slow=2.7,SNR=3.3						

ISCJB 06 18:57:42.5±0.4,7.38S±0.04×128.67E±0.05,h151km, mb3.7/6,Error ellipse: s-maj=6.5km s-min=5.2km az=176.3
IDC 06 18:57:44.9±3.1,7.41S×128.59E,h161km±28km,mb3.5/6, mb1 3.4/8,mb1mx3.2/34,mbtmp3.9/8,Error ellipse: s-maj=58.4km s-min=22.6km az=68.0
DJA 06 18:57:45.0±0.6,7°S±6°×12°9E±°,h163km±40km,M4.3/5, mb4.1/3,mB4.9/1,MLv4.4/5,Mw(mB)4.2/1
ISC 06 18:57:43.7±0.6,7.45S±0.05×128.69E±0.05,h151km,n24, σ1§94/31,mb3.8/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.64	102	P	Pn	18 58 31.0	+4.4
SOEI	Soe	4.94	242	P	Pn	18 58 57.8	+1.3
SOEI				S	Sn	18 59 53.8	+0.6
SOEI	Soe	4.94	242	P	Pn	18 58 57.7	+1.2
	baz=60,SNR=60						
SOEI	Soe	4.94	242	S	Sn	18 59 52.5	-0.7
	baz=4.9,SNR=5.9						
FAKI	Fak Fak	5.73	38	P	Pn	18 59 07.1	+0.2
	33nm,1.3s,0.2nm						
FAKI				S	Sn	19 00 09.4	-2.5
	33nm,1.3s,0.2nm						
FAKI	Fak Fak	5.73	38	P	Pn	18 59 06.4	-0.5
	baz=5.8,SNR=7.1						
FAKI				S	Sn	19 00 09.7	-2.2
	baz=5.8,SNR=3.4						
MTN	Manton Dam	5.88	156	P	Pn	18 59 11.0	+2.2
	baz=6.0,SNR=21						
MTN				S	Sn	19 00 15.8	+0.3
	baz=6.0,SNR=6.3						
KDU	Kakadu	6.40	145	P	Pn	18 59 18.0	+2.2
	baz=6.5,SNR=29						
KDU				S	Sn	19 00 27.1	-0.9
	baz=6.5,SNR=8.2						
SWI	Sorong	7.03	22	P	Pn	18 59 24.4	+0.2
KNRA	Kununurra	8.18	180	P	Pn	18 59 38.8	-0.8
	baz=8.3,SNR=10						
KNRA				S	Sn	19 01 06.8	-3.8
	baz=8.3,SNR=7.4						
WSI	Waingapu	8.59	255	P	Pn	18 59 43.8	-1.2
	baz=8.5,SNR=6.2						
WRA	Warramunga Arr	13.58	157	P	Pn	19 00 50.1	-0.2
	0.3nm,0.3s,baz=342,slow=13,SNR=14						
WRA				S	Sn	19 03 14.2	-6.6
	0.6nm,0.3s,baz=332,slow=22,SNR=6.2						
JAGI	Jajag, Banyuwa	14.43	265	P	Pn	19 00 60.0	-1.2
	baz=14,SNR=3.9						
COEN	Coen	15.63	116	P	P	19 01 20.3	+3.3
	baz=16,SNR=9.2						
ASAR	Alice Springs	16.89	163	P	Pn	19 01 33.9	+2.6
	0.3nm,0.3s,baz=340,slow=10,SNR=28						
ASAR				S	S	19 04 33.7	-5.4
	0.1nm,0.3s,baz=331,slow=13,SNR=3.3						
ASAR				ScP	ScP	19 09 28.4	-1.9
	0.0nm,0.3s,baz=358,slow=1.7,SNR=4.4						
WRKA	Warakurna	17.50	181	P	Pn	19 01 40.7	+2.2
	baz=18,SNR=9.7						
MTSU	Mount Surprise	18.56	126	P	Pn	19 01 52.7	+1.6
	baz=19,SNR=3.9						
CISI	Cisompet, Garu	20.70	268	P	Pn	19 02 16.2	-0.3
	baz=21,SNR=3.4						
CISI				S	S	19 05 56.7	+1.3
	baz=21,SNR=3.6						
SONM	Songino Array	58.46	343	P	P	19 07 24.0	+0.1
	0.5nm,0.6s,baz=168,slow=6.9,SNR=4.9						

PETK	**Petropavlovsk-**	**65.16**	**19**	P	**P**	**19 08 08.6**	**+0.2**
	4.6nm,1.1s,baz=152,slow=6.5,SNR=4.5						
MKAR	**Makanchi Array**	**67.89**	**328**	P	**P**	**19 08 25.8**	**-0.1**
	0.5nm,0.4s,baz=116,slow=8.2,SNR=12						
ZALV	**Zalesovo Beam**	**71.41**	**334**	P	**P**	**19 08 45.9**	**-1.4**
	0.8nm,0.5s,baz=107,slow=5.4,SNR=4.6						
KURBB	**Kurchatov Arra**	**72.22**	**329**	P	**P**	**19 08 51.9**	**-0.3**
	0.9nm,0.5s,baz=127,slow=5.0,SNR=17						
BVAR	**Borovoye Array**	**77.75**	**328**	P	**P**	**19 09 23.3**	**-0.6**
	0.4nm,0.5s,baz=134,slow=11,SNR=5.3						

*IDC **06** 18:58:57.0±0.6, 24.°16N×125.°05E, h0km, mb3.8/14, mb1 3.9/16, mb1mx3.8/46, mbtmp3.8/16, ML2.7/3, MS3.6/8, Ms1 3.7/8, ms1mx3.2/31, Error ellipse: s-maj=22.8km s-min=13.8km az=70.0*

*ISCJB **06** 18:58:59.5±0.8, 24.°15N±0.°05×125.°24E±0.°03, h31km±5km, mb4.0/23, MS3.6/7, Error ellipse: s-maj=8.1km s-min=4.7km az=164.1*

*NIED **06** 18:59:00, 24.°30N×125.°20E, h23km, Mw4.2 Best double couple: M0 2.02000×10^15 NP1:φs300.00000°, δ10.00000°, λ164.00000°. NP2:φs47.00000°, δ87.00000°, λ80.00000°.*

*JMA **06** 18:59:01.8±0.1, 24.°27N×125.°17E, h38km±4km, M4.2*

*NEIC **06** 18:59:03.0±0.9, 24.°08N×125.°09E, h45km±8km, mb4.2/8, Error ellipse: s-maj=10.6km s-min=8.2km az=145.0*

ISC 06 18:59:00.7±1.4, 24.°19N±0.°06×125.°18E±0.°05, h29km±9km, n57, σ1°43/63, mb4.0/23, MS3.8/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.60**	**20**	P	**Pn**	**18 59 12.9**	**-0.4**
JOGS				eS	**Sb**	**18 59 20.8**	**-0.2**
JTJ	**Tarama**	**0.62**	**316**	P	**Pn**	**18 59 13.3**	**-0.3**
JTJ				eS	**Sb**	**18 59 21.1**	**-0.5**
JMJ	**Miyako jima 2**	**0.63**	**9**	P	**Pn**	**18 59 13.0**	**-0.6**
JMJ				S	**Sb**	**18 59 21.5**	**-0.2**
JIRB	**Irabujima**	**0.63**	**359**	P	**Pn**	**18 59 12.8**	**-0.9**
JIRB				S	**Sb**	**18 59 21.5**	**-0.4**
JIKM	**Ikemajima**	**0.73**	**5**	P	**Pn**	**18 59 14.5**	**-0.5**
JIKM				S	**Sn**	**18 59 24.0**	**-1.2**
JISG	**Ishigakijimahi**	**0.89**	**296**	P	**Pn**	**18 59 17.2**	**0.0**
JISG				S	**Sn**	**18 59 28.9**	**-0.1**
JIJ	**Ishigaki jima**	**0.96**	**280**	P	**Pn**	**18 59 19.2**	**+1.0**
JKRS	**Kuro-shima**	**1.07**	**273**	P	**Pb**	**18 59 21.0**	**+0.4**
JKRS				eS	**Sb**	**18 59 35.0**	**+0.7**
HATJ	**Hateruma jima**	**1.27**	**264**	P	**Pn**	**18 59 23.4**	**+1.0**
HATJ				eS	**Sn**	**18 59 39.7**	**+1.3**
IRIF	**Iriomote-Funau**	**1.33**	**276**	P	**Pn**	**18 59 24.4**	**+1.1**
IRIF				eS	**Sn**	**18 59 41.2**	**+1.2**
YOJ	**Yonaguni jima**	**2.00**	**278**	P	**Pn**	**18 59 34.1**	**+1.6**
YOJ	**Yonaguni jima**	**2.00**	**278**	ePn	**Pn**	**18 59 34.5**	**+2.0**
JYNG	**Yonagunijimaku**	**2.06**	**278**	eS	**Sn**	**18 59 59.0**	**+1.1**
NACB	**Ninganchiao**	**3.27**	**270**	ePn	**Pn**	**18 59 50.5**	**+0.5**
NACB				eSn	**Sn**	**19 00 24.5**	**-3.5**
TATO	**Taipei**	**3.45**	**284**	ePn	**Pn**	**18 59 52.8**	**+0.3**
YHNB	**Yeheng**	**3.50**	**279**	ePn	**Pn**	**18 59 55.8**	**+2.6**
YULB	**Yu-li**	**3.65**	**258**	ePn	**Pn**	**18 59 54.0**	**-1.2**
YULB				eSn	**Sn**	**19 00 32.9**	**-4.3**
JOW	**Kunigami**	**3.84**	**46**	Pn	**P**	**18 59 59.6**	**+1.8**
	0.4nm,0.3s,baz=184,slow=19,SNR=5.5						
SSLB	**Suanglung**	**3.89**	**265**	ePn	**Pn**	**18 59 59.1**	**+0.6**
SSLB				eSn	**Sn**	**19 00 40.4**	**-2.8**
TWG	**Pinlang**	**4.01**	**251**	ePn	**Pn**	**18 59 58.9**	**-1.3**
TWG				eSn	**Sn**	**19 00 42.0**	**-4.2**
TPUB	**Ta-pu**	**4.26**	**259**	ePn	**Pn**	**19 00 04.8**	**+1.1**
TPUB				eSn	**Sn**	**19 00 54.1**	**+1.6**
KSAR	**Wonju Array Be**	**13.41**	**9**	Pn	Pn	19 02 11.3	+2.3
KSRS	**Korea Array**	**13.43**	**9**	Pn	Pn	19 02 11.3	+2.1
	0.0nm,0.3s,baz=183,slow=14,SNR=3.7						
KSRS				LR	LR	19 07 40.8	
	comp=Z,134nm,19.6s,baz=176,slow=39						
ENH	**Enshi**	**15.21**	**297**	Pn	**P**	**19 02 37.3**	**-0.9**
	4.9nm,0.7s						
MAJO	**Matsushiro**	**16.65**	**39**	Pn	P	19 02 57.7	+3.6
MJAR	**Matsushiro Arr**	**16.65**	**39**	Pn	**P**	**19 02 55.1**	**+1.1**
	0.2nm,0.3s,baz=231,slow=10,SNR=3.4						
ASAJ	**Asahikawa**	**24.45**	**31**	LR	LR	19 14 57.1	
	comp=Z,66nm,18.2s,baz=197,slow=39						
CHTO	**Chiang Mai**	**24.97**	**263**	P	**P**	**19 04 20.2**	**-1.7**
	3.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**25.08**	**262**	P	**P**	**19 04 22.8**	**-0.1**
	0.5nm,0.7s,baz=67,slow=8.7,SNR=5.3						
CMAR				LR	LR	19 15 12.4	
	comp=Z,82nm,18.6s,baz=68,slow=39						
KSM	**Kuching**	**26.78**	**215**	P	**P**	**19 04 38.2**	**-0.1**
	4.7nm,0.9s						
SONM	**Songino Array**	**27.92**	**332**	P	**P**	**19 04 47.4**	**-1.0**
	0.4nm,0.7s,baz=146,slow=9.1,SNR=4.3						
SONM				LR	LR	19 17 26.1	
	comp=Z,204nm,18.3s,baz=106,slow=40						
LSA	**Lhasa**	**30.76**	**288**	eP	**P**	**19 05 13.0**	**-1.1**
	2.9nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**38.84**	**88**	T	T	19 47 36.9	
	baz=287						
H11N2	**WAKE ISLAND Hy**	**38.84**	**88**	T	T	19 47 38.7	
	baz=287,slow=76,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**38.86**	**88**	T	T	19 47 40.3	
	baz=287,slow=76,SNR=3.8						
MK31	**Makanchi Array**	**40.91**	**314**	eP	**P**	**19 06 39.9**	**-0.4**
MKAR	**Makanchi Array**	**40.91**	**314**	P	**P**	**19 06 40.7**	**+0.4**
	2.2nm,0.7s,baz=101,slow=10,SNR=26						
MKAR				LR	LR	19 25 04.0	
	comp=Z,82nm,19.9s,baz=60,slow=38						
ZALV	**Zalesovo Beam**	**42.27**	**325**	P	**P**	**19 06 50.5**	**-0.8**
	1.4nm,0.7s,baz=98,slow=11,SNR=6.3						
ZALV				LR	LR	19 26 09.9	
	comp=Z,112nm,18.1s,baz=72,slow=39						
KURK	**Kurchatov**	**44.46**	**319**	P	**P**	**19 07 09.1**	**0.0**
KURBB	**Kurchatov Arra**	**44.48**	**319**	P	**P**	**19 07 09.1**	**-0.2**
	1.3nm,0.7s,baz=110,slow=8.3,SNR=14						
TKM2	**Tokmak 2**	**44.65**	**307**	eP	**P**	**19 07 10.6**	**-0.4**
	2.6nm,0.6s						
WRAB	**Tennant Creek**	**44.76**	**168**	eP	**P**	**19 07 11.8**	**0.0**
	9.3nm,1.0s						
WRA	**Warramunga Arr**	**44.77**	**168**	P	**P**	**19 07 12.1**	**+0.3**
	5.6nm,0.5s,baz=348,slow=8.8,SNR=21						
EKS2	**Erkin-Say**	**45.94**	**307**	P	**P**	**19 07 18.3**	**-2.9**
ASAR	**Alice Springs**	**48.32**	**169**	P	**P**	**19 07 40.5**	**+0.8**
	2.5nm,0.5s,baz=356,slow=13,SNR=26						
ASAR				PcP	**PcP**	**19 09 06.7**	**+0.6**
	0.7nm,0.9s,baz=350,slow=3.8,SNR=4.0						
CTAO	**Charters Tower**	**48.56**	**153**	P	**P**	**19 07 39.4**	**-2.1**
	30nm,1.4s						
BVAR	**Borovoye Array**	**50.00**	**320**	P	**P**	**19 07 52.7**	**+0.5**
	0.5nm,0.6s,baz=108,slow=9.0,SNR=4.5						
ABKAR	**Akbulak array**	**56.05**	**314**	eP	**P**	**19 08 37.5**	**+0.6**
	3.4nm,0.6s						
AKTO	**Aktyubinsk**	**57.32**	**316**	P	P	19 08 49.1	+3.3
	0.9nm,0.5s,baz=119,slow=17,SNR=3.7						
STKA	**Stephens Creek**	**57.92**	**164**	P	**P**	**19 08 50.7**	**+0.5**
	3.1nm,0.7s,baz=335,slow=6.2,SNR=9.3						
ILAR	**Eielson Array**	**67.52**	**28**	P	**P**	**19 09 55.3**	**+1.5**
	0.2nm,0.6s,baz=283,slow=6.8,SNR=4.2						
FINES	**FINESS Array B**	**73.26**	**330**	P	**P**	**19 10 29.9**	**+1.0**
	1.4nm,0.7s,baz=64,slow=6.3,SNR=4.2						
FINES				LR	LR	19 46 54.6	
	comp=Z,108nm,18.7s,baz=78,slow=39						
AKASG	**Malin Array Be**	**75.27**	**319**	P	**P**	**19 10 41.3**	**+0.5**
	0.2nm,0.4s,baz=69,slow=5.9,SNR=3.7						
BRTR	**Keskin Array B**	**76.09**	**307**	P	P	19 10 48.3	+2.4
	0.7nm,0.8s,baz=34,slow=3.1,SNR=3.6						
NB2	**NORSAR Subarra**	**79.89**	**333**	P	**P**	**19 11 07.1**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=55,slow=5.6						
NOA	**NORSAR Array B**	**79.89**	**333**	P	**P**	**19 11 07.7**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=54,slow=5.7,SNR=3.0						
NOA				LR	LR	19 51 11.9	
	comp=Z,44nm,18.4s,baz=175,slow=39						
YKA	**Yellowknife Ar**	**81.51**	**24**	P	**P**	**19 11 15.9**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=302,slow=5.1,SNR=8.2						

*ISCJB **06** 19:42:00.5±0.4, 5.°84N±0.°04×82.°55W±0.°05, h15km, mb4.0/22, MS3.5/9, Error ellipse: s-maj=7.8km s-min=4.5km az=141.2*

*IDC **06** 19:42:00.3±1.0, 5.°75N×82.°63W, h0km, mb3.8/12, mb1 4.1/15, mb1mx4.0/26, mbtmp3.9/15, ML4.2/2, MS3.6/12, Ms1 3.6/12, ms1mx3.4/33, Error ellipse: s-maj=33.1km s-min=14.8km az=46.0*

*NEIC **06** 19:42:01.0±0.5, 5.°72N×82.°63W, h10km, mb4.4/10, Error ellipse: s-maj=12.2km s-min=8.0km az=224.0*

*CASC **06** 19:42:02.2±2.1, 5.°88N×82.°60W, h18km±65km, MD4.4, mb4.4(NEIC)*

ISC 06 19:42:01.4±0.5, 5.°73N±0.°06×82.°61W±0.°06, h15km, n63, σ1°60/53, mb4.1/22, MS3.5/9, 3C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**2.96**	**349**	eP	**Pn**	**19 42 45.1**	**-2.8**
BRU2	**Volcan**	**3.04**	**359**	⇓iP	**Pn**	**19 42 48.2**	**-1.1**
BRU2				eP	Pb	19 42 48.4	-7.1
CTCR	**Cotoan**	**3.15**	**357**	eP	**Pn**	**19 42 49.4**	**-1.4**
BUS	**Buena Vista**	**3.97**	**343**	⇑eP	**Pn**	**19 43 01.0**	**-1.2**
BUS				eS	**Sn**	**19 43 47.9**	**-0.8**
QCR	**Quepos**	**3.98**	**337**	⇑eP	**Pn**	**19 43 00.5**	**-1.5**
QCR				eS	**Sn**	**19 43 45.0**	**-3.4**
ZANG	**Zanguenga, Cho**	**4.21**	**40**	eP	**Pn**	**19 43 04.1**	**-1.0**
ZANG				eS	**Sn**	**19 43 51.6**	**-2.4**
BCIP	**Isla Barro Col**	**4.38**	**39**	eP	**Pn**	**19 43 06.8**	**-0.8**
BCIP	**Isla Barro Col**	**4.38**	**39**	eP	**Pn**	**19 43 05.4**	**-2.2**
SJS	**Escuela Geolog**	**4.42**	**341**	eP	**Pn**	**19 43 08.0**	**-0.1**
UPA	**Univ. de Panam**	**4.45**	**43**	eP	**Pn**	**19 43 06.7**	**-1.7**
CGA2	**Cerro Gallo 2**	**4.64**	**337**	eP	**Pn**	**19 43 10.7**	**-0.5**
CGA2				eS	**Sn**	**19 44 03.6**	**-1.2**
CAO	**Cobano**	**4.65**	**328**	eP	**Pn**	**19 43 10.4**	**-0.8**
JCR	**Jicaral**	**4.78**	**329**	⇑iP	**Pn**	**19 43 12.7**	**-0.4**
JTS	**JuntasAbangare**	**5.09**	**333**	Pn	**Pn**	**19 43 16.8**	**-0.4**
	67nm,0.3s,baz=167,slow=17,SNR=104						
JTS				Sn	**Sn**	**19 44 15.5**	**-0.4**
	13nm,0.3s,baz=234,slow=19,SNR=4.7						
JTS	**JuntasAbangare**	**5.09**	**333**	ePn	**Pn**	**19 43 16.3**	**-0.9**
	140nm,0.4s						
JTS				eSn	Sn	19 44 06.8	-9.0
JTS				Sn	Sb	19 44 15.5	-16
OTAV	**Otavalo**	**6.86**	**143**	ePn	**Pn**	**19 43 41.6**	**-0.4**
	7.9nm,0.5s						
OTAV				eSn	**Sn**	**19 44 56.5**	**-3.5**
ROSC	**El Rosal**	**8.29**	**96**	Pn	**Pn**	**19 44 04.0**	**+2.3**
	1.1nm,0.3s,baz=260,slow=17,SNR=2.9						
PAYG	**Puerto Ayora**	**9.96**	**231**	Pn	**Pn**	**19 44 22.3**	**-1.9**
APG	**El Apazote**	**12.02**	**321**	Pn	**Pn**	**19 44 53.6**	**+1.0**
	1.0nm,0.3s,baz=115,slow=11,SNR=8.1						
APG				LR	LR	19 48 59.8	
	comp=Z,267nm,20.5s,baz=108,slow=35						
SDV	**Santo Domingo**	**12.29**	**75**	ePn	**Pn**	**19 44 56.1**	**-0.1**
	15nm,0.6s						
SDV				eSn	Sn	19 47 05.2	-8.0
ATAH	**Atahualpa**	**13.46**	**162**	LR	LR	19 49 56.4	
	comp=Z,436nm,19.5s,baz=348,slow=35						
TEIG	**Tepich**	**15.43**	**340**	LR	LR	19 50 59.3	
	comp=Z,174nm,21.7s,baz=248,slow=35						
SDDR	**Presa de Saban**	**17.18**	**39**	ePn	**Pn**	**19 45 57.5**	**-3.7**
NNA	**Nana**	**18.51**	**162**	P	**Pn**	**19 46 18.6**	**+0.9**
	1.1nm,0.3s,baz=322,slow=12,SNR=4.4						
SJG	**San Juan**	**20.25**	**51**	P	Pn	19 46 37.5	-0.8
	18nm,0.7s,baz=274,slow=6.1,SNR=4.7						
SJG				LR	LR	19 54 38.9	
	comp=Z,171nm,20.6s,baz=269,slow=38						
SJG	**San Juan**	**20.25**	**51**	P	**P**	**19 46 36.4**	**0.0**
	46nm,1.2s						
PTGA	**Pitinga**	**23.51**	**105**	P	**P**	**19 47 12.2**	**+1.1**
	3.8nm,0.8s,baz=294,slow=13,SNR=2.8						
PTGA				LR	LR	19 56 20.8	
	comp=Z,124nm,19.8s,baz=306,slow=37						
SAML	**Samuel**	**24.25**	**127**	eP	**P**	**19 47 16.9**	**-1.3**
	12nm,1.2s						
LPAZ	**La Paz**	**26.15**	**147**	P	**P**	**19 47 37.1**	**+1.1**
	1.1nm,0.7s,baz=308,slow=12,SNR=4.4						
LPAZ				LR	LR	19 59 01.0	
	comp=Z,264nm,20.1s,baz=311,slow=39						
LPAZ	**La Paz**	**26.15**	**147**	eP	**P**	**19 47 36.4**	**+0.3**
	1.8nm,0.8s						
SIV	**San Ignacio**	**30.34**	**136**	LR	LR	20 01 31.2	
	comp=Z,133nm,19.8s,baz=258,slow=39						
H06E1	**SOCORRO T-PHAS**	**30.49**	**298**	T	T	20 20 53.7	
	SNR=15						
TXAR	**Lajitas Array**	**30.77**	**322**	P	**P**	**19 48 15.9**	**-0.7**
	0.2nm,0.4s,baz=114,slow=9.0,SNR=6.4						
TXAR				LR	LR	20 00 49.2	
	comp=Z,46nm,19.5s,baz=0.0,slow=37						
ACSO	**Alum Creek Sta**	**34.35**	**360**	P	**P**	**19 48 47.0**	**-0.7**
	19nm,1.1s						
ANMO	**Albuquerque**	**36.46**	**326**	P	**P**	**19 49 09.1**	**+2.9**
	3.3nm,1.0s						
SDCO	**Great Sand Dun**	**38.08**	**330**	eP	P	19 49 23.8	+3.8
	12nm,1.4s						
H03N2	**Juan Fernandez**	**39.11**	**175**	T	T	20 31 03.2	
	baz=355,slow=76,SNR=12						
H03N1	**Juan Fernandez**	**39.11**	**175**	T	T	20 30 56.3	
	baz=355,slow=76,SNR=14						
H03N3	**Juan Fernandez**	**39.13**	**175**	T	T	20 30 55.9	
	baz=355,slow=76,SNR=14						
CPUP	**Villa Florida**	**40.21**	**144**	LR	LR	20 06 19.4	
	comp=Z,66nm,18.1s,baz=302,slow=36						
BDFB	**Brasilia**	**40.31**	**122**	LR	LR	20 06 33.4	
	comp=Z,91nm,18.8s,baz=265,slow=36						
PV10	**Paradox Valley**	**40.39**	**327**	P	**P**	**19 49 39.0**	**-0.3**
	76nm,0.7s						
RSSD	**Black Hills**	**42.61**	**337**	P	**P**	**19 49 56.8**	**-0.6**
	11nm,1.5s						
PDAR	**Pinedale Array**	**43.92**	**331**	P	**P**	**19 50 09.4**	**+1.4**
	0.5nm,0.8s,baz=129,slow=8.3,SNR=3.0						
PDAR				LR	LR	20 10 18.6	
	comp=Z,150nm,18.6s,baz=332,slow=39						
HWUT	**Hardware Ranch**	**44.06**	**329**	P	**P**	**19 50 11.2**	**+2.1**
	7.1nm,1.0s						
ULM	**Lac du Bonnet**	**45.75**	**348**	P	**P**	**19 50 21.9**	**-0.2**
	2.4nm,0.7s,baz=174,slow=8.7,SNR=5.5						
NVAR	**Mina Array Bea**	**45.88**	**320**	P	**P**	**19 50 25.3**	**+1.6**
	0.3nm,0.5s,baz=112,slow=8.3,SNR=3.3						
NVAR				LR	LR	20 11 35.0	
	comp=Z,58nm,19.9s,baz=27,slow=39						
HLID	**Hailey**	**46.93**	**328**	P	**P**	**19 50 29.5**	**-2.3**
	1.2nm,0.8s						
WALA	**Waterton Lakes**	**50.65**	**334**	P	**P**	**19 50 59.5**	**-0.7**
	0.3nm,1.3s						
EDM	**Edmonton**	**53.59**	**338**	eP	**P**	**19 51 22.0**	**0.0**
YKA	**Yellowknife Ar**	**61.34**	**344**	P	**P**	**19 52 17.1**	**+0.8**
	1.4nm,0.8s,baz=139,slow=6.6,SNR=28						
INK	**Inuvik**	**71.01**	**342**	P	**P**	**19 53 20.9**	**+2.6**
	4.0nm,1.0s,baz=110,slow=6.3,SNR=8.8						
SUMG	**Summit**	**71.96**	**13**	P	**P**	**19 53 25.6**	**+1.1**
	9.9nm,1.1s						
ILAR	**Eielson Array**	**74.05**	**336**	P	**P**	**19 53 38.8**	**+2.2**
	1.0nm,1.1s,baz=126,slow=5.9,SNR=4.8						
ESDC	**Sonseca Array**	**77.63**	**51**	P	**P**	**19 53 59.0**	**+1.5**
	0.2nm,0.5s,baz=271,slow=6.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**83.19**	**77**	P	**P**	**19 54 28.4**	**+0.5**
	0.3nm,0.6s,baz=274,slow=6.6,SNR=3.7						
NOA	**NORSAR Array B**	**86.89**	**29**	P	P	19 54 50.7	+5.2
	0.7nm,0.8s,baz=274,slow=5.2,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**107.59**	**291**	T	T	21 56 49.8	
	baz=78,slow=73,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**107.59**	**291**	T	T	21 56 43.8	
	baz=78,slow=73,SNR=7.0						
H11S3	**WAKE ISLAND Hy**	**107.61**	**291**	T	T	21 56 53.3	
	baz=78,slow=73,SNR=8.1						
ASAR	**Alice Springs**	**140.61**	**239**	PKhKP	PKPpre	20 01 27.5	
	0.3nm,0.9s,baz=114,slow=2.6,SNR=4.4						
ASAR				PKP	**PKPdf**	**20 01 30.4**	**-1.0**
	0.3nm,0.8s,baz=114,slow=2.6,SNR=4.2						
WRA	**Warramunga Arr**	**141.42**	**245**	PKhKP	PKPpre	20 01 29.6	
	0.4nm,1.0s,baz=103,slow=2.9,SNR=3.3						
WRA				PKP	**PKPdf**	**20 01 33.6**	**+0.7**
	0.4nm,0.7s,baz=102,slow=2.3,SNR=7.6						
CMAR	**Chiang Mai Arr**	**155.92**	**356**	PKPbc	PKPdf	20 02 07.4	+11
	0.6nm,0.9s,baz=4.8,slow=1.1,SNR=5.0						

*NIED **06** 20:09:00, 26.°50N×127.°60E, h53km, Mw4.0 Best double couple: Mo1.33000×10^15 NP1:φs301.00000°, δ27.00000°, λ167.00000°. NP2:φs42.00000°, δ84.00000°, λ64.00000°.*

*ISCJB **06** 20:09:22.6±0.3, 26.°51N±0.°04×127.°67E±0.°04, h56km±3km, mb3.6/12, MS2.9/2, Error ellipse: s-maj=8.9km s-min=3.9km az=141.4*

*IDC **06** 20:09:23.2±1.6, 26.°47N×127.°65E, h49km±16km, mb3.5/12, mb1 3.7/14, mb1mx3.6/37, mbtmp3.8/14, ML3.5/2, MS3.0/3, Ms1 3.1/3, ms1mx2.9/24, Error ellipse: s-maj=24.5km s-min=21.9km az=72.0*

*JMA **06** 20:09:23.8±0.2, 26.°55N×127.°66E, h46km±3km, M3.8*

JMA Felt I J1.

ISC 06 20:09:23.5±0.7, 26.°46N±0.°05×127.°71E±0.°04, h54km±6km, n41, σ1°20/53, mb3.6/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.29**	**78**	P	**Pn**	**20 09 32.6**	**-0.3**
JNTH				eS	**Sn**	**20 09 38.5**	**-1.2**
JJT2	**Tamagusuku 2**	**0.32**	**174**	P	**Pn**	**20 09 33.7**	**+0.4**
JJT2				eS	**Sn**	**20 09 41.5**	**+1.3**
JAGN	**Aguni-jima**	**0.44**	**287**	P	**Pn**	**20 09 33.2**	**-1.2**
JAGN				eS	**Sn**	**20 09 40.1**	**-2.0**
JIH	**Iheya**	**0.62**	**22**	P	**Pn**	**20 09 35.7**	**-0.7**
JIH				eS	**Sn**	**20 09 44.3**	**-1.5**
JOW	**Kunigami**	**0.63**	**54**	P	**Pn**	**20 09 36.6**	**0.0**
JOW				eS	**Sn**	**20 09 45.4**	**-0.7**
JOW	**Kunigami**	**0.63**	**54**	P	**Pn**	**20 09 36.6**	**0.0**
	44nm,0.3s,baz=237,slow=12,SNR=318						
JOW				S	**Sn**	**20 09 45.3**	**-0.7**
	90nm,0.3s,baz=125,slow=19,SNR=73						
JOW				LR	LR	20 10 04.2	
	comp=Z,37nm,20.0s,baz=33,slow=62						
JKE	**Kume jima 2**	**0.84**	**261**	P	**Pn**	**20 09 38.1**	**-1.1**
JKE				eS	**Sn**	**20 09 49.6**	**-1.1**
JOKE	**Okinoerabujima**	**1.18**	**40**	P	**Pn**	**20 09 43.4**	**-0.4**
JOKE				eS	**Sn**	**20 09 57.9**	**-1.0**
JTK	**Tokunoshima**	**1.72**	**40**	P	**Pn**	**20 09 50.9**	**-0.3**
JTK				eS	**Sn**	**20 10 10.9**	**-1.1**
JAMN	**Amaminishikomi**	**2.20**	**36**	P	**Pn**	**20 09 57.3**	**-0.4**
JAM	**Amami Oshima**	**2.57**	**41**	P	**Pn**	**20 10 03.2**	**+0.5**
JAM				eS	**Sn**	**20 10 32.4**	**-0.4**
JZK	**Kikaishima**	**2.73**	**47**	eS	**Sn**	**20 10 38.1**	**+1.4**
JTAJ	**Takarajima**	**2.99**	**26**	P	**Pn**	**20 10 08.3**	**-0.2**
JTAJ				eS	**Sn**	**20 10 42.4**	**-0.7**
JMZ	**Minamidaito 2**	**3.22**	**101**	P	**Pn**	**20 10 10.1**	**-1.5**
JMZ				eS	**Sn**	**20 10 43.8**	**-5.0**
JTJ	**Tarama**	**3.27**	**237**	P	**Pn**	**20 10 14.7**	**+2.5**
JISG	**Ishigakijimahi**	**3.59**	**239**	P	**Pn**	**20 10 16.9**	**+0.2**
JIJ	**Ishigaki jima**	**3.84**	**238**	P	**Pn**	**20 10 21.2**	**+1.0**
JKRS	**Kuro-shima**	**4.01**	**237**	P	**Pn**	**20 10 22.1**	**-0.4**
IRIF	**Iriomote-Funau**	**4.17**	**240**	P	**Pn**	**20 10 24.9**	**+0.2**
JNU	**Nakatsue**	**7.19**	**22**	P	**Pn**	**20 11 07.8**	**+1.7**
	1.6nm,0.3s,baz=343,slow=1.8,SNR=19						
KSRS	**Korea Array**	**10.96**	**1**	P	**Pn**	**20 11 58.9**	**+1.3**
	0.1nm,0.3s,baz=181,slow=15,SNR=8.3						
KSRS				LR	LR	20 16 21.4	
	comp=Z,64nm,18.4s,baz=163,slow=38						
SONM	**Songino Array**	**27.11**	**327**	P	**P**	**20 15 03.0**	**+1.5**
	1.1nm,0.8s,baz=140,slow=10,SNR=14						
SONM				LR	LR	20 27 08.7	
	comp=Z,72nm,21.2s,baz=58,slow=39						
CMAR	**Chiang Mai Arr**	**27.71**	**259**	P	**P**	**20 15 07.5**	**+0.6**
	0.7nm,0.7s,baz=58,slow=8.6,SNR=7.8						
CMAR				LR	LR	20 27 06.1	
	comp=Z,16nm,18.4s,baz=40,slow=38						
TAPN	**Taplejung**	**35.58**	**281**	eP	**P**	**20 16 16.1**	**-0.2**
	4.7nm,0.7s						
ODAN	**Odare**	**35.93**	**280**	eP	**P**	**20 16 19.0**	**-0.2**
	13nm,0.6s						
PKI	**Pulchoki**	**37.57**	**282**	eP	**P**	**20 16 32.7**	**-0.6**
	6.1nm,0.7s						
PKIN	**Phulchoki**	**37.58**	**282**	eP	**P**	**20 16 32.6**	**-0.7**
	5.7nm,0.7s						
DMN	**Daman**	**37.83**	**282**	eP	**P**	**20 16 35.3**	**-0.1**
GKN	**Gorkha**	**38.19**	**282**	eP	**P**	**20 16 37.5**	**-0.8**
	7.9nm,0.7s						
DANN	**Dangsing**	**38.90**	**283**	eP	**P**	**20 16 44.6**	**+0.1**
	14nm,0.8s						
KOLN	**Koldanda**	**39.13**	**282**	eP	**P**	**20 16 46.3**	**+0.1**
MKAR	**Makanchi Array**	**41.03**	**312**	P	**P**	**20 17 00.4**	**-1.1**
	1.1nm,0.7s,baz=98,slow=8.9,SNR=14						
ZALV	**Zalesovo Beam**	**41.78**	**323**	P	**P**	**20 17 06.9**	**-0.6**
	1.7nm,0.6s,baz=110,slow=8.0,SNR=9.8						
WRA	**Warramunga Arr**	**46.57**	**171**	P	**P**	**20 17 47.1**	**+0.9**
	0.3nm,0.6s,baz=353,slow=8.7,SNR=4.7						
ILAR	**Eielson Array**	**64.46**	**28**	P	**P**	**20 19 54.1**	**0.0**
	0.2nm,0.8s,baz=290,slow=5.7,SNR=4.3						
KBZ	**Khabaz**	**68.65**	**309**	P	**P**	**20 20 21.3**	**+0.1**
	3.7nm,0.9s,baz=182,slow=6.9,SNR=5.7						
FINES	**FINESS Array B**	**72.43**	**330**	P	**P**	**20 20 43.2**	**-0.6**
	1.2nm,0.7s,baz=80,slow=8.6,SNR=5.4						
AKASG	**Malin Array Be**	**75.05**	**319**	P	**P**	**20 20 58.7**	**-0.7**
	0.3nm,0.4s,baz=55,slow=6.9,SNR=4.8						
BRTR	**Keskin Array B**	**76.52**	**308**	P	**P**	**20 21 07.3**	**-1.0**
	1.8nm,0.9s,baz=68,slow=5.1,SNR=8.3						
YKA	**Yellowknife Ar**	**78.51**	**25**	P	**P**	**20 21 19.8**	**+1.1**
	0.4nm,0.8s,baz=301,slow=5.6,SNR=6.3						
GERES	**GERESS Array B**	**84.73**	**323**	P	**P**	**20 21 52.9**	**+1.0**
	0.4nm,0.7s,baz=45,slow=4.3,SNR=4.3						

*IDC **06** 20:15:55.6±1.1, 49.°79N×178.°24W, h0km, mb3.6/11, mb1 3.9/12, mb1mx3.7/34, mbtmp3.7/12, ML2.5/1, Error ellipse: s-maj=28.9km s-min=18.8km az=178.0*

*ISCJB **06** 20:15:56.2±1.7, 49.°77N±0.°05×178.°20W±0.°07, h20km±12km, mb3.8/15, Error ellipse: s-maj=8.5km s-min=6.8km az=140.9*

*NEIC **06** 20:15:57.8, 49.°92N×178.°24W, h10km, mb4.2/7, ML3.5(AEIC), After AEIC.*

ISC 06 20:15:57.5±3.6, 49.°94N±0.°08×178.°38W±0.°05, h10km±22km, n50, σ1°01/46, mb3.8/15, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**1.86**	**353**	P	**Pb**	**20 16 31.6**	**+0.1**
GAEA				S	**Sb**	**20 16 55.9**	**+1.2**
TASE	**Tanaga Southea**	**1.91**	**6**	P	**Pb**	**20 16 31.4**	**-0.9**
TASE				S	**Sb**	**20 16 56.5**	**+0.2**
TAFP	**Tanaga Falls P**	**1.98**	**7**	P	**Pn**	**20 16 31.9**	**+0.9**
TAFP				S	**Sb**	**20 16 57.6**	**-0.6**
AMKA	**Amchitka**	**2.06**	**315**	ePn	**Pn**	**20 16 32.1**	**0.0**
AMKA				eSn	**Sn**	**20 16 55.1**	**-2.7**
KIKV	**Kanaga Island**	**2.08**	**21**	P	**Pn**	**20 16 33.0**	**+0.5**
KIKV				S	**Sb**	**20 16 59.7**	**-1.6**
KICM	**Kanaga Island**	**2.12**	**20**	P	**Pn**	**20 16 33.5**	**+0.6**
KIRH	**Kanaga Island**	**2.12**	**22**	P	**Pn**	**20 16 33.7**	**+0.8**
ADAG	**Mount Adagdak**	**2.33**	**28**	P	**Pn**	**20 16 36.2**	**+0.4**
GSCK	**Great Sitkin C**	**2.50**	**33**	P	**Pn**	**20 16 38.2**	**0.0**
GSTD	**Great Sitkin T**	**2.54**	**33**	P	**Pn**	**20 16 38.9**	**+0.1**
GSTD				S	**Sn**	**20 17 09.4**	**-0.4**
GSMY	**Great Sitkin M**	**2.56**	**34**	P	**Pn**	**20 16 39.1**	**+0.1**
GSTR	**Great Sitkin T**	**2.60**	**33**	ePn	**Pn**	**20 16 39.8**	**+0.2**
GSTR				eSn	Sn	20 17 00.2	-11
KOKL	**Mount Kliuchef**	**3.55**	**46**	P	**Pn**	**20 16 52.5**	**-0.2**
KOKL				S	**Sn**	**20 17 34.8**	**+0.2**
KOWE	**Korovin West**	**3.56**	**45**	P	**Pn**	**20 16 53.0**	**+0.4**
KOFP	**Korovin Flat P**	**3.57**	**47**	P	**Pn**	**20 16 52.5**	**-0.3**
KOFP				S	**Sn**	**20 17 32.9**	**-2.1**
FX1	**Attu Island--F**	**6.06**	**302**	Pn	Pn	20 17 21.1	-5.9
	4.2nm,0.3s,baz=355,slow=17,SNR=6.8						
FX1				Sn	**Sn**	**20 18 34.2**	**-2.0**
	1.8nm,0.3s,baz=90,slow=20,SNR=3.1						
NIKH	**Nikolski High**	**6.68**	**59**	P	**Pn**	**20 17 34.7**	**-0.8**
MSOM	**Makushin Julie**	**8.06**	**57**	P	**Pn**	**20 17 54.0**	**-0.5**
MREP	**Makushin Rep't**	**8.17**	**57**	P	**Pn**	**20 17 56.2**	**+0.2**
UNV	**Unalaska Valle**	**8.32**	**57**	ePn	**Pn**	**20 17 57.8**	**-0.2**
UNV				eSn	Sn	20 19 24.5	-7.3
FALS	**False Pass**	**10.38**	**56**	ePn	Pn	20 18 18.6	-7.5
FALS				eSn	Sn	20 20 08.5	-14
PETK	**Petropavlovsk-**	**15.20**	**291**	P	**Pn**	**20 19 31.5**	**-0.5**
	0.1nm,0.3s,baz=82,slow=16,SNR=2.8						
BILL	**Bilibino**	**19.69**	**343**	eP	**Pn**	**20 20 27.9**	**+0.1**
	6.1nm,1.1s						
KTH	**Kantishna Hill**	**20.09**	**37**	eP	Pn	20 20 31.6	-1.0
	15nm,1.0s						
SEY	**Seymchan**	**20.51**	**320**	P	Pn	20 20 38.2	+0.6
	3.5nm,0.9s,baz=125,slow=13,SNR=8.8						
MCK	**McKinley**	**20.95**	**38**	P	**P**	**20 20 42.0**	**+1.8**
ILAR	**Eielson Array**	**22.22**	**36**	P	**P**	**20 20 52.9**	**-0.9**
	0.5nm,0.9s,baz=236,slow=9.7,SNR=3.3						
YAK	**Yakutsk**	**30.59**	**313**	P	**P**	**20 22 10.2**	**-0.8**
	3.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**32.35**	**207**	T	T	20 56 04.4	
	baz=20,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**32.36**	**207**	T	T	20 56 16.3	
	baz=20,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**32.37**	**207**	T	T	20 56 04.7	
	baz=20,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**33.57**	**206**	T	T	20 57 34.7	
	baz=14,slow=78						
H11S2	**WAKE ISLAND Hy**	**33.58**	**206**	T	T	20 57 40.6	
	baz=14,slow=78						
H11S3	**WAKE ISLAND Hy**	**33.58**	**206**	T	T	20 57 39.2	
	baz=14,slow=78						
YKA	**Yellowknife Ar**	**36.04**	**45**	P	**P**	**20 23 00.4**	**+2.0**
	0.8nm,0.7s,baz=280,slow=7.8,SNR=15						
PDAR	**Pinedale Array**	**46.50**	**71**	P	**P**	**20 24 24.0**	**-1.0**
	0.3nm,0.7s,baz=149,slow=0.9,SNR=2.8						
SONM	**Songino Array**	**47.55**	**298**	P	**P**	**20 24 34.5**	**+1.6**

0.8nm,0.8s,baz=46,slow=8.3,SNR=5.6
TXAR Lajitas Array 58.62 81 P P 20 25 53.5 -1.2
0.2nm,0.6s,baz=312,slow=5.4,SNR=3.4
ARCES ARCESS Array B 59.55 350 P P 20 26 01.1 +0.7
4.8nm,1.0s,baz=16,slow=7.8,SNR=3.0
KURK Kurchatov 60.22 314 P P 20 26 05.1 -0.1
0.6nm,0.8s
MKAR Makanchi Array 61.15 309 P P 20 26 12.0 +0.2
0.5nm,0.8s,baz=50,slow=6.2,SNR=7.3
BRVK Borovoye 62.19 321 P P 20 26 20.0 +1.5
1.3nm,0.8s
FINES FINESS Array B 67.25 348 P P 20 26 52.0 +0.5
1.8nm,0.9s,baz=15,slow=5.8,SNR=3.0
AAK Ala-Archa 68.00 310 eP P 20 26 56.5 -0.3
1.6nm,0.7s
EKS2 Erkin-Say 68.33 311 eP P 20 26 59.8 +1.1
1.3nm,0.6s
NOA NORSAR Array B 69.10 355 P P 20 27 03.5 +0.3
0.5nm,0.8s,baz=7.5,slow=6.5,SNR=2.8
WRA Warramunga Arr 81.17 224 P P 20 28 12.9 -0.2
0.4nm,0.9s,baz=46,slow=4.8,SNR=3.0
H03N2 Juan Fernandez 120.48 107 T T 22 46 38.5
baz=312,slow=74
H03N1 Juan Fernandez 120.50 107 T T 22 46 46.5
baz=312
H03N3 Juan Fernandez 120.50 107 T T 22 46 47.4
baz=312,slow=74

*IDC **06** 20:31:57.0±0.4, 16.02S×172.75W, h0km, mb4.8/19, mb1 5.0/19, mb1mx4.8/32, mbtmp4.8/19, MS5.1/39, Ms1 5.1/39, ms1mx5.1/44, Error ellipse: s-maj=18.8km s-min=11.5km az=118.0*

*GCMT **06** 20:31:58.5±0.1, 15.88S×172.41W, h12km±1km, MW5.5/106, Moment Tensor Solution. s84,c137; s106,c195; Duration: 1.3 Moment tensor: Scale 10^{17} Nm; M_{rr}0.10±.01; $M_{\theta\theta}$-0.34±.02; $M_{\phi\phi}$0.24±.01; $M_{r\theta}$-0.82±.13; $M_{\theta\phi}$-0.59±.02; $M_{\phi r}$-1.77±.26; Best double couple: $M_0$2.05300×10^{17} NP1:ϕ_s203.00000°, δ88.00000°, λ73.00000°. NP2:ϕ_s105.00000°, δ18.00000°, λ172.00000°. Principal axes: T 1.9530, Plg45.0000°, Azm96.0000°; N 0.2000, Plg17.0000°, Azm204.0000°; P -2.1530, Plg40.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **06** 20:31:58.5±0.1, 16.00S×172.74W, h10km, mb5.6/160, MS5.3/132 Error ellipse: s-maj=7.6km s-min=3.8km az=140.0*

*BJI **06** 20:31:58.9, 15.80S×172.60W, h19km, mB5.7/45, mb5.2/48, Ms5.5/50, Ms7 5.2/51*

*ISCJB **06** 20:32:00.5±0.1, 15.97S±0.04×172.86W±0.03, h30km, mb5.5/233, MS5.3/202, Error ellipse: s-maj=5.9km s-min=2.6km az=150.3*

*MOS **06** 20:32:03.7±1.2, 15.30S×172.64W, h33km, mb5.7/48, MS5.3/47, Error ellipse: s-maj=11.4km s-min=7.4km az=64.9*

ISC 06 20:32:02.3±0.3, **15.93S**±0.05×**172.85W**±0.05, **h30**km±1km, **h30**km**:pP-P, n1135,** σ1.31/1053, **mb5.6**/233, **MS5.3**/204, **182C-213D, Samoa Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AFI Afiamalu 2.26 27⇓eP Pn 20 32 29.9 -7.9
AFI T 20 32 54.8
AFI Afiamalu 2.26 27 Pn Pn 20 32 30.4 -7.4
156nm,0.3s,baz=348,slow=2.9,SNR=43
AFI Sn Sn 20 32 54.8 -10
886nm,0.3s,baz=22,slow=19,SNR=15
AFI LR LR 20 33 17.6
comp=Z,8µm,19.7s,baz=178,slow=35
AFI T T 20 34 58.0
220nm,0.3s,baz=241,slow=22,SNR=2.9
AFI Afiamalu 2.26 27⇓ePn Pn 20 32 29.9 -7.9
AFI Sn Sn 20 32 54.8 -10
AFI TT 20 34 58.0
NIUE Niue 4.19 139 P Pn 20 32 56.9 -7.3
baz=3.6,SNR=166
MSVF Nonsavu 8.89 257 Pn Pn 20 34 16.6 +7.7
2µm,1.7s,SNR=13
MSVF Nonsavu 8.89 257⇓eP Pn 20 34 16.0 +7.0
MSVF pmax pmax
comp=Z,946nm,1.4s
MSVF Nonsavu 8.89 257⇓ePn Pn 20 34 15.9 +7.0
comp=Z,946nm,1.4s
RAR Rarotonga 13.46 115 Pn Pn 20 35 02.9 -8.5
comp=Z,14nm,0.3s,SNR=18
RAR LR LR 20 39 43.7
comp=Z,7µm,19.3s,baz=42,slow=35
RAR Rarotonga 13.46 115 ePn Pn 20 35 02.4 -9.0
comp=Z,335nm,1.3s
RAO Raoul Island 14.05 199 LR LR 20 39 44.3
comp=Z,5µm,19.5s,baz=21,slow=33
DZM Mont Dzumac 20.50 249 eP Pn 20 36 40.3 -0.1
comp=Z,457nm,1.4s
DZM eLR LR 20 41 40.3
comp=Z,18µm,23.2s
DZM Mont Dzumac 20.50 249 P P 20 36 32.7 -5.5
comp=Z,13nm,1.1s,baz=74,slow=15,SNR=2.4
DZM LR LR 20 43 24.5
comp=Z,15µm,19.3s,baz=81,slow=33
DZM Mont Dzumac 20.50 249 P P 20 36 32.7 -5.5
DZM eS Sn 20 40 33.9 +3.0
NOUC Port Laguerre 20.63 249 eP Pn 20 36 42.5 +0.7
TARA Tarawa 22.20 319 PFAKE 20 37 10.0 +14
TARA LR LR
comp=Z,9µm,21.0s
PAE Paea 22.34 98 eT T 20 59 51.6
comp=Z,6.2nm,0.3s
PPT Papeete 22.35 97 LR LR 20 43 30.8
comp=Z,7µm,19.0s,baz=249,slow=31
PPT2 Papeete2 22.35 98 eP P 20 36 59.8 +1.7
comp=Z,181nm,1.2s
PPT2 eLQ LQ 20 41 13.4
comp=Z,12µm,26.5s
PPT2 eLR LR 20 42 08.7
comp=Z,11µm,23.5s,baz=262
PPT2 Papeete2 22.35 98 eT T 20 59 52.9
comp=Z,14nm,0.3s
TIAR Tiarei 22.57 97 eT T 21 00 08.0
comp=Z,5.7nm,0.4s
TVO Taravao 22.66 98 eT T 21 00 14.8
comp=Z,4.1nm,0.4s
OUZ Omahuta 22.72 210 eP P 20 37 01.0 -0.8
comp=Z,248nm,1.6s
PUZ Puketiti 23.41 198 P* P 20 37 07.7 -1.1
XMAS Kiritimati 23.47 42 eP P 20 37 06.5 -3.1
comp=Z,189nm,1.0s
MKAZ Moumakai 23.62 204 P* P 20 37 10.8 0.0
URZ Urewera 23.94 200 P P 20 37 13.1 -0.7
comp=Z,13nm,0.4s,baz=335,slow=1.5,SNR=27
URZ S S 20 41 30.1 +1.7
comp=Z,5.0nm,0.4s,baz=257,slow=19,SNR=16
URZ Urewera 23.94 200 eP P 20 37 12.0 -1.7
comp=Z,260nm,1.5s
URZ eS S 20 41 26.6 -1.8
URZ S S 20 41 30.1 +1.7
URZ Urewera 23.94 200 P* P 20 37 12.8 -0.9
BKZ Black Stump Fm 24.96 200 eP P 20 37 22.2 -1.0
comp=Z,30nm,0.9s
PXZ Pawanui 25.63 198 eP* P 20 37 34.3 +5.1
PXZ S* S 20 42 06.6 +11
BFZ Birch Farm 26.41 199 eP pP 20 37 44.0 -1.1
HNR Honiara 27.29 280 LR LR 20 47 21.0
comp=Z,14µm,18.9s,baz=122,slow=34
SNZO South Karori 27.48 201 PFAKE 20 38 00.0 +14
SNZO LR LR
comp=Z,5µm,19.0s
QRZ Quartz Range 27.86 204 P* P 20 37 52.4 +3.1
THZ Tophouse 28.52 203 P* P 20 37 55.6 +0.3
KHZ Kahutara 28.87 201 eP P 20 37 58.2 0.0
comp=Z,38nm,0.7s
KHZ Kahutara 28.87 201 P* P 20 37 59.8 +1.6
LTZ Lake Taylor 29.64 202 P* P 20 38 06.0 +0.9
OXZ Oxford 30.19 202 P* P 20 38 09.6 -0.4
RPZ Rata Peaks 30.89 203 P P 20 38 15.7 -0.6
comp=Z,41nm,0.8s
JCZ Jackson Bay 32.10 205 P* P 20 38 26.4 -0.5
ODZ Otahua Downs 32.18 202 P P 20 38 24.6 -2.9
DCZ Deep Cove 33.91 206 eP P 20 38 45.3 +2.8
comp=Z,53nm,1.2s
DCZ Deep Cove 33.91 206 P* P 20 38 42.1 -0.4
WHZ Wether Hill Ro 33.92 204 eP P 20 38 43.4 +0.7
comp=Z,59nm,1.0s
EIDS Eidsvold 34.94 248 P P 20 38 42.9 -8.8
comp=Z,51nm,1.3s
ARMA Armidale 35.52 240 eP P 20 38 54.9 -2.0
comp=Z,29nm,0.8s
RKT Rikitea 36.33 107 eLQ LQ 20 47 16.4
comp=Z,2µm,28.2s
RKT eLR LR 20 48 41.4
comp=Z,7µm,24.0s,baz=278
RKT Rikitea 36.33 107 eT T 21 17 12.6
comp=Z,9.2nm,0.3s
CNB Canberra Magne 38.85 233 ⇑P P 20 39 25.3 +0.3
baz=39,SNR=9.0
CTAO Charters Tower 39.04 258 eP P 20 39 26.3 -0.4
CTAO pmax pmax
comp=Z,47nm,1.5s
CTAO MLR MLR
comp=Z,5µm,19.0s
CTAO Charters Tower 39.04 258 eP P 20 39 26.3 -0.4
comp=Z,47nm,1.5s
CTAO LR LR
comp=Z,5µm,19.0s
CAN Canberra 39.13 233 eP P 20 39 24.7 -2.7
CAN pmax pmax
comp=Z,52nm,1.2s
CAN MLR MLR
comp=Z,4µm,19.0s
CAN Canberra 39.13 233 eP P 20 39 24.7 -2.7
comp=Z,52nm,1.2s
CAN LR LR
comp=Z,4µm,19.0s
PMG Port Moresby 39.50 275 d iP P 20 39 30.2 -0.4
PMG pmax pmax
comp=Z,84nm,2.5s
PMG MLR MLR
comp=Z,5µm,16.0s
PMG Port Moresby 39.50 275 eP P 20 39 29.4 -1.1
comp=Z,109nm,1.3s
PMG LR LR
comp=Z,2µm,20.0s
PMG Port Moresby 39.50 275 ⇑P P 20 39 33.5 +2.9
baz=40,SNR=6.8
H11S2 WAKE ISLAND Hy 39.69 329 T T 21 21 40.9
baz=152,slow=74
H11S3 WAKE ISLAND Hy 39.70 329 T T 21 21 51.5
baz=152
H11S1 WAKE ISLAND Hy 39.71 329 T T 21 21 36.4
baz=152,slow=74
KIP Kipapa 39.88 22⇑eP P 20 39 33.3 -0.2
KIP pmax pmax
comp=Z,163nm,1.7s
KIP MLR MLR
comp=Z,1µm,17.0s
KIP Kipapa 39.88 22 eP P 20 39 33.5 0.0
comp=Z,604nm,2.0s
WAKE Wake Island 40.39 329 eP P 20 39 38.3 +0.5
comp=Z,299nm,1.0s
WAKE LR LR
comp=Z,3µm,20.0s
H11N3 WAKE ISLAND Hy 40.63 330 T T 21 22 53.1
baz=152,slow=77,SNR=33
H11N1 WAKE ISLAND Hy 40.64 330 T T 21 22 47.0
baz=152,slow=77,SNR=34
H11N2 WAKE ISLAND Hy 40.65 330 T T 21 22 47.6
baz=152,slow=77,SNR=34
MTSU Mount Surprise 40.95 261 P P 20 39 41.9 -0.7
baz=41,SNR=9.6
COEN Coen 42.48 267 eP P 20 39 54.2 -0.9
comp=Z,450nm,1.0s
COEN Coen 42.48 267 P P 20 39 55.1 0.0
baz=43,SNR=27
TOO Toolangi 42.54 231 P P 20 39 54.6 -0.8
baz=43,SNR=7.5
TAU Tasmania Unive 43.29 223 eP P 20 40 00.1 -1.2
TAU MLR MLR
comp=Z,3µm,19.0s
TAU Tasmania Unive 43.29 223 eP P 20 40 00.1 -1.2
TAU LR LR
comp=Z,3µm,19.0s
MIDW Midway 44.10 354 PFAKE 20 40 20.0 +12
MIDW LR LR
comp=Z,3µm,19.0s
STKA Stephens Creek 44.23 241 eP P 20 40 07.4 -1.7
STKA pmax pmax
comp=Z,16nm,1.0s
STKA Stephens Creek 44.23 241 P P 20 40 07.5 -1.7
comp=Z,26nm,0.9s,baz=99,slow=9.1,SNR=44
STKA LR LR 20 56 55.0
comp=Z,3µm,18.1s,baz=76,slow=34
STKA Stephens Creek 44.23 241 eP P 20 40 07.4 -1.7
comp=Z,16nm,1.0s
STKA Stephens Creek 44.23 241 P P 20 40 07.8 -1.3
baz=44,SNR=29
HTT Hallett 46.72 239 ⇓P P 20 40 28.1 -0.8
baz=47,SNR=14
GENI Genyem 48.09 281 P P 20 40 47.3 +7.6
BBOO Buckleboo 49.00 240 eP P 20 40 44.8 -1.7
comp=Z,2µm,1.3s
BBOO Buckleboo 49.00 240 P P 20 40 44.8 -1.7
baz=49,SNR=20
WRAB Tennant Creek 50.23 257 P P 20 40 54.9 -1.1
comp=Z,274nm,1.1s,SNR=26
WRAB Tennant Creek 50.23 257 eP P 20 40 52.9 -3.1
WRAB pmax pmax
comp=Z,75nm,1.2s
WRAB MLR MLR
comp=Z,6µm,20.0s
WRAB Tennant Creek 50.23 257 eP P 20 40 52.9 -3.1
comp=Z,75nm,1.2s
WRAB LR LR
comp=Z,6µm,20.0s
WRA Warramunga Arr 50.24 257 P P 20 40 54.5 -1.6
comp=Z,7.4nm,0.5s,baz=91,slow=6.7,SNR=249
WRA LR LR 21 01 06.0
comp=Z,6µm,18.7s,baz=85,slow=35
AS31 Alice Springs 50.45 252 eP P 20 40 55.5 -2.2
ASAR Alice Springs 50.45 252 P P 20 40 55.6 -2.1
comp=Z,30nm,0.6s,baz=90,slow=7.3,SNR=440
ASAR LR LR 21 01 40.4
comp=Z,6µm,18.1s,baz=94,slow=35
GUMO Guam 51.06 303 PFAKE 20 41 10.0 +7.7
GUMO LR LR
comp=Z,2µm,21.0s
KDU Kakadu 52.96 266 P P 20 41 15.7 -0.7
baz=53,SNR=12
MTN Manton Dam 54.22 265 P P 20 41 24.6 -1.1
baz=55,SNR=7.2
WRKA Warakurna 55.51 250 P P 20 41 33.5 -1.5
baz=56,SNR=147
FORT Forrest 55.65 243 eP P 20 41 33.9 -2.0
comp=Z,67nm,0.7s
FORT Forrest 55.65 243 P P 20 41 33.9 -2.0
baz=56,SNR=13
KNRA Kununurra 56.01 262 ⇓P P 20 41 37.2 -1.4
baz=56,SNR=22
SWI Sorong 57.07 280 P P 20 41 45.2 -1.0
comp=Z,142nm,1.1s,comp=Z,1µm
JCJ Chichijima 61.10 314 LR LR 21 03 43.2
comp=Z,2µm,21.4s,slow=31
SOEI Soe 61.43 267 eP P 20 42 17.4 +0.9
comp=Z,206nm,1.1s
SOEI Soe 61.43 267 ⇑P P 20 42 17.5 +0.9
baz=62,SNR=11
SBA Scott Base 62.77 185 P P 20 42 25.3 +1.0
SBA pmax pmax
comp=Z,135nm,1.4s
SBA MLR MLR
comp=Z,3µm,19.0s
SBA Scott Base 62.77 185 P P 20 42 25.3 +1.0
comp=Z,135nm,1.4s
SBA LR LR
comp=Z,3µm,19.0s
VNDA Vanda 62.90 186 P P 20 42 25.1 -0.2
comp=Z,12nm,0.9s,baz=17,slow=5.0,SNR=8.6
VNDA LR LR 21 07 21.7
comp=Z,1µm,18.0s,baz=24,slow=34
MBWA Marble Bar 63.72 254 eP P 20 42 30.6 -1.0
comp=Z,108nm,1.3s
MBWA LR LR
comp=Z,2µm,21.0s
MEEK Meekatharra 64.10 248 P P 20 42 32.7 -1.4
baz=64,SNR=12
KLBR Kellerberrin 64.46 242 ⇑P P 20 42 35.4 -1.0
baz=65,SNR=25
NWAO Narrogin (SRO) 64.82 241 PFAKE 20 42 50.0 +11
NWAO LR LR
comp=Z,1.0nm,21.0s
DAV Davao City (W) 65.09 286 PFAKE 20 42 50.0 +9.4
DAV LR LR
comp=Z,2µm,19.0s
LUWI Luwuk 65.11 276 eP P 20 42 42.4 +1.6
comp=Z,136nm,1.2s
WSI Waingapu 65.26 267 P P 20 42 42.0 +0.2
comp=Z,191nm,1.0s,comp=Z,3µm
MORW Morawa 66.14 245 P P 20 42 46.8 -0.5
baz=66,SNR=5.0
APSI Ampana 66.22 276 P P 20 42 48.9 +0.9
comp=Z,79nm,2.0s,comp=Z,1µm
MRSI Marisa 66.35 278 P P 20 42 50.3 +1.5
comp=Z,19nm,0.9s,comp=Z,592nm
BKSI Bulukumba 66.48 271 P P 20 42 50.2 +0.6
comp=Z,17nm,1.3s,comp=Z,356nm
BNSI Bone 66.74 272 P P 20 42 50.9 -0.4
comp=Z,46nm,1.2s
KAPI Kappang 66.92 271 PFAKE 20 43 00.0 +7.6
KAPI LR LR
comp=Z,796nm,20.0s
SPSI Sidrap Palu 67.18 272 P P 20 42 54.7 +0.6
comp=Z,20nm,1.2s,comp=Z,490nm
TTSI Tana Toraja 67.38 273 P P 20 42 58.4 +3.1
comp=Z,23nm,1.5s
TOLI Toli-Toli 67.64 278 P P 20 42 56.5 -0.5
GIRL Giralia 68.56 252 P P 20 43 03.3 +0.6
baz=69,SNR=4.9
FX1 Attu Island--F 69.59 351 LR LR 21 08 28.4
comp=Z,2µm,19.9s,baz=176,slow=31
MJAR Matsushiro Arr 69.68 320 P P 20 43 08.9 -0.4
comp=Z,5.0nm,0.8s,baz=142,slow=5.0,SNR=4.4
MJAR LR LR 21 08 12.4
comp=Z,2µm,21.8s,baz=130,slow=31
MAJO Matsushiro 69.69 320⇑eP P 20 43 09.6 +0.3
MAJO pmax pmax
comp=Z,540nm,2.5s
MAJO MLR MLR
comp=Z,3µm,18.0s
MAJO Matsushiro 69.69 320 P P 20 43 09.3 0.0
comp=Z,25nm,1.0s
MAJO LR LR
comp=Z,3µm,22.0s
MAT Matsushiro 69.69 320 P P 20 43 08.8 -0.5
MAT S S 20 52 15.0 -1.1
H06S1 SOCORRO T 69.98 63 T T 21 59 41.1
SNR=5.3
CASY Casey 70.15 205 PFAKE 20 43 20.0 +8.3
CASY LR LR
comp=Z,1µm,19.0s
SGKI Sangatta, Kali 70.20 275 P P 20 43 13.2 +0.2
comp=Z,151nm,2.2s,comp=Z,4µmcomp=Z,135µm
ERM Erimo 70.50 327 PFAKE 20 43 30.0 +16
ERM LR LR
comp=Z,2µm,19.0s
SRBI Singaraja 70.52 267 P P 20 43 14.4 -0.5
comp=Z,69nm,1.4s
MYLDM Lahad Datu 71.07 281 eP P 20 43 20.3 +2.1
comp=Z,58nm,1.1s
JOW Kunigami 71.22 306 LR LR 21 08 50.1
comp=Z,156nm,21.8s,slow=31
JAGI Jajag, Banyuwa 71.44 266 P P 20 43 18.4 -2.2
comp=Z,98nm,1.0s
JAGI Jajag, Banyuwa 71.44 266 eP P 20 43 18.3 -2.2
comp=Z,87nm,1.0s
JAGI Jajag, Banyuwa 71.44 266 P P 20 43 19.1 -1.4
baz=72,SNR=4.5
SMMC Simmler 71.45 43 ⇓P P 20 43 20.3 +0.1
baz=72
PTRM Twissleman Ran 71.51 43 epP pP 20 43 28.4 -1.6
ABJI Asem Bagus 71.53 267 P P 20 43 20.6 -0.4
comp=Z,66nm,1.3s
KMMI Kalianget 71.97 268 P P 20 43 23.0 -0.7
comp=Z,76nm,1.7s,comp=Z,3µm
BBKI Banjar Baru 72.05 272 P P 20 43 23.8 -0.4
comp=Z,94nm,1.5s
ARVC Arvin 72.12 44 ⇑P P 20 43 24.3 +0.1
baz=72
BLJI Banyuglugur 72.15 267 P P 20 43 23.3 -1.5
comp=Z,69nm,1.0s,comp=Z,1µm
KMRM Mail Ridge 72.16 37 eP P 20 43 25.8 +1.5
comp=Z,203nm,1.7s
KMRM epP pP 20 43 36.4 +2.5
GMJI Gumukmas 72.17 266 P P 20 43 21.9 -3.0
comp=Z,36nm,1.1s
ASAJ Asahikawa 72.27 328 LR LR 21 09 11.4
comp=Z,882nm,21.8s,slow=31
ASAJ Asahikawa 72.27 328 epP pP 20 43 35.7 +1.4
VES Vestal, Richgr 72.36 43 ⇑P P 20 43 25.1 -0.5
baz=72,SNR=5.9
BFSC Mount Baldy Ra 72.41 46 ⇓P P 20 43 26.1 +0.1
baz=73
SDKM Sandakan 72.45 281 ⇓P P 20 43 26.1 -0.5
RCTC Rector, Farmer 72.53 43 ⇓P P 20 43 26.7 +0.2
baz=73
MONP Monument Peak 72.53 47 ⇑P P 20 43 26.3 -0.6
baz=73
EDW2 Edwards Air Fo 72.55 45 ⇑P P 20 43 26.5 -0.2
baz=73
JNU Nakatsue 72.55 313 epP pP 20 43 34.3 -2.0
ISA Isabella 72.67 44 eP P 20 43 27.3 -0.1
ISA pmax pmax
comp=Z,241nm,1.4s
ISA Isabella 72.67 44 eP P 20 43 27.3 -0.1
comp=Z,241nm,1.4s
ISA Isabella 72.67 44 ⇑P P 20 43 27.5 +0.1
baz=73,SNR=7.5
CMB Columbia Colle 72.82 41 eP P 20 43 27.2 -1.1
CMB pmax pmax
comp=Z,48nm,1.4s
CMB Columbia Colle 72.82 41 eP P 20 43 27.2 -1.1
comp=Z,48nm,1.4s
PFO Pinyon Flat Ob 72.90 47 LR LR 21 07 22.6
comp=Z,1µm,21.7s,baz=251,slow=29
OHCM Honcut 72.93 39 eP P 20 43 31.8 +3.0
PET Petropavlovsk 72.94 342 PFAKE 20 43 40.0 +11
PET LR LR
comp=Z,2µm,20.0s
SWSC Sam W. Stewart 73.00 48 ⇑P P 20 43 29.3 -0.1
baz=73
WDC Whiskeytown Da 73.07 38 eP P 20 43 29.8 +0.2
WDC pmax pmax
comp=Z,68nm,1.5s
WDC Whiskeytown Da 73.07 38 eP P 20 43 29.8 +0.2
comp=Z,68nm,1.5s
LRMC Laurel Mountai 73.09 44 ⇑P P 20 43 29.6 -0.4
baz=73
N02D Trinity Center 73.22 37 ⇑P P 20 43 30.9 +0.2
baz=73
PETK Petropavlovsk- 73.30 342 P P 20 43 30.9 +0.2
comp=Z,15nm,0.9s,baz=134,slow=8.5,SNR=9.7
M02C Callahan 73.41 37 ⇓P P 20 43 32.0 +0.3
baz=74
BELC Belle Mtn. Jos 73.43 47 ⇑P P 20 43 32.0 -0.1
baz=74
GRJI Gresik 73.43 267 P P 20 43 31.5 -0.9
comp=Z,47nm,1.0s
L02D Cave Junction, 73.47 36 ⇑P P 20 43 33.1 +1.1
baz=74
KKM Kota Kinabalu 73.50 281 PFAKE 20 43 40.0 +7.1
KKM LR LR
comp=Z,796nm,22.0s
KKM Kota Kinabalu 73.50 281 ⇑P P 20 43 33.2 +0.3
MTUM Tungsten Hills 73.58 42 eP P 20 43 33.5 +0.5
GSC Goldstone 73.59 45 eP P 20 43 31.5 -1.4
GSC pmax pmax
comp=Z,121nm,1.8s
GSC Goldstone 73.59 45 eP P 20 43 31.5 -1.4
comp=Z,121nm,1.8s
GSC Goldstone 73.59 45 ⇑P P 20 43 33.0 +0.1
baz=74
DAC Darwin (Calif) 73.60 44 eP P 20 43 31.8 -1.3
DAC pmax pmax
comp=Z,59nm,1.6s
DAC Darwin (Calif) 73.60 44 eP P 20 43 31.8 -1.3
comp=Z,59nm,1.6s
TIN Tinemaha 73.63 43 ⇓P P 20 43 33.4 +0.3
baz=74
HEC Hector,Ludlow 73.65 46 ⇓P P 20 43 33.5 +0.2
baz=74
WAKR Walker 73.69 41 eP P 20 43 32.6 -1.1
YBH Yreka Blue Hor 73.70 37 eP P 20 43 32.8 -0.7
YBH pmax pmax
comp=Z,61nm,1.4s
YBH Yreka Blue Hor 73.70 37 LR LR 21 07 53.6
comp=Z,1µm,21.4s,baz=244,slow=29
YBH Yreka Blue Hor 73.70 37 eP P 20 43 32.8 -0.7
comp=Z,61nm,1.4s
GLA Glamis 73.75 48 ⇑P P 20 43 34.0 +0.1

baz=74
PWJI Pagerwojo 73.81 266 P P 20 43 33.7 -0.9
comp=Z,54nm,1.2s
GMRC Granite Mounta 74.09 46 ⇓P P 20 43 35.5 -0.5
baz=74
IRM Iron Mountain 74.11 47 ⇓P P 20 43 35.7 -0.2
baz=74
QSPA South Pole Qui 74.11 180 LR LR 21 14 44.1
comp=Z,1µm,18.0s,baz=44,slow=35
HUMO Hull Mountain 74.12 36 eP P 20 43 36.2 +0.4
comp=Z,84nm,1.4s
GRAC Grapevine Rang 74.16 43 ⇓P P 20 43 36.5 +0.4
baz=74
FURC Furnace Creek, 74.20 44 ⇑P P 20 43 36.8 +0.4
baz=74
YSS Yuzh-Sakhalins 74.21 330 eP P 20 43 37.3 +1.2
YSS pmax pmax
comp=Z,119nm,1.0s
YSS MLR MLR
comp=Z,545nm,20.0s
YSS Yuzh-Sakhalins 74.21 330 eP P 20 43 37.3 +1.2
comp=Z,118nm,1.0s
YSS LR LR
comp=Z,545nm,20.0s
M04C Macdoel 74.24 37 ⇓P P 20 43 36.7 0.0
baz=74
TUQ Turquoise Moun 74.26 45 ⇑P P 20 43 37.0 +0.1
baz=74
SHOC Shoshone 74.27 45 ⇓P P 20 43 37.1 +0.2
baz=74
NGJI Ngawi 74.30 267 P P 20 43 38.0 +0.6
comp=Z,76nm,1.2s
Y12C Blythe 74.33 47 ⇓P P 20 43 37.1 -0.1
baz=74
PCJI Pacitan 74.37 266 P P 20 43 37.6 -0.2
comp=Z,146nm,1.1s
113A Mohawk Valley, 74.37 49 ⇓P P 20 43 37.3 -0.1
baz=74,SNR=10
NVAR Mina Array Bea 74.37 42 P P 20 43 37.0 -0.6
comp=Z,12nm,1.0s,baz=231,slow=8.5,SNR=29
NVAR LR LR 21 08 50.9
comp=Z,1µm,21.1s,baz=120,slow=30
NV11 Mina Array Sit 74.47 42 eP P 20 43 37.0 -1.1
I03D Drain, OR 74.61 35 ⇑P P 20 43 39.2 +0.6
baz=75
LDFC Landfair 74.63 46 eP P 20 43 37.9 -1.2
comp=Z,104nm,1.3s
214A Organ Pipe Nat 74.65 50 eP P 20 43 39.0 -0.2
comp=Z,92nm,1.7s
214A Organ Pipe Nat 74.65 50 ⇑P P 20 43 38.8 -0.3
baz=75
K04D Chiloquin, OR 74.82 37 ⇓P P 20 43 40.8 +0.8
baz=75
TPH Tonopah 74.86 42 eP P 20 43 39.3 -1.2
TPH pmax pmax
comp=Z,85nm,1.3s
TPH Tonopah 74.86 42 eP P 20 43 39.3 -1.2
comp=Z,85nm,1.3s
PDMCI Parker Dam,Lak 74.89 47 ⇑P P 20 43 40.2 -0.2
baz=75,SNR=6.8
J04D Umpqua Nationa 75.01 36 ⇑P P 20 43 41.4 +0.2
baz=75
UGM Wanagama 75.06 266 P P 20 43 41.1 -0.8
comp=Z,99nm,1.2s
UGM Wanagama 75.06 266 P P 20 43 41.6 -0.4
baz=76,SNR=7.9
I04A Tendick Farm, 75.19 35 ⇓P P 20 43 42.6 +0.6
baz=75
MOD Modoc 75.22 38 eP P 20 43 41.5 -0.8
comp=Z,90nm,1.5s
COR Corvallis 75.22 34 eP pP 20 43 51.5 -0.1
COR Corvallis 75.22 34 epP pP 20 43 51.5 -0.1
Z14A Wintersburg 75.26 48 ⇑P P 20 43 43.0 +0.4
baz=75
PBKI Pangkalan Bun 75.30 271 P P 20 43 42.9 -0.4
comp=Z,162nm,1.1s,comp=Z,1µm
KDAK Kodiak Island 75.34 11 iP P 20 43 43.5 +1.1
KDAK Kodiak Island 75.34 11 eP P 20 43 44.1 +1.7
comp=Z,139nm,1.4s
SHPR Sheep Range 75.36 45 eP P 20 43 42.0 -1.4
NACB Ninganchiao 75.37 301 eP P 20 43 43.9 +0.5
comp=Z,37nm,1.1s
K05A Summer Lake 75.38 37 eP P 20 43 43.5 +0.1
comp=Z,77nm,1.1s
W13A Hualapai Mount 75.49 47 ⇑P P 20 43 44.4 +0.3
baz=76
Y14A Wickenburg 75.51 48 ⇑P P 20 43 44.0 -0.1
baz=76
J05D Fort Rock, OR 75.53 36 ⇓P P 20 43 44.7 +0.6
baz=76
BTM Bintulu 75.61 278 ⇓P P 20 43 45.9 +0.9
G03D McMinnville, O 75.65 34 ⇓P P 20 43 44.5 0.0
baz=76
YHNB Yeheng 75.76 301 PFAKE 20 44 00.0 +14
YHNB LR LR
comp=Z,2µm,20.0s
TATO Taipei 75.80 301 PFAKE 20 44 00.0 +14
TATO LR LR
comp=Z,2µm,20.0s
H04A Detroit Lake 75.89 35 eP P 20 43 45.6 -0.3
comp=Z,136nm,1.3s
R11A Troy Canyon, C 76.09 43 eP P 20 43 45.9 -1.5
comp=Z,63nm,1.5s
R11A Troy Canyon, C 76.09 43 ⇓P P 20 43 47.4 -0.1
baz=76,SNR=16
I05D Terrebonne, OR 76.14 35 ⇑P P 20 43 47.6 +0.2
baz=76
SBUM Sibu 76.21 277 eP P 20 43 49.0 +0.6
comp=Z,17nm,1.1s
SBUM Sibu 76.21 277 ⇓P P 20 43 48.6 +0.1
BMN Battle Mountai 76.21 40 eP P 20 43 47.3 -0.8
BMN pmax pmax
comp=Z,45nm,1.3s
BMN Battle Mountai 76.21 40 eP P 20 43 47.3 -0.8
comp=Z,45nm,1.3s
TUC Tucson 76.32 50 eP P 20 43 48.1 -0.7
TUC pmax pmax
comp=Z,123nm,1.8s
TUC MLR MLR
comp=Z,1µm,21.0s
TUC Tucson 76.32 50 eP P 20 43 48.0 -0.7
comp=Z,123nm,1.8s
TUC LR LR
comp=Z,1µm,21.0s
F04D Rainier, OR 76.35 33 ⇓P P 20 43 49.0 +0.5
baz=77
E03A Lebam 76.37 33 eP P 20 43 49.4 +0.8
comp=Z,95nm,1.1s
WVOR Wild Horse Val 76.52 38 eP P 20 43 48.6 -1.1
WVOR pmax pmax
comp=Z,65nm,1.4s
WVOR MLR MLR
comp=Z,1µm,19.0s
WVOR Wild Horse Val 76.52 38 eP P 20 43 48.6 -1.1
comp=Z,65nm,1.4s
WVOR LR LR
comp=Z,1µm,19.0s
F04A Amboy 76.57 34 eP P 20 43 50.7 +0.9
comp=Z,180nm,1.4s
G05D Wamic, OR 76.72 35 ⇓P P 20 43 50.9 +0.2
baz=77
KPJI Karang Pucung 76.73 266 P P 20 43 52.4 +1.0
comp=Z,60nm,1.1s,comp=Z,2µm
NLWA Neilton Lookou 76.77 32 eP P 20 43 51.4 +0.4
comp=Z,119nm,1.3s
NLWA LR LR
comp=Z,1µm,19.0s
X16A Lo Mia Camp, P 76.87 48 ⇑P P 20 43 52.4 +0.4
baz=77,SNR=13
KSRS Korea Array 76.91 315 P P 20 43 53.0 +1.2
comp=Z,4.6nm,0.9s,baz=128,slow=6.1,SNR=15
KSRS LR LR 21 12 10.6
comp=Z,708nm,21.8s,baz=99,slow=31
KSAR Wonju Array Be 76.93 315 P P 20 43 53.1 +1.1
KSAR Wonju Array Be 76.93 315 P P 20 43 53.0 +1.1
TDL Tradedollar La 76.94 33 P P 20 43 51.9 -0.2
319A Douglas 77.00 52 ⇓P P 20 43 50.7 -2.1
baz=77,SNR=12
I07A Izee 77.01 36 eP P 20 43 52.3 -0.1
comp=Z,58nm,1.2s
G06A Carlson Farm, 77.09 35 eP P 20 43 52.3 -0.5
comp=Z,140nm,1.5s
CCUT Cedar City 77.14 45 eP P 20 43 52.6 -0.9
comp=Z,78nm,1.5s
ARUT Antelope Range 77.21 44 eP P 20 43 52.9 -0.9
ARUT Antelope Range 77.21 44 eP P 20 43 52.9 -0.9
comp=Z,2µm,1.6s

U15A North Rim 77.29 46 ⇓P P 20 43 54.4 0.0
baz=77,SNR=17
HDW Hoodsport 77.36 32 P P 20 43 54.4 +0.2
LON Longmire 77.42 33 eP P 20 43 53.6 -1.0
LON pmax pmax
comp=Z,59nm,1.2s
LON Longmire 77.42 33 eP P 20 43 53.6 -1.0
comp=Z,59nm,1.2s
WUAZ Wupatki 77.47 47 eP P 20 43 54.6 -0.7
comp=Z,46nm,1.4s
WUAZ ePP PP 20 46 52.5 +2.1
WUAZ LR LR
comp=Z,880nm,20.0s
WUAZ Wupatki 77.47 47 ⇓P P 20 43 55.4 +0.1
baz=78,SNR=8.5
VLA Vladivostok 77.55 322 diP P 20 43 57.1 +1.8
VLA pmax pmax
comp=Z,17nm,0.5s
VLA MLR MLR
comp=Z,453nm,21.0s
D05A Enumclaw 77.61 33 eP P 20 43 56.0 +0.5
comp=Z,270nm,1.4s
ELK Elko 77.63 41 eP P 20 43 55.7 -0.5
ELK pmax pmax
comp=Z,60nm,1.5s
ELK Elko 77.63 41 LR LR 21 10 52.2
comp=Z,1µm,20.1s,baz=179,slow=30
ELK Elko 77.63 41 eP P 20 43 55.7 -0.5
comp=Z,60nm,1.5s
CISI Cisompet, Garu 77.75 266 P P 20 43 56.7 -0.5
comp=Z,87nm,1.8s,comp=Z,1µm
CISI Cisompet, Garu 77.75 266 eP P 20 43 55.6 -1.6
comp=Z,39nm,0.8s
CISI Cisompet, Garu 77.75 266 P P 20 43 56.3 -0.9
baz=78,SNR=3.6
KSM Kuching 77.76 275 eP P 20 43 56.6 -0.6
comp=Z,91nm,1.2s
KSM LR LR
comp=Z,534nm,22.0s
KSM Kuching 77.76 275 ⇓P P 20 43 58.0 +0.9
baz=78,SNR=16
INCN Inchon 77.80 315 P P 20 43 58.5 +1.7
INCN LR LR
comp=Z,861nm,21.0s
PGC Sidney 77.82 31 eP P 20 43 55.9 -0.8
comp=Z,5.2nm,1.2s
RSO Redoubt South 77.84 10 eP P 20 43 56.0 -0.8
comp=Z,94nm,1.2s
X18A Snowflake 78.00 49 ⇑P P 20 43 58.2 -0.1
baz=78
SVW2 Sparrevohn 78.00 8 eP P 20 44 00.2 +2.7
comp=Z,33nm,1.4s
G08A Pilot Rock 78.06 36 eP P 20 43 57.9 -0.4
comp=Z,112nm,1.4s
LEM Lembang 78.12 266 P P 20 43 59.4 0.0
comp=Z,137nm,1.0s,comp=Z,2µm
USRK Ussuriysk Arra 78.12 323 P P 20 43 59.6 +1.1
comp=Z,20nm,1.2s,baz=100,slow=4.6,SNR=14
USRK LR LR 21 13 06.4
comp=Z,2µm,20.6s,baz=123,slow=32
QZH Quanzhou 78.18 300 ⇓iP P 20 44 00.1 +0.9
QZH S S 20 53 56.6 +4.5
QZH LR LR
comp=Z,2µm,22.9s
JCW Jim Creek 78.28 32 P P 20 43 59.1 -0.3
E07A Sunnyside 78.34 34 eP P 20 43 59.6 -0.1
comp=Z,93nm,1.1s
LTY Liberty 78.34 33 eP P 20 43 59.6 -0.1
comp=Z,47nm,1.2s
MVU Marysvale 78.41 44 eP P 20 44 00.4 -0.2
comp=Z,107nm,1.5s
HAWA Hanford 78.41 35 eP P 20 43 59.1 -0.9
comp=Z,92nm,1.2s
HAWA LR LR
comp=Z,2µm,19.0s
W18A Petrified Fore 78.44 48 eP P 20 44 03.8 +3.1
comp=Z,67nm,1.6s
CNJI Cibinong 78.47 266 P P 20 43 59.5 -1.6
comp=Z,76nm,1.0s
121A Cookes Peak, D 78.66 51 eP P 20 44 01.4 -0.6
comp=Z,158nm,1.8s
121A Cookes Peak, D 78.66 51 ⇓P P 20 44 02.6 +0.5
baz=79,SNR=8.9
SSE Sheshan 78.70 307 P P 20 44 00.5 -1.5
SSE sP sP 20 44 14.0 -1.1
SSE S S 20 54 04.3 +6.8
SSE pmax pmax
comp=Z,12nm,0.9s
SSE pmax pmax
comp=Z,230nm,4.1s
SSE LR LR
comp=Z,220nm,24.7s
SSE LR LR
comp=Z,500nm,24.7s
SSE LR LR
comp=Z,670nm,22.5s
B06A Marblemount 78.72 32 eP P 20 44 01.6 -0.1
comp=Z,70nm,1.4s
A05A Maple Falls 78.73 31 epP pP 20 44 12.0 +0.7
BMO Blue Mountains 78.73 37 eP P 20 44 00.4 -1.6
comp=Z,66nm,1.3s
BMO LR LR
comp=Z,974nm,19.0s
MFID Camas Ranch 78.77 39 eP P 20 44 01.1 -1.2
comp=Z,64nm,1.4s
DUG Dugway 78.89 43 eP P 20 44 01.8 -1.3
DUG pmax pmax
comp=Z,60nm,1.4s
DUG MLR MLR
comp=Z,1µm,20.0s
DUG Dugway 78.89 43 eP P 20 44 01.8 -1.3
comp=Z,60nm,1.4s
DUG LR LR
comp=Z,1µm,20.0s
DUG Dugway 78.89 43 ⇓P P 20 44 03.1 +0.1
baz=79
RC01 Rabbit Creek A 78.96 11 eP P 20 44 01.5 -1.2
comp=Z,252nm,1.8s
WTV Waterville 79.00 33 P P 20 44 02.5 -0.8
DBJI Dramaga 79.03 266 P P 20 44 02.8 -1.4
comp=Z,85nm,1.2s,comp=Z,1µm
HABR Khabarovsk 79.07 328 ceP P 20 44 02.7 -0.9
HABR e 20 44 11.1
HABR e*PP pP 20 44 13.2 0.0
HABR e*SP sP 20 44 17.1 +0.4
HABR 20 47 01.6
HABR ePPP PPP 20 48 49.8
HABR S S 20 53 59.1 -1.6
HABR eSS SS 20 59 05.0 -2.4
HABR eSSS SSS 21 02 30.4
HABR pmax pmax
comp=E,54nm,1.5s
HABR pmax pmax
comp=N,84nm,2.0s
HABR pmax pmax
comp=Z,193nm,1.5s
HABR MLR MLR
comp=Z,742nm,19.0s
BGU Big Grassy Mou 79.14 42 eP P 20 44 04.1 -0.3
comp=Z,43nm,1.8s
TPI Tanjungpandan 79.15 270 P P 20 44 04.6 -0.3
comp=Z,39nm,1.1s,comp=Z,481nm
D08A Wollman Farm, 79.15 34 eP P 20 44 03.1 -1.0
comp=Z,133nm,1.3s
E09A Wood Farm, Sta 79.25 35 eP P 20 44 04.0 -0.7
comp=Z,79nm,1.3s
SAW Saint Andrews 79.29 34 P P 20 44 04.2 -0.7
F10A Beach Ranch, E 79.44 36 eP P 20 44 04.8 -1.0
comp=Z,72nm,1.2s
GAMB Gambell 79.46 1 eP P 20 44 05.2 -0.1
comp=Z,46nm,1.2s
OD2 Odessa Site #2 79.47 34 P P 20 44 05.3 -0.6
TMUT Trail Mountain 79.49 44 eP P 20 44 06.3 -0.2
comp=Z,180nm,1.6s
PMR Palmer 79.54 11 eP P 20 44 05.0 -0.9
PMR pmax pmax
comp=Z,72nm,1.2s
PMR Palmer 79.54 11 eP P 20 44 05.0 -0.9
comp=Z,72nm,1.2s
MPU Maple Canyon 79.57 43 eP P 20 44 06.9 +0.1
comp=Z,47nm,1.2s
Z22A Elephant Butte 79.61 51 ⇑P P 20 44 07.2 +0.1
baz=80,SNR=12
WRAK Wrangell Islan 79.65 22 PFAKE 20 44 20.0 +13
WRAK LR LR
comp=Z,702nm,19.0s
HLID Hailey 79.70 39 eP P 20 44 06.3 -1.1

comp=Z,78nm,1.4s
HLID LR LR
comp=Z,870nm,19.0s
HLID Hailey 79.70 39 ⇓P P 20 44 07.7 +0.3
baz=80
SPUT South Promonto 79.71 42 eP P 20 44 06.4 -1.1
comp=Z,112nm,1.6s
HVU Hansel Valley 79.75 41 eP P 20 44 05.1 -2.7
HVU pmax pmax
comp=Z,99nm,1.6s
HVU Hansel Valley 79.75 41 eP P 20 44 05.1 -2.7
comp=Z,99nm,1.6s
MDJ Mudanjiang 79.77 322 P P 20 44 08.4 +0.9
MDJ pP pP 20 44 17.8 +0.7
MDJ sP sP 20 44 21.1 +0.4
MDJ PP PP 20 47 09.1 -0.1
MDJ S S 20 54 11.2 +2.9
MDJ sS ScS 20 54 27.6 -2.0
MDJ ScS SKKSac 20 54 28.6 +4.6
MDJ pmax pmax
comp=Z,23nm,1.6s
MDJ pmax pmax
comp=Z,270nm,5.7s
MDJ LR LR
comp=Z,850nm,17.3s
MDJ LR LR
comp=Z,1µm,16.6s
MDJ LR LR
comp=Z,2µm,19.9s
MDJ Mudanjiang 79.77 322 eP P 20 44 08.5 +1.0
comp=Z,53nm,1.5s
MDJ LR LR
comp=Z,2µm,20.0s
DIV Divide 79.79 13 eP P 20 44 06.7 -0.7
comp=Z,129nm,1.2s
CTU Camp Tracy 79.84 43 eP P 20 44 07.7 -0.6
comp=Z,57nm,1.3s
SRU San Rafael 79.85 44 eP P 20 44 05.1 -3.3
SRU pmax pmax
comp=Z,157nm,1.7s
SRU San Rafael 79.85 44 eP P 20 44 05.1 -3.3
comp=Z,157nm,1.7s
BMRM Bremner River 79.91 14 eP P 20 44 06.3 -1.7
comp=Z,176nm,1.3s
C09A Chrisman Ranch 79.95 34 eP P 20 44 07.9 -0.6
comp=Z,76nm,1.2s
JLU Jordanelle 79.99 43 eP P 20 44 08.7 -0.5
comp=Z,106nm,1.7s
LAZ Ladron 79.99 50 eP P 20 44 08.8 -0.4
comp=Z,43nm,1.7s
LENM Lemitar 80.01 50 eP P 20 44 09.5 +0.2
DAU Daniels Canyon 80.02 43 eP P 20 44 09.5 +0.1
DAU Daniels Canyon 80.02 43 eP P 20 44 09.5 +0.1
CGJI Cibinong 80.03 266 P P 20 44 08.1 -1.5
comp=Z,68nm,0.8s,comp=Z,827nm
MNTX Cornudas Mount 80.12 53 eP P 20 44 08.5 -1.3
comp=Z,74nm,1.5s
MNTX LR LR
comp=Z,1µm,22.0s
626A Big Bend Ranch 80.19 55 ⇓P P 20 44 10.2 -0.1
baz=80,SNR=10
TCUT Toone Canyon 80.28 42 eP P 20 44 10.0 -0.7
comp=Z,179nm,1.3s
MVCO Mesa Verde 80.32 47 eP P 20 44 14.2 +3.2
comp=Z,143nm,2.4s
MVCO LR LR
comp=Z,1µm,20.0s
MVCO Mesa Verde 80.32 47 ⇓P P 20 44 10.9 -0.1
baz=80
LPM Los Pinos Moun 80.33 50 eP P 20 44 09.9 -1.1
526A Mary Lane Ranc 80.44 55 ⇓P P 20 44 11.5 -0.2
baz=80,SNR=7.3
HWUT Hardware Ranch 80.44 42 eP P 20 44 09.6 -1.8
comp=Z,46nm,1.4s
HWUT LR LR
comp=Z,2µm,21.0s
TXAR Lajitas Array 80.47 56 P P 20 44 11.2 -0.6
comp=Z,7.0nm,1.1s,baz=224,slow=5.2,SNR=29
TXAR LR LR 21 13 10.9
comp=Z,960nm,19.4s,baz=0.0,slow=31
Y23A Lovelace Mesa, 80.59 51 ⇓P P 20 44 12.5 0.0
baz=81
PV04 Paradox Valley 80.60 46 eP P 20 44 11.3 -1.2
PV04 ePP PP 20 47 11.6 -4.9
PV01 Paradox Valley 80.71 46 eP P 20 44 11.5 -1.6
comp=Z,7µm,1.5s
225A Deer Hill, Car 80.73 53 ⇓P P 20 44 13.2 0.0
baz=81,SNR=8.5
CAST Castle Rocks 80.73 9 epP pP 20 44 22.0 0.0
426A McDonald Obser 80.73 54 ⇑P P 20 44 13.2 -0.1
baz=81,SNR=13
ANMO Albuquerque 80.74 50 ⇓iP P 20 44 13.0 -0.3
ANMO pmax pmax
comp=Z,35nm,1.1s
ANMO Albuquerque 80.74 50 P P 20 44 13.2 -0.1
comp=Z,10nm,1.1s,baz=243,slow=4.5,SNR=11
ANMO LR LR 21 16 32.8
comp=Z,976nm,18.2s,baz=228,slow=33
ANMO Albuquerque 80.74 50 eP P 20 44 12.3 -1.0
comp=Z,288nm,2.7s
627A Terlingua Ranc 80.74 56 ⇑P P 20 44 13.4 +0.1
baz=81,SNR=13
Z24A Sheeppen Canyo 80.84 52 ⇑P P 20 44 13.4 -0.4
baz=81
527A Woodward Ranch 80.85 55 ⇑P P 20 44 13.2 -0.7
baz=81,SNR=8.4
V22A San Miguel Ran 80.85 49 ⇑P P 20 44 14.0 +0.1
baz=81
NEW Newport 80.85 34 eP P 20 44 11.6 -1.8
NEW pmax pmax
comp=Z,23nm,1.1s
NEW Newport 80.85 34 LR LR 21 13 04.6
comp=Z,858nm,19.9s,baz=220,slow=30
NEW Newport 80.85 34 eP P 20 44 11.6 -1.8
comp=Z,23nm,1.1s
NEW Newport 80.85 34 ⇑P P 20 44 12.4 -1.0
baz=81,SNR=8.2
NJ2 Nanjing 80.91 307 eP P 20 44 14.1 +0.2
NJ2 pmax pmax
comp=Z,1µm,5.9s
NJ2 LR LR
comp=Z,6µm,24.8s
NJ2 LR LR
comp=Z,5µm,26.8s
NJ2 LR LR
comp=Z,6µm,23.2s
326A Caldwell Ranch 81.04 54 ⇓P P 20 44 15.0 +0.2
baz=81
KTH Kantishna Hill 81.04 10 eP P 20 44 12.1 -2.0
comp=Z,95nm,1.4s
Y24A Capitan 81.05 51 ⇓P P 20 44 14.6 -0.3
baz=81,SNR=12
TRF Thorofare Moun 81.05 10 eP P 20 44 12.5 -1.8
comp=Z,114nm,1.2s
W23A Werner Place, 81.06 50 ⇓P P 20 44 14.9 -0.1
baz=81
SKAG Skagway 81.08 18 eP P 20 44 14.8 +0.6
comp=Z,53nm,1.1s
125A Gardner Draw, 81.09 52 ⇓P P 20 44 15.0 -0.1
baz=81
U22A Llaves 81.10 48 ⇓P P 20 44 15.3 +0.2
baz=81
GDL2 Guadalupe Moun 81.12 53 eP P 20 44 14.8 -0.5
comp=Z,47nm,1.4s
628A Black Gap, Mar 81.15 56 ⇑P P 20 44 15.7 +0.3
baz=81
226B Tecolote Peak, 81.22 53 ⇓P P 20 44 15.4 -0.3
baz=81,SNR=9.7
KLR Kul'dur 81.25 327 eP P 20 44 12.3 -3.1
KLR e 20 44 18.0
KLR eS S 20 54 19.5 -4.2
KLR pmax pmax
comp=Z,90nm,2.0s
KLR smax smax
comp=N,1µm,9.5s
KLR smax smax
comp=E,1µm,9.5s
V23A Ortiz Mt. (NFS 81.30 49 ⇑P P 20 44 16.4 +0.1
baz=81
427A Hayter Ranch, 81.30 55 ⇑P P 20 44 16.1 -0.1
baz=81
Z25A Roswell 81.31 52 ⇓P P 20 44 16.7 +0.4
baz=81,SNR=6.4
AHID Auburn Hatcher 81.33 41 eP P 20 44 15.6 -0.7
comp=E,31nm,1.1s
AHID LR LR
comp=Z,2µm,20.0s

TNA Tin City 81.33 2 eP P 20 44 15.5 +0.1
comp=Z,270nm,2.1s
MCMT McKenzie Canyo 81.34 39 eP P 20 44 14.4 -1.9
comp=Z,44nm,1.5s
KASI Kota Agung 81.46 267 P P 20 44 16.1 -1.2
comp=Z,100nm,0.9s
528A Cox Ranch, San 81.50 55 ⇓P P 20 44 17.2 -0.2
baz=82
PAX Paxson 81.51 12 eP P 20 44 14.8 -1.8
PAX pmax pmax
comp=Z,86nm,1.6s
PAX Paxson 81.51 12 eP P 20 44 14.8 -1.8
comp=Z,86nm,1.6s
CLNB Carlsbad 81.52 53 eP P 20 44 16.8 -0.5
comp=Z,1.7nm,0.6s
MCK McKinley 81.55 11 eP P 20 44 15.4 -1.3
MCK pmax pmax
comp=Z,92nm,1.0s
MCK McKinley 81.55 11 eP P 20 44 15.4 -1.3
comp=Z,92nm,1.0s
U23A El Rito 81.55 49 ⇑P P 20 44 17.4 -0.2
baz=82,SNR=6.6
HYT Haines Junctio 81.57 17 eP P 20 44 17.3 +0.3
126A Clayton Basin, 81.57 53 ⇑P P 20 44 17.3 -0.3
baz=82
Y25A Mesa, Roswell 81.60 51 ⇓P P 20 44 17.5 -0.3
baz=82
W24A Lazy 6 Ranch, 81.63 50 ⇓P P 20 44 17.7 -0.2
baz=82
S22A 4UR Ranch, Cre 81.74 47 ⇑P P 20 44 18.6 0.0
baz=82,SNR=14
DLMT Dillon 81.78 38 eP P 20 44 18.3 -0.1
comp=Z,88nm,1.4s
MSO Missoula 81.79 36 eP P 20 44 17.9 -0.5
comp=Z,108nm,1.4s
MSO Missoula 81.79 36 ⇓P P 20 44 18.2 -0.2
baz=82,SNR=30
REDW Red Top Meadow 81.79 41 eP P 20 44 18.3 -0.4
comp=Z,119nm,1.6s
TPAW Teton Pass 81.80 40 eP P 20 44 18.5 -0.2
comp=Z,69nm,1.4s
428A Kincaid Ranch, 81.81 55 ⇓P P 20 44 18.9 0.0
baz=82
FXWY Fox Creek 81.83 40 eP P 20 44 18.5 -0.3
comp=Z,134nm,1.9s
CN2 Changchun 81.83 320 ⇓P P 20 44 19.4 +0.8
CN2 esP sP 20 44 31.4 -0.3
CN2 eS S 20 54 28.8 -1.1
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 pmax pmax
comp=Z,500nm,6.0s
CN2 LR LR
comp=Z,600nm,22.0s
CN2 LR LR
comp=Z,700nm,22.0s
CN2 LR LR
comp=Z,1μm,23.0s
MENT Mentasta 81.85 13 eP P 20 44 17.6 -0.6
Z26A Caprock 81.86 52 ⇓P P 20 44 18.4 -0.7
baz=82,SNR=16
X25A Clemmons Ranch 81.88 51 ⇓P P 20 44 18.8 -0.5
baz=82
BSMT Bassoo Peak 81.89 35 eP P 20 44 17.5 -1.5
O20A White River Ci 81.89 44 eP P 20 44 19.2 -0.1
comp=Z,153nm,1.8s
DL2 Dalian 81.93 314 P P 20 44 20.5 +1.3
DL2 pmax pmax
comp=Z,49nm,1.2s
DL2 pmax pmax
comp=Z,250nm,9.3s
DL2 LR LR
comp=Z,380nm,19.6s
DL2 LR LR
comp=Z,440nm,22.6s
529A Stev Forest Ra 81.94 56 ⇑P P 20 44 19.6 0.0
baz=82
V24A Rampart Ranch, 81.95 49 ⇑P P 20 44 19.7 0.0
baz=82
328A Wristen Ranch, 81.98 54 ⇑P P 20 44 19.3 -0.5
baz=82
T23A Casias Ranch, 81.98 48 ⇓P P 20 44 19.9 0.0
baz=82
DLBC Dease Lake 82.00 21 LR LR 21 14 56.4
comp=Z,599nm,18.8s,baz=224,slow=31
DLBC Dease Lake 82.00 21 eP P 20 44 19.1 -0.2
LWLI Liwa 82.01 267 P P 20 44 20.3 -0.1
comp=Z,75nm,0.9s
IMW Indian Meadow 82.01 40 eP P 20 44 19.6 -0.3
comp=Z,99nm,1.4s
SNY Shenyang 82.02 317 ⇓P P 20 44 20.9 +1.3
SNY S S 20 54 34.0 +2.1
SNY pmax pmax
comp=Z,42nm,1.8s
SNY LR LR
comp=Z,380nm,19.6s
SNY LR LR
comp=Z,470nm,15.5s
SNY LR LR
comp=Z,290nm,15.5s
MDSI Maura Dua 82.03 268 P P 20 44 19.1 -1.2
MOOW Moose Ponds 82.06 40 eP P 20 44 19.6 -0.4
comp=Z,70nm,1.5s
LOHW Long Hollow 82.08 40 eP P 20 44 19.7 -0.5
comp=Z,66nm,1.4s
127A Arkansas Junct 82.09 53 ⇓P P 20 44 20.1 -0.2
baz=82
LRM Limekiln Ridge 82.11 38 eP P 20 44 20.0 -0.3
JTMT Jette 82.11 36 eP P 20 44 18.4 -1.8
SWMT Swartz Lake 82.14 36 eP P 20 44 18.2 -2.1
QLMT Earthquake Lak 82.20 39 eP P 20 44 20.2 -0.5
N20A Spence Gulch, 82.21 44 ⇑P P 20 44 21.1 +0.1
baz=82,SNR=11
BLMT Blacktail Moun 82.21 35 eP P 20 44 18.9 -1.9
CHMT Chamberlain Mo 82.23 37 eP P 20 44 19.5 -1.4
Y26A Elida 82.25 52 ⇓P P 20 44 21.0 -0.2
baz=82
FLWY Flagg Ranch 82.26 40 eP P 20 44 21.0 -0.1
comp=Z,154nm,1.4s
SLMT Seeley Lake 82.28 36 eP P 20 44 18.4 -2.6
SMCO Snowmass 82.30 46 eP P 20 44 21.3 -0.4
comp=Z,135nm,1.5s
S23A Nye Farm, Mont 82.31 47 ⇓P P 20 44 21.8 +0.3
baz=82
BW06 Boulder Array 82.31 42 eP P 20 44 19.9 -1.5
comp=Z,49nm,1.3s
BW06 LR LR
comp=Z,2μm,19.0s
PDAR Pinedale Array 82.31 42 P P 20 44 20.4 -1.1
comp=Z,5.3nm,0.9s,baz=218,slow=2.3,SNR=28
PDAR LR LR 21 15 14.4
comp=Z,930nm,19.6s,baz=245,slow=32
YBMT Yellow Bay 82.33 36 eP P 20 44 19.7 -1.6
W25A X Bar L Ranch, 82.33 50 ⇓P P 20 44 21.7 +0.1
baz=82,SNR=5.6
YFT Old Faithful 82.36 40 eP P 20 44 19.9 -1.8
comp=Z,88nm,1.4s
YMR Madison River 82.39 39 eP P 20 44 20.0 -1.8
comp=Z,187nm,1.4s
429A Davenport Ranc 82.40 55 ⇓P P 20 44 21.3 -0.6
baz=82,SNR=13
DOT Dot Lake 82.41 13 eP P 20 44 19.6 -1.5
comp=Z,95nm,1.4s
228A UT Block 9, Go 82.45 54 ⇓P P 20 44 22.3 0.0
baz=82
T24B San Luis 82.46 48 ⇓P P 20 44 22.2 -0.2
baz=83
Z27A Tatum 82.46 52 ⇑P P 20 44 22.1 -0.2
baz=83
V25A Rancho No Teng 82.48 50 ⇑P P 20 44 22.5 0.0
baz=83,SNR=12
H17A Grant Village 82.49 40 ⇑P P 20 44 23.5 +1.1
baz=83,SNR=6.4
BOZ Bozeman (W) 82.50 38 eP P 20 44 21.1 -1.2
BOZ pmax pmax
comp=Z,118nm,1.4s
BOZ MLR MLR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 82.50 38 eP P 20 44 21.1 -1.2
comp=Z,118nm,1.4s
BOZ LR LR
comp=Z,1μm,19.0s
X26A CR and CF Fran 82.53 51 ⇑P P 20 44 21.9 -0.7
baz=83
DLV T Lat 82.59 285 eP P 20 44 24.9 +1.4
comp=Z,56nm,1.1s
YNR Norris Junctio 82.59 39 eP P 20 44 20.7 -2.1

comp=Z,91nm,1.4s
P22A Eagle 82.64 45 ⇓P P 20 44 22.8 -0.4
baz=83,SNR=5.4
R23A Moffat 82.65 47 ⇑P P 20 44 23.4 0.0
baz=83
530A J-C Ranch, Com 82.65 56 ⇑P P 20 44 22.8 -0.5
baz=83,SNR=7.0
PAYG Puerto Ayora 82.67 89 PFAKE 20 44 30.0 +6.3
PAYG LR LR
comp=Z,1μm,19.0s
329A Wagon Wheel Ra 82.67 54 ⇑P P 20 44 22.9 -0.5
baz=83
SDCO Great Sand Dun 82.68 48 eP P 20 44 21.6 -1.9
comp=Z,54nm,1.5s
SDCO LR LR
comp=Z,702nm,19.0s
128A Castleberry Fa 82.74 53 ⇓P P 20 44 22.9 -0.9
baz=83,SNR=5.3
Y27A Causey 82.74 52 ⇑P P 20 44 23.1 -0.6
baz=83
COLA College 82.79 10c iP P 20 44 21.7 -1.3
COLA pmax pmax
comp=Z,205nm,1.2s
COLA College 82.79 10 eP P 20 44 21.4 -1.7
comp=Z,112nm,1.0s
COLA LR LR
comp=Z,1μm,20.0s
W26A Owens Ranch, T 82.79 51 ⇓P P 20 44 23.9 -0.1
baz=83
S24A Houchin Ranch, 82.84 48 ⇓P P 20 44 24.2 -0.2
baz=83,SNR=9.7
ILAR Eielson Array 82.86 11 P P 20 44 22.1 -1.4
comp=Z,5.9nm,0.7s,baz=200,slow=5.3,SNR=72
ILAR LR LR 21 18 20.0
comp=Z,418nm,18.8s,baz=223,slow=34
U25A Circle Dot Ran 82.88 49 ⇓P P 20 44 24.4 -0.1
baz=83,SNR=8.6
J19A Crowheart 82.88 41 ⇓P P 20 44 23.9 -0.4
baz=83,SNR=11
IM04 Indian Mountai 82.91 8 eP P 20 44 23.1 -0.6
HRY Holter Researc 82.95 37 eP P 20 44 23.3 -1.2
Q23A Hartsel 82.97 46 ⇓P P 20 44 24.9 -0.2
baz=83
631A Perdido Creek 82.98 57 ⇓P P 20 44 24.1 -0.9
baz=83,SNR=5.7
430A Baggett Ranch, 82.98 55 ⇑P P 20 44 24.9 -0.1
baz=83
229A Bryant Ranch, 83.00 54 ⇑P P 20 44 24.8 -0.2
baz=83
832A Faith Ranch, C 83.04 58 ⇓P P 20 44 25.0 -0.2
baz=83
O22A Kremmling 83.05 45 ⇑P P 20 44 25.4 0.0
baz=83,SNR=15
WALA Waterton Lakes 83.05 35 eP P 20 44 24.2 -0.8
MSTX Muleshoe 83.07 52 eP P 20 44 23.7 -1.7
comp=Z,162nm,1.5s
MSTX Muleshoe 83.07 52 ⇓P P 20 44 24.6 -0.9
baz=83
V26A Tequesquite Ra 83.07 50 ⇓P P 20 44 25.1 -0.3
baz=83
Z28A Tucker Farm, M 83.08 53 ⇑P P 20 44 25.2 -0.3
baz=83
X27A F and S Farms, 83.10 51 ⇑P P 20 44 25.5 -0.1
baz=83
P23A Jefferson 83.17 46 ⇓P P 20 44 26.2 0.0
baz=83,SNR=7.7
R24A Sanders Place, 83.18 47 ⇓P P 20 44 25.9 -0.1
baz=83,SNR=6.2
T25A Trinidad 83.19 48 ⇓P P 20 44 26.0 -0.1
baz=83
H18A Shoshone NF, C 83.20 40 ⇑P P 20 44 26.0 0.0
baz=83,SNR=6.2
732A Laxson Ranch, 83.21 58 ⇑P P 20 44 26.3 +0.2
baz=83
129A Stewart Farms, 83.22 53 ⇓P P 20 44 26.2 0.0
baz=83
330A Mertzon 83.27 55 ⇑P P 20 44 25.9 -0.6
baz=83
531A Rocksprings 83.29 56 ⇓P P 20 44 26.1 -0.5
baz=83,SNR=10
I19A Meeteetse 83.30 41 ⇓P P 20 44 26.5 0.0
baz=84,SNR=14
W27A Bowe Ranch, En 83.30 51 ⇑P P 20 44 26.3 -0.3
baz=83,SNR=8.1
U26A Atchley Ranch, 83.36 49 ⇑P P 20 44 26.2 -0.8
baz=84,SNR=7.4
933A Laredo 83.36 59 ⇓P P 20 44 26.3 -0.7
baz=83
S25A Robets Cordova 83.40 48 ⇓P P 20 44 26.8 -0.3
baz=84
N22A Wattenberg Ran 83.41 44 ⇓P P 20 44 27.3 0.0
baz=84,SNR=12
431A Sonora 83.44 56 ⇑P P 20 44 26.7 -0.6
baz=84
Y28A McKinney Farm, 83.44 52 ⇑P P 20 44 27.3 -0.1
baz=84
Q24A Divide 83.47 47 ⇓P P 20 44 27.4 -0.2
baz=84,SNR=7.6
PMSA Palmer Station 83.48 156 LR LR 21 12 28.6
comp=Z,840nm,20.4s,baz=252,slow=29
O23A Lake Granby, G 83.50 45 ⇑P P 20 44 27.5 -0.3
baz=84
230A Sterling City 83.51 54 ⇓P P 20 44 27.6 -0.1
baz=84
ISCO Idaho Springs 83.52 46 eP P 20 44 27.1 -0.8
ISCO pmax pmax
comp=Z,86nm,1.5s
ISCO MLR MLR
comp=Z,836nm,19.0s
ISCO Idaho Springs 83.52 46 eP P 20 44 27.1 -0.8
comp=Z,86nm,1.5s
ISCO LR LR
comp=Z,836nm,19.0s
ISCO Idaho Springs 83.52 46 ⇓P P 20 44 27.7 -0.2
baz=84
J20A Shoshoni 83.54 42 ⇑P P 20 44 27.4 -0.2
baz=84,SNR=15
M22A Cedar Creek Ra 83.59 44 ⇓P P 20 44 27.6 -0.6
baz=84,SNR=7.4
QIZ Qiongzhong 83.59 292 P P 20 44 27.7 -0.6
QIZ pP pP 20 44 37.1 -0.9
QIZ sP sP 20 44 43.3 +1.8
QIZ S S 20 54 47.6 -1.3
QIZ sS sS 20 55 03.6 -1.3
QIZ pmax pmax
comp=Z,12nm,2.1s
QIZ pmax pmax
comp=Z,250nm,10.3s
QIZ LR LR
comp=Z,390nm,23.4s
QIZ LR LR
comp=Z,220nm,23.7s
QIZ LR LR
comp=Z,1μm,25.0s
QIZ Qiongzhong 83.59 292 PFAKE 20 44 40.0 +12
QIZ LR LR
comp=Z,954nm,22.0s
Z29A Hungry Hill Ra 83.59 53 ⇑P P 20 44 27.6 -0.5
baz=84
H19A Powell 83.61 40 ⇓P P 20 44 28.4 +0.3
baz=84,SNR=18
632A Uvalde 83.65 57 ⇑P P 20 44 27.8 -0.6
baz=84
034A Hebbronville 83.65 60 ⇑P P 20 44 28.1 -0.3
baz=84
R25A Fountain Ranch 83.72 48 ⇓P P 20 44 28.3 -0.4
baz=84
X28A Dimmitt 83.73 52 ⇑P P 20 44 28.2 -0.6
baz=84
K21A Alcova 83.73 43 ⇓P P 20 44 28.4 -0.3
baz=84,SNR=14
GCMT Greycliff 83.76 39 eP P 20 44 27.9 -0.8
comp=Z,73nm,1.4s
V27A Dan Oppiter Fa 83.76 50 ⇓P P 20 44 28.6 -0.3
baz=84
N23A Red Feather La 83.79 45 ⇓P P 20 44 29.4 +0.2
baz=84,SNR=8.8
I20A Worland 83.80 41 ⇑P P 20 44 28.9 -0.1
baz=84,SNR=10
T26A Comanche Natio 83.80 49 ⇓P P 20 44 29.0 -0.2
baz=84
331A San Angelo 83.83 55 ⇓P P 20 44 29.1 -0.2
baz=84
WHN Wuhan 83.83 304 P P 20 44 30.7 +1.5
WHN S S 20 54 56.6 +5.8
WHN LR LR
comp=Z,2μm,20.2s
Y29A Porterfield Fa 83.86 52 ⇑P P 20 44 29.0 -0.5

baz=84
130A Snyder 83.90 54 ⇓P P 20 44 29.5 -0.2
baz=84
J21A Lysite 83.94 42 ⇓P P 20 44 29.4 -0.4
baz=84,SNR=22
TIA Tai'an 83.95 310 ⇓P P 20 44 33.2 +3.4
TIA pmax pmax
comp=Z,20nm,1.9s
L22A Ellis Ranch, M 83.99 43 ⇓P P 20 44 30.2 +0.1
baz=84,SNR=9.7
JCT Junction City 84.00 56 P P 20 44 28.7 -1.5
JCT MLR MLR
comp=Z,1μm,19.0s
JCT Junction City 84.00 56 P P 20 44 28.7 -1.5
JCT LR LR
comp=Z,1μm,19.0s
JCT Junction City 84.00 56 ⇓P P 20 44 29.8 -0.4
baz=84
EGAK Eagle 84.02 13 eP P 20 44 28.3 -1.1
comp=Z,69nm,1.4s
EGAK LR LR
comp=Z,1μm,19.0s
W28A Vega 84.02 51 ⇑P P 20 44 29.7 -0.6
baz=84
O24A Longmont 84.04 46 ⇑P P 20 44 30.0 -0.4
baz=84
U27A Thompson Grove 84.04 50 ⇓P P 20 44 29.8 -0.6
baz=84
MYKOM Kota Tinggi 84.04 274 ⇓P P 20 44 33.3 +2.5
Z30A Sanderson Ranc 84.05 53 ⇑P P 20 44 29.4 -1.0
baz=84,SNR=10
X29A Tulia 84.07 52 ⇓P P 20 44 30.2 -0.3
baz=84
S26A Kim 84.08 48 ⇑P P 20 44 30.1 -0.4
baz=84
Q25A Bedland, Calha 84.08 47 ⇓P P 20 44 30.4 -0.2
baz=84
633A Saathoff Ranch 84.13 57 ⇑P P 20 44 30.2 -0.6
baz=84
H20A Greybull 84.14 41 ⇓P P 20 44 30.4 -0.3
baz=84
834A Tilden 84.14 59 ⇑P P 20 44 30.3 -0.6
baz=84
231A Bronte 84.15 55 ⇑P P 20 44 30.3 -0.6
baz=84
432A Menard 84.16 56 ⇑P P 20 44 30.5 -0.5
baz=84
M23A Laramie 84.20 44 ⇑P P 20 44 31.1 -0.2
baz=84
V28A Channing 84.21 50 ⇓P P 20 44 30.4 -0.8
baz=84
K22A Casper 84.21 43 eP P 20 44 29.6 -1.5
comp=Z,110nm,1.4s
K22A Casper 84.21 43 ⇓P P 20 44 31.0 -0.2
baz=84
F19A Roth Farm, Mol 84.23 39 ⇑P P 20 44 30.8 -0.2
baz=84,SNR=13
AMTX Amarillo 84.26 51 eP P 20 44 30.5 -1.0
comp=Z,72nm,1.1s
AMTX Amarillo 84.26 51 ⇑P P 20 44 30.5 -1.0
baz=84
I21A Big Trails, Te 84.26 41 ⇑P P 20 44 30.2 -1.1
baz=84,SNR=16
PHWY Pilot Hill 84.30 44 eP P 20 44 30.9 -0.9
comp=Z,62nm,1.5s
G20A Bridger 84.36 40 ⇑P P 20 44 31.3 -0.6
baz=84
131A Roby 84.38 54 ⇑P P 20 44 31.1 -1.0
baz=84
R26A Arlington 84.38 48 ⇓P P 20 44 31.3 -0.8
baz=84,SNR=15
T27A Campo 84.38 49 ⇓P P 20 44 31.4 -0.7
baz=84
W29A Amraillo 84.38 51 ⇑P P 20 44 31.3 -0.8
baz=84,SNR=5.8
332A Millersview 84.39 55 ⇑P P 20 44 31.7 -0.5
baz=84,SNR=6.6
P25A Willow Gulch B 84.40 46 ⇑P P 20 44 31.6 -0.6
baz=84
734A La Parita Cree 84.40 58 ⇑P P 20 44 31.5 -0.8
baz=84
Y30A Stafford Cattl 84.46 53 ⇓P P 20 44 31.8 -0.7
baz=84
533A Kerrville 84.47 57 ⇑P P 20 44 32.2 -0.4
baz=84
U28A Mallet 84.47 50 ⇓P P 20 44 31.6 -0.9
baz=85
KVTX Kingsville 84.48 59 PFAKE 20 44 40.0 +7.4
KVTX LR LR
comp=Z,971nm,20.0s
N24A Carr 84.48 45 ⇓P P 20 44 31.9 -0.6
baz=85
L23A Garrett 84.51 44 ⇑P P 20 44 32.4 -0.4
baz=85,SNR=12
COLD Coldfoot 84.59 9 eP P 20 44 32.1 -0.2
comp=Z,74nm,1.3s
Q26A Hugo 84.60 47 ⇑P P 20 44 33.1 0.0
baz=85
J22A Midwest 84.60 42 ⇓P P 20 44 32.4 -0.7
baz=85,SNR=13
KGM Kluang 84.62 274 ⇑P P 20 44 32.2 -1.5
E19A Rath Farm, Rou 84.62 39 ⇓P P 20 44 32.7 -0.3
baz=85,SNR=9.4
232A Coleman 84.66 55 ⇓P P 20 44 33.2 -0.4
baz=85
433A Art 84.68 56 ⇓P P 20 44 33.0 -0.6
baz=85
F20A Billings 84.68 39 ⇓P P 20 44 33.4 0.0
baz=85
X30A Coker Ranch, T 84.70 52 ⇑P P 20 44 33.4 -0.3
baz=85
V29A Stinnett 84.78 51 ⇑P P 20 44 34.0 0.0
baz=85
M24A Cheyenne 84.80 44 ⇓P P 20 44 34.3 +0.1
baz=85
H21A Big Horn, Sher 84.81 41 ⇑P P 20 44 33.7 -0.3
baz=85
I22A 9 Mile Ranch, 84.82 42 ⇓P P 20 44 34.2 0.0
baz=85,SNR=7.1
Z31A Sharp Cattle R 84.82 53 ⇓P P 20 44 33.8 -0.4
baz=85
EGMT Eagleton 84.83 37 eP P 20 44 32.3 -1.8
comp=Z,86nm,1.4s
EGMT LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 84.83 37 ⇑P P 20 44 34.4 +0.3
baz=85
R27A Eads 84.84 48 ⇓P P 20 44 34.0 -0.4
baz=85
K23A Bowen Ranch, D 84.85 43 ⇑P P 20 44 34.2 -0.2
baz=85
T28A Walsh 84.85 49 ⇓P P 20 44 34.0 -0.4
baz=85
534A Blanco 84.90 57 ⇓P P 20 44 34.5 -0.3
baz=85
D19A Cripps Ranch, 84.92 38 ⇓P P 20 44 34.4 -0.1
baz=85,SNR=12
ABTX Abilene, Hawle 84.94 54 eP P 20 44 32.9 -2.1
comp=Z,107nm,1.3s
ABTX Abilene, Hawle 84.94 54 ⇓P P 20 44 34.4 -0.5
baz=85
333A Richland Sprin 84.97 56 ⇓P P 20 44 34.7 -0.4
baz=85
Y31A Rekieta Farm, 84.98 53 ⇓P P 20 44 34.6 -0.4
baz=85
L24A Wheatland 84.99 44 ⇑P P 20 44 35.1 +0.1
baz=85
P26A Davis Ranch, A 84.99 47 ⇑P P 20 44 34.5 -0.7
baz=85
E20A Meyer Farm, Mu 85.04 39 ⇓P P 20 44 35.3 +0.2
baz=85
C19A Slack Wire Ran 85.10 37 ⇑P P 20 44 35.5 +0.1
baz=85,SNR=14
BILL Bilibino 85.10 352 d iP P 20 44 34.6 -0.2
BILL iS S 20 54 54.9 -7.1
BILL pmax pmax
comp=Z,26nm,1.3s
BILL Bilibino 85.10 352 eP P 20 44 33.5 -1.3
comp=Z,40nm,1.1s
BILL LR LR
comp=Z,2μm,21.0s
S28A Manter 85.20 49 ⇑P P 20 44 35.8 -0.4
baz=85,SNR=5.9
H22A Clearmont 85.23 41 ⇓P P 20 44 36.2 +0.1
baz=85
KSCO Kaye Shedlock' 85.26 47 eP P 20 44 38.2 +1.7
233A Rising Star 85.30 55 ⇑P P 20 44 36.6 -0.1
baz=85

M25A Palm-Egli Farm 85.31 45 ⇓P P 20 44 36.5 -0.2
baz=85
D20A Manuel Ranch, 85.32 38 ⇑P P 20 44 36.4 -0.1
baz=86,SNR=8.8
Z32A Haskell 85.33 54 ⇓P P 20 44 36.5 -0.3
baz=85,SNR=22
434A Burnet 85.36 56 ⇑P P 20 44 37.0 0.0
baz=85,SNR=6.2
V30A Spur Ranch, Mi 85.36 51 ⇑P P 20 44 37.0 +0.1
baz=86
X31A McDonald Ranch 85.45 52 ⇓P P 20 44 37.3 -0.2
baz=86
T29A Hugoton 85.46 49 ⇑P P 20 44 37.7 +0.2
baz=86
133A Hamilton Ranch 85.50 54 ⇑P P 20 44 37.2 -0.5
baz=86,SNR=5.3
B19A Brinkman Farms 85.52 37 ⇓P P 20 44 37.7 +0.2
baz=86,SNR=16
P27A Ficken Ranch, 85.53 47 ⇑P P 20 44 37.5 -0.3
baz=86
G22A Birney 85.56 41 ⇓P P 20 44 37.8 +0.1
baz=86
334A Lometa 85.57 56 ⇑P P 20 44 37.7 -0.4
baz=86,SNR=10.0
R28A Tribune 85.57 48 ⇓P P 20 44 38.0 0.0
baz=86,SNR=7.8
Y32A R-V Farms, Ver 85.62 53 ⇓P P 20 44 38.2 0.0
baz=86,SNR=8.7
EDM Edmonton 85.66 31 eP P 20 44 36.3 -1.7
EDM Edmonton 85.66 31 eP P 20 44 36.3 -1.7
L25A Engebretsen Ra 85.68 44 ⇓P P 20 44 38.6 +0.1
baz=86
U30A WK&E Inc. Balk 85.69 50 ⇓P P 20 44 39.1 +0.5
baz=86
W31A Holland Ranch, 85.69 52 ⇓P P 20 44 38.8 +0.2
baz=86
E21A Keefer Ranch, 85.69 39 ⇓P P 20 44 38.5 +0.2
baz=86
C20A Veseth Ranch, 85.70 38 ⇑P P 20 44 38.6 +0.2
baz=86,SNR=6.4
KTGM Kuala Trenggan 85.71 277 ⇓P P 20 44 41.1 +2.0
S29A Ulysses 85.78 49 ⇑P P 20 44 39.4 +0.4
baz=86
F22A Rosebud 85.84 40 ⇑P P 20 44 39.4 +0.3
baz=86
O27A Beecher Island 85.86 46 ⇓P P 20 44 39.3 -0.1
baz=86
A19A Klindworth Far 85.87 37 ⇑P P 20 44 39.3 +0.1
baz=86,SNR=5.4
Z33A Whitaker Ranch 85.88 54 ⇓P P 20 44 38.8 -0.7
baz=86
435B Jarrell 85.89 57 ⇑P P 20 44 39.5 -0.1
baz=86
234A Clairette 85.89 55 ⇓P P 20 44 39.4 -0.2
baz=86
T30A Plains 85.98 50 ⇑P P 20 44 41.1 +1.0
baz=86
D21A La Casta Ranch 85.99 39 ⇓P P 20 44 40.3 +0.4
baz=86
V31A Spring Creek L 86.00 51 ⇓P P 20 44 40.2 +0.1
baz=86
R29A Marienthal 86.09 48 ⇑P P 20 44 40.7 +0.1
baz=86
G23A Biddle 86.11 41 ⇓P P 20 44 41.1 +0.6
baz=86
P28A Saint Francis 86.11 47 ⇑P P 20 44 40.5 -0.1
baz=86
134A White-Moore Ra 86.15 55 ⇓P P 20 44 41.2 +0.3
baz=86
W32A Sentinel 86.20 52 ⇑P P 20 44 41.2 +0.1
baz=86,SNR=6.3
BJT Baijiatuau 86.21 313 eP P 20 44 42.2 +1.2
BJT pmax pmax
comp=Z,38nm,1.1s
BJT MLR MLR
comp=Z,663nm,20.0s
BJT Baijiatuau 86.21 313 eP P 20 44 42.1 +1.2
comp=Z,38nm,1.1s
BJT LR LR
comp=Z,663nm,20.0s
BJI Beijing 86.22 313 P P 20 44 41.5 +0.5
BJI pP pP 20 44 51.0 +0.3
BJI sP sP 20 44 54.3 +0.1
BJI PP PP 20 48 01.3 -0.9
BJI S SKSac 20 55 06.8 +1.7
BJI SS SS 21 00 52.6 -1.3
BJI pmax pmax
comp=Z,36nm,1.6s
BJI pmax pmax
comp=Z,550nm,5.6s
BJI LR LR
comp=Z,460nm,21.3s
BJI LR LR
comp=Z,710nm,19.9s
BJI LR LR
comp=Z,620nm,25.7s
Y33A Hilltop Ranch, 86.25 53 ⇓P P 20 44 41.2 -0.2
baz=86
S30A Montezuma 86.26 49 ⇑P P 20 44 41.9 +0.5
baz=86
LAO LASA Array 86.28 39 eP P 20 44 40.7 -0.6
comp=Z,193nm,1.8s
C21A Desert Coulee 86.29 38 ⇓P P 20 44 42.0 +0.7
baz=86
A20A Cobblestone Ra 86.32 37 ⇓P P 20 44 41.0 -0.4
baz=86,SNR=12
O28A Krutsinger Ran 86.33 47 ⇓P P 20 44 41.2 -0.5
baz=86
F23A Volborg 86.34 40 ⇓P P 20 44 42.0 +0.4
baz=86
BKNI Bangkinang 86.34 271 eP P 20 44 42.8 +0.5
comp=Z,65nm,0.9s
Q29A Oakley 86.39 48 ⇑P P 20 44 42.4 +0.4
baz=86
UBPT Khong Chiam 86.39 287 P P 20 44 47.0 +4.6
comp=Z,54nm,1.5s
WHTX Lake Whitney 86.43 55 eP P 20 44 44.7 +2.4
WHTX Lake Whitney 86.43 55 ⇓P P 20 44 42.7 +0.4
baz=86
H24A Dirks Ranch, A 86.44 42 ⇓P P 20 44 42.6 +0.4
baz=87,SNR=6.1
K26A Motz Farm, Whi 86.44 44 ⇓P P 20 44 42.3 +0.1
baz=87
RSSD Black Hills 86.50 42 eP P 20 44 40.8 -1.8
RSSD pmax pmax
comp=Z,34nm,1.3s
RSSD Black Hills 86.50 42 eP P 20 44 40.8 -1.8
comp=Z,34nm,1.3s
D22A Cohagen 86.52 39 ⇓P P 20 44 43.0 +0.6
baz=87
X33A Lawton 86.55 53 ⇓P P 20 44 42.9 +0.1
baz=87
Z34A Collier Ranch, 86.57 54 ⇓P P 20 44 43.0 +0.1
baz=87
V32A Arapaho 86.58 52 ⇑P P 20 44 43.3 +0.4
baz=87
FRIM Kepong 86.58 274 ⇑P P 20 44 43.9 +0.4
B21A Ellsworth Farm 86.63 37 ⇑P P 20 44 43.4 +0.5
baz=87
T31A Randall Ranch, 86.63 50 ⇓P P 20 44 43.6 +0.4
baz=87
R30A Dighton 86.65 49 ⇑P P 20 44 43.9 +0.6
baz=87
135A Vickery Place, 86.67 55 ⇓P P 20 44 43.1 -0.3
baz=87
J26A Sides Ranch, S 86.77 43 ⇑P P 20 44 43.3 -0.5
baz=87
G24A Alzada 86.78 41 ⇑P P 20 44 44.6 +0.8
baz=87
W33A Caddo, Fort Co 86.80 52 ⇑P P 20 44 43.6 -0.4
baz=87
U32A Winter Ranch, 86.86 51 ⇓P P 20 44 44.2 -0.1
baz=87
Y34A Reagan Ranch, 86.90 54 ⇓P P 20 44 44.5 -0.1
baz=87
APG El Apazote 86.96 74 LR LR 21 16 52.8
comp=Z,1µm,18.0s,slow=31
Q30A Quinter 86.97 48 ⇑P P 20 44 45.0 +0.1
baz=87
C22A Vida 86.98 38 ⇑P P 20 44 44.7 0.0
baz=87
F24A Ekalaka 87.00 41 ⇑P P 20 44 45.5 +0.7
baz=87
H25A Fruitdale 87.00 42 ⇑P P 20 44 45.3 +0.4
baz=87
O29A 4D Ranch, Culb 87.01 47 ⇓P P 20 44 45.7 +0.7
baz=87
COCO West Island 87.01 258 PFAKE 20 45 00.0 +15
COCO LR LR
comp=Z,2µm,20.0s
K27A Flueckinger Fa 87.08 44 ⇓P P 20 44 46.3 +1.0
baz=87
X34A Smith Ranch, M 87.08 53 ⇓P P 20 44 45.7 +0.3
baz=87
P30A Selden 87.17 48 ⇑P P 20 44 45.9 +0.2
baz=87
C23A Lambert 87.42 39 ⇓P P 20 44 47.1 +0.3
baz=88
J27A Elkhorn Farm, 87.46 44 ⇑P P 20 44 47.2 +0.1
baz=88
MAW Mawson 87.46 198 P P 20 44 46.7 +0.1
comp=Z,37nm,1.0s,baz=195,slow=3.4,SNR=3.8
MAW LR LR 21 22 33.1
comp=Z,3µm,19.0s,baz=115,slow=35
IPM Ipoh 87.50 275 eP P 20 44 48.8 +0.9
comp=Z,53nm,1.1s
A22A Carney Farms, 87.54 37 ⇓P P 20 44 47.4 0.0
baz=88
ENH Enshi 87.65 302 eP P 20 44 49.0 +0.8
comp=Z,12nm,0.9s
ENH LR LR
comp=Z,36nm,20.0s
C24A Savage 87.76 39 ⇓P P 20 44 48.7 +0.3
baz=88
P31A Stockton 87.78 48 ⇑P P 20 44 48.8 +0.1
baz=88
B23A Brockton 87.84 38 ⇓P P 20 44 49.3 +0.5
baz=88
G26A Maurine 87.93 42 ⇑P P 20 44 49.8 +0.5
baz=88
HIA Hailar 87.94 323 eP P 20 44 49.4 +0.2
HIA pmax pmax
comp=Z,64nm,1.3s
HIA MLR MLR
comp=Z,2µm,22.0s
HIA Hailar 87.94 323 eP P 20 44 49.4 +0.2
comp=Z,64nm,1.3s
HIA LR LR
comp=Z,2µm,22.0s
J28A Allard Ranch, 88.04 44 ⇓P P 20 44 50.6 +0.7
baz=88
KULM Kulim 88.08 276 epP pP 20 45 01.7 +1.3
KULM LR LR
comp=Z,577nm,20.0s
Q32A Meitler Ranch, 88.17 49 ⇓P P 20 44 50.2 -0.4
baz=88
D25A Fairfield 88.27 40 ⇓P P 20 44 51.2 +0.3
baz=88
DGMT Dagmar 88.31 38 eP P 20 44 50.7 -0.4
comp=Z,72nm,1.2s
DGMT LR LR
comp=Z,2µm,20.0s
DGMT Dagmar 88.31 38 ⇓P P 20 44 51.4 +0.4
baz=88
R33A Olander Ranch, 88.33 49 ⇑P P 20 44 51.2 -0.1
baz=88
K29A Lazy Trails An 88.39 45 ⇓P P 20 44 51.4 -0.2
baz=88
F27A Lemmon 88.54 41 ⇓P P 20 44 53.0 +0.8
baz=89
A24A Westby 88.63 38 ⇑P P 20 44 52.5 0.0
baz=89
J29A Okreek 88.64 44 ⇓P P 20 44 52.7 0.0
baz=89
INK Inuvik 88.66 14 eP P 20 44 50.4 -1.7
INK pmax pmax
comp=Z,46nm,1.4s
INK Inuvik 88.66 14 eP P 20 44 50.4 -1.7
comp=Z,46nm,1.4s
Q33A Connelly Farm, 88.69 49 ⇑P P 20 44 52.9 -0.1
baz=89
GYA Guiyang 88.76 298 ⇑iP P 20 44 53.8 +0.1
GYA pP pP 20 45 05.2 +1.7
GYA PP PP 20 48 25.0 +1.9
GYA SKS SKSac 20 55 17.4 -4.1
GYA S S 20 55 37.7 -1.6
GYA sS sS 20 55 52.8 -2.7
GYA SS SS 21 01 31.9 0.0
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,150nm,6.2s
GYA LR LR
comp=Z,890nm,21.8s
GYA LR LR
comp=Z,650nm,22.2s
GYA LR LR
comp=Z,960nm,20.4s
D26A Manning 88.76 40 ⇑P P 20 44 53.1 0.0
baz=89
PLCA Paso Flores 88.76 132 eP P 20 44 53.1 -0.5
PLCA pmax pmax
comp=Z,24nm,1.3s
PLCA Paso Flores 88.76 132 LR LR 21 16 03.7
comp=Z,2µm,19.9s,baz=272,slow=30
PLCA Paso Flores 88.76 132 eP P 20 44 53.0 -0.5
comp=Z,24nm,1.3s
I29A Vivian Onida 88.90 43 ⇓P P 20 44 53.9 0.0
baz=89
P33A Williams Farm, 88.95 48 ⇑P P 20 44 54.8 +0.5
baz=89
C26A Wahner Farm, P 89.31 40 ⇑P P 20 44 56.2 +0.5
baz=90
BGNE Belgrade 89.36 47 epP pP 20 45 07.0 +1.1
BGNE Belgrade 89.36 47 ⇓P P 20 44 56.4 +0.3
baz=90
XAN Xi'an 89.37 306 P P 20 44 58.0 +1.7
XAN pP pP 20 45 03.5 -2.6
XAN pmax pmax
comp=Z,82nm,14.9s
SLVN Son La 89.61 292 eP P 20 44 59.9 +2.1
comp=Z,25nm,1.2s
KSU1 Kansas State U 89.62 49 PFAKE 20 45 10.0 +13
KSU1 LR LR
comp=Z,555nm,19.0s
HHC Hu-ho-hao-te 89.77 313 eP P 20 44 56.6 -1.6
HHC sP sP 20 45 10.6 -0.8
HHC S S 20 55 48.9 +0.7
HHC sS sS 20 56 02.2 -2.2
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,710nm,7.1s
HHC LR LR
comp=Z,470nm,18.1s
HHC LR LR
comp=Z,840nm,17.2s
HHC LR LR
comp=Z,920nm,17.3s
YAK Yakutsk 89.81 337 eP P 20 44 56.4 -1.2
YAK pmax pmax
comp=Z,275nm,2.2s
YAK MLR MLR
comp=Z,886nm,22.0s
YAK Yakutsk 89.81 337 eP P 20 44 56.4 -1.2
comp=Z,275nm,2.2s
YAK LR LR
comp=Z,886nm,22.0s
GSI Gunungsitoli 89.94 271 eP P 20 45 00.8 +1.4
comp=Z,320nm,1.7s
MIAR Mount Ida 90.36 54 epP pP 20 45 11.7 +1.0
MIAR LR LR
comp=Z,1µm,20.0s
YKA Yellowknife Ar 90.38 23 P P 20 44 59.4 -0.9
comp=Z,1.1nm,0.6s,baz=235,slow=4.3,SNR=22
TEIG Tepich 90.48 69 PFAKE 20 45 10.0 +8.3
TEIG LR LR
comp=Z,1µm,19.0s
JTS JuntasAbangare 90.79 80⇓eP P 20 45 03.7 +0.3
JTS MLR MLR
comp=Z,3µm,17.0s
JTS JuntasAbangare 90.79 80 eP P 20 45 03.1 -0.3
comp=Z,76nm,1.2s
JTS LR LR
comp=Z,1µm,20.0s
A28A Rude Farm, Bot 90.86 39 ⇑P P 20 45 03.3 +0.3
baz=91
PBKT Sadao Pong 90.91 287 P P 20 45 06.2 +2.4
comp=Z,25nm,1.1s
ECSD EROS Data Cent 91.26 45 epP pP 20 45 13.2 -1.4
ECSD EROS Data Cent 91.26 45 ⇑P P 20 45 05.4 +0.5
baz=91
A29A Manning Farm, 91.50 39 ⇓P P 20 45 05.4 -0.4
baz=92
C30A Mose, Pekin 91.50 41 ⇓P P 20 45 05.4 -0.4
baz=92
UTTA Uttaradit 91.61 288 P P 20 45 09.7 +2.6
comp=Z,8.0nm,1.0s
KMI Kunming 91.73 296 P P 20 45 10.3 +2.5
KMI pP pP 20 45 20.2 +2.7
KMI SKS SKSac 20 55 42.0 +3.0
KMI S ScS 20 56 10.8 +1.1
KMI SS SS 21 02 20.8 +5.6
KMI pmax pmax
comp=Z,10.0nm,1.7s
KMI pmax pmax
comp=Z,220nm,7.0s
KMI LR LR
comp=Z,540nm,17.5s
KMI LR LR
comp=Z,610nm,18.0s
KMI LR LR
comp=Z,760nm,18.4s
SRDT SRDT 92.01 284 P P 20 45 11.7 +2.8
comp=Z,108nm,1.0s
A30A Hoffart Farm, 92.07 39 ⇑P P 20 45 08.3 -0.2
baz=92
FFC Flin Flon 92.26 33 eP P 20 45 10.8 +1.6
FFC pmax pmax
comp=Z,56nm,1.6s
FFC MLR MLR
comp=Z,950nm,21.0s
FFC Flin Flon 92.26 33 eP P 20 45 10.8 +1.6
comp=Z,56nm,1.6s
FFC LR LR
comp=Z,950nm,21.0s
SNAA Sanae 92.35 177 P P 20 45 08.0 -1.6
SNAA Sanae 92.35 177 LR LR 21 21 21.1
comp=Z,456nm,21.3s,baz=226,slow=32
SNAA Sanae 92.35 177 P P 20 45 08.0 -1.6
NNA Nana 92.42 103 PFAKE 20 45 20.0 +9.0
NNA LR LR
comp=Z,1µm,20.0s
CD2 Chengdu 92.54 301 eP P 20 45 11.6 +0.4
CD2 pP pP 20 45 21.7 +0.8
CD2 sP sP 20 45 25.5 +1.1
CD2 PP PP 20 48 55.5 +2.5
CD2 SKS SKSac 20 55 40.9 -2.0
CD2 S S 20 56 10.4 -3.3
CD2 sS sS 20 56 27.4 -2.5
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,290nm,8.3s
CD2 LR LR
comp=Z,890nm,20.6s
CD2 LR LR
comp=Z,800nm,23.5s
CD2 LR LR
comp=Z,820nm,25.5s
LCO Las Campanas 92.62 121 PFAKE 20 45 20.0 +8.0
LCO LR LR
comp=Z,2µm,21.0s
LAMP Lampang 92.67 288 P P 20 45 14.6 +2.6
CIT Chita 92.67 324 eP P 20 45 12.2 +0.9
CIT e 20 45 21.9
CIT pmax pmax
comp=Z,138nm,2.0s
HBAR Harrisburg 92.95 54 P P 20 45 15.3 +2.5
SCIA State Center 93.00 47 epP pP 20 45 22.8 +0.1
CM31 Chiang Mai Arr 93.28 288 eP P 20 45 17.1 +2.3
comp=Z,25nm,1.0s
CMAR Chiang Mai Arr 93.28 288 P P 20 45 16.7 +1.9
comp=Z,2.6nm,0.9s,baz=100,slow=2.7,SNR=28
CMAR LR LR 21 21 52.6
comp=Z,562nm,21.7s,baz=118,slow=32
AGMN Agassiz Nation 93.35 41 eP P 20 45 15.7 +1.3
comp=Z,79nm,1.8s
AGMN epP pP 20 45 22.9 -1.3
CHTO Chiang Mai 93.38 288 eP P 20 45 16.5 +1.3
CHTO pmax pmax
comp=Z,17nm,1.0s
CHTO MLR MLR
comp=Z,763nm,21.0s
CHTO Chiang Mai 93.38 288 eP P 20 45 16.4 +1.3
comp=Z,17nm,1.0s
CHTO LR LR
comp=Z,763nm,21.0s
PBMO Poplar Bluff 93.48 53 epP pP 20 45 25.4 +0.3
LZH Lanzhou 93.96 306 eP P 20 45 19.4 +1.6
LZH pP pP 20 45 29.9 +2.4
LZH sP sP 20 45 33.4 +2.4
LZH SKS SKSac 20 55 53.6 +2.8
LZH eS S 20 56 24.4 -1.9
LZH sS sS 20 56 42.4 -0.2
LZH SS SS 21 02 46.3 -0.4
LZH pmax pmax
comp=Z,49nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.7s
LZH LR LR
comp=Z,760nm,17.6s
LZH LR LR
comp=Z,880nm,15.6s
LZH LR LR
comp=Z,1µm,19.0s
ULM Lac du Bonnet 94.01 39 P P 20 45 15.4 -2.0
comp=Z,2.9nm,0.9s,baz=253,slow=0.6,SNR=4.5
ULM LR LR 21 20 42.2
comp=Z,1µm,21.6s,baz=254,slow=31
OTAV Otavalo 94.30 91 PFAKE 20 45 30.0 +10
OTAV LR LR
comp=Z,445nm,20.0s
SPMN St. Paul 94.33 44 eP P 20 45 18.1 -0.9
PAF Port-aux-Franc 94.51 216 S S 20 56 24.0 -6.3
PAF SS SS 21 01 44.0 -68
PAF L L 21 11 00.0
PAF R 21 19 00.0
ULN Ulaanbaatar 95.18 318 d iP P 20 45 23.2 +0.2
ULN pmax pmax
comp=Z,16nm,1.7s
ULN MLR MLR
comp=Z,746nm,21.0s
ULN Ulaanbaatar 95.18 318 eP P 20 45 23.7 +0.6
comp=Z,16nm,1.3s
ULN LR LR
comp=Z,915nm,22.0s
BCIP Isla Barro Col 95.34 82 PFAKE 20 45 30.0 +5.7
BCIP LR LR
comp=Z,680nm,20.0s
JFWS Jewell Farm 95.40 47 PFAKE 20 45 30.0 +6.0
JFWS LR LR
comp=Z,2µm,22.0s
SONM Songino Array 95.59 318 P P 20 45 25.1 +0.2
comp=Z,1.3nm,0.8s,baz=119,slow=3.5,SNR=12
SONM LR LR 21 23 29.6
comp=Z,758nm,21.7s,baz=116,slow=32
TIXI Tiksi 95.66 344 ⇓iP P 20 45 23.6 -0.8
TIXI pmax pmax
comp=Z,9.0nm,1.3s
TIXI Tiksi 95.66 344 eP P 20 45 23.4 -1.1
comp=Z,40nm,2.0s
TIXI LR LR
comp=Z,1µm,20.0s
TRQA Tornquist 95.92 132 eP P 20 45 22.9 -3.7
TRQA LR LR
comp=Z,1µm,20.0s
EYMN Ely 96.01 42 PFAKE 20 45 40.0 +13
EYMN LR LR
comp=Z,760nm,21.0s
LVC Limon Verde 96.31 116 eP P 20 45 30.7 +1.7
comp=Z,45nm,1.8s
LVC LR LR
comp=Z,1µm,19.0s
COWI Conover 97.05 44 PFAKE 20 45 40.0 +8.5
COWI LR LR
comp=Z,1µm,20.0s
ZAK Zakamensk 98.27 320 eP P 20 45 35.8 -1.1
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TKL Tuckaleechee C 98.38 55 LR LR 21 23 13.3
comp=Z,919nm,19.4s,slow=31
TLY Talaya 98.38 321 eP Pdif 20 45 37.8 +0.5
TLY e 20 56 59.3
TLY ePS PS 20 58 27.8 -4.2
TLY pmax pmax
comp=Z,12nm,1.4s
TLY Talaya 98.38 321 PFAKE 20 45 50.0 +13
TLY LR LR
comp=Z,1µm,20.0s
LPAZ La Paz 99.13 110 LR LR 21 20 58.8

comp=Z,1μm,20.6s,baz=271,slow=30
ROSC El Rosal 99.50 88 LR LR 21 20 55.3
comp=Z,631nm,21.6s,baz=218,slow=30
MTDJ Mount Denham 99.76 74 PFAKE 20 45 50.0 +5.7
MTDJ LR LR
comp=Z,861nm,20.0s
AAM Ann Arbor 99.96 49 PFAKE 20 45 50.0 +5.5
AAM LR LR
comp=Z,1μm,22.0s
GTBY Guantanamo Bay 102.38 73 PFAKE 20 46 10.0 +14
GTBY LR LR
comp=Z,544nm,19.0s
LSA Lhasa 102.82 297 PFAKE 20 46 10.0 +12
LSA LR LR
comp=Z,537nm,20.0s
SDV Santo Domingo 104.07 85 PFAKE 20 46 10.0 +6.3
SDV LR LR
comp=Z,681nm,20.0s
SDDR Presa de Saban 105.71 74 PFAKE 20 50 30.0
SDDR LR LR
comp=Z,2μm,21.0s
SAML Samuel 106.13 104 PFAKE 20 50 40.0
SAML LR LR
comp=Z,951nm,19.0s
GRTK Grand Turk 106.34 72 PFAKE 20 50 40.0
GRTK LR LR
comp=Z,1μm,19.0s
WMQ Urumqi 107.61 311 ePdif Pdif 20 46 18.0 -0.6
WMQ PP PP 20 50 48.9 +1.7
WMQ S Sdif 20 58 15.3 -5.7
WMQ SS SS 21 05 52.7 -3.3
WMQ AMB AMB
comp=Z,290nm,6.8s
WMQ LR LR
comp=Z,290nm,20.0s
WMQ LR LR
comp=Z,310nm,20.6s
WMQ LR LR
comp=Z,290nm,20.0s
ZALV Zalesovo Beam 109.97 322 Pdiff Pdif 20 46 27.3 -1.4
comp=Z,1.1nm,0.9s,baz=318,slow=2.0,SNR=4.7
ZALV PKiKP PKiKP 20 50 29.5 -1.0
comp=Z,0.4nm,0.5s,baz=90,slow=1.4,SNR=3.3
SJG San Juan 110.32 76 PFAKE 20 50 40.0
SJG LR LR
comp=Z,911nm,21.0s
PKME Peaks-Kenny Pk 110.64 47 PFAKE 20 50 40.0
PKME LR LR
comp=Z,2μm,21.0s
DGAR Diego Garcia 111.33 255 PFAKE 20 50 50.0
DGAR LR LR
comp=Z,2μm,19.0s
MK31 Makanchi Array 111.58 314 ePKiKP PKiKP 20 50 32.9 -1.0
MK31 Makanchi Array 111.58 314 ePKPdf PKiKP 20 50 32.9 -1.0
MKAR Makanchi Array 111.58 314 Pdiff Pdif 20 46 37.1 +1.0
comp=Z,0.2nm,0.7s,baz=87,slow=4.9,SNR=2.6
MKAR PKiKP PKiKP 20 50 32.6 -1.3
comp=Z,0.4nm,0.5s,baz=128,slow=0.4,SNR=12
PTGA Pitinga 111.76 97 PFAKE 20 50 50.0
PTGA LR LR
comp=Z,1μm,20.0s
GRGR Grenville 113.40 83 PFAKE 20 50 50.0
GRGR LR LR
comp=Z,415nm,19.0s
KURK Kurchatov 113.89 319 P Pdif 20 46 49.7 +3.5
KURK 20 50 37.8
KURK MLR MLR
comp=Z,526nm,20.0s
KURK Kurchatov 113.89 319 Pdif Pdif 20 46 49.7 +3.5
KURK ePKPdf PKiKP 20 50 37.4 -0.8
KURK PKP PKiKP 20 50 37.8 -0.3
KURK LR LR
comp=Z,526nm,20.0s
KURBB Kurchatov Arra 113.95 319 Pdiff Pdif 20 46 49.7 +3.2
comp=Z,0.2nm,0.7s,baz=92,slow=4.6,SNR=4.5
KURBB PKP PKiKP 20 50 37.8 -0.5
comp=Z,2.4nm,1.3s,baz=83,slow=1.8,SNR=7.1
FDF Fort de France 114.40 81 PFAKE 20 50 50.0 +10
FDF LR LR
comp=Z,615nm,19.0s
KSH Kashi 116.21 306 ePKP PKPdf 20 50 48.3 +5.2
KSH ePP PP 20 51 58.3 +9.4
KSH PKS PKSdf 20 54 20.2 +0.3
KSH SKS SKSdf 20 57 58.5 +5.1
KSH SKKS SKKSac 20 58 51.2 +3.2
KSH Kashi 116.21 306 SS SS 21 07 58.9 +8.0
KSH AMB AMB
comp=Z,210nm,5.7s
KSH LR LR
comp=N,370nm,15.2s
KSH LR LR
comp=E,270nm,9.0s
KSH LR LR
comp=Z,540nm,22.0s
TKM2 Tokmak 2 116.41 310 PFAKE 20 50 50.0 +6.5
TKM2 LR LR
comp=Z,556nm,20.0s
KBS Kingsbay 116.94 359 PFAKE 20 50 50.0 +6.7
KBS LR LR
comp=Z,429nm,20.0s
AAK Ala-Archa 117.23 310 i PKIKP PKPdf 20 50 53.3 +8.2
AAK pmax pmax
comp=Z,12nm,1.7s
AAK Ala-Archa 117.23 310 PFAKE 20 51 00.0 +15
AAK LR LR
comp=Z,541nm,20.0s
EKS2 Erkin-Say 117.76 310 PFAKE 20 51 00.0 +14
EKS2 LR LR
comp=Z,682nm,19.0s
BVAR Borovoye Array 118.62 322 PKP PKPdf 20 50 47.3 +0.1
comp=Z,0.6nm,0.5s,baz=114,slow=0.6,SNR=8.9
BRVK Borovoye 118.68 322⇑iPKIKP PKPdf 20 50 49.8 +2.5
BRVK pmax pmax
comp=Z,18nm,1.7s
BRVK Borovoye 118.68 322 ePKPdf PKPdf 20 50 44.3 -2.9
BRVK LR LR
comp=Z,1μm,21.0s
RER Riviere de l'E 119.73 234 PFAKE 20 51 00.0 +10
RER LR LR
comp=Z,878nm,19.0s
KKAR Karatay Array 120.11 311 ePKIKP PKPdf 20 50 49.6 -0.8
KKAR Karatay Array 120.11 311 ePKPdf PKPdf 20 50 49.6 -0.8
KBL Kabul 121.88 301 ePKIKP PKPdf 20 50 54.0 -0.3
KBL Kabul 121.88 301 ePKPdf PKPdf 20 50 54.0 -0.3
SVE Sverdlovsk 122.86 328 i PKIKP PKPdf 20 51 04.8 +10
SVE e 21 09 23.1
SVE pmax pmax
comp=Z,23nm,1.6s
SVE MLR MLR
comp=Z,1μm,21.0s
ARU Arti 124.07 328 i PKIKP PKPdf 20 50 59.2 +1.7
ARU 20 52 42.0
ARU PPP PPP 20 55 21.8
ARU 20 57 57.9
ARU SP SP 21 02 34.9 -0.9
ARU PS PS 21 02 43.4 +2.8
ARU SS SS 21 09 25.5 -4.5
ARU MLR MLR
comp=Z,1μm,21.0s
ARU Arti 124.07 328 ePKPdf PKPdf 20 50 57.4 -0.1
ARU LR LR
comp=Z,1μm,21.0s
KEV Kevo 124.80 352 PFAKE 20 51 10.0 +11
KEV LR LR
comp=Z,843nm,19.0s
LVZ Lovozero 125.13 348 PFAKE 20 51 10.0 +11
LVZ LR LR
comp=Z,925nm,20.0s
ARCES ARCESS Array B 125.21 352 PKP PKPdf 20 50 58.6 -0.8
comp=Z,2.5nm,0.7s,baz=36,slow=1.7,SNR=8.3
APA Apatity 125.66 348 i PKIKP PKPdf 20 51 07.0 +6.7
APA MLR MLR
comp=Z,1μm,22.0s
ABKAR Akbulak array 125.96 320 ePKPdf PKPdf 20 51 01.1 -0.3
PRGR Permogore 126.82 338 ePKIKP PKPdf 20 51 05.2 +2.6
PRGR 20 52 57.7
ABPO Ambohimpanom 127.45 230 PFAKE 20 51 20.0 +15
ABPO LR LR
comp=Z,1μm,20.0s
MSEY Mahe Island 127.98 251 PFAKE 20 51 20.0 +14
MSEY LR LR
comp=Z,600nm,19.0s
KLMR Klimovskoe 129.47 340 ePKIKP PKPdf 20 51 06.9 -0.8
KLMR pmax pmax
comp=Z,46nm,1.6s

JOF Joensuu 130.11 346 ePKIKP PKPdf 20 51 09.1 +0.2
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 130.11 346 epkp PKPdf 20 51 09.1 +0.2
comp=Z,2.0nm,0.6s
SUR Sutherland 130.21 195 PFAKE 20 51 20.0 +10
SUR LR LR
comp=Z,1μm,20.0s
KAF Kangasniemi 131.92 348 ePKIKP PKPdf 20 51 10.4 -1.9
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 131.92 348 epkp PKPdf 20 51 10.4 -1.9
comp=Z,1.8nm,0.6s
RCBR Riachuelo 132.22 114 PFAKE 20 51 30.0 +16
RCBR LR LR
comp=Z,1μm,19.0s
BOSA Boshof 132.38 202 PKP PKPdf 20 51 15.2 +0.7
comp=Z,5.7nm,1.1s,baz=162,slow=4.2,SNR=4.1
FINES FINESS Array B 132.57 348 PKP PKPdf 20 51 14.2 +0.6
comp=Z,1.6nm,0.7s,baz=48,slow=2.1,SNR=8.8
MOS Moscow 133.94 337 ePKIKP PKPdf 20 51 27.2 +11
MOS e 20 53 53.4
OBN Obninsk 134.81 337 i PKIKP PKPdf 20 51 20.2 +2.3
OBN i 20 51 27.6
OBN e 20 53 52.8
OBN i SS SS 21 11 43.7 +1.9
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,762nm,20.0s
OBN Obninsk 134.81 337 PFAKE 20 51 30.0 +12
OBN LR LR
comp=Z,824nm,20.0s
NB2 NORSAR Subarra 134.86 357 PKP PKPdf 20 51 17.5 -0.5
comp=Z,11nm,1.2s,baz=11,slow=4.0
NOA NORSAR Array B 134.86 357 PKP PKPdf 20 51 18.9 +0.9
comp=Z,0.9nm,0.9s,baz=28,slow=2.0,SNR=3.3
VSU Vasula 135.11 346 i PKIKP PKPdf 20 51 24.5 +6.1
VRHR Novokhopersk 135.38 329 ePKIKP PKPdf 20 51 19.7 +0.6
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,4.0nm,0.4s
VRHR pmax pmax
comp=E,7.0nm,0.9s
MAK Makhachkala 136.34 316 i PKIKP PKPdf 20 51 28.5 +7.3
MAK e 20 54 00.9
MAK e 20 58 27.7
MAK pmax pmax
comp=Z,201nm,2.6s
MAK MLR MLR
comp=Z,1μm,22.0s
VSR Storozhevoye 136.48 331 ePKIKP PKPdf 20 51 21.0 -0.2
VSR pmax pmax
comp=N,5.0nm,1.3s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR pmax pmax
comp=Z,9.0nm,1.3s
VSR MLR MLR
comp=N,500nm,20.0s
VSR MLR MLR
comp=E,390nm,20.0s
VSR MLR MLR
comp=Z,770nm,20.0s
VORD Divnogorie 136.59 331 ePKIKP PKPdf 20 51 23.0 +1.6
VORD pmax pmax
comp=N,50nm,0.8s
VORD pmax pmax
comp=E,40nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 138.94 320c i PKIKP PKPdf 20 51 28.0 +1.9
KIV i 20 54 14.1
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 138.94 320 PFAKE 20 51 40.0 +14
KIV LR LR
comp=Z,719nm,19.0s
GNI Garni 139.42 314 i PKIKP PKPdf 20 51 30.4 +3.2
GNI Garni 139.42 314 PFAKE 20 51 40.0 +13
GNI LR LR
comp=Z,595nm,22.0s
SUW Suwalki 139.99 345 ePKIKP PKPdf 20 51 30.9 +3.4
SUW Suwalki 139.99 345 ePKPdf PKPdf 20 51 30.9 +3.4
SOC Sochi 140.95 322 i PKIKP PKPdf 20 51 31.7 +2.1
SOC e 20 54 29.6
SOC eSS SS 21 12 50.3 -5.2
SOC eSSS SSS 21 18 12.3
SOC MLR MLR
comp=Z,1μm,22.0s
AKASG Malin Array Be 141.03 338 PKhKP PKPpre 20 51 22.3
comp=Z,0.2nm,0.3s,baz=35,slow=4.4,SNR=4.1
AKASG PKP PKPdf 20 51 29.9 +0.3
comp=Z,2.0nm,0.7s,baz=37,slow=3.9,SNR=12
AKASG PP PP 20 54 35.2 +5.0
comp=Z,2.1nm,1.0s,baz=33,slow=6.6,SNR=6.0
AKBB Malin Array Si 141.03 338 ePKIKP PKPdf 20 51 30.8 +1.3
AKBB Malin Array Si 141.03 338 ePKPdf PKPdf 20 51 30.8 +1.3
KIEV Kiev 141.04 338 i PKIKP PKPdf 20 51 29.7 +0.1
KIEV Kiev 141.04 338 ePKPdf PKPdf 20 51 30.7 +1.2
KIEV LR LR
comp=Z,1μm,21.0s
AK02 Malin Array Si 141.07 338 ePKPdf PKPdf 20 51 31.5 +1.9
CUKT Cukurca 141.43 310 eP PKPdf 20 51 27.1 -3.8
EZM Erzurum 141.84 316 eP PKPdf 20 51 34.2 +2.5
SIRT Sirnak 142.18 311 eP PKPdf 20 51 27.9 -4.2
LSZ Lusaka 142.67 215 ePKPdf PKPdf 20 51 31.9 -1.8
LSZ LR LR
comp=Z,1μm,19.0s
RAYN Ar Rayn 143.20 288 ePKPdf PKPbc 20 51 30.9 -0.5
NRDL Niedersach Rie 143.45 357 ePKP PKPdf 20 51 34.7 +1.0
LVV L'vov 143.53 342 ePKIKP PKPdf 20 51 36.4 +2.4
TSUM Tsumeb 143.61 197 ePKPdf PKPab 20 51 31.3 -0.5
TSUM LR LR
comp=Z,1μm,20.0s
MAZI Mazidag 143.62 313 eP PKPab 20 51 30.3 -1.0
PTK Pertek 143.67 315 eP PKPab 20 51 31.9 +0.3
ILIC ilic-Erzincan 143.93 317 eP PKPdf 20 51 37.8 +2.5
DAMY Dhamar 144.07 273 ePKPdf PKPdf 20 51 36.2 -0.2
KWP Kalwaria Pacla 144.09 343 ePKIKP PKPdf 20 51 32.8 +0.2
KWP Kalwaria Pacla 144.09 343 ePKP PKPab 20 51 32.7 +0.2
KWP Kalwaria Pacla 144.09 343 ePKPdf PKPbc 20 51 32.9 -0.1
KWP LR LR
comp=Z,1μm,20.0s
KIS Kishinev 144.18 334 ePKIKP PKPdf 20 51 36.0 +0.7
KIS e 20 54 53.0
KIS MLR MLR
comp=Z,1μm,21.0s
KIS MLR MLR
comp=N,600nm,22.0s
KIS MLR MLR
comp=E,500nm,20.0s
KIS MLR MLR
comp=Z,900nm,21.0s
KIS Kishinev 144.18 334 ePKP PKPdf 20 51 36.0 +0.7
KIS Kishinev 144.18 334 ePP PP 20 54 53.0 +3.6
KIS Kishinev 144.18 334 ePKKP PKKPdf 21 00 44.0 -1.6
KIS eSKS SKSac 21 01 44.0
KIS eSKSP 21 04 54.0
RSDY Resadiye-TOKAT 144.22 319 eP PKPab 20 51 32.3 -1.1
CLL Collm 144.40 354⇓iPKIKP PKPdf 20 51 36.1 +0.6
CLL i 20 51 45.1
CLL pmax pmax
comp=Z,23nm,1.5s
CLL MLR MLR
comp=Z,600nm,18.8s
CLL Collm 144.40 354 ePKP PKPdf 20 51 36.6 +1.1
CLL Collm 144.40 354⇓iPKPdf PKPdf 20 51 36.1 +0.6
comp=Z,23nm,1.5s
CLL i (pPKPdf) 20 51 38.4
CLL ePKPlp 20 51 42.0
comp=Z,300nm,15.9s
CLL i (pPKiKP) 20 51 45.1
CLL ePP PP 20 54 53.0 +2.7
CLL ePSKS 21 05 12.0
CLL eSS SS 21 13 24.0 -10
CLL e 21 18 00.0
CLL eSSS SSS 21 19 24.0
CLL LmH 22 03 00.0
comp=N,100nm,19.3s
CLL LmH 22 03 00.0
comp=E,300nm,21.9s
CLL LmV 22 04 00.0
comp=Z,600nm,18.8s

KSP Ksiaz 144.41 350 ePKIKP PKPab 20 51 33.4 -0.3
KSP MLR MLR
comp=Z,5μm,21.4s
KSP Ksiaz 144.41 350 ePKP PKPab 20 51 33.8 +0.1
BUG Bochum--Univer 144.58 360 ePKP PKPdf 20 51 36.3 +0.5
KVT Kavak 144.62 321 eP PKPab 20 51 34.6 -0.2
STHS Stebnicka Huta 144.68 344 ePKIKP PKPab 20 51 34.8 0.0
STHS Stebnicka Huta 144.68 344 ePKP PKPab 20 51 34.8 0.0
SVSK Karacayir 144.70 319 eP PKPdf 20 51 37.3 +0.9
BRG Berggiesshubel 144.72 353 ePKP PKPdf 20 51 37.2 +1.1
comp=Z,31nm,1.9s
BRG ePP PP 20 54 59.5 +7.3
comp=Z,16nm,1.6s
comp=N,523nm,23.1s
comp=E,483nm,20.2s
comp=Z,871nm,23.8s
BRG Berggiesshubel 144.72 353 ePKIKP PKPdf 20 51 37.2 +1.1
BRG e 20 54 59.5
BRG pmax pmax
comp=Z,31nm,1.9s
BRG pmax pmax
comp=Z,16nm,1.6s
BRG MLR MLR
comp=N,523nm,23.1s
BRG MLR MLR
comp=E,483nm,20.2s
BRG MLR MLR
comp=Z,871nm,23.8s
BRG Berggiesshubel 144.72 353 ePKP PKPdf 20 51 37.9 +1.8
DIKM Dikmen 144.74 322 eP PKPdf 20 51 37.4 +1.0
URFA Urfa 144.77 314 eP PKPbc 20 51 35.8 +0.1
UPC Upice 144.78 350 ePKIKP PKPab 20 51 35.0 -0.1
UPC Upice 144.78 350 ePKP PKPab 20 51 35.0 -0.1
DPC Dobruska-Polom 144.88 350 ePKIKP PKPab 20 51 35.5 0.0
DPC e 20 51 44.6
DPC Dobruska-Polom 144.88 350 ePKP PKPab 20 51 35.5 0.0
DPC ex x 20 51 44.6
DPC AMS AMS 21 54 20.0
NIE Niedzica 144.92 345 ePKIKP PKPab 20 51 35.3 -0.4
NIE Niedzica 144.92 345 ePKP PKPab 20 51 35.3 -0.4
PVCC Panska Ves 144.98 352 ePKIKP PKPdf 20 51 38.4 +1.9
PVCC e 20 51 45.5
PVCC MLR MLR
comp=Z,900nm,22.4s
PVCC Panska Ves 144.98 352 ePKP PKPdf 20 51 38.4 +1.9
PVCC ex x 20 51 45.5
PVCC AMS AMS 21 54 00.0
comp=Z,900nm,22.4s
OKC Ostrava-Krasne 145.02 348 ePKIKP PKPbc 20 51 35.9 -0.1
OKC e 20 51 46.1
OKC MLR MLR
comp=Z,900nm,23.7s
OKC Ostrava-Krasne 145.02 348 ePKP PKPbc 20 51 35.9 -0.1
OKC ex x 20 51 46.1
OKC AMS AMS 21 55 30.0
comp=Z,900nm,23.7s
BUR08 Bucovina Ar. S 145.04 339 ePKPdf PKPab 20 51 36.4 +0.2
BURAR Bucovina Array 145.06 339⇑PKIKP PKPdf 20 51 36.8 -0.1
BURAR Bucovina Array 145.06 339⇑iP PKPdf 20 51 36.8 -0.1
KRLC Kraliky 145.06 349 ePKIKP PKPbc 20 51 36.1 -0.1
KRLC e 20 51 46.1
KRLC Kraliky 145.06 349 ePKP PKPbc 20 51 36.1 -0.1
KRLC ex x 20 51 46.1
CRVS Cervenica-Dubn 145.09 343 ePKIKP PKPab 20 51 36.4 +0.1
CRVS Cervenica-Dubn 145.09 343 ePKP PKPab 20 51 36.4 +0.1
UZH Uzhgorod 145.10 342 ePKIKP PKPbc 20 51 35.9 -0.4
UZH e 20 51 45.5
UZH MLR MLR
comp=N,600nm,18.0s
UZH MLR MLR
comp=E,800nm,18.0s
DARE Darende-Malaty 145.11 316 eP PKPdf 20 51 38.8 +1.5
UBBA Unterbreizbach 145.13 357 ePKP PKPbc 20 51 36.1 0.0
MOX Moxa 145.19 355 ePKP PKPab 20 51 36.6 0.0
MORC Moravsky Berou 145.20 348 ePKIKP PKPbc 20 51 35.8 -0.9
MORC Moravsky Berou 145.20 348⇑iP PKPdf 20 51 46.8 +10
MORC Moravsky Berou 145.20 348 ePKPdf PKPbc 20 51 35.8 -0.9
BEBN Eben Emael 145.20 2 PKP PKPbc 20 51 35.5 -1.0
TANN Tannenbergstha 145.34 354 ePKP PKPab 20 51 37.2 0.0
MEM Membach 145.40 1 PKP PKPbc 20 51 36.1 -1.1
SNF Seneffe 145.43 3 PKP PKPbc 20 51 36.5 -0.8
PRA Prague 145.44 352 PKP PKPbc 20 51 37.0 -0.3
TESR Tescani 145.45 336⇑iP PKPbc 20 51 37.2 -0.3
TRPA Tarpa 145.48 342⇑iP PKPbc 20 51 37.5 0.0
TRPA Tarpa 145.48 342 ePKPbc PKPbc 20 51 37.2 -0.3
PRU Pruhonice 145.51 352 ePKIKP PKPdf 20 51 37.3 -0.2
PRU e 20 51 46.6
PRU MLR MLR
comp=Z,1μm,21.6s
PRU Pruhonice 145.51 352 ePKP PKPdf 20 51 37.3 -0.2
PRU ex x 20 51 46.6
PRU AMS AMS 21 54 20.0
comp=Z,1μm,21.6s
BCLA Clavier 145.57 2 PKP PKPdf 20 51 37.0 -0.6
TLCR 145.61 332⇓PKIKP PKPdf 20 51 38.6 +0.3
TLCR 145.61 332⇓iP PKPab 20 51 38.6 +0.3
KECS Kecovo 145.74 344 ePKP2 PKPdf 20 51 37.7 -0.2
KECS Kecovo 145.74 344 ePKP PKPdf 20 51 37.7 -0.2
KMBO Kilima Mbogo 145.77 243 ePKIKP PKPab 20 51 40.1 -0.1
KMBO MLR MLR
comp=Z,686nm,19.0s
KMBO Kilima Mbogo 145.77 243 PKPbc PKPab 20 51 40.2 0.0
comp=Z,27nm,1.2s,baz=135,slow=2.9,SNR=44
KMBO Kilima Mbogo 145.77 243 ePKPdf PKPab 20 51 40.1 -0.1
KMBO PKPbc PKPab 20 51 40.2 0.0
KMBO LR LR
comp=Z,686nm,19.0s
TNS Taunus Mts 145.78 359 ePKP PKPdf 20 51 38.1 +0.1
VRAC Vranov 145.83 349⇑PKIKP PKPdf 20 51 38.1 0.0
VRAC Vranov 145.83 349⇑iP PKPdf 20 51 38.1 0.0
DOU Dourbes 145.86 3 PKP PKPbc 20 51 38.4 -0.2
CFR Carcaliu 145.91 333⇓PKIKP PKPbc 20 51 38.7 -0.2
CFR Carcaliu 145.91 333⇓iP PKPbc 20 51 38.7 -0.2
VRI Vrincioaia 145.95 335⇓PKIKP PKPab 20 51 42.4 +2.8
VRI Vrincioaia 145.95 335⇓iP PKPab 20 51 42.4 +2.8
PLOR Plostina 145.99 335⇑PKP2 PKPbc 20 51 39.1 -0.2
PLOR Plostina 145.99 335⇑iP PKPbc 20 51 39.1 -0.2
ROTZ Rotzenmuhle 146.00 354 ePKP PKPbc 20 51 38.9 -0.2
BNN Bunyan 146.03 318 eP PKPab 20 51 41.1 +0.8
TREC Trest 146.04 350 ePKIKP PKPbc 20 51 39.0 -0.3
TREC e 20 51 49.0
TREC MLR MLR
comp=Z,900nm,24.4s
TREC Trest 146.04 350 ePKP PKPbc 20 51 39.0 -0.3
TREC ex x 20 51 49.0
TREC AMS AMS 21 55 30.0
comp=Z,900nm,24.4s
KMRS Kahramanmaras 146.06 315 eP PKPab 20 51 41.2 +0.8
GRF Grafenberg Arr 146.17 355 ePKP PKPab 20 51 40.4 +0.1
GRF eL L 21 57 02.9
comp=Z,481nm,20.8s
GRER 146.24 335⇑iP PKPab 20 51 50.5 +10
WLF Walferdange 146.35 1 ePKIKP PKPdf 20 51 39.0 +0.1
WLF MLR MLR
comp=Z,803nm,21.0s
WLF Walferdange 146.35 1 ePKP PKPab 20 51 40.9 0.0
WLF Walferdange 146.35 1 ePKPdf PKPdf 20 51 39.0 +0.1
WLF LR LR
comp=Z,803nm,21.0s
TIRR Tirgusor 146.35 332 PKP2 PKPab 20 51 42.0 +0.9
TIRR Tirgusor 146.35 332 PKPbc PKPab 20 51 42.0 +0.9
CANT Cankiri 146.36 322 eP PKPdf 20 51 39.8 +0.4
DOPR Dopca 146.39 337⇓iP PKPab 20 51 44.2 +2.9
CJR Cluj-Napoca 146.39 339⇓PKP2 PKPab 20 51 47.8 +6.5
CJR Cluj-Napoca 146.39 339⇓iP PKPab 20 51 47.8 +6.5
PSZ Piszkesteto 146.41 344⇑PKP2 PKPab 20 51 43.1 +1.7
PSZ Piszkesteto 146.41 344⇑iP PKPab 20 51 43.1 +1.7
PSZ Piszkesteto 146.41 344 ePKPdf PKPbc 20 51 40.0 -0.5
PSZ LR LR
comp=Z,943nm,19.0s
PSZ Piszkesteto 146.41 344 e PKPbc 20 51 40.5 0.0
KHC Kasperske Hory 146.48 352 ePKP2 PKPbc 20 51 40.5 -0.1
KHC MLR MLR
comp=Z,1μm,21.5s
KHC Kasperske Hory 146.48 352 ePKP PKPbc 20 51 40.5 -0.1
KHC ex x 20 51 50.7
KHC ex x 20 51 56.5
KHC ex x 20 52 18.5
KHC AMS AMS 22 00 10.0
comp=Z,1μm,21.5s
KHC Kasperske Hory 146.48 352 ePKPdf PKPdf 20 51 39.8 +0.6
SAFT Safranbolu 146.49 324 eP PKPdf 20 51 40.2 +0.7

WET Wettzell 146.55 353 ePKP PKPab 20 51 41.6 -0.2
MLR Muntele Rosu 146.57 336 ⇓PKP2 PKPbc 20 51 41.5 +0.4
MLR Muntele Rosu 146.57 336⇓i P PKPbc 20 51 41.5 +0.4
DRGR 146.62 340 ⇓PKP2 PKPbc 20 51 40.6 -0.5
DRGR 146.62 340⇓i P PKPbc 20 51 40.6 -0.5
ISR Istrita 146.63 335 ⇑PKP2 PKPab 20 51 48.7 +6.4
ISR Istrita 146.63 335⇑i P PKPab 20 51 48.7 +6.4
GEC2 GERESS Array S 146.74 352 ePKP PKPbc 20 51 41.6 +0.2
GERES GERESS Array B 146.74 352 PKPbc PKPbc 20 51 40.8 -0.7
comp=Z,2.3nm,0.8s,baz=33,slow=4.0,SNR=21
KOZT Kozan 146.80 316 eP PKPbc 20 51 41.3 -0.5
BR131 Keskin Array S 146.90 321 ePKPdf PKPbc 20 51 42.0 -0.3
BRTR Keskin Array B 146.90 321 PKPbc PKPbc 20 51 42.5 +0.3
comp=Z,31nm,1.0s,baz=105,slow=1.8,SNR=46
VOIR 146.96 337 ⇑PKP2 PKPbc 20 51 41.9 -0.3
VOIR 146.96 337⇑i P PKPbc 20 51 41.8 -0.4
LANF Langenberg 147.04 359 PKP PKPbc 20 51 41.9 -0.3
PSN Preselentsi 147.06 331 i P PKPab 20 51 48.7 +4.8
CEYT Ceyhan 147.10 315 eP PKPab 20 51 44.1 -0.2
ARR Arges 147.18 337⇑i P PKPab 20 51 44.0 -0.4
STU Stuttgart 147.21 357 ePKIKP PKPdf 20 51 40.4 0.0
STU Stuttgart 147.21 357 ePKPdf PKPdf 20 51 40.4 0.0
NIG Nigde 147.25 318 eP PKPdf 20 51 40.5 -0.6
PKSG 147.28 346 e PKPdf 20 51 41.5 +1.0
CONA Conrad Observa 147.29 349 i pPKPdf PKPbc 20 51 42.9 -0.2
comp=Z,123nm,1.8s,SNR=11
ANTO Ankara 147.32 322 eP PKPbc 20 51 43.0 -0.4
ANTO Ankara 147.32 322 ePKP2 PKPbc 20 51 43.2 -0.1
ANTO MLR MLR
comp=Z,512nm,20.0s
ANTO Ankara 147.32 322⇑i P PKPbc 20 51 43.2 -0.1
ANTO Ankara 147.32 322 ePKPbc PKPbc 20 51 43.2 -0.1
ANTO LR LR
comp=Z,512nm,20.0s
LOD Lodumlu 147.32 322 eP PKPdf 20 51 42.1 +1.2
CSKK Cs‾‡kako 147.34 346 e PKPab 20 51 53.4 +8.5
SOP Sopron 147.40 348 e PKPbc 20 51 42.6 -0.6
AFSR Af‾ar-Bala (A 147.42 321 eP PKPab 20 51 44.7 -0.9
LOT Lotru 147.43 338⇓i P PKPbc 20 51 42.9 -0.6
KARA Karaisali 147.44 316 eP PKPbc 20 51 43.7 0.0
PKST T‾s 147.49 346 ePKPdf PKPdf 20 51 41.0 +0.1
MOA Molln 147.63 351⇓i PKPdf PKPdf 20 51 40.7 -0.4
comp=Z,78nm,1.2s
BFO Black Forest 147.68 359 ePKIKP PKPdf 20 51 42.5 +1.3
BFO MLR MLR
comp=Z,861nm,20.0s
BFO Black Forest 147.68 359 ePKP PKPbc 20 51 43.9 -0.1
BFO Black Forest 147.68 359 ePKPdf PKPdf 20 51 42.5 +1.3
BFO LR LR
comp=Z,861nm,20.0s
FUR Furstenfeldbru 147.68 355 ePKP PKPbc 20 51 44.5 +0.5
THEF They Montfort 147.78 1 PKP PKPbc 20 51 43.1 -1.2
ECH Echery 147.81 360 ePKP2 PKPbc 20 51 43.7 -0.6
ECH MLR MLR
comp=Z,721nm,19.0s
ECH Echery 147.81 360 ePKPbc PKPbc 20 51 43.7 -0.6
ECH LR LR
comp=Z,721nm,19.0s
GZR Gura Zlata 147.82 339 ⇓PKIKP PKPdf 20 51 43.0 +1.4
GZR Gura Zlata 147.82 339⇓i P PKPdf 20 51 43.0 +1.4
MDUB Mudurnu 147.84 324 eP PKPdf 20 51 45.3 +0.5
SULT Sultanhani-AKS 147.90 319 eP PKPbc 20 51 44.5 -0.5
RJOB Jochberg 147.94 353 ePKP PKPbc 20 51 45.1 +0.3
MERS Mersin 148.01 316 eP PKPbc 20 51 46.1 +0.8
BZS Buzias 148.01 341 ⇑PKP2 PKPbc 20 51 44.3 -0.6
BZS Buzias 148.01 341⇑i P PKPbc 20 51 44.3 -0.6
PKS9 Tamasi 148.06 345 e PKPbc 20 51 44.1 -0.9
ASCN Ascension 148.13 137 PFAKE 20 51 50.0 +1.0
ASCN LR LR
comp=Z,1µm,20.0s
MOF Molkenrain 148.17 0 PKP PKPbc 20 51 46.3 +0.9
SPNC Sapanca-Adapaz 148.19 325 eP PKPab 20 51 48.4 -0.1
SILT Sile 148.22 327 eP PKPab 20 51 46.9 +1.3
PKSM Moragy 148.32 345 ⇑PKP2 PKPbc 20 51 45.6 -0.1
PKSM Moragy 148.32 345⇑i P PKPbc 20 51 45.6 -0.1
PKSM Moragy 148.32 345 e PKPbc 20 51 44.8 -0.9
SVRH Sivrihisar-ESK 148.34 322 eP PKPab 20 51 48.8 -0.4
RETA Reutte 148.39 355⇑i PKIKP PKPbc 20 51 46.4 +0.5
comp=Z,39nm,1.3s,SNR=7.7
HRT Hereke 148.44 326 eP PKPbc 20 51 45.3 -1.0
KIZT Kizilcal 148.49 321 eP PKPbc 20 51 47.1 +0.5
ISK Istanbul-Kandi 148.59 327 eP PKPab 20 51 50.0 0.0
LADK Ladik-KONYA 148.62 320 eP PKPbc 20 51 45.7 -1.3
SOKA Soboth 148.65 350⇑i PKPbc PKPbc 20 51 45.6 -1.1
comp=Z,54nm,1.5s,SNR=6.4
BGKT Bogazkoy 148.65 328 eP PKPbc 20 51 47.6 +0.9
DAVA Damuels 148.66 356⇓i PKiKP PKPbc 20 51 46.8 +0.1
comp=Z,76nm,1.4s
LOMF Lomont 148.67 0 PKP PKPdf 20 51 37.3 -5.7
PERS Pernice 148.68 349 ePKPdf PKPbc 20 51 45.6 -1.1
PERS i 20 51 56.5
CTYL Yal??k??y-??at 148.68 329 eP PKPbc 20 51 46.5 -0.3
CAVI Cavuskoy 148.78 325 eP PKPab 20 51 48.8 +1.7
KONT Konya--Tatoy 148.78 319 eP PKPdf 20 51 44.1 +1.1
FETA Feichten 148.86 355⇓i PKiKP PKPbc 20 51 47.4 +0.1
comp=Z,64nm,1.2s,SNR=7.7
PHSR Pinarhisar 148.94 330 eP PKPbc 20 51 48.0 +0.6
ABTA Abfaltersbach 148.95 353⇑i PKPdf PKPdf 20 51 41.5 -2.0
comp=Z,59nm,1.5s
EREN Erenkoy 148.97 314 eP PKPdf 20 51 44.1 +0.4
EDRB Edirne 149.15 331 eP PKPdf 20 51 50.0 +2.0
MDNY Mudanya-Bursa 149.18 326 eP PKPdf 20 51 44.5 +0.6
CRLT Corlu 149.22 329 eP PKPab 20 51 51.6 -1.0
ALT Altintas 149.42 323 P PKPdf 20 51 43.5 -1.0
ALT Altintas 149.42 323 eP PKPab 20 51 48.4 -0.5
ALT Altintas 149.42 323 P PKPdf 20 51 43.5 -1.0
SHUT Suhut-Afyon 149.50 322 eP PKPdf 20 51 46.9 +2.2
TUE Stuetta 149.50 357 ePKPbc PKPdf 20 51 47.2 -1.8
TUE LR LR
comp=Z,869nm,21.0s
TVSB Tavsanli 149.52 325 eP PKPbc 20 51 47.3 -1.9
VISS Visnje 149.53 349 i PKPdf PKPbc 20 51 46.5 -0.4
VISS e 20 51 59.4
VISS i 20 52 05.1
LFK Lefkose 149.54 314 eP PKPbc 20 51 47.6 -1.6
DIM Dimitrovgrad 149.54 332 i P PKPbc 20 51 52.6 -1.3
JAVS Javornik 149.57 350 i PKPdf PKPab 20 51 52.1 -2.0
JAVS i 20 52 04.5
BOJS Bojanci 149.74 349 i PKPdf PKPbc 20 51 49.6 +0.3
BOJS i 20 52 00.3
BOJS i 20 52 06.4
AGO Saint Agoulin 149.78 6 PKP PKPdf 20 51 44.1 -0.6
CSS Prodhromos 149.85 314 P PKPdf 20 51 47.3 +2.1
CSS Prodhromos 149.85 314 eP PKPbc 20 51 48.0 -2.0
CSS Prodhromos 149.85 314 P PKPdf 20 51 47.3 +2.1
CSS ePKPdf PKPbc 20 51 48.9 -1.1
CSS LR LR
comp=Z,134nm,22.0s
DIVS Divibare 149.88 341 P PKPdf 20 51 44.7 -0.3
PLDF La Plantade 149.91 5 PKP PKPdf 20 51 48.6 -1.2
KRBG Karabiga-Canak 149.99 328 eP PKPbc 20 51 52.8 +2.7
ISP Isparta 149.99 321 P PKPdf 20 51 51.0 +0.7
ISP Isparta 149.99 321 eP PKPab 20 51 56.4 +0.4
ISP Isparta 149.99 321 ePKIKP PKPdf 20 51 43.3 -2.1
ISP e 20 51 57.3
ISP MLR MLR
comp=Z,551nm,20.0s
ISP Isparta 149.99 321 ePKPdf PKPdf 20 51 43.2 -2.1
ISP ePKPab PKPab 20 51 57.3 +1.3
ISP LR LR
comp=Z,551nm,20.0s
LEF Lefka 150.07 314 eP PKPdf 20 51 47.6 +2.2
PYM Petit Puy Mans 150.07 6 PKP PKPdf 20 51 42.6 -2.7
VTS Vitosha 150.07 336 ⇓PKIKP PKPdf 20 51 39.2 -6.3
VTS Vitosha 150.07 336 i P PKPbc 20 51 53.0 +2.5
VTS Vitosha 150.07 336⇓i P PKPdf 20 51 39.2 -6.3
BCK Bucak 150.18 320 eP PKPbc 20 51 51.6 +0.8
BALB Balikesir 150.24 327 eP PKPab 20 51 51.2 +0.5
SACV Santiago Islan 150.35 88 PFAKE 20 52 00.0 +1.9
SACV LR LR
comp=Z,417nm,19.0s
ANTB Antalya 150.50 320 eP PKPab 20 51 54.8 -3.2
LBL Lubilhac 150.61 6 PKP PKPdf 20 51 48.8 +2.7
KULA Kula-Manisa 150.61 324 P PKPdf 20 51 47.3 +1.0
KULA Kula-Manisa 150.61 324 eP PKPbc 20 51 49.2 -2.6
KULA Kula-Manisa 150.61 324 P PKPdf 20 51 47.3 +1.0
SSB Saint Sauveur 150.66 4 ePKIKP PKPbc 20 51 51.0 -0.6
SSB MLR MLR
comp=Z,815nm,21.0s
SSB Saint Sauveur 150.66 4 ePKPbc PKPbc 20 51 51.0 -0.6
SSB LR LR
comp=Z,815nm,21.0s

MMB Musomiste 150.70 334 ⇑PKIKP PKPbc 20 51 54.8 +3.0
MMB Musomiste 150.70 334 i P PKPbc 20 51 54.0 +2.2
MMB Musomiste 150.70 334⇑i P PKPbc 20 51 54.8 +3.0
BNI Bardonecchia 150.97 1 ePKIKP PKPbc 20 51 53.2 +0.7
BNI e 20 51 58.2
BNI MLR MLR
comp=Z,823nm,20.0s
BNI Bardonecchia 150.97 1 ePKPbc PKPbc 20 51 53.2 +0.7
BNI ePKPab PKPab 20 51 58.2 -1.6
BNI LR LR
comp=Z,823nm,20.0s
SKO Skopje 151.28 337 ePKP PKPdf 20 51 46.7 -0.5
AYDB Zeytinkoy-Aydi 151.44 324 eP PKPbc 20 51 53.6 -0.2
POLO Lamas de Olo 151.55 24 ePKPdf PKPdf 20 51 45.1 -2.6
POLO Lamas de Olo 151.55 24 ePKPab PKPab 20 52 04.1 +1.8
PBRG Braganca 151.57 22 ePKPab PKPbc 20 51 54.4 +0.5
BLCB Balcova 151.60 326 eP PKPab 20 51 59.9 -2.6
VLC Villacollemand 151.73 355 PFAKE 20 52 00.0 -2.9
VLC LR LR
comp=Z,1µm,20.0s
YER Yerkesik 151.78 322 eP PKPbc 20 51 54.8 +0.2
MVO Moncorvo 152.02 23 ePKPab PKPbc 20 51 56.2 +1.3
PCAS Casmilo, Conde 152.37 27 ePKPab PKPbc 20 51 56.9 +1.2
MTE Manteigas 152.48 25 ePKPdf PKPdf 20 51 54.0 -2.0
MTE Manteigas 152.48 25 ePKPab PKPab 20 52 01.5 -4.7
AQU L'Aquila 153.13 350 PFAKE 20 52 00.0 +2.7
AQU LR LR
comp=Z,949nm,20.0s
PMRV Marv??o 153.36 26 ePKPdf PKPbc 20 51 57.9 0.0
PMRV Marv??o 153.36 26 ePKPab PKPab 20 52 09.7 -0.2
PESTR Estremoz 153.74 27 ePKPab PKPab 20 52 10.4 -1.1
EVO Evora 153.84 28 ePKPdf PKPdf 20 51 52.1 +1.1
EVO Evora 153.84 28 ePKPab PKPab 20 52 14.7 +2.8
SANT Santorini 153.93 325 eP PKPdf 20 51 51.7 +0.5
SANT Santorini 153.93 325 PFAKE 20 52 00.0 +0.7
SANT LR LR
comp=Z,475nm,19.0s
PAB San Pablo 154.42 21 PFAKE 20 52 00.0 -0.3
PAB LR LR
comp=Z,774nm,19.0s
ESDC Sonseca Array 154.43 20 PKPbc PKPbc 20 52 00.5 +0.2
comp=Z,0.3nm,0.4s,baz=345,slow=4.0,SNR=5.3
ESDC PKPab PKPab 20 52 11.6 -2.8
comp=Z,1.1nm,0.6s,baz=333,slow=3.3,SNR=7.1
MORF Marmelete 154.53 30 ePKPab PKPbc 20 52 05.9 +5.4
PBAR Barrancos 154.56 27 ePKPdf PKPdf 20 51 54.3 +2.3
PBAR Barrancos 154.56 27 ePKPab PKPab 20 52 13.4 -1.6
CUC Castrocucco 154.86 344 PFAKE 20 52 00.0 -1.1
CUC LR LR
comp=Z,619nm,20.0s
PVAQ Vaqueiros 154.89 29 ePKPab PKPbc 20 52 06.5 +5.3
TIP Timpagrande 155.36 342 PFAKE 20 52 00.0 +6.8
TIP LR LR
comp=Z,708nm,21.0s
VSL Villasalto 156.44 356 PFAKE 20 52 10.0 -13
VSL LR LR
comp=Z,724nm,20.0s
CEL Celeste 156.46 343 PFAKE 20 52 10.0 -13
CEL LR LR
comp=Z,1µm,19.0s
RTC Rabat Centre 158.03 33 PFAKE 20 52 10.0 +13
RTC LR LR
comp=Z,692nm,19.0s
WDD Wield Dalam 159.08 343 PFAKE 20 52 10.0 +12
WDD LR LR
comp=Z,932nm,19.0s
MSKU Masuku 161.39 201 PFAKE 20 52 10.0 +8.8
MSKU LR LR
comp=Z,1.0nm,19.0s
LIC Lamto 164.65 128 eP PKPab 20 53 08.3 +8.8
comp=Z,52nm,1.4s
TIC Toumodi 164.92 126 eP PKPab 20 53 05.8 +5.0
comp=Z,52nm,1.3s
KIC Kosan Boka 164.96 128 eP PKPab 20 53 06.0 +5.1
comp=Z,30nm,1.1s
DBIC Dimbokro 165.07 127 PKPab PKPab 20 53 00.3 -1.0
comp=Z,3.1nm,0.7s,baz=239,slow=4.5,SNR=4.0
TAM Tamanrasset 173.01 12 ePKIKP PKPdf 20 52 09.5 -0.1
TAM MLR MLR
comp=Z,800nm,20.0s
TAM Tamanrasset 173.01 12 ePKPdf PKPdf 20 52 09.5 -0.1
TAM LR LR
comp=Z,800nm,20.0s
TOA0 Torodi Ar. Sit 174.04 117 ePKPdf PKPdf 20 52 07.5 -2.5
TOA0 ePKPab PKPab 20 53 30.7 -10
TORD Torodi Ar. Bea 174.04 117 PKP PKPdf 20 52 09.2 -0.7
comp=Z,2.9nm,0.9s,baz=208,slow=0.8,SNR=8.9
TORD PKPab PKPab 20 53 38.1 -3.0
comp=Z,2.0nm,0.9s,baz=252,slow=3.4,SNR=5.5
TORD PP PP 20 57 30.3 -2.9
comp=Z,0.9nm,1.1s,baz=243,slow=6.3,SNR=3.6

CSEM 06 20:35:11.0,38.79N×21.94E, h8km, MD2.8, After ATH
ATH 06 20:35:11.0,38.79N×21.94E,h8km±7km,MD2.8/11, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.16	321	ePG	Pg	20 35 14.4	-0.2
EVR				eSG	Sg	20 35 17.2	+0.2
EVR	Evrytania	0.16	321	ePg	Pg	20 35 14.4	-0.2
EVR				eSg	Sg	20 35 17.2	+0.2
MAKR	Makrakomi, Fth	0.27	34	ePG	Pg	20 35 16.5	+0.1
MAKR				eSG	Sg	20 35 20.5	+0.4
MAKR	Makrakomi, Fth	0.27	34	ePg	Pg	20 35 16.5	+0.1
MAKR				eSg	Sg	20 35 20.5	+0.4
EFP	Efpalio	0.36	184	ePB	Pg	20 35 18.6	+0.5
EFP				eSB	Sg	20 35 22.5	-0.4
EFP	Efpalio	0.36	184	ePb	Pg	20 35 18.6	+0.5
EFP				eSb	Sg	20 35 22.5	-0.4
AGG	Agios Georgios	0.38	53	ePB	Pg	20 35 18.6	0.0
AGG	Agios Georgios	0.38	53	ePb	Pg	20 35 18.6	0.0
KALE	Kalithea	0.43	158	ePB	Pg	20 35 19.4	0.0
KALE				eSB	Sb	20 35 26.5	-1.1
KALE	Kalithea	0.43	158	ePb	Pg	20 35 19.4	0.0
KALE				eSb	Sb	20 35 26.5	-1.1
LAKA	Lakka	0.55	177	ePB	Pg	20 35 21.8	+0.1
LAKA	Lakka	0.55	177	ePb	Pg	20 35 21.8	+0.1
AXAR	Agios Charalam	0.56	92	ePB	Pg	20 35 21.3	-0.6
AXAR	Agios Charalam	0.56	92	ePb	Pg	20 35 21.3	-0.6
DSF	Desfina	0.60	129	ePB	Pg	20 35 21.5	-1.1
DSF	Desfina	0.60	129	ePb	Pg	20 35 21.5	-1.1
KLV	Kalavryta, Ach	0.76	167	ePG	Pg	20 35 25.3	-0.5
KLV	Kalavryta, Ach	0.76	167	ePg	Pg	20 35 25.3	-0.5
THL	Klokotos Trika	0.78	4	ePB	Pg	20 35 25.9	-0.1
THL	Klokotos Trika	0.78	4	ePb	Pg	20 35 25.9	-0.1
GUR	Goura	0.91	160	ePN	Pg	20 35 28.9	+0.3
GUR	Goura	0.91	160	ePn	Pg	20 35 28.9	+0.3

IDC 06 20:51:05.6±0.6, 16.06S×172.75W, h0km, mb4.6/18, mb1 4.9/18, mb1mx4.7/34, mbtmp4.6/18, MS4.4/4, Ms1 4.4/4, ms1mx3.8/33, Error ellipse: s-maj=24.5km s-min=14.5km az=141.0
NEIC 06 20:51:06.7±0.2, 16.13S×172.80W, h10km, mb5.1/67, Error ellipse: s-maj=12.1km s-min=4.8km az=151.0
BJI 06 20:51:07.4, 16.20S×172.80W, h30km, mB5.6/21, mb5.0/27, Ms5.3/16, Ms7 5.1/15
ISCJB 06 20:51:08.8±0.2, 16.16S±0.07×172.80W±0.05, h33km, mb4.9/101, MS4.8/12, Error ellipse: s-maj=11.6km s-min=4.5km az=148.2
MOS 06 20:51:10.7±1.5, 15.72S×173.01W, h33km, mb5.2/32, Error ellipse: s-maj=11.8km s-min=9.4km az=54.6
SZGRF 06 20:51:13.3, 15.83S×172.61W, h33km, Samoa Islands region
ISC 06 20:51:10.5±0.5, 16.03S±0.08×172.81W±0.07, h31km±2km, h31km:pP-P, n344, σ1.19/343, mb5.0/102, MS4.8/12, 17C-24D, Samoa Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 2.33 25 Pn Pn 20 51 38.7 -8.2
56nm,0.3s,baz=9.2,slow=6.6,SNR=27
AFI Sn Sn 20 52 01.6 -13
112nm,0.3s,baz=68,slow=19,SNR=11
AFI T T 20 54 06.6
38nm,0.3s,baz=196,slow=21,SNR=3.4
NIUE Niue 4.09 138 P Pn 20 52 05.6 -5.3
baz=4.0,SNR=56
MSVF Nonsavu 8.91 258 Pn Pn 20 53 24.6 +7.3
722nm,1.2s,SNR=9.3

RAR Rarotonga 13.38 115 Pn Pn 20 54 11.5 -6.8
5.2nm,0.3s,baz=298,slow=0.0,SNR=4.9
RAR Rarotonga 13.38 115 ePn Pn 20 54 10.7 -7.7
DZM Mont Dzumac 20.50 250 P P 20 55 45.4 -0.9
7.5nm,0.7s,baz=85,slow=19,SNR=5.1
DZM Mont Dzumac 20.50 250 eP P 20 55 43.9 -2.4
98nm,1.5s
PPT Papeete 22.29 97 LR LR 21 02 17.9
comp=Z,655nm,18.6s,baz=260,slow=30
URZ Urewera 23.86 200 P P 20 56 22.1 +1.0
11nm,0.6s,baz=354,slow=8.4,SNR=12
URZ Urewera 23.86 200 eP P 20 56 21.8 +0.7
22nm,0.8s
HNR Honiara 27.35 281 LR LR 21 05 58.4
comp=Z,826nm,21.9s,baz=156,slow=33
SNZO South Karori 27.41 201 P P 20 56 56.4 +3.2
EIDS Eidsvold 34.94 249 eP P 20 57 57.4 -2.5
8.8nm,0.8s
ARMA Armidale 35.51 240 P P 20 58 04.0 -0.9
baz=36,SNR=13
CTAO Charters Tower 39.06 258 eP P 20 58 32.7 -2.3
CTAO pmax pmax
comp=Z,6.0nm,0.6s
CTAO Charters Tower 39.06 258 eP P 20 58 32.7 -2.3
comp=Z,6.0nm,0.6s
PMG Port Moresby 39.55 275 eP P 20 58 38.4 -0.7
PMG pmax pmax
comp=Z,26nm,1.1s
PMG Port Moresby 39.55 275 eP P 20 58 38.4 -0.7
comp=Z,26nm,1.1s
H11S2 WAKE ISLAND Hy 39.80 329 T T 21 40 39.6
baz=152,slow=76,SNR=14
H11S3 WAKE ISLAND Hy 39.81 329 T T 21 40 47.0
baz=152,slow=76,SNR=14
H11S1 WAKE ISLAND Hy 39.81 329 T T 21 40 52.5
baz=152,slow=76,SNR=9.8
CMSA Cobar Meteorol 40.73 240 P P 20 58 47.3 -1.4
baz=41,SNR=36
H11N3 WAKE ISLAND Hy 40.74 330 T T 21 41 50.3
baz=156,slow=77
H11N1 WAKE ISLAND Hy 40.75 330 T T 21 41 36.1
baz=156,slow=77
H11N2 WAKE ISLAND Hy 40.76 330 T T 21 41 56.7
baz=156,slow=77
MTSU Mount Surprise 40.97 261 P P 20 58 49.7 -1.1
baz=41,SNR=19
QLP Quilpie 41.20 248 P P 20 58 50.9 -1.7
baz=42,SNR=8.8
COEN Coen 42.51 267 eP P 20 59 03.3 -0.2
comp=Z,77nm,0.8s
COEN Coen 42.51 267 P P 20 59 03.2 -0.2
baz=43,SNR=21
TOO Toolangi 42.51 231 P P 20 59 03.7 +0.5
baz=43,SNR=5.5
TAU Tasmania Unive 43.25 223 P P 20 59 10.9 +1.9
TAU Tasmania Unive 43.25 223 P P 20 59 10.9 +1.9
STKA Stephens Creek 44.22 241 eP P 20 59 15.9 -1.1
STKA Stephens Creek 44.22 241 P P 20 59 15.8 -1.3
comp=Z,22nm,0.8s,baz=94,slow=9.3,SNR=51
STKA Stephens Creek 44.22 241 P P 20 59 16.2 -0.8
baz=45,SNR=29
ARPS Mount Arapiles 45.08 234 P P 20 59 24.8 +1.0
baz=45,SNR=5.1
HTT Hallett 46.70 239 P P 20 59 36.0 -0.8
baz=47,SNR=13
BBOO Buckleboo 48.99 240 P P 20 59 53.4 -1.1
baz=49,SNR=9.5
WRAB Tennant Creek 50.25 257 P P 21 00 02.4 -1.8
comp=Z,90nm,0.7s,SNR=13
WRAB Tennant Creek 50.25 257 eP P 21 00 02.2 -2.0
WRAB pmax pmax
comp=Z,20nm,1.0s
WRAB Tennant Creek 50.25 257 eP P 21 00 02.2 -2.0
comp=Z,20nm,1.0s
WRA Warramunga Arr 50.26 257 P P 21 00 02.8 -1.5
comp=Z,12nm,0.8s,baz=90,slow=6.7,SNR=194
WRA PcP PcP 21 01 23.9 +0.8
comp=Z,5.2nm,0.9s,baz=92,slow=3.5,SNR=5.4
AS31 Alice Springs 50.46 252 eP P 21 00 04.2 -1.6
ASAR Alice Springs 50.46 252 P P 21 00 04.2 -1.6
comp=Z,40nm,0.8s,baz=89,slow=8.0,SNR=153
KDU Kakadu 52.99 266 P P 21 00 24.4 -0.3
baz=53,SNR=7.9
MTN Manton Dam 54.25 266 P P 21 00 33.4 -0.6
baz=55,SNR=3.6
WRKA Warakurna 55.52 250 P P 21 00 42.0 -1.1
baz=56,SNR=25
FORT Forrest 55.64 243 eP P 21 00 42.7 -1.1
comp=Z,29nm,0.6s
FORT Forrest 55.64 243 P P 21 00 42.6 -1.2
baz=56,SNR=13
KNRA Kununurra 56.04 262 P P 21 00 46.1 -0.8
baz=56,SNR=13
SOEI Soe 61.47 267 eP P 21 01 25.9 +1.1
comp=Z,54nm,1.0s
SOEI Soe 61.47 267 P P 21 01 25.9 +1.1
baz=62,SNR=13
MBWA Marble Bar 63.73 254 eP P 21 01 38.6 -1.2
comp=Z,36nm,1.1s
MEEK Meekatharra 64.10 248 P P 21 01 41.5 -0.7
baz=64,SNR=13
KLBR Kellerberrin 64.45 242 P P 21 01 43.6 -0.6
baz=65,SNR=23
BLDU Ballidu 65.42 243 P P 21 01 50.0 -0.6
baz=66,SNR=15
MORW Morawa 66.13 245 P P 21 01 54.7 -0.6
baz=66,SNR=3.8
GIRL Giralia 68.57 252 P P 21 02 11.8 +1.1
baz=69,SNR=3.3
MJAR Matsushiro Arr 69.79 320 P P 21 02 18.2 +0.2
comp=Z,4.3nm,0.9s,baz=144,slow=4.5,SNR=3.8
MAJO Matsushiro 69.79 320 P P 21 02 17.9 -0.1
MAJO pmax pmax
comp=Z,13nm,0.9s
MAJO Matsushiro 69.79 320 P P 21 02 17.9 -0.1
comp=Z,13nm,0.9s
CASY Casey 70.07 205 P P 21 02 18.0 -1.2
JAGI Jajag, Banyuwa 71.48 266 P P 21 02 27.9 -0.9
baz=72,SNR=5.9
ASAJ Asahikawa 72.38 328 P P 21 02 34.1 +0.7
comp=Z,14nm,0.8s,baz=168,slow=5.3,SNR=8.6
ISA Isabella 72.71 44 eP P 21 02 35.7 0.0
ISA pmax pmax
comp=Z,31nm,1.5s
ISA Isabella 72.71 44 eP P 21 02 35.7 0.0
comp=Z,31nm,1.5s
CMB Columbia Colle 72.86 41 eP P 21 02 35.4 -1.1
CMB pmax pmax
comp=Z,20nm,1.5s
CMB Columbia Colle 72.86 41 eP P 21 02 35.4 -1.1
comp=Z,20nm,1.5s
PFO Pinyon Flat Ob 72.94 47 LR LR 21 26 30.8
comp=Z,392nm,19.3s,baz=301,slow=29
WDC Whiskeytown Da 73.12 38 eP P 21 02 38.5 +0.5
WDC pmax pmax
comp=Z,28nm,1.4s
WDC Whiskeytown Da 73.12 38 eP P 21 02 38.5 +0.5
comp=Z,28nm,1.4s
PETK Petropavlovsk- 73.41 342 P P 21 02 39.7 +0.3
comp=Z,11nm,0.9s,baz=119,slow=11,SNR=6.4
KKM Kota Kinabalu 73.56 281 eP P 21 02 41.4 +0.1
comp=Z,16nm,1.0s
WAKR Walker 73.74 41 eP P 21 02 41.1 -0.8
comp=Z,19nm,1.4s
YBH Yreka Blue Hor 73.76 37 eP P 21 02 41.8 0.0
YBH pmax pmax
comp=Z,55nm,1.6s
YBH Yreka Blue Hor 73.76 37 eP P 21 02 41.8 0.0
comp=Z,55nm,1.6s
QSPA South Pole Qui 74.02 180 eP P 21 02 44.6 +1.6
comp=Z,12nm,1.0s
QSPA e 21 02 53.1
YSS Yuzh-Sakhalins 74.31 330 eP P 21 02 44.8 0.0
YSS pmax pmax
comp=Z,41nm,0.9s
YSS Yuzh-Sakhalins 74.31 330 eP P 21 02 44.8 0.0
comp=Z,41nm,0.9s
NVAR Mina Array Bea 74.42 42 P P 21 02 45.8 -0.1
comp=Z,2.6nm,0.7s,baz=236,slow=6.4,SNR=19
LDFC Landfair 74.67 46 eP P 21 02 45.0 -2.3
comp=Z,95nm,1.9s
TPH Tonopah 74.91 42 eP P 21 02 48.7 0.0
TPH pmax pmax
comp=Z,36nm,1.4s
TPH Tonopah 74.91 42 eP P 21 02 48.7 0.0
comp=Z,36nm,1.4s
UGM Wanagama 75.10 266 P P 21 02 50.4 +0.2

baz=75,SNR=4.9
MOD Modoc 75.27 38 eP P 21 02 51.1 +0.4
comp=Z,42nm,1.8s
SHPR Sheep Range 75.40 45 eP P 21 02 52.5 +0.9
KDAK Kodiak Island 75.43 11 iP P 21 02 51.2 +0.2
K05A Summer Lake 75.43 37 eP P 21 02 52.9 +1.2
comp=Z,68nm,1.4s
TATO Taipei 75.89 301 eP P 21 02 53.8 -0.6
H04A Detroit Lake 75.94 35 eP P 21 02 54.8 +0.4
comp=Z,56nm,1.4s
BMN Battle Mountai 76.26 40 eP P 21 02 57.1 +0.7
BMN pmax pmax
comp=Z,59nm,2.2s
BMN Battle Mountai 76.26 40 eP P 21 02 57.1 +0.7
comp=Z,59nm,2.2s
SBUM Sibu 76.27 277 eP P 21 02 57.6 +0.8
comp=Z,4.8nm,1.0s
TUC Tucson 76.35 50 eP P 21 02 57.1 +0.1
TUC pmax pmax
comp=Z,36nm,1.8s
TUC Tucson 76.35 50 eP P 21 02 57.1 +0.1
comp=Z,36nm,1.8s
WVOR Wild Horse Val 76.57 38 eP P 21 02 58.6 +0.5
WVOR pmax pmax
comp=Z,26nm,1.5s
WVOR Wild Horse Val 76.57 38 eP P 21 02 58.5 +0.5
comp=Z,26nm,1.5s
KSRS Korea Array 77.01 315 P P 21 03 01.9 +1.5
comp=Z,3.0nm,0.8s,baz=128,slow=6.1,SNR=15
KSAR Wonju Array Be 77.03 315 P P 21 03 01.9 +1.4
KSAR Wonju Array Be 77.03 315 P P 21 03 01.9 +1.4
I07A Izee 77.07 36 eP P 21 03 01.2 +0.4
comp=Z,24nm,1.4s
CCUT Cedar City 77.18 45 eP P 21 03 02.8 +1.1
comp=Z,24nm,1.5s
ARUT Antelope Range 77.25 44 eP P 21 03 01.5 -0.5
ARUT pmax pmax
comp=Z,111nm,1.1s
ARUT Antelope Range 77.25 44 eP P 21 03 01.5 -0.5
comp=Z,111nm,1.1s
LON Longmire 77.48 33 eP P 21 03 03.3 +0.3
LON pmax pmax
comp=Z,141nm,3.0s
LON Longmire 77.48 33 eP P 21 03 03.2 +0.3
comp=Z,141nm,3.0s
VLA Vladivostok 77.66 322 eP P 21 03 01.9 -2.0
VLA pmax pmax
comp=Z,15nm,0.7s
D05A Enumclaw 77.67 33 eP P 21 03 05.4 +1.5
comp=Z,90nm,1.3s
ELK Elko 77.68 41 eP P 21 03 05.1 +0.6
ELK pmax pmax
comp=Z,11nm,1.3s
ELK Elko 77.68 41 eP P 21 03 05.1 +0.6
comp=Z,11nm,1.3s
CISI Cisompet, Garu 77.78 266 eP P 21 03 03.9 -1.6
comp=Z,16nm,0.7s
KSM Kuching 77.81 275 eP P 21 03 06.1 +0.6
G08A Pilot Rock 78.11 36 eP P 21 03 06.8 +0.2
comp=Z,26nm,1.4s
LEM Lembang 78.16 266 P P 21 03 08.2 +0.6
baz=78,SNR=4.4
USRK Ussuriysk Arra 78.23 323 P P 21 03 08.3 +1.2
comp=Z,7.9nm,1.0s,baz=123,slow=5.3,SNR=9.7
E07A Sunnyside 78.40 34 eP P 21 03 08.6 +0.5
comp=Z,9.5nm,0.8s
MVU Marysvale 78.45 44 eP P 21 03 09.6 +0.8
comp=Z,32nm,1.5s
HAWA Hanford 78.47 34 eP P 21 03 08.8 +0.4
comp=Z,44nm,1.7s
BMO Blue Mountains 78.79 37 eP P 21 03 10.7 +0.4
comp=Z,13nm,1.2s
MFID Camas Ranch 78.82 39 eP P 21 03 10.2 -0.4
comp=Z,16nm,1.4s
DUG Dugway 78.94 43 eP P 21 03 11.8 +0.5
DUG pmax pmax
comp=Z,16nm,1.3s
DUG Dugway 78.94 43 eP P 21 03 11.8 +0.5
comp=Z,16nm,1.3s
HABR Khabarovsk 79.17 328 eP P 21 03 12.2 0.0
HABR e 21 03 19.7
HABR e*PP pP 21 03 22.1 0.0
HABR e*SP sP 21 03 26.1 +0.3
HABR eS S 21 13 08.9 -0.8
HABR e 21 13 30.9
HABR eSS SS 21 18 15.1 -1.8
HABR pmax pmax
comp=Z,29nm,1.5s
HABR pmax pmax
comp=E,66nm,2.0s
HABR pmax pmax
comp=Z,70nm,2.0s
HABR pmax pmax
comp=N,36nm,2.0s
HABR MLR MLR
comp=Z,443nm,16.0s
BGU Big Grassy Mou 79.18 42 eP P 21 03 11.3 -1.4
comp=Z,14nm,1.8s
D08A Wollman Farm, 79.21 34 eP P 21 03 12.8 +0.4
comp=Z,35nm,1.4s
E09A Wood Farm, Sta 79.30 35 eP P 21 03 12.9 -0.1
comp=Z,26nm,1.4s
F10A Beach Ranch, E 79.49 36 eP P 21 03 13.9 -0.2
comp=Z,15nm,1.1s
MDJ Mudanjiang 79.87 322 P P 21 03 17.4 +1.3
MDJ pP pP 21 03 27.0 +0.9
MDJ sP sP 21 03 29.9 +0.2
MDJ pmax pmax
comp=Z,12nm,1.2s
MDJ pmax pmax
comp=Z,230nm,5.1s
MDJ Mudanjiang 79.87 322 P P 21 03 16.9 +0.8
DAU Daniels Canyon 80.07 43 eP P 21 03 17.9 +0.2
DAU pmax pmax
comp=Z,23nm,1.5s
DAU Daniels Canyon 80.07 43 eP P 21 03 17.9 +0.2
comp=Z,24nm,1.5s
TCUT Toone Canyon 80.33 42 eP P 21 03 19.1 +0.1
comp=Z,35nm,1.2s
LPM Los Pinos Moun 80.36 50 P P 21 03 18.8 -0.4
comp=Z,11nm,1.3s
TXAR Lajitas Array 80.49 56 P P 21 03 19.8 -0.2
comp=Z,2.6nm,1.1s,baz=224,slow=5.0,SNR=11
PV10 Paradox Valley 80.54 46 eP P 21 03 19.9 -0.3
comp=Z,82nm,0.7s
PV01 Paradox Valley 80.75 46 eP P 21 03 21.3 0.0
comp=Z,688nm,1.3s
ANMO Albuquerque 80.77 50⇓eP P 21 03 22.4 +1.0
ANMO pmax pmax
comp=Z,23nm,1.3s
ANMO Albuquerque 80.77 50 eP P 21 03 21.8 +0.3
comp=Z,33nm,2.0s
NEW Newport 80.91 34 eP P 21 03 20.6 -1.1
NEW Newport 80.91 34 P P 21 03 20.8 -0.8
comp=Z,2.3nm,0.7s,baz=252,slow=8.3,SNR=5.2
NEW Newport 80.91 34 eP P 21 03 20.6 -1.1
NJ2 Nanjing 81.00 307 eP P 21 03 23.2 +0.8
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
KLR Kul'dur 81.36 327 eP P 21 03 20.8 -3.2
MCMT McKenzie Canyo 81.39 39 eP P 21 03 24.8 +0.2
comp=Z,9.5nm,1.5s
TNA Tin City 81.43 2 eP P 21 03 23.8 -0.2
comp=Z,17nm,1.1s
MCK McKinley 81.64 10 eP P 21 03 24.4 -0.8
MCK pmax pmax
comp=Z,23nm,0.8s
MCK McKinley 81.64 10 eP P 21 03 24.4 -0.8
comp=Z,23nm,0.8s
HYT Haines Junctio 81.65 17 eP P 21 03 25.9 +0.5
MOOW Moose Ponds 82.11 40 eP P 21 03 20.9 -7.4
comp=Z,27nm,1.8s
LRM Limekiln Ridge 82.16 38 eP P 21 03 27.4 -1.3
comp=Z,171nm,1.5s
SWMT Swartz Lake 82.19 36 P P 21 03 27.8 -0.8
comp=Z,5.4nm,1.1s
QLMT Earthquake Lak 82.25 39 eP P 21 03 29.5 +0.5
SLMT Seeley Lake 82.33 36 eP P 21 03 28.0 -1.3
comp=Z,14nm,1.4s
PDAR Pinedale Array 82.36 42 P P 21 03 29.3 -0.4
comp=Z,4.1nm,0.8s,baz=219,slow=3.4,SNR=15
DOT Dot Lake 82.50 13 eP P 21 03 28.1 -1.6
comp=Z,13nm,0.8s
DLV T Lat 82.66 285 eP P 21 03 29.9 -1.9
SDCO Great Sand Dun 82.72 48 eP P 21 03 31.3 -0.5
comp=Z,19nm,1.7s
COLA College 82.88 10c iP P 21 03 31.1 -0.4
COLA College 82.88 10 eP P 21 03 30.5 -1.0
comp=Z,30nm,0.8s
ILAR Eielson Array 82.95 11 P P 21 03 31.1 -0.8
comp=Z,5.2nm,0.7s,baz=228,slow=6.2,SNR=111
IM04 Indian Mountai 83.01 8 eP P 21 03 32.0 -0.3
WALA Waterton Lakes 83.11 35 eP P 21 03 32.3 -1.0
comp=Z,0.7nm,1.4s
QIZ Qiongzhong 83.67 292 P P 21 03 36.8 +0.1
QIZ S S 21 13 57.6 0.0
QIZ pmax pmax
comp=Z,12nm,2.4s
QIZ LR LR
comp=Z,450nm,17.7s
QIZ LR LR
comp=Z,620nm,17.7s
GCMT Greycliff 83.81 39 eP P 21 03 36.8 -0.2
comp=Z,18nm,1.4s
BILL Bilibino 85.21 352⇑iP P 21 03 43.4 0.0
BILL e 21 03 50.5
BILL pmax pmax
comp=Z,12nm,1.5s
BILL Bilibino 85.21 352 eP P 21 03 42.6 -0.7
comp=Z,10nm,1.1s
BJI Beijing 86.32 313 P P 21 03 50.9 +1.4
BJI pP pP 21 04 00.3 +0.7
BJI sP sP 21 04 04.1 +0.9
BJI S S 21 14 22.8 -0.1
BJI pmax pmax
comp=Z,11nm,1.2s
BJI pmax pmax
comp=Z,140nm,9.0s
ENH Enshi 87.74 302 eP P 21 03 57.6 +0.9
HIA Hailar 88.04 323 eP P 21 03 58.2 +0.5
HIA pmax pmax
comp=Z,19nm,1.2s
HIA Hailar 88.04 323 eP P 21 03 58.2 +0.5
comp=Z,19nm,1.2s
KULM Kulim 88.13 276 eP P 21 04 00.0 +1.1
PLCA Paso Flores 88.67 132 P P 21 03 58.8 -2.3
PLCA Paso Flores 88.67 132 LR LR 21 35 34.3
comp=Z,211nm,18.3s,baz=264,slow=30
PLCA Paso Flores 88.67 132 P P 21 03 58.8 -2.3
INK Inuvik 88.75 14 eP P 21 03 58.0 -2.5
INK pmax pmax
comp=Z,10.0nm,1.4s
INK Inuvik 88.75 14 eP P 21 03 58.0 -2.5
comp=Z,9.9nm,1.4s
GYA Guiyang 88.84 298 eP P 21 04 04.2 +2.0
GYA pP pP 21 04 12.8 +0.6
GYA PP PP 21 07 34.7 +2.8
GYA SKS SKSac 21 14 28.0 -1.9
GYA S S 21 14 47.4 -0.6
GYA sS sS 21 15 02.1 -2.6
GYA SS SS 21 20 41.9 +0.8
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,550nm,21.4s
GYA LR LR
comp=Z,480nm,22.0s
GYA LR LR
comp=Z,520nm,20.8s
HHC Hu-ho-hao-te 89.87 313 eP P 21 04 00.5 -6.1
HHC pP PcP 21 04 11.3 +3.4
HHC sP sP 21 04 15.0 -5.4
HHC Hu-ho-hao-te 89.87 313 SKS SKSac 21 14 25.8 -10
HHC Hu-ho-hao-te 89.87 313 S S 21 14 44.6 -12
HHC Hu-ho-hao-te 89.87 313 sS S 21 15 06.4 +9.3
HHC Hu-ho-hao-te 89.87 313 SS SS 21 20 50.9 -4.6
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,260nm,7.0s
HHC LR LR
comp=N,420nm,17.4s
HHC LR LR
comp=E,610nm,18.9s
HHC LR LR
comp=Z,500nm,16.5s
YAK Yakutsk 89.92 337 eP P 21 04 04.5 -1.6
YAK Yakutsk 89.92 337 eP P 21 04 04.5 -1.6
YKA Yellowknife Ar 90.45 23 P P 21 04 08.3 -0.3
comp=Z,1.2nm,0.7s,baz=240,slow=4.7,SNR=27
JTS JuntasAbangare 90.76 80⇑eP P 21 04 12.2 +0.9
JTS pmax pmax
comp=Z,23nm,1.2s
PBKT Sadao Pong 90.98 287 P P 21 04 15.1 +3.0
comp=Z,15nm,1.8s
UTTA Uttaradit 91.69 288 P P 21 04 28.3 +13
SUKH Sukhothai 92.46 287 P P 21 04 22.4 +3.4
comp=Z,2.7nm,1.1s
CD2 Chengdu 92.63 301 eP P 21 04 20.7 +1.1
CD2 pP pP 21 04 30.4 +0.7
CD2 sP sP 21 04 34.0 +0.7
CD2 PP PP 21 08 04.9 +3.2
CD2 SKS SKSac 21 14 50.3 -1.0
CD2 S S 21 15 20.1 -2.3
CD2 sS sS 21 15 36.3 -2.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.4s
CD2 LR LR
comp=Z,370nm,19.6s
CD2 LR LR
comp=Z,490nm,18.6s
CD2 LR LR
comp=Z,370nm,16.6s
LAMP Lampang 92.74 288 P P 21 04 23.0 +2.7
comp=Z,3.5nm,1.0s
CM31 Chiang Mai Arr 93.35 288 eP P 21 04 24.7 +1.6
comp=Z,1.4nm,0.4s
CMAR Chiang Mai Arr 93.35 288 iP P 21 04 25.0 +1.8
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 93.35 288 P P 21 04 24.9 +1.8
comp=Z,4.5nm,0.9s,baz=96,slow=2.6,SNR=32
CMMT Chiang Mai 93.44 288 P P 21 04 25.4 +1.8
comp=Z,7.4nm,0.9s
CHTO Chiang Mai 93.45 288 eP P 21 04 24.5 +0.9
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 93.45 288 P P 21 04 25.4 +1.8
comp=Z,35nm,1.5s
CHTO Chiang Mai 93.45 288 eP P 21 04 24.5 +0.9
comp=Z,3.5nm,0.7s
LZH Lanzhou 94.06 306 eP P 21 04 28.1 +1.9
LZH pmax pmax
comp=Z,18nm,1.3s
ULN Ulaanbaatar 95.28 318⇑iP P 21 04 32.3 +0.8
ULN pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 95.69 318 P P 21 04 33.4 +0.1
comp=Z,1.3nm,0.9s,baz=112,slow=3.9,SNR=10
TIXI Tiksi 95.76 344 eP P 21 04 33.1 +0.2
TIXI pmax pmax
comp=Z,13nm,2.8s
ZAK Zakamensk 98.37 320 eP P 21 04 44.9 -0.5
ZAK pmax pmax
comp=Z,2.0nm,1.2s
TLY Talaya 98.48 321 eP Pdif 21 04 51.3 +5.5
TLY pmax pmax
comp=Z,5.0nm,1.8s
WMQ Urumqi 107.71 311 ePdif Pdif 21 05 27.3 +0.2
WMQ PP PP 21 09 58.5 +2.6
WMQ S Sdif 21 17 25.3 -4.5
WMQ AMB AMB
comp=Z,240nm,6.0s
WMQ LR LR
comp=Z,110nm,17.0s
WMQ LR LR
comp=Z,180nm,21.8s
WMQ LR LR
comp=Z,150nm,20.8s
MK31 Makanchi Array 111.68 314 ePKIKP PKiKP 21 09 41.6 -0.5
MK31 Makanchi Array 111.68 314 ePKPdf PKiKP 21 09 41.6 -0.5
MKAR Makanchi Array 111.68 314c iPKIKP PKiKP 21 09 39.9 -2.2
MKAR Makanchi Array 111.68 314 PKiKP PKiKP 21 09 41.3 -0.8
comp=Z,0.3nm,0.6s,baz=75,slow=1.6,SNR=4.7
KSH Kashi 116.31 306 ePKP PKPdf 21 09 58.2 +6.9
KSH ePP PP 21 11 09.8 +12
KSH PKS PKSdf 21 13 33.5 +5.4
KSH SKS SKSdf 21 17 08.9 +7.5
KSH SKKS SKKSac 21 18 02.8 +6.3
KSH Kashi 116.31 306 SS SS 21 27 12.4 +12
KSH AMB AMB
comp=Z,35nm,3.2s
KSH LR LR
comp=N,52nm,4.3s
KSH LR LR
comp=E,23nm,2.5s
KSH LR LR
comp=Z,120nm,11.7s
BRVK Borovoye 118.79 322 iPKIKP PKPdf 21 09 57.4 +1.9
ARU Arti 124.18 328 ePKIKP PKPdf 21 10 05.6 -0.1
ARU Arti 124.18 328 ePKPdf PKPdf 21 10 05.6 -0.1
FINES FINESS Array B 132.68 348 PKIKP PKPdf 21 10 22.0 +0.2
FINES FINESS Array B 132.68 348 PKP PKPdf 21 10 22.0 +0.2
comp=Z,1.0nm,0.8s,baz=29,slow=3.2,SNR=2.8
OBN Obninsk 134.92 337 ePKIKP PKPdf 21 10 26.0 -0.1
OBN pmax pmax
comp=Z,6.0nm,1.2s
VSU Vasula 135.22 346 iPKIKP PKPdf 21 10 28.2 +1.6
AKASG Malin Array Be 141.14 338 PKhKP PKPpre 21 10 33.0
comp=Z,0.2nm,0.4s,baz=37,slow=3.9,SNR=4.1
AKASG PKP PKPdf 21 10 39.0 +1.2
comp=Z,0.9nm,0.7s,baz=38,slow=3.2,SNR=5.8
LVV L'vov 143.64 342 ePKIKP PKPdf 21 10 48.0 +5.8
PTK Pertek 143.77 315 eP PKPbc 21 10 41.7 +1.0
ILIC ilic-Erzincan 144.03 317 eP PKPdf 21 10 44.9 +1.4
KWP Kalwaria Pacla 144.19 343 ⇑PKIKP PKPab 21 10 41.1 +0.1
KWP Kalwaria Pacla 144.19 343⇑iP PKPab 21 10 41.0 +0.1
KWP Kalwaria Pacla 144.19 343 ePKPdf PKPab 21 10 40.9 -0.1
CLL Collm 144.50 354 iPKIKP PKPbc 21 10 42.2 -0.1
CLL i 21 10 52.7
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL MLR MLR
comp=Z,300nm,20.3s
CLL Collm 144.50 354 ePKPbc PKPbc 21 10 42.6 +0.3
CLL Collm 144.50 354 iPKIKP PKPbc 21 10 42.2 -0.1
comp=Z,4.0nm,1.0s
CLL i (pPKPdf) 21 10 45.0
comp=Z,11nm,1.2s
CLL i (pPKiKP) 21 10 52.7
CLL LmV 22 33 00.0
comp=Z,300nm,20.3s
CLL LmH 22 36 00.0
comp=N,100nm,22.0s
CLL LmH 22 36 00.0
comp=E,200nm,21.2s
KVT Kavak 144.72 321 eP PKPdf 21 10 48.0 +3.6
STHS Stebnicka Huta 144.79 344 ePKIKP PKPdf 21 10 44.0 -0.3
STHS Stebnicka Huta 144.79 344 ePKP PKPdf 21 10 44.0 -0.3
SVSK Karacayir 144.80 318 eP PKPab 21 10 42.5 -1.0
BRG Berggiesshubel 144.82 353 ePKP PKPdf 21 10 46.0 +1.7
comp=E,14nm,1.5s
BRG Berggiesshubel 144.82 353 ePKIKP PKPdf 21 10 46.0 +1.7
BRG pmax pmax
comp=Z,14nm,1.5s
KOLS Kolonicke sedl 144.95 343 ePKIKP PKPab 21 10 43.0 -0.8
KOLS Kolonicke sedl 144.95 343 ePKP PKPab 21 10 43.0 -0.8
DPC Dobruska-Polom 144.98 350 ePKIKP PKPdf 21 10 44.3 -0.3
DPC e 21 10 54.2
DPC Dobruska-Polom 144.98 350 ePKP PKPdf 21 10 44.3 -0.3
DPC ex x 21 10 54.2
NIE Niedzica 145.03 345 ePKIKP PKPdf 21 10 44.5 -0.2
NIE Niedzica 145.03 345 ePKP PKPdf 21 10 44.5 -0.2
OKC Ostrava-Krasne 145.13 348 ePKIKP PKPbc 21 10 44.3 0.0
OKC e 21 10 54.5
OKC Ostrava-Krasne 145.13 348 ePKP PKPbc 21 10 44.3 0.0
OKC ex x 21 10 54.5
BUR08 Bucovina Ar. S 145.15 339 ePKPdf PKPdf 21 10 45.0 -0.1
BURAR Bucovina Array 145.16 339 ⇓PKIKP PKPdf 21 10 45.6 +0.5
BURAR Bucovina Array 145.16 339⇓iP PKPdf 21 10 45.6 +0.5
KRLC Kraliky 145.17 349 ePKIKP PKPdf 21 10 44.8 -0.2
KRLC e 21 10 54.6
KRLC Kraliky 145.17 349 ePKP PKPdf 21 10 44.8 -0.2
KRLC ex x 21 10 54.6
CRVS Cervenica-Dubn 145.20 343 ePKIKP PKPdf 21 10 45.2 +0.2
CRVS Cervenica-Dubn 145.20 343 ePKP PKPdf 21 10 45.2 +0.2
UZH Uzhgorod 145.21 342 iPKIKP PKPab 21 10 44.7 0.0
UZH i 21 10 53.9
UZH i 21 10 57.0
DARE Darende-Malaty 145.22 316 eP PKPbc 21 10 44.5 -0.6
UBBA Unterbreizbach 145.23 357 ePKPbc PKPbc 21 10 44.4 -0.1
MOX Moxa 145.29 355 ePKPbc PKPbc 21 10 44.9 -0.1
BEBN Eben Emael 145.30 2 PKP PKPdf 21 10 45.0 -0.1
MORC Moravsky Berou 145.31 348 ⇓PKIKP PKPbc 21 10 44.9 -0.1
MORC Moravsky Berou 145.31 348⇓iP PKPbc 21 10 44.9 -0.1
MORC Moravsky Berou 145.31 348 ePKPdf PKPbc 21 10 44.4 -0.6
TANN Tannenbergstha 145.44 354 ePKPbc PKPbc 21 10 45.7 +0.1
MEM Membach 145.50 1 PKP PKPbc 21 10 45.5 0.0
SNF Seneffe 145.53 3 PKP PKPbc 21 10 45.7 -0.2
PRA Prague 145.55 352 PKP PKPab 21 10 46.0 +0.1
TESR Tescani 145.56 336⇓iP PKPdf 21 10 42.8 -2.9
TRPA Tarpa 145.59 342⇓iP PKPdf 21 10 44.7 -1.0
PRU Pruhonice 145.61 352 ePKIKP PKPab 21 10 46.1 -0.1
PRU e 21 10 55.8
PRU Pruhonice 145.61 352 ePKP PKPab 21 10 46.1 -0.1
PRU ex x 21 10 55.8
BCLA Clavier 145.67 2 PKP PKPdf 21 10 43.7 -2.0
KMBO Kilima Mbogo 145.77 243c iPKP2 PKPab 21 10 50.0 +1.8
KMBO pmax pmax
comp=Z,8.0nm,1.1s
KMBO Kilima Mbogo 145.77 243 PKPbc PKPab 21 10 49.0 +0.8
comp=Z,7.9nm,1.1s,baz=62,slow=1.9,SNR=14
KMBO Kilima Mbogo 145.77 243 ePKPdf PKPab 21 10 48.6 +0.5
KMBO PKPbc PKPab 21 10 49.0 +0.8
KECS Kecovo 145.85 344 ePKP2 PKPdf 21 10 45.6 -0.5
KECS Kecovo 145.85 344 ePKP PKPdf 21 10 45.6 -0.5
TNS Taunus Mts 145.88 359 ePKPbc PKPab 21 10 47.2 -0.1
MANZ Manzenberg 145.90 354 ePKPbc PKPab 21 10 47.4 +0.1
DOU Dourbes 145.96 3 PKP PKPdf 21 10 45.1 -1.2
CFR Carcaliu 146.02 333 ⇓PKIKP PKPab 21 10 45.8 -0.7
CFR Carcaliu 146.02 333⇓iP PKPab 21 10 45.8 -0.7
YOZ Yozgat 146.02 319 eP PKPab 21 10 48.8 +0.6
VRI Vrincioaia 146.06 335 ⇑PKP2 PKPbc 21 10 47.9 -0.1
VRI Vrincioaia 146.06 335⇑iP PKPbc 21 10 47.9 -0.1
PLOR Plostina 146.10 335 ⇓PKP2 PKPbc 21 10 47.1 -0.5
PLOR Plostina 146.10 335⇓iP PKPbc 21 10 47.1 -0.5
ROTZ Rotzenmuhle 146.11 354 ePKPbc PKPbc 21 10 48.2 +0.1
BNN Bunyan 146.14 318 eP PKPab 21 10 45.7 -1.4
KMRS Kahramanmaras 146.16 315 eP PKPdf 21 10 47.3 +0.2
GRF Grafenberg Arr 146.27 355 ePKPbc PKPab 21 10 49.1 +0.4
WLF Walferdange 146.45 1 ePKPbc PKPab 21 10 49.5 +0.2
PSZ Piszkesteto 146.52 344 ⇓PKP2 PKPbc 21 10 48.2 -0.6
PSZ Piszkesteto 146.52 344⇓iP PKPbc 21 10 48.2 -0.6
PSZ Piszkesteto 146.52 344 ePKPdf PKPbc 21 10 48.9 0.0
KHC Kasperske Hory 146.58 352 ePKP2 PKPab 21 10 50.4 +0.5
KHC Kasperske Hory 146.58 352 ePKP PKPab 21 10 50.4 +0.5
KHC ex x 21 10 59.8
KHC Kasperske Hory 146.58 352 ePKPdf PKPbc 21 10 48.7 -0.2
MLR Muntele Rosu 146.68 336 ⇓PKP2 PKPbc 21 10 48.2 +0.4
MLR Muntele Rosu 146.68 336⇓iP PKPdf 21 10 48.2 +0.4
DRGR 146.72 340 ⇓PKP2 PKPbc 21 10 49.4 -0.1
DRGR 146.72 340⇓iP PKPbc 21 10 49.4 -0.1
GEC2 GERESS Array S 146.85 352 ePKPdf PKPbc 21 10 50.0 +0.2
GERES GERESS Array B 146.85 352 PKPbc PKPbc 21 10 49.6 -0.1
comp=Z,1.1nm,0.7s,baz=15,slow=4.1,SNR=15
KOZT Kozan 146.90 316 eP PKPdf 21 10 48.8 +0.6
BR131 Keskin Array B 147.01 321 ePKPdf PKPbc 21 10 51.1 +0.6
BRTR Keskin Array B 147.01 321c iPKP2 PKPbc 21 10 51.0 +0.4
BRTR pmax pmax
comp=Z,13nm,0.9s
BRTR Keskin Array B 147.01 321 PKPbc PKPbc 21 10 51.0 +0.4
comp=Z,13nm,0.9s,baz=110,slow=2.3,SNR=53
VOIR 147.07 337 ⇑PKIKP PKPdf 21 10 48.6 +0.2
VOIR 147.07 337⇑iP PKPdf 21 10 48.6 +0.2
ARR Arges 147.29 337⇑iP PKPab 21 10 53.0 +0.1
NIG Nigde 147.36 318 eP PKPab 21 10 52.8 -0.9
CONA Conrad Observa 147.40 349⇓iPKPab PKPbc 21 10 51.6 +0.3
comp=Z,36nm,1.7s
ANTO Ankara 147.42 322 eP PKPdf 21 10 48.4 -0.8
ANTO Ankara 147.42 322 ⇓PKP2 PKPbc 21 10 52.1 +0.5
ANTO Ankara 147.42 322⇓iP PKPbc 21 10 52.1 +0.5
ANTO Ankara 147.42 322 ePKPbc PKPab 21 10 52.8 -0.8
LOD Lodumlu 147.43 322 eP PKPbc 21 10 51.6 -0.1
AFSR Af˘ar-Bala (A 147.53 321 eP PKPbc 21 10 50.8 -1.2
KARA Karaisali 147.54 316 eP PKPbc 21 10 51.2 -0.8
BFO Black Forest 147.78 359 iPKP2 PKPab 21 10 53.5 -1.1
BFO Black Forest 147.78 359 ePKPbc PKPbc 21 10 52.7 +0.4
BFO Black Forest 147.78 359 ePKPbc PKPab 21 10 51.9 -0.3
FUR Furstenfeldbru 147.78 355 ePKPbc PKPbc 21 10 53.0 +0.7

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res
GZR	Gura Zlata	147.93	339	⇑PKIKP	PKPbc	21 10 52.1	-0.7
GZR	Gura Zlata	147.93	339	⇑iP	PKPbc	21 10 52.1	-0.7
MDUB	Mudurnu	147.95	324	eP	PKPab	21 10 54.4	-1.4
SULT	Sultanhani-AKS	148.01	319	eP	PKPbc	21 10 53.6	+0.3
RJOB	Jochberg	148.05	353	ePKPbc	PKPbc	21 10 53.7	+0.6
MERS	Mersin	148.11	316	eP	PKPbc	21 10 52.0	-1.6
BZS	Buzias	148.12	341	⇓PKP2	PKPbc	21 10 52.5	-0.7
BZS	Buzias	148.12	341	⇓iP	PKPbc	21 10 52.5	-0.7
PKSM	Moragy	148.43	345	⇓PKP2	PKPbc	21 10 53.7	-0.3
PKSM	Moragy	148.43	345	⇓iP	PKPbc	21 10 53.7	-0.3
CTKS	Kestanelik-??a	148.85	328	eP	PKPdf	21 10 53.2	+1.9
ABTA	Abfaltersbach	149.06	353	⇑iPKPdf	PKPdf	21 10 55.3	-0.3
	comp=Z,8.9nm,0.8s						
ALT	Altintas	149.53	323	eP	PKPbc	21 10 56.3	-0.8
SHUT	Suhut-Afyon	149.60	322	eP	PKPdf	21 10 50.4	-2.4
TVSB	Tavsanli	149.62	325	eP	PKPbc	21 10 55.5	-1.9
LFK	Lefkose	149.64	314	eP	PKPbc	21 10 57.1	-0.4
CSS	Prodhromos	149.95	314	eP	PKPdf	21 10 52.5	-0.9
CSS	Prodhromos	149.95	314	ePKPbc	PKPbc	21 10 57.6	-0.6
LEF	Lefka	150.17	314	eP	PKPdf	21 10 52.8	-0.9
VTS	Vitosha	150.18	336	eP	PKPbc	21 10 58.9	+0.2
KULA	Kula-Manisa	150.72	324	eP	PKPbc	21 11 00.7	+0.6
ELL	Elmali	151.16	320	eP	PKPdf	21 10 55.5	+0.2
AYDB	Zeytinkoy-Aydi	151.55	324	eP	PKPbc	21 11 01.1	-1.0
AOS	Alonnisos	152.71	331	eP	PKPbc	21 11 00.4	+3.0
ESDC	Sonseca Array	154.51	20	PKP	PKPdf	21 11 00.1	0.0
	comp=Z,0.1nm,0.3s,baz=336,slow=2.8,SNR=2.9						
ESDC				PKPab	PKPab	21 11 22.3	-0.5
	comp=Z,1.1nm,0.9s,baz=326,slow=4.2,SNR=5.1						
TORD	Torodi Ar. Bea	173.95	118	PKP	PKPab	21 11 16.7	-1.2
	comp=Z,0.7nm,0.7s,baz=259,slow=1.5,SNR=4.0						
TORD				PKPab	PKPab	21 12 48.4	-0.4
	comp=Z,1.0nm,0.9s,baz=256,slow=3.7,SNR=3.7						

ISCJB 06 21:06:50.7±0.5,7°.53S±0°.08×156°.8E±0°.1,h398km,mb3.8/15,Error ellipse: s-maj=14.7km s-min=10.5km az=14.6

IDC 06 21:06:52.9±2.2,7°.58S×156°.81E,h408km±24km,mb3.5/15,mb1 3.6/18,mb1mx3.6/23,mbtmp3.8/18,Error ellipse: s-maj=16.7km s-min=12.1km az=96.0

ISC 06 21:06:51.8±0.6,7°.58S±0°.10×156°.9E±0°.1,h398km,n31,σ0°.78/34,mb3.8/15,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	9.76	259	P	Pn	21 09 09.2	+2.0
	0.2nm,0.3s,baz=60,slow=15,SNR=2.6						
CTA	Charters Tower	16.13	219	P	Pn	21 10 18.7	-1.6
	0.9nm,0.3s,baz=44,slow=12,SNR=13						
DZM	Mont Dzumac	17.11	148	P	P	21 10 28.0	+0.8
	1.8nm,0.3s,baz=260,slow=6.6,SNR=18						
WRA	Warramunga Arr	25.05	238	P	P	21 11 41.9	-0.3
	3.7nm,0.5s,baz=61,slow=8.9,SNR=78						
WRA				PcP	PcP	21 15 04.5	-0.1
	0.9nm,0.5s,baz=67,slow=2.7,SNR=11						
ASAR	Alice Springs	27.21	231	P	P	21 12 00.5	-0.9
	1.3nm,0.4s,baz=64,slow=9.2,SNR=43						
ASAR				PcP	PcP	21 15 09.8	0.0
	0.4nm,0.5s,baz=76,slow=2.5,SNR=6.9						
STKA	Stephens Creek	28.05	208	P	P	21 12 08.3	-0.3
	0.4nm,0.3s,baz=48,slow=13,SNR=2.9						
NWAO	Narrogin (SRO)	44.51	230	P	P	21 14 25.5	-0.5
	20nm,1.2s,baz=68,slow=6.8,SNR=12						
MJAR	Matsushiro Arr	47.25	339	P	P	21 14 46.1	-0.9
	4.5nm,0.9s,baz=172,slow=8.8,SNR=4.1						
KSRS	Korea Array	52.33	331	P	P	21 15 25.1	+0.5
	2.8nm,0.9s,baz=143,slow=7.3,SNR=11						
PETK	Petropavlovsk-	60.46	1	P	P	21 16 21.2	+0.2
	2.3nm,0.6s,baz=191,slow=6.9,SNR=4.8						
CMAR	Chiang Mai Arr	62.70	295	P	P	21 16 37.2	+0.7
	1.5nm,0.9s,baz=125,slow=5.3,SNR=14						
SEY	Seymchan	70.39	358	P	P	21 17 23.6	-0.1
	1.1nm,0.5s,baz=234,slow=12,SNR=9.0						
ODAN	Odare	75.42	300	eP	P	21 17 54.0	+0.1
JIRN	Jiri	76.67	301	eP	P	21 18 01.2	+0.1
GUN	Gumba	77.00	301	eP	P	21 18 03.2	+0.3
PKIN	Phulchoki	77.32	300	eP	P	21 18 04.2	-0.3
	4.6nm,0.7s						
KKN	Kakani	77.48	301	eP	P	21 18 05.2	-0.1
DMN	Daman	77.58	300	eP	P	21 18 05.9	0.0
GKN	Gorkha	78.09	301	eP	P	21 18 08.3	-0.3
KOLN	Koldanda	78.91	300	eP	P	21 18 12.5	-0.6
	9.1nm,0.8s						
DANN	Dangsing	78.92	301	eP	P	21 18 12.6	-0.6
QSPA	South Pole Qui	82.40	180	P	P	21 18 30.9	+0.4
	3.5nm,0.6s,baz=301,slow=0.7,SNR=29						
ILAR	Eielson Array	83.25	21	P	P	21 18 33.5	-1.0
	0.6nm,0.4s,baz=256,slow=5.4,SNR=20						
MKAR	Makanchi Array	85.07	318	P	P	21 18 44.0	-0.1
	2.4nm,0.6s,baz=99,slow=6.0,SNR=37						
ZALV	Zalesovo Beam	85.70	326	P	P	21 18 45.7	-1.2
	1.6nm,0.5s,baz=112,slow=5.7,SNR=9.0						
NVAR	Mina Array Bea	90.64	51	P	P	21 19 12.2	+1.4
	0.5nm,0.7s,baz=263,slow=4.5,SNR=4.0						
YKA	Yellowknife Ar	95.99	28	P	P	21 19 34.5	+0.1
	0.6nm,0.6s,baz=263,slow=4.8,SNR=14						
GERES	GERESS Array B	128.50	330	PKP	PKPdf	21 25 12.5	+0.1
	0.3nm,0.5s,baz=64,slow=2.3,SNR=4.3						
ESDC	Sonseca Array	143.71	335	PKP	PKPab	21 25 38.6	-0.3
	0.7nm,0.8s,baz=47,slow=3.1,SNR=4.7						
BDFB	Brasilia	146.25	133	PKPbc	PKPbc	21 25 47.2	-0.3
	2.0nm,0.5s,baz=252,slow=3.2,SNR=3.5						
TORD	Torodi Ar. Bea	154.96	285	PKP	PKPdf	21 26 00.4	+1.4
	0.7nm,1.0s,baz=107,slow=1.5,SNR=2.3						
TORD				PKPbc	PKiKP	21 26 07.3	-0.7
	0.4nm,0.6s,baz=76,slow=2.8,SNR=3.8						
TORD				PKPab	PKPab	21 26 24.7	-0.7
	1.1nm,0.9s,baz=83,slow=3.7,SNR=5.4						

IPEC 06 21:08:16.1±0.4,49°.84N×18°.56E,h3km±2km,ML0.8/3,Error ellipse: s-maj=2.6km s-min=2.3km az=105.0

PRU 06 21:08:17.0,49°.86N×18°.47E,h0km

CSEM 06 21:08:16.0±0.5,49°.89N×18°.50E,h1km,ML1.6/4,Error ellipse: s-maj=7.5km s-min=6.6km az=77.0,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.24	258	ePG	Pg	21 08 21.3	+0.7
OKC				eSG	Sg	21 08 24.5	+0.9
	5.9nm,0.2s						
OKC	Ostrava-Krasne	0.24	258	Pg	Pg	21 08 21.3	+0.7
OKC				Sg	Sg	21 08 24.5	+0.9
	5.9nm,0.2s						
MORC	Moravsky Berou	0.63	260	ePg	Pg	21 08 28.9	+0.7
	baz=84						
MORC				eSg	Sg	21 08 36.9	+0.4
	2.5nm,0.2s,baz=84						
KRLC	Kraliky	1.13	280	ePG	Pg	21 08 37.9	+0.2
KRLC				eSG	Sg	21 08 51.8	-0.6
KRLC	Kraliky	1.13	280	Pg	Pg	21 08 37.9	+0.2
KRLC				Sg	Sg	21 08 51.8	-0.6
VRAC	Vranov	1.37	246	ePg	Pn	21 08 42.0	-0.3
VRAC				eSg	Sg	21 08 59.5	-0.7
	1.0nm,0.2s,baz=67						
DPC	Dobruska-Polom	1.48	289	ePG	Pn	21 08 43.9	+0.1
DPC				eSG	Sg	21 09 03.6	-0.1
DPC	Dobruska-Polom	1.48	289	Pg	Pn	21 08 43.9	+0.1
DPC				Sg	Sg	21 09 03.6	-0.1
KRUC	Moravsky	1.60	240	ePn	Pn	21 08 45.4	-0.1
	baz=60						
KRUC				eSg	Sn	21 09 06.6	-0.2
	0.7nm,0.2s,baz=60						

IDC 06 21:10:41.9±8.5,50°.08S×126°.26E,h0km,mb3.6/2,mb1 3.9/2,mb1mx3.5/23,mbtmp3.6/2,Error ellipse: s-maj=495.6km s-min=69.3km az=90.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	27.03	16	P	P	21 16 25.8	0.0
	1.7nm,1.1s,baz=190,slow=9.0,SNR=6.4						
WRA	Warramunga Arr	30.75	15	P	P	21 16 58.7	-0.1
	0.4nm,0.7s,baz=183,slow=10.0,SNR=5.7						
YKA	Yellowknife Ar	145.39	46	PKPbc	PKPbc	21 30 19.4	-0.9
	0.3nm,0.7s,baz=268,slow=3.7,SNR=7.7						

IDC 06 21:13:10.9±1.1,16°.08S×172°.94W,h0km,mb4.0/8,mb1 4.3/8,mb1mx4.0/23,mbtmp4.0/8,Error ellipse: s-maj=55.6km s-min=19.6km az=137.0

ISCJB 06 21:13:13.1±0.8,15°.85S±0°.2×173°.0W±0°.2,h26km,mb4.0/8,Error ellipse: s-maj=41.7km s-min=9.3km az=39.3

ISC 06 21:13:14.1±1.1,15°.85S±0°.2×172°.9W±0°.3,h26km,n10,σ1°.79/10,mb4.0/8,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.19	30	Pn	Pn	21 13 47.8	-1.2
	20nm,0.3s,baz=126,slow=4.7,SNR=5.1						
AFI				Sn	Sn	21 14 13.2	-2.0
	45nm,0.3s,baz=28,slow=20,SNR=8.8						
AFI				T	T	21 16 18.9	
	4.4nm,0.3s,baz=194,slow=22,SNR=3.3						
URZ	Urewera	24.03	200	P	P	21 18 25.7	-1.4
	2.6nm,0.5s,baz=63,slow=14,SNR=3.4						
STKA	Stephens Creek	44.24	240	P	P	21 21 19.6	-2.0
	4.5nm,0.8s,baz=90,slow=6.3,SNR=9.1						
WRA	Warramunga Arr	50.21	257	P	P	21 22 08.4	+0.2
	1.0nm,0.5s,baz=95,slow=6.7,SNR=32						
ASAR	Alice Springs	50.43	252	P	P	21 22 10.2	+0.3
	4.3nm,0.7s,baz=88,slow=8.3,SNR=52						
NVAR	Mina Array Bea	74.32	42	P	P	21 24 52.2	+2.5
	0.2nm,0.4s,baz=224,slow=7.6,SNR=3.3						
PDAR	Pinedale Array	82.26	42	P	P	21 25 35.3	+1.7
	0.6nm,0.9s,baz=180,slow=4.4,SNR=4.3						
ILAR	Eielson Array	82.76	11	P	P	21 25 37.6	+2.2
	0.7nm,0.8s,baz=225,slow=6.3,SNR=9.4						
INK	Inuvik	88.56	14	P	P	21 26 05.5	+1.5
	1.4nm,0.6s,baz=186,slow=3.9,SNR=8.5						
BRTR	Keskin Array B	146.77	321	PKPbc	PKPab	21 32 56.7	+1.1
	1.7nm,0.8s,baz=162,slow=1.9,SNR=8.2						

BJI 06 21:26:17.1,7°.80S×130°.61E,h47km,mB5.3/38,mb5.2/61,Ms4.9/38,Ms7 4.5/36

MOS 06 21:26:17.9±1.2,7°.65S×130°.47E,h33km,mb5.6/28,Error ellipse: s-maj=13.0km s-min=6.4km az=118.9

ISCJB 06 21:26:19.6±0.4,7°.76S±0°.02×130°.53E±0°.02,h57km±4km,mb5.2/107,MS4.4/20,Error ellipse: s-maj=4.1km s-min=4.0km az=174.5

IDC 06 21:26:19.7±2.4,7°.66S×130°.47E,h32km±17km,mb4.8/23,mb1 4.8/25,mb1mx4.8/29,mbtmp5.0/25,ML4.3/2,MS4.2/14,Ms1 4.2/14,ms1mx3.8/35,Error ellipse: s-maj=18.8km s-min=11.3km az=79.0

GCMT 06 21:26:20.2±0.2,7°.76S×130°.53E,h30km±1km,MW5.0/86,Moment Tensor Solution. s41,c44; s86,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr0.76±.16; Mθθ3.58±.12; Mφφ-4.34±.15; Mrθ0.43±.18; Mrφ1.60±.11; Mθφ0.24±.21; Best double couple: M0 4.30700×10^{16} NP1:φs34.00000°,δ85.00000°,λ173.00000°. NP2: φs124.00000°,δ83.00000°,λ5.00000°. Principal axes: T 3.9590, Plg8.0000°, Azm349.0000°; N 0.6990, Plg82.0000°, Azm180.0000°; P -4.6550, Plg2.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 06 21:26:20.2±0.7,7°.72S×130°.48E,h43km±6km,mb5.3/57 Error ellipse: s-maj=6.8km s-min=5.0km az=47.0

NEIC Felt [III] at Saumlaki.

DJA 06 21:26:22.8±0.2,8°S±2°×13°1E±°,h66km±3km,M5.2/73,mb5.3/73,mB5.6/49,MLv5.8/15,Mw(mB)5.1/49

ISC 06 21:26:20.2±0.3,7°.80S±0°.03×130°.48E±0°.04,h44km±2km,h44km:pP-P,n513,σ1°.60/541,mb5.2/107,MS4.3/20,22C-18D,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	0.83	102	P	Pn	21 26 36.6	+1.0
SAUI				S	Sn	21 26 51.1	+4.3
SAUI	Saumlaki	0.83	102	ePn	Pn	21 26 36.6	+1.0
SAUI				eSn	Sn	21 26 50.7	+4.0
BNDI	Bandanaira	3.31	350	P	Pn	21 27 11.7	+2.1
MSAI	Masohi	4.69	341	P	Pn	21 27 31.2	+2.7
MTN	Manton Dam	5.05	173	P	Pn	21 27 32.9	-0.6
	baz=5.1,SNR=179						
FAKI	Fak Fak	5.16	20	P	Pn	21 27 33.9	-1.1
	1μm,0.7s,12μm4.1nm						
FAKI	Fak Fak	5.16	20	ePn	Pn	21 27 33.8	-1.3
FAKI				eSn	Sn	21 28 30.4	-3.0
FAKI	Fak Fak	5.16	20	P	Pn	21 27 33.7	-1.3
	baz=5.2,SNR=87						
KMPI	Kaimana, Papua	5.22	38	P	Pn	21 27 35.8	0.0
	921nm,1.0s,32μm14nm						
NLAI	Namlea	5.64	323	P	Pn	21 27 44.3	+2.6
	758nm,0.7s,8μm2.7nm						
SOEI	Soe	6.44	252	P	Pn	21 27 54.0	+1.3
	760nm,0.9s,7μm7.4nm						
SOEI	Soe	6.44	252	ePn	Pn	21 27 53.6	+0.9
SOEI				eSn	Sn	21 29 09.1	+4.1
SOEI	Soe	6.44	252	P	Pn	21 27 53.7	+0.9
	baz=6.5,SNR=36						
SWI	Sorong	6.94	6	P	Pn	21 27 58.1	-1.3
	260nm,0.7s,7μm2.3nm						
RKPI	Ransiki, Papua	7.26	31	P	Pn	21 28 04.2	+0.4
	1μm,0.8s,21μm12nm						
SANI	Sanana	7.26	322	P	Pn	21 28 07.9	+4.1
	442nm,0.8s,5μm1.3nm						
LBMI	Labuha	7.71	337	P	Pn	21 28 13.2	+3.2
	998nm,1.7s,13μm3.7nm						
KNRA	Kununurra	8.00	192	P	Pn	21 28 13.1	-0.9
	baz=8.1,SNR=169						
MMRI	Maumere	8.20	264	P	Pn	21 28 18.3	+1.6
	358nm,0.8s,4μm						
MMRI	Maumere	8.20	264	ePn	Pn	21 28 17.5	+0.8
SRPI	Serui, Papua	8.23	45	P	Pn	21 28 19.0	+1.9
	297nm,1.0s,4μm1.3nm						
BAKI	Biak	8.64	41	P	Pn	21 28 23.6	+0.9
	375nm,0.9s,3μm						
TNTI	Ternate	9.06	340	P	Pn	21 28 30.7	+2.1
	355nm,1.4s,4μm						
TNTI	Ternate	9.06	340	ePn	Pn	21 28 29.2	+0.6
WAMI	Wamena	9.07	65	P	Pn	21 28 34.8	+6.2
	646nm,0.8s,6μm						
SMPI	Sarmi	10.03	55	P	Pn	21 28 54.5	+13
LUWI	Luwuk	10.20	311	P	Pn	21 28 50.4	+6.2
	263nm,1.0s,3μm						
LUWI	Luwuk	10.20	311	ePn	Pn	21 28 48.1	+3.9
WSI	Waingapu	10.23	259	P	Pn	21 28 45.9	+1.3
	1μm,0.7s,9μm						
WSI	Waingapu	10.23	259	⇓P	Pn	21 28 45.7	+1.1
	baz=10,SNR=5.7						
KMSI	Cibinong	10.55	322	P	Pn	21 28 53.0	+4.1
	643nm,1.0s,10μm						
BKSI	Bulukumba	10.58	283	P	Pn	21 28 53.6	+4.3
	114nm,1.3s,1μm						
BNSI	Bone	10.85	288	P	Pn	21 28 57.4	+4.3
	141nm,1.0s,2μm						
GENI	Genyem	10.95	62	P	Pn	21 28 54.6	+0.2
	184nm,1.1s,3μm						
KAPI	Kappang	11.01	284	ePn	Pn	21 28 59.5	+4.2
APSI	Ampana	11.15	307	P	Pn	21 29 03.1	+6.0
	171nm,1.1s,2μm						
GTOI	Gorontalo	11.21	318	P	Pn	21 29 05.8	+7.8
	266nm,0.9s,2μm						
SPSI	Sidrap Palu	11.31	289	P	Pn	21 29 04.3	+4.9
	125nm,1.0s,1μm						
JAY	Jayapura	11.46	63	P	Pn	21 29 01.8	+0.4
	65nm,1.0s						
JAY	Jayapura	11.46	63	Sn	Sn	21 31 01.4	-6.7
	14nm,0.3s,baz=315,slow=0.3,SNR=2.0						
JAY	Jayapura	11.46	63	P	Pn	21 29 02.0	+0.6
	baz=11,SNR=8.9						
TTSI	Tana Toraja	11.61	293	P	Pn	21 29 14.5	+11
MRSI	Marisa	11.84	314	P	Pn	21 29 10.9	+4.3
	246nm,1.0s,2μm						
WRAB	Tennant Creek	12.63	163	Pn	Pn	21 29 12.0	-5.4
	584nm,0.7s						
WRA	Warramunga Arr	12.63	163	Pn	Pn	21 29 12.4	-5.1
	8.2nm,0.3s,baz=347,slow=13,SNR=173						
WRA				Sn	Sn	21 31 26.1	-11
	31nm,0.3s,baz=339,slow=21,SNR=9.4						
WRA				LR	LR	21 35 06.4	
	comp=Z,1μm,18.8s,baz=350,slow=41						
TOLI	Toli-Toli	13.11	312	ePn	Pn	21 29 23.5	-0.5
COEN	Coen	13.88	117	ePn	Pn	21 29 30.3	-4.2
COEN				eSn	Sn	21 31 52.8	-15
SRBI	Singaraja	15.12	268	P	P	21 29 54.6	-0.9
	61nm,1.0s						
IGBI	Denpasar	15.21	265	P	P	21 30 01.8	+5.3
DAV	Davao City (W)	15.56	342	ePn	Pn	21 29 57.7	+1.0
	457nm,1.3s						
ABJI	Asem Bagus	16.09	269	P	P	21 30 09.9	+3.6
	94nm,0.8s,2μm						
ASAR	Alice Springs	16.11	169	Pn	Pn	21 29 59.3	-4.5
	3.9nm,0.3s,baz=340,slow=9.1,SNR=158						
ASAR				Sn	Sn	21 32 51.5	-10
	6.1nm,0.3s,baz=354,slow=26,SNR=6.2						
ASAR				LR	LR	21 37 12.8	
	comp=Z,1μm,18.3s,baz=341,slow=40						
AS01	Alice Springs	16.12	168	ePn	Pn	21 29 58.5	-5.5
BBKI	Banjar Baru	16.14	285	P	P	21 30 08.8	+1.9
	326nm,1.3s,4μm						
JAGI	Jajag, Banyuwa	16.18	267	P	Pn	21 30 03.9	-0.7
	68nm,0.7s						
JAGI	Jajag, Banyuwa	16.18	267	ePn	Pn	21 30 02.5	-2.2
	48nm,0.7s						
JAGI	Jajag, Banyuwa	16.18	267	⇓P	Pn	21 30 04.0	-0.7
	baz=16,SNR=12						
KMMI	Kalianget	16.39	272	P	P	21 30 09.5	-0.1
	95nm,1.2s,4μm						
PMG	Port Moresby	16.57	97	eP	Pn	21 30 09.1	-0.5
PMG				pmax	pmax		
	comp=Z,202nm,1.1s						
PMG	Port Moresby	16.57	97	Pn	Pn	21 30 08.6	-1.0
	comp=Z,2.5nm,0.3s,baz=291,slow=12,SNR=15						
PMG				Sn	Sn	21 32 59.0	-14
	comp=Z,1.4nm,0.3s,baz=0.0,slow=20,SNR=5.0						
PMG				LR	LR	21 37 08.1	
	comp=Z,1μm,21.8s,baz=260,slow=39						
PMG	Port Moresby	16.57	97	ePn	Pn	21 30 09.1	-0.5
	comp=Z,202nm,1.1s						
PMG				Sn	Sn	21 32 59.0	-14
PMG	Port Moresby	16.57	97	P	Pn	21 30 09.1	-0.5
	baz=16,SNR=18						
BLJI	Banyuglugur	16.73	269	P	Pn	21 30 10.9	-0.7
	comp=Z,120nm,0.9s,comp=Z,1μm						
MBWA	Marble Bar	16.86	217	ePn	Pn	21 30 10.1	-3.1
	comp=Z,222nm,1.4s						
GMJI	Gumukmas	16.88	267	P	Pn	21 30 13.3	-0.1
	comp=Z,50nm,1.0s						
MTSU	Mount Surprise	16.94	129	P	Pn	21 30 10.7	-3.5
	baz=17,SNR=101						
MTKI	Muara Teweh, K	16.96	293	P	P	21 30 19.0	+3.1
	comp=Z,166nm,0.9s,comp=Z,3μm						
CGP	Cagayan de Oro	17.15	340	⇑eP	Pn	21 30 15.7	-1.1
MYLDM	Lahad Datu	17.58	317	ePn	P	21 30 22.8	0.0
	comp=Z,213nm,1.1s						
MYLDM	Lahad Datu	17.58	317	⇑P	P	21 30 25.1	+2.3
GRJI	Gresik	17.87	272	P	P	21 30 34.4	+8.4
PWJI	Pagerwojo	18.50	268	P	Pn	21 30 33.2	-0.2
	comp=Z,104nm,0.8s						
SDKM	Sandakan	18.81	315	⇓P	Pn	21 30 38.1	+0.8
NGJI	Ngawi	18.86	270	P	Pn	21 30 44.6	+6.9
	comp=Z,99nm,0.9s						
PCJI	Pacitan	19.12	267	P	P	21 30 37.7	-2.0
	comp=Z,128nm,1.2s,comp=Z,2μm						
WOJI	Wonogiri, Jawa	19.37	269	P	Pn	21 30 44.5	+0.6
	comp=Z,84nm,0.8s,comp=Z,6μm						
PBKI	Pangkalan Bun	19.40	284	P	Pn	21 30 44.9	+0.7
	comp=Z,509nm,0.9s,comp=Z,3μm						
CTA	Charters Tower	19.56	130	Pn	Pn	21 30 45.6	-0.5
	comp=Z,1.0nm,0.3s,baz=301,slow=14,SNR=20						
CTA				LR	LR	21 39 56.1	
	comp=Z,681nm,19.2s,baz=316,slow=42						
CTAO	Charters Tower	19.56	130	eP	Pn	21 30 47.0	+0.8
CTAO				pmax	pmax		
	comp=Z,98nm,1.0s						
CTAO	Charters Tower	19.56	130	eP	Pn	21 30 47.0	+0.8
	comp=Z,98nm,1.0s						
UGM	Wanagama	19.77	268	P	P	21 30 46.9	0.0
	comp=Z,112nm,1.0s						
UGM	Wanagama	19.77	268	eP	P	21 30 45.9	-1.0
	comp=Z,108nm,0.9s						
UGM	Wanagama	19.77	268	P	Pn	21 30 47.8	-0.9
	baz=20,SNR=12						
KKM	Kota Kinabalu	19.79	314	eP	P	21 30 47.2	+0.1
	comp=Z,270nm,1.3s						
KKM	Kota Kinabalu	19.79	314	⇑P	P	21 30 50.3	+1.3
	baz=20,SNR=6.1						
KKM	Kota Kinabalu	19.79	314	⇑P	Pn	21 30 48.4	-0.6
KDM	Kudat	19.97	317	⇑P	Pn	21 30 51.0	0.0
STKI	Sintang	20.49	292	P	Pn	21 30 56.3	-0.9
	comp=Z,93nm,1.1s,comp=Z,42μm						
BTM	Bintulu	20.51	302	⇑P	Pn	21 30 56.3	-1.1
RCP	Roxas	20.72	338	⇑eP	P	21 30 56.4	-0.7
SBUM	Sibu	20.87	299	eP	P	21 30 58.5	-0.3
	comp=Z,58nm,0.9s						
SBUM	Sibu	20.87	299	⇓P	Pn	21 31 00.6	-1.1
KPJI	Karang Pucung	21.36	270	P	P	21 31 03.4	-0.7
	comp=Z,61nm,0.8s						
GIRL	Giralia	21.49	225	⇓P	P	21 31 07.0	+1.6
	baz=22,SNR=12						
CMJI	Cimerak	21.83	269	P	P	21 31 08.1	-1.0
	comp=Z,91nm,0.8s						
MEEK	Meekatharra	21.86	210	P	P	21 31 09.3	-0.1
	baz=22,SNR=25						
KSM	Kuching	22.13	294	eP	P	21 31 11.9	-0.4
	comp=Z,42nm,0.8s						
KSM	Kuching	22.13	294	P	P	21 31 14.1	+1.8
	baz=22,SNR=4.3						
KSM	Kuching	22.13	294	⇑P	P	21 31 13.0	+0.7
PVCP	Virac	22.17	344	eP	P	21 31 12.4	-0.3
PVCP				eS	Px	21 31 29.4	
AUQP	San Andres	22.37	340	eP	P	21 31 21.3	+6.4
CISI	Cisompet, Garu	22.46	269	P	P	21 31 13.5	-2.5
	comp=Z,92nm,0.9s						
CISI	Cisompet, Garu	22.46	269	eP	P	21 31 13.3	-2.6
	comp=Z,79nm,0.9s						
CISI				eS	S	21 35 09.8	-10
LEM	Lembang	22.70	271	P	P	21 31 17.3	-1.3
	comp=Z,54nm,0.9s						
BOAC	Boac	22.80	338	eP	P	21 31 18.6	-0.7
BOAC				eS	Px	21 31 43.1	
QLP	Quilpie	22.80	147	⇑P	P	21 31 20.7	+1.4
	baz=23,SNR=29						
FORT	Forrest	22.97	185	eP	P	21 31 17.2	-3.9
	comp=Z,189nm,0.8s						
FORT				eS	S	21 35 23.8	-4.4
FORT	Forrest	22.97	185	⇓P	P	21 31 21.7	+0.6
	baz=23,SNR=12						
CNJI	Cibinong	23.15	270	P	P	21 31 20.5	-2.6
	comp=Z,105nm,0.9s,comp=Z,1μm						
TPI	Tanjungpandan	23.27	281	P	sP	21 31 43.7	+3.1
DBJI	Dramaga	23.57	271	P	P	21 31 36.7	+10
TGY	Tagaytay City	23.73	336	P	P	21 31 27.7	-0.9
	comp=Z,86nm,0.3s,baz=250,slow=15,SNR=7.0						
SKJI	Sukabumi	23.74	270	P	P	21 31 35.5	+6.8
	comp=Z,91nm,0.8s						
CGJI	Cibinong	24.62	271	P	P	21 31 33.8	-3.0
	comp=Z,47nm,0.9s						
XMIS	Christmas Isla	24.65	262	eP	P	21 31 33.3	-3.8
	comp=Z,287nm,1.0s						
MORW	Morawa	25.15	211	P	P	21 31 42.0	+0.6
	baz=25,SNR=30						
BBOO	Buckleboo	25.42	169	eP	P	21 31 44.2	+0.3
	comp=Z,507nm,0.8s						
BBOO	Buckleboo	25.42	169	P	P	21 31 44.3	+0.5
	baz=26,SNR=27						
KASI	Kota Agung	25.90	273	P	sP	21 32 09.2	+3.8
PMBI	Palembang	26.04	279	eP	P	21 31 51.9	+2.2
	comp=Z,212nm,1.2s						
STKA	Stephens Creek	26.10	158	eP	P	21 31 50.6	+0.6
STKA				pmax	pmax		
	comp=Z,15nm,0.8s						
STKA	Stephens Creek	26.10	158	P	P	21 31 50.9	+0.9
	comp=Z,16nm,0.6s,baz=335,slow=9.1,SNR=27						
STKA				PP	PnPn	21 32 25.3	-4.5
	comp=Z,54nm,0.7s,baz=312,slow=11,SNR=5.4						
STKA				LR	LR	21 42 41.3	
	comp=Z,831nm,19.9s,baz=326,slow=37						
STKA	Stephens Creek	26.10	158	eP	P	21 31 50.6	+0.6
	comp=Z,15nm,0.8s						
STKA				PP	PnPn	21 32 25.3	-4.5
STKA	Stephens Creek	26.10	158	P	P	21 31 51.0	+0.9
	baz=26,SNR=17						
BLDU	Ballidu	26.10	208	P	P	21 31 50.9	+0.9
	baz=26,SNR=18						
EIDS	Eidsvold	26.29	134	eP	P	21 31 54.0	+2.2
	comp=Z,25nm,0.9s						
MDSI	Maura Dua	26.35	276	P	sP	21 32 09.4	0.0
KLBR	Kellerberrin	26.48	205	P	P	21 31 54.4	+1.0
	baz=27,SNR=23						
HTT	Hallett	26.67	164	P	P	21 31 56.6	+1.4
	baz=27,SNR=5.9						
CMSA	Cobar Meteorol	27.55	151	P	P	21 32 04.4	+1.4
	baz=28,SNR=15						
NWAO	Narrogin (SRO)	27.85	204	P	P	21 32 06.5	+0.7
	comp=Z,7.8nm,0.5s,baz=37,slow=8.4,SNR=13						

NWAO			LR	LR	21 42 51.8	
	comp=Z,624nm,19.0s,baz=18,slow=36					
MYKOM	Kota Tinggi	28.22 289	⇓P	P	21 32 08.8	-0.5
KGM	Kluang	28.79 289	⇑P	P	21 32 14.2	-0.2
HNR	Honiara	29.18 95	LR	LR	21 44 02.1	
	comp=Z,475nm,21.0s,baz=266,slow=36					
RKGY	Rocky Gully	29.43 203	P	P	21 32 22.5	+2.7
	baz=30,SNR=9.6					
KTGM	Kuala Trenggan	30.24 295	⇓P	P	21 32 27.1	0.0
ARPS	Mount Arapiles	30.64 162	P	P	21 32 32.2	+1.8
	baz=31,SNR=26					
IPM	Ipoh	31.82 292	⇓P	P	21 32 42.0	+0.9
MNSI	Mandailing Nat	31.97 284	P	sP	21 32 58.6	-0.9
YULB	Yu-li	32.28 344	eP	P	21 32 43.9	-1.1
	comp=Z,29nm,1.4s					
TPUB	Ta-pu	32.38 343	eP	P	21 32 44.4	-1.5
	comp=Z,232nm,0.4s					
KULM	Kulim	32.48 293	eP	P	21 32 46.0	-0.8
	comp=Z,9.1nm,0.8s					
KULM			eScP	ScP	21 39 15.5	+1.6
SSLB	Suanglung	32.75 344	eP	P	21 32 47.0	-2.2
	comp=Z,70nm,1.7s					
NACB	Ninganchiao	32.94 345	eP	P	21 32 48.9	-1.9
	comp=Z,374nm,2.9s					
PSI	Prapat	33.20 287	P	P	21 32 53.6	+0.3
	comp=Z,8.9nm,0.7s,baz=96,slow=8.8,SNR=9.4					
PSI	Prapat	33.20 287	P	P	21 32 54.6	+1.3
	baz=33,SNR=3.9					
YHNB	Yeheng	33.47 345	eP	P	21 32 53.6	-1.9
	comp=Z,357nm,2.3s					
QIZ	Qiongzhong	33.54 323	P	P	21 32 59.2	+3.1
QIZ			S	S	21 38 18.3	+2.9
QIZ			pmax	pmax		
	comp=Z,7.0nm,1.1s					
QIZ			LR	LR		
	comp=Z,370nm,16.6s					
UBPT	Khong Chiam	33.77 313	P	P	21 32 56.8	-1.3
	comp=Z,19nm,0.8s,comp=Z,793nm					
GSI	Gunungsitoli	34.04 284	P	P	21 33 09.4	+8.9
GSI	Gunungsitoli	34.04 284	eP	P	21 32 59.8	-0.8
	comp=Z,20nm,0.9s					
GSI			eScP	ScP	21 39 19.9	+0.6
JOW	Kunigami	34.49 357	P	P	21 33 04.0	-0.3
	comp=Z,4.6nm,0.5s,baz=140,slow=7.9,SNR=5.8					
JOW	Kunigami	34.49 357	eP	P	21 33 02.7	-1.5
	comp=Z,69nm,1.0s					
DZM	Mont Dzumac	37.41 116	LR	LR	21 49 10.3	
	comp=Z,370nm,20.6s,baz=295,slow=37					
SRDT	SRDT	38.11 305	P	P	21 33 43.7	+8.4
	comp=Z,38nm,1.3s,comp=Z,2µm					
UTTA	Uttaradit	38.96 311	P	P	21 33 41.3	-1.1
	comp=Z,11nm,0.8s,comp=Z,76nm					
SLVN	Son La	38.98 318	eP	P	21 33 40.0	-2.6
	comp=Z,10nm,0.9s					
SUKH	Sukhothai	39.50 310	P	P	21 33 46.4	-0.5
	comp=Z,8.2nm,0.8s,comp=Z,61nm					
LAMP	Lampang	40.13 311	P	P	21 33 51.7	-0.5
	comp=Z,7.5nm,0.8s,comp=Z,61nm					
CM01	Chiang Mai Arr	40.57 310	eP	P	21 33 54.7	-1.2
CM01			ePcP	PcP	21 35 59.4	+1.8
CM01			eScP	ScP	21 39 44.5	+0.8
CMAR	Chiang Mai Arr	40.61 310	P	P	21 33 54.9	-1.2
	comp=Z,9.5nm,0.9s,baz=142,slow=7.5,SNR=74					
CMAR			PcP	PcP	21 35 59.5	+1.8
	comp=Z,3.8nm,0.9s,baz=150,slow=4.0,SNR=4.6					
CMAR			ScP	ScP	21 39 44.3	+0.4
	comp=Z,2.2nm,0.9s,baz=151,slow=3.8,SNR=8.1					
JNU	Nakatsue	40.70 1	P	P	21 33 55.5	-1.2
	comp=Z,36nm,0.9s,baz=205,slow=1.7,SNR=11					
JNU			LR	LR	21 52 27.6	
	comp=Z,114nm,18.4s,baz=163,slow=39					
JNU	Nakatsue	40.70 1	eP	P	21 33 55.1	-1.6
	comp=Z,49nm,1.0s					
CMMT	Chiang Mai	40.82 311	P	P	21 33 56.6	-1.3
	comp=Z,31nm,0.9s					
CHTO	Chiang Mai	40.82 311	eP	P	21 33 56.7	-1.2
CHTO			pmax	pmax		
	comp=Z,19nm,0.8s					
CHTO	Chiang Mai	40.82 311	P	P	21 33 56.6	-1.3
	comp=Z,108nm,0.9s					
CHTO	Chiang Mai	40.82 311	eP	P	21 33 56.7	-1.2
	comp=Z,19nm,0.8s					
CHTO			eScP	ScP	21 39 45.6	+1.0
WHN	Wuhan	41.15 339	⇓P	P	21 34 00.0	-0.4
GYA	Guiyang	41.16 327	⇑iP	P	21 33 59.4	-1.3
GYA			pP	pP	21 34 14.0	+1.2
GYA			sP	sP	21 34 20.8	+2.9
GYA			PP	PnPn	21 35 41.7	+0.6
GYA			ScP	ScP	21 39 45.2	-0.8
GYA			S	S	21 40 12.3	+1.0
GYA			sS	sS	21 40 33.8	+2.4
GYA			SS	SS	21 43 10.5	-5.0
GYA			pmax	pmax		
	comp=Z,20nm,0.7s					
GYA			pmax	pmax		
	comp=Z,150nm,5.8s					
GYA			LR	LR		
	comp=Z,890nm,17.7s					
GYA			LR	LR		
	comp=Z,760nm,18.2s					
GYA			LR	LR		
	comp=Z,950nm,17.9s					
CMAI	Chiengmai2	41.43 312	P	P	21 34 01.8	-1.3
	comp=Z,19nm,0.8s,comp=Z,9µm					
KMI	Kunming	42.44 321	P	P	21 34 18.1	+6.8
KMI			pP	pP	21 34 27.1	+3.7
KMI			pmax	pmax		
	comp=Z,16nm,1.0s					
ENH	Enshi	42.89 333	eP	P	21 34 12.8	-1.8
	comp=Z,25nm,0.8s					
MAJO	Matsushiro	44.70 9	d iP	P	21 34 27.8	-1.3
MAJO	Matsushiro	44.70 9	eP	P	21 34 28.1	-1.0
	comp=Z,74nm,0.8s					
MAT	Matsushiro	44.70 9	P	P	21 34 27.6	-1.5
MAT			eS	S	21 41 05.4	+2.6
MJAR	Matsushiro Arr	44.70 9	P	P	21 34 27.3	-1.8
	comp=Z,50nm,0.9s,baz=188,slow=9.9,SNR=52					
KSAR	Wonju Array Be	45.07 357	P	P	21 34 31.7	-0.3
KSAR	Wonju Array Be	45.07 357	P	P	21 34 31.6	-0.3
KSRS	Korea Array	45.08 357	P	P	21 34 31.6	-0.4
	comp=Z,8.6nm,0.7s,baz=171,slow=8.8,SNR=53					
KS01	Wonju Array Si	45.11 357	eP	P	21 34 31.5	-0.8
INCN	Inchon	45.19 356	eP	P	21 34 30.6	-2.4
	comp=Z,32nm,1.1s					
CD2	Chengdu	46.23 328	eP	P	21 34 43.8	+2.5
CD2			pP	pP	21 34 55.9	+2.4
CD2			sP	sP	21 35 01.0	+2.3
CD2			PcP	PcP	21 36 18.7	+2.2
CD2			PP	PP	21 36 32.9	+2.4
CD2			PcS	PcS	21 40 12.0	+0.8
CD2			S	S	21 41 27.3	+2.2
CD2			sS	sS	21 41 47.8	+2.4
CD2			pmax	pmax		
	comp=Z,20nm,0.5s					
CD2			pmax	pmax		
	comp=Z,160nm,5.6s					
CD2			LR	LR		
	comp=Z,300nm,16.2s					
CD2			LR	LR		
	comp=Z,340nm,15.2s					
CD2			LR	LR		
	comp=Z,320nm,14.7s					
XAN	Xi'an	46.36 335	P	P	21 34 40.3	-2.0
XAN			pP	pP	21 34 49.4	-5.1
XAN			pmax	pmax		
	comp=Z,15nm,0.8s					
OUZ	Omahuta	47.96 131	eP	P	21 34 54.0	-0.8
	comp=Z,81nm,1.6s					
DCZ	Deep Cove	49.08 146	eP	P	21 34 57.3	-5.9
	comp=Z,468nm,2.9s					
BJI	Beijing	49.41 346	P	P	21 35 04.4	-1.3
BJI			pP	pP	21 35 17.7	-0.3
BJI			sP	sP	21 35 22.9	-0.2
BJI			PcP	PcP	21 36 28.1	+0.6
BJI			S	S	21 42 08.3	-1.3
BJI			pmax	pmax		
	comp=Z,62nm,0.7s					
BJI			pmax	pmax		
	comp=Z,220nm,12.4s					
SNY	Shenyang	49.79 353	⇓P	P	21 35 08.1	-0.5
SNY			pmax	pmax		
	comp=Z,24nm,0.9s					
SNY			LR	LR		
	comp=Z,250nm,5.3s					
SNY			LR	LR		
	comp=Z,160nm,5.1s					

SNY			LR	LR		
	comp=Z,270nm,16.4s					
RPZ	Rata Peaks	50.31 142	eP	P	21 35 10.6	-2.1
	comp=Z,22nm,0.9s					
LZH	Lanzhou	50.33 332	eP	P	21 35 12.6	-0.4
LZH			pP	pP	21 35 23.7	-1.6
LZH			sP	sP	21 35 27.5	-2.9
LZH			PcP	PcP	21 36 33.1	+1.8
LZH			PP	PP	21 37 05.3	-3.6
LZH			eS	S	21 42 24.3	+1.2
LZH			SS	SS	21 45 54.1	-3.3
LZH			pmax	pmax		
	comp=Z,47nm,1.0s					
LZH			pmax	pmax		
	comp=Z,190nm,5.2s					
LZH			LR	LR		
	comp=Z,470nm,18.1s					
LZH			LR	LR		
	comp=Z,640nm,18.6s					
LZH			LR	LR		
	comp=Z,1µm,19.2s					
VLA	Vladivostok	50.70 1	⇑eP	P	21 35 14.9	-0.5
VLA			pmax	pmax		
	comp=Z,42nm,0.9s					
KHZ	Kahutara	51.19 140	eP	P	21 35 18.9	-0.3
	comp=Z,190nm,1.9s					
SNZO	South Karori	51.42 138	eP	P	21 35 21.0	0.0
	comp=Z,157nm,1.5s					
HHC	Hu-ho-hao-te	51.45 342	eP	P	21 35 21.2	-0.1
HHC			pP	pP	21 35 34.1	+0.5
HHC			sP	sP	21 35 38.9	+0.2
HHC			PP	PP	21 37 21.8	+2.9
HHC			PcS	PcS	21 40 35.0	+1.9
HHC			S	S	21 42 38.6	+0.3
HHC			sS	sS	21 42 53.5	-5.4
HHC			pmax	pmax		
	comp=Z,17nm,0.7s					
HHC			pmax	pmax		
	comp=Z,98nm,7.0s					
HHC			LR	LR		
	comp=Z,490nm,16.1s					
HHC			LR	LR		
	comp=Z,460nm,16.7s					
HHC			LR	LR		
	comp=Z,420nm,15.7s					
CN2	Changchun	51.56 355	⇓P	P	21 35 21.3	-0.6
CN2			esP	sP	21 35 41.1	+1.7
CN2			eS	S	21 42 38.7	-0.8
CN2			pmax	pmax		
	comp=Z,50nm,0.6s					
CN2			pmax	pmax		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=Z,400nm,17.0s					
CN2			LR	LR		
	comp=Z,400nm,17.0s					
CN2			LR	LR		
	comp=Z,700nm,18.0s					
BKZ	Black Stump Fm	51.70 135	eP	P	21 35 24.7	+1.5
	comp=Z,21nm,0.9s					
URZ	Urewera	51.77 133	eP	P	21 35 22.4	-1.3
	comp=Z,17nm,0.9s					
USRK	Ussuriysk Arra	51.78 1	P	P	21 35 23.2	-0.3
	comp=Z,16nm,0.7s,baz=188,slow=7.6,SNR=30					
MDJ	Mudanjiang	52.18 359	P	P	21 35 26.0	-0.5
MDJ			pP	pP	21 35 36.8	-2.1
MDJ			sP	sP	21 35 41.1	-2.9
MDJ			PP	PP	21 37 23.6	-1.8
MDJ			ScP	ScP	21 40 29.7	-1.7
MDJ			PcS	PcS	21 40 35.3	-0.6
MDJ			S	S	21 42 52.1	+4.1
MDJ			pmax	pmax		
	comp=Z,38nm,0.9s					
MDJ			pmax	pmax		
	comp=Z,210nm,5.8s					
MDJ			LR	LR		
	comp=Z,100nm,5.6s					
MDJ			LR	LR		
	comp=Z,190nm,5.0s					
MDJ			LR	LR		
	comp=Z,390nm,4.4s					
MDJ	Mudanjiang	52.18 359	eP	P	21 35 25.8	-0.7
	comp=Z,34nm,0.8s					
ASAJ	Asahikawa	52.83 11	P	P	21 35 31.3	0.0
	comp=Z,29nm,1.0s,baz=234,slow=8.7,SNR=8.7					
ASAJ	Asahikawa	52.83 11	eP	P	21 35 31.2	-0.1
	comp=Z,117nm,1.5s					
LSA	Lhasa	53.10 316	eP	P	21 35 33.6	-0.6
LSA			pmax	pmax		
	comp=Z,17nm,1.0s					
LSA	Lhasa	53.10 316	eP	P	21 35 33.6	-0.6
	comp=Z,17nm,1.0s					
ODAN	Odare	54.14 311	eP	P	21 35 40.0	-1.6
	comp=Z,48nm,0.7s					
TAPN	Taplejung	54.17 312	eP	P	21 35 40.4	-1.5
	comp=Z,66nm,1.0s					
RAMN	Ramite	54.78 311	eP	P	21 35 45.5	-0.7
	comp=Z,107nm,0.9s					
JIRN	Jiri	55.47 311	eP	P	21 35 50.0	-1.3
	comp=Z,46nm,0.9s					
GUN	Gumba	55.84 311	eP	P	21 35 52.6	-1.3
	comp=Z,113nm,0.8s					
PKI	Pulchoki	56.01 311	eP	P	21 35 53.1	-2.0
	comp=Z,76nm,0.6s					
PKIN	Phulchoki	56.02 311	eP	P	21 35 53.4	-1.8
	comp=Z,24nm,0.9s					
HABR	Khabarovsk	56.18 4	eP	P	21 35 53.7	-1.8
HABR			e*PP	pP	21 36 03.6	-4.4
HABR			e*SP	sP	21 36 07.8	-5.3
HABR			e		21 36 50.8	
HABR			e*SS	sS	21 43 58.5	-4.0
HABR			e		21 45 40.0	
HABR			eSS	SS	21 47 29.9	+0.9
HABR			pmax	pmax		
	comp=Z,67nm,2.6s					
KKN	Kakani	56.22 311	eP	P	21 35 55.1	-1.4
	comp=Z,28nm,0.7s					
DMN	Daman	56.25 311	eP	P	21 35 56.0	-0.8
KLR	Kul'dur	56.80 1	eP	P	21 35 56.0	-4.0
KLR			pmax	pmax		
	comp=Z,57nm,1.6s					
GKN	Gorkha	56.81 311	eP	P	21 35 59.3	-1.4
	comp=Z,62nm,0.8s					
AFI	Afiamalu	56.93 101	LR	LR	21 58 34.6	
	comp=Z,258nm,21.9s,baz=68,slow=34					
HYB	Hyderabad	57.09 296	iP	P	21 36 10.0	+7.3
KOLN	Koldanda	57.48 310	eP	P	21 36 04.2	-1.2
	comp=Z,73nm,0.9s					
DANN	Dangsing	57.65 311	eP	P	21 36 05.5	-1.3
	comp=Z,36nm,0.7s					
PYUN	Piuthan	58.11 310	eP	P	21 36 08.9	-1.0
	comp=Z,134nm,0.6s					
ULN	Ulaanbaatar	59.17 342	c iP	P	21 36 17.0	+0.2
ULN			pmax	pmax		
	comp=Z,24nm,1.3s					
ULN	Ulaanbaatar	59.17 342	eP	P	21 36 16.9	+0.1
	comp=Z,17nm,0.8s					
SONA1	Songino Array	59.36 341	eP	P	21 36 18.0	0.0
ZAK	Zakamensk	62.57 341	⇑iP	P	21 36 39.6	-0.2
ZAK			pmax	pmax		
	comp=Z,7.0nm,1.1s					
NDI	New Delhi	62.85 308	eP	P	21 36 48.0	+6.0
TLY	Talaya	63.58 342	eP	P	21 36 47.0	+0.6
TLY			pmax	pmax		
	comp=Z,11nm,0.9s					
TLY	Talaya	63.58 342	eP	P	21 36 47.0	+0.6
	comp=Z,11nm,0.9s					
IRK	Irkutsk	63.88 342	eP	P	21 36 48.2	-0.1
IRK			pmax	pmax		
	comp=Z,43nm,1.0s					
WMQ	Urumqi	64.32 327	P	P	21 36 52.0	+0.5
WMQ			pP	pP	21 37 04.9	+0.7
WMQ			sP	sP	21 37 10.2	+1.0
WMQ			PcP	PcP	21 37 26.2	+0.4
WMQ			PP	PP	21 39 15.6	+2.1
WMQ			PcS		21 41 28.7	
WMQ			S	S	21 45 25.0	-1.5
WMQ			sS	sS	21 45 46.7	-1.0
WMQ			SS	SS	21 49 36.7	-0.4
WMQ			pmax	pmax		
	comp=Z,52nm,0.8s					
WMQ			pmax	pmax		
	comp=Z,430nm,6.0s					
WMQ			LR	LR		
	comp=Z,220nm,21.2s					

WMQ			LR	LR		
	comp=Z,200nm,21.4s					
MOY	Mondy	64.43 340	eP	P	21 36 52.3	+0.2
PEA0	Petropavlovsk-	64.94 18	eP	P	21 36 55.2	0.0
PETK	Petropavlovsk-	64.94 18	P	P	21 36 55.7	+0.5
	comp=Z,9.2nm,0.6s,baz=176,slow=4.7,SNR=11					
KSH	Kashi	68.93 318	eP	P	21 37 21.7	+0.7
KSH			esP	sP	21 37 39.5	+0.7
KSH			ePP	PP	21 39 57.8	+4.0
KSH			S	S	21 46 18.5	-4.1
KSH			SS	SS	21 50 46.7	-2.2
KSH			pmax	pmax		
	comp=Z,15nm,0.8s					
KSH			LR	LR		
	comp=Z,160nm,5.2s					
KSH			LR	LR		
	comp=Z,230nm,5.8s					
KSH			LR	LR		
	comp=Z,170nm,11.1s					
MK01	Makanchi Array	69.13 327	eP	P	21 37 22.2	+0.2
MKAR	Makanchi Array	69.15 327	c eP	P	21 37 22.2	+0.1
MKAR			pmax	pmax		
	comp=Z,43nm,0.5s					
MKAR	Makanchi Array	69.15 327	P	P	21 37 22.3	+0.1
	comp=Z,42nm,0.5s,baz=118,slow=8.1,SNR=804					
YAK	Yakutsk	69.62 360	eP	P	21 37 24.6	0.0
YAK			pmax	pmax		
	comp=Z,89nm,0.9s					
YAK	Yakutsk	69.62 360	eP	P	21 37 24.6	0.0
	comp=Z,89nm,0.9s					
FX1	Attu Island--F	70.48 26	eP	P	21 37 31.5	+1.4
FX1	Attu Island--F	70.48 26	LR	LR	22 04 45.2	
	comp=Z,57nm,21.1s,baz=246,slow=33					
FX1	Attu Island--F	70.48 26	eP	P	21 37 31.5	+1.4
KZA	Kyzart	70.69 320	iP	P	21 37 33.5	+1.3
KZA	Kyzart	70.69 320	P	P	21 37 33.5	+1.3
	SNR=16					
TKM2	Tokmak 2	70.90 321	iP	P	21 37 33.5	+0.3
TKM2	Tokmak 2	70.90 321	P	P	21 37 33.6	+0.3
	SNR=41					
TKM2	Tokmak 2	70.90 321	eP	P	21 37 34.0	+0.7
	comp=Z,24nm,0.8s					
KBK	Karagaybulak	71.18 320	iP	P	21 37 35.5	+0.7
KBK	Karagaybulak	71.18 320	P	P	21 37 35.5	+0.7
	SNR=20					
UCH	Uchtor	71.24 319	iP	P	21 37 36.8	+1.2
UCH	Uchtor	71.24 319	P	P	21 37 36.8	+1.2
	SNR=38					
AAK	Ala-Archa	71.45 320	P	P	21 37 37.2	+0.7
	comp=Z,188nm,0.8s,SNR=27					
AAK	Ala-Archa	71.45 320	c iP	P	21 37 37.2	+0.7
AAK			pmax	pmax		
	comp=Z,76nm,1.0s					
AAK	Ala-Archa	71.45 320	P	P	21 37 37.3	+0.8
	SNR=31					
AAK	Ala-Archa	71.45 320	P	P	21 37 37.6	+1.1
	comp=Z,28nm,0.9s,baz=118,slow=5.1,SNR=71					
AAK	Ala-Archa	71.45 320	eP	P	21 37 37.3	+0.7
	comp=Z,25nm,0.8s					
CHMS	Chumysh	71.47 320	iP	P	21 37 36.6	+0.2
CHMS	Chumysh	71.47 320	P	P	21 37 36.6	+0.2
	SNR=15					
VNDA	Vanda	71.60 173	eP	P	21 37 36.5	-0.1
VNDA			pmax	pmax		
	comp=Z,267nm,2.6s					
VNDA	Vanda	71.60 173	P	P	21 37 38.9	+2.3
	comp=Z,2.5nm,0.8s,baz=335,slow=7.9,SNR=5.2					
VNDA			LR	LR	22 08 18.4	
	comp=Z,170nm,18.1s,baz=332,slow=35					
VNDA	Vanda	71.60 173	eP	P	21 37 36.5	-0.1
	comp=Z,267nm,2.6s					
KBL	Kabul	71.64 310	P	P	21 37 38.3	+0.5
	baz=72,SNR=8.6					
AML	Almayashu	71.72 319	iP	P	21 37 38.9	+0.4
AML	Almayashu	71.72 319	P	P	21 37 38.8	+0.4
	SNR=47					
USP	Ospenovka	71.77 320	iP	P	21 37 38.7	+0.5
USP	Ospenovka	71.77 320	P	P	21 37 38.7	+0.5
	SNR=43					
EKS2	Erkin-Say	71.93 320	iP	P	21 37 40.2	+0.9
EKS2	Erkin-Say	71.93 320	P	P	21 37 40.2	+0.9
	SNR=37					
EKS2	Erkin-Say	71.93 320	eP	P	21 37 40.3	+0.9
	comp=Z,31nm,1.0s					
SEY	Seymchan	72.50 10	P	P	21 37 42.6	+0.5
	comp=Z,16nm,0.8s,baz=197,slow=4.3,SNR=48					
ZAA0	Zalesovo Array	72.51 334	eP	P	21 37 41.6	-0.7
ZALV	Zalesovo Beam	72.51 334	P	P	21 37 41.7	-0.6
	comp=Z,43nm,0.8s,baz=108,slow=4.8,SNR=160					
KURBB	Kurchatov Arra	73.44 328	P	P	21 37 47.9	0.0
	comp=Z,41nm,0.9s,baz=127,slow=4.7,SNR=371					
KURK	Kurchatov	73.44 329	eP	P	21 37 48.1	+0.1
KURK			pmax	pmax		
	comp=Z,40nm,1.0s					
KURK	Kurchatov	73.44 329	eP	P	21 37 48.1	+0.1
	comp=Z,40nm,1.0s					
NVS	Novosibirsk	73.79 334	⇑iP	P	21 37 48.0	-1.9
NVS			eS	SKiKP	21 47 11.6	-4.1
NVS			pmax	pmax		
	comp=N,16nm,0.9s					
NVS			pmax	pmax		
	comp=E,18nm,0.9s					
NVS			pmax	pmax		
	comp=Z,38nm,0.9s					
NVS			smax	smax		
	comp=N,9.0nm,1.7s					
NVS			smax	smax		
	comp=E,14nm,1.4s					
KKAR	Karatay Array	74.25 319	eP	P	21 37 53.2	+0.3
KKAR	Karatay Array	74.25 319	eP	P	21 37 53.2	+0.3
MAW	Mawson	74.38 202	LR	LR	22 08 55.4	
	comp=E,161nm,18.1s,baz=46,slow=34					
MAW	Mawson	74.38 202	⇓P	P	21 37 51.8	-1.4
	baz=74,SNR=11					
VOSK	Vostochnaya	78.53 328	eP	P	21 38 16.6	-0.3
VOSK			pmax	pmax		
	comp=Z,40nm,0.9s					
VOSK	Vostochnaya	78.53 328	eP	P	21 38 16.6	-0.3
	comp=Z,40nm,0.9s					
BVAR	Borovoye Array	78.99 328	P	P	21 38 19.5	+0.1
	comp=Z,43nm,0.9s,baz=132,slow=6.2,SNR=162					
BRVK	Borovoye	79.06 328	P	P	21 38 20.0	+0.2
	comp=Z,383nm,1.0s,SNR=34					
BRVK	Borovoye	79.06 328	c iP	P	21 38 19.7	-0.1
BRVK			pmax	pmax		
	comp=Z,60nm,0.9s					
BRVK	Borovoye	79.06 328	eP	P	21 38 19.9	+0.2
	comp=Z,55nm,0.9s					
IMYA	Miami	79.10 309	eP	P	21 38 20.7	0.0
TIXI	Tiksi	79.29 359	⇑eP	P	21 38 20.4	-0.2
TIXI			pmax	pmax		
	comp=Z,14nm,0.8s					
TIXI	Tiksi	79.29 359	eP	P	21 38 20.2	-0.5
	comp=Z,19nm,1.1s					
ISRO	Mashad	79.58 309	eP	P	21 38 22.7	-0.5
IMOG	Moghan	79.61 309	eP	P	21 38 23.8	+0.1
BILL	Bilibino	79.78 13	⇓eP	P	21 38 23.6	+0.2
BILL			pmax	pmax		
	comp=Z,3.0nm,0.9s					
IPAY	Payeh	79.98 309	eP	P	21 38 25.1	-0.4
IAKL	Akhelmad	80.21 309	eP	P	21 38 27.0	+0.2
IKRD	Kardeh	80.45 309	eP	P	21 38 23.6	-4.4
ISP	South Pole Qui	82.18 180	P	P	21 38 38.0	+1.5
	comp=Z,4.1nm,0.9s,baz=317,slow=2.6,SNR=8.9					
ISAD	Sadrabad	83.02 303	eP	P	21 38 41.5	-0.2
ABKAR	Akbulak array	83.43 322	eP	P	21 38 43.2	+0.1
ABKAR	Akbulak array	83.43 322	⇑P	P	21 38 43.4	+0.3
	baz=84					
GAMB	Gambell	83.48 22	eP	P	21 38 43.9	+1.0
	comp=Z,39nm,1.8s					
SDPT	Sand Point	84.74 32	eP	P	21 38 49.8	+0.2
	comp=Z,110nm,0.8s					
AKTO	Aktyubinsk	84.99 322	P	P	21 38 51.3	+0.3
	comp=Z,13nm,0.9s,baz=97,slow=6.5,SNR=44					
SVE	Sverdlovsk	85.69 329	⇓eP	P	21 38 54.8	+0.5
SVE			pmax	pmax		
	comp=Z,50nm,0.9s					
ARU	Arti	86.63 328	P	P	21 38 58.6	-0.4
	comp=Z,241nm,0.9s,SNR=16					
ARU	Arti	86.63 328	c iP	P	21 38 58.7	-0.3
ARU					21 42 19.2	
ARU			S	SKSac	21 49 22.0	0.0
ARU			pmax	pmax		
	comp=Z,43nm,1.0s					
ARU	Arti	86.63 328	eP	P	21 38 58.2	-0.8
	comp=Z,40nm,1.0s					

IRAZ Razeghan 86.84 306 eP P 21 39 01.5 +0.7
SOKR Solikamsk 88.54 331 eP P 21 39 07.5 -0.5
SOKR pmax pmax
comp=Z,30nm,1.4s
GNI Garni 91.73 310 eP P 21 39 23.2 -0.4
GNI pmax pmax
comp=Z,10.0nm,1.3s
ZEI Tsey 92.74 313 eP P 21 39 27.8 -0.5
ZEI pmax pmax
comp=Z,9.0nm,1.4s
COLD Coldfoot 93.02 23 eP P 21 39 29.4 +0.6
comp=Z,6.6nm,1.0s
KMBO Kilima Mbogo 93.05 268 P P 21 39 31.1 +0.7
comp=Z,0.9nm,0.8s,baz=46,slow=7.5,SNR=4.7
COLA College 93.48 25 eP P 21 39 30.8 -0.1
COLA pmax pmax
comp=Z,72nm,2.8s
KBZ Khabaz 93.59 313 LR LR 22 28 59.1
comp=Z,225nm,19.7s,baz=254,slow=40
IL1 Eielson Array 93.87 25 eP P 21 39 30.4 -2.3
ILAR Eielson Array 93.87 25 P P 21 39 30.9 -1.8
comp=Z,3.1nm,0.8s,baz=277,slow=4.3,SNR=29
ILB Eielson Array 93.87 25 eP P 21 39 30.3 -2.4
PRGR Permogore 94.36 332 eP P 21 39 32.5 -2.5
DOT Dot Lake 94.92 27 eP P 21 39 35.5 -2.1
comp=Z,54nm,1.6s
VRHR Novokhopersk 95.29 321 eP P 21 39 36.7 -2.8
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
EGAK Eagle 96.30 26 eP P 21 39 43.8 -0.1
comp=Z,60nm,2.0s
VORD Divnogorie 96.75 320 eP P 21 39 44.7 -1.4
VORD pmax pmax
comp=N,8.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 96.84 321 eP P 21 39 45.5 -1.1
VSR pmax pmax
comp=N,5.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
DAWY Dawson 97.02 26 eP P 21 39 45.5 -1.6
KLMR Klimovskoe 97.22 330 eP P 21 39 44.9 -3.2
KLMR pmax pmax
comp=Z,28nm,1.6s
OBN Obninsk 98.58 325⇓eP P 21 39 53.4 -0.9
OBN pmax pmax
comp=Z,18nm,2.5s
APA Apatity 99.87 337⇑iP Pdif 21 39 54.8 -5.0
APA MLR MLR
comp=Z,700nm,21.0s
BRTR Keskin Array B 100.19 309 iP Pdif 21 40 01.1 -1.0
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 100.19 309 P Pdif 21 40 00.8 -1.2
comp=Z,0.9nm,0.8s,baz=116,slow=6.0,SNR=7.0
ARCES ARCESS Array B 102.49 340 P Pdif 21 40 08.8 -2.7
comp=Z,5.1nm,1.0s,baz=78,slow=5.6,SNR=7.1
AKASG Malin Array Be 103.12 320 Pdiff Pdif 21 40 13.1 -1.5
comp=Z,1.3nm,0.8s,baz=70,slow=4.1,SNR=4.9
FINES FINESS Array B 103.69 331 PKiKP PKiKP 21 44 35.4 +0.5
comp=Z,0.9nm,0.5s,baz=119,slow=4.9,SNR=8.1
YKA Yellowknife Ar 108.26 26 Pdiff Pdif 21 40 34.3 -2.9
comp=Z,0.2nm,0.5s,baz=294,slow=5.0,SNR=4.2
YKA PKiKP PKiKP 21 44 43.7 +0.4
comp=Z,0.8nm,0.7s,baz=292,slow=1.6,SNR=16
NOA NORSAR Array B 110.70 333 Pdiff Pdif 21 40 47.0 -1.2
comp=Z,1.9nm,0.9s,baz=68,slow=4.9,SNR=4.2
NOA PKiKP PKiKP 21 44 47.9 -0.1
comp=Z,1.4nm,0.8s,baz=262,slow=3.2,SNR=4.4
NVAR Mina Array Bea 111.42 52 PKiKP PKiKP 21 44 52.6 +2.2
comp=Z,0.6nm,0.6s,baz=267,slow=1.6,SNR=5.4
CLL Collm 113.08 323 ePKIKP PKiKP 21 44 54.0 +1.2
CLL Collm 113.08 323 ePKiKP PKiKP 21 44 54.0 +1.2
GERES GERESS Array B 113.34 320 PKiKP PKiKP 21 44 53.6 +0.1
comp=Z,1.3nm,0.6s,baz=66,slow=2.4,SNR=17
HLID Hailey 113.47 46 ePKIKP PKiKP 21 44 55.8 +1.8
HLID Hailey 113.47 46 P PKiKP 21 44 55.8 +1.8
baz=113
DUG Dugway 115.33 49 ePKIKP PKPdf 21 44 58.5 +0.8
DUG Dugway 115.33 49 ePKPdf PKPdf 21 44 58.5 +0.8
DUG Dugway 115.33 49 P PKPdf 21 44 58.3 +0.6
baz=115
EGMT Eagleton 115.48 40 ePKPdf PKPdf 21 44 59.1 +1.4
EGMT Eagleton 115.48 40 P PKPdf 21 44 58.0 +0.3
baz=115
A19A Klindworth Far 115.83 39 P PKPdf 21 44 58.5 +0.2
baz=116
IMW Indian Meadow 115.84 45 ePKPdf PKPdf 21 44 56.5 -2.2
FXWY Fox Creek 115.85 45 ePKPdf PKPdf 21 44 54.7 -4.0
TPAW Teton Pass 115.94 45 ePKPdf PKPdf 21 44 56.6 -2.3
C19A Slack Wire Ran 116.02 40 P PKPdf 21 44 59.6 +0.9
baz=116
A20A Cobblestone Ra 116.36 39 P PKPdf 21 45 00.2 +1.0
baz=116
DAVOX Davos/Dischmat 116.40 319 PKP PKPdf 21 45 00.2 +0.6
comp=Z,2.1nm,0.6s
U15A North Rim 116.45 53 P PKPdf 21 45 01.7 +1.5
baz=116
PDAR Pinedale Array 117.11 46 PKP PKPdf 21 45 02.5 +1.4
comp=Z,1.8nm,0.7s,baz=279,slow=1.7,SNR=7.9
I19A Meeteetse 117.16 44 P PKPdf 21 45 02.7 +1.5
baz=117
C21A Desert Coulee 117.24 40 P PKPdf 21 45 02.4 +1.4
baz=117
WUAZ Wupatki 117.34 54 P PKPdf 21 45 03.4 +1.7
baz=117
X16A Lo Mia Camp, P 117.48 55 P PKPdf 21 45 03.8 +1.8
baz=117
CDF Champ du Feu 117.52 321 ePKIKP PKPdf 21 45 01.6 0.0
HINF Hinteralfeld 118.00 321 ePKIKP PKPdf 21 45 01.9 -0.5
comp=Z,4.2nm,0.6s
D22A Cohagen 118.05 40 P PKPdf 21 45 04.2 +1.6
baz=118
A23A Redstone 118.21 38 P PKPdf 21 45 03.8 +1.0
baz=118
HAU Haudompre 118.25 321 ePKIKP PKPdf 21 45 03.1 +0.2
B23A Brockton 118.33 39 P PKPdf 21 45 04.4 +1.4
baz=118
PV09 Paradox Valley 118.48 50 ePKPdf PKPdf 21 45 05.3 +1.3
PV10 Paradox Valley 118.58 50 ePKPdf PKPdf 21 45 05.4 +1.3
O20A White River Ci 118.75 48 P PKPdf 21 45 06.2 +1.8
baz=119
A24A Westby 118.75 38 P PKPdf 21 45 05.1 +1.2
baz=119
LPG La Plagne 118.87 318 ePKIKP PKPdf 21 45 05.2 +0.7
comp=Z,12nm,0.9s
LPL La Plagne 118.88 318 ePKIKP PKPdf 21 45 05.0 +0.6
comp=Z,6.0nm,0.6s
FCC Fort Churchill 118.88 25 ePKIKP PKPdf 21 45 03.6 -0.1
FCC Fort Churchill 118.88 25 ePKPdf PKPdf 21 45 03.5 -0.1
CABF La Chapelle 118.92 319 ePKIKP PKPdf 21 45 05.1 +0.8
comp=Z,9.0nm,0.6s
MVCO Mesa Verde 119.27 52 P PKPdf 21 45 06.9 +1.4
baz=119
ORIF Oris-en-Rattie 119.65 318 ePKIKP PKPdf 21 45 06.3 +0.5
KEST Kesra 119.69 307 PKP PKPdf 21 45 07.5 +1.4
comp=Z,2.7nm,1.0s,baz=15,slow=3.5,SNR=5.3
A26A Wade Farm, Ken 119.95 37 P PKPdf 21 45 06.2 +0.1
baz=120
LOR Lormes 120.08 321 ePKIKP PKPdf 21 45 07.0 +0.6
SMF Signal de Mont 120.34 320 ePKIKP PKPdf 21 45 06.7 -0.2
SSF Saint Saulge 120.39 321 ePKIKP PKPdf 21 45 07.7 +0.7
comp=Z,8.9nm,0.8s
S22A 4UR Ranch, Cre 120.43 51 P PKPdf 21 45 09.7 +1.9
baz=120
VIVF Saint-Julien-l 120.47 318 ePKIKP PKPdf 21 45 07.9 +0.6
comp=Z,15nm,1.0s
AVF Avril sur Loir 120.59 320 ePKIKP PKPdf 21 45 07.7 +0.3
U22A Llaves 120.75 52 P PKPdf 21 45 10.8 +2.4
baz=121
V22A San Miguel Ran 120.81 53 P PKPdf 21 45 11.0 +2.6
baz=121
121A Cookes Peak, D 120.83 57 P PKPdf 21 45 10.5 +2.0
baz=121
BGF Bois d'Agland 121.00 320 ePKIKP PKPdf 21 45 09.1 +0.9
comp=Z,9.6nm,0.6s
R23A Moffat 121.08 50 P PKPdf 21 45 10.6 +1.6
baz=121
ANMO Albuquerque 121.40 54⇓iPKIKP PKPdf 21 45 11.8 +2.2
ANMO pmax pmax
comp=Z,47nm,2.5s
V23A Ortiz Mt. (NFS 121.43 53 P PKPdf 21 45 11.9 +2.3
baz=121
G27A Dupree 121.44 41 P PKPdf 21 45 10.4 +1.2
baz=121
TCF Toulx Ste Croi 121.52 320 ePKIKP PKPdf 21 45 09.9 +0.7
comp=Z,16nm,1.0s
D28A Regan 121.56 38 P PKPdf 21 45 10.3 +1.0
baz=122
W23A Werner Place, 121.59 53 P PKPdf 21 45 11.8 +1.8
baz=122
A29A Manning Farm, 121.60 36 P PKPdf 21 45 10.2 +0.9
baz=122
E28A Huff 121.75 39 P PKPdf 21 45 10.8 +1.1
baz=122
Y23A Lovelace Mesa, 121.95 55 P PKPdf 21 45 12.5 +1.8
baz=122
A30A Hoffart Farm, 122.14 36 P PKPdf 21 45 10.8 +0.5
baz=122
V24A Rampart Ranch, 122.15 53 P PKPdf 21 45 12.8 +1.8
baz=122
W24A Lazy 6 Ranch, 122.17 53 P PKPdf 21 45 12.6 +1.5
baz=122
R25A Fountain Ranch 122.26 50 P PKPdf 21 45 12.7 +1.7
baz=122
S25A Robets Cordova 122.28 50 P PKPdf 21 45 12.6 +1.4
baz=122
H28A Mission Ridge 122.32 41 P PKPdf 21 45 11.6 +0.8
baz=122
B30A Myrvik Farm, E 122.35 36 P PKPdf 21 45 11.2 +0.5
baz=122
RJF Les Rejaudoux 122.36 319 ePKIKP PKPdf 21 45 11.9 +1.0
T25A Trinidad 122.45 51 P PKPdf 21 45 12.9 +1.4
baz=122
Y24A Capitan 122.46 55 P PKPdf 21 45 13.4 +1.8
baz=122
I28A Midland 122.48 42 P PKPdf 21 45 12.4 +1.2
baz=122
C30A Mose, Pekin 122.61 37 P PKPdf 21 45 12.0 +0.7
baz=122
V25A Rancho No Teng 122.64 52 P PKPdf 21 45 13.0 +1.1
baz=123
U25A Circle Dot Ran 122.65 52 P PKPdf 21 45 14.1 +2.1
baz=123
Z24A Sheeppen Canyo 122.65 55 P PKPdf 21 45 14.1 +2.1
baz=123
MTLF Montolieu 122.68 317 ePKIKP PKPdf 21 45 12.1 +0.6
D30A Buchanan 122.71 38 P PKPdf 21 45 12.0 +0.6
baz=123
ULM Lac du Bonnet 122.85 34 ePKIKP PKPdf 21 45 11.4 -0.2
ULM Lac du Bonnet 122.85 34 PKP PKPdf 21 45 10.7 -0.9
comp=Z,3.0nm,0.7s,baz=305,slow=2.8,SNR=6.0
ULM Lac du Bonnet 122.85 34 ePKPdf PKPdf 21 45 11.4 -0.2
MFF Saint Martin d 122.86 321 ePKIKP PKPdf 21 45 12.4 +0.7
comp=Z,14nm,0.7s
O27A Beecher Island 122.95 47 P PKPdf 21 45 13.6 +1.3
baz=123
Y25A Mesa, Roswell 123.06 55 P PKPdf 21 45 14.1 +1.4
baz=123
T26A Comanche Natio 123.06 51 P PKPdf 21 45 14.1 +1.4
baz=123
J29A Okreek 123.28 43 P PKPdf 21 45 13.6 +0.9
baz=123
V26A Tequesquite Ra 123.30 52 P PKPdf 21 45 14.1 +1.0
baz=123
R27A Eads 123.33 49 P PKPdf 21 45 14.0 +0.9
baz=123
G30A Faulkton 123.34 40 P PKPdf 21 45 13.5 +0.8
baz=123
125A Gardner Draw, 123.38 56 P PKPdf 21 45 14.9 +1.6
baz=123
226B Tecolote Peak, 123.92 57 P PKPdf 21 45 15.8 +1.4
baz=124
R28A Tribune 124.05 49 P PKPdf 21 45 16.0 +1.5
baz=124
EPF Esparros 124.06 317 ePKIKP PKPdf 21 45 15.1 +0.9
T28A Walsh 124.21 50 P PKPdf 21 45 16.3 +1.5
baz=124
S28A Manter 124.22 50 P PKPdf 21 45 16.3 +1.5
baz=124
326A Caldwell Ranch 124.25 57 P PKPdf 21 45 16.7 +1.7
baz=124
Y27A Causey 124.30 54 P PKPdf 21 45 16.5 +1.4
baz=124
Z27A Tatum 124.40 55 P PKPdf 21 45 16.7 +1.4
baz=124
526A Mary Lane Ranc 124.42 59 P PKPdf 21 45 16.7 +1.3
baz=124
626A Big Bend Ranch 124.48 60 P PKPdf 21 45 17.0 +1.5
baz=124
Q29A Oakley 124.48 48 P PKPdf 21 45 16.9 +1.7
baz=124
R29A Marienthal 124.52 48 P PKPdf 21 45 17.0 +1.7
baz=124
V28A Channing 124.53 52 P PKPdf 21 45 17.2 +1.8
baz=124
MSTX Muleshoe 124.59 54 P PKPdf 21 45 17.0 +1.4
baz=124
527A Woodward Ranch 124.81 59 P PKPdf 21 45 17.9 +1.7
baz=125
427A Hayter Ranch, 124.83 58 P PKPdf 21 45 17.7 +1.5
baz=125
TX31 Lajitas Ar. Si 124.92 60 ePKPdf PKPdf 21 45 18.0 +1.6
TXAR Lajitas Array 124.92 60 PKP PKPdf 21 45 17.6 +1.2
comp=Z,1.0nm,0.7s,baz=294,slow=0.9,SNR=8.3
627A Terlingua Ranc 125.14 59 P PKPdf 21 45 18.6 +1.8
baz=125
328A Wristen Ranch, 125.20 57 P PKPdf 21 45 18.5 +1.7
baz=125
R30A Dighton 125.21 48 P PKPdf 21 45 18.5 +1.9
baz=125
S30A Montezuma 125.28 49 P PKPdf 21 45 18.9 +2.1
baz=125
X29A Tulia 125.31 53 P PKPdf 21 45 19.0 +2.0
baz=125
P31A Stockton 125.42 47 P PKPdf 21 45 19.2 +2.2
baz=125
T30A Plains 125.43 50 P PKPdf 21 45 19.2 +2.1
baz=125
428A Kincaid Ranch, 125.46 58 P PKPdf 21 45 19.8 +2.4
baz=125
528A Cox Ranch, San 125.50 58 P PKPdf 21 45 19.1 +1.6
baz=125
Y29A Porterfield Fa 125.50 54 P PKPdf 21 45 19.2 +1.9
baz=125
U30A WK&E Inc. Balk 125.51 50 P PKPdf 21 45 19.1 +1.8
baz=125
BGNE Belgrade 125.56 44 P PKPdf 21 45 18.7 +1.5
baz=126
628A Black Gap, Mar 125.56 59 P PKPdf 21 45 19.4 +1.8
baz=126
ECSD EROS Data Cent 125.58 41 P PKPdf 21 45 18.0 +0.9
baz=126
Z29A Hungry Hill Ra 125.64 55 P PKPdf 21 45 18.4 +0.8
baz=126
R31A Burdett 125.76 48 P PKPdf 21 45 18.8 +1.1
baz=126
329A Wagon Wheel Ra 125.87 57 P PKPdf 21 45 19.6 +1.5
baz=126
O32A Brockman Farm, 125.92 45 P PKPdf 21 45 19.4 +1.5
baz=126
P32A Huiting Farm, 125.94 46 P PKPdf 21 45 19.4 +1.5
baz=126
X30A Coker Ranch, T 125.97 53 P PKPdf 21 45 19.5 +1.3
baz=126
529A Stev Forest Ra 125.99 58 P PKPdf 21 45 20.2 +1.8
baz=126
Z30A Sanderson Ranc 126.09 54 P PKPdf 21 45 19.6 +1.2
baz=126
Y30A Stafford Cattl 126.11 54 P PKPdf 21 45 20.2 +1.7
baz=126
429A Davenport Ranc 126.15 58 P PKPdf 21 45 20.0 +1.4
baz=126
Q32A Meitler Ranch, 126.21 47 P PKPdf 21 45 19.9 +1.5
baz=126
R32A Long Quarter, 126.31 48 P PKPdf 21 45 20.1 +1.4
baz=126
V31A Spring Creek L 126.37 51 P PKPdf 21 45 21.4 +2.5
baz=126
W31A Holland Ranch, 126.47 52 P PKPdf 21 45 21.8 +2.7
baz=126
230A Sterling City 126.48 56 P PKPdf 21 45 21.2 +2.0
baz=126
T32A Huddler Ranch, 126.59 49 P PKPdf 21 45 21.3 +2.0
baz=126
X31A McDonald Ranch 126.62 52 P PKPdf 21 45 21.3 +2.0
baz=126
430A Baggett Ranch, 126.66 57 P PKPdf 21 45 21.0 +1.4
baz=127
P33A Williams Farm, 126.66 46 P PKPdf 21 45 21.1 +1.8
baz=127
530A J-C Ranch, Com 126.72 58 P PKPdf 21 45 21.3 +1.5
baz=127
Q33A Connelly Farm, 126.73 47 P PKPdf 21 45 21.2 +1.8
baz=127
Z31A Sharp Cattle R 126.88 54 P PKPdf 21 45 21.5 +1.6
baz=127
R33A Olander Ranch, 126.88 47 P PKPdf 21 45 21.6 +1.9
baz=127
V32A Arapaho 127.00 51 P PKPdf 21 45 21.7 +1.7
baz=127
231A Bronte 127.12 56 P PKPdf 21 45 22.1 +1.7
baz=127
331A San Angelo 127.20 57 P PKPdf 21 45 22.1 +1.6
baz=127
431A Sonora 127.21 57 P PKPdf 21 45 22.5 +1.8
baz=127
531A Rocksprings 127.39 58 P PKPdf 21 45 23.0 +2.0
baz=127
Z32A Haskell 127.41 54 P PKPdf 21 45 23.0 +2.1
baz=127
232A Coleman 127.68 56 P PKPdf 21 45 23.1 +1.6
baz=128
332A Millersview 127.74 56 P PKPdf 21 45 23.2 +1.6
baz=128
X33A Lawton 127.81 52 P PKPdf 21 45 23.1 +1.5
baz=128
432A Menard 127.83 57 P PKPdf 21 45 23.4 +1.5
baz=128
JCT Junction City 127.93 57 ePKIKP PKPdf 21 45 21.3 -0.7
JCT Junction City 127.93 57 ePKPdf PKPdf 21 45 21.3 -0.7
JCT Junction City 127.93 57 P PKPdf 21 45 24.1 +2.1
baz=128
632A Uvalde 128.19 59 P PKPdf 21 45 24.3 +1.8
baz=128
832A Faith Ranch, C 128.31 60 P PKPdf 21 45 24.6 +1.8
baz=128
333A Richland Sprin 128.38 56 P PKPdf 21 45 23.9 +1.1
baz=128
ESDC Sonseca Array 128.41 315 PKP PKPdf 21 45 23.3 +0.6
comp=Z,0.4nm,0.7s,baz=355,slow=3.1,SNR=3.5
433A Art 128.45 57 P PKPdf 21 45 24.1 +1.1
baz=128
Y34A Reagan Ranch, 128.58 52 P PKPdf 21 45 24.6 +1.5
baz=128
234A Clairette 128.88 55 P PKPdf 21 45 26.2 +2.5
baz=129
334A Lometa 128.99 56 P PKPdf 21 45 26.1 +2.2
baz=129
434A Burnet 129.11 56 P PKPdf 21 45 26.1 +1.8
baz=129
TOA0 Torodi Ar. Sit 129.43 281 ePKPdf PKPdf 21 45 25.7 +0.5
TORD Torodi Ar. Bea 129.43 281 PKP PKPdf 21 45 25.4 +0.2
comp=Z,4.2nm,0.7s,baz=74,slow=1.7,SNR=31
034A Hebbronville 129.71 61 P PKPdf 21 45 28.2 +2.8
baz=130
SCHQ Schefferville 131.09 13 SKPbc SKPbc 21 48 47.1 -1.3
comp=Z,7.1nm,0.9s,baz=343,slow=4.7,SNR=5.1
DBIC Dimbokro 135.69 272 ePKIKP PKPdf 21 45 37.3 +0.3
DBIC Dimbokro 135.69 272 PKP PKPdf 21 45 37.6 +0.6
comp=Z,2.0nm,0.6s,baz=68,slow=2.3,SNR=5.7
DBIC SKPbc SKPbc 21 49 05.0 -0.2
comp=Z,6.9nm,0.9s,baz=87,slow=3.9,SNR=6.5
DBIC Dimbokro 135.69 272 ePKPdf PKPdf 21 45 37.3 +0.3
DBIC SKPbc SKPbc 21 49 05.0 -0.2
JTS JuntasAbangare 144.93 83 iPKIKP PKPdf 21 45 54.9 +1.1
CPUP Villa Florida 145.23 168 PKPbc PKPdf 21 45 55.8 +1.8
comp=Z,9.2nm,0.9s,baz=135,slow=1.4,SNR=7.9
LPAZ La Paz 149.80 142 PKPbc PKPbc 21 46 09.6 +2.3
comp=Z,8.1nm,1.0s,baz=195,slow=2.0,SNR=12
BB16B Bebedouro 151.33 182 eP PKPbc 21 46 10.5 +0.4
BB16B i 21 46 12.4
BB16B i 21 46 26.8

MAN 06 21:34:16, 12°.51N×120°.32E, h27km, mb4.1, ML2.9, MS2.7, Mindoro

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BUSP Coron 0.52 194 eP Pn 21 34 27.4 -0.3
BUSP eS Sn 21 34 37.1 +1.4
SJMP San Jose 0.78 94 eP Pn 21 34 31.5 +0.3
SJMP eS Sn 21 34 43.0 +1.0
LUBP Lubang 1.22 356 eP Pn 21 34 37.0 -0.3
ENPP El Nido 1.57 214 eP Pb 21 34 44.0 -0.3
CUYO Cuyo Island 1.79 158 eP Pb 21 34 51.1 +3.0

CSEM 06 21:42:38.1, 37°.14N×20°.04E, h5km, MD3.3, After ATH
ATH 06 21:42:45.6, 37°.46N×20°.26E, h35km±6km, MD3.2/5
ISC 06 21:42:43.0±1.8, 37°.33N±0°.06×20°.18E±0°.07, h11km, n42, σ1.49/54, Ionian Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VLS Valsamata 0.91 21 ePB Pg 21 42 59.5 -1.0
VLS eSN Sg 21 43 12.3 -0.1
VLS Valsamata 0.91 21 ePb Pg 21 42 59.5 -1.0
VLS eSn Sg 21 43 12.3 -0.1
AMT Artemida-Makis 1.24 80 ePN Pg 21 43 07.5 +0.7
AMT Artemida-Makis 1.24 80 ePn Pg 21 43 07.5 +0.7
RLS Riolos of Patr 1.25 54 ePN Pg 21 43 06.9 -0.3
RLS eSN Sb 21 43 22.5 -0.4
RLS Riolos of Patr 1.25 54 ePn Pg 21 43 06.9 -0.3
RLS eSn Sb 21 43 22.5 -0.4
PYL PYLOS 1.32 109 ePN Pg 21 43 09.7 +1.2
PYL PYLOS 1.32 109 ePn Pg 21 43 09.7 +1.2
ITM Ithomi 1.41 96 ePN Pg 21 43 09.7 -0.3
ITM eSN Sg 21 43 27.3 -1.0
ITM Ithomi 1.41 96 ePn Pg 21 43 09.7 -0.3
ITM eSn Sg 21 43 27.3 -1.0
LKD2 Lefkada island 1.50 14 ePN Pb 21 43 10.6 -0.4
LKD2 Lefkada island 1.50 14 ePn Pb 21 43 10.6 -0.4
LAKA Lakka 1.69 57 ePN Pg 21 43 14.4 -1.1
LAKA Lakka 1.69 57 ePn Pg 21 43 14.4 -1.1
KLV Kalavryta, Ach 1.72 65 ePG Pb 21 43 13.5 -1.2
KLV eSN Sg 21 43 39.9 +1.5
KLV Kalavryta, Ach 1.72 65 ePg Pb 21 43 13.5 -1.2
KLV eSn Sg 21 43 39.9 +1.5
EFP Efpalio 1.75 51 ePN Pb 21 43 14.9 -0.3
EFP eSN Sg 21 43 41.7 +2.3
EFP Efpalio 1.75 51 ePn Pb 21 43 14.9 -0.3
EFP eSn Sg 21 43 41.7 +2.3
GUR Goura 1.82 70 ePG Pb 21 43 15.2 -1.3
GUR Goura 1.82 70 ePg Pb 21 43 15.2 -1.3
KALE Kalithea 1.88 55 ePN Pb 21 43 16.3 -1.1
KALE eSN Sg 21 43 45.1 +1.6
KALE Kalithea 1.88 55 ePn Pb 21 43 16.3 -1.1
KALE eSn Sg 21 43 45.1 +1.6
EVR Evrytania 2.04 39 ePG Pb 21 43 19.7 -0.5
EVR Evrytania 2.04 39 ePg Pb 21 43 19.7 -0.5
DSF Desfina 2.15 59 ePN Pb 21 43 20.1 -1.9
DSF Desfina 2.15 59 ePn Pb 21 43 20.1 -1.9
IGT Igoumenitsa 2.20 3 ePN Pb 21 43 21.5 -1.4
IGT Igoumenitsa 2.20 3 ePn Pb 21 43 21.5 -1.4
MAKR Makrakomi, Fth 2.28 42 ePN Pb 21 43 21.9 -2.3
MAKR Makrakomi, Fth 2.28 42 ePn Pb 21 43 21.9 -2.3
LTK Loutraki 2.32 72 ePN Pb 21 43 22.5 -2.4
LTK Loutraki 2.32 72 ePn Pb 21 43 22.5 -2.4
AGG Agios Georgios 2.40 44 ePN Pb 21 43 23.6 -2.6
AGG Agios Georgios 2.40 44 ePn Pb 21 43 23.6 -2.6
DID Didima 2.44 85 ePN Pb 21 43 24.4 -2.6
DID Didima 2.44 85 ePn Pb 21 43 24.4 -2.6
LKR Lokris 2.59 59 ePN Pn 21 43 26.1 +1.2
LKR Lokris 2.59 59 ePn Pn 21 43 26.1 +1.2
THL Klokotos Trika 2.66 32 ePN Pn 21 43 27.3 +1.5
THL Klokotos Trika 2.66 32 ePn Pn 21 43 27.3 +1.5
FNA Florina 3.57 15 ePN Pn 21 43 39.9 +1.4
FNA Florina 3.57 15 ePn Pn 21 43 39.9 +1.4

NIED 06 22:08:00, 44°.10N×148°.40E, h35km, Mw4.4 Best double couple: $M_0$3.82000×10^{15} NP1:ϕs167.00000°, δ11.00000°, λ16.00000°. NP2:ϕs61.00000°, δ87.00000°, λ101.00000°.
SKHL 06 22:08:53.9±0.7, 44°.36N×148°.93E, h53km±9km, mb4.8/4
JMA 06 22:08:53.7±0.5, 44°.07N×148°.42E, h0km, M4.9
ISCJB 06 22:08:53.1±0.9, 44°.34N±0°.04×148°.74E±0°.07, h47km±6km,

mb4.1/33,MS3.7/3,Error ellipse: s-maj=9.8km s-min=5.7km az=34.9
*BJI **06** 22:08:53.8,44.°40N×148.°60E,h51km,mB4.9/7,mb4.3/13*
*MOS **06** 22:08:53.7±1.1,44.°41N×148.°74E,h50km,mb4.3/20,Error ellipse: s-maj=10.5km s-min=7.3km az=101.1*
*IDC **06** 22:08:55.2±2.4,44.°38N×148.°70E,h50km±21km,mb3.7/19, mb1 3.9/25,mb1mx3.9/32,mbtmp4.0/25,ML3.5/5,MS3.6/7, Ms1 3.6/7,ms1mx3.2/44,Error ellipse: s-maj=17.2km s-min=12.4km az=142.0*
ISC 06 22:08:54.0±0.8,44.°33N±0.°06×148.°76E±0.°08,h40km±7km, n153,σ0.°99/146,mb4.0/33,MS3.7/3,6C,Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 1.10 325 *e*PN **Pn 22 09 12.0 -1.0**
KUR Kuril'sk 1.10 325 *e*P **Pn 22 09 12.2 -0.8**
KUR AMB AMB 22 09 13.0
1μm,0.2s
KUR AMB AMB 22 09 13.0
850nm,0.2s
KUR AMB AMB 22 09 13.0
244nm,0.2s
KUR AMB AMB 22 09 13.6
6μm,2.0s
KUR *e*S **Sn 22 09 26.5 -0.5**
KUR A A 22 09 28.0
25μm,1.5s
KUR A A 22 09 28.0
8μm,1.5s
KUR A A 22 09 32.1
3μm,0.5s
KUR A A 22 09 32.1
5μm,0.5s
YUK Yuzh-Kuril'sk 2.10 263 *i* PN **Pn 22 09 28.6 +1.9**
YUK Yuzh-Kuril'sk 2.10 263 *e*P **Pn 22 09 28.6 +1.9**
YUK AMB AMB 22 09 31.9
90nm,0.2s
YUK AMB AMB 22 09 31.9
170nm,0.2s
YUK AMB AMB 22 09 31.9
700nm,0.2s
YUK *e*S **Sn 22 09 54.2 +2.6**
YUK A A 22 09 58.6
2μm,0.5s
YUK A A 22 09 58.6
4μm,0.5s
NEM2 Nemuro 2 2.38 247 P **Pn 22 09 30.1 -0.5**
NEM2 *e*S **Sn 22 09 57.2 -1.3**
JRA Rausu 2.65 263 P **Pn 22 09 34.7 +0.5**
JAK Akkeshi 3.23 247 P **Pn 22 09 42.4 +0.2**
JAK *e*S **Sn 22 10 18.5 -1.0**
JTKR Abashiri--Toko 3.51 266 P **Pn 22 09 47.8 +1.8**
JAR Ashorobuto 3.76 256 P **Pn 22 09 50.2 +0.8**
JKK2 Kamakawa 2 4.35 266 P **Pn 22 10 00.5 +2.9**
ASAJ Asahikawa 4.43 269 P **Pn 22 10 01.2 +2.5**
2.2nm,0.3s,baz=85,slow=11,SNR=11
ASAJ S Sn 22 11 05.8 +17
1.9nm,0.3s,baz=131,slow=20,SNR=2.6
ASAJ LR LR 22 12 00.3
comp=Z,696nm,19.1s,baz=168,slow=42
JFR Furan 4.62 258 P **Pn 22 10 03.0 +1.8**
ERM Erimo 4.71 242 *c i*PN **Pn 22 10 04.6 +2.2**
ERM Erimo 4.71 242 *e*P **Pn 22 10 04.6 +2.2**
JNBK Urakawa-nobuka 4.84 247 P **Pn 22 10 04.8 +0.5**
JNBK *e*S **Sn 22 10 57.7 -1.3**
YSS Yuzh-Sakhalins 4.96 304 *e*PN **Pn 22 10 08.0 +2.1**
YSS Yuzh-Sakhalins 4.96 304 *e*P **Pn 22 10 07.8 +1.9**
YSS *e*S **Sn 22 11 03.0 +1.0**
YSS A A 22 11 06.0
40nm,0.8s
JKB Kayabe 6.16 249 P **Pn 22 10 22.9 +0.5**
JKB *e*S **Sn 22 11 28.6 -2.9**
JOT Ohata 6.39 245 P **Pn 22 10 25.7 +0.2**
SKR Severo-Kuril's 8.07 35 *e*PN Pn 22 10 42.5 -6.1
SKR Severo-Kuril's 8.07 35 *e*rx rx 22 10 42.5
NKL Nikolayevsk 10.31 332 *e*P **Pn 22 11 22.0 +2.8**
PETK Petropavlovsk- 10.58 31 PN **Pn 22 11 23.0 +0.1**
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK MLR MLR
comp=Z,143nm,19.4s
PETK Petropavlovsk- 10.58 31 P **Pn 22 11 23.0 +0.1**
comp=Z,0.5nm,0.3s,baz=204,slow=12,SNR=6.5
PETK LR LR 22 15 14.5
comp=Z,143nm,19.4s,baz=203,slow=36
MJAR Matsushiro Arr 11.18 230 PN **Pn 22 11 30.6 -0.6**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 11.18 230 P **Pn 22 11 30.6 -0.6**
comp=Z,0.5nm,0.3s,baz=31,slow=13,SNR=11
USRK Ussuriysk Arra 12.03 275 P **Pn 22 11 44.1 +1.3**
comp=Z,0.2nm,0.3s,baz=89,slow=12,SNR=7.5
USRK LR LR 22 16 43.1
comp=Z,177nm,18.3s,baz=105,slow=39
KLR Kul'dur 12.64 299 *e*PN Pn 22 11 43.2 -7.9
KLR Kul'dur 12.64 299 *e*rx rx 22 11 43.2
EKMR Ekimchan 13.59 316 *e*P **Pn 22 12 03.4 -0.7**
EKMR AMB AMB 22 12 05.4
comp=Z,10.0nm,0.9s
BMKR Bomnak 16.53 316 *e*P **Pn 22 12 42.0 -0.7**
BMKR AMB AMB 22 12 43.3
comp=Z,4.0nm,0.8s
KSRS Korea Array 17.16 254 P **Pn 22 12 49.9 -0.8**
comp=Z,0.1nm,0.3s,baz=59,slow=13,SNR=4.0
KSRS LR LR 22 19 55.4
comp=Z,99nm,18.2s,baz=275,slow=38
JNU Nakatsue 17.84 237 LR LR 22 20 17.1
comp=Z,95nm,18.9s,baz=20,slow=38
SEY Seymchan 18.76 5 P **P 22 13 08.5 -0.8**
SEY pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 18.76 5 P **P 22 13 08.5 -0.8**
comp=Z,0.5nm,0.3s,baz=188,slow=8.7,SNR=8.1
YAK Yakutsk 20.95 334 *e*P **P 22 13 32.2 -1.0**
YAK Yakutsk 20.95 334 *e*P **P 22 13 32.1 -1.1**
BILL Bilibino 25.49 15 *e*P **P 22 14 19.7 +1.6**
BILL pmax pmax
comp=Z,17nm,3.3s
BILL MLR MLR
comp=Z,172nm,17.0s
BILL Bilibino 25.49 15 *e*P **P 22 14 19.7 +1.6**
H11N2 WAKE ISLAND Hy 28.82 143 T T 22 45 37.0
baz=335,slow=76,SNR=313
H11N1 WAKE ISLAND Hy 28.83 143 T T 22 45 44.1
baz=335,slow=76,SNR=300
H11N3 WAKE ISLAND Hy 28.83 143 T T 22 45 32.1
baz=335,slow=76,SNR=235
ULN Ulaanbaatar 28.88 292 *e*P **P 22 14 49.2 +0.2**
ULN pmax pmax
comp=Z,4.0nm,1.7s
ULN Ulaanbaatar 28.88 292 *e*P **P 22 14 49.2 +0.2**
TIK Tiksi 29.03 347 *e*P **P 22 14 49.3 -0.5**
TIXI Tiksi 29.04 347 *e*P **P 22 14 49.3 -0.6**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 29.32 292 P **P 22 14 52.3 -0.6**
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 29.32 292 P **P 22 14 52.3 -0.6**
comp=Z,0.5nm,0.5s,baz=78,slow=8.0,SNR=4.7
H11S1 WAKE ISLAND Hy 29.82 144 T T 22 46 45.9
baz=337,slow=77,SNR=476
H11S3 WAKE ISLAND Hy 29.82 144 T T 22 46 56.7
baz=337,slow=77,SNR=363
H11S2 WAKE ISLAND Hy 29.83 144 T T 22 47 03.8
baz=337,slow=77,SNR=327
COLA College 39.92 37 *e*P **P 22 16 24.3 +0.6**
COLA pmax pmax
comp=Z,68nm,3.5s
COLA College 39.92 37 *e*P **P 22 16 24.3 +0.6**
ILAR Eielson Array 40.33 37 P **P 22 16 27.0 -0.2**
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 40.33 37 P **P 22 16 27.0 -0.2**
comp=Z,1.6nm,1.0s,baz=272,slow=8.0,SNR=14
ILAR Eielson Array 40.33 37 *e*P **P 22 16 27.0 -0.2**
ZALV Zalesovo Beam 41.58 307 P **P 22 16 38.2 +0.6**
ZALV PcP PcP 22 18 33.1
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 41.58 307 P **P 22 16 38.2 +0.6**
comp=Z,0.3nm,0.3s,baz=54,slow=8.4,SNR=3.5
ZALV PcP **PcP 22 18 33.1 -1.0**
comp=Z,1.0nm,0.6s,baz=70,slow=3.4,SNR=5.4
INK Inuvik 45.31 31 P **P 22 17 07.7 +0.2**
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 45.31 31 P **P 22 17 07.7 +0.2**
comp=Z,0.9nm,0.4s,baz=289,slow=8.4,SNR=11
MKAR Makanchi Array 45.34 298 P **P 22 17 07.8 -0.3**
MKAR 22 18 46.7
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 45.34 298 P **P 22 17 07.8 -0.3**
comp=Z,1.9nm,0.8s,baz=76,slow=8.6,SNR=22
MKAR PcP **PcP 22 18 46.7 -0.3**
comp=Z,0.4nm,0.6s,baz=71,slow=4.7,SNR=2.3
MKAR Makanchi Array 45.34 298 *e*P **P 22 17 08.0 -0.1**
CMAR Chiang Mai Arr 48.80 255 P **P 22 17 35.9 +0.5**
comp=Z,0.3nm,0.4s,baz=42,slow=6.9,SNR=4.2
BRVK Borovoye 50.08 310⇑*e*P **P 22 17 45.1 +0.5**
BRVK Borovoye 50.08 310 *e*P **P 22 17 45.1 +0.5**
TAPN Taplejung 51.15 272 *e*P **P 22 17 54.0 +0.6**
ODAN Odare 51.67 272 *e*P **P 22 17 57.9 +0.6**
JIRN Jiri 52.06 273 *e*P **P 22 18 00.7 +0.4**
comp=Z,9.3nm,0.6s
GUN Gumba 52.14 274 *e*P **P 22 18 01.0 +0.2**
comp=Z,25nm,1.0s
AAK Ala-Archa 52.15 296⇑*i*P **P 22 18 00.6 0.0**
AAK pmax pmax
comp=Z,8.0nm,1.6s
AAK Ala-Archa 52.15 296 *e*P **P 22 18 00.6 0.0**
RAMN Ramite 52.19 272 *e*P **P 22 18 01.2 +0.1**
comp=Z,13nm,0.6s
KKN Kakani 52.64 274 *e*P **P 22 18 05.1 +0.7**
PKI Pulchoki 52.67 274 *e*P **P 22 18 04.7 -0.1**
comp=Z,3.9nm,0.5s
PKIN Phulchoki 52.68 274 *e*P **P 22 18 04.6 -0.2**
DMN Daman 52.87 274 *e*P **P 22 18 06.4 +0.3**
comp=Z,9.7nm,0.6s
GKN Gorkha 52.97 275 *e*P **P 22 18 07.0 +0.2**
comp=Z,12nm,0.9s
DANN Dangsing 53.40 276 *e*P **P 22 18 10.7 +0.6**
comp=Z,8.9nm,0.6s
KOLN Koldanda 53.85 275 *e*P **P 22 18 13.6 +0.3**
PYUN Piuthan 54.09 276 *e*P **P 22 18 15.4 +0.3**
comp=Z,13nm,0.4s
YKA Yellowknife Ar 54.67 34 P **P 22 18 19.0 +0.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 54.67 34 P **P 22 18 19.0 +0.5**
comp=Z,0.9nm,0.7s,baz=298,slow=6.7,SNR=17
YKA Yellowknife Ar 54.67 34 *e*P **P 22 18 19.0 +0.5**
ARCES ARCESS Array B 59.10 340 P **P 22 18 49.0 -0.8**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 59.10 340 P **P 22 18 49.0 -0.8**
comp=Z,5.5nm,1.0s,baz=40,slow=7.1,SNR=3.5
ARCES ARCESS Array B 59.10 340 *e*P **P 22 18 49.0 -0.8**
JOF Joensuu 62.11 333 *e*P **P 22 19 09.3 -1.1**
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 62.11 333 *e*p **P 22 19 09.3 -1.1**
comp=Z,2.0nm,0.7s
KAF Kangasniemi 64.31 334 *e*P **P 22 19 23.9 -1.0**
KAF Kangasniemi 64.31 334 *e*p **P 22 19 23.9 -1.0**
comp=Z,0.2nm,0.3s
FFC Flin Flon 64.54 37 *i* P **P 22 19 28.1 +1.5**
FINES FINESS Array B 64.88 333 *i* P **P 22 19 27.3 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 64.88 333 P **P 22 19 27.1 -1.6**
comp=Z,2.4nm,0.6s,baz=61,slow=5.3,SNR=16
FINES FINESS Array B 64.88 333 *e*P **P 22 19 27.3 -1.4**
WRA Warramunga Arr 65.31 195 *i* P **P 22 19 31.7 -0.2**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 65.31 195 P **P 22 19 31.2 -0.6**
comp=Z,1.3nm,0.9s,baz=16,slow=6.9,SNR=7.4
NVAR Mina Array Bea 66.29 59 P **P 22 19 38.9 +0.5**
comp=Z,0.9nm,0.6s,baz=300,slow=7.3,SNR=9.2
VSU Vasula 66.90 331 *i* P **P 22 19 42.5 +0.8**
PDAR Pinedale Array 68.65 51 P **P 22 19 53.1 -0.2**
comp=Z,0.4nm,0.6s,baz=307,slow=5.2,SNR=5.0
ASAR Alice Springs 69.02 195 P **P 22 19 56.2 +0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 69.02 195 P **P 22 19 56.2 +0.8**
comp=Z,1.0nm,0.7s,baz=12,slow=6.1,SNR=13
NB2 NORSAR Subarra 69.47 339 P **P 22 19 57.3 -0.6**
comp=Z,1.4nm,0.7s,baz=29,slow=6.5
NOA NORSAR Array B 69.47 339 P **P 22 19 57.2 -0.6**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,60nm,18.0s
NOA NORSAR Array B 69.47 339 P **P 22 19 57.2 -0.6**
comp=Z,1.7nm,0.7s,baz=31,slow=6.6,SNR=12
NOA LR LR 22 53 41.0
comp=Z,60nm,18.0s,baz=265,slow=39
KIV Kislovodsk 70.23 312 *e*P **P 22 20 03.7 +0.8**
KIV pmax pmax
comp=Z,22nm,2.0s
KIV Kislovodsk 70.23 312 *e*P P 22 20 06.7 +3.8
KBZ Khabaz 70.28 312 P **P 22 20 03.6 +0.6**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KBZ MLR MLR
comp=Z,16nm,28.6s
KBZ Khabaz 70.28 312 P **P 22 20 03.6 +0.6**
comp=Z,4.6nm,1.0s,baz=120,slow=8.1,SNR=4.8
KBZ LR LR 22 56 06.8
comp=Z,131nm,19.0s,baz=90,slow=40
ONI Oni 70.75 311 P P 22 20 00.4 -5.7
AKASG Malin Array Be 71.79 324 *ce*P **P 22 20 11.6 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.79 324 P **P 22 20 11.3 -0.7**
comp=Z,1.0nm,0.4s,baz=36,slow=6.1,SNR=9.7
KIEV Kiev 71.80 324 *e*P **P 22 20 10.8 -1.3**
KIEV Kiev 71.80 324 *e*P **P 22 20 10.8 -1.3**
OKC Ostrava-Krasne 76.81 330 *e*P **P 22 20 42.9 +1.6**
OKC Ostrava-Krasne 76.81 330 *e*P **P 22 20 42.9 +1.6**
UPC Upice 77.00 331 *e*P **P 22 20 43.5 +1.1**
UPC Upice 77.00 331 *e*P **P 22 20 43.5 +1.1**
DPC Dobruska-Polom 77.03 331 *e*P **P 22 20 43.2 +0.6**
DPC Dobruska-Polom 77.03 331 *e*P **P 22 20 43.2 +0.6**
KRLC Kraliky 77.10 331 *e*P **P 22 20 43.1 +0.1**
KRLC Kraliky 77.10 331 *e*P **P 22 20 43.1 +0.1**
CLL Collm 77.33 333⇑*i*P **P 22 20 43.7 -0.5**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 77.33 333⇑*i*P **P 22 20 43.7 -0.5**
comp=Z,9.0nm,0.8s
CLL Collm 77.33 333 *e*P **P 22 20 43.7 -0.5**
BRG Berggiesshubel 77.39 333 *e*P **P 22 20 44.8 +0.2**
comp=Z,10nm,1.7s
BRG Berggiesshubel 77.39 333 *e*P **P 22 20 44.8 +0.2**
BRG pmax pmax
comp=Z,10.0nm,1.7s
BRG Berggiesshubel 77.39 333 *e*P **P 22 20 44.8 +0.2**
PRU Pruhonice 77.95 332 *e*P **P 22 20 47.2 -0.5**
PRU Pruhonice 77.95 332 *e*P **P 22 20 47.2 -0.5**
PRU Pruhonice 77.95 332 *e*P **P 22 20 47.2 -0.5**
BRTR Keskin Array B 77.98 314 P **P 22 20 48.4 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 77.98 314 P **P 22 20 48.4 +0.2**
comp=Z,0.9nm,0.9s,baz=35,slow=3.5,SNR=3.9
KHC Kasperske Hory 79.01 332 *e*P **P 22 20 54.0 +0.4**
KHC Kasperske Hory 79.01 332 *e*P **P 22 20 54.0 +0.4**
KHC Kasperske Hory 79.01 332 *e*P **P 22 20 54.0 +0.4**
GERES GERESS Array B 79.21 332 P **P 22 20 54.5 -0.3**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 79.21 332 P **P 22 20 54.5 -0.3**
comp=Z,0.7nm,0.4s,baz=38,slow=5.8,SNR=14
TXAR Lajitas Array 81.36 57 P **P 22 21 06.9 +0.2**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 81.36 57 P **P 22 21 06.8 +0.2**
comp=Z,0.8nm,0.6s,baz=302,slow=4.2,SNR=15
CDF Champ du Feu 81.65 335 *e*P **P 22 21 07.5 -0.4**
PAGF Fort de Pagny 81.98 336 *e*P **P 22 21 08.8 -0.7**
comp=Z,1.6nm,0.6s
SMF Signal de Mont 84.25 337 *e*P **P 22 21 20.1 -1.2**
comp=Z,24nm,1.2s
AVF Avril sur Loir 84.26 337 *e*P **P 22 21 21.1 -0.2**
comp=Z,11nm,0.9s
SGMF Saint Gilles 84.42 341 *e*P **P 22 21 21.5 -0.6**
comp=Z,30nm,1.0s
LPG La Plagne 84.42 334 *e*P **P 22 21 22.1 -0.4**
BGF Bois d'Agland 84.61 337 *e*P **P 22 21 22.3 -0.8**
MBDF Montbardon 85.11 334 *e*P **P 22 21 25.0 -0.8**
comp=Z,7.2nm,0.7s
ORIF Oris-en-Rattie 85.21 335 *e*P **P 22 21 24.8 -1.4**
comp=Z,13nm,0.9s
MFF Saint Martin d 85.37 339 *e*P **P 22 21 27.0 +0.1**
H03N2 Juan Fernandez 141.80 90 T T 01 06 54.4
baz=301,slow=75,SNR=10
H03N3 Juan Fernandez 141.82 90 T T 01 06 57.2
baz=301,slow=75,SNR=12
H03N1 Juan Fernandez 141.82 90 T T 01 06 56.3
baz=301,slow=75,SNR=8.3

IDC 06 22:40:21.0±2.1,14.°24S×174.°23W,h0km,mb3.6/4, mb1 4.0/4,mb1mx3.6/35,mbtmp3.6/4,Error ellipse: s-maj=117.2km s-min=27.4km az=148.0,Samoa Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 49.34 256 P P 22 49 12.7 +0.2
baz=220,slow=7.2,SNR=10.0
ASAR Alice Springs 49.72 251 P P 22 49 15.0 -0.4
1.0nm,0.4s,baz=87,slow=7.8,SNR=26
TXAR Lajitas Array 80.64 57 P P 22 52 36.4 +0.1
0.3nm,0.8s,baz=224,slow=6.3,SNR=3.5
ILAR Eielson Array 81.47 11 P P 22 52 39.7 0.0
0.9nm,1.1s,baz=204,slow=6.5,SNR=3.9

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*IDC **06** 22:46:25.0±2.0,2.°42N×84.°02W,h0km,mb3.8/4,mb1 4.2/6, mb1mx3.8/24,mbtmp4.0/6,ML3.9/2,MS3.4/4,Ms1 3.5/4, ms1mx3.2/30,Error ellipse: s-maj=203.7km s-min=20.8km az=59.0*
ISC 06 22:46:27.5±1.2,1.°4N±0.°2×85.°7W±0.°3,h35km,n12,σ1.°53/7, mb3.8/4,Off coast of Ecuador

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JTS JuntasAbangare 8.90 5 Pn **Pn 22 48 33.6 -0.1**
0.6nm,0.3s,baz=180,slow=11,SNR=5.4
ATAH Atahualpa 11.18 139 Pn **Pn 22 49 05.8 +0.4**
4.8nm,0.3s,baz=323,slow=14,SNR=29
ATAH LR LR 22 52 52.7
comp=Z,277nm,21.7s,baz=329,slow=35
APG El Apazote 14.33 341 Pn **Pn 22 49 46.5 -1.7**
0.1nm,0.3s,baz=244,slow=23,SNR=2.6
APG LR LR 22 53 48.7
comp=Z,175nm,21.6s,baz=119,slow=32
NNA Nana 15.94 147 LR LR 22 55 32.3
comp=Z,75nm,21.4s,baz=337,slow=34
LPAZ La Paz 24.70 136 P **P 22 51 45.0 -1.3**
8.8nm,1.0s,baz=304,slow=11,SNR=19
LPAZ LR LR 23 01 55.0
comp=Z,181nm,21.6s,baz=33,slow=38
H06E1 SOCORRO T-PHAS30.15 307 T T 23 24 36.4
SNR=6.5
TXAR Lajitas Array 32.63 330 P **P 22 52 58.1 +1.8**
0.8nm,1.0s,baz=133,slow=7.9,SNR=4.8
H03N2 Juan Fernandez 35.21 170 T T 23 30 33.4
baz=348,slow=76,SNR=71
H03N1 Juan Fernandez 35.22 170 T T 23 30 35.6
baz=348,slow=76,SNR=62
H03N3 Juan Fernandez 35.23 170 T T 23 30 34.1
baz=348,slow=76,SNR=80
YKA Yellowknife Ar 64.69 346 P **P 22 57 00.8 -0.9**
0.2nm,0.7s,baz=137,slow=6.5,SNR=6.5
INK Inuvik 74.23 343 P **P 22 58 01.2 +0.8**
1.5nm,0.9s,baz=104,slow=6.9,SNR=2.7

WEL 06 23:30:26.9±0.2,44.°57S×168.°15E,h88km±1km,ML3.6/12, 3C-8D,Error ellipse: s-maj=1.7km s-min=1.1km az=90.0, South Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSZ Milford Sound 0.19 236 PN Pn 23 30 39.3 -0.2
MSZ SN Sn 23 30 49.0 0.0
MSZ AML AML 23 30 49.2
MSZ AML AML 23 30 49.2
MSZ AML AML 23 30 49.3
JCZ Jackson Bay 0.66 42 ⇓PN Pn 23 30 43.1 +0.1
JCZ SN Sn 23 30 54.5 -0.5
JCZ AML AML 23 30 55.0
WKZ Wanaka 0.67 113 ⇓PN Pn 23 30 43.2 +0.2
WKZ SN Sn 23 30 54.3 -0.7
WKZ AML AML 23 30 54.6
WKZ AML AML 23 30 55.4
WKZ AML AML 23 30 55.4
MLZ Mavora Lakes 0.78 179 ⇓PN Pn 23 30 44.2 +0.1
MLZ SN Sn 23 30 57.0 +0.1
MLZ AML AML 23 30 57.8
EAZ Earnscleugh 1.06 129 ⇓PN Pn 23 30 47.1 0.0
EAZ AML AML 23 31 01.4
EAZ AML AML 23 31 01.4
EAZ AML AML 23 31 02.3
EAZ AML AML 23 31 02.3
DCZ Deep Cove 1.15 217 PN Pn 23 30 47.8 -0.4
DCZ AML AML 23 31 05.5
DCZ AML AML 23 31 05.6
DCZ AML AML 23 31 06.0
DCZ AML AML 23 31 06.0
WHZ Wether Hill Ro 1.33 186 ⇓PN Pn 23 30 50.6 +0.1
WHZ SN Sn 23 31 07.0 -1.2
WHZ AML AML 23 31 08.2
LBZ Lake Benmore 1.47 84 PN Pn 23 30 51.9 -0.3
LBZ AML AML 23 31 09.8
LBZ AML AML 23 31 09.8
LBZ AML AML 23 31 10.0
LBZ AML AML 23 31 10.1
FOZ Fox Glacier 1.50 48 PN Pn 23 30 53.4 +0.9
FOZ AML AML 23 31 14.3
FOZ AML AML 23 31 18.0
FOZ AML AML 23 31 18.1
FOZ AML AML 23 31 18.5
ODZ Otahua Downs 1.84 106 ⇑PN Pn 23 30 56.7 -0.3
ODZ SN Sn 23 31 16.1 -3.7
SYZ Scrubby Hill 2.09 161 ⇓PN Pn 23 31 00.3 +0.1
SYZ AML AML 23 31 25.0
SYZ AML AML 23 31 25.1
SYZ AML AML 23 31 25.3
SYZ AML AML 23 31 26.9
HHSZ Highcliff Hill 2.17 128 ⇓PN Pn 23 31 01.7 +0.4
HHSZ SN Sn 23 31 24.6 -3.1
RPZ Rata Peaks 2.26 69 ⇑PN Pn 23 31 01.6 -0.9
RPZ AML AML 23 31 28.6
RPZ AML AML 23 31 28.6
WVZ Waitaha Valley 2.40 52 PN Pn 23 31 03.3 -1.0
OXZ Oxford 3.07 67 ⇓PN Pn 23 31 11.4 -2.0
MQZ McQueen's Vall 3.36 77 PN Pn 23 31 16.3 -0.9
LTZ Lake Taylor 3.48 61 ⇑PN Pn 23 31 17.2 -1.7
LTZ AML AML 23 31 58.0
THZ Tophouse 4.47 53 PN Pn 23 31 31.0 -1.4
KHZ Kahutara 4.47 63 PN Pn 23 31 30.7 -1.6
QRZ Quartz Range 4.94 42 PN Pn 23 31 38.1 -0.6
NNZ Nelson 5.10 51 PN Pn 23 31 41.0 +0.2
TUWZ Tuamarina 5.28 56 PN Pn 23 31 46.2 +2.9

IDC 06 23:32:50.0±2.4,1.°28N×127.°48E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/30,mbtmp3.3/3,Error ellipse: s-maj=212.0km s-min=24.2km az=67.0,Halmahera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 22.14 163 P P 23 37 47.8 +0.3
0.5nm,0.6s,baz=342,slow=10,SNR=3.1
ASAR Alice Springs 25.57 166 P P 23 38 20.7 -0.3
0.4nm,0.9s,baz=356,slow=8.6,SNR=3.7
MKAR Makanchi Array 59.98 326 P P 23 42 58.4 0.0
0.2nm,0.3s,baz=115,slow=8.0,SNR=12

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*ISCJB **06** 23:36:29.0±0.5,43.°43N±0.°07×144.°97E±0.°07, h134km±3km,mb3.3/7,Error ellipse: s-maj=10.8km s-min=7.8km az=169.2*
*JMA **06** 23:36:30.5±0.1,43.°41N×144.°96E,h126km±1km,M3.3*
*IDC **06** 23:36:33.1±3.6,43.°88N×144.°83E,h137km±14km,mb3.1/7,*

mb1 3.3/7, mb1mx3.1/34, mbtmp3.5/7, Error ellipse: s-maj=95.5km s-min=23.4km az=175.0
ISC 06 23:36:29.9±0.8, 43.41N±0.07×144.99E±0.05, h130km±6km, n27, σ0.54/33, mb3.4/7, Hokkaido region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
JNK Nakash 0.26 313 P Pn 23 36 48.0 +0.1
JNK eS Sn 23 37 01.3 -0.2
JAK Akkeshi 0.46 207 P Pn 23 36 49.0 +0.3
JAK eS Sn 23 37 03.0 +0.1
JRA Rausu 0.54 11 P Pn 23 36 49.5 +0.4
JRA eS Sn 23 37 03.6 -0.2
NEM2 Nemuro 2 0.55 94 P Pn 23 36 49.4 +0.2
NEM2 eS Sn 23 37 03.3 -0.5
JAR Ashorobuto 0.89 263 P Pn 23 36 52.2 +0.4
JAR eS Sn 23 37 08.4 0.0
JTKR Abashiri--Toko 0.96 306 P Pn 23 36 52.6 +0.2
JTKR eS Sn 23 37 08.8 -0.7
JOB Onbets 0.98 240 P Pn 23 36 53.1 +0.6
JOB eS Sn 23 37 09.9 +0.2
JMP Maruseppu 1.32 298 P Pn 23 36 56.1 +0.1
JMP eS Sn 23 37 15.0 -0.9
JCH Churui 1.43 237 P Pn 23 36 57.4 +0.3
JCH eS Sn 23 37 17.2 -0.7
JKK2 Kamakawa 2 1.69 287 P Pn 23 37 00.5 +0.4
JFR Furan 1.76 263 P Pn 23 37 01.2 +0.2
JFR eS Sn 23 37 25.1 +0.4
ASAJ Asahikawa 1.87 293 P Pn 23 37 03.1 +0.9
ASAJ eS Sn 23 37 27.4 +0.4
ASAJ Asahikawa 1.87 293 P Pn 23 37 02.9 +0.7
2.5nm,0.3s,baz=88,slow=12,SNR=19
ASAJ S Sn 23 37 26.3 -0.7
1.9nm,0.3s,baz=73,slow=19,SNR=7.2
JNBK Urakawa-nobuka 1.99 236 P Pn 23 37 03.3 -0.4
SONM Songino Array 27.15 293 P P 23 42 01.4 +0.5
0.8nm,0.7s,baz=92,slow=8.9,SNR=6.5
H11N2 WAKE ISLAND Hy 29.92 135 T T 00 13 43.7
baz=331,slow=76,SNR=22
H11N1 WAKE ISLAND Hy 29.93 135 T T 00 13 44.4
baz=331,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 29.94 135 T T 00 13 44.9
baz=331,slow=76,SNR=26
H11S1 WAKE ISLAND Hy 30.85 137 T T 00 14 55.5
baz=332,slow=77,SNR=56
H11S3 WAKE ISLAND Hy 30.85 137 T T 00 14 54.2
baz=332,slow=77,SNR=32
H11S2 WAKE ISLAND Hy 30.86 137 T T 00 14 55.1
baz=332,slow=77,SNR=37
ILAR Eielson Array 42.69 36 P P 23 44 13.5 +0.2
0.3nm,0.9s,baz=277,slow=9.6,SNR=5.3
MKAR Makanchi Array 43.35 297 P P 23 44 18.8 -0.1
0.3nm,0.7s,baz=78,slow=8.5,SNR=4.1
FINES FINESS Array B 64.46 332 P P 23 46 50.6 -1.2
0.9nm,0.9s,baz=92,slow=9.5,SNR=4.2
NOA NORSAR Array B 69.34 338 P P 23 47 22.6 -0.3
0.5nm,0.6s,baz=33,slow=6.4,SNR=4.8
AKASG Malin Array Be 70.91 323 P P 23 47 32.0 -0.5
0.2nm,0.4s,baz=39,slow=6.2,SNR=4.7
PDAR Pinedale Array 71.33 49 P P 23 47 36.4 +0.9
0.4nm,0.6s,baz=23,slow=0.9,SNR=4.6

IDC 06 23:39:48.0±4.0, 2.84S×130.66E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/3, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=292.9km s-min=27.2km az=71.0, Seram

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 17.37 168 P Pn 23 43 51.0 -1.0
0.4nm,0.3s,baz=349,slow=11,SNR=7.5
ASAR Alice Springs 20.94 172 P P 23 44 32.7 +0.1
3.2nm,0.7s,baz=345,slow=12,SNR=32
MKAR Makanchi Array 65.16 326 P P 23 50 31.0 +0.1
0.1nm,0.4s,baz=115,slow=6.8,SNR=4.3

NEIC 06 23:44:23.5, 53.09N×170.04W, h218km, MG3.4(AEIC), After AEIC.
IDC 06 23:44:23.9±1.9, 52.87N×165.78W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/43, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=40.7km s-min=27.9km az=179.0
ISC 06 23:44:22.6±2.6, 53.2N±0.5×170.1W±0.2, h217km±28km, n26, σ0.94/34, Fox Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NIKH Nikolski High 0.79 107 P Pn 23 44 53.1 +0.2
NIKH S S 23 45 12.5 -1.2
OKSP Okmok Steeple 1.10 87 P Pn 23 44 55.7 +1.0
OKSP S S 23 45 19.7 +0.1
OKFG Magazine Ridge 1.34 80 P Pn 23 44 56.8 +0.4
OKFG S S 23 45 22.8 +0.2
MSOM Makushin Julie 1.99 71 P Pn 23 45 02.4 +0.2
MGOD Makushin Gods 2.02 72 P Pn 23 45 02.7 +0.1
MREP Makushin Rep't 2.10 72 P Pn 23 45 04.4 +1.0
MSW Makushin Switc 2.11 69 P Pn 23 45 03.5 +0.1
UNV Unalaska Valle 2.25 72 P Pn 23 45 05.3 +0.6
UNV S S 23 45 36.3 -1.2
AKRB Akutan Reef Bi 2.58 67 P Pn 23 45 09.1 +0.8
AKRB S S 23 45 45.1 +1.3
AKMO Akutan Morgan 2.60 68 P Pn 23 45 09.9 +1.4
ZRO Akutan Zero 2.62 69 P Pn 23 45 09.6 +0.8
AKUT Akutan 2.75 68 P Pn 23 45 11.1 +0.9
WESE West Dahl East 3.51 67 P Pn 23 45 19.6 +0.6
WESN West Dahl Nort 3.54 65 P Pn 23 45 19.9 +0.4
GSMY Great Sitkin M 3.81 255 P Pn 23 45 23.6 +1.0
GSTD Great Sitkin T 3.85 255 P Pn 23 45 24.2 +1.0
GSTD S S 23 46 09.8 -0.8
SSLW Shishaldin Wes 3.87 64 P Pn 23 45 23.3 0.0
GSCK Great Sitkin C 3.88 254 P Pn 23 45 24.6 +1.1
GSCK S S 23 46 10.0 -1.1
ETKA Kagalaska Isla 4.07 253 P Pn 23 45 27.1 +1.3
ETKA S S 23 46 13.7 -1.6
ADAG Mount Adagdak 4.14 255 P Pn 23 45 28.1 +1.4
ADAG S S 23 46 17.1 +0.2
ADK Adak 4.22 254 P Pn 23 45 28.5 +0.8
ADK S S 23 46 17.8 -0.9
FALS False Pass 4.28 65 P Pn 23 45 29.1 +0.8
AMKA Amchitka 6.75 259 P Pn 23 46 00.1 +0.5
ILAR Eielson Array 16.53 36 Pn P 23 48 00.1 -0.8
0.1nm,0.3s,baz=226,slow=11,SNR=15
PDAR Pinedale Array 40.69 80 P P 23 51 46.2 +4.2
0.5nm,0.7s,baz=291,slow=2.3,SNR=5.6
TXAR Lajitas Array 53.18 89 P P 23 53 23.0 +4.5
0.4nm,0.6s,baz=301,slow=6.0,SNR=7.5

MDD 06 23:48:16.9±2.2, 37.45N×13.25W, h0km, mb4.1/2, Error ellipse: s-maj=19.1km s-min=17.2km az=101.0, PRXIMO
INMG 06 23:48:17.7±1.4, 37.33N×13.71W, h10km, ML2.2, Error ellipse: s-maj=9.1km s-min=6.6km az=95.0
IGIL 06 23:48:17.0, 37.46N×13.32W, h7km, ML2.4
CSEM 06 23:48:20.0±0.5, 37.59N×12.99W, h10km, ML2.9/5, Error ellipse: s-maj=9.6km s-min=7.7km az=105.0
ISC 06 23:48:15.0±3.5, 37.53N±0.08×13.3W±0.2, h10km, n65, σ1.57/102, Azores-Cape St. Vincent Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMAFR Mafra 3.48 65 ePn Pn 23 49 10.5 +1.4
PMAFR eSn Sn 23 49 51.6 +1.2
PMAFR A A 23 50 01.2
7.3nm,0.2s
PMAFR Mafra 3.48 65 P Pn 23 49 10.7 +1.6
0.3nm,0.1s,SNR=7.9
PMAFR S Sn 23 49 51.4 +1.0
1.9nm,0.1s,SNR=7.9
PMAFR Mafra 3.48 65 ePn Pn 23 49 10.5 +1.4
PMAFR S Sn 23 49 51.4 +1.0
1.9nm,0.1s,SNR=7.9
PFVI Vila Bisbo 3.59 95 ePn Pn 23 49 11.3 +0.5
PFVI eSn Sn 23 49 51.8 -1.5
PFVI A A 23 49 55.3
4.4nm,0.1s
PFVI Vila Bisbo 3.59 95 P Pn 23 49 11.3 +0.5
4.4nm,0.1s,SNR=10
PFVI S Sn 23 49 51.9 -1.4
18nm,0.2s,SNR=6.7
PFVI Vila Bisbo 3.59 95 P Pn 23 49 11.3 +0.5
4.4nm,0.1s,SNR=10
PFVI S Sn 23 49 51.9 -1.4
18nm,0.2s,SNR=6.7
MORF Marmelete 3.72 92 eP Pn 23 49 13.2 +0.8
MORF eS Sn 23 49 54.2 -2.1
MORF AML AML 23 49 58.7
comp=N,9.3nm,0.2s
MORF Marmelete 3.72 92 ePn Pn 23 49 13.3 +0.8
MORF eSn Sn 23 49 55.2 -1.1
MORF A A 23 49 56.7
comp=N,6.2nm,0.1s
MORF Marmelete 3.72 92 P Pn 23 49 13.3 +0.8
MORF S Sn 23 49 55.2 -1.1
comp=N,6.2nm,0.1s
MORF Marmelete 3.72 92 P Pn 23 49 13.3 +0.8
MORF S Sn 23 49 55.2 -1.1
comp=N,6.2nm,0.1s
PNCL Nicolau / Gran 3.83 80 ePn Pn 23 49 15.9 +1.9
PNCL eSn Sn 23 49 58.6 -0.5
PNCL A A 23 50 00.0
comp=N,3.0nm,0.2s
PNCL Nicolau / Gran 3.83 80 ePn Pn 23 49 15.9 +1.9
PNCL eSn Sn 23 49 58.6 -0.5
comp=N,3.0nm,0.2s
PCVE Castro Verde 4.19 87 ePn Pn 23 49 20.9 +2.0
PCVE eSn Sn 23 50 06.5 -1.4
PCVE A A 23 50 10.3
comp=N,1.8nm,0.1s
PCVE Castro Verde 4.19 87 P Pn 23 49 20.9 +2.0
PCVE S Sn 23 50 06.5 -1.4
comp=N,1.8nm,0.1s
PCVE Castro Verde 4.19 87 P Pn 23 49 20.9 +2.0
PCVE S Sn 23 50 06.5 -1.4
comp=N,1.8nm,0.1s
PBDV Barranco-do-Ve 4.29 92 ePn Pn 23 49 21.9 +1.5
PBDV eSn Sn 23 50 09.5 -1.0
PBDV A A 23 50 15.9
comp=N,3.4nm,0.2s
PBDV Barranco-do-Ve 4.29 92 P Pn 23 49 21.9 +1.5
PBDV S Sn 23 50 09.5 -1.0
comp=N,3.4nm,0.2s
PBDV Barranco-do-Ve 4.29 92 P Pn 23 49 21.9 +1.5
PBDV S Sn 23 50 09.5 -1.0
comp=N,3.4nm,0.2s
EVO Evora 4.30 75 ePn Pn 23 49 21.8 +1.3
EVO eSn Sn 23 50 10.3 -0.4
EVO A A 23 50 13.8
comp=N,4.1nm,0.1s
EVO Evora 4.30 75 P Pn 23 49 21.8 +1.3
EVO S Sn 23 50 10.3 -0.4
comp=N,4.1nm,0.1s
EVO Evora 4.30 75 P Pn 23 49 21.8 +1.3
EVO S Sn 23 50 10.3 -0.4
comp=N,4.1nm,0.1s
PVAQ Vaqueiros 4.45 90 ePn Pn 23 49 23.6 +1.1
PVAQ eSn Sn 23 50 13.3 -1.1
PVAQ A A 23 50 19.7
comp=N,3.4nm,0.1s
PVAQ Vaqueiros 4.45 90 P Pn 23 49 23.6 +1.1
PVAQ S Sn 23 50 13.3 -1.1
comp=N,3.4nm,0.1s
PVAQ Vaqueiros 4.45 90 P Pn 23 49 23.6 +1.1
PVAQ S Sn 23 50 13.3 -1.1
comp=N,3.4nm,0.1s
PCAS Casmilo, Conde 4.53 55 eSn Sn 23 50 16.4 +0.2
PCAS A A 23 50 23.8
comp=N,1.1nm,0.2s
PCAS Casmilo, Conde 4.53 55 eSn Sn 23 50 16.4 +0.2
comp=N,1.1nm,0.2s
EGRO El Granado 4.63 88 P Pn 23 49 26.2 +1.2
comp=N,1.1nm,0.1s,SNR=7.9
EGRO S Sn 23 50 17.0 -1.8
comp=N,1.2nm,0.1s,SNR=5.3
EGRO El Granado 4.63 88 P Pn 23 49 26.2 +1.2
comp=N,1.1nm,0.1s,SNR=7.9
EGRO S Sn 23 50 17.0 -1.8
comp=N,1.2nm,0.1s,SNR=5.3
PESTR Estremoz 4.70 72 eSn Sn 23 50 19.5 -1.0
PESTR A A 23 50 26.6
comp=N,1.2nm,0.3s
PESTR Estremoz 4.70 72 eSn Sn 23 50 19.5 -1.0
comp=N,1.2nm,0.3s
PBAR Barrancos 5.01 81 eSn Sn 23 50 27.1 -0.9
PBAR A A 23 50 31.1
comp=N,2.2nm,0.3s
PBAR Barrancos 5.01 81 S Sn 23 50 27.1 -0.9
comp=N,2.2nm,0.3s
PBAR Barrancos 5.01 81 S Sn 23 50 27.1 -0.9
comp=N,2.2nm,0.3s
PMRV Marv??o 5.02 66 ePn Pn 23 49 34.5 +4.2
PMRV eSn Sn 23 50 27.8 -0.6
PMRV A A 23 50 32.5
comp=N,1.5nm,0.2s
PMRV Marv??o 5.02 66 P Pn 23 49 34.5 +4.2
PMRV S Sn 23 50 27.8 -0.6
comp=N,1.5nm,0.2s
PMRV Marv??o 5.02 66 ePn Pn 23 49 34.5 +4.2
PMRV S Sn 23 50 27.8 -0.6
comp=N,1.5nm,0.2s
EBAD Badajoz 5.11 74 P Pn 23 49 33.2 +1.6
comp=N,0.1nm,0.1s,SNR=7.9
EBAD S Sn 23 50 29.6 -1.1
comp=N,0.7nm,0.1s,SNR=7.9
EBAD Badajoz 5.11 74 P Pn 23 49 33.2 +1.6
comp=N,0.1nm,0.1s,SNR=7.9
EBAD S Sn 23 50 29.6 -1.1
comp=N,0.7nm,0.1s,SNR=7.9
PCBR Castelo Branco 5.12 61 eSn Sn 23 50 30.4 -0.3
PCBR A A 23 50 34.2
comp=N,0.8nm,0.2s
PCBR Castelo Branco 5.12 61 S Sn 23 50 30.4 -0.3
comp=N,0.4nm,0.2s
PCBR Castelo Branco 5.12 61 S Sn 23 50 30.4 -0.3
comp=N,0.4nm,0.2s
EMIN Mina Concepcio 5.27 85 P Pn 23 49 34.6 +0.8
comp=N,0.1nm,0.1s,SNR=7.9
EMIN S Sn 23 50 31.8 -2.9
comp=N,0.5nm,0.1s,SNR=7.9
EMIN Mina Concepcio 5.27 85 P Pn 23 49 34.6 +0.8
comp=N,0.1nm,0.1s,SNR=7.9
EMIN S Sn 23 50 31.8 -2.9
comp=N,0.5nm,0.1s,SNR=7.9
PVIS Viseu 5.28 51 eSn Sn 23 50 34.4 -0.5
PVIS A A 23 50 38.2
comp=N,1.8nm,0.1s
PVIS Viseu 5.28 51 S Sn 23 50 34.4 -0.5
comp=N,0.9nm,0.1s
PVIS Viseu 5.28 51 S Sn 23 50 34.4 -0.5
comp=N,0.9nm,0.1s
PVRL Vila Real 5.72 47 eSn Sn 23 50 44.9 -0.9
PVRL A A 23 50 45.8
comp=N,1.8nm,0.2s
PVRL Vila Real 5.72 47 S Sn 23 50 44.9 -0.9
comp=N,0.9nm,0.2s
PVRL Vila Real 5.72 47 S Sn 23 50 44.9 -0.9
comp=N,0.9nm,0.2s
POLO Lamas de Olo 5.74 46 eSn Sn 23 50 44.1 -2.2
POLO A A 23 50 47.5
comp=N,0.4nm,0.1s
POLO Lamas de Olo 5.74 46 eSn Sn 23 50 44.1 -2.2
comp=N,0.4nm,0.1s
ELOB Lobios 5.93 41 P Pn 23 49 45.0 +2.1
comp=N,0.2nm,0.1s,SNR=7.9
ELOB S Sn 23 50 48.5 -2.4
comp=N,0.9nm,0.1s,SNR=7.9
ELOB Lobios 5.93 41 P Pn 23 49 45.0 +2.1
comp=N,0.2nm,0.1s,SNR=7.9
ELOB S Sn 23 50 48.5 -2.4
comp=N,0.9nm,0.1s,SNR=7.9
ESPR Espera 5.99 94 P Pn 23 49 45.3 +1.7
comp=N,0.5nm,0.1s,SNR=4.0
ESPR S Sn 23 50 50.2 -2.0
comp=N,0.4nm,0.1s,SNR=7.9
ESPR Espera 5.99 94 P Pn 23 49 45.3 +1.7
comp=N,0.5nm,0.1s,SNR=4.0
ESPR S Sn 23 50 50.2 -2.0
comp=N,0.4nm,0.1s,SNR=7.9
MVO Moncorvo 6.07 51 eSn Sn 23 50 52.5 -1.9
MVO A A 23 50 57.0
comp=N,1.6nm,0.2s
MVO Moncorvo 6.07 51 S Sn 23 50 52.8 -1.7
comp=N,0.8nm,0.1s,SNR=7.9
MVO Moncorvo 6.07 51 eSn Sn 23 50 52.5 -1.9
comp=N,1.6nm,0.2s
MVO S Sn 23 50 52.8 -1.7
comp=N,0.8nm,0.1s,SNR=7.9
EPLA Plasencia 6.19 64 S Sn 23 50 55.3 -1.9
comp=N,1.2nm,0.1s,SNR=7.9
EPLA Plasencia 6.19 64 S Sn 23 50 55.3 -1.9
comp=N,1.2nm,0.1s,SNR=7.9
ECAB El Cabril 6.27 83 P Pn 23 49 49.0 +1.4
comp=N,0.3nm,0.1s,SNR=6.0
ECAB S Sn 23 50 57.5 -1.8
comp=N,0.1nm,0.1s,SNR=7.9
ECAB El Cabril 6.27 83 P Pn 23 49 49.0 +1.4
comp=N,0.3nm,0.1s,SNR=6.0
ECAB S Sn 23 50 57.5 -1.8
comp=N,0.1nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.35 30 S Sn 23 50 55.6 -5.5
comp=N,0.9nm,0.1s,SNR=7.9
ECAL Calabor 6.71 47 S Sn 23 51 07.2 -3.0
comp=N,0.1nm,0.1s,SNR=5.5
ECAL Calabor 6.71 47 S Sn 23 51 07.2 -3.0
comp=N,0.1nm,0.1s,SNR=5.5

ISCJB 06 23:54:46.3±0.3, 28.85N±0.04×141.5E±0.1, h50km, mb3.8/16, Error ellipse: s-maj=17.8km s-min=3.8km az=164.4
JMA 06 23:54:46.3±0.1, 29.01N×142.10E, h57km, M4.5
IDC 06 23:54:47.5±0.5, 28.73N×141.40E, h45km±4km, mb3.5/14, mb1 3.8/16, mb1mx3.6/28, mbtmp3.8/16, Error ellipse: s-maj=21.1km s-min=6.0km az=68.0
ISC 06 23:54:47.8±0.5, 28.83N±0.06×141.6E±0.1, h50km, n33, σ1.40/45, mb3.7/16, Bonin Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CBIJ Chichi jima 1.80 163 P Pn 23 55 17.1 +0.7
CBIJ eS Sn 23 55 36.9 -1.2
JCJ Chichijima 1.80 163 P Pn 23 55 17.3 +0.8
232nm,0.3s,baz=17,slow=22,SNR=34
JCJ S Sn 23 55 37.0 -1.1
440nm,0.3s,baz=265,slow=22,SNR=22
JHHJ Haha-jima-NKT 2.25 167 P Pn 23 55 23.6 +1.0
JHHJ eS Sn 23 55 48.9 -0.2
BSO1 Boso 1 5.83 355 P Pn 23 56 11.4 +0.2
BSO3 Boso 3 6.03 351 P Pn 23 56 13.6 -0.5
JHMK Hamakita 6.80 332 P Pn 23 56 26.7 +1.8
JHU Hanno 7.27 345 P Pn 23 56 31.7 +0.3
JRY Ryogami san 7.52 343 P Pn 23 56 35.2 +0.3
JAG Ashikaga 7.79 347 P Pn 23 56 38.2 -0.3
JAG eS Sn 23 58 03.0 -2.3
JHO Hitachi 7.81 354 P Pn 23 56 37.6 -1.2
JHO eS Sn 23 58 02.1 -3.7
MJAR Matsushiro Arr 8.20 340 P Pn 23 56 45.9 +1.6
2.5nm,0.3s,baz=161,slow=12,SNR=20
MAT Matsushiro 8.21 340 P Pn 23 56 46.1 +1.9
MAT eS Sn 23 58 18.3 +2.7
JFK Kawauchi 8.54 356 P Pn 23 56 46.8 -2.0
JMK Ichinoseki 10.10 358 P Pn 23 57 09.1 -1.1
ASAJ Asahikawa 15.28 3 P Pn 23 58 18.1 -2.1
0.9nm,0.3s,baz=212,slow=20,SNR=5.3
USRK Ussuriysk Arra 17.16 336 P Pn 23 58 42.8 -1.1
0.2nm,0.3s,baz=138,slow=14,SNR=5.9
MKAR Makanchi Array 48.99 308 P P 00 03 28.5 -0.8
0.1nm,0.3s,baz=89,slow=7.5,SNR=2.8
MKAR sP sP 00 03 47.2 -1.5
0.2nm,0.6s,baz=97,slow=9.1,SNR=2.9
WRA Warramunga Arr 48.99 189 P P 00 03 28.7 -0.8
4.1nm,0.7s,baz=10.0,slow=8.3,SNR=20
KURBB Kurchatov Arra 51.47 313 P P 00 03 46.8 -1.3
0.2nm,0.5s,baz=91,slow=9.2,SNR=4.1
ASAR Alice Springs 52.72 189 P P 00 03 57.0 -0.6
0.4nm,0.5s,baz=16,slow=9.2,SNR=7.3
ASAR sP sP 00 04 15.2 -1.7
0.4nm,0.8s,baz=1.6,slow=6.5,SNR=2.5
BVAR Borovoye Array 56.43 317 P P 00 04 23.7 -0.5
0.3nm,0.5s,baz=87,slow=6.3,SNR=5.6
BVAR pP pP 00 04 36.3 -1.7
0.4nm,0.5s,baz=85,slow=6.7,SNR=3.0
BVAR sP sP 00 04 42.9 -0.8
0.7nm,0.5s,baz=98,slow=8.8,SNR=5.4
ILAR Eielson Array 56.45 29 P P 00 04 26.2 +2.1
0.5nm,0.8s,baz=274,slow=6.1,SNR=5.5
INK Inuvik 61.68 25 P P 00 05 01.4 +1.2
0.8nm,0.6s,baz=278,slow=4.1,SNR=4.7
YKA Yellowknife Ar 70.87 29 P P 00 06 00.8 +1.7
0.7nm,0.8s,baz=294,slow=6.2,SNR=11
YKA sP sP 00 06 18.0 -1.0
0.1nm,0.5s,baz=292,slow=6.6,SNR=2.0
ARCES ARCESS Array B 71.74 341 P P 00 06 04.9 +0.5
2.5nm,0.9s,baz=56,slow=7.0,SNR=3.1
JOF Joensuu 73.31 333 eP P 00 06 14.5 +0.8
0.2nm,0.3s
KAF Kangasniemi 75.69 334 eP P 00 06 28.2 +0.6
1.3nm,0.6s
FINES FINESS Array B 76.17 333 P P 00 06 30.4 +0.1
0.6nm,0.4s,baz=67,slow=4.7,SNR=10
NVAR Mina Array Bea 79.86 52 P P 00 06 52.3 +0.8
0.6nm,0.7s,baz=289,slow=6.1,SNR=7.3
NVAR sP sP 00 07 11.8 +0.3
0.4nm,0.6s,baz=297,slow=6.4,SNR=4.0
NOA NORSAR Array B 81.81 338 P P 00 07 01.9 +0.6
0.7nm,0.8s,baz=49,slow=4.8,SNR=3.3
BRTR Keskin Array B 84.45 313 P P 00 07 16.7 +1.2
0.5nm,0.7s,baz=60,slow=6.8,SNR=3.0
TXAR Lajitas Array 94.98 53 P P 00 08 07.5 +2.1
0.4nm,1.0s,baz=307,slow=3.3,SNR=3.1
LPAZ La Paz 149.93 72 PKPbc PKPbc 00 14 33.7 -0.3
1.1nm,0.6s,baz=326,slow=3.6,SNR=5.3

IDC 07 00:13:52.8±12.0, 22.32N×144.10E, h199km±96km, mb3.1/8, mb1 3.2/8, mb1mx3.0/26, mbtmp3.6/8, Error ellipse: s-maj=153.5km s-min=16.4km az=77.0, Volcano Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSRS Korea Array 20.55 321 P P 00 18 16.6 +0.6
0.9nm,0.5s,baz=145,slow=9.1,SNR=5.3
H11S3 WAKE ISLAND Hy 21.50 96 T T 00 41 20.0
baz=283,SNR=2.8
H11S1 WAKE ISLAND Hy 21.51 96 T T 00 41 20.6
baz=283
H11S2 WAKE ISLAND Hy 21.52 96 T T 00 41 23.2
baz=283
SONM Songino Array 39.41 320 P P 00 21 02.5 -0.9
0.6nm,0.9s,baz=108,slow=7.0,SNR=4.1
WRA Warramunga Arr 43.08 194 P P 00 21 33.2 -0.2
0.2nm,0.3s,baz=16,slow=9.5,SNR=5.7
ASAR Alice Springs 46.78 193 P P 00 22 02.4 -0.1
0.2nm,0.4s,baz=9.4,slow=6.8,SNR=4.2
ZALV Zalesovo Beam 54.25 321 P P 00 22 57.9 -0.1
0.5nm,0.4s,baz=107,slow=7.0,SNR=4.3
MKAR Makanchi Array 54.90 312 P P 00 23 02.6 -0.2
0.2nm,0.3s,baz=88,slow=9.0,SNR=9.1
MKAR PcP PcP 00 24 02.2 -0.2
0.2nm,0.5s,baz=63,slow=5.9,SNR=4.2
BVAR Borovoye Array 62.75 319 P P 00 23 57.1 +0.3
1.3nm,0.5s,baz=95,slow=7.5,SNR=17
JOF Joensuu 80.12 335 eP P 00 25 40.9 +0.6
2.0nm,0.8s
FINES FINESS Array B 82.98 335 P P 00 25 55.1 -0.2
0.3nm,0.3s,baz=57,slow=5.1,SNR=3.8

ISCJB 07 00:16:32.5±0.6, 46.80N±0.08×152.5E±0.1, h67km, mb3.7/17, Error ellipse: s-maj=14.5km s-min=5.4km az=141.1
MOS 07 00:16:33.1±1.5, 46.88N×152.58E, h74km, mb4.3/11, Error ellipse: s-maj=13.6km s-min=9.3km az=65.7
SKHL 07 00:16:33.9±0.3, 47.01N×152.48E, h80km±4km, mb4.7/3, mbh5.5/3
IDC 07 00:16:35.3±2.7, 46.79N×152.39E, h79km±23km, mb3.4/15, mb1 3.6/18, mb1mx3.5/45, mbtmp3.7/18, MS3.3/1, Ms1 3.3/1, ms1mx2.6/20, Error ellipse: s-maj=19.9km s-min=13.7km az=137.0
ISC 07 00:16:34.2±0.7, 46.72N±0.10×152.54E±0.09, h67km, n70, σ1.19/60, mb3.6/17, 1C-2D, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 3.58 247 ⇑iPN Pn 00 17 28.2 +0.9
KUR i 00 18 09.4
KUR pmax pmax
comp=Z,100nm,0.5s
KUR pmax pmax
comp=E,30nm,0.2s
KUR pmax pmax
comp=N,59nm,0.1s
KUR pmax pmax

comp=Z,10μm,0.1s
KUR pmax pmax
comp=N,243nm,0.5s
KUR Kuril'sk 3.58 247 *e*P **Pn 00 17 28.0 +0.7**
KUR AMB AMB 00 17 28.5
comp=N,120nm,0.5s
KUR *e*S **Sn 00 18 08.8 +0.4**
KUR A A 00 18 24.5
comp=N,370nm,0.8s
KUR A A 00 18 24.5
comp=N,270nm,0.8s
SKR Severo-Kuril's 4.62 30 *e*PN Pn 00 17 36.9 -4.5
SKR pmax pmax
comp=Z,50nm,0.5s
SKR Severo-Kuril's 4.62 30 *e*P Pn 00 17 36.9 -4.5
SKR AMB AMB 00 17 37.9
comp=Z,50nm,0.5s
SKR *e*S Sn 00 18 24.0 -10
SKR A A 00 18 31.5
comp=Z,80nm,0.5s
SHO Shikotan 4.94 237 *e*P **Pn 00 17 47.9 +2.1**
SHO *e*S **Sn 00 18 41.6 +0.1**
SHO A A 00 18 46.0
comp=Z,200nm,0.8s
SHO A A 00 18 46.0
comp=Z,130nm,0.8s
YUK Yuzh-Kuril'sk 5.42 243 *d i*PN Pn 00 18 02.2 +10
YUK pmax pmax
comp=N,40nm,0.1s
YUK pmax pmax
comp=Z,34nm,0.1s
YSS Yuzh-Sakhalins 6.72 276 *e*PN **Pn 00 18 13.2 +3.1**
YSS Yuzh-Sakhalins 6.72 276 *e*P **Pn 00 18 10.7 +0.6**
YSS AMB AMB 00 18 14.4
comp=Z,30nm,1.0s
YSS *e*rx rx 00 18 31.2
PETK Petropavlovsk- 7.21 26 PN **Pn 00 18 16.9 +0.1**
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 7.21 26 P **Pn 00 18 16.9 +0.1**
comp=Z,0.6nm,0.3s,baz=194,slow=13,SNR=7.9
HRK Horoka 7.41 247 *e*P **Pn 00 18 19.8 +0.1**
ASAJ Asahikawa 7.47 253 PN **Pn 00 18 21.2 +0.8**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 7.47 253 P **Pn 00 18 21.2 +0.8**
comp=Z,0.9nm,0.3s,baz=90,slow=15,SNR=5.0
ERM Erimo 8.21 238 *e*PN **Pn 00 18 32.4 +1.9**
ERM Erimo 8.21 238 *e*P **Pn 00 18 32.4 +1.9**
EKMR Ekimchan 14.11 304 *e*rx rx 00 19 54.2
USRK Ussuriysk Arra 14.64 268 P **Pn 00 19 57.5 -0.1**
comp=Z,0.3nm,0.3s,baz=75,slow=12,SNR=2.6
MAJO Matsushiro 14.75 232 *e*P **P 00 20 03.4 -0.1**
YAK Yakutsk 20.13 328 *e*P Pn 00 21 04.2 -0.6
YAK Yakutsk 20.13 328 *e*P Pn 00 21 04.2 -0.6
KSRS Korea Array 20.41 252 *e*P Pn 00 21 09.4 +1.0
KSRS Korea Array 20.41 252 P **P 00 21 05.8 +0.1**
comp=Z,1.5nm,0.6s,baz=67,slow=9.8,SNR=8.0
BILL Bilibino 22.51 13 *e*P **P 00 21 30.8 +2.9**
H11N2 WAKE ISLAND Hy 29.38 152 T T 00 53 50.3
baz=342,slow=76,SNR=646
H11N1 WAKE ISLAND Hy 29.39 152 T T 00 53 50.5
baz=342,slow=76,SNR=418
H11N3 WAKE ISLAND Hy 29.39 152 T T 00 53 52.2
baz=342,slow=76,SNR=342
H11S1 WAKE ISLAND Hy 30.46 153 T T 00 55 10.7
baz=343,slow=78,SNR=490
H11S3 WAKE ISLAND Hy 30.47 153 T T 00 55 14.2
baz=343,slow=78,SNR=442
H11S2 WAKE ISLAND Hy 30.48 153 T T 00 55 11.9
baz=343,slow=78,SNR=515
TLY Talaya 31.84 297 *i* P **P 00 22 52.1 -0.4**
TLY Talaya 31.84 297 *e*P **P 00 22 52.1 -0.4**
ILAR Eielson Array 36.81 39 *e*P **P 00 23 35.5 +0.3**
ILAR Eielson Array 36.81 39 P **P 00 23 34.8 -0.4**
comp=Z,0.3nm,0.7s,baz=265,slow=6.7,SNR=7.2
ILAR Eielson Array 36.81 39 *e*P **P 00 23 35.6 +0.3**
INK Inuvik 41.88 32 P **P 00 24 17.3 0.0**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 41.88 32 P **P 00 24 17.3 0.0**
comp=Z,0.6nm,0.5s,baz=295,slow=5.0,SNR=5.0
ZALV Zalesovo Beam 42.31 306 LR LR 00 42 45.2
comp=Z,41nm,21.1s,baz=64,slow=37
MKAR Makanchi Array 46.60 297 P **P 00 24 53.7 -1.7**
MKAR *PP **pP 00 25 15.3 +3.0**
MKAR 00 26 27.6
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 46.60 297 P **P 00 24 53.7 -1.7**
comp=Z,0.6nm,0.7s,baz=68,slow=7.7,SNR=7.9
MKAR pP **pP 00 25 15.3 +3.0**
comp=Z,0.5nm,0.9s,baz=72,slow=9.3,SNR=3.8
MKAR PcP **PcP 00 26 27.6 -0.8**
comp=Z,0.2nm,0.5s,baz=56,slow=3.2,SNR=4.1
KURK Kurchatov 47.05 303 *e*P **P 00 24 58.2 -0.6**
BVAR Borovoye Array 50.57 309 P **P 00 25 24.2 -1.5**
comp=Z,0.3nm,0.6s,baz=44,slow=6.9,SNR=2.9
BVAR PcP **PcP 00 26 42.2 -0.4**
comp=Z,0.4nm,0.3s,baz=80,slow=3.7,SNR=5.2
BRVK Borovoye 50.61 309⇓*e*P **P 00 25 25.1 -0.9**
BRVK pmax pmax
comp=Z,3.0nm,1.3s
BRVK Borovoye 50.61 309 *e*P **P 00 25 25.1 -0.9**
YKA Yellowknife Ar 51.18 37 P **P 00 25 29.9 -0.2**
comp=Z,0.1nm,0.4s,baz=303,slow=7.5,SNR=3.4
YKA PcP **PcP 00 26 44.1 -0.5**
comp=Z,0.1nm,0.5s,baz=305,slow=3.2,SNR=3.7
AAK Ala-Archa 53.49 296 *e*P **P 00 25 48.0 +0.3**
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 53.49 296 *e*P **P 00 25 48.1 +0.3**
FINES FINESS Array B 63.90 335 P **P 00 26 58.4 -1.0**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 63.90 335 P **P 00 26 58.4 -1.0**
comp=Z,1.2nm,0.4s,baz=43,slow=6.1,SNR=16
PDAR Pinedale Array 65.08 54 P **P 00 27 08.2 +0.4**
comp=Z,0.6nm,0.9s,baz=316,slow=5.0,SNR=4.0
OBN Obninsk 65.11 325 *i* P **P 00 27 05.9 -1.5**
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 65.11 325 *e*P **P 00 27 05.9 -1.5**
NB2 NORSAR Subarra 68.13 341 P **P 00 27 25.7 -0.9**
comp=Z,0.6nm,0.5s,baz=27,slow=6.5
NOA NORSAR Array B 68.13 341 *e*P **P 00 27 25.9 -0.7**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 68.13 341 P **P 00 27 25.9 -0.7**
comp=Z,1.1nm,0.6s,baz=29,slow=6.5,SNR=14
HFS Hagfors 68.34 339 P **P 00 27 27.0 -0.9**
HFS pmax pmax
comp=Z,2.0nm,0.4s
HFS Hagfors 68.34 339 P **P 00 27 27.0 -0.9**
comp=Z,1.8nm,0.4s,baz=46,slow=6.2,SNR=24
HFS Hagfors 68.34 339 *e*P **P 00 27 27.0 -0.9**
WRA Warramunga Arr 68.36 198 P **P 00 27 27.5 -1.0**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 68.36 198 P **P 00 27 27.5 -1.0**
comp=Z,0.5nm,0.8s,baz=19,slow=7.1,SNR=3.4
AKASG Malin Array Be 71.35 326 *e*P **P 00 27 45.4 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 71.35 326 P **P 00 27 45.4 -1.1**
comp=Z,1.0nm,0.3s,baz=35,slow=6.2,SNR=4.6
ASAR Alice Springs 72.06 198 P **P 00 27 51.1 +0.1**
comp=Z,0.4nm,0.7s,baz=13,slow=5.1,SNR=7.3
TXAR Lajitas Array 77.85 60 P **P 00 28 25.2 +0.6**
comp=Z,0.3nm,0.5s,baz=297,slow=4.2,SNR=5.4
TXAR Lajitas Array 77.85 60 P **P 00 28 25.4 +0.8**
GERES GERESS Array B 78.31 334 *e*P **P 00 28 26.2 -0.7**
GERES GERESS Array B 78.31 334 P **P 00 28 25.9 -1.0**
comp=Z,0.4nm,0.6s,baz=21,slow=6.3,SNR=4.6
GERES GERESS Array B 78.31 334 *e*P **P 00 28 26.2 -0.7**
H03N2 Juan Fernandez 139.14 90 T T 03 11 16.5
baz=305,slow=75,SNR=35
H03N1 Juan Fernandez 139.16 90 T T 03 11 17.9
baz=305,slow=75,SNR=40
H03N3 Juan Fernandez 139.16 90 T T 03 11 16.9
baz=305,slow=75,SNR=42

*NAO **07** 00:17:13.9±3.8, 67°.75N×20°.27E, ML2.2*
*ISCJB **07** 00:17:15.6±1.3, 67°.93N±0°.05×20°.6E±0°.2, h0km, Error ellipse: s-maj=10.5km s-min=6.3km az=148.0*
*HEL **07** 00:17:15.9±0.1, 67°.91N×20°.42E, h0km, ML1.9, Explosion*
*CSEM **07** 00:17:15.6±0.7, 67°.89N×20°.48E, h2km, ML1.9, Error ellipse: s-maj=12.6km s-min=7.6km az=71.0, Mining explosion.*
*BER **07** 00:17:16.6±3.4, 67°.77N×20°.06E, h0km, ML2.0, ML2.2(NAO), Suspected explosion*
ISC 07 00:17:13.6±1.0, 67°.81N±0°.04×20°.45E±0°.04, h0km, n23, σ0.89/40, Sweden

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.63**	**66**	*e*P	**Pg**	**00 17 26.1**	**+0.4**
LANU				*e*S	**Sg**	**00 17 34.5**	**+0.6**
LANU	**Lannavaara**	**0.63**	**66**	P	**Pg**	**00 17 26.1**	**+0.4**
LANU				S	**Sg**	**00 17 34.5**	**+0.6**
KIF	**Kilpisjarvi**	**1.21**	**6**	*e*P	**Pg**	**00 17 36.4**	**-0.4**
KIF				*e*S	**Sg**	**00 17 51.1**	**-1.4**
KIF	**Kilpisjarvi**	**1.21**	**6**	P	**Pg**	**00 17 36.4**	**-0.4**
KIF				S	**Sg**	**00 17 51.1**	**-1.4**
HEF	**Hetta**	**1.35**	**62**	*e*P	**Pg**	**00 17 39.2**	**-0.3**
HEF				*e*S	**Sg**	**00 17 56.2**	**-0.6**
HEF	**Hetta**	**1.35**	**62**	P	**Pg**	**00 17 39.1**	**-0.3**
HEF				S	**Sg**	**00 17 56.2**	**-0.6**
KTK1	**Kautokeino**	**1.59**	**39**	*e*P	**Pg**	**00 17 44.7**	**+0.6**
KTK1				IAML		00 18 11.1	
	comp=E,23nm,0.4s						
SGF	**Sodankyl**	**2.35**	**96**	*e*P	**Pb**	**00 17 56.2**	**-0.6**
SGF				*e*S	**Sb**	**00 18 26.2**	**-0.2**
SGF	**Sodankyl**	**2.35**	**96**	P	**Pb**	**00 17 56.2**	**-0.6**
SGF				S	**Sb**	**00 18 26.2**	**-0.2**
RNF	**Rovaniemi**	**2.48**	**116**	*e*P	**Pb**	**00 17 58.1**	**-0.8**
RNF				*e*S	**Sb**	**00 18 29.1**	**-0.9**
RNF	**Rovaniemi**	**2.48**	**116**	P	**Pb**	**00 17 58.1**	**-0.8**
RNF				S	**Sb**	**00 18 29.0**	**-0.9**
ARA0	**ARCESS Array S**	**2.54**	**44**	Pn	**Pn**	**00 17 57.8**	**+1.8**
	baz=227,slow=16						
ARA0				Sn	**Sb**	**00 18 31.5**	**-0.2**
	baz=229,slow=28						
ARA0	**ARCESS Array S**	**2.54**	**44**	Pn	**Pn**	**00 17 57.8**	**+1.8**
	baz=227,slow=16						
ARA0				Sn	**Sb**	**00 18 31.5**	**-0.2**
	baz=229,slow=28						
ARA0	**ARCESS Array S**	**2.54**	**44**	*e*P	**Pn**	**00 17 57.4**	**+1.3**
ARA0				*e*S	**Sn**	**00 18 27.4**	**-0.2**
ARA0	**ARCESS Array S**	**2.54**	**44**	P	**Pn**	**00 17 57.3**	**+1.3**
ARA0	**ARCESS Array S**	**2.54**	**44**	Pn	**Pn**	**00 17 57.8**	**+1.8**
	SNR=7.9						
ARA0				S	**Sn**	**00 18 27.3**	**-0.2**
ARA0				Sn	**Sb**	**00 18 31.5**	**-0.2**
	baz=229,slow=25,SNR=2.5						
MOR8	**Moi Rana**	**2.87**	**238**	*e*Sg	**Sn**	**00 18 36.6**	**+0.7**
MOR8				IAML		00 18 38.3	
	comp=Z,14nm,0.4s						
MOR8	**Moi Rana**	**2.87**	**238**	*e*Sg	**Sn**	**00 18 36.6**	**+0.7**
	SNR=90						
KEV	**Kevo**	**3.09**	**48**	*e*P	**Pn**	**00 18 05.0**	**+1.4**
KEV				*e*S	**Sn**	**00 18 41.1**	**+0.1**
KEV				MSG		00 18 50.1	
	comp=Z,3.2nm,0.3s						
KEV	**Kevo**	**3.09**	**48**	P	**Pn**	**00 18 04.9**	**+1.4**
KEV				S	**Sn**	**00 18 41.1**	**+0.1**
FIA0	**FINESS Array S**	**6.83**	**157**	Sn	**Sn**	**00 20 12.6**	**-0.6**
	baz=348,slow=28						
FIA0				Lg	Lg	00 20 46.8	
	baz=356,slow=22						
FIA0	**FINESS Array S**	**6.83**	**157**	Sn	**Sn**	**00 20 12.6**	**-0.6**
	baz=348,slow=28						
FIA0				Lg	Lg	00 20 46.8	
	baz=356,slow=22						
FIA0	**FINESS Array S**	**6.83**	**157**	Sn	**Sn**	**00 20 12.6**	**-0.6**
	baz=348,slow=27,SNR=50						

KRSC 07 00:28:01.9±1.4, 51°.85N×159°.52E, h10km±5km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.85**	**314**	*e*P	Pb	00 28 18.7	-0.1
RUS				*e*S	Sg	00 28 29.2	-0.3
MTVR	**Mutnovka**	**1.04**	**308**	*i* P	Pg	00 28 21.9	-0.3
MTVR				*i* S	Sg	00 28 34.9	-0.9
ASAK	**Asacha**	**1.13**	**299**	*e*P	Pn	00 28 24.1	+0.1
ASAK				*e*S	Sb	00 28 37.9	-0.7
SPN	**Mys Shipunski**	**1.29**	**14**	*e*P	Pg	00 28 26.7	0.0
SPN				*e*S	Sn	00 28 43.2	-0.1
PET	**Petropavlovsk**	**1.29**	**336**	*e*P	Pn	00 28 25.4	-0.6
PET				*e*S	Sb	00 28 41.8	-1.1
NLC	**Nalytchevo**	**1.33**	**355**	*e*S	Sb	00 28 43.3	-0.7
UGLR	**Uglovaya**	**1.43**	**343**	*e*P	Pb	00 28 28.8	0.0
SDLR	**Sedlovina**	**1.48**	**345**	*e*P	Pn	00 28 29.2	+0.4
SMAR	**Somma**	**1.48**	**343**	*e*P	Pn	00 28 29.2	+0.2
AVH	**Avacha**	**1.50**	**342**	*e*P	Pb	00 28 29.8	-0.1
AVH				*e*S	Sg	00 28 50.2	-0.1
KRER	**Koryakskii**	**1.53**	**342**	*e*P	Pb	00 28 30.8	+0.1
KRER				*e*S	Sg	00 28 51.2	-0.5
KOK	**Koryaka**	**1.54**	**340**	*e*P	Pb	00 28 30.5	-0.3
KOK				*e*S	Sb	00 28 50.5	0.0
KRX	**Arik**	**1.60**	**341**	*e*P	Pn	00 28 30.4	-0.1
KRX				*e*S	Sn	00 28 51.1	-0.3
PAU	**Pauzhetka**	**1.73**	**258**	*e*P	Pb	00 28 33.9	+0.2
PAU				*e*S	Sg	00 28 56.8	-0.7
MIPR	**Malaya Ipel'ka**	**1.76**	**285**	*e*P	Pn	00 28 33.3	+0.9
MIPR				*e*S	Sn	00 28 55.3	+0.4
APC	**Apacha**	**1.81**	**308**	*e*P	Pb	00 28 34.3	-0.7
APC				*e*S	Sn	00 28 56.8	+0.8
GNL	**Ganaly**	**2.08**	**333**	*e*P	Pn	00 28 37.6	+0.5
GNL				*e*S	Sn	00 29 03.1	-0.1
SKR	**Severo-Kuril's**	**2.44**	**243**	*e*P	Pn	00 28 42.5	+0.8
SKR				*e*S	Sn	00 29 12.6	+1.1
TUMR	**Tumrok**	**3.46**	**6**	*e*P	Pn	00 28 58.4	+2.4
KBTR	**Krutoberegovo**	**4.78**	**23**	*e*P	Pn	00 29 15.8	+1.9

*IDC **07** 00:39:17.6±1.3, 13°.32N×125°.50E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/29, mbtmp3.6/6, MS3.4/1, Ms1 3.3/1, ms1mx2.4/32, Error ellipse: s-maj=62.6km s-min=18.2km az=62.0*
*MAN **07** 00:39:21, 13°.58N×125°.42E, h32km, mb4.5, ML3.4, MS3.3*
ISC 07 00:39:21.7±1.0, 13°.27N±0°.07×125°.29E±0°.09, h24km, n10, σ1.37/12, mb3.5/6, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.97**	**219**	*e*P	Pb	00 39 43.9	+4.1
CNP				*e*S	**Sn**	**00 39 52.4**	**-0.4**
PVCP	**Virac**	**1.15**	**286**⇑	*e*P	**Pn**	**00 39 42.2**	**0.0**
PVCP				*e*S	**Sb**	**00 39 59.5**	**+2.2**
PLP	**Palo**	**2.12**	**188**⇓	*e*P	**Pb**	**00 39 59.9**	**+0.5**
PLP				*e*S	**Sb**	**00 40 26.9**	**+1.7**
RCP	**Roxas**	**3.01**	**236**⇓	*e*P	**Pb**	**00 40 12.6**	**-2.0**
CMAR	**Chiang Mai Arr**	**25.84**	**285**	P	**P**	**00 44 52.5**	**+1.0**
	0.7nm,0.5s,baz=104,slow=7.9,SNR=7.5						
WRA	**Warramunga Arr**	**34.19**	**165**	P	**P**	**00 46 04.2**	**-1.2**
	0.2nm,0.3s,baz=348,slow=9.2,SNR=5.0						
ASAR	**Alice Springs**	**37.67**	**167**	P	**P**	**00 46 34.4**	**-0.8**
	0.6nm,0.7s,baz=344,slow=6.5,SNR=14						
SONM	**Songino Array**	**37.89**	**339**	P	**P**	**00 46 36.0**	**-0.9**
	0.2nm,0.4s,baz=156,slow=7.3,SNR=3.5						
STKA	**Stephens Creek**	**47.54**	**161**	P	**P**	**00 47 55.3**	**0.0**
	2.0nm,0.7s,baz=328,slow=7.7,SNR=4.9						
STKA				LR	LR	01 14 10.2	
	comp=Z,35nm,18.2s,baz=31,slow=44						
MKAR	**Makanchi Array**	**49.08**	**322**	P	**P**	**00 48 08.2**	**+1.1**
	0.3nm,0.7s,baz=126,slow=7.3,SNR=2.5						

*ISCJB **07** 00:53:12.6±1.5, 36°.3N±0°.1×66°.7E±0°.1, h33km, mb3.4/2, Error ellipse: s-maj=21.0km s-min=9.8km az=147.6*
*NNC **07** 00:53:16.3±5.7, 36°.74N×66°.52E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=57.9km s-min=32.8km az=166.0*
*IDC **07** 00:53:17.5±5.1, 38°.02N×64°.86E, h0km, mb3.2/3, mb1 3.2/3, mb1mx3.0/35, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=236.8km s-min=24.1km az=149.0*
ISC 07 00:53:14.2±1.9, 36°.3N±0°.2×66°.5E±0°.2, h35km, n11, σ1.28/13, 7C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.48**	**23**	P	**Pn**	**00 55 02.1**	**+1.4**
	0.5nm,0.3s,baz=215,slow=14,SNR=21						
KK31				⇑S	**Sn**	**00 56 24.9**	**+0.6**
	0.9nm,0.4s,baz=211,slow=24,SNR=5.8						
AAK	**Ala-Archa**	**8.84**	**42**	⇑P	**Pn**	**00 55 21.4**	**+1.8**
	1.3nm,0.5s						
AAK				⇑S	**Sn**	**00 56 57.1**	**-0.9**
	4.9nm,1.3s						
TKM2	**Tokmak 2**	**9.64**	**44**	⇑P	**Pn**	**00 55 29.3**	**-1.2**
	2.6nm,0.9s						
TKM2				⇑S	**Sn**	**00 57 18.3**	**+0.6**
	2.5nm,0.9s						
AB31	**Akbulak array**	**13.84**	**342**	P	P	00 56 27.7	-7.9
	0.4nm,0.5s,baz=152,slow=14,SNR=12						
AKTO	**Aktyubinsk**	**15.43**	**339**	⇓P	**P**	**00 56 51.8**	**-1.5**
MKAR	**Makanchi Array**	**15.77**	**43**	Pn	**Pn**	**00 56 53.4**	**-0.2**
	0.0nm,0.3s,baz=242,slow=15,SNR=2.9						
VOSK	**Vostochnaya**	**16.74**	**9**	⇑P	**P**	**00 57 05.8**	**-2.0**
BVA0	**Borovoye Array**	**16.97**	**8**	P	**P**	**00 57 09.5**	**-0.8**
	1.3nm,0.7s,baz=181,slow=12,SNR=16						
BRVK	**Borovoye**	**16.99**	**8**	⇑P	**P**	**00 57 09.5**	**-0.9**
	3.3nm,0.5s						
ZALV	**Zalesovo Beam**	**21.77**	**30**	P	**P**	**00 58 02.3**	**-0.3**
	0.5nm,0.3s,baz=223,slow=9.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**62.11**	**266**	P	**P**	**01 03 32.5**	**+0.7**
	0.3nm,0.7s,baz=45,slow=6.5,SNR=3.8						

IDC 07 01:07:05.9±2.3, 7°.75S×131°.13E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.2/22, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=125.3km s-min=32.2km az=71.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.51**	**166**	Pn	Pn	01 10 05.6	+0.2
	0.2nm,0.3s,baz=349,slow=13,SNR=9.5						
WRA				Sn	Sn	01 12 20.3	-5.3
	0.3nm,0.3s,baz=331,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**16.05**	**171**	Pn	Pn	01 10 52.8	-0.3
	0.1nm,0.3s,baz=344,slow=9.6,SNR=8.7						
ASAR				Sn	Sn	01 13 46.0	-5.9
	0.1nm,0.3s,baz=349,slow=24,SNR=4.5						
MKAR	**Makanchi Array**	**69.47**	**326**	P	P	01 18 16.2	0.0
	0.2nm,0.4s,baz=115,slow=6.6,SNR=6.1						

MEX 07 01:18:31.3±0.5, 17°.72N×98°.40W, h58km±2km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
HMTT	**Tlapaneco**	**0.17**	**298**	*e*P	Pn	01 18 38.9	-1.6
HMTT				*i* S	Sn	01 18 45.4	-1.8
TLIG	**Tlapa**	**0.22**	**225**	*i* P	Pn	01 18 39.6	-1.3
TLIG				*e*S	Sn	01 18 46.0	-1.8
TPIG	**Tehuac#an**	**1.21**	**55**	*i* P	Pn	01 18 50.5	-1.8
TPIG				*i* S	Sn	01 19 06.3	-1.7
PLIG	**Platanillo**	**1.24**	**303**	*e*P	Pn	01 18 51.3	-1.4
PLIG				*i* S	Sn	01 19 06.1	-2.4
YAIG	**Yautepec**	**1.30**	**331**	*e*P	Pn	01 18 51.8	-1.7
YAIG				*i* S	Sn	01 19 07.4	-2.7
PHPU	**Puebla**	**1.34**	**10**	*i* P	Pn	01 18 51.9	-2.2
PHPU				*i* S	Sn	01 19 09.2	-2.0
PNIG	**Pinotepa**	**1.34**	**169**	*e*P	Pn	01 18 52.6	-1.3
PNIG				*i* S	Sn	01 19 08.7	-2.2
AMVM	**AMECAMECA**	**1.45**	**346**	*i* P	Pn	01 18 54.6	-1.1
AMVM				*i* S	Sn	01 19 12.4	-1.6
MAVM	**Malinalco, Edo**	**1.61**	**320**	*i* P	Pn	01 18 56.5	-1.2
MAVM				*e*S	Sn	01 19 15.0	-2.6
MZVM		**1.66**	**332**	*e*P	Pn	01 18 56.9	-1.3
MZVM				*i* S	Sn	01 19 16.6	-1.8
VHO	**Vista Hermosa**	**1.72**	**112**	*i* P	Pn	01 18 58.4	-0.8
VHO				*i* S	Sn	01 19 17.6	-2.7
IIO	**Organos**	**1.89**	**351**	*e*P	Pn	01 19 00.6	-1.1
IIO				*i* S	Sn	01 19 22.4	-2.3
ARIG	**Puente Sto Nin**	**1.93**	**287**	*e*P	Pn	01 19 01.2	-0.7
ARIG				*i* S	Sn	01 19 22.9	-2.3
ZIIG	**Zihuatanejo**	**2.92**	**268**	*i* P	Pn	01 19 14.3	-1.1
ZIIG				*i* S	Sn	01 19 48.2	-1.0
HUIG	**Huatulco**	**2.93**	**131**	*e*P	Pn	01 19 15.1	-0.4
HUIG				*i* S	Sn	01 19 48.3	-1.2
CMIG	**Matias Romero**	**3.42**	**100**	*e*P	Pn	01 19 21.3	-0.8
CMIG				*i* S	Sn	01 20 00.0	-1.5

*IDC **07** 01:20:16.4±10.0, 36°.31N×70°.78E, h180km±101km, mb3.2/5, mb1 3.2/6, mb1mx2.9/28, mbtmp3.6/6, Error ellipse: s-maj=44.6km s-min=34.8km az=8.0*
*ISCJB **07** 01:20:17.9±0.7, 36°.41N±0°.05×70°.9E±0°.1, h188km, mb3.5/5, Error ellipse: s-maj=12.8km s-min=5.0km az=153.7*
*NNC **07** 01:20:28.0±9.2, 36°.94N×71°.00E, h214km±112km, mb2.3, mpv3.1, Error ellipse: s-maj=85.1km s-min=49.3km az=14.0*
ISC 07 01:20:18.8±0.8, 36°.51N±0°.06×71°.01E±0°.08, h188km, n24, σ1.22/26, mb3.6/5, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.69**	**133**	*e*P	**Pn**	**01 21 42.0**	**-0.2**
DLH				*e*S	**Sn**	**01 22 48.0**	**+0.2**
KK31	**Karatay Array**	**6.60**	**357**	P	Pn	01 21 58.8	+5.1
	0.1nm,0.2s,baz=176,slow=12,SNR=31						
KK31				S	**Sn**	**01 23 10.8**	**+2.1**
	11nm,0.7s,baz=184,slow=23,SNR=19						
AAK	**Ala-Archa**	**6.68**	**23**	⇓P	Pn	01 21 59.6	+4.7
	1.5nm,0.5s						
AAK				⇑S	**Sn**	**01 23 11.7**	**+0.8**
	5.5nm,0.8s						
TKM2	**Tokmak 2**	**7.32**	**27**	⇑P	Pn	01 22 08.0	+4.8
	1.5nm,0.7s						
TKM2				⇓S	**Sn**	**01 23 24.3**	**-1.6**
	5.4nm,1.2s						
PYUN	**Piuthan**	**13.14**	**126**	*e*P	**Pn**	**01 23 18.9**	**+0.1**
	31nm,0.4s						
MK31	**Makanchi Array**	**13.28**	**36**	⇑P	**P**	**01 23 23.8**	**+0.5**
	0.4nm,0.5s,baz=211,slow=12,SNR=7.5						
MKAR	**Makanchi Array**	**13.28**	**36**	P	**Pn**	**01 23 22.1**	**+1.9**
	0.1nm,0.3s,baz=226,slow=12,SNR=4.9						
DANN	**Dangsing**	**13.49**	**123**	*e*P	**Pn**	**01 23 23.6**	**+0.4**
KOLN	**Koldanda**	**13.76**	**126**	*e*P	**Pn**	**01 23 27.7**	**+1.2**
GKN	**Gorkha**	**14.30**	**122**	*e*P	**Pn**	**01 23 33.1**	**-0.1**
	12nm,0.3s						
KKN	**Kakani**	**14.88**	**122**	*e*P	**Pn**	**01 23 40.4**	**+0.1**
	12nm,0.4s						
AB31	**Akbulak array**	**15.08**	**331**	⇑P	**P**	**01 23 44.6**	**+1.4**
	0.4nm,0.5s,baz=141,slow=11,SNR=15						
AB31				⇑S	**Sn**	**01 26 32.1**	**+1.3**
	0.8nm,0.8s						
PKIN	**Phulchoki**	**15.09**	**122**	*e*P	**P**	**01 23 43.6**	**-0.2**
	6.0nm,0.3s						
PKI	**Pulchoki**	**15.10**	**122**	*e*P	**Pn**	**01 23 43.1**	**-0.1**
	9.8nm,0.5s						
GUN	**Gumba**	**15.22**	**120**	*e*P	**Pn**	**01 23 44.7**	**+0.1**
JIRN	**Jiri**	**15.59**	**120**	*e*P	**P**	**01 23 49.3**	**+0.2**
	12nm,0.4s						
AKTO	**Aktyubinsk**	**16.78**	**330**	⇓P	**P**	**01 24 04.3**	**+1.5**
	4.7nm,0.7s						
TAPN	**Taplejung**	**16.84**	**118**	*e*P	**Pn**	**01 24 04.7**	**+0.5**
ODAN	**Odare**	**16.92**	**120**	*e*P	**Pn**	**01 24 06.0**	**+1.0**
	7.3nm,0.5s						
SONM	**Songino Array**	**28.32**	**55**	P	**P**	**01 25 55.5**	**+0.4**
	0.3nm,0.7s,baz=264,slow=8.5,SNR=3.0						
FINES	**FINESS Array B**	**37.48**	**326**	P	**P**	**01 27 11.6**	**-2.3**
	1.2nm,0.6s,baz=134,slow=9.9,SNR=7.7						
ARCES	**ARCESS Array B**	**41.14**	**338**	P	**P**	**01 27 43.2**	**-0.9**
	3.2nm,0.9s,baz=122,slow=6.8,SNR=9.5						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**01 28 09.9**	**-0.4**
	0.9nm,1.0s,baz=100,slow=8.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P	**P**	**01 30 41.0**	**-2.7**
	0.6nm,0.6s,baz=50,slow=6.2,SNR=10						

*ISCJB **07** 01:25:28.5±0.4, 37°.3S±0°.1×47°.8E±0°.1, h10km, mb4.2/17, MS3.2/2, Error ellipse: s-maj=17.6km s-min=10.8km az=25.7*
*IDC **07** 01:25:28.9±0.7, 37°.18S×47°.97E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/27, mbtmp4.0/11, MS3.3/2, Ms1 3.3/2, ms1mx2.8/35, Error ellipse: s-maj=31.2km s-min=16.7km az=32.0*
*NEIC **07** 01:25:30.2±0.3, 37°.28S×47°.91E, h10km, mb4.4/10, Error ellipse: s-maj=13.0km s-min=8.3km az=204.0*

ISC 07 01:25:30.2±0.5,37.3S±0.1×47.9E±0.1,h10km,n45, σ0.66/36,mb4.2/17,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	20.81	288	P	Pn	01 30 13.6	-0.9
	2.0nm,0.7s,baz=116,slow=6.2,SNR=8.0						
BOSA				LR	LR	01 37 06.3	
	comp=Z,95nm,19.0s,baz=134,slow=33						
BOSA	Boshof	20.81	288	eP	Pn	01 30 14.8	+0.3
	5.2nm,0.9s						
LBTB	Lobatse	22.58	296	P	P	01 30 31.8	+0.8
	2.4nm,0.8s,baz=131,slow=9.3,SNR=3.0						
LBTB				LR	LR	01 37 33.8	
	comp=Z,76nm,20.1s,baz=110,slow=32						
LBTB	Lobatse	22.58	296	eP	P	01 30 31.6	+0.6
	4.6nm,0.8s						
LSZ	Lusaka	28.02	316	P	P	01 31 21.8	0.0
	1.8nm,0.7s,baz=126,slow=14,SNR=6.2						
TSUM	Tsumeb	31.99	296	eP	P	01 31 56.2	-0.7
	2.8nm,1.0s						
H08S1	Diego Garcia H	37.01	43	T	T	02 11 46.4	
	baz=213,slow=75,SNR=6.1						
H08S2	Diego Garcia H	37.02	43	T	T	02 11 41.4	
	baz=213,slow=75,SNR=6.4						
H08S3	Diego Garcia H	37.03	43	T	T	02 11 44.7	
	baz=213,slow=75,SNR=10						
H08N3	Diego Garcia H	37.32	40	T	T	02 12 06.1	
	baz=211,slow=76,SNR=38						
H08N1	Diego Garcia H	37.33	40	T	T	02 12 03.0	
	baz=211,slow=76,SNR=53						
H08N2	Diego Garcia H	37.34	40	T	T	02 12 03.0	
	baz=211,slow=76,SNR=48						
H01W2	Cape Leeuwin H	52.60	109	T	T	02 31 11.1	
	baz=247,slow=75,SNR=13						
H01W3	Cape Leeuwin H	52.61	109	T	T	02 31 08.6	
	baz=247,slow=75,SNR=13						
H01W1	Cape Leeuwin H	52.62	109	T	T	02 31 12.6	
	baz=247,slow=75,SNR=16						
QSPA	South Pole Qui	52.91	180	P	P	01 34 46.7	+0.4
	3.1nm,1.0s,baz=259,slow=4.6,SNR=5.7						
ASCN	Ascension	63.20	281	eP	P	01 35 58.3	-0.7
PMSA	Palmer Station	65.33	206	eP	P	01 36 10.9	-1.2
	21nm,0.9s						
TOA0	Torodi Ar. Sit	66.31	310	eP	P	01 36 19.4	+0.4
TORD	Torodi Ar. Bea	66.31	310	P	P	01 36 19.4	+0.3
	1.6nm,0.9s,baz=130,slow=4.6,SNR=7.7						
ASAR	Alice Springs	73.07	107	P	P	01 37 01.0	+0.1
	0.6nm,0.6s,baz=233,slow=5.9,SNR=14						
CMAR	Chiang Mai Arr	73.39	50	P	P	01 37 02.5	-0.1
	1.7nm,0.3s,baz=129,slow=6.8,SNR=8.0						
STKA	Stephens Creek	74.17	118	P	P	01 37 07.9	+0.7
	1.4nm,0.6s,baz=269,slow=7.2,SNR=6.1						
WRA	Warramunga Arr	75.48	104	P	P	01 37 15.3	+0.3
	0.8nm,0.7s,baz=227,slow=4.6,SNR=9.6						
WRAB	Tennant Creek	75.50	104	eP	P	01 37 15.2	+0.1
	3.2nm,1.0s						
BR131	Keskin Array S	77.74	349	eP	P	01 37 26.7	-0.6
	1.0nm,0.7s						
BRTR	Keskin Array B	77.74	349	P	P	01 37 26.8	-0.5
	1.0nm,0.7s,baz=171,slow=9.4,SNR=7.5						
LSA	Lhasa	78.01	38	eP	P	01 37 30.3	+0.9
	4.8nm,0.7s						
AAK	Ala-Archa	83.16	19	eP	P	01 37 56.6	+0.3
	5.6nm,1.2s						
TKM2	Tokmak 2	83.72	20	eP	P	01 37 58.6	-0.7
	2.0nm,0.9s						
CTAO	Charters Tower	84.46	111	eP	P	01 38 02.5	-1.0
	6.1nm,1.0s						
COEN	Coen	85.82	104	eP	P	01 38 09.7	-0.7
MK31	Makanchi Array	89.21	23	eP	P	01 38 25.4	-0.5
MKAR	Makanchi Array	89.21	23	P	P	01 38 25.7	-0.2
	0.2nm,0.7s,baz=197,slow=6.2,SNR=3.9						
WCI	Wyandotte Cave	144.03	286	ePKPdf	PKPbc	01 45 03.7	-0.2
FCC	Fort Churchill	147.37	323	ePKPbc	PKPbc	01 45 13.2	-0.2
INK	Inuvik	148.91	1	PKPbc	PKPbc	01 45 16.1	-1.1
	0.9nm,0.9s,baz=48,slow=3.5,SNR=5.3						
INK	Inuvik	148.91	1	ePKPbc	PKPbc	01 45 17.2	0.0
ULM	Lac du Bonnet	151.09	308	PKPbc	PKPbc	01 45 22.8	-0.2
	1.7nm,0.6s,baz=102,slow=2.3,SNR=4.0						
ULM	Lac du Bonnet	151.09	308	ePKPbc	PKPbc	01 45 22.9	0.0
ILAR	Eielson Array	151.11	13	PKPbc	PKPbc	01 45 22.0	-0.6
	0.7nm,0.9s,baz=284,slow=2.2,SNR=6.0						
JCT	Junction City	152.40	265	ePKPdf	PKPdf	01 45 20.1	+0.2
JCT				ePKPbc	PKiKP	01 45 27.5	+0.6
JCT				ePKPab	PKPab	01 45 38.1	+1.1
YKA	Yellowknife Ar	152.54	342	PKPbc	PKPbc	01 45 25.5	-0.5
	0.6nm,0.7s,baz=42,slow=2.0,SNR=8.7						
TXAR	Lajitas Array	154.99	260	PKP	PKPdf	01 45 24.5	+0.8
	0.7nm,1.2s,baz=123,slow=3.3,SNR=3.6						
TXAR				PKPbc	PKPbc	01 45 33.5	+1.1
	0.2nm,0.6s,baz=152,slow=5.7,SNR=4.5						
MNTX	Cornudas Mount	157.29	264	ePKPab	PKPab	01 45 58.5	+0.8

ISCJB 07 01:36:33.3±0.5,31.15N±0.05×130.4E±0.1,h161km±3km, mb3.5/11,Error ellipse: s-maj=17.1km s-min=8.4km az=5.3
JMA 07 01:36:36.1±0.1,31.15N×130.39E,h145km±1km,M3.2
IDC 07 01:36:37.3±3.4,31.22N×130.51E,h185km±31km,mb3.3/9, mb1 3.3/10,mb1mx3.1/28,mbtmp3.7/10,Error ellipse: s-maj=69.7km s-min=19.2km az=72.0
ISC 07 01:36:34.3±0.7,31.13N±0.05×130.4E±0.1,h156km±6km, n21,σ0.86/29,mb3.7/11,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	Suzuyama	0.38	4	P	Pn	01 36 56.4	+0.6
JSU				eS	Sn	01 37 11.7	-0.6
JTSR	Tashiro 2	0.43	85	P	Pn	01 36 56.6	+0.6
JTSR				eS	Sn	01 37 12.2	-0.3
JTN	Tanegashima 3	0.67	135	P	Pn	01 36 58.2	+1.0
JTN				eS	Sn	01 37 15.0	+0.3
JKC	Kuchinoerabu	0.69	197	P	Pn	01 36 58.0	+0.6
JSJ	Shimokoshiki	0.82	312	P	Pn	01 36 58.6	+0.4
JSJ				eS	Sn	01 37 16.0	-0.4
JYAK	Yakushimahirau	0.89	175	P	Pn	01 36 59.4	+0.7
JYAK				eS	Sn	01 37 17.2	-0.2
JTZ	Takazaki	0.95	36	P	Pn	01 37 00.1	+0.9
JTZ				eS	Sn	01 37 17.9	-0.5
JNN	Nakanoshima	1.37	200	P	Pn	01 37 04.3	+1.3
JNN				eS	Sn	01 37 25.2	+0.2
JIU2	Izumi 2	1.45	13	P	Pn	01 37 04.9	+1.2
JIU2				eS	Sn	01 37 26.2	-0.3
KSRS	Korea Array	6.64	343	P	Pn	01 38 11.8	+2.4
	0.1nm,0.3s,baz=167,slow=14,SNR=5.6						
MKAR	Makanchi Array	39.92	307	P	P	01 43 53.0	0.0
	0.1nm,0.3s,baz=96,slow=7.8,SNR=3.4						
BVAR	Borovoye Array	48.04	315	P	P	01 44 57.3	-0.3
	0.3nm,0.3s,baz=88,slow=9.0,SNR=3.7						
WRA	Warramunga Arr	50.92	175	P	P	01 45 20.2	+0.6
	0.3nm,0.4s,baz=354,slow=8.0,SNR=8.0						
KEV	Kevo	65.61	338	ep	P	01 46 59.2	-1.8
	0.4nm,0.4s						
ARCES	ARCESS Array B	66.18	338	P	P	01 47 04.4	-0.3
	2.4nm,0.9s,baz=37,slow=8.0,SNR=2.8						
JOF	Joensuu	66.72	331	ep	P	01 47 07.9	-0.3
	1.2nm,0.5s						
FINES	FINESS Array B	69.57	330	P	P	01 47 25.6	-0.4
	1.2nm,0.5s,baz=77,slow=6.1,SNR=18						
AKASG	Malin Array Be	73.08	319	P	P	01 47 46.7	-0.5
	0.6nm,0.3s,baz=58,slow=6.4,SNR=5.0						
HFS	Hagfors	75.39	332	P	P	01 47 59.7	-0.7
	1.1nm,0.8s,baz=68,slow=13,SNR=3.5						
BRTR	Keskin Array B	75.56	308	P	P	01 48 02.3	+0.3
	0.6nm,0.7s,baz=122,slow=4.7,SNR=5.3						
GERES	GERESS Array B	82.45	323	P	P	01 48 38.6	-0.6
	0.3nm,0.8s,baz=46,slow=4.2,SNR=2.6						

WEL 07 01:43:33.5±0.5,38.20S×176.06E,h174km±4km,ML3.5/6, 9C-2D,Error ellipse: s-maj=2.6km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.83	94	PN	Pn	01 43 59.1	-0.3
URZ				AML	AML	01 44 17.3	
URZ				AML	AML	01 44 18.2	
KRVZ	Karewarewa	0.95	200	PN	Pn	01 44 00.4	-0.1
WTVZ	West Tongariro	0.98	202	PN	Pn	01 44 00.6	0.0
TWVZ	Taurewa	1.00	209	⇑PN	Pn	01 44 00.8	+0.1
OTVZ	Oturere	1.01	198	PN	Pn	01 44 01.2	+0.3
BKZ	Black Stump Fm	1.02	161	PN	Pn	01 44 00.6	-0.3
BKZ				AML	AML	01 44 20.1	
BKZ				AML	AML	01 44 21.0	
NGZ	Ngauruhoe	1.04	200	PN	Pn	01 44 01.2	+0.1
NMHZ	Naumai	1.07	147	PN	Pn	01 44 01.6	+0.3
NMHZ				SN	Sn	01 44 21.7	-1.1
RAHZ	Arahi	1.08	132	PN	Pn	01 44 01.6	+0.3
RAHZ				SN	Sn	01 44 21.3	-1.4
WPVZ	Whakapapa	1.08	202	PN	Pn	01 44 01.5	+0.1
RAGZ	Rawiri	1.11	106	PN	Pn	01 44 02.0	+0.4
TUVZ	Tukino	1.11	196	⇑PN	Pn	01 44 01.8	+0.1
TUVZ				SN	Sn	01 44 23.1	-0.5
FWVZ	Far West T-bar	1.12	200	PN	Pn	01 44 01.6	-0.3
DRZ	Dome Shelter	1.14	200	PN	Pn	01 44 02.3	+0.1
WHVZ	Whangaehu Hut	1.14	199	⇑PN	Pn	01 44 02.0	0.0
MWZ	Matawai	1.17	97	PN	Pn	01 44 02.0	0.0
MWZ				AML	AML	01 44 22.6	
MWZ				AML	AML	01 44 23.9	
TRVZ	Turoa	1.17	200	PN	Pn	01 44 02.1	-0.1
WNVZ	Wahianoa	1.18	198	⇑PN	Pn	01 44 02.3	0.0
PKVZ	Pokaka	1.22	207	PN	Pn	01 44 02.5	0.0
MOVZ	Moawhango	1.23	191	PN	Pn	01 44 02.1	-0.5
MTVZ	Mangateitei	1.27	201	PN	Pn	01 44 02.8	-0.1
WHHZ	Waihua	1.27	134	PN	Pn	01 44 03.0	+0.1
BHHZ	Black Hill Sta	1.29	180	⇑PN	Pn	01 44 02.6	-0.4
MCHZ	McNeill Hill	1.34	158	⇑PN	Pn	01 44 03.9	+0.4
RIGZ	Rimuhau	1.43	111	PN	Pn	01 44 04.6	+0.2
HAZ	Te Kaha	1.43	72	PN	Pn	01 44 03.9	-0.4
KRHZ	Kereru	1.46	170	PN	Pn	01 44 04.4	-0.2
KNZ	Kokohu	1.51	123	PN	Pn	01 44 04.9	-0.1
CKHZ	Cape Kidnapper	1.66	152	PN	Pn	01 44 06.7	+0.1
CNGZ	Carnagh Statio	1.71	100	PN	Pn	01 44 07.8	+0.7
PNHZ	Pukenui	1.71	176	PN	Pn	01 44 06.5	-0.7
KAHZ	Kahuranaki	1.71	158	PN	Pn	01 44 07.2	0.0
MHGZ	Mahia Peninsul	1.73	124	PN	Pn	01 44 07.5	+0.2
WAZ	Wanganui	1.76	208	ePN	Pn	01 44 07.2	-0.5
TSZ	Takapari Road	1.86	182	⇑PN	Pn	01 44 08.0	-0.6
TSZ				AML	AML	01 44 08.5	
WPHZ	Waipukurau	1.89	171	⇓PN	Pn	01 44 08.4	-0.5
MXZ	Matakaoa Point	1.89	71	PN	Pn	01 44 09.5	+0.6
PXZ	Pawanui	1.93	161	PN	Pn	01 44 09.0	-0.4
DVHZ	Dannevirke	2.10	178	PN	Pn	01 44 10.2	-1.0
ANWZ	Angora Road	2.28	172	PN	Pn	01 44 12.6	-0.7
PRWZ	Pori Road	2.35	182	PN	Pn	01 44 13.2	-0.9
BFZ	Birch Farm	2.48	177	⇓PN	Pn	01 44 14.3	-1.3
MRZ	Mangatainoka R	2.48	188	⇑PN	Pn	01 44 14.3	-1.4
MRZ				AML	AML	01 44 46.4	
TIWZ	Tintock	2.58	183	⇑PN	Pn	01 44 15.4	-1.4
OGWZ	Otaki Gorge	2.70	194	PN	Pn	01 44 16.8	-1.4
CPWZ	Castlepoint	2.71	178	PN	Pn	01 44 17.4	-0.8
HOWZ	Holdsworth Sta	2.73	189	PN	Pn	01 44 16.8	-1.8
KIW	Kapiti Island	2.80	198	PN	Pn	01 44 17.7	-1.8
TMWZ	Te Maipa	2.91	182	PN	Pn	01 44 18.9	-1.9
DUWZ	D'Urville Isla	3.08	212	PN	Pn	01 44 21.0	-1.8
MSWZ	Moikau Station	3.27	191	PN	Pn	01 44 22.8	-2.4
MSWZ				AML	AML	01 44 23.7	
TCW	Tory Channel	3.31	204	PN	Pn	01 44 23.6	-2.0
BHW	Baring Head	3.33	196	PN	Pn	01 44 23.5	-2.4
PLWZ	Palliser	3.42	190	PN	Pn	01 44 24.5	-2.6
TUWZ	Tuamarina	3.61	206	PN	Pn	01 44 27.1	-2.4
NNZ	Nelson	3.65	214	PN	Pn	01 44 27.8	-2.2
QRZ	Quartz Range	3.78	225	PN	Pn	01 44 29.1	-2.6
BSWZ	Blackbirch Sta	3.89	205	PN	Pn	01 44 30.6	-2.4
THZ	Tophouse	4.30	213	PN	Pn	01 44 35.9	-2.5
KHZ	Kahutara	4.63	204	PN	Pn	01 44 39.9	-2.6
OXZ	Oxford	5.96	210	PN	Pn	01 44 56.0	-3.9
MQZ	McQueen's Vall	6.07	204	PN	Pn	01 44 56.9	-4.4

ISCJB 07 02:00:47.5±0.7,84.62N±0.06×±,h10km,mb3.4/5, MS3.6/2,Error ellipse: s-maj=16.0km s-min=6.5km az=155.1
IDC 07 02:00:48.3±1.1,84.78N×4.82E,h0km,mb3.5/5,mb1 3.7/8, mb1mx3.4/42,mbtmp3.7/8,ML3.9/3,MS3.5/3,Ms1 3.5/3, ms1mx2.9/35,Error ellipse: s-maj=42.3km s-min=15.9km az=61.0
ISC 07 02:00:49.3±0.9,84.72N±0.08×6.4E±0.1,h10km,n32, σ1.77/37,mb3.5/5,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	5.87	170	Pn	Pn	02 02 18.1	+2.0
KBS				Sn	Sn	02 03 22.9	-0.5
KBS	Kingsbay	5.87	170	ePn	Pn	02 02 17.9	+1.8
KBS				Sn	Sn	02 03 22.9	-0.5
KBS				IAML		02 03 24.0	
	comp=Z,5.9nm,0.2s						
KBS	Kingsbay	5.87	170	ePn	Pn	02 02 17.9	+1.8
	SNR=50						
KBS	Kingsbay	5.87	170	Pn	Pn	02 02 18.1	+2.0
KBS				Sn	Sn	02 03 22.9	-0.5
SPA0	Spitsbergen Ar	6.72	162	Pn	Pn	02 02 27.9	+0.2
	baz=3.0,slow=14						
SPA0				Sn	Sn	02 03 41.1	-3.2
SPA0	Spitsbergen Ar	6.72	162	Pn	Pn	02 02 27.9	+0.2
	baz=3.0,slow=14						
SPA0				Sn	Sn	02 03 41.1	-3.2
SPA0	Spitsbergen Ar	6.72	162	Pn	Pn	02 02 28.0	+0.2
	SNR=191						
SPA0	Spitsbergen Ar	6.72	162	Pn	Pn	02 02 28.0	+0.2
	SNR=50						
SPA0				Sn	Sn	02 03 41.1	-3.2
SPITS	Spitsbergen Ar	6.72	162	Pn	Pn	02 02 27.9	+0.2
	baz=14,slow=13,SNR=46						
SPITS				Sn	Sn	02 03 41.5	-2.8
	baz=14,slow=21,SNR=2.8						
HSP	Hornsund	7.87	165	Pn	Pn	02 02 45.8	+2.3
HSP	Hornsund	7.87	165	Pn	Pn	02 02 45.8	+2.3
HSP	Hornsund	7.87	165	Pn	Pn	02 02 45.8	+2.3
HSP	Hornsund	7.87	165	Pn	Pn	02 02 45.8	+2.3
	SNR=50						
HSPB	Hornsund (broa	7.87	165	eSn	Sn	02 04 10.6	-1.9
HSPB	Hornsund (broa	7.87	165	eSn	Sn	02 04 10.6	-1.9
	SNR=50						
HOPEN	Hopen	8.70	150	Pn	Pn	02 02 54.2	-0.6
HOPEN	Hopen	8.70	150	eP	Pn	02 02 54.2	-0.6
HOPEN				eS	Sn	02 04 26.3	-6.4
HOPEN				IAML		02 04 31.1	
	comp=Z,6.8nm,0.4s						
HOPEN	Hopen	8.70	150	eP	Pn	02 02 54.2	-0.6
	SNR=47						
HOPEN				eS	Sn	02 04 26.3	-6.4
	SNR=47						
SUMG	Summit	14.25	240	iP	Pn	02 04 11.0	-0.1
	comp=Z,6.5nm,0.9s						
ARA0	ARCESS Array S	15.66	155	P	Pn	02 04 29.8	+0.3
	baz=355,slow=12						
ARA0				Sn	Sn	02 07 10.9	-12
	slow=22						
ARA0	ARCESS Array S	15.66	155	Pn	Pn	02 04 29.8	+0.3
	baz=355,slow=12						
ARA0				Sn	Sn	02 07 10.9	-12
	slow=22						
ARA0	ARCESS Array S	15.66	155	P	Pn	02 04 29.8	+0.3
	SNR=4.3						
ARA0	ARCESS Array S	15.66	155	Pn	Pn	02 04 29.8	+0.3
	SNR=50						
ARCES	ARCESS Array B	15.66	155	Pn	Pn	02 04 28.3	-1.2
	comp=Z,0.5nm,0.3s,baz=1.0,slow=10,SNR=19						
ARCES				Sn	Sn	02 07 12.7	-10
	comp=Z,0.2nm,0.3s,baz=1.0,slow=21,SNR=3.8						
RES	Resolute Bay	17.25	298	P	P	02 04 47.6	-3.5
	comp=Z,0.4nm,0.3s,baz=20,slow=12,SNR=6.3						
RES				LR	LR	02 10 30.2	
	comp=Z,90nm,18.8s,baz=140,slow=34						
FINES	FINESS Array B	23.77	156	P	P	02 06 01.7	+0.4
	comp=Z,1.1nm,0.8s,baz=8.9,slow=9.8,SNR=2.8						
INK	Inuvik	26.11	327	P	P	02 06 21.4	-1.2
	comp=Z,1.3nm,0.9s,baz=12,slow=4.9,SNR=2.7						
ILAR	Eielson Array	30.22	338	P	P	02 06 59.7	+0.4
	comp=Z,0.4nm,0.9s,baz=354,slow=7.5,SNR=5.0						
ZALV	Zalesovo Beam	35.50	94	LR	LR	02 23 43.5	
	comp=Z,50nm,19.2s,baz=57,slow=39						
SONM	Songino Array	43.53	74	P	P	02 08 53.7	+1.1
	comp=Z,0.3nm,0.7s,baz=348,slow=6.3,SNR=4.2						
BRTR	Keskin Array B	45.78	151	P	P	02 09 13.2	+2.5
	comp=Z,1.0nm,1.0s,baz=349,slow=4.4,SNR=3.9						
PDAR	Pinedale Array	49.93	300	LR	LR	02 33 02.4	
	comp=Z,104nm,18.1s,baz=336,slow=39						

IDC 07 02:07:31.6±8.2,15.74S×173.16W,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.5/36,mbtmp3.4/4,ML3.4/1,Error ellipse: s-maj=366.5km s-min=25.3km az=139.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.26	36	Pn	Pn	02 08 09.1	-1.3
	9.9nm,0.3s,baz=200,slow=15,SNR=4.0						
AFI				Sn	Sn	02 08 35.8	-3.3
	40nm,0.3s,baz=86,slow=22,SNR=12						
WRA	Warramunga Arr	49.99	257	P	P	02 16 27.7	-0.5
	0.3nm,0.9s,baz=92,slow=8.1,SNR=5.8						
ASAR	Alice Springs	50.23	252	P	P	02 16 29.8	-0.2
	0.6nm,0.7s,baz=89,slow=8.6,SNR=13						
ILAR	Eielson Array	82.73	11	P	P	02 19 57.9	+0.9
	0.4nm,1.0s,baz=227,slow=6.7,SNR=4.6						

SJA 07 02:18:32.7±0.5,23.11S×63.72W,h634km±18km,ML3.7, MW3.5
ISCJB 07 02:18:42.6±0.5,22.88S±0.06×63.72W±0.09,h535km, mb3.8/3,Error ellipse: s-maj=11.8km s-min=6.9km az=16.6
IDC 07 02:18:43.4±1.4,22.84S×63.73W,h537km±20km,mb3.3/3, mb1 3.7/7,mb1mx2.9/34,mbtmp4.1/7,Error ellipse: s-maj=31.9km s-min=22.4km az=67.0
ISC 07 02:18:42.8±0.8,22.87S±0.08×63.8W±0.1,h535km,n18, σ1.23/20,mb3.8/3,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASTB	Santa Barbara	1.25	210	iP	P	02 19 50.2	+1.8
AZAP	Zapla	1.78	220	iP	P	02 19 51.6	+1.3
SLA	San Lorenzo	2.41	220	iP	P	02 19 54.6	+1.3
CYA	Choya	5.84	198	iP	P	02 20 18.7	-0.4
CYA				AML	AML	02 21 38.0	
	comp=E,3.6nm,0.6s						
CPUP	Villa Florida	6.83	122	P	P	02 20 28.9	+0.4
	comp=E,3.5nm,0.3s,baz=300,slow=9.5,SNR=23						
ACLC	CERRO LA CRUZ	7.12	203	iP	P	02 20 30.9	-0.5
LPAZ	La Paz	7.71	327	P	P	02 20 39.0	+1.1
	comp=E,2.3nm,0.3s,baz=117,slow=7.5,SNR=54						
LPAZ				S	S	02 22 10.4	-1.8
	comp=E,0.1nm,0.3s,baz=266,slow=15,SNR=4.0						
AGUA	GUANDACOL	7.82	212	iP	P	02 20 38.9	+0.7
AGUA				eS	S	02 22 11.7	-1.4
APLL	PUNTA DE LOS L	7.88	197	iP	P	02 20 38.5	-0.3
AVFE	Valle Fertil	8.42	202	AML	AML	02 22 21.5	
	comp=Z,4.5nm,0.3s						
CFAA	Coronel Fontan	9.55	203	P	P	02 20 56.8	+1.0
	comp=Z,0.4nm,0.3s,baz=21,slow=11,SNR=61						
CFAA				S	S	02 22 44.2	-0.9
	comp=Z,0.3nm,0.3s,baz=223,slow=20,SNR=15						
AUSP	Uspallata	10.55	207	iP	P	02 21 08.7	+2.3
ASAL	Salagasta	10.66	204	iP	P	02 21 09.2	+1.9
BDFB	Brasilia	16.54	67	P	P	02 22 07.3	-0.9
	comp=Z,0.8nm,0.3s,baz=237,slow=8.7,SNR=14						
PTGA	Pitinga	22.32	10	P	P	02 23 00.7	0.0
	comp=Z,1.3nm,0.4s,baz=243,slow=18,SNR=3.6						
DBIC	Dimbokro	64.66	70	P	P	02 28 28.6	+0.2
	comp=Z,2.4nm,0.8s,baz=218,slow=12,SNR=5.6						
TORD	Torodi Ar. Bea	73.43	68	P	P	02 29 21.1	0.0
	comp=Z,1.4nm,0.5s,baz=258,slow=5.9,SNR=49						
MKAR	Makanchi Array	143.78	40	PKP	PKPdf	02 37 16.7	-0.3
	comp=Z,0.4nm,0.5s,baz=318,slow=2.8,SNR=6.8						

ISCJB 07 02:29:20.5±0.5,26.36S±0.03×27.44E±0.03,h9km±3km, mb3.5/5,Error ellipse: s-maj=4.9km s-min=4.1km az=144.9
PRE 07 02:29:21.1±2.2,26.37S×27.44E,h2km,ML3.1
IDC 07 02:29:21.0±1.2,26.43S×27.39E,h0km,mb3.7/5, mb1 3.9/9,mb1mx3.8/28,mbtmp3.8/9,ML3.7/3,Error ellipse: s-maj=18.3km s-min=15.8km az=94.0
ISC 07 02:29:21.1±0.8,26.36S±0.03×27.41E±0.03,h7km±6km, n23,σ1.65/40,mb3.5/5,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	Western Deep L	0.07	170	eP	Pg	02 29 23.3	+0.2
WDLM				eS	Sg	02 29 24.2	-0.4
WDLM				AML	AML	02 29 25.1	
	comp=Z,18μm,0.5s						
KLOF	Kloof	0.18	87	eP	Pg	02 29 24.3	-0.5
KLOF				eS	Sg	02 29 25.5	-1.9
KLOF				AML	AML	02 29 28.4	
	comp=Z,5μm,0.3s						
OBSV	Observatory	0.62	74	eP	Pg	02 29 31.6	-1.5
OBSV				eS	Sg	02 29 41.5	+0.3
OBSV				AML	AML	02 29 48.0	
	comp=Z,306nm,0.7s						
KSR	Koster	0.68	318	eP	Pb	02 29 35.4	0.0
KSR				eS	Sb	02 29 45.0	-0.1
KSR				AML	AML	02 29 51.8	
	comp=Z,404nm,0.7s						
ERPM	east rand prop	0.75	89	eP	Pg	02 29 34.6	-0.9
ERPM				eS	Sg	02 29 45.0	-0.2
ERPM				AML	AML	02 29 49.6	
	comp=Z,318nm,1.0s						
BFSD	Buffelsfontein	0.75	228	eP	Pb	02 29 36.5	-0.1
BFSD				eS	Sb	02 29 45.8	-1.2
BFSD				AML	AML	02 29 52.8	
	comp=Z,345nm,0.6s						
MOAB	Moab Khotsong	0.83	221	eP	Pb	02 29 37.8	-0.1
MOAB				eS	Sg	02 29 47.6	-0.3
MOAB				AML	AML	02 29 54.2	
	comp=Z,266nm,0.3s						
SEK	Senekal	1.97	174	eP	Pb	02 29 56.4	-0.9
SEK				eS	Sn	02 30 19.4	-0.6
SEK				AML	AML	02 30 23.2	
	comp=Z,492nm,0.3s						
LBTB	Lobatse	2.11	309	eP	Pb	02 29 59.6	-0.1
LBTB				eS	Sn	02 30 24.1	+0.7
LBTB				AML	AML	02 30 30.5	
	comp=Z,475nm,0.3s						
LBTB	Lobatse	2.11	309	Pn	Pb	02 29 59.5	-0.3
	comp=Z,39nm,0.3s,baz=136,slow=16,SNR=450						
LBTB				Pg	Pg	02 30 00.7	-0.9
	comp=Z,39nm,0.3s,baz=144,slow=14,SNR=446						
LBTB				Lg	Lg	02 30 28.6	
	comp=Z,188nm,0.3s,baz=236,slow=21,SNR=52						
BOSA	Boshof	2.95	220	eP	Pn	02 30 08.9	+0.5
BOSA				eS	Sn	02 30 45.4	+1.2
BOSA				AML	AML	02 30 52.3	
	comp=Z,102nm,0.3s						
BOSA	Boshof	2.95	220	Pn	Pn	02 30 09.1	+0.6
	comp=Z,6.1nm,0.3s,baz=36,slow=12,SNR=258						
BOSA				Lg	Lg	02 30 51.7	
	comp=Z,49nm,0.3s,baz=323,slow=20,SNR=32						
KSD	Kokstad	4.53	157	eP	Pn	02 30 32.0	+1.8
KSD				eS	Sn	02 31 21.6	-1.5
KSD				AML	AML	02 31 45.6	
	comp=Z,26nm,0.6s						
MSNA	Messina	4.65	31	eP	Pn	02 30 32.9	+1.1
MSNA				eS	Sn	02 31 23.4	-2.6
MSNA				AML	AML	02 31 50.2	
	comp=Z,41nm,1.0s						
SUR	Sutherland	8.31	222	Pn	Pn	02 31 22.6	+0.5
	comp=Z,1.0nm,0.3s,baz=67,slow=10,SNR=14						
SUR				Sn	Sn	02 32 51.8	-4.7
	comp=Z,0.8nm,0.3s,baz=139,slow=20,SNR=3.6						
SUR				Lg	Lg	02 33 36.9	
	comp=Z,3.3nm,0.3s,baz=120,slow=22,SNR=5.6						
KOMG	Komaggas	9.41	246	eP	Pn	02 31 37.7	+0.6
KOMG				eS	Sn	02 33 19.6	-3.6
KOMG				AML	AML	02 33 55.3	
	comp=Z,3.1nm,0.8s						
LSZ	Lusaka	11.05	4	Pn	Pn	02 31 59.1	-0.6
	comp=Z,0.4nm,0.3s,baz=180,slow=13,SNR=8.5						
LSZ				Sn	Sn	02 34 00.7	-3.0
	comp=Z,0.5nm,0.3s,baz=80,slow=18,SNR=3.9						
LSZ				Lg	Lg	02 34 58.2	
	comp=Z,0.2nm,0.3s,baz=158,slow=19,SNR=2.1						
TSUM	Tsumeb	11.52	306	Pn	Pn	02 32 06.8	+0.7
	comp=Z,1.0nm,0.3s,baz=119,slow=10,SNR=57						
TSUM				Sn	Sn	02 34 11.3	-3.9
	comp=Z,0.2nm,0.3s,baz=246,slow=20,SNR=3.4						
TSUM				Lg	Lg	02 35 22.1	
	comp=Z,0.3nm,0.3s,baz=252,slow=20,SNR=3.9						
TORD	Torodi Ar. Bea	46.56	324	P	P	02 37 50.3	+0.7
	comp=Z,1.3nm,0.9s,baz=124,slow=5.3,SNR=10.0						
ESDC	Sonseca Array	71.92	335	P	P	02 40 46.4	+1.5
	comp=Z,0.1nm,0.4s,baz=156,slow=6.0,SNR=5.4						
GERES	GERESS Array B	75.86	351	P	P	02 41 10.1	+2.3
	comp=Z,0.3nm,0.6s,baz=187,slow=7.5,SNR=4.4						
AKASG	Malin Array Be	76.73	1	P	P	02 41 14.1	+1.4
	comp=Z,0.1nm,0.3s,baz=233,slow=0.3,SNR=2.5						
MKAR	Makanchi Array	88.06	34	P	P	02 42 13.1	+1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,0.6nm,0.8s,baz=223,slow=4.7,SNR=5.1						

ISCJB **07** *02:55:37.0±0.3, 51.°50N±0.°02×16.°12E±0.°04, h0^{km}, Error ellipse: s-maj=3.3km s-min=2.7km az=173.2*
CSEM **07** *02:55:38.9±0.1, 51.°48N×16.°07E, h2^{km}, ML3.2/4, Error ellipse: s-maj=4.6km s-min=2.5km az=89.0*
IDC **07** *02:55:40.1±1.1, 51.°45N×15.°99E, h0^{km}, mb1 3.0/4, mb1mx2.9/49, mbtmp2.8/4, ML2.4/4, Error ellipse: s-maj=17.4km s-min=9.3km az=119.0*
UPP **07** *02:55:45.2, 51.°88N×15.°46E, h0^{km}, ML1.6, Suspected Mining explosion.*
ISC 07 02:55:38.4±0.7, **51.°53N**±0.°03×**16.°08E**±0.°03, **h0^{km}, n49,** σ1§**16**/79, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**169**	*e*Pg	**Pg**	**02 55 52.2**	**+0.4**
KSP				*e*Sg	**Sg**	**02 56 01.1**	**+0.2**
KSP	**Ksiaz**	**0.70**	**169**	*e*Sg	**Sg**	**02 56 00.8**	**-0.1**
UPC	**Upice**	**1.03**	**182**	*e*PG	**Pg**	**02 55 58.2**	**+0.2**
UPC				*e*SG	**Sg**	**02 56 10.7**	**-0.6**
	18nm,0.2s						
UPC	**Upice**	**1.03**	**182**	Pg	**Pg**	**02 55 58.2**	**+0.2**
UPC				Sg	**Sg**	**02 56 10.7**	**-0.6**
	18nm,0.2s						
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*PG	**Pg**	**02 56 01.0**	**-0.2**
DPC				*e*SG	**Sg**	**02 56 15.4**	**-1.3**
DPC	**Dobruska-Polom**	**1.19**	**173**	Pg	**Pg**	**02 56 01.0**	**-0.2**
DPC				Sg	**Sg**	**02 56 15.4**	**-1.3**
PVCC	**Panska Ves**	**1.39**	**224**	*e*PG	**Pb**	**02 56 05.7**	**+0.5**
PVCC				*e*SG	**Sg**	**02 56 23.1**	**+0.2**
	82nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**224**	Pg	**Pb**	**02 56 05.7**	**+0.5**
PVCC				Sg	**Sg**	**02 56 23.1**	**+0.2**
	82nm,0.2s						
BRG	**Berggiesshubel**	**1.50**	**245**	PG	**Pg**	**02 56 07.8**	**+0.7**
BRG				SG	**Sn**	**02 56 27.9**	**+1.1**
	52nm,0.7s						
KRLC	**Kraliky**	**1.52**	**163**	*e*PG	**Pb**	**02 56 06.5**	**-0.4**
KRLC				*e*SG	**Sb**	**02 56 25.7**	**-1.7**
KRLC	**Kraliky**	**1.52**	**163**	Pg	**Pb**	**02 56 06.5**	**-0.4**
KRLC				Sg	**Sb**	**02 56 25.7**	**-1.7**
PRA	**Prague**	**1.80**	**216**	PN	**Pn**	**02 56 10.0**	**-0.6**
PRA				PG	**Pb**	**02 56 12.0**	**-0.2**
PRA				SG	**Sn**	**02 56 34.0**	**-0.2**
PRU	**Pruhonice**	**1.83**	**213**	*e*PN	**Pn**	**02 56 11.1**	**0.0**
PRU				*e*PG	**Pb**	**02 56 13.0**	**+0.3**
PRU				*e*SG	**Sb**	**02 56 36.1**	**0.0**
	20nm,0.3s						
PRU	**Pruhonice**	**1.83**	**213**	Pn	**Pn**	**02 56 11.1**	**0.0**
CLL	**Collm**	**1.94**	**265**	*e*Pn	**Pn**	**02 56 13.0**	**+0.4**
CLL				*e*Pg	**Pg**	**02 56 17.0**	**+1.4**
CLL				*e*Sg	**Pg**	**02 56 42.0**	**+1.3**
	comp=Z,14nm,0.9s						
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**02 56 13.0**	**-0.3**
MORC				*e*Sg	**Sn**	**02 56 39.8**	**+0.9**
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PG	**Pb**	**02 56 18.7**	**+0.6**
OKC				*e*SG	**Sb**	**02 56 45.8**	**+0.6**
OKC	**Ostrava-Krasne**	**2.15**	**141**	Pg	**Pb**	**02 56 18.7**	**+0.6**
OKC				Sg	**Sb**	**02 56 45.8**	**+0.6**
VRAC	**Vranov**	**2.25**	**171**	Pn	**Pn**	**02 56 17.1**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=344,slow=18,SNR=5.2						
VRAC				Pg	**Pg**	**02 56 20.9**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=346,slow=19,SNR=4.2						
VRAC				Lg	Lg	02 56 48.0	
	comp=Z,1.2nm,0.3s,baz=263,slow=13,SNR=5.0						
TREC	**Trest**	**2.27**	**190**	*e*Pn	**Pn**	**02 56 18.6**	**+1.4**
TREC				*e*PG	**Pb**	**02 56 21.0**	**+0.7**
TREC	**Trest**	**2.27**	**190**	Pn	**Pn**	**02 56 18.6**	**+1.4**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pg**	**02 56 31.4**	**+1.4**
OJC				*e*Sg	**Sg**	**02 57 06.3**	**+1.3**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pg**	**02 56 31.4**	**+1.4**
OJC				*e*Sg	**Sg**	**02 57 06.3**	**+1.3**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN	**Pn**	**02 56 26.3**	**+0.6**
KHC				*e*PG	**Pb**	**02 56 32.1**	**+1.3**
KHC				*e*SN	**Sn**	**02 56 59.1**	**-2.1**
KHC				*e*SG	**Sg**	**02 57 09.2**	**-2.0**
	comp=Z,5.8nm,0.5s						
KHC	**Kasperske Hory**	**2.89**	**215**	Pn	**Pn**	**02 56 26.3**	**+0.6**
GERES	**GERESS Array B**	**3.09**	**211**	Pn	**Pn**	**02 56 28.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=28,slow=12,SNR=11						
GERES				Pg	**Pb**	**02 56 35.3**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=26,slow=16,SNR=16						
GERES				Lg	Lg	02 57 14.1	
	comp=Z,1.3nm,0.3s,baz=28,slow=23,SNR=6.7						
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**02 56 36.7**	**+0.6**
BSD				*i* S	**Sn**	**02 57 16.9**	**-3.0**
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**02 56 36.7**	**+0.6**
BSD				*i* S	**Sn**	**02 57 16.9**	**-3.0**
BLEU	**Blekinge**	**4.78**	**358**	P	**Pn**	**02 56 52.6**	**+1.0**
BLEU				S	**Sn**	**02 57 44.8**	**-2.9**
BLEU	**Blekinge**	**4.78**	**358**	P	**Pn**	**02 56 52.6**	**+1.0**
BLEU				S	**Sn**	**02 57 44.8**	**-2.9**
BJUU	**Bjuv**	**4.90**	**339**	P	**Pn**	**02 56 53.1**	**-0.1**
BJUU	**Bjuv**	**4.90**	**339**	P	**Pn**	**02 56 53.1**	**-0.1**
OSKU	**Oskarshamn**	**5.67**	**0**	P	**Pn**	**02 57 04.9**	**+1.1**
OSKU	**Oskarshamn**	**5.67**	**0**	P	**Pn**	**02 57 04.9**	**+1.1**
BYXU	**Byxelkrok**	**5.79**	**5**	P	**Pn**	**02 57 06.6**	**+1.1**
BYXU	**Byxelkrok**	**5.79**	**5**	P	**Pn**	**02 57 06.6**	**+1.1**
ASPU	**Aespoe**	**5.91**	**3**	P	**Pn**	**02 57 08.6**	**+1.6**
ASPU	**Aespoe**	**5.91**	**3**	P	**Pn**	**02 57 08.6**	**+1.6**
EKSU	**Eksjoe**	**6.07**	**356**	P	**Pn**	**02 57 10.3**	**+1.0**
EKSU	**Eksjoe**	**6.07**	**356**	P	**Pn**	**02 57 10.3**	**+1.0**
VSTU	**Vaestervik**	**6.15**	**2**	P	**Pn**	**02 57 11.3**	**+1.0**
VSTU	**Vaestervik**	**6.15**	**2**	P	**Pn**	**02 57 11.3**	**+1.0**
DAVOX	**Davos/Dischmat**	**6.26**	**223**	Lg	Lg	02 58 55.5	
	baz=329,slow=19						
LNKU	**Linkoeping**	**6.71**	**357**	P	**Pn**	**02 57 18.6**	**+0.5**
LNKU	**Linkoeping**	**6.71**	**357**	P	**Pn**	**02 57 18.6**	**+0.5**
VIKU	**Vikbolandet**	**6.99**	**3**	P	**Pn**	**02 57 23.0**	**+1.0**
VIKU	**Vikbolandet**	**6.99**	**3**	P	**Pn**	**02 57 23.0**	**+1.0**
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	**02 57 39.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=284,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**02 58 19.5**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=219,slow=12,SNR=3.4						

IDC **07** *03:04:46.5±1.4, 13.°51N×88.°77W, h0^{km}, mb3.7/7, mb1 4.0/8, mb1mx3.7/24, mbtmp3.7/8, ML2.7/1, MS2.7/4, Ms1 2.7/4, ms1mx2.6/34, Error ellipse: s-maj=68.7km s-min=16.4km az=45.0*
ISCJB **07** *03:04:52.3±0.6, 13.°08N±0.°06×89.°27W±0.°05, h71^{km}±5^{km}, mb3.8/6, Error ellipse: s-maj=12.6km s-min=4.5km az=37.7*
CASC **07** *03:04:54.2±2.2, 13.°11N×89.°25W, h49^{km}±18^{km}, MD4.0, ML4.1*
ISC 07 03:04:52.9±1.2, **13.°05N**±0.°07×**89.°27W**±0.°06, **h58^{km}**±9^{km}, **n33,** σ1§**32**/48, **mb3.9**/7, **3C, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.46**	**28**	⇑*e*P	**Pn**	**03 05 04.1**	**-0.1**
AIES				*e*S	**Sn**	**03 05 12.4**	**0.0**
AIES				AML	AML	03 05 13.7	
	comp=Z,11μm,0.3s						
LFRS	**El Faro**	**0.60**	**20**	*e*P	**Pn**	**03 05 05.8**	**-0.1**
SNET	**Serv Nac Est T**	**0.63**	**4**	*e*P	**Pn**	**03 05 06.2**	**0.0**
SNET				*e*S	**Sn**	**03 05 15.3**	**-0.6**
SNET				AML	AML	03 05 17.3	
	comp=Z,8μm,0.2s						
BOQS	**Boqueron**	**0.68**	**359**	⇑*e*P	**Pn**	**03 05 07.1**	**+0.1**
BOQS				*e*S	**Sn**	**03 05 17.9**	**+0.7**
SNVI	**San Vicente**	**0.70**	**37**	*e*P	**Pn**	**03 05 06.9**	**-0.3**
SNVI				*e*S	**Sn**	**03 05 17.3**	**-0.2**
LFU	**La Fuente**	**0.71**	**13**	*e*P	**Pn**	**03 05 07.4**	**+0.2**
LBRS	**Las Brisas**	**0.72**	**18**	*e*P	**Pn**	**03 05 07.5**	**+0.2**
LBRS				*e*S	**Sn**	**03 05 18.1**	**+0.3**
SBLS	**San Blas**	**0.85**	**336**	*e*P	**Pn**	**03 05 08.9**	**-0.2**
SBLS				*e*S	**Sn**	**03 05 22.0**	**+0.9**
SNJE	**San Jose**	**0.87**	**338**	*e*P	**Pn**	**03 05 09.7**	**+0.3**
SNJE				*e*S	**Sn**	**03 05 22.3**	**+0.8**
RTR	**El Retiro**	**0.91**	**337**	*e*P	**Pn**	**03 05 10.0**	**+0.1**
RTR				*e*S	**Sn**	**03 05 22.7**	**+0.3**
VSM	**San Miguel**	**1.04**	**69**	⇑*e*P	**Pn**	**03 05 12.0**	**+0.4**
VSM				*e*S	**Sn**	**03 05 26.2**	**+0.7**
RBDL	**Robledal**	**1.13**	**339**	*e*P	**Pn**	**03 05 13.4**	**+0.7**
CAHU	**Cacacuatique**	**1.25**	**55**	*e*P	**Pn**	**03 05 15.1**	**+0.6**
CAHU				*e*S	**Sn**	**03 05 31.4**	**+1.0**
CNCH	**Conchagua**	**1.42**	**81**	*e*P	**Pn**	**03 05 16.8**	**+0.3**
CNCH				*e*S	**Sn**	**03 05 36.4**	**+2.1**
NBG	**Las Nubes**	**1.85**	**326**	*e*P	**Pn**	**03 05 25.4**	**+2.9**
MRL	**Marmol**	**2.04**	**349**	*e*P	**Pn**	**03 05 26.1**	**+1.1**
MRL				*e*P	**Pn**	**03 05 27.3**	**+2.3**
APG	**El Apazote**	**2.26**	**329**	Pn	**Pn**	**03 05 26.4**	**-1.7**
	comp=Z,2.1nm,0.3s,baz=129,slow=6.5,SNR=22						
APG				LR	LR	03 05 46.9	
	comp=Z,44nm,20.1s,baz=108,slow=27						
JTS	**JuntasAbangare**	**5.04**	**123**	Pn	**Pn**	**03 06 06.5**	**+0.4**
	comp=Z,2.8nm,0.3s,baz=311,slow=19,SNR=15						
JTS				Pg		03 06 16.1	
	comp=Z,17nm,0.3s,baz=306,slow=6.4,SNR=48						
JTS				Sn	**Sn**	**03 07 02.2**	**-0.8**
	comp=Z,2.1nm,0.3s,baz=282,slow=20,SNR=2.0						
JTS				Lg	Lg	03 07 25.2	
	comp=Z,6.3nm,0.3s,baz=92,slow=22,SNR=10.0						
JTS				LR	LR	03 07 39.8	
	comp=Z,36nm,18.6s,baz=317,slow=35						
JCR	**Jicaral**	**5.17**	**128**	*e*P	**Pn**	**03 06 09.3**	**+1.5**
CGA2	**Cerro Gallo 2**	**5.59**	**122**	*e*P	**Pn**	**03 06 16.7**	**+3.0**
CGA2				*e*S	**Sn**	**03 07 18.6**	**+1.9**
QCR	**Quepos**	**6.17**	**125**	*e*P	**Pn**	**03 06 23.7**	**+2.3**
QCR				*e*S	**Sn**	**03 07 27.4**	**-3.3**
BUS	**Buena Vista**	**6.43**	**122**	*e*P	Pn	03 06 30.8	+5.4
BUS				*e*S	**Sn**	**03 07 37.9**	**+0.3**
TEIG	**Tepich**	**7.20**	**7**	Pn	**Pn**	**03 06 37.3**	**+1.8**
	comp=Z,1.3nm,0.3s,baz=130,slow=3.3,SNR=8.7						
TXAR	**Lajitas Array**	**21.00**	**323**	P	**P**	**03 09 32.7**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=142,slow=10.0,SNR=18						
ATAH	**Atahualpa**	**22.78**	**151**	LR	LR	03 17 53.3	
	comp=Z,36nm,18.9s,baz=360,slow=34						
PTGA	**Pitinga**	**32.13**	**113**	LR	LR	03 24 22.7	
	comp=Z,45nm,18.8s,baz=3.0,slow=37						
PDAR	**Pinedale Array**	**34.42**	**333**	P	**P**	**03 11 34.3**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=116,slow=10,SNR=2.8						
PDAR				PcP	**PcP**	**03 14 09.2**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=140,slow=4.7,SNR=2.2						
NVAR	**Mina Array Bea**	**36.09**	**320**	P	**P**	**03 11 50.9**	**+1.5**
	comp=Z,0.4nm,0.2s,baz=126,slow=9.1,SNR=9.8						
NVAR				PcP	**PcP**	**03 14 15.8**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=123,slow=3.3,SNR=2.7						
ULM	**Lac du Bonnet**	**37.48**	**353**	P	**P**	**03 11 59.3**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=180,slow=9.1,SNR=3.8						
YKA	**Yellowknife Ar**	**52.58**	**346**	P	**P**	**03 13 59.1**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=144,slow=7.4,SNR=21						
INK	**Inuvik**	**62.10**	**343**	P	**P**	**03 15 06.5**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=144,slow=7.1,SNR=4.4						
ILAR	**Eielson Array**	**64.76**	**336**	P	**P**	**03 15 23.7**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=168,slow=5.1,SNR=5.4						
WRA	**Warramunga Arr**	**137.72**	**255**	PKP	**PKPdf**	**03 24 12.8**	**+1.3**
	comp=Z,0.4nm,1.0s,baz=92,slow=2.7,SNR=2.7						

ISCJB **07** *03:13:56.4±0.5, 12.°1S±0.°1×14.°47W±0.°08, h10^{km}, mb4.1/17, MS3.5/12, Error ellipse: s-maj=15.5km s-min=10.5km az=165.7*
IDC **07** *03:13:56.7±0.9, 12.°10S×14.°41W, h0^{km}, mb4.0/11, mb1 4.1/11, mb1mx3.9/40, mbtmp4.1/11, MS3.6/12, Ms1 3.6/12, ms1mx3.5/24, Error ellipse: s-maj=25.7km s-min=20.3km az=170.0*
NEIC **07** *03:13:58.0±0.3, 12.°14S×14.°46W, h10^{km}, mb4.4/11, Error ellipse: s-maj=10.2km s-min=7.6km az=162.0*
ISC 07 03:13:58.0±0.6, **12.°2S**±0.°1×**14.°48W**±0.°10, **h10^{km}, n43,** σ0§**75**/31, **mb4.2**/18, **MS3.5**/12, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**3.18**	**357**	T	T	03 18 30.6	
	baz=186,slow=76,SNR=59						
H10S3	**ASCENSION HYDR**	**3.18**	**357**	T	T	03 18 29.9	
	baz=186,slow=76,SNR=22						
H10S1	**ASCENSION HYDR**	**3.19**	**357**	T	T	03 18 28.3	
	baz=186,slow=76,SNR=27						
H10N1	**ASCENSION HYDR**	**4.28**	**360**	T	T	03 19 51.8	
	baz=181,slow=72,SNR=6.5						
H10N3	**ASCENSION HYDR**	**4.28**	**360**	T	T	03 19 53.5	
	baz=181,slow=72,SNR=21						
H10N2	**ASCENSION HYDR**	**4.30**	**360**	T	T	03 19 49.5	
	baz=181,slow=72,SNR=9.2						
DBIC	**Dimbokro**	**21.00**	**28**	P	**P**	**03 18 41.4**	**-0.4**
	4.9nm,0.9s,baz=220,slow=16,SNR=2.1						
DBIC				LR	LR	03 25 07.3	
	comp=Z,143nm,20.5s,baz=181,slow=32						
DBIC	**Dimbokro**	**21.00**	**28**	*e*P	**P**	**03 18 42.2**	**+0.4**
	26nm,1.4s						
RCBR	**Riachuelo**	**22.07**	**285**	LR	LR	03 24 50.4	
	comp=Z,179nm,21.0s,baz=102,slow=30						
BBTS	**Babate**	**26.72**	**356**	LR	LR	03 28 08.6	
	comp=Z,99nm,20.0s,baz=190,slow=32						
TOA0	**Torodi Ar. Sit**	**29.82**	**33**	*e*P	**P**	**03 20 06.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**29.82**	**33**	P	**P**	**03 20 04.3**	**-1.1**
	0.7nm,1.1s,baz=209,slow=12,SNR=3.6						
TORD				LR	LR	03 30 32.9	
	comp=Z,203nm,18.6s,baz=310,slow=34						
TSUM	**Tsumeb**	**31.61**	**107**	P	**P**	**03 20 22.3**	**+0.8**
	2.2nm,1.0s,baz=281,slow=10,SNR=5.8						
TSUM	**Tsumeb**	**31.61**	**107**	*e*P	**P**	**03 20 22.2**	**+0.7**
	6.2nm,1.2s						
BDFB	**Brasilia**	**32.72**	**260**	P	**P**	**03 20 31.8**	**+0.6**
	2.9nm,0.8s,baz=85,slow=11,SNR=5.9						
BDFB				LR	LR	03 30 59.0	
	comp=Z,122nm,21.0s,baz=106,slow=31						
TAM	**Tamanrasset**	**39.87**	**29**	*e*P	**P**	**03 21 32.7**	**+0.5**
LBTB	**Lobatse**	**39.93**	**114**	*e*P	**P**	**03 21 33.0**	**+0.3**
	7.0nm,1.1s						
BOSA	**Boshof**	**40.46**	**120**	P	**P**	**03 21 37.1**	**0.0**
	5.4nm,1.0s,baz=306,slow=8.7,SNR=3.6						
BOSA				LR	LR	03 35 37.7	
	comp=Z,74nm,18.4s,baz=288,slow=32						
BOSA	**Boshof**	**40.46**	**120**	*e*P	**P**	**03 21 36.6**	**-0.5**
	12nm,1.2s						
LSZ	**Lusaka**	**41.52**	**99**	P	**P**	**03 21 44.7**	**-1.3**
	1.2nm,0.8s,baz=270,slow=12,SNR=2.3						
LSZ	**Lusaka**	**41.52**	**99**	*e*P	**P**	**03 21 45.9**	**-0.1**
	2.3nm,1.0s						
SAML	**Samuel**	**47.94**	**269**	*e*P	**P**	**03 22 37.5**	**+0.3**
	2.0nm,0.9s						
LPAZ	**La Paz**	**52.06**	**259**	P	**P**	**03 23 10.1**	**+1.0**
	0.9nm,0.7s,baz=94,slow=2.4,SNR=4.7						
LPAZ				LR	LR	03 43 49.3	
	comp=Z,38nm,18.6s,baz=90,slow=34						
KEST	**Kesra**	**52.68**	**24**	LR	LR	03 45 06.1	
	comp=Z,65nm,18.3s,baz=312,slow=36						
PLCA	**Paso Flores**	**56.59**	**229**	LR	LR	03 43 36.4	
	comp=Z,43nm,21.4s,baz=178,slow=31						
ROSC	**El Rosal**	**61.85**	**282**	LR	LR	03 49 42.6	
	comp=Z,45nm,21.3s,baz=57,slow=35						
OTAV	**Otavalo**	**64.65**	**276**	*e*P	**P**	**03 24 36.8**	**-0.3**
	1.5nm,0.7s						
BRTR	**Keskin Array B**	**68.26**	**38**	P	**P**	**03 24 59.2**	**-0.1**
	1.2nm,1.0s,baz=232,slow=6.1,SNR=5.1						
BRTR				LR	LR	03 55 36.5	
	comp=Z,20nm,19.8s,baz=281,slow=37						
BCIP	**Isla Barro Col**	**68.32**	**285**	*e*P	**P**	**03 25 01.0**	**+1.0**
BUR08	**Bucovina Ar. S**	**69.22**	**28**	*e*P	**P**	**03 25 03.6**	**-1.5**
AK02	**Malin Array Si**	**73.21**	**27**	*e*P	**P**	**03 25 29.1**	**+0.1**
AK01	**Malin Array Si**	**73.24**	**27**	*e*P	**P**	**03 25 29.8**	**+0.6**
AKASG	**Malin Array Be**	**73.25**	**27**	P	**P**	**03 25 29.5**	**+0.2**
	3.4nm,0.9s,baz=224,slow=5.5,SNR=13						
JTS	**JuntasAbangare**	**73.47**	**285**	*e*P	**P**	**03 25 29.8**	**-1.6**
	3.9nm,0.6s						
GNI	**Garni**	**75.56**	**43**	*e*P	**P**	**03 25 43.0**	**-0.2**
	8.2nm,1.1s						
NOA	**NORSAR Array B**	**75.75**	**13**	P	**P**	**03 25 43.6**	**0.0**
	1.8nm,1.0s,baz=205,slow=6.3,SNR=3.5						
NOA				LR	LR	03 59 32.1	
	comp=Z,32nm,18.2s,baz=280,slow=36						
KIV	**Kislovodsk**	**76.21**	**39**	*e*P	P	03 25 43.2	-3.5
	4.8nm,0.6s						
FINES	**FINESS Array B**	**80.00**	**18**	P	**P**	**03 26 07.3**	**+0.1**
	2.9nm,0.9s,baz=215,slow=4.0,SNR=7.9						
ABKAR	**Akbulak array**	**89.19**	**39**	*e*P	**P**	**03 26 55.0**	**+1.0**
	1.0nm,0.8s						
KKM	**Kota Kinabalu**	**130.99**	**93**	*e*PKPdf	**PKPdf**	**03 33 10.3**	**-0.8**
KAPI	**Kappang**	**131.40**	**108**	*e*PKPdf	**PKPdf**	**03 33 11.5**	**-0.2**
COEN	**Coen**	**145.89**	**139**	*e*PKPbc	**PKPbc**	**03 33 38.7**	**0.0**
DZM	**Mont Dzumac**	**145.98**	**182**	*e*PKPbc	**PKPab**	**03 33 39.4**	**0.0**

IGIL **07** *03:20:09.4, 34.°83N×5.°74W, h0^{km}, ML3.0*
SFS **07** *03:20:09.0, 34.°82N×5.°74W, h0^{km}, ML2.6*
CSEM **07** *03:20:09.2±0.1, 34.°86N×5.°79W, h10^{km}, ML3.3/5, Error ellipse: s-maj=3.9km s-min=2.9km az=67.0*
ISCJB **07** *03:20:09.5±0.3, 34.°88N±0.°02×5.°76W±0.°03, h30^{km}, mb3.1/2, Error ellipse: s-maj=3.6km s-min=2.1km az=156.5*
INMG **07** *03:20:10.1±1.0, 34.°79N×5.°68W, h22^{km}±3^{km}, ML2.7, Error ellipse: s-maj=4.8km s-min=4.0km az=16.0*
IDC **07** *03:20:10.3±2.3, 34.°79N×4.°54W, h0^{km}, mb3.1/2, mb1 3.4/5, mb1mx3.2/32, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=63.6km s-min=18.8km az=101.0*
MDD **07** *03:20:10.0±0.9, 34.°82N×5.°74W, h8^{km}±7^{km}, mbLg2.7/32, Error ellipse: s-maj=5.1km s-min=3.5km az=75.0, PRXIMO*
LDG **07** *03:20:11.1±0.9, 35.°06N×5.°50W, h10^{km}, Ml3.1/4, Error ellipse: s-maj=18.3km s-min=10.6km az=179.0*
CNRM **07** *03:20:11.2, 34.°74N×5.°65W, h2^{km}, MD3.6*
ISC 07 03:20:10.5±0.8, **34.°84N**±0.°02×**5.°72W**±0.°02, **h30^{km}, n142,** σ1§**14**/256, **3C, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGT	**Taghat**	**0.94**	**144**	P	**Pn**	**03 20 26.0**	**-1.8**
TGT				S	**Sn**	**03 20 38.0**	**-2.3**
TGT	**Taghat**	**0.94**	**144**	P	**Pn**	**03 20 26.0**	**-1.8**
ECEU	**Ceuta**	**1.09**	**15**	P	**Pb**	**03 20 31.3**	**+0.5**
	17nm,0.3s,SNR=7.9						
ECEU				S	**Sb**	**03 20 46.2**	**+1.5**
	94nm,0.6s,SNR=7.9						
ECEU	**Ceuta**	**1.09**	**15**	P	**Pb**	**03 20 31.3**	**+0.5**
	17nm,0.3s,SNR=7.9						
ECEU				S	**Sb**	**03 20 46.2**	**+1.5**
	94nm,0.6s,SNR=7.9						
RTC	**Rabat Centre**	**1.27**	**228**	P	**Pb**	**03 20 34.0**	**+0.2**
RTC				S	**Sb**	**03 20 50.0**	**+0.3**
RTC	**Rabat Centre**	**1.27**	**228**	*i* P	**Pb**	**03 20 34.0**	**+0.2**
RTC				*i* S	**Sb**	**03 20 50.0**	**+0.3**
TOU	**Touzarine**	**1.62**	**85**	P	**Pb**	**03 20 39.0**	**-0.8**
TOU				S	**Sb**	**03 20 59.0**	**-0.8**
TOU	**Touzarine**	**1.62**	**85**	*e*P	**Pb**	**03 20 39.0**	**-0.8**
TOU				*i* S	**Sb**	**03 20 59.0**	**-0.8**
REAL	**Reales**	**1.69**	**14**	P	**Pb**	**03 20 40.0**	**-1.0**
REAL	**Reales**	**1.69**	**14**	P	**Pb**	**03 20 40.0**	**-1.0**
EMIJ	**Mijas**	**1.88**	**24**	P	**Pn**	**03 20 40.7**	**+0.1**
	0.2nm,0.2s,SNR=9.9						
EMIJ				S	**Sb**	**03 21 06.7**	**-0.7**
	8.6nm,0.3s,SNR=4.0						
EMIJ	**Mijas**	**1.88**	**24**	P	**Pn**	**03 20 40.7**	**+0.1**
	0.2nm,0.2s,SNR=9.9						
EMIJ				S	**Sb**	**03 21 06.7**	**-0.7**
	8.6nm,0.3s,SNR=4.0						
ESPR	**Espera**	**2.03**	**357**	⇑P	**Pn**	**03 20 43.8**	**+1.2**
	5.6nm,0.3s,SNR=18						
ESPR				S	**Sn**	**03 21 08.2**	**+1.3**
	12nm,0.3s,SNR=4.6						
ESPR	**Espera**	**2.03**	**357**	P	**Pn**	**03 20 43.8**	**+1.2**
	5.6nm,0.3s,SNR=18						
ESPR				S	**Sn**	**03 21 08.2**	**+1.3**
	12nm,0.3s,SNR=4.6						
LIJA	**Lijar**	**2.08**	**7**	P	**Pn**	**03 20 45.0**	**+1.6**
LIJA	**Lijar**	**2.08**	**7**	P	**Pn**	**03 20 45.0**	**+1.6**
MDT	**Midelt**	**2.22**	**155**	Pn	**Pn**	**03 20 44.8**	**-0.5**
	4.3nm,0.3s,baz=338,slow=9.9,SNR=108						
MDT				Sn	**Sn**	**03 21 10.7**	**-1.1**
	12nm,0.3s,baz=292,slow=16,SNR=16						
KIB	**El Ksiba**	**2.27**	**187**	P	**Pn**	**03 20 46.0**	**-0.1**
KIB				S	**Sn**	**03 21 14.0**	**+0.8**
KIB	**El Ksiba**	**2.27**	**187**	*e*P	**Pn**	**03 20 46.0**	**-0.1**
KIB				*i* S	**Sn**	**03 21 14.0**	**+0.8**
ZAI	**Zaio**	**2.44**	**86**	P	**Pn**	**03 20 50.0**	**+1.6**
ZAI				S	**Sn**	**03 21 18.0**	**+0.7**
ZAI	**Zaio**	**2.44**	**86**	*e*P	**Pn**	**03 20 50.0**	**+1.6**
ZAI				*e*S	**Sn**	**03 21 18.0**	**+0.7**
TZC	**Tazercounte**	**2.76**	**194**	P	**Pn**	**03 20 55.0**	**+2.1**
TZC				S	**Sn**	**03 21 25.0**	**-0.4**
TZC	**Tazercounte**	**2.76**	**194**	*e*P	**Pn**	**03 20 55.0**	**+2.1**
TZC				*i* S	**Sn**	**03 21 25.0**	**-0.4**
SELV	**Sierra Elvira**	**2.88**	**33**	P	**Pn**	**03 20 57.5**	**+3.1**
	3.5nm,0.4s,SNR=7.9						
SELV				S	**Sb**	**03 21 36.0**	**-0.2**
	5.9nm,0.5s,SNR=7.9						
SELV	**Sierra Elvira**	**2.88**	**33**	P	**Pn**	**03 20 57.5**	**+3.1**
	3.5nm,0.4s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.99**	**324**	*e*Pn	**Pn**	**03 20 56.2**	**+0.3**
PBDV				*e*Sn	**Sn**	**03 21 31.0**	**+0.2**
PBDV				A	A	03 21 36.9	
	18nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.99**	**324**	P	**Pn**	**03 20 56.2**	**+0.3**
PBDV				S	**Sn**	**03 21 31.0**	**+0.2**
	18nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.99**	**324**	P	**Pn**	**03 20 56.2**	**+0.3**
PBDV				S	**Sn**	**03 21 31.0**	**+0.2**
	18nm,0.3s						
EMIN	**Mina Concepcio**	**3.02**	**345**	P	**Pn**	**03 20 56.5**	**+0.2**
	3.1nm,0.2s,SNR=31						
EMIN				S	**Sn**	**03 21 32.4**	**+1.0**
	4.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.02**	**345**	P	**Pn**	**03 20 56.5**	**+0.2**
	3.1nm,0.2s,SNR=31						
EMIN				S	**Sn**	**03 21 32.4**	**+1.0**
	4.3nm,0.2s,SNR=7.9						
ZFT	**Errachidia**	**3.02**	**157**	P	**Pn**	**03 20 56.5**	**0.0**
ZFT				S	**Sn**	**03 21 31.0**	**-0.8**
ZFT	**Errachidia**	**3.02**	**157**	*i* P	**Pn**	**03 20 56.5**	**0.0**
ZFT				*i* S	**Sn**	**03 21 31.0**	**-0.8**
PVAQ	**Vaqueiros**	**3.03**	**328**	*i* Pn	**Pn**	**03 20 56.8**	**+0.5**
PVAQ				*e*Sn	**Sn**	**03 21 31.7**	**+0.1**
PVAQ				A	A	03 21 33.2	
	46nm,0.4s						
PVAQ	**Vaqueiros**	**3.03**	**328**	⇑P	**Pn**	**03 20 56.8**	**+0.5**
PVAQ				S	**Sn**	**03 21 31.7**	**+0.1**
	46nm,0.4s						
PVAQ	**Vaqueiros**	**3.03**	**328**	P	**Pn**	**03 20 56.8**	**+0.5**
PVAQ				S	**Sn**	**03 21 31.7**	**+0.1**
	46nm,0.4s						
EGRO	**El Granado**	**3.04**	**333**	⇑P	**Pn**	**03 20 57.0**	**+0.4**
	19nm,0.3s,SNR=18						
EGRO				S	**Sn**	**03 21 32.6**	**+0.6**
	19nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.04**	**333**	P	**Pn**	**03 20 57.0**	**+0.4**
	19nm,0.3s,SNR=18						
EGRO				S	**Sn**	**03 21 32.6**	**+0.6**
	19nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.08**	**47**	P	**Pn**	**03 20 57.8**	**+0.6**
	7.3nm,0.5s,SNR=12						
EBER				S	**Sn**	**03 21 35.7**	**+2.5**
	17nm,0.5s,SNR=7.9						
EBER	**Berja**	**3.08**	**47**	P	**Pn**	**03 20 57.8**	**+0.6**
	7.3nm,0.5s,SNR=12						
EBER				S	**Sn**	**03 21 35.7**	**+2.5**
	17nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**3.24**	**4**	P	**Pn**	**03 20 59.6**	**+0.3**
	0.4nm,0.2s,SNR=19						
ECAB				S	**Sn**	**03 21 36.8**	**0.0**
	4.0nm,0.3s,SNR=6.6						
ECAB	**El Cabril**	**3.24**	**4**	P	**Pn**	**03 20 59.6**	**+0.3**
	0.4nm,0.2s,SNR=19						
ECAB				S	**Sn**	**03 21 36.8**	**0.0**
	4.0nm,0.3s,SNR=6.6						
PCVE	**Castro Verde**	**3.36**	**327**	*e*Pn	**Pn**	**03 21 01.3**	**+0.4**
PCVE				*e*Sn	**Sn**	**03 21 39.9**	**+0.1**
PCVE				A	A	03 21 42.2	
	31nm,0.9s						
PCVE	**Castro Verde**	**3.36**	**327**	P	**Pn**	**03 21 01.3**	**+0.4**
PCVE				S	**Sn**	**03 21 39.9**	**+0.1**
	31nm,0.9s						
PCVE	**Castro Verde**	**3.36**	**327**	P	**Pn**	**03 21 01.3**	**+0.4**
PCVE				S	**Sn**	**03 21 39.9**	**+0.1**
	31nm,0.9s						
PFVI	**Vila Bisbo**	**3.40**	**313**	*e*Pn	**Pn**	**03 21 01.8**	**+0.2**
PFVI				*e*Sn	**Sn**	**03 21 41.3**	**+0.4**
PFVI				A	A	03 21 46.7	
	9.1nm,0.5s						
PFVI	**Vila Bisbo**	**3.40**	**313**	P	**Pn**	**03 21 01.7**	**+0.2**
	2.1nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**03 21 43.4**	**+2.5**
	5.8nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.40**	**313**	P	**Pn**	**03 21 01.7**	**+0.2**
	2.1nm,0.2s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**03 21 41.3**	**+0.4**
	9.1nm,0.5s						
PFVI				S	**Sn**	**03 21 43.4**	**+2.5**
	5.8nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**3.42**	**317**	*e*P	**Pn**	**03 21 01.7**	**-0.1**
MORF				*e*S	**Sn**	**03 21 40.3**	**-1.0**
MORF				AML	AML	03 21 44.9	
	comp=N,34nm,0.2s						
MORF	**Marmelete**	**3.42**	**317**	*e*Pn	**Pn**	**03 21 01.7**	**-0.1**

MORF eSn Sn 03 21 40.6 -0.8
MORF A A 03 21 47.9
comp=N,12nm,0.3s
MORF Marmelete 3.42 317 P Pn 03 21 01.7 -0.1
MORF S Sn 03 21 40.6 -0.8
comp=N,12nm,0.3s
MORF Marmelete 3.42 317 P Pn 03 21 01.7 -0.1
MORF S Sn 03 21 40.6 -0.8
comp=N,12nm,0.3s
PBAR Barrancos 3.49 343 ePn Pn 03 21 03.1 +0.3
PBAR eSn Sn 03 21 42.4 -0.7
PBAR A A 03 21 48.1
comp=N,12nm,0.4s
PBAR Barrancos 3.49 343 P Pn 03 21 03.1 +0.3
PBAR S Sn 03 21 42.4 -0.7
comp=N,12nm,0.4s
PBAR Barrancos 3.49 343 P Pn 03 21 03.1 +0.3
PBAR S Sn 03 21 42.4 -0.7
comp=N,12nm,0.4s
MESJ Messejana 3.61 327 eP Pn 03 21 04.7 +0.4
MESJ eS Sn 03 21 45.5 -0.5
MESJ AML AML 03 21 48.6
comp=N,43nm,0.5s
MESJ Messejana 3.61 327 P Pn 03 21 04.7 +0.4
MESJ S Sn 03 21 45.5 -0.5
comp=N,43nm,0.5s
MESJ Messejana 3.61 327 P Pn 03 21 04.7 +0.4
MESJ S Sn 03 21 45.5 -0.5
comp=N,43nm,0.5s
PBEJ Beja 3.62 332 ePn Pn 03 21 04.8 +0.3
PBEJ eSn Sn 03 21 46.1 -0.1
PBEJ A A 03 21 52.3
comp=N,10.0nm,0.4s
PBEJ Beja 3.62 332 P Pn 03 21 04.8 +0.3
PBEJ S Sn 03 21 46.1 -0.1
comp=N,5.0nm,0.4s
PBEJ Beja 3.62 332 P Pn 03 21 04.8 +0.3
PBEJ S Sn 03 21 46.1 -0.1
comp=N,5.0nm,0.4s
PTEO Sao Teotonio 3.63 319 ePn Pn 03 21 05.0 +0.3
PTEO eSn Sn 03 21 46.7 +0.2
PTEO A A 03 21 54.1
comp=N,17nm,0.5s
PTEO Sao Teotonio 3.63 319 P Pn 03 21 05.0 +0.3
PTEO S Sn 03 21 46.7 +0.2
comp=N,8.6nm,0.5s
PTEO Sao Teotonio 3.63 319 P Pn 03 21 05.0 +0.3
PTEO S Sn 03 21 46.7 +0.2
comp=N,8.6nm,0.5s
EQES Quesada 3.65 35 P Pn 03 21 07.7 +2.7
comp=N,0.3nm,0.2s,SNR=12
EQES S Sn 03 21 49.9 +2.9
comp=N,2.7nm,0.3s,SNR=7.9
EQES Quesada 3.65 35 P Pn 03 21 07.7 +2.7
comp=N,0.3nm,0.2s,SNR=12
EQES S Sn 03 21 49.9 +2.9
comp=N,2.7nm,0.3s,SNR=7.9
PNCL Nicolau / Gran 3.97 326 ePn Pn 03 21 09.7 +0.4
PNCL eSn Sn 03 21 54.7 -0.2
PNCL A A 03 21 56.4
comp=N,10nm,0.6s
PNCL Nicolau / Gran 3.97 326 ePn Pn 03 21 09.7 +0.4
PNCL eSn Sn 03 21 54.7 -0.2
comp=N,10nm,0.6s
EBAD Badajoz 4.04 345 P Pn 03 21 10.7 +0.4
comp=N,6.4nm,0.3s,SNR=47
EBAD S Sn 03 21 56.6 -0.1
comp=N,9.4nm,0.3s,SNR=7.9
EBAD Badajoz 4.04 345 P Pn 03 21 10.7 +0.4
comp=N,6.4nm,0.3s,SNR=47
EBAD S Sn 03 21 56.6 -0.1
comp=N,9.4nm,0.3s,SNR=7.9
EVO Evora 4.12 334 ePn Pn 03 21 12.3 +0.9
EVO eSn Sn 03 21 56.0 -2.5
comp=N,45nm,0.4s
EVO Evora 4.12 334 ePn Pn 03 21 11.8 +0.4
EVO eSn Sn 03 21 58.3 -0.2
EVO A A 03 21 59.0
comp=N,20nm,0.3s
EVO Evora 4.12 334 P Pn 03 21 11.8 +0.4
EVO S Sn 03 21 58.3 -0.2
comp=N,20nm,0.3s
EVO Evora 4.12 334 P Pn 03 21 11.8 +0.4
EVO S Sn 03 21 58.3 -0.2
comp=N,20nm,0.3s
EVOP Sao Brissos 4.16 333 ePn Pn 03 21 12.3 +0.4
EVOP eSn Sn 03 21 56.0 -3.4
comp=N,22nm,0.4s
MOE Montemor 4.24 331 ePn Pn 03 21 13.8 +0.8
MOE eSn Sn 03 22 01.5 0.0
MOE Montemor 4.24 331 P Pn 03 21 13.8 +0.8
MOE S Sn 03 22 01.5 0.0
MOE Montemor 4.24 331 P Pn 03 21 13.8 +0.8
MOE S Sn 03 22 01.5 0.0
PESTR Estremoz 4.29 340 ePn Pn 03 21 14.1 +0.4
PESTR eSn Sn 03 22 02.0 -0.7
PESTR A A 03 22 04.5
comp=N,9.3nm,0.3s
PESTR Estremoz 4.29 340 ePn Pn 03 21 14.1 +0.4
PESTR eSn Sn 03 22 02.0 -0.7
comp=N,9.3nm,0.3s
EMUR La Murta 4.69 49 P Pn 03 21 20.2 +0.9
comp=N,0.8nm,0.3s,SNR=7.9
EMUR La Murta 4.69 49 P Pn 03 21 20.2 +0.9
comp=N,0.8nm,0.3s,SNR=7.9
PMRV Marv??o 4.77 344 ePn Pn 03 21 21.1 +0.8
PMRV eSn Sn 03 22 14.7 +0.1
PMRV A A 03 22 33.0
comp=N,9.0nm,0.5s
PMRV Marv??o 4.77 344 P Pn 03 21 21.1 +0.8
PMRV S Sn 03 22 14.7 +0.1
comp=N,9.0nm,0.5s
PMRV Marv??o 4.77 344 P Pn 03 21 21.1 +0.8
PMRV S Sn 03 22 14.7 +0.1
comp=N,9.0nm,0.5s
PMAFR Mafra 5.00 326 ePn Pn 03 21 24.6 +1.0
PMAFR A A 03 22 20.7
comp=N,12nm,0.7s
PMAFR eSn Sn 03 22 20.8 +0.5
PMAFR Mafra 5.00 326 P Pn 03 21 24.5 +1.0
comp=N,3.9nm,0.2s,SNR=7.6
PMAFR S Sn 03 22 20.1 -0.2
comp=N,35nm,0.5s,SNR=7.9
PMAFR Mafra 5.00 326 P Pn 03 21 24.5 +1.0
comp=N,3.9nm,0.2s,SNR=7.6
PMAFR S Sn 03 22 20.1 -0.2
comp=N,35nm,0.5s,SNR=7.9
PMAFR eSn Sn 03 22 20.8 +0.5
ESDC Sonseca Array 5.02 16 P Pn 03 21 24.4 +0.6
comp=N,0.5nm,0.3s,baz=198,slow=13,SNR=20
ESDC S Sn 03 22 19.1 -1.8
comp=N,2.4nm,0.3s,baz=198,slow=23,SNR=7.9
ESDC Sonseca Array 5.02 16 Pn Pn 03 21 24.1 +0.3
comp=N,0.9nm,0.3s,baz=199,slow=13,SNR=19
ESDC Sn Sn 03 22 18.7 -2.2
comp=N,0.9nm,0.3s,baz=199,slow=23,SNR=5.9
ESDC Sonseca Array 5.02 16 P Pn 03 21 24.4 +0.6
comp=N,0.5nm,0.3s,SNR=20
ESDC S Sn 03 22 19.1 -1.8
comp=N,2.4nm,0.3s,SNR=7.9
ETOB Tobarra 5.06 40 P Pn 03 21 26.5 +2.1
comp=N,1.3nm,0.3s,SNR=7.9
ETOB Tobarra 5.06 40 P Pn 03 21 26.5 +2.1
comp=N,1.3nm,0.3s,SNR=7.9
PCBR Castelo Branco 5.18 345 ePn Pn 03 21 26.6 +0.6
PCBR eSn Sn 03 22 23.8 -0.9
PCBR A A 03 22 24.8
comp=N,5.3nm,0.3s
PCBR Castelo Branco 5.18 345 P Pn 03 21 26.6 +0.6
PCBR S Sn 03 22 23.8 -0.9
comp=N,2.7nm,0.3s
PCBR Castelo Branco 5.18 345 P Pn 03 21 26.6 +0.6
PCBR S Sn 03 22 23.8 -0.9
comp=N,2.7nm,0.3s
EPLA Plasencia 5.22 357 P Pn 03 21 27.3 +0.8
comp=N,1.1nm,0.2s,SNR=23
EPLA S Sn 03 22 24.5 -1.3
comp=N,2.4nm,0.2s,SNR=7.1
EPLA Plasencia 5.22 357 P Pn 03 21 27.3 +0.8
comp=N,1.1nm,0.2s,SNR=23
EPLA S Sn 03 22 24.5 -1.3
comp=N,2.4nm,0.2s,SNR=7.1
PTOM Tomar 5.23 337 ePn Pn 03 21 27.5 +0.9
PTOM eSn Sn 03 22 25.2 -0.7
PTOM A A 03 22 34.7
comp=N,9.3nm,0.8s
PTOM Tomar 5.23 337 P Pn 03 21 27.5 +0.9
PTOM S Sn 03 22 25.2 -0.7
comp=N,4.7nm,0.8s
PTOM Tomar 5.23 337 P Pn 03 21 27.5 +0.9
PTOM S Sn 03 22 25.2 -0.7
comp=N,4.7nm,0.8s
PCAS Casmilo, Conde 5.65 338 ePn Pn 03 21 33.0 +0.6
PCAS eSn Sn 03 22 35.3 -1.0
PCAS A A 03 23 02.8
comp=N,6.8nm,0.6s
PCAS Casmilo, Conde 5.65 338 ePn Pn 03 21 33.0 +0.6
PCAS eSn Sn 03 22 35.3 -1.0
comp=N,6.8nm,0.6s
MTE Manteigas 5.74 346 ePn Pn 03 21 34.3 +0.7
MTE eSn Sn 03 22 37.5 -0.9
MTE A A 03 22 52.7
comp=N,10nm,0.5s
MTE Manteigas 5.74 346 P Pn 03 21 34.3 +0.7
MTE S Sn 03 22 37.5 -0.9
comp=N,5.2nm,0.5s
MTE Manteigas 5.74 346 P Pn 03 21 34.3 +0.7
MTE S Sn 03 22 37.5 -0.9
comp=N,5.2nm,0.5s
GUD Guadarrama 5.92 12 P Pn 03 21 37.1 +0.8
comp=N,0.4nm,0.3s,SNR=7.3
GUD S Sn 03 22 39.9 -3.3
comp=N,0.4nm,0.3s,SNR=7.9
GUD Guadarrama 5.92 12 P Pn 03 21 37.1 +0.8
comp=N,0.4nm,0.3s,SNR=7.3
PVIS Viseu 6.11 344 ePn Pn 03 21 39.7 +0.9
PVIS eSn Sn 03 22 46.2 -1.5
PVIS A A 03 22 58.0
comp=N,3.1nm,0.6s
PVIS Viseu 6.11 344 P Pn 03 21 39.7 +0.9
PVIS S Sn 03 22 46.2 -1.5
comp=N,1.6nm,0.6s
PVIS Viseu 6.11 344 P Pn 03 21 39.7 +0.9
PVIS S Sn 03 22 46.2 -1.5
comp=N,1.6nm,0.6s
MVO Moncorvo 6.40 351 ePn Pn 03 21 43.6 +0.9
MVO eSn Sn 03 22 53.4 -1.3
MVO A A 03 22 57.8
comp=N,3.6nm,0.5s
MVO Moncorvo 6.40 351 P Pn 03 21 43.6 +0.9
comp=N,4.8nm,0.2s,SNR=18
MVO S Sn 03 22 52.5 -2.2
comp=N,3.2nm,0.4s,SNR=7.9
MVO Moncorvo 6.40 351 P Pn 03 21 43.6 +0.9
comp=N,4.8nm,0.2s,SNR=18
MVO S Sn 03 22 52.5 -2.2
comp=N,3.2nm,0.4s,SNR=7.9
MVO eSn Sn 03 22 53.4 -1.3
comp=N,3.6nm,0.5s
PVRL Vila Real 6.61 347 ePn Pn 03 21 46.4 +0.7
PVRL eSn Sn 03 22 59.0 -1.1
PVRL A A 03 23 01.2
comp=N,5.1nm,0.3s
PVRL Vila Real 6.61 347 P Pn 03 21 46.4 +0.7
PVRL S Sn 03 22 59.0 -1.1
comp=N,2.6nm,0.3s
PVRL Vila Real 6.61 347 P Pn 03 21 46.4 +0.7
PVRL S Sn 03 22 59.0 -1.1
comp=N,2.6nm,0.3s
ETOR Torete 6.63 25 P Pn 03 21 46.3 +0.3
comp=N,5.2nm,0.3s,SNR=7.9
ETOR S Sn 03 22 57.3 -3.3
comp=N,2.2nm,0.5s,SNR=7.9
ETOR Torete 6.63 25 P Pn 03 21 46.3 +0.3
comp=N,5.2nm,0.3s,SNR=7.9
PTO Porto 6.69 341 ePn Pn 03 21 47.1 +0.5
PTO eSn Sn 03 23 00.1 -1.6
PTO A A 03 23 02.5
comp=N,3.8nm,0.1s
PTO Porto 6.69 341 P Pn 03 21 47.1 +0.5
PTO S Sn 03 23 00.1 -1.6
comp=N,1.9nm,0.1s
PTO Porto 6.69 341 P Pn 03 21 47.1 +0.5
PTO S Sn 03 23 00.1 -1.6
comp=N,1.9nm,0.1s
POLO Lamas de Olo 6.72 347 ePn Pn 03 21 48.1 +0.9
POLO eSn Sn 03 23 00.9 -1.9
POLO A A 03 23 03.3
comp=N,2.5nm,0.6s
POLO Lamas de Olo 6.72 347 ePn Pn 03 21 48.1 +0.9
POLO eSn Sn 03 23 00.9 -1.9
comp=N,2.5nm,0.6s
PBRG Braganca 7.00 354 ePn Pn 03 21 51.8 +0.8
PBRG eSn Sn 03 23 08.1 -1.4
PBRG A A 03 23 16.4
comp=N,1.1nm,0.3s
PBRG Braganca 7.00 354 P Pn 03 21 51.8 +0.8
PBRG S Sn 03 23 08.1 -1.4
comp=N,0.6nm,0.3s
PBRG Braganca 7.00 354 P Pn 03 21 51.8 +0.8
PBRG S Sn 03 23 08.1 -1.4
comp=N,0.6nm,0.3s
ECAL Calabor 7.13 354 P Pn 03 21 53.5 +0.6
comp=N,7.8nm,0.4s,SNR=8.0
ECAL S Sn 03 23 10.6 -2.3
comp=N,0.6nm,0.3s,SNR=7.9
ECAL Calabor 7.13 354 P Pn 03 21 53.5 +0.6
comp=N,7.8nm,0.4s,SNR=8.0
ECAL S Sn 03 23 10.6 -2.3
comp=N,0.6nm,0.3s,SNR=7.9
ELOB Lobios 7.25 346 P Pn 03 21 55.2 +0.8
comp=N,0.8nm,0.3s,SNR=4.9
ELOB S Sn 03 23 12.9 -2.9
comp=N,4.7nm,0.4s,SNR=7.9
ELOB Lobios 7.25 346 P Pn 03 21 55.2 +0.8
comp=N,0.8nm,0.3s,SNR=4.9
ELOB S Sn 03 23 12.9 -2.9
comp=N,4.7nm,0.4s,SNR=7.9
EARI Arriondas 8.46 3 P Pn 03 22 12.4 +1.5
comp=N,82nm,1.6s,SNR=6.5
EARI Arriondas 8.46 3 P Pn 03 22 12.4 +1.5
comp=N,82nm,1.6s,SNR=6.5
SJPF Ste Jean 8.97 22 ePn Pn 03 22 14.6 -3.3
SJPF eSn Sn 03 23 46.7 -11
comp=N,0.4nm,0.2s
SJPF Ste Jean 8.97 22 P Pn 03 22 14.6 -3.3
SJPF S Sn 03 23 46.7 -11
comp=N,0.2nm,0.2s
ETSF Etsaut 8.99 25 ePn Pn 03 22 15.0 -3.3
ETSF eSn Sn 03 23 47.5 -11
comp=N,0.7nm,0.3s
ETSF Etsaut 8.99 25 P Pn 03 22 15.0 -3.3
ETSF S Sn 03 23 47.5 -11
comp=N,0.3nm,0.3s
EPF Esparros 9.44 28 ePn Pn 03 22 20.3 -4.1
EPF eSn Sn 03 23 57.8 -12
comp=N,0.9nm,0.3s
EPF Esparros 9.44 28 P Pn 03 22 20.3 -4.1
EPF S Sn 03 23 57.8 -12
comp=N,0.4nm,0.3s
KEST Kesra 12.34 82 Pn Pn 03 22 53.1 -11
comp=N,0.0nm,0.3s,baz=296,slow=11,SNR=4.0
GERES GERESS Array B 20.05 40 P P 03 24 40.0 -1.1
comp=N,0.1nm,0.3s,baz=217,slow=11,SNR=5.5
TORD Torodi Ar. Bea 22.62 161 P P 03 25 09.6 +0.6
comp=N,0.5nm,0.6s,baz=337,slow=12,SNR=4.0
MKAR Makanchi Array 64.35 50 P P 03 30 43.2 -0.2
comp=N,0.1nm,0.5s,baz=311,slow=3.9,SNR=2.8

ISCJB 07 04:04:57.0±1.4, 6.7S±0.3×155.4E±0.3, h50km, mb3.5/5, MS3.6/1, Error ellipse: s-maj=52.8km s-min=17.4km az=140.2
IDC 07 04:05:00.1±6.7, 6.76S×155.38E, h66km±54km, mb3.3/5, mb1 3.7/6, mb1mx3.4/29, mbtmp3.7/6, ML3.2/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/12, Error ellipse: s-maj=68.5km s-min=30.5km az=127.0
ISC 07 04:04:58.1±1.6, 6.8S±0.4×155.5E±0.3, h50km, n11, σ0.49/7, mb3.3/5, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 8.66 252 P Pn 04 07 01.4 +0.5
1.3nm,0.3s,baz=41,slow=11,SNR=4.1
WRA Warramunga Arr 24.35 235 P P 04 10 11.2 -0.4
0.4nm,0.4s,baz=56,slow=9.6,SNR=12
ASAR Alice Springs 26.69 229 P P 04 10 32.6 -0.2
0.3nm,0.6s,baz=58,slow=9.0,SNR=11
H11S3 WAKE ISLAND Hy 27.43 24 T T 04 39 07.9
baz=205,slow=77,SNR=6.5
H11S2 WAKE ISLAND Hy 27.43 24 T T 04 39 08.0
baz=205,slow=77,SNR=7.3
H11S1 WAKE ISLAND Hy 27.44 24 T T 04 39 06.8
baz=205,slow=77,SNR=7.6
KSRS Korea Array 50.98 332 LR LR 04 31 59.2
comp=Z,67nm,21.7s,baz=146,slow=32
CMAR Chiang Mai Arr 61.14 295 P P 04 15 07.3 -0.5
1.4nm,0.4s,baz=120,slow=5.1,SNR=4.6
ILAR Eielson Array 82.98 21 P P 04 17 17.8 +0.2
0.1nm,0.4s,baz=246,slow=5.6,SNR=5.3
YKA Yellowknife Ar 95.91 28 P P 04 18 19.5 +0.3
0.2nm,0.7s,baz=268,slow=4.8,SNR=6.1
TORD Torodi Ar. Bea 153.44 286 PKPbc PKPbc 04 24 51.7 -0.3
0.4nm,0.5s,baz=73,slow=1.5,SNR=7.6

JMA 07 04:22:23.3±0.2, 24.23N×121.81E, h0km, M2.9
TAP 07 04:22:24.5, 24.22N×121.78E, h14km, ML3.5, B
ISC 07 04:22:24.5±0.9, 24.21N±0.02×121.81E±0.02, h12km±6km, n53, σ0.62/85, 8C-2D, Taiwan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
EHP Heping Village 0.12 328 ⇓P Pg 04 22 27.7 +0.1
baz=343
EHP iS Sg 04 22 30.1 +0.2
baz=343
ENA Nanau 0.23 344 ⇑iP Pg 04 22 29.4 0.0
baz=352
ENA iS Sg 04 22 32.8 +0.1
baz=352
TWD Chiawan 0.23 236 ⇑iP Pg 04 22 29.4 -0.1
baz=236
TWD S Sg 04 22 33.1 +0.3
baz=236
HWA Hwalien 0.30 219 eP Pb 04 22 31.6 -0.2
baz=222
TWC Suao 0.40 5 ⇑iP Pg 04 22 32.7 +0.2
baz=6.0
TWC iS Sg 04 22 38.1 +0.3
baz=6.0
NNS Nan Shan 0.46 300 ⇑iP Pg 04 22 33.4 -0.3
baz=301
NNS iS Sg 04 22 39.4 -0.3
baz=301
WHF Hehuan Shan 0.50 263 ⇑iP Pg 04 22 34.1 -0.3
baz=262
WHF eS Sg 04 22 41.1 -0.2
baz=262
ESL Shilin 0.52 221 eP Pg 04 22 34.6 -0.2
baz=227
TWE Neicheng 0.52 346 ⇑iP Pg 04 22 34.9 +0.1
baz=349
TWE iS Sg 04 22 42.1 +0.3
baz=349
ILA Ilan 0.56 354 eP Pb 04 22 35.7 -0.5
baz=351
ILA eS Sb 04 22 44.1 0.0
baz=351
TWT Tachien 0.58 274 ⇑P Pg 04 22 36.0 +0.1
baz=274
TWT iS Sg 04 22 43.8 +0.2
baz=274
NSK Sanguang 0.62 318 ⇑iP Pg 04 22 36.4 -0.2
baz=320
NSK S Sg 04 22 44.2 -0.6
baz=320
EGS 0.64 10 eP Pb 04 22 37.5 -0.1
baz=17
EGS eS Sn 04 22 47.6 -1.9
baz=17
TWA Mucha 0.79 345 eP Pb 04 22 40.2 -0.1
baz=346
TWB1 Santiao Chiao 0.81 12 eP Pb 04 22 40.3 -0.3
baz=13
TWB1 eS Sb 04 22 51.0 -0.4
baz=13
EHY Hungye 0.83 213 eP Pg 04 22 39.6 -1.0
baz=224
NSTT Nanjuang 0.85 300 eP Pb 04 22 41.0 -0.2
baz=300
NSTT eS Sb 04 22 51.8 -0.7
baz=300
NWF Wu-fen Shan 0.86 358 eP Pb 04 22 41.3 -0.1
baz=352
NWF S Sg 04 22 52.3 -0.1
baz=352
TAP1 Taipei 0.86 343 eP Pn 04 22 41.7 -0.7
baz=334
SMLT Sun Moon Lake 0.89 249 eP Pb 04 22 41.5 -0.5
baz=248
SMLT eS Sb 04 22 53.8 -0.2
baz=248
TYC Yuchr 0.92 251 eP Pb 04 22 41.9 -0.6
baz=244
TYC eS Sb 04 22 53.9 -0.8
baz=244
NCU National Centr 0.94 323 eP Pb 04 22 43.5 -0.2
baz=324
NCU eS Sn 04 22 57.3 +0.3
baz=324
TWQ1 Liyutan 0.95 278 eP Pn 04 22 43.6 -0.2
baz=279
TWS1 Kuangyinshan 0.95 338 eP Pn 04 22 43.6 -0.1
baz=339
TWS1 eS Sn 04 22 58.2 +0.9
baz=339
HSN Hsinchu 0.96 308 eP Pn 04 22 44.3 +0.4
baz=303
HSN eS Sn 04 22 58.0 +0.5
baz=303
TWF1 Yuli 0.97 209 eP Pb 04 22 43.1 -0.3
baz=220
TWF1 eS Sg 04 22 56.6 +0.5
baz=220
NSY Sanyi 0.98 282 eP Pn 04 22 44.2 +0.1
baz=283
NSY eS Sn 04 22 57.7 -0.2
baz=283
TCU Taichung 1.04 267 eP Pn 04 22 45.7 +0.8
baz=267
TCU eS Sn 04 23 00.2 +0.9
baz=267
YUS Yu-Shan 1.06 228 eP Pb 04 22 44.1 -1.1
baz=217
YUS eS Sg 04 23 00.2 +1.1
baz=217
TWY Chenhua 1.08 350 eP Pg 04 22 45.7 +0.4
baz=335
WNT Mingjian 1.08 252 eP Pg 04 22 45.5 +0.2
baz=249
WNT eS Sn 04 23 01.4 +1.0
baz=249
YOJ Yonaguni jima 1.12 77 P Pg 04 22 46.2 0.0
YOJ Yonaguni jima 1.12 77 eP Pn 04 22 45.9 -0.2
baz=66
ALS Alishan 1.15 233⇓eP Pb 04 22 46.2 -0.4
baz=233
CHKT Chengkung 1.18 200 eP Pn 04 22 45.5 -1.3
baz=184
CHN5 Tsauling 1.20 240 eP Pg 04 22 47.5 -0.2
baz=241
CHN5 iS Sg 04 23 05.5 +2.1
baz=241
ELDTW Lidau 1.25 216 eP Pn 04 22 47.2 -0.7
baz=202
WGK Gukeng 1.25 246 eP Pg 04 22 48.7 0.0
baz=247
WGK eS Sg 04 23 06.9 +1.9
baz=247
CHN4 Tsaushan 1.41 233 eP Pg 04 22 51.0 -0.6
baz=234
CHN4 eS Sg 04 23 10.6 +0.8
baz=234
CHY Chiayi 1.45 241 eP Pn 04 22 51.5 0.0
baz=242
WTP Ta-pu 1.46 229 eP Pb 04 22 51.4 -0.2
baz=231
WTP eS Sg 04 23 11.5 +0.1
baz=231
TWK Hsinying 1.53 232 eP Pb 04 22 53.2 +0.3
baz=234
TWK eS Sg 04 23 13.7 -0.2
baz=234
TWG Pinlang 1.54 206 eP Pb 04 22 53.0 +0.1
baz=192
CHN1 Nanshi 1.56 229 eP Pb 04 22 53.7 +0.4
baz=231
SGST Jiashian 1.59 225 eP Pg 04 22 54.4 -0.7

baz=227
SGST eS Sg 04 23 16.3 +0.6
baz=227
IRIF Iriomote-Funau 1.76 86 P Pn 04 22 54.8 0.0
JKRS Kuro-shima 2.01 89 P Pn 04 22 58.9 +0.7
EAST Anshuo 2.02 206 eP Pn 04 22 58.4 0.0
baz=196
SCZT Fangliau 2.13 211 eP Pb 04 23 02.8 -0.3
baz=197
JIJ Ishigaki jima 2.13 85 P Pn 04 23 00.1 +0.1
JIJ eS Sn 04 23 27.0 +0.6
PNG Penghu 2.16 253 eP Pn 04 23 01.3 +1.0
baz=255
WDGT Dungji 2.19 245 eP Pb 04 23 03.2 -0.8
baz=247
JISG Ishigakijimahi 2.31 80 P Pn 04 23 02.9 +0.5
JISG eS Sn 04 23 31.3 +0.6

IDC 07 04:37:07.1±1.9,23.04S×179.92W,h0km,mb4.1/4, mb1 4.4/4,mb1mx3.9/27,mbtmp4.1/4,Error ellipse: s-maj=147.3km s-min=30.0km az=160.0,South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
QLP Quilpie 32.66 256 P P 04 43 43.1 +2.0
baz=24,SNR=4.5
MTSU Mount Surprise 33.78 272 P P 04 43 57.3 +6.3
baz=26,SNR=15
STKA Stephens Creek 35.12 247 P P 04 44 01.6 -0.9
1.9nm,0.5s,baz=103,slow=11,SNR=8.1
STKA Stephens Creek 35.12 247 P P 04 44 01.6 -0.8
baz=27,SNR=7.2
HTT Hallett 37.50 245 P P 04 44 20.5 -2.3
baz=29,SNR=4.3
BBOO Buckleboo 39.86 246 P P 04 44 39.2 -3.4
baz=31,SNR=7.2
ASAR Alice Springs 42.26 260 P P 04 45 02.3 -0.2
1.1nm,0.4s,baz=96,slow=7.4,SNR=52
WRA Warramunga Arr 42.55 265 P P 04 45 05.4 +0.5
3.8nm,0.3s,baz=100,slow=8.2,SNR=88
KDU Kakadu 46.29 274 P P 04 45 36.6 +1.8
baz=38,SNR=3.7
WRKA Warakurna 47.10 257 P P 04 45 38.8 -2.5
baz=38,SNR=44
KNRA Kununurra 48.77 269 P P 04 45 54.7 +0.5
baz=41,SNR=7.3
TXAR Lajitas Array 89.91 58 P P 04 50 08.6 0.0
0.2nm,0.7s,baz=217,slow=5.7,SNR=3.8

ISCJB 07 04:47:04.8±0.3, 3.50S±0.04×102.82E±0.04, h140km±2km, mb4.1/34, Error ellipse: s-maj=8.3km s-min=3.6km az=135.3
IDC 07 04:47:05.5±0.7, 3.38S×102.91E, h130km±6km, mb3.9/20, mb1 4.0/21, mb1mx3.8/40, mbtmp4.3/21, Error ellipse: s-maj=19.9km s-min=9.6km az=52.0
NEIC 07 04:47:05.5±0.5, 3.42S×102.92E, h133km±4km, mb4.3/14, Error ellipse: s-maj=9.4km s-min=4.3km az=46.0
DJA 07 04:47:06.3±0.2, 4°S±3°×10°3E±°, h118km±3km, M4.8/24, mb5.0/17, mB5.5/6, MLv4.6/24, Mw(mB)5.0/6
ISC 07 04:47:05.3±0.5, 3.55S±0.05×102.76E±0.05, h133km±4km, n107, σ1.36/122, mb4.3/34, Southern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
MASI Maura Aman, Be 0.66 308 P Pn 04 47 27.1 +1.3
MASI S Sn 04 47 44.1 +2.8
LHSI Lahat 0.81 110 P Pn 04 47 27.4 +0.6
LHSI S Sn 04 47 43.4 +0.3
MNAI Manna 0.83 167 ePn Pn 04 47 27.3 +0.3
MNAI eSn Sn 04 47 44.0 +0.4
MNAI Manna 0.83 167 S Pn 04 47 27.3 +0.3
baz=0.6,SNR=109
MDSI Maura Dua 1.69 123 P Pn 04 47 36.2 +0.5
MDSI S Sn 04 47 59.6 +0.6
LWLI Liwa 1.95 138 P Pn 04 47 39.6 +0.7
JMBI JAMBI 2.10 25 P Pn 04 47 41.5 +0.9
JMBI S Sn 04 48 09.5 +1.8
PMBI Palembang 2.10 73 P Pn 04 47 40.4 -0.2
PMBI S Sn 04 48 06.4 -1.3
PMBI Palembang 2.10 73 P Pn 04 47 40.7 +0.1
baz=2.5,SNR=3.8
KASI Kota Agung 2.61 139 P Pn 04 47 46.9 -0.1
KASI S Sn 04 48 19.5 +0.3
SDSI Sungai Dareh 2.92 333 P Pn 04 47 51.9 +0.9
BLSI Bandar Lampung 3.06 126 P Pn 04 47 53.7 +0.9
PDSI Padang 3.49 319 P Pn 04 47 58.8 +0.4
PDSI S Sn 04 48 40.8 +1.3
DSRI Dabo 3.55 31 P Pn 04 48 00.6 +1.4
CGJI Cibinong 4.21 136 P Pn 04 48 06.5 -1.5
BKNI Bangkinang 4.22 336 P Pn 04 48 09.3 +1.2
BKNI Bangkinang 4.22 336 ePn Pn 04 48 09.5 +1.4
BKNI Bangkinang 4.22 336 P Pn 04 48 09.8 +1.8
baz=4.5,SNR=8.0
DBJI Dramaga 4.96 127 P Pn 04 48 18.9 +0.9
MNSI Mandailing Nat 5.36 324 P Pn 04 48 23.7 +0.4
97nm,0.3s,4μm0.8nm
LEM Lembang 5.83 124 P Pn 04 48 30.8 +1.1
94nm,0.9s,0.3nm
CISI Cisompet, Garu 6.41 129 P Pn 04 48 36.2 -1.2
194nm,0.4s,7μm1.2nm
CISI Cisompet, Garu 6.41 129 ePn Pn 04 48 35.9 -1.5
131nm,0.3s
CISI eSn Sn 04 49 46.3 -3.1
CISI Cisompet, Garu 6.41 129 P Pn 04 48 36.1 -1.4
baz=63,SNR=5.6
GSI Gunungsitoli 7.08 313 P Pn 04 48 45.3 -1.1
174nm,0.5s,8μm0.7nm
GSI Gunungsitoli 7.08 313 ePn Pn 04 48 45.2 -1.1
64nm,0.4s
GSI eSn Sn 04 50 01.2 -4.3
KPJI Karang Pucung 7.20 122 P Pn 04 48 48.9 +1.0
90nm,0.6s,0.3nm
PSI Prapat 7.39 329 P Pn 04 48 49.3 -1.3
1.6nm,0.3s,baz=157,slow=12,SNR=5.7
PSI Prapat 7.39 329 P Pn 04 48 49.7 -0.9
baz=7.5,SNR=4.5
XMI Christmas Isla 7.44 157 P Pn 04 48 44.7 -6.5
baz=63,SNR=3.6
XMIS Christmas Isla 7.46 158 P Pn 04 48 44.6 -6.8
baz=63,SNR=16
IPM Ipoh 8.16 348 ePn Pn 04 49 02.9 +1.8
SMRI Semarang 8.40 115 P Pn 04 49 07.6 +3.5
84nm,0.7s,0.4nm
SMRI Semarang 8.40 115 ePn Pn 04 49 04.6 +0.5
60nm,0.6s
SMRI Semarang 8.40 115 P Pn 04 49 06.9 +2.8
baz=8.5,SNR=4.1
KCSI Kotacane, Aceh 8.62 325 P Pn 04 49 05.2 -1.9
21nm,0.7s,821nm
SNSI Sinabang, Aceh 8.74 313 P Pn 04 49 07.5 -1.3
146nm,0.9s,9μm
TPTI 8.77 320 P Pn 04 49 07.4 -1.7
24nm,0.5s
UGM Wanagama 8.85 120 P Pn 04 49 09.4 -0.8
baz=8.9,SNR=35
KULM Kulim 9.03 346 ePn Pn 04 49 12.4 -0.3
NGJI Ngawi 9.45 114 P Pn 04 49 28.0 +10
PWJI Pagerwojo 10.03 117 P Pn 04 49 26.3 +0.3
34nm,0.5s
ABJI Asem Bagus 12.17 111 P Pn 04 49 56.4 +2.1
109nm,0.7s
JAGI Jajag, Banyuwa 12.33 114 P Pn 04 49 55.8 -0.7
JAGI Jajag, Banyuwa 12.33 114 ePn Pn 04 49 54.4 -2.1
61nm,0.3s
JAGI Jajag, Banyuwa 12.33 114 P Pn 04 49 54.6 -1.9
baz=12,SNR=30
KKM Kota Kinabalu 16.47 55 ePn Pn 04 50 46.1 -2.8
KAPI Kappang 17.00 96 eP P 04 50 53.3 -1.6
88nm,0.8s
LUWI Luwuk 20.14 83 P Pn 04 51 32.7 +0.4
baz=20,SNR=5.2
CMAR Chiang Mai Arr 22.19 350 P P 04 51 51.2 +0.3
1.0nm,0.4s,baz=190,slow=8.2,SNR=5.1
CMAR pP pP 04 52 12.4 -3.1
1.0nm,0.3s,baz=186,slow=9.0,SNR=2.1
MBWA Marble Bar 24.05 138 eP P 04 52 10.4 +2.1
3.3nm,0.6s
MEEK Meekatharra 27.52 148 S S 04 57 01.5 -9.3
baz=28,SNR=3.8
KNRA Kununurra 28.28 117 P P 04 52 46.5 +0.2
baz=28,SNR=10
FAKI Fak Fak 29.44 90 P P 04 52 55.8 -0.9
baz=30,SNR=3.3
MTN Manton Dam 29.52 110 P P 04 52 59.6 +2.2
baz=30,SNR=4.5
MTN S S 04 57 45.4 +2.8
baz=30,SNR=7.0
WRKA Warakurna 32.55 133 P P 04 53 26.2 +2.2
baz=33,SNR=9.7
WRKA S S 04 58 50.0 +20
baz=33,SNR=5.6
WRA Warramunga Arr 34.83 120 P P 04 53 43.5 -0.3
1.3nm,0.3s,baz=303,slow=8.9,SNR=33
WRA PcP PcP 04 56 14.5 +0.3
0.5nm,0.6s,baz=302,slow=1.9,SNR=4.4
WRA S S 04 58 57.6 -7.5
0.7nm,0.9s,baz=294,slow=16,SNR=3.6
WRAB Tennant Creek 34.84 120 eP P 04 53 43.3 -0.5
2.8nm,0.4s
ASAR Alice Springs 36.11 126 P P 04 53 55.1 +0.4
4.7nm,0.6s,baz=297,slow=7.9,SNR=116
ASAR pP pP 04 54 23.5 -0.5
0.8nm,0.5s,baz=299,slow=8.1,SNR=1.8
ASAR PcP PcP 04 56 18.4 +0.5
0.5nm,0.3s,baz=314,slow=2.6,SNR=6.0
ASAR S S 04 59 20.1 -4.6
1.4nm,0.7s,baz=293,slow=15,SNR=15
ASAR ScP ScP 04 59 51.4 -0.7
0.5nm,0.8s,baz=316,slow=3.9,SNR=3.5
AS31 Alice Springs 36.12 126 eP P 04 53 55.1 +0.4
COEN Coen 41.19 107 eP P 04 54 36.8 -0.3
BBOO Buckleboo 42.63 137 P P 04 54 54.4 +5.8
baz=43,SNR=9.1
PMG Port Moresby 44.46 100 eP P 04 55 02.8 -0.8
8.5nm,0.8s
CTAO Charters Tower 45.44 115 eP P 04 55 12.0 +0.8
6.0nm,0.9s
QLP Quilpie 45.80 124 P P 04 55 15.6 +1.6
baz=46,SNR=3.6
STKA Stephens Creek 46.07 132 P P 04 55 16.7 +0.7
1.7nm,0.3s,baz=314,slow=8.7,SNR=9.8
STKA pP pP 04 55 47.2 +0.9
1.3nm,0.5s,baz=295,slow=6.6,SNR=2.1
STKA Stephens Creek 46.07 132 eP P 04 55 17.1 +1.2
STKA pP pP 04 55 47.2 +0.9
STKA Stephens Creek 46.07 132 P P 04 55 17.1 +1.2
baz=46,SNR=5.0
CMSA Cobar Meteorol 49.00 130 P P 04 55 40.1 +1.4
baz=49,SNR=7.7
SONM Songino Array 51.27 3 P P 04 55 56.1 +0.5
1.0nm,0.7s,baz=182,slow=8.6,SNR=9.4
SONM PcP PcP 04 57 08.6 -0.2
0.6nm,0.6s,baz=192,slow=4.1,SNR=3.2
TKM2 Tokmak 2 52.37 335 eP P 04 56 03.1 -0.8
5.6nm,0.8s
MK31 Makanchi Array 53.29 343 eP P 04 56 09.8 -0.6
MKAR Makanchi Array 53.29 343 P P 04 56 10.2 -0.2
2.0nm,0.5s,baz=152,slow=8.6,SNR=48
MKAR pP pP 04 56 41.8 +0.2
0.3nm,0.4s,baz=152,slow=8.2,SNR=1.7
KURBB Kurchatov Arra 57.84 342 P P 04 56 42.4 -0.4
1.8nm,0.7s,baz=161,slow=6.6,SNR=22
KURK Kurchatov 57.89 342 eP P 04 56 42.4 -0.8
3.2nm,0.9s
ZALV Zalesovo Beam 59.23 348 P P 04 56 51.7 -0.6
3.1nm,0.4s,baz=165,slow=6.2,SNR=28
BVAR Borovoye Array 62.60 339 P P 04 57 14.3 -0.9
1.9nm,0.5s,baz=147,slow=8.9,SNR=16
BRVK Borovoye 62.67 339 eP P 04 57 14.2 -1.4
2.5nm,0.7s
ABKAR Akbulak array 64.33 330 eP P 04 57 25.2 -1.4
1.7nm,0.6s
KMBO Kilima Mbogo 65.49 270 P P 04 57 37.8 +2.7
1.0nm,0.4s,baz=86,slow=8.5,SNR=5.9
AKTO Aktyubinsk 66.05 330 PcP PcP 04 58 07.2 +0.1
0.3nm,0.3s,baz=123,slow=4.6,SNR=4.5
YAK Yakutsk 68.57 13 eP P 04 57 52.5 -0.8
8.5nm,0.5s
KBZ Khabaz 71.28 319 P P 04 58 11.0 +0.7
3.8nm,0.8s,baz=139,slow=5.4,SNR=7.7
ASF Jabal al Asfar 71.73 305 P P 04 58 15.0 +1.6
6.7nm,1.2s,baz=117,slow=4.5,SNR=4.9
MMAI Mount Meron Ar 73.18 306 P P 04 58 23.4 +1.5
0.6nm,0.3s,baz=107,slow=9.5,SNR=3.0
BR131 Keskin Array S 76.40 312 eP P 04 58 39.9 -0.5
2.0nm,0.7s
BRTR Keskin Array B 76.40 312 P P 04 58 40.1 -0.3
1.6nm,0.6s,baz=139,slow=6.4,SNR=14
BRTR pP pP 04 59 12.3 -1.3
1.1nm,0.8s,baz=130,slow=7.3,SNR=3.7
BOSA Boshof 77.34 242 P P 04 58 47.4 +1.5
4.0nm,0.6s,baz=103,slow=5.6,SNR=10
AKASG Malin Array Be 82.39 322 P P 04 59 12.0 -0.4
1.9nm,0.5s,baz=92,slow=4.8,SNR=14
BUR08 Bucovina Ar. S 84.26 318 eP P 04 59 23.2 +1.0
TSUM Tsumeb 84.30 251 eP P 04 59 25.0 +2.0
3.1nm,0.7s
JOF Joensuu 84.80 334 ep P 04 59 24.7 +0.3
0.4nm,0.3s
KOLS Kolonicke sedl 86.42 319 eP P 04 59 34.1 +1.3
FINES FINESS Array B 86.76 332 P P 04 59 34.2 0.0
1.5nm,0.4s,baz=121,slow=6.0,SNR=37
KAF Kangasniemi 86.81 333 ep P 04 59 34.3 -0.1
4.1nm,0.7s
STHS Stebnicka Huta 87.16 320 eP P 04 59 36.8 +0.4
KECS Kecovo 87.52 319 eP P 04 59 38.9 +0.8
PSZ Piszkesteto 87.83 318 eP P 04 59 40.0 +0.3
7.1nm,1.1s
ARCES ARCESS Array B 88.86 340 P P 04 59 43.6 -0.4
4.1nm,1.1s,baz=98,slow=4.6,SNR=9.2
MORC Moravsky Berou 89.60 320 eP P 04 59 48.2 +0.3
2.8nm,0.9s
GERES GERESS Array B 92.03 319 P P 04 59 60.0 +0.7
0.5nm,0.6s,baz=117,slow=4.9,SNR=6.9
NOA NORSAR Array B 93.83 331 P P 05 00 07.1 -0.2
0.5nm,0.7s,baz=94,slow=4.5,SNR=3.1
PDAR Pinedale Array 131.51 32 PKP PKPdf 05 06 02.3 -0.4
0.3nm,0.6s,baz=276,slow=0.8,SNR=2.8
TXAR Lajitas Array 144.14 42 PKP PKPbc 05 06 24.9 +0.4
0.4nm,0.5s,baz=279,slow=0.3,SNR=18
TXAR SKPbc SKPbc 05 09 53.0 +0.1
0.4nm,0.9s,baz=318,slow=1.2,SNR=4.6
CPUP Villa Florida 144.59 212 PKP PKPdf 05 06 27.3 +0.5
5.5nm,0.8s,baz=112,slow=2.5,SNR=7.1
BDFB Brasilia 145.36 236 PKPbc PKPab 05 06 29.5 +0.6
2.2nm,0.4s,baz=133,slow=3.9,SNR=8.0
JCT Junction City 145.76 36 ePKPbc PKPdf 05 06 28.7 -0.1

IDC 07 04:55:52.9±3.1, 36.35N×71.06E, h195km±27km, mb3.3/13, mb1 3.4/18, mb1mx3.2/40, mbtmp3.8/18, Error ellipse: s-maj=20.9km s-min=13.5km az=6.0
ISCJB 07 04:55:53.1±0.3, 36.57N±0.03×70.97E±0.05, h188km, mb3.6/15, Error ellipse: s-maj=5.9km s-min=3.3km az=144.1
NNC 07 04:56:01.6±6.7, 37.14N×70.94E, h203km±62km, mb2.8, mpv3.9, Error ellipse: s-maj=58.1km s-min=37.6km az=16.0
ISC 07 04:55:53.8±0.5, 36.64N±0.05×71.04E±0.06, h188km, n61, σ1.81/67, mb3.5/15, 9C-4D, Afghanistan-Tajikistan border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
DLH Dalhousie 5.76 134 eP Pn 04 57 17.0 -1.1
DLH eS Sn 04 58 20.0 -4.4
AML Almayashu 5.86 20 P Pn 04 57 21.8 +2.5
SNR=49
DHRM DHARAMSHALA 6.17 134 eP Pn 04 57 25.2 +1.9
DHRM eS Sn 04 58 35.0 +1.0
DHRM AML AML 04 58 37.3
comp=E,615nm,0.4s
DHRM AML AML 04 58 37.4
comp=N,392nm,0.2s
UCH Uchtor 6.19 25 P Pn 04 57 26.6 +2.8
SNR=9.4
KZA Kyzart 6.33 30 P Pn 04 57 27.6 +2.0
SNR=11
EKS2 Erkin-Say 6.37 18 P Pn 04 57 28.8 +2.9
SNR=14
KK31 Karatay Array 6.47 357 P Pn 04 57 29.6 +2.6
comp=N,1.5nm,0.2s,baz=178,slow=13,SNR=121
KK31 ⇑S Sn 04 58 38.9 -1.7
comp=N,18nm,0.6s,baz=186,slow=21,SNR=18
AAK Ala-Archa 6.55 23 ⇑P Pn 04 57 30.8 +2.6
comp=N,3.3nm,0.3s
AAK ⇓S Sn 04 58 42.1 -0.7
comp=N,20nm,0.9s
AAK Ala-Archa 6.55 23 P Pn 04 57 31.4 +3.3
SNR=9.0
AAK Ala-Archa 6.55 23 P Pn 04 57 30.8 +2.6
comp=N,2.6nm,0.3s,baz=150,slow=5.0,SNR=20
AAK S Sn 04 58 42.8 0.0
comp=N,2.8nm,0.3s,baz=333,slow=22,SNR=16
KBK Karagaybulak 6.72 25 P Pn 04 57 34.0 +3.6
SNR=6.5
ULHL Ulahol 6.89 34 P Pn 04 57 35.2 +2.5
SNR=6.5
SDNR Sundarnagar 7.10 134 eP Pn 04 57 36.0 +0.6
SDNR eS Sn 04 58 53.0 -2.8
TKM2 Tokmak 2 7.18 28 ⇑P Pn 04 57 38.8 +2.3
comp=N,5.2nm,0.4s
TKM2 ⇑S Sn 04 58 54.2 -3.6
comp=N,9.6nm,0.8s
TKM2 Tokmak 2 7.18 28 P Pn 04 57 39.4 +2.8
SNR=14
IMYA Miami 8.82 271 eP Pn 04 57 57.7 -0.3
IMOG Moghan 9.46 270 eP Pn 04 58 07.8 +1.4
IPAY Payeh 9.70 272 eP Pn 04 58 10.0 +0.5
IAKL Akhelmad 9.88 273 eP Pn 04 58 12.0 +0.1
IAKL e 04 58 19.7
comp=N,146nm,0.1s
MK31 Makanchi Array 13.16 36 ⇓P Pn 04 58 54.2 +0.6
comp=N,1.0nm,0.7s,baz=210,slow=14,SNR=18
MKAR Makanchi Array 13.16 36 P Pn 04 58 53.9 +0.4
comp=N,0.3nm,0.3s,baz=209,slow=11,SNR=9.5
PYUN Piuthan 13.20 127 eP Pn 04 58 53.8 -0.6
comp=N,46nm,0.3s
PYUN eS Sn 05 01 11.8 -10
BHJ Bhuj 13.39 186⇓eP Pn 04 58 52.2 -4.5
DANN Dangsing 13.54 124 eP Pn 04 58 58.5 -0.3
comp=N,14nm,0.4s
KOLN Koldanda 13.82 126 eP Pn 04 59 02.0 -0.2
GKN Gorkha 14.35 123 eP Pn 04 59 09.0 +0.3
comp=N,14nm,0.3s
BHPL Bhopal 14.45 156 eP P 04 59 14.4 +2.9
DMN Daman 14.92 123 eP Pn 04 59 16.2 +0.3
comp=N,26nm,0.5s
KKN Kakani 14.92 122 eP Pn 04 59 16.0 +0.2
comp=N,25nm,0.5s
AB31 Akbulak array 14.98 331 P P 04 59 19.4 +2.4
comp=N,1.8nm,0.7s,baz=140,slow=11,SNR=12
AB31 ⇓S Sn 05 01 57.0 -6.3
baz=157,slow=24,SNR=2.6
KURBB Kurchatov Arra 14.98 19 P P 04 59 17.8 +0.8
comp=N,0.2nm,0.3s,baz=206,slow=11,SNR=3.7
PKIN Phulchoki 15.14 123 eP P 04 59 19.4 +0.1
comp=N,29nm,0.5s
PKI Pulchoki 15.15 123 eP P 04 59 19.1 -0.4
comp=N,25nm,0.4s
GUN Gumba 15.26 121 eP Pn 04 59 20.1 0.0
comp=N,23nm,0.4s
JIRN Jiri 15.63 121 eP P 04 59 25.2 +0.4
comp=N,43nm,0.5s
VOSK Vostochnaya 16.08 360 ⇑P Pn 04 59 30.1 +0.6
comp=N,0.6nm,0.5s
RAMN Ramite 16.36 122 eP Pn 04 59 33.6 +0.3
BVA0 Borovoye Array 16.39 359 ⇑P Pn 04 59 34.6 +1.5
comp=N,3.9nm,1.1s,baz=150,slow=11,SNR=8.8
BVAR Borovoye Array 16.39 359 P Pn 04 59 34.7 +1.5
comp=N,0.4nm,0.3s,baz=161,slow=9.5,SNR=7.9
BRVK Borovoye 16.43 358 ⇑P Pn 04 59 34.8 +1.2
comp=N,3.0nm,1.0s
AKTO Aktyubinsk 16.68 330 ⇑P Pn 04 59 36.9 +0.2
comp=N,4.1nm,0.9s
AKTO ⇑S S 05 02 37.9 -2.2
comp=N,1.6nm,0.8s
AKTO Aktyubinsk 16.68 330 P Pn 04 59 37.7 +1.1
comp=N,0.6nm,0.3s,baz=133,slow=9.9,SNR=8.1
TAPN Taplejung 16.88 119 eP Pn 04 59 41.0 +1.4
comp=N,9.0nm,0.3s
ODAN Odare 16.96 120 eP Pn 04 59 41.7 +1.2
comp=N,23nm,0.6s
ZALV Zalesovo Beam 19.77 25 P P 05 00 10.6 +1.3
comp=N,0.8nm,0.3s,baz=219,slow=10,SNR=7.0
SONM Songino Array 28.23 56 P P 05 01 29.8 +0.7
comp=N,0.4nm,0.6s,baz=270,slow=9.7,SNR=3.9
BRTR Keskin Array B 29.43 288 P P 05 01 40.0 +0.1
comp=N,0.5nm,0.7s,baz=92,slow=10,SNR=2.5
AKASG Malin Array Be 32.88 309 P P 05 02 09.8 -0.1
comp=N,0.5nm,0.5s,baz=99,slow=9.5,SNR=7.5
JOF Joensuu 35.77 330 ep P 05 02 34.7 +0.3
comp=N,2.0nm,0.3s
FINES FINESS Array B 37.39 326 P P 05 02 48.6 +0.5
comp=N,1.2nm,0.3s,baz=122,slow=10.0,SNR=21
KAF Kangasniemi 37.53 327 ep P 05 02 49.5 +0.2
comp=N,0.3nm,0.3s
KEV Kevo 40.68 338 ep P 05 03 15.4 +0.1
comp=N,0.4nm,0.3s
ARCES ARCESS Array B 41.03 338 P P 05 03 19.0 +0.8
comp=N,4.1nm,0.8s,baz=117,slow=8.8,SNR=18
NB2 NORSAR Subarra 44.29 323 P P 05 03 44.5 -0.1
comp=Z,1.4nm,0.4s,baz=95,slow=7.9
NOA NORSAR Array B 44.29 323 P P 05 03 44.5 -0.1
comp=Z,0.3nm,0.3s,baz=103,slow=7.2,SNR=13
TORD Torodi Ar. Bea 65.76 269 P P 05 06 16.9 -2.0
comp=Z,1.5nm,0.6s,baz=51,slow=6.2,SNR=39
INK Inuvik 73.76 9 P P 05 07 06.9 +0.1
comp=Z,1.5nm,0.5s,baz=348,slow=6.1,SNR=16
ILAR Eielson Array 74.64 16 P P 05 07 11.1 -0.8
comp=Z,0.5nm,0.9s,baz=302,slow=4.9,SNR=5.1
YKA Yellowknife Ar 81.10 3 P P 05 07 47.4 -0.2
comp=Z,0.5nm,0.4s,baz=350,slow=5.5,SNR=14
WRA Warramunga Arr 82.03 122 P P 05 07 50.4 -2.8
comp=Z,0.3nm,0.6s,baz=328,slow=4.7,SNR=2.9
ASAR Alice Springs 84.31 125 P P 05 08 02.5 -2.2
comp=Z,0.3nm,0.6s,baz=308,slow=5.4,SNR=4.9

IDC 07 04:55:59.0±2.1, 6.51S×129.13E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.5/23, mbtmp3.5/3, ML3.9/2, Error ellipse: s-maj=125.5km s-min=31.1km az=68.0, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
WRA Warramunga Arr 14.28 160 Pn Pn 04 59 22.4 -0.2
0.6nm,0.3s,baz=338,slow=13,SNR=11
WRA Sn Sn 05 01 49.6 -12
0.4nm,0.3s,baz=341,slow=22,SNR=5.8
ASAR Alice Springs 17.66 165 P Pn 05 00 06.8 +0.1
0.2nm,0.3s,baz=344,slow=9.6,SNR=11
ASAR S Sn 05 03 13.6 -11
0.1nm,0.3s,baz=355,slow=29,SNR=2.7
MKAR Makanchi Array 67.35 327 P P 05 06 56.0 0.0
0.3nm,0.5s,baz=120,slow=8.2,SNR=7.2

IDC 07 04:57:18.0±2.6, 8.20S×151.09E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/21, mbtmp3.4/3, ML2.6/1, Error ellipse: s-maj=71.1km s-min=31.7km az=128.0, D'Entrecasteaux Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
PMG Port Moresby 4.06 253 Pn Pn 04 58 21.2 -0.3
3.0nm,0.3s,baz=69,slow=9.2,SNR=22
PMG Sn Sn 04 59 10.8 +0.9
0.7nm,0.3s,baz=61,slow=19,SNR=8.3
ASAR Alice Springs 22.53 225 P P 05 02 19.8 +0.1
0.2nm,0.6s,baz=58,slow=9.0,SNR=4.2
SONM Songino Array 68.32 329 P P 05 08 21.4 +0.2
0.5nm,0.8s,baz=143,slow=5.0,SNR=3.9
TORD Torodi Ar. Bea 149.54 282 PKPbc PKPbc 05 17 09.8 -0.7
0.4nm,0.6s,baz=64,slow=2.1,SNR=4.9

MEX 07 05:02:18.6±0.5, 17.90N×101.58W, h24km±13km, MD3.7, Near coast of Guerrero

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
ZIIG Zihuatanejo 0.31 160 eP Pb 05 02 24.3 -1.4
ZIIG iS Sb 05 02 29.2 -1.4
ARIG Puente Sto Nin 1.23 72 eP Pn 05 02 37.3 -3.0
ARIG iS Sn 05 02 52.0 -4.2
PLIG Platanillo 2.03 76 iP Pn 05 02 49.5 -1.9
PLIG iS Sn 05 03 13.4 -2.8
YAIG Yautepec 2.57 68 iP Pn 05 02 56.1 -2.9
YAIG iS Sn 05 03 25.9 -3.7
TLIG Tlapa 2.89 96 eP Pn 05 03 00.9 -2.3
TLIG iS Sn 05 03 34.1 -3.3
PNIG Pinotepa 3.62 114 iP Pn 05 03 12.1 -1.2
PNIG eS Sn 05 03 53.0 -2.4

JMA 07 05:04:45.2±0.2, 36.96N×142.49E, h45km, M3.9, 2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.35**	**288**	⇓P	Pn	05 05 08.3	+0.6
JFK				S	Sn	05 05 24.8	+0.3
ONAJ	**Iwakimizuishiy**	**1.36**	**276**	P	Pn	05 05 08.4	+0.6
ONAJ				S	Sn	05 05 25.0	+0.2
JHO	**Hitachi**	**1.58**	**258**	P	Pn	05 05 11.2	+0.4
JHO				S	Sn	05 05 30.5	+0.5
JMM	**Marumori**	**1.63**	**304**	⇓P	Pn	05 05 12.4	+1.0
JMM				S	Sn	05 05 32.1	+1.0
JIO	**Ouri**	**1.75**	**329**	P	Pn	05 05 13.6	+0.6
JIO				eS	Sn	05 05 34.1	+0.1
JFT	**Otama**	**1.81**	**289**	P	Pn	05 05 15.5	+1.6
JOU	**Okura**	**2.02**	**315**	P	Pn	05 05 18.0	+1.2
JMK	**Ichinoseki**	**2.23**	**334**	P	Pn	05 05 20.7	+1.1
JMK				eS	Sn	05 05 47.0	+1.1
JAG	**Ashikaga**	**2.50**	**259**	P	Pn	05 05 24.6	+1.2
JYK	**Kaneyama**	**2.58**	**320**	P	Pn	05 05 26.1	+1.6
BSO1	**Boso 1**	**2.61**	**209**	P	Pn	05 05 24.9	+0.7
JRY	**Ryogami san**	**3.04**	**253**	P	Pn	05 05 32.0	+1.2
JRY				S	Sn	05 06 05.0	-1.1
MAT	**Matsushiro**	**3.46**	**264**	P	Pn	05 05 39.5	+2.8
MAT				S	Sn	05 06 19.2	+2.7

SJA 07 05:30:23.5±0.6, 25.52S×66.61W, h242km±20km, ML2.8, MW4.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**3.91**	**184**	iP	Pn	05 31 26.8	+0.7
ACLC				eS	S	05 32 13.2	-2.4
AGUA	**GUANDACOL**	**4.29**	**202**	iP	Pn	05 31 31.3	+0.7
AGUA				eS	S	05 32 20.8	-3.0
APLL	**PUNTA DE LOS L**	**4.86**	**179**	iP	Pn	05 31 38.1	+0.7
AVFE	**Valle Fertil**	**5.18**	**188**	iP	Pn	05 31 41.4	+0.1
AVFE				eS	S	05 32 39.3	-4.0
AVFE				AML	AML	05 32 45.7	
	comp=Z,4.0nm,0.2s						
AMOG	**MOGNA**	**5.65**	**197**	iP	Pn	05 31 47.5	+0.3
AMOG				eS	S	05 32 50.6	-3.4
RTLL	**Cerro Villicun**	**6.02**	**195**	iP	Pn	05 31 52.2	+0.5
RTLL				eS	S	05 32 58.8	-3.5
CFAA	**Coronel Fontan**	**6.23**	**193**	iP	Pn	05 31 54.8	+0.3
CFAA				eS	S	05 33 02.7	-4.5

IDC 07 05:53:12.2±2.4, 26.52N×141.78E, h43km±25km, mb3.5/5, mb1 3.7/5, mb1mx3.3/37, mbtmp3.7/5, Error ellipse: s-maj=65.9km s-min=19.6km az=100.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.68**	**32**	P	Pn	05 53 26.8	+1.5
	155nm,0.3s,baz=159,slow=4.6,SNR=28						
JCJ				S	Sn	05 53 36.3	+1.4
	168nm,0.3s,baz=277,slow=22,SNR=35						
WRA	**Warramunga Arr**	**46.75**	**190**	P	P	06 01 36.8	-0.5
	2.4nm,0.8s,baz=10,slow=8.5,SNR=19						
ASAR	**Alice Springs**	**50.47**	**189**	P	P	06 02 05.6	-0.3
	0.4nm,0.8s,baz=5.1,slow=11,SNR=4.8						
YKA	**Yellowknife Ar**	**72.81**	**28**	P	P	06 04 36.4	+0.4
	0.2nm,0.6s,baz=297,slow=6.2,SNR=5.4						
FINES	**FINESS Array B**	**78.30**	**334**	P	P	06 05 07.4	-0.1
	1.3nm,0.8s,baz=58,slow=5.4,SNR=7.7						
NOA	**NORSAR Array B**	**84.00**	**338**	P	P	06 05 37.6	-0.2
	1.0nm,1.0s,baz=44,slow=5.3,SNR=3.3						

IDC 07 06:01:03.9±3.3, 4.84S×135.06E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.4/31, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=144.2km s-min=32.9km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.03**	**183**	Pn	Pn	06 04 36.9	-1.0
	0.2nm,0.3s,baz=1.8,slow=13,SNR=11						
WRA				Sn	Sn	06 07 15.2	-10
	0.3nm,0.3s,baz=357,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**18.75**	**183**	P	Pn	06 05 25.1	+0.1
	0.3nm,0.3s,baz=4.2,slow=13,SNR=17						
ASAR				S	Sn	06 08 44.4	-11
	0.1nm,0.3s,baz=359,slow=22,SNR=3.6						
MKAR	**Makanchi Array**	**69.31**	**324**	P	P	06 12 13.2	0.0
	0.2nm,0.7s,baz=114,slow=6.5,SNR=3.7						

*IDC **07** 06:09:56.9±0.4, 23.47N×123.70E, h0km, mb5.8/36, mb1 5.9/38, mb1mx5.9/39, mbtmp5.8/38, ML4.8/3, MS6.1/34, Ms1 6.1/34, ms1mx6.0/38, Error ellipse: s-maj=13.3km s-min=11.5km az=84.0*

*BJI **07** 06:09:56.2, 23.42N×123.79E, h14km, mB6.3/61, mb5.7/73, ML6.5/1, Ms6.5/90, Ms7 6.4/77*

*MOS **07** 06:09:58.6±1.1, 23.49N×123.68E, h21km, mb6.3/118, MS6.2/83, Error ellipse: s-maj=6.1km s-min=3.3km az=118.1*

*JMA **07** 06:10:00.2±0.1, 23.32N×123.69E, h54km±3km, M6.5*

JMA Felt III J1.

*NIED **07** 06:10:00, 23.30N×123.70E, h35km, Mw6.4 Best double couple: $M_0$4.32000×10^{18} NP1:ϕ_s141.00000°, δ61.00000°, λ14.00000°. NP2:ϕ_s44.00000°, δ78.00000°, λ150.00000°.*

*GCMT **07** 06:10:00.2±0.1, 23.35N×123.66E, h28km, MW6.3/143, Moment Tensor Solution. s129,c296; s143,c530; Duration: 3s6 Moment tensor: Scale 10^{18}Nm; M_{rr}0.74±.02; $M_{\theta\theta}$2.97±.02; $M_{\phi\phi}$-3.72±.02; $M_{r\theta}$2.06±.05; $M_{\theta\phi}$-0.62±.02; $M_{\phi r}$0.36±.04; Best double couple: $M_0$4.03200×10^{18} NP1:ϕ_s47.00000°, δ75.00000°, λ152.00000°. NP2:ϕ_s145.00000°, δ63.00000°, λ17.00000°. Principal axes: T 4.2130, Plg30.0000°, Azm3.0000°; N -0.3700, Plg58.0000°, Azm200.0000°; P -3.8500, Plg8.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **07** 06:10:00.2±0.1, 23.49N×123.62E, h21km, mb6.1/185, ME7.0, MS6.2/159, MW6.2, MW6.3, MW6.3, MW6.4(NIED) Error ellipse: s-maj=3.5km s-min=3.1km az=128.0, Moment Tensor Solution. s83 Moment tensor: Scale 10^{18}Nm; M_{rr}0.96; $M_{\theta\theta}$2.94; $M_{\phi\phi}$-3.90; $M_{r\theta}$0.91; $M_{\theta\phi}$-0.50; $M_{\phi r}$0.11; Best double couple: $M_0$3.70000×10^{18} NP1: ϕ_s141.00000°, δ74.00000°, λ14.00000°. NP2:ϕ_s47.00000°, δ77.00000°, λ163.00000°. Principal axes: T 3.3200, Plg20.0000°, Azm3.0000°; N 0.6200, Plg68.0000°, Azm189.0000°; P -3.9400, Plg2.0000°, Azm94.0000°; Broadband fault plane solution: P waves. NP1: ϕ_s144.0000°, δ76.00000°, λ16.00000°. NP2:ϕ_s50.0000°, δ75.00000°, λ165.00000°. Principal axes: T Plg21.0000°, Azm7.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm277.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [II] at Ginowan, Okinawa. Also felt at Ishigaki and Okinawa. Felt [IV] at Kao-hsiung and [II] at T'ai-chung and Taipei, Taiwan. Also felt at Chang-hua, Chu-pei, San-hsia, T'ai-nan and Yang-mei. Felt at Fuzhou and Xiamen, China. Recorded [3 JMA] on Hateruma-jima, Iriomote-jima, Ishigaki-jima, Tarama-shima and Yonaguni-jima and [2 JMA] on Miyako-jima, Japan. Recorded [3 TAP] in Hua-lien, I-lan and T'ai-tung; [2 TAP] in Chia-i, Nan-t'ou, P'ing-tung, T'ai-chung and T'ai-pei; [1 TAP] in P'eng-hu and T'ao-yuan, Taiwan.

*NEIC **07** 06:10:00.0±0.0, 23.47N×123.68E, h25km Best double couple: NP1:ϕ_s48.00000°, δ82.00000°, λ160.00000°. NP2:ϕ_s141.00000°, δ70.00000°, λ7.00000°. Principal axes: T 2.2900, Plg18.0000°, Azm3.0000°; N 0.1000, Plg69.0000°, Azm209.0000°; P -2.3900, Plg8.0000°, Azm96.0000°;*

*TAP **07** 06:10:00.2, 23.33N×123.75E, h88km±1km, ML6.6, D*

*ISCJB **07** 06:10:01.0±0.2, 23.39N±0.01×123.72E±0.01, h40km±1km, mb6.0/406, MS6.3/254, Error ellipse: s-maj=1.9km s-min=1.5km az=145.4*

*SZGRF **07** 06:10:04.2, 24.49N×124.80E, h39km, mb5.9, MS6.7, Southwestern Ryukyu Islands, Japan*

*NEIC **07** 06:10:15.5±0.0, 23.57N×124.03E, h40km, Moment Tensor Solution. s155 Moment tensor: Scale 10^{18}Nm; M_{rr}1.02; $M_{\theta\theta}$3.05; $M_{\phi\phi}$-4.08; $M_{r\theta}$1.10; $M_{\theta\phi}$-0.49; $M_{\phi r}$0.82; Best double couple: $M_0$3.90000×10^{18} NP1:ϕ_s140.00000°, δ66.00000°, λ10.00000°. NP2:ϕ_s46.00000°, δ81.00000°, λ156.00000°. Principal axes: T 3.5300, Plg23.0000°, Azm1.0000°; N 0.7300, Plg64.0000°, Azm206.0000°; P -4.2700, Plg9.0000°, Azm95.0000°;*

ISC 07 06:10:00.4±0.2, 23.44N±0.02×123.69E±0.02, h23km±2km, h23km:pP-P, n2040, σ1s57/2147, mb6.1/410, MS6.3/263, 387C-215D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.63**	**10**	⇑P	**Pn**	**06 10 14.8**	**+0.9**
HATJ				S	**Sn**	**06 10 24.8**	**+1.6**
JKRS	**Kuro-shima**	**0.85**	**20**	⇑P	**Pn**	**06 10 17.9**	**+1.0**
JKRS				S	**Sn**	**06 10 30.4**	**+1.7**
IRIF	**Iriomote-Funau**	**0.90**	**2**	⇑P	**Pn**	**06 10 18.6**	**+1.1**
IRIF				S	**Sn**	**06 10 31.9**	**+2.1**
JIJ	**Ishigaki jima**	**1.01**	**24**	⇑P	**Pb**	**06 10 19.8**	**+0.6**
JIJ				S	**Sn**	**06 10 34.5**	**+1.8**
YOJ	**Yonaguni jima**	**1.20**	**329**	eP	**Pb**	**06 10 23.0**	**+0.7**
YOJ	**Yonaguni jima**	**1.20**	**329**	⇑P	**Pb**	**06 10 22.6**	**+0.3**
YOJ				S	**Sb**	**06 10 38.7**	**+1.3**
YOJ	**Yonaguni jima**	**1.20**	**329**	eP	**Pb**	**06 10 23.0**	**+0.7**
YOJ	**Yonaguni jima**	**1.20**	**329**	⇑iP	**Pb**	**06 10 23.1**	**+0.7**
	baz=320						
YOJ				S	**Sb**	**06 10 39.1**	**+1.7**
	baz=320						
JYNG	**Yonagunijimaku**	**1.22**	**326**	P	**Pb**	**06 10 23.0**	**+0.2**
JYNG				S	**Sb**	**06 10 39.2**	**+1.1**
JISG	**Ishigakijimahi**	**1.28**	**26**	P	**Pb**	**06 10 23.4**	**-0.4**
JISG				S	**Sb**	**06 10 39.8**	**0.0**
JTJ	**Tarama**	**1.51**	**37**	⇑P	**Pb**	**06 10 26.9**	**-0.9**
JTJ				S	**Sb**	**06 10 46.2**	**-0.4**
JIRB	**Irabujima**	**1.94**	**44**	P	**Pn**	**06 10 32.4**	**+0.5**
JIRB				S	**Sn**	**06 10 56.4**	**+0.9**
EHP	**Heping Village**	**1.99**	**296**	eP	**Pn**	**06 10 33.5**	**+0.9**
	baz=298						
EHP				eS	**Sn**	**06 10 58.5**	**+1.8**
	baz=298						
HWA	**Hwalien**	**1.99**	**286**	P	**Pn**	**06 10 32.1**	**-0.5**
	baz=281						
TEGC	**Jichi Village**	**1.99**	**278**	eP	**Pn**	**06 10 33.1**	**+0.4**
	baz=274						
TEGC				eS	**Sn**	**06 10 56.6**	**-0.3**
	baz=274						
JMJ	**Miyako jima 2**	**2.01**	**47**	P	**Pn**	**06 10 33.4**	**+0.6**
JMJ				S	**Sn**	**06 10 58.3**	**+1.1**
JMJ	**Miyako jima 2**	**2.01**	**47**	eP	**Pn**	**06 10 33.5**	**+0.6**
	baz=43						
JMJ				eS	**Sn**	**06 10 58.5**	**+1.3**
	baz=43						
TWD	**Chiawan**	**2.02**	**289**	⇑iP	**Pn**	**06 10 32.8**	**-0.2**
	baz=291						
TWD				eS	**Sn**	**06 10 54.5**	**-3.1**
	baz=291						
ENA	**Nanau**	**2.04**	**299**	⇑iP	**Pn**	**06 10 34.2**	**+0.9**
	baz=308						
JOGS	**Gusukube**	**2.05**	**50**	P	**Pn**	**06 10 34.1**	**+0.7**
JOGS				S	**Sn**	**06 10 59.9**	**+1.6**
ESF	**Shoufeng Towns**	**2.05**	**283**	⇓eP	**Pn**	**06 10 33.6**	**+0.2**
	baz=290						
ESF				eS	**Sn**	**06 10 58.3**	**0.0**
	baz=290						
TWC	**Suao**	**2.05**	**305**	⇑iP	**Pn**	**06 10 34.4**	**+1.0**
	baz=306						
JIKM	**Ikemajima**	**2.05**	**44**	P	**Pn**	**06 10 34.1**	**+0.6**
JIKM				S	**Sn**	**06 10 59.5**	**+1.1**
NACB	**Ninganchiao**	**2.06**	**291**	ePn	**Pn**	**06 10 33.1**	**-0.4**
NACB				eSn	**Sn**	**06 10 54.0**	**-4.4**
ESL	**Shilin**	**2.10**	**281**	⇑iP	**Pn**	**06 10 33.5**	**-0.7**
	baz=283						
EGS		**2.13**	**311**	⇑iP	**Pn**	**06 10 35.9**	**+1.3**
	baz=312						
EGS				eS	Sn	06 10 52.8	-7.6
	baz=312						
CHKT	**Chengkung**	**2.17**	**262**	⇑iP	**Pn**	**06 10 33.7**	**-1.3**
	baz=264						
CHKT				eS	**Sn**	**06 10 57.6**	**-3.5**
	baz=264						
EHY	**Hungye**	**2.18**	**272**	⇑iP	**Pn**	**06 10 34.8**	**-0.4**
	baz=274						
EHY				eS	**Sn**	**06 10 59.5**	**-2.0**
	baz=274						
YULB	**Yu-li**	**2.20**	**269**	ePn	**Pn**	**06 10 34.6**	**-0.9**
YULB				eSn	**Sn**	**06 11 00.6**	**-1.4**
TWF1	**Yuli**	**2.20**	**268**	⇑iP	**Pn**	**06 10 34.9**	**-0.6**
	baz=265						
TWF1				eS	**Sn**	**06 11 01.8**	**-0.2**
	baz=265						
TWB1	**Santiao Chiao**	**2.21**	**316**	⇑iP	**Pn**	**06 10 36.7**	**+1.2**
	baz=316						
ILA	**Ilan**	**2.21**	**307**	⇑P	**Pb**	**06 10 37.8**	**-1.9**
	baz=300						
ILA				eS	**Sb**	**06 11 06.0**	**-0.7**
	baz=300						
TWE	**Neicheng**	**2.25**	**305**	⇑iP	**Pn**	**06 10 37.8**	**+1.7**
	baz=306						
WHF	**Hehuan Shan**	**2.33**	**288**	⇑iP	**Pn**	**06 10 37.7**	**0.0**
	baz=290						
NNS	**Nan Shan**	**2.34**	**296**	⇑iP	**Pn**	**06 10 38.5**	**+0.9**
	baz=297						
NNS				eS	**Sn**	**06 11 06.4**	**+0.6**
	baz=297						
NWF	**Wu-fen Shan**	**2.38**	**313**	⇑iP	**Pn**	**06 10 39.7**	**+1.6**
	baz=304						
LAY	**Lan-yu**	**2.42**	**235**	⇑iP	**Pn**	**06 10 36.9**	**-1.6**
	baz=245						
TTN	**Taitung**	**2.44**	**254**	⇑iP	**Pn**	**06 10 38.1**	**-0.7**
	baz=256						
TTN				eS	**Sn**	**06 11 05.0**	**-2.9**
	baz=256						
TWT	**Tachien**	**2.44**	**290**	⇑P	**Pn**	**06 10 40.0**	**+1.0**
	baz=291						
YHNB	**Yeheng**	**2.45**	**301**	ePn	**Pn**	**06 10 39.8**	**+0.8**
YHNB				eSn	**Sn**	**06 11 08.6**	**+0.4**
TWA	**Mucha**	**2.46**	**309**	⇑iP	**Pn**	**06 10 40.9**	**+1.7**
	baz=309						
TWA				eS	**Sb**	**06 11 12.0**	**-1.9**
	baz=309						
NSK	**Sanguang**	**2.46**	**301**	⇑iP	**Pn**	**06 10 40.6**	**+1.4**
	baz=294						
ELDTW	**Lidau**	**2.47**	**265**	⇑iP	**Pn**	**06 10 38.5**	**-0.9**
	baz=263						
TWG	**Pinlang**	**2.49**	**256**	ePn	**Pn**	**06 10 38.1**	**-1.4**
TWG				eSn	**Sn**	**06 11 05.2**	**-4.0**
TWG	**Pinlang**	**2.49**	**256**	⇑iP	**Pn**	**06 10 38.9**	**-0.6**
	baz=258						
TWG				eS	**Sn**	**06 11 08.6**	**-0.6**
	baz=258						
YUS	**Yu-Shan**	**2.52**	**272**	⇑iP	**Pn**	**06 10 40.6**	**+0.3**
	baz=273						
TATO	**Taipei**	**2.53**	**308**	ePn	**Pn**	**06 10 41.4**	**+1.4**
TATO				eSn	**Sn**	**06 11 11.5**	**+1.4**
SSLB	**Suanglung**	**2.54**	**278**	ePn	**Pn**	**06 10 40.1**	**0.0**
SSLB				eSn	**Sn**	**06 11 10.5**	**+0.2**
TAP1	**Taipei**	**2.54**	**309**	eP	**Pn**	**06 10 41.6**	**+1.5**
	baz=309						
TAP	**Taipei**	**2.55**	**309**	eP	**Pn**	**06 10 41.5**	**+1.2**
	baz=309						
TAP				eS	**Sn**	**06 11 10.2**	**-0.6**
	baz=309						
SMLT	**Sun Moon Lake**	**2.60**	**280**	⇑iP	**Pn**	**06 10 41.8**	**+0.7**
	baz=282						
SMLT				eS	**Sn**	**06 11 14.7**	**+2.7**
	baz=282						
TYC	**Yuchr**	**2.64**	**281**	⇑iP	**Pn**	**06 10 42.3**	**+0.8**
	baz=282						
TWY	**Chenhua**	**2.64**	**314**	⇑P	**Pn**	**06 10 43.2**	**+1.6**
	baz=306						
TWY				eS	**Sn**	**06 11 14.8**	**+1.8**
	baz=306						
ALS	**Alishan**	**2.65**	**272**	⇑iP	**Pn**	**06 10 42.9**	**+0.9**
	baz=279						
ALS				eS	**Sn**	**06 11 15.0**	**+1.4**
	baz=279						
TWS1	**Kuangyinshan**	**2.66**	**309**	⇓P	**Pn**	**06 10 43.3**	**+1.5**
	baz=309						
TWS1				eS	**Sn**	**06 11 14.4**	**+1.2**
	baz=309						
ECL	**Taimali**	**2.66**	**252**	⇑iP	**Pn**	**06 10 40.7**	**-1.0**
	baz=254						
NSTT	**Nanjuang**	**2.73**	**296**	⇑iP	**Pn**	**06 10 45.2**	**+2.3**
	baz=297						
NCU	**National Centr**	**2.75**	**304**	⇑iP	**Pn**	**06 10 45.1**	**+2.0**
	baz=305						
NCU				eS	**Sn**	**06 11 16.2**	**+0.6**
	baz=305						
CHN5	**Tsauling**	**2.77**	**274**	⇑iP	**Pn**	**06 10 44.9**	**+1.5**
	baz=275						
TAW	**Tawu**	**2.79**	**248**	⇑P	**Pn**	**06 10 42.9**	**-0.8**
	baz=257						
TAW				eS	**Sn**	**06 11 14.8**	**-1.9**
	baz=257						
WNT	**Mingjian**	**2.79**	**280**	⇑iP	**Pn**	**06 10 45.7**	**+2.0**
	baz=285						
WNT				eS	**Sn**	**06 11 19.6**	**+3.0**
	baz=285						
TPUB	**Ta-pu**	**2.82**	**268**	ePn	**Pn**	**06 10 45.0**	**+1.0**
TPUB				eSn	**Sn**	**06 11 15.8**	**-1.4**
TWQ1	**Liyutan**	**2.82**	**289**	⇑P	**Pn**	**06 10 46.4**	**+2.4**
	baz=290						
TWQ1				eS	**Sn**	**06 11 20.2**	**+2.9**
	baz=290						
EAST	**Anshuo**	**2.82**	**249**	⇑iP	**Pn**	**06 10 43.4**	**-0.7**
	baz=257						
HSN	**Hsinchu**	**2.83**	**299**	eP	**Pn**	**06 10 46.0**	**+1.7**
	baz=312						
HSN				eS	**Sn**	**06 11 18.4**	**+0.7**
	baz=312						
WTP	**Ta-pu**	**2.83**	**267**	⇑iP	**Pn**	**06 10 45.5**	**+1.2**
	baz=266						
CHN4	**Tsaushan**	**2.85**	**269**	⇑iP	**Pn**	**06 10 46.0**	**+1.6**
	baz=275						
TCU	**Taichung**	**2.85**	**285**	⇑iP	**Pn**	**06 10 46.9**	**+2.4**
	baz=286						
NSY	**Sanyi**	**2.85**	**291**	⇑iP	**Pn**	**06 10 47.0**	**+2.5**
	baz=291						
NSY				eS	**Sn**	**06 11 20.7**	**+2.5**
	baz=291						
SGST	**Jiashian**	**2.88**	**264**	⇑iP	**Pn**	**06 10 46.1**	**+1.3**
	baz=264						
SGST				eS	**Sn**	**06 11 19.3**	**+0.5**
	baz=264						
WGK	**Gukeng**	**2.88**	**276**	eP	**Pn**	**06 10 46.7**	**+1.8**
	baz=277						
SSD	**Sandimen**	**2.90**	**257**	eP	**Pn**	**06 10 45.9**	**+0.8**
	baz=263						
CHN1	**Nanshi**	**2.92**	**266**	⇑iP	**Pn**	**06 10 47.1**	**+1.7**
	baz=264						
TWK	**Hsinying**	**2.95**	**267**	⇑iP	**Pn**	**06 10 47.6**	**+1.7**
	baz=273						
TWK				eS	**Sn**	**06 11 23.6**	**+3.0**
	baz=273						
TSEB	**Hengchuen, Pin**	**3.00**	**240**	⇑iP	**Pn**	**06 10 46.8**	**+0.3**
	baz=249						
CHY	**Chiayi**	**3.00**	**272**	⇑iP	**Pn**	**06 10 48.7**	**+2.2**
	baz=280						
SCZT	**Fangliau**	**3.02**	**250**	⇑P	**Pn**	**06 10 46.6**	**-0.2**
	baz=255						
SGLT	**Jiouru**	**3.03**	**257**	eP	**Pn**	**06 10 48.4**	**+1.5**
	baz=259						
SGLT				S	**Sb**	**06 11 29.0**	**-1.2**
	baz=259						
TWK1	**Hengchun**	**3.05**	**241**	⇑iP	**Pn**	**06 10 46.8**	**-0.4**
	baz=243						
TWK1				S	**Sn**	**06 11 18.0**	**-5.0**
	baz=243						
TWM1	**Shoushan**	**3.07**	**259**	⇑iP	**Pn**	**06 10 50.0**	**+2.5**
	baz=261						
HEN	**Hengchun**	**3.08**	**243**	⇑iP	**Pn**	**06 10 47.7**	**+0.2**
	baz=245						
CHN3	**Shinhua**	**3.08**	**264**	⇑P	**Pn**	**06 10 50.3**	**+2.7**
	baz=275						
CHN3				S	**Sb**	**06 11 28.0**	**-3.6**
	baz=275						
WTCT	**Ta-ch'eng**	**3.16**	**278**	⇑iP	**Pn**	**06 10 50.8**	**+2.2**
	baz=279						
WTCT				eS	**Sn**	**06 11 27.8**	**+2.2**
	baz=279						
WSF	**Szhu**	**3.19**	**274**	⇑P	**Pn**	**06 10 51.0**	**+1.9**
	baz=275						
WSF				eS	**Sn**	**06 11 27.6**	**+1.2**
	baz=275						
CHN8	**Yiju**	**3.20**	**269**	⇑P	**Pn**	**06 10 51.1**	**+1.8**
	baz=270						
CHN8				eS	**Sn**	**06 11 28.6**	**+1.9**
	baz=270						
TAI1	**Yung-k'ang**	**3.21**	**264**	⇑iP	**Pn**	**06 10 51.8**	**+2.4**
	baz=265						
SCLT	**Jiali**	**3.23**	**266**	⇑iP	**Pn**	**06 10 51.6**	**+2.0**
	baz=277						
SCLT				eS	**Sn**	**06 11 30.0**	**+2.7**
	baz=277						
KAU	**Kaohsiung**	**3.23**	**255**	⇑P	**Pn**	**06 10 52.5**	**+2.7**
	baz=256						
TWP	**Hsiaoliuchiu**	**3.25**	**251**	⇑iP	**Pn**	**06 10 53.0**	**+2.9**
	baz=246						
WDGT	**Dungji**	**3.71**	**268**	⇑iP	**Pn**	**06 10 56.9**	**+0.7**
	baz=260						
WDGT				eS	**Sn**	**06 11 38.8**	**-0.4**
	baz=260						
PNG	**Penghu**	**3.80**	**273**	⇑iP	**Pn**	**06 10 58.7**	**+1.2**
	baz=273						
JKE	**Kume jima 2**	**4.02**	**44**	P	**Pn**	**06 10 59.5**	**-1.1**
JAGN	**Aguni-jima**	**4.50**	**45**	P	**Pn**	**06 11 06.7**	**-0.4**
QZH	**Quanzhou**	**4.89**	**289**	⇓iPn	**Pn**	**06 11 12.7**	**+0.2**
QZH				Sn	**Sn**	**06 12 05.3**	**-3.1**
QZH				smax	smax		
	comp=N,28μm,0.6s						
QZH				smax	smax		
	comp=E,15μm,0.8s						
QZH				LR	LR		
	comp=N,582μm,13.2s						
QZH				LR	LR		
	comp=E,700μm,11.6s						
QZH				LR	LR		
	comp=Z,932μm,12.8s						
KNM	**Kinmen**	**4.91**	**283**	⇑iP	**Pn**	**06 11 14.8**	**+2.0**
	baz=282						
KNM				eS	**Sn**	**06 12 08.3**	**-0.5**
	baz=282						
JNTH	**Nagotoyohara**	**4.99**	**51**	P	**Pn**	**06 11 13.3**	**-0.5**
JIH	**Iheya**	**5.28**	**46**	P	**Pn**	**06 11 17.1**	**-0.7**
JOW	**Kunigami**	**5.36**	**50**	P	**Pn**	**06 11 17.8**	**-1.1**
JOW	**Kunigami**	**5.36**	**50**	Pn	**Pn**	**06 11 17.7**	**-1.2**
	9.4nm,0.3s,baz=159,slow=18,SNR=51						
JOW				Sn	**Sn**	**06 12 18.1**	**-1.8**
	34nm,0.3s,baz=312,slow=30,SNR=8.1						
JOW	**Kunigami**	**5.36**	**50**	eP	**Pn**	**06 11 17.5**	**-1.4**
	baz=49						
SGCP	**Mt. Cagua**	**5.39**	**197**	eP	**Pn**	**06 11 18.9**	**-0.6**
JOKE	**Okinoerabujima**	**5.89**	**47**	P	**Pn**	**06 11 25.7**	**-0.6**
CVP	**Callao Caves**	**5.97**	**197**	⇑eP	**Pn**	**06 11 26.8**	**-0.6**
APYP	**Conner**	**6.00**	**203**	eP	**Pn**	**06 11 26.9**	**-0.9**
ABRA	**Dolores**	**6.40**	**206**	eP	**Pn**	**06 11 34.1**	**+0.8**
JTK	**Tokunoshima**	**6.43**	**47**	P	**Pn**	**06 11 32.8**	**-0.8**
SZP	**Santa**	**6.59**	**208**	ePn	**Pn**	**06 11 35.8**	**-0.1**
SZP				eSn	**Sn**	**06 12 50.7**	**+0.3**
CAUP	**Cauayan**	**6.69**	**196**	eP	**Pn**	**06 11 38.8**	**+1.5**
JAMN	**Amaminishikomi**	**6.88**	**45**	P	**Pn**	**06 11 38.5**	**-1.3**
JMZ	**Minamidaito 2**	**7.25**	**69**	P	**Pn**	**06 11 42.1**	**-2.8**
JZK	**Kikaishima**	**7.46**	**48**	P	**Pn**	**06 11 48.4**	**+0.7**
JTAJ	**Takarajima**	**7.54**	**40**	P	**Pn**	**06 11 47.7**	**-1.2**
BCPH	**Baguio City Da**	**7.60**	**203**	⇑iP	**Pn**	**06 11 50.2**	**+0.2**
BCPH				iS	Px	06 11 58.0	
BOLP	**Bolinao**	**7.87**	**208**	eP	**Pn**	**06 11 55.0**	**+1.6**
BALP	**Baler**	**7.91**	**195**	eP	**Pn**	**06 11 54.3**	**+0.3**
SSE	**Sheshan**	**7.95**	**344**	P	**Pn**	**06 11 55.6**	**+1.1**
SSE				S	**Sn**	**06 13 26.2**	**+2.5**
SSE				pmax	pmax		
	comp=Z,1μm,0.7s						
SSE				pmax	pmax		
	comp=Z,10μm,12.0s						
SSE				LR	LR		
	comp=N,124μm,21.7s						
SSE				LR	LR		
	comp=E,92μm,21.7s						
SSE				LR	LR		
	comp=Z,208μm,17.9s						
JNN	**Nakanoshima**	**8.44**	**40**	P	**Pn**	**06 12 01.2**	**-0.1**
HKC	**Hong Kong Obse**	**8.85**	**265**	⇓iP	**Pn**	**06 12 10.0**	**+3.1**
JYAK	**Yakushimahirau**	**9.11**	**40**	P	**Pn**	**06 12 08.5**	**-1.9**
ARP	**Angono**	**9.17**	**196**	⇑eP	Pn	06 12 03.5	-7.8
LQP	**Lukban**	**9.50**	**193**	⇓eP	**Pn**	**06 12 16.3**	**+0.3**
GZH	**Guangzhou**	**9.52**	**270**	P	Pn	06 12 12.5	-3.6

GZH S Sn 06 13 56.5 -5.9
GZH LR LR
comp=N,587µm,15.3s
GZH LR LR
comp=E,213µm,16.3s
GQP Guinayangan 9.55 187⇓eP Pn 06 12 17.2 +0.6
NJ2 Nanjing 9.59 335 eP Pn 06 12 18.1 +1.1
NJ2 pP 06 12 21.4
NJ2 sP 06 12 24.6
NJ2 S **Sn 06 14 06.5 +2.4**
NJ2 sS 06 14 12.0
NJ2 pmax pmax
comp=Z,140nm,0.6s
NJ2 pmax pmax
comp=Z,5µm,3.8s
NJ2 LR LR
comp=N,157µm,26.0s
NJ2 LR LR
comp=E,135µm,25.3s
NJ2 LR LR
comp=Z,201µm,22.1s
TGY Tagaytay City 9.64 196 Pn Pn 06 12 20.7 +2.8
238nm,0.3s,baz=43,slow=3.5,SNR=25
TGY Sn **Sn 06 14 07.3 +1.7**
173nm,0.3s,baz=113,slow=9.7,SNR=3.1
TGY Tagaytay City 9.64 196⇓eP Pn 06 12 23.0 +5.1
JTN Tanegashima 3 9.69 41 P Pn 06 12 18.4 0.0
PVCP Virac 9.80 177⇓eP Pn 06 12 19.2 -0.7
PVCP eS Sn 06 14 03.0 -6.2
AUQP San Andres 10.11 186 eP Pn 06 12 26.8 +2.6
LUBP Lubang 10.19 199 eP Pn 06 12 25.6 +0.3
KSJJU Jeju 10.27 14 P Pn 06 12 29.5 +3.2
SNR=13
KSJJU Jeju 10.27 14 P **Pn 06 12 29.2 +2.9**
SNR=16
KSSSP Seongsanpo 10.30 15 P Pn 06 12 29.9 +3.1
SNR=11
KSSSP Seongsanpo 10.30 15 P Pn 06 12 29.9 +3.1
SNR=11
CNP Catarman 10.91 175 eP Pn 06 12 36.0 +0.9
WHN Wuhan 10.93 312 P Pn 06 12 35.7 +0.4
WHN S **Sn 06 14 34.8 -2.1**
WHN LR LR
comp=N,130µm,5.4s
WHN LR LR
comp=E,190µm,9.0s
WHN LR LR
comp=Z,301µm,11.0s
OTRP Odiongan 11.13 188 eP Pn 06 12 39.3 +1.2
SJMP San Jose 11.19 193 eP Pn 06 12 40.6 +1.7
KSWAN Wando 11.23 13 P Pn 06 12 43.2 +3.8
SNR=20
KSWAN Wando 11.23 13 P Pn 06 12 43.3 +3.8
SNR=17
KSJDO Jindo 11.23 11 P Pn 06 12 44.9 +5.4
SNR=20
KSJDO Jindo 11.23 11 P Pn 06 12 44.9 +5.4
SNR=20
KSHUK Heuksando 11.31 7 P Pn 06 12 46.5 +5.9
SNR=16
KSHUK Heuksando 11.31 7 P Pn 06 12 45.6 +5.0
SNR=30
KSHAN Haenam 11.38 12 P Pn 06 12 46.1 +4.7
SNR=18
JNU Nakatsue 11.54 32 Pn **Pn 06 12 43.1 -0.7**
17nm,0.3s,baz=237,slow=4.5,SNR=50
JNU Sn **Sn 06 14 54.8 +2.9**
0.7nm,0.3s,baz=150,slow=14,SNR=1.8
JNU Nakatsue 11.54 32 Pn **Pn 06 12 43.1 -0.7**
JNU Sn **Sn 06 14 54.8 +2.9**
JNU Sn Sn 06 15 07.3 +15
KSMOK Mokpo 11.60 13 P Pn 06 12 48.7 +4.2
SNR=26
BUSP Coron 11.85 197 eP Pn 06 12 47.8 -0.1
KSKWJ Gwangju 12.03 13 P Pn 06 12 55.5 +5.1
SNR=14
PLP Palo 12.27 174⇓eP Pn 06 12 53.8 +0.1
KSJEU Jeongeup 12.34 12 P Pn 06 12 59.2 +4.5
SNR=22
OCLP Ormoc 12.35 176 eP Pn 06 12 59.3 +4.4
KSBUS Busan 12.68 21 P Pn 06 13 03.7 +4.4
SNR=19
CUYO Cuyo Island 12.77 192 eP Pn 06 13 01.9 +1.2
GUIM Jordan 12.78 185 eP Pn 06 13 03.5 +2.7
ENPP El Nido 12.82 199 eP Pn 06 13 01.0 -0.4
KSGUS GUNSAN 12.84 11 P Pn 06 13 05.7 +4.3
SNR=32
KSJEO Jeonju 12.84 13 P Pn 06 13 06.0 +4.5
SNR=35
LLP Lapu-Lapu 13.05 179 eP Pn 06 13 04.8 +0.4
KSDAG Daegu 13.09 19 P Pn 06 13 08.0 +3.1
SNR=21
KSCPR CHUPUNGNYEONG13.27 15 P **Pn 06 13 10.2 +2.8**
SNR=37
MSLP Maasin 13.28 175 eP Pn 06 13 09.6 +2.0
KSBON Boeun 13.49 14 P Pn 06 13 13.6 +3.2
SNR=33
KSSES Seosan 13.52 10 P Pn 06 13 13.8 +3.1
SNR=50
KSPHA Pohang 13.63 20 P **Pn 06 13 14.1 +1.9**
SNR=15
QIZ Qiongzhong 13.63 254 P Pn 06 13 13.0 +0.6
QIZ S **Sn 06 15 46.7 +3.4**
QIZ pmax pmax
comp=Z,190nm,1.3s
QIZ pmax pmax
comp=Z,7µm,11.4s
QIZ LR LR
comp=N,176µm,20.4s
QIZ LR LR
comp=E,44µm,20.3s
QIZ LR LR
comp=Z,124µm,17.6s
QIZ Qiongzhong 13.63 254 ePn Pn 06 13 13.1 +0.6
244nm,0.9s
QIZ eSn **Sn 06 15 40.3 -3.0**
TBP Tagbilaran 13.67 179 eP P 06 13 20.6 -1.0
SCPH Surigao 13.69 172⇑eP Pn 06 13 15.1 +2.0
KSCEA Cheonan 13.69 12 P **Pn 06 13 15.7 +2.6**
SNR=42
KSCHJ Chungju 13.89 14 P **Pn 06 13 18.0 +2.1**
SNR=41
TIA Tai'an 13.94 337 ⇓P Pn 06 13 20.0 +3.5
TIA S Sn 06 15 57.3 +6.7
TIA pmax pmax
comp=Z,380nm,1.5s
TIA pmax pmax
comp=Z,29µm,9.2s
TIA LR LR
comp=N,133µm,15.1s
TIA LR LR
comp=E,105µm,19.9s
TIA LR LR
comp=Z,181µm,16.0s
KSSWO Suwon 14.07 11 P **Pn 06 13 21.2 +2.9**
SNR=54
KSULJ Uljin 14.11 19 P **P 06 13 25.5 -0.8**
SNR=29
INCN Inchon 14.23 10 ePn Pn 06 13 21.9 +1.4
1µm,0.9s
KSYOW Yeongwol 14.29 16 P **Pn 06 13 23.4 +2.0**
SNR=50
KSTBA Taebaek 14.37 17 P **Pn 06 13 24.1 +1.6**
SNR=21
ENH Enshi 14.38 301 ePn Pn 06 13 24.5 +1.8
145nm,0.7s
PPR Puerto Princes 14.39 200 eP Pn 06 13 25.6 +2.8
KSAR Wonju Array Be 14.42 14 P Pn 06 13 24.5 +1.5
KSAR Wonju Array Be 14.42 14 Pn **Pn 06 13 24.4 +1.5**
KSAR PKiKP **PKiKP 06 26 33.1 -0.8**
KSGAH Ganghwa 14.42 9 P **P 06 13 32.0 +2.3**
SNR=9.5
KSRS Korea Array 14.44 14 Pn **Pn 06 13 24.4 +1.2**
7.5nm,0.3s,baz=192,slow=12,SNR=251
KSRS LR LR 06 20 02.1
comp=Z,118µm,18.3s,baz=194,slow=42
KSRS PKiKP **PKiKP 06 26 33.1 -0.7**
0.1nm,0.3s,baz=211,slow=0.7,SNR=4.4
KSBAR Backryungdo 14.52 3 P P 06 13 34.3 +3.5
SNR=9.6
KSCHC Chuncheon 14.73 13 P **P 06 13 31.8 -1.3**
SNR=8.1
YNCB YEONCHEON 14.82 10 P **P 06 13 31.8 -2.3**
SNR=29
CGP Cagayan de Oro 14.93 176 eP Pn 06 13 30.5 +0.4
PAGZ Pagadian 15.50 181 eP Pn 06 13 39.0 +1.4

DL2 Dalian 15.52 354⇑iP Pn 06 13 39.8 +2.0
DL2 S **Sn 06 16 32.2 +3.2**
DL2 pmax pmax
comp=Z,1µm,1.3s
DL2 pmax pmax
comp=Z,22µm,9.8s
DL2 LR LR
comp=N,64µm,16.2s
DL2 LR LR
comp=Z,78µm,14.7s
BUKP Musuan 15.53 175 eP Pn 06 13 39.1 +1.1
GYA Guiyang 15.73 285⇓iP Pn 06 13 41.2 +0.5
GYA PP **pP 06 13 54.6 +3.7**
GYA S **Sn 06 16 34.4 -0.1**
GYA SS **S 06 16 55.0 +6.0**
GYA PcP **PcP 06 18 42.3 +1.9**
GYA pmax pmax
comp=Z,450nm,1.2s
GYA pmax pmax
comp=Z,9µm,8.7s
GYA LR LR
comp=N,188µm,16.2s
GYA LR LR
comp=E,107µm,13.4s
GYA LR LR
comp=Z,128µm,13.0s
CTBH Cotabato--PC H 16.13 178 eP Pn 06 13 46.6 +0.8
DAV Davao City (W) 16.37 173 ePn Pn 06 13 49.6 +0.7
991nm,1.1s
XAN Xi'an 16.70 313 P P 06 13 54.4 -0.7
XAN PP **PnPn 06 14 08.0 +5.6**
XAN S **Sn 06 16 58.0 +0.3**
XAN SS **SnSn 06 17 18.3 +7.3**
XAN PcP **PcP 06 18 45.6 +4.0**
XAN pmax pmax
comp=Z,4µm,14.6s
XAN LR LR
comp=N,157µm,22.0s
XAN LR LR
comp=E,37µm,21.2s
XAN LR LR
comp=Z,29µm,20.9s
HMMJ Hamamatsu 2 16.70 44 P P 06 13 56.6 +1.5
CBIJ Chichi jima 17.12 74 P P 06 14 01.0 +1.2
117nm,1.0s
CBIJ eS **Sn 06 17 10.9 +2.9**
JCJ Chichijima 17.12 74 P P 06 14 01.0 +1.2
12nm,0.3s,baz=199,slow=4.1,SNR=7.8
JCJ LR LR 06 19 43.4
comp=Z,36µm,21.6s,baz=258,slow=34
JHJ2 Mitsune 17.15 52 eP P 06 14 01.6 +1.6
318nm,0.8s
TIY Taiyuan 17.20 328⇑iP P 06 14 01.9 +1.3
TIY S **Sn 06 17 13.3 +3.5**
TIY pmax pmax
comp=Z,15µm,4.8s
TIY LR LR
comp=N,99µm,16.8s
TIY LR LR
comp=E,51µm,11.4s
TIY LR LR
comp=Z,121µm,16.2s
JNT Takato 17.62 42 P P 06 14 07.0 +1.6
JYN Shimob 17.63 44 P P 06 14 06.9 +1.5
KDM Kudat 17.70 203 ⇑P P 06 14 07.4 +1.2
AJI Ajiro2 17.71 46 P P 06 14 08.0 +1.8
BJT Baijiatuau 17.71 341 eP P 06 14 06.1 -0.1
BJT pmax pmax
comp=Z,1µm,1.3s
BJT Baijiatuau 17.71 341 eP P 06 14 06.1 -0.1
comp=Z,1µm,1.3s
BJT eS **S 06 17 35.0 +5.9**
BJI Beijing 17.73 341 P P 06 14 06.8 +0.4
BJI S **Sn 06 17 25.4 +2.8**
BJI pmax pmax
comp=Z,340nm,1.1s
BJI pmax pmax
comp=Z,20µm,5.8s
BJI LR LR
comp=Z,89µm,19.4s
BJI LR LR
comp=Z,61µm,16.0s
BJI LR LR
comp=Z,71µm,17.7s
JOD2 Odawara 2 17.84 45 P P 06 14 09.6 +2.0
MAJO Matsushiro 18.10 41dlP Pn 06 14 09.6 -0.7
MAJO Matsushiro 18.10 41 eP P 06 14 10.6 0.0
comp=Z,485nm,0.9s
MAJO eS **S 06 17 36.5 -0.4**
MAT Matsushiro 18.10 41 P P 06 14 11.4 +0.8
MAT S **S 06 17 40.9 +3.9**
MAT Matsushiro 18.10 41 P Pn 06 14 10.1 -0.2
MJAR Matsushiro Arr 18.10 41 P P 06 14 11.3 +0.7
comp=Z,22nm,0.3s,baz=222,slow=8.8,SNR=122
SNY Shenyang 18.34 360 ⇑P P 06 14 13.1 0.0
SNY S **S 06 17 41.1 -0.4**
SNY pmax pmax
comp=Z,100nm,1.3s
SNY pmax pmax
comp=Z,20µm,6.5s
SNY LR LR
comp=Z,89µm,20.4s
SNY LR LR
comp=Z,104µm,15.0s
SNY LR LR
comp=Z,216µm,17.1s
SLVN Son La 18.42 267 eP Pn 06 14 16.3 +1.9
comp=Z,640nm,1.0s
SLVN eS **S 06 17 49.0 +5.5**
DLV T Lat 18.43 234 eP Pn 06 14 16.6 +1.9
comp=Z,657nm,1.1s
DLV eS **S 06 17 46.2 +2.3**
KKM Kota Kinabalu 18.73 204 eP Pn 06 14 18.4 +0.2
comp=Z,3µm,1.7s
KKM eS **S 06 17 53.2 +3.6**
KKM Kota Kinabalu 18.73 204 ⇓P Pn 06 14 19.7 +1.4
SDKM Sandakan 18.77 200 ⇓P Pn 06 14 19.3 +0.7
MYLDM Lahad Datu 18.83 196 ePn Pn 06 14 21.8 +2.6
comp=Z,5µm,1.9s
MYLDM Lahad Datu 18.83 196 ⇓P Pn 06 14 21.9 +2.6
UBPT Khong Chiam 19.00 248 P Pn 06 14 23.1 +1.8
comp=Z,785nm,2.9s,comp=Z,27µm
JHK Hiroka 19.05 40 P P 06 14 20.7 -0.3
KMI Kunming 19.17 279 P Pn 06 14 25.5 +1.8
KMI pP **pP 06 14 29.7 +0.6**
KMI PP **PnPn 06 14 39.9 +3.3**
KMI S **Sn 06 17 54.4 -3.7**
KMI pmax pmax
comp=Z,290nm,2.0s
KMI pmax pmax
comp=Z,29µm,10.6s
KMI LR LR
comp=Z,204µm,16.9s
KMI LR LR
comp=Z,65µm,16.5s
KMI LR LR
comp=Z,90µm,14.7s
CD2 Chengdu 19.22 297⇓iP Pn 06 14 25.0 +1.0
CD2 pP **pP 06 14 29.1 -0.2**
CD2 sP **sP 06 14 32.5 +0.2**
CD2 PP **PnPn 06 14 42.1 +5.1**
CD2 S **Sn 06 17 55.4 -3.4**
CD2 sS **S 06 18 01.7 +2.5**
CD2 SS **SnSn 06 18 21.4 +8.4**
CD2 pmax pmax
comp=Z,650nm,0.6s
CD2 pmax pmax
comp=Z,28µm,9.2s
CD2 LR LR
comp=Z,126µm,10.8s
CD2 LR LR
comp=Z,142µm,13.7s
CD2 LR LR
comp=Z,181µm,14.7s
JHO Hitachi 19.61 44 P P 06 14 25.5 -1.6
HHC Hu-ho-hao-te 20.14 332 eP Pn 06 14 34.2 -0.7
HHC PP PnPn 06 14 57.6 +8.0
HHC S Sn 06 18 20.9 -0.1
HHC SS **SnSn 06 18 41.2 +5.6**
HHC pmax pmax
comp=Z,400nm,1.3s
HHC pmax pmax
comp=Z,24µm,6.0s
HHC LR LR
comp=Z,149µm,15.4s

HHC LR LR
comp=Z,140µm,15.6s
HHC LR LR
comp=Z,199µm,15.2s
CN2 Changchun 20.36 4 ⇑P P 06 14 34.7 -0.5
CN2 epP Pn 06 14 38.7 +1.3
CN2 esP **sP 06 14 41.7 -2.9**
CN2 eS Sn 06 18 24.3 -1.9
CN2 pmax pmax
comp=Z,200nm,3.0s
BTO Baotou 20.63 329 eP P 06 14 38.5 +0.2
BTO pmax pmax
comp=Z,220nm,0.8s
VLA Vladivostok 20.77 17⇑iP P 06 14 35.2 -4.4
VLA eS Px 06 14 53.6
VLA pmax pmax
comp=Z,117nm,1.3s
LZH Lanzhou 21.30 311 ⇑P P 06 14 47.1 +1.5
LZH pP **pP 06 14 51.2 -0.9**
LZH sP **sP 06 14 54.2 -0.8**
LZH PP **PnPn 06 15 11.4 +5.8**
LZH S **S 06 18 39.0 -2.3**
LZH sS Sn 06 18 46.2 -2.9
LZH PcP **PcP 06 18 49.5 -0.3**
LZH SS **SnSn 06 19 13.2 +9.0**
LZH pmax pmax
comp=Z,670nm,1.0s
LZH pmax pmax
comp=Z,9µm,7.8s
LZH LR LR
comp=Z,105µm,16.8s
LZH LR LR
comp=Z,92µm,17.0s
LZH LR LR
comp=Z,112µm,17.0s
MDJ Mudanjiang 21.67 11 P P 06 14 47.4 -2.0
MDJ pP pP 06 14 50.3 -5.5
MDJ S **S 06 18 49.5 +1.3**
MDJ ScP **ScP 06 22 26.5 +0.6**
MDJ PcS **PcS 06 22 29.1 +0.8**
MDJ pmax pmax
comp=Z,94nm,1.3s
MDJ pmax pmax
comp=Z,10µm,14.2s
MDJ LR LR
comp=Z,51µm,17.7s
MDJ LR LR
comp=Z,102µm,17.7s
MDJ LR LR
comp=Z,119µm,18.6s
MDJ Mudanjiang 21.67 11 eP P 06 14 47.2 -2.2
comp=Z,319nm,1.0s
MDJ eS **S 06 18 46.8 -1.4**
MDJ LR LR
comp=Z,122µm,19.0s
USRK Ussuriysk Arra 21.80 16 P P 06 14 48.5 -2.3
comp=Z,68nm,0.6s,baz=203,slow=10,SNR=40
USRK LR LR 06 24 29.7
comp=Z,74µm,19.1s,baz=183,slow=40
GUMO Guam 22.32 112 eP P 06 14 56.7 +0.2
GUMO eS **S 06 19 00.7 -0.2**
GUMO pmax pmax
comp=Z,10µm,1.3s
GUMO MLR MLR
comp=Z,41µm,20.0s
GUMO Guam 22.32 112 eP P 06 14 56.7 +0.2
comp=Z,16µm,1.3s
GUMO eS **S 06 19 00.7 -0.2**
GUMO LR LR
comp=Z,41µm,20.0s
TOLI Toli-Toli 22.36 188 P P 06 14 58.3 +1.4
comp=Z,1µm,1.2s
TOLI eS Sn 06 19 09.1 -5.4
UTTA Uttaradit 22.37 260 P P 06 15 00.4 +3.3
comp=Z,37nm,1.2s,comp=Z,437nm
PBKT Sadao Pong 22.40 256 P P 06 14 59.2 +1.8
comp=Z,374nm,1.8s,comp=Z,12µm
BTM Bintulu 22.58 209 ⇓P P 06 15 01.3 +2.0
GTOI Gorontalo 22.67 182 P P 06 14 59.9 -0.4
comp=Z,3µm,1.3s,comp=Z,39µm
KMSI Cibinong 22.73 179 P P 06 15 07.7 +6.9
comp=Z,1µm,1.4s,comp=Z,39µm
TNTI Ternate 22.81 170 P P 06 15 03.9 +2.2
comp=Z,4µm,1.2s,comp=Z,50µmcomp=Z,98µm
TNTI Ternate 22.81 170 eP P 06 15 01.8 0.0
comp=Z,3µm,0.9s
CHBT CHBT 22.88 246 P P 06 15 03.6 +1.1
comp=Z,279nm,1.4s,comp=Z,9µm
MRSI Marisa 22.89 185 P P 06 15 06.4 +3.9
comp=Z,1µm,1.6s,comp=Z,23µm
LAMP Lampang 22.98 262 P P 06 15 05.8 +2.3
comp=Z,52nm,1.0s,comp=Z,813nm
CMAI Chiengmai2 23.16 266 P P 06 15 06.9 +1.4
comp=Z,472nm,1.5s,comp=Z,8µm
SUKH Sukhothai 23.29 260 P P 06 15 08.7 +2.0
comp=Z,46nm,1.3s,comp=Z,852nm
CMMT Chiang Mai 23.52 263 P P 06 15 09.9 +0.9
comp=Z,633nm,1.4s,comp=Z,14µm
CHTO Chiang Mai 23.53 263 eP P 06 15 09.8 +0.8
CHTO eS **S 06 19 22.2 +0.4**
CHTO MLR MLR
comp=Z,21µm,20.0s
CHTO Chiang Mai 23.53 263 P P 06 15 10.0 +1.0
comp=Z,1µm,2.0s,comp=Z,52µm
CHTO Chiang Mai 23.53 263 eP P 06 15 09.8 +0.8
CHTO eS **S 06 19 22.2 +0.4**
CHTO eScP **ScP 06 22 29.7 -1.5**
CHTO LR LR
comp=Z,21µm,20.0s
CM31 Chiang Mai Arr 23.62 263 eP P 06 15 11.4 +1.4
comp=Z,571nm,1.5s
CMAR Chiang Mai Arr 23.62 263 P P 06 15 11.8 +1.8
comp=Z,35nm,0.8s,baz=62,slow=8.8,SNR=45
CMAR PcP **PcP 06 18 55.3 +0.7**
comp=Z,17nm,0.8s,baz=44,slow=0.5,SNR=9.0
CMAR LR LR 06 26 16.5
comp=Z,24µm,18.4s,baz=74,slow=41
CMAR PKiKP **PKiKP 06 26 37.8 -0.5**
comp=Z,1.0nm,0.3s,baz=29,slow=2.1,SNR=4.8
SBUM Sibu 23.64 210 eP P 06 15 09.5 -0.6
comp=Z,365nm,1.0s
SBUM Sibu 23.64 210 ⇓P P 06 15 09.9 -0.1
PATY Pattaya 24.04 248 P P 06 15 17.6 +3.7
comp=Z,24nm,1.0s
LBMI Labuha 24.21 171 P P 06 15 18.2 +2.7
comp=Z,3µm,1.8s,comp=Z,66µm
APSI Ampana 24.28 185 P P 06 15 19.5 +3.4
comp=Z,4µm,1.4s,comp=Z,47µm
LUWI Luwuk 24.35 182 P P 06 15 21.9 +5.2
comp=Z,2µm,1.4s,comp=Z,37µmcomp=Z,76µm
LUWI Luwuk 24.35 182 eP P 06 15 17.7 +1.0
comp=Z,4µm,1.4s
SGKI Sangatta, Kali 24.55 195 P P 06 15 17.5 -1.0
ERM Erimo 24.63 37 P P 06 15 18.6 -0.4
comp=Z,4µm,0.9s,SNR=23
ERM Erimo 24.63 37dlP P 06 15 18.1 -0.9
ERM pmax pmax
comp=Z,552nm,0.7s
ERM Erimo 24.63 37 eP P 06 15 18.6 -0.4
comp=Z,572nm,0.8s
ERM LR LR
comp=Z,70µm,22.0s
SRDT SRDT 24.91 253 P P 06 15 22.9 +1.1
comp=Z,1µm,1.3s,comp=Z,22µm
KHLT Khaolaem Dam 25.19 255 P P 06 15 26.0 +1.6
comp=Z,83nm,1.4s,comp=Z,3µm
SWI Sorong 25.25 162 P P 06 15 27.1 +2.2
comp=Z,760nm,1.3s,comp=Z,14µmcomp=Z,58µm
KSM Kuching 25.40 213 eP P 06 15 24.8 -1.4
comp=Z,689nm,1.3s
KSM LR LR
comp=Z,13µm,20.0s
KSM Kuching 25.40 213 ⇓P P 06 15 26.9 +0.6
BKB Balikpapan 25.42 196 P P 06 15 37.1 +11
SANI Sanana 25.43 175 P P 06 15 26.7 +0.2
comp=Z,1µm,1.2s,comp=Z,34µmcomp=Z,64µm
MTKI Muara Teweh, K 25.70 201 P P 06 15 34.7 +5.7
comp=Z,983nm,1.4s,comp=Z,17µm
ASAJ Asahikawa 25.82 32 P P 06 15 29.8 0.0
comp=Z,500nm,0.7s,baz=225,slow=8.8,SNR=91
ASAJ Asahikawa 25.82 32 eP P 06 15 29.7 0.0
comp=Z,182nm,0.7s
ASAJ eS **S 06 20 03.6 +5.6**
HIA Hailar 25.97 354 eP P 06 15 29.0 -2.2
HIA eS **S 06 19 56.0 -4.3**
HIA pmax pmax

comp=Z,1µm,0.7s
HIA MLR MLR
comp=Z,107µm,19.0s
HIA Hailar 25.97 354 eP P 06 15 28.9 -2.2
comp=Z,1µm,0.7s
HIA eS S 06 19 56.0 -4.3
HIA LR LR
comp=Z,107µm,19.0s
STKI Sintang 26.09 209 P P 06 15 37.4 +4.9
comp=Z,183nm,1.1s,comp=Z,10µmcomp=Z,23µm
KLR Kul'dur 26.52 12deP P 06 15 30.3 -5.8
KLR eS S 06 20 09.5 +0.6
KLR eSS SnSn 06 21 13.5 +2.0
KLR pmax pmax
comp=N,200nm,1.8s
KLR pmax pmax
comp=E,240nm,1.8s
KLR pmax pmax
comp=Z,420nm,1.8s
KLR pmax pmax
comp=N,4µm,10.5s
KLR pmax pmax
comp=Z,12µm,10.5s
HABR Khabarovsk 26.56 17c iP P 06 15 33.4 -3.1
HABR e*SP sP 06 15 37.8 -8.4
HABR ePPP PPP 06 16 20.6
HABR e 06 18 58.5
HABR eS S 06 20 07.6 -2.0
HABR eSSS SSS 06 21 22.4
HABR e 06 26 28.2
HABR pmax pmax
comp=Z,102nm,0.7s
HABR MLR MLR
comp=E,38µm,23.0s
HABR MLR MLR
comp=N,43µm,17.0s
HABR MLR MLR
comp=Z,69µm,17.0s
TTSI Tana Toraja 26.59 189 P P 06 15 40.4 +3.4
comp=Z,495nm,1.2s,comp=Z,9µmcomp=Z,33µm
NLAI Namlea 26.72 172 P P 06 15 42.5 +4.3
comp=Z,980nm,1.0s,comp=Z,11µm
KTGM Kuala Trenggan 26.77 231 ⇑P P 06 15 41.9 +3.2
MSAI Masohi 27.11 168 P P 06 15 48.0 +6.3
comp=Z,48nm,1.6s,comp=Z,4µm
YUK Yuzh-Kuril'sk 27.45 36c iP P 06 15 37.2 -7.3
YUK ePPP PPP 06 16 28.7
YUK i S S 06 20 17.0 -6.7
YUK i SSS SSS 06 21 39.1
YUK pmax pmax
comp=N,1µm,1.4s
YUK pmax pmax
comp=Z,3µm,1.4s
YUK pmax pmax
comp=E,908nm,0.7s
YUK pmax pmax
comp=Z,7µm,1.9s
YUK MLR MLR
comp=E,21µm,20.0s
YUK MLR MLR
comp=Z,27µm,20.0s
YUK MLR MLR
comp=N,21µm,20.0s
FAKI Fak Fak 27.49 161 P P 06 15 46.8 +1.7
comp=N,701nm,1.2s,comp=N,8µm
FAKI Fak Fak 27.49 161 eP P 06 15 45.9 +0.8
comp=N,849nm,1.2s
FAKI eS S 06 20 28.4 +3.5
FAKI eScP ScP 06 22 50.3 +7.7
SPSI Sidrap Palu 27.50 188 P P 06 15 49.1 +3.9
comp=N,240nm,1.6s,comp=N,6µm
KBKI Kotabaru 27.57 196 P P 06 15 55.3 +10
comp=N,277nm,1.5s,comp=N,5µm
ULN Ulaanbaatar 27.75 336c iP P 06 15 46.7 -0.7
ULN pmax pmax
comp=Z,318nm,1.3s
ULN MLR MLR
comp=Z,71µm,16.0s
ULN Ulaanbaatar 27.75 336 eP P 06 15 46.7 -0.7
comp=Z,188nm,0.9s
ULN LR LR
comp=Z,76µm,19.0s
SURT Suratani 27.84 243 P P 06 15 49.4 +1.1
comp=Z,45nm,1.3s,comp=Z,1µm
BNSI Bone 27.89 188 P P 06 15 53.4 +4.7
comp=Z,459nm,1.4s,comp=Z,8µm
SONM Songino Array 27.98 335 P P 06 15 48.7 -0.7
comp=Z,328nm,0.9s,baz=147,slow=7.9
SONM LR LR 06 28 38.2
comp=Z,103µm,18.2s,baz=144,slow=40
YSS Yuzh-Sakhalins 28.02 28α iP P 06 15 48.0 -1.6
YSS e*SP sP 06 16 00.0 +0.7
YSS ePPP PPP 06 16 54.8
YSS e 06 19 07.0
YSS eS S 06 20 28.0 -4.6
YSS eSSS SSS 06 22 05.0
YSS pmax pmax
comp=Z,430nm,1.0s
YSS MLR MLR
comp=E,27µm,17.0s
YSS MLR MLR
comp=Z,52µm,17.0s
YSS MLR MLR
comp=N,51µm,18.0s
YSS Yuzh-Sakhalins 28.02 28 eP P 06 15 48.7 -0.9
comp=N,1µm,1.4s
YSS LR LR
comp=Z,20µm,19.0s
BBKI Banjar Baru 28.09 199 P P 06 15 58.9 +8.4
comp=Z,585nm,1.3s,comp=Z,11µm
KAPI Kappang 28.54 188 P P 06 16 01.6 +7.1
comp=Z,1µm,1.2s,SNR=20
KAPI Kappang 28.54 188 eP P 06 15 55.5 +1.0
comp=Z,2µm,1.3s
KAPI eS S 06 20 50.3 +9.0
KAPI eScP ScP 06 22 46.4 +0.7
KAPI LR LR
comp=Z,37µm,20.0s
KULM Kulim 28.61 234 eP P 06 15 55.6 +0.5
comp=Z,61nm,1.0s
KULM eS S 06 20 32.6 -10
KULM LR LR
comp=Z,24µm,20.0s
PKDT Phuket 28.82 242 P P 06 16 00.0 +3.0
comp=Z,150nm,0.8s,comp=Z,17µm
MYKOM Kota Tinggi 28.86 225 eP P 06 15 58.3 +0.9
MYKOM Kota Tinggi 28.86 225 ⇑P P 06 15 58.7 +1.3
IPM Ipoh 28.88 233 eP P 06 15 57.1 -0.5
comp=Z,148nm,0.9s
SHL Shillong 28.99 281 eP P 06 15 58.3 -0.4
SHL AMB AMB 06 16 29.2
comp=Z,370nm,1.2s
SHL i x x 06 20 24.0
KGM Kluang 29.04 226 ⇑P P 06 16 00.1 +1.1
TPRI Tanjung Pinang 29.10 222 P P 06 16 03.5 +4.0
comp=Z,251nm,1.1s,comp=Z,23µm
SMPI Sarmi 29.20 148 P P 06 16 06.4 +6.0
comp=Z,302nm,1.9s,comp=Z,5µm
FRIM Kepong 29.30 230 ⇑P P 06 16 02.0 +0.9
KUR Kuril'sk 29.32 36c iP P 06 15 55.3 -5.8
KUR eS S 06 20 48.4 -4.7
KUR pmax pmax
comp=E,33nm,0.5s
KUR pmax pmax
comp=Z,611nm,1.1s
KUR pmax pmax
comp=N,152nm,1.1s
KUR pmax pmax
comp=Z,5µm,4.7s
KUR MLR MLR
comp=N,23µm,21.0s
KUR MLR MLR
comp=E,18µm,21.0s
KUR MLR MLR
comp=Z,31µm,21.0s
CIT Chita 29.58 347 eP P 06 16 02.4 -1.1
CIT e 06 17 13.1
CIT pmax pmax
comp=Z,683nm,2.0s
LSA Lhasa 29.70 289 P P 06 16 07.7 +2.4
LSA S S 06 20 57.5 -2.9
LSA pmax pmax
comp=Z,340nm,1.0s
LSA pmax pmax
comp=Z,2µm,7.0s
LSA LR LR
comp=Z,39µm,19.0s
LSA LR LR
comp=Z,63µm,16.0s
LSA LR LR
comp=Z,78µm,16.0s
LSA Lhasa 29.70 289 eP P 06 16 06.8 +1.5
LSA eS S 06 20 59.8 -0.6
LSA pmax pmax
comp=Z,98nm,0.7s
LSA MLR MLR
comp=Z,69µm,20.0s
LSA Lhasa 29.70 289 eP P 06 16 06.8 +1.5
comp=Z,98nm,0.7s
LSA eS S 06 20 59.8 -0.6
LSA LR LR
comp=Z,69µm,20.0s
DSRI Dabo 30.17 221 P P 06 16 17.6 +8.6
comp=Z,529nm,1.9s,comp=Z,10µm
TPI Tanjungpandan 30.36 213 P P 06 16 12.1 +1.4
comp=Z,125nm,1.3s,comp=Z,4µmcomp=Z,23µm
GENI Genyem 30.45 146 P P 06 16 25.3 +14
DGPR DIGLIPUR 30.87 256 eP P 06 16 14.1 -1.1
ZAK Zakamensk 31.25 335⇓eP P 06 16 16.9 -1.4
ZAK e 06 19 16.0
ZAK pmax pmax
comp=Z,94nm,1.0s
LHMI Lhok Sumawe 31.50 239 P P 06 16 25.0 +4.3
comp=Z,274nm,1.0s,comp=Z,6µm
LHMI Lhok Sumawe 31.50 239 eP P 06 16 21.5 +0.8
comp=Z,172nm,0.7s
PSI Prapat 31.55 233 LR LR 06 29 45.7
comp=Z,18µm,19.4s,baz=42,slow=38
JMBI JAMBI 31.65 221 P P 06 16 32.6 +11
comp=Z,1µm,1.6s,comp=Z,13µm
PBA Port Blair 31.67 254 eP P 06 16 20.3 -2.0
KMMI Kalianget 31.76 199 P P 06 16 33.3 +10
comp=Z,199nm,2.0s,comp=Z,8µm
BKNI Bangkinang 31.80 227 P P 06 16 26.9 +3.5
comp=Z,505nm,1.3s,comp=Z,6µm
BKNI Bangkinang 31.80 227 eP P 06 16 23.8 +0.4
comp=Z,768nm,1.3s
MMRI Maumere 31.91 183 P P 06 16 31.1 +6.8
comp=Z,2µm,1.5s,comp=Z,23µm
MMRI Maumere 31.91 183 eP P 06 16 24.9 +0.6
comp=Z,4µm,1.6s
KCSI Kotacane, Aceh 31.93 236 P P 06 16 24.7 +0.1
comp=Z,107nm,1.3s,comp=Z,3µm
SAUI Saumlaki 32.10 166 P P 06 16 36.1 +10
comp=Z,619nm,1.1s,comp=Z,7µmcomp=Z,32µm
SAUI Saumlaki 32.10 166 eP P 06 16 35.5 +9.5
comp=Z,727nm,1.1s
TLY Talaya 32.15 336 P P 06 16 25.7 -0.4
comp=Z,2µm,1.2s
TLY Talaya 32.15 336c iP P 06 16 25.4 -0.7
TLY e 06 17 33.3
TLY ePPP PPP 06 17 49.7
TLY eSS SS 06 23 28.6 -27
TLY pmax pmax
comp=Z,328nm,1.0s
TLY MLR MLR
comp=Z,45µm,17.0s
TLY Talaya 32.15 336 eP P 06 16 25.5 -0.7
TLY eS S 06 21 36.1 -1.3
TLY LR LR
comp=Z,45µm,19.0s
IRK Irkutsk 32.38 338⇑iP P 06 16 27.0 -1.1
IRK e 06 17 42.8
IRK eS S 06 21 35.3 -5.7
IRK pmax pmax
comp=Z,346nm,1.8s
ABJI Asem Bagus 32.39 198 P P 06 16 33.1 +4.6
comp=Z,200nm,1.8s,comp=Z,7µm
SRBI Singaraja 32.41 196 P P 06 16 38.1 +9.5
comp=Z,156nm,1.7s,comp=Z,4µm
MNSI Mandailing Nat 32.47 230 P P 06 16 30.0 +0.8
comp=Z,274nm,1.3s,comp=Z,4µm
BLJI Banyuglugur 32.52 199 P P 06 16 39.4 +10
comp=Z,190nm,1.2s,comp=Z,5µm
TPTI 32.55 236 P P 06 16 30.6 +0.6
comp=Z,175nm,0.8s
TAPN Taplejung 32.67 284 eP P 06 16 32.4 +1.1
comp=Z,2µm,1.3s
NGJI Ngawi 32.87 203 P P 06 16 42.1 +9.4
comp=Z,315nm,1.1s,comp=Z,8µm
CMBY CAMPBELL BAY 32.93 245 eP P 06 16 32.1 -1.2
CMBY AMB AMB 06 17 07.0
comp=Z,165nm,0.4s
SMRI Semarang 32.95 205 P P 06 16 44.9 +11
comp=Z,268nm,1.9s,comp=Z,9µm
SMRI Semarang 32.95 205 eP P 06 16 34.5 +1.0
comp=Z,36nm,0.8s
ODAN Odare 32.97 284 eP P 06 16 35.9 +2.1
comp=Z,1µm,1.1s
DNP Denpasar 32.98 196 P P 06 16 39.0 +5.4
comp=Z,1µm,1.4s,comp=Z,25µm
SOEI Soe 32.99 179 P P 06 16 38.8 +4.9
comp=Z,192nm,1.1s,comp=Z,6µm
SOEI Soe 32.99 179 eP P 06 16 33.6 -0.3
comp=Z,96nm,0.7s
SOEI eS S 06 21 46.0 -5.3
JAGI Jajag, Banyuwa 33.05 197 P P 06 16 39.3 +5.0
comp=Z,274nm,1.6s,comp=Z,6µm
JAGI Jajag, Banyuwa 33.05 197 eP P 06 16 36.4 +2.1
comp=Z,230nm,1.3s
GMJI Gumukmas 33.07 199 P P 06 16 43.9 +9.5
comp=Z,176nm,2.3s,comp=Z,6µm
PDSI Padang 33.11 226 P P 06 16 37.6 +2.7
comp=Z,214nm,1.2s,comp=Z,4µm
IGBI Denpasar 33.13 196 P P 06 16 42.8 +7.9
comp=Z,911nm,1.5s,comp=Z,15µm
MOY Mondy 33.16 334 eP P 06 16 34.4 -0.7
MOY pmax pmax
comp=Z,452nm,2.8s
CLNS Chul'man 33.38 1 eP P 06 16 36.8 0.0
LHSI Lahat 33.48 219 P P 06 16 43.2 +5.1
comp=Z,182nm,1.0s,comp=Z,7µm
WOJI Wonogiri, Jawa 33.49 203 P P 06 16 45.9 +7.7
comp=Z,300nm,1.3s,comp=Z,6µm
GSI Gunungsitoli 33.55 233 eP P 06 16 37.8 -0.9
comp=Z,240nm,1.3s
GSI eS S 06 22 02.2 +2.4
MDSI Maura Dua 33.66 217 P P 06 16 40.8 +1.2
comp=Z,166nm,0.8s,comp=Z,4µm
RAMN Ramite 33.67 284 eP P 06 16 41.7 +1.7
comp=Z,1µm,1.2s
MASI Maura Aman, Be 33.69 221 P P 06 16 45.0 +5.0
comp=Z,763nm,1.5s,comp=Z,13µm
SNSI Sinabang, Aceh 33.75 236 P P 06 16 42.1 +1.7
comp=Z,350nm,1.1s,comp=Z,5µm
KPJI Karang Pucung 33.81 207 P P 06 16 47.9 +7.0
comp=Z,516nm,0.8s,comp=Z,8µm
BLSI Bandar Lampung 33.82 214 P P 06 16 50.9 +10
comp=Z,320nm,1.2s,comp=Z,6µm
CBJI Citeko 33.93 211 P P 06 16 53.3 +11
comp=Z,847nm,1.5s,comp=Z,21µm
LEM Lembang 33.93 210 P P 06 16 50.3 +8.1
comp=Z,373nm,1.2s,comp=Z,10µm
JIRN Jiri 34.01 285 eP P 06 16 43.8 +0.7
comp=Z,1µm,1.4s
SBJI Serang 34.02 212 P P 06 16 51.4 +8.7
comp=Z,440nm,2.1s,comp=Z,9µm
DBJI Dramaga 34.09 211 P P 06 16 47.7 +4.3
comp=Z,409nm,1.4s,comp=Z,11µmcomp=Z,83µm
LWLI Liwa 34.16 217 P P 06 16 48.8 +4.7
comp=Z,335nm,0.8s,comp=Z,7µm
MNAI Manna 34.24 219 P P 06 16 45.4 +0.6
comp=Z,590nm,1.2s
GUN Gumba 34.28 286 eP P 06 16 46.2 +0.8
comp=Z,1µm,1.2s
KASI Kota Agung 34.35 215 P P 06 16 49.8 +4.2
comp=Z,212nm,1.2s,comp=Z,4µm
CISI Cisompet, Garu 34.49 209 P P 06 16 55.0 +8.1
comp=Z,432nm,1.3s,comp=Z,6µm
CISI Cisompet, Garu 34.49 209 P P 06 16 48.2 +1.3
comp=Z,705nm,1.3s
BOK Bokaro 34.57 278 eP P 06 16 45.4 -2.2
CNJI Cibinong 34.58 210 P P 06 16 55.9 +8.3
comp=Z,305nm,0.9s,comp=Z,4µmcomp=Z,27µm
CGJI Cibinong 34.66 213 P P 06 16 50.8 +2.5
comp=Z,106nm,1.4s,comp=Z,3µm
PKI Pulchoki 34.70 285 eP P 06 16 50.2 +1.1
comp=Z,530nm,1.2s
KKN Kakani 34.81 285 eP P 06 16 50.7 +0.8
comp=Z,1µm,1.4s
DMN Daman 34.97 285 eP P 06 16 51.8 +0.5
GKN Gorkha 35.38 286 eP P 06 16 54.9 +0.3
comp=Z,990nm,1.3s
WMQ Urumqi 35.83 313 P P 06 16 58.8 +0.5
WMQ pP pP 06 17 03.2 -2.0
WMQ sP sP 06 17 05.8 -2.3
WMQ PP PP 06 18 19.9 +0.1
WMQ PcP PcP 06 19 26.6 +1.1
WMQ S S 06 22 35.0 +0.4
WMQ sS sS 06 22 42.4 -3.7
WMQ PcS PcS 06 23 12.8 0.0
WMQ SS SnSn 06 24 56.6 -1.5
WMQ ScS ScS 06 27 14.7 -0.8
WMQ pmax pmax
comp=Z,170nm,0.8s
WMQ pmax pmax
comp=Z,3µm,5.8s
WMQ LR LR
comp=Z,72µm,18.0s
WMQ LR LR
comp=Z,31µm,20.0s
WMQ LR LR
comp=Z,26µm,22.8s
DANN Dangsing 36.14 286 eP P 06 17 01.9 +0.5
comp=Z,1µm,1.4s
KOLN Koldanda 36.30 285 eP P 06 17 03.3 +0.7
comp=Z,684nm,1.1s
PYUN Piuthan 36.83 286 eP P 06 17 08.1 +1.0
comp=Z,633nm,0.9s
SKR Severo-Kuril's 37.03 35 eP P 06 17 02.5 -5.7
SKR e 06 17 09.5
SKR ePPP PPP 06 18 38.0
SKR eS S 06 22 46.0 -6.5
SKR pmax pmax
comp=N,3µm,3.0s
SKR pmax pmax
comp=E,5µm,3.0s
SKR pmax pmax
comp=Z,11µm,3.0s
SKR pmax pmax
comp=Z,320nm,0.6s
SKR pmax pmax
comp=N,130nm,0.7s
SKR pmax pmax
comp=E,130nm,0.7s
SKR smax smax
comp=N,12µm,10.0s
SKR smax smax
comp=E,16µm,10.0s
SKR MLR MLR
comp=N,16µm,20.0s
SKR MLR MLR
comp=E,16µm,20.0s
SKR MLR MLR
comp=Z,28µm,20.0s
XMIS Christmas Isla 38.05 210 eP P 06 17 17.1 -0.1
comp=Z,399nm,1.0s
XMIS eS S 06 23 07.9 -0.8
VIS Vishakhapatnam 38.12 269 eP P 06 17 16.6 -1.4
VIS i x x 06 18 51.8
YAK Yakutsk 38.79 5c iP P 06 17 21.1 -1.9
YAK e 06 18 58.3
YAK e 06 19 25.4
YAK eS S 06 23 14.0 -5.0
YAK pmax pmax
comp=Z,241nm,1.0s
YAK pmax pmax
comp=N,123nm,1.3s
YAK pmax pmax
comp=E,42nm,1.3s
YAK pmax pmax
comp=Z,2µm,4.4s
YAK pmax pmax
comp=N,2µm,4.7s
YAK pmax pmax
comp=E,294nm,2.5s
YAK smax smax
comp=E,648nm,4.3s
YAK smax smax
comp=N,2µm,4.7s
YAK MLR MLR
comp=Z,53µm,14.0s
YAK MLR MLR
comp=E,20µm,16.0s
YAK MLR MLR
comp=N,46µm,16.0s
YAK Yakutsk 38.79 5 eP P 06 17 21.2 -1.7
comp=N,439nm,0.7s
YAK ePcP PcP 06 19 36.7 +2.7
YAK eS S 06 23 19.2 +0.3
YAK LR LR
comp=Z,39µm,20.0s
PEA0B Petropavlovsk- 39.24 32 eP P 06 17 27.0 +0.2
PETK Petropavlovsk- 39.24 32 P P 06 17 27.1 +0.2
comp=Z,178nm,0.6s,baz=209,slow=6.2,SNR=77
PETK LR LR 06 34 49.1
comp=Z,17µm,21.1s,baz=234,slow=38
PET Petropavlovsk 39.66 33c iP P 06 17 30.5 +0.1
PET e 06 19 05.8
PET eS S 06 23 31.2 -1.0
PET pmax pmax
comp=Z,12µm,3.4s
PET pmax pmax
comp=Z,2µm,0.8s
PET pmax pmax
comp=Z,2µm,12.5s
PET pmax pmax
comp=Z,2µm,13.0s
PET smax smax
comp=N,8µm,14.7s
PET smax smax
comp=N,8µm,16.0s
PET MLR MLR
comp=Z,16µm,20.0s
PET MLR MLR
comp=Z,22µm,20.0s
PET Petropavlovsk 39.66 33 eP P 06 17 30.5 +0.1
comp=Z,990nm,0.6s
PET LR LR
comp=Z,19µm,20.0s
PMG Port Moresby 39.91 142deP P 06 17 32.9 +0.1
PMG pmax pmax
comp=Z,82nm,1.0s
PMG MLR MLR
comp=Z,21µm,20.0s
PMG Port Moresby 39.91 142 eP P 06 17 32.8 0.0
comp=Z,220nm,1.1s
PMG eS S 06 23 41.9 +5.2
PMG LR LR
comp=Z,25µm,19.0s
WAKE Wake Island 40.12 87 eP P 06 17 36.7 +2.1
comp=Z,354nm,1.1s
WAKE LR LR
comp=Z,12µm,20.0s
H11N1 WAKE ISLAND Hy 40.24 87 P P 06 17 38.0 +2.6
baz=265,slow=9.5,SNR=12
H11N1 T T 07 00 28.3
baz=286,slow=75,SNR=42
H11N2 WAKE ISLAND Hy 40.24 87 P P 06 17 38.7 +3.4
baz=265,slow=9.5,SNR=7.5
H11N2 T T 07 00 25.2
baz=286,slow=75,SNR=35
H11N3 WAKE ISLAND Hy 40.25 87 P P 06 17 36.7 +1.2
baz=265,slow=9.5,SNR=8.4
H11N3 T T 07 00 34.6
baz=286,slow=75,SNR=53
H11S3 WAKE ISLAND Hy 40.34 89 T T 07 00 38.3
baz=288,slow=74,SNR=33
H11S1 WAKE ISLAND Hy 40.35 89 T T 07 00 40.4
baz=288,SNR=22
H11S2 WAKE ISLAND Hy 40.36 89 T T 07 00 39.6
baz=288,slow=74,SNR=30
MK31 Makanchi Array 40.47 316 P P 06 17 37.6 +0.3
MK31 pmax pmax
comp=Z,47nm,0.4s
MK31 Makanchi Array 40.47 316 eP P 06 17 37.5 +0.2
MK31 ePcP PcP 06 19 42.3 +2.5
MK31 eS S 06 23 42.9 -1.8
MKAR Makanchi Array 40.47 316ceP P 06 17 37.5 +0.2
MKAR pmax pmax
comp=Z,69nm,0.5s
MKAR Makanchi Array 40.47 316 P P 06 17 37.5 +0.2
comp=Z,66nm,0.5s,baz=100,slow=10,SNR=479
MKAR PcP PcP 06 19 41.6 +1.9
comp=Z,78nm,1.1s,baz=106,slow=3.0,SNR=3.6
MKAR LR LR 06 36 05.7
comp=Z,32µm,19.8s,baz=109,slow=39
DDI Dehra Dun 41.06 290 eP P 06 17 40.8 -1.6
COEN Coen 41.77 151 eP P 06 17 48.5 +0.4

comp=Z,4µm,1.1s
COEN eS S 06 24 05.6 +1.2
NDI New Delhi 41.87 287 eP9 P 06 17 51.0 +2.0
NDI eS S 06 24 08.0 +2.1
SDNR Sundarnagar 41.97 292 eP P 06 17 51.0 +1.2
SDNR ex x 06 23 57.0
ZAA0 Zalesovo Array 42.12 326 eP P 06 17 49.8 -0.9
ZAA0 ePP PP 06 19 29.3 +1.0
ZALV Zalesovo Beam 42.12 326 P P 06 17 49.9 -0.8
comp=Z,311nm,0.6s,baz=111,slow=8.1,SNR=289
ZALV LR LR 06 36 51.9
comp=Z,51µm,18.5s,baz=130,slow=38
BHPL Bhopal 42.34 279 eP P 06 17 52.1 -0.8
MDRS Chennai 42.38 264 eP P 06 17 52.1 -1.1
BHK Bhakra 42.45 291 ex P 06 17 57.0 +3.3
BHK ex x 06 18 21.4
DHRM DHARAMSHALA 42.53 293 eP P 06 17 52.9 -1.8
HYB Hyderabad 42.59 271 iP P 06 17 55.0 0.0
HYB ePP PcP 06 19 44.0 -3.2
HYB eS S 06 24 18.0 +1.2
HYB Hyderabad 42.59 271 eP P 06 17 53.3 -1.7
DLH Dalhousie 42.81 293 eP P 06 17 55.0 -1.9
DLH ex x 06 18 08.0
KSH Kashi 43.23 303 P P 06 18 04.1 +4.1
KSH sP sP 06 18 10.8 +0.9
KSH ePP PP 06 19 44.4 +3.8
KSH S S 06 24 31.2 +5.3
KSH pmax pmax
comp=Z,43nm,1.0s
KSH pmax pmax
comp=Z,560nm,4.1s
KSH LR LR
comp=Z,18µm,14.7s
KSH LR LR
comp=Z,8µm,10.6s
KSH LR LR
comp=Z,12µm,13.6s
NVS Novosibirsk 43.38 327⇑iP P 06 17 59.9 -0.9
NVS eS S 06 24 23.6 -3.7
NVS pmax pmax
comp=N,63nm,1.9s
NVS pmax pmax
comp=Z,122nm,1.9s
NVS pmax pmax
comp=E,202nm,2.2s
NVS smax smax
comp=N,46nm,1.5s
NVS smax smax
comp=E,143nm,1.4s
ULHL Ulahol 43.44 307 iP P 06 18 03.8 +2.0
ULHL Ulahol 43.44 307 P P 06 18 03.8 +2.0
SNR=10.0
SEY Seymchan 43.92 18 eP P 06 18 04.9 -0.2
TKM2 Tokmak 2 44.03 308 iP P 06 18 07.6 +1.0
TKM2 pmax pmax
comp=Z,580nm,0.8s
TKM2 Tokmak 2 44.03 308 P P 06 18 08.3 +1.8
SNR=204
TKM2 Tokmak 2 44.03 308 eP P 06 18 08.1 +1.5
comp=Z,570nm,0.8s
TKM2 eS S 06 24 39.3 +1.6
TKM2 LR LR
comp=Z,28µm,22.0s
COCO West Island 44.09 219 PFAKE 06 18 20.0 +13
COCO LR LR
comp=Z,5µm,20.0s
KURK Kurchatov 44.14 320 eP P 06 18 07.1 +0.1
KURK eS S 06 24 39.3 +0.7
KURK S S 06 24 39.7 +1.1
KURK pmax pmax
comp=Z,101nm,0.6s
KURK MLR MLR
comp=Z,14µm,19.0s
KURK Kurchatov 44.14 320 eP P 06 18 07.1 +0.1
comp=Z,101nm,0.6s
KURK eS S 06 24 39.3 +0.7
KURK S S 06 24 39.6 +1.1
KURK LR LR
comp=Z,14µm,19.0s
KZA Kyzart 44.14 307 iP P 06 18 10.0 +2.3
KZA Kyzart 44.14 307 P P 06 18 10.0 +2.3
SNR=56
KURBB Kurchatov Arra 44.16 320 S S 06 24 39.6 +0.8
comp=Z,12nm,1.2s,baz=102,slow=18,SNR=5.0
PALK Pallekele 44.25 256 eP P 06 18 10.4 +1.9
PALK eS S 06 24 43.0 +1.8
PALK pmax pmax
comp=Z,493nm,1.4s
PALK Pallekele 44.25 256 eP P 06 18 10.4 +1.9
comp=Z,493nm,1.4s
PALK eS S 06 24 43.0 +1.8
WRAB Tennant Creek 44.34 166 P P 06 18 08.0 -0.9
comp=Z,2µm,1.1s,SNR=41
WRAB Tennant Creek 44.34 166 eP P 06 18 08.4 -0.5
WRAB pmax pmax
comp=Z,337nm,1.1s
WRAB MLR MLR
comp=Z,15µm,20.0s
WRAB Tennant Creek 44.34 166 eP P 06 18 08.4 -0.5
comp=Z,338nm,1.1s
WRAB LR LR
comp=Z,15µm,20.0s
WRA Warramunga Arr 44.35 166 P P 06 18 08.3 -0.7
comp=Z,47nm,0.8s,baz=347,slow=8.5,SNR=106
WRA LR LR 06 36 31.2
comp=Z,7µm,22.0s,baz=355,slow=36
WRA PKPPKP P'P'df 06 49 35.0 -12
comp=Z,1.7nm,1.0s,baz=118,slow=2.2,SNR=6.3
KBK Karagaybulak 44.45 308 iP P 06 18 11.9 +2.0
KBK Karagaybulak 44.45 308 P P 06 18 11.9 +2.0
SNR=167
MBWA Marble Bar 44.49 185 eP P 06 18 11.0 +0.9
comp=Z,268nm,1.3s
MBWA eS S 06 24 43.1 -1.1
MBWA LR LR
comp=Z,6µm,20.0s
CHMS Chumysh 44.66 308 iP P 06 18 12.7 +1.4
CHMS Chumysh 44.66 308 P P 06 18 12.8 +1.4
SNR=188
UCH Uchtor 44.70 307 iP P 06 18 14.5 +2.3
UCH Uchtor 44.70 307 P P 06 18 14.5 +2.3
SNR=203
FRU Bishkek 44.72 308 iP P 06 18 12.0 +0.1
FRU e 06 24 48.0
FRU pmax pmax
comp=Z,360nm,2.0s
AAK Ala-Archa 44.78 308 P P 06 18 14.0 +1.5
comp=Z,1µm,0.8s,SNR=82
AAK Ala-Archa 44.78 308⇑eP P 06 18 12.9 +0.4
AAK pmax pmax
comp=Z,329nm,0.7s
AAK MLR MLR
comp=Z,74µm,17.0s
AAK Ala-Archa 44.78 308 P P 06 18 14.1 +1.5
SNR=106
AAK Ala-Archa 44.78 308 LR LR 06 37 54.7
comp=Z,17µm,18.8s,baz=78,slow=38
AAK Ala-Archa 44.78 308 eP P 06 18 13.9 +1.5
comp=Z,120nm,0.8s
AAK eS S 06 24 51.1 +2.6
USP Ospenovka 44.88 308 iP P 06 18 14.5 +1.4
USP Ospenovka 44.88 308 P P 06 18 14.5 +1.4
SNR=56
AML Almayashu 45.29 307 iP P 06 18 18.7 +1.9
AML Almayashu 45.29 307 P P 06 18 18.7 +1.9
SNR=112
EKS2 Erkin-Say 45.31 307 iP P 06 18 18.2 +1.5
EKS2 Erkin-Say 45.31 307 P P 06 18 18.3 +1.5
SNR=96
EKS2 Erkin-Say 45.31 307 eP P 06 18 18.1 +1.5
comp=Z,137nm,0.7s
EKS2 eS S 06 25 06.2 +10
EKS2 LR LR
comp=Z,28µm,20.0s
POO Poona 46.61 274⇓iP P 06 18 25.0 -2.1
comp=Z,778nm,2.0s
POO eP P 06 18 25.6 -1.6
TRD Trivandrum 47.09 260 eP P 06 18 28.3 -2.5
MNGI Mangalore 47.39 266 eP P 06 18 29.5 -3.6
MNGI eS S 06 25 21.6 -4.7
FX1 Attu Island--F 47.45 39 P P 06 18 33.6 +0.5
comp=Z,202nm,0.8s,baz=298,slow=3.1,SNR=31
FX1 LR LR 06 36 59.2
comp=Z,7µm,21.3s,baz=262,slow=34
GOA Goa 47.49 270 eP P 06 18 31.9 -2.0
GOA AMB AMB 06 18 59.2
comp=Z,240nm,0.3s
KK31 Karatay Array 47.74 308 eP P 06 18 36.6 +1.0
KK31 pmax pmax
comp=Z,61nm,0.7s
KKAR Karatay Array 47.74 308 eP P 06 18 36.3 +0.7
KKAR eS S 06 25 31.9 +1.1
KKAR pmax pmax
comp=Z,15nm,0.8s
KKAR Karatay Array 47.74 308 eP P 06 18 36.3 +0.7
comp=Z,15nm,0.8s
KKAR eS S 06 25 31.9 +1.1
AS31 Alice Springs 47.86 167 eP P 06 18 36.5 -0.1
ASAR Alice Springs 47.86 167 P P 06 18 36.5 -0.1
comp=Z,28nm,0.9s,baz=353,slow=6.5,SNR=72
ASAR LR LR 06 39 25.5
comp=Z,5µm,20.6s,baz=350,slow=37
ASAR PKPPKP P'P'df 06 49 27.9 -14
comp=Z,1.4nm,1.0s,baz=119,slow=3.5,SNR=5.8
ASAR PKP2ab 06 50 46.0
comp=Z,3.6nm,1.0s,baz=161,slow=3.8,SNR=5.8
ASAR P4KPbc 06 56 25.2
comp=Z,0.4nm,0.6s,baz=345,slow=4.0,SNR=6.3
SMY Shemya 47.94 39 eP P 06 18 38.3 +1.4
SMY pmax pmax
comp=Z,863nm,1.3s
SMY Shemya 47.94 39 eP P 06 18 38.3 +1.4
comp=Z,863nm,1.3s
TIXI Tiksi 48.33 2ceP P 06 18 38.2 -1.4
TIXI pmax pmax
comp=Z,607nm,1.7s
TIXI MLR MLR
comp=Z,114µm,20.0s
TIXI Tiksi 48.33 2 eP P 06 18 38.3 -1.4
comp=Z,652nm,1.2s
TIXI ePP PP 06 20 31.4 -0.6
TIXI eS S 06 25 35.3 -2.8
TIXI LR LR
comp=Z,101µm,19.0s
CTA Charters Tower 48.53 151 LR LR 06 36 50.3
comp=Z,24µm,21.9s,baz=33
CTAO Charters Tower 48.53 151 eP P 06 18 42.4 +0.5
CTAO eS S 06 25 44.2 +2.0
CTAO pmax pmax
comp=Z,148nm,1.1s
CTAO MLR MLR
comp=Z,32µm,22.0s
CTAO Charters Tower 48.53 151 eP P 06 18 42.4 +0.5
comp=Z,148nm,1.1s
CTAO eS S 06 25 44.2 +2.0
CTAO LR LR
comp=Z,32µm,22.0s
VOSK Vostochnaya 49.28 320 iP P 06 18 45.5 -1.8
VOSK pmax pmax
comp=Z,94nm,0.6s
BHJ Bhuj 49.36 281 eP P 06 18 46.3 -2.0
BVA0 Borovoye Array 49.70 321 iP P 06 18 50.6 +0.1
BVA0 pmax pmax
comp=Z,127nm,0.6s
BVAR Borovoye Array 49.70 321 S S 06 25 57.6 -0.4
comp=Z,13nm,1.1s,baz=124,slow=13,SNR=5.0
BVAR LR LR 06 39 57.6
comp=Z,22µm,21.8s,baz=101,slow=36
BRVK Borovoye 49.77 321 P P 06 18 51.9 +0.9
comp=Z,2µm,0.5s
BRVK Borovoye 49.77 321ciP P 06 18 51.6 +0.6
BRVK pmax pmax
comp=Z,295nm,1.3s
BRVK MLR MLR
comp=Z,17µm,19.0s
BRVK Borovoye 49.77 321 eP P 06 18 51.5 +0.4
comp=Z,136nm,0.5s
BRVK eS S 06 25 56.9 -2.1
BRVK LR LR
comp=Z,28µm,22.0s
BILL Bilibino 51.62 19ciP P 06 19 04.5 -0.3
BILL eS S 06 26 24.3 +0.1
BILL pmax pmax
comp=Z,65nm,0.7s
BILL MLR MLR
comp=Z,26µm,20.0s
BILL Bilibino 51.62 19 eP P 06 19 04.4 -0.3
comp=Z,226nm,0.8s
BILL eS S 06 26 26.0 +1.8
BILL LR LR
comp=Z,28µm,21.0s
TARA Tarawa 52.49 107 PFAKE 06 19 20.0 +8.0
TARA LR LR
comp=Z,13µm,22.0s
MIDW Midway 52.83 72 PFAKE 06 19 30.0 +16
MIDW LR LR
comp=Z,8µm,22.0s
ADK Adak 53.26 42 eP P 06 19 17.6 +0.5
ADK pmax pmax
comp=Z,409nm,1.0s
ADK MLR MLR
comp=Z,8µm,20.0s
ADK Adak 53.26 42 eP P 06 19 17.6 +0.5
comp=Z,409nm,1.0s
ADK LR LR
comp=Z,8µm,20.0s
FORT Forrest 54.07 175 eP P 06 19 23.0 -0.1
comp=Z,472nm,0.8s
FORT eS S 06 27 00.5 +2.3
EIDS Eidsvold 55.30 150 eP P 06 19 32.9 +0.7
comp=Z,43nm,0.7s
AB31 Akbulak array 55.60 315 iP P 06 19 34.8 +0.6
AB31 pmax pmax
comp=Z,277nm,0.6s
ABKAR Akbulak array 55.60 315 eP P 06 19 34.9 +0.7
comp=Z,305nm,0.6s
IMYA Miami 55.72 299 eP P 06 19 36.9 +1.3
SVE Sverdlovsk 56.00 324diP P 06 19 37.6 +0.7
SVE e 06 21 45.3
SVE eS S 06 27 22.6 -1.2
SVE e 06 29 18.7
SVE pmax pmax
comp=Z,1µm,1.0s
SVE pmax pmax
comp=Z,2µm,9.6s
SVE MLR MLR
comp=Z,26µm,20.0s
SVE MLR MLR
comp=E,21µm,19.0s
IDAH Dahanechah 56.33 295 eP P 06 19 43.1 +3.1
IMOG Moghan 56.36 299 eP P 06 19 40.9 +0.7
IPAY Payeh 56.60 299 eP P 06 19 43.4 +1.5
IAKL Akhelmad 56.78 299 eP P 06 19 44.8 +1.7
AKTO Aktyubinsk 56.91 316 P P 06 19 42.3 -1.2
AKTO pmax pmax
comp=Z,156nm,0.8s
AKTO Aktyubinsk 56.91 316 P P 06 19 43.6 +0.1
comp=Z,107nm,0.7s,baz=97,slow=12,SNR=3.2
AKTO LR LR 06 45 37.0
comp=Z,26µm,21.2s,baz=95,slow=38
IKRD Kardeh 56.95 300 eP P 06 19 40.5 -3.9
ARU Arti 57.08 323 P P 06 19 44.6 0.0
comp=Z,4µm,0.7s
ARU Arti 57.08 323ciP P 06 19 44.6 0.0
ARU e 06 20 36.9
ARU e 06 21 51.4
ARU PPP PPP 06 23 06.2
ARU S S 06 27 39.4 +1.3
ARU SS SS 06 31 32.2 +5.6
ARU pmax pmax
comp=Z,928nm,1.2s
ARU MLR MLR
comp=Z,16µm,20.0s
ARU Arti 57.08 323 eP P 06 19 44.6 0.0
comp=Z,791nm,1.0s
ARU eS S 06 27 35.0 -3.1
ARU LR LR
comp=Z,17µm,20.0s
IKOO Kooshah 57.10 294 eP P 06 19 46.8 +1.3
ABKT Ailbek 57.15 301 P P 06 19 47.2 +1.7
comp=Z,749nm,0.8s,SNR=21
BBOO Buckleboo 57.16 168 eP P 06 19 44.5 -1.0
comp=Z,3µm,1.1s
BBOO eS S 06 27 40.1 +0.6
ITEG Tejag 57.24 295 eP P 06 19 47.8 +1.3
ISFR Sfrayin 57.33 300 eP P 06 19 46.4 -0.7
ISHV Shirvan 57.52 301 eP P 06 19 49.8 +1.5
STKA Stephens Creek 57.61 162 P P 06 19 48.5 0.0
STKA pmax pmax
comp=Z,130nm,0.8s
STKA Stephens Creek 57.61 162 P P 06 19 48.5 0.0
comp=Z,22nm,0.8s,baz=342,slow=7.3,SNR=20
STKA LR LR 06 46 08.9
comp=Z,16µm,19.3s,baz=343,slow=38
STKA PKP2bc 06 49 48.5
comp=Z,2.3nm,0.9s,baz=15,slow=4.2,SNR=3.4
STKA Stephens Creek 57.61 162 P P 06 19 48.5 0.0
comp=Z,130nm,0.8s
STKA ⇑e 06 49 48.5
GAMB Gambell 58.04 28 eP P 06 19 52.4 +1.1
comp=Z,369nm,1.3s
SOKR Solikamsk 58.41 327ciP P 06 19 54.2 +0.3
SOKR 06 22 12.1
SOKR S S 06 27 53.3 -2.0
SOKR pmax pmax
comp=Z,460nm,1.1s
SOKR MLR MLR
comp=Z,31µm,17.0s
DGAR Diego Garcia 58.69 245 PFAKE 06 20 10.0 +13
DGAR LR LR
comp=Z,12µm,19.0s
WBK Wadi Bani Khal 59.10 283 P P 06 20 01.3 +1.9
SNR=11
UNV Unalaska Valle 59.57 40 eP P 06 20 01.4 -0.6
comp=Z,97nm,0.7s
SMDO Samad 59.81 284 P P 06 20 05.6 +1.3
SNR=14
ARMA Armidale 59.89 152 eP P 06 20 05.4 +0.8
comp=Z,44nm,0.9s
JMDO Jabal Madar 59.93 283 P P 06 20 06.4 +1.3
SNR=10
TNA Tin City 59.97 27 eP P 06 20 05.9 +1.3
comp=Z,335nm,1.2s
TNA eS S 06 28 17.3 +1.9
AKUT Akutan 60.01 40 eP P 06 20 07.0 +1.9
comp=Z,106nm,0.7s
HOQ Hoqain 60.33 285 P P 06 20 09.4 +1.6
SNR=28
BANOM Banah 60.66 288 P P 06 20 12.5 +2.4
SNR=9.5
IGLO Ghaloghah 60.72 300 eP P 06 20 12.2 +1.7
UOSS Wadi Hilu 60.98 286 P P 06 20 16.4 +4.2
comp=Z,150nm,0.9s,SNR=6.7
HATD Hatta, Dubai 61.07 286 ⇓P P 06 20 14.3 +1.4
ARQ Araqi 61.10 285 P P 06 20 14.6 +1.6
SNR=16
ASHO Ashiyiah 61.17 286 P P 06 20 15.3 +1.7
SNR=13
FALS False Pass 61.39 39 P P 06 20 14.9 +0.5
comp=Z,213nm,0.7s
NAZ Nazwa, Dubai 61.45 287 ⇓P P 06 20 17.1 +1.8
DZM Mont Dzumac 61.46 134 eP P 06 20 16.8 +1.4
comp=Z,333nm,1.2s
DZM eS S 06 28 31.5 -4.1
comp=Z,19µm,31.4s
DZM eLQ LQ 06 35 47.2
comp=Z,21µm,29.2s
DZM eLR LR 06 38 30.9
comp=Z,49µm,24.1s
DZM Mont Dzumac 61.46 134 eP P 06 20 14.9 -0.5
comp=Z,99nm,1.4s
FAQ Al Faqa, Dubai 61.57 286 ⇑P P 06 20 18.4 +2.2
ILAS Lasjerd 61.60 299 eP P 06 20 17.4 +0.8
IALA Alasht 61.60 300 eP P 06 20 18.6 +2.0
IFIR Firoozkooh 61.72 299 eP P 06 20 20.7 +3.3
ASUD Al Ashush, Dub 61.83 286 ⇑P P 06 20 18.8 +0.8
IPRN Peran 61.95 300 eP P 06 20 19.9 +1.1
IDMV Damavand 62.31 299 eP P 06 20 22.3 +0.9
IZEF Zefreh 62.57 296 eP P 06 20 23.1 0.0
IVRN Varamin 62.66 298 eP P 06 20 23.9 +0.4
SDPT Sand Point 63.06 38 eP P 06 20 25.0 -0.6
comp=Z,441nm,0.6s
IKLH Kolahrood 63.10 297 eP P 06 20 27.9 +1.3
IR3 Iran Long-Peri 63.14 299 eP P 06 20 27.6 +0.9
CAN Canberra 63.17 157 eP P 06 20 27.1 +0.5
CAN pmax pmax
comp=Z,95nm,1.0s
CAN MLR MLR
comp=Z,15µm,19.0s
CAN Canberra 63.17 157 eP P 06 20 27.1 +0.5
comp=Z,95nm,1.0s
CAN LR LR
comp=Z,15µm,19.0s
IGZV Ghazvin 63.61 300 eP P 06 20 31.1 +1.2
IPIR Pirpir 63.79 296 eP P 06 20 32.3 +1.0
PRGR Permogore 64.01 329⇓iP P 06 20 31.6 -0.2
PRGR e*PP pP 06 20 34.7 -4.4
PRGR e 06 21 09.8
PRGR iS S 06 29 04.1 -2.4
PRGR pmax pmax
comp=Z,376nm,1.1s
IRAZ Razeghan 64.03 299 eP P 06 20 33.2 +0.5
CHGN Chignik 64.17 37 eP P 06 20 31.6 -1.3
MAK Makhachkala 64.56 308 eP P 06 20 36.9 +1.2
MAK e 06 22 58.2
MAK ePPP PPP 06 24 32.3
MAK eS S 06 29 14.8 +0.9
MAK e 06 30 23.4
MAK pmax pmax
comp=Z,105nm,0.8s
MAK MLR MLR
comp=Z,30µm,25.0s
RBK Rabkut 64.83 279 P P 06 20 39.8 +1.8
SNR=21
ABTO Aybut 65.70 279 P P 06 20 45.2 +1.6
SNR=16
IM04 Indian Mountai 65.81 26 eP P 06 20 44.6 +1.1
IM04 eS S 06 29 34.3 +5.6
DGRG David-gareji 66.38 307 P P 06 20 49.8 +2.2
DUS Dusheti 66.75 307 P P 06 20 51.8 +1.8
PPLA Purkeypile 66.76 30 eP P 06 20 50.2 +0.5
comp=Z,978nm,1.4s
PPLA ePP PP 06 23 15.2 -1.4
RSO Redoubt South 66.76 32 eP P 06 20 50.2 +0.3
comp=Z,614nm,1.0s
TBLG Delisi 66.80 307 P P 06 20 50.8 +0.5
GUDG Gudauri 66.84 308 P P 06 20 52.1 +1.3
OHAK Old Harbor 66.89 36 eP P 06 20 50.9 +0.4
comp=Z,303nm,1.1s
KLMR Klimovskoe 67.01 328ciP P 06 20 50.9 -0.3
KLMR eS S 06 29 38.8 -4.5
KLMR pmax pmax
comp=Z,2µm,1.7s
KLMR pmax pmax
comp=Z,1µm,1.5s
KLMR MLR MLR
comp=Z,41µm,20.0s
MSVF Nonsavu 67.02 123 P P 06 20 53.6 +1.6
comp=Z,508nm,1.1s,SNR=6.4
MSVF Nonsavu 67.02 123 eP P 06 20 51.4 -0.6
MSVF pmax pmax
comp=Z,115nm,1.1s
MSVF MLR MLR
comp=Z,7µm,20.0s
MSVF Nonsavu 67.02 123 eP P 06 20 51.4 -0.6
comp=Z,115nm,1.1s
MSVF LR LR
comp=Z,7µm,20.0s
GNI Garni 67.11 305ciP P 06 20 53.7 +1.2
GNI pmax pmax
comp=Z,229nm,2.3s
GNI MLR MLR
comp=Z,14µm,19.0s
GNI Garni 67.11 305 eP P 06 20 53.4 +1.0
comp=Z,375nm,1.2s
GNI eS S 06 29 47.0 +1.4
GNI LR LR
comp=Z,16µm,22.0s
GNI Garni 67.11 305 ⇓P P 06 20 53.9 +1.4
COLD Coldfoot 67.14 25 eP P 06 20 52.6 +0.7
comp=Z,382nm,1.5s
KDAK Kodiak Island 67.19 35 P P 06 20 53.0 +0.6
comp=Z,2µm,1.2s,SNR=26
KDAK Kodiak Island 67.19 35 iP P 06 20 53.7 +1.3
KDAK Kodiak Island 67.19 35 eP P 06 20 53.5 +1.2
comp=Z,449nm,1.2s
KDAK LR LR
comp=Z,9µm,22.0s
ZEI Tsey 67.20 308 eP P 06 20 51.3 -1.7
ZEI eS S 06 29 44.7 -1.9
ZEI pmax pmax
comp=Z,254nm,1.0s
ZEI MLR MLR
comp=Z,23µm,17.0s
ZEI MLR MLR
comp=E,7µm,15.0s
ZEI MLR MLR

comp=N,6μm,16.0s
VRHR Novokhopersk 67.24 317 eP P 06 20 52.1 -0.7
VRHR e*PP pP 06 20 55.4 -4.8
VRHR eS S 06 29 43.6 -2.7
VRHR pmax pmax
comp=N,250nm,1.0s
VRHR pmax pmax
comp=E,450nm,1.0s
VRHR pmax pmax
comp=Z,870nm,1.0s
VRHR pmax pmax
comp=N,250nm,1.0s
VRHR pmax pmax
comp=E,460nm,1.0s
VRHR pmax pmax
comp=Z,790nm,1.0s
VRHR smax smax
comp=N,2μm,2.5s
VRHR smax smax
comp=E,2μm,2.5s
VRHR smax smax
comp=Z,530nm,2.5s
VRHR MLR MLR
comp=N,5μm,20.0s
VRHR MLR MLR
comp=E,14μm,20.0s
VRHR MLR MLR
comp=Z,14μm,20.0s
KTH Kantishna Hill 67.25 29 eP P 06 20 53.6 +0.8
comp=Z,112nm,0.7s
NCK Nalchik 67.28 309⇓iP P 06 20 54.0 +0.7
TMCR Tamitsa 67.30 332 eP P 06 20 53.2 +0.3
TMCR e 06 23 22.1
TMCR eS S 06 29 51.0 +4.5
TMCR pmax pmax
comp=Z,223nm,0.9s
GOF Gofitskoye 67.37 311 eP P 06 20 54.7 +0.9
GOF eS S 06 29 48.9 +0.7
GOF pmax pmax
comp=Z,230nm,0.9s
GOF smax smax
comp=N,70nm,1.4s
GOF smax smax
comp=E,50nm,1.4s
TRF Thorofare Moun 67.55 29 eP P 06 20 55.3 +0.5
comp=E,112nm,0.8s
ONI Oni 67.56 308 P P 06 20 56.8 +1.6
KBZ Khabaz 67.73 309 P P 06 20 56.8 +0.7
comp=E,203nm,1.0s,baz=139,slow=4.1,SNR=86
KBZ LR LR 06 54 14.0
comp=E,25μm,20.6s,baz=62,slow=39
AKH Akhalkalaki 67.78 307 P P 06 20 58.3 +1.6
KIV Kislovodsk 67.84 310 P P 06 20 57.7 +0.8
comp=E,3μm,1.0s,SNR=69
KIV Kislovodsk 67.84 310 eP P 06 20 57.7 +0.8
KIV eS S 06 29 55.6 +1.6
KIV pmax pmax
comp=Z,1μm,4.9s
KIV pmax pmax
comp=Z,525nm,1.0s
KIV MLR MLR
comp=Z,22μm,17.0s
KIV Kislovodsk 67.84 310 eP P 06 20 57.7 +0.8
comp=Z,547nm,1.0s
KIV eS S 06 29 54.1 +0.1
KIV LR LR
comp=Z,26μm,20.0s
CLDR Caldiran 67.95 304 eP P 06 20 59.2 +1.3
NEY Neytrino 67.95 309 eP P 06 20 59.5 +1.7
DYDN Diyadin 68.03 305 iP P 06 21 00.2 +1.8
DIGO Kars 68.08 306 iP P 06 21 00.0 +1.4
MCK McKinley 68.11 29 eP P 06 20 58.4 +0.3
MCK pmax pmax
comp=Z,241nm,0.8s
MCK McKinley 68.11 29 eP P 06 20 58.4 +0.3
comp=Z,241nm,0.8s
RC01 Rabbit Creek A 68.14 32 eP P 06 20 58.4 0.0
comp=Z,237nm,1.1s
LVZ Lovozero 68.17 336 P P 06 20 58.4 -0.1
comp=Z,1μm,0.8s,SNR=22
LVZ Lovozero 68.17 336deP P 06 20 59.3 +0.8
LVZ pmax pmax
comp=Z,119nm,0.7s
LVZ MLR MLR
comp=Z,33μm,20.0s
LVZ Lovozero 68.17 336 eP P 06 20 57.5 -0.9
comp=Z,185nm,0.8s
LVZ ePP PP 06 23 31.2 +2.6
LVZ LR LR
comp=Z,34μm,19.0s
KARS Kars 68.25 306 eP P 06 21 01.1 +1.4
PMR Palmer 68.35 31 eP P 06 20 59.6 0.0
PMR pmax pmax
comp=Z,156nm,0.7s
PMR Palmer 68.35 31 eP P 06 20 59.6 0.0
comp=Z,156nm,0.7s
COLA College 68.40 27⇑eP P 06 21 00.6 +0.7
COLA pmax pmax
comp=Z,369nm,0.8s
COLA MLR MLR
comp=Z,40μm,17.0s
COLA College 68.40 27 eP P 06 21 00.5 +0.6
comp=Z,172nm,0.8s
COLA ePP PP 06 23 29.1 -1.5
COLA LR LR
comp=Z,11μm,19.0s
SEW Seward 68.44 33 eP P 06 21 00.1 -0.1
comp=Z,366nm,1.1s
HAKT HAKKARI 68.47 303 iP P 06 21 01.9 +0.7
CHVG Ch'k'valeri 68.52 308 P P 06 21 02.1 +1.0
AGRB Hanur-Agry 68.55 305 eP P 06 21 03.2 +1.6
CUKT Cukurca 68.62 302 eP P 06 21 02.8 +0.8
VOR Voronezh 68.62 318 eP P 06 21 01.0 -0.5
VOR pmax pmax
comp=Z,750nm,1.0s
APA Apatity 68.69 336⇑iP P 06 21 02.2 +0.5
APA i 06 23 34.4
APA i PPP PPP 06 25 08.4
APA i S S 06 30 02.0 -1.1
APA i 06 30 42.0
APA pmax pmax
comp=Z,19nm,0.8s
APA MLR MLR
comp=Z,41μm,19.0s
VORD Divnogorie 68.71 318 eP P 06 21 01.3 -0.8
VORD e*PP pP 06 21 04.5 -5.0
VORD eS S 06 30 00.0 -3.9
VORD pmax pmax
comp=N,120nm,1.5s
VORD pmax pmax
comp=E,730nm,1.5s
VORD pmax pmax
comp=Z,650nm,1.5s
VORD pmax pmax
comp=N,80nm,1.0s
VORD pmax pmax
comp=E,540nm,1.0s
VORD pmax pmax
comp=Z,380nm,1.0s
VORD smax smax
comp=N,4μm,3.8s
VORD smax smax
comp=E,2μm,3.8s
VORD smax smax
comp=Z,780nm,3.8s
VORD MLR MLR
comp=E,4μm,22.0s
VORD MLR MLR
comp=Z,14μm,22.0s
VORD MLR MLR
comp=N,8μm,19.0s
TUTA Tutak 68.72 305 iP P 06 21 03.7 +1.0
VSR Storozhevoye 68.74 318 eP P 06 21 02.0 -0.3
VSR e*PP pP 06 21 05.2 -4.5
VSR e 06 23 33.3
VSR eS S 06 30 02.4 -1.9
VSR eSS SS 06 34 25.1 -3.6
VSR eSSS SSS 06 37 37.7
VSR pmax pmax
comp=N,230nm,1.1s
VSR pmax pmax
comp=E,730nm,1.1s
VSR pmax pmax
comp=Z,650nm,1.1s
VSR pmax pmax
comp=N,150nm,0.9s
VSR pmax pmax
comp=E,540nm,0.9s
VSR pmax pmax
comp=Z,590nm,0.9s
VSR pmax pmax
comp=Z,300nm,2.5s
VSR pmax pmax
comp=N,220nm,2.2s
VSR pmax pmax
comp=E,120nm,1.2s
VSR smax smax
comp=N,3μm,3.5s
VSR smax smax
comp=E,3μm,3.5s
VSR smax smax
comp=Z,770nm,3.5s
VSR MLR MLR
comp=N,2μm,17.0s
VSR MLR MLR
comp=E,7μm,17.0s
VSR MLR MLR
comp=Z,15μm,17.0s
MOS Moscow 68.79 323 iP P 06 21 02.3 -0.2
MOS e 06 23 33.3
MOS iS S 06 30 02.6 -2.1
MOS eSS SS 06 34 26.5 -2.8
MOS eSSS SSS 06 37 37.0
MOS pmax pmax
comp=Z,3μm,4.2s
MOS pmax pmax
comp=Z,441nm,1.1s
MOS pmax pmax
comp=N,2μm,4.5s
MOS pmax pmax
comp=E,2μm,4.6s
MOS smax smax
comp=N,10μm,4.8s
MOS smax smax
comp=E,4μm,4.8s
MOS MLR MLR
comp=Z,21μm,18.0s
MOS MLR MLR
comp=E,18μm,17.0s
GEVA Gevas 68.79 304 iP P 06 21 04.3 +1.2
ILAR Eielson Array 68.82 27 P P 06 21 02.1 -0.5
comp=E,51nm,0.7s,baz=285,slow=5.5,SNR=134
ILAR PKP2bc 06 49 19.4
comp=E,2.4nm,1.1s,baz=51,slow=1.6,SNR=7.5
ILAR LR LR 06 54 36.3
comp=E,9μm,18.3s,baz=299,slow=39
ARTV Artvin 68.98 307 iP P 06 21 05.2 +0.9
DAGI Agillar 69.01 307 iP P 06 21 05.2 +0.9
DBOC Borcka 69.13 307 iP P 06 21 09.1 +4.1
DDEM Demirkent 69.17 307 iP P 06 21 06.5 +1.1
DBAD Bademkaya 69.19 307 iP P 06 21 06.1 +0.7
HOMI Horasan 69.26 306 iP P 06 21 07.3 +1.3
HOPEN Hopen 69.40 346 IAMs_20 IAMs_20 06 56 57.1
comp=Z,68μm,20.9s
HOPEN IVMs_BB IVMs_BB 06 57 01.0
comp=Z,23μm,20.3s
SIRT Sirnak 69.46 303 eP P 06 21 08.3 +1.2
OBN Obninsk 69.50 322 P P 06 21 06.8 -0.1
comp=Z,2μm,0.9s,SNR=20
OBN Obninsk 69.50 322c iP P 06 21 06.5 -0.3
OBN i 06 21 19.0
OBN i 06 21 30.2
OBN pmax pmax
comp=Z,304nm,1.0s
OBN MLR MLR
comp=Z,20μm,19.0s
OBN Obninsk 69.50 322 P P 06 21 06.6 -0.3
comp=Z,137nm,0.6s,baz=5.2,slow=2.2,SNR=28
OBN Obninsk 69.50 322 P P 06 21 06.6 -0.3
comp=Z,79nm,1.5s
OBN eS S 06 30 10.3 -2.8
OBN LR LR
comp=Z,21μm,19.0s
TAU Tasmania Unive 69.52 162 PFAKE 06 21 20.0 +13
TAU LR LR
comp=Z,15μm,20.0s
ERZM Erzurum 69.69 306 iP P 06 21 10.5 +1.7
EZM Erzurum 69.69 306 eP P 06 21 10.5 +1.7
PAX Paxson 69.78 29 eP P 06 21 08.5 -0.1
PAX pmax pmax
comp=Z,110nm,0.7s
PAX Paxson 69.78 29 eP P 06 21 08.5 -0.1
comp=Z,110nm,0.7s
VRTB Varto-Mus 69.81 305 eP P 06 21 06.9 -2.4
SOC Sochi 70.02 310c iP P 06 21 08.9 -1.4
SOC e 06 21 30.1
SOC e 06 23 46.1
SOC iS S 06 30 18.4 -1.2
SOC e 06 31 11.4
SOC eSS SS 06 34 50.7 +1.9
SOC pmax pmax
comp=Z,185nm,0.8s
SOC MLR MLR
comp=E,13μm,15.0s
SOC MLR MLR
comp=Z,16μm,15.0s
SOC MLR MLR
comp=N,13μm,15.0s
DIV Divide 70.03 31 eP P 06 21 10.7 +0.5
comp=N,174nm,0.8s
BNGL BINGOL 70.09 305 iP P 06 21 12.2 +1.0
SVAN Silvan-Diyarba 70.25 304 eP P 06 21 09.8 -2.1
DOT Dot Lake 70.25 28 eP P 06 21 11.3 -0.2
comp=N,208nm,0.8s
JOF Joensuu 70.48 331 eP P 06 21 12.3 -0.5
JOF pmax pmax
comp=Z,81nm,0.6s
JOF Joensuu 70.48 331 ep P 06 21 12.3 -0.5
comp=Z,81nm,0.6s
KEV Kevo 70.52 338 eP P 06 21 13.1 +0.2
KEV pmax pmax
comp=Z,171nm,0.8s
KEV MLR MLR
comp=Z,18μm,20.0s
KEV Kevo 70.52 338 ep P 06 21 11.8 -1.1
comp=Z,161nm,0.7s
KEV Kevo 70.52 338 eP P 06 21 13.1 +0.2
comp=Z,171nm,0.8s
KEV LR LR
comp=Z,18μm,20.0s
MENT Mentasta 70.57 29 eP P 06 21 14.4 +1.0
KTUT Trabzon 70.61 307 eP P 06 21 15.2 +1.2
SPA0 Spitsbergen Ar 70.69 348 eP P 06 21 14.2 +0.3
SPA0 IAMs_20 IAMs_20 06 57 01.2
comp=Z,25μm,17.3s
SPITS Spitsbergen Ar 70.69 348 P P 06 21 14.2 +0.3
comp=Z,164nm,0.8s,baz=92,slow=6.2,SNR=70
SPITS LR LR 06 55 45.6
comp=Z,22μm,20.4s,baz=45,slow=39
RAYN Ar Rayn 70.76 288 eP P 06 21 15.3 0.0
comp=Z,208nm,1.0s
RAYN eS S 06 30 28.4 -0.6
MARD Mardin 70.79 303 iP P 06 21 16.5 +1.1
GUMT Gumushane 70.95 307 eP P 06 21 16.2 -0.1
ERZN Erzincan 71.00 306 eP P 06 21 19.1 +2.5
MAZI Mazidag 71.00 303 eP P 06 21 16.2 -0.4
KBSD Kabsdagh 71.05 303 eP P 06 21 18.2 +1.4
ARCES ARCESS Array B 71.08 338 P P 06 21 16.4 0.0
comp=Z,71nm,0.7s,baz=72,slow=2.6,SNR=38
ARCES LR LR 06 57 43.7
comp=Z,17μm,18.0s,baz=72,slow=40
ARE0 ARCESS Array S 71.08 338 eP P 06 21 17.1 +0.7
ARE0 ARCESS Array S 71.08 338 eP P 06 21 16.2 -0.1
ARE0 ePcP PcP 06 21 36.7 +0.2
DYBB Diyarbakir 71.11 304 eP P 06 21 17.7 +0.4
KELT Kelkit 71.20 306 iP P 06 21 19.3 +1.4
KBS Kingsbay 71.20 349 eP P 06 21 16.6 -0.4
KBS e 06 23 54.7
KBS pmax pmax
comp=Z,194nm,1.3s
KBS MLR MLR
comp=Z,23μm,21.0s
KBS Kingsbay 71.20 349 eP P 06 21 17.6 +0.7
KBS IVmB_BB 06 21 21.4
comp=Z,3μm,4.4s
KBS Kingsbay 71.20 349 eP P 06 21 16.6 -0.4
comp=Z,194nm,1.3s
KBS ePP PP 06 23 54.6 +0.1
KBS LR LR
comp=Z,23μm,21.0s
EGAK Eagle 71.22 27 eP P 06 21 17.7 +0.5
comp=Z,194nm,0.8s
EGAK LR LR
comp=Z,10μm,22.0s
MZRK Al-Mazaregh 71.28 302 eP P 06 21 19.4 +1.2
HSP Hornsund 71.31 347 eP P 06 21 18.1 +0.5
HSPB Hornsund (broa 71.31 347 eP P 06 21 17.6 0.0
HSPB IAMs_20 IAMs_20 06 58 44.3
comp=Z,87μm,18.0s
BJO Bjornoya 71.39 344 eP P 06 21 19.0 +0.9
BJO eS S 06 30 37.0 +2.4
PTK Pertek 71.43 305 eP P 06 21 20.7 +1.4
KIP Kipapa 71.50 74 PFAKE 06 21 30.0 +10
KIP LR LR
comp=Z,8μm,20.0s
SFNV Sufian 71.54 302 eP P 06 21 21.2 +1.3
PUL Pulkovo 71.71 328⇑eP P 06 21 21.4 +1.1
PUL pmax pmax
comp=Z,528nm,1.3s
PUL MLR MLR
comp=Z,45μm,18.0s
GRSN GIRESUNGRSN 71.72 307 iP P 06 21 19.6 -1.2
ILIC ilic-Erzincan 71.89 306 eP P 06 21 26.0 +4.0
SUSE Susehri 71.96 307 iP P 06 21 23.1 +0.7
KTK1 Kautokeino 72.01 338 eP P 06 21 23.7 +1.7
KTK1 eS S 06 30 43.0 +1.1
MSEY Mahe Island 72.07 257 iP P 06 21 25.5 +2.2
MSEY Mahe Island 72.07 257 eP P 06 21 23.3 0.0
comp=Z,112nm,1.1s
MSEY LR LR
comp=Z,6μm,19.0s
MSEY Mahe Island 72.07 257 ⇑P P 06 21 23.9 +0.5
URFA Urfa 72.25 304 eP P 06 21 25.3 +1.2
MNKR ALMNKUR 72.33 302 eP P 06 21 25.8 +1.3
RSDY Resadiye-TOKAT 72.56 307 eP P 06 21 26.4 +0.6
KSRV Kasrt alli 72.56 302 eP P 06 21 28.1 +2.2
ATAB Bozova 72.65 304 iP P 06 21 27.7 +1.2
KAF Kangasniemi 72.93 331 eP P 06 21 26.3 -1.2
KAF pmax pmax
comp=Z,62nm,0.7s
KAF Kangasniemi 72.93 331 ep P 06 21 26.3 -1.2
comp=Z,62nm,0.7s
SVSK Karacayir 72.93 307 eP P 06 21 29.4 +1.4
DARE Darende-Malaty 72.95 305 eP P 06 21 28.4 +0.1
INK Inuvik 73.05 22 eP P 06 21 28.2 +0.1
INK pmax pmax
comp=Z,171nm,1.1s
INK Inuvik 73.05 22 LR LR 06 57 48.4
comp=Z,10μm,18.0s,baz=288,slow=39
INK Inuvik 73.05 22 eP P 06 21 28.2 +0.1
comp=Z,171nm,1.1s
JHLN Al Jahlan 73.05 302 eP P 06 21 30.7 +1.9
AFI Afiamalu 73.20 114 PFAKE 06 21 40.0 +10
AFI LR LR
comp=Z,10μm,22.0s
TRO Tromso 73.23 339 eP P 06 21 29.9 +0.7
TRO eS S 06 30 55.8 +0.1
TRO IAMs_20 IAMs_20 07 00 34.7
comp=Z,41μm,20.8s
FIA1 FINESS Array S 73.24 330 eP P 06 21 29.2 -0.2
GZT Gaziantep 73.24 304 iP P 06 21 31.2 +1.1
FINES FINESS Array B 73.24 330 P P 06 21 29.1 -0.3
comp=Z,66nm,0.7s,baz=67,slow=4.0,SNR=88
FINES LR LR 06 57 49.0
comp=Z,56μm,18.4s,baz=90,slow=39
SLMH Al Salmeh 73.29 303 eP P 06 21 31.3 +1.0
HAVZ Havza 73.54 308 iP P 06 21 32.2 +0.6
SIM Simferopol' 73.54 312c iP P 06 21 31.6 +0.1
SIM iS S 06 30 57.0 -3.2
SIM pmax pmax
comp=Z,167nm,0.8s
SIM MLR MLR
comp=Z,10μm,17.5s
DIKM Dikmen 73.70 309 eP P 06 21 32.3 -0.2
KMRS Kahramanmaras 73.70 304 eP P 06 21 33.7 +1.1
KUZU Kuzuini 73.78 303 iP P 06 21 34.2 +1.1
VSU Vasula 73.86 327c iP P 06 21 33.2 +0.1
VSU pmax pmax
comp=Z,378nm,0.9s
VSU MLR MLR
comp=Z,94μm,17.0s
HYT Haines Junctio 73.99 30 eP P 06 21 36.4 +2.4
BOYT Boyabat 74.02 309 iP P 06 21 35.0 +0.6
BNN Bunyan 74.09 306 eP P 06 21 33.8 -1.3
BYBT Boyabat 74.11 309 eP P 06 21 32.8 -2.1
ALE Alert 74.21 1 P P 06 21 35.7 +0.9
comp=Z,969nm,0.8s,SNR=24
POHA Pohakuloa 74.24 75 P P 06 21 37.1 +0.7
POHA LR LR
comp=Z,8μm,22.0s
YOZ Yozgat 74.25 307 eP P 06 21 35.2 -0.7
CTKT Corum 74.34 308 iP P 06 21 37.7 +1.2
RABH Abou Rabah 74.39 301 eP P 06 21 38.4 +1.7
BTCH Batrach 74.48 303 eP P 06 21 37.8 +0.5
BZK Bozkurt 74.50 309 eP P 06 21 38.2 +1.0
MICGM Minsk 74.51 323⇑iP P 06 21 34.0 -3.0
MNK Minsk 74.54 323c iP P 06 21 34.0 -3.1
MNK i 06 21 36.0
MNK e 06 21 43.0
MNK eS SKiKP 06 31 05.0 +3.2
MNK eSS SS 06 35 54.0 -3.3
MNK eSSS SSS 06 39 10.0
MNK pmax pmax
comp=N,140nm,1.0s
MNK pmax pmax
comp=Z,640nm,1.0s
MNK pmax pmax
comp=E,400nm,1.0s
MNK pmax pmax
comp=Z,7μm,6.0s
MNK smax smax
comp=N,9μm,4.0s
MNK smax smax
comp=E,9μm,4.0s
MNK MLR MLR
comp=Z,31μm,18.0s
MNK MLR MLR
comp=E,14μm,18.0s
MNK MLR MLR
comp=N,17μm,18.0s
WRDH Warideh 74.68 302 eP P 06 21 39.1 +0.7
DAMY Dhamar 74.69 279 eP P 06 21 40.2 +1.2
comp=N,75nm,0.8s
ZALF Zalf 74.75 300 eP P 06 21 40.2 +1.3
TOS Tosya 74.77 308 eP P 06 21 39.8 +0.9
AVNT Avonos 74.85 306 iP P 06 21 39.9 +0.4
BIDA Albida 74.90 302 eP P 06 21 40.4 +0.7
ARNB Al Arnab 74.91 303 eP P 06 21 40.0 +0.2
AKASG Malin Array Be 74.95 319c eP P 06 21 38.9 -0.7
AKASG pmax pmax
comp=Z,184nm,0.7s
AKASG Malin Array Be 74.95 319 P P 06 21 38.9 -0.7
comp=Z,62nm,0.5s,baz=58,slow=6.4,SNR=212
AKASG LR LR 06 55 40.7
comp=Z,13μm,19.5s,baz=60,slow=37
AKBB Malin Array Si 74.95 319 eP P 06 21 39.0 -0.6
AKBB Malin Array Si 74.95 319 eP P 06 21 39.0 -0.6
CDAG Cicekdag 74.95 307 iP P 06 21 40.1 +0.1
AK01 Malin Array Si 74.96 319 eP P 06 21 38.9 -0.7
KIEV Kiev 74.96 319c iP P 06 21 39.1 -0.5
KIEV Kiev 74.96 319 eP P 06 21 38.9 -0.7
comp=Z,186nm,0.8s
KIEV eS S 06 31 14.2 -1.6
KIEV LR LR
comp=Z,12μm,19.0s
AK02 Malin Array Si 74.97 319 eP P 06 21 39.0 -0.6
ILGA Ilgaz 74.99 308 iP P 06 21 40.3 0.0
HAWK Haweek 74.99 301 eP P 06 21 40.4 +0.2
NACGM Naroch 74.99 324 eP P 06 21 36.0 -3.7
FKH Fakeheh 75.07 301 eP P 06 21 41.4 +0.6
MARH Ras Al Marh 75.08 301 eP P 06 21 42.2 +1.1
STEI Steigen 75.15 338 eP P 06 21 41.6 +1.2
CANT Cankiri 75.19 308 eP P 06 21 42.6 +1.3
NIG Nigde 75.25 305 eP P 06 21 42.9 +1.0
SALA Sala 75.30 300 eP P 06 21 43.7 +1.5
TOTH TOTAH 75.33 300 eP P 06 21 43.0 +0.7
ELDT Eldivan 75.37 308 iP P 06 21 42.6 +0.2
QASN Qassioun 75.40 300 eP P 06 21 43.0 +0.3
TRBA At Turbah 75.42 278 eP P 06 21 44.4 +1.2
BR131 Keskin Array S 75.46 307 eP P 06 21 42.8 -0.1
comp=Z,110nm,0.8s
BR131 ePcP PcP 06 21 55.5 -0.5
BR131 ePP PP 06 24 32.7 +0.9
BRTR Keskin Array B 75.46 307c eP P 06 21 42.9 0.0
BRTR pmax pmax

comp=Z,137nm,0.8s
BRTR Keskin Array B 75.46 307 P P 06 21 43.1 +0.2
comp=Z,134nm,0.8s,baz=106,slow=5.8,SNR=197
BRTR LR LR 06 57 23.5
comp=Z,6µm,21.6s,baz=54,slow=38
SKAG Skagway 75.48 31 eP P 06 21 42.9 +0.5
comp=Z,100nm,1.0s
SAFT Safranbolu 75.67 309 eP P 06 21 42.6 -1.4
MERS Mersin 75.70 304 eP P 06 21 42.1 -2.2
RCY Rachaya 75.76 301 eP P 06 21 45.5 +0.7
BHL Bhannes 75.77 301 eP P 06 21 45.1 +0.4
BBAL Bala 75.89 307 iP P 06 21 45.1 -0.3
TCHB Talchebab 75.92 300 eP P 06 21 50.9 +5.4
AFSR Af¯ar-Bala (A 75.96 307 eP P 06 21 47.9 +2.2
ANTO Ankara 76.03 308 eP P 06 21 47.0 +0.9
ANTO Ankara 76.03 308 ⇑P P 06 21 46.4 +0.3
ANTO Ankara 76.03 308 ⇑iP P 06 21 46.4 +0.3
ANTO Ankara 76.03 308 eP P 06 21 46.3 +0.2
comp=Z,197nm,0.7s
ANTO ePP PP 06 24 36.8 +0.2
ANTO LR LR
comp=Z,8µm,21.0s
SULT Sultanhani-AKS 76.03 306 eP P 06 21 43.5 -2.7
LOD Lodumlu 76.04 308 eP P 06 21 45.0 -1.2
MOR8 Moi Rana 76.21 337 eP P 06 21 46.3 -0.2
MOR8 IAmb IAmb 06 21 50.8
comp=Z,104nm,0.6s
BCAM Yenicaga 76.25 309 iP P 06 21 47.7 +0.3
SIT Sitka 76.37 33 eP P 06 21 48.8 +1.3
SIT pmax pmax
comp=Z,434nm,1.4s
SIT Sitka 76.37 33 eP P 06 21 48.8 +1.3
comp=Z,434nm,1.4s
EREN Erenkoy 76.40 303 eP P 06 21 47.9 -0.3
KIS Kishinev 76.41 315 αeP P 06 21 47.0 -1.0
KIS i 06 22 03.0
KIS ePPP PPP 06 26 26.0
KIS iS S 06 31 28.0 -4.0
KIS pmax pmax
comp=Z,400nm,1.0s
KIS pmax pmax
comp=Z,2µm,8.0s
KIS smax smax
comp=N,5µm,12.0s
KIS smax smax
comp=E,4µm,10.0s
KIS MLR MLR
comp=Z,27µm,23.0s
KIS Kishinev 76.41 315 ⇑iP P 06 21 47.0 -1.0
comp=Z,400nm,1.0s
KIS Kishinev 76.41 315 iPcP PcP 06 22 03.0 +3.2
KIS Kishinev 76.41 315 ePP PP 06 24 50.0 +11
FLOS Flostrand 76.52 337 eP P 06 21 50.4 +2.1
KONS Konsvik 76.53 337 eP P 06 21 50.5 +2.2
KONS eS S 06 31 34.1 +1.4
STOK Stokkvaagen 76.65 337 eP P 06 21 52.2 +3.3
RAO Raoul Island 76.80 130 PFAKE 06 22 00.0 +10
RAO LR LR
comp=Z,5µm,19.0s
LADK Ladik-KONYA 76.89 306 eP P 06 21 50.4 -0.7
LFK Lefkose 76.98 303 eP P 06 21 48.9 -2.6
KONT Konya--Tatoy 76.98 306 eP P 06 21 48.9 -2.6
MDUB Mudurnu 76.98 309 eP P 06 21 51.8 +0.3
ERMK Ermenek 77.00 304 iP P 06 21 52.2 +0.3
KIZT Kizilcal 77.02 307 eP P 06 21 51.3 -0.5
TLCR 77.03 314 ⇑P P 06 21 51.5 0.0
TLCR 77.03 314 ⇑iP P 06 21 51.5 0.0
SVRH Sivrihisar-ESK 77.09 307 eP P 06 21 52.4 +0.3
CSS Prodhromos 77.24 303 P P 06 21 52.4 -0.6
CSS Prodhromos 77.24 303 eP P 06 21 53.6 +0.6
CSS Prodhromos 77.24 303 eP P 06 21 52.9 -0.1
comp=Z,66nm,0.7s
CSS LR LR
comp=Z,2µm,19.0s
SUW Suwalki 77.27 323 eP P 06 21 52.6 -0.1
SUW eS S 06 31 37.9 -3.2
SUW MLR MLR
comp=Z,33µm,20.0s
SUW Suwalki 77.27 323 eP P 06 21 52.6 -0.1
SUW eS S 06 31 37.8 -3.3
SUW LMZ LR 06 59 48.0
SUW Suwalki 77.27 323 eP P 06 21 52.2 -0.5
comp=Z,1µm,0.9s
DAG Danmarks Havn 77.44 352 ⇑iP P 06 21 52.8 -0.5
DAG pmax pmax
comp=Z,160nm,0.8s
DAG MLR MLR
comp=Z,12µm,18.0s
DAG Danmarks Havn 77.44 352 ⇑iP P 06 21 52.8 -0.5
comp=Z,221nm,0.8s
comp=Z,12µm,17.0s
CFR Carcaliu 77.48 314 ⇓P P 06 21 54.0 -0.1
CFR Carcaliu 77.48 314 ⇓iP P 06 21 54.0 -0.1
LEF Lefka 77.53 303 eP P 06 21 53.8 -0.8
SPNC Sapanca-Adapaz 77.55 309 eP P 06 21 51.8 -2.7
TIRR Tirgusor 77.55 313 ⇑P P 06 21 54.3 -0.2
TIRR Tirgusor 77.55 313 ⇑iP P 06 21 54.3 -0.2
TIRR Tirgusor 77.55 313 eP P 06 21 54.7 +0.2
comp=Z,131nm,0.9s
SEYT Eskypehyr 77.56 308 iP P 06 21 54.2 -0.6
GAZI Gazipasa 77.59 304 iP P 06 21 54.2 -0.7
SZAC Souni-Zanaja 77.66 303 P P 06 21 55.4 +0.1
BORA Eskisehir 77.72 308 iP P 06 21 55.9 +0.2
ALFC Alevga 77.74 303 P P 06 21 55.2 -0.6
TLB Topalu 77.76 313 ⇓P P 06 21 55.7 +0.1
TLB Topalu 77.76 313 ⇓iP P 06 21 55.7 +0.1
SILT Sile 77.86 310 eP P 06 21 54.8 -1.5
PETR Petresti 77.89 315 ⇑iP P 06 21 57.5 +1.2
NSS Namsos 77.90 336 eP P 06 21 55.8 -0.3
NSS IAMs_20 IAMs_20 07 00 53.6
comp=Z,29µm,17.9s
PRAR RASCA 77.94 316 ⇓iP P 06 21 56.3 -0.3
HRT Hereke 77.96 309 eP P 06 21 55.7 -1.2
TESR Tescani 77.98 316 ⇑iP P 06 21 56.6 -0.3
PSN Preselentsi 77.98 312 ⇓P P 06 21 57.4 +0.5
PSN Preselentsi 77.98 312 eP P 06 22 11.7 +15
PSN Preselentsi 77.98 312 ⇓iP P 06 21 57.4 +0.5
AKMC Akamas 77.99 303 P P 06 21 56.6 -0.6
PPCY Paphos 78.03 303 P P 06 21 56.6 -0.7
SHUT Suhut-Afyon 78.11 307 eP P 06 21 58.4 +0.5
WRAK Wrangell Islan 78.13 33 eP P 06 21 56.6 -0.8
comp=Z,124nm,1.0s
WRAK LR LR
comp=Z,6µm,21.0s
VRI Vrincioaia 78.16 315 ⇑P P 06 21 58.5 +0.6
VRI Vrincioaia 78.16 315 ⇑iP P 06 21 58.5 +0.6
GRER 78.18 314 ⇓iP P 06 21 59.9 +1.9
PLOR Plostina 78.22 315 ⇓P P 06 21 58.5 +0.2
PLOR Plostina 78.22 315 ⇓iP P 06 21 58.5 +0.2
ALT Altintas 78.26 307 P P 06 21 58.9 +0.3
ALT Altintas 78.26 307 eP P 06 21 59.0 +0.3
ALT Altintas 78.26 307 P P 06 21 58.9 +0.3
ISK Istanbul-Kandi 78.30 310 P P 06 21 59.9 +1.2
ISK Istanbul-Kandi 78.30 310 eP P 06 21 57.2 -1.5
ISK Istanbul-Kandi 78.30 310 P P 06 21 59.9 +1.2
ISK Istanbul-Kandi 78.30 310 P P 06 21 59.9 +1.2
PGOR Pogoanele 78.34 314 ⇓iP P 06 22 00.4 +1.5
LVV L'vov 78.38 319 iP P 06 21 58.9 -0.1
LVV iS S 06 31 50.7 -2.6
LVV e 06 32 08.0
LVV ePS PnS 06 32 36.0 +0.1
LVV eSS SS 06 36 51.1 -4.5
LVV eSSS SSS 06 40 12.7
ISP Isparta 78.39 306 P P 06 21 59.9 +0.5
ISP Isparta 78.39 306 eP P 06 21 58.4 -1.1
ISP Isparta 78.39 306 ⇑P P 06 21 59.6 +0.2
ISP Isparta 78.39 306 ⇑iP P 06 21 59.6 +0.2
ISP Isparta 78.39 306 eP P 06 21 58.7 -0.7
comp=Z,656nm,1.5s
ISP LR LR
comp=Z,10µm,22.0s
DLBC Dease Lake 78.41 31 eP P 06 22 00.2 +1.1
GEMT Gemlik 78.44 309 eP P 06 21 55.7 -3.8
BGKT Bogazkoy 78.46 310 eP P 06 21 55.7 -3.9
BUR08 Bucovina Ar. S 78.48 317 eP P 06 21 59.8 +0.1
BURAR Bucovina Array 78.48 317 ⇑P P 06 22 00.0 +0.2
BURAR Bucovina Array 78.48 317 ⇑iP P 06 22 00.0 +0.2
ISR Istrita 78.56 314 ⇑P P 06 22 01.7 +1.5
ISR Istrita 78.56 314 ⇑iP P 06 22 01.7 +1.5
ULDT Uludag 78.58 309 iP P 06 22 00.5 -0.1
TVSB Tavsanli 78.59 308 iP P 06 21 58.7 -1.8
ANTB Antalya 78.61 305 eP P 06 22 01.6 +1.1
MDNY Mudanya-Bursa 78.68 309 eP P 06 22 02.6 +1.8
PRD Provadia 78.69 312 ⇑P P 06 22 01.1 +0.3
PRD Provadia 78.69 312 eP P 06 22 03.9 +3.1
GDZ Gediz 78.70 308 iP P 06 22 00.4 -0.8
ORLT Orhaneli 78.78 309 eP P 06 21 56.7 -4.8
MLR Muntele Rosu 78.81 315 ⇓P P 06 22 01.6 -0.1
MLR Muntele Rosu 78.81 315 ⇓iP P 06 22 01.6 -0.1
MLR Muntele Rosu 78.81 315 P P 06 22 02.4 +0.7
comp=Z,39nm,0.8s,baz=330,slow=3.1,SNR=55
SLVT Silivri 78.84 310 eP P 06 22 03.5 +1.8
SECR 78.90 314 ⇑iP P 06 22 02.7 +0.7
SULR 78.91 314 ⇓iP P 06 22 02.8 +0.8
KHL Karahalli 78.95 307 eP P 06 21 59.6 -2.8
XMAS Kiritimati 78.97 93 PFAKE 06 22 10.0 +7.1
XMAS LR LR
comp=Z,10µm,19.0s
DOPR Dopca 78.99 315 ⇑iP P 06 22 03.1 +0.6
RES Resolute Bay 79.02 10 P P 06 22 02.0 -0.1
RES Resolute Bay 79.02 10 P P 06 22 01.9 -0.1
comp=Z,84nm,0.6s,baz=309,slow=6.8,SNR=62
PHSR Pinarhisar 79.18 311 eP P 06 21 59.6 -3.9
TBLU Trondheim 79.20 335 eP P 06 22 03.1 -0.1
TBLU eS S 06 32 00.7 -0.8
TBLU IAMs_20 IAMs_20 07 04 53.8
comp=Z,20µm,17.8s
CRLT Corlu 79.21 310 eP P 06 22 05.5 +1.7
URZ Urewera 79.22 140 eP P 06 22 03.8 +0.2
comp=Z,158nm,1.4s
ELL Elmali 79.23 305 eP P 06 22 03.5 -0.5
KWP Kalwaria Pacla 79.24 319 eP P 06 22 04.3 +0.5
KWP eS S 06 32 00.8 -1.8
KWP Kalwaria Pacla 79.24 319 eP P 06 22 04.2 +0.5
KWP eS S 06 32 00.7 -1.8
KWP LMZ LR 06 55 25.5
KWP Kalwaria Pacla 79.24 319 ⇑iP P 06 22 04.3 +0.5
KWP Kalwaria Pacla 79.24 319 eP P 06 22 04.1 +0.3
comp=Z,796nm,1.0s
KWP LR LR
comp=Z,14µm,20.0s
GOLH Golhisar 79.31 306 iP P 06 22 03.7 -0.8
HFS Hagfors 79.33 331 P P 06 22 03.8 -0.2
comp=Z,143nm,0.7s,baz=76,slow=6.3,SNR=83
EDC Edincik 79.41 309 eP P 06 22 04.0 -0.8
VOIR 79.42 315 ⇑P P 06 22 06.0 +1.1
VOIR 79.42 315 ⇑iP P 06 22 06.0 +1.1
BEL Belsk 79.46 322 eP P 06 22 05.2 +0.3
BEL eS S 06 32 03.7 -1.0
BEL Belsk 79.46 322 eP P 06 22 05.2 +0.3
BEL eS S 06 32 03.7 -1.0
BEL LMZ LR 07 03 01.2
MTUR Matau 79.49 315 ⇑P P 06 22 07.4 +2.1
MTUR Matau 79.49 315 ⇑iP P 06 22 07.4 +2.1
KULA Kula-Manisa 79.51 307 P P 06 22 06.1 +0.6
KULA Kula-Manisa 79.51 307 eP P 06 22 04.5 -1.0
KULA Kula-Manisa 79.51 307 P P 06 22 06.1 +0.6
JMB Yambol 79.52 312 P P 06 21 56.6 -8.8
JMB Yambol 79.52 312 ⇓P P 06 22 08.1 +2.7
JMB Yambol 79.52 312 ⇓iP P 06 22 08.1 +2.7
BMR Baia Mare 79.53 317 ⇑P P 06 22 06.4 +1.0
BMR Baia Mare 79.53 317 ⇑iP P 06 22 06.4 +1.0
MDB Medias 79.58 316 ⇑P P 06 22 09.9 +4.2
MDB Medias 79.58 316 ⇑iP P 06 22 09.9 +4.2
MANT Manisa 79.59 307 iP P 06 22 06.1 -0.1
RER Riviere de l'E 79.63 242 PFAKE 06 22 20.0 +14
RER LR LR
comp=Z,4µm,19.0s
EDRB Edirne 79.64 311 P P 06 22 04.5 -1.6
EDRB Edirne 79.64 311 eP P 06 22 03.1 -3.0
EDRB Edirne 79.64 311 P P 06 22 04.5 -1.6
AKAS Kas 79.64 305 iP P 06 22 05.1 -1.2
SZH Strazhica 79.66 313 eP P 06 22 09.0 +2.9
BALB Balikesir 79.66 309 eP P 06 22 05.0 -1.2
RPZ Rata Peaks 79.70 147 eP P 06 22 06.3 +0.1
comp=Z,110nm,1.0s
ARR Arges 79.71 315 ⇑iP P 06 22 06.9 +0.4
RKY Sarkoy-Tekirda 79.77 310 eP P 06 22 07.0 +0.1
KOLS Kolonicke sedl 79.78 319 eP P 06 22 06.8 +0.1
KOLS pmax pmax
comp=Z,16nm,0.8s
KOLS Kolonicke sedl 79.78 319 eP P 06 22 06.8 +0.1
KRBG Karabiga-Canak 79.80 310 eP P 06 22 02.1 -4.8
HUMR Humele 79.81 314 ⇑iP P 06 22 06.6 -0.3
CJR Cluj-Napoca 79.85 317 ⇓P P 06 22 08.0 +0.8
CJR Cluj-Napoca 79.85 317 ⇓iP P 06 22 08.0 +0.8
ZIMR 79.89 313 ⇓P P 06 22 07.9 +0.5
ZIMR 79.89 313 ⇓iP P 06 22 07.9 +0.5
UZH Uzhgorod 79.89 319 eP P 06 22 05.4 -1.9
UZH i 06 22 07.6
UZH i 06 22 15.6
UZH e 06 25 08.6
UZH iS S 06 32 03.6 -5.8
UZH i 06 32 13.6
SNZO South Karori 79.91 144 PFAKE 06 22 20.0 +13
SNZO LR LR
comp=Z,8µm,19.0s
TRPA Tarpa 79.94 318 ⇑iP P 06 22 08.0 +0.4
TRPA Tarpa 79.94 318 ⇑eP P 06 22 08.0 +0.4
NB2 NORSAR Subarra 79.94 333 P P 06 22 07.0 -0.4
comp=Z,140nm,1.0s,baz=56,slow=5.6
NB2 NORSAR Subarra 79.94 333 P P 06 22 07.0 -0.4
baz=56,slow=5.6
NOA NORSAR Array B 79.94 333 P P 06 22 06.8 -0.6
comp=Z,87nm,0.8s,baz=60,slow=5.4,SNR=84
NOA LR LR 07 01 30.4
comp=Z,37µm,18.4s,baz=95,slow=39
NC602 NORSAR Array S 79.96 332 eP P 06 22 07.0 -0.5
AKHS Akhisar 79.99 308 iP P 06 22 06.9 -1.2
JMIC Jan Mayen 80.13 346 eP P 06 22 10.6 +2.5
JMIC IAMs_20 IAMs_20 07 03 06.4
comp=Z,19µm,19.7s
JMIC Jan Mayen 80.13 346 P P 06 22 10.1 +2.0
comp=Z,306nm,1.0s,baz=119,slow=2.8,SNR=7.9
JMIC LR LR 07 03 23.8
comp=Z,18µm,18.4s,baz=44,slow=40
NAO01 NORSAR Array S 80.18 333 eP P 06 22 06.7 -2.0
comp=Z,30nm,0.6s
STHS Stebnicka Huta 80.20 320 eP P 06 22 09.4 +0.4
STHS pmax pmax
comp=Z,27nm,1.1s
STHS Stebnicka Huta 80.20 320 eP P 06 22 09.4 +0.4
LOT Lotru 80.24 315 ⇑iP P 06 22 10.1 +0.7
CRVS Cervenica-Dubn 80.28 319 eP P 06 22 09.8 +0.4
CRVS pmax pmax
comp=Z,110nm,1.7s
CRVS Cervenica-Dubn 80.28 319 eP P 06 22 09.8 +0.4
DOMB Dombas 80.30 334 eP P 06 22 11.7 +2.4
DRGR 80.38 317 ⇑P P 06 22 10.4 +0.3
DRGR 80.38 317 ⇑iP P 06 22 10.4 +0.3
DIM Dimitrovgrad 80.40 312 eP P 06 22 10.2 +0.1
MOL Molde 80.61 335 eP P 06 22 12.1 +1.2
MOL eS S 06 32 17.2 +0.7
MOL IAMs_20 IAMs_20 07 01 47.6
comp=Z,24µm,20.4s
DEV Deva 80.62 316 ⇑P P 06 22 12.0 +0.7
DEV Deva 80.62 316 ⇑iP P 06 22 11.9 +0.7
KDZ Kurdzhali 80.63 311 ⇑P P 06 22 13.0 +1.5
KDZ Kurdzhali 80.63 311 eP P 06 22 13.5 +2.0
KDZ Kurdzhali 80.63 311 ⇑iP P 06 22 13.0 +1.5
AYVA Ayvalik 80.64 309 iP P 06 22 11.8 +0.3
EZN Ezine 80.70 309 eP P 06 22 06.5 -5.3
OJC Ojcow 80.71 321 ⇑P P 06 22 12.0 +0.3
OJC i*PP PcP 06 22 15.2 -3.2
OJC e 06 25 16.9
OJC iS S 06 32 15.8 -2.2
OJC MLR MLR
comp=Z,18µm,21.8s
OJC Ojcow 80.71 321 iP P 06 22 12.0 +0.3
OJC ipP PcP 06 22 15.2 -3.2
OJC ePP PP 06 25 16.9 +1.6
OJC iS S 06 32 15.8 -2.2
OJC L L 06 59 07.0
comp=Z,18µm,21.8s
OSL Oslo 80.72 332 eP P 06 22 11.9 +0.4
BLCB Balcova 80.74 308 eP P 06 22 06.5 -5.6
RDO Rodhopi 80.74 311 P P 06 22 11.3 -0.7
RDO Rodhopi 80.74 311 P P 06 22 11.3 -0.7
NIE Niedzica 80.75 320 ⇑P P 06 22 12.8 +0.8
NIE i 06 25 18.9
NIE iS S 06 32 17.6 -0.9
NIE MLR MLR
comp=Z,16µm,20.7s
NIE Niedzica 80.75 320 iP P 06 22 12.8 +0.8
NIE iPP PP 06 25 18.9 +3.2
NIE iS S 06 32 17.6 -0.9
NIE L L 06 58 25.0
comp=Z,16µm,20.7s
GKP Gorka Klasztor 80.80 324 eP P 06 22 12.2 +0.2
GKP eS S 06 32 19.1 +0.3
GKP MLR MLR
comp=Z,30µm,22.4s
GKP Gorka Klasztor 80.80 324 eP P 06 22 12.1 +0.1
GKP eS S 06 32 19.0 +0.3
GKP LMZ LR 06 59 04.8
GZR Gura Zlata 80.90 316 ⇑P P 06 22 13.2 +0.3
GZR Gura Zlata 80.90 316 ⇑iP P 06 22 13.2 +0.3
SRE Strehaia 80.92 315 ⇑P P 06 22 13.5 +0.6
SRE Strehaia 80.92 315 ⇑iP P 06 22 13.5 +0.6
BDRM Kayabasi 80.94 306 iP P 06 22 13.0 -0.2
PLD Plovdiv 80.94 312 P P 06 22 10.6 -2.5
PLD Plovdiv 80.94 312 P P 06 22 10.6 -2.5
PLD Plovdiv 80.94 312 eP P 06 22 13.0 -0.1
PLD Plovdiv 80.94 312 P P 06 22 10.6 -2.5
PRK Paraskevi 80.96 309 P P 06 22 25.6 +12
KECS Kecovo 81.05 319 eP P 06 22 13.7 +0.2
KECS pmax pmax
comp=Z,31nm,1.3s
KECS Kecovo 81.05 319 eP P 06 22 13.7 +0.2
RZN Rozhen 81.10 312 eP P 06 22 15.8 +1.6
PGB Panagyurishte 81.13 312 eP P 06 22 17.7 +3.5
SMG Samos 81.14 307 P P 06 22 11.3 -3.0
SMG Samos 81.14 307 P P 06 22 11.3 -3.0
BSD Bornholm Skovb 81.15 327 ⇑iP P 06 22 13.4 -0.5
BSD iS S 06 32 18.9 -3.4
BSD pmax pmax
comp=Z,110nm,0.9s
BSD MLR MLR
comp=Z,31µm,19.0s
BSD Bornholm Skovb 81.15 327 ⇑iP P 06 22 13.4 -0.5
comp=Z,112nm,0.8s
BSD Bornholm Skovb 81.15 327 iS S 06 32 18.9 -3.4
comp=Z,31µm,18.0s
RMGR Halanga-Turnu 81.26 315 ⇓iP P 06 22 15.1 +0.4
SIGR SIGRI 81.27 309 P P 06 22 17.1 +2.2
SIGR SIGRI 81.27 309 P P 06 22 17.1 +2.2
KONO Kongsberg 81.36 332 eP P 06 22 13.7 -1.2
KONO pmax pmax
comp=Z,72nm,1.1s
KONO MLR MLR
comp=Z,44µm,20.0s
KONO Kongsberg 81.36 332 eP P 06 22 14.5 -0.4
KONO eS S 06 32 24.3 0.0
KONO IAMs_20 IAMs_20 07 02 25.0
comp=Z,45µm,20.7s
KONO Kongsberg 81.36 332 eP P 06 22 13.7 -1.2
comp=Z,72nm,1.1s
KONO LR LR
comp=Z,44µm,20.0s
KAVA Kavala 81.51 311 P P 06 22 10.0 -6.1
BZS Buzias 81.55 316 ⇓P P 06 22 15.8 -0.5
BZS Buzias 81.55 316 ⇓iP P 06 22 15.8 -0.5
PSZ Piszkesteto 81.64 319 ⇑P P 06 22 16.8 0.0
PSZ Piszkesteto 81.64 319 ⇑iP P 06 22 16.8 0.0
PSZ Piszkesteto 81.64 319 eP P 06 22 16.2 -0.6
comp=Z,355nm,1.4s
PSZ LR LR
comp=Z,14µm,20.0s
PSZ Piszkesteto 81.64 319 ⇑eP P 06 22 16.9 +0.1
KARP Karpathos 81.74 305 P P 06 22 21.4 +3.9
KARP Karpathos 81.74 305 P P 06 22 21.4 +3.9
VTS Vitosha 81.76 313 P P 06 22 18.6 +1.0
VTS Vitosha 81.76 313 eP P 06 22 17.4 -0.2
VTS Vitosha 81.76 313 ⇑P P 06 22 18.1 +0.5
VTS Vitosha 81.76 313 eP P 06 22 20.8 +3.2
VTS Vitosha 81.76 313 ⇑iP P 06 22 18.1 +0.5
VTS Vitosha 81.76 313 P P 06 22 18.6 +1.0
MMB Musomiste 81.82 312 eP P 06 22 17.6 -0.2
MMB Musomiste 81.82 312 ⇑iP P 06 22 17.3 -0.5
NVR Nevrokopi 81.82 311 P P 06 22 11.6 -6.2
OKC Ostrava-Krasne 81.83 321 eP P 06 22 17.6 -0.1
OKC e 06 22 27.2
OKC eS S 06 32 27.8 -1.9
OKC MLR MLR
comp=Z,10µm,16.1s
OKC Ostrava-Krasne 81.83 321 ⇑eP P 06 22 17.6 -0.1
OKC epP pP 06 22 27.2 +2.0
OKC eS S 06 32 27.8 -1.9
OKC AMS AMS 07 05 50.0
comp=Z,10µm,16.1s
HYA Hoyanger 81.94 334 eP P 06 22 19.9 +1.9
HYA IAmb IAmb 06 22 33.5
comp=Z,98nm,0.9s
HYA eS S 06 32 31.2 +1.0
BANR Banloc 81.96 316 ⇑iP P 06 22 20.3 +1.9
COP Copenhagen 82.11 328 iP P 06 22 19.6 +0.7
COP iS S 06 32 30.9 -1.2
COP pmax pmax
comp=Z,95nm,1.0s
COP MLR MLR
comp=Z,14µm,20.0s
COP Copenhagen 82.11 328 iP P 06 22 19.6 +0.7
comp=Z,95nm,0.9s
COP Copenhagen 82.11 328 iS S 06 32 30.9 -1.2
comp=Z,14µm,19.0s
FOO Floro 82.14 335 eP P 06 22 19.4 +0.4
FOO IAMs_20 IAMs_20 07 02 50.3
comp=Z,13µm,18.0s
KKB Krupnik 82.14 312 eP P 06 22 19.3 -0.2
OUR Ouranopolis 82.15 310 eP P 06 22 18.5 -1.0
MORC Moravsky Berou 82.21 321 ⇑P P 06 22 19.5 -0.2
MORC Moravsky Berou 82.21 321 ⇑iP P 06 22 19.5 -0.2
MORC Moravsky Berou 82.21 321 eP P 06 22 19.3 -0.4
comp=Z,56nm,0.8s
KULLO Kullorsuaq 82.22 0 ⇑iP P 06 22 19.4 +0.2
KULLO iS S 06 32 32.3 -0.5
KULLO pmax pmax
comp=Z,290nm,0.9s
KULLO MLR MLR
comp=Z,16µm,20.0s
KULLO Kullorsuaq 82.22 0 ⇑iP P 06 22 19.4 +0.2
comp=Z,287nm,0.8s
KULLO Kullorsuaq 82.22 0 iS S 06 32 32.3 -0.5
comp=Z,16µm,19.0s
APE Apeiranthos 82.35 307 eP P 06 22 20.9 +0.2
APE pmax pmax
comp=Z,100nm,1.2s
APE MLR MLR
comp=Z,8µm,27.0s
BUD Budapest 82.36 319 ⇑eP P 06 22 20.8 +0.3
SOH Sokhos 82.39 311 P P 06 22 20.1 -0.7
SOH Sokhos 82.39 311 P P 06 22 20.1 -0.7
SOH Sokhos 82.39 311 P P 06 22 20.1 -0.7
LLD Lille Linde 82.39 328 iP P 06 22 23.4 +3.0
LLD pmax pmax
comp=Z,130nm,0.9s
LLD Lille Linde 82.39 328 iP P 06 22 23.4 +3.0
comp=Z,132nm,0.8s
KSP Ksiaz 82.43 322 ⇑P P 06 22 21.2 +0.4
KSP e*PP PcP 06 22 24.2 -1.7
KSP eS S 06 32 33.2 -2.6
KSP MLR MLR
comp=Z,91µm,21.1s
KSP Ksiaz 82.43 322 eP P 06 22 21.2 +0.4
KSP eS S 06 32 34.4 -1.4
KSP LMZ LR 07 02 53.0
ODD1 Odda 82.47 333 eP P 06 22 21.0 +0.2
ODD1 IAmb IAmb 06 22 25.6
comp=Z,84nm,0.9s
PLG Polygyros 82.51 311 P P 06 22 18.8 -2.6
PLG Polygyros 82.51 311 P P 06 22 18.8 -2.6
PLG Polygyros 82.51 311 P P 06 22 18.8 -2.6
KRLC Kraliky 82.51 322 ⇑iP P 06 22 21.6 +0.3
KRLC e 06 22 30.7
KRLC eS S 06 32 35.8 -0.9
KRLC Kraliky 82.51 322 ⇑iP P 06 22 21.6 +0.3
KRLC epP pP 06 22 30.7 +1.9
KRLC eS S 06 32 35.8 -0.9
PAIG Paliouri 82.53 310 P P 06 22 18.8 -2.7
PAIG Paliouri 82.53 310 P P 06 22 18.8 -2.7
PAIG Paliouri 82.53 310 P P 06 22 18.8 -2.7
KNT Kendrikon 82.56 312 P P 06 22 21.0 -0.7
KNT Kendrikon 82.56 312 P P 06 22 21.0 -0.7
KNT Kendrikon 82.56 312 P P 06 22 21.0 -0.7
SUE Sulen 82.56 335 eP P 06 22 21.5 +0.3
HOMB Homborsund 82.58 331 eP P 06 22 20.7 -0.6
ZKR Zakros 82.62 305 P P 06 22 21.4 -0.7

ZKR Zakros 82.62 305 P P 06 22 21.4 -0.7
DPC Dobruska-Polom 82.64 322⇑iP P 06 22 22.5 +0.5
DPC e 06 22 32.0
DPC eS S 06 32 37.2 -0.9
DPC Dobruska-Polom 82.64 322⇑iP P 06 22 22.5 +0.5
DPC epP pP 06 22 32.0 +2.5
DPC eS S 06 32 37.2 -0.9
DPC AMS AMS 07 03 30.0
HORT Hortiatis 82.66 311 P P 06 22 22.0 -0.3
HORT Hortiatis 82.66 311 P P 06 22 22.0 -0.3
SANT Santorini 82.68 306 P P 06 22 20.4 -2.1
SANT Santorini 82.68 306 eP P 06 22 20.3 -2.1
SANT Santorini 82.68 306 eP P 06 22 21.6 -0.8
comp=Z,318nm,0.9s
SANT LR LR
comp=Z,6µm,20.0s
RUND Rundenannen 82.70 334 eP P 06 22 21.1 -0.8
VAY Valandovo 82.72 312 P P 06 22 21.4 -1.1
VAY Valandovo 82.72 312 P P 06 22 21.4 -1.1
VAY Valandovo 82.72 312 iP P 06 22 21.2 -1.2
VAY Valandovo 82.72 312 P P 06 22 21.4 -1.1
BER Bergen 82.73 334 eP P 06 22 24.8 +2.7
comp=Z,49µm,17.4s
BER eS S 06 32 39.5 +1.1
THE Thessaloniki 82.74 311 P P 06 22 20.1 -2.4
THE Thessaloniki 82.74 311 P P 06 22 20.1 -2.4
THE Thessaloniki 82.74 311 P P 06 22 20.1 -2.4
UPC Upice 82.75 322 eP P 06 22 22.8 +0.4
UPC e 06 22 29.8
UPC eS S 06 32 39.9 +0.9
UPC Upice 82.75 322⇑eP P 06 22 22.8 +0.4
UPC epP pP 06 22 29.8 -0.2
UPC ex x 06 22 39.0
UPC eS S 06 32 39.9 +0.9
YKA Yellowknife Ar 82.75 23 P P 06 22 22.3 +0.1
comp=Z,60nm,0.8s,baz=307,slow=4.8,SNR=266
YKA PKKPbc PKKPbc 06 40 45.2 -2.2
comp=Z,1.4nm,0.8s,baz=134,slow=2.3,SNR=17
YKA PKPPKP P'P'df 06 48 50.1 -5.4
comp=Z,0.7nm,1.0s,baz=112,slow=2.8,SNR=4.5
PKSG 82.79 319⇑eP P 06 22 22.7 0.0
CSKK Csˆ‡kako 82.88 319⇑eP P 06 22 23.4 +0.2
VRAC Vranov 82.98 321 P P 06 22 24.0 +0.3
VRAC Vranov 82.98 321⇑iP P 06 22 24.3 +0.6
VRAC Vranov 82.98 321 P P 06 22 24.0 +0.3
comp=Z,168nm,1.0s,baz=59,slow=4.8,SNR=45
RUE Ruedersdorf 83.02 325 eP P 06 22 24.3 +0.6
comp=Z,219nm,0.8s
RUE Ruedersdorf 83.02 325 eP P 06 22 24.0 +0.3
comp=Z,287nm,0.9s
PKST T"s 83.07 319⇑eP P 06 22 23.9 -0.3
XOR Xorichti 83.10 310 P P 06 22 23.0 -1.5
XOR Xorichti 83.10 310 P P 06 22 23.0 -1.5
NEO Neokhori 83.10 310 P P 06 22 23.9 -0.6
NEO Neokhori 83.10 310 P P 06 22 23.9 -0.6
SNART Snartemo 83.11 332 eP P 06 22 24.4 +0.3
SNART IAmb IAmb 06 22 27.9
comp=Z,104nm,0.9s
SNART eSKSac SKSac 06 32 44.7 +0.2
LAST Lasithi 83.15 305 P P 06 22 22.3 -2.6
LAST Lasithi 83.15 305 P P 06 22 22.3 -2.6
PKSM Moragy 83.17 318 ⇑P P 06 22 24.9 +0.2
PKSM Moragy 83.17 318⇑iP P 06 22 24.9 +0.2
PKSM Moragy 83.17 318⇑eP P 06 22 24.7 0.0
SKO Skopje 83.21 313 P P 06 22 24.3 -0.7
SKO Skopje 83.21 313 P P 06 22 24.3 -0.7
SKO Skopje 83.21 313 iP P 06 22 24.3 -0.7
SKO Skopje 83.21 313 P P 06 22 24.3 -0.7
PKS9 Tamasi 83.22 318⇑eP P 06 22 24.7 -0.2
DIVS Divibare 83.25 315 P P 06 22 25.5 +0.2
MUD Monsted U'grnd 83.26 329 iP P 06 22 22.6 -2.3
MUD iS S 06 32 42.6 -1.3
MUD pmax pmax
comp=Z,110nm,0.9s
MUD MLR MLR
comp=Z,36µm,18.0s
MUD Monsted U'grnd 83.26 329 iP P 06 22 22.6 -2.3
comp=Z,113nm,0.9s
MUD Monsted U'grnd 83.26 329 iS S 06 32 42.6 -1.3
comp=Z,36µm,17.0s
FYTO Fytoko, Volos 83.26 310 P P 06 22 26.6 +1.3
FYTO Fytoko, Volos 83.26 310 P P 06 22 26.6 +1.3
LIT Litokhoron 83.29 311 P P 06 22 23.3 -2.2
LIT Litokhoron 83.29 311 P P 06 22 23.3 -2.2
LIT Litokhoron 83.29 311 P P 06 22 23.3 -2.2
SMIA Simia 83.29 309 P P 06 22 23.0 -2.5
KMY Karmoy 83.45 333 eP P 06 22 25.9 +0.1
KMY IAmb IAmb 06 22 29.7
comp=Z,144nm,0.9s
SUMG Summit 83.47 355 eP P 06 22 26.4 +0.1
SUMG pmax pmax
comp=Z,208nm,0.8s
SUMG Summit 83.47 355 iP P 06 22 26.8 +0.6
comp=Z,191nm,0.8s
SUMG Summit 83.47 355 iS S 06 32 46.8 +0.4
comp=Z,14µm,18.0s
SUMG Summit 83.47 355 eP P 06 22 26.4 +0.1
comp=Z,208nm,0.8s
LKR Lokris 83.54 309 P P 06 22 24.9 -1.8
LKR Lokris 83.54 309 P P 06 22 24.9 -1.8
PVCC Panska Ves 83.55 323 eP P 06 22 26.8 +0.3
PVCC eS S 06 32 46.4 -0.7
PVCC MLR MLR
comp=Z,21µm,21.5s
PVCC Panska Ves 83.55 323⇑eP P 06 22 26.8 +0.3
PVCC ex x 06 22 43.3
PVCC eS S 06 32 46.4 -0.7
PVCC AMS AMS 07 03 30.0
comp=Z,21µm,21.5s
TREC Trest 83.62 321 eP P 06 22 27.3 +0.3
TREC e 06 22 36.9
TREC e 06 25 36.9
TREC eS S 06 32 47.9 -0.1
TREC MLR MLR
comp=Z,16µm,17.1s
TREC Trest 83.62 321⇑eP P 06 22 27.3 +0.3
TREC epP pP 06 22 36.9 +2.4
TREC ex x 06 22 43.9
TREC ePP PP 06 25 36.9 -2.3
TREC eS S 06 32 47.9 -0.1
TREC AMS AMS 07 04 00.0
comp=Z,16µm,17.1s
KZN Kozani 83.70 311 P P 06 22 25.2 -2.5
KZN Kozani 83.70 311 P P 06 22 25.2 -2.5
KZN Kozani 83.70 311 P P 06 22 25.2 -2.5
BIA Bitola 83.70 312 eP P 06 22 22.9 -4.7
SIVA Sivas 83.71 305 P P 06 22 26.6 -1.1
SIVA Sivas 83.71 305 P P 06 22 26.6 -1.1
BRG Berggiesshubel 83.72 323 iP P 06 22 27.6 +0.2
comp=Z,40nm,1.1s
BRG i 06 22 30.2
comp=Z,114nm,1.0s
BRG iPP PP 06 25 37.2 -2.8
comp=Z,51nm,1.4s
BRG S S 06 32 47.0 -1.9
BRG SS SS 06 38 14.0 -1.1
comp=N,10µm,16.5s
comp=E,15µm,17.7s
comp=Z,32µm,18.8s
BRG Berggiesshubel 83.72 323 iP P 06 22 27.6 +0.2
BRG i 06 22 30.2
BRG i 06 25 37.2
BRG S S 06 32 47.0 -1.9
BRG SS SS 06 38 14.0 -1.1
BRG pmax pmax
comp=Z,41nm,1.1s
BRG MLR MLR
comp=N,10µm,16.5s
BRG MLR MLR
comp=E,15µm,17.7s
BRG MLR MLR
comp=Z,32µm,18.8s
BRG Berggiesshubel 83.72 323 eP P 06 22 27.6 +0.2
comp=Z,72nm,0.9s
AXAR Agios Charalam 83.73 309 P P 06 22 28.0 +0.2
AXAR Agios Charalam 83.73 309 P P 06 22 28.0 +0.2
SOP Sopron 83.76 319⇑eP P 06 22 28.0 +0.3
FNA Florina 83.77 312 P P 06 22 25.9 -2.1
FNA Florina 83.77 312 P P 06 22 25.9 -2.1
FNA Florina 83.77 312 P P 06 22 25.9 -2.1
PRU Pruhonice 83.82 322 eP P 06 22 28.2 +0.2
PRU e 06 22 38.9
PRU e 06 25 42.9
PRU eS S 06 32 49.3 -0.6
PRU MLR MLR
comp=Z,16µm,18.2s
PRU Pruhonice 83.82 322⇑eP P 06 22 28.2 +0.2
PRU ex x 06 22 38.9
PRU ex x 06 22 43.7
PRU ePP PP 06 25 42.9 +2.1
PRU eS S 06 32 49.3 -0.6
PRU AMS AMS 07 04 30.0
comp=Z,16µm,18.2s
PRA Prague 83.84 322 ⇑P P 06 22 29.0 +0.9
PRA PP PP 06 25 43.0 +2.0
THL Klokotos Trika 83.85 310 P P 06 22 26.6 -1.7
AGG Agios Georgios 83.85 310 P P 06 22 26.6 -1.8
AGG Agios Georgios 83.85 310 P P 06 22 26.6 -1.8
AGG Agios Georgios 83.85 310 P P 06 22 26.6 -1.8
IVA Berane 83.85 314⇑iP P 06 22 31.1 +2.7
PVY Plav 83.93 314⇑iP P 06 22 30.4 +1.5
DSF Desfina 83.97 309 P P 06 22 27.2 -1.9
DSF Desfina 83.97 309 P P 06 22 27.2 -1.9
PLE Pljevlja 83.98 315⇑iP P 06 22 30.3 +1.2
MAKR Makrakomi, Fth 84.00 310 P P 06 22 26.9 -2.2
MAKR Makrakomi, Fth 84.00 310 P P 06 22 26.9 -2.2
VAM Vamos 84.01 306 P P 06 22 28.8 -0.4
VAM Vamos 84.01 306 P P 06 22 28.8 -0.4
VAM Vamos 84.01 306 P P 06 22 28.8 -0.4
PHP Peshkopia 84.01 313 P P 06 22 27.9 -1.3
PHP Peshkopia 84.01 313 P P 06 22 27.9 -1.3
PHP Peshkopia 84.01 313 P P 06 22 27.9 -1.3
CLL Collm 84.02 324⇑iP P 06 22 28.9 0.0
CLL i 06 22 32.1
CLL eS S 06 32 47.0 -4.8
CLL pmax pmax
comp=Z,65nm,1.0s
CLL MLR MLR
comp=Z,24µm,21.5s
CLL Collm 84.02 324 eP P 06 22 28.9 0.0
comp=Z,112nm,0.8s
CLL Collm 84.02 324⇑iP P 06 22 28.9 0.0
comp=Z,65nm,1.0s
CLL iPcP PcP 06 22 32.1 -0.7
comp=Z,175nm,1.0s
CLL esPcP 06 22 43.0
CLL e 06 25 31.0
CLL ePP PP 06 25 44.0 +1.6
CLL ePPP PPP 06 27 48.0
CLL e(PPPP) 06 29 24.0
CLL eS S 06 32 47.0 -4.8
CLL ePPS PPS 06 34 00.0
CLL eSS SS 06 38 21.0 +1.6
CLL epPKKPdf 06 40 41.0
CLL e(SSS) 06 42 42.0
CLL e 06 43 30.0
CLL eSSSS 06 44 48.0
CLL LmV 07 04 00.0
comp=N,16µm,19.5s
CLL LmV 07 04 00.0
comp=E,18µm,20.7s
CLL LmV 07 04 00.0
comp=Z,24µm,21.5s
CONA Conrad Observa 84.06 320 iPcP P 06 22 30.0 +0.7
comp=Z,185nm,0.9s,SNR=74
BSEG Bad Segeberg 84.06 327 eP P 06 22 29.5 +0.4
comp=Z,78nm,1.0s
BEHE Becsehely 84.20 318⇑eP P 06 22 30.0 0.0
KBN Korca 84.24 312 P P 06 22 27.9 -2.5
KBN Korca 84.24 312 P P 06 22 27.9 -2.5
KBN Korca 84.24 312 P P 06 22 27.9 -2.5
KALE Kalithea 84.26 309 P P 06 22 31.4 +0.9
KALE Kalithea 84.26 309 P P 06 22 31.4 +0.9
EVR Evrytania 84.27 310 P P 06 22 30.1 -0.5
EVR Evrytania 84.27 310 P P 06 22 30.1 -0.5
UPM Unac-Piva 84.35 315⇑iP P 06 22 30.5 -0.6
VLI Veliai 84.39 308 P P 06 22 28.2 -2.9
VLI Veliai 84.39 308 P P 06 22 28.2 -2.9
KLV Kalavryta, Ach 84.40 309 P P 06 22 29.8 -1.4
KLV Kalavryta, Ach 84.40 309 P P 06 22 29.8 -1.4
EFP Efpalio 84.41 309 P P 06 22 31.1 -0.1
LAKA Lakka 84.44 309 P P 06 22 32.4 +1.0
LAKA Lakka 84.44 309 P P 06 22 32.4 +1.0
NKY Niksic 84.47 314⇑iP P 06 22 31.4 -0.2
TTG Podgorica 84.47 314⇑iP P 06 22 31.5 +0.1
VLX Vlachokerasia 84.52 308 P P 06 22 31.8 -0.1
VLX Vlachokerasia 84.52 308 P P 06 22 31.8 -0.1
KOGS Kog 84.53 318 iP P 06 22 31.3 -0.3
KOGS ePP PP 06 25 48.9 +2.2
KOGS eS S 06 32 55.2 -1.9
KOGS e 06 33 44.2
ARSA Arzberg 84.58 319 iP P 06 22 32.1 +0.1
comp=Z,90nm,1.6s,SNR=19
JAN Janina 84.62 311 P P 06 22 32.7 +0.4
JAN Janina 84.62 311 P P 06 22 32.7 +0.4
JAN Janina 84.62 311 P P 06 22 32.7 +0.4
ULC Ulcinj 84.69 314⇑iP P 06 22 33.1 +0.5
BRY Bratogost 84.73 315⇑iP P 06 22 32.6 -0.3
NEUB Neuenburg 84.73 324 eP P 06 22 32.7 +0.1
comp=Z,88nm,0.8s
TANN Tannenbergstha 84.77 323 eP P 06 22 32.8 -0.1
comp=Z,37nm,0.9s
TANN esP sP 06 22 51.3 +8.2
BUM Brajici-Budva 84.77 314⇑iP P 06 22 34.1 +1.1
KHC Kasperske Hory 84.79 322⇑iP P 06 22 33.0 0.0
KHC e 06 22 41.0
KHC eS S 06 32 56.4 -3.4
KHC MLR MLR
comp=Z,19µm,18.5s
KHC Kasperske Hory 84.79 322⇑iP P 06 22 33.0 0.0
KHC epP pP 06 22 41.0 +0.5
KHC ex x 06 22 48.3
KHC eS S 06 32 56.4 -3.4
KHC AMS AMS 07 04 40.0
comp=Z,19µm,18.5s
KHC Kasperske Hory 84.79 322 eP P 06 22 33.0 0.0
comp=Z,185nm,1.1s
GEC2 GERESS Array S 84.86 321 eP P 06 22 33.7 +0.3
comp=Z,117nm,0.8s
GERES GERESS Array B 84.86 321 P P 06 22 33.4 0.0
comp=Z,116nm,0.7s,baz=57,slow=4.9,SNR=306
GERES LR LR 07 03 58.1
comp=Z,17µm,18.4s,baz=62,slow=38
RLS Riolos of Patr 84.88 309 P P 06 22 32.1 -1.5
RLS Riolos of Patr 84.88 309 P P 06 22 32.1 -1.5
ITM Ithomi 84.93 308 P P 06 22 33.4 -0.5
ITM Ithomi 84.93 308 P P 06 22 33.4 -0.5
NRDL Niedersach Rie 84.94 326 eP P 06 22 34.0 +0.5
comp=Z,85nm,1.0s
HCY Herceg Novi 84.97 314⇑iP P 06 22 35.1 +1.2
IGT Igoumenitsa 85.03 311 P P 06 22 27.9 -6.4
MOA Molln 85.03 320 iPcP P 06 22 34.6 +0.4
comp=Z,104nm,0.8s,SNR=36
SRN Sarande 85.11 311 P P 06 22 35.0 +0.3
SRN Sarande 85.11 311 P P 06 22 35.0 +0.3
MOX Moxa 85.11 324 eP P 06 22 34.6 +0.1
comp=Z,43nm,0.8s
PERS Pernice 85.12 319 iP P 06 22 34.3 -0.4
PERS eS S 06 33 01.3 -1.9
LKD2 Lefkada island 85.13 310 P P 06 22 35.0 +0.1
LKD2 Lefkada island 85.13 310 P P 06 22 35.0 +0.1
SOKA Soboth 85.15 319⇑iP P 06 22 34.9 0.0
comp=Z,87nm,0.8s,SNR=26
MANZ Manzenberg 85.18 323 eP P 06 22 35.1 +0.2
comp=Z,52nm,0.8s
PYL PYLOS 85.18 308 P P 06 22 32.4 -2.7
PYL PYLOS 85.18 308 P P 06 22 32.4 -2.7
WET Wettzell 85.18 322 eP P 06 22 35.4 +0.5
comp=Z,23nm,0.9s
WET esP sP 06 22 50.6 +5.4
VLO Vlora 85.19 312 P P 06 22 34.4 -0.7
VLO Vlora 85.19 312 P P 06 22 34.4 -0.7
VLO Vlora 85.19 312 P P 06 22 34.4 -0.7
ROTZ Rotzenmuhle 85.24 323 eP P 06 22 35.8 +0.6
comp=Z,73nm,0.8s
CRES Cresnjev 85.31 318 iP P 06 22 35.4 -0.2
CRES eS S 06 33 02.9 -2.0
KEK Kerkira 85.32 311 P P 06 22 34.0 -1.8
KEK Kerkira 85.32 311 P P 06 22 34.0 -1.8
KFL Anninata 85.34 310 P P 06 22 34.0 -1.9
LRW Lerwick 85.43 336 AMS AMS 07 05 26.1
comp=Z,26µm,17.9s
VLS Valsamata 85.45 310 P P 06 22 32.7 -3.8
VLS Valsamata 85.45 310 P P 06 22 32.7 -3.8
VLS Valsamata 85.45 310 P P 06 22 32.7 -3.8
OBKA Obir 85.53 319⇑iP P 06 22 36.3 -0.5
comp=Z,64nm,0.9s,SNR=9.2
ABPO Ambohimpanom 85.68 247 eP P 06 22 38.1 +0.1
ABPO pmax pmax
comp=Z,82nm,1.0s
ABPO MLR MLR
comp=Z,6µm,21.0s
ABPO Ambohimpanom 85.68 247 eP P 06 22 38.1 +0.1
comp=Z,82nm,1.0s
ABPO LR LR
comp=Z,6µm,21.0s
GRF Grafenberg Arr 85.83 323 eP P 06 22 38.6 +0.5
comp=Z,76nm,0.9s
GRF eL L 07 05 20.7
comp=Z,29µm,20.5s
UBBA Unterbreizbach 85.89 324 eP P 06 22 38.4 +0.2
comp=Z,32nm,0.8s
RJOB Jochberg 85.95 321 eP P 06 22 40.4 +1.6
comp=Z,54nm,1.0s
KBA Koelnbreinsper 85.96 320⇓iPcP P 06 22 40.1 +1.1
comp=Z,138nm,1.3s,SNR=8.5
CADS Cadrg 86.16 319 iP P 06 22 40.3 +0.4
IBBN Ibbenburen 86.24 326 eP P 06 22 40.4 +0.4
comp=Z,208nm,0.8s
PGC Sidney 86.59 38 eP P 06 22 42.9 +1.0
comp=Z,5.0nm,1.0s
FUR Furstenfeldbru 86.60 322 eP P 06 22 43.1 +1.1
comp=Z,187nm,0.9s
FUR esP sP 06 22 58.2 +6.0
ABTA Abfaltersbach 86.62 320⇑iP P 06 22 40.6 -1.5
comp=Z,92nm,1.0s,SNR=25
PAF Port-aux-Franc 86.66 212 PFAKE 06 22 50.0 +8.1
PAF LR LR
comp=Z,4µm,21.0s
PAF Port-aux-Franc 86.66 212 P P 06 22 23.0 -19
PAF PP PP 06 25 49.0 -16
PAF S S 06 32 55.0 -22
PAF SS SS 06 38 59.0 -0.6
PAF L L 06 44 00.0
PAF R 06 52 00.0
RAR Rarotonga 86.72 115 PFAKE 06 22 50.0 +7.2
RAR LR LR
comp=Z,7µm,19.0s
WATA Walderalm 86.86 321⇑iP P 06 22 42.4 -1.0
SNR=18
WTSB Winterswijk 86.92 326 eP P 06 22 43.1 -0.2
comp=Z,464nm,1.7s
WTSB Winterswijk 86.92 326 eS SKSac 06 33 01.4 -7.7
BUG Bochum--Univer 86.98 326 eP P 06 22 43.9 +0.2
comp=Z,106nm,1.0s
BUG esP sP 06 22 59.3 +5.3
NLWA Neilton Lookou 87.02 39 eP P 06 22 45.3 +1.2
comp=Z,79nm,1.0s
NLWA LR LR
comp=Z,6µm,20.0s
TNS Taunus Mts 87.05 324 eP P 06 22 44.3 +0.2
comp=Z,49nm,0.9s
TNS esP sP 06 22 59.9 +5.5
KMBO Kilima Mbogo 87.17 268 P P 06 22 46.4 +0.8
comp=Z,20nm,0.9s,baz=50,slow=6.4,SNR=24
KMBO LR LR 07 02 59.8
comp=Z,6µm,19.1s,baz=48,slow=36
STU Stuttgart 87.44 323 eP P 06 22 45.8 -0.2
STU pmax pmax
comp=Z,293nm,1.4s
STU Stuttgart 87.44 323 eP P 06 22 46.3 +0.3
comp=Z,71nm,1.0s
STU esP sP 06 23 01.7 +5.4
STU Stuttgart 87.44 323 eP P 06 22 45.8 -0.2
comp=Z,293nm,1.4s
FETA Feichten 87.52 321⇑iPcP P 06 22 46.0 -0.7
comp=Z,76nm,1.0s,SNR=24
ILULI Ilulissat 87.54 358 iP P 06 22 45.5 -0.5
ILULI pmax pmax
comp=Z,56nm,0.9s
ILULI MLR MLR
comp=Z,13µm,19.0s
ILULI Ilulissat 87.54 358 iP P 06 22 45.5 -0.5
comp=Z,56nm,0.9s
comp=Z,13µm,19.0s
TIP Timpagrande 87.66 312 P P 06 22 46.0 -1.3
TIP Timpagrande 87.66 312 eP P 06 22 46.5 -0.8
comp=Z,197nm,1.3s
TIP LR LR
comp=Z,5µm,21.0s
DAVA Damuels 87.86 321⇓iPcP P 06 22 48.0 -0.3
comp=Z,51nm,0.9s,SNR=6.0
CUC Castrocucco 87.90 313 eP P 06 22 48.2 -0.2
comp=Z,179nm,1.4s
CUC LR LR
comp=Z,8µm,21.0s
MCD Coleburn Disti 87.94 334 eP P 06 22 46.7 -1.5
HTW Haystack Looko 88.00 38 P P 06 22 49.7 +1.0
BORG Borgarnes 88.03 346 P P 06 22 49.7 +1.3
BORG MLR MLR
comp=Z,20µm,19.0s
BORG Borgarnes 88.03 346 P P 06 22 49.7 +1.3
comp=Z,18nm,0.9s,baz=11,slow=11,SNR=2.2
BORG Borgarnes 88.03 346 P P 06 22 49.7 +1.3
BORG LR LR
comp=Z,20µm,19.0s
HGN Heimansgroeve 88.06 326 eP P 06 22 48.5 -0.4
comp=Z,232nm,1.4s
HGN Heimansgroeve 88.06 326 eS S 06 33 22.1 -9.3
MVH1 Achvaich 88.07 335 eP P 06 22 47.7 -1.1
LANF Langenberg 88.09 324 eP P 06 22 48.8 -0.3
DRUM Mains of Drumt 88.09 334 AMS AMS 07 06 57.4
comp=Z,28µm,17.8s
MEM Membach 88.11 326 P P 06 22 49.2 +0.1
comp=Z,88nm,1.4s
BFO Black Forest 88.17 323 P P 06 22 49.1 -0.4
comp=Z,168nm,0.8s,SNR=10
BFO Black Forest 88.17 323 iP P 06 22 49.2 -0.3
BFO Black Forest 88.17 323 eP P 06 22 49.4 -0.1
comp=Z,17nm,0.8s
BFO esP sP 06 23 04.9 +5.1
BFO Black Forest 88.17 323 eP P 06 22 49.3 -0.1
comp=Z,263nm,1.4s
BFO LR LR
comp=Z,20µm,19.0s
BEBN Eben Emael 88.17 326 P P 06 22 50.5 +1.0
GPW Glacier Peak 88.18 37 P P 06 22 51.2 +1.4
F04D Rainier, OR 88.22 40 ⇓P P 06 22 48.7 -1.0
baz=88
AQU L'Aquila 88.32 316 eP P 06 22 50.3 -0.1
AQU pmax pmax
comp=Z,638nm,1.5s
AQU MLR MLR
comp=Z,12µm,22.0s
AQU L'Aquila 88.32 316 eP P 06 22 50.3 -0.1
comp=Z,638nm,1.5s
AQU LR LR
comp=Z,12µm,22.0s
STR Strasbourg 88.33 323 eP P 06 22 50.3 +0.1
FMW Mount Fremont 88.53 39 P P 06 22 52.6 +1.1
RCS Mount Rainier- 88.53 39 P P 06 22 53.0 +1.3
G03D McMinnville, O 88.53 41 ⇓P P 06 22 50.2 -1.0
baz=88
TDL Tradedollar La 88.54 39 P P 06 22 52.6 +1.2
LON Longmire 88.55 39 eP P 06 22 51.4 0.0
LON e 06 26 17.6
LON pmax pmax
comp=Z,67nm,1.0s
LON Longmire 88.55 39 eP P 06 22 51.4 0.0
comp=Z,67nm,1.0s
LON ePP PP 06 26 17.6 -1.6
WLF Walferdange 88.58 325 eP P 06 22 51.4 0.0
WLF e 06 26 19.4
WLF pmax pmax
comp=Z,362nm,1.3s
WLF MLR MLR
comp=Z,29µm,19.0s
WLF Walferdange 88.58 325 eP P 06 22 51.9 +0.5
comp=Z,75nm,0.9s
WLF esP sP 06 23 07.4 +5.7
WLF Walferdange 88.58 325 eP P 06 22 51.4 0.0
comp=Z,362nm,1.3s
WLF ePP PP 06 26 19.4 +0.1
WLF LR LR
comp=Z,29µm,19.0s
BCLA Clavier 88.59 326 P P 06 22 51.2 -0.2
comp=Z,72nm,1.6s
STD Studebaker Rid 88.59 39 P P 06 22 53.5 +1.8
TUE Stuetta 88.61 321 eP P 06 22 51.0 -0.9
comp=Z,394nm,1.5s
TUE LR LR

comp=Z,23µm,20.0s
NLW Nelson Butte 88.64 37 P P 06 22 53.0 +1.1
CEL Celeste 88.69 311 eP P 06 22 52.3 0.0
comp=Z,644nm,1.3s
CEL LR LR
comp=Z,7µm,21.0s
CDF Champ du Feu 88.70 323 eP P 06 22 50.4 -1.7
comp=Z,968nm,1.4s
CDF Champ du Feu 88.70 323 eP P 06 22 50.4 -1.7
CDF pmax pmax
comp=Z,968nm,1.4s
CDF Champ du Feu 88.70 323 eP P 06 22 50.4 -1.7
comp=Z,968nm,1.4s
KAC Achnashellach 88.80 335 eP P 06 22 50.7 -1.6
COR Corvallis 88.84 41 eP P 06 22 53.1 +0.4
COR pmax pmax
comp=Z,136nm,1.0s
COR Corvallis 88.84 41 eP P 06 22 53.0 +0.4
comp=Z,136nm,1.0s
ECH Echery 88.88 323 eP P 06 22 52.2 -0.6
ECH pmax pmax
comp=Z,227nm,1.4s
ECH MLR MLR
comp=Z,22µm,20.0s
ECH Echery 88.88 323 eP P 06 22 52.3 -0.6
ECH Echery 88.88 323 eP P 06 22 52.2 -0.6
comp=Z,227nm,1.4s
ECH LR LR
comp=Z,22µm,20.0s
ETW Entiat 88.92 37 P P 06 22 54.2 +1.0
TBM Table Mountain 89.01 38 P P 06 22 54.7 +1.1
GIVF Givet 89.02 326 eP P 06 22 51.8 -1.7
comp=Z,320nm,1.5s
GIVF Givet 89.02 326 eP P 06 22 51.8 -1.7
GIVF pmax pmax
comp=Z,320nm,1.5s
GIVF Givet 89.02 326 eP P 06 22 51.8 -1.7
comp=Z,320nm,1.5s
EDI Edinburgh 89.05 333 AMS AMS 07 07 15.3
comp=Z,19µm,17.8s
KPL Plockton 89.05 335 eP P 06 22 52.6 -0.8
KPL AMS AMS 07 07 33.2
comp=Z,34µm,17.1s
SNF Seneffe 89.06 326 P P 06 22 54.2 +0.6
WTV Waterville 89.07 37 P P 06 22 54.6 +0.8
EBL Broad Law 89.09 333 eP P 06 22 52.7 -1.0
MOF Molkenrain 89.10 323 eP P 06 22 53.2 -0.8
EDM Edmonton 89.11 30 eP P 06 22 54.7 +0.8
EDM Edmonton 89.11 30 eP P 06 22 54.7 +0.8
DOU Dourbes 89.15 326 P P 06 22 53.4 -0.6
comp=Z,41nm,1.5s
VLC Villacollemand 89.25 319 PFAKE 06 23 10.0 +15
VLC LR LR
comp=Z,20µm,22.0s
HINF Hinteralfeld 89.27 323 eP P 06 22 52.7 -2.1
comp=Z,98nm,0.8s
HINF Hinteralfeld 89.27 323 eP P 06 22 52.7 -2.1
HINF pmax pmax
comp=Z,98nm,0.8s
HINF Hinteralfeld 89.27 323 eP P 06 22 52.7 -2.1
comp=Z,98nm,0.8s
I03D Drain, OR 89.29 42 ⇑P P 06 22 53.8 -1.0
baz=89
BAIF Baives 89.37 326 eP P 06 22 53.3 -1.8
comp=Z,205nm,1.4s
BAIF Baives 89.37 326 eP P 06 22 53.3 -1.8
BAIF pmax pmax
comp=Z,205nm,1.4s
BAIF Baives 89.37 326 eP P 06 22 53.3 -1.8
comp=Z,205nm,1.4s
SAW Saint Andrews 89.38 37 P P 06 22 56.2 +1.0
EKA Eskdalemuir Ar 89.44 333 P P 06 22 54.6 -0.7
comp=Z,31nm,0.8s,baz=50,slow=5.6,SNR=33
EKA PP PP 06 26 20.1 -5.7
comp=Z,4.6nm,0.8s,baz=59,slow=8.5,SNR=3.8
HAU Haudompre 89.44 323 eP P 06 22 53.5 -2.0
comp=Z,177nm,0.9s
HAU eR
comp=Z,24µm,20.5s
HAU Haudompre 89.44 323 eP P 06 22 53.5 -2.0
HAU pmax pmax
comp=Z,177nm,0.9s
HAU Haudompre 89.44 323 eP P 06 22 53.5 -2.0
comp=Z,177nm,0.9s
LMK Market Rasen 89.44 330 eP P 06 22 54.3 -1.1
LMK AMB AMB 06 22 58.9
comp=Z,405nm,1.1s
LMK AMS AMS 07 08 16.3
comp=Z,35µm,17.1s
PAGF Fort de Pagny 89.46 324 eP P 06 22 54.1 -1.5
comp=Z,176nm,1.4s
PAGF Fort de Pagny 89.46 324 eP P 06 22 54.1 -1.5
comp=Z,176nm,1.4s
ESK Eskdalemuir 89.47 333 P P 06 22 55.4 0.0
comp=Z,325nm,1.1s,SNR=8.3
ESK Eskdalemuir 89.47 333 eP P 06 22 53.8 -1.7
ESK AMS AMS 07 08 33.3
comp=Z,12µm,18.1s
ESK Eskdalemuir 89.47 333 i P P 06 22 56.3 +0.9
ESK Eskdalemuir 89.47 333 eP P 06 22 55.0 -0.5
comp=Z,53nm,0.9s
ESK LR LR
comp=Z,15µm,20.0s
THEF They Montfort 89.51 324 eP P 06 22 55.1 -0.7
LOMF Lomont 89.55 323 eP P 06 22 54.4 -1.7
PGBU Glenifferbraes 89.66 334 AMS AMS 07 07 54.1
comp=Z,20µm,17.9s
G05D Wamic, OR 89.67 40 ⇓P P 06 22 55.6 -1.1
baz=90
HPK Haverah Park 89.70 331 eP P 06 22 55.9 -0.6
HPK AMS AMS 07 09 59.0
comp=Z,15µm,18.8s
SFJD Kangerlussuaq 89.75 358 P P 06 22 56.2 -0.3
SFJD 06 26 26.6
SFJD MLR MLR
comp=Z,18µm,20.0s
SFJD Kangerlussuaq 89.75 358 i P P 06 22 55.9 -0.6
comp=Z,50nm,0.8s
comp=Z,14µm,20.0s
SFJD Kangerlussuaq 89.75 358 P P 06 22 56.2 -0.3
comp=Z,54nm,0.8s,baz=9.1,slow=5.1,SNR=24
SFJD PP PP 06 26 26.6 -1.3
comp=Z,19nm,0.8s,baz=22,slow=10,SNR=5.2
SFJD Kangerlussuaq 89.75 358 P P 06 22 56.2 -0.3
SFJD PP PP 06 26 26.6 -1.3
SFJD LR LR
comp=Z,18µm,20.0s
I04A Tendick Farm, 89.81 41 ⇓P P 06 22 56.1 -1.3
baz=90
MEZF Maizieres J'vi 89.85 324 eP P 06 22 55.9 -1.5
comp=Z,607nm,1.5s
MEZF Maizieres J'vi 89.85 324 eP P 06 22 55.9 -1.5
comp=Z,607nm,1.5s
KESW Keswick, Cumbr 89.92 332 AMS AMS 07 08 15.1
comp=Z,17µm,19.5s
OD2 Odessa Site #2 89.94 37 P P 06 22 58.8 +0.9
L02D Cave Junction, 89.95 43 ⇓P P 06 22 56.8 -1.2
baz=90
CASY Casey 89.99 185 PFAKE 06 23 10.0 +13
CASY LR LR
comp=Z,2µm,19.0s
SFTF Sexfontaines 90.04 324 eP P 06 22 56.4 -1.9
comp=Z,643nm,1.4s
SFTF Sexfontaines 90.04 324 eP P 06 22 56.4 -1.9
comp=Z,643nm,1.4s
HAWA Hanford 90.05 38 eP P 06 22 59.5 +1.1
comp=Z,90nm,1.0s
HAWA LR LR
comp=Z,5µm,22.0s
LHO Holmfirth 90.08 331 eP P 06 22 57.6 -0.7
KBI1 Birley Grange 90.12 331 eP P 06 22 57.6 -0.9
I05D Terrebonne, OR 90.16 41 ⇑P P 06 22 57.7 -1.3
baz=90
OG01 Vacheresse 90.22 322 eP P 06 22 59.6 +0.3
ELSH Elham, Standar 90.24 328 AMS AMS 07 07 37.2
comp=Z,20µm,19.3s
NEW Newport 90.29 36 eP P 06 23 00.5 +1.0
NEW pmax pmax
comp=Z,189nm,1.0s
NEW Newport 90.29 36 LR LR 07 06 08.9
comp=Z,3µm,19.2s,baz=328,slow=37
NEW Newport 90.29 36 eP P 06 23 00.5 +1.0
comp=Z,189nm,1.0s
NEW Newport 90.29 36 ⇑P P 06 22 58.2 -1.3
baz=90
J04D Umpqua Nationa 90.30 42 ⇓P P 06 22 58.5 -1.3
baz=90
CABF La Chapelle 90.39 322 eP P 06 22 58.4 -1.7
comp=Z,249nm,1.3s
CABF La Chapelle 90.39 322 eP P 06 22 58.4 -1.7
CABF pmax pmax
comp=Z,249nm,1.3s
CABF La Chapelle 90.39 322 eP P 06 22 58.4 -1.7
comp=Z,249nm,1.3s
GAL1 Galloway 90.41 333 eP P 06 22 58.6 -1.2
GAL1 AMB AMB 06 23 03.2
comp=Z,60nm,1.0s
GAL1 AMS AMS 07 08 17.9
comp=Z,21µm,19.9s
STNC Stoke 90.53 331 eP P 06 22 58.7 -1.8
STNC AMB AMB 06 23 04.1
comp=Z,78nm,1.1s
STNC AMS AMS 07 09 08.4
comp=Z,20µm,15.9s
LPG La Plagne 90.66 321 eP P 06 23 00.3 -1.3
comp=Z,824nm,1.3s
LPG La Plagne 90.66 321 eP P 06 23 00.3 -1.3
LPG pmax pmax
comp=Z,824nm,1.3s
LPG La Plagne 90.66 321 eP P 06 23 00.3 -1.3
comp=Z,824nm,1.3s
LPL La Plagne 90.66 321 eP P 06 23 00.1 -1.4
comp=Z,713nm,1.3s
LPL La Plagne 90.66 321 eP P 06 23 00.1 -1.4
LPL pmax pmax
comp=Z,713nm,1.3s
LPL La Plagne 90.66 321 eP P 06 23 00.1 -1.4
comp=Z,713nm,1.3s
YBH Yreka Blue Hor 90.74 43 eP P 06 23 03.0 +1.2
YBH pmax pmax
comp=Z,35nm,1.1s
YBH Yreka Blue Hor 90.74 43 eP P 06 23 03.0 +1.2
comp=Z,35nm,1.1s
HMNX Herstmonceux 90.81 328 AMS AMS 07 10 42.8
comp=Z,17µm,21.1s
J05D Fort Rock, OR 90.81 41 ⇓P P 06 23 00.9 -1.3
baz=91
WDD Wield Dalam 90.82 310 PFAKE 06 23 10.0 +7.9
WDD LR LR
comp=Z,7µm,21.0s
M02C Callahan 90.83 44 ⇓P P 06 23 01.0 -1.2
baz=91
K04D Chiloquin, OR 90.85 42 ⇓P P 06 23 01.0 -1.3
baz=91
BNI Bardonecchia 90.96 321 eP P 06 23 02.2 -0.6
BNI pmax pmax
comp=Z,214nm,1.2s
BNI MLR MLR
comp=Z,24µm,20.0s
BNI Bardonecchia 90.96 321 eP P 06 23 02.2 -0.6
comp=Z,214nm,1.2s
BNI LR LR
comp=Z,24µm,20.0s
PGF Pioggiola 90.98 318 eP P 06 23 01.4 -1.5
comp=Z,603nm,1.3s
PGF Pioggiola 90.98 318 eP P 06 23 01.4 -1.5
PGF pmax pmax
comp=Z,603nm,1.3s
PGF Pioggiola 90.98 318 eP P 06 23 01.4 -1.5
comp=Z,603nm,1.3s
MBDF Montbardon 91.09 321 eP P 06 23 02.8 -0.6
comp=Z,188nm,1.3s
MBDF Montbardon 91.09 321 eP P 06 23 02.8 -0.6
MBDF pmax pmax
comp=Z,188nm,1.3s
MBDF Montbardon 91.09 321 eP P 06 23 02.8 -0.6
comp=Z,188nm,1.3s
FOEL Foel Wylfa 91.12 331 eP P 06 23 02.6 -0.6
FOEL AMB AMB 06 23 06.9
comp=Z,81nm,0.9s
AUTN L'Aution 91.12 320 eP P 06 23 04.7 +1.0
N02D Trinity Center 91.15 44 ⇑P P 06 23 02.6 -1.1
baz=91
WPM1 Penmaenmawr 91.17 332 eP P 06 23 02.5 -0.9
SBF Sospel 91.19 320 eP P 06 23 01.7 -2.1
comp=Z,516nm,1.4s
SBF Sospel 91.19 320 eP P 06 23 01.7 -2.1
SBF pmax pmax
comp=Z,516nm,1.4s
SBF Sospel 91.19 320 eP P 06 23 01.7 -2.1
comp=Z,516nm,1.4s
GDM Grand'Maison 91.20 321 eP P 06 23 03.7 -0.2
SURF Saint Ours 91.21 320 eP P 06 23 04.7 +0.7
TOUF Mont Tournerai 91.22 320 eP P 06 23 04.8 +0.7
HLM1 Long Mynd 91.22 331 eP P 06 23 02.7 -1.0
LUCF Luceram 91.23 320 eP P 06 23 04.3 +0.3
LOR Lormes 91.23 324 eP P 06 23 01.8 -2.1
comp=Z,293nm,1.5s
LOR eR
comp=Z,19µm,20.8s
LOR Lormes 91.23 324 eP P 06 23 01.8 -2.1
LOR pmax pmax
comp=Z,293nm,1.5s
LOR Lormes 91.23 324 eP P 06 23 01.8 -2.1
comp=Z,293nm,1.5s
WME Myndd Eilian 91.25 332 eP P 06 23 03.1 -0.7
M04C Macdoel 91.26 43 ⇑P P 06 23 02.9 -1.4
baz=91
WOL Wolverton 91.26 329 AMS AMS 07 08 37.8
comp=Z,33µm,19.8s
MVIF Mont Vial 91.34 320 eP P 06 23 05.6 +1.0
OSPF L'Ospedale 91.34 317 eP P 06 23 04.3 -0.3
WLF1 Llynfaes 91.37 332 eP P 06 23 03.7 -0.6
WLF1 AMS AMS 07 07 58.9
comp=Z,17µm,19.2s
YLL Llanberis 91.37 332 eP P 06 23 03.4 -1.0
GRN Grenoble 91.39 321 eP P 06 23 04.5 -0.2
STRD Stroud 91.39 330 eP P 06 23 03.5 -1.0
STRD AMB AMB 06 23 07.8
comp=Z,134nm,1.0s
SWN1 Swindon 91.40 329 AMS AMS 07 09 38.0
comp=Z,32µm,18.4s
WDC Whiskeytown Da 91.47 44 eP P 06 23 05.9 +0.8
WDC pmax pmax
comp=Z,76nm,1.4s
WDC Whiskeytown Da 91.47 44 eP P 06 23 05.9 +0.8
comp=Z,76nm,1.4s
YRC Rhoscolyn 91.47 332 eP P 06 23 04.2 -0.6
WALA Waterton Lakes 91.48 34 eP P 06 23 06.0 +0.9
comp=Z,5.3nm,1.1s
ORIF Oris-en-Rattie 91.50 321 eP P 06 23 03.8 -1.5
comp=Z,842nm,1.6s
ORIF eR
comp=Z,23µm,19.5s
ORIF Oris-en-Rattie 91.50 321 eP P 06 23 03.8 -1.5
ORIF pmax pmax
comp=Z,842nm,1.6s
ORIF Oris-en-Rattie 91.50 321 eP P 06 23 03.8 -1.5
comp=Z,842nm,1.6s
SSF Saint Saulge 91.55 324 eP P 06 23 03.3 -2.0
comp=Z,165nm,1.4s
SSF Saint Saulge 91.55 324 eP P 06 23 03.3 -2.0
SSF pmax pmax
comp=Z,165nm,1.4s
SSF Saint Saulge 91.55 324 eP P 06 23 03.3 -2.0
comp=Z,165nm,1.4s
YRE Yr Eifl 91.59 332 eP P 06 23 04.3 -1.1
SMF Signal de Mont 91.62 323 eP P 06 23 03.7 -2.0
comp=Z,672nm,1.4s
SMF Signal de Mont 91.62 323 eP P 06 23 03.7 -2.0
SMF pmax pmax
comp=Z,672nm,1.4s
SMF Signal de Mont 91.62 323 eP P 06 23 03.7 -2.0
comp=Z,672nm,1.4s
MCH1 Michaelchurch 91.63 330 eP P 06 23 04.7 -0.8
MCH1 AMB AMB 06 23 08.3
comp=Z,130nm,1.2s
MCH1 AMS AMS 07 09 25.3
comp=Z,28µm,17.1s
MONM Monmouth 91.65 330 eP P 06 23 04.8 -0.8
BSMT Bassoo Peak 91.78 35 eP P 06 23 07.2 +0.6
comp=Z,71nm,1.0s
BSMT ePP PP 06 26 44.6 -0.3
AVF Avril sur Loir 91.80 324 eP P 06 23 04.6 -1.9
comp=Z,548nm,1.5s
AVF Avril sur Loir 91.80 324 eP P 06 23 04.6 -1.9
AVF pmax pmax
comp=Z,549nm,1.5s
AVF Avril sur Loir 91.80 324 eP P 06 23 04.6 -1.9
comp=Z,548nm,1.5s
FRF La Foret Royal 91.83 320 eP P 06 23 04.9 -1.8
comp=Z,458nm,1.5s
FRF La Foret Royal 91.83 320 eP P 06 23 04.9 -1.8
FRF pmax pmax
comp=Z,458nm,1.5s
FRF La Foret Royal 91.83 320 eP P 06 23 04.9 -1.8
comp=Z,458nm,1.5s
HYF Humbligny 91.89 324 eP P 06 23 05.5 -1.4
HYF Humbligny 91.89 324 eP P 06 23 05.5 -1.4
BLMT Blacktail Moun 91.91 35 eP P 06 23 08.5 +1.3
comp=Z,96nm,1.2s
OG26 St.-Nazaire-De 92.03 321 eP P 06 23 07.3 -0.4
LPW Lampeter 92.03 331 eP P 06 23 06.2 -1.2
LPW AMS AMS 07 10 20.4
comp=Z,21µm,17.8s
LMR La Mourre 92.05 319 eP P 06 23 06.1 -1.6
comp=Z,616nm,1.4s
LMR La Mourre 92.05 319 eP P 06 23 06.1 -1.6
LMR pmax pmax
comp=Z,616nm,1.4s
LMR La Mourre 92.05 319 eP P 06 23 06.1 -1.6
comp=Z,616nm,1.4s
SSB Saint Sauveur 92.05 322 eP P 06 23 07.7 -0.1
SSB pmax pmax
comp=Z,220nm,1.3s
SSB MLR MLR
comp=Z,16µm,20.0s
SSB Saint Sauveur 92.05 322 eP P 06 23 07.3 -0.4
SSB Saint Sauveur 92.05 322 eP P 06 23 07.7 -0.1
comp=Z,220nm,1.3s
SSB LR LR
comp=Z,16µm,20.0s
JTMT Jette 92.11 35 eP P 06 23 09.2 +1.1
comp=Z,93nm,1.2s
MOD Modoc 92.15 42 eP P 06 23 09.4 +1.0
comp=Z,6.5nm,1.4s
MOD ePP PP 06 26 50.0 +2.0
PLDF La Plantade 92.15 323 eP P 06 23 08.4 +0.2
YBMT Yellow Bay 92.18 35 eP P 06 23 09.5 +1.1
comp=Z,50nm,0.9s
BGF Bois d'Agland 92.22 324 eP P 06 23 06.7 -1.7
comp=Z,309nm,1.7s
BGF Bois d'Agland 92.22 324 eP P 06 23 06.7 -1.7
BGF pmax pmax
comp=Z,309nm,1.7s
BGF Bois d'Agland 92.22 324 eP P 06 23 06.7 -1.7
comp=Z,309nm,1.7s
BMO Blue Mountains 92.22 39 eP P 06 23 09.1 +0.5
comp=Z,83nm,1.0s
BMO LR LR
comp=Z,4µm,19.0s
SMRF Simiane la Rot 92.23 320 eP P 06 23 07.3 -1.3
comp=Z,384nm,1.4s
SMRF Simiane la Rot 92.23 320 eP P 06 23 07.3 -1.3
comp=Z,384nm,1.4s
VIVF Saint-Julien-l 92.23 322 eP P 06 23 06.9 -1.7
comp=Z,607nm,1.3s
VIVF Saint-Julien-l 92.23 322 eP P 06 23 06.9 -1.7
VIVF pmax pmax
comp=Z,607nm,1.3s
VIVF Saint-Julien-l 92.23 322 eP P 06 23 06.9 -1.7
comp=Z,607nm,1.3s
DSB Dublin 92.25 333 eP P 06 23 07.9 -0.5
comp=Z,61nm,1.0s
FCC Fort Churchill 92.34 19 eP P 06 23 08.2 -0.4
FCC pmax pmax
comp=Z,12nm,0.9s
FCC Fort Churchill 92.34 19 eP P 06 23 08.2 -0.4
comp=Z,12nm,0.9s
AGO Saint Agoulin 92.37 323 eP P 06 23 09.3 +0.1
COLF Collangettes 92.39 322 eP P 06 23 10.0 +0.7
VSL Villasalto 92.41 315 eP P 06 23 10.0 +0.5
comp=Z,203nm,1.3s
VSL LR LR
comp=Z,7µm,20.0s
SWMT Swartz Lake 92.41 35 eP P 06 23 10.3 +0.9
comp=Z,80nm,1.1s
LDF La Druitiere 92.50 326 eP P 06 23 07.3 -2.4
comp=Z,80nm,1.1s
LDF La Druitiere 92.50 326 eP P 06 23 07.3 -2.4
LDF pmax pmax
comp=Z,81nm,1.1s
LDF La Druitiere 92.50 326 eP P 06 23 07.3 -2.4
comp=Z,80nm,1.1s
FLN La Foliniere 92.57 327 eP P 06 23 08.4 -1.6
comp=Z,50nm,1.0s
FLN eR
comp=Z,33µm,20.5s
FLN La Foliniere 92.57 327 eP P 06 23 08.4 -1.6
FLN pmax pmax
comp=Z,50nm,1.0s
FLN La Foliniere 92.57 327 eP P 06 23 08.4 -1.6
comp=Z,50nm,1.0s
PYM Petit Puy Mans 92.62 323 eP P 06 23 10.2 -0.2
HEX Exmoor 92.63 330 eP P 06 23 09.1 -1.2
MIR Mirnyy 92.65 192 ⇑iP P 06 23 21.0 +11
MIR i 06 26 58.0
MIR i 06 40 28.0
MIR pmax pmax
comp=Z,2µm,6.0s
MIR MLR MLR
comp=N,2µm,18.0s
MIR MLR MLR
comp=E,3µm,18.0s
MIR MLR MLR
comp=Z,6µm,18.0s
TCF Toulx Ste Croi 92.73 324 eP P 06 23 09.4 -1.4
comp=Z,323nm,1.5s
TCF Toulx Ste Croi 92.73 324 eP P 06 23 09.4 -1.4
TCF pmax pmax
comp=Z,323nm,1.5s
TCF Toulx Ste Croi 92.73 324 eP P 06 23 09.4 -1.4
comp=Z,323nm,1.5s
LBL Lubilhac 92.81 322 eP P 06 23 11.7 +0.4
SLMT Seeley Lake 92.85 35 eP P 06 23 12.2 +0.6
comp=Z,424nm,0.5s
WVOR Wild Horse Val 92.86 41 eP P 06 23 12.6 +0.9
WVOR pmax pmax
comp=Z,92nm,1.3s
WVOR MLR MLR
comp=Z,4µm,20.0s
WVOR Wild Horse Val 92.86 41 eP P 06 23 12.6 +0.9
comp=Z,92nm,1.3s
WVOR ePP PP 06 26 45.4 -8.1
WVOR LR LR
comp=Z,4µm,20.0s
MSO Missoula 92.87 35 ⇑P P 06 23 10.4 -1.2
baz=93
FFC Flin Flon 92.88 25 P P 06 23 11.0 -0.3
comp=Z,1µm,0.7s,SNR=69
FFC Flin Flon 92.88 25 eP P 06 23 11.3 0.0
FFC e 06 26 52.5
FFC pmax pmax
comp=Z,103nm,0.6s
FFC MLR MLR
comp=Z,8µm,20.0s
FFC Flin Flon 92.88 25 eP P 06 23 11.3 0.0
comp=Z,104nm,0.6s
FFC ePP PP 06 26 52.5 -0.5
FFC LR LR
comp=Z,8µm,20.0s
HTL Hartland 93.00 330 AMS AMS 07 10 43.2
comp=Z,38µm,17.7s
GRR Gorron 93.00 327 eP P 06 23 09.7 -2.3
comp=Z,132nm,1.4s
GRR Gorron 93.00 327 eP P 06 23 09.7 -2.3
GRR pmax pmax
comp=Z,132nm,1.4s
GRR Gorron 93.00 327 eP P 06 23 09.7 -2.3
comp=Z,132nm,1.4s
FRNF Fournols 93.10 323 eP P 06 23 12.7 +0.1
DYA Yadsworthy 93.12 330 AMS AMS 07 10 13.3
comp=Z,32µm,17.9s
JSA Saint Aubin 93.13 328 AMS AMS 07 09 28.6
comp=Z,22µm,20.2s
LASF Ste Croix 93.16 321 eP P 06 23 11.6 -1.3
comp=Z,615nm,1.4s
LASF Ste Croix 93.16 321 eP P 06 23 11.6 -1.3
comp=Z,615nm,1.4s
CHMT Chamberlain Mo 93.18 35 eP P 06 23 13.5 +0.4
comp=Z,50nm,0.9s
CAF Calviac 93.66 323 eP P 06 23 14.1 -1.1
comp=Z,517nm,1.3s
CAF Calviac 93.66 323 eP P 06 23 14.1 -1.1
CAF pmax pmax
comp=Z,517nm,1.3s
CAF Calviac 93.66 323 eP P 06 23 14.1 -1.1
comp=Z,517nm,1.3s
RJF Les Rejaudoux 93.72 323 eP P 06 23 14.4 -1.0

comp=Z,652nm,1.4s
RJF eR
comp=Z,20µm,20.5s
RJF Les Rejaudoux 93.72 323 eP P 06 23 14.4 -1.0
RJF pmax pmax
comp=Z,652nm,1.4s
RJF Les Rejaudoux 93.72 323 eP P 06 23 14.4 -1.0
comp=Z,652nm,1.4s
MFF Saint Martin d 93.80 325 eP P 06 23 13.6 -2.1
comp=Z,211nm,1.6s
MFF Saint Martin d 93.80 325 eP P 06 23 13.6 -2.1
MFF pmax pmax
comp=Z,211nm,1.6s
MFF Saint Martin d 93.80 325 eP P 06 23 13.6 -2.1
comp=Z,211nm,1.6s
MFID Camas Ranch 93.94 39 eP P 06 23 17.2 +0.6
comp=Z,103nm,1.0s
PPT Papeete 93.94 107 LR LR 06 57 27.7
comp=Z,7µm,21.8s,baz=277,slow=30
SGMF Saint Gilles 93.94 327 eP P 06 23 13.9 -2.4
comp=Z,85nm,0.9s
SGMF Saint Gilles 93.94 327 eP P 06 23 13.9 -2.4
SGMF pmax pmax
comp=Z,85nm,0.9s
SGMF Saint Gilles 93.94 327 eP P 06 23 13.9 -2.4
comp=Z,85nm,0.9s
PPT2 Papeete2 93.95 107 eS S 06 34 18.2 -8.1
comp=Z,10µm,25.5s
PPT2 eSS SS 06 40 39.2 -7.2
comp=Z,4µm,25.8s
PPT2 eLQ LQ 06 49 16.8
comp=Z,16µm,34.0s
PPT2 eLR LR 06 53 25.1
comp=Z,19µm,22.8s,baz=294
HRY Holter Researc 94.06 35 eP P 06 23 17.8 +0.7
comp=Z,28nm,0.7s
A19A Klindworth Far 94.13 32 ⇓P P 06 23 15.9 -1.4
baz=94,SNR=22
ROSF Rostrenen 94.24 328 eP P 06 23 15.4 -2.3
comp=Z,200nm,1.4s
ROSF Rostrenen 94.24 328 eP P 06 23 15.4 -2.3
ROSF pmax pmax
comp=Z,200nm,1.4s
ROSF Rostrenen 94.24 328 eP P 06 23 15.4 -2.3
comp=Z,200nm,1.4s
EGMT Eagleton 94.25 33 eP P 06 23 18.2 +0.3
comp=Z,42nm,0.8s
EGMT LR LR
comp=Z,5µm,20.0s
EGMT Eagleton 94.25 33 ⇓P P 06 23 16.5 -1.3
baz=94,SNR=33
CMB Columbia Colle 94.27 45 eP P 06 23 18.4 +0.3
CMB pmax pmax
comp=Z,49nm,1.0s
CMB Columbia Colle 94.27 45 eP P 06 23 18.4 +0.3
comp=Z,49nm,1.0s
LRM Limekiln Ridge 94.31 36 eP P 06 23 19.2 +0.8
comp=Z,632nm,1.1s
LFF La Frestale 94.38 323 eP P 06 23 17.5 -0.9
comp=Z,502nm,1.7s
LFF La Frestale 94.38 323 eP P 06 23 17.5 -0.9
LFF pmax pmax
comp=Z,502nm,1.7s
LFF La Frestale 94.38 323 eP P 06 23 17.5 -0.9
comp=Z,502nm,1.7s
QUIF Quistinic 94.47 327 eP P 06 23 16.1 -2.6
comp=Z,61nm,0.9s
QUIF Quistinic 94.47 327 eP P 06 23 16.1 -2.6
QUIF pmax pmax
comp=Z,61nm,0.9s
QUIF Quistinic 94.47 327 eP P 06 23 16.1 -2.6
comp=Z,61nm,0.9s
KEST Kesra 94.48 312 P P 06 23 19.3 +0.1
comp=Z,16nm,1.0s,baz=117,slow=8.5,SNR=16
KEST LR LR 07 10 50.5
comp=Z,3µm,21.7s,baz=328,slow=39
KEST Kesra 94.48 312 eP P 06 23 18.8 -0.4
MTLF Montolieu 94.55 321 eP P 06 23 18.0 -1.3
comp=Z,376nm,1.4s
MTLF Montolieu 94.55 321 eP P 06 23 18.0 -1.3
MTLF pmax pmax
comp=Z,376nm,1.4s
MTLF Montolieu 94.55 321 eP P 06 23 18.0 -1.3
comp=Z,376nm,1.4s
A20A Cobblestone Ra 94.56 31 ⇑P P 06 23 17.9 -1.3
baz=94,SNR=34
WAKR Walker 94.62 45 eP P 06 23 20.5 +0.6
comp=Z,26nm,0.9s
HLID Hailey 94.66 38 eP P 06 23 20.9 +0.9
comp=Z,68nm,1.2s
HLID LR LR
comp=Z,6µm,20.0s
HLID Hailey 94.66 38 ⇑P P 06 23 18.7 -1.2
baz=94,SNR=80
MCMT McKenzie Canyo 94.73 37 eP P 06 23 20.9 +0.5
comp=Z,8.4nm,0.9s
MCMT ePP PP 06 27 08.9 +0.8
C19A Slack Wire Ran 94.80 33 ⇓P P 06 23 19.6 -0.7
baz=94,SNR=54
B20A Solberg Farm, 94.81 32 ⇓P P 06 23 19.4 -1.1
baz=95,SNR=20
VAL Valentia 94.81 333 eP P 06 23 22.2 +2.0
VAL ePPS PPS 06 35 58.3
BOZ Bozeman (W) 94.86 35 eP P 06 23 21.4 +0.6
BOZ pmax pmax
comp=Z,22nm,0.8s
BOZ MLR MLR
comp=Z,7µm,20.0s
BOZ Bozeman (W) 94.86 35 eP P 06 23 21.4 +0.6
comp=Z,22nm,0.8s
BOZ LR LR
comp=Z,7µm,20.0s
BMN Battle Mountai 94.90 42 eP P 06 23 20.8 -0.3
BMN pmax pmax
comp=Z,56nm,1.1s
BMN Battle Mountai 94.90 42 eP P 06 23 20.8 -0.3
comp=Z,56nm,1.1s
CRZF Crozet Islands 95.02 221 P P 06 23 14.0 -7.1
CRZF PP PKiKP 06 27 52.0 -11
CRZF SKS S 06 33 48.0 -46
CRZF SS SS 06 40 41.0 -20
CRZF L L 06 49 00.0
CRZF R 06 55 00.0
D19A Cripps Ranch, 95.27 33 ⇑P P 06 23 21.1 -1.5
baz=95,SNR=49
B21A Ellsworth Farm 95.30 31 ⇓P P 06 23 21.4 -1.2
baz=95
C20A Veseth Ranch, 95.32 32 ⇓P P 06 23 21.9 -0.8
baz=95,SNR=41
NVAR Mina Array Bea 95.39 44 P P 06 23 24.4 +0.9
comp=Z,30nm,0.9s,baz=284,slow=4.8,SNR=46
NVAR PP PP 06 27 12.4 -1.1
comp=Z,4.4nm,1.0s,baz=285,slow=7.1,SNR=3.8
NVAR LR LR 07 01 03.2
comp=Z,2µm,21.1s,baz=53,slow=32
A22A Carney Farms, 95.42 30 ⇑P P 06 23 21.7 -1.5
baz=95,SNR=35
MLS Moulis 95.44 322 eP P 06 23 23.4 +0.1
NV11 Mina Array Sit 95.48 44 eP P 06 23 24.2 +0.4
QLMT Earthquake Lak 95.50 36 eP P 06 23 24.7 +0.9
comp=Z,3.7nm,1.1s
MLAC Mammoth Lakes 95.51 45 ⇑P P 06 23 22.3 -1.7
baz=95,SNR=7.6
C21A Desert Coulee 95.69 32 ⇓P P 06 23 22.9 -1.5
baz=95,SNR=7.4
D20A Manuel Ranch, 95.69 33 ⇓P P 06 23 23.1 -1.4
baz=95,SNR=23
E19A Rath Farm, Rou 95.79 33 ⇑P P 06 23 23.5 -1.4
baz=96,SNR=15
EPF Esparros 95.82 322 eP P 06 23 23.4 -1.7
comp=Z,184nm,1.6s
EPF Esparros 95.82 322 eP P 06 23 23.4 -1.7
EPF pmax pmax
comp=Z,184nm,1.6s
EPF Esparros 95.82 322 eP P 06 23 23.4 -1.7
comp=Z,184nm,1.6s
YMR Madison River 95.86 36 eP P 06 23 26.1 +0.6
comp=Z,29nm,1.0s
B22A Reddig Ranch S 95.88 31 ⇑P P 06 23 24.3 -1.0
baz=96
A23A Redstone 95.92 30 ⇑P P 06 23 23.6 -1.8
baz=96
RESF Ens 95.96 322 eP P 06 23 25.9 +0.1
RCTC Rector, Farmer 95.99 46 ⇑P P 06 23 25.0 -1.0
baz=96
SMMC Simmler 96.05 47 ⇑P P 06 23 25.3 -1.0
baz=96

YFT Old Faithful 96.07 36 eP P 06 23 28.5 +2.0
comp=Z,43nm,1.0s
YFT ePP PP 06 27 16.9 -1.6
VIEF Viey 96.09 322 eP P 06 23 26.2 -0.2
E20A Meyer Farm, Mu 96.09 33 ⇑P P 06 23 25.7 -0.6
baz=96,SNR=7.9
F19A Roth Farm, Mol 96.13 34 ⇑P P 06 23 24.9 -1.7
baz=96
B23A Brockton 96.23 30 ⇑P P 06 23 25.5 -1.3
baz=96,SNR=17
TIN Tinemaha 96.23 45 ⇑P P 06 23 26.1 -1.1
baz=96
H17A Grant Village 96.25 36 eP P 06 23 29.4 +2.1
comp=Z,45nm,1.0s
H17A Grant Village 96.25 36 ⇑P P 06 23 26.0 -1.3
baz=96,SNR=15
D21A La Casta Ranch 96.27 32 ⇑P P 06 23 26.3 -0.8
baz=96,SNR=27
TPH Tonopah 96.29 44 eP P 06 23 28.2 +0.6
TPH pmax pmax
comp=Z,40nm,1.0s
TPH Tonopah 96.29 44 eP P 06 23 28.2 +0.6
comp=Z,40nm,1.0s
C22A Vida 96.32 31 ⇑P P 06 23 25.7 -1.5
baz=96,SNR=15
A24A Westby 96.34 29 ⇑P P 06 23 26.0 -1.4
baz=96,SNR=7.2
VES Vestal, Richgr 96.36 47 ⇑P P 06 23 26.9 -0.8
baz=96
ETSF Etsaut 96.41 322 eP P 06 23 25.5 -2.3
comp=Z,105nm,1.3s
ETSF Etsaut 96.41 322 eP P 06 23 25.5 -2.3
ETSF pmax pmax
comp=Z,105nm,1.3s
ETSF Etsaut 96.41 322 eP P 06 23 25.5 -2.3
comp=Z,105nm,1.3s
RLMT Red Lodge 96.45 35 eP P 06 23 28.7 +0.6
comp=Z,5.0nm,1.9s
RLMT ePP PP 06 27 19.4 -2.0
RLMT LR LR
comp=Z,7µm,22.0s
H18A Shoshone NF, C 96.55 35 ⇑P P 06 23 27.6 -1.1
baz=96
I17A Pilgrim Ck. 96.56 36 ⇓P P 06 23 27.7 -1.0
baz=96,SNR=8.5
F20A Billings 96.57 34 ⇓P P 06 23 27.7 -0.9
baz=96
DGMT Dagmar 96.59 30 eP P 06 23 28.4 -0.1
comp=Z,53nm,0.9s
DGMT LR LR
comp=Z,11µm,20.0s
DGMT Dagmar 96.59 30 ⇓P P 06 23 28.1 -0.4
baz=96,SNR=8.9
E21A Keefer Ranch, 96.59 33 ⇓P P 06 23 27.8 -0.8
baz=96
D22A Cohagen 96.60 32 ⇓P P 06 23 28.3 -0.3
baz=96,SNR=5.5
C23A Lambert 96.61 31 ⇓P P 06 23 27.7 -0.9
baz=96
SJPF Ste Jean 96.64 323 eP P 06 23 26.5 -2.3
comp=Z,149nm,1.5s
SJPF Ste Jean 96.64 323 eP P 06 23 26.5 -2.3
SJPF pmax pmax
comp=Z,149nm,1.5s
SJPF Ste Jean 96.64 323 eP P 06 23 26.5 -2.3
comp=Z,149nm,1.5s
HVU Hansel Valley 96.72 39 eP P 06 23 29.5 +0.1
HVU Hansel Valley 96.72 39 eP P 06 23 29.5 +0.1
SBC Santa Barbara 96.73 48 ⇑P P 06 23 29.2 -0.1
baz=97
A25A Svangstu Ranch 96.73 29 ⇑P P 06 23 28.6 -0.5
baz=96
GRAC Grapevine Rang 96.82 45 ⇓P P 06 23 29.6 -0.2
baz=97
ISA Isabella 96.87 46 eP P 06 23 30.0 -0.1
ISA pmax pmax
comp=Z,4.0nm,0.3s
ISA Isabella 96.87 46 eP P 06 23 30.0 -0.1
comp=Z,4.0nm,0.3s
ISA Isabella 96.87 46 ⇑P P 06 23 29.4 -0.7
baz=97
H19A Powell 96.91 35 ⇓P P 06 23 29.1 -1.1
baz=97
LAO LASA Array 96.91 32 eP P 06 23 30.7 +0.7
comp=Z,35nm,1.0s
LAO ePP PP 06 27 23.1 -1.5
LAO LR LR
comp=Z,10µm,20.0s
G20A Bridger 96.93 34 ⇓P P 06 23 29.4 -0.8
baz=97
ARVC Arvin 96.94 47 ⇓P P 06 23 29.1 -1.1
baz=97
AHID Auburn Hatcher 97.03 37 eP Pdif 06 23 33.4 +2.5
comp=Z,18nm,1.2s
AHID ePP PP 06 27 25.5 -0.5
AHID LR LR
comp=Z,5µm,19.0s
D23A Lindsay 97.05 31 ⇓P P 06 23 29.5 -1.2
baz=97
F21A Absaloka Mine, 97.07 33 ⇓P P 06 23 29.3 -1.5
baz=97
DAC Darwin (Calif) 97.10 46 eP Pdif 06 23 31.8 +0.4
DAC pmax pmax
comp=Z,23nm,1.0s
DAC Darwin (Calif) 97.10 46 eP Pdif 06 23 31.8 +0.5
comp=Z,24nm,1.0s
R11A Troy Canyon, C 97.16 43 eP Pdif 06 23 31.5 0.0
comp=Z,12nm,0.9s
R11A ePP PP 06 27 26.5 -0.6
R11A Troy Canyon, C 97.16 43 ⇑P P 06 23 30.6 -0.9
baz=97
C24A Savage 97.16 31 ⇓P P 06 23 29.4 -1.7
baz=97
B25A Knox Farm, Ray 97.20 29 ⇓P P 06 23 30.3 -1.0
baz=97
E22A Miles City 97.22 32 ⇑P P 06 23 30.1 -1.3
baz=97,SNR=5.8
A26A Wade Farm, Ken 97.24 28 ⇑P P 06 23 30.0 -1.3
baz=97
I19A Meeteetse 97.33 35 ⇓P P 06 23 30.8 -1.4
baz=97
G21A Lodge Grass 97.44 34 ⇓P P 06 23 31.0 -1.5
baz=97
FURC Furnace Creek, 97.47 45 ⇓P P 06 23 31.8 -0.8
baz=97
LRMC Laurel Mountai 97.50 46 ⇑P P 06 23 31.3 -1.7
baz=97
D24A Glendive 97.51 31 ⇑P P 06 23 31.7 -1.0
baz=97,SNR=7.0
F22A Rosebud 97.53 33 ⇑P P 06 23 32.0 -0.9
baz=97
B26A Jensen Ranch, 97.54 29 ⇑P P 06 23 31.8 -1.0
baz=97
A27A Ledoux Ranch, 97.54 28 ⇑P P 06 23 31.8 -0.9
baz=97
H20A Greybull 97.55 35 ⇑P P 06 23 31.9 -1.0
baz=97
C25A Freed Ranch, W 97.57 30 ⇑P P 06 23 32.4 -0.5
baz=97,SNR=5.4
EDW2 Edwards Air Fo 97.65 47 ⇓P P 06 23 31.7 -1.9
baz=98
DUG Dugway 97.70 40 eP Pdif 06 23 34.6 +0.7
DUG pmax pmax
comp=Z,29nm,1.2s
DUG MLR MLR
comp=Z,6µm,19.0s
DUG Dugway 97.70 40 eP Pdif 06 23 34.6 +0.7
comp=Z,29nm,1.2s
DUG LR LR
comp=Z,6µm,19.0s
DUG Dugway 97.70 40 ⇑P P 06 23 31.6 -2.2
baz=98
DECC Green Verdugo 97.78 48 ⇑P P 06 23 32.8 -1.3
baz=98
J19A Crowheart 97.82 36 ⇑P P 06 23 33.0 -1.4
baz=98,SNR=12
I20A Worland 97.85 35 ⇑P P 06 23 33.2 -1.2
baz=98
BW06 Boulder Array 97.88 37 eP Pdif 06 23 34.8 +0.1
comp=Z,4.8nm,0.8s
BW06 LR LR
comp=Z,5µm,19.0s
PDAR Pinedale Array 97.88 37 P P 06 23 34.6 -0.1
comp=Z,3.3nm,0.7s,baz=58,slow=0.4,SNR=21
PDAR PP PP 06 27 31.6 -0.9
comp=Z,11nm,1.0s,baz=306,slow=4.6,SNR=5.1
PDAR PKKPbc PKKPbc 06 40 08.2 -1.3
comp=Z,1.3nm,0.9s,baz=132,slow=2.2,SNR=4.8

G22A Birney 97.91 33 ⇓P P 06 23 32.7 -1.9
baz=98
E24A Baker 97.92 31 ⇓P P 06 23 33.1 -1.5
baz=98
H21A Big Horn, Sher 97.94 34 ⇓P P 06 23 33.1 -1.7
baz=98
B27A Peters Farms, 97.95 28 ⇑P P 06 23 33.0 -1.5
baz=98
D25A Fairfield 97.95 30 ⇓P P 06 23 33.5 -1.2
baz=98
A28A Rude Farm, Bot 97.99 28 ⇓P P 06 23 33.2 -1.6
baz=98,SNR=8.0
F23A Volborg 98.00 32 ⇓P P 06 23 33.3 -1.6
baz=98,SNR=6.0
C26A Wahner Farm, P 98.01 29 ⇓P P 06 23 33.2 -1.7
baz=98
SHOC Shoshone 98.18 45 ⇓P P 06 23 34.6 -1.3
baz=98
GSC Goldstone 98.19 46 eP P 06 23 36.0 0.0
GSC pmax pmax
comp=Z,24nm,1.1s
GSC Goldstone 98.19 46 eP P 06 23 36.0 0.0
comp=Z,24nm,1.1s
GSC Goldstone 98.19 46 ⇓P P 06 23 34.2 -1.9
baz=98
JLU Jordanelle 98.24 39 eP Pdif 06 23 36.6 +0.1
comp=Z,20nm,1.3s
BFSC Mount Baldy Ra 98.24 47 ⇓P P 06 23 35.3 -1.0
baz=98
J20A Shoshoni 98.28 35 ⇑P P 06 23 34.3 -2.1
baz=98
B28A Dugan Ranch, T 98.30 28 ⇑P P 06 23 34.6 -1.6
baz=98
H22A Clearmont 98.32 34 ⇓P P 06 23 34.3 -2.1
baz=98
C27A Sayler Ranch, 98.36 29 ⇑P P 06 23 34.7 -1.8
baz=98
G23A Biddle 98.37 33 ⇑P P 06 23 35.0 -1.6
baz=98
F24A Ekalaka 98.37 32 ⇑P P 06 23 35.0 -1.7
baz=98
I21A Big Trails, Te 98.38 35 ⇑P P 06 23 34.6 -2.2
baz=98
E25A Miller Ranch, 98.39 31 ⇑P P 06 23 34.6 -2.1
baz=98
A29A Manning Farm, 98.42 27 ⇑P P 06 23 35.6 -1.1
baz=98
D26A Manning 98.45 30 ⇓P P 06 23 35.6 -1.3
baz=98
DAU Daniels Canyon 98.48 39 eP Pdif 06 23 37.6 +0.1
DAU pmax pmax
comp=Z,22nm,1.3s
DAU Daniels Canyon 98.48 39 eP Pdif 06 23 37.6 +0.1
comp=Z,22nm,1.3s
SHPR Sheep Range 98.54 44 eP Pdif 06 23 39.0 +1.3
comp=Z,24nm,1.2s
J21A Lysite 98.62 35 ⇓P P 06 23 37.0 -0.9
baz=98
ULM Lac du Bonnet 98.70 24 P P 06 23 37.2 -0.7
ULM pmax pmax
comp=Z,10.0nm,0.9s
ULM Lac du Bonnet 98.70 24 P P 06 23 37.2 -0.7
comp=Z,17nm,0.8s,baz=327,slow=4.9,SNR=8.0
ULM LR LR 07 14 07.5
comp=Z,9µm,19.0s,baz=340,slow=39
ULM Lac du Bonnet 98.70 24 P P 06 23 37.2 -0.7
comp=Z,10.0nm,0.9s
B29A Wagenman Farm, 98.72 27 ⇓P P 06 23 36.3 -1.7
baz=98
BBRC Big Bear Solar 98.72 47 ⇓P P 06 23 37.0 -1.7
baz=98
I22A 9 Mile Ranch, 98.75 34 ⇓P P 06 23 37.7 -0.7
baz=98
G24A Alzada 98.76 32 ⇓P P 06 23 37.8 -0.7
baz=98
HEC Hector,Ludlow 98.78 46 ⇑P P 06 23 36.9 -1.8
baz=99
A30A Hoffart Farm, 98.79 27 ⇑P P 06 23 36.8 -1.5
baz=98
F25A Bowman 98.79 31 ⇓P P 06 23 36.8 -1.6
baz=98
D27A Center 98.81 29 ⇑P P 06 23 37.1 -1.4
baz=98
ARUT Antelope Range 98.84 42 eP Pdif 06 23 39.3 +0.3
ARUT pmax pmax
comp=Z,183nm,1.0s
ARUT Antelope Range 98.84 42 eP Pdif 06 23 39.3 +0.3
comp=Z,183nm,1.0s
C28A Hausauer Farms 98.85 28 ⇑P P 06 23 37.0 -1.7
baz=99
E26A Carlson Angus 98.85 30 ⇓P P 06 23 37.1 -1.6
baz=99
MURC Murrieta 98.92 48 ⇑P P 06 23 37.6 -1.7
baz=99
J22A Midwest 99.08 35 ⇑P Pdif 06 23 38.6 -1.3
baz=99,SNR=5.9
H24A Dirks Ranch, A 99.11 33 ⇑P Pdif 06 23 38.6 -1.4
baz=99
MVU Marysvale 99.14 41 eP Pdif 06 23 41.8 +1.4
comp=Z,13nm,1.0s
B30A Myrvik Farm, E 99.16 27 ⇓P Pdif 06 23 38.8 -1.2
baz=99
D28A Regan 99.17 29 ⇑P Pdif 06 23 38.5 -1.6
baz=99
F26A Lodgepole 99.22 31 ⇓P Pdif 06 23 39.2 -1.2
baz=99
K21A Alcova 99.22 35 ⇓P Pdif 06 23 38.5 -2.2
baz=99
GMRC Granite Mounta 99.25 46 ⇑P Pdif 06 23 39.6 -1.3
baz=99
E27A Carson 99.30 30 ⇑P Pdif 06 23 38.4 -2.3
baz=99
G25A Newell 99.34 32 ⇓P Pdif 06 23 39.7 -1.3
baz=99
PFO Pinyon Flat Ob 99.42 47 P Pdif 06 23 41.5 -0.1
PFO pmax pmax
comp=Z,38nm,1.5s
PFO MLR MLR
comp=Z,8µm,20.0s
PFO Pinyon Flat Ob 99.42 47 Pdif Pdif 06 23 41.5 -0.1
comp=Z,38nm,1.5s
PFO LR LR
comp=Z,8µm,20.0s
F27A Lemmon 99.50 30 ⇑P Pdif 06 23 39.8 -1.8
baz=99
E28A Huff 99.58 29 ⇑P Pdif 06 23 40.2 -1.7
baz=99
K22A Casper 99.59 35 ⇓P Pdif 06 23 41.0 -1.3
baz=99
G26A Maurine 99.66 31 ⇓P Pdif 06 23 40.6 -1.8
baz=99
H25A Fruitdale 99.67 32 ⇑P Pdif 06 23 40.1 -2.4
baz=99
C30A Mose, Pekin 99.68 27 ⇓P Pdif 06 23 40.4 -1.9
baz=99
D29A Pettibone, Tap 99.70 28 ⇑P Pdif 06 23 40.6 -1.9
baz=99
I24A Kuemmerle Ranc 99.72 33 ⇓P Pdif 06 23 40.3 -2.4
baz=100
SRU San Rafael 99.75 40 eP Pdif 06 23 43.7 +0.6
SRU pmax pmax
comp=Z,14nm,1.1s
SRU San Rafael 99.75 40 ePdif Pdif 06 23 43.7 +0.6
comp=Z,14nm,1.1s
RSSD Black Hills 99.82 33 eP Pdif 06 23 43.5 +0.2
RSSD pmax pmax
comp=Z,9.0nm,0.8s
RSSD Black Hills 99.82 33 ePdif Pdif 06 23 43.5 +0.2
comp=Z,8.8nm,0.8s
N20A Spence Gulch, 99.90 37 ⇓P Pdif 06 23 41.8 -1.9
baz=100
G27A Dupree 99.92 31 ⇓P Pdif 06 23 42.2 -1.3
baz=100
IRM Iron Mountain 99.96 46 ⇑P Pdif 06 23 42.1 -1.9
baz=100
K23A Bowen Ranch, D 99.99 35 ⇓P Pdif 06 23 42.7 -1.4
baz=100
D30A Buchanan 100.03 28 ⇓P Pdif 06 23 42.7 -1.2
baz=100
I25A Rochford 100.05 33 ⇓P Pdif 06 23 42.0 -2.3
baz=100
E29A Napoleon 100.06 29 ⇓P Pdif 06 23 42.7 -1.4
baz=100
L22A Ellis Ranch, M 100.07 36 ⇑P Pdif 06 23 42.1 -2.4
baz=100
H26A Fairpoint 100.08 32 ⇑P Pdif 06 23 42.9 -1.4
baz=100
W13A Hualapai Mount 100.22 45 ⇓P Pdif 06 23 43.9 -1.4

baz=100
AGMN Agassiz Nation 100.28 26 PFAKE 06 24 00.0 +15
AGMN LR LR
comp=Z,12μm,19.0s
AGMN Agassiz Nation 100.28 26 ⇑P Pdif 06 23 43.9 -1.1
baz=100
O20A White River Ci 100.38 38 ⇓P Pdif 06 23 44.4 -1.5
baz=100
H27A Howes 100.40 31 ⇓P Pdif 06 23 44.4 -1.2
baz=100
L23A Garrett 100.40 35 ⇑P Pdif 06 23 43.9 -2.0
baz=100
U15A North Rim 100.40 43 ⇓P Pdif 06 23 44.5 -1.7
baz=100
M22A Cedar Creek Ra 100.42 36 ⇑P Pdif 06 23 44.3 -1.8
baz=100
E30A Jud 100.43 28 ⇑P Pdif 06 23 44.3 -1.4
baz=100
ESDC Sonseca Array 100.46 322 P Pdif 06 23 45.8 -0.2
comp=Z,0.9nm,0.6s,baz=27,slow=4.7,SNR=8.7
ESDC PP PP 06 27 49.0 -3.0
comp=Z,8.9nm,0.8s,baz=50,slow=7.8,SNR=13
ESDC PKKPbc PKKPdf 06 40 08.8 +2.7
comp=Z,0.9nm,0.9s,baz=297,slow=2.1,SNR=5.0
J25A Sunshine Ranch 100.47 33 ⇓P Pdif 06 23 44.7 -1.3
baz=100
PBRG Braganca 100.53 325 ePdif Pdif 06 23 45.8 -0.5
PBRG Braganca 100.53 325 ePP PP 06 27 53.9 +1.5
F29A Eureka 100.54 29 ⇑P Pdif 06 23 44.7 -1.5
baz=100
PDMCI Parker Dam,Lak 100.54 45 ⇑P Pdif 06 23 44.9 -1.5
baz=100
G28A Parade 100.62 30 ⇑P Pdif 06 23 45.1 -1.5
baz=100
Y12C Blythe 100.62 46 ⇓P Pdif 06 23 45.7 -1.1
baz=100
PAB San Pablo 100.77 322 PFAKE 06 24 00.0 +13
PAB LR LR
comp=Z,17μm,20.0s
I27A Quinn 100.83 32 ⇑P Pdif 06 23 46.1 -1.5
baz=101
GLA Glamis 100.84 47 ⇓P Pdif 06 23 46.4 -1.5
baz=101
M23A Laramie 100.85 36 ⇓P Pdif 06 23 46.3 -1.7
baz=101
LSZ Lusaka 100.87 258 eP Pdif 06 23 46.4 -1.9
LSZ pmax pmax
comp=Z,15nm,1.1s
LSZ MLR MLR
comp=Z,4μm,20.0s
LSZ Lusaka 100.87 258 ePdif Pdif 06 23 46.4 -1.9
comp=Z,15nm,1.1s
LSZ LR LR
comp=Z,4μm,20.0s
H28A Mission Ridge 100.87 31 ⇑P Pdif 06 23 46.2 -1.5
baz=101
J26A Sides Ranch, S 100.89 33 ⇑P Pdif 06 23 46.6 -1.3
baz=101
F30A Leola 100.89 29 ⇓P Pdif 06 23 46.7 -1.1
baz=101
N22A Wattenberg Ran 100.92 36 ⇑P Pdif 06 23 46.7 -1.6
baz=101
G29A Hoven 100.98 30 ⇑P Pdif 06 23 47.1 -1.1
baz=101
PV10 Paradox Valley 101.11 40 ePdif Pdif 06 23 50.5 +1.2
comp=Z,261nm,0.8s
N23A Red Feather La 101.13 36 ⇓P Pdif 06 23 47.3 -2.0
baz=101
MVO Moncorvo 101.13 324 ePdif Pdif 06 23 51.5 +2.5
MVO Moncorvo 101.13 324 ePP PP 06 27 58.5 +1.5
H29A Onida 101.28 30 ⇑P Pdif 06 23 48.2 -1.3
baz=101
I28A Midland 101.31 31 ⇑P Pdif 06 23 48.6 -1.1
baz=101
O22A Kremmling 101.31 37 ⇑P Pdif 06 23 48.9 -1.2
baz=101
M24A Cheyenne 101.32 35 ⇓P Pdif 06 23 48.7 -1.3
baz=101
G30A Faulkton 101.39 29 ⇓P Pdif 06 23 48.6 -1.4
baz=101
POLO Lamas de Olo 101.39 325 ePdif Pdif 06 23 52.9 +2.7
POLO Lamas de Olo 101.39 325 ePP PP 06 27 58.5 -0.5
PVRL Vila Real 101.42 325 ePP PP 06 27 58.2 -0.9
J27A Elkhorn Farm, 101.46 32 ⇑P Pdif 06 23 48.9 -1.6
baz=101
Y14A Wickenburg 101.51 45 ⇓P Pdif 06 23 49.0 -1.9
baz=101
SCHQ Schefferville 101.53 6 P Pdif 06 23 53.3 +2.9
comp=Z,6.4nm,0.9s,baz=292,slow=19,SNR=3.0
SCHQ PP PP 06 27 55.0 -4.3
comp=Z,14nm,0.9s,baz=356,slow=5.4,SNR=3.4
PV01 Paradox Valley 101.54 40 ePdif Pdif 06 23 46.2 -4.9
comp=Z,1μm,1.2s
WUAZ Wupatki 101.56 43 PFAKE 06 24 00.0 +8.8
WUAZ LR LR
comp=Z,3μm,20.0s
WUAZ Wupatki 101.56 43 ⇓P Pdif 06 23 48.9 -2.2
baz=101
P22A Eagle 101.58 37 ⇓P Pdif 06 23 49.4 -1.9
baz=101
O23A Lake Granby, G 101.62 37 ⇑P Pdif 06 23 49.8 -1.7
baz=101
I29A Vivian Onida 101.70 31 ⇓P Pdif 06 23 50.0 -1.4
baz=101
J28A Allard Ranch, 101.71 32 ⇑P Pdif 06 23 50.6 -0.9
baz=101
N24A Carr 101.75 36 ⇑P Pdif 06 23 50.4 -1.5
baz=102
MTE Manteigas 101.95 324 ePdif Pdif 06 23 53.2 +0.5
MTE Manteigas 101.95 324 ePP PP 06 28 03.1 -0.1
MTE Manteigas 101.95 324 PFAKE 06 24 00.0 +7.3
MTE LR LR
comp=Z,24μm,20.0s
BRSD Miller 102.00 30 ePdif Pdif 06 23 53.5 +0.8
comp=Z,26nm,0.8s
BRSD Miller 102.00 30 ⇓P Pdif 06 23 51.3 -1.4
baz=102
ISCO Idaho Springs 102.08 37 eP Pdif 06 23 53.9 +0.4
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO MLR MLR
comp=Z,5μm,19.0s
ISCO Idaho Springs 102.08 37 ePdif Pdif 06 23 53.9 +0.4
comp=Z,3.0nm,0.8s
ISCO LR LR
comp=Z,5μm,19.0s
ISCO Idaho Springs 102.08 37 ⇓P Pdif 06 23 52.3 -1.2
baz=102
J29A Okreek 102.16 31 ⇑P Pdif 06 23 52.5 -1.0
baz=102
M26A McRoberts Ranc 102.20 34 ⇓P Pdif 06 23 52.2 -1.7
baz=102
MVCO Mesa Verde 102.20 40 PFAKE 06 24 10.0 +16
MVCO LR LR
comp=Z,5μm,19.0s
MVCO Mesa Verde 102.20 40 ⇑P Pdif 06 23 51.6 -2.5
baz=102
X16A Lo Mia Camp, P 102.21 44 ⇑P Pdif 06 23 52.1 -2.0
baz=102
EYMN Ely 102.23 23 PFAKE 06 24 10.0 +16
EYMN LR LR
comp=Z,14μm,21.0s
P23A Jefferson 102.25 37 ⇑P Pdif 06 23 52.2 -2.2
baz=102
PCBR Castelo Branco 102.31 324 ePP PP 06 28 07.9 +2.1
PMRV Marv??o 102.55 323 ePdif Pdif 06 23 55.1 -0.2
PMRV Marv??o 102.55 323 ePP PP 06 28 06.6 -1.1
J30A Dallas 102.61 31 ⇓P Pdif 06 23 54.1 -1.4
baz=102
K29A Lazy Trails An 102.65 32 ⇓P Pdif 06 23 54.5 -1.2
baz=102
PCAS Casmilo, Conde 102.71 324 ePP PP 06 28 09.0 +0.2
S22A 4UR Ranch, Cre 102.82 39 ⇑P Pdif 06 23 55.1 -1.7
baz=103
Q24A Divide 102.92 37 ⇓P Pdif 06 23 55.8 -1.5
baz=103
K30A Basset 103.05 31 ⇑P Pdif 06 23 55.9 -1.6
baz=103
PESTR Estremoz 103.06 323 ePP PP 06 28 12.8 +1.3
R23A Moffat 103.08 38 ⇓P Pdif 06 23 56.3 -1.7
baz=103
X18A Snowflake 103.08 43 ⇑P Pdif 06 23 55.6 -2.4
baz=103
VNDA Vanda 103.23 172 PP PP 06 28 14.6 +1.8
comp=Z,6.0nm,1.1s,baz=299,slow=19,SNR=2.3
Q25A Bedland, Calha 103.45 37 ⇑P Pdif 06 23 57.5 -2.1
baz=103
R24A Sanders Place, 103.46 38 ⇑P Pdif 06 23 58.5 -1.1
baz=103
P26A Davis Ranch, A 103.47 36 ⇑P Pdif 06 23 58.4 -1.2
baz=103
O27A Beecher Island 103.48 35 ⇑P Pdif 06 23 58.8 -0.7
baz=103
EVO Evora 103.53 323 eP Pdif 06 23 59.1 -0.5
comp=Z,81nm,1.6s
EVO eR
comp=Z,30μm,20.2s
EVO Evora 103.53 323 ePdif Pdif 06 24 02.0 +2.4
EVO Evora 103.53 323 ePP PP 06 28 16.1 +1.1
L30A Spencer Herefo 103.55 32 ⇑P Pdif 06 23 59.1 -0.7
baz=103
SDCO Great Sand Dun 103.58 38 ePdif Pdif 06 24 00.5 +0.2
SDCO LR LR
comp=Z,6μm,19.0s
EVOP Sao Brissos 103.59 323 eP Pdif 06 23 59.1 -0.8
EVOP pmax pmax
comp=Z,81nm,1.6s
EVOP Sao Brissos 103.59 323 eP Pdif 06 23 59.1 -0.8
comp=Z,81nm,1.6s
N28A Pribbeno Ranch 103.59 34 ⇓P Pdif 06 23 58.9 -1.1
baz=103
ECSD EROS Data Cent 103.61 29 PFAKE 06 24 10.0 +10
ECSD LR LR
comp=Z,10μm,20.0s
ECSD EROS Data Cent 103.61 29 ⇓P Pdif 06 23 58.9 -1.0
baz=103
U22A Llaves 103.74 40 ⇓P Pdif 06 23 59.6 -1.3
baz=104
L31A Butterfield Fa 103.80 31 ⇑P Pdif 06 23 59.8 -1.1
baz=104
Q26A Hugo 103.84 36 ⇑P Pdif 06 24 00.3 -0.9
baz=104
P27A Ficken Ranch, 103.89 35 ⇓P Pdif 06 24 00.6 -0.7
baz=104
O28A Krutsinger Ran 103.89 34 ⇑P Pdif 06 24 00.2 -1.1
baz=104
R25A Fountain Ranch 103.98 37 ⇑P Pdif 06 24 00.2 -1.6
baz=104
TUC Tucson 103.98 45 PFAKE 06 24 10.0 +8.1
TUC LR LR
comp=Z,6μm,21.0s
SPMN St. Paul 104.00 26 ⇑P Pdif 06 24 00.5 -1.1
baz=104
V22A San Miguel Ran 104.02 40 ⇓P Pdif 06 24 00.8 -1.4
baz=104
T24B San Luis 104.12 39 ⇑P Pdif 06 24 01.7 -1.0
baz=104
SBA Scott Base 104.14 171 PFAKE 06 24 10.0 +8.7
SBA LR LR
comp=Z,4μm,22.0s
PVAQ Vaqueiros 104.16 322 ePdif Pdif 06 24 00.1 -2.3
PVAQ Vaqueiros 104.16 322 ePP PP 06 28 18.6 -1.1
U23A El Rito 104.16 40 ⇓P Pdif 06 24 01.9 -0.9
baz=104
S25A Robets Cordova 104.24 38 ⇑P Pdif 06 24 01.5 -1.6
baz=104
KSCO Kaye Shedlock' 104.26 36 ⇓P Pdif 06 24 01.8 -1.2
baz=104
P28A Saint Francis 104.31 35 ⇓P Pdif 06 24 01.8 -1.4
baz=104
R26A Arlington 104.33 37 ⇓P Pdif 06 24 02.2 -1.2
baz=104
TAM Tamanrasset 104.35 303 PFAKE 06 24 10.0 +6.2
TAM LR LR
comp=Z,6μm,19.0s
M31A Lambtecht Ranc 104.37 32 ⇑P Pdif 06 24 02.2 -1.2
baz=104
O29A 4D Ranch, Culb 104.39 34 ⇓P Pdif 06 24 02.2 -1.3
baz=104
V23A Ortiz Mt. (NFS 104.57 40 ⇓P Pdif 06 24 03.4 -1.2
baz=104
T25A Trinidad 104.62 38 ⇑P Pdif 06 24 03.2 -1.6
baz=104
Q28A Sharon Springs 104.64 35 ⇓P Pdif 06 24 02.8 -1.9
baz=104
R27A Eads 104.69 36 ⇓P Pdif 06 24 02.8 -2.1
baz=104
P29A Atwood 104.71 34 ⇓P Pdif 06 24 04.1 -0.9
baz=104
BGNE Belgrade 104.72 31 ⇑P Pdif 06 24 03.4 -1.5
baz=104
O30A MW Ranch, Wils 104.72 33 ⇑P Pdif 06 24 04.4 -0.6
baz=104
MORF Marmelete 104.75 322 ePdif Pdif 06 24 05.9 +0.7
MORF iP PP 06 28 26.1 +1.9
S26A Kim 104.80 37 ⇑P Pdif 06 24 03.4 -2.1
baz=105
ANMO Albuquerque 104.95 41 eP Pdif 06 24 06.9 +0.6
ANMO pmax pmax
comp=Z,6.0nm,1.4s
ANMO MLR MLR
comp=Z,5μm,21.0s
ANMO Albuquerque 104.95 41 ePdif Pdif 06 24 06.9 +0.6
comp=Z,5.6nm,1.4s
ANMO LR LR
comp=Z,5μm,21.0s
W23A Werner Place, 104.99 40 ⇑P Pdif 06 24 04.8 -1.7
baz=105
O31A Woolen Ranch, 105.11 33 ⇓P Pdif 06 24 05.6 -1.1
baz=105
V24A Rampart Ranch, 105.11 39 ⇓P Pdif 06 24 05.9 -1.2
baz=105
U25A Circle Dot Ran 105.14 38 ⇓P Pdif 06 24 06.4 -0.8
baz=105
LENM Lemitar 105.17 42 ePKPdf PKiKP 06 28 22.7 +1.1
R28A Tribune 105.18 36 ⇓P Pdif 06 24 06.4 -0.7
baz=105
Q29A Oakley 105.22 35 ⇑P Pdif 06 24 05.8 -1.5
baz=105
LPM Los Pinos Moun 105.28 41 ePKPdf PKiKP 06 28 21.4 -0.4
W24A Lazy 6 Ranch, 105.39 40 ⇑P PKiKP 06 28 21.7 -0.3
baz=105
V25A Rancho No Teng 105.42 39 ⇓P PKiKP 06 28 21.6 -0.5
baz=105
R29A Marienthal 105.48 35 ⇓P PKiKP 06 28 21.8 -0.2
baz=105
U26A Atchley Ranch, 105.52 38 ⇓P PKiKP 06 28 21.9 -0.3
baz=105
O32A Brockman Farm, 105.55 32 ⇓P PKiKP 06 28 21.9 -0.1
baz=105
Q30A Quinter 105.55 34 ⇑P PKiKP 06 28 21.5 -0.5
baz=105
319A Douglas 105.56 45 ⇑P PKiKP 06 28 21.8 -0.5
baz=105
P31A Stockton 105.56 33 ⇑P PKiKP 06 28 21.5 -0.5
baz=105
T27A Campo 105.62 37 ⇑P PKiKP 06 28 21.9 -0.4
baz=105
121A Cookes Peak, D 105.76 43 ⇑P PKiKP 06 28 22.7 -0.1
baz=106
P32A Huiting Farm, 105.88 33 ⇓P PKiKP 06 28 22.4 -0.2
baz=106
Y23A Lovelace Mesa, 105.89 41 ⇓P PKiKP 06 28 22.1 -0.9
baz=106
V26A Tequesquite Ra 105.92 39 ⇑P PKiKP 06 28 22.5 -0.4
baz=106
W25A X Bar L Ranch, 105.94 39 ⇑P PKiKP 06 28 22.8 -0.2
baz=106
RTC Rabat Centre 106.02 319 PFAKE 06 28 30.0
RTC LR LR
comp=Z,6μm,22.0s
S29A Ulysses 106.08 36 ⇑P PKiKP 06 28 22.1 -1.0
baz=106
Y24A Capitan 106.26 41 ⇑P PKiKP 06 28 23.1 -0.5
baz=106
T29A Hugoton 106.33 36 ⇓P PKiKP 06 28 23.8 +0.2
baz=106
Q32A Meitler Ranch, 106.38 33 ⇑P PKiKP 06 28 23.7 +0.2
baz=106
U28A Mallet 106.39 37 ⇓P PKiKP 06 28 23.3 -0.4
baz=106
S30A Montezuma 106.42 35 ⇑P PKiKP 06 28 23.2 -0.5
baz=106
R31A Burdett 106.42 34 ⇓P PKiKP 06 28 23.2 -0.4
baz=106
W26A Owens Ranch, T 106.44 39 ⇑P PKiKP 06 28 23.8 -0.1
baz=106
V27A Dan Oppiter Fa 106.49 38 ⇑P PKiKP 06 28 24.1 +0.2
baz=106
SCIA State Center 106.56 28 PFAKE 06 28 40.0
SCIA LR LR
comp=Z,11μm,20.0s
Y25A Mesa, Roswell 106.71 40 ⇓P PKiKP 06 28 23.9 -0.5
baz=106
Z24A Sheeppen Canyo 106.72 41 ⇑P PKiKP 06 28 23.9 -0.7
baz=106
Q33A Connelly Farm, 106.74 33 ⇓P PKiKP 06 28 23.8 -0.4
baz=106
R32A Long Quarter, 106.74 34 ⇓P PKiKP 06 28 23.6 -0.6
baz=106
X26A CR and CF Fran 106.79 39 ⇑P PKiKP 06 28 24.4 -0.2
baz=107
T30A Plains 106.82 36 ⇓P PKiKP 06 28 24.4 -0.1
baz=107
V28A Channing 106.84 38 ⇓P PKiKP 06 28 24.0 -0.6
baz=107
W27A Bowe Ranch, En 106.86 39 ⇑P PKiKP 06 28 24.2 -0.4
baz=107
S31A Mullinville 106.95 35 ⇓P PKiKP 06 28 24.3 -0.3
baz=107
JFWS Jewell Farm 106.95 25 PFAKE 06 28 40.0
JFWS LR LR
comp=Z,8μm,20.0s
X27A F and S Farms, 107.14 39 ⇓P PKiKP 06 28 24.7 -0.4
baz=107
U30A WK&E Inc. Balk 107.14 36 ⇓P PKiKP 06 28 25.3 +0.2
baz=107
Z25A Roswell 107.14 41 ⇓P PKiKP 06 28 24.4 -0.8
baz=107
W28A Vega 107.21 38 ⇑P PKiKP 06 28 25.4 +0.1
baz=107
T31A Randall Ranch, 107.24 35 ⇑P PKiKP 06 28 24.9 -0.2
baz=107
KSU1 Kansas State U 107.25 32 PFAKE 06 28 40.0
KSU1 LR LR
comp=Z,10μm,20.0s
125A Gardner Draw, 107.61 41 ⇓P PKiKP 06 28 25.7 -0.4
baz=107
W29A Amraillo 107.62 38 ⇓P PKiKP 06 28 25.7 -0.3
baz=107
Y27A Causey 107.64 40 ⇓P PKiKP 06 28 24.9 -1.2
baz=107
U31A Nine Bar Ranch 107.69 36 ⇑P PKiKP 06 28 25.1 -1.0
baz=107
AMTX Amarillo 107.78 38 ⇑P PKiKP 06 28 26.3 0.0
baz=108
MSTX Muleshoe 107.81 39 ePKPdf PKiKP 06 28 26.1 -0.3
MSTX Muleshoe 107.81 39 ⇑P PKiKP 06 28 26.4 0.0
baz=108
MNTX Cornudas Mount 107.82 43 ePKPdf PKiKP 06 28 28.0 +1.6
MNTX LR LR
comp=Z,4μm,20.0s
BOSA Boshof 107.87 246 PKKPab PKKPab 06 39 53.1 +0.7
comp=Z,2.8nm,0.8s,baz=249,slow=6.5,SNR=3.7
Z27A Tatum 108.01 40 ⇓P PKiKP 06 28 26.2 -0.6
baz=108
X29A Tulia 108.08 38 ⇑P PKiKP 06 28 25.6 -1.3
baz=108
V31A Spring Creek L 108.14 36 ⇓P PKiKP 06 28 25.9 -1.0
baz=108
226B Tecolote Peak, 108.31 42 ⇑P PKiKP 06 28 27.4 0.0
baz=108
127A Arkansas Junct 108.38 41 ⇓P PKiKP 06 28 26.7 -0.8
baz=108
W31A Holland Ranch, 108.52 37 ⇑P PKiKP 06 28 27.2 -0.4
baz=108
Z28A Tucker Farm, M 108.52 40 ⇑P PKiKP 06 28 27.3 -0.5
baz=108
Y29A Porterfield Fa 108.52 39 ⇓P PKiKP 06 28 27.7 -0.1
baz=108
X30A Coker Ranch, T 108.55 38 ⇑P PKiKP 06 28 27.2 -0.5
baz=108
RKT Rikitea 108.70 108 eSKSac SKSac 06 34 58.3 -3.3
comp=Z,856nm,30.5s
RKT eSP SP 06 38 11.9 -5.3
comp=Z,5μm,35.0s
RKT eSS SS 06 44 10.9 -0.2
comp=Z,4μm,29.0s
RKT Rikitea 108.70 108 eLQ LQ 06 55 38.3
comp=Z,6μm,34.5s
RKT eLR LR 07 00 16.8
comp=Z,13μm,23.2s,baz=292
X31A McDonald Ranch 108.91 37 ⇓P PKiKP 06 28 27.8 -0.5
baz=109
V34A Guthrie 109.33 35 ⇑P PKiKP 06 28 28.8 -0.3
baz=109
427A Hayter Ranch, 109.63 42 ⇓P PKiKP 06 28 29.8 -0.1
baz=109
Y32A R-V Farms, Ver 109.67 37 ⇑P PKiKP 06 28 29.5 -0.3
baz=109
526A Mary Lane Ranc 109.75 43 ⇑P PKiKP 06 28 29.9 -0.3
baz=110
AAM Ann Arbor 109.88 21 PFAKE 06 28 40.0
AAM LR LR
comp=Z,12μm,21.0s
527A Woodward Ranch109.99 43 ⇓P PKiKP 06 28 30.0 -0.7
baz=110
626A Big Bend Ranch 110.07 43 ⇑P PKiKP 06 28 30.3 -0.5
baz=110
Y33A Hilltop Ranch, 110.12 37 ⇓P PKiKP 06 28 30.7 0.0
baz=110
TUL1 Tulsa 110.15 33 ⇓P PKiKP 06 28 30.6 0.0
baz=110
428A Kincaid Ranch, 110.16 42 ⇑P PKiKP 06 28 30.7 -0.2
baz=110
Z32A Haskell 110.17 38 ⇑P PKiKP 06 28 30.8 0.0
baz=110
LONY Lake Ozonia 110.24 14 PFAKE 06 28 40.0
LONY LR LR
comp=Z,13μm,20.0s
TXAR Lajitas Array 110.52 43 Pdiff Pdif 06 24 35.0 +3.9
comp=Z,1.3nm,0.9s,baz=333,slow=1.4,SNR=8.8
TXAR PKiKP PKiKP 06 28 31.9 +0.3
comp=Z,2.5nm,0.7s,baz=263,slow=0.9,SNR=14
TXAR PP PP 06 29 09.6 +2.9
comp=Z,5.1nm,0.9s,baz=286,slow=4.6,SNR=4.2
TXAR PKKPab PKKPab 06 39 40.4 -3.4
comp=Z,1.1nm,0.9s,baz=155,slow=7.0,SNR=6.7
ABTX Abilene, Hawle 110.58 38 ⇑P PKiKP 06 28 30.2 -1.3
baz=110
627A Terlingua Ranc 110.61 43 ⇓P PKiKP 06 28 32.0 +0.2
baz=110
Y34A Reagan Ranch, 110.63 36 ⇓P PKiKP 06 28 31.4 -0.2
baz=110
429A Davenport Ranc 110.71 41 ⇓P PKiKP 06 28 31.4 -0.5
baz=110
529A Stev Forest Ra 110.86 42 ⇓P PKiKP 06 28 32.0 -0.2
baz=111
628A Black Gap, Mar 110.90 43 ⇑P PKiKP 06 28 32.0 -0.2
baz=111
NCB Newcomb 110.94 14 PFAKE 06 28 40.0
NCB LR LR
comp=Z,12μm,20.0s
430A Baggett Ranch, 110.99 41 ⇑P PKiKP 06 28 32.1 -0.3
baz=111
133A Hamilton Ranch 111.00 38 ⇓P PKiKP 06 28 31.9 -0.5
baz=111
331A San Angelo 111.09 40 ⇑P PKiKP 06 28 32.6 0.0
baz=111
LBNH Lisbon 111.15 12 PFAKE 06 28 40.0
LBNH LR LR
comp=Z,24μm,21.0s
ERPA Erie 111.20 19 PFAKE 06 28 40.0
ERPA LR LR
comp=Z,18μm,20.0s
Z35A Perchaven, San 111.38 36 ⇑P PKiKP 06 28 32.4 -0.6
baz=111
530A J-C Ranch, Com 111.39 41 ⇑P PKiKP 06 28 33.2 0.0
baz=111
332A Millersview 111.44 39 ⇑P PKiKP 06 28 32.8 -0.4
baz=111
431A Sonora 111.44 40 ⇑P PKiKP 06 28 33.2 -0.1
baz=111
233A Rising Star 111.45 38 ⇓P PKiKP 06 28 32.2 -1.0
baz=111
134A White-Moore Ra 111.50 37 ⇓P PKiKP 06 28 33.0 -0.3
baz=111
TSUM Tsumeb 111.72 258 ePKPdf PKiKP 06 28 33.0 -1.1
TSUM LR LR
comp=Z,6μm,19.0s
234A Clairette 111.89 38 ⇓P PKiKP 06 28 33.2 -0.8
baz=112
333A Richland Sprin 111.92 39 ⇑P PKiKP 06 28 33.9 -0.3
baz=112
ACSO Alum Creek Sta 111.96 22 PFAKE 06 28 50.0
ACSO LR LR
comp=Z,13μm,20.0s
JCT Junction City 112.06 40 ePKIKP PKiKP 06 28 34.3 -0.1
JCT MLR MLR
comp=Z,7μm,22.0s
JCT Junction City 112.06 40 ePKPdf PKiKP 06 28 34.3 -0.1
JCT LR LR

comp=Z,7µm,22.0s
JCT Junction City 112.06 40 ⇑P PKiKP 06 28 33.4 -1.0
baz=112
BINY Binghamton 112.21 16 PFAKE 06 28 50.0
BINY LR LR
comp=Z,12µm,20.0s
433A Art 112.28 39 ⇑P PKiKP 06 28 34.3 -0.5
baz=112
334A Lometa 112.34 38 ⇑P PKiKP 06 28 33.2 -1.8
baz=112
MIAR Mount Ida 112.34 33 PFAKE 06 28 50.0
MIAR LR LR
comp=Z,7µm,20.0s
631A Perdido Creek 112.37 41 ⇓P PKiKP 06 28 34.4 -0.6
baz=112
SUR Sutherland 112.58 243 PFAKE 06 28 50.0
SUR LR LR
comp=Z,6µm,19.0s
TOA0 Torodi Ar. Sit 112.62 296 ePKPdf PKiKP 06 28 34.8 -1.0
TORD Torodi Ar. Bea 112.62 296 Pdiff Pdif 06 24 44.7 +4.2
comp=Z,0.3nm,0.7s,baz=52,slow=1.5,SNR=3.8
TORD PKiKP PKiKP 06 28 34.6 -1.1
comp=Z,4.0nm,0.6s,baz=34,slow=1.9,SNR=15
TORD PP PP 06 29 28.4 +6.0
comp=Z,11nm,0.9s,baz=57,slow=7.1,SNR=5.4
TORD PKKPab PKKPab 06 39 34.4 +0.7
comp=Z,3.7nm,1.1s,baz=247,slow=3.7,SNR=6.5
434A Burnet 112.71 39 ⇓P PKiKP 06 28 35.5 -0.1
baz=112
632A Uvalde 112.78 41 ⇓P PKiKP 06 28 35.2 -0.6
baz=113
533A Kerrville 112.81 40 ⇓P PKiKP 06 28 35.1 -0.8
baz=113
534A Blanco 113.17 39 ⇑P PKiKP 06 28 36.3 -0.3
baz=113
QSPA South Pole Qui 113.23 180 PKKPbc PKKPbc 06 39 24.1 +0.4
comp=Z,9.1nm,1.0s,baz=212,slow=1.1,SNR=9.9
QSPA South Pole Qui 113.23 180 PKKPbc PKKPbc 06 39 24.1 +0.4
QSPA LR LR
comp=Z,9µm,20.0s
732A Laxson Ranch, 113.23 41 ⇓P PKiKP 06 28 36.0 -0.7
baz=113
PTCN Pitcairn Islan 113.53 108 PFAKE 06 28 50.0
PTCN LR LR
comp=Z,9µm,20.0s
832A Faith Ranch, C 113.55 42 ⇑P PKiKP 06 28 37.0 -0.3
baz=113
733A Divot King Ran 113.65 41 ⇓P PKiKP 06 28 36.9 -0.5
baz=113
833A Chaparral WMA, 113.87 41 ⇓P PKiKP 06 28 37.5 -0.4
baz=114
536A Bastrop 113.95 38 ⇓P PKiKP 06 28 37.5 -0.5
baz=114
NATX Nacogdoches 113.98 35 PFAKE 06 28 50.0
NATX LR LR
comp=Z,9µm,19.0s
734A La Parita Cree 113.99 40 ⇓P PKiKP 06 28 37.6 -0.5
baz=114
635A Leesville 114.05 39 ⇑P PKPdf 06 28 37.7 -0.5
baz=114
636A Smothers Creek 114.40 39 ⇑P PKPdf 06 28 37.8 -1.1
baz=114
933A Laredo 114.46 42 ⇓P PKPdf 06 28 39.2 +0.2
baz=114
835A Beeville 114.84 40 ⇑P PKPdf 06 28 39.7 0.0
baz=115
934A Benavides 114.93 41 ⇓P PKPdf 06 28 39.2 -0.7
baz=115
034A Hebbronville 115.22 42 ⇑P PKPdf 06 28 40.0 -0.5
baz=115
KVTX Kingsville 115.34 41 PFAKE 06 28 50.0 +9.3
KVTX LR LR
comp=Z,4µm,21.0s
BLA Blacksburg 115.54 21 PFAKE 06 28 50.0 +9.1
BLA LR LR
comp=Z,20µm,20.0s
CBN Corbin 115.57 18 PFAKE 06 28 50.0 +9.1
CBN LR LR
comp=Z,14µm,20.0s
035A Encino 115.66 41 ⇓P PKPdf 06 28 40.3 -1.0
baz=116
035Z Hargill 116.03 42 ⇑P PKPdf 06 28 40.6 -1.5
baz=116
GOGA Godfrey 117.83 26 PFAKE 06 29 00.0 +15
GOGA LR LR
comp=Z,10µm,19.0s
CNNC Cliffs of the 118.16 20 PFAKE 06 29 00.0 +14
CNNC LR LR
comp=Z,18µm,20.0s
NVL N'lazarevskaya 119.11 201 eP Pdif 06 25 24.2 +16
NVL e 06 30 03.9
NVL ePPP PPP 06 32 49.6
NVL eSP SP 06 39 55.0 +4.1
NVL eSS SS 06 46 32.6 +6.6
NVL MLR MLR
comp=Z,3µm,17.0s
NHSC New Hope 119.34 23 PFAKE 06 29 00.0 +12
NHSC LR LR
comp=Z,14µm,20.0s
DBIC Dimbokro 121.53 294 PKP PKPdf 06 28 52.2 -0.7
comp=Z,10nm,0.8s,baz=27,slow=2.1,SNR=9.6
KIC Kosan Boka 121.59 294 ePKIKP PKPdf 06 28 52.3 -0.8
comp=Z,67nm,1.1s
TIC Toumodi 121.68 294 ePKIKP PKPdf 06 28 52.3 -1.0
comp=Z,18nm,0.6s
LIC Lamto 121.91 294 ePKIKP PKPdf 06 28 52.6 -1.1
comp=Z,37nm,0.9s
LIC eR
comp=Z,8µm,21.5s
LIC Lamto 121.91 294 ePKIKP PKPdf 06 28 52.8 -0.9
comp=Z,55nm,0.9s
LIC Lamto 121.91 294 ePKPdf PKPdf 06 28 52.6 -1.1
BBSR BB Station 123.93 9 PFAKE 06 29 10.0 +13
BBSR LR LR
comp=Z,8µm,19.0s
TEIG Tepich 126.57 38 PFAKE 06 29 10.0 +7.6
TEIG LR LR
comp=Z,7µm,21.0s
APG El Apazote 129.25 44 PKhKP PKPpre 06 29 04.2
comp=Z,7.3nm,0.7s,baz=72,slow=16,SNR=9.2
SACV Santiago Islan 130.20 317 ePKPdf PKPdf 06 29 10.7 +1.2
SACV LR LR
comp=Z,11µm,20.0s
SHEL Horse Pasture 132.01 269 PFAKE 06 29 20.0 +7.1
SHEL LR LR
comp=Z,4µm,20.0s
GRTK Grand Turk 133.05 19 PFAKE 06 29 30.0 +15
GRTK LR LR
comp=Z,8µm,21.0s
GTBY Guantanamo Bay 133.16 25 PFAKE 06 29 30.0 +15
GTBY LR LR
comp=Z,7µm,19.0s
MTDJ Mount Denham 133.69 28 PFAKE 06 29 30.0 +14
MTDJ LR LR
comp=Z,9µm,20.0s
SDDR Presa de Saban 135.38 20 PFAKE 06 29 30.0 +11
SDDR LR LR
comp=Z,12µm,21.0s
JTS JuntasAbangare 136.31 43 ePKIKP PKPdf 06 29 21.4 +0.4
JTS MLR MLR
comp=Z,4µm,20.0s
JTS JuntasAbangare 136.31 43 PKP PKPdf 06 29 21.8 +0.8
comp=Z,5.0nm,0.5s,baz=317,slow=6.3,SNR=5.9
JTS JuntasAbangare 136.31 43 ePKPdf PKPdf 06 29 21.4 +0.4
JTS PKP PKPdf 06 29 21.8 +0.8
JTS LR LR
comp=Z,4µm,20.0s
ASCN Ascension 136.96 284 PFAKE 06 29 30.0 +7.8
ASCN LR LR
comp=Z,3µm,20.0s
CELP Cerrillos 137.54 15 ePKPdf PKPdf 06 29 22.6 -0.5
OBIP Obispado Ponce 137.56 15 ePKPdf PKPdf 06 29 22.3 -0.9
SJG San Juan 137.60 14 PKIKP PKPdf 06 29 25.5 +2.2
SJG MLR MLR
comp=Z,5µm,21.0s
SJG San Juan 137.60 14 PKP PKPdf 06 29 25.5 +2.2
comp=Z,24nm,0.8s,baz=267,slow=2.7,SNR=4.8
SJG San Juan 137.60 14 PKP PKPdf 06 29 25.5 +2.2
SJG LR LR
comp=Z,5µm,21.0s
PMSA Palmer Station 138.36 175 PFAKE 06 29 40.0 +17
PMSA LR LR
comp=Z,4µm,20.0s
ANWB Willy Bob 138.80 8 PFAKE 06 29 40.0 +15
ANWB LR LR
comp=Z,5µm,21.0s
TRIS Tristan da Cun 139.99 240 PFAKE 06 29 40.0 +13
TRIS LR LR
comp=Z,4µm,20.0s
PAYG Puerto Ayora 140.02 60 PFAKE 06 29 40.0 +12
PAYG LR LR
comp=Z,4µm,20.0s
BCIP Isla Barro Col 140.26 38 ePKPdf PKPdf 06 29 26.7 -1.6
BCIP LR LR
comp=Z,7µm,19.0s
FDF Fort de France 141.77 8 ePKIKP PKPdf 06 29 29.5 -1.5
FDF MLR MLR
comp=Z,6µm,21.0s
FDF Fort de France 141.77 8 ePKPdf PKPdf 06 29 29.5 -1.5
FDF LR LR
comp=Z,6µm,21.0s
BBGH Gun Hill 143.51 5 PFAKE 06 29 50.0 +16
BBGH LR LR
comp=Z,13µm,22.0s
GRSS Sisters 144.11 9 e PKPdf 06 29 34.2 -0.9
GRHS Sauteurs 144.18 9 e PKPbc 06 29 34.0 +0.8
GRW Mount Saint Ca 144.24 9 e PKPdf 06 29 35.4 -0.1
GRGR Grenville 144.26 9 ePKPdf PKPab 06 29 32.2 -1.0
GRGR LR LR
comp=Z,9µm,22.0s
SDV Santo Domingo 144.95 25 ePKPdf PKPab 06 29 35.9 -0.1
SDV LR LR
comp=Z,10µm,20.0s
TPR Prospect 145.31 8 e PKPdf 06 29 37.4 +0.2
BOT Bacolet 145.34 8 e PKPdf 06 29 37.2 0.0
TRN Trinidad (W) 145.76 9 e PKPdf 06 29 37.9 0.0
HOPE Hope Point 145.79 201 PFAKE 06 29 50.0 +12
HOPE LR LR
comp=Z,3µm,20.0s
TBH Brigand Hill 145.97 8 e PKPab 06 29 40.0 +0.5
TPP Pointe-a-Pierr 146.08 9 e PKPab 06 29 39.7 -0.1
ROSC El Rosal 146.83 34 PKPbc PKPbc 06 29 41.5 -0.6
comp=Z,41nm,0.9s,baz=333,slow=1.6,SNR=19
ROSC El Rosal 146.83 34 ePKPdf PKPdf 06 29 41.0 +0.7
ROSC PKPbc PKPbc 06 29 41.5 -0.6
USHA Ushuaia 147.36 167 PKPbc PKPab 06 29 43.5 -0.2
comp=Z,27nm,1.0s,baz=170,slow=5.7,SNR=7.5
OTAV Otavalo 148.11 46 ePKPdf PKPdf 06 29 43.1 +0.6
OTAV LR LR
comp=Z,5µm,22.0s
ATAH Atahualpa 153.30 56 PKP PKPdf 06 29 51.9 +1.5
comp=Z,20nm,0.9s,baz=9.7,slow=4.5,SNR=9.7
RCBR Riachuelo 153.68 309 PKP PKPdf 06 29 52.4 +1.8
comp=Z,15nm,1.0s,baz=90,slow=8.1,SNR=1.6
RCBR PKPbc PKiKP 06 30 00.2 +1.8
comp=Z,22nm,0.9s,baz=75,slow=20,SNR=3.6
RCBR Riachuelo 153.68 309 PKP PKPdf 06 29 52.4 +1.8
RCBR PKPbc PKiKP 06 30 00.2 +1.8
RCBR LR LR
comp=Z,5µm,19.0s
PTGA Pitinga 157.15 9 PKP PKPdf 06 29 55.5 +0.3
comp=Z,14nm,1.0s,baz=308,slow=4.3,SNR=12
PTGA Pitinga 157.15 9 ePKPdf PKPdf 06 29 54.8 -0.4
PTGA PKP PKPdf 06 29 55.5 +0.3
PTGA ePKPab PKPab 06 30 26.0 +0.4
PTGA LR LR
comp=Z,5µm,20.0s
NNA Nana 157.40 63 PKIKP PKPdf 06 29 55.1 -0.4
NNA MLR MLR
comp=Z,4µm,20.0s
NNA Nana 157.40 63 PKP PKPdf 06 29 55.1 -0.4
comp=Z,16nm,1.0s,baz=335,slow=3.6,SNR=5.7
NNA Nana 157.40 63 PKP PKPdf 06 29 55.1 -0.4
NNA ePKPdf PKPdf 06 29 55.8 +0.3
NNA LR LR
comp=Z,4µm,20.0s
PLCA Paso Flores 159.00 149 PKP PKPdf 06 29 57.5 +0.7
comp=Z,4.7nm,1.0s,baz=276,slow=9.2,SNR=2.6
PLCA PKPab PKPab 06 30 32.1 -1.0
comp=Z,16nm,1.1s,baz=159,slow=3.9,SNR=5.0
SAML Samuel 164.16 26 ePKPdf PKPdf 06 30 02.8 +0.1
SAML ePKPab PKPab 06 30 56.7 +0.5
SAML ePP PP 06 34 40.9 +0.2
SAML LR LR
comp=Z,9µm,21.0s
TRQA Tornquist 164.64 163 ePKPdf PKPdf 06 30 04.3 +1.7
TRQA ePKPab PKPab 06 31 02.0 +4.3
TRQA LR LR
comp=Z,9µm,19.0s
LCO Las Campanas 165.94 116 PFAKE 06 30 20.0 +16
LCO LR LR
comp=Z,7µm,22.0s
CFAA Coronel Fontan 166.66 130 PKP PKPdf 06 30 04.0 -0.4
comp=Z,0.9nm,1.0s,baz=261,slow=2.6,SNR=8.7
LPAZ La Paz 166.81 60 ePKIKP PKPdf 06 30 06.0 +0.3
LPAZ La Paz 166.81 60 PKP PKPdf 06 30 06.3 +0.6
comp=Z,21nm,1.1s,baz=359,slow=2.1,SNR=29
LPAZ La Paz 166.81 60 ePKPdf PKPdf 06 30 06.0 +0.3
LPAZ PKP 06 30 06.3
LVC Limon Verde 168.37 88 ePKPdf PKPdf 06 30 08.0 +1.8
LVC LR LR
comp=Z,3µm,22.0s
BDFB Brasilia 168.99 313 PKP PKPdf 06 30 06.2 -0.4
comp=Z,23nm,0.9s,baz=52,slow=1.8,SNR=12
BDFB PKPab PKPab 06 31 16.7 -1.0
comp=Z,23nm,0.9s,baz=95,slow=3.2,SNR=3.6
SIV San Ignacio 171.34 32 PKP PKPdf 06 30 07.9 +0.2
comp=Z,16nm,0.8s,baz=342,slow=10,SNR=17
SIV PKPab PKPab 06 31 26.7 -1.2
comp=Z,37nm,0.9s,baz=345,slow=3.1,SNR=13
SIV PP PP 06 35 15.3 -2.4
comp=Z,5.0nm,1.0s,baz=303,slow=1.1,SNR=3.7
BB16B Bebedouro 172.46 287 eP PKPpre 06 29 58.6
BB16B i 06 30 08.6
BB16B i 06 30 16.0
BB16B i 06 30 23.5
BB16B i 06 30 29.7
BB16B i 06 30 33.0
CPUP Villa Florida 176.97 162 PKP PKPdf 06 30 09.1 -0.2
comp=Z,5.0nm,0.8s,baz=151,slow=3.6,SNR=6.4

IDC 07 06:29:46.3±1.8,1°.36N×128°.56E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.3/33,mbtmp3.6/4,Error ellipse: s-maj=143.5km s-min=21.1km az=68.0,Halmahera

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
WRA Warramunga Arr 21.92 165 P P 06 34 41.4 -0.1
0.6nm,0.7s,baz=345,slow=11,SNR=12
ASAR Alice Springs 25.41 169 P P 06 35 15.9 +0.1
0.3nm,0.3s,baz=342,slow=11,SNR=5.1
MKAR Makanchi Array 60.53 325 P P 06 39 58.5 0.0
0.8nm,0.4s,baz=120,slow=8.7,SNR=21
KURBB Kurchatov Arra 64.70 327 P P 06 40 26.2 -0.1
0.3nm,0.4s,baz=129,slow=6.2,SNR=14

ISCJB 07 06:29:45.0±1.4,7°.5S±0°.1×106°.86E±0°.09,h108km±11km, Error ellipse: s-maj=25.4km s-min=9.5km az=29.1
DJA 07 06:29:46.1±0.5,8°S±4°×107°E±°,h89km±6km,M3.8/12, MLv3.8/12
ISC 07 06:29:47.5±2.2,7°.3S±0°.1×106°.97E±0°.09,h97km±14km, n14,σ0.65/16,Jawa

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CNJI Cibinong 0.16 78 P Pn 06 30 01.0 -0.2
SKJI Sukabumi 0.53 309 P Pn 06 30 03.1 -0.1
SKJI S Sn 06 30 15.3 +0.3
DBJI Dramaga 0.81 344 P Pn 06 30 05.8 0.0
LEM Lembang 0.82 51 P Pn 06 30 06.5 +0.5
LEM S Sn 06 30 23.8 +4.0
LEM Lembang 0.82 51 P Pn 06 30 06.2 +0.2
baz=2.8,SNR=42
CISI Cisompet, Garu 0.86 104 P Pn 06 30 05.9 -0.3
CISI S Sn 06 30 20.4 0.0
CISI Cisompet, Garu 0.86 104 P Pn 06 30 06.0 -0.3
baz=2.7,SNR=66
SBJI Serang 1.48 325 P Pn 06 30 13.1 -0.2
SBJI S Sn 06 30 32.9 0.0
CMJI Cimerak 1.53 107 P Pn 06 30 13.2 -0.7
JCJI Jatiwangi 1.54 57 P Pn 06 30 12.7 -1.4
KPJI Karang Pucung 1.94 90 P Pn 06 30 20.3 +1.1
UGM Wanagama 3.56 99 P Pn 06 30 40.2 -0.5
baz=5.4,SNR=3.1
JAGI Jajag, Banyuwa 7.20 99 P Pn 06 31 30.7 +0.6
baz=9.0,SNR=4.4
KSM Kuching 9.37 21 P Pn 06 31 55.8 -3.9
baz=11,SNR=3.8

IDC 07 06:56:08.0±1.3,38°.74N×142°.92E,h0km,mb3.3/5, mb1 3.5/7,mb1mx3.4/26,mbtmp3.4/7,ML2.7/2,Error ellipse: s-maj=33.2km s-min=24.4km az=81.0
ISCJB 07 06:56:13.7±1.4,38°.73N±0°.05×142°.4E±0°.1,h45km±12km, mb3.3/5,Error ellipse: s-maj=16.4km s-min=6.8km az=18.1
JMA 07 06:56:14.3±0.1,38°.74N×142°.31E,h36km±2km,M3.5 JMA Felt I J1.
ISC 07 06:56:12.4±2.3,38°.72N±0°.06×142°.43E±0°.09,h26km±14km, n23,σ1.00/22,mb3.4/5,4D,Near east coast of eastern Honshu

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
OFUJ Ofunato 0.69 301 ⇓P Pb 06 56 26.5 +0.6
OFUJ eS Sb 06 56 34.7 -0.4
JIO Ouri 0.89 253 ⇓P Pn 06 56 29.0 -0.2
JIO S Sb 06 56 39.2 -1.4
JMK Ichinoseki 0.97 284 ⇓P Pn 06 56 30.5 +0.1
JMK eS Sn 06 56 41.5 -1.8
JOM Ohasama 1.16 311 ⇓P Pn 06 56 33.5 +0.5
JOM S Sn 06 56 47.3 -0.7
JTH Tanohata 1.29 340 P Pn 06 56 35.3 +0.5
JTH S Sn 06 56 50.7 -0.6
JOU Okura 1.43 256 P Pn 06 56 37.4 +0.7
JOU S Sn 06 56 54.2 -0.4
JMM Marumori 1.54 237 P Pn 06 56 38.6 +0.4
JMM eS Sn 06 56 57.0 -0.4
JRG Rokugo 1.55 296 P Pn 06 56 39.2 +0.8
JYK Kaneyama 1.63 278 P Pn 06 56 40.1 +0.7
MJAR Matsushiro Arr 4.00 238 Pn Pn 06 57 15.8 +3.9
1.4nm,0.3s,baz=48,slow=11,SNR=15
MAT Matsushiro 4.00 238 P Pn 06 57 16.3 +4.3
MAT S Sn 06 57 58.6 +0.6
USRK Ussuriysk Arra 9.56 308 Pn Pn 06 58 31.6 +3.4
0.2nm,0.3s,baz=140,slow=14,SNR=4.7
H11N2 WAKE ISLAND Hy 28.38 125 T T 07 32 33.0
baz=319,slow=76,SNR=13
H11N1 WAKE ISLAND Hy 28.39 125 T T 07 32 33.7
baz=319,slow=76,SNR=13
H11N3 WAKE ISLAND Hy 28.40 125 T T 07 32 34.2
baz=319,slow=76,SNR=8.7
H11S1 WAKE ISLAND Hy 29.16 127 T T 07 33 30.2
baz=322,slow=76,SNR=3.4
H11S3 WAKE ISLAND Hy 29.16 127 T T 07 33 31.4
baz=322,slow=76,SNR=4.1
H11S2 WAKE ISLAND Hy 29.18 127 T T 07 33 33.5
baz=322,slow=76,SNR=3.8
ZALV Zalesovo Beam 41.40 311 P P 07 03 57.7 +1.5
0.6nm,0.6s,baz=99,slow=7.4,SNR=3.1
MKAR Makanchi Array 43.93 301 P P 07 04 18.3 +1.4
0.1nm,0.4s,baz=79,slow=10,SNR=5.0
ILAR Eielson Array 47.64 33 P P 07 04 44.0 -2.0
0.3nm,0.7s,baz=278,slow=6.8,SNR=3.5
WRA Warramunga Arr 58.84 189 P P 07 06 08.8 0.0
0.3nm,0.7s,baz=7.3,slow=7.1,SNR=7.5
ASAR Alice Springs 62.57 189 P P 07 06 34.2 +0.1
0.1nm,0.5s,baz=17,slow=6.8,SNR=3.5

IDC 07 06:59:35.9±3.4,22°.27S×69°.02W,h0km,mb3.8/2, mb1 3.9/3,mb1mx3.6/17,mbtmp3.9/3,ML3.7/1,Error ellipse: s-maj=74.4km s-min=53.6km az=55.0
ISCJB 07 06:59:52.0±0.7,21°.14S±0°.05×69°.0W±0°.1,h123km±10km, mb3.5/1,Error ellipse: s-maj=20.7km s-min=7.0km az=171.6
GUC 07 06:59:53.0±0.3,21°.11S×69°.01W,h113km±2km,ML3.7
ISC 07 06:59:52.8±1.0,21°.14S±0°.05×69°.0W±0°.1,h116km±11km, n13,σ0.89/20,8C,Chile-Bolivia border region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PB01 Plate Boundary 0.49 281 ⇑iP Pn 07 00 10.2 -0.1
PB01 iS Sn 07 00 23.0 -0.5
PB01 AML AML 07 00 24.2
comp=N,3µm,0.2s
PB09 Plate Boundary 0.70 201 ⇑iP Pn 07 00 12.4 +0.4
PB09 iS Sn 07 00 27.1 +0.6
PB09 AML AML 07 00 30.0
comp=N,3µm,0.6s
PB07 Plate Boundary 1.03 235 ⇑iP Pn 07 00 15.4 +0.4
PB07 iS Sn 07 00 32.1 +0.3
PATCX Punta Patache 1.15 286 ⇑iP Pn 07 00 16.7 +0.6
PATCX iS Sn 07 00 34.3 +0.6
PATCX AML AML 07 00 36.5
comp=N,2µm,0.2s
HMBC Humberstone 1.21 315 ⇑iP Pn 07 00 16.8 0.0
HMBC iS Sn 07 00 34.9 -0.1
PB04 Plate Boundary 1.22 203 ⇑iP Pn 07 00 22.0 +5.2
PB04 iS Sn 07 00 44.4 +9.4
PB06 Plate Boundary 1.66 199 ⇑iP Pn 07 00 22.3 +0.3
PB06 iS Sn 07 00 45.0 +0.7
PB06 AML AML 07 00 46.0
comp=E,701nm,0.2s
PSGC Pisagua 1.87 325 iP Pn 07 00 24.2 -0.4
PSGC iS Sn 07 00 48.5 -0.3
PSGC AML AML 07 00 52.4
comp=N,638nm,0.8s
MNMC Minimini 2.08 344 ⇑iP Pn 07 00 27.8 +0.4
MNMC iS Sn 07 00 54.4 +0.7
MNMC AML AML 07 00 56.5
comp=N,1µm,0.3s
LPAZ La Paz 4.89 10 Pn Pn 07 01 06.5 +1.8
comp=N,1.1nm,0.3s,baz=186,slow=5.6,SNR=27
BDFB Brasilia 20.62 78 P P 07 04 20.9 -2.2
comp=N,3.2nm,0.5s,baz=239,slow=10,SNR=12
TORD Torodi Ar. Bea 77.29 70 P P 07 11 34.5 -0.4
comp=N,0.5nm,0.5s,baz=255,slow=4.9,SNR=6.8
MKAR Makanchi Array 145.37 36 PKPbc PKPab 07 19 18.4 +1.1
comp=N,0.3nm,0.6s,baz=321,slow=3.3,SNR=3.9

ISCJB 07 07:19:33.2±0.8,5°.93S±0°.06×129°.4E±0°.1,h350km, mb3.6/2,Error ellipse: s-maj=18.5km s-min=8.7km az=5.1
IDC 07 07:19:35.3±4.7,5°.97S×129°.37E,h351km±52km,mb3.2/2, mb1 3.1/4,mb1mx2.8/29,mbtmp3.8/4,Error ellipse: s-maj=103.3km s-min=13.3km az=72.0
ISC 07 07:19:34.7±1.2,5°.87S±0°.08×129°.4E±0°.2,h350km,n11, σ1.86/11,Banda Sea

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
FAKI Fak Fak 4.06 44 P Pn 07 20 43.5 -0.9
baz=4.8,SNR=14
FAKI S S 07 21 38.9 -1.6
baz=4.8,SNR=7.4
MTN Manton Dam 7.13 166 P Pn 07 21 12.6 -6.0
baz=7.2,SNR=25
MTN S S 07 22 32.7 -10
baz=7.2,SNR=5.5
KDU Kakadu 7.41 156 P Pn 07 21 17.8 -4.1
baz=7.6,SNR=7.0
KNRA Kununurra 9.77 184 P Pn 07 21 42.3 -7.6
baz=9.6,SNR=13
WRA Warramunga Arr 14.78 162 P P 07 22 46.2 -0.8
0.2nm,0.3s,baz=341,slow=12,SNR=12
WRA S S 07 25 24.6 -1.9
0.2nm,0.3s,baz=337,slow=20,SNR=6.2
COEN Coen 15.74 122 P Pn 07 23 02.9 +2.7
baz=16,SNR=7.8
QIS Mount Isa 17.63 147 P P 07 23 20.1 +2.3
baz=18,SNR=4.0
ASAR Alice Springs 18.21 167 P P 07 23 23.9 -0.1
0.5nm,0.3s,baz=346,slow=12,SNR=32
ASAR S S 07 26 34.0 -0.1
0.1nm,0.3s,baz=342,slow=19,SNR=11
WRKA Warakurna 19.09 183 P P 07 23 30.8 -2.4
baz=19,SNR=9.5
MKAR Makanchi Array 66.98 327 P P 07 29 51.3 +0.6
0.2nm,0.3s,baz=135,slow=7.2,SNR=5.9
KURBB Kurchatov Arra 71.26 329 P P 07 30 17.6 +1.0
0.6nm,0.2s,baz=126,slow=5.4,SNR=2.8

IDC 07 07:33:58.9±1.6,29°.35S×178°.22W,h80km±18km,mb3.6/3, mb1 3.7/3,mb1mx3.4/31,mbtmp3.9/3,Error ellipse: s-maj=160.7km s-min=38.2km az=159.0,Kermadec Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
RAO Raoul Island 0.28 70 P Pn 07 34 13.0 +1.8

124nm,0.3s,baz=315,slow=10.0,SNR=6.1
RAO S Sn 07 34 22.1 +2.0
469nm,0.3s,baz=342,slow=16,SNR=11
STKA Stephens Creek 34.54 256 P P 07 40 39.5 -0.3
0.7nm,0.4s,baz=94,slow=10,SNR=3.9
ASAR Alice Springs 42.98 266 P P 07 41 50.0 -0.6
0.3nm,0.3s,baz=105,slow=7.4,SNR=7.7
WRA Warramunga Arr 43.88 271 P P 07 41 57.8 +0.1
0.7nm,0.3s,baz=110,slow=8.1,SNR=14
FINES FINESS Array B 144.09 340 PKP PKPdf 07 53 23.9 -0.7
2.5nm,0.8s,baz=53,slow=4.3,SNR=6.8
AKASG Malin Array Be 150.34 324 PKPbc PKPbc 07 53 40.1 -0.5
0.7nm,0.9s,baz=50,slow=1.8,SNR=4.6

IDC 07 07:36:12.0±0.8, 12°.14N×143°.78E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.0/38, mbtmp4.0/13, Error ellipse: s-maj=29.5km s-min=18.7km az=89.0
ISCJB 07 07:36:14.6±0.7, 12°.1N±0°.1×143°.6E±0°.2, h26km, mb4.0/13, Error ellipse: s-maj=26.3km s-min=15.1km az=175.0
ISC 07 07:36:16.1±0.9, 12°.1N±0°.1×143°.7E±0°.2, h26km, n19, σ0§83/14, mb4.2/13, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	23.02	71	T	T	08 05 13.8	
	baz=248						
H11S1	WAKE ISLAND Hy	23.04	71	T	T	08 05 12.7	
	baz=248						
H11S2	WAKE ISLAND Hy	23.04	71	T	T	08 05 12.1	
	baz=248						
H11N1	WAKE ISLAND Hy	23.50	68	T	T	08 05 48.2	
	baz=258,slow=75,SNR=4.6						
H11N2	WAKE ISLAND Hy	23.51	68	T	T	08 05 50.5	
	baz=258,slow=75,SNR=4.3						
H11N3	WAKE ISLAND Hy	23.52	68	T	T	08 05 52.7	
	baz=258,slow=75,SNR=3.4						
JNU	Nakatsue	23.98	333	P	P	07 41 27.6	-1.1
	7.8nm,1.0s,baz=69,slow=5.9,SNR=4.1						
KSRS	Korea Array	28.93	333	P	P	07 42 13.5	+0.4
	0.6nm,0.5s,baz=134,slow=10,SNR=3.4						
WRA	Warramunga Arr	33.18	196	P	P	07 42 50.2	-0.5
	0.6nm,0.6s,baz=19,slow=9.8,SNR=9.4						
ASAR	Alice Springs	36.85	195	P	P	07 43 22.6	+0.3
	0.3nm,0.7s,baz=17,slow=9.9,SNR=4.1						
SONM	Songino Array	47.30	326	P	P	07 44 48.1	+0.5
	1.2nm,0.5s,baz=123,slow=5.3,SNR=15						
MKAR	Makanchi Array	61.78	317	P	P	07 46 33.4	+0.8
	0.8nm,0.6s,baz=92,slow=9.2,SNR=8.9						
ZALV	Zalesovo Beam	62.17	325	P	P	07 46 35.1	+0.1
	1.2nm,0.4s,baz=111,slow=7.5,SNR=9.7						
ZALV				PcP	PcP	07 47 14.7	-0.3
	0.8nm,0.5s,baz=107,slow=5.0,SNR=3.6						
ILAR	Eielson Array	70.36	25	P	P	07 47 26.1	-1.2
	1.0nm,0.5s,baz=250,slow=6.0,SNR=30						
YKA	Yellowknife Ar	84.66	27	P	P	07 48 47.5	+0.2
	0.7nm,0.4s,baz=286,slow=5.0,SNR=34						
ARCES	ARCESS Array B	88.13	342	P	P	07 49 04.3	+0.1
	11nm,1.2s,baz=94,slow=7.7,SNR=4.9						
NVAR	Mina Array Bea	88.70	51	P	P	07 49 09.3	+1.5
	0.9nm,0.6s,baz=261,slow=5.3,SNR=5.5						
FINES	FINESS Array B	92.01	335	P	P	07 49 21.4	-1.0
	1.5nm,0.6s,baz=77,slow=5.2,SNR=12						
PDAR	Pinedale Array	93.78	45	P	P	07 49 31.6	+0.2
	0.2nm,0.7s,baz=292,slow=2.4,SNR=2.3						

BJI 07 07:41:49.2, 5°.95S×147°.94E, h185km, mB5.2/24, mb4.7/45
MOS 07 07:41:54.3±0.8, 5°.48S×147°.48E, h191km, mb4.6/22, Error ellipse: s-maj=14.5km s-min=7.0km az=91.9
NEIC 07 07:41:55.1±0.2, 5°.50S×147°.50E, mb5.1/14, Error ellipse: s-maj=7.3km s-min=4.1km az=92.0
ISCJB 07 07:41:55.0±0.6, 5°.51S±0°.03×147°.48E±0°.04, h196km±5km, mb4.5/63, Error ellipse: s-maj=7.0km s-min=4.3km az=8.2
IDC 07 07:41:55.5±0.6, 5°.55S×147°.43E, h188km±5km, mb4.4/18, mb1 4.6/21, mb1mx4.6/23, mbtmp5.0/21, Error ellipse: s-maj=13.0km s-min=7.0km az=98.0
DJA 07 07:41:57.7±0.6, 6°S±4'×14°7E±', h191km±8km, M5.2/14, mB5.2/6, mb5.0/14, MLv5.7/4, Mw(mB)4.6/6
ISC 07 07:41:55.3±0.3, 5°.56S±0°.03×147°.50E±0°.06, h188km±2km, h188km:pP-P, n173, σ1§41/229, mb4.6/62, 12C-10D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.50	358	P	Pn	07 42 52.0	+1.5
	baz=3.5,SNR=12						
PMG	Port Moresby	3.84	185	P	Pn	07 42 54.9	+0.2
	186nm,0.3s,baz=23,slow=7.7,SNR=471						
PMG				S	Sn	07 43 38.7	-2.6
	368nm,0.3s,baz=6.8,slow=19,SNR=16						
PMG	Port Moresby	3.84	185	ePn	Pn	07 42 54.9	+0.2
PMG				eSn	Sn	07 43 35.7	-5.6
PMG				S	Sn	07 43 38.7	-2.6
PMG	Port Moresby	3.84	185	⇑P	Pn	07 42 55.0	+0.3
	baz=3.9,SNR=225						
RABL	Rabaul	4.84	74	⇓P	Pn	07 43 08.5	+1.0
	baz=4.9,SNR=18						
JAY	Jayapura	7.43	294	P	Pn	07 43 42.3	+1.1
	100nm,1.0s,5µm1.3nm						
JAY	Jayapura	7.43	294	⇓P	Pn	07 43 40.9	-0.3
	baz=7.4,SNR=12						
MMPI	Merauke	7.63	247	P	Pn	07 43 45.6	+1.7
	754nm,0.7s,3.4nm						
GENI	Genyem	7.89	292	P	Pn	07 43 46.4	-0.8
	165nm,1.1s,4µm1.4nm						
COEN	Coen	9.37	207	ePn	Pn	07 44 08.8	+2.2
COEN				eSn	Sn	07 45 49.1	-2.2
COEN	Coen	9.37	207	⇑P	Pn	07 44 08.9	+2.2
	baz=9.4,SNR=40						
MTSU	Mount Surprise	12.88	194	⇓P	Pn	07 44 54.2	-1.4
	baz=13,SNR=308						
CTA	Charters Tower	14.49	185	P	P	07 45 13.4	0.0
	4.4nm,0.3s,baz=4.4,slow=14,SNR=67						
CTA	Charters Tower	14.49	185	⇓P	P	07 45 14.5	+1.0
	baz=15						
CTAO	Charters Tower	14.49	185	eP	P	07 45 12.9	-0.6
CTAO	Charters Tower	14.49	185	ePn	P	07 45 12.9	-0.6
FAKI	Fak Fak	15.44	279	ePn	Pn	07 45 22.9	-0.6
	28nm,0.9s						
PATS	Pohnpei	16.37	41	⇓P	Pn	07 45 36.2	+1.3
	baz=16,SNR=5.4						
KDU	Kakadu	16.44	243	⇑P	Pn	07 45 35.3	-0.3
	baz=16,SNR=63						
QIS	Mount Isa	16.77	207	P	Pn	07 45 40.3	+0.8
	baz=17,SNR=114						
MTN	Manton Dam	17.70	245	⇑P	P	07 45 49.6	+0.8
	baz=18,SNR=48						
PALU	Palau	18.26	314	⇑P	Pn	07 45 56.4	-0.8
	baz=18						
WRAB	Tennant Creek	19.18	221	P	P	07 46 05.0	+0.1
	2µm,0.9s						
WRAB	Tennant Creek	19.18	221	eP	P	07 46 05.8	+0.9
WRAB				eS	S	07 49 30.8	-1.4
WRAB				pmax	pmax		
	comp=Z,210nm,0.8s						
WRAB	Tennant Creek	19.18	221	eP	P	07 46 05.8	+0.9
	comp=Z,210nm,0.8s						
WRAB				eS	S	07 49 30.8	-1.4
WRA	Warramunga Arr	19.19	221	P	P	07 46 05.9	+0.9
	comp=Z,15nm,0.3s,baz=49,slow=10,SNR=276						
WRA				S	S	07 49 31.1	-1.4
	comp=Z,1.5nm,0.3s,baz=44,slow=19,SNR=24						
GUMO	Guam	19.20	352	eP	P	07 46 05.6	+0.5
GUMO				pmax	pmax		
	comp=Z,93nm,0.7s						
GUMO	Guam	19.20	352	eP	P	07 46 05.6	+0.5
	comp=Z,93nm,0.7s						
EIDS	Eidsvold	19.99	170	eP	P	07 46 14.2	+0.7
	comp=Z,86nm,0.8s						
EIDS	Eidsvold	19.99	170	P	P	07 46 15.4	+1.9
	baz=20,SNR=25						
RMQ	Roma	20.84	177	P	P	07 46 24.7	+2.1
	baz=21,SNR=163						
KNRA	Kununurra	20.96	240	⇓P	P	07 46 23.6	-0.4
	baz=21,SNR=160						
QLP	Quilpie	21.14	188	⇑P	P	07 46 27.5	+1.8
	baz=21,SNR=231						
AS31	Alice Springs	22.26	215	eP	P	07 46 38.2	+1.1
AS31				e		07 50 31.0	
ASAR	Alice Springs	22.26	215	P	P	07 46 38.4	+1.2
	comp=Z,184nm,0.8s,baz=49,slow=8.8,SNR=1265						
ASAR				S	S	07 50 28.7	+0.5
	comp=Z,20nm,1.1s,baz=28,slow=16,SNR=6.2						
ASAR				ScP	ScP	07 53 46.1	+0.1
	comp=Z,3.6nm,0.9s,baz=31,slow=2.4,SNR=4.5						
SOEI	Soe	23.40	258	eP	P	07 46 47.7	0.0
	comp=Z,42nm,0.8s						
SOEI	Soe	23.40	258	⇑P	P	07 46 47.6	-0.1
	baz=23,SNR=4.9						
DZM	Mont Dzumac	24.60	134	P	P	07 46 60.0	+1.5
	comp=Z,14nm,0.8s,baz=282,slow=9.3,SNR=9.1						
FITZ	Fitzroy Crossi	24.73	238	P	P	07 46 59.9	+0.4
	baz=25,SNR=94						
ARMA	Armidale	25.03	172	eP	P	07 47 03.0	+0.7
	comp=Z,68nm,0.9s						
ARMA	Armidale	25.03	172	P	P	07 47 03.9	+1.6
	baz=25,SNR=25						
CMSA	Cobar Meteorol	25.90	184	P	P	07 47 11.3	+1.3
	baz=26,SNR=11						
WRKA	Warakurna	26.73	222	P	P	07 47 18.0	+0.5
	baz=27,SNR=90						
STKA	Stephens Creek	26.76	191	eP	P	07 47 18.2	+0.5
STKA				pmax	pmax		
	comp=Z,11nm,1.1s						
STKA	Stephens Creek	26.76	191	P	P	07 47 18.2	+0.5
	comp=Z,24nm,0.7s,baz=355,slow=8.1,SNR=51						
STKA	Stephens Creek	26.76	191	eP	P	07 47 18.2	+0.5
	comp=Z,11nm,1.1s						
STKA	Stephens Creek	26.76	191	P	P	07 47 18.3	+0.5
	baz=27,SNR=46						
STKA				P	P	07 47 18.4	+0.6
	baz=27,SNR=22						
STKA				P	P	07 47 18.4	+0.7
	baz=27,SNR=21						
YNG	Young	28.61	178	P	P	07 47 35.5	+1.4
	baz=29,SNR=9.4						
HTT	Hallett	28.86	195	P	P	07 47 37.0	+0.7
	baz=29,SNR=18						
HTT				P	P	07 47 37.2	+0.8
	baz=29,SNR=17						
BBOO	Buckleboo	29.14	200	eP	P	07 47 39.3	+0.4
	comp=Z,494nm,0.8s						
BBOO				eScP	ScP	07 54 06.8	+1.0
BBOO	Buckleboo	29.14	200	P	P	07 47 39.1	+0.3
	baz=29,SNR=36						
BBOO				P	P	07 47 39.4	+0.6
	baz=29,SNR=13						
CNB	Canberra Magne	29.66	177	P	P	07 47 45.0	+1.5
	baz=30,SNR=10						
FORT	Forrest	31.04	214	eP	P	07 47 55.5	-0.1
	comp=Z,143nm,0.7s						
FORT	Forrest	31.04	214	P	P	07 47 56.3	+0.7
	baz=31,SNR=53						
MBWA	Marble Bar	31.07	237	eP	P	07 47 55.8	-0.1
	comp=Z,24nm,0.8s						
ARPS	Mount Arapiles	31.49	189	P	P	07 48 00.9	+1.5
	baz=32,SNR=11						
TOO	Toolangi	31.91	183	P	P	07 48 04.6	+1.4
	baz=32,SNR=6.4						
CBIJ	Chichi jima	32.87	351	P	P	07 48 11.3	-0.3
JCJ	Chichijima	32.87	351	P	P	07 48 11.3	-0.3
	comp=Z,247nm,0.9s,baz=270,slow=19,SNR=2.9						
MEEK	Meekatharra	34.62	230	P	P	07 48 27.2	+0.4
	baz=35,SNR=68						
GIRL	Giralia	36.32	239	P	P	07 48 43.1	+1.8
	baz=36,SNR=9.9						
TAU	Tasmania Unive	37.20	180	eP	P	07 48 48.6	+0.3
TAU				pmax	pmax		
	comp=Z,38nm,0.9s						
TAU	Tasmania Unive	37.20	180	eP	P	07 48 48.6	+0.3
	comp=Z,38nm,0.9s						
MORW	Morawa	37.84	228	P	P	07 48 54.3	+0.3
	baz=38,SNR=22						
KLBR	Kellerberrin	38.03	223	P	P	07 48 55.6	0.0
	baz=38,SNR=45						
BLDU	Ballidu	38.20	226	P	P	07 48 57.1	+0.1
	baz=38,SNR=28						
YULB	Yu-li	38.51	319	eP	P	07 48 59.3	-0.4
	comp=Z,9.4nm,0.8s						
NWAO	Narrogin (SRO)	39.19	222	P	P	07 49 05.7	+0.4
	comp=Z,21nm,0.7s,baz=54,slow=9.4,SNR=14						
YHNB	Yeheng	39.37	321	eP	P	07 49 06.7	-0.2
	comp=Z,13nm,0.5s						
RKGY	Rocky Gully	40.39	220	P	P	07 49 16.2	+1.1
	baz=40,SNR=7.3						
JNU	Nakatsue	41.58	339	P	P	07 49 24.9	0.0
	comp=Z,19nm,0.8s,baz=159,slow=7.2,SNR=11						
JNU	Nakatsue	41.58	339	eP	P	07 49 24.6	-0.2
URZ	Urewera	42.22	145	P	P	07 49 29.7	-0.1
	comp=Z,5.6nm,0.6s,baz=288,slow=1.3,SNR=9.5						
URZ	Urewera	42.22	145	eP	P	07 49 30.3	+0.5
MJAR	Matsushiro Arr	42.78	349	P	P	07 49 34.2	-0.2
	comp=Z,24nm,1.0s,baz=182,slow=9.2,SNR=8.6						
MAJO	Matsushiro	42.78	349	⇓iP	P	07 49 34.1	-0.3
MAJO	Matsushiro	42.78	349	eP	P	07 49 34.2	-0.2
	comp=Z,99nm,1.4s						
MAT	Matsushiro	42.78	349	P	P	07 49 34.3	-0.1
QIZ	Qiongzhong	44.42	304	P	P	07 49 47.7	-0.1
QIZ				S	S	07 56 08.8	+0.3
QIZ				pmax	pmax		
	comp=Z,10.0nm,1.4s						
NJ2	Nanjing	46.30	326	eP	P	07 50 03.9	+1.6
NJ2				pP	pP	07 50 42.6	-1.0
NJ2				sP	sP	07 51 02.7	-1.9
NJ2				S	S	07 56 35.5	+0.5
NJ2				sS	sS	07 57 46.0	-1.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,480nm,3.6s						
NJ2				LR	LR		
	comp=Z,920nm,22.3s						
NJ2				LR	LR		
	comp=Z,490nm,23.9s						
NJ2				LR	LR		
	comp=Z,700nm,24.0s						
KSRS	Korea Array	46.53	338	P	P	07 50 04.4	+0.4
	comp=Z,7.5nm,0.9s,baz=154,slow=8.7,SNR=25						
KSAR	Wonju Array Be	46.53	338	P	P	07 50 04.4	+0.4
KSAR	Wonju Array Be	46.53	338	P	P	07 50 04.4	+0.4
WHN	Wuhan	47.91	321	⇓P	P	07 50 16.3	+1.5
GYA	Guiyang	50.77	311	P	P	07 50 37.8	+1.1
GYA				pP	pP	07 51 19.8	+1.1
GYA				sP	sP	07 51 41.2	+1.6
GYA				PP	PP	07 52 36.0	+1.1
GYA				ScP	ScP	07 55 29.4	0.0
GYA				S	S	07 57 35.6	-2.5
GYA				sS	sS	07 58 50.4	-1.0
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
ENH	Enshi	50.94	317	eP	P	07 50 38.1	+0.3
	comp=Z,11nm,1.0s						
USRK	Ussuriysk Arra	51.47	346	P	P	07 50 42.2	+0.8
	comp=Z,7.9nm,0.8s,baz=178,slow=7.5,SNR=14						
USRK				PcP	PcP	07 51 52.6	-0.4
	comp=Z,1.9nm,0.4s,baz=160,slow=3.4,SNR=6.3						
MDJ	Mudanjiang	52.48	344	P	P	07 50 49.0	+0.1
MDJ				pmax	pmax		
	comp=Z,11nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,240nm,5.7s						
CN2	Changchun	53.02	340	eP	P	07 50 56.6	+3.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CM31	Chiang Mai Arr	53.49	298	eP	P	07 50 55.7	-1.1
CMAR	Chiang Mai Arr	53.49	298	P	P	07 50 57.3	+0.5
	comp=Z,1.7nm,0.3s,baz=121,slow=5.9,SNR=11						
CMAR				pP	pP	07 51 38.6	-0.5
	comp=Z,1.3nm,0.3s,baz=126,slow=5.5,SNR=1.7						
XAN	Xi'an	53.67	320	P	P	07 50 57.6	-0.2
XAN				pP	pP	07 51 38.9	-1.4
XAN				sP	sP	07 52 01.3	+0.3
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,70nm,11.9s						
BJI	Beijing	53.77	330	P	P	07 50 58.1	-0.2
BJI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HABR	Khabarovsk	54.90	350	eP	P	07 51 04.9	-1.5
HABR				e*PP	pP	07 51 47.3	-1.7
HABR				e*SP	sP	07 52 08.5	-1.2
HABR				e		07 53 09.0	
HABR				ePPP	PPP	07 54 24.2	
HABR				eS	S	07 58 31.0	-2.0
HABR				e*SS	sS	07 59 46.5	-0.8
HABR				e		08 00 33.5	
HABR				eSS	SS	08 02 18.5	-1.1
HABR				pmax	pmax		
	comp=Z,39nm,1.3s						
CD2	Chengdu	55.33	314	eP	P	07 51 11.9	+2.0
CD2				pP	pP	07 51 54.7	+2.1
CD2				PcP	PcP	07 52 10.2	+2.0
CD2				sP	sP	07 52 15.6	+2.3
CD2				PP	PP	07 53 19.3	+3.5
CD2				PcS	PcS	07 56 08.9	+0.3
CD2				S	S	07 58 39.1	-0.4
CD2				sS	sS	07 59 54.0	+0.1
CD2				SS	SS	08 02 26.5	-0.6
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
LZH	Lanzhou	58.21	319	⇑P	P	07 51 31.7	+1.5
LZH				pP	pP	07 52 15.0	+1.7
LZH				PcP	PcP	07 52 23.0	+3.5
LZH				sP	sP	07 52 36.2	+2.3
LZH				PP	PP	07 53 45.0	+3.6
LZH				S	S	07 59 17.0	-0.3
LZH				pmax	pmax		
	comp=Z,59nm,1.3s						
LZH				pmax	pmax		
	comp=Z,400nm,9.1s						
PETK	Petropavlovsk-	59.08	7	P	P	07 51 36.5	+0.9
	comp=Z,13nm,0.9s,baz=171,slow=8.2,SNR=16						
HIA	Hailar	59.72	339	eP	P	07 51 40.4	+0.3
HIA				pmax	pmax		
	comp=Z,13nm,1.0s						
HIA	Hailar	59.72	339	eP	P	07 51 40.4	+0.3
	comp=Z,13nm,1.0s						
FX1	Attu Island--F	62.15	17	P	P	07 51 57.6	+1.2
	comp=Z,23nm,0.7s,baz=141,slow=19,SNR=4.1						
ULN	Ulaanbaatar	63.97	331	⇑iP	P	07 52 09.5	+0.8
ULN				pmax	pmax		
	comp=Z,27nm,1.6s						
ULN	Ulaanbaatar	63.97	331	eP	P	07 52 09.2	+0.5
	comp=Z,12nm,0.9s						
SONM	Songino Array	64.27	331	PcP	PcP	07 52 43.7	0.0
	comp=Z,1.3nm,0.7s,baz=162,slow=1.4,SNR=3.5						
LSA	Lhasa	64.38	307	eP	P	07 52 12.6	+0.5
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LSA	Lhasa	64.38	307	eP	P	07 52 12.6	+0.5
	comp=Z,5.6nm,0.7s						
ZAK	Zakamensk	67.50	331	⇓iP	P	07 52 30.6	-0.5
ZAK				e		07 53 16.8	
ZAK				pmax	pmax		
	comp=Z,16nm,1.1s						
TLY	Talaya	68.19	332	eP	P	07 52 35.7	+0.4
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TLY	Talaya	68.19	332	eP	P	07 52 35.7	+0.4
	comp=Z,4.9nm,1.0s						
YAK	Yakutsk	68.79	351	eP	P	07 52 39.0	+0.3
YAK				pmax	pmax		
	comp=Z,26nm,1.0s						
YAK	Yakutsk	68.79	351	eP	P	07 52 39.0	+0.3
	comp=Z,26nm,1.0s						
MOY	Mondy	69.43	331	eP	P	07 52 43.8	+0.7
VNDA	Vanda	72.32	177	eP	P	07 53 00.5	+0.6
VNDA				pmax	pmax		
	comp=Z,20nm,1.0s						
VNDA	Vanda	72.32	177	P	P	07 53 00.9	+1.0
	comp=Z,17nm,0.7s,baz=331,slow=7.1,SNR=32						
VNDA	Vanda	72.32	177	eP	P	07 53 00.5	+0.6
	comp=Z,20nm,1.0s						
WMQ	Urumqi	72.79	319	P	P	07 53 00.6	-2.8
WMQ				pP	pP	07 53 46.1	-2.3
WMQ				sP	sP	07 54 06.5	-2.0
WMQ				pmax	pmax		
	comp=Z,14nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,710nm,7.2s						
WMQ				LR	LR		
	comp=Z,340nm,24.4s						
WMQ				LR	LR		
	comp=Z,570nm,20.6s						
WMQ				LR	LR		
	comp=Z,280nm,23.6s						
BILL	Bilibino	74.61	7	c iP	P	07 53 13.8	+0.4
BILL				i		07 53 27.2	
BILL				i *PP	pP	07 53 59.3	+0.7
BILL				i		07 56 05.2	
BILL				i S	SKiKP	08 02 23.1	+3.4
BILL				i *SS	sS	08 03 35.6	-16
BILL				i SS	SS	08 07 19.5	-5.2
BILL				pmax	pmax		
	comp=Z,8.0nm,1.3s						
MK31	Makanchi Array	77.48	320	eP	P	07 53 29.9	-0.2
MK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MK31	Makanchi Array	77.48	320	eP	P	07 53 30.1	0.0
MKAR	Makanchi Array	77.48	320	ceP	P	07 53 30.1	0.0
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	Makanchi Array	77.48	320	P	P	07 53 29.9	-0.2
	comp=Z,2.5nm,0.4s,baz=97,slow=8.5,SNR=112						
TNA	Tin City	78.03	17	eP	P	07 53 33.1	+0.5
	comp=Z,9.1nm,1.0s						
TIXI	Tiksi	78.03	354	⇓iP	P	07 53 32.0	-0.5
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ZAA0	Zalesovo Array	78.91	328	eP	P	07 53 36.2	-1.5
ZALV	Zalesovo Beam	78.91	328	i P	P	07 53 36.7	-1.0
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ZALV	Zalesovo Beam	78.91	328	P	P	07 53 36.5	-1.2
	comp=Z,5.3nm,0.4s,baz=116,slow=6.2,SNR=43						
KSH	Kashi	79.46	312	eP	P	07 53 42.6	+1.4
KSH				sP	sP	07 54 49.7	+2.8
KSH				ePP	PP	07 56 47.7	+3.4
KSH				S	S	08 03 21.3	-5.7
KSH				SKS	SKSac	08 03 31.9	-8.2
KSH				SS	SS	08 08 43.4	+4.3
KSH				pmax	pmax		
	comp=Z,12nm,1.2s						
KSH				pmax	pmax		
	comp=Z,200nm,4.5s						
KSH				LR	LR		
	comp=Z,130nm,5.9s						
KSH				LR	LR		
	comp=Z,100nm,5.9s						
KSH				LR	LR		
	comp=Z,170nm,5.9s						
KURK	Kurchatov	81.16	323	eP	P	07 53 49.2	-0.6
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	Kurchatov	81.16	323	eP	P	07 53 49.2	-0.6
	comp=Z,0.8nm,0.4s						
AAK	Ala-Archa	81.39	314	⇑iP	P	07 53 51.4	-0.1
AAK				pmax	pmax		
	comp=Z,27nm,2.0s						
AAK	Ala-Archa	81.39	314	eP	P	07 53 51.4	-0.1
	comp=Z,6.0nm,0.9s						
EKS2	Erkin-Say	81.91	314	eP	P	07 53 54.0	-0.2
EKS2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
EKS2	Erkin-Say	81.91	314	eP	P	07 53 54.0	-0.2
	comp=Z,4.8nm,0.8s						
RC01	Rabbit Creek A	82.11	26	eP	P	07 53 54.6	0.0
	comp=Z,15nm,1.0s						
MAW	Mawson	82.84	203	P	P	07 53 58.7	+0.4
	comp=Z,9.9nm,0.7s,baz=111,slow=3.0,SNR=6.5						
IM04	Indian Mountai	82.89	21	eP	P	07 53 59.0	+0.4
KK31	Karatay Array	84.34	314	i P	P	07 54 05.7	-0.8
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KKAR	Karatay Array	84.34	314	eP	P	07 54 04.8	-1.7
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KKAR	Karatay Array	84.34	314	eP	P	07 54 04.8	-1.7
	comp=Z,7.7nm,1.0s						
COLA	College	84.55	23	eP	P	07 54 06.3	-0.7
COLA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
COLA	College	84.55	23	eP	P	07 54 06.2	-0.7
	comp=Z,9.1nm,1.0s						
COLD	Coldfoot	84.75	20	eP	P	07 54 09.0	+1.0
	comp=Z,7.0nm,1.1s						
ILAR	Eielson Array	84.88	23	P	P	07 54 07.8	-0.9
	comp=Z,8.4nm,1.0s,baz=255,slow=4.9,SNR=45						
MENT	Mentasta	85.46	25	eP	P	07 54 11.9	+0.3
BVA0	Borovoye Array	86.71	324	i P	P	07 54 16.2	-1.7

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	Borovoye	86.78	324	eP	P	07 54 17.3	-1.0
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	Borovoye	86.78	324	eP	P	07 54 17.3	-1.0
	comp=Z,3.9nm,0.8s						
EGAK	Eagle	87.16	24	eP	P	07 54 20.1	+0.3
	comp=Z,21nm,1.2s						
HYT	Haines Junctio	87.57	28	eP	P	07 54 24.4	+2.4
AB31	Akbulak array	92.58	319	iP	P	07 54 43.3	-2.1
ABKAR	Akbulak array	92.58	319	eP	P	07 54 43.6	-1.8
	comp=Z,1.8nm,0.7s						
YKA	Yellowknife Ar	98.55	28	P	Pdif	07 55 12.6	+0.3
	comp=Z,0.7nm,0.8s,baz=273,slow=4.7,SNR=10						
YKA				pP	pP	07 55 59.4	+0.2
	comp=Z,0.5nm,1.0s,baz=274,slow=4.3,SNR=2.8						
YKA				PKKPbc	PKKPbc	08 11 40.2	-3.6
	comp=Z,0.1nm,0.4s,baz=93,slow=2.7,SNR=6.7						
PDAR	Pinedale Array	103.25	48	Pdiff	Pdif	07 55 34.0	+0.1
	comp=Z,0.7nm,0.9s,baz=255,slow=2.9,SNR=4.6						
ARCES	ARCESS Array B	106.00	342	Pdiff	Pdif	07 55 44.4	-0.9
	comp=Z,2.8nm,0.9s,baz=70,slow=8.0,SNR=3.9						
ARCES				PKKPbc	PKKPbc	08 11 18.2	-4.1
	comp=Z,3.3nm,0.8s,baz=300,slow=2.7,SNR=8.4						
TXAR	Lajitas Array	109.11	61	PKKP	PKKPab	08 11 23.9	+0.4
	comp=Z,0.2nm,0.7s,baz=101,slow=6.5,SNR=3.5						
FINES	FINESS Array B	109.50	334	Pdiff	Pdif	07 56 01.7	+0.7
	comp=Z,0.3nm,0.5s,baz=72,slow=6.2,SNR=4.3						
LBTB	Lobatse	115.90	239	ePKIKP	PKPdf	08 00 16.3	-0.3
LBTB	Lobatse	115.90	239	ePKPdf	PKPdf	08 00 16.3	-0.3
LSZ	Lusaka	116.43	250	ePKIKP	PKPdf	08 00 18.5	+0.7
LSZ	Lusaka	116.43	250	ePKPdf	PKPdf	08 00 18.5	+0.7
GERES	GERESS Array B	121.83	326	PKP	PKPdf	08 00 26.4	-0.9
	comp=Z,0.9nm,0.6s,baz=68,slow=1.4,SNR=12						
PLCA	Paso Flores	122.21	146	PKP	PKPdf	08 00 27.3	-1.0
	comp=Z,0.8nm,0.3s,baz=219,slow=6.7,SNR=2.9						
LPAZ	La Paz	138.60	122	PKhKP	PKPpre	08 00 51.0	
	comp=Z,0.9nm,0.6s,baz=272,slow=2.8,SNR=4.4						
LPAZ				SKPbc	SKPbc	08 04 18.9	+1.3
	comp=Z,2.0nm,0.9s,baz=271,slow=4.2,SNR=4.7						
SDV	Santo Domingo	142.03	83	ePKPdf	PKPdf	08 01 00.7	-5.6
LRS	Lares	144.18	66	ePKPdf	PKPab	08 01 07.1	-0.8
CELP	Cerrillos	144.48	67	ePKPdf	PKPdf	08 01 09.4	-0.2
SJG	San Juan	144.86	66	ePKIKP	PKPbc	08 01 09.2	-1.2
SJG	San Juan	144.86	66	ePKPbc	PKPbc	08 01 09.2	-1.2
TOA0	Torodi Ar. Sit	145.47	285	ePKPbc	PKPdf	08 01 11.9	-0.1
TORD	Torodi Ar. Bea	145.47	285	PKPbc	PKPdf	08 01 11.8	-0.2
	comp=Z,6.7nm,0.5s,baz=79,slow=2.9,SNR=50						
TORD				pPKPbc	pPKPbc	08 01 57.8	-2.9
	comp=Z,2.8nm,0.8s,baz=72,slow=2.9,SNR=2.9						
TORD				SKPbc	SKPbc	08 04 31.3	-2.9
	comp=Z,2.3nm,0.7s,baz=65,slow=2.3,SNR=5.3						
SAML	Samuel	146.18	115	ePKPbc	PKPdf	08 01 13.9	+0.6
SAML				epPKPdf	pPKPdf	08 02 02.3	-0.1
PTGA	Pitinga	151.87	102	ePKPbc	PKPbc	08 01 28.7	-0.4
PTGA				ePKPab	PKPab	08 01 37.9	-0.9
DBIC	Dimbokro	152.50	274	PKPbc	PKPbc	08 01 30.1	-0.3
	comp=Z,3.4nm,0.8s,baz=98,slow=4.7,SNR=3.6						
BDFB	Brasilia	153.93	144	PKPbc	PKPbc	08 01 33.1	-0.4
	comp=Z,3.2nm,0.4s,baz=166,slow=4.8,SNR=10						
BDFB				pPKPbc	pPKPbc	08 02 22.0	-0.5
	comp=Z,3.7nm,0.9s,baz=180,slow=5.8,SNR=2.5						

MEX 07 07:44:35.4±0.6,18°.05N×103°.39W,h5km,MD3.6,Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
MMIG	Aquila	0.24	9	eP	Pg	07 44 39.4	-0.7
MMIG				eS	Sg	07 44 43.1	-0.2
R15V		1.25	333	iP	Pg	07 44 55.7	-3.8
R15V				iS	Sg	07 45 11.8	-4.0
EZ5V		1.43	352	iP	Pn	07 44 58.6	-3.9
EZ5V				eS	Sb	07 45 17.3	-4.5
ARIG	Puente Sto Nin	2.90	85	eP	Pn	07 45 19.7	-2.6
ARIG				iS	Sn	07 45 54.0	-3.6

IDC 07 07:50:56.9±4.6,6°.85S×132°.68E,h0km,mb3.6/1, mb1 3.9/3,mb1mx3.5/25,mbtmp3.7/3,ML3.7/2,MS2.5/1, Ms1 2.5/1,ms1mx2.5/26,Error ellipse: s-maj=292.2km s-min=33.1km az=75.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
WRA	Warramunga Arr	13.11	173	Pn	Pn	07 54 04.3	-0.3
	0.4nm,0.3s,baz=353,slow=13,SNR=12						
WRA				Sn	Sn	07 56 21.9	-9.4
	0.1nm,0.3s,baz=360,slow=23,SNR=2.5						
ASAR	Alice Springs	16.76	176	Pn	Pn	07 54 53.5	+0.2
	0.3nm,0.3s,baz=356,slow=11,SNR=5.7						
TGY	Tagaytay City	23.86	331	LR	LR	08 07 59.8	
	comp=Z,10nm,20.1s,baz=105,slow=43						
MKAR	Makanchi Array	69.58	326	P	P	08 02 07.9	0.0
	0.5nm,0.7s,baz=123,slow=7.7,SNR=5.3						

ISCJB 07 08:04:33.4±0.6,29°.23N±0°.03×130°.49E±0°.08,h58km±5km, mb3.8/16,Error ellipse: s-maj=11.9km s-min=4.2km az=21.4
JMA 07 08:04:33.1±0.1,29°.23N×130°.44E,h64km±5km,M3.4
IDC 07 08:04:35.3±1.9,29°.30N×130°.49E,h56km±17km,mb3.5/16, mb1 3.7/19,mb1mx3.6/31,mbtmp3.8/19,ML3.0/4,Error ellipse: s-maj=19.8km s-min=12.1km az=90.0
ISC 07 08:04:34.6±1.1,29°.24N±0°.05×130°.44E±0°.08,h50km±10km, n30,σ0s.83/40,mb3.7/16,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
JNN	Nakanoshima	0.78	321	P	Pn	08 04 48.5	-0.8
JNN				S	Sn	08 05 00.5	+0.4
JYAK	Yakushimahirau	1.00	4	P	Pn	08 04 51.4	-0.9
JYAK				eS	Sn	08 05 05.8	+0.5
JZK	Kikaishima	1.01	204	P	Pn	08 04 51.6	-0.8
JTAJ	Takarajima	1.08	266	P	Pn	08 04 52.9	-0.5
JAM	Amami Oshima	1.10	222	P	Pn	08 04 52.4	-1.3
JAM				S	Sn	08 05 08.0	+0.2
JKC	Kuchinoerabu	1.24	350	P	Pn	08 04 55.0	-0.5
JKC				S	Sn	08 05 12.6	+1.5
JTN	Tanegashima 3	1.49	18	P	Pn	08 04 58.2	-0.7
JTN				S	Sn	08 05 18.6	+1.4
JAMN	Amaminishikomi	1.49	228	P	Pn	08 04 57.7	-1.2
JAMN				eS	Sn	08 05 18.0	+0.8
JTK	Tokunoshima	1.95	222	P	Pn	08 05 04.8	-0.5
JTK				S	Sn	08 05 29.4	+0.8
JTSR	Tashiro 2	1.96	12	P	Pn	08 05 05.1	-0.4
JTSR				S	Sn	08 05 29.4	+0.4
JOW	Kunigami	3.07	219	P	Pn	08 05 22.0	+1.4
	0.9nm,0.3s,baz=71,slow=16,SNR=4.2						
JNU	Nakatsue	3.89	5	P	Pn	08 05 32.2	+0.3
	3.5nm,0.3s,baz=187,slow=13,SNR=82						
JNU				S	Sn	08 06 16.1	-0.2
	1.8nm,0.3s,baz=233,slow=20,SNR=6.7						
KSRS	Korea Array	8.46	346	P	Pn	08 06 34.9	+0.5
	0.2nm,0.3s,baz=154,slow=15,SNR=7.8						
MJAR	Matsushiro Arr	9.78	40	P	Pn	08 06 52.9	+0.4
	0.3nm,0.3s,baz=224,slow=14,SNR=2.8						
SONM	Songino Array	26.25	322	P	P	08 10 04.2	-0.9
	0.4nm,0.7s,baz=125,slow=9.7,SNR=3.0						
MKAR	Makanchi Array	41.08	309	P	P	08 12 13.3	-0.1
	0.8nm,0.8s,baz=99,slow=10,SNR=8.3						
MKAR				PcP	PcP	08 14 10.9	-1.4
	0.3nm,0.8s,baz=90,slow=4.8,SNR=2.9						
ZALV	Zalesovo Beam	41.12	320	P	P	08 12 13.1	-0.5
	0.7nm,0.5s,baz=101,slow=7.7,SNR=3.6						
KURBB	Kurchatov Arra	44.10	314	P	P	08 12 38.0	+0.2
	3.1nm,0.6s,baz=101,slow=8.9,SNR=24						
WRA	Warramunga Arr	49.04	175	P	P	08 13 16.0	-0.7
	0.3nm,0.6s,baz=354,slow=8.3,SNR=6.4						
BVAR	Borovoye Array	49.39	316	P	P	08 13 19.2	+0.1
	2.8nm,0.6s,baz=93,slow=9.8,SNR=23						
ASAR	Alice Springs	52.71	176	P	P	08 13 45.8	+1.6
	0.1nm,0.3s,baz=10,slow=12,SNR=6.3						
ILAR	Eielson Array	60.87	29	P	P	08 14 40.5	-1.1
	0.4nm,0.8s,baz=290,slow=8.2,SNR=7.3						
STKA	Stephens Creek	61.70	169	P	P	08 14 47.9	+0.3
	2.5nm,1.0s,baz=92,slow=9.0,SNR=3.8						
INK	Inuvik	65.36	24	P	P	08 15 11.3	+0.1
	0.5nm,0.5s,baz=309,slow=6.7,SNR=6.4						
KBZ	Khabaz	68.78	309	P	P	08 15 34.6	+1.2
	2.8nm,0.9s,baz=160,slow=1.3,SNR=4.1						
FINES	FINESS Array B	71.21	331	P	P	08 15 48.1	+0.1
	1.3nm,0.8s,baz=66,slow=5.2,SNR=7.4						
AKASG	Malin Array Be	74.52	320	P	P	08 16 07.7	-0.1
	1.5nm,0.5s,baz=58,slow=6.3,SNR=7.4						
YKA	Yellowknife Ar	74.98	26	P	P	08 16 10.4	+0.2
	0.3nm,0.8s,baz=305,slow=5.4,SNR=7.1						
BRTR	Keskin Array B	76.73	308	P	P	08 16 21.5	+0.6
	1.6nm,0.7s,baz=95,slow=5.3,SNR=9.0						
NOA	NORSAR Array B	77.47	334	P	P	08 16 23.8	-0.7
	0.7nm,0.9s,baz=52,slow=5.1,SNR=2.9						

IDC 07 08:11:54.4±6.8,0°.79S×132°.71E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.4/20,mbtmp3.3/3,ML3.4/1,Error ellipse: s-maj=422.3km s-min=28.7km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
WRA	Warramunga Arr	19.10	175	P	P	08 16 18.4	-0.6
	0.1nm,0.3s,baz=356,slow=13,SNR=8.1						
ASAR	Alice Springs	22.77	177	P	P	08 16 59.1	+0.5
	0.5nm,0.3s,baz=357,slow=12,SNR=15						
MKAR	Makanchi Array	64.67	324	P	P	08 22 34.1	-0.1
	0.2nm,0.6s,baz=116,slow=6.7,SNR=3.2						

IDC 07 08:36:04.8±0.8,67°.32N×20°.95E,h0km,mb1 2.9/4, mb1mx2.8/43,mbtmp2.9/4,ML2.2/4,Error ellipse: s-maj=15.6km s-min=6.0km az=116.0
ISCJB 07 08:36:05.1±0.7,67°.07N±0°.04×20°.7E±0°.1,h0km,Error ellipse: s-maj=8.5km s-min=5.1km az=10.3
NAO 07 08:36:07.8±1.1,67°.13N×20°.84E,ML2.4
CSEM 07 08:36:07.3±0.5,67°.13N×20°.68E,h2km,ML1.9,Error ellipse: s-maj=16.2km s-min=8.9km az=101.0,Mining explosion.
BER 07 08:36:09.4±3.2,67°.20N×20°.51E,h0km,ML2.1, ML2.4(NAO),Suspected explosion
HEL 07 08:36:12.6±0.4,67°.36N×21°.60E,h0km,ML1.9,Explosion
ISC 07 08:36:05.3±0.8,67°.20N±0°.03×20°.85E±0°.04,h0km,n28, σ1s.76/45,Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
LANU	Lannavaara	0.96	27	eP	Pn	08 36 26.2	+0.2
LANU				eS	Sg	08 36 34.2	-1.8
LANU	Lannavaara	0.96	27	P	Pn	08 36 26.1	+0.2
HEF	Hetta	1.62	40	eP	Pg	08 36 36.8	+0.5
HEF				eS	Sn	08 36 52.6	-3.9
HEF				MSG		08 37 02.9	
	comp=Z,9.9nm,0.2s						
HEF	Hetta	1.62	40	P	Pg	08 36 36.7	+0.5
KIF	Kilpisjarvi	1.81	359	eP	Pg	08 36 42.4	+2.4
KIF				eS	Sg	08 37 05.0	+1.5
KIF				MSG		08 37 09.8	
	comp=Z,15nm,0.2s						
KIF	Kilpisjarvi	1.81	359	P	Pg	08 36 42.3	+2.4
KIF				S	Sg	08 37 04.9	+1.5
KTK1	Kautokeino	2.03	25	eSg	Sg	08 37 12.7	+2.4
KTK1				IAML		08 37 13.3	
	comp=N,24nm,0.4s						
RNF	Rovaniemi	2.12	104	eP	Pg	08 36 45.8	-0.1
RNF				eS	Sn	08 37 09.8	+0.9
RNF	Rovaniemi	2.12	104	P	Pg	08 36 45.7	-0.1
RNF				S	Sn	08 37 09.8	+0.9
SGF	Sodankyl	2.21	81	eP	Pb	08 36 46.5	+0.4
SGF				eS	Sn	08 37 10.2	-1.0
SGF	Sodankyl	2.21	81	P	Pb	08 36 46.3	+0.4
MOR8	Moi Rana	2.75	251	eSg	Sn	08 37 25.3	+0.8
MOR8				IAML		08 37 31.4	
	comp=Z,28nm,0.5s						
MOR8	Moi Rana	2.75	251	eSg	Sn	08 37 25.3	+0.8
	SNR=90						
ARA0	ARCESS Array S	2.91	34	Pn	Pb	08 36 56.3	-1.7
	baz=212,slow=16						
ARA0				Sn	Sb	08 37 32.8	-1.3
	baz=210,slow=22						
ARA0	ARCESS Array S	2.91	34	Pn	Pb	08 36 56.3	-1.7
	baz=212,slow=16						
ARA0				Sn	Sb	08 37 32.8	-1.3
	baz=210,slow=22						
ARA0	ARCESS Array S	2.91	34	Pn	Pb	08 36 56.3	-1.7
	SNR=50						
ARA0				Sn	Sb	08 37 32.8	-1.3
	SNR=50						
ARCES	ARCESS Array B	2.91	34	Pn	Pn	08 36 49.1	-3.7
	comp=Z,0.1nm,0.3s,baz=216,slow=12,SNR=8.5						
ARCES				Pg	Pb	08 36 55.6	-2.4
	comp=Z,0.8nm,0.3s,baz=217,slow=12,SNR=19						
ARCES				Lg	Lg	08 37 30.6	
	comp=Z,2.1nm,0.3s,baz=219,slow=32,SNR=9.6						
FIA0	FINESS Array S	6.21	156	Pn	Pn	08 37 40.1	+2.1
	baz=344,slow=14						
FIA0				Sn	Sn	08 38 50.1	+0.5
	baz=341,slow=28						
FIA0				Lg	Lg	08 39 21.9	
	baz=338,slow=28						
FIA0	FINESS Array S	6.21	156	Pn	Pn	08 37 40.1	+2.1
	baz=344,slow=14						
FIA0				Sn	Sn	08 38 50.1	+0.5
	baz=341,slow=28						
FIA0				Lg	Lg	08 39 21.9	
	baz=338,slow=28						
FIA0	FINESS Array S	6.21	156	Pn	Pn	08 37 40.1	+2.1
	SNR=50						
FIA0				Sn	Sn	08 38 50.1	+0.5
	SNR=50						
FIA0				Lg	Lg	08 39 21.9	
	SNR=7.3						
FINES	FINESS Array B	6.21	156	Pn	Pn	08 37 40.5	+2.5
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=6.8						
FINES				Sn	Sn	08 38 50.3	+0.7
	comp=Z,0.3nm,0.3s,baz=341,slow=21,SNR=6.0						
FINES				Lg	Lg	08 39 21.8	
	comp=Z,0.7nm,0.3s,baz=340,slow=27,SNR=10						
NB2	NORSAR Subarra	7.47	219	Lg	Lg	08 39 57.8	
	baz=25,slow=37						
NB2	NORSAR Subarra	7.47	219	Lg	Lg	08 39 57.8	
	baz=25,slow=37						
NOA	NORSAR Array B	7.47	219	Pn	Pn	08 37 55.9	+0.5
	comp=Z,0.1nm,0.3s,baz=27,slow=11,SNR=4.0						
NOA				Sn	Sn	08 39 16.9	-4.0
	comp=Z,0.2nm,0.3s,baz=35,slow=18,SNR=3.1						
NOA				Lg	Lg	08 39 55.9	
	comp=Z,0.4nm,0.3s,baz=41,slow=15,SNR=5.4						
HFS	Hagfors	7.77	207	Pn	Pn	08 37 59.5	+0.1
	baz=25,slow=14						
HFS				Sn	Sn	08 39 25.4	-2.6
	baz=34,slow=22						
HFS				Lg	Lg	08 40 07.5	
	baz=28,slow=28						
HFS	Hagfors	7.77	207	Pn	Pn	08 37 59.5	+0.1
	baz=25,slow=14						
HFS				Sn	Sn	08 39 25.4	-2.6
	baz=34,slow=22						
HFS				Lg	Lg	08 40 07.5	
	baz=28,slow=28						
HFS	Hagfors	7.77	207	Pn	Pn	08 37 59.6	+0.1
	comp=Z,0.2nm,0.3s,baz=25,slow=12,SNR=7.8						
HFS				Sn	Sn	08 39 24.9	-3.1
	comp=Z,0.2nm,0.3s,baz=25,slow=22,SNR=6.3						
HFS				Lg	Lg	08 40 06.9	
	comp=Z,0.2nm,0.3s,baz=38,slow=28,SNR=2.7						
HFS	Hagfors	7.77	207	Pn	Pn	08 37 59.5	+0.1
	SNR=50						
HFS				Sn	Sn	08 39 25.4	-2.6
	SNR=50						

IDC 07 08:42:33.2±2.0,2°.10N×127°.81E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.3/33,mbtmp3.4/3,Error ellipse: s-maj=135.5km s-min=24.4km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
WRA	Warramunga Arr	22.83	164	P	P	08 47 38.4	+0.3
	1.1nm,0.5s,baz=344,slow=11,SNR=15						
ASAR	Alice Springs	26.29	167	P	P	08 48 10.2	-0.5
	0.3nm,0.3s,baz=343,slow=7.6,SNR=14						
MKAR	Makanchi Array	59.50	325	P	P	08 52 38.4	+0.1
	0.2nm,0.6s,baz=110,slow=7.8,SNR=3.5						

ISCJB 07 08:49:13.2±0.5,67°.13N±0°.03×20°.60E±0°.08,h0km,Error ellipse: s-maj=4.7km s-min=3.6km az=8.7
UPP 07 08:49:14.4,67°.17N×20°.64E,h0km,ML1.5,Suspected Mining explosion.
CSEM 07 08:49:14.4±0.1,67°.17N×20°.58E,h2km,ML2.1,Error ellipse: s-maj=3.5km s-min=2.8km az=81.0,Mining explosion.
IDC 07 08:49:14.9±0.9,67°.15N×20°.79E,h0km,mb1 2.8/4, mb1mx2.8/38,mbtmp2.8/4,ML2.4/4,Error ellipse: s-maj=14.9km s-min=7.3km az=118.0
HEL 07 08:49:15.1±0.1,67°.17N×20°.66E,h0km,ML2.1, ML1.5(UPP),Explosion
NAO 07 08:49:15.0±1.1,67°.16N×20°.76E,ML2.2
BER 07 08:49:17.6±3.4,67°.17N×20°.47E,h0km,ML2.0, ML2.2(NAO),Suspected explosion
ISC 07 08:49:13.5±0.7,67°.16N±0°.02×20°.55E±0°.03,h0km,n53, σ1s.04/81,Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
MASU	Masugnsbyn	0.64	62	iP	Pg	08 49 25.9	+0.2
MASU				iS	Sg	08 49 34.5	+0.5
MASU	Masugnsbyn	0.64	62	P	Pg	08 49 25.9	+0.2
MASU				S	Sg	08 49 34.4	+0.5
MASU	Masugnsbyn	0.64	62	P	Pg	08 49 25.9	+0.2
MASU				S	Sg	08 49 34.5	+0.5
KUA	Kurravaara	0.80	354	iP	Pg	08 49 29.2	+0.3
KUA	Kurravaara	0.80	354	P	Pg	08 49 29.2	+0.3
KUA	Kurravaara	0.80	354	P	Pg	08 49 29.2	+0.3
SALU	Saltoluokta	0.82	286	iP	Pb	08 49 30.8	0.0
SALU	Saltoluokta	0.82	286	P	Pb	08 49 30.7	0.0
SALU	Saltoluokta	0.82	286	P	Pb	08 49 30.8	0.0
ERTU	Ertsjaerv	0.89	132	iP	Pg	08 49 30.5	-0.1
ERTU	Ertsjaerv	0.89	132	P	Pg	08 49 30.5	-0.1
ERTU	Ertsjaerv	0.89	132	P	Pg	08 49 30.5	-0.1
NIKU	Nikkaluokta	0.92	321	eP	Pg	08 49 31.8	+0.7
NIKU	Nikkaluokta	0.92	321	P	Pg	08 49 31.8	+0.7
NIKU	Nikkaluokta	0.92	321	P	Pg	08 49 31.8	+0.7
HARU	Harads	1.02	170	eP	Pg	08 49 33.4	+0.4
HARU	Harads	1.02	170	P	Pg	08 49 33.3	+0.4
HARU	Harads	1.02	170	P	Pg	08 49 33.4	+0.4
LANU	Lannavaara	1.05	31	eP	Pg	08 49 33.1	-0.5
LANU	Lannavaara	1.05	31	P	Pg	08 49 33.2	-0.5
LANU	Lannavaara	1.05	31	P	Pg	08 49 33.1	-0.5
SJUU	Sjulsmark	1.71	165	eP	Pb	08 49 45.6	-0.3
SJUU	Sjulsmark	1.71	165	P	Pb	08 49 45.5	-0.3
SJUU	Sjulsmark	1.71	165	P	Pb	08 49 45.6	-0.3
HEF	Hetta	1.72	42	eP	Pn	08 49 44.6	-0.1
HEF				eS	Sn	08 50 07.0	-0.4
HEF				MSG		08 50 10.7	
	comp=Z,12nm,0.2s						
HEF	Hetta	1.72	42	P	Pn	08 49 44.6	-0.1
HEF				S	Sn	08 50 07.0	-0.4
KALU	Kalix	1.73	138	eP	Pn	08 49 45.3	+0.5
KALU	Kalix	1.73	138	P	Pn	08 49 45.2	+0.5
KALU	Kalix	1.73	138	P	Pn	08 49 45.3	+0.5
KIF	Kilpisjarvi	1.85	3	eP	Pb	08 49 48.2	-0.1
KIF				eS	Sg	08 50 12.7	-0.4
KIF				MSG		08 50 17.4	
	comp=Z,14nm,0.3s						
KIF	Kilpisjarvi	1.85	3	P	Pb	08 49 48.1	-0.1
KIF				S	Sg	08 50 12.6	-0.4
KTK1	Kautokeino	2.12	27	eP	Pb	08 49 52.3	-0.4
KTK1				eS	Sb	08 50 19.5	0.0
KTK1				IAML		08 50 22.8	
	comp=N,18nm,0.4s						
RNF	Rovaniemi	2.23	102	eP	Pn	08 49 52.9	+1.3
RNF				eS	Sn	08 50 20.4	+0.6
RNF	Rovaniemi	2.23	102	P	Pn	08 49 52.9	+1.3
RNF				S	Sn	08 50 20.4	+0.6
SGF	Sodankyl	2.34	80	eP	Pn	08 49 54.8	+1.6
SGF				eS	Sn	08 50 23.8	+1.3
SGF	Sodankyl	2.34	80	P	Pn	08 49 54.7	+1.6
SGF				S	Sn	08 50 23.8	+1.3
ARA0	ARCESS Array S	3.01	35	Pn	Pn	08 50 03.4	+0.9
	baz=209,slow=16						
ARA0				Sn	Sn	08 50 40.0	+0.8
	baz=214,slow=22						
ARA0	ARCESS Array S	3.01	35	Pn	Pn	08 50 03.4	+0.9
	baz=209,slow=16						
ARA0				Sn	Sn	08 50 40.0	+0.8
	baz=214,slow=22						
ARA0	ARCESS Array S	3.01	35	Pn	Pn	08 50 03.4	+0.9
	baz=209,slow=15,SNR=50						
ARA0				Sn	Sn	08 50 40.0	+0.8
	baz=214,slow=22,SNR=50						
ARCES	ARCESS Array B	3.01	35	Pn	Pn	08 50 03.4	+1.0
	comp=N,0.6nm,0.3s,baz=217,slow=12,SNR=13						
ARCES				Sn	Sn	08 50 39.2	0.0
	comp=N,1.7nm,0.3s,baz=216,slow=22,SNR=8.3						
KEV	Kevo	3.53	39	eP	Pn	08 50 10.0	+0.5
KEV				eS	Sn	08 50 51.1	-0.9
KEV	Kevo	3.53	39	P	Pn	08 50 10.0	+0.5
KEV				S	Sn	08 50 51.0	-0.9
KU6	Riekki	3.90	103	eP	Pn	08 50 14.9	+0.3
KU6				eS	Sn	08 51 00.6	-0.5
KU6	Riekki	3.90	103	P	Pn	08 50 14.9	+0.3
KU6				S	Sn	08 51 00.5	-0.5
FIA0	FINESS Array S	6.22	155	Pn	Pn	08 50 48.4	+1.9
	baz=351,slow=14						
FIA0				Sn	Sn	08 51 59.0	+0.8
	baz=340,slow=22						
FIA0				Lg	Lg	08 52 29.1	
	baz=353,slow=28						
FIA0	FINESS Array S	6.22	155	Pn	Pn	08 50 48.4	+1.9
	baz=351,slow=14						
FIA0				Sn	Sn	08 51 59.0	+0.8
	baz=340,slow=22						
FIA0				Lg	Lg	08 52 29.1	
	baz=353,slow=28						
FIA0	FINESS Array S	6.22	155	Pn	Pn	08 50 48.4	+1.9
	baz=351,slow=12,SNR=50						
FIA0				Sn	Sn	08 51 59.0	+0.8
	baz=340,slow=21,SNR=50						
FINES	FINESS Array B	6.22	155	Pn	Pn	08 50 48.1	+1.6
	comp=N,0.1nm,0.3s,baz=338,slow=8.2,SNR=4.7						
FINES				Sn	Sn	08 51 57.9	-0.2
	comp=N,0.2nm,0.3s,baz=342,slow=25,SNR=5.2						
FINES				Lg	Lg	08 52 27.2	
	comp=N,0.5nm,0.3s,baz=343,slow=28,SNR=6.2						
NOA	NORSAR Array B	7.37	218	Pn	Pn	08 51 03.7	+1.4
	comp=N,0.1nm,0.3s,baz=28,slow=10,SNR=3.4						
NOA				Sn	Sn	08 52 23.6	-2.9
	comp=N,0.2nm,0.3s,baz=54,slow=23,SNR=4.5						
NOA				Lg	Lg	08 53 07.7	
	comp=N,0.3nm,0.3s,baz=43,slow=22,SNR=4.7						
HFS	Hagfors	7.68	207	Pn	Pn	08 51 06.7	+0.2
	baz=18,slow=12						
HFS				Sn	Sn	08 52 32.0	-2.1
	baz=29,slow=28						
HFS				Lg	Lg	08 53 14.6	
	baz=17,slow=37						
HFS	Hagfors	7.68	207	Pn	Pn	08 51 06.7	+0.2
	baz=18,slow=12						
HFS				Sn	Sn	08 52 32.0	-2.1
	baz=29,slow=28						
HFS				Lg	Lg	08 53 14.6	
	baz=17,slow=37						
HFS	Hagfors	7.68	207	Pn	Pn	08 51 06.8	+0.4
	comp=N,0.2nm,0.3s,baz=26,slow=11,SNR=8.8						
HFS				Sn	Sn	08 52 29.2	-4.8
	comp=N,0.1nm,0.3s,baz=18,slow=20,SNR=2.7						
HFS				Lg	Lg	08 53 18.8	
	comp=N,0.2nm,0.3s,baz=20,slow=26,SNR=3.5						
HFS	Hagfors	7.68	207	Pn	Pn	08 51 06.7	+0.2
	baz=18,slow=12,SNR=50						

IDC 07 08:54:42.2±8.3,30°.91S×178°.05W,h0km,mb3.3/2, mb1 3.6/2,mb1mx3.5/18,mbtmp3.3/2,Error ellipse: s-maj=350.9km s-min=63.9km az=156.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ASAR	Alice Springs	43.04	268	P	P	09 02 43.5	-0.4
	0.3nm,0.9s,baz=103,slow=7.4,SNR=3.3						
WRA	Warramunga Arr	44.08	273	P	P	09 02 52.2	0.0
	0.3nm,0.3s,baz=110,slow=8.1,SNR=5.7						
FINES	FINESS Array B	145.61	340	PKPbc	PKPdf	09 14 21.4	-0.3
	1.7nm,1.0s,baz=20,slow=4.6,SNR=3.4						

ISCJB 07 09:08:57.9±0.8,51°.6N±0°.1×177°.69E±0°.06,h72km±5km, mb3.5/8,Error ellipse: s-maj=21.7km s-min=5.0km

az=11.2
NEIC **07** *09:08:57.9,51.55N×177.65E,h50km,ML3.5(AEIC),After AEIC.*
IDC **07** *09:09:01.1±4.1,51.97N×177.70E,h72km±26km,mb3.3/8, mb1 3.5/10,mb1mx3.2/30,mbtmp3.6/10,MS3.6/1, Ms1 3.6/1,ms1mx3.0/19,Error ellipse: s-maj=60.4km s-min=21.2km az=179.0*
ISC 07 09:08:59.0±1.1,51.6N±0.1×177.69E±0.05,h65km±9km, n36,σ0.88/39,mb3.6/8,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	Little Sitkin	0.62	61	P	Pn	09 09 12.0	-0.7
LSPA	Little Sitkin	0.64	59	P	Pn	09 09 12.2	-0.7
LSPA				S	Sn	09 09 22.8	-0.3
AMKA	Amchitka	1.04	104	P	Pn	09 09 16.7	-1.0
AMKA				S	Sn	09 09 30.1	-1.6
CETU	Semis' Tuman	1.17	73	P	Pn	09 09 19.3	-0.2
CESW	Semis' Southwe	1.19	76	P	Pn	09 09 19.2	-0.6
CEAP	Semis' Anvil P	1.23	72	P	Pn	09 09 19.9	-0.3
CERB	Semis' Cerberu	1.24	75	P	Pn	09 09 20.1	-0.3
CERB				S	Sn	09 09 37.6	+1.2
CERAA	Semis' Rag'd T	1.27	77	P	Pn	09 09 20.2	-0.5
GAEA	Gareloi East	2.22	85	P	Pn	09 09 33.8	+0.3
SMY	Shemya	2.47	298	P	Pn	09 09 37.5	+0.6
SMY				S	Sn	09 10 05.9	0.0
TASE	Tanaga Southea	2.66	84	P	Pn	09 09 39.8	+0.2
TAFP	Tanaga Falls P	2.70	83	P	Pn	09 09 40.0	-0.1
TAFP				S	Sn	09 10 11.7	+0.1
TAFL	Tanaga Flats	2.75	86	P	Pn	09 09 41.1	+0.4
FX1	Attu Island--F	3.05	296	P	Pn	09 09 43.9	-1.0
	9.2nm,0.3s,baz=168,slow=6.0,SNR=64						
FX1				S	Sn	09 10 19.8	-0.3
	22nm,0.3s,baz=270,slow=22,SNR=14						
FX1	Attu Island--F	3.05	296	P	Pn	09 09 45.4	+0.6
FX1				S	Sn	09 10 19.8	-0.3
KIKV	Kanaga Island	3.20	84	P	Pn	09 09 47.2	+0.3
KIRH	Kanaga Island	3.25	83	P	Pn	09 09 47.6	+0.1
ADK	Adak	3.50	84	P	Pn	09 09 50.7	-0.3
GSCK	Great Sitkin C	3.83	82	P	Pn	09 09 56.4	+0.9
GSMY	Great Sitkin M	3.90	81	P	Pn	09 09 57.2	+0.8
KOKL	Mount Kliuchef	5.06	79	P	Pn	09 10 13.1	+0.7
KOFP	Korovin Flat P	5.12	80	P	Pn	09 10 14.3	+1.1
NIKH	Nikolski High	8.36	75	P	Pn	09 10 59.2	+1.9
PETK	Petropavlovsk-	12.31	285	P	Pn	09 11 53.8	+2.6
	0.1nm,0.3s,baz=90,slow=19,SNR=2.3						
ILAR	Eielson Array	22.45	41	P	P	09 13 51.7	-0.6
	0.4nm,1.0s,baz=234,slow=7.7,SNR=3.3						
MJAR	Matsushiro Arr	31.68	257	LR	LR	09 28 47.1	
	comp=Z,124nm,21.0s,baz=85,slow=37						
H11N2	WAKE ISLAND Hy	32.95	199	T	T	09 50 46.6	
	baz=13,slow=76,SNR=9.9						
H11N3	WAKE ISLAND Hy	32.96	199	T	T	09 50 46.6	
	baz=13,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	32.97	199	T	T	09 50 44.9	
	baz=13,slow=76,SNR=12						
SONM	Songino Array	44.56	295	P	P	09 17 04.9	+0.7
	0.6nm,0.4s,baz=66,slow=8.0,SNR=10.0						
PDAR	Pinedale Array	48.30	70	P	P	09 17 34.2	+0.4
	0.4nm,0.9s,baz=274,slow=2.5,SNR=2.4						
ARCES	ARCESS Array B	57.44	349	P	P	09 18 39.5	-0.9
	3.6nm,0.9s,baz=16,slow=6.3,SNR=5.1						
MKAR	Makanchi Array	58.14	306	P	P	09 18 45.1	-0.6
	0.3nm,0.6s,baz=46,slow=6.6,SNR=5.4						
FINES	FINESS Array B	65.02	345	P	P	09 19 30.9	-0.7
	0.9nm,0.9s,baz=20,slow=6.1,SNR=3.8						
NOA	NORSAR Array B	67.16	353	P	P	09 19 44.1	-1.4
	0.4nm,0.5s,baz=2.9,slow=5.3,SNR=5.4						
AKASG	Malin Array Be	74.59	340	P	P	09 20 30.4	-0.2
	0.2nm,0.3s,baz=26,slow=6.8,SNR=3.4						

IDC 07 09:18:34.6±18.0,10.95S×163.19E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.7/25,mbtmp3.9/4,ML4.0/1,Error ellipse: s-maj=316.7km s-min=46.5km az=42.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.49	165	Pn	Pn	09 21 19.9	-0.2
	1.0nm,0.3s,baz=39,slow=7.8,SNR=38						
DZM				Sn	Sn	09 23 16.5	-13
	0.3nm,0.3s,baz=307,slow=20,SNR=2.1						
STKA	Stephens Creek	28.83	220	P	P	09 24 34.5	-0.2
	0.7nm,0.6s,baz=63,slow=9.0,SNR=2.8						
WRA	Warramunga Arr	29.17	249	P	P	09 24 38.1	+0.2
	0.4nm,0.5s,baz=79,slow=9.4,SNR=6.7						
H11S2	WAKE ISLAND Hy	29.46	7	T	T	09 55 47.0	
	baz=190,slow=78,SNR=14						
H11S3	WAKE ISLAND Hy	29.46	7	T	T	09 55 46.1	
	baz=190,slow=78,SNR=9.0						
H11S1	WAKE ISLAND Hy	29.48	7	T	T	09 55 46.7	
	baz=190,slow=78,SNR=9.8						
ASAR	Alice Springs	30.61	242	P	P	09 24 50.5	-0.1
	0.8nm,0.7s,baz=62,slow=10,SNR=13						
H11N1	WAKE ISLAND Hy	30.69	7	T	T	09 57 17.8	
	baz=189,SNR=9.0						
H11N3	WAKE ISLAND Hy	30.70	7	T	T	09 57 20.4	
	baz=189,slow=74,SNR=9.5						
H11N2	WAKE ISLAND Hy	30.71	7	T	T	09 57 21.6	
	baz=189,slow=74,SNR=7.4						

NNC **07** *09:29:44.5±1.9,43.24N×87.21E,h0km,mb4.0,mpv4.1, Error ellipse: s-maj=17.4km s-min=12.9km az=87.0*
ISCJB **07** *09:29:45.1±0.6,43.28N±0.06×87.07E±0.07,h10km, mb3.6/9,MS4.6/1,Error ellipse: s-maj=8.5km s-min=6.7km az=29.9*
IDC **07** *09:29:45.8±0.8,43.01N×86.67E,h0km,mb3.6/9, mb1 3.8/13,mb1mx3.6/33,mbtmp3.7/13,ML3.7/4,MS3.8/2, Ms1 3.8/2,ms1mx3.1/35,Error ellipse: s-maj=30.0km s-min=13.4km az=44.0*
BJI **07** *09:29:48.0,43.20N×86.94E,h5km,ML4.0/9*
ISC 07 09:29:45.7±0.9,43.26N±0.07×87.24E±0.06,h10km,n39, σ1.70/41,mb3.6/9,12C-11D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	0.66	30	Pg	Pn	09 30 03.4	+2.3
WMQ				Sg	Sn	09 30 14.8	+3.3
WMQ				smax	smax		
	comp=N,4μm,0.6s						
WMQ				smax	smax		
	comp=E,5μm,0.6s						
MK07	Makanchi Array	4.94	317	⇓Sn	Sn	09 31 59.7	+2.5
	15nm,0.3s						
MK07				⇓Lg	Lg	09 32 18.1	
	72nm,0.4s						
MK09	Makanchi Array	4.98	317	⇑Pn	Pn	09 31 01.8	+1.4
	2.0nm,0.3s						
MKAR	Makanchi Array	4.98	317	Pn	Pn	09 31 01.6	+1.1
	2.4nm,0.3s,baz=126,slow=14,SNR=93						
MKAR				Pg	Pb	09 31 12.5	-0.5
	5.9nm,0.3s,baz=138,slow=15,SNR=17						
MKAR				Sn	Sn	09 31 53.2	-4.9
	14nm,0.3s,baz=128,slow=16,SNR=5.9						
MKAR				Lg	Lg	09 32 17.9	
	50nm,0.3s,baz=134,slow=28,SNR=9.1						
ULHL	Ulahol	8.16	267	P	Pn	09 31 45.5	+1.2
	SNR=25						
TKM2	Tokmak 2	8.53	272	⇓Pn	Pn	09 31 50.3	+1.0
	18nm,0.6s						
TKM2				⇑Sn	Sn	09 33 27.6	+1.9
	13nm,0.9s						
TKM2				⇑Lg	Lg	09 34 13.3	
	41nm,0.8s						
TKM2	Tokmak 2	8.53	272	P	Pn	09 31 50.2	+0.8
	SNR=19						
KZA	Kyzart	8.91	267	P	Pn	09 31 55.4	+0.6
	SNR=30						
KBK	Karagaybulak	9.04	270	P	Pn	09 31 56.8	+0.5
	SNR=11						
KSH	Kashi	9.26	250	eP	Pn	09 32 05.9	+6.7
KSH				smax	smax		
	comp=N,25nm,0.7s						
KSH				smax	smax		
	comp=E,24nm,0.9s						
USP	Ospenovka	9.30	274	P	Pn	09 31 59.9	+0.1
	SNR=7.0						
AAK	Ala-Archa	9.37	271	⇓Pn	Pn	09 32 00.7	-0.2
	2.5nm,0.4s						
AAK				⇓Lg	Lg	09 34 38.8	
	23nm,0.8s						
AAK	Ala-Archa	9.37	271	P	Pn	09 32 00.9	+0.1
	SNR=5.7						
AAK	Ala-Archa	9.37	271	Pn	Pn	09 31 59.3	-1.5
	1.7nm,0.3s,baz=96,slow=8.4,SNR=19						
AAK				Lg	Lg	09 34 29.6	
	0.6nm,0.3s,baz=38,slow=12,SNR=2.6						
AAK				LR	LR	09 35 56.7	
	comp=Z,108nm,18.4s,baz=113,slow=41						
UCH	Uchtor	9.42	268	P	Pn	09 32 02.5	+0.7
	SNR=5.5						
KURBB	Kurchatov Arra	9.47	324	⇓Pn	Pn	09 32 02.2	+0.2
	0.9nm,0.3s						
KURBB				⇑Lg	Lg	09 34 44.2	
	93nm,0.7s						
KURBB	Kurchatov Arra	9.47	324	Pn	Pn	09 32 02.4	+0.3
	0.7nm,0.3s,baz=135,slow=12,SNR=12						
KURK	Kurchatov	9.50	325	⇑Pn	Pn	09 32 02.3	-0.2
	0.5nm,0.4s						
KURK				⇓Lg	Lg	09 34 45.0	
	32nm,0.9s						
EKS2	Erkin-Say	9.89	271	P	Pn	09 32 07.7	-0.3
	SNR=5.2						
AML	Almayashu	10.04	268	P	Pn	09 32 25.6	+15
	SNR=5.5						
ZALV	Zalesovo Beam	10.82	352	Pn	Pn	09 32 21.0	+0.5
	1.4nm,0.3s,baz=173,slow=13,SNR=23						
ZALV				Sn	Sn	09 34 16.6	-5.0
	3.5nm,0.3s,baz=173,slow=26,SNR=15						
KK31	Karatay Array	12.22	275	⇓Pn	Pn	09 32 39.9	+0.2
	1.4nm,0.8s						
KK31				⇑Lg	Lg	09 36 16.4	
	3.1nm,0.6s,baz=78,slow=26,SNR=3.8						
VOSK	Vostochnaya	14.40	317	⇑Pn	Pn	09 33 08.0	-1.4
	4.2nm,0.9s						
VOSK				⇓Lg	Lg	09 37 23.7	
	15nm,1.1s						
LZH	Lanzhou	14.64	114	eP	P	09 33 16.3	-3.0
LZH				ePP	PnPn	09 33 28.5	+7.7
BVA0	Borovoye Array	14.87	317	Pn	Pn	09 33 16.4	+0.6
	3.9nm,0.9s,baz=112,slow=13,SNR=8.0						
BVA0				⇓Sn	Sn	09 36 00.9	+0.5
	1.0nm,0.5s						
BVA0				⇑Lg	Lg	09 37 37.6	
	4.7nm,0.9s,baz=127,slow=27,SNR=4.2						
BVAR	Borovoye Array	14.87	317	Pn	Pn	09 33 13.8	-2.0
	0.2nm,0.3s,baz=108,slow=12,SNR=4.6						
BVAR				Sn	Sn	09 35 51.8	-8.6
	0.2nm,0.3s,baz=134,slow=22,SNR=3.4						
BVAR				Lg	Lg	09 37 41.5	
	0.2nm,0.3s,baz=110,slow=25,SNR=4.2						
BRVK	Borovoye	14.94	317	⇑Pn	Pn	09 33 17.5	+0.7
	5.0nm,1.2s						
BRVK				⇑Sn	Sn	09 36 02.4	+0.3
	9.2nm,1.0s						
BRVK				⇑Lg	Lg	09 37 36.1	
	3.9nm,0.7s						
AB31	Akbulak array	19.75	297	⇑Pn	P	09 34 14.3	-1.1
	1.3nm,0.6s						
AKTO	Aktyubinsk	21.14	300	⇓Pn	P	09 34 30.2	-0.4
	1.1nm,0.5s						
AKTO	Aktyubinsk	21.14	300	P	P	09 34 30.1	-0.6
	1.1nm,0.4s,baz=85,slow=9.0,SNR=4.6						
FINES	FINESS Array B	39.81	319	P	P	09 37 19.7	+1.1
	0.9nm,0.9s,baz=70,slow=9.2,SNR=3.9						
ARCES	ARCESS Array B	40.46	331	P	P	09 37 24.9	+1.0
	2.8nm,0.9s,baz=92,slow=7.2,SNR=6.7						
HFS	Hagfors	46.00	318	P	P	09 38 09.0	+0.3
	1.5nm,0.8s,baz=81,slow=9.1,SNR=3.3						
NOA	NORSAR Array B	46.97	320	P	P	09 38 16.8	+0.4
	0.9nm,0.9s,baz=76,slow=7.8,SNR=3.1						
YKA	Yellowknife Ar	73.15	10	P	P	09 41 20.5	+4.6
	0.1nm,0.4s,baz=338,slow=5.8,SNR=3.7						
WRA	Warramunga Arr	76.33	135	P	P	09 41 37.9	+3.0
	0.4nm,0.6s,baz=328,slow=4.5,SNR=12						
TORD	Torodi Ar. Bea	77.90	277	P	P	09 41 43.1	-0.8
	0.2nm,0.4s,baz=28,slow=4.2,SNR=4.3						
ASAR	Alice Springs	79.21	137	P	P	09 41 52.9	+1.9
	0.3nm,0.5s,baz=329,slow=5.8,SNR=11						
ULM	Lac du Bonnet	86.84	2	LR	LR	10 23 51.6	
	comp=Z,218nm,18.5s,baz=153,slow=37						

IDC **07** *09:33:55.5±1.1,34.78N×5.38W,h0km,mb3.6/7, mb1 3.8/10,mb1mx3.6/34,mbtmp3.6/10,ML3.8/3,MS2.4/1, Ms1 2.4/1,ms1mx2.4/31,Error ellipse: s-maj=32.8km s-min=12.5km az=83.0*
IGIL **07** *09:33:56.6,34.86N×5.57W,h0km,ML3.4*
LDG **07** *09:33:57.6±0.7,35.06N×5.90W,h2km,Ml3.2/4,Error ellipse: s-maj=13.7km s-min=7.7km az=7.0*
SFS **07** *09:33:57.0,34.76N×5.88W,h0km,ML3.1*
MDD **07** *09:33:57.5±0.4,34.83N×5.83W,h0km,mbLg3.1/38,Error ellipse: s-maj=5.3km s-min=3.4km az=70.0,PRXIMO*
CSEM **07** *09:33:57.3±0.2,34.89N×5.82W,h5km,ML3.8/7,Error ellipse: s-maj=3.9km s-min=3.2km az=80.0*
INMG **07** *09:33:58.3±1.8,34.89N×5.75W,h2km±15km,ML3.2,Error ellipse: s-maj=7.5km s-min=5.8km az=142.0*
CNRM **07** *09:34:00.4,34.75N×5.70W,h4km,MD3.7*
ISC 07 09:33:56.8±1.2,34.89N±0.03×5.78W±0.03,h7km±9km, n169,σ1.39/297,mb3.7/7,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGT	Taghat	1.02	144	P	Pg	09 34 16.0	-0.3
TGT				S	Sg	09 34 29.0	-0.6
TGT	Taghat	1.02	144	P	Pg	09 34 16.0	-0.3
ECEU	Ceuta	1.05	18	P	Pn	09 34 18.6	+0.6
	55nm,0.3s,SNR=54						
ECEU				S	Sn	09 34 36.4	+3.4
	519nm,1.0s,SNR=8.2						
ECEU	Ceuta	1.05	18	P	Pn	09 34 18.6	+0.6
	55nm,0.3s,SNR=54						
ECEU				S	Sn	09 34 36.4	+3.4
	519nm,1.0s,SNR=8.2						
RTC	Rabat Centre	1.27	225	P	Pn	09 34 23.0	+2.1
RTC				S	Sn	09 34 40.0	+1.9
RTC	Rabat Centre	1.27	225	iP	Pn	09 34 23.0	+2.1
RTC				iS	Sn	09 34 40.0	+1.9
SFS	San Fernando	1.60	348	P	Pg	09 34 27.8	+0.2
SFS				S	Sg	09 34 49.5	+1.1
SFS	San Fernando	1.60	348	P	Pg	09 34 27.8	+0.2
SFS				S	Sg	09 34 49.5	+1.1
REAL	Reales	1.65	16	P	Pb	09 34 28.0	+0.3
REAL	Reales	1.65	16	P	Pb	09 34 28.0	+0.3
TOU	Touzarine	1.67	87	P	Pb	09 34 28.0	+0.1
TOU				S	Sb	09 34 50.0	+0.8
TOU	Touzarine	1.67	87	iP	Pb	09 34 28.0	+0.1
TOU				iS	Sb	09 34 50.0	+0.8
EMIJ	Mijas	1.86	26	P	Pn	09 34 29.2	+0.1
	31nm,0.6s,SNR=17						
EMIJ				S	Sb	09 34 56.0	+1.4
	138nm,0.8s,SNR=30						
EMIJ	Mijas	1.86	26	P	Pn	09 34 29.2	+0.1
	31nm,0.6s,SNR=17						
EMIJ				S	Sb	09 34 56.0	+1.4
	138nm,0.8s,SNR=30						
ESPR	Espera	1.97	358	P	Pn	09 34 30.9	+0.3
	22nm,0.3s,SNR=27						
ESPR				S	Sb	09 34 57.9	+0.1
	49nm,0.4s,SNR=5.6						
ESPR	Espera	1.97	358	P	Pn	09 34 30.9	+0.3
	22nm,0.3s,SNR=27						
ESPR				S	Sb	09 34 57.9	+0.1
	49nm,0.4s,SNR=5.6						
LIJA	Lijar	2.03	9	P	Pb	09 34 33.5	-0.6
LIJA	Lijar	2.03	9	P	Pb	09 34 33.5	-0.6
EMAL	Malaga-Limoner	2.17	30	eP	Pn	09 34 34.5	+1.3
MDT	Midelt	2.29	154	Pn	Pn	09 34 32.0	-3.1
	5.7nm,0.3s,baz=8.6,slow=13,SNR=98						
MDT				LR	LR	09 34 50.3	
	comp=Z,97nm,21.8s,baz=262,slow=27						
MDT				Lg	Lg	09 34 59.8	
	41nm,0.3s,baz=282,slow=15,SNR=12						
KIB	El Ksiba	2.32	185	P	Pn	09 34 36.0	+0.5
KIB				S	Sn	09 35 02.0	-2.3
KIB	El Ksiba	2.32	185	iP	Pn	09 34 36.0	+0.5
KIB				iS	Sn	09 35 02.0	-2.3
ZAI	Zaio	2.50	87	P	Pn	09 34 39.0	+1.1
ZAI				S	Sn	09 35 08.0	-0.6
ZAI	Zaio	2.50	87	eP	Pn	09 34 39.0	+1.1
ZAI				eS	Sn	09 35 08.0	-0.6
TZC	Tazercounte	2.80	192	P	Pn	09 34 42.0	-0.2
TZC				S	Sn	09 35 15.0	-1.3
TZC	Tazercounte	2.80	192	eP	Pn	09 34 42.0	-0.2
TZC				iS	Sn	09 35 15.0	-1.3
SELV	Sierra Elvira	2.87	35	P	Pn	09 34 45.8	+2.8
	20nm,0.6s,SNR=7.9						
SELV				S	Sn	09 35 21.6	+3.8
	36nm,0.6s,SNR=7.9						
SELV	Sierra Elvira	2.87	35	P	Pn	09 34 45.8	+2.8
	20nm,0.6s,SNR=7.9						
SELV				S	Sn	09 35 21.6	+3.8
	36nm,0.6s,SNR=7.9						
PBDV	Barranco-do-Ve	2.92	324	ePn	Pn	09 34 43.4	-0.3
PBDV				eSn	Sn	09 35 19.5	+0.5
PBDV				A	A	09 35 26.1	
	56nm,0.3s						
PBDV	Barranco-do-Ve	2.92	324	P	Pn	09 34 43.4	-0.3
PBDV				S	Sn	09 35 19.5	+0.5
	56nm,0.3s						
PBDV	Barranco-do-Ve	2.92	324	P	Pn	09 34 43.4	-0.3
PBDV				S	Sn	09 35 19.5	+0.5
	56nm,0.3s						
PVAQ	Vaqueiros	2.95	329	ePn	Pn	09 34 44.0	-0.1
PVAQ				eSn	Sn	09 35 20.5	+0.7
PVAQ	Vaqueiros	2.95	329	P	Pn	09 34 44.0	-0.1
PVAQ				S	Sn	09 35 20.5	+0.7
PVAQ	Vaqueiros	2.95	329	P	Pn	09 34 44.0	-0.1
PVAQ				S	Sn	09 35 20.5	+0.7
EMIN	Mina Concepcio	2.96	346	P	Pn	09 34 43.7	-0.4
	12nm,0.3s,SNR=50						
EMIN				S	Sn	09 35 21.0	+1.1
	13nm,0.3s						
EMIN	Mina Concepcio	2.96	346	P	Pn	09 34 43.7	-0.4
	12nm,0.3s,SNR=50						
EMIN				S	Sn	09 35 21.0	+1.1
	13nm,0.3s						
EGRO	El Granado	2.97	333	P	Pn	09 34 44.3	0.0
	58nm,0.3s,SNR=193						
EGRO				S	Sn	09 35 21.3	+1.1
	76nm,0.4s						
EGRO	El Granado	2.97	333	P	Pn	09 34 44.3	0.0
	58nm,0.3s,SNR=193						
EGRO				S	Sn	09 35 21.3	+1.1
	76nm,0.4s						
EQUE	Quentar	2.99	39	P	Pb	09 34 47.9	-2.5
	2.7nm,0.2s,SNR=8.0						
EQUE				S	Sn	09 35 24.4	+3.6
	15nm,0.5s,SNR=4.0						
EQUE	Quentar	2.99	39	P	Pb	09 34 47.9	-2.5
	2.7nm,0.2s,SNR=8.0						
EQUE				S	Sn	09 35 24.4	+3.6
	15nm,0.5s,SNR=4.0						
EBER	Berja	3.09	49	P	Pn	09 34 45.5	-0.6
	17nm,0.5s,SNR=78						
EBER				S	Sn	09 35 24.8	+1.5
	46nm,0.6s,SNR=4.9						
EBER	Berja	3.09	49	P	Pn	09 34 45.5	-0.6
	17nm,0.5s,SNR=78						
EBER				S	Sn	09 35 24.8	+1.5
	46nm,0.6s,SNR=4.9						
ZFT	Errachidia	3.09	157	P	Pn	09 34 46.0	-0.2
ZFT				S	Sn	09 35 21.0	-2.5
ZFT	Errachidia	3.09	157	iP	Pn	09 34 46.0	-0.2
ZFT				iS	Sn	09 35 21.0	-2.5
ECAB	El Cabril	3.19	5	P	Pn	09 34 46.6	-0.8
	12nm,0.2s,SNR=37						
ECAB				S	Sn	09 35 25.7	+0.1
	20nm,0.2s,SNR=6.2						
ECAB	El Cabril	3.19	5	P	Pn	09 34 46.6	-0.8
	12nm,0.2s,SNR=37						
ECAB				S	Sn	09 35 25.7	+0.1
	20nm,0.2s,SNR=6.2						
PCVE	Castro Verde	3.28	327	ePn	Pn	09 34 48.6	0.0
PCVE				eSn	Sn	09 35 29.1	+1.1
PCVE				A	A	09 35 31.2	
	93nm,0.6s						
PCVE	Castro Verde	3.28	327	P	Pn	09 34 48.6	0.0
PCVE				S	Sn	09 35 29.1	+1.1
	93nm,0.6s						
PCVE	Castro Verde	3.28	327	P	Pn	09 34 48.6	0.0
PCVE				S	Sn	09 35 29.1	+1.1
	93nm,0.6s						
PFVI	Vila Bisbo	3.33	313	ePn	Pn	09 34 48.8	-0.4
PFVI				eSn	Sn	09 35 29.9	+0.9
PFVI				A	A	09 35 50.6	
	21nm,0.7s						
PFVI	Vila Bisbo	3.33	313	P	Pn	09 34 48.8	-0.4
	6.7nm,0.2s,SNR=15						
PFVI				S	Sn	09 35 29.2	+0.2
	53nm,0.5s,SNR=7.9						
PFVI	Vila Bisbo	3.33	313	P	Pn	09 34 48.8	-0.4
	6.7nm,0.2s,SNR=15						
PFVI				S	Sn	09 35 29.2	+0.2
	53nm,0.5s,SNR=7.9						
PFVI				eSn	Sn	09 35 29.9	+0.9
	21nm,0.7s						
MORF	Marmelete	3.34	317	eP	Pn	09 34 50.6	+1.1
MORF				eS	Sn	09 35 30.0	+0.5
MORF				AML	AML	09 35 32.1	
	comp=N,78nm,0.3s						
MORF	Marmelete	3.34	317	ePn	Pn	09 34 49.4	-0.1
MORF				eSn	Sn	09 35 30.0	+0.5
MORF				A	A	09 35 36.8	
	comp=N,24nm,0.6s						
MORF	Marmelete	3.34	317	P	Pn	09 34 49.4	-0.1
MORF				S	Sn	09 35 30.0	+0.5
	comp=N,24nm,0.6s						
MORF	Marmelete	3.34	317	P	Pn	09 34 49.4	-0.1
MORF				S	Sn	09 35 30.0	+0.5
	comp=N,24nm,0.6s						
PBAR	Barrancos	3.43	343	ePn	Pn	09 34 50.3	-0.3
PBAR				eSn	Sn	09 35 31.6	+0.1
PBAR				A	A	09 35 39.1	
	comp=N,28nm,0.5s						
PBAR	Barrancos	3.43	343	P	Pn	09 34 50.3	-0.3
PBAR				S	Sn	09 35 31.6	+0.1
	comp=N,28nm,0.5s						
PBAR	Barrancos	3.43	343	P	Pn	09 34 50.3	-0.3
PBAR				S	Sn	09 35 31.6	+0.1
	comp=N,28nm,0.5s						
MESJ	Messejana	3.54	327	eP	Pn	09 34 52.0	-0.1
MESJ				AML	AML	09 35 38.4	
	comp=N,131nm,0.5s						
MESJ	Messejana	3.54	327	P	Pn	09 34 52.0	-0.1
MESJ	Messejana	3.54	327	P	Pn	09 34 52.0	-0.1
PBEJ	Beja	3.55	332	ePn	Pn	09 34 53.6	+1.3
PBEJ				eSn	Sn	09 35 35.5	+1.0
PBEJ				A	A	09 35 41.4	
	comp=N,32nm,0.6s						
PBEJ	Beja	3.55	332	P	Pn	09 34 53.6	+1.3
PBEJ				S	Sn	09 35 35.5	+1.0
	comp=N,16nm,0.6s						
PBEJ	Beja	3.55	332	P	Pn	09 34 53.6	+1.3
PBEJ				S	Sn	09 35 35.5	+1.0
	comp=N,16nm,0.6s						
PTEO	Sao Teotonio	3.56	319	ePn	Pn	09 34 52.1	-0.3
PTEO				eSn	Sn	09 35 36.0	+1.3
PTEO				A	A	09 35 43.3	
	comp=N,47nm,0.5s						
PTEO	Sao Teotonio	3.56	319	P	Pn	09 34 52.1	-0.3
PTEO				S	Sn	09 35 36.0	+1.3
	comp=N,23nm,0.5s						
PTEO	Sao Teotonio	3.56	319	P	Pn	09 34 52.1	-0.3
PTEO				S	Sn	09 35 36.0	+1.3
	comp=N,23nm,0.5s						
EQES	Quesada	3.64	36	P	Pn	09 34 55.3	+1.7
	comp=N,4.3nm,0.3s,SNR=11						
EQES				S	Sn	09 35 38.1	+1.3
	comp=N,41nm,0.6s						
EQES	Quesada	3.64	36	P	Pn	09 34 55.3	+1.7
	comp=N,4.3nm,0.3s,SNR=11						
EQES				S	Sn	09 35 38.1	+1.3
	comp=N,41nm,0.6s						
PNCL	Nicolau / Gran	3.90	326	ePn	Pn	09 34 56.9	-0.2
PNCL				eSn	Sn	09 35 44.3	+1.2
PNCL				A	A	09 35 54.6	
	comp=N,33nm,0.5s						
PNCL	Nicolau / Gran	3.90	326	ePn	Pn	09 34 56.9	-0.2
PNCL				eSn	Sn	09 35 44.3	+1.2
	comp=N,33nm,0.5s						
EBAD	Badajoz	3.98	346	P	Pn	09 34 58.5	+0.3
	comp=N,19nm,0.4s,SNR=64						
EBAD				S	Sn	09 35 45.5	+0.4
	comp=N,32nm,0.6s						
EBAD	Badajoz	3.98	346	P	Pn	09 34 58.5	+0.3
	comp=N,19nm,0.4s,SNR=64						
EBAD				S	Sn	09 35 45.5	+0.4
	comp=N,32nm,0.6s						
EVO	Evora	4.05	334	ePn	Pn	09 34 59.1	0.0
EVO				eSn	Sn	09 35 40.2	-6.6
	comp=N,103nm,0.4s						

EVO Evora 4.05 334 ePn Pn 09 34 59.1 0.0
EVO eSn Sn 09 35 48.1 +1.3
EVO A A 09 35 48.3
comp=N,55nm,0.3s
EVO Evora 4.05 334 P Pn 09 34 59.1 0.0
EVO S Sn 09 35 48.1 +1.3
comp=N,55nm,0.3s
EVO Evora 4.05 334 P Pn 09 34 59.1 0.0
EVO S Sn 09 35 48.1 +1.3
comp=N,55nm,0.3s
OUK Oukaimeden 4.07 206 P Pn 09 35 00.0 +0.2
OUK S Sn 09 35 45.0 -2.8
OUK Oukaimeden 4.07 206 eP Pn 09 35 00.0 +0.2
OUK iS Sn 09 35 45.0 -2.8
EVOP Sao Brissos 4.08 333 ePn Pn 09 34 59.1 -0.5
CIA Chichaoua 4.15 218 P Pn 09 35 03.0 +2.4
CIA S Sn 09 35 48.0 -1.4
CIA Chichaoua 4.15 218 eP Pn 09 35 03.0 +2.4
CIA iS Sn 09 35 48.0 -1.4
PESTR Estremoz 4.22 340 ePn Pn 09 35 02.7 +1.2
PESTR eSn Sn 09 35 51.1 0.0
PESTR A A 09 35 53.8
comp=N,24nm,0.3s
PESTR Estremoz 4.22 340 ePn Pn 09 35 02.7 +1.2
PESTR eSn Sn 09 35 51.1 0.0
comp=N,24nm,0.3s
EMUR La Murta 4.70 50 P Pn 09 35 09.9 +1.8
comp=N,11nm,0.5s,SNR=7.9
EMUR La Murta 4.70 50 P Pn 09 35 09.9 +1.8
comp=N,11nm,0.5s,SNR=7.9
PMRV Marv??o 4.70 345 ePn Pn 09 35 08.9 +0.7
PMRV eSn Sn 09 36 03.6 +0.6
PMRV A A 09 36 22.2
comp=N,26nm,0.6s
PMRV Marv??o 4.70 345 P Pn 09 35 08.9 +0.7
PMRV S Sn 09 36 03.6 +0.6
comp=N,26nm,0.6s
PMRV Marv??o 4.70 345 P Pn 09 35 08.9 +0.7
PMRV S Sn 09 36 03.6 +0.6
comp=N,26nm,0.6s
PMAFR Mafra 4.93 326 ePn Pn 09 35 13.6 +2.4
PMAFR eSn Sn 09 36 09.1 +0.6
PMAFR A A 09 36 12.9
comp=N,38nm,0.5s
PMAFR Mafra 4.93 326 P Pn 09 35 13.4 +2.1
comp=N,18nm,0.3s,SNR=12
PMAFR S Sn 09 36 10.3 +1.8
comp=N,96nm,0.4s,SNR=5.6
PMAFR Mafra 4.93 326 P Pn 09 35 13.4 +2.1
comp=N,18nm,0.3s,SNR=12
PMAFR eSn Sn 09 36 09.1 +0.6
comp=N,38nm,0.5s
PMAFR S Sn 09 36 10.3 +1.8
comp=N,96nm,0.4s,SNR=5.6
ESDC Sonseca Array 4.99 16 P Pn 09 35 13.6 +1.5
comp=N,1.3nm,0.3s,baz=198,slow=13,SNR=20
ESDC S Sn 09 36 10.7 +0.7
comp=N,4.7nm,0.8s,baz=198,slow=23,SNR=16
ESDC Sonseca Array 4.99 16 Pn Pn 09 35 12.9 +0.8
comp=N,2.3nm,0.3s,baz=199,slow=12,SNR=23
ESDC Sn Sn 09 36 11.7 +1.7
comp=N,2.2nm,0.3s,baz=198,slow=23,SNR=6.5
ESDC Sonseca Array 4.99 16 P Pn 09 35 13.6 +1.5
comp=N,1.3nm,0.3s,SNR=20
ESDC S Sn 09 36 10.7 +0.7
comp=N,4.7nm,0.8s,SNR=16
ETOB Tobarra 5.06 41 P Pn 09 35 13.5 +0.4
comp=N,2.8nm,0.3s,SNR=10
ETOB S Sn 09 36 12.2 +0.4
comp=N,5.5nm,0.5s
ETOB Tobarra 5.06 41 P Pn 09 35 13.5 +0.4
comp=N,2.8nm,0.3s,SNR=10
ETOB S Sn 09 36 12.2 +0.4
comp=N,5.5nm,0.5s
PCBR Castelo Branco 5.12 345 ePn Pn 09 35 14.0 +0.2
PCBR eSn Sn 09 36 12.0 -1.2
PCBR A A 09 36 14.0
comp=N,17nm,0.3s
PCBR Castelo Branco 5.12 345 P Pn 09 35 14.0 +0.2
PCBR S Sn 09 36 12.0 -1.2
comp=N,8.4nm,0.3s
PCBR Castelo Branco 5.12 345 P Pn 09 35 14.0 +0.2
PCBR S Sn 09 36 12.0 -1.2
comp=N,8.4nm,0.3s
PTOM Tomar 5.16 337 ePn Pn 09 35 14.8 +0.4
PTOM eSn Sn 09 36 14.1 -0.1
PTOM A A 09 36 23.5
comp=N,28nm,0.7s
PTOM Tomar 5.16 337 P Pn 09 35 14.8 +0.4
PTOM S Sn 09 36 14.1 -0.1
comp=N,14nm,0.7s
PTOM Tomar 5.16 337 P Pn 09 35 14.8 +0.4
PTOM S Sn 09 36 14.1 -0.1
comp=N,14nm,0.7s
EPLA Plasencia 5.17 357 P Pn 09 35 14.8 +0.3
comp=N,6.3nm,0.2s,SNR=37
EPLA S Sn 09 36 13.3 -1.1
comp=N,4.9nm,0.1s,SNR=5.9
EPLA Plasencia 5.17 357 P Pn 09 35 14.8 +0.3
comp=N,6.3nm,0.2s,SNR=37
EPLA S Sn 09 36 13.3 -1.1
comp=N,4.9nm,0.1s,SNR=5.9
PCAS Casmilo, Conde 5.58 338 ePn Pn 09 35 22.3 +2.1
PCAS eSn Sn 09 36 24.4 -0.3
PCAS A A 09 36 52.0
comp=N,23nm,0.6s
PCAS Casmilo, Conde 5.58 338 ePn Pn 09 35 22.3 +2.1
PCAS eSn Sn 09 36 24.4 -0.3
comp=N,23nm,0.6s
MTE Manteigas 5.67 346 ePn Pn 09 35 21.1 -0.4
MTE eSn Sn 09 36 25.3 -1.6
MTE A A 09 36 42.0
comp=N,36nm,0.5s
MTE Manteigas 5.67 346 P Pn 09 35 21.1 -0.4
MTE S Sn 09 36 25.3 -1.6
comp=N,18nm,0.5s
MTE Manteigas 5.67 346 P Pn 09 35 21.1 -0.4
MTE S Sn 09 36 25.3 -1.6
comp=N,18nm,0.5s
GUD Guadarrama 5.88 12 P Pn 09 35 25.4 +0.9
comp=N,4.4nm,0.4s,SNR=19
GUD S Sn 09 36 29.4 -2.8
comp=N,3.1nm,0.4s,SNR=7.9
GUD Guadarrama 5.88 12 P Pn 09 35 25.4 +0.9
comp=N,4.4nm,0.4s,SNR=19
GUD S Sn 09 36 29.4 -2.8
comp=N,3.1nm,0.4s,SNR=7.9
PVIS Viseu 6.05 345 ePn Pn 09 35 28.9 +2.2
PVIS eSn Sn 09 36 35.3 -0.8
PVIS A A 09 36 40.2
comp=N,7.8nm,0.5s
PVIS Viseu 6.05 345 P Pn 09 35 28.9 +2.2
PVIS S Sn 09 36 35.3 -0.8
comp=N,3.9nm,0.5s
PVIS Viseu 6.05 345 P Pn 09 35 28.9 +2.2
PVIS S Sn 09 36 35.3 -0.8
comp=N,3.9nm,0.5s
MVO Moncorvo 6.34 351 ePn Pn 09 35 30.9 +0.2
MVO eSn Sn 09 36 42.4 -0.9
MVO A A 09 36 47.0
comp=N,12nm,0.4s
MVO Moncorvo 6.34 351 P Pn 09 35 30.7 +0.1
comp=N,3.7nm,0.3s,SNR=28
MVO S Sn 09 36 41.8 -1.5
comp=N,22nm,0.4s,SNR=7.9
MVO Moncorvo 6.34 351 ePn Pn 09 35 30.9 +0.2
MVO S Sn 09 36 41.8 -1.5
comp=N,22nm,0.4s,SNR=7.9
MVO eSn Sn 09 36 42.4 -0.9
comp=N,12nm,0.4s
PVRL Vila Real 6.55 347 ePn Pn 09 35 34.2 +0.6
PVRL eSn Sn 09 36 47.3 -1.2
PVRL A A 09 36 49.5
comp=N,11nm,0.5s
PVRL Vila Real 6.55 347 P Pn 09 35 34.2 +0.6
PVRL S Sn 09 36 47.3 -1.2
comp=N,5.6nm,0.5s
PVRL Vila Real 6.55 347 P Pn 09 35 34.2 +0.6
PVRL S Sn 09 36 47.3 -1.2
comp=N,5.6nm,0.5s
ETOR Torete 6.61 25 P Pn 09 35 35.6 +1.2
comp=N,7.0nm,0.4s,SNR=15
ETOR S Sn 09 36 47.6 -2.5
comp=N,6.3nm,0.3s,SNR=7.9
ETOR Torete 6.61 25 P Pn 09 35 35.6 +1.2
comp=N,7.0nm,0.4s,SNR=15
ETOR S Sn 09 36 47.6 -2.5
comp=N,6.3nm,0.3s,SNR=7.9
PTO Porto 6.62 341 ePn Pn 09 35 36.5 +2.1
PTO eSn Sn 09 36 49.4 -0.7
PTO Porto 6.62 341 P Pn 09 35 36.5 +2.1
PTO S Sn 09 36 49.4 -0.7
PTO Porto 6.62 341 P Pn 09 35 36.5 +2.1
PTO S Sn 09 36 49.4 -0.7
POLO Lamas de Olo 6.66 347 ePn Pn 09 35 35.1 0.0
POLO eSn Sn 09 36 49.9 -1.4
POLO A A 09 36 52.3
comp=N,6.3nm,0.5s
POLO Lamas de Olo 6.66 347 ePn Pn 09 35 35.1 0.0
POLO eSn Sn 09 36 49.9 -1.4
comp=N,6.3nm,0.5s
PBRG Braganca 6.94 354 ePn Pn 09 35 38.9 0.0
PBRG eSn Sn 09 36 55.9 -2.2
PBRG A A 09 36 57.7
comp=N,3.5nm,0.5s
PBRG Braganca 6.94 354 P Pn 09 35 38.9 0.0
PBRG S Sn 09 36 55.9 -2.2
comp=N,1.8nm,0.5s
PBRG Braganca 6.94 354 P Pn 09 35 38.9 0.0
PBRG S Sn 09 36 55.9 -2.2
comp=N,1.8nm,0.5s
PCAB Cabril 7.03 346 ePn Pn 09 35 41.9 +1.8
PCAB Cabril 7.03 346 P Pn 09 35 41.9 +1.8
PCAB Cabril 7.03 346 P Pn 09 35 41.9 +1.8
ECAL Calabor 7.08 354 P Pn 09 35 41.4 +0.6
comp=N,4.1nm,0.3s,SNR=7.9
ECAL S Sn 09 36 59.7 -1.8
comp=N,40nm,0.9s,SNR=16
ECAL Calabor 7.08 354 P Pn 09 35 41.4 +0.6
comp=N,4.1nm,0.3s,SNR=7.9
ECAL S Sn 09 36 59.7 -1.8
comp=N,40nm,0.9s,SNR=16
ELOB Lobios 7.19 346 P Pn 09 35 43.4 +1.0
comp=N,8.4nm,0.3s,SNR=7.9
ELOB S Sn 09 37 01.4 -2.9
comp=N,7.7nm,0.4s,SNR=12
ELOB Lobios 7.19 346 P Pn 09 35 43.4 +1.0
comp=N,8.4nm,0.3s,SNR=7.9
ELOB S Sn 09 37 01.4 -2.9
comp=N,7.7nm,0.4s,SNR=12
EARI Arriondas 8.41 3 P Pn 09 36 01.8 +2.8
comp=N,1.1nm,0.2s,SNR=14
EARI S Sn 09 37 28.7 -5.5
comp=N,49nm,1.1s,SNR=5.7
EMAZ Mazaricos 8.42 344 P Pn 09 36 01.2 +2.0
comp=N,0.6nm,0.2s,SNR=4.0
EMAZ S Sn 09 37 30.0 -4.5
comp=N,3.0nm,0.3s,SNR=4.0
EMAZ Mazaricos 8.42 344 P Pn 09 36 01.2 +2.0
comp=N,0.6nm,0.2s,SNR=4.0
ELAN Lanestosa 8.52 12 P Pn 09 36 02.0 +1.4
comp=N,2.1nm,0.3s,SNR=8.2
ELAN S Sn 09 37 30.8 -6.2
comp=N,2.0nm,0.6s,SNR=7.9
ELAN Lanestosa 8.52 12 P Pn 09 36 02.0 +1.4
comp=N,2.1nm,0.3s,SNR=8.2
IEPA Eparoz 8.62 23 P Pn 09 36 03.6 +1.5
comp=N,1.9nm,0.2s,SNR=7.9
IEPA Eparoz 8.62 23 P Pn 09 36 03.6 +1.5
comp=N,1.9nm,0.2s,SNR=7.9
IELO Elcoad 8.69 23 P Pn 09 36 04.9 +1.9
SNR=7.9
IELO Elcoad 8.69 23 P Pn 09 36 04.9 +1.9
SNR=7.9
SJPF Ste Jean 8.94 22 ePn Pn 09 36 05.7 -0.6
SJPF eSn Sn 09 37 37.9 -9.4
comp=N,1.0nm,0.3s
SJPF Ste Jean 8.94 22 P Pn 09 36 05.7 -0.6
SJPF S Sn 09 37 37.9 -9.4
comp=N,0.0nm,0.3s
SJPF Ste Jean 8.94 22 P Pn 09 36 05.7 -0.6
EALK Alkurruntz 8.95 21 P Pn 09 36 08.7 +2.3
comp=N,1.1nm,0.2s,SNR=6.7
EALK S Sn 09 37 44.7 -2.8
comp=N,7.4nm,0.5s,SNR=7.9
EALK Alkurruntz 8.95 21 P Pn 09 36 08.7 +2.3
comp=N,1.1nm,0.2s,SNR=6.7
EALK S Sn 09 37 44.7 -2.8
comp=N,7.4nm,0.5s,SNR=7.9
ETSF Etsaut 8.97 25 ePn Pn 09 36 07.0 +0.2
ETSF eSn Sn 09 37 38.8 -9.3
comp=N,0.4nm,0.2s
ETSF Etsaut 8.97 25 P Pn 09 36 07.0 +0.2
ETSF S Sn 09 37 38.8 -9.3
comp=N,0.2nm,0.2s
ETSF Etsaut 8.97 25 P Pn 09 36 07.0 +0.2
ATE Arette 9.09 24 P Pn 09 36 10.1 +1.8
SNR=7.9
ATE Arette 9.09 24 P Pn 09 36 10.1 +1.8
SNR=7.9
EPF Esparros 9.42 29 ePn Pn 09 36 12.3 -0.6
EPF eSn Sn 09 37 49.7 -9.4
comp=N,0.8nm,0.4s
EPF Esparros 9.42 29 P Pn 09 36 12.3 -0.6
EPF S Sn 09 37 49.7 -9.4
comp=N,0.4nm,0.4s
EPF Esparros 9.42 29 P Pn 09 36 12.3 -0.6
GERES GERESS Array B 20.04 40 P P 09 38 29.4 -1.0
comp=N,0.2nm,0.3s,baz=222,slow=12,SNR=7.0
VRAC Vranov 21.87 42 P P 09 38 47.5 -2.5
comp=N,2.6nm,0.8s,baz=253,slow=13,SNR=3.8
TORD Torodi Ar. Bea 22.68 161 P P 09 38 57.3 -1.6
comp=N,0.9nm,0.8s,baz=339,slow=11,SNR=5.1
HFS Hagfors 28.25 21 P P 09 39 48.2 -2.0
comp=N,1.6nm,0.7s,baz=210,slow=8.6,SNR=5.0
FINES FINESS Array B 33.40 27 P P 09 40 34.7 -0.8
comp=N,0.6nm,0.5s,baz=241,slow=7.9,SNR=7.0
MKAR Makanchi Array 64.36 50 P P 09 44 32.6 -0.6
comp=N,0.9nm,0.7s,baz=287,slow=5.0,SNR=9.0
YKA Yellowknife Ar 67.59 332 P P 09 44 54.9 +1.2
comp=N,0.2nm,0.9s,baz=70,slow=5.6,SNR=3.5
PDAR Pinedale Array 76.05 313 P P 09 45 47.1 +1.9
comp=N,0.3nm,0.7s,baz=65,slow=4.5,SNR=3.0

IDC **07** *09:49:12.2±0.6, 5°.73N×82°.49W, h0km, mb4.3/19, mb1 4.6/23, mb1mx4.4/37, mbtmp4.4/23, ML4.4/4, MS4.5/13, Ms1 4.5/13, ms1mx4.3/19, Error ellipse: s-maj=25.0km s-min=11.1km az=54.0*

MOS **07** *09:49:12.9±1.1, 5°.84N×82°.20W, h10km, mb5.4/46, Error ellipse: s-maj=10.4km s-min=6.0km az=103.9*

ISCJB **07** *09:49:13.5±0.2, 5°.77N±0°.02×82°.29W±0°.02, h14km, mb5.0/152, MS4.7/14, Error ellipse: s-maj=4.1km s-min=2.8km az=44.2*

CASC **07** *09:49:14.6±2.5, 6°.12N×82°.48W, h0km±15km, MD4.6, ML4.6, mb5.1(NEIC)*

NEIC **07** *09:49:14.2±0.3, 5°.70N×82°.30W, h10km, mb5.1/132, Error ellipse: s-maj=6.8km s-min=4.5km az=211.0*

GCMT **07** *09:49:14.2±0.2, 5°.79N×82°.38W, h20km±1km, MW5.1/93, Moment Tensor Solution. s36,c48; s93,c151; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.10±.19; $M_{\theta\theta}$0.74±.14; $M_{\phi\phi}$-0.63±.18; $M_{r\theta}$0.02±.30; $M_{\theta\phi}$5.78±.17; $M_{\phi r}$0.70±.33; Best double couple: $M_0$5.86300×10^{16} NP1:ϕ_s183.00000°,δ90.00000°,λ-173.00000°. NP2: ϕ_s93.00000°,δ83.00000°,λ0.00000°. Principal axes: T 5.9110, Plg5.0000°, Azm318.0000°; N -0.0950, Plg83.0000°, Azm187.0000°; P -5.8160, Plg5.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI **07** *09:49:20.6, 5°.70N×82°.30W, h43km, mB5.4/7, Ms5.2/6, Ms7 4.8/7*

ISC 07 09:49:14.7±0.3, **5°.79N**±0°.05×**82°.45W**±0°.05, **h14km, n770, σ1°.50**/726, **mb5.1**/152, **MS4.7**/15, **212C-181D, South of Panama**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
ACR Cerro Adams 2.93 346 eP Pn 09 49 56.4 -4.6
BRU2 Volcan 2.99 355 eP Pn 09 49 58.3 -3.7
BRU2 eS Sn 09 50 33.5 -4.2
BRU Baru 3.00 358 eP Pn 09 50 01.6 -0.7
CTCR Cotoan 3.10 354 eP Pn 09 50 00.5 -2.9
BUS Buena Vista 3.96 341⇑eP Pn 09 50 12.5 -3.0
QCR Quepos 3.99 335⇑eP Pn 09 50 11.8 -3.8
BCIP Isla Barro Col 4.23 37 eP Pn 09 50 18.6 -0.3
BCIP eS Sn 09 51 06.1 -2.1
BCIP Isla Barro Col 4.23 37 ePn Pn 09 50 17.5 -1.3
UPA Univ. de Panam 4.29 42⇓iP Pn 09 50 17.8 -1.8
UPA eS Sn 09 51 09.2 -0.2
SJS Escuela Geolog 4.42 339 eP Pn 09 50 19.1 -2.5
CGA2 Cerro Gallo 2 4.65 335 eP Pn 09 50 21.9 -2.9
CAO Cobano 4.69 326 iP Pn 09 50 21.6 -3.6
JCR Jicaral 4.82 327⇓eP Pn 09 50 24.1 -3.0
JTS JuntasAbangare 5.11 331 Pn Pn 09 50 27.0 -4.0
3µm,0.4s
JTS JuntasAbangare 5.11 331 d iP Pn 09 50 28.4 -2.6
JTS JuntasAbangare 5.11 331 Pn Pn 09 50 28.5 -2.5
93nm,0.3s,baz=73,slow=9.7,SNR=226
JTS Sn Sn 09 51 27.1 -2.8
62nm,0.3s,baz=224,slow=20,SNR=8.9
JTS JuntasAbangare 5.11 331 ePn Pn 09 50 27.7 -3.3
JTS eSn Sn 09 51 27.7 -2.2
NY14 Universidad de 5.71 331 iP Pn 09 50 37.9 -1.4
NY14 iS Sn 09 51 41.3 -3.4
LAPC Finca la Perla 5.76 329 iP Pn 09 50 38.8 -1.2
LAPC iS Sn 09 51 43.0 -2.8
GB1A Borinquen Arri 5.79 330 iP Pn 09 50 39.2 -1.2
GB1A iS Sn 09 51 43.9 -2.7
GBS2 Las Lilas 5.83 330 iP Pn 09 50 39.6 -1.2
GBS2 iS Sn 09 51 44.2 -3.4
OTAV Otavalo 6.81 144 ePn Pn 09 50 52.8 -1.9
ROSC El Rosal 8.13 96 Pn Pn 09 51 16.1 +3.2
2.8nm,0.3s,baz=83,slow=3.1,SNR=17
ROSC El Rosal 8.13 96 ePn Pn 09 51 16.2 +3.4
VSM San Miguel 9.52 323 eP Pn 09 51 32.7 +1.0
PAYG Puerto Ayora 10.13 231 ePn Pn 09 51 40.6 +0.7
LFRS El Faro 10.15 321 eP Pn 09 51 40.0 -0.3
LBRS Las Brisas 10.23 321 eP Pn 09 51 40.7 -0.6
SNET Serv Nac Est T 10.31 320 AML AML 09 53 14.5
comp=Z,220nm,0.3s
APG El Apazote 12.08 320 Pn Pn 09 52 06.0 -0.8
comp=Z,1.9nm,0.3s,baz=87,slow=7.9,SNR=9.7
APG LR LR 09 56 11.8
comp=Z,3µm,21.4s,baz=130,slow=35
SDV Santo Domingo 12.11 75 ePn Pn 09 52 08.4 +1.2
ATAH Atahualpa 13.46 162 Pn Pn 09 52 26.1 +0.2
comp=Z,0.4nm,0.3s,baz=319,slow=20,SNR=2.6
ATAH LR LR 09 57 08.4
comp=Z,4µm,20.1s,baz=341,slow=36
TEIG Tepich 15.43 339 LR LR 09 58 41.1
comp=Z,2µm,18.1s,baz=142,slow=37
TEIG Tepich 15.43 339 eP P 09 52 57.1 +0.5
comp=Z,90nm,1.3s
GTBY Guantanamo Bay 15.76 26 eP Pn 09 52 58.2 +1.8
comp=Z,130nm,1.5s
SDDR Presa de Saban 17.03 39 eP Pn 09 53 12.9 +0.2
comp=Z,121nm,1.0s
NNA Nana 18.52 162 Pn Pn 09 53 31.4 +0.3
comp=Z,551nm,1.0s,SNR=8.3
NNA Nana 18.52 162 eP P 09 53 30.2 -0.8
NNA S Sn 09 56 48.1 -10
NNA pmax pmax
comp=Z,103nm,1.0s
NNA Nana 18.52 162 P Pn 09 53 31.0 -0.1
comp=Z,1.3nm,0.3s,baz=338,slow=10,SNR=38
NNA S Sn 09 56 48.1 -10
comp=Z,4.7nm,0.3s,baz=18,slow=21,SNR=9.4
NNA LR LR 10 00 01.8
comp=Z,715nm,21.4s,baz=334,slow=35
NNA Nana 18.52 162 eP P 09 53 30.2 -0.8
comp=Z,103nm,1.0s
NNA S Sn 09 56 48.1 -10
CRPR Cabo Rojo, PR 19.28 50 eP P 09 53 37.6 -1.6
comp=Z,99nm,0.9s
LSP Las Mesas 19.40 49 eP Pn 09 53 41.7 0.0
AGPR Aguadilla, PR 19.56 49 eP Pn 09 53 43.9 +0.3
comp=Z,1µm,1.6s
LRS Lares 19.65 49 eP Pn 09 53 44.8 0.0
OBIP Obispado Ponce 19.68 50 eP Pn 09 53 45.5 +0.4
comp=Z,154nm,1.0s
CELP Cerrillos 19.72 50 eP Pn 09 53 45.9 +0.2
AOPR Arecibo Observ 19.75 49 eP P 09 53 43.9 -0.6
comp=Z,169nm,0.9s
SJG San Juan 20.08 51 eP Pn 09 53 49.0 -0.8
SJG pmax pmax
comp=Z,132nm,1.0s
SJG San Juan 20.08 51 P Pn 09 53 49.2 -0.6
comp=Z,100nm,1.0s,baz=270,slow=6.2,SNR=17
SJG LR LR 10 01 03.0
comp=Z,1µm,20.2s,baz=270,slow=35
SJG San Juan 20.08 51 eP Pn 09 53 49.0 -0.8
comp=Z,132nm,1.0s
HUMP Col San Antoni 20.33 51 ePn Pn 09 53 54.2 +1.4
CBYP Canovanas 20.40 51 eP P 09 53 52.1 +0.6
comp=Z,141nm,1.1s
CDVI St. Croix 20.97 54 eP P 09 53 58.8 +1.2
comp=Z,358nm,1.1s
TPP Pointe-a-Pierr 21.26 76 e P 09 54 03.2 +2.3
GRGR Grenville 21.47 72 eP P 09 54 06.5 +3.4
comp=Z,94nm,0.9s
FDF Fort de France 22.74 65 eP P 09 54 23.6 +6.8
FDF pmax pmax
comp=Z,150nm,1.3s
FDF Fort de France 22.74 65 eP P 09 54 23.6 +6.8
comp=Z,150nm,1.3s
PTGA Pitinga 23.36 105 P P 09 54 23.1 0.0
comp=Z,12nm,1.1s,baz=294,slow=9.3,SNR=6.5
PTGA LR LR 10 03 32.1
comp=Z,2µm,19.9s,baz=289,slow=37
PTGA Pitinga 23.36 105 eP P 09 54 23.4 +0.2
comp=Z,13nm,0.8s
SAML Samuel 24.15 127 eP P 09 54 29.0 -1.6
comp=Z,29nm,0.9s
035Z Hargill 25.40 326 ⇑P P 09 54 45.4 +3.5
baz=26
TIGA Tifton 25.54 358 eP P 09 54 45.9 +2.8
comp=Z,189nm,1.1s
TIGA Tifton 25.54 358 ⇑P P 09 54 45.9 +2.8
baz=26
035A Encino 25.79 326 ⇓P P 09 54 48.9 +3.5
baz=26
LPAZ La Paz 26.11 147 eP P 09 54 48.5 -0.7
LPAZ pmax pmax
comp=Z,34nm,1.5s
LPAZ La Paz 26.11 147 P P 09 54 48.3 -0.8
comp=Z,5.6nm,1.0s,baz=337,slow=10,SNR=16
LPAZ LR LR 10 06 12.6
comp=Z,3µm,19.4s,baz=316,slow=39
LPAZ La Paz 26.11 147 eP P 09 54 48.5 -0.7
comp=Z,34nm,1.5s
034A Hebbronville 26.21 326 ⇓P P 09 54 52.5 +3.3
baz=26,SNR=18
934A Benavides 26.54 327 ⇑P P 09 54 55.0 +2.8
baz=27,SNR=9.3
835A Beeville 26.71 329 ⇑P P 09 54 56.2 +2.4
baz=27
933A Laredo 26.96 325 ⇓P P 09 54 58.3 +2.2
baz=27,SNR=7.7
834A Tilden 26.96 327 ⇓P P 09 54 58.9 +2.8
baz=27
735A Kenedy 27.16 329 ⇑P P 09 54 59.5 +1.7
baz=27
538A Harpers Horsep 27.23 335 ⇓P P 09 55 00.3 +1.9
baz=28
636A Smothers Creek 27.31 331 ⇓P P 09 55 01.1 +1.9
baz=28
LRAL Lakeview Retre 27.44 352 eP P 09 55 00.1 -0.1
comp=Z,100nm,1.5s
GOGA Godfrey 27.50 358 eP P 09 55 04.7 +3.9
GOGA pmax pmax
comp=Z,87nm,1.7s
GOGA Godfrey 27.50 358 eP P 09 55 04.7 +3.9
comp=Z,87nm,1.7s
734A La Parita Cree 27.54 328 ⇑P P 09 55 02.9 +1.7
baz=28
635A Leesville 27.58 330 ⇑P P 09 55 03.5 +1.9
baz=28
833A Chaparral WMA, 27.58 326 ⇑P P 09 55 04.1 +2.5
baz=28,SNR=8.2
536A Bastrop 27.81 332 ⇓P P 09 55 05.0 +1.4
baz=28
733A Divot King Ran 27.83 327 ⇓P P 09 55 06.0 +2.2
baz=28
634A China Grove, S 27.86 329 ⇓P P 09 55 06.4 +2.2
baz=28
832A Faith Ranch, C 27.87 325 ⇓P P 09 55 06.0 +1.8
baz=28
535A Dale 28.01 331 ⇓P P 09 55 07.0 +1.5
baz=28
732A Laxson Ranch, 28.21 326 ⇓P P 09 55 08.9 +1.7
baz=28
436A Wall Ranch, Ga 28.27 333 ⇓P P 09 55 09.2 +1.4
baz=28
633A Saathoff Ranch 28.35 328 ⇑P P 09 55 10.2 +1.6

baz=29
534A Blanco 28.45 330 ⇓P P 09 55 10.7 +1.2
baz=29
435B Jarrell 28.64 332 ⇑P P 09 55 12.4 +1.3
baz=29
632A Uvalde 28.72 327 ⇓P P 09 55 13.3 +1.5
baz=29
533A Kerrville 28.77 329 ⇑P P 09 55 14.0 +1.7
baz=29
335A Moody 28.99 333 ⇓P P 09 55 15.3 +1.2
baz=29
434A Burnet 29.00 331 ⇓P P 09 55 15.6 +1.3
baz=29
631A Perdido Creek 29.07 326 ⇑P P 09 55 16.2 +1.3
baz=29
OXF Oxford 29.30 348 eP P 09 55 18.4 +1.6
OXF pmax pmax
comp=Z,43nm,1.2s
OXF Oxford 29.30 348 eP P 09 55 18.4 +1.6
comp=Z,43nm,1.2s
433A Art 29.35 330 ⇓P P 09 55 18.2 +0.8
baz=30,SNR=9.5
334A Lometa 29.41 332 ⇓P P 09 55 18.7 +0.8
baz=30
SWET Sewanee 29.46 354 eP P 09 55 18.2 -0.1
comp=Z,21nm,1.0s
JCT Junction City 29.49 328 eP P 09 55 19.8 +1.1
JCT pmax pmax
comp=Z,25nm,1.1s
JCT Junction City 29.49 328 eP P 09 55 19.8 +1.1
comp=Z,25nm,1.1s
JCT Junction City 29.49 328 ⇑P P 09 55 20.0 +1.3
baz=30
WHTX Lake Whitney 29.61 334 eP P 09 55 19.7 +0.1
comp=Z,52nm,1.6s
WHTX Lake Whitney 29.61 334 ⇑P P 09 55 21.0 +1.3
baz=30
531A Rocksprings 29.64 327 ⇑P P 09 55 21.4 +1.4
baz=30
TKL Tuckaleechee C 29.75 358 P P 09 55 21.3 +0.4
comp=Z,5.2nm,0.9s,baz=165,slow=15,SNR=2.5
TKL LR LR 10 07 17.3
comp=Z,518nm,18.7s,baz=176,slow=36
333A Richland Sprin 29.76 331 ⇓P P 09 55 22.2 +1.1
baz=30
432A Menard 29.80 329 ⇓P P 09 55 23.0 +1.5
baz=30
234A Clairette 29.92 333 ⇓P P 09 55 23.4 +1.0
baz=30,SNR=8.9
530A J-C Ranch, Com 30.06 326 ⇓P P 09 55 25.3 +1.5
baz=30
135A Vickery Place, 30.07 334 ⇑P P 09 55 25.1 +1.4
baz=30
431A Sonora 30.08 328 ⇓P P 09 55 25.1 +1.2
baz=30
332A Millersview 30.18 330 ⇓P P 09 55 26.2 +1.4
baz=30
UALR University of 30.26 344 eP P 09 55 25.7 +0.4
comp=Z,312nm,2.6s
SIV San Ignacio 30.27 136 P P 09 55 25.2 -0.4
comp=Z,4.2nm,0.9s,baz=317,slow=9.6,SNR=7.9
233A Rising Star 30.29 332 ⇑P P 09 55 27.0 +1.2
baz=31
134A White-Moore Ra 30.38 333 ⇑P P 09 55 27.7 +1.2
baz=31
MIAR Mount Ida 30.41 342 eP P 09 55 26.8 +0.1
MIAR pmax pmax
comp=Z,32nm,1.4s
MIAR Mount Ida 30.41 342 eP P 09 55 26.8 +0.1
comp=Z,32nm,1.4s
628A Black Gap, Mar 30.46 323 ⇑P P 09 55 28.7 +1.3
baz=31
331A San Angelo 30.48 329 ⇓P P 09 55 28.7 +1.3
baz=31
430A Baggett Ranch, 30.50 327 ⇓P P 09 55 28.9 +1.3
baz=31
529A Stev Forest Ra 30.54 325 ⇓P P 09 55 29.5 +1.5
baz=31
232A Coleman 30.55 330 ⇑P P 09 55 29.4 +1.4
baz=31,SNR=7.1
H06E1 SOCORRO T-PHAS 30.61 297 T T 10 27 32.1
SNR=27
429A Davenport Ranc 30.73 326 ⇓P P 09 55 31.3 +1.6
baz=31,SNR=8.9
627A Terlingua Ranc 30.74 322 ⇓P P 09 55 31.2 +1.4
baz=31
133A Hamilton Ranch 30.79 332 ⇓P P 09 55 31.4 +1.3
baz=31
TXAR Lajitas Array 30.83 322 P P 09 55 31.4 +0.8
comp=Z,0.6nm,0.9s,baz=134,slow=10,SNR=6.3
528A Cox Ranch, San 30.90 324 ⇓P P 09 55 32.8 +1.5
baz=31
231A Bronte 30.92 329 ⇓P P 09 55 32.5 +1.2
baz=31
330A Mertzon 30.95 328 ⇓P P 09 55 32.8 +1.2
baz=31
Z34A Collier Ranch, 30.98 334 ⇓P P 09 55 33.1 +1.3
baz=31
ABTX Abilene, Hawle 31.15 331 eP P 09 55 33.5 +0.3
comp=Z,30nm,1.5s
ABTX Abilene, Hawle 31.15 331 ⇓P P 09 55 34.6 +1.3
baz=31
428A Kincaid Ranch, 31.26 325 ⇑P P 09 55 36.1 +1.8
baz=32
626A Big Bend Ranch 31.27 322 ⇑P P 09 55 35.9 +1.4
baz=32
Z33A Whitaker Ranch 31.29 333 ⇑P P 09 55 35.9 +1.4
baz=32
230A Sterling City 31.29 328 ⇓P P 09 55 36.1 +1.5
baz=32
527A Woodward Ranch 31.37 323 ⇑P P 09 55 36.9 +1.4
baz=32
Y34A Reagan Ranch, 31.42 335 ⇓P P 09 55 37.3 +1.7
baz=32
329A Wagon Wheel Ra 31.44 327 ⇑P P 09 55 37.6 +1.7
baz=32
PARMO Parma 31.45 349 eP P 09 55 36.3 +0.5
131A Roby 31.55 330 ⇓P P 09 55 38.4 +1.6
baz=32
526A Mary Lane Ranc 31.60 322 ⇓P P 09 55 38.8 +1.3
baz=32
Z32A Haskell 31.63 332 ⇓P P 09 55 38.6 +1.0
baz=32,SNR=13
PBMO Poplar Bluff 31.70 348 eP P 09 55 37.8 -0.2
comp=Z,61nm,1.7s
229A Bryant Ranch, 31.72 328 ⇑P P 09 55 39.3 +0.9
baz=32
427A Hayter Ranch, 31.76 324 ⇓P P 09 55 40.2 +1.4
baz=32
130A Snyder 31.78 329 ⇓P P 09 55 40.3 +1.5
baz=32
328A Wristen Ranch, 31.82 326 ⇓P P 09 55 40.7 +1.4
baz=32
Y33A Hilltop Ranch, 31.84 334 ⇑P P 09 55 40.6 +1.3
baz=32
Z31A Sharp Cattle R 31.95 331 ⇑P P 09 55 41.5 +1.1
baz=32,SNR=8.2
426A McDonald Obser 32.00 323 ⇑P P 09 55 42.4 +1.3
baz=32
X34A Smith Ranch, M 32.01 336 ⇑P P 09 55 42.1 +1.3
baz=32
Y32A R-V Farms, Ver 32.19 333 ⇓P P 09 55 44.1 +1.6
baz=32
X33A Lawton 32.23 335 ⇓P P 09 55 43.0 +0.2
baz=32,SNR=8.3
228A UT Block 9, Go 32.26 327 ⇑P P 09 55 44.5 +1.4
baz=32
129A Stewart Farms, 32.27 328 ⇓P P 09 55 44.7 +1.5
baz=32
SIUC Southern Illin 32.37 350 eP P 09 55 44.0 +0.1
comp=Z,39nm,1.3s
TUL1 Tulsa 32.39 340 eP P 09 55 44.0 -0.1
comp=Z,25nm,1.1s
Z30A Sanderson Ranc 32.41 330 ⇑P P 09 55 45.4 +1.0
baz=33,SNR=6.7
326A Caldwell Ranch 32.44 324 ⇑P P 09 55 45.9 +1.2
baz=33
X32A Elmer 32.48 334 ⇓P P 09 55 46.0 +1.1
baz=33
WCI Wyandotte Cave 32.48 354 eP P 09 55 44.8 -0.1
WCI pmax pmax
comp=Z,264nm,2.4s
WCI Wyandotte Cave 32.48 354 eP P 09 55 44.8 -0.1
comp=Z,264nm,2.4s
W34A Bridge Creek, 32.53 336 ⇓P P 09 55 46.8 +1.4
baz=33
Y31A Rekieta Farm, 32.54 332 ⇓P P 09 55 46.9 +1.4
baz=33,SNR=8.7
227A Bennet, Jal 32.56 326 ⇑P P 09 55 47.1 +1.3
baz=33
128A Castleberry Fa 32.59 328 ⇓P P 09 55 47.1 +1.1
baz=33
Z29A Hungry Hill Ra 32.68 329 ⇑P P 09 55 48.1 +1.3
baz=33
W33A Caddo, Fort Co 32.74 335 ⇑P P 09 55 48.6 +1.4
baz=33
Y30A Stafford Cattl 32.77 331 ⇑P P 09 55 48.5 +0.9
baz=33,SNR=16
X31A McDonald Ranch 32.96 333 ⇑P P 09 55 50.5 +1.3
baz=33
W32A Sentinel 33.05 334 ⇑P P 09 55 50.9 +0.9
baz=33
Z28A Tucker Farm, M 33.05 328 ⇓P P 09 55 51.4 +1.3
baz=33
127A Arkansas Junct 33.10 327 ⇓P P 09 55 51.8 +1.2
baz=33
226B Tecolote Peak, 33.11 325 ⇓P P 09 55 51.9 +1.3
baz=33,SNR=9.5
Y29A Porterfield Fa 33.14 330 ⇑P P 09 55 52.5 +1.7
baz=33,SNR=7.7
OLIL Olney 33.19 352 eP P 09 55 51.0 -0.1
comp=Z,173nm,1.8s
X30A Coker Ranch, T 33.23 332 ⇓P P 09 55 53.2 +1.6
baz=34,SNR=8.3
V33A Lossen Ranch, 33.25 336 ⇑P P 09 55 52.9 +1.3
baz=34
W31A Holland Ranch, 33.41 333 ⇓P P 09 55 54.7 +1.5
baz=34
BLO Bloomington 33.44 354 eP P 09 55 53.2 0.0
BLO pmax pmax
comp=Z,170nm,2.0s
BLO Bloomington 33.44 354 eP P 09 55 53.2 0.0
comp=Z,170nm,2.0s
126A Clayton Basin, 33.45 326 ⇑P P 09 55 54.9 +1.3
baz=34
Y28A McKinney Farm, 33.47 329 ⇓P P 09 55 54.9 +1.2
baz=34
V32A Arapaho 33.47 335 ⇑P P 09 55 54.8 +1.2
baz=34
U34A Anderson Ranch 33.49 338 ⇑P P 09 55 54.3 +0.5
baz=34
225A Deer Hill, Car 33.51 324 ⇑P P 09 55 55.2 +1.0
baz=34
Z27A Tatum 33.51 327 ⇓P P 09 55 55.7 +1.6
baz=34
X29A Tulia 33.62 331 ⇑P P 09 55 56.6 +1.6
baz=34,SNR=7.6
U33A Lingo Farm, Me 33.71 337 ⇑P P 09 55 57.8 +2.1
baz=34
MSTX Muleshoe 33.78 329 eP P 09 55 59.0 +2.6
comp=Z,47nm,1.4s
MSTX Muleshoe 33.78 329 ⇓P P 09 55 58.6 +2.1
baz=34
125A Gardner Draw, 33.81 325 ⇓P P 09 55 58.2 +1.4
baz=34
V31A Spring Creek L 33.86 334 ⇓P P 09 55 58.7 +1.7
baz=34
Z26A Caprock 33.89 327 ⇓P P 09 55 58.8 +1.4
baz=34
Y27A Causey 33.92 328 ⇓P P 09 55 59.0 +1.3
baz=34
X28A Dimmitt 33.93 330 ⇓P P 09 55 59.3 +1.6
baz=34,SNR=7.4
AMTX Amarillo 33.97 331 eP P 09 55 58.3 +0.3
comp=Z,134nm,2.1s
AMTX Amarillo 33.97 331 ⇓P P 09 55 58.9 +0.8
baz=34
W29A Amrillo 34.14 331 ⇑P P 09 56 01.2 +1.7
baz=34
ACSO Alum Creek Sta 34.29 359 eP P 09 56 00.8 +0.1
comp=Z,56nm,1.1s
Z25A Roswell 34.31 326 ⇓P P 09 56 02.5 +1.5
baz=35
ASTB Santa Barbara 34.36 150 iP P 09 56 01.4 -0.2
U31A Nine Bar Ranch 34.37 335 ⇑P P 09 56 02.7 +1.3
baz=35
X27A F and S Farms, 34.48 329 ⇑P P 09 56 04.2 +1.6
baz=35
ALOL LOMAS DE OLMED 34.51 149 iP P 09 56 01.4 -1.3
W28A Vega 34.52 331 ⇑P P 09 56 04.2 +1.4
baz=35
SLA San Lorenzo 34.52 152 iP P 09 56 03.0 0.0
SLA AML AML 09 57 35.3
comp=Z,8.7nm,0.8s
Z24A Sheeppen Canyo 34.71 325 ⇓P P 09 56 06.2 +1.6
baz=35
Y25A Mesa, Roswell 34.77 326 ⇑P P 09 56 06.5 +1.4
baz=35,SNR=6.3
X26A CR and CF Fran 34.78 328 ⇑P P 09 56 06.7 +1.6
baz=35
W27A Bowe Ranch, En 34.79 330 ⇓P P 09 56 06.9 +1.6
baz=35
U30A WK&E Inc. Balk 34.85 334 ⇓P P 09 56 06.9 +1.3
baz=35
V28A Channing 34.93 331 ⇓P P 09 56 07.3 +1.0
baz=35
U29A Oasis Ranch, S 35.06 333 ⇓P P 09 56 09.1 +1.7
baz=35
S32A Newby Ranch, P 35.14 337 ⇓P P 09 56 09.4 +1.3
baz=35
W26A Owens Ranch, T 35.17 329 ⇓P P 09 56 09.8 +1.3
baz=35
Y24A Capitan 35.19 326 ⇓P P 09 56 10.5 +1.7
baz=35
X25A Clemmons Ranch 35.21 327 ⇑P P 09 56 10.6 +1.7
baz=36
V27A Dan Oppiter Fa 35.23 331 ⇑P P 09 56 10.7 +1.7
baz=36,SNR=6.0
T30A Plains 35.23 335 ⇑P P 09 56 10.1 +1.2
baz=36
S31A Mullinville 35.28 336 ⇓P P 09 56 10.2 +0.9
baz=36
R33A Olander Ranch, 35.31 339 ⇑P P 09 56 10.5 +0.9
baz=36
U28A Mallet 35.44 332 ⇑P P 09 56 12.1 +1.3
baz=36
Y23A Lovelace Mesa, 35.54 325 ⇑P P 09 56 13.7 +1.9
baz=36
KSU1 Kansas State U 35.55 341 eP P 09 56 11.3 -0.2
comp=Z,28nm,1.0s
KSU1 Kansas State U 35.55 341 ⇓P P 09 56 11.3 -0.2
baz=36,SNR=5.3
121A Cookes Peak, D 35.59 322 eP P 09 56 14.9 +2.8
comp=Z,123nm,1.8s
121A Cookes Peak, D 35.59 322 ⇓P P 09 56 13.6 +1.4
baz=36
Z22A Elephant Butte 35.59 323 ⇑P P 09 56 13.6 +1.4
baz=36
W25A X Bar L Ranch, 35.63 328 ⇑P P 09 56 14.4 +1.9
baz=36
T29A Hugoton 35.65 334 ⇑P P 09 56 13.8 +1.3
baz=36
R32A Long Quarter, 35.68 338 ⇑P P 09 56 13.7 +1.0
baz=36
S30A Montezuma 35.70 335 ⇑P P 09 56 14.1 +1.2
baz=36
V26A Tequesquite Ra 35.73 330 ⇑P P 09 56 15.1 +1.8
baz=36
U27A Thompson Grove 35.76 331 ⇓P P 09 56 14.4 +0.9
baz=36,SNR=8.9
319A Douglas 35.78 319 ⇑P P 09 56 15.9 +2.1
baz=36
Q33A Connelly Farm, 35.87 339 ⇑P P 09 56 15.4 +1.1
baz=36
R31A Burdett 35.88 337 ⇓P P 09 56 15.6 +1.2
baz=36
S29A Ulysses 35.96 334 ⇑P P 09 56 16.1 +0.9
baz=36
T28A Walsh 35.99 333 ⇓P P 09 56 16.7 +1.2
baz=36
W24A Lazy 6 Ranch, 36.13 327 ⇑P P 09 56 18.2 +1.4
baz=36
R30A Dighton 36.17 336 ⇓P P 09 56 18.8 +1.8
baz=36,SNR=8.6
U26A Atchley Ranch, 36.18 330 ⇑P P 09 56 18.8 +1.6
baz=36,SNR=5.4
V25A Rancho No Teng 36.19 329 ⇓P P 09 56 19.0 +1.7
baz=36,SNR=17
P33A Williams Farm, 36.22 340 ⇑P P 09 56 18.6 +1.4
baz=36
T27A Campo 36.22 332 ⇑P P 09 56 19.0 +1.5
baz=36
LENM Lemitar 36.24 324 eP P 09 56 20.4 +2.6
S28A Manter 36.28 333 ⇑P P 09 56 19.4 +1.4
baz=36,SNR=6.0
V24A Rampart Ranch, 36.44 328 ⇑P P 09 56 21.7 +2.1
baz=37
Q31A Ellis 36.45 338 ⇑P P 09 56 21.5 +2.2
baz=37
W23A Werner Place, 36.49 326 ⇑P P 09 56 22.4 +2.4
baz=37,SNR=13
LAZ Ladron 36.50 324 eP P 09 56 21.6 +1.6
comp=Z,23nm,1.6s
ANMO Albuquerque 36.51 326 ⇓iP P 09 56 21.7 +1.6
ANMO pmax pmax
comp=Z,24nm,1.7s
ANMO Albuquerque 36.51 326 P P 09 56 21.1 +1.0
comp=Z,3.8nm,1.1s,baz=140,slow=8.4,SNR=8.2
ANMO Albuquerque 36.51 326 eP P 09 56 21.4 +1.4
comp=Z,51nm,1.4s
U25A Circle Dot Ran 36.52 330 ⇑P P 09 56 21.1 +0.9
baz=37
P32A Huiting Farm, 36.70 339 ⇑P P 09 56 22.3 +0.9
baz=37
T26A Comanche Natio 36.73 331 ⇑P P 09 56 23.7 +1.8
baz=37
Q30A Quinter 36.75 337 ⇑P P 09 56 23.3 +1.4
baz=37
S27A Las Animas 36.81 332 ⇑P P 09 56 23.3 +0.8
baz=37
R28A Tribune 36.87 334 ⇓P P 09 56 23.5 +0.6
baz=37,SNR=16
P31A Stockton 36.89 338 ⇑P P 09 56 24.4 +1.4
baz=37
V23A Ortiz Mt. (NFS 36.95 327 ⇑P P 09 56 25.3 +1.5
baz=37
U24A Moreno Valley 36.97 329 ⇑P P 09 56 26.2 +2.2
baz=37,SNR=7.4
Q29A Oakley 36.98 336 ⇓P P 09 56 24.8 +1.0
baz=37,SNR=7.9
S26A Kim 37.03 332 ⇑P P 09 56 25.9 +1.6
baz=37,SNR=10
T25A Trinidad 37.09 330 ⇑P P 09 56 26.8 +1.8
baz=37,SNR=11
O32A Brockman Farm, 37.15 340 ⇓P P 09 56 26.1 +0.9
baz=37
SCIA State Center 37.22 347 eP P 09 56 25.4 -0.4
comp=Z,43nm,1.0s
P30A Selden 37.24 337 ⇑P P 09 56 27.6 +1.5
baz=38
R27A Eads 37.26 333 ⇑P P 09 56 27.7 +1.4
baz=38,SNR=6.3
TUC Tucson 37.36 319 eP P 09 56 29.8 +2.6
TUC pmax pmax
comp=Z,61nm,2.2s
TUC Tucson 37.36 319 eP P 09 56 29.8 +2.6
comp=Z,61nm,2.2s
U23A El Rito 37.39 328 ⇑P P 09 56 29.0 +1.5
baz=38,SNR=16
O31A Woolen Ranch, 37.43 339 ⇑P P 09 56 28.5 +0.9
baz=38
V22A San Miguel Ran 37.47 326 ⇑P P 09 56 30.1 +1.8
baz=38
Q28A Sharon Springs 37.48 335 ⇑P P 09 56 29.4 +1.3
baz=38,SNR=11
S25A Robets Cordova 37.52 331 ⇓P P 09 56 29.8 +1.2
baz=38,SNR=7.1
T24B San Luis 37.52 329 ⇓P P 09 56 29.9 +1.1
baz=38,SNR=8.1
R26A Arlington 37.56 332 ⇓P P 09 56 30.6 +1.7
baz=38
P29A Atwood 37.56 336 ⇑P P 09 56 30.4 +1.6
baz=38
JFWS Jewell Farm 37.61 351 eP P 09 56 28.1 -1.0
JFWS pmax pmax
comp=Z,55nm,1.6s
JFWS Jewell Farm 37.61 351 eP P 09 56 28.1 -1.0
comp=Z,55nm,1.6s
CYA Choya 37.63 156 iP P 09 56 28.1 -1.3
O30A MW Ranch, Wils 37.72 338 ⇓P P 09 56 31.7 +1.6
baz=38
KSCO Kaye Shedlock' 37.78 334 eP P 09 56 31.3 +0.6
comp=Z,43nm,1.1s
KSCO Kaye Shedlock' 37.78 334 ⇑P P 09 56 31.8 +1.1
baz=38
U22A Llaves 37.78 327 ⇓P P 09 56 32.3 +1.5
baz=38,SNR=14
R25A Fountain Ranch 37.83 331 ⇑P P 09 56 33.1 +1.9
baz=38
T23A Casias Ranch, 37.84 329 ⇑P P 09 56 32.7 +1.3
baz=38,SNR=16
P28A Saint Francis 37.88 335 ⇓P P 09 56 32.9 +1.4
baz=38,SNR=5.9
S24A Houchin Ranch, 37.88 330 ⇓P P 09 56 33.5 +1.7
baz=38,SNR=8.2
O29A 4D Ranch, Culb 37.96 337 ⇑P P 09 56 33.7 +1.5
baz=38
ACLC CERRO LA CRUZ 38.05 158 iP P 09 56 32.9 -0.3
Q26A Hugo 38.10 333 ⇑P P 09 56 35.1 +1.6
baz=38,SNR=8.3
SDCO Great Sand Dun 38.11 330 eP P 09 56 35.0 +1.3
comp=Z,58nm,1.3s
BGNE Belgrade 38.14 341 ⇑P P 09 56 34.8 +1.2
baz=38
P27A Ficken Ranch, 38.21 335 ⇑P P 09 56 35.7 +1.4
baz=38,SNR=8.3
X18A Snowflake 38.27 322 ⇑P P 09 56 36.3 +1.3
baz=38
R24A Sanders Place, 38.29 331 ⇓P P 09 56 36.5 +1.3
baz=39,SNR=7.3
S23A Nye Farm, Mont 38.33 329 ⇓P P 09 56 36.8 +1.2
baz=39
O28A Krutsinger Ran 38.35 336 ⇑P P 09 56 36.9 +1.4
baz=39
M31A Lambtecht Ranc 38.36 340 ⇓P P 09 56 37.1 +1.6
baz=39
Q25A Bedland, Calha 38.43 332 ⇓P P 09 56 37.3 +1.0
baz=39,SNR=9.2
N29A Votaw Ranch, W 38.49 338 ⇑P P 09 56 38.4 +1.8
baz=39
214A Organ Pipe Nat 38.51 316 ⇑P P 09 56 38.5 +1.7
baz=39
W18A Petrified Fore 38.53 323 eP P 09 56 41.3 +4.1
comp=Z,140nm,1.5s
W18A Petrified Fore 38.53 323 ⇓P P 09 56 38.4 +1.2
baz=39
P26A Davis Ranch, A 38.55 334 ⇑P P 09 56 38.4 +1.2
baz=39
R23A Moffat 38.62 330 ⇓P P 09 56 39.1 +1.1
baz=39
O27A Beecher Island 38.70 335 ⇑P P 09 56 39.6 +1.2
baz=39
N28A Pribbeno Ranch 38.73 337 ⇑P P 09 56 40.4 +1.7
baz=39
S22A 4UR Ranch, Cre 38.79 329 ⇑P P 09 56 40.5 +1.1
baz=39,SNR=11
P25A Willow Gulch B 38.87 333 ⇑P P 09 56 41.1 +1.1
baz=39,SNR=15
Q24A Divide 38.89 331 ⇓P P 09 56 41.5 +1.2
baz=39
AVFE Valle Fertil 38.98 159 iP P 09 56 39.2 -1.6
L31A Butterfield Fa 39.05 341 ⇓P P 09 56 41.9 +0.6
baz=39,SNR=8.7
M29A Burnside Ranch 39.06 338 ⇑P P 09 56 42.3 +0.9
baz=39,SNR=5.2
O26A Horse Wrangler 39.09 334 ⇑P P 09 56 43.1 +1.3
baz=39
X16A Lo Mia Camp, P 39.12 321 ⇑P P 09 56 43.5 +1.4
baz=39
L30A Spencer Herefo 39.15 339 ⇑P P 09 56 43.2 +1.1
baz=39
H03N2 Juan Fernandez 39.16 175 T T 10 38 11.3
baz=354,slow=75,SNR=19
H03N1 Juan Fernandez 39.16 175 T T 10 38 13.0
baz=354,slow=75,SNR=21
H03N3 Juan Fernandez 39.17 175 T T 10 38 12.0
baz=354,slow=75,SNR=20
P24A Kohler Place, 39.22 332 ⇓P P 09 56 43.9 +1.0
baz=40
N27A Anderson Farm, 39.23 336 ⇑P P 09 56 44.7 +1.7
baz=40
RTLL Cerro Villicun 39.25 161 iP P 09 56 43.2 +0.1
MVCO Mesa Verde 39.29 326 eP P 09 56 45.6 +2.0
comp=Z,87nm,1.5s
MVCO Mesa Verde 39.29 326 ⇑P P 09 56 44.6 +1.0
baz=40,SNR=10
O25A Wiggins 39.34 333 ⇑P P 09 56 45.3 +1.4
baz=40
RTLS Leoncito 39.43 162 iP P 09 56 43.2 -1.6
P23A Jefferson 39.54 331 ⇑P P 09 56 46.7 +0.9
baz=40,SNR=13
113A Mohawk Valley, 39.64 317 ⇓P P 09 56 48.2 +2.0
baz=40
K30A Basset 39.76 340 ⇑P P 09 56 47.8 +0.6

baz=40,SNR=6.6
ISCO Idaho Springs 39.77 332 eP P 09 56 49.3 +1.6
ISCO pmax pmax
comp=Z,27nm,1.3s
ISCO Idaho Springs 39.77 332 eP P 09 56 49.3 +1.6
comp=Z,27nm,1.3s
ISCO Idaho Springs 39.77 332 ⇓P P 09 56 48.9 +1.2
baz=40
O24A Longmont 39.78 333 ⇓P P 09 56 48.7 +1.2
baz=40
WUAZ Wupatki 39.79 322 eP P 09 56 51.6 +3.8
comp=Z,36nm,1.3s
WUAZ Wupatki 39.79 322 ⇑P P 09 56 49.1 +1.4
baz=40
ECSD EROS Data Cent 39.80 344 eP P 09 56 46.2 -1.3
comp=Z,26nm,1.1s
ECSD EROS Data Cent 39.80 344 ⇓P P 09 56 46.6 -0.8
baz=40,SNR=8.2
AUSP Uspallata 39.80 163 iP P 09 56 48.8 +0.9
L28A Connealy Angus 39.86 338 ⇑P P 09 56 49.3 +1.2
baz=40
SMCO Snowmass 39.95 330 eP P 09 56 52.1 +2.8
comp=Z,60nm,1.5s
PV01 Paradox Valley 40.00 327 eP P 09 56 52.0 +2.5
comp=Z,3µm,1.5s
K29A Lazy Trails An 40.08 339 ⇓P P 09 56 50.7 +0.9
baz=40
CPUP Villa Florida 40.16 144 LR LR 10 14 47.4
comp=Z,665nm,19.1s,baz=304,slow=38
P22A Eagle 40.16 330 ⇑P P 09 56 52.4 +1.6
baz=40,SNR=8.9
BDFB Brasilia 40.20 122 P P 09 56 49.7 -1.6
comp=Z,3.2nm,0.8s,baz=300,slow=8.2,SNR=4.9
O23A Lake Granby, G 40.24 332 ⇓P P 09 56 52.8 +1.2
baz=40
N24A Carr 40.26 333 ⇑P P 09 56 53.2 +1.7
baz=40,SNR=5.5
J30A Dallas 40.30 341 ⇑P P 09 56 51.3 -0.3
baz=41,SNR=14
ASAL Salagasta 40.31 162 iP P 09 56 51.1 -0.7
SPMN St. Paul 40.31 349 eP P 09 56 50.0 -1.7
comp=Z,41nm,1.0s
SPMN St. Paul 40.31 349 ⇓P P 09 56 50.6 -1.0
baz=41,SNR=8.3
PV04 Paradox Valley 40.37 327 eP P 09 56 53.8 +1.3
K28A Ten Mile Ranch 40.41 338 ⇑P P 09 56 54.3 +1.6
baz=41
PV10 Paradox Valley 40.43 327 eP P 09 56 54.1 +1.0
comp=Z,337nm,1.0s
O22A Kremmling 40.50 331 ⇑P P 09 56 54.9 +1.2
baz=41
ARCO CERRO ARCO 40.51 162 iP P 09 56 53.9 +0.3
J29A Okreek 40.65 340 ⇑P P 09 56 54.5 0.0
baz=41,SNR=7.9
TCA Tanti 40.67 156⇓iP P 09 56 53.9 -1.0
K27A Flueckinger Fa 40.73 338 ⇓P P 09 56 56.6 +1.3
baz=41
M24A Cheyenne 40.75 334 ⇑P P 09 56 57.1 +1.5
baz=41
AAGR Agrelo 40.77 162 iP P 09 56 55.1 -0.6
N23A Red Feather La 40.79 332 ⇑P P 09 56 57.6 +1.5
baz=41
PDMCI Parker Dam,Lak 40.79 318 ⇓P P 09 56 57.3 +1.4
baz=41
PHWY Pilot Hill 40.90 333 eP P 09 56 59.0 +2.1
comp=Z,20nm,1.2s
U15A North Rim 40.95 322 ⇑P P 09 56 58.6 +1.2
baz=41
N22A Wattenberg Ran 40.96 332 ⇑P P 09 56 58.7 +1.3
baz=41
J28A Allard Ranch, 40.98 339 ⇑P P 09 56 58.3 +1.0
baz=41
K26A Motz Farm, Whi 41.09 337 ⇑P P 09 56 59.5 +1.2
baz=41
W13A Hualapai Mount 41.11 319 ⇑P P 09 57 00.0 +1.3
baz=41
J27A Elkhorn Farm, 41.11 338 ⇓P P 09 56 59.7 +1.2
baz=41,SNR=7.7
BRSD Miller 41.13 342 eP P 09 56 57.7 -0.8
comp=Z,50nm,1.0s
BRSD Miller 41.13 342 ⇓P P 09 56 58.3 -0.1
baz=41,SNR=5.5
I29A Vivian Onida 41.18 340 ⇓P P 09 56 58.8 -0.1
baz=42,SNR=9.2
L24A Wheatland 41.27 334 ⇓P P 09 57 01.7 +1.9
baz=42
K25A Mack Ranch, Ha 41.29 336 ⇓P P 09 57 01.4 +1.4
baz=42
BC3 Big Chuckawall 41.30 316 ⇓P P 09 57 01.3 +1.1
baz=42
O20A White River Ci 41.31 330 eP P 09 57 03.6 +3.4
comp=Z,30nm,1.2s
O20A White River Ci 41.31 330 ⇓P P 09 57 01.3 +1.1
baz=42
IRM Iron Mountain 41.39 317 ⇓P P 09 57 02.4 +1.7
baz=42
I28A Midland 41.46 340 ⇑P P 09 57 02.5 +1.3
baz=42,SNR=7.3
M22A Cedar Creek Ra 41.50 332 ⇓P P 09 57 02.9 +1.1
baz=42
J26A Sides Ranch, S 41.57 337 ⇑P P 09 57 03.8 +1.6
baz=42,SNR=6.3
L23A Garrett 41.66 334 ⇑P P 09 57 04.2 +1.1
baz=42,SNR=12
H29A Onida 41.69 341 ⇑P P 09 57 02.5 -0.6
baz=42
SRU San Rafael 41.76 327 eP P 09 57 05.1 +1.2
SRU pmax pmax
comp=Z,33nm,1.0s
SRU San Rafael 41.76 327 eP P 09 57 05.1 +1.2
comp=Z,33nm,1.0s
G30A Faulkton 41.81 342 ⇑P P 09 57 03.2 -0.8
baz=42,SNR=11
I27A Quinn 41.83 339 ⇑P P 09 57 05.3 +1.0
baz=42,SNR=5.4
N20A Spence Gulch, 41.85 330 ⇓P P 09 57 06.0 +1.3
baz=42,SNR=5.6
J25A Sunshine Ranch 41.92 337 ⇓P P 09 57 06.4 +1.3
baz=42,SNR=5.8
L22A Ellis Ranch, M 41.92 333 ⇓P P 09 57 07.0 +1.8
baz=42,SNR=5.5
H28A Mission Ridge 42.00 340 ⇑P P 09 57 06.8 +1.2
baz=42
GMRC Granite Mounta 42.09 318 ⇑P P 09 57 07.6 +0.9
baz=42
I26A New Underwood 42.10 338 ⇓P P 09 57 07.7 +1.3
baz=42
G29A Hoven 42.10 342 ⇑P P 09 57 05.6 -0.8
baz=42
J24A Dixon Ranch, L 42.21 336 ⇑P P 09 57 09.0 +1.5
baz=42
MVU Marysvale 42.29 325 eP P 09 57 11.0 +2.7
comp=Z,29nm,1.7s
G28A Parade 42.32 341 ⇑P P 09 57 08.5 +0.3
baz=43
H27A Howes 42.33 339 ⇑P P 09 57 09.0 +0.7
baz=43,SNR=18
CCUT Cedar City 42.33 323 eP P 09 57 11.6 +2.9
comp=Z,34nm,1.7s
F30A Leola 42.41 343 ⇓P P 09 57 08.6 -0.4
baz=43,SNR=12
I25A Rochford 42.42 337 ⇓P P 09 57 11.1 +1.9
baz=43
K22A Casper 42.45 334 eP P 09 57 11.2 +1.7
comp=Z,32nm,1.1s
K22A Casper 42.45 334 ⇑P P 09 57 10.7 +1.2
baz=43,SNR=7.0
MURC Murrieta 42.48 315 ⇓P P 09 57 10.9 +1.2
baz=43
ARUT Antelope Range 42.53 323 eP P 09 57 13.9 +3.6
ARUT pmax pmax
comp=Z,270nm,1.2s
ARUT Antelope Range 42.53 323 eP P 09 57 13.9 +3.6
comp=Z,270nm,1.2s
H26A Fairpoint 42.57 338 ⇓P P 09 57 11.6 +1.4
baz=43
HEC Hector,Ludlow 42.57 317 ⇓P P 09 57 12.0 +1.6
baz=43
RSSD Black Hills 42.62 337 eP P 09 57 11.7 +0.8
RSSD pmax pmax
comp=Z,25nm,1.2s
RSSD Black Hills 42.62 337 eP P 09 57 11.7 +0.8
comp=Z,25nm,1.2s
I24A Kuemmerle Ranc 42.64 336 ⇑P P 09 57 12.4 +1.5
baz=43
F29A Eureka 42.65 342 ⇓P P 09 57 10.9 0.0
baz=43,SNR=5.6
K21A Alcova 42.77 333 ⇑P P 09 57 13.3 +1.2
baz=43
SHPR Sheep Range 42.79 320 eP P 09 57 15.1 +2.7
H25A Fruitdale 42.88 338 ⇓P P 09 57 14.1 +1.2
baz=43,SNR=12
G27A Dupree 42.93 340 ⇓P P 09 57 14.2 +1.0
baz=43
F28A McLaughlin 42.97 341 ⇑P P 09 57 13.3 -0.2
baz=43,SNR=5.9
E30A Jud 42.98 343 ⇑P P 09 57 13.6 0.0
baz=43,SNR=16
MPU Maple Canyon 43.01 327 eP P 09 57 16.2 +2.1
comp=Z,14nm,1.2s
J22A Midwest 43.04 334 ⇑P P 09 57 15.2 +0.9
baz=43,SNR=12
DAU Daniels Canyon 43.08 327 eP P 09 57 17.2 +2.4
DAU Daniels Canyon 43.08 327 eP P 09 57 17.2 +2.4
G26A Maurine 43.09 339 ⇑P P 09 57 15.3 +0.8
baz=43
E29A Napoleon 43.26 343 ⇓P P 09 57 15.5 -0.3
baz=44,SNR=6.7
G25A Newell 43.30 338 ⇓P P 09 57 17.0 +0.8
baz=44
FMP Fort Macarthur 43.31 315 ⇓P P 09 57 17.8 +1.4
baz=44
JLU Jordanelle 43.32 327 eP P 09 57 19.0 +2.4
comp=Z,42nm,1.6s
H24A Dirks Ranch, A 43.35 337 ⇑P P 09 57 17.9 +1.2
baz=44,SNR=8.5
F27A Lemmon 43.39 340 ⇑P P 09 57 17.7 +0.8
baz=44
J21A Lysite 43.41 333 ⇑P P 09 57 18.7 +1.4
baz=44,SNR=6.0
I22A 9 Mile Ranch, 43.43 335 ⇑P P 09 57 19.0 +1.6
baz=44
D30A Buchanan 43.49 344 ⇓P P 09 57 17.5 -0.2
baz=44,SNR=15
CTU Camp Tracy 43.55 327 eP P 09 57 21.9 +3.5
comp=Z,30nm,1.2s
E28A Huff 43.58 342 ⇓P P 09 57 19.0 +0.6
baz=44
F26A Lodgepole 43.60 339 ⇓P P 09 57 19.5 +1.0
baz=44
D29A Pettibone, Tap 43.69 343 ⇓P P 09 57 18.8 -0.5
baz=44,SNR=5.5
J20A Shoshoni 43.71 333 ⇑P P 09 57 21.0 +1.4
baz=44
I21A Big Trails, Te 43.72 334 ⇑P P 09 57 20.9 +1.1
baz=44,SNR=7.7
E27A Carson 43.73 341 ⇑P P 09 57 20.1 +0.5
baz=44,SNR=11
DUG Dugway 43.78 326 eP P 09 57 23.7 +3.4
DUG pmax pmax
comp=Z,21nm,1.6s
DUG Dugway 43.78 326 eP P 09 57 23.7 +3.4
comp=Z,21nm,1.6s
DUG Dugway 43.78 326 ⇓P P 09 57 21.5 +1.3
baz=44
G24A Alzada 43.78 338 ⇓P P 09 57 21.3 +1.1
baz=44,SNR=5.5
FURC Furnace Creek, 43.87 319 ⇑P P 09 57 22.3 +1.5
baz=44
AGMN Agassiz Nation 43.87 347 eP P 09 57 19.5 -1.2
comp=Z,26nm,1.1s
AGMN Agassiz Nation 43.87 347 ⇑P P 09 57 20.5 -0.2
baz=44,SNR=6.0
F25A Bowman 43.94 339 ⇑P P 09 57 22.4 +1.0
baz=44
H22A Clearmont 43.95 335 ⇑P P 09 57 22.5 +1.0
baz=44
PDAR Pinedale Array 43.95 331 P P 09 57 22.4 +0.7
comp=Z,5.8nm,1.2s,baz=142,slow=7.5,SNR=16
PDAR LR LR 10 17 30.1
comp=Z,522nm,19.9s,baz=140,slow=39
C30A Mose, Pekin 43.96 344 ⇓P P 09 57 21.3 -0.1
baz=44,SNR=9.9
G23A Biddle 44.06 337 ⇓P P 09 57 23.7 +1.4
baz=44
E26A Carlson Angus 44.06 340 ⇓P P 09 57 23.2 +0.9
baz=44
J19A Crowheart 44.09 332 ⇑P P 09 57 24.1 +1.4
baz=44,SNR=7.2
D28A Regan 44.09 342 ⇑P P 09 57 22.6 +0.1
baz=44,SNR=6.2
R11A Troy Canyon, C 44.19 322 eP P 09 57 25.4 +1.8
comp=Z,22nm,1.5s
R11A Troy Canyon, C 44.19 322 ⇓P P 09 57 25.6 +2.0
baz=44
I20A Worland 44.20 333 ⇓P P 09 57 25.2 +1.7
baz=44,SNR=13
F24A Ekalaka 44.23 338 ⇓P P 09 57 24.9 +1.2
baz=44
H21A Big Horn, Sher 44.26 335 ⇑P P 09 57 25.5 +1.5
baz=44
BGU Big Grassy Mou 44.40 327 eP P 09 57 27.6 +2.3
comp=Z,16nm,1.5s
E25A Miller Ranch, 44.41 339 ⇑P P 09 57 26.5 +1.3
baz=45,SNR=6.2
G22A Birney 44.43 336 ⇑P P 09 57 26.6 +1.2
baz=45
ARVC Arvin 44.44 316 ⇑P P 09 57 26.9 +1.4
baz=45
F23A Volborg 44.49 337 ⇑P P 09 57 27.2 +1.4
baz=45,SNR=9.3
C28A Hausauer Farms 44.51 343 ⇑P P 09 57 26.3 +0.5
baz=45
D26A Manning 44.54 341 ⇑P P 09 57 27.2 +1.1
baz=45
H20A Greybull 44.56 334 ⇑P P 09 57 27.6 +1.2
baz=45
B30A Myrvik Farm, E 44.61 345 ⇑P P 09 57 26.5 -0.1
baz=45,SNR=11
I19A Meeteetse 44.66 333 ⇓P P 09 57 28.9 +1.7
baz=45
E24A Baker 44.79 339 ⇑P P 09 57 29.2 +1.0
baz=45
G21A Lodge Grass 44.81 335 ⇑P P 09 57 29.7 +1.3
baz=45
C27A Sayler Ranch, 44.85 342 ⇑P P 09 57 29.5 +1.0
baz=45
HVU Hansel Valley 44.86 328 eP P 09 57 31.4 +2.5
HVU pmax pmax
comp=Z,39nm,1.6s
HVU Hansel Valley 44.86 328 eP P 09 57 31.4 +2.5
comp=Z,39nm,1.6s
F22A Rosebud 44.88 336 ⇑P P 09 57 29.6 +0.8
baz=45,SNR=12
B29A Wagenman Farm, 44.90 344 ⇑P P 09 57 28.7 -0.2
baz=45,SNR=13
D25A Fairfield 44.95 340 ⇑P P 09 57 30.6 +1.2
baz=45
VES Vestal, Richgr 45.00 317 ⇑P P 09 57 30.8 +0.8
baz=45
REDW Red Top Meadow 45.02 331 eP P 09 57 30.9 +0.6
comp=Z,85nm,1.4s
TPH Tonopah 45.05 320 eP P 09 57 39.3 +8.8
TPH pmax pmax
comp=Z,11nm,1.0s
TPH Tonopah 45.05 320 eP P 09 57 39.2 +8.8
comp=Z,11nm,1.0s
A30A Hoffart Farm, 45.05 345 ⇓P P 09 57 30.1 0.0
baz=45,SNR=6.2
LOHW Long Hollow 45.09 331 eP P 09 57 32.3 +1.6
comp=Z,25nm,1.4s
C26A Wahner Farm, P 45.13 341 ⇑P P 09 57 31.3 +0.5
baz=45,SNR=7.7
H19A Powell 45.14 333 ⇑P P 09 57 32.3 +1.2
baz=45
B28A Dugan Ranch, T 45.16 343 ⇑P P 09 57 31.8 +0.8
baz=45,SNR=5.4
G20A Bridger 45.24 334 ⇑P P 09 57 32.7 +0.9
baz=46,SNR=11
MOOW Moose Ponds 45.26 331 eP P 09 57 33.5 +1.4
comp=Z,20nm,1.3s
D24A Glendive 45.27 339 ⇑P P 09 57 33.2 +1.2
baz=46,SNR=5.7
A29A Manning Farm, 45.28 344 ⇓P P 09 57 32.6 +0.7
baz=46
E22A Miles City 45.30 337 ⇓P P 09 57 33.1 +0.9
baz=46,SNR=13
I17A Pilgrim Ck. 45.30 331 ⇓P P 09 57 34.1 +1.6
baz=46,SNR=10.0
FXWY Fox Creek 45.31 331 eP P 09 57 34.3 +1.7
comp=Z,28nm,1.5s
RCTC Rector, Farmer 45.36 317 ⇓P P 09 57 34.2 +1.4
baz=46
B27A Peters Farms, 45.39 342 ⇓P P 09 57 34.2 +1.4
baz=46
C25A Freed Ranch, W 45.41 340 ⇓P P 09 57 34.0 +0.9
baz=46
H18A Shoshone NF, C 45.45 333 ⇑P P 09 57 34.4 +0.7
baz=46
FLWY Flagg Ranch 45.48 331 eP P 09 57 35.9 +2.0
comp=Z,81nm,1.6s
ELK Elko 45.52 325 eP P 09 57 36.7 +2.4
ELK pmax pmax
comp=Z,13nm,1.3s
ELK Elko 45.52 325 eP P 09 57 36.7 +2.4
comp=Z,13nm,1.3s
A28A Rude Farm, Bot 45.55 344 ⇑P P 09 57 34.9 +0.7
baz=46
LAO LASA Array 45.61 337 eP P 09 57 35.9 +1.2
comp=Z,33nm,1.2s
D23A Lindsay 45.64 338 ⇑P P 09 57 36.1 +1.2
baz=46,SNR=13
C24A Savage 45.66 339 ⇓P P 09 57 36.2 +1.2
baz=46
B26A Jensen Ranch, 45.66 342 ⇑P P 09 57 35.6 +0.6
baz=46
H17A Grant Village 45.66 332 eP P 09 57 40.1 +4.8
comp=Z,26nm,1.3s
H17A Grant Village 45.66 332 ⇑P P 09 57 36.4 +1.0
baz=46
F20A Billings 45.67 335 ⇑P P 09 57 36.4 +1.2
baz=46,SNR=7.9
ULM Lac du Bonnet 45.72 348 eP P 09 57 33.5 -1.9
ULM pmax pmax
comp=Z,13nm,0.9s
ULM Lac du Bonnet 45.72 348 P P 09 57 33.8 -1.6
comp=Z,7.2nm,0.8s,baz=160,slow=7.2,SNR=15
ULM Lac du Bonnet 45.72 348 eP P 09 57 33.5 -1.9
comp=Z,13nm,0.9s
MLAC Mammoth Lakes 45.83 319 ⇑P P 09 57 37.9 +1.2
baz=46
E21A Keefer Ranch, 45.83 336 ⇓P P 09 57 37.3 +0.9
baz=46,SNR=8.8
YFT Old Faithful 45.83 332 eP P 09 57 40.8 +4.2
comp=Z,51nm,1.2s
B25A Knox Farm, Ray 45.87 341 ⇑P P 09 57 37.7 +1.0
baz=46,SNR=5.4
A27A Ledoux Ranch, 45.87 343 ⇓P P 09 57 37.9 +1.2
baz=46
NVAR Mina Array Bea 45.94 320 P P 09 57 36.0 -1.6
comp=Z,0.9nm,0.5s,baz=134,slow=6.4,SNR=4.4
NVAR LR LR 10 17 21.4
comp=Z,724nm,18.2s,baz=231,slow=37
YNR Norris Junctio 45.95 332 eP P 09 57 39.4 +1.7
comp=Z,26nm,1.3s
D22A Cohagen 45.98 338 ⇓P P 09 57 39.0 +1.4
baz=46,SNR=8.7
YMR Madison River 46.05 332 eP P 09 57 40.1 +1.7
comp=Z,49nm,1.2s
F19A Roth Farm, Mol 46.05 334 ⇓P P 09 57 39.5 +1.3
baz=46,SNR=7.6
A26A Wade Farm, Ken 46.06 342 ⇑P P 09 57 39.3 +1.1
baz=46
C23A Lambert 46.16 339 ⇓P P 09 57 40.3 +1.3
baz=46,SNR=9.6
D21A La Casta Ranch 46.22 337 ⇑P P 09 57 40.7 +1.2
baz=46
E20A Meyer Farm, Mu 46.23 336 ⇓P P 09 57 40.6 +1.0
baz=46,SNR=18
C22A Vida 46.37 338 ⇓P P 09 57 41.9 +1.3
baz=47,SNR=12
DGMT Dagmar 46.38 340 eP P 09 57 41.8 +1.0
comp=Z,38nm,1.0s
DGMT Dagmar 46.38 340 ⇑P P 09 57 41.9 +1.2
baz=47
QLMT Earthquake Lak 46.39 332 eP P 09 57 44.3 +3.3
A25A Svangstu Ranch 46.43 341 ⇓P P 09 57 42.3 +1.2
baz=47
E19A Rath Farm, Rou 46.46 335 ⇓P P 09 57 42.7 +1.3
baz=47,SNR=9.4
BMN Battle Mountai 46.48 323 eP P 09 57 43.3 +1.5
BMN pmax pmax
comp=Z,30nm,1.3s
BMN Battle Mountai 46.48 323 eP P 09 57 43.3 +1.5
comp=Z,30nm,1.3s
B23A Brockton 46.65 339 ⇓P P 09 57 44.3 +1.5
baz=47,SNR=6.9
D20A Manuel Ranch, 46.70 336 ⇓P P 09 57 44.5 +1.2
baz=47,SNR=8.4
A24A Westby 46.71 341 ⇑P P 09 57 44.6 +1.3
baz=47,SNR=7.8
WAKR Walker 46.71 320 eP P 09 57 45.3 +1.6
B22A Reddig Ranch S 46.87 339 ⇑P P 09 57 46.0 +1.4
baz=47
C21A Desert Coulee 46.89 337 ⇓P P 09 57 46.0 +1.3
baz=47,SNR=6.8
HLID Hailey 46.97 328 eP P 09 57 46.7 +1.1
comp=Z,26nm,1.6s
HLID Hailey 46.97 328 ⇑P P 09 57 46.8 +1.3
baz=47
A23A Redstone 47.04 340 ⇑P P 09 57 47.0 +1.2
baz=47
D19A Cripps Ranch, 47.06 335 ⇑P P 09 57 47.4 +1.3
baz=47,SNR=12
MCMT McKenzie Canyo 47.07 331 eP P 09 57 48.8 +2.4
comp=Z,5.9nm,1.1s
BOZ Bozeman (W) 47.10 332 eP P 09 57 47.1 +0.6
BOZ pmax pmax
comp=Z,48nm,1.1s
BOZ Bozeman (W) 47.10 332 eP P 09 57 47.0 +0.6
comp=Z,48nm,1.1s
C20A Veseth Ranch, 47.15 337 ⇑P P 09 57 48.1 +1.3
baz=47,SNR=8.3
DLMT Dillon 47.34 331 eP P 09 57 50.2 +1.8
comp=Z,37nm,1.5s
B21A Ellsworth Farm 47.35 338 ⇑P P 09 57 49.8 +1.5
baz=48
A22A Carney Farms, 47.43 339 ⇓P P 09 57 50.4 +1.5
baz=48,SNR=5.5
PLCA Paso Flores 47.57 168 P P 09 57 49.0 -1.1
comp=Z,4.7nm,1.1s,baz=328,slow=11,SNR=3.4
C19A Slack Wire Ran 47.59 336 ⇑P P 09 57 51.5 +1.4
baz=48
TRQA Tornquist 47.60 158 eP P 09 57 48.5 -1.8
comp=Z,17nm,1.2s
LRM Limekiln Ridge 47.61 332 eP P 09 57 53.0 +2.4
MFID Camas Ranch 47.62 327 eP P 09 57 51.7 +1.2
comp=Z,32nm,1.5s
B20A Solberg Farm, 47.75 337 ⇑P P 09 57 52.9 +1.5
baz=48,SNR=21
HRY Holter Researc 47.99 333 eP P 09 57 55.1 +1.7
A20A Cobblestone Ra 48.07 338 ⇓P P 09 57 55.4 +1.5
baz=48,SNR=10.0
EGMT Eagleton 48.10 336 eP P 09 57 55.3 +1.1
comp=Z,50nm,1.4s
EGMT Eagleton 48.10 336 ⇓P P 09 57 55.5 +1.3
baz=48
B19A Brinkman Farms 48.12 336 ⇓P P 09 57 55.4 +1.1
baz=48
A19A Klindworth Far 48.42 337 ⇓P P 09 57 58.1 +1.5
baz=49
WVOR Wild Horse Val 48.56 324 eP P 09 57 58.9 +1.0
WVOR pmax pmax
comp=Z,66nm,1.4s
WVOR Wild Horse Val 48.56 324 eP P 09 57 58.9 +1.0
comp=Z,66nm,1.4s
MSO Missoula 49.05 332 eP P 09 58 02.4 +0.8
comp=Z,33nm,1.3s
MSO Missoula 49.05 332 ⇑P P 09 58 02.8 +1.2
baz=49
YBMT Yellow Bay 49.84 333 eP P 09 58 09.2 +1.6
JTMT Jette 49.88 332 eP P 09 58 09.8 +2.0
M04C Macdoel 50.09 322 ⇑P P 09 58 11.1 +1.5
baz=50
BLMT Blacktail Moun 50.11 332 eP P 09 58 11.4 +1.7
BSMT Bassoo Peak 50.19 332 eP P 09 58 11.4 +1.1
SCHQ Schefferville 50.49 12 P P 09 58 09.8 -2.4
comp=Z,13nm,1.0s,baz=118,slow=8.5,SNR=7.0
SCHQ LR LR 10 22 27.1
comp=Z,268nm,18.0s,baz=214,slow=40
SCHQ Schefferville 50.49 12 eP P 09 58 11.4 -0.9
comp=Z,28nm,1.1s
G08A Pilot Rock 50.55 327 eP P 09 58 15.0 +2.1
comp=Z,34nm,1.8s
J05D Fort Rock, OR 50.59 324 ⇑P P 09 58 14.7 +1.3
baz=51
WALA Waterton Lakes 50.67 334 eP P 09 58 14.6 +0.8
comp=Z,0.9nm,1.4s
E09A Wood Farm, Sta 50.91 329 eP P 09 58 16.3 +0.8
comp=Z,29nm,1.4s
FFC Flin Flon 51.27 346 eP P 09 58 17.5 -0.6
FFC pmax pmax
comp=Z,11nm,1.0s
FFC Flin Flon 51.27 346 eP P 09 58 17.5 -0.6

	comp=Z,11nm,1.0s						
I05D	Terrebonne, OR	51.28	325	⇓P	P	09 58 19.6	+1.1
	baz=52						
NEW	Newport	51.59	331	*e*P	P	09 58 22.1	+1.4
NEW				pmax	pmax		
	comp=Z,33nm,1.8s						
NEW	Newport	51.59	331	*e*P	P	09 58 22.1	+1.4
	comp=Z,33nm,1.8s						
NEW	Newport	51.59	331	⇓P	P	09 58 22.3	+1.6
	baz=52						
G05D	Wamic, OR	51.81	326	⇑P	P	09 58 24.3	+1.9
	baz=52						
EDM	Edmonton	53.60	337	*e*P	P	09 58 35.8	+0.4
EDM	Edmonton	53.60	337	*e*P	P	09 58 35.8	+0.4
FCC	Fort Churchill	53.60	352	*e*P	P	09 58 34.3	-0.9
FCC				pmax	pmax		
	comp=Z,5.0nm,2.6s						
FCC	Fort Churchill	53.60	352	*e*P	P	09 58 34.3	-0.9
	comp=Z,4.8nm,2.6s						
RKT	Rikitea	58.79	239	*e*S	S	10 07 20.1	+1.9
	comp=Z,304nm,33.0s						
RKT				*e*LR	LR	10 16 52.9	
	comp=Z,932nm,26.0s						
YKA	Yellowknife Ar	61.32	344	P	P	09 59 29.4	-0.3
	comp=Z,5.2nm,1.0s,baz=137,slow=6.8,SNR=55						
DLBC	Dease Lake	64.01	334	*e*P	P	09 59 49.1	+1.3
PPT2	Papeete2	70.20	249	*e*LR	LR	10 22 03.6	
	comp=Z,1μm,25.5s						
DAWY	Dawson	70.81	337	*e*P	P	10 00 31.3	+0.6
INK	Inuvik	71.01	342	*e*P	P	10 00 33.0	+1.3
INK				pmax	pmax		
	comp=Z,35nm,1.0s						
INK	Inuvik	71.01	342	*e*P	P	10 00 33.0	+1.3
	comp=Z,35nm,1.0s						
EGAK	Eagle	71.82	337	*e*P	P	10 00 38.5	+1.7
	comp=Z,22nm,1.1s						
SUMG	Summit	71.87	13	*i* P	P	10 00 36.2	-1.2
SUMG				pmax	pmax		
	comp=Z,21nm,1.0s						
SUMG	Summit	71.87	13	*i* P	P	10 00 36.2	-1.2
	comp=Z,21nm,1.0s						
SUMG	Summit	71.87	13	*e*P	P	10 00 36.4	-1.0
	comp=Z,58nm,1.3s						
MENT	Mentasta	72.07	335	*e*P	P	10 00 39.9	+1.5
DOT	Dot Lake	72.50	336	*e*P	P	10 00 42.5	+1.6
	comp=Z,21nm,1.0s						
PAX	Paxson	72.82	335	*e*P	P	10 00 44.3	+1.4
PAX				pmax	pmax		
	comp=Z,15nm,1.2s						
PAX	Paxson	72.82	335	*e*P	P	10 00 44.3	+1.4
	comp=Z,15nm,1.2s						
MORF	Marmelete	73.63	53	*e*P	P	10 00 54.3	+6.2
	comp=Z,65nm,1.4s						
PNCL	Nicolau / Gran	73.80	52	*e*P	P	10 00 55.3	+6.3
	comp=Z,46nm,1.8s						
PCAS	Casmilo, Conde	74.01	50	*e*P	P	10 00 56.3	+6.0
	comp=Z,72nm,1.3s						
ILAR	Eielson Array	74.07	336	P	P	10 00 50.5	+0.4
	comp=Z,4.1nm,1.1s,baz=124,slow=3.5,SNR=22						
PCVE	Castro Verde	74.14	53	*e*P	P	10 00 57.3	+6.2
	comp=Z,26nm,1.8s						
EVOP	Sao Brissos	74.15	52	*e*P	P	10 00 51.1	0.0
EVOP				pmax	pmax		
	comp=Z,68nm,1.2s						
EVOP	Sao Brissos	74.15	52	*e*P	P	10 00 51.1	0.0
	comp=Z,68nm,1.2s						
PBDV	Barranco-do-Ve	74.19	53	*e*P	P	10 00 58.0	+6.6
	comp=Z,42nm,1.5s						
EVO	Evora	74.24	52	*e*P	P	10 00 51.1	-0.5
	comp=Z,68nm,1.2s						
EVO	Evora	74.24	52	*e*P	P	10 00 57.5	+5.9
	comp=Z,22nm,1.7s						
PBEJ	Beja	74.31	52	*e*P	P	10 00 57.8	+5.8
	comp=Z,27nm,1.4s						
PVAQ	Vaqueiros	74.38	53	*e*P	P	10 00 57.7	+5.3
	comp=Z,19nm,1.6s						
COLA	College	74.49	336	⇓*e*P	P	10 00 53.9	+1.4
COLA				pmax	pmax		
	comp=Z,11nm,0.8s						
COLA	College	74.49	336	*e*P	P	10 00 53.6	+1.2
	comp=Z,7.2nm,1.0s						
PVIS	Viseu	74.54	49	*e*P	P	10 00 59.5	+6.1
MCK	McKinley	74.55	335	*e*P	P	10 00 54.4	+1.4
MCK				pmax	pmax		
	comp=Z,23nm,1.1s						
MCK	McKinley	74.55	335	*e*P	P	10 00 54.4	+1.4
	comp=Z,23nm,1.1s						
PESTR	Estremoz	74.60	51	*e*P	P	10 00 59.5	+5.8
	comp=Z,63nm,1.3s						
POLO	Lamas de Olo	74.68	49	*e*P	P	10 01 00.4	+6.1
PCBR	Castelo Branco	74.77	50	*e*P	P	10 01 00.8	+6.1
PMRV	Marv??o	74.80	51	*e*P	P	10 00 59.1	+4.2
	comp=Z,23nm,1.9s						
PBAR	Barrancos	74.97	52	*e*P	P	10 00 56.8	+0.9
	comp=Z,36nm,1.3s						
MVO	Moncorvo	75.23	49	*e*P	P	10 01 03.1	+5.7
	comp=Z,25nm,2.1s						
RSO	Redoubt South	75.33	331	*e*P	P	10 00 59.2	+1.5
	comp=Z,40nm,1.0s						
KTH	Kantishna Hill	75.34	334	*e*P	P	10 00 57.3	-0.3
	comp=Z,21nm,1.2s						
PPLA	Purkeypile	75.71	334	*e*P	P	10 01 00.4	+0.6
	comp=Z,55nm,1.5s						
COLD	Coldfoot	76.18	338	*e*P	P	10 01 03.7	+1.5
	comp=Z,28nm,1.3s						
DBIC	Dimbokro	77.06	84	*e*P	P	10 01 08.5	+0.3
DBIC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
DBIC	Dimbokro	77.06	84	P	P	10 01 08.5	+0.3
	comp=Z,6.7nm,1.1s,baz=338,slow=5.4,SNR=3.7						
DBIC				LR	LR	10 34 18.2	
	comp=Z,123nm,19.2s,baz=297,slow=35						
DBIC	Dimbokro	77.06	84	*e*P	P	10 01 08.5	+0.3
	comp=Z,9.6nm,0.9s						
PAB	San Pablo	77.16	51	*e*P	P	10 01 08.4	0.0
PAB				pmax	pmax		
	comp=Z,30nm,1.4s						
PAB	San Pablo	77.16	51	*e*P	P	10 01 08.4	0.0
	comp=Z,30nm,1.4s						
IM04	Indian Mountai	77.19	337	*e*P	P	10 01 09.0	+1.0
ESDC	Sonseca Array	77.46	51	P	P	10 01 11.0	+0.9
	comp=Z,4.7nm,1.0s,baz=272,slow=5.6,SNR=6.3						
ESLA	Sonseca Array	77.46	51	*e*P	P	10 01 11.1	+1.0
	comp=Z,6.5nm,1.2s						
DAG	Danmarks Havn	78.54	12	*i* P	P	10 01 13.7	-1.5
DAG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
DAG	Danmarks Havn	78.54	12	*i* P	P	10 01 13.7	-1.5
	comp=Z,5.0nm,1.1s						
DAG				*i*		10 02 40.9	
SJPF	Ste Jean	79.66	47	*e*P	P	10 01 21.8	-0.3
	comp=Z,72nm,1.4s						
SJPF	Ste Jean	79.66	47	*e*P	P	10 01 21.8	-0.3
SJPF				pmax	pmax		
	comp=Z,72nm,1.4s						
SJPF	Ste Jean	79.66	47	*e*P	P	10 01 21.8	-0.3
	comp=Z,72nm,1.4s						
GRR	Gorron	80.11	42	*e*P	P	10 01 23.4	-1.0
GRR	Gorron	80.11	42	*e*P	P	10 01 23.4	-1.0
GRR	Gorron	80.11	42	*e*P	P	10 01 23.4	-1.0
FLN	La Foliniere	80.38	42	*e*P	P	10 01 24.9	-0.9
	comp=Z,55nm,1.3s						
FLN	La Foliniere	80.38	42	*e*P	P	10 01 24.9	-0.9
FLN				pmax	pmax		
	comp=Z,55nm,1.3s						
FLN	La Foliniere	80.38	42	*e*P	P	10 01 24.9	-0.9
	comp=Z,55nm,1.3s						
MFF	Saint Martin d	80.53	44	*e*P	P	10 01 25.7	-1.0
	comp=Z,40nm,1.2s						
MFF	Saint Martin d	80.53	44	*e*P	P	10 01 25.7	-1.0
MFF				pmax	pmax		
	comp=Z,40nm,1.2s						
MFF	Saint Martin d	80.53	44	*e*P	P	10 01 25.7	-1.0
	comp=Z,40nm,1.2s						
LDF	La Druitiere	80.61	42	*e*P	P	10 01 25.9	-1.2
	comp=Z,44nm,1.2s						
LDF	La Druitiere	80.61	42	*e*P	P	10 01 25.9	-1.2
LDF				pmax	pmax		
	comp=Z,44nm,1.2s						
LDF	La Druitiere	80.61	42	*e*P	P	10 01 25.9	-1.2
	comp=Z,44nm,1.2s						
EPF	Esparros	80.81	47	*e*P	P	10 01 27.8	-0.5
	comp=Z,63nm,1.5s						
EPF	Esparros	80.81	47	*e*P	P	10 01 27.8	-0.5
EPF				pmax	pmax		
	comp=Z,63nm,1.5s						
EPF	Esparros	80.81	47	*e*P	P	10 01 27.8	-0.5
	comp=Z,63nm,1.5s						
TCF	Toulx Ste Croi	82.16	44	*e*P	P	10 01 33.3	-2.1
	comp=Z,18nm,1.1s						
TCF	Toulx Ste Croi	82.16	44	*e*P	P	10 01 33.3	-2.1
TCF				pmax	pmax		
	comp=Z,19nm,1.1s						
TCF	Toulx Ste Croi	82.16	44	*e*P	P	10 01 33.3	-2.1
	comp=Z,18nm,1.1s						
BGF	Bois d'Agland	82.59	44	*e*P	P	10 01 36.4	-1.2
BGF	Bois d'Agland	82.59	44	*e*P	P	10 01 36.4	-1.2
BGF	Bois d'Agland	82.59	44	*e*P	P	10 01 36.4	-1.2
TOA0	Torodi Ar. Sit	83.01	77	*e*P	P	10 01 41.0	+0.6
TORD	Torodi Ar. Bea	83.01	77	P	P	10 01 40.3	-0.1
	comp=Z,4.2nm,1.1s,baz=289,slow=5.4,SNR=7.6						
SSF	Saint Saulge	83.04	43	*e*P	P	10 01 38.3	-1.6
	comp=Z,23nm,1.3s						
SSF	Saint Saulge	83.04	43	*e*P	P	10 01 38.3	-1.6
SSF				pmax	pmax		
	comp=Z,23nm,1.3s						
SSF	Saint Saulge	83.04	43	*e*P	P	10 01 38.3	-1.6
	comp=Z,23nm,1.3s						
LOR	Lormes	83.28	43	*e*P	P	10 01 38.5	-2.7
LOR	Lormes	83.28	43	*e*P	P	10 01 38.5	-2.7
LOR	Lormes	83.28	43	*e*P	P	10 01 38.5	-2.7
LASF	Ste Croix	83.35	46	*e*P	P	10 01 39.5	-2.2
	comp=Z,111nm,1.5s						
LASF	Ste Croix	83.35	46	*e*P	P	10 01 39.5	-2.2
	comp=Z,111nm,1.5s						
BAIF	Baives	83.45	40	*e*P	P	10 01 40.6	-1.4
	comp=Z,40nm,1.5s						
BAIF	Baives	83.45	40	*e*P	P	10 01 40.6	-1.4
BAIF				pmax	pmax		
	comp=Z,40nm,1.5s						
BAIF	Baives	83.45	40	*e*P	P	10 01 40.6	-1.4
	comp=Z,40nm,1.5s						
GIVF	Givet	83.84	40	*e*P	P	10 01 42.8	-1.2
GIVF	Givet	83.84	40	*e*P	P	10 01 42.8	-1.2
GIVF	Givet	83.84	40	*e*P	P	10 01 42.8	-1.2
VIVF	Saint-Julien-l	83.91	46	*e*P	P	10 01 43.9	-0.6
	comp=Z,69nm,1.6s						
VIVF	Saint-Julien-l	83.91	46	*e*P	P	10 01 43.9	-0.6
VIVF				pmax	pmax		
	comp=Z,69nm,1.6s						
VIVF	Saint-Julien-l	83.91	46	*e*P	P	10 01 43.9	-0.6
	comp=Z,69nm,1.6s						
SFTF	Sexfontaines	84.05	42	*e*P	P	10 01 43.7	-1.4
	comp=Z,20nm,1.0s						
SFTF	Sexfontaines	84.05	42	*e*P	P	10 01 43.7	-1.4
	comp=Z,20nm,1.0s						
PAGF	Fort de Pagny	84.49	42	*e*P	P	10 01 46.2	-1.1
	comp=Z,25nm,1.6s						
PAGF	Fort de Pagny	84.49	42	*e*P	P	10 01 46.2	-1.1
	comp=Z,25nm,1.6s						
GAMB	Gambell	84.52	333	*e*P	P	10 01 48.4	+1.3
	comp=Z,4.5nm,0.9s						
ORIF	Oris-en-Rattie	84.77	45	*e*P	P	10 01 47.6	-1.3
	comp=Z,44nm,1.3s						
ORIF	Oris-en-Rattie	84.77	45	*e*P	P	10 01 47.6	-1.3
ORIF				pmax	pmax		
	comp=Z,44nm,1.3s						
ORIF	Oris-en-Rattie	84.77	45	*e*P	P	10 01 47.6	-1.3
	comp=Z,44nm,1.3s						
CABF	La Chapelle	84.83	44	*e*P	P	10 01 48.1	-1.1
	comp=Z,58nm,1.4s						
CABF	La Chapelle	84.83	44	*e*P	P	10 01 48.1	-1.1
CABF				pmax	pmax		
	comp=Z,58nm,1.4s						
CABF	La Chapelle	84.83	44	*e*P	P	10 01 48.1	-1.1
	comp=Z,58nm,1.4s						
HAU	Haudompre	84.93	42	*e*P	P	10 01 48.2	-1.4
	comp=Z,64nm,1.8s						
HAU	Haudompre	84.93	42	*e*P	P	10 01 48.2	-1.4
HAU				pmax	pmax		
	comp=Z,64nm,1.8s						
HAU	Haudompre	84.93	42	*e*P	P	10 01 48.2	-1.4
	comp=Z,64nm,1.8s						
HINF	Hinteralfeld	85.28	43	*e*P	P	10 01 49.7	-1.7
	comp=Z,55nm,1.6s						
HINF	Hinteralfeld	85.28	43	*e*P	P	10 01 49.7	-1.7
HINF				pmax	pmax		
	comp=Z,55nm,1.6s						
HINF	Hinteralfeld	85.28	43	*e*P	P	10 01 49.7	-1.7
	comp=Z,55nm,1.6s						
LPG	La Plagne	85.35	45	*e*P	P	10 01 51.7	-0.4
	comp=Z,36nm,1.3s						
LPG	La Plagne	85.35	45	*e*P	P	10 01 51.7	-0.4
LPG				pmax	pmax		
	comp=Z,36nm,1.3s						
LPG	La Plagne	85.35	45	*e*P	P	10 01 51.7	-0.4
	comp=Z,36nm,1.3s						
CDF	Champ du Feu	85.53	42	*e*P	P	10 01 51.3	-1.4
	comp=Z,46nm,1.4s						
CDF	Champ du Feu	85.53	42	*e*P	P	10 01 51.3	-1.4
CDF				pmax	pmax		
	comp=Z,46nm,1.4s						
CDF	Champ du Feu	85.53	42	*e*P	P	10 01 51.3	-1.4
	comp=Z,46nm,1.4s						
NB2	NORSAR Subarra	86.75	29	P	P	10 01 59.0	+0.6
	comp=Z,26nm,1.2s,baz=274,slow=4.8						
NB2	NORSAR Subarra	86.75	29	P	P	10 01 59.0	+0.6
	baz=274,slow=4.8						
NOA	NORSAR Array B	86.75	29	P	P	10 01 58.7	+0.3
	comp=Z,4.5nm,0.9s,baz=276,slow=4.5,SNR=8.0						
CLL	Collm	88.93	39	*e*P	P	10 02 10.0	+1.1
CLL				*e*		10 02 19.0	
CLL				MLR	MLR		
	comp=Z,400nm,20.0s						
CLL	Collm	88.93	39	*e*P	P	10 02 10.0	+1.1
CLL				*e*		10 02 19.0	
CLL				*i*		10 02 23.4	
	comp=Z,23nm,1.5s						
CLL				Lm	MLR	10 37 00.0	
	comp=Z,400nm,20.0s						
BRG	Berggiesshubel	89.58	39	*e*P	P	10 02 21.6	+10
	comp=Z,4.2nm,1.2s						
BRG	Berggiesshubel	89.58	39	*e*P	P	10 02 21.6	+10
BRG				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KHC	Kasperske Hory	89.60	41	*e*P	P	10 02 18.1	+5.9
KHC				*e*		10 02 21.6	
KHC				*e*		10 02 26.6	
KHC	Kasperske Hory	89.60	41	*e*P	P	10 02 18.1	+5.9
KHC				*e*x	x	10 02 21.6	
KHC				*e*x	x	10 02 26.6	
GERES	GERESS Array B	89.72	41	P	P	10 02 12.8	0.0
	comp=Z,0.6nm,0.8s,baz=264,slow=3.8,SNR=2.7						
PRU	Pruhonice	90.09	40	*e*P	P	10 02 18.5	+4.1
PRU				*e*		10 02 27.3	
PRU				MLR	MLR		
	comp=Z,700nm,17.1s						
PRU	Pruhonice	90.09	40	*e*P	P	10 02 18.5	+4.1
PRU				*e*x	x	10 02 27.3	
PRU				AMS	AMS	10 36 50.0	
	comp=Z,700nm,17.1s						
TREC	Trest	90.81	40	*e*P	P	10 02 22.5	+4.7
TREC				MLR	MLR		
	comp=Z,500nm,18.6s						
TREC	Trest	90.81	40	*e*P	P	10 02 22.5	+4.7
TREC				AMS	AMS	10 36 40.0	
	comp=Z,500nm,18.6s						
UPC	Upice	90.93	39	*e*P	P	10 02 19.8	+1.5
UPC	Upice	90.93	39	*e*P	P	10 02 19.8	+1.5
UPC				*e*x	x	10 02 33.6	
DPC	Dobruska-Polom	91.16	39	*e*P	P	10 02 20.7	+1.3
DPC				*e*		10 02 25.7	
DPC	Dobruska-Polom	91.16	39	*e*P	P	10 02 20.7	+1.3
DPC				*e*pP	pP	10 02 25.7	+1.6
DPC				*e*x	x	10 02 29.3	
DPC				*e*x	x	10 02 34.1	
KRLC	Kraliky	91.50	40	*e*P	P	10 02 20.4	-0.6
KRLC				*e*		10 02 27.2	
KRLC	Kraliky	91.50	40	*e*P	P	10 02 20.4	-0.6
KRLC				*e*pP	pP	10 02 27.2	+1.5
KRLC				*e*x	x	10 02 31.0	
BILL	Bilibino	92.46	339	⇓*e*P	P	10 02 24.7	-0.3
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
H11S2	WAKE ISLAND Hy	107.73	291	T	T	12 04 00.9	
	baz=80						
H11S1	WAKE ISLAND Hy	107.73	291	T	T	12 04 00.6	
	baz=80						
H11S3	WAKE ISLAND Hy	107.74	291	T	T	12 04 02.3	
	baz=80						
DZM	Mont Dzumac	111.71	249	*e*LR	LR	10 41 14.9	
	comp=Z,394nm,30.4s						
ULN	Ulaanbaatar	125.92	352	*i* PKIKP	PKPdf	10 08 17.3	+0.5
SONM	Songino Array	126.04	353	PKP	PKPdf	10 08 16.3	-0.7
	comp=Z,0.6nm,0.8s,baz=46,slow=1.4,SNR=4.7						
KSRS	Korea Array	128.50	329	PKP	PKPdf	10 08 21.4	-0.4
	comp=Z,2.6nm,1.1s,baz=23,slow=1.6,SNR=6.4						
KSAR	Wonju Array Be	128.53	329	PKIKP	PKPdf	10 08 21.4	-0.5
KSAR	Wonju Array Be	128.53	329	PKP	PKPdf	10 08 21.4	-0.5
WMQ	Urumqi	129.82	9	*e*PKP	PKPdf	10 08 23.0	-1.2
WMQ				PP	PP	10 10 36.9	+2.8
WMQ				PKS	PKSdf	10 11 58.0	-2.8
WMQ				SKS	SKSdf	10 15 29.3	-6.5
WMQ				SKKS	SKKSac	10 17 24.3	-7.9
WMQ				AMB	AMB		
	comp=Z,34nm,10.8s						
WMQ				LR	LR		
	comp=Z,140nm,21.6s						
WMQ				LR	LR		
	comp=Z,220nm,23.8s						
WMQ				LR	LR		
	comp=Z,180nm,21.2s						
DL2	Dalian	130.25	335	PKP	PKPdf	10 08 32.1	+7.0
DL2				sPKP		10 08 46.2	
KSH	Kashi	130.70	22	*e*PKP	PKPdf	10 08 32.7	+6.6
KSH				*e*sPKP		10 08 47.0	
KSH				PKS	PKSdf	10 12 06.8	+4.1
KSH				AMB	AMB		
	comp=Z,90nm,3.9s						
KSH				LR	LR		
	comp=Z,88nm,5.2s						
KSH				LR	LR		
	comp=Z,17nm,2.5s						
KSH				LR	LR		
	comp=Z,57nm,4.1s						
BJI	Beijing	131.27	341	PKP	PKPdf	10 08 26.9	-0.1
LZH	Lanzhou	137.93	352	*e*PKP	PKPdf	10 08 41.3	+1.5
LZH				*e*PP	PP	10 11 30.0	+4.2
LZH				SKKS		10 18 17.5	
LZH				*e*SS	SS	10 29 35.0	-0.1
LZH				AMB	AMB		
	comp=Z,190nm,9.3s						
LZH				LR	LR		
	comp=Z,190nm,18.0s						
LZH				LR	LR		
	comp=Z,190nm,18.3s						
LZH				LR	LR		
	comp=Z,220nm,20.5s						
ASAR	Alice Springs	140.78	239	PKhKP	PKPpre	10 08 36.2	
	comp=Z,0.5nm,0.8s,baz=126,slow=3.3,SNR=4.8						
ASAR				PKP	PKPdf	10 08 42.5	-2.6
	comp=Z,1.3nm,0.9s,baz=121,slow=3.4,SNR=9.6						
WRA	Warramunga Arr	141.60	245	PKhKP	PKPpre	10 08 39.1	
	comp=Z,0.6nm,0.9s,baz=102,slow=1.9,SNR=6.7						
WRA				PKP	PKPdf	10 08 46.0	-0.7
	comp=Z,3.1nm,1.0s,baz=99,slow=2.2,SNR=12						
CD2	Chengdu	143.03	351	PKP	PKPdf	10 08 48.5	-0.5
CD2				pPKP	pPKPdf	10 08 59.1	+5.3
CD2				sPKP		10 09 02.9	
CD2				PP	PP	10 12 01.2	+4.3
CD2				PKS	PKSdf	10 12 22.8	-2.1
CD2				SKS	SKSdf	10 15 53.9	-4.9
CD2				SKKS	SKKSac	10 18 48.2	-3.2
CD2				SS	SS	10 30 34.3	-0.3
CD2				AMB	AMB		
	comp=Z,120nm,5.6s						
KKN	Kakani	144.57	19	*e*P	PKPab	10 08 49.9	-0.5
	comp=Z,42nm,0.9s						
GUN	Gumba	144.65	18	*e*P	PKPab	10 08 50.3	-0.5
	comp=Z,72nm,1.0s						
PKI	Pulchoki	144.82	19	*e*P	PKPab	10 08 50.6	-0.8
	comp=Z,50nm,0.9s						
JIRN	Jiri	144.98	18	*e*P	PKPab	10 08 51.7	-0.4
	comp=Z,82nm,1.0s						
TAPN	Taplejung	145.71	16	*e*P	PKPdf	10 08 53.6	-0.5
	comp=Z,161nm,1.4s						
RAMN	Ramite	145.77	18	*e*P	PKPdf	10 08 52.3	-1.8
	comp=Z,165nm,1.5s						
ODAN	Odare	146.08	16	*e*P	PKPdf	10 08 54.2	-0.5
	comp=Z,75nm,1.3s						
POO	Poona	146.38	44	*e*P	PKPab	10 09 01.0	+3.9
GYA	Guiyang	146.75	345	PKPbc	PKPdf	10 08 54.0	-1.6
GYA				PP	PP	10 12 23.6	+4.3
GYA				PKS	PKSdf	10 12 28.3	-2.9
GYA				SKKS		10 19 09.2	
GYA				SS	SS	10 31 17.6	+0.1
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
GYA				LR	LR		
	comp=Z,150nm,22.8s						
GYA				LR	LR		
	comp=Z,130nm,24.0s						
GYA				LR	LR		
	comp=Z,140nm,23.3s						
H01W1	Cape Leeuwin H	147.23	206	T	T	12 54 04.3	
	baz=155						
H01W2	Cape Leeuwin H	147.24	206	T	T	12 54 02.6	
	baz=155						
H01W3	Cape Leeuwin H	147.25	206	T	T	12 54 04.3	
	baz=155						
HYB	Hyderabad	150.26	39	*i* PKP	PKPab	10 09 10.0	-2.6
HYB				*e*		10 09 14.0	
HYB				*e*		10 09 19.5	
CMAR	Chiang Mai Arr	155.87	357	PKP	PKPdf	10 09 10.3	+0.8
	comp=Z,0.5nm,0.4s,baz=289,slow=1.8,SNR=5.5						

MOS **07** *09:50:40.6±0.9, 5.82N×82.37W, h10km, mb5.4/43, Error ellipse: s-maj=8.8km s-min=6.0km az=94.4*

IDC **07** *09:50:40.3±0.6, 5.84N×82.27W, h0km, mb4.5/18, mb1 4.8/21, mb1mx4.7/27, mbtmp4.6/21, ML4.7/3, MS4.3/2, Ms1 4.3/2, ms1mx3.9/18, Error ellipse: s-maj=26.4km s-min=11.6km az=56.0*

NEIC **07** *09:50:41.9±0.3, 5.70N×82.39W, h10km, mb5.1/109, Error ellipse: s-maj=6.8km s-min=4.4km az=200.0*

ISCJB **07** *09:50:42.4±0.2, 5.94N±0.04×82.33W±0.03, h14km, mb5.0/130, MS4.7/5, Error ellipse: s-maj=6.1km s-min=3.0km az=32.0*

CASC **07** *09:50:42.8±4.0, 6.01N×82.89W, h0km±19km, MD4.4, mb5.1(NEIC)*

BJI **07** *09:50:47.6, 5.80N×82.40W, h39km, mB5.3/6, Ms5.2/6, Ms7 4.8/6*

ISC 07 09:50:43.0±0.3, 5.87N±0.04×82.46W±0.06, h14km, n689, σ1$44/681, mb5.0/130, MS4.8/5, 2C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	2.85	346	*e*P	Pn	09 51 24.7	-3.6
BRU2	Volcan	2.92	356	*e*P	Pn	09 51 28.7	-0.5
BRU	Baru	2.92	358	*e*P	Pb	09 51 33.9	-1.3
CTCR	Cotoan	3.02	354	*e*P	Pn	09 51 29.1	-1.6
BUS	Buena Vista	3.88	341	*e*P	Pn	09 51 41.4	-1.3
BUS				*e*S	Sn	09 52 28.1	-0.3
QCR	Quepos	3.92	335	⇑*e*P	Pn	09 51 40.9	-1.9
BCIP	Isla Barro Col	4.18	38	*e*P	Pg	09 52 06.4	+3.1
UPA	Univ. de Panam	4.24	43	*e*S	Sb	09 52 48.0	-0.6
SJS	Escuela Geolog	4.34	339	⇑*e*P	Pn	09 51 48.4	-0.4
CGA2	Cerro Gallo 2	4.58	334	*e*P	Pn	09 51 50.2	-1.8
CGA2				*e*S	Sn	09 52 41.9	-3.2
CAO	Cobano	4.62	326	*e*P	Pn	09 51 49.5	-3.0
JCR	Jicaral	4.75	327	⇓*e*P	Pn	09 51 52.9	-1.4
JTS	JuntasAbangare	5.04	331	Pn	Pn	09 51 57.5	-0.8
	3μm,0.4s,SNR=7.6						
JTS	JuntasAbangare	5.04	331	Pn	Pn	09 51 57.2	-1.1
	123nm,0.3s,baz=104,slow=23,SNR=23						
JTS				Sn	Sn	09 52 55.1	-1.2
	37nm,0.3s,baz=62,slow=23,SNR=6.6						
JTS	JuntasAbangare	5.04	331	*e*Pn	Pn	09 51 56.5	-1.8
JTS				Sn	Sn	09 52 55.1	-1.2
GUAB	Guayabo de Bag	5.53	331	*i* P	Pn	09 52 04.9	-0.2
MESS	Mesas	5.55	331	*i* P	Pn	09 52 05.8	+0.5
MESS				*e*S	Sn	09 53 06.9	-2.0
GPS2	Hotel Rinc˜‡n	5.63	330	*i* P	Pn	09 52 06.7	+0.3
LAPC	Finca la Perla	5.69	329	*i* P	Pn	09 52 07.4	+0.2
OTAV	Otavalo	6.88	144	*e*Pn	Pn	09 52 25.6	+1.7
ROSC	El Rosal	8.16	97	*e*Pn	Pn	09 52 45.4	+3.9
ROSC	El Rosal	8.16	97	Pn	Pn	09 52 45.9	+4.4
	11nm,0.3s,baz=297,slow=16,SNR=6.3						
ROSC				LR	LR	09 55 21.8	
	comp=Z,2μm,18.1s,baz=315,slow=35						
ROSC	El Rosal	8.16	97	*e*Pn	Pn	09 52 45.4	+3.9
PAYG	Puerto Ayora	10.16	230	*e*Pn	Pn	09 53 09.8	+1.2
PAYG	Puerto Ayora	10.16	230	*e*Pn	Pn	09 53 09.8	+1.2
APG	El Apazote	12.01	320	Pn	Pn	09 53 34.7	+0.6

1.8nm,0.3s,baz=122,slow=12,SNR=6.7
SDV Santo Domingo 12.11 75 ePn Pn 09 53 37.8 +2.3
SDV Santo Domingo 12.11 75 ePn Pn 09 53 36.8 +1.3
ATAH Atahualpa 13.54 163 Pn Pn 09 53 58.1 +2.9
1.3nm,0.3s,baz=22,slow=10,SNR=4.3
GTBY Guantanamo Bay 15.70 26 eP P 09 54 26.3 -1.6
SDDR Presa de Saban 16.98 39 eP P 09 54 42.9 +0.6
70nm,1.0s
NNA Nana 18.60 163 Pn P 09 54 59.8 -0.3
814nm,0.8s,SNR=7.3
NNA Nana 18.60 163 eP P 09 54 59.5 -0.6
NNA pmax pmax
comp=Z,139nm,0.9s
NNA Nana 18.60 163 P P 09 54 59.1 -0.9
comp=Z,0.9nm,0.3s,baz=351,slow=10,SNR=8.3
NNA Nana 18.60 163 eP P 09 54 59.5 -0.6
comp=Z,139nm,0.9s
CRPR Cabo Rojo, PR 19.24 50 eP P 09 55 05.9 -1.3
comp=Z,93nm,1.0s
LSP Las Mesas 19.36 49 eP Pn 09 55 11.1 +1.5
AGP Aguadilla 19.46 49 ePn Pn 09 55 12.2 +1.4
AGPR Aguadilla, PR 19.52 49 eP Pn 09 55 12.7 +1.3
comp=Z,124nm,0.8s
LRS Lares 19.61 50 eP Pn 09 55 13.7 +1.1
OBIP Obispado Ponce 19.65 51 eP Pn 09 55 13.1 +0.1
comp=Z,92nm,1.1s
CELP Cerrillos 19.69 51 eP Pn 09 55 14.5 +1.1
SJG San Juan 20.04 51 eP Pn 09 55 17.7 +0.1
SJG pmax pmax
comp=Z,197nm,1.2s
SJG San Juan 20.04 51 P Pn 09 55 17.6 0.0
comp=Z,0.0nm,0.3s,baz=270,slow=5.7,SNR=7.9
SJG San Juan 20.04 51 eP Pn 09 55 17.7 0.0
comp=Z,197nm,1.2s
CPD Cerro la Pandu 20.18 52 eP Pn 09 55 19.4 0.0
CPD pmax pmax
comp=Z,105nm,1.0s
CPD Cerro la Pandu 20.18 52 ePn Pn 09 55 19.4 +0.1
comp=Z,104nm,1.0s
HUMP Col San Antoni 20.29 52 ePn Pn 09 55 20.5 -0.1
CBYP Canovanas 20.36 51 eP Pn 09 55 20.3 -1.2
comp=Z,242nm,1.4s
CDVI St. Croix 20.94 54 eP Pn 09 55 26.8 -1.4
comp=Z,244nm,1.1s
TPP Pointe-a-Pierr 21.26 77 e P 09 55 30.8 +1.7
GRGR Grenville 21.46 72 eP P 09 55 34.1 +2.8
comp=Z,143nm,1.0s
FDF Fort de France 22.72 66 eP P 09 55 46.4 +1.6
FDF pmax pmax
comp=Z,335nm,1.5s
FDF Fort de France 22.72 66 eP P 09 55 46.4 +1.6
comp=Z,335nm,1.5s
PTGA Pitinga 23.40 106 P P 09 55 50.2 -1.5
comp=Z,32nm,0.9s,baz=298,slow=13,SNR=4.4
PTGA Pitinga 23.40 106 eP P 09 55 56.4 +4.6
comp=Z,45nm,1.0s
SAML Samuel 24.21 127 eP P 09 55 57.3 -2.2
comp=Z,27nm,0.7s
035Z Hargill 25.32 326 P P 09 56 13.0 +3.6
baz=26
TIGA Tifton 25.46 358 eP P 09 56 13.5 +2.8
comp=Z,230nm,1.4s
TIGA Tifton 25.46 358 P P 09 56 13.7 +3.1
baz=26
035A Encino 25.71 326 P P 09 56 16.5 +3.5
baz=26
034A Hebbronville 26.14 326 P P 09 56 20.6 +3.7
baz=26
LPAZ La Paz 26.18 147 eP P 09 56 25.1 +7.0
LPAZ pmax pmax
comp=Z,22nm,1.1s
LPAZ La Paz 26.18 147 P P 09 56 17.1 -1.0
comp=Z,4.1nm,0.8s,baz=315,slow=10,SNR=4.5
LPAZ La Paz 26.18 147 eP P 09 56 25.1 +7.0
comp=Z,22nm,1.1s
934A Benavides 26.46 327 P P 09 56 24.0 +4.1
baz=27
835A Beeville 26.64 329 P P 09 56 24.2 +2.8
baz=27
933A Laredo 26.89 325 P P 09 56 26.6 +2.9
baz=27
834A Tilden 26.89 327 P P 09 56 26.1 +2.4
baz=27
735A Kenedy 27.09 329 P P 09 56 27.2 +1.8
baz=27
538A Harpers Horsep 27.16 335 P P 09 56 28.2 +2.2
baz=27
636A Smothers Creek 27.23 331 P P 09 56 28.9 +2.1
baz=28
LRAL Lakeview Retre 27.36 352 eP P 09 56 28.0 +0.1
comp=Z,20nm,1.2s
537A Green Hill Far 27.39 333 P P 09 56 30.4 +2.2
baz=28
GOGA Godfrey 27.42 358 eP P 09 56 29.5 +1.1
GOGA pmax pmax
comp=Z,28nm,1.4s
GOGA Godfrey 27.42 358 eP P 09 56 29.5 +1.1
comp=Z,28nm,1.4s
734A La Parita Cree 27.47 328 P P 09 56 31.1 +2.2
baz=28
635A Leesville 27.50 330 P P 09 56 30.5 +1.3
baz=28
833A Chaparral WMA, 27.51 326 P P 09 56 32.6 +3.3
baz=28
536A Bastrop 27.73 332 P P 09 56 33.0 +1.7
baz=28
733A Divot King Ran 27.76 327 P P 09 56 35.3 +3.9
baz=28
634A China Grove, S 27.79 329 P P 09 56 33.8 +2.1
baz=28
832A Faith Ranch, C 27.80 325 P P 09 56 34.4 +2.5
baz=28
535A Dale 27.93 331 P P 09 56 34.5 +1.4
baz=28
436A Wall Ranch, Ga 28.20 333 P P 09 56 36.9 +1.5
baz=28
435B Jarrell 28.57 332 P P 09 56 39.8 +1.0
baz=29
335A Moody 28.92 333 P P 09 56 42.7 +0.9
baz=29
631A Perdido Creek 29.00 326 P P 09 56 44.2 +1.6
baz=29
433A Art 29.28 330 P P 09 56 46.1 +1.1
baz=30
334A Lometa 29.34 332 P P 09 56 46.5 +1.0
baz=30
SWET Sewanee 29.38 354 eP P 09 56 44.9 -1.0
comp=Z,29nm,1.2s
JCT Junction City 29.42 328 eP P 09 56 47.8 +1.5
JCT pmax pmax
comp=Z,40nm,1.5s
JCT Junction City 29.42 328 eP P 09 56 47.8 +1.5
comp=Z,40nm,1.5s
JCT Junction City 29.42 328 P P 09 56 48.9 +2.6
baz=30
WHTX Lake Whitney 29.53 334 eP P 09 56 48.0 +0.8
comp=Z,41nm,1.3s
WHTX Lake Whitney 29.53 334 P P 09 56 48.0 +0.8
baz=30
234A Clairette 29.85 333 P P 09 56 50.9 +0.8
baz=30
431A Sonora 30.00 328 P P 09 56 53.3 +1.7
baz=30
332A Millersview 30.11 330 P P 09 56 53.6 +1.1
baz=30
UALR University of 30.18 344 eP P 09 56 52.2 -0.8
comp=Z,38nm,1.1s
233A Rising Star 30.22 331 P P 09 56 54.5 +1.2
baz=30
134A White-Moore Ra 30.30 333 P P 09 56 54.7 +0.7
baz=31
SIV San Ignacio 30.33 136 P P 09 56 51.9 -2.6
comp=Z,3.4nm,0.8s,baz=328,slow=9.6,SNR=3.9
MIAR Mount Ida 30.33 342 eP P 09 56 54.2 -0.1
MIAR pmax pmax
comp=Z,25nm,1.2s
MIAR Mount Ida 30.33 342 eP P 09 56 54.2 -0.1
comp=Z,26nm,1.2s
232A Coleman 30.47 330 P P 09 56 56.9 +1.2
baz=31
H06E1 SOCORRO T-PHAS 30.56 297 T T 10 29 05.5
SNR=11
429A Davenport Ranc 30.66 326 P P 09 56 58.3 +1.0
baz=31
133A Hamilton Ranch 30.71 332 P P 09 56 58.9 +1.2
baz=31
TXAR Lajitas Array 30.76 322 P P 09 56 59.7 +1.4
comp=Z,0.7nm,0.8s,baz=153,slow=8.1,SNR=2.9
TXAR PcP PcP 09 59 55.8 0.0
comp=Z,1.1nm,0.9s,baz=123,slow=3.3,SNR=5.3
528A Cox Ranch, San 30.83 324 P P 09 56 59.9 +1.1
baz=31
Z34A Collier Ranch, 30.91 334 P P 09 57 00.6 +1.2
baz=31
ABTX Abilene, Hawle 31.07 331 eP P 09 57 02.0 +1.1
comp=Z,19nm,1.1s
ABTX Abilene, Hawle 31.07 331 P P 09 57 01.9 +1.0
baz=31
Z33A Whitaker Ranch 31.21 333 P P 09 57 03.1 +1.0
baz=32
527A Woodward Ranch 31.30 323 P P 09 57 04.3 +1.2
baz=32
Y34A Reagan Ranch, 31.34 335 P P 09 57 03.8 +0.5
baz=32
329A Wagon Wheel Ra 31.37 327 P P 09 57 05.3 +1.7
baz=32
PARMO Parma 31.37 349 eP P 09 57 02.8 -0.6
131A Roby 31.48 330 P P 09 57 05.2 +0.7
baz=32
Z32A Haskell 31.56 332 P P 09 57 06.0 +0.8
baz=32
PBMO Poplar Bluff 31.62 348 eP P 09 57 06.0 +0.5
comp=Z,52nm,1.4s
229A Bryant Ranch, 31.65 328 P P 09 57 07.2 +1.2
baz=32
130A Snyder 31.70 329 P P 09 57 07.4 +0.9
baz=32
Y33A Hilltop Ranch, 31.76 334 P P 09 57 07.6 +0.7
baz=32
Z31A Sharp Cattle R 31.88 331 P P 09 57 09.0 +1.0
baz=32
426A McDonald Obser 31.93 323 P P 09 57 09.8 +1.1
baz=32
X34A Smith Ranch, M 31.93 336 P P 09 57 09.7 +1.3
baz=32
Y32A R-V Farms, Ver 32.12 333 P P 09 57 10.6 +0.6
baz=32
X33A Lawton 32.16 335 P P 09 57 11.0 +0.6
baz=32
SIUC Southern Illin 32.29 350 eP P 09 57 11.3 -0.2
comp=Z,54nm,1.3s
TUL1 Tulsa 32.31 340 eP P 09 57 10.7 -1.0
comp=Z,25nm,1.2s
Z30A Sanderson Ranc 32.34 330 P P 09 57 13.2 +1.2
baz=33
X32A Elmer 32.40 333 P P 09 57 13.6 +1.1
baz=33
WCI Wyandotte Cave 32.40 354 eP P 09 57 12.4 -0.1
WCI pmax pmax
comp=Z,29nm,1.2s
WCI Wyandotte Cave 32.40 354 eP P 09 57 12.4 -0.1
comp=Z,29nm,1.2s
Y31A Rekieta Farm, 32.46 332 P P 09 57 14.4 +1.3
baz=33
128A Castleberry Fa 32.51 327 P P 09 57 13.8 +0.1
baz=33
Z29A Hungry Hill Ra 32.61 329 P P 09 57 15.0 +0.6
baz=33
W33A Caddo, Fort Co 32.67 335 P P 09 57 15.2 +0.3
baz=33
Y30A Stafford Cattl 32.70 331 P P 09 57 16.1 +0.9
baz=33
X31A McDonald Ranch 32.89 333 P P 09 57 17.3 +0.5
baz=33
W32A Sentinel 32.98 334 P P 09 57 18.0 +0.5
baz=33
127A Arkansas Junct 33.03 327 P P 09 57 18.8 +0.6
baz=33
Y29A Porterfield Fa 33.07 330 P P 09 57 19.6 +1.1
baz=33
OLIL Olney 33.12 352 eP P 09 57 18.6 -0.1
comp=Z,63nm,1.3s
X30A Coker Ranch, T 33.15 331 P P 09 57 19.8 +0.6
baz=33
SLM Saint Louis 33.37 349 eP P 09 57 20.9 0.0
SLM pmax pmax
comp=Z,58nm,0.9s
SLM Saint Louis 33.37 349 eP P 09 57 20.9 0.0
comp=Z,58nm,0.9s
V32A Arapaho 33.40 335 P P 09 57 21.4 +0.2
baz=34
U34A Anderson Ranch 33.42 338 P P 09 57 21.3 -0.1
baz=34
Z27A Tatum 33.44 327 P P 09 57 22.8 +1.0
baz=34
225A Deer Hill, Car 33.44 324 P P 09 57 22.5 +0.6
baz=34
X29A Tulia 33.55 330 P P 09 57 23.3 +0.7
baz=34
MSTX Muleshoe 33.71 329 eP P 09 57 25.2 +1.1
comp=Z,17nm,1.1s
MSTX Muleshoe 33.71 329 P P 09 57 25.6 +1.5
baz=34
125A Gardner Draw, 33.74 325 P P 09 57 25.7 +1.2
baz=34
V31A Spring Creek L 33.78 334 P P 09 57 25.8 +1.2
baz=34
Z26A Caprock 33.82 326 P P 09 57 25.5 +0.4
baz=34
Y27A Causey 33.85 328 P P 09 57 26.3 +0.9
baz=34
X28A Dimmitt 33.85 330 P P 09 57 26.4 +1.0
baz=34
AMTX Amarillo 33.89 331 eP P 09 57 26.4 +0.7
comp=Z,28nm,1.1s
AMTX Amarillo 33.89 331 P P 09 57 26.4 +0.7
baz=34
U32A Winter Ranch, 33.95 336 P P 09 57 26.3 +0.3
baz=34
W29A Amarillo 34.07 331 P P 09 57 27.5 +0.3
baz=34
ACSO Alum Creek Sta 34.22 359 eP P 09 57 28.5 +0.3
comp=Z,46nm,1.0s
Y26A Elida 34.23 327 P P 09 57 29.8 +1.2
baz=34
Z25A Roswell 34.23 326 P P 09 57 30.1 +1.4
baz=34
U31A Nine Bar Ranch 34.29 335 P P 09 57 29.9 +0.8
baz=35
X27A F and S Farms, 34.41 329 P P 09 57 31.5 +1.3
baz=35
W28A Vega 34.45 331 P P 09 57 31.9 +1.4
baz=35
ALOL LOMAS DE OLMED34.58 149 eS P 09 57 30.9 -0.8
V29A Stinnett 34.62 332 P P 09 57 34.2 +2.3
baz=35
Z24A Sheeppen Canyo 34.64 325 P P 09 57 34.0 +1.7
baz=35
Y25A Mesa, Roswell 34.70 326 P P 09 57 34.4 +1.6
baz=35
W27A Bowe Ranch, En 34.72 330 P P 09 57 33.2 +0.4
baz=35
U30A WK&E Inc. Balk 34.77 334 P P 09 57 34.4 +1.1
baz=35
T31A Randall Ranch, 34.84 336 P P 09 57 34.1 +0.3
baz=35
V28A Channing 34.85 331 P P 09 57 34.6 +0.6
baz=35
U29A Oasis Ranch, S 34.98 333 P P 09 57 36.2 +1.1
baz=35
X25A Clemmons Ranch 35.14 327 P P 09 57 38.6 +2.0
baz=35
V27A Dan Oppiter Fa 35.15 331 P P 09 57 37.9 +1.3
baz=35
T30A Plains 35.16 334 P P 09 57 37.6 +1.1
baz=36
S31A Mullinville 35.21 336 P P 09 57 37.5 +0.5
baz=36
R33A Olander Ranch, 35.24 339 P P 09 57 37.6 +0.4
baz=36
Y23A Lovelace Mesa, 35.47 325 P P 09 57 41.2 +1.8
baz=36
KSU1 Kansas State U 35.47 341 eP P 09 57 39.0 -0.2
comp=Z,30nm,1.0s
KSU1 Kansas State U 35.47 341 P P 09 57 39.3 +0.1
baz=36
121A Cookes Peak, D 35.52 322 eP P 09 57 43.0 +3.1
comp=Z,31nm,1.1s
121A Cookes Peak, D 35.52 322 P P 09 57 42.6 +2.8
baz=36
Z22A Elephant Butte 35.52 323 P P 09 57 42.1 +2.3
baz=36
W25A X Bar L Ranch, 35.56 328 P P 09 57 41.0 +0.9
baz=36
T29A Hugoton 35.58 334 P P 09 57 41.6 +1.4
baz=36
R32A Long Quarter, 35.60 338 P P 09 57 40.7 +0.4
baz=36
S30A Montezuma 35.63 335 P P 09 57 41.4 +0.8
baz=36
U27A Thompson Grove 35.68 331 P P 09 57 41.8 +0.7
baz=36
Q33A Connelly Farm, 35.80 339 P P 09 57 42.7 +0.7
baz=36
R31A Burdett 35.80 337 P P 09 57 41.8 -0.2
baz=36
S29A Ulysses 35.89 334 P P 09 57 44.2 +1.3
baz=36
T28A Walsh 35.91 333 P P 09 57 43.9 +0.8
baz=36
Q32A Meitler Ranch, 36.05 338 P P 09 57 44.4 +0.3
baz=36
R30A Dighton 36.10 336 P P 09 57 45.5 +0.9
baz=36
U26A Atchley Ranch, 36.11 330 P P 09 57 46.1 +1.3
baz=36
V25A Rancho No Teng 36.11 329 P P 09 57 46.5 +1.5
baz=36
P33A Williams Farm, 36.14 340 P P 09 57 45.9 +1.0
baz=36
T27A Campo 36.15 332 P P 09 57 46.0 +0.9
baz=36
S28A Manter 36.20 333 P P 09 57 46.2 +0.6
baz=36
Q31A Ellis 36.37 338 P P 09 57 47.6 +0.6
baz=37
W23A Werner Place, 36.42 326 P P 09 57 49.9 +2.3
baz=37
LAZ Ladron 36.43 324 eP P 09 57 50.3 +2.6
comp=Z,7.7nm,1.2s
ANMO Albuquerque 36.44 326 ⇓iP P 09 57 49.8 +2.1
ANMO pmax pmax
comp=Z,21nm,0.9s
ANMO Albuquerque 36.44 326 P P 09 57 48.9 +1.2
comp=Z,5.6nm,1.0s,baz=128,slow=11,SNR=4.7
ANMO Albuquerque 36.44 326 eP P 09 57 50.1 +2.4
comp=Z,30nm,1.4s
U25A Circle Dot Ran 36.44 329 P P 09 57 48.4 +0.6
baz=37
R29A Marienthal 36.57 335 P P 09 57 49.5 +0.8
baz=37
P32A Huiting Farm, 36.62 339 P P 09 57 48.7 -0.3
baz=37
T26A Comanche Natio 36.65 331 P P 09 57 50.4 +0.9
baz=37
Q30A Quinter 36.67 337 P P 09 57 50.8 +1.3
baz=37
S27A Las Animas 36.73 332 P P 09 57 51.2 +1.1
baz=37
R28A Tribune 36.79 334 P P 09 57 51.7 +1.1
baz=37
P31A Stockton 36.82 338 P P 09 57 51.6 +0.8
baz=37
U24A Moreno Valley 36.90 329 P P 09 57 55.1 +3.3
baz=37
Q29A Oakley 36.90 336 P P 09 57 52.6 +1.2
baz=37
S26A Kim 36.95 332 P P 09 57 53.4 +1.4
baz=37
T25A Trinidad 37.02 330 P P 09 57 55.2 +2.5
baz=37
O32A Brockman Farm, 37.08 340 P P 09 57 53.2 +0.3
baz=37
SCIA State Center 37.14 347 eP P 09 57 53.1 -0.3
comp=Z,66nm,0.9s
P30A Selden 37.17 337 P P 09 57 54.8 +1.1
baz=38
R27A Eads 37.18 333 P P 09 57 54.8 +0.9
baz=38
TUC Tucson 37.29 318 eP P 09 57 54.6 -0.3
TUC pmax pmax
comp=Z,19nm,1.6s
TUC Tucson 37.29 318 eP P 09 57 54.6 -0.3
comp=Z,19nm,1.6s
U23A El Rito 37.31 328 P P 09 57 58.1 +2.9
baz=38
O31A Woolen Ranch, 37.35 338 P P 09 57 55.2 0.0
baz=38
Q28A Sharon Springs 37.40 335 P P 09 57 57.0 +1.2
baz=38
S25A Robets Cordova 37.44 331 P P 09 57 58.7 +2.4
baz=38
T24B San Luis 37.45 329 P P 09 57 58.7 +2.3
baz=38
R26A Arlington 37.49 332 P P 09 57 58.2 +1.7
baz=38
P29A Atwood 37.49 336 P P 09 57 57.5 +1.1
baz=38
O30A MW Ranch, Wils 37.65 338 P P 09 57 58.8 +1.0
baz=38
CYA Choya 37.70 156 eS P 09 57 55.5 -2.8
KSCO Kaye Shedlock' 37.70 334 eP P 09 57 60.0 +1.6
comp=Z,42nm,1.0s
KSCO Kaye Shedlock' 37.70 334 P P 09 57 59.4 +1.0
baz=38
U22A Llaves 37.71 327 P P 09 58 01.5 +2.9
baz=38
R25A Fountain Ranch 37.76 331 P P 09 58 01.4 +2.6
baz=38
T23A Casias Ranch, 37.77 328 P P 09 58 02.0 +2.9
baz=38
P28A Saint Francis 37.80 335 P P 09 58 00.7 +1.6
baz=38
O29A 4D Ranch, Culb 37.88 337 P P 09 58 01.3 +1.5
baz=38
Q26A Hugo 38.03 333 P P 09 58 02.9 +1.7
baz=38
SDCO Great Sand Dun 38.04 330 eP P 09 58 03.2 +1.8
P27A Ficken Ranch, 38.13 334 P P 09 58 03.1 +1.1
baz=38
X18A Snowflake 38.20 322 P P 09 58 05.4 +2.7
baz=38
R24A Sanders Place, 38.22 331 P P 09 58 06.1 +3.3
baz=38
S23A Nye Farm, Mont 38.26 329 P P 09 58 06.0 +2.8
baz=38
O28A Krutsinger Ran 38.27 336 P P 09 58 05.1 +2.0
baz=39
M31A Lambtecht Ranc 38.28 340 P P 09 58 04.2 +1.1
baz=39
Q25A Bedland, Calha 38.35 332 P P 09 58 06.0 +2.0
baz=39
N29A Votaw Ranch, W 38.42 338 P P 09 58 05.7 +1.5
baz=39
W18A Petrified Fore 38.46 323 P P 09 58 07.9 +3.0
baz=39
P26A Davis Ranch, A 38.47 334 P P 09 58 06.8 +2.0
baz=39
R23A Moffat 38.54 330 P P 09 58 08.3 +2.7
baz=39
O27A Beecher Island 38.62 335 P P 09 58 08.0 +1.9
baz=39
N28A Pribbeno Ranch 38.66 337 P P 09 58 07.8 +1.5
baz=39
S22A 4UR Ranch, Cre 38.72 328 P P 09 58 09.2 +2.1
baz=39
P25A Willow Gulch B 38.80 333 P P 09 58 09.9 +2.3
baz=39
Q24A Divide 38.82 331 P P 09 58 09.8 +1.9
baz=39
L31A Butterfield Fa 38.98 341 P P 09 58 09.5 +0.6
baz=39
M29A Burnside Ranch 38.98 338 P P 09 58 10.0 +1.0
baz=39
O26A Horse Wrangler 39.02 334 P P 09 58 10.5 +1.1
baz=39
X16A Lo Mia Camp, P 39.05 321 P P 09 58 12.0 +2.1
baz=39
L30A Spencer Herefo 39.08 339 P P 09 58 10.7 +0.9
baz=39
P24A Kohler Place, 39.14 332 P P 09 58 12.0 +1.5
baz=39
N27A Anderson Farm, 39.16 336 P P 09 58 12.2 +1.6
baz=40
M28A Bar X Bar Ranc 39.20 337 P P 09 58 12.0 +1.1
baz=40
MVCO Mesa Verde 39.22 326 eP P 09 58 13.2 +2.0
comp=Z,57nm,1.5s
MVCO Mesa Verde 39.22 326 P P 09 58 13.5 +2.3
baz=40
H03N2 Juan Fernandez 39.23 175 T T 10 39 37.3
baz=354,slow=75,SNR=19
H03N1 Juan Fernandez 39.24 175 T T 10 39 37.9
baz=354,slow=75,SNR=16

H03N3 Juan Fernandez 39.25 175 T T 10 39 39.6
baz=354,slow=75,SNR=17
O25A Wiggins 39.26 333 P P 09 58 13.1 +1.7
baz=40
P23A Jefferson 39.47 331 P P 09 58 16.4 +2.9
baz=40
113A Mohawk Valley, 39.57 317 P P 09 58 16.3 +2.3
baz=40
CFAA Coronel Fontan 39.66 161 P P 09 58 13.7 -1.1
comp=Z,1.1nm,1.0s,baz=343,slow=4.3,SNR=5.0
K30A Basset 39.68 340 P P 09 58 15.2 +0.5
baz=40
ISCO Idaho Springs 39.70 332 eP P 09 58 17.0 +1.7
ISCO Idaho Springs 39.70 332 eP P 09 58 17.0 +1.7
ISCO Idaho Springs 39.70 332 P P 09 58 17.5 +2.2
baz=40
O24A Longmont 39.70 333 P P 09 58 16.9 +1.7
baz=40
ECSD EROS Data Cent 39.72 344 eP P 09 58 14.0 -1.1
comp=Z,50nm,1.3s
ECSD EROS Data Cent 39.72 344 P P 09 58 14.5 -0.5
baz=40
WUAZ Wupatki 39.72 322 eP P 09 58 17.0 +1.6
WUAZ Wupatki 39.72 322 P P 09 58 17.6 +2.2
baz=40
Y14A Wickenburg 39.76 319 P P 09 58 17.0 +1.4
baz=40
L28A Connealy Angus 39.78 338 P P 09 58 17.3 +1.6
baz=40
N25A Grover 39.82 334 P P 09 58 17.9 +1.7
baz=40
SMCO Snowmass 39.88 330 eP P 09 58 17.9 +1.0
comp=Z,43nm,1.5s
PV01 Paradox Valley 39.92 327 eP P 09 58 19.2 +2.1
K29A Lazy Trails An 40.00 339 P P 09 58 18.2 +0.7
baz=40
P22A Eagle 40.09 330 P P 09 58 20.3 +1.8
baz=40
O23A Lake Granby, G 40.16 332 P P 09 58 21.6 +2.4
baz=40
N24A Carr 40.18 333 P P 09 58 21.6 +2.5
baz=40
J30A Dallas 40.22 341 P P 09 58 19.4 +0.2
baz=40
SPMN St. Paul 40.23 349 eP P 09 58 17.9 -1.4
comp=Z,50nm,1.0s
SPMN St. Paul 40.23 349 P P 09 58 18.3 -0.9
baz=40
BDFB Brasilia 40.26 123 P P 09 58 17.8 -2.2
comp=Z,4.6nm,0.8s,baz=289,slow=8.6,SNR=4.8
PV04 Paradox Valley 40.29 327 eP P 09 58 21.2 +1.0
K28A Ten Mile Ranch 40.33 338 P P 09 58 21.8 +1.5
baz=41
PV10 Paradox Valley 40.35 327 eP P 09 58 22.2 +1.5
J29A Okreek 40.57 340 P P 09 58 22.7 +0.5
baz=41
K27A Flueckinger Fa 40.65 337 P P 09 58 23.9 +1.0
baz=41
Y12C Blythe 40.66 317 P P 09 58 25.2 +2.2
baz=41
M24A Cheyenne 40.68 334 P P 09 58 25.0 +1.8
baz=41
U15A North Rim 40.88 322 P P 09 58 27.0 +1.9
baz=41
J27A Elkhorn Farm, 41.03 338 P P 09 58 27.5 +1.4
baz=41
W13A Hualapai Mount 41.04 319 P P 09 58 28.3 +1.8
baz=41
BRSD Miller 41.05 342 eP P 09 58 25.2 -0.8
comp=Z,58nm,1.1s
BRSD Miller 41.05 342 P P 09 58 25.5 -0.6
baz=41
I29A Vivian Onida 41.11 340 P P 09 58 26.6 +0.1
baz=41
L24A Wheatland 41.19 334 P P 09 58 29.6 +2.1
baz=42
K25A Mack Ranch, Ha 41.22 336 P P 09 58 29.4 +1.8
baz=42
I28A Midland 41.38 340 P P 09 58 29.2 +0.3
baz=42
J26A Sides Ranch, S 41.49 337 P P 09 58 31.6 +1.8
baz=42
L23A Garrett 41.58 334 P P 09 58 32.3 +1.5
baz=42
H29A Onida 41.61 341 P P 09 58 29.8 -0.9
baz=42
SRU San Rafael 41.69 327 eP P 09 58 33.6 +2.0
SRU pmax pmax
comp=Z,31nm,1.1s
SRU San Rafael 41.69 327 eP P 09 58 33.6 +2.0
comp=Z,31nm,1.1s
G30A Faulkton 41.73 342 P P 09 58 30.9 -0.8
baz=42
I27A Quinn 41.76 339 P P 09 58 33.4 +1.4
baz=42
N20A Spence Gulch, 41.78 330 P P 09 58 34.0 +1.6
baz=42
J25A Sunshine Ranch 41.84 337 P P 09 58 34.6 +1.9
baz=42
L22A Ellis Ranch, M 41.84 333 P P 09 58 34.8 +1.9
baz=42
H28A Mission Ridge 41.92 340 P P 09 58 33.4 +0.1
baz=42
I26A New Underwood 42.02 338 P P 09 58 35.0 +0.9
baz=42
G29A Hoven 42.03 342 P P 09 58 33.5 -0.6
baz=42
K23A Bowen Ranch, D 42.07 334 P P 09 58 36.1 +1.5
baz=42
J24A Dixon Ranch, L 42.14 336 P P 09 58 37.5 +2.4
baz=42
MVU Marysvale 42.22 325 eP P 09 58 37.9 +1.9
comp=Z,33nm,1.8s
G28A Parade 42.24 341 P P 09 58 35.8 -0.1
baz=43
H27A Howes 42.26 339 P P 09 58 36.5 +0.5
baz=43
CCUT Cedar City 42.26 323 eP P 09 58 38.1 +1.7
comp=Z,52nm,1.9s
F30A Leola 42.33 343 P P 09 58 36.4 -0.2
baz=43
I25A Rochford 42.34 337 P P 09 58 39.2 +2.3
baz=43
K22A Casper 42.38 333 eP P 09 58 39.0 +1.8
comp=Z,30nm,1.1s
K22A Casper 42.38 333 P P 09 58 39.2 +2.1
baz=43
MURC Murrieta 42.42 315 P P 09 58 40.0 +2.5
baz=43
ARUT Antelope Range 42.46 323 eP P 09 58 39.8 +1.9
ARUT Antelope Range 42.46 323 eP P 09 58 39.8 +1.9
H26A Fairpoint 42.49 338 P P 09 58 39.0 +1.0
baz=43
RSSD Black Hills 42.55 337 eP P 09 58 40.3 +1.7
RSSD pmax pmax
comp=Z,27nm,1.1s
RSSD Black Hills 42.55 337 eP P 09 58 40.3 +1.7
comp=Z,27nm,1.1s
I24A Kuemmerle Ranc 42.56 336 P P 09 58 40.5 +1.9
baz=43
F29A Eureka 42.57 342 P P 09 58 38.1 -0.4
baz=43
K21A Alcova 42.69 333 P P 09 58 41.7 +1.9
baz=43
H25A Fruitdale 42.80 338 P P 09 58 42.4 +2.0
baz=43
G27A Dupree 42.85 340 P P 09 58 41.5 +0.7
baz=43
F28A McLaughlin 42.89 341 P P 09 58 41.1 -0.1
baz=43
E30A Jud 42.90 343 P P 09 58 41.1 -0.1
baz=43
MPU Maple Canyon 42.93 327 eP P 09 58 43.5 +1.8
comp=Z,10nm,1.0s
J22A Midwest 42.97 334 P P 09 58 43.7 +1.8
baz=43
DAU Daniels Canyon 43.01 327 eP P 09 58 44.8 +2.3
DAU Daniels Canyon 43.01 327 eP P 09 58 44.8 +2.3
G26A Maurine 43.01 339 P P 09 58 42.7 +0.6
baz=43
E29A Napoleon 43.18 343 P P 09 58 43.5 +0.1
baz=44
G25A Newell 43.22 338 P P 09 58 45.3 +1.4
baz=44
JLU Jordanelle 43.25 327 eP P 09 58 44.8 +0.4
H24A Dirks Ranch, A 43.27 337 P P 09 58 45.4 +1.0
baz=44
F27A Lemmon 43.31 340 P P 09 58 45.4 +0.9
baz=44
J21A Lysite 43.34 333 P P 09 58 47.3 +2.3
baz=44
I22A 9 Mile Ranch, 43.36 335 P P 09 58 46.7 +1.6
baz=44
D30A Buchanan 43.41 344 P P 09 58 44.9 -0.4
baz=44
CTU Camp Tracy 43.47 327 eP P 09 58 48.0 +1.9
comp=Z,13nm,1.0s
E28A Huff 43.50 342 P P 09 58 46.7 +0.6
baz=44
F26A Lodgepole 43.52 339 P P 09 58 46.9 +0.6
baz=44
D29A Pettibone, Tap 43.61 343 P P 09 58 47.0 +0.1
baz=44
J20A Shoshoni 43.63 333 P P 09 58 49.2 +1.8
baz=44
I21A Big Trails, Te 43.64 334 P P 09 58 48.7 +1.3
baz=44
E27A Carson 43.65 341 P P 09 58 47.6 +0.3
baz=44
G24A Alzada 43.71 338 P P 09 58 49.6 +1.7
baz=44
AGMN Agassiz Nation 43.80 347 eP P 09 58 47.6 -0.8
comp=Z,29nm,1.1s
AGMN Agassiz Nation 43.80 347 P P 09 58 47.8 -0.5
baz=44
FURC Furnace Creek, 43.80 319 P P 09 58 51.1 +2.6
baz=44
PDAR Pinedale Array 43.87 331 P P 09 58 50.4 +1.0
comp=Z,8.8nm,1.2s,baz=141,slow=5.7,SNR=5.5
PDAR PcP PcP 10 00 35.2 -0.3
comp=Z,2.8nm,1.1s,baz=165,slow=7.3,SNR=3.3
G23A Biddle 43.98 337 P P 09 58 50.4 +0.4
baz=44
E26A Carlson Angus 43.99 340 P P 09 58 50.5 +0.5
baz=44
D28A Regan 44.02 342 P P 09 58 50.7 +0.5
baz=44
I20A Worland 44.12 333 P P 09 58 52.3 +1.1
baz=44
R11A Troy Canyon, C 44.12 322 eP P 09 58 53.3 +1.9
R11A Troy Canyon, C 44.12 322 P P 09 58 52.0 +0.6
baz=44
F24A Ekalaka 44.16 338 P P 09 58 52.3 +0.9
baz=44
H21A Big Horn, Sher 44.19 335 P P 09 58 52.5 +0.8
baz=44
D27A Center 44.24 341 P P 09 58 52.1 +0.1
baz=44
BGU Big Grassy Mou 44.33 327 eP P 09 58 54.7 +1.7
comp=Z,10nm,1.3s
E25A Miller Ranch, 44.34 339 P P 09 58 53.4 +0.6
baz=45
G22A Birney 44.36 336 P P 09 58 54.0 +1.0
baz=45
F23A Volborg 44.42 337 P P 09 58 54.2 +0.8
baz=45
C28A Hausauer Farms 44.43 343 P P 09 58 54.4 +0.9
baz=45
D26A Manning 44.47 341 P P 09 58 54.3 +0.5
baz=45
H20A Greybull 44.49 334 P P 09 58 54.8 +0.7
baz=45
B30A Myrvik Farm, E 44.53 345 P P 09 58 53.7 -0.6
baz=45
I19A Meeteetse 44.58 333 P P 09 58 56.7 +1.7
baz=45
E24A Baker 44.71 339 P P 09 58 56.6 +0.8
baz=45
G21A Lodge Grass 44.74 335 P P 09 58 57.2 +1.1
baz=45
C27A Sayler Ranch, 44.77 342 P P 09 58 56.7 +0.5
baz=45
F22A Rosebud 44.80 336 P P 09 58 56.9 +0.3
baz=45
B29A Wagenman Farm, 44.82 344 P P 09 58 56.9 +0.4
baz=45
D25A Fairfield 44.87 340 P P 09 58 57.9 +0.8
baz=45
VES Vestal, Richgr 44.93 317 P P 09 58 59.9 +2.2
baz=45
REDW Red Top Meadow 44.95 331 eP P 09 59 00.1 +2.1
comp=Z,81nm,1.6s
A30A Hoffart Farm, 44.98 345 P P 09 58 57.6 -0.2
baz=45
TPH Tonopah 44.98 320 eP P 09 58 58.9 +0.7
TPH pmax pmax
comp=Z,18nm,1.3s
TPH Tonopah 44.98 320 eP P 09 58 58.9 +0.7
comp=Z,18nm,1.3s
LOHW Long Hollow 45.01 331 eP P 09 58 59.9 +1.5
comp=Z,44nm,1.6s
C26A Wahner Farm, P 45.05 341 P P 09 58 59.0 +0.5
baz=45
H19A Powell 45.07 333 P P 09 59 00.1 +1.3
baz=45
B28A Dugan Ranch, T 45.09 343 P P 09 58 58.9 +0.3
baz=45
G20A Bridger 45.16 334 P P 09 58 59.9 +0.4
baz=46
D24A Glendive 45.19 339 P P 09 59 00.9 +1.3
baz=46
A29A Manning Farm, 45.20 344 P P 09 58 59.2 -0.4
baz=46
E22A Miles City 45.22 337 P P 09 59 00.5 +0.7
baz=46
I17A Pilgrim Ck. 45.23 331 P P 09 59 01.7 +1.6
baz=46
B27A Peters Farms, 45.31 342 P P 09 59 01.1 +0.6
baz=46
C25A Freed Ranch, W 45.34 340 P P 09 59 01.3 +0.6
baz=46
A28A Rude Farm, Bot 45.48 344 P P 09 59 01.9 +0.1
baz=46
LAO LASA Array 45.54 337 eP P 09 59 03.3 +1.0
comp=Z,38nm,1.3s
D23A Lindsay 45.56 338 P P 09 59 04.1 +1.6
baz=46
C24A Savage 45.58 339 P P 09 59 04.2 +1.5
baz=46
H17A Grant Village 45.59 332 eP P 09 59 05.1 +2.1
comp=Z,25nm,1.3s
F20A Billings 45.59 335 P P 09 59 04.3 +1.4
baz=46
ULM Lac du Bonnet 45.65 348 eP P 09 59 01.3 -1.8
ULM pmax pmax
comp=Z,27nm,1.2s
ULM Lac du Bonnet 45.65 348 P P 09 59 01.7 -1.4
comp=Z,23nm,1.1s,baz=160,slow=7.6,SNR=6.2
ULM Lac du Bonnet 45.65 348 eP P 09 59 01.3 -1.8
comp=Z,27nm,1.2s
E21A Keefer Ranch, 45.75 336 P P 09 59 05.4 +1.3
baz=46
YFT Old Faithful 45.75 332 eP P 09 59 06.6 +2.3
comp=Z,109nm,1.7s
B25A Knox Farm, Ray 45.79 341 P P 09 59 05.8 +1.5
baz=46
A27A Ledoux Ranch, 45.80 343 P P 09 59 05.1 +0.8
baz=46
NVAR Mina Array Bea 45.87 320 P P 09 59 07.4 +2.0
comp=Z,3.9nm,0.9s,baz=150,slow=6.5,SNR=4.7
NVAR PcP PcP 10 00 42.6 +0.1
comp=Z,0.6nm,0.4s,baz=124,slow=2.7,SNR=2.4
D22A Cohagen 45.90 338 P P 09 59 06.2 +1.0
baz=46
F19A Roth Farm, Mol 45.98 334 P P 09 59 06.8 +0.9
baz=46
YMR Madison River 45.98 332 eP P 09 59 07.9 +1.9
comp=Z,25nm,1.2s
A26A Wade Farm, Ken 45.98 342 P P 09 59 06.4 +0.6
baz=46
C23A Lambert 46.08 339 P P 09 59 07.9 +1.3
baz=46
D21A La Casta Ranch 46.15 337 P P 09 59 08.5 +1.3
baz=46
E20A Meyer Farm, Mu 46.15 335 P P 09 59 08.5 +1.3
baz=46
C22A Vida 46.29 338 P P 09 59 09.6 +1.4
baz=47
DGMT Dagmar 46.31 340 eP P 09 59 09.4 +1.0
comp=Z,34nm,1.0s
DGMT Dagmar 46.31 340 P P 09 59 09.2 +0.8
baz=47
QLMT Earthquake Lak 46.32 332 eP P 09 59 11.6 +2.8
A25A Svangstu Ranch 46.36 341 P P 09 59 09.6 +0.9
baz=47
E19A Rath Farm, Rou 46.39 335 P P 09 59 10.3 +1.1
baz=47
BMN Battle Mountai 46.41 323 eP P 09 59 11.8 +2.3
BMN pmax pmax
comp=Z,35nm,1.4s
BMN Battle Mountai 46.41 323 eP P 09 59 11.8 +2.3
comp=Z,35nm,1.4s
B23A Brockton 46.58 339 P P 09 59 11.9 +1.4
baz=47
D20A Manuel Ranch, 46.62 336 P P 09 59 12.2 +1.3
baz=47
A24A Westby 46.63 341 P P 09 59 12.4 +1.4
baz=47
B22A Reddig Ranch S 46.80 339 P P 09 59 13.6 +1.3
baz=47
C21A Desert Coulee 46.81 337 P P 09 59 14.0 +1.6
baz=47
HLID Hailey 46.90 328 eP P 09 59 14.4 +1.2
comp=Z,3.8nm,0.8s
A23A Redstone 46.96 340 P P 09 59 14.4 +0.9
baz=47
D19A Cripps Ranch, 46.99 335 P P 09 59 14.9 +1.1
baz=47
BOZ Bozeman (W) 47.02 332 eP P 09 59 15.5 +1.3
BOZ Bozeman (W) 47.02 332 eP P 09 59 15.5 +1.3
C20A Veseth Ranch, 47.07 337 P P 09 59 15.6 +1.2
baz=47
B21A Ellsworth Farm 47.28 338 P P 09 59 17.6 +1.6
baz=48
A22A Carney Farms, 47.35 339 P P 09 59 18.0 +1.4
baz=48
C19A Slack Wire Ran 47.51 336 P P 09 59 19.4 +1.5
baz=48
LRM Limekiln Ridge 47.54 332 eP P 09 59 20.0 +1.7
comp=Z,68nm,1.4s
MFID Camas Ranch 47.55 327 eP P 09 59 19.4 +1.1
comp=Z,17nm,1.4s
PLCA Paso Flores 47.65 168 P P 09 59 17.1 -1.9
comp=Z,5.8nm,1.1s,baz=341,slow=9.8,SNR=3.1
B20A Solberg Farm, 47.67 337 P P 09 59 20.7 +1.6
baz=48
TRQA Tornquist 47.67 158 eP P 09 59 23.3 +4.1
comp=Z,23nm,1.4s
HRY Holter Researc 47.91 333 eP P 09 59 22.7 +1.6
A20A Cobblestone Ra 47.99 338 P P 09 59 23.0 +1.4
baz=48
EGMT Eagleton 48.03 336 eP P 09 59 23.2 +1.3
comp=Z,28nm,1.1s
EGMT Eagleton 48.03 336 P P 09 59 23.0 +1.1
baz=48
B19A Brinkman Farms 48.05 336 P P 09 59 23.2 +1.3
baz=48
A19A Klindworth Far 48.35 337 P P 09 59 25.5 +1.2
baz=49
WVOR Wild Horse Val 48.49 324 eP P 09 59 25.9 +0.3
WVOR pmax pmax
comp=Z,44nm,1.4s
WVOR Wild Horse Val 48.49 324 eP P 09 59 25.9 +0.3
comp=Z,44nm,1.4s
MSO Missoula 48.98 332 P P 09 59 30.3 +1.1
baz=49
SWMT Swartz Lake 49.50 332 eP P 09 59 35.0 +1.7
comp=Z,12nm,1.4s
YBMT Yellow Bay 49.76 333 eP P 09 59 35.5 +0.2
BSMT Bassoo Peak 50.11 332 eP P 09 59 39.6 +1.6
SCHQ Schefferville 50.42 12 P P 09 59 39.1 -0.9
comp=Z,16nm,1.0s,baz=185,slow=3.7,SNR=6.5
SCHQ Schefferville 50.42 12 eP P 09 59 38.7 -1.3
comp=Z,12nm,0.8s
WALA Waterton Lakes 50.60 334 eP P 09 59 42.2 +0.6
comp=Z,0.5nm,1.0s
E09A Wood Farm, Sta 50.84 329 eP P 09 59 44.6 +1.3
comp=Z,18nm,1.3s
FFC Flin Flon 51.20 346 eP P 09 59 45.9 +0.1
FFC pmax pmax
comp=Z,17nm,1.3s
FFC Flin Flon 51.20 346 eP P 09 59 45.9 +0.1
comp=Z,17nm,1.3s
G06A Carlson Farm, 51.36 326 eP P 09 59 49.6 +2.4
comp=Z,67nm,1.8s
NEW Newport 51.52 331 eP P 09 59 48.9 +0.5
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 51.52 331 eP P 09 59 48.9 +0.5
comp=Z,4.2nm,1.0s
EDM Edmonton 53.52 337 eP P 10 00 03.6 +0.4
EDM Edmonton 53.52 337 eP P 10 00 03.6 +0.4
FCC Fort Churchill 53.52 352 eP P 10 00 02.3 -0.6
FCC pmax pmax
comp=Z,1.0nm,1.4s
FCC Fort Churchill 53.52 352 eP P 10 00 02.3 -0.6
comp=Z,1.0nm,1.4s
YKA Yellowknife Ar 61.25 344 P P 10 00 57.4 0.0
comp=Z,18nm,1.1s,baz=135,slow=7.0,SNR=14
DLBC Dease Lake 63.93 334 eP P 10 01 17.2 +1.7
DAWY Dawson 70.74 337 eP P 10 01 58.4 -0.1
INK Inuvik 70.93 342 eP P 10 02 00.6 +1.1
INK pmax pmax
comp=Z,53nm,1.3s
INK Inuvik 70.93 342 eP P 10 02 00.6 +1.1
comp=Z,53nm,1.3s
EGAK Eagle 71.75 337 eP P 10 02 05.3 +0.7
comp=Z,23nm,1.3s
SUMG Summit 71.80 13 eP P 10 02 04.7 -0.5
SUMG pmax pmax
comp=Z,51nm,1.2s
SUMG Summit 71.80 13 eP P 10 02 04.7 -0.5
comp=Z,51nm,1.2s
SUMG Summit 71.80 13 i P 10 02 05.1 -0.1
DOT Dot Lake 72.42 336 eP P 10 02 09.6 +0.9
comp=Z,19nm,1.2s
PAX Paxson 72.75 335 eP P 10 02 10.5 -0.2
PAX pmax pmax
comp=Z,10.0nm,1.1s
PAX Paxson 72.75 335 eP P 10 02 10.5 -0.2
comp=Z,9.8nm,1.1s
PTEO Sao Teotonio 73.56 53 eP P 10 02 17.0 +1.1
comp=Z,46nm,1.6s
MORF Marmelete 73.59 53 eP P 10 02 16.9 +0.7
MORF AMb AMB 10 02 18.6
comp=Z,51nm,1.3s
MORF Marmelete 73.59 53 eP P 10 02 17.3 +1.1
comp=Z,51nm,1.3s
MORF Marmelete 73.59 53 eP P 10 02 16.9 +0.7
MORF pmax pmax
comp=Z,51nm,1.3s
PNCL Nicolau / Gran 73.76 52 eP P 10 02 17.8 +0.7
comp=Z,25nm,1.6s
PCAS Casmilo, Conde 73.98 50 eP P 10 02 19.2 +0.9
comp=Z,50nm,1.5s
MESJ Messejana 73.98 52 eP P 10 02 18.5 +0.1
MESJ AMb AMB 10 02 21.1
comp=Z,20nm,1.4s
MESJ Messejana 73.98 52 eP P 10 02 18.5 +0.1
MESJ pmax pmax
comp=Z,20nm,1.5s
ILAR Eielson Array 73.99 336 P P 10 02 18.4 +0.4
comp=Z,9.9nm,1.2s,baz=119,slow=3.5,SNR=8.4
PCVE Castro Verde 74.11 53 eP P 10 02 19.9 +0.8
comp=Z,24nm,1.7s
EVOP Sao Brissos 74.12 52 eP P 10 02 19.2 0.0
EVOP pmax pmax
comp=Z,45nm,1.2s
EVOP Sao Brissos 74.12 52 eP P 10 02 19.2 0.0
comp=Z,45nm,1.2s
EVO Evora 74.21 52 eP P 10 02 19.2 -0.5
comp=Z,45nm,1.2s
EVO eR
comp=Z,380nm,21.0s
EVO Evora 74.21 52 eP P 10 02 19.8 +0.1
comp=Z,17nm,1.2s
PVAQ Vaqueiros 74.34 53 eP P 10 02 21.9 +1.4
comp=Z,29nm,1.8s
COLA College 74.41 336 eP P 10 02 20.9 +0.6
COLA pmax pmax
comp=Z,16nm,1.3s
COLA College 74.41 336 eP P 10 02 20.9 +0.6
comp=Z,16nm,1.3s
MCK McKinley 74.48 335 eP P 10 02 21.6 +0.8
MCK pmax pmax
comp=Z,32nm,1.5s
MCK McKinley 74.48 335 eP P 10 02 21.6 +0.8
comp=Z,32nm,1.5s
PVIS Viseu 74.50 49 eP P 10 02 21.9 +0.4
comp=Z,36nm,1.3s
PESTR Estremoz 74.56 51 eP P 10 02 22.2 +0.4
comp=Z,46nm,1.2s
PCBR Castelo Branco 74.74 50 eP P 10 02 23.4 +0.6

comp=Z,18nm,1.3s
PMRV Marv??o 74.77 51 eP P 10 02 24.2 +1.2
comp=Z,32nm,1.9s
PBAR Barrancos 74.94 52 eP P 10 02 24.6 +0.6
comp=Z,29nm,1.5s
SPU Mount Spurr 75.11 332 eP P 10 02 25.4 +0.8
RSO Redoubt South 75.26 331 eP P 10 02 26.5 +0.9
PBRG Braganca 75.47 48 eP P 10 02 26.6 -0.4
PPLA Purkeypile 75.63 334 eP P 10 02 27.4 -0.2
comp=Z,42nm,1.4s
COLD Coldfoot 76.10 338 eP P 10 02 31.0 +1.0
comp=Z,30nm,1.9s
DBIC Dimbokro 77.07 85 eP P 10 02 39.7 +3.2
DBIC pmax pmax
comp=Z,29nm,1.3s
DBIC Dimbokro 77.07 85 P P 10 02 34.0 -2.5
comp=Z,7.7nm,0.9s,baz=178,slow=8.0,SNR=3.3
DBIC Dimbokro 77.07 85 eP P 10 02 39.7 +3.2
comp=Z,29nm,1.3s
PAB San Pablo 77.12 51 eP P 10 02 36.9 +0.4
PAB pmax pmax
comp=Z,34nm,1.4s
PAB San Pablo 77.12 51 eP P 10 02 36.9 +0.4
comp=Z,34nm,1.4s
ESDC Sonseca Array 77.43 51 P P 10 02 37.2 -1.0
comp=Z,8.6nm,1.1s,baz=271,slow=5.2,SNR=7.8
ESLA Sonseca Array 77.43 51 eP P 10 02 38.0 -0.2
comp=Z,3.6nm,1.1s
ROSF Rostrenen 78.45 42 eP P 10 02 43.0 -0.6
comp=Z,131nm,1.5s
ROSF Rostrenen 78.45 42 eP P 10 02 43.0 -0.6
ROSF pmax pmax
comp=Z,131nm,1.5s
ROSF Rostrenen 78.45 42 eP P 10 02 43.0 -0.6
comp=Z,131nm,1.5s
QUIF Quistinic 78.50 42 eP P 10 02 43.2 -0.6
QUIF Quistinic 78.50 42 eP P 10 02 43.2 -0.6
QUIF Quistinic 78.50 42 eP P 10 02 43.2 -0.6
SGMF Saint Gilles 78.93 42 eP P 10 02 45.2 -1.0
SGMF Saint Gilles 78.93 42 eP P 10 02 45.2 -1.0
SGMF Saint Gilles 78.93 42 eP P 10 02 45.2 -1.0
SJPF Ste Jean 79.62 47 eP P 10 02 50.0 -0.2
comp=Z,102nm,1.7s
SJPF Ste Jean 79.62 47 eP P 10 02 50.0 -0.2
SJPF pmax pmax
comp=Z,102nm,1.7s
SJPF Ste Jean 79.62 47 eP P 10 02 50.0 -0.2
comp=Z,102nm,1.7s
GRR Gorron 80.06 42 eP P 10 02 51.6 -0.8
comp=Z,194nm,1.9s
GRR Gorron 80.06 42 eP P 10 02 51.6 -0.8
GRR pmax pmax
comp=Z,194nm,1.9s
GRR Gorron 80.06 42 eP P 10 02 51.6 -0.8
comp=Z,194nm,1.9s
ETSF Etsaut 80.11 48 eP P 10 02 52.7 -0.2
ETSF Etsaut 80.11 48 eP P 10 02 52.7 -0.2
ETSF Etsaut 80.11 48 eP P 10 02 52.7 -0.2
FLN La Foliniere 80.33 42 eP P 10 02 53.1 -0.7
comp=Z,99nm,1.6s
FLN eR
comp=Z,570nm,21.8s
FLN La Foliniere 80.33 42 eP P 10 02 53.1 -0.7
FLN pmax pmax
comp=Z,99nm,1.6s
FLN La Foliniere 80.33 42 eP P 10 02 53.1 -0.7
comp=Z,99nm,1.6s
MFF Saint Martin d 80.49 44 eP P 10 02 54.0 -0.7
comp=Z,82nm,1.6s
MFF Saint Martin d 80.49 44 eP P 10 02 54.0 -0.7
MFF pmax pmax
comp=Z,82nm,1.6s
MFF Saint Martin d 80.49 44 eP P 10 02 54.0 -0.7
comp=Z,82nm,1.6s
LDF La Druitiere 80.56 42 eP P 10 02 54.4 -0.7
comp=Z,46nm,1.3s
LDF La Druitiere 80.56 42 eP P 10 02 54.4 -0.7
LDF pmax pmax
comp=Z,46nm,1.3s
LDF La Druitiere 80.56 42 eP P 10 02 54.4 -0.7
comp=Z,46nm,1.3s
EPF Esparros 80.77 47 eP P 10 02 56.0 -0.4
comp=Z,36nm,1.2s
EPF Esparros 80.77 47 eP P 10 02 56.0 -0.4
EPF pmax pmax
comp=Z,36nm,1.2s
EPF Esparros 80.77 47 eP P 10 02 56.0 -0.4
comp=Z,36nm,1.2s
LFF La Frestale 81.08 46 eP P 10 02 57.4 -0.5
comp=Z,240nm,1.9s
LFF La Frestale 81.08 46 eP P 10 02 57.4 -0.5
LFF pmax pmax
comp=Z,240nm,1.9s
LFF La Frestale 81.08 46 eP P 10 02 57.4 -0.5
comp=Z,240nm,1.9s
RJF Les Rejaudoux 81.63 45 eP P 10 03 00.0 -0.9
RJF eR
comp=Z,278nm,22.5s
RJF Les Rejaudoux 81.63 45 eP P 10 03 00.0 -0.9
RJF Les Rejaudoux 81.63 45 eP P 10 03 00.0 -0.9
CAF Calviac 82.02 46 eP P 10 03 02.3 -0.7
comp=Z,62nm,1.6s
CAF Calviac 82.02 46 eP P 10 03 02.3 -0.7
CAF pmax pmax
comp=Z,62nm,1.6s
CAF Calviac 82.02 46 eP P 10 03 02.3 -0.7
comp=Z,62nm,1.6s
TCF Toulx Ste Croi 82.11 44 eP P 10 03 02.4 -1.0
TCF Toulx Ste Croi 82.11 44 eP P 10 03 02.4 -1.0
TCF Toulx Ste Croi 82.11 44 eP P 10 03 02.4 -1.0
MTLF Montolieu 82.14 47 eP P 10 03 02.8 -0.8
MTLF Montolieu 82.14 47 eP P 10 03 02.8 -0.8
MTLF Montolieu 82.14 47 eP P 10 03 02.8 -0.8
BGF Bois d'Agland 82.55 44 eP P 10 03 04.6 -1.1
comp=Z,55nm,1.5s
BGF Bois d'Agland 82.55 44 eP P 10 03 04.6 -1.1
BGF pmax pmax
comp=Z,55nm,1.5s
BGF Bois d'Agland 82.55 44 eP P 10 03 04.6 -1.1
comp=Z,55nm,1.5s
AVF Avril sur Loir 82.90 44 eP P 10 03 07.2 -0.3
comp=Z,97nm,1.8s
AVF Avril sur Loir 82.90 44 eP P 10 03 07.2 -0.3
AVF pmax pmax
comp=Z,97nm,1.8s
AVF Avril sur Loir 82.90 44 eP P 10 03 07.2 -0.3
comp=Z,97nm,1.8s
SSF Saint Saulge 83.00 43 eP P 10 03 06.4 -1.6
SSF Saint Saulge 83.00 43 eP P 10 03 06.4 -1.6
SSF Saint Saulge 83.00 43 eP P 10 03 06.4 -1.6
TOA0 Torodi Ar. Sit 83.02 78 eP P 10 03 08.6 -0.1
TORD Torodi Ar. Bea 83.02 78 P P 10 03 07.7 -1.0
comp=Z,4.7nm,1.0s,baz=288,slow=3.3,SNR=7.7
TORD LR LR 10 40 40.5
comp=Z,207nm,18.9s,baz=240,slow=36
LOR Lormes 83.23 43 eP P 10 03 07.8 -1.4
LOR eR
comp=Z,383nm,17.8s
LOR Lormes 83.23 43 eP P 10 03 07.8 -1.4
LOR Lormes 83.23 43 eP P 10 03 07.8 -1.4
SMF Signal de Mont 83.23 44 eP P 10 03 08.9 -0.3
comp=Z,48nm,1.6s
SMF Signal de Mont 83.23 44 eP P 10 03 08.9 -0.3
SMF pmax pmax
comp=Z,48nm,1.6s
SMF Signal de Mont 83.23 44 eP P 10 03 08.9 -0.3
comp=Z,48nm,1.6s
LASF Ste Croix 83.31 46 eP P 10 03 08.1 -1.6
LASF Ste Croix 83.31 46 eP P 10 03 08.1 -1.6
BAIF Baives 83.40 40 eP P 10 03 09.1 -0.9
comp=Z,43nm,1.7s
BAIF Baives 83.40 40 eP P 10 03 09.1 -0.9
BAIF pmax pmax
comp=Z,43nm,1.7s
BAIF Baives 83.40 40 eP P 10 03 09.1 -0.9
comp=Z,43nm,1.7s
GIVF Givet 83.80 40 eP P 10 03 11.0 -1.0
GIVF Givet 83.80 40 eP P 10 03 11.0 -1.0
GIVF Givet 83.80 40 eP P 10 03 11.0 -1.0
VIVF Saint-Julien-l 83.87 46 eP P 10 03 12.4 -0.2
VIVF Saint-Julien-l 83.87 46 eP P 10 03 12.4 -0.2
VIVF Saint-Julien-l 83.87 46 eP P 10 03 12.4 -0.2
MEZF Maizieres J'vi 84.00 42 eP P 10 03 12.2 -0.9
MEZF Maizieres J'vi 84.00 42 eP P 10 03 12.2 -0.9
GAMB Gambell 84.44 333 eP P 10 03 16.3 +1.3
comp=Z,7.0nm,1.1s
PAGF Fort de Pagny 84.44 42 eP P 10 03 14.5 -0.9
comp=Z,33nm,1.8s
PAGF Fort de Pagny 84.44 42 eP P 10 03 14.5 -0.9
comp=Z,33nm,1.8s
SMRF Simiane la Rot 84.56 46 eP P 10 03 15.9 -0.2
comp=Z,104nm,1.6s
SMRF Simiane la Rot 84.56 46 eP P 10 03 15.9 -0.2
comp=Z,104nm,1.6s
ORIF Oris-en-Rattie 84.73 45 eP P 10 03 16.8 -0.2
comp=Z,102nm,1.7s
ORIF eR
comp=Z,256nm,21.5s
ORIF Oris-en-Rattie 84.73 45 eP P 10 03 16.8 -0.2
ORIF pmax pmax
comp=Z,102nm,1.7s
ORIF Oris-en-Rattie 84.73 45 eP P 10 03 16.8 -0.2
comp=Z,102nm,1.7s
CABF La Chapelle 84.78 44 eP P 10 03 16.3 -1.0
comp=Z,41nm,1.3s
CABF La Chapelle 84.78 44 eP P 10 03 16.3 -1.0
CABF pmax pmax
comp=Z,41nm,1.3s
CABF La Chapelle 84.78 44 eP P 10 03 16.3 -1.0
comp=Z,41nm,1.3s
HAU Haudompre 84.89 42 eP P 10 03 16.6 -1.1
HAU eR
comp=Z,344nm,17.5s
HAU Haudompre 84.89 42 eP P 10 03 16.6 -1.1
HAU Haudompre 84.89 42 eP P 10 03 16.6 -1.1
HINF Hinteralfeld 85.24 43 eP P 10 03 17.9 -1.5
HINF Hinteralfeld 85.24 43 eP P 10 03 17.9 -1.5
HINF Hinteralfeld 85.24 43 eP P 10 03 17.9 -1.5
LPL La Plagne 85.29 45 eP P 10 03 19.7 -0.3
LPL La Plagne 85.29 45 eP P 10 03 19.7 -0.3
LPL La Plagne 85.29 45 eP P 10 03 19.7 -0.3
LPG La Plagne 85.31 45 eP P 10 03 19.9 -0.3
comp=Z,57nm,1.5s
LPG La Plagne 85.31 45 eP P 10 03 19.9 -0.3
LPG pmax pmax
comp=Z,57nm,1.5s
LPG La Plagne 85.31 45 eP P 10 03 19.9 -0.3
comp=Z,57nm,1.5s
MBDF Montbardon 85.37 46 eP P 10 03 19.8 -0.5
comp=Z,42nm,1.4s
MBDF Montbardon 85.37 46 eP P 10 03 19.8 -0.5
MBDF pmax pmax
comp=Z,42nm,1.4s
MBDF Montbardon 85.37 46 eP P 10 03 19.8 -0.5
comp=Z,42nm,1.4s
CDF Champ du Feu 85.48 42 eP P 10 03 19.6 -1.1
comp=Z,20nm,1.3s
CDF Champ du Feu 85.48 42 eP P 10 03 19.6 -1.1
CDF pmax pmax
comp=Z,20nm,1.3s
CDF Champ du Feu 85.48 42 eP P 10 03 19.6 -1.1
comp=Z,20nm,1.3s
NB2 NORSAR Subarra 86.69 29 P P 10 03 25.6 -0.8
comp=Z,20nm,1.2s,baz=279,slow=4.8
NB2 NORSAR Subarra 86.69 29 P P 10 03 25.6 -0.8
baz=279,slow=4.8
NOA NORSAR Array B 86.69 29 P P 10 03 26.0 -0.4
comp=Z,7.8nm,1.1s,baz=276,slow=4.5,SNR=5.9
CLL Collm 88.88 39 iP P 10 03 36.5 -0.5
CLL Collm 88.88 39 iP P 10 03 36.5 -0.5
comp=Z,12nm,1.4s
CLL e 10 03 48.0
KHC Kasperske Hory 89.55 41 eP P 10 03 39.1 -1.1
KHC Kasperske Hory 89.55 41 eP P 10 03 39.1 -1.1
GERES GERESS Array B 89.67 41 P P 10 03 40.5 -0.4
comp=Z,2.0nm,1.0s,baz=250,slow=2.7,SNR=5.3
PVCC Panska Ves 89.97 39 eP P 10 03 49.9 +7.8
PRU Pruhonice 90.04 40 eP P 10 03 47.3 +4.8
PRU Pruhonice 90.04 40 epP P 10 03 47.3 +4.8
UPC Upice 90.89 39 eP P 10 03 47.1 +0.7
UPC Upice 90.89 39 eP P 10 03 47.1 +0.7
DPC Dobruska-Polom 91.11 39 eP P 10 03 47.4 -0.1
DPC e 10 03 54.6
DPC Dobruska-Polom 91.11 39 eP P 10 03 47.4 -0.1
DPC ex x 10 03 54.6
DPC ex x 10 03 58.6
KRLC Kraliky 91.45 40 eP P 10 03 49.1 0.0
KRLC e 10 03 56.1
KRLC Kraliky 91.45 40 eP P 10 03 49.1 0.0
KRLC ex x 10 03 56.1
KRLC ex x 10 04 00.6
BILL Bilibino 92.39 339 iP P 10 03 53.6 +0.6
BILL e 10 03 57.0
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,172nm,23.0s
H11S2 WAKE ISLAND Hy 107.68 291 T T 12 05 31.5
baz=80
H11S1 WAKE ISLAND Hy 107.68 291 T T 12 05 30.2
baz=80
H11S3 WAKE ISLAND Hy 107.70 291 T T 12 05 33.0
baz=80
ZALV Zalesovo Beam 119.45 9 PKP PKPdf 10 09 31.1 -1.1
comp=Z,1.0nm,0.7s,baz=336,slow=3.2,SNR=3.5
SONM Songino Array 125.96 353 PKP PKPdf 10 09 43.8 -1.3
comp=Z,1.5nm,1.0s,baz=348,slow=1.3,SNR=5.2
AAK Ala-Archa 127.38 21 PKP PKPdf 10 09 47.9 -0.1
comp=Z,0.7nm,0.4s,baz=279,slow=13,SNR=3.6
KSRS Korea Array 128.42 329 ePKIKP PKPdf 10 09 55.8 +5.9
KSRS pmax pmax
comp=Z,4.0nm,0.9s
KSRS Korea Array 128.42 329 PKP PKPdf 10 09 49.0 -0.8
comp=Z,2.5nm,0.9s,baz=26,slow=1.5,SNR=5.9
KSAR Wonju Array Be 128.45 329 PKIKP PKPdf 10 09 49.1 -0.9
KSAR Wonju Array Be 128.45 329 PKP PKPdf 10 09 49.0 -0.9
WMQ Urumqi 129.75 9 ePKP PKPdf 10 09 54.5 +2.1
WMQ PP PP 10 12 08.8 +6.9
WMQ PKS PKSdf 10 13 29.5 +0.6
WMQ SKS SKSdf 10 17 00.8 -3.1
WMQ SKKS SKKSac 10 18 56.8 -3.2
WMQ SS SS 10 29 25.8 +1.4
WMQ AMB AMB
comp=Z,31nm,10.8s
WMQ LR LR
comp=Z,150nm,21.6s
WMQ LR LR
comp=Z,230nm,23.8s
WMQ LR LR
comp=Z,170nm,21.2s
DL2 Dalian 130.17 335 ePKP PKPdf 10 10 01.3 +8.1
DL2 sPKP 10 10 15.7
DL2 PP PP 10 12 38.6 +34
DL2 SKS SKSdf 10 17 05.4 +2.3
DL2 SKKS SKKSac 10 19 25.7 +23
KSH Kashi 130.64 22 ePKP PKPdf 10 09 54.7 +0.4
KSH esPKP 10 10 09.8
KSH PKS PKSdf 10 13 31.4 +0.5
KSH SKKS 10 19 01.0
KSH SS SS 10 29 34.4 -1.6
KSH AMB AMB
comp=Z,140nm,4.3s
KSH LR LR
comp=Z,44nm,4.7s
KSH LR LR
comp=Z,120nm,5.9s
BJI Beijing 131.20 341 PKP PKPdf 10 09 55.8 +0.7
STKA Stephens Creek 131.42 232 PKP PKPdf 10 09 53.9 -1.9
comp=Z,1.7nm,0.8s,baz=45,slow=1.4,SNR=2.8
LZH Lanzhou 137.85 352 ePKP PKPdf 10 10 08.2 +0.3
LZH sPKP 10 10 23.3
LZH ePP PP 10 12 58.5 +4.9
LZH SKKS 10 19 43.5
LZH AMB AMB
comp=Z,170nm,9.0s
LZH LR LR
comp=Z,190nm,18.0s
LZH LR LR
comp=Z,180nm,17.7s
LZH LR LR
comp=Z,220nm,20.1s
ASAR Alice Springs 140.81 239 PKhKP PKPpre 10 10 03.9
comp=Z,0.5nm,0.7s,baz=129,slow=3.7,SNR=4.4
ASAR PKP PKPdf 10 10 11.2 -2.2
comp=Z,2.0nm,0.7s,baz=110,slow=2.0,SNR=9.6
WRA Warramunga Arr 141.61 245 PKhKP PKPpre 10 10 07.5
comp=Z,0.8nm,0.7s,baz=98,slow=3.4,SNR=3.1
WRA PKP PKPdf 10 10 13.2 -1.8
comp=Z,1.9nm,0.7s,baz=103,slow=2.5,SNR=10
CD2 Chengdu 142.95 351 PKP PKPdf 10 10 17.5 +0.3
CD2 pPKP pPKPdf 10 10 28.1 +6.1
CD2 sPKP 10 10 31.9
CD2 PP PP 10 13 29.4 +4.7
CD2 PKS PKSdf 10 13 51.8 -1.3
CD2 SKS SKSdf 10 17 23.3 -3.7
CD2 SKKS SKKSac 10 20 16.7 -2.6
CD2 SS SS 10 32 01.9 0.0
CD2 AMB AMB
comp=Z,120nm,5.4s
GYA Guiyang 146.67 345 PKPbc PKPdf 10 10 23.8 0.0
GYA PP PP 10 13 51.0 +3.8
GYA PKS PKSdf 10 13 57.4 -2.0
GYA SKKS 10 20 35.5
GYA SS SS 10 32 42.6 -2.3
GYA AMB AMB
comp=Z,120nm,7.6s
GYA LR LR
comp=Z,150nm,22.2s
GYA LR LR
comp=Z,130nm,24.0s
GYA LR LR
comp=Z,140nm,23.1s
H01W1 Cape Leeuwin H 147.29 206 T T 12 55 32.6
baz=153
H01W2 Cape Leeuwin H 147.30 206 T T 12 55 32.1
baz=153
H01W3 Cape Leeuwin H 147.31 206 T T 12 55 32.2
baz=153
HYB Hyderabad 150.22 39 iPKP PKPab 10 10 38.0 -2.7
CMAR Chiang Mai Arr 155.79 357 PKP PKPdf 10 10 37.0 -0.7
comp=Z,0.6nm,0.3s,baz=336,slow=2.0,SNR=3.8
CMAR PKPbc PKPbc 10 10 47.7
comp=Z,1.0nm,0.3s,baz=319,slow=1.1,SNR=4.9
CMAR PKPab PKPab 10 11 02.9 -1.0
comp=Z,1.7nm,0.3s,baz=344,slow=4.3,SNR=4.3

IDC 07 09:58:30.2±3.9, 3°.63S×151°.84E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.2/25, mbtmp3.3/2, Error ellipse: s-maj=176.5km s-min=46.6km az=117.0, New Ireland region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.55 225 P P 10 03 42.0 -0.5
0.4nm,0.3s,baz=51,slow=9.9,SNR=12
ASAR Alice Springs 26.41 219 P P 10 04 09.7 +0.9
0.3nm,0.8s,baz=53,slow=9.1,SNR=6.3
TORD Torodi Ar. Bea 149.03 290 PKPbc PKPbc 10 18 20.5 -1.0
0.2nm,0.3s,baz=98,slow=1.3,SNR=3.8

IDC 07 10:05:30.4±2.9, 54°.57N×86°.56E, h0km, mb1 3.1/2, mb1mx2.9/35, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=23.9km s-min=14.3km az=54.0
NNC 07 10:05:35.1±3.0, 54°.31N×86°.23E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=21.3km s-min=16.9km az=41.0
ISC 07 10:05:34.6±4.4, 54°.6N±0°.2×86°.4E±0°.2, h35km, n9, σ1§64/12, 7C-2D, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.15 237 i 10 12 47.0
baz=58,slow=348,SNR=41
ZALV Zalesovo Beam 1.15 237 Pg Pn 10 05 52.0 -2.2
1.9nm,0.3s,baz=56,slow=17,SNR=23
ZALV Lg Lg 10 06 09.4
2.8nm,0.3s,baz=56,slow=28,SNR=24
ZALV Rg Rg 10 06 21.9
26nm,1.0s,baz=59,slow=30,SNR=7.5
KURK Kurchatov 6.14 234 ⇑Pn Pn 10 07 03.3 +0.6
1.7nm,0.8s
KURK ⇑Sn Sn 10 08 10.8 -0.7
3.4nm,1.5s
KURK ⇑Lg Lg 10 08 44.6
4.5nm,0.9s
KURBB Kurchatov Arra 6.24 234 ⇓Pn Pn 10 07 04.9 +0.8
3.1nm,0.5s,baz=48,slow=14
KURBB ⇑Sn Sn 10 08 15.2 +1.0
7.3nm,0.8s
KURBB ⇑Lg Lg 10 08 49.1
9.6nm,0.8s,baz=50,slow=31
KURBB Kurchatov Arra 6.24 234 Pn Pn 10 07 05.5 +1.4
0.4nm,0.3s,baz=52,slow=14,SNR=26
KURBB Lg Lg 10 08 52.7
0.1nm,0.3s,baz=48,slow=24,SNR=8.5
MKAR Makanchi Array 8.24 200 Pn Pn 10 07 31.9 +0.3
0.1nm,0.3s,baz=26,slow=13,SNR=10
MKAR Sn Sn 10 09 04.0 +0.7
0.1nm,0.3s,baz=22,slow=28,SNR=6.9
MKAR Lg Lg 10 09 51.1
0.1nm,0.3s,baz=32,slow=22,SNR=6.2
MK09 Makanchi Array 8.26 200 ⇓Pn Pn 10 07 32.1 +0.3
0.4nm,0.6s
MK08 Makanchi Array 8.27 200 ⇑Sn Sn 10 09 04.1 -0.1
1.3nm,0.6s
MK08 ⇑Lg Lg 10 09 49.8
6.5nm,1.2s
BVAR Borovoye Array 9.62 267 Pn Pn 10 07 53.7 +3.2
0.1nm,0.3s,baz=74,slow=15,SNR=4.0
BVAR Sn Sn 10 09 35.2 -2.0
0.1nm,0.3s,baz=77,slow=21,SNR=5.3

ISCJB 07 10:14:31.1±0.4, 22°.15N±0°.03×121°.18E±0°.03, h25km±4km, Error ellipse: s-maj=4.9km s-min=4.2km az=15.3
TAP 07 10:14:31.3, 22°.15N×121°.06E, h31km, ML3.6, B
JMA 07 10:14:32.4±0.5, 22°.01N×121°.34E, h59km±5km, M3.3
ISC 07 10:14:31.4±1.0, 22°.14N±0°.03×121°.10E±0°.03, h30km±7km, n52, σ1§05/83, 3C-6D, Taiwan region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TAW Tawu 0.28 319 ⇓iP Pb 10 14 38.6 -0.1
baz=326
TAW iS Sb 10 14 43.6 0.0
baz=326
TSEB Hengchuen, Pin 0.30 217 ⇑iP Pn 10 14 39.3 -0.3
baz=212
TSEB iS Sn 10 14 45.4 +0.3
baz=212
EAST Anshuo 0.33 316 ⇓iP Pb 10 14 39.2 -0.2
baz=322
EAST S Sb 10 14 44.6 -0.2
baz=322
TWK1 Hengchun 0.33 234 ⇑iP Pb 10 14 39.2 -0.1
baz=227
TWK1 iS Sb 10 14 44.9 +0.2
baz=227
HEN Hengchun 0.36 248 ⇑iP Pb 10 14 39.7 +0.1
baz=244
HEN iS Sb 10 14 45.8 -0.7
baz=244
LAY Lan-yu 0.43 104 P Pn 10 14 41.1 -0.4
baz=96
LAY S Sn 10 14 48.1 -0.3
baz=96
ECL Taimali 0.47 344 ⇓iP Pb 10 14 40.7 -0.7
baz=357
ECL S Sb 10 14 47.2 -1.0
baz=357
SCZT Fangliau 0.50 298 ⇓iP Pb 10 14 41.9 +0.1
baz=304
SCZT eS Sb 10 14 48.9 0.0
baz=304
TTN Taitung 0.61 5 eP Pb 10 14 43.2 -0.5
baz=358
TWG Pinlang 0.68 358 ⇓iP Pb 10 14 43.4 -1.3
baz=2.0
TWP Hsiaoliuchiu 0.71 287 eP Pn 10 14 46.1 +0.8
baz=288
SGLT Jiouru 0.81 316 eP Pb 10 14 47.3 +0.4
baz=329
KAU Kaohsiung 0.84 300 eP Pb 10 14 47.8 +0.3
baz=301
TWM1 Shoushan 0.92 318 eP Pb 10 14 49.9 +1.1
baz=320
CHKT Chengkung 0.98 15 P Pn 10 14 48.3 -0.8
baz=17
CHKT S Sn 10 15 01.2 -0.8
baz=17
ELDTW Lidau 1.04 356 ⇓eP Pn 10 14 49.0 -1.0
baz=9.0
SGST Jiashian 1.05 333 eP Pb 10 14 51.1 +0.1
baz=336
SGST eS Sb 10 15 06.6 +2.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
	baz=336						
CHN1	Nanshi	1.16	333	eP	Pb	10 14 52.6	-0.3
	baz=336						
CHN1				eS	Sb	10 15 08.7	+1.0
	baz=336						
WTP	Ta-pu	1.19	338	P	Pb	10 14 52.9	-0.4
	baz=341						
WTP				eS	Sb	10 15 09.4	+1.1
	baz=341						
TWF1	Yuli	1.22	9	eP	Pn	10 14 50.8	-1.6
	baz=10.0						
TWK	Hsinying	1.25	334	eP	Pb	10 14 53.7	-0.7
	baz=337						
CHN4	Tsaushan	1.29	339	eP	Pb	10 14 54.8	-0.2
	baz=342						
YUS	Yu-Shan	1.35	354	eP	Pn	10 14 54.7	+0.2
	baz=5.0						
EHY	Hungye	1.37	9	eP	Pn	10 14 54.2	-0.3
	baz=19						
ALS	Alishan	1.39	349	eP	Pb	10 14 56.1	-0.7
	baz=352						
CHY	Chiayi	1.48	335	eP	Pb	10 14 58.5	+0.2
	baz=338						
CHN5	Tsauling	1.50	345	eP	Pn	10 14 57.4	+1.2
	baz=332						
CHN5				eS	Sb	10 15 17.3	0.0
	baz=332						
ESL	Shilin	1.69	11	eP	Pn	10 14 58.1	-0.7
	baz=21						
WDGT	Dungji	1.73	310	eP	Pn	10 14 58.1	-1.2
	baz=314						
WDGT				eS	Sn	10 15 17.6	-2.8
	baz=314						
SMLT	Sun Moon Lake	1.74	354	P	Pn	10 15 01.2	+1.5
	baz=356						
SMLT				S	Sb	10 15 23.6	-0.8
	baz=356						
TYC	Yuchr	1.77	353	eP	Pn	10 15 01.4	+1.6
	baz=340						
TYC				eS	Sb	10 15 24.0	-0.9
	baz=340						
TWD	Chiawan	1.98	13	eP	Pn	10 15 02.2	-0.6
	baz=14						
TWD				eS	Sn	10 15 26.1	-0.6
	baz=14						
WHF	Hehuan Shan	2.00	4	eP	Pn	10 15 04.5	+1.0
	baz=16						
WHF				eS	Sn	10 15 27.4	-0.3
	baz=16						
PNG	Penghu	2.01	315	eP	Pn	10 15 02.4	-0.8
	baz=318						
PNG				eS	Sn	10 15 25.3	-1.9
	baz=318						
TCU	Taichung	2.03	349	eP	Pn	10 15 04.8	+1.3
	baz=339						
TWT	Tachien	2.10	2	eP	Pn	10 15 05.6	+1.0
	baz=3.0						
TWT				eS	Sn	10 15 30.1	+0.2
	baz=3.0						
TWQ1	Liyutan	2.22	352	eP	Pn	10 15 07.4	+1.3
	baz=341						
TWQ1				eS	Sb	10 15 35.4	-2.5
	baz=341						
NSY	Sanyi	2.28	352	eP	Pn	10 15 07.4	+0.4
	baz=344						
NNS	Nan Shan	2.30	6	eP	Pn	10 15 09.8	+2.4
	baz=16						
NNS				eS	Sn	10 15 36.0	+1.2
	baz=16						
NSTT	Nanjuang	2.48	358	eP	Pn	10 15 11.2	+1.5
	baz=1.0						
NSTT				eS	Sn	10 15 40.6	+1.7
	baz=1.0						
NSK	Sanguang	2.53	5	eP	Pn	10 15 12.3	+1.9
	baz=353						
NSK				eS	Sn	10 15 41.6	+1.2
	baz=353						
TWC	Suao	2.55	16	eP	Pn	10 15 12.2	+1.5
	baz=16						
TWE	Neicheng	2.62	11	eP	Pn	10 15 13.2	+1.6
	baz=19						
TWE				eS	Sn	10 15 42.7	+0.3
	baz=19						
JYNG	Yonagunijimaku	2.86	36	P	Pn	10 15 16.2	+1.3
NWF	Wu-fen Shan	2.98	12	eP	Pn	10 15 17.2	+0.5
	baz=13						
NWF				eS	Sn	10 15 51.8	+0.3
	baz=13						
HATJ	Hateruma jima	3.14	52	eS	Sn	10 15 56.0	+0.8
IRIF	Iriomote-Funau	3.26	47	P	Pn	10 15 20.8	+0.4
IRIF				eS	Sn	10 15 57.6	-0.6
KNM	Kinmen	3.33	313	eP	Pn	10 15 21.8	+0.4
	baz=314						
JKRS	Kuro-shima	3.40	52	P	Pn	10 15 23.8	+1.5
JKRS				eS	Sn	10 16 01.6	0.0
JIJ	Ishigaki jima	3.57	51	P	Pn	10 15 25.7	+1.0
JIJ				eS	Sn	10 16 04.9	-0.9
JISG	Ishigakijimahi	3.83	50	P	Pn	10 15 29.2	+1.0
JISG				eS	Sn	10 16 11.6	-0.6
JTJ	Tarama	4.14	52	P	Pn	10 15 33.7	+1.2
JTJ				eS	Sn	10 16 19.5	-0.5

IDC **07** *10:18:16.9±0.9, 38.°50N×23.°69E, h0km, mb3.6/11, mb1 3.7/14, mb1mx3.6/40, mbtmp3.6/14, ML3.4/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/38, Error ellipse: s-maj=19.2km s-min=15.2km az=120.0*

DDA **07** *10:18:16.4, 38.°43N×23.°62E, h10km, MD3.9*

ATH **07** *10:18:17.3, 38.°57N×23.°68E, h23km, ML4.3*

ISCJB **07** *10:18:17.9±0.4, 38.°57N±0.°01×23.°68E±0.°01, h15km±2km, mb3.5/11, Error ellipse: s-maj=2.0km s-min=1.8km az=12.2*

CSEM **07** *10:18:18.1±0.1, 38.°55N×23.°64E, h10km, ML4.3, Error ellipse: s-maj=2.1km s-min=2.0km az=78.0*

THE **07** *10:18:18.3, 38.°56N×23.°65E, h10km, ML4.1/21, Error ellipse: s-maj=0.8km s-min=0.4km az=74.0*

ISC 07 10:18:18.6±0.8, 38.°56N±0.°01×23.°66E±0.°01, h11km±5km, n303, σ0.95/399, mb3.7/11, 19C-13D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	Markates	0.16	340	P	Pg	10 18 22.1	-0.1
MRKA				S	Sg	10 18 24.9	+0.1
MRKA	Markates	0.16	340	ePB	Pg	10 18 22.1	-0.1
MRKA				eSB	Sg	10 18 25.4	+0.6
MRKA	Markates	0.16	340	P	Pg	10 18 22.1	-0.1
MRKA				S	Sg	10 18 24.9	+0.1
MRKA				eSb	Sg	10 18 25.4	+0.6
ERET	Eretria	0.16	134	P	Pg	10 18 22.4	+0.1
ERET				S	Sg	10 18 25.2	+0.3
SMIA	Simia	0.48	313	P	Pg	10 18 27.6	-0.3
SMIA				S	Sg	10 18 34.6	+0.4
SMIA	Simia	0.48	313	ePB	Pg	10 18 27.7	-0.2
SMIA				eSB	Sg	10 18 34.0	-0.2
SMIA	Simia	0.48	313	P	Pg	10 18 27.6	-0.3
SMIA				eSb	Sg	10 18 34.0	-0.2
LKR	Lokris	0.52	281	P	Pg	10 18 27.6	-1.2
LKR				S	Sg	10 18 35.7	0.0
LKR	Lokris	0.52	281	ePN	Pg	10 18 27.6	-1.2
LKR				eSN	Sg	10 18 35.9	+0.2
LKR	Lokris	0.52	281	P	Pg	10 18 27.6	-1.2
LKR				S	Sg	10 18 35.7	0.0
PTL	Penteli	0.53	162	P	Pg	10 18 28.7	-0.3
PTL				S	Sg	10 18 35.7	-0.3
PTL	Penteli	0.53	162	ePN	Pg	10 18 28.7	-0.3
PTL				eSN	Sg	10 18 35.8	-0.3
PTL	Penteli	0.53	162	P	Pg	10 18 28.7	-0.3
PTL				S	Sg	10 18 35.7	-0.3
ATH	Athens Observa	0.58	175	P	Pg	10 18 29.6	-0.3
ATH				S	Sb	10 18 38.4	-0.6
ATH	Athens Observa	0.58	175	ePN	Pg	10 18 29.6	-0.3
ATH				eSN	Sg	10 18 37.7	0.0
ATH	Athens Observa	0.58	175	P	Pg	10 18 29.6	-0.3
ATH				eSn	Sg	10 18 37.7	0.0
ATH				S	Sb	10 18 38.4	-0.6
ATHU	Athens Univers	0.60	170	P	Pg	10 18 29.6	-0.6
ATHU				S	Sg	10 18 38.3	+0.2
ATHU	Athens Univers	0.60	170	P	Pg	10 18 29.6	-0.6
ATHU				S	Sg	10 18 38.3	+0.2
SKIA	Skiathos	0.63	346	P	Pg	10 18 30.3	-0.5
SKIA				S	Sb	10 18 40.0	-0.3
SKIA	Skiathos	0.63	346	ePN	Pg	10 18 30.3	-0.5
SKIA				eSN	Sg	10 18 39.3	+0.3
SKIA	Skiathos	0.63	346	ePn	Pg	10 18 30.3	-0.5
SKIA				eSn	Sg	10 18 39.3	+0.3
SKIA				S	Sb	10 18 40.0	-0.3
AOS	Alonnisos	0.64	16	P	Pg	10 18 30.3	-0.6
AOS				S	Sg	10 18 39.4	+0.1
AOS	Alonnisos	0.64	16	ePG	Pg	10 18 31.2	+0.2
AOS				eSG	Sb	10 18 40.2	-0.4
AOS	Alonnisos	0.64	16	ePN	Pg	10 18 30.4	-0.5
AOS				eSN	Sg	10 18 38.3	-1.0
AOS	Alonnisos	0.64	16	P	Pg	10 18 30.3	-0.6
AOS	Alonnisos	0.64	16	ePg	Pg	10 18 31.2	+0.2
AOS				eSn	Sg	10 18 38.3	-1.0
AOS				S	Sg	10 18 39.4	+0.1
AOS				eSg	Sb	10 18 40.2	-0.4
MRMA	Marmari	0.76	131	P	Pg	10 18 32.7	-0.5
MRMA				S	Sg	10 18 42.7	-0.4
MRMA	Marmari	0.76	131	P	Pg	10 18 32.7	-0.5
MRMA				S	Sg	10 18 42.7	-0.4
LTK	Loutraki	0.76	226	P	Pg	10 18 32.2	-1.0
LTK				S	Sg	10 18 43.3	+0.1
LTK	Loutraki	0.76	226	ePN	Pg	10 18 32.3	-1.0
LTK				eSN	Sb	10 18 43.7	-0.4
AXAR	Agios Charalam	0.81	285	P	Pg	10 18 32.6	-1.6
AXAR				S	Sb	10 18 46.2	+0.7
AXAR	Agios Charalam	0.81	285	ePB	Pg	10 18 32.7	-1.5
AXAR				eSN	Sb	10 18 45.4	-0.1
AXAR	Agios Charalam	0.81	285	P	Pg	10 18 32.6	-1.6
AXAR				eSn	Sb	10 18 45.4	-0.1
AXAR				S	Sb	10 18 46.2	+0.7
NEO	Neokhori	0.82	336	P	Pg	10 18 33.8	-0.6
NEO				S	Sg	10 18 45.0	-0.2
NEO	Neokhori	0.82	336	ePN	Pg	10 18 33.8	-0.6
NEO				eSN	Sg	10 18 45.0	-0.2
NEO	Neokhori	0.82	336	ePn	Pg	10 18 33.8	-0.6
NEO				S	Sg	10 18 45.0	-0.2
XOR	Xorichti	0.89	336	P	Pg	10 18 34.8	-0.9
XOR				S	Sg	10 18 47.5	+0.3
XOR	Xorichti	0.89	336	ePN	Pg	10 18 34.9	-0.8
XOR				eSN	Sg	10 18 46.6	-0.6
XOR	Xorichti	0.89	336	ePn	Pg	10 18 34.9	-0.8
XOR				eSn	Sg	10 18 46.6	-0.6
XOR				S	Sg	10 18 47.5	+0.3
DSF	Desfina	0.90	261	P	Pg	10 18 33.9	-2.0
DSF				S	Sb	10 18 48.3	+0.2
DSF	Desfina	0.90	261	ePB	Pg	10 18 33.9	-2.0
DSF				eSN	Sb	10 18 47.8	-0.3
DSF	Desfina	0.90	261	P	Pg	10 18 33.9	-2.0
DSF				eSn	Sb	10 18 47.8	-0.3
DSF				S	Sb	10 18 48.3	+0.2
FYTO	Fytoko, Volos	1.02	327	P	Pb	10 18 37.3	-0.9
FYTO				S	Sb	10 18 51.5	0.0
DID	Didima	1.10	198	P	Pb	10 18 38.9	-0.7
DID				S	Sg	10 18 54.1	+0.1
DID	Didima	1.10	198	ePN	Pb	10 18 38.7	-0.9
DID				eSN	Sg	10 18 54.3	+0.3
DID	Didima	1.10	198	P	Pb	10 18 38.9	-0.7
DID				eSn	Sg	10 18 54.3	+0.3
AGG	Agios Georgios	1.14	295	P	Pb	10 18 39.8	-0.4
AGG	Agios Georgios	1.14	295	ePN	Pb	10 18 38.9	-1.3
AGG				eSN	Sb	10 18 54.8	-0.2
AGG	Agios Georgios	1.14	295	ePn	Pb	10 18 38.9	-1.3
AGG				eSn	Sb	10 18 54.8	-0.2
KALE	Kalithea	1.20	263	P	Pn	10 18 39.3	-2.0
KALE				S	Sb	10 18 56.6	-0.3
KALE	Kalithea	1.20	263	ePN	Pn	10 18 40.2	-1.1
KALE				eSN	Sg	10 18 57.0	-0.3
KALE	Kalithea	1.20	263	ePn	Pn	10 18 40.2	-1.1
KALE				S	Sb	10 18 56.6	-0.3
KALE				eSn	Sg	10 18 57.0	-0.3
GUR	Goura	1.21	240	P	Pn	10 18 40.0	-1.4
GUR				S	Sb	10 18 56.5	-0.5
GUR	Goura	1.21	240	ePN	Pn	10 18 40.2	-1.2
GUR				eSN	Sn	10 18 57.8	0.0
GUR	Goura	1.21	240	ePn	Pn	10 18 40.2	-1.2
GUR				S	Sb	10 18 56.5	-0.5
GUR				eSn	Sn	10 18 57.8	0.0
MAKR	Makrakomi, Fth	1.28	291	P	Pn	10 18 41.4	-0.9
MAKR				S	Sn	10 18 59.4	0.0
MAKR	Makrakomi, Fth	1.28	291	ePN	Pn	10 18 42.2	-0.1
MAKR				eSN	Sn	10 18 59.4	0.0
MAKR	Makrakomi, Fth	1.28	291	ePn	Pn	10 18 42.2	-0.1
MAKR				S	Sn	10 18 59.4	0.0
KLV	Kalavryta, Ach	1.29	247	P	Pn	10 18 41.2	-1.3
KLV				S	Sg	10 19 00.0	-0.2
KLV	Kalavryta, Ach	1.29	247	ePN	Pn	10 18 41.4	-1.1
KLV				eSN	Sn	10 18 59.8	0.0
KLV	Kalavryta, Ach	1.29	247	ePn	Pn	10 18 41.4	-1.1
KLV				eSn	Sn	10 18 59.8	0.0
LAKA	Lakka	1.36	257	P	Pn	10 18 42.5	-0.9
LAKA	Lakka	1.36	257	ePN	Pn	10 18 43.0	-0.4
LAKA	Lakka	1.36	257	ePn	Pn	10 18 43.0	-0.4
PAIG	Paliouri	1.37	1	P	Pn	10 18 42.5	-1.0
PAIG	Paliouri	1.37	1	ePN	Pn	10 18 42.5	-1.0
PAIG	Paliouri	1.37	1	P	Pn	10 18 42.5	-1.0
EFP	Efpalio	1.38	265	P	Pn	10 18 42.5	-1.2
EFP				S	Sn	10 19 00.9	-1.0
EFP	Efpalio	1.38	265	ePN	Pn	10 18 42.7	-1.0
EFP	Efpalio	1.38	265	ePn	Pn	10 18 42.7	-1.0
EFP				S	Sn	10 19 00.9	-1.0
EVR	Evrytania	1.49	285	P	Pn	10 18 45.3	0.0
EVR				S	Sb	10 19 05.1	-0.1
EVR	Evrytania	1.49	285	ePN	Pn	10 18 45.1	-0.2
EVR	Evrytania	1.49	285	ePn	Pn	10 18 45.1	-0.2
EVR				S	Sb	10 19 05.1	-0.1
VLX	Vlachokerasia	1.56	221	P	Pn	10 18 46.5	+0.2
VLX				S	Sb	10 19 06.6	-0.5
VLX	Vlachokerasia	1.56	221	ePN	Pn	10 18 46.4	+0.2
VLX	Vlachokerasia	1.56	221	ePn	Pn	10 18 46.4	+0.2
VLX				S	Sb	10 19 06.6	-0.5
THL	Klokotos Trika	1.63	309	P	Pn	10 18 46.7	-0.4
THL				S	Sn	10 19 07.5	-0.5
THL	Klokotos Trika	1.63	309	ePN	Pn	10 18 46.7	-0.4
THL	Klokotos Trika	1.63	309	ePn	Pn	10 18 46.7	-0.4
THL				S	Sn	10 19 07.5	-0.5
LIA	Limnos Island	1.79	41	P	Pn	10 18 48.1	-1.2
LIA				S	Sn	10 19 10.6	-1.4
LIA	Limnos Island	1.79	41	ePB	Pn	10 18 48.2	-1.1
LIA	Limnos Island	1.79	41	P	Pn	10 18 48.1	-1.2
LIA				S	Sn	10 19 10.6	-1.4
LIT	Litokhoron	1.79	330	P	Pn	10 18 48.7	-0.6
LIT	Litokhoron	1.79	330	ePN	Pn	10 18 48.7	-0.6
LIT	Litokhoron	1.79	330	P	Pn	10 18 48.7	-0.6
OUR	Ouranopolis	1.79	8	P	Pn	10 18 48.6	-0.7
OUR	Ouranopolis	1.79	8	ePN	Pn	10 18 48.6	-0.7
OUR	Ouranopolis	1.79	8	P	Pn	10 18 48.7	-0.7
OUR	Ouranopolis	1.79	8	ePn	Pn	10 18 48.7	-0.7
RLS	Riolos of Patr	1.79	255	P	Pn	10 18 49.7	+0.4
RLS				S	Sn	10 19 11.8	-0.3
RLS	Riolos of Patr	1.79	255	ePN	Pn	10 18 49.8	+0.4
RLS	Riolos of Patr	1.79	255	P	Pn	10 18 49.7	+0.4
RLS				S	Sn	10 19 11.8	-0.3
SIGR	SIGRI	1.84	68	P	Pn	10 18 49.0	-0.9
SIGR				S	Sn	10 19 13.0	-0.1
SIGR	SIGRI	1.84	68	ePN	Pn	10 18 48.7	-1.3
SIGR	SIGRI	1.84	68	ePB	Pn	10 18 48.8	-1.1
SIGR	SIGRI	1.84	68	ePn	Pn	10 18 48.7	-1.3
SIGR	SIGRI	1.84	68	P	Pn	10 18 49.0	-0.9
SIGR				S	Sn	10 19 13.0	-0.1
CHOS	Chios island	1.89	94	P	Pn	10 18 50.5	-0.3
CHOS	Chios island	1.89	94	ePN	Pn	10 18 50.9	+0.1
CHOS	Chios island	1.89	94	ePN	Pn	10 18 50.4	-0.3
CHOS	Chios island	1.89	94	P	Pn	10 18 50.5	-0.3
VLI	Veliai	1.92	198	P	Pn	10 18 50.6	-0.6
VLI				S	Sn	10 19 16.0	+0.7
VLI	Veliai	1.92	198	ePB	Pn	10 18 50.6	-0.6
VLI	Veliai	1.92	198	P	Pn	10 18 50.6	-0.6
VLI				S	Sn	10 19 16.0	+0.7
ITM	Ithomi	1.94	225	P	Pn	10 18 52.0	+0.6
ITM	Ithomi	1.94	225	ePN	Pn	10 18 52.2	+0.8
ITM	Ithomi	1.94	225	P	Pn	10 18 52.0	+0.6
HORT	Hortiatis	2.08	348	P	Pn	10 18 53.0	-0.5
HORT				S	Sn	10 19 18.6	-0.8
HORT	Hortiatis	2.08	348	ePN	Pn	10 18 52.8	-0.7
HORT	Hortiatis	2.08	348	P	Pn	10 18 53.0	-0.5
HORT				S	Sn	10 19 18.6	-0.8
APE	Apeiranthos	2.10	134	P	Pn	10 18 53.2	-0.4
APE	Apeiranthos	2.10	134	ePN	Pn	10 18 54.5	+0.9
APE	Apeiranthos	2.10	134	ePN	Pn	10 18 53.4	-0.2
APE	Apeiranthos	2.10	134	⇑iP	Pn	10 18 53.4	-0.2
APE	Apeiranthos	2.10	134	ePn	Pn	10 18 53.4	-0.2
THE	Thessaloniki	2.14	346	P	Pn	10 18 53.4	-0.7
THE	Thessaloniki	2.14	346	ePN	Pn	10 18 53.3	-0.8
THE	Thessaloniki	2.14	346	P	Pn	10 18 53.4	-0.7
PRK	Paraskevi	2.15	71	P	Pn	10 18 53.6	-0.7
PRK	Paraskevi	2.15	71	ePN	Pn	10 18 53.4	-0.9
PRK	Paraskevi	2.15	71	P	Pn	10 18 53.6	-0.7
PYL	PYLOS	2.25	223	ePB	Pn	10 18 56.1	+0.5
PYL	PYLOS	2.25	223	ePb	Pn	10 18 56.1	+0.5
MEV	Metsovon	2.25	304	P	Pn	10 18 56.0	+0.2
SOH	Sokhos	2.27	354	P	Pn	10 18 55.5	-0.6
SOH	Sokhos	2.27	354	ePB	Pn	10 18 55.8	-0.3
SOH	Sokhos	2.27	354	P	Pn	10 18 55.5	-0.6
SOH	Sokhos	2.27	354	ePb	Pn	10 18 55.8	-0.3
KZN	Kozani	2.28	321	P	Pn	10 18 56.0	-0.1
KZN	Kozani	2.28	321	ePB	Pn	10 18 56.2	+0.1
KZN	Kozani	2.28	321	P	Pn	10 18 56.0	-0.1
KFL	Anninata	2.30	260	P	Pn	10 18 56.8	+0.4
KFL	Anninata	2.30	260	P	Pn	10 18 56.8	+0.4
URLA	Izmir	2.31	94	iP	Pn	10 18 49.8	-6.8
URLA				iS	Sg	10 19 32.8	-0.2
KYTH	Kithira	2.33	192	P	Pn	10 18 56.4	-0.3
KYTH	Kithira	2.33	192	P	Pn	10 18 56.4	-0.3
LKD2	Lefkada island	2.36	277	ePB	Pn	10 18 58.4	+1.2
LKD2	Lefkada island	2.36	277	ePb	Pn	10 18 58.4	+1.2
SMTH	Samothraki Isl	2.40	37	ePN	Pn	10 18 56.6	-1.1
SMTH	Samothraki Isl	2.40	37	ePn	Pn	10 18 56.6	-1.1
EZN	Ezine	2.43	58	ePN	Pn	10 18 56.9	-1.2
EZN	Ezine	2.43	58	ePn	Pn	10 18 56.9	-1.2
VLS	Valsamata	2.44	262	ePB	Pn	10 18 59.5	+1.2
VLS	Valsamata	2.44	262	ePb	Pn	10 18 59.5	+1.2
JAN	Janina	2.44	298	ePB	Pn	10 18 58.8	+0.4
JAN	Janina	2.44	298	ePb	Pn	10 18 58.8	+0.4
AYVA	Ayvalik	2.48	71	iP	Pn	10 18 58.2	-0.6
AYVA	Ayvalik	2.48	71	iP	Pn	10 18 58.2	-0.6
AYVA				iS	Sg	10 19 42.6	+4.3
KAVA	Kavala	2.52	15	P	Pn	10 18 58.0	-1.4
KAVA	Kavala	2.52	15	ePN	Pn	10 18 58.6	-0.8
KAVA	Kavala	2.52	15	P	Pn	10 18 58.0	-1.4
KAVA	Kavala	2.52	15	ePn	Pn	10 18 58.6	-0.8
SRS	Serrai	2.56	359	P	Pn	10 18 59.3	-0.6
SRS	Serrai	2.56	359	ePN	Pn	10 18 59.2	-0.6
SRS	Serrai	2.56	359	P	Pn	10 18 59.3	-0.6
SANT	Santorini	2.61	146	P	Pn	10 19 00.5	-0.2
SANT	Santorini	2.61	146	ePN	Pb	10 19 03.0	-2.3
SANT				eSN	Sn	10 19 33.2	+0.9
SANT	Santorini	2.61	146	P	Pn	10 19 00.5	-0.2
SANT	Santorini	2.61	146	ePn	Pb	10 19 03.0	-2.3
SANT				eSn	Sn	10 19 33.3	+0.9
SMG	Samos	2.65	108	ePN	Pn	10 19 01.0	-0.1
SMG	Samos	2.65	108	ePn	Pn	10 19 01.0	-0.1
BLCB	Balcova	2.66	93	ePN	Pn	10 19 01.4	+0.1
BLCB	Balcova	2.66	93	ePn	Pn	10 19 01.4	+0.1
KNT	Kendrikon	2.67	348	P	Pn	10 19 01.4	0.0
KNT	Kendrikon	2.67	348	ePN	Pn	10 19 01.5	0.0
KNT	Kendrikon	2.67	348	P	Pn	10 19 01.4	0.0
ANKY	Antikythira Is	2.70	186	P	Pn	10 19 01.2	-0.6
ANKY	Antikythira Is	2.70	186	P	Pn	10 19 01.2	-0.6
NEST	Nestorio	2.74	313	P	Pn	10 19 03.2	+0.7
NEST	Nestorio	2.74	313	ePN	Pn	10 19 02.9	+0.4
NEST	Nestorio	2.74	313	P	Pn	10 19 02.9	+0.4
IGT	Igoumenitsa	2.77	292	ePB	Pn	10 19 03.9	+1.1
IGT	Igoumenitsa	2.77	292	ePb	Pn	10 19 03.9	+1.1
NVR	Nevrokopi	2.79	3	P	Pn	10 19 02.2	-1.0
NVR	Nevrokopi	2.79	3	ePN	Pn	10 19 02.4	-0.8
NVR	Nevrokopi	2.79	3	ePn	Pn	10 19 02.4	-0.8
FNA	Florina	2.84	322	P	Pn	10 19 04.1	+0.3
FNA	Florina	2.84	322	ePN	Pn	10 19 04.1	+0.3
FNA	Florina	2.84	322	P	Pn	10 19 04.1	+0.3
GELI	Tayfur-Gelibol	2.85	49	ePN	Pn	10 19 03.8	-0.1
GELI	Tayfur-Gelibol	2.85	49	ePn	Pn	10 19 03.8	-0.1
VAY	Valandovo	2.88	344	P	Pn	10 19 04.1	-0.3
VAY	Valandovo	2.88	344	ePN	Pn	10 19 03.7	-0.7
VAY	Valandovo	2.88	344	ePn	Pn	10 19 03.7	-0.7
VAY	Valandovo	2.88	344	P	Pn	10 19 04.1	-0.3
RDO	Rodhopi	2.96	29	ePN	Pn	10 19 04.8	-0.7
RDO	Rodhopi	2.96	29	ePn	Pn	10 19 04.8	-0.7
ALN	Alexandroupoli	2.98	37	P	Pn	10 19 04.1	-1.5
ALN	Alexandroupoli	2.98	37	ePN	Pn	10 19 05.0	-0.7
ALN	Alexandroupoli	2.98	37	ePN	Pn	10 19 04.2	-1.4
ALN	Alexandroupoli	2.98	37	ePn	Pn	10 19 04.2	-1.4
LPK	Lapseki	3.01	52	ePN	Pn	10 19 05.3	-0.8
LPK	Lapseki	3.01	52	ePn	Pn	10 19 05.3	-0.8
MMB	Musomiste	3.03	1	iP	Pn	10 19 05.8	-0.6
MMB	Musomiste	3.03	1	⇓iP	Pn	10 19 05.5	-0.9
MMB	Musomiste	3.03	1	⇓iP	Pn	10 19 05.5	-0.9
BIA	Bitola	3.05	325	ePn	Pn	10 19 07.0	+0.4
BIA	Bitola	3.05	325	ePn	Pn	10 19 07.0	+0.4
VAM	Vamos	3.17	172	ePN	Pn	10 19 08.5	+0.1
VAM	Vamos	3.17	172	ePn	Pn	10 19 08.5	+0.1
RZN	Rozhen	3.23	14	eP	Pn	10 19 08.8	-0.5
RZN	Rozhen	3.23	14	eP	Pn	10 19 08.8	-0.5
BODT	Bodrum	3.25	116	ePN	Pn	10 19 10.7	+1.2
BODT	Bodrum	3.25	116	ePn	Pn	10 19 10.7	+1.2
AKHS	Akhisar	3.27	83	iP	Pn	10 19 09.9	+0.2
AKHS	Akhisar	3.27	83	iP	Pn	10 19 09.9	+0.2
AKHS				iS	Sg	10 20 08.4	+5.0
AKS	Akhisar	3.27	83	ePN	Pn	10 19 09.7	+0.1
AKS	Akhisar	3.27	83	ePn	Pn	10 19 09.7	+0.1
KKB	Krupnik	3.33	353	iP	Pn	10 19 10.3	-0.3
KKB	Krupnik	3.33	353	iP	Pn	10 19 10.3	-0.3
BDRM	Kayabasi	3.35	115	iP	Pn	10 19 10.8	0.0
BDRM	Kayabasi	3.35	115	iP	Pn	10 19 10.8	0.0
BDRM				iS	Sg	10 20 06.7	+0.6
KRBG	Karabiga-Canak	3.36	56	ePN	Pn	10 19 10.5	-0.4
KRBG	Karabiga-Canak	3.36	56	ePn	Pn	10 19 10.5	-0.4
KDZ	Kurdzhali	3.37	23	iP	Pn	10 19 09.6	-1.5
KDZ	Kurdzhali	3.37	23	⇑iP	Pn	10 19 09.8	-1.3
KDZ	Kurdzhali	3.37	23	iP	Pn	10 19 09.6	-1.5
AYDB	Zeytinkoy-Aydi	3.39	99	ePN	Pn	10 19 12.0	+0.6
AYDB	Zeytinkoy-Aydi	3.39	99	ePn	Pn	10 19 12.0	+0.6
IDI	Anoyia	3.41	163	Pn	Pn	10 19 11.3	-0.4
	9.7nm,0.3s,baz=331,slow=12,SNR=23						
IDI				Sn	Sn	10 19 49.4	-2.7
	12nm,0.3s,baz=22,slow=20,SNR=4.1						
IDI				LR	LR	10 20 37.3	
	comp=Z,147nm,21.1s,baz=70,slow=42						
RKY	Sarkoy-Tekirda	3.45	51	ePN	Pn	10 19 12.0	-0.2
RKY	Sarkoy-Tekirda	3.45	51	ePn	Pn	10 19 12.0	-0.2
BALB	Balikesir	3.46	70	ePN	Pn	10 19 12.5	+0.2
BALB	Balikesir	3.46	70	ePn	Pn	10 19 12.5	+0.2
PLD	Plovdiv	3.63	12	eP	Pn	10 19 15.3	+0.6
PLD	Plovdiv	3.63	12	eP	Pn	10 19 15.3	+0.6
MRMT	Marmara Adasi	3.67	55	ePN	Pn	10 19 14.9	-0.3
MRMT	Marmara Adasi	3.67	55	ePn	Pn	10 19 14.9	-0.3
EDC	Edincik	3.71	60	ePN	Pn	10 19 15.7	-0.1
EDC	Edincik	3.71	60	ePn	Pn	10 19 15.7	-0.1
DIM	Dimitrovgrad	3.77	22	eP	Pn	10 19 16.3	-0.3
DIM	Dimitrovgrad	3.77	22	eP	Pn	10 19 16.3	-0.3
MANT	Manisa	3.84	89	iP	Pn	10 19 16.7	-1.1
MANT	Manisa	3.84	89	iP	Pn	10 19 16.7	-1.1
MANT				iS	Sg	10 20 23.1	+1.1
KULA	Kula-Manisa	3.92	89	ePN	Pn	10 19 18.2	-0.5
KULA	Kula-Manisa	3.92	89	ePn	Pn	10 19 18.2	-0.5
YER	Yerkesik	3.93	110	PN	Pn	10 19 19.8	+1.0
YER	Yerkesik	3.93	110	iPn	Pn	10 19 19.8	+1.0
VTS	Vitosha	4.04	355	ePN	Pn	10 19 20.4	-0.1
VTS	Vitosha	4.04	355	iP	Pn	10 19 21.6	+1.1
VTS	Vitosha	4.04	355	⇑iP	Pn	10 19 20.8	+0.3
VTS	Vitosha	4.04	355	ePn	Pn	10 19 20.4	-0.1
VTS	Vitosha	4.04	355	⇑iP	Pn	10 19 20.8	+0.3
EDRB	Edirne	4.05	35	ePN	Pn	10 19 22.1	+1.7
EDRB	Edirne	4.05	35	ePn	Pn	10 19 22.1	+1.7
CRLT	Corlu	4.06	49	ePN	Pn	10 19 19.8	-0.7
CRLT	Corlu	4.06	49	ePn	Pn	10 19 19.8	-0.7
BARS	Barje	4.48	342	⇑iPn	Pn	10 19 26.7	+0.4
JMB	Yambol	4.50	29	eP	Pn	10 19 28.1	+1.6
JMB	Yambol	4.50	29	⇓iP	Pn	10 19 26.3	-0.2
JMB	Yambol	4.50	29	⇓iP	Pn	10 19 26.3	-0.2
MPEP	Malo Peshtene	4.79	1	iP	Pn	10 19 31.2	+0.6
GOLH	Golhisar	4.85	104	iP	Pn	10 19 29.8	-1.7
GOLH	Golhisar	4.85	104	iP	Pn	10 19 29.8	-1.7
SZH	Strazhica	5.01	19	eP	Pn	10 19 34.4	+0.8
SZH	Strazhica	5.01	19	eP	Pn	10 19 34.4	+0.8
BOLS	Boljevac	5.42	347	ePn	Pn	10 19 37.4	-1.8
ISP	Isparta	5.46	96	⇑iP	Pn	10 19 39.7	-0.2
ISP	Isparta	5.46	96	⇑iP	Pn	10 19 39.7	-0.2
IVAS	Ivanjica	5.67	333	ePn	Pn	10 19 42.0	-0.7
SEYT	Eskypehyr	5.68	78	iP	Pn	10 19 43.5	+0.6

SEYT Eskypehyr 5.68 78 *i* P Pn 10 19 43.5 +0.6
SEYT *i* S Sb 10 21 01.0 -4.8
GRUS Gruza 5.77 338 *e*Pn Pn 10 19 45.3 +1.3
TRUS Trudelj 6.17 338 *e*Pn Pn 10 19 51.0 +1.5
DIVS Divibare 6.18 335 *e*Pn Pn 10 19 51.6 +1.8
STON Ston 6.25 315 *e*Pn Pn 10 19 51.3 +0.8
STON Sn Sn 10 20 56.7 -5.2
ARR Arges 6.84 6⇑*i*P Pn 10 19 58.8 0.0
ARR Arges 6.84 6⇑*i*P Pn 10 19 58.8 0.0
GZR Gura Zlata 6.86 355⇓*i*P Pn 10 19 59.9 +0.8
GZR Gura Zlata 6.86 355⇓*i*P Pn 10 19 59.9 +0.8
LOT Lotru 6.89 1⇑*i*P Pn 10 19 59.9 +0.4
LOT Lotru 6.89 1⇑*i*P Pn 10 19 59.9 +0.4
VOIR 6.95 8⇓*i*P Pn 10 20 00.4 +0.1
VOIR 6.95 8⇓*i*P Pn 10 20 00.4 +0.1
MLR Muntele Rosu 7.13 13⇑*i*P Pn 10 20 04.7 +1.8
MLR Muntele Rosu 7.13 13 Pn Pn 10 20 04.5 +1.7
0.1nm,0.3s,baz=180,slow=13,SNR=4.9
MLR Sn Sn 10 21 22.6 -1.4
baz=112,slow=19,SNR=1.4
MLR Muntele Rosu 7.13 13⇑*i*P Pn 10 20 04.7 +1.8
BZS Buzias 7.22 349⇓*i*P Pn 10 20 03.2 -0.7
BZS Buzias 7.22 349⇓*i*P Pn 10 20 03.2 -0.7
DOPR Dopca 7.52 9⇓*i*P Pn 10 20 11.2 +3.2
PLOR Plostina 7.62 16⇑*i*P Pn 10 20 11.2 +1.7
PLOR Plostina 7.62 16⇑*i*P Pn 10 20 11.2 +1.7
VRI Vrincioaia 7.65 16⇑*i*P Pn 10 20 11.6 +1.7
VRI Vrincioaia 7.65 16⇑*i*P Pn 10 20 11.6 +1.7
BRTR Keskin Array B 7.84 78 Pn Pn 10 20 14.0 +1.3
0.5nm,0.3s,baz=256,slow=13,SNR=22
DRGR 8.26 355⇑*i*P Pn 10 20 18.2 -0.1
DRGR 8.26 355⇑*i*P Pn 10 20 18.2 -0.1
BURAR Bucovina Array 9.12 7⇓*i*P Pn 10 20 30.9 +0.8
BURAR Bucovina Array 9.12 7⇓*i*P Pn 10 20 30.9 +0.8
ESDC Sonseca Array 21.43 282 P P 10 23 07.2 +0.6
0.3nm,0.4s,baz=79,slow=11,SNR=7.0
HFS Hagfors 22.50 347 P P 10 23 18.5 +0.7
1.1nm,0.6s,baz=153,slow=10.0,SNR=6.2
FINES FINESS Array B 22.96 3 P P 10 23 24.6 +2.0
4.7nm,1.1s,baz=181,slow=8.8,SNR=5.5
MDT Midelt 23.61 265 P P 10 23 29.3 -0.3
1.6nm,0.7s,baz=97,slow=8.1,SNR=3.1
NB2 NORSAR Subarra 23.81 345 P P 10 23 33.1 +1.9
comp=Z,2.2nm,0.8s,baz=149,slow=10
NB2 NORSAR Subarra 23.81 345 P P 10 23 33.1 +1.9
comp=Z,2.2nm,0.8s,SNR=4.6
NOA NORSAR Array B 23.81 345 P P 10 23 31.7 +0.5
comp=Z,0.9nm,0.8s,baz=152,slow=9.6,SNR=5.0
EKA Eskdalemuir Ar 24.60 322 P P 10 23 38.3 -0.2
comp=Z,0.5nm,0.5s,baz=115,slow=9.3,SNR=4.6
TORD Torodi Ar. Bea 31.94 224 P P 10 24 44.1 -0.2
comp=Z,1.3nm,0.6s,baz=36,slow=8.9,SNR=8.5
MKAR Makanchi Array 42.99 59 P P 10 26 18.2 +0.5
comp=Z,0.4nm,0.6s,baz=274,slow=8.0,SNR=5.7
ZALV Zalesovo Beam 43.60 49 P P 10 26 21.9 -0.5
comp=Z,0.8nm,0.6s,baz=280,slow=8.9,SNR=3.9
SCHQ Schefferville 59.84 318 P P 10 28 24.1 +0.3
comp=Z,1.3nm,0.5s,baz=51,slow=3.8,SNR=7.5
YKA Yellowknife Ar 73.85 341 P P 10 29 55.2 +2.4
comp=Z,0.2nm,0.7s,baz=33,slow=5.3,SNR=2.5
ASAR Alice Springs 119.77 98 PKP PKPdf 10 37 07.2 -1.8
comp=Z,0.3nm,0.9s,baz=272,slow=1.5,SNR=1.8

BJI **07** *10:18:46.8, 0.°94N×123.°49E, h39km, mB5.0/5, mb4.5/11*
ISCJB **07** *10:18:50.4±0.4, 1.°66N±0.°04×123.°32E±0.°07, h32km, mb4.0/12, MS3.1/1, Error ellipse: s-maj=10.3km s-min=6.0km az=169.7*
DJA **07** *10:18:58.5±0.5, 1.°N±5.°×12.°3E±.°, h10km, M4.8/14, mb5.1/10, mB5.2/8, MLv4.8/14, Mw(mB)4.6/8*
IDC **07** *10:18:59.2±8.1, 1.°37N×123.°01E, h103km±77km, mb3.7/12, mb1 3.8/12, mb1mx3.6/36, mbtmp4.0/12, MS3.1/2, Ms1 3.1/2, ms1mx2.6/30, Error ellipse: s-maj=28.7km s-min=16.6km az=63.0*
ISC 07 10:18:52.1±0.6, 1.°64N±0.°08×123.°31E±0.°09, h32km, n44, σ1.°26/36, mb4.1/12, Minahassa Peninsula, Sulawesi

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
GTOI Gorontalo 1.04 197 P Pn 10 19 04.3 -6.1
KMSI Cibinong 1.25 147 P Pn 10 19 13.2 -0.2
MRSI Marisa 1.79 230 P Pn 10 19 15.9 -4.9
LUWI Luwuk 2.71 191 P Pn 10 19 34.1 +0.6
APSI Ampana 3.03 213 P Pn 10 19 37.6 -0.2
SANI Sanana 4.54 144 P Pn 10 20 02.8 +4.2
TTSI Tana Toraja 5.81 217 P Pn 10 20 16.1 0.0
629nm,0.8s,4μm1.9nm
NLAI Namlea 6.15 142 P Pn 10 20 27.4 +6.6
103nm,1.0s,2μm0.5nm
SPSI Sidrap Palu 6.59 212 P Pn 10 20 29.0 +2.1
192nm,1.0s,2μm0.6nm
BNSI Bone 6.80 208 P Pn 10 20 31.9 +2.2
409nm,1.0s,3μm1.1nm
BKSI Bulukumba 7.61 205 P Pn 10 20 43.4 +2.6
106nm,1.1s,762nm0.3nm
SOEI Soe 11.36 175 P Pn 10 21 41.3 +8.9
BLJI Banyuglugur 13.44 226 P Pn 10 22 01.8 +1.0
166nm,0.6s,10μm
KDU Kakadu 16.89 148 P Pn 10 22 39.6 -6.6
baz=17,SNR=4.5
JAY Jayapura 17.88 103 LR LR 10 31 27.3
comp=Z,34nm,19.2s,baz=110,slow=41
KNRA Kununurra 18.03 163 P Pn 10 22 60.0 -0.4
baz=18,SNR=6.5
PMBI Palembang 19.08 256 P Pn 10 23 22.0 +8.9
PDSI Padang 22.98 264 P P 10 23 55.9 +1.5
WRA Warramunga Arr 24.02 154 P P 10 24 03.7 -0.7
4.1nm,0.7s,baz=336,slow=9.5,SNR=58
WRA LR LR 10 35 15.5
comp=Z,64nm,18.5s,baz=355,slow=41
PSI Prapat 24.39 273 P P 10 24 05.5 -2.5
2.6nm,0.5s,baz=87,slow=12,SNR=4.9
WRKA Warakurna 26.95 170 P P 10 24 28.9 -2.0
baz=27,SNR=8.3
ASAR Alice Springs 27.18 158 P P 10 24 31.9 -1.1
1.1nm,0.7s,baz=346,slow=14,SNR=14
MEEK Meekatharra 28.47 189 P P 10 24 40.9 -3.6
baz=29,SNR=7.5
KSRS Korea Array 35.90 6 P P 10 25 51.5 +2.2
0.5nm,0.5s,baz=191,slow=10,SNR=3.1
STKA Stephens Creek 37.57 154 P P 10 26 03.8 +0.1
0.8nm,0.5s,baz=331,slow=7.8,SNR=4.1
STKA Stephens Creek 37.57 154 P P 10 26 04.5 +0.8
baz=38,SNR=3.8
HTT Hallett 37.86 158 P P 10 26 05.9 -0.2
baz=38,SNR=4.2
ODAN Odare 42.61 309 *e*P P 10 26 46.0 +0.1
8.5nm,0.6s
TAPN Taplejung 42.62 310 *e*P P 10 26 45.8 -0.2
RAMN Ramite 43.27 309 *e*P P 10 26 51.4 +0.1
21nm,0.9s
JIRN Jiri 43.94 310 *e*P P 10 26 57.0 +0.2
12nm,0.8s
GUN Gumba 44.30 310 *e*P P 10 26 59.9 +0.2
19nm,0.9s
DMN Daman 44.75 309 *e*P P 10 27 02.4 -0.8
GKN Gorkha 45.30 309 *e*P P 10 27 07.5 +0.1
KOLN Koldanda 46.01 308 *e*P P 10 27 12.8 -0.3
25nm,0.8s
DANN Dangsing 46.15 309 *e*P P 10 27 14.1 -0.2
28nm,0.8s
PYUN Piuthan 46.64 308 *e*P P 10 27 18.0 0.0
MKAR Makanchi Array 57.40 328 P P 10 28 38.2 +0.6
1.8nm,0.6s,baz=127,slow=8.1,SNR=21
MKAR PcP PcP 10 29 30.4 -0.8
1.4nm,0.7s,baz=116,slow=5.5,SNR=5.3
PETK Petropavlovsk- 58.67 23 P P 10 28 48.8 +2.4
4.7nm,0.7s,baz=200,slow=7.9,SNR=5.4
ZALV Zalesovo Beam 60.96 335 P P 10 29 01.9 -0.1
1.4nm,0.6s,baz=114,slow=6.6,SNR=9.2
AKTO Aktyubinsk 73.20 323 P P 10 30 19.6 -0.3
2.0nm,0.8s,baz=137,slow=7.5,SNR=8.9
ILAR Eielson Array 88.45 25 P P 10 31 40.6 -0.3
0.2nm,0.7s,baz=250,slow=5.8,SNR=3.6
AKASG Malin Array Be 91.34 321 P P 10 31 52.5 -2.2
0.1nm,0.3s,baz=71,slow=3.4,SNR=4.2
FINES FINESS Array B 92.04 332 P P 10 31 56.3 -1.5
3.9nm,1.2s,baz=132,slow=2.1,SNR=2.5

IDC 07 10:23:35.3±2.6, 6.°36S×129.°62E, h0km, mb3.7/2, mb1 4.1/4, mb1mx3.6/29, mbtmp3.9/4, ML4.2/2, Error ellipse: s-maj=314.5km s-min=25.8km az=66.0, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
WRA Warramunga Arr 14.26 162 Pn Pn 10 27 00.5 +1.7
0.8nm,0.3s,baz=329,slow=13,SNR=12
WRA Sn Sn 10 29 23.3 -15
1.2nm,0.3s,baz=334,slow=22,SNR=10
ASAR Alice Springs 17.70 167 P P 10 27 44.0 -0.5
1.2nm,0.3s,baz=337,slow=11,SNR=61
ASAR Sn Sn 10 30 45.8 -16
0.7nm,0.3s,baz=152,slow=20,SNR=9.5
STKA Stephens Creek 27.75 158 P P 10 29 24.8 -1.0
0.7nm,0.4s,baz=325,slow=12,SNR=3.0
MKAR Makanchi Array 67.48 327 P P 10 34 33.3 +0.1
0.2nm,0.6s,baz=122,slow=7.6,SNR=3.7

ISCJB **07** *10:32:02.0±1.0, 14.°12N±0.°10×92.°21W±0.°07, h84km±25km, Error ellipse: s-maj=18.5km s-min=6.2km az=29.9*
CASC **07** *10:32:06.8±1.4, 14.°14N×91.°96W, h58km±20km, MD3.9, ML3.5*
MEX **07** *10:32:10.7±0.4, 14.°48N×92.°66W, h14km±20km, MD4.0*
ISC 07 10:32:01.1±1.5, 14.°1N±0.°1×92.°33W±0.°06, h63km±32km, n13, σ2.°27/21, 1C-1D, Near coast of Chiapas

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
JAT Jato 0.71 72⇑*e*P Pn 10 32 17.5 +2.0
PCG Pacaya 1.69 80⇓*e*P Pn 10 32 30.3 +1.6
PCG *e*S Sn 10 32 48.5 -1.1
PCIG 1.81 332 *i* P Pn 10 32 31.2 +1.2
PCIG *i* S Sn 10 32 47.2 -4.7
CCIG Comitan 2.17 5 *e*P Pn 10 32 38.9 +3.8
CCIG *i* S Sn 10 33 01.8 +0.8
RBDL Robledal 2.56 89 *e*P Pn 10 32 42.3 +1.8
RTR El Retiro 2.61 94 *e*P Pn 10 32 42.1 +1.0
SBLS San Blas 2.64 95 *e*P Pn 10 32 42.7 +1.2
SBLS *e*S Sn 10 33 10.7 -1.9
SNJE San Jose 2.66 95 *e*P Pn 10 32 43.2 +1.5
SNJE *e*S Sn 10 33 10.5 -2.4
MRL Marmol 2.73 69 *e*P Pn 10 32 44.1 +1.4
BOQS Boqueron 2.98 97 *e*P Pn 10 32 47.6 +1.3
BOQS *e*S Sn 10 33 19.5 -1.5
SNET Serv Nac Est T 3.04 97 *e*P Pn 10 32 47.8 +0.9
SNET *e*S Sn 10 33 19.9 -2.2
SNET AML AML 10 33 26.4
comp=Z,270nm,0.2s
CMIG Matias Romero 3.86 321 *i* P Pn 10 33 00.5 +2.6
CMIG *i* S Sn 10 33 39.2 -2.9
HUIG Huatulco 4.01 295 *i* P Pn 10 33 02.6 +2.6
HUIG *i* S Sn 10 33 43.5 -2.3

ISCJB **07** *10:32:46.9±0.5, 41.°24N±0.°05×138.°6E±0.°1, h243km±7km, mb3.2/6, Error ellipse: s-maj=13.2km s-min=6.6km az=26.4*
JMA **07** *10:32:47.5±0.2, 41.°19N×138.°61E, h244km±20km, M3.3*
IDC **07** *10:32:50.5±5.1, 41.°60N×138.°41E, h241km±21km, mb3.0/6, mb1 3.2/8, mb1mx2.9/32, mbtmp3.7/8, Error ellipse: s-maj=88.3km s-min=17.4km az=172.0*
ISC 07 10:32:47.8±0.9, 41.°22N±0.°06×138.°57E±0.°07, h238km±9km, n26, σ0.°95/36, mb3.4/6, Eastern Sea of Japan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
JIW Iwasaki 1.26 120 P Pn 10 33 23.4 +0.2
JIW *e*S S 10 33 51.2 +0.3
JSR Shiriuchi 1.42 77 P Pn 10 33 24.7 +0.4
JOT Ohata 1.87 84 P Pn 10 33 28.2 +0.2
JAH Hinai 1.88 123 P Pn 10 33 28.3 +0.1
JTM Tenmabayashi 1.94 102 P Pn 10 33 28.8 +0.1
JTM S S 10 34 00.7 0.0
JANG Nango 2.39 110 P Pn 10 33 32.7 -0.4
JRG Rokugo 2.41 139 P Pn 10 33 33.3 0.0
JRG *e*S S 10 34 09.2 +0.2
JYK Kaneyama 2.68 149 P Pn 10 33 35.9 -0.2
JYK *e*S S 10 34 14.4 +0.3
JOM Ohasama 2.72 129 P Pn 10 33 36.3 -0.2
JMK Ichinoseki 3.05 137 P Pn 10 33 39.4 -0.7
JSD Sado 3.19 184 P Pn 10 33 41.5 -0.2
JOU Okura 3.28 150 P Pn 10 33 42.5 -0.2
JNBK Urakawa-nobuka 3.30 70 P Pn 10 33 43.5 +0.7
JNBK *e*S S 10 34 25.7 -0.6
JHR Hokuryu 3.43 42 P Pn 10 33 45.9 +1.6
JFR Furan 3.56 56 P Pn 10 33 46.0 +0.2
JFR *e*S S 10 34 31.3 -0.4
JCH Churui 3.83 67 P Pn 10 33 49.2 +0.2
JCH *e*S S 10 34 35.0 -2.4
JKK2 Kamakawa 2 4.07 48 P Pn 10 33 52.3 +0.5
JKK2 *e*S S 10 34 41.6 -0.8
ASAJ Asahikawa 4.14 44 P Pn 10 33 53.4 +0.7
7.0nm,0.3s,baz=233,slow=11,SNR=120
ASAJ S S 10 34 43.6 -0.5
1.1nm,0.3s,baz=220,slow=28,SNR=7.3
JAR Ashorobuto 4.38 60 P Pn 10 33 55.1 -0.4
JAR *e*S S 10 34 45.7 -3.5
USRK Ussuriysk Arra 5.69 304 P Pn 10 34 11.2 -0.4
0.1nm,0.3s,baz=111,slow=12,SNR=14
ZALV Zalesovo Beam 37.52 308 P P 10 39 38.2 -0.5
0.8nm,0.5s,baz=92,slow=8.7,SNR=5.1
MKAR Makanchi Array 40.12 298 P P 10 39 59.8 -0.5
0.1nm,0.6s,baz=81,slow=10,SNR=1.9
ILAR Eielson Array 47.21 34 P P 10 40 57.7 +1.2
0.2nm,0.6s,baz=270,slow=6.0,SNR=1.7
ARCES ARCESS Array B 59.30 338 P P 10 42 23.6 -0.5
4.0nm,1.0s,baz=36,slow=7.8,SNR=1.6
FINES FINESS Array B 64.08 330 P P 10 42 55.5 -0.5
1.2nm,0.6s,baz=53,slow=7.4,SNR=5.1
PDAR Pinedale Array 76.28 45 P P 10 44 11.7 +1.2
0.2nm,0.5s,baz=325,slow=5.5,SNR=1.8

NIED **07** *10:33:00, 37.°40N×137.°00E, h11km, Mw3.6 Best double couple: M0 2.76000×10^14 NP1:φs177.00000°, δ73.00000°, λ16.00000°. NP2:φs82.00000°, δ74.00000°, λ162.00000°.*
IDC **07** *10:33:51.5±1.8, 37.°40N×137.°11E, h0km, mb3.3/2, mb1 3.5/5, mb1mx3.3/34, mbtmp3.4/5, ML3.5/2, MS3.8/1, Ms1 3.8/1, ms1mx2.5/18, Error ellipse: s-maj=32.1km s-min=19.7km az=29.0*
ISCJB **07** *10:33:52.3±0.7, 37.°39N±0.°04×136.°91E±0.°05, h19km±7km, mb3.4/2, MS3.8/1, Error ellipse: s-maj=7.3km s-min=5.9km az=144.3*
JMA **07** *10:33:52.6, 37.°36N×136.°96E, h11km, M4.0 Broadband fault plane solution: P waves. NP1:φs86.0000°, δ89.00000°, λ-171.00000°. NP2:φs355.0000°, δ81.00000°, λ-1.00000°. Principal axes: T Plg6.0000°, Azm220.0000°; N Plg81.0000°, Azm90.0000°; P Plg7.0000°, Azm311.0000°;*
JMA Felt IV J1.
ISC 07 10:33:51.6±1.5, 37.°43N±0.°05×137.°02E±0.°04, h1km±12km, n11, σ1.°35/16, 2C-1D, Near west coast of eastern Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
JSZ Suzu 0.27 85 ⇑P Pb 10 33 59.3 0.0
JSZ S Sb 10 34 04.2 -0.2
JHG Hegura jima 0.43 349 ⇓P Pb 10 34 02.1 +0.1
JHG S Sb 10 34 09.0 +0.1
JJH Hakui 0.54 201 ⇑P Pg 10 34 01.7 -0.1
JJH S Sg 10 34 08.3 -0.5
MAT Matsushiro 1.30 133 P Pg 10 34 15.5 -0.9
MAT S Sb 10 34 33.5 -0.4
MJAR Matsushiro Arr 1.30 133 Pn Pg 10 34 16.4 -0.1
53nm,0.3s,baz=310,slow=17,SNR=171
MJAR Sn Sn 10 34 35.0 +0.1
110nm,0.3s,baz=300,slow=28,SNR=13
JNU Nakatsue 6.61 231 Pn Pn 10 35 32.3 +2.4
1.2nm,0.3s,baz=226,slow=0.5,SNR=14
KSRS Korea Array 7.24 273 Pn Pn 10 35 39.6 +1.1
0.6nm,0.3s,baz=89,slow=14,SNR=11
KSRS Sn Sn 10 36 58.4 -2.9
0.1nm,0.3s,baz=84,slow=27,SNR=2.3
USRK Ussuriysk Arra 7.77 332 Pn Pn 10 35 45.8 +0.1
0.1nm,0.3s,baz=147,slow=13,SNR=1.6
MKAR Makanchi Array 40.93 301 LR LR 10 58 50.8
comp=Z,127nm,19.4s,baz=340,slow=37
WRA Warramunga Arr 57.12 183 P P 10 43 37.9 -1.8
0.2nm,0.4s,baz=0.1,slow=7.7,SNR=0.9
ASAR Alice Springs 60.84 183 P P 10 44 06.8 +1.2
0.2nm,0.8s,baz=5.8,slow=7.3,SNR=1.6

IDC **07** *11:16:48.6±1.0, 3.°21S×123.°82E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.7/32, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=125.4km s-min=17.4km az=59.0*
ISCJB **07** *11:16:52.4±0.8, 3.°6S±0.°1×123.°1E±0.°2, h38km, mb4.0/5, Error ellipse: s-maj=30.4km s-min=11.2km az=148.4*
ISC 07 11:16:54.6±0.9, 3.°7S±0.°2×123.°1E±0.°3, h38km, n13, σ0.°88/15, mb4.1/5, Sulawesi

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
MTN Manton Dam 12.11 139 P Pn 11 19 46.3 +1.6
baz=12,SNR=3.9
WRA Warramunga Arr 19.56 147 P P 11 21 18.4 -0.9
0.2nm,0.3s,baz=330,slow=9.6,SNR=11
WRKA Warakurna 21.83 167 P P 11 21 43.6 -0.3
baz=22,SNR=10
ASAR Alice Springs 22.47 153 P P 11 21 50.9 +0.1
3.9nm,0.6s,baz=343,slow=15,SNR=30
ASAR PcP PcP 11 25 43.8 -0.5
0.3nm,0.7s,baz=332,slow=1.1,SNR=4.5
MEEK Meekatharra 23.23 190 P P 11 21 58.1 -0.5
baz=23,SNR=3.5
QIS Mount Isa 23.26 138 P P 11 21 58.0 -0.9
baz=23,SNR=5.8
BLDU Ballidu 27.47 192 P P 11 22 37.2 -0.1
baz=27,SNR=6.2
BBOO Buckleboo 31.44 159 P P 11 23 11.9 -0.5
baz=31,SNR=4.7
CMAR Chiang Mai Arr 32.38 314 P P 11 23 22.2 +1.3
2.1nm,0.7s,baz=140,slow=7.0,SNR=17
STKA Stephens Creek 33.02 150 P P 11 23 25.5 -0.9
1.9nm,0.6s,baz=311,slow=9.2,SNR=5.0
HTT Hallett 33.10 155 P P 11 23 27.3 +0.2
baz=33,SNR=4.5
MKAR Makanchi Array 61.77 329 P P 11 27 09.6 +0.1
0.4nm,0.6s,baz=130,slow=8.1,SNR=4.9
MKAR PcP PcP 11 27 49.9 -0.5
0.4nm,0.6s,baz=130,slow=3.6,SNR=4.1
ZALV Zalesovo Beam 65.67 336 P P 11 27 33.9 -1.1
2.3nm,0.9s,baz=138,slow=5.4,SNR=8.9

IDC **07** *11:26:09.2±1.8, 51.°09N×174.°64E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/47, mbtmp3.6/7, ML2.7/2, Error ellipse: s-maj=31.1km s-min=18.1km az=31.0*
ISC 07 11:26:14.7±1.6, 51.°2N±0.°2×174.°48E±0.°10, h35km, n7, σ0.°88/9, mb3.6/5, Near Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
FX1 Attu Island--F 1.85 335 Pn Pn 11 26 43.3 -0.7
6.0nm,0.3s,baz=171,slow=4.4,SNR=74
FX1 Sn Sn 11 27 07.0 +0.9
56nm,0.3s,baz=293,slow=18,SNR=9.3
PETK Petropavlovsk- 10.48 287 Pn Pn 11 28 42.9 +0.5
0.6nm,0.3s,baz=103,slow=18,SNR=27
PETK Sn Sn 11 30 37.2 -1.2
0.6nm,0.3s,baz=84,slow=15,SNR=7.6
ILAR Eielson Array 24.08 41 P P 11 31 25.4 -1.0
0.3nm,0.5s,baz=255,slow=7.8,SNR=7.2
INK Inuvik 30.04 36 P P 11 32 19.6 -0.2
0.4nm,0.4s,baz=269,slow=11,SNR=7.5
YKA Yellowknife Ar 38.37 45 P P 11 33 31.9 -0.1
0.7nm,0.8s,baz=287,slow=8.4,SNR=9.1
MKAR Makanchi Array 56.74 305 P P 11 35 55.0 +0.3
0.5nm,0.6s,baz=47,slow=7.5,SNR=8.4
AKASG Malin Array Be 74.25 338 P P 11 37 48.5 +0.7
0.5nm,0.5s,baz=22,slow=6.2,SNR=2.9

IDC **07** *12:15:43.7±2.2, 11.°87N×124.°34E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/41, mbtmp3.5/4, MS3.5/2, Ms1 3.5/2, ms1mx2.7/31, Error ellipse: s-maj=94.2km s-min=23.1km az=56.0*
ISC 07 12:15:40.1±1.7, 13.°1N±0.°1×125.°5E±0.°1, h28km, n8, σ2.°11/8, mb3.5/4, 1C-1D, Philippine Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
CNP Catarman 0.97 235 *e*P Pb 12 16 00.6 +2.3
CNP *e*S Sn 12 16 07.3 -3.4
PVCP Virac 1.39 292⇑*e*P Pn 12 16 03.3 -0.4
PLP Palo 1.95 194⇓*e*P Pb 12 16 14.4 -0.7
PLP *e*S Sn 12 16 37.0 +1.9
CMAR Chiang Mai Arr 26.08 285 P P 12 21 11.7 0.0
0.6nm,0.7s,baz=97,slow=7.7,SNR=4.8
WRA Warramunga Arr 33.94 165 P P 12 22 20.4 -0.8
0.6nm,1.0s,baz=348,slow=9.3,SNR=2.9
ASAR Alice Springs 37.43 167 P P 12 22 51.9 +0.7
0.8nm,0.7s,baz=348,slow=7.1,SNR=18
ASAR LR LR 12 40 26.6
comp=Z,49nm,18.2s,baz=69,slow=41
MKAR Makanchi Array 49.35 322 P P 12 24 37.6 +10
0.5nm,0.8s,baz=107,slow=8.2,SNR=6.4
GNI Garni 74.66 308 LR LR 13 03 17.0
comp=Z,44nm,18.3s,baz=283,slow=38

ISCJB **07** *12:23:00.6±1.5, 5.°1S±0.°3×153.°1E±0.°3, h43km, mb3.4/5, Error ellipse: s-maj=57.4km s-min=11.6km az=42.1*
IDC **07** *12:23:04.8±6.9, 5.°04S×152.°96E, h66km±53km, mb3.2/5, mb1 3.4/6, mb1mx3.3/35, mbtmp3.6/6, ML2.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/13, Error ellipse: s-maj=70.2km s-min=31.1km az=113.0*
ISC 07 12:23:01.7±1.5, 5.°1S±0.°3×153.°2E±0.°3, h43km, n7, σ0.°94/10, mb3.4/5, New Ireland region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
PMG Port Moresby 7.38 234 P Pn 12 24 47.5 +0.6
1.2nm,0.3s,baz=52,slow=8.4,SNR=4.1
PMG S Sn 12 26 09.7 +0.4
1.1nm,0.3s,baz=318,slow=23,SNR=2.3
PMG LR LR 12 27 20.3
comp=Z,110nm,20.3s,baz=28,slow=35
WRA Warramunga Arr 23.57 229 P P 12 28 07.2 -1.4
1.1nm,0.7s,baz=53,slow=9.8,SNR=14
WRA PcP PcP 12 31 53.6 +0.4
0.3nm,0.7s,baz=59,slow=1.9,SNR=4.5
ASAR Alice Springs 26.22 223 P P 12 28 32.7 -0.1
0.5nm,0.6s,baz=58,slow=8.6,SNR=9.3
ASAR PcP PcP 12 31 59.1 +0.1
0.5nm,0.8s,baz=62,slow=2.2,SNR=4.5
MKAR Makanchi Array 80.78 319 P P 12 35 11.0 +0.1
0.3nm,0.6s,baz=86,slow=11,SNR=4.3
ZALV Zalesovo Beam 81.58 326 P P 12 35 14.5 -0.4
0.5nm,0.6s,baz=96,slow=4.3,SNR=2.6
ILAR Eielson Array 82.25 22 P P 12 35 19.2 +1.0
0.2nm,0.7s,baz=259,slow=4.9,SNR=4.3
TORD Torodi Ar. Bea 150.75 288 PKPbc PKPbc 12 42 48.9 -1.6
1.2nm,0.6s,baz=93,slow=1.6,SNR=9.4

IDC 07 12:25:40.8±31.0, 8.°44N×121.°28E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/36, mbtmp3.5/3, Error ellipse: s-maj=548.1km s-min=230.1km az=152.0, Mindanao

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
WRA Warramunga Arr 31.00 156 P P 12 31 59.7 -0.6
0.2nm,0.3s,baz=332,slow=11,SNR=7.4
ASAR Alice Springs 34.21 159 P P 12 32 29.4 +0.9
0.5nm,0.5s,baz=338,slow=7.1,SNR=19
STKA Stephens Creek 44.55 155 P P 12 33 53.8 -0.7
0.4nm,0.4s,baz=345,slow=9.8,SNR=3.2

IDC **07** *12:31:51.7±1.4, 14.°64S×175.°89W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/27, mbtmp3.8/5, ML3.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/30, Error ellipse: s-maj=127.4km s-min=22.4km az=159.0*
ISCJB **07** *12:31:53.3±1.4, 15.°S±1.°×175.°6W±0.°4, h26km, mb3.9/4, Error ellipse: s-maj=164.2km s-min=10.2km az=160.6*
ISC 07 12:31:55.2±1.6, 15.°3S±0.°8×175.°6W±0.°3, h26km, n9, σ1.°05/7, mb4.1/4, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
AFI Afiamalu 3.96 71 Pn Pn 12 32 53.7 -0.7
3.0nm,0.3s,baz=323,slow=20,SNR=3.3
AFI Sn Sn 12 33 40.6 +0.5
1.0nm,0.3s,baz=284,slow=23,SNR=1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI				LR	LR	12 34 18.5	
	comp=Z,98nm,19.9s,baz=137,slow=36						
H11N3	WAKE ISLAND Hy	38.77	333	T	T	13 19 43.5	
	baz=155,slow=77,SNR=5.0						
H11N1	WAKE ISLAND Hy	38.77	333	T	T	13 19 41.5	
	baz=155,slow=77,SNR=21						
H11N2	WAKE ISLAND Hy	38.77	333	T	T	13 19 44.5	
	baz=155,slow=77,SNR=7.4						
WRA	**Warramunga Arr**	**47.78**	**257**	P	**P**	**12 40 29.7**	**-1.0**
	1.6nm,0.8s,baz=90,slow=7.7,SNR=17						
ASAR	**Alice Springs**	**48.11**	**252**	P	**P**	**12 40 33.7**	**+0.5**
	2.5nm,0.8s,baz=83,slow=8.2,SNR=25						
TXAR	**Lajitas Array**	**82.33**	**57**	P	**P**	**12 44 16.2**	**+1.1**
	0.2nm,0.9s,baz=247,slow=4.7,SNR=2.4						
PDAR	**Pinedale Array**	**83.61**	**43**	P	**P**	**12 44 20.9**	**-0.8**
	1.0nm,0.9s,baz=230,slow=3.3,SNR=5.3						
BRTR	**Keskin Array B**	**144.67**	**319**	PKP	**PKPab**	**12 51 29.5**	**+0.8**
	1.0nm,0.8s,baz=28,slow=6.5,SNR=3.7						

NIED 07 12:46:00, 36.80N×141.30E, h38km, Mw3.5 Best double couple: M0 2.24000×10^{14} NP1: φs6.00000°, δ12.00000°, λ-128.00000°. NP2: φs224.00000°, δ81.00000°, λ-83.00000°.
ISCJB 07 12:46:41.6±0.9, 36.75N±0.04×141.48E±0.06, h26km, mb3.2/4, Error ellipse: s-maj=7.4km s-min=5.1km az=29.5
JMA 07 12:46:43.3±0.1, 36.76N×141.34E, h47km±2km, M3.5
IDC 07 12:46:46.5±5.0, 36.52N×141.34E, h50km±43km, mb3.0/4, mb1 3.3/6, mb1mx3.1/44, mbtmp3.4/6, ML2.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/6, Error ellipse: s-maj=44.1km s-min=27.6km az=73.0
ISC 07 12:46:42.5±1.3, 36.77N±0.05×141.46E±0.07, h26km, n18, σ1§11/28, mb3.3/4, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.63**	**302**	⇓P	**Pb**	**12 46 54.7**	**-0.2**
ONAJ				S	**Sb**	**12 47 02.9**	**-0.5**
JHO	**Hitachi**	**0.74**	**258**	⇓P	**Pb**	**12 46 55.8**	**-0.9**
JHO				S	**Sb**	**12 47 05.2**	**-1.2**
JFK	**Kawauchi**	**0.76**	**322**	⇓P	**Pb**	**12 46 56.8**	**-0.3**
JFK				S	**Sb**	**12 47 06.2**	**-0.9**
JFT	**Otama**	**1.17**	**310**	P	**Pb**	**12 47 03.6**	**-0.5**
JFT				S	**Sn**	**12 47 17.7**	**-0.6**
JMM	**Marumori**	**1.22**	**334**	P	**Pn**	**12 47 03.7**	**-0.1**
JMM				eS	**Sn**	**12 47 18.1**	**-1.3**
JFY	**Yanaizu**	**1.54**	**295**	P	**Pn**	**12 47 08.6**	**+0.3**
JFY				eS	**Sn**	**12 47 27.2**	**-0.3**
JAG	**Ashikaga**	**1.65**	**259**	P	**Pn**	**12 47 09.5**	**-0.3**
JAG				S	**Sn**	**12 47 28.4**	**-1.8**
JIO	**Ouri**	**1.68**	**357**	P	**Pn**	**12 47 10.1**	**-0.1**
JIO				S	**Sn**	**12 47 30.2**	**-0.7**
JOU	**Okura**	**1.71**	**339**	P	**Pn**	**12 47 11.2**	**+0.5**
JOU				S	**Sn**	**12 47 32.2**	**+0.4**
JKT	**Katashina**	**1.78**	**271**	P	**Pn**	**12 47 11.8**	**+0.2**
JKT				S	**Sn**	**12 47 32.5**	**-0.9**
MJAR	**Matsushiro Arr**	**2.63**	**266**	P	**Pn**	**12 47 24.0**	**+0.8**
	4.7nm,0.3s,baz=90,slow=15,SNR=18						
MJAR				S	**Sn**	**12 47 54.5**	**+0.3**
	5.1nm,0.3s,baz=148,slow=15,SNR=3.1						
MAT	**Matsushiro**	**2.63**	**266**	P	**Pn**	**12 47 24.5**	**+1.2**
MAT				S	**Sn**	**12 47 56.7**	**+2.4**
USRK	**Ussuriysk Arra**	**10.34**	**319**	P	Pn	12 49 14.2	+5.1
	0.2nm,0.3s,baz=122,slow=13,SNR=5.8						
JOW	**Kunigami**	**14.95**	**232**	LR	LR	12 54 43.1	
	comp=Z,27nm,20.6s,baz=197,slow=32						
SONM	**Songino Array**	**27.96**	**304**	P	**P**	**12 52 34.1**	**+3.2**
	0.4nm,0.6s,baz=114,slow=8.9,SNR=2.9						
MKAR	**Makanchi Array**	**44.29**	**302**	P	**P**	**12 54 50.2**	**+0.2**
	0.2nm,0.6s,baz=93,slow=9.9,SNR=2.3						
WRA	**Warramunga Arr**	**56.81**	**188**	P	**P**	**12 56 23.2**	**-1.3**
	0.2nm,0.6s,baz=5.7,slow=7.4,SNR=5.5						
ASAR	**Alice Springs**	**60.53**	**188**	P	**P**	**12 56 50.5**	**0.0**
	0.2nm,0.7s,baz=1.6,slow=5.2,SNR=4.4						

IDC 07 13:00:03.5±1.7, 21.69S×169.39E, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.1/27, mbtmp4.1/8, ML3.1/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/28, Error ellipse: s-maj=65.6km s-min=23.9km az=157.0
ISCJB 07 13:00:05.3±1.1, 21.7S±0.3×169.3E±0.1, h21km, mb4.2/10, MS3.5/2, Error ellipse: s-maj=38.4km s-min=10.0km az=159.4
NEIC 07 13:00:08.9±1.1, 21.64S×169.30E, h35km, mb4.4/4, Error ellipse: s-maj=40.3km s-min=12.3km az=152.0
ISC 07 13:00:07.1±1.4, 21.6S±0.3×169.3E±0.2, h21km, n18, σ0§84/19, mb4.2/10, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.69**	**259**	Pn	**Pn**	**13 00 49.0**	**-0.2**
	2.9nm,0.3s,baz=118,slow=14,SNR=60						
DZM				Sn	**Sn**	**13 01 20.3**	**-0.9**
	22nm,0.3s,baz=120,slow=18,SNR=6.8						
DZM				LR	LR	13 01 26.6	
	comp=Z,382nm,18.4s,baz=170,slow=30						
HNR	**Honiara**	**15.07**	**322**	LR	LR	13 08 44.6	
	comp=Z,88nm,20.9s,baz=166,slow=34						
PMG	**Port Moresby**	**24.49**	**296**	P	**P**	**13 05 25.7**	**+0.6**
	5.3nm,0.8s,baz=113,slow=8.2,SNR=3.9						
PMG	**Port Moresby**	**24.49**	**296**	eP	**P**	**13 05 25.4**	**+0.3**
	8.9nm,0.9s						
STKA	**Stephens Creek**	**26.71**	**242**	P	**P**	**13 05 45.0**	**0.0**
	1.9nm,1.0s,baz=66,slow=10.0,SNR=2.7						
STKA				LR	LR	13 15 55.7	
	comp=Z,163nm,18.6s,baz=35,slow=36						
WRAB	**Tennant Creek**	**32.68**	**266**	eP	**P**	**13 06 38.5**	**+0.4**
	1.4nm,0.6s						
AS31	**Alice Springs**	**32.68**	**260**	eP	**P**	**13 06 38.4**	**+0.2**
ASAR	**Alice Springs**	**32.68**	**260**	P	**P**	**13 06 38.4**	**+0.3**
	2.2nm,0.8s,baz=94,slow=9.2,SNR=17						
ASAR				LR	LR	13 19 01.3	
	comp=Z,98nm,20.6s,baz=110,slow=35						
WRA	**Warramunga Arr**	**32.69**	**266**	P	**P**	**13 06 37.5**	**-0.7**
	1.3nm,0.7s,baz=100,slow=8.0,SNR=15						
CMAR	**Chiang Mai Arr**	**79.52**	**295**	P	**P**	**13 12 15.0**	**+2.2**
	1.6nm,0.3s,baz=143,slow=5.3,SNR=6.5						
GAMB	**Gambell**	**86.38**	**8**	eP	**P**	**13 12 47.2**	**0.0**
	3.1nm,0.9s						
ULN	**Ulaanbaatar**	**88.78**	**323**	eP	**P**	**13 12 59.2**	**-0.2**
BILL	**Bilibino**	**89.40**	**359**	eP	**P**	**13 13 01.4**	**-0.2**
	3.3nm,0.8s						
NVAR	**Mina Array Bea**	**90.31**	**48**	P	**P**	**13 13 07.3**	**+0.4**
	1.7nm,0.7s,baz=213,slow=6.7,SNR=5.9						
ILAR	**Eielson Array**	**92.45**	**17**	P	**P**	**13 13 14.1**	**-1.8**
	0.3nm,0.6s,baz=241,slow=4.6,SNR=2.8						
BRG	**Berggiesshubel**	**144.99**	**333**	eP	**PKPdf**	**13 19 42.4**	**-0.2**
	6.5nm,1.0s						
BRG				e		13 32 39.4	
	18nm,1.8s						
CLL	**Collm**	**145.06**	**334**	i PKPdf	**PKPbc**	**13 19 41.6**	**-0.5**
	comp=Z,7.0nm,1.0s						
CLL				i PKiKP	**PKiKP**	**13 19 47.1**	**+0.6**
	comp=Z,3.0nm,0.8s						
GERES	**GERESS Array B**	**146.57**	**330**	PKPbc	**PKPbc**	**13 19 46.5**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=5.7,slow=1.3,SNR=8.9						

IDC 07 13:11:28.2±4.8, 17.72S×176.17W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/25, mbtmp4.0/4, Error ellipse: s-maj=218.5km s-min=31.8km az=139.0
ISC 07 13:11:30.8±3.9, 19.4S±0.9×175.7W±0.8, h10km, n8, σ2§57/7, mb4.1/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.21**	**243**	P	**P**	**13 19 10.1**	**+2.4**
	1.3nm,0.9s,baz=104,slow=8.3,SNR=2.0						
ASAR	**Alice Springs**	**46.89**	**255**	P	**P**	**13 19 59.3**	**-2.4**
	4.2nm,1.0s,baz=86,slow=8.2,SNR=16						
WRA	**Warramunga Arr**	**46.92**	**261**	P	**P**	**13 20 01.0**	**-1.0**
	0.6nm,0.8s,baz=94,slow=6.4,SNR=4.2						
ILAR	**Eielson Array**	**86.82**	**12**	P	P	13 24 06.1	-8.9
	2.8nm,1.1s,baz=228,slow=6.5,SNR=8.7						
BRTR	**Keskin Array B**	**147.69**	**315**	PKPbc	**PKPdf**	**13 31 10.7**	**-2.7**
	1.8nm,0.8s,baz=48,slow=2.1,SNR=7.4						
DPC	**Dobruska-Polom**	**147.72**	**346**	eP	**PKPab**	**13 31 18.7**	**+0.7**
DPC				ex	x	13 31 24.7	
KRLC	**Kraliky**	**147.86**	**345**	eP	**PKPab**	**13 31 19.7**	**+1.2**
PRU	**Pruhonice**	**148.45**	**347**	eP	**PKPab**	**13 31 23.1**	**+2.3**

IDC 07 13:12:54.4±0.8, 16.97S×177.14W, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.1/27, mbtmp4.0/10, MS4.2/11, Ms1 4.2/11, ms1mx4.0/21, Error ellipse: s-maj=43.4km s-min=19.8km az=139.0
ISCJB 07 13:12:57.7±0.5, 17.1S±0.1×177.1W±0.1, h33km, mb4.3/15, MS4.1/7, Error ellipse: s-maj=21.2km s-min=10.8km az=144.8
GCMT 07 13:12:59.3±0.2, 17.05S×176.88W, h20km±1km, MW5.1/99, Moment Tensor Solution. s49,c67; s99,c166; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-0.35±.15; Mθθ-5.64±.13; Mφφ5.99±.13; Mrθ0.18±.26; Mrφ0.90±.11; Mθφ1.48±.26; Best double couple: M0 6.04800×10^{16} NP1: φs50.00000°, δ82.00000°, λ9.00000°. NP2: φs319.00000°, δ81.00000°, λ172.00000°. Principal axes: T 6.3880, Plg12.0000°, Azm274.0000°; N -0.6790, Plg78.0000°, Azm91.0000°; P -5.7090, Plg1.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 07 13:12:59.3±0.4, 17.08S×177.07W, h35km, mb4.6/7 Error ellipse: s-maj=17.4km s-min=9.0km az=143.0
ISC 07 13:12:59.7±0.6, 17.1S±0.1×177.1W±0.1, h35km, n43, σ1§54/30, mb4.4/15, MS4.2/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.69**	**261**	eP	**Pn**	**13 14 08.0**	**-0.2**
AFI	**Afiamalu**	**6.01**	**59**	LR	LR	13 16 10.9	
	comp=Z,1μm,21.0s,baz=238,slow=33						
RAO	**Raoul Island**	**12.13**	**183**	LR	LR	13 19 48.2	
	comp=Z,3μm,19.8s,baz=360,slow=34						
DZM	**Mont Dzumac**	**16.29**	**250**	eLR	LR	13 21 15.7	
	3μm,25.6s						
DZM	**Mont Dzumac**	**16.29**	**250**	LR	LR	13 22 06.9	
	comp=Z,2μm,18.7s,baz=67,slow=34						
RAR	**Rarotonga**	**16.85**	**107**	LR	LR	13 21 45.6	
	comp=Z,990nm,19.6s,baz=225,slow=31						
URZ	**Urewera**	**21.70**	**192**	P	**P**	**13 17 47.3**	**-0.3**
	20nm,1.0s,baz=41,slow=6.8,SNR=7.7						
URZ				LR	LR	13 24 47.5	
	comp=Z,2μm,18.9s,baz=32,slow=33						
URZ	**Urewera**	**21.70**	**192**	P	**P**	**13 17 46.0**	**-1.5**
	17nm,0.8s						
HNR	**Honiara**	**23.61**	**286**	LR	LR	13 25 56.1	
	comp=Z,1μm,20.4s,baz=105,slow=33						
PAE	**Paea**	**26.24**	**95**	eT	T	13 45 06.2	
	3.1nm,0.3s						
PPT2	**Papeete2**	**26.25**	**95**	eLR	LR	13 24 53.3	
	3μm,26.8s						
PPT	**Papeete**	**26.25**	**95**	LR	LR	13 26 02.9	
	comp=Z,516nm,20.5s,baz=287,slow=30						
CTAO	**Charters Tower**	**34.84**	**259**	eP	**P**	**13 19 48.3**	**+0.6**
	23nm,1.3s						
RKT	**Rikitea**	**39.89**	**106**	eLR	LR	13 31 19.6	
	2μm,27.5s,baz=267						
RKT	**Rikitea**	**39.89**	**106**	eT	T	14 02 30.4	
	0.9nm,0.3s						
STKA	**Stephens Creek**	**40.13**	**241**	P	**P**	**13 20 32.7**	**+0.3**
	2.2nm,0.8s,baz=82,slow=7.2,SNR=3.9						
STKA				LR	LR	13 36 26.2	
	comp=Z,313nm,18.7s,baz=65,slow=35						
WRA	**Warramunga Arr**	**46.03**	**259**	P	**P**	**13 21 19.7**	**-0.6**
	0.8nm,1.0s,baz=97,slow=5.9,SNR=2.5						
AS31	**Alice Springs**	**46.23**	**253**	eP	**P**	**13 21 21.0**	**-0.9**
ASAR	**Alice Springs**	**46.24**	**253**	P	**P**	**13 21 21.6**	**-0.2**
	5.6nm,0.8s,baz=87,slow=8.3,SNR=9.1						
MJAR	**Matsushiro Arr**	**68.03**	**322**	LR	LR	13 47 39.7	
	comp=Z,36nm,21.4s,baz=110,slow=31						
QSPA	**South Pole Qui**	**72.96**	**180**	eP	**P**	**13 24 25.4**	**0.0**
	6.2nm,1.0s						
NVAR	**Mina Array Bea**	**77.96**	**43**	P	**P**	**13 24 55.1**	**+0.4**
	0.4nm,0.2s,baz=243,slow=6.0,SNR=2.0						
HLID	**Hailey**	**83.19**	**41**	eP	**P**	**13 25 21.8**	**-0.8**
	4.2nm,1.2s						
TXAR	**Lajitas Array**	**84.49**	**57**	P	**P**	**13 25 30.8**	**+1.4**
	1.8nm,1.1s,baz=232,slow=6.2,SNR=6.5						
TXAR				LR	LR	13 55 23.0	
	comp=Z,105nm,19.6s,baz=0.0,slow=30						
IM04	**Indian Mountai**	**84.66**	**9**	eP	**P**	**13 25 28.5**	**-0.8**
COLA	**College**	**84.71**	**12**	eP	**P**	**13 25 27.9**	**-1.6**
	13nm,1.1s						
ILAR	**Eielson Array**	**84.82**	**12**	P	**P**	**13 25 28.9**	**-1.3**
	4.5nm,1.1s,baz=228,slow=6.1,SNR=11						
BILL	**Bilibino**	**85.76**	**354**	eP	**P**	**13 25 32.8**	**-2.0**
	5.4nm,0.8s						
PDAR	**Pinedale Array**	**85.89**	**43**	P	**P**	**13 25 36.0**	**-0.3**
	1.1nm,0.9s,baz=207,slow=3.8,SNR=3.4						
CMAR	**Chiang Mai Arr**	**89.81**	**289**	P	**P**	**13 25 56.1**	**+0.8**
	0.3nm,0.4s,baz=90,slow=3.1,SNR=1.6						
PLCA	**Paso Flores**	**90.97**	**133**	LR	LR	13 57 15.6	
	comp=Z,68nm,21.0s,baz=263,slow=29						
YKA	**Yellowknife Ar**	**93.07**	**24**	P	**P**	**13 26 08.5**	**-0.9**
	0.2nm,1.0s,baz=256,slow=5.0,SNR=2.5						
AKASG	**Malin Array Be**	**140.41**	**334**	PKP	**PKPdf**	**13 32 25.9**	**+0.9**
	0.1nm,0.3s,baz=21,slow=2.2,SNR=1.6						
CLL	**Collm**	**144.93**	**349**	ePKPdf	**PKPdf**	**13 32 35.0**	**+2.0**
UPC	**Upice**	**145.05**	**345**	ePKP	**PKPdf**	**13 32 36.9**	**+3.6**
BRTR	**Keskin Array B**	**145.09**	**316**	PKP	**PKPdf**	**13 32 33.6**	**-0.2**
	9.0nm,0.9s,baz=72,slow=2.0,SNR=9.0						
OKC	**Ostrava-Krasne**	**145.10**	**343**	ePKP	**PKPdf**	**13 32 37.3**	**+3.9**
DPC	**Dobruska-Polom**	**145.12**	**345**	ePKP	**PKPdf**	**13 32 34.2**	**+0.7**
KRLC	**Kraliky**	**145.25**	**344**	ePKP	**PKPdf**	**13 32 33.7**	**0.0**
MLR	**Muntele Rosu**	**145.77**	**331**	PKPbc	**PKPdf**	**13 32 34.1**	**-0.8**
	0.7nm,0.9s,baz=158,slow=5.4,SNR=2.4						
PRU	**Pruhonice**	**145.87**	**347**	ePKP	**PKPab**	**13 32 39.1**	**+3.3**
GERES	**GERESS Array B**	**147.13**	**347**	PKPbc	**PKPbc**	**13 32 38.3**	**-0.9**
	0.7nm,0.7s,baz=48,slow=2.0,SNR=4.1						
DAVOX	**Davos/Dischmat**	**149.84**	**350**	PKPbc	**PKPbc**	**13 32 45.5**	**-0.9**
	1.6nm,0.6s,baz=129,slow=12,SNR=2.5						

IDC 07 13:20:02.4±897.0, 68.82N×67.19E, h0km, Error ellipse: s-maj=321.0km s-min=235.0km az=13.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**17.02**	**142**	i		15 07 58.8	
	baz=338,slow=335,SNR=0.6						
I43RU	**DUBNA INFRASONI**	**18.04**	**243**	i		15 15 30.0	
	baz=34,slow=348,SNR=0.6						
I31KZ	**AKTYUBINSK INF**	**19.00**	**198**	i		15 18 40.0	
	baz=12,slow=330,SNR=0.7						

CSEM 07 13:27:14.8, 45.67N×26.48E, h152km, MD3.8/2, After BUC
BUC 07 13:27:14.8±0.8, 45.67N×26.48E, h152km±8km, MD3.8/2, 48C-21D, Error ellipse: s-maj=6.6km s-min=4.8km az=27.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.21**	**33**	⇑ iP	Pn	13 27 35.2	-0.2
PLOR	**Plostina**	**0.21**	**33**	⇑ iP	Pn	13 27 35.2	-0.2
PLOR				i S	Sn	13 27 50.5	-0.7
PLOR	**Plostina**	**0.21**	**33**	⇑ iP	Pn	13 27 35.2	-0.2
PLOR				i S	Sn	13 27 50.5	-0.7
VRI	**Vrincioaia**	**0.26**	**42**	⇑ iP	Pn	13 27 35.5	0.0
VRI	**Vrincioaia**	**0.26**	**42**	⇑ iP	Pn	13 27 35.5	0.0
VRI				i S	Sn	13 27 50.3	-1.1
VRI	**Vrincioaia**	**0.26**	**42**	⇑ iP	Pn	13 27 35.5	0.0
VRI				i S	Sn	13 27 50.3	-1.1
ODBI	**Odobesti**	**0.41**	**77**	⇓ iP	Pn	13 27 36.1	+0.1
ODBI	**Odobesti**	**0.41**	**77**	⇓ iP	Pn	13 27 36.1	+0.1
ODBI	**Odobesti**	**0.41**	**77**	⇓ iP	Pn	13 27 36.1	+0.1
MLR	**Muntele Rosu**	**0.42**	**244**	⇑ iP	Pn	13 27 36.1	-0.1
MLR	**Muntele Rosu**	**0.42**	**244**	⇑ iP	Pn	13 27 36.1	-0.1
MLR				i S	Sn	13 27 51.2	-1.3
MLR	**Muntele Rosu**	**0.42**	**244**	⇑ iP	Pn	13 27 36.1	-0.1
MLR				i S	Sn	13 27 51.2	-1.3
GRER		**0.45**	**130**	⇓ iP	Pn	13 27 37.1	+0.9
GRER		**0.45**	**130**	⇓ iP	Pn	13 27 37.1	+0.9
GRER		**0.45**	**130**	⇓ iP	Pn	13 27 37.1	+0.9
PETR	**Petresti**	**0.53**	**84**	⇑ iP	Pn	13 27 37.0	+0.5
PETR	**Petresti**	**0.53**	**84**	⇑ iP	Pn	13 27 37.0	+0.5
PETR				i S	Sn	13 27 53.1	+0.1
PETR	**Petresti**	**0.53**	**84**	⇑ iP	Pn	13 27 37.0	+0.5
PETR				i S	Sn	13 27 53.1	+0.1
SECR		**0.70**	**205**	⇑ iP	Pn	13 27 37.7	+0.1
SECR		**0.70**	**205**	⇑ iP	Pn	13 27 37.7	+0.1
SECR				i S	Sn	13 27 55.1	+0.2
SECR		**0.70**	**205**	⇑ iP	Pn	13 27 37.7	+0.1
SECR				i S	Sn	13 27 55.1	+0.2
DOPR	**Dopca**	**0.82**	**291**	⇓ iP	Pn	13 27 38.2	-0.2
DOPR	**Dopca**	**0.82**	**291**	⇓ iP	Pn	13 27 38.2	-0.2
DOPR	**Dopca**	**0.82**	**291**	⇓ iP	Pn	13 27 38.2	-0.2
PLAR	**PLOIESTI**	**0.82**	**203**	S	Sn	13 27 56.5	+0.1
PLAR	**PLOIESTI**	**0.82**	**203**	i S	Sn	13 27 56.5	+0.1
PLAR	**PLOIESTI**	**0.82**	**203**	i S	Sn	13 27 56.5	+0.1
PGOR	**Pogoanele**	**0.84**	**155**	⇑ iP	Pn	13 27 38.7	+0.2
PGOR	**Pogoanele**	**0.84**	**155**	⇑ iP	Pn	13 27 38.7	+0.2
PGOR	**Pogoanele**	**0.84**	**155**	⇑ iP	Pn	13 27 38.7	+0.2
TESR	**Tescani**	**0.85**	**8**	⇑ iP	Pn	13 27 38.2	-0.4
TESR	**Tescani**	**0.85**	**8**	⇑ iP	Pn	13 27 38.2	-0.4
TESR				i S	Sn	13 27 55.3	-1.5
TESR	**Tescani**	**0.85**	**8**	⇑ iP	Pn	13 27 38.2	-0.4
TESR				i S	Sn	13 27 55.3	-1.5
VOIR		**1.03**	**257**	⇓ iP	Pn	13 27 40.9	+0.7
VOIR		**1.03**	**257**	⇓ iP	Pn	13 27 40.9	+0.7
VOIR				i S	Sn	13 27 58.1	-1.4
VOIR		**1.03**	**257**	⇓ iP	Pn	13 27 40.9	+0.7
VOIR				i S	Sn	13 27 58.1	-1.4
AMRR	**Amara**	**1.22**	**150**	⇓ iP	Pn	13 27 41.8	0.0
AMRR	**Amara**	**1.22**	**150**	⇓ iP	Pn	13 27 41.8	0.0
AMRR				i S	Sn	13 28 02.1	-0.2
AMRR	**Amara**	**1.22**	**150**	⇓ iP	Pn	13 27 41.8	0.0
AMRR				i S	Sn	13 28 02.1	-0.2
GIUM	**Giurgiulesti**	**1.23**	**98**	⇑ iP	Pn	13 27 42.3	+0.5
GIUM	**Giurgiulesti**	**1.23**	**98**	⇑ iP	Pn	13 27 42.3	+0.5
GIUM				i S	Sn	13 28 02.0	-0.4
GIUM	**Giurgiulesti**	**1.23**	**98**	⇑ iP	Pn	13 27 42.3	+0.5
GIUM				i S	Sn	13 28 02.0	-0.4
CFR	**Carcaliu**	**1.27**	**112**	⇑ iP	Pn	13 27 42.0	-0.1
CFR	**Carcaliu**	**1.27**	**112**	⇑ iP	Pn	13 27 42.0	-0.1
CFR				i S	Sn	13 28 02.1	-0.9
CFR	**Carcaliu**	**1.27**	**112**	⇑ iP	Pn	13 27 42.0	-0.1
CFR				i S	Sn	13 28 02.1	-0.9
CIOR	**Ciorogarla**	**1.30**	**199**	S	Sn	13 28 02.7	-0.9
CIOR	**Ciorogarla**	**1.30**	**199**	i S	Sn	13 28 02.7	-0.9
CIOR	**Ciorogarla**	**1.30**	**199**	i S	Sn	13 28 02.7	-0.9
ARR	**Arges**	**1.33**	**257**	⇑ iP	Pn	13 27 43.7	+0.8
ARR	**Arges**	**1.33**	**257**	⇑ iP	Pn	13 27 43.7	+0.8
ARR				i S	Sn	13 28 03.7	-0.7
ARR	**Arges**	**1.33**	**257**	⇑ iP	Pn	13 27 43.7	+0.8
ARR				i S	Sn	13 28 03.7	-0.7
GOLR		**1.36**	**233**	S	Sn	13 28 04.3	-0.4
GOLR		**1.36**	**233**	i S	Sn	13 28 04.3	-0.4
GOLR		**1.36**	**233**	i S	Sn	13 28 04.3	-0.4
HARR	**Harsova**	**1.42**	**133**	⇑ iP	Pn	13 27 43.5	-0.2
HARR	**Harsova**	**1.42**	**133**	⇑ iP	Pn	13 27 43.5	-0.2
HARR	**Harsova**	**1.42**	**133**	⇑ iP	Pn	13 27 43.5	-0.2
LEOM	**Leova**	**1.47**	**56**	⇓ iP	Pn	13 27 44.5	+0.4
LEOM	**Leova**	**1.47**	**56**	⇓ iP	Pn	13 27 44.5	+0.4
LEOM				i S	Sn	13 28 06.1	-0.5
LEOM	**Leova**	**1.47**	**56**	⇓ iP	Pn	13 27 44.5	+0.4
LEOM				i S	Sn	13 28 06.1	-0.5
HUMR	**Humele**	**1.56**	**223**	S	Sn	13 28 07.1	-1.3
HUMR	**Humele**	**1.56**	**223**	i S	Sn	13 28 07.1	-1.3
HUMR	**Humele**	**1.56**	**223**	i S	Sn	13 28 07.1	-1.3
TLCR		**1.71**	**106**	⇑ iP	Pn	13 27 46.8	0.0
TLCR		**1.71**	**106**	⇑ iP	Pn	13 27 46.8	0.0
TLCR				i S	Sn	13 28 09.8	-1.5
TLCR		**1.71**	**106**	⇑ iP	Pn	13 27 46.8	0.0
TLCR				i S	Sn	13 28 09.8	-1.5
CVD	**Cernavoda**	**1.75**	**140**	⇑ iP	Pn	13 27 46.9	-0.3
CVD	**Cernavoda**	**1.75**	**140**	⇑ iP	Pn	13 27 46.9	-0.3
CVD				i S	Sn	13 28 10.1	-1.9
CVD	**Cernavoda**	**1.75**	**140**	⇑ iP	Pn	13 27 46.9	-0.3
CVD				i S	Sn	13 28 10.1	-1.9
TIRR	**Tirgusor**	**1.83**	**131**	⇑ iP	Pn	13 27 47.9	-0.2
TIRR	**Tirgusor**	**1.83**	**131**	⇑ iP	Pn	13 27 47.9	-0.2
TIRR				i S	Sn	13 28 11.6	-2.0
TIRR	**Tirgusor**	**1.83**	**131**	⇑ iP	Pn	13 27 47.9	-0.2
TIRR				i S	Sn	13 28 11.6	-2.0
LOT	**Lotru**	**1.92**	**264**	S	Sn	13 28 14.9	-0.8
LOT	**Lotru**	**1.92**	**264**	i S	Sn	13 28 14.9	-0.8
LOT	**Lotru**	**1.92**	**264**	i S	Sn	13 28 14.9	-0.8
BURAR	**Bucovina Array**	**2.13**	**336**	⇓ iP	Pn	13 27 53.1	+1.4
BURAR	**Bucovina Array**	**2.13**	**336**	⇓ iP	Pn	13 27 53.1	+1.4
BURAR	**Bucovina Array**	**2.13**	**336**	⇓ iP	Pn	13 27 53.1	+1.4
GZR	**Gura Zlata**	**2.62**	**265**	⇑ iP	Pn	13 27 58.2	+0.7
GZR	**Gura Zlata**	**2.62**	**265**	⇑ iP	Pn	13 27 58.2	+0.7
GZR	**Gura Zlata**	**2.62**	**265**	⇑ iP	Pn	13 27 58.2	+0.7
SORM	**Soroca**	**2.78**	**27**	S	Sn	13 28 31.5	-2.4
SORM	**Soroca**	**2.78**	**27**	i S	Sn	13 28 31.5	-2.4
SORM	**Soroca**	**2.78**	**27**	i S	Sn	13 28 31.5	-2.4
DRGR		**2.85**	**294**	⇑ iP	Pn	13 27 59.8	-0.6
DRGR		**2.85**	**294**	⇑ iP	Pn	13 27 59.8	-0.6
DRGR		**2.85**	**294**	⇑ iP	Pn	13 27 59.8	-0.6

IDC 07 13:30:41.2±0.6, 5.06S×153.39E, h0km, mb4.2/16, mb1 4.3/17, mb1mx4.2/31, mbtmp4.2/17, ML3.7/1, MS4.0/5, Ms1 4.0/5, ms1mx3.4/32, Error ellipse: s-maj=23.6km s-min=14.3km az=90.0
ISCJB 07 13:30:46.9±0.5, 5.15S±0.06×153.31E±0.07, h56km, mb4.2/22, MS4.1/4, Error ellipse: s-maj=11.2km s-min=6.6km az=28.5
NEIC 07 13:30:46.1±3.9, 5.13S×153.32E, h32km±27km, mb4.5/6, Error ellipse: s-maj=12.7km s-min=9.3km az=70.0
ISC 07 13:30:48.9±0.6, 5.09S±0.07×153.32E±0.09, h56km, n53, σ1§51/51, mb4.3/22, MS4.2/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.46**	**308**	P	**Pn**	**13 31 12.6**	**-0.4**
	baz=1.7,SNR=383						
RABL				S	Sn	13 31 38.9	+7.9
	baz=1.7,SNR=5.6						
PMG	**Port Moresby**	**7.46**	**235**	Pn	**Pn**	**13 32 34.7**	**-0.6**
	6.6nm,0.3s,baz=43,slow=11,SNR=19						
PMG				Sn	**Sn**	**13 33 57.1**	**-1.4**
	5.5nm,0.3s,baz=347,slow=19,SNR=3.4						
PMG				LR	LR	13 35 31.7	
	comp=Z,457nm,20.2s,baz=65,slow=38						
PMG	**Port Moresby**	**7.46**	**235**	eP	**Pn**	**13 32 34.0**	**-1.3**
	19nm,0.5s						
PMG				Sn	**Sn**	**13 33 57.1**	**-1.4**
PMG	**Port Moresby**	**7.46**	**235**	P	**Pn**	**13 32 34.8**	**-0.4**
	baz=7.7,SNR=16						
PMG				S	**Sn**	**13 33 58.7**	**+0.2**
	baz=7.7,SNR=5.0						
PATS	**Pohnpei**	**12.85**	**23**	P	**Pn**	**13 33 47.6**	**-1.4**
	baz=13,SNR=3.8						
COEN	**Coen**	**13.32**	**228**	eP	Pn	13 33 51.4	-4.0
QIS	**Mount Isa**	**20.35**	**220**	P	Pn	13 35 26.1	+2.8
	baz=20,SNR=3.5						
FAKI	**Fak Fak**	**21.13**	**275**	eP	**P**	**13 35 28.4**	**-1.0**
	12nm,0.6s						
FAKI	**Fak Fak**	**21.13**	**275**	P	**P**	**13 35 28.7**	**-0.6**
	baz=21,SNR=7.4						
DZM	**Mont Dzumac**	**21.13**	**144**	P	**P**	**13 35 29.2**	**-0.2**
	10nm,0.5s,baz=252,slow=5.7,SNR=14						
KDU	**Kakadu**	**21.92**	**248**	P	**P**	**13 35 36.0**	**-1.7**
	baz=22,SNR=46						
MTN	**Manton Dam**	**23.21**	**249**	P	**P**	**13 35 54.4**	**+3.1**
	baz=24,SNR=9.3						
WRAB	**Tennant Creek**	**23.63**	**230**	eP	**P**	**13 35 53.8**	**-1.5**
	8.6nm,0.6s						
WRA	**Warramunga Arr**	**23.64**	**230**	P	**P**	**13 35 54.1**	**-1.3**
	3.5nm,0.6s,baz=53,slow=10.0,SNR=25						
WRA				PcP	**PcP**	**13 39 40.8**	**+1.9**
	1.5nm,0.4s,baz=52,slow=2.6,SNR=7.2						
WRA				ScP	**ScP**	**13 43 18.0**	**+5.4**
	1.9nm,1.2s,baz=44,slow=2.9,SNR=5.2						
AS31	**Alice Springs**	**26.29**	**223**	eP	**P**	**13 36 17.8**	**-1.6**
ASAR	**Alice Springs**	**26.29**	**223**	P	**P**	**13 36 18.2**	**-1.3**
	0.6nm,0.5s,baz=57,slow=9.1,SNR=17						
ASAR				PcP	**PcP**	**13 39 46.4**	**+1.6**
	1.1nm,0.7s,baz=65,slow=2.5,SNR=5.5						
ASAR				ScP	**ScP**	**13 43 25.5**	**+5.5**
	0.5nm,0.7s,baz=47,slow=2.3,SNR=4.5						
KNRA	**Kununurra**	**26.31**	**245**	P	**P**	**13 36 19.1**	**-0.5**
	baz=27,SNR=47						
H11S3	**WAKE ISLAND Hy**	**26.89**	**29**	T	T	14 04 45.7	
	baz=208,slow=77,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**26.89**	**29**	T	T	14 04 45.4	
	baz=208,slow=77,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**26.91**	**29**	T	T	14 04 41.5	
	baz=208,slow=77,SNR=6.4						
STKA	**Stephens Creek**	**28.82**	**201**	P	**P**	**13 36 41.9**	**-0.1**
	1.0nm,0.7s,baz=42,slow=15,SNR=3.9						
STKA				LR	LR	13 48 20.2	
	comp=Z,177nm,18.4s,baz=26,slow=37						
STKA	**Stephens Creek**	**28.82**	**201**	eP	**P**	**13 36 41.7**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
	0.4nm,0.8s						
WRKA	**Warakurna**	**31.14**	**228**	P	**P**	**13 37 03.1**	**+0.5**
	baz=31,SNR=24						
MEEK	**Meekatharra**	**39.44**	**233**	P	**P**	**13 38 13.9**	**0.0**
	baz=40,SNR=25						
URZ	**Urewera**	**39.48**	**150**	P	**P**	**13 38 13.4**	**-0.6**
	5.1nm,0.8s,baz=360,slow=19,SNR=2.4						
MORW	**Morawa**	**42.57**	**232**	P	P	13 38 44.7	+5.1
	baz=43,SNR=5.3						
JNU	**Nakatsue**	**43.56**	**332**	P	**P**	**13 38 47.2**	**-0.3**
	8.6nm,0.8s,baz=130,slow=9.1,SNR=5.9						
MJAR	**Matsushiro Arr**	**43.76**	**342**	P	**P**	**13 38 47.8**	**-1.3**
	2.8nm,1.0s,baz=172,slow=7.8,SNR=1.2						
KSRS	**Korea Array**	**48.49**	**333**	P	**P**	**13 39 26.1**	**0.0**
	2.3nm,1.1s,baz=156,slow=8.4,SNR=8.0						
KSAR	**Wonju Array Be**	**48.50**	**333**	P	**P**	**13 39 26.1**	**-0.1**
USRK	**Ussuriysk Arra**	**52.69**	**341**	P	**P**	**13 39 56.9**	**-0.8**
	2.3nm,0.6s,baz=164,slow=8.1,SNR=5.4						
PETK	**Petropavlovsk-**	**58.10**	**3**	P	**P**	**13 40 36.3**	**-0.2**
	1.4nm,0.5s,baz=171,slow=8.4,SNR=9.4						
CMAR	**Chiang Mai Arr**	**58.47**	**295**	P	**P**	**13 40 40.1**	**+0.5**
	2.1nm,0.6s,baz=120,slow=5.9,SNR=15						
ULN	**Ulaanbaatar**	**66.51**	**328**	eP	**P**	**13 41 34.2**	**+1.1**
	3.5nm,1.0s						
SONM	**Songino Array**	**66.84**	**328**	P	**P**	**13 41 36.4**	**+1.2**
	1.0nm,0.4s,baz=135,slow=5.9						
MK31	**Makanchi Array**	**80.88**	**319**	eP	**P**	**13 42 58.2**	**+1.0**
MKAR	**Makanchi Array**	**80.88**	**319**	P	**P**	**13 42 58.0**	**+0.9**
	1.5nm,0.4s,baz=94,slow=8.0,SNR=48						
ZAA0	**Zalesovo Array**	**81.68**	**326**	eP	**P**	**13 43 00.9**	**-0.3**
ZALV	**Zalesovo Beam**	**81.68**	**326**	P	**P**	**13 43 01.1**	**0.0**
	3.2nm,0.5s,baz=112,slow=6.1,SNR=19						
ILAR	**Eielson Array**	**82.23**	**22**	P	**P**	**13 43 02.0**	**-1.8**
	0.6nm,0.7s,baz=256,slow=6.2,SNR=4.4						
KURK	**Kurchatov**	**84.31**	**322**	eP	**P**	**13 43 14.8**	**-0.1**
	1.4nm,0.9s						
TKM2	**Tokmak 2**	**84.50**	**314**	eP	**P**	**13 43 17.6**	**+1.3**
	2.1nm,0.6s						
AAK	**Ala-Archa**	**85.24**	**313**	eP	**P**	**13 43 20.7**	**+0.8**
	3.4nm,0.9s						
YBH	**Yreka Blue Hor**	**88.86**	**48**	LR	LR	14 17 41.6	
	comp=Z,120nm,19.4s,baz=236,slow=32						
ELK	**Elko**	**94.38**	**50**	LR	LR	14 23 22.4	
	comp=Z,75nm,18.1s,baz=272,slow=34						
YKA	**Yellowknife Ar**	**95.44**	**28**	P	**P**	**13 44 06.8**	**-0.5**
	0.2nm,0.9s,baz=278,slow=4.7,SNR=2.5						
PDAR	**Pinedale Array**	**98.66**	**48**	LR	LR	14 24 38.4	
	comp=Z,87nm,18.1s,baz=18,slow=33						
AKASG	**Malin Array Be**	**115.03**	**324**	PKP	**PKPdf**	**13 49 23.3**	**-0.4**
	0.8nm,0.6s,baz=58,slow=2.1,SNR=5.4						
BRTR	**Keskin Array B**	**115.88**	**312**	PKP	**PKPdf**	**13 49 26.0**	**0.0**
	1.4nm,1.1s,baz=25,slow=3.8,SNR=3.3						
CLL	**Collm**	**123.35**	**331**	ePKPdf	**PKPdf**	**13 49 40.0**	**+0.2**
GERES	**GERESS Array B**	**124.57**	**329**	PKP	**PKPdf**	**13 49 43.0**	**+0.7**
	0.7nm,0.5s,baz=90,slow=2.0,SNR=11						
TOA0	**Torodi Ar. Sit**	**150.89**	**288**	ePKPbc	**PKPbc**	**13 50 36.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**150.89**	**288**	PKPbc	**PKPbc**	**13 50 36.7**	**+0.3**
	3.6nm,0.3s,baz=74,slow=1.7,SNR=108						

ISCJB 07 13:49:14.0±1.0, 5.5S±0.1×153.0E±0.1, h37km, mb3.6/5, Error ellipse: s-maj=21.9km s-min=12.9km az=146.8
IDC 07 13:49:21.2±5.2, 5.63S×152.88E, h87km±43km, mb3.5/6, mb1 3.7/7, mb1mx3.4/31, mbtmp3.9/7, MS3.0/1, Ms1 3.0/1, ms1mx2.6/23, Error ellipse: s-maj=33.2km s-min=29.0km az=42.0
ISC 07 13:49:16.5±1.3, 5.5S±0.2×153.0E±0.1, h37km, n8, σ2°15/9, mb3.7/5, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
PMG	**Port Moresby**	**7.01**	**236**	P	**Pn**	**13 50 57.7**	**+1.0**
	2.3nm,0.3s,baz=63,slow=8.9,SNR=11						
PMG				S	**Sn**	**13 52 16.4**	**+1.2**
	4.7nm,0.3s,baz=96,slow=23,SNR=4.4						
PMG				LR	LR	13 53 22.7	
	comp=Z,124nm,21.7s,baz=29,slow=36						
DZM	**Mont Dzumac**	**20.97**	**143**	P	**P**	**13 53 57.7**	**+1.1**
	7.1nm,0.6s,baz=346,slow=17,SNR=1.8						
WRA	**Warramunga Arr**	**23.18**	**230**	P	**P**	**13 54 18.1**	**-2.0**
	1.2nm,0.4s,baz=53,slow=9.8,SNR=32						
ASAR	**Alice Springs**	**25.81**	**224**	P	**P**	**13 54 42.6**	**-1.8**
	0.9nm,0.6s,baz=55,slow=9.0,SNR=17						
STKA	**Stephens Creek**	**28.35**	**201**	P	**P**	**13 55 05.5**	**-1.6**
	1.9nm,0.7s,baz=37,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**81.01**	**319**	P	**P**	**14 01 26.4**	**-1.1**
	0.2nm,0.8s,baz=88,slow=4.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**81.86**	**326**	P	**P**	**14 01 31.4**	**-0.5**
	0.6nm,0.5s,baz=103,slow=5.0,SNR=1.4						
TORD	**Torodi Ar. Bea**	**150.75**	**287**	PKPbc	**PKPdf**	**14 09 04.0**	**+3.6**
	0.5nm,0.4s,baz=77,slow=1.5,SNR=8.5						

IDC 07 13:59:11.0±9.4, 19.09S×176.41W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.5/39, mbtmp3.8/2, MS4.0/1, Ms1 4.0/1, ms1mx3.3/16, Error ellipse: s-maj=448.4km s-min=65.4km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
PMG	**Port Moresby**	**36.53**	**280**	LR	LR	14 20 14.7	
	comp=Z,193nm,18.1s,baz=116,slow=35						
WRA	**Warramunga Arr**	**46.30**	**260**	P	P	14 07 38.9	+0.1
	0.5nm,1.0s,baz=100,slow=7.5,SNR=2.5						
ASAR	**Alice Springs**	**46.31**	**255**	P	P	14 07 38.7	-0.3
	3.8nm,1.0s,baz=88,slow=7.8,SNR=12						
BRTR	**Keskin Array B**	**146.96**	**315**	PKPbc	PKPbc	14 18 55.2	-0.8
	2.2nm,1.1s,baz=70,slow=1.7,SNR=5.5						

IDC 07 13:59:51.0±1.1, 17.19S×176.96W, h0km, mb3.9/9, mb1 4.2/9, mb1mx3.9/40, mbtmp3.9/9, MS4.1/6, Ms1 4.1/6, ms1mx3.8/17, Error ellipse: s-maj=46.4km s-min=23.2km az=135.0
ISCJB 07 13:59:54.9±0.7, 17.2S±0.1×177.1W±0.1, h33km, mb4.0/10, MS3.9/3, Error ellipse: s-maj=21.9km s-min=13.9km az=145.4
GCMT 07 13:59:56.7±0.3, 17.05S×176.85W, h16km±1km, MW4.9/75, Moment Tensor Solution. s22,c26; s75,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.79±.13; Mθθ-2.53±.11; Mφφ2.67±.11; Mrθ-0.09±.31; Mrφ0.28±.10; Mθφ1.44±.35; Best double couple: Mo2.92100×10^16 NP1:φs316.00000°, δ78.00000°, λ160.00000°. NP2: φs51.00000°, δ71.00000°, λ13.00000°. Principal axes: T 3.2850, Plg23.0000°, Azm272.0000°; N -0.7290, Plg67.0000°, Azm105.0000°; P -2.5580, Plg5.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 07 13:59:56.7±0.7, 17.19S×177.03W, h35km, mb4.4/1 Error ellipse: s-maj=22.0km s-min=14.0km az=142.0
ISC 07 13:59:56.7±0.8, 17.2S±0.2×177.1W±0.1, h35km, n19, σ1°20/16, mb4.0/10, MS3.9/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
MSVF	**Nonsavu**	**4.71**	**263**	eP	**Pn**	**14 01 04.0**	**-1.4**
RAO	**Raoul Island**	**12.02**	**184**	LR	LR	14 06 43.2	
	comp=Z,1μm,20.0s,baz=3.0,slow=34						
DZM	**Mont Dzumac**	**16.28**	**250**	LR	LR	14 09 02.6	
	comp=Z,1μm,19.0s,baz=56,slow=34						
RAR	**Rarotonga**	**16.80**	**106**	LR	LR	14 08 29.4	
	comp=Z,778nm,21.4s,baz=226,slow=31						
URZ	**Urewera**	**21.59**	**193**	P	**P**	**14 04 42.8**	**-0.6**
	4.9nm,0.7s,baz=112,slow=1.4,SNR=3.6						
URZ				LR	LR	14 11 25.3	
	comp=Z,797nm,21.7s,baz=33,slow=32						
URZ	**Urewera**	**21.59**	**193**	eP	**P**	**14 04 43.2**	**-0.3**
STKA	**Stephens Creek**	**40.10**	**241**	P	**P**	**14 07 29.7**	**+0.5**
	2.3nm,0.8s,baz=64,slow=6.8,SNR=1.9						
STKA				LR	LR	14 23 40.5	
	comp=Z,144nm,18.6s,baz=46,slow=36						
WRAB	**Tennant Creek**	**46.03**	**259**	P	**P**	**14 08 20.0**	**+2.7**
	6.3nm,1.3s						
WRA	**Warramunga Arr**	**46.04**	**259**	P	**P**	**14 08 16.6**	**-0.7**
	1.3nm,1.1s,baz=90,slow=8.0,SNR=5.3						
AS31	**Alice Springs**	**46.23**	**254**	eP	**P**	**14 08 19.4**	**+0.5**
ASAR	**Alice Springs**	**46.23**	**254**	P	**P**	**14 08 18.3**	**-0.6**
	6.8nm,0.8s,baz=88,slow=8.3,SNR=12						
QSPA	**South Pole Qui**	**72.85**	**180**	eP	**P**	**14 11 22.3**	**+0.5**
TXAR	**Lajitas Array**	**84.53**	**57**	P	**P**	**14 12 26.0**	**-0.6**
	0.4nm,1.1s,baz=206,slow=8.0,SNR=2.0						
COLA	**College**	**84.81**	**12**	eP	**P**	**14 12 26.5**	**-0.5**
ILAR	**Eielson Array**	**84.92**	**12**	P	**P**	**14 12 25.9**	**-1.8**
	0.7nm,0.6s,baz=234,slow=5.7,SNR=12						
CMAR	**Chiang Mai Arr**	**89.87**	**289**	P	**P**	**14 12 52.6**	**0.0**
	0.2nm,0.4s,baz=130,slow=4.1,SNR=1.4						
CMAR				LR	LR	14 49 32.1	
	comp=Z,43nm,21.8s,baz=56,slow=33						
YKA	**Yellowknife Ar**	**93.16**	**24**	P	**P**	**14 13 06.8**	**0.0**
	0.2nm,0.8s,baz=254,slow=4.4,SNR=2.0						
SONM	**Songino Array**	**93.87**	**319**	P	**P**	**14 13 12.5**	**+1.9**
	0.7nm,1.0s,baz=108,slow=4.7,SNR=2.3						
BRTR	**Keskin Array B**	**145.19**	**316**	PKPbc	**PKPdf**	**14 19 31.4**	**+0.3**
	3.8nm,0.8s,baz=100,slow=1.3,SNR=10						

ISCJB 07 14:08:48.7±0.5, 22.31S±0.04×67.41W±0.09, h186km±9km, mb3.8/2, Error ellipse: s-maj=13.4km s-min=7.0km az=173.8
IDC 07 14:08:49.0±1.9, 22.33S×67.28W, h167km±17km, mb3.8/2, mb1 3.9/5, mb1mx3.4/39, mbtmp4.2/5, Error ellipse: s-maj=30.5km s-min=17.7km az=77.0
NEIC 07 14:08:51.2, 22.30S×67.77W, h205km, MG4.1(GUC), After GUC.
GUC 07 14:08:51.2±0.4, 22.28S×67.84W, h206km±5km, ML4.0
ISC 07 14:08:49.3±0.8, 22.30S±0.06×67.36W±0.09, h178km±10km, n28, σ1°01/41, 3C-6D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
LVC	**Limon Verde**	**1.47**	**257**	eP	**Pn**	**14 09 22.1**	**+1.0**
LVC				S	**Sn**	**14 09 45.7**	**+0.2**
PB09	**Plate Boundary**	**1.81**	**286**	eP	**Pn**	**14 09 25.8**	**+1.3**
PB09				iS	**Sn**	**14 09 52.0**	**+0.4**
PB09	**Plate Boundary**	**1.81**	**286**	eP	**Pn**	**14 09 25.8**	**+1.3**
PB09				iS	**Sn**	**14 09 52.0**	**+0.4**
PB04	**Plate Boundary**	**1.97**	**271**	⇓iP	Pn	14 09 33.4	+7.5
PB04				iS	Sn	14 10 05.1	+11
PB04				AML	AML	14 10 08.8	
	comp=N,519nm,0.1s						
PB04	**Plate Boundary**	**1.97**	**271**	⇓iP	Pn	14 09 33.4	+7.5
PB04				iS	Sn	14 10 05.1	+11
PB06	**Plate Boundary**	**2.08**	**258**	iP	**Pn**	**14 09 28.0**	**+0.7**
PB06				iS	**Sn**	**14 09 56.1**	**-0.6**
PB06	**Plate Boundary**	**2.08**	**258**	iP	**Pn**	**14 09 28.0**	**+0.7**
PB06				iS	**Sn**	**14 09 56.1**	**-0.6**
PB01	**Plate Boundary**	**2.34**	**302**	⇓iP	**Pn**	**14 09 30.9**	**+0.8**
PB01				iS	**Sn**	**14 10 01.4**	**-0.3**
PB01				AML	AML	14 10 03.3	
	comp=E,741nm,0.2s						
PB01	**Plate Boundary**	**2.34**	**302**	⇓iP	**Pn**	**14 09 30.9**	**+0.8**
PB01				iS	**Sn**	**14 10 01.4**	**-0.3**
PB07	**Plate Boundary**	**2.41**	**283**	⇓iP	**Pn**	**14 09 31.6**	**+0.6**
PB07				eS	**Sn**	**14 10 02.1**	**-1.3**
PB07				AML	AML	14 10 03.5	
	comp=E,612nm,0.3s						
PB07	**Plate Boundary**	**2.41**	**283**	⇓iP	**Pn**	**14 09 31.6**	**+0.6**
PB07				eS	**Sn**	**14 10 02.1**	**-1.3**
PATCX	**Punta Patache**	**2.98**	**299**	⇑iP	**Pn**	**14 09 38.1**	**+0.4**
PATCX				iS	**Sn**	**14 10 13.8**	**-1.6**
HMBC	**Humberstone**	**3.10**	**310**	iP	**Pn**	**14 09 39.1**	**-0.1**
HMBC				iS	**Sn**	**14 10 16.2**	**-1.8**
HMBC	**Humberstone**	**3.10**	**310**	iP	**Pn**	**14 09 39.1**	**-0.1**
HMBC				iS	**Sn**	**14 10 16.2**	**-1.8**
MNMC	**Minimini**	**3.78**	**326**	⇑iP	**Pn**	**14 09 48.6**	**+0.7**
MNMC				iS	**Sn**	**14 10 33.0**	**-0.6**
MNMC	**Minimini**	**3.78**	**326**	⇑iP	**Pn**	**14 09 48.6**	**+0.7**
MNMC				iS	**Sn**	**14 10 33.0**	**-0.6**
LPAZ	**La Paz**	**6.02**	**353**	P	**Pn**	**14 10 19.0**	**+1.8**
	comp=E,6.9nm,0.3s,baz=163,slow=7.7,SNR=142						
LPAZ				S	**Sn**	**14 11 25.9**	**-0.4**
	comp=E,0.4nm,0.3s,baz=224,slow=11,SNR=1.1						
LCO	**Las Campanas**	**7.33**	**204**	eP	**Pn**	**14 10 32.6**	**-1.4**
SIV	**San Ignacio**	**8.64**	**45**	P	**Pn**	**14 10 49.3**	**-1.9**
	comp=E,7.7nm,0.3s,baz=250,slow=9.5,SNR=94						
SIV				S	Sn	14 12 15.4	-12
	comp=E,1.6nm,0.3s,baz=245,slow=15,SNR=2.3						
CFAA	**Coronel Fontan**	**9.30**	**185**	P	**Pn**	**14 10 58.1**	**-1.6**
	comp=E,0.1nm,0.3s,baz=355,slow=7.9,SNR=7.1						
CPUP	**Villa Florida**	**9.99**	**116**	P	**Pn**	**14 11 09.5**	**+0.8**
	comp=E,0.2nm,0.3s,baz=4.9,slow=19,SNR=2.9						
SAML	**Samuel**	**13.87**	**17**	eP	**Pn**	**14 11 57.8**	**-0.8**
TRQA	**Tornquist**	**16.38**	**165**	eP	**Pn**	**14 12 29.4**	**+0.3**
TOA0	**Torodi Ar. Sit**	**76.28**	**69**	eP	**P**	**14 20 19.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.28**	**69**	P	**P**	**14 20 19.1**	**+0.3**
	comp=E,3.2nm,0.6s,baz=256,slow=5.5,SNR=28						
YKA	**Yellowknife Ar**	**92.42**	**340**	P	**P**	**14 21 40.3**	**+1.1**
	comp=E,0.3nm,0.6s,baz=132,slow=4.4,SNR=10						
WRA	**Warramunga Arr**	**132.97**	**208**	PKP	**PKPdf**	**14 27 44.6**	**+0.4**
	comp=E,0.2nm,0.6s,baz=164,slow=1.7,SNR=5.2						
MKAR	**Makanchi Array**	**145.41**	**38**	PKPbc	**PKPab**	**14 28 07.3**	**+0.6**
	comp=E,0.3nm,0.5s,baz=328,slow=2.5,SNR=5.9						

IDC 07 14:22:09.1±1.9, 0.08N×124.67E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.1/36, mbtmp3.2/3, Error ellipse: s-maj=186.8km s-min=26.3km az=63.0
ISCJB 07 14:22:10.7±1.1, 1.07N±0.06×126.50E±0.07, h39km, mb3.1/3, Error ellipse: s-maj=11.2km s-min=8.1km az=30.2
DJA 07 14:22:20.0±0.6, 1°N±3°×12°8E±°, h10km, M3.4/4, MLv3.4/4
ISC 07 14:22:12.6±1.1, 1.05N±0.07×126.53E±0.06, h39km, n8, σ1°72/11, mb3.2/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
TNTI	**Ternate**	**0.89**	**108**	P	**Pn**	**14 22 28.6**	**0.0**
TNTI				S	**Sn**	**14 22 38.5**	**-1.7**
GAMI	**Galela, Maluku**	**1.48**	**58**	P	**Pn**	**14 22 39.0**	**+2.2**
GAMI				S	**Sn**	**14 22 52.6**	**-2.4**
LBMI	**Labuha**	**1.94**	**150**	P	**Pn**	**14 22 44.8**	**+1.7**
LBMI				S	**Sn**	**14 23 06.7**	**+0.5**
KMSI	**Cibinong**	**2.59**	**259**	P	**Sn**	**14 23 20.3**	**-1.9**
SANI	**Sanana**	**3.13**	**190**	S	**Sn**	**14 23 34.4**	**-1.1**
WRA	**Warramunga Arr**	**22.23**	**160**	P	**P**	**14 27 05.0**	**-1.0**
	0.5nm,0.5s,baz=333,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.59**	**164**	P	**P**	**14 27 37.5**	**-0.9**
	0.1nm,0.3s,baz=345,slow=8.7,SNR=8.6						
MKAR	**Makanchi Array**	**59.64**	**326**	P	**P**	**14 32 13.6**	**+0.7**
	0.1nm,0.4s,baz=126,slow=7.3,SNR=4.7						

ISCJB 07 14:25:25.0±0.6, 13.08N±0.05×124.28E±0.08, h100km, mb3.7/2, Error ellipse: s-maj=11.7km s-min=5.8km az=150.5
MAN 07 14:25:25, 13.16N×124.28E, h89km, mb4.8, ML3.7, MS3.7
IDC 07 14:25:26.0±1.8, 12.04N×125.72E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/36, mbtmp3.6/5, Error ellipse: s-maj=162.6km s-min=20.0km az=68.0
ISC 07 14:25:25.5±1.1, 13.10N±0.06×124.29E±0.08, h100km, n15, σ1°03/16, mb3.6/5, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
PVCP	**Virac**	**0.51**	**345**	⇑iP	**Pn**	**14 25 41.5**	**+0.1**
PVCP				iS	**Sn**	**14 25 54.9**	**+1.5**
CNP	**Catarman**	**0.69**	**148**	eP	**Pn**	**14 25 43.7**	**+0.8**
MMPH	**Masbate**	**0.98**	**221**	⇓eP	**Pn**	**14 25 45.9**	**+0.2**
MMPH				iS	**Sn**	**14 26 00.1**	**-0.8**
AUQP	**San Andres**	**1.59**	**278**	eP	**Pn**	**14 25 54.5**	**+1.7**
GQP	**Guinayangan**	**1.96**	**294**	⇓eP	**Pn**	**14 25 57.6**	**0.0**
GQP				eS	**Sn**	**14 26 20.9**	**-1.2**
PLP	**Palo**	**2.04**	**161**	⇑eP	**Pn**	**14 25 59.4**	**+0.8**
PLP				eS	**Sn**	**14 26 22.3**	**-1.5**
BOAC	**Boac**	**2.41**	**279**	eP	**Pn**	**14 26 04.4**	**+1.0**
CAUP	**Cauayan**	**4.50**	**328**	eP	**Pn**	**14 26 31.4**	**-0.2**
APYP	**Conner**	**5.57**	**329**	eP	**Pn**	**14 26 45.3**	**-0.7**
ABRA	**Dolores**	**5.69**	**323**	eP	**Pn**	**14 26 48.3**	**+0.6**
WRA	**Warramunga Arr**	**34.29**	**163**	P	**P**	**14 32 01.8**	**-0.7**
	0.5nm,0.6s,baz=345,slow=9.0,SNR=7.4						
SONM	**Songino Array**	**37.71**	**340**	P	P	14 32 54.5	+23
	0.6nm,0.9s,baz=152,slow=9.6,SNR=3.7						
ASAR	**Alice Springs**	**37.73**	**166**	P	**P**	**14 32 32.3**	**+0.5**
	0.7nm,0.4s,baz=342,slow=7.2,SNR=56						
MKAR	**Makanchi Array**	**48.62**	**322**	P	P	14 34 24.7	+25
	0.4nm,0.9s,baz=130,slow=7.1,SNR=3.5						
KURBB	**Kurchatov Arra**	**52.66**	**325**	P	P	14 34 55.2	+26
	0.5nm,0.8s,baz=119,slow=8.9,SNR=4.2						

ATH 07 14:33:52.3, 38.16N×26.60E, h29km, MD3.3/8
ISK 07 14:33:52.0, 38.18N×26.62E, h10km, ML3.5
DDA 07 14:33:52.2, 38.14N×26.69E, h5km, MD3.4
ISCJB 07 14:33:52.5±0.4, 38.16N±0.02×26.58E±0.03, h10km±3km, Error ellipse: s-maj=3.7km s-min=2.7km az=152.2
CSEM 07 14:33:53.8±0.1, 38.15N×26.55E, h20km, MD3.4, Error ellipse: s-maj=3.6km s-min=2.6km az=67.0
THE 07 14:33:53.5, 38.14N×26.55E, h13km±2km, ML3.4/5, Error ellipse: s-maj=2.4km s-min=1.1km az=223.0
ISC 07 14:33:52.1±1.0, 38.15N±0.02×26.59E±0.02, h10km±8km, n104, σ1°00/136, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
URLA	**Izmir**	**0.21**	**1**	iP	**Pg**	**14 33 57.0**	**+0.3**
URLA				iS	**Sg**	**14 34 00.6**	**+0.9**
BLCB	**Balcova**	**0.43**	**56**	ePG	**Pg**	**14 34 00.0**	**-0.5**
BLCB				eSG	**Sg**	**14 34 06.0**	**-0.2**
BLCB	**Balcova**	**0.43**	**56**	ePg	**Pg**	**14 34 00.0**	**-0.5**
BLCB				eSg	**Sg**	**14 34 06.0**	**-0.2**
SMG	**Samos**	**0.48**	**156**	P	**Pb**	**14 34 02.5**	**-0.1**
SMG				S	**Sb**	**14 34 10.0**	**+0.4**
SMG	**Samos**	**0.48**	**156**	ePB	**Pb**	**14 34 02.7**	**+0.1**
SMG				eSB	**Sb**	**14 34 10.1**	**+0.4**
SMG	**Samos**	**0.48**	**156**	ePb	**Pb**	**14 34 02.7**	**+0.1**
SMG				eSb	**Sb**	**14 34 10.1**	**+0.4**
CHOS	**Chios island**	**0.49**	**300**	P	**Pb**	**14 34 03.0**	**+0.2**
CHOS				S	**Sb**	**14 34 10.2**	**+0.2**
CHOS	**Chios island**	**0.49**	**300**	ePG	**Pb**	**14 34 02.8**	**0.0**
CHOS				eSG	**Sb**	**14 34 10.0**	**-0.1**
CHOS	**Chios island**	**0.49**	**300**	ePB	**Pb**	**14 34 02.8**	**0.0**
CHOS				eSB	**Sb**	**14 34 10.6**	**+0.6**
CHOS	**Chios island**	**0.49**	**300**	P	**Pb**	**14 34 03.0**	**+0.2**
CHOS				eSg	**Sb**	**14 34 10.0**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.04**	**101**	ePG	**Pn**	**14 34 12.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.04**	**101**	ePg	**Pn**	**14 34 12.7**	**-0.2**
PRK	**Paraskevi**	**1.13**	**347**	P	**Pn**	**14 34 13.4**	**-0.5**
PRK				S	**Sn**	**14 34 28.7**	**-0.8**
PRK	**Paraskevi**	**1.13**	**347**	ePN	**Pn**	**14 34 13.4**	**-0.5**
PRK				eSN	**Sn**	**14 34 29.0**	**-0.5**
PRK	**Paraskevi**	**1.13**	**347**	P	**Pn**	**14 34 13.4**	**-0.5**
PRK				S	**Sn**	**14 34 28.7**	**-0.8**
PRK				eSn	**Sn**	**14 34 29.0**	**-0.5**
AYVA	**Ayvalik**	**1.16**	**4**	iP	**Pg**	**14 34 14.3**	**-0.2**
AYVA	**Ayvalik**	**1.16**	**4**	iP	**Pg**	**14 34 14.3**	**-0.2**
AYVA				iS	**Sn**	**14 34 32.4**	**+2.1**
AKHS	**Akhisar**	**1.21**	**52**	iP	**Pn**	**14 34 14.3**	**-0.8**
AKHS				iS	**Sg**	**14 34 31.9**	**+0.9**
AKHS	**Akhisar**	**1.21**	**52**	iP	**Pn**	**14 34 14.3**	**-0.8**
AKHS				iS	**Sg**	**14 34 31.9**	**+0.9**
SIGR	**SIGRI**	**1.21**	**332**	P	**Pn**	**14 34 14.5**	**-0.6**
SIGR				S	**Sn**	**14 34 30.7**	**-0.8**
SIGR	**SIGRI**	**1.21**	**332**	ePN	**Pb**	**14 34 14.8**	**-0.4**
SIGR	**SIGRI**	**1.21**	**332**	ePn	**Pb**	**14 34 14.7**	**-0.4**
SIGR				eSN	**Sg**	**14 34 31.0**	**-0.1**
SIGR	**SIGRI**	**1.21**	**332**	P	**Pn**	**14 34 14.5**	**-0.6**
SIGR	**SIGRI**	**1.21**	**332**	ePn	**Pb**	**14 34 14.8**	**-0.4**
SIGR				S	**Sn**	**14 34 30.7**	**-0.8**
SIGR				eSn	**Sg**	**14 34 31.0**	**-0.1**
BODT	**Bodrum**	**1.22**	**152**	ePN	**Pg**	**14 34 15.9**	**+0.3**
BODT	**Bodrum**	**1.22**	**152**	ePn	**Pg**	**14 34 15.9**	**+0.3**
BDRM	**Kayabasi**	**1.27**	**148**	iP	**Pb**	**14 34 15.3**	**-0.9**
BDRM				iS	**Sg**	**14 34 34.5**	**+1.4**
BDRM	**Kayabasi**	**1.27**	**148**	iP	**Pb**	**14 34 15.3**	**-0.9**
BDRM				iS	**Sg**	**14 34 34.5**	**+1.4**
APE	**Apeiranthos**	**1.37**	**218**	P	**Pb**	**14 34 17.0**	**-0.8**
APE				S	**Sg**	**14 34 35.2**	**-0.9**
APE	**Apeiranthos**	**1.37**	**218**	ePN	**Pb**	**14 34 17.1**	**-0.6**
APE	**Apeiranthos**	**1.37**	**218**	ePN	**Pb**	**14 34 17.2**	**-0.6**
APE	**Apeiranthos**	**1.37**	**218**	ePn	**Pb**	**14 34 17.2**	**-0.6**
APE				S	**Sg**	**14 34 35.2**	**-0.9**
MANT	**Manisa**	**1.58**	**77**	iP	**Pg**	**14 34 21.9**	**-0.7**
MANT				iS	**Sb**	**14 34 41.6**	**-0.2**
MANT	**Manisa**	**1.58**	**77**	iP	**Pg**	**14 34 21.9**	**-0.7**
MANT				iS	**Sb**	**14 34 41.6**	**-0.2**
KULA	**Kula-Manisa**	**1.67**	**77**	P	**Pg**	**14 34 23.2**	**-0.9**
KULA				S	**Sb**	**14 34 44.4**	**+0.3**
KULA	**Kula-Manisa**	**1.67**	**77**	ePN	**Pb**	**14 34 21.8**	**-1.2**
KULA	**Kula-Manisa**	**1.67**	**77**	ePn	**Pb**	**14 34 21.8**	**-1.2**
KULA	**Kula-Manisa**	**1.67**	**77**	P	**Pg**	**14 34 23.2**	**-0.9**
KULA				S	**Sb**	**14 34 44.4**	**+0.3**
YER	**Yerkesik**	**1.68**	**126**	ePN	**Pb**	**14 34 21.8**	**-1.4**
YER	**Yerkesik**	**1.68**	**126**	ePn	**Pb**	**14 34 21.8**	**-1.4**
EZN	**Ezine**	**1.69**	**353**	ePN	**Pb**	**14 34 21.9**	**-0.2**
EZN	**Ezine**	**1.69**	**353**	ePn	**Pb**	**14 34 21.9**	**+0.2**
BALB	**Balikesir**	**1.80**	**34**	ePN	**Pn**	**14 34 23.5**	**+0.3**
BALB	**Balikesir**	**1.80**	**34**	ePn	**Pn**	**14 34 23.5**	**+0.3**
SANT	**Santorini**	**1.99**	**207**	ePN	**Pb**	**14 34 26.3**	**-2.1**
SANT	**Santorini**	**1.99**	**207**	ePn	**Pb**	**14 34 26.3**	**-2.1**
LIA	**Limnos Island**	**2.06**	**328**	ePB	**Pn**	**14 34 27.4**	**+0.6**
LIA	**Limnos Island**	**2.06**	**328**	ePb	**Pn**	**14 34 27.4**	**+0.6**
DALY	**Dalyan (Mu˘la**	**2.11**	**128**	ePN	**Pb**	**14 34 29.7**	**-0.7**
DALY	**Dalyan (Mu˘la**	**2.11**	**128**	ePn	**Pb**	**14 34 29.7**	**-0.7**
LPK	**Lapseki**	**2.23**	**3**	ePN	**Pb**	**14 34 30.3**	**-2.2**
LPK	**Lapseki**	**2.23**	**3**	ePn	**Pb**	**14 34 30.3**	**-2.2**
GELI	**Tayfur-Gelibol**	**2.25**	**358**	ePN	**Pn**	**14 34 29.4**	**0.0**
GELI	**Tayfur-Gelibol**	**2.25**	**358**	ePn	**Pn**	**14 34 29.4**	**0.0**
ARG	**Arkhangelos**	**2.28**	**147**	ePN	**Pb**	**14 34 30.8**	**-2.6**
ARG	**Arkhangelos**	**2.28**	**147**	ePn	**Pb**	**14 34 30.8**	**-2.6**
KRBG	**Karabiga-Canak**	**2.31**	**14**	ePN	**Pn**	**14 34 30.7**	**+0.5**
KRBG	**Karabiga-Canak**	**2.31**	**14**	ePn	**Pn**	**14 34 30.7**	**+0.5**
KHL	**Karahalli**	**2.31**	**85**	ePN	**Pn**	**14 34 31.1**	**+0.7**
KHL	**Karahalli**	**2.31**	**85**	ePn	**Pn**	**14 34 31.1**	**+0.7**
EDC	**Edincik**	**2.41**	**24**	ePN	**Pn**	**14 34 32.0**	**+0.4**
EDC	**Edincik**	**2.41**	**24**	ePn	**Pn**	**14 34 32.0**	**+0.4**
BNT	**Bandirma**	**2.44**	**25**	ePN	**Pn**	**14 34 31.7**	**-0.3**
BNT	**Bandirma**	**2.44**	**25**	ePn	**Pn**	**14 34 31.7**	**-0.3**
GDZ	**Gediz**	**2.45**	**67**	iP	**Pg**	**14 34 39.1**	**-0.1**
GDZ				iS	**Sg**	**14 35 09.5**	**-1.4**
SMTH	**Samothraki Isl**	**2.46**	**341**	ePN	**Pn**	**14 34 32.5**	**+0.1**
SMTH	**Samothraki Isl**	**2.46**	**341**	ePn	**Pn**	**14 34 32.5**	**+0.1**
GOLH	**Golhisar**	**2.52**	**110**	iP	**Pg**	**14 34 35.2**	**-2.4**
GOLH				iS	**Sn**	**14 35 05.1**	**+1.0**
GOLH	**Golhisar**	**2.52**	**110**	iP	**Pg**	**14 34 35.2**	**-2.4**
GOLH				iS	**Sn**	**14 35 05.1**	**+1.0**
MRMT	**Marmara Adasi**	**2.57**	**17**	ePN	**Pn**	**14 34 34.0**	**+0.1**
MRMT	**Marmara Adasi**	**2.57**	**17**	ePn	**Pn**	**14 34 34.0**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.58**	**10**	ePN	**Pn**	**14 34 34.8**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.58**	**10**	ePn	**Pn**	**14 34 34.8**	**+0.8**
SART	**Tekirdag**	**2.58**	**10**	iP	**Pb**	**14 34 38.5**	**0.0**
SART				iS	**Sg**	**14 35 16.2**	**+1.2**
TVSB	**Tavsanli**	**2.59**	**59**	ePN	**Pn**	**14 34 34.2**	**0.0**
TVSB	**Tavsanli**	**2.59**	**59**	ePn	**Pn**	**14 34 34.2**	**0.0**
ENEZ	**Enez**	**2.61**	**353**	ePN	**Pn**	**14 34 34.4**	**+0.1**
ENEZ	**Enez**	**2.61**	**353**	ePn	**Pn**	**14 34 34.4**	**+0.1**
ALN	**Alexandroupoli**	**2.78**	**351**	ePN	**Pn**	**14 34 37.3**	**+0.6**
ALN	**Alexandroupoli**	**2.78**	**351**	ePn	**Pn**	**14 34 37.1**	**+0.4**
ALN	**Alexandroupoli**	**2.78**	**351**	ePn	**Pn**	**14 34 37.1**	**+0.4**
NPS	**Neapolis**	**2.98**	**196**	ePN	**Pn**	**14 34 40.2**	**+0.7**
NPS	**Neapolis**	**2.98**	**196**	ePn	**Pn**	**14 34 40.2**	**+0.7**
ELL	**Elmali**	**2.99**	**117**	ePN	Pb	14 34 41.8	-3.7
ELL	**Elmali**	**2.99**	**117**	ePn	Pb	14 34 41.8	-3.7
GEMT	**Gemlik**	**3.05**	**41**	ePN	**Pn**	**14 34 41.9**	**+1.5**
GEMT	**Gemlik**	**3.05**	**41**	ePn	**Pn**	**14 34 41.9**	**+1.5**
RDO	**Rodhopi**	**3.10**	**345**	ePN	**Pn**	**14 34 41.5**	**+0.4**
RDO	**Rodhopi**	**3.10**	**345**	ePn	**Pn**	**14 34 41.5**	**+0.4**
CAVI	**Cavuskoy**	**3.26**	**50**	ePN	**Pn**	**14 34 45.0**	**+1.8**
CAVI	**Cavuskoy**	**3.26**	**50**	ePn	**Pn**	**14 34 45.0**	**+1.8**
SLVT	**Silivri**	**3.32**	**22**	ePN	**Pn**	**14 34 46.4**	**+2.3**
SLVT	**Silivri**	**3.32**	**22**	ePn	**Pn**	**14 34 46.4**	**+2.3**
VAM	**Vamos**	**3.34**	**216**	ePN	**Pn**	**14 34 45.4**	**+1.0**
VAM	**Vamos**	**3.34**	**216**	ePn	**Pn**	**14 34 45.4**	**+1.0**
CTKS	**Kestanelik-??a**	**3.42**	**25**	ePN	**Pn**	**14 34 47.6**	**+2.1**
CTKS	**Kestanelik-??a**	**3.42**	**25**	ePn	**Pn**	**14 34 47.6**	**+2.1**
BGKT	**Bogazkoy**	**3.47**	**28**	ePN	**Pn**	**14 34 47.3**	**+1.2**
BGKT	**Bogazkoy**	**3.47**	**28**	ePn	**Pn**	**14 34 47.3**	**+1.2**
SEYT	**Eskypehyr**	**3.60**	**66**	iP	**Pg**	**14 35 03.2**	**+2.2**
SEYT				iS	**Sg**	**14 35 49.0**	**+1.4**
EDRB	**Edirne**	**3.70**	**2**	ePN	**Pn**	**14 34 49.4**	**+0.1**
EDRB	**Edirne**	**3.70**	**2**	ePn	**Pn**	**14 34 49.4**	**+0.1**
NVR	**Nevrokopi**	**3.83**	**328**	ePN	**Pn**	**14 34 51.8**	**+0.6**
NVR	**Nevrokopi**	**3.83**	**328**	ePn	**Pn**	**14 34 51.8**	**+0.6**

IDC 07 14:39:30.5±5.8, 23.17S×178.34W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/30, mbtmp3.4/2, Error ellipse: s-maj=273.5km s-min=47.8km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ASAR	**Alice Springs**	**43.66**	**259**	P	P	14 47 36.5	-0.8
	0.2nm,0.3s,baz=96,slow=4.7,SNR=18						

WRA	Warramunga Arr	43.98	265	P	P	14 47 39.9	0.0
	0.2nm,0.4s,baz=101,slow=8.3,SNR=8.6						
AKASG	Malin Array Be	145.16	329	PKPbc	PKPbc	14 59 07.0	-2.4
	1.2nm,0.5s,baz=43,slow=4.0,SNR=9.4						
BRTR	Keskin Array B	148.33	309	PKPbc	PKPbc	14 59 20.6	+1.4
	0.5nm,0.7s,baz=90,slow=2.9,SNR=2.4						

*ISCJB **07** 14:46:51.7±0.5, 58.55S±0.08×26.2W±0.2, h107km, mb4.6/13, Error ellipse: s-maj=14.1km s-min=10.1km az=147.7*
*IDC **07** 14:46:58.5±4.0, 58.66S×26.29W, h158km±36km, mb4.3/12, mb1 4.3/13, mb1mx4.1/24, mbtmp4.7/13, MS3.2/1, Ms1 3.2/1, ms1mx2.9/18, Error ellipse: s-maj=16.3km s-min=11.4km az=57.0*
*NEIC **07** 14:46:59.6±1.2, 58.66S×26.24W, h170km±11km, mb4.5/3, Error ellipse: s-maj=10.4km s-min=6.6km az=57.0*
*AWI **07** 14:47:26.5, 60.59S×23.74W*
ISC 07 14:46:52.8±0.5, 58.59S±0.09×26.2W±0.1, h107km, n44, σ1.28/38, mb4.7/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.16	303	eP	Pn	14 48 41.7	+7.1
VNA1	Neumayer--Stat	14.24	155	P	P	14 50 15.0	+1.8
VNA1	Neumayer--Stat	14.24	155	P	Pn	14 50 09.3	+0.2
VNA3	Neumayer Olymp	14.42	158	P	P	14 50 18.1	+2.9
VNA2	Neumayer--Watz	14.64	155	P	P	14 50 18.9	+1.3
	baz=317,slow=15						
SNAA	Sanae	16.21	153	P	P	14 50 42.0	+6.9
SNAA	Sanae	16.21	153	P	P	14 50 36.2	+1.1
SNAA	Sanae	16.21	153	P	P	14 50 35.9	+0.8
	0.5nm,0.3s,baz=308,slow=11,SNR=29						
PMSA	Palmer Station	18.76	235	eP	Pn	14 51 05.6	+0.9
TRQA	Tornquist	30.88	296	eP	P	14 53 00.1	+1.3
QSPA	South Pole Qui	31.66	180	P	P	14 53 06.2	+0.6
	15nm,0.5s,baz=206,slow=3.1,SNR=38						
QSPA	South Pole Qui	31.66	180	eP	P	14 53 06.2	+0.6
	11nm,0.5s						
PLCA	Paso Flores	33.05	283	P	P	14 53 18.2	+0.4
	5.2nm,0.5s,baz=146,slow=6.1,SNR=12						
MAW	Mawson	37.80	141	P	P	14 53 57.8	-0.2
	12nm,0.5s,baz=220,slow=6.6,SNR=7.1						
CPUP	Villa Florida	38.91	312	LR	LR	15 11 46.6	
	comp=Z,31nm,18.1s,baz=25,slow=38						
CFAA	Coronel Fontan	39.10	295	P	P	14 54 09.1	-0.3
	0.7nm,0.4s,baz=147,slow=8.7,SNR=21						
VNDA	Vanda	44.06	183	P	P	14 54 50.2	+1.0
	12nm,0.6s,baz=185,slow=7.1,SNR=39						
VNDA	Vanda	44.06	183	eP	P	14 54 50.1	+0.9
BDFB	Brasilia	45.84	330	P	P	14 55 05.4	+1.2
	2.8nm,0.4s,baz=155,slow=9.2,SNR=12						
BOSA	Boshof	46.14	72	P	P	14 55 07.2	+0.8
	9.5nm,0.7s,baz=213,slow=7.0,SNR=17						
BOSA	Boshof	46.14	72	eP	P	14 55 07.2	+0.8
	9.1nm,0.7s						
H10S2	ASCENSION HYDR	50.30	15	T	T	15 50 15.4	
	baz=188,slow=75,SNR=9.2						
H10S3	ASCENSION HYDR	50.30	15	T	T	15 50 15.5	
	baz=188,slow=75,SNR=15						
H10S1	ASCENSION HYDR	50.31	15	T	T	15 50 16.8	
	baz=188,slow=75,SNR=9.9						
LPAZ	La Paz	52.30	306	P	P	14 55 54.2	+0.3
	3.8nm,0.4s,baz=96,slow=8.1,SNR=7.3						
SAML	Samuel	56.98	315	eP	P	14 56 26.1	-1.0
	3.8nm,0.5s						
DBIC	Dimbokro	67.27	23	P	P	14 57 36.3	+0.6
	2.5nm,0.3s,baz=172,slow=5.5,SNR=8.5						
TOA0	Torodi Ar. Sit	75.02	28	eP	P	14 58 23.3	+1.0
TORD	Torodi Ar. Bea	75.02	28	P	P	14 58 23.4	+1.0
	4.3nm,0.5s,baz=199,slow=6.4,SNR=84						
STKA	Stephens Creek	89.30	170	P	P	14 59 35.9	-0.9
	2.5nm,0.7s,baz=158,slow=4.9,SNR=11						
ASAR	Alice Springs	96.40	162	P	P	15 00 08.2	-1.4
	2.2nm,0.6s,baz=186,slow=4.1,SNR=65						
ASAR				PP	PP	15 03 59.6	-4.1
	0.3nm,0.8s,baz=190,slow=8.2,SNR=4.9						
WRA	Warramunga Arr	100.12	161	P	Pdif	15 00 24.2	-2.1
	0.3nm,0.5s,baz=194,slow=4.3,SNR=4.8						
CMAR	Chiang Mai Arr	123.65	111	PKP	PKPdf	15 05 36.9	-0.7
	1.1nm,0.7s,baz=228,slow=3.5,SNR=10						
FINES	FINESS Array B	126.37	28	PKP	PKPdf	15 05 40.6	-0.8
	1.4nm,0.8s,baz=205,slow=8.0,SNR=5.9						
ARCES	ARCESS Array B	133.10	22	PKP	PKPdf	15 05 53.4	-0.6
	2.4nm,0.8s,baz=275,slow=1.5,SNR=7.3						
YKA	Yellowknife Ar	138.40	316	PKhKP	PKPpre	15 05 54.7	
	0.1nm,0.4s,baz=125,slow=3.4,SNR=5.0						
YKA				PKP	PKPdf	15 06 03.3	-0.6
	1.3nm,0.6s,baz=129,slow=2.2,SNR=41						
ZALV	Zalesovo Beam	142.94	66	PKhKP	PKPpre	15 06 07.9	
	0.9nm,0.3s,baz=234,slow=5.2,SNR=7.0						
INK	Inuvik	148.09	318	PKPbc	PKPbc	15 06 23.2	-0.9
	2.7nm,0.8s,baz=68,slow=1.6,SNR=17						
INK	Inuvik	148.09	318	ePKPbc	PKPbc	15 06 23.1	-1.0
DAWY	Dawson	148.85	309	ePKPbc	PKPbc	15 06 25.2	-1.2
SONM	Songino Array	150.25	90	PKPbc	PKPbc	15 06 29.6	-0.7
	3.9nm,0.7s,baz=218,slow=3.1,SNR=27						
ILAR	Eielson Array	152.16	308	PKPbc	PKPbc	15 06 32.9	-1.2
	1.4nm,0.5s,baz=299,slow=1.1,SNR=29						
KSAR	Wonju Array Be	152.95	130	PKPab	PKPab	15 06 48.0	-0.3
KSRS	Korea Array	152.97	130	PKPab	PKPab	15 06 48.0	-0.4
	1.4nm,0.8s,baz=209,slow=4.4,SNR=6.7						

*ISCJB **07** 14:49:21.4±0.8, 21.0N±0.1×38.2E±0.1, h10km, mb3.7/11, MS3.2/3, Error ellipse: s-maj=17.4km s-min=15.0km az=178.8*
*IDC **07** 14:49:21.6±1.1, 20.93N×38.22E, h0km, mb3.6/10, mb1 3.7/11, mb1mx3.5/41, mbtmp3.6/11, ML3.1/1, MS3.2/6, Ms1 3.2/6, ms1mx3.0/31, Error ellipse: s-maj=24.0km s-min=21.8km az=138.0*
ISC 07 14:49:23.1±0.9, 20.9N±0.1×38.2E±0.2, h10km, n17, σ0.68/12, mb3.6/11, MS3.2/3, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	Elat	9.18	342	LR	LR	14 54 30.6	
	comp=Z,107nm,21.8s,baz=235,slow=34						
MMAI	Mount Meron Ar	12.28	349	LR	LR	14 56 34.2	
	comp=Z,82nm,19.8s,baz=240,slow=35						
BRTR	Keskin Array B	19.13	349	P	P	14 53 45.8	-0.7
	0.1nm,0.3s,baz=182,slow=13,SNR=2.3						
GNI	Garni	19.94	15	LR	LR	15 02 15.8	
	comp=Z,86nm,18.6s,baz=254,slow=39						
KMBO	Kilima Mbogo	21.95	183	P	P	14 54 18.2	+0.8
	0.8nm,0.3s,baz=5.3,slow=7.1,SNR=5.6						
KBZ	Khabaz	23.05	9	LR	LR	15 03 40.6	
	comp=Z,98nm,18.5s,baz=279,slow=37						
MLR	Muntele Rosu	26.48	340	LR	LR	15 06 58.9	
	comp=Z,53nm,18.4s,baz=288,slow=40						
AKASG	Malin Array Be	30.53	349	P	P	14 55 36.2	-0.3
	0.2nm,0.3s,baz=171,slow=7.2,SNR=2.6						
GERES	GERESS Array B	34.05	331	P	P	14 56 08.2	+0.6
	0.7nm,0.9s,baz=104,slow=5.6,SNR=6.3						
BRG	Berggiesshubel	35.43	333	eP	P	14 56 20.0	+0.6
	15nm,1.5s						
TORD	Torodi Ar. Bea	35.70	263	P	P	14 56 21.3	-0.8
	1.0nm,1.0s,baz=38,slow=4.6,SNR=5.8						
KURBB	Kurchatov Arra	43.29	37	P	P	14 57 25.6	+0.7
	0.4nm,0.6s,baz=245,slow=8.6,SNR=7.2						
MKAR	Makanchi Array	43.98	43	P	P	14 57 30.8	+0.2
	1.0nm,0.8s,baz=243,slow=5.3,SNR=7.6						
NOA	NORSAR Array B	44.30	342	P	P	14 57 33.6	+0.7
	2.4nm,1.1s,baz=138,slow=8.1,SNR=2.9						
ZALV	Zalesovo Beam	48.22	35	P	P	14 58 03.8	-0.1
	0.3nm,0.3s,baz=260,slow=8.9,SNR=4.4						
CMAR	Chiang Mai Arr	56.93	81	P	P	14 59 08.3	-0.7
	0.2nm,0.3s,baz=283,slow=8.2,SNR=4.0						
CMAR				LR	LR	15 27 56.3	
	comp=Z,20nm,18.3s,baz=290,slow=41						
SONM	Songino Array	60.22	46	P	P	14 59 31.5	-0.1
	1.4nm,0.9s,baz=263,slow=8.4,SNR=10						

GUC 07 14:54:20.3±0.3, 20.14S×69.26W, h98km±2km, ML3.7, 2C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	Plate Boundary	0.53	315	⇓iP	Pn	14 54 36.5	+0.1
PB11				iS	Sn	14 54 49.0	+0.7
PB11				AML	AML	14 54 51.0	
	comp=E,16μm,0.2s						
HMBC	Humberstone	0.61	256	⇓iP	Pn	14 54 37.2	+0.3
HMBC				iS	Sn	14 54 50.1	+0.7
HMBC				AML	AML	14 54 51.4	
	comp=N,3μm,0.3s						
PB01	Plate Boundary	0.93	193	⇓iP	Pn	14 54 40.2	+0.2
PB01				iS	Sn	14 54 55.5	+0.7
PB01				AML	AML	14 54 56.5	
	comp=N,1μm,0.3s						
PSGC	Pisagua	0.97	303	⇑iP	Pn	14 54 40.9	+0.4
PSGC				iS	Sn	14 54 56.5	+0.9
PSGC				AML	AML	14 55 00.9	
	comp=N,844nm,0.4s						
MNMC	Minimini	1.05	342	eP	Pn	14 54 42.1	+0.6
MNMC				iS	Sn	14 54 58.4	+0.9
MNMC				AML	AML	14 55 01.0	
	comp=E,2μm,0.2s						
PATCX	Punta Patache	1.08	231	⇓iP	Pn	14 54 42.1	+0.5
PATCX				iS	Sn	14 54 58.6	+0.9
PATCX				AML	AML	14 55 03.8	
	comp=E,911nm,0.2s						
PB09	Plate Boundary	1.65	180	eP	Pn	14 54 49.5	+0.8
PB09				iS	Sn	14 55 11.4	+1.2
PB09				AML	AML	14 55 18.2	
	comp=N,1μm,0.3s						
ARCH	Arica	1.91	329	⇑iP	Pn	14 54 52.1	+0.4
ARCH				iS	Sn	14 55 16.5	+1.0

*IDC **07** 14:56:40.6±3.3, 20.94N×146.32E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/43, mbtmp3.6/6, Error ellipse: s-maj=126.2km s-min=22.2km az=78.0*
*ISCJB **07** 14:56:45.3±2.9, 20.8N±0.2×146.0E±0.8, h37km, mb3.5/6, Error ellipse: s-maj=112.7km s-min=19.2km az=168.4*
ISC 07 14:56:46.5±3.0, 20.9N±0.2×146.1E±0.8, h37km, n6, σ0.66/6, mb3.6/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	22.85	320	P	P	15 01 47.4	+0.8
	1.8nm,0.9s,baz=146,slow=8.9,SNR=7.7						
SONM	Songino Array	41.72	320	P	P	15 04 31.8	-0.2
	0.5nm,0.4s,baz=127,slow=7.8,SNR=11						
WRA	Warramunga Arr	42.80	197	P	P	15 04 36.2	+0.2
	0.4nm,0.6s,baz=9.9,slow=8.3,SNR=6.2						
ASAR	Alice Springs	45.87	196	P	P	15 05 05.3	-0.1
	0.2nm,0.7s,baz=12,slow=6.8,SNR=4.6						
MKAR	Makanchi Array	57.26	313	P	P	15 06 29.7	-0.7
	0.4nm,0.6s,baz=93,slow=8.2,SNR=6.7						
FINES	FINESS Array B	85.07	335	P	P	15 09 18.4	+0.2
	1.5nm,0.9s,baz=47,slow=3.4,SNR=4.2						

*JMA **07** 14:57:00.9±0.3, 43.91N×148.29E, h0km, M3.5*
*SKHL **07** 14:57:00.7±0.9, 44.51N×148.65E, h42km±5km, mb4.4/2*
ISC 07 14:56:58.4±4.1, 44.45N±0.10×148.8E±0.2, h47km, n10, σ1.83/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.01	321	eP	Pn	14 57 16.0	-0.1
KUR				AMB	AMB	14 57 16.7	
	110nm,0.4s						
KUR				AMB	AMB	14 57 16.7	
	160nm,0.4s						
KUR				eS	Sn	14 57 28.0	-1.1
KUR				A	A	14 57 28.5	
	470nm,0.4s						
KUR				A	A	14 57 28.5	
	260nm,0.4s						
SHO	Shikotan	1.50	248	eP	Pn	14 57 23.6	+0.8
SHO				eS	Sn	14 57 40.0	-1.2
SHO				A	A	14 57 40.3	
	319nm,0.4s						
YUK	Yuzh-Kuril'sk	2.12	260	eP	Pn	14 57 33.0	+1.7
YUK				AMB	AMB	14 57 33.7	
	10.0nm,0.2s						
YUK				AMB	AMB	14 57 33.7	
	51nm,0.2s						
YUK				eS	Sn	14 57 57.4	+1.0
YUK				A	A	14 57 57.6	
	80nm,0.3s						
YUK				A	A	14 57 57.6	
	180nm,0.3s						
NEM2	Nemuro 2	2.43	245	P	Pn	14 57 35.4	-0.2
NEM2				eS	Sn	14 58 00.7	-3.4
JRA	Rausu	2.66	260	P	Pn	14 57 40.2	+2.0
JNK	Nakash	3.04	255	P	Pn	14 57 45.2	+1.3
JAK	Akkeshi	3.28	245	P	Pn	14 57 47.7	+0.5
JAK				eS	Sn	14 58 21.9	-3.1
JAR	Ashorobuto	3.78	254	P	Pn	14 57 56.2	+2.1
JAR				eS	Sn	14 58 36.6	-0.8
JCH	Churui	4.33	247	P	Pn	14 58 03.3	+1.7
JKB	Kayabe	6.20	248	P	Pn	14 58 28.7	+1.4

*IDC **07** 15:05:29.9±0.7, 8.39S×157.18E, h0km, mb4.2/14, mb1 4.3/15, mb1mx4.2/30, mbtmp4.1/15, ML2.0/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/38, Error ellipse: s-maj=24.7km s-min=16.8km az=119.0*
*ISCJB **07** 15:05:31.0±0.5, 8.36S±0.08×157.16E±0.10, h16km, mb4.2/20, MS3.4/2, Error ellipse: s-maj=15.9km s-min=8.2km az=34.7*
*NEIC **07** 15:05:38.8±2.6, 8.33S×157.07E, h64km±22km, mb4.4/7, Error ellipse: s-maj=19.5km s-min=12.9km az=106.0*
*BJI **07** 15:05:39.7, 8.40S×157.30E, h60km, mB4.9/4, mb4.5/12*
ISC 07 15:05:32.4±0.6, 8.40S±0.09×157.3E±0.1, h16km, n43, σ1.10/44, mb4.3/20, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.77	112	LR	LR	15 06 57.8	
	comp=Z,289nm,19.3s,baz=130,slow=30						
RABL	Rabaul	6.63	309	P	Pb	15 07 28.8	+1.3
	baz=6.4,SNR=4.5						
PMG	Port Moresby	10.11	264	Pn	P	15 07 56.5	-0.5
	0.1nm,0.3s,baz=83,slow=17,SNR=2.3						
PMG				LR	LR	15 11 34.1	
	comp=Z,340nm,20.1s,baz=88,slow=37						
COEN	Coen	14.95	247	eP	Pn	15 09 03.8	+0.5
	83nm,1.1s						
CTAO	Charters Tower	15.82	222	eP	P	15 09 18.8	+0.4
	3.6nm,0.6s						
DZM	Mont Dzumac	16.17	148	LR	LR	15 14 51.0	
	comp=Z,115nm,18.1s,baz=286,slow=34						
QIS	Mount Isa	20.97	233	P	P	15 10 14.2	-0.9
	baz=20,SNR=3.9						
QLP	Quilpie	21.95	213	P	P	15 10 24.9	-0.6
	baz=21,SNR=8.7						
WRAB	Tennant Creek	25.03	240	eP	P	15 10 53.6	-2.4
	9.5nm,0.9s						
WRA	Warramunga Arr	25.04	240	P	P	15 10 54.3	-1.9
	8.5nm,0.8s,baz=66,slow=10,SNR=35						
WRA				PcP	PcP	15 14 31.4	+0.5
	1.5nm,0.6s,baz=69,slow=2.6,SNR=16						
CMSA	Cobar Meteorol	25.45	204	P	P	15 10 59.5	-0.2
	baz=25,SNR=8.2						
AS31	Alice Springs	27.10	233	eP	P	15 11 15.5	+0.8
ASAR	Alice Springs	27.10	233	P	P	15 11 12.4	-2.4
	2.6nm,0.9s,baz=61,slow=9.8,SNR=19						
ASAR				PcP	PcP	15 14 35.0	-0.7
	0.5nm,0.7s,baz=59,slow=2.1,SNR=6.6						
ASAR				LR	LR	15 21 13.8	
	comp=Z,109nm,21.4s,baz=66,slow=35						
STKA	Stephens Creek	27.57	210	P	P	15 11 18.6	-0.3
	4.8nm,0.6s,baz=42,slow=14,SNR=22						
STKA				PcP	PcP	15 14 36.4	-0.2
	1.9nm,1.0s,baz=2.8,slow=6.5,SNR=3.8						
STKA				LR	LR	15 21 29.2	
	comp=Z,102nm,20.5s,baz=25,slow=35						
STKA	Stephens Creek	27.57	210	eP	P	15 11 19.4	+0.5
	2.7nm,1.1s						
STKA				PcP	PcP	15 14 36.4	-0.2
STKA	Stephens Creek	27.57	210	P	P	15 11 22.3	+3.4
	baz=27,SNR=4.5						
KNRA	Kununurra	28.85	253	P	P	15 11 32.4	+1.9
	baz=28,SNR=3.1						
BBOO	Buckleboo	31.28	216	P	P	15 11 52.5	+0.7
	baz=30,SNR=5.2						
WRKA	Warakurna	32.25	236	P	P	15 11 57.7	-2.8
	baz=31,SNR=6.7						
MEEK	Meekatharra	40.93	239	P	P	15 13 12.5	-1.9
	baz=40,SNR=4.4						
JAGI	Jajag, Banyuwa	42.71	267	eP	P	15 13 28.0	-1.1
	24nm,0.8s						
JAGI	Jajag, Banyuwa	42.71	267	P	P	15 13 28.9	-0.2
	baz=42,SNR=3.4						
KLBR	Kellerberrin	43.42	232	P	P	15 13 34.9	+0.2
	baz=42,SNR=4.4						
KSRS	Korea Array	53.27	331	P	P	15 14 49.7	-0.8
	0.8nm,0.6s,baz=142,slow=6.8,SNR=4.3						
KSAR	Wonju Array Be	53.28	331	P	P	15 14 49.7	-0.9
CMAR	Chiang Mai Arr	63.48	295	P	P	15 16 01.9	-0.3
	3.9nm,0.9s,baz=118,slow=5.2,SNR=22						
CHTO	Chiang Mai	63.60	296	P	P	15 16 02.4	-0.7
	6.6nm,1.1s						
SEY	Seymchan	71.22	358	P	P	15 16 50.8	+0.4
	1.0nm,0.7s,baz=100,slow=10.0,SNR=3.3						
SONM	Songino Array	71.77	327	P	P	15 16 54.0	-0.3
	1.0nm,0.9s,baz=119,slow=12,SNR=3.2						
ARS	Arshan	76.22	329	ePN	P	15 17 20.0	-0.1
ARS				e		15 18 20.3	
ARS				pmax	pmax		
	comp=Z,3.0nm,0.2s						
ARS				smax	smax		
	comp=N,122nm,0.9s						
BILL	Bilibino	76.51	3	eP	P	15 17 21.6	+0.3
	comp=N,5.8nm,1.0s						
QSPA	South Pole Qui	81.59	180	P	P	15 17 49.5	0.0
	comp=N,3.8nm,0.9s,baz=337,slow=1.3,SNR=5.5						
MCK	McKinley	82.50	21	eP	P	15 17 53.8	-0.2
	comp=N,14nm,1.2s						
ILAR	Eielson Array	83.83	21	P	P	15 18 00.4	-0.5
	comp=N,0.4nm,0.4s,baz=260,slow=5.5,SNR=9.7						
MK31	Makanchi Array	85.99	318	eP	P	15 18 11.8	-0.4
MK31	Makanchi Array	85.99	318	eP	P	15 18 11.8	-0.3
MKAR	Makanchi Array	85.99	318	P	P	15 18 12.1	-0.1
MKAR	Makanchi Array	85.99	318	P	P	15 18 12.1	0.0
	comp=N,2.1nm,0.6s,baz=98,slow=6.1,SNR=28						
ZALV	Zalesovo Beam	86.64	326	P	P	15 18 13.7	-1.5
	comp=N,0.5nm,0.5s,baz=104,slow=6.3,SNR=4.6						
NVAR	Mina Array Bea	90.76	51	P	P	15 18 36.8	+1.4
	comp=N,0.6nm,0.6s,baz=245,slow=9.2,SNR=3.7						
YKA	Yellowknife Ar	96.48	28	P	P	15 19 01.4	+0.7
	comp=N,0.5nm,0.7s,baz=263,slow=4.5,SNR=12						
PDAR	Pinedale Array	97.91	48	P	P	15 19 07.7	-0.3
	comp=N,0.2nm,0.6s,baz=214,slow=3.1,SNR=2.4						
BDFB	Brasilia	145.34	133	PKPbc	PKPdf	15 25 11.3	+0.5
	comp=N,5.2nm,0.8s,baz=166,slow=2.0,SNR=7.6						

IDC 07 15:18:12.2±7.9, 59.89S×158.23E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/27, mbtmp3.8/4, ML3.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/20, Error ellipse: s-maj=435.1km s-min=23.0km az=74.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	5.42	5	S	Sn	15 20 24.9	-12
	baz=46,SNR=4.8						
VNDA	Vanda	17.76	177	P	Pn	15 22 19.6	-0.8
	0.1nm,0.3s,baz=336,slow=10,SNR=3.6						
VNDA				LR	LR	15 27 01.8	
	comp=Z,61nm,20.6s,baz=310,slow=30						
QSPA	South Pole Qui	30.21	180	P	P	15 24 24.4	+0.3
	0.7nm,0.4s,baz=27,slow=14,SNR=3.8						
H01W1	Cape Leeuwin H	37.86	291	T	T	16 06 17.2	
	baz=145,slow=76,SNR=19						
H01W2	Cape Leeuwin H	37.86	291	T	T	16 06 17.8	
	baz=145,slow=76,SNR=17						
H01W3	Cape Leeuwin H	37.87	291	T	T	16 06 18.7	
	baz=145,slow=76,SNR=16						
ASAR	Alice Springs	40.01	324	P	P	15 25 48.4	-0.2
	0.7nm,0.7s,baz=160,slow=7.6,SNR=14						
WRA	Warramunga Arr	43.40	326	P	P	15 26 16.3	-0.1
	0.9nm,0.8s,baz=161,slow=6.6,SNR=6.1						

*NIED **07** 15:23:00, 48.20N×155.30E, h59km, Mw4.7 Best double couple: M_0 1.22000×10[16] NP1:φs254.00000°, δ11.00000°, λ-86.00000°. NP2:φs70.00000°, δ79.00000°, λ-91.00000°.*
*BJI **07** 15:23:29.3, 48.77N×155.63E, h45km, mB4.8/11, mb4.4/18*
*MOS **07** 15:23:31.5±1.4, 48.34N×154.90E, h31km, mb4.3/24, Error ellipse: s-maj=11.5km s-min=7.3km az=69.4*
*ISCJB **07** 15:23:32.4±0.4, 48.28N±0.04×154.88E±0.06, h43km, mb4.1/27, MS3.8/8, Error ellipse: s-maj=8.1km s-min=3.3km az=137.2*
*IDC **07** 15:23:33.8±0.6, 48.31N×154.73E, h36km±5km, mb3.7/17, mb1 4.0/23, mb1mx3.9/45, mbtmp4.0/23, ML3.4/6, MS3.6/12, Ms1 3.6/12, ms1mx3.3/40, Error ellipse: s-maj=17.0km s-min=10.2km az=143.0*
*SKHL **07** 15:23:34.0±1.0, 48.26N×155.12E, h54km±3km, mb5.1/8*
*NEIC **07** 15:23:36.2±1.6, 48.39N×154.93E, h67km±15km, mb4.3/8, Error ellipse: s-maj=31.2km s-min=11.1km az=149.0*
ISC 07 15:23:34.2±0.5, 48.26N±0.07×154.96E±0.06, h43km, n133, σ1.55/125, mb4.1/27, MS3.7/8, 4C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.54	17	ePN	Pn	15 24 05.9	-7.0
SKR				pmax	pmax		
	comp=N,120nm,0.8s						
SKR				pmax	pmax		
	comp=E,70nm,0.8s						
SKR				pmax	pmax		
	comp=Z,190nm,0.8s						
SKR	Severo-Kuril's	2.54	17	eP	Pn	15 24 11.4	-1.5
SKR				AMB	AMB	15 24 16.5	
	comp=Z,120nm,0.8s						
SKR				AMB	AMB	15 24 16.5	
	comp=Z,70nm,0.8s						
SKR				AMB	AMB	15 24 16.5	
	comp=Z,190nm,0.8s						
SKR				eS	Sn	15 24 40.3	-2.3
SKR				A	A	15 24 52.7	
	comp=Z,710nm,0.6s						
SKR				A	A	15 24 52.7	
	comp=Z,540nm,0.6s						
PAU	Pauzhetka	3.43	20	eP	Pn	15 24 25.6	+0.5
PAU				eS	Sn	15 25 03.6	-0.8
PAU				A	A	15 25 12.0	
	comp=Z,190nm,0.7s						
PAU				A	A	15 25 12.0	
	comp=Z,230nm,0.7s						
PEA0B	Petropavlovsk-	5.16	19	eP	Pn	15 24 49.8	+1.0
PETK	Petropavlovsk-	5.16	19	PN	Pn	15 24 47.9	-0.9
PETK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,15nm,28.6s						
PETK	Petropavlovsk-	5.16	19	Pn	Pn	15 24 47.9	-0.9
	comp=Z,3.6nm,0.3s,baz=174,slow=14,SNR=138						
PETK				LR	LR	15 27 13.4	
	comp=Z,220nm,19.8s,baz=207,slow=42						
PET	Petropavlovsk	5.32	25	ePN	Pn	15 24 50.6	-0.4
PET				pmax	pmax		
	comp=Z,50nm,0.8s						
PET	Petropavlovsk	5.32	25	eP	Pn	15 24 50.6	-0.4
	comp=Z,50nm,0.8s						
PET	Petropavlovsk	5.32	25	eP	Pn	15 24 50.6	-0.4
PET				AMB	AMB	15 24 54.3	
	comp=Z,409nm,0.7s						
PET				eS	Sn	15 25 47.3	-3.6
PET				A	A	15 26 05.9	
	comp=Z,301nm,0.6s						
KUR	Kuril'sk	5.74	241	c iPN	Pn	15 24 59.6	+2.8
KUR				i		15 26 08.3	
KUR				pmax	pmax		
	comp=N,19nm,0.4s						
KUR				pmax	pmax		
	comp=Z,67nm,0.9s						
KUR				pmax	pmax		
	comp=E,17nm,0.3s						
KUR				pmax	pmax		
	comp=Z,9μm,0.3s						
KUR				pmax	pmax		
	comp=Z,377nm,1.9s						
KUR				pmax	pmax		
	comp=E,768nm,2.4s						
KUR				pmax	pmax		
	comp=N,550nm,2.4s						
KUR				pmax	pmax		
	comp=N,103nm,1.7s						
KUR	Kuril'sk	5.74	241	eP	Pn	15 24 59.0	+2.2
KUR				AMB	AMB	15 25 02.4	
	comp=N,60nm,0.7s						
KUR				AMB	AMB	15 25 02.4	
	comp=N,110nm,0.7s						
KUR				AMB	AMB	15 25 02.4	
	comp=N,310nm,0.7s						
KUR				eS	Sn	15 26 02.1	+0.8

KUR				A	A	15 26 11.4	
	comp=N,280nm,0.9s						
KUR				A	A	15 26 11.4	
	comp=N,530nm,0.9s						
SHO	Shikotan	7.16	235	eP	Pn	15 25 15.7	-0.6
SHO				eS	Sn	15 26 32.1	-4.1
SHO				A	A	15 26 56.2	
	comp=N,2μm,0.7s						
YUK	Yuzh-Kuril'sk	7.60	240	d iPN	Pn	15 25 23.8	+1.5
YUK				eS	Sn	15 26 51.8	+4.7
YUK				pmax	pmax		
	comp=N,56nm,0.4s						
YUK				pmax	pmax		
	comp=E,33nm,0.4s						
YUK				pmax	pmax		
	comp=Z,151nm,0.4s						
YUK	Yuzh-Kuril'sk	7.60	240	eP	Pn	15 25 23.8	+1.5
YUK				AMB	AMB	15 25 24.1	
	comp=Z,60nm,0.4s						
YUK				AMB	AMB	15 25 24.1	
	comp=Z,30nm,0.4s						
YUK				AMB	AMB	15 25 24.1	
	comp=Z,151nm,0.4s						
NEM2	Nemuro 2	8.09	236	P	Pn	15 25 27.6	-1.4
NEM2				eS	Sn	15 26 53.9	-5.1
JRA	Rausu	8.09	241	P	Pn	15 25 30.8	+1.8
YSS	Yuzh-Sakhalins	8.35	266	ePN	Pn	15 25 34.7	+2.1
YSS				pmax	pmax		
	comp=Z,25nm,0.6s						
YSS	Yuzh-Sakhalins	8.35	266	eP	Pn	15 25 34.7	+2.1
	comp=Z,25nm,0.6s						
YSS	Yuzh-Sakhalins	8.35	266	eP	Pn	15 25 34.5	+1.9
YSS				AMB	AMB	15 25 44.3	
	comp=Z,300nm,0.7s						
YSS				eS	Sn	15 27 05.8	+0.2
YSS				A	A	15 27 11.6	
	comp=Z,354nm,0.5s						
YSS				A	A	15 27 11.6	
	comp=Z,319nm,0.5s						
YSS				AMS	AMS	15 28 45.0	
	comp=Z,300nm,13.0s						
TYV	Tymovskoe	8.41	293	eP	Pn	15 25 36.5	+3.0
TYV				AMB	AMB	15 25 41.2	
	comp=Z,11nm,0.8s						
JNK	Nakash	8.53	241	P	Pn	15 25 35.7	+0.6
JAK	Akkeshi	8.91	238	P	Pn	15 25 38.8	-1.4
JAK				eS	Sn	15 27 13.2	-6.0
JSE	Soyaes	9.14	253	P	Pn	15 25 46.3	+2.9
JAR	Ashorobuto	9.26	242	P	Pn	15 25 45.3	+0.2
JWK2	Keihoku	9.43	257	P	Pn	15 25 51.5	+4.1
JOB	Onbets	9.46	240	P	Pn	15 25 47.3	-0.5
ASAJ	Asahikawa	9.52	249	P	Pn	15 25 51.5	+2.8
ASAJ	Asahikawa	9.52	249	Pn	Pn	15 25 46.7	-1.9
	comp=Z,0.1nm,0.3s,baz=191,slow=33,SNR=14						
ASAJ				LR	LR	15 29 08.6	
	comp=Z,224nm,20.4s,baz=57,slow=36						
ASAJ	Asahikawa	9.52	249	eP	Pn	15 25 51.8	+3.1
	comp=Z,11nm,0.8s						
JKK2	Kamakawa 2	9.55	247	P	Pn	15 25 51.2	+2.1
JCH	Churui	9.91	240	P	Pn	15 25 52.9	-1.1
JCH				eS	Sn	15 27 37.1	-6.7
NKL	Nikolayevsk	10.29	304	eP	Pn	15 26 02.0	+2.9
NKL				AMB	AMB	15 26 06.8	
	comp=Z,20nm,1.0s						
NKL				AMS	AMS	15 30 50.7	
	comp=Z,500nm,14.0s						
JBT2	Biratori 2	10.40	243	P	Pn	15 26 00.3	-0.3
JNBK	Urakawa-nobuka	10.47	240	P	Pn	15 25 59.1	-2.5
JKB	Kayabe	11.72	242	P	Pn	15 26 16.3	-2.4
JTM	Tenmabayashi	12.40	238	P	Pn	15 26 24.2	-3.8
JTM				eS	Sn	15 28 32.9	-12
JANG	Nango	12.43	236	P	Pn	15 26 23.6	-4.8
FX1	Attu Island--F	12.45	61	Pn	Pn	15 26 28.4	-0.3
	comp=Z,4.4nm,0.3s,baz=329,slow=5.0,SNR=8.2						
FX1				Sn	Sn	15 28 37.2	-8.6
	comp=Z,2.2nm,0.3s,baz=160,slow=21,SNR=5.7						
FX1				LR	LR	15 31 41.2	
	comp=Z,100nm,20.1s,baz=262,slow=39						
HABR	Khabarovsk	13.24	278	ePN	P	15 26 45.9	-2.4
HABR				eSS	S	15 29 17.7	-10
HABR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EKMR	Ekimchan	14.74	297	eP	Pn	15 26 58.6	-1.1
EKMR				AMB	AMB	15 27 04.7	
	comp=Z,12nm,0.5s						
SEY	Seymchan	14.78	355	Pn	Pn	15 27 00.8	+0.7
	comp=Z,0.1nm,0.3s,baz=154,slow=10,SNR=5.9						
KLR	Kul'dur	15.34	282	eP	Pn	15 27 07.4	-0.1
KLR				MLR	MLR		
	comp=Z,800nm,13.0s						
KLR	Kul'dur	15.34	282	eP	Pn	15 27 07.4	-0.1
KLR				AMS	AMS	15 34 17.0	
	comp=Z,800nm,13.0s						
USRK	Ussuriysk Arra	16.39	264	Pn	Pn	15 27 19.9	-1.1
	comp=Z,0.7nm,0.3s,baz=67,slow=12,SNR=16						
USRK				LR	LR	15 33 02.5	
	comp=Z,129nm,18.7s,baz=36,slow=35						
MJAR	Matsushiro Arr	16.99	233	Pn	Pn	15 27 26.7	-1.9
	comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=8.0						
BMKR	Bomnak	17.44	302	eP	Pn	15 27 31.7	-2.3
BMKR				AMB	AMB	15 27 35.9	
	comp=Z,7.0nm,0.6s						
MDJ	Mudanjiang	17.83	268	eP	P	15 27 40.2	+1.0
	comp=Z,6.6nm,0.8s						
ZEA	Zeya	18.22	298	eP	Pn	15 27 47.4	+3.8
KROS	Kirovskiy	18.47	300	eP	P	15 27 44.0	-2.2
KROS				AMB	AMB	15 27 46.1	
	comp=Z,3.0nm,0.6s						
YAK	Yakutsk	19.79	324	eP	P	15 28 00.4	-0.1
YAK				pmax	pmax		
	comp=Z,20nm,0.6s						
YAK	Yakutsk	19.79	324	eP	P	15 28 00.4	-0.1
	comp=Z,20nm,0.6s						
BILL	Bilibino	20.65	12	iP	P	15 28 10.0	+0.2
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BILL	Bilibino	20.65	12	eP	P	15 28 08.1	-1.7
	comp=Z,3.8nm,0.8s						
BILL	Bilibino	20.65	12	eP	P	15 28 10.0	+0.2
CN2	Changchun	20.90	269	eP	P	15 28 12.2	-0.6
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
KSRS	Korea Array	22.46	251	P	P	15 28 29.4	-0.1
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSRS	Korea Array	22.46	251	P	P	15 28 29.4	-0.1
	comp=Z,5.1nm,0.6s,baz=47,slow=9.6,SNR=25						
JNU	Nakatsue	23.57	239	P	P	15 28 43.4	+2.6
	comp=Z,4.8nm,0.8s,baz=38,slow=0.4,SNR=5.4						
JNU				LR	LR	15 38 32.8	
	comp=Z,60nm,20.0s,baz=98,slow=38						
GAMB	Gambell	23.86	37	eP	P	15 28 43.5	+0.3
	comp=Z,28nm,1.4s						
TIXI	Tiksi	26.40	342⇓	eP	P	15 29 07.1	+0.9
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.2s						
H11N2	WAKE ISLAND Hy	30.05	157	T	T	16 01 20.8	
	baz=347,slow=77,SNR=96						
H11N1	WAKE ISLAND Hy	30.07	157	T	T	16 01 15.6	
	baz=347,slow=77,SNR=205						
H11N3	WAKE ISLAND Hy	30.07	157	T	T	16 01 28.5	
	baz=347,slow=77,SNR=78						
H11S1	WAKE ISLAND Hy	31.18	158	T	T	16 02 44.5	
	baz=348,slow=78,SNR=1588						
H11S3	WAKE ISLAND Hy	31.18	158	T	T	16 02 45.3	
	baz=348,slow=78,SNR=1631						
H11S2	WAKE ISLAND Hy	31.19	158	T	T	16 02 43.9	
	baz=348,slow=78,SNR=1039						
ULN	Ulaanbaatar	31.61	288⇓	eP	P	15 29 53.4	+0.5
ULN				pmax	pmax		
	comp=Z,5.0nm,2.5s						
ULN	Ulaanbaatar	31.61	288	eP	P	15 29 53.4	+0.5
SONM	Songino Array	32.04	288	eP	P	15 29 56.8	+0.2
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	Songino Array	32.04	288	P	P	15 29 56.8	+0.2
	comp=Z,1.0nm,0.8s,baz=68,slow=9.0						
COLA	College	34.17	40⇑	iP	P	15 30 16.1	+1.2
COLA				pmax	pmax		
	comp=Z,32nm,1.1s						
COLA	College	34.17	40	eP	P	15 30 16.1	+1.2
ILAR	Eielson Array	34.59	40	P	P	15 30 18.8	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	34.59	40	P	P	15 30 18.8	+0.3
	comp=Z,0.9nm,0.8s,baz=267,slow=7.4,SNR=12						
ENH	Enshi	38.87	259	eP	P	15 30 51.6	-3.7
	comp=Z,117nm,1.4s						
INK	Inuvik	39.70	34	P	P	15 31 02.4	+0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	Inuvik	39.70	34	P	P	15 31 02.4	+0.7
	comp=Z,1.3nm,0.8s,baz=317,slow=6.3,SNR=3.5						
ZALV	Zalesovo Beam	42.76	305	P	P	15 31 26.3	-0.7
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	42.76	305	P	P	15 31 26.3	-0.7
	comp=Z,0.5nm,0.5s,baz=62,slow=6.5,SNR=3.9						
MK31	Makanchi Array	47.37	297	eP	P	15 32 01.5	-2.3
MK31	Makanchi Array	47.37	297	eP	P	15 32 01.5	-2.3
MKAR	Makanchi Array	47.37	297	P	P	15 32 02.0	-1.8
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,89nm,19.8s						
MKAR	Makanchi Array	47.37	297	P	P	15 32 02.0	-1.8
	comp=Z,2.5nm,0.8s,baz=65,slow=8.2,SNR=19						
MKAR				LR	LR	15 53 22.6	
	comp=Z,89nm,19.8s,baz=348,slow=38						
KURK	Kurchatov	47.58	303	eP	P	15 32 01.2	-4.1
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	47.58	303	eP	P	15 32 01.2	-4.1
	comp=Z,1.4nm,0.7s						
KURK	Kurchatov	47.58	303	eP	P	15 32 06.8	+1.5
YKA	Yellowknife Ar	48.96	38	P	P	15 32 16.8	+1.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	48.96	38	P	P	15 32 16.8	+1.0
	comp=Z,1.2nm,0.8s,baz=297,slow=7.2,SNR=13						
LSA	Lhasa	51.44	273	eP	P	15 32 35.7	+0.2
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LSA	Lhasa	51.44	273	eP	P	15 32 35.7	+0.2
	comp=Z,3.1nm,0.6s						
CHTO	Chiang Mai	53.68	257	eP	P	15 32 51.8	+0.1
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	Chiang Mai	53.68	257	eP	P	15 32 51.8	+0.1
	comp=Z,3.1nm,0.6s						
CMAR	Chiang Mai Arr	53.94	257c	eP	P	15 32 54.2	+0.6
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	Chiang Mai Arr	53.94	257	P	P	15 32 52.8	-0.8
	comp=Z,2.2nm,0.8s,baz=34,slow=7.2,SNR=12						
CMAR				LR	LR	15 56 39.3	
	comp=Z,45nm,19.4s,baz=210,slow=37						
CMAR	Chiang Mai Arr	53.94	257	eP	P	15 32 54.2	+0.6
TAPN	Taplejung	55.26	273	eP	P	15 33 01.8	-1.7
YBH	Yreka Blue Hor	55.94	64	LR	LR	15 53 57.2	
	comp=Z,106nm,18.9s,baz=39,slow=32						
JIRN	Jiri	56.07	275	eP	P	15 33 08.6	-0.7
GUN	Gumba	56.11	275	eP	P	15 33 08.9	-0.7
RAMN	Ramite	56.27	274	eP	P	15 33 09.8	-0.8
DMN	Daman	56.83	276	eP	P	15 33 14.2	-0.4
	comp=Z,7.6nm,0.7s						
ARCES	ARCESS Array B	56.84	341	LR	LR	16 00 05.0	
	comp=Z,71nm,21.2s,baz=283,slow=39						
GKN	Gorkha	56.88	276	eP	P	15 33 14.0	-0.8
	comp=Z,4.6nm,0.4s						
JTMT	Jette	57.11	53	eP	P	15 33 16.9	+0.8
DANN	Dangsing	57.23	277	eP	P	15 33 17.3	-0.2
	comp=Z,8.6nm,0.6s						
KOLN	Koldanda	57.72	277	eP	P	15 33 20.4	-0.4
PYUN	Piuthan	57.91	277	eP	P	15 33 21.5	-0.6
	comp=Z,5.2nm,0.3s						
ABKAR	Akbulak array	58.42	310	eP	P	15 33 25.6	+0.4
	comp=Z,0.8nm,0.5s						
PDAR	Pinedale Array	62.85	55	P	P	15 33 57.1	+1.4
	comp=Z,3.0nm,0.9s,baz=308,slow=2.3,SNR=18						
FINES	FINESS Array B	63.20	335c	eP	P	15 33 59.7	+2.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	63.20	335	P	P	15 33 56.8	-0.6
	comp=Z,1.2nm,0.7s,baz=46,slow=6.0,SNR=7.1						
FINES	FINESS Array B	63.20	335	eP	P	15 33 59.7	+2.3
ULM	Lac du Bonnet	64.56	42	LR	LR	16 05 37.8	
	comp=Z,165nm,18.1s,baz=70,slow=39						
NB2	NORSAR Subarra	67.19	342	P	P	15 34 21.6	-1.8
	comp=Z,3.0nm,1.1s,baz=26,slow=6.5						
NOA	NORSAR Array B	67.19	342	P	P	15 34 22.9	-0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,15nm,28.6s						
NOA	NORSAR Array B	67.19	342	P	P	15 34 22.9	-0.5
	comp=Z,1.0nm,0.8s,baz=26,slow=6.4,SNR=3.8						
NOA				LR	LR	16 06 57.2	
	comp=Z,44nm,19.7s,baz=35,slow=39						
ANMO	Albuquerque	69.98	60⇓	iP	P	15 34 43.2	+1.8
ANMO				pmax	pmax		
	comp=Z,40nm,2.5s						
WRA	Warramunga Arr	70.36	201	P	P	15 34 43.8	+0.4
WRA				*PP	pP	15 34 54.4	-1.6
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	Warramunga Arr	70.36	201	P	P	15 34 43.8	+0.4
	comp=Z,2.9nm,0.8s,baz=18,slow=6.6,SNR=16						
WRA				pP	pP	15 34 54.4	-1.6
	comp=Z,1.9nm,0.8s,baz=16,slow=6.5,SNR=6.5						
AKASG	Malin Array Be	70.98	327	P	P	15 34 46.4	-0.5
	comp=Z,0.2nm,0.3s,baz=30,slow=5.1,SNR=3.2						
AKASG				LR	LR	16 07 18.2	
	comp=Z,85nm,19.9s,baz=275,slow=37						
ASAR	Alice Springs	74.05	200	P	P	15 35 05.4	0.0
ASAR				*PP	pP	15 35 16.8	-1.3
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	74.05	200	P	P	15 35 05.3	0.0
	comp=Z,0.8nm,0.8s,baz=15,slow=5.8,SNR=12						
ASAR				pP	pP	15 35 16.8	-1.3
	comp=Z,1.3nm,0.7s,baz=16,slow=5.2,SNR=7.3						
TXAR	Lajitas Array	75.67	62	P	P	15 35 16.3	+1.2
TXAR				*PP	PcP	15 35 27.7	0.0
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	Lajitas Array	75.67	62	P	P	15 35 16.2	+1.2
	comp=Z,1.5nm,0.8s,baz=291,slow=3.9,SNR=21						
TXAR				pP	PcP	15 35 27.6	0.0
	comp=Z,1.6nm,0.7s,baz=302,slow=4.7,SNR=11						
KHC	Kasperske Hory	77.41	335	eP	P	15 35 24.8	+0.3
KHC	Kasperske Hory	77.41	335	eP	P	15 35 24.8	+0.3
KHC	Kasperske Hory	77.41	335	eP	P	15 35 24.8	+0.3
GERES	GERESS Array B	77.63	335	P	P	15 35 25.3	-0.5
	comp=Z,0.4nm,0.5s,baz=28,slow=6.0,SNR=5.3						
BRTR	Keskin Array B	78.13	318	iP	P	15 35 32.9	+4.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	Keskin Array B	78.13	318	P	P	15 35 29.1	+0.3
	comp=Z,1.3nm,1.0s,baz=54,slow=2.1,SNR=4.4						
H03N2	Juan Fernandez	137.50	90	T	T	18 16 00.2	
	baz=308,slow=75,SNR=43						
H03N1	Juan Fernandez	137.52	90	T	T	18 15 57.1	
	baz=308,slow=75,SNR=43						
H03N3	Juan Fernandez	137.52	90	T	T	18 16 04.4	
	baz=308,slow=75,SNR=57						

IDC 07 15:24:24.9±55.0,13.66S×179.81E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/29,mbtmp3.6/3,Error ellipse: s-maj=1003.0km s-min=163.4km az=72.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.37	236	P	P	15 31 56.1	-0.3
	1.3nm,0.8s,baz=65,slow=10,SNR=4.5						
WRA	Warramunga Arr	43.88	255	P	P	15 32 33.5	0.0
	0.3nm,0.9s,baz=85,slow=8.2,SNR=3.7						
ASAR	Alice Springs	44.45	250	P	P	15 32 38.0	-0.1
	0.8nm,0.8s,baz=83,slow=8.6,SNR=40						

IDC 07 15:26:40.8±1.7,15.21S×175.65W,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.5/30,mbtmp3.6/4,ML3.4/1,Error ellipse: s-maj=98.6km s-min=22.9km az=156.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.97	72	Pn	Pn	15 27 43.7	+0.6
	2.7nm,0.3s,baz=229,slow=9.3,SNR=3.9						
AFI				Sn	Sn	15 28 30.1	-0.4
	2.7nm,0.3s,baz=72,slow=20,SNR=2.8						
WRA	Warramunga Arr	47.77	257	P	P	15 35 18.6	-1.7
	0.4nm,0.9s,baz=96,slow=8.3,SNR=3.3						
ASAR	Alice Springs	48.10	252	P	P	15 35 24.1	+1.2
	0.8nm,0.6s,baz=83,slow=8.0,SNR=14						
ILAR	Eielson Array	82.69	12	P	P	15 39 05.9	-0.1
	0.3nm,0.8s,baz=221,slow=5.2,SNR=5.1						

CSEM 07 15:28:52.4±0.8,35.77N×29.26E,h2km,MD2.7,Error ellipse: s-maj=17.3km s-min=7.2km az=162.0
DDA 07 15:28:53.3,35.79N×29.42E,h7km,MD2.7
ISK 07 15:28:54.7,35.88N×29.36E,h20km,ML2.8,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	Kas	0.41	30	iP	Pb	15 29 02.8	-0.6
AKAS				iS	Sb	15 29 09.6	+0.3
AKAS	Kas	0.41	30	iP	Pb	15 29 02.8	-0.7
AKAS				iS	Sb	15 29 09.6	+0.2
ELL	Elmali	0.98	27	ePG	Pn	15 29 13.7	+0.2
ELL	Elmali	0.98	27	ePg	Pn	15 29 13.7	+0.2
DALY	Dalyan (Muˇla	1.09	329	ePN	Pb	15 29 15.0	+0.1
DALY				eSN	Sn	15 29 30.5	+1.1
DALY	Dalyan (Muˇla	1.09	329	ePn	Pb	15 29 15.0	0.0
DALY				eSn	Sn	15 29 30.5	+1.1
GOLH	Golhisar	1.37	7	iP	Pb	15 29 20.3	+0.5
GOLH				iS	Sb	15 29 41.5	+4.6
GOLH	Golhisar	1.37	7	iP	Pb	15 29 20.3	+0.5
GOLH				iS	Sb	15 29 41.5	+4.6
KORT	Korkueli	1.38	35	iP	Pb	15 29 20.5	+0.5
KORT				iS	Sb	15 29 39.5	+2.2
KORT	Korkueli	1.38	35	iP	Pb	15 29 20.5	+0.6
KORT				iS	Sb	15 29 39.5	+2.2
YER	Yerkesik	1.52	326	ePN	Pn	15 29 21.6	+0.7
YER	Yerkesik	1.52	326	ePn	Pn	15 29 21.6	+0.7
AYDB	Zeytinkoy-Aydi	2.38	331	ePN	Pn	15 29 33.8	+1.0
AYDB	Zeytinkoy-Aydi	2.38	331	ePn	Pn	15 29 33.8	+1.1

DDA 07 15:30:37.0,39.92N×39.59E,h19km,MD2.9
CSEM 07 15:30:37.6±0.2,39.94N×39.62E,h2km,MD2.9,Error ellipse: s-maj=6.2km s-min=4.5km az=159.0
ISK 07 15:30:36.8,39.97N×39.73E,h5km,MD2.9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUZM	Uzumlu	0.26	186	iP	Pg	15 30 42.0	-0.1
EUZM				iS	Sg	15 30 46.5	+0.9
EUZM	Uzumlu	0.26	186	iP	Pg	15 30 42.0	-0.1
EUZM				iS	Sg	15 30 46.5	+0.9
EZC	Erzincan	0.36	234	eSg	Sg	15 30 50.3	+1.3
ERZN	Erzincan	0.38	181	ePG	Pg	15 30 44.8	+0.4
ERZN				eSG	Sg	15 30 50.3	+0.8
KELT	Kelkit	0.41	297	iP	Pg	15 30 44.8	-0.2
KELT				iS	Sg	15 30 50.1	-0.5
KELT	Kelkit	0.41	297	iP	Pg	15 30 44.8	-0.2
KELT				iS	Sg	15 30 50.1	-0.5
GUMT	Gumushane	0.53	339	ePG	Pg	15 30 47.4	+0.2
MACK	Trabzon	0.98	2	iP	Pb	15 30 56.7	+0.4
MACK				iS	Sg	15 31 08.9	+0.5
MACK	Trabzon	0.98	2	iP	Pb	15 30 56.7	+0.4
MACK				iS	Sg	15 31 08.9	+0.6
KTUT	Trabzon	1.02	1	ePG	Pb	15 30 56.7	-0.3
ILIC	ilic-Erzincan	1.03	241	ePG	Pb	15 30 57.6	+0.2
ILIC	ilic-Erzincan	1.03	241	ePg	Pb	15 30 57.6	+0.2
PTK	Pertek	1.10	194	ePN	Pg	15 30 58.1	-0.2
PTK	Pertek	1.10	194	ePn	Pg	15 30 58.1	-0.2
KEMA	Kemaliye	1.18	234	iP	Pg	15 30 57.7	-2.0
KEMA				iS	Sg	15 31 14.4	-0.7
KEMA	Kemaliye	1.18	234	iP	Pg	15 30 57.7	-2.0
KEMA				iS	Sg	15 31 14.4	-0.8
SUSE	Susehri	1.20	282	iP	Pg	15 30 58.2	-1.8
SUSE				iS	Sg	15 31 14.0	-1.8
SUSE	Susehri	1.20	282	iP	Pg	15 30 58.2	-1.8
SUSE				iS	Sg	15 31 14.0	-1.8
EZM	Erzurum	1.25	92	ePN	Pn	15 31 01.5	+0.1
ERZM	Erzurum	1.26	92	iP	Pn	15 31 02.2	+0.8
ERZM				iS	Sn	15 31 23.4	+4.4
ERZM	Erzurum	1.26	92	iP	Pn	15 31 02.2	+0.8
ERZM				iS	Sn	15 31 23.4	+4.4
GRSN	GIRESUNGRSN	1.47	311	iP	Pn	15 31 03.2	-0.8
GRSN				iS	Sn	15 31 22.0	-1.7
GRSN	GIRESUNGRSN	1.47	311	iP	Pn	15 31 03.2	-0.8
GRSN				iS	Sn	15 31 22.0	-1.8
DDEM	Demirkent	1.80	58	iP	Pg	15 31 11.8	+0.4
DDEM				iS	Sg	15 31 37.4	+2.5
DDEM	Demirkent	1.80	58	iP	Pg	15 31 11.8	+0.3
DDEM				iS	Sg	15 31 37.4	+2.5
DBAD	Bademkaya	1.83	54	iP	Pg	15 31 11.1	+0.2
DBAD				iS	Sg	15 31 35.4	-0.5
DBAD	Bademkaya	1.83	54	iP	Pb	15 31 11.1	+0.2
DBAD				iS	Sg	15 31 35.4	-0.5
RSDY	Resadiye-TOKAT	1.89	284	ePN	Pn	15 31 10.6	+0.8
RSDY	Resadiye-TOKAT	1.89	284	ePn	Pn	15 31 10.6	+0.8
DAGI	Agillar	2.00	56	iP	Pb	15 31 14.3	+0.5
DAGI				iS	Sb	15 31 40.1	+1.0
ARTV	Artvin	2.07	53	iP	Pb	15 31 15.7	+0.5
ARTV				iS	Sg	15 31 43.3	-0.5
ARTV	Artvin	2.07	53	iP	Pb	15 31 15.7	+0.6
ARTV				iS	Sg	15 31 43.3	-0.6
SVSK	Karacayir	2.10	270	ePN	Pn	15 31 13.7	+1.1
SVSK	Karacayir	2.10	270	ePn	Pn	15 31 13.7	+1.1
DARE	Darende-Malaty	2.23	232	ePN	Pn	15 31 15.5	+0.9
DARE	Darende-Malaty	2.23	232	ePn	Pn	15 31 15.5	+0.9
BEST	Besiri	2.40	149	iP	Pg	15 31 22.0	-0.9
BEST				iS	Sb	15 31 52.0	+1.5

IDC 07 15:31:31.8±5.2,15.79S×172.71W,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.5/33,mbtmp3.5/4,ML3.3/1,Error ellipse: s-maj=206.8km s-min=24.3km az=135.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.08	26	Pn	Pn	15 32 07.1	-0.9
	9.6nm,0.3s,baz=201,slow=4.4,SNR=25						
AFI				Sn	Sn	15 32 30.0	-4.7
	27nm,0.3s,baz=77,slow=7.4,SNR=8.9						
WRA	Warramunga Arr	50.40	257	P	P	15 40 31.2	-0.2
	0.2nm,0.4s,baz=94,slow=8.1,SNR=9.4						
ASAR	Alice Springs	50.62	252	P	P	15 40 32.8	-0.3
	0.7nm,0.8s,baz=89,slow=7.4,SNR=24						
ILAR	Eielson Array	82.70	11	P	P	15 43 57.5	+0.6
	0.3nm,0.6s,baz=226,slow=6.2,SNR=8.7						

KRSC 07 15:37:16.6±1.6,48.48N×156.50E,h39km±37km,ML4.1
MOS 07 15:37:17.9±1.0,48.50N×156.12E,h89km,mb4.3/1,Error ellipse: s-maj=99.9km s-min=10.2km az=80.0
ISC 07 15:37:19.1±4.4,48.4N±0.2×156.3E±0.2,h35km,n25, σ1§12/31,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.27	357	ePN	Pn	15 37 46.5	-7.5
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,70nm,0.4s						
SKR				pmax	pmax		
	comp=Z,100nm,0.4s						
SKR	Severo-Kuril's	2.27	357	eP	Pn	15 37 53.4	-0.6
SKR				eS	Sn	15 38 18.6	-2.1
PAU	Pauzhetka	3.07	6	PN	Pn	15 38 05.3	+0.3
PAU				S	Sn	15 38 39.9	-0.5
PAU	Pauzhetka	3.07	6	eP	Pn	15 38 05.3	+0.3
PAU				eS	Sn	15 38 39.9	-0.5
MIPR	Malaya Ipel'ka	3.87	4	eP	Pn	15 38 15.9	-0.1
MIPR				eS	Sn	15 39 00.8	+0.6
MTVR	Mutnovka	4.24	16	eP	Pn	15 38 22.3	+1.1
MTVR				eS	Sn	15 39 10.6	+1.1
RUS	Russkaya	4.26	18	eS	Sn	15 39 09.0	-0.7
PET	Petropavlovsk	4.84	17	PN	Pn	15 38 30.8	+1.5

PET				S	Sn	15 39 25.1	+1.0
PET	Petropavlovsk	4.84	17	eP	Pn	15 38 30.8	+1.5
PET				eS	Sn	15 39 25.1	+1.0
UGLR	Uglovaya	5.05	17	eP	Pn	15 38 33.1	+0.8
AVH	Avacha	5.09	17	PN	Pn	15 38 33.8	+1.0
AVH	Avacha	5.09	17	eP	Pn	15 38 33.8	+1.0
KOK	Koryaka	5.09	16	PN	Pn	15 38 33.7	+0.8
KOK	Koryaka	5.09	16	eP	Pn	15 38 33.7	+0.8
SMAR	Somma	5.10	17	PN	Pn	15 38 33.7	+0.6
SMAR	Somma	5.10	17	eP	Pn	15 38 33.7	+0.6
KRER	Koryakskii	5.13	17	eP	Pn	15 38 34.9	+1.4
KRX	Arik	5.16	16	eP	Pn	15 38 35.3	+1.4
GNL	Ganaly	5.38	10	PN	Pn	15 38 37.6	+0.7
GNL	Ganaly	5.38	10	eP	Pn	15 38 37.6	+0.7
TUMR	Tumrok	7.27	18	PN	Pn	15 39 03.8	+1.0
TUMR	Tumrok	7.27	18	eP	Pn	15 39 03.8	+1.0
KBTR	Krutoberegovo	8.76	25	PN	Pn	15 39 22.3	-0.7
KBTR	Krutoberegovo	8.76	25	eP	Pn	15 39 22.3	-0.7
BKI	Bering	9.05	38	eS	Sn	15 41 04.7	-2.8

IDC 07 15:38:52.6±1.5, 21°.56N×94°.16E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.2/41, mbtmp3.3/5, ML3.0/1, MS2.3/1, Ms1 2.3/1, ms1mx2.1/35, Error ellipse: s-maj=55.3km s-min=18.4km az=54.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	5.46	124	Pn	Pn	15 40 16.1	+0.9
	0.1nm,0.3s,baz=304,slow=14,SNR=2.8						
CMAR				Lg	Lg	15 41 45.0	
	0.4nm,0.3s,baz=298,slow=31,SNR=4.5						
TGY	Tagaytay City	26.52	102	LR	LR	15 56 05.4	
	comp=Z,6.1nm,18.5s,baz=152,slow=39						
MKAR	Makanchi Array	26.95	342	P	P	15 44 36.5	+0.8
	0.4nm,0.7s,baz=155,slow=9.0,SNR=5.6						
ZALV	Zalesovo Beam	33.10	350	P	P	15 45 29.0	-1.1
	0.5nm,0.3s,baz=170,slow=7.6,SNR=4.1						
WRA	Warramunga Arr	56.96	134	P	P	15 48 39.2	-1.0
	0.1nm,0.3s,baz=320,slow=7.6,SNR=5.1						
ASAR	Alice Springs	59.31	137	P	P	15 48 57.2	+0.7
	0.4nm,0.8s,baz=322,slow=6.1,SNR=7.7						

ISCJB 07 15:43:46.7±0.8, 20°.91N±0°.10×38°.1E±0°.1, h10km, mb3.7/12, MS3.4/6, Error ellipse: s-maj=17.0km s-min=13.6km az=26.4

IDC 07 15:43:46.9±1.0, 20°.89N×38°.10E, h0km, mb3.6/11, mb1 3.7/13, mb1mx3.6/38, mbtmp3.6/13, ML3.0/2, MS3.4/10, Ms1 3.4/10, ms1mx3.2/34, Error ellipse: s-maj=21.1km s-min=20.1km az=29.0

ISC 07 15:43:48.4±0.9, 20°.9N±0°.1×38°.1E±0°.1, h10km, n21, σ0§99/15, mb3.7/12, MS3.3/7, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	Elat	9.21	343	Pn	Pn	15 46 02.3	+1.0
	0.3nm,0.3s,baz=279,slow=19,SNR=2.5						
EIL				LR	LR	15 48 56.7	
	comp=Z,233nm,21.2s,baz=160,slow=34						
MMAI	Mount Meron Ar	12.33	349	LR	LR	15 51 09.6	
	comp=Z,134nm,19.4s,baz=170,slow=36						
BRTR	Keskin Array B	19.17	349	P	Pn	15 48 13.8	+0.6
	0.0nm,0.3s,baz=181,slow=5.7,SNR=3.7						
BRTR				LR	LR	15 54 57.1	
	comp=Z,81nm,18.1s,baz=250,slow=35						
GNI	Garni	20.03	15	LR	LR	15 56 42.5	
	comp=Z,87nm,19.9s,baz=181,slow=39						
KMBO	Kilima Mbogo	21.88	182	P	P	15 48 43.8	+1.9
	1.2nm,0.2s,baz=6.2,slow=11,SNR=8.8						
KBZ	Khabaz	23.14	9	LR	LR	15 58 10.9	
	comp=Z,103nm,19.8s,baz=212,slow=37						
MLR	Muntele Rosu	26.51	341	LR	LR	16 01 02.4	
	comp=Z,34nm,21.2s,baz=278,slow=39						
KEST	Kesra	29.20	307	LR	LR	16 04 01.0	
	comp=Z,37nm,18.2s,baz=326,slow=42						
AKASG	Malin Array Be	30.58	349	P	P	15 50 02.2	0.0
	0.1nm,0.2s,baz=172,slow=7.4,SNR=5.8						
GERES	GERESS Array B	34.05	331	P	P	15 50 32.5	-0.3
	0.6nm,0.8s,baz=152,slow=6.0,SNR=5.6						
BRG	Berggiesshubel	35.45	333	eP	P	15 50 45.7	+1.0
	32nm,1.8s						
TORD	Torodi Ar. Bea	35.59	263	P	P	15 50 45.2	-1.3
	1.2nm,1.0s,baz=87,slow=6.1,SNR=6.7						
TORD				LR	LR	16 06 59.6	
	comp=Z,139nm,19.6s,baz=105,slow=39						
ESDC	Sonseca Array	40.45	307	P	P	15 51 27.2	0.0
	0.1nm,0.3s,baz=100,slow=7.0,SNR=5.2						
FINES	FINESS Array B	41.40	351	P	P	15 51 33.9	-0.7
	1.4nm,0.9s,baz=171,slow=20,SNR=2.8						
MKAR	Makanchi Array	44.10	43	P	P	15 51 57.9	+1.1
	0.9nm,0.8s,baz=243,slow=5.3,SNR=8.4						
NB2	NORSAR Subarra	44.33	342	P	P	15 51 57.5	-1.0
	comp=Z,10nm,1.4s,baz=143,slow=8.6						
NOA	NORSAR Array B	44.33	342	P	P	15 51 58.5	0.0
	comp=Z,1.7nm,0.8s,baz=139,slow=8.2,SNR=3.4						
ZALV	Zalesovo Beam	48.34	35	P	P	15 52 30.0	0.0
	comp=Z,0.9nm,0.8s,baz=240,slow=12,SNR=5.1						
CMAR	Chiang Mai Arr	57.04	81	P	P	15 53 34.2	-0.8
	comp=Z,0.3nm,0.7s,baz=282,slow=4.5,SNR=3.6						
SONM	Songino Array	60.34	46	P	P	15 53 56.8	-1.0
	comp=Z,1.1nm,0.8s,baz=240,slow=2.8,SNR=11						
SONM				LR	LR	16 20 22.6	
	comp=Z,91nm,19.4s,baz=258,slow=36						
KSRS	Korea Array	77.47	55	LR	LR	16 36 15.6	
	comp=Z,46nm,20.1s,baz=181,slow=41						

IDC 07 15:54:30.0±2.0, 0°.07N×96°.65E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.5/35, mbtmp3.5/7, ML3.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/33, Error ellipse: s-maj=54.5km s-min=21.5km az=64.0

ISCJB 07 15:54:32.6±2.7, 0°.25N±0°.06×96°.77E±0°.06, h27km±21km, mb3.5/5, Error ellipse: s-maj=12.3km s-min=7.7km az=136.1

DJA 07 15:54:35.2±0.7, 0°N±5°×9°7E±°, h89km±13km, M3.9/9, mb4.1/3, MLv3.8/9

ISC 07 15:54:34.6±2.7, 0°.32N±0°.09×96°.81E±0°.09, h24km±18km, n18, σ1§53/19, mb3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	1.24	38	P	Pb	15 54 57.8	+0.4
GSI				S	Sn	15 55 13.0	+0.4
SNSI	Sinabang, Aceh	2.13	347	P	Pn	15 55 08.7	-0.1
SNSI				S	Sn	15 55 34.9	+0.3
MNSI	Mandailing Nat	2.81	80	P	Pn	15 55 17.8	-0.3
MNSI				S	Sn	15 55 50.4	-0.9
TPTI		2.95	7	P	Pn	15 55 19.0	-1.0
TPTI				S	Sn	15 55 53.2	-1.4
PSI	Prapat	3.25	41	Pn	Pn	15 55 23.9	-0.4
	1.8nm,0.3s,baz=266,slow=7.3,SNR=4.8						
PSI				LR	LR	15 57 03.5	
	comp=Z,92nm,18.1s,baz=256,slow=44						
KCSI	Kotacane, Aceh	3.33	17	P	Pn	15 55 24.9	-0.3
KCSI				S	Sn	15 56 00.5	-3.5
PDSI	Padang	3.85	108	P	Pn	15 55 30.9	-1.6
BKNI	Bangkinang	4.23	90	P	Pb	15 55 58.4	+10
BKNI				S	Sn	15 56 28.4	+2.1
MDSI	Maura Dua	8.77	123	P	Pn	15 56 34.9	-5.2
CMAR	Chiang Mai Arr	18.15	7	P	P	15 58 45.6	+0.2
	0.1nm,0.3s,baz=197,slow=11,SNR=13						
H08S2	Diego Garcia H	25.51	251	T	T	16 27 28.0	
	baz=77,slow=74,SNR=6.8						
H08S3	Diego Garcia H	25.51	251	T	T	16 27 25.9	
	baz=77,slow=74,SNR=9.5						
H08S1	Diego Carcia H	25.52	251	T	T	16 27 16.3	
	baz=77,SNR=12						
WRA	Warramunga Arr	41.91	121	P	P	16 02 21.9	-1.8
	0.4nm,0.7s,baz=301,slow=9.1,SNR=6.0						
ASAR	Alice Springs	43.19	126	P	P	16 02 33.0	-1.0
	0.3nm,0.4s,baz=297,slow=7.4,SNR=17						
KSRS	Korea Array	46.79	34	P	P	16 03 05.0	+2.6
	0.5nm,0.6s,baz=209,slow=9.1,SNR=3.9						
MKAR	Makanchi Array	48.00	347	P	P	16 03 12.3	+0.5
	0.4nm,0.7s,baz=156,slow=10,SNR=5.2						
ZALV	Zalesovo Beam	54.36	351	P	P	16 03 59.6	+0.2
	0.6nm,0.4s,baz=173,slow=7.5,SNR=5.6						

IDC 07 16:02:44.8±2.1, 62°.87N×168°.73W, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.2/35, mbtmp3.5/4, ML3.3/2, MS3.7/1, Ms1 3.7/1, ms1mx2.8/38, Error ellipse: s-maj=122.5km s-min=19.6km az=161.0, Bering Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	9.82	69	Pn	Pn	16 05 02.5	-4.7
	0.1nm,0.3s,baz=273,slow=14,SNR=4.8						
ILAR				Sn	Sn	16 06 48.7	-9.3
	0.1nm,0.3s,baz=272,slow=23,SNR=3.3						
INK	Inuvik	15.36	54	Pn	Pn	16 06 22.7	+0.2
	0.1nm,0.3s,baz=264,slow=8.5,SNR=2.8						
PETK	Petropavlovsk-	20.06	256	P	P	16 07 19.0	-0.3
	6.0nm,1.0s,baz=95,slow=11,SNR=3.2						
YKA	Yellowknife Ar	24.24	66	P	P	16 08 03.7	+0.8
	0.3nm,0.6s,baz=296,slow=8.9,SNR=5.7						
SPITS	Spitsbergen Ar	39.15	358	LR	LR	16 26 17.3	
	comp=Z,94nm,18.3s,baz=245,slow=36						

ISCJB 07 16:03:42.7±1.1, 5°.0S±0°.1×153°.1E±0°.2, h43km, mb3.4/8, MS3.3/1, Error ellipse: s-maj=31.4km s-min=10.9km az=36.5

IDC 07 16:03:45.4±1.6, 5°.08S×152°.88E, h48km±8km, mb3.3/8, mb1 3.5/9, mb1mx3.4/28, mbtmp3.6/9, ML2.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/14, Error ellipse: s-maj=46.7km s-min=17.3km az=109.0

ISC 07 16:03:44.3±1.2, 5°.1S±0°.2×153°.1E±0°.2, h43km, n10, σ1§44/14, mb3.5/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.32	234	P	Pn	16 05 27.0	-1.6
	0.6nm,0.3s,baz=41,slow=8.1,SNR=3.7						
PMG				S	Sn	16 06 53.2	+2.7
	1.9nm,0.3s,baz=130,slow=3.9,SNR=6.4						
WRA	Warramunga Arr	23.51	229	P	P	16 08 49.9	-0.7
	1.1nm,0.7s,baz=54,slow=10,SNR=11						
ASAR	Alice Springs	26.17	223	P	P	16 09 14.2	-0.7
	0.3nm,0.5s,baz=55,slow=9.2,SNR=12						
ASAR				pP	pP	16 09 25.0	-1.4
	0.6nm,0.6s,baz=51,slow=9.4,SNR=6.1						
STKA	Stephens Creek	28.76	201	P	P	16 09 39.1	+1.1
	1.0nm,0.9s,baz=332,slow=10,SNR=2.9						
STKA				LR	LR	16 20 36.1	
	comp=Z,76nm,18.6s,baz=38,slow=35						
CMAR	Chiang Mai Arr	58.30	295	P	P	16 13 35.0	-0.2
	0.4nm,0.8s,baz=126,slow=5.1,SNR=5.2						
SONM	Songino Array	66.74	328	P	P	16 14 30.7	-0.5
	0.2nm,0.4s,baz=111,slow=3.2,SNR=3.0						
SONM				pP	pP	16 14 45.0	+1.2
	0.3nm,0.4s,baz=142,slow=6.2,SNR=2.6						
MKAR	Makanchi Array	80.76	319	P	P	16 15 52.9	-0.4
	0.3nm,0.5s,baz=92,slow=8.2,SNR=10						
MKAR				pP	pP	16 16 07.9	+1.7
	0.4nm,0.8s,baz=106,slow=3.9,SNR=3.1						
ZALV	Zalesovo Beam	81.57	326	P	P	16 15 56.5	-1.0
	0.6nm,0.5s,baz=66,slow=3.6,SNR=4.0						
ILAR	Eielson Array	82.30	22	P	P	16 16 02.3	+1.3
	0.4nm,1.1s,baz=253,slow=6.3,SNR=4.2						
TORD	Torodi Ar. Bea	150.71	288	PKPbc	PKPbc	16 23 31.8	-1.1
	0.9nm,0.6s,baz=53,slow=3.1,SNR=5.9						

IDC 07 16:07:32.8±2.6, 8°.34S×129°.49E, h0km, mb3.4/1, mb1 3.2/3, mb1mx3.1/29, mbtmp3.1/3, ML2.6/2, Error ellipse: s-maj=259.0km s-min=32.2km az=67.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.46	158	Pn	Pn	16 10 31.0	-0.5
	0.0nm,0.3s,baz=337,slow=14,SNR=3.4						
WRA				Sn	Sn	16 12 43.3	-7.8
	0.2nm,0.3s,baz=335,slow=22,SNR=5.3						
ASAR	Alice Springs	15.82	165	Pn	Pn	16 11 17.6	+0.6
	0.0nm,0.3s,baz=340,slow=8.3,SNR=3.0						
MKAR	Makanchi Array	69.07	327	P	P	16 18 40.6	0.0
	0.2nm,0.4s,baz=125,slow=8.0,SNR=5.8						

IDC 07 16:16:52.1±1.4, 4°.35S×141°.74E, h0km, mb3.2/2, mb1 3.7/5, mb1mx3.5/32, mbtmp3.6/5, ML3.1/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/15, Error ellipse: s-maj=40.4km s-min=21.2km az=76.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.09	330	Pn	Pn	16 17 29.7	+1.2
	7.6nm,0.3s,baz=295,slow=0.1,SNR=35						
JAY				Sn	Sn	16 17 56.5	+1.1
	8.9nm,0.3s,baz=121,slow=23,SNR=7.4						
PMG	Port Moresby	7.36	133	Pn	Pn	16 18 42.8	+1.7
	0.7nm,0.3s,baz=331,slow=13,SNR=6.8						
PMG				LR	LR	16 22 25.7	
	comp=Z,114nm,18.6s,baz=302,slow=45						
WRA	Warramunga Arr	17.09	204	P	Pn	16 20 50.9	-1.8
	0.1nm,0.3s,baz=27,slow=13,SNR=13						
ASAR	Alice Springs	20.64	201	P	P	16 21 34.0	+0.5
	0.5nm,0.6s,baz=30,slow=9.7,SNR=12						
ILAR	Eielson Array	86.08	24	P	P	16 29 33.8	-0.8
	0.2nm,0.7s,baz=255,slow=5.5,SNR=3.0						

IDC 07 16:19:19.6±4.2, 38°.21N×73°.76E, h97km±34km, mb3.5/9, mb1 3.7/15, mb1mx3.4/54, mbtmp3.9/15, MS3.3/1, Ms1 3.2/1, ms1mx2.7/37, Error ellipse: s-maj=31.3km s-min=19.1km az=18.0

ISCJB 07 16:19:20.9±0.3, 38°.29N±0°.02×73°.96E±0°.06, h124km, mb3.8/12, Error ellipse: s-maj=7.0km s-min=3.1km az=168.4

MOS 07 16:19:22.6±0.9, 38°.38N×73°.74E, h137km, mb4.0/9, Error ellipse: s-maj=16.1km s-min=5.4km az=88.7

BJI 07 16:19:25.5, 38°.40N×73°.97E, h134km, mb4.0/2

NNC 07 16:19:27.3±3.8, 38°.74N×73°.52E, h182km±36km, mb3.4, mpv3.8, Error ellipse: s-maj=37.7km s-min=19.0km az=3.0

ISC 07 16:19:22.1±0.6, 38°.27N±0°.05×73°.97E±0°.08, h124km, n91, σ1§45/93, mb3.6/12, 15C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	2.00	51	P	Pn	16 19 53.7	-2.1
KSH				S	Sn	16 20 15.5	-6.1
KSH				smax	smax		
	comp=N,2μm,0.4s						
KSH				smax	smax		
	comp=E,1μm,0.3s						
AML	Almayashu	3.86	357	i PN	Pn	16 20 20.7	+0.5
AML	Almayashu	3.86	357	P	Pn	16 20 20.7	+0.5
	SNR=33						
KZA	Kyzart	3.92	14	i PN	Pn	16 20 22.2	+1.1
KZA	Kyzart	3.92	14	P	Pn	16 20 22.2	+1.1
	SNR=23						
UCH	Uchtor	3.97	6	i PN	Pn	16 20 22.8	+1.1
UCH	Uchtor	3.97	6	P	Pn	16 20 22.8	+1.1
	SNR=73						
ULHL	Ulahol	4.33	23	i PN	Pn	16 20 27.7	+1.4
ULHL	Ulahol	4.33	23	P	Pn	16 20 27.8	+1.4
	SNR=18						
AAK	Ala-Archa	4.37	5	⇓Pn	Pn	16 20 27.9	+1.0
	10nm,0.6s						
AAK				⇓Sn	Sn	16 21 17.9	+0.8
	249nm,1.4s						
AAK	Ala-Archa	4.37	5	PN	Pn	16 20 27.8	+1.0
AAK				S	Sn	16 21 17.9	+0.8
AAK				pmax	pmax		
	comp=Z,11nm,0.6s						
AAK				smax	smax		
	comp=N,249nm,1.4s						
AAK	Ala-Archa	4.37	5	P	Pn	16 20 28.2	+1.4
	SNR=14						
AAK	Ala-Archa	4.37	5	P	Pn	16 20 26.3	-0.6
	comp=N,2.7nm,0.3s,baz=142,slow=7.0,SNR=42						
AAK				S	Sn	16 21 16.5	-0.6
	comp=N,12nm,0.3s,baz=339,slow=16,SNR=18						
EKS2	Erkin-Say	4.39	358	i PN	Pn	16 20 28.1	+1.1
EKS2	Erkin-Say	4.39	358	P	Pn	16 20 28.1	+1.1
	SNR=68						
KBK	Karagaybulak	4.44	9	i PN	Pn	16 20 29.4	+1.6
KBK	Karagaybulak	4.44	9	P	Pn	16 20 29.4	+1.6
	SNR=10						
CHCP	Chirah Chowk	4.64	187	P	Pn	16 20 34.6	+4.3
CEP	Cherat	4.74	201	P	Pn	16 20 35.4	+3.6
CEP				S	Sn	16 21 28.0	+2.0
CHMS	Chumysh	4.76	7	i PN	Pn	16 20 33.1	+1.3
CHMS	Chumysh	4.76	7	P	Pn	16 20 33.1	+1.3
	SNR=14						
TKM2	Tokmak 2	4.81	14	⇑Pn	Pn	16 20 34.0	+1.3
	comp=N,4.9nm,0.5s						
TKM2				⇑Sn	Sn	16 21 26.6	-0.8
	comp=N,53nm,0.6s						
TKM2	Tokmak 2	4.81	14	i PN	Pn	16 20 33.6	+1.0
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TKM2	Tokmak 2	4.81	14	P	Pn	16 20 34.1	+1.5
	SNR=19						
KK31	Karatay Array	5.50	333	⇑Pn	Pn	16 20 41.1	-0.7
	comp=Z,18nm,0.5s,baz=139,slow=12,SNR=518						
KK31				⇑Sn	Sn	16 21 36.9	-6.8
	comp=Z,151nm,0.6s,baz=144,slow=24,SNR=30						
KK31	Karatay Array	5.50	333	ePN	Pn	16 20 41.0	-0.7
KK31				pmax	pmax		
	comp=Z,17nm,0.3s						
THW	Thamme Wali	5.76	199	P	Pn	16 20 47.5	+2.1
DLH	Dalhousie	5.95	163	eP9	Pn	16 20 47.0	-1.1
DLH				eS	Sn	16 21 51.0	-4.1
DHRM	DHARAMSHALA	6.30	162	eP	Pn	16 20 55.5	+2.6
DHRM				eS	Sn	16 22 03.2	-0.5
DHRM				AML	AML	16 22 11.6	
	comp=N,243nm,0.3s						
DHRM				AML	AML	16 22 12.1	
	comp=E,254nm,0.4s						
SARP	Sargodha	6.42	190	P	Pn	16 20 55.8	+1.5
SDNR	Sundarnagar	7.19	159	eP	Pn	16 21 06.0	+1.3
SDNR				ex	Sn	16 22 25.0	+0.1
DDI	Dehra Dun	8.62	156	eS	Sn	16 22 49.2	-10
DDI				AML	AML	16 23 02.9	
	comp=E,199nm,0.3s						
DDI				AML	AML	16 23 05.1	
	comp=N,147nm,0.8s						
NDI	New Delhi	9.94	163	eS	Sn	16 23 24.0	-7.5
MK31	Makanchi Array	10.49	33	⇑Pn	Pn	16 21 49.7	+0.7
	comp=N,2.5nm,0.7s,baz=214,slow=14,SNR=30						
MK31	Makanchi Array	10.49	33	P	Pn	16 21 49.2	+0.2
MKAR	Makanchi Array	10.49	33	P	Pn	16 21 49.9	+0.8
	comp=N,0.3nm,0.3s,baz=201,slow=13,SNR=46						
PYUN	Piuthan	12.64	141	eP	Pn	16 22 16.1	-1.6
	comp=N,36nm,0.3s						
KURBB	Kurchatov Arra	12.77	13	⇓Pn	Pn	16 22 16.8	-2.2
	comp=N,15nm,0.7s						
KURBB	Kurchatov Arra	12.77	13	P	Pn	16 22 16.7	-2.2
	comp=N,0.2nm,0.3s,baz=201,slow=12,SNR=12						
DANN	Dangsing	12.83	138	eP	Pn	16 22 19.1	-1.2
	comp=N,15nm,0.3s						
KURK	Kurchatov	12.87	13	⇑Pn	Pn	16 22 17.6	-2.7
	comp=N,6.3nm,0.6s						
KURK	Kurchatov	12.87	13	P	Pn	16 22 17.6	-2.7
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KOLN	Koldanda	13.22	140	eP	Pn	16 22 23.8	-1.4
GKN	Gorkha	13.58	136	eP	Pn	16 22 28.7	-1.2
	comp=Z,28nm,0.3s						
KKN	Kakani	14.10	135	eP	Pn	16 22 34.5	-2.1
DMN	Daman	14.15	135	eP	Pn	16 22 35.5	-1.7
PKIN	Phulchoki	14.33	135	eP	Pn	16 22 39.5	-0.1
PKI	Pulchoki	14.34	135	eP	Pn	16 22 39.5	-0.3
GUN	Gumba	14.35	133	eP	Pn	16 22 38.3	-1.6
VOSK	Vostochnaya	14.60	353	⇑Pn	Pn	16 22 40.1	-2.5
	comp=Z,6.1nm,0.9s						
JIRN	Jiri	14.72	132	eP	Pn	16 22 44.3	-0.3
	comp=Z,10nm,0.3s						
AB31	Akbulak array	14.91	322	⇑Pn	Pn	16 22 40.3	-6.2
	comp=Z,2.0nm,0.4s,baz=155,slow=12,SNR=72						
AB31				⇑Sn	Sn	16 25 14.0	-17
	comp=Z,3.6nm,0.5s,baz=135,slow=23,SNR=11						
AB31	Akbulak array	14.91	322	eP	Pn	16 22 40.2	-6.2
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVA0	Borovoye Array	14.96	352	Pn	Pn	16 22 45.3	-1.7
	comp=Z,10nm,0.5s,baz=166,slow=12,SNR=71						
BVA0	Borovoye Array	14.96	352	i P	Pn	16 22 45.3	-1.7
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BVAR	Borovoye Array	14.96	352	P	Pn	16 22 44.7	-2.3
BVAR				S	Sn	16 25 24.4	-8.0
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BVAR	Borovoye Array	14.96	352	P	Pn	16 22 44.7	-2.3
	comp=Z,3.1nm,0.3s,baz=158,slow=8.5,SNR=54						
BVAR				S	Sn	16 25 24.4	-8.0
	comp=Z,0.3nm,0.3s,baz=166,slow=23,SNR=6.0						
BRVK	Borovoye	15.01	351	⇑Pn	Pn	16 22 46.0	-1.5
	comp=Z,16nm,0.6s						
BRVK	Borovoye	15.01	351	⇑i P	Pn	16 22 47.1	-0.5
BRVK				pmax	pmax		
	comp=Z,39nm,2.5s						
RAMN	Ramite	15.50	133	eP	Pn	16 22 53.7	-0.5
	comp=Z,8.4nm,0.3s						
TAPN	Taplejung	15.86	129	eP	Pn	16 22 58.4	-0.3
	comp=Z,2.3nm,0.2s						
AKTO	Aktyubinsk	16.63	322	⇑Pn	Pn	16 23 05.2	-2.5
	comp=Z,6.7nm,0.6s						
AKTO				⇓Sn	Sn	16 26 00.3	-12
	comp=Z,8.6nm,0.9s						
AKTO	Aktyubinsk	16.63	322	P	Pn	16 23 04.5	-3.2
AKTO				S	Sn	16 26 00.1	-13
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO	Aktyubinsk	16.63	322	P	Pn	16 23 04.5	-3.2
	comp=N,1.4nm,0.3s,baz=124,slow=8.8,SNR=14						
AKTO				S	Sn	16 26 00.1	-13
	comp=N,0.6nm,0.3s,baz=201,slow=22,SNR=8.6						
ZALV	Zalesovo Beam	17.36	22	P	P	16 23 15.3	-0.6
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZALV	Zalesovo Beam	17.36	22	P	P	16 23 15.3	-0.6
	comp=Z,2.1nm,0.3s,baz=219,slow=10,SNR=49						
BOK	Bokaro	17.65	141	eP	Pn	16 23 20.5	+0.2
BOK				eS	S	16 26 25.5	-11
NVS	Novosibirsk	17.73	18	⇑i P	P	16 23 20.2	+0.2
NVS				pmax	pmax		
	comp=Z,18nm,0.6s						
NVS				pmax	pmax		
	comp=N,16nm,0.7s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.7s						
SVE	Sverdlovsk	20.56	339	eP	P	16 23 51.1	+0.4
SVE				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARU	Arti	20.86	336	d i P	P	16 23 53.8	-0.1
ARU						16 24 26.8	
ARU				SS	sS	16 28 17.8	+0.4
ARU				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KBZ	Khabaz	23.99	293	LR	LR	16 35 31.5	
	comp=Z,68nm,18.2s,baz=316,slow=41						
SONM	Songino Array	25.39	57	P	P	16 24 40.2	+2.3
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	Songino Array	25.39	57	P	P	16 24 40.2	+2.3
	comp=Z,0.9nm,0.8s,baz=251,slow=4.4,SNR=8.2						
JOF	Joensuu	35.57	328	eP	P	16 26 06.5	-0.6
JOF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
JOF	Joensuu	35.57	328	ep	P	16 26 06.5	-0.6
	comp=Z,2.6nm,0.7s						
FINES	FINESS Array B	37.39	324	c eP	P	16 26 22.8	+0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	FINESS Array B	37.39	324	P	P	16 26 22.0	-0.5
	comp=Z,1.3nm,0.3s,baz=126,slow=9.8,SNR=26						
KAF	Kangasniemi	37.47	325	eP	P	16 26 22.1	-1.1
KAF	Kangasniemi	37.47	325	ep	P	16 26 22.1	-1.1
	comp=Z,0.2nm,0.3s						
ARCES	ARCESS Array B	40.45	336	P	P	16 26 47.9	0.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	ARCESS Array B	40.45	336	P	P	16 26 47.9	0.0
	comp=Z,1.7nm,0.5s,baz=110,slow=9.3,SNR=24						
HFS	Hagfors	43.17	321	P	P	16 27 10.5	+0.4
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	Hagfors	43.17	321	P	P	16 27 10.5	+0.4
	comp=Z,2.4nm,0.5s,baz=96,slow=11,SNR=20						
TIXI	Tiksi	43.24	22	c eP	P	16 27 11.9	+1.3
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	NORSAR Subarra	44.42	322	P	P	16 27 20.0	-0.2
	comp=Z,0.7nm,0.4s,baz=92,slow=7.9						

NOA **NORSAR Array B** 44.42 322 P **P** 16 27 20.2 0.0
NOA pmax pmax
comp=Z,1.0nm,1.0s
NOA NORSAR Array B 44.42 322 P **P** **16 27 20.2 0.0**
comp=Z,1.2nm,1.0s,baz=101,slow=7.3,SNR=6.5
EKA Eskdalemuir Ar 52.67 316 P **P** **16 28 22.7 -0.6**
comp=Z,0.4nm,0.5s,baz=71,slow=8.0,SNR=3.6
TORD Torodi Ar. Bea 68.11 270 P **P** **16 30 08.5 -0.3**
comp=Z,0.3nm,0.3s,baz=49,slow=5.8,SNR=9.2
YKA Yellowknife Ar 79.34 4 P **P** **16 31 14.6 +0.9**
comp=Z,0.2nm,0.3s,baz=347,slow=5.6,SNR=7.4
WRA Warramunga Arr 80.97 124 P **P** **16 31 23.5 +0.5**
comp=Z,0.4nm,0.8s,baz=324,slow=4.7,SNR=4.6

IDC 07 16:28:00.7±4.5, 18.33S×177.17W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/27, mbtmp4.0/3, Error ellipse: s-maj=140.8km s-min=46.6km az=133.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 45.72 260 P P 16 36 24.2 +0.3
0.4nm,0.3s,baz=96,slow=7.3,SNR=30
ASAR Alice Springs 45.81 255 P P 16 36 24.1 -0.6
0.6nm,0.5s,baz=84,slow=8.4,SNR=23
USRK Ussuriysk Arra 77.62 325 P P 16 39 59.0 +0.1
2.0nm,0.7s,baz=120,slow=7.5,SNR=4.1
HFS Hagfors 137.52 352 PKP PKPdf 16 47 24.9 -1.2
2.1nm,1.1s,baz=0.0,slow=4.3,SNR=5.6
AKASG Malin Array Be 141.47 333 PKP PKPdf 16 47 34.5 +0.9
0.7nm,0.5s,baz=45,slow=4.2,SNR=9.8

ISCJB 07 16:46:36.3±0.7, 51.68N±0.09×176.77E±0.05, h63km±6km, mb3.8/17, Error ellipse: s-maj=14.6km s-min=4.6km az=9.9
NEIC 07 16:46:36.4±1.1, 51.43N×176.65E, h58km±8km, mb3.7/1, ML3.9(AEIC), Error ellipse: s-maj=23.4km s-min=5.9km az=194.0
IDC 07 16:46:37.1±2.8, 51.72N×176.80E, h56km±22km, mb3.6/17, mb1 3.8/19, mb1mx3.6/42, mbtmp3.9/19, ML3.7/2, Error ellipse: s-maj=20.6km s-min=13.3km az=160.0
ISC 07 16:46:37.7±1.2, 51.7N±0.1×176.74E±0.04, h60km±11km, n47, σ0.81/47, mb3.8/17, Rat Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SMY Shemya 1.93 303 P **Pn** **16 47 08.2 +0.1**
SMY S **Sn** **16 47 31.4 +0.2**
FX1 Attu Island--F 2.50 300 P **Pn** **16 47 14.5 -1.4**
150nm,0.3s,baz=180,slow=3.3,SNR=219
FX1 S **Sn** **16 47 45.9 +0.7**
166nm,0.3s,baz=236,slow=22,SNR=9.7
FX1 Attu Island--F 2.50 300 P **Pn** **16 47 15.4 -0.5**
FX1 S **Sn** **16 47 44.1 -1.0**
GAEA Gareloi East 2.81 87 P **Pn** **16 47 19.8 -0.3**
TANO Tanaga North 3.20 84 P **Pn** **16 47 25.0 -0.5**
TANO S **Sn** **16 48 02.1 -0.2**
TASE Tanaga Southea 3.25 86 P **Pn** **16 47 25.4 -0.8**
TAFP Tanaga Falls P 3.28 84 P **Pn** **16 47 25.7 -1.0**
TAFP S **Sn** **16 48 03.8 -0.7**
TAFL Tanaga Flats 3.33 87 P **Pn** **16 47 26.9 -0.4**
KIKV Kanaga Island 3.79 85 P **Pn** **16 47 33.6 +0.1**
ADK Adak 4.09 85 P **Pn** **16 47 37.3 -0.4**
ADK S **Sn** **16 48 23.7 -0.5**
ETKA Kagalaska Isla 4.26 85 P **Pn** **16 47 40.5 +0.5**
GSCK Great Sitkin C 4.41 83 P **Pn** **16 47 42.9 +0.8**
GSMY Great Sitkin M 4.48 83 P **Pn** **16 47 43.3 +0.3**
NIKH Nikolski High 8.92 76 P **Pn** **16 48 45.3 +1.6**
SPIA Saint Paul Isl 9.35 49 P **Pn** **16 48 50.9 +1.3**
UNV Unalaska Valle 10.38 71 eP **Pn** **16 49 04.8 +1.1**
23nm,0.9s
PETK Petropavlovsk- 11.72 284 P **Pn** **16 49 22.0 +0.1**
0.3nm,0.3s,baz=104,slow=17,SNR=5.7
BILL Bilibino 17.17 347 P **P** **16 50 35.6 +1.6**
7.2nm,1.3s
RC01 Rabbit Creek A 20.57 50 eP **P** **16 51 12.9 +1.6**
KTH Kantishna Hill 20.72 43 eP **P** **16 51 13.9 +1.0**
ILAR Eielson Array 22.79 41 P **P** **16 51 34.4 -0.6**
0.8nm,0.7s,baz=250,slow=7.6,SNR=13
H11N2 WAKE ISLAND Hy 32.83 197 T T 17 28 03.6
baz=13,slow=76,SNR=102
H11N3 WAKE ISLAND Hy 32.84 197 T T 17 28 15.7
baz=13,slow=76,SNR=112
H11N1 WAKE ISLAND Hy 32.84 197 T T 17 28 19.8
baz=13,slow=76,SNR=115
H11S1 WAKE ISLAND Hy 34.05 197 T T 17 29 41.3
baz=12,slow=78,SNR=32
H11S3 WAKE ISLAND Hy 34.07 197 T T 17 29 42.5
baz=12,slow=78,SNR=28
H11S2 WAKE ISLAND Hy 34.07 197 T T 17 29 46.1
baz=12,slow=78,SNR=13
KSRS Korea Array 36.86 267 P **P** **16 53 40.6 +0.5**
0.6nm,0.7s,baz=67,slow=14,SNR=4.1
YKA Yellowknife Ar 37.02 46 P **P** **16 53 40.7 -0.5**
0.5nm,0.5s,baz=283,slow=8.4,SNR=13
SONM Songino Array 43.99 294 P **P** **16 54 39.7 +0.7**
0.7nm,0.5s,baz=63,slow=7.2,SNR=7.2
FCC Fort Churchill 47.72 45 eP **P** **16 55 06.8 -1.2**
ZALV Zalesovo Beam 51.76 311 P **P** **16 55 38.0 -0.7**
0.4nm,0.5s,baz=45,slow=8.4,SNR=3.0
ARCES ARCESS Array B 57.26 348 P **P** **16 56 17.5 -1.0**
3.7nm,1.0s,baz=6.3,slow=9.1,SNR=3.8
MKAR Makanchi Array 57.62 306 P **P** **16 56 21.1 -0.3**
0.4nm,0.5s,baz=48,slow=6.0,SNR=6.6
TXAR Lajitas Array 61.34 78 P **P** **16 56 47.1 -0.1**
0.3nm,0.5s,baz=305,slow=4.6,SNR=9.4
SCHQ Schefferville 61.43 36 P **P** **16 56 46.6 -0.8**
1.0nm,0.5s,baz=302,slow=9.5,SNR=6.7
FINES FINESS Array B 64.80 345 P **P** **16 57 09.1 -0.5**
0.9nm,0.7s,baz=21,slow=6.3,SNR=3.5
AKTO Aktyubinsk 65.77 322 P **P** **16 57 16.4 +0.3**
1.5nm,0.5s,baz=57,slow=7.5,SNR=6.7
ABKAR Akbulak array 65.95 320 eP **P** **16 57 17.6 +0.4**
NOA NORSAR Array B 67.02 352 P **P** **16 57 23.3 -0.5**
0.3nm,0.7s,baz=359,slow=5.1,SNR=3.1
CMAR Chiang Mai Arr 68.21 272 P **P** **16 57 31.7 -0.3**
1.0nm,0.5s,baz=24,slow=6.9,SNR=8.2
AKASG Malin Array Be 74.32 339 P **P** **16 58 08.4 +0.1**
0.5nm,0.4s,baz=22,slow=6.8,SNR=4.0
BUR08 Bucovina Ar. S 78.07 341 eP **P** **16 58 30.8 +0.9**
WRA Warramunga Arr 80.39 220 P **P** **16 58 41.6 -1.0**
0.7nm,0.6s,baz=32,slow=6.3,SNR=11
ASAR Alice Springs 83.91 219 P **P** **16 59 01.4 +0.4**
1.0nm,0.6s,baz=24,slow=5.4,SNR=31
STKA Stephens Creek 88.76 209 P **P** **16 59 25.2 +0.8**
0.5nm,0.5s,baz=69,slow=8.6,SNR=3.3
BOSA Boshof 148.62 306 PKPbc **PKPbc** **17 06 18.2 +0.3**
1.9nm,0.9s,baz=64,slow=3.9,SNR=3.8

GUC 07 16:49:31.3±0.3, 19.66S×69.40W, h95km±2km, ML3.8, 4C-1D, Northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PB11 Plate Boundary 0.26 247⇑iP Pn 16 49 45.4 0.0
PB11 eS Sn 16 49 56.3 +0.5
PB11 AML AML 16 49 57.1
comp=N,16μm,0.2s
MNMC Minimini 0.56 341⇑iP Pn 16 49 47.6 +0.2
MNMC iS Sn 16 49 59.9 +0.5
MNMC AML AML 16 50 00.6
comp=N,8μm,0.3s
PSGC Pisagua 0.68 275⇑iP Pn 16 49 48.4 +0.2
PSGC iS Sn 16 50 01.6 +0.7
HMBC Humberstone 0.77 217⇑iP Pn 16 49 49.3 +0.2
HMBC iS Sn 16 50 03.0 +0.7
HMBC AML AML 16 50 03.7
comp=N,2μm,0.4s
PATCX Punta Patache 1.35 211 iP Pn 16 49 55.6 0.0
PATCX iS Sn 16 50 14.6 +0.7
PATCX AML AML 16 50 22.0
comp=E,952nm,0.5s
PB01 Plate Boundary 1.38 183⇓iP Pn 16 49 56.3 +0.4
PB01 iS Sn 16 50 15.5 +1.0
PB07 Plate Boundary 2.10 192 eP Pn 16 50 06.3 +1.0
PB07 iS Sn 16 50 32.7 +1.4
PB07 AML AML 16 50 39.9
comp=N,411nm,0.4s
PB09 Plate Boundary 2.13 176 eP Pn 16 50 06.5 +0.9
PB09 iS Sn 16 50 33.4 +1.6
PB09 AML AML 16 50 38.2
comp=E,1μm,0.6s

PB06 Plate Boundary 3.03 183 AML AML 16 51 04.0
comp=N,138nm,0.3s

SKHL 07 16:57:50.5±0.4, 44.98N×151.21E, h42km±8km, mb4.8/3
JMA 07 16:57:51.3±0.8, 45.80N×150.64E, h30km, M4.1
ISC 07 16:57:52.9±3.9, 44.7N±0.2×151.0E±0.2, h149km±42km, n18, σ1.11/23, East of Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 2.27 284 eP Pn 16 58 26.5 -4.6
KUR AMB AMB 16 58 27.0
120nm,0.3s
KUR AMB AMB 16 58 27.0
180nm,0.3s
KUR eS Sn 16 58 53.2 -7.4
KUR A A 16 58 54.6
82nm,0.5s
KUR A A 16 58 54.6
450nm,0.5s
SHO Shikotan 3.11 255 eP **Pn** **16 58 42.0 +0.5**
SHO AMB AMB 16 58 45.2
88nm,0.9s
SHO eS Sn 16 59 16.7 -2.4
SHO A A 16 59 22.2
156nm,0.5s
YUK Yuzh-Kuril'sk 3.74 261 eP **Pn** **16 58 49.9 +0.2**
YUK AMB AMB 16 58 55.2
30nm,0.2s
YUK AMB AMB 16 58 55.2
100nm,0.2s
YUK eS **Sn** **16 59 34.8 +1.0**
YUK A A 16 59 37.9
160nm,0.4s
YUK A A 16 59 37.9
80nm,0.4s
NEM2 Nemuro 2 4.02 252 P **Pn** **16 58 53.2 -0.1**
NEM2 eS **Sn** **16 59 38.5 -1.8**
JRA Rausu 4.29 261 P **Pn** **16 58 57.6 +0.8**
JNK Nakash 4.66 258 P **Pn** **16 59 02.5 +0.8**
JAK Akkeshi 4.87 251 P **Pn** **16 59 04.7 +0.2**
JAK eS **Sn** **16 59 59.8 -0.5**
JTKR Abashiri--Toko 5.14 264 P **Pn** **16 59 08.8 +0.8**
JAR Ashorobuto 5.40 257 P **Pn** **16 59 13.0 +1.4**
JAR eS **Sn** **17 00 14.2 +1.2**
JOB Onbets 5.49 253 P **Pn** **16 59 13.7 +1.0**
JOB eS **Sn** **17 00 15.7 +0.6**
JCH Churui 5.92 252 P **Pn** **16 59 19.8 +1.3**
JCH eS **Sn** **17 00 25.5 +0.1**
JKK2 Kamakawa 2 5.98 265 P **Pn** **16 59 18.1 -1.1**
MYR Moyori 6.11 249 eP **Pn** **16 59 22.5 +1.5**
JNBK Urakawa-nobuka 6.47 251 eS **Sn** **17 00 38.0 -0.6**
JANG Nango 8.24 241 eS **Sn** **17 01 19.8 -1.2**
JTM Tenmabayashi 8.29 245 eS **Sn** **17 01 21.1 -1.3**
OFUJ Ofunato 8.95 234 eS **Sn** **17 01 39.3 +1.1**
JIO Ouri 9.56 232 eS **Sn** **17 01 51.7 -1.2**

ISCJB 07 16:59:33.0±0.6, 4.73S±0.06×151.82E±0.09, h150km, mb4.0/9, Error ellipse: s-maj=13.8km s-min=7.8km az=23.8
IDC 07 16:59:36.4±2.1, 4.85S×151.81E, h169km±18km, mb3.7/8, mb1 3.8/9, mb1mx3.5/30, mbtmp4.2/9, MS4.0/1, Ms1 4.0/1, ms1mx2.7/27, Error ellipse: s-maj=20.0km s-min=12.5km az=115.0
ISC 07 16:59:35.2±0.9, 4.88S±0.08×151.9E±0.1, h150km, n37, σ1.39/36, mb4.0/9, New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RABL Rabaul 0.74 23 P Pn 16 59 55.4 -2.7
baz=0.4,SNR=236
MANU Manus Island 5.30 302 P **Pn** **17 00 55.5 +2.8**
baz=5.6,SNR=3.3
PMG Port Moresby 6.49 226 P **Pn** **17 01 08.7 +0.2**
6.4nm,0.3s,baz=43,slow=8.3,SNR=29
PMG S **Sn** **17 02 21.7 +0.2**
10nm,0.3s,baz=184,slow=19,SNR=12
PMG Port Moresby 6.49 226 P **Pn** **17 01 10.0 +1.6**
baz=7.5,SNR=19
PMG S **Sn** **17 02 21.2 -0.3**
baz=7.5,SNR=6.5
COEN Coen 12.44 223 P **P** **17 02 35.4 +2.3**
baz=13,SNR=10
MTSU Mount Surprise 15.10 209 P **P** **17 03 06.3 +3.6**
baz=16,SNR=26
QIS Mount Isa 19.62 216 P **P** **17 03 52.9 +0.6**
baz=21,SNR=20
KDU Kakadu 20.66 247 P **P** **17 04 02.6 -0.8**
baz=22,SNR=57
RMQ Roma 21.69 188 P **P** **17 04 15.4 +1.1**
baz=23,SNR=5.7
MTN Manton Dam 21.95 247 P **P** **17 04 15.9 -1.2**
baz=23,SNR=19
DZM Mont Dzumac 22.17 142 P **P** **17 04 19.8 +0.5**
4.9nm,0.5s,baz=288,slow=9.6,SNR=8.9
WRA Warramunga Arr 22.70 227 P **P** **17 04 24.1 -0.3**
26nm,0.4s,baz=50,slow=10,SNR=488
WRA S **S** **17 08 19.2 -2.4**
1.7nm,0.7s,baz=54,slow=16,SNR=6.0
QLP Quilpie 22.78 198 P **P** **17 04 25.8 +0.8**
baz=24,SNR=15
KNRA Kununurra 25.11 243 P **P** **17 04 46.2 -0.1**
baz=26,SNR=103
ASAR Alice Springs 25.47 221 P **P** **17 04 49.2 -0.4**
5.1nm,0.6s,baz=52,slow=8.9,SNR=243
STKA Stephens Creek 28.54 199 P **P** **17 05 17.0 +0.1**
1.1nm,0.5s,baz=11,slow=8.8,SNR=9.1
STKA Stephens Creek 28.54 199 P **P** **17 05 16.9 +0.1**
baz=30,SNR=5.3
WRKA Warakurna 30.23 226 P **P** **17 05 31.1 -0.9**
baz=31,SNR=72
HTT Hallett 30.86 201 P **P** **17 05 37.8 +0.4**
baz=32,SNR=6.9
BBOO Buckleboo 31.47 206 P **P** **17 05 42.5 -0.2**
baz=32,SNR=17
AFI Afiamalu 36.92 107 LR LR 17 19 48.0
comp=Z,213nm,18.5s,baz=16,slow=33
MEEK Meekatharra 38.42 232 P **P** **17 06 41.9 -0.6**
baz=39,SNR=47
MORW Morawa 41.58 231 P **P** **17 07 07.7 -0.8**
baz=43,SNR=4.1
KLBR Kellerberrin 41.58 226 P **P** **17 07 07.0 -1.4**
baz=43,SNR=9.2
BLDU Ballidu 41.83 228 P **P** **17 07 09.3 -1.2**
baz=43,SNR=14
CMAR Chiang Mai Arr 57.07 296 P **P** **17 09 05.9 -0.3**
2.2nm,0.8s,baz=114,slow=5.4,SNR=28
SONM Songino Array 65.90 328 P **P** **17 10 04.4 -0.6**
1.2nm,0.6s,baz=147,slow=5.4,SNR=12
TAPN Taplejung 69.65 301 eP **P** **17 10 28.8 -0.4**
ODAN Odare 69.78 301 eP **P** **17 10 29.2 -0.7**
8.0nm,0.7s
DMN Daman 71.94 301 eP **P** **17 10 42.1 -0.9**
GKN Gorkha 72.45 301 eP **P** **17 10 44.6 -1.3**
PYUN Piuthan 73.88 301 eP **P** **17 10 52.8 -1.5**
17nm,0.8s
MKAR Makanchi Array 79.77 319 P **P** **17 11 25.3 -1.5**
1.2nm,0.8s,baz=111,slow=5.8,SNR=12
ZALV Zalesovo Beam 80.70 327 P P 17 11 28.8 -2.7
1.1nm,0.4s,baz=113,slow=6.8,SNR=5.3
ILAR Eielson Array 82.58 22 P P 17 11 39.0 -2.1
0.5nm,0.7s,baz=252,slow=5.1,SNR=9.1
GERES GERESS Array B 123.63 328 PKP **PKPdf** **17 18 14.0 -1.2**
0.3nm,0.5s,baz=83,slow=4.2,SNR=4.5
TORD Torodi Ar. Bea 149.45 288 PKPbc **PKPdf** **17 19 06.2 +3.0**
2.8nm,0.7s,baz=81,slow=2.2,SNR=28

IDC 07 17:05:07.5±2.0, 14.66S×175.55W, h293km±26km, mb3.0/6, mb1 3.4/7, mb1mx3.1/36, mbtmp3.7/7, Error ellipse: s-maj=85.2km s-min=19.7km az=151.0, Samoa Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 3.73 79 P Pn 17 06 10.4 -0.1
2.6nm,0.3s,baz=330,slow=20,SNR=4.3
AFI S S 17 07 01.4 +0.6
3.5nm,0.3s,baz=180,slow=20,SNR=3.5
ASAR Alice Springs 48.37 251 P P 17 13 20.5 -0.2
0.6nm,0.5s,baz=89,slow=7.4,SNR=8.9
NVAR Mina Array Bea 75.19 43 P P 17 16 17.3 -1.2
0.4nm,0.5s,baz=220,slow=5.8,SNR=4.0

TXAR Lajitas Array 81.94 57 P P 17 16 55.8 +0.6
0.1nm,0.6s,baz=219,slow=7.0,SNR=2.8
ILAR Eielson Array 82.14 12 P P 17 16 55.5 +0.2
0.5nm,0.5s,baz=218,slow=5.4,SNR=17
PDAR Pinedale Array 83.12 43 P P 17 17 00.7 -0.4
0.7nm,0.8s,baz=209,slow=2.7,SNR=6.2
YKA Yellowknife Ar 90.26 24 P P 17 17 35.2 +0.5
0.2nm,0.5s,baz=247,slow=4.3,SNR=4.6

SJA 07 17:09:40.1±0.5, 23.15S×66.60W, h254km±6km, ML5.4, MW6.0
ISCJB 07 17:09:42.2±0.3, 23.33S±0.02×66.38W±0.03, h198km±2km, mb5.3/136, Error ellipse: s-maj=4.8km s-min=3.0km az=142.4
MOS 07 17:09:44.6±1.1, 23.18S×66.24W, h213km, mb5.6/38, Error ellipse: s-maj=9.6km s-min=7.5km az=80.7
GUC 07 17:09:45.7±0.4, 23.22S×67.14W, h258km±9km, ML6.0, MW5.6
IDC 07 17:09:46.1±0.5, 23.31S×66.31W, h222km±4km, mb4.8/24, mb1 4.9/31, mb1mx4.8/37, mbtmp5.3/31, Error ellipse: s-maj=10.4km s-min=7.3km az=71.0
NEIC 07 17:09:47.3±0.2, 23.23S×66.56W, mb5.4/75, MW5.6, MW5.6, Error ellipse: s-maj=7.5km s-min=5.6km az=218.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17} Nm; Mrr-0.61; Mθθ-1.28; Mφφ1.90; Mrθ-0.39; Mθφ-0.78; Mφr-2.23; Best double couple: Mo2.90000×10^{17} NP1: φs121.00000°, δ33.00000°, λ-165.00000°. NP2: φs19.00000°, δ82.00000°, λ-58.00000°. Principal axes: T 3.2500, Plg29.0000°, Azm82.0000°; N -0.8400, Plg32.0000°, Azm193.0000°; P -2.4100, Plg43.0000°, Azm320.0000°;
GCMT 07 17:09:47.4±0.1, 23.36S×66.60W, h231km, MW5.6/122, Moment Tensor Solution. s105,c189; s122,c268; Duration: 1.6 Moment tensor: Scale 10^{17}Nm; Mrr-1.13±.03; Mθθ-0.30±.04; Mφφ1.44±.04; Mrθ0.22±.03; Mθφ-0.91±.03; Mφr-3.19±.03; Best double couple: Mo3.55200×10^{17} NP1:φs356.00000°, δ79.00000°, λ-78.00000°. NP2:φs128.00000°, δ17.00000°, λ-137.00000°. Principal axes: T 3.7830, Plg33.0000°, Azm76.0000°; N -0.4570, Plg12.0000°, Azm173.0000°; P -3.3200, Plg55.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
LDG 07 17:09:49.6±0.5, 22.55S×65.84W, h230km, Mb5.1/33, Ms4.5/9 Error ellipse: s-maj=30.2km s-min=21.1km az=47.0
BJI 07 17:09:51.0, 23.20S×66.10W, h247km, mB5.3/24
NEIC 07 17:10:04.0±0.0, 23.52S×65.83W, h216km, Moment Tensor Solution. s127 Moment tensor: Scale 10^{17}Nm; Mrr-1.11; Mθθ-0.28; Mφφ1.38; Mrθ0.19; Mθφ-0.09; Mφr-2.69; Best double couple: Mo3.00000×10^{17} NP1:φs178.00000°, δ12.00000°, λ-87.00000°. NP2:φs356.00000°, δ78.00000°, λ-89.00000°. Principal axes: T 3.1100, Plg32.0000°, Azm86.0000°; N -0.2800, Plg0.0000°, Azm356.0000°; P -2.8300, Plg57.0000°, Azm265.0000°;
ISC 07 17:09:46.2±0.3, 23.24S±0.03×66.55W±0.03, h222km±2km, h222km:pP-P, n918, σ1.53/970, mb5.4/136, 256C-224D, Jujuy Province

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AZAP Zapla 1.68 126 iP **Pn** **17 10 21.2 -2.6**
SLA San Lorenzo 1.76 147 iP **Pn** **17 10 22.4 -2.0**
SLA eS **S** **17 10 53.3 -0.8**
ASTB Santa Barbara 2.03 111 iP **Pn** **17 10 24.5 -2.4**
LVC Limon Verde 2.26 285 ePn **Pn** **17 10 28.1 -1.2**
LVC eS **S** **17 11 03.5 +0.8**
PB06 Plate Boundary 2.83 280⇑iP **Pn** **17 10 33.8 -1.5**
PB06 iS **S** **17 11 10.2 -3.4**
PB06 AML AML 17 11 12.2
comp=N,31μm,0.4s
PB06 Plate Boundary 2.83 280⇑iP **Pn** **17 10 33.8 -1.5**
PB06 iS **S** **17 11 10.2 -3.4**
PB09 Plate Boundary 2.87 299 iP **Pn** **17 10 35.2 -0.6**
PB09 iS **S** **17 11 12.1 -2.3**
PB09 Plate Boundary 2.87 299 iP **Pn** **17 10 35.2 -0.6**
PB09 iS **S** **17 11 12.1 -2.3**
PB04 Plate Boundary 2.88 289⇑iP Pn 17 10 40.4 +4.8
PB04 iS S 17 11 22.1 +8.0
PB04 Plate Boundary 2.88 289⇑iP Pn 17 10 40.4 +4.8
PB04 iS S 17 11 22.1 +8.0
MACH Maria Elena 3.13 289 eP **Pn** **17 10 37.2 -1.6**
MACH eS **S** **17 11 16.6 -3.2**
MACH Maria Elena 3.13 289 eP **Pn** **17 10 37.2 -1.6**
MACH eS **S** **17 11 16.6 -3.2**
CEN1 Los Morros 3.35 267⇓iP **Pn** **17 10 41.6 +0.3**
CEN1 iS **S** **17 11 23.4 -0.9**
CEN1 Los Morros 3.35 267⇓iP **Pn** **17 10 41.6 +0.3**
CEN1 iS **S** **17 11 23.4 -0.9**
PB07 Plate Boundary 3.43 295⇑iP **Pn** **17 10 40.7 -1.5**
PB07 eS **S** **17 11 22.8 -3.2**
PB07 Plate Boundary 3.43 295⇑iP **Pn** **17 10 40.7 -1.5**
PB07 eS **S** **17 11 22.8 -3.2**
PB01 Plate Boundary 3.49 308 iP **Pn** **17 10 41.5 -1.3**
PB01 iS **S** **17 11 24.5 -2.6**
PB01 Plate Boundary 3.49 308 iP **Pn** **17 10 41.5 -1.3**
PB01 iS **S** **17 11 24.5 -2.6**
ANCH Antofagasta 3.57 262⇑iP Pn 17 10 38.9 -4.8
ANCH iS S 17 11 21.1 -7.5
ANCH Antofagasta 3.57 262⇑iP Pn 17 10 38.9 -4.8
ANCH iS S 17 11 21.1 -7.5
PB10 Plate Boundary 3.69 265⇑iP Pn 17 10 42.6 -2.4
PB10 iS S 17 11 25.8 -5.3
PATCX Punta Patache 4.11 305 eP **Pn** **17 10 49.0 -1.4**
PATCX eS **S** **17 11 37.2 -3.5**
HMBC Humberstone 4.27 313⇑iP Pn 17 10 50.1 -2.2
HMBC eS **S** **17 11 40.8 -3.5**
HMBC Humberstone 4.27 313⇑iP Pn 17 10 50.1 -2.2
HMBC eS **S** **17 11 40.8 -3.5**
ACLC CERRO LA CRUZ 6.17 183 iP Pn 17 11 12.3 -3.9
AGUA GUANDACOL 6.46 195 iP Pn 17 11 15.5 -4.3
AGUA eS S 17 12 25.9 -8.3
LCO Las Campanas 6.85 212 ePn Pn 17 11 18.9 -6.1
LPAZ La Paz 7.07 348 P **Pn** **17 11 28.5 +0.3**
comp=N,54nm,0.3s,baz=153,slow=6.1,SNR=344
LPAZ S **S** **17 12 48.2 -1.1**
comp=N,3.3nm,0.3s,baz=342,slow=16,SNR=3.0
AVFE Valle Fertil 7.44 186 AML AML 17 12 50.6
comp=Z,814nm,0.6s
ARE Arequipa 8.19 325 eP **Pn** **17 11 41.0 -1.2**
ARE eS S 17 13 10.0 -5.1
ARE Arequipa 8.19 325 eP **Pn** **17 11 41.0 -1.2**
ARE eS S 17 13 10.0 -5.1
TCA Tanti 8.25 168 iP Pn 17 11 38.2 -4.6
TCA eS S 17 13 05.9 -10
TCA AML AML 17 13 11.0
comp=Z,38nm,0.8s
SJA San Juan 8.45 192 iP Pn 17 11 40.6 -4.6
SJA eS S 17 13 09.4 -11
SJA AML AML 17 13 10.4
comp=Z,599nm,0.5s
CFAA Coronel Fontan 8.47 190 P Pn 17 11 39.9 -5.7
comp=Z,2.8nm,0.3s,baz=39,slow=12,SNR=110
CFAA S S 17 13 08.3 -13
comp=Z,27nm,0.3s,baz=251,slow=15,SNR=20
CFAA Coronel Fontan 8.47 190 iP Pn 17 11 40.8 -4.7
SIV San Ignacio 8.87 37 P **Pn** **17 11 48.8 -1.9**
comp=Z,40nm,0.3s,baz=228,slow=14,SNR=237
SIV S S 17 13 19.1 -12
comp=Z,1.7nm,0.3s,baz=242,slow=17,SNR=5.2
CPUP Villa Florida 8.93 112 P Pn 17 11 47.3 -4.1
comp=Z,3.1nm,0.3s,baz=278,slow=11,SNR=45
ASAL Salagasta 9.53 192 iP Pn 17 11 54.6 -4.7
ARCO CERRO ARCO 9.80 192 iP Pn 17 11 58.1 -4.6
AAGR Agrelo 10.01 191 iP Pn 17 12 01.1 -4.3
SUCO SUCO 10.18 172 AML AML 17 14 07.7
comp=Z,78nm,0.8s
AVIZ Vizcacheras 10.34 189 iP Pn 17 12 04.5 -5.1
SAML Samuel 14.57 13 ePn **Pn** **17 13 01.7 -0.8**
NNA Nana 14.87 317 Pn **Pn** **17 13 07.1 +0.9**
comp=Z,1μm,0.8s,SNR=12
NNA Nana 14.87 317 eP **Pn** **17 13 06.8 +0.7**
NNA pmax pmax
comp=Z,213nm,0.9s
NNA Nana 14.87 317 P **Pn** **17 13 07.0 +0.9**
comp=Z,13nm,0.3s,baz=169,slow=12,SNR=42

NNA S S 17 15 53.2 +2.5
comp=Z,7.2nm,0.3s,baz=237,slow=15,SNR=4.4
NNA ScP ScP 17 21 14.2 +1.0
comp=Z,0.8nm,0.3s,baz=250,slow=2.7,SNR=6.3
NNA Nana 14.87 317 eP Pn 17 13 06.8 +0.7
comp=Z,213nm,0.9s
H03N1 Juan Fernandez 14.88 224 P P 17 13 06.3 +0.3
baz=24,slow=14,SNR=42
H03N2 Juan Fernandez 14.89 224 P P 17 13 06.5 +0.3
baz=24,slow=14,SNR=49
H03N3 Juan Fernandez 14.89 224 P P 17 13 06.2 -0.1
baz=24,slow=14,SNR=34
TRQA Tornquist 15.28 166 eP Pn 17 13 05.4 -5.5
BB16B Bebedouro 16.79 86⇑iP P 17 13 25.6 -2.1
BB16B i 17 13 31.9
BB16B i 17 13 40.1
PLCA Paso Flores 17.77 190 eP P 17 13 34.8 -3.3
PLCA eS S 17 16 49.8 -1.0
PLCA pmax pmax
comp=Z,50nm,0.5s
PLCA Paso Flores 17.77 190 P P 17 13 36.2 -1.9
comp=Z,2.4nm,0.3s,baz=18,slow=13,SNR=36
PLCA S S 17 16 55.1 +4.3
comp=Z,0.2nm,0.3s,baz=223,slow=19,SNR=2.4
PLCA ScP ScP 17 21 19.0 +0.5
comp=Z,0.1nm,0.3s,baz=356,slow=3.0,SNR=4.8
PLCA Paso Flores 17.77 190 eP P 17 13 34.8 -3.3
comp=Z,50nm,0.5s
PLCA eS S 17 16 49.8 -1.0
BDFB Brasilia 19.04 70 P P 17 13 50.7 -1.3
comp=Z,36nm,0.3s,baz=235,slow=11,SNR=350
BDFB ScP ScP 17 21 22.5 +0.7
comp=Z,0.6nm,0.3s,baz=61,slow=2.9,SNR=3.3
ATAH Atahualpa 19.64 323 P P 17 14 01.4 +2.5
comp=Z,2.5nm,0.3s,baz=156,slow=9.1,SNR=60
PTGA Pitinga 23.27 17 P P 17 14 32.6 -1.7
comp=Z,340nm,1.1s,baz=198,slow=11,SNR=113
PTGA S S 17 18 29.2 -0.7
comp=Z,6.8nm,0.6s,baz=86,slow=20,SNR=6.1
PTGA Pitinga 23.27 17 eP P 17 14 32.2 -2.1
PTGA S S 17 18 29.2 -0.7
ROSC El Rosal 28.94 344 P P 17 15 26.5 +0.9
comp=Z,13nm,0.5s,baz=118,slow=5.2,SNR=11
ROSC El Rosal 28.94 344 eP P 17 15 26.0 +0.5
USHA Ushuaia 31.58 182 P P 17 15 46.5 -1.4
comp=Z,10nm,0.5s,baz=328,slow=6.8,SNR=6.1
USHA ScP ScP 17 21 58.1 +1.5
comp=Z,29nm,1.1s,baz=283,slow=1.5,SNR=3.7
SDV Santo Domingo 32.17 352 eP P 17 15 52.5 -1.2
RCBR Riachuelo 34.22 64 P P 17 16 09.9 -1.4
comp=Z,322nm,1.0s,baz=235,slow=10,SNR=56
RCBR Riachuelo 34.22 64 eP P 17 16 09.7 -1.6
BCIP Isla Barro Col 34.73 337 P P 17 16 10.6 -4.9
comp=Z,413nm,1.7s
GRGR Grenville 35.48 8 eP P 17 16 20.0 -1.9
comp=Z,586nm,0.5s
JTS JuntasAbangare 37.88 330 P P 17 16 44.4 +2.2
comp=Z,528nm,1.3s,SNR=8.9
JTS JuntasAbangare 37.88 330 d iP P 17 16 45.1 +2.9
JTS pmax pmax
comp=Z,199nm,1.5s
JTS JuntasAbangare 37.88 330 P P 17 16 44.0 +1.9
comp=Z,82nm,1.1s,baz=154,slow=6.3,SNR=30
FDF Fort de France 38.11 8 eP P 17 16 42.8 -1.3
FDF pmax pmax
comp=Z,283nm,0.6s
FDF Fort de France 38.11 8 eP P 17 16 42.8 -1.3
comp=Z,283nm,0.6s
HOPE Hope Point 38.32 152 eP P 17 16 43.5 -1.9
comp=Z,110nm,1.2s
RPN Rapa Nui 38.77 255 S S 17 22 31.3 +1.0
comp=Z,1.3nm,0.5s,baz=14,slow=10,SNR=4.6
ANWB Willy Bob 40.92 7 eP P 17 17 05.6 -1.6
ANWB epP pP 17 17 56.1 +2.3
CRPR Cabo Rojo, PR 40.99 359 eP P 17 17 04.7 -3.1
comp=Z,115nm,1.1s
OBIP Obispado Ponce 41.03 360 eP P 17 17 07.2 -0.8
comp=Z,37nm,0.6s
OBIP epP pP 17 17 57.5 +2.8
CELP Cerrillos 41.06 360 eP P 17 17 07.8 -0.5
CELP epP pP 17 17 57.2 +2.3
SJG San Juan 41.10 1 P P 17 17 07.9 -0.7
comp=Z,55nm,0.8s,baz=271,slow=1.7,SNR=11
CBYP Canovanas 41.26 1 eP P 17 17 08.6 -1.4
comp=Z,59nm,1.3s
PMSA Palmer Station 41.56 178 P P 17 17 10.0 -1.8
comp=Z,12nm,0.9s,baz=349,slow=4.2,SNR=6.4
SDDR Presa de Saban 42.22 353 eP P 17 17 15.8 -1.9
GRTK Grand Turk 44.70 354 eP P 17 17 36.3 -1.1
TIGA Tifton 56.76 343 ⇓P P 17 19 08.7 +1.5
baz=57
SHEL Horse Pasture 57.40 95 iP P 17 19 12.3 +0.2
BRAL Brewton 57.41 339 eP P 17 19 12.5 +0.7
comp=Z,723nm,1.7s
BRAL ePcP pP 17 20 02.4 +0.9
VNA3 Neumayer Olymp 57.74 161 P P 17 19 13.6 0.0
VNA1 Neumayer--Stat 57.93 160 P P 17 19 15.8 +0.9
035Z Hargill 58.06 326 ⇓P P 17 19 18.2 +1.9
baz=58
VNA2 Neumayer--Watz 58.30 161 P P 17 19 17.3 -0.1
baz=294,slow=5.9
035A Encino 58.47 327 ⇓P P 17 19 21.4 +2.2
baz=59
034A Hebbronville 58.86 326 ⇑P P 17 19 23.3 +1.4
baz=59,SNR=13
934A Benavides 59.22 327 ⇓P P 17 19 26.0 +1.7
baz=60,SNR=7.8
835A Beeville 59.44 328 ⇓P P 17 19 28.2 +2.3
baz=60,SNR=5.1
933A Laredo 59.61 326 ⇓P P 17 19 28.5 +1.5
baz=60,SNR=20
834A Tilden 59.67 327 ⇓P P 17 19 29.1 +1.7
baz=60,SNR=7.6
KMSC Kings Mountain 59.73 346 ⇓P P 17 19 29.1 +1.5
baz=60,SNR=12
735A Kenedy 59.91 328 ⇑P P 17 19 30.8 +1.9
baz=60,SNR=7.9
SNAA Sanae 59.93 161 P P 17 19 28.6 -0.2
SNAA Sanae 59.93 161 eP P 17 19 27.0 -1.7
SNAA Sanae 59.93 161 P P 17 19 27.2 -1.5
SNAA e 17 20 11.3
SNAA Sanae 59.93 161 P P 17 19 27.2 -1.5
comp=Z,15nm,0.9s,baz=208,slow=6.3,SNR=58
SNAA Sanae 59.93 161 P P 17 19 27.2 -1.5
SNAA ePcP PcP 17 20 11.3 -1.3
SNAA epP pP 17 20 23.3 +4.4
538A Harpers Horsep 59.98 331 ⇓P P 17 19 31.4 +1.9
baz=60
636A Smothers Creek 60.07 329 ⇓P P 17 19 31.6 +1.5
baz=60
833A Chaparral WMA, 60.25 327 ⇓P P 17 19 32.5 +1.1
baz=60,SNR=29
734A La Parita Cree 60.26 328 ⇓P P 17 19 32.4 +1.0
baz=60,SNR=32
635A Leesville 60.33 329 ⇓P P 17 19 32.4 +0.5
baz=61,SNR=10
832A Faith Ranch, C 60.52 326 ⇓P P 17 19 34.2 +1.0
baz=61,SNR=44
733A Divot King Ran 60.52 327 ⇓P P 17 19 34.2 +1.0
baz=61
536A Bastrop 60.57 330 ⇓P P 17 19 34.7 +1.2
baz=61,SNR=6.6
634A China Grove, S 60.60 328 ⇓P P 17 19 35.3 +1.6
baz=61
535A Dale 60.77 329 ⇓P P 17 19 36.0 +1.2
baz=61,SNR=7.0
CPCT Cooper Cave 60.80 343 eP P 17 19 35.9 +1.0
CPCT ePcP PcP 17 20 16.1 -0.3
TKL Tuckaleechee C 60.80 344 eP P 17 19 34.9 0.0
TKL Tuckaleechee C 60.80 344 eP P 17 19 34.9 0.0
TKL epP pP 17 20 29.7 +4.4
732A Laxson Ranch, 60.88 326 ⇑P P 17 19 36.1 +0.5
baz=61,SNR=33
SWET Sewanee 60.97 342 eP P 17 19 34.8 -1.3
comp=Z,196nm,1.4s
SWET epP pP 17 20 28.4 +1.9
436A Wall Ranch, Ga 61.03 330 ⇑P P 17 19 37.6 +1.0
baz=61
633A Saathoff Ranch 61.07 328 ⇓P P 17 19 37.4 +0.5
baz=61,SNR=34
534A Blanco 61.20 328 ⇑P P 17 19 37.5 -0.3
baz=61,SNR=14
435B Jarrell 61.41 330 ⇓P P 17 19 39.6 +0.5
baz=62,SNR=6.2
632A Uvalde 61.41 327 ⇑P P 17 19 39.8 +0.5
baz=62,SNR=32
533A Kerrville 61.51 328 ⇑P P 17 19 40.4 +0.6
baz=62,SNR=13
BLA Blacksburg 61.53 347 eP P 17 19 40.3 +0.5
BLA pmax pmax
comp=Z,99nm,1.4s
BLA Blacksburg 61.53 347 eP P 17 19 40.3 +0.5
comp=Z,99nm,1.4s
631A Perdido Creek 61.74 326 ⇑P P 17 19 41.6 +0.3
baz=62,SNR=45
335A Moody 61.76 330 ⇑P P 17 19 41.9 +0.5
baz=62,SNR=15
434A Burnet 61.76 329 ⇑P P 17 19 41.7 +0.3
baz=62,SNR=36
433A Art 62.10 328 ⇓P P 17 19 43.7 0.0
baz=62,SNR=54
334A Lometa 62.17 329 ⇓P P 17 19 44.6 +0.4
baz=62,SNR=17
JCT Junction City 62.22 328 eP P 17 19 41.6 -2.9
JCT pmax pmax
comp=Z,45nm,1.0s
JCT Junction City 62.22 328 eP P 17 19 41.6 -2.9
comp=Z,45nm,1.0s
JCT epP pP 17 20 41.7 +6.5
JCT Junction City 62.22 328 ⇑P P 17 19 44.9 +0.3
baz=62,SNR=19
531A Rocksprings 62.33 327 ⇑P P 17 19 46.1 +0.8
baz=63,SNR=57
WHTX Lake Whitney 62.37 330 ⇓P P 17 19 46.2 +0.7
baz=63,SNR=8.2
333A Richland Sprin 62.52 329 ⇑P P 17 19 46.9 +0.4
baz=63,SNR=53
432A Menard 62.54 328 ⇑P P 17 19 46.9 +0.2
baz=63,SNR=64
234A Clairette 62.69 330 ⇓P P 17 19 48.0 +0.4
baz=63,SNR=42
530A J-C Ranch, Com 62.72 326 ⇓P P 17 19 48.5 +0.6
baz=63,SNR=31
431A Sonora 62.78 327 ⇑P P 17 19 48.6 +0.3
baz=63,SNR=33
135A Vickery Place, 62.82 331 ⇓P P 17 19 48.7 +0.3
baz=63,SNR=7.3
332A Millersview 62.93 328 ⇑P P 17 19 49.7 +0.4
baz=63,SNR=40
628A Black Gap, Mar 63.00 325 ⇓P P 17 19 50.8 +1.0
baz=63,SNR=65
233A Rising Star 63.05 329 ⇑P P 17 19 50.3 +0.2
baz=63,SNR=23
134A White-Moore Ra 63.14 330 ⇑P P 17 19 51.7 +1.2
baz=63,SNR=7.5
529A Stev Forest Ra 63.16 326 ⇓P P 17 19 51.7 +0.9
baz=63,SNR=47
430A Baggett Ranch, 63.18 327 ⇓P P 17 19 51.2 +0.3
baz=63,SNR=27
331A San Angelo 63.20 328 ⇑P P 17 19 51.3 +0.2
baz=63,SNR=31
627A Terlingua Ranc 63.24 324 ⇑P P 17 19 52.1 +0.7
baz=64,SNR=37
232A Coleman 63.30 329 ⇓P P 17 19 52.0 +0.3
baz=64,SNR=62
TXAR Lajitas Array 63.30 324 P P 17 19 52.1 +0.3
comp=Z,1.9nm,0.4s,baz=146,slow=7.2,SNR=42
429A Davenport Ranc 63.39 326 ⇓P P 17 19 52.8 +0.5
baz=64,SNR=47
Z35A Perchaven, San 63.41 331 ⇑P P 17 19 53.0 +0.7
baz=64,SNR=17
PARMO Parma 63.48 339 eP P 17 19 52.4 -0.2
PARMO epP pP 17 20 48.2 +4.7
528A Cox Ranch, San 63.48 325 ⇑P P 17 19 53.4 +0.4
baz=64,SNR=40
133A Hamilton Ranch 63.55 330 ⇑P P 17 19 53.4 +0.2
baz=64,SNR=19
330A Mertzon 63.65 327 ⇓P P 17 19 54.2 +0.2
baz=64,SNR=21
231A Bronte 63.66 328 ⇑P P 17 19 53.9 -0.1
baz=64,SNR=22
Z34A Collier Ranch, 63.74 331 ⇑P P 17 19 54.8 +0.3
baz=64,SNR=36
428A Kincaid Ranch, 63.88 326 ⇓P P 17 19 56.9 +1.3
baz=64,SNR=19
ABTX Abilene, Hawle 63.91 329 eP P 17 19 55.0 -0.6
comp=Z,145nm,1.4s
ABTX Abilene, Hawle 63.91 329 ⇑P P 17 19 56.3 +0.7
baz=64,SNR=20
527A Woodward Ranch 63.91 324 ⇓P P 17 19 56.4 +0.5
baz=64,SNR=36
230A Sterling City 64.01 328 ⇓P P 17 19 56.9 +0.6
baz=64,SNR=17
Z33A Whitaker Ranch 64.05 330 ⇑P P 17 19 57.1 +0.6
baz=64,SNR=40
526A Mary Lane Ranc 64.10 324 ⇓P P 17 19 57.8 +0.7
baz=64,SNR=89
329A Wagon Wheel Ra 64.12 327 ⇓P P 17 19 57.9 +0.8
baz=64,SNR=28
Y34A Reagan Ranch, 64.16 331 ⇓P P 17 19 57.9 +0.7
baz=64,SNR=24
131A Roby 64.30 329 ⇓P P 17 19 58.8 +0.6
baz=64,SNR=30
427A Hayter Ranch, 64.35 325 ⇑P P 17 19 59.2 +0.6
baz=65,SNR=28
Z32A Haskell 64.39 330 ⇑P P 17 19 59.4 +0.7
baz=65,SNR=18
229A Bryant Ranch, 64.42 327 ⇑P P 17 19 59.7 +0.7
baz=65,SNR=8.4
NVL N'lazarevskaya 64.44 159 eP P 17 19 59.0 +0.5
NVL pmax pmax
comp=Z,35nm,0.6s
328A Wristen Ranch, 64.46 326 ⇑P P 17 19 59.7 +0.5
baz=65,SNR=45
130A Snyder 64.52 328 ⇑P P 17 20 00.1 +0.5
baz=65,SNR=37
426A McDonald Obser 64.54 325 ⇓P P 17 20 00.7 +0.7
baz=65,SNR=70
Y33A Hilltop Ranch, 64.59 331 ⇑P P 17 20 00.7 +0.8
baz=65,SNR=16
Z31A Sharp Cattle R 64.72 329 ⇓P P 17 20 01.3 +0.5
baz=65,SNR=36
X34A Smith Ranch, M 64.74 332 ⇓P P 17 20 02.4 +1.5
baz=65,SNR=16
327A Balmorhea Ranc 64.81 325 ⇑P P 17 20 02.8 +1.3
baz=65
228A UT Block 9, Go 64.94 327 ⇓P P 17 20 02.7 +0.3
baz=65,SNR=12
Y32A R-V Farms, Ver 64.96 330 ⇓P P 17 20 03.2 +0.9
baz=65,SNR=24
X33A Lawton 64.98 331 ⇓P P 17 20 02.6 +0.1
baz=65,SNR=7.4
129A Stewart Farms, 64.99 327 ⇑P P 17 20 03.2 +0.5
baz=65,SNR=38
TUL1 Tulsa 65.01 334 ⇓P P 17 20 03.1 +0.5
baz=65,SNR=17
326A Caldwell Ranch 65.02 325 ⇑P P 17 20 04.0 +1.0
baz=65,SNR=32
Z30A Sanderson Ranc 65.16 328 ⇑P P 17 20 04.2 +0.5
baz=65,SNR=45
227A Bennet, Jal 65.21 326 ⇑P P 17 20 05.1 +1.0
baz=66,SNR=21
X32A Elmer 65.23 331 ⇓P P 17 20 05.3 +1.2
baz=66,SNR=11
W34A Bridge Creek, 65.25 332 ⇑P P 17 20 05.3 +1.0
baz=66,SNR=5.5
128A Castleberry Fa 65.29 327 ⇓P P 17 20 04.8 +0.2
baz=66,SNR=22
Y31A Rekieta Farm, 65.30 329 ⇓P P 17 20 05.5 +0.9
baz=66,SNR=20
Z29A Hungry Hill Ra 65.42 328 ⇓P P 17 20 05.8 +0.4
baz=66,SNR=21
W33A Caddo, Fort Co 65.48 332 ⇑P P 17 20 06.6 +0.9
baz=66,SNR=30
Y30A Stafford Cattl 65.53 329 ⇑P P 17 20 06.4 +0.3
baz=66,SNR=12
V34A Guthrie 65.65 333 ⇑P P 17 20 07.2 +0.4
baz=66,SNR=16
BINY Binghamton 65.69 352 eP P 17 20 06.8 0.0
comp=Z,41nm,0.9s
226B Tecolote Peak, 65.72 325 ⇑P P 17 20 08.8 +1.5
baz=66,SNR=54
X31A McDonald Ranch 65.72 330 ⇓P P 17 20 07.5 +0.2
baz=66,SNR=34
127A Arkansas Junct 65.77 326 ⇓P P 17 20 08.5 +0.7
baz=66,SNR=14
Z28A Tucker Farm, M 65.77 327 ⇓P P 17 20 08.0 +0.3
baz=66,SNR=43
W32A Sentinel 65.80 331 ⇓P P 17 20 08.5 +0.8
baz=66,SNR=31
Y29A Porterfield Fa 65.89 328 ⇑P P 17 20 08.8 +0.4
baz=66,SNR=19
V33A Lossen Ranch, 65.97 332 ⇑P P 17 20 09.5 +0.8
baz=66,SNR=28
X30A Coker Ranch, T 65.99 329 ⇑P P 17 20 09.3 +0.4
baz=66,SNR=19
MNTX Cornudas Mount 66.07 324 eP P 17 20 08.4 -1.1
comp=Z,65nm,1.2s
MNTX ePcP PcP 17 20 38.7 +0.5
225A Deer Hill, Car 66.09 325 ⇓P P 17 20 10.8 +0.9
baz=66,SNR=37
126A Clayton Basin, 66.09 326 ⇓P P 17 20 10.4 +0.7
baz=66,SNR=32
SFIN Scholer Farm 66.12 343 ⇑P P 17 20 10.7 +1.1
baz=66,SNR=7.0
W31A Holland Ranch, 66.17 330 ⇓P P 17 20 10.8 +0.7
baz=66,SNR=8.4
U34A Anderson Ranch 66.17 333 ⇑P P 17 20 10.7 +0.7
baz=66,SNR=9.5
Y28A McKinney Farm, 66.21 328 ⇑P P 17 20 10.3 -0.1
baz=66,SNR=14
Z27A Tatum 66.21 327 ⇑P P 17 20 10.7 +0.2
baz=66,SNR=49
V32A Arapaho 66.21 331 ⇑P P 17 20 11.2 +0.8
baz=66,SNR=9.4
X29A Tulia 66.38 329 ⇓P P 17 20 11.7 +0.2
baz=67,SNR=13
U33A Lingo Farm, Me 66.41 333 ⇓P P 17 20 12.1 +0.5
baz=67
125A Gardner Draw, 66.43 325 ⇑P P 17 20 12.2 +0.3
baz=67,SNR=22
MSTX Muleshoe 66.51 328 ⇑P P 17 20 12.6 +0.2
baz=67,SNR=49
Z26A Caprock 66.56 326 ⇓P P 17 20 13.3 +0.6
baz=67
V31A Spring Creek L 66.61 331 ⇑P P 17 20 13.8 +0.9
baz=67,SNR=10
Y27A Causey 66.64 327 ⇑P P 17 20 13.3 +0.1
baz=67,SNR=41
X28A Dimmitt 66.67 328 ⇑P P 17 20 14.2 +0.7
baz=67
AMTX Amarillo 66.72 329 ⇑P P 17 20 14.5 +0.8
baz=67
U32A Winter Ranch, 66.75 332 ⇑P P 17 20 15.0 +1.3
baz=67
LIC Lamto 66.81 72⇑iP P 17 20 12.2 -2.4
comp=Z,107nm,0.8s,baz=250
LIC eR
comp=Z,450nm,20.2s
LIC Lamto 66.81 72 eP P 17 20 12.5 -2.1
comp=Z,219nm,1.0s
LIC Lamto 66.81 72⇑iP P 17 20 12.2 -2.4
comp=Z,107nm,0.8s
W29A Amraillo 66.90 329 ⇑P P 17 20 16.0 +1.2
baz=67,SNR=9.0
Z25A Roswell 66.95 326 ⇑P P 17 20 16.1 +0.9
baz=67,SNR=54
QSPA South Pole Qui 66.96 180 P P 17 20 14.5 -0.4
comp=Z,38nm,0.4s,baz=309,slow=1.5,SNR=155
QSPA S S 17 28 46.2 -3.6
comp=Z,6.3nm,1.1s,baz=171,slow=6.4,SNR=4.8
V30A Spur Ranch, Mi 66.98 330 ⇑P P 17 20 17.7 +2.4
baz=67,SNR=10
Y26A Elida 67.00 327 ⇑P P 17 20 16.6 +1.0
baz=67,SNR=15
TIC Toumodi 67.02 72 eP P 17 20 14.0 -1.9
comp=Z,200nm,1.2s
T33A Patterson Ranc 67.02 333 ⇑P P 17 20 16.5 +1.1
baz=67,SNR=10
U31A Nine Bar Ranch 67.11 331 ⇑P P 17 20 17.4 +1.3
baz=67
KIC Kosan Boka 67.13 72 eP P 17 20 14.7 -1.9
comp=Z,271nm,0.9s
DBIC Dimbokro 67.17 72 eP P 17 20 14.8 -2.0
DBIC Dimbokro 67.17 72 P P 17 20 14.9 -2.0
comp=Z,158nm,1.0s,baz=214,slow=6.1,SNR=69
X27A F and S Farms, 67.22 328 ⇑P P 17 20 18.2 +1.3
baz=68
W28A Vega 67.28 329 ⇓P P 17 20 18.3 +1.1
baz=68,SNR=13
Z24A Sheeppen Canyo 67.32 325 ⇓P P 17 20 18.2 +0.6
baz=68,SNR=50
S33A Kaszmaul Farm, 67.36 333 ⇑P P 17 20 18.8 +1.3
baz=68
T32A Huddler Ranch, 67.39 332 ⇑P P 17 20 19.2 +1.4
baz=68,SNR=12
Y25A Mesa, Roswell 67.44 326 ⇓P P 17 20 18.7 +0.4
baz=68,SNR=36
V29A Stinnett 67.46 330 ⇑P P 17 20 19.3 +1.0
baz=68
X26A CR and CF Fran 67.49 327 ⇓P P 17 20 19.3 +0.7
baz=68,SNR=23
W27A Bowe Ranch, En 67.53 328 ⇑P P 17 20 19.6 +0.8
baz=68,SNR=20
U30A WK&E Inc. Balk 67.60 331 ⇑P P 17 20 20.1 +0.9
baz=68,SNR=12
T31A Randall Ranch, 67.65 332 ⇑P P 17 20 20.2 +0.8
baz=68,SNR=8.8
V28A Channing 67.69 329 ⇑P P 17 20 20.9 +1.2
baz=68
U29A Oasis Ranch, S 67.82 330 ⇑P P 17 20 22.0 +1.5
baz=68,SNR=7.5
Y24A Capitan 67.83 326 ⇑P P 17 20 22.0 +1.2
baz=68,SNR=9.6
S32A Newby Ranch, P 67.84 333 ⇑P P 17 20 22.2 +1.7
baz=68,SNR=6.2
W26A Owens Ranch, T 67.90 328 ⇑P P 17 20 22.2 +1.1
baz=68,SNR=27
X25A Clemmons Ranch 67.90 327 ⇑P P 17 20 22.5 +1.4
baz=68,SNR=32
R33A Olander Ranch, 67.96 334 ⇑P P 17 20 22.8 +1.5
baz=68,SNR=12
T30A Plains 67.98 331 ⇓P P 17 20 23.1 +1.6
baz=68
V27A Dan Oppiter Fa 67.98 329 ⇑P P 17 20 23.3 +1.7
baz=68,SNR=14
319A Douglas 67.99 321 ⇓P P 17 20 23.5 +1.8
baz=68,SNR=23
S31A Mullinville 68.00 332 ⇑P P 17 20 22.8 +1.2
baz=68,SNR=9.0
121A Cookes Peak, D 68.01 323 eP P 17 20 22.4 +0.4
comp=Z,134nm,1.3s
121A epP pP 17 21 18.7 +5.3
121A Cookes Peak, D 68.01 323 ⇑P P 17 20 23.9 +2.0
baz=68,SNR=43
KSU1 Kansas State U 68.09 335 ⇓P P 17 20 22.3 +0.3
baz=68,SNR=9.2
Z22A Elephant Butte 68.11 324 ⇑P P 17 20 24.4 +1.9
baz=68,SNR=96
Y23A Lovelace Mesa, 68.15 325 ⇓P P 17 20 24.1 +1.3
baz=68,SNR=10
U28A Mallet 68.20 330 ⇑P P 17 20 23.7 +0.8
baz=68,SNR=29
W25A X Bar L Ranch, 68.34 327 ⇑P P 17 20 25.0 +1.1
baz=69,SNR=38
R32A Long Quarter, 68.35 333 ⇑P P 17 20 24.3 +0.6
baz=69,SNR=26
T29A Hugoton 68.41 331 ⇓P P 17 20 25.2 +1.0
baz=69,SNR=5.9
S30A Montezuma 68.44 332 ⇑P P 17 20 25.4 +1.1
baz=69,SNR=11
V26A Tequesquite Ra 68.47 328 ⇑P P 17 20 25.7 +1.0
baz=69,SNR=65
Q33A Connelly Farm, 68.49 334 ⇓P P 17 20 25.2 +0.7
baz=69,SNR=8.3
U27A Thompson Grove 68.52 329 ⇓P P 17 20 25.8 +0.9
baz=69,SNR=14
R31A Burdett 68.58 333 ⇓P P 17 20 26.0 +0.9
baz=69,SNR=9.1
S29A Ulysses 68.71 331 ⇑P P 17 20 27.1 +1.1
baz=69,SNR=18
X23A Hourglass Bar 68.72 326 ⇓P P 17 20 28.3 +1.9
baz=69,SNR=5.3
T28A Walsh 68.75 330 ⇑P P 17 20 27.0 +0.7
baz=69,SNR=18
Q32A Meitler Ranch, 68.77 334 ⇓P P 17 20 27.0 +0.7
baz=69,SNR=19
P33A Williams Farm, 68.81 335 ⇑P P 17 20 27.7 +1.2
baz=69,SNR=7.1
W24A Lazy 6 Ranch, 68.81 327 ⇓P P 17 20 27.6 +0.8
baz=69,SNR=28
R30A Dighton 68.90 332 ⇑P P 17 20 28.1 +1.0
baz=69,SNR=12
V25A Rancho No Teng 68.91 328 ⇓P P 17 20 28.5 +1.0
baz=69,SNR=48
U26A Atchley Ranch, 68.93 328 ⇑P P 17 20 28.7 +1.1
baz=69,SNR=81
T27A Campo 68.99 330 ⇑P P 17 20 28.5 +0.7
baz=69,SNR=28
S28A Manter 69.04 331 ⇑P P 17 20 28.9 +0.9
baz=69,SNR=36
LAZ Ladron 69.08 325 eP P 17 20 29.7 +1.1

comp=Z,77nm,1.8s
Q31A Ellis 69.13 333 ⇑P P 17 20 29.7 +1.2
baz=69,SNR=15
ANMO Albuquerque 69.15 326 ⇓/P P 17 20 30.0 +1.1
ANMO pmax pmax
comp=Z,253nm,1.2s
V24A Rampart Ranch, 69.15 327 ⇓P P 17 20 30.4 +1.4
baz=69,SNR=43
W23A Werner Place, 69.15 326 ⇓P P 17 20 30.5 +1.5
baz=69,SNR=28
U25A Circle Dot Ran 69.26 328 ⇑P P 17 20 30.7 +1.1
baz=70,SNR=40
P32A Huiting Farm, 69.33 334 ⇑P P 17 20 31.1 +1.4
baz=70,SNR=12
R29A Marienthal 69.39 332 ⇑P P 17 20 31.5 +1.3
baz=70,SNR=14
Q30A Quinter 69.45 333 ⇓P P 17 20 32.1 +1.5
baz=70,SNR=13
T26A Comanche Natio 69.49 329 ⇑P P 17 20 32.1 +1.2
baz=70,SNR=59
P31A Stockton 69.56 333 ⇑P P 17 20 32.4 +1.3
baz=70,SNR=31
S27A Las Animas 69.57 330 ⇑P P 17 20 32.7 +1.4
baz=70,SNR=6.3
R28A Tribune 69.62 331 ⇑P P 17 20 32.6 +1.0
baz=70,SNR=12
V23A Ortiz Mt. (NFS 69.63 326 ⇓P P 17 20 33.5 +1.6
baz=70,SNR=35
U24A Moreno Valley 69.69 327 ⇓P P 17 20 33.4 +1.1
baz=70
Q29A Oakley 69.71 332 ⇑P P 17 20 32.8 +0.7
baz=70,SNR=24
O32A Brockman Farm, 69.75 335 ⇓P P 17 20 33.4 +1.2
baz=70
S26A Kim 69.79 329 ⇑P P 17 20 34.1 +1.4
baz=70,SNR=59
T25A Trinidad 69.85 329 ⇓P P 17 20 34.5 +1.3
baz=70,SNR=33
P30A Selden 69.94 333 ⇑P P 17 20 34.6 +1.1
baz=70,SNR=9.8
R27A Eads 70.02 330 ⇓P P 17 20 35.2 +1.1
baz=70,SNR=12
O31A Woolen Ranch, 70.07 334 ⇑P P 17 20 35.2 +0.9
baz=70,SNR=11
U23A El Rito 70.08 327 ⇑P P 17 20 36.0 +1.3
baz=70,SNR=22
V22A San Miguel Ran 70.13 326 ⇓P P 17 20 36.7 +1.8
baz=70,SNR=47
N32A Stulken Farm, 70.18 335 ⇓P P 17 20 36.3 +1.4
baz=70
Q28A Sharon Springs 70.22 331 ⇓P P 17 20 37.2 +1.9
baz=70,SNR=6.4
T24B San Luis 70.26 328 ⇓P P 17 20 37.6 +1.9
baz=70,SNR=42
S25A Robets Cordova 70.28 329 ⇓P P 17 20 37.5 +1.8
baz=70
P29A Atwood 70.28 332 ⇑P P 17 20 37.8 +2.2
baz=70,SNR=8.2
R26A Arlington 70.33 330 ⇑P P 17 20 37.4 +1.4
baz=71,SNR=39
O30A MW Ranch, Wils 70.39 333 ⇑P P 17 20 38.3 +2.1
baz=71
U22A Llaves 70.46 326 ⇓P P 17 20 38.9 +2.0
baz=71,SNR=17
214A Organ Pipe Nat 70.49 319 eP P 17 20 37.0 0.0
comp=Z,95nm,1.3s
214A epP pP 17 21 33.0 +4.2
214A Organ Pipe Nat 70.49 319 ⇓P P 17 20 39.2 +2.2
baz=71,SNR=15
N31A Bailey Ranch, 70.49 334 ⇓P P 17 20 38.6 +1.8
baz=71
KSCO Kaye Shedlock' 70.53 331 ⇑P P 17 20 39.1 +1.9
baz=71
T23A Casias Ranch, 70.56 327 ⇑P P 17 20 39.5 +1.9
baz=71,SNR=19
R25A Fountain Ranch 70.59 329 ⇓P P 17 20 38.9 +1.3
baz=71,SNR=9.0
P28A Saint Francis 70.61 332 ⇓P P 17 20 39.4 +1.8
baz=71,SNR=6.9
S24A Houchin Ranch, 70.63 328 ⇓P P 17 20 39.6 +1.6
baz=71,SNR=68
O29A 4D Ranch, Culb 70.66 333 ⇓P P 17 20 39.6 +1.8
baz=71,SNR=10
BGNE Belgrade 70.68 335 ⇑P P 17 20 38.6 +0.7
baz=71,SNR=36
X18A Snowflake 70.70 323 ⇑P P 17 20 40.1 +1.7
baz=71,SNR=27
SDCO Great Sand Dun 70.86 328 eP P 17 20 39.5 +0.1
comp=Z,175nm,1.5s
SDCO epP pP 17 21 34.1 +2.8
Q26A Hugo 70.86 330 ⇑P P 17 20 41.0 +1.8
baz=71,SNR=33
N30A Hueftle Ranch, 70.93 334 ⇑P P 17 20 41.0 +1.6
baz=71,SNR=5.8
M31A Lambtecht Ranc 70.94 335 ⇓P P 17 20 40.5 +1.0
baz=71,SNR=14
P27A Ficken Ranch, 70.95 331 ⇓P P 17 20 41.3 +1.6
baz=71,SNR=13
W18A Petrified Fore 71.02 324 ⇑P P 17 20 42.0 +1.7
baz=71,SNR=10
R24A Sanders Place, 71.05 329 ⇓P P 17 20 42.2 +1.8
baz=71,SNR=24
S23A Nye Farm, Mont 71.07 328 ⇑P P 17 20 42.2 +1.6
baz=71,SNR=12
O28A Krutsinger Ran 71.07 332 ⇓P P 17 20 41.8 +1.5
baz=71,SNR=17
N29A Votaw Ranch, W 71.17 333 ⇓P P 17 20 42.1 +1.2
baz=71,SNR=15
Q25A Bedland, Calha 71.19 330 ⇑P P 17 20 42.2 +1.0
baz=71,SNR=9.8
P26A Davis Ranch, A 71.30 331 ⇓P P 17 20 43.4 +1.6
baz=72,SNR=11
R23A Moffat 71.36 328 ⇑P P 17 20 43.6 +1.2
baz=72,SNR=43
O27A Beecher Island 71.43 332 ⇑P P 17 20 44.2 +1.7
baz=72,SNR=11
N28A Pribbeno Ranch 71.44 333 ⇑P P 17 20 44.0 +1.5
baz=72,SNR=6.9
X16A Lo Mia Camp, P 71.45 322 ⇑P P 17 20 44.9 +2.0
baz=72,SNR=50
M30A Dale-Ortello V 71.47 334 ⇑P P 17 20 43.9 +1.3
baz=72,SNR=9.5
S22A 4UR Ranch, Cre 71.51 327 ⇓P P 17 20 44.9 +1.7
baz=72,SNR=24
Z14A Wintersburg 71.56 320 ⇑P P 17 20 45.3 +2.0
baz=72,SNR=7.5
L31A Butterfield Fa 71.60 335 ⇑P P 17 20 45.0 +1.6
baz=72,SNR=11
113A Mohawk Valley, 71.63 319 ⇑P P 17 20 45.6 +1.8
baz=72,SNR=6.1
P25A Willow Gulch B 71.64 330 ⇑P P 17 20 45.6 +1.7
baz=72,SNR=20
Q24A Divide 71.65 329 ⇓P P 17 20 45.8 +1.6
baz=72,SNR=37
M29A Burnside Ranch 71.72 334 ⇑P P 17 20 45.7 +1.6
baz=72,SNR=11
L30A Spencer Herefo 71.75 335 ⇑P P 17 20 46.1 +1.8
baz=72,SNR=8.4
O26A Horse Wrangler 71.84 331 ⇑P P 17 20 46.4 +1.4
baz=72,SNR=10.0
Q23A Hartsel 71.93 329 ⇓P P 17 20 47.5 +1.7
baz=72
MVCO Mesa Verde 71.94 326 ⇓P P 17 20 47.2 +1.4
baz=72,SNR=47
M28A Bar X Bar Ranc 71.96 333 ⇑P P 17 20 47.2 +1.6
baz=72,SNR=6.2
N27A Anderson Farm, 71.96 332 ⇓P P 17 20 47.3 +1.6
baz=72,SNR=12
P24A Kohler Place, 71.98 330 ⇑P P 17 20 47.8 +1.9
baz=72,SNR=10
Y14A Wickenburg 72.01 321 ⇑P P 17 20 47.7 +1.7
baz=72,SNR=20
O25A Wiggins 72.10 331 ⇓P P 17 20 48.5 +1.9
baz=72
ECSD EROS Data Cent 72.13 338 ⇑P P 17 20 48.2 +1.8
baz=72,SNR=29
L29A Maesberg Ranch 72.15 334 ⇑P P 17 20 48.2 +1.5
baz=72,SNR=14
SPMN St. Paul 72.21 341 ⇑P P 17 20 48.4 +1.5
baz=72,SNR=12
WUAZ Wupatki 72.22 323 ⇓P P 17 20 49.1 +1.7
baz=72,SNR=50
N26A Koester Ranch, 72.28 332 ⇓P P 17 20 49.1 +1.6
baz=72,SNR=13
P23A Jefferson 72.30 329 ⇑P P 17 20 50.0 +1.9
baz=73,SNR=10
K30A Basset 72.33 335 ⇓P P 17 20 49.8 +2.1
baz=73,SNR=7.6

GLA Glamis 72.47 319 ⇓P P 17 20 50.8 +2.0
baz=73,SNR=7.3
M27A Reverse DX Ran 72.49 333 ⇑P P 17 20 50.7 +2.0
baz=73,SNR=7.9
L28A Connealy Angus 72.53 333 ⇓P P 17 20 50.4 +1.4
baz=73
ISCO Idaho Springs 72.53 329 ⇓P P 17 20 51.1 +1.8
baz=73,SNR=39
O24A Longmont 72.54 330 ⇓P P 17 20 51.3 +2.2
baz=73,SNR=6.0
N25A Grover 72.65 331 ⇓P P 17 20 51.9 +2.2
baz=73
K29A Lazy Trails An 72.68 335 ⇑P P 17 20 51.6 +1.8
baz=73,SNR=17
PV01 Paradox Valley 72.68 326 eP P 17 20 51.8 +1.6
comp=Z,11μm,1.4s
M26A McRoberts Ranc 72.77 332 ⇓P P 17 20 52.4 +2.0
baz=73
Y12C Blythe 72.77 320 ⇓P P 17 20 52.6 +2.2
baz=73,SNR=30
J30A Dallas 72.83 335 ⇓P P 17 20 52.7 +2.0
baz=73,SNR=11
P22A Eagle 72.92 329 ⇑P P 17 20 53.4 +1.9
baz=73,SNR=35
L27A T5 Ranch, Ells 72.92 333 ⇓P P 17 20 53.1 +1.9
baz=73
PDMCI Parker Dam,Lak 72.93 320 ⇑P P 17 20 53.6 +2.3
baz=73,SNR=9.3
SWSC Sam W. Stewart 72.98 318 ⇓P P 17 20 54.2 +2.5
baz=73,SNR=5.3
O23A Lake Granby, G 73.00 329 ⇑P P 17 20 53.7 +1.6
baz=73,SNR=37
N24A Carr 73.02 331 ⇑P P 17 20 54.3 +2.3
baz=73,SNR=14
K28A Ten Mile Ranch 73.06 334 ⇓P P 17 20 54.3 +2.2
baz=73,SNR=6.5
M25A Palm-Egli Farm 73.14 331 ⇑P P 17 20 54.4 +1.8
baz=73
L26A Underwood Farm 73.21 332 ⇑P P 17 20 55.1 +2.1
baz=74,SNR=12
J29A Okreek 73.22 335 ⇑P P 17 20 54.6 +1.7
baz=74,SNR=21
O22A Kremmling 73.26 329 ⇓P P 17 20 55.1 +1.5
baz=74,SNR=44
BC3 Big Chuckawall 73.26 319 ⇑P P 17 20 55.5 +2.0
baz=74,SNR=24
MONP Monument Peak 73.33 318 ⇑P P 17 20 55.8 +1.8
baz=74
W13A Hualapai Mount 73.34 321 ⇑P P 17 20 56.0 +2.0
baz=74,SNR=19
U15A North Rim 73.39 323 ⇑P P 17 20 56.6 +2.2
baz=74,SNR=64
K27A Flueckinger Fa 73.40 333 ⇑P P 17 20 56.1 +2.0
baz=74,SNR=12
IRM Iron Mountain 73.43 320 ⇑P P 17 20 56.4 +2.1
baz=74,SNR=21
M24A Cheyenne 73.50 331 ⇓P P 17 20 56.7 +1.8
baz=74,SNR=30
N23A Red Feather La 73.56 330 ⇑P P 17 20 56.9 +1.6
baz=74,SNR=26
BRSD Miller 73.59 336 ⇑P P 17 20 56.9 +1.9
baz=74
J28A Allard Ranch, 73.60 334 ⇑P P 17 20 57.3 +2.2
baz=74,SNR=21
L25A Engebretsen Ra 73.68 332 ⇓P P 17 20 58.0 +2.3
baz=74,SNR=6.5
N22A Wattenberg Ran 73.72 330 ⇑P P 17 20 58.1 +1.9
baz=74,SNR=26
I29A Vivian Onida 73.73 335 ⇓P P 17 20 57.1 +1.2
baz=74,SNR=8.6
109C Camp Elliot, M 73.75 317 ⇑P P 17 20 58.5 +2.3
baz=74
J27A Elkhorn Farm, 73.76 334 ⇓P P 17 20 58.3 +2.1
baz=74,SNR=32
K26A Motz Farm, Whi 73.79 333 ⇑P P 17 20 58.8 +2.5
baz=74,SNR=8.4
BELC Belle Mtn. Jos 73.83 319 ⇓P P 17 20 59.1 +2.3
baz=74,SNR=8.3
PFO Pinyon Flat Ob 73.84 318 P P 17 20 58.7 +1.8
comp=Z,218nm,1.2s,SNR=6.3
PFO Pinyon Flat Ob 73.84 318 ⇑P P 17 20 59.0 +2.2
baz=74,SNR=8.9
M23A Laramie 73.91 330 ⇓P P 17 20 59.1 +1.9
baz=74,SNR=28
K25A Mack Ranch, Ha 74.01 332 ⇓P P 17 21 00.1 +2.4
baz=74
L24A Wheatland 74.02 331 ⇑P P 17 21 00.0 +2.3
baz=74,SNR=5.7
I28A Midland 74.05 335 ⇓P P 17 20 59.5 +1.7
baz=74,SNR=8.5
O20A White River Ci 74.05 328 ⇓P P 17 20 59.6 +1.5
baz=74,SNR=51
SYO Syowa Base 74.11 159⇓eP pP 17 21 53.8 +3.7
GMRC Granite Mounta 74.16 320 ⇓P P 17 21 00.5 +1.8
baz=74,SNR=43
H29A Onida 74.21 336 ⇑P P 17 20 59.5 +0.8
baz=74,SNR=35
G30A Faulkton 74.25 337 ⇑P P 17 21 00.1 +1.3
baz=74,SNR=8.5
J26A Sides Ranch, S 74.25 333 ⇑P P 17 21 01.2 +2.2
baz=74,SNR=29
M22A Cedar Creek Ra 74.26 330 ⇓P P 17 21 01.3 +2.0
baz=74,SNR=15
MURC Murrieta 74.29 318 ⇓P P 17 21 01.8 +2.4
baz=74,SNR=8.9
L23A Garrett 74.42 331 ⇑P P 17 21 01.8 +1.7
baz=75,SNR=15
I27A Quinn 74.46 334 ⇓P P 17 21 02.3 +2.1
baz=75,SNR=9.1
K24A Anderson Ranch 74.51 332 ⇑P P 17 21 02.5 +1.9
baz=75
H28A Mission Ridge 74.56 335 ⇓P P 17 21 02.9 +2.3
baz=75
BBRC Big Bear Solar 74.57 319 ⇓P P 17 21 02.9 +1.7
baz=75
G29A Hoven 74.59 336 ⇑P P 17 21 02.6 +1.8
baz=75
HEC Hector,Ludlow 74.60 319 ⇑P P 17 21 03.2 +2.0
baz=75,SNR=15
N20A Spence Gulch, 74.60 328 ⇓P P 17 21 03.1 +1.8
baz=75,SNR=24
J25A Sunshine Ranch 74.62 333 ⇓P P 17 21 03.0 +1.9
baz=75,SNR=14
L22A Ellis Ranch, M 74.68 330 ⇓P P 17 21 03.9 +2.2
baz=75,SNR=11
I26A New Underwood 74.75 334 ⇓P P 17 21 03.9 +2.0
baz=75
TUQ Turquoise Moun 74.77 320 ⇓P P 17 21 04.4 +2.2
baz=75,SNR=15
F30A Leola 74.81 337 ⇓P P 17 21 04.1 +2.1
baz=75,SNR=5.9
G28A Parade 74.86 336 ⇑P P 17 21 04.2 +1.8
baz=75,SNR=9.8
K23A Bowen Ranch, D 74.89 331 ⇓P P 17 21 04.6 +1.8
baz=75,SNR=30
CIS Catalina Islan 74.91 317 ⇓P P 17 21 05.3 +2.3
baz=75
J24A Dixon Ranch, L 74.94 332 ⇑P P 17 21 05.1 +2.1
baz=75,SNR=24
H27A Howes 74.94 335 ⇓P P 17 21 04.5 +1.7
baz=75,SNR=19
BFSC Mount Baldy Ra 75.00 318 ⇑P P 17 21 05.7 +2.1
baz=75,SNR=7.8
ARUT Antelope Range 75.01 323 eP P 17 21 04.2 +0.6
ARUT pmax pmax
comp=Z,2μm,1.4s
ARUT Antelope Range 75.01 323 eP P 17 21 04.2 +0.6
comp=Z,2μm,1.4s
ARUT epP pP 17 22 01.7 +5.7
RRX Edison Barstow 75.03 319 ⇓P P 17 21 05.4 +1.9
baz=75
FMP Fort Macarthur 75.05 317 ⇑P P 17 21 05.7 +2.1
baz=75
F29A Eureka 75.10 337 ⇓P P 17 21 05.7 +2.1
baz=75,SNR=13
I25A Rochford 75.10 333 ⇓P P 17 21 05.9 +2.0
baz=75
GSC Goldstone 75.20 319 ⇑P P 17 21 06.8 +2.2
baz=75,SNR=22
H26A Fairpoint 75.20 334 ⇑P P 17 21 06.6 +2.2
baz=76
K22A Casper 75.21 331 ⇓P P 17 21 06.3 +1.7
baz=76,SNR=16
PASC Pasadena Art C 75.28 318 eP P 17 21 05.3 +0.3
comp=Z,124nm,1.4s
PASC ePcP PcP 17 21 17.5 +0.2
SHOC Shoshone 75.30 320 ⇑P P 17 21 07.2 +2.1
baz=76

E30A Jud 75.34 338 ⇓P P 17 21 07.0 +2.0
baz=76,SNR=6.9
I24A Kuemmerle Ranc 75.35 333 ⇑P P 17 21 07.3 +2.0
baz=76,SNR=9.2
J23A Dilts Ranch, B 75.38 332 ⇓P P 17 21 07.5 +2.0
baz=76
DECC Green Verdugo 75.42 318 ⇑P P 17 21 08.0 +2.1
baz=76,SNR=6.8
F28A McLaughlin 75.47 336 ⇓P P 17 21 07.7 +1.9
baz=76,SNR=7.3
G27A Dupree 75.50 335 ⇓P P 17 21 07.6 +1.6
baz=76,SNR=10
VNDA Vanda 75.52 190 P P 17 21 05.3 -0.3
comp=Z,14nm,1.0s,baz=152,slow=3.9,SNR=8.4
K21A Alcova 75.53 330 ⇑P P 17 21 08.0 +1.6
baz=76,SNR=104
H25A Fruitdale 75.54 334 ⇑P P 17 21 08.1 +1.8
baz=76,SNR=6.3
EDW2 Edwards Air Fo 75.63 318 ⇑P P 17 21 08.7 +1.7
baz=76,SNR=8.1
E29A Napoleon 75.66 337 ⇑P P 17 21 08.9 +2.0
baz=76
G26A Maurine 75.69 335 ⇑P P 17 21 08.4 +1.2
baz=76,SNR=16
I23A Meade Ranch, G 75.79 332 ⇓P P 17 21 08.9 +1.1
baz=76
J22A Midwest 75.79 331 ⇓P P 17 21 08.9 +1.0
baz=76,SNR=64
D30A Buchanan 75.81 338 ⇓P P 17 21 08.8 +1.1
baz=76,SNR=24
SUR Sutherland 75.83 119 P P 17 21 07.7 -0.8
comp=Z,245nm,0.8s,SNR=8.7
LRMC Laurel Mountai 75.85 319 ⇓P P 17 21 10.3 +2.0
baz=76,SNR=9.9
WIN Windhoek 75.90 109 eP P 17 21 06.7 -2.4
WIN AMB AMB 17 21 11.3
comp=Z,12nm,3.3s
WIN Windhoek 75.90 109 P P 17 21 06.7 -2.4
WIN pmax pmax
comp=Z,12nm,3.3s
WIN Windhoek 75.90 109 P P 17 21 06.7 -2.4
comp=Z,12nm,3.3s
AGMN Agassiz Nation 75.90 340 ⇓P P 17 21 09.5 +1.3
baz=76,SNR=9.5
TORD Torodi Ar. Bea 75.91 69 P P 17 21 07.1 -1.8
comp=Z,89nm,0.5s,baz=256,slow=5.9,SNR=256
TORD pP pP 17 22 00.7 -0.8
comp=Z,16nm,0.7s,baz=249,slow=5.4,SNR=2.0
TORD PP PP 17 23 59.0 -3.8
comp=Z,25nm,1.1s,baz=243,slow=8.0,SNR=6.2
TORD S S 17 30 29.0 -4.4
comp=Z,1.9nm,1.1s,baz=246,slow=11,SNR=4.5
G25A Newell 75.94 334 ⇓P P 17 21 10.3 +1.7
baz=76,SNR=8.7
F27A Lemmon 75.95 335 ⇓P P 17 21 09.4 +0.9
baz=76,SNR=22
FURC Furnace Creek, 76.03 320 ⇓P P 17 21 11.4 +2.3
baz=76,SNR=16
H24A Dirks Ranch, A 76.04 333 ⇓P P 17 21 10.0 +0.9
baz=76,SNR=31
E28A Huff 76.04 336 ⇑P P 17 21 10.3 +1.2
baz=76,SNR=11
D29A Pettibone, Tap 76.06 337 ⇓P P 17 21 10.7 +1.6
baz=76,SNR=5.7
BSC Santa Cruz Isl 76.07 317 ⇓P P 17 21 11.6 +2.1
baz=76
VAH Vaihoa 76.10 259 eP P 17 21 13.0 +3.0
comp=Z,253nm,1.1s
J21A Lysite 76.17 331 ⇓P P 17 21 11.5 +1.4
baz=76,SNR=17
I22A 9 Mile Ranch, 76.18 331 ⇓P P 17 21 11.0 +1.0
baz=76,SNR=45
F26A Lodgepole 76.19 335 ⇑P P 17 21 11.1 +1.2
baz=76,SNR=25
C30A Mose, Pekin 76.23 338 ⇑P P 17 21 11.6 +1.6
baz=76,SNR=11
E27A Carson 76.24 336 ⇓P P 17 21 12.0 +1.8
baz=76
H23A Clabaugh Cattl 76.24 333 ⇑P P 17 21 12.1 +1.8
baz=76
ARVC Arvin 76.31 318 ⇓P P 17 21 12.8 +2.1
baz=76
TCUT Toone Canyon 76.37 327 eP P 17 21 08.2 -3.1
comp=Z,179nm,1.5s
DUG Dugway 76.41 325 ⇓P P 17 21 13.2 +1.8
baz=77,SNR=39
SBC Santa Barbara 76.41 317 ⇑P P 17 21 13.6 +2.3
baz=77
PMOR Pomariorio Ree 76.42 259 eP P 17 21 14.8 +2.9
comp=Z,188nm,1.1s
ISA Isabella 76.45 319 ⇑P P 17 21 13.9 +2.2
baz=77,SNR=22
G24A Alzada 76.45 334 ⇓P P 17 21 13.3 +1.9
baz=77,SNR=14
J20A Shoshoni 76.47 330 ⇓P P 17 21 13.2 +1.5
baz=77,SNR=17
I21A Big Trails, Te 76.47 331 ⇑P P 17 21 12.7 +1.0
baz=77,SNR=80
D28A Regan 76.52 337 ⇓P P 17 21 13.5 +1.8
baz=77
F25A Bowman 76.56 334 ⇑P P 17 21 14.1 +2.1
baz=77,SNR=7.2
R11A Troy Canyon, C 76.60 322 ⇑P P 17 21 14.4 +1.8
baz=77,SNR=66
E26A Carlson Angus 76.62 335 ⇓P P 17 21 14.1 +1.8
baz=77,SNR=6.3
H22A Clearmont 76.68 332 ⇑P P 17 21 14.4 +1.7
baz=77,SNR=27
BW06 Boulder Array 76.71 329 eP P 17 21 13.4 +0.3
comp=Z,49nm,1.3s
BW06 ePcP PcP 17 21 23.6 +0.1
PDAR Pinedale Array 76.71 329 P P 17 21 13.7 +0.5
comp=Z,6.2nm,0.3s,baz=129,slow=9.7,SNR=102
G23A Biddle 76.75 333 ⇓P P 17 21 14.3 +1.2
baz=77,SNR=14
D27A Center 76.80 336 ⇓P P 17 21 15.0 +1.7
baz=77
B30A Myrvik Farm, E 76.83 339 ⇑P P 17 21 14.7 +1.3
baz=77,SNR=7.6
J19A Crowheart 76.85 330 ⇑P P 17 21 15.6 +1.8
baz=77,SNR=95
F24A Ekalaka 76.89 334 ⇑P P 17 21 15.2 +1.3
baz=77,SNR=12
C28A Hausauer Farms 76.90 337 ⇑P P 17 21 15.6 +1.8
baz=77
VES Vestal, Richgr 76.94 319 ⇓P P 17 21 16.3 +2.1
baz=77,SNR=18
I20A Worland 76.96 331 ⇓P P 17 21 15.9 +1.6
baz=77,SNR=33
H21A Big Horn, Sher 77.00 332 ⇓P P 17 21 15.5 +0.9
baz=77,SNR=18
E25A Miller Ranch, 77.01 335 ⇑P P 17 21 16.5 +2.0
baz=77,SNR=8.2
PAE Paea 77.01 256 eP P 17 21 17.7 +2.6
comp=Z,32nm,1.2s
PPT2 Papeete2 77.03 256 eP P 17 21 17.9 +2.5
comp=Z,145nm,1.4s
SPUT South Promonto 77.04 326 eP P 17 21 13.6 -1.3
comp=Z,138nm,1.3s
D26A Manning 77.08 336 ⇑P P 17 21 15.8 +1.0
baz=77,SNR=13
G22A Birney 77.15 332 ⇓P P 17 21 16.9 +1.5
baz=77,SNR=6.8
SMMC Simmler 77.15 318 ⇓P P 17 21 17.8 +2.2
baz=77,SNR=9.2
F23A Volborg 77.18 333 ⇓P P 17 21 16.7 +1.3
baz=77,SNR=29
B29A Wageman Farm, 77.18 338 ⇑P P 17 21 16.8 +1.5
baz=78,SNR=12
A30A Hoffart Farm, 77.24 339 ⇑P P 17 21 17.7 +2.0
baz=78
C27A Sayler Ranch, 77.30 337 ⇑P P 17 21 17.8 +1.7
baz=78,SNR=6.5
H20A Greybull 77.32 331 ⇑P P 17 21 17.7 +1.4
baz=78,SNR=62
RCTC Rector, Farmer 77.34 319 ⇑P P 17 21 17.7 +1.2
baz=78,SNR=9.7
E24A Baker 77.42 334 ⇓P P 17 21 18.3 +1.5
baz=78,SNR=18
I19A Meeteetse 77.42 330 ⇓P P 17 21 18.5 +1.5
baz=78,SNR=43
AHID Auburn Hatcher 77.45 328 eP P 17 21 17.5 +0.3
comp=Z,204nm,1.4s
AHID epP pP 17 22 15.6 +5.5
TSUM Tsumeb 77.47 106 eP P 17 21 13.8 -4.0
comp=Z,85nm,1.0s
UPI Upington 77.50 116 eP P 17 21 16.5 -1.4
UPI AMB AMB 17 21 17.5

comp=Z,109nm,1.3s
UPI Upington 77.50 116 P P 17 21 16.5 -1.4
comp=Z,109nm,1.3s
D25A Fairfield 77.51 335 ⇑P P 17 21 19.7 +2.4
baz=78,SNR=16
B28A Dugan Ranch, T 77.52 338 ⇓P P 17 21 18.9 +1.7
baz=78,SNR=11
A29A Manning Farm, 77.54 339 ⇑P P 17 21 18.6 +1.3
baz=78,SNR=7.2
G21A Lodge Grass 77.55 332 ⇑P P 17 21 19.6 +2.0
baz=78,SNR=16
F22A Rosebud 77.58 333 ⇓P P 17 21 18.7 +1.0
baz=78,SNR=27
C26A Wahner Farm, P 77.61 336 ⇓P P 17 21 19.5 +1.7
baz=78,SNR=15
ULM Lac du Bonnet 77.64 341 P P 17 21 17.4 -0.4
comp=Z,10nm,0.5s,baz=158,slow=6.0,SNR=24
SCHQ Schefferville 77.75 360 P P 17 21 18.4 +0.1
comp=Z,19nm,0.5s,baz=194,slow=4.4,SNR=48
D24A Glendive 77.88 335 ⇑P P 17 21 21.0 +1.7
baz=78,SNR=11
A28A Rude Farm, Bot 77.88 338 ⇓P P 17 21 20.8 +1.6
baz=78
H19A Powell 77.90 331 ⇓P P 17 21 20.9 +1.3
baz=78,SNR=30
C25A Freed Ranch, W 77.95 336 ⇓P P 17 21 21.3 +1.6
baz=78,SNR=6.0
MLAC Mammoth Lakes 77.98 320 ⇓P P 17 21 22.6 +2.3
baz=78
E22A Miles City 77.98 333 ⇑P P 17 21 21.5 +1.6
baz=78,SNR=5.9
F21A Absaloka Mine, 77.98 332 ⇑P P 17 21 21.3 +1.4
baz=78,SNR=10
G20A Bridger 77.98 331 ⇓P P 17 21 21.1 +1.1
baz=78,SNR=48
I17A Pilgrim Ck. 78.06 329 ⇓P P 17 21 22.3 +1.7
baz=78,SNR=61
NV11 Mina Array Sit 78.12 321 eP P 17 21 20.7 -0.3
B26A Jensen Ranch, 78.12 337 ⇓P P 17 21 22.3 +1.7
baz=78
NVAR Mina Array Bea 78.20 321 P P 17 21 22.5 +1.0
comp=Z,19nm,1.1s,baz=148,slow=5.9,SNR=48
H18A Shoshone NF, C 78.22 330 ⇑P P 17 21 22.6 +1.2
baz=78,SNR=68
A27A Ledoux Ranch, 78.25 337 ⇓P P 17 21 22.9 +1.6
baz=78
C24A Savage 78.25 335 ⇓P P 17 21 23.5 +2.1
baz=78,SNR=22
D23A Lindsay 78.27 334 ⇓P P 17 21 23.4 +1.9
baz=78,SNR=22
RLMT Red Lodge 78.38 331 eP P 17 21 22.9 +0.6
comp=Z,210nm,1.6s
RLMT ePcP PcP 17 21 30.1 -0.6
RLMT epP pP 17 22 18.4 +3.2
B25A Knox Farm, Ray 78.38 336 ⇓P P 17 21 24.0 +2.0
baz=79
F20A Billings 78.41 332 ⇑P P 17 21 23.1 +0.8
baz=79,SNR=10
H17A Grant Village 78.42 329 ⇓P P 17 21 26.1 +3.5
baz=79,SNR=14
A26A Wade Farm, Ken 78.49 337 ⇑P P 17 21 25.3 +2.8
baz=79,SNR=6.5
E21A Keefer Ranch, 78.53 333 ⇑P P 17 21 25.0 +2.1
baz=79,SNR=12
D22A Cohagen 78.65 334 ⇓P P 17 21 25.9 +2.4
baz=79,SNR=9.1
C23A Lambert 78.77 335 ⇓P P 17 21 26.3 +2.1
baz=79,SNR=6.5
F19A Roth Farm, Mol 78.80 331 ⇑P P 17 21 25.9 +1.5
baz=79,SNR=45
D21A La Casta Ranch 78.92 333 ⇓P P 17 21 26.6 +1.6
baz=79,SNR=25
A25A Svangstu Ranch 78.92 336 ⇑P P 17 21 26.6 +1.7
baz=79,SNR=5.5
DGMT Dagmar 78.94 336 ⇓P P 17 21 26.9 +1.9
baz=79,SNR=13
E20A Meyer Farm, Mu 78.95 332 ⇑P P 17 21 26.6 +1.4
baz=79,SNR=16
C22A Vida 79.01 334 ⇓P P 17 21 26.9 +1.5
baz=79,SNR=14
GCMT Greycliff 79.07 331 eP P 17 21 26.0 +0.1
comp=Z,88nm,1.3s
E19A Rath Farm, Rou 79.20 332 ⇑P P 17 21 27.7 +1.2
baz=80,SNR=53
A24A Westby 79.23 336 ⇑P P 17 21 28.6 +1.9
baz=80,SNR=11
B23A Brockton 79.24 335 ⇑P P 17 21 28.8 +2.2
baz=80,SNR=7.7
D20A Manuel Ranch, 79.42 333 ⇑P P 17 21 29.0 +1.4
baz=80,SNR=37
B22A Reddig Ranch S 79.50 334 ⇑P P 17 21 29.9 +1.8
baz=80,SNR=12
C21A Desert Coulee 79.56 334 ⇑P P 17 21 30.1 +1.6
baz=80,SNR=14
A23A Redstone 79.60 335 ⇑P P 17 21 30.4 +1.8
baz=80,SNR=7.4
HLID Hailey 79.67 327 ⇓P P 17 21 31.1 +1.8
baz=80,SNR=168
D19A Cripps Ranch, 79.79 332 ⇓P P 17 21 31.0 +1.3
baz=80,SNR=42
RUDU RUNDU 79.82 105 eP P 17 21 30.2 -0.5
RUDU AMB AMB 17 21 30.6
comp=Z,74nm,1.5s
RUDU RUNDU 79.82 105 P P 17 21 30.2 -0.5
comp=Z,74nm,1.5s
MCMT McKenzie Canyo 79.83 328 eP P 17 21 31.4 +1.2
C20A Veseth Ranch, 79.85 333 ⇑P P 17 21 31.4 +1.5
baz=80,SNR=10.0
B21A Ellsworth Farm 80.01 334 ⇓P P 17 21 32.4 +1.6
baz=80,SNR=6.2
GRM Grahamstown 80.02 122 eP P 17 21 30.2 -1.2
GRM AMB AMB 17 21 31.3
comp=Z,107nm,1.7s
GRM Grahamstown 80.02 122 P P 17 21 30.2 -1.2
GRM pmax pmax
comp=Z,107nm,1.7s
GRM Grahamstown 80.02 122 P P 17 21 30.2 -1.2
comp=Z,107nm,1.7s
A22A Carney Farms, 80.02 335 ⇓P P 17 21 32.4 +1.5
baz=80,SNR=25
HVD Gariep Dam 80.19 119 eP P 17 21 31.2 -1.3
HVD AMB AMB 17 21 33.2
comp=Z,69nm,1.6s
HVD Gariep Dam 80.19 119 P P 17 21 31.2 -1.3
HVD pmax pmax
comp=Z,69nm,1.6s
HVD Gariep Dam 80.19 119 P P 17 21 31.2 -1.3
comp=Z,69nm,1.6s
C19A Slack Wire Ran 80.31 332 ⇑P P 17 21 33.7 +1.2
baz=81,SNR=29
B20A Solberg Farm, 80.43 333 ⇓P P 17 21 33.9 +0.9
baz=81,SNR=35
BOSA Boshof 80.72 117 eP P 17 21 33.1 -2.1
BOSA AMB AMB 17 21 34.5
comp=Z,45nm,1.4s
BOSA Boshof 80.72 117 P P 17 21 33.2 -2.1
comp=Z,22nm,0.8s,baz=261,slow=3.7,SNR=35
A20A Cobblestone Ra 80.73 334 ⇓P P 17 21 35.6 +1.0
baz=81,SNR=54
B19A Brinkman Farms 80.82 333 ⇓P P 17 21 35.9 +0.8
baz=81,SNR=15
EGMT Eagleton 80.83 332 ⇑P P 17 21 36.0 +0.8
baz=81,SNR=26
PFVI Vila Bisbo 80.98 43 eP P 17 21 38.0 +1.8
comp=Z,166nm,1.6s
A19A Klindworth Far 81.11 333 ⇑P P 17 21 37.5 +0.8
baz=81,SNR=16
MORF Marmelete 81.20 43 eP P 17 21 37.3 -0.1
MORF AMb AMB 17 21 40.7
comp=Z,163nm,1.4s
MORF Marmelete 81.20 43 eP P 17 21 38.3 +0.9
comp=Z,159nm,1.5s
MORF Marmelete 81.20 43 eP P 17 21 37.3 -0.1
MORF pmax pmax
comp=Z,163nm,1.4s
MDT Midelt 81.21 49 P P 17 21 37.9 +0.2
comp=Z,124nm,1.1s,baz=242,slow=7.2
PTEO Sao Teotonio 81.30 43 eP P 17 21 39.5 +1.7
comp=Z,335nm,1.5s
PBDV Barranco-do-Ve 81.62 44 eP P 17 21 40.2 +0.6
comp=Z,219nm,1.4s
PNCL Nicolau / Gran 81.77 43 eP P 17 21 40.8 +0.5
comp=Z,84nm,1.4s
PCVE Castro Verde 81.79 43 eP P 17 21 40.9 +0.5
comp=Z,88nm,1.1s
MESJ Messejana 81.80 43 eP P 17 21 39.6 -0.8
MESJ AMb AMB 17 21 43.0
comp=Z,87nm,1.2s

MESJ Messejana 81.80 43 eP P 17 21 39.6 -0.8
MESJ pmax pmax
comp=Z,87nm,1.2s
MSO Missoula 81.81 329 ⇑P P 17 21 42.0 +1.6
baz=82,SNR=16
PVAQ Vaqueiros 81.85 44 eP P 17 21 41.1 +0.4
comp=Z,135nm,1.5s
PBEJ Beja 82.13 43 eP P 17 21 42.5 +0.3
comp=Z,99nm,1.5s
EVOP Sao Brissos 82.28 42⇑iP P 17 21 43.0 +0.1
EVOP pmax pmax
comp=Z,72nm,0.9s
EVOP Sao Brissos 82.28 42⇑iP P 17 21 43.0 +0.1
comp=Z,72nm,0.9s
LBTB Lobatse 82.32 114 eP P 17 21 42.1 -1.6
LBTB AMB AMB 17 21 44.0
comp=Z,93nm,3.1s
LBTB Lobatse 82.32 114 eP P 17 21 41.4 -2.3
LBTB pmax pmax
comp=Z,82nm,1.2s
LBTB Lobatse 82.32 114 eP P 17 21 41.4 -2.3
comp=Z,82nm,1.2s
EVO Evora 82.35 42⇑iP P 17 21 43.0 -0.3
comp=Z,72nm,0.9s
EVO eR
comp=Z,512nm,19.2s
EVO Evora 82.35 42 eP P 17 21 43.4 +0.1
comp=Z,57nm,1.8s
N02D Trinity Center 82.43 321 ⇑P P 17 21 44.0 +0.2
baz=83
M04C Macdoel 82.45 322 ⇓P P 17 21 44.8 +0.9
baz=83
PBAR Barrancos 82.74 43 eP P 17 21 45.5 +0.2
comp=Z,84nm,1.5s
SEK Senekal 82.76 118 eP P 17 21 44.6 -1.4
SEK AMB AMB 17 21 46.5
comp=Z,94nm,1.7s
SEK Senekal 82.76 118 P P 17 21 44.6 -1.4
comp=Z,94nm,1.7s
PTOM Tomar 82.77 41 eP P 17 21 45.9 +0.5
comp=Z,238nm,1.5s
M02C Callahan 82.78 321 ⇓P P 17 21 46.4 +0.8
baz=83
PESTR Estremoz 82.82 42 eP P 17 21 46.1 +0.4
comp=Z,96nm,1.8s
K04D Chiloquin, OR 82.95 322 ⇑P P 17 21 47.2 +0.8
baz=83
PCAS Casmilo, Conde 82.99 41 eP P 17 21 47.6 +1.1
comp=Z,163nm,1.5s
J05D Fort Rock, OR 83.09 323 ⇑P P 17 21 48.5 +1.4
baz=83
KSR Koster 83.09 115 eP P 17 21 45.4 -2.5
KSR AMB AMB 17 21 49.3
comp=Z,38nm,2.3s
KSR Koster 83.09 115 P P 17 21 45.4 -2.5
comp=Z,38nm,2.3s
PMRV Marv??o 83.28 42 eP P 17 21 48.0 -0.1
comp=Z,67nm,1.4s
WDLM Western Deep L 83.31 116 eP P 17 21 46.8 -2.2
WDLM AMB AMB 17 21 49.2
comp=Z,58nm,2.3s
KSD Kokstad 83.35 120 eP P 17 21 47.8 -1.1
KSD AMB AMB 17 21 49.5
comp=Z,42nm,1.8s
KSD Kokstad 83.35 120 P P 17 21 47.8 -1.1
comp=Z,42nm,1.8s
FFC Flin Flon 83.38 340 P P 17 21 48.0 -0.2
comp=Z,77nm,1.0s,SNR=6.1
PCBR Castelo Branco 83.48 42 eP P 17 21 48.9 -0.1
comp=Z,82nm,1.6s
J04D Umpqua Nationa 83.55 323 ⇑P P 17 21 50.6 +1.0
baz=84
TAM Tamanrasset 83.68 62 eP P 17 21 49.8 -0.9
TAM e*PP pP 17 22 45.9 +1.7
TAM pmax pmax
comp=Z,173nm,1.4s
TAM Tamanrasset 83.68 62 eP P 17 21 49.8 -0.9
comp=Z,173nm,1.4s
TAM epP pP 17 22 45.9 +1.7
L02D Cave Junction, 83.70 321 ⇓P P 17 21 50.9 +0.7
baz=84
PVIS Viseu 83.76 41 eP P 17 21 50.3 -0.2
comp=Z,100nm,1.5s
MTE Manteigas 83.78 41 eP P 17 21 51.2 +0.6
comp=Z,124nm,1.2s
MTE Manteigas 83.78 41 eP P 17 21 48.9 -1.7
comp=Z,104nm,1.2s
I05D Terrebonne, OR 83.84 324 ⇑P P 17 21 52.4 +1.5
baz=84
OBSV Observatory 83.94 116 eP P 17 21 50.9 -1.3
OBSV AMB AMB 17 21 51.5
comp=Z,58nm,1.8s
ERPM east rand prop 84.02 116 eP P 17 21 51.4 -1.1
ERPM AMB AMB 17 21 53.1
comp=Z,74nm,2.0s
ERPM east rand prop 84.02 116 P P 17 21 51.4 -1.1
comp=Z,74nm,2.0s
I04A Tendick Farm, 84.07 323 ⇓P P 17 21 52.6 +0.6
baz=84
PVRL Vila Real 84.21 40 eP P 17 21 53.6 +0.8
comp=Z,169nm,1.7s
POLO Lamas de Olo 84.22 40 eP P 17 21 52.9 0.0
comp=Z,55nm,1.5s
PCAB Cabril 84.29 40 eP P 17 21 53.1 0.0
comp=Z,143nm,1.8s
NEW Newport 84.35 329 ⇑P P 17 21 54.4 +1.1
baz=85
G05D Wamic, OR 84.42 325 ⇓P P 17 21 55.3 +1.6
baz=85
OD2 Odessa Site #2 84.52 327 P P 17 21 54.7 +0.6
I03D Drain, OR 84.53 322 ⇑P P 17 21 55.3 +1.1
baz=85
MVO Moncorvo 84.55 41 eP P 17 21 54.8 +0.3
comp=Z,187nm,1.5s
PBRG Braganca 85.11 40 eP P 17 21 57.7 +0.4
comp=Z,150nm,1.5s
TBM Table Mountain 85.31 326 P P 17 21 59.2 +1.0
WTV Waterville 85.34 327 P P 17 21 58.7 +0.4
G03D McMinnville, O 85.45 324 ⇓P P 17 22 00.2 +1.4
baz=86
ETW Entiat 85.47 327 P P 17 21 59.6 +0.6
ESDC Sonseca Array 85.56 43 P P 17 21 59.8 +0.2
comp=Z,36nm,1.0s,baz=232,slow=4.9,SNR=98
ESLA Sonseca Array 85.56 43 eP P 17 21 56.5 -3.0
comp=Z,64nm,1.4s
NLW Nelson Butte 85.79 327 P P 17 22 00.7 +0.1
F04D Rainier, OR 85.86 324 ⇑P P 17 22 02.9 +2.1
baz=86
ETRT Tiaret 86.72 49 P P 17 22 07.0 +1.6
EANR 'Ain N'Sour 86.88 49 P P 17 22 08.9 +2.8
MSNA Messina 87.09 113 eP P 17 22 07.2 -0.3
MSNA AMB AMB 17 22 08.4
comp=Z,98nm,1.5s
MSNA Messina 87.09 113 P P 17 22 07.2 -0.3
comp=Z,98nm,1.5s
MOPA Mopani 87.77 115⇑iP P 17 22 11.4 +0.7
MOPA AMB AMB 17 22 12.9
comp=Z,71nm,2.0s
MOPA Mopani 87.77 115 P P 17 22 11.4 +0.7
comp=Z,71nm,2.0s
EMHD Djebel Mahouad 88.29 49 P P 17 22 12.9 0.0
LSZ Lusaka 88.32 106 eP P 17 22 12.5 -1.0
LSZ pmax pmax
comp=Z,197nm,1.4s
LSZ Lusaka 88.32 106 eP P 17 22 12.5 -1.0
comp=Z,197nm,1.4s
SJPF Ste Jean 89.20 42 eP P 17 22 16.8 0.0
comp=Z,86nm,1.3s
SJPF Ste Jean 89.20 42 eP P 17 22 16.8 0.0
SJPF pmax pmax
comp=Z,86nm,1.3s
SJPF Ste Jean 89.20 42 eP P 17 22 16.8 0.0
comp=Z,86nm,1.3s
ETSF Etsaut 89.49 42 eP P 17 22 18.3 +0.1
comp=Z,73nm,1.3s
ETSF Etsaut 89.49 42 eP P 17 22 18.3 +0.1
ETSF pmax pmax
comp=Z,73nm,1.3s
ETSF Etsaut 89.49 42 eP P 17 22 18.3 +0.1
comp=Z,73nm,1.3s
REYF Montagne du Re 89.69 42 eP P 17 22 18.3 -0.9
EPF Esparros 90.12 42 eP P 17 22 20.8 -0.3
comp=Z,21nm,0.9s
EPF Esparros 90.12 42 eP P 17 22 20.8 -0.3
EPF pmax pmax
comp=Z,21nm,0.9s
EPF Esparros 90.12 42 eP P 17 22 20.8 -0.3

comp=Z,21nm,0.9s
SALF Salau 90.50 43 eP P 17 22 23.1 +0.1
MLS Moulis 90.55 43 eP P 17 22 23.7 +0.6
QUIF Quistinic 90.75 37 eP P 17 22 22.8 -1.0
comp=Z,129nm,1.4s
QUIF Quistinic 90.75 37 eP P 17 22 22.8 -1.0
QUIF pmax pmax
comp=Z,129nm,1.4s
QUIF Quistinic 90.75 37 eP P 17 22 22.8 -1.0
comp=Z,129nm,1.4s
ROSF Rostrenen 90.93 37 eP P 17 22 23.5 -1.2
comp=Z,199nm,1.5s
ROSF Rostrenen 90.93 37 eP P 17 22 23.5 -1.2
ROSF pmax pmax
comp=Z,199nm,1.5s
ROSF Rostrenen 90.93 37 eP P 17 22 23.5 -1.2
comp=Z,199nm,1.5s
SGMF Saint Gilles 91.28 37 eP P 17 22 25.0 -1.3
comp=Z,28nm,0.8s
SGMF Saint Gilles 91.28 37 eP P 17 22 25.0 -1.3
SGMF pmax pmax
comp=Z,28nm,0.8s
SGMF Saint Gilles 91.28 37 eP P 17 22 25.0 -1.3
comp=Z,28nm,0.8s
LFF La Frestale 91.38 41 eP P 17 22 26.2 -0.6
comp=Z,61nm,0.9s
LFF La Frestale 91.38 41 eP P 17 22 26.2 -0.6
LFF pmax pmax
comp=Z,61nm,0.9s
LFF La Frestale 91.38 41 eP P 17 22 26.2 -0.6
comp=Z,61nm,0.9s
MTLF Montolieu 91.45 43 eP P 17 22 26.5 -0.7
comp=Z,17nm,0.9s
MTLF Montolieu 91.45 43 eP P 17 22 26.5 -0.7
MTLF pmax pmax
comp=Z,17nm,0.9s
MTLF Montolieu 91.45 43 eP P 17 22 26.5 -0.7
comp=Z,17nm,0.9s
MFF Saint Martin d 91.74 39 eP P 17 22 27.7 -0.8
comp=Z,41nm,1.0s
MFF Saint Martin d 91.74 39 eP P 17 22 27.7 -0.8
MFF pmax pmax
comp=Z,41nm,1.0s
MFF Saint Martin d 91.74 39 eP P 17 22 27.7 -0.8
comp=Z,41nm,1.0s
RJF Les Rejaudoux 92.03 41 eP P 17 22 29.1 -0.8
RJF eR
comp=Z,356nm,19.0s
RJF Les Rejaudoux 92.03 41 eP P 17 22 29.1 -0.8
RJF Les Rejaudoux 92.03 41 eP P 17 22 29.1 -0.8
CAF Calviac 92.17 41 eP P 17 22 29.8 -0.8
CAF Calviac 92.17 41 eP P 17 22 29.8 -0.8
CAF Calviac 92.17 41 eP P 17 22 29.8 -0.8
GRR Gorron 92.30 37 eP P 17 22 29.8 -1.2
comp=Z,18nm,0.6s
GRR Gorron 92.30 37 eP P 17 22 29.8 -1.2
GRR pmax pmax
comp=Z,18nm,0.6s
GRR Gorron 92.30 37 eP P 17 22 29.8 -1.2
comp=Z,18nm,0.6s
KEST Kesra 92.62 52 P P 17 22 33.6 +0.7
comp=Z,2.6nm,0.7s,baz=161,slow=1.9,SNR=7.5
FLN La Foliniere 92.71 37 eP P 17 22 31.9 -1.0
comp=Z,64nm,1.4s
FLN eR
comp=Z,351nm,20.0s
FLN La Foliniere 92.71 37 eP P 17 22 31.9 -1.0
FLN pmax pmax
comp=Z,64nm,1.4s
FLN La Foliniere 92.71 37 eP P 17 22 31.9 -1.0
comp=Z,64nm,1.4s
LDF La Druitiere 92.82 38 eP P 17 22 32.3 -1.1
comp=Z,15nm,0.6s
LDF La Druitiere 92.82 38 eP P 17 22 32.3 -1.1
LDF pmax pmax
comp=Z,15nm,0.6s
LDF La Druitiere 92.82 38 eP P 17 22 32.3 -1.1
comp=Z,15nm,0.6s
LASF Ste Croix 92.85 43 eP P 17 22 33.0 -0.7
comp=Z,67nm,1.5s
LASF Ste Croix 92.85 43 eP P 17 22 33.0 -0.7
comp=Z,67nm,1.5s
TCF Toulx Ste Croi 92.96 40 eP P 17 22 33.2 -1.0
comp=Z,8.5nm,0.7s
TCF Toulx Ste Croi 92.96 40 eP P 17 22 33.2 -1.0
TCF pmax pmax
comp=Z,9.0nm,0.7s
TCF Toulx Ste Croi 92.96 40 eP P 17 22 33.2 -1.0
comp=Z,8.5nm,0.7s
PYM Petit Puy Mans 93.16 41 eP P 17 22 35.0 -0.2
AGO Saint Agoulin 93.39 41 eP P 17 22 35.8 -0.3
BGF Bois d'Agland 93.47 40 eP P 17 22 35.7 -0.8
comp=Z,56nm,1.3s
BGF Bois d'Agland 93.47 40 eP P 17 22 35.7 -0.8
BGF pmax pmax
comp=Z,57nm,1.3s
BGF Bois d'Agland 93.47 40 eP P 17 22 35.7 -0.8
comp=Z,56nm,1.3s
YKA Yellowknife Ar 93.55 340 P P 17 22 36.3 -0.1
comp=Z,3.3nm,0.4s,baz=132,slow=4.7,SNR=72
YKA pP pP 17 23 33.1 +2.3
comp=Z,1.8nm,0.7s,baz=133,slow=4.6,SNR=2.7
PLDF La Plantade 93.64 41 eP P 17 22 38.1 +0.7
VIVF Saint-Julien-l 93.74 42 eP P 17 22 37.4 -0.4
comp=Z,57nm,1.4s
VIVF Saint-Julien-l 93.74 42 eP P 17 22 37.4 -0.4
VIVF pmax pmax
comp=Z,57nm,1.4s
VIVF Saint-Julien-l 93.74 42 eP P 17 22 37.4 -0.4
comp=Z,57nm,1.4s
SSB Saint Sauveur 93.86 42 eP P 17 22 35.5 -2.9
SSB e 17 26 21.6
SSB pmax pmax
comp=Z,53nm,1.6s
SSB Saint Sauveur 93.86 42 eP P 17 22 35.5 -2.9
comp=Z,53nm,1.6s
SSB ePP PP 17 26 21.6 -6.0
SMRF Simiane la Rot 93.88 44 eP P 17 22 37.8 -0.7
comp=Z,65nm,1.4s
SMRF Simiane la Rot 93.88 44 eP P 17 22 37.8 -0.7
comp=Z,65nm,1.4s
AVF Avril sur Loir 93.89 40 eP P 17 22 37.5 -0.9
comp=Z,72nm,1.5s
AVF Avril sur Loir 93.89 40 eP P 17 22 37.5 -0.9
AVF pmax pmax
comp=Z,72nm,1.5s
AVF Avril sur Loir 93.89 40 eP P 17 22 37.5 -0.9
comp=Z,72nm,1.5s
SMF Signal de Mont 94.11 41 eP P 17 22 38.8 -0.6
comp=Z,31nm,1.0s
SMF Signal de Mont 94.11 41 eP P 17 22 38.8 -0.6
SMF pmax pmax
comp=Z,31nm,1.0s
SMF Signal de Mont 94.11 41 eP P 17 22 38.8 -0.6
comp=Z,31nm,1.0s
SSF Saint Saulge 94.12 40 eP P 17 22 38.3 -1.1
comp=Z,23nm,1.1s
SSF Saint Saulge 94.12 40 eP P 17 22 38.3 -1.1
SSF pmax pmax
comp=Z,23nm,1.1s
SSF Saint Saulge 94.12 40 eP P 17 22 38.3 -1.1
comp=Z,23nm,1.1s
LMR La Mourre 94.17 44 eP P 17 22 39.5 -0.3
LMR La Mourre 94.17 44 eP P 17 22 39.5 -0.3
LMR La Mourre 94.17 44 eP P 17 22 39.5 -0.3
FRF La Foret Royal 94.37 44 eP P 17 22 39.6 -1.1
FRF La Foret Royal 94.37 44 eP P 17 22 39.6 -1.1
FRF La Foret Royal 94.37 44 eP P 17 22 39.6 -1.1
LOR Lormes 94.43 40 eP P 17 22 39.6 -1.3
comp=Z,61nm,1.4s
LOR eR
comp=Z,350nm,20.5s
LOR Lormes 94.43 40 eP P 17 22 39.6 -1.3
LOR pmax pmax
comp=Z,61nm,1.4s
LOR Lormes 94.43 40 eP P 17 22 39.6 -1.3
comp=Z,61nm,1.4s
ORIF Oris-en-Rattie 94.52 43 eP P 17 22 41.6 +0.1
comp=Z,12nm,0.6s
ORIF eR
comp=Z,575nm,21.5s
ORIF Oris-en-Rattie 94.52 43 eP P 17 22 41.6 +0.1
ORIF pmax pmax
comp=Z,12nm,0.6s
ORIF Oris-en-Rattie 94.52 43 eP P 17 22 41.6 +0.1
comp=Z,12nm,0.6s

EKA Eskdalemuir Ar 94.97 31 P P 17 22 42.8 -0.3
comp=Z,0.9nm,0.5s,baz=234,slow=5.4,SNR=10.0
MBDF Montbardon 94.99 43 eP P 17 22 43.6 -0.1
comp=Z,26nm,1.2s
MBDF Montbardon 94.99 43 eP P 17 22 43.6 -0.1
MBDF pmax pmax
comp=Z,26nm,1.2s
MBDF Montbardon 94.99 43 eP P 17 22 43.6 -0.1
comp=Z,26nm,1.2s
SBF Sospel 95.01 44 eP P 17 22 42.6 -1.1
SBF Sospel 95.01 44 eP P 17 22 42.6 -1.1
SBF Sospel 95.01 44 eP P 17 22 42.6 -1.1
LPL La Plagne 95.33 43 eP P 17 22 45.4 +0.1
comp=Z,23nm,1.0s
LPL La Plagne 95.33 43 eP P 17 22 45.4 +0.1
LPL pmax pmax
comp=Z,23nm,1.0s
LPL La Plagne 95.33 43 eP P 17 22 45.4 +0.1
comp=Z,23nm,1.0s
LPG La Plagne 95.34 43 eP P 17 22 45.6 +0.2
comp=Z,49nm,1.2s
LPG La Plagne 95.34 43 eP P 17 22 45.6 +0.2
LPG pmax pmax
comp=Z,49nm,1.2s
LPG La Plagne 95.34 43 eP P 17 22 45.6 +0.2
comp=Z,49nm,1.2s
RSL Roselend 95.35 42 eP P 17 22 45.7 +0.4
CABF La Chapelle 95.45 41 eP P 17 22 44.9 -0.8
comp=Z,60nm,1.4s
CABF La Chapelle 95.45 41 eP P 17 22 44.9 -0.8
CABF pmax pmax
comp=Z,60nm,1.4s
CABF La Chapelle 95.45 41 eP P 17 22 44.9 -0.8
comp=Z,60nm,1.4s
SFTF Sexfontaines 95.58 40 eP P 17 22 45.0 -1.1
SFTF Sexfontaines 95.58 40 eP P 17 22 45.0 -1.1
MEZF Maizieres J'vi 95.73 39 eP P 17 22 45.8 -1.0
MEZF Maizieres J'vi 95.73 39 eP P 17 22 45.8 -1.0
BAIF Baives 96.00 38 eP P 17 22 46.7 -1.2
BAIF Baives 96.00 38 eP P 17 22 46.7 -1.2
BAIF Baives 96.00 38 eP P 17 22 46.7 -1.2
PAGF Fort de Pagny 96.15 40 eP P 17 22 47.9 -0.8
comp=Z,7.8nm,1.1s
PAGF Fort de Pagny 96.15 40 eP P 17 22 47.9 -0.8
comp=Z,7.8nm,1.0s
DOU Dourbes 96.24 38 P P 17 22 48.8 -0.3
HAU Haudompre 96.26 40 eP P 17 22 47.9 -1.3
comp=Z,24nm,1.3s
HAU eR
comp=Z,367nm,18.0s
HAU Haudompre 96.26 40 eP P 17 22 47.9 -1.3
HAU pmax pmax
comp=Z,24nm,1.3s
HAU Haudompre 96.26 40 eP P 17 22 47.9 -1.3
comp=Z,24nm,1.3s
GIVF Givet 96.37 38 eP P 17 22 48.7 -0.9
GIVF Givet 96.37 38 eP P 17 22 48.7 -0.9
GIVF Givet 96.37 38 eP P 17 22 48.7 -0.9
HINF Hinteralfeld 96.48 41 eP P 17 22 49.2 -1.0
HINF Hinteralfeld 96.48 41 eP P 17 22 49.2 -1.0
HINF Hinteralfeld 96.48 41 eP P 17 22 49.2 -1.0
MOF Molkenrain 96.66 41 eP P 17 22 50.4 -0.7
ECH Echery 96.84 40 eP P 17 22 51.8 0.0
WLF Walferdange 96.92 39 P P 17 22 50.8 -1.3
CDF Champ du Feu 97.00 40 eP P 17 22 51.5 -1.1
comp=Z,26nm,1.3s
CDF Champ du Feu 97.00 40 eP P 17 22 51.5 -1.1
CDF pmax pmax
comp=Z,26nm,1.3s
CDF Champ du Feu 97.00 40 eP P 17 22 51.5 -1.1
comp=Z,26nm,1.3s
MEM Membach 97.28 38 P P 17 22 53.6 -0.1
comp=Z,5.7nm,1.6s
LANF Langenberg 97.57 40 eP Pdif 17 22 56.3 +1.2
DAVOX Davos/Dischmat 97.86 42 P P 17 22 56.5 -0.2
comp=Z,8.9nm,1.0s,baz=300,slow=3.1,SNR=8.8
DAVA Damuels 98.08 42⇑iPdiff P 17 22 57.8 +0.2
comp=Z,22nm,1.4s
FETA Feichten 98.49 42⇓iPdiff P 17 22 58.9 -0.6
comp=Z,20nm,1.2s
GERES GERESS Array B 101.05 42 P Pdif 17 23 09.8 -0.9
comp=Z,1.5nm,1.0s,baz=215,slow=4.4,SNR=7.6
KHC Kasperske Hory 101.08 41 eP Pdif 17 23 10.8 0.0
KHC e 17 27 20.4
KHC Kasperske Hory 101.08 41 ePDIFF Pdif 17 23 10.8 0.0
KHC ePP PP 17 27 20.4 -2.3
CLL Collm 101.58 39 eP Pdif 17 23 13.0 +0.2
CLL Collm 101.58 39 ePdif Pdif 17 23 13.0 +0.2
CLL eSKSac SKSac 17 33 30.0 -0.3
CLL eSdif Sdif 17 34 35.0 +1.3
CLL eSP SP 17 36 10.0 +2.6
CLL eSS SS 17 41 36.0 -5.6
CLL e(sSS) 17 42 57.0
CLL e(PPPrev) 17 47 48.0
BRG Berggiesshubel 101.96 40 ePDIF Pdif 17 23 19.2 +4.6
comp=Z,6.1nm,1.4s
BRG Berggiesshubel 101.96 40 eP Pdif 17 23 19.2 +4.6
BRG pmax pmax
comp=Z,6.0nm,1.4s
PRU Pruhonice 101.99 41 eP Pdif 17 23 16.3 +1.6
PRU e 17 27 23.8
PRU Pruhonice 101.99 41 ePDIFF Pdif 17 23 16.3 +1.6
PRU epP pP 17 24 10.9 +1.5
PRU ePP PP 17 27 23.8 -5.6
DPC Dobruska-Polom 103.19 41 eP Pdif 17 23 20.7 +0.6
DPC Dobruska-Polom 103.19 41 ePDIFF Pdif 17 23 20.7 +0.6
DPC epP 17 24 13.5
KRLC Kraliky 103.37 41 eP Pdif 17 23 21.2 +0.3
KRLC Kraliky 103.37 41 ePDIFF Pdif 17 23 21.2 +0.3
ILAR Eielson Array 106.75 334 PP PP 17 28 05.5 +1.3
comp=Z,0.7nm,0.8s,baz=102,slow=6.5,SNR=4.6
AKASG Malin Array Be 111.20 43 PP PP 17 28 33.8 -2.9
comp=Z,1.7nm,0.8s,baz=254,slow=7.9,SNR=11
AKASG PKKPbc PKKPbc 17 38 50.7 -0.6
comp=Z,0.7nm,0.7s,baz=60,slow=3.2,SNR=5.0
FINES FINESS Array B 111.37 31 PKKPbc PKKPbc 17 38 50.0 -1.1
comp=Z,1.8nm,0.9s,baz=64,slow=4.4,SNR=4.8
BRTR Keskin Array B 112.04 55 PP PP 17 28 42.6 -0.6
comp=Z,7.3nm,1.2s,baz=238,slow=7.0,SNR=4.3
BRTR PKKP PKKPab 17 38 56.9 +1.0
comp=Z,2.1nm,0.8s,baz=136,slow=3.3,SNR=9.4
ARCES ARCESS Array B 112.26 22 PKKPbc PKKPbc 17 38 45.3 -3.1
comp=Z,2.7nm,0.8s,baz=83,slow=3.8,SNR=14
OBN Obninsk 116.17 39 i PKIKP PKPdf 17 28 00.3 -2.3
OBN i 17 29 07.8
OBN pmax pmax
comp=Z,5.0nm,1.1s
STKA Stephens Creek 118.94 207 PKKPbc PKKPbc 17 38 24.7 +0.2
comp=Z,1.0nm,0.6s,baz=337,slow=1.9,SNR=5.3
KIV Kislovodsk 119.36 51 i PKIKP PKPdf 17 28 08.3 -1.0
KIV pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 119.49 52 PKP PKPdf 17 28 09.7 +0.3
comp=Z,2.3nm,0.8s,baz=144,slow=2.0,SNR=4.3
BILL Bilibino 124.93 339 i PKIKP PKPdf 17 28 19.2 +0.1
BILL i 17 30 10.5
BILL pmax pmax
comp=Z,2.0nm,1.2s
ARU Arti 128.33 35 i PKIKP PKPdf 17 28 26.8 +0.9
ARU 17 30 30.5
ARU 17 35 14.3
ARU Arti 128.33 35 ePKPdf PKPdf 17 28 26.3 +0.4
ASAR Alice Springs 129.32 204 PKP PKPdf 17 28 27.6 -1.4
comp=Z,9.6nm,1.0s,baz=128,slow=1.5,SNR=10.0
ASAR pPKP pPKPdf 17 29 27.3 +1.3
comp=Z,3.2nm,0.9s,baz=136,slow=2.4,SNR=3.5
ASAR sPKP 17 29 48.8
comp=Z,5.2nm,1.1s,baz=130,slow=1.6,SNR=4.2
ASAR SKPbc SKPbc 17 31 29.9 +0.6
comp=Z,2.1nm,0.6s,baz=146,slow=3.2,SNR=7.2
AS31 Alice Springs 129.32 204 ePKPdf PKPdf 17 28 28.3 -0.6
AKTO Aktyubinsk 129.45 43 PKP PKPdf 17 28 27.8 -0.5
comp=Z,1.7nm,0.5s,baz=332,slow=3.4,SNR=6.3
AKTO PP PP 17 30 43.9 +2.9
comp=Z,4.0nm,1.0s,baz=289,slow=4.5,SNR=4.2
AKTO SKPbc SKPbc 17 31 29.8 +0.9
comp=Z,31nm,1.2s,baz=286,slow=2.6,SNR=22
TIXI Tiksi 130.77 354 ePKIKP PKPdf 17 28 32.2 +2.1
AB31 Akbulak array 130.91 44 i PKIKP PKPdf 17 28 32.0 +1.0
AB31 pmax pmax
comp=Z,4.0nm,0.7s
ABKAR Akbulak array 130.91 44 ePKPdf PKPdf 17 28 30.5 -0.6
WRA Warramunga Arr 132.49 207 PKP PKPdf 17 28 34.5 -0.5
comp=Z,2.8nm,0.4s,baz=155,slow=1.9,SNR=26
WRA pPKP pPKPdf 17 29 32.4 +0.4
comp=Z,11nm,1.2s,baz=169,slow=1.5,SNR=4.3
WRA sPKP 17 29 54.9
comp=Z,2.6nm,0.8s,baz=159,slow=1.7,SNR=4.9
WRA PP PP 17 30 56.9 -2.9
comp=Z,2.8nm,1.1s,baz=152,slow=4.8,SNR=6.1
WRA SKPbc SKPbc 17 31 41.4 +0.3
comp=Z,15nm,0.9s,baz=150,slow=3.9,SNR=24
WRAB Tennant Creek 132.49 207 ePKIKP PKPdf 17 28 34.7 -0.3
WRAB Tennant Creek 132.49 207 ePKPdf PKPdf 17 28 34.7 -0.3
SEY Seymchan 132.54 337 SKPbc SKPbc 17 31 40.8 +1.1
comp=Z,5.9nm,0.9s,baz=95,slow=3.8,SNR=7.7
PMG Port Moresby 133.73 229c iPKIKP PKPdf 17 28 39.6 +2.1
PMG pmax pmax
comp=Z,15nm,1.7s
PETK Petropavlovsk- 135.25 323 PKhKP PKPpre 17 28 30.8
comp=Z,0.5nm,0.3s,baz=121,slow=2.3,SNR=23
PETK PKP PKPdf 17 28 39.7 +0.6
comp=Z,0.9nm,0.5s,baz=139,slow=3.4,SNR=14
PETK SKPbc SKPbc 17 31 50.0 +1.1
comp=Z,12nm,0.9s,baz=104,slow=6.3,SNR=11
BRVK Borovoye 135.87 36 ePKIKP PKPdf 17 28 41.8 +1.6
BRVK Borovoye 135.87 36 ePKPdf PKPdf 17 28 38.9 -1.4
BVA0 Borovoye Array 135.94 36 PKIKP PKPdf 17 28 39.1 -1.3
BVA0 pmax pmax
comp=Z,9.0nm,1.3s
BVAR Borovoye Array 135.94 36 SKP SKPdf 17 31 53.2 -1.0
baz=290,slow=4.2
KK31 Karatay Array 139.49 50 i PKIKP PKPdf 17 28 42.2 -5.1
KK31 pmax pmax
comp=Z,1.0nm,0.5s
YAK Yakutsk 139.67 348 ePKIKP PKPdf 17 28 48.9 +2.0
NVS Novosibirsk 141.24 28 ePKHKP PKPpre 17 28 43.8
NVS e 17 31 59.2
KURBB Kurchatov Arra 141.52 36 SKKPbc SKKPbc 17 40 27.1 -4.2
comp=Z,0.6nm,1.0s,baz=166,slow=1.8,SNR=4.4
EKS2 Erkin-Say 141.92 50 ePKIKP PKPdf 17 28 51.9 +0.1
EKS2 e 17 31 58.2
EKS2 Erkin-Say 141.92 50 P PP 17 31 59.7 +0.2
SNR=5.4
EKS2 Erkin-Say 141.92 50 ePKPdf PKPdf 17 28 51.9 +0.1
EKS2 ePP PP 17 31 58.2 -1.2
USP Ospenovka 142.23 49 P SKPbc 17 32 11.4 +2.6
SNR=6.6
AAK Ala-Archa 142.43 50 ePKIKP PKPdf 17 28 52.4 -0.4
AAK 17 32 06.8
AAK Ala-Archa 142.43 50 P SKPbc 17 32 12.9 +3.4
SNR=10.0
AAK Ala-Archa 142.43 50 PP PP 17 32 06.8 +4.2
comp=Z,3.8nm,1.1s,baz=248,slow=13,SNR=3.5
AAK SKPbc SKiKP 17 32 11.0 +0.1
comp=Z,31nm,1.1s,baz=248,slow=2.0,SNR=14
AAK Ala-Archa 142.43 50 ePKPdf PKPdf 17 28 52.4 -0.4
AAK PP PP 17 32 06.8 +4.2
AAK SKPbc SKiKP 17 32 11.0 +0.1
CHMS Chumysh 142.49 49 P SKPbc 17 32 12.5 +3.1
SNR=7.5
ZAA0 Zalesovo Array 142.53 28 ePKPdf PKPdf 17 28 50.2 -2.1
ZALV Zalesovo Beam 142.53 28 PKhKP PKPpre 17 28 48.2
comp=Z,14nm,0.5s,baz=307,slow=4.2,SNR=64
ZALV PP PP 17 32 07.8 +5.6
comp=Z,12nm,0.8s,baz=304,slow=3.0,SNR=6.3
ZALV SKKPbc SKKPbc 17 40 22.6 -4.9
comp=Z,0.8nm,0.8s,baz=132,slow=2.2,SNR=4.0
UCH Uchtor 142.57 50 P SKPbc 17 32 13.4 +3.2
SNR=8.0
KBK Karagaybulak 142.74 49 P SKPbc 17 32 13.6 +3.4
SNR=7.6
TKM2 Tokmak 2 143.10 49 ePKIKP PKPbc 17 28 52.5 +0.9
TKM2 Tokmak 2 143.10 49 P SKPbc 17 32 13.7 +2.5
SNR=8.2
TKM2 Tokmak 2 143.10 49 ePKPdf PKPbc 17 28 52.5 +0.9
KSH Kashi 144.42 54 ePKP PKPab 17 28 54.6 -0.6
KSH PKS PKSdf 17 32 28.6 -3.4
KSH SS SS 17 50 36.1 -7.1
KSH AMB AMB
comp=Z,61nm,5.6s
KSH LR LR
comp=Z,73nm,4.1s
KSH LR LR
comp=Z,140nm,6.7s
KSH LR LR
comp=Z,110nm,8.6s
SOEI Soe 145.54 199 ePKPdf PKPbc 17 28 59.4 -0.1
MK31 Makanchi Array 145.68 39 i PKP2 PKPdf 17 28 58.4 +0.3
MK31 pmax pmax
comp=Z,14nm,0.4s
MK31 Makanchi Array 145.68 39 ePKPdf PKPbc 17 28 58.8 -0.1
MKAR Makanchi Array 145.68 39 PKPbc PKPdf 17 28 58.6 +0.5
comp=Z,47nm,0.7s,baz=318,slow=3.1,SNR=252
MKAR pPKPbc pPKPbc 17 29 56.9 +1.8
comp=Z,6.0nm,0.6s,baz=296,slow=2.9,SNR=2.2
MKAR SKPbc SKPbc 17 32 17.1 +0.3
comp=Z,12nm,0.9s,baz=308,slow=2.9,SNR=7.6
MKAR SKKPbc SKKPab 17 40 09.8 -2.4
comp=Z,2.4nm,0.9s,baz=32,slow=4.7,SNR=9.7
YSS Yuzh-Sakhalins 146.64 322 ePKP2 PKPbc 17 29 02.1 +0.5
YSS Yuzh-Sakhalins 146.64 322 ePKPbc PKPbc 17 29 02.1 +0.5
HYB Hyderabad 146.83 94 i PKP PKPdf 17 29 01.5 +0.6
HYB epPKP pPKPdf 17 30 01.5 +3.5
HYB eSKP 17 32 20.0
HYB ePP PP 17 32 30.0 +0.6
MMRI Maumere 147.18 196 ePKPdf PKPdf 17 29 01.0 -0.6
MMRI ePKPbc PKPbc 17 29 03.9 -0.2
MMRI ePKPab PKPab 17 29 05.8 -0.4
ASAJ Asahikawa 148.29 318 PKPbc PKPbc 17 29 06.4 +0.2
comp=Z,30nm,0.9s,baz=174,slow=1.2,SNR=21
JAGI Jajag, Banyuwa 148.48 181 ePKPbc PKPbc 17 29 06.9 -0.6
CISI Cisompet, Garu 148.91 169 ePKPbc PKPbc 17 29 08.1 -0.6
MOY Mondy 150.03 16 ePKP2 PKPbc 17 29 11.6 +1.2
MOY pmax pmax
comp=Z,44nm,2.2s
IRK Irkutsk 150.20 11 ePKIKP PKPdf 17 29 08.2 +2.9
IRK e 17 30 07.4
IRK pmax pmax
comp=Z,46nm,2.5s
KLR Kul'dur 150.31 335 ePKIKP PKPdf 17 29 06.1 +0.5
KLR pmax pmax
comp=Z,57nm,1.6s
WMQ Urumqi 150.50 40 PKPbc PKPbc 17 29 12.2 +0.5
WMQ pPKP pPKPdf 17 30 10.0 +6.7
WMQ sPKP 17 30 33.1
WMQ PKS PP 17 32 45.6 -3.9
WMQ PP PP 17 32 57.6 +8.1
WMQ AMB AMB
comp=Z,31nm,11.8s
WMQ LR LR
comp=Z,150nm,21.4s
WMQ LR LR
comp=Z,140nm,19.8s
WMQ LR LR
comp=Z,120nm,23.6s
TLY Talaya 150.61 12 ePKIKP PKPbc 17 29 14.8 +3.1
TLY e 17 30 13.7
TLY pmax pmax
comp=Z,26nm,0.9s
KAPI Kappang 151.25 193 ePKPbc PKPbc 17 29 14.3 +0.1
ZAK Zakamensk 151.76 14 ePKIKP PKPbc 17 29 14.8 +0.3
ZAK e 17 30 13.5
ZAK pmax pmax
comp=Z,8.0nm,1.1s
GSI Gunungsitoli 153.31 143 ePKPbc PKPbc 17 29 18.7 -0.2
GKN Gorkha 153.62 74 eP PKPdf 17 29 11.7 +0.3
DMN Daman 154.06 74 eP PKPdf 17 29 13.3 +1.1
USRK Ussuriysk Arra 154.13 328 PKPbc PKPbc 17 29 19.2 -0.5
comp=Z,3.2nm,0.8s,baz=308,slow=4.3,SNR=5.3
USRK pPKPab pPKPab 17 30 29.0 -0.1
comp=Z,3.5nm,0.8s,baz=279,slow=1.5,SNR=4.0
KKN Kakani 154.21 74 eP PKPdf 17 29 12.3 0.0
PKIN Phulchoki 154.32 74 eP PKPdf 17 29 13.1 +0.6
PKI Pulchoki 154.34 74 eP PKPdf 17 29 13.1 +0.5
GUN Gumba 154.73 74 eP PKPdf 17 29 12.9 -0.3
SONM Songino Array 154.82 11 PKP PKPdf 17 29 13.7 +1.3
comp=Z,1.3nm,0.8s,baz=240,slow=0.5,SNR=11
SONM PKPab PKPab 17 29 38.4 +1.2
comp=Z,6.4nm,0.8s,baz=324,slow=3.9,SNR=16
MJAR Matsushiro Arr 154.85 307 PKPbc PKPbc 17 29 22.6 +1.1
comp=Z,0.7nm,0.3s,baz=90,slow=1.3,SNR=8.3
MJAR PKPab PKPab 17 29 38.6 +0.9
comp=Z,12nm,1.0s,baz=59,slow=1.4,SNR=9.8
MAT Matsushiro 154.85 307 PKP PKPbc 17 29 21.9 +0.4
JIRN Jiri 155.02 74 eP PKPdf 17 29 13.8 +0.2
PSI Prapat 155.29 143 PKPab PKPab 17 29 39.5 -0.6
comp=Z,11nm,0.7s,baz=204,slow=11,SNR=8.7
RAMN Ramite 155.43 76 eP PKPdf 17 29 14.2 +0.2
ODAN Odare 156.14 76 eP PKPdf 17 29 15.1 +0.1
TAPN Taplejung 156.39 75 eP PKPdf 17 29 15.3 -0.1
KSRS Korea Array 161.14 322 PKP PKPdf 17 29 20.6 +0.3
comp=Z,2.4nm,1.0s,baz=134,slow=1.1,SNR=10
KSRS PKPab PKPab 17 30 05.5 +0.7
comp=Z,10nm,1.1s,baz=43,slow=3.7,SNR=16
KSAR Wonju Array Be 161.17 322 PKIKP PKPdf 17 29 20.6 +0.3
KSAR 17 30 05.5
KSAR Wonju Array Be 161.17 322 PKP PKPdf 17 29 20.6 +0.3
KSAR PKPab PKPab 17 30 05.5 +0.5
DL2 Dalian 162.89 338 ePKP PKPdf 17 29 20.2 -1.7
DL2 SKS SKSdf 17 36 01.6 -3.9
DL2 AMB AMB
comp=Z,220nm,6.4s
DL2 LR LR
comp=Z,98nm,19.0s
DL2 LR LR
comp=Z,190nm,19.0s
DL2 LR LR
comp=Z,130nm,17.6s
BJI Beijing 163.09 353 PKP PKPdf 17 29 23.3 +1.2
LZH Lanzhou 164.73 31 ePKP PKPdf 17 29 25.4 +1.4
LZH PKPab PKPab 17 30 21.9 +1.1
LZH pPKP pPKPdf 17 30 30.0 +8.6
LZH sPKP 17 30 56.0
LZH PP PP 17 34 11.2 +4.2
LZH SKS SKSdf 17 36 03.5 -3.9
LZH SKKS SKKSac 17 40 31.0 -2.6
LZH SS SS 17 54 20.0 -1.2
LZH AMB AMB
comp=Z,210nm,5.0s
CMAR Chiang Mai Arr 165.64 107 PKP PKPdf 17 29 25.1 +0.1
comp=Z,0.9nm,0.7s,baz=268,slow=1.7,SNR=8.5
CMAR PKPab PKPab 17 30 24.1 -1.2
comp=Z,18nm,0.8s,baz=253,slow=4.7,SNR=72
CMAR PP PP 17 34 14.0 +1.0
comp=Z,2.1nm,1.0s,baz=250,slow=6.4,SNR=5.1
CD2 Chengdu 168.48 46 PKP PKPdf 17 29 25.1 -1.7
CD2 pPKP pPKPdf 17 30 29.0 +4.7
CD2 sPKP 17 30 54.0
CD2 PKS PKSdf 17 32 56.4 -3.1
CD2 PP PP 17 34 27.0 +0.3
CD2 SKS SKSdf 17 36 02.6 -7.0
CD2 SKKS SKKSac 17 40 47.1 -5.2
CD2 SS SS 17 54 53.0 -6.7
CD2 AMB AMB
comp=Z,160nm,5.4s
KMI Kunming 170.05 77 PKP PKPdf 17 29 25.0 -3.2
KMI pPKP pPKPdf 17 30 30.8 +5.1
GYA Guiyang 173.06 61 PKP PKPdf 17 29 27.0 -2.5
GYA pPKP pPKPdf 17 30 31.6 +4.6
GYA PKS PKSdf 17 32 58.8 -3.1
GYA PP PP 17 34 49.4 -0.7
GYA AMB AMB
comp=Z,150nm,8.2s
QIZ Qiongzhong 174.63 141 PKP PKPdf 17 29 29.9 -0.1
QIZ PP PP 17 34 55.3 -1.4

IDC **07** *17:21:31.5±1.3, 39.69N×30.56E, h0km, mb3.3/5, mb1 3.4/9, mb1mx3.3/41, mbtmp3.3/9, ML3.2/4, Error ellipse: s-maj=20.0km s-min=15.0km az=37.0*
ISK **07** *17:21:32.1, 39.77N×30.59E, h5km, ML3.7*
DDA **07** *17:21:32.9, 39.75N×30.51E, h5km, MD3.6, ML3.7*
CSEM **07** *17:21:33.5±0.1, 39.77N×30.58E, h2km, ML3.7, Error ellipse: s-maj=2.8km s-min=2.3km az=35.0*
ISCJB **07** *17:21:33.3±0.4, 39.79N±0.02×30.57E±0.02, h8km±3km, mb3.2/5, Error ellipse: s-maj=3.3km s-min=2.8km az=39.8*
THE **07** *17:21:35.9, 39.70N×30.36E, h0km±2km, ML3.5/2, Error ellipse: s-maj=5.5km s-min=1.7km az=74.0*
ISC 07 17:21:33.6±0.8, 39.76N±0.02×30.55E±0.02, h10km±6km, n190, σ1‡18/221, mb3.2/5, 20C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORA	Eskisehir	0.14	328	i P	Pg	17 21 36.7	-0.2
BORA				i S	Sg	17 21 39.0	-0.1
BORA	Eskisehir	0.14	328	i P	Pg	17 21 36.7	-0.2
BORA				i S	Sg	17 21 39.0	-0.1
SEYT	Eskypehyr	0.34	136	i P	Pg	17 21 39.9	-0.5
SEYT	Eskypehyr	0.34	136	i P	Pg	17 21 39.9	-0.5
SEYT				i S	Sb	17 21 58.5	+11
GPA	Golpazari	0.56	341	PG	Pg	17 21 44.4	0.0
GPA	Golpazari	0.56	341	i Pg	Pg	17 21 44.4	0.0
CAVI	Cavuskoy	0.70	309	PG	Pg	17 21 46.8	-0.3
CAVI				eSG	Sb	17 21 58.8	+1.2
CAVI	Cavuskoy	0.70	309	i Pg	Pg	17 21 46.8	-0.3
CAVI				eSg	Sb	17 21 58.8	+1.2
ALT	Altintas	0.78	206	P	Pg	17 21 48.7	0.0
ALT				S	Sg	17 21 59.4	+0.4
ALT	Altintas	0.78	206	ePG	Pg	17 21 48.7	0.0
ALT				eSG	Sb	17 22 00.4	+0.2
ALT	Altintas	0.78	206	P	Pg	17 21 48.7	0.0
ALT				S	Sg	17 21 59.4	+0.4
ALT				eSg	Sb	17 22 00.4	+0.2
SVRH	Sivrihisar-ESK	0.82	112	PG	Pg	17 21 48.7	-0.7
SVRH				eSG	Sg	17 22 00.2	+0.2
SVRH	Sivrihisar-ESK	0.82	112	i Pg	Pg	17 21 48.7	-0.7
SVRH				eSg	Sg	17 22 00.2	+0.2
MDUB	Mudurnu	0.86	35	ePG	Pg	17 21 49.5	-0.8
MDUB	Mudurnu	0.86	35	ePg	Pg	17 21 49.5	-0.8
BTAS	Taskesti	0.88	23	i P	Pg	17 21 50.4	-0.2
BTAS	Taskesti	0.88	23	i P	Pg	17 21 50.4	-0.2
BTAS				i S	Sb	17 22 03.9	+1.1
TVSB	Tavsanli	0.90	250	ePG	Pg	17 21 50.3	-0.6
TVSB	Tavsanli	0.90	250	ePg	Pg	17 21 50.3	-0.6
ADVT	Abdulvahap	0.91	317	ePG	Pg	17 21 50.6	-0.6
ADVT	Abdulvahap	0.91	317	ePg	Pg	17 21 50.6	-0.6
SPNC	Sapanca-Adapaz	0.94	349	ePG	Pg	17 21 51.5	-0.2
SPNC	Sapanca-Adapaz	0.94	349	ePg	Pg	17 21 51.5	-0.2
GDZ	Gediz	1.07	231	i P	Pg	17 21 53.0	-1.1
GDZ				i S	Sg	17 22 08.0	0.0
GDZ	Gediz	1.07	231	i P	Pg	17 21 53.0	-1.1
GDZ				i S	Sg	17 22 08.0	0.0
ULDT	Uludag	1.15	290	i P	Pb	17 21 55.8	+0.1
ULDT				i S	Sg	17 22 11.4	+0.7
ULDT	Uludag	1.15	290	i P	Pb	17 21 55.8	+0.1
ULDT				i S	Sg	17 22 11.4	+0.7
SHUT	Suhut-Afyon	1.21	180	ePN	Pb	17 21 56.2	-0.5
SHUT	Suhut-Afyon	1.21	180	ePn	Pb	17 21 56.2	-0.5
GEMT	Gemlik	1.24	303	ePN	Pn	17 21 56.8	-0.2
HRT	Hereke	1.25	328	ePN	Pn	17 21 57.2	-0.1
ORLT	Orhaneli	1.30	283	ePN	Pg	17 21 59.5	+0.9
KIZT	Kizilcal	1.36	130	ePN	Pn	17 21 59.0	-0.2
KIZT	Kizilcal	1.36	130	ePn	Pb	17 21 59.0	-0.2
MDNY	Mudanya-Bursa	1.41	296	ePN	Pn	17 21 59.6	+0.2
MDNY	Mudanya-Bursa	1.41	296	ePn	Pn	17 21 59.6	+0.2
SILT	Sile	1.55	334	ePN	Pn	17 22 01.4	+0.1
SILT	Sile	1.55	334	ePn	Pn	17 22 01.4	+0.1
BCAM	Yenicaga	1.57	47	i P	Pn	17 22 01.6	-0.1
BCAM	Yenicaga	1.57	47	i P	Pn	17 22 01.6	-0.1
BCAM				i S	Sg	17 22 27.3	+3.3
KHL	Karahalli	1.64	209	ePN	Pb	17 22 04.1	0.0
KHL	Karahalli	1.64	209	ePn	Pb	17 22 04.1	0.0
KDZE	Karadeniz Ereo	1.69	23	ePN	Pn	17 22 02.8	-0.5
LOD	Lodumlu	1.71	85	ePN	Pn	17 22 03.5	-0.1
LOD	Lodumlu	1.71	85	ePn	Pn	17 22 03.5	-0.1
ISK	Istanbul-Kandi	1.73	319	P	Pn	17 22 03.9	+0.1
ISK				S	Sg	17 22 28.9	-0.3
ISK	Istanbul-Kandi	1.73	319	ePN	Pn	17 22 04.1	+0.4
ISK	Istanbul-Kandi	1.73	319	ePn	Pn	17 22 04.1	+0.4
ISK				S	Sg	17 22 28.9	-0.3
ANTO	Ankara	1.73	86	ePN	Pn	17 22 04.7	+0.8
ANTO	Ankara	1.73	86⇓	iP	Pg	17 22 06.3	-0.6
ANTO				S	Sg	17 22 31.2	+1.9
ANTO	Ankara	1.73	86	ePn	Pn	17 22 04.7	+0.8
ANTO	Ankara	1.73	86⇓	iP	Pg	17 22 06.3	-0.6
KLYT	Kilyos	1.88	323	ePN	Pn	17 22 06.2	+0.4
KLYT	Kilyos	1.88	323	ePn	Pn	17 22 06.2	+0.4
KULA	Kula-Manisa	1.93	230	P	Pn	17 22 07.4	+0.8
KULA	Kula-Manisa	1.93	230	ePN	Pb	17 22 07.8	-1.1
KULA	Kula-Manisa	1.93	230	P	Pn	17 22 07.4	+0.8
KULA	Kula-Manisa	1.93	230	ePn	Pb	17 22 07.8	-1.1
ISP	Isparta	1.94	181	P	Pn	17 22 08.2	-0.9
ISP				S	Sb	17 22 33.1	-0.3
ISP	Isparta	1.94	181	ePN	Pb	17 22 08.2	-0.9
ISP	Isparta	1.94	181⇑	iP	Pg	17 22 10.0	-0.8
ISP	Isparta	1.94	181	P	Pb	17 22 08.2	-0.9
ISP				S	Sb	17 22 33.1	-0.3
BGKT	Bogazkoy	1.96	317	ePN	Pb	17 22 08.8	-0.6
BGKT	Bogazkoy	1.96	317	ePn	Pb	17 22 08.8	-0.6

AFSR	Af¯ar-Bala (A	1.97	98	ePN	Pn	17 22 08.0	+0.8
AFSR	Af¯ar-Bala (A	1.97	98	ePN	Pn	17 22 08.0	+0.8
BBAL	Bala	2.00	95	iP	Pn	17 22 07.3	-0.3
BBAL	Bala	2.00	95	iP	Pn	17 22 07.3	-0.3
BBAL				iS	Sg	17 22 41.2	+3.3
BALB	Balikesir	2.06	267	ePN	Pn	17 22 09.3	+1.0
BALB	Balikesir	2.06	267	ePN	Pn	17 22 09.3	+1.0
LADK	Ladik-KONYA	2.11	137	ePN	Pn	17 22 09.1	0.0
LADK	Ladik-KONYA	2.11	137	ePN	Pn	17 22 09.1	0.0
ELBA	Catalca	2.13	311	iP	Pn	17 22 09.5	+0.3
ELBA	Catalca	2.13	311	iP	Pn	17 22 09.5	+0.3
ELBA				iS	Sb	17 22 40.6	+1.9
EDC	Edincik	2.14	287	ePN	Pb	17 22 11.5	-1.0
EDC	Edincik	2.14	287	ePN	Pb	17 22 11.5	-1.0
CTKS	Kestanelik-??a	2.14	314	ePN	Pn	17 22 10.3	+0.9
CTKS	Kestanelik-??a	2.14	314	ePn	Pn	17 22 10.3	+0.9
SAFT	Safranbolu	2.20	47	ePN	Pn	17 22 11.1	+0.8
AKHS	Akhisar	2.30	248	iP	Pg	17 22 16.6	-1.0
AKHS				iS	Sg	17 22 49.2	+1.8
AKS	Akhisar	2.30	248	ePN	Pn	17 22 13.3	+1.7
AKS	Akhisar	2.30	248	ePN	Pn	17 22 13.3	+1.7
BCK	Bucak	2.30	179	ePN	Pb	17 22 13.5	-1.7
BCK	Bucak	2.30	179	ePn	Pb	17 22 13.5	-1.7
KONT	Konya--Tatoy	2.30	141	ePN	Pn	17 22 12.3	+0.6
KONT	Konya--Tatoy	2.30	141	ePn	Pn	17 22 12.3	+0.6
SLVT	Silivri	2.31	310	ePN	Pn	17 22 13.4	+1.7
SLVT	Silivri	2.31	310	ePn	Pn	17 22 13.4	+1.7
BRTR	Keskin Array B	2.38	90	Pn	Pn	17 22 13.2	+0.3
	2.3nm,0.3s,baz=252,slow=10,SNR=127						
BRTR				Sn	Sg	17 22 51.8	+1.6
	6.6nm,0.3s,baz=268,slow=20,SNR=6.6						
MRMT	Marmara Adasi	2.41	291	ePN	Pn	17 22 15.1	+1.8
MRMT	Marmara Adasi	2.41	291	ePn	Pn	17 22 15.1	+1.8
CTYL	Yal??k??y-??at	2.42	316	ePN	Pb	17 22 15.5	-1.9
CTYL	Yal??k??y-??at	2.42	316	ePn	Pb	17 22 15.5	-1.9
CANT	Cankiri	2.50	69	ePN	Pn	17 22 14.7	+0.3
CRLT	Corlu	2.54	303	ePN	Pn	17 22 17.0	+2.1
CRLT	Corlu	2.54	303	ePn	Pn	17 22 17.0	+2.1
KRBG	Karabiga-Canak	2.57	285	ePN	Pn	17 22 17.0	+1.6
KRBG	Karabiga-Canak	2.57	285	ePn	Pn	17 22 17.0	+1.6
RKY	Sarkoy-Tekirda	2.74	291	ePN	Pn	17 22 19.7	+2.0
RKY	Sarkoy-Tekirda	2.74	291	ePn	Pn	17 22 19.7	+2.0
AYDB	Zeytinkoy-Aydi	2.75	230	ePN	Pn	17 22 19.8	+1.8
SULT	Sultanhani-AKS	2.79	123	ePN	Pn	17 22 19.5	+1.0
SULT	Sultanhani-AKS	2.79	123	ePn	Pn	17 22 19.5	+1.0
PHSR	Pinarhisar	2.96	310	ePN	Pn	17 22 21.8	+1.1
PHSR	Pinarhisar	2.96	310	ePn	Pn	17 22 21.8	+1.1
LPK	Lapseki	2.97	283	ePN	Pn	17 22 22.5	+1.7
LPK	Lapseki	2.97	283	ePn	Pn	17 22 22.5	+1.7
BLCB	Balcova	3.06	244	ePN	Pn	17 22 24.7	+2.7
BLCB	Balcova	3.06	244	ePn	Pn	17 22 24.7	+2.7
GELI	Tayfur-Gelibol	3.19	283	ePN	Pn	17 22 24.8	+1.0
GELI	Tayfur-Gelibol	3.19	283	ePn	Pn	17 22 24.8	+1.0
EZN	Ezine	3.25	272	ePN	Pn	17 22 27.2	+2.5
EZN	Ezine	3.25	272	ePn	Pn	17 22 27.2	+2.5
PRK	Paraskevi	3.35	262	P	Pn	17 22 26.9	+0.9
PRK	Paraskevi	3.35	262	ePN	Pn	17 22 26.9	+0.9
PRK	Paraskevi	3.35	262	P	Pn	17 22 26.9	+0.9
BZK	Bozkurt	3.42	49	ePN	Pn	17 22 28.6	+1.6
BZK	Bozkurt	3.42	49	ePn	Pn	17 22 28.6	+1.6
ENEZ	Enez	3.50	288	ePN	Pn	17 22 30.2	+2.1
ENEZ	Enez	3.50	288	ePn	Pn	17 22 30.2	+2.1
EDRB	Edirne	3.56	307	P	Pn	17 22 29.4	+0.5
EDRB	Edirne	3.56	307	ePN	Pn	17 22 30.2	+1.3
EDRB	Edirne	3.56	307	P	Pn	17 22 29.4	+0.5
EDRB	Edirne	3.56	307	ePn	Pn	17 22 30.2	+1.3
ALN	Alexandroupoli	3.62	290	P	Pn	17 22 30.4	+0.6
ALN				S	Sn	17 23 13.5	+0.9
ALN	Alexandroupoli	3.62	290	ePN	Pn	17 22 32.1	+2.3
ALN	Alexandroupoli	3.62	290	ePN	Pn	17 22 30.5	+0.6
ALN	Alexandroupoli	3.62	290	P	Pn	17 22 30.4	+0.6
ALN	Alexandroupoli	3.62	290	ePn	Pn	17 22 32.1	+2.3
ALN				S	Sn	17 23 13.5	+0.9
SIGR	SIGRI	3.67	263	ePN	Pn	17 22 32.6	+2.1
SIGR	SIGRI	3.67	263	ePN	Pg	17 22 42.7	-1.3
SIGR	SIGRI	3.67	263	ePn	Pn	17 22 32.6	+2.1
CHOS	Chios island	3.76	250	ePN	Pn	17 22 34.3	+2.5
CHOS	Chios island	3.76	250	ePN	Pg	17 22 45.8	+0.2
CHOS	Chios island	3.76	250	ePn	Pn	17 22 34.3	+2.5
SMTH	Samothraki Isl	3.91	282	ePN	Pn	17 22 34.2	+0.4
JMB	Yambol	4.03	313	⇑iP	Pn	17 22 37.5	+2.1
JMB	Yambol	4.03	313	⇑iP	Pn	17 22 37.5	+2.1
RDO	Rodhopi	4.07	291	ePB	Pn	17 22 37.0	+1.1
PSN	Preselentsi	4.30	336	⇑iP	Pn	17 22 38.8	-0.3
PSN	Preselentsi	4.30	336	⇑iP	Pn	17 22 38.8	-0.3
KDZ	Kurdzhali	4.33	297	eP	Pn	17 22 40.9	+1.3
KDZ	Kurdzhali	4.33	297	⇑iP	Pn	17 22 41.5	+1.9
KDZ	Kurdzhali	4.33	297	eP	Pn	17 22 40.9	+1.3
DIM	Dimitrovgrad	4.43	303	iP	Pn	17 22 41.3	+0.4
DIM	Dimitrovgrad	4.43	303	iP	Pn	17 22 41.3	+0.4
KAVA	Kavala	4.77	287	ePB	Pn	17 22 45.6	0.0
RZN	Rozhen	4.83	295	iP	Pn	17 22 47.1	+0.5
RZN				iS	Sn	17 23 42.0	-0.7
RZN	Rozhen	4.83	295	iP	Pn	17 22 47.1	+0.5
RZN				iS	Sn	17 23 42.0	-0.7
SZH	Strazhica	4.92	317	iP	Pn	17 22 47.2	-0.5
SZH	Strazhica	4.92	317	iP	Pn	17 22 47.2	-0.5
TIRR	Tirgusor	4.95	342	⇑iP	Pn	17 22 48.4	+0.3
TIRR	Tirgusor	4.95	342	⇑iP	Pn	17 22 48.4	+0.3
AOS	Alonnisos	5.19	266	ePN	Pn	17 22 49.4	-2.0
PVL	Pavlikeni	5.22	313	iP	Pn	17 22 52.9	+1.2
PVL	Pavlikeni	5.22	313	iP	Pn	17 22 52.9	+1.2
NVR	Nevrokopi	5.33	289	ePN	Pn	17 22 54.0	+0.6
SRS	Serrai	5.48	287	ePN	Pn	17 22 56.0	+0.7
PLG	Polygyros	5.48	279	ePB	Pn	17 22 56.1	+0.7
MMB	Musomiste	5.50	292	iP	Pn	17 22 55.9	+0.3
MMB	Musomiste	5.50	292	⇑iP	Pn	17 22 56.4	+0.8
MMB	Musomiste	5.50	292	iP	Pn	17 22 55.9	+0.3
TLCR		5.57	347	⇑iP	Pn	17 22 56.9	+0.4
TLCR		5.57	347	⇑iP	Pn	17 22 56.9	+0.4
CFR	Carcaliu	5.70	343	⇓iP	Pn	17 22 58.6	+0.3
CFR	Carcaliu	5.70	343	⇓iP	Pn	17 22 58.6	+0.3
KNT	Kendrikon	6.00	286	ePN	Pn	17 23 03.6	+1.1
KKB	Krupnik	6.04	293	eP	Pn	17 23 06.5	+3.5
LIT	Litokhoron	6.20	276	ePN	Pn	17 23 05.7	+0.4
VTS	Vitosha	6.22	299	iP	Pn	17 23 06.5	+0.9
VTS				iS	Sn	17 24 15.6	-1.2
VTS	Vitosha	6.22	299	⇑iP	Pn	17 23 07.0	+1.4
VTS	Vitosha	6.22	299	iP	Pn	17 23 06.5	+0.9
VTS				iS	Sn	17 24 15.6	-1.2
MPEP	Malo Peshtene	6.24	307	eP	Pn	17 23 07.5	+1.7
IDI	Anoyia	6.34	227	Pn	Pn	17 23 04.8	-2.4
	1.1nm,0.3s,baz=172,slow=18,SNR=4.7						
AGG	Agios Georgios	6.41	266	ePN	Pn	17 23 09.6	+1.5
MLR	Muntele Rosu	6.65	331	⇑iP	Pn	17 23 13.7	+2.1
MLR	Muntele Rosu	6.65	331	Pn	Pn	17 23 12.7	+1.1
	0.1nm,0.3s,baz=308,slow=0.8,SNR=14						
MLR	Muntele Rosu	6.65	331	⇑iP	Pn	17 23 13.7	+2.1
VRI	Vrincioaia	6.71	337	⇑iP	Pn	17 23 13.4	+1.1
VRI	Vrincioaia	6.71	337	⇑iP	Pn	17 23 13.4	+1.1
VOIR		6.97	326	⇑iP	Pn	17 23 17.4	+1.5
VOIR		6.97	326	⇑iP	Pn	17 23 17.4	+1.5
TESR	Tescani	7.32	338	⇑iP	Pn	17 23 20.8	+0.2
TESR	Tescani	7.32	338	⇑iP	Pn	17 23 20.8	+0.2
AKASG	Malin Array Be	10.98	356	Pn	Pn	17 24 08.8	-1.9
	1.1nm,0.3s,baz=177,slow=12,SNR=6.2						
AKASG				Sn	Sn	17 26 10.7	-2.8
	0.8nm,0.3s,baz=181,slow=26,SNR=3.8						
FINES	FINESS Array B	21.88	354	P	P	17 26 28.1	+1.7
	0.6nm,0.6s,baz=156,slow=21,SNR=2.5						
HFS	Hagfors	22.96	338	P	P	17 26 39.7	+1.7
	3.5nm,1.1s,baz=64,slow=10,SNR=3.6						
NOA	NORSAR Array B	24.42	337	P	P	17 26 51.5	-0.7
	0.4nm,0.7s,baz=137,slow=8.4,SNR=3.4						
ESDC	Sonseca Array	26.45	281	P	P	17 27 10.5	-0.4
	0.2nm,0.5s,baz=76,slow=11,SNR=3.5						
MKAR	Makanchi Array	37.74	62	P	P	17 28 49.4	-0.1
	0.3nm,0.6s,baz=267,slow=7.9,SNR=6.6						

MEX 07 17:22:48.7±0.7, 15°.47N×96°.10W, h5km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.30	359	eP	Pg	17 22 53.7	-0.9
HUIG				iS	Sg	17 22 58.1	+0.1
VHO	Vista Hermosa	1.71	339	iP	Pn	17 23 16.7	-2.7
VHO				iS	Sn	17 23 37.5	-4.4
CMIG	Matias Romero	2.00	36	eP	Pn	17 23 20.7	-2.5
CMIG				iS	Sn	17 23 44.5	-4.0
PNIG	Pinotepa	2.15	296	iP	Pn	17 23 22.6	-2.8
PNIG				iS	Sn	17 23 48.5	-4.1

MDD **07** *17:26:29.4±2.0, 36°.45N×11°.88W, h0km, mb4.2/4, Error ellipse: s-maj=18.4km s-min=16.1km az=129.0, PRXIMO*
IGIL **07** *17:26:29.8, 36°.29N×12°.12W, h31km, ML1.7*
INMG **07** *17:26:30.3±1.2, 36°.29N×12°.12W, h31km, ML2.1, Error ellipse: s-maj=9.8km s-min=6.2km az=94.0*
CSEM **07** *17:26:32.1±0.4, 36°.55N×11°.88W, h30km, ML2.9/5, Error ellipse: s-maj=7.5km s-min=5.9km az=109.0*
ISC 07 17:26:28.8±4.0, 36°.5N±0°.1×11°.9W±0°.2, h10km, n68, σ1.11/113, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	2.54	75	iPn	Pn	17 27 10.4	+0.3
PFVI				eSn	Sn	17 27 41.2	+0.1
PFVI	Vila Bisbo	2.54	75	⇑P	Pn	17 27 10.4	+0.3
	6.6nm,0.1s,SNR=18						
PFVI				S	Sn	17 27 39.8	-1.3
	0.9nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	2.54	75	P	Pn	17 27 10.4	+0.3
	6.6nm,0.1s,SNR=18						
PFVI				S	Sn	17 27 39.8	-1.3
	0.9nm,0.1s,SNR=7.9						
PFVI				eSn	Sn	17 27 41.2	+0.1
MORF	Marmelete	2.72	72	eP	Pn	17 27 13.2	+0.5
MORF				eS	Sn	17 27 45.5	-0.2
MORF				AML	AML	17 27 48.3	
	comp=N,3.7nm,0.1s						
MORF	Marmelete	2.72	72	ePn	Pn	17 27 13.1	+0.5
MORF				eSn	Sn	17 27 45.7	+0.1
MORF				A	A	17 27 53.0	
	comp=N,3.9nm,0.6s						
MORF	Marmelete	2.72	72	P	Pn	17 27 13.2	+0.5
MORF				S	Sn	17 27 45.7	+0.1
	comp=N,3.9nm,0.6s						
MORF	Marmelete	2.72	72	P	Pn	17 27 13.2	+0.5
MORF				S	Sn	17 27 45.7	+0.1
	comp=N,3.9nm,0.6s						
PNCL	Nicolau / Gran	3.12	59	ePn	Pn	17 27 19.7	+1.6
PNCL				eSn	Sn	17 27 56.3	+0.9
PNCL				A	A	17 27 59.3	
	comp=N,1.5nm,0.1s						
PNCL	Nicolau / Gran	3.12	59	ePn	Pn	17 27 19.7	+1.6
PNCL				eSn	Sn	17 27 56.3	+0.9
	comp=N,1.5nm,0.1s						
PMAFR	Mafra	3.19	40	eSn	Sn	17 27 58.4	+1.2
PMAFR				A	A	17 28 04.8	
	comp=N,12nm,0.6s						
PMAFR	Mafra	3.19	40	P	Pn	17 27 19.7	+0.6
	comp=N,0.8nm,0.1s,SNR=7.9						
PMAFR				S	Sn	17 27 57.5	+0.3
	comp=N,3.3nm,0.1s,SNR=7.9						
PMAFR	Mafra	3.19	40	P	Pn	17 27 19.7	+0.6
	comp=N,0.8nm,0.1s,SNR=7.9						
PMAFR				S	Sn	17 27 57.5	+0.3
	comp=N,3.3nm,0.1s,SNR=7.9						
PMAFR				eSn	Sn	17 27 58.4	+1.2
	comp=N,12nm,0.6s						
MESJ	Messejana	3.22	65	eP	Pn	17 27 20.7	+1.2
MESJ				eS	Sn	17 27 58.0	+0.1
MESJ				AML	AML	17 28 00.4	
	comp=N,1.8nm,0.2s						
MESJ	Messejana	3.22	65	P	Pn	17 27 20.7	+1.2
MESJ				S	Sn	17 27 58.0	+0.1
	comp=N,1.8nm,0.2s						
MESJ	Messejana	3.22	65	P	Pn	17 27 20.7	+1.2
MESJ				S	Sn	17 27 58.0	+0.1
	comp=N,1.8nm,0.2s						
PBDV	Barranco-do-Ve	3.26	76	ePn	Pn	17 27 20.7	+0.6
PBDV				eSn	Sn	17 27 59.4	+0.4
PBDV				A	A	17 28 03.0	
	comp=N,3.3nm,0.7s						
PBDV	Barranco-do-Ve	3.26	76	P	Pn	17 27 20.7	+0.6
PBDV				S	Sn	17 27 59.4	+0.4
	comp=N,3.3nm,0.7s						
PBDV	Barranco-do-Ve	3.26	76	P	Pn	17 27 20.7	+0.6
PBDV				S	Sn	17 27 59.4	+0.4
	comp=N,3.3nm,0.7s						
PCVE	Castro Verde	3.28	69	ePn	Pn	17 27 21.3	+1.0
PCVE				eSn	Sn	17 27 59.2	-0.2
PCVE				A	A	17 28 06.4	
	comp=N,2.2nm,0.7s						
PCVE	Castro Verde	3.28	69	P	Pn	17 27 21.3	+1.0
PCVE				S	Sn	17 27 59.2	-0.2
	comp=N,2.2nm,0.7s						
PCVE	Castro Verde	3.28	69	P	Pn	17 27 21.3	+1.0
PCVE				S	Sn	17 27 59.2	-0.2
	comp=N,2.2nm,0.7s						
PVAQ	Vaqueiros	3.46	74	ePn	Pn	17 27 23.4	+0.6
PVAQ				eSn	Sn	17 28 03.4	-0.5
PVAQ				A	A	17 28 09.2	
	comp=N,2.6nm,0.7s						
PVAQ	Vaqueiros	3.46	74	P	Pn	17 27 23.4	+0.6
PVAQ				S	Sn	17 28 03.4	-0.5
	comp=N,2.6nm,0.7s						
PVAQ	Vaqueiros	3.46	74	P	Pn	17 27 23.4	+0.6
PVAQ				S	Sn	17 28 03.4	-0.5
	comp=N,2.6nm,0.7s						
PBEJ	Beja	3.55	64	ePn	Pn	17 27 25.8	+1.8
PBEJ				eSn	Sn	17 28 06.0	-0.1
PBEJ	Beja	3.55	64	P	Pn	17 27 25.8	+1.8
PBEJ				S	Sn	17 28 06.0	-0.1
PBEJ	Beja	3.55	64	P	Pn	17 27 25.8	+1.8
PBEJ				S	Sn	17 28 06.0	-0.1
EGRO	El Granado	3.68	73	P	Pn	17 27 26.4	+0.6
	comp=N,0.9nm,0.0s,SNR=7.9						
EGRO				S	Sn	17 28 07.8	-1.4
	comp=N,0.3nm,0.1s,SNR=7.9						
EGRO	El Granado	3.68	73	P	Pn	17 27 26.4	+0.6
	comp=N,0.9nm,0.0s,SNR=7.9						
EGRO				S	Sn	17 28 07.8	-1.4
	comp=N,0.3nm,0.1s,SNR=7.9						
EVO	Evora	3.68	56	eSn	Sn	17 28 09.7	+0.4
EVO				A	A	17 28 10.4	
	comp=N,3.3nm,0.2s						
EVO	Evora	3.68	56	S	Sn	17 28 09.7	+0.4
	comp=N,3.3nm,0.2s						
EVO	Evora	3.68	56	S	Sn	17 28 09.7	+0.4
	comp=N,3.3nm,0.2s						
PTOM	Tomar	4.14	41	eSn	Sn	17 28 21.0	+0.5
PTOM	Tomar	4.14	41	S	Sn	17 28 21.0	+0.5
PTOM	Tomar	4.14	41	S	Sn	17 28 21.0	+0.5
PESTR	Estremoz	4.14	54	eSn	Sn	17 28 21.4	+0.7
PESTR	Estremoz	4.14	54	eSn	Sn	17 28 21.4	+0.7
PBAR	Barrancos	4.21	66	ePn	Pn	17 27 34.5	+1.4
PBAR				eSn	Sn	17 28 21.9	-0.4
PBAR				A	A	17 28 27.8	
	comp=N,1.1nm,0.4s						
PBAR	Barrancos	4.21	66	P	Pn	17 27 34.5	+1.4
PBAR				S	Sn	17 28 21.9	-0.4
	comp=N,1.1nm,0.4s						
PBAR	Barrancos	4.21	66	P	Pn	17 27 34.5	+1.4
PBAR				S	Sn	17 28 21.9	-0.4
	comp=N,1.1nm,0.4s						
EMIN	Mina Concepcio	4.36	72	P	Pn	17 27 35.5	+0.4
	comp=N,2.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	17 28 24.6	-1.4
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	4.36	72	P	Pn	17 27 35.5	+0.4
	comp=N,2.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	17 28 24.6	-1.4
	comp=N,0.2nm,0.1s,SNR=7.9						
PCAS	Casmilo, Conde	4.42	36	eSn	Sn	17 28 27.8	+0.2
PCAS				A	A	17 28 29.4	
	comp=N,3.2nm,0.7s						
PCAS	Casmilo, Conde	4.42	36	eSn	Sn	17 28 27.8	+0.2
	comp=N,3.2nm,0.7s						
EBAD	Badajoz	4.47	59	P	Pn	17 27 37.4	+0.7
	comp=N,0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	17 28 28.2	-0.6
	comp=N,0.3nm,0.1s,SNR=7.9						
EBAD	Badajoz	4.47	59	P	Pn	17 27 37.4	+0.7
	comp=N,0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	17 28 28.2	-0.6
	comp=N,0.3nm,0.1s,SNR=7.9						
PMRV	Marv??o	4.59	50	ePn	Pn	17 27 39.4	+1.0
PMRV				eSn	Sn	17 28 31.0	-0.8
PMRV				A	A	17 28 32.2	
	comp=N,2.0nm,0.2s						
PMRV	Marv??o	4.59	50	P	Pn	17 27 39.4	+1.0
PMRV				S	Sn	17 28 31.0	-0.8
	comp=N,2.0nm,0.2s						
PMRV	Marv??o	4.59	50	P	Pn	17 27 39.4	+1.0
PMRV				S	Sn	17 28 31.0	-0.8
	comp=N,2.0nm,0.2s						
PCBR	Castelo Branco	4.81	45	eSn	Sn	17 28 36.1	-0.9
PCBR	Castelo Branco	4.81	45	S	Sn	17 28 36.1	-0.9
PCBR	Castelo Branco	4.81	45	S	Sn	17 28 36.1	-0.9
ECAB	El Cabril	5.40	71	P	Pn	17 27 49.9	+0.5
	comp=N,1.0nm,0.1s,SNR=7.9						
ECAB				S	Sn	17 28 48.9	-2.7
	comp=N,0.2nm,0.1s,SNR=7.9						
ECAB	El Cabril	5.40	71	P	Pn	17 27 49.9	+0.5
	comp=N,1.0nm,0.1s,SNR=7.9						
ECAB				S	Sn	17 28 48.9	-2.7
	comp=N,0.2nm,0.1s,SNR=7.9						
EPLA	Plasencia	5.78	51	S	Sn	17 29 00.3	-0.8
	comp=N,0.4nm,0.1s,SNR=7.9						
EPLA	Plasencia	5.78	51	S	Sn	17 29 00.3	-0.8
	comp=N,0.4nm,0.1s,SNR=7.9						
POLO	Lamas de Olo	5.80	32	eSn	Sn	17 28 59.8	-1.9
POLO				A	A	17 29 01.2	
	comp=N,0.6nm,0.2s						
POLO	Lamas de Olo	5.80	32	eSn	Sn	17 28 59.8	-1.9
	comp=N,0.6nm,0.2s						
MVO	Moncorvo	5.99	38	eSn	Sn	17 29 04.7	-1.6
MVO				A	A	17 29 09.9	
	comp=N,2.8nm,0.7s						
MVO	Moncorvo	5.99	38	P	Pn	17 27 58.7	+1.1
	comp=N,0.2nm,0.1s,SNR=7.9						
MVO				S	Sn	17 29 04.0	-2.3
	comp=N,0.9nm,0.1s,SNR=7.9						
MVO	Moncorvo	5.99	38	P	Pn	17 27 58.7	+1.1
	comp=N,0.2nm,0.1s,SNR=7.9						
MVO				S	Sn	17 29 04.0	-2.3
	comp=N,0.9nm,0.1s,SNR=7.9						
MVO				eSn	Sn	17 29 04.7	-1.6
	comp=N,2.8nm,0.7s						
ELOB	Lobios	6.11	28	S	Sn	17 29 07.1	-2.2
	comp=N,0.3nm,0.1s,SNR=7.9						
ELOB	Lobios	6.11	28	S	Sn	17 29 07.1	-2.2
	comp=N,0.3nm,0.1s,SNR=7.9						
PBRG	Braganca	6.62	36	eSn	Sn	17 29 19.6	-2.2
PBRG				A	A	17 29 21.7	
	comp=N,2.0nm,0.9s						
PBRG	Braganca	6.62	36	S	Sn	17 29 19.6	-2.2
	comp=N,1.0nm,0.9s						
PBRG	Braganca	6.62	36	S	Sn	17 29 19.6	-2.2
	comp=N,1.0nm,0.9s						
ECAL	Calabor	6.73	35	S	Sn	17 29 22.8	-1.7
	comp=N,0.4nm,0.1s,SNR=7.9						
ECAL	Calabor	6.73	35	S	Sn	17 29 22.8	-1.7
	comp=N,0.4nm,0.1s,SNR=7.9						

BJI **07** *17:55:50.0, 0°.42S×124°.20E, h188km, mB4.7/27, mb4.5/39*
ISCJB **07** *17:55:53.3±0.3, 0°.37N±0°.03×124°.00E±0°.02, h166km±3km, mb4.5/70, Error ellipse: s-maj=4.3km s-min=3.4km az=24.6*
IDC **07** *17:55:54.7±1.6, 0°.32N×123°.91E, h164km±13km, mb4.1/19, mb1 4.2/19, mb1mx4.1/33, mbtmp4.5/19, Error ellipse: s-maj=15.8km s-min=8.6km az=68.0*
KLM **07** *17:55:54.9, 0°.08N×124°.00E, h149km, mb5.0, ML4.8, MS6.1*
NEIC **07** *17:55:54.1±0.6, 0°.30N×123°.99E, h168km±6km, mb4.9/22, Error ellipse: s-maj=7.3km s-min=5.6km az=223.0*
DJA **07** *17:55:55.0±0.1, 0°N±2°×12°4E±°, h133km±2km, M4.7/68, mb4.9/68, mB5.2/38, MLv5.1/25, Mw(mB)4.6/38*
MOS **07** *17:55:56.7±0.8, 0°.38N×123°.94E, h204km, mb4.6/14, Error ellipse: s-maj=17.8km s-min=7.4km az=120.2*
ISC 07 17:55:54.3±0.5, 0°.30N±0°.04×123°.98E±0°.04, h161km±4km, n234, σ1.58/253, mb4.5/70, 9C-6D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMSI	Cibinong	0.28	1	P	Pn	17 56 15.5	-0.6
GTOI	Gorontalo	1.02	289	P	Pn	17 56 21.0	+0.7
LUWI	Luwuk	1.80	222	P	Pn	17 56 26.4	-1.4
LUWI				S	Sn	17 56 49.7	-3.9
LUWI	Luwuk	1.80	222	ePn	Pn	17 56 26.3	-1.5
LUWI				eSn	Sn	17 56 50.3	-3.4
LUWI	Luwuk	1.80	222	P	Pn	17 56 26.1	-1.7
	baz=2.0,SNR=88						
LUWI				S	Sn	17 56 49.3	-4.3
	baz=2.0,SNR=7.7						
MRSI	Marisa	2.04	275	P	Pn	17 56 28.9	-1.7
APSI	Ampana	2.62	243	P	Pn	17 56 36.8	-0.6
APSI				S	Sn	17 57 08.6	-2.2
SANI	Sanana	3.08	139	P	Pn	17 56 41.2	-1.9
SANI				S	Sn	17 57 15.4	-5.6
TOLI	Toli-Toli	3.29	284	ePn	Pn	17 56 44.9	-0.8
TOLI				eSn	Sn	17 57 27.4	+1.8
TNTI	Ternate	3.42	82	P	Pn	17 56 47.2	-0.2
TNTI				S	Sn	17 57 26.7	-2.0
TNTI	Ternate	3.42	82	ePn	Pn	17 56 47.3	-0.1
TNTI				eSn	Sn	17 57 27.9	-0.8
LBMI	Labuha	3.64	105	P	Pn	17 56 50.3	0.0
LBMI				S	Sn	17 57 31.1	-2.7
NLAI	Namlea	4.70	138	P	Pn	17 57 04.4	+0.4
TTSI	Tana Toraja	5.32	231	P	Pn	17 57 12.2	+0.1
	296nm,0.7s,3µm1.4nm						
SPSI	Sidrap Palu	5.97	225	P	Pn	17 57 20.8	+0.1
	107nm,0.7s,1µm0.4nm						
BNSI	Bone	6.06	220	P	Pn	17 57 22.2	+0.3
	66nm,0.6s,906nm0.4nm						
MSAI	Masohi	6.13	126	P	Pn	17 57 24.5	+1.6
	49nm,0.9s,995nm0.6nm						
KAPI	Kappang	6.76	219	ePn	Pn	17 57 31.5	+0.3
KAPI				eSn	Sn	17 58 47.1	-0.2
BKSI	Bulukumba	6.78	215	P	Pn	17 57 31.9	+0.4
	31nm,1.0s,0.2nm						
BKB	Balikpapan	7.25	258	P	Pn	17 57 38.0	+0.3
	302nm,0.7s,1.0nm						
MYLDM	Lahad Datu	7.31	312	ePn	Pn	17 57 40.8	+2.3
MYLDM	Lahad Datu	7.31	312	⇓P	Pn	17 57 44.5	+5.9
SWI	Sorong	7.37	99	P	Pn	17 57 40.5	+1.1
	45nm,0.6s,977nm0.3nm						
BNDI	Bandanaira	7.61	129	P	Pn	17 57 44.0	+1.4
	264nm,1.1s,1.6nm						
KBKI	Kotabaru	8.59	245	P	Pn	17 57 56.3	+0.8
	99nm,1.2s,815nm						
SDKM	Sandakan	8.60	308	⇑P	Pn	17 57 59.0	+3.2
FAKI	Fak Fak	8.86	111	P	Pn	17 57 59.0	-0.2
	46nm,1.7s						
FAKI	Fak Fak	8.86	111	ePn	Pn	17 57 58.5	-0.7
FAKI	Fak Fak	8.86	111	P	Pn	17 57 58.6	-0.6
	baz=8.9,SNR=32						
FAKI				S	Sn	17 59 34.3	-3.6
	baz=8.9,SNR=5.2						
MTKI	Muara Teweh, K	9.16	262	P	Pn	17 58 04.0	+0.8
	73nm,0.7s,10µm						
KKM	Kota Kinabalu	9.62	307	P	Pn	17 58 14.9	+5.5
	baz=9.5,SNR=79						
BBKI	Banjar Baru	9.87	248	P	Pn	17 58 13.6	+1.1
	80nm,1.2s						
SOEI	Soe	9.99	178	P	Pn	17 58 17.7	+3.5
	69nm,0.9s						
SOEI	Soe	9.99	178	ePn	Pn	17 58 13.4	-0.8
SOEI	Soe	9.99	178	P	Pn	17 58 19.0	+4.8
	baz=10,SNR=5.0						
WSI	Waingapu	10.56	200	P	P	17 58 34.9	+4.6
WSI	Waingapu	10.56	200	P	Pn	17 58 18.6	-2.9
	baz=11,SNR=6.1						
BTM	Bintulu	11.26	285	⇑P	Pn	17 58 31.6	+0.8
SBUM	Sibu	11.95	280	ePn	Pn	17 58 40.5	+0.8
SRBI	Singaraja	12.07	226	P	P	17 58 51.7	+4.4
KMMI	Kalianget	12.37	234	P	P	17 58 48.2	-2.4
	234nm,0.9s,2µm						
DNP	Denpasar	12.48	224	P	P	17 58 55.5	+3.6
STKI	Sintang	12.50	269	P	Pn	17 58 48.9	+2.0
	24nm,1.0s,6µm						
ABJI	Asem Bagus	12.61	230	P	P	17 58 58.1	+4.8
IGBI	Denpasar	12.63	224	P	P	17 58 55.8	+2.3
BLJI	Banyuglugur	13.08	232	P	P	17 59 00.3	+1.8
JAGI	Jajag, Banyuwa	13.11	228	P	P	17 58 56.6	-2.2
	120nm,1.1s,2µm						
JAGI	Jajag, Banyuwa	13.11	228	ePn	Pn	17 58 55.6	+1.1
	76nm,0.3s						
JAGI	Jajag, Banyuwa	13.11	228	P	Pn	17 58 55.7	+1.1
	baz=13,SNR=5.7						
GMJI	Gumukmas	13.52	231	P	P	17 59 02.0	-1.4
	256nm,0.8s,2µm						
GRJI	Gresik	13.53	238	P	P	17 59 03.3	-0.2

49nm,1.1s,387nm
KSM Kuching 13.72 275 P P 17 59 07.9 +2.3
baz=14,SNR=41
UWJI Ujung Watu 14.62 243 P Pn 17 59 14.2 +0.6
85nm,0.9s
NGJI Ngawi 14.62 238 P P 17 59 16.1 +0.4
93nm,1.1s
PWJI Pagerwojo 14.68 235 P P 17 59 15.3 -1.1
98nm,1.0s,1μm
MTN Manton Dam 14.86 152 P Pn 17 59 16.8 +0.2
baz=15,SNR=54
PCJI Pacitan 15.30 236 P P 17 59 24.4 +1.2
223nm,0.8s,3μm
WOJI Wonogiri, Jawa 15.32 238 P P 17 59 24.0 +0.6
72nm,0.8s,3μm
SMRI Semarang 15.35 241 P P 17 59 24.8 +1.0
116nm,1.0s
SMRI Semarang 15.35 241 ePn Pn 17 59 22.6 -0.1
80nm,0.8s
SMRI Semarang 15.35 241 P P 17 59 22.8 +0.1
baz=16,SNR=3.8
KDU Kakadu 15.41 147 P Pn 17 59 23.4 +0.1
baz=16,SNR=42
UGM Wanagama 15.70 238 P P 17 59 27.8 +0.1
baz=16,SNR=3.7
GENI Genyem 16.44 100 P Pn 17 59 39.9 +3.9
91nm,1.8s
KNRA Kununurra 16.56 164 P Pn 17 59 38.1 +0.7
baz=17,SNR=72
TPI Tanjungpandan 16.60 259 P Pn 17 59 38.3 +0.4
42nm,0.7s,430nm
KPJI Karang Pucung 16.81 243 P Pn 17 59 40.4 -0.1
138nm,0.9s
CMJI Cimerak 17.44 242 P Pn 17 59 51.4 +3.4
96nm,1.0s
LEM Lembang 17.79 246 P P 17 59 50.9 0.0
127nm,0.9s,912nm
LEM Lembang 17.79 246 P P 17 59 51.0 +0.2
baz=18,SNR=12
CISI Cisompet, Garu 17.91 244 P P 17 59 51.3 -0.7
87nm,0.8s,1μm
CISI Cisompet, Garu 17.91 244 eP P 17 59 51.0 -1.0
48nm,0.5s
CISI Cisompet, Garu 17.91 244 P P 17 59 51.3 -0.7
baz=18,SNR=4.1
CBJI Citeko 18.35 248 P P 17 59 56.7 -0.1
282nm,0.8s
DBJI Dramaga 18.49 248 P P 17 59 58.4 +0.1
70nm,1.0s
DLV T Lat 19.24 308 eP P 18 00 06.8 +0.1
30nm,0.8s
PMBI Palembang 19.46 260 P Pn 18 00 14.4 +2.6
266nm,1.1s
CGJI Cibinong 19.50 249 P Pn 18 00 10.6 -1.6
44nm,1.1s,730nm
BLSI Bandar Lampung 19.54 253 P Pn 18 00 14.6 +1.9
72nm,0.5s,3μm
MYKOM Kota Tinggi 20.18 274 eP P 18 00 15.5 -1.1
38nm,0.7s
MYKOM Kota Tinggi 20.18 274 ⇓P P 18 00 17.8 +1.2
BTDF Bukit Timah Da 20.23 273 P Pn 18 00 19.0 -1.9
baz=20,SNR=5.7
KASI Kota Agung 20.29 253 P P 18 00 18.7 +0.9
55nm,0.7s
MDSI Maura Dua 20.34 256 P P 18 00 17.4 -0.9
20nm,1.0s
KGM Kluang 20.72 275 ⇑P Pn 18 00 26.0 -0.9
XMI Christmas Isla 21.09 239 P P 18 00 25.0 -1.3
baz=21,SNR=5.4
XMIS Christmas Isla 21.14 239 P P 18 00 25.0 -1.8
baz=21,SNR=6.1
KTGM Kuala Trenggan 21.40 284 ⇑P P 18 00 31.9 +2.3
MNAI Manna 21.51 257 P P 18 00 30.2 -0.6
baz=22,SNR=4.0
MBWA Marble Bar 21.73 191 eP P 18 00 32.5 -0.5
6.5nm,0.7s
MASI Maura Aman, Be 22.00 261 P P 18 00 41.9 +6.0
116nm,0.9s,3μm
WRAB Tennant Creek 22.53 154 eP P 18 00 40.8 -0.1
WRAB pmax pmax
comp=Z,34nm,0.6s
WRAB Tennant Creek 22.53 154 eP P 18 00 40.8 -0.1
comp=Z,34nm,0.6s
WRA Warramunga Arr 22.53 154 P P 18 00 41.0 +0.1
comp=Z,33nm,0.6s,baz=335,slow=9.9,SNR=227
WRA S S 18 04 34.6 -1.4
comp=Z,2.5nm,0.8s,baz=338,slow=15,SNR=5.7
WRA ScP ScP 18 07 52.0 +0.2
comp=Z,0.5nm,0.7s,baz=339,slow=2.8,SNR=4.8
QIZ Qiongzhong 23.21 324 P P 18 00 47.9 +0.7
QIZ S S 18 04 48.1 +1.0
QIZ pmax pmax
comp=Z,9.0nm,1.4s
IPM Ipoh 23.30 281 eP P 18 00 46.0 -2.1
comp=Z,34nm,0.7s
IPM Ipoh 23.30 281 ⇓P P 18 00 50.2 +2.1
PDSI Padang 23.55 267 P P 18 00 50.0 -0.3
comp=Z,43nm,1.1s
UBPT Khong Chiam 23.58 310 P P 18 00 52.6 +2.1
comp=Z,14nm,0.8s
COEN Coen 23.71 127 P P 18 00 53.3 +1.5
baz=24,SNR=6.7
COEN S Sn 18 05 17.9 -16
baz=24,SNR=30
KULM Kulim 23.82 282 eP P 18 00 51.9 -0.8
comp=Z,19nm,0.8s
KULM Kulim 23.82 282 ⇑P P 18 00 54.7 +2.0
MNSI Mandailing Nat 24.40 271 P P 18 01 04.4 +6.3
comp=Z,24nm,0.7s,comp=Z,932nm
GIRL Giralia 24.70 202 P P 18 01 02.0 +1.4
baz=25,SNR=5.5
CHBT CHBT 24.78 301 P P 18 01 04.1 +2.7
comp=Z,24nm,1.3s
PMG Port Moresby 25.01 113 ⇓iP P 18 01 03.8 +0.2
PMG pmax pmax
comp=Z,52nm,1.2s
PMG Port Moresby 25.01 113 eP P 18 01 01.2 -2.4
comp=Z,33nm,0.8s
PMG Port Moresby 25.01 113 P P 18 01 05.5 +1.9
baz=25,SNR=11
PSI Prapat 25.17 276 P P 18 01 04.8 -0.4
comp=Z,8.3nm,0.5s,baz=115,slow=3.8,SNR=14
PSI Prapat 25.17 276 P P 18 01 04.9 -0.3
baz=25,SNR=8.6
WRKA Warakurna 25.53 171 P P 18 01 09.2 +1.0
baz=26,SNR=45
AS31 Alice Springs 25.70 159 eP P 18 01 09.8 +0.1
ASAR Alice Springs 25.70 159 P P 18 01 10.9 +1.2
comp=Z,5.9nm,0.5s,baz=335,slow=8.5,SNR=157
ASAR PcP PcP 18 04 37.2 +1.3
comp=Z,1.5nm,0.3s,baz=351,slow=2.3,SNR=8.5
ASAR S S 18 05 28.0 +1.4
comp=Z,1.2nm,0.9s,baz=338,slow=17,SNR=4.3
ASAR ScP ScP 18 08 01.4 +0.9
comp=Z,2.5nm,0.7s,baz=342,slow=2.7,SNR=17
QIS Mount Isa 25.76 144 P P 18 01 12.0 +1.7
baz=26,SNR=38
KCSI Kotacane, Aceh 26.38 277 P P 18 01 15.8 -0.2
comp=Z,12nm,0.6s
GSI Gunungsitoli 26.42 272 P P 18 01 16.0 -0.3
comp=Z,41nm,0.7s,comp=Z,1μm
GSI Gunungsitoli 26.42 272 eP P 18 01 14.5 -1.8
comp=Z,30nm,0.6s
MTSU Mount Surprise 27.12 134 P P 18 01 24.3 +1.8
baz=27,SNR=5.4
MEEK Meekatharra 27.27 191 P P 18 01 24.1 +0.3
baz=28,SNR=22
PBKT Sadao Pong 27.85 307 P P 18 01 30.3 +1.3
comp=Z,6.0nm,0.7s,comp=Z,612nm
SRDT SRDT 28.28 301 P P 18 01 35.4 +2.6
comp=Z,32nm,0.7s
UTTA Uttaradit 28.83 308 P P 18 01 39.0 +1.3
comp=Z,2.2nm,0.7s
KHLT Khaolaem Dam 28.94 301 P P 18 01 40.9 +2.2
comp=Z,4.6nm,1.1s
SUKH Sukhothai 29.42 307 P P 18 01 44.1 +1.2
comp=Z,7.1nm,0.9s,comp=Z,61nm
LAMP Lampang 29.99 309 P P 18 01 50.3 +2.3
comp=Z,4.7nm,0.7s
MORW Morawa 30.17 194 P P 18 01 49.9 +0.5
baz=31,SNR=6.9
CMAR Chiang Mai Arr 30.50 308 P P 18 01 53.5 +1.0
comp=Z,3.0nm,0.8s,baz=140,slow=7.9,SNR=30
CMAR PcP PcP 18 04 48.8 +0.9
comp=Z,0.6nm,0.6s,baz=182,slow=1.4,SNR=7.0
CMAR ScP ScP 18 08 16.8 +1.3
comp=Z,0.5nm,0.8s,baz=164,slow=2.9,SNR=4.4
CMMT Chiang Mai 30.69 308 P P 18 01 54.7 +0.5
comp=Z,19nm,0.9s
CHTO Chiang Mai 30.70 308 eP P 18 01 53.1 -1.1
CHTO pmax pmax
comp=Z,20nm,1.2s
CHTO Chiang Mai 30.70 308 P P 18 01 54.8 +0.6
comp=Z,66nm,1.0s
CHTO Chiang Mai 30.70 308 eP P 18 01 53.1 -1.1
comp=Z,20nm,1.2s
GYA Guiyang 30.90 329 P P 18 01 57.8 +1.8
GYA pP pP 18 02 37.4 +7.6
GYA sP sP 18 02 58.7 +10
GYA PP PP 18 03 07.0 -2.1
GYA S S 18 06 48.5 +0.1
GYA sS sS 18 07 57.2 +9.2
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.9s
FORT Forrest 31.15 173 P P 18 01 59.1 +1.1
baz=32,SNR=11
CMAI Chiengmai2 31.25 310 P P 18 01 59.9 +0.6
comp=Z,66nm,1.5s
BLDU Ballidu 31.51 192 P P 18 02 01.4 +0.2
baz=32,SNR=34
NJ2 Nanjing 31.95 352 eP P 18 02 04.6 -0.4
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
KLBR Kellerberrin 32.26 190 P P 18 02 08.1 +0.4
baz=33,SNR=7.7
QLP Quilpie 33.09 145 P P 18 02 16.9 +1.9
baz=33,SNR=5.1
BBOO Buckleboo 34.85 162 eP P 18 02 29.0 -1.1
comp=Z,247nm,1.0s
BBOO Buckleboo 34.85 162 P P 18 02 31.5 +1.4
baz=35,SNR=14
RKGY Rocky Gully 35.34 190 P P 18 02 36.2 +1.9
baz=36,SNR=13
RMQ Roma 35.77 140 P P 18 02 39.8 +1.8
baz=36,SNR=6.4
CD2 Chengdu 35.99 330 eP P 18 02 40.6 +0.7
CD2 pP pP 18 03 20.5 +6.2
CD2 sP sP 18 03 42.0 +9.3
CD2 PP PnPn 18 04 10.6 +4.0
CD2 S S 18 08 06.4 -0.4
CD2 PcS PcS 18 08 48.7 -2.2
CD2 sS sS 18 09 16.3 +9.2
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.4s
STKA Stephens Creek 36.09 154 eP P 18 02 41.0 +0.3
STKA pmax pmax
comp=Z,4.0nm,1.0s
STKA Stephens Creek 36.09 154 P P 18 02 42.3 +1.6
comp=Z,10nm,0.7s,baz=331,slow=7.4,SNR=33
STKA ScP ScP 18 08 36.6 +1.9
comp=Z,3.4nm,0.8s,baz=349,slow=5.8,SNR=5.9
STKA Stephens Creek 36.09 154 eP P 18 02 41.0 +0.3
comp=Z,3.6nm,1.0s
STKA ScP ScP 18 08 36.6 +1.9
STKA Stephens Creek 36.09 154 P P 18 02 42.4 +1.7
baz=36,SNR=22
HTT Hallett 36.38 159 P P 18 02 45.2 +2.0
baz=37,SNR=19
XAN Xi'an 36.41 339 P P 18 02 44.0 +0.5
XAN pmax pmax
comp=Z,42nm,10.5s
KSAR Wonju Array Be 37.14 5 P P 18 02 48.9 -0.6
KSAR Wonju Array Be 37.14 5 P P 18 02 48.9 -0.6
KSRS Korea Array 37.15 5 P P 18 02 48.9 -0.7
comp=Z,1.0nm,0.8s,baz=185,slow=8.6,SNR=4.9
CMSA Cobar Meteorol 37.76 149 P P 18 02 57.2 +2.4
baz=38,SNR=40
MJAR Matsushiro Arr 38.40 19 P P 18 03 00.2 +0.1
comp=Z,3.3nm,0.7s,baz=188,slow=9.3,SNR=9.0
BJI Beijing 40.19 351 P P 18 03 16.2 +1.3
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI pmax pmax
comp=Z,36nm,3.0s
LZH Lanzhou 40.22 334 ⇑P P 18 03 18.0 +2.5
LZH pP pP 18 03 59.0 +8.5
LZH sP sP 18 04 20.1 +11
LZH PP PnPn 18 04 58.0 +1.3
LZH S S 18 09 15.2 +4.5
LZH sS sS 18 10 27.1 +15
LZH SS SS 18 12 18.0 +2.3
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,200nm,5.8s
ARMA Armidale 40.31 142 P P 18 03 19.1 +2.9
baz=41,SNR=11
ARPS Mount Arapiles 40.43 158 P P 18 03 18.9 +2.0
baz=41,SNR=13
YNG Young 41.33 149 P P 18 03 27.6 +3.2
baz=42,SNR=6.4
MGCD Mangrove Creek 41.99 145 P P 18 03 33.4 +3.7
baz=42,SNR=12
TOO Toolangi 42.60 155 P P 18 03 37.8 +3.1
baz=43,SNR=5.1
LSA Lhasa 42.81 316 eP P 18 03 36.8 -0.2
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 42.81 316 eP P 18 03 36.8 -0.2
comp=Z,9.4nm,0.6s
ODAN Odare 43.98 310 eP P 18 03 45.5 -0.6
comp=Z,6.5nm,0.5s
TAPN Taplejung 43.99 311 eP P 18 03 45.6 -0.7
comp=Z,6.2nm,0.4s
USRK Ussuriysk Arra 44.29 8 P P 18 03 48.8 +0.8
comp=Z,3.6nm,0.4s,baz=187,slow=6.2,SNR=11
RAMN Ramite 44.63 310 eP P 18 03 51.5 +0.2
comp=Z,16nm,0.5s
JIRN Jiri 45.30 310 eP P 18 03 56.8 0.0
comp=Z,20nm,0.4s
GUN Gumba 45.67 310 eP P 18 03 59.5 -0.1
comp=Z,23nm,0.5s
PKI Pulchoki 45.86 310 eP P 18 04 00.7 -0.4
comp=Z,5.0nm,0.4s
PKIN Phulchoki 45.87 310 eP P 18 04 01.4 +0.3
KKN Kakani 46.07 310 eP P 18 04 02.4 -0.2
comp=Z,8.4nm,0.4s
DMN Daman 46.11 309 eP P 18 04 02.9 -0.1
comp=Z,12nm,0.7s
GKN Gorkha 46.67 310 eP P 18 04 07.2 0.0
comp=Z,9.4nm,0.3s
ASAJ Asahikawa 46.67 18 P P 18 04 07.2 +0.5
comp=Z,7.4nm,0.7s,baz=194,slow=12,SNR=7.0
KOLN Koldanda 47.36 309 eP P 18 04 12.8 +0.2
comp=Z,39nm,0.6s
DANN Dangsing 47.51 309 eP P 18 04 13.5 -0.4
comp=Z,23nm,0.6s
HYB Hyderabad 47.81 293 iP P 18 04 14.0 -2.0
HYB epP pP 18 04 51.0 -1.1
PYUN Piuthan 47.99 309 eP P 18 04 17.5 0.0
comp=Z,95nm,0.4s
ULN Ulaanbaatar 49.61 345 ⇑iP P 18 04 29.2 -0.2
ULN pmax pmax
comp=Z,5.0nm,1.4s
H08S2 Diego Garcia H 51.93 260 P P 18 04 47.4 +0.5
baz=157,slow=76,SNR=3.3
H08S3 Diego Garcia H 51.94 260 P P 18 04 47.5 +0.5
baz=157,slow=76,SNR=3.6
H08S1 Diego Garcia H 51.95 260 P P 18 04 47.5 +0.5
baz=157,slow=76,SNR=3.5
ZAK Zakamensk 52.93 344 eP P 18 04 52.8 -1.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s
H08N1 Diego Garcia H 53.27 262 P P 18 04 57.9 +1.3
baz=102,slow=3.7,SNR=5.7
H08N2 Diego Garcia H 53.28 262 P P 18 04 57.8 +1.1
baz=102,slow=3.7,SNR=7.6
H08N3 Diego Garcia H 53.29 262 P P 18 04 57.6 +0.9
baz=102,slow=3.7,SNR=5.6
WMQ Urumqi 54.05 328 P P 18 05 02.6 +0.3
WMQ pP pP 18 05 45.6 +6.4
WMQ sP sP 18 06 06.6 +10
WMQ PP PP 18 07 08.2 +2.7
WMQ S S 18 12 23.1 -3.0
WMQ sS sS 18 13 38.3 +8.2
WMQ ScS ScS 18 14 28.8 -6.7
WMQ pmax pmax
comp=Z,10.0nm,0.8s
WMQ pmax pmax
comp=Z,280nm,5.8s
WMQ LR LR
comp=Z,160nm,23.2s
WMQ LR LR
comp=Z,160nm,20.8s
WMQ LR LR
comp=Z,100nm,18.2s
MOY Mondy 54.73 343 eP P 18 05 06.6 -0.5
KSH Kashi 58.61 318 eP P 18 05 36.3 +1.6
KSH esP sP 18 06 41.3 +12
KSH ePP PP 18 07 50.7 +4.4
KSH PcS PcS 18 10 19.0 -6.1
KSH S S 18 13 22.8 -3.7
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,26nm,3.7s
KSH LR LR
comp=Z,140nm,5.6s
KSH LR LR
comp=Z,96nm,5.4s
KSH LR LR
comp=Z,240nm,5.9s
MK31 Makanchi Array 58.88 328 eP P 18 05 35.2 -1.1
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 58.88 328 eP P 18 05 34.8 -1.5
MKAR Makanchi Array 58.88 328 P P 18 05 35.8 -0.5
comp=Z,5.2nm,0.6s,baz=120,slow=8.1,SNR=48
MKAR PcP PcP 18 06 23.6 -0.3
comp=Z,3.1nm,0.6s,baz=136,slow=4.1,SNR=8.3
MKAR ScP ScP 18 10 07.4 -2.0
comp=Z,1.1nm,0.7s,baz=123,slow=5.0,SNR=6.7
PETK Petropavlovsk- 59.63 23 P P 18 05 41.6 +0.3
comp=Z,2.3nm,0.7s,baz=187,slow=9.0,SNR=3.7
PETK pP pP 18 06 18.9 0.0
comp=Z,5.3nm,0.9s,baz=192,slow=5.8,SNR=4.0
RPZ Rata Peaks 60.64 142 eP P 18 05 44.9 -3.5
comp=Z,27nm,1.1s
AAK Ala-Archa 61.12 320 ⇑eP P 18 05 50.8 -1.1
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 61.12 320 eP P 18 05 50.3 -1.6
comp=Z,21nm,1.8s
YAK Yakutsk 61.73 3 eP P 18 05 54.2 -1.1
YAK pmax pmax
comp=Z,32nm,0.7s
YAK Yakutsk 61.73 3 eP P 18 05 54.1 -1.1
comp=Z,32nm,0.7s
ZAA0 Zalesovo Array 62.45 335 eP P 18 05 57.5 -2.8
ZALV Zalesovo Beam 62.45 335 P P 18 05 58.7 -1.6
comp=Z,1.5nm,0.4s,baz=125,slow=7.0,SNR=12
KURK Kurchatov 63.21 330 eP P 18 06 04.5 -0.8
KURK pmax pmax
comp=Z,10.0nm,0.5s
KURK Kurchatov 63.21 330 eP P 18 06 04.5 -0.8
comp=Z,10nm,0.5s
NVS Novosibirsk 63.74 335 eP P 18 06 04.8 -3.9
NVS pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 63.93 319 iP P 18 06 09.4 -0.9
KKAR Karatay Array 63.93 319 eP P 18 06 09.7 -0.6
KKAR Karatay Array 63.93 319 eP P 18 06 09.7 -0.6
VOSK Vostochnaya 68.28 328 eP P 18 06 35.9 -1.9
VOSK pmax pmax
comp=Z,6.0nm,0.8s
VOSK Vostochnaya 68.28 328 eP P 18 06 35.9 -1.9
comp=Z,6.1nm,0.8s
BVA0 Borovoye Array 68.74 329 iP P 18 06 39.8 -0.8
BVA0 pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 68.81 329 ⇑eP P 18 06 39.1 -1.9
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 68.81 329 eP P 18 06 39.2 -1.9
comp=Z,4.7nm,0.7s
TIXI Tiksi 71.31 2 eP P 18 06 55.4 -0.5
TIXI pmax pmax
comp=Z,9.0nm,0.9s
AB31 Akbulak array 73.10 322 iP P 18 07 05.7 -1.3
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 73.10 322 eP P 18 07 05.4 -1.5
BILL Bilibino 73.56 15 eP P 18 07 10.9 +1.6
BILL pmax pmax
comp=Z,2.0nm,1.3s
AKTO Aktyubinsk 74.67 323 P P 18 07 14.9 -1.2
AKTO pmax pmax
comp=Z,7.0nm,0.9s
SVE Sverdlovsk 75.47 330 eP P 18 07 19.8 -0.7
SVE pmax pmax
comp=Z,18nm,1.0s
ARU Arti 76.39 329 d iP P 18 07 24.3 -1.4
ARU 18 10 15.0
ARU S S 18 16 55.2 -2.3
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 76.39 329 eP P 18 07 23.6 -2.1
OPO Ambohidratompo 77.58 251 P P 18 07 32.8 -0.6
comp=Z,11nm,0.7s,baz=64,slow=5.8,SNR=12
RAYN Ar Rayn 79.31 294 eP P 18 07 41.0 -1.7
comp=Z,7.2nm,0.6s
ZEI Tsey 82.51 313 eP P 18 07 57.6 -1.9
ZEI pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 83.34 314 P P 18 08 02.1 -1.2
comp=Z,2.9nm,0.9s,baz=91,slow=2.7,SNR=4.5
PRGR Permogore 84.21 332 eP P 18 08 04.1 -3.3
KMBO Kilima Mbogo 86.73 269 P P 18 08 21.9 +0.6
comp=Z,3.3nm,0.7s,baz=72,slow=7.7,SNR=16
SYO Syowa Base 88.26 201 ⇓eP P 18 08 26.0 -1.0
OBN Obninsk 88.27 325 eP P 18 08 26.4 -0.9
OBN pmax pmax
comp=Z,7.0nm,1.4s
BRTR Keskin Array B 90.07 310 P P 18 08 35.1 -1.3
comp=Z,1.3nm,0.7s,baz=135,slow=3.3,SNR=8.2
ARCES ARCESS Array B 92.69 340 P P 18 08 45.9 -1.8
comp=Z,7.0nm,0.9s,baz=101,slow=4.7,SNR=9.3
AKASG Malin Array Be 92.79 321 P P 18 08 46.6 -1.9
comp=Z,0.5nm,0.5s,baz=70,slow=4.8,SNR=5.4
FINES FINESS Array B 93.53 332 P P 18 08 49.4 -2.2
comp=Z,1.6nm,0.7s,baz=66,slow=4.6,SNR=6.2
TORD Torodi Ar. Bea 121.27 286 PKP PKPdf 18 14 28.4 -0.9
comp=Z,1.5nm,0.7s,baz=66,slow=1.6,SNR=9.1
SCHQ Schefferville 124.34 8 PKP PKPdf 18 14 34.5 +0.4
comp=Z,2.7nm,0.8s,baz=85,slow=3.6,SNR=3.6

IDC 07 18:01:08.6±36.0, 23°.56S×68°.12E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/37, mbtmp3.3/3, MS3.3/1, Ms1 3.2/1, ms1mx3.0/10, Error ellipse: s-maj=884.6km s-min=51.5km az=75.0, Mid-Indian Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H08S1 Diego Garcia H 16.37 15 T T 18 21 08.7
baz=192,slow=76,SNR=7.7
H08S2 Diego Garcia H 16.38 16 T T 18 21 09.3
baz=192,slow=76,SNR=8.2
H08S3 Diego Garcia H 16.39 16 T T 18 21 04.9
baz=192,slow=76,SNR=7.2
BOSA Boshof 38.67 253 LR LR 18 21 06.9
comp=Z,44nm,19.6s,baz=344,slow=31
CMAR Chiang Mai Arr 51.48 38 P P 18 10 15.9 -0.2
0.1nm,0.3s,baz=220,slow=8.3,SNR=3.8
ASAR Alice Springs 59.75 105 P P 18 11 16.1 +0.4
0.3nm,0.6s,baz=250,slow=6.3,SNR=8.0
WRA Warramunga Arr 61.13 101 P P 18 11 24.8 -0.4
0.4nm,0.9s,baz=253,slow=7.3,SNR=2.8

IDC 07 18:15:33.7±1.4, 7°.38N×82°.27W, h0km, mb3.4/5, mb1 3.8/6, mb1mx3.6/26, mbtmp3.5/6, ML4.6/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/20, Error ellipse: s-maj=120.2km s-min=24.7km az=58.0, South of Panama

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JTS JuntasAbangare 3.92 318 Pn Pn 18 16 33.8 -1.4
46nm,0.3s,baz=80,slow=8.6,SNR=146
JTS Sn Sn 18 17 19.0 -3.1
66nm,0.3s,baz=318,slow=24,SNR=21
APG El Apazote 11.04 314 Pn Pn 18 18 07.4 -5.9
0.6nm,0.3s,baz=123,slow=8.2,SNR=12
TEIG Tepich 14.03 336 LR LR 18 24 54.2
comp=Z,123nm,18.4s,baz=335,slow=40
ATAH Atahualpa 14.93 165 LR LR 18 23 56.0

	comp=Z,122nm,19.8s,baz=344,slow=34						
SJG	San Juan	18.98	54	LR	LR	18 27 19.8	
	comp=Z,258nm,19.6s,baz=88,slow=37						
PTGA	Pitinga	23.66	109	LR	LR	18 30 24.4	
	comp=Z,58nm,19.3s,baz=36,slow=38						
LPAZ	La Paz	27.37	149	P	P	18 21 21.4	-0.2
	0.9nm,0.7s,baz=299,slow=7.7,SNR=3.9						
TXAR	Lajitas Array	29.71	320	P	P	18 21 42.3	+0.6
	0.3nm,0.7s,baz=148,slow=7.4,SNR=3.7						
PDAR	Pinedale Array	42.66	330	P	P	18 23 33.2	+0.8
	0.3nm,1.0s,baz=131,slow=5.1,SNR=2.6						
YKA	Yellowknife Ar	59.86	343	P	P	18 25 41.2	+0.4
	0.3nm,0.7s,baz=139,slow=6.8,SNR=7.3						
ILAR	Eielson Array	72.69	336	P	P	18 27 01.9	-1.2
	0.4nm,1.1s,baz=81,slow=5.6,SNR=3.2						
WRA	Warramunga Arr	142.40	247	PKhKP	PKPpre	18 35 01.4	
	0.7nm,1.1s,baz=82,slow=1.5,SNR=2.9						
WRA				PKP	PKPdf	18 35 10.3	+0.9
	0.3nm,0.7s,baz=98,slow=2.2,SNR=4.4						

IDC **07** *18:40:04.5±1.2, 28.44N×51.59E, h0km, mb3.5/10, mb1 3.6/11, mb1mx3.5/40, mbtmp3.5/11, ML3.3/1, Error ellipse: s-maj=27.7km s-min=22.8km az=2.0*
CSEM **07** *18:40:06.1, 28.64N×51.46E, h14km, ML3.5, After THR*
THR **07** *18:40:06.1±0.3, 28.64N×51.46E, h14km±10km, ML3.5*
ISCJB **07** *18:40:07.1±0.7, 28.63N±0.07×51.45E±0.07, h24km, mb3.5/11, Error ellipse: s-maj=11.1km s-min=7.1km az=34.6*
ISC 07 18:40:08.5±0.9, 28.57N±0.09×51.50E±0.07, h24km, n23, σ0.82/26, mb3.4/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.34	102	ePg	Pn	18 40 31.7	-0.2
GHIR				eSg	Sb	18 40 50.6	+0.7
	1μm,0.5s						
GHIR	Ghir-Karzin	1.34	102	ePg	Pn	18 40 31.7	-0.2
GHIR				eSg	Sb	18 40 50.6	+0.7
GHIR				AML	AML	18 40 54.3	
	comp=N,1μm,0.4s						
GHIR				AML	AML	18 40 54.9	
	comp=E,1μm,0.5s						
NASN	Na'in	4.37	15	ePn	Pn	18 41 13.5	-0.1
NASN	Na'in	4.37	15	ePn	Pn	18 41 13.5	-0.1
NASN				Sn	Sn	18 42 02.8	-1.1
KRBR	Kerman	4.81	72	ePn	Pn	18 41 20.6	+0.9
	comp=E,19nm,0.6s						
KRBR	Kerman	4.81	72	ePn	Pn	18 41 20.6	+0.9
KRBR				AML	AML	18 42 19.9	
	comp=N,23nm,0.5s						
KRBR				AML	AML	18 42 44.8	
	comp=E,19nm,0.6s						
ASAO	Ashtian	6.09	348	ePn	Pn	18 41 37.3	0.0
ASAO	Ashtian	6.09	348	ePn	Pn	18 41 37.3	0.0
SNGE	Sanandaj	7.40	333	ePn	Pn	18 41 55.2	0.0
SNGE	Sanandaj	7.40	333	ePn	Pn	18 41 55.2	0.0
BRTR	Keskin Array B	18.46	312	P	Pn	18 44 23.4	+4.0
	comp=E,0.1nm,0.3s,baz=130,slow=13,SNR=4.8						
AKTO	Aktyubinsk	22.39	11	P	P	18 45 06.8	+1.8
	comp=E,0.5nm,0.4s,baz=202,slow=19,SNR=2.8						
BVAR	Borovoye Array	28.14	25	P	P	18 45 58.4	-0.2
	comp=E,0.6nm,0.7s,baz=220,slow=6.7,SNR=4.4						
KURBB	Kurchatov Arra	30.03	35	P	P	18 46 15.2	-0.2
	comp=E,0.1nm,0.3s,baz=237,slow=9.4,SNR=3.0						
MKAR	Makanchi Array	30.14	44	P	P	18 46 17.7	+1.2
	comp=E,0.4nm,0.8s,baz=234,slow=4.1,SNR=3.0						
ZALV	Zalesovo Beam	35.10	34	P	P	18 46 58.9	-0.8
	comp=E,0.4nm,0.4s,baz=258,slow=4.3,SNR=3.3						
JOF	Joensuu	36.79	345	ep	P	18 47 13.7	-0.3
	comp=E,0.3nm,0.3s						
FINES	FINESS Array B	36.97	340	P	P	18 47 15.4	-0.1
	comp=E,0.9nm,0.5s,baz=150,slow=10,SNR=13						
KAF	Kangasniemi	37.43	341	ep	P	18 47 18.6	-0.9
CMAR	Chiang Mai Arr	44.41	92	P	P	18 48 16.8	-0.8
	comp=E,0.2nm,0.5s,baz=295,slow=8.6,SNR=2.9						
TORD	Torodi Ar. Bea	48.66	262	P	P	18 48 51.9	+0.9
	comp=E,0.5nm,0.6s,baz=57,slow=7.9,SNR=4.3						
YKA	Yellowknife Ar	88.57	354	P	P	18 52 59.7	+0.7
	comp=E,0.1nm,0.5s,baz=12,slow=5.5,SNR=4.2						
ASAR	Alice Springs	94.78	114	P	P	18 53 26.7	-1.8
	comp=E,0.2nm,0.5s,baz=313,slow=4.4,SNR=4.7						

ISCJB **07** *18:45:30.7±0.9, 5.4S±0.1×152.0E±0.2, h45km, mb3.7/9, MS3.4/3, Error ellipse: s-maj=30.7km s-min=9.8km az=36.5*
IDC **07** *18:45:34.0±5.5, 5.41S×152.02E, h61km±47km, mb3.5/9, mb1 3.7/10, mb1mx3.5/30, mbtmp3.8/10, ML2.9/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/20, Error ellipse: s-maj=39.4km s-min=26.0km az=106.0*
ISC 07 18:45:32.2±1.1, 5.4S±0.2×152.1E±0.2, h45km, n15, σ1.10/13, mb3.7/9, MS3.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.34	230	P	Pn	18 47 04.7	+1.5
	1.7nm,0.3s,baz=40,slow=17,SNR=10						
PMG				S	Sn	18 48 14.1	-0.3
	3.7nm,0.3s,baz=197,slow=14,SNR=5.5						
HNR	Honiara	8.76	118	LR	LR	18 50 43.2	
	comp=Z,166nm,20.6s,baz=293,slow=35						
DZM	Mont Dzumac	21.64	141	LR	LR	18 57 57.8	
	comp=Z,123nm,19.0s,baz=130,slow=34						
WRA	Warramunga Arr	22.56	228	P	P	18 50 26.9	-1.9
	1.8nm,0.6s,baz=53,slow=9.9,SNR=28						
ASAR	Alice Springs	25.27	222	P	P	18 50 54.5	0.0
	1.0nm,0.5s,baz=57,slow=9.1,SNR=42						
STKA	Stephens Creek	28.16	199	P	P	18 51 20.1	-0.3
	0.5nm,0.5s,baz=48,slow=12,SNR=2.8						
STKA				LR	LR	19 02 59.6	
	comp=Z,94nm,18.2s,baz=22,slow=37						
MJAR	Matsushiro Arr	43.67	344	LR	LR	19 10 30.6	
	comp=Z,41nm,20.7s,baz=15,slow=34						
CMAR	Chiang Mai Arr	57.50	296	P	P	18 55 18.4	+1.1
	0.3nm,0.5s,baz=114,slow=5.8,SNR=5.8						
SONM	Songino Array	66.44	328	P	P	18 56 16.6	-0.4
	1.0nm,1.0s,baz=157,slow=6.4,SNR=3.4						
MKAR	Makanchi Array	80.30	319	P	P	18 57 37.6	-1.0
	0.8nm,0.9s,baz=101,slow=6.3,SNR=6.1						
ILAR	Eielson Array	82.94	22	P	P	18 57 51.9	-0.2
	2.1nm,0.8s,baz=244,slow=5.3,SNR=27						
KURBB	Kurchatov Arra	83.82	322	P	P	18 57 56.1	-0.8
	0.4nm,0.9s,baz=103,slow=3.9,SNR=4.5						
YKA	Yellowknife Ar	96.24	28	P	P	18 58 56.8	+1.4
	0.3nm,0.8s,baz=272,slow=4.8,SNR=6.8						
MDT	Midelt	145.11	324	PKPbc	PKPab	19 05 05.0	-0.1
	1.6nm,0.8s,baz=82,slow=2.1,SNR=3.9						
TORD	Torodi Ar. Bea	149.82	287	PKPbc	PKPbc	19 05 17.4	-1.1
	2.0nm,1.0s,baz=76,slow=1.8,SNR=8.4						

NNC 07 19:07:10.4±6.8, 36.87N×70.25E, h0km, mb3.7, mpv3.5, 4C-3D, Error ellipse: s-maj=59.5km s-min=55.4km az=97.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.23	2	⇑Pn	Pn	19 08 46.1	+2.5
	0.7nm,0.2s,baz=176,slow=9.8,SNR=84						
KK31				⇑Sn	Sn	19 09 56.7	+1.2
	0.9nm,0.5s,baz=185,slow=24,SNR=2.5						
AAK	Ala-Archa	6.62	28	⇓Pn	Pn	19 08 50.6	+1.4
	2.4nm,0.8s						
AAK				⇑Sn	Sn	19 10 05.9	+0.4
	4.5nm,0.6s						
TKM2	Tokmak 2	7.31	33	⇓Pn	Pn	19 08 58.7	+0.1
	2.6nm,0.5s						
MK09	Makanchi Array	13.34	38	⇑Pn	Pn	19 10 17.0	-4.0
	1.1nm,0.9s						
AB31	Akbulak array	14.47	332	⇓Pn	Pn	19 10 31.7	-4.7
	0.3nm,0.5s						

ISCJB **07** *19:10:19.5±0.5, 21.25S±0.03×68.79W±0.08, h125km±6km, mb3.7/4, Error ellipse: s-maj=12.1km s-min=4.9km az=172.1*
NEIC **07** *19:10:20.8, 21.26S×68.98W, h122km, mb4.1/2, After GUC.*
GUC **07** *19:10:20.9±0.4, 21.26S×68.98W, h122km±2km, ML4.4*
IDC **07** *19:10:23.2±1.0, 21.05S×68.45W, h125km±7km, mb3.7/5, mb1 3.8/8, mb1mx3.4/33, mbtmp4.1/8, MS2.8/1, Ms1 2.9/1, ms1mx2.3/26, Error ellipse: s-maj=20.5km s-min=15.4km az=96.0*
ISC 07 19:10:21.1±0.6, 21.25S±0.03×68.86W±0.07, h122km±5km, n39, σ1.12/60, mb4.0/4, 15C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	Plate Boundary	0.62	289	⇑iP	Pn	19 10 39.9	-0.3
PB01				iS	Sn	19 10 53.7	-0.8
PB01				AML	AML	19 10 54.7	
	comp=N,17μm,0.3s						
PB01	Plate Boundary	0.62	289	⇑iP	Pn	19 10 39.9	-0.3
PB01				iS	Sn	19 10 53.7	-0.8
PB09	Plate Boundary	0.65	213	⇑iP	Pn	19 10 40.3	-0.2
PB09				iS	Sn	19 10 54.8	-0.4
PB09				AML	AML	19 10 57.3	
	comp=E,15μm,0.3s						
PB09	Plate Boundary	0.65	213	⇑iP	Pn	19 10 40.3	-0.2
PB09				iS	Sn	19 10 54.8	-0.4
PB07	Plate Boundary	1.07	243	⇑iP	Pn	19 10 43.8	-0.3
PB07				iS	Sn	19 11 00.8	-0.8
PB07				AML	AML	19 11 01.9	
	comp=E,9μm,0.3s						
PB07	Plate Boundary	1.07	243	⇑iP	Pn	19 10 43.8	-0.3
PB07				iS	Sn	19 11 00.8	-0.8
PB04	Plate Boundary	1.17	210	⇑iP	Pn	19 10 49.6	+4.7
PB04				iS	Sn	19 11 11.5	+8.3
PB04	Plate Boundary	1.17	210	⇑iP	Pn	19 10 49.6	+4.7
PB04				iS	Sn	19 11 11.5	+8.3
MACH	Maria Elena	1.26	221	iP	Pn	19 10 45.7	-0.5
MACH				iS	Sn	19 11 04.5	-0.9
MACH	Maria Elena	1.26	221	iP	Pn	19 10 45.7	-0.5
MACH				iS	Sn	19 11 04.5	-0.9
PATCX	Punta Patache	1.28	289	⇑iP	Pn	19 10 46.3	0.0
PATCX				iS	Sn	19 11 05.2	-0.3
PATCX				AML	AML	19 11 07.7	
	comp=E,6μm,0.6s						
LVC	Limon Verde	1.36	182	ePn	Pn	19 10 47.1	-0.3
LVC				eSn	Sn	19 11 06.6	-0.7
HMBC	Humberstone	1.36	315	⇑iP	Pn	19 10 46.9	-0.4
HMBC				iS	Sn	19 11 06.5	-0.6
HMBC	Humberstone	1.36	315	⇑iP	Pn	19 10 46.9	-0.4
HMBC				iS	Sn	19 11 06.5	-0.6
PB06	Plate Boundary	1.59	204	⇑iP	Pn	19 10 49.7	-0.2
PB06				iS	Sn	19 11 11.7	-0.2
PB06	Plate Boundary	1.59	204	⇑iP	Pn	19 10 49.7	-0.2
PB06				iS	Sn	19 11 11.7	-0.2
PB11	Plate Boundary	1.66	333	eP	Pn	19 10 50.6	-0.1
PB11				iS	Sn	19 11 13.4	+0.2
PB11	Plate Boundary	1.66	333	eP	Pn	19 10 50.6	-0.1
PB11				iS	Sn	19 11 13.4	+0.2
PSGC	Pisagua	2.02	324	⇑iP	Pn	19 10 54.3	-0.9
PSGC				iS	Sn	19 11 20.3	-0.8
PSGC	Pisagua	2.02	324	⇑iP	Pn	19 10 54.3	-0.9
PSGC				iS	Sn	19 11 20.3	-0.8
MNMC	Minimini	2.22	342	eP	Pn	19 10 57.9	+0.2
MNMC				iS	Sn	19 11 26.5	+0.8
MNMC				AML	AML	19 11 29.1	
	comp=E,3μm,0.3s						
MNMC	Minimini	2.22	342	eP	Pn	19 10 57.9	+0.2
MNMC				iS	Sn	19 11 26.5	+0.8
ANCH	Antofagasta	2.81	210	AML	AML	19 11 35.4	
	comp=E,1μm,0.1s						
LPAZ	La Paz	4.98	8	P	Pn	19 11 34.9	+0.4
	comp=E,1.5nm,0.3s,baz=308,slow=13,SNR=26						
LPAZ				S	Sn	19 12 29.2	-2.2
	comp=E,0.7nm,0.3s,baz=174,slow=7.0,SNR=4.1						
LPAZ				LR	LR	19 13 54.7	
	comp=E,91nm,18.6s,baz=62,slow=44						
LPAZ	La Paz	4.98	8	ePn	Pn	19 11 36.2	+1.7
	comp=E,12nm,0.6s						
LPAZ				eSn	Sn	19 12 30.4	-1.0
ARE	Arequipa	5.37	332	eP	Pn	19 11 37.0	-2.4
ARE				eS	Sn	19 12 39.0	-1.4
LCO	Las Campanas	7.91	192	Pn	Pn	19 12 04.9	-8.7
SIV	San Ignacio	9.05	56	P	Pn	19 12 25.5	-3.3
	comp=E,5.6nm,0.3s,baz=258,slow=12,SNR=64						
SIV				S	Sn	19 13 59.3	-10
	baz=315,slow=18,SNR=4.4						
CFAA	Coronel Fontan	10.33	177	P	Pn	19 12 43.0	-3.0
	comp=E,0.1nm,0.3s,baz=356,slow=13,SNR=7.1						
CFAA				S	Sn	19 14 31.7	-8.2
	comp=E,0.1nm,0.3s,baz=261,slow=22,SNR=9.2						
PLCA	Paso Flores	19.48	184	P	Pn	19 14 43.8	+2.8
	comp=E,0.2nm,0.3s,baz=22,slow=9.5,SNR=3.9						
BDFB	Brasilia	20.54	78	P	P	19 14 47.8	-2.4
	comp=E,6.6nm,0.4s,baz=237,slow=8.9,SNR=8.0						
PTGA	Pitinga	22.16	24	P	P	19 15 05.8	-1.6
	comp=E,2.8nm,0.4s,baz=211,slow=23,SNR=13						
PTGA	Pitinga	22.16	24	eP	P	19 15 05.3	-2.0
	comp=E,3.2nm,0.6s						
PDAR	Pinedale Array	73.92	330	P	P	19 21 44.4	+1.3
	comp=E,0.1nm,0.3s,baz=123,slow=9.8,SNR=2.9						
TORD	Torodi Ar. Bea	77.23	70	P	P	19 22 01.4	-0.8
	comp=E,1.3nm,0.5s,baz=256,slow=5.2,SNR=35						
TORD				pP	pP	19 22 31.9	-1.1
	comp=E,0.5nm,0.7s,baz=239,slow=6.3,SNR=1.3						
TORD				sP	sP	19 22 47.3	+1.3
	comp=E,1.0nm,0.8s,baz=258,slow=5.0,SNR=2.8						
YKA	Yellowknife Ar	90.97	341	P	P	19 23 11.7	+0.9
	comp=E,0.6nm,0.6s,baz=134,slow=4.6,SNR=18						
YKA				pP	pP	19 23 44.0	+1.7
	comp=E,0.6nm,0.9s,baz=134,slow=4.3,SNR=4.6						
WRA	Warramunga Arr	133.19	211	PKP	PKPdf	19 29 25.0	+1.6
	comp=E,0.1nm,0.5s,baz=161,slow=1.5,SNR=4.2						
ZALV	Zalesovo Beam	141.71	25	PKP	PKPdf	19 29 38.0	+0.2
	comp=E,0.4nm,0.5s,baz=356,slow=4.3,SNR=2.9						
MKAR	Makanchi Array	145.40	36	PKPbc	PKPab	19 29 45.8	+0.6
	comp=E,1.2nm,0.8s,baz=329,slow=3.6,SNR=14						

IDC **07** *19:22:49.5±1.2, 34.80N×137.76E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/32, mbtmp3.4/3, Error ellipse: s-maj=37.9km s-min=19.4km az=92.0*
ISCJB **07** *19:22:54.7±0.6, 35.65N±0.06×139.62E±0.08, h116km±4km, mb3.4/3, Error ellipse: s-maj=12.3km s-min=7.0km az=144.3*
JMA **07** *19:22:55.9±0.1, 35.68N×139.65E, h106km±1km, M3.0*
ISC 07 19:22:55.9±1.0, 35.65N±0.06×139.61E±0.07, h110km±7km, n17, σ0.78/25, mb3.5/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	Tokyo	0.13	75	P	Pn	19 23 11.3	+0.2
TOK				S	Sn	19 23 23.1	+0.7
JHU	Hanno	0.33	307	P	Pn	19 23 11.8	0.0
JHU				S	Sn	19 23 23.4	-0.3
JOD2	Odawara 2	0.57	228	P	Pn	19 23 12.9	-0.4
JOD2				S	Sn	19 23 25.6	-0.8
JRY	Ryogami san	0.68	303	P	Pn	19 23 14.3	+0.2
JAG	Ashikaga	0.78	351	P	Pn	19 23 14.5	-0.5
JYN	Shimob	0.88	260	P	Pn	19 23 15.9	-0.1
JYN				S	Sn	19 23 31.2	+0.1
JIM2	Oshima 3	0.94	189	P	Pn	19 23 16.1	-0.5
JIZS	Izushimoda	1.11	213	P	Pn	19 23 18.3	0.0
BSO3	Boso 3	1.13	139	P	Pn	19 23 18.3	+0.1
BSO3				S	Sn	19 23 35.7	+0.7
JKT	Katashina	1.15	345	P	Pn	19 23 18.4	-0.4
JKT				S	Sn	19 23 35.0	-1.1
MJAR	Matsushiro Arr	1.44	308	Pn	Pn	19 23 21.1	-0.9
	2.8nm,0.3s,baz=196,slow=18,SNR=40						
MJAR				Sn	Sn	19 23 44.6	+2.8
	5.6nm,0.3s,baz=129,slow=20,SNR=9.7						
MAT	Matsushiro	1.44	308	P	Pn	19 23 22.1	+0.1
MAT				S	Sn	19 23 41.8	0.0
MAT	Matsushiro	1.44	308	P	Pn	19 23 22.3	+0.3
BSO1	Boso 1	1.50	131	P	Pn	19 23 22.2	0.0
MKAR	Makanchi Array	43.63	303	P	P	19 30 49.7	+0.3
	0.7nm,0.6s,baz=83,slow=10.0,SNR=7.2						
WRA	Warramunga Arr	55.52	186	P	P	19 32 19.4	-0.2
	0.2nm,0.3s,baz=0.8,slow=7.6,SNR=7.3						
ASAR	Alice Springs	59.24	186	P	P	19 32 45.4	-0.4
	0.2nm,0.8s,baz=358,slow=6.1,SNR=3.6						

IDC **07** *19:49:19.0±0.9, 52.96N×168.33W, h0km, mb3.8/19, mb1 4.0/21, mb1mx3.8/48, mbtmp3.8/21, ML3.4/2, Error ellipse: s-maj=24.1km s-min=13.0km az=169.0*
NEIC **07** *19:49:23.7, 52.71N×168.02W, h32km, ML3.8(AEIC), After AEIC.*
ISCJB **07** *19:49:24.3±0.7, 52.84N±0.09×168.24W±0.07, h56km±4km, mb3.8/18, Error ellipse: s-maj=15.2km s-min=5.6km az=159.4*
ISC 07 19:49:25.2±1.3, 52.78N±0.1×168.25W±0.06, h48km±9km, n49, σ1.18/49, mb3.8/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.39	291	P	Pn	19 49 34.8	-0.2
NIKH				S	Sn	19 49 42.4	+0.4
OKSP	Okmok Steeple	0.42	356	P	Pn	19 49 35.7	+0.4
OKFG	Magazine Ridge	0.61	19	P	Pn	19 49 37.4	-0.2
OKFG				S	Sn	19 49 47.3	+0.7
MSOM	Makushin Julie	1.25	38	P	Pn	19 49 45.2	-1.0
MCIR	Makushin Cirqu	1.38	35	P	Pn	19 49 47.9	-0.2
MSW	Makushin Switc	1.39	38	P	Pn	19 49 47.5	-0.6
UNV	Unalaska Valle	1.46	45	P	Pn	19 49 48.3	-0.7
UNV				S	Sn	19 50 07.4	+0.5
MTBL	Makushin Table	1.47	39	P	Pn	19 49 48.9	-0.4
AKRB	Akutan Reef Bi	1.84	44	P	Pn	19 49 54.9	+0.7
AKRB				S	Sn	19 50 18.2	+2.0
ZRO	Akutan Zero	1.85	46	P	Pn	19 49 53.8	-0.6
AKGG	Akutan Green G	1.92	44	P	Pn	19 49 56.1	+0.8
AKGG				S	Sn	19 50 21.1	+2.9
AKUT	Akutan	1.97	48	P	Pn	19 49 55.6	-0.4
AKSA	Akutan Strait	2.00	48	P	Pn	19 49 55.2	-1.3
WESN	West Dahl Nort	2.78	50	P	Pn	19 50 06.7	-0.5
SSLN	Shishaldin Nor	3.20	50	P	Pn	19 50 13.9	+1.0
FALS	False Pass	3.50	53	P	Pn	19 50 17.5	+0.4
DRIA	Deer Island	4.13	57	P	Pn	19 50 26.0	+0.4
SPIA	Saint Paul Isl	4.50	346	P	Pn	19 50 32.6	+1.9
GSCK	Great Sitkin C	4.92	263	P	Pn	19 50 37.4	+1.0
SDPT	Sand Point	5.22	58	P	Pn	19 50 40.7	+0.2
ADK	Adak	5.26	263	P	Pn	19 50 43.3	+2.2
GAMB	Gambell	11.12	352	ePn	Pn	19 52 02.8	+1.6
	4.7nm,0.6s						
FX1	Attu Island--F	11.24	278	Pn	Pn	19 52 00.7	-2.2
	0.9nm,0.3s,baz=45,slow=20,SNR=1.9						
ILAR	Eielson Array	16.18	34	Pn	Pn	19 53 06.0	-2.9
	0.0nm,0.3s,baz=213,slow=8.2,SNR=5.7						
PETK	Petropavlovsk-	20.40	284	P	P	19 53 58.1	+0.3
	1.5nm,0.7s,baz=94,slow=12,SNR=3.0						
INK	Inuvik	22.58	33	P	P	19 54 18.8	-2.3
	2.3nm,0.8s,baz=241,slow=12,SNR=11						
SEY	Seymchan	22.86	312	P	P	19 54 23.6	-0.5
	1.3nm,0.7s,baz=61,slow=20,SNR=7.5						
YKA	Yellowknife Ar	29.42	50	P	P	19 55 24.4	+0.7
	0.4nm,0.6s,baz=273,slow=7.8,SNR=9.2						
YKA				PcP	PcP	19 58 29.3	+1.1
	0.4nm,0.7s,baz=283,slow=2.3,SNR=8.6						
NEW	Newport	32.23	77	P	P	19 55 48.9	+0.2
	0.6nm,0.5s,baz=331,slow=10,SNR=3.1						
H11N2	WAKE ISLAND Hy	38.25	220	T	T	20 37 33.8	
	baz=26,slow=76,SNR=59						
H11N3	WAKE ISLAND Hy	38.26	220	T	T	20 37 38.0	
	baz=26,slow=76,SNR=79						
H11N1	WAKE ISLAND Hy	38.27	220	T	T	20 37 38.9	
	baz=26,slow=76,SNR=54						
H11S1	WAKE ISLAND Hy	39.44	219	T	T	20 38 37.2	
	baz=24,slow=77,SNR=106						
H11S2	WAKE ISLAND Hy	39.45	219	T	T	20 39 01.2	
	baz=24,slow=77,SNR=88						
H11S3	WAKE ISLAND Hy	39.45	219	T	T	20 38 38.4	
	baz=24,slow=77,SNR=50						
TXAR	Lajitas Array	52.06	90	P	P	19 58 31.1	+1.0
	0.3nm,0.6s,baz=304,slow=5.1,SNR=4.8						
ZALV	Zalesovo Beam	57.54	318	P	P	19 59 08.3	-0.9
	0.8nm,0.7s,baz=18,slow=6.7,SNR=2.9						
BVAR	Borovoye Array	63.72	325	P	P	19 59 51.9	+0.5
	1.8nm,0.6s,baz=57,slow=7.0,SNR=13						
MKAR	Makanchi Array	63.98	314	P	P	19 59 52.3	-0.9
	0.5nm,0.7s,baz=38,slow=7.3,SNR=2.1						
FINES	FINESS Array B	65.50	352	P	P	20 00 01.6	-1.2
	0.9nm,0.6s,baz=41,slow=4.4,SNR=9.2						
NOA	NORSAR Array B	66.47	0	P	P	20 00 08.6	-0.5
	0.2nm,0.4s,baz=359,slow=5.5,SNR=3.1						
AKTO	Aktyubinsk	69.94	331	P	P	20 00 31.1	+0.1
	0.7nm,0.6s,baz=22,slow=17,SNR=3.1						
AKASG	Malin Array Be	75.79	349	P	P	20 01 04.3	-1.2
	1.1nm,0.5s,baz=13,slow=5.7,SNR=14						
CMAR	Chiang Mai Arr	77.18	284	P	P	20 01 15.4	+1.5
	2.4nm,0.8s,baz=27,slow=6.5,SNR=23						
GERES	GERESS Array B	78.68	359	P	P	20 01 21.9	0.0
	0.4nm,0.6s,baz=14,slow=6.9,SNR=4.9						
BRTR	Keskin Array B	85.88	343	P	P	20 02 00.8	+1.0
	1.1nm,0.6s,baz=348,slow=4.7,SNR=6.5						
ESDC	Sonseca Array	86.86	12	P	P	20 02 04.3	-0.2
	0.7nm,0.6s,baz=349,slow=4.6,SNR=7.1						
WRA	Warramunga Arr	87.83	232	P	P	20 02 09.3	+0.1
	0.5nm,0.8s,baz=33,slow=6.2,SNR=4.9						
ASAR	Alice Springs	91.22	231	P	P	20 02 25.7	+0.7
	0.6nm,0.8s,baz=25,slow=4.1,SNR=5.6						

ISN **07** *19:49:54.6±3.7, 35.89N×43.88E, h0km, ML2.9*
ISK **07** *19:50:27.4, 34.55N×40.46E, h22km, ML3.8*
DDA **07** *19:50:30.3, 34.93N×40.57E, h23km, MD3.6*
ISCJB **07** *19:50:33.0±1.0, 35.08N±0.03×40.46E±0.04, h6km±6km, Error ellipse: s-maj=7.1km s-min=3.7km az=135.6*
NSSC **07** *19:50:33.9±4.8, 35.23N×40.75E, h83km±36km, MD2.0, ML3.0*
CSEM **07** *19:50:36.3±0.4, 35.22N×40.33E, h10km, ML3.0, Error ellipse: s-maj=9.3km s-min=4.4km az=134.0*
ISC 07 19:50:35.8±1.5, 35.19N±0.03×40.37E±0.03, h11km±11km, n80, σ1.44/135, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZRK	Al-Mazaregh	0.68	20	eP	Pg	19 50 48.7	-0.4
MZRK				eS	Sb	19 50 58.9	-0.3
MZRK				AML	AML	19 51 00.8	
	comp=N,379nm,0.5s						
MZRK				AML	AML	19 51 01.3	
	comp=Z,674nm,0.3s						
MZRK				AML	AML	19 51 17.8	
	comp=E,964nm,0.5s						
MZRK	Al-Mazaregh	0.68	20	eP	Pg	19 50 48.7	-0.4
	SNR=137						
MZRK				eS	Sb	19 50 58.9	-0.3
	comp=E,964nm,0.5s,SNR=137						
MNKR	ALMNKUR	1.17	311	eP	Pn	19 50 58.5	+0.3
MNKR				eS	Sn	19 51 16.2	+2.1
MNKR				AML	AML	19 51 20.4	
	comp=E,49μm,0.2s						
MNKR				AML	AML	19 51 20.6	
	comp=Z,436nm,0.7s						
MNKR				AML	AML	19 51 23.1	
	comp=N,2μm,0.4s						
MNKR	ALMNKUR	1.17	311	eP	Pn	19 50 58.5	+0.3
	SNR=112						
MNKR				eS	Sn	19 51 16.2	+2.1
	comp=N,2μm,0.4s,SNR=112						
SFNV	Sufian	1.25	350	eP	Pn	19 50 58.8	-0.5
SFNV				eS	Sb	19 51 14.5	-1.1
SFNV				AML	AML	19 51 21.6	
	comp=N,554nm,0.5s						
SFNV				AML	AML	19 51 22.0	
	comp=E,996nm,0.3s						
SFNV				AML	AML	19 51 22.5	
	comp=Z,1μm,0.4s						
SFNV	Sufian	1.25	350	eP	Pn	19 50 58.8	-0.5
	SNR=114						
SFNV				eS	Sb	19 51 14.5	-1.1
	comp=Z,1μm,0.4s,SNR=114						
KSRV	Kasrt alli	1.30	302	eP	Pn	19 50 59.7	-0.3
KSRV				eS	Sn	19 51 17.1	-0.3
KSRV				AML	AML	19 51 22.3	
	comp=Z,287nm,0.5s						
KSRV				AML	AML	19 51 22.4	
	comp=N,327nm,0.3s						
KSRV				AML	AML	19 51 24.3	
	comp=E,127nm,0.6s						
KSRV	Kasrt alli	1.30	302	eP	Pn	19 50 59.7	-0.3
	SNR=112						
KSRV				eS	Sn	19 51 17.1	-0.3
	comp=E,127nm,0.6s,SNR=112						
KBSD	Kabsdagh	1.82	4	eP	Pn	19 51 04.7	-2.4
KBSD				eS	Sn	19 51 23.6	-6.5
KBSD				AML	AML	19 51 31.3	
	comp=E,793nm,0.5s						
KBSD				AML	AML	19 51 31.4	
	comp=N,472nm,0.2s						
KBSD				AML	AML	19 51 31.4	
	comp=Z,327nm,0.3s						
KBSD	Kabsdagh	1.82	4	eP	Pn	19 51 04.7	-2.4
	SNR=107						
MARD	Mardin	2.15	9	iP	Pn	19 51 10.5	-1.2

MARD i S Sb 19 51 40.5 -1.1
RTB Rutbah 2.15 181 ePn Pn 19 51 02.0 -10
SNR=3.0
RTB i Sn **Sb 19 51 42.5 +1.0**
SNR=3.0
RTB Rutbah 2.15 181 ePn Pn 19 51 02.0 -10
baz=45
RTB i Sn **Sb 19 51 42.5 +1.0**
SLMH Al Salmeh 2.24 298 eP **Pn 19 51 12.7 -0.1**
SLMH eS **Sn 19 51 36.5 -3.9**
SLMH AML AML 19 51 58.3
comp=E,183nm,0.4s
SLMH AML AML 19 52 00.9
comp=Z,80nm,0.3s
SLMH AML AML 19 52 02.7
comp=N,137nm,0.4s
SLMH Al Salmeh 2.24 298 eP **Pn 19 51 12.7 -0.1**
SNR=101
SLMH eS **Sn 19 51 36.5 -3.9**
comp=N,137nm,0.4s,SNR=101
MAZI Mazidag 2.27 2 ePN **Pn 19 51 13.7 +0.3**
MAZI eP **Pn 19 51 13.8 +0.4**
MAZI Mazidag 2.27 2 eP **Pn 19 51 13.8 +0.4**
URFA Urfa 2.58 331 ePN **Pn 19 51 17.5 0.0**
URFA eSN **Sb 19 51 54.1 +0.3**
URFA Urfa 2.58 331 eP **Pn 19 51 17.5 0.0**
URFA eSn **Sb 19 51 54.1 +0.3**
RABH Abou Rabah 2.71 255 eP **Pn 19 51 20.4 +1.1**
RABH eS **Sb 19 51 56.1 -1.5**
RABH AML AML 19 52 10.5
comp=E,52nm,0.6s
RABH AML AML 19 52 12.1
comp=Z,35nm,0.3s
RABH AML AML 19 52 16.0
comp=N,24nm,0.4s
RABH Abou Rabah 2.71 255 eP **Pn 19 51 20.4 +1.1**
SNR=99
RABH eS **Sb 19 51 56.1 -1.5**
comp=N,24nm,0.4s,SNR=99
DIY Diyarbakir 2.71 358 eP **Pn 19 51 21.1 +1.7**
DYBB Diyarbakir 2.77 356 ePN **Pn 19 51 21.1 +0.9**
DYBB eP **Pn 19 51 21.1 +0.9**
BEST Besiri 2.80 15 i P **Pn 19 51 19.2 -1.4**
BEST i S **Sb 19 52 00.3 +0.1**
SIRN S¨rnak 2.84 35 i P **Pn 19 51 18.5 -2.7**
SIRN i S **Sn 19 51 57.1 +1.7**
SIRN S¨rnak 2.84 35 i P **Pn 19 51 18.5 -2.7**
SIRN i S **Sn 19 51 57.1 +1.7**
SIRT Sirnak 2.85 35 eP **Pn 19 51 19.8 -1.6**
SIRT ePN **Pn 19 51 19.9 -1.4**
SIRT eSN **Sn 19 51 58.8 +3.0**
SIRT eS **Sb 19 51 59.9 -1.9**
SIRT Sirnak 2.85 35 ePn **Pn 19 51 20.0 -1.4**
SIRT eSn **Sn 19 51 58.8 +3.0**
SIRT eS **Sb 19 51 59.9 -1.9**
KFRA Kufra 2.92 272 eP **Pn 19 51 19.9 -2.4**
KFRA eS **Sn 19 51 57.6 +0.2**
KFRA AML AML 19 52 17.4
comp=N,81nm,0.4s
KFRA AML AML 19 52 19.7
comp=Z,2μm,0.3s
KFRA AML AML 19 52 20.5
comp=E,144nm,0.5s
KFRA Kufra 2.92 272 eP **Pn 19 51 19.9 -2.4**
SNR=98
KFRA eS **Sn 19 51 57.6 +0.2**
comp=E,144nm,0.5s,SNR=98
SVAN Silvan-Diyarba 3.04 12 eP **Pn 19 51 23.6 -0.2**
SVAN ePN Pb 19 51 24.2 -5.7
KUZU Kuzuini 3.10 302 i P **Pn 19 51 24.6 -0.2**
KUZU Kuzuini 3.10 302 i P **Pn 19 51 24.6 -0.2**
KUZU i S **Sg 19 52 17.0 +1.4**
WRDH Warideh 3.25 277 eP **Pn 19 51 26.1 -0.7**
WRDH eS **Sn 19 52 07.0 +1.5**
WRDH AML AML 19 52 33.5
comp=N,36nm,0.3s
WRDH AML AML 19 52 33.8
comp=Z,68nm,0.4s
WRDH AML AML 19 52 39.9
comp=E,51nm,0.5s
WRDH Warideh 3.25 277 eP **Pn 19 51 26.1 -0.7**
SNR=98
WRDH eS **Sn 19 52 07.0 +1.5**
comp=E,51nm,0.5s,SNR=98
BTCH Batrach 3.30 286 eP **Pn 19 51 27.8 +0.4**
BTCH eS **Sb 19 52 12.5 -2.0**
BTCH AML AML 19 52 35.3
comp=N,76nm,0.5s
BTCH AML AML 19 52 37.1
comp=E,39nm,0.4s
BTCH AML AML 19 52 42.0
comp=Z,118nm,0.4s
BTCH Batrach 3.30 286 eP **Pn 19 51 27.8 +0.4**
SNR=98
BIDA Albida 3.32 268 eP **Pn 19 51 28.5 +0.7**
BIDA eS **Sn 19 52 05.0 -2.3**
BIDA AML AML 19 52 36.5
comp=N,71nm,0.3s
BIDA AML AML 19 52 38.4
comp=E,30nm,0.8s
BIDA AML AML 19 52 46.3
comp=Z,58nm,0.5s
BIDA Albida 3.32 268 eP **Pn 19 51 28.5 +0.7**
SNR=97
BIDA eS **Sn 19 52 05.0 -2.3**
comp=Z,58nm,0.5s,SNR=97
HAWK Haweek 3.33 260 eP **Pn 19 51 28.9 +1.0**
HAWK eS **Sn 19 52 08.2 +0.8**
HAWK AML AML 19 52 33.2
comp=Z,16nm,0.5s
HAWK AML AML 19 52 35.3
comp=N,26nm,0.4s
HAWK AML AML 19 52 37.2
comp=E,26nm,0.5s
HAWK Haweek 3.33 260 eP **Pn 19 51 28.9 +1.0**
SNR=97
HAWK eS **Sn 19 52 08.2 +0.8**
comp=E,26nm,0.5s,SNR=97
CUKT Cukurca 3.33 51 ePN **Pn 19 51 25.3 -2.7**
CUKT eP **Pn 19 51 25.3 -2.7**
CUKT Cukurca 3.33 51 eP **Pn 19 51 25.3 -2.7**
ZALF Zalf 3.38 229 eP **Pn 19 51 28.2 -0.4**
ZALF eS **Sn 19 52 08.2 -0.6**
ZALF AML AML 19 52 25.6
comp=N,456nm,0.6s
ZALF AML AML 19 52 26.1
comp=Z,35nm,0.3s
ZALF AML AML 19 52 26.7
comp=E,79nm,0.4s
ZALF Zalf 3.38 229 eP **Pn 19 51 28.2 -0.4**
SNR=97
ZALF eS **Sn 19 52 08.1 -0.6**
comp=E,79nm,0.4s,SNR=97
MARH Ras Al Marh 3.41 251 eP **Pn 19 51 31.1 +1.8**
MARH eS **Sn 19 52 10.2 +0.5**
MARH AML AML 19 52 33.3
comp=E,38nm,0.4s
MARH AML AML 19 52 34.4
comp=Z,35nm,0.6s
MARH AML AML 19 52 37.6
comp=N,31nm,0.7s
MARH Ras Al Marh 3.41 251 eP **Pn 19 51 31.0 +1.8**
SNR=97
MARH eS **Sn 19 52 10.2 +0.5**
comp=N,31nm,0.7s,SNR=97
HAKT HAKKARI 3.59 48 i P **Pn 19 51 28.8 -2.8**
HAKT HAKKARI 3.59 48 i P **Pn 19 51 28.8 -2.8**
HAKT i S **Sb 19 52 25.4 +2.3**
KMRS Kahramanmaras 3.63 311 ePN **Pn 19 51 31.1 -0.9**
KMRS eP **Pn 19 51 31.1 -0.9**
KMRS Kahramanmaras 3.63 311 eP **Pn 19 51 31.2 -0.9**
PTK Pertek 3.78 348 ePN **Pn 19 51 35.4 +1.2**
PTK eP **Pn 19 51 35.4 +1.2**
PTK Pertek 3.78 348 eP **Pn 19 51 35.4 +1.2**
SALA Sala 3.90 232 eP **Pn 19 51 35.9 0.0**
SALA eS **Sn 19 52 21.1 -0.6**
SALA AML AML 19 52 41.2
comp=Z,76nm,0.4s
SALA AML AML 19 52 45.0
comp=N,70nm,0.3s
SALA AML AML 19 52 47.8
comp=E,4.9nm,0.6s
SALA Sala 3.90 232 eP **Pn 19 51 35.9 0.0**
SNR=96
SALA eS **Sn 19 52 21.1 -0.6**
comp=E,4.9nm,0.6s,SNR=96
BRBR Barbar 4.06 245 eP **Pn 19 51 40.5 +2.4**
BRBR eS **Sn 19 52 26.0 +0.2**
BRBR AML AML 19 52 51.3
comp=Z,42nm,0.4s
BRBR AML AML 19 52 53.1
comp=N,32nm,0.7s
BRBR AML AML 19 53 00.0
comp=E,29nm,0.7s
BRBR Barbar 4.06 245 eP **Pn 19 51 40.5 +2.4**
SNR=96
BRBR eS **Sn 19 52 26.0 +0.2**
comp=E,29nm,0.7s,SNR=96
VRTB Varto-Mus 4.06 12 ePN **Pn 19 51 39.0 +1.0**
VRTB eP **Pn 19 51 39.0 +1.0**
VRTB Varto-Mus 4.06 12 eP **Pn 19 51 39.0 +1.0**
DARE Darende-Malaty 4.09 326 ePN **Pn 19 51 39.3 +0.9**
DARE eP **Pn 19 51 39.3 +0.9**
DARE Darende-Malaty 4.09 326 eP **Pn 19 51 39.3 +0.9**
KOZT Kozan 4.32 303 eP **Pn 19 51 39.7 -1.8**
KOZT ePN **Pn 19 51 40.1 -1.4**
KOZT Kozan 4.32 303 eP **Pn 19 51 39.7 -1.8**
ERZN Erzincan 4.42 354 ePN **Pn 19 51 44.5 +1.5**
ERZN eP **Pn 19 51 44.8 +1.8**
ILIC ilic-Erzincan 4.49 342 ePN **Pn 19 51 45.3 +1.3**
ILIC eP **Pn 19 51 45.3 +1.3**
ILIC ilic-Erzincan 4.49 342 eP **Pn 19 51 45.3 +1.3**
EZC Erzincan 4.63 350 ePn **Pn 19 51 44.5 -1.4**
EZC Erzincan 4.63 350 eP **Pn 19 51 44.8 -1.1**
EZM Erzurum 4.78 9 ePN **Pn 19 51 49.4 +1.4**
EZM Erzurum 4.78 9 eP **Pn 19 51 49.4 +1.4**
AGRB Hanur-Agry 4.86 25 ePN **Pn 19 51 49.7 +0.7**
AGRB eP **Pn 19 51 49.7 +0.7**
AGRB Hanur-Agry 4.86 25 eP **Pn 19 51 49.7 +0.7**
CLDR Caldiran 4.86 35 ePN **Pn 19 51 48.7 -0.4**
CLDR Caldiran 4.86 35 eP **Pn 19 51 49.4 +0.3**
CLDR Caldiran 4.86 35 ePn **Pn 19 51 48.7 -0.4**
CLDR Caldiran 4.86 35 eP **Pn 19 51 49.4 +0.3**
BNN Bunyan 5.15 317 eP **Pn 19 51 52.8 -0.1**
BNN ePN **Pn 19 51 53.4 +0.4**
BNN Bunyan 5.15 317 eP **Pn 19 51 52.8 -0.1**
SVSK Karacayir 5.43 331 eP **Pn 19 51 57.7 +1.1**
SVSK ePN **Pn 19 51 58.2 +1.6**
SVSK Karacayir 5.43 331 eP **Pn 19 51 57.7 +1.1**

IDC 07 19:51:18.4±1.7,**6°.98S**×**129°.55E**,**h0**km,**mb3.4**/2,**mb1 3.4**/4,**mb1mx3.3**/25,**mbtmp3.3**/4,**ML3.2**/2,**Error ellipse: s-maj=100.0km s-min=26.6km az=68.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.69**	**161**	Pn	Pn	19 54 32.5	-1.5
	0.1nm,0.3s,baz=339,slow=14,SNR=13						
WRA				Sn	Sn	19 57 06.9	-0.2
	0.2nm,0.3s,baz=340,slow=18,SNR=8.6						
ASAR	**Alice Springs**	**17.11**	**166**	P	P	19 55 20.8	-0.1
	0.1nm,0.3s,baz=341,slow=9.3,SNR=12						
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	20 02 19.3	0.0
	0.2nm,0.6s,baz=116,slow=6.6,SNR=3.6						
KURBB	**Kurchatov Arra**	**72.27**	**329**	P	P	20 02 45.5	0.0
	0.5nm,0.9s,baz=126,slow=5.1,SNR=4.1						

NNC 07 19:54:27.1±3.2,**53°.35N**×**87°.52E**,**h0**km,**mb3.8**,**mpv3.5**,**7C-6D**,**Error ellipse: s-maj=23.9km s-min=17.1km az=55.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.09**	**248**	⇓Pn	Pn	19 55 59.0	+0.8
	1.6nm,0.6s						
KURK				⇑Sn	Sn	19 57 08.6	0.0
	1.3nm,0.8s						
KURK				⇑Lg	Lg	19 57 43.0	
	3.2nm,0.7s						
KURBB	**Kurchatov Arra**	**6.18**	**247**	⇓Pn	Pn	19 56 00.1	+0.6
	5.9nm,0.6s,baz=63,slow=14						
KURBB				⇓Sn	Sn	19 57 12.9	+2.0
	8.0nm,0.7s						
KURBB				⇓Lg	Lg	19 57 46.9	
	8.3nm,0.7s						
MK09	**Makanchi Array**	**7.39**	**209**	⇓Pn	Pn	19 56 17.4	+1.3
	1.2nm,0.6s,baz=29,slow=13						
MK07	**Makanchi Array**	**7.40**	**209**	⇓Sn	Sn	19 57 41.4	+0.5
	3.3nm,1.2s						
MK07				⇑Lg	Lg	19 58 24.3	
	2.3nm,0.8s,baz=27,slow=27						
BVA0	**Borovoye Array**	**10.29**	**275**	⇑Pn	Pn	19 56 56.3	+0.5
	1.0nm,0.7s,baz=81,slow=12,SNR=10						
BVA0				⇑Sn	Sn	19 58 50.0	-1.8
	1.9nm,1.1s,baz=71,slow=24,SNR=4.7						
BRVK	**Borovoye**	**10.35**	**275**	⇑Pn	Pn	19 56 55.7	-0.9
	1.3nm,1.0s						
BRVK				⇑Sn	Sn	19 58 52.6	-0.6
	3.2nm,1.0s						

SJA ***07*** *20:01:27.3±3.6,32°.16S×71°.95W,h20km±560km,ML2.8,MW4.2*
GUC ***07*** *20:01:31.2±0.4,32°.18S×71°.51W,h27km±2km,ML3.1*
ISC 07 20:01:27.3±2.0,**32°.22S**±0°.04×**71°.82W**±0°.09,**h4**km±12km,**n14**,σ**1**s**71**/22,**3C-1D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.82**	**170**	⇑i P	**Pn**	**20 01 46.9**	**+1.2**
IHA				i S	**Sn**	**20 01 58.2**	**0.0**
ROCH	**El Roble**	**1.01**	**138**	⇓i P	**Pg**	**20 01 47.9**	**+1.1**
ROCH				i S	**Sg**	**20 02 00.6**	**+0.6**
CMCH	**Combarbala**	**1.25**	**34**	⇑i P	**Pb**	**20 01 50.5**	**-1.0**
CMCH				i S	**Sg**	**20 02 05.2**	**-2.3**
PEL	**Peldehue**	**1.33**	**134**	⇑i P	**Pn**	**20 01 52.4**	**-0.3**
PEL				eS	**Sb**	**20 02 08.1**	**-2.1**
PEL				AML	AML	20 02 09.1	
	comp=E,1μm,0.2s						
CLCH	**Cerro Calan**	**1.59**	**138**	eP	**Pn**	**20 01 56.6**	**+0.2**
CLCH				eS	**Sn**	**20 02 15.9**	**-1.5**
AUSP	**Uspallata**	**2.06**	**91**	i P9		20 02 04.7	
AUSP				eS	**Sn**	**20 02 28.9**	**-0.3**
LMEL	**Las Melosas**	**2.12**	**141**	i P	**Pn**	**20 02 04.9**	**+1.3**
LMEL				i S	**Sn**	**20 02 30.3**	**-0.2**
LMEL				AML	AML	20 02 36.4	
	comp=N,162nm,0.2s						
RTLS	**Leoncito**	**2.18**	**80**	i P	**Pb**	**20 02 06.3**	**-1.1**
ASAL	**Salagasta**	**2.55**	**99**	i P	**Pb**	**20 02 13.1**	**-0.6**
ASAL				eS	**Sb**	**20 02 45.2**	**-0.2**
AAGR	**Agrelo**	**2.66**	**110**	i P	**Pn**	**20 02 13.5**	**+2.4**
RTLL	**Cerro Villicun**	**2.98**	**74**	i P	**Pn**	**20 02 16.9**	**+1.5**
RTLL				eS	**Sn**	**20 02 54.6**	**+3.0**
CFAA	**Coronel Fontan**	**3.10**	**80**	i P	**Pn**	**20 02 18.8**	**+1.6**
CFAA				eS	**Sb**	**20 02 58.6**	**-2.7**
AMOG	**MOGNA**	**3.11**	**67**	i P	**Pn**	**20 02 19.6**	**+2.4**
AVFE	**Valle Fertil**	**4.04**	**69**	i P	Pn	20 02 34.0	+4.0
AVFE				AML	AML	20 03 27.2	
	comp=Z,12nm,0.4s						

IDC ***07*** *20:04:28.6±0.9,29°.62N×81°.41E,h0km,mb3.7/11,mb1 3.8/14,mb1mx3.6/42,mbtmp3.7/14,ML3.6/3,Error ellipse: s-maj=30.8km s-min=16.5km az=57.0*
DMN ***07*** *20:04:31.4±0.3,29°.97N×81°.29E,h10km,Ml4.7/11,Error ellipse: s-maj=12.1km s-min=4.9km az=31.0*
NDI ***07*** *20:04:32.6±4.5,29°.49N×81°.41E,h10km,ML3.8*
ISC 07 20:04:30.8±1.8,**29°.58N**±0°.06×**81°.39E**±0°.03,**h12**km±12km,**n43**,σ**2**s**18**/55,**mb3.6**/11,**Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.00**	**263**	eP	**Pn**	**20 04 52.8**	**+2.1**
LGTI				eS	**Sn**	**20 05 10.2**	**+5.3**
PTH	**Pithoragarh**	**1.02**	**269**	eP9	Pn	20 04 46.8	-4.4
PTH				eS	**Sg**	**20 05 02.9**	**-1.0**
DANN	**Dangsing**	**2.41**	**120**	ePn	**Pb**	**20 05 13.5**	**-0.8**
DANN				eSn	**Sb**	**20 05 43.9**	**-0.2**
	705nm,0.4s						
KOLN	**Koldanda**	**2.65**	**132**	ePn	**Pb**	**20 05 17.1**	**-1.2**
KOLN				eSn	**Sb**	**20 05 51.4**	**+0.5**
	612nm,0.5s						
DDI	**Dehra Dun**	**2.99**	**285**	eP	**Pn**	**20 05 21.2**	**+3.1**
DDI				eS	**Sn**	**20 05 56.0**	**+2.1**
DDI				AML	AML	20 06 06.0	
	comp=N,1μm,0.6s						
DDI				AML	AML	20 06 06.8	
	comp=E,1μm,0.6s						
GKN	**Gorkha**	**3.25**	**118**	ePn	**Pn**	**20 05 24.8**	**+3.0**
GKN				eSn	**Sn**	**20 06 04.0**	**+3.4**
	comp=E,778nm,0.4s						
NDI	**New Delhi**	**3.76**	**257**	eSN3	**Sn**	**20 06 16.0**	**+3.1**
NDI				eSG3	**Sg**	**20 06 35.0**	**+3.5**
DMN	**Daman**	**3.81**	**120**	ePn	**Pn**	**20 05 32.3**	**+2.7**
KKN	**Kakani**	**3.85**	**117**	ePn	**Pn**	**20 05 32.5**	**+2.3**
KKN				eSn	**Sn**	**20 06 18.7**	**+3.2**
	comp=E,155nm,0.2s						
PKIN	**Phulchoki**	**4.05**	**118**	ePn	**Pn**	**20 05 35.2**	**+2.3**
PKIN				eSn	**Sn**	**20 06 23.1**	**+2.7**
	comp=E,245nm,0.3s						
PKI	**Pulchoki**	**4.06**	**118**	ePn	**Pn**	**20 05 35.3**	**+2.2**
PKI				eSn	**Sn**	**20 06 23.5**	**+2.7**
	comp=E,256nm,0.5s						
GUN	**Gumba**	**4.28**	**112**	ePn	**Pn**	**20 05 38.2**	**+2.1**
GUN				eSn	**Sn**	**20 06 27.8**	**+1.7**
	comp=E,237nm,0.4s						
JIRN	**Jiri**	**4.63**	**113**	ePn	**Pn**	**20 05 43.2**	**+2.2**
JIRN				eSn	**Sn**	**20 06 36.3**	**+1.4**
	comp=E,266nm,0.3s						
BHK	**Bhakra**	**4.67**	**294**	ex	Pg	20 05 56.6	-3.6
RAMN	**Ramite**	**5.29**	**118**	ePn	**Pn**	**20 05 51.7**	**+1.8**
RAMN				eSn	**Sn**	**20 06 51.8**	**+0.9**
	comp=E,443nm,0.3s						
DLH	**Dalhousie**	**5.51**	**304**	eP9	Pb	20 06 03.0	-4.2
DLH				eS	**Sb**	**20 07 11.0**	**-2.4**
ODAN	**Odare**	**5.94**	**116**	ePn	**Pn**	**20 06 01.3**	**+2.4**
ODAN				eSn	**Sn**	**20 07 07.2**	**+0.1**
	comp=E,190nm,0.4s						
TAPN	**Taplejung**	**5.99**	**110**	ePn	**Pn**	**20 06 01.6**	**+2.0**
TAPN				eSn	**Sn**	**20 07 07.5**	**-0.8**
	comp=E,128nm,0.4s						
AJM	**Ajmer**	**6.71**	**244**	ex	**Pn**	**20 06 12.0**	**+2.7**
AJM				ex	**Sn**	**20 07 28.0**	**+2.2**
BOK	**Bokaro**	**7.02**	**144**	eP	**Pn**	**20 06 14.8**	**+1.2**
BOK				eS	**Sn**	**20 07 28.8**	**-4.6**
BOK				AML	AML	20 07 38.6	
	comp=N,20nm,0.2s						
BOK				AML	AML	20 07 39.8	
	comp=E,24nm,0.4s						
BHPL	**Bhopal**	**7.24**	**210**	eP	**Pn**	**20 06 17.4**	**+0.8**
BHPL				eS	**Sn**	**20 07 34.0**	**-4.7**
BHPL				AML	AML	20 07 42.2	
	comp=E,142nm,0.2s						
BHPL				AML	AML	20 07 42.4	
	comp=N,110nm,0.4s						
SARP	**Sargodha**	**7.86**	**289**	P	**Pn**	**20 06 24.5**	**-0.5**
CHCP	**Chirah Chowk**	**8.04**	**302**	P	**Pn**	**20 06 28.4**	**+0.9**
CEP	**Cherat**	**9.12**	**300**	P	**Pn**	**20 06 42.1**	**-0.3**
CEP				S	Sn	20 08 21.0	-4.1
SHL	**Shillong**	**10.13**	**111**	eP	**Pn**	**20 06 55.5**	**-0.9**
SHL				eS	Sn	20 08 42.9	-7.2
HYB	**Hyderabad**	**12.38**	**193**	eP	**Pn**	**20 07 25.5**	**-1.5**
HYB				eS	Sn	20 09 36.5	-8.5
HYB	**Hyderabad**	**12.38**	**193**	eP	**Pn**	**20 07 26.1**	**-0.9**
HYB				eS	Sn	20 09 34.4	-11
POO	**Poona**	**12.97**	**214**	eP	**Pn**	**20 07 34.7**	**-0.4**
AAK	**Ala-Archa**	**14.16**	**339**	Pn	**Pn**	**20 07 51.2**	**-0.2**
	comp=N,0.1nm,0.3s,baz=162,slow=16,SNR=2.3						
MKAR	**Makanchi Array**	**17.21**	**2**	Pn	Pn	20 08 27.9	-3.1
	comp=N,0.2nm,0.3s,baz=182,slow=12,SNR=16						
CMAR	**Chiang Mai Arr**	**19.45**	**121**	P	**P**	**20 08 57.5**	**0.0**
	comp=N,0.1nm,0.3s,baz=358,slow=10,SNR=8.1						
KURBB	**Kurchatov Arra**	**21.13**	**355**	P	P	20 09 13.0	-2.5
	comp=N,1.7nm,0.8s,baz=179,slow=10,SNR=23						
ZALV	**Zalesovo Beam**	**24.48**	**5**	P	**P**	**20 09 48.3**	**-1.4**
	comp=N,3.9nm,0.5s,baz=188,slow=9.6,SNR=22						
BVAR	**Borovoye Array**	**24.79**	**344**	P	**P**	**20 09 51.6**	**-0.9**
	comp=N,0.7nm,0.5s,baz=155,slow=11,SNR=6.5						
SONM	**Songino Array**	**26.52**	**40**	P	**P**	**20 10 09.0**	**+0.7**
	comp=N,0.4nm,0.5s,baz=227,slow=7.3						
FINES	**FINESS Array B**	**48.02**	**328**	P	**P**	**20 13 09.1**	**-0.5**
	comp=N,0.8nm,0.5s,baz=111,slow=10,SNR=8.3						
ARCES	**ARCESS Array B**	**50.84**	**338**	P	**P**	**20 13 30.7**	**-0.3**
	comp=N,3.9nm,0.9s,baz=105,slow=6.8,SNR=3.6						
NOA	**NORSAR Array B**	**55.06**	**326**	P	P	20 14 01.0	-1.3
	comp=N,0.6nm,0.7s,baz=95,slow=7.0,SNR=3.3						
WRA	**Warramunga Arr**	**70.89**	**127**	P	**P**	**20 15 47.7**	**-0.4**
	comp=N,0.5nm,0.7s,baz=322,slow=6.1,SNR=7.9						
ASAR	**Alice Springs**	**73.14**	**131**	P	**P**	**20 16 00.8**	**-0.8**
	comp=N,0.3nm,0.6s,baz=324,slow=7.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**74.77**	**277**	P	**P**	**20 16 11.6**	**+0.3**
	comp=N,0.4nm,0.7s,baz=61,slow=3.5,SNR=5.1						
YKA	**Yellowknife Ar**	**87.36**	**7**	P	P	20 17 15.4	-2.0
	comp=N,0.1nm,0.5s,baz=339,slow=4.9,SNR=2.8						
TXAR	**Lajitas Array**	**121.22**	**5**	PKP	**PKPdf**	**20 23 25.1**	**+0.8**
	comp=N,0.1nm,0.4s,baz=290,slow=2.6,SNR=2.9						

NIED ***07*** *20:08:00,23°.30N×123°.70E,h8km,Mw4.2 Best double couple: M₀2.41000×10^15 NP1:φs145.00000°,δ82.00000°,λ-3.00000°. NP2:φs235.00000°,δ87.00000°,λ-172.00000°.*
IDC ***07*** *20:08:33.3±0.8,23°.36N×123°.62E,h0km,mb3.9/14,mb1 4.0/16,mb1mx3.9/37,mbtmp3.8/16,ML3.3/2,MS3.5/6,Ms1 3.5/6,ms1mx3.1/38,Error ellipse: s-maj=24.7km s-min=16.8km az=66.0*
ISCJB ***07*** *20:08:35.6±0.4,23°.36N±0°.03×123°.64E±0°.03,h30km,mb3.8/18,MS3.6/4,Error ellipse: s-maj=5.2km s-min=2.9km az=147.6*
JMA ***07*** *20:08:35.6±0.1,23°.33N×123°.70E,h44km±2km,M4.3*
NEIC ***07*** *20:08:36.6±1.6,23°.35N×123°.57E,h22km±12km,mb4.5/2,MW4.2(NIED),Error ellipse: s-maj=6.8km s-min=5.4km az=104.0*
ISC 07 20:08:37.8±0.6,**23°.41N**±0°.05×**123°.63E**±0°.03,**h30**km,**n47**,σ**1**s**34**/63,**mb3.9**/18,**MS3.6**/4,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.66**	**14**	P	**Pb**	**20 08 49.6**	**-1.3**
HATJ				S	**Sn**	**20 08 59.6**	**-1.0**
JKRS	**Kuro-shima**	**0.90**	**23**	P	**Pn**	**20 08 52.8**	**-1.5**
JKRS				S	**Sn**	**20 09 04.8**	**-1.5**
IRIF	**Iriomote-Funau**	**0.93**	**6**	P	**Pn**	**20 08 53.7**	**-1.1**
IRIF				S	**Sb**	**20 09 06.4**	**-0.9**
JIJ	**Ishigaki jima**	**1.06**	**26**	P	**Pn**	**20 08 54.9**	**-1.7**
JIJ				S	**Sn**	**20 09 09.1**	**-1.3**
YOJ	**Yonaguni jima**	**1.19**	**332**	P	**Pn**	**20 08 57.9**	**-0.5**
YOJ				S	**Sb**	**20 09 14.3**	**-0.5**
YOJ	**Yonaguni jima**	**1.19**	**332**	eP	**Pn**	**20 08 57.9**	**-0.5**
YOJ				eSn	**Sb**	**20 09 14.2**	**-0.7**
JYNG	**Yonagunijimaku**	**1.21**	**329**	P	**Pn**	**20 08 58.0**	**-0.7**
JYNG				S	**Sb**	**20 09 14.0**	**-1.4**
JISG	**Ishigakijimahi**	**1.33**	**28**	P	**Pn**	**20 08 58.6**	**-1.7**
JISG				S	**Sn**	**20 09 15.7**	**-1.3**
JTJ	**Tarama**	**1.57**	**38**	P	**Pn**	**20 09 02.4**	**-1.2**
JTJ				S	**Sn**	**20 09 21.3**	**-1.6**
JIRB	**Irabujima**	**2.00**	**45**	P	**Pn**	**20 09 07.9**	**-1.6**
JIRB				S	**Sn**	**20 09 31.7**	**-1.8**
NACB	**Ninganchiao**	**2.01**	**293**	ePn	**Pn**	**20 09 08.4**	**-1.3**
NACB				eSn	**Sn**	**20 09 30.1**	**-3.7**
JMJ	**Miyako jima 2**	**2.07**	**47**	P	**Pn**	**20 09 09.1**	**-1.3**
JMJ				S	**Sn**	**20 09 33.8**	**-1.4**
JOGS	**Gusukube**	**2.11**	**50**	P	**Pn**	**20 09 09.7**	**-1.3**
JOGS				S	**Sn**	**20 09 35.0**	**-1.2**
JIKM	**Ikemajima**	**2.11**	**44**	P	**Pn**	**20 09 09.7**	**-1.4**
JIKM				S	**Sn**	**20 09 34.6**	**-1.7**
YULB	**Yu-li**	**2.14**	**270**	ePn	**Pn**	**20 09 10.0**	**-1.5**
YULB				eSn	**Sn**	**20 09 34.9**	**-2.3**
YHNB	**Yeheng**	**2.41**	**302**	ePn	**Pn**	**20 09 15.5**	**+0.2**
YHNB				eSn	**Sn**	**20 09 42.0**	**-1.8**
TWG	**Pinlang**	**2.43**	**257**	ePn	**Pn**	**20 09 13.5**	**-1.9**
TWG				eSn	**Sn**	**20 09 42.4**	**-1.8**
SSLB	**Suanglung**	**2.48**	**279**	ePn	**Pn**	**20 09 15.4**	**-0.8**
TATO	**Taipei**	**2.50**	**309**	ePn	**Pn**	**20 09 16.4**	**0.0**
TPUB	**Ta-pu**	**2.76**	**268**	ePn	**Pn**	**20 09 19.3**	**-0.7**
TPUB				eSn	**Sn**	**20 09 50.3**	**-2.1**
SZP	**Santa**	**6.54**	**208**	ePn	**Pn**	**20 10 10.5**	**-1.5**
	50nm,0.8s						
KSAR	**Wonju Array Be**	**14.46**	**14**	Pn	**Pn**	**20 12 01.8**	**+1.5**
KSRS	**Korea Array**	**14.48**	**14**	Pn	**Pn**	**20 12 01.8**	**+1.2**
	0.1nm,0.3s,baz=193,slow=13,SNR=6.3						
KSRS				LR	LR	20 17 52.4	
	comp=Z,65nm,18.2s,baz=192,slow=38						
MJAR	**Matsushiro Arr**	**18.16**	**41**	P	**P**	**20 12 48.2**	**+0.4**
	0.2nm,0.3s,baz=233,slow=10,SNR=4.7						
MJAR				LR	LR	20 20 08.1	

	comp=Z,85nm,19.2s,baz=235,slow=38						
CMAR	Chiang Mai Arr	23.56	263	P	P	20 13 49.2	+3.3
	0.2nm,0.4s,baz=78,slow=14,SNR=3.8						
CMAR				LR	LR	20 23 03.5	
	comp=Z,59nm,18.4s,baz=59,slow=37						
ASAJ	Asahikawa	25.87	32	P	P	20 14 07.5	+0.7
	3.7nm,0.4s,baz=180,slow=13,SNR=3.4						
ASAJ				LR	LR	20 25 01.8	
	comp=Z,81nm,21.6s,baz=217,slow=38						
HIA	Hailar	25.99	354	eP	P	20 14 07.9	0.0
	3.4nm,0.4s						
SONM	Songino Array	27.98	335	P	P	20 14 25.7	-0.2
	1.8nm,1.0s,baz=155,slow=8.5,SNR=7.1						
MKAR	Makanchi Array	40.45	316	P	P	20 16 14.0	+0.4
	0.7nm,0.5s,baz=99,slow=9.5,SNR=23						
ZAA0	Zalesovo Array	42.12	326	eP	P	20 16 26.1	-0.9
ZALV	Zalesovo Beam	42.12	326	P	P	20 16 26.7	-0.4
	1.8nm,0.6s,baz=109,slow=7.9,SNR=10						
KURK	Kurchatov	44.12	320	P	P	20 16 43.6	+0.3
KURBB	Kurchatov Arra	44.14	320	P	P	20 16 43.6	+0.1
	0.5nm,0.6s,baz=118,slow=7.7,SNR=10						
WRA	Warramunga Arr	44.34	166	P	P	20 16 45.0	-0.3
	2.1nm,0.7s,baz=348,slow=9.1,SNR=14						
AAK	Ala-Archa	44.75	308	P	P	20 16 50.4	+1.6
	2.2nm,0.9s,baz=162,slow=9.6,SNR=4.7						
AS31	Alice Springs	47.85	167	eP	P	20 17 13.3	+0.3
ASAR	Alice Springs	47.85	167	P	P	20 17 12.5	-0.5
	0.7nm,0.6s,baz=354,slow=7.6,SNR=8.3						
BVAR	Borovoye Array	49.69	321	P	P	20 17 27.5	+0.7
	0.7nm,0.6s,baz=100,slow=9.4,SNR=7.5						
ABKAR	Akbulak array	55.58	315	eP	P	20 18 10.6	+0.1
	4.4nm,0.6s						
ILAR	Eielson Array	68.87	27	P	P	20 19 39.6	+0.3
	0.5nm,0.7s,baz=275,slow=5.2,SNR=7.2						
ARCES	ARCESS Array B	71.08	338	LR	LR	20 54 58.0	
	comp=Z,80nm,19.0s,baz=238,slow=39						
FINES	FINESS Array B	73.23	330	P	P	20 20 06.2	+0.4
	1.9nm,0.9s,baz=92,slow=7.4,SNR=3.6						
AKASG	Malin Array Be	74.93	319	P	P	20 20 15.6	-0.3
	0.2nm,0.3s,baz=58,slow=6.3,SNR=4.5						
BRTR	Keskin Array B	75.43	307	LR	LR	20 59 39.2	
	comp=Z,74nm,18.1s,baz=296,slow=41						
NB2	NORSAR Subarra	79.94	333	P	P	20 20 45.6	+1.8
	comp=Z,2.9nm,1.1s,baz=56,slow=5.6						
YKA	Yellowknife Ar	82.80	23	P	P	20 20 59.2	+0.4
	comp=Z,0.5nm,0.7s,baz=307,slow=5.1,SNR=11						
GERES	GERESS Array B	84.85	321	P	P	20 21 10.1	+0.3
	comp=Z,0.5nm,0.8s,baz=69,slow=5.5,SNR=4.9						

MEX 07 20:50:19.3±0.3, 13.45N×92.38W, h20km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		2.38	340	iP	Pn	20 50 54.1	-3.1
PCIG				iS	Sn	20 51 21.8	-4.0
CCIG	Comitan	2.82	5	iP	Pn	20 51 01.2	-2.4
CCIG				iS	Sn	20 51 33.7	-3.5
HUIG	Huatulco	4.28	303	iP	Pn	20 51 21.7	-1.6
HUIG				iS	Sn	20 52 09.7	-3.0
CMIG	Matias Romero	4.35	327	iP	Pn	20 51 22.2	-2.2
CMIG				iS	Sn	20 52 11.6	-2.8

IDC 07 21:03:31.6±1.2, 14.18N×91.83W, h0km, mb3.7/7, mb1 4.0/10, mb1mx3.7/40, mbtmp3.7/10, ML3.3/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/33, Error ellipse: s-maj=32.0km s-min=19.3km az=40.0
CASC 07 21:03:33.0±3.0, 13.67N×92.08W, h35km±162km, MD3.9
MEX 07 21:03:34.3±0.3, 13.53N×92.26W, h20km, MD4.0
ISC 07 21:03:32.7±2.2, 13.72N±0.08×92.10W±0.05, h24km±14km, n25, σ1§45/32, mb3.7/7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.74	37	eP	Pb	21 03 47.7	+0.7
NBG	Las Nubes	1.90	63	eP	Pn	21 04 04.6	+0.7
APG	El Apazote	2.03	51	Pn	Pn	21 04 01.5	-4.2
	12nm,0.3s,baz=216,slow=16,SNR=163						
APG				Sn	Sn	21 04 28.1	-2.3
	23nm,0.3s,baz=30,slow=20,SNR=18						
PCIG		2.25	331	eP	Pn	21 04 06.9	-1.5
PCIG				iS	Sn	21 04 34.6	-0.8
RBDL	Robledal	2.38	80	eP	Pn	21 04 09.5	-0.8
RBDL				eS	Sn	21 04 38.9	+0.1
RTR	El Retiro	2.39	86	eP	Pn	21 04 12.6	+2.1
SBLS	San Blas	2.41	87	eP	Pn	21 04 10.4	-0.4
CCIG	Comitan	2.54	359	eP	Pn	21 04 15.1	+2.4
CCIG				iS	Sb	21 04 46.5	-2.3
MRL	Marmol	2.69	60	eP	Pn	21 04 15.3	+0.6
MRL				eS	Sb	21 04 53.1	+0.2
LFRS	El Faro	2.95	92	eP	Pn	21 04 17.2	-1.0
LFRS				eS	Sn	21 04 50.5	-2.5
SNVI	San Vicente	3.17	92	eP	Pn	21 04 20.8	-0.5
SNVI				eS	Sn	21 04 58.9	+0.4
CMIG	Matias Romero	4.29	322	eP	Pn	21 04 37.4	+0.9
CMIG				eS	Sn	21 05 26.4	+0.5
HUIG	Huatulco	4.38	298	iP	Pn	21 04 36.7	-1.0
HUIG				iS	Sn	21 05 26.4	-1.6
TEIG	Tepich	7.43	29	Pn	Pn	21 05 14.8	-4.9
	0.2nm,0.3s,baz=155,slow=19,SNR=2.4						
TEIG				Sn	Sn	21 06 40.3	-2.9
	baz=315,slow=19,SNR=2.6						
TEIG				LR	LR	21 08 37.9	
	comp=Z,106nm,19.7s,baz=344,slow=44						
JTS	JuntasAbangare	7.78	115	Pn	Pn	21 05 23.8	-0.8
	0.5nm,0.3s,baz=311,slow=19,SNR=3.0						
TXAR	Lajitas Array	18.87	327	P	P	21 07 52.0	+0.6
	0.0nm,0.3s,baz=151,slow=8.6,SNR=11						
ANMO	Albuquerque	24.79	331	P	P	21 08 54.2	+1.2
	0.9nm,0.8s,baz=148,slow=15,SNR=4.7						
PFO	Pinyon Flat Ob	29.69	316	LR	LR	21 21 04.4	
	comp=Z,467nm,20.6s,baz=126,slow=36						
NVAR	Mina Array Bea	33.83	321	P	P	21 10 14.9	+1.5
	1.2nm,0.8s,baz=150,slow=9.9,SNR=4.1						
LPAZ	La Paz	38.08	141	P	P	21 10 56.5	+6.0
	0.3nm,0.4s,baz=293,slow=13,SNR=3.7						
YKA	Yellowknife Ar	51.27	347	P	P	21 12 32.7	-1.7
	0.5nm,0.7s,baz=148,slow=7.5,SNR=9.1						
YKA				PcP	PcP	21 13 48.2	-1.0
	0.3nm,0.8s,baz=149,slow=4.4,SNR=5.8						
DLBC	Dease Lake	52.87	336	P	P	21 12 48.5	+2.1
	2.6nm,0.8s,baz=176,slow=14,SNR=3.8						
INK	Inuvik	60.67	344	P	P	21 13 41.5	-0.1
	1.2nm,0.8s,baz=122,slow=8.4,SNR=5.6						
ILAR	Eielson Array	63.05	337	P	P	21 13 57.9	+0.2
	0.6nm,1.0s,baz=130,slow=6.5,SNR=5.7						
CMAR	Chiang Mai Arr	146.22	341	PKPbc	PKPbc	21 23 11.8	-0.3
	1.3nm,0.7s,baz=336,slow=3.5,SNR=13						

ISCJB 07 21:09:56.4±1.0, 6.1N±0.2×82.2W±0.3, h10km, mb3.6/6, Error ellipse: s-maj=52.3km s-min=10.3km az=142.4
IDC 07 21:09:56.5±1.4, 6.05N×82.14W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.6/31, mbtmp3.7/7, ML4.5/2, MS3.3/3, Ms1 3.3/3, ms1mx2.0/27, Error ellipse: s-maj=68.2km s-min=20.1km az=52.0
ISC 07 21:09:58.3±1.3, 6.1N±0.3×82.1W±0.3, h10km, n13, σ1§11/9, mb3.7/6, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	4.99	326	Pn	Pn	21 11 12.8	-0.5
	61nm,0.3s,baz=86,slow=12,SNR=109						
JTS				Sn	Sn	21 12 10.2	-0.8
	baz=300,slow=20,SNR=1.5						
JTS				LR	LR	21 12 22.0	
	comp=Z,125nm,18.1s,baz=163,slow=29						
APG	El Apazote	12.03	318	Pn	Pn	21 12 50.0	-0.1
	0.7nm,0.3s,baz=129,slow=13,SNR=5.0						
APG				LR	LR	21 16 43.6	
	comp=Z,151nm,20.7s,baz=218,slow=34						
SJG	San Juan	19.62	51	LR	LR	21 23 02.8	
	comp=Z,180nm,18.9s,baz=268,slow=40						
LPAZ	La Paz	26.23	148	P	P	21 15 33.1	-1.3
	0.7nm,0.8s,baz=354,slow=10,SNR=2.9						
H06E1	SOCORRO T-PHAS	30.73	297	T	T	21 48 15.7	
	SNR=5.7						
TXAR	Lajitas Array	30.75	321	P	P	21 16 15.5	+1.4
	0.2nm,0.8s,baz=142,slow=13,SNR=3.2						
H03N2	Juan Fernandez	39.47	176	T	T	21 58 56.4	
	baz=354,slow=75,SNR=8.0						
H03N1	Juan Fernandez	39.47	176	T	T	21 58 59.0	
	baz=354,slow=75,SNR=5.6						
H03N3	Juan Fernandez	39.49	176	T	T	21 58 56.3	
	baz=354,slow=75,SNR=6.2						
ULM	Lac du Bonnet	45.46	348	P	P	21 18 16.2	-1.3
	1.2nm,0.5s,baz=149,slow=9.8,SNR=4.2						
YKA	Yellowknife Ar	61.09	343	P	P	21 20 13.1	+0.8
	1.8nm,0.9s,baz=136,slow=7.0,SNR=16						
ILAR	Eielson Array	73.88	336	P	P	21 21 33.3	+0.1
	0.4nm,0.7s,baz=119,slow=5.8,SNR=4.8						
TORD	Torodi Ar. Bea	82.64	78	P	P	21 22 23.3	+0.6
	0.8nm,1.1s,baz=292,slow=6.5,SNR=3.6						

WEL 07 21:13:33.5±0.5, 38.12S×175.85E, h189km±4km, ML3.7/7, 7C-7D, Error ellipse: s-maj=3.2km s-min=2.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.00	99	⇑PN	Pn	21 14 02.0	-0.1
URZ				AML	AML	21 14 24.3	
TWVZ	Taurewa	1.01	199	⇑PN	Pn	21 14 02.6	+0.3
WTVZ	West Tongariro	1.02	191	⇑PN	Pn	21 14 02.6	+0.2
NGZ	Ngauruhoe	1.08	190	PN	Pn	21 14 03.0	+0.1
WPVZ	Whakapapa	1.11	192	PN	Pn	21 14 03.1	0.0
WPVZ				eSN	Sn	21 14 25.3	-0.9
TUVZ	Tukino	1.16	188	PN	Pn	21 14 03.5	0.0
TUVZ				SN	Sn	21 14 25.9	-1.0
FWVZ	Far West T-bar	1.16	191	PN	Pn	21 14 03.6	0.0
BKZ	Black Stump Fm	1.17	155	⇑PN	Pn	21 14 03.2	-0.2
BKZ				AML	AML	21 14 26.3	
BKZ				AML	AML	21 14 26.8	
TRVZ	Turoa	1.21	191	⇓PN	Pn	21 14 03.9	0.0
WNVZ	Wahianoa	1.23	189	⇓PN	Pn	21 14 04.0	-0.1
WNVZ				SN	Sn	21 14 26.3	-1.6
NMHZ	Naumai	1.24	143	PN	Pn	21 14 04.6	+0.6
NMHZ				SN	Sn	21 14 27.2	-0.6
PKVZ	Pokaka	1.24	198	PN	Pn	21 14 03.9	-0.1
RAHZ	Arahi	1.26	130	PN	Pn	21 14 04.4	+0.3
RAHZ				SN	Sn	21 14 26.6	-1.4
MOVZ	Moawhango	1.29	183	⇓PN	Pn	21 14 03.9	-0.5
MTVZ	Mangateitei	1.30	193	PN	Pn	21 14 04.4	-0.1
MWZ	Matawai	1.34	100	PN	Pn	21 14 04.8	0.0
SNGZ	Shannon Statio	1.35	120	⇑PN	Pn	21 14 05.1	+0.3
BHHZ	Black Hill Sta	1.38	173	PN	Pn	21 14 04.6	-0.6
WHHZ	Waihua	1.45	132	PN	Pn	21 14 05.8	+0.1
MCHZ	McNeill Hill	1.48	154	PN	Pn	21 14 06.4	+0.4
HAZ	Te Kaha	1.57	77	⇑PN	Pn	21 14 06.4	-0.4
KRHZ	Kereru	1.58	165	PN	Pn	21 14 06.6	-0.4
RIGZ	Rimuhau	1.61	112	PN	Pn	21 14 07.5	+0.1
KNZ	Kokohu	1.69	123	PN	Pn	21 14 07.9	-0.1
WAZ	Wanganui	1.77	202	PN	Pn	21 14 08.1	-0.8
CKHZ	Cape Kidnapper	1.82	149	PN	Pn	21 14 09.2	0.0
PNHZ	Pukenui	1.82	171	PN	Pn	21 14 08.3	-1.0
KAHZ	Kahuranaki	1.86	155	PN	Pn	21 14 09.6	-0.2
CNGZ	Carnagh Statio	1.89	102	PN	Pn	21 14 10.5	+0.5
PUZ	Puketiti	1.90	89	PN	Pn	21 14 10.1	0.0
MHGZ	Mahia Peninsul	1.92	123	PN	Pn	21 14 10.4	+0.1
TSZ	Takapari Road	1.94	177	⇓PN	Pn	21 14 09.6	-1.0
TSZ				AML	AML	21 14 37.8	
TSZ				AML	AML	21 14 39.0	
WPHZ	Waipukurau	2.00	167	PN	Pn	21 14 10.3	-0.8
MXZ	Matakaoa Point	2.02	75	PN	Pn	21 14 11.7	+0.4
PXZ	Pawanui	2.07	158	PN	Pn	21 14 11.2	-0.6
PXZ				AML	AML	21 14 39.1	
PXZ				AML	AML	21 14 40.8	
DVHZ	Dannevirke	2.20	174	PN	Pn	21 14 11.8	-1.5
PRHZ	Porangahau	2.24	164	PN	Pn	21 14 12.6	-1.1
POWZ	Post Office Ro	2.28	182	PN	Pn	21 14 12.6	-1.6
ANWZ	Angora Road	2.39	169	PN	Pn	21 14 14.2	-1.2
PRWZ	Pori Road	2.44	178	PN	Pn	21 14 14.6	-1.3
MRZ	Mangatainoka R	2.55	185	⇓PN	Pn	21 14 15.2	-2.0
MRZ				AML	AML	21 14 49.1	
MRZ				AML	AML	21 14 49.2	
BFZ	Birch Farm	2.58	173	⇑PN	Pn	21 14 15.7	-1.9
TIWZ	Tintock	2.66	179	PN	Pn	21 14 16.5	-2.0
TIWZ				AML	AML	21 14 49.8	
TIWZ				AML	AML	21 14 50.6	
OGWZ	Otaki Gorge	2.75	191	PN	Pn	21 14 17.5	-2.0
HOWZ	Holdsworth Sta	2.79	185	⇓PN	Pn	21 14 17.6	-2.5
CPWZ	Castlepoint	2.81	175	PN	Pn	21 14 16.7	-3.5
KIW	Kapiti Island	2.84	195	PN	Pn	21 14 18.2	-2.4
TMWZ	Te Maipa	2.99	179	PN	Pn	21 14 20.0	-2.4
CAW	Cannon Point	3.05	191	PN	Pn	21 14 20.6	-2.5
MTW	Mount Morrison	3.05	185	PN	Pn	21 14 20.3	-2.8
DUWZ	D'Urville Isla	3.07	208	PN	Pn	21 14 21.0	-2.4
PAWZ	Paruwai Farm	3.28	186	PN	Pn	21 14 22.9	-3.0
TRWZ	Traveller	3.28	182	PN	Pn	21 14 23.0	-2.9
SNZO	South Karori	3.31	195	PN	Pn	21 14 23.3	-2.9
TCW	Tory Channel	3.33	201	PN	Pn	21 14 23.8	-2.6
MSWZ	Moikau Station	3.33	188	PN	Pn	21 14 23.4	-3.1
MSWZ				AML	AML	21 15 03.5	
MSWZ				AML	AML	21 15 03.7	
BHW	Baring Head	3.38	193	PN	Pn	21 14 24.0	-3.0
PLWZ	Palliser	3.48	187	PN	Pn	21 14 25.1	-3.4
TUWZ	Tuamarina	3.62	203	PN	Pn	21 14 27.1	-3.0
NNZ	Nelson	3.64	211	PN	Pn	21 14 27.5	-2.8
QRZ	Quartz Range	3.73	222	PN	Pn	21 14 28.3	-3.2
THZ	Tophouse	4.29	211	PN	Pn	21 14 35.6	-2.9
KHZ	Kahutara	4.65	202	⇓PN	Pn	21 14 39.8	-3.1
LTZ	Lake Taylor	5.40	209	PN	Pn	21 14 48.9	-3.9
OXZ	Oxford	5.96	208	PN	Pn	21 14 55.5	-4.4
MQZ	McQueen's Vall	6.09	202	PN	Pn	21 14 56.4	-5.2

TEH 07 21:20:16.5, 27.82N×54.19E, h4km, ML4.0
NEIC 07 21:20:18.5, 27.72N×54.20E, h36km, mb4.4/10, MN4.0(TEH), After TEH.
IDC 07 21:20:18.3±1.2, 28.21N×54.16E, h0km, mb3.8/17, mb1 3.9/19, mb1mx3.8/45, mbtmp3.8/19, ML4.0/2, Error ellipse: s-maj=27.0km s-min=15.7km az=170.0
ISCJB 07 21:20:19.8±0.5, 28.14N±0.04×54.21E±0.04, h26km, mb3.9/28, Error ellipse: s-maj=5.1km s-min=5.3km az=18.0
CSEM 07 21:20:21.0±0.3, 28.14N×54.22E, h20km, mb4.0/12, Error ellipse: s-maj=7.9km s-min=6.5km az=162.0
THR 07 21:20:22.2±0.3, 28.38N×54.32E, h27km±11km, ML3.7
DSN 07 21:20:46.1±99.0, 26.84N×55.01E, h16km, mb3.2/5, Error ellipse: s-maj=89.6km s-min=68.2km az=337.0
ISC 07 21:20:21.0±0.5, 28.04N±0.05×54.20E±0.04, h26km, n161, σ1§31/177, mb3.9/28, 2C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.10	283	ePg	Pb	21 20 43.9	+2.4
	610nm,0.5s						
GHIR	Ghir-Karzin	1.10	283	ePg	Pb	21 20 43.9	+2.4
GHIR				AML	AML	21 21 08.0	
	comp=E,2μm,0.5s						
GHIR				AML	AML	21 21 11.5	
	comp=N,2μm,0.4s						
BNDS	Bandar-Abbas	1.86	110	ePN5	Pb	21 20 55.2	+0.8
BNDS				AML	AML	21 21 35.1	
	comp=N,598nm,0.6s						
BNDS				AML	AML	21 21 39.0	
	comp=E,610nm,0.5s						
IPAR	Pars	2.06	331	ePn	Pn	21 20 54.9	+0.6
IPAR				e		21 21 33.4	
	comp=Z,12μm,0.5s						
IPAR	Pars	2.06	331	Pn	Pn	21 20 55.2	+0.9
IPAR				Sn	Sn	21 21 21.1	+1.7
IPAR	Pars	2.06	331	ePn	Pn	21 20 54.9	+0.6
IPAR				Sn	Sn	21 21 21.1	+1.7
IKAZ	Kazeroun	2.70	311	ePn	Pn	21 21 03.0	-0.1
IKAZ				e		21 21 55.6	
	comp=Z,5μm,0.2s						
IKAZ	Kazeroun	2.70	311	Pn	Pn	21 21 04.4	+1.3
IKAZ				Sn	Sn	21 21 33.9	-1.3
IKAZ	Kazeroun	2.70	311	ePn	Pn	21 21 03.0	-0.1
IKAZ				Sn	Sn	21 21 33.9	-1.3
NAZ	Nazwa, Dubai	3.31	156	P	Pb	21 21 18.7	-0.3
NAZ	Nazwa, Dubai	3.31	156	⇓P	Pb	21 21 18.7	-0.3
IMEH	Mehriz	3.36	6	ePn	Pn	21 21 12.4	+0.3
IMEH				e		21 22 12.9	
	comp=Z,2μm,0.5s						
IMEH	Mehriz	3.36	6	Pn	Pn	21 21 12.9	+0.8
IMEH				Sn	Sn	21 21 52.0	+0.7
IMEH	Mehriz	3.36	6	ePn	Pn	21 21 12.4	+0.3
IMEH				Sn	Sn	21 21 52.0	+0.7
FAQ	Al Faqa, Dubai	3.51	159	P	Pb	21 21 21.3	-1.1
	SNR=15						
FAQ	Al Faqa, Dubai	3.51	159	⇑eP	Pb	21 21 21.3	-1.1
	SNR=15						
ASUD	Al Ashush, Dub	3.54	163	P	Pb	21 21 22.3	-0.7
	SNR=45						
ASUD	Al Ashush, Dub	3.54	163	⇑eP	Pb	21 21 22.3	-0.7
	SNR=45						
HATD	Hatta, Dubai	3.64	151	P	Pb	21 21 22.9	-1.7
	SNR=8.9						
HATD	Hatta, Dubai	3.64	151	eP	Pb	21 21 22.9	-1.7
	SNR=8.9						
IBAF	Bafgh	3.73	18	ePn	Pn	21 21 17.1	-0.1
IBAF				e		21 21 35.5	
	comp=Z,1μm,0.2s						
IBAF	Bafgh	3.73	18	Pn	Pn	21 21 17.0	-0.1
IBAF	Bafgh	3.73	18	ePn	Pn	21 21 17.1	-0.1
ISAD	Sadrabad	3.89	354	ePn	Pn	21 21 19.9	+0.5
ISAD				e		21 22 25.9	
	comp=Z,3μm,0.3s						
ISAD	Sadrabad	3.89	354	Pn	Pn	21 21 20.7	+1.3
ISAD				Sn	Sn	21 22 04.2	-0.2
ISAD	Sadrabad	3.89	354	ePn	Pn	21 21 19.9	+0.5
ISAD				Sn	Sn	21 22 04.2	-0.2
ICHK	Chekchek	4.20	2	ePn	Pn	21 21 23.8	+0.2
ICHK				e		21 21 44.6	
	comp=Z,2μm,0.3s						
ICHK	Chekchek	4.20	2	Pn	Pn	21 21 23.7	+0.2
ICHK	Chekchek	4.20	2	ePn	Pn	21 21 23.8	+0.2
IGAR	Gharneh	4.74	337	ePn	Pn	21 21 31.0	0.0
NASN	Na'in	4.90	346	ePn	Pn	21 21 32.6	-0.7
NASN	Na'in	4.90	346	ePn	Pn	21 21 32.6	-0.7
IZEF	Zefreh	5.11	342	ePn	Pn	21 21 35.1	-1.0
IZEF				e		21 22 07.8	
	comp=Z,340nm,0.4s						
IZEF	Zefreh	5.11	342	Pn	Pn	21 21 35.1	-1.0
IZEF				Sn	Sn	21 22 32.1	-2.3
IZEF	Zefreh	5.11	342	ePn	Pn	21 21 35.1	-1.0
IZEF				Sn	Sn	21 22 32.1	-2.3
IPIR	Pirpir	5.44	329	ePn	Pn	21 21 39.6	-1.2
IPIR				eSn	Sn	21 22 41.0	-1.7
IPIR				e		21 22 45.0	
	comp=Z,652nm,0.2s						
IPIR	Pirpir	5.44	329	Pn	Pn	21 21 39.9	-0.9
IPIR				Sn	Sn	21 22 40.2	-2.5
IPIR	Pirpir	5.44	329	ePn	Pn	21 21 39.6	-1.2
IPIR				eSn	Sn	21 22 41.0	-1.7
IKLH	Kolahrood	5.73	337	ePn	Pn	21 21 44.3	-0.3
IKLH				e		21 21 48.6	
	comp=Z,392nm,0.1s						
IKLH	Kolahrood	5.73	337	Pn	Pn	21 21 44.3	-0.3
IKLH	Kolahrood	5.73	337	ePn	Pn	21 21 44.3	-0.3
ZHSF	Zahedan	5.98	73	ePn	Pn	21 21 48.9	+0.9
ZHSF	Zahedan	5.98	73	ePn	Pn	21 21 48.9	+0.9
QAM	Ghamsar	6.18	338	ePn	Pn	21 21 49.8	-1.0
GHVR	GHOM	6.89	340	ePn	Pn	21 22 00.3	-0.1
GHVR	GHOM	6.89	340	ePn	Pn	21 22 00.3	-0.1
IVRN	Varamin	7.25	344	e	Pn	21 22 05.5	+0.2
	comp=Z,228nm,0.1s						
IVRN				ePn	Pn	21 22 04.9	-0.5
ILAS	Lasjerd	7.40	352	e	Pb	21 22 26.8	-2.0
	comp=Z,111nm,0.2s						
ILAS				ePn	Pn	21 22 07.4	-0.2
ILAS	Lasjerd	7.40	352	Pn	Pn	21 22 08.2	+0.6
ASAO	Ashtian	7.41	332	ePn	Pn	21 22 07.9	+0.2
ASAO	Ashtian	7.41	332	ePn	Pn	21 22 07.9	+0.2
IANJ	Anjilo	7.41	358	e	Pn	21 22 10.6	+2.8
	comp=Z,235nm,0.2s						
IANJ				ePn	Pn	21 22 07.1	-0.6
IFIR	Firoozkooh	7.68	351	ePn	Pn	21 22 11.4	-0.1
IFIR				e		21 22 14.4	
	comp=Z,121nm,0.1s						
IFIR	Firoozkooh	7.68	351	Pn	Pn	21 22 11.4	-0.1
IFIR	Firoozkooh	7.68	351	ePn	Pn	21 22 11.4	-0.1
IDMV	Damavand	7.74	347	ePn	Pn	21 22 11.9	-0.4
IDMV				e		21 22 12.8	
	comp=Z,138nm,0.2s						
IDMV	Damavand	7.74	347	Pn	Pn	21 22 12.1	-0.2
IDMV	Damavand	7.74	347	ePn	Pn	21 22 11.9	-0.4
IALA	Alasht	8.11	352	ePn	Pn	21 22 17.6	+0.2
IALA	Alasht	8.11	352	ePn	Pn	21 22 17.6	+0.2
IRAZ	Razeghan	8.20	335	ePn	Pn	21 22 17.4	-1.1
IRAZ				e		21 22 38.8	
	comp=Z,160nm,0.3s						
IRAZ	Razeghan	8.20	335	Pn	Pn	21 22 17.4	-1.1
IRAZ	Razeghan	8.20	335	ePn	Pn	21 22 17.4	-1.1
IKOM	Komasi	8.38	319	ePn	Pn	21 22 19.4	-1.7
IKOM				e		21 23 56.5	
	comp=N,2μm,0.3s						
IKOM	Komasi	8.38	319	Pn	Pn	21 22 19.3	-1.7
IKOM	Komasi	8.38	319	ePn	Pn	21 22 19.4	-1.7
IBZA	Bozab	8.40	321	ePn	Pn	21 22 19.9	-1.4
IBZA				e		21 22 20.8	
	comp=Z,291nm,0.2s						
IBZA				eSn	Sn	21 23 51.3	-4.2
IBZA	Bozab	8.40	321	Pn	Pn	21 22 19.8	-1.5
IBZA	Bozab	8.40	321	ePn	Pn	21 22 19.9	-1.4
IBZA				eSn	Sn	21 23 51.3	-4.2
IGLO	Ghaloghah	8.45	358	ePn	Pn	21 22 21.6	-0.3
IGLO				e		21 22 35.9	
	comp=Z,315nm,0.3s						
IGLO	Ghaloghah	8.45	358	Pn	Pn	21 22 23.0	+1.1
RAYN	Ar Rayn	9.04	242	ePn	Pn	21 22 32.1	+2.2
	comp=Z,21nm,0.4s						
RAYN				eSn	Sn	21 24 03.5	-7.4
RAYN	Ar Rayn	9.04	242	ePn	Pn	21 22 32.1	+2.2
	comp=Z,21nm,0.4s						
IGHG	Ghaleghazi	9.06	316	ePn	Pn	21 22 28.5	-1.8
IGHG				e		21 22 35.1	
	comp=Z,319nm,0.1s						
IGHG	Ghaleghazi	9.06	316	Pn	Pn	21 22 28.5	-1.8
IGHG	Ghaleghazi	9.06	316	ePn	Pn	21 22 28.5	-1.8
ILIN	Lien	9.23	320	ePn	Pn	21 22 28.9	-3.8
ILIN				e		21 22 34.6	
	comp=Z,245nm,0.1s						
ILIN	Lien	9.23	320	Pn	Pn	21 22 28.9	-3.8
ILIN	Lien	9.23	320	ePn	Pn	21 22 28.9	-3.8
KBL	Kabul	14.24	59	ePn	Pn	21 23 38.9	-2.4
	comp=Z,6.3nm,0.4s						
GNI	Garni	14.39	330	Pn	P	21 23 50.8	+0.9
	comp=Z,0.2nm,0.3s,baz=135,slow=4.3,SNR=4.8						
ASF	Jabal al Asfar	15.53	290	Pn	Pn	21 23 55.4	-3.0
	comp=Z,0.5nm,0.3s,baz=64,slow=10,SNR=6.0						
DAMY	Dhamar	16.20	216	ePn	Pn	21 24 01.3	-6.1
MMAI	Mount Meron Ar	16.93	292	Pn	Pn	21 24 16.6	+0.3
	comp=Z,0.6nm,0.3s,baz=97,slow=16,SNR=3.6						
KKAR	Karatay Array	20.00	37	eP	P	21 24 50.3	-1.3
	comp=Z,2.7nm,0.8s						
KKAR	Karatay Array	20.00	37	eP	P	21 24 50.3	-1.3
	comp=Z,2.7nm,0.8s						
BR131	Keskin Array S	20.62	310	eP	P	21 24 56.6	-2.0
	comp=Z,3.1nm,0.6s						
BR131	Keskin Array S	20.62	310	eP	P	21 24 56.6	-2.0
	comp=Z,3.1nm,0.6s						
BRTR	Keskin Array B	20.62	310	P	P	21 24 59.0	+0.5
	comp=Z,2.6nm,0.7s,baz=174,slow=6.1,SNR=25						
KSH	Kashi	21.36	52	eP	P	21 25 06.8	+0.3
KSH				epP	pP	21 25 18.6	+5.0
KSH				pmax	pmax		
	comp=Z,2.0nm,0.6s						
EKS2	Erkin-Say	21.56	42	eP	P	21 25 06.7	-1.9
EKS2	Erkin-Say	21.56	42	eP	P	21 25 06.7	-1.9
ABKAR	Akbulak array	21.64	10	eP	P	21 25 08.3	-0.9
	comp=Z,1.5nm,0.5s						
ABKAR	Akbulak array	21.64	10	eP	P	21 25 08.4	-0.9
	comp=Z,1.5nm,0.5s						
AAK	Ala-Archa	21.97	43	P	P	21 25 12.4	-0.6
	comp=Z,0.3nm,0.4s,baz=191,slow=17,SNR=2.4						
AKTO	Aktyubinsk	22.56	6	P	P	21 25 18.9	-0.2
	comp=Z,1.8nm,0.6s,baz=188,slow=12,SNR=6.0						
BVAR	Borovoye Array	27.70	21	P	P	21 26 06.8	-0.2
	comp=Z,1.9nm,0.8s,baz=215,slow=8.6,SNR=12						
BVAR				PcP	PcP	21 29 24.2	+0.9
	comp=Z,0.3nm,0.4s,baz=211,slow=2.7,SNR=5.7						
MK31	Makanchi Array	28.89	42	eP	P	21 26 14.9	-2.7
MKAR	Makanchi Array	28.89	42	P	P	21 26 17.9	+0.3
	comp=Z,0.7nm,0.6s,baz=235,slow=10,SNR=15						
KURBB	Kurchatov Arra	29.13	33	P	P	21 26 19.7	0.0
	comp=Z,0.3nm,0.6s,baz=234,slow=8.6,SNR=3.8						
KURK	Kurchatov	29.24	33	P	P	21 26 19.7	-0.9
KURK	Kurchatov	29.24	33	P	P	21 26 19.7	-0.9
AKASG	Malin Array Be	29.50	327	P	P	21 26 22.0	-0.9
	comp=Z,0.6nm,0.4s,baz=134,slow=8.2,SNR=8.7						
ZALV	Zalesovo Beam	34.23	32	P	P	21 27 03.9	-0.5
	comp=Z,0.9nm,0.3s,baz=240,slow=8.5,SNR=7.1						
GERES	GERESS Array B	37.34	315	P	P	21 27 31.3	0.0

comp=Z,0.2nm,0.5s,baz=96,slow=9.0,SNR=4.1
JOF Joensuu 37.96 343 ep P 21 27 34.6 -1.6
comp=Z,1.7nm,0.6s
JOF Joensuu 37.96 343 eP P 21 27 34.6 -1.6
comp=Z,1.7nm,0.6s
FINES FINESS Array B 38.31 339 P P 21 27 38.9 -0.3
comp=Z,2.4nm,0.7s,baz=137,slow=11,SNR=12
KAF Kangasniemi 38.74 339 ep P 21 27 42.5 -0.3
comp=Z,0.3nm,0.3s
KAF Kangasniemi 38.74 339 eP P 21 27 42.5 -0.3
comp=Z,0.3nm,0.3s
MBDF Montbardon 41.05 307 eP P 21 28 03.6 +1.2
comp=Z,9.1nm,0.9s
MBDF Montbardon 41.05 307 eP P 21 28 03.6 +1.2
comp=Z,9.1nm,0.9s
MBDF Montbardon 41.05 307 eP P 21 28 03.6 +1.2
comp=Z,4.6nm,0.9s
LPG La Plagne 41.17 308 eP P 21 28 05.2 +1.6
comp=Z,11nm,0.9s
LPG La Plagne 41.17 308 eP P 21 28 05.2 +1.6
comp=Z,11nm,0.9s
LPG La Plagne 41.17 308 eP P 21 28 05.2 +1.6
comp=Z,5.4nm,0.9s
LPL La Plagne 41.18 308 eP P 21 28 04.9 +1.3
LPL La Plagne 41.18 308 eP P 21 28 04.9 +1.3
LPL La Plagne 41.18 308 eP P 21 28 04.9 +1.3
CABF La Chapelle 41.79 310 eP P 21 28 08.3 -0.1
comp=Z,16nm,1.0s
CABF La Chapelle 41.79 310 eP P 21 28 08.3 -0.1
comp=Z,16nm,1.0s
CABF La Chapelle 41.79 310 eP P 21 28 08.3 -0.1
comp=Z,7.8nm,1.0s
VIVF Saint-Julien-l 42.55 307 eP P 21 28 16.5 +2.0
VIVF Saint-Julien-l 42.55 307 eP P 21 28 16.5 +2.0
VIVF Saint-Julien-l 42.55 307 eP P 21 28 16.5 +2.0
SFTF Sexfontaines 42.76 312 eP P 21 28 17.1 +0.9
comp=Z,6.6nm,0.7s
SFTF Sexfontaines 42.76 312 eP P 21 28 17.1 +0.9
comp=Z,6.6nm,0.7s
SFTF Sexfontaines 42.76 312 eP P 21 28 17.1 +0.9
comp=Z,3.3nm,0.7s
SMF Signal de Mont 43.33 309 eP P 21 28 20.3 -0.5
comp=Z,5.2nm,0.6s
SMF Signal de Mont 43.33 309 eP P 21 28 20.3 -0.5
comp=Z,5.2nm,0.6s
SMF Signal de Mont 43.33 309 eP P 21 28 20.3 -0.5
comp=Z,2.6nm,0.6s
LOR Lormes 43.40 310 eP P 21 28 22.2 +0.8
LOR Lormes 43.40 310 eP P 21 28 22.2 +0.8
LOR Lormes 43.40 310 eP P 21 28 22.2 +0.8
NB2 NORSAR Subarra 43.68 331 P P 21 28 22.3 -1.2
comp=Z,1.1nm,0.6s,baz=122,slow=8.6
NB2 NORSAR Subarra 43.68 331 P P 21 28 22.3 -1.2
comp=Z,1.1nm,0.6s,SNR=4.8
NOA NORSAR Array B 43.68 331 P P 21 28 22.5 -1.0
comp=Z,1.1nm,0.8s,baz=123,slow=8.4,SNR=4.6
CAF Calviac 44.40 307 eP P 21 28 30.9 +1.4
comp=Z,6.4nm,0.8s
CAF Calviac 44.40 307 eP P 21 28 30.9 +1.4
comp=Z,6.4nm,0.8s
CAF Calviac 44.40 307 eP P 21 28 30.9 +1.4
comp=Z,3.2nm,0.8s
KEV Kevo 44.60 347 ep P 21 28 30.2 -0.4
comp=Z,0.5nm,0.3s
KEV Kevo 44.60 347 eP P 21 28 30.2 -0.4
comp=Z,0.5nm,0.3s
SONM Songino Array 44.72 49 P P 21 28 33.4 +1.3
comp=Z,1.5nm,1.1s,baz=260,slow=8.5
ARCES ARCESS Array B 44.73 346 P P 21 28 31.7 0.0
comp=Z,1.5nm,0.6s,baz=144,slow=9.5,SNR=14
RJF Les Rejaudoux 44.81 307 eP P 21 28 34.1 +1.4
RJF Les Rejaudoux 44.81 307 eP P 21 28 34.1 +1.4
RJF Les Rejaudoux 44.81 307 eP P 21 28 34.1 +1.4
LFF La Frestale 45.34 307 eP P 21 28 36.8 -0.1
comp=Z,7.9nm,0.6s
LFF La Frestale 45.34 307 eP P 21 28 36.8 -0.1
comp=Z,7.9nm,0.6s
LFF La Frestale 45.34 307 eP P 21 28 36.8 -0.1
comp=Z,4.0nm,0.6s
LDF La Druitiere 46.22 312 eP P 21 28 42.7 -1.1
LDF La Druitiere 46.22 312 eP P 21 28 42.7 -1.1
LDF La Druitiere 46.22 312 eP P 21 28 42.7 -1.1
GRR Gorron 46.69 311 eP P 21 28 46.8 -0.7
GRR Gorron 46.69 311 eP P 21 28 46.8 -0.7
GRR Gorron 46.69 311 eP P 21 28 46.8 -0.7
ESDC Sonseca Array 48.91 300 P P 21 29 05.3 +0.3
comp=Z,0.1nm,0.3s,baz=68,slow=7.9,SNR=3.4
TORD Torodi Ar. Bea 50.97 264 P P 21 29 21.9 +1.2
comp=Z,2.9nm,0.6s,baz=57,slow=7.9,SNR=65
TORD Torodi Ar. Bea 50.97 264 P P 21 29 22.0 +1.2
YKA Yellowknife Ar 89.34 355 P P 21 33 15.4 +0.6
comp=Z,0.4nm,0.7s,baz=4.0,slow=5.0,SNR=14
ASAR Alice Springs 92.39 115 P P 21 33 31.6 +1.9
comp=Z,0.4nm,0.7s,baz=302,slow=5.2,SNR=3.3

NEIC ***07*** *21:21:43.6±0.2, 0.02S×123.25E, mb4.9/44, Error ellipse: s-maj=4.8km s-min=3.8km az=66.0*
NEIC Felt [III] at Luwuk.
BJI ***07*** *21:21:43.4, 0.00N×123.30E, h148km, mB4.9/38, mb4.8/53*
ISCJB ***07*** *21:21:44.0±0.3, 0.02S±0.02×123.29E±0.02, h162km±2km, mb4.7/104, Error ellipse: s-maj=4.0km s-min=3.2km az=139.5*
KLM ***07*** *21:21:45.0, 0.12S×123.30E, h141km, mb5.0, ML5.0, MS6.0*
IDC ***07*** *21:21:44.1±1.6, 0.02S×123.14E, h149km±13km, mb4.3/29, mb1 4.3/29, mb1mx4.3/40, mbtmp4.7/29, MS3.1/4, Ms1 3.2/4, ms1mx2.8/31, Error ellipse: s-maj=12.7km s-min=8.4km az=67.0*
DJA ***07*** *21:21:45.5±0.1, 0°S±2°×12°3E±°, h127km±2km, M4.7/44, mB5.2/21, mb4.8/44, MLv5.2/26, Mw(mB)4.6/21*
MOS ***07*** *21:21:47.2±0.9, 0.02N×123.21E, h198km, mb4.8/26, Error ellipse: s-maj=13.8km s-min=6.4km az=113.9*
ISC 07 21:21:44.2±0.3, 0.08S±0.03×123.26E±0.03, h150km±2km, h150km:pP-P, n291, σ1§58/339, mb4.8/104, 11C-11D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.97	48	P	Pn	21 22 09.9	+1.2
KMSI				S	Sn	21 22 30.0	+2.6
LUWI	Luwuk	1.08	207	P	Pn	21 22 08.5	-1.2
LUWI				S	Sn	21 22 26.7	-2.4
LUWI	Luwuk	1.08	207	ePn	Pn	21 22 08.3	-1.4
LUWI				eSn	Sn	21 22 25.7	-3.4
MRSI	Marisa	1.43	293	P	Pn	21 22 11.8	-1.3
MRSI				S	Sn	21 22 31.5	-3.6
APSI	Ampana	1.81	243	P	Pn	21 22 16.5	-0.7
TOLI	Toli-Toli	2.74	296	ePn	Pn	21 22 27.6	-0.8
TOLI				eSn	Sn	21 23 01.9	-0.5
SANI	Sanana	3.36	126	P	Pn	21 22 34.7	-1.4
SANI				S	Sn	21 23 10.9	-5.5
TNTI	Ternate	4.19	78	P	Pn	21 22 47.6	+0.6
TNTI				S	Sn	21 23 33.1	-2.7
TNTI	Ternate	4.19	78	ePn	Pn	21 22 46.1	-0.8
LBMI	Labuha	4.27	97	P	Pn	21 22 47.6	-0.5
LBMI				S	Sn	21 23 35.5	-2.3
SGSI	Sangihe	4.37	31	P	Pn	21 22 53.4	+4.0
TTSI	Tana Toraja	4.53	229	P	Pn	21 22 51.5	0.0
NLAI	Namlea	4.96	129	P	Pn	21 22 58.1	+1.0
SPSI	Sidrap Palu	5.21	222	P	Pn	21 23 00.6	+0.2
	283nm,0.8s,3μm1.1nm						
BNSI	Bone	5.33	216	P	Pn	21 23 03.3	+1.3
	229nm,0.8s,2μm0.9nm						
KAPI	Kappang	6.03	216	Pn	Pn	21 23 13.9	+2.6
	511nm,0.5s,SNR=6.5						
KAPI	Kappang	6.03	216	ePn	Pn	21 23 11.8	+0.4
KAPI				eSn	Sn	21 24 17.8	-1.7
BKSI	Bulukumba	6.08	211	P	Pn	21 23 13.6	+1.6
	86nm,0.6s,1μm0.5nm						
BKB	Balikpapan	6.47	260	P	Pn	21 23 18.6	+1.3
	516nm,0.8s,1.6nm						
MSAI	Masohi	6.53	120	P	Pn	21 23 20.2	+2.2
	38nm,1.0s,565nm0.6nm						
MYLDM	Lahad Datu	7.06	318	ePn	Pn	21 23 26.6	+1.4
MYLDM				eSn	Sn	21 24 42.9	-1.5
MYLDM	Lahad Datu	7.06	318	⇓P	Pn	21 23 27.1	+1.9
KBKI	Kotabaru	7.78	246	P	Pn	21 23 43.6	+8.9
PAGZ	Pagadian	7.87	1	eP	Pn	21 23 37.7	+1.7
BNDI	Bandanaira	7.97	124	P	Pn	21 23 38.9	+1.7
	588nm,0.8s,6μm1.8nm						
SWI	Sorong	8.04	96	P	Pn	21 23 39.9	+1.8
	50nm,0.8s,1μm0.5nm						
BUKP	Musuan	8.11	13	eP	Pn	21 23 42.8	+3.7
SDKM	Sandakan	8.30	313	⇓P	Pn	21 23 44.4	+2.6
MMRI	Maumere	8.56	187	ePn	Pn	21 23 53.6	+8.4
CGP	Cagayan de Oro	8.60	10	eP	Pn	21 23 47.7	+2.1
BBKI	Banjar Baru	9.06	248	P	Pn	21 23 54.4	+2.6
	62nm,0.8s,5μm						
KKM	Kota Kinabalu	9.30	311	ePn	Pn	21 23 55.0	-0.1
KKM				eSn	Sn	21 25 36.7	-1.7
KKM	Kota Kinabalu	9.30	311	P	Pn	21 23 57.8	+2.7
	baz=9.3,SNR=26						
KKM				S	Sn	21 25 37.0	-1.3
	baz=9.3,SNR=4.9						
KKM	Kota Kinabalu	9.30	311	⇑P	Pn	21 23 57.0	+1.9
FAKI	Fak Fak	9.41	108	P	Pn	21 23 56.5	0.0
	37nm,0.8s						
FAKI	Fak Fak	9.41	108	ePn	Pn	21 23 56.2	-0.3
FAKI				eSn	Sn	21 25 31.0	-10
FAKI	Fak Fak	9.41	108	P	Pn	21 23 56.3	-0.3
	baz=9.4,SNR=30						
FAKI				S	Sn	21 25 35.8	-5.2
	baz=9.4,SNR=6.6						
KDM	Kudat	9.46	317	⇓P	Pn	21 23 59.8	+2.7
SOEI	Soe	9.67	174	P	Pn	21 24 03.3	+3.3
	143nm,1.0s,1μm						
SOEI	Soe	9.67	174	ePn	Pn	21 24 00.9	+0.9
SOEI	Soe	9.67	174	P	Pn	21 24 04.7	+4.7
	baz=9.7,SNR=7.0						
WSI	Waingapu	9.97	197	P	Pn	21 24 06.3	+2.4
	223nm,1.2s,3μm						
MSLP	Maasin	10.27	9	eP	Pn	21 24 12.1	+4.3
GUIM	Jordan	10.65	356	eP	Pn	21 24 16.7	+3.8
BTM	Bintulu	10.68	288	⇓P	Pn	21 24 16.0	+2.7
CUYO	Cuyo Island	11.08	348	eP	P	21 24 23.6	-3.4
SRBI	Singaraja	11.30	225	P	Pn	21 24 24.0	+2.6
	52nm,1.0s						
SBUM	Sibu	11.32	283	ePn	P	21 24 30.0	+0.4
KMMI	Kalianget	11.57	233	P	P	21 24 38.1	+5.7
DNP	Denpasar	11.72	223	P	P	21 24 38.2	+4.2
STKI	Sintang	11.79	271	P	P	21 24 35.9	+1.1
ENPP	El Nido	11.84	341	eP	P	21 24 33.8	-1.5
IGBI	Denpasar	11.86	223	P	P	21 24 39.0	+3.4
PBKI	Pangkalan Bun	11.88	257	P	Pn	21 24 31.2	+2.2
	85nm,0.9s						
JAGI	Jajag, Banyuwa	12.32	227	P	Pn	21 24 37.1	+2.3
	58nm,1.0s,1μm						
JAGI	Jajag, Banyuwa	12.32	227	ePn	Pn	21 24 35.2	+0.5
	42nm,0.9s						
OTRP	Odiongan	12.42	354	eP	P	21 24 42.6	+0.8
SJMP	San Jose	12.64	350	eP	P	21 24 47.2	+3.0
GMJI	Gumukmas	12.73	230	P	P	21 24 49.3	+4.1
KSM	Kuching	13.04	277	ePn	Pn	21 24 43.0	-1.1
KSM	Kuching	13.04	277	P	P	21 24 50.0	+1.2
	baz=13,SNR=5.4						
KSM	Kuching	13.04	277	⇑P	P	21 24 48.5	-0.2
SRPI	Serui, Papua	13.10	98	P	P	21 24 52.9	+3.5
PALU	Palau	13.39	56	P	P	21 24 50.7	-2.0
	baz=13,SNR=5.7						
BOAC	Boac	13.52	354	eP	P	21 24 56.6	+2.6
PVCP	Virac	13.61	4	eP	P	21 24 55.6	+0.6
NGJI	Ngawi	13.82	238	P	P	21 25 03.5	+6.1
PWJI	Pagerwojo	13.88	235	P	P	21 24 59.8	+1.7
	19nm,0.8s						
LUBP	Lubang	14.04	348	eP	P	21 25 02.9	+3.1
TGY	Tagaytay City	14.28	351	P	P	21 25 03.8	+1.3
	32nm,0.3s,baz=230,slow=8.5,SNR=6.9						
PCJI	Pacitan	14.49	236	P	P	21 25 12.5	+7.6
MTN	Manton Dam	14.89	149	P	Pn	21 25 07.9	+0.5
	baz=15,SNR=58						
KDU	Kakadu	15.50	144	P	P	21 25 15.8	-0.3
	baz=16,SNR=34						
KDU				S	S	21 28 34.6	+24
	baz=16,SNR=5.0						
SMPI	Sarmi	15.56	97	P	P	21 25 18.5	+1.8
	45nm,1.2s						
KPJI	Karang Pucung	16.01	243	P	P	21 25 23.8	+2.1
	62nm,0.8s						
KNRA	Kununurra	16.42	161	P	P	21 25 27.6	+1.4
	baz=16,SNR=34						
LEM	Lembang	16.99	246	P	Pn	21 25 34.9	+1.7
	28nm,0.8s						
CISI	Cisompet, Garu	17.10	244	P	Pn	21 25 35.0	+0.5
	69nm,0.8s,733nm						
CISI	Cisompet, Garu	17.10	244	eP	P	21 25 33.6	-0.2
	50nm,0.6s						
CISI	Cisompet, Garu	17.10	244	P	P	21 25 34.2	+0.4
	baz=17,SNR=5.3						
CBJI	Citeko	17.55	249	P	Pn	21 25 40.3	+0.5
	184nm,0.8s						
SZP	Santa	17.73	351	eP	P	21 25 40.9	+0.2
	68nm,0.8s						
CGJI	Cibinong	18.69	249	P	Pn	21 25 52.8	-0.5
	40nm,0.7s						
DLV	T Lat	18.92	310	eP	P	21 25 53.9	+0.2
	50nm,0.7s						
MYKOM	Kota Tinggi	19.50	276	eP	P	21 26 00.7	+0.8
	15nm,0.7s						
MYKOM	Kota Tinggi	19.50	276	⇑P	P	21 26 01.1	+1.2
KASI	Kota Agung	19.50	254	P	Pn	21 26 01.7	-1.1
	29nm,0.6s						
MDSI	Maura Dua	19.56	257	P	P	21 26 00.9	+0.3
	22nm,1.0s						
KGM	Kluang	20.05	276	⇓P	Pn	21 26 08.5	-0.7
MNAI	Manna	20.73	258	eP	P	21 26 13.4	+0.2
	78nm,0.7s						
KTGM	Kuala Trenggan	20.80	285	⇑P	Pn	21 26 16.4	-1.9
MBWA	Marble Bar	21.23	189	eP	P	21 26 17.5	-0.9
	21nm,0.9s						
WRAB	Tennant Creek	22.52	152	P	P	21 26 31.5	-0.2
	327nm,0.7s,SNR=54						
WRAB	Tennant Creek	22.52	152	eP	P	21 26 31.9	+0.2
WRAB				pmax	pmax		
	comp=Z,34nm,0.7s						
WRAB	Tennant Creek	22.52	152	eP	P	21 26 31.9	+0.2
	comp=Z,34nm,0.7s						
WRA	Warramunga Arr	22.53	152	P	P	21 26 31.6	-0.1
	comp=Z,26nm,0.6s,baz=331,slow=10,SNR=243						
WRA				PcP	PcP	21 30 21.1	+0.8
	comp=Z,1.6nm,0.6s,baz=329,slow=2.1,SNR=6.9						
WRA				S	S	21 30 26.1	-1.5
	comp=Z,3.8nm,0.8s,baz=337,slow=16,SNR=5.4						
WRA				ScP	ScP	21 33 43.7	-0.3
	comp=Z,0.8nm,0.4s,baz=322,slow=2.6,SNR=8.8						
IPM	Ipoh	22.67	282	eP	P	21 26 34.0	+0.9
	comp=Z,25nm,0.7s						
IPM	Ipoh	22.67	282	⇑P	P	21 26 34.7	+1.6
PDSI	Padang	22.82	268	P	P	21 26 34.9	+0.4
	comp=Z,55nm,1.1s,comp=Z,503nm						
TWG	Pinlang	22.86	355	eP	P	21 26 34.8	0.0
	comp=Z,108nm,0.8s						
QIZ	Qiongzhong	23.11	326	P	P	21 26 38.2	+1.1
QIZ				S	S	21 30 40.2	+3.2
QIZ				pmax	pmax		
	comp=Z,68nm,1.0s						
QIZ	Qiongzhong	23.11	326	eP	P	21 26 37.0	-0.1
	comp=Z,53nm,0.8s						
KULM	Kulim	23.20	284	eP	P	21 26 37.8	-0.2
	comp=Z,29nm,0.8s						
KULM	Kulim	23.20	284	⇓P	P	21 26 39.9	+1.9
UBPT	Khong Chiam	23.28	312	P	P	21 26 40.1	+1.4
	comp=Z,68nm,0.8s						
TPUB	Ta-pu	23.38	354	eP	P	21 26 39.0	-0.5
	comp=Z,140nm,1.0s						
YULB	Yu-li	23.41	355	eP	P	21 26 39.1	-0.6
	comp=Z,25nm,0.7s						
SSLB	Suanglung	23.83	355	eP	P	21 26 42.5	-1.1
	comp=Z,64nm,1.2s						
SSLB				epP	pP	21 27 12.7	-0.5
COEN	Coen	24.06	126	eP	P	21 26 46.2	+0.5
	comp=Z,84nm,0.8s						
COEN	Coen	24.06	126	P	P	21 26 46.7	+0.9
	baz=24,SNR=14						
COEN				S	S	21 30 59.2	+6.8
	baz=24,SNR=5.7						
GIRL	Giralia	24.09	201	P	P	21 26 46.0	0.0
	baz=24,SNR=3.1						
NACB	Ninganchiao	24.16	356	eP	P	21 26 45.7	-0.9
	comp=Z,131nm,2.2s						
CHBT	CHBT	24.36	302	P	P	21 26 50.8	+2.3
	comp=Z,139nm,0.9s,comp=Z,1μm						
YOJ	Yonaguni jima	24.39	359	eP	P	21 26 48.3	-0.4
YOJ				pmax	pmax		
	comp=Z,24nm,0.8s						
YOJ	Yonaguni jima	24.39	359	eP	P	21 26 48.2	-0.4
	comp=Z,24nm,0.8s						
PSI	Prapat	24.50	277	P	P	21 26 49.7	-0.3
	comp=Z,8.0nm,0.9s,baz=70,slow=2.9,SNR=12						
PSI				PcP	PcP	21 30 24.0	-0.7
	comp=Z,0.7nm,0.3s,baz=134,slow=11,SNR=3.5						
PSI				LR	LR	21 38 33.9	
	comp=Z,32nm,19.0s,baz=111,slow=42						
PSI	Prapat	24.50	277	P	P	21 26 50.4	+0.4
	baz=24,SNR=5.1						
YHNB	Yeheng	24.67	356	eP	P	21 26 51.1	-0.2
	comp=Z,20nm,0.6s						
WRKA	Warakurna	25.29	169	P	P	21 26 57.5	+0.7
	baz=25,SNR=41						
PMG	Port Moresby	25.53	112	P	P	21 27 00.3	+1.2
	comp=Z,8.7nm,0.5s,baz=297,slow=2.3,SNR=6.2						
ASAR	Alice Springs	25.62	157	P	P	21 27 00.5	+0.5
	comp=Z,4.9nm,0.8s,baz=348,slow=18,SNR=50						
ASAR				PcP	PcP	21 30 27.5	+0.6
	comp=Z,4.8nm,0.5s,baz=344,slow=2.2,SNR=22						
ASAR				ScP	ScP	21 33 52.2	-0.2
	comp=Z,0.6nm,0.6s,baz=333,slow=2.5,SNR=5.7						
GSI	Gunungsitoli	25.72	273	eP	P	21 27 01.2	+0.3
QIS	Mount Isa	25.88	143	P	P	21 27 03.7	+1.5
	baz=26,SNR=20						
SURT	Suratani	25.97	291	P	P	21 27 07.5	+4.4
	comp=Z,8.8nm,0.9s						
MEEK	Meekatharra	26.78	189	P	P	21 27 10.0	-0.3
	baz=27,SNR=9.4						
MTSU	Mount Surprise	27.39	132	P	P	21 27 18.3	+2.5
	baz=28,SNR=3.8						
PBKT	Sadao Pong	27.51	308	P	P	21 27 19.3	+2.5
	comp=Z,12nm,0.9s						
SRDT	SRDT	27.86	302	P	P	21 27 23.4	+3.4
	comp=Z,44nm,1.0s,comp=Z,7μm						
SLVN	Son La	28.46	320	eP	P	21 27 24.9	-0.5
	comp=Z,11nm,1.1s						
UTTA	Uttaradit	28.51	310	P	P	21 27 27.8	+2.1
	comp=Z,3.8nm,0.7s						
KHLT	Khaolaem Dam	28.52	302	P	P	21 27 28.1	+2.2
	comp=Z,8.5nm,1.0s						
SUKH	Sukhothai	29.08	308	P	P	21 27 32.6	+1.8
	comp=Z,15nm,0.7s,comp=Z,106nm						
MORW	Morawa	29.64	193	P	P	21 27 35.7	0.0
	baz=30,SNR=4.5						
LAMP	Lampang	29.68	310	P	P	21 27 38.6	+2.6
	comp=Z,5.8nm,0.8s						
CMAR	Chiang Mai Arr	30.17	309	P	P	21 27 41.0	+0.6
	comp=Z,4.3nm,0.6s,baz=141,slow=7.2,SNR=36						
CMAR				PcP	PcP	21 30 39.0	+0.9
	comp=Z,3.5nm,0.8s,baz=167,slow=1.9,SNR=12						
CMAR				ScP	ScP	21 34 06.3	-0.2
	comp=Z,0.8nm,0.4s,baz=174,slow=2.8,SNR=4.9						
CMAR				LR	LR	21 41 44.2	
	comp=Z,56nm,18.3s,baz=96,slow=40						
CMMT	Chiang Mai	30.37	310	P	P	21 27 43.3	+1.1
	comp=Z,24nm,1.3s						
CHTO	Chiang Mai	30.37	310	eP	P	21 27 41.8	-0.4
CHTO				pmax	pmax		
	comp=Z,17nm,1.0s						
CHTO	Chiang Mai	30.37	310	P	P	21 27 43.3	+1.1
	comp=Z,85nm,1.3s						
CHTO	Chiang Mai	30.37	310	eP	P	21 27 41.8	-0.4
	comp=Z,17nm,1.0s						
GYA	Guiyang	30.85	330	⇑iP	P	21 27 47.9	+1.4
GYA				pP	pP	21 28 20.4	+2.0
GYA				sP	sP	21 28 37.0	+1.3
GYA				PcP	PcP	21 30 40.0	+0.1
GYA				S	S	21 32 42.8	+3.4
GYA				pmax	pmax		
	comp=Z,30nm,0.7s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
FORT	Forrest	30.87	172	eP	P	21 27 46.5	+0.1
	comp=Z,50nm,0.7s						
FORT	Forrest	30.87	172	P	P	21 27 47.1	+0.7
	baz=31,SNR=13						
CMAI	Chiengmai2	30.95	311	P	P	21 27 49.1	+1.6
	comp=Z,23nm,0.7s						
BLDU	Ballidu	31.00	191	P	P	21 27 47.4	-0.2
	baz=31,SNR=18						
KLBR	Kellerberrin	31.77	189	P	P	21 27 54.0	-0.4
	baz=32,SNR=7.8						
KMI	Kunming	31.96	323	P	P	21 27 58.7	+2.3
KMI				pP	pP	21 28 27.1	-1.2
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
NJ2	Nanjing	32.23	353	eP	P	21 27 59.6	+1.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CBIJ	Chichi jima	32.57	32	eP	P	21 28 00.8	-0.6
	comp=Z,183nm,0.5s						
JCJ	Chichijima	32.57	32	P	P	21 28 01.4	0.0
	comp=Z,414nm,0.5s,baz=213,slow=3.2,SNR=24						
ENH	Enshi	32.91	338	eP	P	21 28 04.4	+0.1
	comp=Z,12nm,0.8s						
QLP	Quilpie	33.20	144	P	P	21 28 09.0	+2.2
	baz=33,SNR=7.4						
JNU	Nakatsue	33.79	12	P	P	21 28 11.1	-0.8
	comp=Z,13nm,0.8s,baz=234,slow=3.6,SNR=7.5						
BBOO	Buckleboo	34.72	161	eP	P	21 28 19.9	0.0
	comp=Z,159nm,0.8s						
BBOO	Buckleboo	34.72	161	P	P	21 28 20.5	+0.6
	baz=35,SNR=9.9						
RKGY	Rocky Gully	34.85	189	P	P	21 28 22.6	+1.7
	baz=35,SNR=8.2						
CD2	Chengdu	35.95	331	eP	P	21 28 32.8	+2.3
CD2				pP	pP	21 29 03.6	+0.6
CD2				sP	sP	21 29 20.1	-0.1
CD2				PP	PnPn	21 30 00.1	+3.5
CD2				S	S	21 34 01.0	+3.0
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,5.6s						
STKA	Stephens Creek	36.07	153	P	P	21 28 32.7	+1.2
	comp=Z,11nm,0.5s,baz=331,slow=8.2,SNR=37						
STKA				PcP	PcP	21 30 55.0	+0.6
	comp=Z,5.7nm,0.4s,baz=354,slow=2.2,SNR=8.6						
STKA				ScP	ScP	21 34 27.1	+0.2
	comp=Z,2.2nm,0.6s,baz=14,slow=4.8,SNR=4.8						
STKA	Stephens Creek	36.07	153	P	P	21 28 32.8	+1.3
	baz=36,SNR=24						
HTT	Hallett	36.30	158	P	P	21 28 35.0	+1.6
	baz=36,SNR=14						
XAN	Xi'an	36.51	340	P	P	21 28 36.1	+0.9
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,31nm,6.8s						
KSAR	Wonju Array Be	37.58	6	P	P	21 28 44.4	+0.3
KSAR						21 30 59.1	
KSAR	Wonju Array Be	37.58	6	P	P	21 28 44.4	+0.3
KSAR				PcP	PcP	21 30 59.0	+0.2
KSRS	Korea Array	37.59	6	P	P	21 28 44.4	+0.1
	comp=Z,5.2nm,0.7s,baz=187,slow=9.8,SNR=23						
KSRS				PcP	PcP	21 30 59.0	+0.2
	comp=Z,1.2nm,0.6s,baz=179,slow=3.1,SNR=4.6						
CMSA	Cobar Meteorol	37.82	148	P	P	21 28 48.3	+2.1
	baz=38,SNR=30						
MJAR	Matsushiro Arr	38.99	19	P	P	21 28 54.8	-1.1
	comp=Z,38nm,0.7s,baz=188,slow=10,SNR=103						
MJAR				LR	LR	21 42 52.7	
	comp=Z,22nm,21.6s,baz=290,slow=33						
MAJO	Matsushiro	38.99	19 c	iP	P	21 28 54.7	-1.2
MAJO	Matsushiro	38.99	19	eP	P	21 28 55.3	-0.7
	comp=Z,43nm,0.8s						
MAT	Matsushiro	38.99	19	P	P	21 28 54.8	-1.1
LZH	Lanzhou	40.26	335	⇑P	P	21 29 08.0	+1.3
LZH				pP	pP	21 29 39.3	-0.3
LZH				sP	sP	21 29 55.6	-1.1
LZH				PP	PnPn	21 30 47.0	-0.6
LZH				PcP	PcP	21 31 08.9	+1.3
LZH				S	S	21 35 03.0	+0.1
LZH				pmax	pmax		
	comp=Z,35nm,1.0s						
LZH				pmax	pmax		
	comp=Z,150nm,4.5s						
ARPS	Mount Arapiles	40.37	157	P	P	21 29 09.2	+1.9
	baz=40,SNR=10						
BJT	Baijiatuau	40.43	352	eP	P	21 29 06.8	-1.0
BJT				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BJT	Baijiatuau	40.43	352	eP	P	21 29 06.8	-1.0
	comp=Z,7.1nm,0.5s						
BJI	Beijing	40.45	352	P	P	21 29 07.1	-0.8
BJI				pmax	pmax		
	comp=Z,12nm,0.6s						
BJI				pmax	pmax		
	comp=Z,56nm,4.4s						
ARMA	Armidale	40.47	141	eP	P	21 29 11.5	+3.1

comp=Z,143nm,2.3s
ARMA Armidale 40.47 141 P P 21 29 11.3 +2.9
baz=41,SNR=7.7
YNG Young 41.39 148 P P 21 29 19.2 +3.4
baz=42,SNR=6.4
CAN Canberra 42.49 148 eP P 21 29 25.2 +0.4
CAN Canberra 42.49 148 eP P 21 29 25.1 +0.4
TOO Toolangi 42.58 154 P P 21 29 28.4 +3.0
baz=43,SNR=7.0
LSA Lhasa 42.59 317 eP P 21 29 25.6 -0.5
LSA pmax pmax
comp=Z,28nm,0.6s
LSA Lhasa 42.59 317 eP P 21 29 25.6 -0.5
comp=Z,28nm,0.6s
LSA epP pP 21 29 57.3 -2.1
CNB Canberra Magne 42.68 148 P P 21 29 29.4 +3.1
baz=43,SNR=5.3
ODAN Odare 43.67 311 eP P 21 29 35.4 +0.8
comp=Z,43nm,0.7s
TAPN Taplejung 43.69 312 eP P 21 29 35.3 +0.5
comp=Z,41nm,0.7s
CN2 Changchun 43.73 2 eP P 21 29 37.3 +2.8
CN2 pmax pmax
comp=Z,10.0nm,0.5s
RAMN Ramite 44.32 310 eP P 21 29 40.4 +0.6
comp=Z,95nm,0.7s
USRK Ussuriysk Arra 44.77 9 P P 21 29 42.4 -0.3
comp=Z,12nm,0.6s,baz=197,slow=7.2,SNR=42
MDJ Mudanjiang 44.86 6 P P 21 29 43.5 +0.1
MDJ pmax pmax
comp=Z,34nm,0.7s
MDJ pmax pmax
comp=Z,180nm,5.3s
MDJ Mudanjiang 44.86 6 eP P 21 29 42.6 -0.8
comp=Z,23nm,0.6s
JIRN Jiri 45.00 311 eP P 21 29 46.1 +0.8
comp=Z,70nm,0.6s
GUN Gumba 45.37 311 eP P 21 29 48.7 +0.5
comp=Z,123nm,0.6s
PKI Pulchoki 45.55 310 eP P 21 29 49.9 +0.3
comp=Z,40nm,0.8s
PKIN Phulchoki 45.56 310 eP P 21 29 51.0 +1.4
comp=Z,13nm,0.6s
KKN Kakani 45.76 310 eP P 21 29 51.7 +0.6
comp=Z,52nm,0.8s
DMN Daman 45.80 310 eP P 21 29 51.9 +0.4
comp=Z,74nm,0.9s
GKN Gorkha 46.36 310 eP P 21 29 55.9 +0.2
comp=Z,67nm,0.7s
KOLN Koldanda 47.04 309 eP P 21 30 02.1 +1.0
comp=Z,160nm,0.8s
DANN Dangsing 47.20 310 eP P 21 30 02.4 0.0
comp=Z,169nm,0.7s
ASAJ Asahikawa 47.26 19 P P 21 30 03.0 +0.7
comp=Z,46nm,0.7s,baz=228,slow=9.5,SNR=40
ASAJ LR LR 21 49 18.8
comp=Z,26nm,18.9s,slow=35
ASAJ Asahikawa 47.26 19 eP P 21 30 02.5 +0.3
HYB Hyderabad 47.30 294 iP P 21 30 03.0 -0.1
HYB epP pP 21 30 39.0 +2.0
HYB esP sP 21 30 55.0 +1.2
PYUN Piuthan 47.67 309 eP P 21 30 07.2 +1.2
comp=Z,344nm,0.7s
HABR Khabarovsk 49.43 10 eP P 21 30 15.4 -3.3
HABR e 21 31 35.6
HABR e 21 32 11.1
HABR ePPP PPP 21 33 09.4
HABR S S 21 37 11.6 -2.6
HABR e 21 39 50.2
HABR eSS SS 21 40 45.1 -3.1
HABR pmax pmax
comp=Z,50nm,2.6s
HABR pmax pmax
comp=N,34nm,2.2s
ULN Ulaanbaatar 49.79 346⇓iP P 21 30 21.8 +0.1
ULN pmax pmax
comp=Z,16nm,0.7s
ULN Ulaanbaatar 49.79 346 eP P 21 30 21.2 -0.5
comp=Z,16nm,0.6s
YSS Yuzh-Sakhalins 49.85 17 eP P 21 30 21.4 -0.5
YSS pmax pmax
comp=Z,24nm,0.6s
YSS Yuzh-Sakhalins 49.85 17 eP P 21 30 21.4 -0.5
comp=Z,24nm,0.6s
SONM Songino Array 49.93 345 P P 21 30 22.6 -0.1
baz=160,slow=9.0
ZAK Zakamensk 53.09 344 eP P 21 30 44.4 -1.7
ZAK e 21 31 50.6
ZAK pmax pmax
comp=Z,4.0nm,1.0s
WMQ Urumqi 53.99 329 P P 21 30 54.7 +1.9
WMQ pP pP 21 31 27.4 -0.2
WMQ sP sP 21 31 43.2 -1.0
WMQ PP PP 21 32 59.5 +3.6
WMQ PcS PcS 21 35 55.8 +0.3
WMQ S S 21 38 17.8 +0.6
WMQ ScS ScS 21 40 26.2 -1.0
WMQ pmax pmax
comp=Z,14nm,0.6s
WMQ pmax pmax
comp=Z,180nm,5.8s
WMQ LR LR
comp=Z,52nm,17.5s
WMQ LR LR
comp=Z,120nm,18.2s
WMQ LR LR
comp=Z,64nm,15.6s
TLY Talaya 54.17 345 eP P 21 30 53.8 -0.1
TLY e 21 31 36.5
TLY pmax pmax
comp=Z,8.0nm,0.9s
MOY Mondy 54.88 343 eP P 21 30 59.4 +0.3
KSH Kashi 58.41 318 eP P 21 31 24.8 +0.5
KSH epP pP 21 32 01.9 +2.3
KSH esP sP 21 32 13.8 -2.2
KSH ePP PP 21 33 37.8 +2.4
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH pmax pmax
comp=Z,77nm,3.1s
KSH LR LR
comp=Z,100nm,4.8s
KSH LR LR
comp=Z,180nm,5.9s
KSH LR LR
comp=Z,170nm,4.8s
MKAR Makanchi Array 58.82 328 P P 21 31 26.3 -0.6
comp=Z,4.5nm,0.6s,baz=119,slow=8.9,SNR=98
MKAR PcP PcP 21 32 13.6 -1.2
comp=Z,4.0nm,0.6s,baz=137,slow=3.6,SNR=10.0
MKAR ScP ScP 21 35 59.8 -1.5
comp=Z,0.8nm,0.7s,baz=136,slow=4.7,SNR=4.7
PETK Petropavlovsk- 60.25 23 P P 21 31 37.5 +1.0
comp=Z,20nm,0.7s,baz=195,slow=7.9,SNR=32
PETK PcP PcP 21 32 19.6 -0.8
comp=Z,6.9nm,0.9s,baz=256,slow=4.0,SNR=2.8
RPZ Rata Peaks 60.79 142 eP P 21 31 40.3 -0.1
comp=Z,18nm,0.9s
AAK Ala-Archa 60.96 321⇓iP P 21 31 41.2 -0.5
AAK pmax pmax
comp=Z,16nm,0.9s
AAK Ala-Archa 60.96 321 P P 21 31 41.3 -0.4
comp=Z,4.9nm,0.7s,baz=132,slow=5.1,SNR=18
AAK PcP PcP 21 32 22.8 -0.9
comp=Z,2.0nm,0.7s,baz=107,slow=2.3,SNR=5.2
EKS2 Erkin-Say 61.43 320 eP P 21 31 44.1 -0.7
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 61.43 320 eP P 21 31 44.1 -0.7
comp=Z,5.9nm,0.8s
YAK Yakutsk 62.14 3 eP P 21 31 48.0 -1.0
YAK pmax pmax
comp=Z,35nm,0.9s
YAK Yakutsk 62.14 3 eP P 21 31 48.0 -1.0
comp=Z,35nm,0.9s
URZ Urewera 62.27 134 eP P 21 31 50.5 0.0
ZALV Zalesovo Beam 62.49 336 P P 21 31 49.6 -1.9
comp=Z,3.3nm,0.6s,baz=125,slow=5.5,SNR=19
KURBB Kurchatov Arra 63.16 330 P P 21 31 55.0 -1.1
comp=Z,5.1nm,0.7s,baz=272,slow=20,SNR=48
KURBB PcP pP 21 32 31.1 -0.6
comp=Z,3.5nm,0.8s,baz=125,slow=4.6,SNR=8.1
KURK Kurchatov 63.17 330 P P 21 31 55.0 -1.1
KURK 21 32 31.2
KURK Kurchatov 63.17 330 P P 21 31 55.0 -1.1
KURK PcP pP 21 32 31.1 -0.7

KKAR Karatay Array 63.74 319 eP P 21 31 59.3 -0.8
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 63.74 319 eP P 21 31 59.3 -0.8
comp=Z,2.6nm,0.7s
NVS Novosibirsk 63.78 335 eP P 21 31 57.8 -2.2
NVS e 21 32 28.6
NVS pmax pmax
comp=Z,8.0nm,0.7s
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.7s
FX1 Attu Island--F 67.09 30 P P 21 32 22.3 +1.0
comp=E,16nm,0.6s,baz=304,slow=11,SNR=6.4
BVAR Borovoye Array 68.68 329 P P 21 32 30.0 -1.4
BVAR Borovoye Array 68.68 329 P P 21 32 30.0 -1.4
comp=E,2.8nm,0.7s,baz=129,slow=8.8,SNR=27
BRVK Borovoye 68.76 329 P P 21 32 30.7 -1.0
comp=E,35nm,1.1s,SNR=5.8
BRVK Borovoye 68.76 329ceP P 21 32 30.8 -1.0
BRVK pmax pmax
comp=Z,7.0nm,1.1s
BRVK Borovoye 68.76 329 eP P 21 32 30.3 -1.5
comp=Z,3.7nm,0.8s
TIXI Tiksi 71.70 2⇓iP P 21 32 48.3 -1.0
TIXI pmax pmax
comp=Z,20nm,0.9s
TIXI Tiksi 71.70 2 eP P 21 32 47.7 -1.6
comp=Z,20nm,0.9s
ABKAR Akbulak array 72.95 322 eP P 21 32 54.6 -2.5
comp=Z,2.1nm,0.7s
BILL Bilibino 74.11 15⇓iP P 21 33 03.0 -0.6
BILL i 21 33 17.9
BILL iS SKiKP 21 42 07.4 -8.8
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 74.11 15 eP P 21 33 02.9 -0.7
comp=Z,3.9nm,0.8s
AKTO Aktyubinsk 74.53 323 P P 21 33 05.0 -1.4
AKTO Aktyubinsk 74.53 323 P P 21 33 05.0 -1.4
comp=Z,4.9nm,0.7s,baz=106,slow=6.1,SNR=21
SVE Sverdlovsk 75.42 330⇑iP P 21 33 10.2 -1.1
SVE pmax pmax
comp=Z,14nm,0.7s
ARU Arti 76.33 329c iP P 21 33 14.3 -2.2
ARU 21 36 03.3
ARU S S 21 42 45.8 -3.1
ARU pmax pmax
comp=Z,8.0nm,0.7s
RAYN Ar Rayn 78.81 294 eP P 21 33 29.2 -1.9
comp=Z,16nm,0.8s
GAMB Gambell 79.26 24 eP P 21 33 32.3 -0.2
comp=Z,15nm,1.2s
VNDA Vanda 80.13 172 P P 21 33 37.0 0.0
comp=Z,2.9nm,0.7s,baz=322,slow=5.6,SNR=9.5
ZEI Tsey 82.24 313 eP P 21 33 48.0 -1.1
ZEI pmax pmax
comp=Z,6.0nm,0.9s
SDPT Sand Point 82.27 34 eP P 21 33 48.7 +0.1
comp=Z,43nm,0.7s
KBZ Khabaz 83.08 314 P P 21 33 52.4 -0.8
comp=Z,2.7nm,0.8s,baz=92,slow=8.8,SNR=4.7
PRGR Permogore 84.20 332 eP P 21 33 56.0 -2.4
PRGR pmax pmax
comp=Z,49nm,0.9s
VRHR Novokhopersk 84.80 321 eP P 21 33 58.7 -3.0
VRHR pmax pmax
comp=N,7.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
KMBO Kilima Mbogo 86.01 269 iP P 21 34 09.0 +0.2
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 86.01 269 P P 21 34 07.5 -1.3
comp=Z,1.5nm,0.8s,baz=60,slow=8.7,SNR=8.9
VORD Divnogorie 86.25 321 eP P 21 34 05.7 -3.2
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=N,20nm,1.6s
VORD pmax pmax
comp=E,20nm,0.9s
VSR Storozhevoye 86.35 321 eP P 21 34 06.8 -2.6
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,20nm,0.9s
ASF Jabal al Asfar 86.96 302 P P 21 34 12.7 -0.2
comp=E,6.3nm,0.9s,baz=15,slow=2.9,SNR=9.1
KLMR Klimovskoe 87.01 331 eP P 21 34 09.2 -3.2
KLMR pmax pmax
comp=Z,19nm,0.7s
TMCR Tamitsa 87.98 334 eP P 21 34 14.8 -2.1
TMCR pmax pmax
comp=Z,11nm,0.8s
TMCR pmax pmax
comp=Z,16nm,1.2s
TMCR pmax pmax
comp=Z,42nm,1.3s
OBN Obninsk 88.17 325 iP P 21 34 15.5 -2.5
OBN pmax pmax
comp=Z,9.0nm,1.2s
MMAI Mount Meron Ar 88.24 303 P P 21 34 20.2 +1.2
comp=Z,6.6nm,1.0s,baz=69,slow=7.9,SNR=4.1
BR131 Keskin Array S 89.76 310 eP P 21 34 25.7 -0.3
comp=Z,2.6nm,0.8s
BRTR Keskin Array B 89.76 310 P P 21 34 24.8 -1.3
comp=Z,2.2nm,0.8s,baz=130,slow=5.1,SNR=11
ILAR Eielson Array 90.01 25 P P 21 34 24.8 -1.7
comp=Z,0.5nm,0.5s,baz=246,slow=4.3,SNR=22
AKASG Malin Array Be 92.63 321 P P 21 34 36.4 -2.4
comp=Z,1.8nm,0.6s,baz=70,slow=4.5,SNR=16
ARCES ARCESS Array B 92.79 340 P P 21 34 37.4 -1.8
comp=Z,3.3nm,0.7s,baz=64,slow=4.1,SNR=7.1
ARCES PKKP PKKPdf 21 51 50.2 +0.1
comp=Z,6.7nm,1.0s,baz=264,slow=2.2,SNR=4.7
FINES FINESS Array B 93.51 331 iP P 21 34 40.9 -1.8
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 93.51 331 P P 21 34 40.3 -2.4
comp=Z,1.5nm,0.8s,baz=122,slow=6.9,SNR=4.4
HYT Haines Junctio 94.58 29 eP P 21 34 49.0 +1.2
LSZ Lusaka 94.88 255 eP P 21 34 49.0 -1.1
LSZ pmax pmax
comp=Z,8.0nm,1.1s
LSZ Lusaka 94.88 255 eP P 21 34 49.0 -1.1
comp=Z,8.2nm,1.1s
DAG Danmarks Havn 100.52 352 iP Pdif 21 35 12.1 -1.9
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG Danmarks Havn 100.52 352 iP Pdif 21 35 12.1 -1.9
comp=Z,3.9nm,0.9s
NOA NORSAR Array B 100.59 333 P Pdif 21 35 13.1 -1.6
comp=Z,1.0nm,0.8s,baz=73,slow=4.4,SNR=3.5
YKA Yellowknife Ar 104.37 24 Pdiff Pdif 21 35 31.4 0.0
comp=Z,0.4nm,0.9s,baz=292,slow=4.6,SNR=6.4
YKA PKiKP PKiKP 21 39 46.8 -0.3
comp=Z,0.4nm,0.9s,baz=295,slow=1.9,SNR=5.4
YKA PKKPbc PKKPbc 21 51 16.8 -3.6
comp=Z,0.3nm,0.6s,baz=117,slow=2.8,SNR=8.3
NVAR Mina Array Bea 112.01 48 PKiKP PKiKP 21 40 04.0 +1.6
comp=Z,1.3nm,0.6s,baz=255,slow=2.7,SNR=5.8
PDAR Pinedale Array 116.48 41 PKP PKPdf 21 40 10.5 -0.4
comp=Z,0.7nm,0.6s,baz=182,slow=1.3,SNR=5.8
PV01 Paradox Valley 119.22 45 ePKPdf PKPdf 21 40 16.8 +0.5
ULM Lac du Bonnet 119.93 28 PKP PKPdf 21 40 16.7 -0.2
comp=Z,3.4nm,0.7s,baz=286,slow=2.3,SNR=8.0
TORD Torodi Ar. Bea 120.68 285 PKP PKPdf 21 40 18.6 -0.7
comp=Z,2.3nm,0.7s,baz=57,slow=1.4,SNR=23
TORD PKKPab PKKPab 21 50 26.3 +0.2
comp=Z,0.7nm,0.7s,baz=229,slow=2.9,SNR=7.5
ANMO Albuquerque 122.13 48⇓iPKIKP PKPdf 21 40 23.4 +1.5
ANMO pmax pmax
comp=Z,20nm,1.3s
SCHQ Schefferville 124.80 7 PKP PKPdf 21 40 26.1 -0.1
comp=Z,3.1nm,0.7s,baz=359,slow=5.1,SNR=4.5
TXAR Lajitas Array 126.65 53 PKP PKPdf 21 40 31.7 +1.1
comp=Z,1.2nm,0.8s,baz=233,slow=0.6,SNR=14
DBIC Dimbokro 127.83 278 PKP PKPdf 21 40 33.7 +0.6
comp=Z,1.3nm,0.6s,baz=188,slow=3.1,SNR=3.9
JCT Junction City 129.15 49 ePKIKP PKPdf 21 40 35.0 -0.3
JCT Junction City 129.15 49 ePKPdf PKPdf 21 40 35.0 -0.3

LRAL Lakeview Retre 136.57 38 ePKPdf PKPdf 21 40 48.5 -0.6
LCO Las Campanas 148.14 156 ePKPbc PKPbc 21 41 13.4 +0.1
CPUP Villa Florida 153.74 179 PKPbc PKPbc 21 41 26.4 +0.2
comp=Z,2.7nm,0.6s,baz=208,slow=3.3,SNR=5.5
LPAZ La Paz 160.23 146 PKP PKPdf 21 41 28.6 +1.1
comp=Z,1.0nm,0.8s,baz=153,slow=4.5,SNR=4.4
LPAZ PKPab PKPab 21 42 08.8 +0.4
comp=Z,1.2nm,0.5s,baz=180,slow=8.9,SNR=4.9

ISCJB 07 21:21:46.5±0.3, 22°.81S±0°.04×66°.89W±0°.04, h207km±4km, mb3.8/9, Error ellipse: s-maj=7.1km s-min=4.7km az=137.9
IDC 07 21:21:46.6±1.7, 22°.83S×66°.75W, h190km±15km, mb3.6/8, mb1 3.9/13, mb1mx3.8/26, mbtmp4.3/13, MS1.7/1, Ms1 1.7/1, ms1mx1.7/16, Error ellipse: s-maj=16.7km s-min=13.2km az=64.0
SJA 07 21:21:47.2±0.4, 22°.76S×66°.84W, h200km±6km, ML3.9, MW4.6
NEIC 07 21:21:49.8, 22°.73S×67°.41W, h232km, mb4.5/2, After GUC.
GUC 07 21:21:49.8±0.4, 22°.74S×67°.43W, h234km±8km, ML4.8
ISC 07 21:21:47.2±0.7, 22°.80S±0°.05×66°.87W±0°.05, h202km±7km, n49, σ1°.59/67, mb3.8/9, 13C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.90	275	ePn	Pn	21 22 26.4	+1.2
LVC				eS	S	21 22 54.6	+0.5
LVC	Limon Verde	1.90	275	iP	Pn	21 22 25.8	+0.6
LVC				eS	S	21 22 54.4	+0.3
AZAP	Zapla	2.18	131	iP	Pn	21 22 28.6	+0.6
SLA	San Lorenzo	2.28	147	iP	Pn	21 22 30.1	+1.1
SLA				eS	S	21 23 01.4	+0.2
SLA				AML	AML	21 23 05.5	
	comp=Z,116nm,0.7s						
PB09	Plate Boundary	2.42	294⇑	iP	Pn	21 22 32.2	+1.6
PB09				iS	S	21 23 03.7	+0.1
PB09				AML	AML	21 23 06.7	
	comp=N,6µm,0.6s						
PB09	Plate Boundary	2.42	294⇑	iP	Pn	21 22 32.2	+1.6
PB09				iS	S	21 23 03.7	+0.1
ASTB	Santa Barbara	2.47	118	iP	Pn	21 22 31.8	+0.7
PB04	Plate Boundary	2.48	282⇑	iP	Pn	21 22 38.4	+7.3
PB04				eS	S	21 23 15.5	+11
PB04				AML	AML	21 23 19.2	
	comp=E,2µm,0.5s						
PB06	Plate Boundary	2.50	272⇑	iP	Pn	21 22 32.1	+0.6
PB06				eS	S	21 23 04.8	-0.4
PB06				AML	AML	21 23 06.9	
	comp=N,2µm,0.3s						
PB06	Plate Boundary	2.50	272⇑	iP	Pn	21 22 32.1	+0.6
PB06				eS	S	21 23 04.8	-0.4
MACH	Maria Elena	2.74	282⇑	iP	Pn	21 22 34.9	+0.7
MACH				iS	S	21 23 09.6	-0.7
MACH	Maria Elena	2.74	282⇑	iP	Pn	21 22 34.9	+0.7
MACH				iS	S	21 23 09.6	-0.7
ALOL	LOMAS DE OLMED	2.85	111	iP	Pn	21 22 35.3	+0.1
PB07	Plate Boundary	2.99	290⇑	iP	Pn	21 22 37.8	+0.7
PB07				eS	S	21 23 14.3	-1.1
PB07				AML	AML	21 23 15.7	
	comp=N,3µm,0.6s						
PB07	Plate Boundary	2.99	290⇑	iP	Pn	21 22 37.8	+0.7
PB07				eS	S	21 23 14.3	-1.1
PB01	Plate Boundary	3.00	305	eP	Pn	21 22 38.2	+1.1
PB01				eS	S	21 23 15.1	-0.3
PB01				AML	AML	21 23 17.7	
	comp=E,2µm,0.1s						
PB01	Plate Boundary	3.00	305	eP	Pn	21 22 38.2	+1.1
PB01				eS	S	21 23 15.1	-0.3
CEN1	Los Morros	3.12	259⇓	iP	Pn	21 22 41.4	+2.8
CEN1				iS	S	21 23 20.2	+2.1
CEN1				AML	AML	21 23 23.9	
	comp=E,633nm,0.6s						
CEN1	Los Morros	3.12	259⇓	iP	Pn	21 22 41.4	+2.8
CEN1				iS	S	21 23 20.2	+2.1
ANCH	Antofagasta	3.38	254⇑	iP	Pn	21 22 39.4	-2.1
ANCH				eS	S	21 23 18.9	-4.3
ANCH				AML	AML	21 23 20.8	
	comp=E,911nm,0.2s						
ANCH	Antofagasta	3.38	254⇑	iP	Pn	21 22 39.4	-2.1
ANCH				eS	S	21 23 18.9	-4.3
PB10	Plate Boundary	3.47	257⇑	iP	Pn	21 22 42.7	+0.1
PB10				iS	S	21 23 23.3	-2.0
PATCX	Punta Patache	3.63	302⇑	iP	Pn	21 22 44.9	+0.2
PATCX				iS	S	21 23 27.1	-2.0
CYA	Choya	5.70	171	eS	S	21 24 14.3	-2.1
CYA				AML	AML	21 24 17.2	
	comp=Z,10nm,0.7s						
LPAZ	La Paz	6.59	349	P	Pn	21 23 24.4	+1.6
	comp=Z,8.7nm,0.3s,baz=159,slow=6.0,SNR=208						
LPAZ				S	S	21 24 37.5	-0.7
	baz=53,slow=20,SNR=2.8						
LPAZ	La Paz	6.59	349	ePn	Pn	21 23 24.3	+1.5
	comp=Z,89nm,0.8s						
LPAZ				eS	S	21 24 38.0	-0.2
ARE	Arequipa	7.66	325	eP	Pn	21 23 36.0	-0.5
ARE				eS	S	21 25 00.0	-3.3
AVFE	Valle Fertil	7.85	184	AML	AML	21 25 04.3	
	comp=Z,22nm,0.3s						
SIV	San Ignacio	8.70	40	P	Pn	21 23 48.5	-1.3
	comp=Z,26nm,0.3s,baz=229,slow=14,SNR=187						
SIV				S	S	21 25 22.6	-5.1
	comp=Z,0.3nm,0.3s,baz=300,slow=20,SNR=5.3						
TCA	Tanti	8.74	167	AML	AML	21 25 25.9	
	comp=Z,3.7nm,0.7s						
CFAA	Coronel Fontan	8.85	188	P	Pn	21 23 49.7	-1.9
	comp=Z,0.6nm,0.3s,baz=8.3,slow=12,SNR=35						
CFAA				S	S	21 25 22.2	-8.9
	comp=Z,0.6nm,0.3s,baz=105,slow=23,SNR=8.2						
CFAA				LR	LR	21 26 56.6	
	comp=Z,4.9nm,21.6s,baz=335,slow=35						
CPUP	Villa Florida	9.37	114	P	Pn	21 24 02.5	+4.3
	comp=Z,0.5nm,0.3s,baz=293,slow=9.6,SNR=3.7						
ARCO	CERRO ARCO	10.17	190	AML	AML	21 24 35.3	
	comp=Z,16nm,0.6s						
SAML	Samuel	14.22	15	ePn	Pn	21 25 00.1	+0.2
	comp=Z,20nm,0.8s						
SAML				eS	S	21 27 30.8	-7.3
PLCA	Paso Flores	18.15	189	P	P	21 25 45.0	+0.5
	comp=Z,0.7nm,0.3s,baz=13,slow=12,SNR=15						
BDFB	Brasilia	19.16	72	P	P	21 25 56.2	+0.5
	comp=Z,4.2nm,0.3s,baz=247,slow=11,SNR=65						
PTGA	Pitinga	22.94	18	eP	P	21 26 33.0	-1.0
	comp=Z,9.6nm,0.6s						
TXAR	Lajitas Array	62.78	324	P	P	21 31 52.5	+1.1
	comp=Z,0.3nm,0.6s,baz=147,slow=8.4,SNR=2.1						
DBIC	Dimbokro	67.31	72	P	P	21 32 20.5	-0.3
	comp=Z,3.3nm,0.4s,baz=216,slow=6.6,SNR=12						
TORD	Torodi Ar. Bea	76.03	69	P	P	21 33 12.2	-0.5
	comp=Z,2.7nm,0.3s,baz=257,slow=5.4,SNR=112						
PDAR	Pinedale Array	76.19	329	P	P	21 33 14.5	+1.2
	comp=Z,0.5nm,0.6s,baz=127,slow=8.8,SNR=5.0						
ULM	Lac du Bonnet	77.13	341	P	P	21 33 18.6	+0.4
	comp=Z,1.1nm,0.5s,baz=82,slow=2.3,SNR=2.5						
NVAR	Mina Array Bea	77.68	321	P	P	21 33 23.9	+2.1
	comp=Z,0.5nm,0.5s,baz=156,slow=6.7,SNR=2.7						
BOSA	Boshof	81.17	117	P	P	21 33 41.2	+0.4
	comp=Z,1.3nm,0.6s,baz=306,slow=5.0,SNR=4.2						
YKA	Yellowknife Ar	93.05	340	P	P	21 34 38.1	+0.8
	comp=Z,0.3nm,0.5s,baz=134,slow=4.6,SNR=10						
ASAR	Alice Springs	129.59	205	PKP	PKPdf	21 40 33.0	+0.2
	comp=Z,0.8nm,0.4s,baz=165,slow=2.4,SNR=12						
WRA	Warramunga Arr	132.74	208	PKhKP	PKPpre	21 40 27.0	
	comp=Z,0.1nm,0.5s,baz=114,slow=2.5,SNR=4.7						
WRA				PKP	PKiKP	21 40 39.6	-0.3
	comp=Z,0.7nm,0.3s,baz=152,slow=2.0,SNR=26						
ZALV	Zalesovo Beam	142.28	27	PKP	PKPdf	21 40 54.1	-1.1
	comp=Z,0.7nm,0.4s,baz=322,slow=4.0,SNR=3.5						
MKAR	Makanchi Array	145.52	38	PKPbc	PKPab	21 41 02.3	+0.1
	comp=Z,1.5nm,0.7s,baz=311,slow=3.0,SNR=20						

IDC 07 21:45:41.3±2.0, 5°.38S×152°.31E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/29, mbtmp4.3/13, MS2.7/1, Ms1 2.7/1, ms1mx2.4/18, Error ellipse: s-maj=130.2km s-min=27.9km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.49	232	LR	LR	21 49 57.6	
	comp=Z,52nm,18.1s,baz=30,slow=40						
WRA	Warramunga Arr	22.70	229	P	P	21 50 43.5	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.6nm,0.5s,baz=55,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.39**	**222**	P	P	21 51 11.6	+0.9
	0.5nm,0.5s,baz=58,slow=8.9,SNR=12						
ILAR	**Eielson Array**	**82.88**	**22**	P	P	21 58 07.5	-0.1
	0.2nm,0.6s,baz=259,slow=5.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	**150.01**	**287**	PKPbc	PKPbc	22 05 34.6	-0.3
	0.2nm,0.7s,baz=58,slow=2.6,SNR=2.7						

MEX 07 21:52:47.6±0.7,16.52N×98.49W,h7km±13km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**110**	*e*P	Pg	21 52 54.5	-0.4
PNIG				*e*S	Sg	21 52 59.5	-0.3
TLIG	**Tlapa**	**1.04**	**356**	*e*P	Pg	21 53 04.7	-3.0
TLIG				*i* S	Sg	21 53 17.6	-3.8
VHO	**Vista Hermosa**	**1.77**	**72**	*i* P	Pn	21 53 15.1	-3.8
VHO				*i* S	Sn	21 53 37.7	-4.2
HUIG	**Huatulco**	**2.41**	**108**	*e*P	Pn	21 53 24.3	-3.2
HUIG				*i* S	Sn	21 53 52.8	-4.4
ZIIG	**Zihuatanejo**	**3.04**	**291**	*e*P	Pn	21 53 31.0	-5.2
CMIG	**Matias Romero**	**3.50**	**80**	*i* P	Pn	21 53 43.5	+1.0

MEX 07 22:11:14.5±0.8,18.47N×101.49W,h14km±12km,MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.86**	**178**	*e*P	Pg	22 11 28.0	-3.1
ZIIG				*i* S	Sg	22 11 39.1	-3.3
ARIG	**Puente Sto Nin**	**1.10**	**100**	*i* P	Pb	22 11 31.1	-4.2
ARIG				*i* S	Sb	22 11 44.5	-5.2
MMIG	**Aquila**	**1.77**	**265**	*i* P	Pn	22 11 41.0	-3.7
MMIG				*i* S	Sn	22 12 02.5	-4.5
PLIG	**Platanillo**	**1.89**	**92**	*e*P	Pn	22 11 43.8	-2.7
PLIG				*i* S	Sn	22 12 06.0	-4.2
YAIG	**Yautepec**	**2.33**	**80**	*e*P	Pn	22 11 49.9	-2.7
YAIG				*i* S	Sn	22 12 16.7	-4.5
TLIG	**Tlapa**	**2.92**	**107**	*e*P	Pn	22 11 57.5	-3.2
TLIG				*i* S	Sn	22 12 31.5	-4.3

WEL 07 22:14:00.6±0.3,41.26S×172.60E,h211km±2km,ML3.6/12, 5C-2D,Error ellipse: s-maj=2.8km s-min=2.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.43**	**353**	⇓PN	Pn	22 14 28.4	-0.5
QRZ				SN	S	22 14 49.2	-1.7
THZ	**Tophouse**	**0.55**	**156**	⇑PN	Pn	22 14 29.3	0.0
THZ				SN	S	22 14 50.4	-1.3
NNZ	**Nelson**	**0.59**	**86**	⇑PN	Pn	22 14 29.1	-0.3
NNZ				SN	S	22 14 50.7	-0.9
TUWZ	**Tuamarina**	**1.02**	**100**	PN	Pn	22 14 31.7	+0.1
BSWZ	**Blackbirch Sta**	**1.06**	**116**	PN	Pn	22 14 32.1	+0.2
DUWZ	**D'Urville Isla**	**1.10**	**66**	PN	Pn	22 14 32.0	-0.2
TCW	**Tory Channel**	**1.26**	**89**	PN	Pn	22 14 33.4	0.0
TCW				AML	AML	22 14 59.1	
KHZ	**Kahutara**	**1.35**	**149**	⇑PN	Pn	22 14 33.9	-0.1
KHZ				SN	S	22 14 59.1	-0.9
LTZ	**Lake Taylor**	**1.54**	**189**	PN	Pn	22 14 35.4	-0.3
SNZO	**South Karori**	**1.59**	**93**	PN	Pn	22 14 35.8	-0.2
BHW	**Baring Head**	**1.72**	**96**	PN	Pn	22 14 36.9	-0.2
KIW	**Kapiti Island**	**1.79**	**78**	PN	Pn	22 14 37.7	-0.3
CAW	**Cannon Point**	**1.87**	**86**	⇑PN	Pn	22 14 38.4	-0.3
OGWZ	**Otaki Gorge**	**1.99**	**78**	PN	Pn	22 14 39.7	-0.1
MSWZ	**Moikau Station**	**2.00**	**95**	PN	Pn	22 14 39.7	-0.3
PLWZ	**Palliser**	**2.02**	**100**	PN	Pn	22 14 40.0	-0.2
OXZ	**Oxford**	**2.11**	**191**	PN	Pn	22 14 40.1	-0.9
PAWZ	**Paruwai Farm**	**2.13**	**94**	PN	Pn	22 14 41.0	-0.3
MTW	**Mount Morrison**	**2.19**	**88**	PN	Pn	22 14 41.7	-0.2
HOWZ	**Holdsworth Sta**	**2.23**	**82**	PN	Pn	22 14 42.1	-0.2
WVZ	**Waitaha Valley**	**2.29**	**217**	PN	Pn	22 14 41.7	-1.2
MRZ	**Mangatainoka R**	**2.33**	**76**	⇑PN	Pn	22 14 42.8	-0.6
WAZ	**Wanganui**	**2.36**	**51**	PN	Pn	22 14 43.5	-0.2
MQZ	**McQueen's Vall**	**2.45**	**179**	PN	Pn	22 14 43.3	-1.3
TMWZ	**Te Maipa**	**2.49**	**88**	⇓PN	Pn	22 14 45.1	0.0
TIWZ	**Tintock**	**2.53**	**80**	PN	Pn	22 14 45.4	-0.2
POWZ	**Post Office Ro**	**2.55**	**71**	PN	Pn	22 14 45.2	-0.6
PRWZ	**Pori Road**	**2.65**	**76**	PN	Pn	22 14 46.7	-0.1
BFZ	**Birch Farm**	**2.82**	**79**	PN	Pn	22 14 48.5	-0.2
TSZ	**Takapari Road**	**2.82**	**66**	PN	Pn	22 14 48.2	-0.6
TRVZ	**Turoa**	**2.98**	**50**	PN	Pn	22 14 49.9	-1.1
WNVZ	**Wahianoa**	**2.99**	**51**	PN	Pn	22 14 49.6	-1.4
ANWZ	**Angora Road**	**3.04**	**76**	PN	Pn	22 14 51.1	-0.2
TUVZ	**Tukino**	**3.07**	**51**	PN	Pn	22 14 50.8	-1.0
WPHZ	**Waipukurau**	**3.15**	**69**	*e*PN	Pn	22 14 52.0	-0.7
FOZ	**Fox Glacier**	**3.16**	**222**	PN	Pn	22 14 49.6	-2.9

*SFS **07** 22:23:08.0,34.74N×5.78W,h0km,ML2.6*
*IDC **07** 22:23:08.4±4.1,34.82N×5.11W,h0km,mb3.1/1,mb1 3.2/3, mb1mx3.0/31,mbtmp2.9/3,ML3.2/3,Error ellipse: s-maj=123.1km s-min=27.6km az=94.0*
*IGIL **07** 22:23:09.3,34.75N×5.78W,h1km,ML2.6*
*CSEM **07** 22:23:10.8±0.1,34.86N×5.75W,h20km,ML3.0/6,Error ellipse: s-maj=3.1km s-min=2.0km az=86.0*
*INMG **07** 22:23:10.7±1.1,34.82N×5.68W,h17km±3km,ML2.6,Error ellipse: s-maj=4.5km s-min=4.1km az=36.0*
*CNRM **07** 22:23:11.5,34.86N×5.66W,h14km,MD3.2*
*MDD **07** 22:23:11.3±0.4,34.84N×5.69W,h15km±3km,mbLg2.5/25, Error ellipse: s-maj=5.7km s-min=3.5km az=75.0,PRXIMO*
*LDG **07** 22:23:12.1±0.8,35.09N×5.50W,h10km,Ml3.0/4,Error ellipse: s-maj=17.0km s-min=8.8km az=2.0*

ISC 07 22:23:10.1±0.8,34.87N±0.02×5.72W±0.03,h24km±5km, n124,σ1.35/220,1C,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSA	**Sarsar**	**0.09**	**274**	P	**Pb**	**22 23 14.0**	**-0.6**
RSA				S	**Sb**	**22 23 18.0**	**+0.3**
RSA	**Sarsar**	**0.09**	**274**	P	**Pb**	**22 23 14.0**	**-0.6**
RSA				S	**Sb**	**22 23 18.0**	**+0.3**
TGT	**Taghat**	**0.97**	**145**	P	**Pb**	**22 23 28.0**	**-0.3**
TGT				S	**Sb**	**22 23 40.0**	**-0.7**
TGT	**Taghat**	**0.97**	**145**	P	**Pb**	**22 23 28.0**	**-0.3**
TGT				S	**Sb**	**22 23 40.0**	**-0.7**
RTC	**Rabat Centre**	**1.29**	**227**	P	**Pb**	**22 23 34.5**	**+0.9**
RTC				S	**Sn**	**22 23 49.0**	**+0.1**
RTC	**Rabat Centre**	**1.29**	**227**	P	**Pb**	**22 23 34.5**	**+0.9**
RTC				S	**Sn**	**22 23 49.0**	**+0.1**
EMIJ	**Mijas**	**1.86**	**24**	P	**Pn**	**22 23 41.7**	**+1.3**
	1.7nm,0.2s,SNR=9.9						
EMIJ				S	**Sb**	**22 24 07.1**	**+0.9**
	5.2nm,0.4s,SNR=4.0						
EMIJ	**Mijas**	**1.86**	**24**	P	**Pn**	**22 23 41.7**	**+1.3**
	1.7nm,0.2s,SNR=9.9						
EMIJ				S	**Sb**	**22 24 07.1**	**+0.9**
	5.2nm,0.4s,SNR=4.0						
ESPR	**Espera**	**2.00**	**357**	P	**Pb**	**22 23 44.2**	**-1.5**
	5.1nm,0.3s,SNR=14						
ESPR				S	**Sb**	**22 24 09.8**	**-0.3**
	6.8nm,0.2s						
ESPR	**Espera**	**2.00**	**357**	P	**Pb**	**22 23 44.2**	**-1.5**
	5.1nm,0.3s,SNR=14						
ESPR				S	**Sb**	**22 24 09.8**	**-0.3**
	6.8nm,0.2s						
LIJA	**Lijar**	**2.05**	**7**	P	**Pb**	**22 23 45.0**	**-1.6**
LIJA	**Lijar**	**2.05**	**7**	P	**Pb**	**22 23 45.0**	**-1.6**
KIB	**El Ksiba**	**2.30**	**187**	P	**Pb**	**22 23 49.0**	**-2.0**
KIB				S	**Sn**	**22 24 15.0**	**+0.8**
KIB	**El Ksiba**	**2.30**	**187**	P	**Pb**	**22 23 49.0**	**-2.0**
KIB				S	**Sn**	**22 24 15.0**	**+0.8**
TZC	**Tazercounte**	**2.79**	**193**	P	**Pn**	**22 23 54.0**	**+0.6**
TZC				S	**Sn**	**22 24 25.0**	**-1.4**
TZC	**Tazercounte**	**2.79**	**193**	P	**Pn**	**22 23 54.0**	**+0.6**
TZC				S	**Sn**	**22 24 25.0**	**-1.4**
SELV	**Sierra Elvira**	**2.86**	**34**	P	**Pb**	**22 23 59.3**	**-1.2**
	1.3nm,0.3s,SNR=4.0						
SELV				S	**Sb**	**22 24 35.5**	**+0.4**
	2.1nm,0.3s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.97**	**324**	*e*Pn	**Pn**	**22 23 56.6**	**+0.9**
PBDV				*e*Sn	**Sn**	**22 24 32.0**	**+1.5**
PBDV				A	A	22 24 36.0	
	10nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.97**	**324**	P	**Pn**	**22 23 56.6**	**+0.9**
PBDV				S	**Sn**	**22 24 32.0**	**+1.5**
	10nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.97**	**324**	P	**Pn**	**22 23 56.6**	**+0.9**
PBDV				S	**Sn**	**22 24 32.0**	**+1.5**
	10nm,0.5s						
EMIN	**Mina Concepcio**	**2.99**	**345**	P	**Pn**	**22 23 56.9**	**+1.0**
	1.3nm,0.2s,SNR=18						
EMIN				S	**Sn**	**22 24 32.5**	**+1.5**
	2.8nm,0.2s						
EMIN	**Mina Concepcio**	**2.99**	**345**	P	**Pn**	**22 23 56.9**	**+1.0**
	1.3nm,0.2s,SNR=18						
EMIN				S	**Sn**	**22 24 32.5**	**+1.5**
	2.8nm,0.2s						
PVAQ	**Vaqueiros**	**3.00**	**328**	*e*Pn	**Pn**	**22 23 57.2**	**+1.1**
PVAQ				*e*Sn	**Sn**	**22 24 32.1**	**+0.9**
PVAQ				A	A	22 24 33.6	
	28nm,0.5s						
PVAQ	**Vaqueiros**	**3.00**	**328**	⇑P	**Pn**	**22 23 57.2**	**+1.1**
PVAQ				S	**Sn**	**22 24 32.1**	**+0.9**
	28nm,0.5s						
PVAQ	**Vaqueiros**	**3.00**	**328**	P	**Pn**	**22 23 57.2**	**+1.1**
PVAQ				S	**Sn**	**22 24 32.1**	**+0.9**
	28nm,0.5s						
EGRO	**El Granado**	**3.02**	**332**	P	**Pn**	**22 23 57.5**	**+1.2**
	11nm,0.2s,SNR=21						
EGRO				S	**Sn**	**22 24 32.5**	**+0.9**
	7.8nm,0.2s						
EGRO	**El Granado**	**3.02**	**332**	P	**Pn**	**22 23 57.5**	**+1.2**
	11nm,0.2s,SNR=21						
EGRO				S	**Sn**	**22 24 32.5**	**+0.9**
	7.8nm,0.2s						
ZFT	**Errachidia**	**3.05**	**158**	P	**Pn**	**22 23 58.0**	**+1.0**
ZFT				S	**Sn**	**22 24 32.0**	**-0.9**
ZFT	**Errachidia**	**3.05**	**158**	P	**Pn**	**22 23 58.0**	**+1.0**
ZFT				S	**Sn**	**22 24 32.0**	**-0.9**
EBER	**Berja**	**3.06**	**48**	P	**Pn**	**22 23 57.8**	**+0.7**
	3.0nm,0.5s,SNR=11						
EBER				S	**Sn**	**22 24 36.5**	**+3.4**
	6.1nm,0.6s						
EBER	**Berja**	**3.06**	**48**	P	**Pn**	**22 23 57.8**	**+0.7**
	3.0nm,0.5s,SNR=11						
EBER				S	**Sn**	**22 24 36.5**	**+3.4**
	6.1nm,0.6s						
ECAB	**El Cabril**	**3.21**	**4**	P	**Pn**	**22 23 59.9**	**+0.9**
	0.5nm,0.2s,SNR=14						
ECAB				S	**Sn**	**22 24 36.7**	**+0.3**
	4.0nm,0.3s						
ECAB	**El Cabril**	**3.21**	**4**	P	**Pn**	**22 23 59.9**	**+0.9**
	0.5nm,0.2s,SNR=14						
ECAB				S	**Sn**	**22 24 36.7**	**+0.3**
	4.0nm,0.3s						
PCVE	**Castro Verde**	**3.33**	**326**	*e*Pn	**Pn**	**22 24 01.9**	**+1.3**
PCVE				*e*Sn	**Sn**	**22 24 40.2**	**+0.8**
PCVE				A	A	22 24 42.4	
	16nm,0.5s						
PCVE	**Castro Verde**	**3.33**	**326**	P	**Pn**	**22 24 01.9**	**+1.3**
PCVE				S	**Sn**	**22 24 40.2**	**+0.8**
	16nm,0.5s						
PCVE	**Castro Verde**	**3.33**	**326**	P	**Pn**	**22 24 01.9**	**+1.3**
PCVE				S	**Sn**	**22 24 40.2**	**+0.8**
	16nm,0.5s						
PFVI	**Vila Bisbo**	**3.38**	**313**	*e*Pn	**Pn**	**22 24 02.9**	**+1.6**
PFVI				*e*Sn	**Sn**	**22 24 41.5**	**+0.9**
PFVI				A	A	22 24 47.9	
	13nm,0.9s						
PFVI	**Vila Bisbo**	**3.38**	**313**	P	**Pn**	**22 24 02.1**	**+0.8**
	2.9nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**22 24 42.7**	**+2.1**
	5.2nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.38**	**313**	P	**Pn**	**22 24 02.1**	**+0.8**
	2.9nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.38**	**313**	*e*Pn	**Pn**	**22 24 02.9**	**+1.6**
PFVI				*e*Sn	**Sn**	**22 24 41.5**	**+0.9**
	13nm,0.9s						
PFVI				S	**Sn**	**22 24 42.7**	**+2.1**
	5.2nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**3.40**	**317**	*e*P	**Pn**	**22 24 02.5**	**+0.9**
MORF				*e*S	**Sn**	**22 24 41.3**	**+0.2**
MORF				AML	AML	22 24 44.1	
	comp=N,12nm,0.4s						
MORF	**Marmelete**	**3.40**	**317**	*e*Pn	**Pn**	**22 24 02.5**	**+0.9**
MORF				*e*Sn	**Sn**	**22 24 41.7**	**+0.6**
MORF				A	A	22 24 43.2	
	comp=N,6.2nm,0.5s						
MORF	**Marmelete**	**3.40**	**317**	P	**Pn**	**22 24 02.5**	**+0.9**
MORF				S	**Sn**	**22 24 41.7**	**+0.6**
	comp=N,6.2nm,0.5s						
MORF	**Marmelete**	**3.40**	**317**	P	**Pn**	**22 24 02.5**	**+0.9**
MORF				S	**Sn**	**22 24 41.7**	**+0.6**
	comp=N,6.2nm,0.5s						
PBAR	**Barrancos**	**3.46**	**343**	*e*Pn	**Pn**	**22 24 03.7**	**+1.3**
PBAR				*e*Sn	**Sn**	**22 24 43.8**	**+1.1**
PBAR				A	A	22 24 48.5	
	comp=N,6.2nm,0.3s						
PBAR	**Barrancos**	**3.46**	**343**	P	**Pn**	**22 24 03.7**	**+1.3**
PBAR				S	**Sn**	**22 24 43.8**	**+1.1**
	comp=N,6.2nm,0.3s						
PBAR	**Barrancos**	**3.46**	**343**	P	**Pn**	**22 24 03.7**	**+1.3**
PBAR				S	**Sn**	**22 24 43.8**	**+1.1**
	comp=N,6.2nm,0.3s						
MESJ	**Messejana**	**3.58**	**327**	*e*P	**Pn**	**22 24 05.2**	**+1.1**
MESJ				*e*S	**Sn**	**22 24 46.2**	**+0.6**
MESJ				AML	AML	22 24 48.1	
	comp=N,23nm,0.5s						
MESJ	**Messejana**	**3.58**	**327**	P	**Pn**	**22 24 05.2**	**+1.1**
MESJ				S	**Sn**	**22 24 46.2**	**+0.6**
	comp=N,23nm,0.5s						
MESJ	**Messejana**	**3.58**	**327**	P	**Pn**	**22 24 05.2**	**+1.1**
MESJ				S	**Sn**	**22 24 46.2**	**+0.6**
	comp=N,23nm,0.5s						
PBEJ	**Beja**	**3.59**	**332**	*e*Pn	**Pn**	**22 24 05.3**	**+1.1**
PBEJ				*e*Sn	**Sn**	**22 24 46.8**	**+0.9**
PBEJ				A	A	22 24 49.4	
	comp=N,4.9nm,0.5s						
PBEJ	**Beja**	**3.59**	**332**	P	**Pn**	**22 24 05.3**	**+1.1**
PBEJ				S	**Sn**	**22 24 46.8**	**+0.9**
	comp=N,2.5nm,0.5s						
PBEJ	**Beja**	**3.59**	**332**	P	**Pn**	**22 24 05.3**	**+1.1**
PBEJ				S	**Sn**	**22 24 46.8**	**+0.9**
	comp=N,2.5nm,0.5s						
PTEO	**Sao Teotonio**	**3.61**	**319**	*e*Pn	**Pn**	**22 24 05.7**	**+1.3**
PTEO				*e*Sn	**Sn**	**22 24 47.2**	**+1.0**
PTEO				A	A	22 24 54.5	
	comp=N,11nm,0.6s						
PTEO	**Sao Teotonio**	**3.61**	**319**	P	**Pn**	**22 24 05.7**	**+1.3**
PTEO				S	**Sn**	**22 24 47.2**	**+1.0**
	comp=N,5.6nm,0.6s						
PTEO	**Sao Teotonio**	**3.61**	**319**	P	**Pn**	**22 24 05.7**	**+1.3**
PTEO				S	**Sn**	**22 24 47.2**	**+1.0**
	comp=N,5.6nm,0.6s						
EQES	**Quesada**	**3.62**	**35**	P	**Pn**	**22 24 07.1**	**+2.3**
	comp=N,0.3nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**22 24 49.8**	**+3.0**
	comp=N,2.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.62**	**35**	P	**Pn**	**22 24 07.1**	**+2.3**
	comp=N,0.3nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**22 24 49.8**	**+3.0**
	comp=N,2.6nm,0.3s,SNR=7.9						
PNCL	**Nicolau / Gran**	**3.95**	**326**	*e*Pn	**Pn**	**22 24 10.2**	**+1.1**
PNCL				*e*Sn	**Sn**	**22 24 55.7**	**+1.1**
PNCL				A	A	22 25 10.4	
	comp=N,5.7nm,0.8s						
PNCL	**Nicolau / Gran**	**3.95**	**326**	*e*Pn	**Pn**	**22 24 10.2**	**+1.1**
PNCL				*e*Sn	**Sn**	**22 24 55.7**	**+1.1**
	comp=N,5.7nm,0.8s						
EBAD	**Badajoz**	**4.01**	**345**	P	**Pn**	**22 24 11.2**	**+1.2**
	comp=N,1.8nm,0.3s,SNR=16						
EBAD				S	**Sn**	**22 24 57.4**	**+1.2**
	comp=N,6.7nm,0.3s,SNR=4.6						
EBAD	**Badajoz**	**4.01**	**345**	P	**Pn**	**22 24 11.2**	**+1.2**
	comp=N,1.8nm,0.3s,SNR=16						
EBAD				S	**Sn**	**22 24 57.4**	**+1.2**
	comp=N,6.7nm,0.3s,SNR=4.6						
OUK	**Oukaimeden**	**4.07**	**207**	P	**Pn**	**22 24 12.0**	**+0.9**
OUK				S	**Sn**	**22 24 58.0**	**-0.2**
OUK	**Oukaimeden**	**4.07**	**207**	P	**Pn**	**22 24 12.0**	**+0.9**
OUK				S	**Sn**	**22 24 58.0**	**-0.2**
EVO	**Evora**	**4.09**	**334**	*e*Pn	**Pn**	**22 24 12.5**	**+1.4**
EVO				*e*Sn	**Sn**	**22 24 56.2**	**-2.0**
	comp=N,20nm,0.3s						
EVO	**Evora**	**4.09**	**334**	*e*Pn	**Pn**	**22 24 12.3**	**+1.2**
EVO				*e*Sn	**Sn**	**22 24 58.7**	**+0.5**
EVO				A	A	22 25 00.4	
	comp=N,10nm,0.2s						
EVO	**Evora**	**4.09**	**334**	P	**Pn**	**22 24 12.3**	**+1.2**
EVO				S	**Sn**	**22 24 58.7**	**+0.5**
	comp=N,10nm,0.2s						
EVO	**Evora**	**4.09**	**334**	P	**Pn**	**22 24 12.3**	**+1.2**
EVO				S	**Sn**	**22 24 58.7**	**+0.5**
	comp=N,10nm,0.2s						
EVOP	**Sao Brissos**	**4.13**	**333**	*e*Pn	**Pn**	**22 24 12.5**	**+0.9**
EVOP				*e*Sn	**Sn**	**22 24 56.2**	**-2.8**
	comp=N,10nm,0.3s						
CIA	**Chichaoua**	**4.16**	**219**	P	**Pn**	**22 24 13.0**	**+0.9**
CIA				S	**Sn**	**22 25 01.0**	**+1.0**
CIA	**Chichaoua**	**4.16**	**219**	P	**Pn**	**22 24 13.0**	**+0.9**
CIA				S	**Sn**	**22 25 01.0**	**+1.0**
PESTR	**Estremoz**	**4.26**	**340**	*e*Pn	**Pn**	**22 24 15.5**	**+2.1**
PESTR				*e*Sn	**Sn**	**22 25 03.1**	**+0.7**
PESTR				A	A	22 25 05.0	
	comp=N,5.1nm,0.5s						
PESTR	**Estremoz**	**4.26**	**340**	*e*Pn	**Pn**	**22 24 15.5**	**+2.1**
PESTR				*e*Sn	**Sn**	**22 25 03.1**	**+0.7**
	comp=N,5.1nm,0.5s						
EMUR	**La Murta**	**4.68**	**49**	P	**Pn**	**22 24 21.4**	**+2.2**
	comp=N,0.9nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**4.68**	**49**	P	**Pn**	**22 24 21.4**	**+2.2**
	comp=N,0.9nm,0.4s,SNR=7.9						
PMRV	**Marv??o**	**4.74**	**344**	*e*Pn	**Pn**	**22 24 21.9**	**+1.9**
PMRV				*e*Sn	**Sn**	**22 25 14.3**	**+0.1**
PMRV				A	A	22 25 15.4	
	comp=N,4.0nm,0.7s						
PMRV	**Marv??o**	**4.74**	**344**	P	**Pn**	**22 24 21.9**	**+1.9**
PMRV				S	**Sn**	**22 25 14.3**	**+0.1**
	comp=N,4.0nm,0.7s						
PMRV	**Marv??o**	**4.74**	**344**	P	**Pn**	**22 24 21.9**	**+1.9**
PMRV				S	**Sn**	**22 25 14.3**	**+0.1**
	comp=N,4.0nm,0.7s						
ESDC	**Sonseca Array**	**5.00**	**16**	P	**Pn**	**22 24 24.5**	**+0.9**
	comp=N,0.7nm,0.2s,baz=198,slow=13,SNR=16						
ESDC				S	**Sn**	**22 25 20.8**	**+0.3**
	comp=N,0.2nm,0.3s,baz=198,slow=23,SNR=5.5						
ESDC	**Sonseca Array**	**5.00**	**16**	Pn	**Pn**	**22 24 24.8**	**+1.2**
	comp=N,0.6nm,0.3s,baz=196,slow=12,SNR=10						
ESDC				Sn	**Sn**	**22 25 18.1**	**-2.5**
	comp=N,0.8nm,0.3s,baz=202,slow=23,SNR=6.9						
ESDC	**Sonseca Array**	**5.00**	**16**	P	**Pn**	**22 24 24.5**	**+0.9**
	comp=N,0.7nm,0.2s,SNR=16						
ESDC				S	**Sn**	**22 25 20.8**	**+0.3**
	comp=N,0.2nm,0.3s,SNR=5.5						
ETOB	**Tobarra**	**5.04**	**40**	P	**Pn**	**22 24 26.0**	**+1.8**
	comp=N,0.5nm,0.2s,SNR=6.3						
ETOB				S	**Sn**	**22 25 23.8**	**+2.1**
	comp=N,0.6nm,0.3s,SNR=4.6						
ETOB	**Tobarra**	**5.04**	**40**	P	**Pn**	**22 24 26.0**	**+1.8**
	comp=N,0.5nm,0.2s,SNR=6.3						
ETOB				S	**Sn**	**22 25 23.8**	**+2.1**
	comp=N,0.6nm,0.3s,SNR=4.6						
PCBR	**Castelo Branco**	**5.15**	**345**	*e*Pn	**Pn**	**22 24 27.3**	**+1.6**
PCBR				*e*Sn	**Sn**	**22 25 24.1**	**-0.2**
PCBR				A	A	22 25 25.0	
	comp=N,3.9nm,0.4s						
PCBR	**Castelo Branco**	**5.15**	**345**	P	**Pn**	**22 24 27.3**	**+1.6**
PCBR				Sn	**Sn**	**22 25 24.1**	**-0.2**
	comp=N,1.9nm,0.4s						
PCBR	**Castelo Branco**	**5.15**	**345**	P	**Pn**	**22 24 27.3**	**+1.6**
PCBR				*e*Sn	**Sn**	**22 25 24.1**	**-0.2**
	comp=N,3.9nm,0.4s						
EPLA	**Plasencia**	**5.19**	**357**	P	**Pn**	**22 24 27.9**	**+1.6**
	comp=N,1.8nm,0.2s,SNR=15						
EPLA				S	**Sn**	**22 25 25.2**	**-0.2**
	comp=N,1.9nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**5.19**	**357**	P	**Pn**	**22 24 27.9**	**+1.6**
	comp=N,1.8nm,0.2s,SNR=15						
EPLA				S	**Sn**	**22 25 25.2**	**-0.2**
	comp=N,1.9nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**5.20**	**336**	*e*Pn	**Pn**	**22 24 27.9**	**+1.6**
PTOM				*e*Sn	**Sn**	**22 25 25.9**	**+0.4**
PTOM				A	A	22 25 28.0	
	comp=N,10nm,0.7s						
PTOM	**Tomar**	**5.20**	**336**	Pn	**Pn**	**22 24 27.9**	**+1.6**
PTOM				S	**Sn**	**22 25 25.9**	**+0.4**
	comp=N,5.1nm,0.7s						
PTOM	**Tomar**	**5.20**	**336**	Pn	**Pn**	**22 24 27.9**	**+1.6**
PTOM				S	**Sn**	**22 25 25.9**	**+0.4**
	comp=N,5.1nm,0.7s						
GUD	**Guadarrama**	**5.89**	**12**	P	**Pn**	**22 24 37.5**	**+1.5**
	comp=N,0.6nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**22 25 41.8**	**-1.0**
	comp=N,0.9nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**5.89**	**12**	P	**Pn**	**22 24 37.5**	**+1.5**
	comp=N,0.6nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**6.37**	**351**	*e*Pn	**Pn**	**22 24 44.1**	**+1.7**
MVO				*e*Sn	**Sn**	**22 25 54.5**	**+0.2**
MVO				A	A	22 25 55.3	
	comp=N,3.4nm,0.7s						
MVO	**Moncorvo**	**6.37**	**351**	P	**Pn**	**22 24 44.1**	**+1.7**
	comp=N,2.0nm,0.2s,SNR=7.7						
MVO				S	**Sn**	**22 25 54.4**	**0.0**
	comp=N,1.5nm,0.2s						
MVO	**Moncorvo**	**6.37**	**351**	P	**Pn**	**22 24 44.1**	**+1.7**
	comp=N,2.0nm,0.2s,SNR=7.7						
MVO				*e*Sn	**Sn**	**22 25 54.5**	**+0.2**
	comp=N,3.4nm,0.7s						
PVRL	**Vila Real**	**6.58**	**347**	*e*Sn	**Sn**	**22 25 59.2**	**-0.5**
PVRL				A	A	22 26 01.5	
	comp=N,4.2nm,0.5s						
PVRL	**Vila Real**	**6.58**	**347**	S	**Sn**	**22 25 59.2**	**-0.5**
	comp=N,2.1nm,0.5s						
PVRL	**Vila Real**	**6.58**	**347**	S	**Sn**	**22 25 59.2**	**-0.5**
	comp=N,2.1nm,0.5s						
ETOR	**Torete**	**6.61**	**25**	P	**Pn**	**22 24 46.6**	**+0.8**
	comp=N,2.4nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**22 25 59.2**	**-1.1**
	comp=N,1.8nm,0.3s,SNR=5.6						
ETOR	**Torete**	**6.61**	**25**	P	**Pn**	**22 24 46.6**	**+0.8**
	comp=N,2.4nm,0.2s,SNR=7.9						
POLO	**Lamas de Olo**	**6.69**	**347**	*e*Pn	**Pn**	**22 24 49.2**	**+2.3**
POLO				*e*Sn	**Sn**	**22 26 02.6**	**+0.2**
POLO				A	A	22 26 03.1	
	comp=N,1.7nm,0.6s						
POLO	**Lamas de Olo**	**6.69**	**347**	*e*Pn	**Pn**	**22 24 49.2**	**+2.3**
POLO				*e*Sn	**Sn**	**22 26 02.6**	**+0.2**
	comp=N,1.7nm,0.6s						
PBRG	**Braganca**	**6.97**	**354**	*e*Pn	**Pn**	**22 24 52.1**	**+1.5**
PBRG	**Braganca**	**6.97**	**354**	P	**Pn**	**22 24 52.1**	**+1.5**
PBRG	**Braganca**	**6.97**	**354**	P	**Pn**	**22 24 52.1**	**+1.5**
ECAL	**Calabor**	**7.10**	**354**	P	**Pn**	**22 24 53.9**	**+1.4**
	comp=N,1.4nm,0.3s,SNR=4.9						
ECAL				S	**Sn**	**22 26 11.1**	**-1.4**
	comp=N,2.3nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**7.10**	**354**	P	**Pn**	**22 24 53.9**	**+1.4**
	comp=N,1.4nm,0.3s,SNR=4.9						
ELOB	**Lobios**	**7.22**	**346**	P	**Pn**	**22 24 55.8**	**+1.6**
	comp=N,1.2nm,0.3s,SNR=7.9						
ELOB				S	**Sn**	**22 26 14.0**	**-1.4**
	comp=N,1.6nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**7.22**	**346**	P	**Pn**	**22 24 55.8**	**+1.6**
	comp=N,1.2nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**8.43**	**3**	P	**Pn**	**22 25 12.8**	**+2.1**
	comp=N,87nm,1.5s,SNR=5.8						
EARI	**Arriondas**	**8.43**	**3**	P	**Pn**	**22 25 12.8**	**+2.1**
	comp=N,87nm,1.5s,SNR=5.8						
ELAN	**Lanestosa**	**8.54**	**11**	P	**Pn**	**22 25 13.6**	**+1.5**
	comp=N,0.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.54**	**11**	P	**Pn**	**22 25 13.6**	**+1.5**
	comp=N,0.3nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**8.69**	**22**	P	**Pn**	**22 25 16.4**	**+2.1**
	comp=N,0.5nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**8.69**	**22**	P	**Pn**	**22 25 16.4**	**+2.1**
	comp=N,0.5nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**8.94**	**22**	*e*Pn	**Pn**	**22 25 15.4**	**-2.3**
SJPF				*e*Sn	Sn	22 26 47.4	-10
	comp=N,1.0nm,0.4s						
SJPF	**Ste Jean**	**8.94**	**22**	P	**Pn**	**22 25 15.4**	**-2.3**
SJPF				S	Sn	22 26 47.4	-10
	comp=N,0.5nm,0.4s						
ETSF	**Etsaut**	**8.97**	**25**	*e*Pn	**Pn**	**22 25 15.7**	**-2.4**
ETSF				*e*Sn	Sn	22 26 48.0	-10
	comp=N,0.5nm,0.2s						
ETSF	**Etsaut**	**8.97**	**25**	P	**Pn**	**22 25 15.7**	**-2.4**
ETSF				S	Sn	22 26 48.0	-10
	comp=N,0.2nm,0.2s						
EPF	**Esparros**	**9.41**	**28**	*e*Pn	**Pn**	**22 25 21.7**	**-2.5**
EPF				*e*Sn	Sn	22 26 58.6	-11
	comp=N,0.3nm,0.2s						
EPF	**Esparros**	**9.41**	**28**	P	**Pn**	**22 25 21.7**	**-2.5**
EPF				S	Sn	22 26 58.6	-11
	comp=N,0.2nm,0.2s						
GERES	**GERESS Array B**	**20.03**	**40**	P	**P**	**22 27 39.1**	**-2.1**
	comp=N,0.1nm,0.3s,baz=219,slow=7.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**22.65**	**161**	P	**P**	**22 28 09.0**	**-0.5**
	comp=N,1.1nm,1.2s,baz=348,slow=11,SNR=3.8						

BJI **07** 22:28:16.0,23.°20S×179.°39W,h514km,mB5.3/48, mb5.3/62

NEIC **07** 22:28:18.0±0.0,23.°31S×179.°86W,h513km Best double couple: NP1:φs164.00000°,δ88.00000°,λ57.00000°. NP2:φs70.00000°,δ32.00000°,λ176.00000°. Principal axes: T 7.0100, Plg38.0000°, Azm45.0000°; N -1.6600, Plg32.0000°, Azm165.0000°; P -5.3500, Plg34.0000°, Azm281.0000°;

ISCJB **07** 22:28:19.3±0.4,23.°37S±0.°02×179.°91W±0.°02, h537km±4km,mb5.6/263 Error ellipse: s-maj=3.8km s-min=2.5km az=163.8

GCMT **07** 22:28:20.7±0.1,23.°26S×179.°83W,h555km,MW5.9/120, Moment Tensor Solution. s120,c231; s67,c71; Duration: 2s1 Moment tensor: Scale 10^{17}Nm; Mrr0.35±.05; Mθθ2.02±.08; Mφφ-2.37±.08; Mrθ2.57±.09; Mrφ-2.50±.08; Mθφ-6.16±.08; Best double couple: M0 7.46100×10^{17} NP1:φs159.00000°,δ89.00000°, λ63.00000°. NP2:φs67.00000°,δ27.00000°,λ177.00000°. Principal axes: T 7.5910, Plg40.0000°, Azm45.0000°; N -0.2560, Plg27.0000°, Azm160.0000°; P -7.3310, Plg38.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.

MOS **07** 22:28:20.1±1.0,23.°20S×179.°90W,h538km,mb5.5/21 Error ellipse: s-maj=9.0km s-min=7.4km az=72.3

NEIC **07** 22:28:20.7±0.1,23.°32S×179.°88W,mb5.6/137,MW5.8, MW5.8,MW5.9,Error ellipse: s-maj=4.6km s-min=2.9km az=148.0,Moment Tensor Solution. s28 Moment tensor: Scale 10^{17}Nm; Mrr-0.29; Mθθ4.13; Mφφ-3.84; Mrθ2.55; Mθφ0.33; Mrφ-5.71; Best double couple: M0 7.40000×10^{17} NP1:φs52.00000°,δ32.00000°,λ-179.00000°. NP2: φs321.00000°,δ89.00000°,λ-58.00000°. Principal axes: T 6.0100, Plg36.0000°, Azm23.0000°; N 2.3000, Plg32.0000°, Azm140.0000°; P -8.3000, Plg37.0000°, Azm259.0000°;

IDC **07** 22:28:21.1±0.3,23.°28S×179.°85W,h543km±3km,mb4.7/37, mb1 4.8/38,mb1mx4.8/40,mbtmp5.6/38 Error ellipse: s-maj=7.9km s-min=7.2km az=157.0

SZGRF **07** 22:28:22.4,23.°17S×178.°60W,h561km,South of Fiji Islands

NEIC **07** 22:28:36.9±0.0,22.°84S×179.°70W,h557km,Moment Tensor Solution. s136 Moment tensor: Scale 10^{17}Nm; Mrr0.65; Mθθ4.35; Mφφ-5.01; Mrθ2.32; Mθφ-2.89; Mrφ-5.72; Best double couple: M0 8.20000×10^{17} NP1:φs154.00000°, δ88.00000°, λ49.00000°. NP2:φs61.00000°,δ41.00000°, λ176.00000°. Principal axes: T 7.8200, Plg34.0000°, Azm29.0000°; N 0.8600, Plg41.0000°, Azm156.0000°; P -8.6900, Plg30.0000°, Azm276.0000°;

ISC 07 22:28:20.6±0.2,**23.°32S**±0.°03×**179.°82W**±0.°03, **h545**km±2km,**h546**km**:pP-P,n1555**,σ1s38/1807,**mb5.6**/261, **359C-262D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.90	340	eP	P	22 29 58.4	0.0
MSVF				eS	S	22 31 18.0	-0.1
MSVF	Nonsavu	5.90	340	eP	P	22 29 58.4	0.0
MSVF				eS	S	22 31 18.0	-0.1
RAO	Raoul Island	6.15	164	eP	P	22 30 00.1	-0.2
RAO				eS	S	22 31 21.0	-0.9
RAO				pmax	pmax		
	comp=Z,4μm,0.4s						
RAO	Raoul Island	6.15	164	P	P	22 30 00.1	-0.2
	comp=Z,2μm,0.3s,baz=73,slow=24,SNR=30						
RAO				S	S	22 31 15.4	-6.5
	comp=Z,448nm,0.3s,baz=78,slow=20,SNR=4.0						
RAO	Raoul Island	6.15	164	eP	P	22 30 00.1	-0.2
	comp=Z,4μm,0.4s						
RAO				eS	S	22 31 21.0	-0.9
NIUE	Niue	10.14	67	⇑P	P	22 30 39.3	-0.7
	baz=10.0,SNR=27						
NIUE				S	S	22 32 32.3	-2.3
	baz=10.0,SNR=34						
AFI	Afiamalu	12.06	41	P	P	22 30 56.2	-3.8
	comp=Z,45nm,0.3s,baz=159,slow=2.1,SNR=52						
AFI				S	S	22 33 01.4	-10
	comp=Z,52nm,0.3s,baz=97,slow=7.6,SNR=6.4						
AFI				ScP	ScP	22 38 38.6	+1.5
	comp=Z,3.1nm,0.3s,baz=239,slow=5.9,SNR=4.6						
DZM	Mont Dzumac	12.74	273	⇓iP	P	22 31 07.3	+0.3
	comp=Z,576nm,0.7s						
DZM	Mont Dzumac	12.74	273	P	P	22 31 07.1	+0.1
	comp=Z,16nm,0.3s,baz=64,slow=21,SNR=76						
DZM				ScP	ScP	22 38 41.8	+3.6
	comp=Z,1.8nm,0.3s,baz=136,slow=4.0,SNR=12						
DZM	Mont Dzumac	12.74	273	P	P	22 31 07.1	+0.1
	comp=Z,25nm,0.6s						
DZM				eS	S	22 33 27.3	+3.3
DZM				eScP	ScP	22 38 41.1	+3.0
DZM				ScP	ScP	22 38 41.8	+3.6
DZM	Mont Dzumac	12.74	273	eP	P	22 31 06.5	-0.5
DZM	Mont Dzumac	12.74	273	eP	P	22 31 06.5	-0.5
NOUC	Port Laguerre	12.87	273	eP	P	22 31 06.7	-1.5
NOUC	Port Laguerre	12.87	273	eP	P	22 31 06.7	-1.5
OUZ	Omahuta	13.18	204	eP	P	22 31 12.6	+1.4
OUZ				eS	S	22 33 32.4	+0.8
OUZ	Omahuta	13.18	204	PN	P	22 31 13.0	+1.8
WCZ	Waipu Caves	13.56	201	PN	P	22 31 16.8	+1.6
KUZ	Kuaotunu	13.93	195	PN	P	22 31 19.3	+0.4
RVAZ	Riverhead Bore	14.26	199	PN	P	22 31 22.8	+0.5
MXZ	Matakaoa Point	14.29	186	PN	P	22 31 20.6	-2.1
MXZ				SN	S	22 33 51.4	-1.3
MYRZ	Mayor Island	14.33	193	PN	P	22 31 23.3	+0.2
MKAZ	Moumakai	14.41	196	PN	P	22 31 24.4	+0.4
KBAZ	Karaka Road Bo	14.47	197	PN	P	22 31 25.5	+1.0
HAZ	Te Kaha	14.54	188	PN	P	22 31 26.9	+1.6
HAZ				SN	S	22 33 55.3	-2.1
TGRZ	Tauranga	14.76	192	PN	P	22 31 27.5	+0.1
PUZ	Puketiti	14.80	186	PN	P	22 31 28.0	+0.1
TOZ	Tahuroa Road	14.92	195	PN	P	22 31 29.4	+0.2
EDRZ	Edgecumbe	15.04	191	PN	P	22 31 30.5	0.0
KARZ	Kaharoa	15.04	192	PN	P	22 31 30.3	-0.2
OMRZ	Omania	15.10	192	ePN	P	22 31 31.3	+0.2
URZ	Urewera	15.13	189	PN	P	22 31 27.4	-4.0
	comp=Z,71nm,0.3s,baz=15,slow=1.9,SNR=104						
URZ				S	S	22 34 00.3	-7.9
	comp=Z,64nm,0.3s,baz=191,slow=21,SNR=16						
URZ				ScP	ScP	22 38 39.8	-2.0
	comp=Z,1.3nm,0.3s,baz=308,slow=6.9,SNR=4.3						
URZ	Urewera	15.13	189	PN	P	22 31 27.3	-4.0
MWZ	Matawai	15.14	188	PN	P	22 31 27.7	-3.9
CNGZ	Carnagh Statio	15.22	186	PN	P	22 31 30.6	-1.6
HRRZ	Handcock Road	15.39	192	PN	P	22 31 32.4	-1.7
RIGZ	Rimuhau	15.48	187	PN	P	22 31 32.8	-2.2
PRGZ	Paritu Road	15.68	187	PN	P	22 31 36.3	-0.7
RAHZ	Arahi	15.78	189	PN	P	22 31 35.2	-2.7
KNZ	Kokohu	15.80	187	PN	P	22 31 37.8	-0.3
HIZ	Hauiti	15.82	196	PN	P	22 31 38.3	-0.1
MHGZ	Mahia Peninsul	15.91	186	PN	P	22 31 39.4	+0.2
WHHZ	Waihua	15.91	188	PN	P	22 31 36.5	-2.7
RATZ	Rangitukua	15.96	193	PN	P	22 31 36.8	-2.9
NMHZ	Naumai	16.00	190	PN	P	22 31 37.0	-3.2
KATZ	Kakaramea	16.07	193	PN	P	22 31 39.1	-1.9
BKZ	Black Stump Fm	16.11	190	eP	P	22 31 37.5	-3.7
	comp=Z,436nm,0.7s						
BKZ	Black Stump Fm	16.11	190	PN	P	22 31 37.8	-3.5
KRVZ	Karewarewa	16.20	193	PN	P	22 31 39.1	-3.0
TWVZ	Taurewa	16.22	193	PN	P	22 31 39.8	-2.5
WTVZ	West Tongariro	16.23	193	PN	P	22 31 39.3	-3.2
OTVZ	Oturere	16.26	193	PN	P	22 31 39.6	-3.1
NGZ	Ngauruhoe	16.29	193	PN	P	22 31 40.1	-2.9
MCHZ	McNeill Hill	16.35	190	PN	P	22 31 40.3	-3.1
TUVZ	Tukino	16.36	193	PN	P	22 31 40.3	-3.4
FWVZ	Far West T-bar	16.37	193	PN	P	22 31 40.6	-3.3
DRZ	Dome Shelter	16.39	193	PN	P	22 31 41.2	-2.9
WHVZ	Whangaehu Hut	16.39	193	PN	P	22 31 40.8	-3.3
TRVZ	Turoa	16.42	193	PN	P	22 31 41.2	-3.1
WNVZ	Wahianoa	16.43	193	PN	P	22 31 41.1	-3.3
PKVZ	Pokaka	16.45	193	PN	P	22 31 41.7	-2.7
MOVZ	Moawhango	16.48	192	PN	P	22 31 40.8	-4.0
BHHZ	Black Hill Sta	16.50	191	PN	P	22 31 40.5	-4.4
CKHZ	Cape Kidnapper	16.51	188	PN	P	22 31 42.5	-2.4
KRHZ	Kereru	16.60	190	PN	P	22 31 42.2	-3.5
KAHZ	Kahuranaki	16.67	189	PN	P	22 31 43.7	-2.7
PNHZ	Pukenui	16.89	191	PN	P	22 31 45.7	-2.7
PXZ	Pawanui	16.90	189	PN	P	22 31 44.6	-3.8
WAZ	Wanganui	16.97	194	PN	P	22 31 48.3	-0.9
TSZ	Takapari Road	17.07	191	PN	P	22 31 46.2	-3.9
PRHZ	Porangahau	17.17	189	PN	P	22 31 50.3	-0.6
DVHZ	Dannevirke	17.27	190	PN	P	22 31 49.5	-2.3
ANWZ	Angora Road	17.38	190	PN	P	22 31 50.4	-2.4
POWZ	Post Office Ro	17.43	191	PN	P	22 31 50.6	-2.7
PRWZ	Pori Road	17.55	191	PN	P	22 31 52.6	-1.8
BFZ	Birch Farm	17.63	190	eP	P	22 31 53.0	-2.2
	comp=Z,344nm,0.6s						
BFZ	Birch Farm	17.63	190	PN	P	22 31 52.1	-3.0
MRZ	Mangatainoka R	17.73	192	PN	P	22 31 52.9	-3.1
TIWZ	Tintock	17.78	191	PN	P	22 31 54.1	-2.5
CPWZ	Castlepoint	17.86	190	PN	P	22 31 56.6	-0.6
OGWZ	Otaki Gorge	17.96	192	PN	P	22 31 55.2	-2.9
HOWZ	Holdsworth Sta	17.97	192	ePN	P	22 31 55.2	-3.0
KIW	Kapiti Island	18.05	193	PN	P	22 31 56.5	-2.5
TMWZ	Te Maipa	18.11	190	ePN	P	22 31 56.7	-2.8
DUWZ	D'Urville Isla	18.22	195	PN	P	22 31 58.7	-1.8
MTW	Mount Morrison	18.22	191	PN	P	22 31 57.3	-3.3
CAW	Cannon Point	18.26	192	PN	P	22 31 59.2	-1.7
TRWZ	Traveller	18.42	191	PN	P	22 32 00.0	-2.4
PAWZ	Paruwai Farm	18.45	191	PN	P	22 32 00.3	-2.4
MSWZ	Moikau Station	18.52	192	PN	P	22 32 00.9	-2.4
SNZO	South Karori	18.52	193	PN	P	22 32 01.6	-1.6
TCW	Tory Channel	18.52	194	ePN	P	22 32 02.2	-1.1
BHW	Baring Head	18.59	193	PN	P	22 32 02.2	-1.6
QRZ	Quartz Range	18.61	198	PN	P	22 32 05.0	+0.9
PLWZ	Palliser	18.67	192	PN	P	22 32 02.8	-1.8
NNZ	Nelson	18.74	196	PN	P	22 32 04.2	-1.0
TUWZ	Tuamarina	18.81	195	PN	P	22 32 05.0	-0.9
CMWZ	Cape Campbell	19.05	194	PN	P	22 32 08.3	+0.2
BSWZ	Blackbirch Sta	19.09	195	PN	P	22 32 08.4	0.0
THZ	Tophouse	19.38	197	PN	P	22 32 10.3	-0.9
KHZ	Kahutara	19.84	195	eP	P	22 32 14.4	-0.8
	comp=Z,280nm,0.7s						
KHZ	Kahutara	19.84	195	PN	P	22 32 14.5	-0.7
LHI	Lord Howe Isla	20.43	242	⇓P	P	22 32 22.6	+1.8
	baz=20,SNR=14						
LTZ	Lake Taylor	20.50	197	PN	P	22 32 20.1	-1.2
OXZ	Oxford	21.07	197	PN	P	22 32 25.0	-1.4
WVZ	Waitaha Valley	21.21	199	PN	P	22 32 26.2	-1.3
MQZ	McQueen's Vall	21.27	195	PN	P	22 32 26.8	-1.3
RPZ	Rata Peaks	21.70	198	eP	P	22 32 31.5	-0.5
	comp=Z,343nm,0.8s						
RPZ	Rata Peaks	21.70	198	PN	P	22 32 30.8	-1.2
FOZ	Fox Glacier	21.98	201	PN	P	22 32 32.6	-1.8
LBZ	Lake Benmore	22.57	199	PN	P	22 32 38.0	-1.8
JCZ	Jackson Bay	22.74	202	PN	P	22 32 40.7	-0.7
ODZ	Otahua Downs	23.04	197	eP	P	22 32 43.5	-0.5
	comp=Z,66nm,0.9s						
ODZ	Otahua Downs	23.04	197	PN	P	22 32 42.7	-1.2
WKZ	Wanaka	23.32	200	PN	P	22 32 45.1	-1.4
EAZ	Earnscleugh	23.59	199	PN	P	22 32 48.5	-0.5
MLZ	Mavora Lakes	24.06	201	PN	P	22 32 53.3	+0.2
DCZ	Deep Cove	24.52	202	eP	P	22 32 57.0	-0.1
	comp=Z,174nm,0.9s						
DCZ	Deep Cove	24.52	202	PN	P	22 32 56.9	-0.2
WHZ	Wether Hill Ro	24.62	201	eP	P	22 32 57.9	-0.1
	comp=Z,592nm,1.2s						
WHZ	Wether Hill Ro	24.62	201	PN	P	22 32 57.8	-0.1
SYZ	Scrubby Hill	24.83	198	PN	P	22 32 59.6	-0.2
APZ	The Paps	25.44	200	PN	P	22 33 04.8	-0.5
ARMA	Armidale	26.39	248	eP	P	22 33 15.5	+1.5
	comp=Z,442nm,1.1s						
ARMA	Armidale	26.39	248	⇓P	P	22 33 15.3	+1.3
	baz=26,SNR=104						
EIDS	Eidsvold	26.57	260	eP	P	22 33 16.1	+0.5
	comp=Z,757nm,1.3s						
EIDS	Eidsvold	26.57	260	⇑P	P	22 33 16.4	+0.8
	baz=27,SNR=154						
EIDS				⇓S	S	22 37 12.2	+0.1
	baz=27,SNR=9.7						
MGCD	Mangrove Creek	27.36	242	⇑P	P	22 33 23.8	+1.4
	baz=28,SNR=224						
RMQ	Roma	28.64	257	⇓P	P	22 33 34.7	+1.0
	baz=29,SNR=324						
PAE	Paea	28.84	84	⇑iP	P	22 33 35.6	+0.2
	comp=Z,36nm,1.0s						
PAE				epP	pP	22 34 58.9	-6.1
	comp=Z,54nm,1.2s						
PPT2	Papeete2	28.87	84	⇑iP	P	22 33 36.1	+0.3
	comp=Z,262nm,1.3s						
PPT2				epP	pP	22 34 59.4	-5.9
	comp=Z,306nm,1.4s						
PPT	Papeete	28.87	84	P	P	22 33 36.4	+0.6
	comp=Z,170nm,0.8s,baz=64,slow=6.5,SNR=12						
PPT				ScP	ScP	22 39 18.9	+1.3
	comp=Z,49nm,0.8s,baz=186,slow=4.8,SNR=4.5						
TIAR	Tiarei	29.09	84	⇑iP	P	22 33 37.9	+0.3
	comp=Z,121nm,1.1s						
TIAR				epP	pP	22 35 01.4	-5.9
	comp=Z,124nm,1.2s						
CNB	Canberra Magne	29.29	239	⇑P	P	22 33 40.5	+1.2
	baz=29,SNR=108						
CNB				⇑S	S	22 37 54.7	+0.3
	baz=29,SNR=14						
CAN	Canberra	29.58	239	eP	P	22 33 42.3	+0.6
CAN				pmax	pmax		
	comp=Z,465nm,0.8s						
CAN	Canberra	29.58	239	eP	P	22 33 42.3	+0.6
	comp=Z,465nm,0.8s						
CAN				epP	pP	22 35 11.4	-0.2
YNG	Young	29.81	241	⇓P	P	22 33 44.8	+1.0
	baz=30,SNR=70						
MILA	Mila	29.96	236	⇑P	P	22 33 46.1	+1.0
	baz=30,SNR=75						
MEH	Mehetia	30.17	86	⇑iP	P	22 33 46.9	-0.1
	comp=Z,134nm,1.4s						
MEH				epP	pP	22 35 11.1	-6.1
	comp=Z,74nm,1.4s						
MEH				eScP	ScP	22 39 22.4	+0.6
	comp=Z,23nm,0.9s						
PMOR	Pomariorio Ree	31.21	80	⇑iP	P	22 33 56.1	+0.2
	comp=Z,536nm,1.1s						
VAH	Vaihoa	31.37	81	⇑iP	P	22 33 57.2	-0.1
	comp=Z,307nm,1.0s						
CTA	Charters Tower	31.65	269	P	P	22 34 00.3	+0.6
	comp=Z,1μm,0.5s,baz=93,slow=11,SNR=2431						
CTA				ScP	ScP	22 39 28.1	+1.3
	comp=Z,25nm,1.0s,baz=93,slow=1.7,SNR=6.9						
CTAO	Charters Tower	31.65	269	eP	P	22 34 00.4	+0.4
CTAO	Charters Tower	31.65	269	eP	P	22 34 00.4	+0.4
	comp=Z,2μm,0.6s						
QLP	Quilpie	32.69	257	⇑P	P	22 34 08.7	+0.3
	baz=33,SNR=570						
TOO	Toolangi	32.91	236	⇓P	P	22 34 10.9	+0.7
	baz=33,SNR=160						
TOO				S	S	22 38 50.2	+0.5
	baz=33,SNR=9.5						
RABL	Rabaul	33.07	301	⇓P	P	22 34 11.7	-0.1
	baz=33,SNR=7.1						
XMAS	Kiritimati	33.32	44	eP	P	22 34 14.6	+0.8
	comp=Z,905nm,0.8s						
MOO	Moorlands	33.35	227	⇑P	P	22 34 14.6	+0.9
	baz=34,SNR=14						
TAU	Tasmania Unive	33.46	226	eP	P	22 34 15.6	+1.0
TAU				pmax	pmax		
	comp=Z,146nm,0.8s						
TAU	Tasmania Unive	33.46	226	eP	P	22 34 15.6	+1.0
	comp=Z,146nm,0.8s						
MTSU	Mount Surprise	33.88	272	⇑P	P	22 34 19.1	+0.5
	baz=34,SNR=283						
PMG	Port Moresby	34.47	288	eP	P	22 34 22.8	-0.7
PMG	Port Moresby	34.47	288	P	P	22 34 24.3	+0.8
	comp=Z,1μm,0.7s,baz=101,slow=7.0,SNR=267						
PMG				ScP	ScP	22 39 38.3	+1.5
	comp=Z,45nm,0.9s,baz=164,slow=2.7,SNR=8.0						
PMG	Port Moresby	34.47	288	eP	P	22 34 22.8	-0.7
	comp=Z,1μm,0.8s						
PMG				ScP	ScP	22 39 38.3	+1.5
PMG	Port Moresby	34.47	288	⇑P	P	22 34 23.8	+0.3
	baz=35,SNR=96						
STKA	Stephens Creek	35.10	247	eP	P	22 34 29.1	+0.6
STKA						22 36 45.8	
STKA				S	S	22 39 15.6	-7.2
STKA				pmax	pmax		
	comp=Z,71nm,0.6s						
STKA	Stephens Creek	35.10	247	P	P	22 34 29.2	+0.7
	comp=Z,365nm,0.6s,baz=90,slow=8.8,SNR=938						
STKA				PcP	PcP	22 36 45.8	+1.0
	comp=Z,24nm,0.5s,baz=22,slow=5.4,SNR=2.5						
STKA				S	S	22 39 15.6	-7.2
	comp=Z,11nm,0.8s,baz=225,slow=5.7,SNR=2.2						
STKA				ScP	ScP	22 39 40.6	+1.8
	comp=Z,18nm,0.8s,baz=58,slow=7.6,SNR=4.0						
STKA	Stephens Creek	35.10	247	eP	P	22 34 29.1	+0.6
	comp=Z,71nm,0.6s						
STKA				PcP	PcP	22 36 45.8	+1.0
STKA				S	S	22 39 15.6	-7.2
STKA				ScP	ScP	22 39 40.6	+1.8
STKA	Stephens Creek	35.10	247	⇑P	P	22 34 28.9	+0.4
	baz=35,SNR=82						
ARPS	Mount Arapiles	35.56	239	⇑P	P	22 34 32.6	+0.3
	baz=36,SNR=255						
COEN	Coen	36.19	278	eP	P	22 34 38.1	+0.3
	comp=Z,4μm,1.4s						
COEN	Coen	36.19	278	⇓P	P	22 34 37.9	0.0
	baz=36,SNR=269						
HTT	Hallett	37.47	245	⇓P	P	22 34 48.3	+0.2
	baz=38,SNR=561						
QIS	Mount Isa	37.66	266	⇑P	P	22 34 49.0	-0.9
	baz=38,SNR=113						
MANU	Manus Island	38.18	299	⇑P	P	22 34 53.9	-0.2
	baz=38,SNR=4.0						
BBOO	Buckleboo	39.83	246	eP	P	22 35 06.8	-0.4
	comp=Z,13μm,1.4s						
BBOO	Buckleboo	39.83	246	⇑P	P	22 35 06.5	-0.7
	baz=40,SNR=1000						
TAOE	Nuku Hiva Isla	40.58	76	eP	P	22 35 13.6	+0.1
	comp=Z,1μm,1.1s						
MMPI	Merauke	40.87	285	P	P	22 35 15.7	0.0
	comp=Z,4μm,0.6s						
RKT	Rikitea	41.08	99	eP	P	22 35 17.8	+0.5
	comp=Z,76nm,1.0s						
AS31	Alice Springs	42.30	260	eP	P	22 35 27.0	0.0
AS31				eS	S	22 41 07.8	-1.0
ASAR	Alice Springs	42.30	260	P	P	22 35 26.9	-0.1
	comp=Z,606nm,0.7s,baz=96,slow=7.9,SNR=3195						
ASAR				ScP	ScP	22 40 10.0	+3.1
	comp=Z,66nm,1.0s,baz=112,slow=4.1,SNR=15						
ASAR				S	S	22 41 06.8	-2.0
	comp=Z,12nm,0.7s,baz=100,slow=15,SNR=5.8						
WRAB	Tennant Creek	42.61	265	⇓iP	P	22 35 28.3	-1.1
WRAB				e*PP	pP	22 37 04.7	-2.2
WRAB				e		22 37 21.1	
WRAB				eS	S	22 41 10.4	-2.8
WRAB				pmax	pmax		
	comp=Z,724nm,0.7s						
WRAB	Tennant Creek	42.61	265	⇓iP	P	22 35 28.3	-1.1
	comp=Z,724nm,0.7s						
WRAB				epP	pP	22 37 04.7	-2.2
WRAB				ePP	PP	22 37 21.1	+0.2
WRAB				eScP	ScP	22 40 07.4	-0.8
WRAB				eS	S	22 41 10.4	-2.8
WRA	Warramunga Arr	42.62	265	P	P	22 35 28.7	-0.7
	comp=Z,804nm,0.7s,baz=101,slow=8.1,SNR=938						
WRA				pP	pP	22 37 05.7	-1.4
	comp=Z,18nm,0.5s,baz=99,slow=7.0,SNR=2.0						
WRA				ScP	ScP	22 40 10.8	+2.5
	comp=Z,61nm,1.0s,baz=101,slow=4.3,SNR=21						
WRA				S	S	22 41 09.9	-3.4
	comp=Z,16nm,0.9s,baz=100,slow=14,SNR=7.5						
JAY	Jayapura	43.45	293	P	P	22 35 35.6	-0.4
	comp=Z,489nm,1.2s,comp=Z,8μm						
JAY	Jayapura	43.45	293	⇓P	P	22 35 35.6	-0.4
	baz=44,SNR=16						
GENI	Genyem	43.86	292	P	P	22 35 39.4	+0.2
	comp=Z,984nm,1.0s,comp=Z,10μm						
SMPI	Sarmi	45.42	292	P	P	22 35 50.3	-0.8
	comp=Z,352nm,0.9s,comp=Z,6μm						
KDU	Kakadu	46.41	275	P	P	22 35 57.9	-0.8
	baz=46,SNR=339						
FORT	Forrest	46.67	249	eP	P	22 36 00.0	-0.5
WRKA	Warakurna	47.13	257	P	P	22 36 03.9	-0.2
	baz=47,SNR=1000						
MTN	Manton Dam	47.58	274	P	P	22 36 06.4	-1.1
	baz=48,SNR=222						
SRPI	Serui, Papua	47.60	290	P	P	22 36 07.9	+0.3
	comp=Z,1μm,1.1s,comp=Z,12μmcomp=Z,11μm						
BAKI	Biak	48.05	291	P	P	22 36 11.5	+0.4
	comp=Z,1μm,1.1s,comp=Z,12μm						
KKH	Kailua Kona	48.61	30	eP	P	22 36 16.0	+1.0
KKH	Kailua Kona	48.61	30	eP	P	22 36 16.0	+1.0
PUH	Pauahi	48.75	32	eP	P	22 36 16.7	+0.6
STCH	Steam Cracks	48.80	32	eP	P	22 36 15.7	-0.9
KNRA	Kununurra	48.86	269	⇓P	P	22 36 16.8	-0.2
	baz=49,SNR=356						
POHA	Pohakuloa	48.93	31	eP	P	22 36 17.6	0.0
	comp=Z,387nm,1.1s						
KMPI	Kaimana, Papua	48.95	286	P	P	22 36 17.7	0.0
	comp=Z,1μm,0.8s,comp=Z,11μm						
HON	Honolulu	49.20	27	eP	P	22 36 19.7	+0.4
HON	Honolulu	49.20	27	eP	P	22 36 19.7	+0.4
SAUI	Saumlaki	49.23	280	P	P	22 36 20.0	+0.2
	comp=Z,2μm,1.2s,comp=Z,17μm						
SAUI	Saumlaki	49.23	280	eP	P	22 36 20.5	+0.7
	comp=Z,1μm,0.9s						
KIP	Kipapa	49.28	27	d iP	P	22 36 20.5	+0.6
KIP				pmax	pmax		
	comp=Z,254nm,1.1s						
KIP	Kipapa	49.28	27	eP	P	22 36 19.1	-0.8
	comp=Z,956nm,1.6s						
HKL	Haleakala	49.42	30	eP	P	22 36 22.2	+0.8
HKL	Haleakala	49.42	30	eP	P	22 36 22.2	+0.8
HLK	Haleakala	49.46	29	eP	P	22 36 20.0	-1.6
OPA	Opana	49.52	27	eP	P	22 36 21.2	-0.4
OPA	Opana	49.52	27	eP	P	22 36 21.2	-0.4
RKPI	Ransiki, Papua	49.56	289	P	P	22 36 22.3	+0.1
	comp=Z,396nm,0.7s,comp=Z,19μm						
GUMO	Guam	50.39	313	eP	P	22 36 28.2	0.0
GUMO	Guam	50.39	313	eP	P	22 36 28.2	0.0
	comp=Z,13μm,1.8s						
FAKI	Fak Fak	50.58	286	P	P	22 36 29.5	-0.2
	comp=Z,534nm,1.3s,comp=Z,6μm						
FAKI	Fak Fak	50.58	286	eP	P	22 36 29.1	-0.5
	comp=Z,316nm,0.9s						
FAKI	Fak Fak	50.58	286	⇑P	P	22 36 28.8	-0.9
	baz=51,SNR=29						
BNDI	Bandanaira	51.94	283	P	P	22 36 39.7	+0.2
	comp=Z,2μm,1.0s,comp=Z,16μm						
SWI	Sorong	52.42	288	P	P	22 36 42.9	-0.1
	comp=Z,2μm,0.8s,comp=Z,16μm						
MSAI	Masohi	53.33	284	P	P	22 36 48.9	-0.6
	comp=Z,149nm,0.8s,comp=Z,1μm						
SOEI	Soe	54.97	274	P	P	22 37 02.5	+1.4
	comp=Z,2μm,1.1s,comp=Z,18μm						
SOEI	Soe	54.97	274	eP	P	22 37 02.4	+1.2
	comp=Z,2μm,1.0s						
SOEI	Soe	54.97	274	P	P	22 37 02.3	+1.2
	baz=55,SNR=130						
SBA	Scott Base	54.97	183	eP	P	22 37 03.1	+3.1
SBA				pmax	pmax		
	comp=Z,161nm,1.0s						
SBA	Scott Base	54.97	183	eP	P	22 37 03.1	+3.1
	comp=Z,161nm,1.0s						
VNDA	Vanda	54.97	185	eP	P	22 37 02.1	+2.1
VNDA						22 37 54.9	
VNDA				pmax	pmax		
	comp=Z,34nm,0.8s						
VNDA	Vanda	54.97	185	P	P	22 37 02.1	+2.1
	comp=Z,25nm,0.5s,baz=6.4,slow=8.2,SNR=99						
VNDA				PcP	PcP	22 37 54.9	+1.4
	comp=Z,11nm,0.6s,baz=355,slow=6.5,SNR=6.7						
VNDA				ScP	ScP	22 41 01.1	+1.3
	comp=Z,10.0nm,0.8s,baz=350,slow=4.1,SNR=6.2						
VNDA	Vanda	54.97	185	eP	P	22 37 02.1	+2.1
	comp=Z,34nm,0.8s						
VNDA				PcP	PcP	22 37 54.9	+1.4
VNDA				ScP	ScP	22 41 01.1	+1.3
NLAI	Namlea	55.01	283	P	P	22 37 01.7	+0.4
	comp=Z,692nm,0.9s,comp=Z,8μmcomp=Z,31μm						
NWAO	Narrogin (SRO)	55.63	245	P	P	22 37 05.2	-0.2
	comp=Z,125nm,0.5s,baz=113,slow=6.7,SNR=325						
NWAO				pP	pP	22 38 49.5	-1.2
	comp=Z,26nm,0.8s,baz=85,slow=7.8,SNR=2.2						
MBWA	Marble Bar	55.64	260	eP	P	22 37 03.9	-1.7
	comp=Z,558nm,0.6s						
LBMI	Labuha	55.83	286	P	P	22 37 07.5	+0.5
	comp=Z,798nm,0.9s,comp=Z,7μm						
SANI	Sanana	56.53	284	P	P	22 37 11.4	-0.4
	comp=Z,538nm,0.9s,comp=Z,6μm						
TNTI	Ternate	56.62	287	P	P	22 37 12.4	0.0
	comp=Z,1μm,1.2s,comp=Z,11μm						
TNTI	Ternate	56.62	287	eP	P	22 37 12.4	0.0
	comp=Z,764nm,0.9s						
MMRI	Maumere	57.24	275	P	P	22 37 16.8	+0.1
	comp=Z,1μm,0.9s,comp=Z,12μm						
MMRI	Maumere	57.24	275	eP	P	22 37 15.9	-0.8
WSI	Waingapu	58.64	273	P	P	22 37 26.6	+0.5
	comp=Z,4μm,0.8s,comp=Z,40μm						
WSI	Waingapu	58.64	273	⇑P	P	22 37 26.2	+0.1
	baz=59,SNR=6.6						

WBSI Waikabubak, Su 59.48 272 P P 22 37 32.1 +0.3
comp=Z,729nm,1.3s,comp=Z,7µm
KMSI Cibinong 59.51 285 P P 22 37 31.5 -0.5
comp=Z,588nm,0.6s,comp=Z,6µm
SGSI Sangihe 59.63 289 P P 22 37 32.8 0.0
comp=Z,652nm,0.7s
LUWI Luwuk 59.86 283 P P 22 37 35.1 +0.8
comp=Z,997nm,1.2s,comp=Z,10µm
LUWI Luwuk 59.86 283 eP P 22 37 34.8 +0.5
comp=Z,574nm,0.8s
LUWI Luwuk 59.86 283 ⇓P P 22 37 34.6 +0.3
baz=60,SNR=25
GTOI Gorontalo 60.40 285 P P 22 37 38.9 +1.0
comp=Z,1µm,0.8s,comp=Z,10µm
BKSI Bulukumba 60.46 277 P P 22 37 37.7 -0.5
comp=Z,566nm,0.7s,comp=Z,5µm
CASY Casey 60.71 206 eP P 22 37 39.1 +0.1
BNSI Bone 60.84 278 P P 22 37 40.8 0.0
comp=Z,498nm,0.8s,comp=Z,5µm
KAPI Kappang 60.92 277 eP P 22 37 40.9 -0.4
APSI Ampana 60.92 283 P P 22 37 42.0 +0.7
comp=Z,814nm,1.0s,comp=Z,7µm
MRSI Marisa 61.28 284 P P 22 37 43.1 -0.6
comp=Z,228nm,0.7s,comp=Z,2µm
DAV Davao City (W) 61.29 293 eP P 22 37 43.4 -0.4
SPSI Sidrap Palu 61.33 279 P P 22 37 42.9 -1.1
comp=Z,306nm,0.8s,comp=Z,3µm
TTSI Tana Toraja 61.66 280 P P 22 37 46.0 -0.2
comp=Z,186nm,0.9s,comp=Z,2µm
CBIJ Chichi jima 62.13 322 eP P 22 37 49.0 +0.1
comp=Z,86nm,0.6s
BUKP Musuan 62.15 293 eP P 22 37 49.6 +0.3
BUTP Butuan 62.25 295 eP P 22 37 49.8 -0.2
TOLI Toli-Toli 62.59 284 eP P 22 37 51.3 -0.9
comp=Z,644nm,0.4s
MSLP Maasin 63.50 295 eP P 22 37 57.6 -0.4
PAGZ Pagadian 63.56 292 eP P 22 37 58.8 +0.4
DNP Denpasar 63.67 272 P P 22 37 59.3 +0.2
comp=Z,833nm,0.9s
IGBI Denpasar 63.68 272 P P 22 37 58.9 -0.3
comp=Z,1µm,0.8s,comp=Z,12µm
SRBI Singaraja 63.89 272 P P 22 38 00.1 -0.4
comp=Z,593nm,1.1s,comp=Z,7µm
OCLP Ormoc 64.20 296 eP P 22 38 02.3 -0.2
IPIL Ipil 64.22 292 eP P 22 38 02.8 +0.2
JAGI Jajag, Banyuwa 64.72 271 P P 22 38 04.4 -1.4
comp=Z,538nm,1.1s,comp=Z,6µm
JAGI Jajag, Banyuwa 64.72 271 eP P 22 38 03.7 -2.1
JAGI Jajag, Banyuwa 64.72 271 ⇓P P 22 38 04.7 -1.1
baz=65,SNR=63
ABJI Asem Bagus 64.90 272 P P 22 38 07.3 +0.4
comp=Z,398nm,1.2s,comp=Z,6µm
KMMI Kalianget 65.42 273 P P 22 38 10.7 +0.5
comp=Z,872nm,1.0s,comp=Z,9µm
GMJI Gumukmas 65.45 271 P P 22 38 09.5 -0.8
comp=Z,415nm,1.1s,comp=Z,5µm
BLJI Banyuglugur 65.50 272 P P 22 38 10.4 -0.3
comp=Z,579nm,0.8s,comp=Z,6µm
GUIM Jordan 65.66 294 eP P 22 38 10.3 -1.3
RCP Roxas 66.02 295⇓eP P 22 38 13.1 -0.7
MYLDM Lahad Datu 66.48 287 eP P 22 38 16.5 -0.3
comp=Z,144nm,1.0s
QSPA South Pole Qui 66.77 180 P P 22 38 19.4 +1.6
comp=Z,101nm,0.7s,baz=12,slow=0.8,SNR=246
QSPA pP pP 22 40 12.2 +3.5
comp=Z,47nm,1.0s,baz=132,slow=0.9,SNR=6.3
QSPA South Pole Qui 66.77 180 eP P 22 38 19.1 +1.3
comp=Z,236nm,1.2s
QSPA pP pP 22 40 12.2 +3.5
GRJI Gresik 66.84 272 P P 22 38 19.4 +0.4
comp=Z,2µm,0.7s,comp=Z,16µm
PWJI Pagerwojo 67.05 271 P P 22 38 19.7 -0.6
comp=Z,538nm,1.1s,comp=Z,6µm
CUYO Cuyo Island 67.09 294 eP P 22 38 20.3 -0.2
TBJI Tambak Boyo 67.45 272 P P 22 38 23.4 +0.6
comp=Z,607nm,1.4s,comp=Z,8µm
PCJI Pacitan 67.56 271 P P 22 38 23.5 +0.1
comp=Z,2µm,0.6s,comp=Z,17µm
NGJI Ngawi 67.60 272 P P 22 38 24.9 +1.2
comp=Z,285nm,0.9s,comp=Z,4µm
WOJI Wonogiri, Jawa 67.92 271 P P 22 38 25.6 0.0
comp=Z,867nm,0.9s,comp=Z,8µm
UGM Wanagama 68.26 271 P P 22 38 27.4 -0.4
comp=Z,703nm,0.7s,comp=Z,6µm
UGM Wanagama 68.26 271 eP P 22 38 26.7 -1.1
UGM Wanagama 68.26 271 ⇓P P 22 38 27.4 -0.4
baz=68,SNR=82
UWJI Ujung Watu 68.43 272 P P 22 38 28.8 0.0
comp=Z,822nm,0.9s,comp=Z,8µm
SMRI Semarang 68.66 271 P P 22 38 30.4 +0.2
comp=Z,506nm,0.8s,comp=Z,6µm
SMRI Semarang 68.66 271 eP P 22 38 29.5 -0.7
comp=Z,201nm,0.6s
SMRI Semarang 68.66 271 ⇑P P 22 38 30.5 +0.4
baz=69,SNR=13
KDM Kudat 68.76 288 ⇑P P 22 38 32.1 +1.4
TGY Tagaytay City 68.85 297 P P 22 38 30.7 -0.6
comp=Z,411nm,0.5s,baz=207,slow=0.7,SNR=9.7
KKM Kota Kinabalu 68.90 287 eP P 22 38 31.2 -0.4
comp=Z,208nm,0.6s
KKM Kota Kinabalu 68.90 287 ⇓P P 22 38 31.6 0.0
baz=69,SNR=22
KKM Kota Kinabalu 68.90 287 ⇑P P 22 38 32.4 +0.7
KPJI Karang Pucung 69.94 271 P P 22 38 37.4 -0.4
comp=Z,434nm,0.8s,comp=Z,4µm
CMJI Cimerak 70.22 270 P P 22 38 38.5 -0.9
comp=Z,313nm,1.1s,comp=Z,3µm
BTM Bintulu 70.41 282 ⇓P P 22 38 41.3 +0.7
JOW Kunigami 70.73 312 P P 22 38 43.4 +1.2
comp=Z,29nm,0.7s,baz=164,slow=5.4,SNR=23
JOW Kunigami 70.73 312 eP P 22 38 43.3 +1.2
comp=Z,127nm,0.7s
SBUM Sibu 70.86 281 eP P 22 38 43.1 -0.1
comp=Z,61nm,0.8s
SBUM Sibu 70.86 281 ⇓P P 22 38 44.2 +0.9
JCJI Jatiwangi 70.87 271 P P 22 38 42.9 -0.4
comp=Z,792nm,1.1s,comp=Z,9µm
CISI Cisompet, Garu 70.89 270 P P 22 38 42.3 -1.2
comp=Z,507nm,1.3s,comp=Z,5µm
CISI Cisompet, Garu 70.89 270⇓iP P 22 38 42.1 -1.4
comp=Z,258nm,0.6s
CISI epP pP 22 40 32.8 -3.4
CISI ePP PP 22 41 27.1 -3.2
CISI Cisompet, Garu 70.89 270 P P 22 38 42.6 -0.9
baz=71,SNR=19
SZP Santa 71.08 299 eP P 22 38 46.2 +1.8
LEM Lembang 71.34 271 P P 22 38 46.3 0.0
comp=Z,960nm,1.1s,comp=Z,9µm
LEM Lembang 71.34 271 P P 22 38 46.9 +0.6
baz=71,SNR=24
MJAR Matsushiro Arr 71.51 325 P P 22 38 46.8 +0.2
comp=Z,33nm,0.9s,baz=159,slow=6.6,SNR=37
MAJO Matsushiro 71.52 325⇑iP P 22 38 47.0 +0.4
MAJO pmax pmax
comp=Z,232nm,0.9s
MAJO Matsushiro 71.52 325 eP P 22 38 47.2 +0.6
comp=Z,43nm,0.8s
MAT Matsushiro 71.52 325 P P 22 38 46.7 +0.1
MAT S S 22 47 23.6 +1.6
CNJI Cibinong 71.61 270 P P 22 38 46.6 -1.0
comp=Z,585nm,1.0s,comp=Z,5µm
XMI Christmas Isla 71.78 266 P P 22 38 49.0 +0.4
baz=72,SNR=16
XMIS Christmas Isla 71.81 266 eP P 22 38 49.1 +0.2
comp=Z,996nm,0.8s
XMIS Christmas Isla 71.81 266 P P 22 38 49.0 +0.2
baz=72,SNR=20
KSM Kuching 72.17 280 P P 22 38 50.9 0.0
baz=72,SNR=98
KSM Kuching 72.17 280 ⇑P P 22 38 51.7 +0.8
CBJI Citeko 72.20 271 P P 22 38 49.7 -1.3
comp=Z,982nm,0.9s,comp=Z,10µm
DBJI Dramaga 72.24 270 P P 22 38 50.9 -0.4
comp=Z,677nm,1.3s,comp=Z,8µm
SKJI Sukabumi 72.25 270 P P 22 38 50.5 -0.8
comp=Z,546nm,0.7s,comp=Z,4µm
SBJI Serang 72.97 271 P P 22 38 55.9 +0.4
comp=Z,281nm,1.7s,comp=Z,5µm
YOJ Yonaguni jima 73.02 307 eP P 22 38 55.8 +0.3
YOJ pmax pmax
comp=Z,119nm,1.0s
YOJ Yonaguni jima 73.02 307 eP P 22 38 55.8 +0.3
comp=Z,119nm,1.0s
CGJI Cibinong 73.19 270 P P 22 38 55.6 -1.1
JNU Nakatsue 73.20 318 P P 22 38 56.7 +0.3
comp=Z,48nm,0.8s,baz=96,slow=0.8,SNR=20
JNU Nakatsue 73.20 318 eP P 22 38 57.0 +0.6

ERM Erimo 73.47 332 eP P 22 38 59.0 +1.4
ERM pmax pmax
comp=Z,25nm,0.8s
TWG Pinlang 73.52 304 eP P 22 38 56.3 -2.1
comp=Z,374nm,0.7s
TWG epP pP 22 40 53.0 +0.7
YULB Yu-li 73.68 305 eP P 22 38 57.9 -1.4
comp=Z,43nm,0.7s
NACB Ninganchiao 73.90 306 eP P 22 38 59.6 -0.9
comp=Z,493nm,1.0s
NACB epP pP 22 40 56.3 +1.7
TPUB Ta-pu 74.13 305 eP P 22 39 00.3 -1.5
comp=Z,250nm,0.8s
TPUB epP pP 22 41 07.6 +12
SSLB Suanglung 74.16 305 eP P 22 39 01.1 -0.9
comp=Z,186nm,0.7s
YHNB Yeheng 74.35 306 eP P 22 39 02.2 -0.9
comp=Z,323nm,1.0s
YHNB epP pP 22 40 57.6 +0.2
TATO Taipei 74.44 306 eP P 22 39 03.1 -0.4
comp=Z,457nm,0.8s
ADK Adak 74.92 2 eP P 22 39 05.7 +0.1
ADK pmax pmax
comp=Z,176nm,0.7s
ADK Adak 74.92 2 eP P 22 39 05.7 +0.1
comp=Z,176nm,0.7s
ASAJ Asahikawa 75.42 333 P P 22 39 10.2 +1.6
comp=Z,55nm,0.8s,baz=187,slow=1.0
FX1 Attu Island--F 76.12 356 P P 22 39 12.2 -0.1
comp=Z,47nm,0.8s,baz=313,slow=2.1,SNR=4.8
MNAI Manna 76.56 271 eP P 22 39 15.2 -0.4
comp=Z,139nm,0.7s
MNAI Manna 76.56 271 ⇑P P 22 39 15.3 -0.4
baz=77,SNR=4.8
QZH Quanzhou 76.59 305⇓iP P 22 39 16.1 +0.6
QZH S S 22 48 18.2 +0.4
QZH sS sS 22 51 42.2 -0.9
QZH pmax pmax
comp=Z,340nm,0.8s
QZH pmax pmax
comp=Z,2µm,3.5s
YSS Yuzh-Sakhalins 77.68 335 eP P 22 39 22.8 +1.9
YSS Yuzh-Sakhalins 77.68 335 eP P 22 39 22.8 +1.9
UNV Unalaska Valle 77.70 8 eP P 22 39 20.5 -0.3
KSRS Korea Array 77.91 320 P P 22 39 23.9 +1.5
comp=Z,22nm,0.7s,baz=133,slow=5.8,SNR=109
KSAR Wonju Array Be 77.92 320 P P 22 39 23.9 +1.4
KSAR Wonju Array Be 77.92 320 P P 22 39 23.9 +1.4
BTDF Bukit Timah Da 78.08 277 ⇓P P 22 39 24.1 +0.3
baz=78,SNR=9.0
AKUT Akutan 78.08 8 eP P 22 39 22.4 -0.4
comp=Z,63nm,0.6s
MYKOM Kota Tinggi 78.18 277 eP P 22 39 24.4 0.0
comp=Z,144nm,0.7s
SSE Sheshan 78.23 311 P P 22 39 24.9 +0.7
SSE pP pP 22 41 14.4 -5.6
SSE S S 22 48 39.0 +4.1
SSE SS SS 22 53 55.5 +2.2
SSE pmax pmax
comp=Z,31nm,0.9s
SSE pmax pmax
comp=Z,370nm,7.4s
PET Petropavlovsk 78.29 347 eP P 22 39 27.0 +3.0
PET eSS SS 22 53 58.4 +5.0
PET eSSS SSS 22 57 27.9
PET pmax pmax
comp=Z,100nm,18.0s
PET MLR MLR
comp=Z,200nm,19.0s
MAW Mawson 78.35 200 P P 22 39 25.5 +1.2
comp=Z,65nm,0.6s,baz=141,slow=4.6,SNR=22
DLV T Lat 78.37 288 eP P 22 39 26.4 +0.9
comp=Z,144nm,0.9s
PEA0B Petropavlovsk- 78.57 346 eP P 22 39 25.7 +0.1
PEA0B epP pP 22 41 18.2 -3.3
PETK Petropavlovsk- 78.57 346 P P 22 39 26.1 +0.6
comp=Z,33nm,0.8s,baz=141,slow=8.2,SNR=39
INCN Inchon 78.70 319 eP P 22 39 28.0 +1.3
comp=Z,48nm,0.8s
FALS False Pass 79.12 10 eP P 22 39 27.3 -1.0
comp=Z,73nm,0.7s
COCO West Island 79.24 261 eP P 22 39 32.2 +2.2
COCO pmax pmax
comp=Z,238nm,1.1s
COCO West Island 79.24 261 eP P 22 39 32.2 +2.2
comp=Z,238nm,1.1s
PMSA Palmer Station 79.38 157 P P 22 39 29.7 -0.1
comp=Z,24nm,0.8s,baz=213,slow=6.7,SNR=3.8
SDPT Sand Point 80.07 11 eP P 22 39 33.4 0.0
comp=Z,115nm,0.6s
BKNI Bangkinang 80.16 275 eP P 22 39 34.0 -0.8
comp=Z,896nm,2.0s
BKNI Bangkinang 80.16 275 P P 22 39 34.8 -0.1
baz=80,SNR=5.3
USRK Ussuriysk Arra 80.37 327 P P 22 39 36.7 +1.5
comp=Z,30nm,0.8s,baz=131,slow=3.5,SNR=52
NJ2 Nanjing 80.41 311 eP P 22 39 36.5 +0.8
NJ2 pP pP 22 41 26.9 -5.4
NJ2 sP sP 22 42 18.9 -9.1
NJ2 S S 22 48 59.5 +2.2
NJ2 sS sS 22 52 16.0 -9.1
NJ2 pmax pmax
comp=Z,50nm,0.7s
NJ2 pmax pmax
comp=Z,400nm,4.1s
QIZ Qiongzhong 80.50 295 P P 22 39 36.3 -0.2
QIZ PP PP 22 42 51.9 +1.8
QIZ S S 22 49 00.2 +1.4
QIZ sS sS 22 52 18.1 -8.5
QIZ pmax pmax
comp=Z,36nm,1.7s
QIZ pmax pmax
comp=Z,470nm,8.7s
BSC Santa Cruz Isl 80.75 47 ⇑P P 22 39 39.0 +1.5
baz=81
SCI San Clemente I 80.90 48 ⇑P P 22 39 39.3 +1.1
baz=81
SBC Santa Barbara 80.96 47 ⇑P P 22 39 39.6 +1.1
baz=81
CIS Catalina Islan 81.24 48 ⇓P P 22 39 41.0 +0.9
baz=82
SMMC Simmler 81.28 46 ⇑P P 22 39 41.7 +1.4
baz=82
PTRM Twissleman Ran 81.35 45 eP P 22 39 42.5 +1.9
FMP Fort Macarthur 81.49 48 ⇑P P 22 39 42.3 +1.1
baz=82
HOPS Hopland 81.59 41 eP P 22 39 41.5 -0.1
comp=Z,191nm,1.2s
KCPM Cahto Peak 81.72 40 eP P 22 39 42.8 +0.3
comp=Z,173nm,1.5s
KCPM epP pP 22 41 40.3 +0.7
DECC Green Verdugo 81.78 47 ⇑P P 22 39 43.5 +0.7
baz=82
PASC Pasadena Art C 81.83 47 eP P 22 39 43.1 +0.1
comp=Z,69nm,0.8s
PASC epP pP 22 41 37.6 -2.5
109C Camp Elliot, M 81.84 49 ⇑P P 22 39 44.0 +0.9
baz=82,SNR=6.7
KIPM Iron Peak 81.86 40 eP P 22 39 43.4 +0.2
comp=Z,206nm,1.3s
KIPM epP pP 22 41 42.1 +1.7
MDJ Mudanjiang 81.88 326 P P 22 39 44.2 +1.2
MDJ pP pP 22 41 34.3 -5.9
MDJ sP sP 22 42 27.1 -8.6
MDJ PP PP 22 43 01.1 +0.3
MDJ S SKKSac 22 49 15.9 +0.3
MDJ SS SS 22 54 51.7 +5.0
MDJ pmax pmax
comp=Z,58nm,0.8s
MDJ pmax pmax
comp=Z,180nm,6.8s
MDJ Mudanjiang 81.88 326 eP P 22 39 43.0 0.0
comp=Z,28nm,0.6s
MDJ epP pP 22 41 49.7 +10
MWC Mount Wilson 81.94 47 epP pP 22 41 40.5 -0.5
comp=Z,146nm,1.9s
ARVC Arvin 81.95 46 ⇓P P 22 39 44.6 +1.0
baz=82,SNR=26
KMRM Mail Ridge 81.99 40 eP P 22 39 45.8 +2.0
comp=Z,450nm,1.3s
BAR Barrett 82.02 49 eP P 22 39 45.6 +1.5
comp=Z,2µm,2.0s
HABR Khabarovsk 82.08 332 ceP P 22 39 44.2 +0.3
HABR e*PP pP 22 41 36.2 -4.9
HABR e 22 43 00.8
HABR eS S 22 49 13.8 +0.4

HABR eSS SS 22 54 50.6 +1.2
HABR eSSS SSS 22 58 25.3
HABR pmax pmax
comp=E,53nm,2.2s
HABR pmax pmax
comp=N,34nm,2.2s
HABR pmax pmax
comp=Z,165nm,2.2s
MURC Murrieta 82.17 48 ⇓P P 22 39 45.6 +0.8
baz=82,SNR=22
VES Vestal, Richgr 82.20 46 ⇓P P 22 39 46.1 +1.3
baz=82,SNR=52
BFSC Mount Baldy Ra 82.22 48 ⇑P P 22 39 46.0 +0.8
baz=82,SNR=18
LPIG La Paz 82.28 60 P P 22 39 46.5 +1.0
comp=Z,78nm,0.8s,baz=67,slow=0.9,SNR=12
MONP Monument Peak 82.32 49 ⇓P P 22 39 46.4 +0.6
baz=83,SNR=28
EDW2 Edwards Air Fo 82.37 47 ⇑P P 22 39 46.7 +0.9
baz=83,SNR=38
RCTC Rector, Farmer 82.37 45 ⇓P P 22 39 46.6 +0.9
baz=83,SNR=5.5
KHMM Horse Mountain 82.39 39 eP P 22 39 47.9 +2.0
comp=Z,231nm,1.3s
SII Sitkinak Islan 82.46 14 eP P 22 39 46.8 +1.1
comp=Z,145nm,0.8s
UBPT Khong Chiam 82.48 290 P P 22 39 47.4 +0.7
comp=Z,88nm,1.5s,comp=Z,2µm
ISA Isabella 82.50 46 epP pP 22 41 44.0 +0.2
comp=Z,82nm,1.4s
ISA Isabella 82.50 46 ⇑P P 22 39 47.5 +1.0
baz=83,SNR=71
KULM Kulim 82.52 279 eP P 22 39 47.0 +0.1
comp=Z,114nm,0.8s
KULM epP pP 22 41 42.6 -1.7
KULM esP sP 22 42 39.8 0.0
KULM ePP PP 22 43 07.2 +0.8
DL2 Dalian 82.65 318 P P 22 39 46.7 -0.3
DL2 S S 22 49 14.9 -4.5
DL2 pmax pmax
comp=Z,58nm,0.6s
CMB Columbia Colle 82.66 43 epP pP 22 41 45.3 +0.6
CMB esP sP 22 42 32.1 -8.0
PFO Pinyon Flat Ob 82.69 49 P P 22 39 48.7 +1.1
comp=Z,34nm,0.8s,baz=250,slow=2.9,SNR=37
PFO pP pP 22 41 45.9 +0.8
comp=Z,13nm,1.1s,baz=253,slow=5.8,SNR=3.7
PFO Pinyon Flat Ob 82.69 49 ⇓P P 22 39 48.4 +0.8
baz=83,SNR=14
USHA Ushuaia 82.70 147 P P 22 39 46.1 -1.0
comp=Z,10nm,0.8s,baz=240,slow=8.1,SNR=4.4
BBRC Big Bear Solar 82.74 48 ⇑P P 22 39 48.8 +0.8
baz=83
OHCM Honcut 82.77 42 eP P 22 39 48.6 +1.0
WHN Wuhan 82.78 307 ⇓P P 22 39 48.8 +0.9
WHN S S 22 49 22.2 +1.1
WHN pmax pmax
comp=Z,160nm,0.7s
SWSC Sam W. Stewart 82.78 50 ⇑P P 22 39 48.9 +1.1
baz=83,SNR=32
LRMC Laurel Mountai 82.91 47 ⇑P P 22 39 50.0 +1.3
baz=83,SNR=38
RRX Edison Barstow 83.03 47 ⇑P P 22 39 50.2 +1.1
baz=83,SNR=7.0
N02D Trinity Center 83.06 40 ⇑P P 22 39 50.6 +1.5
baz=83
PSI Prapat 83.08 276 P P 22 39 48.8 -1.2
comp=Z,67nm,0.8s,baz=160,slow=4.1,SNR=98
PSI pP pP 22 41 45.0 -2.5
comp=Z,2.7nm,0.3s,baz=176,slow=7.6,SNR=2.5
PSI PP PP 22 43 06.0 -5.1
comp=Z,24nm,0.9s,baz=116,slow=6.1,SNR=7.6
PSI Prapat 83.08 276 ⇓P P 22 39 48.8 -1.2
baz=83,SNR=44
BELC Belle Mtn. Jos 83.23 49 ⇑P P 22 39 51.4 +1.1
baz=84,SNR=49
M02C Callahan 83.23 39 ⇑P P 22 39 51.7 +1.7
baz=84
OHAK Old Harbor 83.27 14 eP P 22 39 50.3 +0.7
comp=Z,145nm,1.2s
L02D Cave Junction, 83.28 38 ⇑P P 22 39 51.7 +1.5
baz=84
SNY Shenyang 83.30 321 ⇓P P 22 39 50.6 +0.4
SNY S S 22 49 20.8 -5.0
SNY pmax pmax
comp=Z,50nm,0.7s
SNY pmax pmax
comp=Z,200nm,6.5s
KEBM Edson Butte 83.33 38 eP P 22 39 52.7 +2.3
comp=Z,372nm,1.4s
GSC Goldstone 83.41 47 ePP PP 22 43 12.0 -1.4
GSC Goldstone 83.41 47 ⇓P P 22 39 52.1 +1.0
baz=84,SNR=46
MLAC Mammoth Lakes 83.41 44 ⇑P P 22 39 52.1 +1.0
baz=84,SNR=15
BC3 Big Chuckawall 83.41 49 ⇓P P 22 39 52.2 +1.0
baz=84,SNR=51
MTUM Tungsten Hills 83.42 45 eP P 22 39 52.3 +1.1
DAC Darwin (Calif) 83.43 46 eP P 22 39 51.4 +0.1
DAC e*PP pP 22 41 49.5 +0.5
DAC Darwin (Calif) 83.43 46 eP P 22 39 51.4 +0.1
DAC epP pP 22 41 49.5 +0.5
HEC Hector,Ludlow 83.46 48 ⇑P P 22 39 52.1 +0.8
baz=84,SNR=25
TIN Tinemaha 83.47 45 ⇓P P 22 39 52.4 +1.1
baz=84
CN2 Changchun 83.52 323 ⇓P P 22 39 51.7 +0.4
CN2 epP pP 22 41 44.0 -5.0
CN2 eS S 22 49 31.7 +3.8
CN2 pmax pmax
comp=Z,90nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
GLA Glamis 83.52 50 epP pP 22 41 49.9 +0.5
comp=Z,124nm,1.5s
GLA Glamis 83.52 50 ⇓P P 22 39 52.4 +0.8
baz=84,SNR=44
YBH Yreka Blue Hor 83.53 39 P P 22 39 52.9 +1.4
comp=Z,62nm,0.9s,baz=173,slow=3.2,SNR=100
YBH pP pP 22 41 49.6 +0.4
comp=Z,6.5nm,1.0s,baz=209,slow=5.9,SNR=3.7
WAKR Walker 83.54 43 epP pP 22 41 50.3 +0.7
SYO Syowa Base 83.62 193⇑iP P 22 39 49.6 -1.8
GSI Gunungsitoli 83.72 274⇓eP P 22 39 52.8 -0.2
comp=Z,115nm,0.6s
GSI epP pP 22 41 47.4 -3.4
GSI esP sP 22 42 45.0 -1.3
GMRC Granite Mounta 83.89 48 ⇓P P 22 39 54.2 +0.7
baz=84,SNR=47
IRM Iron Mountain 83.90 49 ⇓P P 22 39 54.6 +1.2
baz=84,SNR=69
KDAK Kodiak Island 83.94 14 eP P 22 39 53.8 +0.9
KDAK pmax pmax
comp=Z,57nm,0.9s
KDAK Kodiak Island 83.94 14 eP P 22 39 53.8 +0.9
comp=Z,57nm,0.9s
TIA Tai'an 83.95 314 ⇓P P 22 39 54.9 +1.3
TIA pmax pmax
comp=Z,190nm,0.8s
GRAC Grapevine Rang 83.99 46 ⇓P P 22 39 54.9 +1.1
baz=84,SNR=22
FURC Furnace Creek, 84.03 46 ⇓P P 22 39 55.0 +1.1
baz=84,SNR=20
M04C Macdoel 84.07 40 ⇓P P 22 39 55.3 +1.0
baz=84
TUQ Turquoise Moun 84.08 47 ⇑P P 22 39 55.3 +0.9
baz=84,SNR=30
SHOC Shoshone 84.09 47 ⇓P P 22 39 55.4 +1.1
baz=84,SNR=17
KLR Kul'dur 84.11 330 eP P 22 39 50.3 -3.7
KLR eS S 22 49 35.0 +1.6
KLR eSS SS 22 55 16.5 -2.6
KLR pmax pmax
comp=Z,64nm,1.8s
Y12C Blythe 84.11 50 ⇓P P 22 39 55.7 +1.3
baz=84,SNR=62
113A Mohawk Valley, 84.12 51 ⇑P P 22 39 55.5 +1.0
baz=84,SNR=27
CHBT CHBT 84.12 286 P P 22 39 55.9 +1.0
comp=Z,110nm,1.3s,comp=Z,2µm
NVAR Mina Array Bea 84.22 44 P P 22 39 56.1 +1.0
comp=Z,44nm,0.9s,baz=222,slow=7.8,SNR=166
NVAR pP pP 22 41 55.6 +2.5
comp=Z,15nm,1.0s,baz=225,slow=9.0,SNR=7.5
NVAR PP PP 22 43 18.5 -1.5
comp=Z,4.0nm,0.9s,baz=225,slow=11,SNR=4.1
NV11 Mina Array Sit 84.31 44 eP P 22 39 55.7 +0.2

NV11 epP pP 22 41 53.9 +0.3
NV11 ePP PP 22 43 16.8 -3.9
214A Organ Pipe Nat 84.38 52 eP **P 22 39 56.7 +0.9**
comp=Z,258nm,1.5s
214A epP **pP 22 41 54.8 +0.9**
214A ePP **PP 22 43 19.9 -1.3**
214A Organ Pipe Nat 84.38 52 ⇓P **P 22 39 56.8 +0.9**
baz=85,SNR=37
I03D Drain, OR 84.41 37 ⇑P **P 22 39 57.2 +1.5**
baz=85
LDFC Landfair 84.43 48 epP pP 22 41 54.6 +0.4
comp=Z,148nm,1.4s
K04D Chiloquin, OR 84.64 39 ⇓P **P 22 39 58.2 +1.2**
baz=85
PDMCI Parker Dam,Lak 84.68 49 ⇓P **P 22 39 58.5 +1.3**
baz=85,SNR=80
TPH Tonopah 84.70 45 epP pP 22 41 56.5 +0.8
J04D Umpqua Nationa 84.82 38 ⇓P **P 22 39 59.0 +1.0**
baz=85
I04A Tendick Farm, 85.00 38 ⇑P **P 22 39 59.6 +1.0**
baz=85
COR Corvallis 85.00 37 eP **P 22 40 00.3 +1.8**
COR Corvallis 85.00 37 eP **P 22 40 00.3 +1.8**
Z14A Wintersburg 85.02 51 ⇓P **P 22 39 59.9 +0.9**
baz=85,SNR=72
MOD Modoc 85.05 40 epP pP 22 41 57.7 +0.3
SHPR Sheep Range 85.18 47 epP pP 22 41 58.4 +0.2
K05A Summer Lake 85.20 39 eP **P 22 40 00.9 +1.1**
comp=Z,128nm,1.0s
SNAA Sanae 85.25 179 P **P 22 39 59.4 0.0**
SNAA Sanae 85.25 179 pP pP 22 41 58.5 +0.8
SNAA Sanae 85.25 179 d iP **P 22 39 59.1 -0.4**
SNAA *PP **pP 22 41 58.8 +1.1**
SNAA pmax pmax
comp=Z,13nm,0.5s
SNAA Sanae 85.25 179 pP pP 22 41 57.9 +0.1
comp=Z,10.0nm,1.1s,baz=198,slow=7.9,SNR=5.6
SNAA Sanae 85.25 179 eP **P 22 39 59.0 -0.4**
comp=Z,19nm,0.7s
SNAA pP **pP 22 41 57.9 +0.1**
Y14A Wickenburg 85.28 50 ⇓P **P 22 40 01.1 +0.9**
baz=86,SNR=18
W13A Hualapai Mount 85.29 49 ⇑P **P 22 40 01.2 +0.7**
baz=86
AIS Amsterdam Isla 85.35 231 R 22 40 00.0
J05D Fort Rock, OR 85.35 39 ⇓P **P 22 40 01.5 +1.0**
baz=86
G03D McMinnville, O 85.42 36 ⇓P **P 22 40 01.9 +1.4**
baz=86
VNA3 Neumayer Olymp 85.45 177 P **P 22 40 00.4 +0.1**
VNA3 Neumayer Olymp 85.45 177 pP pP 22 42 00.2 +1.4
PATY Pattaya 85.49 286 P **P 22 40 03.6 +2.1**
comp=Z,40nm,0.7s
PKDT Phuket 85.67 280 P **P 22 40 04.2 +1.7**
comp=Z,112nm,1.3s,comp=Z,3µm
H04A Detroit Lake 85.68 37 eP **P 22 40 02.4 +0.6**
comp=Z,507nm,2.0s
SURT Suratani 85.69 282 P **P 22 40 04.0 +1.4**
comp=Z,82nm,1.1s,comp=Z,983nm
NVL N'lazarevskaya 85.82 184 eP **P 22 40 02.1 0.0**
NVL i 22 45 40.5
NVL eS S 22 49 39.6 -10
NVL pmax pmax
comp=Z,50nm,0.9s
LHMI Lhok Sumawe 85.86 277 eP **P 22 40 03.6 +0.2**
comp=Z,184nm,1.0s
LHMI Lhok Sumawe 85.86 277 ⇑P **P 22 40 03.3 -0.1**
baz=86,SNR=4.9
VNA2 Neumayer--Watz 85.87 178 P **P 22 40 02.6 +0.3**
VNA2 Neumayer--Watz 85.87 178 pP pP 22 42 02.7 +1.8
R11A Troy Canyon, C 85.92 45 eP **P 22 40 03.3 -0.1**
comp=Z,23nm,1.0s
R11A epP **pP 22 41 59.2 -2.8**
R11A esP **sP 22 42 52.5 -4.7**
R11A ePP **PP 22 43 29.9 -3.8**
R11A Troy Canyon, C 85.92 45 ⇑P **P 22 40 04.0 +0.6**
baz=86
I05D Terrebonne, OR 85.94 38 ⇓P **P 22 40 04.1 +1.0**
baz=86
TUC Tucson 86.03 52 eP **P 22 40 04.8 +0.9**
TUC e*PP **pP 22 42 02.9 +0.4**
TUC Tucson 86.03 52 eP **P 22 40 04.8 +0.9**
TUC epP **pP 22 42 02.9 +0.4**
BMN Battle Mountai 86.06 43 eP **P 22 40 04.2 +0.3**
BMN e*PP **pP 22 42 03.3 +0.7**
BMN e 22 43 33.7
BMN pmax pmax
comp=Z,70nm,0.9s
BMN Battle Mountai 86.06 43 eP **P 22 40 04.2 +0.3**
comp=Z,70nm,0.9s
BMN epP **pP 22 42 03.3 +0.7**
BMN ePP **PP 22 43 33.7 -1.0**
F04D Rainier, OR 86.11 36 ⇑P **P 22 40 05.1 +1.3**
baz=86
E03A Lebam 86.12 35 eP **P 22 40 05.4 +1.6**
comp=Z,131nm,1.0s
ENH Enshi 86.25 305 eP **P 22 40 04.3 -0.6**
comp=Z,45nm,0.8s
ENH epP **pP 22 42 04.0 +0.3**
F04A Amboy 86.34 36 eP **P 22 40 06.0 +1.1**
comp=Z,291nm,1.3s
WVOR Wild Horse Val 86.36 41 eP **P 22 40 06.3 +1.0**
WVOR pmax pmax
comp=Z,100nm,1.1s
WVOR Wild Horse Val 86.36 41 eP **P 22 40 06.2 +1.0**
comp=Z,100nm,1.1s
VIPM Ingram Point 86.45 38 P **P 22 40 06.9 +1.2**
VIPM Ingram Point 86.45 38 P **P 22 40 06.9 +1.2**
NLWA Neilton Lookou 86.50 34 epP pP 22 42 04.6 +0.1
comp=Z,24nm,1.0s
SLVN Son La 86.51 295 eP **P 22 40 06.4 +0.1**
comp=Z,77nm,1.4s
SLVN epP **pP 22 42 04.2 -1.0**
G05D Wamic, OR 86.51 37 ⇓P **P 22 40 07.0 +1.2**
baz=87
GYA Guiyang 86.60 301 ⇓iP **P 22 40 06.7 0.0**
GYA pP **pP 22 42 01.8 -3.8**
GYA sP sP 22 42 52.0 -8.7
GYA PP **PP 22 43 41.6 +2.5**
GYA SKS **SKSac 22 49 42.4 +0.6**
GYA S **ScS 22 50 01.5 -2.4**
GYA sS sS 22 53 20.9 -9.4
GYA pmax pmax
comp=Z,30nm,0.7s
GYA pmax pmax
comp=Z,190nm,5.2s
X16A Lo Mia Camp, P 86.64 50 ⇓P **P 22 40 07.5 +0.7**
baz=87
319A Douglas 86.67 54 ⇓P **P 22 40 08.1 +1.1**
baz=87
BJT Baijiatuau 86.72 316 eP **P 22 40 06.7 -0.1**
BJT pmax pmax
comp=Z,76nm,0.6s
BJT Baijiatuau 86.72 316 eP **P 22 40 06.7 -0.1**
comp=Z,76nm,0.6s
BJI Beijing 86.73 316 P **P 22 40 07.6 +0.8**
BJI pP **pP 22 42 05.9 +0.1**
BJI sP sP 22 42 52.9 -8.0
BJI SKS **SKSac 22 49 40.4 -1.2**
BJI S **ScS 22 50 02.6 -1.4**
BJI pmax pmax
comp=Z,91nm,0.7s
BJI pmax pmax
comp=Z,480nm,4.1s
SEW Seward 86.75 15 eP **P 22 40 06.2 -0.3**
comp=Z,235nm,1.6s
SEW epP **pP 22 42 05.9 +0.5**
I07A Izee 86.83 39 eP **P 22 40 08.6 +1.1**
comp=Z,158nm,1.0s
G06A Carlson Farm, 86.89 37 eP **P 22 40 08.6 +1.0**
comp=Z,111nm,1.0s
PBKT Sadao Pong 86.94 289 P **P 22 40 09.6 +1.3**
comp=Z,100nm,1.6s,comp=Z,2µm
CCUT Cedar City 86.96 47 eP **P 22 40 09.5 +1.2**
CCUT epP **pP 22 42 08.2 +0.8**
ARUT Antelope Range 87.03 47 eP **P 22 40 08.5 -0.1**
ARUT e*PP **pP 22 42 08.3 +0.6**
ARUT Antelope Range 87.03 47 eP **P 22 40 08.5 -0.1**
comp=Z,3µm,1.8s
ARUT epP **pP 22 42 08.3 +0.6**
GAMB Gambell 87.03 4 eP **P 22 40 07.9 +0.2**
comp=Z,30nm,1.0s
GAMB epP **pP 22 42 07.5 +0.7**
U15A North Rim 87.09 48 ⇑P **P 22 40 09.9 +0.9**
baz=87

LON Longmire 87.18 36 epP pP 22 42 09.1 +1.0
WUAZ Wupatki 87.25 49 eP **P 22 40 09.8 +0.2**
WUAZ epP **pP 22 42 08.7 -0.1**
WUAZ Wupatki 87.25 49 ⇓P **P 22 40 10.8 +1.2**
baz=88
D05A Enumclaw 87.36 35 eP **P 22 40 11.2 +1.6**
comp=Z,383nm,1.1s
ELK Elko 87.48 43 P **P 22 40 11.6 +0.9**
comp=Z,30nm,0.9s,baz=185,slow=2.5,SNR=107
ELK pP **pP 22 42 10.5 +0.6**
comp=Z,4.1nm,1.0s,baz=183,slow=3.6,SNR=3.2
PGC Sidney 87.53 34 eP **P 22 40 11.0 +0.6**
comp=Z,8.9nm,1.0s
PGC epP **pP 22 42 10.5 +0.8**
BLTW Bickleton 87.56 37 P **P 22 40 11.9 +1.2**
RC01 Rabbit Creek A 87.56 14 eP **P 22 40 10.1 -0.2**
comp=Z,128nm,1.0s
RC01 epP **pP 22 42 09.4 -0.2**
RC01 ePP **PP 22 43 41.4 -4.5**
TRW Toppenish Ridg 87.58 37 P **P 22 40 12.2 +1.4**
SRDT SRDT 87.62 287 P **P 22 40 13.3 +1.7**
comp=Z,528nm,1.1s,comp=Z,6µm
BBB Bella Bella 87.67 29 P **P 22 40 12.0 +1.0**
comp=Z,58nm,0.6s,baz=262,slow=3.5,SNR=26
NAC Naches 87.70 36 P **P 22 40 12.6 +1.2**
X18A Snowflake 87.75 51 ⇑P **P 22 40 13.2 +1.1**
baz=88
UTTA Uttaradit 87.80 290 P **P 22 40 13.8 +1.4**
comp=Z,17nm,1.2s,comp=Z,183nm
G08A Pilot Rock 87.86 38 eP **P 22 40 13.1 +0.9**
comp=Z,281nm,1.4s
TIY Taiyuan 87.92 313 eP **P 22 40 14.1 +1.5**
TIY pmax pmax
comp=Z,310nm,1.5s
TBM Table Mountain 88.09 36 P **P 22 40 14.5 +1.2**
LTY Liberty 88.11 36 eP P 22 40 06.9 -6.4
comp=Z,66nm,0.7s
E07A Sunnyside 88.12 37 eP **P 22 40 14.4 +1.1**
comp=Z,130nm,0.9s
PMR Palmer 88.14 14 eP **P 22 40 13.0 +0.1**
PMR e*PP **pP 22 42 13.3 +0.9**
PMR Palmer 88.14 14 eP **P 22 40 13.0 +0.1**
PMR epP **pP 22 42 13.3 +0.9**
SNIWA Snively Ranch 88.17 37 P **P 22 40 15.1 +1.6**
W18A Petrified Fore 88.20 50 eP **P 22 40 14.2 0.0**
comp=Z,96nm,1.3s
W18A epP **pP 22 42 15.0 +1.5**
W18A Petrified Fore 88.20 50 ⇑P **P 22 40 15.0 +0.9**
baz=88
HAWA Hanford 88.20 37 epP pP 22 42 12.5 -0.6
MVU Marysvale 88.23 47 eP **P 22 40 15.0 +0.7**
MVU epP **pP 22 42 14.7 +0.9**
KHLT Khaolaem Dam 88.28 287 P **P 22 40 16.2 +1.5**
comp=Z,43nm,1.4s,comp=Z,603nm
121A Cookes Peak, D 88.34 53 eP **P 22 40 15.4 +0.5**
comp=Z,77nm,1.0s
121A epP **pP 22 42 16.0 +1.7**
121A Cookes Peak, D 88.34 53 ⇑P **P 22 40 15.6 +0.8**
baz=89
A05A Maple Falls 88.45 34 eP **P 22 40 15.6 +0.9**
comp=Z,215nm,1.8s
B06A Marblemount 88.46 34 eP **P 22 40 15.6 +0.9**
comp=Z,112nm,1.1s
SUKH Sukhothai 88.48 290 P **P 22 40 17.2 +1.6**
comp=Z,25nm,0.9s,comp=Z,208nm
XAN Xi'an 88.51 308 P **P 22 40 16.5 +1.0**
XAN pP **pP 22 42 10.5 -4.5**
XAN sP sP 22 42 57.8 -12
XAN PP **PP 22 43 56.1 +2.0**
XAN SKS **SKSac 22 49 52.2 -0.5**
XAN S **ScS 22 50 17.9 -1.4**
XAN SS **SS 22 56 24.1 +0.6**
XAN pmax pmax
comp=Z,28nm,0.7s
XAN pmax pmax
comp=Z,94nm,8.5s
DIV Divide 88.53 16 eP **P 22 40 14.9 0.0**
comp=Z,109nm,1.1s
PLCA Paso Flores 88.55 134 P **P 22 40 17.2 +1.6**
comp=Z,12nm,0.9s,baz=249,slow=4.9,SNR=15
PLCA pP **pP 22 42 16.6 +1.5**
comp=Z,9.3nm,1.1s,baz=276,slow=6.1,SNR=4.7
MFID Camas Ranch 88.61 41 eP **P 22 40 16.4 +0.6**
MFID epP **pP 22 42 16.2 +0.9**
MFID ePP **PP 22 43 50.4 -4.3**
PPLA Purkeypile 88.67 12 eP **P 22 40 14.2 -1.4**
comp=Z,24nm,1.0s
BMRM Bremner River 88.69 16 eP **P 22 40 15.9 +0.3**
comp=Z,162nm,1.3s
BMRM epP **pP 22 42 16.2 +1.0**
DUG Dugway 88.73 45 ⇓P **P 22 40 17.4 +0.9**
baz=89
SEY Seymchan 88.74 348 P **P 22 40 16.3 +0.6**
comp=Z,24nm,0.8s,baz=150,slow=5.3,SNR=55
SEY pP **pP 22 42 18.0 +2.7**
comp=Z,8.3nm,0.8s,baz=164,slow=5.1,SNR=3.9
WTV Waterville 88.76 36 P **P 22 40 17.2 +0.9**
NLW Nelson Butte 88.79 35 P **P 22 40 17.3 +0.8**
LAMP Lampang 88.92 291 P **P 22 40 19.3 +1.7**
comp=Z,57nm,1.0s,comp=Z,462nm
WRAK Wrangell Islan 88.96 24 eP **P 22 40 18.7 +1.8**
comp=Z,86nm,0.8s
TNA Tin City 89.06 5 eP **P 22 40 16.9 -0.2**
comp=Z,52nm,1.2s
TNA epP **pP 22 42 18.5 +1.7**
KMI Kunming 89.14 298 P **P 22 40 20.2 +1.4**
KMI pP **pP 22 42 18.9 +0.4**
KMI PP **PP 22 44 00.1 +0.8**
KMI SKS **SKSac 22 49 57.1 0.0**
KMI S **ScS 22 50 24.8 -0.5**
KMI pmax pmax
comp=Z,66nm,1.1s
KMI pmax pmax
comp=Z,280nm,3.1s
Z22A Elephant Butte 89.29 53 ⇓P **P 22 40 20.0 +0.8**
baz=90
TMUT Trail Mountain 89.31 46 eP **P 22 40 20.3 +0.9**
TMUT epP **pP 22 42 20.1 +1.0**
MPU Maple Canyon 89.41 45 eP **P 22 40 19.6 0.0**
MPU epP **pP 22 42 19.1 -0.3**
CMAR Chiang Mai Arr 89.48 290 P **P 22 40 21.9 +1.7**
comp=Z,64nm,0.9s,baz=134,slow=3.2,SNR=275
CMAR pP **pP 22 42 20.2 +0.2**
comp=Z,2.6nm,0.8s,baz=134,slow=3.9,SNR=2.0
CMAR PP **PP 22 43 59.4 -2.4**
comp=Z,2.2nm,0.3s,baz=111,slow=6.2,SNR=5.6
CMAR PKKPbc **PKKPbc 22 57 52.4 +0.9**
comp=Z,1.7nm,0.6s,baz=294,slow=4.5,SNR=9.0
KTH Kantishna Hill 89.51 12 eP **P 22 40 18.1 -1.3**
comp=Z,60nm,0.9s
KTH epP **pP 22 42 19.6 +0.4**
HLID Hailey 89.55 41 ⇓P **P 22 40 21.2 +1.0**
baz=90
TRF Thorofare Moun 89.55 13 eP **P 22 40 18.8 -0.9**
comp=Z,71nm,0.8s
TRF epP **pP 22 42 20.7 +1.2**
SPUT South Promonto 89.56 44 eP **P 22 40 20.6 +0.3**
comp=Z,116nm,1.1s
CMMT Chiang Mai 89.63 291 P **P 22 40 22.0 +1.1**
comp=Z,215nm,1.3s,comp=Z,2µm
CHTO Chiang Mai 89.63 291 eP **P 22 40 22.4 +1.5**
CHTO pmax pmax
comp=Z,108nm,0.8s
CHTO Chiang Mai 89.63 291 P **P 22 40 22.0 +1.1**
comp=Z,750nm,1.3s,comp=Z,8µm
CHTO Chiang Mai 89.63 291 eP **P 22 40 22.4 +1.5**
comp=Z,108nm,0.8s
LAZ Ladron 89.71 52 eP **P 22 40 22.5 +1.3**
comp=Z,29nm,0.9s
LAZ epP **pP 22 42 22.2 +1.2**
Y22D IRIS PASSCAL I 89.72 52 ⇑P **P 22 40 22.1 +0.9**
baz=90
MNTX Cornudas Mount 89.74 55 eP **P 22 40 21.8 +0.6**
comp=Z,58nm,0.9s
MNTX e 22 40 43.5
MNTX epP **pP 22 42 21.8 +0.8**
JLU Jordanelle 89.83 45 eP P 22 40 14.1 -7.6
JLU epP pP 22 42 21.3 -0.2
JLU ePP **PP 22 44 00.3 -4.2**
526A Mary Lane Ranc 89.98 57 ⇓P **P 22 40 23.2 +0.8**
baz=90,SNR=52
TXAR Lajitas Array 89.98 58 P **P 22 40 23.8 +1.3**
comp=Z,40nm,0.8s,baz=216,slow=6.5,SNR=516
TXAR pP **pP 22 42 23.0 +0.7**
comp=Z,6.2nm,1.0s,baz=212,slow=6.8,SNR=6.8

TXAR PKKPbc **PKKPbc 22 57 50.2 -0.6**
comp=Z,1.1nm,0.6s,baz=87,slow=2.7,SNR=15
CMAI Chiengmai2 90.01 292 P **P 22 40 24.1 +1.2**
comp=Z,189nm,1.0s,comp=Z,7µm
MCK McKinley 90.08 13 eP **P 22 40 21.0 -1.0**
MCK e*PP **pP 22 42 22.2 +0.3**
MCK pmax pmax
comp=Z,36nm,1.0s
MCK McKinley 90.08 13 eP **P 22 40 21.0 -1.0**
comp=Z,36nm,1.0s
MCK epP **pP 22 42 22.1 +0.3**
MVCO Mesa Verde 90.11 49 ⇑P **P 22 40 23.8 +0.8**
baz=90
TCUT Toone Canyon 90.13 45 eP **P 22 40 23.2 +0.1**
comp=Z,167nm,0.9s
TCUT epP **pP 22 42 22.7 -0.2**
TCUT ePP **PP 22 44 04.8 -2.0**
PAX Paxson 90.19 15 eP **P 22 40 22.1 -0.5**
PAX e*PP **pP 22 42 22.8 +0.3**
PAX pmax pmax
comp=Z,40nm,1.6s
PAX Paxson 90.19 15 eP **P 22 40 22.1 -0.5**
comp=Z,40nm,1.6s
PAX epP **pP 22 42 22.8 +0.3**
627A Terlingua Ranc 90.25 58 ⇑P **P 22 40 24.3 +0.6**
baz=90,SNR=76
Y23A Lovelace Mesa, 90.28 53 ⇓P **P 22 40 24.7 +0.8**
baz=90,SNR=40
426A McDonald Obser 90.30 57 ⇓P **P 22 40 24.6 +0.6**
baz=90,SNR=62
225A Deer Hill, Car 90.35 55 ⇓P **P 22 40 25.0 +0.8**
baz=91,SNR=41
527A Woodward Ranch 90.39 57 ⇑P **P 22 40 25.0 +0.7**
baz=91,SNR=56
ANMO Albuquerque 90.47 52 c iP **P 22 40 25.5 +0.8**
ANMO i *PP **pP 22 42 26.5 +1.9**
ANMO pmax pmax
comp=Z,317nm,1.3s
ANMO Albuquerque 90.47 52 P **P 22 40 25.7 +1.0**
comp=Z,36nm,0.9s,baz=226,slow=4.1,SNR=89
ANMO pP **pP 22 42 24.8 +0.2**
comp=Z,4.5nm,1.0s,baz=249,slow=3.5,SNR=4.7
ANMO PKKPbc **PKKPbc 22 57 48.8 -1.1**
comp=Z,0.7nm,0.6s,baz=27,slow=4.5,SNR=3.0
ANMO Albuquerque 90.47 52 eP **P 22 40 25.6 +1.0**
ANMO epP **pP 22 42 25.4 +0.8**
ANMO esP **sP 22 43 22.4 +3.0**
ANMO PKKPbc **PKKPbc 22 57 48.8 -1.1**
X23A Hourglass Bar 90.49 52 ⇑P **P 22 40 25.4 +0.6**
baz=91,SNR=18
Z24A Sheeppen Canyo 90.51 54 ⇓P **P 22 40 25.6 +0.7**
baz=91,SNR=33
PV01 Paradox Valley 90.51 48 eP **P 22 40 25.4 +0.6**
V22A San Miguel Ran 90.60 51 ⇑P **P 22 40 26.0 +0.6**
baz=91,SNR=13
NEW Newport 90.63 36 eP **P 22 40 25.1 +0.2**
NEW e*PP **pP 22 42 25.4 +0.6**
NEW e 22 44 11.3
NEW Newport 90.63 36 P **P 22 40 25.2 +0.2**
comp=Z,7.5nm,0.6s,baz=231,slow=3.7,SNR=36
NEW pP **pP 22 42 29.6 +4.7**
comp=Z,5.7nm,1.1s,baz=281,slow=6.5,SNR=3.2
NEW PP **PP 22 44 13.7 +3.4**
comp=Z,5.8nm,1.0s,baz=215,slow=7.9,SNR=4.0
NEW Newport 90.63 36 eP **P 22 40 25.1 +0.2**
NEW epP **pP 22 42 25.4 +0.6**
NEW ePP **PP 22 44 11.3 +1.0**
NEW Newport 90.63 36 ⇓P **P 22 40 25.5 +0.6**
baz=91,SNR=15
326A Caldwell Ranch 90.63 56 ⇑P **P 22 40 25.8 +0.4**
baz=91,SNR=13
628A Black Gap, Mar 90.65 58 ⇓P **P 22 40 26.5 +1.0**
baz=91,SNR=78
125A Gardner Draw, 90.73 55 ⇑P **P 22 40 26.2 +0.4**
baz=91,SNR=34
Y24A Capitan 90.73 53 ⇑P **P 22 40 26.3 +0.3**
baz=91,SNR=78
W23A Werner Place, 90.79 52 ⇑P **P 22 40 26.7 +0.5**
baz=91,SNR=19
226B Tecolote Peak, 90.83 55 ⇑P **P 22 40 27.0 +0.7**
baz=91,SNR=41
U22A Llaves 90.86 51 ⇑P **P 22 40 27.3 +0.7**
baz=91,SNR=14
427A Hayter Ranch, 90.86 57 ⇑P **P 22 40 27.2 +0.8**
baz=91,SNR=93
CD2 Chengdu 90.90 303 P **P 22 40 27.9 +1.3**
CD2 pP **pP 22 42 22.7 -3.8**
CD2 sP sP 22 43 13.5 -7.8
CD2 PP **PP 22 44 15.7 +2.9**
CD2 SKS **SKSac 22 50 10.2 +3.7**
CD2 S **ScS 22 50 39.6 +0.3**
CD2 sS sS 22 54 02.9 -9.1
CD2 SS **SS 22 57 02.5 +4.7**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,260nm,5.2s
Z25A Roswell 90.97 54 ⇑P **P 22 40 27.7 +0.7**
baz=91,SNR=34
327A Balmorhea Ranc 91.03 56 ⇑P **P 22 40 27.6 +0.4**
baz=91
528A Cox Ranch, San 91.03 58 ⇓P **P 22 40 27.7 +0.4**
baz=91,SNR=39
V23A Ortiz Mt. (NFS 91.04 51 ⇑P **P 22 40 28.0 +0.7**
baz=91,SNR=34
DOT Dot Lake 91.10 15 eP **P 22 40 26.2 -0.5**
comp=Z,12nm,1.5s
DOT epP **pP 22 42 26.7 0.0**
AHID Auburn Hatcher 91.17 43 eP **P 22 40 28.4 +0.6**
comp=Z,126nm,1.1s
AHID epP **pP 22 42 29.9 +2.2**
AHID ePP **PP 22 44 13.4 -1.5**
MCMT McKenzie Canyo 91.18 41 eP **P 22 40 28.3 +0.5**
comp=Z,29nm,1.2s
MCMT epP **pP 22 42 28.3 +0.5**
MCMT ePP **PP 22 44 13.4 -1.5**
IM04 Indian Mountai 91.19 10 eP **P 22 40 26.9 -0.2**
IM04 epP **pP 22 42 28.0 +0.9**
126A Clayton Basin, 91.20 55 ⇓P **P 22 40 28.8 +0.8**
baz=91,SNR=30
Y25A Mesa, Roswell 91.28 53 ⇑P **P 22 40 29.0 +0.6**
baz=92,SNR=48
DLBC Dease Lake 91.29 24 P **P 22 40 28.7 +1.0**
comp=Z,15nm,0.8s,baz=209,slow=4.6,SNR=18
DLBC PP **PP 22 44 12.8 -2.4**
comp=Z,13nm,1.1s,baz=244,slow=12,SNR=4.6
U23A El Rito 91.31 51 ⇓P **P 22 40 29.2 +0.6**
baz=92,SNR=24
COLA College 91.31 13 c iP **P 22 40 27.1 -0.4**
COLA pmax pmax
comp=Z,120nm,1.2s
W24A Lazy 6 Ranch, 91.35 52 ⇑P **P 22 40 29.2 +0.4**
baz=92,SNR=30
428A Kincaid Ranch, 91.36 57 ⇓P **P 22 40 29.2 +0.4**
baz=92,SNR=23
ILAR Eielson Array 91.42 13 P **P 22 40 27.4 -0.7**
comp=Z,7.1nm,0.8s,baz=208,slow=6.0,SNR=100
ILAR pP **pP 22 42 28.0 -0.2**
comp=Z,7.3nm,1.2s,baz=235,slow=6.2,SNR=4.4
ILAR PP **PP 22 44 11.0 -5.1**
comp=Z,4.5nm,1.0s,baz=223,slow=7.4,SNR=4.1
ILAR PKKP **PKKPdf 22 57 45.8 +0.3**
comp=Z,0.6nm,0.5s,baz=350,slow=2.7,SNR=9.8
529A Stev Forest Ra 91.46 58 ⇑P **P 22 40 29.5 +0.3**
baz=92,SNR=37
227A Bennet, Jal 91.47 56 ⇓P **P 22 40 29.5 +0.3**
baz=92
Z26A Caprock 91.51 54 ⇓P **P 22 40 30.0 +0.5**
baz=92,SNR=34
S22A 4UR Ranch, Cre 91.53 49 ⇓P **P 22 40 30.4 +0.8**
baz=92,SNR=78
328A Wristen Ranch, 91.56 56 ⇓P **P 22 40 30.7 +1.1**
baz=92,SNR=15
X25A Clemmons Ranch 91.58 53 ⇓P **P 22 40 30.2 +0.4**
baz=92,SNR=5.9
MSO Missoula 91.61 39 ⇑P **P 22 40 30.8 +1.2**
baz=92,SNR=11
BILL Bilibino 91.66 355 c iP **P 22 40 29.5 +0.4**
BILL i 22 44 16.7
BILL i SS SS 22 57 07.0 0.0
BILL pmax pmax
comp=Z,29nm,0.9s
BILL Bilibino 91.66 355 eP **P 22 40 29.1 -0.1**
comp=Z,24nm,0.9s
BILL epP **pP 22 42 29.6 +0.4**

V24A Rampart Ranch, 91.69 52 ⇓P P 22 40 31.0 +0.6
baz=92,SNR=15
127A Arkansas Junct 91.71 55 ⇓P P 22 40 31.0 +0.6
baz=92,SNR=14
O20A White River Ci 91.71 47 eP P 22 40 30.6 +0.3
comp=Z,63nm,1.1s
O20A ePP PP 22 44 16.2 -2.9
O20A White River Ci 91.71 47 ⇓P P 22 40 30.9 +0.6
baz=92,SNR=28
T23A Casias Ranch, 91.75 50 ⇑P P 22 40 31.1 +0.4
baz=92,SNR=12
Y26A Elida 91.92 54 ⇑P P 22 40 31.8 +0.4
baz=92,SNR=8.1
429A Davenport Ranc 91.93 58 ⇑P P 22 40 31.8 +0.4
baz=92,SNR=134
U24A Moreno Valley 92.00 51 ⇑P P 22 40 32.3 +0.5
baz=92
N20A Spence Gulch, 92.04 46 ⇑P P 22 40 32.9 +1.0
baz=92,SNR=40
W25A X Bar L Ranch, 92.04 52 ⇑P P 22 40 32.6 +0.7
baz=92,SNR=51
228A UT Block 9, Go 92.05 56 ⇓P P 22 40 32.3 +0.4
baz=92,SNR=8.9
S23A Nye Farm, Mont 92.09 50 ⇑P P 22 40 32.4 +0.2
baz=92,SNR=13
I17A Pilgrim Ck. 92.09 43 ⇑P P 22 40 32.7 +0.7
baz=92,SNR=26
Z27A Tatum 92.11 55 ⇓P P 22 40 32.4 +0.2
baz=92,SNR=16
BW06 Boulder Array 92.15 44 eP P 22 40 32.0 -0.3
comp=Z,36nm,0.8s
BW06 epP pP 22 42 33.6 +1.2
BW06 ePP PP 22 44 20.4 -2.5
PDAR Pinedale Array 92.15 44 P P 22 40 32.5 +0.1
comp=Z,25nm,0.7s,baz=209,slow=3.7,SNR=154
PDAR pP pP 22 42 33.8 +1.4
comp=Z,7.2nm,1.2s,baz=197,slow=4.5,SNR=5.8
PDAR PP PP 22 44 18.8 -3.8
comp=Z,18nm,1.1s,baz=237,slow=6.7,SNR=13
PDAR PKKP PKKPdf 22 57 43.6 0.0
comp=Z,0.8nm,0.7s,baz=99,slow=3.9,SNR=6.7
PDAR SKKPbc SKKPbc 23 00 32.6 -2.7
comp=Z,1.3nm,0.9s,baz=72,slow=2.9,SNR=6.5
530A J-C Ranch, Com 92.16 58 ⇑P P 22 40 32.9 +0.5
baz=92,SNR=21
V25A Rancho No Teng 92.21 52 ⇓P P 22 40 33.1 +0.4
baz=92,SNR=38
X26A CR and CF Fran 92.22 53 ⇑P P 22 40 33.1 +0.4
baz=92,SNR=6.4
T24B San Luis 92.22 50 ⇓P P 22 40 33.4 +0.5
baz=92,SNR=24
329A Wagon Wheel Ra 92.24 57 ⇓P P 22 40 33.2 +0.4
baz=92,SNR=23
YMR Madison River 92.24 42 eP P 22 40 32.5 -0.1
comp=Z,33nm,0.9s
H17A Grant Village 92.34 42 eP P 22 40 33.6 +0.4
comp=Z,16nm,0.8s
H17A Grant Village 92.34 42 ⇑P P 22 40 34.1 +1.0
baz=93
128A Castleberry Fa 92.35 55 ⇑P P 22 40 33.7 +0.4
baz=93,SNR=20
Y27A Causey 92.40 54 ⇑P P 22 40 34.2 +0.6
baz=93,SNR=21
832A Faith Ranch, C 92.44 60 ⇓P P 22 40 34.0 +0.4
baz=93,SNR=47
R23A Moffat 92.44 49 ⇑P P 22 40 34.2 +0.4
baz=93,SNR=27
631A Perdido Creek 92.44 59 ⇑P P 22 40 33.9 +0.3
baz=93,SNR=107
YNR Norris Junctio 92.44 42 eP P 22 40 33.6 0.0
comp=Z,14nm,1.0s
P22A Eagle 92.45 48 ⇓P P 22 40 34.4 +0.6
baz=93,SNR=19
SDCO Great Sand Dun 92.46 50 eP P 22 40 34.4 +0.5
comp=Z,91nm,1.4s
W26A Owens Ranch, T 92.49 53 ⇑P P 22 40 34.3 +0.4
baz=93,SNR=7.5
430A Baggett Ranch, 92.51 58 ⇓P P 22 40 34.4 +0.3
baz=93,SNR=7.4
229A Bryant Ranch, 92.58 56 ⇑P P 22 40 34.8 +0.5
baz=93,SNR=7.6
S24A Houchin Ranch, 92.61 50 ⇓P P 22 40 35.3 +0.6
baz=93,SNR=32
U25A Circle Dot Ran 92.62 51 ⇓P P 22 40 35.1 +0.5
baz=93,SNR=25
DAWY Dawson 92.62 17 eP P 22 40 33.8 +0.1
732A Laxson Ranch, 92.63 60 ⇑P P 22 40 35.0 +0.5
baz=93,SNR=24
933A Laredo 92.72 61 ⇑P P 22 40 35.4 +0.5
baz=93,SNR=13
Z28A Tucker Farm, M 92.72 55 ⇓P P 22 40 35.3 +0.3
baz=93,SNR=8.9
J19A Crowheart 92.72 44 ⇓P P 22 40 35.8 +0.9
baz=93,SNR=36
MSTX Muleshoe 92.73 54 eP P 22 40 34.4 -0.6
comp=Z,20nm,0.7s
MSTX Muleshoe 92.73 54 ⇓P P 22 40 35.5 +0.5
baz=93,SNR=14
EGAK Eagle 92.75 16 eP P 22 40 34.1 -0.1
comp=Z,32nm,0.8s
EGAK epP pP 22 42 34.7 +0.4
EGAK ePP PP 22 44 23.5 -2.8
Q23A Hartsel 92.76 49 ⇑P P 22 40 36.0 +0.7
baz=93
531A Rocksprings 92.78 58 ⇑P P 22 40 36.0 +0.7
baz=93,SNR=55
X27A F and S Farms, 92.78 53 ⇓P P 22 40 36.1 +0.9
baz=93,SNR=7.3
V26A Tequesquite Ra 92.79 52 ⇑P P 22 40 35.9 +0.6
baz=93,SNR=18
129A Stewart Farms, 92.82 56 ⇑P P 22 40 35.9 +0.4
baz=93,SNR=7.5
330A Mertzon 92.82 57 ⇓P P 22 40 35.6 +0.2
baz=93,SNR=11
O22A Kremmling 92.87 47 ⇑P P 22 40 36.5 +0.8
baz=93,SNR=35
833A Chaparral WMA, 92.92 61 ⇑P P 22 40 36.6 +0.7
baz=93,SNR=21
COLD Coldfoot 92.94 11 eP P 22 40 35.2 +0.1
comp=Z,5.4nm,0.9s
COLD epP pP 22 42 36.6 +1.4
T25A Trinidad 92.95 51 ⇓P P 22 40 36.5 +0.4
baz=93,SNR=19
431A Sonora 92.95 58 ⇓P P 22 40 36.2 +0.2
baz=93,SNR=11
R24A Sanders Place, 92.96 50 ⇓P P 22 40 37.0 +0.9
baz=93,SNR=44
034A Hebbronville 92.97 62 ⇑P P 22 40 36.9 +0.8
baz=93,SNR=15
P23A Jefferson 92.98 48 ⇓P P 22 40 37.3 +0.9
baz=93,SNR=13
W27A Bowe Ranch, En 93.00 53 ⇓P P 22 40 36.7 +0.5
baz=93,SNR=8.1
H18A Shoshone NF, C 93.04 42 ⇑P P 22 40 37.0 +0.7
baz=93,SNR=12
230A Sterling City 93.08 57 ⇓P P 22 40 37.2 +0.6
baz=93,SNR=6.1
U26A Atchley Ranch, 93.09 52 ⇓P P 22 40 37.3 +0.6
baz=93,SNR=26
Y28A McKinney Farm, 93.09 54 ⇓P P 22 40 36.9 +0.2
baz=93,SNR=5.8
632A Uvalde 93.10 59 ⇑P P 22 40 37.6 +0.9
baz=93,SNR=42
I19A Meeteetse 93.14 43 ⇑P P 22 40 37.8 +1.0
baz=93,SNR=22
LZH Lanzhou 93.15 308 ⇓P P 22 40 38.4 +1.4
LZH pP pP 22 42 32.4 -4.7
LZH sP sP 22 43 24.0 -7.8
LZH PP PP 22 44 27.2 -3.0
LZH SKS SKSac 22 50 20.0 +1.1
LZH S ScS 22 51 01.4 +3.3
LZH sS sS 22 54 26.5 -6.5
LZH SS SS 22 57 32.0 +2.3
LZH pmax pmax
comp=Z,61nm,1.0s
LZH pmax pmax
comp=Z,370nm,5.2s
733A Divot King Ran 93.16 60 ⇓P P 22 40 37.5 +0.5
baz=93,SNR=5.7
S25A Robets Cordova 93.17 50 ⇑P P 22 40 37.6 +0.5
baz=93
Z29A Hungry Hill Ra 93.22 55 ⇑P P 22 40 37.7 +0.5
baz=93,SNR=9.7
035Z Hargill 93.22 63 ⇓P P 22 40 37.8 +0.6
baz=93
N22A Wattenberg Ran 93.23 47 ⇑P P 22 40 38.1 +0.7
baz=94,SNR=29
Q24A Divide 93.27 49 ⇑P P 22 40 38.0 +0.4
baz=94,SNR=22
O23A Lake Granby, G 93.31 47 ⇑P P 22 40 38.5 +0.7
baz=94,SNR=18
934A Benavides 93.32 61 ⇑P P 22 40 38.0 +0.3
baz=94,SNR=5.9
ISCO Idaho Springs 93.33 48 ⇓P P 22 40 38.3 +0.4
baz=94,SNR=19
331A San Angelo 93.36 57 ⇓P P 22 40 38.6 +0.7
baz=94,SNR=12
J20A Shoshoni 93.38 44 ⇑P P 22 40 38.9 +1.0
baz=94,SNR=35
035A Encino 93.39 62 ⇓P P 22 40 38.3 +0.3
baz=94
X28A Dimmitt 93.39 54 ⇑P P 22 40 38.7 +0.6
baz=94
M22A Cedar Creek Ra 93.42 46 ⇓P P 22 40 38.8 +0.7
baz=94,SNR=20
H19A Powell 93.46 42 ⇑P P 22 40 39.3 +1.1
baz=94,SNR=14
V27A Dan Oppiter Fa 93.47 53 ⇓P P 22 40 39.3 +0.9
baz=94,SNR=7.0
130A Snyder 93.49 56 ⇓P P 22 40 39.1 +0.6
baz=94,SNR=8.0
JCT Junction City 93.50 58 eP P 22 40 38.9 +0.4
JCT pmax pmax
comp=Z,27nm,0.8s
JCT Junction City 93.50 58 eP P 22 40 38.9 +0.4
comp=Z,27nm,0.8s
JCT Junction City 93.50 58 ⇑P P 22 40 39.1 +0.6
baz=94,SNR=18
R25A Fountain Ranch 93.50 50 ⇑P P 22 40 38.9 +0.4
baz=94,SNR=15
Y29A Porterfield Fa 93.50 55 ⇓P P 22 40 38.9 +0.4
baz=94,SNR=27
834A Tilden 93.51 61 ⇓P P 22 40 39.5 +1.0
baz=94
T26A Comanche Natio 93.55 51 ⇑P P 22 40 39.2 +0.4
baz=94,SNR=9.0
633A Saathoff Ranch 93.56 60 ⇑P P 22 40 39.4 +0.6
baz=94,SNR=30
K21A Alcova 93.57 45 ⇑P P 22 40 39.6 +0.8
baz=94,SNR=21
GCMT Greycliff 93.60 41 eP P 22 40 39.0 +0.2
comp=Z,14nm,1.3s
N23A Red Feather La 93.61 47 ⇑P P 22 40 39.9 +0.7
baz=94,SNR=11
I20A Worland 93.64 43 ⇑P P 22 40 39.7 +0.7
baz=94,SNR=17
Z30A Sanderson Ranc 93.67 55 ⇓P P 22 40 39.8 +0.5
baz=94,SNR=18
432A Menard 93.67 58 ⇑P P 22 40 39.5 +0.2
baz=94,SNR=44
P24A Kohler Place, 93.68 48 ⇑P P 22 40 40.0 +0.7
baz=94
231A Bronte 93.71 57 ⇑P P 22 40 39.7 +0.2
baz=94,SNR=23
W28A Vega 93.71 53 ⇑P P 22 40 39.9 +0.5
baz=94
X29A Tulia 93.73 54 ⇑P P 22 40 40.1 +0.5
baz=94
U27A Thompson Grove 93.77 52 ⇓P P 22 40 40.3 +0.5
baz=94,SNR=7.6
J21A Lysite 93.79 44 ⇓P P 22 40 40.7 +1.0
baz=94,SNR=17
734A La Parita Cree 93.80 60 ⇓P P 22 40 40.7 +0.8
baz=94
L22A Ellis Ranch, M 93.82 46 ⇑P P 22 40 40.7 +0.8
baz=94,SNR=27
S26A Kim 93.83 51 ⇑P P 22 40 40.5 +0.5
baz=94,SNR=24
O24A Longmont 93.85 48 ⇑P P 22 40 40.9 +0.9
baz=94,SNR=9.3
Q25A Bedland, Calha 93.87 49 ⇑P P 22 40 40.6 +0.3
baz=94,SNR=13
V28A Channing 93.91 53 ⇓P P 22 40 40.7 +0.3
baz=94
332A Millersview 93.92 58 ⇑P P 22 40 40.8 +0.4
baz=94,SNR=42
533A Kerrville 93.93 59 ⇑P P 22 40 41.0 +0.5
baz=94,SNR=30
AMTX Amarillo 93.94 54 ⇑P P 22 40 40.7 +0.3
baz=94
131A Roby 93.97 56 ⇓P P 22 40 40.9 +0.3
baz=94,SNR=9.5
H20A Greybull 93.98 43 ⇑P P 22 40 41.2 +0.7
baz=94,SNR=15
M23A Laramie 94.03 46 ⇓P P 22 40 41.4 +0.5
baz=94,SNR=17
K22A Casper 94.05 45 eP P 22 40 40.1 -0.9
comp=Z,52nm,1.4s
K22A Casper 94.05 45 ⇓P P 22 40 41.7 +0.7
baz=94,SNR=7.3
W29A Amraillo 94.06 54 ⇓P P 22 40 41.5 +0.4
baz=94
F19A Roth Farm, Mol 94.07 41 ⇓P P 22 40 41.5 +0.6
baz=94,SNR=9.7
Y30A Stafford Cattl 94.09 55 ⇑P P 22 40 41.6 +0.4
baz=94,SNR=13
YAK Yakutsk 94.09 339 eP P 22 40 39.7 -0.7
YAK pmax pmax
comp=Z,26nm,0.8s
YAK Yakutsk 94.09 339 eP P 22 40 39.7 -0.7
comp=Z,26nm,0.8s
I21A Big Trails, Te 94.11 44 ⇑P P 22 40 41.5 +0.4
baz=94,SNR=24
T27A Campo 94.12 51 ⇓P P 22 40 41.6 +0.3
baz=94,SNR=7.5
R26A Arlington 94.15 50 ⇓P P 22 40 42.0 +0.5
baz=94,SNR=45
835A Beeville 94.16 61 ⇑P P 22 40 41.7 +0.2
baz=94
433A Art 94.17 58 ⇓P P 22 40 41.7 +0.2
baz=94,SNR=58
U28A Mallet 94.19 52 ⇓P P 22 40 42.1 +0.5
baz=94
634A China Grove, S 94.19 60 ⇓P P 22 40 42.5 +0.8
baz=94
P25A Willow Gulch B 94.19 49 ⇑P P 22 40 42.4 +0.8
baz=94,SNR=36
G20A Bridger 94.21 42 ⇓P P 22 40 42.4 +0.9
baz=94
232A Coleman 94.21 57 ⇓P P 22 40 42.1 +0.4
baz=94,SNR=18
S27A Las Animas 94.27 51 ⇓P P 22 40 42.6 +0.6
baz=94,SNR=5.3
N24A Carr 94.30 47 ⇓P P 22 40 43.0 +0.9
baz=94
L23A Garrett 94.34 46 ⇑P P 22 40 42.9 +0.5
baz=95,SNR=27
X30A Coker Ranch, T 94.35 54 ⇑P P 22 40 42.9 +0.5
baz=95
534A Blanco 94.35 59 ⇓P P 22 40 42.9 +0.5
baz=94,SNR=52
Q26A Hugo 94.38 49 ⇑P P 22 40 43.2 +0.7
baz=95,SNR=26
735A Kenedy 94.41 61 ⇓P P 22 40 43.3 +0.7
baz=95
Z31A Sharp Cattle R 94.42 56 ⇑P P 22 40 43.4 +0.7
baz=95,SNR=18
J22A Midwest 94.44 44 ⇓P P 22 40 43.3 +0.7
baz=95,SNR=23
E19A Rath Farm, Rou 94.46 41 ⇑P P 22 40 43.8 +1.2
baz=95,SNR=7.8
V29A Stinnett 94.48 53 ⇑P P 22 40 44.0 +1.0
baz=95
333A Richland Sprin 94.49 58 ⇑P P 22 40 43.6 +0.6
baz=95,SNR=14
O25A Wiggins 94.50 48 ⇑P P 22 40 43.5 +0.6
baz=95
ABTX Abilene, Hawle 94.52 57 eP P 22 40 43.2 +0.1
comp=Z,71nm,1.4s
ABTX Abilene, Hawle 94.52 57 ⇑P P 22 40 43.8 +0.7
baz=95,SNR=9.7
T28A Walsh 94.59 52 ⇑P P 22 40 44.0 +0.6
baz=95,SNR=14
R27A Eads 94.61 50 ⇑P P 22 40 43.9 +0.5
baz=95,SNR=16
Y31A Rekieta Farm, 94.61 55 ⇓P P 22 40 44.0 +0.5
baz=95,SNR=9.2
M24A Cheyenne 94.63 47 ⇓P P 22 40 44.7 +1.1
baz=95,SNR=6.4
635A Leesville 94.65 60 ⇑P P 22 40 44.4 +0.7
baz=95
H21A Big Horn, Sher 94.65 43 ⇑P P 22 40 44.2 +0.7
baz=95,SNR=11
EGMT Eagleton 94.66 39 ⇓P P 22 40 44.2 +0.8
baz=95,SNR=6.4
I22A 9 Mile Ranch, 94.66 44 ⇑P P 22 40 44.4 +0.8
baz=95,SNR=17
K23A Bowen Ranch, D 94.69 45 ⇓P P 22 40 44.3 +0.5
baz=95,SNR=8.2
D19A Cripps Ranch, 94.75 40 ⇓P P 22 40 44.7 +0.8
baz=95,SNR=10
CFAA Coronel Fontan 94.77 127 P P 22 40 44.8 +0.3
comp=Z,1.6nm,0.9s,baz=253,slow=3.8,SNR=28
CFAA pP pP 22 42 47.5 +2.9
comp=Z,0.3nm,0.9s,baz=287,slow=3.6,SNR=3.0
P26A Davis Ranch, A 94.78 49 ⇓P P 22 40 44.9 +0.6
baz=95,SNR=14
L24A Wheatland 94.82 46 ⇓P P 22 40 45.3 +0.9
baz=95
N25A Grover 94.83 48 ⇑P P 22 40 45.5 +1.0
baz=95
G21A Lodge Grass 94.83 43 ⇓P P 22 40 45.3 +1.0
baz=95
434A Burnet 94.84 59 ⇓P P 22 40 44.6 0.0
baz=95,SNR=35
233A Rising Star 94.84 57 ⇑P P 22 40 45.0 +0.4
baz=95
E20A Meyer Farm, Mu 94.88 41 ⇑P P 22 40 45.6 +1.1
baz=95
W30A Crocket Farms 94.88 54 ⇓P P 22 40 45.8 +1.1
baz=95
U29A Oasis Ranch, S 94.91 52 ⇓P P 22 40 46.0 +1.1
baz=95
Z32A Haskell 94.93 56 ⇓P P 22 40 45.7 +0.8
baz=95,SNR=19
C19A Slack Wire Ran 94.93 40 ⇓P P 22 40 45.9 +1.3
baz=95,SNR=18
S28A Manter 94.94 51 ⇑P P 22 40 45.8 +0.8
baz=95,SNR=9.9
J23A Dilts Ranch, B 95.03 45 ⇓P P 22 40 46.4 +1.1
baz=95
KSCO Kaye Shedlock' 95.04 50 eP P 22 40 45.8 +0.3
comp=Z,153nm,1.4s
KSCO epP pP 22 42 45.2 -0.6
KSCO Kaye Shedlock' 95.04 50 ⇑P P 22 40 46.3 +0.8
baz=95,SNR=14
V30A Spur Ranch, Mi 95.05 53 ⇑P P 22 40 46.4 +0.9
baz=95
133A Hamilton Ranch 95.07 57 ⇑P P 22 40 46.1 +0.5
baz=95,SNR=8.3
H22A Clearmont 95.07 43 ⇑P P 22 40 46.2 +0.8
baz=95,SNR=6.4
334A Lometa 95.07 58 ⇓P P 22 40 46.1 +0.5
baz=95,SNR=23
X31A McDonald Ranch 95.10 55 ⇓P P 22 40 46.6 +0.9
baz=95
O26A Horse Wrangler 95.11 48 ⇓P P 22 40 46.6 +0.9
baz=95,SNR=9.3
M25A Palm-Egli Farm 95.13 47 ⇓P P 22 40 46.8 +1.0
baz=95
D20A Manuel Ranch, 95.16 41 ⇓P P 22 40 46.9 +1.2
baz=95,SNR=10
F21A Absaloka Mine, 95.17 42 ⇓P P 22 40 47.0 +1.2
baz=95
T29A Hugoton 95.19 52 ⇓P P 22 40 47.0 +0.8
baz=95
K24A Anderson Ranch 95.20 46 ⇓P P 22 40 46.9 +0.7
baz=95
Y32A R-V Farms, Ver 95.24 55 ⇑P P 22 40 47.0 +0.7
baz=95,SNR=10
636A Smothers Creek 95.26 60 ⇓P P 22 40 47.3 +0.8
baz=95
P27A Ficken Ranch, 95.31 49 ⇓P P 22 40 47.5 +0.8
baz=96,SNR=13
R28A Tribune 95.33 51 ⇓P P 22 40 47.7 +0.9
baz=96,SNR=38
B19A Brinkman Farms 95.34 39 ⇓P P 22 40 47.4 +0.9
baz=96
I23A Meade Ranch, G 95.35 44 ⇑P P 22 40 47.9 +1.1
baz=96
W31A Holland Ranch, 95.36 54 ⇓P P 22 40 47.7 +0.8
baz=96,SNR=6.4
435B Jarrell 95.36 59 ⇑P P 22 40 47.3 +0.3
baz=96
EDM Edmonton 95.38 34 eP P 22 40 46.1 -0.4
EDM e*PP pP 22 42 47.4 +0.6
EDM Edmonton 95.38 34 eP P 22 40 46.0 -0.4
EDM epP pP 22 42 47.4 +0.6
U30A WK&E Inc. Balk 95.40 53 ⇓P P 22 40 48.0 +0.9
baz=96
G22A Birney 95.40 43 ⇑P P 22 40 47.7 +0.8
baz=96
234A Clairette 95.42 58 ⇑P P 22 40 48.0 +0.8
baz=96,SNR=13
N26A Koester Ranch, 95.43 48 ⇑P P 22 40 47.8 +0.6
baz=96,SNR=7.8
Z33A Whitaker Ranch 95.46 56 ⇑P P 22 40 48.0 +0.7
baz=96,SNR=9.3
536A Bastrop 95.49 60 ⇑P P 22 40 48.2 +0.7
baz=96
L25A Engebretsen Ra 95.51 46 ⇑P P 22 40 48.6 +1.1
baz=96,SNR=8.2
S29A Ulysses 95.52 51 ⇓P P 22 40 48.5 +0.9
baz=96
X32A Elmer 95.53 55 ⇓P P 22 40 48.2 +0.5
baz=96,SNR=10.0
C20A Veseth Ranch, 95.54 40 ⇑P P 22 40 48.4 +1.0
baz=96,SNR=5.2
E21A Keefer Ranch, 95.54 41 ⇓P P 22 40 48.5 +1.1
baz=96
J24A Dixon Ranch, L 95.58 45 ⇑P P 22 40 48.6 +0.8
baz=96
Q28A Sharon Springs 95.62 50 ⇑P P 22 40 49.0 +0.9
baz=96,SNR=11
O27A Beecher Island 95.66 49 ⇓P P 22 40 49.1 +0.9
baz=96,SNR=7.1
H23A Clabaugh Cattl 95.66 44 ⇓P P 22 40 48.5 +0.4
baz=96
F22A Rosebud 95.68 42 ⇑P P 22 40 49.3 +1.2
baz=96,SNR=6.1
335A Moody 95.69 59 ⇓P P 22 40 49.1 +0.7
baz=96
A19A Klindworth Far 95.69 39 ⇑P P 22 40 48.6 +0.6
baz=96,SNR=7.5
134A White-Moore Ra 95.70 57 ⇑P P 22 40 48.9 +0.5
baz=96
T30A Plains 95.70 52 ⇑P P 22 40 49.2 +0.8
baz=96
M26A McRoberts Ranc 95.76 47 ⇑P P 22 40 49.6 +1.0
baz=96
K25A Mack Ranch, Ha 95.78 46 ⇓P P 22 40 49.5 +0.8
baz=96
D21A La Casta Ranch 95.83 41 ⇑P P 22 40 49.7 +1.0
baz=96,SNR=5.9
I24A Kuemmerle Ranc 95.84 45 ⇑P P 22 40 49.5 +0.6
baz=96
R29A Marienthal 95.84 51 ⇓P P 22 40 50.0 +1.0
baz=96,SNR=17
W32A Sentinel 95.85 54 ⇓P P 22 40 49.7 +0.6
baz=96
Y33A Hilltop Ranch, 95.86 56 ⇑P P 22 40 49.8 +0.6
baz=96
B20A Solberg Farm, 95.87 39 ⇓P P 22 40 49.7 +0.8
baz=96
N27A Anderson Farm, 95.89 48 ⇓P P 22 40 49.6 +0.4
baz=96
P28A Saint Francis 95.90 49 ⇓P P 22 40 49.9 +0.7
baz=96,SNR=12
U31A Nine Bar Ranch 95.92 53 ⇑P P 22 40 49.8 +0.4
baz=96
WHTX Lake Whitney 95.95 58 ⇓P P 22 40 50.0 +0.5
baz=96
G23A Biddle 95.96 43 ⇑P P 22 40 50.3 +0.9
baz=96,SNR=6.8
436A Wall Ranch, Ga 95.98 59 ⇓P P 22 40 50.3 +0.6
baz=96
S30A Montezuma 96.00 52 ⇑P P 22 40 49.4 -0.3
baz=96,SNR=7.3
L26A Underwood Farm 96.05 47 ⇑P P 22 40 50.5 +0.6
baz=96
O28A Krutsinger Ran 96.12 49 ⇑P P 22 40 51.0 +0.7
baz=96,SNR=9.8
LAO LASA Array 96.12 42 eP P 22 40 51.2 +1.1
comp=Z,32nm,1.2s
C21A Desert Coulee 96.13 40 ⇓P P 22 40 50.8 +0.8
baz=96
A20A Cobblestone Ra 96.14 39 ⇓P P 22 40 51.0 +0.9
baz=96,SNR=17
Z34A Collier Ranch, 96.15 56 ⇑P P 22 40 51.1 +0.7
baz=96
Q29A Oakley 96.15 50 ⇓P P 22 40 50.9 +0.5
baz=96,SNR=14
J25A Sunshine Ranch 96.17 45 ⇑P P 22 40 51.2 +0.8
baz=96

X33A Lawton 96.17 55 ⇑P P 22 40 51.0 +0.5
baz=96
E22A Miles City 96.18 42 ⇑P P 22 40 51.2 +1.0
baz=96
F23A Volborg 96.19 43 ⇑P P 22 40 51.1 +0.7
baz=96,SNR=6.5
135A Vickery Place, 96.21 57 ⇑P P 22 40 51.4 +0.7
baz=96
V32A Arapaho 96.25 54 ⇑P P 22 40 51.4 +0.6
baz=96
K26A Motz Farm, Whi 96.28 46 ⇑P P 22 40 51.7 +0.8
baz=96,SNR=7.3
H24A Dirks Ranch, A 96.28 44 ⇓P P 22 40 51.7 +0.8
baz=96,SNR=18
OGNE Ogallala 96.29 48 ⇑P P 22 40 51.7 +0.7
baz=96
M27A Reverse DX Ran 96.30 48 ⇓P P 22 40 51.7 +0.6
baz=96
RSSD Black Hills 96.34 45 eP P 22 40 51.0 -0.3
RSSD e*PP pP 22 42 52.1 +0.4
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD Black Hills 96.34 45 eP P 22 40 51.0 -0.3
comp=Z,12nm,0.9s
RSSD epP pP 22 42 52.1 +0.4
T31A Randall Ranch, 96.34 52 ⇑P P 22 40 51.7 +0.5
baz=97
D22A Cohagen 96.36 41 ⇑P P 22 40 52.1 +1.0
baz=97
ULN Ulaanbaatar 96.39 320 d iP P 22 40 51.5 +0.1
ULN pmax pmax
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 96.39 320 eP P 22 40 50.5 -0.9
comp=Z,8.4nm,0.8s
R30A Dighton 96.40 51 ⇑P P 22 40 52.4 +0.9
baz=97,SNR=10
W33A Caddo, Fort Co 96.44 55 ⇓P P 22 40 52.5 +0.8
baz=97
B21A Ellsworth Farm 96.46 40 ⇑P P 22 40 52.6 +1.2
baz=97,SNR=7.1
P29A Atwood 96.48 50 ⇓P P 22 40 52.1 +0.2
baz=97,SNR=6.4
I25A Rochford 96.49 45 ⇓P P 22 40 52.6 +0.7
baz=97
Y34A Reagan Ranch, 96.50 56 ⇑P P 22 40 52.4 +0.4
baz=97
N28A Pribbeno Ranch 96.52 49 ⇑P P 22 40 52.9 +0.9
baz=97,SNR=10.0
U32A Winter Ranch, 96.54 53 ⇑P P 22 40 52.9 +0.7
baz=97
L27A T5 Ranch, Ells 96.58 47 ⇓P P 22 40 53.1 +0.8
baz=97
J26A Sides Ranch, S 96.61 46 ⇓P P 22 40 53.3 +1.0
baz=97
G24A Alzada 96.63 43 ⇑P P 22 40 53.4 +1.0
baz=97
Z35A Perchaven, San 96.64 57 ⇓P P 22 40 53.3 +0.7
baz=97
S31A Mullinville 96.70 52 ⇑P P 22 40 53.6 +0.8
baz=97,SNR=5.7
X34A Smith Ranch, M 96.70 55 ⇓P P 22 40 53.4 +0.5
baz=97
Q30A Quinter 96.73 51 ⇓P P 22 40 53.8 +0.8
baz=97,SNR=19
SONM Songino Array 96.77 319 P P 22 40 52.9 -0.2
comp=Z,1.6nm,0.5s,baz=124,slow=5.6,SNR=20
SONM PKKP PKKPbc 22 57 33.0 -0.9
comp=Z,1.5nm,0.6s,baz=267,slow=2.8,SNR=10
O29A 4D Ranch, Culb 96.80 49 ⇑P P 22 40 53.1 -0.1
baz=97,SNR=10
538A Harpers Horsep 96.80 60 ⇓P P 22 40 53.9 +0.5
baz=97
C22A Vida 96.82 41 ⇑P P 22 40 53.7 +0.6
baz=97
H25A Fruitdale 96.84 44 ⇓P P 22 40 54.2 +0.8
baz=97
V33A Lossen Ranch, 96.85 54 ⇑P P 22 40 53.8 +0.2
baz=97
K27A Flueckinger Fa 96.90 46 ⇓P P 22 40 54.3 +0.6
baz=97
T32A Huddler Ranch, 96.92 53 ⇑P P 22 40 54.4 +0.5
baz=97
M28A Bar X Bar Ranc 96.93 48 ⇑P P 22 40 54.5 +0.7
baz=97
R31A Burdett 96.94 51 ⇓P P 22 40 54.6 +0.7
baz=97,SNR=5.0
P30A Selden 96.94 50 ⇑P P 22 40 54.7 +0.8
baz=97,SNR=17
D23A Lindsay 96.97 42 ⇓P P 22 40 55.0 +1.2
baz=97
W34A Bridge Creek, 97.00 55 ⇑P P 22 40 55.1 +0.9
baz=97
I26A New Underwood 97.06 45 ⇓P Pdif 22 40 55.5 +1.1
baz=97
L28A Connealy Angus 97.09 47 ⇓P Pdif 22 40 55.6 +1.0
baz=97
S32A Newby Ranch, P 97.13 52 ⇑P Pdif 22 40 55.6 +0.9
baz=97
N29A Votaw Ranch, W 97.20 49 ⇑P P 22 40 55.9 +0.8
baz=97
G25A Newell 97.20 44 ⇓P P 22 40 55.4 +0.5
baz=97
E24A Baker 97.25 42 ⇑P P 22 40 56.0 +0.9
baz=98
C23A Lambert 97.26 41 ⇑P P 22 40 55.6 +0.5
baz=98,SNR=8.8
J27A Elkhorn Farm, 97.29 46 ⇓P P 22 40 56.3 +0.9
baz=98,SNR=8.4
Q31A Ellis 97.32 51 ⇓P P 22 40 56.3 +0.7
baz=98
O30A MW Ranch, Wils 97.34 49 ⇓P P 22 40 56.3 +0.7
baz=98
A22A Carney Farms, 97.37 40 ⇑P P 22 40 56.7 +1.1
baz=98
H26A Fairpoint 97.37 45 ⇓P P 22 40 56.5 +0.8
baz=98
T33A Patterson Ranc 97.38 53 ⇑P P 22 40 56.6 +0.7
baz=98
M29A Burnside Ranch 97.42 48 ⇓P P 22 40 56.9 +0.9
baz=98
INK Inuvik 97.42 16 P Pdif 22 40 55.0 -0.3
comp=Z,8.5nm,0.8s,baz=237,slow=3.8,SNR=45
INK pP pP 22 42 58.9 +3.1
comp=Z,5.6nm,1.1s,baz=219,slow=6.8,SNR=4.8
INK PKKP PKKPbc 22 57 29.5 -3.2
comp=Z,0.6nm,0.5s,baz=36,slow=3.6,SNR=3.6
D24A Glendive 97.48 42 ⇑P P 22 40 57.5 +1.4
baz=98
K28A Ten Mile Ranch 97.49 47 ⇓P P 22 40 57.2 +0.9
baz=98
F25A Bowman 97.50 43 ⇑P P 22 40 57.4 +1.1
baz=98
P31A Stockton 97.55 50 ⇑P P 22 40 57.6 +1.0
baz=98
N30A Hueftle Ranch, 97.56 49 ⇑P P 22 40 57.7 +1.1
baz=98
R32A Long Quarter, 97.58 52 ⇑P P 22 40 57.5 +0.7
baz=98,SNR=11
C24A Savage 97.60 41 ⇓P P 22 40 57.4 +0.8
baz=98
I27A Quinn 97.60 45 ⇑P P 22 40 57.2 +0.4
baz=98
U34A Anderson Ranch 97.65 54 ⇑P P 22 40 57.6 +0.5
baz=98
B23A Brockton 97.67 40 ⇓P P 22 40 57.7 +0.8
baz=98,SNR=7.0
S33A Kaszmaul Farm, 97.76 53 ⇑P P 22 40 58.5 +0.9
baz=98
G26A Maurine 97.77 44 ⇓P P 22 40 58.0 +0.5
baz=98
E25A Miller Ranch, 97.78 43 ⇓P P 22 40 58.6 +1.1
baz=98
L29A Maesberg Ranch 97.82 48 ⇓P P 22 40 58.7 +0.9
baz=98
H27A Howes 97.83 45 ⇑P P 22 40 58.4 +0.6
baz=98
O31A Woolen Ranch, 97.84 50 ⇑P P 22 40 58.1 +0.2
baz=98,SNR=5.7
J28A Allard Ranch, 97.87 46 ⇑P P 22 40 58.4 +0.5
baz=98
Q32A Meitler Ranch, 97.92 51 ⇓P P 22 40 58.6 +0.3
baz=98,SNR=9.5
A23A Redstone 97.96 40 ⇓P P 22 40 59.1 +0.9
baz=98
F26A Lodgepole 97.96 43 ⇑P P 22 40 59.1 +0.8
baz=98
R33A Olander Ranch, 98.06 52 ⇓P P 22 40 59.6 +0.7
baz=98
D25A Fairfield 98.11 42 ⇓P P 22 40 59.8 +0.8
baz=98
P32A Huiting Farm, 98.14 50 ⇓P P 22 40 59.6 +0.3
baz=98
DGMT Dagmar 98.15 41 ⇑P P 22 40 59.6 +0.5
baz=98
I28A Midland 98.15 46 ⇑P P 22 40 59.7 +0.5
baz=98
K29A Lazy Trails An 98.21 47 ⇓P P 22 40 59.9 +0.4
baz=98
G27A Dupree 98.23 44 ⇓P P 22 41 00.1 +0.5
baz=98
L30A Spencer Herefo 98.29 48 ⇑P P 22 41 00.1 +0.2
baz=98
E26A Carlson Angus 98.36 43 ⇓P P 22 41 00.7 +0.6
baz=99
N31A Bailey Ranch, 98.36 49 ⇓P P 22 41 00.5 +0.2
baz=99
F27A Lemmon 98.38 44 ⇑P P 22 41 01.0 +0.8
baz=99
C25A Freed Ranch, W 98.39 42 ⇓P P 22 41 00.9 +0.7
baz=99
Q33A Connelly Farm, 98.44 51 ⇑P P 22 41 01.2 +0.7
baz=99
A24A Westby 98.47 40 ⇑P P 22 41 01.5 +1.0
baz=99
J29A Okreek 98.53 46 ⇓P P 22 41 01.2 +0.6
baz=99
H28A Mission Ridge 98.53 45 ⇑P P 22 41 01.7 +0.9
baz=99
M31A Lambtecht Ranc 98.56 49 ⇑P P 22 41 02.9 +1.8
baz=99
D26A Manning 98.61 42 ⇓P P 22 41 02.1 +0.9
baz=99
O32A Brockman Farm, 98.62 50 ⇑P P 22 41 02.1 +0.7
baz=99
K30A Basset 98.65 47 ⇑P P 22 41 02.1 +0.6
baz=99
B25A Knox Farm, Ray 98.69 41 ⇓P P 22 41 02.5 +1.0
baz=99
P33A Williams Farm, 98.71 51 ⇑P P 22 41 02.6 +0.8
baz=99
I29A Vivian Onida 98.73 46 ⇓P P 22 41 02.7 +0.9
baz=99
N32A Stulken Farm, 98.80 49 ⇑P P 22 41 02.9 +0.7
baz=99
E27A Carson 98.90 43 ⇓P P 22 41 03.4 +0.9
baz=99
L31A Butterfield Fa 98.98 48 ⇓P P 22 41 03.8 +0.8
baz=99
J30A Dallas 98.99 47 ⇓P P 22 41 03.7 +0.7
baz=99
A25A Svangstu Ranch 99.00 41 ⇑P Pdif 22 41 04.0 +1.2
baz=99
H29A Onida 99.04 45 ⇓P Pdif 22 41 03.9 +0.8
baz=99
F28A McLaughlin 99.15 44 ⇑P Pdif 22 41 04.7 +1.2
baz=99
C26A Wahner Farm, P 99.15 42 ⇑P Pdif 22 41 05.0 +1.5
baz=99
BGNE Belgrade 99.15 49 ⇓P Pdif 22 41 04.4 +0.8
baz=99
D27A Center 99.21 43 ⇓P Pdif 22 41 05.1 +1.3
baz=99
ZAK Zakamensk 99.73 321 eP Pdif 22 41 02.7 -3.4
ZAK pmax pmax
comp=Z,3.0nm,1.6s
YKA Yellowknife Ar 99.76 25 P Pdif 22 41 05.3 -0.4
comp=Z,1.2nm,0.5s,baz=236,slow=4.5,SNR=35
YKA pP pP 22 43 08.2 +1.7
comp=Z,2.2nm,1.1s,baz=242,slow=4.1,SNR=3.8
YKA PP PP 22 45 13.4 -6.1
comp=Z,2.2nm,0.9s,baz=244,slow=7.2,SNR=4.2
YKA SKP 22 48 13.8
comp=Z,0.3nm,0.5s,baz=255,slow=1.7,SNR=4.1
YKA PKKPbc PKKPbc 22 57 22.7 -3.3
comp=Z,0.9nm,0.5s,baz=33,slow=2.5,SNR=16
LSA Lhasa 100.40 298 eP Pdif 22 41 09.2 -0.8
LSA e 22 45 22.9
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 100.40 298 ePdif Pdif 22 41 09.2 -0.8
comp=Z,4.4nm,0.6s
LSA ePP PP 22 45 22.9 -2.8
A28A Rude Farm, Bot 100.70 41 ⇓P Pdif 22 41 11.4 +1.0
baz=101
D30A Buchanan 100.94 43 ⇓P Pdif 22 41 12.5 +1.1
baz=101
ECSD EROS Data Cent 101.08 47 ⇑P Pdif 22 41 13.0 +0.9
baz=101
A29A Manning Farm, 101.34 42 ⇑P Pdif 22 41 14.4 +1.2
baz=102
TAPN Taplejung 102.42 295 eP Pdif 22 41 19.2 +0.3
TAPN Taplejung 102.42 295 eP PKKPbc 22 57 18.0 +0.4
LPAZ La Paz 102.50 114 P Pdif 22 41 22.4 +2.5
comp=Z,1.2nm,0.8s,baz=336,slow=3.6,SNR=4.9
LPAZ PKKPbc PKKPbc 22 57 15.3 -2.4
comp=Z,0.9nm,0.6s,baz=119,slow=3.6,SNR=4.0
ODAN Odare 102.53 294 eP Pdif 22 41 19.5 +0.2
comp=Z,24nm,0.7s
ODAN Odare 102.53 294 eP PKiKP 22 45 37.5 +0.4
comp=Z,29nm,0.8s
ODAN Odare 102.53 294 eP PKKPbc 22 57 17.8 +0.6
comp=Z,8.5nm,0.6s
RAMN Ramite 103.22 294 eP Pdif 22 41 22.8 +0.4
RAMN Ramite 103.22 294 eP PKiKP 22 45 38.3 -0.1
comp=Z,25nm,0.7s
RAMN Ramite 103.22 294 eP PKKPbc 22 57 15.6 +0.4
comp=Z,8.2nm,0.6s
JIRN Jiri 103.80 294 eP Pdif 22 41 25.4 +0.3
comp=Z,12nm,0.6s
JIRN Jiri 103.80 294 eP PKiKP 22 45 39.3 -0.3
comp=Z,22nm,0.7s
JIRN Jiri 103.80 294 eP PKKPbc 22 57 14.0 +0.3
comp=Z,7.5nm,0.8s
ULM Lac du Bonnet 103.85 41 Pdiff Pdif 22 41 24.0 -0.3
comp=Z,1.1nm,0.4s,baz=282,slow=2.7,SNR=3.1
ULM PP PP 22 45 47.6 -2.5
comp=Z,11nm,0.9s,baz=249,slow=7.6,SNR=11
ULM PKKPbc PKKPbc 22 57 09.9 -3.8
comp=Z,0.9nm,0.6s,baz=32,slow=4.3,SNR=4.3
GUN Gumba 104.14 294 eP Pdif 22 41 28.2 +1.6
comp=Z,14nm,0.6s
GUN Gumba 104.14 294 eP PKiKP 22 45 39.1 -1.1
comp=Z,54nm,0.9s
GUN Gumba 104.14 294 eP PKKPbc 22 57 12.7 +0.1
comp=Z,22nm,0.7s
PKI Pulchoki 104.43 294 eP Pdif 22 41 27.8 0.0
comp=Z,18nm,0.7s
PKI Pulchoki 104.43 294 eP PKiKP 22 45 38.9 -1.8
comp=Z,24nm,0.9s
KKN Kakani 104.61 294 eP Pdif 22 41 29.1 +0.6
comp=Z,18nm,0.6s
KKN Kakani 104.61 294 eP PKiKP 22 45 39.0 -1.9
comp=Z,36nm,0.9s
KKN Kakani 104.61 294 eP PKKPbc 22 57 11.6 +0.5
DMN Daman 104.69 294 eP Pdif 22 41 29.3 +0.4
comp=Z,18nm,0.7s
GKN Gorkha 105.21 294 eP Pdif 22 41 32.2 +1.1
comp=Z,14nm,0.6s
GKN Gorkha 105.21 294 eP PKiKP 22 45 39.8 -2.2
comp=Z,45nm,0.8s
GKN Gorkha 105.21 294 eP PKKPbc 22 57 09.8 +0.6
KOLN Koldanda 106.01 294 eP Pdif 22 41 35.5 +0.8
KOLN Koldanda 106.01 294 eP PKiKP 22 45 41.3 -2.2
comp=Z,64nm,1.1s
DANN Dangsing 106.06 294 eP Pdif 22 41 36.3 +1.3
DANN Dangsing 106.06 294 eP PKiKP 22 45 41.5 -2.2
comp=Z,71nm,1.0s
DANN Dangsing 106.06 294 eP PKKPbc 22 57 07.1 +0.3
comp=Z,26nm,0.9s
PYUN Piuthan 106.62 294 eP PKiKP 22 45 40.5 -4.1
comp=Z,76nm,0.6s
WMQ Urumqi 107.48 311 ePdif Pdif 22 41 40.9 +0.2
WMQ PP PP 22 46 20.2 +3.5
WMQ S Sdif 22 52 54.9 -2.2
WMQ SS SS 23 00 46.3 +0.3
WMQ AMB AMB
comp=Z,280nm,5.6s
SIV San Ignacio 108.51 117 PKKPbc PKKPbc 22 56 58.9 -0.1
comp=Z,2.5nm,0.6s,baz=75,slow=5.1,SNR=7.9
SIV PKKPab PKKPab 22 57 15.0 -0.5
comp=Z,2.1nm,0.6s,baz=60,slow=7.2,SNR=5.4
RES Resolute Bay 110.96 16 PKiKP PKiKP 22 45 50.2 -0.9
comp=Z,1.7nm,0.7s,baz=180,slow=3.0,SNR=6.3
RES SKP 22 48 35.0
comp=Z,5.3nm,1.2s,baz=252,slow=1.8,SNR=4.8
ZAA0 Zalesovo Array 111.61 321 ePKiKP PKiKP 22 45 51.2 -1.7
ZALV Zalesovo Beam 111.61 321 Pdiff Pdif 22 41 59.6 +1.0
comp=Z,0.2nm,0.3s,baz=77,slow=6.5,SNR=2.6
ZALV PKiKP PKiKP 22 45 51.9 -1.0
comp=Z,5.5nm,0.7s,baz=154,slow=1.2,SNR=20
ZALV PP PP 22 46 43.3 -2.3
comp=Z,1.9nm,0.8s,baz=90,slow=3.3,SNR=3.5
ZALV SKP 22 48 36.6
comp=Z,4.8nm,0.7s,baz=201,slow=1.4,SNR=7.0
POO Poona 111.69 282 eP PKiKP 22 45 51.0 -3.2
MK31 Makanchi Array 111.88 313 eP Pdif 22 42 01.5 +1.4
MK31 i 22 45 52.0
MK31 Makanchi Array 111.88 313 ePdif Pdif 22 42 01.5 +1.4
MK31 ePKiKP PKiKP 22 45 52.0 -1.8
MKAR Makanchi Array 111.88 313 Pdiff Pdif 22 42 01.4 +1.3
comp=Z,1.9nm,0.6s,baz=95,slow=5.8,SNR=22
MKAR PKiKP PKiKP 22 45 53.1 -0.6
comp=Z,6.1nm,0.6s,baz=209,slow=1.3,SNR=47
MKAR PP PP 22 46 44.3 -3.5
comp=Z,2.7nm,0.8s,baz=98,slow=7.5,SNR=5.1
MKAR SKP 22 48 37.5
comp=Z,3.7nm,0.7s,baz=76,slow=1.3,SNR=6.6
MKAR PKKPbc PKKPbc 22 56 46.8 -1.9
comp=Z,1.6nm,0.8s,baz=278,slow=3.2,SNR=7.4
MKAR PKKPab PKKPab 22 56 59.0 +1.3
comp=Z,3.1nm,0.6s,baz=262,slow=3.8,SNR=14
MKAR SKKPbc SKKPbc 22 59 39.1 -3.3
comp=Z,3.0nm,0.9s,baz=279,slow=2.8,SNR=10.0
NVS Novosibirsk 112.67 322 ePKiKP PKiKP 22 45 53.8 -1.1
NVS e 22 51 46.5
NVS pmax pmax
comp=Z,6.0nm,0.7s
NVS pmax pmax
comp=E,2.0nm,0.6s
SADO Sadowa 113.42 50 PKiKP PKiKP 22 45 55.6 -1.1
comp=E,3.0nm,0.9s,baz=270,slow=8.1,SNR=3.4
SADO PP PP 22 46 56.2 -2.4
comp=E,18nm,1.1s,baz=274,slow=6.9,SNR=7.0
SADO PKKPbc PKKPbc 22 56 43.0 -0.5
comp=E,3.9nm,1.1s,baz=342,slow=3.2,SNR=3.7
SADO PKKPab PKKPab 22 56 51.8 +0.8
comp=E,7.5nm,0.7s,baz=90,slow=1.5,SNR=6.4
KURK Kurchatov 114.89 317 ePKiKP PKPdf 22 45 58.5 -0.8
KURK Kurchatov 114.89 317 ePKPdf PKPdf 22 45 58.5 -0.9
KURK ePP PP 22 46 59.6 -9.1
KSH Kashi 115.09 304 ePKP PKPdf 22 46 00.8 +0.6
KSH SKS SKSdf 22 52 23.0 +2.1
KSH AMB AMB
comp=E,97nm,3.8s
TKM2 Tokmak 2 115.92 308 ePKiKP PKPdf 22 46 01.2 -0.7
TKM2 Tokmak 2 115.92 308 ePKPdf PKPdf 22 46 01.2 -0.7
KBK Karagaybulak 116.36 307 P PKPdf 22 46 02.5 -0.1
SNR=8.3
CHMS Chumysh 116.55 308 P PKPdf 22 46 02.6 -0.2
SNR=12
UCH Uchtor 116.61 307 P PKPdf 22 46 04.0 +0.5
SNR=13
AAK Ala-Archa 116.68 307 c iPKiKP PKPdf 22 46 03.2 0.0
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK Ala-Archa 116.68 307 P PKPdf 22 46 03.3 0.0
SNR=5.3
AAK Ala-Archa 116.68 307 ePKPdf PKPdf 22 46 02.9 -0.4
USP Ospenovka 116.76 308 P PKPdf 22 46 03.1 -0.1
SNR=10.0
PTGA Pitinga 116.91 103 PKP PKPdf 22 46 03.7 -0.6
comp=Z,3.4nm,0.5s,baz=297,slow=3.2,SNR=9.1
AML Almayashu 117.20 307 P PKPdf 22 46 04.9 +0.3
SNR=17
EKS2 Erkin-Say 117.21 307 P PKPdf 22 46 04.4 +0.2
SNR=7.1
BDFB Brasilia 119.01 125 PKP PKPdf 22 46 08.0 -0.5
comp=Z,3.4nm,0.7s,baz=267,slow=1.1,SNR=7.0
BDFB SKP 22 48 51.7
comp=Z,3.9nm,0.7s,baz=206,slow=2.0,SNR=6.2
BDFB PKKPbc PKKPbc 22 56 25.0 +0.7
comp=Z,4.5nm,0.6s,baz=67,slow=2.1,SNR=11
KKAR Karatay Array 119.64 307 ePKiKP PKPdf 22 46 08.0 -0.7
KKAR Karatay Array 119.64 307 ePKPdf PKPdf 22 46 08.0 -0.7
KKAR eSKPdf SKiKP 22 48 52.8 -0.1
FRB Frobisher Bay 120.05 29 PKP PKPdf 22 46 08.0 -0.8
comp=Z,9.0nm,0.6s,baz=290,slow=2.4,SNR=27
FRB SKP 22 48 52.4
comp=Z,3.6nm,0.6s,baz=310,slow=4.0,SNR=4.8
FRB PKKPbc PKKPbc 22 56 18.7 -2.2
comp=Z,3.7nm,0.5s,baz=92,slow=6.9,SNR=14
BRVK Borovoye 120.18 319 c iPKiKP PKPdf 22 46 09.1 -0.3
BRVK pmax pmax
comp=Z,11nm,0.7s
BRVK Borovoye 120.18 319 ePKPdf PKPdf 22 46 08.5 -0.9
SUR Sutherland 121.21 200 PKP PKPdf 22 46 13.3 +0.8
comp=Z,21nm,0.8s,baz=86,slow=2.0,SNR=18
SUR PKKPbc PKKPbc 22 56 18.0 +0.8
comp=Z,4.5nm,0.6s,baz=311,slow=4.2,SNR=5.1
SCHQ Schefferville 121.92 39 PKP PKPdf 22 46 12.2 -0.6
comp=Z,5.4nm,0.7s,baz=238,slow=4.4,SNR=12
SCHQ SKP 22 48 56.0
comp=Z,9.8nm,1.0s,baz=248,slow=1.8,SNR=4.6
SCHQ PKKPab PKKPab 22 56 12.2 -1.2
comp=Z,3.6nm,0.5s,baz=88,slow=4.7,SNR=12
BOSA Boshof 123.00 206 ePKiKP PKPdf 22 46 15.8 -0.1
BOSA Boshof 123.00 206 PKP PKPdf 22 46 16.5 +0.6
comp=Z,7.8nm,0.6s,baz=144,slow=2.2,SNR=22
BOSA PKKPbc PKKPbc 22 56 09.4 -1.0
comp=Z,6.5nm,0.9s,baz=335,slow=6.2,SNR=8.3
BOSA Boshof 123.00 206 ePKPdf PKPdf 22 46 15.8 -0.1
BOSA PKP PKPdf 22 46 16.5 +0.6
BOSA PKKPbc PKKPbc 22 56 09.4 -1.0
SPITS Spitsbergen Ar 124.55 356 PKP PKPdf 22 46 17.3 +0.1
comp=Z,18nm,0.7s,baz=91,slow=4.2,SNR=24
SPITS SKPbc SKiKP 22 48 42.7 -19
comp=Z,2.0nm,0.5s,baz=79,slow=3.1,SNR=6.1
ILULI Ilulissat 124.95 20 i PKiKP PKPdf 22 46 17.7 -0.4
ILULI pmax pmax
comp=Z,14nm,0.9s
ILULI Ilulissat 124.95 20 i P PKPdf 22 46 17.7 -0.4
comp=Z,14nm,0.8s
ILULI i 22 46 33.6
SVE Sverdlovsk 125.31 324 ePKiKP PKPdf 22 46 19.3 +0.2
SVE e 22 48 22.3
SVE pmax pmax
comp=Z,21nm,0.9s
DAG Danmarks Havn 125.69 5 ⇓iPKiKP PKPdf 22 46 18.5 -0.8
DAG Danmarks Havn 125.69 5 ⇓iP PKPdf 22 46 18.5 -0.8
DAG i 22 48 32.2
SFJD Kangerlussuaq 126.17 22 i PKiKP PKPdf 22 46 19.8 -0.7
SFJD pmax pmax
comp=Z,7.0nm,0.9s
SFJD Kangerlussuaq 126.17 22 i P PKPdf 22 46 19.8 -0.7
comp=Z,6.9nm,0.8s
SFJD Kangerlussuaq 126.17 22 PKP PKPdf 22 46 19.8 -0.7
comp=Z,6.6nm,0.5s,baz=166,slow=2.2,SNR=8.4
SUMG Summit 126.27 13 i PKiKP PKPdf 22 46 21.7 +0.6
SUMG i 22 48 20.3
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 126.27 13 i P PKPdf 22 46 21.7 +0.6
comp=Z,11nm,0.9s
SUMG i 22 48 20.3
SUMG Summit 126.27 13 ePKPdf PKPdf 22 46 20.1 -1.0
ARU Arti 126.51 324 i PKiKP PKPdf 22 46 21.3 -0.2
ARU i 22 48 18.7
ARU 22 52 35.0
ARU Arti 126.51 324 ePKPdf PKPdf 22 46 20.6 -0.9
SOKR Solikamsk 126.60 328 ePKiKP PKPdf 22 46 21.9 +0.4
SOKR pmax pmax
comp=Z,20nm,0.8s
ABKAR Akbulak array 126.92 315 ePKPdf PKPdf 22 46 21.6 -0.9
KEV Kevo 130.88 348 ePKHKP PKPpre 22 46 21.2
KEV Kevo 130.88 348 epkp PKPpre 22 46 21.2
KEV Kevo 130.88 348 ep SKPbc 22 49 02.8 -0.2
APA Apatity 131.19 344 i PKiKP PKPdf 22 46 30.8 +0.8
APA i *PP x 22 48 31.0
APA i 22 49 05.0
APA i 22 52 44.0
APA i SS SS 23 05 46.0 +1.0
ARCES ARCESS Array B 131.35 348 PKhKP PKPpre 22 46 17.6
comp=Z,1.7nm,0.6s,baz=25,slow=3.0,SNR=9.3
ARCES PKP PKPdf 22 46 30.6 +0.2
comp=Z,15nm,0.7s,baz=24,slow=1.1,SNR=19
ARCES SKPbc SKPab 22 49 05.7 -0.1
comp=Z,28nm,0.8s,baz=50,slow=3.8,SNR=18
LSZ Lusaka 132.87 218 ePKiKP PKPdf 22 46 35.7 +0.8
LSZ Lusaka 132.87 218 ePKPdf PKPdf 22 46 35.7 +0.8
KLMR Klimovskoe 133.73 335 ePKHKP PKPpre 22 46 24.8
KLMR e 22 49 11.6

KLMR pmax pmax
comp=Z,10.0nm,0.7s
RCBR Riachuelo 134.38 125 SKPbc SKPbc 22 49 16.0 -0.7
comp=Z,75nm,0.9s,baz=203,slow=2.0,SNR=18
TSUM Tsumeb 134.46 203 PKhKP PKPpre 22 46 28.5
comp=Z,0.8nm,0.4s,baz=171,slow=6.3,SNR=4.1
TSUM PKP PKPdf 22 46 38.4 +0.5
comp=Z,6.5nm,0.8s,baz=157,slow=5.1,SNR=9.8
TSUM SKPbc SKPbc 22 49 18.0 +1.2
comp=Z,22nm,1.0s,baz=144,slow=4.4,SNR=15
JOF Joensuu 135.24 340 ePKHKP PKPpre 22 46 27.8
JOF Joensuu 135.24 340 epkp PKPpre 22 46 27.8
JOF Joensuu 135.24 340 ep SKPbc 22 49 17.7 0.0
KMBO Kilima Mbogo 136.53 241 PKhKP PKPpre 22 46 32.3
comp=Z,3.1nm,0.9s,baz=78,slow=4.6,SNR=12
KMBO PKP PKiKP 22 46 43.3 -0.6
comp=Z,15nm,1.0s,baz=341,slow=1.1,SNR=18
KMBO SKPbc SKPbc 22 49 25.3 +1.8
comp=Z,30nm,1.0s,baz=37,slow=1.3,SNR=25
KAF Kangasniemi 137.34 342 ePKHKP PKPpre 22 46 30.3
KAF Kangasniemi 137.34 342 epkp PKPpre 22 46 30.3
KAF Kangasniemi 137.34 342 ep SKPbc 22 49 23.2 -0.7
DAMY Dhamar 137.43 266 ePKPdf PKPdf 22 46 43.0 -0.7
VRHR Novokhopersk 137.73 322 ePKIKP PKPdf 22 46 42.8 +0.1
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,1.3s
FINES FINESS Array B 137.95 342 PKhKP PKPpre 22 46 31.8
comp=E,3.7nm,0.6s,baz=74,slow=3.0,SNR=16
FINES SKPbc SKPbc 22 49 25.9 +0.3
comp=E,13nm,0.5s,baz=63,slow=2.9,SNR=14
FINES SKKPbc SKKPbc 22 58 10.4 -4.8
comp=E,1.6nm,0.6s,baz=190,slow=4.2,SNR=5.0
DGRG David-gareji 138.29 307 P PKPpre 22 46 35.9
DGRG David-gareji 138.29 307 P SKiKP 22 49 29.9 -1.0
OBN Obninsk 138.36 329 i PKIKP PKPdf 22 46 43.0 -0.7
OBN i 22 49 45.2
OBN pmax pmax
comp=Z,18nm,1.3s
DUS Dusheti 138.65 308 P PKPpre 22 46 36.7
TBLG Delisi 138.70 307 P PKPpre 22 46 36.6
TBLG Delisi 138.70 307 P SKPbc 22 49 29.7 +1.2
GUDG Gudauri 138.73 308 P PKPpre 22 46 36.0
GUDG Gudauri 138.73 308 P SKPbc 22 49 28.8 -0.1
GNI Garni 139.01 305 ePKIKP PKPdf 22 46 45.4 -0.3
GNI Garni 139.01 305 ePKPdf PKPdf 22 46 45.4 -0.3
VSR Storozhevoye 139.06 323 ePKIKP PKPdf 22 46 46.4 +1.3
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,5.0nm,0.6s
ZEI Tsey 139.07 309 ePKHKP PKPpre 22 46 38.4
ZEI pmax pmax
comp=Z,8.0nm,0.7s
ONI Oni 139.44 309 P PKPpre 22 46 37.8
ONI Oni 139.44 309 P SKPdf 22 49 26.7 -2.7
KBZ Khabaz 139.53 311 PKhKP PKPpre 22 46 38.8
comp=Z,2.4nm,0.8s,baz=178,slow=6.6,SNR=8.3
KBZ SKPbc SKPbc 22 49 30.7 +0.1
comp=Z,6.3nm,0.8s,baz=99,slow=6.5,SNR=3.3
KIV Kislovodsk 139.61 311 ePKIKP PKPdf 22 46 42.5 -4.0
KIV e*PP 22 48 45.2
KIV e 22 49 42.2
KIV pmax pmax
comp=Z,13nm,1.0s
AKH Akhalkalaki 139.69 307 P PKPpre 22 46 38.7
AKH Akhalkalaki 139.69 307 P SKiKP 22 49 34.3 +0.4
CLDR Caldiran 139.82 304 eP PKPpre 22 46 40.5
CUKT Cukurca 140.35 301 eP PKPpre 22 46 41.9
CHVG Ch'k'valeri 140.38 309 P PKPpre 22 46 39.0
CHVG Ch'k'valeri 140.38 309 P SKPbc 22 49 32.6 -0.3
AGRB Hanur-Agry 140.44 304 eP PKPpre 22 46 42.2
AKN Aaknes 140.88 355 eP PKPdf 22 46 44.3 -3.9
SIRT Sirnak 141.24 301 eP PKPdf 22 46 44.7 -4.9
NB2 NORSAR Subarra141.53 351 PKP PKPpre 22 46 44.6
comp=Z,5.3nm,0.7s,baz=16,slow=3.2
NB2 NORSAR Subarra141.53 351 PKP PKPpre 22 46 44.6
baz=16,slow=3.2
NOA NORSAR Array B 141.53 351 PKhKP PKPpre 22 46 44.6
comp=Z,17nm,0.7s,baz=16,slow=4.7,SNR=83
NOA SKPbc SKPbc 22 49 35.9 +0.6
comp=Z,7.5nm,0.7s,baz=15,slow=4.2,SNR=11
FOO Floro 141.59 356 eP PKPdf 22 46 45.2 -4.1
EZM Erzurum 141.60 305 eP PKPdf 22 46 47.4 -3.0
VRTB Varto-Mus 141.69 304 eP PKPdf 22 46 47.6 -2.9
NAO01 NORSAR Array S 141.76 352 ePKPdf PKPdf 22 46 45.1 -4.7
NC602 NORSAR Array S 141.78 351 eP PKPdf 22 46 45.8 -4.0
HFS Hagfors 142.01 349 SKPbc SKPbc 22 49 36.7 +0.3
comp=Z,19nm,0.8s,baz=162,slow=0.9,SNR=7.8
SUE Sulen 142.15 356 eP PKPdf 22 46 47.6 -2.7
ISAL Salakas 142.51 336 eP PKPdf 22 46 48.3 -2.9
ISAL AMB AMB 22 46 50.0
comp=Z,12nm,0.8s
KTUT Trabzon 142.51 308 eP PKPdf 22 46 47.6 -4.0
MICGM Minsk 142.60 333⇑eP PKPdf 22 46 56.0 +4.6
MNK Minsk 142.62 334⇑ePKIKP PKPdf 22 46 56.0 +4.6
MNK pmax pmax
comp=Z,190nm,1.0s
IIGN Ignalina 142.64 336 eP PKPpre 22 46 38.3
IIGN AMB AMB 22 46 40.6
comp=Z,25nm,0.9s
ASK Askoy 142.69 356 eP PKPdf 22 46 48.5 -2.8
RUND Rundenannen 142.75 356 eP PKPdf 22 46 48.2 -3.3
NACGM Naroch 142.76 335 e PKPdf 22 46 46.0 -5.6
BER Bergen 142.78 356 eP PKPdf 22 46 49.1 -2.4
MAZI Mazidag 142.80 302 eP PKPdf 22 46 50.6 -1.9
KBSD Kabsdagh 142.81 301 eP PKPdf 22 46 50.7 -1.7
GUMT Gumushane 142.87 307 eP PKPdf 22 46 50.5 -2.0
MZRK Al-Mazaregh 142.91 299 eP PKPdf 22 46 52.1 -0.5
DYBB Diyarbakir 142.95 303 eP PKPdf 22 46 50.3 -2.3
KONO Kongsberg 143.09 352⇑iP PKPab 22 46 49.8 +0.1
KONO Kongsberg 143.09 352 ePKPdf PKPab 22 46 49.8 0.0
ODD1 Odda 143.15 355⇑iP PKPab 22 46 50.1 0.0
ODD1 IAmb IAmb 22 46 51.0
comp=Z,3.5nm,0.8s
LRW Lerwick 143.19 1 eP PKPab 22 46 50.0 -0.1
SFNV Sufian 143.25 300 eP PKPbc 22 46 52.2 +0.6
BLS5 Blasjo 143.65 355⇑iP PKPbc 22 46 52.0 0.0
BLS5 IAmb IAmb 22 46 52.9
comp=Z,30nm,0.8s
ILIC ilic-Erzincan 143.81 306 eP PKPdf 22 46 56.5 +2.3
KMY Karmoy 143.95 356⇑iP PKPbc 22 46 52.9 0.0
KMY IAmb IAmb 22 46 53.9
comp=Z,102nm,0.9s
MNKR ALMNKUR 144.00 299 eP PKPdf 22 46 54.4 -0.1
KSRV Kasrt alli 144.23 299 eP PKPab 22 46 55.4 +0.5
RSDY Resadiye-TOKAT 144.46 308 eP PKPab 22 46 55.6 -0.1
HOMB Homborsund 144.57 352⇑iP PKPbc 22 46 54.8 -0.1
AKASG Malin Array Be 144.57 328 PKP PKPbc 22 46 54.7 -0.2
comp=Z,70nm,0.6s,baz=45,slow=4.2,SNR=635
AKASG pPKP pPKPdf 22 49 02.3 -0.7
comp=Z,6.5nm,0.7s,baz=42,slow=4.3,SNR=2.5
AKASG SKPbc SKPbc 22 49 43.1 +0.3
comp=Z,28nm,0.7s,baz=44,slow=3.0,SNR=13
AKASG SKKPbc SKKPab 22 57 45.9 -1.0
comp=Z,1.2nm,0.7s,baz=234,slow=3.2,SNR=4.8
AKBB Malin Array Si 144.57 328 ePKIKP PKPdf 22 46 54.5 -0.4
AKBB Malin Array Si 144.57 328 ePKPdf PKPdf 22 46 54.5 -0.4
AK01 Malin Array Si 144.58 328 ePKPdf PKPdf 22 46 54.9 -0.1
KIEV Kiev 144.58 328 ePKIKP PKPdf 22 46 54.9 -0.1
KIEV Kiev 144.58 328 ePKPdf PKPdf 22 46 54.9 -0.1
AK02 Malin Array Si 144.61 328 ePKPdf PKPdf 22 46 54.6 -0.4
SNART Snartemo 144.65 354 eP PKPbc 22 46 55.2 +0.1
SNART IAmb IAmb 22 46 56.1
comp=Z,30nm,1.0s
SUW Suwalki 144.80 336 ePKIKP PKPdf 22 46 55.1 -0.1
SUW Suwalki 144.80 336 ePKP PKPbc 22 46 55.6 -0.1
SUW Suwalki 144.80 336 ePKPdf PKPdf 22 46 55.1 -0.1
SVSK Karacayir 144.84 307 eP PKPab 22 46 57.4 +0.3
DARE Darende-Malaty 144.85 304 eP PKPab 22 46 57.4 +0.1
SIM Simferopol' 144.96 316d iPKIKP PKPab 22 46 57.0 -0.4
SIM 22 50 27.0
SIM pmax pmax
comp=Z,140nm,0.9s
SIM pmax pmax
comp=Z,50nm,12.9s
SLMH Al Salmeh 145.02 300 eP PKPbc 22 46 57.5 +0.4
KVT Kavak 145.17 309 eP PKPdf 22 46 56.0 -0.4
KMRS Kahramanmaras 145.55 303 eP PKPbc 22 46 58.9 +0.3
KAC Achnashellach 145.62 5 eP PKPbc 22 46 57.5 -0.6
MCD Coleburn Disti 145.68 3 eP PKPbc 22 46 57.7 -0.5
KPL Plockton 145.75 6 eP PKPbc 22 46 58.5 +0.2
ROOS tl_alroos 145.88 297 eP PKPbc 22 47 00.4 +0.7
KSB Sheil Bridge 145.90 5 eP PKPbc 22 46 58.7 -0.1
RABH Abou Rabah 145.91 297 eP PKPbc 22 47 00.4 +0.7
MME1 Meikle Cairn 145.96 3 eP PKPdf 22 46 57.8 +0.6
BNN Bunyan 146.00 305 eP PKPbc 22 47 00.5 +0.6
ZALF Zalf 146.01 295 eP PKPbc 22 47 00.4 +0.4
KFRA Kufra 146.11 299 eP PKPab 22 47 01.7 -0.6
BTCH Batrach 146.22 300 eP PKPbc 22 47 01.0 +0.4
MUD Monsted U'grnd 146.25 351 i PKP2 PKPbc 22 47 00.6 +0.8
MUD pmax pmax
comp=Z,38nm,0.8s
MUD Monsted U'grnd 146.25 351 i P PKPbc 22 47 00.6 +0.8
comp=Z,38nm,0.8s
BZK Bozkurt 146.28 312 eP PKPbc 22 46 59.5 -0.9
WRDH Warideh 146.37 299 eP PKPbc 22 47 01.4 +0.4
DRUM Mains of Drumt 146.38 3 eP PKPbc 22 46 59.6 -0.5
KOZT Kozan 146.39 303 eP PKPbc 22 47 01.5 +0.6
BSD Bornholm Skovb 146.40 345⇑PKP2 PKPbc 22 47 00.3 +0.1
BSD pmax pmax
comp=Z,41nm,0.8s
BSD Bornholm Skovb 146.40 345⇑iP PKPbc 22 47 00.3 +0.1
comp=Z,41nm,0.8s
BSD i 22 49 08.5
COP Copenhagen 146.42 347⇑iPKP2 PKPbc 22 47 00.5 +0.2
COP pmax pmax
comp=Z,31nm,0.8s
COP Copenhagen 146.42 347⇑iP PKPbc 22 47 00.5 +0.2
comp=Z,31nm,0.7s
BIDA Albida 146.53 299 eP PKPbc 22 47 00.9 -0.6
SALA Sala 146.54 294 eP PKPbc 22 47 02.7 +1.0
HAWK Haweek 146.55 298 eP PKPbc 22 47 02.0 +0.5
CEYT Ceyhan 146.56 302 eP PKPbc 22 47 02.4 +1.1
MARH Ras Al Marh 146.57 297 eP PKPdf 22 47 00.3 +1.0
SORM Soroca 146.62 325 ⇓PKP2 PKPbc 22 47 01.2 +0.1
SORM Soroca 146.62 325⇓iP PKPbc 22 47 01.2 +0.1
ARNB Al Arnab 146.65 300 eP PKPdf 22 46 57.3 -1.8
TOTH TOTAH 146.71 296 eP PKPbc 22 47 02.6 +0.7
LLD Lille Linde 146.79 347 i PKP2 PKPbc 22 47 02.0 +0.7
LLD pmax pmax
comp=Z,6.0nm,0.8s
LLD Lille Linde 146.79 347 i P PKPbc 22 47 02.0 +0.7
comp=Z,5.7nm,0.8s
QASN Qassioun 146.81 296 eP PKPbc 22 47 03.2 +1.0
EAB Aberfoyle 147.00 5 eP PKPbc 22 47 01.8 -0.1
KARA Karaisali 147.04 303 eP PKPdf 22 46 58.9 -0.7
KIS Kishinev 147.06 323⇑iPKP2 PKPbc 22 47 02.5 +0.2
KIS pmax pmax
comp=Z,200nm,1.0s
KIS Kishinev 147.06 323⇑iPKP PKPbc 22 47 02.5 +0.2
KIS M M 22 47 03.0
comp=Z,200nm,1.0s
CANT Cankiri 147.06 310 eP PKPbc 22 47 03.5 +0.8
BRBR Barbar 147.10 296 eP PKPbc 22 47 04.3 +1.1
RCY Rachaya 147.18 296 eP PKPbc 22 47 03.8 +0.5
TCHB Talchebab 147.19 294 eP PKPbc 22 47 04.3 +1.1
BHL Bhannes 147.27 297 eP PKPbc 22 47 03.8 +0.3
BRTR Keskin Array B 147.36 308 PKP PKPdf 22 46 59.4 -0.9
comp=Z,25nm,0.6s,baz=143,slow=5.0,SNR=59
BRTR PKPbc PKPbc 22 47 03.6 +0.1
comp=Z,44nm,0.6s,baz=140,slow=4.2,SNR=114
BRTR pPKPbc pPKPbc 22 49 08.2 -1.4
comp=Z,8.5nm,1.0s,baz=113,slow=3.2,SNR=3.9
PGBU Glenifferbraes 147.36 5 eP PKPbc 22 47 02.5 -0.3
ESY Stoneypath 147.37 3 eP PKPbc 22 47 02.7 -0.1
BEL Belsk 147.41 336 ePKP2 PKPbc 22 47 03.6 +0.5
BEL Belsk 147.41 336 ePKP PKPbc 22 47 03.6 +0.5
GKP Gorka Klasztor 147.41 341 ePKP2 PKPbc 22 47 03.7 +0.7
GKP Gorka Klasztor 147.41 341 ePKP PKPbc 22 47 03.6 +0.6
SAFT Safranbolu 147.47 311 eP PKPbc 22 47 04.4 +0.8
EBL Broad Law 147.49 3 eP PKPbc 22 47 03.0 -0.1
MERS Mersin 147.55 303 eP PKPdf 22 46 57.9 -2.6
LVV L'vov 147.61 331 ePKIKP PKPbc 22 47 02.6 -1.1
LEOM Leova 147.68 323 ⇑PKP2 PKPbc 22 47 04.6 +0.7
LEOM Leova 147.68 323⇑iP PKPbc 22 47 04.6 +0.7
AFSR Af`ar-Bala (A 147.87 308 eP PKPbc 22 47 04.8 0.0
ANTO Ankara 147.92 309 eP PKPbc 22 47 03.7 -1.2
ANTO Ankara 147.92 309⇑iP PKPdf 22 47 02.2 +1.2
ANTO Ankara 147.92 309 ePKPdf PKPdf 22 47 01.0 0.0
ANTO ePKPbc PKPbc 22 47 05.3 +0.4
ANTO ePKPab PKPab 22 47 10.7 +1.2
ESK Eskdalemuir 147.94 4 ePKPdf PKPdf 22 47 00.9 +0.4
TLCR 148.09 320 ⇑PKP2 PKPbc 22 47 05.5 +0.5
TLCR 148.09 320⇑iP PKPbc 22 47 05.5 +0.5
EREN Erenkoy 148.15 300 eP PKPbc 22 47 04.3 -1.2
PRAR RASCA 148.23 325⇑iP PKPbc 22 47 05.6 +0.3
GAL1 Galloway 148.28 5 eP PKPbc 22 47 05.0 -0.1
KWP Kalwaria Pacla 148.34 332 ⇑PKP2 PKPbc 22 47 06.4 +0.9
KWP Kalwaria Pacla 148.34 332 ePKP PKPbc 22 47 05.9 +0.4
KWP Kalwaria Pacla 148.34 332⇑iP PKPbc 22 47 06.4 +0.9
KWP Kalwaria Pacla 148.34 332 ePKPdf PKPdf 22 47 01.1 -0.2
KWP ePKPbc PKPbc 22 47 05.4 -0.2
KWP ePKPab PKPab 22 47 10.8 -0.1
XAL Allendale 148.44 3 eP PKPbc 22 47 05.3 -0.3
BSEG Bad Segeberg 148.48 349 ePKPbc PKPbc 22 47 06.5 +0.8
BSEG ePKPab PKPab 22 47 12.0 +0.8
CFR Carcaliu 148.49 321 ⇑PKP2 PKPbc 22 47 06.6 +0.6
CFR Carcaliu 148.49 321⇑iP PKPbc 22 47 06.6 +0.6
TESR Tescani 148.54 324⇑iP PKPbc 22 47 06.4 +0.3
BUR08 Bucovina Ar. S 148.57 327 ePKPdf PKPdf 22 47 02.6 +0.7
BUR08 ePKPbc PKiKP 22 47 07.2 -0.2
BUR08 ePKPab PKPab 22 47 12.0 0.0
BURAR Bucovina Array 148.58 327 ⇑PKP2 PKPbc 22 47 07.3 +1.0
BURAR Bucovina Array 148.58 327⇑iP PKPbc 22 47 07.3 +1.0
HLG Helgoland 148.63 351 ePKPab PKPab 22 47 12.4 +0.6
KESW Keswick, Cumbr 148.67 4 eP PKPbc 22 47 06.2 0.0
PETR Petresti 148.69 322⇑iP PKPbc 22 47 07.6 +1.1
LFK Lefkose 148.71 300 eP PKPbc 22 47 05.8 -1.2
TIRR Tirgusor 148.73 319 ⇑PKHKP PKPbc 22 47 07.0 +0.4
TIRR Tirgusor 148.73 319⇑iP PKPbc 22 47 07.0 +0.4
MDUB Mudurnu 148.82 311 eP PKPbc 22 47 06.2 -0.9
TLB Topalu 148.88 320 ⇓PKHKP PKPbc 22 47 07.2 +0.2
TLB Topalu 148.88 320⇓iP PKPbc 22 47 07.2 +0.2
HARR Harsova 148.89 320 ⇓PKP2 PKPbc 22 47 08.0 +1.0
HARR Harsova 148.89 320⇓iP PKPbc 22 47 08.0 +1.0
VRI Vrincioaia 148.89 323 ⇑PKHKP PKPbc 22 47 07.3 +0.3
VRI Vrincioaia 148.89 323⇑iP PKPbc 22 47 07.3 +0.3
PLOR Plostina 148.94 323 ⇑PKHKP PKPbc 22 47 05.5 -1.7
PLOR Plostina 148.94 323⇑iP PKPbc 22 47 05.5 -1.7
CSS Prodhromos 148.95 299 eP PKPbc 22 47 07.1 -0.4
CSS Prodhromos 148.95 299 ePKPbc PKPbc 22 47 07.5 -0.1
MANR Mangalia 148.97 318⇑iP PKPbc 22 47 07.3 +0.1
MAMC Mammari 148.99 300 P PKPbc 22 47 08.0 +0.4
CVD Cernavoda 149.04 319 ⇑PKP2 PKPbc 22 47 08.5 +1.1
CVD Cernavoda 149.04 319⇑iP PKPbc 22 47 08.4 +1.1
GRER 149.04 322⇑iP PKPbc 22 47 09.1 +1.7
KOLS Kolonicke sedl 149.05 331 ePKHKP PKPbc 22 47 07.7 +0.4
KOLS Kolonicke sedl 149.05 331 ePKP PKPbc 22 47 07.7 +0.4
KOLS e 22 49 17.0
RUE Ruedersdorf 149.08 344 ePKPbc PKPbc 22 47 08.0 +0.8
RUE epPKPbc pPKPbc 22 49 17.5 +3.7
OJC Ojcow 149.08 335 ePKHKP PKPbc 22 47 07.4 +0.1
OJC Ojcow 149.08 335 ePKP PKPbc 22 47 07.4 +0.1
STHS Stebnicka Huta 149.13 333 ePKP2 PKPbc 22 47 08.5 +1.0
STHS Stebnicka Huta 149.13 333 ePKP PKPbc 22 47 08.5 +1.0
UZH Uzhgorod 149.26 331⇑iPKHKP PKPbc 22 47 07.2 -0.6
LEF Lefka 149.26 300 eP PKPbc 22 47 08.7 +0.5
AMRR Amara 149.28 320 ⇓PKHKP PKPbc 22 47 07.7 -0.2
AMRR Amara 149.28 320⇓iP PKPbc 22 47 07.7 -0.2
MSAB Monastry St. A 149.28 319⇑iP PKPbc 22 47 08.5 +0.5
PSN Preselentsi 149.29 318 ⇑PKHKP PKPbc 22 47 08.9 +0.9
PSN Preselentsi 149.29 318⇑iP PKPbc 22 47 08.9 +0.9
PGOR Pogoanele 149.32 321⇑iP PKPbc 22 47 09.3 +1.3
SZAC Souni-Zanaja 149.35 299 P PKPbc 22 47 08.9 +0.4
HPK Haverah Park 149.37 2 eP PKPbc 22 47 07.9 0.0
BMR Baia Mare 149.39 328 ⇑PKHKP PKPbc 22 47 08.9 +0.8
BMR Baia Mare 149.39 328⇑iP PKPbc 22 47 08.9 +0.8
CRVS Cervenica-Dubn 149.43 332 ePKHKP PKPbc 22 47 08.5 +0.3
CRVS Cervenica-Dubn 149.43 332 ePKP PKPbc 22 47 08.5 +0.3
CRVS e 22 49 16.8
ALFC Alevga 149.49 300 P PKPbc 22 47 08.7 -0.1
NIE Niedzica 149.51 334 ePKHKP PKPbc 22 47 09.2 +0.8
NIE Niedzica 149.51 334 ePKP PKPbc 22 47 09.2 +0.8
TRPA Tarpa 149.51 330⇑iP PKPbc 22 47 08.9 +0.5
TRPA Tarpa 149.51 330⇑e PKPbc 22 47 08.8 +0.4
TRPA e 22 49 19.9
MLR Muntele Rosu 149.56 323 ⇑PKHKP PKPbc 22 47 08.9 +0.1
MLR Muntele Rosu 149.56 323⇑iP PKPbc 22 47 08.9 +0.1
DOPR Dopca 149.56 324⇑iP PKPbc 22 47 09.8 +1.2
SILT Sile 149.59 313 eP PKPbc 22 47 09.7 +0.9
PPCY Paphos 149.75 300 P PKPbc 22 47 09.2 -0.2
SECR 149.76 322⇑iP PKPbc 22 47 09.7 +0.6
WME Myndd Eilian 149.77 5 eP PKPbc 22 47 07.9 -0.9
LHO Holmfirth 149.78 2 eP PKPbc 22 47 08.7 -0.1
KSP Ksiaz 149.80 340⇑iPKHKP PKPbc 22 47 10.1 +1.1
KSP Ksiaz 149.80 340 ePKP PKPbc 22 47 09.6 +0.6
PLAR PLOIESTI 149.86 322⇑iP PKPbc 22 47 09.8 +0.5
WLF1 Llynfaes 149.87 5 eP PKPbc 22 47 08.7 -0.4
YRC Rhoscolyn 149.89 6 eP PKPbc 22 47 08.6 -0.5
NRDL Niedersach Rie 149.89 348 ePKPbc PKPbc 22 47 09.6 +0.6
NRDL epPKPbc pPKPbc 22 49 19.2 +3.4
LMK Market Rasen 149.90 1 eP PKPbc 22 47 08.4 -0.7
WPM1 Penmaenmawr 149.94 5 eP PKPbc 22 47 09.0 -0.2
MDB Medias 149.98 325 ⇑PKHKP PKPbc 22 47 10.5 +0.9
MDB Medias 149.98 325⇑iP PKPbc 22 47 10.5 +0.9
CJR Cluj-Napoca 150.00 327 ⇑PKHKP PKPbc 22 47 10.7 +1.0
CJR Cluj-Napoca 150.00 327⇑iP PKPbc 22 47 10.7 +1.0
OKC Ostrava-Krasne 150.01 336 ePKHKP PKPbc 22 47 10.3 +0.8
OKC e 22 47 18.6
OKC Ostrava-Krasne 150.01 336⇑ePKP PKPbc 22 47 10.3 +0.8
OKC ePKPAB PKPab 22 47 18.6 +0.9
OKC epPKP pPKPdf 22 49 17.9 +5.7
OKC ex x 22 49 28.6
SHUT Suhut-Afyon 150.02 308 eP PKPbc 22 47 09.7 -0.4
PRD Provadia 150.03 318 i P PKPbc 22 47 10.3 +0.6
YLL Llanberis 150.04 5 eP PKPbc 22 47 08.6 -0.8
NEF NEVSHA 150.07 318 i P PKPbc 22 47 10.5 +0.6
KBI1 Birley Grange 150.08 2 eP PKPbc 22 47 09.3 -0.3
VOIR 150.08 324 ⇑PKHKP PKPbc 22 47 10.4 +0.4
VOIR 150.08 324⇑iP PKPbc 22 47 10.4 +0.4
KECS Kecovo 150.16 332 ePKIKP PKPbc 22 47 10.1 +0.2
KECS Kecovo 150.16 332 ePKP PKPbc 22 47 10.1 +0.2
YRE Yr Eifl 150.17 6 eP PKPbc 22 47 09.1 -0.7
UPC Upice 150.18 339 ePKIKP PKPbc 22 47 10.4 +0.5
UPC e 22 47 17.0
UPC e 22 49 15.6
UPC Upice 150.18 339⇑ePKP PKPbc 22 47 10.4 +0.5
UPC ePKPAB PKPab 22 47 17.0 -1.4
UPC epPKP pPKPdf 22 49 15.6 +3.2
UPC ex x 22 49 20.4
UPC ex x 22 49 31.5
MTUR Matau 150.21 323 ⇑PKIKP PKPbc 22 47 11.4 +1.1
MTUR Matau 150.21 323⇑iP PKPbc 22 47 11.4 +1.1
STNC Stoke 150.21 3 eP PKPbc 22 47 10.0 +0.2
DPC Dobruska-Polom 150.22 339 ePKIKP PKPdf 22 47 03.6 -0.7
DPC e 22 47 15.7
DPC Dobruska-Polom 150.22 339 ePKPDF PKPdf 22 47 03.6 -0.7
DPC ⇑ePKP PKiKP 22 47 10.7 +0.1
DPC ePKPAB PKPab 22 47 15.7 -2.9
DPC epPKP pPKPdf 22 49 19.6 +7.1
DPC ex x 22 49 31.3
CIOR Ciorogarla 150.22 321⇑iP PKPbc 22 47 10.8 +0.6
MORC Moravsky Berou 150.28 337 ⇑PKIKP PKPbc 22 47 11.0 +0.8
MORC Moravsky Berou 150.28 337⇑iP PKPbc 22 47 11.0 +0.8
MORC Moravsky Berou 150.28 337 ePKPbc PKPbc 22 47 10.1 -0.2
MORC ePKPab PKPab 22 47 18.8 -0.1
KRLC Kraliky 150.30 338 ePKIKP PKPdf 22 47 05.1 +0.7
KRLC e 22 47 19.3
KRLC Kraliky 150.30 338 ePKPDF PKPdf 22 47 05.1 +0.7
KRLC ⇑ePKP PKiKP 22 47 10.7 -0.1
KRLC ePKPAB PKPab 22 47 19.3 +0.3
KRLC epPKP pPKPdf 22 49 17.8 +5.1
KRLC ex x 22 49 28.3
ISP Isparta 150.30 306 ⇑PKIKP PKPbc 22 47 10.5 -0.2
ISP Isparta 150.30 306⇑iP PKPbc 22 47 10.5 -0.2
ISP Isparta 150.30 306 ePKPbc PKPbc 22 47 10.2 -0.6
CLL Collm 150.34 344⇓ePKIKP PKPdf 22 47 04.0 -0.4
CLL i 22 47 19.6
CLL pmax pmax
comp=Z,93nm,0.7s
CLL pmax pmax
comp=Z,43nm,0.8s
CLL Collm 150.34 344 ePKPbc PKPbc 22 47 10.9 +0.7
CLL ePKPab PKPab 22 47 19.7 +0.7
CLL epPKPbc pPKPbc 22 49 20.6 +3.5
CLL Collm 150.34 344 ePKPdf PKPdf 22 47 04.0 -0.4
CLL i PKPbc PKPbc 22 47 10.4 +0.2
comp=Z,93nm,0.7s
CLL ⇓iPKPab PKPab 22 47 19.6 +0.6
comp=Z,43nm,0.8s
CLL e 22 47 34.0
CLL epPKPbc pPKPbc 22 49 17.0 -0.1
CLL epPKPab pPKPab 22 49 21.0 -0.1
CLL eSS SS 23 09 22.0 -3.2
CLL e 23 10 54.0
CLL eSSS SSS 23 15 09.0
ARR Arges 150.35 324⇓iP PKPdf 22 47 05.6 +0.9
FOEL Foel Wylfa 150.36 4 eP PKPbc 22 47 10.1 -0.1
DRGR 150.39 328 ⇑PKIKP PKPbc 22 47 11.0 +0.4
DRGR 150.39 328⇑iP PKPbc 22 47 11.0 +0.4
TVSB Tavsanli 150.45 310 eP PKPbc 22 47 10.2 -0.9
IBBN Ibbenburen 150.48 351 ePKPbc PKPbc 22 47 11.2 +0.7
IBBN ePKPab PKPab 22 47 20.0 +0.5
IBBN epPKPbc pPKPbc 22 49 20.4 +3.0
BRG Berggiesshubel 150.49 342 ePKP PKPdf 22 47 05.9 +1.3
comp=Z,3.3nm,0.9s
BRG i 22 47 11.2
comp=Z,66nm,0.7s
BRG epPKP pPKPdf 22 49 15.5 +2.6
comp=Z,91nm,1.4s
BRG Berggiesshubel 150.49 342 ePKIKP PKPdf 22 47 05.9 +1.3
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 150.49 342 ePKPbc PKPbc 22 47 11.3 +0.7
BRG epPKPbc pPKPbc 22 49 21.1 +3.6
FBE Freiberg 150.60 343 ePKPbc PKPbc 22 47 12.0 +1.1
FBE epPKPbc pPKPbc 22 49 21.3 +3.5
PVCC Panska Ves 150.61 341 ePKIKP PKPbc 22 47 11.6 +0.7
PVCC e 22 47 21.3
PVCC e 22 49 19.5
PVCC Panska Ves 150.61 341⇑ePKP PKPbc 22 47 11.6 +0.7
PVCC ePKPAB PKPab 22 47 21.3 +1.1
PVCC epPKP pPKPdf 22 49 19.5 +6.4
PVCC ex x 22 49 22.5
PVCC ex x 22 49 30.2
HUMR Humele 150.69 322⇑iP PKPbc 22 47 11.1 -0.2
NEUB Neuenburg 150.74 345 ePKPbc PKPbc 22 47 11.9 +0.7
NEUB ePKPab PKPab 22 47 21.4 +0.7
NEUB epPKPbc pPKPbc 22 49 21.1 +3.0
HLM1 Long Mynd 150.75 4 eP PKPbc 22 47 10.4 -0.8
LOT Lotru 150.76 325⇑iP PKPbc 22 47 11.4 -0.2
PSZ Piszkesteto 150.85 332 ePKIKP PKPdf 22 47 05.5 +0.1
PSZ Piszkesteto 150.85 332⇑iP PKPbc 22 47 12.1 +0.5
PSZ Piszkesteto 150.85 332 ePKPdf PKPdf 22 47 05.5 +0.1
PSZ ePKPbc PKPbc 22 47 11.7 0.0
PSZ Piszkesteto 150.85 332⇑e PKPbc 22 47 11.9 +0.3
PSZ e 22 49 23.4
DEV Deva 150.92 326 ⇑PKIKP PKPbc 22 47 12.0 +0.2
DEV Deva 150.92 326⇑iP PKPbc 22 47 12.0 +0.2
JMB Yambol 150.93 317 ⇑PKIKP PKPbc 22 47 12.6 +0.7
JMB Yambol 150.93 317⇑iP PKPbc 22 47 12.6 +0.7
WTSB Winterswijk 150.95 352 ePKPbc PKPbc 22 47 11.8 +0.3
comp=Z,90nm,0.8s
WTSB epPKPbc pPKPbc 22 49 21.3 +2.7
VRAC Vranov 151.01 338 ⇑PKIKP PKPbc 22 47 12.6 +0.7
VRAC Vranov 151.01 338⇑iP PKPbc 22 47 12.6 +0.7
PRA Prague 151.06 341 ⇑PKP PKPbc 22 47 12.0 +0.1
PRA PKPAB PKPab 22 47 24.0 +1.9
LPW Lampeter 151.06 5 eP PKPbc 22 47 11.3 -0.5
PRU Pruhonice 151.10 341 ePKIKP PKPbc 22 47 12.2 +0.2
PRU e 22 47 23.3
PRU e 22 49 17.9
PRU Pruhonice 151.10 341⇑ePKP PKPbc 22 47 12.2 +0.2
PRU ePKPAB PKPab 22 47 23.3 +1.1
PRU epPKP pPKPdf 22 49 17.9 +4.0
PRU ex x 22 49 23.4
PRU ex x 22 49 31.1
MCH1 Michaelchurch 151.26 4 eP PKPbc 22 47 11.8 -0.5
TANN Tannenbergstha 151.30 344 ePKPbc PKPbc 22 47 13.2 +0.6
TANN ePKPab PKPab 22 47 24.1 +0.9
TANN epPKPbc pPKPbc 22 49 23.4 +3.8
MOX Moxa 151.30 345 ePKPbc PKPbc 22 47 13.0 +0.5
MOX epPKPbc pPKPbc 22 49 23.0 +3.5
WERD Werda 151.31 344 ePKPbc PKPbc 22 47 13.1 +0.6
WERD ePKPab PKPab 22 47 24.0 +0.8
WERD epPKPbc pPKPbc 22 49 23.8 +4.2
PLN Plauen 151.31 344 ePKPbc PKPbc 22 47 13.2 +0.7
PLN ePKPab PKPab 22 47 24.2 +1.0
PLN epPKPbc pPKPbc 22 49 23.8 +4.2

Code	Station Name	Δ° AZ°	Op	ISC	Time	Res
GZR	Gura Zlata	151.32 326	⇑PKIKP	PKPbc	22 47 12.9	-0.1
GZR	Gura Zlata	151.32 326	⇑iP	PKPbc	22 47 12.9	+0.1
GUNZ	Gunzen	151.38 344	ePKPbc	PKPbc	22 47 13.4	+0.7
GUNZ			ePKPab	PKPab	22 47 24.4	+0.9
GUNZ			epPKPbc	pPKPbc	22 49 23.9	+4.1
BUG	Bochum--Univer	151.39 351	ePKPbc	PKPbc	22 47 12.9	+0.3
BUG			epPKPbc	pPKPbc	22 49 22.9	+3.3
TREC	Trest	151.40 339	ePKIKP	PKPdf	22 47 07.4	+1.3
TREC	Trest	151.40 339	ePKPDF	PKPdf	22 47 07.4	+1.3
TREC			⇑ePKP	PKiKP	22 47 13.3	+0.2
TREC			epPKP	pPKPdf	22 49 20.5	+6.1
TREC			ex	x	22 49 30.8	
MONM	Monmouth	151.43 4	eP	PKPbc	22 47 12.3	-0.3
WERN	Wernitzgruen	151.44 344	ePKPbc	PKPbc	22 47 13.7	+0.9
WERN			ePKPab	PKPab	22 47 24.8	+1.1
WERN			epPKPbc	pPKPbc	22 49 24.4	+4.5
UBBA	Unterbreizbach	151.50 347	epPKPbc	pPKPbc	22 49 23.4	+3.6
SRE	Strehaia	151.58 324	⇑PKIKP	PKPbc	22 47 14.6	+1.3
SRE	Strehaia	151.58 324	⇑iP	PKPbc	22 47 14.6	+1.3
BZS	Buzias	151.75 327	⇓PKIKP	PKPbc	22 47 14.0	+0.4
BZS	Buzias	151.75 327	⇓iP	PKPbc	22 47 14.0	+0.4
MANZ	Manzenberg	151.79 344	ePKPbc	PKPbc	22 47 14.2	+0.6
MANZ			epPKPbc	pPKPbc	22 49 25.0	+4.3
SWN1	Swindon	151.81 3	eP	PKPbc	22 47 13.3	-0.2
DIM	Dimitrovgrad	151.81 318	iP	PKPbc	22 47 14.2	+0.3
PKSG		151.90 333	⇑e	PKPbc	22 47 14.0	+0.1
PKSG			e		22 49 24.9	
ROTZ	Rotzenmuhle	151.96 343	ePKPbc	PKPbc	22 47 14.8	+0.8
ROTZ			epPKPbc	pPKPbc	22 49 25.2	+4.1
CSKK	Csˆ‡kako	151.97 333	⇑e	PKPbc	22 47 14.1	0.0
WOL	Wolverton	152.03 2	eP	PKPbc	22 47 13.7	-0.3
ALN	Alexandroupoli	152.10 315	eP	PKPbc	22 47 14.1	-0.4
KDZ	Kurdzhali	152.10 317	⇓PKIKP	PKPbc	22 47 14.8	+0.2
KDZ	Kurdzhali	152.10 317	⇓iP	PKPbc	22 47 14.8	+0.2
HEX	Exmoor	152.12 5	eP	PKPbc	22 47 13.8	-0.5
KHC	Kasperske Hory	152.15 341	ePKIKP	PKPdf	22 47 06.7	-0.5
KHC			e		22 47 28.1	
KHC	Kasperske Hory	152.15 341	ePKPDF	PKPdf	22 47 06.7	-0.5
KHC			⇑ePKP	PKPbc	22 47 14.4	-0.1
KHC			ex	x	22 47 19.2	
KHC			ePKPAB	PKPab	22 47 28.1	+1.3
KHC			epPKP	pPKPdf	22 49 21.6	+6.0
KHC			ex	x	22 49 33.4	
KHC	Kasperske Hory	152.15 341	ePKPdf	PKPdf	22 47 07.5	+0.2
KHC			ePKPbc	PKPbc	22 47 13.7	-0.7
PKST	T"s	152.15 333	⇑e	PKPbc	22 47 14.3	-0.2
PKST			e		22 49 25.3	
BANR	Banloc	152.16 327	⇓iP	PKPbc	22 47 16.8	+2.3
BEBN	Eben Emael	152.24 353	E	PKPab	22 47 26.8	-0.5
HGN	Heimansgroeve	152.24 352	ePKPbc	PKPbc	22 47 14.7	+0.2
	comp=Z,13nm,0.8s					
HGN			ePKPab	PKPab	22 47 27.1	+0.2
	comp=Z,37nm,0.9s					
HGN			epPKPbc	pPKPbc	22 49 24.5	+2.8
GRF	Grafenberg Arr	152.28 344	ePKPab	PKPab	22 47 28.5	+1.2
GRF			epPKPbc	pPKPbc	22 49 26.2	+4.3
RDO	Rodhopi	152.30 316	eP	PKPbc	22 47 14.6	-0.4
WET	Wettzell	152.34 342	ePKPab	PKPab	22 47 28.8	+1.2
WET			epPKPbc	pPKPbc	22 49 26.3	+4.3
GEC2	GERESS Array S	152.37 341	ePKPbc	PKPbc	22 47 15.5	+0.5
GEC2			epPKPbc	pPKPbc	22 49 25.9	+3.7
GERES	GERESS Array B	152.37 341	PKP	PKPdf	22 47 07.3	-0.4
	comp=Z,0.6nm,0.6s,baz=48,slow=2.0,SNR=9.2					
GERES			PKPbc	PKiKP	22 47 15.2	+0.1
	comp=Z,5.7nm,0.7s,baz=34,slow=1.7,SNR=54					
GERES			PKPab	PKPab	22 47 28.3	+0.5
	comp=Z,3.9nm,0.6s,baz=34,slow=4.4,SNR=9.9					
GERES			pPKPbc	pPKPbc	22 49 22.5	+0.3
	comp=Z,14nm,1.1s,baz=45,slow=1.5,SNR=4.1					
TNS	Taunus Mts	152.38 349	ePKPbc	PKPbc	22 47 15.3	+0.4
TNS			ePKPab	PKPab	22 47 28.2	+0.5
TNS			epPKPbc	pPKPbc	22 49 26.2	+4.1
MEM	Membach	152.38 352	PKPbc	PKPbc	22 47 15.0	+0.2
MEM	Membach	152.38 352	E		22 47 24.4	
SOP	Sopron	152.39 336	⇑e	PKPbc	22 47 15.4	+0.4
SOP			e		22 49 26.5	
CONA	Conrad Observa	152.44 337	⇑iPKiKP	PKiKP	22 47 15.7	+0.3
	comp=Z,17nm,0.8s					
EZN	Ezine	152.45 313	eP	PKPab	22 47 33.7	+5.4
PKS9	Tamasi	152.58 332	⇑e	PKPbc	22 47 15.3	-0.1
BCLA	Clavier	152.65 353	PKPab	PKPab	22 47 28.3	-0.5
SMTH	Samothraki Isl	152.66 315	eP	PKPbc	22 47 15.4	-0.4
SNF	Seneffe	152.67 354	PKPbc	PKPbc	22 47 15.8	+0.3
SNF			PKPab	PKPab	22 47 29.1	+0.3
PKSM	Moragy	152.71 331	⇑PKIKP	PKPbc	22 47 15.8	+0.1
PKSM	Moragy	152.71 331	⇑iP	PKPbc	22 47 15.8	+0.1
PKSM	Moragy	152.71 331	⇑e	PKPbc	22 47 15.7	+0.1
PKSM			e		22 49 27.1	
PRK	Paraskevi	152.76 312	eP	PKPbc	22 47 16.1	+0.1
MENF	Mencas	152.76 357	PKP	PKPbc	22 47 16.1	+0.4
VTS	Vitosha	152.89 321	⇑PKIKP	PKPbc	22 47 16.7	+0.3
VTS	Vitosha	152.89 321	eP	PKPab	22 47 31.9	+1.6
VTS	Vitosha	152.89 321	⇑iP	PKPbc	22 47 16.7	+0.3
SMG	Samos	153.04 308	eP	PKPbc	22 47 16.6	-0.1
DOU	Dourbes	153.05 354	PKPbc	PKPbc	22 47 16.6	+0.3
DOU			E		22 47 26.7	
BAIF	Baives	153.12 354	ePKIKP	PKPdf	22 47 08.8	+0.3
BAIF	Baives	153.12 354	ePKIKP	PKPdf	22 47 08.8	+0.3
BAIF	Baives	153.12 354	ePKPdf	PKPdf	22 47 08.8	+0.3
MMB	Musomiste	153.18 318	⇑PKIKP	PKPbc	22 47 16.7	-0.3
MMB	Musomiste	153.18 318	eP	PKPab	22 47 32.3	+0.8
MMB	Musomiste	153.18 318	⇑iP	PKPbc	22 47 16.7	-0.3
NVR	Nevrokopi	153.24 318	eP	PKPbc	22 47 16.8	-0.3
WLF	Walferdange	153.28 351	epPKPbc	pPKPbc	22 49 28.0	+3.9
KKB	Krupnik	153.41 320	eP	PKPab	22 47 33.6	+1.2
STU	Stuttgart	153.61 347	ePKPab	PKPab	22 47 33.5	+0.6
STU			epPKPbc	pPKPbc	22 49 28.5	+3.6
RJOB	Jochberg	153.63 341	ePKPab	PKPab	22 47 34.8	+1.7
RJOB			epPKPbc	pPKPbc	22 49 29.0	+4.0
FUR	Furstenfeldbru	153.68 343	ePKPab	PKPab	22 47 34.5	+1.2
LANF	Langenberg	153.69 349	PKP	PKPbc	22 47 18.2	+0.5
PERS	Pernice	153.80 336	iPKPbc	PKPbc	22 47 17.7	-0.4
PERS			iPKPab	PKPab	22 47 34.2	+0.3
VAY	Valandovo	154.04 319	ePKP	PKPdf	22 47 14.0	+3.9
STR	Strasbourg	154.07 348	PKP	PKPbc	22 47 17.7	-0.8
BFO	Black Forest	154.21 347	ePKPab	PKPab	22 47 36.0	+0.4
BFO			epPKPbc	pPKPbc	22 49 29.5	+3.2
LEGS	Legarje	154.30 335	iPKPab	PKPab	22 47 36.2	+0.2
SKO	Skopje	154.30 321	ePKP	PKPbc	22 47 15.3	-4.0
LJU	Ljubljana	154.52 336	iPKPbc	PKPbc	22 47 19.9	+0.3
FLN	La Foliniere	154.60 1	ePKIKP	PKPdf	22 47 10.7	+0.1
	comp=Z,12nm,0.7s					
FLN	La Foliniere	154.60 1	ePKIKP	PKPdf	22 47 10.7	+0.1
FLN	La Foliniere	154.60 1	ePKPdf	PKPdf	22 47 10.7	+0.1
BOJS	Bojanci	154.70 335	iPKPbc	PKPbc	22 47 20.5	+0.5
THEF	They Montfort	154.71 351	PKP	PKPbc	22 47 19.1	-0.9
LDF	La Druitiere	154.77 0	ePKIKP	PKPdf	22 47 10.9	0.0
	comp=Z,12nm,0.9s					
LDF	La Druitiere	154.77 0	ePKIKP	PKPdf	22 47 10.9	0.0
LDF	La Druitiere	154.77 0	ePKPdf	PKPdf	22 47 10.9	0.0
LIT	Litokhoron	154.81 317	eP	PKPbc	22 47 19.4	-1.0
DAVA	Damuels	154.85 344	iPKPab	PKPab	22 47 39.4	+0.9
	comp=Z,19nm,0.6s,SNR=6.2					
HAU	Haudompre	154.88 350	ePKIKP	PKPdf	22 47 11.6	+0.5
HAU	Haudompre	154.88 350	ePKIKP	PKPdf	22 47 11.6	+0.5
HAU	Haudompre	154.88 350	ePKPdf	PKPdf	22 47 11.6	+0.5
GRR	Gorron	154.97 2	ePKIKP	PKPdf	22 47 11.3	+0.1
GRR	Gorron	154.97 2	ePKIKP	PKPdf	22 47 11.3	+0.1
GRR	Gorron	154.97 2	ePKPdf	PKPdf	22 47 11.3	+0.1
BIA	Bitola	154.97 320	ePKP	PKPdf	22 47 19.7	-1.1
HINF	Hinteralfeld	154.98 349	ePKIKP	PKPdf	22 47 11.7	+0.4
HINF	Hinteralfeld	154.98 349	ePKIKP	PKPdf	22 47 11.7	+0.4
HINF	Hinteralfeld	154.98 349	ePKPdf	PKPdf	22 47 11.7	+0.4
PTL	Penteli	154.99 311	eP	PKPbc	22 47 20.1	-0.8
FNA	Florina	155.09 319	eP	PKPdf	22 47 20.5	+8.8
THL	Klokotos Trika	155.41 316	eP	PKPdf	22 47 20.5	+8.5
AXAR	Agios Charalam	155.44 314	eP	PKPdf	22 47 21.1	+9.0
AGG	Agios Georgios	155.51 315	eP	PKPdf	22 47 21.1	+8.8
MAKR	Makrakomi, Fth	155.65 315	eP	PKPdf	22 47 22.1	+10
DID	Didima	155.69 311	eP	PKPdf	22 47 20.9	+8.4
DSF	Desfina	155.71 313	eP	PKPdf	22 47 21.8	+9.2
EVR	Evrytania	155.91 315	eP	PKPdf	22 47 22.6	+10
LOR	Lormes	155.92 354	ePKIKP	PKPdf	22 47 12.8	+0.3
LOR	Lormes	155.92 354	ePKIKP	PKPdf	22 47 12.8	+0.3
LOR	Lormes	155.92 354	ePKPdf	PKPdf	22 47 12.8	+0.3
VAM	Vamos	155.92 305	eP	PKPdf	22 47 23.2	+10
KALE	Kalithea	155.98 314	eP	PKPdf	22 47 23.1	+10
HYF	Humbligny	156.02 356	ePKIKP	PKPdf	22 47 13.4	+0.8
HYF	Humbligny	156.02 356	ePKPdf	PKPdf	22 47 13.4	+0.8
GUR	Goura	156.08 313	eP	PKPdf	22 47 22.9	+10
SSF	Saint Saulge	156.16 354	ePKIKP	PKPdf	22 47 13.1	+0.3
	comp=Z,9.8nm,0.9s					
SSF	Saint Saulge	156.16 354	ePKIKP	PKPdf	22 47 13.1	+0.3
SSF	Saint Saulge	156.16 354	ePKPdf	PKPdf	22 47 13.1	+0.3
LAKA	Lakka	156.17 314	eP	PKPdf	22 47 23.9	+11
CABF	La Chapelle	156.27 350	ePKIKP	PKPdf	22 47 13.0	-0.1
CABF	La Chapelle	156.27 350	ePKIKP	PKPdf	22 47 13.0	-0.1
CABF	La Chapelle	156.27 350	ePKPdf	PKPdf	22 47 13.0	-0.1
SMF	Signal de Mont	156.54 354	ePKIKP	PKPdf	22 47 13.4	+0.1
SMF	Signal de Mont	156.54 354	ePKIKP	PKPdf	22 47 13.4	+0.1
SMF	Signal de Mont	156.54 354	ePKPdf	PKPdf	22 47 13.4	+0.1
LKD2	Lefkada island	156.72 316	eP	PKPdf	22 47 24.7	+11
MFF	Saint Martin d	156.76 1	ePKIKP	PKPdf	22 47 13.7	+0.1
	comp=Z,17nm,1.1s					
MFF	Saint Martin d	156.76 1	ePKIKP	PKPdf	22 47 13.7	+0.1
MFF	Saint Martin d	156.76 1	ePKPdf	PKPdf	22 47 13.7	+0.1
TCF	Toulx Ste Croi	157.02 356	ePKIKP	PKPdf	22 47 14.2	+0.2
TCF	Toulx Ste Croi	157.02 356	ePKIKP	PKPdf	22 47 14.2	+0.2
TCF	Toulx Ste Croi	157.02 356	ePKPdf	PKPdf	22 47 14.2	+0.2
FRF	La Foret Royal	159.11 347	ePKIKP	PKPdf	22 47 17.0	+0.5
	comp=Z,19nm,0.9s					
FRF	La Foret Royal	159.11 347	ePKIKP	PKPdf	22 47 17.0	+0.5
FRF	La Foret Royal	159.11 347	ePKPdf	PKPdf	22 47 17.0	+0.5
PBRG	Braganca	160.67 16	ePKPab	PKPab	22 48 03.9	+0.1
POLO	Lamas de Olo	160.79 19	ePKPab	PKPab	22 48 04.9	+0.5
PVRL	Vila Real	160.90 18	ePKPab	PKPab	22 48 04.5	-0.3
MVO	Moncorvo	161.20 17	ePKPab	PKPab	22 48 06.9	+0.7
PVIS	Viseu	161.36 20	ePKPab	PKPab	22 48 07.2	+0.3
PCAS	Casmilo, Conde	161.77 22	ePKPab	PKPab	22 48 08.6	0.0
PTOM	Tomar	162.19 22	ePKPab	PKPab	22 48 10.5	0.0
LIC	Lamto	162.28 163	ePKP2	PKPab	22 48 11.7	+0.3
	comp=Z,24nm,0.8s					
LIC	Lamto	162.28 163	eP	PKPab	22 48 11.9	+0.5
	comp=Z,64nm,1.3s					
LIC	Lamto	162.28 163	ePKPab	PKPab	22 48 11.7	+0.3
PCBR	Castelo Branco	162.29 20	ePKPab	PKPab	22 48 11.0	+0.1
PMAFR	Mafra	162.45 25	ePKPab	PKPab	22 48 11.4	-0.3
KIC	Kosan Boka	162.49 164	eP	PKPab	22 48 12.6	+0.3
	comp=Z,67nm,1.3s					
TIC	Toumodi	162.69 162	eP	PKPab	22 48 13.8	+0.6
	comp=Z,14nm,0.5s					
PMRV	Marv??o	162.69 20	ePKPab	PKPab	22 48 12.9	+0.2
DBIC	Dimbokro	162.75 163	PKP	PKPdf	22 47 21.1	-0.1
	comp=Z,6.1nm,0.8s,baz=243,slow=2.6,SNR=14					
DBIC			PKPab	PKPab	22 48 14.7	+1.2
	comp=Z,6.7nm,0.7s,baz=171,slow=5.5,SNR=5.7					
DBIC			pPKPab	pPKPab	22 50 16.1	+1.7
	comp=Z,30nm,1.1s,baz=144,slow=3.7,SNR=7.1					
PESTR	Estremoz	163.14 21	ePKPab	PKPab	22 48 14.5	-0.2
EVOP	Sao Brissos	163.26 23	⇑iPKIKP	PKPdf	22 47 21.7	+0.8
EVOP	Sao Brissos	163.26 23	⇑iPKPdf	PKPdf	22 47 21.7	+0.8
EVO	Evora	163.29 23	⇑iPKIKP	PKPdf	22 47 21.7	+0.7
	comp=Z,38nm,1.2s					
EVO	Evora	163.29 23	ePKPab	PKPab	22 48 15.6	+0.2
ESDC	Sonseca Array	163.31 11	PKP	PKPdf	22 47 23.0	+1.9
	comp=Z,0.4nm,0.7s,baz=308,slow=2.9,SNR=4.3					
ESDC			PKPab	PKPab	22 48 15.6	+0.1
	comp=Z,9.4nm,0.8s,baz=346,slow=4.2,SNR=36					
PNCL	Nicolau / Gran	163.47 25	ePKPab	PKPab	22 48 15.6	-0.6
PBEJ	Beja	163.79 23	ePKPab	PKPab	22 48 17.8	+0.2
PBAR	Barrancos	163.95 21	ePKPab	PKPab	22 48 18.8	+0.5
PCVE	Castro Verde	164.08 24	ePKPab	PKPab	22 48 18.9	0.0
MORF	Marmelete	164.12 27	ePKPab	PKPab	22 48 17.3	-1.8
PVAQ	Vaqueiros	164.40 24	ePKPab	PKPab	22 48 20.8	+0.5
KEST	Kesra	165.29 329	PKPab	PKPab	22 48 24.9	+0.5
	comp=Z,6.4nm,0.8s,baz=180,slow=0.4,SNR=12					
TOA0	Torodi Ar. Sit	169.79 188	ePKPdf	PKPdf	22 47 25.6	-0.9
TOA0			ePKPab	PKPab	22 48 44.7	+0.2
TORD	Torodi Ar. Bea	169.79 188	PKP	PKPdf	22 47 26.0	-0.6
	comp=Z,6.8nm,1.1s,baz=54,slow=0.3,SNR=23					
TORD			PKPab	PKPab	22 48 44.7	+0.2
	comp=Z,16nm,0.8s,baz=170,slow=4.5,SNR=36					
TORD			pPKP	pPKPdf	22 49 36.9	+1.2
	comp=Z,8.2nm,1.1s,baz=199,slow=0.8,SNR=2.9					
TORD			pPKPab	pPKPab	22 50 43.9	-1.3
	comp=Z,4.9nm,1.1s,baz=149,slow=1.7,SNR=3.6					
TORD			PP	PP	22 52 33.6	-0.4
	comp=Z,6.9nm,1.0s,baz=151,slow=4.7,SNR=6.7					
TAM	Tamanrasset	175.06 265	ePKIKP	PKPdf	22 47 28.9	+0.1
TAM	Tamanrasset	175.06 265	ePKPdf	PKPdf	22 47 28.9	+0.1

NIED 07 22:45:00, 33.°30N×142.°40E, h8km, Mw4.4 Best double couple: Mo4.07000×10^15 NP1:φs159.00000°, δ35.00000°, λ100.00000°. NP2:φs326.00000°, δ55.00000°, λ83.00000°.
IDC 07 22:45:42.5±0.6, 33.°19N×142.°61E, h0km, mb4.0/13, mb1 4.2/18, mb1mx4.0/58, mbtmp4.0/18, ML4.0/5, Error ellipse: s-maj=19.2km s-min=14.1km az=97.0
NEIC 07 22:45:43.6±0.3, 33.°17N×142.°60E, h10km, mb4.3/3, Error ellipse: s-maj=8.1km s-min=6.5km az=71.0
ISCJB 07 22:45:44.3±1.6, 33.°20N±0.°04×142.°42E±0.°05, h23km±11km, mb4.2/17, Error ellipse: s-maj=8.7km s-min=5.0km az=139.7
JMA 07 22:45:46.0±0.4, 33.°26N×142.°41E, h65km, M3.8
ISC 07 22:45:44.4±4.0, 33.°16N±0.°05×142.°48E±0.°06, h15km±25km, n56, σ1§48/72, mb4.2/17, Off east coast of Honshu

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.94 320	P	Pn	22 46 15.8	-0.6
JHJ2	Mitsune	2.23 269	P	Pn	22 46 21.2	+0.3
JHJ2			S	Sn	22 46 46.2	-2.0
JHJ2	Mitsune	2.23 269	ePn	Pn	22 46 21.1	+0.2
JHJ2			eSn	Sb	22 46 51.1	-0.8
JHCJ	Hachijojimakas	2.25 268	P	Pn	22 46 21.1	0.0
JHCJ			S	Sn	22 46 46.7	-2.0
BSO3	Boso 3	2.31 316	P	Pn	22 46 21.4	-0.4
BSO3			eS	Sn	22 46 48.3	-1.5
BSO4	Boso 4	2.55 316	P	Pn	22 46 25.3	+0.2
BSO4			S	Sn	22 46 54.2	-1.6
JIM2	Oshima 3	2.97 302	P	Pn	22 46 29.8	-1.3
JIM2			eS	Sn	22 47 03.4	-3.1
JIZS	Izushimoda	3.37 298	P	Pn	22 46 36.0	-0.5
JIZS			eS	Sn	22 47 14.1	-2.2
JOD2	Odawara 2	3.50 308	P	Pn	22 46 37.2	-1.2
JOD2			eS	Sn	22 47 16.1	-3.6
JYN	Shimob	4.00 307	P	Pn	22 46 45.4	+0.1
JYN			S	Sn	22 47 31.0	-1.0
JAG	Ashikaga	4.10 323	P	Pn	22 46 45.8	-0.8
JAG			eS	Sn	22 47 31.7	-2.6
JRY	Ryogami san	4.10 315	P	Pn	22 46 46.4	-0.2
MJAR	Matsushiro Arr	4.87 315	Pn	Pn	22 46 57.2	+0.1
	6.1nm,0.3s,baz=198,slow=22,SNR=36					
MJAR			Sn	Sn	22 47 52.5	-0.8
	4.2nm,0.3s,baz=133,slow=16,SNR=4.8					
MAJO	Matsushiro	4.87 315	ePn	Pn	22 46 57.2	0.0
MAJO			eSn	Sn	22 47 52.8	-0.5
MAT	Matsushiro	4.87 315	P	Pn	22 46 57.5	+0.3
MAT			S	Sn	22 47 51.3	-2.0
CBIJ	Chichi jima	6.05 182	Pn	Pn	22 47 12.2	-1.2
CBIJ			Sn	Sn	22 48 17.5	-4.9
JCJ	Chichijima	6.05 182	Pn	Pn	22 47 12.2	-1.2
	32nm,0.3s,baz=317,slow=18,SNR=9.3					
JCJ			Sn	Sn	22 48 17.5	-4.9
	9.5nm,0.3s,baz=331,slow=19,SNR=2.9					
JNU	Nakatsue	9.73 273	Pn	Pn	22 48 05.4	+1.5
	0.7nm,0.3s,baz=217,slow=6.2,SNR=5.0					
ASAJ	Asahikawa	10.94 0	Pn	Pn	22 48 18.0	-2.4
	1.8nm,0.3s,baz=220,slow=8.3,SNR=5.8					
ASAJ	Asahikawa	10.94 0	ePn	Pn	22 48 17.9	-2.5
KSRS	Korea Array	12.63 294	Pn	Pn	22 48 46.7	+3.1
	0.2nm,0.3s,baz=106,slow=16,SNR=2.6					
KSAR	Wonju Array Be	12.66 294	Pn	Pn	22 48 46.7	+2.7
ULN	Ulaanbaatar	30.37 309	eP	P	22 51 56.3	+0.5
	3.4nm,0.8s					
TNTI	Ternate	35.21 207	eP	P	22 52 37.5	-0.7
CMAR	Chiang Mai Arr	41.53 260	P	P	22 53 33.4	+1.9
	2.0nm,0.3s,baz=40,slow=7.1,SNR=4.9					
ZALV	Zalesovo Beam	45.22 315	P	P	22 54 01.8	+1.0
	0.5nm,0.4s,baz=100,slow=7.7,SNR=3.1					
MK31	Makanchi Array	46.99 305	eP	P	22 54 15.5	+0.6
MKAR	Makanchi Array	46.99 305	P	P	22 54 15.8	+0.9
	3.3nm,0.7s,baz=88,slow=9.3,SNR=17					
TAPN	Taplejung	47.22 278	eP	P	22 54 16.8	-0.5
ODAN	Odare	47.66 278	eP	P	22 54 21.7	+1.1
RAMN	Ramite	48.28 278	eP	P	22 54 25.6	+0.1
	7.0nm,0.6s					
JIRN	Jiri	48.37 279	eP	P	22 54 27.0	+0.7
	12nm,0.6s					
GUN	Gumba	48.53 280	eP	P	22 54 28.4	+0.9
PKI	Pulchoki	49.05 279	eP	P	22 54 31.4	0.0
KURK	Kurchatov	49.06 311	eP	P	22 54 31.4	+0.5
	6.8nm,0.7s					
DMN	Daman	49.28 280	eP	P	22 54 34.2	+1.0
GKN	Gorkha	49.53 280	eP	P	22 54 35.3	+0.4
	5.5nm,0.5s					
DANN	Dangsing	50.13 281	eP	P	22 54 40.4	+0.8
	14nm,0.7s					
PYUN	Piuthan	50.85 281	eP	P	22 54 45.7	+0.7
	26nm,0.4s					
ILAR	Eielson Array	52.33 31	P	P	22 54 55.0	-0.4
	1.3nm,0.7s,baz=264,slow=5.7,SNR=14					
AAK	Ala-Archa	53.17 301	eP	P	22 55 02.2	+0.1
WRAB	Tennant Creek	53.36 190	eP	P	22 55 03.5	+0.1
	2.0nm,0.7s					
WRA	Warramunga Arr	53.37 190	P	P	22 55 03.5	+0.1
	1.4nm,0.4s,baz=6.8,slow=7.6,SNR=32					
WRA			PcP	PcP	22 56 11.8	+1.1
	1.0nm,0.5s,baz=4.1,slow=4.2,SNR=7.8					
ASAR	Alice Springs	57.10 189	P	P	22 55 30.4	+0.1
	0.4nm,0.5s,baz=10,slow=7.4,SNR=7.2					
ASAR			PcP	PcP	22 56 26.8	+1.7
	0.8nm,0.6s,baz=11,slow=4.6,SNR=5.0					
INK	Inuvik	57.45 26	P	P	22 55 32.4	+0.1
	1.2nm,0.6s,baz=302,slow=4.2,SNR=7.1					
STKA	Stephens Creek	64.69 181	P	P	22 56 23.0	+1.2
	1.0nm,0.6s,baz=348,slow=10,SNR=4.4					
STKA	Stephens Creek	64.69 181	eP	P	22 56 22.2	+0.4
RES	Resolute Bay	66.13 14	P	P	22 56 31.1	+0.5
	1.4nm,0.8s,baz=332,slow=8.3,SNR=4.5					
YKA	Yellowknife Ar	66.73 30	P	P	22 56 34.4	-0.2
	0.7nm,0.6s,baz=295,slow=6.5,SNR=12					
NB2	NORSAR Subarra	78.09 338	P	P	22 57 42.4	-0.1
	comp=Z,2.6nm,0.9s,baz=41,slow=5.6					
NOA	NORSAR Array B	78.09 338	P	P	22 57 42.6	+0.1
	comp=Z,1.4nm,0.9s,baz=38,slow=5.7,SNR=4.0					
BRTR	Keskin Array B	82.09 313	P	P	22 58 04.7	+0.1
	comp=Z,0.6nm,0.6s,baz=128,slow=3.5,SNR=5.1					
PV01	Paradox Valley	83.11 49	eP	P	22 58 09.7	-0.4
	comp=Z,661nm,1.3s					
TXAR	Lajitas Array	91.77 53	P	P	22 58 52.9	+0.8
	comp=Z,0.5nm,0.6s,baz=309,slow=2.8,SNR=5.8					
TORD	Torodi Ar. Bea	120.66 314	PKP	PKPdf	23 04 35.8	-0.6
	comp=Z,0.2nm,0.4s,baz=77,slow=1.3,SNR=6.0					
LPAZ	La Paz	147.68 66	PKPbc	PKPbc	23 05 30.0	+0.2
	comp=Z,0.6nm,0.4s,baz=3.3,slow=6.5,SNR=5.7					

WEL 07 22:47:38.1±0.2, 40.°38S×173.°39E, h195km±2km, ML3.5/8, 7C-5D, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0, Cook Strait

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.59 137	PN	Pn	22 48 05.2	+0.2
DUWZ			SN	Sn	22 48 25.3	-0.7
QRZ	Quartz Range	0.79 235	⇓PN	Pn	22 48 05.8	-0.2
QRZ			SN	Sn	22 48 26.1	-1.7
NNZ	Nelson	0.84 180	PN	Pn	22 48 06.2	-0.1
NNZ			SN	Sn	22 48 27.2	-1.2
TCW	Tory Channel	1.07 141	PN	Pn	22 48 08.2	+0.3
TCW			SN	Sn	22 48 29.6	-1.4
TCW			AML	AML	22 48 31.6	
TUWZ	Tuamarina	1.14 158	PN	Pn	22 48 08.3	0.0
TUWZ			SN	Sn	22 48 30.7	-1.2
TUWZ			AML	AML	22 48 32.1	
NWEZ	Newall Road	1.16 19	PN	Pn	22 48 08.3	-0.3
KHEZ	Kahui Hut	1.18 24	PN	Pn	22 48 08.5	-0.4
KIW	Kapiti Island	1.26 113	PN	Pn	22 48 09.3	+0.1
KIW			AML	AML	22 48 32.9	
KIW			AML	AML	22 48 33.0	
SNZO	South Karori	1.37 133	⇑PN	Pn	22 48 10.1	0.0
SNZO			AML	AML	22 48 34.8	
SNZO			AML	AML	22 48 35.3	
WAZ	Wanganui	1.37 64	⇓PN	Pn	22 48 10.6	+0.3
BSWZ	Blackbirch Sta	1.39 165	PN	Pn	22 48 10.4	+0.1
OGWZ	Otaki Gorge	1.43 109	PN	Pn	22 48 10.9	+0.2
THZ	Tophouse	1.43 195	⇑PN	Pn	22 48 10.6	-0.2
BHW	Baring Head	1.53 133	ePN	Pn	22 48 11.3	-0.2
BHW			AML	AML	22 48 37.5	
MRZ	Mangatainoka R	1.69 100	⇓PN	Pn	22 48 13.0	-0.2
MRZ			AML	AML	22 48 39.6	
HOWZ	Holdsworth Sta	1.70 109	PN	Pn	22 48 13.1	-0.1
MSWZ	Moikau Station	1.75 127	PN	Pn	22 48 13.5	-0.2
MSWZ			AML	AML	22 48 41.3	
MTW	Mount Morrison	1.79 117	PN	Pn	22 48 13.9	-0.2
POWZ	Post Office Ro	1.82 91	PN	Pn	22 48 14.1	-0.3
PLWZ	Palliser	1.85 131	PN	Pn	22 48 14.3	-0.4
PKVZ	Pokaka	1.86 55	⇓PN	Pn	22 48 14.1	-0.8
MTVZ	Mangateitei	1.88 59	PN	Pn	22 48 14.5	-0.7
TIWZ	Tintock	1.94 103	PN	Pn	22 48 15.6	-0.1
TIWZ			AML	AML	22 48 44.7	
PRWZ	Pori Road	1.98 96	PN	Pn	22 48 16.2	+0.1
TRVZ	Turoa	1.98 58	PN	Pn	22 48 15.6	-0.8
TSZ	Takapari Road	2.00 82	PN	Pn	22 48 15.7	-0.6
WNVZ	Wahianoa	2.00 59	PN	Pn	22 48 15.6	-0.9
DRZ	Dome Shelter	2.00 57	ePN	Pn	22 48 15.8	-1.0
FWVZ	Far West T-bar	2.01 57	PN	Pn	22 48 15.5	-1.1
WPVZ	Whakapapa	2.03 56	PN	Pn	22 48 15.8	-1.0
TMWZ	Te Maipa	2.04 112	PN	Pn	22 48 16.5	-0.1
KHZ	Kahutara	2.04 177	⇑PN	Pn	22 48 15.8	-0.8
TWVZ	Taurewa	2.05 51	PN	Pn	22 48 15.7	-1.3
MOVZ	Moawhango	2.06 63	PN	Pn	22 48 15.8	-1.2
TUVZ	Tukino	2.07 58	PN	Pn	22 48 16.4	-0.7
NGZ	Ngauruhoe	2.08 56	⇑PN	Pn	22 48 16.3	-1.0
WTVZ	West Tongariro	2.11 54	PN	Pn	22 48 16.5	-1.2
DVHZ	Dannevirke	2.13 89	PN	Pn	22 48 17.1	-0.5
OTVZ	Oturere	2.13 56	PN	Pn	22 48 17.0	-0.9
KRVZ	Karewarewa	2.16 54	⇓PN	Pn	22 48 16.9	-1.2
HIZ	Hauiti	2.18 32	PN	Pn	22 48 17.0	-1.2
BFZ	Birch Farm	2.20 99	⇑PN	Pn	22 48 18.1	-0.2
PNHZ	Pukenui	2.21 79	PN	Pn	22 48 18.0	-0.5
BHHZ	Black Hill Sta	2.24 68	PN	Pn	22 48 17.6	-1.4
KATZ	Kakaramea	2.26 53	PN	Pn	22 48 18.3	-1.0
WPHZ	Waipukurau	2.36 83	PN	Pn	22 48 19.7	-0.4
ANWZ	Angora Road	2.36 93	⇑PN	Pn	22 48 20.0	-0.1
KRHZ	Kereru	2.41 73	PN	Pn	22 48 19.7	-1.0
LTZ	Lake Taylor	2.55 199	PN	Pn	22 48 21.3	-0.9
BKZ	Black Stump Fm	2.68 64	⇑PN	Pn	22 48 22.5	-1.4
PXZ	Pawanui	2.68 84	PN	Pn	22 48 23.1	-0.6
MCHZ	McNeill Hill	2.71 71	ePN	Pn	22 48 23.5	-0.6
KAHZ	Kahuranaki	2.74 79	PN	Pn	22 48 24.3	-0.2
OXZ	Oxford	3.11 198	PN	Pn	22 48 27.1	-1.7
MQZ	McQueen's Vall	3.37 189	PN	Pn	22 48 29.2	-2.7
KNZ	Kokohu	3.57 69	PN	Pn	22 48 32.9	-1.5
RIGZ	Rimuhau	3.77 65	PN	Pn	22 48 35.4	-1.5
MWZ	Matawai	3.80 59	ePN	Pn	22 48 35.1	-2.2
FOZ	Fox Glacier	4.21 220	ePN	Pn	22 48 39.3	-3.0
HAZ	Te Kaha	4.31 54	ePN	Pn	22 48 40.4	-3.2
JCZ	Jackson Bay	5.05 221	ePN	Pn	22 48 50.8	-2.3
ODZ	Otahua Downs	5.08 203	PN	Pn	22 48 51.7	-1.6

IDC 07 22:53:21.6±0.7, 5.°10S×153.°38E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.1/42, mbtmp4.2/12, ML3.7/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/34, Error ellipse: s-maj=25.2km s-min=17.1km az=97.0
ISCJB 07 22:53:27.0±0.5, 5.°19S±0.°06×153.°36E±0.°08, h56km, mb4.2/14, MS4.2/1, Error ellipse: s-maj=12.1km s-min=7.5km az=30.3
NEIC 07 22:53:26.4±0.4, 5.°18S×153.°35E, h35km, mb4.4/4, Error ellipse: s-maj=11.7km s-min=7.4km az=106.0
ISC 07 22:53:28.8±0.6, 5.°11S±0.°07×153.°37E±0.°09, h56km, n49, σ1§33/46, mb4.2/14, New Ireland region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.50 307	P	Pn	22 53 53.2	-0.3
	baz=1.6,SNR=51					
PMG	Port Moresby	7.49 235	Pn	Pn	22 55 13.9	-1.7
	7.3nm,0.3s,baz=54,slow=11,SNR=12					
PMG			Sn	Sn	22 56 39.2	+0.1
	8.9nm,0.3s,baz=218,slow=18,SNR=5.9					
PMG			LR	LR	22 58 11.6	
	comp=Z,214nm,19.6s,baz=358,slow=39					
PMG	Port Moresby	7.49 235	ePn	Pn	22 55 12.8	-2.7
	23nm,0.5s					
PMG			eSn	Sn	22 56 38.2	-0.9
PMG	Port Moresby	7.49 235	P	Pn	22 55 15.9	+0.4
	baz=7.7,SNR=5.8					
PMG			S	Sn	22 56 39.3	+0.1
	baz=7.7,SNR=5.1					
HNR	Honiara	7.81 124	LR	LR	22 58 32.2	
	comp=Z,223nm,18.7s,baz=340,slow=40					

PATS Pohnpei 12.85 23 P Pn 22 56 26.6 -2.3
baz=13,SNR=3.4
COEN Coen 13.35 228 ePn Pn 22 56 31.7 -4.0
MTSU Mount Surprise 15.68 214 P P 22 57 11.6 +2.2
baz=16,SNR=4.1
DZM Mont Dzumac 21.09 144 P P 22 58 09.8 +1.0
16nm,0.5s,baz=240,slow=7.1,SNR=18
DZM Mont Dzumac 21.09 144 eP P 22 58 07.7 -1.2
40nm,0.9s
FAKI Fak Fak 21.18 275 P P 22 58 09.1 -0.6
baz=21,SNR=7.7
KDU Kakadu 21.96 249 P P 22 58 16.8 -1.3
baz=22,SNR=83
MTN Manton Dam 23.25 249 P P 22 58 31.6 0.0
baz=24,SNR=21
WRAB Tennant Creek 23.66 230 eP P 22 58 34.6 -0.8
7.8nm,0.4s
WRAB eS S 23 02 49.3 +3.0
WRA Warramunga Arr 23.67 230 P P 22 58 34.7 -0.9
4.8nm,0.6s,baz=53,slow=9.6,SNR=29
WRA PcP PcP 23 02 21.1 +2.3
1.9nm,0.6s,baz=50,slow=2.3,SNR=6.0
AS31 Alice Springs 26.31 224 eP P 22 58 57.0 -2.5
ASAR Alice Springs 26.31 224 P P 22 58 58.8 -0.7
1.1nm,0.4s,baz=56,slow=8.8,SNR=15
ASAR PcP PcP 23 02 27.1 +2.4
1.2nm,0.6s,baz=47,slow=2.8,SNR=6.5
KNRA Kununurra 26.35 245 P P 22 58 59.5 -0.4
baz=27,SNR=37
H11S3 WAKE ISLAND Hy 26.88 29 T T 23 27 25.8
baz=208,slow=74,SNR=4.5
H11S2 WAKE ISLAND Hy 26.89 29 T T 23 27 29.5
baz=208,slow=74,SNR=4.0
H11S1 WAKE ISLAND Hy 26.90 29 T T 23 27 22.5
baz=208
STKA Stephens Creek 28.83 201 P P 22 59 19.9 -2.0
1.0nm,0.7s,baz=24,slow=11,SNR=3.9
STKA Stephens Creek 28.83 201 eP P 22 59 21.4 -0.4
WRKA Warakurna 31.17 228 P P 22 59 42.6 -0.1
baz=31,SNR=8.3
WRKA S S 23 04 55.5 +11
baz=31,SNR=3.6
WSI Waingapu 33.09 260 S S 23 05 12.3 -2.8
baz=33,SNR=3.2
AFI Afiamalu 35.43 107 LR LR 23 12 05.0
comp=Z,520nm,22.0s,baz=16,slow=32
MEEK Meekatharra 39.47 233 P P 23 00 54.5 +0.4
baz=40,SNR=29
GIRL Giralia 41.61 241 P P 23 01 16.7 +4.9
baz=42,SNR=3.9
MORW Morawa 42.59 232 P P 23 01 25.4 +5.7
baz=43,SNR=7.0
BLDU Ballidu 42.80 229 P P 23 01 27.5 +6.2
baz=43,SNR=5.8
CISI Cisompet, Garu 45.32 264 P P 23 01 43.1 +1.2
baz=46,SNR=3.4
KSRS Korea Array 48.53 333 P P 23 02 07.0 +0.7
1.4nm,0.6s,baz=150,slow=8.3,SNR=5.6
KSAR Wonju Array Be 48.53 333 P P 23 02 07.0 +0.6
CMAR Chiang Mai Arr 58.52 295 P P 23 03 21.4 +1.5
2.1nm,0.6s,baz=120,slow=4.7,SNR=12
ULN Ulaanbaatar 66.55 328 eP P 23 04 12.5 -0.7
2.2nm,0.8s
SONM Songino Array 66.88 328 P P 23 04 16.1 +0.9
0.9nm,0.4s,baz=140,slow=5.4,SNR=5.6
VNDA Vanda 72.51 178 eP P 23 04 49.3 +0.1
MK31 Makanchi Array 80.93 319 eP P 23 05 37.6 +0.3
MKAR Makanchi Array 80.93 319 P P 23 05 38.2 +0.9
1.4nm,0.5s,baz=91,slow=8.3,SNR=28
ZAA0 Zalesovo Array 81.72 326 eP P 23 05 40.8 -0.5
ZALV Zalesovo Beam 81.72 326 P P 23 05 41.5 +0.3
2.5nm,0.4s,baz=122,slow=5.5,SNR=12
ILAR Eielson Array 82.23 22 P P 23 05 42.8 -0.9
0.7nm,0.8s,baz=243,slow=5.6,SNR=4.5
KURK Kurchatov 84.36 322 eP P 23 05 55.2 +0.3
2.1nm,0.8s
KURBB Kurchatov Arra 84.39 322 P P 23 05 55.2 +0.1
1.1nm,0.7s,baz=111,slow=4.1,SNR=7.9
BRVK Borovoye 89.89 323 eP P 23 06 21.7 -0.1
AKASG Malin Array Be 115.07 324 PKP PKPdf 23 12 03.9 +0.2
1.1nm,0.7s,baz=52,slow=2.9,SNR=6.4
GERES GERESS Array B 124.61 329 PKP PKPdf 23 12 23.3 +1.0
0.8nm,0.6s,baz=102,slow=1.7,SNR=11
BDFB Brasilia 150.45 135 PKPbc PKPbc 23 13 15.5 +0.2
1.5nm,0.5s,baz=264,slow=4.6,SNR=3.9
TORD Torodi Ar. Bea 150.94 288 PKPbc PKPbc 23 13 16.7 +0.3
4.9nm,0.4s,baz=82,slow=1.7,SNR=168

NIED 07 22:53:00, 33°.50N×141°.80E, h35km, Mw4.3 Best double couple: Mo3.23000×10^15 NP1:φs323.00000°, δ86.00000°, λ1.00000°. NP2:φs233.00000°, δ89.00000°, λ176.00000°.
IDC 07 22:53:30.4±0.5, 33°.16N×142°.58E, h0km, mb4.1/21, mb1 4.2/25, mb1mx4.1/51, mbtmp4.1/25, ML3.6/3, MS3.6/7, Ms1 3.6/7, ms1mx3.2/53, Error ellipse: s-maj=16.0km s-min=14.1km az=105.0
NEIC 07 22:53:31.4±0.3, 33°.05N×142°.51E, h10km, mb4.7/8, MW4.3(NIED), Error ellipse: s-maj=8.2km s-min=6.5km az=178.0
ISCJB 07 22:53:34.3±0.3, 33°.24N±0°.05×142°.38E±0°.05, h33km, mb4.3/36, MS3.8/5, Error ellipse: s-maj=7.4km s-min=5.2km az=24.2
MOS 07 22:53:34.1±1.3, 33°.17N×142°.43E, h33km, mb4.5/25, Error ellipse: s-maj=14.8km s-min=7.9km az=126.2
JMA 07 22:53:38.9±0.6, 33°.47N×141°.83E, h17km, M3.9
ISC 07 22:53:35.3±0.4, 33°.12N±0°.05×142°.42E±0°.06, h33km, n122, σ1s46/114, mb4.2/37, MS4.0/5, 2C-5D, Off east coast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BSO1 Boso 1 1.94 322 P Pn 22 54 03.5 -2.0
JHJ2 Mitsune 2.19 270 P Pn 22 54 08.9 -0.5
JHJ2 eS Sn 22 54 30.1 -5.2
JHJ2 Mitsune 2.19 270 ePn Pn 22 54 09.1 -0.2
JHCJ Hachijojimakas 2.20 269 P Pn 22 54 08.8 -0.8
JHCJ S Sn 22 54 30.3 -5.4
BSO4 Boso 4 2.54 318 P Pn 22 54 13.1 -1.1
JIM2 Oshima 3 2.95 303 P Pn 22 54 17.5 -2.4
JIZS Izushimoda 3.35 299 P Pn 22 54 23.9 -1.5
JOD2 Odawara 2 3.49 309 P Pn 22 54 25.0 -2.4
JYN Shimob 3.99 308 P Pn 22 54 32.5 -1.7
JRY Ryogami san 4.10 316 P Pn 22 54 33.7 -2.0
JAG Ashikaga 4.10 324 P Pn 22 54 33.6 -2.1
MJAR Matsushiro Arr 4.86 316 P Pn 22 54 44.4 -1.8
MJAR 22 55 40.2
MJAR pmax pmax
comp=Z,5.0nm,0.3s
MJAR smax smax
comp=N,3.0nm,0.3s
MJAR Matsushiro Arr 4.86 316 Pn Pn 22 54 44.4 -1.8
comp=N,5.1nm,0.3s,baz=197,slow=9.9,SNR=36
MJAR Sn Sn 22 55 40.2 -1.1
comp=N,2.5nm,0.3s,baz=138,slow=18,SNR=4.0
MAJO Matsushiro 4.87 316 ⇓iP Pn 22 54 46.4 +0.2
MAJO Matsushiro 4.87 316 ePn Pn 22 54 45.2 -1.0
MAT Matsushiro 4.87 316 P Pn 22 54 45.3 -0.9
MAT S Sn 22 55 39.9 -1.5
CBIJ Chichi jima 6.01 182 ePn Pn 22 54 59.0 -2.9
CBIJ eSn Sn 22 56 05.4 -4.2
JCJ Chichijima 6.01 182 Pn Pn 22 55 00.1 -1.8
comp=N,48nm,0.3s,baz=283,slow=20,SNR=16
JCJ Sn Sn 22 56 07.0 -2.6
comp=N,49nm,0.3s,baz=293,slow=23,SNR=5.8
ERM Erimo 8.90 4 eP Pn 22 55 36.9 -4.6
ERM Erimo 8.90 4 ePn Pn 22 55 36.9 -4.6
ERM eSn Sn 22 57 10.4 -10
JNU Nakatsue 9.68 273 Pn Pn 22 55 53.0 +0.7
comp=N,0.4nm,0.3s,baz=99,slow=8.7,SNR=3.7
JNU LR LR 22 59 40.6
comp=N,136nm,21.1s,baz=143,slow=38
ASAJ Asahikawa 10.98 1 P Pn 22 56 05.7 -4.4
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ Asahikawa 10.98 1 Pn Pn 22 56 05.7 -4.4
comp=Z,1.5nm,0.3s,baz=219,slow=13,SNR=6.2
ASAJ Asahikawa 10.98 1 ePn Pn 22 56 05.5 -4.6
KSRS Korea Array 12.61 294 Pn Pn 22 56 33.5 +1.2
comp=Z,0.2nm,0.3s,baz=106,slow=14,SNR=3.9
KSRS LR LR 23 01 48.0
comp=Z,132nm,20.1s,baz=128,slow=39
KSAR Wonju Array Be 12.63 294 P Pn 22 56 33.6 +0.9
KSAR Wonju Array Be 12.63 294 Pn Pn 22 56 33.5 +0.9
YSS Yuzh-Sakhalins 13.82 1 eP P 22 56 54.0 -2.8
YSS Yuzh-Sakhalins 13.82 1 ePn P 22 56 54.0 -2.8
H11N2 WAKE ISLAND Hy 25.58 115 T T 23 25 45.3
baz=310,slow=76,SNR=4.6
H11N1 WAKE ISLAND Hy 25.58 115 T T 23 25 40.5
baz=310,slow=76,SNR=5.8
H11N3 WAKE ISLAND Hy 25.60 115 T T 23 25 36.9
baz=310,slow=76,SNR=6.6
ENH Enshi 28.10 273 eP P 22 59 23.2 -1.0
comp=Z,12nm,0.8s
FX1 Attu Island--F 29.58 39 LR LR 23 11 11.5
comp=Z,87nm,18.2s,baz=224,slow=36
ULN Ulaanbaatar 30.36 310 ceP P 22 59 47.0 +2.8
ULN pmax pmax
comp=Z,9.0nm,1.3s
ULN Ulaanbaatar 30.36 310 eP P 22 59 47.0 +2.8
comp=Z,4.8nm,0.8s
SEY Seymchan 30.49 9 P P 22 59 44.7 -0.3
SEY pmax pmax
comp=Z,1.0nm,0.4s
SEY Seymchan 30.49 9 P P 22 59 44.6 -0.3
comp=Z,0.8nm,0.4s,baz=224,slow=11,SNR=3.6
SONM Songino Array 30.78 309 P P 22 59 49.0 +1.1
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 30.78 309 P P 22 59 49.0 +1.1
comp=Z,2.5nm,0.8s,baz=108,slow=8.3,SNR=17
ZAK Zakamensk 33.44 313 eP P 23 00 10.8 -0.3
ZAK pmax pmax
comp=Z,2.0nm,1.3s
ZAK pmax pmax
comp=Z,2.0nm,1.1s
TLY Talaya 33.60 315 eP P 23 00 15.1 +2.7
TLY pmax pmax
comp=Z,4.0nm,1.2s
CMAR Chiang Mai Arr 41.48 260 LR LR 23 20 13.5
comp=Z,46nm,20.0s,baz=315,slow=38
ZAA0 Zalesovo Array 45.22 315 eP P 23 01 48.5 -0.6
ZALV Zalesovo Beam 45.22 315 P P 23 01 50.3 +1.2
ZALV 23 03 28.9
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 45.22 315 P P 23 01 50.2 +1.2
comp=Z,1.0nm,0.3s,baz=74,slow=6.3,SNR=4.4
ZALV PcP PcP 23 03 28.9 +0.2
comp=Z,1.4nm,0.7s,baz=132,slow=3.2,SNR=3.7
MK31 Makanchi Array 46.98 305 eP P 23 02 02.3 -0.8
MK31 Makanchi Array 46.98 305 eP P 23 02 02.3 -0.8
MKAR Makanchi Array 46.98 305 P P 23 02 03.5 +0.4
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 46.98 305 P P 23 02 03.5 +0.4
comp=Z,3.0nm,0.7s,baz=91,slow=9.9,SNR=22
TAPN Taplejung 47.18 278 eP P 23 02 06.4 +1.1
ODAN Odare 47.62 278 eP P 23 02 08.4 -0.2
comp=Z,10nm,0.7s
RAMN Ramite 48.24 278 eP P 23 02 13.8 +0.3
comp=Z,21nm,0.7s
JIRN Jiri 48.33 279 eP P 23 02 14.6 +0.3
comp=Z,19nm,0.7s
GUN Gumba 48.49 280 eP P 23 02 15.9 +0.4
comp=Z,17nm,0.8s
PKI Pulchoki 49.01 279 eP P 23 02 20.6 +1.2
PKIN Phulchoki 49.01 279 eP P 23 02 20.1 +0.7
comp=Z,5.9nm,0.6s
KKN Kakani 49.03 280 eP P 23 02 19.8 +0.3
KURK Kurchatov 49.06 311 eP P 23 02 18.9 -0.2
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 49.06 311 eP P 23 02 18.9 -0.2
comp=Z,6.0nm,0.8s
KURBB Kurchatov Arra 49.12 311 P P 23 02 19.7 +0.1
comp=Z,1.1nm,0.5s,baz=85,slow=7.3,SNR=14
GKN Gorkha 49.49 280 eP P 23 02 23.0 +0.1
DANN Dangsing 50.09 281 eP P 23 02 28.1 +0.4
comp=Z,17nm,0.6s
KOLN Koldanda 50.43 280 eP P 23 02 29.5 -0.6
PSI Prapat 50.62 243 P P 23 02 32.0 +0.4
PSI pmax pmax
comp=Z,1.0nm,0.4s
PSI Prapat 50.62 243 P P 23 02 31.9 +0.4
comp=Z,1.3nm,0.4s,baz=94,slow=6.0,SNR=3.6
PYUN Piuthan 50.81 281 eP P 23 02 33.3 +0.3
comp=Z,41nm,0.4s
ILAR Eielson Array 52.39 31 eP P 23 02 42.8 -1.2
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 52.39 31 P P 23 02 42.9 -1.2
comp=Z,2.3nm,1.0s,baz=261,slow=6.5,SNR=20
GSI Gunungsitoli 52.62 243 eP P 23 02 44.2 -2.2
comp=Z,14nm,0.8s
AAK Ala-Archa 53.15 301 eP P 23 02 51.9 +1.7
AAK pmax pmax
comp=Z,6.0nm,1.1s
WRAB Tennant Creek 53.31 189 ⇓iP P 23 02 56.7 +5.4
WRAB pmax pmax
comp=Z,14nm,1.2s
WRA Warramunga Arr 53.33 189 P P 23 02 51.6 +0.2
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 53.33 189 P P 23 02 51.6 +0.2
comp=Z,1.3nm,0.6s,baz=6.6,slow=7.6,SNR=7.1
BMRM Bremner River 53.52 35 eP P 23 02 52.9 +0.5
comp=Z,177nm,2.8s
VOSK Vostochnaya 53.55 314 eP P 23 02 53.8 +1.0
VOSK pmax pmax
comp=Z,9.0nm,1.1s
VOSK Vostochnaya 53.55 314 eP P 23 02 53.8 +1.0
comp=Z,9.0nm,1.1s
BRVK Borovoye 53.92 315 ⇑eP P 23 02 57.7 +2.3
BRVK pmax pmax
comp=Z,6.0nm,2.5s
KKAR Karatay Array 55.87 303 eP P 23 03 10.7 +1.0
KKAR Karatay Array 55.87 303 eP P 23 03 10.7 +1.0
ASAR Alice Springs 57.05 189 P P 23 03 19.5 +1.3
comp=Z,0.4nm,0.4s,baz=11,slow=7.2,SNR=2.8
INK Inuvik 57.51 26 P P 23 03 20.0 -0.9
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 57.51 26 P P 23 03 20.0 -0.9
comp=Z,2.1nm,0.8s,baz=270,slow=6.6,SNR=7.8
ARU Arti 59.86 320 diP P 23 03 38.9 +1.4
ARU 23 05 46.6
ARU S S 23 11 48.8 +2.0
ARU pmax pmax
comp=Z,11nm,2.5s
ABKAR Akbulak array 61.13 312 eP P 23 03 47.8 +1.5
STKA Stephens Creek 64.65 181 P P 23 04 10.8 +1.1
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 64.65 181 P P 23 04 10.8 +1.1
comp=Z,2.3nm,0.9s,baz=357,slow=6.9,SNR=4.3
RES Resolute Bay 66.18 14 P P 23 04 18.7 -0.4
RES pmax pmax
comp=Z,3.0nm,0.9s
RES Resolute Bay 66.18 14 P P 23 04 18.7 -0.4
comp=Z,2.5nm,0.9s,baz=327,slow=8.3,SNR=6.6
YKA Yellowknife Ar 66.78 29 P P 23 04 22.4 -0.8
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 66.78 29 P P 23 04 22.4 -0.8
comp=Z,1.5nm,0.8s,baz=295,slow=6.3,SNR=19
NEW Newport 72.37 44 P P 23 04 58.1 +0.1
NEW pmax pmax
comp=Z,2.0nm,0.8s
NEW Newport 72.37 44 P P 23 04 58.1 +0.1
comp=Z,1.7nm,0.8s,baz=21,slow=4.4,SNR=5.0
FINES FINESS Array B 72.66 333 P P 23 05 00.7 +1.3
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 72.66 333 P P 23 05 00.7 +1.3
comp=Z,1.3nm,0.8s,baz=41,slow=6.1,SNR=4.5
LRM Limekiln Ridge 76.37 44 eP P 23 05 22.1 +0.5
NVAR Mina Array Bea 76.68 53 P P 23 05 23.3 -0.1
comp=Z,1.6nm,0.9s,baz=282,slow=6.2,SNR=5.1
AKASG Malin Array Be 77.91 323 P P 23 05 29.8 +0.1
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 77.91 323 P P 23 05 29.8 +0.1
comp=Z,0.6nm,0.6s,baz=46,slow=5.9,SNR=6.7
NB2 NORSAR Subarra 78.11 338 P P 23 05 30.4 -0.4
comp=Z,3.4nm,0.8s,baz=39,slow=5.9
NOA NORSAR Array B 78.11 338 eP P 23 05 30.1 -0.7
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 78.11 338 P P 23 05 31.1 +0.3
comp=Z,2.9nm,0.9s,baz=40,slow=5.6,SNR=7.0
PDAR Pinedale Array 79.82 45 P P 23 05 40.5 -0.2
comp=Z,0.6nm,0.8s,baz=0.0,slow=1.5,SNR=4.7
SRU San Rafael 81.36 49 eP P 23 05 49.4 +0.4
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael 81.36 49 eP P 23 05 49.4 +0.4
comp=Z,6.2nm,0.9s
BRTR Keskin Array B 82.08 313 P P 23 05 53.4 +0.7
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 82.08 313 P P 23 05 53.4 +0.7
comp=Z,1.3nm,0.8s,baz=85,slow=5.7,SNR=6.8
ULM Lac du Bonnet 82.31 33 LR LR 23 45 44.4
comp=Z,60nm,18.2s,baz=39,slow=38
PV01 Paradox Valley 83.17 49 eP P 23 05 57.7 -0.9
comp=Z,881nm,1.5s
SMCO Snowmass 83.53 47 eP P 23 05 57.2 -3.5
comp=Z,75nm,3.0s
ASF Jabal al Asfar 84.39 305 LR LR 23 48 48.9
comp=Z,80nm,19.5s,baz=154,slow=39
CLL Collm 84.90 331 eP P 23 06 08.0 +1.2
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 84.90 331 eP P 23 06 08.0 +1.2
comp=Z,4.0nm,1.0s
ANMO Albuquerque 86.46 50 ⇓iP P 23 06 16.1 +1.0
ANMO pmax pmax
comp=Z,48nm,2.5s
EIL Elat 87.22 304 LR LR 23 49 26.8
comp=Z,87nm,18.6s,baz=94,slow=38
TXAR Lajitas Array 91.83 53 P P 23 06 40.7 +0.2
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 91.83 53 P P 23 06 40.7 +0.2
comp=Z,0.7nm,0.6s,baz=305,slow=3.3,SNR=12
TORD Torodi Ar. Bea 120.66 314 PKP PKPdf 23 12 24.1 -0.3
comp=Z,0.2nm,0.7s,baz=22,slow=1.5,SNR=3.9
SYO Syowa Base 125.06 205 ⇓eP PKPdf 23 12 44.4 +13
SAML Samuel 146.28 50 ePKPdf PKPdf 23 13 11.6 -0.4
LPAZ La Paz 147.74 66 PKP2 PKPdf 23 13 16.0 +0.9
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
LPAZ La Paz 147.74 66 PKPbc PKPdf 23 13 16.0 +0.9
comp=Z,1.1nm,0.9s,baz=14,slow=4.2,SNR=3.1

WEL 07 22:57:47.4±0.5, 35°.39S×178°.64E, h212km±5km, ML4.1/15, 1D, Error ellipse: s-maj=10.2km s-min=5.3km az=90.0, Off east coast of North Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MXZ Matakaoa Point 2.19 187 PN Pn 22 58 28.7 +0.1
MXZ SN S 22 59 00.3 -0.3
HAZ Te Kaha 2.46 196 PN Pn 22 58 31.8 +0.3
HAZ SN S 22 59 06.1 +0.3
PUZ Puketiti 2.70 186 PN Pn 22 58 34.4 +0.2
PUZ SN S 22 59 10.2 -0.3
MWZ Matawai 3.08 197 PN Pn 22 58 39.2 +0.7
CNGZ Carnagh Statio 3.11 186 PN Pn 22 58 39.5 +0.6
URZ Urewera 3.12 203 PN Pn 22 58 39.4 +0.5
RIGZ Rimuhau 3.39 192 PN Pn 22 58 42.4 +0.2
SNGZ Shannon Statio 3.54 197 PN Pn 22 58 44.6 +0.5
KNZ Kokohu 3.71 192 PN Pn 22 58 45.7 -0.2
RAHZ Arahi 3.74 199 PN Pn 22 58 46.8 +0.4
MHGZ Mahia Peninsul 3.81 189 PN Pn 22 58 47.3 +0.2
NMHZ Naumai 3.98 201 PN Pn 22 58 50.3 +0.9
BKZ Black Stump Fm 4.14 204 PN Pn 22 58 51.7 +0.3
MCHZ McNeill Hill 4.34 200 PN Pn 22 58 54.0 +0.3
OTVZ Oturere 4.46 211 PN Pn 22 58 55.9 +0.6
TWVZ Taurewa 4.48 214 PN Pn 22 58 57.0 +1.4
TUVZ Tukino 4.55 211 PN Pn 22 58 57.2 +0.8
BHHZ Black Hill Sta 4.58 206 PN Pn 22 58 56.6 -0.2
FWVZ Far West T-bar 4.58 212 PN Pn 22 58 57.5 +0.5
KRHZ Kereru 4.62 202 ⇓PN Pn 22 58 56.8 -0.4
TRVZ Turoa 4.62 211 ePN Pn 22 58 57.8 +0.3
KAHZ Kahuranaki 4.62 197 PN Pn 22 58 56.9 -0.3
WNVZ Wahianoa 4.62 211 PN Pn 22 58 58.2 +0.8
MOVZ Moawhango 4.63 209 PN Pn 22 58 57.2 -0.2
PXZ Pawanui 4.85 196 PN Pn 22 58 58.8 -1.2
WPHZ Waipukurau 4.99 200 ePN Pn 22 59 01.3 -0.5
PRHZ Porangahau 5.13 197 PN Pn 22 59 03.3 -0.3
TSZ Takapari Road 5.13 204 PN Pn 22 59 02.7 -0.9
WAZ Wanganui 5.24 213 ePN Pn 22 59 05.0 0.0
DVHZ Dannevirke 5.28 201 PN Pn 22 59 04.6 -0.9
ANWZ Angora Road 5.35 198 PN Pn 22 59 05.7 -0.7
POWZ Post Office Ro 5.49 204 PN Pn 22 59 07.5 -0.7
BFZ Birch Farm 5.61 199 PN Pn 22 59 08.5 -1.3
MRZ Mangatainoka R 5.79 204 PN Pn 22 59 10.3 -1.8
TIWZ Tintock 5.80 201 PN Pn 22 59 10.9 -1.4
HOWZ Holdsworth Sta 6.03 203 PN Pn 22 59 13.0 -2.1
OGWZ Otaki Gorge 6.07 206 PN Pn 22 59 14.0 -1.7
TMWZ Te Maipa 6.11 200 PN Pn 22 59 14.3 -1.9
KIW Kapiti Island 6.21 207 PN Pn 22 59 15.5 -1.9
MTW Mount Morrison 6.27 202 PN Pn 22 59 16.2 -2.0
MSWZ Moikau Station 6.58 203 PN Pn 22 59 19.8 -2.4
SNZO South Karori 6.67 206 PN Pn 22 59 20.9 -2.4
PLWZ Palliser 6.72 202 PN Pn 22 59 21.4 -2.7
TCW Tory Channel 6.75 209 PN Pn 22 59 22.0 -2.3
TUWZ Tuamarina 7.07 210 PN Pn 22 59 26.3 -2.1
QRZ Quartz Range 7.26 220 ePN Pn 22 59 28.8 -2.1

IDC 07 23:13:22.9±1.1, 33°.22N×142°.72E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/38, mbtmp3.5/6, ML3.6/1, MS4.2/1, Ms1 4.2/1, ms1mx2.7/45, Error ellipse: s-maj=32.0km s-min=26.4km az=98.0
ISCJB 07 23:13:25.9±0.8, 33°.27N±0°.08×142°.52E±0°.09, h33km, mb3.5/5, MS4.2/1, Error ellipse: s-maj=14.4km s-min=6.6km az=44.8
JMA 07 23:13:25.6±0.4, 33°.24N×142°.49E, h89km, M3.5
ISC 07 23:13:27.0±0.9, 33°.19N±0°.06×142°.53E±0°.09, h33km, n21, σ1s39/25, mb3.7/5, Off east coast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BSO1 Boso 1 1.95 319 P Pn 23 13 56.6 -0.7
BSO1 S Sn 23 14 20.2 -0.2
BSO2 Boso 2 2.15 317 S Sn 23 14 26.3 +0.6
JHJ2 Mitsune 2.28 269 P Pn 23 14 02.2 -0.1
BSO3 Boso 3 2.33 314 P Pn 23 14 02.2 -0.5
BSO4 Boso 4 2.56 315 S Sn 23 14 35.7 -0.3
JIM2 Oshima 3 3.00 302 P Pn 23 14 10.5 -1.7
JIZS Izushimoda 3.40 298 P Pn 23 14 16.1 -1.6
JOD2 Odawara 2 3.53 307 P Pn 23 14 18.3 -1.2
JOD2 S Sn 23 14 58.7 -1.4
JYT Yasato 3.59 328 P Pn 23 14 20.1 -0.3
JHU Hanno 3.78 316 S Sn 23 15 04.8 -1.5
JHO Hitachi 3.78 335 P Pn 23 14 21.1 -1.8
JHO S Sn 23 15 03.0 -3.3
JYN Shimob 4.03 306 P Pn 23 14 26.0 -0.4
MJAR Matsushiro Arr 4.88 315 Pn Pn 23 14 37.8 -0.3
2.6nm,0.3s,baz=199,slow=22,SNR=17
MJAR Sn Sn 23 15 32.8 -0.7
0.9nm,0.3s,baz=118,slow=44,SNR=4.8
MAT Matsushiro 4.88 315 P Pn 23 14 38.6 +0.4
MAT S Sn 23 15 33.0 -0.6
JCJ Chichijima 6.08 183 Sn Sn 23 16 00.9 -2.1
14nm,0.3s,baz=300,slow=20,SNR=3.2
JAY Jayapura 35.55 183 LR LR 23 33 03.0
comp=Z,440nm,21.7s,baz=257,slow=33
MKAR Makanchi Array 47.02 305 P P 23 21 57.0 +1.9
0.9nm,0.7s,baz=89,slow=8.9,SNR=13
ILAR Eielson Array 52.29 31 P P 23 22 33.3 -1.6
0.4nm,0.9s,baz=259,slow=6.4,SNR=4.4
WRA Warramunga Arr 53.41 190 P P 23 22 44.6 +1.0
0.5nm,0.4s,baz=6.8,slow=7.6,SNR=14
YKA Yellowknife Ar 66.68 30 P P 23 24 15.2 +1.0
0.2nm,0.7s,baz=292,slow=6.2,SNR=3.7
TXAR Lajitas Array 91.72 53 P P 23 26 33.0 +1.4
0.2nm,0.6s,baz=316,slow=3.5,SNR=3.6

MAN 07 23:21:10, 9°.33N×125°.51E, h2km, mb4.0, ML2.8, MS2.5, 1C-1D, Mindanao

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BUTP Butuan 0.38 163 eP Pg 23 21 18.2 +0.9
BUTP eS Sb 23 21 29.9 +4.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
SCPH	Surigao	0.45	357	⇓eP	Pg	23 21 19.1	+0.5
SCPH				eS	Sg	23 21 26.0	+1.6
CGP	Cagayan de Oro	1.19	223	⇑eP	Pg	23 21 32.9	+0.1
CGP				eS	Sn	23 21 50.5	+0.1
BUKP	Musuan	1.51	197	eP	Pb	23 21 38.5	-0.3
BUKP				eS	Sg	23 22 01.8	+3.1

*BJI **07** 23:22:50.3, 23.̊30S×179.̊70W, h510km, mB5.1/35, mb4.8/44*

*MOS **07** 23:22:52.4±0.9, 23.̊19S×179.̊87W, h522km, mb5.3/39, Error ellipse: s-maj=9.6km s-min=7.1km az=55.8*

*ISCJB **07** 23:22:53.1±0.4, 23.̊37S±0.̊02×179.̊91W±0.̊02, h533km±4km, mb5.2/255, Error ellipse: s-maj=3.8km s-min=2.8km az=146.0*

*IDC **07** 23:22:55.1±0.5, 23.̊27S×179.̊82W, h542km±4km, mb4.5/25, mb1 4.7/27, mb1mx4.6/33, mbtmp5.4/27, Error ellipse: s-maj=9.2km s-min=8.8km az=174.0*

*GCMT **07** 23:22:55.0±0.5, 23.̊39S×179.̊99E, h561km±3km, MW5.6/63, Moment Tensor Solution. s63,c86; Duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr0.13±.08; Mθθ1.05±.12; Mφφ-1.18±.12; Mrθ1.45±.13; Mθφ-0.88±.12; Mφr-1.99±.11; Best double couple: M0 2.82300×10^17 NP1:φs150.00000°, δ89.00000°, λ60.00000°. NP2: φs59.00000°, δ30.00000°, λ178.00000°. Principal axes: T 3.0210, Plg39.0000°, Azm34.0000°; N -0.3920, Plg30.0000°, Azm151.0000°; P -2.6260, Plg37.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s.*

*NEIC **07** 23:22:55.0±0.4, 23.̊34S×179.̊88W, h550km±4km, mb5.3/201 Error ellipse: s-maj=4.7km s-min=3.2km az=150.0*

ISC 07 23:22:53.3±0.3, **23.̊34S**±0.̊04×**179.̊83W**±0.̊04, **h532**km±2km, **h532**km:**pP-P**, **n1069**, σ1̊32/1202, **mb5.2**/255, **206C-183D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.92	340	P	P	23 24 33.7	+3.1
	1µm,0.5s,SNR=30						
MSVF	Nonsavu	5.92	340	eP	P	23 24 32.9	+2.3
MSVF				eS	S	23 25 50.2	+0.3
MSVF	Nonsavu	5.92	340	eP	P	23 24 32.9	+2.3
MSVF				eS	S	23 25 50.2	+0.3
RAO	Raoul Island	6.13	164	eP	P	23 24 34.4	+2.2
RAO				eS	S	23 25 54.6	+1.4
RAO	Raoul Island	6.13	164	P	P	23 24 34.1	+2.0
	490nm,0.3s,baz=139,slow=10,SNR=14						
RAO				S	S	23 25 51.4	-1.7
	112nm,0.3s,baz=113,slow=22,SNR=8.0						
RAO	Raoul Island	6.13	164	eP	P	23 24 34.4	+2.2
RAO				eS	S	23 25 54.6	+1.4
NIUE	Niue	10.16	67	⇑P	P	23 25 12.9	+0.1
	baz=9.9,SNR=17						
NIUE				⇑S	S	23 27 06.2	-1.2
	baz=9.9,SNR=7.2						
AFI	Afiamalu	12.09	41	eP	P	23 25 30.5	-2.5
AFI				S	S	23 27 34.2	-10
AFI				eS	S	23 27 39.7	-4.7
AFI	Afiamalu	12.09	41	P	P	23 25 30.2	-2.8
	19nm,0.3s,baz=253,slow=4.1,SNR=22						
AFI				S	S	23 27 34.2	-10
	3.7nm,0.3s,baz=52,slow=19,SNR=5.4						
AFI				ScP	ScP	23 33 12.9	+0.4
	1.1nm,0.3s,baz=269,slow=6.2,SNR=3.9						
AFI	Afiamalu	12.09	41	eP	P	23 25 30.5	-2.5
AFI				S	S	23 27 34.2	-10
AFI				eS	S	23 27 39.7	-4.7
AFI				ScP	ScP	23 33 12.9	+0.4
NFK	Norfolk Island	12.36	240	⇑P	P	23 25 39.6	+4.0
	baz=13						
DZM	Mont Dzumac	12.73	273	eP	P	23 25 41.4	+1.8
	262nm,1.4s						
DZM	Mont Dzumac	12.73	273	P	P	23 25 41.6	+2.0
	3.8nm,0.3s,baz=62,slow=20,SNR=22						
DZM				S	S	23 28 05.7	+9.1
	0.4nm,0.3s,baz=307,slow=20,SNR=3.5						
DZM				ScP	ScP	23 33 15.1	+1.8
	0.5nm,0.3s,baz=37,slow=23,SNR=8.2						
OUZ	Omahuta	13.15	204	eP	P	23 25 47.3	+3.6
OUZ				eScP	ScP	23 33 14.4	+0.7
MXZ	Matakaoa Point	14.27	186	PN	P	23 25 54.6	-0.6
HAZ	Te Kaha	14.52	188	PN	P	23 25 57.3	-0.6
PUZ	Puketiti	14.78	186	PN	P	23 26 01.0	+0.3
PUZ				SN	S	23 28 29.5	-5.5
URZ	Urewera	15.10	189	P	P	23 26 02.2	-1.8
	29nm,0.3s,baz=285,slow=2.8,SNR=50						
URZ				S	S	23 28 35.1	-6.0
	8.7nm,0.3s,baz=236,slow=20,SNR=12						
URZ	Urewera	15.10	189	eP	P	23 26 02.9	-1.1
	231nm,0.6s						
URZ				eS	S	23 28 38.0	-3.0
URZ	Urewera	15.10	189	PN	P	23 26 02.0	-2.0
URZ				eSN	S	23 28 35.2	-5.8
MWZ	Matawai	15.12	188	PN	P	23 26 03.2	-1.0
MWZ				SN	S	23 28 35.7	-5.7
RIGZ	Rimuhau	15.46	187	PN	P	23 26 08.2	+0.5
SNGZ	Shannon Statio	15.58	188	ePN	P	23 26 08.6	-0.4
RAHZ	Arahi	15.75	189	ePN	P	23 26 09.2	-1.5
HIZ	Hauiti	15.79	195	PN	P	23 26 11.3	+0.2
NMHZ	Naumai	15.97	190	PN	P	23 26 12.0	-0.9
BKZ	Black Stump Fm	16.09	190	eP	P	23 26 11.9	-2.2
	72nm,0.7s						
BKZ				eS	S	23 28 53.7	-4.8
BKZ	Black Stump Fm	16.09	190	PN	P	23 26 12.2	-1.9
MCHZ	McNeill Hill	16.32	190	PN	P	23 26 15.6	-0.7
TUVZ	Tukino	16.34	193	PN	P	23 26 15.5	-1.2
WNVZ	Wahianoa	16.41	193	PN	P	23 26 16.5	-0.8
BHHZ	Black Hill Sta	16.47	191	PN	P	23 26 15.1	-2.8
KRHZ	Kereru	16.57	190	PN	P	23 26 15.9	-2.8
KAHZ	Kahuranaki	16.64	189	PN	P	23 26 18.5	-0.9
TSZ	Takapari Road	17.05	191	PN	P	23 26 21.7	-1.5
ANWZ	Angora Road	17.35	189	PN	P	23 26 24.9	-1.1
BFZ	Birch Farm	17.61	190	eP	P	23 26 27.1	-1.2
	113nm,0.5s						
BFZ				eS	S	23 29 23.0	-0.6
BFZ	Birch Farm	17.61	190	PN	P	23 26 27.3	-1.0
MRZ	Mangatainoka R	17.70	192	PN	P	23 26 27.1	-2.0
MRZ				SN	S	23 29 21.3	-3.8
OGWZ	Otaki Gorge	17.93	192	PN	P	23 26 29.7	-1.5
HOWZ	Holdsworth Sta	17.94	192	PN	P	23 26 29.5	-1.9
KIW	Kapiti Island	18.02	193	PN	P	23 26 31.2	-0.9
DUWZ	D'Urville Isla	18.19	195	PN	P	23 26 33.8	+0.2
MTW	Mount Morrison	18.20	191	PN	P	23 26 32.5	-1.1
CAW	Cannon Point	18.23	192	PN	P	23 26 33.6	-0.4
SNZO	South Karori	18.50	193	eP	P	23 26 34.8	-1.6
	122nm,0.8s						
SNZO				eS	S	23 29 32.8	-5.2
SNZO				eScP	ScP	23 33 21.8	-2.0
TCW	Tory Channel	18.50	194	PN	P	23 26 36.3	-0.1
QRZ	Quartz Range	18.59	198	PN	P	23 26 38.5	+1.2
PLWZ	Palliser	18.64	192	PN	P	23 26 37.1	-0.7
NNZ	Nelson	18.72	196	PN	P	23 26 38.4	0.0
TUWZ	Tuamarina	18.78	195	PN	P	23 26 39.2	+0.2
THZ	Tophouse	19.35	197	PN	P	23 26 44.1	-0.2
KHZ	Kahutara	19.81	195	eP	P	23 26 48.0	-0.4
	77nm,0.6s						
KHZ				eS	S	23 29 56.3	-2.8
KHZ				eScP	ScP	23 33 26.0	-0.9
KHZ	Kahutara	19.81	195	PN	P	23 26 47.6	-0.7
LHI	Lord Howe Isla	20.41	242	⇑P	P	23 26 56.4	+2.5
	baz=21,SNR=5.7						
LTZ	Lake Taylor	20.47	197	PN	P	23 26 53.4	-1.0
OXZ	Oxford	21.04	197	PN	P	23 26 59.0	-0.5
WVZ	Waitaha Valley	21.18	199	PN	P	23 27 00.2	-0.6
MQZ	McQueen's Vall	21.24	195	PN	P	23 27 00.5	-0.7
RPZ	Rata Peaks	21.67	198	eP	P	23 27 05.4	+0.2
	134nm,0.5s						
RPZ				ePcP	PcP	23 30 40.6	-3.9
RPZ				eScP	ScP	23 33 30.0	-1.5
FOZ	Fox Glacier	21.95	201	PN	P	23 27 06.2	-1.5
LBZ	Lake Benmore	22.54	199	PN	P	23 27 11.3	-1.6
JCZ	Jackson Bay	22.71	202	PN	P	23 27 14.1	-0.5
ODZ	Otahua Downs	23.01	197	eP	P	23 27 16.4	-0.7
	17nm,0.8s						
ODZ				eScP	ScP	23 33 35.2	+0.3
ODZ	Otahua Downs	23.01	197	PN	P	23 27 16.4	-0.7
WKZ	Wanaka	23.30	200	PN	P	23 27 18.7	-1.1
HNR	Honiara	23.78	302	eP	P	23 27 23.8	-0.6
HNR				pmax	pmax		
	comp=Z,435nm,1.0s						
HNR	Honiara	23.78	302	eP	P	23 27 23.8	-0.6
	comp=Z,435nm,1.0s						
MLZ	Mavora Lakes	24.03	201	PN	P	23 27 27.1	+0.8
DCZ	Deep Cove	24.49	202	eP	P	23 27 30.7	+0.4
	comp=Z,208nm,1.2s						
DCZ				eScP	ScP	23 33 38.0	-1.0
DCZ	Deep Cove	24.49	202	PN	P	23 27 30.6	+0.4
WHZ	Wether Hill Ro	24.59	201	eP	P	23 27 32.5	+1.3
	comp=Z,408nm,0.6s						
WHZ	Wether Hill Ro	24.59	201	PN	P	23 27 31.6	+0.4
APZ	The Paps	25.41	200	PN	P	23 27 39.0	+0.5
ARMA	Armidale	26.37	248	eP	P	23 27 49.4	+2.1
	comp=Z,78nm,0.8s						
ARMA				eScP	ScP	23 33 47.3	+2.3
ARMA	Armidale	26.37	248	P	P	23 27 49.6	+2.4
	baz=27,SNR=38						
EIDS	Eidsvold	26.55	260	eP	P	23 27 49.9	+1.1
	comp=Z,272nm,1.4s						
EIDS	Eidsvold	26.55	260	P	P	23 27 50.1	+1.3
	baz=27,SNR=36						
MGCD	Mangrove Creek	27.34	242	P	P	23 27 58.0	+2.4
	baz=28,SNR=80						
RMQ	Roma	28.62	257	⇓P	P	23 28 08.9	+1.9
	baz=29,SNR=29						
PAE	Paea	28.86	84	eP	P	23 28 09.9	+0.8
	comp=Z,6.3nm,0.8s						
PPT2	Papeete2	28.88	84	eP	P	23 28 10.8	+1.4
	comp=Z,29nm,0.8s						
PPT2				epP	pP	23 29 34.6	-2.9
	comp=Z,44nm,1.1s						
PPT	Papeete	28.89	84	P	P	23 28 11.0	+1.6
PPT	Papeete	28.89	84	P	P	23 28 11.0	+1.6
	comp=Z,42nm,0.7s,baz=221,slow=14,SNR=4.2						
TIAR	Tiarei	29.10	84	eP	P	23 28 12.4	+1.2
	comp=Z,17nm,0.8s						
CNB	Canberra Magne	29.27	239	P	P	23 28 14.6	+2.0
	baz=30,SNR=63						
YNG	Young	29.79	241	⇓P	P	23 28 18.6	+1.6
	baz=30,SNR=16						
MILA	Mila	29.94	236	⇓P	P	23 28 20.0	+1.8
	baz=30,SNR=8.9						
CMSA	Cobar Meteorol	31.57	247	⇓P	P	23 28 33.8	+1.5
	baz=32,SNR=179						
CTA	Charters Tower	31.63	269	P	P	23 28 34.4	+1.4
	comp=Z,269nm,0.5s,baz=94,slow=11,SNR=662						
CTA				ScP	ScP	23 34 03.9	+1.9
	comp=Z,20nm,1.0s,baz=101,slow=4.3,SNR=7.0						
CTAO	Charters Tower	31.63	269	eP	P	23 28 34.4	+1.4
CTAO	Charters Tower	31.63	269	eP	P	23 28 34.4	+1.4
	comp=Z,349nm,0.5s						
CTAO				eScP	ScP	23 34 03.2	+1.3
QLP	Quilpie	32.67	257	⇑P	P	23 28 42.9	+1.1
	baz=33,SNR=144						
TOO	Toolangi	32.88	236	⇓P	P	23 28 44.8	+1.3
	baz=33,SNR=85						
MOO	Moorlands	33.32	227	⇑P	P	23 28 48.5	+1.5
	baz=34,SNR=8.9						
XMAS	Kiritimati	33.34	44	eP	P	23 28 48.1	+0.5
	comp=Z,406nm,1.3s						
TAU	Tasmania Unive	33.43	226	P	P	23 28 49.0	+1.1
	comp=Z,589nm,0.7s,SNR=14						
TAU	Tasmania Unive	33.43	226	eP	P	23 28 49.4	+1.5
TAU				pmax	pmax		
	comp=Z,68nm,0.6s						
TAU	Tasmania Unive	33.43	226	eP	P	23 28 49.4	+1.5
	comp=Z,68nm,0.6s						
TAU				eScP	ScP	23 34 08.5	+0.8
MTSU	Mount Surprise	33.87	272	⇓P	P	23 28 53.0	+1.0
	baz=34,SNR=284						
PMG	Port Moresby	34.46	288	eP	P	23 28 57.8	+0.9
PMG				S	S	23 33 47.1	-0.7
PMG				pmax	pmax		
	comp=Z,597nm,1.0s						
PMG	Port Moresby	34.46	288	P	P	23 28 57.9	+0.9
	comp=Z,401nm,0.9s,baz=108,slow=5.9,SNR=79						
PMG				S	S	23 33 47.1	-0.7
	comp=Z,3.8nm,0.3s,baz=265,slow=12,SNR=5.5						
PMG	Port Moresby	34.46	288	eP	P	23 28 57.8	+0.9
	comp=Z,597nm,1.0s						
PMG				S	S	23 33 47.1	-0.7
PMG				eScP	ScP	23 34 12.1	+0.1
PMG	Port Moresby	34.46	288	P	P	23 28 57.9	+0.9
	baz=35,SNR=19						
MCQ	Macquarie Isla	34.94	202	eP	P	23 29 01.9	+1.6
MCQ				pmax	pmax		
	comp=Z,10µm,1.6s						
MCQ	Macquarie Isla	34.94	202	eP	P	23 29 01.9	+1.6
	comp=Z,36µm,1.6s						
STKA	Stephens Creek	35.08	247	eP	P	23 29 03.5	+1.6
STKA				pmax	pmax		
	comp=Z,27nm,0.6s						
STKA	Stephens Creek	35.08	247	P	P	23 29 03.3	+1.4
	comp=Z,112nm,0.6s,baz=93,slow=9.7,SNR=520						
STKA				ScP	ScP	23 34 15.6	+1.7
	comp=Z,10nm,0.9s,baz=6.2,slow=2.9,SNR=5.5						
STKA	Stephens Creek	35.08	247	eP	P	23 29 03.5	+1.6
	comp=Z,27nm,0.6s						
STKA				eScP	ScP	23 34 15.5	+1.5
STKA	Stephens Creek	35.08	247	⇓P	P	23 29 03.1	+1.2
	baz=35,SNR=318						
ARPS	Mount Arapiles	35.54	239	P	P	23 29 06.7	+1.1
	baz=36,SNR=62						
COEN	Coen	36.18	278	eP	P	23 29 12.2	+0.9
	comp=Z,922nm,1.1s						
COEN				eS	S	23 34 20.4	+6.7
COEN	Coen	36.18	278	P	P	23 29 12.4	+1.1
	baz=36,SNR=64						
HTT	Hallett	37.45	245	P	P	23 29 22.4	+0.9
	baz=38,SNR=222						
QIS	Mount Isa	37.64	266	⇑P	P	23 29 23.7	+0.4
	baz=38,SNR=40						
BBOO	Buckleboo	39.81	246	eP	P	23 29 41.0	+0.3
	comp=Z,680nm,0.6s						
BBOO	Buckleboo	39.81	246	P	P	23 29 40.9	+0.3
	baz=40,SNR=270						
AS01	Alice Springs	42.24	260	eP	P	23 30 00.5	+0.4
AS01				eScP	ScP	23 34 44.3	+2.4
ASAR	Alice Springs	42.28	260	P	P	23 30 01.1	+0.6
	comp=Z,158nm,0.8s,baz=96,slow=7.8,SNR=1076						
ASAR				PP	PcP	23 31 44.4	+2.4
	comp=Z,17nm,0.6s,baz=87,slow=7.5,SNR=4.6						
ASAR				ScP	ScP	23 34 43.8	+1.7
	comp=Z,28nm,1.0s,baz=114,slow=4.1,SNR=22						
ASAR				S	S	23 35 40.6	-2.3
	comp=Z,5.8nm,0.9s,baz=101,slow=15,SNR=6.1						
WRAB	Tennant Creek	42.59	265	P	P	23 30 02.0	-0.9
	comp=Z,1µm,0.8s						
WRAB	Tennant Creek	42.59	265	eP	P	23 30 03.0	+0.1
WRAB				pmax	pmax		
	comp=Z,172nm,0.7s						
WRAB	Tennant Creek	42.59	265	eP	P	23 30 03.0	+0.1
	comp=Z,172nm,0.7s						
WRAB				eScP	ScP	23 34 45.1	+1.8
WRA	Warramunga Arr	42.60	265	P	P	23 30 03.2	+0.3
	comp=Z,128nm,0.6s,baz=102,slow=8.1,SNR=481						
WRA				ScP	ScP	23 34 45.1	+1.8
	comp=Z,38nm,1.0s,baz=100,slow=4.2,SNR=27						
WRA				S	S	23 35 42.8	-4.7
	comp=Z,10nm,1.0s,baz=102,slow=14,SNR=5.0						
JAY	Jayapura	43.44	293	P	P	23 30 07.6	-2.0
JAY	Jayapura	43.44	293	P	P	23 30 09.8	+0.2
	baz=44,SNR=22						
GENI	Genyem	43.86	292	P	P	23 30 12.9	+0.1
	comp=Z,380nm,1.0s,comp=Z,4µm						
SMPI	Sarmi	45.41	292	P	P	23 30 24.6	-0.1
	comp=Z,190nm,1.3s,comp=Z,6µm						
KDU	Kakadu	46.40	275	⇓P	P	23 30 32.3	+0.1
	baz=47,SNR=53						
FORT	Forrest	46.65	249	eP	P	23 30 34.2	+0.2
	comp=Z,540nm,0.7s						
FORT				eScP	ScP	23 35 01.2	+1.2
FORT	Forrest	46.65	249	P	P	23 30 34.0	0.0
	baz=47,SNR=186						
WRKA	Warakurna	47.11	257	P	P	23 30 38.0	+0.4
	baz=47,SNR=271						
MTN	Manton Dam	47.57	274	P	P	23 30 40.7	-0.4
	baz=48,SNR=30						
BAKI	Biak	48.05	291	P	P	23 30 45.3	+0.6
	comp=Z,412nm,1.1s,comp=Z,4µm						
KKH	Kailua Kona	48.64	30	eP	P	23 30 47.8	-1.1
KKH	Kailua Kona	48.64	30	eP	P	23 30 47.8	-1.1
PUH	Pauahi	48.78	32	eP	P	23 30 49.8	-0.3
STCH	Steam Cracks	48.83	32	eP	P	23 30 51.0	+0.5
KNRA	Kununurra	48.85	269	P	P	23 30 51.0	+0.4
	baz=49,SNR=157						
POHA	Pohakuloa	48.96	31	eP	P	23 30 51.3	-0.2
	comp=Z,211nm,1.1s						
SAUI	Saumlaki	49.22	280	P	P	23 30 53.9	+0.5
	comp=Z,597nm,1.2s,comp=Z,8µm						
SAUI	Saumlaki	49.22	280	eP	P	23 30 54.3	+0.9
	comp=Z,559nm,1.0s						
KIP	Kipapa	49.31	27	⇓iP	P	23 30 55.0	+1.2
KIP				pmax	pmax		
	comp=Z,214nm,1.4s						
KIP	Kipapa	49.31	27	eP	P	23 30 53.1	-0.7
	comp=Z,194nm,1.3s						
HKL	Haleakala	49.45	30	eP	P	23 30 54.3	-1.0
HKL	Haleakala	49.45	30	eP	P	23 30 54.3	-1.0
HLK	Haleakala	49.49	30	eP	P	23 30 55.6	+0.1
OPA	Opana	49.54	27	eP	P	23 30 56.0	+0.5
OPA	Opana	49.54	27	eP	P	23 30 56.0	+0.5
GUMO	Guam	50.40	313	eP	P	23 31 02.6	+0.6
GUMO				pmax	pmax		
	comp=Z,242nm,0.8s						
GUMO	Guam	50.40	313	eP	P	23 31 02.6	+0.6
	comp=Z,242nm,0.8s						
FAKI	Fak Fak	50.57	286	P	P	23 31 03.3	0.0
	comp=Z,168nm,1.2s,comp=Z,2µm						
FAKI	Fak Fak	50.57	286	eP	P	23 31 03.1	-0.3
	comp=Z,188nm,1.1s						
FAKI	Fak Fak	50.57	286	P	P	23 31 03.2	-0.2
	baz=51,SNR=9.6						
BNDI	Bandanaira	51.93	283	P	P	23 31 12.3	-0.9
	comp=Z,475nm,1.9s,comp=Z,6µm						
SWI	Sorong	52.42	288	P	P	23 31 16.6	0.0
	comp=Z,642nm,1.0s,comp=Z,6µm						
MSAI	Masohi	53.32	284	P	P	23 31 23.4	+0.3
	comp=Z,34nm,1.1s,comp=Z,423nm						
PALU	Palau	54.07	299	P	P	23 31 28.7	+0.3
	baz=54,SNR=7.0						
SBA	Scott Base	54.94	183	eP	P	23 31 36.9	+3.4
SBA				pmax	pmax		
	comp=Z,51nm,0.9s						
SBA	Scott Base	54.94	183	eP	P	23 31 36.9	+3.4
	comp=Z,51nm,0.9s						
VNDA	Vanda	54.95	185	eP	P	23 31 35.9	+2.3
VNDA				pmax	pmax		
	comp=Z,13nm,0.6s						
VNDA	Vanda	54.95	185	P	P	23 31 35.9	+2.3
	comp=Z,14nm,0.5s,baz=7.2,slow=7.9,SNR=58						
VNDA	Vanda	54.95	185	eP	P	23 31 35.9	+2.3
	comp=Z,13nm,0.6s						
SOEI	Soe	54.95	274	P	P	23 31 36.0	+1.2
SOEI	Soe	54.95	274	eP	P	23 31 36.3	+1.5
	comp=Z,505nm,1.0s						
SOEI	Soe	54.95	274	P	P	23 31 36.6	+1.8
	baz=55,SNR=55						
NLAI	Namlea	55.01	283	P	P	23 31 35.1	+0.1
	comp=Z,164nm,1.4s,comp=Z,3µm						
KLBR	Kellerberrin	55.35	247	P	P	23 31 37.4	+0.2
	baz=56,SNR=69						
MEEK	Meekatharra	55.42	253	P	P	23 31 37.5	-0.3
	baz=56,SNR=39						
NWAO	Narrogin (SRO)	55.61	245	P	P	23 31 39.2	+0.3
	comp=Z,33nm,0.4s,baz=111,slow=7.0,SNR=71						
RKGY	Rocky Gully	55.62	243	P	P	23 31 39.6	+0.6
	baz=56,SNR=24						
MBWA	Marble Bar	55.62	260	eP	P	23 31 39.2	+0.1
	comp=Z,471nm,1.5s						
LBMI	Labuha	55.83	286	P	P	23 31 41.0	+0.3
	comp=Z,202nm,1.2s,comp=Z,2µm						
BLDU	Ballidu	56.38	248	⇑P	P	23 31 44.2	-0.2
	baz=56,SNR=195						
SANI	Sanana	56.53	284	P	P	23 31 45.0	-0.5
	comp=Z,133nm,0.9s,comp=Z,2µm						
TNTI	Ternate	56.61	287	P	P	23 31 46.5	+0.4
TNTI	Ternate	56.61	287	eP	P	23 31 46.3	+0.2
	comp=Z,335nm,1.0s						
MORW	Morawa	57.21	250	⇓P	P	23 31 50.1	0.0
	baz=57,SNR=118						
MMRI	Maumere	57.23	275	eP	P	23 31 50.3	-0.1
	comp=Z,630nm,1.7s						
MMRI				eScP	ScP	23 35 47.7	+1.5
MMRI				eS	S	23 39 03.9	-2.1
LUWI	Luwuk	59.85	283	eP	P	23 32 08.3	+0.3
	comp=Z,235nm,1.0s						
LUWI	Luwuk	59.85	283	P	P	23 32 08.7	+0.7
	baz=60,SNR=5.3						
GIRL	Giralia	60.20	256	P	P	23 32 11.7	+1.5
	baz=60,SNR=27						
CASY	Casey	60.68	206	eP	P	23 32 12.8	+0.2
	comp=Z,55nm,0.6s						
KAPI	Kappang	60.91	277	P	P	23 32 15.3	+0.3
	comp=Z,246nm,1.2s,SNR=7.2						
KAPI	Kappang	60.91	277	eP	P	23 32 15.0	0.0
	comp=Z,205nm,1.4s						
DAV	Davao City (W)	61.29	293	eP	P	23 32 17.6	+0.1
	comp=Z,200nm,0.4s						
CBIJ	Chichi jima	62.14	322	eP	P	23 32 22.9	+0.2
	comp=Z,361nm,1.3s						
TOLI	Toli-Toli	62.58	284	eP	P	23 32 25.0	-0.9
	comp=Z,124nm,0.5s						
JAGI	Jajag, Banyuwa	64.71	272	eP	P	23 32 38.6	-1.0
	comp=Z,113nm,0.9s						
JAGI	Jajag, Banyuwa	64.71	272	P	P	23 32 38.6	-1.0
	baz=65,SNR=8.4						
MYLDM	Lahad Datu	66.48	287	eP	P	23 32 51.1	+0.5
	comp=Z,124nm,1.4s						
QSPA	South Pole Qui	66.74	180	P	P	23 32 53.2	+1.7
	comp=Z,30nm,0.8s,baz=2.1,slow=0.7,SNR=65						
SDKM	Sandakan	67.84	287	⇓P	P	23 33 00.1	+1.1
UGM	Wanagama	68.25	271	eP	P	23 33 00.9	-0.6
	comp=Z,402nm,1.5s						
UGM	Wanagama	68.25	271	P	P	23 33 01.5	-0.1
	baz=68,SNR=14						
SMRI	Semarang	68.65	271	eP	P	23 33 04.0	+0.1
	comp=Z,322nm,1.6s						
TGY	Tagaytay City	68.85	297	P	P	23 33 05.4	+0.3
	comp=Z,98nm,0.3s,baz=2.0,slow=7.2,SNR=6.0						
KKM	Kota Kinabalu	68.89	287	eP	P	23 33 05.1	-0.4
	comp=Z,99nm,1.3s						
KKM	Kota Kinabalu	68.89	287	⇓P	P	23 33 05.4	0.0
	baz=69,SNR=6.1						
KKM	Kota Kinabalu	68.89	287	⇓P	P	23 33 06.8	+1.4
JOW	Kunigami	70.73	312	P	P	23 33 16.9	+0.9
	comp=Z,6.8nm,0.8s,baz=300,slow=29,SNR=5.3						
SBUM	Sibu	70.85	281	eP	P	23 33 17.1	0.0
	comp=Z,68nm,1.4s						
CISI	Cisompet, Garu	70.87	270	eP	P	23 33 16.0	-1.2
	comp=Z,388nm,1.6s						
CISI	Cisompet, Garu	70.87	270	⇓P	P	23 33 16.4	-0.9
	baz=71,SNR=4.2						
LEM	Lembang	71.33	271	P	P	23 33 20.8	+0.8
	baz=72,SNR=4.8						
MJAR	Matsushiro Arr	71.53	325	P	P	23 33 21.0	+0.5
	comp=Z,19nm,1.0s,baz=167,slow=6.4,SNR=8.6						
MAJO	Matsushiro	71.53	325	⇑eP	P	23 33 21.0	+0.5
MAJO				pmax	pmax		
	comp=Z,103nm,0.8s						
MAJO	Matsushiro	71.53	325	eP	P	23 33 20.6	+0.1
	comp=Z,20nm,0.8s						
MAT	Matsushiro	71.53	325	P	P	23 33 20.7	+0.2
XMIS	Christmas Isla	71.79	266	eP	P	23 33 22.3	-0.2
	comp=Z,239nm,0.8s						
XMIS	Christmas Isla	71.79	266	P	P	23 33 22.9	+0.3
	baz=72,SNR=4.1						
KSM	Kuching	72.16	280	eP	P	23 33 24.3	-0.4
	comp=Z,170nm,1.3s						
KSM	Kuching	72.16	280	P	P	23 33 25.1	+0.4
	baz=72,SNR=15						
YOJ	Yonaguni jima	73.02	307	eP	P	23 33 29.5	+0.2
YOJ				pmax	pmax		
	comp=Z,225nm,1.2s						
YOJ	Yonaguni jima	73.02	307	eP	P	23 33 29.5	+0.2
	comp=Z,225nm,1.2s						
JNU	Nakatsue	73.21	318	P	P	23 33 30.8	+0.4
	comp=Z,23nm,1.0s,baz=116,slow=5.0,SNR=6.2						
JNU	Nakatsue	73.21	318	eP	P	23 33 30.2	-0.1
	comp=Z,49nm,1.2s						
TWG	Pinlang	73.52	304	eP	P	23 33 30.5	-1.8
	comp=Z,139nm,1.1s						
YULB	Yu-li	73.68	305	eP	P	23 33 32.2	-1.0
	comp=Z,24nm,1.0s						
NACB	Ninganchiao	73.90	306	eP	P	23 33 34.2	-0.2
	comp=Z,232nm,1.2s						
TPUB	Ta-pu	74.13	305	eP	P	23 33 34.1	-1.6
	comp=Z,90nm,0.9s						
SSLB	Suanglung	74.16	305	eP	P	23 33 34.9	-1.1
	comp=Z,55nm,0.8s						
YHNB	Yeheng	74.35	306	eP	P	23 33 35.8	-1.2
	comp=Z,92nm,1.0s						
TATO	Taipei	74.44	306	eP	P	23 33 37.1	-0.3
	comp=Z,215nm,1.0s						
ADK	Adak	74.95	2	eP	P	23 33 39.3	-0.3

ADK pmax pmax
comp=Z,305nm,1.4s
ADK Adak 74.95 2 eP P 23 33 39.2 -0.3
comp=Z,305nm,1.4s
ASAJ Asahikawa 75.44 333 P P 23 33 44.7 +2.2
comp=Z,13nm,0.7s,baz=219,slow=6.7,SNR=9.8
ASAJ Asahikawa 75.44 333 eP P 23 33 42.0 -0.6
comp=Z,19nm,0.9s
FX1 Attu Island--F 76.14 356 eP P 23 33 45.9 -0.4
FX1 Attu Island--F 76.14 356 P P 23 33 45.7 -0.6
comp=Z,24nm,0.7s,baz=268,slow=8.9,SNR=5.3
FX1 Attu Island--F 76.14 356 eP P 23 33 45.9 -0.4
MNAI Manna 76.55 271 eP P 23 33 47.3 -2.2
comp=Z,110nm,0.9s
QZH Quanzhou 76.59 305 ⇓iP P 23 33 50.6 +1.2
QZH S S 23 42 48.7 -3.9
QZH pmax pmax
comp=Z,80nm,1.0s
UNV Unalaska Valle 77.72 8 eP P 23 33 54.5 -0.4
comp=Z,86nm,1.1s
KSRS Korea Array 77.92 320 P P 23 33 57.6 +1.3
comp=Z,5.8nm,0.8s,baz=137,slow=5.9,SNR=25
KSAR Wonju Array Be 77.93 320 P P 23 33 57.6 +1.2
KSAR Wonju Array Be 77.93 320 P P 23 33 57.6 +1.2
KS01 Wonju Array Si 77.95 320 eP P 23 33 56.3 -0.2
AKUT Akutan 78.10 8 eP P 23 33 56.1 -0.7
comp=Z,52nm,1.0s
MYKOM Kota Tinggi 78.17 277 eP P 23 33 56.8 -1.4
comp=Z,96nm,1.4s
MAW Mawson 78.33 200 eP P 23 33 58.4 +0.4
MAW pmax pmax
comp=Z,20nm,1.4s
MAW Mawson 78.33 200 P P 23 33 59.3 +1.3
comp=Z,13nm,0.6s,baz=129,slow=4.2,SNR=8.1
MAW Mawson 78.33 200 eP P 23 33 58.4 +0.4
comp=Z,20nm,1.4s
DLV T Lat 78.36 288 eP P 23 34 00.3 +0.8
comp=Z,68nm,1.1s
PEA0 Petropavlovsk- 78.59 346 eP P 23 33 59.7 +0.1
PETK Petropavlovsk- 78.59 346 P P 23 33 59.9 +0.3
comp=Z,20nm,0.7s,baz=139,slow=7.6,SNR=22
FALS False Pass 79.14 10 eP P 23 34 01.7 -0.7
comp=Z,54nm,0.8s
PMSA Palmer Station 79.36 157 eP P 23 34 05.0 +1.4
comp=Z,132nm,1.5s
SDPT Sand Point 80.10 11 eP P 23 34 07.2 -0.2
comp=Z,219nm,1.5s
BKNI Bangkinang 80.15 275 eP P 23 34 08.8 +0.1
comp=Z,86nm,0.4s
USRK Ussuriysk Arra 80.38 327 P P 23 34 10.7 +1.5
comp=Z,11nm,0.8s,baz=131,slow=3.2,SNR=16
NJ2 Nanjing 80.41 311 eP P 23 34 11.1 +1.5
NJ2 pP pP 23 36 01.2 -2.7
NJ2 sP sP 23 36 54.7 -3.6
NJ2 S S 23 43 34.0 +1.8
NJ2 sS sS 23 46 53.0 -2.8
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,3µm,3.6s
QIZ Qiongzhong 80.50 295 P P 23 34 11.3 +0.9
QIZ S S 23 43 32.4 -1.2
QIZ sS sS 23 46 54.3 -2.9
QIZ pmax pmax
comp=Z,150nm,5.7s
SPIA Saint Paul Isl 80.61 5 eP P 23 34 09.9 -0.1
comp=Z,168nm,1.2s
SAO San Andreas Ge 81.25 44 eP P 23 34 13.1 -0.8
SAO pmax pmax
comp=Z,71nm,1.1s
SAO San Andreas Ge 81.25 44 eP P 23 34 13.1 -0.8
comp=Z,71nm,1.1s
SMMC Simmler 81.31 46 ⇑P P 23 34 15.7 +1.4
baz=82
PTRM Twissleman Ran 81.38 45 eP P 23 34 14.3 -0.3
CHGN Chignik 81.38 12 eP P 23 34 14.0 0.0
FMP Fort Macarthur 81.52 48 ⇑P P 23 34 16.3 +1.0
baz=82
HOPS Hopland 81.62 41 eP P 23 34 14.7 -1.0
comp=Z,150nm,1.4s
KCPM Cahto Peak 81.75 40 eP P 23 34 15.8 -0.7
comp=Z,81nm,1.4s
DECC Green Verdugo 81.80 47 ⇓P P 23 34 17.7 +0.8
baz=82
IPM Ipoh 81.83 278 eP P 23 34 18.1 +0.6
comp=Z,136nm,1.4s
PASC Pasadena Art C 81.86 47 eP P 23 34 17.8 +0.7
comp=Z,34nm,1.0s
109C Camp Elliot, M 81.87 49 ⇓P P 23 34 18.2 +1.1
baz=82
KIPM Iron Peak 81.89 40 eP P 23 34 16.2 -1.1
MDJ Mudanjiang 81.89 326 P P 23 34 18.3 +1.3
MDJ sP sP 23 37 02.3 -3.7
MDJ PP PP 23 37 35.2 +0.7
MDJ S SKKSac 23 43 51.5 +0.8
MDJ sS sS 23 47 08.0 -3.2
MDJ SS SS 23 49 27.4 +6.2
MDJ pmax pmax
comp=Z,15nm,1.1s
MDJ pmax pmax
comp=Z,110nm,6.0s
MDJ Mudanjiang 81.89 326 eP P 23 34 16.8 -0.2
comp=Z,13nm,0.8s
MWC Mount Wilson 81.97 48 eP P 23 34 18.7 +0.8
MWC pmax pmax
comp=Z,20nm,0.6s
MWC Mount Wilson 81.97 48 eP P 23 34 18.7 +0.8
comp=Z,20nm,0.6s
ARVC Arvin 81.97 46 ⇓P P 23 34 19.0 +1.4
baz=82,SNR=6.5
KMRM Mail Ridge 82.02 40 eP P 23 34 19.5 +1.7
comp=Z,205nm,1.3s
BAR Barrett 82.05 49 eP P 23 34 19.2 +1.1
comp=Z,279nm,1.6s
HABR Khabarovsk 82.09 332 eP P 23 34 18.3 +0.4
HABR e*PP pP 23 36 10.5 -2.2
HABR e*SP sP 23 37 04.0 -3.0
HABR ePPP PPP 23 39 30.0
HABR eS SKSac 23 43 47.4 +0.1
HABR eSS SS 23 49 23.5 -0.5
HABR eSSS SSS 23 52 57.6
HABR pmax pmax
comp=Z,33nm,2.3s
HABR pmax pmax
comp=Z,28nm,1.6s
HABR MLR MLR
comp=Z,312nm,19.0s
MURC Murrieta 82.20 48 ⇓P P 23 34 20.2 +1.3
baz=82,SNR=7.6
VES Vestal, Richgr 82.22 46 ⇑P P 23 34 19.7 +0.8
baz=82,SNR=18
BFSC Mount Baldy Ra 82.25 48 ⇑P P 23 34 20.0 +0.8
baz=82,SNR=11
MONP Monument Peak 82.34 49 ⇑P P 23 34 21.1 +1.2
baz=83,SNR=12
EDW2 Edwards Air Fo 82.39 47 ⇓P P 23 34 20.9 +1.0
baz=83,SNR=14
KHMM Horse Mountain 82.42 39 eP P 23 34 21.8 +1.9
comp=Z,108nm,1.4s
UBPT Khong Chiam 82.48 290 P P 23 34 22.0 +1.4
comp=Z,25nm,1.3s
SII Sitkinak Islan 82.49 14 eP P 23 34 20.2 +0.5
comp=Z,65nm,0.8s
KULM Kulim 82.51 279 eP P 23 34 21.3 +0.4
comp=Z,78nm,1.3s
ISA Isabella 82.52 46 eP P 23 34 21.8 +1.3
ISA pmax pmax
comp=Z,196nm,1.7s
ISA Isabella 82.52 46 eP P 23 34 21.8 +1.3
comp=Z,196nm,1.7s
ISA Isabella 82.52 46 ⇓P P 23 34 21.8 +1.3
baz=83,SNR=28
CMB Columbia Colle 82.69 43 eP P 23 34 22.3 +1.1
CMB pmax pmax
comp=Z,70nm,1.1s
CMB Columbia Colle 82.69 43 eP P 23 34 22.3 +1.1
comp=Z,70nm,1.1s
PFO Pinyon Flat Ob 82.72 49 eP P 23 34 22.5 +0.9
PFO pmax pmax
comp=Z,23nm,1.0s
PFO Pinyon Flat Ob 82.72 49 eP P 23 34 22.5 +0.9
comp=Z,23nm,1.0s
PFO Pinyon Flat Ob 82.72 49 ⇓P P 23 34 22.7 +1.1
baz=83,SNR=5.4
BBRC Big Bear Solar 82.77 48 ⇑P P 23 34 23.1 +1.1
baz=83

WHN Wuhan 82.78 308 ⇑P P 23 34 23.3 +1.5
WHN SKS S 23 43 56.9 +0.8
WHN pmax pmax
comp=Z,82nm,1.1s
SWSC Sam W. Stewart 82.81 50 ⇓P P 23 34 23.2 +1.3
baz=83,SNR=11
WDC Whiskeytown Da 82.93 40 eP P 23 34 23.7 +1.3
WDC pmax pmax
comp=Z,92nm,1.3s
WDC Whiskeytown Da 82.93 40 eP P 23 34 23.7 +1.3
comp=Z,92nm,1.3s
LRMC Laurel Mountai 82.94 47 ⇓P P 23 34 23.9 +1.2
baz=83,SNR=18
KBO Bosley Butte 82.99 38 eP P 23 34 24.1 +1.4
comp=Z,330nm,1.9s
RRX Edison Barstow 83.06 47 ⇓P P 23 34 24.1 +0.9
baz=83
PSI Prapat 83.07 276 P P 23 34 23.1 -0.8
baz=83,SNR=22
N02D Trinity Center 83.08 40 ⇓P P 23 34 24.8 +1.5
baz=83
CWC Cottonwood Cre 83.23 46 ⇓P P 23 34 25.1 +0.9
baz=84,SNR=7.2
BELC Belle Mtn. Jos 83.25 49 ⇑P P 23 34 25.5 +1.2
baz=84,SNR=20
M02C Callahan 83.26 39 ⇓P P 23 34 25.9 +1.8
baz=84
OHAK Old Harbor 83.30 14 eP P 23 34 23.8 +0.1
comp=Z,70nm,1.2s
SNY Shenyang 83.31 321 ⇓P P 23 34 24.9 +0.7
SNY pmax pmax
comp=Z,15nm,0.7s
L02D Cave Junction, 83.31 38 ⇓P P 23 34 25.8 +1.6
baz=84
KEBM Edson Butte 83.36 38 eP P 23 34 24.4 -0.1
comp=Z,139nm,1.4s
GSC Goldstone 83.43 47 eP P 23 34 25.7 +0.6
GSC pmax pmax
comp=Z,60nm,1.3s
GSC Goldstone 83.43 47 eP P 23 34 25.7 +0.6
comp=Z,60nm,1.3s
GSC Goldstone 83.43 47 ⇑P P 23 34 26.1 +1.0
baz=84,SNR=18
MLAC Mammoth Lakes 83.44 44 ⇑P P 23 34 26.8 +1.6
baz=84,SNR=7.8
BC3 Big Chuckawall 83.44 49 ⇓P P 23 34 26.2 +1.0
baz=84,SNR=14
HEC Hector,Ludlow 83.49 48 ⇑P P 23 34 26.4 +1.0
baz=84,SNR=20
TIN Tinemaha 83.49 45 ⇑P P 23 34 26.7 +1.3
baz=84
CN2 Changchun 83.53 323 eP P 23 34 26.1 +0.9
CN2 pmax pmax
comp=Z,20nm,1.0s
GLA Glamis 83.55 50 eP P 23 34 27.4 +1.7
GLA pmax pmax
comp=Z,130nm,1.3s
GLA Glamis 83.55 50 eP P 23 34 27.4 +1.7
comp=Z,130nm,1.3s
GLA Glamis 83.55 50 ⇑P P 23 34 27.2 +1.6
baz=84,SNR=17
YBH Yreka Blue Hor 83.56 39 eP P 23 34 27.4 +1.8
YBH pmax pmax
comp=Z,27nm,0.9s
YBH Yreka Blue Hor 83.56 39 eP P 23 34 27.4 +1.8
comp=Z,27nm,0.9s
WAKR Walker 83.57 43 eP P 23 34 27.1 +1.3
SYO Syowa Base 83.59 193 ⇑iP P 23 34 23.6 -1.6
GSI Gunungsitoli 83.71 274 eP P 23 34 27.8 +0.9
comp=Z,60nm,0.9s
GMRC Granite Mounta 83.92 48 ⇑P P 23 34 28.6 +1.0
baz=84,SNR=18
IRM Iron Mountain 83.93 49 ⇑P P 23 34 28.9 +1.4
baz=84,SNR=35
TIA Tai'an 83.96 314 ⇓P P 23 34 29.1 +1.5
TIA pmax pmax
comp=Z,50nm,1.1s
HUMO Hull Mountain 83.97 38 eP P 23 34 29.2 +1.7
comp=Z,79nm,1.2s
KDAK Kodiak Island 83.97 14 ceP P 23 34 27.5 +0.5
KDAK Kodiak Island 83.97 14 eP P 23 34 26.8 -0.2
comp=Z,356nm,2.1s
GRAC Grapevine Rang 84.02 46 ⇓P P 23 34 28.9 +0.9
baz=84,SNR=23
FURC Furnace Creek, 84.06 46 ⇓P P 23 34 29.0 +1.0
baz=84
M04C Macdoel 84.10 40 ⇓P P 23 34 29.5 +1.2
baz=84
TUQ Turquoise Moun 84.10 48 ⇓P P 23 34 29.4 +0.9
baz=84,SNR=12
CHBT CHBT 84.12 287 P P 23 34 30.1 +1.3
comp=Z,48nm,1.2s,comp=Z,3µm
SHOC Shoshone 84.12 47 ⇑P P 23 34 29.5 +1.1
baz=84,SNR=6.3
KLR Kul'dur 84.12 330 eP P 23 34 24.0 -4.0
Y12C Blythe 84.14 50 ⇑P P 23 34 29.6 +1.1
baz=84,SNR=18
113A Mohawk Valley, 84.15 51 ⇑P P 23 34 29.6 +1.1
baz=84
NV01 Mina Array Sit 84.24 44 eP P 23 34 29.9 +0.7
NVAR Mina Array Bea 84.24 44 P P 23 34 30.0 +0.8
comp=Z,84nm,1.3s,baz=223,slow=7.1,SNR=61
NVAR pP pP 23 36 30.5 +5.7
comp=Z,3.5nm,1.0s,baz=224,slow=8.2,SNR=3.7
NVAR PP PP 23 37 52.0 -1.9
comp=Z,1.7nm,0.9s,baz=224,slow=8.4,SNR=4.4
214A Organ Pipe Nat 84.40 52 ⇓P P 23 34 31.3 +1.3
baz=85,SNR=14
I03D Drain, OR 84.44 37 ⇑P P 23 34 31.2 +1.5
baz=85
LDFC Landfair 84.46 48 eP P 23 34 31.5 +1.2
comp=Z,294nm,1.5s
K04D Chiloquin, OR 84.67 39 ⇓P P 23 34 32.4 +1.4
baz=85
PDMCI Parker Dam,Lak 84.71 49 ⇑P P 23 34 32.5 +1.3
baz=85,SNR=23
TPH Tonopah 84.73 45 eP P 23 34 32.0 +0.4
TPH e 23 37 56.7
TPH pmax pmax
comp=Z,107nm,1.5s
TPH Tonopah 84.73 45 eP P 23 34 32.0 +0.4
comp=Z,107nm,1.5s
TPH ePP PP 23 37 56.6 -1.1
J04D Umpqua Nationa 84.85 38 ⇑P P 23 34 33.6 +1.5
baz=85
I04A Tendick Farm, 85.02 38 ⇑P P 23 34 34.2 +1.5
baz=85
COR Corvallis 85.03 37 eP P 23 34 34.4 +1.8
COR pmax pmax
comp=Z,253nm,1.9s
COR Corvallis 85.03 37 eP P 23 34 34.4 +1.8
comp=Z,253nm,1.9s
Z14A Wintersburg 85.05 51 ⇑P P 23 34 34.4 +1.4
baz=85,SNR=15
MOD Modoc 85.08 40 eP P 23 34 33.7 +0.6
comp=Z,28nm,0.9s
SHPR Sheep Range 85.21 47 eP P 23 34 34.8 +0.9
SNAA Sanae 85.22 179 eP P 23 34 33.0 -0.3
SNAA pmax pmax
comp=Z,91nm,2.3s
SNAA Sanae 85.22 179 eP P 23 34 33.0 -0.3
comp=Z,91nm,2.3s
K05A Summer Lake 85.23 39 eP P 23 34 35.0 +1.1
comp=Z,60nm,1.0s
Y14A Wickenburg 85.31 50 ⇓P P 23 34 35.5 +1.2
baz=86,SNR=12
W13A Hualapai Mount 85.31 49 ⇑P P 23 34 35.7 +1.2
baz=86
J05D Fort Rock, OR 85.38 39 ⇑P P 23 34 36.1 +1.6
baz=86
VNA3 Neumayer Olymp 85.42 177 P pP 23 36 37.1 +7.0
G03D McMinnville, O 85.45 36 ⇑P P 23 34 36.2 +1.6
baz=86
PATY Pattaya 85.48 286 P P 23 34 39.1 +3.7
comp=Z,9.8nm,1.3s,comp=Z,603nm
SURT Suratani 85.68 282 P P 23 34 38.5 +2.0
comp=Z,22nm,1.4s,comp=Z,343nm
H04A Detroit Lake 85.71 37 eP P 23 34 36.5 +0.6
comp=Z,139nm,1.5s
VNA2 Neumayer--Watz 85.84 178 P pP 23 36 37.2 +5.0
LHMI Lhok Sumawe 85.85 277 eP P 23 34 35.8 -1.5
comp=Z,112nm,1.2s
R11A Troy Canyon, C 85.95 45 eP P 23 34 37.8 +0.3
comp=Z,9.1nm,1.1s
R11A Troy Canyon, C 85.95 45 ⇓P P 23 34 38.3 +0.8
baz=86
I05D Terrebonne, OR 85.97 38 ⇑P P 23 34 38.5 +1.5

baz=86
TUC Tucson 86.06 52 eP P 23 34 39.5 +1.5
TUC pmax pmax
comp=Z,55nm,1.1s
TUC Tucson 86.06 52 eP P 23 34 39.5 +1.5
comp=Z,55nm,1.1s
BMN Battle Mountai 86.08 43 eP P 23 34 38.4 +0.4
BMN e 23 38 08.0
BMN pmax pmax
comp=Z,105nm,1.7s
BMN Battle Mountai 86.08 43 eP P 23 34 38.4 +0.4
comp=Z,105nm,1.7s
BMN ePP PP 23 38 08.0 -0.4
F04D Rainier, OR 86.14 36 ⇑P P 23 34 40.0 +2.1
baz=86
E03A Lebam 86.14 35 eP P 23 34 39.3 +1.4
comp=Z,57nm,1.1s
ENH Enshi 86.25 305 eP P 23 34 39.7 +0.8
comp=Z,16nm,0.9s
F04A Amboy 86.37 36 eP P 23 34 39.8 +0.9
comp=Z,99nm,1.1s
RSO Redoubt South 86.37 13 eP P 23 34 38.1 -0.8
WVOR Wild Horse Val 86.39 41 eP P 23 34 40.2 +0.9
WVOR pmax pmax
comp=Z,85nm,1.4s
WVOR Wild Horse Val 86.39 41 eP P 23 34 40.2 +0.9
comp=Z,85nm,1.4s
SLVN Son La 86.50 295 eP P 23 34 40.3 0.0
comp=Z,32nm,1.4s
NLWA Neilton Lookou 86.53 34 eP P 23 34 40.1 +0.4
comp=Z,66nm,1.4s
G05D Wamic, OR 86.54 37 ⇑P P 23 34 41.4 +1.5
baz=87
GYA Guiyang 86.60 301 ⇓iP P 23 34 42.0 +1.3
GYA pP pP 23 36 37.4 +0.3
GYA sP sP 23 37 28.6 -2.4
GYA PP PP 23 38 15.8 +3.1
GYA SKS SKSac 23 44 17.0 +0.1
GYA S SKKSac 23 44 25.2 -2.0
GYA pmax pmax
comp=Z,20nm,0.7s
GYA pmax pmax
comp=Z,130nm,5.8s
X16A Lo Mia Camp, P 86.66 50 ⇓P P 23 34 41.9 +1.0
baz=87,SNR=31
319A Douglas 86.69 54 ⇓P P 23 34 42.9 +1.9
baz=87,SNR=22
BJT Baijiatuau 86.73 316 eP P 23 34 41.6 +0.8
BJT pmax pmax
comp=Z,12nm,0.6s
BJT Baijiatuau 86.73 316 eP P 23 34 41.6 +0.8
comp=Z,12nm,0.6s
BJI Beijing 86.73 316 P P 23 34 41.9 +1.1
BJI pP pP 23 36 30.9 -6.4
BJI S S 23 44 36.7 +2.9
BJI pmax pmax
comp=Z,16nm,0.9s
SEW Seward 86.78 15 eP P 23 34 40.3 -0.2
comp=Z,39nm,1.0s
I07A Izee 86.86 39 eP P 23 34 42.6 +1.1
comp=Z,84nm,1.2s
G06A Carlson Farm, 86.92 37 eP P 23 34 42.6 +1.0
comp=Z,77nm,1.3s
PBKT Sadao Pong 86.93 289 P P 23 34 43.9 +1.6
comp=Z,34nm,1.5s
CCUT Cedar City 86.99 47 eP P 23 34 43.8 +1.4
comp=Z,47nm,1.4s
GAMB Gambell 87.06 4 eP P 23 34 42.2 +0.4
comp=Z,18nm,1.0s
ARUT Antelope Range 87.06 47 eP P 23 34 44.0 +1.3
ARUT Antelope Range 87.06 47 eP P 23 34 44.0 +1.3
KNB Kanab 87.07 48 eP P 23 34 43.8 +1.1
KNB pmax pmax
comp=Z,92nm,1.5s
KNB Kanab 87.07 48 eP P 23 34 43.8 +1.1
comp=Z,92nm,1.5s
U15A North Rim 87.12 48 ⇓P P 23 34 44.6 +1.5
baz=87,SNR=56
LON Longmire 87.21 36 eP P 23 34 43.1 +0.1
LON pmax pmax
comp=Z,17nm,0.9s
LON Longmire 87.21 36 eP P 23 34 43.1 +0.1
comp=Z,17nm,0.9s
WUAZ Wupatki 87.28 49 eP P 23 34 45.1 +1.3
comp=Z,67nm,1.4s
WUAZ Wupatki 87.28 49 ⇓P P 23 34 45.0 +1.3
baz=88,SNR=18
D05A Enumclaw 87.39 35 eP P 23 34 45.2 +1.5
comp=Z,254nm,1.3s
ELK Elko 87.51 43 eP P 23 34 45.1 +0.3
ELK pmax pmax
comp=Z,13nm,0.9s
ELK Elko 87.51 43 eP P 23 34 45.1 +0.3
comp=Z,13nm,0.9s
PGC Sidney 87.56 34 eP P 23 34 45.2 +0.8
RC01 Rabbit Creek A 87.58 14 eP P 23 34 44.3 -0.1
comp=Z,106nm,1.2s
SRDT SRDT 87.62 287 P P 23 34 47.5 +2.0
comp=Z,114nm,1.2s
X18A Snowflake 87.78 51 ⇓P P 23 34 47.4 +1.3
baz=88,SNR=16
UTTA Uttaradit 87.79 290 P P 23 34 48.3 +2.0
comp=Z,7.5nm,1.2s,comp=Z,86nm
G08A Pilot Rock 87.89 38 eP P 23 34 47.3 +1.0
comp=Z,144nm,1.4s
LTY Liberty 88.14 36 eP P 23 34 47.6 +0.3
comp=Z,126nm,1.7s
E07A Sunnyside 88.15 37 eP P 23 34 48.8 +1.4
comp=Z,67nm,1.1s
PMR Palmer 88.17 14 eP P 23 34 46.9 -0.1
PMR pmax pmax
comp=Z,106nm,1.4s
PMR Palmer 88.17 14 eP P 23 34 46.9 -0.1
comp=Z,106nm,1.4s
RAGM Ragged Mountai 88.21 17 eP P 23 34 47.3 0.0
comp=Z,56nm,1.0s
W18A Petrified Fore 88.23 50 eP P 23 34 49.4 +1.1
comp=Z,50nm,1.4s
W18A Petrified Fore 88.23 50 ⇓P P 23 34 49.5 +1.3
baz=88,SNR=6.3
HAWA Hanford 88.23 37 eP P 23 34 49.1 +1.3
comp=Z,106nm,1.4s
MVU Marysvale 88.26 47 eP P 23 34 49.6 +1.2
comp=Z,82nm,1.8s
KHLT Khaolaem Dam 88.27 287 P P 23 34 50.5 +1.9
comp=Z,11nm,1.4s
121A Cookes Peak, D 88.37 54 ⇑P P 23 34 50.5 +1.6
baz=89,SNR=14
A05A Maple Falls 88.47 34 eP P 23 34 49.4 +0.6
comp=Z,90nm,1.6s
SUKH Sukhothai 88.48 290 P P 23 34 51.6 +2.1
comp=Z,8.3nm,1.2s,comp=Z,81nm
B06A Marblemount 88.48 34 eP P 23 34 48.9 +0.1
comp=Z,65nm,1.3s
XAN Xi'an 88.52 308 P P 23 34 50.6 +1.2
XAN pmax pmax
comp=Z,5.0nm,0.9s
XAN pmax pmax
comp=Z,29nm,6.3s
PLCA Paso Flores 88.54 134 P P 23 34 50.8 +1.2
comp=Z,3.9nm,0.6s,baz=191,slow=5.3,SNR=7.2
DIV Divide 88.56 16 eP P 23 34 49.0 0.0
comp=Z,65nm,1.1s
BMO Blue Mountains 88.58 39 eP P 23 34 49.8 +0.2
comp=Z,74nm,1.6s
MFID Camas Ranch 88.64 41 eP P 23 34 50.5 +0.6
comp=Z,70nm,1.1s
PPLA Purkeypile 88.70 12 eP P 23 34 48.5 -1.2
comp=Z,22nm,1.3s
BMRM Bremner River 88.72 16 eP P 23 34 50.0 +0.3
comp=Z,82nm,1.2s
DUG Dugway 88.76 45 eP P 23 34 50.3 -0.2
DUG pmax pmax
comp=Z,25nm,1.3s
DUG Dugway 88.76 45 eP P 23 34 50.3 -0.2
comp=Z,25nm,1.3s
DUG Dugway 88.76 45 ⇑P P 23 34 51.4 +0.9
baz=89
LAMP Lampang 88.91 291 P P 23 34 53.6 +2.1
comp=Z,18nm,1.1s,comp=Z,147nm
D08A Wollman Farm, 88.97 37 eP P 23 34 52.3 +1.2
comp=Z,35nm,0.9s
WRAK Wrangell Islan 88.99 24 eP P 23 34 52.1 +1.2
comp=Z,63nm,1.1s
BGU Big Grassy Mou 89.01 44 eP P 23 34 52.0 +0.3
comp=Z,13nm,1.3s
E09A Wood Farm, Sta 89.07 37 eP P 23 34 51.9 +0.3

comp=Z,56nm,1.3s
TNA Tin City 89.09 5 eP P 23 34 51.3 +0.1
comp=Z,29nm,1.1s
NLU North Lily Min 89.11 45 eP P 23 34 52.7 +0.4
comp=Z,22nm,1.2s
KMI Kunming 89.14 298 P P 23 34 54.5 +1.7
KMI pmax pmax
comp=Z,24nm,1.1s
CAST Castle Rocks 89.19 12 eP P 23 34 51.1 -0.7
comp=Z,29nm,0.9s
F10A Beach Ranch, E 89.28 38 eP P 23 34 52.8 0.0
comp=Z,68nm,1.4s
Z22A Elephant Butte 89.32 53 ⇓P P 23 34 54.8 +1.5
baz=90,SNR=21
TMUT Trail Mountain 89.34 46 eP P 23 34 54.6 +1.1
comp=Z,185nm,1.4s
MPU Maple Canyon 89.43 45 eP P 23 34 54.3 +0.5
comp=Z,37nm,1.0s
CM01 Chiang Mai Arr 89.45 290 eP P 23 34 56.0 +1.9
CMAR Chiang Mai Arr 89.48 290 P P 23 34 56.2 +2.0
comp=Z,23nm,1.0s,baz=123,slow=3.0,SNR=102
CMAR PP PP 23 38 34.3 -1.1
comp=Z,3.9nm,0.9s,baz=130,slow=5.7,SNR=7.5
CMAR PKKPbc PKKPbc 23 52 26.2 +0.7
comp=Z,0.9nm,0.3s,baz=273,slow=4.7,SNR=4.4
KTH Kantishna Hill 89.54 13 eP P 23 34 51.7 -1.8
comp=Z,29nm,1.0s
HLID Hailey 89.57 41 eP P 23 34 54.2 -0.1
comp=Z,52nm,1.4s
HLID Hailey 89.57 41 ⇓P P 23 34 56.0 +1.8
baz=90
TRF Thorofare Moun 89.58 13 eP P 23 34 52.7 -1.1
comp=Z,39nm,0.9s
SPUT South Promonto 89.58 44 eP P 23 34 55.0 +0.6
comp=Z,77nm,1.2s
CMMT Chiang Mai 89.62 291 P P 23 34 56.2 +1.4
comp=Z,63nm,1.0s,comp=Z,584nm
CHTO Chiang Mai 89.63 291 eP P 23 34 56.0 +1.2
CHTO pmax pmax
comp=Z,57nm,1.1s
CHTO Chiang Mai 89.63 291 P P 23 34 56.2 +1.3
comp=Z,194nm,1.3s,comp=Z,2µm
CHTO Chiang Mai 89.63 291 eP P 23 34 56.0 +1.2
comp=Z,57nm,1.1s
HVU Hansel Valley 89.63 44 eP P 23 34 55.3 +0.7
HVU e 23 38 34.0
HVU pmax pmax
comp=Z,190nm,1.6s
HVU Hansel Valley 89.63 44 eP P 23 34 55.3 +0.7
comp=Z,190nm,1.6s
HVU ePP PP 23 38 34.0 -2.4
SRU San Rafael 89.70 47 eP P 23 34 55.6 +0.6
SRU pmax pmax
comp=Z,51nm,0.9s
SRU San Rafael 89.70 47 eP P 23 34 55.6 +0.6
comp=Z,51nm,0.9s
CTU Camp Tracy 89.71 45 eP P 23 34 55.3 +0.3
comp=Z,48nm,1.1s
LAZ Ladron 89.74 52 eP P 23 34 56.7 +1.4
Y22D IRIS PASSCAL I 89.74 53 ⇓P P 23 34 56.7 +1.5
baz=90
LENM Lemitar 89.75 52 eP P 23 34 56.2 +0.9
C09A Chrisman Ranch 89.76 36 eP P 23 34 55.1 +0.3
comp=Z,52nm,1.5s
MNTX Cornudas Mount 89.77 55 eP P 23 34 55.8 +0.5
comp=Z,107nm,1.9s
JLU Jordanelle 89.86 45 eP P 23 34 55.9 +0.1
comp=Z,144nm,1.9s
DAU Daniels Canyon 89.89 45 eP P 23 34 56.8 +0.8
DAU e 23 38 36.0
DAU Daniels Canyon 89.89 45 eP P 23 34 56.8 +0.8
DAU ePP PP 23 38 36.0 -2.6
BNM Barren Site 89.99 53 eP P 23 34 56.9 +0.3
526A Mary Lane Ranc 90.00 57 ⇑P P 23 34 57.7 +1.2
baz=90,SNR=22
CMAI Chiengmai2 90.00 292 P P 23 34 58.3 +1.5
comp=Z,96nm,1.1s,comp=Z,9µm
TX31 Lajitas Ar. Si 90.00 58 eP P 23 34 57.4 +0.9
TXAR Lajitas Array 90.00 58 P P 23 34 57.8 +1.3
comp=Z,12nm,0.7s,baz=217,slow=6.5,SNR=183
TXAR pP pP 23 36 57.0 +3.1
comp=Z,1.4nm,1.0s,baz=220,slow=6.8,SNR=3.1
LPM Los Pinos Moun 90.06 52 eP P 23 34 57.1 +0.3
MCK McKinley 90.11 13 eP P 23 34 55.6 -0.4
MCK pmax pmax
comp=Z,25nm,1.0s
MCK McKinley 90.11 13 eP P 23 34 55.6 -0.4
comp=Z,25nm,1.0s
MVCO Mesa Verde 90.13 49 eP P 23 34 57.8 +0.7
comp=Z,23nm,1.6s
MVCO Mesa Verde 90.13 49 ⇑P P 23 34 57.8 +0.7
baz=90
PV05 Paradox Valley 90.15 48 eP P 23 34 58.0 +0.9
TCUT Toone Canyon 90.15 45 eP P 23 34 57.9 +0.8
comp=Z,281nm,1.7s
TCUT ePP PP 23 38 38.8 -1.8
PAX Paxson 90.22 15 eP P 23 34 55.6 -1.1
PAX pmax pmax
comp=Z,12nm,1.2s
PAX Paxson 90.22 15 eP P 23 34 55.6 -1.1
comp=Z,12nm,1.2s
627A Terlingua Ranc 90.27 58 ⇓P P 23 34 59.0 +1.2
baz=90,SNR=26
HWUT Hardware Ranch 90.31 44 eP P 23 34 57.3 -0.5
comp=Z,19nm,0.6s
HWUT ePP PP 23 38 40.2 -1.6
Y23A Lovelace Mesa, 90.31 53 ⇑P P 23 34 59.1 +1.1
baz=90,SNR=15
426A McDonald Obser 90.33 57 ⇓P P 23 34 59.2 +1.1
baz=90,SNR=26
PV09 Paradox Valley 90.33 48 eP P 23 34 58.5 +0.4
PV10 Paradox Valley 90.34 48 eP P 23 34 57.2 -0.8
225A Deer Hill, Car 90.38 55 ⇓P P 23 34 59.5 +1.2
baz=91,SNR=16
527A Woodward Ranch 90.41 57 ⇑P P 23 34 59.5 +1.0
baz=91,SNR=24
PV04 Paradox Valley 90.44 48 eP P 23 34 58.8 +0.4
ANMO Albuquerque 90.49 52c iP P 23 34 59.6 +0.8
ANMO pmax pmax
comp=Z,78nm,1.1s
ANMO Albuquerque 90.49 52 eP P 23 34 59.5 +0.8
comp=Z,34nm,1.3s
Z24A Sheeppen Canyo 90.54 54 ⇓P P 23 35 00.5 +1.5
baz=91,SNR=9.9
PV01 Paradox Valley 90.54 48 eP P 23 34 59.0 +0.1
HYT Haines Junctio 90.60 19 eP P 23 34 59.9 +1.4
MENT Mentasta 90.61 16 eP P 23 34 58.8 +0.4
V22A San Miguel Ran 90.63 51 ⇓P P 23 35 00.3 +0.9
baz=91,SNR=7.5
326A Caldwell Ranch 90.66 56 ⇑P P 23 35 00.3 +0.8
baz=91
NEW Newport 90.66 36 eP P 23 34 59.0 0.0
NEW pmax pmax
comp=Z,108nm,2.8s
NEW Newport 90.66 36 eP P 23 34 59.0 0.0
comp=Z,108nm,2.8s
NEW Newport 90.66 36 ⇑P P 23 34 59.1 +0.1
baz=91,SNR=5.2
628A Black Gap, Mar 90.68 58 ⇓P P 23 35 00.4 +0.8
baz=91,SNR=27
125A Gardner Draw, 90.75 55 ⇓P P 23 35 00.7 +0.8
baz=91,SNR=13
Y24A Capitan 90.76 53 ⇓P P 23 35 00.6 +0.6
baz=91,SNR=53
GDL2 Guadalupe Moun 90.77 55 eP P 23 35 01.1 +1.1
W23A Werner Place, 90.81 52 ⇑P P 23 35 00.5 +0.3
baz=91
226B Tecolote Peak, 90.86 55 ⇓P P 23 35 01.2 +0.8
baz=91,SNR=11
U22A Llaves 90.89 51 ⇑P P 23 35 01.8 +1.2
baz=91,SNR=6.4
427A Hayter Ranch, 90.89 57 ⇓P P 23 35 01.8 +1.2
baz=91,SNR=32
CD2 Chengdu 90.90 303 P P 23 35 01.9 +1.3
CD2 PP PP 23 38 51.1 +4.7
CD2 SKS SKSac 23 44 41.1 -0.6
CD2 S S 23 45 11.2 -1.2
CD2 SS SS 23 51 36.1 +3.9
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.2s
Z25A Roswell 90.99 54 ⇓P P 23 35 02.3 +1.3
baz=91,SNR=13
528A Cox Ranch, San 91.06 58 ⇓P P 23 35 02.2 +0.8
baz=91,SNR=14
V23A Ortiz Mt. (NFS 91.07 51 ⇑P P 23 35 02.6 +1.2
baz=91,SNR=15
DOT Dot Lake 91.13 15 eP P 23 35 00.4 -0.4
comp=Z,37nm,1.5s
AHID Auburn Hatcher 91.20 43 eP P 23 35 02.5 +0.7
comp=Z,31nm,0.9s
AHID ePP PP 23 38 47.9 -0.8
MCMT McKenzie Canyo 91.20 41 eP P 23 35 02.5 +0.7
MCMT ePP PP 23 38 47.5 -1.2
126A Clayton Basin, 91.23 55 ⇑P P 23 35 02.8 +0.8
baz=91
Y25A Mesa, Roswell 91.31 54 ⇑P P 23 35 03.2 +0.8
baz=92,SNR=16
DLBC Dease Lake 91.32 24 eP P 23 35 02.3 +0.5
U23A El Rito 91.33 51 ⇑P P 23 35 03.9 +1.3
baz=92,SNR=6.7
COLA College 91.34 13⇑iP P 23 35 01.6 0.0
COLA pmax pmax
comp=Z,45nm,1.0s
COLA College 91.34 13 eP P 23 35 00.7 -1.0
comp=Z,58nm,1.5s
W24A Lazy 6 Ranch, 91.38 52 ⇓P P 23 35 03.7 +0.9
baz=92,SNR=17
428A Kincaid Ranch, 91.39 57 ⇓P P 23 35 04.1 +1.3
baz=92,SNR=6.1
IL1 Eielson Array 91.45 13 eP P 23 35 01.1 -1.2
IL1 ePKiKP PKiKP 23 39 49.1 -1.0
ILAR Eielson Array 91.45 13 P P 23 35 01.3 -0.9
comp=Z,2.3nm,0.5s,baz=212,slow=6.3,SNR=45
ILAR pP pP 23 37 03.8 +4.0
comp=Z,0.7nm,0.9s,baz=215,slow=6.2,SNR=1.8
ILAR PP PP 23 38 33.0 -17
comp=Z,1.5nm,0.9s,baz=217,slow=7.0,SNR=3.8
ILB Eielson Array 91.45 13 eP P 23 35 01.2 -0.9
529A Stev Forest Ra 91.48 58 ⇑P P 23 35 04.2 +1.0
baz=92,SNR=6.1
227A Bennet, Jal 91.49 56 ⇓P P 23 35 04.1 +0.8
baz=92
CPRX Cap Rock 91.52 55 eP P 23 35 04.4 +1.0
Z26A Caprock 91.54 54 ⇑P P 23 35 04.7 +1.2
baz=92,SNR=12
S22A 4UR Ranch, Cre 91.56 49 ⇓P P 23 35 04.6 +0.9
baz=92,SNR=33
328A Wristen Ranch, 91.58 56 ⇑P P 23 35 05.0 +1.3
baz=92,SNR=6.4
X25A Clemmons Ranch 91.61 53 ⇓P P 23 35 04.6 +0.8
baz=92
MSO Missoula 91.64 39 eP P 23 35 03.1 -0.5
comp=Z,37nm,1.9s
MSO Missoula 91.64 39 ⇑P P 23 35 04.2 +0.5
baz=92
DLMT Dillon 91.64 41 eP P 23 35 03.3 -0.4
comp=Z,19nm,1.4s
REDW Red Top Meadow 91.67 43 eP P 23 35 04.2 +0.2
comp=Z,54nm,1.4s
TPAW Teton Pass 91.67 43 eP P 23 35 04.0 0.0
comp=Z,47nm,1.5s
BILL Bilibino 91.69 355c iP P 23 35 03.4 +0.2
BILL i 23 38 52.9
BILL pmax pmax
comp=Z,20nm,1.3s
BILL Bilibino 91.69 355 eP P 23 35 03.1 -0.1
comp=Z,28nm,1.2s
FXWY Fox Creek 91.70 43 eP P 23 35 04.5 +0.3
comp=Z,29nm,1.5s
V24A Rampart Ranch, 91.71 52 ⇓P P 23 35 05.8 +1.4
baz=92,SNR=12
BSMT Bassoo Peak 91.72 38 eP P 23 35 03.8 -0.3
127A Arkansas Junct 91.74 55 ⇓P P 23 35 05.2 +0.7
baz=92
O20A White River Ci 91.74 47 eP P 23 35 04.1 -0.3
comp=Z,50nm,1.4s
O20A ePP PP 23 38 49.9 -3.0
O20A White River Ci 91.74 47 ⇑P P 23 35 05.2 +0.8
baz=92,SNR=12
T23A Casias Ranch, 91.78 50 ⇓P P 23 35 05.8 +1.0
baz=92,SNR=5.6
SNOW Snow King Moun 91.78 43 eP P 23 35 05.0 +0.4
comp=Z,20nm,0.8s
IMW Indian Meadow 91.89 42 eP P 23 35 05.1 0.0
comp=Z,22nm,1.1s
IMW ePP PP 23 38 51.8 -2.3
MOOW Moose Ponds 91.93 43 eP P 23 35 05.3 +0.1
comp=Z,7.7nm,1.1s
JTMT Jette 91.94 38 eP P 23 35 04.6 -0.5
LOHW Long Hollow 91.95 43 eP P 23 35 05.7 +0.3
comp=Z,39nm,1.6s
Y26A Elida 91.95 54 ⇑P P 23 35 06.3 +0.9
baz=92
429A Davenport Ranc 91.95 58 ⇓P P 23 35 06.4 +1.0
baz=92,SNR=35
LRM Limekiln Ridge 91.97 40 eP P 23 35 05.3 -0.1
SWMT Swartz Lake 91.98 38 eP P 23 35 03.5 -1.7
U24A Moreno Valley 92.02 51 ⇑P P 23 35 07.2 +1.3
baz=92
QLMT Earthquake Lak 92.07 41 eP P 23 35 06.0 +0.2
N20A Spence Gulch, 92.07 46 ⇓P P 23 35 06.7 +0.8
baz=92,SNR=16
W25A X Bar L Ranch, 92.07 52 ⇑P P 23 35 06.8 +0.8
baz=92,SNR=20
228A UT Block 9, Go 92.07 56 ⇓P P 23 35 06.7 +0.7
baz=92
CHMT Chamberlain Mo 92.08 39 eP P 23 35 05.4 -0.4
S23A Nye Farm, Mont 92.11 50 ⇓P P 23 35 07.4 +1.2
baz=92
SLMT Seeley Lake 92.12 39 eP P 23 35 04.4 -1.5
I17A Pilgrim Ck. 92.12 43 ⇑P P 23 35 07.8 +1.7
baz=92,SNR=11
FLWY Flagg Ranch 92.13 42 eP P 23 35 04.1 -2.0
comp=Z,36nm,1.4s
FLWY ePP PP 23 38 53.1 -2.8
Z27A Tatum 92.13 55 ⇓P P 23 35 07.0 +0.7
baz=92
SMCO Snowmass 92.14 48 eP P 23 35 07.0 +0.4
comp=Z,11nm,0.6s
SMCO ePP PP 23 38 55.0 -1.3
YBMT Yellow Bay 92.16 38 eP P 23 35 04.8 -1.3
530A J-C Ranch, Com 92.18 58 ⇑P P 23 35 07.6 +1.1
baz=92,SNR=9.4
BW06 Boulder Array 92.18 44 eP P 23 35 06.2 -0.2
comp=Z,13nm,0.8s
BW06 ePP PP 23 38 54.2 -2.1
PD31 Pinedale Array 92.18 44 eP P 23 35 05.8 -0.6
PD31 ePP PP 23 38 53.6 -2.8
PDAR Pinedale Array 92.18 44 P P 23 35 06.3 -0.1
comp=Z,9.7nm,0.7s,baz=212,slow=4.0,SNR=54
PDAR pP pP 23 37 09.0 +5.0
comp=Z,0.7nm,0.8s,baz=245,slow=1.9,SNR=2.7
PDAR PP PP 23 38 52.3 -4.1
comp=Z,6.1nm,1.1s,baz=235,slow=7.0,SNR=14
YFT Old Faithful 92.23 42 eP P 23 35 07.7 +1.0
comp=Z,52nm,1.8s
V25A Rancho No Teng 92.24 52 ⇑P P 23 35 07.5 +0.7
baz=92,SNR=11
X26A CR and CF Fran 92.24 53 ⇓P P 23 35 07.4 +0.6
baz=92
T24B San Luis 92.25 50 ⇑P P 23 35 07.8 +0.8
baz=92,SNR=11
329A Wagon Wheel Ra 92.26 57 ⇑P P 23 35 07.3 +0.5
baz=92,SNR=9.6
YMR Madison River 92.27 42 eP P 23 35 07.5 +0.7
comp=Z,48nm,1.7s
H17A Grant Village 92.36 42 eP P 23 35 07.1 -0.1
comp=Z,5.5nm,0.8s
H17A Grant Village 92.36 42 ⇑P P 23 35 08.5 +1.3
baz=93
BOZ Bozeman (W) 92.37 41 eP P 23 35 06.9 -0.2
BOZ pmax pmax
comp=Z,11nm,1.0s
BOZ Bozeman (W) 92.37 41 eP P 23 35 06.9 -0.2
comp=Z,11nm,1.0s
128A Castleberry Fa 92.38 55 ⇑P P 23 35 08.1 +0.8
baz=93,SNR=6.6
Y27A Causey 92.42 54 ⇓P P 23 35 08.2 +0.6
baz=93,SNR=7.1
832A Faith Ranch, C 92.46 60 ⇑P P 23 35 08.8 +1.1
baz=93,SNR=16
631A Perdido Creek 92.46 59 ⇓P P 23 35 08.4 +0.7
baz=93,SNR=49
R23A Moffat 92.46 49 ⇓P P 23 35 08.9 +1.0
baz=93,SNR=11
YNR Norris Junctio 92.47 42 eP P 23 35 08.8 +1.1
comp=Z,12nm,1.2s
P22A Eagle 92.48 48 ⇑P P 23 35 08.7 +0.9
baz=93,SNR=8.2
SDCO Great Sand Dun 92.48 50 eP P 23 35 07.5 -0.5
comp=Z,18nm,1.1s
W26A Owens Ranch, T 92.52 53 ⇑P P 23 35 08.4 +0.4
baz=93
430A Baggett Ranch, 92.53 58 ⇑P P 23 35 08.8 +0.7
baz=93
229A Bryant Ranch, 92.60 56 ⇑P P 23 35 08.9 +0.5
baz=93
S24A Houchin Ranch, 92.64 50 ⇑P P 23 35 10.1 +1.3
baz=93,SNR=14
U25A Circle Dot Ran 92.64 51 ⇑P P 23 35 09.1 +0.5
baz=93,SNR=9.2
DAWY Dawson 92.65 17 eP P 23 35 07.8 0.0
732A Laxson Ranch, 92.65 60 ⇑P P 23 35 09.3 +0.7
baz=93,SNR=10
933A Laredo 92.74 61 ⇑P P 23 35 09.7 +0.6
baz=93
Z28A Tucker Farm, M 92.74 55 ⇑P P 23 35 09.6 +0.5
baz=93
J19A Crowheart 92.75 44 ⇑P P 23 35 09.8 +0.9
baz=93,SNR=12
MSTX Muleshoe 92.75 54 eP P 23 35 08.5 -0.6
comp=Z,77nm,1.8s
MSTX Muleshoe 92.75 54 ⇓P P 23 35 09.7 +0.6
baz=93,SNR=6.2
EGAK Eagle 92.78 16 eP P 23 35 08.1 -0.2
comp=Z,15nm,0.8s
Q23A Hartsel 92.79 49 ⇑P P 23 35 10.0 +0.6
baz=93
HRY Holter Researc 92.80 40 eP P 23 35 09.0 0.0
531A Rocksprings 92.81 58 ⇓P P 23 35 10.1 +0.7
baz=93,SNR=21
X27A F and S Farms, 92.81 53 ⇑P P 23 35 10.0 +0.6
baz=93
V26A Tequesquite Ra 92.82 52 ⇓P P 23 35 10.2 +0.8
baz=93,SNR=7.4
129A Stewart Farms, 92.85 56 ⇓P P 23 35 09.8 +0.3
baz=93,SNR=6.2
330A Mertzon 92.85 57 ⇓P P 23 35 09.8 +0.3
baz=93
WALA Waterton Lakes 92.87 37 eP P 23 35 08.9 -0.4
O22A Kremmling 92.89 47 ⇑P P 23 35 10.9 +1.0
baz=93,SNR=9.5
833A Chaparral WMA, 92.94 61 ⇑P P 23 35 10.6 +0.7
baz=93,SNR=7.2
T25A Trinidad 92.98 51 ⇓P P 23 35 10.8 +0.6
baz=93,SNR=7.1
431A Sonora 92.98 58 ⇑P P 23 35 10.5 +0.4
baz=93
R24A Sanders Place, 92.98 50 ⇓P P 23 35 10.7 +0.5
baz=93,SNR=13
034A Hebbronville 92.99 62 ⇓P P 23 35 10.6 +0.4
baz=93
P23A Jefferson 93.01 48 ⇑P P 23 35 11.5 +1.1
baz=93,SNR=5.9
W27A Bowe Ranch, En 93.02 53 ⇓P P 23 35 10.3 0.0
baz=93
H18A Shoshone NF, C 93.07 42 ⇓P P 23 35 12.0 +1.6
baz=93
Y28A McKinney Farm, 93.12 54 ⇑P P 23 35 11.4 +0.7
baz=93
U26A Atchley Ranch, 93.12 52 ⇓P P 23 35 11.4 +0.6
baz=93,SNR=8.7
632A Uvalde 93.13 59 ⇑P P 23 35 11.6 +0.8
baz=93,SNR=20
LZH Lanzhou 93.15 308 ⇓P P 23 35 12.2 +1.3
LZH pP pP 23 37 08.5 -0.1
LZH sP sP 23 37 58.6 -3.4
LZH PP PP 23 39 07.5 +3.6
LZH SKS SKSac 23 44 57.0 +2.9
LZH S ScS 23 45 35.0 +1.9
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,270nm,5.4s
I19A Meeteetse 93.17 43 ⇓P P 23 35 11.4 +0.5
baz=93,SNR=9.8
S25A Robets Cordova 93.20 50 ⇑P P 23 35 11.8 +0.7
baz=93,SNR=14
Z29A Hungry Hill Ra 93.24 55 ⇓P P 23 35 11.5 +0.2
baz=93
N22A Wattenberg Ran 93.26 47 ⇑P P 23 35 12.5 +1.1
baz=94,SNR=8.8
Q24A Divide 93.29 49 ⇓P P 23 35 12.0 +0.3
baz=94,SNR=9.7
O23A Lake Granby, G 93.34 47 ⇑P P 23 35 12.6 +0.8
baz=94,SNR=6.9
934A Benavides 93.34 61 ⇓P P 23 35 12.1 +0.3
baz=94
ISCO Idaho Springs 93.36 48 eP P 23 35 12.4 +0.4
ISCO pmax pmax
comp=Z,4.0nm,0.7s
ISCO Idaho Springs 93.36 48 eP P 23 35 12.3 +0.4
comp=Z,4.1nm,0.7s
ISCO Idaho Springs 93.36 48 ⇑P P 23 35 12.7 +0.7
baz=94,SNR=5.3
331A San Angelo 93.39 57 ⇓P P 23 35 12.3 +0.3
baz=94
J20A Shoshoni 93.41 44 ⇑P P 23 35 13.0 +1.1
baz=94,SNR=15
M22A Cedar Creek Ra 93.45 46 ⇑P P 23 35 12.8 +0.6
baz=94,SNR=7.0
H19A Powell 93.49 42 ⇑P P 23 35 12.8 +0.6
baz=94
V27A Dan Oppiter Fa 93.49 53 ⇓P P 23 35 12.9 +0.4
baz=94
130A Snyder 93.52 56 ⇓P P 23 35 13.2 +0.6
baz=94
JCT Junction City 93.52 58 eP P 23 35 13.0 +0.4
JCT pmax pmax
comp=Z,64nm,1.9s
JCT Junction City 93.52 58 eP P 23 35 13.0 +0.4
comp=Z,64nm,1.9s
JCT Junction City 93.52 58 ⇑P P 23 35 13.1 +0.5
baz=94,SNR=5.9
R25A Fountain Ranch 93.52 50 ⇓P P 23 35 13.0 +0.5
baz=94,SNR=11
Y29A Porterfield Fa 93.53 55 ⇓P P 23 35 12.8 +0.2
baz=94,SNR=12
834A Tilden 93.53 61 ⇓P P 23 35 13.2 +0.6
baz=94
RLMT Red Lodge 93.54 42 eP P 23 35 13.0 +0.5
comp=Z,8.6nm,1.2s
T26A Comanche Natio 93.58 51 ⇓P P 23 35 13.4 +0.5
baz=94
633A Saathoff Ranch 93.59 60 ⇓P P 23 35 13.8 +0.9
baz=94,SNR=11
K21A Alcova 93.60 45 ⇑P P 23 35 13.5 +0.7
baz=94,SNR=9.4
GCMT Greycliff 93.62 41 eP P 23 35 13.3 +0.4
N23A Red Feather La 93.64 47 ⇓P P 23 35 14.0 +0.8
baz=94
I20A Worland 93.67 43 ⇑P P 23 35 13.4 +0.3
baz=94,SNR=6.3
Z30A Sanderson Ranc 93.69 55 ⇓P P 23 35 13.7 +0.3
baz=94,SNR=5.3
432A Menard 93.69 58 ⇑P P 23 35 13.7 +0.4
baz=94,SNR=9.3
231A Bronte 93.74 57 ⇑P P 23 35 13.6 0.0
baz=94,SNR=10
W28A Vega 93.74 53 ⇑P P 23 35 13.7 +0.1
baz=94
X29A Tulia 93.76 54 ⇑P P 23 35 14.0 +0.3
baz=94
U27A Thompson Grove 93.80 52 ⇓P P 23 35 13.7 -0.2
baz=94
J21A Lysite 93.81 44 ⇑P P 23 35 14.4 +0.6
baz=94
L22A Ellis Ranch, M 93.85 46 ⇓P P 23 35 14.9 +0.9
baz=94,SNR=9.3
S26A Kim 93.86 51 ⇑P P 23 35 14.9 +0.8
baz=94,SNR=11
O24A Longmont 93.88 48 ⇑P P 23 35 15.2 +1.0
baz=94
Q25A Bedland, Calha 93.89 49 ⇑P P 23 35 14.9 +0.6
baz=94
V28A Channing 93.94 53 ⇑P P 23 35 15.4 +0.9
baz=94
332A Millersview 93.95 58 ⇓P P 23 35 15.3 +0.8
baz=94,SNR=18
533A Kerrville 93.95 59 ⇑P P 23 35 15.3 +0.8
baz=94,SNR=10
AMTX Amarillo 93.96 54 ⇓P P 23 35 15.0 +0.5
baz=94
131A Roby 93.99 56 ⇓P P 23 35 15.0 +0.3
baz=94
H20A Greybull 94.01 43 ⇑P P 23 35 15.3 +0.7
baz=94,SNR=6.6
M23A Laramie 94.06 46 ⇓P P 23 35 16.0 +1.0
baz=94

K22A Casper 94.08 45 eP P 23 35 14.9 -0.1
comp=Z,18nm,1.2s
K22A Casper 94.08 45 ⇑P P 23 35 16.5 +1.5
baz=94
F19A Roth Farm, Mol 94.10 41 ⇓P P 23 35 16.3 +1.3
baz=94
Y30A Stafford Cattl 94.12 55 ⇑P P 23 35 15.7 +0.4
baz=94
I21A Big Trails, Te 94.14 44 ⇑P P 23 35 15.6 +0.4
baz=94,SNR=6.3
PHWY Pilot Hill 94.16 47 eP P 23 35 15.3 -0.2
comp=Z,91nm,3.0s
835A Beeville 94.18 61 ⇓P P 23 35 15.9 +0.3
baz=94
R26A Arlington 94.18 50 ⇑P P 23 35 16.2 +0.6
baz=94,SNR=15
433A Art 94.19 58 ⇑P P 23 35 16.2 +0.5
baz=94,SNR=27
P25A Willow Gulch B 94.22 49 ⇓P P 23 35 16.7 +1.0
baz=94,SNR=9.5
LCO Las Campanas 94.23 124 eP P 23 35 17.1 +0.9
comp=Z,14nm,0.7s
232A Coleman 94.23 57 ⇑P P 23 35 16.2 +0.4
baz=94,SNR=6.8
G20A Bridger 94.23 42 ⇓P P 23 35 16.9 +1.3
baz=94
S27A Las Animas 94.30 51 ⇓P P 23 35 16.8 +0.7
baz=94
N24A Carr 94.33 47 ⇓P P 23 35 17.3 +1.2
baz=94
L23A Garrett 94.37 46 ⇑P P 23 35 17.3 +0.9
baz=95,SNR=9.3
534A Blanco 94.38 59 ⇑P P 23 35 17.0 +0.6
baz=95,SNR=12
Q26A Hugo 94.41 49 ⇑P P 23 35 17.7 +1.1
baz=95,SNR=9.5
Z31A Sharp Cattle R 94.45 56 ⇓P P 23 35 17.3 +0.6
baz=95,SNR=5.7
J22A Midwest 94.47 44 ⇑P P 23 35 17.7 +1.0
baz=95,SNR=8.9
E19A Rath Farm, Rou 94.49 41 ⇓P P 23 35 17.6 +0.9
baz=95
333A Richland Sprin 94.51 58 ⇓P P 23 35 17.3 +0.2
baz=95,SNR=6.1
O25A Wiggins 94.52 48 ⇑P P 23 35 17.9 +0.9
baz=95
ABTX Abilene, Hawle 94.54 57 eP P 23 35 16.9 -0.3
comp=Z,36nm,1.4s
ABTX Abilene, Hawle 94.54 57 ⇓P P 23 35 17.8 +0.6
baz=95
F20A Billings 94.56 42 ⇑P P 23 35 17.8 +0.8
baz=95
T28A Walsh 94.61 52 ⇓P P 23 35 18.0 +0.5
baz=95
R27A Eads 94.63 50 ⇓P P 23 35 17.8 +0.2
baz=95,SNR=8.4
Y31A Rekieta Farm, 94.63 55 ⇑P P 23 35 17.7 +0.1
baz=95
H21A Big Horn, Sher 94.68 43 ⇑P P 23 35 18.2 +0.5
baz=95
EGMT Eagleton 94.69 39 ⇓P P 23 35 18.1 +0.5
baz=95
I22A 9 Mile Ranch, 94.69 44 ⇑P P 23 35 18.2 +0.5
baz=95
K23A Bowen Ranch, D 94.72 45 ⇓P P 23 35 18.4 +0.5
baz=95
D19A Cripps Ranch, 94.78 40 ⇑P P 23 35 18.8 +0.8
baz=95
P26A Davis Ranch, A 94.81 49 ⇑P P 23 35 18.9 +0.5
baz=95
L24A Wheatland 94.84 46 ⇓P P 23 35 19.3 +0.9
baz=95
434A Burnet 94.86 59 ⇑P P 23 35 18.8 +0.1
baz=95,SNR=12
233A Rising Star 94.86 57 ⇓P P 23 35 19.1 +0.4
baz=95
E20A Meyer Farm, Mu 94.91 41 ⇓P P 23 35 19.7 +1.2
baz=95
Z32A Haskell 94.95 56 ⇑P P 23 35 19.6 +0.6
baz=95,SNR=8.0
C19A Slack Wire Ran 94.96 40 ⇑P P 23 35 19.8 +1.1
baz=95
S28A Manter 94.97 51 ⇑P P 23 35 19.9 +0.8
baz=95
KSCO Kaye Shedlock' 95.07 50 eP P 23 35 19.2 -0.3
comp=Z,68nm,1.4s
KSCO Kaye Shedlock' 95.07 50 ⇑P P 23 35 20.3 +0.8
baz=95,SNR=5.6
133A Hamilton Ranch 95.09 57 ⇓P P 23 35 20.3 +0.7
baz=95
334A Lometa 95.10 58 ⇑P P 23 35 20.1 +0.4
baz=95,SNR=11
O26A Horse Wrangler 95.13 48 ⇑P P 23 35 20.7 +0.9
baz=95
D20A Manuel Ranch, 95.19 41 ⇓P P 23 35 20.2 +0.4
baz=95
Y32A R-V Farms, Ver 95.27 55 ⇑P P 23 35 20.4 0.0
baz=96
P27A Ficken Ranch, 95.34 49 ⇑P P 23 35 21.1 +0.4
baz=96
R28A Tribune 95.36 51 ⇑P P 23 35 21.7 +0.9
baz=96,SNR=11
W31A Holland Ranch, 95.38 54 ⇓P P 23 35 21.3 +0.4
baz=96
EDM Edmonton 95.41 34 eP P 23 35 19.8 -0.8
EDM Edmonton 95.41 34 eP P 23 35 19.8 -0.8
G22A Birney 95.43 43 ⇓P P 23 35 22.1 +1.1
baz=96
234A Clairette 95.45 58 ⇑P P 23 35 22.2 +1.0
baz=96,SNR=5.6
N26A Koester Ranch, 95.45 48 ⇑P P 23 35 21.9 +0.7
baz=96
Z33A Whitaker Ranch 95.49 56 ⇑P P 23 35 21.6 +0.2
baz=96
536A Bastrop 95.51 60 ⇓P P 23 35 21.9 +0.3
baz=96
S29A Ulysses 95.54 51 ⇓P P 23 35 21.9 +0.2
baz=96
X32A Elmer 95.56 55 ⇑P P 23 35 21.9 +0.1
baz=96
C20A Veseth Ranch, 95.56 40 ⇓P P 23 35 22.4 +1.0
baz=96
O27A Beecher Island 95.68 49 ⇑P P 23 35 23.2 +0.9
baz=96
F22A Rosebud 95.71 42 ⇓P P 23 35 22.3 +0.1
baz=96
A19A Klindworth Far 95.72 39 ⇓P P 23 35 22.7 +0.5
baz=96
R29A Marienthal 95.87 51 ⇑P P 23 35 23.6 +0.5
baz=96
W32A Sentinel 95.88 54 ⇓P P 23 35 23.6 +0.5
baz=96
Y33A Hilltop Ranch, 95.89 56 ⇓P P 23 35 23.8 +0.6
baz=96
N27A Anderson Farm, 95.91 48 ⇓P P 23 35 23.7 +0.4
baz=96
P28A Saint Francis 95.92 49 ⇓P P 23 35 24.0 +0.6
baz=96
S30A Montezuma 96.02 52 ⇓P P 23 35 24.7 +0.8
baz=96
O28A Krutsinger Ran 96.14 49 ⇑P P 23 35 25.5 +1.2
baz=96
C21A Desert Coulee 96.16 40 ⇑P P 23 35 25.2 +1.1
baz=96
A20A Cobblestone Ra 96.17 39 ⇓P P 23 35 24.8 +0.6
baz=96
Q29A Oakley 96.18 50 ⇓P P 23 35 25.0 +0.5
baz=96
J25A Sunshine Ranch 96.19 45 ⇑P P 23 35 24.7 +0.2
baz=96
X33A Lawton 96.20 55 ⇑P P 23 35 24.8 +0.2
baz=96
F23A Volborg 96.21 43 ⇑P P 23 35 25.1 +0.6
baz=96
K26A Motz Farm, Whi 96.30 46 ⇑P P 23 35 26.2 +1.2
baz=96
H24A Dirks Ranch, A 96.31 44 ⇓Pdiff P 23 35 25.1 +0.1
baz=96
RSSD Black Hills 96.36 45 eP P 23 35 25.6 +0.2
RSSD pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 96.36 45 eP P 23 35 25.6 +0.2
comp=Z,6.4nm,0.9s
D22A Cohagen 96.39 41 ⇑Pdiff P 23 35 25.8 +0.6
baz=97
ULN Ulaanbaatar 96.40 320 ⇑eP P 23 35 25.2 -0.2
ULN pmax pmax
comp=Z,2.0nm,1.5s

R30A Dighton 96.43 51 ⇓Pdiff P 23 35 26.4 +0.8
baz=97
I25A Rochford 96.52 45 ⇓Pdiff P 23 35 26.1 +0.1
baz=97
N28A Pribbeno Ranch 96.55 49 ⇓Pdiff P 23 35 26.3 +0.2
baz=97
J26A Sides Ranch, S 96.64 46 ⇑Pdiff P 23 35 26.8 +0.3
baz=97
G24A Alzada 96.66 43 ⇓Pdiff P 23 35 27.0 +0.5
baz=97
Q30A Quinter 96.75 51 ⇓Pdiff P 23 35 27.4 +0.3
baz=97
SONM Songino Array 96.78 319 PKKPbc PKKPbc 23 52 07.3 -0.7
comp=Z,1.1nm,0.6s,baz=278,slow=3.1,SNR=13
O29A 4D Ranch, Culb 96.82 49 ⇑Pdiff P 23 35 28.1 +0.7
baz=97
R31A Burdett 96.97 51 ⇓Pdiff P 23 35 29.0 +1.0
baz=97
P30A Selden 96.97 50 ⇑Pdiff P 23 35 29.2 +1.2
baz=97
N29A Votaw Ranch, W 97.23 49 ⇑Pdiff P 23 35 30.2 +1.1
baz=97
C23A Lambert 97.29 41 ⇑Pdiff P 23 35 30.2 +1.0
baz=98
J27A Elkhorn Farm, 97.31 46 ⇓Pdiff P 23 35 30.2 +0.7
baz=98
D24A Glendive 97.50 42 ⇑Pdiff P 23 35 31.7 +1.5
baz=98
R32A Long Quarter, 97.61 52 ⇓Pdiff P 23 35 31.8 +1.0
baz=98
C24A Savage 97.63 41 ⇓Pdiff P 23 35 30.8 +0.1
baz=98
U34A Anderson Ranch 97.68 54 eP P 23 35 33.8 +2.6
comp=Z,232nm,0.6s
B23A Brockton 97.70 40 ⇓Pdiff P 23 35 32.1 +1.0
baz=98
Q32A Meitler Ranch, 97.94 51 ⇑Pdiff P 23 35 32.7 +0.4
baz=98
DGMT Dagmar 98.18 41 ⇓Pdiff P 23 35 34.2 +1.0
baz=98
F27A Lemmon 98.41 44 ⇑Pdiff P 23 35 34.6 +0.3
baz=99
Q33A Connelly Farm, 98.47 51 ⇓Pdiff P 23 35 34.9 +0.3
baz=99
D26A Manning 98.64 42 ⇓Pdiff P 23 35 36.3 +1.0
baz=99
H29A Onida 99.06 45 ⇓Pdiff Pdif 23 35 37.6 +0.5
baz=99
YKA Yellowknife Ar 99.79 25 P Pdif 23 35 39.7 -0.1
comp=Z,0.6nm,0.5s,baz=237,slow=4.5,SNR=15
YKA PP PP 23 39 46.6 -6.8
comp=Z,2.0nm,0.9s,baz=242,slow=7.3,SNR=9.1
YKA PKiKP PKiKP 23 40 04.8 0.0
comp=Z,0.3nm,0.6s,baz=247,slow=1.4,SNR=7.4
YKB5 Yellowknife Ar 99.79 25 ePdif Pdif 23 35 39.0 -0.9
YKB5 ePP PP 23 39 45.6 -7.8
TAPN Taplejung 102.42 295 eP PKiKP 23 40 07.1 -4.0
comp=Z,21nm,1.2s
ODAN Odare 102.52 294 eP PKiKP 23 40 08.7 -2.5
comp=Z,21nm,1.2s
ODAN Odare 102.52 294 eP PKKPbc 23 51 51.5 +0.2
comp=Z,5.9nm,0.7s
RAMN Ramite 103.22 294 eP PKiKP 23 40 14.1 +1.6
RAMN Ramite 103.22 294 eP PKKPbc 23 51 48.8 -0.5
ULM Lac du Bonnet 103.88 41 PP PP 23 40 21.1 -2.8
comp=Z,2.8nm,0.7s,baz=274,slow=9.5,SNR=4.9
GUN Gumba 104.14 294 eP PP 23 40 20.8 -6.0
comp=Z,26nm,1.0s
PKI Pulchoki 104.42 294 eP PKKPbc 23 51 45.4 -0.4
GKN Gorkha 105.21 294 eP PP 23 40 29.4 -5.0
comp=Z,18nm,1.0s
KOLN Koldanda 106.01 294 eP PP 23 40 36.0 -4.3
comp=Z,26nm,1.1s
DANN Dangsing 106.05 294 eP PP 23 40 35.3 -5.4
comp=Z,52nm,1.3s
DANN Dangsing 106.05 294 eP PKKPbc 23 51 41.5 +0.6
comp=Z,12nm,0.9s
PYUN Piuthan 106.62 294 eP PKKPbc 23 51 37.4 -1.7
comp=Z,11nm,0.5s
WMQ Urumqi 107.49 311 ePdif Pdif 23 36 13.2 -1.5
WMQ PP PP 23 40 52.2 +1.7
WMQ S Sdif 23 47 27.7 -4.5
WMQ SS SS 23 55 20.4 -0.2
WMQ AMB AMB
comp=Z,130nm,5.2s
RES Resolute Bay 110.99 16 SKP SKPdf 23 43 08.6 -1.7
comp=Z,1.4nm,0.9s,baz=338,slow=5.4,SNR=4.1
ZAA0 Zalesovo Array 111.62 321 ePKiKP PKiKP 23 40 25.7 -1.3
ZAA0 ePP PP 23 41 20.0 +0.6
ZAA0 eSKPdf SKPdf 23 43 10.1 -1.9
ZALV Zalesovo Beam 111.62 321 PKiKP PKiKP 23 40 26.0 -1.0
comp=Z,1.0nm,0.4s,baz=88,slow=0.1,SNR=6.6
ZALV PP PP 23 41 20.4 +1.0
comp=Z,1.4nm,0.8s,baz=86,slow=6.1,SNR=5.5
ZALV SKP 23 43 10.3
comp=Z,1.2nm,0.7s,baz=69,slow=2.1,SNR=3.7
MK01 Makanchi Array 111.88 313 ePKiKP PKiKP 23 40 26.8 -1.0
MK01 ePP PP 23 41 11.6 -10
MK01 eSKPdf SKPdf 23 43 11.9 -1.4
MK01 eSKSac SKSac 23 46 17.7 -2.8
MK01 eSKKSac SKKSac 23 47 22.9 -4.8
MK01 ePKKPab PKKPab 23 51 32.2 +0.5
MKAR Makanchi Array 111.89 313 Pdiff Pdif 23 36 36.7 +2.6
comp=Z,0.3nm,0.7s,baz=84,slow=3.6,SNR=3.9
MKAR PKiKP PKiKP 23 40 27.0 -0.8
comp=Z,1.4nm,0.6s,baz=171,slow=0.6,SNR=17
MKAR PP PP 23 41 11.7 -10
comp=Z,2.0nm,1.0s,baz=91,slow=5.0,SNR=6.0
MKAR SKP 23 43 11.4
comp=Z,2.0nm,0.8s,baz=66,slow=3.0,SNR=7.1
MKAR PKKPbc PKKPbc 23 51 22.4 -0.4
comp=Z,0.7nm,0.7s,baz=267,slow=3.4,SNR=8.5
MKAR PKKPab PKKPab 23 51 32.8 +1.2
comp=Z,1.4nm,0.6s,baz=266,slow=3.4,SNR=13
MKAR SKKPbc SKKPbc 23 54 12.8 -4.8
comp=Z,1.4nm,1.0s,baz=298,slow=2.6,SNR=7.1
KURK Kurchatov 114.90 317 ePP PP 23 41 34.9 -7.6
KURK SKP 23 43 17.9
KURK SKKPbc SKKPbc 23 54 04.0 -4.7
KURBB Kurchatov Arra 114.95 317 SKP 23 43 17.9
comp=Z,1.9nm,0.8s,baz=90,slow=1.9,SNR=7.4
KURBB SKKPbc SKKPbc 23 54 04.0 -4.6
comp=Z,1.5nm,1.0s,baz=275,slow=3.8,SNR=8.7
KSH Kashi 115.09 304 ePKP PKPdf 23 40 28.6 -5.7
KSH esPKP 23 43 27.2
KSH AMB AMB
comp=Z,120nm,4.0s
TKM2 Tokmak 2 115.92 308 ePKIKP PKPdf 23 40 34.4 -1.6
TKM2 Tokmak 2 115.92 308 ePKPdf PKPdf 23 40 34.4 -1.6
AAK Ala-Archa 116.69 307 PKP PKPdf 23 40 36.7 -0.7
comp=Z,0.7nm,0.4s,baz=10,slow=11,SNR=3.0
AAK PP PP 23 41 54.2 -1.1
comp=Z,0.4nm,0.4s,baz=160,slow=12,SNR=3.6
AAK PKKPbc PKKPbc 23 51 06.9 +0.3
comp=Z,3.6nm,0.7s,baz=275,slow=2.2,SNR=14
PTGA Pitinga 116.91 103 PKP PKPdf 23 40 37.5 -0.9
comp=Z,1.9nm,0.5s,baz=203,slow=8.0,SNR=4.0
SJG San Juan 118.22 81 PKP PKPdf 23 40 39.4 -1.4
comp=Z,6.1nm,0.5s,baz=270,slow=7.1,SNR=3.3
CPD Cerro la Pandu 118.41 81 ePKIKP PKPdf 23 40 39.4 -1.7
CPD Cerro la Pandu 118.41 81 ePKPdf PKPdf 23 40 39.4 -1.7
HUMP Col San Antoni 118.50 81 ePKPdf PKPdf 23 40 40.2 -1.0
BDFB Brasilia 119.00 125 ePKIKP PKPdf 23 40 41.4 -1.1
BDFB Brasilia 119.00 125 PKP PKPdf 23 40 41.8 -0.8
comp=Z,1.2nm,0.4s,baz=313,slow=5.1,SNR=6.3
BDFB SKP 23 43 25.3
comp=Z,2.1nm,0.9s,baz=226,slow=3.5,SNR=3.2
BDFB Brasilia 119.00 125 ePKPdf PKPdf 23 40 41.4 -1.1
BDFB SKP 23 43 25.3
KKAR Karatay Array 119.65 307 ePKIKP PKPdf 23 40 42.3 -0.6
KKAR Karatay Array 119.65 307 ePKPdf PKPdf 23 40 42.2 -0.6
VOSK Vostochnaya 119.77 319 ePKIKP PKPdf 23 40 41.7 -1.0
VOSK Vostochnaya 119.77 319 ePKPdf PKPdf 23 40 41.7 -1.0
FRB Frobisher Bay 120.08 29 PKKPbc PKKPbc 23 50 55.3 +0.5
comp=Z,1.2nm,0.5s,baz=82,slow=5.9,SNR=4.6
BVAR Borovoye Array 120.12 319 PKP PKPdf 23 40 42.9 -0.5
comp=Z,2.7nm,0.4s,baz=129,slow=1.4,SNR=7.8
BVAR SKP 23 43 28.2
comp=Z,4.8nm,1.0s,baz=90,slow=2.1,SNR=5.3
BVAR PKKPbc PKKPbc 23 50 54.2 -0.3
comp=Z,0.7nm,0.5s,baz=299,slow=2.2,SNR=7.2
BRVK Borovoye 120.19 319 ⇑iPKIKP PKPdf 23 40 43.8 +0.3
BRVK pmax pmax
comp=Z,3.0nm,1.7s
SCHQ Schefferville 121.94 39 PKP PKPdf 23 40 45.6 -1.2
comp=Z,3.8nm,0.7s,baz=332,slow=2.4,SNR=9.2

BOSA Boshof 122.97 206 PKKPbc PKKPbc 23 50 43.0 -1.5
comp=Z,2.9nm,0.8s,baz=322,slow=5.4,SNR=6.1
KBS Kingsbay 124.09 357 ePKIKP PKPdf 23 40 50.1 -0.3
KBS Kingsbay 124.09 357 ePKPdf PKPdf 23 40 50.0 -0.3
SPITS Spitsbergen Ar 124.57 356 PKP PKPdf 23 40 50.7 -0.6
comp=Z,13nm,0.7s,baz=85,slow=3.7,SNR=26
SVE Sverdlovsk 125.32 324 ePKIKP PKPdf 23 40 53.6 +0.4
DAG Danmarks Havn 125.71 5 iPKIKP PKPdf 23 40 52.1 -1.4
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 125.71 5 iP PKPdf 23 40 52.1 -1.4
comp=Z,3.4nm,0.8s
SFJD Kangerlussuaq 126.20 22 ePKIKP PKPdf 23 40 52.6 -2.0
SFJD Kangerlussuaq 126.20 22 ePKPdf PKPdf 23 40 52.6 -2.0
SUMG Summit 126.30 13 iPKIKP PKPdf 23 40 53.3 -1.9
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG Summit 126.30 13 iP PKPdf 23 40 53.3 -1.9
comp=Z,6.1nm,1.0s
ARU Arti 126.53 324 iPKIKP PKPdf 23 40 56.0 +0.4
ARU 23 42 59.7
ARU 23 47 11.2
ARU SS SS 23 59 24.1 +0.2
ARU Arti 126.53 324 ePKPdf PKPdf 23 40 55.5 -0.1
ABKAR Akbulak array 126.92 315 ePKPdf PKPdf 23 40 55.7 -0.8
ABKAR ePP PP 23 42 58.4 -4.8
AKTO Aktyubinsk 128.00 317 PKP PKPdf 23 40 58.7 +0.1
comp=Z,3.0nm,0.7s,baz=111,slow=3.6,SNR=13
AKTO SKPbc SKiKP 23 43 27.4 -17
comp=Z,2.9nm,0.7s,baz=68,slow=5.6,SNR=7.2
AKTO SKP 23 43 43.9
comp=Z,2.5nm,0.8s,baz=125,slow=3.0,SNR=4.3
PRGR Permogore 130.84 333 PKIKP PKPdf 23 41 02.8 -0.8
PRGR e 23 43 34.2
PRGR pmax pmax
comp=Z,5.0nm,0.6s
KEV Kevo 130.90 348 ePKHKP PKPpre 23 40 53.6
KEV Kevo 130.90 348 epkp PKPpre 23 40 53.6
ARA0 ARCESS Array S 131.37 348 ePKPdf PKPdf 23 41 03.6 -0.8
ARCES ARCESS Array B 131.37 348 PKhKP PKPpre 23 40 54.7
comp=Z,1.9nm,0.7s,baz=64,slow=2.8,SNR=12
ARCES PKP PKPdf 23 41 04.1 -0.3
comp=Z,8.7nm,0.8s,baz=358,slow=0.9,SNR=22
ARCES SKPbc SKPbc 23 43 39.9 -0.1
comp=Z,25nm,0.8s,baz=29,slow=3.0,SNR=21
LSZ Lusaka 132.84 218 ePKIKP PKPdf 23 41 06.5 -2.5
LSZ e 23 43 45.7
LSZ Lusaka 132.84 218 ePKPdf PKPdf 23 41 06.5 -2.5
LSZ ePP PP 23 43 45.6 +4.9
KLMR Klimovskoe 133.75 335 ePKIKP PKPdf 23 41 08.8 -0.3
KLMR e 23 43 45.6
KLMR pmax pmax
comp=Z,8.0nm,1.3s
RCBR Riachuelo 134.38 125 SKPbc SKPbc 23 43 49.3 -2.6
comp=Z,24nm,1.0s,baz=172,slow=5.9,SNR=5.9
TSUM Tsumeb 134.43 203 PKhKP PKPpre 23 41 00.1
comp=Z,0.5nm,0.5s,baz=180,slow=7.1,SNR=3.8
TSUM PKP PKiKP 23 41 13.9 +0.5
comp=Z,4.6nm,1.2s,baz=188,slow=7.1,SNR=5.7
TSUM SKPbc SKPbc 23 43 50.0 -2.0
comp=Z,7.8nm,1.0s,baz=131,slow=5.1,SNR=9.8
JOF Joensuu 135.26 340 ePKHKP PKPpre 23 41 01.4
JOF Joensuu 135.26 340 epkp PKPpre 23 41 01.4
JOF Joensuu 135.26 340 epkp SKPbc 23 43 50.9 -2.0
KMBO Kilima Mbogo 136.50 241 ePKIKP PKPdf 23 41 15.9 -0.1
KMBO Kilima Mbogo 136.50 241 PKP PKPdf 23 41 17.1 +1.0
comp=Z,1.0nm,0.4s,baz=36,slow=6.0,SNR=5.5
KMBO SKPbc SKPbc 23 43 59.1 +0.5
comp=Z,18nm,0.9s,baz=50,slow=1.5,SNR=36
KMBO Kilima Mbogo 136.50 241 ePKPdf PKPdf 23 41 15.9 -0.1
KMBO SKPbc SKPbc 23 43 59.1 +0.5
KAF Kangasniemi 137.36 342 ePKHKP PKPpre 23 41 03.1
KAF Kangasniemi 137.36 342 epkp PKPpre 23 41 03.1
KAF Kangasniemi 137.36 342 epkp SKPbc 23 43 56.1 -3.1
FINES FINESS Array B 137.97 342 PKhKP PKPpre 23 41 05.9
comp=Z,1.1nm,0.3s,baz=76,slow=2.1,SNR=14
FINES PKP PKPdf 23 41 17.6 +0.7
comp=Z,2.2nm,0.4s,baz=89,slow=2.6,SNR=11
FINES SKPbc SKPbc 23 43 59.8 -1.2
comp=Z,15nm,0.8s,baz=72,slow=2.4,SNR=15
DGRG David-gareji 138.30 307 P SKPbc 23 44 03.0 +0.3
OBN Obninsk 138.37 329 iPKIKP PKPdf 23 41 19.2 +1.4
OBN pmax pmax
comp=Z,8.0nm,1.3s
DUS Dusheti 138.66 308 P SKPbc 23 44 01.0 -2.6
TBLG Delisi 138.71 307 P SKPbc 23 44 03.8 0.0
GUDG Gudauri 138.74 308 P SKPbc 23 44 03.8 -0.2
ONI Oni 139.44 309 P SKPbc 23 44 05.1 -0.7
KBZ Khabaz 139.54 311 SKPbc SKPbc 23 44 06.3 +0.5
comp=Z,4.0nm,0.9s,baz=169,slow=5.2,SNR=3.4
AKH Akhalkalaki 139.69 307 P SKPbc 23 44 06.4 -0.2
CHVG Ch'k'valeri 140.38 309 P SKPbc 23 44 03.4 -4.7
NB201 NORSAR Array S 141.53 351 ePKPpre PKPpre 23 41 18.4
NB2 NORSAR Subarra 141.55 351 PKP PKPpre 23 41 18.4
comp=Z,8.3nm,0.6s,baz=15,slow=3.2
NB2 NORSAR Subarra 141.55 351 PKP SKPbc 23 44 09.4 -1.2
comp=Z,12nm,0.9s,baz=20,slow=2.8
NB2 NORSAR Subarra 141.55 351 PKP PKPpre 23 41 18.4
baz=15,slow=3.2
NOA NORSAR Array B 141.55 351 PKhKP PKPpre 23 41 18.2
comp=Z,2.0nm,0.5s,baz=62,slow=1.4,SNR=51
NOA SKPbc SKPbc 23 44 09.7 -0.9
comp=Z,6.1nm,0.8s,baz=16,slow=4.3,SNR=11
NBO02 NORSAR Array S 141.59 352 ePKPpre PKPpre 23 41 18.4
NC602 NORSAR Array S 141.80 351 eP PKPpre 23 41 19.2
HYA Hoyanger 141.97 355 eP PKPdf 23 41 20.5 -3.6
HFS Hagfors 142.03 349 SKPbc SKPbc 23 44 10.4 -1.3
comp=Z,13nm,0.8s,baz=0.0,slow=0.1,SNR=15
HFS SKKPbc SKKPab 23 52 28.3 -5.0
comp=Z,2.6nm,0.9s,baz=270,slow=1.4,SNR=3.6
SUE Sulen 142.17 356 eP PKPdf 23 41 20.9 -3.5
ASK Askoy 142.72 356 eP PKPdf 23 41 22.6 -2.8
ASK IAmb IAmb 23 41 23.1
comp=Z,30nm,0.8s
NACGM Naroch 142.77 335 e 23 44 04.0
RUND Rundenannen 142.77 356 eP PKPdf 23 41 22.0 -3.7
BER Bergen 142.81 356 eP PKPdf 23 41 23.0 -2.6
BER IAmb IAmb 23 41 23.4
comp=Z,46nm,0.7s
KBSD Kabsdagh 142.81 301 eP PKPdf 23 41 24.6 -1.9
MZRK Al-Mazaregh 142.91 299 eP PKPdf 23 41 24.0 -2.7
KONO Kongsberg 143.11 352 ePKHKP PKPab 23 41 23.6 -0.3
KONO Kongsberg 143.11 352 ⇑iP PKPab 23 41 23.7 -0.2
KONO IAmb IAmb 23 41 24.4
comp=Z,55nm,0.7s
KONO Kongsberg 143.11 352 ePKPpre PKPab 23 41 23.6 -0.3
ODD1 Odda 143.17 355 ⇑iP PKPab 23 41 23.9 -0.2
ODD1 IAmb IAmb 23 41 24.7
comp=Z,28nm,0.6s
SFNV Sufian 143.25 300 eP PKPbc 23 41 26.0 +0.4
BLS5 Blasjo 143.67 355 ⇑iP PKPab 23 41 25.9 -0.1
BLS5 IAmb IAmb 23 41 26.4
comp=Z,25nm,0.5s
KMY Karmoy 143.98 356 eP PKPbc 23 41 26.7 -0.3
KMY IAmb IAmb 23 41 27.5
comp=Z,51nm,0.8s
MNKR ALMNKUR 144.00 299 eP PKPbc 23 41 22.7 -5.2
AKASG Malin Array Be 144.58 328 PKP PKPdf 23 41 28.5 -0.5
comp=Z,18nm,0.6s,baz=44,slow=4.0,SNR=222
AKASG pPKP pPKPdf 23 43 38.0 +3.7
comp=Z,3.1nm,0.7s,baz=42,slow=4.5,SNR=4.4
AKASG SKPbc SKPbc 23 44 17.1 -1.0
comp=Z,20nm,0.9s,baz=44,slow=2.6,SNR=24
HOMB Homborsund 144.59 352 ⇑iP PKPdf 23 41 28.8 0.0
HOMB IAmb IAmb 23 41 29.6
comp=Z,34nm,0.8s
KIEV Kiev 144.60 328 ePKIKP PKPdf 23 41 28.4 -0.7
KIEV Kiev 144.60 328 ePKPdf PKPdf 23 41 28.4 -0.7
AK11 Malin Array Si 144.63 328 ePKPdf PKPdf 23 41 28.3 -0.8
SNART Snartemo 144.67 354 eP PKPdf 23 41 28.9 0.0
JHLN Al Jahlan 144.71 299 eP PKPdf 23 41 27.1 -2.7
SUW Suwalki 144.82 336 ePKIKP PKPdf 23 41 29.0 -0.3
SUW Suwalki 144.82 336 ePKPdf PKPdf 23 41 29.0 -0.3
SIM Simferopol' 144.97 316 d iPKIKP PKPab 23 41 31.4 0.0
SIM 23 45 04.0
SIM pmax pmax
comp=Z,39nm,0.7s
SIM pmax pmax
comp=Z,30nm,11.7s
ZALF Zalf 146.01 295 eP PKPab 23 41 35.4 -0.6
BTCH Batrach 146.18 295 eP PKPbc 23 41 35.6 +1.1
MUD Monsted U'grnd 146.27 351 ⇑iPKIKP PKPbc 23 41 33.7 -0.2
MUD pmax pmax
comp=Z,18nm,0.9s

MUD	Monsted U'grnd	146.27	351	⇑iP	PKPbc	23 41 33.7	-0.2
	comp=Z,18nm,0.9s						
WRDH	Warideh	146.37	299	eP	PKPbc	23 41 35.9	+0.9
BSD	Bornholm Skovb	146.42	345	⇑iPKIKP	PKPbc	23 41 33.9	-0.5
BSD				pmax	pmax		
	comp=Z,14nm,0.8s						
BSD	Bornholm Skovb	146.42	345	⇑iP	PKPbc	23 41 33.9	-0.5
	comp=Z,14nm,0.8s						
COP	Copenhagen	146.44	347	ePKP2	PKPbc	23 41 34.3	-0.1
COP				pmax	pmax		
	comp=Z,14nm,0.8s						
COP	Copenhagen	146.44	347	iP	PKPbc	23 41 34.3	-0.1
	comp=Z,14nm,0.8s						
ASF	Jabal al Asfar	146.46	293	PKPbc	PKPbc	23 41 36.2	+0.8
	comp=Z,12nm,0.9s,baz=24,slow=0.6,SNR=18						
ASF				SKPbc	SKiKP	23 44 24.3	+1.0
	comp=Z,4.3nm,0.9s,baz=140,slow=4.9,SNR=3.3						
BIDA	Albida	146.53	299	eP	PKPab	23 41 37.2	-0.9
HAWK	Haweek	146.55	298	eP	PKPab	23 41 36.3	+0.7
BRTR	Keskin Array B	146.73	308	PKPbc	PKPbc	23 41 37.3	-0.3
	comp=Z,5.0nm,0.7s,baz=128,slow=3.7,SNR=22						
BRTR				pPKPbc	pPKPbc	23 43 43.6	+2.7
	comp=Z,2.9nm,0.8s,baz=92,slow=3.7,SNR=3.7						
MMAI	Mount Meron Ar	147.61	295	PKPbc	PKPbc	23 41 39.6	+1.2
	comp=Z,8.8nm,0.4s,baz=72,slow=8.0,SNR=43						
MMAI				pPKPbc	pPKPbc	23 43 42.0	+0.3
	comp=Z,1.6nm,0.6s,baz=72,slow=4.7,SNR=1.7						
LVV	L'vov	147.63	331	ePKIKP	PKPbc	23 41 37.4	-0.4
LEOM	Leova	147.69	323	⇑PKP2	PKPbc	23 41 38.2	+0.2
LEOM	Leova	147.69	323	⇑iP	PKPbc	23 41 38.2	+0.2
ANTO	Ankara	147.92	309	⇓PKP2	PKPbc	23 41 39.5	+0.5
ANTO	Ankara	147.92	309	⇓iP	PKPbc	23 41 39.5	+0.5
BR231	Keskin MP Arra	147.94	309	ePKPdf	PKPdf	23 41 36.4	+1.2
TLCR		148.10	320	⇓PKP2	PKPbc	23 41 39.4	+0.3
TLCR		148.10	320	⇓iP	PKPbc	23 41 39.4	+0.3
EIL	Elat	148.32	289	PKPbc	PKPbc	23 41 40.8	+0.6
	comp=Z,20nm,0.9s,baz=102,slow=3.0,SNR=12						
KWP	Kalwaria Pacla	148.35	332	⇓iP	PKPbc	23 41 39.9	+0.3
KWP	Kalwaria Pacla	148.35	332	ePKPdf	PKPdf	23 41 35.5	+0.1
CFR	Carcaliu	148.50	321	⇑iP	PKPbc	23 41 40.1	0.0
BSEG	Bad Segeberg	148.50	348	ePKPbc	PKPbc	23 41 40.1	+0.3
BSEG				ePKPab	PKPab	23 41 45.4	+0.2
TESR	Tescani	148.55	324	⇑iP	PKPbc	23 41 40.0	-0.2
BUR04	Bucovina Ar. S	148.59	327	ePKPdf	PKPdf	23 41 35.9	-0.1
BURAR	Bucovina Array	148.59	327	⇓PKP2	PKPbc	23 41 40.7	+0.3
BURAR	Bucovina Array	148.59	327	⇓iP	PKPbc	23 41 40.7	+0.3
TLB	Topalu	148.89	320	⇑PKHKP	PKPbc	23 41 41.4	+0.3
TLB	Topalu	148.89	320	⇑iP	PKPbc	23 41 41.3	+0.2
VRI	Vrincioaia	148.90	323	⇑iP	PKPbc	23 41 41.5	+0.4
CSS	Prodhromos	148.95	299	ePKPdf	PKPdf	23 41 35.7	-1.1
PLOR	Plostina	148.95	323	⇓iP	PKPbc	23 41 41.3	0.0
KOLS	Kolonicke sedl	149.06	331	ePKP2	PKPbc	23 41 42.1	+0.7
KOLS	Kolonicke sedl	149.06	331	ePKP	PKPbc	23 41 42.1	+0.7
OJC	Ojcow	149.10	335	ePKP	PKPbc	23 41 41.6	+0.2
RUE	Ruedersdorf	149.10	344	ePKPbc	PKPbc	23 41 41.6	+0.3
RUE				ePKPab	PKPab	23 41 48.0	+0.3
RUE	Ruedersdorf	149.10	344	ePKPdf	PKPdf	23 41 36.5	0.0
STHS	Stebnicka Huta	149.14	333	ePKP	PKPbc	23 41 42.2	+0.6
UZH	Uzhgorod	149.28	331	⇓iPKHKP	PKPbc	23 41 41.2	-0.7
UZH				i		23 41 45.4	
MSAB	Monastry St. A	149.29	319	⇓iP	PKPbc	23 41 42.1	+0.1
CRVS	Cervenica-Dubn	149.44	332	ePKP	PKPbc	23 41 42.5	+0.2
NIE	Niedzica	149.53	334	ePKP	PKPbc	23 41 43.4	+0.9
TRPA	Tarpa	149.53	330	⇓iP	PKPbc	23 41 42.4	-0.1
MLR	Muntele Rosu	149.57	323	⇓iP	PKPbc	23 41 42.4	-0.5
DOPR	Dopca	149.57	324	⇓iP	PKPbc	23 41 42.9	+0.2
SECR		149.77	322	⇑iP	PKPbc	23 41 43.3	+0.1
KSP	Ksiaz	149.82	339	⇑iPKHKP	PKPbc	23 41 43.7	+0.6
NRDL	Niedersach Rie	149.91	348	ePKPbc	PKPbc	23 41 43.2	0.0
NRDL				ePKPab	PKPab	23 41 51.0	-0.1
CJR	Cluj-Napoca	150.01	327	⇑iP	PKPbc	23 41 44.1	+0.3
OKC	Ostrava-Krasne	150.03	336	⇑ePKP	PKPbc	23 41 43.7	+0.1
OKC				ePKPAB	PKPab	23 41 52.0	+0.2
OKC				epPKP	pPKPdf	23 43 56.5	+13
VOIR		150.09	324	⇑iP	PKPbc	23 41 44.5	+0.5
KECS	Kecovo	150.18	332	ePKIKP	PKPbc	23 41 43.9	-0.1
KECS	Kecovo	150.18	332	ePKP	PKPbc	23 41 43.9	-0.1
UPC	Upice	150.20	339	ePKIKP	PKPbc	23 41 44.5	+0.5
UPC	Upice	150.20	339	⇑ePKP	PKPbc	23 41 44.5	+0.5
UPC				epPKP	pPKPdf	23 43 57.5	+14
DPC	Dobruska-Polom	150.24	339	ePKIKP	PKPdf	23 41 39.8	+1.4
DPC				e		23 41 52.7	
DPC	Dobruska-Polom	150.24	339	ePKPDF	PKPdf	23 41 39.8	+1.4
DPC				⇑ePKP	PKiKP	23 41 44.7	0.0
DPC				ePKPAB	PKPab	23 41 52.7	0.0
DPC				epPKP	pPKPdf	23 43 51.4	+7.5
DPC	Dobruska-Polom	150.24	339	ePKPdf	PKPdf	23 41 38.9	+0.5
MORC	Moravsky Berou	150.30	337	⇑PKIKP	PKPbc	23 41 44.6	+0.3
MORC	Moravsky Berou	150.30	337	⇑iP	PKPbc	23 41 44.6	+0.3
MORC	Moravsky Berou	150.30	337	ePKPdf	PKPdf	23 41 38.0	-0.6
ISP	Isparta	150.30	306	⇓PKIKP	PKPbc	23 41 44.3	-0.5
ISP	Isparta	150.30	306	⇓iP	PKPbc	23 41 44.3	-0.5
KRLC	Kraliky	150.31	338	ePKIKP	PKPbc	23 41 44.8	+0.4
KRLC				e		23 41 53.8	
KRLC	Kraliky	150.31	338	⇑ePKP	PKPbc	23 41 44.8	+0.4
KRLC				ePKPAB	PKPab	23 41 53.8	+0.8
KRLC				epPKP	pPKPdf	23 43 52.0	+7.9
ARR	Arges	150.36	324	⇓iP	PKPbc	23 41 45.9	+1.2
CLL	Collm	150.37	344	⇑iPKIKP	PKPbc	23 41 44.4	+0.1
CLL				i		23 41 53.2	
CLL				pmax	pmax		
	comp=Z,38nm,0.6s						
CLL				pmax	pmax		
	comp=Z,25nm,0.8s						
CLL	Collm	150.37	344	ePKPbc	PKPbc	23 41 44.5	+0.1
CLL				ePKPab	PKPab	23 41 53.2	+0.1
CLL	Collm	150.37	344	⇑iPKPbc	PKPbc	23 41 44.4	+0.1
	comp=Z,38nm,0.6s						
CLL				⇓iPKPab	PKPab	23 41 53.2	+0.1
	comp=Z,25nm,0.8s						
CLL				i		23 42 07.2	
CLL				epPKPbc	pPKPbc	23 43 52.0	+3.5
DRGR		150.40	328	⇓PKIKP	PKPbc	23 41 44.6	-0.1
DRGR		150.40	328	⇓iP	PKPbc	23 41 44.6	-0.1
IBBN	Ibbenburen	150.50	351	ePKPbc	PKPbc	23 41 44.8	+0.2
IBBN				ePKPab	PKPab	23 41 55.0	+1.4
BRG	Berggiesshubel	150.50	342	iPKP	PKPbc	23 41 44.9	+0.2
	comp=Z,30nm,0.6s						
BRG				i		23 41 53.2	
	comp=Z,9.8nm,1.0s						
BRG				i pPKP	pPKPdf	23 43 51.2	+6.9
	comp=Z,11nm,1.3s						
BRG	Berggiesshubel	150.50	342	iPKIKP	PKPbc	23 41 44.9	+0.2
BRG				i		23 41 53.2	
BRG				pmax	pmax		
	comp=Z,30nm,0.6s						
BRG				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,11nm,1.3s						
BRG	Berggiesshubel	150.50	342	ePKPbc	PKPbc	23 41 45.1	+0.4
BRG				ePKPab	PKPab	23 41 54.0	+0.3
FBE	Freiberg	150.62	343	ePKPbc	PKPbc	23 41 45.5	+0.5
FBE				ePKPab	PKPab	23 41 54.8	+0.6
PVCC	Panska Ves	150.63	341	ePKIKP	PKPbc	23 41 45.5	+0.5
PVCC				e		23 41 54.1	
PVCC	Panska Ves	150.63	341	⇑ePKP	PKPbc	23 41 45.5	+0.5
PVCC				ePKPAB	PKPab	23 41 54.1	-0.1
HUMR	Humele	150.70	322	⇓iP	PKPbc	23 41 44.1	-1.3
NEUB	Neuenburg	150.76	345	ePKPbc	PKPbc	23 41 45.4	+0.1
NEUB				ePKPab	PKPab	23 41 54.9	+0.2
WTSB	Winterswijk	150.97	352	ePKPbc	PKPbc	23 41 45.7	0.0
	comp=Z,44nm,0.5s						
VRAC	Vranov	151.03	338	⇑PKIKP	PKPbc	23 41 46.2	+0.2
VRAC	Vranov	151.03	338	⇑iP	PKPbc	23 41 46.2	+0.2
PRA	Prague	151.08	341	⇑PKP	PKPbc	23 41 46.0	0.0
PRA				PKPAB	PKPab	23 41 57.0	+0.9
PRU	Pruhonice	151.12	341	ePKIKP	PKPbc	23 41 46.1	0.0
PRU				e		23 41 56.9	
PRU	Pruhonice	151.12	341	⇑ePKP	PKPbc	23 41 46.1	0.0
PRU				ePKPAB	PKPab	23 41 56.9	+0.6
PRU				epPKP	pPKPdf	23 43 57.0	+12
TANN	Tannenbergstha	151.32	344	ePKPbc	PKPbc	23 41 46.8	+0.1
TANN				ePKPab	PKPab	23 41 57.4	+0.2
MOX	Moxa	151.32	345	ePKPbc	PKPbc	23 41 46.6	0.0
MOX				ePKPab	PKPab	23 41 57.2	0.0
WERD	Werda	151.33	344	ePKPbc	PKPbc	23 41 46.8	+0.2
WERD				ePKPab	PKPab	23 41 57.4	+0.2
GZR	Gura Zlata	151.33	326	⇑PKIKP	PKPbc	23 41 46.7	-0.2
GZR	Gura Zlata	151.33	326	⇑iP	PKPbc	23 41 46.7	-0.2
PLN	Plauen	151.34	344	ePKPbc	PKPbc	23 41 46.8	+0.2
PLN				ePKPab	PKPab	23 41 57.5	+0.3
GUNZ	Gunzen	151.40	344	ePKPbc	PKPbc	23 41 47.1	+0.3
GUNZ				ePKPab	PKPab	23 41 58.0	+0.5
BUG	Bochum--Univer	151.41	351	ePKPab	PKPab	23 41 56.8	-0.7
TREC	Trest	151.42	339	ePKIKP	PKPbc	23 41 46.8	-0.1
TREC	Trest	151.42	339	⇑ePKP	PKPbc	23 41 46.8	-0.1
WERN	Wernitzgruen	151.46	344	ePKPbc	PKPbc	23 41 47.1	+0.1
WERN				ePKPab	PKPab	23 41 58.2	+0.4
UBBA	Unterbreizbach	151.52	347	ePKPbc	PKPbc	23 41 46.9	0.0
BZS	Buzias	151.77	327	⇓PKIKP	PKPbc	23 41 47.4	-0.3
BZS	Buzias	151.77	327	⇓iP	PKPbc	23 41 47.4	-0.3
BZS	Buzias	151.77	327	⇑iP	PKPbc	23 41 47.5	-0.3
ROTZ	Rotzenmuhle	151.98	343	ePKPab	PKPab	23 42 00.3	+0.3
KHC	Kasperske Hory	152.17	341	ePKIKP	PKPbc	23 41 48.4	-0.2
KHC				e		23 42 01.6	
KHC	Kasperske Hory	152.17	341	⇑ePKP	PKPbc	23 41 48.4	-0.2
KHC				ePKPAB	PKPab	23 42 01.6	+0.8
KHC				epPKP	pPKPdf	23 43 59.2	+12
KHC	Kasperske Hory	152.17	341	ePKPdf	PKPdf	23 41 42.9	+1.5
KHC				ePKPab	PKPab	23 42 01.2	+0.4
HGN	Heimansgroeve	152.26	352	ePKPbc	PKPbc	23 41 48.5	-0.1
	comp=Z,7.4nm,0.9s						
HGN				ePKPab	PKPab	23 42 00.7	-0.4
	comp=Z,17nm,0.8s						
GRF	Grafenberg Arr	152.30	344	ePKPab	PKPab	23 42 01.7	+0.4
GRFO	Grafenberg	152.30	344	ePKP2	PKPab	23 42 01.9	+0.6
GRFO	Grafenberg	152.30	344	ePKPab	PKPab	23 42 01.9	+0.6
WET	Wettzell	152.36	342	ePKPab	PKPab	23 42 01.8	+0.2
GEC2	GERESS Array S	152.38	341	ePKIKP	PKPdf	23 41 41.9	+0.1
GEC2	GERESS Array S	152.38	341	ePKPbc	PKPbc	23 41 49.0	-0.2
GEC2	GERESS Array S	152.38	341	ePKPdf	PKPdf	23 41 41.9	+0.1
GERES	GERESS Array B	152.38	341	PKPbc	PKPbc	23 41 48.9	-0.2
	comp=Z,2.6nm,0.6s,baz=33,slow=1.7,SNR=30						
GERES				PKPab	PKPab	23 42 00.8	-1.1
	comp=Z,1.2nm,0.6s,baz=33,slow=3.8,SNR=6.1						
GERES				pPKPbc	pPKPbc	23 43 56.7	+3.1
	comp=Z,1.6nm,0.8s,baz=57,slow=3.6,SNR=1.9						
TNS	Taunus Mts	152.40	348	ePKPbc	PKPbc	23 41 49.1	0.0
TNS				ePKPab	PKPab	23 42 01.7	-0.1
MEM	Membach	152.40	352	PKPbc	PKPbc	23 41 48.6	-0.3
CONA	Conrad Observa	152.46	337	⇑iPKiKP	PKiKP	23 41 49.5	0.0
	comp=Z,8.7nm,0.9s						
BCLA	Clavier	152.67	353	PKPab	PKPab	23 42 02.7	-0.1
PKSM	Moragy	152.73	331	⇑PKIKP	PKPbc	23 41 49.4	-0.4
PKSM	Moragy	152.73	331	⇑iP	PKPbc	23 41 49.4	-0.4
VTS	Vitosha	152.90	321	⇑PKP2	PKPab	23 42 05.9	+1.5
VTS	Vitosha	152.90	321	⇑iP	PKPab	23 42 05.9	+1.5
DOU	Dourbes	153.07	354	PKPab	PKPab	23 42 04.3	-0.2
MMB	Musomiste	153.19	318	⇑PKP2	PKPab	23 42 06.8	+1.3
MMB	Musomiste	153.19	318	⇑iP	PKPab	23 42 06.8	+1.3
STU	Stuttgart	153.63	346	ePKPab	PKPab	23 42 06.9	-0.1
RJOB	Jochberg	153.65	341	ePKPab	PKPab	23 42 08.0	+0.8
FUR	Furstenfeldbru	153.69	343	ePKPab	PKPab	23 42 07.8	+0.5
BFO	Black Forest	154.23	347	ePKP2	PKPab	23 42 08.3	-1.3
BFO	Black Forest	154.23	347	ePKPab	PKPab	23 42 09.3	-0.3
BFO	Black Forest	154.23	347	ePKPab	PKPab	23 42 08.3	-1.3
DAVA	Damuels	154.87	344	⇑iPKPab	PKPab	23 42 12.9	+0.3
	comp=Z,9.0nm,0.6s						
FUORN	Ofenpass-Fuorn	155.39	343	ePKPab	PKPab	23 42 15.6	+0.7
SENIN	Lac Senin/Sane	156.32	348	ePKPdf	PKPdf	23 41 46.6	-0.8
SENIN				ePKPab	PKPab	23 42 19.1	+0.1
BNI	Bardonecchia	157.70	348	ePKP2	PKPab	23 42 24.7	-0.1
BNI	Bardonecchia	157.70	348	ePKPab	PKPab	23 42 24.7	-0.1
PBRG	Braganca	160.70	16	ePKPab	PKPab	23 42 38.4	+0.5
MVO	Moncorvo	161.23	17	ePKPab	PKPab	23 42 40.1	-0.2
PTOM	Tomar	162.22	22	ePKPab	PKPab	23 42 44.4	-0.2
DBIC	Dimbokro	162.74	163	ePKIKP	PKPdf	23 41 53.6	-1.7
DBIC				e		23 42 48.3	
DBIC	Dimbokro	162.74	163	PKP	PKPdf	23 41 54.7	-0.6
	comp=Z,2.1nm,0.7s,baz=172,slow=3.5,SNR=5.0						
DBIC				PKPab	PKPab	23 42 48.6	+1.2
	comp=Z,3.4nm,0.8s,baz=247,slow=4.5,SNR=3.6						
DBIC	Dimbokro	162.74	163	ePKPdf	PKPdf	23 41 53.6	-1.7
DBIC				ePKPab	PKPab	23 42 48.3	+0.9
PESTR	Estremoz	163.17	21	ePKPab	PKPab	23 42 48.4	-0.4
EVO	Evora	163.32	23	ePKPab	PKPab	23 42 49.9	+0.4
ES19	SONSECA Array	163.33	11	ePKPab	PKPab	23 42 48.9	-0.6
ESDC	Sonseca Array	163.34	11	PKP	PKPdf	23 41 55.9	+0.7
	comp=Z,0.1nm,0.4s,baz=30,slow=2.5,SNR=3.6						
ESDC				PKPab	PKPab	23 42 49.1	-0.5
	comp=Z,6.3nm,0.9s,baz=344,slow=4.1,SNR=23						
PNCL	Nicolau / Gran	163.50	25	ePKPab	PKPab	23 42 50.4	+0.2
PBAR	Barrancos	163.98	21	ePKPab	PKPab	23 42 52.3	0.0
MORF	Marmelete	164.15	27	ePKPab	PKPab	23 42 52.8	-0.4
PVAQ	Vaqueiros	164.43	24	ePKPab	PKPab	23 42 54.3	-0.1
KEST	Kesra	165.31	329	PKPab	PKPab	23 42 59.2	+0.8
	comp=Z,2.9nm,1.1s,baz=307,slow=5.1,SNR=4.2						
MDT	Midelt	169.66	23	PKP	PKPdf	23 42 01.2	+0.9
	comp=Z,2.7nm,0.9s,baz=48,slow=0.1,SNR=5.3						
MDT				PKPab	PKPab	23 43 18.0	+0.2
	comp=Z,4.2nm,0.9s,baz=339,slow=3.2,SNR=7.7						
TOA0	Torodi Ar. Sit	169.76	188	ePKPdf	PKPdf	23 41 59.4	-1.2
TOA0				ePKPab	PKPab	23 43 17.1	-1.2
TORD	Torodi Ar. Bea	169.76	188	PKP	PKPdf	23 41 59.7	-0.9
	comp=Z,1.7nm,0.9s,baz=1.4,slow=1.1,SNR=12						
TORD				PKPab	PKPab	23 43 18.5	+0.2
	comp=Z,1.8nm,0.6s,baz=154,slow=5.0,SNR=13						
TORD				pPKPab	pPKPab	23 45 19.6	+3.0
	comp=Z,2.8nm,1.0s,baz=166,slow=3.6,SNR=5.8						
TORD				PP	PP	23 47 07.7	-0.1
	comp=Z,2.1nm,1.2s,baz=148,slow=7.0,SNR=5.2						

*IDC **07** 23:38:16.0±2.8, 23°.26S×179°.83W, h513km±30km, mb3.5/8, mb1 3.7/9, mb1mx3.3/44, mbtmp4.4/9, Error ellipse: s-maj=23.9km s-min=19.2km az=1.0*

*ISCJB **07** 23:38:16.8±0.8, 23°.40S±0°.09×179°.9W±0°.1, h532km, mb4.0/8, Error ellipse: s-maj=14.5km s-min=12.1km az=163.1*

ISC 07 23:38:17.5±0.9**, 23°.5S**±0°.1×**179°.8W**±0°.1**, h532km, n26, σ1.19**/28**, mb4.0**/8**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.78	274	P	P	23 41 06.5	+2.2
	0.7nm,0.3s,baz=71,slow=18,SNR=6.6						
URZ	Urewera	14.91	190	P	P	23 41 26.4	+0.3
	3.9nm,0.3s,baz=346,slow=2.0,SNR=10						
URZ				S	S	23 43 59.4	-2.3
	0.4nm,0.3s,baz=85,slow=11,SNR=3.6						
CMSA	Cobar Meteorol	31.53	248	P	P	23 43 57.2	+1.1
	baz=33,SNR=7.3						
QLP	Quilpie	32.66	257	P	P	23 44 06.6	+0.7
	baz=34,SNR=5.6						
MTSU	Mount Surprise	33.91	272	P	P	23 44 16.8	+0.2
	baz=35,SNR=3.8						
PMG	Port Moresby	34.56	288	P	P	23 44 20.8	-1.1
	12nm,0.6s,baz=135,slow=8.6,SNR=4.2						
STKA	Stephens Creek	35.03	248	P	P	23 44 26.8	+1.1
	2.5nm,0.5s,baz=99,slow=11,SNR=12						
STKA	Stephens Creek	35.03	248	P	P	23 44 26.9	+1.1
	baz=37,SNR=7.0						
COEN	Coen	36.25	279	P	P	23 44 36.0	0.0
	baz=38,SNR=5.4						
HTT	Hallett	37.40	245	P	P	23 44 46.1	+0.8
	baz=39,SNR=3.2						
BBOO	Buckleboo	39.76	247	P	P	23 45 04.4	0.0
	baz=41,SNR=10						
ASAR	Alice Springs	42.28	260	P	P	23 45 24.4	-0.2
	6.4nm,0.8s,baz=94,slow=8.1,SNR=57						
ASAR				ScP	ScP	23 50 07.9	+1.7
	0.7nm,0.9s,baz=119,slow=3.3,SNR=4.7						
ASAR				S	S	23 51 04.9	-2.1
	0.4nm,0.7s,baz=93,slow=13,SNR=5.3						
WRA	Warramunga Arr	42.62	266	P	P	23 45 26.3	-1.0
	7.2nm,0.6s,baz=102,slow=8.2,SNR=67						
KDU	Kakadu	46.45	275	P	P	23 45 55.6	-1.1
	baz=48,SNR=4.4						
FORT	Forrest	46.62	249	P	P	23 45 57.6	-0.3
	baz=48,SNR=7.7						
WRKA	Warakurna	47.10	257	P	P	23 46 01.2	-0.5
	baz=49,SNR=17						
KNRA	Kununurra	48.88	269	P	P	23 46 14.6	-0.4
	baz=50,SNR=7.3						
MEEK	Meekatharra	55.40	253	P	P	23 47 01.3	-0.4
	baz=57,SNR=3.4						
NWAO	Narrogin (SRO)	55.56	245	P	P	23 47 02.6	-0.1
	4.5nm,0.7s,baz=106,slow=7.4,SNR=3.3						
BLDU	Ballidu	56.34	248	P	P	23 47 08.0	-0.2
	baz=58,SNR=8.6						
MORW	Morawa	57.18	250	P	P	23 47 13.9	0.0
	baz=59,SNR=3.7						
QSPA	South Pole Qui	66.54	180	P	P	23 48 16.5	+2.1
	1.1nm,0.6s,baz=333,slow=11,SNR=4.1						
TXAR	Lajitas Array	90.08	58	P	P	23 50 21.4	+0.4
	0.6nm,0.7s,baz=218,slow=6.8,SNR=9.6						
PDAR	Pinedale Array	92.30	44	P	P	23 50 30.1	-1.0
	0.5nm,0.6s,baz=199,slow=3.1,SNR=4.7						
HFS	Hagfors	142.23	349	PKhKP	PKPpre	23 56 43.3	
	0.8nm,0.4s,baz=83,slow=4.5,SNR=11						
EKA	Eskdalemuir Ar	148.15	4	PKPbc	PKPbc	23 57 01.3	-1.8
	1.1nm,0.7s,baz=332,slow=1.9,SNR=3.5						

*ISCJB **07** 23:38:33.6±0.8, 23°.3S±0°.2×180°.0W±0°.1, h532km, mb4.0/9, Error ellipse: s-maj=20.7km s-min=16.1km az=168.1*

*IDC **07** 23:38:34.4±1.9, 23°.26S×179°.92W, h535km±20km, mb3.6/9, mb1 3.8/10, mb1mx3.3/44, mbtmp4.5/10, Error ellipse: s-maj=24.3km s-min=15.2km az=166.0*

ISC 07 23:38:34.3±0.8**, 23°.4S**±0°.2×**179°.8W**±0°.1**, h532km, n15, σ1.46**/17**, mb3.9**/9**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.74	273	P	P	23 41 23.3	+2.7
	0.8nm,0.3s,baz=78,slow=16,SNR=3.7						
URZ	Urewera	15.08	189	P	P	23 41 44.9	+0.2
	2.9nm,0.3s,baz=78,slow=4.7,SNR=6.8						
RMQ	Roma	28.62	257	P	P	23 43 49.2	+1.3
	baz=30,SNR=4.9						
PMG	Port Moresby	34.47	288	P	P	23 44 37.4	-0.6
	23nm,0.9s,baz=121,slow=8.9,SNR=4.3						
STKA	Stephens Creek	35.07	247	P	P	23 44 42.8	-0.1
	4.7nm,0.6s,baz=95,slow=9.6,SNR=12						
ASAR	Alice Springs	42.28	260	P	P	23 45 40.9	-0.5
	11nm,0.8s,baz=103,slow=7.4,SNR=30						
ASAR				ScP	ScP	23 50 23.2	+0.3
	1.7nm,1.1s,baz=122,slow=4.0,SNR=5.3						
ASAR				S	S	23 51 21.0	-2.8
	0.7nm,1.1s,baz=105,slow=13,SNR=5.7						
WRA	Warramunga Arr	42.60	265	P	P	23 45 42.5	-1.4
	3.5nm,0.3s,baz=90,slow=5.9,SNR=34						
WRA				ScP	ScP	23 50 24.8	+0.5
	1.1nm,1.0s,baz=96,slow=4.3,SNR=4.6						
NWAO	Narrogin (SRO)	55.60	245	P	P	23 47 19.2	-0.6
	4.5nm,0.7s,baz=0.0,slow=0.0,SNR=3.5						
QSPA	South Pole Qui	66.72	180	P	P	23 48 32.8	+0.6
	1.8nm,0.6s,baz=357,slow=2.0,SNR=5.2						
CMAR	Chiang Mai Arr	89.49	290	P	P	23 50 35.6	+0.5
	0.9nm,0.6s,baz=133,slow=3.6,SNR=6.6						
TXAR	Lajitas Array	90.01	58	P	P	23 50 37.5	0.0
	0.8nm,0.8s,baz=225,slow=6.5,SNR=8.9						
PDAR	Pinedale Array	92.19	44	P	P	23 50 47.0	-0.5
	0.5nm,0.7s,baz=217,slow=4.7,SNR=4.6						
HFS	Hagfors	142.05	349	PKhKP	PKPpre	23 56 59.3	
	1.9nm,0.3s,baz=58,slow=3.8,SNR=42						
AKASG	Malin Array Be	144.60	328	PKP	PKPdf	23 57 07.5	-2.5
	0.5nm,0.4s,baz=43,slow=4.2,SNR=8.3						
EKA	Eskdalemuir Ar	147.97	4	PKPbc	PKPdf	23 57 17.1	+1.6
	0.4nm,0.4s,baz=331,slow=2.1,SNR=6.5						

*IDC **07** 23:39:04.7±1.1, 33°.12N×142°.75E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/59, mbtmp3.5/8, ML3.4/1, MS3.7/2, Ms1 3.7/2, ms1mx2.7/32, Error ellipse: s-maj=28.1km s-min=25.8km az=40.0*

*JMA **07** 23:39:07.6±0.5, 33°.28N×142°.48E, h84km, M3.3*

*ISCJB **07** 23:39:08.2±0.8, 33°.27N±0°.08×142°.47E±0°.08, h35km, mb3.5/7, MS3.8/2, Error ellipse: s-maj=13.5km s-min=7.5km az=37.7*

ISC 07 23:39:09.8±1.0**, 33°.25N**±0°.09×**142°.49E**±0°.09**, h35km, n21, σ1.04**/22**, mb3.6**/7**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.88	318	P	Pn	23 39 38.0	-1.0
BSO1				S	Sn	23 40 01.7	+0.5
JHJ2	Mitsune	2.25	267	P	Pn	23 39 43.3	-1.2
BSO3	Boso 3	2.26	314	P	Pn	23 39 43.8	-0.6
JHCJ	Hachijojimakas	2.27	266	P	Pn	23 39 44.3	-0.5
BSO4	Boso 4	2.49	315	P	Pn	23 39 47.4	-0.4
JOD2	Odawara 2	3.46	306	P	Pn	23 39 59.9	-1.3
JOD2				S	Sn	23 40 39.5	-1.5
JHO	Hitachi	3.70	335	P	Pn	23 40 02.5	-2.1
JYN	Shimob	3.96	306	P	Pn	23 40 07.7	-0.4
JYN				S	Sn	23 40 53.0	-0.4
JAG	Ashikaga	4.03	323	P	Pn	23 40 08.2	-0.9
JRY	Ryogami san	4.04	314	P	Pn	23 40 08.8	-0.5
MJAR	Matsushiro Arr	4.81	314	Pn	Pn	23 40 19.4	-0.4
	1.5nm,0.3s,baz=200,slow=9.8,SNR=8.2						
MAT	Matsushiro	4.81	314	P	Pn	23 40 20.2	+0.4
MAT				S	Sn	23 41 14.7	+0.3
SONM	Songino Array	30.74	309	P	P	23 45 25.0	+3.3
	0.4nm,0.7s,baz=109,slow=10,SNR=4.1						
MKAR	Makanchi Array	46.95	305	P	P	23 47 39.3	+2.2
	0.6nm,0.7s,baz=79,slow=11,SNR=4.5						
KURBB	Kurchatov Arra	49.08	311	P	P	23 47 54.7	+1.2
	0.4nm,0.7s,baz=85,slow=7.5,SNR=5.0						
ILAR	Eielson Array	52.25	31	P	P	23 48 17.0	-0.2
	0.3nm,0.7s,baz=260,slow=5.9,SNR=7.1						
AAK	Ala-Archa	53.13	301	LR	LR	00 13 04.0	
	comp=Z,95nm,21.9s,baz=274,slow=38						
WRA	Warramunga Arr	53.47	190	P	P	23 48 25.7	-0.9
	0.3nm,0.5s,baz=7.2,slow=7.6,SNR=5.0						
STKA	Stephens Creek	64.79	181	LR	LR	00 18 51.4	
	comp=Z,59nm,20.4s,baz=35,slow=37						
YKA	Yellowknife Ar	66.64	30	P	P	23 49 56.5	+0.1
	0.4nm,0.8s,baz=294,slow=6.5,SNR=5.4						
TXAR	Lajitas Array	91.70	53	P	P	23 52 14.5	+0.4
	0.2nm,0.6s,baz=316,slow=3.8,SNR=3.5						

MAN 07 23:52:53, 11°.20N×124°.68E, h18km, mb4.2, ML3.0, MS2.7, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.17	205	eP	Pg	23 52 58.6	+1.2
OCLP				eS	Sg	23 53 04.1	+3.6
PLP	Palo	0.30	97	⇓eP	Pn	23 53 02.1	-0.4
PLP				eS	Sn	23 53 09.2	+0.7
MSLP	Maasin	1.08	171	eP	Pg	23 53 16.6	+2.7
LLP	Lapu-Lapu	1.12	219	eP	Pn	23 53 13.2	-0.7
LLP				eS	Sg	23 53 30.4	+0.8
GUIM	Jordan	2.13	255	eP	Pn	23 53 28.5	+0.7

*IDC **07** 23:58:11.0±1.4, 8°.85S×118°.33E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/37, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=103.1km s-min=20.8km az=55.0*

*DJA **07** 23:58:13.9±0.2, 9°S±3°×11°9E±°, h10km, M4.2/18, mb4.5/4, mB5.3/1, MLv4.1/18, Mw(mB)4.8/1*

*ISCJB **07** 23:58:14.9±0.4, 8°.76S±0°.06×118°.56E±0°.03, h33km, mb3.6/3, Error ellipse: s-maj=8.8km s-min=4.5km az=10.8*

ISC 07 23:58:16.6±0.8**, 8°.67S**±0°.09×**118°.59E**±0°.06**, h35km, n22, σ1.19**/22**, mb3.6**/3**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.25	141	P	Pn	23 58 34.1	-3.6
WBSI				S	Sn	23 58 53.7	+0.3
WSI	Waingapu	1.96	121	P	Pn	23 58 48.8	+1.4
DNP	Denpasar	3.34	270	P	Pn	23 59 07.9	+1.5
DNP				S	Sn	23 59 44.9	0.0
SRBI	Singaraja	3.39	280	P	Pn	23 59 05.4	-1.7
SRBI				S	Sn	23 59 46.7	+0.6
IGBI	Denpasar	3.41	267	P	Pn	23 59 06.4	-0.9
IGBI				S	Sn	23 59 47.2	+0.6
MMRI	Maumere	3.61	90	P	Pn	23 59 11.7	+1.6
BKSI	Bulukumba	3.65	25	P	Pn	23 59 11.8	+1.1
JAGI	Jajag, Banyuwa	4.39	272	P	Pn	23 59 18.4	-2.5
ABJI	Asem Bagus	4.40	281	P	Pn	23 59 20.1	-0.8
BNSI	Bone	4.50	20	P	Pn	23 59 25.5	+3.2
SPSI	Sidrap Palu	4.81	14	P	Pn	23 59 20.3	-6.4
KMMI	Kalianget	4.85	289	P	Pn	23 59 27.1	-0.1
BLJI	Banyuglugur	5.03	280	P	Pn	23 59 30.3	+0.7
GMJI	Gumukmas	5.11	274	P	Pn	23 59 30.3	-0.4
	35nm,0.7s,0.1nm						
SOEI	Soe	5.71	101	P	Pn	23 59 37.0	-2.1
	41nm,0.8s						
TTSI	Tana Toraja	5.71	12	P	Pn	23 59 41.6	+2.5
WRA	Warramunga Arr	18.91	128	P	P	00 02 34.1	-0.5
	0.2nm,0.3s,baz=303,slow=13,SNR=5.4						
ASAR	Alice Springs	20.91	137	P	P	00 02 56.1	-0.2
	5.2nm,0.8s,baz=318,slow=10,SNR=45						
STKA	Stephens Creek	31.47	140	P	P	00 04 35.0	0.0
	1.2nm,0.6s,baz=306,slow=10.0,SNR=4.2						
SONM	Songino Array	57.28	350	P	P	00 08 01.1	+0.2

	0.6nm,0.9s,baz=168,slow=10.0,SNR=5.6						
MKAR	Makanchi Array	63.98	333	P	P	00 08 47.0	+0.6
	0.1nm,0.5s,baz=148,slow=6.8,SNR=3.0						
TORD	Torodi Ar. Bea	118.00	280	PKP	PKPdf	00 16 59.5	-1.2
	0.3nm,0.6s,baz=82,slow=1.8,SNR=5.1						

IDC 08 01:31:48.5±1.1, 33°.03N×143°.02E, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.5/24, mbtmp3.4/6, Error ellipse: s-maj=33.2km s-min=27.5km az=108.0
JMA 08 01:31:49.8±0.3, 33°.23N×142°.18E, h0km, M3.6
ISCJB 08 01:31:51.4±0.8, 33°.19N±0°.07×142°.38E±0°.07, h40km, mb3.5/6, Error ellipse: s-maj=10.8km s-min=6.5km az=35.3
ISC 08 01:31:53.2±1.0, 33°.21N±0°.08×142°.39E±0°.08, h40km, n19, σ1§14/26, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.86	321	P	Pn	01 32 21.5	-0.5
BSO1				eS	Sn	01 32 44.4	+0.4
JHJ2	Mitsune	2.16	268	P	Pn	01 32 25.4	-1.3
JHJ2				eS	Sn	01 32 51.6	-0.7
BSO3	Boso 3	2.23	316	P	Pn	01 32 27.3	-0.1
BSO3				eS	Sn	01 32 54.8	+1.3
BSO4	Boso 4	2.46	317	P	Pn	01 32 30.8	+0.1
BSO4				eS	Sn	01 33 00.9	+1.4
JIM2	Oshima 3	2.88	302	eS	Sn	01 33 09.3	-0.8
JOD2	Odawara 2	3.42	308	P	Pn	01 32 43.5	-0.5
JOD2				eS	Sn	01 33 23.2	-0.1
JYN	Shimob	3.92	307	P	Pn	01 32 51.3	+0.4
JYN				eS	Sn	01 33 35.7	+0.1
JRY	Ryogami san	4.02	315	P	Pn	01 32 52.5	+0.3
JRY				eS	Sn	01 33 38.9	+0.9
JAG	Ashikaga	4.02	324	P	Pn	01 32 52.4	+0.2
JFT	Otama	4.62	339	P	Pn	01 32 59.7	-0.7
JFT				S	Sn	01 33 48.6	-4.2
MJAR	Matsushiro Arr	4.78	315	Pn	Pn	01 33 03.3	+0.6
	1.3nm,0.3s,baz=126,slow=13,SNR=7.6						
MAT	Matsushiro	4.78	315	P	Pn	01 33 03.0	+0.3
MAT				eS	Sn	01 33 56.1	-0.8
MAT	Matsushiro	4.78	315	P	Pn	01 33 02.4	-0.3
SONM	Songino Array	30.70	309	P	P	01 38 09.3	+5.0
	0.2nm,0.3s,baz=108,slow=9.4,SNR=2.8						
MKAR	Makanchi Array	46.91	305		P	01 40 25.3	+5.7
	0.6nm,0.7s,baz=89,slow=8.3,SNR=7.1						
ILAR	Eielson Array	52.33	31	P	P	01 41 00.8	+0.3
	0.7nm,1.0s,baz=253,slow=6.2,SNR=5.8						
WRA	Warramunga Arr	53.41	189	P	P	01 41 09.1	+0.1
	0.3nm,0.4s,baz=6.9,slow=7.6,SNR=11						
YKA	Yellowknife Ar	66.72	30	P	P	01 42 39.0	-0.8
	0.7nm,1.3s,baz=293,slow=6.4,SNR=4.3						
TXAR	Lajitas Array	91.80	53	P	P	01 44 58.6	+1.4
	0.2nm,0.8s,baz=325,slow=4.6,SNR=2.4						

NIED 08 01:33:00, 33°.20N×142°.40E, h11km, Mw4.0 Best double couple: $M_0$9.66000×10^{14} NP1:ϕ_s45.00000°, δ33.00000°, λ-34.00000°. NP2:ϕ_s164.00000°, δ72.00000°, λ-119.00000°.
IDC 08 01:33:14.3±0.5, 33°.27N×142°.55E, h0km, mb4.1/22, mb1 4.3/25, mb1mx4.2/39, mbtmp4.1/25, ML3.4/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/30, Error ellipse: s-maj=17.3km s-min=13.8km az=94.0
NEIC 08 01:33:15.6±3.8, 33°.17N×142°.49E, h10km±23km, mb4.4/7, Error ellipse: s-maj=10.5km s-min=7.4km az=83.0
ISCJB 08 01:33:15.4±1.5, 33°.17N±0°.04×142°.45E±0°.04, h19km±11km, mb4.2/32, MS3.2/2, Error ellipse: s-maj=7.0km s-min=4.9km az=43.5
JMA 08 01:33:17.5±0.3, 33°.17N×142°.43E, h68km, M4.2
MOS 08 01:33:19.1±1.2, 33°.53N×142°.40E, h33km, mb4.4/21, Error ellipse: s-maj=13.7km s-min=8.0km az=108.0
ISC 08 01:33:17.2±2.2, 33°.33N±0°.05×142°.41E±0°.05, h17km±13km, n111, σ1§31/113, mb4.2/32, 4C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.77	318	P	Pb	01 33 48.6	-0.3
BSO1				S	Sb	01 34 11.9	+1.2
BSO3	Boso 3	2.15	313	P	Pb	01 33 53.8	-1.7
BSO3				S	Sb	01 34 20.8	-1.0
JHJ2	Mitsune	2.18	265	P	Pn	01 33 52.8	+0.2
JHJ2				S	Sn	01 34 18.6	-0.7
JHJ2	Mitsune	2.18	265	ePn	Pn	01 33 52.9	+0.2
JHJ2				eS	Sn	01 34 21.0	+1.7
JHCJ	Hachijojimakas	2.21	264	P	Pn	01 33 52.7	-0.3
JHCJ				S	Sn	01 34 18.8	-1.1
BSO4	Boso 4	2.38	314	P	Pb	01 33 57.3	-2.3
BSO4				S	Sb	01 34 27.8	-0.9
KTR	Katsuura	2.51	317	S	Sb	01 34 30.7	-1.6
JOD2	Odawara 2	3.36	306	P	Pn	01 34 09.4	+0.5
JOD2				S	Sn	01 34 47.4	-0.9
JYN	Shimob	3.86	305	P	Pn	01 34 17.9	+2.1
JYN				S	Sn	01 35 04.3	+3.6
JAG	Ashikaga	3.93	323	P	Pn	01 34 18.2	+1.5
JAG				S	Sn	01 35 03.1	+0.7
TK02	Tokai 2	3.93	280	P	Pn	01 34 17.7	+1.2
JRY	Ryogami san	3.94	314	P	Pn	01 34 20.0	+3.1
JRY				S	Sn	01 35 05.4	+2.7
JFT	Otama	4.51	339	P	Pn	01 34 25.4	+0.7
JFT				S	Sn	01 35 14.8	-1.9
MJAR	Matsushiro Arr	4.71	314	P	Pn	01 34 28.7	+1.3
MJAR						01 35 23.0	
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR				smax	smax		
	comp=N,10.0nm,0.3s						
MJAR	Matsushiro Arr	4.71	314	Pn	Pn	01 34 28.7	+1.3
	comp=N,4.4nm,0.3s,baz=292,slow=16,SNR=14						
MJAR				Sn	Sn	01 35 23.0	+1.4
	comp=N,10nm,0.3s,baz=111,slow=6.4,SNR=5.0						
MAJO	Matsushiro	4.71	314	eP	Pn	01 34 29.4	+1.9
MAJO				eS	Sn	01 35 25.1	+3.5
MAJO	Matsushiro	4.71	314	ePn	Pn	01 34 29.4	+1.9
MAJO				eS	Sn	01 35 25.1	+3.5
MAT	Matsushiro	4.71	314	P	Pn	01 34 29.7	+2.3
MAT				S	Sn	01 35 21.1	-0.6
MAT	Matsushiro	4.71	314	P	Pn	01 34 30.5	+3.1
MAT				S	Sn	01 35 21.9	+0.2
CBIJ	Chichi jima	6.22	182	Pn	Pn	01 34 44.0	-4.2
CBIJ				Sn	Sn	01 35 48.3	-11
JCJ	Chichijima	6.22	182	Pn	Pn	01 34 44.0	-4.2
	comp=N,26nm,0.3s,baz=9.0,slow=16,SNR=11						
JCJ				Sn	Sn	01 35 48.3	-11
	comp=N,50nm,0.3s,baz=290,slow=22,SNR=7.0						
ERM	Erimo	8.69	4	⇓iP	Pn	01 35 19.8	-2.2
ERM	Erimo	8.69	4	ePn	Pn	01 35 19.5	-2.5
ERM				eS	Sn	01 36 56.6	-2.9
JNU	Nakatsue	9.66	272	LR	LR	01 39 10.1	
	comp=N,152nm,19.9s,baz=178,slow=36						
ASAJ	Asahikawa	10.77	1	P	Pn	01 35 49.4	-1.1
ASAJ						01 37 42.2	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
ASAJ	Asahikawa	10.77	1	Pn	Pn	01 35 49.4	-1.1
	comp=N,4.5nm,0.3s,baz=207,slow=9.0,SNR=14						
ASAJ				Sn	Sn	01 37 42.2	-8.4
	comp=N,0.5nm,0.3s,baz=61,slow=19,SNR=4.2						
KSRS	Korea Array	12.51	293	Pn	Pn	01 36 15.5	+1.1
	baz=110,slow=12,SNR=2.8						
KSRS				LR	LR	01 42 25.4	
	comp=N,67nm,18.4s,baz=14,slow=44						
KSAR	Wonju Array Be	12.54	293	P	Pn	01 36 15.5	+0.7
KSAR	Wonju Array Be	12.54	293	Pn	Pn	01 36 15.5	+0.7
YSS	Yuzh-Sakhalins	13.61	1	eP	Pn	01 36 25.0	-4.3
YSS	Yuzh-Sakhalins	13.61	1	ePn	Pn	01 36 27.1	-2.2
SSLB	Suanglung	21.07	249	eP	P	01 37 58.8	-1.9
	comp=N,14nm,0.9s						
PETK	Petropavlovsk-	22.60	24	LR	LR	01 48 41.2	
	comp=N,45nm,18.8s,baz=254,slow=41						
H11N2	WAKE ISLAND Hy	25.68	116	T	T	02 05 12.6	
	baz=310,slow=76,SNR=4.2						
H11N1	WAKE ISLAND Hy	25.68	116	T	T	02 05 37.4	
	baz=310,slow=76,SNR=4.5						
H11N3	WAKE ISLAND Hy	25.70	116	T	T	02 05 10.1	
	baz=310,slow=76,SNR=5.0						
H11S3	WAKE ISLAND Hy	26.28	118	T	T	02 05 59.9	
	baz=314						
H11S1	WAKE ISLAND Hy	26.28	118	T	T	02 06 03.7	
	baz=314						
H11S2	WAKE ISLAND Hy	26.29	118	T	T	02 06 05.3	
	baz=314						
ULN	Ulaanbaatar	30.22	309	⇑eP	P	01 39 31.8	+4.9
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SEY	Seymchan	30.29	9	P	P	01 39 28.4	+1.3
SEY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SEY	Seymchan	30.29	9	P	P	01 39 28.4	+1.3
	comp=Z,2.7nm,0.6s,baz=181,slow=5.6,SNR=11						
SONM	Songino Array	30.64	309	P	P	01 39 32.7	+2.1
SONM						01 42 28.9	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	30.64	309	P	P	01 39 32.7	+2.1
	comp=Z,1.4nm,0.7s,baz=116,slow=8.9,SNR=10						
SONM				PcP	PcP	01 42 28.9	+0.3
	comp=Z,0.2nm,0.4s,baz=98,slow=2.6,SNR=4.1						
BILL	Bilibino	37.37	15	⇑iP	P	01 40 29.0	+0.5
BILL				i		01 41 51.5	
BILL				iS	S	01 46 07.0	-8.5
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,69nm,16.0s						
TIXI	Tiksi	39.05	353	⇓eP	P	01 40 44.3	+1.7
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZALV	Zalesovo Beam	45.06	315	P	P	01 41 33.4	+1.5
ZALV						01 43 12.6	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	45.06	315	P	P	01 41 33.4	+1.5
	comp=Z,0.3nm,0.4s,baz=98,slow=6.9,SNR=2.7						
ZALV				PcP	PcP	01 43 12.6	+0.1
	comp=Z,1.1nm,0.5s,baz=92,slow=3.5,SNR=4.9						
MKAR	Makanchi Array	46.85	305	P	P	01 41 46.9	+0.7
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	46.85	305	P	P	01 41 46.9	+0.7
	comp=Z,1.9nm,0.7s,baz=78,slow=11,SNR=12						
TAPN	Taplejung	47.14	278	eP	P	01 41 49.0	0.0
	comp=Z,6.3nm,0.8s						
ODAN	Odare	47.58	277	eP	P	01 41 50.3	-2.1
	comp=Z,11nm,0.3s						
RAMN	Ramite	48.20	278	eP	P	01 41 56.6	-0.6
	comp=Z,12nm,0.6s						
JIRN	Jiri	48.28	279	eP	P	01 41 57.5	-0.5
GUN	Gumba	48.45	279	eP	P	01 42 00.5	+1.2
	comp=Z,7.2nm,0.6s						
KURK	Kurchatov	48.91	311	eP	P	01 42 03.0	+1.0
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	Kurchatov	48.91	311	eP	P	01 42 03.0	+1.0
	comp=Z,3.4nm,0.7s						
PKI	Pulchoki	48.96	279	eP	P	01 42 02.5	-0.7
	comp=Z,6.3nm,0.7s						
PKIN	Phulchoki	48.97	279	eP	P	01 42 03.5	+0.3
	comp=Z,6.1nm,0.5s						
KDAK	Kodiak Island	49.36	40	ceP	P	01 42 05.5	+0.2
GKN	Gorkha	49.44	280	eP	P	01 42 07.2	+0.6
DANN	Dangsing	50.04	281	eP	P	01 42 12.2	+0.8
	comp=Z,22nm,1.0s						
KOLN	Koldanda	50.38	280	eP	P	01 42 13.5	-0.3
	comp=Z,6.6nm,0.4s						
KTH	Kantishna Hill	50.40	32	eP	P	01 42 13.6	+0.3
	comp=Z,3.0nm,1.0s						
PYUN	Piuthan	50.76	281	eP	P	01 42 17.4	+0.7
	comp=Z,28nm,0.4s						
ILAR	Eielson Array	52.22	31	P	P	01 42 26.7	-0.1
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ILAR	Eielson Array	52.22	31	P	P	01 42 26.7	-0.1
	comp=Z,2.8nm,0.7s,baz=262,slow=6.2,SNR=44						
BMRM	Bremner River	53.35	36	eP	P	01 42 36.2	+0.9
	comp=Z,6.6nm,0.7s						
WRAB	Tennant Creek	53.52	189	eP	P	01 42 35.7	-1.2
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRAB	Tennant Creek	53.52	189	eP	P	01 42 35.6	-1.2
	comp=Z,2.4nm,0.7s						
WRA	Warramunga Arr	53.53	189	P	P	01 42 35.4	-1.6
WRA						01 43 43.9	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	53.53	189	P	P	01 42 35.4	-1.6
	comp=Z,1.5nm,0.3s,baz=4.5,slow=7.5,SNR=32						
WRA				PcP	PcP	01 43 43.9	+0.2
	comp=Z,0.5nm,0.5s,baz=2.3,slow=4.3,SNR=5.4						
ASAR	Alice Springs	57.26	189	P	P	01 43 05.1	+1.3
ASAR						01 43 58.0	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	57.26	189	P	P	01 43 05.1	+1.3
	comp=Z,0.4nm,0.4s,baz=9.2,slow=7.8,SNR=9.6						
ASAR				PcP	PcP	01 43 58.0	0.0
	comp=Z,0.5nm,0.6s,baz=9.1,slow=4.9,SNR=2.8						
INK	Inuvik	57.33	26	eP	P	01 43 04.1	+0.4
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	Inuvik	57.33	26	P	P	01 43 04.2	+0.5
	comp=Z,2.6nm,0.6s,baz=304,slow=6.4,SNR=23						
INK	Inuvik	57.33	26	eP	P	01 43 04.1	+0.4
	comp=Z,3.3nm,0.7s						
ABKAR	Akbulak array	60.98	312	eP	P	01 43 30.0	+0.6
	comp=Z,0.9nm,0.5s						
STKA	Stephens Creek	64.86	181	P	P	01 43 54.6	-0.7
STKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STKA	Stephens Creek	64.86	181	P	P	01 43 54.5	-0.7
	comp=Z,1.2nm,0.7s,baz=357,slow=9.8,SNR=3.4						
RES	Resolute Bay	65.98	14	P	P	01 44 02.7	+0.7
RES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RES	Resolute Bay	65.98	14	P	P	01 44 02.7	+0.7
	comp=Z,3.7nm,0.8s,baz=323,slow=5.9,SNR=18						
YKA	Yellowknife Ar	66.61	30	P	P	01 44 06.2	0.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	Yellowknife Ar	66.61	30	P	P	01 44 06.2	0.0
	comp=Z,1.4nm,0.7s,baz=298,slow=6.4,SNR=35						
ARCES	ARCESS Array B	67.74	340	P	P	01 44 13.4	+0.1
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES	ARCESS Array B	67.74	340	P	P	01 44 13.4	+0.1
	comp=Z,4.7nm,0.9s,baz=58,slow=11,SNR=4.8						
NEW	Newport	72.23	44	P	P	01 44 41.8	+0.5
NEW				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NEW	Newport	72.23	44	P	P	01 44 41.8	+0.5
	comp=Z,2.0nm,0.9s,baz=298,slow=4.2,SNR=5.1						
FINES	FINESS Array B	72.47	333	P	P	01 44 43.1	+0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	72.47	333	P	P	01 44 43.1	+0.7
	comp=Z,1.9nm,0.7s,baz=15,slow=7.9,SNR=4.9						
LRM	Limekiln Ridge	76.23	44	eP	P	01 45 05.6	+0.7
	comp=Z,37nm,0.7s						
FFC	Flin Flon	76.38	33	eP	P	01 45 06.7	+1.4
NVAR	Mina Array Bea	76.56	53	P	P	01 45 06.5	-0.5
	comp=Z,1.3nm,0.8s,baz=289,slow=5.6,SNR=7.4						
AKASG	Malin Array Be	77.73	323	P	P	01 45 13.1	+0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	77.73	323	P	P	01 45 13.1	+0.2
	comp=Z,0.5nm,0.5s,baz=50,slow=6.3,SNR=4.9						
NB2	NORSAR Subarra	77.91	338	P	P	01 45 14.0	+0.2
	comp=Z,1.1nm,0.6s,baz=39,slow=5.9						
NOA	NORSAR Array B	77.91	338	P	P	01 45 13.8	0.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	77.91	338	P	P	01 45 13.8	0.0
	comp=Z,1.1nm,0.6s,baz=38,slow=5.7,SNR=6.3						
PDAR	Pinedale Array	79.68	45	P	P	01 45 24.3	+0.1
	comp=Z,0.6nm,0.7s,baz=298,slow=1.9,SNR=4.4						
BRTR	Keskin Array B	81.93	312	P	P	01 45 36.9	+0.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	Keskin Array B	81.93	312	P	P	01 45 36.9	+0.7
	comp=Z,0.7nm,0.5s,baz=134,slow=2.9,SNR=10						
CLL	Collm	84.71	331	eP	P	01 45 51.0	+1.0
CLL	Collm	84.71	331	eP	P	01 45 51.0	+1.0
GERES	GERESS Array B	86.29	329	P	P	01 45 57.0	-1.1
	comp=Z,0.3nm,0.7s,baz=48,slow=8.1,SNR=4.9						
ANMO	Albuquerque	86.34	50	ceP	P	01 46 00.3	+1.6
ANMO				pmax	pmax		
	comp=Z,28nm,1.7s						
SCHQ	Schefferville	88.66	16	P	P	01 46 08.2	-1.0
	comp=Z,2.0nm,0.8s,baz=304,slow=12,SNR=2.8						
TXAR	Lajitas Array	91.71	53	P	P	01 46 24.4	+0.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	91.71	53	P	P	01 46 24.4	+0.3
	comp=Z,0.7nm,0.6s,baz=305,slow=2.8,SNR=14						
TORD	Torodi Ar. Bea	120.50	314	PKP	PKPdf	01 52 07.7	-0.8
	comp=Z,0.3nm,0.4s,baz=25,slow=1.7,SNR=5.8						
LPAZ	La Paz	147.66	66	PKIKP	PKPbc	01 52 59.3	-2.8
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	La Paz	147.66	66	PKPbc	PKPbc	01 52 59.3	-2.8
	comp=Z,1.3nm,0.6s,baz=347,slow=3.8,SNR=9.6						

JMA 08 01:47:10.0±0.5, 33°.47N×142°.55E, h0km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.76	313	P	Pb	01 47 42.2	-0.3
BSO1				eS	Sg	01 48 05.1	-0.3
BSO2	Boso 2	1.96	311	eS	Sb	01 48 10.9	-0.1
BSO3	Boso 3	2.15	309	P	Pn	01 47 47.7	+0.9
BSO3				eS	Sb	01 48 16.4	-0.1
BSO4	Boso 4	2.38	310	P	Pn	01 47 51.5	+1.4
BSO4				eS	Sb	01 48 23.3	-0.1
CHOJ	Chosi	2.63	328	eS	Sn	01 48 28.5	+2.2
JAG	Ashikaga	3.89	320	P	Pn	01 48 12.5	+1.4
JAG				eS	Sn	01 48 58.9	+1.4
JRY	Ryogami san	3.93	311	P	Pn	01 48 08.9	-2.8
JRY				eS	Sn	01 48 58.4	-0.2
JFT	Otama	4.42	337	P	Pn	01 48 19.8	+1.4
JFT				eS	Sn	01 49 09.8	-0.9
JMK	Ichinoseki	5.58	349	eS	Sn	01 49 38.0	-1.0

SJA 08 01:50:29.0±0.9, 33°.27S×69°.06W, h19km±2km, ML3.7, MW3.4
ISCJB 08 01:50:30.1±0.7, 33°.27S±0°.03×68°.96W±0°.04, h4km±5km, Error ellipse: s-maj=6.5km s-min=3.3km az=137.1
GUC 08 01:50:31.1±0.4, 33°.27S×68°.96W, h11km±4km, ML3.0
NEIC 08 01:50:31.2, 33°.23S×68°.99W, h8km, MD3.7(SJA), After GUC.
NEIC Felt [III] at Mendoza.
ISC 08 01:50:30.1±1.2, 33°.28S±0°.04×68°.97W±0°.03, h2km±10km, n33, σ0§80/51, 5C-3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	Agrelo	0.23	32	iP	Pg	01 50 35.5	+1.1
AVIZ	Vizcacheras	0.43	117	iP	Pb	01 50 39.9	-0.6
ARCO	CERRO ARCO	0.43	4	iP	Pg	01 50 38.2	-0.3
ARCO				eS	Sg	01 50 45.4	+1.2
ARCO				AML	AML	01 50 45.6	
	comp=Z,13μm,0.2s						
ASAL	Salagasta	0.69	10	iP	Pg	01 50 43.3	-0.1
ASAL				eS	Sg	01 50 53.8	+1.4
AUSP	Uspallata	1.11	341	iP	Pg	01 50 50.1	-1.2
LMEL	Las Melosas	1.18	241	⇓iP	Pg	01 50 52.5	-0.1
LMEL				iS	Sg	01 51 08.8	+0.9
LMEL				AML	AML	01 51 11.0	
	comp=N,477nm,0.2s						
LMEL	Las Melosas	1.18	241	⇓iP	Pg	01 50 52.5	-0.1
LMEL				iS	Sg	01 51 08.5	+0.6
CLCH	Cerro Calan	1.32	264	⇓iP	Pg	01 50 54.6	-0.7
CLCH				iS	Sg	01 51 12.5	+0.1
CLCH				AML	AML	01 51 13.9	
	comp=E,558nm,0.6s						
ANTU	Antumapu	1.42	258	iP	Pn	01 50 56.3	-0.6
ANTU				iS	Sg	01 51 15.2	-0.5
ANTU				AML	AML	01 51 17.1	
	comp=E,339nm,0.5s						
ANTU	Antumapu	1.42	258	⇑iP	Pn	01 50 56.7	-0.2
ANTU				iS	Sg	01 51 15.7	0.0
PEL	Peldehue	1.44	275	⇑iP	Pn	01 50 56.6	-0.6
PEL				iS	Sg	01 51 16.0	-0.5
PEL				AML	AML	01 51 17.1	
	comp=N,351nm,0.5s						
RTCV	Cerro Valdivia	1.46	15	eP	Pn	01 50 56.4	-1.1
RTCV				eS	Sg	01 51 17.0	+0.1
RTLS	Leoncito	1.50	349	iP	Pn	01 50 57.6	-0.6
RTLS				eS	Sn	01 51 18.1	-0.3
CHCH	Chadas Angostu	1.55	244	⇑iP	Pn	01 50 59.1	+0.3
CHCH				iS	Sn	01 51 19.8	+0.4
CHCH	Chadas Angostu	1.55	244	⇑iP	Pn	01 50 59.1	+0.3
CHCH				iS	Sn	01 51 19.8	+0.4
ROCH	El Roble	1.74	279	eP	Pn	01 51 01.6	+0.2
ROCH				eS	Sn	01 51 24.8	+0.5
ROCH				AML	AML	01 51 25.7	
	comp=E,441nm,0.7s						
CFAA	Coronel Fontan	1.78	21	eP	Pn	01 51 01.8	0.0
SJA	San Juan	1.78	11	iP	Pn	01 51 01.4	-0.5
SJA				eS	Sn	01 51 24.9	-0.1
SJA				AML	AML	01 51 27.0	
	comp=Z,653nm,0.5s						
ACAN	Cantantal	1.80	57	iP	Pn	01 51 02.5	+0.3
ACAN				eS	Sb	01 51 26.4	-0.5
RTLL	Cerro Villicun	1.99	12	iP	Pn	01 51 04.0	-0.8
RTLL				eS	Sn	01 51 30.6	+0.4
LNV	Longovilo	2.15	251	iP	Pn	01 51 07.8	+0.9
LNV	Longovilo	2.15	251	⇑iP	Pn	01 51 08.5	+1.6
LNV				iS	Sb	01 51 37.0	+0.3
AMOG	MOGNA	2.37	10	iP	Pn	01 51 09.9	0.0
CMCH	Combarbala	2.71	320	eP	Pn	01 51 15.6	+0.8
CMCH				iS	Sn	01 51 49.8	+1.8
CMCH	Combarbala	2.71	320	iP	Pn	01 51 15.3	+0.6
CMCH				iS	Sn	01 51 49.9	+1.8
ACHE	Chepes	2.87	44	iP	Pn	01 51 17.1	+0.1
AVFE	Valle Fertil	2.91	27	iP	Pn	01 51 17.0	-0.5
AVFE				AML	AML	01 52 01.8	
	comp=Z,151nm,0.7s						
SUCO	SUCO	3.42	92	AML	AML	01 52 19.1	
	comp=Z,137nm,0.5s						
APLL	PUNTA DE LOS L	3.55	37	iP	Pn	01 51 26.3	+0.1
AGUA	GUANDACOL	3.80	6	iP	Pn	01 51 29.7	0.0
ACLC	CERRO LA CRUZ	4.21	25	iP	Pn	01 51 35.7	+0.3
LCO	Las Campanas	4.50	340	ePn	Pn	01 51 38.6	-1.0
TRQA	Tornquist	7.42	132	ePn	Pn	01 52 17.2	-2.2

IDC 08 02:06:34.2±1.5, 18°.16S×173°.32W, h0km, mb3.8/6, mb1 4.2/7, mb1mx3.9/28, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=78.1km s-min=21.5km az=147.0
ISCJB 08 02:06:39.0±1.1, 17°.77S±0°.2×173°.6W±0°.2, h37km, mb3.8/6, Error ellipse: s-maj=41.1km s-min=11.1km az=37.1
ISC 08 02:06:40.3±1.3, 17°.8S±0°.2×173°.6W±0°.3, h37km, n8, σ1§10/9, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.21	24	Pn	Pn	02 07 41.9	-0.2
	4.0nm,0.3s,baz=19,slow=19,SNR=4.3						
AFI				Sn	Sn	02 08 29.8	-0.3
	4.8nm,0.3s,baz=198,slow=20,SNR=3.0						
WRA	Warramunga Arr	49.20	259	P	P	02 15 25.1	-0.2
	0.4nm,0.5s,baz=98,slow=7.2,SNR=13						
ASAR	Alice Springs	49.27	254	P	P	02 15 25.7	-0.1
	2.6nm,0.7s,baz=87,slow=8.6,SNR=31						
NVAR	Mina Array Bea	76.19	42	P	P	02 18 25.8	+0.7
	0.7nm,0.6s,baz=230,slow=10,SNR=5.7						
TXAR	Lajitas Array	82.06	56	P	P	02 18 56.7	-0.5
	0.4nm,0.8s,baz=214,slow=8.6,SNR=5.2						
PDAR	Pinedale Array	84.13	42	P	P	02 19 07.2	-0.6
	0.9nm,0.8s,baz=208,slow=4.3,SNR=6.3						
ILAR	Eielson Array	84.80	11	P	P	02 19 12.3	+2.0
	0.5nm,0.7s,baz=224,slow=6.3,SNR=15						
GERES	GERESS Array B	148.46	351	PKPbc	PKPab	02 26 24.9	-1.5
	0.4nm,0.6s,baz=27,slow=3.6,SNR=5.1						

ISCJB 08 02:20:43.6±0.5, 8°.2S±0°.1×110°.32E±0°.04, h100km, mb3.4/3, Error ellipse: s-maj=14.5km s-min=4.7km az=11.1
DJA 08 02:20:46.1±0.3, 8°S±7°×11°0E±°, h54km±9km, M3.6/6,

MLv3.6/6

*IDC **08** 02:20:55.1±8.3, 10.04S×111.95E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/32, mbtmp3.5/3, Error ellipse: s-maj=136.4km s-min=112.3km az=153.0*

ISC 08 02:20:45.0±1.1, **8.1S**±0.1×**110.36E**±0.05, **h100**km, **n28**, σ**1.50**/26, **mb3.3**/3, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WOJI	Wonogiri, Jawa	0.60	68	P	Pn	02 21 01.6	0.0
PCJI	Pacitan	0.82	99	P	Pn	02 21 01.7	-1.9
SMRI	Semarang	1.01	5	P	Pn	02 21 06.8	+1.2
PWJI	Pagerwojo	1.43	88	P	Pn	02 21 10.9	+0.5
KPJI	Karang Pucung	1.59	297	P	Pn	02 21 12.4	0.0
UWJI	Ujung Watu	1.73	20	P	Pn	02 21 05.8	-8.5
CMJI	Cimerak	1.92	278	P	Pn	02 21 13.1	-3.4
TBJI	Tambak Boyo	1.93	50	P	Pn	02 21 14.3	-2.4
GRJI	Gresik	2.39	62	P	Pn	02 21 22.0	-0.7
CISI	Cisompet, Garu	2.57	281	P	Pn	02 21 22.9	-2.3
JCJI	Jatiwangi	2.60	307	P	Pn	02 21 23.6	-1.8
LEM	Lembang	2.98	294	P	Pn	02 21 30.5	-0.2
GMJI	Gumukmas	3.06	94	P	Pn	02 21 32.0	+0.4
BLJI	Banyuglugur	3.22	85	P	Pn	02 21 34.0	+0.3
CNJI	Cibinong	3.29	283	P	Pn	02 21 31.9	-2.8
KMMI	Kalianget	3.71	74	P	Pn	02 21 39.5	-0.9
JAGI	Jajag, Banyuwa	3.77	96	P	Pn	02 21 41.5	+0.3
ABJI	Asem Bagus	3.85	86	P	Pn	02 21 43.3	+1.2
CBJI	Citeko	3.85	295	P	Pn	02 21 41.8	-0.4
SKJI	Sukabumi	3.92	285	P	Pn	02 21 45.8	+2.7
TNG	Tangerang	4.14	297	P	Pn	02 21 47.7	+1.6
TNG				P	Pn	02 21 48.4	+2.3
SBJI	Serang	4.62	294	P	Pn	02 21 53.8	+1.2
IGBI	Denpasar	4.79	99	P	Pn	02 21 58.7	+3.7
SRBI	Singaraja	4.80	91	P	Pn	02 21 52.7	+2.2
CGJI	Cibinong	4.85	287	P	Pn	02 21 56.4	+0.7
WRA	Warramunga Arr	26.05	119	P	P	02 26 09.2	-0.1
	0.8nm,0.8s,baz=290,slow=11,SNR=11						
ASAR	Alice Springs	27.38	127	P	P	02 26 20.8	-0.4
	0.2nm,0.3s,baz=301,slow=9.5,SNR=5.8						
STKA	Stephens Creek	37.48	134	P	P	02 27 49.1	0.0
	0.8nm,0.5s,baz=322,slow=10,SNR=4.7						

*IDC **08** 02:22:50.4±1.1, 33.16N×142.57E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/35, mbtmp3.4/7, ML3.3/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/26, Error ellipse: s-maj=30.5km s-min=27.1km az=115.0*

*ISCJB **08** 02:22:52.4±2.0, 33.23N±0.06×142.54E±0.06, h24km±16km, mb3.5/6, Error ellipse: s-maj=10.1km s-min=7.1km az=34.3*

*JMA **08** 02:22:52.8±0.4, 33.20N×142.57E, h76km, M3.7*

ISC 08 02:22:53.5±4.5, **33.19N**±0.07×**142.54E**±0.08, **h20**km±22km, **n22**, σ**0.96**/26, **mb3.5**/6, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.95	319	P	Pn	02 23 24.6	-0.5
BSO1				eS	Sn	02 23 49.0	+0.3
BSO2	Boso 2	2.15	317	eS	Sn	02 23 54.7	+0.7
JHJ2	Mitsune	2.29	269	P	Pn	02 23 29.7	-0.5
JHJ2				eS	Sn	02 23 56.9	-0.9
JHCJ	Hachijojimakas	2.31	268	P	Pn	02 23 29.7	-0.7
JHCJ				eS	Sn	02 23 58.3	+0.1
BSO3	Boso 3	2.33	314	P	Pn	02 23 30.3	-0.2
BSO3				eS	Sn	02 23 58.5	+0.1
BSO4	Boso 4	2.56	315	P	Pn	02 23 33.9	+0.1
BSO4				S	Sn	02 24 03.6	-0.8
JOD2	Odawara 2	3.53	307	P	Pn	02 23 46.3	-1.0
JOD2				eS	Sn	02 24 28.4	0.0
JAG	Ashikaga	4.11	323	P	Pn	02 23 54.8	-0.4
JAG				S	Sn	02 24 41.3	-1.3
JRY	Ryogami san	4.12	314	P	Pn	02 23 55.5	+0.2
JRY				eS	Sn	02 24 41.8	-1.2
JFT	Otama	4.68	338	P	Pn	02 24 02.3	-0.7
JFT				S	Sn	02 24 51.8	-4.9
MJAR	Matsushiro Arr	4.88	314	Pn	Pn	02 24 05.2	-0.7
	1.2nm,0.3s,baz=142,slow=14,SNR=4.9						
MJAR				Sn	Sn	02 25 00.2	-1.7
	2.1nm,0.3s,baz=37,slow=11,SNR=6.1						
MAT	Matsushiro	4.88	314	P	Pn	02 24 05.7	-0.2
MAT				eS	Sn	02 24 58.7	-3.2
KSRS	Korea Array	12.67	294	LR	LR	02 30 44.0	
	comp=Z,35nm,18.4s,baz=38,slow=37						
H11S3	WAKE ISLAND Hy	26.11	118	T	T	02 52 37.1	
	baz=307,slow=74,SNR=30						
H11S1	WAKE ISLAND Hy	26.11	118	T	T	02 52 36.4	
	baz=307,slow=74,SNR=25						
H11S2	WAKE ISLAND Hy	26.13	118	T	T	02 52 37.4	
	baz=307,slow=74,SNR=22						
MKAR	Makanchi Array	47.02	305	P	P	02 31 23.6	+0.1
	0.4nm,0.8s,baz=87,slow=12,SNR=2.2						
ILAR	Eielson Array	52.28	31	P	P	02 32 03.6	+0.4
	0.4nm,0.6s,baz=265,slow=6.4,SNR=11						
WRA	Warramunga Arr	53.41	190	P	P	02 32 11.8	-0.3
	0.2nm,0.3s,baz=5.8,slow=7.6,SNR=7.7						
YKA	Yellowknife Ar	66.67	30	P	P	02 33 42.4	-0.1
	0.2nm,0.6s,baz=297,slow=6.7,SNR=6.6						
NVAR	Mina Array Bea	76.56	53	P	P	02 34 43.3	+0.4
	0.5nm,0.8s,baz=270,slow=1.8,SNR=3.2						
TXAR	Lajitas Array	91.71	53	P	P	02 35 59.5	-0.5
	0.2nm,0.7s,baz=343,slow=2.8,SNR=3.5						

*IDC **08** 02:25:35.5±7.1, 27.81N×62.67E, h0km, mb3.6/6, mb1 3.6/6, mb1mx3.4/29, mbtmp3.6/6, Error ellipse: s-maj=152.3km s-min=27.4km az=176.0*

*OMAN **08** 02:25:43.2±99.0, 26.23N×61.81E, h35km±4km, Error ellipse: s-maj=212.2km s-min=3.2km az=247.0*

ISC 08 02:25:30.0±1.4, **26.9N**±0.2×**62.7E**±0.1, **h10**km, **n11**, σ**1.43**/10, **mb3.5**/6, **4C-3D**, **Southwestern Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBK	Wadi Bani Khal	5.42	219	⇓S	Sn	02 27 38.9	-15
BANOM	Banah	5.81	262	⇑P	Pn	02 26 55.1	-1.2
BANOM				⇓S	Sn	02 27 51.7	-11
ASHO	Ashiyiah	6.36	251	⇑P	Pn	02 27 03.1	-0.8
ASHO				⇓S	Sn	02 28 04.3	-12
ARQ	Araqi	6.61	239	⇑P	Pn	02 27 07.2	0.0
ARQ				⇑S	Sn	02 28 15.5	-7.2
SARP	Sargodha	10.05	58	P	Pn	02 27 53.4	-1.1
MKAR	Makanchi Array	25.20	33	P	P	02 30 56.7	+0.9
	0.6nm,0.5s,baz=211,slow=9.8,SNR=16						
BRTR	Keskin Array B	27.33	305	P	P	02 31 18.2	+2.9
	0.5nm,0.8s,baz=123,slow=8.6,SNR=2.7						
ZALV	Zalesovo Beam	31.60	25	P	P	02 31 52.5	-0.2
	0.4nm,0.4s,baz=224,slow=12,SNR=3.9						
AKASG	Malin Array Be	34.83	322	P	P	02 32 20.4	-0.6
	0.3nm,0.4s,baz=124,slow=8.1,SNR=4.4						
SONM	Songino Array	39.89	47	P	P	02 33 05.1	+1.0
	0.6nm,0.7s,baz=247,slow=7.8,SNR=5.9						
FINES	FINESS Array B	42.37	335	P	P	02 33 23.8	-0.4
	0.8nm,0.7s,baz=144,slow=10,SNR=4.3						

*IDC **08** 02:54:32.7±1.8, 7.26S×124.54E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.2/20, mbtmp3.1/3, ML3.2/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/15, Error ellipse: s-maj=195.8km s-min=30.5km az=59.0*

ISC 08 02:54:34.0±1.4, **7.3S**±0.1×**124.44E**±0.09, **h10**km, **n9**, σ**1.96**/7, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	2.48	184	P	Pg	02 55 22.1	+0.5
	baz=1.9,SNR=57						
WSI	Waingapu	4.74	239	P	Pg	02 56 05.5	+0.5
	baz=5.0,SNR=4.5						
MTN	Manton Dam	8.61	131	P	Pn	02 56 48.9	+10
	baz=7.7,SNR=6.0						
MTN				S	Sn	02 58 18.3	+2.3
	baz=7.7,SNR=5.0						
KNRA	Kununurra	9.37	154	P	Pn	02 56 53.2	+4.0
	baz=8.5,SNR=4.6						
KDU	Kakadu	9.57	125	P	Pn	02 56 52.4	+0.4
	baz=8.7,SNR=5.1						
WRA	Warramunga Arr	15.84	144	Pn	P	02 58 18.7	-2.4
	0.1nm,0.3s,baz=318,slow=14,SNR=8.0						
WRA				Sn	Sn	03 00 58.0	-15
	0.1nm,0.3s,baz=328,slow=21,SNR=3.5						
ASAR	Alice Springs	18.67	152	P	P	02 58 50.9	-1.8
	0.1nm,0.3s,baz=329,slow=12,SNR=3.6						
USRK	Ussuriysk Arra	51.68	7	LR	LR	03 24 26.1	
	comp=Z,31nm,21.4s,baz=4.9,slow=35						
MKAR	Makanchi Array	65.54	330	P	P	03 05 18.4	+0.6
	0.2nm,0.5s,baz=132,slow=6.3,SNR=7.1						

*IDC **08** 03:05:48.2±1.0, 40.50N×77.65E, h0km, mb3.4/6, mb1 3.6/10, mb1mx3.4/41, mbtmp3.4/10, ML3.0/4, Error ellipse: s-maj=16.7km s-min=15.4km az=130.0*

*KRNET **08** 03:05:53.7±0.1, 40.87N×77.52E, h3km, mb3.8*

*NNC **08** 03:05:53.4±1.9, 40.82N×77.64E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=16.6km s-min=11.6km az=168.0*

ISC 08 03:05:51.5±1.2, **40.73N**±0.07×**77.56E**±0.05, **h10**km, **n39**, σ**1.43**/46, **mb3.5**/6, **17C-5D**, **Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	1.81	327	P	Pg	03 06 25.8	-0.3
	SNR=5.3						
ULHL	Ulahol	1.81	327	⇑iP	Pg	03 06 25.5	-0.7
	baz=325						
ULHL				⇑iS	Sg	03 06 50.2	+0.6
	baz=325						
ANVS	Anan'yevo	2.05	2	iP	Pg	03 06 29.5	-1.3
	baz=3.0						
ANVS				eS	Sg	03 06 58.9	+1.5
	baz=3.0						
BOOM	Boomskoye usch	2.14	326	eP	Pg	03 06 31.0	-1.4
	baz=324						
BOOM				eS	Sg	03 07 01.0	+0.9
	baz=324						
KZA	Kyzart	2.20	308	P	Pb	03 06 32.3	+0.8
	SNR=62						
KZA	Kyzart	2.20	308	⇑iP	Pb	03 06 31.9	+0.3
	baz=306						
KZA				⇑iS	Sg	03 07 01.9	-0.3
	baz=306						
KNDC	Almaty	2.52	350	⇑Pn	Pb	03 06 35.8	-1.1
	138nm,0.9s						
KNDC				⇓Lg	Lg	03 07 14.2	
	316nm,0.8s						
TKM2	Tokmak 2	2.63	327	⇓Pn	Pb	03 06 37.3	-1.6
	31nm,0.8s						
TKM2				⇑Lg	Lg	03 07 14.2	
	63nm,0.8s						
TKM2	Tokmak 2	2.63	327	P	Pb	03 06 37.9	-1.0
	SNR=17						
TKM2	Tokmak 2	2.63	327	⇑iP	Pb	03 06 37.5	-1.4
	baz=326						
TKM2				⇑iS	Sg	03 07 16.3	+0.2
	baz=326						
ARLS	Aral	2.69	296	iP	Pb	03 06 40.5	+0.7
	baz=293						
ARLS				eS	Sg	03 07 16.5	-1.3
	baz=293						
UCH	Uchtor	2.73	304	P	Pn	03 06 38.6	+2.8
	SNR=9.6						
KBK	Karagaybulak	2.74	315	P	Pg	03 06 42.2	-1.9
	SNR=48						
KBK	Karagaybulak	2.74	315	⇑iP	Pb	03 06 39.5	-1.2
	baz=314						
KBK				⇑iS	Sg	03 07 19.0	-0.6
	baz=314						
AAK	Ala-Archa	2.98	311	⇑Pn	Pb	03 06 42.4	-2.4
	34nm,0.6s						
AAK				⇓Lg	Lg	03 07 26.4	
	97nm,0.7s						
AAK	Ala-Archa	2.98	311	P	Pb	03 06 45.9	+1.1
	SNR=12						
AAK	Ala-Archa	2.98	311	Pn	Pb	03 06 42.9	-1.9
	3.9nm,0.3s,baz=126,slow=13,SNR=76						
AAK				Pg	Pg	03 06 46.0	-2.6
	6.8nm,0.3s,baz=126,slow=12,SNR=100						
AAK				Sn	Sg	03 07 27.0	-0.2
	9.6nm,0.3s,baz=330,slow=16,SNR=13						
CHMS	Chumysh	3.09	318	P	Pg	03 06 48.2	-2.4
	SNR=15						
SFK	Sufi-Kurgan	3.18	258	eP	Pn	03 06 46.0	+4.2
	baz=256						
SFK				eS	Sb	03 07 27.0	-0.2
	baz=256						
AML	Almayashu	3.23	297	P	Pb	03 06 50.9	+1.9
	SNR=21						
USP	Ospenovka	3.41	319	P	Pb	03 06 53.7	+1.7
	SNR=37						
EKS	Erkin-Say	3.43	306	eP	Pg	03 06 55.0	-2.1
	baz=304						
EKS				eS	Sg	03 07 41.0	-0.5
	baz=304						
EKS2	Erkin-Say	3.43	305	P	Pg	03 06 56.3	-0.8
	SNR=6.6						
ARSB	Arslanbob	3.52	281	eP	Pb	03 06 54.0	+0.2
	baz=279						
ARSB				eS	Sb	03 07 40.0	+3.4
	baz=279						
KK31	Karatay Array	5.77	297	Pg	Pb	03 07 36.9	+4.7
	4.2nm,0.6s,baz=116,slow=16,SNR=30						
KK31				⇑Lg	Lg	03 08 53.9	
	6.8nm,0.7s,baz=112,slow=28,SNR=5.5						
MK31	Makanchi Array	6.96	28	⇑Pn	Pn	03 07 34.6	+1.2
	0.3nm,0.3s,baz=83,slow=69,SNR=7.2						
MK31				⇓Sn	Sn	03 08 53.4	+0.8
	1.6nm,0.5s,baz=203,slow=22,SNR=6.7						
MK31				⇑Lg	Lg	03 09 29.6	
	5.8nm,0.8s,baz=211,slow=28,SNR=4.1						
MKAR	Makanchi Array	6.96	28	Pn	Pn	03 07 34.4	+1.0
	0.3nm,0.3s,baz=201,slow=16,SNR=10						
MKAR				Sn	Sn	03 08 54.5	+1.9
	0.6nm,0.3s,baz=205,slow=22,SNR=13						
MKAR				Lg	Lg	03 09 32.4	
	0.7nm,0.3s,baz=212,slow=27,SNR=6.6						
DHRM	DHARAMSHALA	8.53	187	eP	Sn	03 09 23.9	-7.8
KURBB	Kurchatov Arra	9.91	4	⇓Pn	Pn	03 08 14.9	+1.0
	3.9nm,0.9s						
KURBB				⇑Lg	Lg	03 11 06.6	
	15nm,0.8s						
KURBB	Kurchatov Arra	9.91	4	Pn	Pn	03 08 15.3	+1.4
	0.2nm,0.3s,baz=180,slow=14,SNR=8.3						
KURBB				Lg	Lg	03 11 04.2	
	0.2nm,0.3s,baz=191,slow=28,SNR=7.1						
KURK	Kurchatov	10.01	4	⇑Pn	Pn	03 08 14.9	-0.4
	1.0nm,1.0s						
KURK				⇑Lg	Lg	03 11 08.7	
	3.3nm,0.8s						
BVAR	Borovoye Array	13.23	341	Lg	Lg	03 12 51.5	
	0.2nm,0.3s,baz=134,slow=32,SNR=8.0						
ZALV	Zalesovo Beam	14.10	18	Pn	Pn	03 09 11.6	+0.5
	0.1nm,0.3s,baz=200,slow=13,SNR=2.5						
SONM	Songino Array	21.74	61	P	P	03 10 42.6	-0.4
	0.4nm,0.7s,baz=260,slow=12,SNR=3.8						
BRTR	Keskin Array B	33.29	283	P	P	03 12 29.1	-0.2
	0.3nm,0.6s,baz=82,slow=11,SNR=2.7						
TORD	Torodi Ar. Bea	70.87	271	P	P	03 17 07.0	-1.9
	0.7nm,0.9s,baz=52,slow=5.2,SNR=7.0						
YKA	Yellowknife Ar	76.66	6	P	P	03 17 41.0	-1.0
	0.2nm,0.4s,baz=346,slow=6.0,SNR=8.1						
WRA	Warramunga Arr	80.14	127	P	P	03 17 59.4	-2.4
	0.6nm,1.0s,baz=325,slow=5.2,SNR=4.6						
ASAR	Alice Springs	82.72	130	P	P	03 18 12.9	-2.6
	0.3nm,0.7s,baz=316,slow=5.2,SNR=4.5						

*IDC **08** 03:13:35.1±0.9, 2.82N×126.51E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/23, mbtmp3.9/8, MS3.7/2, Ms1 3.7/2, ms1mx2.7/30, Error ellipse: s-maj=53.0km s-min=13.2km az=78.0*

*ISCJB **08** 03:13:41.5±0.8, 2.9N±0.1×126.4E±0.3, h63km, mb3.9/8, Error ellipse: s-maj=47.6km s-min=13.0km az=169.4*

ISC 08 03:13:43.5±1.0, **2.9N**±0.1×**126.5E**±0.4, **h63**km, **n10**, σ**0.63**/9, **mb3.9**/8, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.00	161	P	P	03 18 51.9	-0.7
	2.6nm,0.7s,baz=343,slow=10.0,SNR=28						
WRA				S	S	03 23 06.1	+0.9
	0.7nm,1.0s,baz=336,slow=18,SNR=3.8						
ASAR	Alice Springs	27.40	165	P	P	03 19 23.1	-0.3
	0.3nm,0.3s,baz=346,slow=7.3,SNR=6.9						
ASAR				S	S	03 24 14.2	+15
	0.6nm,0.8s,baz=350,slow=20,SNR=6.8						
HNR	Honiara	35.56	111	LR	LR	03 34 15.4	
	comp=Z,69nm,20.1s,baz=352,slow=35						
STKA	Stephens Creek	37.47	159	P	P	03 20 51.0	-0.1
	1.1nm,0.6s,baz=332,slow=9.4,SNR=5.9						
USRK	Ussuriysk Arra	41.40	6	P	P	03 21 24.1	+0.4
	4.5nm,0.7s,baz=196,slow=8.2,SNR=13						
ASAJ	Asahikawa	43.45	17	P	P	03 21 40.0	-0.3
	4.0nm,0.7s,baz=322,slow=32,SNR=3.9						
SONM	Songino Array	47.98	342	P	P	03 22 15.5	-0.7
	0.5nm,0.9s,baz=152,slow=3.3,SNR=4.1						
PETK	Petropavlovsk-	56.29	22	P	P	03 23 17.9	+0.3
	2.2nm,0.7s,baz=167,slow=9.1,SNR=4.1						
MKAR	Makanchi Array	58.06	326	P	P	03 23 30.8	+0.5
	0.4nm,0.4s,baz=117,slow=7.9,SNR=14						
AKTO	Aktyubinsk	74.12	322	LR	LR	04 00 40.0	
	comp=Z,62nm,19.0s,baz=322,slow=38						

*IDC **08** 03:24:58.2±0.8, 23.80N×121.66E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.7/33, mbtmp3.8/11, ML3.0/1, MS3.0/5, Ms1 3.0/5, ms1mx2.8/33, Error ellipse: s-maj=31.2km s-min=16.7km az=67.0*

*NIED **08** 03:25:00, 23.80N×121.70E, h47km, Mw4.1 Best double couple: $M_0$1.36000×10^{15} NP1:ϕ_s237.00000°, δ12.00000°, λ-4.00000°. NP2:ϕ_s331.00000°, δ89.00000°, λ-102.00000°.*

*BJI **08** 03:25:02.3, 23.92N×121.47E, h5km, mb3.9/5, ML4.2/4*

*JMA **08** 03:25:03.9, 23.79N×121.66E, h32km±1km, M4.9*

*TAP **08** 03:25:04.5, 23.83N×121.66E, h45km, ML4.7, B*

*ISCJB **08** 03:25:04.6±0.2, 23.81N±0.02×121.70E±0.02, h51km±3km, mb3.7/10, MS3.5/3, Error ellipse: s-maj=3.0km s-min=1.9km az=142.5*

ISC 08 03:25:04.8±0.7, **23.82N**±0.02×**121.68E**±0.02, **h43**km±5km, **n105**, σ**1.49**/157, **mb3.7**/10, **MS3.0**/3, **5C-19D**, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESF	Shoufeng Towns	0.17	287	⇑P	Pn	03 25 12.7	+0.6
	baz=288						
ESF				S	Sn	03 25 18.4	+1.2
	baz=288						
HWA	Hwalien	0.17	335	⇑iP	Pn	03 25 12.1	0.0
	baz=350						
HWA				iS	Sn	03 25 18.4	+1.1
	baz=350						
TEGC	Jichi Village	0.17	230	eP	Pn	03 25 13.1	+1.0
	baz=211						
TEGC				eS	Sn	03 25 19.7	+2.4
	baz=211						
ESL	Shilin	0.23	268	⇓iP	Pn	03 25 12.1	-0.5
	baz=266						
TWD	Chiawan	0.27	343	⇑iP	Pn	03 25 12.8	-0.1
	baz=342						
TWD				eS	Sn	03 25 18.9	+0.2
	baz=342						
EHY	Hungye	0.46	227	⇓iP	Pn	03 25 14.4	-0.8
	baz=223						
EHY				S	Sn	03 25 21.0	-1.4
	baz=223						
EHP	Heping Village	0.49	6	eP	Pn	03 25 15.5	-0.1
	baz=17						
EHP				eS	Sn	03 25 24.8	+1.6
	baz=17						
WHF	Hehuan Shan	0.50	310	⇓iP	Pn	03 25 15.4	-0.7
	baz=312						
TWF1	Yuli	0.59	217	⇓iP	Pn	03 25 16.1	-0.8
	baz=222						
TWF1				S	Sn	03 25 24.3	-1.0
	baz=222						
ENA	Nanau	0.61	5	⇓iP	Pn	03 25 17.0	-0.1
	baz=16						
ENA				eS	Sn	03 25 25.7	-0.1
	baz=16						
TWT	Tachien	0.63	313	⇓iP	Pn	03 25 17.6	+0.1
	baz=313						
TWT				iS	Sn	03 25 26.0	-0.7
	baz=313						
NNS	Nan Shan	0.68	335	⇓P	Pn	03 25 17.8	-0.4
	baz=338						
NNS				eS	Sn	03 25 26.6	-1.1
	baz=338						
SMLT	Sun Moon Lake	0.72	275	⇓iP	Pn	03 25 18.6	-0.1
	baz=274						
SMLT				S	Sn	03 25 28.2	-0.5
	baz=274						
YUS	Yu-Shan	0.75	244	⇓iP	Pn	03 25 19.6	+0.2
	baz=235						
YUS				iS	Sn	03 25 29.1	-0.7
	baz=235						
TYC	Yuchr	0.76	276	⇓iP	Pn	03 25 19.0	-0.1
	baz=278						
TYC				eS	Sn	03 25 29.8	+0.4
	baz=278						
CHKT	Chengkung	0.78	202	P	Pn	03 25 19.3	0.0
	baz=189						
CHKT				eS	Sn	03 25 30.7	+0.9
	baz=189						
TWC	Suao	0.80	11	P	Pn	03 25 20.0	+0.4
	baz=20						
TWC				S	Sn	03 25 31.7	+1.3
	baz=20						
ALS	Alishan	0.86	249	⇓P	Pn	03 25 21.1	+0.4
	baz=247						
ALS				S	Sn	03 25 32.2	-0.2
	baz=247						
ELDTW	Lidau	0.88	224	P	Pn	03 25 20.2	-0.7
	baz=217						
ELDTW				eS	Sn	03 25 31.5	-1.0
	baz=217						
TWE	Neicheng	0.90	359	P	Pn	03 25 20.9	-0.1
	baz=354						
TWE				eS	Sn	03 25 33.8	+1.0
	baz=354						
NSK	Sanguang	0.90	341	⇓iP	Pn	03 25 21.2	+0.1
	baz=350						
NSK				S	Sn	03 25 32.2	-0.8
	baz=350						
WNT	Mingjian	0.92	274	⇓iP	Pn	03 25 22.3	+1.0
	baz=273						
WNT				iS	Sn	03 25 34.5	+1.3
	baz=273						
ILA	Ilan	0.94	4	eP	Pn	03 25 22.4	+0.8
	baz=356						
ILA				eS	Sn	03 25 36.2	+2.4
	baz=356						
CHN5	Tsauling	0.95	257	eP	Pn	03 25 22.4	+0.6
	baz=256						
TCU	Taichung	0.98	290	⇓iP	Pn	03 25 23.2	+1.2
	baz=289						
TCU				eS	Sn	03 25 36.0	+1.3
	baz=289						
TWQ1	Liyutan	0.98	302	⇓iP	Pn	03 25 23.1	+1.0
	baz=302						
TWQ1				S	Sn	03 25 36.0	+1.1
	baz=302						
NSTT	Nanjuang	1.02	322	⇓iP	Pn	03 25 23.8	+1.1
	baz=310						
NSTT				iS	Sn	03 25 36.8	+1.1
	baz=310						
NSY	Sanyi	1.03	305	⇓P	Pn	03 25 23.9	+1.1
	baz=305						
NSY				S	Sn	03 25 37.8	+1.7
	baz=305						
WGK	Gukeng	1.04	263	eP	Pn	03 25 23.9	+1.0
	baz=262						
WGK				eS	Sn	03 25 38.0	+1.8
	baz=262						
EGS		1.04	12	eP	Pn	03 25 24.3	+1.3
	baz=24						
EGS				eS	Sn	03 25 40.3	+3.9
	baz=24						
CHN4	Tsaushan	1.10	245	eP	Pn	03 25 24.8	+1.0
	baz=244						
CHN4				S	Sn	03 25 39.9	+2.0
	baz=244						
WTP	Ta-pu	1.14	240	⇓iP	Pn	03 25 25.4	+1.1
	baz=238						
WTP				eS	Sn	03 25 40.3	+1.5
	baz=238						
TWG	Pinlang	1.14	210	eP	Pn	03 25 23.2	-1.1
	baz=198						
TWA	Mucha	1.16	356	eP	Pn	03 25 25.3	+0.7
	baz=357						
TTN	Taitung	1.17	205	eP	Pn	03 25 23.2	-1.5
	baz=202						
HSN	Hsinchu	1.17	326	eP	Pn	03 25 25.3	+0.5
	baz=328						
HSN				eS	Sn	03 25 41.8	+2.2
	baz=328						
CHY	Chiayi	1.20	255	eP	Pn	03 25 26.0	+0.9
	baz=254						
CHY				eS	Sn	03 25 42.0	+1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=254						
TWB1	Santiao Chiao	1.21	13	eP	Pn	03 25 26.5	+1.2
	baz=31						
TWB1				eS	Sn	03 25 42.5	+2.0
	baz=31						
TAP1	Taipei	1.22	353	eP	Pn	03 25 25.9	+0.5
	baz=354						
TAP	Taipei	1.22	352	eP	Pn	03 25 25.8	+0.3
	baz=354						
TWK	Hsinying	1.23	244	P	Pn	03 25 26.6	+1.0
	baz=242						
TWK				eS	Sn	03 25 43.1	+2.1
	baz=242						
NCU	National Centr	1.23	338	eP	Pn	03 25 26.6	+1.0
	baz=339						
CHN1	Nanshi	1.24	239	⇑iP	Pn	03 25 26.8	+1.2
	baz=238						
CHN1				eS	Sn	03 25 43.1	+2.0
	baz=238						
NWF	Wu-fen Shan	1.25	4	eP	Pn	03 25 26.4	+0.5
	baz=354						
NWF				eS	Sn	03 25 43.4	+1.9
	baz=354						
SGST	Jiashian	1.25	234	⇑iP	Pn	03 25 27.5	+1.7
	baz=232						
SGST				S	Sn	03 25 43.9	+2.4
	baz=232						
WTCT	Ta-ch'eng	1.28	272	eP	Pn	03 25 27.2	+1.0
	baz=271						
WTCT				eS	Sn	03 25 44.5	+2.2
	baz=271						
TWS1	Kuangyinshan	1.30	349	eP	Pn	03 25 27.4	+1.0
	baz=350						
JYNG	Yonagunijimaku	1.31	61	P	Pn	03 25 27.4	+0.8
JYNG				eS	Sn	03 25 43.9	+0.9
WSF	Szhu	1.35	263	eP	Pn	03 25 28.2	+1.0
	baz=262						
WSF				eS	Sn	03 25 46.0	+2.1
	baz=262						
YOJ	Yonaguni jima	1.37	62	P	Pn	03 25 28.2	+0.8
YOJ				eS	Sn	03 25 45.2	+0.8
YOJ	Yonaguni jima	1.37	62	⇓P	Pn	03 25 28.3	+0.8
	baz=65						
YOJ				S	Sn	03 25 45.1	+0.8
	baz=65						
ECL	Taimali	1.39	209	eP	Pn	03 25 26.4	-1.3
	baz=200						
CHN3	Shinhua	1.42	239	eP	Pn	03 25 30.4	+2.3
	baz=238						
CHN3				eS	Sn	03 25 50.1	+4.4
	baz=238						
CHN8	Yiju	1.43	251	eP	Pn	03 25 28.9	+0.6
	baz=250						
CHN8				eS	Sn	03 25 47.4	+1.5
	baz=250						
TWY	Chenhua	1.45	357	eP	Pn	03 25 29.3	+0.7
	baz=358						
SCLT	Jiali	1.51	245	eP	Pn	03 25 29.6	+0.2
	baz=244						
SCLT				eS	Sn	03 25 50.2	+2.3
	baz=244						
TWM1	Shoushan	1.53	230	eP	Pn	03 25 31.9	+2.3
	baz=228						
TWM1				eS	Sn	03 25 54.0	+5.7
	baz=228						
SGLT	Jiouru	1.55	225	eP	Pn	03 25 32.1	+2.3
	baz=210						
SGLT				eS	Sn	03 25 54.1	+5.3
	baz=210						
TAI1	Yung-k'ang	1.55	240	eP	Pn	03 25 31.4	+1.5
	baz=251						
TAI1				eS	Sn	03 25 51.2	+2.6
	baz=251						
EAST	Anshuo	1.63	208	eP	Pn	03 25 30.1	-0.9
	baz=199						
TAW	Tawu	1.63	207	eP	Pn	03 25 31.7	+0.8
	baz=198						
SCZT	Fangliau	1.74	214	eP	Pn	03 25 34.0	+1.5
	baz=211						
SCZT				eS	Sn	03 25 56.5	+2.9
	baz=211						
KAU	Kaohsiung	1.78	226	eP	Pn	03 25 35.6	+2.6
	baz=239						
LAY	Lan-yu	1.78	184	eP	Pn	03 25 32.4	-0.7
	baz=174						
LAY				eS	Sn	03 25 53.1	-1.4
	baz=174						
IRIF	Iriomote-Funau	1.94	74	P	Pn	03 25 36.0	+0.8
IRIF				eS	Sn	03 26 00.0	+1.6
WDGT	Dungji	1.94	254	eP	Pn	03 25 35.4	+0.1
	baz=243						
WDGT				eS	Sn	03 25 57.9	-0.5
	baz=243						
HATJ	Hateruma jima	1.96	83	P	Pn	03 25 36.6	+1.1
HATJ				eS	Sn	03 26 00.4	+1.6
PNG	Penghu	1.97	263	eP	Pn	03 25 35.8	+0.1
	baz=263						
PNG				eS	Sn	03 25 59.2	+0.1
	baz=263						
HEN	Hengchun	2.01	206	eP	Pn	03 25 36.7	+0.5
	baz=199						
TWK1	Hengchun	2.04	204	eP	Pn	03 25 37.1	+0.4
	baz=199						
TWK1				eS	Sn	03 26 02.6	+1.7
	baz=199						
TSEB	Hengchuen, Pin	2.04	201	eP	Pn	03 25 38.0	+1.3
	baz=192						
JKRS	Kuro-shima	2.17	79	P	Pn	03 25 39.9	+1.5
JKRS				eS	Sn	03 26 05.7	+1.7
JIJ	Ishigaki jima	2.31	76	P	Pn	03 25 41.1	+0.7
JIJ				eS	Sn	03 26 08.4	+0.8
JISG	Ishigakijimahi	2.52	72	P	Pn	03 25 43.9	+0.7
JISG				eS	Sn	03 26 13.1	+0.5
JTJ	Tarama	2.87	73	P	Pn	03 25 48.3	+0.2
KNM	Kinmen	3.03	282	eP	Pn	03 25 51.3	+1.1
	baz=281						
QZH	Quanzhou	3.03	292	Pn	Pn	03 25 49.5	-0.8
QZH				Sn	Sn	03 26 21.7	-3.6
QZH				smax	smax		
	comp=N,950nm,0.4s						
QZH				smax	smax		
	comp=E,550nm,0.6s						
JIRB	Irabujima	3.34	72	P	Pn	03 25 55.2	+0.7
JIRB				eS	Sn	03 26 32.8	-0.1
JIKM	Ikemajima	3.43	71	P	Pn	03 25 56.6	+0.9
JIKM				eS	Sn	03 26 36.0	+0.8
JMJ	Miyako jima 2	3.44	73	P	Pn	03 25 56.9	+1.0
JMJ				eS	Sn	03 26 36.3	+0.9
JOGS	Gusukube	3.52	74	P	Pn	03 25 58.9	+1.9
JOGS				eS	Sn	03 26 39.1	+1.6
JOW	Kunigami	6.67	62	Pn	Pn	03 26 39.5	-0.8
	0.7nm,0.3s,baz=129,slow=24,SNR=20						
JOW				Sn	Sn	03 27 52.4	-2.7
	0.3nm,0.3s,baz=112,slow=19,SNR=2.2						
JOW	Kunigami	6.67	62	eP	Pn	03 26 39.5	-0.8
	baz=65						
JNU	Nakatsue	12.29	39	LR	LR	03 33 34.3	
	comp=Z,55nm,18.3s,baz=15,slow=42						
KSRS	Korea Array	14.60	20	Pn	Pn	03 28 31.1	+2.5
	0.4nm,0.3s,baz=199,slow=11,SNR=15						
KSRS				LR	LR	03 34 56.4	
	comp=Z,46nm,18.2s,baz=246,slow=41						
MJAR	Matsushiro Arr	19.06	45	LR	LR	03 36 27.0	
	comp=Z,39nm,21.7s,baz=35,slow=36						
CMAR	Chiang Mai Arr	21.86	260	LR	LR	03 38 56.7	
	comp=Z,52nm,18.6s,baz=105,slow=38						
SONM	Songino Array	26.88	337	P	P	03 30 40.9	-0.8
	0.9nm,0.7s,baz=154,slow=9.7,SNR=11						
MKAR	Makanchi Array	38.91	316	P	P	03 32 26.4	0.0
	0.9nm,0.3s,baz=100,slow=8.5,SNR=12						
PETK	Petropavlovsk-	39.91	34	LR	LR	03 49 40.5	
	comp=Z,20nm,18.6s,baz=321,slow=37						
ZALV	Zalesovo Beam	40.80	327	P	P	03 32 40.8	-1.1
	1.6nm,0.5s,baz=118,slow=7.7,SNR=9.6						
H11N1	WAKE ISLAND Hy	42.05	87	T	T	04 18 20.1	
	baz=286,slow=75,SNR=10						
H11N2	WAKE ISLAND Hy	42.05	87	T	T	04 18 08.8	
	baz=286,slow=75,SNR=11						
H11N3	WAKE ISLAND Hy	42.07	87	T	T	04 18 10.0	
	baz=286,slow=75,SNR=11						
H11S3	WAKE ISLAND Hy	42.17	88	T	T	04 18 11.6	
	baz=287,slow=73,SNR=27						
H11S1	WAKE ISLAND Hy	42.18	88	T	T	04 18 12.1	
	baz=287,slow=73,SNR=13						
H11S2	WAKE ISLAND Hy	42.19	88	T	T	04 18 18.3	
	baz=287,slow=74,SNR=14						
WRA	Warramunga Arr	45.22	163	P	P	03 33 17.1	-0.8
	0.5nm,0.5s,baz=343,slow=8.6,SNR=4.9						
ASAR	Alice Springs	48.67	165	P	P	03 33 44.6	-0.3
	0.3nm,0.3s,baz=338,slow=6.9,SNR=7.4						
STKA	Stephens Creek	58.57	160	P	P	03 34 55.9	-1.4
	0.8nm,0.5s,baz=350,slow=3.8,SNR=4.7						
ILAR	Eielson Array	69.32	27	P	P	03 36 07.5	-0.1
	0.4nm,0.7s,baz=299,slow=6.8,SNR=10.0						
FINES	FINESS Array B	71.99	330	P	P	03 36 23.1	-0.7
	2.2nm,1.0s,baz=30,slow=6.4,SNR=3.3						
RAO	Raoul Island	78.46	129	LR	LR	04 05 55.1	
	comp=Z,185nm,18.7s,baz=336,slow=31						
YKA	Yellowknife Ar	83.12	23	P	P	03 37 25.1	-0.8
	0.6nm,0.6s,baz=312,slow=5.0,SNR=21						
GERES	GERESS Array B	83.41	321	P	P	03 37 27.7	-0.2
	0.3nm,0.5s,baz=53,slow=3.8,SNR=3.3						

MEX 08 03:25:12.3±0.9, 17.69N×95.94W, h116km±12km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
VHO	Vista Hermosa	0.98	231	iP	Pn	03 25 33.0	-1.0
VHO				iS	Sn	03 25 49.1	-1.4
CMIG	Matias Romero	1.17	121	iP	Pn	03 25 34.9	-0.9
CMIG				iS	Sn	03 25 51.1	-2.4
HUIG	Huatulco	1.92	185	iP	Pn	03 25 42.6	-2.0
HUIG				iS	Sn	03 26 07.3	-1.9
PNIG	Pinotepa	2.46	239	iP	Pn	03 25 50.0	-1.6
PNIG				iS	Sn	03 26 19.4	-2.2

NNC 08 03:38:32.8±0.4, 47.53N×81.94E, h0km, mb3.7, mpv3.4, 15C-6D, Error ellipse: s-maj=7.2km s-min=1.6km az=62.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
MK05	Makanchi Array	0.77	162	P	Pg	03 38 48.1	+0.4
MK05				S	Sg	03 38 58.6	+0.9
MK31	Makanchi Array	0.77	162	P	Pg	03 38 48.0	+0.4
	51nm,0.6s,baz=208,slow=9.2,SNR=4314						
MK31				⇓S	Sg	03 38 58.5	+0.8
	122nm,0.5s,baz=346,slow=44,SNR=6.8						
MK09	Makanchi Array	0.79	163	P	Pg	03 38 48.4	+0.5
MK09				S	Sg	03 38 58.9	+0.7
MK04	Makanchi Array	0.79	162	P	Pg	03 38 48.4	+0.4
MK04				S	Sg	03 38 59.1	+0.7
MK06	Makanchi Array	0.79	161	P	Pg	03 38 48.4	+0.4
MK06				S	Sg	03 38 59.1	+0.6
MK01	Makanchi Array	0.80	162	P	Pg	03 38 48.5	+0.4
MK01				S	Sg	03 38 59.1	+0.3
MK02	Makanchi Array	0.80	162	P	Pg	03 38 48.5	+0.3
MK02				S	Sg	03 38 59.3	+0.7
MK03	Makanchi Array	0.80	162	P	Pg	03 38 48.6	+0.3
MK03				S	Sg	03 38 59.2	+0.6
MK08	Makanchi Array	0.81	163	P	Pg	03 38 48.8	+0.5
MK08				S	Sg	03 38 59.1	+0.3
MK07	Makanchi Array	0.81	162	P	Pg	03 38 48.8	+0.3
KURBB	Kurchatov Arra	3.82	325	⇑Pn	Pn	03 39 33.1	+0.2
	2.1nm,0.3s						
KURBB				⇑Pg	Pb	03 39 42.6	+1.5
	9.6nm,0.4s						
KURBB				⇓Lg	Lg	03 40 35.4	
	161nm,0.5s						
KURK	Kurchatov	3.87	327	⇑Pn	Pn	03 39 32.9	-0.6
	0.7nm,0.6s						
KURK				⇑Pg	Pb	03 39 41.7	-0.1
	2.6nm,0.3s						
KURK				⇑Lg	Lg	03 40 35.9	
	28nm,0.6s						
TKM2	Tokmak 2	6.42	227	⇑Pn	Pn	03 40 11.3	+2.4
	20nm,1.6s						
TKM2				⇑Sn	Sn	03 41 24.5	+1.3
	6.0nm,0.9s						
TKM2				⇑Lg	Lg	03 41 58.4	
	11nm,1.1s						
AAK	Ala-Archa	7.19	230	⇑Pn	Pn	03 40 20.2	+0.8
	6.9nm,1.2s						
AAK				⇓Lg	Lg	03 42 20.1	
	7.1nm,0.8s						
VOSK	Vostochnaya	8.75	311	⇑Pn	Pn	03 40 41.3	+0.8
	0.7nm,0.5s						
VOSK				⇑Sn	Sn	03 42 19.3	-0.5
	1.8nm,0.5s						
VOSK				⇓Lg	Lg	03 43 09.9	
	6.7nm,0.8s						
KK31	Karatay Array	9.19	245	Pn	Pn	03 40 48.2	+1.6
	0.3nm,0.3s,baz=64,slow=12,SNR=22						
KK31				⇑Sn	Sn	03 42 31.7	+1.1
	1.5nm,0.6s,baz=52,slow=21,SNR=6.3						
KK31				⇑Lg	Lg	03 43 25.0	
	1.8nm,0.5s,baz=48,slow=28,SNR=3.7						
BVA0	Borovoye Array	9.21	311	⇓Pn	Pn	03 40 46.7	-0.2
	3.9nm,1.4s,baz=244,slow=41,SNR=7.3						
BVA0				⇓Sn	Sn	03 42 29.6	-1.6
	1.2nm,0.5s,baz=230,slow=26,SNR=5.4						
BVA0				⇑Lg	Lg	03 43 24.9	
	11nm,1.1s,baz=127,slow=27,SNR=4.5						
BRVK	Borovoye	9.29	311	Pn	Pn	03 40 47.2	-0.7
BRVK				Sn	Sn	03 42 30.9	-2.0
BRVK				Lg	Lg	03 43 27.5	
AB31	Akbulak array	14.71	285	⇑Pn	Pn	03 42 01.2	-0.8
	0.1nm,0.2s,baz=109,slow=7.6,SNR=4.1						

IDC 08 04:02:07.9±16.0, 54.24S×136.36W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/29, mbtmp3.9/4, MS3.9/10, Ms1 3.8/10, ms1mx3.7/18, Error ellipse: s-maj=440.9km s-min=41.0km az=50.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
RKT	Rikitea	31.10	2	eLR	LR	04 16 36.5	
	311nm,25.8s						
RKT	Rikitea	31.10	2	eT	T	04 41 16.1	
	1.8nm,0.2s						
VNDA	Vanda	31.72	201	LR	LR	04 17 35.4	
	comp=Z,130nm,19.3s,baz=88,slow=29						
TBI	Tubuai	32.38	337	eT	T	04 43 02.5	
	33nm,0.4s						
QSPA	South Pole Qui	35.93	180	P	P	04 09 09.7	0.0
	1.0nm,0.8s,baz=97,slow=8.1,SNR=1.8						
PPT2	Papeete2	37.98	339	eLR	LR	04 19 52.6	
	406nm,26.5s						
PLCA	Paso Flores	44.84	101	LR	LR	04 24 38.6	
	comp=Z,96nm,19.3s,baz=322,slow=30						
H03N3	Juan Fernandez	44.90	87	T	T	04 57 59.1	
	baz=224,slow=75,SNR=28						
H03N2	Juan Fernandez	44.91	87	T	T	04 58 21.8	
	baz=224,slow=75,SNR=35						
H03N1	Juan Fernandez	44.92	87	T	T	04 58 30.8	
	baz=224,slow=75,SNR=23						
DZM	Mont Dzumac	53.31	284	eLR	LR	04 27 15.3	
	163nm,22.7s						
DZM	Mont Dzumac	53.31	284	LR	LR	04 29 08.8	
	comp=Z,128nm,19.5s,baz=222,slow=30						
STKA	Stephens Creek	60.35	256	P	P	04 12 18.5	-0.1
	1.0nm,0.8s,baz=159,slow=8.6,SNR=3.2						
STKA				LR	LR	04 34 10.7	
	comp=Z,80nm,19.2s,baz=203,slow=32						
CPUP	Villa Florida	62.78	98	LR	LR	04 34 00.0	
	comp=Z,87nm,20.8s,baz=148,slow=30						
LPAZ	La Paz	64.23	82	LR	LR	04 33 06.6	
	comp=Z,43nm,18.5s,baz=62,slow=29						
ASAR	Alice Springs	70.99	256	P	P	04 13 27.9	+0.5
	0.8nm,0.8s,baz=144,slow=6.2,SNR=10						
ASAR				LR	LR	04 41 42.0	
	comp=Z,53nm,18.1s,baz=146,slow=33						
WRA	Warramunga Arr	73.66	259	P	P	04 13 43.0	-0.3
	1.2nm,0.9s,baz=145,slow=6.1,SNR=14						
WRA				LR	LR	04 43 16.4	
	comp=Z,73nm,19.3s,baz=40,slow=34						
BOSA	Boshof	95.97	164	LR	LR	04 52 21.4	
	comp=Z,86nm,21.8s,baz=204,slow=31						
PDAR	Pinedale Array	99.32	20	LR	LR	04 52 48.3	
	comp=Z,77nm,18.6s,baz=69,slow=31						

JMA 08 04:15:58.1±0.5, 24.08N×128.25E, h49km, M4.1, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
JNTH	Nagotoyohara	2.44	355	P	Pn	04 16 36.4	+1.0
JNTH				eS	Sn	04 17 04.5	+0.5
JKE	Kume jima 2	2.60	330	P	Pn	04 16 39.0	+1.3
JKE				eS	Sn	04 17 07.1	-0.9
JAGN	Aguni-jima	2.66	340	P	Pn	04 16 39.9	+1.4
JAGN				eS	Sn	04 17 08.7	-0.8
JOGS	Gusukube	2.68	285	P	Pn	04 16 40.2	+1.5
JOGS				eS	Sn	04 17 09.2	-0.8
JOW	Kunigami	2.74	0	P	Pn	04 16 41.0	+1.4
JIKM	Ikemajima	2.86	288	P	Pn	04 16 42.5	+1.3
JIKM				eS	Sn	04 17 14.8	+0.3
JIRB	Irabujima	2.90	286	P	Pn	04 16 42.7	+0.9
JIH	Iheya	2.95	355	P	Pn	04 16 44.1	+1.6
JMZ	Minamidaito 2	3.20	57	P	Pn	04 16 46.0	0.0
JOKE	Okinoerabujima	3.28	5	P	Pn	04 16 49.4	+2.4
JTJ	Tarama	3.28	281	P	Pn	04 16 48.3	+1.3
JTJ				S	Sn	04 17 23.4	-1.5
JTK	Tokunoshima	3.74	10	P	Pn	04 16 55.7	+2.3
JIJ	Ishigaki jima	3.76	275	P	Pn	04 16 54.3	+0.7
JIJ				S	Sn	04 17 34.1	-2.5
JKRS	Kuro-shima	3.88	273	P	Pn	04 16 56.4	+1.2
JKRS				S	Sn	04 17 36.8	-2.7
IRIF	Iriomote-Funau	4.13	274	P	Pn	04 16 59.7	+1.0
JAMN	Amaminishikomi	4.23	11	P	Pn	04 17 02.0	+2.0
JAMN				eS	Sn	04 17 48.0	-0.1
JAM	Amami Oshima	4.48	15	P	Pn	04 17 05.6	+2.1

ISCJB 08 04:59:33.4±0.6, 11.16S±0.07×73.79W±0.05, h105km, mb3.4/4, Error ellipse: s-maj=11.0km s-min=5.9km az=21.1

IDC 08 04:59:34.5±0.7, 11.19S×73.79W, h110km±7km, mb3.2/4, mb1 3.6/9, mb1mx3.4/39, mbtmp3.8/9, Error ellipse: s-maj=14.7km s-min=9.8km az=4.0

ISC 08 04:59:34.5±0.6, 11.20S±0.09×73.79W±0.07, h105km, n14, σ0.77/18, mb3.4/4, Central Peru

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
NNA	Nana	3.09	255	P	Pn	05 00 21.4	-0.3
	36nm,0.3s,baz=95,slow=9.8,SNR=96						
NNA				S	Sn	05 00 58.7	+0.8
	99nm,0.3s,baz=234,slow=16,SNR=16						
ATAH	Atahualpa	6.08	311	P	Pn	05 01 03.0	+0.7
	3.2nm,0.3s,baz=89,slow=5.5,SNR=12						
ATAH				S	Sn	05 02 11.4	+0.7
	1.6nm,0.3s,baz=108,slow=20,SNR=2.2						
LPAZ	La Paz	7.47	133	P	Pn	05 01 22.5	+1.1
	0.4nm,0.3s,baz=310,slow=8.0,SNR=18						
SIV	San Ignacio	13.25	112	P	Pn	05 02 38.9	+0.3
	0.3nm,0.3s,baz=304,slow=12,SNR=6.4						
SIV				S	Sn	05 05 05.7	+1.1
	0.4nm,0.3s,baz=284,slow=19,SNR=2.9						
PTGA	Pitinga	17.23	54	P	P	05 03 28.6	-0.1
	1.4nm,0.3s,baz=218,slow=23,SNR=14						
CFAA	Coronel Fontan	20.95	167	P	P	05 04 08.9	-0.2
	0.2nm,0.7s,baz=344,slow=9.3,SNR=3.6						
CPUP	Villa Florida	21.63	136	P	P	05 04 16.1	-0.2
	1.7nm,0.6s,baz=334,slow=7.7,SNR=4.0						
BDFB	Brasilia	25.45	103	pP	pP	05 05 16.3	+0.2
	2.6nm,0.6s,baz=275,slow=11,SNR=4.8						
TXAR	Lajitas Array	49.54	325	P	P	05 08 14.6	-0.4
	0.2nm,0.4s,baz=149,slow=8.6,SNR=5.4						
TXAR				pP	pP	05 08 40.8	+0.9
	0.4nm,0.6s,baz=146,slow=9.0,SNR=4.2						
TORD	Torodi Ar. Bea	78.70	74	P	P	05 11 24.4	-1.5
	0.2nm,0.4s,baz=270,slow=5.0,SNR=4.5						
TORD				pP	pP	05 11 53.2	+0.4
	1.4nm,0.9s,baz=267,slow=5.7,SNR=5.0						
YKA	Yellowknife Ar	79.98	342	P	P	05 11 31.3	-0.5
	0.5nm,0.9s,baz=138,slow=6.0,SNR=9.2						
YKA				pP	pP	05 11 59.1	+0.3
	0.6nm,0.8s,baz=138,slow=6.1,SNR=7.5						
ASAR	Alice Springs	136.02	218	PKP	PKPdf	05 18 43.3	-0.9
	0.3nm,0.6s,baz=145,slow=2.3,SNR=2.9						
WRA	Warramunga Arr	138.47	222	PKP	PKPdf	05 18 48.3	-0.4
	0.3nm,0.4s,baz=126,slow=1.9,SNR=8.7						
SONM	Songino Array	143.48	360	PKP	PKPbc	05 18 54.6	0.0
	0.3nm,0.5s,baz=321,slow=2.6,SNR=3.8						

MEX 08 06:04:34.4±0.3, 15.39N×93.86W, h84km±4km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
PCIG		0.69	63	eP	Pn	06 04 49.0	-1.3
PCIG				eS	Sn	06 05 00.5	-1.6
CCIG	Comitan	1.88	62	eP	Pn	06 05 03.9	-1.2
CCIG				iS	Sn	06 05 26.2	-2.2
CMIG	Matias Romero	1.96	330	eP	Pn	06 05 04.6	-1.2
CMIG				iS	Sn	06 05 28.4	-1.4
HUIG	Huatulco	2.20	280	eP	Pn	06 05 08.0	-1.0
HUIG				iS	Sn	06 05 33.7	-1.8

IDC 08 06:25:24.5±2.3, 18.91S×69.67W, h0km, mb3.5/2, mb1 3.6/2, mb1mx3.4/18, mbtmp3.5/2, Error ellipse: s-maj=102.9km s-min=60.0km az=13.0, Northern Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
TORD	Torodi Ar. Bea	77.18	71	P	P	06 37 20.9	+0.1
	0.6nm,0.6s,baz=264,slow=6.3,SNR=6.6						
TORD				pP	pP	06 37 50.1	
	1.0nm,0.6s,baz=265,slow=5.4,SNR=5.5						
YKA	Yellowknife Ar	88.52	341	P	P	06 38 18.6	0.0
	0.1nm,0.9s,baz=129,slow=6.8,SNR=3.0						
WRA	Warramunga Arr	134.77	213	PKP	PKPdf	06 44 45.5	-0.7
	0.3nm,0.7s,baz=155,slow=2.1,SNR=6.1						
KURBB	Kurchatov Arra	139.54	31	pPKP	pPKP	06 45 22.9	
	0.2nm,0.4s,baz=296,slow=3.2,SNR=4.1						
MKAR	Makanchi Array	143.92	33	PKP	PKPdf	06 45 01.7	-0.3
	0.2nm,0.6s,baz=318,slow=1.9,SNR=2.9						
MKAR				pPKP	pPKP	06 45 32.8	
	0.5nm,0.6s,baz=320,slow=2.0,SNR=5.4						

MEX 08 06:50:20.4±0.7, 16.30N×95.88W, h62km±10km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
HUIG	Huatulco	0.57	203	eP	Pn	06 50 31.8	-1.5
HUIG				iS	Sn	06 50 41.2	-1.6
VHO	Vista Hermosa	1.12	313	iP	Pn	06 50 39.2	-1.2
VHO				iS	Sn	06 50 53.2	-2.2
CMIG	Matias Romero	1.23	50	iP	Pn	06 50 40.2	-1.5
CMIG				iS	Sn	06 50 55.0	-2.5
PNIG	Pinotepa	2.16	273	iP	Pn	06 50 52.8	-1.4
PNIG				iS	Sn	06 51 17.4	-2.5

MEX 08 07:21:23.8±0.5, 15.99N×98.33W, h5km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
PNIG	Pinotepa	0.45	26	eP	Pg	07 21 31.9	-0.7
PNIG				iS	Sg	07 21 38.7	+0.2
VHO	Vista Hermosa	1.88	55	iP	Pn	07 21 54.2	-2.7
VHO				iS	Sn	07 22 16.4	-4.7
HUIG	Huatulco	2.15	95	iP	Pn	07 21 57.1	-3.2
HUIG				iS	Sn	07 22 22.9	-4.6
CMIG	Matias Romero	3.48	71	iP	Pn	07 22 17.0	-1.7
CMIG				iS	Sn	07 22 56.9	-3.5

IDC 08 07:23:53.5±1.3, 39.43N×16.53E, h0km, mb3.5/5, mb1 3.6/8, mb1mx3.4/56, mbtmp3.5/8, ML3.4/3, Error ellipse: s-maj=28.8km s-min=18.8km az=91.0

PDG 08 07:23:56.8±0.9, 39.51N×16.90E, h11km±2km, ML3.7/9, Error ellipse: s-maj=1.5km s-min=2.2km az=0.0

ROM 08 07:23:57.8±0.1, 39.50N×16.77E, h24km±2km, Ml3.5/28, Error ellipse: s-maj=3.4km s-min=1.9km az=90.0

CSEM 08 07:23:57.8±0.1, 39.51N×16.73E, h20km, ML4.0/6, Ms3.7, Error ellipse: s-maj=3.3km s-min=2.3km az=101.0

ISCJB 08 07:23:58.1±0.3, 39.54N±0.02×16.77E±0.03, h26km±3km, mb3.5/4, Error ellipse: s-maj=3.7km s-min=3.0km az=2.5

BEO 08 07:23:58.7±0.8, 39.72N×16.82E, h0km, ML3.4/1

VIE 08 07:24:02.4±0.7, 39.95N×16.69E, h10km, mb3.3/3, Ms3.7/4, Error ellipse: s-maj=13.5km s-min=5.0km az=78.0

ISC 08 07:23:58.2±0.8, 39.51N±0.02×16.72E±0.03, h26km±5km, n150, σ1.25/211, mb3.6/4, 14C-11D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIPA	**Pietrapaola**	**0.08**	**107**	⇓ePg	**Pb**	**07 24 02.5**	**-0.3**
PIPA				Sg	**Sb**	**07 24 06.2**	**+0.3**
	21μm,0.4s						
PIPA	**Pietrapaola**	**0.08**	**107**	⇓ePg	**Pb**	**07 24 02.5**	**-0.3**
PIPA				Sg	**Sb**	**07 24 06.2**	**+0.3**
	21μm,0.4s						
SALB	**San Lorenzo Be**	**0.47**	**322**	⇑ePg	**Pb**	**07 24 06.8**	**-1.2**
	2μm,0.7s						
SALB	**San Lorenzo Be**	**0.47**	**322**	⇑ePg	**Pb**	**07 24 06.8**	**-1.2**
	2μm,0.7s						
SERS	**Sersale**	**0.47**	**183**	⇑iPg	**Pb**	**07 24 07.1**	**-0.9**
SERS				Sg	**Sb**	**07 24 13.7**	**-1.0**
	3μm,0.6s						
SERS	**Sersale**	**0.47**	**183**	⇑iPg	**Pb**	**07 24 07.1**	**-0.9**
SERS				Sg	**Sb**	**07 24 13.7**	**-1.0**
	3μm,0.6s						
ORI	**Oriolo Calabro**	**0.59**	**339**	Pg	**Pb**	**07 24 09.5**	**-0.5**
	4μm,0.4s						
ORI	**Oriolo Calabro**	**0.59**	**339**	Pg	**Pb**	**07 24 09.5**	**-0.5**
	4μm,0.4s						
GRI	**Girifalco**	**0.72**	**199**	Pg	**Pb**	**07 24 11.4**	**-0.8**
	3μm,0.9s						
GRI	**Girifalco**	**0.72**	**199**	Pg	**Pb**	**07 24 11.4**	**-0.8**
	3μm,0.9s						
CUC	**Castrocucco**	**0.85**	**305**	Pg	**Pn**	**07 24 14.5**	**0.0**
	3μm,0.6s						
CUC	**Castrocucco**	**0.85**	**305**	Pg	**Pn**	**07 24 14.5**	**0.0**
	3μm,0.9s						
SCHR	**S. Chirico Rap**	**0.85**	**324**	Pg	**Pb**	**07 24 13.8**	**-0.5**
	833nm,0.8s						
SIRI	**Monte Sirino -**	**0.94**	**316**	Pg	**Pb**	**07 24 15.6**	**-0.3**
	1μm,0.6s						
SIRI	**Monte Sirino -**	**0.94**	**316**	Pg	**Pb**	**07 24 15.6**	**-0.3**
	1μm,0.6s						
MCEL	**Monticello**	**1.08**	**319**	Pg	**Pn**	**07 24 17.5**	**-0.2**
MCEL	**Monticello**	**1.08**	**319**	Pg	**Pn**	**07 24 17.5**	**-0.2**
PLAC	**Placanica**	**1.08**	**192**	Pg	**Pn**	**07 24 17.6**	**-0.1**
	3μm,1.2s						
PLAC	**Placanica**	**1.08**	**192**	Pg	**Pn**	**07 24 17.6**	**-0.1**
	3μm,1.2s						
LTRZ	**Laterza**	**1.10**	**4**	Pg	**Pb**	**07 24 18.4**	**-0.1**
LTRZ				Sg	**Sn**	**07 24 33.9**	**+1.7**
	869nm,1.2s						
LTRZ	**Laterza**	**1.10**	**4**	Pg	**Pb**	**07 24 18.4**	**-0.1**
LTRZ				Sg	**Sn**	**07 24 33.9**	**+1.7**
	869nm,1.2s						
MGR	**Morigerati**	**1.10**	**305**	Pg	**Pb**	**07 24 18.6**	**+0.1**
MGR				Sg	**Sn**	**07 24 35.4**	**+3.2**
	1μm,1.1s						
MGR	**Morigerati**	**1.10**	**305**	Pg	**Pb**	**07 24 18.6**	**+0.1**
TAR1	**Taranto**	**1.10**	**23**	ePg	**Pb**	**07 24 18.1**	**+0.1**
TAR1				Sg	**Sb**	**07 24 31.1**	**-1.5**
MIGL	**Miglionico**	**1.12**	**349**	Pg	**Pb**	**07 24 19.3**	**+0.5**
	3μm,1.0s						
MIGL	**Miglionico**	**1.12**	**349**	Pg	**Pb**	**07 24 19.3**	**+0.5**
	3μm,1.0s						
PTRP	**Pietrapertosa**	**1.13**	**334**	Pg	**Pb**	**07 24 20.8**	**+1.7**
PTRP	**Pietrapertosa**	**1.13**	**334**	Pg	**Pb**	**07 24 20.8**	**+1.7**
MATE	**Matera**	**1.14**	**359**	Pg	**Pb**	**07 24 19.0**	**-0.2**
MATE				Sg	**Sn**	**07 24 35.2**	**+2.0**
	719nm,0.7s						
MATE	**Matera**	**1.14**	**359**	Pg	**Pb**	**07 24 19.0**	**-0.2**
MATE				Sg	**Sn**	**07 24 35.2**	**+2.0**
	719nm,0.7s						
BULG	**Bulgheria - Ca**	**1.18**	**299**	Pg	**Pb**	**07 24 20.1**	**+0.2**
BULG				Sg	**Sb**	**07 24 38.1**	**+3.3**
	2μm,1.0s						
BULG	**Bulgheria - Ca**	**1.18**	**299**	Pg	**Pb**	**07 24 20.1**	**+0.2**
NOCI	**Noci**	**1.31**	**12**	Pg	**Pb**	**07 24 20.8**	**0.0**
NOCI				Sg	**Sn**	**07 24 38.0**	**+0.6**
	653nm,0.6s						
NOCI	**Noci**	**1.31**	**12**	Pg	**Pb**	**07 24 20.8**	**0.0**
NOCI				Sg	**Sn**	**07 24 38.0**	**+0.6**
	653nm,0.6s						
SG1	**Sgolgore (BA)**	**1.33**	**359**	ePg	**Pn**	**07 24 21.5**	**+0.4**
CMPR	**Campora**	**1.36**	**307**	Pg	**Pn**	**07 24 22.2**	**+0.7**
	377nm,0.6s						
CMPR	**Campora**	**1.36**	**307**	Pg	**Pn**	**07 24 22.2**	**+0.7**
	377nm,0.6s						
MESG	**Mesagne**	**1.38**	**38**	Pg	**Pn**	**07 24 21.8**	**0.0**
MESG				Sg	**Sn**	**07 24 40.0**	**+0.7**
MESG	**Mesagne**	**1.38**	**38**	Pg	**Pn**	**07 24 21.8**	**0.0**
MESG				Sg	**Sn**	**07 24 40.0**	**+0.7**
AMUR	**Altamura**	**1.40**	**356**	Pg	**Pn**	**07 24 22.4**	**+0.3**
AMUR				Sg	**Sn**	**07 24 40.4**	**+0.7**
	428nm,0.5s						
AMUR	**Altamura**	**1.40**	**356**	Pg	**Pn**	**07 24 22.4**	**+0.3**
AMUR				Sg	**Sn**	**07 24 40.4**	**+0.7**
	428nm,0.5s						
PE1	**Pezze di Greco**	**1.40**	**22**	ePn	**Pb**	**07 24 23.3**	**-0.4**
CEL	**Celeste**	**1.40**	**208**	Pg	**Pn**	**07 24 23.2**	**+1.0**
	761nm,0.8s						
CEL	**Celeste**	**1.40**	**208**	Pg	**Pn**	**07 24 23.2**	**+1.0**
	761nm,0.8s						
ACER	**Acerenza**	**1.41**	**335**	Pg	**Pb**	**07 24 24.2**	**+0.4**
	2μm,0.8s						
ACER	**Acerenza**	**1.41**	**335**	Pg	**Pb**	**07 24 24.2**	**+0.4**
	2μm,0.8s						
SCTE	**Santa Cesarea**	**1.46**	**67**	Pg	**Pn**	**07 24 23.5**	**+0.7**
	1μm,0.9s						
SCTE	**Santa Cesarea**	**1.46**	**67**	Pg	**Pn**	**07 24 23.5**	**+0.7**
	1μm,0.9s						
CDRU	**Civita di Ruta**	**1.46**	**312**	Pg	**Pn**	**07 24 23.8**	**+0.8**
	240nm,0.7s						
CDRU	**Civita di Ruta**	**1.46**	**312**	Pg	**Pn**	**07 24 23.8**	**+0.8**
	240nm,0.7s						
SOI	**Samo**	**1.52**	**200**	Pg	**Pb**	**07 24 25.7**	**-0.1**
	371nm,0.7s						
SOI	**Samo**	**1.52**	**200**	Pg	**Pb**	**07 24 25.7**	**-0.1**
	371nm,0.7s						
MSRU	**Castanea**	**1.56**	**218**	Pg	**Pn**	**07 24 24.7**	**+0.4**
	1μm,0.8s						
MSRU	**Castanea**	**1.56**	**218**	Pg	**Pn**	**07 24 24.7**	**+0.4**
	1μm,0.8s						
BAI	**Bari**	**1.60**	**4**	ePn	**Pn**	**07 24 25.1**	**+0.3**
MRVN	**Minervino Murg**	**1.60**	**346**	Pg	**Pn**	**07 24 25.0**	**+0.1**
	531nm,1.2s						
MRVN	**Minervino Murg**	**1.60**	**346**	Pg	**Pn**	**07 24 25.0**	**+0.1**
	531nm,1.2s						
CDT	**Castel del Mon**	**1.61**	**348**	ePn	**Pn**	**07 24 25.3**	**+0.3**
MPAZ	**Palizzi**	**1.65**	**200**	Pg	**Pn**	**07 24 26.6**	**+1.1**
	412nm,0.7s						
MPAZ	**Palizzi**	**1.65**	**200**	Pg	**Pn**	**07 24 26.6**	**+1.1**
	412nm,0.7s						
MTTG	**Motta San Giov**	**1.71**	**208**	Pg	**Pb**	**07 24 28.4**	**-0.4**
	2μm,1.4s						
MTTG	**Motta San Giov**	**1.71**	**208**	Pg	**Pb**	**07 24 28.4**	**-0.4**
	2μm,1.4s						
MCRV	**Calabrutti - M**	**1.74**	**317**	Pg	**Pb**	**07 24 28.3**	**-1.2**
	343nm,0.9s						
MCRV	**Calabrutti - M**	**1.74**	**317**	Pg	**Pb**	**07 24 28.3**	**-1.2**
	343nm,0.9s						
SNAL	**S. Angelo Dei**	**1.83**	**321**	Pg	**Pb**	**07 24 30.6**	**-0.4**
	2μm,1.5s						
SNAL	**S. Angelo Dei**	**1.83**	**321**	Pg	**Pb**	**07 24 30.6**	**-0.4**
	2μm,1.5s						
CSSN	**Cassano Irpino**	**1.88**	**317**	Pg	**Pb**	**07 24 31.0**	**-0.7**
	68nm,0.5s						
CSSN	**Cassano Irpino**	**1.88**	**317**	Pg	**Pb**	**07 24 31.0**	**-0.7**
	68nm,0.5s						
MMME	**Mongiuffi-Meli**	**1.94**	**217**	Pg	**Pn**	**07 24 30.8**	**+1.2**
	420nm,0.8s						
MMME	**Mongiuffi-Meli**	**1.94**	**217**	Pg	**Pn**	**07 24 30.8**	**+1.2**
	420nm,0.8s						
KEK	**Kerkira**	**2.39**	**84**	eP	**Pn**	**07 24 36.1**	**+0.5**
ULC	**Ulcinj**	**3.11**	**37**	⇑iPn	**Pn**	**07 24 45.4**	**-0.2**
ULC				eSn	**Sn**	**07 25 22.8**	**+0.8**
ULC	**Ulcinj**	**3.11**	**37**	⇑iPn	**Pn**	**07 24 45.4**	**-0.2**
ULC				eSn	**Sn**	**07 25 22.8**	**+0.8**
LKD2	**Lefkada island**	**3.14**	**102**	eP	**Pn**	**07 24 46.5**	**+0.4**
HCY	**Herceg Novi**	**3.23**	**24**	⇓iPn	**Pn**	**07 24 46.7**	**-0.5**
HCY				eSn	**Sn**	**07 25 25.5**	**+0.7**
HCY	**Herceg Novi**	**3.23**	**24**	⇓iPn	**Pn**	**07 24 46.7**	**-0.5**
HCY				eSn	**Sn**	**07 25 25.5**	**+0.7**
BUM	**Brajici-Budva**	**3.24**	**30**	⇑iPn	**Pn**	**07 24 48.0**	**+0.6**
BUM				eSn	**Sn**	**07 25 26.9**	**+1.7**
BUM	**Brajici-Budva**	**3.24**	**30**	⇑iPn	**Pn**	**07 24 48.0**	**+0.6**
BUM				eSn	**Sn**	**07 25 26.9**	**+1.7**
DRME	**Dracevica, Mon**	**3.26**	**34**	⇓iPn	**Pn**	**07 24 47.8**	**+0.1**
DRME				eSn	**Sn**	**07 25 26.6**	**+0.9**
DRME	**Dracevica, Mon**	**3.26**	**34**	⇓iPn	**Pn**	**07 24 47.8**	**+0.1**
DRME				eSn	**Sn**	**07 25 26.6**	**+0.9**
TREB	**Trebinje**	**3.43**	**20**	ePn	**Pn**	**07 24 50.2**	**+0.2**
TREB				eSn	**Sn**	**07 25 28.9**	**-1.0**
TREB	**Trebinje**	**3.43**	**20**	ePn	**Pn**	**07 24 50.2**	**+0.2**
TREB				eSn	**Sn**	**07 25 28.9**	**-1.0**
STON	**Ston**	**3.44**	**12**	ePn	**Pn**	**07 24 49.6**	**-0.5**
STON				Sn	**Sn**	**07 25 28.5**	**-1.5**
STON	**Ston**	**3.44**	**12**	ePn	**Pn**	**07 24 49.6**	**-0.5**
STON				eSn	**Sn**	**07 25 28.7**	**-1.3**
STON	**Ston**	**3.44**	**12**	ePn	**Pn**	**07 24 49.6**	**-0.5**
STON				eSn	**Sn**	**07 25 28.7**	**-1.3**
NEST	**Nestorio**	**3.45**	**73**	eP	**Pn**	**07 24 52.9**	**+2.6**
PDG	**Podgorica**	**3.49**	**33**	ePn	**Pn**	**07 24 50.9**	**+0.1**
PDG				eSn	**Sn**	**07 25 30.3**	**-1.0**
PDG	**Podgorica**	**3.49**	**33**	ePn	**Pn**	**07 24 50.9**	**+0.1**
PDG				eSn	**Sn**	**07 25 32.3**	**+1.0**
TTG	**Podgorica**	**3.49**	**33**	⇑iPn	**Pn**	**07 24 51.2**	**+0.4**
TTG				eSn	**Sn**	**07 25 32.3**	**+1.0**
NKME	**Niksic**	**3.67**	**27**	⇓iPn	**Pn**	**07 24 53.2**	**0.0**
NKME				eSn	**Sn**	**07 25 37.1**	**+1.4**
NKME	**Niksic**	**3.67**	**27**	⇓iPn	**Pn**	**07 24 53.2**	**0.0**
NKME				eSn	**Sn**	**07 25 37.1**	**+1.4**
FNA	**Florina**	**3.79**	**69**	eP	**Pn**	**07 24 57.9**	**+3.0**
BIA	**Bitola**	**3.83**	**65**	ePn	**Pn**	**07 24 56.8**	**+1.2**
BIA	**Bitola**	**3.83**	**65**	ePn	**Pn**	**07 24 56.7**	**+1.2**
PVY	**Plav**	**3.94**	**37**	⇑iPn	**Pn**	**07 24 57.4**	**+0.4**
PVY				eSn	**Sn**	**07 25 43.3**	**+0.8**
PVY	**Plav**	**3.94**	**37**	⇑iPn	**Pn**	**07 24 57.4**	**+0.4**
PVY				eSn	**Sn**	**07 25 43.3**	**+0.8**
EVR	**Evrytania**	**4.00**	**97**	eP	**Pn**	**07 25 00.3**	**+2.5**
THL	**Klokotos Trika**	**4.09**	**88**	eP	**Pn**	**07 25 00.8**	**+1.7**
BEY	**Berane**	**4.12**	**34**	ePn	**Pn**	**07 25 00.5**	**+0.9**
BEY				eSn	**Sn**	**07 25 48.6**	**+1.5**
IVA	**Berane**	**4.12**	**34**	ePn	**Pn**	**07 25 00.5**	**+0.9**
IVA				eSn	**Sn**	**07 25 48.6**	**+1.5**
MAKR	**Makrakomi, Fth**	**4.23**	**95**	eP	**Pn**	**07 25 03.8**	**+2.8**
LAKA	**Lakka**	**4.29**	**105**	eP	**Pn**	**07 25 04.1**	**+2.2**
PLE	**Pljevlja**	**4.31**	**27**	⇑iPn	**Pn**	**07 25 03.5**	**+1.3**
PLE				eSn	**Sn**	**07 25 53.0**	**+1.3**
PLE	**Pljevlja**	**4.31**	**27**	⇑iPn	**Pn**	**07 25 03.5**	**+1.3**
PLE				eSn	**Sn**	**07 25 53.0**	**+1.3**
KALE	**Kalithea**	**4.37**	**103**	eP	**Pn**	**07 25 05.5**	**+2.6**
AGG	**Agios Georgios**	**4.38**	**95**	eP	**Pn**	**07 25 05.2**	**+2.1**
KLV	**Kalavryta, Ach**	**4.49**	**107**	eP	**Pn**	**07 25 06.4**	**+1.8**
GUR	**Goura**	**4.67**	**108**	eP	**Pn**	**07 25 09.8**	**+2.7**
BBLS	**Lazići**	**4.79**	**24**	ePn	**Pn**	**07 25 09.1**	**+0.3**
BBLS				eSn	**Sn**	**07 26 01.9**	**-1.6**
BBLS	**Lazići**	**4.79**	**24**	ePn	**Pn**	**07 25 09.1**	**+0.3**
BBLS				eSn	**Sn**	**07 26 01.9**	**-1.6**
IVAS	**Ivanjica**	**4.81**	**31**	ePn	**Pn**	**07 25 09.3**	**+0.3**
IVAS				eSn	**Sn**	**07 26 02.8**	**-1.1**
IVAS	**Ivanjica**	**4.81**	**31**	ePn	**Pn**	**07 25 09.3**	**+0.3**
IVAS				eSn	**Sn**	**07 26 02.8**	**-1.1**
SELS	**Selova**	**4.97**	**40**	ePn	**Pn**	**07 25 11.0**	**-0.1**
SELS				eSn	**Sn**	**07 26 04.8**	**-3.0**
BARS	**Barje**	**5.07**	**48**	ePn	**Pn**	**07 25 12.9**	**+0.4**
BARS	**Barje**	**5.07**	**48**	ePn	**Pn**	**07 25 12.9**	**+0.4**
DIVS	**Divibare**	**5.20**	**27**	ePn	**Pn**	**07 25 13.4**	**-0.9**
DIVS				eSn	**Sn**	**07 26 10.2**	**-3.2**
DIVS	**Divibare**	**5.20**	**27**	ePn	**Pn**	**07 25 13.4**	**-0.9**
DIVS				eSn	**Sn**	**07 26 10.2**	**-3.2**
NVLJ	**Novalja**	**5.24**	**345**	ePn	**Pn**	**07 25 14.7**	**0.0**
NVLJ				Sn	**Sn**	**07 26 11.8**	**-2.4**
NVLJ	**Novalja**	**5.24**	**345**	ePn	**Pn**	**07 25 14.7**	**0.0**
NVLJ				Sn	**Sn**	**07 26 11.8**	**-2.4**
GRUS	**Gruza**	**5.30**	**33**	ePn	**Pn**	**07 25 15.7**	**+0.1**
GRUS				eSn	**Sn**	**07 26 13.3**	**-2.6**
GRUS	**Gruza**	**5.30**	**33**	ePn	**Pn**	**07 25 15.7**	**+0.1**
GRUS				eSn	**Sn**	**07 26 13.3**	**-2.6**
MRKA	**Markates**	**5.40**	**96**	eP	**Pn**	**07 25 18.3**	**+1.2**
DID	**Didima**	**5.49**	**109**	eP	**Pn**	**07 25 19.6**	**+1.3**
VLI	**Veliai**	**5.64**	**118**	eP	**Pn**	**07 25 21.6**	**+1.3**
ZAPS	**Zavoj**	**5.82**	**48**	eSn	**Sn**	**07 26 27.1**	**-1.7**
ZAPS	**Zavoj**	**5.82**	**48**	eSn	**Sn**	**07 26 27.1**	**-1.7**
BOJS	**Bojanci**	**6.09**	**350**	iPn	**Pn**	**07 25 27.3**	**+0.9**
BOJS				iSn	**Sn**	**07 26 33.8**	**-1.5**
BOJS	**Bojanci**	**6.09**	**350**	ePn	**Pn**	**07 25 27.1**	**+0.6**
BOJS				eSn	**Sn**	**07 26 33.0**	**-2.3**
BOJS	**Bojanci**	**6.09**	**350**	ePn	**Pn**	**07 25 27.1**	**+0.6**
BOJS				iSn	**Sn**	**07 26 33.8**	**-1.5**
FRGS	**Fruska Gora**	**6.09**	**21**	eSn	**Sn**	**07 26 30.8**	**-4.6**
GBRS	**Gornja Briga**	**6.18**	**347**	iPn	**Pn**	**07 25 29.5**	**+1.7**
GBRS				iSn	**Sn**	**07 26 36.2**	**-1.4**
VISS	**Visnje**	**6.44**	**348**	iPn	**Pn**	**07 25 32.1**	**+0.7**
VISS				iSn	**Sn**	**07 26 42.3**	**-1.7**
VISS	**Visnje**	**6.44**	**348**	iPn	**Pn**	**07 25 32.1**	**+0.7**
VISS				iSn	**Sn**	**07 26 42.3**	**-1.7**
JAVS	**Javornik**	**6.67**	**344**	iPn	**Pn**	**07 25 35.8**	**+1.2**
JAVS				eSn	**Sn**	**07 26 48.5**	**-1.3**
JAVS	**Javornik**	**6.67**	**344**	iPn	**Pn**	**07 25 35.8**	**+1.2**
JAVS				eSn	**Sn**	**07 26 48.5**	**-1.3**
CRNS	**Crni Vrh**	**6.81**	**345**	iPn	**Pn**	**07 25 37.1**	**+0.7**
OBKA	**Obir**	**7.18**	**348**	⇑iPn	**Pn**	**07 25 41.1**	**-0.4**
OBKA				⇓iSn	**Sn**	**07 26 59.7**	**-2.5**
OBKA	**Obir**	**7.18**	**348**	Pn	**Pn**	**07 25 41.1**	**-0.4**
IDI	**Anoyia**	**7.75**	**120**	Pn	Pn	07 25 46.7	-2.6
	0.3nm,0.3s,baz=288,slow=16,SNR=2.0						
IDI				Sn	Sn	07 27 11.5	-4.8
	1.3nm,0.3s,baz=327,slow=23,SNR=7.5						
MOA	**Molln**	**8.53**	**349**	⇓iPn	**Pn**	**07 26 00.9**	**+1.0**
MOA				⇓iSn	**Sn**	**07 27 32.4**	**-2.9**
MOA	**Molln**	**8.53**	**349**	Pn	**Pn**	**07 26 00.9**	**+1.0**
GERES	**GERESS Array B**	**9.58**	**348**	Pn	**Pn**	**07 26 13.1**	**-1.4**
	0.2nm,0.3s,baz=160,slow=12,SNR=5.9						
GERES				Sn	Sn	07 27 54.6	-6.7
	0.1nm,0.3s,baz=163,slow=23,SNR=3.1						
AKASG	**Malin Array Be**	**14.23**	**34**	Pn	**Pn**	**07 27 17.7**	**-0.2**
	0.2nm,0.3s,baz=221,slow=13,SNR=4.2						
HFS	**Hagfors**	**20.73**	**356**	P	**P**	**07 28 37.0**	**+0.5**
	3.3nm,0.8s,baz=163,slow=11,SNR=4.4						
NB2	**NORSAR Subarra**	**21.83**	**353**	P	**P**	**07 28 48.4**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=168,slow=11						
NB2	**NORSAR Subarra**	**21.83**	**353**	P	**P**	**07 28 48.4**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=168,slow=11,SNR=7.3						
NOA	**NORSAR Array B**	**21.83**	**353**	P	**P**	**07 28 48.7**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=166,slow=9.6,SNR=6.8						
FINES	**FINESS Array B**	**22.71**	**12**	P	**P**	**07 28 58.2**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=182,slow=9.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**29.42**	**211**	P	**P**	**07 29 57.9**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=27,slow=9.7,SNR=3.4						
MKAR	**Makanchi Array**	**47.14**	**59**	P	**P**	**07 32 28.5**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=295,slow=6.6,SNR=6.9						

IDC 08 07:38:01.4±3.9,**31°.15S**×**177°.47W**,**h0km**,**mb3.6**/3, **mb1 3.8**/3,**mb1mx3.6**/24,**mbtmp3.6**/3,**Error ellipse: s-maj=164.7km s-min=38.6km az=153.0**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.76**	**258**	P	P	07 44 54.4	+0.8
	0.6nm,0.7s,baz=88,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**43.53**	**267**	P	P	07 46 06.9	-0.2
	0.3nm,0.7s,baz=109,slow=7.6,SNR=5.9						
WRA	**Warramunga Arr**	**44.59**	**273**	P	P	07 46 14.4	-1.2
	1.3nm,0.7s,baz=111,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**146.01**	**340**	PKPbc	PKPdf	07 57 40.7	-0.9
	0.8nm,0.7s,baz=49,slow=4.2,SNR=4.9						
AKASG	**Malin Array Be**	**152.17**	**322**	PKPbc	PKPbc	07 57 57.7	-0.8
	0.1nm,0.3s,baz=42,slow=1.5,SNR=2.9						
AKASG				PKPab	PKPab	07 58 09.8	+1.6
	1.1nm,0.7s,baz=48,slow=2.6,SNR=6.9						

*IDC **08** 07:50:08.6±0.8,27°.44S×176°.51W,h0km,mb4.1/10, mb1 4.3/11,mb1mx4.1/30,mbtmp4.1/11,ML4.3/1,MS3.4/2, Ms1 3.4/2,ms1mx2.9/21,Error ellipse: s-maj=29.1km s-min=19.0km az=139.0*

*ISCJB **08** 07:50:11.7±0.6,27°.89S±0°.07×176°.5W±0°.1,h37km, mb4.1/13,MS3.4/1,Error ellipse: s-maj=15.5km s-min=6.5km az=29.0*

*NEIC **08** 07:50:13.2±0.5,27°.73S×176°.44W,h35km,mb4.3/5,Error ellipse: s-maj=18.7km s-min=11.0km az=124.0*

ISC 08 07:50:13.4±0.6,**27°.77S**±0°.08×**176°.4W**±0°.1,**h37km**,**n33**, σ**1°.60**/33,**mb4.1**/13,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.01**	**222**	Pn	Pn	07 50 48.2	+3.5
	97nm,0.3s,baz=41,slow=20,SNR=2.8						
RAO				Sn	Sn	07 51 15.8	+7.3
	465nm,0.3s,baz=77,slow=20,SNR=7.1						
RAO	**Raoul Island**	**2.01**	**222**	ePn	**Pn**	**07 50 45.7**	**+1.0**
RAO				eSn	**Sn**	**07 51 11.0**	**+2.5**
OUZ	**Omahuta**	**11.33**	**227**	Pn	Pn	07 53 00.4	+7.8
OUZ				eSn	**Sn**	**07 54 56.9**	**-1.0**
URZ	**Urewera**	**11.80**	**206**	Pn	Pn	07 52 55.4	-3.6
	0.4nm,0.3s,baz=66,slow=20,SNR=2.8						
URZ				Sn	**Sn**	**07 55 06.6**	**-2.8**
	1.1nm,0.3s,baz=243,slow=20,SNR=8.7						
URZ	**Urewera**	**11.80**	**206**	ePn	**Pn**	**07 52 58.7**	**-0.3**
URZ				eSn	**Sn**	**07 55 07.9**	**-1.5**
AFI	**Afiamalu**	**14.44**	**18**	Pn	Pn	07 53 23.2	-12
	6.2nm,0.3s,baz=129,slow=4.5,SNR=9.0						
AFI				Sn	Sn	07 55 51.5	-23
	1.6nm,0.3s,baz=276,slow=18,SNR=2.7						
AFI	**Afiamalu**	**14.44**	**18**	ePn	Pn	07 53 24.8	-10
AFI				eSn	Sn	07 56 05.9	-8.4
DZM	**Mont Dzumac**	**16.58**	**286**	LR	LR	07 59 08.0	
	comp=Z,126nm,21.5s,baz=121,slow=33						
KHZ	**Kahutara**	**16.76**	**207**	ePn	**Pn**	**07 54 03.1**	**-2.1**
	13nm,0.6s						
KHZ				eSn	**Sn**	**07 57 05.9**	**-4.3**
HNR	**Honiara**	**28.82**	**305**	eP	**P**	**07 56 08.0**	**-0.2**
STKA	**Stephens Creek**	**36.53**	**253**	P	**P**	**07 57 16.3**	**+0.9**
	1.2nm,0.4s,baz=105,slow=12,SNR=8.5						
STKA				LR	LR	08 11 18.4	
	comp=Z,61nm,18.4s,baz=36,slow=35						
STKA	**Stephens Creek**	**36.53**	**253**	eP	**P**	**07 57 16.8**	**+1.4**
AS31	**Alice Springs**	**44.74**	**264**	eP	**P**	**07 58 23.8**	**+0.4**
ASAR	**Alice Springs**	**44.75**	**264**	P	**P**	**07 58 22.5**	**-0.9**
	0.6nm,0.4s,baz=100,slow=6.9,SNR=24						
WRAB	**Tennant Creek**	**45.50**	**269**	eP	**P**	**07 58 27.9**	**-1.5**
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**45.50**	**269**	P	**P**	**07 58 28.0**	**-1.5**
	2.1nm,0.7s,baz=108,slow=7.5,SNR=19						
QSPA	**South Pole Qui**	**62.33**	**180**	P	**P**	**08 00 34.5**	**+2.8**
	4.7nm,0.8s,baz=38,slow=7.8,SNR=3.1						
QSPA	**South Pole Qui**	**62.33**	**180**	eP	**P**	**08 00 34.6**	**+2.8**
	6.7nm,1.0s						
KSRS	**Korea Array**	**83.30**	**319**	P	**P**	**08 02 37.0**	**+0.9**
	0.5nm,0.3s,baz=147,slow=7.1,SNR=4.2						
KSAR	**Wonju Array Be**	**83.31**	**319**	P	**P**	**08 02 37.0**	**+0.8**
PETK	**Petropavlovsk-**	**83.65**	**345**	P	**P**	**08 02 36.6**	**-1.1**
	3.1nm,0.8s,baz=148,slow=8.4,SNR=4.9						
NVAR	**Mina Array Bea**	**85.34**	**42**	P	**P**	**08 02 47.1**	**+0.3**
	1.5nm,0.9s,baz=224,slow=7.5,SNR=9.4						
TXAR	**Lajitas Array**	**89.77**	**56**	P	**P**	**08 03 09.1**	**+0.9**
	0.4nm,0.9s,baz=230,slow=7.7,SNR=4.5						
PDAR	**Pinedale Array**	**93.25**	**43**	P	**P**	**08 03 23.6**	**-0.6**
	0.5nm,0.8s,baz=227,slow=2.2,SNR=3.7						
TNA	**Tin City**	**93.26**	**4**	eP	**P**	**08 03 24.3**	**+1.0**
	0.3nm,0.3s						
ILAR	**Eielson Array**	**95.06**	**12**	P	**P**	**08 03 30.7**	**-1.0**
	0.4nm,0.9s,baz=213,slow=6.0,SNR=5.6						
LPAZ	**La Paz**	**97.89**	**113**	eP	**P**	**08 03 45.2**	**-1.3**
	1.3nm,1.0s						
NB2	**NORSAR Subarra**	**146.34**	**353**	PKP	**PKPbc**	**08 09 49.1**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=15,slow=3.2						
NOA	**NORSAR Array B**	**146.34**	**353**	PKPbc	**PKPab**	**08 09 50.6**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=10,slow=4.1,SNR=4.5						
AKASG	**Malin Array Be**	**149.98**	**327**	PKPbc	**PKPbc**	**08 09 58.7**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=43,slow=3.8,SNR=4.8						
AKASG				PKPab	**PKPab**	**08 10 04.7**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=44,slow=4.1,SNR=5.3						
BRTR	**Keskin Array B**	**152.47**	**303**	PKPab	**PKPab**	**08 10 16.2**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=100,slow=4.1,SNR=5.6						
CLL	**Collm**	**155.45**	**346**	ePKPab	**PKPab**	**08 10 27.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**165.34**	**173**	PKPab	**PKPab**	**08 11 13.6**	**+1.5**
	comp=Z,3.1nm,0.8s,baz=181,slow=3.2,SNR=7.5						

*ISCJB **08** 07:57:16.7±0.7,43°.80N±0°.02×86°.24E±0°.02,h5km±4km, mb4.8/164,MS4.1/29,Error ellipse: s-maj=3.0km s-min=2.3km az=20.8*

*LDG **08** 07:57:17.1±0.2,43°.79N×86°.04E,h10km,Mb5.0/29, Ms4.0/8,Error ellipse: s-maj=7.4km s-min=6.2km az=134.0*

*IDC **08** 07:57:17.0±0.4,43°.74N×86°.31E,h0km,mb4.7/36, mb1 4.8/41,mb1mx4.7/45,mbtmp4.7/41,ML4.6/5,MS3.9/17, Ms1 3.9/17,ms1mx3.7/34,Error ellipse: s-maj=11.2km s-min=7.4km az=30.0*

*NNC **08** 07:57:18.6±2.8,43°.97N×86°.27E,h0km,mb5.1,mpv4.9, Error ellipse: s-maj=22.1km s-min=14.1km az=112.0*

*BJI **08** 07:57:18.3,43°.84N×86°.32E,h15km,mB4.8/30,mb4.7/46, ML4.9/10,Ms4.6/32,Ms7 4.4/17*

*MOS **08** 07:57:20.7±1.0,43°.87N×86°.23E,h33km,mb5.0/66, MS4.1/5,Error ellipse: s-maj=6.0km s-min=3.7km az=40.2*

*SZGRF **08** 07:57:22.6,43°.41N×86°.35E,h33km,mb5.0,Northern Xinjiang, China*

*NEIC **08** 07:57:22.6±0.1,43°.85N×86°.25E,h35km,mb5.0/69,Error ellipse: s-maj=3.9km s-min=2.8km az=202.0*

ISC 08 07:57:21.4±0.4,**43°.88N**±0°.03×**86°.22E**±0°.03,**h27km**±2km, **h27km:pP-P**,**n608**,σ**1°.54**/678,**mb4.9**/164,**MS4.2**/29, **99C-42D**,**Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.07**	**92**	Pg	**Pn**	**07 57 39.5**	**-1.1**
WMQ				Sg	**Sn**	**07 57 51.7**	**-3.0**
WMQ				smax	smax		
	comp=N,9μm,0.5s						
WMQ				smax	smax		
	comp=E,9μm,0.7s						
MK08	**Makanchi Array**	**4.00**	**317**	⇓Pn	**Pn**	**07 58 22.8**	**+2.0**
	86nm,0.5s,baz=136,slow=13						
MK08				⇓Pg	**Pb**	**07 58 31.9**	**+0.8**
	598nm,0.5s,baz=134,slow=15						
MK08				⇑Sn	**Sn**	**07 59 10.7**	**+3.9**
	414nm,0.4s,baz=134,slow=24						
MK08				⇑Lg	Lg	07 59 25.2	
	3μm,0.8s,baz=126,slow=28						
MK31	**Makanchi Array**	**4.02**	**318**	P	**Pn**	**07 58 23.2**	**+2.0**
MK31						07 59 11.7	
MK31				pmax	pmax		
	comp=Z,86nm,0.5s						
MK31				pmax	pmax		
	comp=Z,598nm,0.5s						
MK31				smax	smax		
	comp=N,414nm,0.4s						
MK31				pmax	pmax		
	comp=Z,2μm,0.7s						
MKAR	**Makanchi Array**	**4.02**	**318**	P	**Pn**	**07 58 23.7**	**+2.5**
MKAR						07 59 11.9	
MKAR				pmax	pmax		
	comp=Z,47nm,0.3s						
MKAR				smax	smax		
	comp=N,141nm,0.3s						
MKAR	**Makanchi Array**	**4.02**	**318**	Pn	**Pn**	**07 58 23.7**	**+2.5**
	comp=N,47nm,0.3s,baz=130,slow=13,SNR=810						
MKAR				Sn	**Sn**	**07 59 11.9**	**+4.5**
	comp=N,141nm,0.3s,baz=128,slow=18,SNR=5.5						
MKAR				Lg	Lg	07 59 30.3	
	comp=N,347nm,0.3s,baz=126,slow=32,SNR=8.0						
KNDC	**Almaty**	**6.75**	**268**	⇑Pn	**Pn**	**07 58 59.7**	**+1.0**
	comp=N,108nm,0.7s						
KNDC				⇓Sn	**Sn**	**08 00 17.9**	**+3.2**
	comp=N,284nm,0.7s						
KNDC				⇑Lg	Lg	08 00 53.3	
	comp=N,1μm,0.8s						
AAA	**Alma-Ata**	**6.76**	**268**	iP	**Pn**	**07 59 01.0**	**+2.2**
AAA				eS	Sn	08 00 22.2	+7.3
AAA				pmax	pmax		
	comp=Z,100nm,0.3s						
AAA				smax	smax		
	comp=N,600nm,0.8s						
AAA				MLR	MLR		
	comp=Z,2μm,2.0s						
ULHL	**Ulahol**	**7.48**	**261**	iP	**Pn**	**07 59 09.5**	**+0.6**
ULHL	**Ulahol**	**7.48**	**261**	P	**Pn**	**07 59 09.5**	**+0.6**
	SNR=47						
TKM2	**Tokmak 2**	**7.79**	**267**	⇑Pn	**Pn**	**07 59 14.4**	**+1.2**
	comp=Z,28nm,0.5s						
TKM2				⇓Sn	**Sn**	**08 00 42.3**	**+1.8**
	comp=Z,164nm,0.8s						
TKM2				⇑Lg	Lg	08 01 23.7	
	comp=Z,500nm,1.2s						
TKM2	**Tokmak 2**	**7.79**	**267**	eP	**Pn**	**07 59 14.3**	**+1.2**
TKM2				e		08 00 42.8	
TKM2	**Tokmak 2**	**7.79**	**267**	P	**Pn**	**07 59 14.8**	**+1.7**
	SNR=8.6						
TKM2	**Tokmak 2**	**7.79**	**267**	ePn	**Pn**	**07 59 14.3**	**+1.2**
TKM2				eSn	**Sn**	**08 00 42.8**	**+2.3**
KZA	**Kyzart**	**8.24**	**261**	iP	**Pn**	**07 59 20.9**	**+1.5**
KZA	**Kyzart**	**8.24**	**261**	P	**Pn**	**07 59 20.9**	**+1.5**
	SNR=30						

KBK Karagaybulak 8.31 265 i P Pn 07 59 21.9 +1.7
KBK Karagaybulak 8.31 265 P Pn 07 59 21.9 +1.7
SNR=23
CHMS Chumysh 8.39 268 i P Pn 07 59 22.5 +1.4
CHMS Chumysh 8.39 268 P Pn 07 59 22.5 +1.4
SNR=7.0
FRU Bishkek 8.52 267 eP Pn 07 59 25.0 +2.1
FRU pmax pmax
comp=Z,56nm,1.2s
USP Ospenovka 8.53 270 i P Pn 07 59 24.6 +1.6
USP Ospenovka 8.53 270 P Pn 07 59 24.6 +1.6
SNR=11
KURBB Kurchatov Arra 8.53 325 Pn Pn 07 59 23.4 +0.4
KURBB Sn Sn 08 00 58.2 -0.1
KURBB Lg Lg 08 01 44.4
KURBB Kurchatov Arra 8.53 325 Pn Pn 07 59 23.8 +0.8
comp=Z,10nm,0.3s,baz=132,slow=13,SNR=307
KURBB Sn Sn 08 01 00.1 +1.8
comp=Z,15nm,0.3s,baz=143,slow=19,SNR=4.7
KURBB Lg Lg 08 01 55.1
comp=Z,24nm,0.3s,baz=147,slow=31,SNR=8.7
KURK Kurchatov 8.57 326 ⇓Pn Pn 07 59 23.4 -0.1
comp=Z,30nm,0.8s
KURK ⇑Sn Sn 08 00 59.4 +0.2
comp=Z,75nm,0.7s
KURK ⇑Lg Lg 08 01 44.8
comp=Z,535nm,1.0s
KURK Kurchatov 8.57 326 P Pn 07 59 23.4 -0.1
KURK 08 00 59.3
KURK pmax pmax
comp=Z,30nm,0.8s
KURK smax smax
comp=N,75nm,0.7s
KURK pmax pmax
comp=Z,535nm,1.0s
KURK Kurchatov 8.57 326 ePn Pn 07 59 23.2 -0.3
KURK eSn Sn 08 00 54.8 -4.3
KURK Lg Lg 08 01 55.1
AAK Ala-Archa 8.65 266 ⇓Pn Pn 07 59 25.8 +1.0
comp=Z,8.6nm,0.5s
AAK ⇑Lg Lg 08 01 56.3
comp=Z,448nm,1.4s
AAK Ala-Archa 8.65 266c i P Pn 07 59 25.7 +1.0
AAK pmax pmax
comp=Z,24nm,0.8s
AAK Ala-Archa 8.65 266 P Pn 07 59 26.1 +1.3
SNR=9.8
AAK Ala-Archa 8.65 266 Pn Pn 07 59 25.1 +0.4
comp=Z,3.1nm,0.3s,baz=86,slow=8.3,SNR=22
AAK Lg Lg 08 01 58.2
comp=Z,6.2nm,0.3s,baz=199,slow=23,SNR=4.1
AAK LR LR 08 03 12.8
comp=Z,504nm,20.7s,baz=70,slow=41
UCH Uchtor 8.73 263 i P Pn 07 59 27.2 +1.1
UCH Uchtor 8.73 263 P Pn 07 59 27.3 +1.1
SNR=29
KSH Kashi 8.81 244 eP Pn 07 59 35.7 +8.7
KSH epP 07 59 41.8
KSH esP 07 59 47.0
KSH S Sn 08 01 17.2 +12
KSH esS 08 01 28.1
KSH pmax pmax
comp=Z,41nm,0.8s
EKS2 Erkin-Say 9.16 267 eP Pn 07 59 32.5 +0.7
EKS2 e 08 01 10.2
EKS2 Erkin-Say 9.16 267 P Pn 07 59 32.7 +1.0
SNR=6.6
EKS2 Erkin-Say 9.16 267 ePn Pn 07 59 32.5 +0.7
EKS2 eSn Sn 08 01 10.2 -3.7
ZAA0 Zalesovo Array 10.12 355 ePn Pn 07 59 43.9 -0.9
ZAA0 eSn Sn 08 01 34.3 -3.0
ZALV Zalesovo Beam 10.12 355 Pn Pn 07 59 44.1 -0.6
comp=Z,45nm,0.3s,baz=176,slow=14,SNR=956
ZALV Sn Sn 08 01 33.9 -3.4
comp=Z,46nm,0.3s,baz=179,slow=21,SNR=16
ZALV Lg Lg 08 02 43.5
baz=180,slow=26,SNR=1.9
ZALV LR LR 08 03 51.3
comp=Z,119nm,21.3s,baz=144,slow=38
NVS Novosibirsk 11.14 351 eP Pn 07 59 56.8 -1.9
NVS e 08 01 57.5
KK31 Karatay Array 11.44 272 Pn Pn 08 00 03.7 +0.8
comp=Z,8.9nm,0.6s,baz=72,slow=13,SNR=50
KK31 ⇓Lg Lg 08 03 22.7
comp=Z,64nm,0.8s,baz=70,slow=29,SNR=3.6
KK31 Karatay Array 11.44 272 P Pn 08 00 03.6 +0.8
KK31 pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 11.44 272 eP Pn 08 00 03.8 +0.9
KKAR e 08 02 05.9
KKAR Karatay Array 11.44 272 ePn Pn 08 00 03.8 +0.9
KKAR eSn Sn 08 02 05.9 -3.8
MOY Mondy 12.62 47 eP Pn 08 00 21.6 +2.6
MOY pmax pmax
comp=Z,32nm,1.5s
KRAR Krasnoyarsk 12.88 17 eP Pn 08 00 22.8 +0.4
ZAK Zakamensk 13.30 55 eP Pn 08 00 28.7 +0.3
ZAK pmax pmax
comp=Z,17nm,1.2s
VOSK Vostochnaya 13.44 317 ⇓Pn Pn 08 00 29.5 -0.6
comp=Z,25nm,0.8s
VOSK ⇓Sn Sn 08 02 51.6 -6.8
comp=Z,50nm,0.9s
VOSK ⇓Lg Lg 08 04 20.1
comp=Z,239nm,1.1s
VOSK Vostochnaya 13.44 317 i P Pn 08 00 29.5 -0.6
VOSK pmax pmax
comp=Z,25nm,0.7s
VOSK Vostochnaya 13.44 317 ePn Pn 08 00 30.0 -0.1
DLH Dalhousie 13.88 219 eP9 08 00 32.0
DLH eS Sn 08 03 02.0 -7.6
BVA0 Borovoye Array 13.90 317 Pn Pn 08 00 35.7 -0.8
comp=Z,23nm,0.8s,baz=123,slow=14,SNR=82
BVA0 ⇑Sn Sn 08 03 05.2 -4.5
comp=Z,25nm,0.6s,baz=118,slow=22,SNR=5.0
BVA0 ⇑Lg Lg 08 04 36.8
comp=Z,137nm,1.2s
BVA0 Borovoye Array 13.90 317 i P Pn 08 00 35.7 -0.8
BVA0 i 08 03 05.9
BVA0 pmax pmax
comp=Z,23nm,0.8s
BVA0 smax smax
comp=N,46nm,0.9s
BVA0 pmax pmax
comp=Z,137nm,1.3s
BVAR Borovoye Array 13.90 317 P Pn 08 00 36.0 -0.5
BVAR 08 03 06.4
BVAR pmax pmax
comp=Z,3.0nm,0.3s
BVAR smax smax
comp=N,5.0nm,0.3s
BVAR Borovoye Array 13.90 317 Pn Pn 08 00 36.0 -0.5
comp=N,2.6nm,0.3s,baz=120,slow=15,SNR=17
BVAR Sn Sn 08 03 06.4 -3.4
comp=N,4.5nm,0.3s,baz=118,slow=26,SNR=6.0
BVAR Lg Lg 08 04 43.6
comp=N,0.7nm,0.3s,baz=114,slow=25,SNR=3.5
DHRM DHARAMSHALA 13.97 217 eP Pn 08 00 35.9 -1.9
DHRM ex x 08 03 03.3
BRVK Borovoye 13.98 317 ⇑Pn Pn 08 00 36.6 -0.8
comp=N,46nm,0.6s
BRVK ⇑Sn Sn 08 03 07.2 -4.3
comp=N,44nm,0.5s
BRVK ⇑Lg Lg 08 04 38.0
comp=N,493nm,1.4s
BRVK Borovoye 13.98 317 P Pn 08 00 36.6 -0.8
BRVK 08 03 05.7
BRVK pmax pmax
comp=Z,46nm,0.6s
BRVK smax smax
comp=N,44nm,0.5s
BRVK pmax pmax
comp=Z,493nm,1.4s
BRVK Borovoye 13.98 317 ePn Pn 08 00 37.1 -0.3
BRVK eSn Sn 08 03 09.7 -1.8
TLY Talaya 14.06 50 eP Pn 08 00 40.1 +1.5
TLY e 08 03 08.6
TLY Talaya 14.06 50 ePn Pn 08 00 40.1 +1.5
TLY eSn Sn 08 03 08.6 -4.9
CHCP Chirah Chowk 14.34 229 ⇑P Pn 08 00 41.4 -1.1
SDNR Sundarnagar 14.35 214 ex P 08 00 50.0 +0.6
BHK Bhakra 14.64 215 eP Pn 08 00 45.8 -0.9
LSA Lhasa 14.69 163 eP Pn 08 00 39.4 -8.3
LSA Lhasa 14.69 163 P Pn 08 00 48.0 +0.3
LSA pP P 08 00 55.6 +2.0
LSA pmax pmax
comp=Z,40nm,0.8s
LSA pmax pmax
comp=Z,320nm,3.0s
LSA LR LR
comp=Z,600nm,11.0s
LSA LR LR
comp=Z,180nm,10.0s
LSA LR LR
comp=Z,1µm,11.0s
LSA Lhasa 14.69 163 eP Pn 08 00 49.7 +2.0
LSA pmax pmax
comp=Z,78nm,0.7s
LSA Lhasa 14.69 163 ePn Pn 08 00 49.6 +2.0
comp=Z,78nm,0.7s
CEP Cherat 14.98 233 ⇑P Pn 08 00 50.3 -1.0
CEP S Sn 08 03 32.0 -4.3
DDI Dehra Dun 15.00 208 eP Pn 08 00 50.0 -1.5
DDI AMB AMB 08 00 58.5
comp=Z,505nm,0.2s
ULN Ulaanbaatar 15.04 67c eP Pn 08 00 54.1 +2.0
ULN pmax pmax
comp=Z,23nm,1.0s
ULN Ulaanbaatar 15.04 67 ePn Pn 08 00 54.0 +2.0
comp=Z,37nm,0.9s
LZH Lanzhou 15.57 114 eP Pn 08 00 58.4 -0.7
LZH pP P 08 01 00.8 -2.3
LZH sP sP 08 01 03.2 -11
LZH PP pP 08 01 11.7 +1.2
LZH eS Sn 08 03 51.4 +0.6
LZH sS S 08 03 55.0 -11
LZH SS SnSn 08 04 08.1 +4.6
LZH pmax pmax
comp=Z,65nm,1.2s
LZH pmax pmax
comp=Z,220nm,5.4s
LZH LR LR
comp=Z,750nm,10.0s
LZH LR LR
comp=Z,1µm,10.0s
LZH LR LR
comp=Z,1µm,12.6s
DANN Dangsing 15.62 188 eP Pn 08 00 57.9 -2.0
comp=Z,158nm,0.4s
GKN Gorkha 15.89 185 eP Pn 08 01 01.7 -1.5
comp=Z,88nm,0.3s
GUN Gumba 15.93 181 eP Pn 08 01 02.5 -1.5
comp=Z,593nm,0.4s
PYUN Piuthan 15.96 190 eP Pn 08 01 00.8 -3.3
comp=Z,394nm,0.4s
SARP Sargodha 15.99 226 ⇓P Pn 08 01 01.6 -2.8
KKN Kakani 16.07 183 eP Pn 08 01 04.2 -1.4
comp=Z,131nm,0.5s
JIRN Jiri 16.18 180 eP Pn 08 01 05.5 -1.6
comp=Z,276nm,0.5s
KOLN Koldanda 16.21 188 eP Pn 08 01 05.6 -1.7
comp=Z,158nm,0.6s
KBL Kabul 16.22 241 eP Pn 08 01 05.0 -2.5
KBL e 08 04 06.4
KBL pmax pmax
comp=Z,75nm,1.1s
KBL Kabul 16.22 241 ePn Pn 08 01 05.0 -2.5
comp=Z,75nm,1.1s
KBL eSn Sn 08 04 06.4 -0.3
DMN Daman 16.26 184 eP Pn 08 01 06.2 -1.8
comp=Z,54nm,0.4s
PKIN Phulchoki 16.28 183 eP Pn 08 01 07.0 -1.3
comp=Z,117nm,0.6s
PKI Pulchoki 16.28 183 eP Pn 08 01 07.0 -1.4
comp=Z,580nm,0.9s
TAPN Taplejung 16.53 175 eP Pn 08 01 10.4 -1.2
comp=Z,287nm,0.6s
NDI New Delhi 16.79 208 eP Pn 08 01 11.0 -3.5
NDI eS Sn 08 04 18.0 -2.2
RAMN Ramite 16.89 179 eP Pn 08 01 13.9 -2.1
comp=Z,193nm,0.8s
ODAN Odare 17.00 176 eP Pn 08 01 16.0 -1.4
comp=Z,245nm,0.8s
AB31 Akbulak array 18.80 296 ⇑Pn P 08 01 38.6 +0.1
comp=Z,11nm,0.6s,baz=95,slow=11,SNR=358
AB31 ⇑Sn Sn 08 04 59.4 -9.2
comp=Z,23nm,1.4s,baz=90,slow=24
AB31 ⇑Lg Lg 08 07 00.2
comp=Z,72nm,1.2s,baz=88,slow=30
AB31 Akbulak array 18.80 296 i P P 08 01 38.0 -0.5
AB31 pmax pmax
comp=Z,17nm,0.7s
ABKAR Akbulak array 18.80 296 eP P 08 01 38.1 -0.4
comp=Z,11nm,0.4s
ABKAR eS S 08 05 11.2 +0.5
SHL Shillong 18.84 164 eP P 08 01 38.4 -0.9
SHL AMB AMB 08 01 39.9
comp=Z,50nm,0.8s
HHC Hu-ho-hao-te 18.95 90 eP Pn 08 01 40.7 -0.5
HHC sP sP 08 01 52.1 +0.9
HHC S Sn 08 05 05.5 -7.0
HHC sS S 08 05 17.4 +3.4
HHC SS SnSn 08 05 31.2 +4.8
HHC pmax pmax
comp=Z,140nm,1.1s
HHC pmax pmax
comp=Z,320nm,4.2s
HHC LR LR
comp=Z,510nm,8.9s
HHC LR LR
comp=Z,670nm,7.4s
CD2 Chengdu 18.97 127 eP Pn 08 01 42.9 +1.5
CD2 pP pP 08 01 51.1 +3.2
CD2 PP PnPn 08 01 59.6 +5.6
CD2 S Sn 08 05 09.5 -3.5
CD2 sS sS 08 05 22.5 -3.9
CD2 SS SnSn 08 05 35.1 +8.2
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,260nm,5.6s
AJM Ajmer 19.73 212 ex P 08 01 49.0 +0.1
AJM ex S 08 05 18.0 -12
BOK Bokaro 20.03 181 eP P 08 01 51.9 -0.2
XAN Xi'an 20.15 111 P P 08 01 52.7 -0.7
XAN pP pP 08 02 03.1 +2.3
XAN PP PnPn 08 02 12.8 +2.7
XAN S S 08 05 34.1 -4.2
XAN SS SnSn 08 06 03.0 +7.2
XAN pmax pmax
comp=Z,11nm,0.8s
XAN pmax pmax
comp=Z,37nm,13.5s
AKTO Aktyubinsk 20.19 299 ⇓Pn Pn 08 01 55.3 -0.5
comp=Z,23nm,0.8s
AKTO ⇑Sn S 08 05 35.1 -3.7
comp=Z,19nm,1.0s
AKTO ⇓Lg Lg 08 07 55.0
comp=Z,52nm,1.2s
AKTO Aktyubinsk 20.19 299 P P 08 01 54.4 +0.7
AKTO S S 08 05 36.7 -2.1
AKTO pmax pmax
comp=Z,14nm,0.6s
AKTO smax smax
comp=N,11nm,0.8s
AKTO MLR MLR
comp=Z,640nm,19.5s
AKTO Aktyubinsk 20.19 299 P P 08 01 54.4 +0.7
comp=Z,14nm,0.6s,baz=108,slow=12,SNR=30
AKTO S S 08 05 36.7 -2.1
comp=Z,11nm,0.8s,baz=15,slow=20,SNR=3.9
AKTO LR LR 08 10 24.8
comp=Z,640nm,19.4s,baz=106,slow=39
SVE Sverdlovsk 20.69 318⇑eP P 08 01 59.8 +0.8
SVE pmax pmax
comp=Z,62nm,1.0s
SVE MLR MLR
comp=Z,1µm,15.0s
IMYA Miami 21.29 258 eP P 08 02 05.0 -0.8
ARU Arti 21.54 315d i P P 08 02 08.8 +0.6
ARU 08 02 29.5
ARU S S 08 06 08.2 +2.8
ARU SS SnSn 08 06 32.4 +2.9
ARU pmax pmax
comp=Z,37nm,0.8s
ARU MLR MLR
comp=Z,862nm,15.0s
ARU Arti 21.54 315 eS S 08 06 09.4 +4.0
ARU Arti 21.54 315 eP P 08 02 08.4 +0.2
comp=Z,34nm,0.7s
ISRO Mashad 21.75 259 eP P 08 02 10.3 -0.4
BHPL Bhopal 21.82 202 eP P 08 02 10.8 -0.7
BHPL AMB AMB 08 02 12.4
comp=Z,62nm,0.7s
IEMG Emamgholi 21.83 262 eP P 08 02 11.9 +0.1
IMOG Moghan 21.94 258 eP P 08 02 13.1 +0.1
IAKL Akhelmad 22.12 260 eP P 08 02 14.9 0.0
ISFR Sfrayin 22.45 262 eP P 08 02 18.9 +0.4
ISHV Shirvan 22.46 263 eP P 08 02 14.1 -4.4
BJI Beijing 22.55 89 P P 08 02 19.1 0.0
BJI S S 08 06 24.5 -0.1
BJI pmax pmax
comp=Z,33nm,1.0s
BJI pmax pmax
comp=Z,170nm,3.8s
BJT Baijiatuau 22.55 89 eP P 08 02 19.4 +0.2
BJT e 08 06 12.5
BJT pmax pmax
comp=Z,22nm,0.6s
BJT Baijiatuau 22.55 89 eP P 08 02 19.4 +0.2
comp=Z,22nm,0.6s
BJT ePcP PcP 08 06 12.5 +0.6
ENH Enshi 22.91 119 eP P 08 02 22.3 -0.7
comp=Z,43nm,1.1s
ENH ePcP PcP 08 06 12.8 -0.1
KMI Kunming 23.06 139 P P 08 02 24.5 -0.3
KMI S S 08 06 29.4 -4.8
KMI pmax pmax
comp=Z,23nm,1.2s
KMI pmax pmax
comp=Z,170nm,3.3s
KMI LR LR
comp=Z,330nm,11.4s
KMI LR LR
comp=Z,490nm,10.9s
SOKR Solikamsk 23.79 322c i P P 08 02 38.6 +7.2
SOKR pmax pmax
comp=Z,30nm,0.8s
SOKR MLR MLR
comp=Z,410nm,15.0s
GYA Guiyang 24.00 130 P P 08 02 34.4 +0.5
GYA pP pP 08 02 44.8 +2.9
GYA PP PnPn 08 03 09.6 +6.6
GYA S S 08 06 47.0 -2.3
GYA sS sS 08 07 02.2 -0.2
GYA SS SnSn 08 07 39.3 +8.7
GYA ScP ScP 08 09 51.5 -0.3
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.7s
GYA LR LR
comp=Z,590nm,16.4s
GYA LR LR
comp=Z,530nm,17.0s
GYA LR LR
comp=Z,600nm,16.6s
BHJ Bhuj 24.68 219 eP P 08 02 38.9 -1.0
BHJ AMB AMB 08 02 41.9
comp=Z,36nm,0.8s
WHN Wuhan 25.92 111 ⇓P P 08 02 51.2 +0.1
WHN LR LR
comp=Z,2µm,13.1s
WHN LR LR
comp=Z,1µm,12.0s
WHN LR LR
comp=Z,2µm,12.7s
CMAI Chiengmai2 26.17 152 P P 08 02 54.1 +0.4
comp=Z,57nm,0.8s,comp=Z,896nm
VIS Vishakhapatnam 26.19 186 eP P 08 02 53.8 +0.2
VIS AMB AMB 08 02 55.1
comp=Z,36nm,1.6s
SLVN Son La 26.86 141 eP P 08 03 00.7 +0.9
comp=Z,14nm,1.1s
HYB Hyderabad 27.16 196 i P P 08 03 01.0 -1.5
HYB eS S 08 07 40.0 +0.6
HYB Hyderabad 27.16 196 eP P 08 03 01.0 -1.5
CHTO Chiang Mai 27.18 153 eP P 08 03 02.8 +0.2
CHTO pmax pmax
comp=Z,31nm,1.0s
CHTO Chiang Mai 27.18 153 P P 08 03 02.7 +0.2
comp=Z,132nm,1.0s
CHTO Chiang Mai 27.18 153 eP P 08 03 02.8 +0.2
comp=Z,31nm,1.0s
SNY Shenyang 27.32 81 ⇓P P 08 03 00.1 -3.6
SNY S S 08 07 42.4 +0.9
SNY pmax pmax
comp=Z,130nm,5.5s
CMAR Chiang Mai Arr 27.51 153 P P 08 03 05.0 -0.6
CMAR 08 06 23.4
CMAR pmax pmax
comp=Z,19nm,0.8s
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 27.51 153 P P 08 03 05.0 -0.6
comp=Z,19nm,0.8s,baz=332,slow=8.7,SNR=36
CMAR PcP PcP 08 06 23.4 0.0
comp=Z,2.0nm,0.6s,baz=324,slow=4.5,SNR=6.5
CMAR LR LR 08 15 01.1
comp=Z,214nm,19.2s,baz=338,slow=39
LAMP Lampang 27.68 152 P P 08 03 07.8 +0.7
comp=Z,7.8nm,0.9s
CN2 Changchun 28.12 76 eP P 08 03 10.0 -0.8
CN2 epP pP 08 03 19.4 +0.6
CN2 eS S 08 07 50.2 -3.9
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,700nm,13.0s
CN2 LR LR
comp=Z,700nm,12.0s
NJ2 Nanjing 28.13 104 eP P 08 03 12.0 +1.0
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
SUKH Sukhothai 28.65 152 P P 08 03 16.7 +1.0
comp=Z,6.9nm,0.9s,comp=Z,66nm
UTTA Uttaradit 28.72 151 P P 08 03 16.7 +0.3
comp=Z,8.2nm,1.0s
PRGR Permogore 29.65 321 P P 08 03 22.9 -1.3
IPAR Pars 29.78 253 eP P 08 03 26.7 +0.6
DGRG David-gareji 29.92 280 P P 08 03 29.1 +2.2
PBKT Sadao Pong 29.96 151 P P 08 03 27.7 +0.4
comp=Z,13nm,1.1s
DUS Dusheti 30.20 281 P P 08 03 33.9 +4.5
GUDG Gudauri 30.25 282 P P 08 03 31.7 +1.7
ZEI Tsey 30.56 283 eP P 08 03 30.0 -2.7
ZEI pmax pmax
comp=Z,5.0nm,0.5s
NCK Nalchik 30.57 284 eP P 08 03 33.5 +0.9
VRHR Novokhopersk 30.59 300 eP P 08 03 31.5 -1.2
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.7s
IKAZ Kazeroun 30.66 254 eP P 08 03 34.0 +0.1
GNI Garni 30.81 278c i P P 08 03 37.2 +2.3
GNI pmax pmax
comp=Z,56nm,1.5s
GNI Garni 30.81 278 eP P 08 03 37.1 +2.2
comp=Z,30nm,1.0s
MDJ Mudanjiang 30.81 73 P P 08 03 35.2 +0.5
MDJ pmax pmax
comp=Z,3.0nm,0.9s
MDJ pmax pmax
comp=Z,120nm,5.7s
KHLT Khaolaem Dam 30.85 156 P P 08 03 36.5 +1.3
comp=Z,5.9nm,1.2s
ONI Oni 30.93 283 P P 08 03 38.0 +2.2
KBZ Khabaz 31.00 285 P P 08 03 37.0 +0.7
KBZ pmax pmax
comp=Z,6.0nm,0.7s
KBZ Khabaz 31.00 285 P P 08 03 37.0 +0.7
comp=Z,6.4nm,0.7s,baz=90,slow=13,SNR=20
KBZ LR LR 08 18 30.7
comp=Z,524nm,18.5s,baz=64,slow=41
YAK Yakutsk 31.07 39 eP P 08 03 41.9 +5.2
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=E,13nm,1.3s

YAK MLR MLR
comp=Z,516nm,11.0s
YAK MLR MLR
comp=N,103nm,10.0s
YAK MLR MLR
comp=E,464nm,13.0s
KIV Kislovodsk 31.09 286 eP P 08 03 38.9 +1.7
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,458nm,15.0s
NEY Neytrino 31.25 284 i P P 08 03 41.2 +2.4
SRDT SRDT 31.43 155 P P 08 03 41.2 +0.9
comp=Z,102nm,1.0s,comp=Z,6μm
QIZ Qiongzhong 31.72 134 P P 08 03 44.5 +1.6
QIZ S S 08 08 53.9 +3.0
QIZ pmax pmax
comp=Z,13nm,1.4s
QIZ LR LR
comp=Z,170nm,13.3s
QIZ LR LR
comp=Z,220nm,13.3s
KSAR Wonju Array Be 32.00 87 P P 08 03 45.0 -0.1
KSAR 08 06 33.8
KSAR Wonju Array Be 32.00 87 P P 08 03 45.0 -0.1
KSAR PcP PcP 08 06 33.8 -0.8
KSRS Korea Array 32.02 87 P P 08 03 45.0 -0.3
KSRS 08 06 33.8
KSRS pmax pmax
comp=Z,8.0nm,0.6s
KSRS pmax pmax
comp=Z,2.0nm,0.5s
KSRS Korea Array 32.02 87 P P 08 03 45.0 -0.3
comp=Z,8.0nm,0.6s,baz=290,slow=9.0,SNR=27
KSRS PcP PcP 08 06 33.8 -0.9
comp=Z,1.7nm,0.5s,baz=309,slow=3.7,SNR=6.3
KSRS LR LR 08 18 32.8
comp=Z,98nm,19.4s,baz=320,slow=40
VORD Divnogorie 32.07 300 eP P 08 03 44.4 -1.3
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.5s
VSR Storozhevoye 32.13 300 eP P 08 03 45.4 -0.8
VSR pmax pmax
comp=N,9.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=E,20nm,0.9s
TUTA Tutak 32.46 277 i P P 08 03 52.2 +2.6
DAGI Agillar 32.50 281 i P P 08 03 52.1 +2.4
USRK Ussuriysk Arra 32.58 73 P P 08 03 50.1 -0.1
comp=E,0.8nm,0.6s,baz=274,slow=10,SNR=4.2
USRK LR LR 08 18 10.4
comp=E,335nm,20.9s,baz=286,slow=38
DBAD Bademkaya 32.68 281 i P P 08 03 53.4 +2.1
UBPT Khong Chiam 32.88 144 P P 08 03 52.2 -0.9
comp=E,24nm,1.0s
SOC Sochi 33.26 286 eP P 08 03 59.2 +3.1
SOC e 08 05 08.7
SOC eS S 08 09 18.4 +3.9
SOC eSS SnSn 08 11 15.4 -0.1
SOC MLR MLR
comp=Z,367nm,14.0s
ERZM Erzurum 33.31 279 i P P 08 04 00.2 +3.2
OBN Obninsk 33.45 307 i P P 08 03 57.8 +0.1
HABR Khabarovsk 33.66 65 eP P 08 03 58.7 -0.9
HABR e*PP pP 08 04 06.1 -1.6
HABR e 08 05 11.0
HABR e 08 06 37.8
HABR eS S 08 09 20.8 +0.1
HABR e*SS sS 08 09 33.4 -0.6
HABR eSS SnSn 08 11 26.8 +1.6
HABR e 08 14 22.4
HABR pmax pmax
comp=Z,34nm,2.3s
HABR MLR MLR
comp=Z,607nm,15.0s
CHBT CHBT 33.97 151 P P 08 04 03.1 +0.6
comp=Z,38nm,0.9s,comp=Z,4μm
TIXI Tiksi 34.55 22⇑i P P 08 04 07.3 +0.2
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI MLR MLR
comp=Z,1μm,16.0s
TIXI Tiksi 34.55 22 eP P 08 04 06.6 -0.5
comp=Z,19nm,0.9s
TIXI ePcP PcP 08 06 40.4 -0.8
MARD Mardin 34.77 275 i P P 08 04 11.5 +2.0
SUSE Susehri 35.45 281 i P P 08 04 17.5 +2.1
KEMA Kemaliye 35.60 279 i P P 08 04 19.2 +2.5
JNU Nakatsue 36.17 92 P P 08 04 20.3 -1.1
comp=Z,8.7nm,0.9s,baz=306,slow=5.1,SNR=4.0
JOF Joensuu 36.45 321 ep P 08 04 23.7 +0.3
comp=Z,11nm,0.6s
GZT Gaziantep 37.06 277 i P P 08 04 30.7 +1.6
AKASG Malin Array Be 38.41 301 P P 08 04 40.4 +0.2
AKASG 08 06 52.8
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 38.41 301 P P 08 04 40.4 +0.2
comp=Z,6.3nm,0.5s,baz=63,slow=8.6,SNR=45
AKASG PcP PcP 08 06 52.8 -0.3
comp=Z,0.6nm,0.4s,baz=67,slow=3.3,SNR=4.7
AKASG LR LR 08 21 29.3
comp=Z,249nm,18.0s,baz=45,slow=38
AKBB Malin Array Si 38.41 301 eP P 08 04 40.7 +0.5
AKBB Malin Array Si 38.41 301 eP P 08 04 40.6 +0.5
AK01 Malin Array Si 38.42 301 eP P 08 04 40.4 +0.1
KIEV Kiev 38.42 301c iP P 08 04 40.4 +0.1
KIEV Kiev 38.42 301 eP P 08 04 40.6 +0.3
comp=Z,8.4nm,0.6s
AK02 Malin Array Si 38.43 301 eP P 08 04 40.5 +0.1
VSU Vasula 38.69 314c iP P 08 04 43.0 +0.6
VSU pmax pmax
comp=Z,47nm,0.8s
KAF Kangasniemi 38.74 319 ep P 08 04 42.6 -0.2
comp=Z,9.1nm,0.6s
FIA1 FINESS Array S 38.85 318 eP P 08 04 44.5 +0.7
FINES FINESS Array B 38.86 318 P P 08 04 44.4 +0.6
FINES 08 06 54.5
FINES pmax pmax
comp=Z,5.0nm,0.4s
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 38.86 318 P P 08 04 44.4 +0.6
comp=Z,5.4nm,0.4s,baz=100,slow=8.4,SNR=35
FINES PcP PcP 08 06 54.5 +0.2
comp=Z,3.4nm,0.6s,baz=101,slow=4.4,SNR=3.8
BR131 Keskin Array S 38.87 283 eP P 08 04 45.6 +1.3
comp=Z,14nm,0.5s
BRTR Keskin Array B 38.87 283 P P 08 04 45.7 +1.3
BRTR pmax pmax
comp=Z,15nm,0.5s
BRTR MLR MLR
comp=Z,15nm,28.6s
BRTR Keskin Array B 38.87 283 P P 08 04 45.6 +1.3
comp=Z,15nm,0.5s,baz=85,slow=7.2,SNR=112
BRTR LR LR 08 24 35.7
comp=Z,67nm,18.7s,baz=49,slow=42
KEV Kevo 39.07 332 ep P 08 04 45.7 +0.2
comp=Z,1.9nm,0.4s
ANTO Ankara 39.41 283 eP P 08 04 50.0 +1.2
ANTO pmax pmax
comp=Z,9.0nm,0.6s
ANTO Ankara 39.41 283 eP P 08 04 50.0 +1.2
comp=Z,9.2nm,0.6s
ARCES ARCESS Array B 39.56 331 P P 08 04 50.5 +0.9
ARCES 08 06 56.7
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 39.56 331 P P 08 04 50.5 +0.9
comp=Z,2.0nm,0.4s,baz=87,slow=7.3,SNR=33
ARCES PcP PcP 08 06 56.6 +0.2
comp=Z,2.5nm,0.5s,baz=96,slow=4.0,SNR=5.3
ARCES LR LR 08 22 44.7
comp=Z,270nm,18.5s,baz=89,slow=38
MJAR Matsushiro Arr 39.82 82 P P 08 04 50.9 -1.3
MJAR 08 06 57.9
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR Matsushiro Arr 39.82 82 P P 08 04 50.9 -1.3
comp=Z,3.6nm,0.8s,baz=271,slow=12,SNR=3.6
MJAR PcP PcP 08 06 57.9 0.0
comp=Z,2.7nm,0.8s,baz=328,slow=1.9,SNR=3.7
ASAJ Asahikawa 39.87 69 P P 08 04 52.5 0.0
ASAJ 08 06 57.3
ASAJ pmax pmax
comp=Z,4.0nm,0.4s
ASAJ pmax pmax
comp=Z,5.0nm,0.5s
ASAJ Asahikawa 39.87 69 P P 08 04 52.5 0.0
comp=Z,4.3nm,0.4s,baz=263,slow=8.4,SNR=4.1
ASAJ PcP PcP 08 06 57.3 -0.5
comp=Z,5.0nm,0.5s,baz=315,slow=4.3,SNR=3.9
ASF Jabal al Asfar 40.02 270 P P 08 04 54.8 +0.8
ASF pmax pmax
comp=Z,12nm,0.8s
ASF Jabal al Asfar 40.02 270 P P 08 04 54.8 +0.8
comp=Z,12nm,0.8s,baz=335,slow=7.5,SNR=14
KULM Kulim 40.48 158 eP P 08 04 57.4 -0.3
comp=Z,16nm,0.6s
CFR Carcaliu 40.65 293 ⇓iP P 08 04 59.7 +0.8
CFR Carcaliu 40.65 293 ⇓iP P 08 04 59.7 +0.8
MMAI Mount Meron Ar 40.67 272 P P 08 05 00.3 +0.9
comp=Z,4.0nm,0.4s,baz=52,slow=9.6,SNR=9.4
MMAI PcP PcP 08 07 01.5 +0.8
comp=Z,2.5nm,0.5s,baz=49,slow=4.8,SNR=3.5
TESR Tescani 41.19 295 ⇓iP P 08 05 04.2 +0.8
PRAR RASCA 41.20 297 ⇓iP P 08 05 04.5 +1.0
SUW Suwalki 41.31 307 eP P 08 05 05.4 +1.1
SUW Suwalki 41.31 307 eP P 08 05 05.4 +1.1
VRI Vrincioaia 41.35 294 ⇑P P 08 05 07.5 +2.7
VRI Vrincioaia 41.35 294 ⇑iP P 08 05 07.5 +2.7
IPM Ipoh 41.35 157 eP P 08 05 04.0 -1.0
comp=Z,24nm,0.5s
SEY Seymchan 41.60 39 P P 08 05 07.0 +0.5
SEY 08 07 03.2
SEY pmax pmax
comp=Z,3.0nm,0.9s
SEY pmax pmax
comp=Z,5.0nm,0.8s
SEY Seymchan 41.60 39 P P 08 05 07.0 +0.5
comp=Z,2.6nm,0.9s,baz=291,slow=11,SNR=6.7
SEY PcP PcP 08 07 03.2 +0.1
comp=Z,4.6nm,0.8s,baz=273,slow=4.7,SNR=4.7
BURAR Bucovina Array 41.77 297 ⇓P P 08 05 09.3 +1.0
BURAR Bucovina Array 41.77 297 ⇓iP P 08 05 09.3 +1.0
BUR08 Bucovina Ar. S 41.77 297 eP P 08 05 08.6 +0.3
MLR Muntele Rosu 42.00 294 ⇓P P 08 05 11.8 +1.6
MLR Muntele Rosu 42.00 294 ⇓iP P 08 05 11.8 +1.6
DOPR Dopca 42.20 295 ⇑iP P 08 05 13.5 +1.8
PSI Prapat 42.43 161 P P 08 05 12.8 -1.1
PSI pmax pmax
comp=Z,7.0nm,0.7s
PSI Prapat 42.43 161 P P 08 05 12.8 -1.1
comp=Z,7.2nm,0.7s,baz=309,slow=6.5,SNR=4.2
VOIR 42.61 294 ⇑P P 08 05 17.3 +2.2
VOIR 42.61 294 ⇑iP P 08 05 17.3 +2.2
KWP Kalwaria Pacla 42.74 301 ⇓P P 08 05 17.7 +1.7
KWP Kalwaria Pacla 42.74 301 eP P 08 05 17.4 +1.4
KWP Kalwaria Pacla 42.74 301 ⇓iP P 08 05 17.7 +1.7
KWP Kalwaria Pacla 42.74 301 eP P 08 05 17.3 +1.3
comp=Z,31nm,0.6s
EIL Elat 42.78 268 P P 08 05 17.0 +0.4
comp=Z,18nm,0.9s,baz=38,slow=6.3,SNR=8.5
ARR Arges 42.91 294 ⇓iP P 08 05 19.1 +1.6
KOLS Kolonicke sedl 43.22 300 eP P 08 05 18.7 -1.2
KOLS pmax pmax
comp=Z,23nm,2.0s
KOLS Kolonicke sedl 43.22 300 e P 08 05 18.7 -1.2
UZH Uzhgorod 43.31 300 eP P 08 05 17.4 -3.2
UZH e 08 05 28.0
UZH i 08 05 35.6
TRPA Tarpa 43.31 299 ⇓iP P 08 05 22.1 +1.5
DRGR 43.66 297 ⇑P P 08 05 24.8 +1.3
DRGR 43.66 297 ⇑iP P 08 05 24.8 +1.3
STHS Stebnicka Huta 43.71 301 eP P 08 05 24.3 +0.4
STHS pmax pmax
comp=Z,2.0nm,0.5s
STHS Stebnicka Huta 43.71 301 eP P 08 05 24.3 +0.4
CRVS Cervenica-Dubn 43.74 300 eP P 08 05 24.4 +0.3
CRVS pmax pmax
comp=Z,3.0nm,1.1s
CRVS Cervenica-Dubn 43.74 300 eP P 08 05 24.4 +0.3
GZR Gura Zlata 44.12 295 ⇓P P 08 05 28.6 +1.4
GZR Gura Zlata 44.12 295 ⇓iP P 08 05 28.6 +1.4
NIE Niedzica 44.28 301⇑eP P 08 05 30.3 +1.8
NIE e*PP pP 08 05 35.7 -1.0
NIE Niedzica 44.28 301 eP P 08 05 30.3 +1.8
NIE epP pP 08 05 35.7 -1.0
OJC Ojcow 44.34 303 eP P 08 05 29.6 +0.7
OJC e*PP pP 08 05 34.9 -2.2
OJC Ojcow 44.34 303 eP P 08 05 29.6 +0.7
OJC epP pP 08 05 34.9 -2.2
KECS Kecovo 44.49 300 eP P 08 05 30.8 +0.7
KECS pmax pmax
comp=Z,2.0nm,0.6s
KECS Kecovo 44.49 300 eP P 08 05 30.8 +0.7
BZS Buzias 44.79 296 ⇓P P 08 05 33.8 +1.3
BZS Buzias 44.79 296 ⇓iP P 08 05 33.8 +1.3
VTS Vitosha 44.92 291 ⇓P P 08 05 35.3 +1.5
VTS Vitosha 44.92 291 ⇓iP P 08 05 35.3 +1.5
PSZ Piszkesteto 45.06 300 ⇑P P 08 05 37.3 +2.6
PSZ Piszkesteto 45.06 300 ⇑iP P 08 05 37.3 +2.6
BKNI Bangkinang 45.33 159 eP P 08 05 37.1 +0.1
comp=Z,57nm,0.5s
BSD Bornholm Skovb 45.69 310 eP P 08 05 39.8 +0.3
BSD pmax pmax
comp=Z,15nm,0.7s
BSD Bornholm Skovb 45.69 310 i P P 08 05 39.8 +0.3
comp=Z,15nm,0.7s
MORC Moravsky Berou 45.86 303 ⇓P P 08 05 42.5 +1.5
MORC Moravsky Berou 45.86 303 ⇓iP P 08 05 42.5 +1.5
MORC Moravsky Berou 45.86 303 eP P 08 05 41.5 +0.5
comp=Z,5.6nm,0.6s
NB2 NORSAR Subarra 46.02 319 P P 08 05 42.3 +0.2
comp=Z,11nm,0.5s,baz=74,slow=7.9
NOA NORSAR Array B 46.02 319 P P 08 05 42.4 +0.2
comp=Z,12nm,0.6s,baz=76,slow=7.8,SNR=55
NOA LR LR 08 27 13.8
comp=Z,103nm,18.4s,baz=45,slow=39
KRLC Kraliky 46.22 303 eP P 08 05 45.1 +1.3
KRLC Kraliky 46.22 303 eP P 08 05 45.1 +1.3
NAO01 NORSAR Array S 46.22 319 eP P 08 05 43.8 +0.2
comp=Z,12nm,0.6s
KSP Ksiaz 46.25 304⇑eP P 08 05 45.2 +1.3
KSP Ksiaz 46.25 304 eP P 08 05 45.3 +1.3
PDSI Padang 46.38 160 P P 08 05 43.9 -1.4
comp=Z,48nm,0.9s,comp=Z,3μm
DPC Dobruska-Polom 46.40 304 eP P 08 05 46.9 +1.6
DPC Dobruska-Polom 46.40 304 eP P 08 05 46.9 +1.6
DPC ex x 08 05 51.1
DPC AMS AMS 08 26 10.0
PETK Petropavlovsk- 46.41 52 P P 08 05 45.2 0.0
PETK pmax pmax
comp=Z,4.0nm,0.7s
PETK MLR MLR
comp=Z,16nm,28.6s
PETK Petropavlovsk- 46.41 52 P P 08 05 45.2 0.0
comp=Z,3.9nm,0.7s,baz=262,slow=4.5,SNR=4.9
PETK LR LR 08 26 41.7
comp=Z,216nm,19.3s,baz=281,slow=38
PKSM Moragy 46.48 298 ⇓P P 08 05 46.9 +1.0
PKSM Moragy 46.48 298 ⇓iP P 08 05 46.9 +1.0
UPC Upice 46.53 304 eP P 08 05 47.5 +1.3
UPC Upice 46.53 304 eP P 08 05 47.5 +1.3
UPC ex x 08 05 50.8
VRAC Vranov 46.61 302 ⇓P P 08 05 48.5 +1.7
VRAC Vranov 46.61 302 ⇓iP P 08 05 48.5 +1.7
BILL Bilibino 46.61 31 ⇓iP P 08 05 48.3 +1.7
BILL i 08 07 37.8
BILL eS S 08 12 52.3 +19
BILL eSS SS 08 15 55.9 -3.3
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL MLR MLR
comp=Z,193nm,14.0s
BILL Bilibino 46.61 31 eP P 08 05 45.3 -1.3
comp=Z,3.7nm,0.6s
RGN Rugen 46.74 310 eP P 08 05 50.5 +2.7
comp=Z,44nm,0.6s
LLD Lille Linde 47.10 311 eP P 08 05 52.5 +2.0
LLD pmax pmax
comp=Z,22nm,0.8s
LLD Lille Linde 47.10 311 i P P 08 05 52.5 +2.0
comp=Z,22nm,0.8s
RUE Ruedersdorf 47.16 307 eP P 08 05 52.5 +1.4
comp=Z,24nm,0.6s
CONA Conrad Observa 47.57 301 ⇓iP P 08 05 56.3 +1.9
comp=Z,12nm,0.8s
PRU Pruhonice 47.60 304 eP P 08 05 56.0 +1.4
PRU Pruhonice 47.60 304 eP P 08 05 56.0 +1.4
PRU ex x 08 06 00.4
PRU AMS AMS 08 26 50.0
BRG Berggiesshubel 47.63 305 ⇑iP P 08 05 55.8 +1.0
comp=Z,10.0nm,0.5s
BRG Berggiesshubel 47.63 305 ⇑iP P 08 05 55.8 +1.0
BRG pmax pmax
comp=Z,10.0nm,0.5s
BRG Berggiesshubel 47.63 305 eP P 08 05 56.3 +1.5
comp=Z,6.0nm,0.6s
CLL Collm 48.03 306 ⇑iP P 08 05 58.8 +1.0
CLL pmax pmax
comp=Z,38nm,0.6s
CLL Collm 48.03 306 eP P 08 05 59.1 +1.3
comp=Z,32nm,0.6s
CLL Collm 48.03 306 ⇑iP P 08 05 58.8 +1.0
comp=Z,38nm,0.6s
CLL e(pP) pP 08 06 03.0 -3.1
MUD Monsted U'grnd 48.36 314 i P P 08 06 01.6 +1.3
MUD pmax pmax
comp=Z,20nm,0.7s
MUD Monsted U'grnd 48.36 314 i P P 08 06 01.6 +1.3
comp=Z,20nm,0.7s
KHC Kasperske Hory 48.51 303 eP P 08 06 02.9 +1.3
KHC pmax pmax
comp=Z,4.0nm,0.5s
KHC Kasperske Hory 48.51 303 eP P 08 06 02.9 +1.3
KHC ex x 08 06 05.2
KHC ex x 08 06 06.8
KHC AMS AMS 08 27 30.0
comp=Z,900nm,10.5s
KHC Kasperske Hory 48.51 303 eP P 08 06 02.9 +1.3
comp=Z,3.9nm,0.5s
GEC2 GERESS Array S 48.54 303 eP P 08 06 03.6 +1.6
comp=Z,3.0nm,0.6s
GERES GERESS Array B 48.54 303 P P 08 06 03.2 +1.2
comp=Z,4.7nm,0.6s,baz=64,slow=7.9,SNR=39
GERES LR LR 08 27 45.5
comp=Z,252nm,18.1s,baz=7.0,slow=38
PERS Pernice 48.55 300 i P P 08 06 02.9 +0.9
PERS i 08 06 07.9
SOKA Soboth 48.59 300 ⇑iP P 08 06 03.3 +0.9
comp=Z,14nm,0.5s
TANN Tannenbergstha 48.68 305 eP P 08 06 04.6 +1.6
comp=Z,5.0nm,0.8s
NEUB Neuenburg 48.78 306 eP P 08 06 05.0 +1.4
comp=Z,24nm,0.6s
WET Wettzell 48.92 303 eP P 08 06 06.5 +1.7
comp=Z,5.0nm,0.6s
BOJS Bojanci 48.94 298 eP P 08 06 06.1 +1.2
BOJS e 08 06 10.4
OBKA Obir 48.96 300 ⇑iP P 08 06 06.5 +1.3
comp=Z,13nm,0.4s
MANZ Manzenberg 49.05 305 eP P 08 06 07.4 +1.6
comp=Z,3.0nm,0.8s
VISS Visnje 49.07 299 i P P 08 06 06.9 +0.9
VISS i 08 06 11.2
ROTZ Rotzenmuhle 49.08 304 eP P 08 06 07.9 +1.9
comp=Z,4.0nm,0.7s
MOX Moxa 49.09 306 eP P 08 06 07.7 +1.6
comp=Z,7.0nm,0.6s
MOZS Mozjanca 49.12 299 i P P 08 06 07.3 +0.9
NRDL Niedersach Rie 49.26 308 eP P 08 06 09.2 +2.0
comp=Z,12nm,0.7s
KBA Koelnbreinsper 49.48 301 ⇑iP P 08 06 10.5 +1.2
comp=Z,11nm,0.4s,SNR=6.0
JAVS Javornik 49.52 299 i P P 08 06 09.7 +0.2
JAVS i 08 06 13.8
RJOB Jochberg 49.54 302 eP P 08 06 11.8 +2.2
comp=Z,13nm,0.7s
GRF Grafenberg Arr 49.70 305 eP P 08 06 12.9 +2.2
comp=Z,15nm,0.7s
UBBA Unterbreizbach 49.97 306 eP P 08 06 13.9 +1.3
comp=Z,4.0nm,0.6s
WATA Walderalm 50.46 302 ⇑iP P 08 06 18.0 +1.3
comp=Z,12nm,0.5s,SNR=8.0
IBBN Ibbenburen 50.66 309 eP P 08 06 19.4 +1.5
comp=Z,18nm,0.7s
DAG Danmarks Havn 51.00 343 i P P 08 06 20.3 +0.2
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 51.00 343 i P P 08 06 20.3 +0.2
comp=Z,6.0nm,0.7s
TNS Taunus Mts 51.12 306 eP P 08 06 23.0 +1.5
comp=Z,6.0nm,0.6s
FETA Feichten 51.12 302 i P P 08 06 22.6 +1.0
comp=Z,8.8nm,0.6s,SNR=7.3
BFO Black Forest 52.00 304c eP P 08 06 29.8 +1.7
BFO e*SP sP 08 06 39.3 -0.4
BFO Black Forest 52.00 304 eP P 08 06 28.8 +0.7
comp=Z,6.2nm,0.8s
CDF Champ du Feu 52.59 305 eP P 08 06 32.9 +0.4
CDF Champ du Feu 52.59 305 eP P 08 06 32.9 +0.4
CDF Champ du Feu 52.59 305 eP P 08 06 32.9 +0.4
ECH Echery 52.75 304 eP P 08 06 34.0 +0.3
ECH pmax pmax
comp=Z,8.0nm,0.9s
ECH Echery 52.75 304 eP P 08 06 34.0 +0.3
comp=Z,7.7nm,0.9s
HINF Hinteralfeld 53.12 304 eP P 08 06 37.4 +1.0
HINF Hinteralfeld 53.12 304 eP P 08 06 37.4 +1.0
HINF Hinteralfeld 53.12 304 eP P 08 06 37.4 +1.0
HAU Haudompre 53.33 304 eP P 08 06 38.4 +0.5
HAU eR
comp=Z,394nm,17.1s
HAU Haudompre 53.33 304 eP P 08 06 38.4 +0.5
HAU Haudompre 53.33 304 eP P 08 06 38.4 +0.5
BAIF Baives 53.64 308 eP P 08 06 41.2 +1.1
comp=Z,12nm,0.7s
BAIF Baives 53.64 308 eP P 08 06 41.2 +1.1
BAIF pmax pmax
comp=Z,12nm,0.7s
BAIF Baives 53.64 308 eP P 08 06 41.2 +1.1
comp=Z,12nm,0.7s
MEZF Maizieres J'vi 53.87 306 ⇑iP P 08 06 43.1 +1.3
comp=Z,36nm,0.6s
MEZF Maizieres J'vi 53.87 306 ⇑iP P 08 06 43.1 +1.3
comp=Z,36nm,0.6s
SFTF Sexfontaines 54.02 305 ⇑iP P 08 06 43.7 +0.8
comp=Z,19nm,0.5s
SFTF Sexfontaines 54.02 305 ⇑iP P 08 06 43.7 +0.8
comp=Z,19nm,0.5s
CABF La Chapelle 54.14 303 eP P 08 06 44.6 +0.7
comp=Z,7.3nm,0.6s
CABF La Chapelle 54.14 303 eP P 08 06 44.6 +0.7
CABF pmax pmax
comp=Z,7.0nm,0.6s
CABF La Chapelle 54.14 303 eP P 08 06 44.6 +0.7
comp=Z,7.3nm,0.6s
LPG La Plagne 54.27 302 ⇑iP P 08 06 46.5 +1.4
comp=Z,70nm,0.6s
LPG La Plagne 54.27 302 ⇑iP P 08 06 46.5 +1.4
LPG pmax pmax
comp=Z,70nm,0.6s
LPG La Plagne 54.27 302 ⇑iP P 08 06 46.5 +1.4
comp=Z,70nm,0.6s
LPL La Plagne 54.27 302 ⇑iP P 08 06 46.5 +1.4
comp=Z,86nm,0.5s
LPL La Plagne 54.27 302 ⇑iP P 08 06 46.5 +1.4
LPL pmax pmax
comp=Z,86nm,0.5s
LPL La Plagne 54.27 302 ⇑iP P 08 06 46.5 +1.4
comp=Z,86nm,0.5s
PGF Pioggiola 54.30 297 ⇑iP P 08 06 46.0 +0.8
comp=Z,22nm,0.5s
PGF Pioggiola 54.30 297 ⇑iP P 08 06 46.0 +0.8
PGF pmax pmax
comp=Z,22nm,0.5s
PGF Pioggiola 54.30 297 ⇑iP P 08 06 46.0 +0.8
comp=Z,22nm,0.5s
BNI Bardonecchia 54.53 301 eP P 08 06 47.6 +0.8
BNI pmax pmax
comp=Z,10.0nm,0.4s
BNI Bardonecchia 54.53 301 eP P 08 06 47.6 +0.8

comp=Z,9.8nm,0.4s
MBDF Montbardon 54.63 301 eP P 08 06 47.9 +0.3
comp=Z,27nm,0.6s
MBDF Montbardon 54.63 301 eP P 08 06 47.9 +0.3
MBDF pmax pmax
comp=Z,27nm,0.6s
MBDF Montbardon 54.63 301 eP P 08 06 47.9 +0.3
comp=Z,27nm,0.6s
SBF Sospel 54.64 300 eP P 08 06 48.4 +0.8
comp=Z,37nm,0.6s
SBF Sospel 54.64 300 eP P 08 06 48.4 +0.8
SBF pmax pmax
comp=Z,37nm,0.6s
SBF Sospel 54.64 300 eP P 08 06 48.4 +0.8
comp=Z,37nm,0.6s
FX1 Attu Island--F 55.06 48 eP P 08 06 50.4 0.0
FX1 Attu Island--F 55.06 48 P P 08 06 50.7 +0.3
comp=Z,12nm,0.4s,baz=276,slow=4.2,SNR=11
FX1 Attu Island--F 55.06 48 eP P 08 06 50.4 0.0
ORIF Oris-en-Rattie 55.09 301 ⇑iP P 08 06 51.4 +0.5
comp=Z,18nm,0.4s
ORIF eR
comp=Z,202nm,19.0s
ORIF Oris-en-Rattie 55.09 301 ⇑iP P 08 06 51.4 +0.5
ORIF pmax pmax
comp=Z,18nm,0.4s
ORIF Oris-en-Rattie 55.09 301 ⇑iP P 08 06 51.4 +0.5
comp=Z,18nm,0.4s
LOR Lormes 55.16 305 ⇑iP P 08 06 50.9 -0.3
LOR eR
comp=Z,302nm,17.4s
LOR Lormes 55.16 305 ⇑iP P 08 06 50.9 -0.3
LOR Lormes 55.16 305 ⇑iP P 08 06 50.9 -0.3
FRF La Foret Royal 55.29 300 ⇑iP P 08 06 52.6 +0.4
comp=Z,11nm,0.6s
FRF La Foret Royal 55.29 300 ⇑iP P 08 06 52.6 +0.4
FRF pmax pmax
comp=Z,11nm,0.6s
FRF La Foret Royal 55.29 300 ⇑iP P 08 06 52.6 +0.4
comp=Z,11nm,0.6s
SSF Saint Saulge 55.47 305 ⇑iP P 08 06 53.5 0.0
comp=Z,6.7nm,0.6s
SSF Saint Saulge 55.47 305 ⇑iP P 08 06 53.5 0.0
SSF pmax pmax
comp=Z,7.0nm,0.6s
SSF Saint Saulge 55.47 305 ⇑iP P 08 06 53.5 0.0
comp=Z,6.7nm,0.6s
SMF Signal de Mont 55.48 304 ⇑iP P 08 06 53.9 +0.4
comp=Z,14nm,0.7s
SMF Signal de Mont 55.48 304 ⇑iP P 08 06 53.9 +0.4
SMF pmax pmax
comp=Z,14nm,0.7s
SMF Signal de Mont 55.48 304 ⇑iP P 08 06 53.9 +0.4
comp=Z,14nm,0.7s
LMR La Mourre 55.49 299 ⇑iP P 08 06 54.1 +0.5
comp=Z,12nm,0.5s
LMR La Mourre 55.49 299 ⇑iP P 08 06 54.1 +0.5
LMR pmax pmax
comp=Z,12nm,0.5s
LMR La Mourre 55.49 299 ⇑iP P 08 06 54.1 +0.5
comp=Z,12nm,0.5s
AVF Avril sur Loir 55.70 304 ⇑iP P 08 06 55.3 +0.2
comp=Z,11nm,0.8s
AVF Avril sur Loir 55.70 304 ⇑iP P 08 06 55.3 +0.2
AVF pmax pmax
comp=Z,11nm,0.8s
AVF Avril sur Loir 55.70 304 ⇑iP P 08 06 55.3 +0.2
comp=Z,11nm,0.8s
SMRF Simiane la Rot 55.75 300 ⇑iP P 08 06 57.1 +1.5
comp=Z,12nm,0.6s
SMRF Simiane la Rot 55.75 300 ⇑iP P 08 06 57.1 +1.5
comp=Z,12nm,0.6s
VIVF Saint-Julien-l 55.87 302 ⇑iP P 08 06 57.0 +0.6
comp=Z,24nm,0.9s
VIVF Saint-Julien-l 55.87 302 ⇑iP P 08 06 57.0 +0.6
VIVF pmax pmax
comp=Z,24nm,0.9s
VIVF Saint-Julien-l 55.87 302 ⇑iP P 08 06 57.0 +0.6
comp=Z,24nm,0.9s
TCF Toulx Ste Croi 56.63 304 ⇑iP P 08 07 02.4 +0.6
comp=Z,27nm,0.8s
TCF Toulx Ste Croi 56.63 304 ⇑iP P 08 07 02.4 +0.6
TCF pmax pmax
comp=Z,27nm,0.8s
TCF Toulx Ste Croi 56.63 304 ⇑iP P 08 07 02.4 +0.6
comp=Z,27nm,0.8s
LASF Ste Croix 56.77 301 eP P 08 07 03.6 +0.8
LASF Ste Croix 56.77 301 eP P 08 07 03.6 +0.8
LDF La Druitiere 56.83 308 ⇑iP P 08 07 03.3 +0.2
comp=Z,11nm,0.5s
LDF La Druitiere 56.83 308 ⇑iP P 08 07 03.3 +0.2
LDF pmax pmax
comp=Z,11nm,0.5s
LDF La Druitiere 56.83 308 ⇑iP P 08 07 03.3 +0.2
comp=Z,11nm,0.5s
FLN La Foliniere 56.95 308 eP P 08 07 03.9 0.0
comp=Z,6.0nm,0.4s
FLN eR
comp=Z,430nm,22.2s
FLN La Foliniere 56.95 308 eP P 08 07 03.9 0.0
FLN pmax pmax
comp=Z,6.0nm,0.4s
FLN La Foliniere 56.95 308 eP P 08 07 03.9 0.0
comp=Z,6.0nm,0.4s
GRR Gorron 57.35 308 eP P 08 07 06.9 +0.1
GRR Gorron 57.35 308 eP P 08 07 06.9 +0.1
GRR Gorron 57.35 308 eP P 08 07 06.9 +0.1
RJF Les Rejaudoux 57.56 304 eP P 08 07 09.2 +0.9
RJF eR
comp=Z,297nm,18.8s
RJF Les Rejaudoux 57.56 304 eP P 08 07 09.2 +0.9
RJF Les Rejaudoux 57.56 304 eP P 08 07 09.2 +0.9
KEST Kesra 57.64 290 P P 08 07 09.7 +0.5
comp=Z,1.5nm,0.6s,baz=69,slow=9.1,SNR=6.0
KEST Kesra 57.64 290 eP P 08 07 10.1 +0.9
SUMG Summit 57.68 343 iP P 08 07 10.6 +1.3
SUMG Summit 57.68 343 iP P 08 07 10.6 +1.3
MFF Saint Martin d 57.87 306 eP P 08 07 20.0 +10
comp=Z,5.9nm,0.6s
MFF Saint Martin d 57.87 306 eP P 08 07 20.0 +10
MFF pmax pmax
comp=Z,6.0nm,0.6s
MFF Saint Martin d 57.87 306 eP P 08 07 20.0 +10
comp=Z,5.9nm,0.6s
MTLF Montolieu 58.16 301 eP P 08 07 13.6 +1.0
MTLF Montolieu 58.16 301 eP P 08 07 13.6 +1.0
MTLF Montolieu 58.16 301 eP P 08 07 13.6 +1.0
LFF La Frestale 58.22 304 eP P 08 07 14.0 +1.1
LFF La Frestale 58.22 304 eP P 08 07 14.0 +1.1
LFF La Frestale 58.22 304 eP P 08 07 14.0 +1.1
SGMF Saint Gilles 58.39 308 eP P 08 07 14.4 +0.3
SGMF Saint Gilles 58.39 308 eP P 08 07 14.4 +0.3
SGMF Saint Gilles 58.39 308 eP P 08 07 14.4 +0.3
ROSF Rostrenen 58.75 309 eP P 08 07 17.4 +0.8
ROSF Rostrenen 58.75 309 eP P 08 07 17.4 +0.8
ROSF Rostrenen 58.75 309 eP P 08 07 17.4 +0.8
QUIF Quistinic 58.92 308 ⇑iP P 08 07 18.3 +0.6
comp=Z,12nm,0.6s
QUIF Quistinic 58.92 308 ⇑iP P 08 07 18.3 +0.6
QUIF pmax pmax
comp=Z,12nm,0.6s
QUIF Quistinic 58.92 308 ⇑iP P 08 07 18.3 +0.6
comp=Z,12nm,0.6s
KULLO Kullorsuaq 59.33 349 iP P 08 07 26.1 +5.9
KULLO pmax pmax
comp=Z,10.0nm,0.9s
KULLO Kullorsuaq 59.33 349 iP P 08 07 26.1 +5.9
comp=Z,9.6nm,0.9s
EPF Esparros 59.49 302 eP P 08 07 21.6 -0.3
comp=Z,9.4nm,0.5s
EPF Esparros 59.49 302 eP P 08 07 21.6 -0.3
EPF pmax pmax
comp=Z,9.0nm,0.5s
EPF Esparros 59.49 302 eP P 08 07 21.6 -0.3
comp=Z,9.4nm,0.5s
ETSF Etsaut 60.11 302 eP P 08 07 26.9 +0.7
comp=Z,5.5nm,0.5s
ETSF Etsaut 60.11 302 eP P 08 07 26.9 +0.7
ETSF pmax pmax
comp=Z,6.0nm,0.5s
ETSF Etsaut 60.11 302 eP P 08 07 26.9 +0.7
comp=Z,5.5nm,0.5s
COLD Coldfoot 61.28 22 eP P 08 07 33.9 +0.2
comp=Z,6.6nm,0.8s
KMBO Kilima Mbogo 62.53 238 iP P 08 07 42.4 -0.7
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 62.53 238 P P 08 07 43.5 +0.4
comp=Z,0.9nm,0.6s,baz=50,slow=13,SNR=4.3
COLA College 63.68 23 eP P 08 07 51.0 +1.3
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 63.68 23 eP P 08 07 51.0 +1.3
comp=Z,6.6nm,0.9s
KTH Kantishna Hill 63.78 25 eP P 08 07 51.6 +1.1
comp=Z,8.0nm,0.8s
PPLA Purkeypile 63.87 26 eP P 08 07 52.4 +1.2
comp=Z,8.2nm,0.7s
ILAR Eielson Array 64.03 22 P P 08 07 52.5 +0.5
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR MLR MLR
comp=Z,157nm,21.0s
ILAR Eielson Array 64.03 22 P P 08 07 52.5 +0.5
comp=Z,2.7nm,0.9s,baz=310,slow=5.0,SNR=33
ILAR LR LR 08 39 02.3
comp=Z,157nm,21.0s,baz=316,slow=39
ESDC Sonseca Array 64.06 301 P P 08 07 53.3 +0.6
comp=Z,2.1nm,0.4s,baz=52,slow=6.4,SNR=13
INK Inuvik 64.25 15 P P 08 07 54.5 +1.1
INK pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 64.25 15 P P 08 07 54.5 +1.1
comp=Z,5.4nm,0.9s,baz=354,slow=6.3,SNR=28
INK Inuvik 64.25 15 eP P 08 07 54.6 +1.1
SFJD Kangerlussuaq 64.67 343 iP P 08 07 56.4 +0.2
SFJD pmax pmax
comp=Z,8.0nm,0.9s
SFJD Kangerlussuaq 64.67 343 iP P 08 07 56.4 +0.2
comp=Z,7.7nm,0.9s
PAX Paxson 65.83 23 eP P 08 08 03.5 -0.4
PAX pmax pmax
comp=Z,6.0nm,1.0s
PAX Paxson 65.83 23 eP P 08 08 03.5 -0.4
comp=Z,5.8nm,1.0s
DAWY Dawson 66.56 20 eP P 08 08 09.4 +0.9
KDAK Kodiak Island 67.51 30 ceP P 08 08 15.3 +0.8
HYT Haines Junctio 69.76 21 eP P 08 08 31.0 +2.3
MBWA Marble Bar 71.64 147 eP P 08 08 39.8 -0.5
comp=Z,7.9nm,0.8s
YKA Yellowknife Ar 72.67 10 P P 08 08 46.2 +0.1
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 72.67 10 P P 08 08 46.2 +0.1
comp=Z,1.9nm,0.5s,baz=340,slow=6.0,SNR=69
TOA0 Torodi Ar. Sit 77.09 276 eP P 08 09 11.1 -1.4
TORD Torodi Ar. Bea 77.09 276 P P 08 09 12.0 -0.4
comp=Z,11nm,0.9s,baz=38,slow=5.2,SNR=55
WRAB Tennant Creek 77.29 134 eP P 08 09 12.6 -0.7
WRAB pmax pmax
comp=Z,24nm,0.8s
WRAB Tennant Creek 77.29 134 eP P 08 09 12.6 -0.7
comp=Z,24nm,0.8s
WRA Warramunga Arr 77.29 134 P P 08 09 12.6 -0.7
WRA pmax pmax
comp=Z,19nm,0.8s
WRA Warramunga Arr 77.29 134 P P 08 09 12.6 -0.7
comp=Z,19nm,0.8s,baz=334,slow=5.6,SNR=138
SCHQ Schefferville 79.03 345 P P 08 09 22.5 -0.1
comp=Z,3.5nm,0.5s,baz=19,slow=7.3,SNR=21
SCHQ LR LR 08 46 39.4
comp=Z,63nm,21.8s,baz=30,slow=37
AS31 Alice Springs 80.17 137 eP P 08 09 28.2 -0.9
ASAR Alice Springs 80.17 137 P P 08 09 28.4 -0.7
ASAR pmax pmax
comp=Z,9.0nm,0.7s
ASAR Alice Springs 80.17 137 P P 08 09 28.4 -0.7
comp=Z,9.0nm,0.7s,baz=332,slow=5.5,SNR=116
FFC Flin Flon 81.53 5 eP P 08 09 35.8 -0.2
FFC pmax pmax
comp=Z,7.0nm,0.6s
FFC Flin Flon 81.53 5 eP P 08 09 35.8 -0.2
comp=Z,7.4nm,0.6s
EDM Edmonton 81.83 12 eP P 08 09 38.7 +1.0
EDM Edmonton 81.83 12 eP P 08 09 38.7 +1.0
FORT Forrest 83.57 145 eP P 08 09 46.3 -0.5
comp=Z,52nm,0.9s
NEW Newport 85.98 15 P P 08 09 59.2 +0.3
baz=86
DBIC Dimbokro 86.20 276 eP P 08 09 59.9 -0.6
DBIC pmax pmax
comp=Z,24nm,0.8s
DBIC Dimbokro 86.20 276 P P 08 10 00.2 -0.3
comp=Z,21nm,0.5s,baz=28,slow=5.8,SNR=48
DBIC Dimbokro 86.20 276 eP P 08 09 59.9 -0.6
comp=Z,24nm,0.8s
ULM Lac du Bonnet 86.24 1 LR LR 08 54 19.1
comp=Z,52nm,19.5s,baz=356,slow=40
LIC Lamto 86.63 275 ⇑iP P 08 10 02.0 -0.6
comp=Z,36nm,0.6s
LIC Lamto 86.63 275 ⇑iP P 08 10 02.0 -0.6
comp=Z,36nm,0.6s
A19A Klindworth Far 86.65 10 P P 08 10 02.0 -0.3
baz=86
BLMT Blacktail Moun 86.72 14 eP P 08 10 04.0 +1.2
comp=Z,5.7nm,0.9s
A20A Cobblestone Ra 86.80 9 P P 08 10 02.1 -0.9
baz=86
BSMT Bassoo Peak 86.80 14 eP P 08 10 03.9 +0.6
comp=Z,12nm,1.0s
A22A Carney Farms, 86.91 8 P P 08 10 03.2 -0.3
baz=86
JTMT Jette 86.99 14 eP P 08 10 04.6 +0.5
comp=Z,10nm,0.9s
B19A Brinkman Farms 87.09 10 P P 08 10 04.7 +0.3
baz=87
A24A Westby 87.15 7 P P 08 10 05.0 +0.3
baz=87
B20A Solberg Farm, 87.22 9 P P 08 10 05.2 +0.1
baz=87
SWMT Swartz Lake 87.27 14 eP P 08 10 05.5 +0.1
comp=Z,4.8nm,1.0s
A26A Wade Farm, Ken 87.33 5 P P 08 10 05.8 +0.3
baz=87
EGMT Eagleton 87.41 11 P P 08 10 05.5 -0.5
baz=87
B23A Brockton 87.52 7 P P 08 10 06.1 -0.4
baz=87
DGMT Dagmar 87.58 7 P P 08 10 06.4 -0.4
baz=87
SLMT Seeley Lake 87.61 13 eP P 08 10 06.6 -0.5
comp=Z,6.4nm,0.9s
C19A Slack Wire Ran 87.79 10 P P 08 10 07.5 -0.3
baz=87
B28A Dugan Ranch, T 87.88 4 P P 08 10 07.8 -0.4
baz=88
C21A Desert Coulee 87.93 9 P P 08 10 08.6 +0.1
baz=88
MSO Missoula 87.94 14 P P 08 10 08.4 -0.2
baz=88
C20A Veseth Ranch, 87.94 10 P P 08 10 07.8 -0.7
baz=88
B30A Myrvik Farm, E 87.97 3 P P 08 10 08.2 -0.4
baz=88
CHMT Chamberlain Mo 87.97 13 eP P 08 10 08.9 0.0
comp=Z,1.5nm,0.6s
C22A Vida 88.14 8 P P 08 10 09.7 +0.3
baz=88
C23A Lambert 88.16 8 P P 08 10 09.4 -0.1
baz=88
AGMN Agassiz Nation 88.19 1 P P 08 10 08.4 -1.2
baz=88
LBTB Lobatse 88.20 232 eP P 08 10 10.3 +0.3
LBTB pmax pmax
comp=Z,25nm,1.1s
LBTB Lobatse 88.20 232 eP P 08 10 10.2 +0.3
comp=Z,25nm,1.1s
D19A Cripps Ranch, 88.37 10 P P 08 10 10.0 -0.6
baz=88
C26A Wahner Farm, P 88.39 6 P P 08 10 10.5 -0.1
baz=88
C25A Freed Ranch, W 88.42 6 P P 08 10 11.6 +0.9
baz=88
C24A Savage 88.50 7 P P 08 10 11.7 +0.6
baz=88
D20A Manuel Ranch, 88.53 10 P P 08 10 11.3 0.0
baz=88
C27A Sayler Ranch, 88.54 5 P P 08 10 11.9 +0.6
baz=88
TSUM Tsumeb 88.67 242 eP P 08 10 12.1 -0.2
comp=Z,1.1nm,0.7s
D21A La Casta Ranch 88.69 9 P P 08 10 12.2 +0.1
baz=88
D22A Cohagen 88.70 8 P P 08 10 12.4 +0.3
baz=88
D23A Lindsay 88.78 8 P P 08 10 13.0 +0.5
baz=88
I05D Terrebonne, OR 88.80 19 P P 08 10 13.1 +0.5
baz=88
I03D Drain, OR 88.90 21 P P 08 10 14.2 +1.2
baz=89
D24A Glendive 88.92 7 P P 08 10 13.4 +0.3
baz=89
D25A Fairfield 88.97 6 P P 08 10 13.6 +0.3
baz=89
I04A Tendick Farm, 89.05 20 P P 08 10 14.1 +0.3
baz=89
E19A Rath Farm, Rou 89.07 10 P P 08 10 14.1 +0.2
baz=89
E20A Meyer Farm, Mu 89.11 10 P P 08 10 14.3 +0.2
baz=89
D28A Regan 89.12 5 P P 08 10 14.9 +0.9
baz=89
D26A Manning 89.16 6 P P 08 10 14.7 +0.4
baz=89
D30A Buchanan 89.29 3 P P 08 10 15.0 +0.2
baz=89
E22A Miles City 89.43 8 P P 08 10 15.7 +0.1
baz=89
E25A Miller Ranch, 89.61 7 P P 08 10 17.1 +0.7
baz=89
J04D Umpqua Nationa 89.64 20 P P 08 10 18.0 +1.2
baz=89
F19A Roth Farm, Mol 89.65 11 P P 08 10 16.8 +0.2
baz=89
E26A Carlson Angus 89.71 6 P P 08 10 17.0 +0.1
baz=89
E28A Huff 89.73 5 P P 08 10 17.1 +0.2
baz=89
F20A Billings 89.80 10 P P 08 10 17.0 -0.4
baz=89
J05D Fort Rock, OR 89.82 20 P P 08 10 18.8 +1.3
baz=90
MCMT McKenzie Canyo 90.06 13 eP P 08 10 19.5 +0.7
comp=Z,2.8nm,1.1s
F24A Ekalaka 90.16 7 P P 08 10 19.8 +0.8
baz=90
F25A Bowman 90.17 7 P P 08 10 20.0 +0.9
baz=90
K04D Chiloquin, OR 90.31 20 P P 08 10 19.7 -0.1
baz=90
F27A Lemmon 90.34 6 P P 08 10 19.9 +0.1
baz=90
G20A Bridger 90.37 10 P P 08 10 19.9 -0.1
baz=90
F28A McLaughlin 90.44 5 P P 08 10 20.6 +0.3
baz=90
H18A Shoshone NF, C 90.70 11 P P 08 10 22.2 +0.4
baz=90
STKA Stephens Creek 90.77 136 P P 08 10 20.6 -1.1
STKA pmax pmax
comp=Z,8.0nm,0.6s
STKA Stephens Creek 90.77 136 P P 08 10 20.6 -1.1
comp=Z,8.4nm,0.6s,baz=331,slow=5.2,SNR=34
H19A Powell 90.80 11 P P 08 10 22.8 +0.7
baz=90
H17A Grant Village 90.85 12 P P 08 10 24.3 +1.8
baz=90
G26A Maurine 90.87 6 P P 08 10 23.4 +1.1
baz=90
G25A Newell 90.90 7 P P 08 10 23.4 +0.9
baz=90
HLID Hailey 91.01 15 P P 08 10 24.1 +0.9
baz=91
M04C Macdoel 91.08 21 P P 08 10 24.6 +1.1
baz=91
H21A Big Horn, Sher 91.09 9 P P 08 10 23.6 +0.1
baz=91
H20A Greybull 91.11 10 P P 08 10 23.7 +0.2
baz=91
BOSA Boshof 91.17 230 P P 08 10 23.4 -0.4
BOSA pmax pmax
comp=Z,4.0nm,0.9s
BOSA Boshof 91.17 230 P P 08 10 23.4 -0.4
comp=Z,3.5nm,0.9s,baz=76,slow=4.8,SNR=3.6
M02C Callahan 91.18 21 P P 08 10 25.6 +1.8
baz=91
H22A Clearmont 91.21 9 P P 08 10 24.4 +0.4
baz=91
G28A Parade 91.21 5 P P 08 10 24.4 +0.5
baz=91
H24A Dirks Ranch, A 91.24 8 P P 08 10 23.3 -0.8
baz=91
G30A Faulkton 91.25 4 P P 08 10 24.2 +0.1
baz=91
I19A Meeteetse 91.43 11 P P 08 10 26.4 +1.3
baz=91
H25A Fruitdale 91.45 7 P P 08 10 25.8 +0.8
baz=91
H28A Mission Ridge 91.60 5 P P 08 10 26.6 +1.0
baz=91
N02D Trinity Center 91.61 21 P P 08 10 27.2 +1.3
baz=91
I20A Worland 91.63 10 P P 08 10 27.2 +1.3
baz=91
H29A Onida 91.70 5 P P 08 10 26.7 +0.6
baz=91
I21A Big Trails, Te 91.87 10 P P 08 10 27.4 +0.4
baz=92
I22A 9 Mile Ranch, 91.88 9 P P 08 10 27.5 +0.4
baz=92
J19A Crowheart 92.17 11 P P 08 10 29.7 +1.2
baz=92
J20A Shoshoni 92.22 10 P P 08 10 29.5 +0.8
baz=92
J22A Midwest 92.36 9 P P 08 10 29.4 +0.1
baz=92
PDAR Pinedale Array 92.59 12 P P 08 10 30.5 0.0
comp=Z,0.9nm,0.6s,baz=38,slow=3.0,SNR=8.3
PDAR LR LR 08 56 55.3
comp=Z,34nm,19.9s,baz=46,slow=39
ECSD EROS Data Cent 92.74 2 P P 08 10 30.9 0.0
baz=92
J29A Okreek 92.91 5 P P 08 10 31.5 -0.2
baz=92
K25A Mack Ranch, Ha 93.42 7 P P 08 10 34.2 -0.1
baz=93
TCUT Toone Canyon 93.92 13 eP P 08 10 37.9 +1.2
comp=Z,7.2nm,0.7s
M23A Laramie 94.36 9 P P 08 10 39.6 +0.9
baz=94
DUG Dugway 94.57 15 P P 08 10 40.3 +0.7
baz=94
DAU Daniels Canyon 94.63 13 eP P 08 10 41.4 +1.3
DAU pmax pmax
comp=Z,3.0nm,1.1s
DAU Daniels Canyon 94.63 13 eP P 08 10 41.4 +1.3
comp=Z,2.7nm,1.1s
NVAR Mina Array Bea 95.12 19 P P 08 10 43.8 +1.6
comp=Z,1.6nm,0.7s,baz=331,slow=4.0,SNR=15
O22A Kremmling 95.56 10 P P 08 10 44.2 -0.1
baz=95
R11A Troy Canyon, C 95.81 17 P P 08 10 45.4 +0.1
baz=96
PV01 Paradox Valley 97.28 12 eP Pdif 08 10 53.0 +0.8
R26A Arlington 97.74 8 P P 08 10 53.2 -0.8
baz=97
S25A Robets Cordova 98.27 9 P P 08 10 56.3 -0.2
baz=98
S26A Kim 98.41 8 P P 08 10 56.9 -0.1
baz=98
LPAZ La Paz 144.94 314 PKIKP PKPab 08 16 55.5 -0.6
LPAZ pmax pmax
comp=Z,8.0nm,0.7s
LPAZ La Paz 144.94 314 PKPbc PKPab 08 16 55.5 -0.6
comp=Z,7.5nm,0.7s,baz=50,slow=1.9,SNR=40
CPUP Villa Florida 145.76 289 PKP2 PKPdf 08 16 57.5 +0.2
CPUP pmax pmax
comp=Z,11nm,0.7s
CPUP Villa Florida 145.76 289 PKPbc PKPdf 08 16 57.5 +0.2
comp=Z,10nm,0.7s,baz=48,slow=2.5,SNR=18
LVC Limon Verde 150.49 308 ePKPbc PKPbc 08 17 11.8 +0.9

IDC 08 08:21:57.2±25.0, 20.01S×177.69W, h520km±227km, mb3.4/4, mb1 3.5/4, mb1mx3.0/19, mbtmp4.3/4, Error ellipse: s-maj=171.2km s-min=89.2km az=88.0, Fiji Islands region

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

CTA Charters Tower 33.83 264 P P 08 27 56.7 +0.4
6.4nm,0.5s,baz=91,slow=11,SNR=18
STKA Stephens Creek 38.26 244 P P 08 28 32.3 -0.5
1.0nm,0.4s,baz=97,slow=11,SNR=7.6
ASAR Alice Springs 44.91 256 P P 08 29 25.4 -0.2
2.8nm,0.5s,baz=94,slow=7.3,SNR=61
ASAR PcP PcP 08 30 56.5 +0.3
0.3nm,0.6s,baz=107,slow=3.6,SNR=4.5
WRA Warramunga Arr 44.96 261 P P 08 29 25.6 -0.4
1.1nm,0.3s,baz=96,slow=7.6,SNR=96
AKASG Malin Array Be 142.72 332 PKP PKPdf 08 40 30.0 -1.0
0.3nm,0.4s,baz=44,slow=4.2,SNR=7.8

DJA 08 08:28:37.9±1.1,8°S±9°×10°7E±°,h29km±9km,M3.5/8, MLv3.5/8,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.68	46	P	Pn	08 28 51.7	0.0
CISI				S	Sn	08 29 01.0	-0.4
CNJI	Cibinong	0.74	345	P	Pb	08 28 52.3	0.0
CNJI				S	Sn	08 29 02.5	-0.2
CMJI	Cimerak	1.14	78	P	Pn	08 28 58.2	+0.2
CMJI				S	Sn	08 29 11.8	-0.9
LEM	Lembang	1.23	14	P	Pb	08 29 00.2	-0.6
SKJI	Sukabumi	1.27	323	P	Pn	08 28 59.9	+0.2
KPJI	Karang Pucung	1.74	67	P	Pb	08 29 08.0	-1.2
CGJI	Cibinong	2.14	311	P	Pn	08 29 10.7	-1.0
UGM	Wanagama	3.17	88	P	Pn	08 29 25.1	-0.9

IDC 08 08:45:11.2±4.0,19°67S×177°28W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.7/29,mbtmp3.9/4,Error ellipse: s-maj=174.6km s-min=33.1km az=140.0,Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 38.76 243 P P 08 52 36.5 -1.1
1.5nm,0.6s,baz=87,slow=8.4,SNR=10
ASAR Alice Springs 45.37 256 P P 08 53 32.0 +0.2
1.6nm,0.6s,baz=88,slow=8.7,SNR=27
WRA Warramunga Arr 45.39 261 P P 08 53 32.6 +0.7
2.1nm,0.8s,baz=93,slow=8.2,SNR=41
ILAR Eielson Array 87.36 13 P P 08 58 00.3 +0.5
0.1nm,0.5s,baz=211,slow=6.3,SNR=4.6
BRTR Keskin Array B 146.77 314 PKPbc PKPdf 09 04 53.9 -0.1
0.5nm,0.5s,baz=126,slow=3.3,SNR=5.0

ISCJB 08 09:03:58.7±0.9,67°0N±0°2×174°6W±0°2,h10km,mb3.5/8, Error ellipse: s-maj=27.4km s-min=10.2km az=176.6
IDC 08 09:03:58.4±1.2,66°67N×175°05W,h0km,mb3.6/8, mb1 3.9/9,mb1mx3.7/26,mbtmp3.6/9,ML3.0/1,Error ellipse: s-maj=50.6km s-min=17.7km az=12.0
ISC 08 09:04:00.2±1.0,66°9N±0°2×174°60W±0°08,h10km,n10, σ1§64/12,mb3.5/8,Near north coast of eastern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ILAR Eielson Array 11.51 88 Pn Pn 09 06 44.1 -0.2
0.2nm,0.3s,baz=286,slow=13,SNR=20
ILAR Sn Sn 09 08 50.3 -2.4
0.1nm,0.3s,baz=229,slow=22,SNR=4.3
INK Inuvik 15.53 66 Pn Pn 09 07 39.4 +0.5
0.0nm,0.3s,baz=288,slow=11,SNR=4.3
INK Sn Sn 09 10 29.0 -1.6
0.0nm,0.3s,baz=49,slow=20,SNR=2.4
YKA Yellowknife Ar 25.13 71 P P 09 09 24.8 0.0
0.3nm,0.8s,baz=305,slow=9.2,SNR=6.3
PDAR Pinedale Array 41.90 92 P P 09 11 53.2 +2.5
0.4nm,0.7s,baz=357,slow=3.0,SNR=3.6
NVAR Mina Array Bea 42.20 103 P P 09 11 54.2 +1.1
0.6nm,0.8s,baz=325,slow=7.7,SNR=4.4
ZALV Zalesovo Beam 45.73 306 P P 09 12 21.2 +0.2
0.5nm,0.3s,baz=35,slow=7.9,SNR=4.5
MKAR Makanchi Array 52.71 303 P P 09 13 13.0 -1.5
0.4nm,0.7s,baz=28,slow=6.5,SNR=4.4
TXAR Lajitas Array 55.91 95 P P 09 13 38.7 +0.6
0.4nm,0.8s,baz=316,slow=7.6,SNR=5.1
AKASG Malin Array Be 61.38 343 P P 09 14 16.9 +1.2
1.0nm,0.6s,baz=13,slow=6.2,SNR=4.1
CMAR Chiang Mai Arr 71.81 274 P P 09 15 20.9 -1.9
1.0nm,0.3s,baz=17,slow=6.6,SNR=3.6

IDC 08 09:18:23.6±1.8,16°79S×178°22W,h0km,mb4.4/4, mb1 4.7/4,mb1mx3.9/27,mbtmp4.4/4,Error ellipse: s-maj=145.7km s-min=31.3km az=155.0
ISCJB 08 09:18:27.0±1.3,16°9S±0°5×178°3W±0°3,h33km,mb4.3/4, Error ellipse: s-maj=71.9km s-min=24.2km az=154.6
ISC 08 09:18:28.6±1.6,17°1S±0°7×178°2W±0°4,h35km,n11, σ1§06/10,mb4.4/4,Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 39.24 240 P P 09 25 55.2 +1.4
4.0nm,0.5s,baz=96,slow=9.9,SNR=15
STKA Stephens Creek 39.24 240 P P 09 25 55.2 +1.4
baz=39,SNR=10
HTT Hallett 41.77 239 P P 09 26 15.1 +0.3
baz=42,SNR=7.7
BBOO Buckleboo 44.02 240 P P 09 26 32.4 -0.5
baz=44,SNR=16
WRA Warramunga Arr 45.03 259 P P 09 26 41.0 -0.2
2.0nm,0.4s,baz=94,slow=7.4,SNR=82
ASAR Alice Springs 45.26 253 P P 09 26 43.0 -0.1
18nm,0.6s,baz=88,slow=8.3,SNR=404
KDU Kakadu 47.83 268 P P 09 27 03.8 +0.6
baz=48,SNR=4.0
WRKA Warakurna 50.33 251 P P 09 27 20.7 -1.7
baz=51,SNR=63
KNRA Kununurra 50.82 263 P P 09 27 25.3 -0.7
baz=51,SNR=5.1
MEEK Meekatharra 58.95 249 P P 09 28 20.4 -4.5
baz=59,SNR=3.9
TXAR Lajitas Array 85.35 58 P P 09 31 02.8 +0.1
0.3nm,0.8s,baz=246,slow=6.8,SNR=4.2

IDC 08 09:25:33.9±623.0,30°03N×77°35W,h0km,Error ellipse: s-maj=297.4km s-min=198.4km az=40.0,Off east coast of United States

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I51GB BERMUDA INFRAS11.08 75 *i* 10 33 40.0
baz=264,slow=297,SNR=0.7
I10CA LAC DU BONNET 24.57 330 *i* 11 56 20.0
baz=138,slow=333,SNR=1.2
I56US NEWPORT INFRAS35.33 312 *i* 13 23 30.0
baz=112,slow=331,SNR=17
I18DK QAANAAQ INFRAS37.67 2 *i* 14 35 05.0
baz=182,slow=322,SNR=2.5

IDC 08 09:54:29.5±2.2,46°84N×152°73E,h51km±8km,mb3.3/7, mb1 3.5/8,mb1mx3.3/26,mbtmp3.6/8,MS3.7/1,Ms1 3.7/1, ms1mx2.5/24,Error ellipse: s-maj=55.1km s-min=26.4km az=173.0
MOS 08 09:54:31.8±0.9,47°20N×152°61E,h74km,mb4.4/2,Error ellipse: s-maj=39.9km s-min=18.0km az=65.5
ISC 08 09:54:31.5±1.2,47°0N±0°2×153°0E±0°2,h67km,n13, σ1§46/15,mb3.5/7,1C,Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 3.98 246⇑*i*PN Pn 09 55 30.1 +0.1
KUR *i* S Sn 09 56 16.5 +1.1
KUR pmax pmax
comp=Z,16nm,0.5s
KUR smax smax
comp=E,31nm,0.9s
KUR smax smax
comp=N,54nm,0.5s
KUR pmax pmax
comp=N,78nm,1.5s
SKR Severo-Kuril's 4.25 28 *e*PN Pn 09 55 24.0 -10
PETK Petropavlovsk- 6.85 24 P Pn 09 56 10.1 +0.9
comp=N,0.3nm,0.3s,baz=201,slow=7.7,SNR=3.6
ILAR Eielson Array 36.42 39 P P 10 01 29.6 +0.4
comp=N,0.3nm,0.9s,baz=262,slow=8.7,SNR=4.8
ILAR pP pP 10 01 43.6 -1.9
comp=N,0.2nm,0.5s,baz=277,slow=5.1,SNR=1.5
INK Inuvik 41.51 33 P P 10 02 13.6 +2.0
comp=N,0.4nm,0.5s,baz=284,slow=5.3,SNR=3.3
ZALV Zalesovo Beam 42.44 306 LR LR 10 22 46.3
comp=N,84nm,18.8s,baz=248,slow=40
MKAR Makanchi Array 46.79 297 P P 10 02 52.8 -1.3
comp=N,0.3nm,0.8s,baz=69,slow=8.2,SNR=3.0
YKA Yellowknife Ar 50.79 37 P P 10 03 25.9 +1.5
comp=N,0.4nm,0.7s,baz=297,slow=7.3,SNR=6.7
YKA pP pP 10 03 39.4 -2.1
comp=N,0.2nm,0.5s,baz=298,slow=7.1,SNR=4.5
FINES FINESS Array B 63.82 335 P P 10 04 55.7 -0.5
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 63.82 335 P P 10 04 55.7 -0.5
comp=Z,1.2nm,0.8s,baz=58,slow=8.4,SNR=5.8
AKASG Malin Array Be 71.34 326 P P 10 05 43.7 0.0
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 71.34 326 P P 10 05 43.7 0.0
comp=Z,0.8nm,0.3s,baz=31,slow=6.1,SNR=5.6
TXAR Lajitas Array 77.44 61 P P 10 06 20.8 +1.2
comp=Z,0.2nm,0.5s,baz=299,slow=4.8,SNR=7.4
TXAR pP pP 10 06 35.5 -2.3
comp=Z,0.2nm,0.5s,baz=292,slow=4.2,SNR=3.4

ISCJB 08 09:59:53.2±0.6,35°60N±0°05×139°38E±0°08, h120km±4km,mb3.7/3,Error ellipse: s-maj=11.8km s-min=6.7km az=151.9
JMA 08 09:59:54.7±0.1,35°59N×139°40E,h107km±1km,M2.9
IDC 08 09:59:54.6±2.9,35°60N×139°39E,h118km±18km,mb3.3/3, mb1 3.5/4,mb1mx3.0/26,mbtmp3.6/4,Error ellipse: s-maj=82.7km s-min=27.4km az=60.0
ISC 08 09:59:54.4±1.0,35°60N±0°05×139°36E±0°07,h113km±7km, n14,σ0§79/24,mb3.6/3,Near south coast of eastern Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JOD2 Odawara 2 0.40 214 P Pn 10 00 10.6 -0.5
JOD2 *e*S Sn 10 00 22.7 -0.9
JRY Ryogami san 0.56 318 P Pn 10 00 12.4 +0.3
JRY *e*S Sn 10 00 25.7 +0.3
JYN Shimob 0.68 262 P Pn 10 00 13.0 0.0
JYN S Sn 10 00 27.4 +0.5
JAG Ashikaga 0.83 5 P Pn 10 00 14.3 +0.1
JAG *e*S Sn 10 00 28.7 -0.5
JIM2 Oshima 3 0.88 176 P Pn 10 00 14.7 0.0
JIM2 *e*S Sn 10 00 29.7 -0.3
JIZS Izushimoda 0.96 204 P Pn 10 00 15.6 +0.1
JIZS *e*S Sn 10 00 31.9 +0.5
MJAR Matsushiro Arr 1.33 316 P Pn 10 00 19.9 +0.5
6.7nm,0.3s,baz=145,slow=11,SNR=105
MJAR S Sn 10 00 38.7 +0.3
25nm,0.3s,baz=121,slow=26,SNR=21
MAT Matsushiro 1.33 316 P Pn 10 00 19.5 +0.1
MAT S Sn 10 00 37.8 -0.6
MAT Matsushiro 1.33 316 P Pn 10 00 19.7 +0.3
MAT *e*S Sn 10 00 38.2 -0.2
BSO1 Boso 1 1.62 125 P Pn 10 00 22.5 +0.2
BSO1 *e*S Sn 10 00 45.0 +1.3
KSRS Korea Array 9.39 285 P Pn 10 02 09.2 +2.6
0.1nm,0.3s,baz=98,slow=14,SNR=5.5
KURBB Kurchatov Arra 45.59 309 P P 10 08 02.5 -0.5
0.2nm,0.3s,baz=86,slow=8.1,SNR=4.4
WRA Warramunga Arr 55.44 186 P P 10 09 16.4 -0.8
1.5nm,0.5s,baz=1.4,slow=7.6,SNR=52
ASAR Alice Springs 59.17 186 P P 10 09 43.2 -0.1
0.3nm,0.5s,baz=358,slow=5.6,SNR=9.9

CSEM 08 10:04:31.9±0.3,34°46N×24°06E,h20km,ML3.0,Error ellipse: s-maj=11.2km s-min=6.5km az=63.0
ISCJB 08 10:04:31.5±0.5,34°40N±0°03×24°04E±0°06,h51km±6km, mb3.6/7,MS3.6/1,Error ellipse: s-maj=9.0km s-min=5.2km az=170.1
ATH 08 10:04:32.2,34°58N×23°99E,h30km±1km,MD3.5/8
IDC 08 10:04:33.0±2.1,34°37N×24°13E,h45km±17km,mb3.5/7, mb1 3.6/12,mb1mx3.4/43,mbtmp3.7/12,ML3.5/5,MS3.6/1, Ms1 3.6/1,ms1mx2.7/34,Error ellipse: s-maj=24.8km s-min=17.1km az=120.0
HLW 08 10:04:34.6,34°46N×24°17E,h33km±32km,Md3.4,Ml3.1
THE 08 10:04:42.4,35°45N×24°51E,h27km±4km,ML3.0/1,Error ellipse: s-maj=6.1km s-min=1.1km az=213.0
ISC 08 10:04:31.7±1.2,34°47N±0°03×24°02E±0°04,h31km±9km, n56,σ1§03/64,mb3.7/7,Crete

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GVD Gavdhos 0.38 8 *e*PB Pb 10 04 39.5 -0.9
GVD Gavdhos 0.38 8 *e*Pb Pb 10 04 39.5 -0.9
SIVA Sivas 0.85 49 *e*PN Pb 10 04 48.4 +0.4
SIVA *e*SN Sn 10 04 59.6 +0.7
SIVA Sivas 0.85 49 *e*Pn Pb 10 04 48.4 +0.4
SIVA *e*Sn Sn 10 04 59.6 +0.7
VAM Vamos 0.95 9 P Pn 10 04 48.7 -0.2
VAM Vamos 0.95 9 *e*PN Pn 10 04 48.5 -0.4
VAM *e*SN Sn 10 05 01.5 +0.1
VAM Vamos 0.95 9 *e*Pn Pn 10 04 48.5 -0.4
VAM *e*Sn Sn 10 05 01.5 +0.1
IDI Anoyia 1.09 41 P Pn 10 04 51.1 +0.2
64nm,0.3s,baz=226,slow=14,SNR=80
IDI S Sb 10 05 06.8 +0.9
62nm,0.3s,baz=315,slow=19,SNR=18
IDI LR LR 10 05 32.4
comp=Z,182nm,18.8s,baz=258,slow=54
LAST Lasithi 1.38 59 P Pb 10 04 56.9 -0.1
LAST Lasithi 1.38 59 *e*PN Pb 10 04 56.8 -0.2
LAST Lasithi 1.38 59 *e*Pn Pb 10 04 56.8 -0.2
ANKY Antikythira Is 1.52 337 P Pb 10 05 00.5 +1.3
ANKY Antikythira Is 1.52 337 *e*PN Pb 10 04 57.4 +0.7
ANKY Antikythira Is 1.52 337 *e*Pn Pb 10 04 57.4 +0.7
ANKY Antikythira Is 1.52 337 P Pb 10 05 00.5 +1.3
NPS Neapolis 1.53 58 P Pb 10 04 58.9 -0.5
NPS Neapolis 1.53 58 *e*PN Pb 10 04 58.9 -0.5
NPS Neapolis 1.53 58 *e*Pn Pb 10 04 58.9 -0.5
ZKR Zakros 1.92 70 *e*PB Pb 10 05 04.9 -1.1
ZKR Zakros 1.92 70 *e*Pb Pb 10 05 04.9 -1.1
KYTH Kithira 1.98 336 P Pb 10 05 06.2 -0.9
KYTH Kithira 1.98 336 *e*PN Pn 10 05 04.2 +1.1
KYTH Kithira 1.98 336 *e*Pn Pn 10 05 04.2 +1.1
KYTH Kithira 1.98 336 P Pb 10 05 06.2 -0.9
VLI Veliai 2.42 339 P Pn 10 05 10.9 +1.9
VLI Veliai 2.42 339 *e*PB Pn 10 05 10.9 +1.9
VLI Veliai 2.42 339 P Pn 10 05 10.9 +1.9
VLI Veliai 2.42 339 *e*Pn Pn 10 05 10.9 +1.9
KARP Karpathos 2.79 66 *e*PN Pn 10 05 16.3 +2.1
KARP Karpathos 2.79 66 *e*Pn Pn 10 05 16.3 +2.1
DID Didima 3.10 348 P Pn 10 05 18.1 -0.4
DID S Sn 10 05 44.9 -10
DID Didima 3.10 348 *e*PN Pn 10 05 18.8 +0.3
DID Didima 3.10 348 P Pn 10 05 18.1 -0.4
DID Didima 3.10 348 *e*Pn Pn 10 05 18.8 +0.3
DID S Sn 10 05 44.9 -10
SLUM 3.13 161 P Pn 10 05 20.2 +1.4
baz=163
SLUM S Sn 10 05 54.6 -0.5
baz=163
SLUM 3.13 161 P Pn 10 05 20.2 +1.4
SLUM S Sn 10 05 54.6 -0.5
GUR Goura 3.72 339 *e*PN Pn 10 05 28.3 +1.2
GUR Goura 3.72 339 *e*Pn Pn 10 05 28.3 +1.2
HMAT Matruh 4.24 142 P Pn 10 05 35.3 +1.2
baz=142
HMAT AMP 10 06 00.0
comp=E,50μm,0.4s,logA/T=5.1,baz=142
HMAT Matruh 4.24 142 P Pn 10 05 35.3 +1.2
SWA2 5.35 166 P Pn 10 05 50.2 +0.9
baz=167
SWA2 S Sn 10 06 47.9 -1.9
baz=167
SWA2 5.35 166 P Pn 10 05 50.2 +0.9
SWA2 S Sn 10 06 47.9 -1.9
KOT Kottamia 8.01 122 P Pn 10 06 26.1 +0.1
baz=122
KOT Kottamia 8.01 122 P Pn 10 06 26.1 +0.1
BRTR Keskin Array B 9.30 53 P Pn 10 06 45.2 +1.5
comp=E,0.1nm,0.3s,baz=235,slow=14,SNR=3.3
MMAI Mount Meron Ar 9.59 95 P Pn 10 06 46.3 -1.3
comp=E,1.1nm,0.3s,baz=281,slow=16,SNR=2.3
MMAI S Sn 10 08 26.1 -8.1
comp=E,5.1nm,0.3s,baz=295,slow=24,SNR=4.4
EIL Elat 10.43 114 P Pn 10 06 58.0 -1.1
comp=E,1.0nm,0.3s,baz=283,slow=17,SNR=9.0
EIL S Sn 10 08 46.2 -8.6
comp=E,1.6nm,0.3s,baz=180,slow=20,SNR=8.7
GERES GERESS Array B 16.28 335 P P 10 08 20.9 +0.2
comp=E,0.1nm,0.3s,baz=151,slow=12,SNR=3.0
KBZ Khabaz 17.30 52 P P 10 08 32.6 +0.7
comp=E,0.1nm,0.3s,baz=232,slow=12,SNR=4.8
HFS Hagfors 26.55 348 P P 10 10 06.6 +0.1
comp=E,1.6nm,0.8s,baz=160,slow=8.9,SNR=4.9
TORD Torodi Ar. Bea 29.33 229 P P 10 10 32.1 +0.4
comp=E,0.4nm,0.5s,baz=37,slow=7.7,SNR=7.0
AKTO Aktyubinsk 29.41 47 P P 10 10 30.6 -1.5
comp=E,0.7nm,0.4s,baz=237,slow=9.4,SNR=4.4
BVAR Borovoye Array 37.50 46 LR LR 10 29 46.6
comp=E,82nm,18.7s,baz=314,slow=40
KURBB Kurchatov Arra 42.28 50 P P 10 12 21.8 -0.3
comp=E,0.2nm,0.3s,baz=265,slow=8.4,SNR=2.6
MKAR Makanchi Array 44.94 56 P P 10 12 43.5 -0.1
comp=E,0.7nm,0.6s,baz=270,slow=7.4,SNR=11
ZALV Zalesovo Beam 46.16 46 P P 10 12 51.9 -1.2
comp=E,0.9nm,0.4s,baz=266,slow=9.2,SNR=7.0
SONM Songino Array 60.65 50 P P 10 14 40.3 +0.5
comp=E,0.3nm,0.6s,baz=297,slow=5.9,SNR=3.4

ISCJB 08 10:06:24.1±0.9,6°4S±0°2×154°8E±0°1,h56km,mb3.6/7, Error ellipse: s-maj=28.4km s-min=10.9km az=145.8
IDC 08 10:06:27.9±5.6,6°35S×154°77E,h81km±46km,mb3.4/7, mb1 3.7/8,mb1mx3.5/24,mbtmp3.8/8,ML3.1/1,MS2.6/2, Ms1 2.6/2,ms1mx2.4/18,Error ellipse: s-maj=42.2km s-min=23.9km az=114.0
ISC 08 10:06:25.2±1.0,6°4S±0°2×154°9E±0°2,h56km,n10, σ1§17/11,mb3.6/7,Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 5.86 122 LR LR 10 10 01.5
comp=Z,29nm,18.1s,baz=282,slow=36
PMG Port Moresby 8.25 248 P Pn 10 08 23.9 +1.6
1.3nm,0.3s,baz=33,slow=10,SNR=11
PMG S Sn 10 09 53.0 -1.2
0.5nm,0.3s,baz=156,slow=20,SNR=3.2
PMG LR LR 10 11 00.8
comp=Z,61nm,19.8s,baz=102,slow=34
WRA Warramunga Arr 24.12 234 P P 10 11 35.1 -0.9
0.9nm,0.5s,baz=59,slow=9.1,SNR=11
ASAR Alice Springs 26.54 227 P P 10 11 57.4 -0.6
1.2nm,0.7s,baz=60,slow=8.9,SNR=25
ASAR PcP PcP 10 15 21.1 -0.5
0.5nm,0.6s,baz=59,slow=2.6,SNR=8.9
STKA Stephens Creek 28.28 204 P P 10 12 13.8 +0.4
1.6nm,0.8s,baz=24,slow=12,SNR=4.3
SONM Songino Array 68.75 327 P P 10 17 23.3 -0.1
0.5nm,0.5s,baz=146,slow=6.2,SNR=5.0
ILAR Eielson Array 82.81 22 P P 10 18 42.3 -0.8
0.5nm,0.8s,baz=247,slow=5.4,SNR=11
MKAR Makanchi Array 82.86 319 P P 10 18 44.7 +0.9
0.4nm,0.8s,baz=103,slow=6.3,SNR=3.9
NVAR Mina Array Bea 91.39 52 P P 10 19 26.6 +0.9
0.2nm,0.5s,baz=247,slow=6.6,SNR=3.0
TORD Torodi Ar. Bea 152.76 286 PKPbc PKPbc 10 26 15.2 -1.7
0.3nm,0.7s,baz=67,slow=2.0,SNR=2.6

CSEM 08 10:15:28.6±0.8,59°31N×27°41E,h1km,ML2.2,Error ellipse: s-maj=24.6km s-min=10.4km az=99.0,Mining explosion.
ISCJB 08 10:15:28.5±0.7,59°28N±0°04×27°0E±0°1,h0km,Error ellipse: s-maj=8.3km s-min=5.5km az=174.8
HEL 08 10:15:29.0±0.2,59°34N×27°20E,h0km,ML1.7,Explosion
BER 08 10:15:29.7±1.9,59°31N×27°09E,h0km,ML2.2(NAO), Suspected explosion
NAO 08 10:15:29.3±1.0,59°28N×26°89E,ML2.2
IDC 08 10:15:32.6±1.1,59°44N×26°94E,h0km,mb1 3.3/3, mb1mx3.0/39,mbtmp3.2/3,ML2.6/3,Error ellipse: s-maj=13.3km s-min=8.1km az=88.0
ISC 08 10:15:29.1±0.9,59°31N±0°03×27°09E±0°05,h0km,n35, σ1§41/49,Baltic States - Belarus - Northwestern Russia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VSU Vasula 0.88 192 Pg Pg 10 15 45.6 -0.2
VSU Lg Lg 10 15 56.6
VSU Vasula 0.88 192 Pg Pg 10 15 45.6 -0.2
VSU Lg Lg 10 15 56.6
VSU Vasula 0.88 192 Pg Pg 10 15 45.6 -0.2
VSU Lg Lg 10 15 56.6
SNR=141
VJF Virojoki 1.25 11 *e*P Pg 10 15 53.0 -0.1
VJF *e*SB Sb 10 16 10.3 +0.2
VJF MSG 10 16 10.8
comp=Z,7.2nm,0.2s
VJF Virojoki 1.25 11 P Pg 10 15 52.9 -0.1
VJF Sb Sb 10 16 10.3 +0.2
PVF Pernaja 1.38 334 *e*PG Pg 10 15 55.6 +0.1
PVF MSG Sb 10 16 13.4 -0.5
comp=Z,3.3nm,0.2s
PVF *e*SB Sb 10 16 13.4 -0.5
PVF Pernaja 1.38 334 Pg Pg 10 15 55.6 +0.1
MEF Metsahovi 1.64 305 *e*PN Pg 10 16 00.5 0.0
MEF *e*SG Sg 10 16 21.4 -0.2
MEF MSG 10 16 21.6
comp=Z,4.7nm,0.1s
MEF Metsahovi 1.64 305 Pn Pg 10 16 00.5 0.0
FIA0 FINESS Array S 2.20 347 Pn Pn 10 16 07.5 +0.7
baz=167,slow=18
FIA0 Pg Pb 10 16 09.4 -0.2
baz=170,slow=18
FIA0 Lg Lg 10 16 38.2
baz=170,slow=37
FIA0 Rg Rg 10 16 51.5
baz=167,slow=37
FIA0 FINESS Array S 2.20 347 Pn Pn 10 16 07.5 +0.7
baz=167,slow=18
FIA0 Pg Pb 10 16 09.4 -0.2
baz=170,slow=18
FIA0 Lg Lg 10 16 38.2
baz=170,slow=37
FIA0 Rg Rg 10 16 51.5
baz=167,slow=37
FIA0 FINESS Array S 2.20 347 *e*P Pn 10 16 08.1 +1.3
FIA0 *e*PB Pb 10 16 09.5 -0.2
FIA0 MSG Sb 10 16 37.9 +0.6
comp=Z,3.9nm,0.2s
FIA0 *e*SG Sb 10 16 37.9 +0.6
FIA0 FINESS Array S 2.20 347 Pn Pn 10 16 07.5 +0.7
SNR=4.2
FIA0 FINESS Array S 2.20 347 P Pn 10 16 08.1 +1.3
FIA0 FINESS Array S 2.20 347 Pg Pb 10 16 09.4 -0.2
FIA0 FINESS Array S 2.20 347 Pb Pb 10 16 09.5 -0.2
FIA0 Sg Sb 10 16 37.9 +0.6
FIA0 Lg Lg 10 16 38.2
SNR=117
FINES FINESS Array B 2.20 347 Pg Pn 10 16 08.0 +1.3
comp=Z,1.4nm,0.3s,baz=167,slow=18,SNR=40
FINES Lg Lg 10 16 38.1
comp=Z,2.0nm,0.3s,baz=169,slow=29,SNR=20
KAF Kangasniemi 2.83 353 *e*P Pn 10 16 17.4 +1.9
KAF MSG Sn 10 16 51.7 +1.3
comp=Z,1.9nm,0.3s
KAF *e*S Sn 10 16 51.7 +1.3
KAF Kangasniemi 2.83 353 P Pn 10 16 17.4 +1.9
KAF S Sn 10 16 51.7 +1.3
KEF Keuruu 3.06 340 *e*P Pn 10 16 21.0 +2.2
KEF *e*SG Sg 10 17 04.7 -2.8
KEF MSG 10 17 04.7
comp=Z,2.5nm,0.2s
KEF Keuruu 3.06 340 P Pn 10 16 20.9 +2.2
RAF Rauma 3.17 305 *e*P Pn 10 16 22.2 +2.0
RAF Rauma 3.17 305 P Pn 10 16 22.1 +2.0
JOF Joensuu 4.16 28 *e*P Pn 10 16 35.6 +1.9
HFS Hagfors 6.83 283 Lg Lg 10 18 59.8
baz=93,slow=37
HFS Hagfors 6.83 283 Lg Lg 10 18 59.8
baz=93,slow=37
HFS Hagfors 6.83 283 Pn Pn 10 17 10.5 +0.1
comp=Z,0.1nm,0.3s,baz=97,slow=12,SNR=2.1
HFS Sn Sn 10 18 25.4 -3.3
comp=Z,0.0nm,0.3s,baz=92,slow=26,SNR=3.3
HFS Lg Lg 10 18 60.0
comp=Z,0.4nm,0.3s,baz=87,slow=29,SNR=4.5
AKASG Malin Array Be 8.72 171 Pn Pn 10 17 36.7 +0.4

comp=Z,0.3nm,0.3s,baz=354,slow=13,SNR=3.5
APA0 Apatity Array 8.73 15 Pn **Pn 10 17 34.0 -2.4**
APA0 Apatity Array 8.73 15 Pn **Pn 10 17 34.0 -2.4**
APA0 Apatity Array 8.73 15 Pn **Pn 10 17 34.0 -2.4**
ARA0 ARCESS Array S 10.29 357 Pn **Pn 10 17 55.9 -1.8**
baz=172,slow=16
ARA0 Sn Sn 10 19 45.8 -7.8
baz=176,slow=28
ARA0 ARCESS Array S 10.29 357 Pn **Pn 10 17 55.9 -1.8**
baz=172,slow=16
ARA0 Sn Sn 10 19 45.8 -7.8
baz=176,slow=28
ARA0 ARCESS Array S 10.29 357 Pn **Pn 10 17 55.9 -1.8**
SNR=8.7
ARCES ARCESS Array B 10.29 357 Pn **Pn 10 17 56.1 -1.6**
comp=Z,0.1nm,0.3s,baz=172,slow=15,SNR=5.9
ARCES Sn Sn 10 19 46.0 -7.6
comp=Z,0.1nm,0.3s,baz=175,slow=24,SNR=2.3

IDC 08 10:25:41.9±1.7, 4.71N×76.57W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/22, mbtmp3.3/3, ML2.1/1, Error ellipse: s-maj=54.1km s-min=34.3km az=14.0, Colombia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ROSC El Rosal 2.24 86 Pn Pn 10 26 20.7 -0.1
10nm,0.3s,baz=325,slow=5.4,SNR=9.2
YKA Yellowknife Ar 64.11 341 P P 10 36 17.4 -0.3
0.2nm,0.6s,baz=136,slow=6.3,SNR=9.4
ILAR Eielson Array 77.44 336 P P 10 37 39.2 +0.3
0.2nm,0.6s,baz=119,slow=6.5,SNR=4.6
ASAR Alice Springs 145.10 234 PKPbc PKPbc 10 45 21.0 -0.8
0.4nm,0.4s,baz=122,slow=3.7,SNR=9.2

KRSC 08 10:25:57.1±1.2, 52.16N×158.88E, h81km±12km, ML4.4
ISCJB 08 10:25:58.4±0.4, 52.23N±0.04×158.66E±0.06, h96km±2km, mb3.9/26, Error ellipse: s-maj=7.7km s-min=3.8km az=42.0
MOS 08 10:25:58.5±1.2, 52.33N×158.51E, h97km, mb4.3/11, Error ellipse: s-maj=13.4km s-min=6.5km az=77.0
NEIC 08 10:26:00.3±0.6, 52.37N×158.44E, h97km±5km, mb4.4/3, Error ellipse: s-maj=10.1km s-min=6.9km az=146.0
IDC 08 10:26:01.9±0.9, 52.44N×158.27E, h108km±5km, mb3.6/22, mb1 3.8/24, mb1mx3.6/46, mbtmp3.9/24, MS3.9/1, Ms1 3.8/1, ms1mx2.7/30, Error ellipse: s-maj=15.2km s-min=11.1km az=146.0
ISC 08 10:25:58.6±0.6, 52.22N±0.04×158.70E±0.04, h85km±4km, n114, σ1.33/129, mb4.0/26, 1C, Near east coast of Kamchatka Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RUS Russkaya 0.24 332 PN **Pn 10 26 11.3 +0.3**
RUS S **Sn 10 26 20.2 -0.1**
RUS Russkaya 0.24 332 *i* P **Pn 10 26 11.3 +0.3**
RUS *i* S **Sn 10 26 20.2 -0.1**
MTVR Mutnovka 0.41 310 *i* P **Pn 10 26 12.8 +0.5**
MTVR *i* S **Sn 10 26 23.1 +0.7**
ASAK Asacha 0.52 289 *i* P **Pn 10 26 13.9 +0.9**
ASAK *i* S **Sn 10 26 25.2 +1.5**
PET Petropavlovsk 0.81 358 ⇑*i*PN **Pn 10 26 16.2 +0.5**
PET *e*S **Sn 10 26 28.2 -0.2**
PET pmax pmax
comp=Z,1μm,0.6s
PET smax smax
comp=N,5μm,0.7s
PET Petropavlovsk 0.81 358 *i* P **Pn 10 26 16.2 +0.5**
PET *i* S **Sn 10 26 29.0 +0.6**
PET Petropavlovsk 0.81 358 *e*Pn **Pn 10 26 16.1 +0.5**
PET *e*Sn **Sn 10 26 27.8 -0.6**
UGLR Uglovaya 0.99 4 *i* P **Pn 10 26 19.0 +1.1**
UGLR *i* S **Sn 10 26 32.9 +0.5**
NLC Nalytchevo 1.03 22 PN **Pn 10 26 18.1 -0.1**
NLC S **Sn 10 26 32.1 -0.8**
NLC Nalytchevo 1.03 22 *i* P **Pn 10 26 18.1 -0.1**
NLC *i* S **Sn 10 26 31.9 -1.0**
AVH Avacha 1.05 1 *i* P **Pn 10 26 19.8 +1.3**
AVH *i* S **Sn 10 26 35.4 +1.9**
SMAR Somma 1.05 3 *i* P **Pn 10 26 19.4 +0.7**
SMAR *i* S **Sn 10 26 34.1 +0.4**
SDLR Sedlovina 1.07 6 *i* P **Pn 10 26 19.3 +0.5**
SDLR *i* S **Sn 10 26 34.2 +0.3**
KOK Koryaka 1.07 358 *i* P **Pn 10 26 20.3 +1.4**
KOK *i* S **Sn 10 26 35.7 +1.6**
PEA0B Petropavlovsk- 1.08 326 *e*Pn **Pn 10 26 19.7 +0.9**
PEA0B *e*Sn **Sn 10 26 35.6 +1.6**
PETK Petropavlovsk- 1.08 326 PN **Pn 10 26 19.8 +1.0**
PETK S **Sn 10 26 36.0 +2.0**
PETK pmax pmax
comp=Z,155nm,0.3s
PETK smax smax
comp=N,85nm,0.3s
PETK Petropavlovsk- 1.08 326 P **Pn 10 26 19.8 +1.0**
comp=N,155nm,0.3s,baz=125,slow=17,SNR=2172
PETK S **Sn 10 26 36.0 +2.0**
comp=N,85nm,0.3s,baz=125,slow=20,SNR=13
PETK LR LR 10 26 51.6
comp=N,284nm,18.2s,baz=86,slow=66
KRER Koryakskii 1.09 2 *i* P **Pn 10 26 20.3 +1.2**
KRER *i* S **Sn 10 26 35.7 +1.2**
KRX Arik 1.14 358 *i* P **Pn 10 26 20.8 +1.1**
KRX *i* S **Sn 10 26 36.7 +1.1**
APC Apacha 1.18 307 *i* P **Pn 10 26 21.2 +1.2**
APC *i* S **Sn 10 26 38.1 +2.1**
SPN Mys Shipunski 1.19 42 PN **Pn 10 26 21.1 +0.9**
SPN S **Sn 10 26 36.8 +0.4**
SPN Mys Shipunski 1.19 42 *e*P **Pn 10 26 21.1 +0.9**
SPN *e*S **Sn 10 26 36.8 +0.4**
MIPR Malaya Ipel'ka 1.20 273 *i* P **Pn 10 26 21.4 +1.2**
MIPR *i* S **Sn 10 26 38.8 +2.3**
PAU Pauzhetka 1.39 238 PN **Pn 10 26 23.9 +1.2**
PAU S **Sn 10 26 42.5 +1.7**
PAU Pauzhetka 1.39 238 *i* P **Pn 10 26 23.9 +1.2**
PAU *i* S **Sn 10 26 42.5 +1.7**
GNL Ganaly 1.55 343 *i* P **Pn 10 26 25.7 +0.9**
GNL *e*S **Sn 10 26 45.7 +1.1**
KII Karymskiy 1.88 14 *e*P **Pn 10 26 30.9 +1.9**
KII *e*S **Sn 10 26 54.7 +2.6**
SKR Severo-Kuril's 2.23 227 *e*PN Pn 10 26 27.8 -5.8
SKR pmax pmax
comp=E,60nm,0.5s
SKR pmax pmax
comp=Z,80nm,0.5s
SKR Severo-Kuril's 2.23 227 *i* P **Pn 10 26 34.7 +1.1**
SKR *e*S **Sn 10 27 01.7 +1.3**
TUMR Tumrok 3.19 15 *i* P **Pn 10 26 48.2 +1.6**
KMNR Kamenistaya 3.66 14 *e*P Pn 10 26 56.2 +3.3
ESO Esso 3.71 360 PN **Pn 10 26 55.0 +1.4**
ESO Esso 3.71 360 *i* P **Pn 10 26 55.0 +1.4**
KOZ Kozyrevsk 3.91 10 *e*P **Pn 10 26 57.5 +1.3**
KOZR Kozyr 3.92 10 PN **Pn 10 26 57.5 +1.1**
SRDR Sredinnyy 4.15 8 *e*P **Pn 10 27 01.6 +2.1**
SMKR Semkarok 4.66 19 *e*P **Pn 10 27 09.3 +2.8**
KBTR Krutoberegovo 4.67 30 PN **Pn 10 27 07.6 +1.1**
KBTR Krutoberegovo 4.67 30 *e*P **Pn 10 27 07.6 +1.1**
SRKR Sorokina 4.67 17 *e*P **Pn 10 27 08.7 +2.1**
KBG Krutoberegovo 4.67 29 PN Pn 10 27 09.9 +3.3
KBG Krutoberegovo 4.67 29 *e*P Pn 10 27 09.9 +3.3
BKI Bering 5.25 52 PN **Pn 10 27 14.5 +0.1**
BKI Bering 5.25 52 *e*P **Pn 10 27 14.5 +0.1**
BKI *e*S Sn 10 28 08.1 -5.5
FX1 Attu Island--F 8.84 80 P **Pn 10 28 04.7 +1.3**
comp=Z,6.6nm,0.3s,baz=317,slow=5.8,SNR=19
FX1 S Sn 10 29 35.9 -5.4
comp=Z,49nm,0.3s,baz=165,slow=20,SNR=13
SEY Seymchan 11.26 345 P **Pn 10 28 37.4 +1.2**
comp=Z,0.1nm,0.3s,baz=148,slow=13,SNR=6.1
ASAJ Asahikawa 13.44 239 PN **Pn 10 29 06.9 +1.3**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 13.44 239 P **Pn 10 29 06.9 +1.3**
comp=Z,0.6nm,0.3s,baz=59,slow=16,SNR=3.4
ERM Erimo 14.67 232 *i* P **Pn 10 29 20.4 -1.2**
ERM pmax pmax
comp=Z,8.0nm,1.0s
BILL Bilibino 16.29 10 *e*P **P 10 29 44.8 +1.5**
BILL pmax pmax
comp=Z,2.0nm,0.7s
YAK Yakutsk 18.40 314 *e*P **P 10 30 05.0 -1.6**
MAJO Matsushiro 21.34 231 *e*P **P 10 30 38.5 -0.1**
MAJO Matsushiro 21.34 231 *e*P **P 10 30 38.5 -0.1**
MAT Matsushiro 21.34 231 P **P 10 30 38.8 +0.2**
MJAR Matsushiro Arr 21.34 231 P **P 10 30 39.1 +0.5**
comp=Z,2.3nm,0.6s,baz=219,slow=11,SNR=8.0
TIXI Tiksi 23.54 337 *e*P **P 10 31 00.3 -0.4**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 23.54 337 *e*P **P 10 30 59.3 -1.4**
comp=Z,5.5nm,0.4s
KSRS Korea Array 26.10 248 P **P 10 31 24.7 +0.5**
comp=Z,0.9nm,0.7s,baz=49,slow=9.2,SNR=4.3
KSAR Wonju Array Be 26.13 248 P **P 10 31 24.7 +0.2**
KSAR Wonju Array Be 26.13 248 P **P 10 31 24.7 +0.2**
ILAR Eielson Array 30.03 44 *e*P P 10 32 03.3 +4.3
ILAR Eielson Array 30.03 44 P **P 10 31 59.8 +0.7**
comp=Z,0.4nm,0.8s,baz=264,slow=7.8,SNR=5.9
H11N2 WAKE ISLAND Hy 33.05 166 T T 11 07 34.5
baz=353,slow=76,SNR=235
H11N3 WAKE ISLAND Hy 33.07 166 T T 11 07 39.7
baz=353,slow=76,SNR=136
H11N1 WAKE ISLAND Hy 33.07 166 T T 11 07 39.8
baz=353,slow=76,SNR=158
H11S1 WAKE ISLAND Hy 34.22 166 T T 11 09 06.6
baz=354,slow=78,SNR=34
H11S3 WAKE ISLAND Hy 34.23 166 T T 11 09 07.7
baz=354,slow=78,SNR=122
H11S2 WAKE ISLAND Hy 34.24 166 T T 11 09 12.3
baz=354,slow=78,SNR=23
INK Inuvik 35.08 37 P **P 10 32 42.8 -0.2**
comp=Z,0.4nm,0.5s,baz=299,slow=7.4,SNR=9.6
ZALV Zalesovo Beam 42.54 303 PcP **PcP 10 35 36.3 0.0**
comp=Z,1.4nm,0.8s,baz=49,slow=4.4,SNR=3.9
YKA Yellowknife Ar 44.38 42 P **P 10 34 01.4 +1.3**
comp=Z,0.2nm,0.6s,baz=297,slow=7.8,SNR=7.1
KURK Kurchatov 47.47 302 P **P 10 34 21.8 -2.7**
KURK 10 35 52.8
KURK Kurchatov 47.47 302 P **P 10 34 21.8 -2.7**
KURK PcP **PcP 10 35 52.8 -0.6**
KURBB Kurchatov Arra 47.57 302 P P 10 34 21.8 -3.5
comp=Z,0.7nm,0.3s,baz=62,slow=7.7,SNR=7.6
KURBB PcP **PcP 10 35 52.8 -0.9**
comp=Z,0.5nm,0.6s,baz=58,slow=3.1,SNR=5.2
MK31 Makanchi Array 47.77 296 *e*P **P 10 34 24.6 -2.3**
MK31 Makanchi Array 47.77 296 *e*P **P 10 34 24.6 -2.3**
MKAR Makanchi Array 47.77 296 P **P 10 34 24.6 -2.3**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 47.77 296 P **P 10 34 24.6 -2.3**
comp=Z,1.4nm,0.4s,baz=54,slow=7.0,SNR=51
SPITS Spitsbergen Ar 47.85 350 P **P 10 34 26.4 -0.8**
SPITS pmax pmax
comp=Z,1.0nm,0.4s
SPITS Spitsbergen Ar 47.85 350 P **P 10 34 26.4 -0.8**
comp=Z,1.3nm,0.3s
BVAR Borovoye Array 50.27 308 P **P 10 34 43.3 -2.5**
BVAR 10 36 02.8
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 50.27 308 P **P 10 34 43.3 -2.5**
comp=Z,1.4nm,0.4s,baz=56,slow=7.9,SNR=13
BVAR PcP **PcP 10 36 02.8 -0.8**
comp=Z,0.6nm,0.4s,baz=60,slow=2.7,SNR=5.3
SLVN Son La 51.99 255 *e*P **P 10 34 58.7 -0.5**
comp=Z,42nm,1.4s
BSMT Bassoo Peak 52.56 58 *e*P **P 10 35 04.3 +1.1**
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 53.85 341 *e*P **P 10 35 10.7 -1.5**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 53.85 341 P **P 10 35 10.1 -2.1**
comp=Z,3.7nm,0.8s,baz=42,slow=7.3,SNR=5.5
SUMG Summit 54.92 6 *i* P **P 10 35 20.8 +0.4**
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 54.92 6 *i* P **P 10 35 20.8 +0.4**
comp=Z,5.5nm,0.9s
NVAR Mina Array Bea 56.84 69 P **P 10 35 36.6 +2.2**
comp=Z,0.7nm,0.7s,baz=296,slow=7.6,SNR=6.1
CMAR Chiang Mai Arr 57.17 257 P **P 10 35 37.6 +1.0**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 57.17 257 P **P 10 35 37.6 +1.0**
comp=Z,1.0nm,0.3s,baz=21,slow=5.8,SNR=4.2
PDAR Pinedale Array 58.69 59 P **P 10 35 49.2 +1.9**
comp=Z,1.6nm,0.8s,baz=314,slow=2.2,SNR=11
ULM Lac du Bonnet 60.04 46 LR LR 11 02 27.6
comp=Z,78nm,18.1s,baz=316,slow=36
FINES FINESS Array B 60.58 336 *e*P **P 10 36 00.8 +1.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 60.58 336 P **P 10 35 58.1 -1.5**
comp=Z,0.6nm,0.4s,baz=44,slow=5.0,SNR=6.5
NB2 NORSAR Subarra 64.14 343 P **P 10 36 22.6 -0.8**
comp=Z,2.3nm,0.5s,baz=25,slow=6.9
NOA NORSAR Array B 64.14 343 *e*P **P 10 36 22.9 -0.5**
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA NORSAR Array B 64.14 343 P **P 10 36 22.7 -0.7**
comp=Z,3.6nm,0.6s,baz=22,slow=6.7,SNR=18
HFS Hagfors 64.52 341 P **P 10 36 24.9 -0.9**
HFS pmax pmax
comp=Z,4.0nm,0.4s
HFS Hagfors 64.52 341 P **P 10 36 24.9 -0.9**
comp=Z,4.4nm,0.4s,baz=33,slow=5.5,SNR=47
AKASG Malin Array Be 68.92 328 *e*P **P 10 36 53.3 -0.7**
AKASG Malin Array Be 68.92 328 P **P 10 36 52.0 -2.0**
comp=Z,0.8nm,0.4s,baz=31,slow=7.3,SNR=6.5
TXAR Lajitas Array 71.77 66 P **P 10 37 13.4 +1.6**
comp=Z,0.8nm,0.6s,baz=300,slow=4.9,SNR=17
CLL Collm 72.86 338 *e*P **P 10 37 18.0 +0.2**
WRA Warramunga Arr 74.93 204 *e*P **P 10 37 33.1 +2.9**
WRA Warramunga Arr 74.93 204 P **P 10 37 30.5 +0.3**
comp=Z,0.3nm,0.7s,baz=20,slow=6.2,SNR=5.6
GERES GERESS Array B 74.99 337 P **P 10 37 30.1 -0.3**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 74.99 337 P **P 10 37 30.1 -0.3**
comp=Z,1.0nm,0.4s,baz=33,slow=6.2,SNR=8.1
BRTR Keskin Array B 76.75 320 P **P 10 37 40.0 -0.7**
BRTR Keskin Array B 76.75 320 P **P 10 37 40.0 -0.7**
comp=Z,0.5nm,0.6s,baz=6.9,slow=4.8,SNR=3.1
ASAR Alice Springs 78.62 203 P **P 10 37 52.5 +1.6**
comp=Z,0.4nm,0.7s,baz=13,slow=5.1,SNR=9.6
H03N2 Juan Fernandez 135.06 89 T T 13 15 44.5
baz=312,slow=75,SNR=121
H03N1 Juan Fernandez 135.07 89 T T 13 15 31.8
baz=312,slow=75,SNR=82
H03N3 Juan Fernandez 135.07 89 T T 13 15 30.5
baz=312,slow=75,SNR=113

IDC 08 10:57:35.5±3.3, 53.92N×88.06E, h0km, mb1 2.5/2, mb1mx2.5/30, mbtmp2.5/2, ML2.4/1, Error ellipse: s-maj=31.3km s-min=18.5km az=41.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.92 272 *i* 11 10 30.0
baz=91,slow=351,SNR=17
ZALV Zalesovo Beam 1.92 272 Pg Pn 10 58 09.9 +0.6
1.2nm,0.3s,baz=87,slow=15,SNR=23
ZALV Lg Lg 10 58 37.0
1.8nm,0.3s,baz=94,slow=23,SNR=21
KURBB Kurchatov Arra 6.72 244 Pn Pn 10 59 15.0 -0.2
baz=62,slow=14,SNR=2.2
KURBB Lg Lg 11 01 09.7
0.2nm,0.3s,baz=59,slow=30,SNR=8.2
MKAR Makanchi Array 8.03 210 Pn Pn 10 59 35.0 +1.7
0.1nm,0.3s,baz=25,slow=12,SNR=3.4

ISCJB 08 11:10:10.2±0.3, 43.92N±0.03×86.21E±0.04, h10km, mb3.9/17, MS3.7/3, Error ellipse: s-maj=5.2km s-min=3.6km az=142.8
IDC 08 11:10:10.3±0.6, 43.79N×86.32E, h0km, mb3.8/13, mb1 4.0/17, mb1mx3.8/37, mbtmp3.8/17, ML4.0/5, MS3.3/4, Ms1 3.3/4, ms1mx2.9/42, Error ellipse: s-maj=20.2km s-min=9.8km az=46.0
BJI 08 11:10:11.8, 43.84N×86.31E, h3km, mb4.1/5, ML4.1/11, Ms3.8/1
NEIC 08 11:10:15.5±0.4, 43.86N×86.30E, h35km, mb4.7/5, Error ellipse: s-maj=9.5km s-min=6.2km az=61.0
NNC 08 11:10:15.2±3.2, 43.96N×86.13E, h8km±15km, mb4.2, mpv4.2, Error ellipse: s-maj=24.9km s-min=15.3km az=102.0
ISC 08 11:10:11.4±0.5, 43.83N±0.05×86.25E±0.06, h10km, n64, σ1.68/69, mb3.8/17, MS3.3/3, 17C-14D, Northern Xinjiang

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WMQ Urumqi 1.05 90 Pg **Pn 11 10 32.9 +0.6**
WMQ Sg **Sn 11 10 46.3 -0.7**
WMQ smax smax
comp=N,1μm,0.6s
WMQ smax smax
comp=E,1μm,0.5s
MK31 Makanchi Array 4.07 318 ⇑Pn Pn 11 11 16.7 +2.9
5.9nm,0.2s,baz=134,slow=14,SNR=729
MK31 ⇑Pg **Pg 11 11 27.8 -1.5**
43nm,0.5s,baz=133,slow=16,SNR=12
MK31 ⇑Sn **Sn 11 12 04.9 +3.4**
26nm,0.3s,baz=198,slow=46,SNR=4.1
MK31 ⇑Lg Lg 11 12 19.8
121nm,0.6s,baz=129,slow=34,SNR=8.6
MK31 Makanchi Array 4.07 318 *e*Pn Pn 11 11 16.9 +3.1
MKAR Makanchi Array 4.07 318 Pn Pn 11 11 16.8 +3.0
16nm,0.3s,baz=134,slow=13,SNR=721
MKAR Pg **Pg 11 11 27.1 -2.2**
20nm,0.3s,baz=132,slow=16,SNR=29
MKAR Sn **Sn 11 12 05.1 +3.6**
36nm,0.3s,baz=133,slow=26,SNR=7.8
MKAR Lg Lg 11 12 20.6
58nm,0.3s,baz=135,slow=30,SNR=6.9
KNDC Almaty 6.77 268 ⇓Pn **Pn 11 11 50.8 -0.1**
14nm,0.3s
KNDC ⇓Sn **Sn 11 13 09.4 +1.2**
33nm,0.3s
KNDC ⇑Lg Lg 11 13 50.0
254nm,1.0s
TKM2 Tokmak 2 7.81 267 ⇑Pn Pn 11 12 10.5 +5.1
7.5nm,0.8s
TKM2 ⇓Sn Sn 11 13 40.2 +6.3
35nm,0.8s
TKM2 ⇓Lg Lg 11 14 19.2
73nm,1.1s
KURBB Kurchatov Arra 8.58 325 ⇓Pn **Pn 11 12 16.6 +0.9**
12nm,0.6s
KURBB ⇓Sn **Sn 11 13 51.0 -1.5**
28nm,0.5s
KURBB ⇑Lg Lg 11 14 41.5
181nm,0.9s
KURBB Kurchatov Arra 8.58 325 Pn **Pn 11 12 16.7 +1.1**
2.9nm,0.3s,baz=133,slow=13,SNR=78
KURBB Sn **Sn 11 13 51.3 -1.2**
2.2nm,0.3s,baz=134,slow=19,SNR=3.3
KURBB Lg Lg 11 14 37.0
2.2nm,0.3s,baz=144,slow=33,SNR=4.6
KURK Kurchatov 8.62 326 ⇓Pn **Pn 11 12 16.7 +0.6**
3.2nm,0.5s
KURK ⇑Sn **Sn 11 13 50.9 -2.4**
6.8nm,0.5s
KURK ⇑Lg Lg 11 14 43.1
57nm,0.9s
KURK Kurchatov 8.62 326 *e*Pn **Pn 11 12 16.9 +0.8**
KURK Sn **Sn 11 13 51.3 -2.0**
KURK Lg Lg 11 14 37.0
AAK Ala-Archa 8.66 266 ⇓Pn **Pn 11 12 19.0 +2.1**
3.7nm,0.8s
AAK ⇓Lg Lg 11 14 42.5
78nm,1.4s
AAK Ala-Archa 8.66 266 Pn **Pn 11 12 18.3 +1.3**
0.4nm,0.3s,baz=86,slow=15,SNR=4.3
AAK Lg Lg 11 14 46.7
0.9nm,0.3s,baz=294,slow=20,SNR=2.6
AAK LR LR 11 16 06.6
comp=Z,112nm,19.1s,baz=41,slow=41
ZAA0 Zalesovo Array 10.17 355 *e*Pn **Pn 11 12 37.1 -0.2**
ZALV Zalesovo Beam 10.17 355 Pn **Pn 11 12 37.3 -0.1**
12nm,0.3s,baz=177,slow=14,SNR=198
ZALV Sn **Sn 11 14 28.9 -2.5**
9.3nm,0.3s,baz=175,slow=20,SNR=13
ZALV LR LR 11 17 08.6
comp=Z,242nm,18.1s,baz=242,slow=41
KK31 Karatay Array 11.46 272 ⇓Pn Pn 11 13 00.5 +5.4
0.6nm,0.4s,baz=0.0,slow=0.1,SNR=4.7
KK31 ⇑Lg Lg 11 16 11.0
2.4nm,0.6s,baz=67,slow=27,SNR=3.5
VOSK Vostochnaya 13.49 317 ⇓Pn **Pn 11 13 22.7 0.0**
3.5nm,0.9s
VOSK ⇑Sn Sn 11 15 44.7 -7.8
4.9nm,0.9s
VOSK ⇓Lg Lg 11 17 10.0
38nm,1.4s
BVA0 Borovoye Array 13.95 317 ⇑Pn **Pn 11 13 31.7 +2.6**
3.4nm,0.6s,baz=120,slow=14,SNR=4.9
BVA0 ⇓Sn **Sn 11 16 01.0 -2.9**
7.1nm,1.4s,baz=126,slow=24,SNR=4.3
BVA0 ⇑Lg Lg 11 17 28.2
21nm,1.2s
BVAR Borovoye Array 13.95 317 Pn **Pn 11 13 29.5 +0.4**
0.7nm,0.3s,baz=130,slow=15,SNR=7.0
BVAR Sn Sn 11 15 57.5 -6.5
0.4nm,0.3s,baz=123,slow=26,SNR=3.0
BVAR Lg Lg 11 17 29.3
0.1nm,0.3s,baz=122,slow=32,SNR=2.7
BRVK Borovoye 14.02 317 ⇑Pn **Pn 11 13 30.4 +0.4**
6.2nm,0.9s
BRVK ⇑Sn **Sn 11 16 01.4 -4.2**
2.7nm,0.4s
BRVK ⇑Lg Lg 11 17 29.2
56nm,1.4s
CHCP Chirah Chowk 14.33 229 P **Pn 11 13 35.4 +1.1**
LSA Lhasa 14.63 163 Pn P 11 13 40.9 -4.5
3.7nm,0.4s
CEP Cherat 14.97 233 P **Pn 11 13 43.4 +0.2**
LZH Lanzhou 15.54 114 *e*P **P 11 13 55.5 +0.5**
LZH pP **pP 11 13 57.4 -0.5**
LZH sP **sP 11 13 59.6 +0.4**
LZH *e*PP PnPn 11 14 08.3 +9.5
DANN Dangsing 15.58 188 *e*P **P 11 13 52.2 -3.5**
20nm,0.4s
GUN Gumba 15.89 181 *e*P **P 11 13 56.6 -2.6**
70nm,0.4s
PYUN Piuthan 15.91 191 *e*P **P 11 13 57.2 -2.1**
52nm,0.4s
KKN Kakani 16.02 183 *e*P **P 11 13 58.5 -2.1**
23nm,0.6s
JIRN Jiri 16.14 180 *e*P **P 11 13 59.4 -2.6**
26nm,0.4s
KOLN Koldanda 16.17 188 *e*P **P 11 14 00.8 -1.3**
KBL Kabul 16.22 241 *e*Pn **P 11 14 00.2 -2.5**
5.7nm,0.8s
PKIN Phulchoki 16.23 183 *e*P **P 11 14 00.6 -2.3**
8.1nm,0.4s
PKI Pulchoki 16.24 183 *e*P **P 11 14 01.0 -2.1**
54nm,0.8s
TAPN Taplejung 16.49 175 *e*P **P 11 14 03.0 -2.8**
26nm,0.6s
RAMN Ramite 16.84 179 *e*P **P 11 14 08.0 -1.7**
43nm,1.0s
ODAN Odare 16.96 176 *e*P **P 11 14 09.5 -1.4**
36nm,0.8s
SHL Shillong 18.79 164 *e*P **Pn 11 14 32.0 +0.4**
AB31 Akbulak array 18.84 296 ⇑Pn **Pn 11 14 32.7 +0.9**
0.6nm,0.4s,baz=99,slow=12,SNR=31
ABKAR Akbulak array 18.84 296 *e*P **Pn 11 14 32.1 +0.3**
1.3nm,0.4s
AKTO Aktyubinsk 20.23 299 ⇓Pn Pn 11 14 52.7 +4.3
1.8nm,0.7s
AKTO Aktyubinsk 20.23 299 P Pn 11 14 52.9 +4.5
1.3nm,0.3s,baz=95,slow=12,SNR=2.9
AKTO LR LR 11 23 16.6
comp=Z,115nm,18.6s,baz=312,slow=39
CMAR Chiang Mai Arr 27.46 153 P **P 11 15 59.0 +1.4**
0.9nm,0.4s,baz=334,slow=8.7,SNR=9.9
AKASG Malin Array Be 38.45 301 P **P 11 17 34.8 +1.6**
0.2nm,0.4s,baz=75,slow=8.8,SNR=2.8
BRTR Keskin Array B 38.90 283 P **P 11 17 38.1 +0.8**
0.7nm,0.4s,baz=89,slow=6.4,SNR=7.9
FINES FINESS Array B 38.90 318 P **P 11 17 37.5 +0.8**
0.6nm,0.4s,baz=92,slow=9.7,SNR=5.4
ARCES ARCESS Array B 39.61 331 P **P 11 17 43.8 +1.2**
1.8nm,0.7s,baz=88,slow=8.5,SNR=3.6
SEY Seymchan 41.62 39 LR LR 11 36 18.1
comp=Z,953nm,20.4s,baz=88,slow=38
NB2 NORSAR Subarra 46.07 319 P **P 11 18 35.7 +0.6**
comp=Z,0.7nm,0.4s,baz=57,slow=7.9
NOA NORSAR Array B 46.07 319 P **P 11 18 35.9 +0.8**

	comp=Z,0.8nm,0.4s,baz=76,slow=7.8,SNR=6.5						
JCJ	Chichijima	47.62	91	LR	LR	11 40 41.0	
	comp=Z,20nm,18.4s,baz=172,slow=38						
LPG	La Plagne	54.31	302	eP	P	11 19 39.8	+1.7
	comp=Z,3.8nm,0.4s						
LPG	La Plagne	54.31	302	eP	P	11 19 39.8	+1.7
	comp=Z,3.8nm,0.4s						
LPL	La Plagne	54.31	302	eP	P	11 19 39.7	+1.6
	comp=Z,4.7nm,0.3s						
LPL	La Plagne	54.31	302	eP	P	11 19 39.7	+1.6
	comp=Z,4.7nm,0.3s						
MBDF	Montbardon	54.67	301	eP	P	11 19 41.2	+0.6
	comp=Z,5.4nm,0.6s						
MBDF	Montbardon	54.67	301	eP	P	11 19 41.2	+0.6
	comp=Z,5.4nm,0.6s						
EPF	Esparros	59.53	302	eP	P	11 20 14.8	-0.1
	comp=Z,2.2nm,0.4s						
EPF	Esparros	59.53	302	eP	P	11 20 14.8	-0.1
	comp=Z,2.2nm,0.4s						
ILAR	Eielson Array	64.06	22	P	P	11 20 45.7	+0.7
	comp=Z,0.3nm,0.4s,baz=311,slow=5.5,SNR=10						
INK	Inuvik	64.29	15	P	P	11 20 46.8	+0.4
	comp=Z,1.0nm,1.0s,baz=333,slow=4.5,SNR=3.0						
YKA	Yellowknife Ar	72.71	10	P	P	11 21 39.0	-0.1
	comp=Z,0.3nm,0.6s,baz=339,slow=5.9,SNR=6.6						
TORD	Torodi Ar. Bea	77.12	276	P	P	11 22 05.3	0.0
	comp=Z,0.3nm,0.4s,baz=40,slow=4.4,SNR=9.6						
WRA	Warramunga Arr	77.25	134	P	P	11 22 05.7	-0.1
	comp=Z,0.7nm,0.4s,baz=334,slow=5.6,SNR=6.6						
ASAR	Alice Springs	80.12	137	P	P	11 22 21.7	+0.1
	comp=Z,0.3nm,0.3s,baz=327,slow=5.3,SNR=20						
STKA	Stephens Creek	90.72	136	P	P	11 23 13.4	-0.9
	comp=Z,0.7nm,0.5s,baz=315,slow=2.9,SNR=3.6						

MEX 08 11:19:10.6±0.4,**15°67N×96°15W,h5km,MD3.7,Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.11	20	iP	Pg	11 19 12.2	-0.7
HUIG				eS	Sg	11 19 14.4	-0.1
VHO	Vista Hermosa	1.51	338	iP	Pn	11 19 34.9	-3.7
VHO				iS	Sn	11 19 53.7	-5.2
CMIG	Matias Romero	1.87	40	iP	Pn	11 19 40.0	-3.3
CMIG				iS	Sn	11 20 02.9	-4.4
PNIG	Pinotepa	2.04	291	eP	Pn	11 19 42.4	-3.3
PNIG				iS	Sn	11 20 07.2	-4.3

IDC 08 11:21:48.0±3.0, 10°08S×112°21E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/33, mbtmp3.2/3, Error ellipse: s-maj=158.9km s-min=27.5km az=46.0
DJA 08 11:21:54.5±2.4, 10°S±9°×11°3E±°, h18km±27km, M3.5/14, MLv3.5/14
ISCJB 08 11:21:55.8±0.9, 9°64S±0°07×112°91E±0°05, h33km, mb3.0/3, Error ellipse: s-maj=10.6km s-min=7.1km az=23.5
ISC 08 11:21:56.0±1.3,**9°6S**±0°1×**112°91E**±0°06,**h35km,n16,**σ1°**48**/18,**mb2.9**/3,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GMJI	Gumukmas	1.45	22	P	Pn	11 22 18.9	-0.9
GMJI				S	Sn	11 22 36.5	-1.1
JAGI	Jajag, Banyuwa	1.69	47	P	Pn	11 22 22.9	-0.1
PWJI	Pagerwojo	1.94	326	P	Pn	11 22 26.6	+0.2
PWJI				S	Sn	11 22 49.7	+0.1
BLJI	Banyuglugur	2.00	20	P	Pn	11 22 29.0	+1.7
PCJI	Pacitan	2.23	310	P	Pn	11 22 31.1	+0.7
ABJI	Asem Bagus	2.25	36	P	Pn	11 22 33.3	+2.6
IGBI	Denpasar	2.36	70	P	Pn	11 22 33.5	+1.3
WOJI	Wonogiri, Jawa	2.65	312	P	Pn	11 22 37.6	+1.3
NGJI	Ngawi	2.67	328	P	Pn	11 22 39.2	+2.7
GRJI	Gresik	2.74	351	P	Pn	11 22 39.2	+1.8
SRBI	Singaraja	2.75	56	P	Pn	11 22 39.1	+1.5
KMMI	Kalianget	2.77	22	P	Pn	11 22 38.9	+0.9
UGM	Wanagama	2.91	306	P	Pn	11 22 40.4	+0.5
WRA	Warramunga Arr	23.09	119	P	P	11 26 59.3	+0.4
	0.1nm,0.5s,baz=290,slow=12,SNR=2.8						
ASAR	Alice Springs	24.43	127	P	P	11 27 11.7	+0.1
	0.2nm,0.5s,baz=303,slow=8.9,SNR=9.9						
MKAR	Makanchi Array	62.47	337	P	P	11 32 14.0	-1.8
	0.3nm,0.5s,baz=152,slow=7.1,SNR=4.6						

NERS 08 11:27:19.2, 65°57N×174°96W, h10km
ISCJB 08 11:27:22.5±0.4, 66°44N±0°09×175°20W±0°1, h10km, mb3.9/18, Error ellipse: s-maj=12.8km s-min=6.0km az=13.6
MOS 08 11:27:22.3±1.1, 66°36N×174°81W, h12km, mb4.2/8, Error ellipse: s-maj=21.1km s-min=14.8km az=106.8
IDC 08 11:27:22.8±0.8, 66°47N×175°06W, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.8/47, mbtmp3.8/16, ML3.3/2, MS3.0/1, Ms1 3.0/1, ms1mx2.6/38, Error ellipse: s-maj=27.0km s-min=14.3km az=1.0
NEIC 08 11:27:24.1±0.3, 66°43N×174°93W, h10km, mb4.2/2, Error ellipse: s-maj=11.0km s-min=5.2km az=191.0
ISC 08 11:27:24.0±0.6,**66°4N**±0°1×**175°02W**±0°05,**h10km,n51,**σ1°**48**/47,**mb3.9**/18,**7C-2D,Near north coast of eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAMB	Gambell	2.99	151	ePn	Pn	11 28 10.9	-0.5
TNA	Tin City	3.02	103	ePn	Pn	11 28 10.3	-1.5
BILL	Bilibino	7.44	291	eP	Pn	11 29 13.1	+0.7
BILL				iS	Sn	11 30 36.6	-0.1
BILL	Bilibino	7.44	291	eP	Pn	11 29 13.9	+1.5
BILL				ePg	Pg	11 29 42.8	-3.4
BILL				eS	Sn	11 30 35.6	-1.1
BILL				Smax		11 30 38.5	
	10.0nm,0.4s						
BILL				eSg	Sg	11 31 17.9	-4.4
BILL				Sgmax		11 31 27.0	
	210nm,0.9s						
BILL				Sgmax		11 31 27.0	
	50nm,1.0s						
BILL	Bilibino	7.44	291	ePn	Pn	11 29 13.3	+0.9
	5.4nm,0.8s						
MCK	McKinley	11.29	92	eP	Pn	11 30 06.1	+1.0
MCK				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MCK	McKinley	11.29	92	eP	Pn	11 30 06.1	+1.0
	comp=Z,6.1nm,0.4s						
ILAR	Eielson Array	11.70	85	Pn	Pn	11 30 08.8	-1.9
	comp=Z,0.2nm,0.3s,baz=285,slow=13,SNR=18						
ILAR				Sn	Sn	11 32 16.7	-4.6
	comp=Z,0.1nm,0.3s,baz=290,slow=26,SNR=3.5						
KDAK	Kodiak Island	13.52	119	ceP	Pn	11 30 25.6	-10
SEY	Seymchan	14.27	271	eP	Pn	11 30 43.2	-2.6
SEY				e		11 35 04.3	
SEY	Seymchan	14.27	271	Pn	Pn	11 30 47.1	+1.2
	comp=Z,0.1nm,0.3s,baz=90,slow=16,SNR=3.7						
INK	Inuvik	15.87	64	eP	Pn	11 31 06.5	-0.5
INK	Inuvik	15.87	64	Pn	Pn	11 31 06.2	-0.8
	comp=Z,0.2nm,0.3s,baz=294,slow=12,SNR=15						
INK	Inuvik	15.87	64	ePn	Pn	11 31 06.5	-0.5
PET	Petropavlovsk	18.66	237	eP	P	11 31 34.8	-6.9
PET	Petropavlovsk	18.66	237	eP	P	11 31 34.8	-6.9
PETK	Petropavlovsk-	18.92	238	LR	LR	11 38 39.4	
	comp=Z,46nm,20.5s,baz=336,slow=36						
TIXI	Tiksi	20.05	310	ceP	Pn	11 32 00.7	+2.1
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.5s						
TIXI	Tiksi	20.05	310	eP	Pn	11 32 00.7	+2.1
TIXI	Tiksi	20.05	310	eP	P	11 31 56.6	-0.2
	comp=Z,12nm,1.4s						
YKA	Yellowknife Ar	25.44	70	eP	P	11 32 52.7	+1.3
YKA	Yellowknife Ar	25.44	70	P	P	11 32 50.2	-1.2
	comp=Z,0.4nm,0.7s,baz=304,slow=9.0,SNR=9.7						
RES	Resolute Bay	25.73	37	P	P	11 32 53.5	-0.4
	comp=Z,2.8nm,1.2s,baz=323,slow=16,SNR=4.0						
YSS	Yuzh-Sakhalins	29.42	250	P	P	11 33 36.0	+8.8
PDAR	Pinedale Array	42.06	91	P	P	11 35 16.6	+0.8
	comp=Z,0.4nm,0.6s,baz=354,slow=4.6,SNR=3.5						
NVAR	Mina Array Bea	42.26	102	P	P	11 35 18.8	+1.4
	comp=Z,0.8nm,0.7s,baz=310,slow=6.6,SNR=6.1						
SONM	Songino Array	43.10	285	P	P	11 35 24.2	+0.2
	comp=Z,0.4nm,0.4s,baz=46,slow=8.3,SNR=5.7						
KSRS	Korea Array	43.24	257	P	P	11 35 26.0	+1.0
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KSRS	Korea Array	43.24	257	P	P	11 35 26.0	+1.0
	comp=Z,1.2nm,0.9s,baz=23,slow=9.6,SNR=3.5						
KSAR	Wonju Array Be	43.27	257	P	P	11 35 26.0	+0.7
KSAR	Wonju Array Be	43.27	257	P	P	11 35 26.0	+0.7
ZALV	Zalesovo Beam	45.86	306	P	P	11 35 45.9	+0.1
	comp=Z,2.1nm,0.8s,baz=36,slow=7.5,SNR=8.3						
KURK	Kurchatov	50.61	308	iP	P	11 36 22.1	-0.4
ARU	Arti	51.06	325	d iP	P	11 36 28.6	+2.8
ARU						11 38 21.0	
ARU				S	S	11 43 51.9	+9.1
ARU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	Borovoye	51.07	315	⇓iP	P	11 36 25.9	0.0
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.8s						
NOA	NORSAR Array B	52.77	356	P	P	11 36 39.1	+0.6
	comp=Z,2.1nm,0.9s,baz=0.8,slow=7.5,SNR=3.4						
MK31	Makanchi Array	52.81	303	P	P	11 36 38.9	-0.2
MK31	Makanchi Array	52.81	303	P	P	11 36 38.9	-0.2
MKAR	Makanchi Array	52.81	303	ceP	P	11 36 41.2	+2.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	52.81	303	P	P	11 36 38.8	-0.3
	comp=Z,0.6nm,0.7s,baz=46,slow=7.0,SNR=5.1						
TXAR	Lajitas Array	56.04	94	P	P	11 37 03.5	+0.7
	comp=Z,0.4nm,0.7s,baz=321,slow=7.0,SNR=5.0						
ABKAR	Akbulak array	57.30	320	eP	P	11 37 11.4	0.0
	comp=Z,2.5nm,0.8s						
AAK	Ala-Archa	59.08	306	ceP	P	11 37 25.1	+0.9
AAK				pmax	pmax		
	comp=Z,21nm,1.5s						
AKASG	Malin Array Be	61.76	343	ceP	P	11 37 44.9	+2.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	61.76	343	P	P	11 37 41.5	-0.6
	comp=Z,1.1nm,0.5s,baz=16,slow=6.7,SNR=8.6						
CMAR	Chiang Mai Arr	71.67	274	ceP	P	11 38 45.9	+0.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	71.67	274	P	P	11 38 45.7	-0.1
	comp=Z,0.8nm,0.5s,baz=10,slow=6.5,SNR=7.0						
BRTR	Keskin Array B	71.92	337	ceP	P	11 38 51.4	+4.2
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	71.92	337	P	P	11 38 47.5	+0.3
	comp=Z,0.6nm,0.7s,baz=5.7,slow=4.3,SNR=4.4						
WRA	Warramunga Arr	94.03	227	P	P	11 40 41.0	-1.0
WRA	Warramunga Arr	94.03	227	P	P	11 40 40.9	-1.0
	comp=Z,0.5nm,1.0s,baz=15,slow=5.4,SNR=3.3						

SOF 08 11:29:22.5, 37°39N×21°80E, h145km, MD2.7
IDC 08 11:29:24.6±1.1, 38°39N×21°91E, h0km, mb3.5/7, mb1 3.5/10, mb1mx3.4/40, mbtmp3.4/10, ML3.1/3, Error ellipse: s-maj=22.6km s-min=20.3km az=102.0
CSEM 08 11:29:25.4±0.1, 38°41N×21°95E, h0km±2km, ML3.5, Error ellipse: s-maj=2.6km s-min=2.3km az=69.0
ATH 08 11:29:25.5, 38°41N×21°93E, h3km±1km, MD3.1/9
THE 08 11:29:25.4, 38°40N×21°93E, h0km±1km, ML3.5/11, Error ellipse: s-maj=1.5km s-min=0.4km az=281.0
ISCJB 08 11:29:25.1±0.3, 38°41N±0°02×21°92E±0°02, h7km±2km, mb3.4/7, Error ellipse: s-maj=3.3km s-min=2.7km az=6.8
SKO 08 11:29:26.1, 38°44N×22°12E, h0km, M2.6, ML3.2
ISC 08 11:29:25.5±0.8,**38°41N**±0°01×**21°94E**±0°02,**h4**km±5km,**n93,**σ0°**90**/137,**mb3.6**/7,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EFP	Efpalio	0.03	296	P	Pg	11 29 26.1	-0.3
EFP				S	Sg	11 29 27.0	-0.1
EFP	Efpalio	0.03	296	ePG	Pg	11 29 26.1	-0.3
EFP				eSG	Sg	11 29 27.0	-0.1
EFP	Efpalio	0.03	296	P	Pg	11 29 26.1	-0.3
KALE	Kalithea	0.16	98	P	Pg	11 29 28.5	-0.1
KALE				S	Sg	11 29 31.4	+0.7
KALE	Kalithea	0.16	98	ePG	Pg	11 29 28.6	-0.1
KALE				eSG	Sg	11 29 31.8	+1.1
KALE	Kalithea	0.16	98	ePg	Pg	11 29 28.6	-0.1
KALE				S	Sg	11 29 31.4	+0.7
LAKA	Lakka	0.17	171	P	Pg	11 29 28.9	0.0
LAKA	Lakka	0.17	171	ePG	Pg	11 29 29.1	+0.2
LAKA				eSG	Sg	11 29 32.3	+1.1
LAKA	Lakka	0.17	171	ePg	Pg	11 29 29.1	+0.2
LAKA				eSg	Sg	11 29 32.3	+1.1
UPR	University Cam	0.18	224	P	Pg	11 29 29.1	+0.1
UPR	University Cam	0.18	224	P	Pg	11 29 29.1	+0.1
UPR				S	Sg	11 29 32.1	+0.8
KLV	Kalavryta, Ach	0.40	156	P	Pg	11 29 32.7	-0.6
KLV				S	Sg	11 29 39.2	+0.6
KLV	Kalavryta, Ach	0.40	156	P	Pg	11 29 32.7	-0.6
KLV				S	Sg	11 29 39.2	+0.6
DSF	Desfina	0.46	90	P	Pg	11 29 33.6	-0.8
DSF				S	Sg	11 29 40.8	+0.5
DSF	Desfina	0.46	90	ePG	Pg	11 29 33.5	-0.8
DSF				eSG	Sg	11 29 41.2	+0.9
DSF	Desfina	0.46	90	P	Pg	11 29 33.6	-0.8
DSF				S	Sg	11 29 40.8	+0.5
DSF				eSg	Sg	11 29 41.2	+0.9
EVR	Evrytania	0.51	348	P	Pg	11 29 35.0	-0.4
EVR				S	Sg	11 29 43.2	+1.1
EVR	Evrytania	0.51	348	P	Pg	11 29 35.0	-0.4
EVR				S	Sg	11 29 43.0	+0.9
RLS	Riolos of Patr	0.52	227	P	Pg	11 29 35.3	-0.1
RLS				S	Sg	11 29 42.2	+0.1
RLS	Riolos of Patr	0.52	227	P	Pg	11 29 35.3	-0.1
RLS				S	Sg	11 29 42.2	+0.1
GUR	Goura	0.57	146	P	Pg	11 29 35.7	-0.8
GUR				S	Sg	11 29 44.5	+0.6
GUR	Goura	0.57	146	ePG	Pg	11 29 35.7	-0.8
GUR				eSG	Sb	11 29 45.1	-1.6
GUR	Goura	0.57	146	P	Pg	11 29 35.7	-0.8
GUR				S	Sg	11 29 44.5	+0.6
GUR				eSg	Sb	11 29 45.1	-1.6
MAKR	Makrakomi, Fth	0.62	14	P	Pg	11 29 37.3	-0.1
MAKR				S	Sb	11 29 47.0	-1.0
MAKR	Makrakomi, Fth	0.62	14	ePG	Pg	11 29 37.3	-0.1
MAKR	Makrakomi, Fth	0.62	14	P	Pg	11 29 37.3	-0.1
MAKR				S	Sg	11 29 46.2	+0.8
AXAR	Agios Charalam	0.66	58	P	Pg	11 29 37.5	-0.8
AXAR				S	Sb	11 29 48.7	-0.6
AXAR	Agios Charalam	0.66	58	P	Pg	11 29 37.5	-0.8
AXAR				S	Sg	11 29 46.3	-0.6
AGG	Agios Georgios	0.68	26	P	Pg	11 29 37.6	-1.0
AGG	Agios Georgios	0.68	26	P	Pg	11 29 37.6	-1.0
LKR	Lokris	0.86	74	P	Pg	11 29 41.5	-0.6
LKR				S	Sb	11 29 54.8	-0.2
LKR	Lokris	0.86	74	P	Pg	11 29 41.5	-0.6
LKR				S	Sb	11 29 54.8	-0.2
LTK	Loutraki	0.90	115	ePG	Pg	11 29 42.7	0.0
LTK	Loutraki	0.90	115	ePg	Pg	11 29 42.7	0.0
AMT	Artemida-Makis	0.90	192	P	Pg	11 29 42.6	-0.1
AMT	Artemida-Makis	0.90	192	ePG	Pg	11 29 42.6	-0.1
AMT	Artemida-Makis	0.90	192	P	Pg	11 29 42.6	-0.1
AMT				S	Sb	11 29 56.1	+0.1
KFL	Anninata	0.96	252	P	Pg	11 29 43.3	-0.6
KFL	Anninata	0.96	252	P	Pg	11 29 43.3	-0.6
LKD2	Lefkada island	1.07	291	P	Pg	11 29 45.6	-0.5
LKD2	Lefkada island	1.07	291	P	Pg	11 29 45.6	-0.5
VLS	Valsamata	1.09	258	P	Pg	11 29 45.0	-1.4
VLS	Valsamata	1.09	258	P	Pg	11 29 45.0	-1.4
SMIA	Simia	1.09	64	P	Pg	11 29 46.6	+0.1
SMIA				S	Sb	11 30 02.4	+0.7
SMIA	Simia	1.09	64	ePB	Pg	11 29 46.6	+0.1
SMIA	Simia	1.09	64	P	Pg	11 29 46.6	+0.1
SMIA				S	Sb	11 30 02.4	+0.7
VLX	Vlachokerasia	1.10	162	P	Pg	11 29 45.3	-1.2
VLX	Vlachokerasia	1.10	162	ePB	Pg	11 29 45.4	-1.1
VLX	Vlachokerasia	1.10	162	ePb	Pg	11 29 45.4	-1.1
THL	Klokotos Trika	1.15	3	P	Pg	11 29 46.8	-0.8
THL				S	Sn	11 30 04.2	-0.4
THL	Klokotos Trika	1.15	3	P	Pg	11 29 46.8	-0.8
THL				S	Sn	11 30 04.2	-0.4
FYTO	Fytoko, Volos	1.26	38	P	Pg	11 29 49.6	-0.1
FYTO	Fytoko, Volos	1.26	38	P	Pg	11 29 49.6	-0.1
MRKA	Markates	1.32	77	ePB	Pn	11 29 49.6	-1.2
MRKA	Markates	1.32	77	ePb	Pn	11 29 49.6	-1.2
XOR	Xorichti	1.36	45	P	Pn	11 29 51.0	-0.4
XOR	Xorichti	1.36	45	P	Pn	11 29 51.0	-0.4
DID	Didima	1.37	131	P	Pn	11 29 51.1	-0.3
DID				S	Sn	11 30 11.2	+1.2
DID	Didima	1.37	131	ePB	Pb	11 29 51.3	-0.4
DID	Didima	1.37	131	P	Pn	11 29 51.1	-0.3
DID				S	Sn	11 30 11.2	+1.2
ERET	Eretria	1.46	88	P	Pn	11 29 52.7	-0.1
ERET	Eretria	1.46	88	P	Pn	11 29 52.7	-0.1
LIT	Litokhoron	1.74	14	P	Pn	11 29 56.8	+0.3
LIT	Litokhoron	1.74	14	P	Pn	11 29 56.8	+0.3
BIA	Bitola	2.65	350	i Pn	Pn	11 30 10.2	+1.1
BIA				i Sn	Sb	11 30 44.1	-2.3
BIA	Bitola	2.65	350	i Pn	Pn	11 30 10.1	+1.1
BIA				i Sn	Sb	11 30 44.1	-2.3
VAY	Valandovo	2.94	9	i Pn	Pn	11 30 13.6	+0.5
VAY				i Sn	Sn	11 30 49.5	+0.6
VAY				i Lg	Lg	11 31 10.6	
	comp=N,92nm,1.2s						
VAY				i Lg	Lg	11 31 11.0	
	comp=E,60nm,0.8s						
VAY	Valandovo	2.94	9	i Pn	Pn	11 30 13.5	+0.5
VAY				i Sn	Sn	11 30 49.4	+0.6
VAY				i Lg	Lg	11 31 10.9	
	comp=E,60nm,0.8s						
MMB	Musomiste	3.46	23	eP	Pn	11 30 19.7	-0.4
MMB				eS	Sn	11 31 02.1	+0.5
MMB	Musomiste	3.46	23	eP	Pn	11 30 19.7	-0.4
MMB				eS	Sn	11 31 02.1	+0.5
KKB	Krupnik	3.56	14	eP	Pn	11 30 21.7	+0.2
KKB				eS	Sn	11 31 04.5	+0.4
KKB	Krupnik	3.56	14	eP	Pn	11 30 21.7	+0.2
KKB				eS	Sn	11 31 04.5	+0.4
RZN	Rozhen	3.90	32	eP	Pn	11 30 25.8	-0.6
RZN	Rozhen	3.90	32	eP	Pn	11 30 25.8	-0.6
IDI	Anoyia	3.91	142	Pn	Pn	11 30 27.5	+1.1
	comp=E,0.8nm,0.3s,baz=315,slow=11,SNR=4.1						
IDI				Sn	Sn	11 31 10.4	-2.5
	comp=E,1.3nm,0.3s,baz=68,slow=19,SNR=2.5						
BARS	Barje	4.40	359	ePn	Pn	11 30 34.4	+1.3
MPEP	Malo Peshtene	5.12	15	eP	Pn	11 30 45.0	+2.0
MPEP	Malo Peshtene	5.12	15	eP	Pn	11 30 45.0	+2.0
IVAS	Ivanjica	5.33	346	ePn	Pn	11 30 47.2	+1.2
GRUS	Gruza	5.55	351	ePn	Pn	11 30 50.5	+1.7
BBLS	Lazići	5.77	341	ePn	Pn	11 30 53.3	+1.3
DIVS	Divibare	5.87	346	ePn	Pn	11 30 54.6	+1.3
TRUS	Trudelj	5.92	349	ePn	Pn	11 30 53.2	-0.8
TEKS	Tekeris	6.39	344	ePn	Pn	11 31 01.7	+1.2
MLR	Muntele Rosu	7.67	22	Pn	Pn	11 31 21.0	+2.9
	comp=E,0.1nm,0.3s,baz=165,slow=16,SNR=4.6						
BRTR	Keskin Array B	9.19	78	Pn	Pn	11 31 41.5	+2.5
	comp=E,0.4nm,0.3s,baz=260,slow=13,SNR=19						
HFS	Hagfors	22.36	349	P	P	11 34 23.3	-1.0
	comp=E,0.7nm,0.4s,baz=162,slow=11,SNR=3.3						
NOA	NORSAR Array B	23.62	347	P	P	11 34 36.6	-0.8
	comp=E,0.7nm,0.7s,baz=156,slow=10,SNR=4.4						
EKA	Eskdalemuir Ar	23.90	323	P	P	11 34 40.2	+0.2
	comp=E,0.6nm,0.3s,baz=118,slow=9.0,SNR=5.9						
TORD	Torodi Ar. Bea	30.93	221	P	P	11 35 43.0	-0.5
	comp=E,0.4nm,0.4s,baz=29,slow=8.9,SNR=7.1						
MKAR	Makanchi Array	44.22	59	P	P	11 37 34.5	-1.3
	comp=E,0.6nm,0.6s,baz=283,slow=7.2,SNR=5.9						
ZALV	Zalesovo Beam	44.70	48	P	P	11 37 38.5	-0.9
	comp=E,0.6nm,0.5s,baz=273,slow=9.7,SNR=3.7						
YKA	Yellowknife Ar	73.55	341	P	P	11 40 59.1	-0.1
	comp=E,0.1nm,0.6s,baz=37,slow=5.3,SNR=3.5						

ISCJB 08 11:36:07.8±0.4, 43°13N±0°04×138°34E±0°07, h261km±5km, mb3.4/13, Error ellipse: s-maj=9.2km s-min=6.0km az=28.3
IDC 08 11:36:08.2±0.9, 43°20N×138°20E, h246km±10km, mb3.2/12, mb1 3.3/16, mb1mx3.2/31, mbtmp3.8/16, Error ellipse: s-maj=13.7km s-min=10.3km az=154.0
JMA 08 11:36:09.3±0.5, 43°16N×138°30E, h245km±4km, M3.4
ISC 08 11:36:08.5±0.8,**43°11N**±0°05×**138°39E**±0°07,**h257**km±8km,**n40,**σ1°**24**/51,**mb3.5**/13,**Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOSM	Okushiri--Mats	1.30	142	P	Pn	11 36 46.4	+0.3
JSH	Shimam	1.30	110	P	Pn	11 36 46.1	0.0
JSK	Shakotan	1.55	80	P	Pn	11 36 47.9	+0.2
JYM2	Yakumo 2	1.77	123	P	Pn	11 36 50.3	+0.7
JEW	Eniwo	2.26	96	P	Pn	11 36 55.0	+1.1
JKB	Kayabe	2.31	121	P	Pn	11 36 55.0	+0.7
JHR	Hokuryu	2.51	74	P	Pn	11 36 57.3	+1.0
JOT	Ohata	2.62	130	P	Pn	11 36 57.8	+0.3
JFR	Furan	3.08	88	P	Pn	11 37 03.0	+0.8
JFR				eS	S	11 37 45.7	+0.8
ASAJ	Asahikawa	3.22	70	P	Pn	11 37 04.3	+0.6
	4.7nm,0.3s,baz=256,slow=11,SNR=30						
ASAJ				S	S	11 37 48.0	+0.4
	1.1nm,0.3s,baz=162,slow=20,SNR=7.7						
JKK2	Kamakawa 2	3.26	75	P	Pn	11 37 05.3	+1.1
JKK2				eS	S	11 37 49.0	+0.5
JNBK	Urakawa-nobuka	3.32	103	P	Pn	11 37 05.0	+0.1
JWK2	Keihoku	3.35	48	P	Pn	11 37 06.6	+1.5
JSE	Soyaes	3.55	57	P	Pn	11 37 08.3	+1.0
JSE				eS	S	11 37 54.5	+0.5
JANG	Nango	3.60	138	P	Pn	11 37 07.8	-0.2
JANG				eS	S	11 37 54.0	-1.3
JCH	Churui	3.69	96	P	Pn	11 37 08.3	-0.7
JCH				eS	S	11 37 54.0	-3.1
JAR	Ashorobuto	3.94	85	P	Pn	11 37 12.1	+0.3
JAR				eS	S	11 38 01.4	-0.8
JTKR	Abashiri--Toko	4.11	76	P	Pn	11 37 14.5	+0.8
JTKR				eS	S	11 38 05.5	-0.2
JOM	Ohasama	4.24	148	P	Pn	11 37 16.4	+0.9
JYK	Kaneyama	4.45	160	P	Pn	11 37 19.2	+1.3
JYK				eS	S	11 38 13.1	-0.1
JAK	Akkeshi	4.63	89	P	Pn	11 37 19.1	-0.8
JAK				eS	S	11 38 12.8	-4.0
JMK	Ichinoseki	4.67	152	P	Pn	11 37 20.5	-0.1
JMK				eS	S	11 38 17.2	-0.9
USRK	Ussuriysk Arra	4.77	285	P	Pn	11 37 19.6	-1.9
	0.7nm,0.3s,baz=91,slow=12,SNR=18						
NEM2	Nemuro 2	5.38	85	P	Pn	11 37 27.8	-1.2
MAT	Matsushiro	6.56	181	P	Pn	11 37 44.5	+0.7
MAT				eS	S	11 38 54.2	-6.1
MJAR	Matsushiro Arr	6.56	181	P	Pn	11 37 45.1	+1.3
	2.5nm,0.3s,baz=0.7,slow=11,SNR=27						
KSRS	Korea Array	9.79	238	P	Pn	11 38 24.8	+0.6
	0.2nm,0.3s,baz=45,slow=14,SNR=4.4						
SEY	Seymchan	21.47	18	P	P	11 40 35.5	-1.1
	0.9nm,0.3s,baz=201,slow=8.7,SNR=7.9						
SONM	Songino Array	22.83	293	P	P	11 40 47.8	-1.6
	0.8nm,0.5s,baz=88,slow=9.0,SNR=9.3						
ZALV	Zalesovo Beam	36.26	306	P	P	11 42 46.8	-0.3
	2.7nm,0.4s,baz=88,slow=8.4,SNR=16						
MKAR	Makanchi Array	39.16	295	P	P	11 43 10.8	-0.6
	1.1nm,0.7s,baz=81,slow=9.6,SNR=12						
ILAR	Eielson Array	45.74	35	P	P	11 44 04.9	+1.0
	0.7nm,0.8s,baz=273,slow=6.1,SNR=9.3						
AAK	Ala-Archa	45.78	292	P	P	11 44 04.3	-0.5
	1.1nm,0.4s,baz=121,slow=6.8,SNR=4.8						
INK	Inuvik	50.12	29	P	P	11 44 38.6	+1.4
	1.7nm,0.3s,baz=281,slow=5.8,SNR=34						
YKA	Yellowknife Ar	59.76	31	P	P	11 45 43.6	-2.4
	0.1nm,0.5s,baz=306,slow=6.8,SNR=3.7						
FINES	FINESS Array B	62.38	330	P	P	11 46 03.7	+0.1
	1.8nm,0.7s,baz=57,slow=7.0,SNR=5.0						
WRA	Warramunga Arr	62.85	184	P	P	11 46 07.7	+0.6
	0.3nm,1.0s,baz=2.0,slow=7.2,SNR=8.8						
ASAR	Alice Springs	66.57	184	P	P	11 46 33.2	+2.1
	0.2nm,0.9s,baz=359,slow=5.9,SNR=3.3						
AKASG	Malin Array Be	68.12	320	P	P	11 46 40.4	0.0
	0.5nm,0.4s,baz=46,slow=5.8,SNR=6.4						
PDAR	Pinedale Array	75.04	45	P	P	11 47 23.8	+1.8
	1.1nm,1.1s,baz=332,slow=3.1,SNR=3.7						

MOS 08 11:54:59.3±1.1, 51°88N×105°62E, h9km, mb4.6/1, Error ellipse: s-maj=11.7km s-min=9.0km az=66.0
MOS Felt (II) at Irkutsk.
BYKL 08 11:55:00.8±0.3, 51°90N×105°56E, h10km±5km, FELT I=II MSK at Irkutsk
IDC 08 11:55:00.0±1.0, 51°86N×106°18E, h0km, mb3.2/4, mb1 3.4/7, mb1mx3.2/41, mbtmp3.2/7, ML2.9/3, Error ellipse: s-maj=26.8km s-min=16.8km az=94.0
ISC 08 11:54:59.9±1.1,**51°91N**±0°02×**105°59E**±0°02,**h5**km±8km,**n51,**σ1°**55**/95,**mb3.3**/4,**22C-10D,Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSTR	Listvyanka	0.47	265	⇑iPG	Pg	11 55 09.4	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LSTR				e		11 55 15.6	
LSTR				pmax	pmax		
	comp=Z,283nm,0.3s						
LSTR				smax	smax		
	comp=N,1µm,0.3s						
LSTR	Listvyanka	0.47	265	⇑iPg	Pg	11 55 09.4	+0.4
LSTR				i Sg	Sg	11 55 15.6	+0.5
LSTR				Pmax			
	comp=N,209nm,0.2s						
LSTR				Smax			
	comp=N,1µm,0.3s						
KAB	Kabansk	0.67	78	⇑iPG	Pg	11 55 13.5	+0.7
KAB				e		11 55 23.5	
KAB				pmax	pmax		
	comp=Z,270nm,0.4s						
KAB				smax	smax		
	comp=E,3µm,0.4s						
KAB	Kabansk	0.67	78	⇓iPg	Pg	11 55 13.8	+1.0
KAB				e		11 55 19.7	
KAB				eSg	Sg	11 55 23.2	+1.7
KAB				eSb	Sn	11 55 27.4	+0.3
KAB				Pmax			
	comp=E,278nm,0.6s						
KAB				max			
	comp=E,3µm,0.3s						
IRK	Irkutsk	0.88	293	ePG	Pg	11 55 16.8	+0.1
IRK				e		11 55 28.1	
IRK				pmax	pmax		
	comp=Z,882nm,0.3s						
IRK				smax	smax		
	comp=N,9µm,0.3s						
IRK	Irkutsk	0.88	293	⇑iPg	Pg	11 55 16.8	+0.1
	comp=N,53nm,0.4s						
IRK				⇓iPg	Pg	11 55 16.8	+0.1
	comp=N,195nm,0.4s						
IRK				⇑iPg	Pg	11 55 16.8	+0.1
	comp=N,808nm,0.4s						
IRK				ePb	Pn	11 55 19.8	+0.8
IRK				i Sg	Sg	11 55 28.0	-0.1
IRK				eSb	Sn	11 55 33.0	+0.8
IRK				Pmax			
	comp=N,870nm,0.4s						
IRK				max			
	comp=N,9µm,0.3s						
TRG	Tyrgan	0.97	28	⇑iPG	Pg	11 55 18.3	-0.2
TRG				e		11 55 31.9	
TRG				pmax	pmax		
	comp=Z,193nm,0.1s						
TRG				smax	smax		
	comp=N,4µm,0.2s						
TRG	Tyrgan	0.97	28	⇑iPg	Pg	11 55 18.5	0.0
	comp=N,64nm,0.4s						
TRG				⇑iPg	Pg	11 55 18.5	0.0
	comp=N,31nm,0.4s						
TRG				⇑iPg	Pg	11 55 18.5	0.0
	comp=N,41nm,0.4s						
TRG				⇑iPb	Pn	11 55 20.6	+0.3
TRG				e		11 55 23.2	
TRG				eSg	Sg	11 55 31.9	+0.8
TRG				eSb	Sn	11 55 34.8	+0.3
TRG				max			
	comp=N,248nm,0.2s						
TRG				max			
	comp=N,4µm,0.2s						
ZRHB	Zarechye	1.16	56	⇓iPg	Pb	11 55 22.2	-0.2
ZRHB				e		11 55 30.4	
ZRHB				eSg	Sn	11 55 38.5	-0.5
ZRHB				Pmax			
	comp=N,343nm,0.4s						
ZRHB				Smax			
	comp=N,3µm,0.9s						
TLY	Talaya	1.23	260	⇑iPG	Pn	11 55 22.7	-1.1
TLY				e		11 55 38.6	
TLY				pmax	pmax		
	comp=Z,222nm,0.1s						
TLY				smax	smax		
	comp=N,3µm,0.3s						
TLY	Talaya	1.23	260	⇑iPg	Pn	11 55 22.7	-1.1
TLY				⇑iPb	Pg	11 55 23.9	+0.4
TLY				eSg	Sn	11 55 39.8	-1.0
TLY				max			
	comp=N,217nm,0.1s						
TLY				Smax			
	comp=N,3µm,0.3s						
UUDB	Ulan-Yde	1.29	91	⇓iPg	Pn	11 55 24.0	-0.6
	comp=N,62nm,0.5s						
UUDB				⇑iPg	Pn	11 55 24.0	-0.6
	comp=N,137nm,0.5s						
UUDB				⇑iPg	Pn	11 55 24.0	-0.6
	comp=N,213nm,0.5s						
UUDB				ePb	Pg	11 55 25.1	+0.6
UUDB				eSg	Sb	11 55 41.6	+0.1
UUDB				eSb	Sg	11 55 43.5	+2.3
UUDB				max			
	comp=N,379nm,0.7s						
UUDB				max			
	comp=N,2µm,0.5s						
ARS	Arshan	1.96	272	ePN	Pb	11 55 35.2	-0.9
ARS				e		11 56 00.4	
ARS				pmax	pmax		
	comp=Z,128nm,0.3s						
ARS				smax	smax		
	comp=E,2µm,0.4s						
ARS	Arshan	1.96	272	⇑iPn	Pb	11 55 34.5	-1.6
ARS				⇑iPg	Pn	11 55 35.1	+1.2
ARS				eSg	Sb	11 56 00.5	-0.4
ARS				e		11 56 04.4	
ARS				Pmax			
	comp=E,217nm,0.6s						
ARS				max			
	comp=E,2µm,0.5s						
ZAK	Zakamensk	2.11	224	ePN	Pn	11 55 35.2	-0.8
ZAK				e		11 55 38.4	
ZAK				eS	Sb	11 56 05.2	-0.1
ZAK				pmax	pmax		
	comp=Z,138nm,0.1s						
ZAK				smax	smax		
	comp=E,356nm,0.2s						
ZAK	Zakamensk	2.11	224	ePn	Pn	11 55 36.7	+0.7
ZAK				⇓iPg	Pb	11 55 38.8	+0.1
ZAK				i Sg	Sg	11 56 06.8	-0.9
ZAK				Pmax			
	comp=E,90nm,0.5s						
ZAK				Smax			
	comp=E,440nm,0.7s						
OGRR	Ongureny	2.12	34	ePN	Pn	11 55 36.8	+0.7
OGRR				e		11 55 39.1	
OGRR				e		11 56 06.5	
OGRR				pmax	pmax		
	comp=Z,72nm,0.4s						
OGRR				smax	smax		
	comp=E,834nm,1.6s						
OGRR	Ongureny	2.12	34	ePn	Pn	11 55 36.8	+0.7
OGRR				ePg	Pb	11 55 38.8	0.0
OGRR				e		11 55 43.3	
OGRR				eSg	Sb	11 56 06.4	+0.9
OGRR				e		11 56 09.2	
OGRR				max			
	comp=E,64nm,0.3s						
OGRR				max			
	comp=E,832nm,1.5s						
MXMB	Maximikha	2.35	54	ePn	Pn	11 55 40.8	+1.5
MXMB				ePg	Pb	11 55 43.0	+0.2
MXMB				eSg	Sg	11 56 15.7	+0.2
MXMB				e		11 56 18.9	
MXMB				Pmax			
	comp=E,93nm,0.6s						
MXMB				max			
	comp=E,380nm,1.0s						
MOY	Mondy	2.87	267	ePN	Pb	11 55 50.4	-1.2
MOY				e		11 56 28.4	
MOY				pmax	pmax		
	comp=Z,58nm,0.4s						
MOY				smax	smax		
	comp=E,617nm,0.6s						
MOY	Mondy	2.87	267	⇑iPg	Pb	11 55 50.4	-1.2
MOY				e		11 55 56.3	
MOY				i Sg	Sb	11 56 28.4	+1.4
MOY				eSgSg	SbSb	11 56 31.3	-0.8
MOY				max			
	comp=E,82nm,0.9s						
MOY				max			
	comp=E,633nm,1.5s						
SYVR	Suvo	3.20	55	⇓iPn	Pn	11 55 51.0	+0.1
SYVR				ePg	Pb	11 55 58.4	+1.2
SYVR				⇓iPgPg	Pg	11 56 01.3	+0.1
SYVR				eSg	Sg	11 56 40.6	-2.0
SYVR				max			
	comp=E,21nm,0.4s						
SYVR				Smax			
	comp=E,91nm,0.9s						
ORL	Orlik	3.61	282	ePN	Pb	11 56 03.9	-0.4
ORL				e		11 56 51.0	
ORL				pmax	pmax		
	comp=Z,90nm,0.6s						
ORL				smax	smax		
	comp=N,411nm,0.7s						
ORL	Orlik	3.61	282	⇓iPn	Pn	11 55 58.9	+2.3
ORL				⇓iPg	Pb	11 56 03.9	-0.4
ORL				e		11 56 08.3	
ORL				eSn	Sn	11 56 40.1	+0.4
ORL				eSg	Sb	11 56 51.3	+2.9
ORL				max			
	comp=N,90nm,1.3s						
ORL				Smax			
	comp=N,411nm,0.7s						
SONM	Songino Array	4.11	172	PN	Pn	11 56 04.6	+1.0
SONM						11 56 15.5	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM				pmax	pmax		
	comp=Z,15nm,0.3s						
SONM	Songino Array	4.11	172	Pn	Pn	11 56 04.6	+1.0
	comp=Z,0.9nm,0.3s,baz=346,slow=14,SNR=27						
SONM				Pg	Pb	11 56 15.5	+2.7
	comp=Z,14nm,0.3s,baz=353,slow=17,SNR=58						
SONM				Lg	Lg	11 57 06.3	
	comp=Z,48nm,0.3s,baz=359,slow=29,SNR=16						
ULN	Ulaanbaatar	4.16	166	ePN	Pn	11 56 04.8	+0.6
ULN	Ulaanbaatar	4.16	166	ePn	Pn	11 56 04.9	+0.7
ULN				e		11 56 11.8	
ULN				ePg	Pb	11 56 15.0	+1.3
ULN				e		11 56 53.0	
ULN				eSg	Sg	11 57 09.0	-4.4
ULN				e		11 57 12.8	
YLYR	Ulyunkhan	4.47	46	⇑iPn	Pn	11 56 08.5	+0.2
YLYR				e		11 56 14.5	
YLYR				ePg	Pb	11 56 21.2	+2.4
YLYR				i Sg	Sg	11 57 19.1	-4.1
YLYR				Pmax			
	comp=Z,10.0nm,0.6s						
YLYR				Smax			
	comp=Z,61nm,0.9s						
NIZ	Nizh Angarsk	4.52	30	ePn	Pn	11 56 09.3	+0.2
NIZ				⇓i		11 56 10.7	
NIZ				e		11 56 17.4	
NIZ				ePg	Pb	11 56 21.9	+2.1
NIZ				eSn	Sn	11 57 01.6	-0.4
NIZ				eSg	Sg	11 57 21.0	-4.1
NIZ				Pmax			
	comp=Z,12nm,0.3s						
NIZ				Smax			
	comp=Z,162nm,1.4s						
KPC	Khapcheranga	4.84	115	ePN	Pn	11 56 12.6	-0.9
KPC				e		11 56 27.3	
KPC				eS	Sn	11 57 06.9	-3.0
KPC				e		11 57 31.0	
KPC				pmax	pmax		
	comp=Z,17nm,0.2s						
KPC				smax	smax		
	comp=N,217nm,0.9s						
KPC	Khapcheranga	4.84	115	⇑iPn	Pn	11 56 12.5	-0.9
KPC				e		11 56 16.5	
KPC				⇑iPg	Pb	11 56 27.4	+2.2
KPC				eSg	Sg	11 57 31.1	-4.1
KPC				e		11 57 42.0	
KPC				e		11 57 49.8	
KPC				Pmax			
	comp=N,15nm,0.5s						
KPC				max			
	comp=N,218nm,0.8s						
CIT	Chita	4.92	86	eSg	Sg	11 57 35.5	-2.5
CIT				Smax			
	comp=N,205nm,1.5s						
KMO	Kumora	5.18	38	ePn	Pn	11 56 18.3	+0.2
KMO				e		11 56 27.6	
KMO				ePg	Pb	11 56 35.1	+4.1
KMO				eSg	Sg	11 57 43.1	-3.1
KMO				Pmax			
	comp=N,13nm,0.4s						
KMO				Smax			
	comp=N,145nm,1.1s						
YOA	Uoyan	5.56	38	eSg	Sg	11 57 55.9	-2.5
YOA				Smax			
	comp=N,340nm,1.7s						
HVS	Khovu-Aksy	7.46	269	e	Sn	11 58 07.3	-7.1
HVS				e		11 58 17.4	
HVS				e		11 58 39.3	
HVS				eSg	Sg	11 58 49.5	-10
HVS				e		11 59 04.5	
NLYR	Nelyaty	7.50	48	ePG	Pg	11 57 18.2	-5.1
NLYR				e		11 58 54.2	
NLYR				pmax	pmax		
	comp=Z,16nm,1.2s						
NLYR				smax	smax		
	comp=N,61nm,1.4s						
NLYR	Nelyaty	7.50	48	ePg	Pg	11 57 18.2	-5.1
NLYR				⇑i		11 57 22.0	
NLYR				eSg	Sg	11 58 56.3	-4.0
NLYR				max			
	comp=N,4.0nm,0.5s						
NLYR				Smax			
	comp=N,62nm,1.0s						
BOD	Bodaibo	7.65	36	e	Pb	11 57 19.5	+6.5
BOD				eSg	Sg	11 58 56.3	-9.0
BOD				Smax			
	comp=N,41nm,1.4s						
CRS	Chara	8.92	51	eSg	Sg	11 59 40.3	-5.6
CRS				Smax			
	comp=N,40nm,2.1s						
TUP	Tupik	8.99	68	ePN	Pn	11 57 13.7	+3.4
TUP				e		11 57 43.5	
TUP				e		11 59 36.5	
TUP				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TUP				smax	smax		
	comp=N,54nm,1.3s						
TUP	Tupik	8.99	68	ePn	Pn	11 57 10.0	-0.3
TUP				ePg	Pg	11 57 42.6	-9.4
TUP				e		11 59 09.9	
TUP				eSg	Sn	11 59 39.3	+47
TUP				Smax			
	comp=N,76nm,1.8s						
MKAR	Makanchi Array	15.99	261	Pn	P	11 58 50.8	+1.7
	comp=N,0.0nm,0.3s,baz=57,slow=12,SNR=3.7						
MKAR				Lg	Lg	12 03 28.0	
	comp=N,0.0nm,0.3s,baz=67,slow=30,SNR=3.0						
YAK	Yakutsk	16.48	43	eP	P	11 58 52.9	-1.4
KURK	Kurchatov	16.87	277	P	P	11 59 03.0	+4.3
KURBB	Kurchatov Arra	16.95	276	P	P	11 59 03.0	+3.3
	comp=N,0.1nm,0.3s,baz=71,slow=12,SNR=3.2						
KURBB				Lg	Lg	12 04 05.8	
	baz=74,slow=30,SNR=4.2						
BRVK	Borovoye	21.40	287	eP	P	11 59 48.3	0.0
ILAR	Eielson Array	51.00	32	P	P	12 04 02.8	+0.6
	comp=N,0.4nm,0.9s,baz=302,slow=4.8,SNR=4.8						
YKA	Yellowknife Ar	61.60	20	P	P	12 05 17.6	-0.2
	comp=N,0.1nm,0.5s,baz=336,slow=6.8,SNR=2.8						
WRA	Warramunga Arr	75.83	152	P	P	12 06 46.1	-0.9
	comp=N,0.5nm,0.9s,baz=346,slow=6.3,SNR=4.6						
ASAR	Alice Springs	79.24	154	P	P	12 07 05.6	-0.4
	comp=N,0.1nm,0.5s,baz=349,slow=5.3,SNR=5.8						

*IDC **08** 12:06:43.6±1.1,33°.18N×142°.58E,h0km,mb3.3/4, mb1 3.6/5,mb1mx3.3/44,mbtmp3.3/5,ML3.1/1,Error ellipse: s-maj=38.1km s-min=21.9km az=95.0*

*JMA **08** 12:06:45.3±0.4,33°.32N×142°.33E,h0km,M3.8*

*ISCJB **08** 12:06:46.4±0.8,33°.26N±0°.07×142°.55E±0°.09,h35km, mb3.3/4,Error ellipse: s-maj=13.2km s-min=6.7km az=44.8*

ISC 08 12:06:48.5±1.1,**33°.30N**±0°.08×**142°.58E**±0°.09,**h35**km,**n20, σ1.03**/27,**mb3.4**/4,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.90	316	P	Pn	12 07 17.2	-0.6
BSO3	Boso 3	2.28	312	P	Pn	12 07 22.9	-0.5
JHJ2	Mitsune	2.32	266	P	Pn	12 07 22.8	-1.4
BSO4	Boso 4	2.51	313	P	Pn	12 07 26.7	0.0
JOD2	Odawara 2	3.49	305	P	Pn	12 07 39.3	-1.0
JOD2				eS	Sn	12 08 20.8	+0.4
JYT	Yasato	3.52	327	P	Pn	12 07 40.7	0.0
JHO	Hitachi	3.70	334	P	Pn	12 07 41.8	-1.3
JHU	Hanno	3.73	314	P	Pn	12 07 43.1	-0.4
JHU				eS	Sn	12 08 26.2	0.0
JYN	Shimob	3.99	305	P	Pn	12 07 48.1	+0.9
JYN				eS	Sn	12 08 33.0	+0.2
JAG	Ashikaga	4.04	321	P	Pn	12 07 47.5	-0.3
JRY	Ryogami san	4.07	313	P	Pn	12 07 48.1	-0.1
JRY				eS	Sn	12 08 35.6	+1.0
JNY	Yasuok	4.41	299	P	Pn	12 07 53.6	+0.6
JFT	Otama	4.59	337	P	Pn	12 07 54.7	-0.7
JFT				eS	Sn	12 08 44.5	-3.1
MJAR	Matsushiro Arr	4.83	313	Pn	Pn	12 07 59.2	+0.5
	0.8nm,0.3s,baz=115,slow=11,SNR=10.0						
MJAR				Sn	Sn	12 08 54.8	+1.3
	0.4nm,0.3s,baz=332,slow=44,SNR=3.6						
MAT	Matsushiro	4.84	313	P	Pn	12 07 58.1	-0.7
MAT				eS	Sn	12 08 52.0	-1.5
JKN2	Miekihoku	5.33	282	P	Pn	12 08 04.9	-0.7
ILAR	Eielson Array	52.17	31	P	P	12 15 56.0	+0.8
	0.5nm,1.0s,baz=262,slow=6.3,SNR=4.1						
WRA	Warramunga Arr	53.52	190	P	P	12 16 04.9	-0.7
	0.3nm,0.5s,baz=6.5,slow=7.7,SNR=7.8						
ASAR	Alice Springs	57.24	189	P	P	12 16 32.1	-0.3
	0.2nm,0.8s,baz=12,slow=6.4,SNR=3.0						
YKA	Yellowknife Ar	66.57	30	P	P	12 17 35.8	+1.2
	0.2nm,0.8s,baz=295,slow=6.4,SNR=3.9						

*ISCJB **08** 12:08:25.8±0.3,56°.19S±0°.05×24°.57W±0°.09,h10km, mb4.9/32,MS4.6/21,Error ellipse: s-maj=7.7km s-min=6.4km az=40.6*

*IDC **08** 12:08:25.8±0.4,56°.21S×24°.64W,h0km,mb4.7/16, mb1 4.7/17,mb1mx4.7/22,mbtmp4.7/17,ML4.3/1,MS4.5/15, Ms1 4.5/15,ms1mx4.4/20,Error ellipse: s-maj=15.7km s-min=14.8km az=28.0*

*AWI **08** 12:08:30.6,56°.20S×24°.50W*

*GCMT **08** 12:08:31.1±0.2,56°.39S×24°.28W,h12km,MW5.2/102, Moment Tensor Solution. s74,c100; s102,c160; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-7.13±.12; $M_{\theta\theta}$1.42±.13; $M_{\phi\phi}$5.71±.11; $M_{r\theta}$-0.99±.40; $M_{\theta\phi}$-2.96±.10; $M_{\phi r}$1.45±.33; Best double couple: $M_0$7.38700×10^{16} NP1:ϕ_s151.00000°,δ52.00000°,λ-92.00000°. NP2: ϕ_s335.00000°,δ38.00000°,λ-87.00000°. Principal axes: T 7.4290, Plg7.0000°, Azm243.0000°; N -0.0840, Plg2.0000°, Azm153.0000°; P -7.3460, Plg83.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 12:08:31.1±0.2,56°.19S×24°.57W,h35km,mb5.1/10 Error ellipse: s-maj=7.3km s-min=5.8km az=24.0*

ISC 08 12:08:27.4±0.3,**56°.20S**±0°.07×**24°.56W**±0°.06,**h10**km,**n126, σ1.49**/136,**mb5.0**/32,**MS4.6**/21,**1C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.09	281	Pn	Pn	12 10 12.1	+1.1
	1.0nm,1.0s,SNR=9.0						
HOPE	Hope Point	7.09	281	ePn	Pn	12 10 12.8	+1.9
	36nm,0.5s						
HOPE				eSn	Sn	12 11 23.4	-8.1
VNA1	Neumayer--Stat	16.13	160	P	Pn	12 12 13.5	-0.2
VNA3	Neumayer Olymp	16.38	163	P	Pn	12 12 16.9	-0.1
VNA2	Neumayer--Watz	16.52	160	P	Pn	12 12 18.6	-0.2
	baz=322,slow=15						
SNAA	Sanae	18.02	158	P	P	12 12 38.3	+0.2
SNAA	Sanae	18.02	158	eP	P	12 12 39.0	+0.9
SNAA	Sanae	18.02	158	P	Pn	12 12 37.7	+0.1
	0.9nm,0.3s,baz=318,slow=13,SNR=36						
SNAA	Sanae	18.02	158	eP	P	12 12 39.1	+1.0
PMSA	Palmer Station	20.92	230	P	P	12 13 09.9	+0.3
	31nm,0.5s,baz=52,slow=9.4,SNR=11						
PMSA	Palmer Station	20.92	230	eP	Pn	12 13 11.6	-0.5
USHA	Ushuaia	24.57	255	P	P	12 13 45.3	-1.8
	13nm,0.7s,baz=69,slow=7.6,SNR=6.0						
SYO	Syowa Base	30.53	140	⇑eP	P	12 14 39.2	-1.1
TRQA	Tornquist	30.75	290	eP	P	12 14 43.0	+0.5
	27nm,0.7s						
PLCA	Paso Flores	33.48	278	P	P	12 15 04.7	-1.9
	3.1nm,0.8s,baz=153,slow=9.4,SNR=4.9						
PLCA				LR	LR	12 29 15.6	
	comp=Z,798nm,19.1s,baz=104,slow=37						
QSPA	South Pole Qui	34.05	180	eP	P	12 15 11.6	+0.2
	33nm,0.6s						
CPUP	Villa Florida	38.04	308	P	P	12 15 46.1	+0.4
	18nm,0.6s,baz=135,slow=7.7,SNR=33						
CPUP				LR	LR	12 31 08.9	
	comp=Z,404nm,19.5s,baz=140,slow=36						
CPUP	Villa Florida	38.04	308	eP	P	12 15 46.0	+0.3
	1.2nm,0.6s						
MAW	Mawson	39.14	143	P	P	12 15 54.9	+0.5
	5.6nm,0.6s,baz=221,slow=11,SNR=3.9						
MAW				LR	LR	12 31 56.3	
	comp=Z,936nm,18.0s,baz=261,slow=36						
SUR	Sutherland	39.27	72	P	P	12 15 58.8	+2.6
	120nm,0.8s,SNR=7.2						
SUR	Sutherland	39.27	72	P	P	12 15 56.7	+0.5
	12nm,0.9s,baz=208,slow=11,SNR=13						
LCO	Las Campanas	42.33	290	eP	P	12 16 22.0	+0.4
BDFB	Brasilia	44.27	327	P	P	12 16 36.7	-0.4
	2.8nm,0.5s,baz=162,slow=7.4,SNR=4.7						
BDFB				LR	LR	12 34 13.6	
	comp=Z,871nm,18.8s,baz=158,slow=35						
BOSA	Boshof	44.59	73	eP	P	12 16 40.6	+0.9
BOSA				AMB	AMB	12 16 58.4	
	comp=Z,37nm,4.0s						
BOSA	Boshof	44.59	73	P	P	12 16 40.1	+0.4
	comp=Z,4.0nm,0.6s,baz=214,slow=7.5,SNR=11						
BOSA				LR	LR	12 32 52.2	
	comp=Z,1µm,18.0s,baz=218,slow=33						
BOSA	Boshof	44.59	73	eP	P	12 16 40.6	+0.9
SWZ	Schweizer	45.77	72	eP	P	12 16 49.3	+0.2
SWZ				AMB	AMB	12 17 02.0	
	comp=Z,45nm,1.9s						
SWZ	Schweizer	45.77	72	P	P	12 16 49.3	+0.2
SEK	Senekal	46.09	75	eP	P	12 16 52.0	+0.4
SEK				AMB	AMB	12 16 58.3	
	comp=Z,48nm,4.7s						
SEK	Senekal	46.09	75	P	P	12 16 52.0	+0.4
CRZF	Crozet Islands	46.40	112	S	S	12 23 15.0	-26
CRZF				R		12 32 00.0	
VNDA	Vanda	46.48	182	P	P	12 16 54.8	+0.9
	comp=Z,10nm,0.6s,baz=186,slow=6.8,SNR=24						
VNDA				LR	LR	12 36 35.0	
	comp=Z,442nm,19.2s,baz=172,slow=36						
VNDA	Vanda	46.48	182	eP	P	12 16 55.2	+1.4
LVC	Limon Verde	46.66	297	eP	P	12 16 56.8	+0.5
	comp=Z,103nm,0.8s						
LBTB	Lobatse	47.66	70	eP	P	12 17 04.2	+0.4
LBTB				AMB	AMB	12 17 07.3	
	comp=Z,28nm,1.8s						
LBTB	Lobatse	47.66	70	eP	P	12 17 04.2	+0.4
	comp=Z,18nm,0.6s						
H10S2	ASCENSION HYDR	47.77	13	T	T	13 10 19.6	
	baz=189,slow=74,SNR=5.0						
H10S3	ASCENSION HYDR	47.77	13	T	T	13 10 20.5	
	baz=189,slow=74,SNR=2.2						
H10S1	ASCENSION HYDR	47.78	13	T	T	13 10 20.4	
	baz=189,slow=74,SNR=1.9						
ERPM	east rand prop	48.00	74	eP	P	12 17 08.0	+1.5
ERPM				AMB	AMB	12 17 10.3	
	comp=Z,35nm,2.1s						
ERPM	east rand prop	48.00	74	P	P	12 17 08.0	+1.5
OBSV	Observatory	48.03	74	eP	P	12 17 04.1	-2.7
OBSV				AMB	AMB	12 17 08.4	
	comp=Z,13nm,1.8s						
TSUM	Tsumeb	48.49	58	eP	P	12 17 10.2	-0.1
	comp=Z,4.1nm,0.6s						
LPAZ	La Paz	51.69	302	P	P	12 17 36.3	+1.2
	comp=Z,33nm,0.8s,baz=152,slow=6.1,SNR=81						
LPAZ				LR	LR	12 38 46.1	
	comp=Z,226nm,21.8s,baz=146,slow=35						
LPAZ	La Paz	51.69	302	eP	P	12 17 36.4	+1.3
MOPA	Mopani	51.96	75	eP	P	12 17 36.8	+0.4
MOPA				AMB	AMB	12 17 50.6	
	comp=Z,24nm,4.6s						
MOPA	Mopani	51.96	75	P	P	12 17 36.8	+0.4
MSNA	Messina	52.17	73	eP	P	12 17 37.7	-0.4

MSNA AMB AMB 12 17 41.4
comp=Z,18nm,1.9s
MSNA Messina 52.17 73 P **P** 12 17 37.7 -0.4
SAML Samuel 55.98 312 eP **P** 12 18 06.1 +0.3
comp=Z,31nm,1.2s
NNA Nana 59.62 296 eP **P** 12 18 32.1 +0.6
PTGA Pitinga 62.23 319 eP **P** 12 18 49.0 -0.2
LIC Lamto 64.26 22 eP **P** 12 19 03.1 +0.6
comp=Z,48nm,1.0s
KIC Kosan Boka 64.45 22 eP **P** 12 19 03.8 0.0
comp=Z,129nm,1.8s
TIC Toumodi 64.67 22 eP **P** 12 19 05.8 +0.6
comp=Z,16nm,0.5s
DBIC Dimbokro 64.73 22 P **P** 12 19 05.6 0.0
comp=Z,5.4nm,0.5s,baz=172,slow=7.0,SNR=11
DBIC LR LR 12 42 31.9
comp=Z,263nm,18.5s,baz=176,slow=32
DBIC Dimbokro 64.73 22 eP **P** 12 19 06.0 +0.4
OTAV Otavalo 70.98 301 eP **P** 12 19 46.1 +0.5
comp=Z,12nm,0.9s
TOA0 Torodi Ar. Sit 72.50 27 eP **P** 12 19 54.0 -0.1
TORD Torodi Ar. Bea 72.50 27 P **P** 12 19 54.1 +0.1
comp=Z,17nm,0.5s,baz=200,slow=6.3,SNR=178
TORD LR LR 12 47 26.9
comp=Z,188nm,18.1s,baz=202,slow=32
ROSC El Rosal 73.15 307 LR LR 12 51 39.3
comp=Z,184nm,21.2s,baz=212,slow=36
KMBO Kilima Mbogo 73.73 67 LR LR 12 52 19.1
comp=Z,128nm,19.5s,baz=98,slow=36
SDV Santo Domingo 75.18 313 eP **P** 12 20 09.6 -0.4
comp=Z,26nm,0.9s
TAU Tasmania Unive 81.02 174 eP **P** 12 20 41.4 -0.6
comp=Z,16nm,0.9s
RKT Rikitea 81.70 241 eLR LR 12 46 22.1
comp=Z,355nm,31.0s
JTS JuntasAbangare 82.85 300 eP **P** 12 20 51.7 -0.2
comp=Z,9.8nm,0.9s
URZ Urewera 84.11 197 P **P** 12 20 58.6 +0.4
comp=Z,7.0nm,0.9s,baz=166,slow=8.3,SNR=4.6
MDT Midelt 90.28 17 P **P** 12 21 29.2 +1.2
comp=Z,1.5nm,0.7s,baz=207,slow=4.3,SNR=3.6
STKA Stephens Creek 91.48 168 P **P** 12 21 33.6 -0.1
comp=Z,1.3nm,0.6s,baz=147,slow=6.2,SNR=5.2
STKA LR LR 13 02 30.0
comp=Z,956nm,18.1s,baz=202,slow=36
PPT2 Papeete2 93.25 231 eLR LR 12 51 41.1
comp=Z,1μm,29.2s
PPT Papeete 93.27 231 LR LR 12 57 14.0
comp=Z,258nm,18.6s,baz=152,slow=31
KEST Kesra 96.02 27 LR LR 13 02 35.1
comp=Z,96nm,18.1s,baz=167,slow=34
ESDC Sonseca Array 97.10 16 LR LR 13 02 04.8
comp=Z,182nm,18.1s,baz=260,slow=33
ASAR Alice Springs 98.37 160 P **P** 12 22 04.3 -1.1
comp=Z,0.7nm,0.6s,baz=188,slow=4.2,SNR=21
DZM Mont Dzumac 101.48 190 eLR LR 12 55 35.0
comp=Z,240nm,26.4s
WRA Warramunga Arr 102.08 160 P **Pdif** 12 22 22.0 0.0
comp=Z,0.4nm,0.2s,baz=194,slow=4.3,SNR=12
TXAR Lajitas Array 108.18 296 PKiKP **PKiKP** 12 26 55.4 +0.2
comp=Z,0.2nm,0.8s,baz=152,slow=4.1,SNR=2.8
MVU Marysvale 119.75 295 ePKPdf **PKPdf** 12 27 17.7 +0.5
NOA NORSAR Array B 120.25 19 PKP **PKPdf** 12 27 17.5 +0.3
comp=Z,0.5nm,0.7s,baz=222,slow=2.0,SNR=2.8
ULM Lac du Bonnet 121.39 315 PKP **PKPdf** 12 27 18.8 -0.9
comp=Z,2.3nm,0.6s,baz=214,slow=4.6,SNR=3.4
PDAR Pinedale Array 121.68 300 PKP **PKPdf** 12 27 20.0 -0.8
comp=Z,0.8nm,0.5s,baz=142,slow=4.9,SNR=8.7
PDAR PKKPbc **PKKPbc** 12 37 19.8 +1.0
comp=Z,0.4nm,0.6s,baz=315,slow=0.2,SNR=3.8
PYUN Piuthan 122.51 87 eP **PKPdf** 12 27 19.9 -2.9
comp=Z,20nm,0.6s
KOLN Koldanda 122.59 88 eP **PKPdf** 12 27 21.7 -1.3
comp=Z,25nm,0.8s
NVAR Mina Array Bea 122.82 291 PKP **PKPdf** 12 27 23.4 +0.3
comp=Z,1.7nm,0.6s,baz=135,slow=2.9,SNR=16
DANN Dangsing 123.13 88 eP **PKPdf** 12 27 21.7 -2.4
comp=Z,30nm,0.7s
SUKH Sukhothai 123.18 109 P **PKKPbc** 12 37 11.2 -1.1
comp=Z,2.8nm,0.7s
DMN Daman 123.31 89 eP **PKPdf** 12 27 23.1 -1.3
comp=Z,11nm,0.7s
GKN Gorkha 123.35 89 eP **PKPdf** 12 27 23.1 -1.3
comp=Z,10nm,0.5s
PKI Pulchoki 123.45 90 eP **PKPdf** 12 27 23.4 -1.4
comp=Z,16nm,0.8s
KKN Kakani 123.55 89 eP **PKPdf** 12 27 22.4 -2.4
comp=Z,14nm,0.7s
CMAR Chiang Mai Arr 123.62 108 PKP **PKPdf** 12 27 24.5 -0.4
comp=Z,3.1nm,0.6s,baz=228,slow=3.6,SNR=17
RAMN Ramite 123.64 91 eP **PKPdf** 12 27 24.0 -1.0
comp=Z,17nm,0.5s
FINES FINESS Array B 123.85 27 PKP **PKPdf** 12 27 23.3 -0.7
comp=Z,1.7nm,0.5s,baz=154,slow=3.7,SNR=16
CHTO Chiang Mai 123.92 108 P PKKPbc 12 37 20.6 +11
comp=Z,38nm,0.7s
CMMT Chiang Mai 123.92 108 P PKKPbc 12 37 20.5 +11
comp=Z,11nm,0.7s
JIRN Jiri 123.96 90 eP **PKPdf** 12 27 24.9 -0.9
comp=Z,29nm,0.7s
GUN Gumba 123.98 90 eP **PKPdf** 12 27 23.8 -2.0
comp=Z,21nm,0.8s
LRM Limekiln Ridge 125.34 301 ePKPdf **PKPdf** 12 27 27.3 -0.4
HRY Holter Researc 125.69 302 ePKPdf **PKPdf** 12 27 28.4 +0.3
ABKAR Akbulak array 126.26 54 ePKPdf **PKPdf** 12 27 28.1 -0.9
CHMT Chamberlain Mo 126.51 301 ePKPdf **PKPdf** 12 27 27.5 -2.3
KKAR Karatay Array 126.93 66 ePKPdf **PKPdf** 12 27 29.6 -1.0
KSH Kashi 127.20 73 ePKP **PKPdf** 12 27 32.4 +1.1
KSH esPKP 12 27 47.3
KSH AMB AMB
comp=Z,54nm,5.8s
KSH LR LR
comp=Z,21nm,3.2s
KSH LR LR
comp=Z,79nm,5.0s
KSH LR LR
comp=Z,110nm,5.9s
LSA Lhasa 128.30 93 ePKPdf **PKPdf** 12 27 34.4 +0.2
QIZ Qiongzhong 129.69 119 PKP **PKPdf** 12 27 36.7 +0.2
QIZ PP **PP** 12 29 49.0 +1.9
QIZ SS SS 12 47 11.4 +1.2
QIZ LR LR
comp=Z,190nm,14.7s
QIZ LR LR
comp=Z,210nm,17.2s
ARCES ARCESS Array B 130.55 21 PKP **PKPdf** 12 27 36.4 -0.2
comp=Z,2.0nm,0.6s,baz=187,slow=1.5,SNR=18
ARCES SKP 12 31 13.0
comp=Z,4.9nm,0.9s,baz=32,slow=23,SNR=3.0
KMI Kunming 131.08 107 PKP **PKPdf** 12 27 40.9 +1.6
KMI PP PP 12 30 02.4 +5.8
KMI SS SS 12 47 29.9 +1.9
KMI AMB AMB
comp=Z,40nm,3.6s
KMI LR LR
comp=Z,97nm,21.4s
GYA Guiyang 134.24 110 ePdif **Pdif** 12 24 45.6 +0.8
GYA PKP **PKPdf** 12 27 45.2 +0.1
GYA sPKP 12 28 01.0
GYA PP **PP** 12 30 21.5 +4.9
GYA PKS **PKSdf** 12 31 21.4 -0.2
GYA SKKS 12 37 08.6
GYA SS **SS** 12 48 05.2 -0.9
GYA AMB AMB
comp=Z,120nm,7.6s
GYA LR LR
comp=Z,590nm,22.4s
GYA LR LR
comp=Z,530nm,21.0s
GYA LR LR
comp=Z,600nm,23.6s
MK31 Makanchi Array 135.55 70 ePKPdf **PKPdf** 12 27 45.6 -1.1
MKAR Makanchi Array 135.55 70 PKhKP PKPpre 12 27 32.3
comp=Z,0.2nm,0.6s,baz=246,slow=3.7,SNR=4.0
MKAR PKP **PKPdf** 12 27 45.7 -1.1
comp=Z,0.8nm,0.7s,baz=250,slow=2.7,SNR=8.1
CD2 Chengdu 136.19 103 PKP **PKPdf** 12 27 49.1 +0.6
CD2 sPKP 12 28 04.2
CD2 PP **PP** 12 30 33.4 +4.4
CD2 PKS **PKSdf** 12 31 24.0 -0.8
CD2 SKS **SKSdf** 12 34 54.4 -4.9
CD2 SKKS **SKKSac** 12 37 20.1 -3.4
CD2 SS **SS** 12 48 29.3 -0.2
CD2 AMB AMB
comp=Z,180nm,5.2s
WMQ Urumqi 136.50 77 ePKP **PKPdf** 12 27 49.7 +1.0
WMQ PP **PP** 12 30 35.0 +4.0
WMQ PKS **PKSdf** 12 31 24.5 -0.3
WMQ SKS **SKSdf** 12 34 55.1 -4.1
WMQ SKKS **SKKSac** 12 37 21.9 -3.0
WMQ SS **SS** 12 48 31.8 -1.5
WMQ LR LR
comp=Z,140nm,23.8s
WMQ LR LR
comp=Z,120nm,22.0s
WMQ LR LR
comp=Z,150nm,24.2s
YKA Yellowknife Ar 137.28 317 PKhKP PKPpre 12 27 36.5
comp=Z,0.4nm,0.5s,baz=127,slow=3.3,SNR=14
YKA PKP **PKPdf** 12 27 49.6 +0.2
comp=Z,2.0nm,0.6s,baz=122,slow=2.6,SNR=29
YKA SKPab **SKPab** 12 31 29.3 -0.2
comp=Z,0.4nm,0.8s,baz=131,slow=4.0,SNR=3.0
YKW3 Yellowknife Ar 137.32 317 ePKPdf **PKPdf** 12 27 48.5 -0.9
LZH Lanzhou 140.13 98 ePKP **PKPdf** 12 27 56.0 +0.3
LZH sPKP 12 28 11.3
LZH ePP **PP** 12 30 58.0 +4.4
LZH SKKS 12 37 45.0
LZH eSS **SS** 12 49 15.2 -1.2
LZH AMB AMB
comp=Z,140nm,5.8s
LZH LR LR
comp=Z,170nm,18.0s
LZH LR LR
comp=Z,170nm,18.2s
LZH LR LR
comp=Z,200nm,20.3s
ZALV Zalesovo Beam 141.12 63 PKhKP PKPpre 12 27 48.4
comp=Z,1.2nm,0.3s,baz=232,slow=2.9,SNR=5.4
ZALV PKP **PKiKP** 12 27 58.2 -1.2
comp=Z,0.6nm,0.4s,baz=243,slow=1.7,SNR=4.5
NJ2 Nanjing 144.99 118 ePKPbc **PKPab** 12 28 03.6 +0.1
TIA Tai'an 147.39 111 PKPbc **PKPbc** 12 28 10.6 -0.1
HHC Hu-ho-hao-te 147.77 100 ePKPbc **PKPbc** 12 28 10.4 -1.3
HHC sPKP 12 28 27.3
HHC PP **PP** 12 31 39.0 -0.3
HHC SS SS 12 50 44.2 +0.1
HHC AMB AMB
comp=Z,170nm,4.4s
HHC LR LR
comp=Z,380nm,18.6s
HHC LR LR
comp=Z,330nm,13.7s
HHC LR LR
comp=Z,150nm,14.1s
SONM Songino Array 149.27 85 PKP **PKPdf** 12 28 10.4 -0.7
comp=Z,9.6nm,0.6s,baz=207,slow=2.0,SNR=13
SONM PKPbc **PKPbc** 12 28 15.0 -0.4
comp=Z,9.6nm,0.6s,baz=221,slow=2.9,SNR=65
BJI Beijing 149.72 106 PKPbc **PKPbc** 12 28 16.0 -0.5
ILAR Eielson Array 151.32 311 PKP **PKPdf** 12 28 12.1 -1.4
comp=Z,0.4nm,0.8s,baz=248,slow=0.7,SNR=4.4
ILAR PKPbc **PKPbc** 12 28 19.6 0.0
comp=Z,10.0nm,0.6s,baz=135,slow=3.3,SNR=149
KSAR Wonju Array Be 153.69 124 PKPbc **PKPbc** 12 28 25.8 0.0
KSAR PKPab **PKPab** 12 28 38.2 -0.3
KSRS Korea Array 153.71 124 PKPbc **PKPbc** 12 28 25.8 0.0
comp=Z,1.4nm,0.6s,baz=202,slow=2.0,SNR=7.7
KSRS PKPab **PKPab** 12 28 38.3 -0.3
comp=Z,2.0nm,0.7s,baz=207,slow=3.0,SNR=7.4
CN2 Changchun 157.28 110 ePKP **PKPdf** 12 28 21.4 -1.1
CN2 epPKP **pPKPdf** 12 28 31.8 +5.8
CN2 eSS SS 12 52 25.6 -2.5
MDJ Mudanjiang 159.99 114 PKP **PKPdf** 12 28 27.5 +1.8
MDJ AMB AMB
comp=Z,92nm,4.0s

IDC ***08*** *12:29:43.8±0.8, 6.00S×130.79E, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.1/32, mbtmp4.2/11, ML4.4/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/30, Error ellipse: s-maj=31.4km s-min=15.4km az=70.0*
ISCJB ***08*** *12:29:52.8±0.2, 6.12S±0.03×130.67E±0.04, h86km, mb4.6/25, Error ellipse: s-maj=6.2km s-min=4.0km az=167.9*
BJI ***08*** *12:29:53.3, 5.73S×131.30E, h102km, mB4.8/7, mb4.7/16*
NEIC ***08*** *12:29:55.1±0.9, 6.18S×130.81E, h100km±10km, mb4.7/13, Error ellipse: s-maj=10.2km s-min=6.8km az=69.0*
DJA ***08*** *12:30:07.1±0.4, 5°S±6°×13°1E±°, h186km±6km, M4.8/24, mB5.3/6, mb4.8/24, MLv4.9/11, Mw(mB)4.7/6*
ISC 08 12:29:54.9±0.3, 6.11S±0.04×130.74E±0.05, h86km, n110, σ1§41/90, mb4.7/25, 13C-10D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	1.79	332	P	Pn	12 30 30.0	+5.9
SAUI	**Saumlaki**	1.94	163	P	Pn	12 30 31.2	+5.0
MSAI	**Masohi**	3.29	327	P	Pn	12 30 50.3	+6.1
FAKI	**Fak Fak**	3.51	25	P	**Pn**	12 30 49.0	+1.7
FAKI	**Fak Fak**	3.51	25	ePn	**Pn**	12 30 48.3	+1.1
FAKI				eSn	**Sn**	12 31 26.5	-1.2
FAKI	**Fak Fak**	3.51	25	⇓P	**Pn**	12 30 48.9	+1.7
	baz=3.6,SNR=308						
KMPI	**Kaimana, Papua**	3.83	51	P	Pn	12 31 00.4	+8.9
NLAI	**Namlea**	4.62	308	P	Pn	12 31 11.5	+9.2
SWI	**Sorong**	5.24	6	P	**Pn**	12 31 11.8	+1.0
SWI	**Sorong**	5.24	6	⇓P	Pn	12 31 13.6	+2.8
	baz=5.3						
RKPI	**Ransiki, Papua**	5.71	37	P	Pn	12 31 19.8	+2.6
SANI	**Sanana**	6.22	310	P	Pn	12 31 27.9	+3.7
	62nm,0.7s,881nm0.2nm						
LBMI	**Labuha**	6.33	329	P	Pn	12 31 29.1	+3.5
	111nm,1.0s,2μm0.7nm						
MTN	**Manton Dam**	6.70	177	⇓P	**Pn**	12 31 32.1	+1.4
	baz=6.7,SNR=286						
KDU	**Kakadu**	6.75	165	⇑P	**Pn**	12 31 32.1	+0.7
	baz=6.8,SNR=175						
BAKI	**Biak**	7.25	48	P	Pn	12 31 41.5	+3.3
	381nm,0.6s,4μm1.3nm						
SOEI	**Soe**	7.37	240	P	Pn	12 31 43.2	+3.3
SOEI	**Soe**	7.37	240	ePn	**Pn**	12 31 42.0	+2.2
	74nm,0.6s						
SOEI	**Soe**	7.37	240	⇑P	**Pn**	12 31 43.0	+3.1
	baz=7.3,SNR=27						
KNRA	**Kununurra**	9.70	191	⇑P	**Pn**	12 32 11.7	0.0
	baz=9.7,SNR=250						
GENI	**Genyem**	10.03	70	P	**Pn**	12 32 18.2	+2.1
	101nm,0.8s						
JAY	**Jayapura**	10.56	71	P	Pn	12 32 31.8	+8.5
	51nm,0.6s,4μm						
MRSI	**Marisa**	10.96	306	P	**Pn**	12 32 31.8	+3.1
	36nm,0.7s						
SPSI	**Sidrap Palu**	11.14	281	P	Pn	12 32 40.1	+8.9
	18nm,0.9s						
TTSI	**Tana Toraja**	11.30	285	P	Pn	12 32 42.9	+9.4
	28nm,0.9s						
FITZ	**Fitzroy Crossi**	12.92	202	⇓P	Pn	12 32 52.1	-3.1
	baz=13,SNR=76						
WRAB	**Tennant Creek**	14.18	166	ePn	Pn	12 33 07.7	-4.1
	12nm,0.6s						
WRAB				eSn	Sn	12 35 38.4	-9.5
WRA	**Warramunga Arr**	14.19	166	Pn	Pn	12 33 07.8	-4.1
	1.4nm,0.3s,baz=344,slow=13,SNR=57						
WRA				Sn	Sn	12 35 38.4	-10
	8.4nm,0.3s,baz=335,slow=23,SNR=14						
COEN	**Coen**	14.51	123	ePn	**Pn**	12 33 15.5	-0.5
	228nm,0.4s						
COEN				eSn	Sn	12 35 45.4	-10
COEN	**Coen**	14.51	123	⇑P	**Pn**	12 33 15.4	-0.7
	baz=15,SNR=184						
BBKI	**Banjar Baru**	16.06	279	P	**P**	12 33 41.1	+3.6
	118nm,0.8s						
PMG	**Port Moresby**	16.59	102	⇓P	**P**	12 33 44.7	+1.3
	baz=17						
JAGI	**Jajag, Banyuwa**	16.62	261	⇑P	**Pn**	12 33 42.0	-0.7
	baz=16,SNR=4.8						
KMMI	**Kalianget**	16.69	266	P	P	12 33 50.4	+5.9
	56nm,0.8s						
QIS	**Mount Isa**	16.74	150	⇑P	**P**	12 33 45.4	+0.4
	baz=17,SNR=10						
BLJI	**Banyuglugur**	17.10	264	P	**P**	12 33 51.8	+2.8
	46nm,0.6s						
GMJI	**Gumukmas**	17.30	262	P	**P**	12 33 55.7	+4.5
	18nm,0.8s						
AS15	**Alice Springs**	17.69	170	⇑P	**P**	12 33 54.7	-0.8
	baz=18						
AS05	**Alice Springs**	17.71	170	⇑P	**P**	12 33 55.0	-0.7
	baz=18						
AS31	**Alice Springs**	17.72	170	ePn	**P**	12 33 54.9	-0.9
ASAR	**Alice Springs**	17.72	170	P	**P**	12 33 55.1	-0.7
	1.7nm,0.3s,baz=348,slow=9.0,SNR=193						
ASAR				S	Sn	12 37 03.9	-9.5
	2.1nm,0.3s,baz=351,slow=26,SNR=15						
MTSU	**Mount Surprise**	17.84	133	⇑P	**Pn**	12 33 59.1	+1.5
	baz=18,SNR=20						
MBWA	**Marble Bar**	18.37	214	eP	**P**	12 34 02.4	-0.6
	16nm,0.6s						
KKM	**Kota Kinabalu**	18.87	310	eP	**P**	12 34 08.5	0.0
KKM	**Kota Kinabalu**	18.87	310	⇑P	**P**	12 34 09.0	+0.4
	baz=19,SNR=4.9						
WRKA	**Warakurna**	18.96	187	⇓P	**P**	12 34 10.2	+0.7
	baz=19,SNR=105						
STKI	**Sintang**	20.18	287	P	**P**	12 34 24.0	+1.2
	31nm,0.5s						
CTA	**Charters Tower**	20.50	134	P	**P**	12 34 24.5	-1.6
	1.3nm,0.5s,baz=299,slow=10,SNR=2.5						
CTAO	**Charters Tower**	20.50	134	P	**P**	12 34 24.1	-2.0
KPJI	**Karang Pucung**	21.70	266	P	P	12 34 52.6	+14
KSM	**Kuching**	21.75	290	eP	P	12 34 36.0	-3.5
CISI	**Cisompet, Garu**	22.81	265	P	**P**	12 34 51.4	+0.5
	106nm,0.9s						
CISI	**Cisompet, Garu**	22.81	265	eP	**P**	12 34 49.0	-1.8
	33nm,0.6s						
CISI	**Cisompet, Garu**	22.81	265	⇓P	**P**	12 34 51.1	+0.2
	baz=23,SNR=3.3						
LEM	**Lembang**	22.99	267	P	**P**	12 34 55.8	+3.0
	41nm,0.8s						
MEEK	**Meekatharra**	23.46	208	⇓P	**P**	12 34 56.9	0.0
	baz=24,SNR=6.7						
CNJI	**Cibinong**	23.48	266	P	**P**	12 34 56.8	-0.4
	168nm,1.0s						
CBJI	**Citeko**	23.75	268	P	**P**	12 35 01.2	+1.6
	173nm,0.3s						
QLP	**Quilpie**	24.08	149	⇑P	**P**	12 35 04.0	+1.6
	baz=24,SNR=3.8						
LWLI	**Liwa**	26.58	271	P	**P**	12 35 26.6	+1.2
	419nm,0.5s,41μm						
MORW	**Morawa**	26.73	210	⇑P	**P**	12 35 26.4	0.0
	baz=27,SNR=3.4						
STKA	**Stephens Creek**	27.57	160	P	**P**	12 35 33.4	-0.5
	1.0nm,0.5s,baz=334,slow=8.2,SNR=5.1						
STKA	**Stephens Creek**	27.57	160	⇓P	**P**	12 35 33.3	-0.6
	baz=28,SNR=4.0						
KLBR	**Kellerberrin**	28.11	204	⇑P	**P**	12 35 38.6	-0.2
	baz=28,SNR=6.8						
NWAO	**Narrogin (SRO)**	29.50	204	P	**P**	12 35 50.9	-0.1
	8.5nm,1.0s,baz=30,slow=8.1,SNR=4.7						
JOW	**Kunigami**	32.84	356	LR	LR	12 47 25.1	
	comp=Z,8.0nm,20.7s,baz=357,slow=32						
PSI	**Prapat**	32.98	285	P	**P**	12 36 22.0	-0.1
	11nm,0.7s,baz=128,slow=4.5,SNR=8.3						
WHN	**Wuhan**	39.69	338	P	P	12 37 13.8	-4.9
CMAR	**Chiang Mai Arr**	39.74	309	P	**P**	12 37 18.8	-0.6
	2.0nm,0.4s,baz=135,slow=7.2,SNR=20						
KSAR	**Wonju Array Be**	43.41	357	P	**P**	12 37 48.7	-0.3
KSRS	**Korea Array**	43.42	357	P	**P**	12 37 48.7	-0.4
	0.5nm,0.5s,baz=176,slow=9.2,SNR=3.1						
XAN	**Xi'an**	44.96	334	P	**P**	12 37 59.9	-1.7
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,25nm,5.2s						
LSA	**Lhasa**	52.08	315	eP	**P**	12 38 55.9	-0.9
	5.3nm,0.6s						
ODAN	**Odare**	53.24	310	eP	**P**	12 39 04.0	-1.2
	16nm,0.5s						
TAPN	**Taplejung**	53.26	311	eP	**P**	12 39 03.4	-2.0
	22nm,0.5s						
RAMN	**Ramite**	53.89	310	eP	**P**	12 39 09.0	-1.0
	60nm,0.7s						
JIRN	**Jiri**	54.57	310	eP	**P**	12 39 13.8	-1.2
GUN	**Gumba**	54.94	310	eP	**P**	12 39 16.4	-1.2
	46nm,0.7s						
PKI	**Pulchoki**	55.12	310	eP	**P**	12 39 17.4	-1.6
PKIN	**Phulchoki**	55.13	310	eP	**P**	12 39 17.9	-1.1
	4.1nm,0.3s						
KKN	**Kakani**	55.33	310	eP	**P**	12 39 18.6	-1.7
	22nm,0.7s						
DMN	**Daman**	55.37	310	eP	**P**	12 39 19.5	-1.2
GKN	**Gorkha**	55.93	310	eP	**P**	12 39 23.3	-1.2
	24nm,0.5s						
KOLN	**Koldanda**	56.61	309	eP	**P**	12 39 28.3	-1.2
	24nm,0.8s						
DANN	**Dangsing**	56.77	310	eP	**P**	12 39 29.2	-1.5
PYUN	**Piuthan**	57.24	309	eP	**P**	12 39 32.7	-1.2
	60nm,0.8s						
ULN	**Ulaanbaatar**	57.66	341	eP	**P**	12 39 35.9	-0.5
	5.6nm,0.7s						
SONM	**Songino Array**	57.84	341	P	**P**	12 39 37.1	-0.6
	2.5nm,0.7s,baz=160,slow=6.6,SNR=14						
KSH	**Kashi**	67.87	317	eP	**P**	12 40 44.6	+0.2
KSH				ePP	**PP**	12 43 17.1	+1.9
KSH				ePcS		12 45 14.8	
KSH				S	S	12 49 25.7	-11
KSH				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,37nm,2.9s						
KSH				LR	LR		
	comp=N,150nm,5.4s						
KSH				LR	LR		
	comp=E,46nm,4.7s						
KSH				LR	LR		
	comp=Z,140nm,5.7s						
MK31	**Makanchi Array**	67.89	326	eP	**P**	12 40 43.6	-0.7
MKAR	**Makanchi Array**	67.89	326	P	**P**	12 40 43.7	-0.6
	15nm,0.5s,baz=113,slow=8.8,SNR=293						
KZA	**Kyzart**	69.59	319	P	**P**	12 40 55.6	+0.2
	SNR=5.5						
KBK	**Karagaybulak**	70.06	320	P	**P**	12 40 57.9	-0.1
	SNR=6.3						
UCH	**Uchtor**	70.14	319	P	**P**	12 40 58.8	0.0
	SNR=8.5						
AAK	**Ala-Archa**	70.34	319	P	**P**	12 40 59.9	+0.1
	SNR=6.8						
AAK	**Ala-Archa**	70.34	319	eP	**P**	12 40 59.2	-0.5
	5.9nm,0.5s						
AML	**Almayashu**	70.63	319	P	**P**	12 41 01.7	0.0
	SNR=11						
USP	**Ospenovka**	70.65	320	P	**P**	12 41 01.1	-0.3
	SNR=9.2						
KBL	**Kabul**	70.76	310	eP	**P**	12 41 01.1	-1.3
	12nm,0.9s						
KBL	**Kabul**	70.76	310	⇓P	**P**	12 41 01.5	-0.9
	baz=71						
EKS2	**Erkin-Say**	70.82	319	P	**P**	12 41 02.9	+0.4
	SNR=5.3						
EKS2	**Erkin-Say**	70.82	319	eP	**P**	12 41 02.4	-0.2
	8.6nm,0.8s						
ZAA0	**Zalesovo Array**	71.12	333	eP	**P**	12 41 01.9	-2.1
ZALV	**Zalesovo Beam**	71.12	333	P	**P**	12 41 02.3	-1.6
	1.1nm,0.5s,baz=108,slow=4.8,SNR=12						
KURK	**Kurchatov**	72.15	328	eP	**P**	12 41 08.4	-1.8
	3.0nm,0.8s						
KKAR	**Karatay Array**	73.17	318	eP	**P**	12 41 15.8	-0.7
	12nm,1.1s						
ABKAR	**Akbulak array**	82.28	321	eP	**P**	12 42 05.0	-1.9
	0.9nm,0.5s						
RAYN	**Ar Rayn**	88.06	294	eP	**P**	12 42 35.0	-1.4
	12nm,1.0s						
ILAR	**Eielson Array**	92.23	25	P	**P**	12 42 55.3	+0.4
	0.6nm,1.1s,baz=250,slow=4.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	129.35	282	PKP	**PKPdf**	12 48 52.9	-1.6
	0.4nm,0.5s,baz=103,slow=2.6,SNR=3.4						

IDC 08 12:41:50.3±11.0, 25.40S×179.68E, h459km±138km, mb3.0/3, mb1 3.3/4, mb1mx2.9/29, mbtmp3.9/4, Error ellipse: s-maj=88.2km s-min=31.1km az=8.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	13.00	189	P	P	12 44 40.3	+0.5
	1.0nm,0.3s,baz=287,slow=3.8,SNR=16						
URZ				S	S	12 46 56.6	-3.0
	0.2nm,0.3s,baz=152,slow=16,SNR=2.8						
ASAR	**Alice Springs**	41.53	262	P	P	12 48 56.8	+0.2
	0.4nm,0.3s,baz=93,slow=7.7,SNR=33						
WRA	**Warramunga Arr**	42.04	268	P	P	12 49 00.1	-0.6
	0.8nm,0.4s,baz=100,slow=6.2,SNR=23						
TXAR	**Lajitas Array**	91.47	58	P	P	12 54 07.3	+0.3
	0.4nm,0.9s,baz=215,slow=6.1,SNR=3.5						

IDC ***08*** *12:55:03.5±0.9, 66.60N×175.23W, h0km, mb3.4/8, mb1 3.6/10, mb1mx3.5/40, mbtmp3.4/10, ML3.3/2, Error*

ellipse: s-maj=49.9km s-min=15.9km az=5.0

ISC 08 12:55:04.7±0.8, 67.0N±0.2×174.66W±0.07, h10km, n10, σ1.52/12, mb3.4/8, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR	Eielson Array	11.53	88	Pn	Pn	12 57 48.2	-0.8
	0.1nm,0.3s,baz=288,slow=14,SNR=11						
ILAR				Sn	Sn	12 59 56.8	-0.9
	0.0nm,0.3s,baz=318,slow=33,SNR=3.3						
INK	Inuvik	15.49	66	Pn	P	12 58 46.8	-0.5
	0.1nm,0.3s,baz=292,slow=11,SNR=8.3						
INK				Sn	Sn	13 01 32.2	-1.9
	0.0nm,0.3s,baz=126,slow=14,SNR=2.9						
YKA	Yellowknife Ar	25.11	71	P	P	13 00 31.9	+2.8
	0.1nm,0.6s,baz=303,slow=9.4,SNR=3.0						
NVAR	Mina Array Bea	42.26	103	P	P	13 02 58.4	+0.3
	0.5nm,0.7s,baz=316,slow=6.2,SNR=4.2						
SONM	Songino Array	43.09	285	P	P	13 03 04.8	+0.2
	0.4nm,0.9s,baz=72,slow=6.2,SNR=2.5						
ZALV	Zalesovo Beam	45.62	306	P	P	13 03 25.4	+0.8
	1.0nm,0.7s,baz=35,slow=8.8,SNR=4.0						
MKAR	Makanchi Array	52.61	303	P	P	13 04 18.4	+0.2
	0.3nm,0.6s,baz=41,slow=5.0,SNR=3.2						
TXAR	Lajitas Array	55.95	95	P	P	13 04 44.5	+1.6
	0.1nm,0.6s,baz=317,slow=6.2,SNR=2.6						
CMAR	Chiang Mai Arr	71.77	274	P	P	13 06 25.2	-1.9
	0.3nm,0.3s,baz=7.5,slow=8.1,SNR=4.6						
ASAR	Alice Springs	98.19	226	P	P	13 08 40.8	-0.8
	0.2nm,0.8s,baz=41,slow=7.4,SNR=3.3						

ISCJB 08 12:59:41.6±0.5, 23.2S±0.1×69.27E±0.09, h14km, mb4.0/17, MS3.9/5, Error ellipse: s-maj=16.6km s-min=12.1km az=169.3

IDC 08 12:59:41.2±0.7, 23.22S×69.21E, h0km, mb4.0/15, mb1 4.1/15, mb1mx4.0/34, mbtmp4.0/15, MS3.9/5, Ms1 3.9/5, ms1mx3.3/41, Error ellipse: s-maj=22.2km s-min=16.1km az=175.0

NEIC 08 12:59:42.8±0.4, 23.19S×69.23E, h10km, mb4.3/2, Error ellipse: s-maj=12.4km s-min=9.1km az=169.0

ISC 08 12:59:43.5±0.7, 23.2S±0.2×69.2E±0.1, h14km, n34, σ0.73/24, mb4.1/17, MS4.0/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	15.78	12	T	T	13 19 34.0	
	baz=192,slow=76,SNR=53						
H08S2	Diego Garcia H	15.78	12	T	T	13 19 34.2	
	baz=192,slow=76,SNR=111						
H08S3	Diego Garcia H	15.79	12	T	T	13 19 35.4	
	baz=192,slow=76,SNR=120						
H08N3	Diego Garcia H	16.84	6	T	T	13 20 58.9	
	baz=169,slow=79,SNR=8.8						
H08N1	Diego Garcia H	16.85	6	T	T	13 21 02.2	
	baz=169,slow=79,SNR=3.9						
H08N2	Diego Garcia H	16.86	6	T	T	13 21 01.7	
	baz=169,slow=79,SNR=7.6						
OPO	Ambohidratompo	21.09	278	LR	LR	13 10 21.5	
	comp=Z,344nm,21.8s,baz=49,slow=30						
KMBO	Kilima Mbogo	38.00	301	P	P	13 07 01.9	+0.3
	1.1nm,0.5s,baz=140,slow=7.9,SNR=4.3						
LSZ	Lusaka	39.43	274	P	P	13 07 14.0	+0.5
	2.8nm,0.7s,baz=84,slow=8.7,SNR=3.5						
LBTB	Lobatse	39.74	258	P	P	13 07 15.9	0.0
	0.8nm,0.5s,baz=108,slow=6.4,SNR=2.3						
BOSA	Boshof	39.75	253	P	P	13 07 15.8	-0.2
	2.1nm,0.7s,baz=89,slow=8.5,SNR=3.8						
BOSA				LR	LR	13 20 41.5	
	comp=Z,222nm,18.9s,baz=96,slow=32						
H01W2	Cape Leeuwin H	40.65	117	T	T	13 50 36.0	
	baz=274,slow=74,SNR=10						
H01W3	Cape Leeuwin H	40.65	117	T	T	13 50 36.7	
	baz=274,slow=74,SNR=8.2						
H01W1	Cape Leeuwin H	40.67	117	T	T	13 50 37.1	
	baz=274,slow=74,SNR=6.7						
CM31	Chiang Mai Arr	50.56	38	P	P	13 08 41.3	-0.5
CMAR	Chiang Mai Arr	50.56	38	P	P	13 08 42.8	+0.9
	3.5nm,1.0s,baz=231,slow=7.2,SNR=20						
CMAR				LR	LR	13 29 03.5	
	comp=Z,68nm,18.1s,baz=196,slow=35						
ASAR	Alice Springs	58.86	104	P	P	13 09 42.0	-0.2
	2.4nm,0.8s,baz=252,slow=6.3,SNR=61						
ASAR				LR	LR	13 32 11.6	
	comp=Z,104nm,19.2s,baz=254,slow=33						
AS31	Alice Springs	58.86	104	eP	P	13 09 42.1	-0.1
WRA	Warramunga Arr	60.20	100	P	P	13 09 51.4	-0.1
	2.3nm,1.0s,baz=254,slow=7.3,SNR=12						
QSPA	South Pole Qui	66.92	180	P	P	13 10 35.6	+0.3
	2.0nm,1.2s,baz=246,slow=7.1,SNR=3.6						
MK31	Makanchi Array	70.66	9	eP	P	13 10 58.3	-0.2
MKAR	Makanchi Array	70.66	9	P	P	13 10 58.2	-0.3
	1.6nm,0.7s,baz=193,slow=5.4,SNR=16						
BRTR	Keskin Array B	70.87	332	P	P	13 11 01.1	+1.0
	1.1nm,0.9s,baz=162,slow=8.6,SNR=4.1						
ABKAR	Akbulak array	72.60	354	eP	P	13 11 09.6	-0.4
	2.6nm,1.0s						
TORD	Torodi Ar. Bea	75.28	291	P	P	13 11 25.4	-1.2
	0.6nm,0.9s,baz=96,slow=4.2,SNR=2.6						
TORD				LR	LR	13 44 03.2	
	comp=Z,96nm,18.1s,baz=305,slow=35						
ZAA0	Zalesovo Array	78.00	9	eP	P	13 11 40.2	-0.8
ZALV	Zalesovo Beam	78.00	9	P	P	13 11 40.9	-0.1
	2.3nm,0.8s,baz=187,slow=4.9,SNR=11						
SONM	Songino Array	78.20	25	P	P	13 11 43.0	+0.6
	1.1nm,0.9s,baz=239,slow=7.7,SNR=6.3						
ULN	Ulaanbaatar	78.47	25	eP	P	13 11 43.4	-0.7
	3.8nm,1.2s						
AKASG	Malin Array Be	81.61	336	P	P	13 12 00.8	+0.2
	0.1nm,0.3s,baz=138,slow=4.3,SNR=2.7						
KSAR	Wonju Array Be	81.73	43	P	P	13 12 01.9	+0.2
KSRS	Korea Array	81.76	43	P	P	13 12 01.9	+0.1
	1.0nm,0.6s,baz=236,slow=5.4,SNR=5.7						
YKA	Yellowknife Ar	140.64	3	PKP	PKPdf	13 19 13.6	+1.6
	0.2nm,0.8s,baz=359,slow=2.7,SNR=4.4						
ULM	Lac du Bonnet	150.59	340	PKPbc	PKPbc	13 19 33.1	-1.6
	0.8nm,0.5s,baz=284,slow=1.7,SNR=2.3						

IDC 08 13:23:21.7±0.8, 1.38N×122.85E, h0km, mb3.8/10, mb1 3.8/10, mb1mx3.6/41, mbtmp3.8/10, MS3.5/4, Ms1 3.6/4, ms1mx3.0/45, Error ellipse: s-maj=52.3km s-min=16.5km az=67.0

DJA 08 13:23:25.9±0.8, 2°N±6°×12°3E±°, h10km, M4.7/10, mb4.9/4, mB5.0/2, MLv4.7/10, Mw(mB)4.3/2

ISCJB 08 13:23:26.1±0.5, 1.63N±0.05×123.09E±0.06, h39km, mb3.8/10, MS3.5/4, Error ellipse: s-maj=8.7km s-min=6.7km az=177.8

ISC 08 13:23:28.0±0.7, 1.60N±0.07×123.10E±0.06, h39km, n25, σ1.91/22, mb3.8/10, MS3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.96	185	P	Pn	13 23 39.6	-5.4
KMSI	Cibinong	1.35	139	P	Pn	13 23 47.7	-2.6
KMSI				S	Sn	13 24 06.3	-0.7
MRSI	Marisa	1.60	226	P	Pn	13 23 51.0	-2.9
MRSI				S	Sn	13 24 10.1	-3.2
LUWI	Luwuk	2.64	187	P	Pn	13 24 08.7	+0.6
LUWI				S	Sn	13 24 42.3	+3.4
APSI	Ampana	2.88	210	P	Pn	13 24 13.1	+1.7
SANI	Sanana	4.63	141	P	Pn	13 24 37.7	+2.2
LBMI	Labuha	4.93	117	P	Pn	13 24 57.8	+18
TTSI	Tana Toraja	5.66	215	P	Pn	13 24 51.4	+1.8
	193nm,0.9s,1μm0.6nm						
SPSI	Sidrap Palu	6.45	211	P	Pn	13 25 01.7	+1.2
	73nm,1.0s,0.2nm						
BNSI	Bone	6.66	207	P	Pn	13 25 05.0	+1.5
	124nm,1.0s,988nm0.3nm						
BKSI	Bulukumba	7.49	203	P	Pn	13 25 16.4	+1.6
WRA	Warramunga Arr	24.08	153	P	P	13 28 38.2	-1.8
	1.3nm,0.6s,baz=337,slow=9.6,SNR=22						
ASAR	Alice Springs	27.22	158	P	P	13 29 06.8	-1.7
	0.2nm,0.6s,baz=345,slow=16,SNR=4.4						
CMAR	Chiang Mai Arr	29.02	307	LR	LR	13 42 47.0	
	comp=Z,64nm,18.5s,baz=163,slow=40						
JCJ	Chichijima	31.28	34	LR	LR	13 45 06.5	
	comp=Z,36nm,18.4s,baz=232,slow=41						
STKA	Stephens Creek	37.63	154	P	P	13 30 37.5	-1.8
	0.7nm,0.7s,baz=336,slow=17,SNR=2.9						
SONM	Songino Array	48.28	345	P	P	13 32 06.5	+1.1
	2.1nm,0.8s,baz=160,slow=8.9,SNR=20						
PETK	Petropavlovsk-	58.79	24	P	P	13 33 23.7	+1.4
	5.0nm,1.0s,baz=218,slow=9.4,SNR=4.2						
ZALV	Zalesovo Beam	60.91	335	P	P	13 33 36.1	-0.7
	0.4nm,0.3s,baz=139,slow=5.5,SNR=4.2						
KURBB	Kurchatov Arra	61.64	329	P	P	13 33 42.3	+0.5
	0.4nm,0.4s,baz=129,slow=6.4,SNR=6.1						
SEY	Seymchan	64.95	14	P	P	13 34 04.4	+1.0
	1.2nm,0.8s,baz=183,slow=6.4,SNR=4.1						
BVAR	Borovoye Array	67.18	329	P	P	13 34 17.5	-0.5
	0.7nm,1.0s,baz=143,slow=5.0,SNR=2.3						
AKTO	Aktyubinsk	73.11	323	P	P	13 34 54.0	-0.3
	0.7nm,0.6s,baz=108,slow=12,SNR=2.6						
OPO	Ambohidratompo	77.17	251	LR	LR	14 08 04.2	
	comp=Z,52nm,18.1s,baz=325,slow=35						
GNI	Garni	80.07	310	LR	LR	14 15 56.6	
	comp=Z,49nm,19.8s,baz=349,slow=39						

ISCJB 08 13:42:20.5±0.5, 39.11N±0.03×111.85E±0.05, h10km, mb3.4/9, Error ellipse: s-maj=5.4km s-min=4.4km az=141.2

IDC 08 13:42:20.6±0.8, 38.98N×111.86E, h0km, mb3.4/9, mb1 3.6/10, mb1mx3.5/50, mbtmp3.4/10, ML3.1/1, Error ellipse: s-maj=26.7km s-min=17.2km az=62.0

BJI 08 13:42:24.7, 39.04N×111.77E, h4km, ML3.8/20

ISC 08 13:42:22.9±0.7, 39.01N±0.04×111.73E±0.05, h10km, n19, σ1.80/23, mb3.5/9, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIY	Taiyuan	1.41	157	⇑iPg	Pb	13 42 51.0	+1.7
TIY				Sg	Sg	13 43 09.7	+1.6
HHC	Hu-ho-hao-te	1.84	356	ePn	Pn	13 42 55.5	+0.7
HHC				Pg	Pb	13 42 57.0	+0.2
HHC				Sg	Sn	13 43 18.7	+0.5
HHC				smax	smax		
	comp=N,6μm,0.5s						
HHC				smax	smax		
	comp=E,3μm,0.4s						
BTO	Baotou	2.07	321	ePg	Pn	13 42 59.4	+1.6
BTO				Sg	Sn	13 43 25.2	+1.4
BTO				smax	smax		
	comp=N,170nm,0.2s						
BTO				smax	smax		
	comp=E,310nm,0.3s						
BJI	Beijing	3.59	72	Pg	Pb	13 43 28.8	+2.4
BJI				Sg	Sg	13 44 15.2	-2.9
BJI				smax	smax		
	comp=N,290nm,0.5s						
BJI				smax	smax		
	comp=E,96nm,0.6s						
TIA	Tai'an	5.11	121	Pg	Pb	13 43 56.4	+4.0
TIA				Sg	Sg	13 45 02.4	-4.6
TIA				smax	smax		
	comp=N,70nm,0.7s						
TIA				smax	smax		
	comp=E,70nm,0.7s						
XAN	Xi'an	5.45	205	Pn	Pn	13 43 51.6	+7.4
XAN				Sn	Sn	13 44 56.2	+9.2
XAN				smax	smax		
	comp=N,34nm,0.8s						
XAN				smax	smax		
	comp=E,13nm,0.8s						
LZH	Lanzhou	6.91	247	ePg	Pb	13 44 28.5	+5.3
LZH				Sn	Sn	13 45 23.0	-0.2
LZH				Sg	Sb	13 45 56.2	+10
LZH				smax	smax		
	comp=N,170nm,1.2s						
LZH				smax	smax		
	comp=E,160nm,1.2s						
DL2	Dalian	7.71	88	ePg	Pg	13 44 44.7	-5.9
DL2				Sg	Sg	13 46 33.8	+3.4
SONM	Songino Array	9.64	338	Pn	Pn	13 44 42.0	+0.3
	0.2nm,0.3s,baz=158,slow=12,SNR=3.7						
CN2	Changchun	11.36	61	eP	Pn	13 45 05.7	+0.5
MKAR	Makanchi Array	22.83	299	P	P	13 47 25.8	-0.3
	0.2nm,0.5s,baz=89,slow=14,SNR=3.1						
CMAR	Chiang Mai Arr	23.30	212	P	P	13 47 29.6	-1.3
	0.6nm,0.4s,baz=19,slow=9.2,SNR=4.5						
ZALV	Zalesovo Beam	23.61	318	P	P	13 47 34.3	+0.5
	0.5nm,0.6s,baz=133,slow=6.1,SNR=3.4						
KURBB	Kurchatov Arra	26.04	307	P	P	13 47 56.6	+0.5
	0.4nm,0.3s,baz=106,slow=9.4,SNR=7.3						
BRTR	Keskin Array B	58.47	298	P	P	13 52 19.4	+0.2
	0.5nm,0.5s,baz=80,slow=9.8,SNR=3.0						
ILAR	Eielson Array	59.97	29	P	P	13 52 28.3	-0.7
	0.5nm,0.9s,baz=271,slow=5.4,SNR=5.6						
WRA	Warramunga Arr	62.35	156	P	P	13 52 44.2	-1.4
	0.3nm,0.9s,baz=350,slow=8.5,SNR=4.9						
ASAR	Alice Springs	65.71	158	P	P	13 53 07.2	-0.5
	0.5nm,0.6s,baz=343,slow=6.2,SNR=19						
YKA	Yellowknife Ar	72.22	21	P	P	13 53 46.4	-1.3
	0.2nm,0.8s,baz=325,slow=6.0,SNR=4.8						

IDC 08 13:44:58.8±0.5, 24.07S×175.89W, h0km, mb4.8/24, mb1 4.9/25, mb1mx4.9/29, mbtmp4.8/25, ML5.5/1, MS4.9/25, Ms1 4.9/25, ms1mx4.7/31, Error ellipse: s-maj=18.9km s-min=14.5km az=134.0

BJI 08 13:44:59.4, 23.72S×175.60W, h10km, mB5.7/26, mb5.3/39, Ms5.3/37, Ms7 5.1/26

ISCJB 08 13:45:01.9±2.2, 24.22S±0.04×175.89W±0.03, h32km±15km, mb5.3/141, MS5.0/41, Error ellipse: s-maj=7.9km s-min=4.0km az=157.6

NEIC 08 13:45:03.0±2.5, 24.18S×175.84W, h31km±17km, mb5.4/98, Error ellipse: s-maj=9.1km s-min=5.4km az=154.0

MOS 08 13:45:02.1±1.5, 24.08S×175.90W, h33km, mb5.4/41, MS4.9/7, Error ellipse: s-maj=10.6km s-min=8.8km az=81.0

GCMT 08 13:45:03.0±0.1, 24.21S×175.28W, h18km, MW5.4/110, Moment Tensor Solution. s88,c156; s110,c209; Duration: 1.2 Moment tensor: Scale 10^{17}Nm; Mrr1.19±.02; Mθθ-0.12±.01; Mφφ-1.08±.02; Mrθ0.18±.04; Mθφ-0.30±.01; Mφr1.09±.04; Best double couple: Mo1.61600×10^{17} NP1:φs12.00000°,δ67.00000°, λ87.00000°. NP2:φs200.00000°,δ24.00000°,λ98.00000°. Principal axes: T 1.6310, Plg68.0000°, Azm275.0000°; N -0.0370, Plg3.0000°, Azm13.0000°; P -1.6010, Plg22.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 08 13:45:03.2±0.3, 24.20S±0.05×175.92W±0.06, h28km±2km, h28km:pP-P, n652, σ1.48/703, mb5.4/141, MS5.0/41, 143C-151D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	5.33	199	P	Pn	13 46 21.7	+0.7
RAO						13 47 22.4	
RAO				pmax	pmax		
	comp=Z,144nm,0.3s						
RAO				smax	smax		
	comp=N,199nm,0.3s						
RAO	Raoul Island	5.33	199	Pn	Pn	13 46 21.7	+0.7
	comp=N,144nm,0.3s,baz=282,slow=20,SNR=4.1						
RAO				Sn	Sn	13 47 22.4	+0.9
	comp=N,199nm,0.3s,baz=101,slow=21,SNR=8.0						
RAO	Raoul Island	5.33	199	ePn	Pn	13 46 19.8	-1.1
	comp=N,458nm,0.5s						
RAO				Sn	Sn	13 47 22.4	+0.9
NIUE	Niue	7.55	49	⇓P	Pn	13 46 41.0	-10
	baz=6.9,SNR=8.4						
MSVF	Nonsavu	8.55	318	Pn	Pn	13 47 09.6	+4.3
	comp=N,1μm,0.7s,SNR=31						
MSVF	Nonsavu	8.55	318	eP	Pn	13 47 07.9	+2.6
MSVF				pmax	pmax		
	comp=Z,445nm,1.0s						
MSVF	Nonsavu	8.55	318	eP	Pn	13 47 07.9	+2.6
	comp=Z,446nm,1.0s						
AFI	Afiamalu	10.96	22	Pn	Pn	13 47 30.9	-7.4
	comp=Z,12nm,0.3s,baz=32,slow=2.8,SNR=12						
AFI				Sn	Sn	13 49 21.5	-19
	comp=Z,6.1nm,0.3s,baz=217,slow=20,SNR=2.6						
AFI	Afiamalu	10.96	22	ePn	Pn	13 47 28.9	-9.4
AFI				Sn	Sn	13 49 21.5	-19
AFI				eSn	Sn	13 49 23.9	-16
OUZ	Omahuta	14.26	217	ePn	Pn	13 48 25.9	+2.8
RAR	Rarotonga	15.19	82	Pn	Pn	13 48 25.1	-11
	comp=Z,11nm,0.3s,baz=230,slow=0.0,SNR=21						
RAR				LR	LR	13 54 43.0	
	comp=Z,6μm,19.2s,baz=45,slow=39						
RAR	Rarotonga	15.19	82	eP	Pn	13 48 24.5	-11
	comp=Z,356nm,0.9s						
URZ	Urewera	15.22	201	Sn	Sn	13 51 15.1	-8.7
	comp=Z,3.1nm,0.3s,baz=61,slow=23,SNR=9.4						
URZ	Urewera	15.22	201	P	P	13 48 39.9	-0.9
	comp=Z,24nm,0.8s						
URZ				Sn	Sn	13 51 15.1	-8.7
DZM	Mont Dzumac	16.36	274	eP	P	13 48 58.2	+4.5
	comp=Z,461nm,1.5s						
DZM				eLR	LR	13 52 58.3	
	comp=Z,8μm,23.7s						
DZM	Mont Dzumac	16.36	274	Pn	P	13 48 58.6	+4.8
	comp=Z,1.9nm,0.3s,baz=71,slow=16,SNR=15						
DZM				LR	LR	13 54 04.3	
	comp=Z,5μm,20.8s,baz=111,slow=33						
KHZ	Kahutara	20.16	203	eP	P	13 49 29.4	-5.7
	comp=Z,40nm,0.8s						
WHZ	Wether Hill Ro	25.26	207	eP	P	13 50 26.4	-0.4
	comp=Z,21nm,0.9s						
PAE	Paea	25.42	80	eT	T	14 16 48.6	
	comp=Z,12nm,0.4s						
PPT2	Papeete2	25.45	80	eLR	LR	13 56 43.2	
	comp=Z,4μm,22.8s,baz=244						
PPT2	Papeete2	25.45	80	eT	T	14 16 51.3	
	comp=Z,10nm,0.4s						
PPT	Papeete	25.46	80	LR	LR	13 59 46.0	
	comp=Z,4μm,18.4s,baz=252,slow=35						
HNR	Honiara	27.31	298	LR	LR	14 00 03.8	
	comp=Z,3μm,20.4s,baz=158,slow=33						
ARMA	Armidale	29.43	251	eP	P	13 51 06.3	+1.7
	comp=Z,240nm,2.6s						
ARMA	Armidale	29.43	251	P	P	13 51 06.8	+2.2
	baz=30,SNR=7.1						
EIDS	Eidsvold	29.94	261	P	P	13 51 08.8	-0.3
EIDS	Eidsvold	29.94	261	⇓P	P	13 51 09.9	+0.8
	baz=31,SNR=3.8						
MGCD	Mangrove Creek	30.18	245	⇓P	P	13 51 13.3	+2.2
	baz=31,SNR=4.1						
RMQ	Roma	31.95	258	⇓P	P	13 51 28.5	+1.8
	baz=33,SNR=17						
MILA	Mila	32.48	239	⇓P	P	13 51 32.4	+1.0
	baz=33,SNR=4.7						
CTA	Charters Tower	35.20	269	P	P	13 51 54.9	-0.3
	comp=Z,29nm,0.6s,baz=100,slow=12,SNR=40						
CTA				LR	LR	14 03 49.6	
	comp=Z,1μm,20.8s,baz=82,slow=32						
CTA	Charters Tower	35.20	269	⇓P	P	13 51 54.8	-0.3
	baz=36						
CTAO	Charters Tower	35.20	269	eP	P	13 51 53.3	-1.9
CTAO				pmax	pmax		
	comp=Z,42nm,0.9s						
CTAO	Charters Tower	35.20	269	eP	P	13 51 53.3	-1.9
	comp=Z,42nm,0.9s						
TOO	Toolangi	35.45	239	⇓P	P	13 51 58.5	+1.4
	baz=36,SNR=9.1						
QLP	Quilpie	35.98	258	⇓P	P	13 52 01.4	-0.3
	baz=37,SNR=13						
RKT	Rikitea	37.42	97	eS	S	13 57 53.5	-7.4
	comp=Z,300nm,26.0s						
RKT				eLR	LR	14 01 45.3	
	comp=Z,3μm,32.8s,baz=259						
RKT	Rikitea	37.42	97	eT	T	14 31 52.7	
	comp=Z,4.1nm,0.4s						
MTSU	Mount Surprise	37.48	271	⇑P	P	13 52 14.3	-0.4
	baz=38,SNR=40						
STKA	Stephens Creek	38.08	249	eP	P	13 52 19.5	-0.1
STKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	Stephens Creek	38.08	249	P	P	13 52 19.8	+0.2
	comp=Z,3.9nm,0.6s,baz=99,slow=11,SNR=17						
STKA				LR	LR	14 07 23.0	
	comp=Z,5μm,18.1s,baz=83,slow=35						
STKA	Stephens Creek	38.08	249	eP	P	13 52 19.5	-0.1
	comp=Z,2.7nm,0.9s						
STKA	Stephens Creek	38.08	249	P	P	13 52 19.8	+0.2
	baz=39,SNR=8.0						
PMG	Port Moresby	38.14	286	⇑iP	P	13 52 18.8	-1.4
PMG				pmax	pmax		
	comp=Z,160nm,1.0s						
PMG	Port Moresby	38.14	286	LR	LR	14 05 08.3	
	comp=Z,2μm,20.1s,baz=132,slow=32						
PMG	Port Moresby	38.14	286	eP	P	13 52 18.9	-1.4
	comp=Z,151nm,0.9s						
PMG	Port Moresby	38.14	286	⇓P	P	13 52 19.2	-1.0
	baz=39,SNR=37						
ARPS	Mount Arapiles	38.21	241	⇓P	P	13 52 22.0	+1.5
	baz=39						
COEN	Coen	39.85	277	eP	P	13 52 34.2	-0.3
	comp=Z,136nm,1.2s						
COEN	Coen	39.85	277	P	P	13 52 34.4	-0.2
	baz=40,SNR=13						
HTT	Hallett	40.36	246	P	P	13 52 38.5	-0.2
	baz=41,SNR=20						
QIS	Mount Isa	41.16	266	⇓P	P	13 52 44.8	-0.6
	baz=42,SNR=5.9						
BBOO	Buckleboo	42.76	247	eP	P	13 52 57.2	-1.1
	comp=Z,272nm,0.8s						
BBOO	Buckleboo	42.76	247	⇓P	P	13 52 57.4	-0.9
	baz=43,SNR=15						
AS17	Alice Springs	45.58	260	⇓P	P	13 53 20.4	-0.7
	baz=46						
AS19	Alice Springs	45.60	260	⇓P	P	13 53 20.6	-0.7
	baz=46						
AS31	Alice Springs	45.66	260	eP	P	13 53 21.0	-0.7
ASAR	Alice Springs	45.66	260	P	P	13 53 20.7	-1.0
ASAR				S	S	14 00 01.6	-1.5
ASAR				pmax	pmax		
	comp=Z,26nm,0.9s						
ASAR				smax	smax		
	comp=N,2.0nm,0.9s						
ASAR	Alice Springs	45.66	260	P	P	13 53 20.7	-1.0
	comp=N,26nm,0.9s,baz=90,slow=5.6,SNR=111						
ASAR				S	S	14 00 01.6	-1.5
	comp=N,1.7nm,0.9s,baz=100,slow=14,SNR=7.9						
ASAR				LR	LR	14 12 19.0	
	comp=N,4μm,18.4s,baz=106,slow=36						
ASPA	Alice Springs	45.66	260	⇑P	P	13 53 21.0	-0.7
	baz=46						
WRAB	Tennant Creek	46.10	265	P	P	13 53 23.0	-2.2
	comp=N,151nm,0.8s,SNR=26						
WRAB	Tennant Creek	46.10	265	⇓iP	P	13 53 23.2	-1.9
WRAB				pmax	pmax		
	comp=Z,62nm,1.0s						
WRAB	Tennant Creek	46.10	265	eP	P	13 53 22.9	-2.2
	comp=Z,23nm,0.9s						
WRA	Warramunga Arr	46.10	265	P	P	13 53 23.5	-1.7
WRA						13 55 14.7	
WRA				S	S	14 00 06.9	-2.5
WRA				pmax	pmax		
	comp=Z,20nm,0.7s						
WRA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WRA				smax	smax		
	comp=N,2.0nm,1.0s						
WRA				MLR	MLR		
	comp=Z,4μm,18.9s						
WRA	Warramunga Arr	46.10	265	P	P	13 53 23.4	-1.7
	comp=Z,20nm,0.7s,baz=104,slow=8.1,SNR=128						
WRA				PP	PP	13 55 14.7	+1.1
	comp=Z,6.6nm,1.0s,baz=102,slow=4.1,SNR=5.3						
WRA				S	S	14 00 06.9	-2.5
	comp=Z,2.1nm,1.0s,baz=104,slow=14,SNR=4.8						
WRA				LR	LR	14 12 20.4	
	comp=Z,4μm,18.9s,baz=95,slow=36						
KIP	Kipapa	48.58	22	eP	P	13 53 40.5	-3.8
KIP				pmax	pmax		
	comp=Z,29nm,1.3s						
FORT	Forrest	49.70	249	eP	P	13 53 52.4	-0.4
	comp=Z,32nm,0.7s						
FORT	Forrest	49.70	249	⇓P	P	13 53 52.0	-0.9
	baz=50,SNR=18						
KDU	Kakadu	50.03	274	⇑P	P	13 53 54.4	-1.2
	baz=51,SNR=3.5						
WRKA	Warakurna	50.41	257	P	P	13 53 57.1	-1.3
	baz=51,SNR=80						
MTN	Manton Dam	51.20	273	⇓P	P	13 54 03.2	-1.2
	baz=52						
KNRA	Kununurra	52.41	268	⇓P	P	13 54 12.0	-1.4
	baz=53,SNR=31						
FAKI	Fak Fak	54.26	285	⇓P	P	13 54 26.5	-0.5
	baz=55						
VNDA	Vanda	54.42	186	P	P	13 54 30.0	+2.7
	comp=Z,9.1nm,1.0s,baz=46,slow=6.3,SNR=3.6						
VNDA				LR	LR	14 13 48.6	
	comp=Z,469nm,21.4s,baz=16,slow=32						
FITZ	Fitzroy Crossi	54.52	264	⇑P	P	13 54 28.7	-0.2
	baz=55						
SWI	Sorong	56.09	286	⇑P	P	13 54 40.2	-0.1
	baz=57						
KLBR	Kellerberrin	58.30	247	P	P	13 54 55.0	-0.7
	baz=59,SNR=12						

NWAO Narrogin (SRO) 58.50 245 LR LR 14 16 40.7
comp=Z,368nm,21.4s,baz=104,slow=32
SOEI Soe 58.59 273 eP P 13 54 58.3 +0.2
comp=Z,62nm,0.9s
SOEI Soe 58.59 273 ⇑P P 13 54 58.6 +0.5
baz=59,SNR=5.4
MEEK Meekatharra 58.59 253 P P 13 54 57.6 -0.2
baz=59,SNR=7.0
MBWA Marble Bar 58.99 259 eP P 13 54 60.0 -0.7
comp=Z,13nm,0.9s
BLDU Balldu 59.37 248 P P 13 55 02.8 -0.4
baz=60,SNR=16
MORW Morawa 60.27 249 P P 13 55 09.3 -0.1
baz=61,SNR=10
QSPA South Pole Qui 65.88 180 P P 13 55 46.5 +0.4
comp=Z,11nm,0.9s,baz=26,slow=0.9,SNR=27
QSPA South Pole Qui 65.88 180 eP P 13 55 46.4 +0.2
comp=Z,45nm,1.0s
MYLDM Lahad Datu 70.16 285 ⇓P P 13 56 15.5 +1.8
TSM Tawau 70.31 284 ⇑P P 13 56 16.8 +2.3
KDM Kudat 72.43 286 ⇑P P 13 56 27.6 +0.2
KKM Kota Kinabalu 72.57 285 ⇑P P 13 56 27.9 -0.5
BTM Bintulu 74.08 281 ⇓P P 13 56 38.5 +1.3
MJAR Matsushiro Arr 74.32 323 P P 13 56 36.8 -1.3
comp=Z,5.0nm,0.8s,baz=155,slow=5.5,SNR=6.0
MJAR LR LR 14 27 30.1
comp=Z,420nm,19.6s,baz=240,slow=34
MAT Matsushiro 74.32 323 P P 13 56 36.4 -1.7
MAT S S 14 06 13.8 +3.4
SBUM Sibu 74.53 280 ⇑P P 13 56 40.1 +0.3
KSM Kuching 75.84 278 eP P 13 56 46.9 -0.5
comp=Z,16nm,0.8s
KSM Kuching 75.84 278 ⇑P P 13 56 47.9 +0.6
YUK Yuzh-Kuril'sk 76.41 333 dP P 13 56 47.8 -2.0
YUK iS S 14 06 30.6 -2.6
YUK pmax pmax
comp=N,362nm,1.5s
YUK pmax pmax
comp=E,192nm,1.5s
YUK pmax pmax
comp=Z,462nm,1.5s
YUK MLR MLR
comp=N,735nm,20.0s
YUK MLR MLR
comp=Z,830nm,20.0s
TPUB Ta-pu 77.59 303 eP P 13 56 54.9 -2.1
comp=Z,48nm,1.1s
TPUB epP pP 13 57 02.7 -3.4
SSLB Suanglung 77.61 303 eP P 13 56 55.5 -1.7
comp=Z,21nm,1.1s
YHNB Yeheng 77.78 304 eP P 13 56 57.0 -1.1
comp=Z,60nm,1.4s
ASAJ Asahikawa 77.89 331 P P 13 56 59.4 +1.2
ASAJ pmax pmax
comp=Z,37nm,1.1s
ASAJ Asahikawa 77.89 331 P P 13 56 59.4 +1.2
comp=Z,37nm,1.1s,baz=157,slow=4.7,SNR=11
ASAJ Asahikawa 77.89 331 eP P 13 56 57.7 -0.5
comp=Z,36nm,1.4s
MAW Mawson 78.74 200 LR LR 14 32 13.6
comp=Z,694nm,18.3s,baz=118,slow=36
ARVC Arvin 80.03 44 ⇓P P 13 57 09.6 -0.6
baz=80
QZH Quanzhou 80.04 303 ⇓iP P 13 57 12.4 +2.0
QZH S S 14 07 12.3 -0.8
QZH LR LR
comp=Z,950nm,20.0s
YSS Yuzh-Sakhalins 80.06 333 ⇑eP P 13 57 10.0 0.0
YSS e 13 57 22.2
YSS eS S 14 07 06.0 -6.2
YSS pmax pmax
comp=Z,60nm,1.1s
YSS MLR MLR
comp=Z,500nm,18.0s
YSS MLR MLR
comp=N,500nm,17.0s
YSS Yuzh-Sakhalins 80.06 333 eP P 13 57 09.9 0.0
comp=N,71nm,1.2s
MURC Murrieta 80.14 46 ⇑P P 13 57 11.9 +1.0
baz=80
BFSC Mount Baldy Ra 80.23 46 ⇓P P 13 57 11.0 -0.5
baz=80
MONP Monument Peak 80.24 47 ⇓P P 13 57 12.7 +1.1
baz=80
VES Vestal, Richgr 80.32 44 ⇑P P 13 57 11.4 -0.3
baz=80
PETK Petropavlovsk- 80.33 344 P P 13 57 10.8 -0.6
comp=N,11nm,0.8s,baz=142,slow=6.8,SNR=15
PETK LR LR 14 29 33.4
comp=N,476nm,18.9s,baz=174,slow=33
EDW2 Edwards Air Fo 80.42 45 ⇓P P 13 57 12.0 -0.3
baz=81
KMRM Mail Ridge 80.43 38 eP P 13 57 09.5 -2.8
comp=N,70nm,1.4s
KMRM epP pP 13 57 25.4 +4.0
ISA Isabella 80.59 44 eP P 13 57 11.5 -1.8
ISA pmax pmax
comp=Z,153nm,1.4s
ISA Isabella 80.59 44 eP P 13 57 11.5 -1.8
comp=Z,153nm,1.4s
ISA Isabella 80.59 44 ⇓P P 13 57 12.1 -1.2
baz=81,SNR=7.3
PFO Pinyon Flat Ob 80.64 47 ⇓P P 13 57 12.4 -1.3
baz=81
CMB Columbia Colle 80.91 41 eP P 13 57 12.8 -2.1
CMB pmax pmax
comp=Z,29nm,1.6s
CMB Columbia Colle 80.91 41 eP P 13 57 12.8 -2.1
comp=Z,30nm,1.6s
KSRS Korea Array 80.92 318 P P 13 57 15.3 +0.5
comp=Z,2.8nm,0.9s,baz=130,slow=5.4,SNR=8.4
KSRS LR LR 14 29 10.2
comp=Z,665nm,20.2s,baz=150,slow=33
KSAR Wonju Array Be 80.94 318 P P 13 57 15.3 +0.4
KSAR Wonju Array Be 80.94 318 P P 13 57 15.3 +0.4
LRMC Laurel Mountai 80.98 45 ⇓P P 13 57 14.3 -1.1
baz=81
BELC Belle Mtn. Jos 81.18 47 ⇓P P 13 57 15.6 -0.9
baz=81
CWC Cottonwood Cre 81.33 44 ⇓P P 13 57 17.0 -0.3
baz=82
BC3 Big Chuckawall 81.34 47 ⇑P P 13 57 16.6 -0.7
baz=82
GLA Glamis 81.41 48 ⇑P P 13 57 17.5 -0.2
baz=82
GSC Goldstone 81.44 45 eP P 13 57 18.0 +0.2
GSC pmax pmax
comp=Z,31nm,1.4s
GSC Goldstone 81.44 45 eP P 13 57 18.0 +0.2
comp=Z,31nm,1.4s
GSC Goldstone 81.44 45 ⇓P P 13 57 17.8 0.0
baz=82
HEC Hector,Ludlow 81.46 46 ⇑P P 13 57 17.3 -0.6
baz=82
N02D Trinity Center 81.50 38 ⇑P P 13 57 18.9 +0.9
baz=82
MTUM Tungsten Hills 81.59 43 eP P 13 57 18.7 0.0
MLAC Mammoth Lakes 81.60 42 ⇑P P 13 57 19.1 +0.3
baz=82
M02C Callahan 81.70 37 ⇑P P 13 57 20.2 +1.1
baz=82
WAKR Walker 81.79 41 eP P 13 57 18.2 -1.5
IRM Iron Mountain 81.84 47 ⇓P P 13 57 20.4 +0.5
baz=82
GMRC Granite Mounta 81.87 46 ⇓P P 13 57 19.9 -0.3
baz=82
YBH Yreka Blue Hor 82.01 37 eP P 13 57 18.5 -2.2
YBH pmax pmax
comp=Z,198nm,3.0s
YBH Yreka Blue Hor 82.01 37 eP P 13 57 18.4 -2.2
comp=Z,198nm,3.0s
Y12C Blythe 82.02 48 ⇓P P 13 57 20.4 -0.4
baz=82
DLV T Lat 82.04 287 eP P 13 57 22.4 +0.9
comp=Z,268nm,2.4s
TUQ Turquoise Moun 82.09 46 ⇓P P 13 57 20.9 -0.4
baz=82
FURC Furnace Creek, 82.12 44 ⇑P P 13 57 21.3 +0.1
baz=82
GRAC Grapevine Rang 82.12 44 ⇑P P 13 57 20.1 -1.2
baz=82,SNR=6.1
SHOC Shoshone 82.14 45 ⇓P P 13 57 21.0 -0.4
baz=82
214A Organ Pipe Nat 82.16 50 ⇓P P 13 57 21.2 -0.4
baz=82
LDFC Landfair 82.41 46 eP P 13 57 21.3 -1.7
comp=Z,120nm,1.4s

NVAR Mina Array Bea 82.43 42 P P 13 57 22.2 -0.9
comp=Z,6.6nm,1.0s,baz=222,slow=8.0,SNR=21
NVAR LR LR 14 29 01.3
comp=Z,1μm,18.8s,baz=124,slow=32
H03N2 Juan Fernandez 82.49 123 T T 15 28 38.7
baz=247,slow=73,SNR=16
H03N3 Juan Fernandez 82.49 123 T T 15 28 39.1
baz=247,slow=73,SNR=20
H03N1 Juan Fernandez 82.50 123 T T 15 28 37.7
baz=247,slow=73,SNR=19
M04C Macdoel 82.53 38 ⇓P P 13 57 23.6 +0.1
baz=83
PDMCI Parker Dam,Lak 82.60 47 ⇑P P 13 57 23.3 -0.5
baz=83
Z14A Wintersburg 82.87 49 ⇓P P 13 57 24.6 -0.6
baz=83
TPH Tonopah 82.87 43 eP P 13 57 23.9 -1.5
TPH pmax pmax
comp=Z,58nm,1.6s
TPH Tonopah 82.87 43 eP P 13 57 23.9 -1.5
comp=Z,58nm,1.6s
I03D Drain, OR 83.00 35 ⇑P P 13 57 26.5 +0.9
baz=83
USRK Ussuriysk Arra 83.09 325 P P 13 57 26.5 +0.4
comp=Z,22nm,0.8s,baz=119,slow=2.7,SNR=34
USRK LR LR 14 35 00.7
comp=Z,358nm,18.1s,baz=137,slow=36
Y14A Wickenburg 83.16 48 ⇓P P 13 57 26.0 -0.8
baz=83
SHPR Sheep Range 83.23 45 eP P 13 57 25.2 -2.1
W13A Hualapai Mount 83.24 47 ⇑P P 13 57 26.6 -0.7
baz=83
J04D Umpqua Nationa 83.36 36 ⇓P P 13 57 28.0 +0.2
baz=84
MOD Modoc 83.47 38 eP P 13 57 25.2 -3.1
comp=Z,24nm,1.3s
SYO Syowa Base 83.54 192 ⇑eP P 13 57 25.6 -2.6
I04A Tendick Farm, 83.56 36 ⇓P P 13 57 29.2 +0.5
baz=84
NJ2 Nanjing 83.71 309 eP P 13 57 27.9 -1.7
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
TUC Tucson 83.78 51 eP P 13 57 29.1 -1.0
TUC pmax pmax
comp=Z,36nm,1.3s
TUC Tucson 83.78 51 eP P 13 57 29.1 -1.0
comp=Z,36nm,1.3s
J05D Fort Rock, OR 83.86 37 ⇑P P 13 57 30.0 -0.3
baz=84
QIZ Qiongzhong 84.12 294 P P 13 57 31.4 -0.6
QIZ pP PcP 13 57 34.6 -1.2
QIZ sP sP 13 57 39.9 -4.5
QIZ S S 14 07 56.2 +1.0
QIZ pmax pmax
comp=Z,250nm,7.3s
SNAA Sanae 84.26 178 P P 13 57 31.7 -0.2
SNAA Sanae 84.26 178 eP P 13 57 31.0 -0.9
SNAA pmax pmax
comp=Z,115nm,5.0s
SNAA Sanae 84.26 178 eP P 13 57 31.0 -0.9
comp=Z,28nm,1.1s
BMN Battle Mountai 84.33 41 eP P 13 57 31.4 -1.4
BMN pmax pmax
comp=Z,34nm,1.5s
BMN Battle Mountai 84.33 41 eP P 13 57 31.4 -1.4
comp=Z,34nm,1.5s
319A Douglas 84.35 52 ⇑P P 13 57 31.8 -1.3
baz=84
FRIM Kepong 84.44 276 ⇑P P 13 57 35.3 +1.5
X16A Lo Mia Camp, P 84.50 49 ⇑P P 13 57 33.3 -0.5
baz=85,SNR=13
HABR Khabarovsk 84.60 330 eP P 13 57 30.7 -3.0
HABR e*PP pP 13 57 40.9 -1.9
HABR e*SP sP 13 57 45.0 -1.1
HABR 14 00 45.3
HABR eS SKSac 14 07 50.7 -4.8
HABR eSSS SSS 14 16 55.6
HABR pmax pmax
comp=Z,110nm,1.7s
HABR pmax pmax
comp=E,48nm,1.7s
HABR pmax pmax
comp=N,60nm,3.0s
HABR MLR MLR
comp=Z,302nm,17.0s
MDJ Mudanjiang 84.64 324 P P 13 57 34.8 +0.8
MDJ pP PcP 13 57 38.1 +0.6
MDJ sP sP 13 57 39.5 -7.0
MDJ S SKKSac 14 08 02.8 +1.0
MDJ sS ScS 14 08 08.4 -2.2
MDJ pmax pmax
comp=Z,20nm,1.4s
MDJ pmax pmax
comp=Z,370nm,6.0s
MDJ LR LR
comp=Z,380nm,17.6s
MDJ LR LR
comp=Z,280nm,21.2s
MDJ Mudanjiang 84.64 324 eP P 13 57 32.8 -1.2
comp=Z,29nm,1.0s
WVOR Wild Horse Val 84.76 39 eP P 13 57 33.6 -1.3
WVOR pmax pmax
comp=Z,26nm,1.3s
WVOR Wild Horse Val 84.76 39 eP P 13 57 33.5 -1.3
comp=Z,26nm,1.3s
VNA2 Neumayer--Watz 84.79 176 P P 13 57 33.2 -1.3
baz=176,slow=2.6
E03A Lebam 84.84 33 eP P 13 57 33.9 -1.0
comp=Z,34nm,1.0s
E03A epP pP 13 57 46.9 +2.8
F04A Amboy 85.00 34 eP P 13 57 35.4 -0.5
comp=Z,24nm,1.1s
F04A epP pP 13 57 47.7 +2.7
VNA1 Neumayer--Stat 85.00 176 P P 13 57 34.2 -1.3
CCUT Cedar City 85.01 45 eP P 13 57 35.8 -0.6
comp=Z,59nm,1.5s
U15A North Rim 85.06 46 ⇓P P 13 57 36.1 -0.7
baz=85,SNR=23
ARUT Antelope Range 85.09 45 P P 13 57 32.9 -3.8
ARUT Antelope Range 85.09 45 P P 13 57 32.9 -3.8
comp=Z,477nm,1.2s
G05D Wamic, OR 85.12 35 ⇓P P 13 57 38.1 +1.6
baz=85
NVL N'lazarevskaya 85.13 183 eP P 13 57 34.7 -1.5
NVL e 14 00 56.9
NVL eS S 14 07 59.1 -4.6
NVL pmax pmax
comp=Z,7.0nm,0.8s
WUAZ Wupatki 85.16 48 eP P 13 57 36.1 -1.0
comp=Z,62nm,1.5s
WUAZ Wupatki 85.16 48 ⇑P P 13 57 36.7 -0.3
baz=85,SNR=10
I07A Izee 85.33 37 eP P 13 57 37.4 -0.3
comp=Z,194nm,3.0s
PLCA Paso Flores 85.35 133 LR LR 14 29 45.7
comp=Z,307nm,18.0s,baz=268,slow=32
G06A Carlson Farm, 85.47 36 eP P 13 57 37.9 -0.4
comp=Z,17nm,1.2s
G06A epP pP 13 57 48.2 +0.8
IPM Ipoh 85.50 277 eP P 13 57 38.8 -0.3
comp=Z,30nm,1.2s
IPM Ipoh 85.50 277 ⇑P P 13 57 40.1 +1.0
X18A Snowflake 85.59 49 ⇓P P 13 57 39.6 +0.4
baz=86
ELK Elko 85.72 42 P P 13 57 37.6 -2.3
ELK pmax pmax
comp=Z,2.0nm,1.0s
ELK Elko 85.72 42 P P 13 57 37.6 -2.3
comp=Z,2.2nm,1.0s,baz=182,slow=2.6,SNR=5.7
ELK Elko 85.72 42 eP P 13 57 39.2 -0.6
DL2 Dalian 85.73 316 P P 13 57 43.7 +4.1
DL2 eS S 14 08 18.2 +7.8
DL2 pmax pmax
comp=Z,20nm,0.7s
DL2 pmax pmax
comp=Z,290nm,4.8s
DL2 LR LR
comp=Z,130nm,15.9s
DL2 LR LR
comp=Z,340nm,18.4s
121A Cookes Peak, D 86.04 52 ⇑P P 13 57 42.0 +0.4
baz=86
W18A Petrified Fore 86.06 49 eP P 13 57 40.4 -1.2
comp=Z,62nm,1.5s
W18A Petrified Fore 86.06 49 ⇓P P 13 57 41.6 0.0
baz=86

UBPT Khong Chiam 86.14 289 P P 13 57 44.5 +2.3
comp=Z,20nm,1.3s
WHN Wuhan 86.17 306 P P 13 57 41.0 -1.0
WHN S S 14 08 16.1 +1.0
WHN LR LR
comp=Z,1μm,19.5s
KULM Kulim 86.18 277 eP P 13 57 42.9 +0.4
comp=Z,69nm,1.7s
KULM Kulim 86.18 277 ⇓P P 13 57 43.9 +1.5
MVU Marysvale 86.30 45 eP P 13 57 42.7 0.0
comp=Z,28nm,1.5s
CN2 Changchun 86.39 322 eP P 13 57 41.9 -0.9
CN2 ePP PP 14 01 07.1 +2.5
CN2 eS S 14 08 13.3 -3.4
CN2 eSS SS 14 13 59.0 +1.4
CN2 pmax pmax
comp=Z,40nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,500nm,18.0s
G08A Pilot Rock 86.41 36 eP P 13 57 42.5 -0.4
comp=Z,36nm,1.6s
RSO Redoubt South 86.45 11 eP P 13 57 42.4 -0.6
RSO epP pP 13 57 54.3 +2.2
KLR Kul'dur 86.68 329 eP P 13 57 40.2 -3.8
KLR eS S 14 08 20.0 +0.8
KLR pmax pmax
comp=Z,150nm,2.4s
PSI Prapat 86.72 275 P P 13 57 45.0 -0.3
PSI pmax pmax
comp=Z,29nm,1.0s
PSI MLR MLR
comp=Z,537nm,18.1s
PSI Prapat 86.72 275 P P 13 57 45.0 -0.3
comp=Z,29nm,1.0s,baz=123,slow=8.1,SNR=8.7
PSI LR LR 14 39 17.4
comp=Z,536nm,18.1s,slow=38
E07A Sunnyside 86.75 35 eP P 13 57 44.5 0.0
comp=Z,215nm,2.8s
LTY Liberty 86.79 34 eP P 13 57 44.4 -0.3
comp=Z,38nm,1.6s
LTY epP pP 13 57 55.0 +1.1
HAWA Hanford 86.81 35 eP P 13 57 44.7 -0.1
comp=Z,15nm,1.3s
HAWA epP pP 13 57 56.8 +2.8
Z22A Elephant Butte 87.01 52 ⇓P P 13 57 45.7 -0.6
baz=87,SNR=12
BMO Blue Mountains 87.04 37 eP P 13 57 45.3 -0.8
comp=Z,99nm,3.0s
TIA Tai'an 87.18 312 ⇑P P 13 57 47.4 +0.6
TIA S S 14 08 25.6 +0.9
TIA pmax pmax
comp=Z,520nm,10.3s
TIA LR LR
comp=Z,390nm,19.6s
TIA LR LR
comp=Z,510nm,17.7s
TIA LR LR
comp=Z,690nm,20.8s
GSI Gunungsitoli 87.34 273 eP P 13 57 49.2 +1.0
comp=Z,91nm,1.0s
MNTX Cornudas Mount 87.35 54 eP P 13 57 46.4 -1.4
comp=Z,20nm,1.2s
MNTX epP pP 13 57 59.1 +2.1
TMUT Trail Mountain 87.39 45 eP P 13 57 47.7 -0.5
comp=Z,25nm,1.0s
TXAR Lajitas Array 87.46 56 P P 13 57 47.3 -1.2
comp=Z,2.9nm,0.9s,baz=212,slow=7.7,SNR=21
TXAR LR LR 14 31 36.5
comp=Z,903nm,18.5s,baz=0.0,slow=32
LENM Lemitar 87.47 51 P P 13 57 47.2 -1.3
LAZ Ladron 87.48 50 eP P 13 57 47.8 -0.8
comp=Z,26nm,1.7s
LAZ pP pP 13 58 00.9 +3.1
526A Mary Lane Ranc 87.50 56 ⇑P P 13 57 47.9 -0.8
baz=88,SNR=8.9
D08A Wollman Farm, 87.56 35 eP P 13 57 48.2 -0.2
comp=Z,116nm,2.6s
RC01 Rabbit Creek A 87.60 12 P P 13 57 46.3 -1.9
comp=Z,80nm,1.6s
627A Terlingua Ranc 87.73 56 ⇑P P 13 57 48.9 -0.9
baz=88,SNR=10
SRU San Rafael 87.73 45 eP P 13 57 48.4 -1.2
SRU pmax pmax
comp=Z,11nm,0.9s
SRU San Rafael 87.73 45 eP P 13 57 48.4 -1.2
comp=Z,11nm,0.9s
GAMB Gambell 87.75 2 eP P 13 57 48.1 -0.7
comp=Z,35nm,1.4s
F10A Beach Ranch, E 87.78 37 eP P 13 57 48.5 -1.1
comp=Z,97nm,2.3s
F10A epP pP 13 58 00.5 +1.7
LPM Los Pinos Moun 87.79 51 eP P 13 57 49.3 -0.7
CHBT CHBT 87.80 285 P P 13 57 52.2 +2.0
comp=Z,50nm,1.1s
426A McDonald Obser 87.84 55 ⇓P P 13 57 49.3 -1.1
baz=88,SNR=9.2
HLID Hailey 87.90 40 ⇓P P 13 57 51.3 +1.0
baz=88
527A Woodward Ranch 87.90 56 ⇓P P 13 57 49.3 -1.3
baz=88,SNR=9.3
225A Deer Hill, Car 87.97 53 ⇑P P 13 57 50.9 0.0
baz=88
JLU Jordanelle 87.97 43 eP P 13 57 50.4 -0.4
comp=Z,55nm,2.4s
DAU Daniels Canyon 87.99 44 eP P 13 57 49.6 -1.4
DAU pmax pmax
comp=Z,24nm,1.4s
DAU Daniels Canyon 87.99 44 eP P 13 57 49.6 -1.4
comp=Z,24nm,1.4s
Y23A Lovelace Mesa, 88.00 51 ⇓P P 13 57 51.1 0.0
baz=88
628A Black Gap, Mar 88.12 57 ⇓P P 13 57 50.7 -0.9
baz=88
PMR Palmer 88.18 12 eP P 13 57 50.0 -0.9
PMR e*PP pP 13 58 03.3 +3.2
PMR pmax pmax
comp=Z,23nm,1.0s
PMR Palmer 88.18 12 eP P 13 57 50.0 -0.9
comp=Z,23nm,1.0s
PMR epP pP 13 58 03.3 +3.2
Z24A Sheeppen Canyo 88.19 52 ⇑P P 13 57 51.3 -0.7
baz=88,SNR=8.6
ANMO Albuquerque 88.24 50 ceP P 13 57 51.5 -0.7
ANMO pmax pmax
comp=Z,24nm,1.3s
ANMO Albuquerque 88.24 50 P P 13 57 51.3 -0.9
comp=Z,7.2nm,1.1s,baz=200,slow=5.3,SNR=8.9
ANMO Albuquerque 88.24 50 eP P 13 57 51.4 -0.7
TCUT Toone Canyon 88.29 43 P P 13 57 51.8 -0.6
comp=Z,32nm,1.3s
GDL2 Guadalupe Moun 88.35 54 eP P 13 57 52.3 -0.4
comp=Z,7.6nm,0.9s
125A Gardner Draw, 88.37 53 ⇓P P 13 57 52.3 -0.5
baz=88
427A Hayter Ranch, 88.40 55 ⇓P P 13 57 51.7 -1.2
baz=88,SNR=11
V22A San Miguel Ran 88.43 49 ⇑P P 13 57 52.2 -1.0
baz=88
226B Tecolote Peak, 88.44 54 ⇑P P 13 57 51.7 -1.3
baz=88
Y24A Capitan 88.44 52 ⇑P P 13 57 52.3 -0.9
baz=89,SNR=18
DIV Divide 88.47 14 eP P 13 57 51.3 -1.2
comp=Z,34nm,1.1s
DIV epP pP 13 58 04.1 +2.4
PV01 Paradox Valley 88.48 47 eP P 13 57 51.0 -2.3
comp=Z,1μm,1.5s
528A Cox Ranch, San 88.53 56 ⇑P P 13 57 51.9 -1.6
baz=89
W23A Werner Place, 88.57 50 ⇑P P 13 57 53.0 -0.8
baz=89
Z25A Roswell 88.64 52 ⇓P P 13 57 53.2 -0.8
baz=89
U22A Llaves 88.71 49 ⇑P P 13 57 53.7 -0.7
baz=89
126A Clayton Basin, 88.83 53 ⇓P P 13 57 53.8 -1.1
baz=89
V23A Ortiz Mt. (NFS 88.84 50 ⇑P P 13 57 54.7 -0.4
baz=89
428A Kincaid Ranch, 88.88 56 ⇑P P 13 57 55.1 -0.1
baz=89

529A Stev Forest Ra 88.94 56 ⇓P P 13 57 54.4 -1.0
baz=89
Y25A Mesa, Roswell 88.97 52 ⇓P P 13 57 54.5 -1.1
baz=89,SNR=10
328A Wristen Ranch, 89.10 55 ⇓P P 13 57 55.8 -0.4
baz=89
W24A Lazy 6 Ranch, 89.12 51 ⇑P P 13 57 55.7 -0.6
baz=89
U23A El Rito 89.14 49 ⇑P P 13 57 56.3 -0.2
baz=89
Z26A Caprock 89.17 53 ⇓P P 13 57 55.6 -0.9
baz=89,SNR=8.2
NEW Newport 89.27 35 ⇑P P 13 57 58.0 +1.5
baz=89
CAST Castle Rocks 89.33 10 eP P 13 57 55.5 -0.9
comp=Z,18nm,1.1s
CAST epP pP 13 58 07.4 +1.7
SURT Suratani 89.37 280 P P 13 58 00.0 +2.3
comp=Z,28nm,1.0s
429A Davenport Ranc 89.43 56 ⇓P P 13 57 56.4 -1.3
baz=90
S22A 4UR Ranch, Cre 89.44 48 ⇓P P 13 57 57.4 -0.5
baz=90
V24A Rampart Ranch, 89.47 50 ⇓P P 13 57 58.2 +0.1
baz=90
MCMT McKenzie Canyo 89.55 39 P P 13 57 55.2 -3.0
comp=Z,4.9nm,1.3s
Y26A Elida 89.60 52 ⇓P P 13 57 58.0 -0.6
baz=90
228A UT Block 9, Go 89.62 54 ⇓P P 13 57 57.7 -0.9
baz=90
530A J-C Ranch, Com 89.62 57 ⇑P P 13 57 57.9 -0.8
baz=90
KTH Kantishna Hill 89.66 11 eP P 13 57 56.6 -1.3
comp=Z,29nm,1.1s
TRF Thorofare Moun 89.67 11 eP P 13 57 56.4 -1.8
comp=Z,176nm,2.0s
TNA Tin City 89.69 3 eP P 13 57 57.0 -0.9
comp=Z,28nm,1.4s
TNA epP pP 13 58 10.3 +3.2
ENH Enshi 89.69 303 eP P 13 57 59.9 +1.0
comp=Z,26nm,1.1s
Z27A Tatum 89.75 53 ⇑P P 13 57 58.6 -0.6
baz=90
329A Wagon Wheel Ra 89.78 55 ⇓P P 13 57 58.6 -0.8
baz=90
W25A X Bar L Ranch, 89.79 51 ⇓P P 13 57 58.7 -0.7
baz=90
832A Faith Ranch, C 89.81 59 ⇓P P 13 57 58.9 -0.5
baz=90
BJI Beijing 89.86 315 P P 13 57 59.4 0.0
BJI PP PP 14 01 32.7 +0.1
BJI SKS SKSac 14 08 31.1 +3.0
BJI S S 14 08 51.1 +1.3
BJI SS SS 14 14 50.5 +2.2
BJI pmax pmax
comp=Z,25nm,2.4s
BJI LR LR
comp=Z,480nm,18.2s
BJI LR LR
comp=Z,380nm,19.4s
REDW Red Top Meadow 89.90 41 eP P 13 57 59.3 -0.5
comp=Z,45nm,1.8s
TPAW Teton Pass 89.91 41 eP P 13 57 58.9 -1.0
comp=Z,19nm,1.4s
TPAW epP pP 13 58 09.7 +0.5
X26A CR and CF Fran 89.92 52 ⇓P P 13 57 59.9 -0.2
baz=90
128A Castleberry Fa 89.94 54 ⇑P P 13 57 59.7 -0.4
baz=90
FXWY Fox Creek 89.95 41 eP P 13 58 01.0 +0.9
comp=Z,19nm,1.5s
FXWY epP pP 13 58 09.9 +0.6
V25A Rancho No Teng 89.99 50 ⇑P P 13 57 59.7 -0.7
baz=90
DLMT Dillon 90.01 39 eP P 13 57 60.0 -0.2
comp=Z,27nm,1.5s
732A Laxson Ranch, 90.01 58 ⇓P P 13 57 59.3 -1.1
baz=90
Y27A Causey 90.06 53 ⇓P P 13 58 00.1 -0.5
baz=90
T24B San Luis 90.07 49 ⇑P P 13 58 01.0 +0.2
baz=90
SMCO Snowmass 90.09 46 eP P 13 58 01.5 +0.5
comp=Z,44nm,2.0s
MSO Missoula 90.11 37 ⇓P P 13 58 03.1 +2.6
baz=90
N20A Spence Gulch, 90.12 45 ⇑P P 13 58 02.0 +1.1
baz=90
SLVN Son La 90.13 293 eP P 13 58 01.7 +0.5
comp=Z,37nm,1.5s
GYA Guiyang 90.14 299 P P 13 58 02.0 +0.8
GYA PP PP 14 01 36.8 +1.6
GYA SKS SKSac 14 08 31.6 +1.0
GYA S S 14 08 52.9 -0.4
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=Z,690nm,21.8s
GYA LR LR
comp=Z,610nm,20.2s
GYA LR LR
comp=Z,650nm,22.5s
IMW Indian Meadow 90.14 41 eP P 13 58 01.3 +0.2
comp=Z,21nm,1.6s
PAX Paxson 90.17 13 eP P 13 57 59.7 -0.8
PAX pmax pmax
comp=Z,19nm,1.2s
PAX Paxson 90.17 13 eP P 13 57 59.6 -0.8
comp=Z,19nm,1.2s
MCK McKinley 90.17 12 eP P 13 57 58.7 -1.6
MCK pmax pmax
comp=Z,23nm,1.1s
MCK McKinley 90.17 12 eP P 13 57 58.7 -1.6
comp=Z,23nm,1.1s
MOOW Moose Ponds 90.18 41 eP P 13 58 01.5 +0.4
comp=Z,20nm,1.8s
MOOW epP pP 13 58 12.8 +2.5
LOHW Long Hollow 90.19 41 eP P 13 58 00.6 -0.5
comp=Z,23nm,1.6s
W26A Owens Ranch, T 90.22 51 ⇑P P 13 58 01.3 -0.1
baz=90
531A Rocksprings 90.24 57 ⇑P P 13 58 01.1 -0.4
baz=90
BSMT Bassoo Peak 90.25 36 eP P 13 58 03.4 +2.0
comp=Z,5.6nm,1.1s
034A Hebbronville 90.26 60 ⇑P P 13 58 02.2 +0.6
baz=90
833A Chaparral WMA, 90.28 59 ⇓P P 13 58 02.2 +0.6
baz=90
Z28A Tucker Farm, M 90.34 53 ⇓P P 13 58 01.4 -0.5
baz=90
R23A Moffat 90.34 48 ⇓P P 13 58 02.0 -0.1
baz=90
LRM Limekiln Ridge 90.36 39 P P 13 58 01.4 -0.5
comp=Z,55nm,1.2s
PDAR Pinedale Array 90.36 42 P P 13 58 01.7 -0.2
comp=Z,0.9nm,0.9s,baz=222,slow=2.0,SNR=6.0
PDAR LR LR 14 33 54.8
comp=Z,532nm,18.6s,baz=264,slow=32
I17A Pilgrim Ck. 90.37 41 ⇓P P 13 58 02.0 0.0
baz=90
QLMT Earthquake Lak 90.38 40 eP P 13 58 01.9 -0.1
MSTX Muleshoe 90.39 53 eP P 13 58 00.0 -2.2
comp=Z,19nm,1.0s
FLWY Flagg Ranch 90.39 41 eP P 13 58 01.9 -0.2
comp=Z,22nm,1.3s
SEY Seymchan 90.41 346 P P 13 58 00.8 -0.6
SEY pmax pmax
comp=Z,8.0nm,0.9s
SEY Seymchan 90.41 346 P P 13 58 00.8 -0.6
comp=Z,7.5nm,0.8s,baz=144,slow=5.2,SNR=23
U25A Circle Dot Ran 90.42 50 ⇑P P 13 58 01.7 -0.7
baz=90
632A Uvalde 90.52 58 ⇑P P 13 58 01.9 -0.9
baz=91
MENT Mentasta 90.52 14 eP P 13 58 01.1 -0.9
CHMT Chamberlain Mo 90.54 38 eP P 13 58 01.1 -1.6
comp=Z,15nm,1.5s
V26A Tequesquite Ra 90.55 51 ⇓P P 13 58 01.6 -1.4
baz=91
YMR Madison River 90.56 40 eP P 13 58 02.2 -0.7
comp=Z,24nm,1.4s
YMR epP pP 13 58 13.9 +1.8
PBKT Sadao Pong 90.60 288 P P 13 58 05.0 +1.6
comp=Z,32nm,1.2s
H17A Grant Village 90.64 41 ⇑P P 13 58 03.1 -0.2
baz=91
W27A Bowe Ranch, En 90.71 52 ⇑P P 13 58 02.6 -1.0
baz=91
DLBC Dease Lake 90.71 22 P P 13 58 03.0 -0.1
comp=Z,5.0nm,1.0s,baz=216,slow=11,SNR=3.7
BOZ Bozeman (W) 90.73 39 eP P 13 58 01.3 -2.2
BOZ pmax pmax
comp=Z,21nm,1.3s
BOZ Bozeman (W) 90.73 39 eP P 13 58 01.3 -2.2
comp=Z,21nm,1.3s
T25A Trinidad 90.78 49 ⇓P P 13 58 02.2 -1.9
baz=91
Z29A Hungry Hill Ra 90.82 54 ⇓P P 13 58 02.8 -1.4
baz=91
R24A Sanders Place, 90.85 48 ⇓P P 13 58 02.9 -1.5
baz=91
331A San Angelo 90.86 56 ⇑P P 13 58 02.6 -1.8
baz=91
U26A Atchley Ranch, 90.88 50 ⇑P P 13 58 03.5 -1.0
baz=91
O22A Kremmling 90.88 46 ⇑P P 13 58 04.0 -0.5
baz=91
J19A Crowheart 90.94 42 ⇓P P 13 58 04.0 -0.6
baz=91
P23A Jefferson 90.94 47 ⇓P P 13 58 04.5 -0.5
baz=91
JCT Junction City 90.95 57 ⇑P P 13 58 04.1 -0.7
baz=91
S25A Robets Cordova 91.03 49 ⇓P P 13 58 03.7 -1.5
baz=91
130A Snyder 91.06 55 ⇓P P 13 58 04.0 -1.2
baz=91
Y29A Porterfield Fa 91.14 53 ⇑P P 13 58 03.9 -1.8
baz=91
Q24A Divide 91.20 47 ⇓P P 13 58 04.9 -1.2
baz=91
V27A Dan Oppiter Fa 91.21 51 ⇓P P 13 58 04.8 -1.2
baz=91
HRY Holter Researc 91.22 38 eP P 13 58 04.9 -0.8
231A Bronte 91.24 55 ⇑P P 13 58 04.9 -1.2
baz=91
Z30A Sanderson Ranc 91.26 54 ⇓P P 13 58 04.6 -1.6
baz=91
N22A Wattenberg Ran 91.27 45 ⇑P P 13 58 05.5 -0.8
baz=91
ISCO Idaho Springs 91.31 47 ⇓P P 13 58 06.4 -0.2
baz=91
O23A Lake Granby, G 91.32 46 ⇓P P 13 58 05.9 -0.7
baz=91
H18A Shoshone NF, C 91.34 41 ⇓P P 13 58 06.5 0.0
baz=92
533A Kerrville 91.36 58 ⇑P P 13 58 06.1 -0.5
baz=91
T26A Comanche Natio 91.37 50 ⇓P P 13 58 06.1 -0.6
baz=92
R25A Fountain Ranch 91.37 48 ⇑P P 13 58 06.2 -0.5
baz=92
I19A Meeteetse 91.39 42 ⇓P P 13 58 07.1 +0.4
baz=92
X29A Tulia 91.39 53 ⇑P P 13 58 06.0 -0.8
baz=92
332A Millersview 91.41 56 ⇓P P 13 58 06.0 -0.9
baz=92
COLA College 91.41 12 eP P 13 58 02.5 -3.5
COLA pmax pmax
comp=Z,36nm,1.2s
COLA College 91.41 12 eP P 13 58 02.5 -3.5
comp=Z,36nm,1.2s
W28A Vega 91.42 52 ⇓P P 13 58 06.3 -0.6
baz=92
WALA Waterton Lakes 91.44 36 eP P 13 58 10.2 +3.5
comp=Z,1.0nm,1.5s
UTTA Uttaradit 91.46 289 P P 13 58 09.8 +2.5
comp=Z,9.3nm,1.1s
IM04 Indian Mountai 91.47 9 eP P 13 58 04.8 -1.5
835A Beeville 91.49 60 ⇑P P 13 58 07.3 +0.1
baz=92
ILAR Eielson Array 91.50 12 P P 13 58 05.3 -1.2
comp=Z,1.3nm,0.8s,baz=217,slow=6.1,SNR=12
ILAR LR LR 14 32 05.4
comp=Z,258nm,21.6s,baz=226,slow=31
U27A Thompson Grove 91.54 51 ⇓P P 13 58 06.2 -1.3
baz=92
J20A Shoshoni 91.58 43 ⇓P P 13 58 06.1 -1.5
baz=92
AMTX Amarillo 91.62 52 eP P 13 58 10.4 +2.6
comp=Z,22nm,1.3s
AMTX Amarillo 91.62 52 ⇓P P 13 58 06.8 -1.0
baz=92
433A Art 91.62 57 ⇓P P 13 58 06.5 -1.4
baz=92
N23A Red Feather La 91.65 45 ⇑P P 13 58 06.6 -1.5
baz=92
S26A Kim 91.67 49 ⇓P P 13 58 06.5 -1.6
baz=92
Y30A Stafford Cattl 91.71 54 ⇑P P 13 58 06.7 -1.6
baz=92
232A Coleman 91.72 56 ⇑P P 13 58 06.6 -1.8
baz=92
K21A Alcova 91.72 43 ⇓P P 13 58 07.5 -0.7
baz=92
H19A Powell 91.74 41 ⇓P P 13 58 07.8 -0.4
baz=92
W29A Amraillo 91.75 52 ⇓P P 13 58 06.9 -1.5
baz=92
534A Blanco 91.77 58 ⇓P P 13 58 06.8 -1.8
baz=92
Q25A Bedland, Calha 91.78 48 ⇓P P 13 58 07.6 -1.1
baz=92
I20A Worland 91.87 42 ⇓P P 13 58 07.3 -1.6
baz=92
XAN Xi'an 91.89 307 P P 13 58 09.8 +0.7
XAN SKS SKSac 14 08 42.8 +2.6
XAN pmax pmax
comp=Z,10.0nm,1.1s
T27A Campo 91.92 50 ⇑P P 13 58 07.8 -1.5
baz=92
U28A Mallet 91.94 51 ⇓P P 13 58 06.9 -2.4
baz=92
KHLT Khaolaem Dam 91.95 285 P P 13 58 12.1 +2.4
comp=Z,7.7nm,1.3s
333A Richland Sprin 91.96 57 ⇓P P 13 58 06.8 -2.7
baz=92
J21A Lysite 91.97 43 ⇑P P 13 58 08.4 -1.0
baz=92
Z31A Sharp Cattle R 92.01 54 ⇓P P 13 58 07.7 -1.9
baz=92
R26A Arlington 92.02 49 ⇑P P 13 58 08.1 -1.6
baz=92
ABTX Abilene, Hawle 92.06 55 eP P 13 58 08.9 -0.9
comp=Z,38nm,1.4s
ABTX Abilene, Hawle 92.06 55 ⇓P P 13 58 08.3 -1.5
baz=92
S27A Las Animas 92.10 49 ⇑P P 13 58 08.8 -1.3
baz=92
P25A Willow Gulch B 92.13 47 ⇓P P 13 58 08.7 -1.5
baz=92
SUKH Sukhothai 92.15 288 P P 13 58 13.2 +2.7
comp=Z,9.0nm,1.0s
K22A Casper 92.19 44 eP P 13 58 10.0 -0.4
comp=Z,43nm,2.0s
K22A epP pP 13 58 21.9 +2.4
K22A Casper 92.19 44 ⇑P P 13 58 09.3 -1.1
baz=92
V29A Stinnett 92.20 52 ⇓P P 13 58 08.3 -2.2
baz=92
Y31A Rekieta Farm, 92.22 54 ⇑P P 13 58 09.1 -1.5
baz=92
H20A Greybull 92.24 42 ⇓P P 13 58 09.0 -1.5
baz=92
434A Burnet 92.28 57 ⇑P P 13 58 09.5 -1.4
baz=92
I21A Big Trails, Te 92.31 42 ⇓P P 13 58 09.5 -1.5
baz=92
233A Rising Star 92.34 56 ⇑P P 13 58 09.6 -1.6
baz=92
T28A Walsh 92.37 50 ⇓P P 13 58 09.1 -2.2
baz=92
F19A Roth Farm, Mol 92.41 40 ⇓P P 13 58 10.6 -0.6
baz=93
L23A Garrett 92.43 44 ⇓P P 13 58 10.8 -0.8
baz=93
R27A Eads 92.46 49 ⇑P P 13 58 10.1 -1.6
baz=93
DAWY Dawson 92.50 15 P P 13 58 10.0 -1.1
Z32A Haskell 92.50 55 ⇑P P 13 58 10.3 -1.5
baz=93
G20A Bridger 92.50 41 ⇑P P 13 58 11.3 -0.4
baz=93
334A Lometa 92.54 57 ⇑P P 13 58 10.5 -1.6
baz=93
LAMP Lampang 92.58 289 P P 13 58 14.5 +2.0
comp=Z,29nm,0.9s
133A Hamilton Ranch 92.60 55 ⇑P P 13 58 10.8 -1.5
baz=93
J22A Midwest 92.61 43 ⇑P P 13 58 11.9 -0.4
baz=93
M24A Cheyenne 92.67 45 ⇓P P 13 58 11.6 -1.0
baz=93
EGAK Eagle 92.69 14 eP P 13 58 11.7 -0.2
comp=Z,14nm,1.2s
KMI Kunming 92.72 296 P P 13 58 14.8 +1.4
KMI pP PcP 13 58 17.5 +3.5
KMI sP sP 13 58 18.5 -7.4
KMI PP PP 14 01 57.3 +1.5
KMI SKS SKSac 14 08 46.1 +0.5
KMI S S 14 09 15.5 -1.5
KMI pmax pmax
comp=Z,14nm,0.9s
KMI pmax pmax
comp=Z,140nm,3.1s
KMI LR LR
comp=Z,390nm,15.5s
KMI LR LR
comp=Z,430nm,17.3s
KMI LR LR
comp=Z,520nm,15.0s
X31A McDonald Ranch 92.73 53 ⇓P P 13 58 11.8 -1.1
baz=93
435B Jarrell 92.79 58 ⇑P P 13 58 12.2 -1.0
baz=93
E19A Rath Farm, Rou 92.83 40 ⇓P P 13 58 13.0 -0.2
baz=93
Y32A R-V Farms, Ver 92.84 54 ⇑P P 13 58 13.0 -0.4
baz=93
I22A 9 Mile Ranch, 92.85 43 ⇓P P 13 58 13.0 -0.4
baz=93
H21A Big Horn, Sher 92.89 42 ⇓P P 13 58 13.4 -0.1
baz=93
BILL Bilibino 92.91 353 ⇓iP P 13 58 12.4 -0.5
BILL iS SKSac 14 08 39.3 -4.9
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL Bilibino 92.91 353 eP P 13 58 11.8 -1.1
comp=Z,17nm,1.3s
234A Clairette 92.91 56 ⇑P P 13 58 13.4 -0.5
baz=93
W31A Holland Ranch, 93.02 53 ⇓P P 13 58 14.0 -0.2
baz=93
Z33A Whitaker Ranch 93.02 55 ⇑P P 13 58 13.3 -1.0
baz=93
CM31 Chiang Mai Arr 93.14 289 eP P 13 58 16.6 +1.5
comp=Z,40nm,1.0s
CMAR Chiang Mai Arr 93.14 289 P P 13 58 16.7 +1.5
CMAR pmax pmax
comp=Z,31nm,1.0s
CMAR MLR MLR
comp=Z,133nm,18.7s
CMAR Chiang Mai Arr 93.14 289 P P 13 58 16.6 +1.5
comp=Z,31nm,1.0s,baz=127,slow=3.0,SNR=79
CMAR LR LR 14 41 53.9
comp=Z,133nm,18.7s,baz=146,slow=37
X32A Elmer 93.15 54 ⇑P P 13 58 13.9 -0.9
baz=93
D19A Cripps Ranch, 93.15 39 ⇓P P 13 58 14.7 +0.1
baz=93
R28A Tribune 93.17 49 ⇑P P 13 58 14.1 -0.8
baz=93
134A White-Moore Ra 93.21 56 ⇑P P 13 58 16.0 +0.8
baz=93
CHTO Chiang Mai 93.29 289 eP P 13 58 17.0 +1.2
CHTO pmax pmax
comp=Z,40nm,1.1s
CHTO Chiang Mai 93.29 289 P P 13 58 17.1 +1.2
CHTO Chiang Mai 93.29 289 eP P 13 58 17.0 +1.2
comp=Z,40nm,1.1s
HHC Hu-ho-hao-te 93.30 314 eP P 13 58 16.1 +0.6
HHC PP PP 14 01 58.2 -1.7
HHC S S 14 09 21.2 0.0
HHC sS sS 14 09 31.1 -5.4
HHC pmax pmax
comp=Z,37nm,1.1s
HHC LR LR
comp=Z,670nm,18.1s
HHC LR LR
comp=Z,860nm,16.7s
HHC LR LR
comp=Z,730nm,15.7s
S29A Ulysses 93.31 50 ⇑P P 13 58 14.7 -0.8
baz=93
V31A Spring Creek L 93.36 52 ⇓P P 13 58 15.5 -0.4
baz=94
C19A Slack Wire Ran 93.36 38 ⇓P P 13 58 15.7 +0.1
baz=94
W32A Sentinel 93.50 53 ⇑P P 13 58 15.7 -0.7
baz=94
D20A Manuel Ranch, 93.54 39 ⇓P P 13 58 16.6 +0.2
baz=94
B19A Brinkman Farms 93.81 38 ⇓P P 13 58 17.1 -0.5
baz=94
V32A Arapaho 93.91 53 ⇓P P 13 58 18.5 +0.2
baz=94
C20A Veseth Ranch, 93.95 39 ⇑P P 13 58 18.7 +0.5
baz=94
F22A Rosebud 93.96 41 ⇓P P 13 58 18.8 +0.4
baz=94
W33A Caddo, Fort Co 94.08 53 ⇑P P 13 58 18.5 -0.5
baz=94
T31A Randall Ranch, 94.08 51 ⇑P P 13 58 18.8 -0.3
baz=94
Z35A Perchaven, San 94.17 55 ⇓P P 13 58 18.8 -0.8
baz=94
A19A Klindworth Far 94.18 38 ⇑P P 13 58 21.9 +2.6
baz=94
G23A Biddle 94.19 42 ⇑P P 13 58 18.9 -0.6
baz=94
R30A Dighton 94.21 50 ⇑P P 13 58 19.2 -0.4
baz=94
U32A Winter Ranch, 94.24 52 ⇓P P 13 58 19.3 -0.5
baz=94
X34A Smith Ranch, M 94.30 54 ⇓P P 13 58 19.0 -1.1
baz=94
B20A Solberg Farm, 94.32 38 ⇓P P 13 58 22.7 +2.7
baz=94
K26A Motz Farm, Whi 94.35 45 ⇑P P 13 58 19.4 -0.9
baz=94
CD2 Chengdu 94.39 302 eP P 13 58 21.8 +1.1
CD2 pP pP 13 58 26.6 -3.3
CD2 sP sP 13 58 28.8 -4.4
CD2 PP PP 14 02 11.5 +3.0
CD2 SKS SKSac 14 08 55.4 +1.3
CD2 S S 14 09 30.4 -0.6
CD2 sS ScS 14 09 38.0 +5.8
CD2 SS SS 14 15 55.5 +1.6
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.6s
CD2 LR LR
comp=Z,560nm,18.1s
CD2 LR LR
comp=Z,380nm,20.1s
F23A Volborg 94.45 41 ⇓P P 13 58 19.3 -1.3
baz=95
LAO LASA Array 94.45 40 eP P 13 58 24.3 +3.7
comp=Z,21nm,1.3s
H24A Dirks Ranch, A 94.48 43 ⇓P P 13 58 19.6 -1.2
baz=95
RSSD Black Hills 94.49 43 eP P 13 58 19.6 -1.4
RSSD pmax pmax
comp=Z,21nm,1.4s
RSSD Black Hills 94.49 43 eP P 13 58 19.6 -1.4
comp=Z,21nm,1.4s
Q30A Quinter 94.56 49 ⇑P P 13 58 20.7 -0.6
baz=95
A20A Cobblestone Ra 94.61 38 ⇓P P 13 58 20.6 -0.7
baz=95
T32A Huddler Ranch, 94.66 51 ⇑P P 13 58 22.0 +0.2
baz=95
D22A Cohagen 94.71 40 ⇑P P 13 58 21.4 -0.4
baz=95
R31A Burdett 94.73 50 ⇑P P 13 58 21.6 -0.4
baz=95

Code	Station	Δ	Az	Phase	ISC	Time	Res
F24A	Ekalaka	95.09	42	⇑P	P	13 58 25.2	+1.6
	baz=95						
J27A	Elkhorn Farm,	95.36	45	⇓P	P	13 58 25.7	+0.8
	baz=96						
C23A	Lambert	95.62	40	⇓P	P	13 58 27.0	+1.1
	baz=96						
I28A	Midland	96.25	44	⇑P	P	13 58 30.6	+1.8
	baz=96						
YAK	Yakutsk	96.25	337	eP	P	13 58 27.0	-1.3
YAK				e*PP	pP	13 58 37.7	+0.2
YAK				e		14 02 20.0	
YAK				ePPP	PPP	14 04 21.3	
YAK				eS	SKSac	14 09 00.5	-1.9
YAK				e		14 09 41.4	
YAK				eSS	SS	14 16 15.7	-3.2
YAK				eSSS	SSS	14 20 06.1	
YAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,48nm,2.7s						
YAK				pmax	pmax		
	comp=N,28nm,3.2s						
YAK				pmax	pmax		
	comp=E,156nm,4.3s						
YAK				smax	smax		
	comp=N,81nm,3.8s						
YAK				smax	smax		
	comp=E,109nm,4.2s						
LZH	Lanzhou	96.53	307	eP	P	13 58 31.2	+0.7
LZH				pP	PcP	13 58 34.5	+3.9
LZH				sP	sP	13 58 36.0	-7.0
LZH				ePP	PP	14 02 27.5	+2.3
LZH				SKS	SKSac	14 09 06.5	+1.0
LZH				eS	S	14 09 48.3	-1.3
LZH				sS	ScS	14 09 55.7	+5.6
LZH				eSS	SS	14 16 24.5	+0.1
LZH				pmax	pmax		
	comp=E,31nm,1.6s						
LZH				pmax	pmax		
	comp=E,140nm,8.7s						
LZH				LR	LR		
	comp=E,500nm,17.5s						
LZH				LR	LR		
	comp=E,470nm,17.2s						
LZH				LR	LR		
	comp=E,700nm,19.6s						
K30A	Basset	96.66	46	⇑P	P	13 58 30.9	+0.2
	baz=97						
J30A	Dallas	97.03	46	⇑P	Pdif	13 58 33.2	+0.7
	baz=97						
INK	Inuvik	97.34	15	P	Pdif	13 58 33.4	+0.2
INK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
INK	Inuvik	97.34	15	P	Pdif	13 58 33.4	+0.2
	comp=Z,1.2nm,1.0s,baz=231,slow=5.5,SNR=2.9						
LPAZ	La Paz	98.87	112	LR	LR	14 36 26.2	
	comp=Z,340nm,18.0s,baz=236,slow=31						
YKA	Yellowknife Ar	99.07	24	P	Pdif	13 58 40.9	-0.1
	comp=Z,0.3nm,0.8s,baz=238,slow=4.8,SNR=4.6						
YKA				PKKP	PKKPdf	14 15 14.7	+1.5
	comp=Z,0.1nm,0.5s,baz=57,slow=2.6,SNR=3.8						
ULN	Ulaanbaatar	99.41	318	ceP	Pdif	13 58 41.7	-1.4
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	Songino Array	99.79	318	P	Pdif	13 58 44.6	-0.1
	comp=Z,0.8nm,1.0s,baz=134,slow=4.2,SNR=2.3						
SONM				LR	LR	14 44 31.4	
	comp=Z,248nm,18.0s,baz=106,slow=36						
WMQ	Urumqi	110.78	310	ePKP	PKiKP	14 03 33.4	-0.1
WMQ				PP	PP	14 04 14.1	+2.8
WMQ				PKS	PKSdf	14 07 08.9	-1.2
WMQ				SKS	SKSdf	14 10 40.8	-2.8
WMQ				SKKS	SKKSac	14 11 04.1	-7.8
WMQ				SS	SS	14 19 37.1	-2.9
WMQ				AMB	AMB		
	comp=Z,32nm,12.4s						
WMQ				LR	LR		
	comp=Z,160nm,20.0s						
WMQ				LR	LR		
	comp=Z,240nm,20.0s						
BB16B	Bebedouro	111.83	127	(P)		14 03 25.8	
BB16B				i		14 03 27.7	
BB16B				i		14 03 32.0	
ZALV	Zalesovo Beam	114.57	320	PKIKP	PKPdf	14 03 39.2	-1.1
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	114.57	320	PKP	PKPdf	14 03 39.2	-1.0
	comp=Z,0.9nm,0.6s,baz=127,slow=1.2,SNR=5.7						
MKAR	Makanchi Array	115.11	312	PKP	PKPdf	14 03 39.9	-1.8
	comp=Z,0.3nm,0.3s,baz=108,slow=3.2,SNR=8.0						
NVS	Novosibirsk	115.59	321	ePKIKP	PKPdf	14 03 35.3	-6.9
NVS				pmax	pmax		
	comp=Z,21nm,2.4s						
NVS				pmax	pmax		
	comp=N,24nm,3.2s						
NVS				pmax	pmax		
	comp=E,15nm,3.2s						
AAK	Ala-Archa	120.07	307	PKIKP	PKPdf	14 03 51.5	0.0
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	Ala-Archa	120.07	307	PKP	PKPdf	14 03 51.5	0.0
	comp=Z,2.5nm,0.9s,baz=177,slow=0.7,SNR=3.6						
KKAR	Karatay Array	123.03	307	ePKIKP	PKPdf	14 03 55.2	-1.7
KKAR	Karatay Array	123.03	307	ePKPdf	PKPdf	14 03 55.2	-1.7
BVAR	Borovoye Array	123.13	319	PKIKP	PKPdf	14 03 55.9	-0.9
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	Borovoye Array	123.13	319	PKP	PKPdf	14 03 55.9	-0.9
	comp=Z,1.5nm,0.6s,baz=129,slow=2.0,SNR=10						
BRVK	Borovoye	123.19	319	i PKIKP	PKPdf	14 03 54.6	-2.3
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KBL	Kabul	123.31	297	ePKIKP	PKPdf	14 03 57.5	-0.5
KBL	Kabul	123.31	297	ePKPdf	PKPdf	14 03 57.5	-0.5
DAG	Danmarks Havn	126.21	6	ePKIKP	PKPdf	14 04 06.9	+4.9
DAG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
DAG	Danmarks Havn	126.21	6	i P	PKPdf	14 04 06.9	+4.9
	comp=Z,1.7nm,0.9s						
SUMG	Summit	126.26	15	ePKIKP	PKPdf	14 04 01.2	-1.6
SUMG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SUMG	Summit	126.26	15	i P	PKPdf	14 04 01.2	-1.6
	comp=Z,4.1nm,1.0s						
SOKR	Solikamsk	129.23	329	i PKIKP	PKPdf	14 04 05.1	-3.1
SOKR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ARU	Arti	129.33	324	i PKIKP	PKPdf	14 04 09.3	+0.8
ARU						14 06 21.8	
ARU				SS	SS	14 23 40.7	+3.5
ARU	Arti	129.33	324	PKPdf	PKPdf	14 04 07.9	-0.6
ABKAR	Akbulak array	130.07	315	ePKPdf	PKPdf	14 04 10.0	-0.2
AKTO	Aktyubinsk	131.09	317	PKIKP	PKPdf	14 04 13.1	+1.0
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTO	Aktyubinsk	131.09	317	PKP	PKPdf	14 04 13.1	+1.0
	comp=Z,1.1nm,0.6s,baz=77,slow=4.6,SNR=4.9						
ARCES	ARCESS Array B	132.89	350	PKIKP	PKPdf	14 04 15.5	+0.6
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES	ARCESS Array B	132.89	350	PKP	PKPdf	14 04 15.5	+0.6
	comp=Z,4.2nm,0.8s,baz=38,slow=1.6,SNR=3.7						
APA	Apatity	133.00	345	i PKIKP	PKPdf	14 04 16.0	+0.8
KLMR	Klimovskoe	136.03	336	ePKIKP	PKPdf	14 04 16.2	-4.8
KLMR				pmax	pmax		
	comp=Z,21nm,1.6s						
FINES	FINESS Array B	139.85	344	PKIKP	PKPdf	14 04 27.8	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	139.85	344	PKP	PKPdf	14 04 27.8	-0.2
	comp=Z,1.6nm,0.8s,baz=74,slow=2.8,SNR=4.2						
MOS	Moscow	140.06	331	ePKHKP	PKPpre	14 04 18.1	
OBN	Obninsk	140.92	331	⇓ePKIKP	PKPdf	14 04 31.4	+1.3
OBN				e		14 07 30.1	
OBN				pmax	pmax		
	comp=Z,32nm,2.2s						
ZEI	Tsey	142.39	309	i PKIKP	PKPdf	14 04 36.9	+3.4
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GNI	Garni	142.45	305	c i PKIKP	PKPdf	14 04 36.5	+2.9
GNI				pmax	pmax		
	comp=Z,32nm,2.5s						
NB2	NORSAR Subarra	142.86	354	PKP	PKPdf	14 04 30.7	-2.8
	comp=Z,7.9nm,1.2s,baz=10,slow=3.2						
NOA	NORSAR Array B	142.86	354	PKIKP	PKPdf	14 04 32.5	-1.0
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	NORSAR Array B	142.86	354	PKP	PKPdf	14 04 32.5	-1.0
	comp=Z,1.5nm,0.9s,baz=22,slow=3.8,SNR=3.7						
KIV	Kislovodsk	142.88	312	i PKIKP	PKPdf	14 04 31.7	-2.5
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
ISAL	Salakas	144.71	338	eP	PKPdf	14 04 37.0	+0.2
ISAL				AMB	AMB	14 04 52.7	
	comp=Z,22nm,1.2s						
IIGN	Ignalina	144.86	338	eP	PKPab	14 04 35.1	-1.1
IIGN				AMB	AMB	14 04 52.6	
	comp=Z,18nm,1.3s						
MICGM	Minsk	144.93	336	⇑eP	PKPab	14 04 34.0	-2.5
MNK	Minsk	144.95	336	⇑ePKIKP	PKPab	14 04 34.0	-2.6
MNK				pmax	pmax		
	comp=Z,160nm,1.4s						
SOC	Sochi	145.02	312	ePKHKP	PKPpre	14 04 31.3	
SOC				eSSS	SSS	14 32 08.7	
SOC				MLR	MLR		
	comp=Z,388nm,19.0s						
NACGM	Naroch	145.02	337	e	PKPbc	14 04 33.0	-3.8
SUW	Suwalki	146.97	339	ePKP2	PKPbc	14 04 42.2	-0.5
SUW	Suwalki	146.97	339	ePKPdf	PKPbc	14 04 42.1	-0.6
SUW				ePKPbc	PKiKP	14 04 47.4	+2.1
SUW				ePKPab	PKPab	14 04 53.7	+10
SUW	Suwalki	146.97	339	ePKPdf	PKPdf	14 04 40.7	-0.1
AKASG	Malin Array Be	147.17	330	PKP2	PKPdf	14 04 42.1	+0.9
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AKASG	Malin Array Be	147.17	330	PKPbc	PKPdf	14 04 42.1	+0.9
	comp=Z,9.6nm,0.7s,baz=40,slow=3.1,SNR=34						
AKBB	Malin Array Si	147.17	330	ePKP2	PKPdf	14 04 41.0	-0.2
AKBB	Malin Array Si	147.17	330	ePKPdf	PKPdf	14 04 41.0	-0.2
KIEV	Kiev	147.18	330	ePKIKP	PKPdf	14 04 39.7	-1.5
KIEV	Kiev	147.18	330	ePKPdf	PKPdf	14 04 41.3	+0.1
AK01	Malin Array Si	147.18	330	ePKPdf	PKPdf	14 04 42.0	+0.8
AK02	Malin Array Si	147.21	330	ePKPbc	PKPdf	14 04 42.0	+0.7
MUD	Monsted U'grnd	147.57	355	ePKP2	PKPbc	14 04 44.4	+0.1
MUD				pmax	pmax		
	comp=Z,30nm,1.1s						
MUD	Monsted U'grnd	147.57	355	i P	PKPbc	14 04 44.4	+0.1
	comp=Z,30nm,1.0s						
SIM	Simferopol'	148.04	318	PKP2	PKPab	14 04 47.5	-1.3
SIM				pmax	pmax		
	comp=Z,28nm,0.8s						
BSD	Bornholm Skovb	148.10	348	ePKP2	PKPab	14 04 52.5	+3.9
BSD				pmax	pmax		
	comp=Z,44nm,1.0s						
BSD	Bornholm Skovb	148.10	348	i P	PKPab	14 04 52.5	+3.9
	comp=Z,44nm,0.9s						
LLD	Lille Linde	148.33	351	ePKP2	PKPab	14 04 48.4	-1.1
LLD	Lille Linde	148.33	351	i P	PKPab	14 04 48.4	-1.1
BEL	Belsk	149.58	339	ePKP2	PKPbc	14 04 49.9	+0.2
BEL	Belsk	149.58	339	ePKPdf	PKPbc	14 04 49.8	+0.1
LVV	L'vov	150.06	334	ePKP2	PKPbc	14 04 50.0	-0.9
ASF	Jabal al Asfar	150.09	293	PKIKP	PKPbc	14 04 52.6	+0.9
ASF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ASF	Jabal al Asfar	150.09	293	PKPbc	PKPbc	14 04 52.6	+0.9
	comp=Z,8.1nm,0.9s,baz=25,slow=4.2,SNR=5.4						
BR131	Keskin Array S	150.70	309	ePKPbc	PKPbc	14 04 52.5	-0.5
BRTR	Keskin Array B	150.70	309	PKIKP	PKPbc	14 04 52.2	-0.8
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRTR	Keskin Array B	150.70	309	PKPbc	PKPbc	14 04 52.2	-0.8
	comp=Z,5.3nm,0.8s,baz=143,slow=4.1,SNR=21						
KWP	Kalwaria Pacla	150.74	335	ePKIKP	PKPbc	14 04 53.0	+0.4
KWP				e		14 05 00.5	
KWP	Kalwaria Pacla	150.74	335	ePKPdf	PKPbc	14 04 53.0	+0.4
KWP				ePKPbc	PKPab	14 05 00.5	+0.9
KWP	Kalwaria Pacla	150.74	335	⇑iP	PKPbc	14 04 53.3	+0.7
KWP	Kalwaria Pacla	150.74	335	ePKPbc	PKPbc	14 04 51.9	-0.7
BUR08	Bucovina Ar. S	151.21	330	ePKPbc	PKPbc	14 04 53.6	-0.3
BURAR	Bucovina Array	151.22	330	⇓iP	PKPbc	14 04 54.9	+1.0
MMAI	Mount Meron Ar	151.22	295	PKPbc	PKPbc	14 04 54.7	+0.4
	comp=Z,28nm,1.0s,baz=66,slow=8.3,SNR=9.8						
ANTO	Ankara	151.24	310	ePKIKP	PKPbc	14 04 53.7	-0.5
ANTO	Ankara	151.24	310	ePKPbc	PKPbc	14 04 53.7	-0.5
OJC	Ojcow	151.29	339	ePKP	PKPbc	14 04 53.1	-0.8
TESR	Tescani	151.31	326	⇓iP	PKPbc	14 04 54.6	+0.6
STHS	Stebnicka Huta	151.47	336	ePKIKP	PKPbc	14 05 01.4	-1.2
STHS	Stebnicka Huta	151.47	336	ePKP	PKPab	14 05 01.4	-1.2
KOLS	Kolonicke sedl	151.47	334	ePKIKP	PKPbc	14 04 53.7	-0.6
KOLS				e		14 05 01.4	
KOLS	Kolonicke sedl	151.47	334	ePKP	PKPbc	14 04 53.7	-0.6
KOLS				e		14 05 01.4	
UZH	Uzhgorod	151.70	334	ePKIKP	PKPdf	14 04 50.3	+1.8
UZH				e		14 04 56.7	
PLOR	Plostina	151.75	325	⇑iP	PKPab	14 05 02.2	-1.8
KSP	Ksiaz	151.78	344	ePKIKP	PKPbc	14 04 54.6	-0.3
KSP	Ksiaz	151.78	344	ePKPdf	PKPbc	14 04 54.7	-0.2
NIE	Niedzica	151.80	337	ePKIKP	PKPbc	14 04 55.1	0.0
NIE	Niedzica	151.80	337	ePKP	PKPbc	14 04 55.1	0.0
CRVS	Cervenica-Dubn	151.81	335	ePKIKP	PKPbc	14 04 54.9	-0.2
CRVS	Cervenica-Dubn	151.81	335	ePKP	PKPbc	14 04 54.9	-0.2
TLB	Topalu	151.82	322	⇑iP	PKPab	14 05 01.7	-2.5
EIL	Elat	152.00	288	PKPbc	PKPbc	14 04 56.9	+0.8
	comp=Z,13nm,0.9s,baz=50,slow=3.9,SNR=4.3						
TRPA	Tarpa	152.00	333	⇑iP	PKPab	14 05 04.4	-0.5
CLL	Collm	152.08	348	ePKIKP	PKPbc	14 04 56.0	+0.4
CLL				e		14 05 02.0	
CLL				i		14 05 07.4	
CLL				pmax	pmax		
	comp=Z,21nm,1.1s						
CLL				MLR	MLR		
	comp=Z,400nm,20.1s						
CLL	Collm	152.08	348	ePKPbc	PKPbc	14 04 56.0	+0.4
CLL				ePKPab	PKPab	14 05 02.0	-3.1
	comp=Z,21nm,1.1s						
CLL				i (pPKPbc)		14 05 07.4	
	comp=Z,39nm,1.1s						
CLL				Lm	MLR	15 20 00.0	
	comp=N,200nm,21.7s						
CLL				Lm	MLR	15 20 00.0	
	comp=E,300nm,20.1s						
CLL				Lm	MLR	15 20 00.0	
	comp=Z,400nm,20.1s						
OKC	Ostrava-Krasne	152.15	340	ePKIKP	PKPbc	14 04 56.4	+0.6
OKC				e		14 05 05.7	
OKC	Ostrava-Krasne	152.15	340	⇑ePKP	PKPbc	14 04 56.4	+0.6
OKC				ePKPAB	PKPab	14 05 05.7	+0.2
OKC				ex	x	14 05 18.6	
UPC	Upice	152.16	344	ePKIKP	PKPbc	14 04 55.2	-0.6
UPC				e		14 05 01.6	
UPC				e		14 05 05.5	
UPC	Upice	152.16	344	⇑ePKP	PKPbc	14 04 55.2	-0.6
UPC				epPKP	sPKPdf	14 05 01.6	-0.3
UPC				ePKPAB	PKPab	14 05 05.5	0.0
UPC				ex	x	14 05 17.3	
DPC	Dobruska-Polom	152.22	343	ePKIKP	PKPbc	14 04 55.8	-0.2
DPC				e		14 05 02.0	
DPC				e		14 05 06.8	
DPC	Dobruska-Polom	152.22	343	⇑ePKP	PKPbc	14 04 55.8	-0.2
DPC				epPKP	sPKPdf	14 05 02.0	0.0
DPC				ePKPAB	PKPab	14 05 06.8	+1.0
DPC				ex	x	14 05 18.0	
BRG	Berggiesshubel	152.30	346	ePKP	PKPdf	14 04 48.5	-0.8
	comp=Z,4.2nm,0.9s						
BRG				i		14 04 56.3	
	comp=Z,8.0nm,0.8s						
BRG	Berggiesshubel	152.30	346	ePKIKP	PKPdf	14 04 48.5	-0.8
BRG				i		14 04 56.3	
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KRLC	Kraliky	152.34	342	ePKIKP	PKPbc	14 04 56.4	+0.1
KRLC				e		14 05 02.1	
KRLC	Kraliky	152.34	342	⇑ePKP	PKPbc	14 04 56.4	+0.1
KRLC				epPKP	sPKPdf	14 05 02.1	-0.1
KRLC				ex	x	14 05 18.6	
MLR	Muntele Rosu	152.36	326	⇑iP	PKPbc	14 04 58.0	+1.4
MORC	Moravsky Berou	152.39	341	ePKIKP	PKPbc	14 04 55.5	-0.9
MORC	Moravsky Berou	152.39	341	⇓iP	PKPbc	14 04 56.5	+0.1
MORC	Moravsky Berou	152.39	341	ePKPbc	PKPbc	14 04 55.5	-0.9
KECS	Kecovo	152.52	336	ePKP	PKPab	14 05 07.5	+0.4
VOIR		152.85	326	⇓PKIKP	PKPab	14 05 00.4	+2.8
VOIR		152.85	326	⇓iP	PKPab	14 05 00.4	+2.8
PRA	Prague	152.95	345	⇑PKP	PKPbc	14 04 55.0	-2.6
PRA				PKPAB	PKPab	14 05 04.0	-4.8
PRU	Pruhonice	153.00	345	ePKIKP	PKPbc	14 04 54.9	-2.8
PRU				e		14 05 03.4	
PRU				e		14 05 08.8	
PRU	Pruhonice	153.00	345	⇑ePKP	PKPbc	14 04 54.9	-2.8
PRU				epPKP	sPKPdf	14 05 03.4	+0.3
PRU				ePKPAB	PKPab	14 05 08.8	-0.2
VRAC	Vranov	153.09	342	⇑PKP2	PKPab	14 05 10.6	+1.2
VRAC	Vranov	153.09	342	⇑iP	PKPab	14 05 10.6	+1.2
VYHS	Vyhne	153.10	338	ePKIKP	PKPbc	14 04 57.9	-0.1
VYHS				e		14 05 09.3	
VYHS	Vyhne	153.10	338	ePKP	PKPbc	14 04 57.9	-0.1
VYHS				e		14 05 09.3	
PSZ	Piszkesteto	153.21	336	⇑PKP2	PKPab	14 05 10.8	+0.7
PSZ	Piszkesteto	153.21	336	⇑iP	PKPab	14 05 10.8	+0.7
PSZ	Piszkesteto	153.21	336	ePKPab	PKPab	14 05 10.4	+0.3
TREC	Trest	153.40	343	ePKIKP	PKPbc	14 04 58.4	-0.2
TREC				e		14 05 05.3	
TREC	Trest	153.40	343	⇑ePKP	PKPbc	14 04 58.4	-0.2
TREC				epPKP	sPKPdf	14 05 05.3	+1.5
ISP	Isparta	153.69	307	⇓PKIKP	PKPbc	14 05 00.9	+1.1
ISP	Isparta	153.69	307	⇓iP	PKPbc	14 05 00.9	+1.1
GZR	Gura Zlata	154.00	329	⇓iP	PKPab	14 05 09.0	-4.5
KHC	Kasperske Hory	154.02	346	ePKIKP	PKPdf	14 04 50.1	-1.9
KHC				e		14 04 59.4	
KHC				e		14 05 11.8	
KHC	Kasperske Hory	154.02	346	ePKPDF	PKPdf	14 04 50.1	-1.9
KHC				⇑ePKP	PKPbc	14 04 59.4	-0.6
KHC				ePKPAB	PKPab	14 05 11.8	-1.6
KHC				epPKP	sPKPab	14 05 25.4	-0.6
KHC	Kasperske Hory	154.02	346	ePKPbc	PKPbc	14 05 00.4	+0.4
GERES	GERESS Array B	154.26	345	PKIKP	PKPdf	14 04 50.6	-1.8
GERES						14 05 01.1	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	GERESS Array B	154.26	345	PKP	PKPdf	14 04 50.6	-1.8
	comp=Z,0.8nm,0.9s,baz=232,slow=4.4,SNR=3.7						
GERES				PKPbc	PKiKP	14 05 01.1	+0.4
	comp=Z,1.4nm,0.9s,baz=42,slow=2.2,SNR=5.8						
MOA	Molln	155.05	344	⇑isPKPbc	sPKPbc	14 05 15.3	+0.4
	comp=Z,26nm,1.3s						
PKSM	Moragy	155.11	335	⇑PKIKP	PKPdf	14 05 00.6	+7.1
PKSM	Moragy	155.11	335	⇑iP	PKPdf	14 05 00.6	+7.1
VTS	Vitosha	155.78	324	⇓PKP2	PKPab	14 05 14.0	-7.3
VTS	Vitosha	155.78	324	⇓iP	PKPab	14 05 14.0	-7.3
PERS	Pernice	155.93	341	i PKPdf	PKPab	14 05 22.6	+0.9
PERS				i		14 05 33.9	
MMB	Musomiste	156.16	321	⇑PKP2	PKPab	14 05 25.4	+2.6
MMB	Musomiste	156.16	321	⇑iP	PKPab	14 05 25.4	+2.6
VISS	Visnje	156.76	341	ePKPdf	PKPab	14 05 25.6	+0.4
VISS				e		14 05 36.7	
BOJS	Bojanci	156.90	340	ePKPdf	PKPab	14 05 27.4	+1.6
JAVS	Javornik	156.91	342	i PKPdf	PKPab	14 05 25.9	0.0
JAVS				i		14 05 38.1	
DBIC	Dimbokro	160.57	152	PKIKP	PKPdf	14 05 03.5	+2.3
DBIC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
DBIC	Dimbokro	160.57	152	PKP	PKPdf	14 05 03.5	+2.3
	comp=Z,5.5nm,1.1s,baz=153,slow=1.5,SNR=3.1						
ESDC	Sonseca Array	163.15	22	PKP	PKPdf	14 05 03.5	+0.4
	comp=Z,0.2nm,0.3s,baz=346,slow=3.1,SNR=4.5						
ESDC				PKPab	PKPab	14 06 05.0	+12
	comp=Z,0.2nm,0.3s,baz=317,slow=3.4,SNR=5.4						
KEST	Kesra	167.64	340	PKPab	PKPab	14 06 13.7	+0.6
	comp=Z,1.8nm,0.9s,baz=291,slow=1.4,SNR=3.6						
TORD	Torodi Ar. Bea	168.77	168	PKP	PKPdf	14 05 07.5	-0.8
	comp=Z,3.2nm,1.2s,baz=290,slow=1.3,SNR=8.1						
TORD				PKPab	PKPab	14 06 19.7	+1.3
	comp=Z,2.7nm,0.7s,baz=192,slow=4.1,SNR=8.6						

IDC 08 13:49:04.0±1.2, 53°.55N×161°.22E, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.4/28, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=60.4km s-min=20.0km az=154.0

KRSC 08 13:49:09.3±0.7, 53°.81N×160°.78E, h62km±16km, ML4.0

ISCJB 08 13:49:10.5±0.4, 53°.79N±0°.03×160°.81E±0°.07, h62km±7km, mb3.3/4, Error ellipse: s-maj=7.3km s-min=2.5km az=30.2

MOS 08 13:49:10.3±0.5, 53°.82N×160°.74E, h66km, mb4.2/1, Error ellipse: s-maj=20.0km s-min=7.5km az=70.7

ISC 08 13:49:11.2±0.9, 53°.80N±0°.03×160°.78E±0°.04, h53km±11km, n68, σ0°.99/100, mb3.3/4, 1C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	Karymskiy	0.82	287	i P	Pn	13 49 26.2	-0.5
KII				i S	Sn	13 49 37.4	-0.6
SPN	Mys Shipunski	0.84	213	PN	Pn	13 49 27.2	+0.4
SPN				S	Sn	13 49 39.0	+0.7
SPN	Mys Shipunski	0.84	213	eP	Pn	13 49 27.2	+0.4
SPN				eS	Sn	13 49 38.9	+0.7
NLC	Nalytchevo	1.06	234	PN	Pn	13 49 29.7	-0.1
NLC				S	Sn	13 49 43.7	+0.1
NLC	Nalytchevo	1.06	234	eP	Pn	13 49 29.7	-0.1
NLC				eS	Sn	13 49 43.7	+0.1
SDLR	Sedlovina	1.25	246	i P	Pn	13 49 32.7	+0.3
SDLR				eS	Sn	13 49 48.2	0.0
SMAR	Somma	1.30	246	eP	Pn	13 49 33.3	+0.1
SMAR				eS	Sn	13 49 48.2	-1.4
KRER	Koryakskii	1.31	248	i P	Pn	13 49 33.7	+0.4
KRER				i S	Sn	13 49 50.4	+0.6
UGLR	Uglovaya	1.31	244	i P	Pn	13 49 33.5	+0.3
UGLR				i S	Sn	13 49 50.0	+0.3
AVH	Avacha	1.33	247	i P	Pn	13 49 34.2	+0.7
AVH				eS	Sn	13 49 50.6	+0.4
KRX	Arik	1.34	252	i P	Pn	13 49 33.7	-0.1
KRX				i S	Sn	13 49 50.4	-0.2
KZV	Kizimen	1.34	348	eP	Pn	13 49 33.8	0.0
KZV				eS	Sn	13 49 50.4	-0.2
KOK	Koryaka	1.38	249	i P	Pn	13 49 34.3	+0.2
KOK				i S	Sn	13 49 50.8	-0.5
PET	Petropavlovsk	1.49	239	⇑iPN	Pn	13 49 35.8	+0.2
PET				eS	Sn	13 49 54.3	+0.4
PET				pmax	pmax		
	comp=Z,89nm,0.3s						
PET				smax	smax		
	comp=N,2µm,0.5s						
PET				smax	smax		
	comp=E,920nm,0.4s						
PET	Petropavlovsk	1.49	239	eP	Pn	13 49 35.9	+0.3
PET				eS	Sn	13 49 54.3	+0.4
TUMR	Tumrok	1.53	346	i P	Pn	13 49 36.8	+0.5
TUMR				i S	Sn	13 49 55.7	+0.6
GNL	Ganaly	1.69	268	eP	Pn	13 49 38.2	-0.2
GNL				eS	Sn	13 49 58.8	-0.1
RUS	Russkaya	1.93	226	PN	Pn	13 49 41.4	-0.2
RUS				S	Sn	13 50 04.3	-0.4
RUS	Russkaya	1.93	226	eP	Pn	13 49 41.4	-0.2
RUS				eS	Sn	13 50 04.3	-0.4
PETK	Petropavlovsk-	1.97	251	PN	Pn	13 49 42.1	0.0
PETK						13 50 08.5	
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK				smax	smax		
	comp=N,14nm,0.3s						
PETK	Petropavlovsk-	1.97	251	Pn	Pn	13 49 42.1	0.0
	comp=N,8.7nm,0.3s,baz=70,slow=18,SNR=181						
PETK				Sn	Sn	13 50 08.4	+2.9
	comp=N,14nm,0.3s,baz=79,slow=18,SNR=9.6						
KMNR	Kamenistaya	1.98	351	eP	Pn	13 49 43.7	+1.3
KMNR				eS	Sn	13 50 07.0	+0.9
MTVR	Mutnovka	2.04	231	eP	Pn	13 49 45.1	+1.8
MTVR				eS	Sn	13 50 08.5	+0.8
BZMR	Bezymyannaya	2.15	356	eP	Pn	13 49 44.3	-0.4
KIRR	Kirishev	2.17	354	eP	Pn	13 49 44.9	-0.1
BZWR	Bezymyannyi-We	2.17	356	eP	Pn	13 49 45.9	+0.8
KPT	Kopyto	2.19	352	i P	Pn	13 49 45.7	+0.4
ASAK	Asacha	2.24	232	eP	Pn	13 49 47.7	+1.8
ASAK				eS	Sn	13 50 14.1	+1.7
KOZ	Kozyrevsk	2.32	347	i P	Pn	13 49 47.2	+0.2
KOZ				eS	Sn	13 50 16.0	+1.7
KOZR	Kozyr	2.33	348	PN	Pn	13 49 47.2	+0.2
KOZR				S	Sn	13 50 16.0	+1.6
APC	Apacha	2.34	249	eP	Pn	13 49 47.4	+0.2
APC				eS	Sn	13 50 16.4	+1.7
ESO	Esso	2.44	331	PN	Pn	13 49 48.2	-0.4
ESO	Esso	2.44	331	eP	Pn	13 49 48.2	-0.4
KLY	Klyuchi	2.52	358	PN	Pn	13 49 49.8	+0.2
KLY				S	Sn	13 50 20.4	+1.3
KLY	Klyuchi	2.52	358	eP	Pn	13 49 49.8	+0.2
KLY				eS	Sn	13 50 20.4	+1.3
SRDR	Sredinnyy	2.59	347	eP	Pn	13 49 50.7	0.0

KBTR Krutoberegovo 2.68 25 PN Pn 13 49 52.9 +1.0
KBTR S Sn 13 50 24.2 +1.1
KBTR Krutoberegovo 2.68 25 eP Pn 13 49 52.9 +1.0
KBTR eS Sn 13 50 24.2 +1.1
KBG Krutoberegovo 2.70 24 PN Pn 13 49 52.6 +0.5
KBG S Sn 13 50 25.3 +1.8
KBG Krutoberegovo 2.70 24 eP Pn 13 49 53.3 +1.2
KBG Krutoberegovo 2.70 24 eP Pn 13 49 52.6 +0.5
KBG eS Sn 13 50 25.3 +1.8
BDR Baidarnaya 2.78 5 eP Pn 13 49 55.0 +1.7
BDR eS Sn 13 50 26.5 +0.8
SMKR Semkarok 2.81 8 eP Pn 13 49 55.0 +1.2
SMKR eS Sn 13 50 26.5 0.0
MIPR Malaya Ipel'ka 2.87 239 eP Pn 13 49 56.4 +2.0
SRKR Sorokina 2.87 4 iP Pn 13 49 56.1 +1.6
SRKR eS Sn 13 50 28.3 +0.5
BKI Bering 3.34 63 PN Pn 13 50 01.6 +0.8
BKI S Sn 13 50 37.9 -1.3
BKI Bering 3.34 63 eP Pn 13 50 01.6 +0.8
BKI eS Sn 13 50 37.9 -1.3
PAU Pauzhetka 3.36 228 PN Pn 13 50 03.7 +2.5
PAU Pauzhetka 3.36 228 eP Pn 13 50 03.7 +2.5
SKR Severo-Kuril's 4.24 224 ePN Pn 13 50 13.5 +0.4
SKR Severo-Kuril's 4.24 224 eP Pn 13 50 13.9 +0.8
SKR eS Sn 13 51 00.8 -0.5
YSS Yuzh-Sakhalins 13.37 246 ePN Pn 13 52 18.5 +0.5
BILL Bilibino 14.52 8 eP Pn 13 52 32.1 -1.3
BILL pmax pmax
comp=Z,2.0nm,1.0s
MAJO Matsushiro 23.31 231 ⇓iP P 13 54 16.3 +1.9
ILAR Eielson Array 28.03 46 P P 13 54 56.0 -0.9
ILAR Eielson Array 28.03 46 P P 13 54 56.0 -0.9
comp=Z,0.4nm,0.7s,baz=262,slow=9.2,SNR=5.2
H11N2 WAKE ISLAND Hy 34.33 170 T T 14 32 10.7
baz=356,slow=76,SNR=31
H11N3 WAKE ISLAND Hy 34.35 170 T T 14 32 40.6
baz=356,slow=76,SNR=25
H11N1 WAKE ISLAND Hy 34.35 170 T T 14 32 22.9
baz=356,slow=76,SNR=30
H11S1 WAKE ISLAND Hy 35.52 170 T T 14 33 47.6
baz=355,slow=78,SNR=3.6
H11S3 WAKE ISLAND Hy 35.53 170 T T 14 33 49.7
baz=355,slow=78,SNR=3.4
H11S2 WAKE ISLAND Hy 35.54 170 T T 14 33 49.5
baz=355,slow=78,SNR=2.9
YKA Yellowknife Ar 42.37 43 P P 13 56 58.9 -0.7
YKA Yellowknife Ar 42.37 43 P P 13 56 58.9 -0.7
comp=Z,0.3nm,0.5s,baz=298,slow=7.9,SNR=6.0
TXAR Lajitas Array 69.99 68 P P 14 00 17.2 0.0
TXAR Lajitas Array 69.99 68 P P 14 00 17.2 0.0
comp=Z,0.3nm,0.5s,baz=290,slow=5.2,SNR=5.3
ASAR Alice Springs 80.57 205 P P 14 01 16.9 -0.8
ASAR Alice Springs 80.57 205 P P 14 01 16.9 -0.8
comp=Z,0.3nm,0.8s,baz=5.9,slow=3.9,SNR=2.9

ISCJB 08 13:57:57.9±0.7, 7°.33S±0°.05×30°.49E±0°.07, h10km, mb3.6/5, Error ellipse: s-maj=11.3km s-min=6.8km az=23.0
IDC 08 13:57:58.6±1.0, 7°.08S×30°.28E, h0km, mb3.7/5, mb1 4.0/9, mb1mx3.7/40, mbtmp3.9/9, ML2.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/32, Error ellipse: s-maj=32.2km s-min=18.8km az=119.0
ISC 08 13:57:59.8±0.8, 7°.30S±0°.07×30°.52E±0°.08, h10km, n12, σ2°.40/15, mb3.7/5, Lake Tanganyika region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
DODT Dodoma, Tanzan 5.31 78 iPn Pn 13 59 20.6 +1.3
DODT Sn Sg 14 00 47.7 -2.7
MZM Mzuzu 5.37 140 iPn Pn 13 59 10.6 -9.4
MZM Sn Sn 14 00 21.4 -0.5
MAUS Longido 7.64 54 iPn Pn 13 59 59.5 +8.1
MAUS Sn Sn 14 01 13.1 -5.0
LSZ Lusaka 8.26 196 Pn Pn 14 00 02.2 +2.5
1.4nm,0.3s,baz=8.2,slow=13,SNR=9.9
LSZ Sn Sn 14 01 33.3 0.0
4.8nm,0.3s,baz=110,slow=23,SNR=9.6
LSZ Lg Lg 14 02 22.6
5.2nm,0.3s,baz=107,slow=19,SNR=16
KMBO Kilima Mbogo 9.09 48 Pn Pn 14 00 11.7 +0.3
2.7nm,0.3s,baz=222,slow=17,SNR=21
KMBO Sn Sn 14 01 48.5 -5.4
2.4nm,0.3s,baz=204,slow=12,SNR=5.7
KMBO Lg Lg 14 02 41.3
6.9nm,0.3s,baz=305,slow=23,SNR=7.5
TSUM Tsumeb 17.27 225 P Pn 14 02 00.5 -0.8
0.3nm,0.3s,baz=56,slow=12,SNR=3.4
TSUM S Sn 14 04 58.7 -15
0.4nm,0.3s,baz=310,slow=23,SNR=5.2
TSUM Lg Lg 14 07 14.5
0.4nm,0.3s,baz=272,slow=23,SNR=2.9
TSUM LR LR 14 08 56.4
comp=Z,161nm,18.6s,baz=26,slow=38
LBTB Lobatse 18.24 194 P P 14 02 15.4 +2.0
0.6nm,0.3s,baz=18,slow=13,SNR=6.9
LBTB S Sn 14 05 31.0 -6.1
0.3nm,0.3s,baz=277,slow=14,SNR=3.8
BOSA Boshof 21.78 193 P P 14 02 53.9 +1.9
2.3nm,0.6s,baz=12,slow=10,SNR=6.8
BOSA S S 14 06 52.8 -0.3
1.4nm,0.7s,baz=7.9,slow=12,SNR=2.5
TORD Torodi Ar. Bea 35.11 305 P P 14 04 51.2 -2.5
0.4nm,0.8s,baz=113,slow=7.6,SNR=2.8
MKAR Makanchi Array 70.72 35 P P 14 09 16.9 +0.8
0.5nm,0.8s,baz=234,slow=10,SNR=4.0
KURBB Kurchatov Arra 71.00 30 P P 14 09 17.4 -0.3
0.4nm,0.2s,baz=239,slow=7.2,SNR=4.1
CMAR Chiang Mai Arr 72.15 68 P P 14 09 26.7 +1.4
0.2nm,0.3s,baz=247,slow=6.5,SNR=2.7

SKO 08 14:03:08.1, 41°.49N×22°.74E, h13km, M0.4, ML0.6, 1D, Northwestern Balkan Peninsula

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
VAY Valandovo 0.21 217 ⇓iPg Pb 14 03 13.4 -0.5
VAY iSg Sg 14 03 15.4 -0.5
VAY eLg Lg 14 03 15.5
comp=N,16nm,0.3s
VAY eLg Lg 14 03 16.1
comp=E,10.0nm,0.3s

IDC 08 14:31:15.8±2.6, 11°.06N×126°.00E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/36, mbtmp3.3/4, Error ellipse: s-maj=247.3km s-min=21.8km az=67.0
MAN 08 14:31:17, 11°.23N×126°.40E, h76km, mb4.9, ML3.8, MS3.9
ISCJB 08 14:31:19.0±0.9, 11°.25N±0°.07×126°.34E±0°.08, h49km, mb3.4/4, Error ellipse: s-maj=11.0km s-min=10.0km az=20.9
ISC 08 14:31:21.2±1.3, 11°.23N±0°.07×126°.3E±0°.1, h49km, n11, σ1°.37/12, mb3.5/4, 2D, Philippine Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PLP Palo 1.29 267 ⇓eP Pn 14 31 39.1 -3.8
SCPH Surigao 1.64 209 ⇓eP Pn 14 31 46.0 -1.7
OCLP Ormoc 1.67 264 eP Pn 14 31 47.2 -0.8
OCLP eS Sn 14 32 09.0 +0.8
MSLP Maasin 1.78 233 eP Pn 14 31 48.5 -1.1
MSLP eS Sn 14 32 11.1 +0.1
CNP Catarman 2.04 309 eP Pn 14 31 51.2 -1.9
PVCP Virac 3.15 319 eP Pn 14 32 06.9 -1.4
GUIM Jordan 3.69 261 eP Pn 14 32 14.9 -0.9
WRA Warramunga Arr 31.97 166 P P 14 37 44.2 +1.4
0.2nm,0.6s,baz=348,slow=9.2,SNR=3.4
ASAR Alice Springs 35.47 168 P P 14 38 12.2 -1.0
0.2nm,0.6s,baz=338,slow=7.5,SNR=5.9
MKAR Makanchi Array 51.29 322 P P 14 40 21.4 +1.0
0.6nm,0.7s,baz=118,slow=8.7,SNR=7.2
ZALV Zalesovo Beam 53.80 331 P P 14 40 40.1 +1.2
0.4nm,0.5s,baz=97,slow=7.4,SNR=2.6

BJI 08 14:36:16.9, 20°.45S×176°.80W, h575km, mB4.9/14, mb4.6/17
NEIC 08 14:36:20.7±4.9, 20°.12S×177°.28W, h578km±27km, mb4.5/6, Error ellipse: s-maj=121.2km s-min=37.2km az=145.0
ISCJB 08 14:36:23.6±0.7, 19°.96S±0°.08×177°.7W±0°.1, h600km, mb4.3/22, Error ellipse: s-maj=15.0km s-min=8.8km az=26.7
IDC 08 14:36:27.1±1.9, 20°.00S×177°.83W, h619km±21km, mb3.6/11, mb1 3.8/13, mb1mx3.4/29, mbtmp4.6/13, Error ellipse: s-maj=17.6km s-min=12.2km az=133.0
ISC 08 14:36:23.6±0.7, 19°.87S±0°.10×177°.45W±0°.10, h600km, n59, σ2°.10/75, mb4.3/22, 3C-2D, Fiji Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
MSVF Nonsavu 4.76 296 eP P 14 37 52.6 -2.2
45nm,0.6s
AFI Afiamalu 8.04 43 P P 14 38 23.5 0.0
1.5nm,0.3s,baz=47,slow=21,SNR=3.1
AFI S S 14 39 56.2 -5.4
3.4nm,0.3s,baz=185,slow=21,SNR=3.5
DZM Mont Dzumac 15.20 259 P P 14 39 34.0 +0.3
1.1nm,0.3s,baz=112,slow=21,SNR=8.3
URZ Urewera 18.92 193 P P 14 40 08.5 +1.1
3.6nm,0.3s,baz=279,slow=2.8,SNR=30
URZ S S 14 43 05.9 -2.9
0.1nm,0.3s,baz=21,slow=21,SNR=1.1
CTA Charters Towser 34.07 263 P P 14 42 19.4 -0.6
6.9nm,0.3s,baz=87,slow=9.9,SNR=40
CTAO Charters Tower 34.07 263 eP P 14 42 19.3 -0.6
17nm,0.8s
PMG Port Moresby 35.71 282 P P 14 42 32.9 -0.6
22nm,0.9s,baz=125,slow=7.2,SNR=9.6
PMG Port Moresby 35.71 282 P P 14 42 33.1 -0.5
baz=35,SNR=6.2
QLP Quilpie 35.74 252 P P 14 42 33.4 -0.3
baz=35,SNR=7.7
MTSU Mount Surprise 36.14 266 P P 14 42 36.4 -0.7
baz=35,SNR=16
TOO Toolangi 36.68 233 P P 14 42 42.2 +0.9
baz=36,SNR=3.9
COEN Coen 38.06 273 P P 14 42 52.2 -0.6
baz=37,SNR=20
STKA Stephens Creek 38.52 244 P P 14 42 56.9 +0.6
6.0nm,1.1s,baz=82,slow=6.5,SNR=8.3
STKA Stephens Creek 38.52 244 P P 14 42 57.0 +0.7
baz=38,SNR=5.6
HTT Hallett 40.97 242 P P 14 43 16.5 +0.6
baz=40,SNR=7.9
BBOO Buckleboo 43.29 243 P P 14 43 34.2 +0.3
baz=42,SNR=16
AS31 Alice Springs 45.16 256 eP P 14 43 47.7 -0.8
AS31 ePcP PcP 14 45 17.0 +1.2
ASAR Alice Springs 45.16 256 P P 14 43 48.0 -0.5
12nm,0.8s,baz=95,slow=7.4,SNR=162
ASAR PcP PcP 14 45 17.0 +1.2
2.1nm,0.8s,baz=101,slow=3.8,SNR=9.5
ASAR S S 14 49 42.3 -3.5
6.9nm,1.1s,baz=90,slow=16,SNR=28
WRAB Tennant Creek 45.19 261 eP P 14 43 47.6 -1.1
11nm,1.0s
WRA Warramunga Arr 45.20 261 P P 14 43 47.5 -1.3
3.2nm,0.4s,baz=97,slow=7.5,SNR=165
WRA PcP PcP 14 45 16.9 +1.0
1.1nm,0.7s,baz=92,slow=3.9,SNR=5.1
WRA S S 14 49 41.7 -4.5
1.2nm,0.9s,baz=95,slow=14,SNR=8.6
KDU Kakadu 48.45 270 P P 14 44 12.4 -0.8
baz=48,SNR=5.0
MTN Manton Dam 49.67 270 P P 14 44 21.1 -1.1
baz=49,SNR=5.8
WRKA Warakurna 50.13 254 P P 14 44 25.3 -0.2
baz=49,SNR=18
KNRA Kununurra 51.22 266 P P 14 44 32.8 -0.6
baz=50,SNR=5.2
SOEI Soe 57.00 271 eP P 14 45 15.1 +1.0
44nm,0.8s
SOEI Soe 57.00 271 P P 14 45 15.1 +1.0
baz=56,SNR=14
MEEK Meekatharra 58.61 250 P P 14 45 24.2 -0.5
baz=58,SNR=4.3
KLBR Kellerberrin 58.79 245 P P 14 45 26.1 +0.3
baz=58,SNR=5.5
JAGI Jajag, Banyuwa 66.91 269 P P 14 46 17.0 -1.0
baz=66,SNR=4.4
MJAR Matsushiro Arr 70.01 323 P P 14 46 36.4 +0.1
5.6nm,1.0s,baz=155,slow=5.9,SNR=4.3
UGM Wanagama 70.49 268 P P 14 46 39.9 +0.2
baz=70,SNR=4.7
TPUB Ta-pu 74.07 302 eP P 14 46 58.8 -1.2
6.6nm,0.6s
PETK Petropavlovsk- 75.80 345 P P 14 47 09.8 +0.9
4.5nm,0.8s,baz=134,slow=6.4,SNR=6.2
KSRS Korea Array 76.76 318 P P 14 47 15.8 +1.3
1.2nm,0.7s,baz=151,slow=5.4,SNR=5.4
USRK Ussuriysk Arra 78.74 326 P P 14 47 27.2 +2.2
6.2nm,0.9s,baz=147,slow=4.8,SNR=10.0
MDJ Mudanjiang 80.30 325 P P 14 47 34.7 +1.5
MDJ pP pP 14 49 35.3 -3.9
MDJ sP sP 14 50 33.2 -6.6
MDJ S SKKSac 14 56 55.6 -2.0
MDJ pmax pmax
comp=Z,9.0nm,1.1s
MDJ pmax pmax
comp=Z,130nm,5.2s
CN2 Changchun 82.12 322 eP P 14 47 44.0 +1.5
CN2 eS S 14 57 15.8 +7.2
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
GYA Guiyang 86.79 299 eP P 14 48 07.0 +1.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
ILAR Eielson Array 87.59 13 P P 14 48 09.7 +1.2
1.8nm,0.9s,baz=214,slow=5.4,SNR=19
XAN Xi'an 88.16 307 P P 14 48 13.4 +1.4
XAN pP pP 14 50 20.7 -0.4
XAN pmax pmax
comp=Z,3.0nm,1.0s
XAN pmax pmax
comp=Z,24nm,5.7s
HHC Hu-ho-hao-te 89.28 314 eP P 14 48 19.5 +2.4
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,330nm,5.4s
CMAR Chiang Mai Arr 90.39 289 P P 14 48 24.4 +1.9
2.6nm,0.9s,baz=115,slow=2.8,SNR=20
CHTO Chiang Mai 90.52 290 eP P 14 48 24.6 +1.5
2.9nm,0.8s
CD2 Chengdu 90.89 303 eP P 14 48 25.4 +0.8
CD2 pP pP 14 50 31.7 -2.7
CD2 sP sP 14 51 28.2 -5.8
CD2 SKS SKSac 14 58 02.4 +2.5
CD2 S ScS 14 58 33.4 +0.1
CD2 sS sS 15 02 17.5 -6.2
CD2 SS SS 15 05 00.5 +6.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.8s
LZH Lanzhou 92.80 307 ⇓P P 14 48 34.8 +1.3
LZH pP pP 14 50 41.5 -1.9
LZH sP sP 14 51 38.1 -4.9
LZH PP PP 14 52 31.0 +4.1
LZH pmax pmax
comp=Z,15nm,1.5s
LZH pmax pmax
comp=Z,49nm,8.9s
MKAR Makanchi Array 111.14 314 PKiKP PKiKP 14 53 50.7 +0.7
0.3nm,0.6s,baz=117,slow=0.3,SNR=5.9
ARCES ARCESS Array B 128.40 350 PKP PKPdf 14 54 24.1 +1.7
2.3nm,0.8s,baz=5.7,slow=4.9,SNR=5.6
AKASG Malin Array Be 142.71 332 PKhKP PKPpre 14 54 47.4
1.8nm,0.5s,baz=39,slow=4.3,SNR=14
AK01 Malin Array Si 142.72 332 ePKPdf PKPpre 14 54 47.2
BUR08 Bucovina Ar. S 146.75 332 ePKPbc PKPab 14 55 00.7 -1.8
BR131 Keskin Array S 146.79 313 ePKPbc PKPab 14 55 00.9 -2.2
BRTR Keskin Array B 146.79 313 PKPbc PKPab 14 55 00.8 -2.2
2.7nm,0.7s,baz=134,slow=4.6,SNR=14
CLL Collm 147.57 348 ⇓iPKPbc PKPab 14 55 03.1 -2.4
comp=Z,10.0nm,1.0s
CLL ⇑iPKPab PKiKP 14 55 06.7 +4.0
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 147.78 346 iPKP PKPab 14 55 03.7 -2.7
comp=Z,9.4nm,1.2s
VYHS Vyhne 148.57 339 ePKP PKPab 14 55 06.1 -3.7
KHC Kasperske Hory 149.49 346 ⇑ePKP PKPbc 14 55 08.3 +2.2
KHC ePKPAB PKPab 14 55 15.4 +1.8
GERES GERESS Array B 149.73 345 PKPbc PKPbc 14 55 08.6 +1.9
comp=Z,4.2nm,0.8s,baz=29,slow=3.0,SNR=27
CONA Conrad Observa 150.00 342 ⇑iPKiKP PKiKP 14 55 09.7 +1.7
comp=Z,7.2nm,0.8s
TORD Torodi Ar. Bea 173.26 173 PKP PKPdf 14 55 27.9 +2.1
comp=Z,0.7nm,0.8s,baz=325,slow=1.8,SNR=3.5

ISCJB 08 14:48:49.3±1.1, 42°.98N±0°.07×146°.18E±0°.07, h39km±28km, Error ellipse: s-maj=12.3km s-min=6.1km az=151.1
JMA 08 14:48:49.3±0.1, 42°.99N×146°.18E, h48km±1km, M3.3
SKHL 08 14:48:50.1±0.9, 43°.00N×146°.10E, h30km±1km, mb4.2/3
ISC 08 14:48:49.7±2.2, 42°.98N±0°.10×146°.18E±0°.07, h33km±6km, n11, σ0°.82/20, Off southeast coast of Hokkaido

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
NEM2 Nemuro 2 0.50 321 P Pb 14 49 00.4 +0.2
NEM2 eS Sb 14 49 08.1 +0.6
SHO Shikotan 1.01 28 eP Pn 14 49 06.9 -0.6
SHO AMB AMB 14 49 07.2
112nm,0.8s
SHO eS Sb 14 49 20.0 -1.6
SHO A A 14 49 21.5
2μm,0.4s
SHO A A 14 49 21.5
364nm,0.4s
YUK Yuzh-Kuril'sk 1.08 348 eP Pn 14 49 07.8 -0.7
YUK AMB AMB 14 49 10.3
270nm,0.3s
YUK AMB AMB 14 49 10.3
110nm,0.3s
YUK AMB AMB 14 49 10.3
500nm,0.3s
YUK eS Sn 14 49 21.3 -1.0
YUK A A 14 49 21.8
520nm,0.6s
YUK A A 14 49 21.8
2μm,0.6s
JAK Akkeshi 1.09 271 P Pn 14 49 08.2 -0.4
JAK eS Sn 14 49 22.2 -0.2
JNK Nakash 1.23 300 P Pn 14 49 10.1 -0.4
JNK eS Sn 14 49 25.2 -0.7
JRA Rausu 1.23 322 P Pn 14 49 10.5 0.0
JRA eS Sn 14 49 26.0 +0.1
JOB Onbets 1.72 268 P Pn 14 49 17.2 -0.1
JAR Ashorobuto 1.79 281 P Pn 14 49 18.4 +0.1
JAR eS Sn 14 49 39.9 0.0
JTKR Abashiri--Toko 1.93 302 P Pn 14 49 20.8 +0.7
JTKR eS Sn 14 49 44.4 +1.2
JCH Churui 2.10 261 P Pn 14 49 22.3 -0.2
KUR Kuril'sk 2.56 28 eP Pn 14 49 30.3 +1.5
KUR AMB AMB 14 49 31.0
60nm,0.4s
KUR AMB AMB 14 49 31.0
10.0nm,0.4s
KUR AMB AMB 14 49 31.0
15nm,0.4s
KUR eS Sn 14 49 59.7 +0.9
KUR A A 14 50 07.0
130nm,0.5s
KUR A A 14 50 07.0
110nm,0.5s

IDC 08 15:10:34.8±2.3, 5°.64N×126°.75E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/31, mbtmp3.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/14, 1D, Error ellipse: s-maj=222.2km s-min=26.7km az=66.0, Mindanao

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PVCP Virac 8.31 342 ⇓eP Pb 15 13 01.2 +1.5
WRA Warramunga Arr 26.50 164 P P 15 16 14.5 +0.4
0.2nm,0.3s,baz=343,slow=10,SNR=3.9
ASAR Alice Springs 29.95 167 P P 15 16 45.0 -0.1
0.2nm,0.7s,baz=351,slow=7.5,SNR=5.6
ASAR PcP PcP 15 19 47.0 -0.9
0.2nm,0.8s,baz=356,slow=2.8,SNR=2.8
KSRS Korea Array 31.68 2 LR LR 15 28 14.2
comp=Z,55nm,21.8s,baz=155,slow=34
MKAR Makanchi Array 56.01 325 P P 15 20 15.5 +0.1
0.1nm,0.4s,baz=112,slow=7.1,SNR=5.9

IDC 08 15:16:45.5±1.2, 1°.71N×123°.66E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/36, mbtmp3.5/4, Error ellipse: s-maj=177.6km s-min=21.2km az=66.0
DJA 08 15:16:46.1±4.4, 2°N±36°×12°3E±°, h10km, M4.5/4, MLv4.5/4
ISC 08 15:16:49.9±1.1, 1°.30N±0°.10×123°.05E±0°.09, h32km, n9, σ1°.00/9, mb3.4/4, Minahassa Peninsula, Sulawesi

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
GTOI Gorontalo 0.66 183 P Pn 15 17 02.5 -0.6
KMSI Cibinong 1.18 128 P Pn 15 17 10.6 +0.4
MRSI Marisa 1.38 234 P Pn 15 17 13.9 +1.0
LUWI Luwuk 2.34 187 P Pb 15 17 31.1 -0.4
APSI Ampana 2.60 213 P Pb 15 17 35.3 -0.6
WRA Warramunga Arr 23.84 153 P P 15 22 00.8 +0.4
1.1nm,0.7s,baz=336,slow=9.7,SNR=7.8
ASAR Alice Springs 26.96 158 P P 15 22 30.6 +1.7
0.3nm,0.8s,baz=329,slow=9.1,SNR=4.6
SONM Songino Array 48.55 345 P P 15 25 29.3 -1.0
0.8nm,0.8s,baz=152,slow=6.7,SNR=5.9
MKAR Makanchi Array 57.55 328 P P 15 26 36.6 +0.1
0.2nm,0.6s,baz=116,slow=9.9,SNR=2.6

IDC 08 15:19:48.9±1.8, 15°.04S×174°.83W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.7/30, mbtmp4.1/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=59.9km s-min=30.3km az=126.0, Tonga Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
URZ Urewera 24.20 196 P P 15 25 07.0 -0.2
4.2nm,0.8s,baz=3.5,slow=19,SNR=1.7
STKA Stephens Creek 43.03 239 P P 15 27 50.7 +0.2
0.8nm,0.4s,baz=84,slow=9.1,SNR=5.8
WRA Warramunga Arr 48.58 257 P P 15 28 34.4 -0.2
1.5nm,0.7s,baz=90,slow=7.4,SNR=18
WRA LR LR 15 48 54.1
comp=Z,26nm,18.2s,baz=105,slow=36
ASAR Alice Springs 48.91 252 P P 15 28 36.9 -0.3
10nm,0.6s,baz=90,slow=7.6,SNR=266
ILAR Eielson Array 82.36 12 P P 15 32 12.3 +0.1
0.5nm,1.1s,baz=226,slow=8.6,SNR=3.4

CASC 08 15:49:58.3±1.6, 13°.82N×91°.22W, h25km±9km, MD3.7, 3C-1D, Near coast of Guatemala

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JAT Jato 0.64 321 ⇑eP Pn 15 50 11.7 -0.1
PCG Pacaya 0.82 46 eP Pb 15 50 14.3 0.0
PCG eS Sn 15 50 25.9 -0.4
NBG Las Nubes 1.14 48 ⇑eP Pn 15 50 19.2 +0.2
NBG eS Sb 15 50 36.1 +1.8
RBDL Robledal 1.51 79 ⇓eP Pn 15 50 23.6 -0.4
RTR El Retiro 1.53 87 eP Pn 15 50 24.3 +0.1
RTR eS Sb 15 50 44.8 -0.6
SBLS San Blas 1.55 89 eP Pn 15 50 24.7 +0.1
SBLS eS Sb 15 50 45.1 -0.9
SNJE San Jose 1.57 88 eP Pn 15 50 24.6 -0.2
SNJE eS Sn 15 50 45.5 +1.0
BOQS Boqueron 1.88 92 eP Pn 15 50 29.9 +0.7
BOQS eS Sn 15 50 53.6 +1.3
MRL Marmol 1.93 50 eP Pn 15 50 28.1 -1.6
MRL ⇑eP Pb 15 50 29.2 -3.9
LFRS El Faro 2.10 95 eP Pn 15 50 32.6 +0.5
LFRS eS Sn 15 50 58.5 +0.9
SNVI San Vicente 2.32 95 eP Pn 15 50 34.7 -0.4
SNVI eS Sn 15 51 03.2 +0.2

IDC 08 16:00:38.6±1.3, 61°.84S×161°.44W, h0km, mb4.1/5, mb1 4.2/5, mb1mx4.0/20, mbtmp4.1/5, MS4.4/13, Ms1 4.3/13, ms1mx4.2/21, Error ellipse: s-maj=48.6km s-min=25.8km az=31.0
ISCJB 08 16:00:39.8±0.9, 62°.25S±0°.1×162°.1W±0°.3, h10km, mb4.2/6, MS4.4/12, Error ellipse: s-maj=21.3km s-min=16.2km az=177.4

*GCMT **08** 16:00:39.5±0.3, 62.60S×161.73W, h18km±1km, MW5.1/77, Moment Tensor Solution. s27,c29; s77,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.25±.22; $M_{\theta\theta}$4.67±.20; $M_{\phi\phi}$-3.42±.15; $M_{r\theta}$0.51±.37; $M_{\theta\phi}$0.68±.14; $M_{\phi r}$2.79±.52; Best double couple: M_o5.08400×10^{16} NP1: ϕ_s225.00000°, δ73.00000°, λ-20.00000°. NP2: ϕ_s125.00000°, δ60.00000°, λ-20.00000°. Principal axes: T 4.8330, Plg8.0000°, Azm353.0000°; N 0.5030, Plg55.0000°, Azm251.0000°; P -5.3360, Plg34.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 16:00:39.5±1.0, 61.97S×161.35W, h10km, mb4.6/3 Error ellipse: s-maj=28.2km s-min=20.8km az=49.0*

ISC 08 16:00:41.1±1.0, 62.2S±0.1×161.7W±0.2, h10km, n36, σ1.69/12, mb4.3/6, MS4.3/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	19.21	203	LR	LR	16 10 26.4	
	comp=Z,2µm,20.6s,baz=60,slow=30						
VNDA	Vanda	19.21	203	eP	P	16 05 04.9	+0.2
	74nm,1.9s						
URZ	Urewera	27.28	322	LR	LR	16 14 58.9	
	comp=Z,584nm,20.9s,baz=184,slow=32						
QSPA	South Pole Qui	27.90	180	P	P	16 06 33.2	+2.2
	1.5nm,0.9s,baz=38,slow=3.9,SNR=3.2						
RAO	Raoul Island	34.64	335	LR	LR	16 19 15.1	
	comp=Z,231nm,18.3s,baz=135,slow=32						
TBI	Tubuai	39.74	18	eT	T	16 50 27.1	
	34nm,0.4s						
RKT	Rikitea	43.11	37	eLQ	LQ	16 18 40.3	
	1µm,28.8s						
RKT				eLR	LR	16 20 46.2	
	631nm,28.2s,baz=210						
RKT	Rikitea	43.11	37	eT	T	16 54 37.9	
	4.1nm,0.3s						
PAE	Paea	45.32	16	eT	T	16 57 25.2	
	6.1nm,0.4s						
PPT2	Papeete2	45.39	16	eS	S	16 15 42.7	+2.1
	119nm,24.8s						
PPT2				eLR	LR	16 21 50.0	
	1µm,25.0s,baz=195						
PPT2	Papeete2	45.39	16	eT	T	16 57 30.9	
	13nm,0.4s						
PPT	Papeete	45.41	16	LR	LR	16 23 03.1	
	comp=Z,462nm,20.1s,baz=214,slow=30						
TIAR	Tiarei	45.45	17	eT	T	16 57 35.3	
	4.9nm,0.4s						
DZM	Mont Dzumac	45.62	317	eLR	LR	16 21 47.0	
	480nm,24.1s						
MAW	Mawson	46.52	202	LR	LR	16 26 46.6	
	comp=Z,323nm,20.1s,baz=152,slow=33						
STKA	Stephens Creek	46.90	283	P	P	16 09 12.0	+0.7
	2.6nm,0.8s,baz=156,slow=9.0,SNR=7.1						
STKA				LR	LR	16 25 13.6	
	comp=Z,242nm,20.4s,baz=149,slow=31						
STKA	Stephens Creek	46.90	283	eP	P	16 09 13.0	+1.6
PLCA	Paso Flores	55.47	113	LR	LR	16 29 18.6	
	comp=Z,247nm,18.9s,baz=244,slow=31						
H01W1	Cape Leeuwin H	57.14	257	T	T	17 12 40.7	
	baz=146,slow=76,SNR=12						
H01W2	Cape Leeuwin H	57.14	257	T	T	17 12 40.4	
	baz=146,slow=76,SNR=14						
H01W3	Cape Leeuwin H	57.16	257	T	T	17 12 40.0	
	baz=146,slow=76,SNR=11						
ASAR	Alice Springs	57.42	281	P	P	16 10 29.3	-0.4
	4.0nm,1.1s,baz=144,slow=6.7,SNR=16						
ASAR				LR	LR	16 31 21.5	
	comp=Z,399nm,21.8s,baz=145,slow=32						
AS31	Alice Springs	57.42	281	eP	P	16 10 29.4	-0.4
H03N3	Juan Fernandez	57.74	101	T	T	17 13 12.7	
	baz=217,slow=73,SNR=19						
H03N2	Juan Fernandez	57.75	101	T	T	17 13 15.8	
	baz=217,slow=73,SNR=22						
H03N1	Juan Fernandez	57.76	101	T	T	17 13 13.7	
	baz=217,slow=73,SNR=18						
WRA	Warramunga Arr	60.44	284	P	P	16 10 49.6	-1.1
	4.4nm,1.1s,baz=154,slow=5.3,SNR=8.8						
WRAB	Tennant Creek	60.45	284	P	P	16 10 49.5	-1.3
	4.5nm,0.9s						
CPUP	Villa Florida	73.44	115	LR	LR	16 39 48.0	
	comp=Z,196nm,20.3s,baz=181,slow=32						
LPAZ	La Paz	77.41	101	P	P	16 12 36.5	-0.5
	1.7nm,0.9s,baz=186,slow=5.7,SNR=4.0						
LPAZ				LR	LR	16 39 27.6	
	comp=Z,112nm,18.9s,baz=158,slow=30						
LPAZ	La Paz	77.41	101	P	P	16 12 35.5	-1.5
	3.7nm,1.0s						
BDFB	Brasilia	86.84	118	LR	LR	16 48 58.4	
	comp=Z,241nm,19.3s,baz=198,slow=33						
BOSA	Boshof	89.31	186	LR	LR	16 50 06.7	
	comp=Z,458nm,19.6s,baz=179,slow=33						
ROSC	El Rosal	93.05	85	LR	LR	16 50 08.2	
	comp=Z,169nm,18.1s,baz=34,slow=32						
RES	Resolute Bay	143.39	24	PKP	PKPbc	16 20 10.4	-0.5
	1.2nm,0.8s,baz=218,slow=13,SNR=5.5						
ZALV	Zalesovo Beam	145.36	287	PKPbc	PKPbc	16 20 14.9	-2.8
	0.3nm,0.4s,baz=163,slow=5.3,SNR=3.8						

*ISCJB **08** 16:02:53.8±0.3, 58.68N±0.03×153.26W±0.05, h82km±3km, mb3.9/11, Error ellipse: s-maj=5.0km s-min=3.3km az=141.1*

*IDC **08** 16:02:55.6±2.7, 58.91N×153.48W, h65km±23km, mb3.6/8, mb1 4.0/12, mb1mx3.6/43, mbtmp4.0/12, MS3.2/1, Ms1 3.2/1, ms1mx2.7/38, Error ellipse: s-maj=26.2km s-min=16.0km az=176.0*

*NEIC **08** 16:02:56.1, 58.66N×153.32W, h62km, mb4.5/2, ML3.8(AEIC), After AEIC.*

ISC 08 16:02:55.0±0.7, 58.70N±0.04×153.27W±0.04, h74km±6km, n103, σ1.14/116, mb3.9/11, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPH	Katmai Pasha	0.57	260	P	Pn	16 03 07.7	-1.2
KAPH				S	Sn	16 03 17.9	-1.3
AUI	Augustine Isla	0.65	353	P	Pn	16 03 09.7	+0.1
AUI				S	Sn	16 03 19.4	-0.9
AUP	Augustine Pinn	0.67	353	P	Pn	16 03 10.3	+0.3
AUH	Augustine H	0.68	352	P	Pn	16 03 10.3	+0.3
AUL	Augustine Lava	0.69	353	P	Pn	16 03 11.0	+0.8
AUL				S	Sn	16 03 21.6	+0.3
MCNL	McNeil River	0.74	312	P	Pn	16 03 10.7	+0.1
MCNL				S	Sn	16 03 21.6	-0.6
KAHC	Katmai Hardscr	0.91	268	P	Pn	16 03 11.8	-0.9
KAHC				S	Sn	16 03 24.8	-1.1
OPT	Oil Point	0.96	1	P	Pn	16 03 13.8	+0.5
KDAK	Kodiak Island	0.98	158	P	Pn	16 03 13.2	-0.2
KDAK				S	Sn	16 03 27.0	-0.2
KAKN	Katmai Knife C	1.02	248	P	Pn	16 03 13.8	-0.3
KAKN				S	Sn	16 03 28.3	0.0
KABR	Katmai Barrier	1.06	238	P	Pn	16 03 13.4	-1.1
KCE	Katmai Mt Cerb	1.10	247	P	Pn	16 03 14.7	-0.3
KVTA	Katmai Vly 10	1.11	254	P	Pn	16 03 14.5	-0.6
PDB	Pedro Bay	1.19	337	P	Pn	16 03 16.4	+0.3
PDB				S	Sn	16 03 31.1	-0.7
HOM	Homer	1.28	40	P	Pn	16 03 18.2	+1.0
HOM				S	Sn	16 03 35.9	+2.2
KELA	Mount Kelaz	1.32	260	P	Pn	16 03 17.1	-0.7
KELA				S	Sn	16 03 34.4	-0.6
ILW	Iliamna West	1.37	3	P	Pn	16 03 18.7	+0.2
OHAK	Old Harbor	1.48	180	P	Pn	16 03 19.4	-0.3
BRLK	Bradley Lake	1.63	48	P	Pn	16 03 21.9	+0.1
PLWL	Peulik Whale M	1.75	249	P	Pn	16 03 23.6	+0.4
RSO	Redoubt South	1.79	8	ePn	Pn	16 03 24.5	+0.4
RDN	Redoubt North	1.84	8	P	Pn	16 03 25.4	+0.7
NCT	North Crescent	1.88	5	P	Pn	16 03 26.0	+0.9
PLK3	Peulik 3	1.88	239	P	Pn	16 03 25.8	+0.6
DFR	Drift River	1.92	9	P	Pn	16 03 26.4	+0.6
PLK4	Peulik 4	1.96	238	P	Pn	16 03 26.7	+0.5
SII	Sitkinak Islan	2.20	193	P	Pn	16 03 29.1	-0.3
SLKM	Skilak Lake	2.39	39	P	Pn	16 03 32.2	+0.3
SEW	Seward	2.41	53	P	Pn	16 03 31.7	-0.5
CKL	Chakachamna La	2.55	10	P	Pn	16 03 35.3	+1.1
SPBG	Spurr Blockage	2.61	10	P	Pn	16 03 36.2	+1.2
BGL	Barrier Glacie	2.61	9	P	Pn	16 03 36.4	+1.4
SVW2	Sparrevohn	2.68	335	P	Pn	16 03 36.5	+0.7
CGLM	Capps Glacier	2.69	13	P	Pn	16 03 37.5	+1.4
STLK	Strandline Lak	2.90	14	P	Pn	16 03 40.2	+1.3
FIB	Fire Island	2.92	31	P	Pn	16 03 40.7	+1.6
RC01	Rabbit Creek A	2.99	35	P	Pn	16 03 40.9	+0.8
SUA	Susitna One	3.05	23	P	Pn	16 03 42.2	+1.2
PWL	Port Wells	3.31	47	P	Pn	16 03 44.1	-0.2
SKT	Skwentna	3.41	14	P	Pn	16 03 46.2	+0.5
PMR	Palmer	3.56	34	P	Pn	16 03 47.9	+0.1
CHGN	Chignik	3.67	231	ePn	Pn	16 03 48.7	-0.6
GLI	Glacier Island	3.81	52	P	Pn	16 03 50.1	-1.1
JPK	Jack Peak	4.11	52	P	Pn	16 03 55.0	-0.3
EYAK	Cordova Ski Ar	4.25	61	P	Pn	16 03 56.8	-0.3
PPLA	Purkeypile	4.25	7	P	Pn	16 03 58.5	+1.2
VLZ	Valdez	4.26	52	P	Pn	16 03 57.4	+0.2
SCM	Sheep Creek Mo	4.32	41	P	Pn	16 03 58.6	+0.4
TT01	Tatalina	4.43	343	P	Pn	16 04 00.8	+1.1
SGAM	Sherman Glacie	4.48	63	P	Pn	16 04 00.1	-0.2
DIV	Divide	4.49	54	P	Pn	16 04 00.5	0.0
RAGM	Ragged Mountai	4.69	65	P	Pn	16 04 03.3	+0.1
GOAT	Goat Mountain	4.73	63	P	Pn	16 04 03.7	0.0
CAST	Castle Rocks	4.77	6	P	Pn	16 04 06.3	+2.0
BMRM	Bremner River	4.93	59	P	Pn	16 04 05.9	-0.6
PS12	TAPS Pump St12	4.93	52	P	Pn	16 04 06.7	+0.2
TRF	Thorofare Moun	4.99	16	P	Pn	16 04 08.6	+1.2
KTH	Kantishna Hill	5.00	12	ePn	Pn	16 04 08.3	+0.8
PS11	TAPS Pump St11	5.14	45	P	Pn	16 04 10.4	+1.1
RND	Reindeer	5.19	23	P	Pn	16 04 10.3	+0.3
DHY	Denali Highway	5.25	31	P	Pn	16 04 11.4	+0.5
HARP	HAARP	5.46	44	P	Pn	16 04 14.5	+0.7
MCK	McKinley	5.47	21	ePn	Pn	16 04 14.3	+0.5
PAX	Paxson	5.74	38	P	Pn	16 04 17.9	+0.3
PS10	TAPS Pump St10	5.97	34	P	Pn	16 04 22.6	+1.9
WRH	Wood River Hil	6.30	21	P	Pn	16 04 24.5	-0.6
GCSA	Galena City Sc	6.31	346	P	Pn	16 04 26.3	+1.1
MENT	Mentasta	6.31	44	ePn	Pn	16 04 26.0	+0.6
CHX	Chaix Hills	6.36	72	P	Pn	16 04 26.2	+0.2
MLY	Manley	6.47	10	P	Pn	16 04 27.9	+0.5
HDA	Harding Lake	6.47	25	P	Pn	16 04 27.7	+0.2
CCB	Clear Creek Bu	6.51	21	P	Pn	16 04 27.7	-0.3
PS08	TAPS Pump Stn8	6.62	25	P	Pn	16 04 29.4	-0.1
DOT	Dot Lake	6.67	38	ePn	Pn	16 04 30.6	+0.4
	31nm,0.5s						
COLA	College	6.71	20	P	Pn	16 04 30.4	-0.2
MDM	Murphy Dome	6.72	19	P	Pn	16 04 30.7	-0.2
IL1	Eielson Array	6.80	24	P	Pn	16 04 31.8	-0.3
ILAR	Eielson Array	6.80	24	P	Pn	16 04 31.4	-0.6
	4.9nm,0.3s,baz=222,slow=14,SNR=166						
ILAR				S	Sn	16 05 43.9	-4.0
	3.6nm,0.3s,baz=211,slow=21,SNR=4.7						
GLM	Gilmore Dome	6.89	21	P	Pn	16 04 33.0	-0.3
IM04	Indian Mountai	7.31	358	ePn	Pn	16 04 39.7	+0.7
HYT	Haines Junctio	8.24	68	ePn	Pn	16 04 54.7	+3.0
EGAK	Eagle	8.37	38	ePn	Pn	16 04 53.9	+0.5
	16nm,0.5s						
DAWY	Dawson	8.55	45	ePn	Pn	16 04 56.0	+0.1
COLD	Coldfoot	8.68	8	ePn	Pn	16 04 57.3	-0.2
	6.0nm,0.5s						
TNA	Tin City	9.70	321	ePn	Pn	16 05 13.8	+2.4
	22nm,0.9s						
GAMB	Gambell	10.22	308	eP	Pn	16 05 19.9	+1.3
	3.7nm,0.7s						
DLBC	Dease Lake	12.12	81	P	Pn	16 05 45.3	+0.7
	0.7nm,0.3s,baz=224,slow=12,SNR=14						
DLBC				S	Sn	16 07 52.2	-5.6
	0.1nm,0.3s,baz=294,slow=27,SNR=1.0						
INK	Inuvik	12.98	34	P	Pn	16 05 55.5	-0.6
	0.4nm,0.3s,baz=231,slow=15,SNR=28						
BBB	Bella Bella	15.63	104	LR	LR	16 11 47.5	
	comp=Z,93nm,20.3s,baz=111,slow=34						
YKA	Yellowknife Ar	19.15	62	P	Pn	16 07 13.1	-0.4
	0.9nm,0.3s,baz=275,slow=9.8,SNR=171						
YKA				ScP	ScP	16 15 02.8	+1.4
	baz=265,slow=2.2,SNR=5.0						
BILL	Bilibino	20.01	314	eP	P	16 07 21.5	+0.3
	6.4nm,0.6s						
SEY	Seymchan	26.16	303	P	P	16 08 21.7	-0.2
	2.8nm,0.5s,baz=86,slow=5.8,SNR=31						
RES	Resolute Bay	26.49	30	P	P	16 08 25.9	+1.0
	0.6nm,0.6s,baz=270,slow=12,SNR=4.2						
PETK	Petropavlovsk-	27.52	280	P	P	16 08 34.4	+0.1
	1.6nm,0.8s,baz=70,slow=12,SNR=11						
PDAR	Pinedale Array	31.25	101	P	P	16 09 10.6	+3.0
	0.4nm,0.7s,baz=308,slow=7.4,SNR=3.5						
PDAR				pP	pP	16 09 27.1	+2.1
	0.7nm,0.8s,baz=337,slow=3.4,SNR=5.6						
YAK	Yakutsk	36.17	309	eP	P	16 09 49.0	-0.8
	12nm,0.8s						
DAG	Danmarks Havn	41.80	14	iP	P	16 10 36.6	+0.1
	1.3nm,0.6s						
ARCES	ARCESS Array B	52.06	1	P	P	16 11 56.5	0.0
	4.1nm,0.9s,baz=344,slow=9.4,SNR=2.9						
KSRS	Korea Array	53.34	283	P	P	16 12 06.3	0.0
	1.1nm,0.9s,baz=35,slow=7.2,SNR=5.2						
KSAR	Wonju Array Be	53.37	283	P	P	16 12 06.3	-0.2
ZALV	Zalesovo Beam	58.35	324	P	P	16 12 42.3	+0.4
	0.8nm,0.5s,baz=33,slow=7.4,SNR=3.8						
AKASG	Malin Array Be	70.94	358	P	P	16 14 00.9	-2.9
	0.3nm,0.3s,baz=358,slow=5.8,SNR=4.9						
CMAR	Chiang Mai Arr	83.28	294	P	P	16 15 13.7	+0.2
	0.7nm,0.5s,baz=16,slow=5.5,SNR=7.4						

*IDC **08** 16:19:10.8±0.9, 24.26S×175.79W, h0km, mb4.3/13, mb1 4.5/13, mb1mx4.3/25, mbtmp4.3/13, MS4.0/12, Ms1 4.0/12, ms1mx3.7/39, Error ellipse: s-maj=26.1km s-min=18.8km az=159.0*

*ISCJB **08** 16:19:12.2±0.6, 24.4S±0.1×175.8W±0.1, h19km, mb4.4/18, MS4.1/11, Error ellipse: s-maj=17.8km s-min=12.8km az=152.8*

*NEIC **08** 16:19:15.9±0.7, 24.39S×175.78W, h35km, mb4.9/7, Error ellipse: s-maj=20.4km s-min=16.7km az=167.0*

ISC 08 16:19:13.8±0.7, 24.4S±0.1×175.7W±0.1, h19km, n50, σ1.68/35, mb4.5/18, MS4.1/11, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.55	46	P	Pn	16 20 53.8	-9.1
	baz=5.0,SNR=5.3						
MSVF	Nonsavu	8.87	318	eP	Pn	16 21 22.2	+1.1
	83nm,1.1s						
AFI	Afiamalu	11.10	20	Pn	Pn	16 21 41.2	-10
	2.9nm,0.3s,baz=112,slow=6.1,SNR=4.2						
AFI	Afiamalu	11.10	20	eP	Pn	16 21 41.3	-10
RAR	Rarotonga	15.01	81	Pn	Pn	16 22 38.3	-6.8
	3.1nm,0.3s,baz=172,slow=0.0,SNR=6.7						
RAR				LR	LR	16 28 37.0	
	comp=Z,582nm,18.4s,baz=226,slow=38						
RAR	Rarotonga	15.01	81	eP	Pn	16 22 37.3	-7.8
	58nm,0.8s						
URZ	Urewera	15.09	202	P	P	16 22 50.5	-0.6
DZM	Mont Dzumac	16.59	275	eP	P	16 23 11.1	+3.0
	58nm,1.2s						
DZM				eLR	LR	16 26 58.7	
	473nm,23.8s						
PPT2	Papeete2	25.28	79	eLR	LR	16 30 55.1	
	164nm,19.8s						
PPT	Papeete	25.28	79	LR	LR	16 33 49.4	
	comp=Z,341nm,18.6s,baz=255,slow=35						
RMQ	Roma	32.11	259	P	P	16 25 41.8	+1.7
	baz=35,SNR=4.4						
CTA	Charters Tower	35.42	269	P	P	16 26 08.0	-1.0
	6.8nm,0.8s,baz=97,slow=11,SNR=7.6						
RABL	Rabaul	36.92	298	S	S	16 31 57.9	-8.2
	baz=39,SNR=3.2						
MTSU	Mount Surprise	37.70	272	P	P	16 26 27.8	-0.6
	baz=40,SNR=5.6						
MTSU				S	S	16 32 07.3	-11
	baz=40,SNR=39						
STKA	Stephens Creek	38.20	249	P	P	16 26 33.0	+0.5
	1.4nm,0.7s,baz=72,slow=8.4,SNR=3.5						
STKA				LR	LR	16 41 35.9	
	comp=Z,260nm,18.4s,baz=49,slow=35						
PMG	Port Moresby	38.41	286	P	P	16 26 32.2	-2.2
	34nm,0.9s,baz=124,slow=5.3,SNR=12						
PMG	Port Moresby	38.41	286	eP	P	16 26 31.0	-3.4
	28nm,0.8s						
PMG	Port Moresby	38.41	286	P	P	16 26 32.4	-2.0
	baz=41,SNR=10						
AS31	Alice Springs	45.83	260	eP	P	16 27 34.3	-0.7
ASAR	Alice Springs	45.84	260	P	P	16 27 33.7	-1.3
	4.6nm,0.9s,baz=99,slow=8.1,SNR=31						
ASAR				LR	LR	16 46 31.5	
	comp=Z,234nm,18.3s,baz=110,slow=36						
WRAB	Tennant Creek	46.29	265	eP	P	16 27 35.7	-2.9
	2.8nm,0.8s						
WRA	Warramunga Arr	46.30	265	P	P	16 27 35.9	-2.7
	4.3nm,1.0s,baz=101,slow=8.4,SNR=25						
WRA				LR	LR	16 46 51.7	
	comp=Z,241nm,18.1s,baz=140,slow=36						
WRKA	Warakurna	50.56	257	P	P	16 28 09.5	-2.1
	baz=54,SNR=3.7						
KNRA	Kununurra	52.62	269	P	P	16 28 26.2	-0.8
	baz=56,SNR=4.1						
QSPA	South Pole Qui	65.66	180	LR	LR	16 54 18.1	
	comp=Z,89nm,18.9s,baz=20,slow=32						
QSPA	South Pole Qui	65.66	180	P	P	16 29 57.6	+0.9
	4.4nm,1.0s						
MJAR	Matsushiro Arr	74.63	323	LR	LR	16 58 52.7	
	comp=Z,48nm,21.9s,baz=205,slow=32						
ASAJ	Asahikawa	78.19	331	LR	LR	16 58 34.1	
	comp=Z,125nm,21.8s,baz=168,slow=30						
YSS	Yuzh-Sakhalins	80.35	333	eP	P	16 31 23.7	+0.1
	16nm,1.0s						
PETK	Petropavlovsk-	80.61	344	P	P	16 31 24.0	-0.9
	4.7nm,0.9s,baz=105,slow=8.5,SNR=5.6						
PETK				LR	LR	16 59 43.0	
	comp=Z,69nm,20.8s,baz=139,slow=30						
KSRS	Korea Array	81.23	318	P	P	16 31 29.3	+0.7
	1.2nm,0.8s,baz=125,slow=6.3,SNR=5.8						
KSAR	Wonju Array Be	81.25	318	P	P	16 31 29.3	+0.6
H03N2	Juan Fernandez	82.18	123	T	T	18 02 49.3	
	baz=257,slow=74,SNR=4.8						
H03N3	Juan Fernandez	82.18	123	T	T	18 02 49.1	
	baz=257						
H03N1	Juan Fernandez	82.20	123	T	T	18 02 49.9	
	baz=257,slow=74,SNR=4.6						
NVAR	Mina Array Bea	82.45	42	P	P	16 31 35.1	-0.1
	1.1nm,0.9s,baz=228,slow=9.0,SNR=5.9						
USRK	Ussuriysk Arra	83.40	325	P	P	16 31 40.0	+0.2
	7.3nm,0.9s,baz=151,slow=2.7,SNR=12						
TXAR	Lajitas Array	87.40	56	P	P	16 31 59.7	-0.5
	0.2nm,0.6s,baz=175,slow=4.5,SNR=3.7						
TXAR				LR	LR	17 06 15.7	
	comp=Z,76nm,18.8s,baz=0.0,slow=32						
PDAR	Pinedale Array	90.38	42	P	P	16 32 12.2	-1.9
	0.5nm,0.9s,baz=262,slow=6.2,SNR=3.8						
ILAR	Eielson Array	91.68	12	P	P	16 32 18.2	-1.1
	0.3nm,0.8s,baz=240,slow=5.7,SNR=3.2						
ILAR				LR	LR	17 05 14.4	
	comp=Z,128nm,19.7s,baz=203,slow=30						
CMAR	Chiang Mai Arr	93.42	289	P	P	16 32 29.6	+1.1
	4.9nm,0.9s,baz=133,slow=3.1,SNR=36						
CM31	Chiang Mai Arr	93.42	289	eP	P	16 32 29.1	+0.7
	7.1nm,1.0s						
CHTO	Chiang Mai	93.57	289	eP	P	16 32 29.9	+0.7
	6.9nm,0.9s						
SONM	Songino Array	100.11	318	LR	LR	17 17 33.5	
	comp=Z,44nm,19.0s,baz=232,slow=35						
AKASG	Malin Array Be	147.47	330	PKPbc	PKPdf	16 38 54.9	+1.1
	1.7nm,0.7s,baz=43,slow=4.2,SNR=11						
BR131	Keskin Array S	151.01	309	ePKPbc	PKPbc	16 39 03.1	-2.7
BRTR	Keskin Array B	151.01	309	PKPbc	PKPbc	16 39 05.0	-0.8
	2.3nm,0.9s,baz=73,slow=1.7,SNR=8.9						
CLL	Collm	152.35	348	i PKPbc	PKPbc	16 39 08.2	-0.1
	comp=Z,3.0nm,0.9s						
CLL				esPKPdf	sPKPdf	16 39 15.0	+4.8
CLL				i pPKPbc	PKPab	16 39 20.7	+2.5
	comp=Z,9.0nm,1.0s						
BRG	Berggiesshubel	152.57	347	ePKP	PKPbc	16 39 09.4	+0.6
	comp=Z,5.2nm,1.0s						
TORD	Torodi Ar. Bea	168.50	167	PKPab	PKPab	16 40 31.0	+1.7
	comp=Z,1.0nm,1.0s,baz=190,slow=4.6,SNR=3.0						

CASC 08 16:29:26.9±1.6, 13.83N×91.21W, h27km±6km, MD3.7, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.64	319	eP	Pn	16 29 40.0	-0.3
IXG	Ixpaco	0.81	65	eP	Pb	16 29 41.9	-0.7
IXG				eS	Sb	16 29 53.1	-0.2
PCG	Pacaya	0.81	46	eP	Pn	16 29 42.9	0.0
PCG				eS	Sn	16 29 55.2	+0.9
NBG	Las Nubes	1.12	48	⇓eP	Pn	16 29 47.4	+0.1
NBG				eS	Sb	16 30 04.2	+1.6
RBDL	Robledal	1.50	79	eP	Pn	16 29 51.7	-0.6
RBDL				eS	Sn	16 30 11.6	+0.3
RTR	El Retiro	1.52	87	eP	Pn	16 29 52.9	+0.3
SBLS	San Blas	1.54	89	eP	Pn	16 29 53.1	+0.2
SBLS				eS	Sn	16 30 13.3	+1.1
SNJE	San Jose	1.56	88	eP	Pn	16 29 53.3	+0.1
SNJE				eS	Sn	16 30 13.6	+1.0
BOQS	Boqueron	1.88	93	eP	Pn	16 29 57.6	0.0
BOQS				eS	Sn	16 30 21.6	+1.0
MRL	Marmol	1.92	50	eP	Pn	16 29 56.6	-1.4
MRL				⇑eP	Pb	16 29 57.7	-3.8
LFU	La Fuente	2.04	92	eP	Pn	16 29 59.5	-0.1
LFRS	El Faro	2.10	95	eP	Pn	16 30 01.1	+0.7
LFRS				eS	Sn	16 30 26.9	+1.1

*ISCJB **08** 16:40:53.1±0.3, 23.42S±0.04×179.88W±0.06, h532km, mb4.5/32, Error ellipse: s-maj=7.8km s-min=5.0km az=0.9*

*BJI **08** 16:40:53.1, 23.44S×179.59W, h540km, mB4.9/7, mb4.5/11*

*NEIC **08** 16:40:54.1±0.8, 23.40S×179.84W, h535km±9km, mb4.9/14, Error ellipse: s-maj=11.9km s-min=9.5km az=104.0*

*IDC **08** 16:40:55.1±1.3, 23.22S×179.99W, h541km±12km, mb3.7/14, mb1 4.0/15, mb1mx3.6/43, mbtmp4.6/15, Error ellipse: s-maj=16.0km s-min=11.1km az=161.0*

ISC 08 16:40:53.7±0.5, 23.49S±0.06×179.81W±0.08, h532km, n110, σ1.38/142, mb4.6/32, 3C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.07	340	eP	P	16 42 31.9	-0.4
DZM	Mont Dzumac	12.76	274	P	P	16 43 41.1	+0.8
	0.8nm,0.3s,baz=100,slow=19,SNR=7.0						
OUZ	Omahuta	13.02	205	P	P	16 43 44.6	+1.9
WCZ	Waipu Caves	13.40	201	PN	P	16 43 51.1	+4.5
HAZ	Te Kaha	14.37	188	PN	P	16 43 57.8	+1.2
URZ	Urewera	14.95	189	P	P	16 44 03.1	+0.3
	4.8nm,0.3s,baz=287,slow=1.6,SNR=30						
URZ				S	S	16 46 37.1	-1.5
	1.3nm,0.3s,baz=235,slow=23,SNR=12						
URZ	Urewera	14.95	189	eP	P	16 44 03.1	+0.3
	21nm,0.6s						
URZ	Urewera	14.95	189	PN	P	16 44 02.6	-0.1
URZ				SN	S	16 46 33.3	-5.4
MWZ	Matawai	14.97	188	PN	P	16 44 03.9	+0.9
MWZ				SN	S	16 46 38.7	-0.3
BKZ	Black Stump Fm	15.94	191	PN	P	16 44 12.0	-0.9
BKZ				SN	S	16 46 56.3	0.0
FWVZ	Far West T-bar	16.20	193	PN	P	16 44 15.6	-0.2
MRZ	Mangatainoka R	17.55	192	PN	P	16 44 26.7	-1.5
MRZ				SN	S	16 47 19.4	-3.6
QRZ	Quartz Range	18.45	199	PN	P	16 44 38.2	+1.9
NNZ	Nelson	18.57	196	PN	P	16 44 38.0	+0.6
THZ	Tophouse	19.21	197	PN	P	16 44 43.9	+0.5
THZ				SN	S	16 47 47.3	-2.7
DSZ	Denniston Nort	19.50	199	PN	P	16 44 47.1	+1.1
KHZ	Kahutara	19.67	195	PN	P	16 44 47.3	-0.1
LTZ	Lake Taylor	20.33	197	PN	P	16 44 53.3	-0.2
RPZ	Rata Peaks	21.53	198	eP	P	16 45 04.8	+0.5
FOZ	Fox Glacier	21.81	201	PN	P	16 45 06.2	-0.6
JCZ	Jackson Bay	22.58	202	PN	P	16 45 14.0	+0.2
WKZ	Wanaka	23.16	201	PN	P	16 45 18.4	-0.4
WHZ	Wether Hill Ro	24.45	201	eP	P	16 45 30.7	+0.4
	42nm,0.6s						
ARMA	Armidale	26.33	249	P	P	16 45 49.2	+2.0
	baz=26,SNR=10						
EIDS	Eidsvold	26.55	260	P	P	16 45 49.9	+0.8
	baz=27,SNR=7.3						
MGCD	Mangrove Creek	27.29	243	P	P	16 45 57.6	+2.1
	baz=27,SNR=7.8						
RMQ	Roma	28.61	257	P	P	16 46 08.9	+1.7
	baz=29,SNR=27						
CNB	Canberra Magne	29.21	239	P	P	16 46 14.4	+2.1
	baz=29,SNR=11						
CAN	Canberra	29.50	239	eP	P	16 46 16.4	+1.6
	29nm,1.1s						
MILA	Mila	29.87	236	P	P	16 46 19.9	+1.8
	baz=30,SNR=5.6						
CTAO	Charters Tower	31.65	270	eP	P	16 46 34.0	+0.5
	58nm,0.5s						
QLP	Quilpie	32.66	257	P	P	16 46 42.6	+0.7
	baz=33,SNR=21						
TOO	Toolangi	32.81	237	P	P	16 46 44.6	+1.4
	baz=33,SNR=27						
MTSU	Mount Surprise	33.89	272	P	P	16 46 52.9	+0.3
	baz=34,SNR=47						
PMG	Port Moresby	34.53	288	P	P	16 46 57.5	-0.4

	35nm,0.7s,baz=113,slow=7.7,SNR=19						
PMG	Port Moresby	34.53	288	eP	P	16 46 57.3	-0.6
	35nm,0.9s						
PMG	Port Moresby	34.53	288	P	P	16 46 57.5	-0.4
	baz=35,SNR=11						
STKA	Stephens Creek	35.04	248	P	P	16 47 02.9	+1.0
	19nm,0.6s,baz=95,slow=10,SNR=83						
STKA	Stephens Creek	35.04	248	eP	P	16 47 02.7	+0.8
	3.7nm,0.6s						
STKA	Stephens Creek	35.04	248	P	P	16 47 02.7	+0.8
	baz=35,SNR=47						
ARPS	Mount Arapiles	35.47	239	P	P	16 47 06.5	+1.1
	baz=36,SNR=16						
COEN	Coen	36.22	278	eP	P	16 47 11.9	0.0
	60nm,1.0s						
COEN	Coen	36.22	278	P	P	16 47 12.2	+0.2
	baz=36,SNR=25						
HTT	Hallett	37.40	245	P	P	16 47 22.0	+0.6
	baz=38,SNR=26						
QIS	Mount Isa	37.65	266	P	P	16 47 23.3	-0.3
	baz=38,SNR=9.8						
BBOO	Buckleboo	39.76	246	eP	P	16 47 40.5	0.0
	277nm,0.8s						
BBOO	Buckleboo	39.76	246	P	P	16 47 40.6	0.0
	baz=40,SNR=19						
AS31	Alice Springs	42.27	260	eP	P	16 48 00.6	-0.1
ASAR	Alice Springs	42.27	260	P	P	16 48 00.5	-0.2
	28nm,0.8s,baz=95,slow=7.1,SNR=701						
ASAR				ScP	ScP	16 52 43.9	+1.6
	2.4nm,1.0s,baz=106,slow=3.8,SNR=9.7						
ASAR				S	S	16 53 40.9	-2.2
	0.4nm,0.6s,baz=99,slow=15,SNR=3.9						
WRAB	Tennant Creek	42.60	266	eP	P	16 48 02.6	-0.7
	25nm,0.6s						
WRA	Warramunga Arr	42.61	266	P	P	16 48 02.4	-0.9
	17nm,0.3s,baz=92,slow=8.5,SNR=554						
WRA				ScP	ScP	16 52 45.3	+1.6
	2.4nm,0.9s,baz=103,slow=4.0,SNR=9.8						
WRA				S	S	16 53 43.8	-4.2
	0.4nm,0.9s,baz=100,slow=18,SNR=3.7						
JAY	Jayapura	43.52	293	P	P	16 48 14.6	+4.0
	baz=44,SNR=3.6						
KDU	Kakadu	46.43	275	P	P	16 48 31.8	-1.0
	baz=46,SNR=15						
FORT	Forrest	46.62	249	eP	P	16 48 33.3	-0.8
	56nm,0.6s						
FORT	Forrest	46.62	249	P	P	16 48 33.8	-0.2
	baz=47,SNR=36						
WRKA	Warakurna	47.09	257	P	P	16 48 37.7	-0.1
	baz=47,SNR=302						
MTN	Manton Dam	47.60	274	P	P	16 48 40.6	-1.0
	baz=48,SNR=9.6						
KNRA	Kununurra	48.86	269	P	P	16 48 50.8	-0.2
	baz=49,SNR=42						
FITZ	Fitzroy Crossi	51.03	265	eP	P	16 49 07.0	0.0
	13nm,0.7s						
FITZ	Fitzroy Crossi	51.03	265	P	P	16 49 07.0	0.0
	baz=51,SNR=36						
VNDA	Vanda	54.80	185	P	P	16 49 35.7	+2.9
	7.2nm,1.1s,baz=114,slow=8.1,SNR=4.8						
SOEI	Soe	54.98	275	eP	P	16 49 36.3	+1.0
	39nm,0.9s						
SOEI	Soe	54.98	275	P	P	16 49 36.3	+1.0
	baz=55,SNR=11						
KLBR	Kellerberrin	55.31	247	P	P	16 49 37.1	-0.1
	baz=55,SNR=10						
MEEK	Meekatharra	55.40	253	eP	P	16 49 37.2	-0.7
	baz=56,SNR=5.7						
BLDU	Ballidu	56.34	248	P	P	16 49 44.2	-0.2
	baz=56,SNR=43						
MORW	Morawa	57.18	250	P	P	16 49 50.1	-0.1
	baz=57,SNR=7.8						
GIRL	Giralia	60.18	257	P	P	16 50 11.3	+0.9
	baz=60,SNR=4.1						
JAGI	Jajag, Banyuwa	64.73	272	P	P	16 50 38.6	-1.4
	baz=65,SNR=8.7						
QSPA	South Pole Qui	66.59	180	P	P	16 50 52.9	+2.1
	2.6nm,0.6s,baz=352,slow=0.6,SNR=24						
QSPA	South Pole Qui	66.59	180	eP	P	16 50 52.8	+1.9
UGM	Wanagama	68.27	271	P	P	16 51 01.2	-0.8
	baz=68,SNR=3.8						
PETK	Petropavlovsk-	78.75	346	P	P	16 51 59.8	-0.9
	3.3nm,0.9s,baz=116,slow=10,SNR=4.8						
NJ2	Nanjing	80.53	311	eP	P	16 52 10.1	-0.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MDJ	Mudanjiang	82.03	326	P	P	16 52 20.0	+2.0
MDJ				pP	pP	16 54 13.7	+0.8
MDJ				sP	sP	16 55 09.2	+2.1
MDJ				S	SKKSac	17 01 52.0	-0.1
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,61nm,3.2s						
CN2	Changchun	83.67	323	eP	P	16 52 25.2	-1.1
CN2				epP	pP	16 54 23.1	+1.4
CN2				esP	sP	16 55 16.7	+0.9
CN2				eS	SKKSac	17 02 03.0	-1.5
NVAR	Mina Array Bea	84.34	44	P	P	16 52 29.9	-0.1
	2.2nm,0.8s,baz=225,slow=7.8,SNR=11						
GYA	Guiyang	86.69	301	eP	P	16 52 42.0	+0.5
GYA				pP	pP	16 54 39.6	+1.6
GYA				sP	sP	16 55 33.4	+1.6
GYA				PP	PP	16 56 15.0	+1.2
GYA				SKS	SKSac	17 02 16.3	-1.5
GYA				S	S	17 02 33.7	-0.9
GYA				sS	sS	17 06 01.0	-1.2
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.6s						
ELK	Elko	87.61	43	P	P	16 52 45.5	-0.1
	1.0nm,0.6s,baz=207,slow=4.5,SNR=3.1						
MFID	Camas Ranch	88.74	41	eP	P	16 52 50.6	-0.1
	1.9nm,0.7s						
SEY	Seymchan	88.91	348	P	P	16 52 50.2	-0.6
	0.2nm,0.3s,baz=265,slow=23,SNR=5.9						
KMI	Kunming	89.23	298	P	P	16 52 54.0	+0.5
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TMUT	Trail Mountain	89.43	46	eP	P	16 52 54.5	+0.3
	14nm,1.0s						
CMAR	Chiang Mai Arr	89.55	290	P	P	16 52 56.0	+1.1
	1.3nm,0.8s,baz=142,slow=3.0,SNR=12						
CMAR				PP	PP	16 56 36.5	+0.1
	0.1nm,0.4s,baz=138,slow=7.0,SNR=4.7						
HLID	Hailey	89.68	41	eP	P	16 52 55.3	+0.2
TXAR	Lajitas Array	90.07	58	P	P	16 52 58.0	+0.9
	2.1nm,0.7s,baz=217,slow=6.4,SNR=22						
HHC	Hu-ho-hao-te	90.25	315	eP	P	16 52 56.9	-0.8
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,4.8s						
CD2	Chengdu	91.00	303	P	P	16 53 02.2	+0.8
CD2				pP	pP	16 55 01.0	+2.2
CD2				sP	sP	16 55 53.7	+1.3
CD2				PP	PP	16 56 50.9	+3.3
CD2				SKS	SKSac	17 02 42.6	+0.1
CD2				S	S	17 03 12.5	-1.1
CD2				sS	sS	17 06 43.0	-0.9
CD2				SS	SS	17 09 36.6	+2.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.6s						
ILAR	Eielson Array	91.60	13	P	P	16 53 01.6	-1.6
	0.4nm,0.5s,baz=218,slow=6.3,SNR=8.3						
PDAR	Pinedale Array	92.28	44	P	P	16 53 06.8	-0.4
	1.7nm,0.8s,baz=211,slow=3.1,SNR=12						
LZH	Lanzhou	93.26	308	⇓P	P	16 53 15.2	+3.4
LZH				pP	pP	16 55 14.5	+5.1
LZH				sP	sP	16 56 07.6	+4.7
LZH				PP	PP	16 57 12.0	+6.9
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
LZH				pmax	pmax		
	comp=Z,78nm,9.0s						
KSH	Kashi	115.19	304	ePKP	PKPdf	16 58 34.7	-0.2
KSH				esPKP		17 01 33.4	
KSH				eSKS	SKSdf	17 04 55.4	-1.2
KSH				eSKKS	SKKSac	17 05 47.0	-3.8
KSH				eSS	SS	17 15 05.4	+2.8
KSH				AMB	AMB		
	comp=Z,99nm,5.4s						
BVAR	Borovoye Array	120.25	319	PKP	PKPdf	16 58 42.9	-1.1
	0.4nm,0.4s,baz=84,slow=2.2,SNR=5.6						
ARCES	ARCESS Array B	131.53	348	PKP	PKPdf	16 59 04.1	-0.9
	2.6nm,0.8s,baz=40,slow=2.1,SNR=4.5						
ARCES				SKPbc	SKPbc	17 01 37.1	-3.7
	5.0nm,0.9s,baz=22,slow=3.9,SNR=5.0						
KMBO	Kilima Mbogo	136.45	241	SKPbc	SKPbc	17 02 00.2	+1.4
	1.8nm,0.9s,baz=131,slow=2.6,SNR=5.3						
FINES	FINESS Array B	138.12	342	PKhKP	PKPpre	16 59 08.8	
	2.3nm,1.1s,baz=114,slow=4.8,SNR=3.8						
FINES				PKP	PKPdf	16 59 17.6	+0.1
	0.4nm,0.4s,baz=148,slow=8.2,SNR=3.4						
FINES				SKPbc	SKPbc	17 02 00.5	-1.2
	0.8nm,0.5s,baz=85,slow=2.1,SNR=7.0						
NB2	NORSAR Subarra	141.71	351	PKP	PKPpre	16 59 18.4	
	comp=Z,0.7nm,0.5s,baz=21,slow=3.7						
NOA	NORSAR Array B	141.71	351	PKhKP	PKPpre	16 59 18.9	
	comp=Z,0.6nm,0.7s,baz=75,slow=1.6,SNR=4.7						
AKASG	Malin Array Be	144.72	328	PKP	PKPdf	16 59 28.7	-0.9
	comp=Z,2.4nm,0.5s,baz=44,slow=3.6,SNR=4.5						
AKASG				SKPbc	SKPbc	17 02 17.9	-0.9
	comp=Z,2.1nm,0.9s,baz=48,slow=3.1,SNR=5.8						
AK02	Malin Array Si	144.76	328	ePKP	PKPdf	16 59 28.5	-1.2
BRTR	Keskin Array B	147.47	308	PKPbc	PKPbc	16 59 37.3	-0.9
	comp=Z,0.6nm,0.6s,baz=141,slow=4.0,SNR=4.4						
KOLS	Kolonicke sedl	149.20	331	ePKP	PKPbc	16 59 42.1	0.0
KSP	Ksiaz	149.97	339	ePKP	PKPbc	16 59 43.2	-0.6
UPC	Upice	150.35	339	⇑ePKP	PKPbc	16 59 44.2	-0.5
DPC	Dobruska-Polom	150.38	339	⇑ePKP	PKPbc	16 59 44.4	-0.5
KRLC	Kraliky	150.46	338	⇑ePKP	PKPbc	16 59 44.9	-0.1
KRLC				ePKPAB	PKPab	16 59 54.2	+0.2
CLL	Collm	150.52	344	iPKPbc	PKPbc	16 59 44.7	-0.3
	comp=Z,6.0nm,0.8s						
BRG	Berggiesshubel	150.66	342	ePKP	PKPbc	16 59 45.1	-0.2
	comp=Z,4.8nm,0.6s						
VYHS	Vyhne	151.00	334	ePKP	PKPab	16 59 54.5	-1.7
TORD	Torodi Ar. Bea	169.61	188	PKP	PKPdf	16 59 59.8	-1.1
	comp=Z,0.7nm,1.0s,baz=318,slow=1.9,SNR=2.4						

WEL 08 16:54:18.5±0.5, 45°.36S×166°.70E, h12km, ML3.7/7, 1D, Error ellipse: s-maj=4.8km s-min=3.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.34	110	⇓P*	Pb	16 54 26.1	-0.4
DCZ				S*	Sg	16 54 30.6	+0.7
DCZ				AML	AML	16 54 30.9	
DCZ				AML	AML	16 54 31.1	
WHZ	Wether Hill Ro	1.02	122	P*	Pb	16 54 37.2	-1.0
WHZ				S*	Sb	16 54 50.6	-1.1
WHZ				AML	AML	16 54 56.6	
MLZ	Mavora Lakes	1.04	90	P*	Pb	16 54 36.3	-2.2
MLZ				AML	AML	16 54 50.1	
MLZ				AML	AML	16 54 50.6	
MSZ	Milford Sound	1.11	52	P*	Pb	16 54 36.2	-3.5
MSZ				AML	AML	16 54 52.6	
MSZ				AML	AML	16 54 52.7	
MSZ				AML	AML	16 54 53.6	
MSZ				AML	AML	16 54 53.6	
APZ	The Paps	1.72	149	PN	Pb	16 54 50.0	-0.1
WKZ	Wanaka	1.73	73	PN	Pn	16 54 47.8	-0.6
WKZ				AML	AML	16 55 11.6	
WKZ				AML	AML	16 55 14.0	
WKZ				AML	AML	16 55 14.0	
EAZ	Earnscleugh	1.84	87	PN	Pn	16 54 49.5	-0.5
EAZ				AML	AML	16 55 14.7	
EAZ				AML	AML	16 55 15.6	
JCZ	Jackson Bay	1.95	49	PN	Pn	16 54 49.7	-1.9
JCZ				AML	AML	16 55 21.5	
JCZ				AML	AML	16 55 21.9	
SYZ	Scrubby Hill	2.07	126	PN	Pn	16 54 52.8	-0.2
LBZ	Lake Benmore	2.66	70	PN	Pn	16 54 59.8	-1.5
HHSZ	Highcliff Hill	2.78	102	PN	Pn	16 55 02.6	-0.3
FOZ	Fox Glacier	2.79	51	PN	Pn	16 55 02.2	-0.8
ODZ	Otahua Downs	2.81	85	PN	Pn	16 55 01.7	-1.5
RPZ	Rata Peaks	3.52	64	PN	Pn	16 55 11.0	-2.1
OXZ	Oxford	4.34	64	PN	Pn	16 55 22.0	-2.3
OXZ				SN	Sn	16 56 11.0	-3.8
MQZ	McQueen's Vall	4.57	71	PN	Pn	16 55 25.3	-2.0
LTZ	Lake Taylor	4.77	59	PN	Pn	16 55 28.7	-1.5
LTZ				SN	Sn	16 56 21.8	-3.7
DSZ	Denniston Nort	5.18	48	PN	Pn	16 55 32.9	-3.0
THZ	Tophouse	5.77	54	PN	Pn	16 55 43.3	-0.7
NNZ	Nelson	6.39	52	PN	Pn	16 55 51.4	-1.1

MAN 08 16:57:02, 12°.16N×125°.83E, h32km, mb4.8, ML3.7, MS3.7, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.67	215	eP	Pb	16 57 15.6	+0.3
CNP	Catarman	1.19	287	eP	Pb	16 57 23.8	-0.2
PLP	Palo	1.29	220	⇓eP	Pn	16 57 24.2	+0.5
PLP				eS	Sn	16 57 40.2	+0.3
OCLP	Ormoc	1.62	227	eP	Pb	16 57 30.6	-0.7
OCLP				eS	Sn	16 57 47.5	-0.7
PVCP	Virac	2.17	311	eP	Pn	16 57 37.1	+1.2
PVCP				eS	Sn	16 58 02.4	+0.7
MSLP	Maasin	2.22	205	eP	Pb	16 57 39.5	-2.0
SCPH	Surigao	2.38	188	⇑eP	Pn	16 57 39.2	+0.4
GUIM	Jordan	3.52	245	eP	Pn	16 57 57.5	+3.0

SJA 08 17:42:51.6±0.9, 31°.57S×68°.84W, h104km±3km, MD3.5, ML2.9, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	San Juan	0.24	81	iP	Pn	17 43 06.8	+0.4
SJA				iS	Sn	17 43 18.1	+0.5
SJA				AML	AML	17 43 24.7	
	comp=Z,324nm,0.2s						
RTCV	Cerro Valdivia	0.39	140	iP	Pn	17 43 07.8	+0.7
RTCV				iS	Sn	17 43 19.5	+0.7
RTLL	Cerro Villicun	0.39	52	iP	Pn	17 43 08.1	+1.0
RTLL				iS	Sn	17 43 19.6	+0.8
RTLS	Leoncito	0.46	239	iP	Pn	17 43 08.9	+1.1
RTLS				iS	Sn	17 43 21.6	+1.6
CFAA	Coronel Fontan	0.51	94	iP	Pn	17 43 08.5	+0.6
CFAA				iS	Sn	17 43 21.4	+1.2
AMOG	MOGNA	0.69	25	iP	Pn	17 43 10.2	+0.8
AMOG				iS	Sn	17 43 24.0	+1.2
AUSP	Uspallata	0.81	215	iP	Pn	17 43 11.8	+1.1
AUSP				iS	Sn	17 43 26.1	+0.9
ASAL	Salagasta	1.02	180	iP	Pn	17 43 13.8	+1.1
ASAL				iS	Sn	17 43 30.3	+1.7
ARCO	CERRO ARCO	1.27	184	iP	Pn	17 43 16.6	+0.9
ARCO				AML	AML	17 43 36.4	
	comp=Z,226nm,0.3s						
AVFE	Valle Fertil	1.49	53	iP	Pn	17 43 18.6	+0.6
AVFE				AML	AML	17 43 39.6	
	comp=Z,102nm,0.2s						
ACAN	Cantantal	1.57	117	iP	Pn	17 43 19.8	+0.8
AGUA	GUANDACOL	2.09	8	iP	Pn	17 43 27.2	+1.5
AGUA				iP	Pn	17 43 27.2	+1.5
APLL	PUNTA DE LOS L	2.30	60	iP	Pn	17 43 28.7	+0.4

MAN 08 17:45:48, 10°.02N×126°.12E, h13km, mb4.7, ML3.6, MS3.6, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.67	250	⇑eP	Pg	17 46 01.0	0.0
SCPH				eS	Sb	17 46 10.9	+0.2
BUTP	Butuan	1.15	206	eP	Pb	17 46 08.2	-1.6
BUTP				eS	Sb	17 46 24.2	-0.5
MSLP	Maasin	1.25	275	eP	Pn	17 46 10.5	-0.7
MSLP				eS	Sn	17 46 28.2	+0.2
PLP	Palo	1.60	315	⇑eP	Pn	17 46 15.4	-0.6
PLP				eS	Sn	17 46 32.4	-4.2
BESP	Borongan	1.71	337	eP	Pn	17 46 09.8	-7.8
OCLP	Ormoc	1.81	305	eP	Pn	17 46 18.8	-0.1
BUKP	Musuan	2.37	206	eP	Pn	17 46 27.4	+0.8
GUIM	Jordan	3.53	280	eP	Pn	17 46 41.3	-1.3

ISCJB 08 18:04:21.1±0.9, 7°.4N±0°.1×93°.0E±0°.2, h33km, mb3.8/7, MS3.3/1, Error ellipse: s-maj=25.8km s-min=16.5km az=155.0
IDC 08 18:04:25.0±1.1, 7°.47N×93°.09E, h49km±7km, mb3.5/7, mb1 3.7/8, mb1mx3.4/27, mbtmp3.8/8, MS3.0/3, Ms1 3.1/3, ms1mx2.7/30, Error ellipse: s-maj=41.5km s-min=14.5km az=58.0
ISC 08 18:04:23.8±1.0, 7°.4N±0°.1×93°.0E±0°.2, h35km, n14, σ1§55/14, mb3.8/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	7.51	128	LR	LR	18 09 46.5	
	comp=Z,178nm,20.5s,baz=289,slow=43						
CMAR	Chiang Mai Arr	12.39	27	P	Pn	18 07 18.0	+0.1
	0.1nm,0.3s,baz=213,slow=12,SNR=4.3						
CMAR				LR	LR	18 12 00.9	
	comp=Z,24nm,19.3s,baz=200,slow=37						
H08S3	Diego Garcia H	25.33	234	T	T	18 36 32.7	
	baz=54,slow=75,SNR=421						
H08S2	Diego Garcia H	25.33	234	T	T	18 36 32.9	
	baz=54,slow=75,SNR=548						
H08S1	Diego Carcia H	25.34	234	T	T	18 36 32.3	
	baz=54,slow=75,SNR=187						
MKAR	Makanchi Array	40.27	349	P	P	18 11 56.6	-0.8
	0.8nm,0.4s,baz=170,slow=8.4,SNR=9.0						
MKAR				pP	pP	18 12 10.7	+3.0
	0.3nm,0.5s,baz=174,slow=8.8,SNR=2.3						
SONM	Songino Array	41.84	14	P	P	18 12 09.2	-1.3
	0.5nm,0.6s,baz=196,slow=9.0,SNR=4.2						
SONM				PcP	PcP	18 14 05.5	-0.6
	0.4nm,0.5s,baz=204,slow=3.6,SNR=4.1						
KSRS	Korea Array	43.55	41	LR	LR	18 31 29.4	
	comp=Z,35nm,19.1s,baz=140,slow=37						
ZALV	Zalesovo Beam	46.84	353	P	P	18 12 49.8	-0.4
	4.4nm,0.5s,baz=183,slow=8.2,SNR=38						
ZALV				pP	pP	18 13 03.0	+2.4
	0.7nm,0.4s,baz=176,slow=8.1,SNR=2.6						
WRA	Warramunga Arr	48.97	124	P	P	18 13 06.2	-1.1
	0.3nm,0.4s,baz=304,slow=8.8,SNR=18						
WRA				pP	pP	18 13 19.4	+1.7
	1.3nm,0.5s,baz=305,slow=8.5,SNR=12						
ASAR	Alice Springs	50.54	129	P	P	18 13 18.4	-0.8
	0.2nm,0.4s,baz=304,slow=8.0,SNR=19						
ASAR				pP	pP	18 13 31.4	+1.7
	0.5nm,0.6s,baz=297,slow=8.0,SNR=5.9						
BRTR	Keskin Array B	61.84	311	P	P	18 14 39.2	-0.5
	0.4nm,0.4s,baz=138,slow=5.2,SNR=2.9						
GERES	GERESS Array B	77.37	318	P	P	18 16 15.5	+0.2
	0.8nm,0.7s,baz=91,slow=5.9,SNR=7.7						
TXAR	Lajitas Array	140.08	23	PKP	PKPdf	18 23 48.9	-0.6
	0.2nm,0.4s,baz=302,slow=2.0,SNR=3.8						

ISCJB 08 18:07:55.9±0.3, 38°.41N±0°.02×21°.96E±0°.02, h4km±3km, Error ellipse: s-maj=3.3km s-min=2.8km az=29.2
CSEM 08 18:07:55.9±0.1, 38°.41N×21°.95E, h5km, ML2.7, Error ellipse: s-maj=2.4km s-min=1.9km az=118.0
ATH 08 18:07:56.3, 38°.40N×21°.94E, h4km±2km, MD3.0/21
THE 08 18:07:56.2, 38°.42N×21°.96E, h0km±1km, ML3.0/9, Error ellipse: s-maj=1.8km s-min=0.5km az=263.0
ISC 08 18:07:56.0±0.8, 38°.41N±0°.01×21°.96E±0°.02, h4km±5km, n92, σ0§86/130, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.05	294	P	Pg	18 07 57.1	0.0
EFP				S	Sg	18 07 58.1	+0.1
EFP	Efpalio	0.05	294	ePG	Pg	18 07 57.2	+0.1
EFP				eSG	Sg	18 07 58.3	+0.3
EFP	Efpalio	0.05	294	ePg	Pg	18 07 57.2	+0.1
EFP				S	Sg	18 07 58.1	+0.1
KALE	Kalithea	0.14	97	P	Pg	18 07 59.3	+0.5
KALE				S	Sg	18 08 01.9	+1.2
KALE	Kalithea	0.14	97	ePG	Pg	18 07 59.5	+0.7
KALE	Kalithea	0.14	97	P	Pg	18 07 59.3	+0.5
KALE				S	Sg	18 08 01.7	+1.0
LAKA	Lakka	0.17	175	P	Pg	18 07 59.8	+0.5
LAKA	Lakka	0.17	175	ePG	Pg	18 07 59.8	+0.5
LAKA	Lakka	0.17	175	P	Pg	18 07 59.8	+0.5
UPR	University Cam	0.18	228	P	Pg	18 08 00.9	+1.3
UPR	University Cam	0.18	228	P	Pg	18 08 00.1	+0.5
UPR				S	Sg	18 08 02.7	+0.7
KLV	Kalavryta, Ach	0.39	158	P	Pg	18 08 03.6	0.0
KLV				S	Sg	18 08 10.1	+1.4
KLV	Kalavryta, Ach	0.39	158	ePG	Pg	18 08 03.5	0.0
KLV	Kalavryta, Ach	0.39	158	P	Pg	18 08 03.6	0.0
KLV				S	Sg	18 08 09.6	+0.9
DSF	Desfina	0.45	89	P	Pg	18 08 04.2	-0.4
DSF				S	Sg	18 08 11.5	+1.1
DSF	Desfina	0.45	89	ePG	Pg	18 08 04.5	-0.1
DSF				eSG	Sg	18 08 11.7	+1.3
DSF	Desfina	0.45	89	ePg	Pg	18 08 04.5	-0.1
DSF				S	Sg	18 08 10.9	+0.5
DSF				eSg	Sg	18 08 11.7	+1.3
EVR	Evrytania	0.52	347	P	Pg	18 08 05.9	-0.1
EVR				S	Sg	18 08 14.1	+1.2
EVR	Evrytania	0.52	347	ePG	Pg	18 08 05.9	-0.1
EVR				eSG	Sb	18 08 14.9	-0.9
EVR	Evrytania	0.52	347	P	Pg	18 08 05.9	-0.1
EVR				S	Sg	18 08 14.0	+1.2
EVR				eSg	Sb	18 08 14.9	-0.9
RLS	Riolos of Patr	0.52	228	P	Pg	18 08 06.4	+0.4
RLS				S	Sb	18 08 14.6	-1.0
RLS	Riolos of Patr	0.52	228	ePG	Pg	18 08 06.6	+0.6
RLS				eSG	Sb	18 08 14.6	-1.0
RLS	Riolos of Patr	0.52	228	P	Pg	18 08 06.3	+0.3
RLS	Riolos of Patr	0.52	228	ePg	Pg	18 08 06.6	+0.6
RLS				S	Sb	18 08 14.6	-1.0
GUR	Goura	0.56	147	P	Pg	18 08 06.5	-0.2
MAKR	Makrakomi, Fth	0.62	12	P	Pg	18 08 08.2	+0.3
MAKR				S	Sg	18 08 16.5	+0.6
MAKR	Makrakomi, Fth	0.62	12	ePG	Pg	18 08 08.1	+0.2
MAKR				eSG	Sb	18 08 18.4	-0.1
MAKR	Makrakomi, Fth	0.62	12	P	Pg	18 08 08.1	+0.2
MAKR				S	Sg	18 08 16.5	+0.6
MAKR				eSg	Sb	18 08 18.4	-0.1
AXAR	Agios Charalam	0.65	57	P	Pg	18 08 08.0	-0.5
AXAR				S	Sb	18 08 18.4	-1.1
AXAR	Agios Charalam	0.65	57	ePG	Pg	18 08 08.2	-0.3
AXAR				eSG	Sb	18 08 19.6	+0.1
AXAR	Agios Charalam	0.65	57	ePg	Pg	18 08 08.2	-0.3
AXAR				S	Sb	18 08 18.0	+1.0
AXAR				eSg	Sb	18 08 19.6	+0.1
AGG	Agios Georgios	0.68	25	P	Pg	18 08 08.2	-0.8
AGG	Agios Georgios	0.68	25	ePG	Pg	18 08 08.7	-0.3
AGG	Agios Georgios	0.68	25	P	Pg	18 08 08.3	-0.8
AGG	Agios Georgios	0.68	25	ePg	Pg	18 08 08.7	-0.3
LKR	Lokris	0.85	73	P	Pg	18 08 11.7	-0.6
LKR				S	Sb	18 08 24.7	-0.4
LKR	Lokris	0.85	73	ePG	Pg	18 08 12.1	-0.2
LKR	Lokris	0.85	73	P	Pg	18 08 11.7	-0.6
LKR	Lokris	0.85	73	ePg	Pg	18 08 12.1	-0.2
LKR				S	Sb	18 08 24.7	-0.4
LTK	Loutraki	0.88	116	P	Pg	18 08 12.8	-0.1
LTK	Loutraki	0.88	116	ePG	Pg	18 08 13.3	+0.4
LTK	Loutraki	0.88	116	P	Pg	18 08 12.9	0.0
LTK	Loutraki	0.88	116	ePg	Pg	18 08 13.3	+0.4
AMT	Artemida-Makis	0.90	193	P	Pg	18 08 13.2	+0.1
AMT	Artemida-Makis	0.90	193	ePG	Pg	18 08 13.6	+0.4
AMT	Artemida-Makis	0.90	193	P	Pg	18 08 13.3	+0.1
AMT	Artemida-Makis	0.90	193	ePg	Pg	18 08 13.6	+0.4
KFL	Anninata	0.97	252	P	Pg	18 08 14.2	-0.4
KFL	Anninata	0.97	252	P	Pg	18 08 14.2	-0.4
SMIA	Simia	1.08	64	ePG	Pg	18 08 16.6	-0.2
SMIA				eSB	Sn	18 08 33.0	-0.5
SMIA	Simia	1.08	64	ePg	Pg	18 08 16.6	-0.2
SMIA				eSb	Sn	18 08 33.0	-0.5
VLX	Vlachokerasia	1.09	162	ePB	Pg	18 08 16.2	-0.6
VLX				eSG	Sn	18 08 32.4	+0.4
VLX	Vlachokerasia	1.09	162	ePb	Pg	18 08 16.2	-0.6
VLX				eSg	Sn	18 08 32.4	+0.4
LKD2	Lefkada island	1.09	291	P	Pg	18 08 16.2	-0.7
LKD2	Lefkada island	1.09	291	ePG	Pg	18 08 16.6	-0.3
LKD2	Lefkada island	1.09	291	P	Pg	18 08 16.2	-0.7
LKD2	Lefkada island	1.09	291	ePg	Pg	18 08 16.6	-0.3
VLS	Valsamata	1.10	258	ePB	Pg	18 08 16.1	-1.0
VLS	Valsamata	1.10	258	ePb	Pg	18 08 16.1	-1.0
THL	Klokotos Trika	1.16	2	P	Pg	18 08 17.6	-0.6
THL				S	Sn	18 08 35.3	+0.1
THL	Klokotos Trika	1.16	2	ePB	Pg	18 08 18.2	0.0
THL				eSB	Sn	18 08 35.4	+0.2
THL	Klokotos Trika	1.16	2	P	Pg	18 08 17.6	-0.6
THL	Klokotos Trika	1.16	2	ePb	Pg	18 08 18.2	0.0
THL				eSb	Sn	18 08 35.4	+0.2
ITM	Ithomi	1.23	181	ePG	Pg	18 08 19.0	-0.5

ITM Ithomi 1.23 181 ePg Pg 18 08 19.0 -0.5
MRKA Markates 1.31 76 ePB Pb 18 08 21.5 +0.3
MRKA Markates 1.31 76 ePb Pb 18 08 21.5 +0.3
NEO Neokhori 1.33 47 ePG Pn 18 08 21.0 -0.4
NEO Neokhori 1.33 47 ePg Pn 18 08 21.0 -0.4
DID Didima 1.35 131 P Pg 18 08 22.1 +0.2
DID Didima 1.35 131 ePN Pg 18 08 22.3 +0.4
DID Didima 1.35 131 ePn Pg 18 08 22.3 +0.4
XOR Xorichti 1.36 45 ePN Pn 18 08 19.2 -2.5
XOR Xorichti 1.36 45 ePn Pn 18 08 19.2 -2.5
PYL PYLOS 1.52 187 ePB Pb 18 08 24.8 +0.1
PYL PYLOS 1.52 187 ePb Pb 18 08 24.8 +0.1
IGT Igoumenitsa 1.69 312 ePN Pg 18 08 30.9 +2.4
IGT Igoumenitsa 1.69 312 ePn Pg 18 08 30.9 +2.4
LIT Litokhoron 1.74 13 ePN Pb 18 08 28.5 0.0
LIT Litokhoron 1.74 13 ePn Pb 18 08 28.5 0.0
VLI Veliai 1.86 155 ePN Pb 18 08 29.8 -0.7
VLI Veliai 1.86 155 ePn Pb 18 08 29.8 -0.7
NEST Nestorio 2.12 341 ePN Pg 18 08 37.1 +0.4
NEST eSN Sg 18 09 07.9 +3.6
NEST Nestorio 2.12 341 ePn Pg 18 08 37.1 +0.4
NEST eSn Sg 18 09 07.9 +3.6
FNA Florina 2.42 349 ePN Pb 18 08 38.8 -1.3
FNA Florina 2.42 349 ePn Pb 18 08 38.8 -1.3
OUR Ouranopolis 2.48 39 eP Pn 18 08 36.5 -0.7
OUR Ouranopolis 2.48 39 eP Pn 18 08 36.5 -0.7
SOH Sokhos 2.64 24 ePN Pn 18 08 39.5 +0.1
SOH Sokhos 2.64 24 ePn Pn 18 08 39.5 +0.1
KNT Kendrikon 2.84 14 ePN Pn 18 08 42.8 +0.6
KNT Kendrikon 2.84 14 ePn Pn 18 08 42.8 +0.6

MEX 08 18:37:04.8±0.9, 16.09N×97.57W, h9km±11km, MD3.8, Oaxaca

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PNIG Pinotepa 0.61 299 eP Pg 18 37 15.3 -1.5
PNIG iS Sg 18 37 23.9 -1.0
VHO Vista Hermosa 1.26 39 eP Pn 18 37 24.6 -4.3
VHO iS Sb 18 37 40.2 -5.5
HUIG Huatulco 1.44 103 iP Pn 18 37 27.8 -3.2
HUIG iS Sn 18 37 45.1 -5.0

IDC 08 18:52:11.6±1.3, 12.13N×144.01E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.2/38, mbtmp3.3/4, Error ellipse: s-maj=54.2km s-min=31.0km az=105.0, South of Mariana Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 33.26 197 P P 18 58 50.9 0.0
0.2nm,0.7s,baz=17,slow=9.6,SNR=5.1
MKAR Makanchi Array 61.97 317 P P 19 02 33.7 +0.1
0.1nm,0.6s,baz=92,slow=7.2,SNR=2.2
ILAR Eielson Array 70.24 25 P P 19 03 27.0 +0.6
0.1nm,0.5s,baz=247,slow=6.7,SNR=4.1
YKA Yellowknife Ar 84.53 27 P P 19 04 45.7 -0.7
0.2nm,0.6s,baz=283,slow=5.5,SNR=3.3

IDC 08 19:06:49.1±0.6, 38.49N×15.88W, h0km, mb4.3/25, mb1 4.5/27, mb1mx4.3/56, mbtmp4.4/27, ML5.4/2, MS3.7/21, Ms1 3.7/21, ms1mx3.6/40, Error ellipse: s-maj=15.1km s-min=12.1km az=23.0
MOS 08 19:06:50.3±1.2, 38.71N×15.62W, h10km, mb4.6/36, Error ellipse: s-maj=9.6km s-min=3.5km az=137.3
NEIC 08 19:06:51.5±0.3, 38.64N×15.65W, h10km, mb4.5/22, Error ellipse: s-maj=6.8km s-min=5.0km az=166.0
CSEM 08 19:06:51.4±0.2, 38.68N×15.75W, h10km, mb4.4/47, Error ellipse: s-maj=5.3km s-min=4.0km az=37.0
BJI 08 19:06:53.9, 39.15N×15.16W, h13km, mB5.0/4, mb4.6/10, Ms7 4.8/1
SZGRF 08 19:06:54.6, 38.60N×15.82W, h33km, mb4.2, Azores-Cape St. Vincent Ridge
SFS 08 19:06:55.0, 38.72N×15.40W, h0km, ML5.1
MDD 08 19:06:55.6±1.7, 38.70N×15.67W, h43km±26km, mb5.1/40, Error ellipse: s-maj=14.0km s-min=9.6km az=93.0, PRXIMO
IGIL 08 19:06:56.5, 38.48N×15.64W, h29km, ML5.0
INMG 08 19:06:58.7±1.3, 38.49N×15.63W, h10km, ML4.7, Error ellipse: s-maj=8.5km s-min=6.0km az=141.0
CNRM 08 19:07:00.3, 38.29N×15.48W, h30km, MD4.2
LDG 08 19:07:04.2±0.3, 38.83N×14.34W, h10km, Ml4.8/38, Error ellipse: s-maj=6.1km s-min=4.6km az=80.0
BGS 08 19:07:05.0±1.8, 39.42N×14.90W, h10km, mb4.9
ISC 08 19:06:52.4±1.3, 38.63N±0.05×15.61W±0.05, h15km±7km, n714, σ1.57/730, mb4.4/68, MS3.8/22, 13C-4D, Azores-Cape St. Vincent Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMAFR Mafra 4.96 84 eP Pn 19 08 07.9 +1.7
PMAFR eSn Sn 19 09 00.6 -2.7
PMAFR A A 19 09 08.7
2µm,0.5s
PMAFR Mafra 4.96 84 P Pn 19 08 07.7 +1.5
76nm,0.2s,SNR=18
PMAFR S Sn 19 09 00.5 -2.8
165nm,0.1s,SNR=13
PMAFR Mafra 4.96 84 P Pn 19 08 07.7 +1.5
76nm,0.2s,SNR=18
PMAFR S Sn 19 09 00.5 -2.8
165nm,0.1s,SNR=13
LIS Lisbon 5.06 87 eP Pn 19 08 09.3 +1.7
LIS eS Sn 19 09 02.1 -3.6
LIS AML AML 19 09 06.3
comp=N,4µm,0.4s
LIS Lisbon 5.06 87 ePn Pn 19 08 09.2 +1.6
LIS eSn Sn 19 09 02.2 -3.6
LIS Lisbon 5.06 87 eP Pn 19 08 09.3 +1.7
LIS eS Sn 19 09 02.1 -3.6
LIS Lisbon 5.06 87 P Pn 19 08 09.3 +1.7
LIS S Sn 19 09 02.2 -3.6
LIS Lisbon 5.06 87 ePn Pn 19 08 09.2 +1.6
LIS eSn Sn 19 09 02.2 -3.6
INMG Instituto de M 5.08 86 eSn Sn 19 09 02.1 -4.1
INMG Instituto de M 5.08 86 S Sn 19 09 02.1 -4.1
INMG Instituto de M 5.08 86 S Sn 19 09 02.1 -4.1
PTEO Sao Teotonio 5.54 99 ePn Pn 19 08 15.1 +0.9
PTEO eSn Sn 19 09 10.9 -6.7
PTEO A A 19 09 17.6
comp=N,2µm,0.8s
PTEO Sao Teotonio 5.54 99 P Pn 19 08 15.1 +0.9
PTEO S Sn 19 09 10.9 -6.7
comp=N,1µm,0.8s
PTEO Sao Teotonio 5.54 99 P Pn 19 08 15.1 +0.9
PTEO eSn Sn 19 09 10.9 -6.7
comp=N,2µm,0.8s
PMPST Porto Santo, M 5.57 186 ePn Pn 19 08 13.5 -1.1
PMPST eSn Sn 19 09 07.0 -11
PMPST A A 19 09 10.7
comp=N,190nm,0.6s
PFVI Vila Bisbo 5.57 103 ePn Pn 19 08 15.4 +0.7
PFVI eSn Sn 19 09 11.8 -6.6
PFVI A A 19 09 19.9
comp=N,328nm,0.8s
PFVI Vila Bisbo 5.57 103 P Pn 19 08 15.8 +1.1
comp=N,13nm,0.1s,SNR=14
PFVI S Sn 19 09 11.6 -6.8
comp=N,168nm,0.2s,SNR=6.0
PFVI Vila Bisbo 5.57 103 ePn Pn 19 08 15.4 +0.7
PFVI Vila Bisbo 5.57 103 P Pn 19 08 15.8 +1.1
comp=N,13nm,0.1s,SNR=14
PFVI eSn Sn 19 09 11.8 -6.6
comp=N,328nm,0.8s
PMPS Porto Santo 5.59 186 P Pn 19 08 13.5 -1.4
PMPS S Sn 19 09 07.0 -12
comp=N,95nm,0.6s
PNCL Nicolau / Gran 5.59 93 ePn Pn 19 08 15.9 +1.0
PNCL eSn Sn 19 09 13.3 -5.6
PNCL A A 19 09 17.3
comp=N,484nm,0.5s
PNCL Nicolau / Gran 5.59 93 ePn Pn 19 08 15.9 +1.0
PNCL eSn Sn 19 09 13.3 -5.6
comp=N,484nm,0.5s
MORF Marmelete 5.66 101 eP Pn 19 08 16.5 +0.6
MORF eS Sn 19 09 15.2 -5.4
MORF AML AML 19 09 20.2
comp=E,1µm,0.4s
MORF Marmelete 5.66 101 ePn Pn 19 08 16.5 +0.6
MORF eSn Sn 19 09 13.9 -6.7
MORF A A 19 09 20.2
comp=E,392nm,0.3s
MORF Marmelete 5.66 101 eP Pn 19 08 16.5 +0.6
MORF eS Sn 19 09 15.1 -5.4
MORF Marmelete 5.66 101 P Pn 19 08 16.5 +0.6
MORF S Sn 19 09 15.2 -5.4
comp=E,1µm,0.4s
MORF Marmelete 5.66 101 P Pn 19 08 16.5 +0.6
MORF eSn Sn 19 09 13.9 -6.7
comp=E,392nm,0.3s
MORF S Sn 19 09 15.2 -5.4
comp=E,1µm,0.4s
PTOM Tomar 5.69 78 ePn Pn 19 08 17.8 +1.5
PTOM eSn Sn 19 09 17.9 -3.4
PTOM A A 19 09 27.9
comp=E,833nm,0.7s
PTOM Tomar 5.69 78 P Pn 19 08 17.8 +1.5
PTOM S Sn 19 09 17.9 -3.4
comp=E,417nm,0.7s
PTOM Tomar 5.69 78 P Pn 19 08 17.8 +1.5
PTOM S Sn 19 09 17.9 -3.4
comp=E,417nm,0.7s
PCAS Casmilo, Conde 5.70 73 ePn Pn 19 08 17.7 +1.3
PCAS eSn Sn 19 09 17.7 -3.8
PCAS A A 19 09 22.4
comp=E,543nm,0.5s
PCAS Casmilo, Conde 5.70 73 ePn Pn 19 08 17.7 +1.3
PCAS eSn Sn 19 09 17.7 -3.8
comp=E,543nm,0.5s
EVOP Sao Brissos 5.87 89 eP Pn 19 08 19.4 +0.6
EVOP Sao Brissos 5.87 89 ePn Pn 19 08 19.4 +0.6
EVOP eSn Sn 19 09 15.8 -10
EVOP Sao Brissos 5.87 89 ePn Pn 19 08 19.4 +0.6
MESJ Messejana 5.87 95 eP Pn 19 08 19.8 +0.9
MESJ eS Sn 19 09 20.7 -5.1
MESJ AML AML 19 09 24.8
comp=N,1µm,0.6s
MESJ Messejana 5.87 95 ePn Pn 19 08 19.9 +1.1
MESJ eSn Sn 19 09 20.8 -5.1
MESJ Messejana 5.87 95 eP Pn 19 08 19.7 +0.9
MESJ eS Sn 19 09 20.7 -5.1
MESJ Messejana 5.87 95 P Pn 19 08 19.9 +1.1
MESJ S Sn 19 09 20.8 -5.1
MESJ Messejana 5.87 95 eP Pn 19 08 19.7 +0.9
MESJ S Sn 19 09 20.8 -5.1
PTO Porto 5.95 63 eSn Sn 19 09 23.4 -4.2
PTO A A 19 09 25.4
comp=N,683nm,0.3s
PTO Porto 5.95 63 S Sn 19 09 23.4 -4.2
comp=N,341nm,0.3s
PTO Porto 5.95 63 S Sn 19 09 23.4 -4.2
comp=N,341nm,0.3s
EVO Evora 5.95 89 ePn Pn 19 08 19.4 -0.6
EVO eSn Sn 19 09 15.8 -12
comp=N,2µm,0.5s
EVO Evora 5.95 89 ePn Pn 19 08 21.2 +1.2
EVO eSn Sn 19 09 22.7 -5.2
EVO A A 19 09 27.4
comp=N,689nm,0.5s
EVO Evora 5.95 89 P Pn 19 08 21.2 +1.2
EVO S Sn 19 09 22.7 -5.2
comp=N,689nm,0.5s
EVO Evora 5.95 89 P Pn 19 08 21.2 +1.2
EVO S Sn 19 09 22.7 -5.2
comp=N,689nm,0.5s
PCVE Castro Verde 6.05 97 ePn Pn 19 08 22.0 +0.7
PCVE eSn Sn 19 09 24.2 -6.1
PCVE A A 19 09 31.4
comp=N,423nm,0.5s
PCVE Castro Verde 6.05 97 P Pn 19 08 22.0 +0.7
PCVE S Sn 19 09 24.2 -6.1
comp=N,423nm,0.5s
PCVE Castro Verde 6.05 97 P Pn 19 08 22.0 +0.7
PCVE S Sn 19 09 24.2 -6.1
comp=N,423nm,0.5s
FUL Funchal 6.06 190 eSn Sn 19 09 19.4 -11
FUL A A 19 09 24.3
comp=N,142nm,0.3s
FUL Funchal 6.06 190 S Sn 19 09 19.4 -11
comp=N,71nm,0.3s
PBEJ Beja 6.12 93 ePn Pn 19 08 23.7 +1.5
PBEJ eSn Sn 19 09 26.1 -5.8
PBEJ A A 19 09 30.9
comp=N,658nm,0.5s
PBEJ Beja 6.12 93 P Pn 19 08 23.7 +1.5
PBEJ S Sn 19 09 26.1 -5.8
comp=N,329nm,0.5s
PBEJ Beja 6.12 93 P Pn 19 08 23.7 +1.5
PBEJ S Sn 19 09 26.1 -5.8
comp=N,329nm,0.5s
PBDV Barranco-do-Ve 6.23 100 ePn Pn 19 08 24.7 +1.0
PBDV eSn Sn 19 09 28.4 -6.2
PBDV A A 19 09 34.4
comp=N,573nm,0.8s
PBDV Barranco-do-Ve 6.23 100 P Pn 19 08 24.7 +1.0
PBDV S Sn 19 09 28.4 -6.2
comp=N,573nm,0.8s
PBDV Barranco-do-Ve 6.23 100 P Pn 19 08 24.7 +1.0
PBDV eSn Sn 19 09 28.4 -6.2
comp=N,573nm,0.8s
PESTR Estremoz 6.28 85 ePn Pn 19 08 25.4 +1.0
PESTR eSn Sn 19 09 30.6 -5.2
PESTR A A 19 09 37.0
comp=N,505nm,0.5s
PESTR Estremoz 6.28 85 ePn Pn 19 08 25.4 +1.0
PESTR eSn Sn 19 09 30.6 -5.2
comp=N,505nm,0.5s
PVIS Viseu 6.31 68 ePn Pn 19 08 25.8 +0.9
PVIS eSn Sn 19 09 32.5 -4.2
PVIS A A 19 09 35.0
comp=N,318nm,0.3s
PVIS Viseu 6.31 68 P Pn 19 08 25.8 +0.9
PVIS S Sn 19 09 32.5 -4.2
comp=N,159nm,0.3s
PVIS Viseu 6.31 68 P Pn 19 08 25.8 +0.9
PVIS S Sn 19 09 32.5 -4.2
comp=N,159nm,0.3s
EZAM Zamans 6.34 54 P Pn 19 08 25.3 0.0
comp=N,19nm,0.3s,SNR=7.9
EZAM S Sn 19 09 31.6 -5.9
SNR=7.9
EZAM Zamans 6.34 54 P Pn 19 08 25.3 0.0
comp=N,19nm,0.3s,SNR=7.9
EZAM S Sn 19 09 31.6 -5.9
SNR=7.9
PVAQ Vaqueiros 6.35 99 ePn Pn 19 08 26.3 +0.9
PVAQ eSn Sn 19 09 31.5 -6.2
PVAQ A A 19 09 38.8
comp=N,583nm,0.7s
PVAQ Vaqueiros 6.35 99 P Pn 19 08 26.3 +0.9
PVAQ S Sn 19 09 31.5 -6.2
comp=N,583nm,0.7s
PVAQ Vaqueiros 6.35 99 P Pn 19 08 26.3 +0.9
PVAQ eSn Sn 19 09 31.5 -6.2
comp=N,583nm,0.7s
PCBR Castelo Branco 6.43 77 ePn Pn 19 08 27.7 +1.2
PCBR eSn Sn 19 09 34.0 -5.6
PCBR A A 19 09 38.1
comp=N,356nm,0.8s
PCBR Castelo Branco 6.43 77 P Pn 19 08 27.7 +1.2
PCBR S Sn 19 09 34.0 -5.6
comp=N,178nm,0.8s
PCBR Castelo Branco 6.43 77 P Pn 19 08 27.7 +1.2
PCBR S Sn 19 09 34.0 -5.6
comp=N,178nm,0.8s
PMRV Marv??o 6.45 80 ePn Pn 19 08 28.0 +1.2
PMRV eSn Sn 19 09 35.5 -4.6
PMRV A A 19 09 41.7
comp=N,488nm,0.4s
PMRV Marv??o 6.45 80 P Pn 19 08 28.0 +1.2
PMRV S Sn 19 09 35.5 -4.6
comp=N,488nm,0.4s
PMRV Marv??o 6.45 80 P Pn 19 08 28.0 +1.2
PMRV S Sn 19 09 35.5 -4.6
comp=N,488nm,0.4s
MTE Manteigas 6.48 72 ePn Pn 19 08 29.4 +2.1
MTE eSn Sn 19 09 35.3 -5.7
MTE A A 19 09 41.3
comp=N,610nm,0.3s
MTE Manteigas 6.48 72 P Pn 19 08 29.4 +2.1
MTE S Sn 19 09 35.3 -5.7
comp=N,305nm,0.3s
MTE Manteigas 6.48 72 eP Pn 19 08 27.8 +0.5
comp=N,122nm,0.6s
MTE Manteigas 6.48 72 eP Pn 19 08 27.8 +0.5
comp=N,122nm,0.6s
MTE Manteigas 6.48 72 ePn Pn 19 08 29.4 +2.1
MTE S Sn 19 09 35.3 -5.7
comp=N,305nm,0.3s
EGRO El Granado 6.50 97 P Pn 19 08 28.0 +0.5
comp=N,77nm,0.3s,SNR=81
EGRO S Sn 19 09 34.9 -6.5
comp=N,186nm,0.3s,SNR=5.2
EGRO El Granado 6.50 97 P Pn 19 08 28.0 +0.5
comp=N,77nm,0.3s,SNR=81
EGRO S Sn 19 09 34.9 -6.5
comp=N,186nm,0.3s,SNR=5.2
PCAB Cabril 6.57 60 ePn Pn 19 08 29.2 +0.7
PCAB eSn Sn 19 09 38.0 -5.2
PCAB A A 19 09 43.0
comp=N,643nm,0.6s
PCAB Cabril 6.57 60 P Pn 19 08 29.2 +0.7
PCAB S Sn 19 09 38.0 -5.2
comp=N,321nm,0.6s
PCAB Cabril 6.57 60 P Pn 19 08 29.2 +0.7
PCAB S Sn 19 09 38.0 -5.2
comp=N,321nm,0.6s
POLO Lamas de Olo 6.60 63 ePn Pn 19 08 29.9 +1.0
POLO eSn Sn 19 09 38.3 -5.6
POLO A A 19 09 42.6
comp=N,104nm,0.5s
POLO Lamas de Olo 6.60 63 ePn Pn 19 08 29.9 +1.0
POLO eSn Sn 19 09 38.3 -5.6
comp=N,104nm,0.5s
PVRL Vila Real 6.62 64 ePn Pn 19 08 30.7 +1.6
PVRL eSn Sn 19 09 38.9 -5.4
PVRL A A 19 09 47.2
comp=N,220nm,0.3s
PVRL Vila Real 6.62 64 P Pn 19 08 30.7 +1.6
PVRL S Sn 19 09 38.9 -5.4
comp=N,110nm,0.3s
PVRL Vila Real 6.62 64 P Pn 19 08 30.7 +1.6
PVRL S Sn 19 09 38.9 -5.4
comp=N,110nm,0.3s
ELOB Lobios 6.62 58 P Pn 19 08 29.8 +0.6
comp=N,50nm,0.4s,SNR=105
ELOB S Sn 19 09 39.4 -5.0
comp=N,112nm,0.2s,SNR=6.3
ELOB Lobios 6.62 58 P Pn 19 08 29.8 +0.6
comp=N,50nm,0.4s,SNR=105
ELOB S Sn 19 09 39.4 -5.0
comp=N,112nm,0.2s,SNR=6.3
EMAZ Mazaricos 6.63 47 P Pn 19 08 29.0 -0.3
comp=N,39nm,0.2s,SNR=71
EMAZ S Sn 19 09 38.8 -5.8
comp=N,81nm,0.1s,SNR=16
EMAZ Mazaricos 6.63 47 P Pn 19 08 29.0 -0.3
comp=N,39nm,0.2s,SNR=71
EMAZ S Sn 19 09 38.8 -5.8
comp=N,81nm,0.1s,SNR=16
EBAD Badajoz 6.73 86 P Pn 19 08 31.5 +0.9
comp=N,32nm,0.3s,SNR=94
EBAD S Sn 19 09 41.7 -5.2
comp=N,35nm,0.1s,SNR=7.8
EBAD Badajoz 6.73 86 P Pn 19 08 31.5 +0.9
comp=N,32nm,0.3s,SNR=94
EBAD S Sn 19 09 41.7 -5.2
comp=N,35nm,0.1s,SNR=7.8
PBAR Barrancos 6.75 91 ePn Pn 19 08 31.9 +1.0
PBAR eSn Sn 19 09 40.6 -6.8
PBAR A A 19 09 42.7
comp=N,224nm,0.6s
PBAR Barrancos 6.75 91 P Pn 19 08 31.9 +1.0
PBAR S Sn 19 09 40.6 -6.8
comp=N,224nm,0.6s
PBAR Barrancos 6.75 91 P Pn 19 08 31.9 +1.0
PBAR S Sn 19 09 40.6 -6.8
comp=N,224nm,0.6s
STS Santiago 6.84 49 P Pn 19 08 32.0 -0.1
comp=N,34nm,0.3s,SNR=54
STS S Sn 19 09 43.3 -6.4
comp=N,32nm,0.1s,SNR=7.9
STS Santiago 6.84 49 P Pn 19 08 32.0 -0.1
comp=N,34nm,0.3s,SNR=54
STS S Sn 19 09 43.3 -6.4
comp=N,32nm,0.1s,SNR=7.9
MVO Moncorvo 7.07 66 ePn Pn 19 08 36.5 +1.2
MVO eSn Sn 19 09 49.9 -5.5
MVO A A 19 09 51.6
comp=N,157nm,0.6s
MVO Moncorvo 7.07 66 P Pn 19 08 36.0 +0.7
comp=N,40nm,0.3s,SNR=41
MVO S Sn 19 09 50.5 -4.9
comp=N,70nm,0.1s,SNR=14
MVO Moncorvo 7.07 66 P Pn 19 08 36.0 +0.7
comp=N,40nm,0.3s,SNR=41
MVO Moncorvo 7.07 66 ePn Pn 19 08 36.5 +1.2
MVO eSn Sn 19 09 49.9 -5.5
comp=N,157nm,0.6s
MVO S Sn 19 09 50.5 -4.9
comp=N,70nm,0.1s,SNR=14
EMIN Mina Concepcio 7.09 94 P Pn 19 08 36.5 +0.9
comp=N,13nm,0.2s,SNR=101
EMIN S Sn 19 09 49.1 -6.8
comp=N,116nm,0.4s,SNR=8.6
EMIN Mina Concepcio 7.09 94 P Pn 19 08 36.5 +0.9
comp=N,13nm,0.2s,SNR=101
EMIN S Sn 19 09 49.1 -6.8
comp=N,116nm,0.4s,SNR=8.6
PBRG Braganca 7.49 62 ePn Pn 19 08 42.0 +0.9
PBRG eSn Sn 19 09 59.7 -6.1
PBRG A A 19 10 06.3
comp=N,182nm,0.5s
PBRG Braganca 7.49 62 P Pn 19 08 42.0 +0.9
PBRG S Sn 19 09 59.7 -6.1
comp=N,91nm,0.5s
PBRG Braganca 7.49 62 P Pn 19 08 42.0 +0.9
PBRG S Sn 19 09 59.7 -6.1
comp=N,91nm,0.5s
EPLA Plasencia 7.53 76 P Pn 19 08 42.2 +0.7
comp=N,13nm,0.3s,SNR=84
EPLA S Sn 19 10 00.3 -6.3
comp=N,64nm,0.3s,SNR=18
EPLA Plasencia 7.53 76 P Pn 19 08 42.2 +0.7
comp=N,13nm,0.3s,SNR=84
EPLA S Sn 19 10 00.3 -6.3
comp=N,64nm,0.3s,SNR=18
ECAL Calabor 7.55 61 P Pn 19 08 42.2 +0.3
comp=N,21nm,0.3s,SNR=55
ECAL S Sn 19 10 00.8 -6.4
comp=N,82nm,0.2s,SNR=9.6
ECAL Calabor 7.55 61 P Pn 19 08 42.2 +0.3
comp=N,21nm,0.3s,SNR=55
ECAL S Sn 19 10 00.8 -6.4
comp=N,82nm,0.2s,SNR=9.6
CNIL Conil 7.92 104 P Pn 19 08 50.0 +3.0
CNIL S Sn 19 10 20.0 +3.7
CNIL Conil 7.92 104 P Pn 19 08 50.0 +3.0
ESPR Espera 7.92 100 P Pn 19 08 49.4 +2.4
comp=N,28nm,0.3s,SNR=12
ESPR S Sn 19 10 11.2 -5.2
comp=N,162nm,0.3s,SNR=7.3
ESPR Espera 7.92 100 P Pn 19 08 49.4 +2.4
comp=N,28nm,0.3s,SNR=12
ESPR S Sn 19 10 11.2 -5.2
comp=N,162nm,0.3s,SNR=7.3
EPON Pontenova 7.94 51 P Pn 19 08 47.0 -0.2
comp=N,11nm,0.2s,SNR=28
EPON S Sn 19 10 09.7 -7.0
comp=N,66nm,0.2s,SNR=7.5
EPON Pontenova 7.94 51 P Pn 19 08 47.0 -0.2
comp=N,11nm,0.2s,SNR=28
EPON S Sn 19 10 09.7 -7.0
comp=N,66nm,0.2s,SNR=7.5
ECAB El Cabril 8.03 91 P Pn 19 08 49.5 +1.0
comp=N,43nm,0.3s,SNR=198
ECAB S Sn 19 10 11.6 -7.4
comp=N,61nm,0.3s,SNR=5.9
ECAB El Cabril 8.03 91 P Pn 19 08 49.5 +1.0
comp=N,43nm,0.3s,SNR=198
ECAB S Sn 19 10 11.6 -7.4
comp=N,61nm,0.3s,SNR=5.9
LIJA Lijar 8.27 99 P Pn 19 08 57.0 +5.2
LIJA S Sn 19 10 22.0 -2.9
ECEU Ceuta 8.60 105 P Pn 19 08 58.5 +2.2
comp=N,9.1nm,0.2s,SNR=5.1
ECEU S Sn 19 10 26.7 -6.3
comp=N,3.6nm,0.1s,SNR=5.0
ECEU Ceuta 8.60 105 P Pn 19 08 58.5 +2.2

comp=N,9.1nm,0.2s,SNR=5.1
ECEU S Sn 19 10 26.7 -6.3
comp=N,3.6nm,0.1s,SNR=5.0
PAB San Pablo 8.81 80 eP Pn 19 08 59.0 -0.2
PAB pmax pmax
comp=Z,41nm,0.4s
PAB San Pablo 8.81 80 eP Pn 19 08 59.0 -0.2
comp=Z,41nm,0.4s
PAB eS Sn 19 10 26.8 -11
PAB San Pablo 8.81 80 eP Pn 19 08 59.0 -0.2
comp=Z,41nm,0.4s
PAB eS Sn 19 10 26.8 -12
EMIJ Mijas 8.85 100 P Pn 19 09 01.2 +1.5
comp=Z,5.0nm,0.3s,SNR=12
EMIJ S Sn 19 10 33.7 -5.4
comp=Z,5.5nm,0.2s,SNR=7.3
EMIJ Mijas 8.85 100 P Pn 19 09 01.2 +1.5
comp=Z,5.0nm,0.3s,SNR=12
EMIJ S Sn 19 10 33.7 -5.4
comp=Z,5.5nm,0.2s,SNR=7.3
CIA Chichaoua 9.01 139 P Pn 19 09 04.0 +2.1
CIA S Sn 19 10 36.0 -7.0
CIA Chichaoua 9.01 139 i P Pn 19 09 04.0 +2.1
ELUQ Luque 9.01 93 P Pn 19 09 03.0 +1.1
comp=Z,13nm,0.3s,SNR=7.9
ELUQ S Sn 19 10 37.0 -6.1
comp=Z,12nm,0.2s,SNR=7.9
ELUQ Luque 9.01 93 P Pn 19 09 03.0 +1.1
comp=Z,13nm,0.3s,SNR=7.9
ELUQ S Sn 19 10 37.0 -6.1
comp=Z,12nm,0.2s,SNR=7.9
EMAL Malaga-Limoner 9.06 98 eP Pn 19 09 03.8 +1.3
GUD Guadarrama 9.07 74 P Pn 19 09 03.1 +0.3
comp=Z,22nm,0.3s,SNR=60
GUD S Sn 19 10 38.5 -6.1
comp=Z,45nm,0.4s,SNR=6.6
GUD Guadarrama 9.07 74 P Pn 19 09 03.1 +0.3
comp=Z,22nm,0.3s,SNR=60
GUD S Sn 19 10 38.5 -6.1
comp=Z,45nm,0.4s,SNR=6.6
ESDC Sonseca Array 9.11 80 P Pn 19 09 03.7 +0.3
comp=Z,44nm,0.3s,baz=268,slow=13,SNR=240
ESDC S Sn 19 10 41.4 -4.2
comp=Z,23nm,0.3s,baz=268,slow=23,SNR=12
ESDC Sonseca Array 9.11 80 Pn Pn 19 09 03.6 +0.3
comp=Z,54nm,0.3s,baz=267,slow=13,SNR=500
ESDC Sn Sn 19 10 41.5 -4.2
comp=Z,36nm,0.3s,baz=266,slow=24,SNR=20
ESDC LR LR 19 12 33.2
comp=Z,244nm,18.2s,baz=285,slow=37
ESDC Sonseca Array 9.11 80 P Pn 19 09 03.7 +0.3
comp=Z,44nm,0.3s,SNR=240
ESDC Sn Sn 19 10 41.5 -4.1
ESLA Sonseca Array 9.11 80 eP Pn 19 09 03.4 +0.1
comp=Z,8.6nm,0.5s
ESLA Sonseca Array 9.11 80 eP Pn 19 09 03.4 +0.1
comp=Z,8.6nm,0.5s
EARI Arriondas 9.15 56 P Pn 19 09 05.3 +1.5
comp=Z,97nm,0.6s,SNR=108
EARI S Sn 19 10 40.7 -5.8
comp=Z,71nm,0.6s,SNR=5.5
EARI Arriondas 9.15 56 P Pn 19 09 05.3 +1.5
comp=Z,97nm,0.6s,SNR=108
EARI S Sn 19 10 40.7 -5.8
comp=Z,71nm,0.6s,SNR=5.5
EBAN Banos Encina 9.30 89 P Pn 19 09 06.6 +0.7
comp=Z,4.5nm,0.2s,SNR=9.5
EBAN S Sn 19 10 42.7 -7.5
comp=Z,31nm,0.3s,SNR=15
EBAN Banos Encina 9.30 89 P Pn 19 09 06.6 +0.7
comp=Z,4.5nm,0.2s,SNR=9.5
EBAN S Sn 19 10 42.7 -7.5
comp=Z,31nm,0.3s,SNR=15
SELV Sierra Elvira 9.49 95 P Pn 19 09 09.7 +1.1
comp=Z,1.9nm,0.3s,SNR=7.9
SELV S Sn 19 10 49.0 -6.0
comp=Z,8.0nm,0.4s,SNR=7.9
SELV Sierra Elvira 9.49 95 P Pn 19 09 09.7 +1.1
comp=Z,1.9nm,0.3s,SNR=7.9
SELV S Sn 19 10 49.0 -6.0
comp=Z,8.0nm,0.4s,SNR=7.9
ECOG Cogollos-Vega 9.61 94 P Pn 19 09 12.2 +2.0
comp=Z,22nm,0.4s,SNR=15
ECOG S Sn 19 10 52.3 -5.7
comp=Z,14nm,0.3s,SNR=9.1
ECOG Cogollos-Vega 9.61 94 P Pn 19 09 12.2 +2.0
comp=Z,22nm,0.4s,SNR=15
ECOG S Sn 19 10 52.3 -5.7
comp=Z,14nm,0.3s,SNR=9.1
EGUA Guajares 9.71 97 P Pn 19 09 13.5 +2.0
comp=Z,3.4nm,0.4s,SNR=7.9
EGUA S Sn 19 10 53.5 -6.8
comp=Z,3.8nm,0.2s,SNR=7.9
EGUA Guajares 9.71 97 P Pn 19 09 13.5 +2.0
comp=Z,3.4nm,0.4s,SNR=7.9
EGUA S Sn 19 10 53.5 -6.8
comp=Z,3.8nm,0.2s,SNR=7.9
EQUE Quentar 9.72 95 P Pn 19 09 13.3 +1.6
comp=Z,26nm,0.3s,SNR=24
EQUE S Sn 19 10 53.6 -7.1
comp=Z,12nm,0.3s,SNR=12
EQUE Quentar 9.72 95 P Pn 19 09 13.3 +1.6
comp=Z,26nm,0.3s,SNR=24
EQUE S Sn 19 10 53.6 -7.1
comp=Z,12nm,0.3s,SNR=12
OUK Oukaimeden 9.75 137 P Pn 19 09 14.0 +1.6
OUK S Sn 19 10 54.0 -7.8
OUK Oukaimeden 9.75 137 i P Pn 19 09 14.0 +1.6
KIB El Ksiba 9.85 125 P Pn 19 09 17.0 +3.4
KIB S Sn 19 10 57.0 -7.0
KIB El Ksiba 9.85 125 i P Pn 19 09 17.0 +3.4
TZC Tazercounte 9.86 128 P Pn 19 09 16.0 +2.3
TZC S Sn 19 10 56.0 -8.2
TZC Tazercounte 9.86 128 i P Pn 19 09 16.0 +2.3
EQES Quesada 9.90 91 P Pn 19 09 14.8 +0.5
comp=Z,5.9nm,0.4s,SNR=23
EQES S Sn 19 10 59.3 -5.9
comp=Z,17nm,0.3s,SNR=11
EQES Quesada 9.90 91 P Pn 19 09 14.8 +0.5
comp=Z,5.9nm,0.4s,SNR=23
EQES S Sn 19 10 59.3 -5.9
comp=Z,17nm,0.3s,SNR=11
GORA Gorafe 9.98 93 S Sn 19 10 59.8 -7.2
comp=Z,36nm,0.2s,SNR=7.9
GORA Gorafe 9.98 93 S Sn 19 10 59.8 -7.2
comp=Z,36nm,0.2s,SNR=7.9
EBER Berja 10.22 96 P Pn 19 09 22.2 +3.5
comp=Z,9.5nm,0.3s,SNR=23
EBER S Sn 19 11 05.5 -7.5
comp=Z,22nm,0.4s,SNR=6.7
EVIA Vianos 10.26 86 P Pn 19 09 19.8 +0.7
comp=Z,7.4nm,0.2s,SNR=8.8
EVIA S Sn 19 11 07.3 -6.6
comp=Z,142nm,0.6s,SNR=8.6
EVIA Vianos 10.26 86 P Pn 19 09 19.8 +0.7
comp=Z,7.4nm,0.2s,SNR=8.8
EVIA S Sn 19 11 07.3 -6.6
comp=Z,142nm,0.6s,SNR=8.6
EHUE Huescar 10.28 90 P Pn 19 09 20.0 +0.6
comp=Z,2.1nm,0.3s,SNR=7.9
EHUE S Sn 19 11 06.1 -8.2
comp=Z,7.3nm,0.4s,SNR=7.9
EHUE Huescar 10.28 90 P Pn 19 09 20.0 +0.6
comp=Z,2.1nm,0.3s,SNR=7.9
ELAN Lanestosa 10.30 60 P Pn 19 09 21.1 +1.7
comp=Z,18nm,0.3s,SNR=59
ELAN S Sn 19 11 07.5 -7.1
comp=Z,14nm,0.4s,SNR=6.7
ELAN Lanestosa 10.30 60 P Pn 19 09 21.1 +1.7
comp=Z,18nm,0.3s,SNR=59
ELAN S Sn 19 11 07.5 -7.1
comp=Z,14nm,0.4s,SNR=6.7
MDT Midelt 10.65 120 Pn Pn 19 09 25.3 +0.8
comp=Z,1.6nm,0.3s,baz=308,slow=15,SNR=14
MDT Sn Sn 19 11 13.7 -10
comp=Z,16nm,0.3s,baz=34,slow=16,SNR=12
MDT LR LR 19 12 55.2
comp=Z,183nm,21.4s,baz=333,slow=34
ETOR Torete 10.67 74 P Pn 19 09 25.0 +0.3
comp=Z,62nm,0.4s,SNR=92
ETOR S Sn 19 11 15.6 -8.3
comp=Z,25nm,0.3s,SNR=7.9
ETOR Torete 10.67 74 P Pn 19 09 25.0 +0.3
comp=Z,62nm,0.4s,SNR=92
ETOR S Sn 19 11 15.6 -8.3
comp=Z,25nm,0.3s,SNR=7.9
ENIJ Nijar 10.74 95 P Pn 19 09 26.9 +1.3
comp=Z,14nm,0.3s,SNR=7.9
ENIJ S Sn 19 11 18.6 -6.9
comp=Z,24nm,0.5s,SNR=7.9
ENIJ Nijar 10.74 95 P Pn 19 09 26.9 +1.3
comp=Z,14nm,0.3s,SNR=7.9
ENIJ S Sn 19 11 18.6 -6.9
comp=Z,24nm,0.5s,SNR=7.9
ETOB Tobarra 11.00 86 P Pn 19 09 29.8 +0.5
comp=Z,9.9nm,0.3s,SNR=26
ETOB S Sn 19 11 25.9 -6.2
comp=Z,11nm,0.4s,SNR=4.9
ETOB Tobarra 11.00 86 P Pn 19 09 29.8 +0.5
comp=Z,9.9nm,0.3s,SNR=26
ETOB S Sn 19 11 25.9 -6.2
comp=Z,11nm,0.4s,SNR=4.9
ZFT Errachidia 11.30 122 P Pn 19 09 37.0 +3.5
ZFT S Sn 19 11 33.0 -6.6
ZFT Errachidia 11.30 122 i P Pn 19 09 37.0 +3.5
EARA Aranguren 11.43 64 P Pn 19 09 35.8 +0.8
comp=Z,13nm,0.2s,SNR=6.4
EARA S Sn 19 11 35.3 -7.0
comp=Z,10nm,0.2s,SNR=4.9
EARA Aranguren 11.43 64 P Pn 19 09 35.8 +0.8
comp=Z,13nm,0.2s,SNR=6.4
EARA S Sn 19 11 35.3 -7.0
comp=Z,10nm,0.2s,SNR=4.9
IUNC Unciti 11.48 64 P Pn 19 09 37.6 +1.8
comp=Z,16nm,0.2s,SNR=7.9
IUNC S Sn 19 11 36.3 -7.4
comp=Z,5.5nm,0.3s,SNR=7.9
IUNC Unciti 11.48 64 P Pn 19 09 37.6 +1.8
comp=Z,16nm,0.2s,SNR=7.9
IUNC S Sn 19 11 36.3 -7.4
comp=Z,5.5nm,0.3s,SNR=7.9
IUSE Utxeti 11.50 64 P Pn 19 09 37.9 +1.9
comp=Z,7.8nm,0.3s,SNR=7.9
IUSE S Sn 19 11 36.6 -7.6
comp=Z,7.3nm,0.2s,SNR=7.9
IUSE Utxeti 11.50 64 P Pn 19 09 37.9 +1.9
comp=Z,7.8nm,0.3s,SNR=7.9
IUSE S Sn 19 11 36.6 -7.6
comp=Z,7.3nm,0.2s,SNR=7.9
YNAR Nardues-Alduna 11.54 65 P Pn 19 09 38.2 +1.6
comp=Z,3.2nm,0.2s,SNR=7.9
YNAR S Sn 19 11 37.7 -7.4
comp=Z,5.0nm,0.2s,SNR=7.9
YNAR Nardues-Alduna 11.54 65 P Pn 19 09 38.2 +1.6
comp=Z,3.2nm,0.2s,SNR=7.9
YNAR S Sn 19 11 37.7 -7.4
comp=Z,5.0nm,0.2s,SNR=7.9
ELIZ Elizondo 11.58 62 P Pn 19 09 38.9 +1.8
comp=Z,4.8nm,0.3s,SNR=37
ELIZ S Sn 19 11 38.2 -7.9
comp=Z,2.2nm,0.2s,SNR=9.6
ELIZ Elizondo 11.58 62 P Pn 19 09 38.9 +1.8
comp=Z,4.8nm,0.3s,SNR=37
ELIZ S Sn 19 11 38.2 -7.9
comp=Z,2.2nm,0.2s,SNR=9.6
IPRE Itoiz 11.59 64 P Pn 19 09 38.4 +1.1
comp=Z,1.7nm,0.1s,SNR=4.0
IPRE S Sn 19 11 39.2 -7.3
comp=Z,3.6nm,0.1s,SNR=7.9
IPRE Itoiz 11.59 64 P Pn 19 09 38.4 +1.1
comp=Z,1.7nm,0.1s,SNR=4.0
IPRE S Sn 19 11 39.2 -7.3
comp=Z,3.6nm,0.1s,SNR=7.9
EALK Alkurruntz 11.61 62 P Pn 19 09 39.9 +2.4
comp=Z,2.0nm,0.2s,SNR=15
EALK S Sn 19 11 39.5 -7.3
comp=Z,16nm,0.3s,SNR=7.0
EALK Alkurruntz 11.61 62 P Pn 19 09 39.9 +2.4
comp=Z,2.0nm,0.2s,SNR=15
EALK S Sn 19 11 39.5 -7.3
comp=Z,16nm,0.3s,SNR=7.0
IEPA Eparoz 11.65 65 P Pn 19 09 39.6 +1.5
comp=Z,20nm,0.3s,SNR=7.9
IEPA S Sn 19 11 40.3 -7.5
comp=Z,9.4nm,0.4s,SNR=7.9
IEPA Eparoz 11.65 65 P Pn 19 09 39.6 +1.5
comp=Z,20nm,0.3s,SNR=7.9
IEPA S Sn 19 11 40.3 -7.5
comp=Z,9.4nm,0.4s,SNR=7.9
IELO Elcoad 11.69 64 P Pn 19 09 40.1 +1.5
comp=Z,4.4nm,0.2s,SNR=7.9
IELO S Sn 19 11 41.0 -7.8
comp=Z,8.4nm,0.3s,SNR=7.9
IELO Elcoad 11.69 64 P Pn 19 09 40.1 +1.5
comp=Z,4.4nm,0.2s,SNR=7.9
IELO S Sn 19 11 41.0 -7.8
comp=Z,8.4nm,0.3s,SNR=7.9
SJPF Ste Jean 11.78 63 ePn Pn 19 09 40.6 +0.8
SJPF eSn Sn 19 11 31.1 -20
comp=Z,98nm,0.5s
SJPF Ste Jean 11.78 63 eP Pn 19 09 40.6 +0.8
SJPF Ste Jean 11.78 63 P Pn 19 09 40.6 +0.8
SJPF S Sn 19 11 31.1 -20
comp=Z,49nm,0.5s
SJPF Ste Jean 11.78 63 ePn Pn 19 09 40.6 +0.8
SJPF eSn Sn 19 11 31.1 -20
SJPF Ste Jean 11.78 63 P Pn 19 09 40.6 +0.8
OSSF Osses 11.79 62 eP Pn 19 09 41.8 +1.8
OSSF Osses 11.79 62 eP Pn 19 09 41.8 +1.8
EMOS Mosqueruela 11.83 77 P Pn 19 09 42.1 +1.5
comp=Z,27nm,0.4s,SNR=51
EMOS S Sn 19 11 43.9 -8.5
comp=Z,21nm,0.4s,SNR=11
EMOS Mosqueruela 11.83 77 P Pn 19 09 42.1 +1.5
comp=Z,27nm,0.4s,SNR=51
LARF Larrau 11.92 64 eP Pn 19 09 43.6 +1.9
LARF Larrau 11.92 64 eP Pn 19 09 43.6 +1.9
EBEN Beniarda 12.03 85 P Pn 19 09 44.1 +0.8
comp=Z,1.0nm,0.4s,SNR=6.0
EBEN S Sn 19 11 50.7 -6.5
comp=Z,0.7nm,0.2s,SNR=5.6
EBEN Beniarda 12.03 85 P Pn 19 09 44.1 +0.8
comp=Z,1.0nm,0.4s,SNR=6.0
EBEN S Sn 19 11 50.7 -6.5
comp=Z,0.7nm,0.2s,SNR=5.6
ATE Arette 12.13 64 P Pn 19 09 46.2 +1.5
comp=Z,4.4nm,0.3s,SNR=7.9
ATE S Sn 19 11 51.5 -8.2
comp=Z,24nm,0.6s,SNR=7.9
ATE Arette 12.13 64 eP Pn 19 09 46.2 +1.5
ATE Arette 12.13 64 P Pn 19 09 46.2 +1.5
comp=Z,4.4nm,0.3s,SNR=7.9
ETSF Etsaut 12.18 65 ePn Pn 19 09 46.5 +1.1
ETSF eSn Sn 19 11 40.2 -21
comp=Z,78nm,0.5s
ETSF Etsaut 12.18 65 eP Pn 19 09 46.5 +1.1
ETSF Etsaut 12.18 65 P Pn 19 09 46.5 +1.1
ETSF S Sn 19 11 40.2 -21
comp=Z,39nm,0.5s
ETSF Etsaut 12.18 65 ePn Pn 19 09 46.5 +1.1
ETSF eSn Sn 19 11 40.2 -21
ETSF Etsaut 12.18 65 P Pn 19 09 46.5 +1.1
REYF Montagne du Re 12.35 64 eP Pn 19 09 49.5 +1.9
REYF Montagne du Re 12.35 64 eP Pn 19 09 49.5 +1.9
ERTA Horta de San J 12.48 74 P Pn 19 09 49.3 -0.2
comp=Z,2.3nm,0.5s,SNR=11
ERTA S Sn 19 12 00.6 -7.7
comp=Z,12nm,0.4s,SNR=10
ERTA Horta de San J 12.48 74 P Pn 19 09 49.3 -0.2
comp=Z,2.3nm,0.5s,SNR=11
ERTA S Sn 19 12 00.6 -7.7
comp=Z,12nm,0.4s,SNR=10
VIEF Viey 12.59 65 eP Pn 19 09 52.6 +1.6
VIEF Viey 12.59 65 eP Pn 19 09 52.6 +1.6
EBR Ebro Roquetas 12.59 75 S Sn 19 12 02.7 -8.1
comp=Z,272nm,0.9s,SNR=7.9
EBR Ebro Roquetas 12.59 75 S Sn 19 12 02.7 -8.1
comp=Z,272nm,0.9s,SNR=7.9
EPF Esparros 12.86 65 ePn Pn 19 09 54.9 +0.4
EPF eSn Sn 19 11 56.2 -21
comp=Z,95nm,0.7s
EPF Esparros 12.86 65 eP Pn 19 09 54.9 +0.4
EPF Esparros 12.86 65 P Pn 19 09 54.9 +0.4
EPF S Sn 19 11 56.2 -21
comp=Z,48nm,0.7s
EPF Esparros 12.86 65 ePn Pn 19 09 54.9 +0.4
EPF eSn Sn 19 11 56.2 -21
EPF Esparros 12.86 65 P Pn 19 09 54.9 +0.4
QUIF Quistinic 12.96 40 ePn Pn 19 09 55.0 -0.9
QUIF eSn Sn 19 12 02.3 -18
comp=Z,127nm,0.6s
QUIF Quistinic 12.96 40 eP Pn 19 09 55.0 -0.9
QUIF Quistinic 12.96 40 P Pn 19 09 55.0 -0.9
QUIF S Sn 19 12 02.3 -18
comp=Z,63nm,0.6s
QUIF Quistinic 12.96 40 ePn Pn 19 09 55.0 -0.9
QUIF eSn Sn 19 12 02.3 -18
QUIF Quistinic 12.96 40 P Pn 19 09 55.0 -0.9
MELF Melles 13.12 66 eP Pn 19 10 00.7 +2.6
MELF Melles 13.12 66 eP Pn 19 10 00.7 +2.6
ROSF Rostrenen 13.19 39 ePn Pn 19 09 57.7 -1.3
ROSF eSn Sn 19 12 08.6 -17
comp=Z,76nm,0.4s
ROSF Rostrenen 13.19 39 eP Pn 19 09 57.7 -1.3
ROSF Rostrenen 13.19 39 P Pn 19 09 57.7 -1.3
ROSF S Sn 19 12 08.6 -17
comp=Z,38nm,0.4s
ROSF Rostrenen 13.19 39 ePn Pn 19 09 57.7 -1.3
ROSF eSn Sn 19 12 08.6 -17
EIBI Ibiza 13.23 83 S Sn 19 12 19.0 -7.5
comp=Z,1.8nm,0.3s,SNR=6.0
CSOR Sort 13.28 68 P Pn 19 10 02.6 +2.2
comp=Z,6.8nm,0.4s,SNR=25
CSOR S Sn 19 12 19.5 -8.3
comp=Z,6.5nm,0.4s,SNR=5.6
CSOR Sort 13.28 68 P Pn 19 10 02.6 +2.2
comp=Z,6.8nm,0.4s,SNR=25
EMIR Miracle 13.49 70 P Pn 19 10 04.9 +1.6
comp=Z,8.6nm,0.3s,SNR=12
EMIR S Sn 19 12 24.1 -8.8
comp=Z,3.0nm,0.4s,SNR=7.9
EMIR Miracle 13.49 70 P Pn 19 10 04.9 +1.6
comp=Z,8.6nm,0.3s,SNR=12
SGMF Saint Gilles 13.49 40 ePn Pn 19 10 01.9 -1.2
SGMF eSn Sn 19 12 15.1 -18
comp=Z,50nm,0.4s
SGMF Saint Gilles 13.49 40 eP Pn 19 10 01.9 -1.2
SGMF Saint Gilles 13.49 40 P Pn 19 10 01.9 -1.2
SGMF S Sn 19 12 15.1 -18
comp=Z,25nm,0.4s
SGMF Saint Gilles 13.49 40 ePn Pn 19 10 01.9 -1.2
SGMF eSn Sn 19 12 15.1 -18
LFF La Frestale 13.72 57 ePn Pn 19 10 05.6 -0.7
LFF eSn Sn 19 12 17.8 -21
comp=Z,51nm,0.8s
LFF La Frestale 13.72 57 eP Pn 19 10 05.6 -0.7
LFF La Frestale 13.72 57 P Pn 19 10 05.6 -0.7
LFF S Sn 19 12 17.8 -21
comp=Z,26nm,0.8s
LFF La Frestale 13.72 57 ePn Pn 19 10 05.6 -0.7
LFF eSn Sn 19 12 17.8 -21
LFF La Frestale 13.72 57 ePn Pn 19 10 05.6 -0.7
VAL Valentia 13.83 14 eP Pn 19 10 06.4 -1.3
MFF Saint Martin d 13.88 50 ePn Pn 19 10 06.2 -2.3
MFF eSn Sn 19 12 22.6 -20
comp=Z,38nm,0.4s
MFF Saint Martin d 13.88 50 eP Pn 19 10 06.2 -2.3
MFF Saint Martin d 13.88 50 P Pn 19 10 06.2 -2.3
MFF S Sn 19 12 22.6 -20
comp=Z,19nm,0.4s
MFF Saint Martin d 13.88 50 ePn Pn 19 10 06.2 -2.3
MFF eSn Sn 19 12 22.6 -20
CLLI Llivia 13.91 68 P Pn 19 10 11.0 +2.0
comp=Z,3.2nm,0.5s,SNR=26
CLLI S Sn 19 12 33.1 -10
comp=Z,0.4nm,0.2s,SNR=7.9
CFON Fontmartina 14.15 72 P Pn 19 10 12.4 +0.2
comp=Z,6.3nm,0.3s,SNR=16
CFON S Sn 19 12 38.5 -10
comp=Z,2.3nm,0.2s,SNR=7.9
MTLF Montolieu 14.26 65 ePn Pn 19 10 13.2 -0.5
MTLF eSn Sn 19 12 29.8 -22
comp=Z,36nm,0.7s
MTLF Montolieu 14.26 65 eP Pn 19 10 13.2 -0.5
MTLF Montolieu 14.26 65 P Pn 19 10 13.2 -0.5
MTLF S Sn 19 12 29.8 -22
comp=Z,18nm,0.7s
MTLF Montolieu 14.26 65 ePn Pn 19 10 13.2 -0.5
MTLF eSn Sn 19 12 29.8 -22
MTLF Montolieu 14.26 65 ePn Pn 19 10 13.2 -0.5
JSA Saint Aubin 14.30 38 eP Pn 19 10 14.0 -0.2
JSA AMB AMB 19 10 19.7
comp=Z,82nm,3.5s
RJF Les Rejaudoux 14.37 57 ePn Pn 19 10 13.1 -2.1
RJF eSn Sn 19 12 33.4 -21
comp=Z,30nm,0.4s
RJF Les Rejaudoux 14.37 57 eP Pn 19 10 13.1 -2.1
RJF Les Rejaudoux 14.37 57 P Pn 19 10 13.1 -2.1
RJF S Sn 19 12 33.4 -21
comp=Z,15nm,0.4s
RJF Les Rejaudoux 14.37 57 ePn Pn 19 10 13.1 -2.1
RJF eSn Sn 19 12 33.4 -21
RJF Les Rejaudoux 14.37 57 ePn Pn 19 10 13.1 -2.1
DYA Yadsworthy 14.43 31 eP Pn 19 10 16.6 +0.6
GRR Gorron 14.46 43 ePn Pn 19 10 14.5 -1.9
GRR eSn Sn 19 12 37.8 -19
comp=Z,38nm,0.4s
GRR Gorron 14.46 43 eP Pn 19 10 14.5 -1.9
GRR Gorron 14.46 43 P Pn 19 10 14.5 -1.9
GRR S Sn 19 12 37.8 -19
comp=Z,19nm,0.4s
GRR Gorron 14.46 43 ePn Pn 19 10 14.5 -1.9
GRR eSn Sn 19 12 37.8 -19
EJON La Jonquera 14.57 69 S Sn 19 12 49.4 -10
comp=Z,1.2nm,0.4s,SNR=7.9
SJAF Saint Jean de 14.57 69 S Sn 19 12 50.4 -8.8
comp=Z,2.3nm,0.4s,SNR=7.9
CAF Calviac 14.60 59 ePn Pn 19 10 15.2 -3.2
CAF eSn Sn 19 12 38.6 -21
comp=Z,40nm,0.7s
CAF Calviac 14.60 59 eP Pn 19 10 15.2 -3.2
CAF Calviac 14.60 59 P Pn 19 10 15.2 -3.2
CAF S Sn 19 12 38.6 -21
comp=Z,20nm,0.7s
CAF Calviac 14.60 59 ePn Pn 19 10 15.2 -3.2
CAF eSn Sn 19 12 38.6 -21
FLN La Foliniere 14.89 42 ePn Pn 19 10 21.3 -0.9
FLN eSn Sn 19 12 47.8 -19
comp=Z,38nm,0.4s
FLN La Foliniere 14.89 42 eP Pn 19 10 21.3 -0.9
FLN La Foliniere 14.89 42 P Pn 19 10 21.3 -0.9
FLN S Sn 19 12 47.8 -19
comp=Z,19nm,0.4s
FLN La Foliniere 14.89 42 ePn Pn 19 10 21.3 -0.9
FLN eSn Sn 19 12 47.8 -19
FLN La Foliniere 14.89 42 ePn Pn 19 10 21.3 -0.9
HEX Exmoor 14.97 30 eP Pn 19 10 23.0 -0.3
LDF La Druitiere 14.98 43 ePn Pn 19 10 22.1 -1.3
LDF eSn Sn 19 12 49.9 -19
comp=Z,59nm,0.6s
LDF La Druitiere 14.98 43 eP Pn 19 10 22.1 -1.3
LDF La Druitiere 14.98 43 ePn Pn 19 10 22.1 -1.3
LDF eSn Sn 19 12 49.9 -19
LDF La Druitiere 14.98 43 ePn Pn 19 10 22.1 -1.3
TCF Toulx Ste Croi 15.20 54 ePn Pn 19 10 24.4 -2.0
TCF eSn Sn 19 12 53.3 -21
comp=Z,27nm,0.4s
TCF Toulx Ste Croi 15.20 54 eP Pn 19 10 24.4 -2.0
TCF Toulx Ste Croi 15.20 54 P Pn 19 10 24.4 -2.0
TCF S Sn 19 12 53.3 -21
comp=Z,14nm,0.4s
TCF Toulx Ste Croi 15.20 54 ePn Pn 19 10 24.4 -2.0
TCF eSn Sn 19 12 53.3 -21
TCF Toulx Ste Croi 15.20 54 ePn Pn 19 10 24.4 -2.0
LBL Lubilhac 15.49 59 eP Pn 19 10 29.4 -0.9
PYM Petit Puy Mans 15.51 57 eP Pn 19 10 30.6 +0.1
LASF Ste Croix 15.59 63 ePn Pn 19 10 30.4 -1.1
LASF eSn Sn 19 13 01.7 -22
comp=Z,27nm,0.6s
LASF Ste Croix 15.59 63 P Pn 19 10 30.4 -1.1
LASF S Sn 19 13 01.7 -22
comp=Z,14nm,0.6s
LASF Ste Croix 15.59 63 ePn Pn 19 10 30.4 -1.1
LASF eSn Sn 19 13 01.7 -22
LASF Ste Croix 15.59 63 ePn Pn 19 10 30.4 -1.1
AGO Saint Agoulin 15.70 56 eP Pn 19 10 31.2 -1.7
LPW Lampeter 15.71 27 eP Pn 19 10 32.8 -0.2
BGF Bois d'Agland 15.71 54 ePn Pn 19 10 32.1 -1.0
BGF eSn Sn 19 13 05.8 -21
comp=Z,41nm,0.4s
BGF Bois d'Agland 15.71 54 eP Pn 19 10 32.1 -1.0
BGF Bois d'Agland 15.71 54 P Pn 19 10 32.1 -1.0
BGF S Sn 19 13 05.8 -21
comp=Z,21nm,0.4s
BGF Bois d'Agland 15.71 54 ePn Pn 19 10 32.1 -1.0
BGF eSn Sn 19 13 05.8 -21
BGF Bois d'Agland 15.71 54 ePn Pn 19 10 32.1 -1.0
HYF Humbligny 15.88 51 ePn Pn 19 10 35.0 -0.3

HYF				eSn	Sn	19 13 10.4	-21
HYF	Humbligny	15.88	51	P	Pn	19 10 35.0	-0.3
HYF				S	Sn	19 13 10.4	-21
HYF	Humbligny	15.88	51	ePn	Pn	19 10 35.0	-0.3
HYF				eSn	Sn	19 13 10.4	-21
HYF	Humbligny	15.88	51	ePn	Pn	19 10 35.0	-0.3
MONM	Monmouth	15.96	30	ePn	Pn	19 10 37.0	+0.7
CLF	Chambon-Foret	16.01	48	eP	P	19 10 42.7	+2.4
CLF	Chambon-Foret	16.01	48	eP	P	19 10 42.7	+2.4
MCH1	Michaelchurch	16.01	29	eP	Pn	19 10 37.6	+0.8
MCH1				AMB	AMB	19 10 39.4	
	comp=Z,47nm,1.3s						
AVF	Avril sur Loir	16.12	54	ePn	Pn	19 10 37.7	-0.6
AVF				eSn	Sn	19 13 15.5	-21
	comp=Z,34nm,0.6s						
AVF	Avril sur Loir	16.12	54	eP	Pn	19 10 37.7	-0.6
AVF	Avril sur Loir	16.12	54	P	Pn	19 10 37.7	-0.6
AVF				S	Sn	19 13 15.5	-21
	comp=Z,17nm,0.6s						
AVF	Avril sur Loir	16.12	54	ePn	Pn	19 10 37.7	-0.6
AVF				eSn	Sn	19 13 15.5	-21
AVF	Avril sur Loir	16.12	54	ePn	Pn	19 10 37.7	-0.6
STRD	Stroud	16.17	31	eP	Pn	19 10 39.9	+1.0
STRD				AMB	AMB	19 10 42.0	
	comp=Z,69nm,1.4s						
WOL	Wolverton	16.23	34	eP	Pn	19 10 41.0	+1.4
WOL	Wolverton	16.23	34	eP	Pn	19 10 41.0	+1.4
YRE	Yr Eifl	16.31	25	eP	Pn	19 10 42.3	+1.6
SSF	Saint Saulge	16.33	53	ePn	Pn	19 10 39.8	-1.2
SSF				eSn	Sn	19 13 21.0	-21
	comp=Z,32nm,0.8s						
SSF	Saint Saulge	16.33	53	eP	Pn	19 10 39.8	-1.2
SSF	Saint Saulge	16.33	53	P	Pn	19 10 39.8	-1.2
SSF				S	Sn	19 13 21.0	-21
	comp=Z,16nm,0.8s						
SSF	Saint Saulge	16.33	53	ePn	Pn	19 10 39.8	-1.2
SSF				eSn	Sn	19 13 21.0	-21
SSF	Saint Saulge	16.33	53	ePn	Pn	19 10 39.8	-1.2
VIVF	Saint-Julien-l	16.35	61	ePn	Pn	19 10 41.1	-0.2
VIVF				eSn	Sn	19 13 20.3	-22
	comp=Z,9.7nm,0.4s						
VIVF	Saint-Julien-l	16.35	61	eP	Pn	19 10 41.1	-0.2
VIVF	Saint-Julien-l	16.35	61	P	Pn	19 10 41.1	-0.2
VIVF				S	Sn	19 13 20.3	-22
	comp=Z,4.8nm,0.4s						
VIVF	Saint-Julien-l	16.35	61	ePn	Pn	19 10 41.1	-0.2
VIVF				eSn	Sn	19 13 20.3	-22
VIVF	Saint-Julien-l	16.35	61	ePn	Pn	19 10 41.1	-0.2
SMF	Signal de Mont	16.38	54	ePn	Pn	19 10 41.0	-0.6
SMF				eSn	Sn	19 13 21.6	-21
	comp=Z,40nm,0.9s						
SMF	Signal de Mont	16.38	54	eP	Pn	19 10 41.0	-0.6
SMF	Signal de Mont	16.38	54	P	Pn	19 10 41.0	-0.6
SMF				S	Sn	19 13 21.6	-21
	comp=Z,20nm,0.9s						
SMF	Signal de Mont	16.38	54	ePn	Pn	19 10 41.0	-0.6
SMF				eSn	Sn	19 13 21.6	-21
SMF	Signal de Mont	16.38	54	ePn	Pn	19 10 41.0	-0.6
SSB	Saint Sauveur	16.38	60	ePn	Pn	19 10 42.8	+1.1
SSB				pmax	pmax		
	comp=Z,14nm,0.6s						
SSB	Saint Sauveur	16.38	60	eP	Pn	19 10 42.8	+1.1
	comp=Z,14nm,0.6s						
SSB	Saint Sauveur	16.38	60	eP	Pn	19 10 42.8	+1.1
	comp=Z,14nm,0.6s						
HLM1	Long Mynd	16.47	28	eP	Pn	19 10 43.4	+0.7
HLM1				AMB	AMB	19 10 45.0	
	comp=Z,71nm,2.4s						
YRC	Rhoscolyn	16.49	24	eP	P	19 10 44.9	-0.6
YRC	Rhoscolyn	16.49	24	eP	P	19 10 44.9	-0.6
WLF1	Llynfaes	16.58	24	eP	P	19 10 45.6	-0.9
WLF1				AMB	AMB	19 10 48.5	
	comp=Z,39nm,1.6s						
WLF1	Llynfaes	16.58	24	eP	P	19 10 45.6	-0.9
LOR	Lormes	16.63	52	ePn	Pn	19 10 43.9	-1.0
LOR				eSn	Sn	19 13 27.8	-21
	comp=Z,25nm,0.6s						
LOR	Lormes	16.63	52	eP	Pn	19 10 43.9	-1.0
LOR	Lormes	16.63	52	P	Pn	19 10 43.9	-1.0
LOR				S	Sn	19 13 27.8	-21
	comp=Z,12nm,0.6s						
LOR	Lormes	16.63	52	ePn	Pn	19 10 43.9	-1.0
LOR				eSn	Sn	19 13 27.8	-21
LOR	Lormes	16.63	52	ePn	Pn	19 10 43.9	-1.0
FOEL	Foel Wylfa	16.65	27	eP	Pn	19 10 46.3	+1.3
FOEL	Foel Wylfa	16.65	27	eP	Pn	19 10 46.3	+1.3
WME	Myndd Eilian	16.70	24	eP	P	19 10 47.2	-0.6
WME	Myndd Eilian	16.70	24	eP	P	19 10 47.2	-0.6
WPM1	Penmaenmawr	16.71	25	eP	Pn	19 10 47.1	+1.3
WPM1	Penmaenmawr	16.71	25	eP	Pn	19 10 47.1	+1.3
SMRF	Simiane la Rot	16.78	65	ePn	Pn	19 10 45.5	-1.2
SMRF	Simiane la Rot	16.78	65	P	Pn	19 10 45.5	-1.2
SMRF	Simiane la Rot	16.78	65	ePn	Pn	19 10 45.5	-1.2
SMRF	Simiane la Rot	16.78	65	ePn	Pn	19 10 45.5	-1.2
ORIF	Oris-en-Rattie	17.20	62	ePn	Pn	19 10 51.4	-0.7
ORIF	Oris-en-Rattie	17.20	62	eP	Pn	19 10 51.4	-0.7
ORIF	Oris-en-Rattie	17.20	62	P	Pn	19 10 51.4	-0.7
ORIF	Oris-en-Rattie	17.20	62	ePn	Pn	19 10 51.4	-0.7
ORIF	Oris-en-Rattie	17.20	62	P	Pn	19 10 51.4	-0.7
LMR	La Mourre	17.34	67	ePn	Pn	19 10 52.4	-1.3
LMR	La Mourre	17.34	67	eP	Pn	19 10 52.4	-1.3
LMR	La Mourre	17.34	67	eP	Pn	19 10 52.4	-1.3
LMR	La Mourre	17.34	67	ePn	Pn	19 10 52.4	-1.3
LMR	La Mourre	17.34	67	P	Pn	19 10 52.4	-1.3
FRF	La Foret Royal	17.47	67	ePn	Pn	19 10 54.3	-1.1
FRF	La Foret Royal	17.47	67	eP	Pn	19 10 54.3	-1.1
FRF	La Foret Royal	17.47	67	P	Pn	19 10 54.3	-1.1
FRF	La Foret Royal	17.47	67	ePn	Pn	19 10 54.3	-1.1
FRF	La Foret Royal	17.47	67	P	Pn	19 10 54.3	-1.1
KBI1	Birley Grange	17.55	29	eP	P	19 10 58.1	+0.7
KBI1	Birley Grange	17.55	29	eP	P	19 10 58.1	+0.7
LHO	Holmfirth	17.66	28	eP	P	19 10 59.5	+0.9
LHO	Holmfirth	17.66	28	eP	P	19 10 59.5	+0.9
SFTF	Sexfontaines	17.75	51	ePn	Pn	19 10 58.7	-0.1
SFTF				eSn	Sn	19 13 55.1	-21
	comp=Z,20nm,0.5s						
SFTF	Sexfontaines	17.75	51	P	Pn	19 10 58.7	-0.1
SFTF				S	Sn	19 13 55.1	-21
	comp=Z,20nm,0.5s						
SFTF	Sexfontaines	17.75	51	ePn	Pn	19 10 58.7	-0.1
SFTF				eSn	Sn	19 13 55.1	-21
SFTF	Sexfontaines	17.75	51	P	Pn	19 10 58.7	-0.1
MBDF	Montbardon	17.77	63	eP	Pn	19 10 59.4	+0.1
MBDF	Montbardon	17.77	63	ePn	Pn	19 10 59.4	+0.1
MBDF	Montbardon	17.77	63	P	Pn	19 10 59.4	+0.1
MBDF	Montbardon	17.77	63	ePn	Pn	19 10 59.4	+0.1
MBDF	Montbardon	17.77	63	P	Pn	19 10 59.4	+0.1
BNI	Bardonecchia	17.78	62	eP	P	19 11 03.9	+3.8
BNI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BNI	Bardonecchia	17.78	62	eP	P	19 11 03.9	+3.8
	comp=Z,10nm,1.0s						
BNI	Bardonecchia	17.78	62	eP	P	19 11 03.8	+3.7
	comp=Z,10nm,1.0s						
CABF	La Chapelle	17.81	56	ePn	Pn	19 10 59.2	-0.5
CABF				eSn	Sn	19 13 56.1	-22
	comp=Z,13nm,0.8s						
CABF	La Chapelle	17.81	56	eP	Pn	19 10 59.2	-0.5
CABF	La Chapelle	17.81	56	P	Pn	19 10 59.2	-0.5
CABF				S	Sn	19 13 56.1	-22
	comp=Z,6.6nm,0.8s						
CABF	La Chapelle	17.81	56	ePn	Pn	19 10 59.2	-0.5
CABF				eSn	Sn	19 13 56.1	-22
CABF	La Chapelle	17.81	56	P	Pn	19 10 59.2	-0.5
MEZF	Maizieres J'vi	17.88	50	ePn	Pn	19 11 00.4	0.0
MEZF				eSn	Sn	19 13 58.0	-21
	comp=Z,18nm,0.5s						
MEZF	Maizieres J'vi	17.88	50	P	Pn	19 11 00.4	0.0
MEZF				S	Sn	19 13 58.0	-21
	comp=Z,18nm,0.5s						
MEZF	Maizieres J'vi	17.88	50	ePn	Pn	19 11 00.4	0.0
MEZF				eSn	Sn	19 13 58.0	-21
MEZF	Maizieres J'vi	17.88	50	P	Pn	19 11 00.4	0.0
LPL	La Plagne	17.93	60	ePn	Pn	19 11 01.7	+0.4
LPL	La Plagne	17.93	60	eP	Pn	19 11 01.7	+0.4
LPL	La Plagne	17.93	60	P	Pn	19 11 01.7	+0.4
LPL	La Plagne	17.93	60	ePn	Pn	19 11 01.7	+0.4
LPL	La Plagne	17.93	60	P	Pn	19 11 01.7	+0.4
LPG	La Plagne	17.94	60	ePn	Pn	19 11 01.3	-0.1
LPG	La Plagne	17.94	60	eP	Pn	19 11 01.3	-0.1
LPG	La Plagne	17.94	60	eP	Pn	19 11 01.3	-0.1
LPG	La Plagne	17.94	60	ePn	Pn	19 11 01.3	-0.1
LPG	La Plagne	17.94	60	P	Pn	19 11 01.3	-0.1
HPK	Haverah Park	18.07	27	eP	P	19 11 04.9	+1.9
HPK	Haverah Park	18.07	27	eP	P	19 11 04.9	+1.9
SBF	Sospel	18.08	66	ePn	Pn	19 11 02.6	-0.4
SBF	Sospel	18.08	66	eP	Pn	19 11 02.6	-0.4
SBF	Sospel	18.08	66	P	Pn	19 11 02.6	-0.4
SBF	Sospel	18.08	66	ePn	Pn	19 11 02.6	-0.4
SBF	Sospel	18.08	66	P	Pn	19 11 02.6	-0.4
BAIF	Baives	18.15	45	ePn	Pn	19 11 03.6	-0.1
BAIF				eSn	Sn	19 14 05.6	-20
	comp=Z,15nm,0.5s						
BAIF	Baives	18.15	45	eP	Pn	19 11 03.6	-0.1
BAIF	Baives	18.15	45	P	Pn	19 11 03.6	-0.1
BAIF				S	Sn	19 14 05.6	-20
	comp=Z,7.3nm,0.5s						
BAIF	Baives	18.15	45	ePn	Pn	19 11 03.6	-0.1
BAIF				eSn	Sn	19 14 05.6	-20
BAIF	Baives	18.15	45	P	Pn	19 11 03.6	-0.1
PAGF	Fort de Pagny	18.31	50	ePn	P	19 11 07.0	+1.2
PAGF				eSn	Sn	19 14 08.5	-21
	comp=Z,5.1nm,0.6s						
PAGF	Fort de Pagny	18.31	50	ePn	P	19 11 07.0	+1.2
PAGF				eSn	Sn	19 14 08.5	-21
PAGF	Fort de Pagny	18.31	50	ePn	P	19 11 07.0	+1.2
THEF	They Montfort	18.34	51	eP	P	19 11 07.4	+1.4
THEF	They Montfort	18.34	51	eP	P	19 11 07.4	+1.4
DOU	Dourbes	18.38	45	P	Pn	19 11 07.8	+1.3
	comp=Z,17nm,1.4s						
SNF	Seneffe	18.43	43	P	P	19 11 07.3	+0.3
HAU	Haudompre	18.47	52	ePn	Pn	19 11 08.5	+0.8
HAU				eSn	Sn	19 14 12.0	-22
	comp=Z,21nm,0.7s						
HAU	Haudompre	18.47	52	eP	Pn	19 11 08.5	+0.8
HAU	Haudompre	18.47	52	P	Pn	19 11 08.5	+0.8
HAU				S	Sn	19 14 12.0	-22
	comp=Z,10nm,0.7s						
HAU	Haudompre	18.47	52	ePn	Pn	19 11 08.5	+0.8
HAU				eSn	Sn	19 14 12.0	-22
HAU	Haudompre	18.47	52	P	Pn	19 11 08.5	+0.8
GIVF	Givet	18.51	45	ePn	Pn	19 11 09.0	+0.9
GIVF				eSn	Sn	19 14 14.1	-20
	comp=Z,34nm,0.5s						
GIVF	Givet	18.51	45	eP	Pn	19 11 09.0	+0.9
GIVF	Givet	18.51	45	P	Pn	19 11 09.0	+0.9
GIVF				S	Sn	19 14 14.1	-20
	comp=Z,17nm,0.5s						
GIVF	Givet	18.51	45	ePn	Pn	19 11 09.0	+0.9
GIVF				eSn	Sn	19 14 14.1	-20
GIVF	Givet	18.51	45	P	Pn	19 11 09.0	+0.9
ESK	Eskdalemuir	18.67	23	eP	Pn	19 11 11.2	+1.2
ESK				AMB	AMB	19 11 13.8	
	comp=Z,86nm,3.7s						
ESK	Eskdalemuir	18.67	23	eP	Pn	19 11 11.2	+1.2
EKA	Eskdalemuir Ar	18.70	23	P	Pn	19 11 11.9	+1.5
	baz=208,slow=12,SNR=21						
EKA				S	Sn	19 14 24.1	-15
	baz=214,slow=23,SNR=6.7						
HINF	Hinteralfeld	18.72	53	ePn	Pn	19 11 12.0	+1.3
HINF				eSn	Sn	19 14 18.2	-22
	comp=Z,9.9nm,0.7s						
HINF	Hinteralfeld	18.72	53	eP	Pn	19 11 12.0	+1.3
HINF	Hinteralfeld	18.72	53	P	Pn	19 11 12.0	+1.3
HINF				S	Sn	19 14 18.2	-22
	comp=Z,4.9nm,0.7s						
HINF	Hinteralfeld	18.72	53	ePn	Pn	19 11 12.0	+1.3
HINF				eSn	Sn	19 14 18.2	-22
HINF	Hinteralfeld	18.72	53	P	Pn	19 11 12.0	+1.3
MOF	Molkenrain	18.91	53	eP	Pn	19 11 13.3	+0.3
MOF	Molkenrain	18.91	53	eP	Pn	19 11 13.3	+0.3
BCLA	Clavier	18.93	45	P	Pn	19 11 15.0	+1.7
	comp=Z,29nm,1.7s						
BBS	Basel-Blauen	19.01	55	eP	P	19 11 12.8	-0.7
WLF	Walferdange	19.05	48	eP	P	19 11 13.6	-0.3
WLF				pmax	pmax		
	comp=Z,22nm,0.8s						
WLF	Walferdange	19.05	48	eP	Pn	19 11 15.4	+0.7
	comp=Z,16nm,0.8s						
WLF	Walferdange	19.05	48	eP	P	19 11 13.6	-0.3
	comp=Z,22nm,0.8s						
WLF	Walferdange	19.05	48	eP	P	19 11 13.6	-0.3
	comp=Z,22nm,0.8s						
ECH	Echery	19.05	52	eP	Pn	19 11 16.4	+1.6
ECH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ECH	Echery	19.05	52	eP	Pn	19 11 16.4	+1.6
	comp=Z,8.9nm,0.9s						
ECH	Echery	19.05	52	eP	Pn	19 11 16.4	+1.6
	comp=Z,8.9nm,0.9s						
PGF	Pioggiola	19.08	70	ePn	P	19 11 14.7	+0.4
PGF	Pioggiola	19.08	70	eP	P	19 11 14.7	+0.4
PGF	Pioggiola	19.08	70	P	P	19 11 14.7	+0.4
PGF	Pioggiola	19.08	70	ePn	P	19 11 14.7	+0.4
PGF	Pioggiola	19.08	70	P	P	19 11 14.7	+0.4
CDF	Champ du Feu	19.20	52	ePn	Pn	19 11 18.1	+1.5
CDF				eSn	Sn	19 14 39.9	-12
	comp=Z,7.1nm,0.5s						
CDF	Champ du Feu	19.20	52	eP	Pn	19 11 18.1	+1.5
CDF				e		19 14 39.9	
CDF	Champ du Feu	19.20	52	P	Pn	19 11 18.1	+1.5
CDF				S	Sn	19 14 39.9	-12
	comp=Z,3.6nm,0.5s						
CDF	Champ du Feu	19.20	52	ePn	Pn	19 11 18.1	+1.5
CDF				eSn	Sn	19 14 39.9	-12
CDF	Champ du Feu	19.20	52	P	Pn	19 11 18.1	+1.5
WLS	Welschbruch	19.25	52	eP	Pn	19 11 17.8	+0.7
WLS	Welschbruch	19.25	52	eP	Pn	19 11 17.8	+0.7
MEM	Membach	19.42	45	P	Pn	19 11 18.9	-0.2
RUP	Ruppelstein	19.59	48	eP	P	19 11 20.3	+0.4
LANF	Langenberg	19.74	51	eP	Pn	19 11 22.7	-0.3
LANF	Langenberg	19.74	51	eP	Pn	19 11 22.7	-0.3
BFO	Black Forest	19.82	53c	eP	Pn	19 11 24.9	+0.9
BFO	Black Forest	19.82	53	eP	Pn	19 11 24.7	+0.7
	comp=Z,8.0nm,0.8s						
BFO	Black Forest	19.82	53	eP	Pn	19 11 23.9	-0.1
	comp=Z,7.1nm,0.8s						
BFO	Black Forest	19.82	53	eP	Pn	19 11 23.9	-0.1
	comp=Z,7.1nm,0.8s						
KPL	Plockton	19.84	16	eP	Pn	19 11 25.4	+1.4
KPL				AMB	AMB	19 11 36.7	
	comp=Z,104nm,3.5s						
KTD	Kalmit	20.04	50	eP	P	19 11 24.8	0.0
KEST	Kesra	20.08	91	P	Pn	19 11 27.7	+0.5
	comp=Z,9.8nm,0.6s,baz=197,slow=3.1,SNR=42						
KEST				LR	LR	19 19 31.9	
	comp=Z,66nm,18.0s,baz=178,slow=38						
KEST	Kesra	20.08	91	eP	Pn	19 11 27.2	+0.1
KEST	Kesra	20.08	91	eP	Pn	19 11 27.2	0.0
DAVOX	Davos/Dischmat	20.36	58	P	Pn	19 11 30.7	+0.1
	comp=Z,13nm,0.9s,baz=282,slow=14,SNR=9.6						
DAVOX				LR	LR	19 17 58.4	
	comp=Z,147nm,21.5s,baz=262,slow=32						
DAVA	Damuels	20.50	57⇑	ipP	Pn	19 11 33.0	+0.9
	comp=Z,15nm,0.8s						
TNS	Taunus Mts	20.63	48	eP	Pn	19 11 33.1	-0.4
	comp=Z,9.0nm,0.8s						
TNS	Taunus Mts	20.63	48	eP	Pn	19 11 33.1	-0.4
	comp=Z,9.0nm,0.8s						
FETA	Feichten	20.99	58⇑	iP	P	19 11 35.6	+0.4
	comp=Z,28nm,1.3s						
FETA	Feichten	20.99	58	P	P	19 11 35.6	+0.4
	comp=Z,28nm,1.3s						
WTTA	Wattenberg	21.65	58⇑	ipP	pP	19 11 44.6	-2.0
	comp=Z,29nm,1.0s						
GRA1	Grafenberg Arr	22.08	51	eP	P	19 11 48.4	+1.7
	comp=Z,10.0nm,0.9s						
GRF	Grafenberg Arr	22.08	51	eP	P	19 11 48.4	+1.7
	comp=Z,10.0nm,0.9s						
ABTA	Abfaltersbach	22.12	59⇑	ipP	P	19 11 49.3	+2.1
	comp=Z,4.9nm,0.6s						
ABTA	Abfaltersbach	22.12	59	P	P	19 11 49.3	+2.1
	comp=Z,4.9nm,0.6s						
RJOB	Jochberg	22.52	57	eP	P	19 11 53.6	+2.1
	comp=Z,6.0nm,0.8s						
RJOB	Jochberg	22.52	57	eP	P	19 11 53.6	+2.1
	comp=Z,6.0nm,0.8s						
MOX	Moxa	22.66	49	eP	P	19 11 55.4	+2.5
	comp=Z,6.0nm,0.9s						
MOX	Moxa	22.66	49	eP	P	19 11 55.4	+2.5
	comp=Z,6.0nm,0.9s						
ROTZ	Rotzenmuhle	22.71	52	eP	P	19 11 55.0	+1.6
	comp=Z,7.0nm,1.0s						
ROTZ	Rotzenmuhle	22.71	52	eP	P	19 11 55.0	+1.6
	comp=Z,7.0nm,1.0s						
MANZ	Manzenberg	22.72	51	eP	P	19 11 55.2	+1.6
	comp=Z,10.0nm,0.8s						
MANZ	Manzenberg	22.72	51	eP	P	19 11 55.2	+1.6
	comp=Z,10.0nm,0.8s						
WET	Wettzell	22.94	53	eP	P	19 11 58.2	+2.3
	comp=Z,3.0nm,0.7s						
WET	Wettzell	22.94	53	eP	P	19 11 58.2	+2.3
	comp=Z,3.0nm,0.7s						
KHC	Kasperske Hory	23.38	54	eP	P	19 11 59.7	-0.6
KHC				e		19 12 29.6	
KHC	Kasperske Hory	23.38	54	eP	P	19 11 59.7	-0.6
KHC				ex	x	19 12 09.1	
KHC				ex	x	19 12 29.6	
KHC	Kasperske Hory	23.38	54	eP	P	19 11 59.7	-0.6
GEC2	GERESS Array S	23.38	55	eP	P	19 12 01.6	+1.1
	comp=Z,8.0nm,0.8s						
GEC2	GERESS Array S	23.38	55	eP	P	19 12 01.6	+1.1
	comp=Z,8.0nm,0.8s						
GERES	GERESS Array B	23.38	55	P	P	19 12 01.5	+1.1
GERES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES	GERESS Array B	23.38	55	P	P	19 12 01.5	+1.1
	comp=Z,4.2nm,0.7s,baz=255,slow=8.3,SNR=33						
OBKA	Obir	23.46	61⇑	iP	P	19 12 02.3	+1.0
	comp=Z,18nm,0.8s						
OBKA	Obir	23.46	61	P	P	19 12 02.3	+1.0
	comp=Z,18nm,0.8s						
MOA	Molln	23.51	57⇑	iP	P	19 12 02.7	+1.0
	comp=Z,12nm,0.8s						
MOA	Molln	23.51	57	P	P	19 12 02.7	+1.0
	comp=Z,12nm,0.8s						
CLL	Collm	23.71	48	eP	P	19 12 06.0	+2.5
CLL				e		19 12 13.0	
CLL	Collm	23.71	48	eP	P	19 12 06.0	+2.5
CLL				e		19 12 13.0	
CLL	Collm	23.71	48	eP	P	19 12 06.0	+2.5
SOKA	Soboth	23.82	60⇑	iP	P	19 12 03.1	-1.6
	comp=Z,5.6nm,0.7s						
SOKA	Soboth	23.82	60	P	P	19 12 03.1	-1.6
	comp=Z,5.6nm,0.7s						
BBTS	Babate	23.89	182	LR	LR	19 18 45.0	
	comp=Z,185nm,18.7s,baz=357,slow=30						
TAM	Tamanrasset	23.98	125	eP	P	19 12 07.3	+0.8
TAM				pmax	pmax		
	comp=Z,15nm,1.4s						
TAM	Tamanrasset	23.98	125	eP	P	19 12 07.3	+0.8
	comp=Z,15nm,1.4s						
TAM	Tamanrasset	23.98	125	eP	P	19 12 07.3	+0.8
	comp=Z,15nm,1.4s						
BRG	Berggiesshubel	24.12	50	eP	P	19 12 08.6	+1.2
	comp=Z,4.6nm,0.9s						
BRG	Berggiesshubel	24.12	50	eP	P	19 12 08.6	+1.2
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRG	Berggiesshubel	24.12	50	eP	P	19 12 08.8	+1.4
	comp=Z,3.0nm,0.7s						
BRG	Berggiesshubel	24.12	50	eP	P	19 12 08.6	+1.2
	comp=Z,5.0nm,0.9s						
PRU	Pruhonice	24.22	52	eP	P	19 12 08.0	-0.3
PRU	Pruhonice	24.22	52	eP	P	19 12 08.0	-0.3
PRU	Pruhonice	24.22	52	eP	P	19 12 08.0	-0.3
CUC	Castrocucco	24.29	77	eP	P	19 12 10.2	+1.0
	comp=Z,10nm,0.8s						
CUC	Castrocucco	24.29	77	eP	P	19 12 10.2	+1.0
	comp=Z,10nm,0.8s						
CONA	Conrad Observa	24.58	58⇑	iP	P	19 12 11.8	0.0
	comp=Z,2.2nm,0.9s						
CONA	Conrad Observa	24.58	58	P	P	19 12 11.8	0.0
	comp=Z,2.2nm,0.9s						
TREC	Trest	24.63	54	eP	P	19 12 12.1	0.0
TREC	Trest	24.63	54	eP	P	19 12 12.1	0.0
TREC	Trest	24.63	54	eP	P	19 12 12.1	0.0
UPC	Upice	25.27	52	eP	P	19 12 19.8	+2.0
UPC				e		19 12 27.9	
UPC	Upice	25.27	52	eP	P	19 12 19.8	+2.0
UPC				ex	x	19 12 27.9	
UPC	Upice	25.27	52	P	P	19 12 19.8	+2.0
VRAC	Vranov	25.34	55	P	P	19 12 20.8	+2.3
VRAC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
VRAC	Vranov	25.34	55	P	P	19 12 20.8	+2.3
	comp=Z,8.6nm,0.7s,baz=270,slow=10,SNR=15						
DPC	Dobruska-Polom	25.42	52	eP	P	19 12 19.4	+0.2
DPC	Dobruska-Polom	25.42	52	eP	P	19 12 19.4	+0.2
DPC				ex	x	19 12 29.9	
DPC	Dobruska-Polom	25.42	52	P	P	19 12 19.4	+0.2
KRLC	Kraliky	25.63	53	eP	P	19 12 22.2	+1.0
KRLC				e		19 12 25.2	
KRLC	Kraliky	25.63	53	eP	P	19 12 22.2	+1.0
KRLC				epP	pP	19 12 25.2	-0.6
KRLC				ex	x	19 12 31.9	
KRLC	Kraliky	25.63	53	P	P	19 12 22.2	+1.0
VYHS	Vyhne	26.64	57	eP	P	19 12 30.4	+0.1
VYHS	Vyhne	26.64	57	eP	P	19 12 30.3	0.0
NOA	NORSAR Array B	27.96	28	P	P	19 12 43.1	+1.0
NOA						19 15 55.9	
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,15nm,28.6s						
NOA	NORSAR Array B	27.96	28	P	P	19 12 43.1	+1.0
	comp=Z,0.8nm,0.7s,baz=227,slow=8.9,SNR=2.7						
NOA				PcP	PcP	19 15 55.9	-0.9
	comp=Z,1.2nm,0.7s,baz=202,slow=1.9,SNR=4.1						
NOA				LR	LR	19 25 13.8	
	comp=Z,82nm,18.1s,baz=220,slow=39						
HFS	Hagfors	28.35	31	P	P	19 12 46.2	+0.8
HFS						19 15 56.0	
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS				MLR	MLR		
	comp=Z,134nm,18.5s						
HFS	Hagfors	28.35	31	P	P	19 12 46.2	+0.8
	comp=Z,1.5nm,0.6s,baz=238,slow=9.9,SNR=7.1						
HFS				PcP	PcP	19 15 56.0	-1.7
	comp=Z,1.8nm,0.5s,baz=199,slow=3.1,SNR=9.9						
HFS				LR	LR	19 24 47.3	
	comp=Z,134nm,18.5s,baz=256,slow=38						
CRVS	Cervenica-Dubn	28.42	57	eP	P	19 12 45.9	-0.3
CRVS	Cervenica-Dubn	28.42	57	eP	P	19 12 45.9	-0.3
CRVS	Cervenica-Dubn	28.42	57	eP	P	19 12 45.9	-0.3
UZH	Uzhgorod	28.93	57⇑	iP	P	19 12 52.1	+1.3
UZH				eS	S	19 17 33.5	-7.2
UZH				MLR	MLR		
	comp=N,400nm,8.0s						
UZH				MLR	MLR		
	comp=E,700nm,8.0s						
UZH				MLR	MLR		
	comp=Z,500nm,8.0s						
UZH	Uzhgorod	28.93	57	iP	P	19 12 52.1	+1.3
KOLS	Kolonicke sedl	28.95	57	eP	P	19 12 49.6	-1.4
KOLS	Kolonicke sedl	28.95	57	eP	P	19 12 49.6	-1.4
KOLS	Kolonicke sedl	28.95	57	eP	P	19 12 49.6	-1.4
TOA0	Torodi Ar. Sit	29.66	144	eP	P	19 12 57.1	-0.3
TOA0	Torodi Ar. Sit	29.66	144	eP	P	19 12 57.2	-0.3
TORD	Torodi Ar. Bea	29.66	144	P	P	19 12 56.8	-0.7
	comp=Z,4.3nm,0.8s,baz=322,slow=9.9,SNR=26						
TORD				PcP	PcP	19 16 00.2	-1.5
	comp=Z,0.7nm,0.8s,baz=324,slow=3.1,SNR=4.9						
TORD				LR	LR	19 24 52.3	
	comp=Z,168nm,19.1s,baz=290,slow=36						
SUW	Suwalki	30.44	47	eP	P	19 13 05.1	+1.0
SUW	Suwalki	30.44	47	eP	P	19 13 05.0	+1.0
SUW	Suwalki	30.44	47	eP	P	19 13 04.7	+0.7
	comp=Z,34nm,1.0s						
SUW	Suwalki	30.44	47	eP	P	19 13 04.7	+0.7
	comp=Z,34nm,1.0s						
DBIC	Dimbokro	33.27	160	P	P	19 13 28.5	-0.7
DBIC				pmax	pmax		
	comp=Z,11nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,15nm,28.6s						
DBIC	Dimbokro	33.27	160	P	P	19 13 28.5	-0.7
	comp=Z,11nm,0.9s,baz=319,slow=9.4,SNR=8.9						
DBIC				LR	LR	19 26 41.9	
	comp=Z,176nm,18.3s,baz=314,slow=36						
DBIC	Dimbokro	33.27	160	eP	P	19 13 28.6	-0.6
	comp=Z,16nm,1.1s						
DBIC	Dimbokro	33.27	160	eP	P	19 13 28.6	-0.6
	comp=Z,16nm,1.1s						
KIEV	Kiev	33.58	54c	iP	P	19 13 32.4	+0.8
KIEV	Kiev	33.58	54	iP	P	19 13 32.4	+0.8

AK01 Malin Array Si 33.58 54 eP P 19 13 32.0 +0.3
AK01 Malin Array Si 33.58 54 eP P 19 13 32.0 +0.3
AKASG Malin Array Be 33.59 54 P P 19 13 31.9 +0.2
AKASG pmax pmax
comp=Z,13nm,1.1s
AKASG Malin Array Be 33.59 54 P P 19 13 31.9 +0.2
comp=Z,13nm,1.1s,baz=261,slow=8.7,SNR=6.9
AKBB Malin Array Si 33.59 54 eP P 19 13 32.5 +0.7
AKBB Malin Array Si 33.59 54 eP P 19 13 32.5 +0.7
AKBB Malin Array Si 33.59 54 eP P 19 13 32.5 +0.7
FINES FINESS Array B 34.28 35 P P 19 13 39.0 +1.4
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES MLR MLR
comp=Z,139nm,19.2s
FINES FINESS Array B 34.28 35 P P 19 13 39.0 +1.4
comp=Z,3.2nm,0.4s,baz=231,slow=7.2,SNR=48
FINES LR LR 19 28 26.9
comp=Z,139nm,19.2s,baz=270,slow=38
FINES FINESS Array B 34.28 35 P P 19 13 39.0 +1.4
comp=Z,139nm,19.2s
KAF Kangasniemi 34.64 34 ep P 19 13 41.7 +1.0
comp=Z,2.2nm,0.6s
JOF Joensuu 37.10 34 ep P 19 14 01.8 0.0
comp=Z,1.0nm,0.5s
SCHQ Schefferville 37.73 313 P P 19 14 05.8 -1.4
comp=Z,5.1nm,0.7s,baz=96,slow=7.8,SNR=7.7
SCHQ LR LR 19 26 17.2
comp=Z,186nm,20.4s,baz=82,slow=31
BRTR Keskin Array B 37.81 72 P P 19 14 09.5 +1.2
BRTR 19 16 23.7
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 37.81 72 P P 19 14 09.4 +1.2
comp=Z,2.3nm,0.8s,baz=285,slow=4.7,SNR=8.2
BRTR PcP PcP 19 16 23.7 -1.0
comp=Z,0.9nm,0.7s,baz=232,slow=1.4,SNR=3.8
ARE0 ARCESS Array S 37.86 22 eP P 19 14 08.7 +0.5
ARE0 ARCESS Array S 37.86 22 eP P 19 14 08.7 +0.5
ARCES ARCESS Array B 37.86 22 P P 19 14 09.2 +1.0
ARCES 19 16 22.8
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES MLR MLR
comp=Z,97nm,19.0s
ARCES ARCESS Array B 37.86 22 P P 19 14 09.2 +1.0
comp=Z,3.0nm,0.5s,baz=228,slow=8.5,SNR=27
ARCES PcP PcP 19 16 22.8 -1.3
comp=Z,3.2nm,0.7s,baz=270,slow=1.8,SNR=6.5
ARCES LR LR 19 30 32.8
comp=Z,97nm,19.0s,baz=230,slow=37
OBN Obninsk 38.30 47⇓iP P 19 14 12.4 +0.4
OBN eS S 19 20 08.0 +2.6
OBN pmax pmax
comp=Z,14nm,1.7s
OBN MLR MLR
comp=Z,134nm,21.0s
OBN Obninsk 38.30 47 iP P 19 14 12.4 +0.4
comp=Z,134nm,21.0s
KEV Kevo 38.42 22 ep P 19 14 13.5 +0.6
comp=Z,1.1nm,0.4s
VSR Storozhevoye 39.87 53 eP P 19 14 25.0 -0.2
VSR pmax pmax
comp=Z,8.0nm,0.9s
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR Storozhevoye 39.87 53 eP P 19 14 25.0 -0.2
comp=E,5.0nm,0.8s
VORD Divnogorie 39.97 54 eP P 19 14 24.1 -1.9
VORD pmax pmax
comp=Z,9.0nm,1.3s
VORD pmax pmax
comp=N,5.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD Divnogorie 39.97 54 eP P 19 14 24.1 -1.9
comp=E,5.0nm,0.7s
KLMR Klimovskoe 40.42 38 eP P 19 14 28.9 -0.7
KLMR pmax pmax
comp=Z,14nm,1.1s
KLMR Klimovskoe 40.42 38 eP P 19 14 28.9 -0.7
comp=Z,14nm,1.1s
KIV Kislovodsk 43.34 64 eP P 19 14 56.3 +2.4
KIV pmax pmax
comp=Z,10.0nm,1.1s
PRGR Permogore 43.43 38 eP P 19 14 52.8 -1.4
PRGR pmax pmax
comp=Z,29nm,1.1s
PRGR Permogore 43.43 38 eP P 19 14 52.8 -1.4
comp=Z,29nm,1.1s
KBZ Khabaz 43.55 64 P P 19 14 57.6 +2.2
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ MLR MLR
comp=Z,16nm,28.6s
KBZ Khabaz 43.55 64 P P 19 14 57.6 +2.2
comp=Z,7.7nm,0.8s,baz=270,slow=5.6,SNR=10
KBZ LR LR 19 35 48.0
comp=Z,68nm,18.6s,baz=326,slow=40
KBZ Khabaz 43.55 64 P P 19 14 57.6 +2.2
comp=Z,16nm,28.6s
IDHR Dehrash 49.06 74 eP P 19 15 39.5 +0.4
IDHR Dehrash 49.06 74 eP P 19 15 39.5 +0.4
IGHG Ghaleghazi 49.34 75 eP P 19 15 41.9 +0.5
IGHG Ghaleghazi 49.34 75 eP P 19 15 41.9 +0.5
ARU Arti 50.54 44diP P 19 15 50.5 +0.7
ARU 19 17 44.2
ARU S S 19 23 06.0 +2.8
ARU SS SS 19 26 37.5 +0.8
ARU pmax pmax
comp=Z,20nm,1.2s
ARU Arti 50.54 44 eP P 19 15 50.5 +0.7
comp=Z,11nm,0.8s
ARU Arti 50.54 44 eP P 19 15 50.5 +0.7
comp=Z,11nm,0.8s
SVE Sverdlovsk 51.56 43⇓eP P 19 15 59.0 +1.5
SVE pmax pmax
comp=Z,17nm,1.0s
SVE Sverdlovsk 51.56 43 eP P 19 15 59.0 +1.5
comp=Z,17nm,1.0s
ABKAR Akbulak array 53.30 52 eP P 19 16 10.9 +0.4
comp=Z,1.8nm,0.8s
ABKAR Akbulak array 53.30 52 eP P 19 16 10.9 +0.4
comp=Z,1.8nm,0.8s
IGLO Ghaloghah 53.85 69 eP P 19 16 14.9 -0.1
IKAZ Kazeroun 55.37 77 eP P 19 16 26.9 +0.6
IKAZ Kazeroun 55.37 77 eP P 19 16 26.9 +0.6
ULM Lac du Bonnet 55.83 310 P P 19 16 27.7 -1.1
comp=Z,1.0nm,0.3s,baz=63,slow=4.5,SNR=3.4
ULM LR LR 19 37 03.3
comp=Z,90nm,18.9s,baz=64,slow=32
IPAR Pars 56.26 77 eP P 19 16 32.7 +0.1
IPAR Pars 56.26 77 eP P 19 16 32.7 +0.1
ISRV Sarvestan 56.53 77 eP P 19 16 34.9 +0.3
ISRV Sarvestan 56.53 77 eP P 19 16 34.9 +0.3
BRVK Borovoye 58.03 45 eP P 19 16 45.4 +1.0
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 58.03 45 eP P 19 16 45.3 +0.9
comp=Z,2.0nm,0.9s
BRVK Borovoye 58.03 45 eP P 19 16 45.3 +0.9
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 60.41 328 P P 19 16 59.5 -1.2
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 60.41 328 P P 19 16 59.5 -1.2
comp=Z,1.8nm,0.7s,baz=65,slow=7.0,SNR=30
KKAR Karatay Array 62.48 55 eP P 19 17 14.6 -0.5
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 62.48 55 eP P 19 17 14.6 -0.5
comp=Z,1.7nm,0.6s
KKAR Karatay Array 62.48 55 eP P 19 17 14.6 -0.5
comp=Z,1.7nm,0.6s
KMBO Kilima Mbogo 62.57 116ceP P 19 17 19.2 +2.9
KMBO Kilima Mbogo 62.57 116 eP P 19 17 18.1 +1.8
comp=Z,1.3nm,0.9s
KMBO Kilima Mbogo 62.57 116 eP P 19 17 18.1 +1.8
comp=Z,1.2nm,0.9s
KURK Kurchatov 63.70 45 eP P 19 17 23.3 +0.3
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 63.70 45 eP P 19 17 23.3 +0.3
comp=Z,2.6nm,0.8s
KURK Kurchatov 63.70 45 eP P 19 17 23.3 +0.3
comp=Z,2.5nm,0.8s
INK Inuvik 63.84 339 P P 19 17 22.3 -1.3
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 63.84 339 P P 19 17 22.3 -1.3
comp=Z,2.0nm,0.7s,baz=45,slow=4.5,SNR=9.9
NVS Novosibirsk 64.06 39⇓iP P 19 17 26.4 +1.1
NVS pmax pmax
comp=Z,6.0nm,1.2s
NVS pmax pmax
comp=N,3.0nm,2.0s
NVS pmax pmax
comp=E,2.0nm,1.5s
NVS Novosibirsk 64.06 39 iP P 19 17 26.4 +1.1
comp=E,3.0nm,2.0s
AAK Ala-Archa 65.26 54 LR LR 19 48 38.0
comp=E,66nm,18.8s,baz=289,slow=38
ZAA0 Zalesovo Array 65.31 40 eP P 19 17 34.5 +1.0
ZAA0 Zalesovo Array 65.31 40 eP P 19 17 34.5 +1.0
ZALV Zalesovo Beam 65.31 40 iP P 19 17 34.5 +1.0
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 65.31 40 P P 19 17 34.4 +0.9
comp=Z,4.7nm,0.7s,baz=308,slow=7.2,SNR=22
KBL Kabul 65.72 64 eP P 19 17 36.5 -0.3
KBL pmax pmax
comp=Z,2.0nm,0.6s
KBL Kabul 65.72 64 eP P 19 17 36.5 -0.3
comp=Z,2.3nm,0.6s
KBL Kabul 65.72 64 eP P 19 17 36.5 -0.3
comp=Z,2.3nm,0.6s
TIXI Tiksi 67.19 12 eP P 19 17 45.9 +0.7
TIXI pmax pmax
comp=Z,11nm,1.1s
TIXI Tiksi 67.19 12 eP P 19 17 45.9 +0.7
comp=Z,11nm,1.1s
TIXI Tiksi 67.19 12 eP P 19 17 45.9 +0.7
comp=Z,11nm,1.1s
PDAR Pinedale Array 67.61 307 P P 19 17 47.1 -1.6
comp=Z,1.1nm,0.7s,baz=71,slow=7.5,SNR=11
MK31 Makanchi Array 67.81 47 eP P 19 17 50.1 +0.5
MK31 Makanchi Array 67.81 47 eP P 19 17 50.1 +0.5
MK31 Makanchi Array 67.81 47 eP P 19 17 50.1 +0.5
MKAR Makanchi Array 67.81 47ceP P 19 17 50.2 +0.6
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 67.81 47 P P 19 17 50.0 +0.4
comp=Z,2.1nm,0.8s,baz=309,slow=5.0,SNR=22
MKAR LR LR 19 48 03.0
comp=Z,61nm,21.1s,baz=292,slow=36
MKAR Makanchi Array 67.81 47 eP P 19 17 50.2 +0.6
comp=Z,2.0nm,0.8s
KSH Kashi 67.84 57 eP P 19 17 50.9 +0.8
KSH ePP PP 19 20 19.2 -0.1
KSH PcS 19 22 23.0
KSH pmax pmax
comp=Z,20nm,0.6s
KSH pmax pmax
comp=Z,130nm,3.0s
KSH LR LR
comp=Z,150nm,4.7s
COLD Coldfoot 68.99 343 eP P 19 17 57.1 +0.5
comp=Z,4.9nm,0.9s
COLD Coldfoot 68.99 343 eP P 19 17 57.1 +0.5
comp=Z,4.9nm,0.9s
DLBC Dease Lake 69.00 329 P P 19 17 57.2 +0.3
comp=Z,3.3nm,1.0s,baz=114,slow=6.0,SNR=5.7
HWUT Hardware Ranch 69.49 307 eP P 19 17 59.8 -0.6
comp=Z,7.3nm,0.8s
HWUT Hardware Ranch 69.49 307 eP P 19 17 59.8 -0.6
comp=Z,7.3nm,0.8s
ANMO Albuquerque 69.82 299 eP P 19 18 04.9 +2.3
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ILAR Eielson Array 70.11 340 P P 19 18 03.6 0.0
ILAR pmax pmax
comp=Z,3.0nm,0.6s
ILAR Eielson Array 70.11 340 P P 19 18 03.5 0.0
comp=Z,2.7nm,0.6s,baz=30,slow=5.4,SNR=46
COLA College 70.28 340 eP P 19 18 04.0 -0.6
COLA pmax pmax
comp=Z,14nm,1.0s
TXAR Lajitas Array 70.96 293 P P 19 18 09.3 -0.2
comp=Z,1.0nm,0.6s,baz=69,slow=6.2,SNR=8.8
TXAR LR LR 19 49 28.8
comp=Z,38nm,18.1s,baz=0.0,slow=36
KTH Kantishna Hill 72.15 341 eP P 19 18 15.6 -0.4
comp=Z,13nm,1.1s
KTH Kantishna Hill 72.15 341 eP P 19 18 15.6 -0.4
comp=Z,13nm,1.1s
LPAZ La Paz 73.47 233 LR LR 19 47 10.2
comp=Z,94nm,21.1s,baz=45,slow=33
BILL Bilibino 73.65 359 eP P 19 18 25.5 +0.8
BILL pmax pmax
comp=Z,5.0nm,0.7s
BILL MLR MLR
comp=Z,51nm,18.0s
BILL Bilibino 73.65 359 eP P 19 18 25.6 +0.8
comp=Z,4.7nm,0.9s
BILL Bilibino 73.65 359 eP P 19 18 25.6 +0.8
comp=Z,4.7nm,0.9s
TLY Talaya 75.63 34 eP P 19 18 32.5 -4.1
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,84nm,15.0s
YAK Yakutsk 75.84 16 eP P 19 18 36.5 -1.0
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
ZAK Zakamensk 76.39 35 eP P 19 18 40.6 -0.4
ZAK pmax pmax
comp=Z,2.0nm,1.8s
ZAK Zakamensk 76.39 35 eP P 19 18 40.6 -0.4
comp=Z,2.0nm,1.8s
BOSA Boshof 77.02 144 P P 19 18 43.7 -1.0
BOSA pmax pmax
comp=Z,8.0nm,1.0s
BOSA Boshof 77.02 144 P P 19 18 43.7 -1.0
comp=Z,7.8nm,1.0s,baz=348,slow=8.5,SNR=7.3
SONM Songino Array 79.65 36 P P 19 18 59.9 +0.7
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM MLR MLR
comp=Z,118nm,18.3s
SONM Songino Array 79.65 36 P P 19 18 59.9 +0.7
comp=Z,3.8nm,0.7s,baz=309,slow=6.0,SNR=38
SONM LR LR 19 57 30.4
comp=Z,118nm,18.3s,baz=344,slow=38
ULN Ulaanbaatar 79.92 35 eP P 19 19 01.5 +0.8
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 79.92 35 eP P 19 19 01.5 +0.8
comp=Z,5.4nm,0.9s
ULN Ulaanbaatar 79.92 35 eP P 19 19 01.5 +0.8
comp=Z,5.4nm,0.9s
LZH Lanzhou 86.99 45 eP P 19 19 37.3 0.0
LZH pP PcP 19 19 40.5 +1.0
LZH pmax pmax
comp=Z,17nm,1.4s
PLCA Paso Flores 93.56 219 LR LR 20 00 43.8
comp=Z,45nm,19.8s,baz=98,slow=35
WHN Wuhan 96.87 42 P P 19 20 20.9 -2.1
KSRS Korea Array 97.17 28 LR LR 20 07 42.5
comp=Z,51nm,18.2s,baz=354,slow=38
WRA Warramunga Arr 148.06 63 PKP2 PKPbc 19 26 36.5 -1.2
WRA pmax pmax
comp=Z,6.0nm,0.8s
WRA Warramunga Arr 148.06 63 PKPbc PKPbc 19 26 36.5 -1.2
comp=Z,5.9nm,0.8s,baz=320,slow=2.6,SNR=33
WRAB Tennant Creek 148.06 63 ePKP2 PKPbc 19 26 36.7 -1.0
WRAB Tennant Creek 148.06 63 ePKPbc PKPbc 19 26 36.7 -1.0
WRAB Tennant Creek 148.06 63 ePKPbc PKPbc 19 26 36.7 -1.0
AS31 Alice Springs 150.12 69 ePKPbc PKPbc 19 26 41.8 -1.0
AS31 Alice Springs 150.12 69 ePKPbc PKPbc 19 26 41.8 -1.0
ASAR Alice Springs 150.12 69 PKIKP PKPbc 19 26 41.9 -0.9
ASAR pmax pmax
comp=Z,9.0nm,0.5s
ASAR Alice Springs 150.12 69 PKPbc PKPbc 19 26 41.9 -0.9
comp=Z,9.1nm,0.5s,baz=315,slow=1.8,SNR=115

IDC 08 19:14:41.6±2.3, 5.51S×152.55E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.3/4, ML2.3/1, Error ellipse: s-maj=152.5km s-min=27.7km az=130.0, New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 6.60 234 Pn Pn 19 16 19.9 -0.1
0.4nm,0.3s,baz=36,slow=17,SNR=4.2
PMG Sn Sn 19 17 30.0 -6.0
0.9nm,0.3s,baz=29,slow=19,SNR=3.9
WRA Warramunga Arr 22.79 229 P P 19 19 45.0 -1.2
0.4nm,0.7s,baz=54,slow=10.0,SNR=6.1
ASAR Alice Springs 25.46 223 P P 19 20 12.4 +0.8
0.5nm,0.8s,baz=58,slow=9.0,SNR=6.0
ILAR Eielson Array 82.90 22 P P 19 27 08.0 +0.1
0.3nm,0.7s,baz=251,slow=5.5,SNR=5.1

MAN 08 19:33:41, 10.06N×124.96E, h25km, mb4.3, ML3.1, MS3.0, 1C-3D, Leyte

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSLP Maasin 0.12 308 eP Pb 19 33 46.5 +0.7
SCPH Surigao 0.59 117⇓eP Pn 19 33 53.6 -0.2
SCPH eS Sn 19 34 02.7 +0.1
LLP Lapu-Lapu 1.01 285⇑iP Pn 19 33 59.0 -0.6
LLP iS Sb 19 34 12.3 -0.5
OCLP Ormoc 1.05 341 eP Pn 19 33 59.9 -0.2
OCLP eS Sn 19 34 15.3 +1.3
PLP Palo 1.10 1⇓eP Pn 19 34 00.6 -0.3
PLP eS Sn 19 34 15.3 -0.1
TBP Tagbilaran 1.14 252 eP Pb 19 34 04.5 +2.4
SNPH Sibulan 1.84 247⇓iP Pn 19 34 00.5 -11
SNPH iS Sn 19 34 29.0 -4.6
BUKP Musuan 2.17 177 eP Pn 19 34 17.6 +2.0
BUKP eS Sn 19 34 39.7 -2.0
GUIM Jordan 2.40 284 eP Pn 19 34 18.5 -0.2
GUIM eS Sn 19 34 48.7 +1.4
PAGZ Pagadian 2.69 215 eP Pn 19 34 24.3 +1.5

IDC 08 19:37:53.0±1.0, 27.48N×66.43E, h0km, mb3.7/13, mb1 3.8/14, mb1mx3.6/43, mbtmp3.7/14, ML3.3/1, Error ellipse: s-maj=23.3km s-min=18.6km az=47.0
ISCJB 08 19:37:56.6±0.7, 27.56N±0.07×66.69E±0.06, h33km, mb3.7/13, Error ellipse: s-maj=10.7km s-min=7.0km az=16.3
ISC 08 19:37:57.5±1.0, 27.4N±0.1×66.67E±0.08, h35km, n31, σ0.99/31, mb3.7/13, 1C, Pakistan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SARP Sargodha 6.87 48⇑P Pn 19 39 36.7 +1.0
SARP S Sn 19 40 53.0 +0.4
CEP Cherat 7.80 34 P Pn 19 39 49.0 +0.4
CHCP Chirah Chowk 8.40 41 P Pn 19 39 57.2 +0.3
PYUN Piuthan 14.46 84 eP Pn 19 41 20.2 +0.2
39nm,0.5s
PYUN eS Sn 19 43 57.7 -1.5
KOLN Koldanda 15.02 85 eP Pn 19 41 28.2 +0.8
DANN Dangsing 15.14 83 eP Pn 19 41 28.2 -0.9
18nm,0.7s
GKN Gorkha 15.92 84 eP Pn 19 41 38.7 -0.4
DMN Daman 16.36 85 eP P 19 41 46.0 -1.4
AAK Ala-Archa 16.44 21 Pn Pn 19 41 45.0 -0.6
0.1nm,0.3s,baz=153,slow=16,SNR=3.3
KKN Kakani 16.50 84 eP P 19 41 47.3 -1.6
8.1nm,0.6s
PKIN Phulchoki 16.62 85 eP P 19 41 48.9 -1.3
PKIN eS Sn 19 44 50.7 -1.0
PKI Pulchoki 16.63 85 eP Pn 19 41 48.1 -0.2
GUN Gumba 17.02 84 eP Pn 19 41 52.4 -0.9
35nm,0.7s
JIRN Jiri 17.32 85 eP Pn 19 41 56.4 -0.5
18nm,0.6s
RAMN Ramite 17.74 87 eP P 19 42 03.0 +0.4
18nm,0.7s
ODAN Odare 18.45 87 eP Pn 19 42 12.2 +1.5
13nm,0.6s
TAPN Taplejung 18.68 85 eP Pn 19 42 14.4 +0.7
MKAR Makanchi Array 22.90 28 P P 19 42 58.1 -0.1
2.3nm,0.7s,baz=208,slow=13,SNR=19
AKTO Aktyubinsk 23.89 346 P P 19 43 06.9 -0.9
0.7nm,0.5s,baz=174,slow=11,SNR=3.1
KURBB Kurchatov Arra 24.85 18 P P 19 43 18.0 +1.5
1.1nm,0.5s,baz=210,slow=8.7,SNR=20
BVAR Borovoye Array 25.70 5 P P 19 43 25.4 +1.2
1.5nm,0.6s,baz=176,slow=9.2,SNR=5.4
ZALV Zalesovo Beam 29.66 22 P P 19 44 00.8 +1.1
0.7nm,0.6s,baz=232,slow=7.3,SNR=5.2
CMAR Chiang Mai Arr 30.96 100 P P 19 44 15.3 +3.7
0.5nm,0.6s,baz=282,slow=9.1,SNR=5.4
FINES FINESS Array B 43.42 333 P P 19 45 56.1 -0.4
1.1nm,0.6s,baz=133,slow=8.1,SNR=5.9
ARCES ARCESS Array B 48.36 342 P P 19 46 35.2 -0.3
3.5nm,0.9s,baz=138,slow=7.3,SNR=4.0
NB2 NORSAR Subarra 49.78 328 P P 19 46 41.8 -4.7
comp=Z,1.8nm,1.0s,baz=108,slow=7.9
NOA NORSAR Array B 49.78 328 P P 19 46 45.1 -1.4
comp=Z,0.9nm,0.7s,baz=108,slow=7.4,SNR=4.1
KSRS Korea Array 51.85 63 P P 19 47 03.7 +1.3
comp=Z,0.6nm,0.5s,baz=268,slow=8.3,SNR=4.0
TORD Torodi Ar. Bea 61.98 271 P P 19 48 14.1 -0.3
comp=Z,1.0nm,0.6s,baz=58,slow=6.1,SNR=9.4
WRA Warramunga Arr 80.66 118 P P 19 50 09.6 +2.3
comp=Z,0.5nm,0.9s,baz=317,slow=4.7,SNR=5.7
ASAR Alice Springs 82.40 121 P P 19 50 17.1 +0.8
comp=Z,0.2nm,0.7s,baz=306,slow=5.6,SNR=5.4

IDC 08 19:38:44.6±1.4, 1.20N×123.26E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.2/36, mbtmp3.4/4, Error ellipse: s-maj=208.9km s-min=20.8km az=63.0
ISCJB 08 19:39:05.8±1.1, 1.7N±0.1×124.96E±0.06, h200km, mb3.1/4, Error ellipse: s-maj=18.0km s-min=7.2km az=15.5
DJA 08 19:39:08.3±0.8, 2°N±6°×12°5E±°, h184km±13km, M4.1/11, mb3.9/2, mB4.4/2, MLv4.3/11, Mw(mB)3.6/2
ISC 08 19:39:06.1±1.1, 1.7N±0.1×124.94E±0.06, h200km, n14, σ1.38/17, mb3.3/4, Minahassa Peninsula, Sulawesi

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KMSI Cibinong 1.47 220 P Pn 19 39 41.1 +1.5
GTOI Gorontalo 2.20 241 P Pn 19 39 48.3 +1.6
TNTI Ternate 2.60 111 P Pn 19 39 52.3 +1.2
TNTI S Sn 19 40 27.6 +1.4
MRSI Marisa 3.23 248 P Pn 19 40 00.4 +1.9
LBMI Labuha 3.46 132 P Pn 19 40 01.9 +0.6
LBMI S Sn 19 40 44.0 -0.5
LUWI Luwuk 3.48 218 P Pn 19 40 01.8 +0.3
SANI Sanana 3.87 164 P Pn 19 40 05.2 -1.2
APSI Ampana 4.19 232 P Pn 19 40 11.2 +0.9
NLAI Namlea 5.36 156 P Pn 19 40 25.6 +0.4
50nm,1.1s,2μm0.8nm
MSAI Masohi 6.41 142 P Pn 19 40 41.0 +2.3
MSAI S Sn 19 41 52.1 0.0
WRA Warramunga Arr 23.41 157 P P 19 43 57.6 +0.3
0.3nm,0.3s,baz=331,slow=11,SNR=15
ASAR Alice Springs 26.68 161 P P 19 44 27.2 +0.3
0.1nm,0.4s,baz=334,slow=8.7,SNR=6.3
MKAR Makanchi Array 58.22 327 P P 19 48 38.0 -1.6
0.2nm,0.3s,baz=123,slow=7.9,SNR=6.2
KURBB Kurchatov Arra 62.50 329 P P 19 49 06.2 -2.1
0.3nm,0.6s,baz=130,slow=6.5,SNR=8.4

GUC 08 19:42:41.2±0.3, 20.70S×69.00W, h107km±2km, ML3.6, 5C, Northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PB01 Plate Boundary 0.57 233⇑iP Pn 19 42 58.4 +0.1
PB01 iS Sn 19 43 11.8 +0.6
PB01 AML AML 19 43 12.7
comp=N,4μm,0.2s
HMBC Humberstone 0.93 296⇑iP Pn 19 43 01.9 +0.3
HMBC iS Sn 19 43 17.8 +0.8
HMBC AML AML 19 43 20.2
comp=N,1μm,0.5s
PATCX Punta Patache 1.08 263 eP Pn 19 43 03.7 +0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PATCX				eS	Sn	19 43 20.7	+0.9
PATCX				AML	AML	19 43 22.7	
	comp=E,917nm,0.3s						
PB11	Plate Boundary	1.11	326	⇑iP	Pn	19 43 03.9	+0.3
PB11				iS	Sn	19 43 21.5	+1.0
PB11				AML	AML	19 43 22.8	
	comp=E,4µm,0.1s						
PB09	Plate Boundary	1.12	192	eP	Pn	19 43 04.3	+0.6
PB09				iS	Sn	19 43 21.7	+1.0
PB09				AML	AML	19 43 25.0	
	comp=N,2µm,0.6s						
PB07	Plate Boundary	1.32	219	eP	Pn	19 43 06.3	+0.4
PB07				iS	Sn	19 43 25.7	+1.1
PB07				AML	AML	19 43 26.8	
	comp=E,2µm,0.3s						
PB04	Plate Boundary	1.63	196	⇑iP	Pn	19 43 14.6	+5.2
PB04				iS	Sn	19 43 39.8	+9.0
PB04				AML	AML	19 43 46.8	
	comp=N,268nm,0.5s						
MNMC	Minimini	1.65	340	⇑iP	Pn	19 43 10.8	+0.7
MNMC				iS	Sn	19 43 33.2	+1.1
MNMC				AML	AML	19 43 35.0	
	comp=N,1µm,0.7s						

*IDC **08** 19:51:30.8±5.3, 47.14N×152.44E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/44, mbtmp3.5/6, ML2.4/1, Error ellipse: s-maj=125.1km s-min=31.3km az=162.0*
*MOS **08** 19:51:33.7±1.0, 47.33N×152.41E, h30km, mb4.2/2, Error ellipse: s-maj=40.6km s-min=22.6km az=70.6*
*ISCJB **08** 19:51:35.3±2.1, 47.0N±0.3×152.5E±0.3, h52km, mb3.5/5, Error ellipse: s-maj=49.8km s-min=17.6km az=141.4*
ISC 08 19:51:36.7±2.4, **47.1N**±0.3×**152.6E**±0.3, **h52km, n10, σ1.50**/10, **mb3.4**/5, **1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.78	242	⇓iPN	Pn	19 52 31.2	-1.2
KUR				pmax	pmax		
	comp=E,10.0nm,0.2s						
KUR				pmax	pmax		
	comp=Z,20nm,0.4s						
KUR				pmax	pmax		
	comp=N,18nm,0.1s						
KUR				pmax	pmax		
	comp=Z,6µm,0.2s						
KUR				pmax	pmax		
	comp=E,50nm,0.7s						
PETK	Petropavlovsk-	6.83	27	Pn	Pn	19 53 11.9	-2.3
	comp=E,0.3nm,0.3s,baz=206,slow=16,SNR=4.5						
MKAR	Makanchi Array	46.45	297	P	P	19 59 58.2	0.0
	comp=E,0.2nm,0.4s,baz=69,slow=6.4,SNR=5.7						
KURK	Kurchatov	46.85	303	P	P	20 00 01.8	+0.6
KURBB	Kurchatov Arra	46.95	303	P	P	20 00 01.8	-0.1
	comp=E,0.3nm,0.6s,baz=70,slow=8.3,SNR=5.9						
YKA	Yellowknife Ar	50.84	37	P	P	20 00 32.9	+1.3
	comp=E,0.1nm,0.6s,baz=297,slow=7.4,SNR=2.6						
FINES	FINESS Array B	63.55	334	P	P	20 02 02.3	+1.1
FINES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FINES	FINESS Array B	63.55	334	P	P	20 02 02.3	+1.1
	comp=Z,2.5nm,1.1s,baz=38,slow=7.0,SNR=6.9						
NOA	NORSAR Array B	67.75	341	P	P	20 02 29.9	+1.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	67.75	341	P	P	20 02 29.9	+1.5
	comp=Z,0.5nm,0.6s,baz=30,slow=6.7,SNR=3.5						

SJA 08 19:55:07.9±0.8, **32.85S×72.02W, h12km**±90km, **MD3.5, ML2.9, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AUSP	Uspallata	2.31	75	iP	Pn	19 55 48.0	+1.7
AUSP				iS	Sb	19 56 19.4	+0.6
RTLS	Leoncito	2.54	66	iP	Pb	19 55 52.3	-1.4
RTLS				iS	Sb	19 56 25.0	-0.1
ARCO	CERRO ARCO	2.60	91	iP	Pn	19 55 52.3	+2.3
ARCO				iS	Sb	19 56 25.6	-1.3
ARCO				AML	AML	19 56 31.3	
	comp=Z,57nm,0.9s						
AAGR	Agrelo	2.70	96	iP	Pb	19 55 53.9	-2.4
AAGR				iS	Sb	19 56 27.7	-1.7
ASAL	Salagasta	2.70	85	iP	Pb	19 55 54.1	-2.2
ASAL				iS	Sb	19 56 27.4	-2.1
RTLL	Cerro Villicun	3.37	64	iP	Pn	19 56 03.4	+3.0
RTLL				iS	Sn	19 56 44.1	+3.6
AMOG	MOGNA	3.56	59	iP	Pn	19 56 06.0	+3.0
AMOG				iS	Sn	19 56 48.6	+3.5

*ISCJB **08** 19:56:20.9±0.9, 36.59N±0.05×121.62W±0.06, h8km±8km, Error ellipse: s-maj=9.6km s-min=6.2km az=143.9*
*NEIC **08** 19:56:23.9, 36.72N×121.36W, h3km, MW3.5(BRK), After NCEDC.*
NEIC Felt [III] at Salinas and [II] at Carmel, Hollister, Marina, Monterey, San Juan Bautista, Scotts Valley and Seaside. Also felt at Carmel Valley, Davenport, Felton, Fremont, Gonzales, Los Altos, Pacific Grove, Pescadero and Santa Cruz.
ISC 08 19:56:21.8±1.9, **36.62N**±0.06×**121.60W**±0.05, **h6km**±13km, **n37, σ1.09**/42, **8C-14D, Central California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAO	San Andreas Ge	0.19	40	ePg	Pg	19 56 25.0	-0.6
SAC	San Andreas	1.16	326	ePg	Pb	19 56 44.7	+0.3
CMB	Columbia Colle	1.71	34	ePn	Pn	19 56 50.6	-1.7
MCCM	Marconi Confer	1.83	326	ePn	Pn	19 56 54.2	+0.4
SMMC	Simmler	1.84	135	⇓P	Pn	19 56 54.2	+0.2
	baz=1.8,SNR=12						
SMMC				⇓S	Sn	19 57 16.0	-1.7
	baz=1.8						
RCTC	Rector, Farmer	1.93	99	⇓P	Pn	19 56 54.5	-0.7
	baz=1.8						
RCTC				⇑S	Sn	19 57 17.6	-2.1
	baz=1.8						
VES	Vestal, Richgr	2.17	110	⇓P	Pn	19 56 58.4	-0.2
	baz=2.0,SNR=39						
VES				⇑S	Sn	19 57 24.9	-0.9
	baz=2.0						
MLAC	Mammoth Lakes	2.42	65	⇓P	Pn	19 57 03.0	+0.8
	baz=2.2						
MLAC				⇓S	Sb	19 57 34.6	-1.7
	baz=2.2						
HOPS	Hopland	2.64	334	ePn	Pn	19 57 05.3	+0.3
ARVC	Arvin	2.70	123	⇓P	Pn	19 57 05.3	-0.5
	baz=2.6						
ARVC				⇑S	Sn	19 57 38.2	-0.6
	baz=2.6						
ISA	Isabella	2.70	110	ePn	Pn	19 57 05.9	-0.1
ISA	Isabella	2.70	110	⇓P	Pn	19 57 06.2	+0.3
	baz=2.6,SNR=67						
ISA				⇓S	Sn	19 57 38.6	-0.4
	baz=2.6						
TIN	Tinemaha	2.74	80	⇑S	Sn	19 57 41.4	+1.5
	baz=2.5						
CWC	Cottonwood Cre	2.84	93	⇑P	Pn	19 57 08.8	+0.9
	baz=2.7						
CWC				⇑S	Sn	19 57 42.7	+0.2
	baz=2.7						
DAC	Darwin (Calif)	3.25	95	ePn	Pn	19 57 13.5	0.0
NV11	Mina Array Sit	3.28	56	ePn	Pn	19 57 14.4	+0.4
LRMC	Laurel Mountai	3.37	109	⇓P	Pn	19 57 14.9	-0.2
	baz=3.2,SNR=20						
EDW2	Edwards Air Fo	3.41	120	⇓P	Pn	19 57 15.7	+0.1
	baz=3.3						
GRAC	Grapevine Rang	3.41	82	⇑Pb	Pb	19 57 24.3	+1.6
	baz=3.2						
GRAC				⇓Sb	Sb	19 58 06.7	+2.1
	baz=3.2						
KIPM	Iron Peak	3.51	336	ePn	Pn	19 57 18.0	+0.9
PASC	Pasadena Art C	3.71	130	Pn	Pn	19 57 20.6	+1.0
MWC	Mount Wilson	3.75	129	ePn	Pn	19 57 20.3	-0.2
TPH	Tonopah	3.77	66	ePn	Pn	19 57 20.5	-0.3
GSC	Goldstone	4.10	107	ePn	Pn	19 57 25.2	-0.1
GSC	Goldstone	4.10	107	⇓P	Pn	19 57 25.0	-0.3
	baz=4.0,SNR=8.1						
HEC	Hector,Ludlow	4.64	111	⇓P	Pn	19 57 32.6	-0.1
	baz=4.5,SNR=7.7						
R11A	Troy Canyon, C	5.08	68	Pn	Pn	19 57 41.6	+2.9
GMRC	Granite Mounta	5.17	109	⇑P	Pn	19 57 39.3	-0.6
	baz=5.0,SNR=7.6						
SHPR	Sheep Range	5.18	89	ePn	Pn	19 57 40.6	+0.5
MOD	Modoc	5.37	10	Pn	Pn	19 57 41.6	-1.0
	4.8nm,0.6s						
BAR	Barrett	5.65	133	ePn	Pn	19 57 47.3	+0.8
DUG	Dugway	7.76	60	ePn	Pn	19 58 13.7	-1.8
	8.5nm,0.6s						
SPUT	South Promonto	8.52	54	ePn	Pn	19 58 24.5	-1.5
TMUT	Trail Mountain	8.63	69	ePn	Pn	19 58 21.6	-6.0
	11nm,0.5s						
HLID	Hailey	8.85	36	ePn	Pn	19 58 30.4	0.0
	2.6nm,0.8s						
PV04	Paradox Valley	10.24	76	ePn	Pn	19 58 37.8	-12
MCMT	McKenzie Canyo	10.54	36	ePn	Pn	19 58 40.0	-14

*ISCJB **08** 19:58:11.3±0.2, 8.04S±0.03×122.82E±0.03, h221km, mb3.9/16, Error ellipse: s-maj=4.7km s-min=3.3km az=39.9*
*DJA **08** 19:58:12.2±0.2, 8°S±3°×12°3E±°, h226km±4km, M4.4/22, mB4.9/13, mb4.6/22, MLv4.7/14, Mw(mB)4.2/13, Mwp4.9/1*
*IDC **08** 19:58:14.4±2.6, 8.00S×122.89E, h237km±26km, mb3.7/15, mb1 3.9/17, mb1mx3.7/34, mbtmp4.4/17, Error ellipse: s-maj=18.3km s-min=9.6km az=67.0*
ISC 08 19:58:12.6±0.4, **8.08S**±0.05×**122.84E**±0.05, **h221km, n86, σ1.66**/89, **mb4.0**/16, **Flores region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.81	227	P	Pn	19 58 42.8	-0.7
SOEI	Soe	2.18	140	P	Pn	19 58 54.6	-0.1
SOEI				S	S	19 59 27.8	+0.4
SOEI	Soe	2.18	140	P	Pn	19 58 54.5	-0.1
	baz=2.3,SNR=138						
WSI	Waingapu	2.96	238	P	Pn	19 59 01.4	-1.5
WSI				S	S	19 59 42.4	+0.2
WSI	Waingapu	2.96	238	P	Pn	19 59 01.4	-1.5
	baz=3.0,SNR=38						
BKSI	Bulukumba	3.85	315	P	Pn	19 59 11.8	-1.5
BNSI	Bone	4.55	323	P	Pn	19 59 21.7	-0.3
SPSI	Sidrap Palu	5.10	323	P	Pn	19 59 28.1	-0.8
	48nm,0.8s,513nm0.1nm						
TTSI	Tana Toraja	5.84	329	P	Pn	19 59 38.3	+0.2
	65nm,0.8s,651nm0.2nm						
SRBI	Singaraja	7.55	269	P	Pn	19 59 58.3	-1.8
	26nm,0.6s,764nm0.3nm						
IGBI	Denpasar	7.64	264	P	Pn	19 59 58.9	-2.4
	78nm,0.4s,5µm2µm1.3nm						
SAUI	Saumlaki	8.38	90	P	Pn	20 00 09.5	-1.3
	95nm,0.6s,2µm						
JAGI	Jajag, Banyuwa	8.61	267	P	Pn	20 00 09.0	-4.7
	27nm,0.4s,1µm						
JAGI	Jajag, Banyuwa	8.61	267	P	Pn	20 00 09.7	-4.0
	baz=8.6,SNR=31						
JAGI				S	S	20 01 40.9	-10
	baz=8.6,SNR=16						
LBMI	Labuha	8.73	32	P	Pn	20 00 15.2	-0.2
	62nm,1.0s						
KMMI	Kalianget	8.85	276	P	Pn	20 00 17.4	+0.5
	21nm,1.1s						
BLJI	Banyuglugur	9.16	271	P	Pn	20 00 24.6	+3.8
	33nm,0.5s						
GMJI	Gumukmas	9.30	268	P	Pn	20 00 18.6	-4.0
	16nm,0.9s,570nm						
MTN	Manton Dam	9.43	121	P	Pn	20 00 22.9	-1.4
	baz=9.5,SNR=372						
MTN				S	S	20 02 03.7	-6.6
	baz=9.5,SNR=9.6						
KNRA	Kununurra	9.52	143	P	Pn	20 00 24.1	-1.2
	baz=9.7,SNR=169						
KNRA				S	S	20 02 06.8	-5.5
	baz=9.7,SNR=9.7						
TNTI	Ternate	9.89	27	P	Pn	20 00 31.3	+1.1
	96nm,1.1s						
FITZ	Fitzroy Crossi	10.33	165	P	Pn	20 00 34.1	-1.6
	baz=10,SNR=81						
FITZ				S	S	20 02 27.0	-4.6
	baz=10,SNR=9.3						
KDU	Kakadu	10.52	117	P	Pn	20 00 35.9	-2.4
	baz=11,SNR=53						
FAKI	Fak Fak	10.68	62	P	Pn	20 00 38.5	-1.8
	92nm,0.7s						
FAKI	Fak Fak	10.68	62	P	Pn	20 00 38.2	-2.1
	baz=11,SNR=45						
PWJI	Pagerwojo	10.93	270	P	Pn	20 00 41.1	-2.3
	23nm,0.5s						
SWI	Sorong	11.04	50	P	Pn	20 00 41.3	-3.5
	36nm,0.6s						
PCJI	Pacitan	11.54	269	P	Pn	20 00 48.7	-2.6
	68nm,0.4s,1µm						
PCJI				S	S	20 02 48.9	-10
	68nm,0.4s,1µm						
KMPI	Kaimana, Papua	11.66	69	P	Pn	20 00 50.4	-2.4
	108nm,0.8s						
UGM	Wanagama	12.20	270	P	Pn	20 00 57.7	-1.8
	baz=12,SNR=12						
UGM				S	S	20 03 13.0	-1.5
	baz=12,SNR=5.0						
KPJI	Karang Pucung	13.80	272	P	Pn	20 01 18.6	-0.8
CISI	Cisompet, Garu	14.89	271	P	Pn	20 01 30.7	-2.1
	baz=15,SNR=14						
CISI				S	S	20 03 53.4	-24
	baz=15,SNR=3.8						
WRA	Warramunga Arr	16.22	138	P	P	20 01 47.5	-0.2
	3.2nm,0.3s,baz=312,slow=12,SNR=135						
WRA				S	S	20 04 43.7	-3.0
	1.5nm,0.3s,baz=311,slow=23,SNR=8.2						
GIRL	Giralia	16.68	209	P	Pn	20 01 55.2	+1.2
	baz=17,SNR=7.2						
GIRL				S	S	20 05 00.9	+5.3
	baz=17,SNR=3.2						
WRKA	Warakurna	17.65	163	P	Pn	20 02 05.0	-0.5
	baz=18,SNR=243						
JAY	Jayapura	18.62	74	P	Pn	20 02 15.9	-1.2
	baz=19,SNR=4.4						
ASAR	Alice Springs	18.78	147	P	P	20 02 16.9	+1.3
	5.3nm,0.3s,baz=322,slow=10,SNR=399						
ASAR				ScP	ScP	20 09 45.7	-2.0
	baz=326,slow=2.2,SNR=4.4						
MEEK	Meekatharra	18.89	192	P	P	20 02 18.1	+1.4
	baz=19,SNR=54						
MEEK				S	S	20 05 53.1	+14
	baz=19,SNR=4.2						
QIS	Mount Isa	20.41	129	P	P	20 02 33.7	+0.6
	baz=20,SNR=81						
COEN	Coen	20.79	108	P	P	20 02 36.6	-0.6
	baz=21,SNR=34						
COEN				S	S	20 06 32.8	+17
	baz=21,SNR=5.0						
MORW	Morawa	21.84	196	P	P	20 02 47.8	+0.3
	baz=22,SNR=5.9						
MORW				S	S	20 06 56.3	+23
	baz=22,SNR=5.9						
FORT	Forrest	23.10	168	P	P	20 03 00.2	+1.2
	baz=23,SNR=22						
BLDU	Ballidu	23.14	194	P	P	20 03 00.1	+0.7
	baz=23,SNR=18						
MTSU	Mount Surprise	23.16	118	P	P	20 03 00.8	+1.1
	baz=23,SNR=49						
KLBR	Kellerberrin	23.87	191	P	P	20 03 06.7	+0.7
	baz=24,SNR=10						
PMG	Port Moresby	24.07	95	P	P	20 03 07.8	-0.3
	8.7nm,0.5s,baz=251,slow=4.3,SNR=12						
PMG	Port Moresby	24.07	95	P	P	20 03 10.6	+2.5
	baz=24,SNR=3.4						
NWAO	Narrogin (SRO)	25.26	191	P	P	20 03 19.1	+0.5
	5.2nm,0.5s,baz=20,slow=9.9,SNR=10						
CTA	Charters Tower	25.61	120	P	P	20 03 23.0	+1.0
	7.2nm,0.9s,baz=307,slow=8.9,SNR=5.9						
RKGY	Rocky Gully	26.95	191	P	P	20 03 36.0	+2.3
	baz=27,SNR=6.4						
BBOO	Buckleboo	27.49	155	P	P	20 03 39.3	+0.8
	baz=28,SNR=41						
HTT	Hallett	29.28	152	P	P	20 03 55.9	+1.5
	baz=30,SNR=30						
STKA	Stephens Creek	29.41	146	P	P	20 03 56.7	+1.1
	11nm,0.4s,baz=329,slow=9.8,SNR=89						
STKA	Stephens Creek	29.41	146	P	P	20 03 56.9	+1.3
	baz=30,SNR=86						
RMQ	Roma	30.67	130	P	P	20 04 08.4	+1.7
	baz=31,SNR=3.8						
ARPS	Mount Arapiles	33.38	152	P	P	20 04 31.9	+1.7
	baz=34,SNR=11						
ARMA	Armidale	34.92	133	P	P	20 04 46.7	+3.1
	baz=35,SNR=4.8						
YNG	Young	35.13	142	P	P	20 04 47.6	+2.4
	baz=35,SNR=5.6						
CMAR	Chiang Mai Arr	35.38	318	P	P	20 04 48.4	+0.9
	0.2nm,0.5s,baz=128,slow=5.8,SNR=4.0						
TOO	Toolangi	35.82	148	P	P	20 04 53.8	+2.7
	baz=36,SNR=5.0						
KSRS	Korea Array	45.55	6	P	P	20 06 09.5	-0.8
	0.6nm,0.5s,baz=179,slow=8.6,SNR=3.9						
MJAR	Matsushiro Arr	46.68	17	P	P	20 06 18.1	-1.1
	4.9nm,0.9s,baz=193,slow=9.9,SNR=6.2						
NFK	Norfolk Island	47.20	122	S	S	20 13 01.7	+2.4
	baz=47,SNR=3.7						
ODAN	Odare	48.86	317	eP	P	20 06 37.1	+0.6
	3.1nm,0.4s						
TAPN	Taplejung	48.97	317	eP	P	20 06 38.0	+0.7
	7.9nm,0.4s						
RAMN	Ramite	49.46	316	eP	P	20 06 41.6	+0.6
	16nm,0.5s						
JIRN	Jiri	50.20	316	eP	P	20 06 47.9	+1.2
	5.7nm,0.4s						
GUN	Gumba	50.57	316	eP	P	20 06 48.9	-0.5
	3.9nm,0.3s						
PKI	Pulchoki	50.67	316	eP	P	20 06 50.3	+0.1
PKIN	Phulchoki	50.69	316	eP	P	20 06 50.3	+0.1
	3.2nm,0.4s						
DMN	Daman	50.91	316	eP	P	20 06 52.4	+0.5
	3.8nm,0.4s						
GKN	Gorkha	51.48	316	eP	P	20 06 56.1	+0.1
	4.2nm,0.3s						
KOLN	Koldanda	52.06	315	eP	P	20 07 00.8	+0.5
DANN	Dangsing	52.30	315	eP	P	20 07 02.3	+0.1
	17nm,0.5s						
PYUN	Piuthan	52.69	315	eP	P	20 07 04.6	-0.3
	22nm,0.4s						
USRK	Ussuriysk Arra	52.69	8	P	P	20 07 03.6	-0.8
	2.8nm,0.4s,baz=195,slow=6.5,SNR=13						
SONM	Songino Array	57.54	347	P	P	20 07 39.1	-0.1
	0.4nm,0.5s,baz=159,slow=8.4,SNR=4.3						
MKAR	Makanchi Array	65.45	331	P	P	20 08 31.7	-0.2
	1.8nm,0.5s,baz=137,slow=6.4,SNR=40						
KBL	Kabul	66.17	313	P	P	20 08 37.2	+0.2
	baz=66,SNR=3.2						
AAK	Ala-Archa	66.96	323	P	P	20 08 42.8	+1.1
	2.3nm,0.5s,baz=110,slow=4.0,SNR=12						
PETK	Petropavlovsk-	67.77	22	P	P	20 08 46.9	+0.5
	1.5nm,0.6s,baz=205,slow=4.2,SNR=5.9						
ZALV	Zalesovo Beam	69.61	337	P	P	20 08 57.0	-0.7
	0.8nm,0.5s,baz=132,slow=5.3,SNR=3.6						
KURBB	Kurchatov Arra	69.90	332	P	P	20 08 58.7	-0.8
	0.7nm,0.7s,baz=146,slow=5.1,SNR=11						
VNDA	Vanda	72.32	172	P	P	20 09 14.9	+1.2
	3.3nm,0.8s,baz=319,slow=6.8,SNR=5.8						
AKTO	Aktyubinsk	80.67	324	P	P	20 09 59.9	-1.1
	0.7nm,0.5s,baz=101,slow=5.2,SNR=3.5						
TORD	Torodi Ar. Bea	122.03	280	PKP	PKPdf	20 16 40.6	-1.2
	0.5nm,0.8s,baz=115,slow=1.3,SNR=4.5						

*IDC **08** 20:30:33.6±3.3, 49.01N×129.46W, h0km, mb3.8/1, mb1 3.6/5, mb1mx3.3/28, mbtmp3.4/5, ML3.1/4, MS2.9/2, Ms1 2.9/2, ms1mx2.6/50, Error ellipse: s-maj=59.2km s-min=21.6km az=71.0*
*ISCJB **08** 20:30:37.5±1.4, 49.16N±0.05×128.77W±0.1, h11km, mb3.8/1, Error ellipse: s-maj=14.9km s-min=5.2km az=158.3*
*PGC **08** 20:30:37.8±17.0, 49.05N×128.80W, h10km, ML2.8/22, Mw3.4/22, 208km Wsw of Gold R., Bc Vancouver Island Region*
ISC 08 20:30:37.4±1.5, **49.13N**±0.06×**128.73W**±0.09, **h11km, n45, σ1.57**/46, **Vancouver Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.20	31	P	Pg	20 31 00.3	-0.1
EDB	Eliza Dome	1.28	54	P	Pb	20 31 00.5	-1.0
ETB	Estevan Point	1.45	80	P	Pn	20 31 03.2	-0.4
HOLB	Holberg	1.56	14	Pn	Pn	20 31 05.9	+0.9
HOLB				Sn	Sn	20 31 24.8	-0.4
MAYB	Maynard	1.62	38	Pn	Pn	20 31 05.4	-0.6
WOSB	Woss	1.74	53	Pn	Pn	20 31 07.8	+0.2
PHC	Port Hardy	1.78	27	Pn	Pn	20 31 08.2	+0.1
PHC				Sn	Sn	20 31 29.1	-1.6
TOFB	Tofino	1.85	88	Pn	Pn	20 31 08.1	-0.9
GDR	Gold River	1.87	69	Pn	Pn	20 31 09.2	-0.2
BTB	Buttle Lake	2.12	80	Pn	Pn	20 31 12.8	-0.2
OZB	Mount Ozzard	2.13	93	Pn	Pn	20 31 11.8	-1.1
NCRB	Newcastle Ridg	2.15	53	Pn	Pn	20 31 13.9	+0.7
CBB	Campbell River	2.36	66	Pn	Pn	20 31 17.0	+0.9
CBB				Sn	Sb	20 31 49.0	-0.1
BMSB	Bamfield Mari	2.38	96	Sn	Sn	20 31 40.8	-4.7
ALB	Alberni	2.56	85	Pn	Pn	20 31 19.2	+0.5
MGB	Mount Grey	2.66	91	Pn	Pn	20 31 19.6	-0.6
OCP	Olym-Cheeka Pk	2.84	106	Pn	Pn	20 31 22.1	-0.6
TXB	Texada	2.86	77	Pn	Pn	20 31 24.0	+1.1
PFB	Port Renfrew	2.89	100	Pn	Pn	20 31 22.8	-0.5
PFB				Sn	Sn	20 31 56.0	-1.9
BBB	Bella Bella	3.08	7	Pn	Pn	20 31 25.1	-0.8
BBB				Sn	Sn	20 32 01.6	-1.0
BBB	Bella Bella	3.08	7	Pn	Pn	20 31 24.9	-1.0
	10.0nm,0.3s,baz=204,slow=13,SNR=115						
BBB				Sn	Sn	20 32 00.8	-1.8
	19nm,0.3s,baz=307,slow=20,SNR=12						
NLLB	Nanaimo Lost L	3.11	86	Pn	Pn	20 31 27.4	+1.1
SHB	Sechelt	3.20	80	Pn	Pn	20 31 28.8	+1.1
GOBB	Galiano Island	3.44	91	Pn	Pn	20 31 31.6	+0.8
BIB	Bowen Island	3.56	84	Pn	Pn	20 31 33.0	+0.5
WPB	Watts Point	3.64	80	Pn	Pn	20 31 34.4	+0.8
SNB	Saturna Island	3.68	94	Pn	Pn	20 31 35.0	+0.9
HNB	Haney	4.03	86	Pn	Pn	20 31 39.8	+0.8
LLLB	Lillooet	4.67	69	Pn	Pn	20 31 50.0	+2.2
HOPB	Hope	4.79	84	Pn	Pn	20 31 50.5	+1.1
LON	Longmire	5.22	115	Pn	Pn	20 31 57.1	+1.6
LTY	Liberty	5.70	106	Pn	Pn	20 32 02.7	+0.7
LTY				S	Sn	20 32 20.6	-47
FSB	Fort Saint Jam	6.00	25	Pn	Pn	20 32 07.9	+1.8
DOWB	Downie Slide	6.96	66	Pn	Pn	20 32 21.3	+2.1
SLEB	Sale Mountain	7.10	69	Pn	Pn	20 32 24.1	+2.7
MNB	Mounoet Dainar	7.25	61	Pn	Pn	20 32 25.8	+2.3
NEW	Newport	7.73	92	LR	LR	20 35 40.7	
	comp=Z,156nm,19.9s,baz=229,slow=37						
YBH	Yreka Blue Hor	8.52	148	LR	LR	20 34 56.5	
	comp=Z,32nm,18.2s,baz=354,slow=30						
NVAR	Mina Array Bea	13.07	141	Pn	Pn	20 33 46.1	+3.0
	0.0nm,0.3s,baz=316,slow=13,SNR=5.6						
YKA	Yellowknife Ar	15.51	25	Pn	Pn	20 34 15.4	-0.3
	0.1nm,0.3s,baz=214,slow=12,SNR=7.1						
ILAR	Eielson Array	18.42	335	P	Pn	20 34 50.1	-2.3
	0.0nm,0.3s,baz=147,slow=10,SNR=5.0						
ULM	Lac du Bonnet	21.19	74	P	P	20 35 26.3	+3.7
	4.0nm,0.9s,baz=265,slow=10,SNR=4.2						
H11N2	WAKE ISLAND Hy	58.63	264	T	T	21 43 29.4	
	baz=46						
H11N3	WAKE ISLAND Hy	58.63	264	T	T	21 43 34.2	
	baz=46						
H11N1	WAKE ISLAND Hy	58.64	264	T	T	21 43 31.8	
	baz=46						

*IDC **08** 21:05:01.1±1.1, 6.49S×147.56E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/28, mbtmp3.8/10, ML3.6/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/21, Error ellipse: s-maj=35.7km s-min=13.0km az=108.0*
*ISCJB **08** 21:05:08.3±0.7, 6.53S±0.06×147.3E±0.1, h63km, mb3.6/8, Error ellipse: s-maj=15.3km s-min=8.0km az=7.0*
ISC 08 21:05:10.1±1.0, **6.56S**±0.08×**147.3E**±0.1, **h63km, n23, σ1.48**/23, **mb3.7**/7, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.83	183	Pn	Pn	21 05 49.0	-3.9
	1.5nm,0.3s,baz=0.0,slow=10,SNR=15						
PMG				Sn	Sn	21 06 27.5	+1.7
	14nm,0.3s,baz=0.0,slow=20,SNR=4.1						
PMG	Port Moresby	2.83	183	P	Pn	21 05 50.8	-2.0
	baz=2.7,SNR=29						
COEN	Coen	8.38	209	P	Pn	21 07 09.7	+0.8
	baz=8.2,SNR=7.2						
COEN				S	Sn	21 08 41.5	-0.7
	baz=8.2,SNR=3.8						
QIS	Mount Isa	15.78	207	P	P	21 08 50.4	-0.9
	baz=16,SNR=3.7						
KDU	Kakadu	15.81	246	P	P	21 08 48.9	-0.1
	baz=16,SNR=3.9						
WRA	Warramunga Arr	18.30	222	P	P	21 09 18.2	-0.9
	0.2nm,0.3s,baz=46,slow=12,SNR=17						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QLP	Quilpie	20.12	188	P	P	21 09 39.7	+0.8
	baz=20,SNR=6.8						
QLP				S	Sn	21 13 38.8	+12
	baz=20,SNR=3.4						
KNRA	Kununurra	20.29	242	P	P	21 09 40.9	+0.1
	baz=20,SNR=7.2						
ASAR	Alice Springs	21.32	216	P	P	21 09 52.4	+0.4
	0.9nm,0.5s,baz=45,slow=9.6,SNR=15						
ASAR				S	Sn	21 13 52.6	-3.6
	1.9nm,0.9s,baz=37,slow=20,SNR=8.0						
ASAR				LR	LR	21 19 07.3	
	comp=Z,83nm,18.6s,baz=32,slow=39						
SOEI	Soe	23.00	261	S	S	21 14 11.5	-4.5
	baz=23,SNR=5.2						
FITZ	Fitzroy Crossi	24.02	240	P	P	21 10 20.3	+1.0
	baz=24,SNR=3.3						
STKA	Stephens Creek	25.74	191	P	P	21 10 35.0	+0.2
	2.1nm,0.8s,baz=12,slow=9.3,SNR=6.6						
STKA				LR	LR	21 20 42.0	
	comp=Z,73nm,19.6s,baz=26,slow=36						
STKA	Stephens Creek	25.74	191	P	P	21 10 35.7	+0.9
	baz=26,SNR=4.9						
WRKA	Warakurna	25.84	223	P	P	21 10 35.9	+0.1
	baz=26,SNR=4.8						
MEEK	Meekatharra	33.81	231	P	P	21 11 47.1	+0.7
	baz=34,SNR=4.7						
KSRS	Korea Array	47.38	339	LR	LR	21 31 31.1	
	comp=Z,25nm,19.2s,baz=340,slow=34						
CMAR	Chiang Mai Arr	53.77	298	P	P	21 14 28.9	+2.4
	1.6nm,0.8s,baz=124,slow=5.8,SNR=14						
MKAR	Makanchi Array	78.11	320	P	P	21 17 02.7	+0.3
	0.3nm,0.7s,baz=101,slow=8.2,SNR=4.2						
ZALV	Zalesovo Beam	79.64	328	P	P	21 17 09.8	-0.7
	0.6nm,0.5s,baz=110,slow=6.4,SNR=3.6						
KURBB	Kurchatov Arra	81.85	323	P	P	21 17 21.2	-1.2
	0.2nm,0.7s,baz=112,slow=3.8,SNR=3.9						
ILAR	Eielson Array	85.89	23	P	P	21 17 41.6	-1.1
	0.9nm,0.8s,baz=252,slow=4.7,SNR=9.0						
YKA	Yellowknife Ar	99.53	28	P	Pdif	21 18 45.2	-0.8
	0.3nm,0.9s,baz=266,slow=4.6,SNR=2.9						
TORD	Torodi Ar. Bea	145.50	284	PKPbc	PKPab	21 24 43.6	+1.0
	4.0nm,0.9s,baz=71,slow=2.5,SNR=21						

*IDC **08** 21:20:51.9±0.9, 28°.24N×54°.19E, h0km, mb3.8/17, mb1 3.9/19, mb1mx3.7/40, mbtmp3.8/19, ML3.3/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/39, Error ellipse: s-maj=20.8km s-min=16.0km az=178.0*

*ISCJB **08** 21:20:54.9±0.2, 28°.33N±0°.03×54°.13E±0°.04, h24km, mb3.9/30, Error ellipse: s-maj=5.1km s-min=3.7km az=147.1*

*THR **08** 21:20:54.7±1.2, 28°.30N×54°.21E, h15km, ML3.8*

*MOS **08** 21:20:55.6±1.1, 28°.31N×54°.26E, h33km, mb4.3/17, Error ellipse: s-maj=13.1km s-min=7.7km az=114.7*

*NEIC **08** 21:20:55.8, 28°.05N×53°.98E, h27km, mb4.3/6, MN3.8(TEH), After TEH.*

*TEH **08** 21:20:55.6, 28°.07N×54°.01E, h28km, ML3.9*

*CSEM **08** 21:20:56.3±0.1, 28°.35N×54°.18E, h20km, mb4.2/17, Error ellipse: s-maj=6.1km s-min=4.7km az=61.0*

*OMAN **08** 21:21:28.4±99.0, 26°.24N×55°.50E, h13km±224km, Error ellipse: s-maj=1308.0km s-min=27.0km az=334.0*

*DSN **08** 21:21:32.5±99.0, 25°.92N×55°.37E, h16km, mb2.5/4, ML2.6/1, Error ellipse: s-maj=48.6km s-min=2.3km az=345.0*

ISC 08 21:20:56.1±0.5, **28°.27N**±0°.04**×54°.20E**±0°.04, **h24km, n179, σ1.57/179, mb3.9/30, 5C, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.07	271	ePn	Pb	21 21 17.5	+1.5
	3µm,0.4s						
GHIR	Ghir-Karzin	1.07	271	ePn	Pb	21 21 17.5	+1.5
GHIR				AML	AML	21 21 37.7	
	comp=E,2µm,0.4s						
GHIR				AML	AML	21 21 38.7	
	comp=N,3µm,0.4s						
ISRV	Sarvestan	1.46	320	ePn	Pn	21 21 22.2	+0.9
ISRV				eSg	Sb	21 21 44.7	+3.6
ISRV				e		21 21 52.3	
	comp=Z,14µm,0.3s						
ISRV	Sarvestan	1.46	320	Pn	Pb	21 21 23.0	+0.2
ISRV				Sg	Sb	21 21 44.6	+3.6
ISRV	Sarvestan	1.46	320	ePn	Pn	21 21 22.2	+0.9
ISRV				Sg	Sb	21 21 44.6	+3.6
IPAR	Pars	1.86	327	ePn	Pn	21 21 27.8	+1.1
IPAR				eSg	Sb	21 21 57.6	+5.0
IPAR				e		21 22 09.4	
	comp=Z,6µm,0.4s						
IPAR	Pars	1.86	327	Pn	Pn	21 21 28.4	+1.6
IPAR				Sg	Sb	21 21 57.5	+5.0
IPAR	Pars	1.86	327	ePn	Pn	21 21 27.8	+1.1
IPAR				Sg	Sb	21 21 57.5	+5.0
BNDS	Bandar-Abbas	1.95	116	ePn	Pn	21 21 29.1	+1.2
	comp=Z,418nm,0.5s						
BNDS	Bandar-Abbas	1.95	116	ePn	Pn	21 21 29.1	+1.2
BNDS				AML	AML	21 22 11.4	
	comp=E,418nm,0.5s						
IBND	Bandar-abas	2.23	111	ePn	Pn	21 21 32.0	+0.5
IBND				eSg	Sb	21 22 08.2	+5.3
IBND				e		21 22 23.4	
	comp=Z,7µm,0.2s						
IBND	Bandar-abas	2.23	111	Pn	Pn	21 21 33.1	+1.6
IBND	Bandar-abas	2.23	111	ePn	Pn	21 21 32.0	+0.5
IKAZ	Kazeroun	2.55	307	ePn	Pn	21 21 36.2	-0.1
IKAZ				e		21 22 25.6	
	comp=Z,5µm,0.2s						
IKAZ	Kazeroun	2.55	307	Pn	Pn	21 21 36.7	+0.4
IKAZ	Kazeroun	2.55	307	ePn	Pn	21 21 36.7	+0.4
KRBR	Kerman	2.81	52	ePn	Pn	21 21 41.8	+1.9
	comp=Z,336nm,0.8s						
KRBR	Kerman	2.81	52	ePn	Pn	21 21 41.8	+1.9
KRBR				AML	AML	21 22 29.2	
	comp=E,339nm,0.6s						
KRBR				AML	AML	21 22 37.0	
	comp=N,336nm,0.8s						
BANOM	Banah	3.00	141	P	Pn	21 21 43.6	+1.5
	SNR=25						
BANOM	Banah	3.00	141	P	Pn	21 21 43.6	+1.5
	SNR=25						
IMEH	Mehriz	3.13	7	ePn	Pn	21 21 46.3	+2.2
IMEH				e		21 22 46.4	
	comp=Z,2µm,0.4s						
IMEH	Mehriz	3.13	7	Pn	Pn	21 21 46.3	+2.2
IMEH	Mehriz	3.13	7	ePn	Pn	21 21 46.3	+2.2
IBAF	Bafgh	3.51	19	ePn	Pn	21 21 50.5	+1.2
IBAF				e		21 22 09.9	
	comp=Z,1µm,0.2s						
IBAF	Bafgh	3.51	19	Pn	Pn	21 21 50.5	+1.2
IBAF	Bafgh	3.51	19	Pn	Pn	21 21 50.5	+1.2
ISAD	Sadrabad	3.66	353	ePn	Pn	21 21 53.0	+1.6
ISAD				e		21 22 59.4	
	comp=Z,2µm,0.4s						
ISAD	Sadrabad	3.66	353	Pn	Pn	21 21 53.8	+2.4
ISAD	Sadrabad	3.66	353	ePn	Pn	21 21 53.0	+1.6
FAQ	Al Faqa, Dubai	3.73	160	P	Pn	21 21 54.7	+2.5
	SNR=15						
FAQ	Al Faqa, Dubai	3.73	160	⇑eP	Pn	21 21 54.7	+2.5
	SNR=15						
ASUD	Al Ashush, Dub	3.77	164	P	Pn	21 21 55.9	+3.1
	SNR=26						
ASUD	Al Ashush, Dub	3.77	164	eP	Pn	21 21 55.9	+3.1
	SNR=26						
HATD	Hatta, Dubai	3.84	153	P	Pn	21 21 55.8	+2.0
	SNR=10						
HATD	Hatta, Dubai	3.84	153	⇑eP	Pn	21 21 55.8	+2.0
	SNR=10						
ASHO	Ashiyiah	3.94	155	P	Pn	21 21 57.1	+1.9
	SNR=60						
ASHO	Ashiyiah	3.94	155	P	Pn	21 21 57.1	+1.9
	SNR=60						
ICHK	Chekchek	3.96	3	ePn	Pn	21 21 57.4	+1.7
ICHK				e		21 23 13.7	
	comp=Z,917nm,0.3s						
ICHK	Chekchek	3.96	3	Pn	Pn	21 21 57.3	+1.7
ICHK	Chekchek	3.96	3	Pn	Pn	21 21 57.3	+1.7
NASN	Na'in	4.67	345	ePn	Pn	21 22 06.1	+1.7
NASN	Na'in	4.67	345	ePn	Pn	21 22 06.1	+0.7
SLWS		4.70	223	P	Pn	21 22 08.0	+2.4
SLWS		4.70	223	P	Pn	21 22 07.9	+2.3
IZEF	Zefreh	4.88	341	e		21 22 39.6	
	comp=Z,302nm,0.4s						
IZEF				ePn	Pn	21 22 08.5	+0.2
BOQSS		4.92	242	P	Pn	21 22 11.0	+2.4
BOQSS		4.92	242	P	Pn	21 22 10.8	+2.2
BTHS		5.18	216	P	Pn	21 22 14.0	+1.9
BTHS		5.18	216	P	Pn	21 22 13.6	+1.5
IPIR	Pirpir	5.24	328	ePn	Pn	21 22 13.2	-0.1
IPIR				e		21 23 18.1	
	comp=Z,770nm,0.3s						
IPIR	Pirpir	5.24	328	Pn	Pn	21 22 13.1	-0.1
IPIR	Pirpir	5.24	328	ePn	Pn	21 22 13.2	-0.1
ARQ	Araqi	5.34	156	⇑P	Pn	21 22 16.2	+1.8
ARQ	Araqi	5.34	156	P	Pn	21 22 16.2	+1.8
HOQ	Hoqain	5.45	148	⇑P	Pn	21 22 17.4	+1.6
HOQ	Hoqain	5.45	148	P	Pn	21 22 17.4	+1.6
IKLH	Kolahrood	5.51	337	ePn	Pn	21 22 17.3	+0.5
IKLH				e		21 23 21.1	
	comp=Z,348nm,0.4s						
IKLH	Kolahrood	5.51	337	Pn	Pn	21 22 17.4	+0.5
IKLH	Kolahrood	5.51	337	Pn	Pn	21 22 17.4	+0.5
KFJS		5.52	271	P	Pn	21 22 18.0	+1.2
KFJS		5.52	271	P	Pn	21 22 17.9	+1.2
TABS	Tabas	5.92	24	ePn	Pn	21 22 23.5	+1.1
TABS	Tabas	5.92	24	ePn	Pn	21 22 23.5	+1.1
QAM	Ghamsar	5.96	337	ePn	Pn	21 22 23.4	+0.4
SMDO	Samad	6.25	145	⇑P	Pn	21 22 28.5	+1.6
	SNR=8.1						
IKOM	Komasi	8.21	317	ePn	Pn	21 22 52.5	-1.3
IKOM				e		21 24 30.0	
	comp=N,1µm,0.3s						
IKOM	Komasi	8.21	317	ePn	Pn	21 22 52.5	-1.3
ASYS		8.76	267	P	Pn	21 23 00.0	-1.3
ASYS		8.76	267	P	Pn	21 22 59.7	-1.6
IGHG	Ghaleghazi	8.89	315	e		21 23 08.7	
	comp=Z,292nm,0.1s						
IGHG				ePn	Pn	21 23 01.6	-1.6
RAYN	Ar Rayn	9.14	241	ePn	Pn	21 23 05.7	-0.9
	comp=Z,17nm,0.5s						
RAYN				eSn	Sn	21 24 41.2	-7.6
RAYN	Ar Rayn	9.14	241	ePn	Pn	21 23 05.7	-0.9
	comp=Z,17nm,0.5s						
IDHR	Dehrash	9.24	316	ePn	Pn	21 23 06.4	-1.7
IDHR				e		21 24 58.5	
	comp=Z,337nm,0.2s						
IDHR	Dehrash	9.24	316	Pn	Pn	21 23 05.8	-2.3
IDHR	Dehrash	9.24	316	ePn	Pn	21 23 06.4	-1.7
CUKT	Cukurca	12.62	318	eP	Pn	21 23 50.5	-3.7
GNI	Garni	14.19	329	LR	LR	21 31 05.9	
	comp=Z,40nm,19.5s,baz=292,slow=43						
AGRB	Hanur-Agry	14.60	323	eP	Pn	21 24 22.5	+1.2
ASF	Jabal al Asfar	15.45	289	Pn	Pn	21 24 28.8	-3.8
	comp=Z,0.2nm,0.3s,baz=279,slow=1.0,SNR=6.6						
ASF				Sn	Sn	21 27 20.0	-3.1
	comp=Z,0.1nm,0.3s,baz=304,slow=18,SNR=1.9						
EZM	Erzurum	15.72	321	eP	Pn	21 24 30.4	-5.8
PTK	Pertek	16.24	315	eP	Pn	21 24 35.8	-7.1
ZEI	Tsey	16.71	333	eP	P	21 24 50.4	-0.6
ZEI				pmax	pmax		
	comp=Z,13nm,0.8s						
MMAI	Mount Meron Ar	16.85	291	Pn	Pn	21 24 48.3	-2.1
	comp=Z,0.2nm,0.3s,baz=100,slow=16,SNR=2.6						
MMAI				LR	LR	21 32 47.2	
	comp=Z,37nm,20.0s,baz=25,slow=42						
DARE	Darende-Malaty	17.30	311	eP	Pn	21 24 50.6	-5.5
KBZ	Khabaz	17.90	332	P	P	21 25 04.5	+0.6
	comp=Z,0.1nm,0.3s,baz=148,slow=13,SNR=3.2						
KIV	Kislovodsk	18.18	332	eP	Pn	21 25 06.4	-0.4
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV	Kislovodsk	18.18	332	eP	Pn	21 25 06.4	-0.4
	comp=Z,9.0nm,1.1s						
CORM	Corum	20.02	311	eP	P	21 25 27.8	+0.5
CORM	Corum	20.02	311	eP	P	21 25 27.8	+0.5
DIKM	Dikmen	20.41	316	eP	P	21 25 31.8	+0.4
DIKM	Dikmen	20.41	316	eP	P	21 25 31.8	+0.4
BR131	Keskin Array S	20.47	309	eP	P	21 25 31.2	-1.0
	comp=Z,3.3nm,0.7s						
BR131	Keskin Array S	20.47	309	eP	P	21 25 31.2	-1.0
	comp=Z,3.3nm,0.7s						
BRTR	Keskin Array B	20.47	309	P	P	21 25 33.1	+0.9
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRTR	Keskin Array B	20.47	309	P	P	21 25 33.1	+0.9
	comp=Z,3.4nm,0.6s,baz=133,slow=11,SNR=16						
KONT	Konya--Tatoy	20.64	303	eP	Pn	21 25 44.4	+8.1
ABKAR	Akbulak array	21.41	10	eP	P	21 25 42.0	-0.1
	comp=Z,1.1nm,0.6s						
ABKAR	Akbulak array	21.41	10	eP	P	21 25 42.0	-0.1
	comp=Z,1.1nm,0.6s						
SVRH	Sivrihisar-ESK	21.82	307	eP	P	21 25 55.2	+8.5
AKTK	Aktyubinsk	22.32	6	P	P	21 25 51.2	-0.7
	comp=Z,2.0nm,0.6s						
AKTO	Aktyubinsk	22.32	6	P	P	21 25 51.2	-0.7
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTO	Aktyubinsk	22.32	6	P	P	21 25 51.2	-0.7
	comp=Z,1.5nm,0.6s,baz=190,slow=11,SNR=4.5						
BVAR	Borovoye Array	27.48	21	P	P	21 26 40.1	-0.2
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	Borovoye Array	27.48	21	P	P	21 26 40.1	-0.2
	comp=Z,1.6nm,0.9s,baz=211,slow=8.2,SNR=9.4						
MK31	Makanchi Array	28.72	42	eP	P	21 26 50.7	-0.8
MK31	Makanchi Array	28.72	42	eP	P	21 26 50.7	-0.8
MK31	Makanchi Array	28.72	42	eP	P	21 26 50.7	-0.8
MK31	Makanchi Array	28.72	42	eP	P	21 26 50.7	-0.8
MKAR	Makanchi Array	28.72	42	P	P	21 26 51.3	-0.2
	comp=Z,0.4nm,0.5s,baz=232,slow=9.6,SNR=6.0						
KURBB	Kurchatov Arra	28.94	33	P	P	21 26 52.0	-1.2
	comp=Z,0.3nm,0.9s,baz=238,slow=8.7,SNR=4.6						
KURK	Kurchatov	29.04	33	P	P	21 26 52.1	-2.1
KURK	Kurchatov	29.04	33	P	P	21 26 52.0	-2.1
KURK	Kurchatov	29.04	33	P	P	21 26 52.1	-2.1
AKASG	Malin Array Be	29.30	327	P	P	21 26 55.3	-1.2
	comp=Z,0.4nm,0.4s,baz=133,slow=8.5,SNR=4.5						
KIEV	Kiev	29.30	327	eP	P	21 26 56.2	-0.3
KIEV	Kiev	29.30	327	eP	P	21 26 56.2	-0.3
OBN	Obninsk	29.70	339	eP	P	21 26 59.5	-0.5
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	Obninsk	29.70	339	eP	P	21 26 59.5	-0.5
	comp=Z,3.0nm,0.8s						
ZALV	Zalesovo Beam	34.03	33	eP	P	21 27 37.2	-0.8
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	34.03	33	P	P	21 27 37.4	-0.7
	comp=Z,0.7nm,0.5s,baz=239,slow=10,SNR=6.0						
GERES	GERESS Array B	37.17	315	eP	P	21 28 11.2	+6.0
JOF	Joensuu	37.73	343	ep	P	21 28 09.3	-0.3
	comp=Z,2.2nm,0.7s						
FINES	FINESS Array B	38.09	338	P	P	21 28 12.2	-0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	38.09	338	P	P	21 28 12.2	-0.5
	comp=Z,2.0nm,0.7s,baz=148,slow=11,SNR=8.2						
CLL	Collm	38.43	318	eP	P	21 28 15.0	-0.6
CLL	Collm	38.43	318	eP	P	21 28 15.0	-0.6
CLL	Collm	38.43	318	eP	P	21 28 15.0	-0.6
KAF	Kangasniemi	38.52	339	ep	P	21 28 16.0	-0.3
	comp=Z,0.5nm,0.3s						
MBDF	Montbardon	40.90	307	eP	P	21 28 37.5	+0.9
	comp=Z,7.5nm,0.8s						
MBDF	Montbardon	40.90	307	eP	P	21 28 37.5	+0.9
MBDF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MBDF	Montbardon	40.90	307	eP	P	21 28 37.5	+0.9
	comp=Z,7.5nm,0.8s						
MBDF	Montbardon	40.90	307	eP	P	21 28 37.5	+0.9
	comp=Z,8.0nm,0.8s						
LPG	La Plagne	41.02	308	eP	P	21 28 38.7	+1.0
	comp=Z,7.5nm,0.7s						
LPG	La Plagne	41.02	308	eP	P	21 28 38.7	+1.0
LPG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LPG	La Plagne	41.02	308	eP	P	21 28 38.7	+1.0
	comp=Z,7.5nm,0.7s						
LPG	La Plagne	41.02	308	eP	P	21 28 38.7	+1.0
	comp=Z,8.0nm,0.7s						
LPL	La Plagne	41.03	308	eP	P	21 28 38.5	+0.8
	comp=Z,5.1nm,0.7s						
LPL	La Plagne	41.03	308	eP	P	21 28 38.5	+0.8
LPL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPL	La Plagne	41.03	308	eP	P	21 28 38.5	+0.8
	comp=Z,5.1nm,0.7s						
LPL	La Plagne	41.03	308	eP	P	21 28 38.5	+0.8
	comp=Z,5.0nm,0.7s						
CMAR	Chiang Mai Arr	42.02	93	P	P	21 28 46.0	+0.1
CMAR	Chiang Mai Arr	42.02	93	P	P	21 28 46.0	+0.1
	comp=Z,0.4nm,0.4s,baz=296,slow=8.3,SNR=5.4						
CMAR	Chiang Mai Arr	42.02	93	P	P	21 28 46.0	+0.1
VIVF	Saint-Julien-l	42.40	307	eP	P	21 28 49.9	+1.2
VIVF	Saint-Julien-l	42.40	307	eP	P	21 28 49.9	+1.2
VIVF	Saint-Julien-l	42.40	307	eP	P	21 28 49.9	+1.2
VIVF	Saint-Julien-l	42.40	307	eP	P	21 28 49.9	+1.2
SMF	Signal de Mont	43.18	309	eP	P	21 28 53.9	-1.0
	comp=Z,6.1nm,0.8s						
SMF	Signal de Mont	43.18	309	eP	P	21 28 53.9	-1.0
SMF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SMF	Signal de Mont	43.18	309	eP	P	21 28 53.9	-1.0
	comp=Z,6.1nm,0.8s						
SMF	Signal de Mont	43.18	309	eP	P	21 28 53.9	-1.0
	comp=Z,6.0nm,0.8s						
NB2	NORSAR Subarra	43.48	331	P	P	21 28 55.8	-1.4
	comp=Z,1.8nm,0.9s,baz=121,slow=8.6						
NB2	NORSAR Subarra	43.48	331	P	P	21 28 55.8	-1.4
	comp=Z,1.8nm,0.9s,SNR=4.6						
NOA	NORSAR Array B	43.48	331	eP	P	21 28 56.0	-1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	43.48	331	P	P	21 28 56.1	-1.1
	comp=Z,0.9nm,0.7s,baz=121,slow=8.4,SNR=4.9						
CAF	Calviac	44.26	307	eP	P	21 29 05.0	+1.3
	comp=Z,11nm,0.9s						
CAF	Calviac	44.26	307	eP	P	21 29 05.0	+1.3
CAF				pmax	pmax		
	comp=Z,11nm,0.9s						
CAF	Calviac	44.26	307	eP	P	21 29 05.0	+1.3
	comp=Z,11nm,0.9s						
CAF	Calviac	44.26	307	eP	P	21 29 05.0	+1.3
	comp=Z,11nm,0.9s						
KEV	Kevo	44.37	347	ep	P	21 29 03.2	-0.9
	comp=Z,0.3nm,0.3s						
ARCES	ARCESS Array B	44.50	346	P	P	21 29 04.9	-0.3
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	44.50	346	P	P	21 29 04.9	-0.3
	comp=Z,1.1nm,0.7s,baz=153,slow=8.1,SNR=6.9						
SONM	Songino Array	44.56	49	P	P	21 29 06.1	-0.1
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	Songino Array	44.56	49	P	P	21 29 06.1	-0.1
	comp=Z,0.8nm,1.0s,baz=263,slow=8.8,SNR=6.3						
ULN	Ulaanbaatar	45.01	49	eP	P	21 29 10.1	+0.3
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ULN	Ulaanbaatar	45.01	49	eP	P	21 29 10.1	+0.3
	comp=Z,1.0nm,0.8s						
LDF	La Druitiere	46.06	312	eP	P	21 29 16.9	-1.0
	comp=Z,19nm,1.0s						
LDF	La Druitiere	46.06	312	eP	P	21 29 16.9	-1.0
LDF	La Druitiere	46.06	312	eP	P	21 29 16.9	-1.0
	comp=Z,19nm,1.0s						
LDF	La Druitiere	46.06	312	eP	P	21 29 16.9	-1.0
	comp=Z,19nm,1.0s						
SJPF	Ste Jean	46.57	304	eP	P	21 29 23.4	+1.4
	comp=Z,9.4nm,0.8s						
SJPF	Ste Jean	46.57	304	eP	P	21 29 23.4	+1.4
SJPF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SJPF	Ste Jean	46.57	304	eP	P	21 29 23.4	+1.4
	comp=Z,9.4nm,0.8s						
SJPF	Ste Jean	46.57	304	eP	P	21 29 23.4	+1.4
	comp=Z,9.0nm,0.8s						
TORD	Torodi Ar. Bea	50.99	264	P	P	21 29 55.5	-0.7
	comp=Z,2.6nm,0.6s,baz=60,slow=8.0,SNR=25						
DBIC	Dimbokro	59.68	261	P	P	21 30 58.3	-0.6
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DBIC	Dimbokro	59.68	261	P	P	21 30 58.3	-0.6
	comp=Z,1.7nm,0.8s,baz=72,slow=6.4,SNR=2.8						
YKA	Yellowknife Ar	89.11	355	P	P	21 33 49.0	-0.1
	comp=Z,0.4nm,0.8s,baz=4.3,slow=4.9,SNR=11						
WRA	Warramunga Arr	91.01	112	P	P	21 33 58.2	-0.5
	comp=Z,0.2nm,0.8s,baz=302,slow=3.8,SNR=3.7						
ASAR	Alice Springs	92.50	115	P	P	21 34 04.8	-0.8
	comp=Z,0.4nm,0.7s,baz=303,slow=5.1,SNR=4.4						

*IDC **08** 21:26:41.9±0.6, 15°.38S×173°.28W, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.3/26, mbtmp4.3/14, MS4.0/19, Ms1 4.0/19, ms1mx3.9/27, Error ellipse: s-maj=25.4km s-min=14.8km az=149.0*

*ISCJB **08** 21:26:46.3±0.3, 15°.51S±0°.07×173°.32W±0°.06, h42km, mb4.8/58, MS4.0/16, Error ellipse: s-maj=11.7km s-min=5.8km az=146.2*

*GCMT **08** 21:26:47.8±0.3, 14°.98S×173°.06W, h25km±1km, MW5.0/56, Moment Tensor Solution. s24,c26; s56,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.53±.26; $M_{\theta\theta}$0.32±.21; $M_{\phi\phi}$-1.85±.19; $M_{r\theta}$-1.46±.46; $M_{\theta\phi}$2.81±.13; $M_{r\phi}$0.50±.36; Best double couple: $M_0$3.50700×10^{16} NP1:ϕ_s289.00000°, δ74.00000°, λ37.00000°. NP2: ϕ_s187.00000°, δ54.00000°, λ160.00000°. Principal axes: T 2.9560, Plg37.0000°, Azm154.0000°; N 1.1060, Plg50.0000°, Azm308.0000°; P -4.0580, Plg13.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 21:26:47.8±1.7, 15°.44S×173°.31W, h40km±15km, mb4.9/44 Error ellipse: s-maj=13.5km s-min=7.1km az=150.0*

ISC 08 21:26:47.9±0.4, **15°.50S**±0°.10**×173°.26W**±0°.08, **h42km, n142, σ0.94/117, mb4.8/60, MS4.1/16, 7C-9D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.13	42	Pn	Pn	21 27 10.0	-11
	191nm,0.3s,baz=29,slow=3.5,SNR=72						
AFI				Sn	Sn	21 27 28.8	-18
	455nm,0.3s,baz=151,slow=19,SNR=10						
AFI				LR	LR	21 27 42.1	
	comp=Z,1µm,19.9s,baz=164,slow=29						
AFI				T	T	21 29 23.5	
	56nm,0.3s,baz=36,slow=16,SNR=2.8						
NIUE	Niue	4.77	139	P	Pn	21 27 56.2	-1.2
	baz=5.7,SNR=12						
MSVF	Nonsavu	8.62	254	ePn	Pn	21 28 50.4	+0.1
	163nm,1.4s						
RAR	Rarotonga	14.00	116	LR	LR	21 35 18.0	
	comp=Z,300nm,18.1s,baz=225,slow=37						
RAO	Raoul Island	14.35	197	LR	LR	21 34 40.7	
	comp=Z,820nm,21.9s,baz=152,slow=33						
DZM	Mont Dzumac	20.29	248	eLR	LR	21 36 29.9	
	970nm,26.0s						
DZM	Mont Dzumac	20.29	248	P	P	21 31 20.3	-0.1
	5.7nm,0.8s,baz=86,slow=19,SNR=3.2						
DZM				LR	LR	21 37 57.1	
	comp=Z,476nm,20.7s,baz=34,slow=33						
PPT	Papeete	22.79	99	P	P	21 31 47.3	+0.1
	75nm,0.4s,baz=58,slow=13,SNR=3.1						
PPT				LR	LR	21 39 43.9	
	comp=Z,149nm,18.0s,baz=228,slow=34						
PPT2	Papeete2	22.79	99	eLQ	LQ	21 36 07.8	
	1µm,27.2s						
PPT2				eLR	LR	21 37 11.8	
	417nm,26.2s						
OUZ	Omahuta	22.91	209	eP	P	21 31 53.3	+5.1
	174nm,2.2s						
TBI	Tubuai	23.74	113	eT	T	21 55 59.6	
	14nm,0.3s						
URZ	Urewera	24.22	199	P	P	21 32 00.9	+0.2
	6.5nm,0.6s,baz=49,slow=1.0,SNR=6.1						
URZ				LR	LR	21 40 11.3	
	comp=Z,502nm,19.3s,baz=11,slow=33						
URZ	Urewera	24.22	199	eP	P	21 32 01.0	+0.3
	12nm,0.6s						
HNR	Honiara	26.83	280	LR	LR	21 41 20.2	
	comp=Z,216nm,18.4s,baz=121,slow=33						
ARMA	Armidale	35.41	239	P	P	21 33 40.5	+0.4
	baz=37,SNR=4.1						
RKT	Rikitea	36.83	108	eT	T	22 12 11.5	
	3.5nm,0.3s						
H11S2	WAKE ISLAND Hy	39.12	329	T	T	22 15 45.8	
	baz=152,slow=76,SNR=15						
H11S3	WAKE ISLAND Hy	39.13	329	T	T	22 15 22.0	
	baz=152,slow=76,SNR=7.6						
H11S1	WAKE ISLAND Hy	39.13	329	T	T	22 15 23.3	
	baz=152,slow=76,SNR=8.3						
H11N3	WAKE ISLAND Hy	40.06	330	T	T	22 16 30.9	
	baz=149						
H11N1	WAKE ISLAND Hy	40.07	330	T	T	22 16 39.8	
	baz=149,slow=74						
H11N2	WAKE ISLAND Hy	40.08	330	T	T	22 16 35.3	

baz=149,slow=74
MTSU Mount Surprise 40.63 260 P P 21 34 23.5 -0.7
baz=42,SNR=9.0
COEN Coen 42.11 266 P P 21 34 36.3 -0.1
baz=43,SNR=6.3
TOO Toolangi 42.51 231 P P 21 34 39.5 +0.1
baz=44,SNR=6.7
STKA Stephens Creek 44.11 240 P P 21 34 52.4 +0.1
6.1nm,0.8s,baz=76,slow=10,SNR=21
STKA LR LR 21 50 55.4
comp=Z,108nm,21.8s,baz=34,slow=33
STKA Stephens Creek 44.11 240 eP P 21 34 52.5 +0.1
1.3nm,0.8s
STKA Stephens Creek 44.11 240 P P 21 34 52.5 +0.1
baz=45,SNR=12
HTT Hallett 46.61 239 P P 21 35 12.4 +0.2
baz=48,SNR=8.1
BBOO Buckleboo 48.88 240 eP P 21 35 29.5 -0.2
754nm,2.1s
BBOO Buckleboo 48.88 240 P P 21 35 29.6 -0.1
baz=50,SNR=5.4
WRAB Tennant Creek 49.95 257 eP P 21 35 37.0 -1.0
6.4nm,1.0s
WRA Warramunga Arr 49.95 257 P P 21 35 36.9 -1.2
2.3nm,0.5s,baz=90,slow=6.9,SNR=82
WRA PcP PcP 21 36 58.0 0.0
1.1nm,0.7s,baz=85,slow=3.8,SNR=4.8
WRA LR LR 21 54 39.2
comp=Z,127nm,20.7s,baz=150,slow=34
AS31 Alice Springs 50.21 252 eP P 21 35 38.8 -1.2
ASAR Alice Springs 50.21 252 P P 21 35 39.1 -1.0
15nm,0.6s,baz=88,slow=8.1,SNR=88
ASAR LR LR 21 54 59.8
comp=Z,324nm,21.9s,baz=91,slow=34
WRKA Warakurna 55.29 250 P P 21 36 16.9 -0.7
baz=56,SNR=30
FORT Forrest 55.49 243 P P 21 36 18.5 -0.4
baz=57,SNR=7.9
VNDA Vanda 63.29 186 LR LR 21 59 55.8
comp=Z,63nm,21.7s,baz=343,slow=31
KLBR Kellerberrin 64.31 242 P P 21 37 19.9 +0.4
baz=66,SNR=6.2
PETK Petropavlovsk- 72.76 342 P P 21 38 10.5 -1.1
6.5nm,0.8s,baz=134,slow=8.5,SNR=6.7
YBH Yreka Blue Hor 73.59 37 eP P 21 38 16.6 -0.4
11nm,0.9s
HUMO Hull Mountain 74.00 36 eP P 21 38 24.1 +4.8
84nm,2.6s
NVAR Mina Array Bea 74.31 42 P P 21 38 19.9 -1.4
1.4nm,0.8s,baz=234,slow=7.5,SNR=8.0
NVAR LR LR 22 03 05.6
comp=Z,202nm,20.5s,baz=117,slow=29
QSPA South Pole Qui 74.55 180 eP P 21 38 23.9 +1.7
23nm,1.0s
TPH Tonopah 74.81 43 eP P 21 38 24.6 +0.4
6.8nm,0.9s
MOD Modoc 75.11 38 eP P 21 38 25.9 +0.1
11nm,0.9s
K05A Summer Lake 75.27 37 eP P 21 38 27.8 +1.0
21nm,1.2s
H04A Detroit Lake 75.75 35 eP P 21 38 30.2 +0.9
9.3nm,0.9s
KSRS Korea Array 76.32 316 P P 21 38 34.0 +1.4
1.2nm,0.7s,baz=136,slow=4.9,SNR=5.0
KSAR Wonju Array Be 76.34 315 P P 21 38 34.0 +1.3
TUC Tucson 76.35 51 eP P 21 38 32.6 -0.4
7.8nm,1.1s
WVOR Wild Horse Val 76.42 38 eP P 21 38 33.7 +0.4
11nm,1.1s
I07A Izee 76.90 37 eP P 21 38 37.2 +1.3
12nm,1.0s
G08A Pilot Rock 77.93 36 eP P 21 38 41.2 -0.5
13nm,1.3s
BMO Blue Mountains 78.62 37 eP P 21 38 45.3 -0.2
52nm,2.5s
DUG Dugway 78.84 43 eP P 21 38 44.9 -2.0
5.4nm,1.1s
D08A Wollman Farm, 79.02 34 eP P 21 38 48.8 +1.3
96nm,2.6s
F10A Beach Ranch, E 79.32 36 eP P 21 38 49.4 +0.1
60nm,2.5s
TMUT Trail Mountain 79.45 44 eP P 21 38 53.0 +2.5
146nm,2.8s
HLID Hailey 79.62 39 eP P 21 38 51.0 -0.1
7.3nm,1.0s
HVU Hansel Valley 79.69 41 eP P 21 38 51.8 +0.3
44nm,1.9s
SRU San Rafael 79.82 45 eP P 21 38 51.3 -0.9
5.6nm,0.9s
TXAR Lajitas Array 80.55 56 P P 21 38 57.6 +1.2
1.8nm,1.0s,baz=212,slow=4.9,SNR=7.6
TXAR LR LR 22 07 53.5
comp=Z,114nm,19.5s,baz=0.0,slow=31
KTH Kantishna Hill 80.68 10 eP P 21 38 53.3 -2.9
59nm,1.9s
TRF Thorofare Moun 80.70 10 eP P 21 38 55.4 -1.0
14nm,1.1s
ANMO Albuquerque 80.76 50 eP P 21 38 57.4 0.0
41nm,2.4s
TNA Tin City 80.91 2 eP P 21 38 57.8 +0.5
13nm,1.2s
PAX Paxson 81.17 12 eP P 21 38 59.6 +0.8
11nm,1.3s
MCK McKinley 81.19 11 eP P 21 38 57.4 -1.4
18nm,1.0s
MCMT McKenzie Canyo 81.24 39 eP P 21 38 59.1 -0.7
2.7nm,1.0s
CN2 Changchun 81.25 320 eP P 21 38 59.9 +0.3
CN2 pmax pmax
comp=Z,10.0nm,1.0s
TPAW Teton Pass 81.72 41 eP P 21 39 03.0 +0.5
comp=Z,127nm,3.0s
FXWY Fox Creek 81.75 40 eP P 21 39 02.9 +0.3
comp=Z,15nm,1.6s
BSMT Bassoo Peak 81.76 35 eP P 21 39 01.9 -0.5
IMW Indian Meadow 81.93 40 eP P 21 39 03.7 +0.1
comp=Z,25nm,1.8s
MOOW Moose Ponds 81.98 40 eP P 21 39 05.4 +1.6
comp=Z,81nm,2.8s
LOHW Long Hollow 82.00 41 eP P 21 39 03.7 -0.2
comp=Z,28nm,2.0s
LRM Limekiln Ridge 82.01 38 eP P 21 39 02.8 -1.1
DOT Dot Lake 82.07 13 eP P 21 39 04.7 +1.2
comp=Z,8.9nm,0.8s
FLWY Flagg Ranch 82.18 40 eP P 21 39 05.6 +0.8
comp=Z,8.8nm,1.0s
PDAR Pinedale Array 82.25 42 P P 21 39 04.2 -0.9
comp=Z,1.7nm,0.9s,baz=218,slow=3.7,SNR=11
PDAR LR LR 22 09 20.1
comp=Z,158nm,20.3s,baz=262,slow=31
SMCO Snowmass 82.28 46 eP P 21 39 07.7 +2.0
comp=Z,122nm,3.0s
BOZ Bozeman (W) 82.41 39 eP P 21 39 07.5 +1.6
comp=Z,7.4nm,1.3s
COLA College 82.43 11 eP P 21 39 05.0 -0.3
comp=Z,20nm,0.9s
ILAR Eielson Array 82.51 11 P P 21 39 04.1 -1.7
comp=Z,1.1nm,0.6s,baz=228,slow=6.3,SNR=15
ILAR LR LR 22 08 53.1
comp=Z,97nm,19.7s,baz=216,slow=31
IM04 Indian Mountai 82.54 8 eP P 21 39 05.5 -0.4
HRY Holter Researc 82.84 38 eP P 21 39 07.7 -0.4
COLD Coldfoot 84.22 9 eP P 21 39 13.6 -0.9
comp=Z,12nm,1.1s
AMTX Amarillo 84.30 52 eP P 21 39 16.3 +0.5
comp=Z,14nm,1.0s
BILL Bilibino 84.62 352 P P 21 39 16.3 -0.2
comp=Z,5.1nm,1.0s
LAO LASA Array 86.19 39 eP P 21 39 18.4 -6.5
comp=Z,13nm,1.0s
RSSD Black Hills 86.44 42 eP P 21 39 19.6 -6.8
comp=Z,15nm,1.6s
MAW Mawson 87.75 199 LR LR 22 16 49.4
comp=Z,148nm,18.6s,baz=136,slow=34
NATX Nacogdoches 88.67 57 eP P 21 39 30.1 -7.0
comp=Z,85nm,0.8s
YKA Yellowknife Ar 90.13 23 P P 21 39 43.8 +0.6
comp=Z,2.2nm,0.9s,baz=238,slow=4.3,SNR=26
CMAR Chiang Mai Arr 92.78 288 P P 21 39 57.5 +1.0
comp=Z,0.3nm,0.3s,baz=111,slow=5.1,SNR=2.8
CMAR LR LR 22 21 26.2
comp=Z,30nm,18.3s,baz=143,slow=35
ULM Lac du Bonnet 93.92 39 LR LR 22 13 56.7
comp=Z,195nm,19.9s,baz=256,slow=30
SONM Songino Array 95.01 318 P P 21 40 07.4 +1.1
comp=Z,0.5nm,0.9s,baz=126,slow=4.7,SNR=3.7
ROSC El Rosal 99.87 88 LR LR 22 17 46.7
comp=Z,72nm,18.9s,baz=76,slow=31
MKAR Makanchi Array 110.99 315 PKiKP PKiKP 21 45 14.5 -2.3
comp=Z,0.2nm,0.7s,baz=98,slow=2.9,SNR=2.9
ARCES ARCESS Array B 124.72 352 PKP PKPdf 21 45 41.7 -0.7
comp=Z,3.2nm,0.9s,baz=36,slow=1.7,SNR=6.4
KWP Kalwaria Pacla 143.56 342⇑iP PKPdf 21 46 16.8 -1.3
CLL Collm 143.93 353 eP PKPdf 21 46 20.0 +1.3
STHS Stebnicka Huta 144.16 344 ePKP PKPbc 21 46 17.7 +0.4
KOLS Kolonicke sedl 144.31 342 ePKP PKPbc 21 46 18.6 +0.8
DPC Dobruska-Polom 144.38 349 ePKP PKPbc 21 46 18.2 +0.2
OKC Ostrava-Krasne 144.51 347 ePKP PKPbc 21 46 18.9 +0.5
MOX Moxa 144.72 355 ePKPbc PKPdf 21 46 19.8 -0.3
TANN Tannenbergstha 144.87 354 ePKPbc PKPab 21 46 15.7 -3.8
TRPA Tarpa 144.95 341⇑iP PKPdf 21 46 20.2 -0.3
PRU Pruhonice 145.02 351 ePKP PKPab 21 46 20.0 0.0
KECS Kecovo 145.22 344 ePKP PKPdf 21 46 21.0 0.0
MANZ Manzenberg 145.33 354 ePKPbc PKPdf 21 46 21.3 +0.1
ROTZ Rotzenmuhle 145.53 354 ePKPbc PKPab 21 46 22.6 +0.7
TREC Trest 145.54 350 ePKP PKPab 21 46 22.2 +0.2
TREC ex x 21 46 27.2
KMBO Kilima Mbogo 145.62 244 PKPbc PKPab 21 46 24.1 +0.4
comp=Z,5.4nm,0.2s,baz=318,slow=10,SNR=7.1
VYHS Vyhne 145.62 346 ePKP PKPbc 21 46 21.9 -0.1
GRF Grafenberg Arr 145.70 355 ePKPbc PKPab 21 46 23.0 +0.4
TLB Topalu 145.85 332⇑iP PKPab 21 46 23.8 +0.6
SMOL Smolenice 145.92 347 ePKP PKPbc 21 46 23.1 +0.2
KHC Kasperske Hory 145.99 352 ePKP PKPbc 21 46 23.1 -0.1
KHC ex x 21 46 28.0
MLR Muntele Rosu 146.01 336⇑iP PKPab 21 46 24.2 +0.2
WET Wettzell 146.07 353 ePKPbc PKPab 21 46 23.7 -0.3
ISR Istrita 146.07 335⇓iP PKPab 21 46 24.1 -0.1
DRGR 146.08 340⇓iP PKPbc 21 46 23.5 0.0
GEC2 GERESS Array S 146.26 352 ePKPbc PKPbc 21 46 24.1 +0.1
GERES GERESS Array B 146.26 352 PKPbc PKPbc 21 46 23.7 -0.3
comp=Z,2.7nm,0.8s,baz=13,slow=2.2,SNR=16
BRTR Keskin Array B 146.32 321 PKPbc PKPab 21 46 25.1 -0.3
comp=Z,8.4nm,0.8s,baz=88,slow=2.6,SNR=38
VOIR 146.41 336⇓iP PKPab 21 46 25.5 0.0
ARR Arges 146.63 337⇓iP PKPab 21 46 26.7 +0.4
CONA Conrad Observa 146.79 349⇓iPKPab PKPbc 21 46 26.2 +0.6
comp=Z,11nm,1.0s
FUR Furstenfeldbru 147.21 354 ePKPbc PKPbc 21 46 27.7 -0.7
BFO Black Forest 147.23 358 ePKPbc PKPbc 21 46 26.7 -0.1
GZR Gura Zlata 147.28 339⇓iP PKPbc 21 46 27.1 0.0
RJOB Jochberg 147.46 352 ePKPbc PKPbc 21 46 27.5 0.0
BZS Buzias 147.47 340⇑iP PKPbc 21 46 27.4 -0.1
WTTA Wattenberg 148.07 354⇑iPKPbc PKPbc 21 46 29.0 -0.3
comp=Z,7.7nm,0.7s
SOKA Soboth 148.15 349⇓iPKPbc PKPbc 21 46 28.4 -1.0
comp=Z,7.8nm,1.2s
FETA Feichten 148.39 355⇓iPKiKP PKPbc 21 46 30.2 +0.1
comp=Z,9.2nm,1.0s
ABTA Abfaltersbach 148.47 352⇓iPKPbc PKPbc 21 46 29.7 -0.6
comp=Z,5.6nm,0.9s
MMB Musomiste 150.14 334⇑iP PKPbc 21 46 34.4 -0.1
TORD Torodi Ar. Bea 174.58 115 PKP PKPdf 21 46 54.6 +0.5
comp=Z,0.9nm,1.0s,baz=314,slow=1.7,SNR=3.8
TORD PKPab PKPab 21 48 28.4 +0.7
comp=Z,0.8nm,0.8s,baz=262,slow=2.4,SNR=4.3

ISCJB 08 22:02:52.0±0.4, 67°.17N±0°.03×20°.62E±0°.08, h0km, Error ellipse: s-maj=4.5km s-min=3.3km az=30.8
UPP 08 22:02:53.2, 67°.17N×20°.65E, h0km, ML1.8, Mining explosion.
CSEM 08 22:02:53.1±0.1, 67°.17N×20°.65E, h2km, ML2.1, Error ellipse: s-maj=3.6km s-min=2.4km az=101.0, Mining explosion.
HEL 08 22:02:53.9±0.0, 67°.17N×20°.67E, h0km, ML2.1, ML1.8(UPP), Explosion
NAO 08 22:02:53.4±1.0, 67°.16N×20°.86E, ML2.3
IDC 08 22:02:54.1±1.0, 67°.14N×20°.92E, h0km, mb1 2.9/4, mb1mx2.8/38, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=16.0km s-min=8.1km az=109.0
BER 08 22:02:55.3±4.2, 67°.21N×20°.69E, h0km, ML1.9, ML2.3(NAO), Suspected explosion
ISC 08 22:02:52.8±0.7, 67°.15N±0°.02×20°.67E±0°.02, h0km, n64, σ0.84/92, Sweden

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MASU Masugnsbyn 0.60 59 iP Pg 22 03 04.6 +0.3
MASU Masugnsbyn 0.60 59 P Pg 22 03 04.6 +0.3
MASU Masugnsbyn 0.60 59 P Pg 22 03 04.6 +0.3
KUA Kurravaara 0.82 351 iP Pg 22 03 08.0 -0.5
KUA Kurravaara 0.82 351 P Pg 22 03 08.0 -0.5
KUA Kurravaara 0.82 351 P Pg 22 03 08.0 -0.5
ERTU Ertsjaerv 0.85 134 iP Pg 22 03 09.3 +0.3
ERTU Ertsjaerv 0.85 134 P Pg 22 03 09.3 +0.3
ERTU Ertsjaerv 0.85 134 P Pg 22 03 09.3 +0.3
SALU Saltoluokta 0.87 286 iP Pg 22 03 09.5 0.0
SALU Saltoluokta 0.87 286 P Pg 22 03 09.5 0.0
SALU Saltoluokta 0.87 286 P Pg 22 03 09.5 +0.1
NIKU Nikkaluokta 0.96 320 eP Pg 22 03 10.8 -0.3
NIKU Nikkaluokta 0.96 320 P Pg 22 03 10.8 -0.3
NIKU Nikkaluokta 0.96 320 P Pg 22 03 10.8 -0.3
HARU Harads 1.00 173 eP Pg 22 03 12.1 +0.2
HARU Harads 1.00 173 P Pg 22 03 12.1 +0.2
HARU Harads 1.00 173 P Pg 22 03 12.1 +0.2
LANU Lannavaara 1.03 29 eP Pg 22 03 12.2 -0.4
LANU eS Sg 22 03 25.7 -0.3
LANU Lannavaara 1.03 29 P Pg 22 03 12.2 -0.4
LANU S Sg 22 03 25.7 -0.3
LANU Lannavaara 1.03 29 P Pg 22 03 12.1 -0.5
KALU Kalix 1.69 139 eP Pb 22 03 24.1 -0.5
KALU Kalix 1.69 139 P Pb 22 03 24.1 -0.5
KALU Kalix 1.69 139 P Pb 22 03 24.1 -0.5
SJUU Sjulsmark 1.69 167 eP Pb 22 03 24.3 -0.5
SJUU Sjulsmark 1.69 167 P Pb 22 03 24.2 -0.5
SJUU Sjulsmark 1.69 167 P Pb 22 03 24.3 -0.5
HEF Hetta 1.70 41 eP Pn 22 03 23.7 0.0
HEF MSG Sn 22 03 45.9 -0.2
comp=Z,12nm,0.3s
HEF eSG Sn 22 03 45.9 -0.2
HEF Hetta 1.70 41 P Pn 22 03 23.7 0.0
HEF Sg Sn 22 03 45.9 -0.2
KIF Kilpisjarvi 1.86 1 eP Pb 22 03 27.1 -0.6
KIF eSG Sg 22 03 53.1 +0.4
KIF MSG 22 03 53.1
comp=Z,9.2nm,0.2s
KIF Kilpisjarvi 1.86 1 P Pb 22 03 27.0 -0.6
KIF Sg Sg 22 03 53.0 +0.4
LILU Lilltraesk 1.90 190 eP Pb 22 03 27.8 -0.5
LILU Lilltraesk 1.90 190 P Pb 22 03 27.8 -0.5
LILU Lilltraesk 1.90 190 P Pb 22 03 27.8 -0.5
KTK1 Kautokeino 2.10 26 eP Pb 22 03 30.8 -1.0
KTK1 eSg Sb 22 03 58.3 -0.1
KTK1 IAML 22 04 01.6
comp=N,26nm,0.4s
RNF Rovaniemi 2.18 102 ePB Pb 22 03 32.0 -1.0
RNF eSG Sb 22 04 00.7 +0.2
RNF MSG 22 04 00.7
comp=Z,27nm,0.3s
SGF Sodankyl 2.29 80 ePB Pb 22 03 34.3 -0.6
SGF MSG Sb 22 04 03.5 -0.3
comp=Z,14nm,0.3s
SGF eSB Sb 22 04 03.5 -0.3
TRO Tromso 2.58 346 eSg Sb 22 04 11.8 -0.1
TRO IAML 22 04 17.2
comp=Z,12nm,0.5s
TRO Tromso 2.58 346 eSg Sb 22 04 11.8 -0.1
SNR=90
MOR8 Moi Rana 2.67 251 eSg Sn 22 04 11.7 +1.7
MOR8 IAML 22 04 13.7
comp=Z,28nm,0.4s
ARE0 ARCESS Array S 2.99 35 IAML 22 04 24.8
comp=Z,4.4nm,0.3s
ARA0 ARCESS Array S 2.99 35 Pn Pn 22 03 41.9 +0.5
baz=209,slow=16
ARA0 Sn Sn 22 04 18.0 +0.1
baz=215,slow=22
ARA0 ARCESS Array S 2.99 35 Pn Pn 22 03 41.9 +0.5
baz=209,slow=16
ARA0 Sn Sn 22 04 18.0 +0.1
baz=215,slow=22
ARA0 ARCESS Array S 2.99 35 Pn Pn 22 03 41.9 +0.5
baz=209,slow=14,SNR=50
ARA0 Sn Sn 22 04 18.0 +0.1
baz=215,slow=20,SNR=50
ARCES ARCESS Array B 2.99 35 Pn Pn 22 03 42.4 +1.0
comp=Z,0.7nm,0.3s,baz=213,slow=13,SNR=40
ARCES Sn Sn 22 04 18.9 +1.0
comp=Z,1.8nm,0.3s,baz=215,slow=22,SNR=7.1
KONS Konsvik 3.06 261 eP Pn 22 03 44.8 +2.5
KONS eSg Sg 22 04 30.8 -0.1
VRF Varrio 3.50 76 eSG Sb 22 04 40.3 +1.9
VRF MSG 22 04 40.3
comp=Z,2.0nm,0.3s
KEV Kevo 3.51 39 eP Pn 22 03 49.3 +0.8
KEV eS Sn 22 04 30.7 +0.1
KEV MSG 22 04 30.7
comp=Z,4.5nm,0.3s
KEV Kevo 3.51 39 P Pn 22 03 49.3 +0.8
KEV S Sn 22 04 30.7 +0.1
APA0 Apatity Array 4.78 79 Sn Sn 22 05 00.7 -1.2
baz=278,slow=28
APA0 Lg Lg 22 05 19.9
baz=283,slow=28
APA0 Apatity Array 4.78 79 Sn Sn 22 05 00.7 -1.2
baz=278,slow=28
APA0 Lg Lg 22 05 19.9
baz=283,slow=28
APA0 Apatity Array 4.78 79 Sn Sn 22 05 00.7 -1.2
baz=278,slow=28,SNR=50
APA0 Lg Lg 22 05 19.9
SNR=5.3
FIA0 FINESS Array S 6.19 155 Pn Pn 22 04 26.9 +1.6
baz=346,slow=12
FIA0 Sn Sn 22 05 36.0 -0.7
baz=338,slow=22
FIA0 Lg Lg 22 06 04.2
baz=341,slow=28
FIA0 FINESS Array S 6.19 155 Pn Pn 22 04 26.9 +1.6
baz=346,slow=12
FIA0 Sn Sn 22 05 36.0 -0.7
baz=338,slow=22
FIA0 Lg Lg 22 06 04.2
baz=341,slow=28
FIA0 FINESS Array S 6.19 155 Pn Pn 22 04 26.9 +1.6
baz=346,slow=12,SNR=50
FIA0 Sn Sn 22 05 36.0 -0.7
baz=338,slow=22,SNR=50
FIA0 Lg Lg 22 06 04.2
SNR=5.1
FINES FINESS Array B 6.19 155 Pn Pn 22 04 26.6 +1.3
comp=Z,0.2nm,0.3s,baz=343,slow=11,SNR=10
FINES Sn Sn 22 05 35.7 -1.0
comp=Z,0.2nm,0.3s,baz=341,slow=24,SNR=4.4
FINES Lg Lg 22 06 07.3
comp=Z,0.6nm,0.3s,baz=343,slow=27,SNR=6.8
NB2 NORSAR Subarra 7.39 218 Pn Pn 22 04 42.9 +1.0
NB2 Sn Sn 22 06 05.0 -1.3
NB2 Lg Lg 22 06 47.4
NB2 NORSAR Subarra 7.39 218 Pn Pn 22 04 42.9 +1.0
NB2 Sn Sn 22 06 05.0 -1.3
NB2 Lg Lg 22 06 47.4
NB2 NORSAR Subarra 7.39 218 Pn Pn 22 04 42.9 +1.0
SNR=50
NB2 Sn Sn 22 06 05.1 -1.3
SNR=50
NOA NORSAR Array B 7.39 218 Pn Pn 22 04 42.5 +0.6
comp=Z,0.1nm,0.3s,baz=29,slow=11,SNR=4.6
HFS Hagfors 7.69 207 Pn Pn 22 04 45.7 -0.2
baz=20,slow=18
HFS Sn Sn 22 06 11.9 -1.7
baz=21,slow=22
HFS Lg Lg 22 06 53.1
baz=37,slow=28
HFS Hagfors 7.69 207 Pn Pn 22 04 45.7 -0.2
baz=20,slow=18
HFS Sn Sn 22 06 11.9 -1.7
baz=21,slow=22
HFS Lg Lg 22 06 53.1
baz=37,slow=28
HFS Hagfors 7.69 207 Pn Pn 22 04 45.3 -0.6
comp=Z,0.2nm,0.3s,baz=26,slow=14,SNR=6.4
HFS Sn Sn 22 06 11.7 -1.9
comp=Z,0.2nm,0.3s,baz=22,slow=23,SNR=5.3
HFS Hagfors 7.69 207 Pn Pn 22 04 45.7 -0.2
baz=20,slow=16,SNR=50
HFS Sn Sn 22 06 11.9 -1.7
baz=21,slow=22,SNR=50

IDC 08 22:04:39.4±1.6, 7°.76S×125°.90E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.4/28, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=263.1km s-min=26.6km az=60.0
ISCJB 08 22:04:42.9±1.0, 7°.43S±0°.06×126°.7E±0°.1, h33km, mb3.5/2, Error ellipse: s-maj=16.3km s-min=8.5km az=175.2
ISC 08 22:04:44.7±1.2, 7°.45S±0°.08×126°.7E±0°.2, h35km, n11, σ1.69/10, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MTN Manton Dam 6.95 141 P Pn 22 06 29.0 +4.9
baz=7.0,SNR=4.6
FAKI Fak Fak 7.17 51 P Pn 22 06 26.3 -0.8
baz=7.3,SNR=3.4
LUWI Luwuk 7.44 329 P Pn 22 06 25.7 -5.2
baz=7.5,SNR=4.2
KDU Kakadu 7.75 133 P Pn 22 06 38.4 +3.3
baz=7.8,SNR=5.8
KDU S Sn 22 08 03.0 +1.3
baz=7.8,SNR=4.8
KNRA Kununurra 8.44 166 P Pn 22 06 45.8 +1.3
baz=8.5,SNR=13
WRA Warramunga Arr 14.49 150 Pn Pn 22 08 06.0 -1.4
0.3nm,0.3s,baz=321,slow=15,SNR=10.0
WRA Sn Sn 22 10 40.0 -6.9
0.6nm,0.3s,baz=319,slow=24,SNR=9.3
PALU Palau 16.64 28 P Pn 22 08 36.7 +1.3
baz=17,SNR=6.0
WRKA Warakurna 17.56 175 P P 22 08 49.6 +1.9
baz=18,SNR=7.3
WRKA S Sn 22 11 58.8 -2.8
baz=18,SNR=3.8
ASAR Alice Springs 17.57 157 Pn P 22 08 47.5 -0.3
0.4nm,0.3s,baz=337,slow=12,SNR=25
ASAR Sn Sn 22 11 51.6 -10
0.1nm,0.3s,baz=336,slow=25,SNR=3.2
STKA Stephens Creek 28.02 152 P P 22 10 33.0 +0.4
0.3nm,0.3s,baz=315,slow=11,SNR=2.9
MKAR Makanchi Array 66.82 328 P P 22 15 32.3 -0.7
0.4nm,0.5s,baz=124,slow=7.5,SNR=6.3

CSEM 08 22:08:56.6, 63°.71N×23°.11W, h9km, ML3.6, After REY
REY 08 22:08:56.6, 63°.71N×23°.11W, h9km, ML3.5, ML3.6, Iceland region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IRNE Reykjanes 0.21 59 P Pg 22 09 00.8 0.0
baz=59
IRNE S Sg 22 09 04.0 +0.2
baz=59
INYL Nylenda 0.31 32 P Pg 22 09 02.5 -0.3
INYL S Sg 22 09 06.9 0.0
INYL Nylenda 0.31 32 P Pg 22 09 02.5 -0.3
baz=32
INYL S Sg 22 09 06.9 0.0
baz=32
IGRV Grindav??k 0.33 63 P Pg 22 09 02.8 -0.2
IGRV S Sg 22 09 07.3 -0.1
IGRV Grindav??k 0.33 63 P Pg 22 09 02.8 -0.3
baz=63
IGRV S Sg 22 09 07.3 -0.1
baz=63
IVOG Vogar 0.41 50 P Pg 22 09 04.1 -0.5
IVOG S Sg 22 09 10.1 +0.1
IVOG Vogar 0.41 50 P Pg 22 09 04.1 -0.5
baz=50
IVOG S Sg 22 09 10.1 +0.1
baz=50
IKRI Krysuvik 0.49 69 P Pg 22 09 05.3 -0.8
IKRI S Sg 22 09 12.3 -0.2
IKRI Krysuvik 0.49 69 P Pg 22 09 05.3 -0.8
baz=70
IKRI S Sg 22 09 12.3 -0.3
baz=70
IKAS Kald??rsel 0.64 60 P Pg 22 09 08.0 -0.9
IKAS S Sg 22 09 16.8 -0.5
IKAS Kald??rsel 0.64 60 P Pg 22 09 08.0 -0.9
baz=60
IKAS S Sg 22 09 16.8 -0.5
baz=60
IVOS Vogsosar 0.64 77 P Pg 22 09 07.9 -1.1
IVOS S Sg 22 09 16.5 -0.8

IVOS	Vogsosar	0.64	77	P	Pg	22 09 07.9	-1.0
	baz=77						
IVOS				S	Sg	22 09 16.5	-0.8
	baz=77						
ISAN	Sandskeio	0.77	62	P	Pg	22 09 10.0	-1.3
ISAN				S	Sg	22 09 20.3	-1.0
ISAN	Sandskeio	0.77	62	P	Pg	22 09 10.0	-1.4
	baz=62						
ISAN				S	Sg	22 09 20.3	-1.0
	baz=62						
IKUD	Kuludalsa	0.82	41	P	Pg	22 09 10.8	-1.6
IKUD				S	Sg	22 09 21.4	-1.6
IKUD	Kuludalsa	0.82	41	P	Pg	22 09 10.8	-1.6
	baz=41						
IKUD				S	Sg	22 09 21.4	-1.6
	baz=41						
IBJA	Bjarnastaoir	0.84	73	P	Pg	22 09 11.3	-1.4
IBJA				S	Sg	22 09 22.2	-1.3
IBJA	Bjarnastaoir	0.84	73	P	Pg	22 09 11.3	-1.4
	baz=73						
IBJA				S	Sg	22 09 22.2	-1.3
	baz=73						
IHEI	Heioarbar	0.96	58	P	Pg	22 09 12.9	-2.2
IHEI				S	Sg	22 09 26.1	-1.5
IHEI	Heioarbar	0.96	58	S	Sg	22 09 26.1	-1.5
	baz=58						
IHEI				P	Pg	22 09 12.9	-2.2
	baz=58						
IKRO	Krokur	0.96	65	P	Pg	22 09 13.3	-1.8
IKRO	Krokur	0.96	65	P	Pg	22 09 13.3	-1.8
	baz=65						
ISOL	Solvholt	0.99	76	P	Pg	22 09 13.5	-2.0
ISOL				S	Sg	22 09 26.3	-2.0
ISOL	Solvholt	0.99	76	P	Pg	22 09 13.5	-2.0
	baz=76						
ISOL				S	Sg	22 09 26.3	-2.0
	baz=76						
IASM	Asmuli	1.12	83	P	Pg	22 09 15.4	-2.6
IASM				S	Sg	22 09 29.9	-2.6
IASM	Asmuli	1.12	83	P	Pg	22 09 15.4	-2.6
	baz=83						
IASM				S	Sg	22 09 29.9	-2.6
	baz=83						
ISAU	Saurbar	1.23	76	P	Pn	22 09 17.5	-2.4
ISAU				S	Sb	22 09 33.4	-2.4
ISAU	Saurbar	1.23	76	P	Pn	22 09 17.5	-2.4
	baz=76						
ISAU				S	Sb	22 09 33.4	-2.4
	baz=76						
IVES	Vestmannaeyjar	1.29	101	P	Pn	22 09 17.8	-3.0
IVES	Vestmannaeyjar	1.29	101	P	Pn	22 09 17.8	-3.0
	baz=101						
IASB	`sbjarnarst	1.30	36	P	Pn	22 09 18.6	-2.3
IASB				S	Sb	22 09 35.4	-2.6
IASB	`sbjarnarst	1.30	36	P	Pn	22 09 18.6	-2.4
	baz=36						
IASB				S	Sb	22 09 35.4	-2.6
	baz=36						
IHAU	Haukadalur	1.42	78	S	Sn	22 09 38.7	-2.6
IHAU	Haukadalur	1.42	78	S	Sn	22 09 38.7	-2.6
	baz=78						
IMID	Miomork	1.44	91	P	Pn	22 09 19.9	-2.9
IMID				S	Sn	22 09 39.8	-2.0
IMID	Miomork	1.44	91	P	Pn	22 09 19.9	-2.9
	baz=91						
IMID				S	Sn	22 09 39.8	-2.0
	baz=91						
IESK	Eystri-Skogar	1.65	95	P	Pn	22 09 23.0	-2.7
IESK				S	Sn	22 09 45.2	-1.7
IESK	Eystri-Skogar	1.65	95	P	Pn	22 09 23.0	-2.7
	baz=95						
IESK				S	Sn	22 09 45.2	-1.7
	baz=95						
IKAL	Kalfafell	2.42	82	P	Pn	22 09 35.5	-0.7
IKAL	Kalfafell	2.42	82	P	Pn	22 09 35.5	-0.8
	baz=82						

IDC 08 22:21:17.3±7.1, 15°.31S×173°.31W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.7/4, MS3.4/5, Ms1 3.4/5, ms1mx3.1/30, Error ellipse: s-maj=351.1km s-min=29.0km az=142.0

ISC 08 22:21:23.6±2.3, 15°.2S±0°.9×17°2W±°, h35km, n16, σ0s.60/6, mb3.6/4, MS3.6/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	1.42	21	Pn	Pn	22 21 46.3	-0.7
	32nm,0.3s,baz=126,slow=2.4,SNR=17						
AFI				Sn	Sn	22 22 05.1	+0.6
	53nm,0.3s,baz=240,slow=20,SNR=8.8						
AFI				LR	LR	22 22 41.2	
	comp=Z,141nm,18.9s,baz=100,slow=41						
H11S2	WAKE ISLAND Hy	39.38	328	T	T	23 10 27.4	
	baz=152,slow=74						
H11S3	WAKE ISLAND Hy	39.39	328	T	T	23 10 30.5	
	baz=152,slow=74						
H11S1	WAKE ISLAND Hy	39.40	328	T	T	23 10 20.7	
	baz=152						
PMG	Port Moresby	39.98	273	LR	LR	22 43 57.5	
	comp=Z,40nm,19.3s,baz=95,slow=35						
WRA	Warramunga Arr	50.91	257	P	P	22 30 12.6	-9.2
	0.3nm,0.6s,baz=90,slow=7.2,SNR=8.9						
ASAR	Alice Springs	51.16	252	P	P	22 30 15.5	-8.2
	1.4nm,0.6s,baz=87,slow=8.2,SNR=16						
ASAR				LR	LR	22 52 17.8	
	comp=Z,27nm,18.2s,baz=56,slow=37						
PFO	Pinyon Flat Ob	72.04	47	LR	LR	22 58 09.4	
	comp=Z,63nm,20.9s,baz=227,slow=30						
ILAR	Eielson Array	82.09	11	P	P	22 33 40.2	+0.1
	0.5nm,0.7s,baz=227,slow=8.5,SNR=7.8						
H03N2	Juan Fernandez	84.50	123	T	T	00 08 21.2	
	baz=246,slow=73,SNR=36						
H03N3	Juan Fernandez	84.51	123	T	T	00 08 16.0	
	baz=246,slow=73,SNR=34						
H03N1	Juan Fernandez	84.52	123	T	T	00 08 10.2	
	baz=246,slow=73,SNR=27						
YKA	Yellowknife Ar	89.53	23	P	P	22 34 17.2	+0.3
	0.2nm,0.7s,baz=241,slow=4.5,SNR=3.7						
TEIG	Tepich	89.74	69	LR	LR	23 10 13.6	
	comp=Z,112nm,18.9s,baz=26,slow=32						
GERES	GERESS Array B	146.12	353	PKPbc	PKPdf	22 40 59.5	+0.3
	0.2nm,0.3s,baz=0.0,slow=1.2,SNR=3.3						
BRTR	Keskin Array B	146.69	322	PKPbc	PKPdf	22 41 00.4	-0.2
	1.4nm,0.8s,baz=110,slow=1.8,SNR=6.8						

IDC 08 23:13:49.0±2.2, 15°.84S×172°.34W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/33, mbtmp3.9/4, Error ellipse: s-maj=65.2km s-min=21.0km az=115.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	1.99	16	Pn	Pn	23 14 24.6	+0.5
	35nm,0.3s,baz=197,slow=2.5,SNR=17						
AFI				Sn	Sn	23 14 49.0	-0.9
	90nm,0.3s,baz=154,slow=21,SNR=13						
URZ	Urewera	24.19	201	P	P	23 19 07.2	0.0
	5.0nm,0.7s,baz=11,slow=10,SNR=3.5						
H11S2	WAKE ISLAND Hy	39.87	328	T	T	00 04 08.0	
	baz=148						
H11S3	WAKE ISLAND Hy	39.88	328	T	T	00 04 08.1	
	baz=148						
H11S1	WAKE ISLAND Hy	39.88	328	T	T	00 04 07.4	
	baz=148						
STKA	Stephens Creek	44.70	241	P	P	23 22 03.1	-1.0
	1.0nm,0.6s,baz=84,slow=10,SNR=3.3						
WRA	Warramunga Arr	50.74	257	P	P	23 22 51.5	+0.4
	0.5nm,0.6s,baz=94,slow=7.3,SNR=9.6						
ASAR	Alice Springs	50.95	252	P	P	23 22 52.6	-0.1
	1.7nm,0.7s,baz=88,slow=8.3,SNR=21						

ISCJB 08 23:29:35.9±1.0, 19°.3N±0°.2×145°.4E±0°.2, h214km, mb3.1/7, Error ellipse: s-maj=31.5km s-min=23.9km az=8.8

IDC 08 23:29:42.8±14.0, 19°.23N×145°.35E, h268km±145km, mb2.9/7, mb1 3.1/7, mb1mx2.9/42, mbtmp3.5/7, MS3.6/1, Ms1 3.6/1, ms1mx2.6/9, Error ellipse: s-maj=38.5km s-min=21.9km az=74.0

ISC 08 23:29:37.3±1.0, 19°.3N±0°.2×145°.4E±0°.2, h214km, n8, σ0s.99/7, mb3.1/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	22.13	193	LR	LR	23 42 48.9	
	comp=Z,159nm,20.1s,baz=266,slow=36						
WRA	Warramunga Arr	40.45	196	P	P	23 36 55.1	-0.1
	0.7nm,0.7s,baz=22,slow=8.9,SNR=11						
SONM	Songino Array	42.53	321	P	P	23 37 12.4	+0.6
	0.2nm,0.4s,baz=131,slow=7.1,SNR=6.8						
MKAR	Makanchi Array	57.87	314	P	P	23 39 07.2	+0.4
	0.1nm,0.4s,baz=81,slow=5.3,SNR=4.5						
ILAR	Eielson Array	63.26	26	P	P	23 39 42.0	-0.9
	0.1nm,0.4s,baz=266,slow=5.3,SNR=4.3						
YKA	Yellowknife Ar	77.62	28	P	P	23 41 10.0	+0.4
	0.2nm,0.5s,baz=284,slow=5.8,SNR=3.7						
NVAR	Mina Array Bea	83.01	52	P	P	23 41 40.0	+0.9
	0.3nm,0.5s,baz=292,slow=5.7,SNR=3.4						
FINES	FINESS Array B	86.25	335	P	P	23 41 53.2	-1.3
	0.4nm,0.3s,baz=83,slow=4.5,SNR=11						

NIED 09 00:06:00, 29°.40N×131°.40E, h41km, Mw4.2 Best double couple: Mo2.28000×10^15 NP1:φs25.00000°, δ46.00000°, λ-155.00000°. NP2:φs278.00000°, δ72.00000°, λ-46.00000°.

IDC 09 00:06:13.9±0.7, 29°.39N×131°.47E, h0km, mb3.6/15, mb1 3.8/17, mb1mx3.7/43, mbtmp3.7/17, ML3.5/2, MS2.9/4, Ms1 2.9/4, ms1mx2.7/35, Error ellipse: s-maj=22.8km s-min=15.5km az=86.0

ISCJB 09 00:06:18.1±0.4, 29°.38N±0°.02×131°.41E±0°.04, h38km, mb3.6/15, MS2.9/1, Error ellipse: s-maj=5.3km s-min=3.2km az=19.6

JMA 09 00:06:19.1±0.1, 29°.42N×131°.35E, h71km±4km, M4.0

ISC 09 00:06:19.7±0.6, 29°.37N±0°.04×131°.39E±0°.07, h38km, n40, σ0s.92/54, mb3.6/15, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYAK	Yakushimahirau	1.16	319	P	Pn	00 06 39.2	-0.2
JYAK				eS	Sn	00 06 53.3	-0.6
JTN	Tanegashima 3	1.33	345	P	Pn	00 06 41.2	-0.6
JTN				S	Sn	00 06 57.6	-0.7
JNN	Nakanoshima	1.40	290	P	Pn	00 06 42.7	0.0
JNN				eS	Sn	00 06 59.4	-0.6
JKC	Kuchinoerabu	1.50	317	P	Pn	00 06 44.0	-0.1
JKC				S	Sn	00 07 02.8	+0.3
JZK	Kikaishima	1.62	230	P	Pn	00 06 46.3	+0.5
JAM	Amami Oshima	1.83	239	P	Pn	00 06 48.5	-0.1
JAM				eS	Sn	00 07 09.2	-1.3
JTSR	Tashiro 2	1.84	347	P	Pn	00 06 48.4	-0.4
JTSR				eS	Sn	00 07 10.0	-0.8
JTAJ	Takarajima	1.92	264	P	Pn	00 06 49.8	-0.1
JTAJ				S	Sn	00 07 12.6	-0.2
JNAR	Kushima--Naru	2.15	357	P	Pn	00 06 53.2	+0.1
JNAR				S	Sn	00 07 17.8	-0.8
JAMN	Amaminishikomi	2.24	241	P	Pn	00 06 54.4	+0.1
JAMN				S	Sn	00 07 20.8	+0.1
JSU	Suzuyama	2.28	340	P	Pn	00 06 54.3	-0.5
JSU				S	Sn	00 07 20.1	-1.6
JTZ	Takazaki	2.54	354	P	Pn	00 06 58.3	-0.1
JTZ				S	Sn	00 07 27.0	-1.1
JTK	Tokunoshima	2.66	234	P	Pn	00 07 00.2	+0.1
JTK				S	Sn	00 07 31.0	-0.1
JSJ	Shimokoshiki	2.72	328	P	Pn	00 06 59.8	-1.1
JSJ				S	Sn	00 07 30.6	-1.9
JZO	Okuchi	2.85	346	P	Pn	00 07 02.3	-0.4
JZO				eS	Sn	00 07 35.7	0.0
JTSN	Tsuno	2.87	2	P	Pn	00 07 02.3	-0.7
JTSN				S	Sn	00 07 33.8	-2.4
JOW	Kunigami	3.73	228	Pn	Pn	00 07 14.2	-0.7
	3.1nm,0.3s,baz=90,slow=16,SNR=49						
JOW				Sn	Sn	00 07 55.5	-2.1
	2.2nm,0.3s,baz=62,slow=28,SNR=12						
JNU	Nakatsue	3.77	353	Pn	Pn	00 07 15.4	0.0
	9.0nm,0.3s,baz=202,slow=1.4,SNR=36						
JNU				Sn	Sn	00 07 56.7	-1.8
	5.0nm,0.3s,baz=36,slow=11,SNR=3.6						
KSRS	Korea Array	8.57	341	Pn	Pn	00 08 22.4	+1.2
	0.3nm,0.3s,baz=159,slow=14,SNR=7.5						
KSRS				LR	LR	00 11 54.7	
	comp=Z,47nm,21.7s,baz=134,slow=40						
MAT	Matsushiro	9.16	37	P	Pn	00 08 30.9	+1.5
MJAR	Matsushiro Arr	9.16	37	Pn	Pn	00 08 30.5	+1.1
	2.0nm,0.3s,baz=212,slow=14,SNR=9.8						
MJAR				LR	LR	00 12 00.3	
	comp=Z,79nm,21.7s,baz=215,slow=38						
JCJ	Chichijima	9.79	101	LR	LR	00 11 34.8	
	comp=Z,104nm,21.1s,baz=112,slow=33						
USRK	Ussuriysk Arra	14.81	2	Pn	P	00 09 54.1	+2.4
	0.1nm,0.3s,baz=177,slow=10,SNR=6.2						
SONM	Songino Array	26.67	321	P	P	00 11 54.4	-0.8
	0.7nm,0.6s,baz=138,slow=10,SNR=8.8						
PETK	Petropavlovsk-	30.57	32	LR	LR	00 25 50.7	
	comp=Z,26nm,18.0s,baz=235,slow=39						
CMAR	Chiang Mai Arr	31.49	257	P	P	00 12 39.0	+0.9
	0.8nm,0.4s,baz=79,slow=4.7,SNR=5.4						
MKAR	Makanchi Array	41.65	309	P	P	00 14 04.5	+0.1
	0.4nm,0.7s,baz=97,slow=9.9,SNR=5.8						
WRA	Warramunga Arr	49.10	176	P	P	00 15 03.9	+0.3
	0.5nm,0.9s,baz=356,slow=8.4,SNR=4.3						
ASAR	Alice Springs	52.78	177	P	P	00 15 31.4	+0.2
	0.5nm,0.6s,baz=7.1,slow=14,SNR=5.5						
ILAR	Eielson Array	60.35	29	P	P	00 16 24.0	-0.5
	0.2nm,0.6s,baz=268,slow=6.3,SNR=3.1						
STKA	Stephens Creek	61.67	170	P	P	00 16 32.8	-1.0
	0.6nm,0.7s,baz=345,slow=16,SNR=2.4						
FINES	FINESS Array B	71.51	331	P	P	00 17 36.2	-0.1
	0.6nm,0.4s,baz=57,slow=5.1,SNR=11						
YKA	Yellowknife Ar	74.50	26	P	P	00 17 54.2	+0.2
	0.1nm,0.5s,baz=283,slow=11,SNR=3.4						
AKASG	Malin Array Be	74.95	320	P	P	00 17 57.2	+0.4
	0.6nm,0.5s,baz=56,slow=5.9,SNR=4.6						
BRTR	Keskin Array B	77.30	308	P	P	00 18 11.1	+0.5
	0.7nm,0.8s,baz=55,slow=5.5,SNR=3.5						
NOA	NORSAR Array B	77.72	334	P	P	00 18 12.1	-0.3
	1.0nm,0.7s,baz=50,slow=5.6,SNR=3.0						
GERES	GERESS Array B	84.36	324	P	P	00 18 47.2	-0.8
	0.4nm,0.8s,baz=352,slow=5.0,SNR=3.6						
FRB	Frobisher Bay	85.87	9	P	P	00 18 54.9	-0.2
	1.2nm,0.7s,baz=30,slow=8.1,SNR=3.7						
NVAR	Mina Array Bea	86.33	48	P	P	00 18 58.2	0.0
	0.2nm,0.5s,baz=287,slow=9.3,SNR=2.4						
H06S1	SOCORRO T	103.19	60	T	T	02 13 40.0	
	SNR=11						

IDC 09 00:13:13.4±0.5, 0°.38S×123°.43E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.2/29, mbtmp4.2/17, MS2.2/1, Ms1 2.2/1, ms1mx2.2/30, Error ellipse: s-maj=28.8km s-min=13.5km az=75.0

ISCJB 09 00:13:23.5±0.4, 0°.40S±0°.04×123°.88E±0°.03, h91km±4km, mb4.3/31, Error ellipse: s-maj=6.2km s-min=4.4km az=18.3

NEIC 09 00:13:24.7±0.8, 0°.40S×123°.83E, h92km±8km, mb4.6/11, Error ellipse: s-maj=9.9km s-min=8.0km az=49.0

DJA 09 00:13:26.0±0.3, 1°S±3°×12°4E±°, h42km±9km, M5.0/20, mb5.2/15, mB5.4/9, MLv5.1/20, Mw(mB)4.9/9

ISC 09 00:13:24.5±0.8, 0°.44S±0°.05×123°.85E±0°.04, h85km±8km, n90, σ1s.48/99, mb4.3/31, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMSI	Cibinong	1.01	7	P	Pn	00 13 45.6	+1.6
LUWI	Luwuk	1.23	241	P	Pn	00 13 45.2	-1.4
LUWI	Luwuk	1.23	241	eP	Pn	00 13 45.3	-1.4
LUWI				eSn	Sn	00 14 04.6	+1.2
LUWI	Luwuk	1.23	241	P	Pn	00 13 45.0	-1.6
	baz=1.6,SNR=148						
MRSI	Marisa	2.12	295	P	Pn	00 13 58.3	+0.2
APSI	Ampana	2.25	258	P	Pn	00 13 59.9	0.0
SANI	Sanana	2.67	127	P	Pn	00 14 04.0	-1.4
SANI				S	Sn	00 14 31.8	-5.1
TOLI	Toli-Toli	3.43	297	eP	Pn	00 14 17.1	+1.4
TOLI				eSn	Sn	00 14 46.6	-8.7
LBMI	Labuha	3.65	93	P	Pn	00 14 20.2	+1.4
LBMI				S	Sn	00 14 59.4	-1.4
TNTI	Ternate	3.71	71	eP	Pn	00 14 20.1	+0.5
NLAI	Namlea	4.27	131	P	Pn	00 14 28.3	+1.1
NLAI				S	Sn	00 15 14.8	-1.1
TTSI	Tana Toraja	4.79	237	P	Pn	00 14 33.9	-0.3
SPSI	Sidrap Palu	5.38	229	P	Pn	00 14 42.0	-0.2
	996nm,0.4s,17μm4.4nm						
BNSI	Bone	5.43	224	P	Pn	00 14 43.2	+0.3
	469nm,0.7s,7μm2.1nm						
MSAI	Masohi	5.84	120	P	Pn	00 14 50.8	+2.3
	38nm,0.8s,420nm0.4nm						
BKSI	Bulukumba	6.12	217	P	Pn	00 14 52.8	+0.5
	248nm,0.6s,4μm1.3nm						
KAPI	Kappang	6.12	222	ePn	Pn	00 14 52.7	+0.4
KAPI				eSn	Sn	00 15 58.8	-2.2
SWI	Sorong	7.42	93	P	Pn	00 15 12.0	+1.9
	81nm,1.0s,0.3nm						
MYLDM	Lahad Datu	7.73	316	ePn	Pn	00 15 18.9	+4.6
MYLDM				eSn	Sn	00 16 40.4	+0.1
KBKI	Kotabaru	8.19	250	P	Pn	00 15 35.5	+15
FAKI	Fak Fak	8.75	106	ePn	Pn	00 15 27.6	-0.7
FAKI				eSn	Sn	00 16 57.6	-7.6
FAKI	Fak Fak	8.75	106	P	Pn	00 15 27.5	-0.7
	baz=8.7,SNR=43						
FAKI				S	Sn	00 17 00.1	-5.1
	baz=8.7,SNR=7.7						
BBKI	Banjar Baru	9.49	251	P	Pn	00 15 39.7	+1.3
	60nm,0.8s						
WSI	Waingapu	9.83	201	P	Pn	00 15 44.1	+1.2
	baz=10,SNR=3.3						
WSI				S	Sn	00 17 43.6	+12
	baz=10,SNR=5.5						
SRBI	Singaraja	11.48	228	P	Pn	00 16 07.0	+1.5
	35nm,0.6s						
PWJI	Pagerwojo	14.17	238	P	P	00 16 44.3	-1.9
	29nm,1.2s						
KNRA	Kununurra	15.90	162	P	P	00 17 07.4	+2.1
	baz=16,SNR=4.4						
CGJI	Cibinong	19.13	251	P	Pn	00 17 46.0	+3.3
	38nm,1.0s,1μm						
DSRI	Dabo	19.27	270	P	P	00 17 45.1	+0.7
	95nm,0.8s						
MDSI	Maura Dua	20.06	258	P	Pn	00 18 10.9	+17
WRAB	Tennant Creek	21.93	153	eP	P	00 18 11.0	-0.2
	6.8nm,0.7s						
WRA	Warramunga Arr	21.93	153	P	P	00 18 11.2	0.0
	4.9nm,0.6s,baz=331,slow=9.6,SNR=51						
WRA				PcP	PcP	00 22 08.5	+1.2
	0.3nm,0.4s,baz=320,slow=2.5,SNR=5.0						
IPM	Ipoh	23.32	282	eP	P	00 18 26.5	+1.0
	13nm,0.6s						
COEN	Coen	23.37	126	P	P	00 18 29.5	+3.6
	baz=24,SNR=4.0						
PDSI	Padang	23.39	269	P	P	00 18 27.1	+1.0
KULM	Kulim	23.86	284	eP	P	00 18 30.4	+0.1
	18nm,0.7s						
WRKA	Warakurna	24.83	170	P	P	00 18 40.1	+1.1
	baz=25,SNR=9.7						
AS31	Alice Springs	25.07	158	eP	P	00 18 41.5	+0.3
AS31				ePcP	PcP	00 22 15.2	+1.3
ASAR	Alice Springs	25.07	158	P	P	00 18 42.4	+1.2
	4.1nm,0.4s,baz=338,slow=7.6,SNR=53						
ASAR				PcP	PcP	00 22 15.3	+1.4
	2.5nm,0.6s,baz=346,slow=1.9,SNR=24						
PSI	Prapat	25.13	278	P	P	00 18 41.1	-0.8
	2.4nm,0.4s,baz=108,slow=6.4,SNR=6.6						
QIS	Mount Isa	25.24	143	P	P	00 18 44.4	+1.7
	baz=26,SNR=12						
MEEK	Meekatharra	26.53	191	P	P	00 18 54.5	+0.2
	baz=27,SNR=5.1						
JOW	Kunigami	27.45	9	LR	LR	00 33 21.0	
	comp=Z,4.5nm,18.1s,baz=48,slow=44						
MLSI	Meulaboh, Aceh	27.82	280	P	P	00 19 11.9	+5.9
SUKH	Sukhothai	29.77	308	P	P	00 19 25.7	+2.5
	2.5nm,1.1s						
CMAR	Chiang Mai Arr	30.85	309	P	P	00 19 33.5	+0.7
	1.7nm,0.3s,baz=138,slow=7.7,SNR=20						
CMAR				PcP	PcP	00 22 29.5	+1.4
	0.9nm,0.3s,baz=179,slow=1.3,SNR=4.4						
CMMT	Chiang Mai	31.05	309	P	P	00 19 36.2	+1.6
	15nm,1.0s						
CHTO	Chiang Mai	31.06	309	P	P	00 19 36.3	+1.6
	52nm,1.0s						
CHTO	Chiang Mai	31.06	309	eP	P	00 19 35.0	+0.4
	13nm,1.1s						
QLP	Quilpie	32.56	145	P	P	00 19 43.3	-4.5
	baz=33,SNR=4.7						
STKA	Stephens Creek	35.48	153	P	P	00 20 14.0	+1.0
	2.9nm,0.4s,baz=329,slow=7.6,SNR=16						
STKA				PcP	PcP	00 22 42.3	+1.5
	2.7nm,0.6s,baz=358,slow=0.7,SNR=5.8						
STKA	Stephens Creek	35.48	153	eP	P	00 20 14.3	+1.3
	5.3nm,1.8s						
STKA				PcP	PcP	00 22 42.3	+1.5
STKA	Stephens Creek	35.48	153	P	P	00 20 14.3	+1.3
	baz=36,SNR=11						
CMSA	Cobar Meteorol	37.20	148	P	P	00 20 29.9	+2.3
	baz=38,SNR=8.3						
KSAR	Wonju Array Be	37.88	5	P	P	00 20 33.3	+0.1
KSRS	Korea Array	37.89	5	P	P	00 20 33.3	0.0
	0.6nm,0.4s,baz=182,slow=9.6,SNR=4.3						
MJAR	Matsushiro Arr	39.14	18	P	P	00 20 42.3	-1.6
	4.0nm,0.9s,baz=171,slow=8.0,SNR=3.9						
LSA	Lhasa	43.25	317	eP	P	00 21 18.2	0.0
	3.7nm,0.5s						
ODAN	Odare	44.35	311	eP	P	00 21 27.0	+0.1
TAPN	Taplejung	44.37	311	eP	P	00 21 27.3	+0.2
RAMN	Ramite	45.00	310	eP	P	00 21 32.7	+0.7
	29nm,0.7s						
USRK	Ussuriysk Arra	45.03	8	P	P	00 21 31.5	-0.1
	2.8nm,0.7s,baz=182,slow=6.2,SNR=5.1						
JIRN	Jiri	45.68	311	eP	P	00 21 37.5	0.0
	20nm,0.5s						
GUN	Gumba	46.05	311	eP	P	00 21 40.2	-0.2
	31nm,0.4s						
PKI	Pulchoki	46.23	310	eP	P	00 21 41.7	-0.1
	14nm,0.5s						
PKIN	Phulchoki	46.24	310	eP	P	00 21 41.5	-0.3
KKN	Kakani	46.44	310	eP	P	00 21 43.1	-0.2
	12nm,0.5s						
DMN	Daman	46.48	310	eP	P	00 21 43.3	-0.4
GKN	Gorkha	47.04	310	eP	P	00 21 48.0	+0.1
	16nm,0.3s						
ASAJ	Asahikawa	47.41	18	P	P	00 21 49.9	-0.4
	4.0nm,0.7s,baz=232,slow=19,SNR=2.8						
KOLN	Koldanda	47.72	309	eP	P	00 21 53.5	+0.2
DANN	Dangsing	47.88	310	eP	P	00 21 54.2	-0.4
	77nm,0.7s						
SONM	Songino Array	50.43	345	P	P	00 22 12.7	-0.8
	0.8nm,0.5s,baz=158,slow=8.5,SNR=11						
SONM				PcP	PcP	00 23 30.3	-0.4
	0.8nm,0.5s,baz=166,slow=4.9,SNR=5.1						
MKAR	Makanchi Array	59.43	328	P	P	00 23 17.4	-0.9
	2.1nm,0.3s,baz=125,slow=8.3,SNR=113						
MKAR				PcP	PcP	00 24 03.9	-1.4
	1.5nm,0.6s,baz=119,slow=5.6,SNR=7.2						
PETK	Petropavlovsk-	60.35	23	P	P	00 23 26.2	+1.8
	2.3nm,0.8s,baz=222,slow=15,SNR=3.6						
TKM2	Tokmak 2	61.06	321	eP	P	00 23 28.7	-1.1
	11nm,1.1s						
KBL	Kabul	61.87	310	eP	P	00 23 34.2	-1.2
	12nm,0.7s						
KBL	Kabul	61.87	310	P	P	00 23 35.9	+0.5
	baz=62,SNR=10						
ZALV	Zalesovo Beam	63.06	335	P	P	00 23 40.6	-2.0
	1.5nm,0.4s,baz=125,slow=4.8,SNR=12						
KURK	Kurchatov	63.78	330	eP	P	00 23 46.2	-1.2
	5.5nm,0.4s						
VOSK	Vostochnaya	68.83	329	eP	P	00 24 17.8	-1.9
	2.0nm,0.6s						
TIXI	Tiksi	72.04	2	eP	P	00 24 38.0	-0.8
	5.1nm,0.5s						
KMBO	Kilima Mbogo	86.59	269	P	P	00 25 59.0	-0.6
	0.5nm,0.3s,baz=26,slow=6.1,SNR=4.8						
ILAR	Eielson Array	90.08	25	P	P	00 26 13.8	-0.9
	0.6nm,0.6s,baz=245,slow=5.1,SNR=17						
BRTR	Keskin Array B	90.44	310	P	P	00 26 14.2	-2.9
	0.5nm,0.7s,baz=120,slow=5.7,SNR=3.3						
AKASG	Malin Array Be	93.28	321	P	P	00 26 27.2	-2.6
	0.2nm,0.4s,baz=70,slow=5.3,SNR=3.0						
ARCES	ARCESS Array B	93.33	340	P	P	00 26 27.9	-1.8
	1.2nm,0.6s,baz=79,slow=4.9,SNR=6.2						
FINES	FINESS Array B	94.11	331	P	P	00 26 31.6	-1.7
	3.1nm,1.1s,baz=101,slow=7.4,SNR=4.5						
YKA	Yellowknife Ar	104.46	24	Pdiff	Pdif	00 27 21.7	+2.0
	0.2nm,0.6s,baz=302,slow=4.3,SNR=4.9						
YKA				PKiKP	PKiKP	00 31 36.0	+0.5
	0.2nm,0.8s,baz=306,slow=1.4,SNR=4.0						
TORD	Torodi Ar. Bea	121.34	285	PKP	PKPdf	00 32 08.6	-0.3
	0.6nm,0.6s,baz=30,slow=2.4,SNR=17						

DJA 09 00:29:07.3±1.2, 2°N±8°×12°3E±°, h10km, M4.7/6, MLv4.7/6, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.64	181	P	Pn	00 29 31.7	-4.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
KMSI	**Cibinong**	**1.95**	**151**	P	Pb	00 29 42.7	-0.2
KMSI				S	Sn	00 30 03.6	-1.4
MRSI	**Marisa**	**2.11**	**211**	P	Pn	00 29 44.0	+1.3
MRSI				S	Sb	00 30 10.7	-1.2
LUWI	**Luwuk**	**3.32**	**185**	P	Pn	00 29 59.3	-0.1
APSI	**Ampana**	**3.47**	**204**	P	Pn	00 30 02.2	+0.8

*IDC **09** 00:34:04.1±2.3, 24.61S×116.14W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/23, mbtmp3.6/4, Error ellipse: s-maj=77.2km s-min=40.2km az=35.0*

ISC 09 00:34:05.8±2.9, **24.6S**±0.6×**116.2W**±0.4, **h12km, n15,** σ1s**16**/6, **mb3.7**/4, **Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**33.56**	**114**	T	T	01 16 06.9	
	baz=276,slow=75,SNR=82						
H03N3	**Juan Fernandez**	**33.57**	**114**	T	T	01 16 07.9	
	baz=276,slow=75,SNR=114						
H03N1	**Juan Fernandez**	**33.58**	**114**	T	T	01 16 08.2	
	baz=276,slow=75,SNR=84						
LPAZ	**La Paz**	**45.57**	**89**	P	**P**	**00 42 26.9**	**+0.2**
	1.2nm,0.7s,baz=247,slow=7.7,SNR=5.7						
NVAR	**Mina Array Bea**	**62.77**	**358**	P	**P**	**00 44 32.7**	**+1.5**
	0.4nm,0.6s,baz=184,slow=8.0,SNR=3.5						
PDAR	**Pinedale Array**	**67.35**	**5**	P	**P**	**00 44 59.8**	**-1.1**
	0.4nm,0.7s,baz=177,slow=5.4,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**86.47**	**292**	T	T	02 22 29.0	
	baz=121,slow=74,SNR=26						
H11S1	**WAKE ISLAND Hy**	**86.49**	**292**	T	T	02 22 33.8	
	baz=121,slow=74,SNR=26						
H11S3	**WAKE ISLAND Hy**	**86.49**	**292**	T	T	02 22 32.4	
	baz=121,slow=74,SNR=27						
YKA	**Yellowknife Ar**	**86.84**	**1**	P	**P**	**00 46 49.0**	**-0.6**
	0.3nm,0.8s,baz=172,slow=5.6,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**86.86**	**293**	T	T	02 22 58.3	
	baz=124,slow=79,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**86.88**	**293**	T	T	02 23 06.0	
	baz=124,slow=79,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**86.88**	**293**	T	T	02 23 01.8	
	baz=124,slow=79,SNR=8.7						
ZALV	**Zalesovo Beam**	**146.79**	**337**	PKPbc	**PKPbc**	**00 53 47.2**	**-0.3**
	0.8nm,0.6s,baz=5.7,slow=2.9,SNR=3.6						
MKAR	**Makanchi Array**	**153.43**	**331**	PKPbc	**PKPbc**	**00 54 04.3**	**+0.3**
	0.4nm,0.7s,baz=41,slow=2.7,SNR=3.0						

*IDC **09** 00:39:21.3±2.3, 10.49S×113.67E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/33, mbtmp3.8/7, Error ellipse: s-maj=99.3km s-min=19.8km az=46.0*

*DJA **09** 00:39:25.6±0.7, 11°S±5°×11°3E±°, h10km, M4.0/10, MLv4.0/10*

ISC 09 00:39:23.2±1.7, **10.64S**±0.09×**113.44E**±0.10, **h23km, n17,** σ1s**41**/15, **mb3.8**/7, **South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.27**	**18**	P	**Pb**	**00 40 01.5**	**-2.0**
JAGI				S	**Sb**	**00 40 33.4**	**+2.2**
GMJI	**Gumukmas**	**2.35**	**0**	P	**Pb**	**00 40 03.3**	**-1.6**
GMJI				S	**Sb**	**00 40 34.8**	**+1.3**
IGBI	**Denpasar**	**2.47**	**43**	P	**Pb**	**00 40 06.4**	**-0.6**
IGBI				S	**Sb**	**00 40 37.5**	**+0.5**
DNP	**Denpasar**	**2.62**	**42**	P	Pb	00 40 18.3	+8.8
DNP				S	**Sb**	**00 40 42.8**	**+1.6**
BLJI	**Banyuglugur**	**2.88**	**3**	P	**Pb**	**00 40 12.8**	**-1.1**
BLJI				S	**Sb**	**00 40 49.8**	**+1.0**
ABJI	**Asem Bagus**	**2.94**	**16**	P	**Pb**	**00 40 14.4**	**-0.4**
SRBI	**Singaraja**	**3.09**	**35**	P	**Pb**	**00 40 15.5**	**-1.9**
SRBI				S	**Sb**	**00 40 53.6**	**-1.0**
WRA	**Warramunga Arr**	**22.16**	**117**	P	**P**	**00 44 17.9**	**+0.3**
	1.2nm,0.5s,baz=290,slow=11,SNR=22						
ASAR	**Alice Springs**	**23.41**	**126**	P	**P**	**00 44 31.4**	**+0.6**
	0.8nm,0.5s,baz=301,slow=9.4,SNR=12						
CMAR	**Chiang Mai Arr**	**32.26**	**334**	P	P	00 45 52.9	+2.7
	0.8nm,0.3s,baz=173,slow=8.2,SNR=4.2						
H08S2	**Diego Garcia H**	**40.51**	**271**	T	T	01 30 28.4	
	baz=95,slow=74						
H08S3	**Diego Garcia H**	**40.52**	**271**	T	T	01 30 25.8	
	baz=95,slow=74						
H08S1	**Diego Garcia H**	**40.53**	**271**	T	T	01 30 22.0	
	baz=95						
MKAR	**Makanchi Array**	**63.59**	**337**	P	P	00 49 53.3	+1.2
	0.4nm,0.5s,baz=156,slow=8.2,SNR=6.3						
KURBB	**Kurchatov Arra**	**68.16**	**337**	P	P	00 50 22.4	+1.1
	0.5nm,0.5s,baz=154,slow=5.2,SNR=9.8						
ZALV	**Zalesovo Beam**	**68.77**	**342**	P	P	00 50 26.6	+1.5
	0.3nm,0.4s,baz=159,slow=3.8,SNR=5.2						
PETK	**Petropavlovsk-**	**73.86**	**26**	P	**P**	**00 50 56.4**	**+0.4**
	2.4nm,0.8s,baz=218,slow=6.8,SNR=3.7						

*SZGRF **09** 00:47:38.4, 15.78N×97.64W, h33km, mb5.5, MS5.3, Near coast of Oaxaca, Mexico*

*ISCJB **09** 00:47:39.8±0.1, 16.16N±0.02×96.57W±0.02, h31km, mb5.5/343, MS5.3/193, Error ellipse: s-maj=3.1km s-min=1.5km az=40.9*

*MOS **09** 00:47:39.8±0.8, 16.14N×96.59W, h33km, mb5.7/100, MS5.2/36, Error ellipse: s-maj=6.2km s-min=3.8km az=88.7*

*IDC **09** 00:47:40.3±0.4, 16.06N×96.59W, h29km±2km, mb5.0/34, mb1 5.1/37, mb1mx5.1/38, mbtmp5.1/37, ML5.0/4, MS5.0/19, Ms1 5.0/19, ms1mx4.9/34, Error ellipse: s-maj=13.2km s-min=7.5km az=58.0*

*BJI **09** 00:47:40.2, 16.10N×96.50W, h33km, mB5.6/24, Ms5.9/31, Ms7 5.6/30*

*MEX **09** 00:47:40.7±0.7, 15.89N×96.86W, h40km±11km, MD5.8*

*GCMT **09** 00:47:40.3±0.1, 16.12N×96.66W, h30km, MW5.7/111, Moment Tensor Solution. s97,c193; s111,c270; Duration: 1s7 Moment tensor: Scale 10[17]Nm; Mrr0.83±.05; Mθθ-3.96±.04; Mφφ3.13±.05; Mrθ1.97±.10; Mθφ-0.77±.04; Mφr-0.97±.09; Best double couple: Mo4.22900×10[17] NP1:φs126.00000°, δ86.00000°, λ148.00000°. NP2:φs219.00000°, δ58.00000°, λ5.00000°. Principal axes: T 3.7710, Plg25.0000°, Azm77.0000°; N 0.9200, Plg58.0000°, Azm300.0000°; P -4.6860, Plg19.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **09** 00:47:40.7, 15.89N×96.86W, h40km, mb5.6/241, MS5.3/152, MW5.5, MW5.6, MD5.8(MEX), Moment Tensor Solution. s63 Moment tensor: Scale 10[17]Nm; Mrr0.80; Mθθ-2.00; Mφφ1.20; Mrθ0.77; Mrφ-0.53; Mθφ-0.60; Best double couple: Mo2.10000×10[17] NP1:φs119.00000°, δ74.00000°, λ142.00000°. NP2:φs220.00000°, δ54.00000°, λ20.00000°. Principal axes: T 1.8400, Plg37.0000°, Azm73.0000°; N 0.4000, Plg49.0000°, Azm279.0000°; P -2.2400, Plg12.0000°, Azm173.0000°; After MEX.*

NEIC Felt [V] at Puerto Escondido; [IV] at Huatulco and Pochutla; [III] at Mitla and Oaxaca; [II] at Mexico. Also felt at Boca del Rio, Coatepec, Cordoba, Ixtaczoquitlan, Jalapa, Orizaba, Puebla, Tlacolula, Veracruz and Xoxocotlan.

*NEIC **09** 00:48:03.2±0.0, 16.65N×96.16W, h36km, Moment Tensor Solution. s169 Moment tensor: Scale 10[17]Nm; Mrr0.69; Mθθ-2.85; Mφφ2.15; Mrθ-0.67; Mθφ-1.00; Mφr-0.84; Best double couple: Mo2.90000×10[17] NP1:φs123.00000°, δ66.00000°, λ173.00000°. NP2:φs216.00000°, δ84.00000°, λ24.00000°. Principal axes: T 2.6200, Plg21.0000°, Azm82.0000°; N 0.6000, Plg65.0000°, Azm229.0000°; P -3.2200, Plg12.0000°, Azm347.0000°;*

ISC 09 00:47:40.0±0.3, **15.98N**±0.03×**96.77W**±0.03, **h33km**±1km, **h33km:pP-P, n1496,** σ1s**24**/1563, **mb5.6**/361, **MS5.3**/194, **364C-252D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.42**	**137**	*e*P	**Pb**	**00 47 48.9**	**-0.5**
PANG				*i* S	**Sb**	**00 47 55.9**	**+0.1**
HUIG	**Huatulco**	**0.67**	**108**	*i* P	**Pn**	**00 47 53.0**	**-0.1**
HUIG				*i* S	**Sb**	**00 48 02.3**	**-0.1**
HUIG	**Huatulco**	**0.67**	**108**	*i* P	**Pn**	**00 47 53.0**	**-0.1**
HUIG				*i* S	**Sb**	**00 48 02.3**	**-0.1**
VHO	**Vista Hermosa**	**1.09**	**2**	*i* P	**Pn**	**00 47 58.6**	**-0.5**
VHO				*e*S	**Sn**	**00 48 13.7**	**+0.5**
VHO	**Vista Hermosa**	**1.09**	**2**	*i* P	**Pn**	**00 47 58.6**	**-0.5**
VHO				*e*S	**Sn**	**00 48 13.7**	**+0.5**
OXX	**Oaxaca**	**1.10**	**2**	*e*P	Pb	00 48 03.9	+3.2
OXX				*i* S	**Sb**	**00 48 18.9**	**+4.2**
OXX	**Oaxaca**	**1.10**	**2**	*e*P	Pb	00 48 03.9	+3.2
OXX				*i* S	**Sb**	**00 48 18.9**	**+4.2**
PNIG	**Pinotepa**	**1.37**	**288**	*i* P	**Pn**	**00 48 00.4**	**-2.4**
PNIG				*e*S	**Sn**	**00 48 16.1**	**-3.7**
PNIG	**Pinotepa**	**1.37**	**288**	*i* P	**Pn**	**00 48 00.4**	**-2.4**
PNIG				*e*S	**Sn**	**00 48 16.1**	**-3.7**
TLIG	**Tlapa**	**2.33**	**313**	*e*P	**Pn**	**00 48 16.0**	**-0.2**
TLIG				*i* S	**Sn**	**00 48 42.3**	**-1.5**
HMTT	**Tlapaneco**	**2.49**	**317**	*i* P	**Pn**	**00 48 17.7**	**-0.6**
HMTT				*i* S	**Sn**	**00 48 46.0**	**-1.7**
TPIG	**Tehuac#an**	**2.49**	**347**	*i* P	**Pn**	**00 48 19.2**	**+0.8**
TPIG				*i* S	**Sn**	**00 48 48.2**	**+0.4**
TPIG	**Tehuac#an**	**2.49**	**347**	*i* P	**Pn**	**00 48 19.2**	**+0.8**
TPIG				*i* S	**Sn**	**00 48 48.2**	**+0.4**
ACX	**Acapulco**	**3.10**	**287**	*i* P	**Pn**	**00 48 29.1**	**+2.6**
ACX				*e*S	**Sn**	**00 49 01.5**	**-0.9**
ACX	**Acapulco**	**3.10**	**287**	*i* P	**Pn**	**00 48 29.1**	**+2.6**
ACX				*e*S	**Sn**	**00 49 01.5**	**-0.9**
PHPU	**Puebla**	**3.33**	**337**	*i* P	**Pn**	**00 48 30.1**	**+0.1**
PHPU				*i* S	**Sn**	**00 49 07.7**	**-0.8**
PCIG		**3.43**	**94**	*i* P	**Pn**	**00 48 31.3**	**+0.3**
PCIG				*i* S	**Sn**	**00 49 10.9**	**+0.4**
PCIG		**3.43**	**94**	*i* P	**Pn**	**00 48 31.3**	**+0.3**
PCIG				*i* S	**Sn**	**00 49 10.9**	**+0.4**
PLIG	**Platanillo**	**3.55**	**313**	*e*P	**Pn**	**00 48 31.3**	**-1.5**
PLIG				*i* S	**Sn**	**00 49 12.4**	**-1.3**
PLIG	**Platanillo**	**3.55**	**313**	*e*P	**Pn**	**00 48 31.3**	**-1.5**
PLIG				*i* S	**Sn**	**00 49 12.4**	**-1.3**
YAIG	**Yautepec**	**3.61**	**323**	*e*P	**Pn**	**00 48 33.9**	**+0.2**
YAIG				*i* S	**Sn**	**00 49 14.2**	**-1.1**
YAIG	**Yautepec**	**3.61**	**323**	*e*P	**Pn**	**00 48 33.9**	**+0.2**
YAIG				*i* S	**Sn**	**00 49 14.2**	**-1.1**
AMVM	**AMECAMECA**	**3.68**	**329**	*i* P	**Pn**	**00 48 35.4**	**+0.6**
LVIG	**Laguna Verde**	**3.74**	**5**	*e*P	**Pn**	**00 48 34.2**	**-1.1**
LVIG	**Laguna Verde**	**3.74**	**5**	*e*P	**Pn**	**00 48 34.2**	**-1.1**
MAVM	**Malinalco, Edo**	**3.94**	**319**	*i* P	**Pn**	**00 48 38.3**	**0.0**
MZVM		**3.96**	**324**	*i* P	**Pn**	**00 48 39.0**	**+0.5**
MZVM				*i* S	**Sn**	**00 49 23.4**	**-0.3**
IIO	**Organos**	**4.05**	**333**	*e*P	**Pn**	**00 48 41.5**	**+1.5**
IIO	**Organos**	**4.05**	**333**	*e*P	**Pn**	**00 48 41.5**	**+1.5**
UNM	**Universidad Na**	**4.05**	**326**	*i* P	**Pn**	**00 48 40.4**	**+0.5**
UNM				*i* S	**Sn**	**00 49 25.3**	**-1.0**
UNM	**Universidad Na**	**4.05**	**326**	*i* P	**Pn**	**00 48 40.4**	**+0.5**
UNM				*i* S	**Sn**	**00 49 25.3**	**-1.0**
UNM	**Universidad Na**	**4.05**	**326**	*i* P	**Pn**	**00 48 40.4**	**+0.5**
UNM				*i* S	**Sn**	**00 49 25.3**	**-1.0**
ARIG	**Puente Sto Nin**	**4.12**	**304**	*e*P	**Pn**	**00 48 41.3**	**+0.7**
ARIG				*i* S	**Sn**	**00 49 25.0**	**-2.7**
PTVM	**Pico Tres Padr**	**4.23**	**328**	*e*P	**Pn**	**00 48 40.6**	**-1.8**
PTVM	**Pico Tres Padr**	**4.23**	**328**	*e*P	**Pn**	**00 48 40.6**	**-1.8**
TOVM	**TOLUCA**	**4.30**	**320**	*e*P	**Pn**	**00 48 43.4**	**-0.1**
ZUVM	**ZUMPANGO**	**4.41**	**330**	*i* P	**Pn**	**00 48 46.8**	**+1.9**
CCIG	**Comitan**	**4.46**	**85**	*e*P	**Pn**	**00 48 45.8**	**+0.4**
CCIG				*e*S	**Sn**	**00 49 38.2**	**+1.9**
CCIG	**Comitan**	**4.46**	**85**	*e*P	**Pn**	**00 48 45.8**	**+0.4**
CCIG				*e*S	**Sn**	**00 49 38.2**	**+1.9**
ZIIG	**Zihuatanejo**	**4.78**	**290**	*e*P	**Pn**	**00 48 49.0**	**-0.7**
ZIIG				*i* S	**Sn**	**00 49 41.8**	**-2.2**
ZIIG	**Zihuatanejo**	**4.78**	**290**	*e*P	**Pn**	**00 48 49.0**	**-0.7**
ZIIG				*i* S	**Sn**	**00 49 41.8**	**-2.2**
DEIG	**Demacu**	**4.81**	**334**	*e*P	**Pn**	**00 48 50.9**	**+0.6**
DEIG	**Demacu**	**4.81**	**334**	*e*P	**Pn**	**00 48 50.9**	**+0.6**
MOIG	**Morelia**	**5.59**	**312**	*e*P	**Pn**	**00 49 03.7**	**+2.6**
MOIG	**Morelia**	**5.59**	**312**	*e*P	**Pn**	**00 49 03.7**	**+2.6**
SCIG	**Sabancuy**	**6.10**	**60**	*e*P	**Pn**	**00 49 06.1**	**-1.8**
SCIG				*i* S	**Sn**	**00 50 14.5**	**-2.0**
SCIG	**Sabancuy**	**6.10**	**60**	*e*P	**Pn**	**00 49 06.1**	**-1.8**
SCIG				*i* S	**Sn**	**00 50 14.5**	**-2.0**
APG	**El Apazote**	**6.15**	**98**	Pn	**Pn**	**00 49 06.0**	**-2.8**
	22nm,0.3s,baz=291,slow=14,SNR=177						
APG				Sn	**Sn**	**00 50 17.1**	**-1.2**
	55nm,0.3s,baz=87,slow=17,SNR=3.9						
MMIG	**Aquila**	**6.70**	**291**	*e*P	**Pn**	**00 49 15.7**	**-0.3**
MMIG				*i* S	**Sn**	**00 50 29.0**	**-2.1**
MMIG	**Aquila**	**6.70**	**291**	*e*P	**Pn**	**00 49 15.7**	**-0.3**
MMIG				*i* S	**Sn**	**00 50 29.0**	**-2.1**
EZ5V		**7.38**	**299**	*e*P	**Pn**	**00 49 26.9**	**+1.2**
EZ5V				*i* S	**Sn**	**00 50 47.8**	**-0.8**
R15V		**7.58**	**296**	*e*P	**Pn**	**00 49 29.3**	**+1.1**
ZAIG	**Zacatecas**	**8.69**	**322**	*i* P	**Pn**	**00 49 45.6**	**+1.9**
ZAIG	**Zacatecas**	**8.69**	**322**	*i* P	**Pn**	**00 49 45.6**	**+1.9**
ANIG	**Ahuacatlan**	**8.92**	**306**	*e*P	**Pn**	**00 49 48.6**	**+2.0**
ANIG	**Ahuacatlan**	**8.92**	**306**	*e*P	**Pn**	**00 49 48.6**	**+2.0**
TEIG	**Tepich**	**9.11**	**61**	Pn	**Pn**	**00 49 47.0**	**-2.2**
	135nm,0.3s,baz=267,slow=1.3,SNR=91						
TEIG				Sn	Sn	00 51 23.6	-7.1
	112nm,0.3s,baz=344,slow=23,SNR=8.1						
TEIG				LR	LR	00 54 01.7	
	comp=Z,11µm,18.6s,baz=252,slow=43						
TEIG	**Tepich**	**9.11**	**61**	*e*Pn	Pn	00 49 45.3	-3.9
TEIG				Sn	Sn	00 51 23.6	-7.1
LNIG	**Linares**	**9.23**	**345**	*e*P	**Pn**	**00 49 50.9**	**+0.1**
LNIG	**Linares**	**9.23**	**345**	*e*P	**Pn**	**00 49 50.9**	**+0.1**
035Z	**Hargill**	**10.50**	**354**	⇓P	**Pn**	**00 50 08.1**	**-0.1**
	baz=11						
034A	**Hebbronville**	**11.18**	**351**	⇓P	**Pn**	**00 50 17.6**	**+0.1**
	baz=11						
KVTX	**Kingsville**	**11.56**	**355**	*e*Pn	**Pn**	**00 50 21.9**	**-0.7**
MAIG	**Mazatlaan**	**11.58**	**310**	*e*P	**Pn**	**00 50 26.1**	**+3.0**
MAIG	**Mazatlaan**	**11.58**	**310**	*e*P	**Pn**	**00 50 26.1**	**+3.0**
934A	**Benavides**	**11.68**	**352**	⇑P	**Pn**	**00 50 24.4**	**+0.1**
	baz=12,SNR=8.2						
933A	**Laredo**	**11.81**	**349**	⇑P	**Pn**	**00 50 26.6**	**+0.4**
	baz=12,SNR=15						
834A	**Tilden**	**12.20**	**353**	⇓P	**Pn**	**00 50 32.7**	**+1.2**
	baz=12,SNR=33						
835A	**Beeville**	**12.29**	**356**	⇓P	**Pn**	**00 50 33.0**	**+0.3**
	baz=12						
833A	**Chaparral WMA,**	**12.52**	**349**	⇑P	**Pn**	**00 50 36.5**	**+0.6**
	baz=13,SNR=49						
832A	**Faith Ranch, C**	**12.60**	**347**	⇑P	**Pn**	**00 50 37.5**	**+0.5**
	baz=13,SNR=54						
JTS	**JuntasAbangare**	**12.82**	**115**	*c i*P	**Pn**	**00 50 43.1**	**+3.1**
JTS	**JuntasAbangare**	**12.82**	**115**	Pn	**Pn**	**00 50 41.9**	**+1.9**
	14nm,0.3s,baz=304,slow=7.6,SNR=85						
JTS	**JuntasAbangare**	**12.82**	**115**	*e*Pn	**Pn**	**00 50 43.0**	**+3.1**
735A	**Kenedy**	**12.85**	**356**	⇓P	**Pn**	**00 50 39.9**	**-0.4**
	baz=13						
733A	**Divot King Ran**	**12.89**	**350**	⇓P	**Pn**	**00 50 41.5**	**+0.5**
	baz=13,SNR=45						
734A	**La Parita Cree**	**12.91**	**353**	⇑P	**Pn**	**00 50 41.3**	**+0.1**
	baz=13,SNR=10						
732A	**Laxson Ranch,**	**13.03**	**347**	⇑P	**Pn**	**00 50 43.4**	**+0.6**
	baz=13,SNR=44						
635A	**Leesville**	**13.38**	**356**	⇓P	**Pn**	**00 50 47.1**	**-0.4**
	baz=14						
634A	**China Grove, S**	**13.42**	**354**	⇑P	**Pn**	**00 50 47.6**	**-0.5**
	baz=14						
633A	**Saathoff Ranch**	**13.60**	**351**	⇓P	**Pn**	**00 50 50.1**	**-0.5**
	baz=14,SNR=37						
HPIG		**13.68**	**324**	*e*P	**Pn**	**00 50 50.0**	**-1.9**
HPIG		**13.68**	**324**	*e*P	**Pn**	**00 50 50.0**	**-1.9**
632A	**Uvalde**	**13.75**	**349**	⇓P	**Pn**	**00 50 52.0**	**-0.6**
	baz=14,SNR=30						
H06E1	**SOCORRO T-PHAS**	**13.80**	**284**	T	T	01 04 53.2	
	SNR=18						
631A	**Perdido Creek**	**13.82**	**346**	⇓P	**Pn**	**00 50 53.2**	**-0.5**
	baz=14,SNR=47						
631A				⇓S	**Sn**	**00 53 25.5**	**-0.5**
	baz=14						
HKT	**Hockley**	**13.93**	**3**	*e*P	**Pn**	**00 50 54.1**	**-1.0**
HKT	**Hockley**	**13.93**	**3**	*e*Pn	**Pn**	**00 50 54.1**	**-1.0**
535A	**Dale**	**14.01**	**357**	⇑P	**Pn**	**00 50 55.1**	**-1.0**
	baz=14						
536A	**Bastrop**	**14.04**	**359**	⇑P	**Pn**	**00 50 55.0**	**-1.5**
	baz=14						
534A	**Blanco**	**14.07**	**354**	⇑P	**Pn**	**00 50 56.3**	**-0.8**
	baz=14,SNR=24						
533A	**Kerrville**	**14.18**	**352**	⇑P	**Pn**	**00 50 57.3**	**-1.2**
	baz=14,SNR=34						
531A	**Rocksprings**	**14.54**	**347**	⇓P	**Pn**	**00 51 02.6**	**-0.8**
	baz=15,SNR=125						
SOR	**Soroa**	**14.64**	**60**	*e*P	Pn	00 51 01.5	-3.3
JCT	**Junction City**	**14.70**	**350**	*e*P	**Pn**	**00 51 04.8**	**-0.8**
JCT	**Junction City**	**14.70**	**350**	*e*Pn	**Pn**	**00 51 04.8**	**-0.8**
JCT	**Junction City**	**14.70**	**350**	⇑P	**Pn**	**00 51 04.1**	**-1.5**
	baz=15,SNR=75						
530A	**J-C Ranch, Com**	**14.71**	**344**	⇓P	**Pn**	**00 51 05.4**	**-0.5**
	baz=15,SNR=33						
TXAR	**Lajitas Array**	**14.73**	**336**	P	**Pn**	**00 51 07.5**	**+1.4**
TXAR				MLR	MLR		
	comp=Z,17nm,28.6s						
TXAR	**Lajitas Array**	**14.73**	**336**	Pn	**Pn**	**00 51 07.5**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=156,slow=8.8,SNR=103						
TXAR				Lg	Lg	00 55 27.8	
	baz=183,slow=17,SNR=4.3						
TXAR				LR	LR	00 57 20.8	
	comp=Z,15µm,19.1s,baz=0.0,slow=39						
435B	**Jarrell**	**14.76**	**357**	⇑P	**Pn**	**00 51 05.0**	**-1.3**
	baz=15,SNR=34						
434A	**Burnet**	**14.83**	**355**	⇓P	**Pn**	**00 51 06.0**	**-1.4**
	baz=15,SNR=35						
433A	**Art**	**14.86**	**352**	⇑P	**Pn**	**00 51 07.0**	**-0.8**
	baz=15,SNR=58						
529A	**Stev Forest Ra**	**14.94**	**341**	⇓P	**Pn**	**00 51 10.0**	**+1.1**
	baz=15,SNR=49						
431A	**Sonora**	**15.05**	**347**	⇑P	**Pn**	**00 51 10.2**	**-0.1**
	baz=15,SNR=66						
LPIG	**La Paz**	**15.06**	**305**	Pn	**P**	**00 51 13.4**	**-1.9**
	comp=Z,9.2nm,0.3s,baz=72,slow=3.9,SNR=4.9						
432A	**Menard**	**15.09**	**350**	⇑P	**Pn**	**00 51 10.0**	**-0.8**
	baz=15,SNR=28						
528A	**Cox Ranch, San**	**15.16**	**340**	⇑P	**Pn**	**00 51 13.1**	**+1.3**
	baz=15,SNR=47						
335A	**Moody**	**15.25**	**358**	⇓P	**Pn**	**00 51 12.0**	**-0.8**
	baz=15,SNR=12						
430A	**Baggett Ranch,**	**15.30**	**345**	⇓P	**Pn**	**00 51 13.4**	**-0.2**
	baz=15,SNR=50						
429A	**Davenport Ranc**	**15.32**	**343**	⇑P	**Pn**	**00 51 14.5**	**+0.7**
	baz=15,SNR=49						
334A	**Lometa**	**15.34**	**355**	⇑P	**Pn**	**00 51 12.7**	**-1.4**
	baz=16,SNR=32						
333A	**Richland Sprin**	**15.41**	**353**	⇑P	**Pn**	**00 51 13.8**	**-1.2**
	baz=16,SNR=50						
526A	**Mary Lane Ranc**	**15.54**	**336**	⇑P	**Pn**	**00 51 18.4**	**+1.5**
	baz=16,SNR=79						
526A				⇑S	**S**	**00 54 22.5**	**-0.5**
	baz=16						
332A	**Millersview**	**15.57**	**350**	⇓P	**Pn**	**00 51 16.2**	**-0.9**
	baz=16,SNR=54						
331A	**San Angelo**	**15.62**	**348**	⇑P	**Pn**	**00 51 17.1**	**-0.7**
	baz=16,SNR=123						
428A	**Kincaid Ranch,**	**15.65**	**341**	⇑P	**Pn**	**00 51 19.5**	**+1.4**
	baz=16,SNR=148						
330A	**Mertzon**	**15.88**	**346**	⇑P	**Pn**	**00 51 20.8**	**-0.2**
	baz=16,SNR=211						
WHTX	**Lake Whitney**	**15.95**	**358**	*e*Pn	**Pn**	**00 51 21.5**	**-0.5**
	comp=Z,241nm,0.8s						
WHTX	**Lake Whitney**	**15.95**	**358**	⇑P	**Pn**	**00 51 20.6**	**-1.4**
	baz=16,SNR=31						
427A	**Hayter Ranch,**	**16.00**	**339**	⇑P	**Pn**	**00 51 23.7**	**+1.1**
	baz=16,SNR=115						
234A	**Clairette**	**16.00**	**356**	⇓P	**Pn**	**00 51 21.4**	**-1.3**
	baz=16,SNR=88						
232A	**Coleman**	**16.05**	**351**	⇓P	**Pn**	**00 51 22.5**	**-0.8**
	baz=16,SNR=87						
426A	**McDonald Obser**	**16.06**	**337**	⇓P	**Pn**	**00 51 24.7**	**+1.1**
	baz=16,SNR=174						
233A	**Rising Star**	**16.09**	**353**	⇓P	**Pn**	**00 51 22.5**	**-1.2**
	baz=16,SNR=149						
329A	**Wagon Wheel Ra**	**16.15**	**344**	⇑P	**Pn**	**00 51 24.6**	**0.0**
	baz=16,SNR=85						
231A	**Bronte**	**16.21**	**349**	⇓P	**Pn**	**00 51 24.4**	**-0.9**
	baz=16,SNR=163						
328A	**Wristen Ranch,**	**16.30**	**341**	⇓P	**Pn**	**00 51 26.8**	**+0.4**
	baz=16,SNR=86						
230A	**Sterling City**	**16.32**	**347**	⇑P	**Pn**	**00 51 26.2**	**-0.6**
	baz=16,SNR=44						
327A	**Balmorhea Ranc**	**16.50**	**339**	⇑P	**Pn**	**00 51 29.8**	**+0.7**
	baz=17,SNR=6.1						
135A	**Vickery Place,**	**16.52**	**358**	⇑P	**Pn**	**00 51 27.8**	**-1.4**
	baz=17,SNR=16						
134A	**White-Moore Ra**	**16.56**	**356**	⇓P	**Pn**	**00 51 28.5**	**-1.2**
	baz=17,SNR=55						
229A	**Bryant Ranch,**	**16.57**	**345**	⇑P	**Pn**	**00 51 29.5**	**-0.3**
	baz=17,SNR=48						
326A	**Caldwell Ranch**	**16.63**	**338**	⇑P	**Pn**	**00 51 31.7**	**+1.0**
	baz=17,SNR=169						
133A	**Hamilton Ranch**	**16.67**	**354**	⇑P	**Pn**	**00 51 30.3**	**-0.8**
	baz=17,SNR=170						
ABTX	**Abilene, Hawle**	**16.78**	**352**	*e*Pn	**Pn**	**00 51 31.8**	**-0.7**
	comp=Z,2µm,1.7s						
ABTX	**Abilene, Hawle**	**16.78**	**352**	⇓P	**Pn**	**00 51 31.8**	**-0.7**
	baz=17,SNR=146						
228A	**UT Block 9, Go**	**16.92**	**343**	⇓P	**Pn**	**00 51 34.2**	**-0.1**
	baz=17,SNR=142						
131A	**Roby**	**16.94**	**349**	⇓P	**Pn**	**00 51 33.9**	**-0.6**
	baz=17,SNR=43						
130A	**Snyder**	**16.98**	**348**	⇑P	**Pn**	**00 51 34.6**	**-0.4**
	baz=17,SNR=49						
MGV	**Manicaragua**	**17.00**	**66**	*e*P	P	00 51 51.4	+15
227A	**Bennet, Jal**	**17.03**	**341**	⇓P	**Pn**	**00 51 36.4**	**+0.7**
	baz=17,SNR=20						
VBMS	**Vicksburg**	**17.14**	**18**	*e*Pn	**Pn**	**00 51 37.4**	**+0.5**
	comp=Z,513nm,1.2s						
129A	**Stewart Farms,**	**17.21**	**345**	⇑P	**Pn**	**00 51 37.6**	**-0.4**
	baz=17,SNR=158						
Z35A	**Perchaven, San**	**17.28**	**359**	⇓P	**Pn**	**00 51 37.5**	**-1.2**
	baz=17,SNR=23						
Z33A	**Whitaker Ranch**	**17.33**	**354**	⇑P	**Pn**	**00 51 38.5**	**-0.8**
	baz=18,SNR=87						
Z34A	**Collier Ranch,**	**17.35**	**357**	⇑P	**Pn**	**00 51 38.6**	**-1.0**
	baz=18,SNR=33						
128A	**Castleberry Fa**	**17.36**	**344**	⇑P	**Pn**	**00 51 39.9**	**0.0**
	baz=18,SNR=164						
226B	**Tecolote Peak,**	**17.38**	**339**	⇑P	**P**	**00 51 41.4**	**+0.2**
	baz=18,SNR=124						
BRAL	**Brewton**	**17.40**	**29**	*e*Pn	**P**	**00 51 41.3**	**+0.1**
	comp=Z,267nm,0.9s						
Z32A	**Haskell**	**17.43**	**352**	⇑P	**Pn**	**00 51 40.1**	**-0.4**
	baz=18,SNR=60						
MNTX	**Cornudas Mount**	**17.51**	**335**	*e*Pn	**Pn**	**00 51 41.7**	**+0.1**
	comp=Z,5.2nm,1.5s						
MNTX				*e*Sn	**Sn**	**00 54 57.6**	**+2.0**
Z31A	**Sharp Cattle R**	**17.53**	**351**	⇓P	**Pn**	**00 51 41.1**	**-0.8**
	baz=18,SNR=99						
GDL2	**Guadalupe Moun**	**17.56**	**338**	*e*Pn	**P**	**00 51 43.6**	**+0.4**
CGIG		**17.62**	**326**	*i* P	**P**	**00 51 44.6**	**+0.7**
CGIG		**17.62**	**326**	*i* P	**P**	**00 51 44.6**	**+0.7**
225A	**Deer Hill, Car**	**17.65**	**337**	⇑P	**P**	**00 51 44.2**	**0.0**
	baz=18,SNR=92						
127A	**Arkansas Junct**	**17.67**	**341**	⇑P	**Pn**	**00 51 43.8**	**+0.2**
	baz=18,SNR=43						
Z30A	**Sanderson Ranc**	**17.68**	**348**	⇑P	**Pn**	**00 51 42.7**	**-1.0**
	baz=18,SNR=77						
Z29A	**Hungry Hill Ra**	**17.78**	**346**	⇑P	**Pn**	**00 51 44.2**	**-0.8**
	baz=18,SNR=302						
BCIP	**Isla Barro Col**	**17.85**	**110**	*e*P	**P**	**00 51 48.0**	**+1.6**
	comp=Z,476nm,1.4s						
126A	**Clayton Basin,**	**17.85**	**340**	⇓P	**P**	**00 51 46.1**	**+0.2**
	baz=18,SNR=38						
Y34A	**Reagan Ranch,**	**17.93**	**357**	⇑P	**Pn**	**00 51 45.5**	**-1.2**
	baz=18,SNR=50						
Z28A	**Tucker Farm, M**	**17.97**	**345**	⇓P	**Pn**	**00 51 47.0**	**-0.3**
	baz=18,SNR=238						
Y33A	**Hilltop Ranch,**	**18.03**	**355**	⇓P	**Pn**	**00 51 47.1**	**-0.9**
	baz=18						
125A	**Gardner Draw,**	**18.08**	**338**	⇑P	**P**	**00 51 49.2**	**+0.3**
	baz=18,SNR=87						
Y32A	**R-V Farms, Ver**	**18.11**	**353**	⇑P	**Pn**	**00 51 48.1**	**-0.9**
	baz=18,SNR=34						
CPRX	**Cap Rock**	**18.15**	**341**	*e*P	**P**	**00 51 50.3**	**+0.5**
	comp=Z,35nm,1.1s						
Y31A	**Rekieta Farm,**	**18.18**	**351**	⇓P	**Pn**	**00 51 49.1**	**-0.8**
	baz=18,SNR=70						
Y30A	**Stafford Cattl**	**18.21**	**349**	⇑P	**Pn**	**00 51 49.0**	**-1.2**
	baz=18,SNR=58						
Z27A	**Tatum**	**18.22**	**343**	⇓P	**Pn**	**00 51 49.9**	**-0.5**
	baz=18,SNR=419						
SRIG	**Santa Rosalia**	**18.26**	**311**	*e*P	**P**	**00 51 49.2**	**-1.5**
SRIG	**Santa Rosalia**	**18.26**	**311**	*e*P	**P**	**00 51 49.2**	**-1.5**
Y29A	**Porterfield Fa**	**18.35**	**347**	⇑P	**P**	**00 51 51.1**	**-0.7**
	baz=18,SNR=127						
MCJ	**Malvern**	**18.36**	**81**	*i* P	**Pn**	**00 51 52.6**	**+0.4**
Z26A	**Caprock**	**18.41**	**341**	⇓P	**Pn**	**00 51 52.8**	**0.0**
	baz=18,SNR=142						
X32A	**Elmer**	**18.50**	**353**	⇓P	**P**	**00 51 52.9**	**-0.5**
	baz=19,SNR=46						
MTDJ	**Mount Denham**	**18.52**	**80**	*e*Pn	**P**	**00 51 53.4**	**-0.5**
	comp=Z,312nm,0.9s						
Y28A	**McKinney Farm,**	**18.52**	**346**	⇓P	**P**	**00 51 53.8**	**0.0**
	baz=19,SNR=100						
X33A	**Lawton**	**18.55**	**356**	⇑P	**Pn**	**00 51 53.3**	**-0.6**
	baz=19,SNR=78						
X34A	**Smith Ranch, M**	**18.57**	**357**	⇓P	**P**	**00 51 53.7**	**-0.5**
	baz=19,SNR=44						
Z25A	**Roswell**	**18.67**	**339**	⇓P	**Pn**	**00 51 56.1**	**+0.2**
	baz=19,SNR=89						

MIAR Mount Ida 18.71 8 eP P 00 51 55.2 -0.5
MIAR pmax pmax
comp=Z,462nm,0.9s
MIAR Mount Ida 18.71 8 eP P 00 51 55.2 -0.5
comp=Z,462nm,0.9s
MSTX Muleshoe 18.71 344 eP P 00 51 56.1 +0.2
comp=Z,868nm,1.0s
MSTX Muleshoe 18.71 344 ⇑P Pn 00 51 56.3 -0.1
baz=19,SNR=318
Y27A Causey 18.74 343 ⇑P Pn 00 51 56.6 -0.2
baz=19,SNR=125
CCCC Cccc 18.74 71 eP Pn 00 51 59.3 +2.6
X30A Coker Ranch, T 18.76 349 ⇑P P 00 51 56.4 +0.1
baz=19,SNR=116
X31A McDonald Ranch 18.80 352 ⇑P P 00 51 56.8 +0.1
baz=19,SNR=47
PCJ Portland Cotta 18.85 82 iP Pn 00 51 58.2 +0.1
X29A Tulia 18.92 347 ⇓P Pn 00 51 58.5 -0.4
baz=19,SNR=42
Z24A Sheeppen Canyo 18.94 337 ⇑P Pn 00 52 00.1 +0.8
baz=19,SNR=205
Y26A Elida 18.97 342 ⇓P Pn 00 51 59.3 -0.2
baz=19,SNR=78
X28A Dimmitt 19.10 346 ⇓P Pn 00 52 01.0 0.0
baz=19,SNR=64
319A Douglas 19.11 326 ⇓P Pn 00 52 03.0 +1.7
baz=19,SNR=39
UALR University of 19.14 11 eP P 00 52 00.3 -0.1
comp=Z,2µm,2.1s
LRAL Lakeview Retre 19.15 26 ePn P 00 52 00.3 -0.1
comp=Z,149nm,1.1s
W33A Caddo, Fort Co 19.16 356 ⇑P Pn 00 52 01.4 -0.2
baz=19,SNR=35
W32A Sentinel 19.20 354 ⇑P P 00 52 01.3 +0.2
baz=19,SNR=71
W34A Bridge Creek, 19.20 357 eP P 00 52 01.2 +0.2
comp=Z,285nm,0.9s
W34A Bridge Creek, 19.20 357 ⇑P P 00 52 01.2 +0.2
baz=19,SNR=13
STH Stony Hill 19.20 81 iP P 00 52 01.2 -0.1
LMGC Las Mercedes 19.23 75 eP P 00 52 00.6 -0.8
Y25A Mesa, Roswell 19.24 340 ⇓P Pn 00 52 02.8 0.0
baz=19,SNR=167
HOJ Hope 19.25 81 iP P 00 52 01.3 -0.4
121A Cookes Peak, D 19.28 331 eP Pn 00 52 04.6 +1.3
comp=Z,5µm,3.7s
121A eS S 00 55 40.4 +1.8
121A Cookes Peak, D 19.28 331 ⇓P Pn 00 52 04.8 +1.5
baz=19,SNR=152
GWJ Greenwich 19.28 81 iP P 00 52 01.9 -0.3
AMTX Amarillo 19.34 348 eP P 00 52 02.7 +0.1
comp=Z,236nm,0.8s
AMTX Amarillo 19.34 348 ⇓P P 00 52 03.2 +0.5
baz=20
W31A Holland Ranch, 19.34 352 ⇓P P 00 52 02.8 +0.2
baz=20,SNR=28
W30A Crocket Farms 19.43 351 ⇑P P 00 52 04.1 +0.5
baz=20,SNR=7.3
X27A F and S Farms, 19.44 344 ⇓P P 00 52 04.2 +0.4
baz=20,SNR=52
Y24A Capitan 19.50 338 ⇑P Pn 00 52 06.1 0.0
baz=20,SNR=303
Z22A Elephant Butte 19.52 334 ⇓P Pn 00 52 06.4 +0.2
baz=20,SNR=207
TIGA Tifton 19.53 36 ePn P 00 52 04.7 0.0
comp=Z,236nm,0.7s
TIGA Tifton 19.53 36 ⇑P P 00 52 02.8 -1.8
baz=20,SNR=13
X26A CR and CF Fran 19.55 342 ⇑P Pn 00 52 06.0 -0.5
baz=20,SNR=213
W29A Amraillo 19.56 348 ⇓P Pn 00 52 06.2 -0.3
baz=20,SNR=49
OXF Oxford 19.61 18 eP P 00 52 04.7 -0.8
OXF pmax pmax
comp=Z,518nm,1.1s
OXF Oxford 19.61 18 eP P 00 52 04.7 -0.8
comp=Z,518nm,1.1s
Y23A Lovelace Mesa, 19.74 337 ⇓P Pn 00 52 08.8 0.0
baz=20,SNR=344
V32A Arapaho 19.77 355 ⇓P Pn 00 52 08.7 -0.2
baz=20,SNR=42
V34A Guthrie 19.79 358 eP P 00 52 07.5 0.0
comp=Z,264nm,0.9s
V34A eS S 00 55 48.7 0.0
V34A Guthrie 19.79 358 ⇑P P 00 52 07.5 0.0
baz=20,SNR=55
X25A Clemmons Ranch 19.79 340 ⇓P P 00 52 08.0 +0.3
baz=20,SNR=30
W28A Vega 19.81 347 ⇑P P 00 52 07.7 -0.1
baz=20,SNR=105
V33A Lossen Ranch, 19.81 356 ⇓P P 00 52 08.4 +0.7
baz=20,SNR=33
W27A Bowe Ranch, En 19.83 345 ⇑P P 00 52 08.1 +0.1
baz=20,SNR=155
TUL1 Tulsa 19.87 2 eP P 00 52 07.8 -0.5
comp=Z,170nm,0.6s
TUL1 eS Sn 00 55 52.4 -0.2
TUL1 Tulsa 19.87 2 ⇑P P 00 52 08.5 +0.1
baz=20
V31A Spring Creek L 19.91 353 ⇑P P 00 52 09.1 +0.3
baz=20,SNR=43
V30A Spur Ranch, Mi 20.01 351 ⇑P P 00 52 10.5 +0.5
baz=20,SNR=19
W26A Owens Ranch, T 20.04 343 ⇓P P 00 52 10.9 +0.6
baz=20,SNR=87
Y22D IRIS PASSCAL I 20.21 335 ⇓P Pn 00 52 14.0 -0.3
baz=20,SNR=17
HLGC Holguin 20.24 73 eP P 00 52 09.9 -2.6
V29A Stinnett 20.26 349 ⇑P P 00 52 13.1 +0.4
baz=20,SNR=31
V28A Channing 20.29 347 ⇑P P 00 52 13.6 +0.6
baz=20,SNR=93
LPM Los Pinos Moun 20.30 336 eP Pn 00 52 15.3 -0.1
LENM Lemitar 20.31 335 eP Pn 00 52 15.5 -0.1
W25A X Bar L Ranch, 20.36 342 ⇑P P 00 52 14.7 +0.8
baz=20,SNR=154
X23A Hourglass Bar 20.37 337 ⇓P Pn 00 52 16.1 -0.1
baz=20,SNR=96
U34A Anderson Ranch 20.39 358 ⇑P P 00 52 13.5 -0.5
baz=21,SNR=53
U33A Lingo Farm, Me 20.41 357 ⇓P P 00 52 14.8 +0.6
baz=21,SNR=82
U32A Winter Ranch, 20.42 355 ⇑P P 00 52 15.0 +0.7
baz=21,SNR=26
V27A Dan Oppiter Fa 20.43 346 ⇓P P 00 52 15.1 +0.6
baz=21,SNR=20
RCC Rio Carpintero 20.43 76 eP P 00 52 12.3 -2.3
U31A Nine Bar Ranch 20.49 353 ⇓P P 00 52 15.6 +0.4
baz=21,SNR=5.6
LAZ Ladron 20.58 335 eP Pn 00 52 18.7 -0.1
comp=Z,236nm,1.1s
LAZ eS S 00 56 05.2 +0.3
TUC Tucson 20.65 324 eP Pn 00 52 19.4 0.0
TUC pmax pmax
comp=Z,195nm,1.0s
TUC MLR MLR
comp=Z,11µm,21.0s
TUC Tucson 20.65 324 eP Pn 00 52 19.4 0.0
comp=Z,195nm,1.0s
TUC LR LR
comp=Z,11µm,21.0s
W24A Lazy 6 Ranch, 20.66 340 ⇓P Pn 00 52 18.6 -1.0
baz=21,SNR=156
V26A Tequesquite Ra 20.71 344 ⇓P P 00 52 18.7 +1.0
baz=21,SNR=263
U30A WK&E Inc. Balk 20.76 351 ⇑P P 00 52 18.1 0.0
baz=21,SNR=21
U29A Oasis Ranch, S 20.78 350 ⇓P P 00 52 18.6 +0.2
baz=21
ANMO Albuquerque 20.79 337 diP Pn 00 52 20.2 -1.0
ANMO pmax pmax
comp=Z,244nm,0.9s
ANMO Albuquerque 20.79 337 P Pn 00 52 20.4 -0.9
comp=Z,119nm,1.0s,baz=149,slow=12,SNR=115
ANMO S S 00 56 11.4 +2.4
comp=Z,4.4nm,0.9s,baz=180,slow=20,SNR=4.6
ANMO Lg Lg 00 58 40.4
comp=Z,2.1nm,0.9s,baz=24,slow=20,SNR=3.2
ANMO LR LR 01 01 29.6
comp=Z,6µm,18.4s,baz=162,slow=40
ANMO Albuquerque 20.79 337 eP Pn 00 52 20.3 -0.9
comp=Z,244nm,1.2s
ANMO S S 00 56 11.4 +2.4
ANMO Lg Lg 00 58 40.4
GNAR Gosnell 20.80 16 eP P 00 52 18.1 -0.3
comp=Z,8µm,1.2s
GNAR eS S 00 56 09.4 +0.7
W23A Werner Place, 20.87 338 ⇓P Pn 00 52 20.9 -1.2
baz=21,SNR=162
U28A Mallet 20.89 348 ⇓P P 00 52 19.9 +0.3
baz=21,SNR=6.4
GTBY Guantanamo Bay 20.97 76 eP P 00 52 20.0 -0.4
comp=Z,1µm,1.0s
GTBY LR LR
comp=Z,4µm,22.0s
V25A Rancho No Teng 20.98 342 ⇓P P 00 52 21.8 +1.1
baz=21,SNR=215
T33A Patterson Ranc 21.06 357 ⇑P P 00 52 21.9 +0.7
baz=21,SNR=29
U27A Thompson Grove 21.06 346 ⇓P P 00 52 22.0 +0.5
baz=21,SNR=155
V24A Rampart Ranch, 21.08 340 ⇑P P 00 52 23.1 +1.3
baz=21,SNR=149
GOGA Godfrey 21.11 32 eP P 00 52 20.5 -1.3
GOGA pmax pmax
comp=Z,215nm,0.7s
GOGA MLR MLR
comp=Z,4µm,19.0s
GOGA Godfrey 21.11 32 eP P 00 52 20.5 -1.3
comp=Z,214nm,0.7s
GOGA LR LR
comp=Z,4µm,19.0s
T31A Randall Ranch, 21.19 354 ⇑P P 00 52 22.6 -0.2
baz=21,SNR=45
T32A Huddler Ranch, 21.20 355 ⇓P P 00 52 22.7 -0.1
baz=21,SNR=68
T30A Plains 21.25 352 ⇓P P 00 52 23.9 +0.5
baz=21,SNR=18
U26A Atchley Ranch, 21.26 344 ⇓P P 00 52 24.6 +1.0
baz=21,SNR=221
V23A Ortiz Mt. (NFS 21.41 339 ⇓P P 00 52 26.8 +1.6
baz=22,SNR=148
U25A Circle Dot Ran 21.45 343 ⇑P P 00 52 26.9 +1.3
baz=22,SNR=231
PBMO Poplar Bluff 21.47 14 eP P 00 52 25.8 +0.1
comp=Z,324nm,0.8s
T29A Hugoton 21.47 350 ⇑P P 00 52 25.9 +0.1
baz=22,SNR=63
SWET Sewanee 21.48 25 eP P 00 52 23.8 -2.0
comp=Z,18nm,1.3s
SWET eS S 00 56 23.2 +0.9
S33A Kaszmaul Farm, 21.56 357 ⇑P P 00 52 25.8 -0.8
baz=22
T28A Walsh 21.59 348 ⇑P P 00 52 26.7 -0.3
baz=22,SNR=93
214A Organ Pipe Nat 21.59 320 eP P 00 52 28.2 +1.2
comp=Z,96nm,1.0s
214A eS S 00 56 22.5 -2.0
214A Organ Pipe Nat 21.59 320 ⇑P P 00 52 29.2 +2.2
baz=22,SNR=67
T27A Campo 21.65 347 ⇓P P 00 52 28.0 +0.3
baz=22,SNR=80
S31A Mullinville 21.69 354 ⇓P P 00 52 27.9 -0.2
baz=22,SNR=21
U24A Moreno Valley 21.71 341 ⇓P P 00 52 30.2 +1.6
baz=22,SNR=10
S32A Newby Ranch, P 21.72 355 ⇑P P 00 52 27.6 -0.7
baz=22,SNR=12
V22A San Miguel Ran 21.82 337 ⇓P P 00 52 31.2 +1.5
baz=22,SNR=93
MASC Masc 21.82 76 eP P 00 52 32.4 +2.8
S30A Montezuma 21.82 352 ⇓P P 00 52 29.8 +0.3
baz=22,SNR=54
S29A Ulysses 21.90 351 ⇑P P 00 52 30.2 -0.1
baz=22,SNR=93
U23A El Rito 21.94 339 ⇑P P 00 52 32.6 +1.6
baz=22,SNR=299
X18A Snowflake 21.94 330 ⇓P P 00 52 33.3 +2.3
baz=22,SNR=80
T26A Comanche Natio 21.96 345 ⇑P P 00 52 31.6 +0.4
baz=22,SNR=163
S28A Manter 22.00 349 ⇓P P 00 52 31.3 -0.2
baz=22,SNR=62
T25A Trinidad 22.14 344 ⇓P P 00 52 34.1 +1.0
baz=22,SNR=122
U22A Llaves 22.21 338 ⇓P P 00 52 35.7 +1.8
baz=22,SNR=78
R33A Olander Ranch, 22.27 357 ⇓P P 00 52 34.4 +0.1
baz=22,SNR=67
CPCT Cooper Cave 22.27 27 eP P 00 52 34.1 -0.2
CPCT ePcP PcP 00 56 30.9 +1.3
S27A Las Animas 22.29 347 ⇑P P 00 52 34.8 +0.2
baz=22,SNR=30
W18A Petrified Fore 22.32 331 eP P 00 52 37.4 +2.3
comp=Z,192nm,1.1s
W18A Petrified Fore 22.32 331 ⇑P P 00 52 37.2 +2.2
baz=22,SNR=21
T24B San Luis 22.35 342 ⇑P P 00 52 36.7 +1.3
baz=22,SNR=67
R31A Burdett 22.36 354 ⇓P P 00 52 34.6 -0.6
baz=22,SNR=24
S26A Kim 22.36 346 ⇓P P 00 52 35.9 +0.5
baz=22,SNR=65
R32A Long Quarter, 22.42 356 ⇑P P 00 52 35.5 -0.4
baz=23,SNR=36
R30A Dighton 22.43 353 ⇑P P 00 52 35.5 -0.5
baz=23,SNR=57
T23A Casias Ranch, 22.53 340 ⇓P P 00 52 38.8 +1.5
baz=23,SNR=76
RGRS Roger Stewart 22.57 39 eP P 00 52 36.5 -0.9
X16A Lo Mia Camp, P 22.61 327 ⇑P P 00 52 40.3 +2.1
baz=23,SNR=93
S25A Robets Cordova 22.64 344 ⇓P P 00 52 39.3 +1.0
baz=23,SNR=102
Z14A Wintersburg 22.66 323 ⇓P P 00 52 40.7 +2.3
baz=23,SNR=28
SIUC Southern Illin 22.66 16 eP P 00 52 38.7 +0.3
comp=Z,204nm,0.8s
R29A Marienthal 22.69 351 ⇑P P 00 52 38.1 -0.7
baz=23
CSU Charleston Sou 22.70 39 eP P 00 52 37.4 -1.4
R28A Tribune 22.72 350 ⇓P P 00 52 38.4 -0.8
baz=23,SNR=20
NHSC New Hope 22.72 38 eP P 00 52 38.7 -0.3
comp=Z,547nm,1.4s
NHSC LR LR
comp=Z,3µm,20.0s
113A Mohawk Valley, 22.73 320 ⇑P P 00 52 40.9 +1.7
baz=23,SNR=59
TKL Tuckaleechee C 22.78 28 P P 00 52 39.0 -0.7
TKL pmax pmax
comp=Z,185nm,1.0s
TKL MLR MLR
comp=Z,17nm,28.6s
TKL Tuckaleechee C 22.78 28 P P 00 52 39.0 -0.7
comp=Z,185nm,1.0s,baz=196,slow=8.9,SNR=103
TKL LR LR 01 04 45.9
comp=Z,1µm,18.9s,baz=212,slow=45
S24A Houchin Ranch, 22.83 343 ⇓P P 00 52 41.6 +1.1
baz=23,SNR=77
R27A Eads 22.85 348 ⇓P P 00 52 40.4 -0.1
baz=23,SNR=65
Q33A Connelly Farm, 22.95 358 ⇓P P 00 52 42.1 +0.7
baz=23,SNR=25
Q32A Meitler Ranch, 22.98 356 ⇑P P 00 52 40.9 -0.9
baz=23,SNR=47
R26A Arlington 23.00 346 ⇓P P 00 52 42.9 +0.8
baz=23,SNR=269
SDCO Great Sand Dun 23.01 342 eP P 00 52 43.1 +0.7
comp=Z,3µm,3.0s
SDCO LR LR
comp=Z,4µm,22.0s
KSU1 Kansas State U 23.04 0 eP P 00 52 41.2 -1.1
comp=Z,166nm,0.7s
KSU1 LR LR
comp=Z,7µm,21.0s
KSU1 Kansas State U 23.04 0 ⇑P P 00 52 41.7 -0.6
baz=23,SNR=28
Q31A Ellis 23.05 355 ⇓P P 00 52 42.0 -0.5
baz=23,SNR=33
R25A Fountain Ranch 23.06 345 ⇓P P 00 52 43.8 +1.1
baz=23,SNR=139
Y14A Wickenburg 23.11 324 ⇑P P 00 52 44.5 +1.4
baz=23,SNR=30
Q30A Quinter 23.11 353 ⇑P P 00 52 42.7 -0.4
baz=23,SNR=26
Q29A Oakley 23.12 352 ⇑P P 00 52 42.8 -0.5
baz=23,SNR=54
S23A Nye Farm, Mont 23.13 341 ⇓P P 00 52 43.8 +0.2
baz=23,SNR=15
SLM Saint Louis 23.29 13 eP P 00 52 44.8 -0.1
SLM pmax pmax
comp=Z,108nm,0.7s
SLM Saint Louis 23.29 13 eP P 00 52 44.8 -0.1
comp=Z,108nm,0.7s
USIN University of 23.33 18 eP P 00 52 45.2 0.0
comp=Z,239nm,1.0s
R24A Sanders Place, 23.35 343 ⇓P P 00 52 46.4 +0.6
baz=24,SNR=42
P33A Williams Farm, 23.39 358 ⇑P P 00 52 45.3 -0.5
baz=24,SNR=11
Q28A Sharon Springs 23.42 350 ⇑P P 00 52 45.5 -0.7
baz=24,SNR=14
WUAZ Wupatki 23.43 329 eP P 00 52 49.0 +2.5
comp=Z,462nm,1.3s
WUAZ LR LR
comp=Z,1µm,20.0s
WUAZ Wupatki 23.43 329 ⇑P P 00 52 48.1 +1.6
baz=24,SNR=145
S22A 4UR Ranch, Cre 23.43 340 ⇓P P 00 52 47.4 +0.8
baz=24,SNR=59
KSCO Kaye Shedlock' 23.52 349 eP P 00 52 47.8 +0.6
comp=Z,153nm,0.9s
KSCO Kaye Shedlock' 23.52 349 ⇑P P 00 52 47.4 +0.2
baz=24,SNR=15
R23A Moffat 23.52 342 ⇓P P 00 52 48.1 +0.6
baz=24,SNR=86
MVCO Mesa Verde 23.56 336 eP P 00 52 49.1 +1.3
comp=Z,489nm,1.3s
MVCO LR LR
comp=Z,11µm,19.0s
MVCO Mesa Verde 23.56 336 ⇓P P 00 52 48.9 +1.1
baz=24,SNR=94
KMSC Kings Mountain 23.57 33 eP P 00 52 46.1 -1.5
comp=Z,144nm,0.8s
KMSC Kings Mountain 23.57 33 ⇓P P 00 52 45.6 -2.0
baz=24,SNR=52
P31A Stockton 23.57 355 ⇓P P 00 52 47.3 -0.3
baz=24,SNR=36
GLA Glamis 23.58 319 eP P 00 52 49.8 +2.0
GLA pmax pmax
comp=Z,2µm,1.9s
GLA Glamis 23.58 319 eP P 00 52 49.8 +2.0
comp=Z,2µm,1.9s
GLA Glamis 23.58 319 ⇑P P 00 52 49.3 +1.6
baz=24,SNR=15
P32A Huiting Farm, 23.61 356 ⇑P P 00 52 48.0 0.0
baz=24,SNR=15
Q26A Hugo 23.61 347 ⇑P P 00 52 48.8 +0.6
baz=24,SNR=122
TZTN Tazewell 23.62 27 eP P 00 52 46.9 -1.2
comp=Z,866nm,1.5s
P30A Selden 23.68 353 ⇑P P 00 52 48.9 +0.2
baz=24,SNR=23
Q25A Bedland, Calha 23.77 345 ⇑P P 00 52 50.7 +0.9
baz=24,SNR=27
P29A Atwood 23.82 352 ⇓P P 00 52 50.0 0.0
baz=24
Y12C Blythe 23.86 321 ⇑P P 00 52 53.0 +2.6
baz=24,SNR=12
OTAV Otavalo 23.90 129 eP P 00 52 54.1 +2.7
comp=Z,131nm,1.1s
OTAV LR LR
comp=Z,3µm,21.0s
P28A Saint Francis 23.91 350 ⇓P P 00 52 51.2 +0.3
baz=24,SNR=12
OLIL Olney 23.91 17 eP P 00 52 50.3 -0.5
WCI Wyandotte Cave 24.01 21 eP P 00 52 50.7 -1.1
WCI pmax pmax
comp=Z,462nm,1.0s
WCI Wyandotte Cave 24.01 21 eP P 00 52 50.7 -1.1
comp=Z,462nm,1.0s
PDMCI Parker Dam,Lak 24.02 323 ⇑P P 00 52 54.2 +2.4
baz=24,SNR=16
P27A Ficken Ranch, 24.03 349 ⇑P P 00 52 52.8 +0.7
baz=24,SNR=22
Q24A Divide 24.05 344 ⇓P P 00 52 54.2 +1.7
baz=24,SNR=28
SWSC Sam W. Stewart 24.12 318 ⇑P P 00 52 54.5 +1.7
baz=24,SNR=9.7
Q23A Hartsel 24.19 343 ⇑P P 00 52 54.9 +1.1
baz=24
O31A Woolen Ranch, 24.19 355 ⇑P P 00 52 54.0 +0.6
baz=24,SNR=20
P26A Davis Ranch, A 24.19 348 ⇑P P 00 52 55.1 +1.5
baz=24,SNR=67
O32A Brockman Farm, 24.23 357 ⇓P P 00 52 55.4 +1.6
baz=24,SNR=5.0
O30A MW Ranch, Wils 24.28 354 ⇑P P 00 52 54.9 +0.6
baz=24,SNR=12
O29A 4D Ranch, Culb 24.31 352 ⇓P P 00 52 55.1 +0.5
baz=24,SNR=13
P25A Willow Gulch B 24.32 346 ⇓P P 00 52 56.2 +1.3
baz=24,SNR=72
BC3 Big Chuckawall 24.37 320 ⇓P P 00 52 56.9 +1.7
baz=24,SNR=32
PV01 Paradox Valley 24.40 337 eP P 00 52 58.8 +3.1
comp=Z,41µm,1.4s
W13A Hualapai Mount 24.45 324 ⇓P P 00 52 57.6 +1.6
baz=24,SNR=32
O28A Krutsinger Ran 24.45 351 ⇑P P 00 52 56.6 +0.7
baz=25,SNR=16
SDDR Presa de Saban 24.48 79 eP P 00 52 57.1 +0.8
comp=Z,566nm,1.1s
SDDR LR LR
comp=Z,2µm,20.0s
MONP Monument Peak 24.50 317 ⇓P P 00 52 58.6 +2.1
baz=24,SNR=6.8
P24A Kohler Place, 24.51 345 ⇓P P 00 52 58.5 +2.0
baz=25,SNR=16
IRM Iron Mountain 24.52 321 ⇓P P 00 52 58.3 +1.8
baz=25,SNR=37
BAR Barrett 24.53 316 eP P 00 52 58.7 +2.1
comp=Z,188nm,1.0s
U15A North Rim 24.61 329 ⇓P P 00 53 00.1 +2.5
baz=25,SNR=133
P23A Jefferson 24.62 343 ⇓P P 00 52 59.0 +1.2
baz=25,SNR=60
O27A Beecher Island 24.63 349 ⇑P P 00 52 58.8 +1.3
baz=25,SNR=14
ROSC El Rosal 24.65 114 P P 00 53 03.0 +4.8
comp=Z,112nm,1.0s,baz=75,slow=1.0,SNR=61
N32A Stulken Farm, 24.73 357 ⇓P P 00 52 59.3 +1.0
baz=25,SNR=19
PV04 Paradox Valley 24.75 337 eP P 00 53 00.6 +1.9
SMCO Snowmass 24.78 341 eP P 00 53 01.2 +1.9
comp=Z,185nm,1.3s
BLO Bloomington 24.79 19 eP P 00 52 58.9 +0.1
BLO pmax pmax
comp=Z,276nm,0.8s
BLO Bloomington 24.79 19 eP P 00 52 58.9 +0.1
comp=Z,276nm,0.8s
N31A Bailey Ranch, 24.83 356 ⇓P P 00 53 00.5 +1.3
baz=25,SNR=8.9
O26A Horse Wrangler 24.84 348 ⇓P P 00 53 01.3 +1.8
baz=25,SNR=36
GRTK Grand Turk 24.88 73 eP P 00 53 00.2 +0.4
comp=Z,431nm,0.8s
GRTK LR LR
comp=Z,5µm,20.0s
O25A Wiggins 24.89 347 ⇓P P 00 53 01.5 +1.6
baz=25,SNR=19
N30A Hueftle Ranch, 24.90 354 ⇓P P 00 53 01.7 +1.9
baz=25,SNR=9.3
BELC Belle Mtn. Jos 24.94 320 ⇓P P 00 53 03.1 +2.7
baz=25,SNR=28
109C Camp Elliot, M 24.95 316 ⇓P P 00 53 02.3 +1.9
baz=25
ISCO Idaho Springs 24.96 344 eP P 00 53 02.2 +1.5
ISCO pmax pmax
comp=Z,219nm,1.1s
ISCO MLR MLR
comp=Z,2µm,21.0s
ISCO Idaho Springs 24.96 344 eP P 00 53 02.2 +1.5
comp=Z,219nm,1.1s
ISCO LR LR
comp=Z,2µm,21.0s
ISCO Idaho Springs 24.96 344 ⇑P P 00 53 03.2 +2.5
baz=25,SNR=128
N28A Pribbeno Ranch 24.97 351 ⇑P P 00 53 01.6 +1.1
baz=25,SNR=12
PFO Pinyon Flat Ob 24.97 318 eP P 00 53 03.0 +2.3
PFO 00 56 36.8
PFO MLR MLR
comp=Z,6µm,19.0s
PFO Pinyon Flat Ob 24.97 318 P P 00 53 01.5 +0.7
comp=Z,17nm,0.9s,baz=111,slow=6.3,SNR=16
PFO PcP PcP 00 56 36.8 +1.3
comp=Z,8.1nm,0.9s,baz=113,slow=5.4,SNR=4.3
PFO Pinyon Flat Ob 24.97 318 eP P 00 53 03.0 +2.3
PFO PcP PcP 00 56 36.8 +1.3
PFO LR LR
comp=Z,6µm,19.0s

PFO Pinyon Flat Ob 24.97 318 ⇓P P 00 53 02.7 +1.9
baz=25,SNR=9.9
N29A Votaw Ranch, W 24.98 353 ⇑P P 00 53 02.1 +1.5
baz=25,SNR=7.5
P22A Eagle 25.10 342 ⇓P P 00 53 03.8 +1.9
baz=25,SNR=72
O24A Longmont 25.12 345 ⇓P P 00 53 04.4 +2.4
baz=25,SNR=21
LDFC Landfair 25.13 323 eP P 00 53 04.7 +2.5
comp=Z,521nm,1.5s
N27A Anderson Farm, 25.24 350 ⇑P P 00 53 04.8 +1.8
baz=25,SNR=14
GMRC Granite Mounta 25.25 321 ⇑P P 00 53 05.0 +1.8
baz=25,SNR=18
OGNE Ogallala 25.29 351 eP P 00 53 04.2 +0.7
comp=Z,1μm,1.6s
OGNE LR LR
comp=Z,5μm,21.0s
OGNE Ogallala 25.29 351 ⇓P P 00 53 05.4 +1.9
baz=25,SNR=29
M31A Lambtecht Ranc 25.35 356 ⇑P P 00 53 05.5 +1.6
baz=26,SNR=25
BGNE Belgrade 25.37 358 eP P 00 53 05.9 +1.8
comp=Z,178nm,0.8s
BGNE Belgrade 25.37 358 ⇑P P 00 53 05.2 +1.1
baz=26,SNR=6.5
N26A Koester Ranch, 25.39 349 ⇑P P 00 53 06.4 +2.0
baz=26,SNR=6.9
O23A Lake Granby, G 25.43 344 ⇓P P 00 53 07.5 +2.5
baz=26,SNR=143
MURC Murrieta 25.45 317 ⇓P P 00 53 07.0 +2.0
baz=26,SNR=8.1
N25A Grover 25.55 347 ⇑P P 00 53 08.6 +2.7
baz=26,SNR=7.5
O22A Kremmling 25.56 342 ⇓P P 00 53 08.8 +2.7
baz=26,SNR=58
CNNC Cliffs of the 25.56 38 eP P 00 53 05.5 -0.3
CNNC LR LR
comp=Z,2μm,19.0s
M29A Burnside Ranch 25.60 353 ⇓P P 00 53 08.3 +2.0
baz=26,SNR=9.3
M30A Dale-Ortello V 25.61 355 ⇓P P 00 53 07.6 +1.2
baz=26
BLA Blacksburg 25.63 31 eP P 00 53 05.7 -0.8
BLA pmax pmax
comp=Z,148nm,0.8s
BLA MLR MLR
comp=Z,4μm,20.0s
BLA Blacksburg 25.63 31 eP P 00 53 05.7 -0.8
comp=Z,148nm,0.8s
BLA LR LR
comp=Z,4μm,20.0s
M28A Bar X Bar Ranc 25.64 352 ⇑P P 00 53 08.2 +1.6
baz=26,SNR=7.7
BBRC Big Bear Solar 25.69 319 ⇓P P 00 53 09.2 +1.9
baz=26
HEC Hector,Ludlow 25.69 321 ⇓P P 00 53 09.2 +2.0
baz=26,SNR=24
SFIN Scholer Farm 25.73 17 eP P 00 53 06.8 -0.6
comp=Z,118nm,0.8s
SFIN Scholer Farm 25.73 17 ⇑P P 00 53 06.7 -0.6
baz=26,SNR=29
N24A Carr 25.74 346 ⇓P P 00 53 10.5 +2.8
baz=26,SNR=57
TUQ Turquoise Moun 25.86 322 ⇑P P 00 53 10.8 +2.1
baz=26,SNR=62
VWCC Virginia Weste 25.88 32 eP P 00 53 08.2 -0.6
M27A Reverse DX Ran 25.92 350 ⇓P P 00 53 10.5 +1.3
baz=26
M26A McRoberts Ranc 25.99 349 ⇓P P 00 53 12.4 +2.6
baz=26,SNR=16
L30A Spencer Herefo 26.01 355 ⇓P P 00 53 11.5 +1.6
baz=26,SNR=8.6
SRU San Rafael 26.01 335 eP P 00 53 12.9 +2.8
SRU pmax pmax
comp=Z,117nm,1.2s
SRU San Rafael 26.01 335 eP P 00 53 12.9 +2.8
comp=Z,117nm,1.2s
CCUT Cedar City 26.02 329 eP P 00 53 13.1 +2.8
comp=Z,69nm,1.2s
SCIA State Center 26.02 6 eP P 00 53 10.2 +0.3
comp=Z,264nm,0.8s
SCIA LR LR
comp=Z,4μm,20.0s
O20A White River Ci 26.06 340 eP P 00 53 12.5 +1.9
comp=Z,166nm,1.0s
O20A White River Ci 26.06 340 ⇑P P 00 53 12.6 +1.9
baz=26,SNR=66
N23A Red Feather La 26.07 344 ⇓P P 00 53 12.6 +1.8
baz=26,SNR=70
N22A Wattenberg Ran 26.12 343 ⇓P P 00 53 13.8 +2.6
baz=26,SNR=17
CIS Catalina Islan 26.13 316 ⇑P P 00 53 14.5 +3.4
baz=26
M25A Palm-Egli Farm 26.14 347 ⇓P P 00 53 13.7 +2.5
baz=26,SNR=17
RRX Edison Barstow 26.14 320 ⇓P P 00 53 14.1 +2.9
baz=26
BFSC Mount Baldy Ra 26.14 318 ⇑P P 00 53 13.9 +2.5
baz=26,SNR=6.0
L31A Butterfield Fa 26.17 357 ⇑P P 00 53 12.9 +1.6
baz=26,SNR=9.3
SHPR Sheep Range 26.18 325 eP P 00 53 13.1 +1.4
L29A Maesberg Ranch 26.19 354 ⇓P P 00 53 13.1 +1.5
baz=26
MVU Marysvale 26.23 332 eP P 00 53 15.1 +2.9
comp=Z,47nm,1.0s
ARUT Antelope Range 26.24 329 eP P 00 53 14.2 +2.0
ARUT pmax pmax
comp=Z,3μm,1.2s
ARUT Antelope Range 26.24 329 eP P 00 53 14.2 +2.0
comp=Z,3μm,1.2s
L28A Connealy Angus 26.26 352 ⇑P P 00 53 14.0 +1.7
baz=26
GSC Goldstone 26.30 321 eP P 00 53 14.1 +1.4
GSC pmax pmax
comp=Z,435nm,2.4s
GSC Goldstone 26.30 321 eP P 00 53 14.1 +1.4
comp=Z,435nm,2.4s
GSC Goldstone 26.30 321 ⇑P P 00 53 14.2 +1.6
baz=26,SNR=15
PHWY Pilot Hill 26.33 345 eP P 00 53 15.1 +2.0
comp=Z,172nm,1.7s
M24A Cheyenne 26.34 346 ⇑P P 00 53 15.0 +1.9
baz=26,SNR=36
SHOC Shoshone 26.39 322 ⇑P P 00 53 15.8 +2.4
baz=26
MWC Mount Wilson 26.39 317 eP P 00 53 15.5 +1.8
MWC pmax pmax
comp=Z,79nm,1.3s
MWC Mount Wilson 26.39 317 eP P 00 53 15.5 +1.8
comp=Z,79nm,1.3s
PASC Pasadena Art C 26.45 317 eP P 00 53 13.4 -0.6
comp=Z,132nm,1.5s
TMUT Trail Mountain 26.45 334 eP P 00 53 17.3 +3.0
comp=Z,136nm,1.1s
L27A T5 Ranch, Ells 26.45 351 ⇑P P 00 53 15.3 +1.3
baz=27,SNR=13
SDV Santo Domingo 26.46 102 eP P 00 53 15.8 +1.4
comp=Z,2μm,1.0s
SDV LR LR
comp=Z,4μm,20.0s
L26A Underwood Farm 26.53 349 ⇓P P 00 53 16.3 +1.6
baz=27
M23A Laramie 26.55 345 ⇓P P 00 53 17.2 +2.2
baz=27
DECC Green Verdugo 26.59 317 ⇑P P 00 53 18.2 +3.0
baz=27
N20A Spence Gulch, 26.70 340 ⇑P P 00 53 18.8 +2.4
baz=27,SNR=30
K30A Basset 26.72 355 ⇓P P 00 53 18.1 +1.7
baz=27,SNR=5.5
M22A Cedar Creek Ra 26.72 343 ⇓P P 00 53 18.8 +2.2
baz=27,SNR=21
EDW2 Edwards Air Fo 26.76 319 ⇓P P 00 53 18.3 +1.5
baz=27,SNR=6.3
L25A Engebretsen Ra 26.81 348 ⇑P P 00 53 19.9 +2.6
baz=27,SNR=7.8
K29A Lazy Trails An 26.86 354 ⇓P P 00 53 19.5 +1.8
baz=27
L24A Wheatland 26.91 346 ⇑P P 00 53 19.5 +1.3
baz=27
K28A Ten Mile Ranch 26.93 353 ⇑P P 00 53 20.2 +1.8
baz=27,SNR=12
LRMC Laurel Mountai 26.95 320 ⇓P P 00 53 20.8 +2.1
baz=27
ACSO Alum Creek Sta 26.98 24 eP P 00 53 18.2 -0.5
comp=Z,386nm,1.4s

ACSO LR LR
comp=Z,3μm,21.0s
K27A Flueckinger Fa 27.04 351 ⇓P P 00 53 20.7 +1.4
baz=27
OSI Osito Adit 27.07 317 eP P 00 53 18.7 -0.9
comp=Z,85nm,1.2s
OSI Osito Adit 27.07 317 ⇑P P 00 53 21.7 +2.1
baz=27
FURC Furnace Creek, 27.12 323 ⇓P P 00 53 22.3 +2.4
baz=27
L23A Garrett 27.16 345 ⇓P P 00 53 21.7 +1.2
baz=27,SNR=42
K26A Motz Farm, Whi 27.19 350 ⇑P P 00 53 21.9 +1.2
baz=27,SNR=11
MPU Maple Canyon 27.23 334 eP P 00 53 25.0 +3.8
comp=Z,93nm,1.4s
K25A Mack Ranch, Ha 27.23 348 ⇑P P 00 53 22.7 +1.6
baz=27,SNR=9.7
L22A Ellis Ranch, M 27.26 344 ⇑P P 00 53 22.3 +0.9
baz=27,SNR=18
JSRW J. Sargeant Re 27.32 34 eP P 00 53 20.7 -1.0
J30A Dallas 27.36 356 ⇓P P 00 53 22.9 +0.9
baz=28
NLU North Lily Min 27.36 334 eP P 00 53 27.3 +4.9
comp=Z,150nm,1.5s
DAU Daniels Canyon 27.41 335 eP P 00 53 25.2 +2.3
DAU Daniels Canyon 27.41 335 eP P 00 53 25.2 +2.3
JFWS Jewell Farm 27.42 10 eP P 00 53 22.1 -0.5
JFWS pmax pmax
comp=Z,202nm,0.6s
JFWS MLR MLR
comp=Z,4μm,20.0s
JFWS Jewell Farm 27.42 10 eP P 00 53 22.1 -0.5
comp=Z,202nm,0.6s
JFWS LR LR
comp=Z,4μm,20.0s
DAC Darwin (Calif) 27.43 321 eP P 00 53 25.0 +2.1
DAC pmax pmax
comp=Z,42nm,1.1s
DAC Darwin (Calif) 27.43 321 eP P 00 53 25.0 +2.1
comp=Z,42nm,1.1s
ARVC Arvin 27.45 318 ⇓P P 00 53 24.4 +1.4
baz=28
J29A Okreek 27.50 354 ⇑P P 00 53 24.8 +1.4
baz=28
K24A Anderson Ranch 27.53 347 ⇑P P 00 53 23.8 0.0
baz=28
J27A Elkhorn Farm, 27.55 352 ⇑P P 00 53 25.4 +1.5
baz=28,SNR=5.5
ISA Isabella 27.56 319 eP P 00 53 26.5 +2.5
ISA e 00 56 43.1
ISA pmax pmax
comp=Z,528nm,1.8s
ISA Isabella 27.56 319 eP P 00 53 26.5 +2.5
comp=Z,528nm,1.8s
ISA ePcP PcP 00 56 43.1 +1.7
ISA Isabella 27.56 319 ⇓P P 00 53 25.3 +1.3
baz=28,SNR=8.8
SBC Santa Barbara 27.62 316 ⇓P P 00 53 27.0 +2.6
baz=28
J28A Allard Ranch, 27.62 353 ⇓P P 00 53 24.3 -0.1
baz=28
JLU Jordanelle 27.65 335 eP P 00 53 28.8 +3.8
comp=Z,42nm,1.1s
ECSD EROS Data Cent 27.66 0 eP P 00 53 25.0 +0.2
comp=Z,74nm,0.8s
ECSD LR LR
comp=Z,6μm,21.0s
ECSD EROS Data Cent 27.66 0 ⇑P P 00 53 23.9 -0.9
baz=28,SNR=49
K23A Bowen Ranch, D 27.74 346 ⇓P P 00 53 27.1 +1.5
baz=28,SNR=7.2
R11A Troy Canyon, C 27.76 327 eP P 00 53 27.7 +1.8
comp=Z,143nm,1.8s
R11A Troy Canyon, C 27.76 327 ⇑P P 00 53 27.3 +1.4
baz=28,SNR=23
J26A Sides Ranch, S 27.77 350 ⇑P P 00 53 25.9 +0.1
baz=28,SNR=5.9
GRAC Grapevine Rang 27.78 323 ⇑P P 00 53 27.3 +1.3
baz=28,SNR=10
CWC Cottonwood Cre 27.83 321 ⇑P P 00 53 28.1 +1.6
baz=28,SNR=7.9
CTU Camp Tracy 27.85 335 eP P 00 53 30.4 +3.8
comp=Z,29nm,0.8s
K22A Casper 27.87 344 eP P 00 53 29.6 +2.8
comp=Z,157nm,1.4s
K22A Casper 27.87 344 ⇑P P 00 53 27.6 +0.8
baz=28,SNR=9.6
DUG Dugway 27.88 333 eP P 00 53 29.2 +2.3
DUG pmax pmax
comp=Z,200nm,2.0s
DUG MLR MLR
comp=Z,13μm,21.0s
DUG Dugway 27.88 333 eP P 00 53 29.2 +2.3
comp=Z,200nm,2.0s
DUG LR LR
comp=Z,13μm,21.0s
DUG Dugway 27.88 333 ⇑P P 00 53 27.8 +0.9
baz=28,SNR=37
CBN Corbin 27.96 34 eP P 00 53 27.4 -0.1
comp=Z,63nm,0.7s
CBN LR LR
comp=Z,3μm,21.0s
J25A Sunshine Ranch 27.97 349 ⇑P P 00 53 27.5 -0.1
baz=28
K21A Alcova 28.04 343 ⇓P P 00 53 29.2 +0.8
baz=28
VES Vestal, Richgr 28.06 319 ⇓P P 00 53 30.8 +2.4
baz=28,SNR=9.3
TCUT Toone Canyon 28.07 336 eP P 00 53 29.5 +0.8
comp=Z,356nm,1.4s
TCUT ePcP PcP 00 56 42.4 -0.5
J24A Dixon Ranch, L 28.08 348 ⇑P P 00 53 29.8 +1.2
baz=28,SNR=5.0
I29A Vivian Onida 28.11 355 ⇑P P 00 53 29.3 +0.5
baz=28
I28A Midland 28.18 353 ⇑P P 00 53 29.7 +0.3
baz=28
SMMC Simmler 28.32 317 ⇑P P 00 53 33.4 +2.6
baz=28
TIN Tinemaha 28.32 322 ⇓P P 00 53 32.7 +1.8
baz=28
J23A Dilts Ranch, B 28.34 346 ⇓P P 00 53 31.1 +0.1
baz=28
I27A Quinn 28.36 352 ⇑P P 00 53 30.7 -0.3
baz=28,SNR=5.8
BRSD Miller 28.43 357 eP P 00 53 32.1 +0.5
comp=Z,116nm,0.9s
BRSD Miller 28.43 357 ⇓P P 00 53 32.0 +0.3
baz=29
I26A New Underwood 28.44 351 ⇓P P 00 53 31.6 -0.1
baz=29
TPH Tonopah 28.45 325 eP P 00 53 34.0 +1.9
TPH pmax pmax
comp=Z,78nm,1.3s
TPH Tonopah 28.45 325 eP P 00 53 34.0 +1.9
comp=Z,78nm,1.3s
RCTC Rector, Farmer 28.45 320 ⇓P P 00 53 33.5 +1.6
baz=28
AAM Ann Arbor 28.55 21 eP P 00 53 32.3 -0.3
AAM pmax pmax
comp=Z,229nm,1.5s
AAM MLR MLR
comp=Z,3μm,20.0s
AAM Ann Arbor 28.55 21 eP P 00 53 32.3 -0.3
comp=Z,229nm,1.5s
AAM LR LR
comp=Z,3μm,20.0s
HWUT Hardware Ranch 28.55 336 eP P 00 53 35.4 +2.5
I25A Rochford 28.57 349 ⇓P P 00 53 34.5 +1.4
baz=29
J22A Midwest 28.57 345 ⇓P P 00 53 33.4 +0.4
baz=29,SNR=9.0
BGU Big Grassy Mou 28.57 334 eP P 00 53 35.5 +2.3
comp=Z,26nm,1.4s
SPUT South Promonto 28.65 335 eP P 00 53 34.8 +1.0
comp=Z,43nm,1.3s
LRS Lares 28.67 81 eP P 00 53 32.5 -1.6
LRS ePcP PcP 00 56 43.8 -0.6
MTUM Tungsten Hills 28.72 322 epP pP 00 53 45.7 +1.6
RSSD Black Hills 28.72 349 eP P 00 53 37.2 +2.7
RSSD pmax pmax
comp=Z,37nm,1.3s
RSSD Black Hills 28.72 349 eP P 00 53 37.1 +2.7
comp=Z,37nm,1.3s
J21A Lysite 28.76 344 ⇓P P 00 53 35.7 +0.9
baz=29,SNR=17

AOPR Arecibo Observ 28.76 81 eP P 00 53 34.6 -0.2
comp=Z,78nm,1.4s
H28A Mission Ridge 28.83 354 ⇓P P 00 53 35.6 +0.4
baz=29
PDAR Pinedale Array 28.86 340 P P 00 53 36.6 +0.9
comp=Z,4.4nm,0.9s,baz=128,slow=9.6,SNR=25
PDAR PcP PcP 00 56 44.4 -0.3
comp=Z,6.4nm,0.9s,baz=126,slow=4.2,SNR=4.1
PDAR Lg Lg 01 02 56.9
comp=Z,0.4nm,0.7s,baz=88,slow=37,SNR=2.9
PDAR LR LR 01 06 08.8
comp=Z,6μm,18.7s,baz=170,slow=38
BW06 Boulder Array 28.86 340 eP P 00 53 35.6 -0.1
comp=Z,91nm,1.5s
BW06 LR LR
comp=Z,6μm,20.0s
OBIP Obispado Ponce 28.90 82 eP P 00 53 35.5 -0.6
comp=Z,35nm,0.8s
J20A Shoshoni 28.94 343 ⇑P P 00 53 37.1 +0.8
baz=29,SNR=14
H26A Fairpoint 29.00 351 ⇓P P 00 53 36.7 0.0
baz=29
I22A 9 Mile Ranch, 29.02 345 ⇑P P 00 53 37.6 +0.5
baz=29
MLAC Mammoth Lakes 29.07 322 ⇑P P 00 53 39.3 +1.7
baz=29
G30A Faulkton 29.13 357 ⇑P P 00 53 38.6 +0.8
baz=29
SDMD Soldier's Deli 29.13 33 eP P 00 53 37.6 -0.2
comp=Z,40nm,0.7s
H25A Fruitdale 29.13 350 ⇑P P 00 53 40.3 +2.4
baz=29,SNR=5.8
J19A Crowheart 29.15 341 ⇑P P 00 53 39.4 +1.2
baz=29,SNR=8.7
I21A Big Trails, Te 29.15 344 ⇓P P 00 53 39.4 +1.2
baz=29,SNR=12
HVU Hansel Valley 29.18 335 eP P 00 53 40.6 +2.1
HVU pmax pmax
comp=Z,76nm,1.0s
HVU Hansel Valley 29.18 335 eP P 00 53 40.6 +2.1
comp=Z,76nm,1.0s
G28A Parade 29.22 354 ⇑P P 00 53 39.2 +0.6
baz=29
NV11 Mina Array Sit 29.22 324 eP P 00 53 39.9 +1.1
NV11 ePcP PcP 00 56 46.4 +0.8
ATAH Atahualpa 29.30 140 P P 00 53 40.6 +0.6
comp=Z,54nm,1.0s,baz=335,slow=5.2,SNR=19
NVAR Mina Array Bea 29.30 324 P P 00 53 42.4 +2.7
comp=Z,27nm,1.0s,baz=147,slow=8.4,SNR=136
NVAR PcP PcP 00 56 47.5 +1.6
comp=Z,14nm,1.0s,baz=136,slow=4.0,SNR=5.8
NVAR Lg Lg 01 02 48.0
comp=Z,0.2nm,0.5s,baz=147,slow=22,SNR=2.5
NVAR LR LR 01 04 40.5
comp=Z,5μm,19.9s,baz=228,slow=35
ALLY Alegheny Colle 29.33 26 eP P 00 53 39.3 -0.3
comp=Z,294nm,0.7s
SJG San Juan 29.33 81 P P 00 53 39.1 -0.8
SJG 00 56 46.2
SJG pmax pmax
comp=Z,158nm,0.9s
SJG pmax pmax
comp=Z,15nm,0.7s
SJG San Juan 29.33 81 P P 00 53 39.1 -0.8
comp=Z,158nm,0.9s,baz=270,slow=5.9,SNR=34
SJG PcP PcP 00 56 46.2 +0.2
comp=Z,15nm,0.7s,baz=270,slow=3.6,SNR=4.4
SJG San Juan 29.33 81 eP P 00 53 38.9 -1.0
comp=Z,116nm,0.8s
SJG PcP PcP 00 56 46.2 +0.2
SJG LR LR
comp=Z,2μm,19.0s
SPMN St. Paul 29.35 6 eP P 00 53 39.1 -0.6
comp=Z,82nm,0.8s
SPMN St. Paul 29.35 6 ⇑P P 00 53 39.6 -0.1
baz=30,SNR=32
AHID Auburn Hatcher 29.38 338 eP P 00 53 39.8 -0.5
comp=Z,112nm,1.4s
AHID ePcP PcP 00 56 45.5 -0.5
AHID LR LR
comp=Z,2μm,19.0s
H23A Clabaugh Cattl 29.41 347 ⇓P P 00 53 42.1 +1.6
baz=30
ELK Elko 29.42 331 P P 00 53 42.2 +1.5
ELK 00 56 46.9
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK pmax pmax
comp=Z,10.0nm,1.0s
ELK Elko 29.42 331 P P 00 53 42.2 +1.5
comp=Z,6.2nm,1.0s,baz=192,slow=4.6,SNR=11
ELK PcP PcP 00 56 46.9 +0.7
comp=Z,10nm,1.0s,baz=199,slow=1.5,SNR=4.3
H24A Dirks Ranch, A 29.42 349 ⇓P P 00 53 41.7 +1.2
baz=30,SNR=11
I20A Worland 29.50 343 ⇓P P 00 53 42.7 +1.4
baz=30,SNR=10
SSPA Standing Stone 29.53 30 eP P 00 53 41.2 -0.2
comp=Z,370nm,1.7s
CBYP Canovanas 29.61 81 eP P 00 53 40.9 -1.5
comp=Z,118nm,0.9s
HUMP Col San Antoni 29.62 81 eP P 00 53 42.8 +0.4
G27A Dupree 29.63 353 ⇑P P 00 53 43.3 +1.1
baz=30
G26A Maurine 29.63 352 ⇓P P 00 53 43.4 +1.1
baz=30
H22A Clearmont 29.66 346 ⇑P P 00 53 44.1 +1.5
baz=30
G25A Newell 29.66 350 ⇑P P 00 53 43.6 +1.0
baz=30
ERPA Erie 29.78 26 eP P 00 53 44.0 +0.4
comp=Z,279nm,0.8s
ERPA LR LR
comp=Z,3μm,21.0s
MVL Millersville 29.82 33 eP P 00 53 44.0 +0.1
comp=Z,53nm,0.8s
REDW Red Top Meadow 29.82 339 eP P 00 53 45.9 +1.7
comp=Z,195nm,1.5s
I19A Meeteetse 29.83 342 ⇓P P 00 53 46.2 +1.9
baz=30,SNR=9.8
H21A Big Horn, Sher 29.85 345 ⇑P P 00 53 45.1 +0.7
baz=30,SNR=5.4
LOHW Long Hollow 29.96 340 eP P 00 53 46.8 +1.3
comp=Z,338nm,2.0s
G24A Alzada 29.96 349 ⇓P P 00 53 46.4 +1.2
baz=30
H20A Greybull 29.97 344 ⇓P P 00 53 46.4 +1.0
baz=30,SNR=6.6
TPAW Teton Pass 29.97 339 eP P 00 53 47.5 +1.9
comp=Z,110nm,1.3s
F28A McLaughlin 29.97 354 ⇑P P 00 53 46.3 +1.0
baz=30
WAKR Walker 30.00 323 eP P 00 53 48.4 +2.5
G23A Biddle 30.02 348 ⇓P P 00 53 46.9 +1.1
baz=30
FXWY Fox Creek 30.12 339 eP P 00 53 48.5 +1.5
comp=Z,128nm,1.8s
MOOW Moose Ponds 30.13 340 eP P 00 53 47.9 +0.9
comp=Z,137nm,1.8s
F27A Lemmon 30.13 353 ⇑P P 00 53 48.0 +1.3
baz=30
BMN Battle Mountai 30.16 328 eP P 00 53 49.2 +2.1
BMN pmax pmax
comp=Z,450nm,3.0s
BMN Battle Mountai 30.16 328 eP P 00 53 49.2 +2.1
comp=Z,450nm,3.0s
F26A Lodgepole 30.19 352 ⇑P P 00 53 48.7 +1.5
baz=30
I17A Pilgrim Ck. 30.22 340 ⇓P P 00 53 49.3 +1.6
baz=30,SNR=27
G22A Birney 30.23 347 ⇑P P 00 53 48.0 +0.3
baz=30,SNR=9.8
CMB Columbia Colle 30.26 321 eP P 00 53 50.0 +2.0
CMB pmax pmax
comp=Z,44nm,1.3s
CMB Columbia Colle 30.26 321 eP P 00 53 50.0 +2.0
comp=Z,44nm,1.3s
IMW Indian Meadow 30.32 339 eP P 00 53 50.1 +1.4
comp=Z,118nm,1.8s
F25A Bowman 30.38 351 ⇓P P 00 53 50.0 +1.1
baz=30
FLWY Flagg Ranch 30.41 340 eP P 00 53 51.1 +1.7
comp=Z,47nm,1.1s
H19A Powell 30.41 343 ⇓P P 00 53 50.4 +1.1
baz=30,SNR=16
G21A Lodge Grass 30.45 345 ⇑P P 00 53 51.0 +1.3
baz=31
F24A Ekalaka 30.46 349 ⇑P P 00 53 51.2 +1.5

baz=31
E30A Jud 30.48 357 ⇑P P 00 53 50.4 +0.6
baz=31
F23A Volborg 30.52 348 ⇑P P 00 53 50.7 +0.5
baz=31,SNR=7.7
E29A Napoleon 30.59 356 ⇓P P 00 53 51.2 +0.4
baz=31,SNR=5.3
H18A Shoshone NF, C 30.61 342 ⇑P P 00 53 52.1 +0.9
baz=31,SNR=17
E27A Carson 30.62 353 ⇑P P 00 53 52.2 +1.1
baz=31
H17A Grant Village 30.64 340 eP P 00 53 56.6 +5.1
comp=Z,239nm,2.3s
H17A Grant Village 30.64 340 ⇓P P 00 53 53.7 +2.1
baz=31,SNR=8.1
CDVI St. Croix 30.66 82 eP P 00 53 51.2 -0.4
comp=Z,127nm,0.8s
E28A Huff 30.68 355 ⇑P P 00 53 52.3 +0.7
baz=31
G20A Bridger 30.70 344 ⇓P P 00 53 52.9 +1.0
baz=31
F22A Rosebud 30.76 347 ⇑P P 00 53 53.0 +0.7
baz=31
E26A Carlson Angus 30.77 352 ⇑P P 00 53 52.9 +0.6
baz=31
YFT Old Faithful 30.78 340 eP P 00 53 57.5 +4.8
comp=Z,137nm,1.9s
YFT epP pP 00 54 04.8 +2.5
YFT ePcP PcP 00 56 52.7 +3.1
RLMT Red Lodge 30.90 343 eP P 00 53 53.7 -0.1
comp=Z,169nm,1.5s
RLMT LR LR
comp=Z,2µm,19.0s
E25A Miller Ranch, 30.93 351 ⇓P P 00 53 54.3 +0.5
baz=31
YNR Norris Junctio 30.96 341 eP P 00 53 58.5 +4.1
comp=Z,34nm,1.1s
F21A Absaloka Mine, 31.00 346 ⇓P P 00 53 54.9 +0.5
baz=31,SNR=5.9
YMR Madison River 31.02 340 eP P 00 53 57.0 +2.3
comp=Z,252nm,1.8s
D29A Pettibone, Tap 31.08 356 ⇓P P 00 53 56.5 +1.4
baz=31
D30A Buchanan 31.08 357 ⇓P P 00 53 56.2 +1.1
baz=31,SNR=8.6
E24A Baker 31.13 350 ⇓P P 00 53 57.4 +1.8
baz=31
F20A Billings 31.23 345 ⇑P P 00 53 57.2 +0.8
baz=31
BRNJ Basking Ridge 31.25 34 eP P 00 53 56.0 -0.6
comp=Z,82nm,0.6s
KSPA Keystone Colle 31.27 31 eP P 00 53 56.7 -0.1
KSPA epP pP 00 54 07.4 +1.0
D28A Regan 31.28 355 ⇑P P 00 53 57.9 +1.1
baz=31,SNR=14
D27A Center 31.29 354 ⇓P P 00 53 57.4 +0.5
baz=32
QLMT Earthquake Lak 31.31 340 eP P 00 54 02.0 +4.6
D26A Manning 31.32 353 ⇓P P 00 53 58.1 +1.0
baz=32,SNR=10
E22A Miles City 31.32 348 ⇑P P 00 53 58.5 +1.3
baz=32,SNR=12
HLID Hailey 31.33 335 eP P 00 53 59.3 +1.8
comp=Z,113nm,1.8s
HLID LR LR
comp=Z,6µm,19.0s
HLID Hailey 31.33 335 ⇓P P 00 53 59.0 +1.5
baz=31,SNR=18
F19A Roth Farm, Mol 31.48 344 ⇓P P 00 53 59.5 +0.8
baz=32,SNR=7.8
ODNJ Ogdensburg 31.52 33 eP P 00 53 58.9 -0.1
comp=Z,33nm,1.0s
D25A Fairfield 31.55 351 ⇓P P 00 54 00.0 +0.7
baz=32
LAO LASA Array 31.62 348 eP P 00 54 01.4 +1.6
comp=Z,164nm,1.9s
LAO LR LR
comp=Z,5µm,19.0s
GCMT Greycliff 31.63 343 eP P 00 54 00.3 +0.2
comp=Z,17nm,0.7s
BINY Binghamton 31.65 30 eP P 00 53 59.0 -1.1
comp=Z,436nm,1.6s
BINY ePcP PcP 00 56 50.8 -0.9
BINY LR LR
comp=Z,4µm,21.0s
E21A Keefer Ranch, 31.66 346 ⇓P P 00 54 01.2 +1.0
baz=32,SNR=5.4
C30A Mose, Pekin 31.67 358 ⇑P P 00 54 00.5 +0.4
baz=32,SNR=9.2
D24A Glendive 31.68 350 ⇓P P 00 54 00.4 +0.1
baz=32
OHCM Honcut 31.75 322 eP P 00 54 03.2 +2.2
C28A Hausauer Farms 31.79 355 ⇑P P 00 54 01.4 +0.1
baz=32
MCMT McKenzie Canyo 31.80 338 eP P 00 54 01.5 -0.2
comp=Z,15nm,1.0s
MFID Camas Ranch 31.81 333 eP P 00 54 03.5 +1.8
comp=Z,68nm,1.6s
PAL Palisades 31.83 34 eP P 00 54 01.0 -0.7
PAL pmax pmax
comp=Z,226nm,0.8s
PAL Palisades 31.83 34 eP P 00 54 01.0 -0.7
comp=Z,226nm,0.8s
E20A Meyer Farm, Mu 31.88 345 ⇑P P 00 54 03.0 +0.9
baz=32,SNR=14
D23A Lindsay 31.88 349 ⇑P P 00 54 02.9 +0.7
baz=32
C27A Sayler Ranch, 31.89 354 ⇓P P 00 54 03.3 +1.1
baz=32,SNR=7.3
E19A Rath Farm, Rou 32.00 344 ⇓P P 00 54 04.2 +0.9
baz=32,SNR=6.3
D22A Cohagen 32.05 348 ⇓P P 00 54 04.5 +0.9
baz=32
C26A Wahner Farm, P 32.06 353 ⇑P P 00 54 04.9 +1.2
baz=32,SNR=17
C24A Savage 32.09 350 ⇑P P 00 54 05.5 +1.6
baz=32,SNR=8.6
C25A Freed Ranch, W 32.09 352 ⇑P P 00 54 04.9 +0.9
baz=32
BOZ Bozeman (W) 32.10 340 eP P 00 54 05.7 +1.5
BOZ pmax pmax
comp=Z,91nm,1.5s
BOZ MLR MLR
comp=Z,5µm,20.0s
BOZ Bozeman (W) 32.10 340 eP P 00 54 05.7 +1.5
comp=Z,91nm,1.5s
BOZ LR LR
comp=Z,5µm,20.0s
SABA Saba 32.11 82 eP P 00 54 03.7 -0.8
SABA Saba 32.11 82 eP P 00 54 03.9 -0.6
comp=Z,170nm,0.9s
D21A La Casta Ranch 32.14 347 ⇓P P 00 54 05.1 +0.7
baz=32
EYMN Ely 32.17 7 eP P 00 54 04.4 -0.3
comp=Z,101nm,1.4s
EYMN LR LR
comp=Z,5µm,22.0s
DLMT Dillon 32.18 339 eP P 00 54 06.9 +2.1
comp=Z,345nm,1.9s
AGMN Agassiz Nation 32.24 1 eP P 00 54 05.0 -0.2
comp=Z,110nm,1.3s
AGMN LR LR
comp=Z,3µm,19.0s
AGMN Agassiz Nation 32.24 1 ⇑P P 00 54 05.3 +0.1
baz=32,SNR=19
SMRT St. Maarten 32.26 81 eP P 00 54 04.2 -1.6
SMRT St. Maarten 32.26 81 eP P 00 54 03.9 -1.9
comp=Z,117nm,0.9s
SADO Sadowa 32.33 24 P P 00 54 05.5 -0.6
comp=Z,78nm,0.9s,baz=257,slow=7.6,SNR=47
SADO LR LR 01 10 35.4
comp=Z,1µm,19.6s,baz=192,slow=43
WVOR Wild Horse Val 32.36 329 eP P 00 54 08.0 +1.5
WVOR pmax pmax
comp=Z,93nm,1.4s
WVOR MLR MLR
comp=Z,7µm,19.0s
WVOR Wild Horse Val 32.36 329 eP P 00 54 08.0 +1.5
comp=Z,93nm,1.4s
WVOR LR LR
comp=Z,7µm,19.0s
SEUS St. Eustatius 32.37 82 eP P 00 54 06.2 -0.5
comp=Z,490nm,1.0s
B30A Myrvik Farm, E 32.41 358 ⇑P P 00 54 07.3 +0.6
baz=33,SNR=12
D20A Manuel Ranch, 32.43 345 ⇑P P 00 54 08.2 +1.2
baz=33,SNR=16
B29A Wagenman Farm, 32.47 357 ⇓P P 00 54 08.0 +0.8
baz=33,SNR=20
C23A Lambert 32.49 349 ⇓P P 00 54 08.8 +1.3
baz=33,SNR=16
B28A Dugan Ranch, T 32.52 356 ⇑P P 00 54 08.5 +0.8
baz=33,SNR=25
LRM Limekiln Ridge 32.53 339 eP P 00 54 09.6 +1.5
C22A Vida 32.56 349 ⇓P P 00 54 09.6 +1.5
baz=33,SNR=16
YLE Yale 32.57 34 eP P 00 54 07.9 -0.2
comp=Z,58nm,0.6s
B26A Jensen Ranch, 32.62 353 ⇑P P 00 54 09.6 +1.0
baz=33
B25A Knox Farm, Ray 32.63 352 ⇑P P 00 54 09.8 +1.1
baz=33
D19A Cripps Ranch, 32.68 345 ⇓P P 00 54 10.2 +1.0
baz=33,SNR=14
MOD Modoc 32.83 327 eP P 00 54 11.7 +1.1
comp=Z,258nm,2.1s
A30A Hoffart Farm, 32.90 358 ⇑P P 00 54 11.7 +0.7
baz=33,SNR=14
A29A Manning Farm, 32.92 357 ⇓P P 00 54 11.9 +0.8
baz=33,SNR=26
A28A Rude Farm, Bot 32.97 356 ⇓P P 00 54 12.3 +0.7
baz=33,SNR=15
DGMT Dagmar 32.97 351 eP P 00 54 13.9 +2.2
comp=Z,42nm,0.8s
DGMT LR LR
comp=Z,3µm,20.0s
DGMT Dagmar 32.97 351 ⇓P P 00 54 12.2 +0.5
baz=33
C20A Veseth Ranch, 32.98 346 ⇓P P 00 54 13.0 +1.2
baz=33,SNR=8.3
A27A Ledoux Ranch, 33.09 355 ⇓P P 00 54 13.3 +0.7
baz=33
B23A Brockton 33.09 350 ⇓P P 00 54 14.3 +1.6
baz=33,SNR=7.6
HRY Holter Researc 33.11 341 eP P 00 54 14.2 +1.2
A26A Wade Farm, Ken 33.11 354 ⇓P P 00 54 14.3 +1.4
baz=33,SNR=14
B22A Reddig Ranch S 33.12 349 ⇑P P 00 54 14.1 +1.2
baz=33
MBWH 33.16 84 eP P 00 54 12.5 -1.2
WDC Whiskeytown Da 33.18 323 eP P 00 54 13.6 +0.1
WDC e 00 56 56.4
WDC pmax pmax
comp=Z,20nm,1.3s
WDC Whiskeytown Da 33.18 323 eP P 00 54 13.6 +0.1
comp=Z,20nm,1.3s
WDC ePcP PcP 00 56 56.4 +0.5
TRY Troy 33.19 32 eP P 00 54 13.8 +0.2
comp=Z,478nm,2.0s
KCPM Cahto Peak 33.24 321 eP P 00 54 12.2 -2.0
comp=Z,29nm,1.1s
C19A Slack Wire Ran 33.25 345 ⇓P P 00 54 15.5 +1.4
baz=33,SNR=10.0
A25A Svangstu Ranch 33.28 352 ⇓P P 00 54 14.7 +0.3
baz=33
BBSR BB Station 33.33 55 eP P 00 54 14.3 -0.6
comp=Z,467nm,1.4s
BBSR LR LR
comp=Z,6µm,20.0s
A24A Westby 33.39 351 ⇓P P 00 54 16.4 +1.1
baz=34,SNR=6.2
B21A Ellsworth Farm 33.44 348 ⇓P P 00 54 16.0 +0.3
baz=34
ANWB Willy Bob 33.50 82 eP P 00 54 14.0 -2.6
ANWB Willy Bob 33.50 82 eP P 00 54 13.9 -2.7
comp=Z,70nm,0.8s
ANWB LR LR
comp=Z,2µm,20.0s
N02D Trinity Center 33.52 323 ⇑P P 00 54 17.7 +1.1
baz=34
A23A Redstone 33.55 350 ⇑P P 00 54 18.0 +1.3
baz=34,SNR=5.3
M04C Macdoel 33.57 325 ⇓P P 00 54 18.6 +1.5
baz=34
BMO Blue Mountains 33.59 333 eP P 00 54 17.7 +0.5
comp=Z,270nm,2.3s
BMO LR LR
comp=Z,6µm,22.0s
KMRM Mail Ridge 33.64 321 eP P 00 54 20.2 +2.5
comp=Z,76nm,1.2s
B20A Solberg Farm, 33.66 346 ⇓P P 00 54 18.6 +0.8
baz=34
ACCN Adirondack Com 33.67 31 eP P 00 54 17.5 -0.2
comp=Z,278nm,1.6s
MLG Mont-d'or 33.67 85 eP P 00 54 17.5 -0.7
HMG Houelmont 33.69 85 eP P 00 54 17.0 -1.3
FNG Fond-Bernard 33.70 85 eP P 00 54 18.4 -0.1
EGMT Eagleton 33.70 344 eP P 00 54 19.3 +1.2
comp=Z,278nm,1.8s
EGMT LR LR
comp=Z,3µm,20.0s
EGMT Eagleton 33.70 344 ⇑P P 00 54 18.8 +0.8
baz=34,SNR=9.1
SSG Sans Toucher 33.70 85 eP P 00 54 17.3 -1.2
K05A Summer Lake 33.72 327 eP P 00 54 20.1 +1.7
comp=Z,161nm,1.9s
LKG Breislack 33.72 85 eP P 00 54 17.3 -1.4
CHMT Chamberlain Mo 33.75 340 eP P 00 54 19.4 +0.8
A22A Carney Farms, 33.77 349 ⇓P P 00 54 19.0 +0.4
baz=34
NCB Newcomb 33.83 30 eP P 00 54 17.7 -1.5
comp=Z,496nm,1.6s
NCB LR LR
comp=Z,3µm,19.0s
SEG Port Louis 33.84 84 eP P 00 54 18.4 -1.1
M02C Callahan 33.88 324 ⇑P P 00 54 20.6 +0.8
baz=34
B19A Brinkman Farms 33.90 345 ⇑P P 00 54 20.9 +1.1
baz=34
MSO Missoula 33.91 339 eP P 00 54 21.0 +1.0
comp=Z,55nm,1.1s
MSO Missoula 33.91 339 ⇓P P 00 54 20.7 +0.7
baz=34,SNR=20
PTN Potsdam (NY) 33.93 28 eP P 00 54 20.1 +0.1
PTN pmax pmax
comp=Z,588nm,1.3s
PTN Potsdam (NY) 33.93 28 eP P 00 54 20.1 +0.1
comp=Z,588nm,1.3s
YBH Yreka Blue Hor 34.02 324 eP P 00 54 21.2 +0.2
YBH 00 56 58.8
YBH Yreka Blue Hor 34.02 324 P P 00 54 20.7 -0.3
comp=Z,2.4nm,0.5s,baz=127,slow=5.5,SNR=11
YBH PcP PcP 00 56 58.8 +0.4
comp=Z,4.6nm,0.9s,baz=124,slow=3.6,SNR=4.3
YBH Yreka Blue Hor 34.02 324 eP P 00 54 21.2 +0.2
YBH PcP PcP 00 56 58.8 +0.4
A20A Cobblestone Ra 34.06 347 ⇓P P 00 54 22.2 +1.0
baz=34,SNR=7.5
KHMM Horse Mountain 34.06 322 eP P 00 54 23.8 +2.4
comp=Z,71nm,1.0s
KHMM ePcP PcP 00 57 01.1 +2.5
NNA Nana 34.07 143 ceP P 00 54 25.4 +3.8
NNA Nana 34.07 143 PFAKE 00 54 30.0 +8.4
NNA LR LR
comp=Z,3µm,20.0s
K04D Chiloquin, OR 34.10 326 ⇓P P 00 54 22.8 +1.1
baz=34
SLMT Seeley Lake 34.12 340 eP P 00 54 22.8 +0.9
LONY Lake Ozonia 34.15 29 eP P 00 54 21.6 -0.4
comp=Z,243nm,0.9s
LONY LR LR
comp=Z,3µm,22.0s
ULM Lac du Bonnet 34.19 1 eP P 00 54 22.1 -0.1
ULM 00 56 58.5
ULM Lac du Bonnet 34.19 1 P P 00 54 21.7 -0.5
comp=Z,7.7nm,0.7s,baz=178,slow=9.5,SNR=14
ULM PcP PcP 00 56 58.5 -0.1
comp=Z,20nm,0.8s,baz=64,slow=0.8,SNR=3.8
ULM LR LR 01 10 06.1
comp=Z,2µm,20.5s,baz=178,slow=40
ULM Lac du Bonnet 34.19 1 eP P 00 54 22.1 -0.1
ULM PcP PcP 00 56 58.5 -0.1
GRGR Grenville 34.25 92 eP P 00 54 23.1 -0.1
GRGR Grenville 34.25 92 eP P 00 54 22.9 -0.2
comp=Z,257nm,0.8s
GRGR LR LR
comp=Z,2µm,19.0s
J05D Fort Rock, OR 34.29 328 ⇑P P 00 54 25.3 +2.0
baz=34
A19A Klindworth Far 34.29 346 ⇑P P 00 54 24.0 +0.8
baz=34,SNR=14
FDF Fort de France 34.34 87 eP P 00 54 22.3 -1.7
FDF pmax pmax
comp=Z,108nm,0.8s
FDF MLR MLR
comp=Z,3µm,20.0s
FDF Fort de France 34.34 87 eP P 00 54 23.0 -1.0
FDF Fort de France 34.34 87 eP P 00 54 22.3 -1.7
comp=Z,108nm,0.8s
FDF LR LR
comp=Z,3µm,20.0s
MDV Middlebury 34.36 31 eP P 00 54 22.9 -0.9
SVB Belmont 34.45 90 eP P 00 54 24.4 -0.4
F10A Beach Ranch, E 34.46 334 eP P 00 54 25.4 +0.7
comp=Z,85nm,0.8s
SWMT Swartz Lake 34.52 339 eP P 00 54 26.1 +0.8
HNH Hanover 34.59 32 eP P 00 54 26.1 +0.3
comp=Z,250nm,1.8s
G08A Pilot Rock 34.67 332 eP P 00 54 27.2 +0.7
comp=Z,132nm,2.0s
J04D Umpqua Nationa 34.71 327 ⇓P P 00 54 27.7 +0.7
baz=35
L02D Cave Junction, 34.81 324 ⇑P P 00 54 28.7 +1.0
baz=35
JTMT Jette 34.82 339 eP P 00 54 28.8 +0.9
YBMT Yellow Bay 34.83 340 eP P 00 54 28.9 +1.0
BLMT Blacktail Moun 35.08 339 eP P 00 54 31.6 +1.4
BSMT Bassoo Peak 35.09 339 eP P 00 54 31.2 +1.0
I05D Terrebonne, OR 35.09 329 ⇓P P 00 54 31.3 +1.2
baz=35
LBNH Lisbon 35.16 32 eP P 00 54 30.6 -0.1
LBNH pmax pmax
comp=Z,1µm,2.6s
LBNH MLR MLR
comp=Z,2µm,20.0s
LBNH Lisbon 35.16 32 eP P 00 54 30.6 -0.1
comp=Z,1µm,2.6s
LBNH LR LR
comp=Z,2µm,20.0s
KBO Bosley Butte 35.20 324 eP P 00 54 30.4 -0.7
comp=Z,257nm,1.5s
I04A Tendick Farm, 35.26 327 ⇓P P 00 54 32.0 +0.4
baz=35
E09A Wood Farm, Sta 35.27 334 eP P 00 54 32.0 +0.5
comp=Z,19nm,0.8s
G06A Carlson Farm, 35.40 330 eP P 00 54 34.2 +1.4
comp=Z,86nm,1.8s
KEBM Edson Butte 35.68 324 eP P 00 54 37.9 +2.6
comp=Z,170nm,1.1s
I03D Drain, OR 35.69 326 ⇑P P 00 54 35.8 +0.7
baz=36
G05D Wamic, OR 35.73 330 ⇓P P 00 54 36.3 +0.7
baz=36
H04A Detroit Lake 35.76 328 eP P 00 54 36.9 +1.0
comp=Z,166nm,1.4s
HAWA Hanford 35.77 333 eP P 00 54 40.2 +4.3
comp=Z,112nm,2.3s
HAWA LR LR
comp=Z,3µm,20.0s
WALA Waterton Lakes 35.84 341 eP P 00 54 37.6 +1.0
comp=Z,0.9nm,0.8s
D08A Wollman Farm, 36.03 334 eP P 00 54 38.9 +0.8
comp=Z,12nm,0.9s
RNO Roman Nose 36.04 326 P P 00 54 40.4 +2.1
E07A Sunnyside 36.04 333 eP P 00 54 39.9 +1.6
comp=Z,55nm,1.7s
VLL Laurance Lake 36.07 330 P P 00 54 41.2 +2.6
BBGH Gun Hill 36.09 90 PFAKE 00 54 50.0 +11
BBGH LR LR
comp=Z,5µm,20.0s
TRW Toppenish Ridg 36.15 332 P P 00 54 42.1 +2.9
NEW Newport 36.28 337 eP P 00 54 41.0 +0.6
NEW 00 57 04.8
NEW MLR MLR
comp=Z,7µm,20.0s
NEW Newport 36.28 337 P P 00 54 39.2 -1.1
comp=Z,9.6nm,1.0s,baz=148,slow=8.8,SNR=10
NEW PcP PcP 00 57 04.8 0.0
comp=Z,15nm,0.9s,baz=98,slow=1.6,SNR=4.3
NEW Newport 36.28 337 eP P 00 54 41.0 +0.6
NEW PcP PcP 00 57 04.8 0.0
NEW LR LR
comp=Z,7µm,20.0s
NEW Newport 36.28 337 ⇑P P 00 54 40.9 +0.6
baz=36,SNR=9.9
C09A Chrisman Ranch 36.35 335 eP P 00 54 42.3 +1.4
comp=Z,361nm,1.9s
GULW Guler Mountain 36.37 330 P P 00 54 43.6 +2.4
WVL Waterville 36.55 33 eP P 00 54 42.6 +0.1
comp=Z,304nm,1.9s
NAC Naches 36.61 332 P P 00 54 45.2 +2.1
G03D McMinnville, O 36.68 328 ⇓P P 00 54 45.2 +1.6
baz=37
SAW Saint Andrews 36.74 334 P P 00 54 45.5 +1.3
F04A Amboy 36.77 330 eP P 00 54 45.9 +1.5
comp=Z,106nm,1.6s
TBM Table Mountain 36.84 333 P P 00 54 46.9 +1.8
LTY Liberty 36.94 333 eP P 00 54 47.6 +1.6
comp=Z,165nm,1.6s
ETW Entiat 37.06 333 P P 00 54 48.5 +1.5
LON Longmire 37.08 331 eP P 00 54 48.3 +1.2
LON pmax pmax
comp=Z,27nm,0.9s
LON Longmire 37.08 331 eP P 00 54 48.2 +1.2
comp=Z,27nm,0.9s
F04D Rainier, OR 37.16 329 ⇑P P 00 54 48.9 +1.1
baz=37
PKME Peaks-Kenny Pk 37.22 33 PFAKE 00 55 00.0 +12
PKME LR LR
comp=Z,5µm,22.0s
D05A Enumclaw 37.48 331 eP P 00 54 52.3 +1.8
comp=Z,72nm,0.9s
E03A Lebam 37.76 329 eP P 00 54 54.9 +2.0
comp=Z,62nm,0.8s
B06A Marblemount 38.25 333 eP P 00 54 57.8 +0.9
comp=Z,35nm,0.8s
NLWA Neilton Lookou 38.51 330 eP P 00 55 01.2 +2.0
comp=Z,132nm,1.4s
NLWA LR LR
comp=Z,8µm,19.0s
FFC Flin Flon 38.88 355 eP P 00 55 02.2 +0.1
FFC pmax pmax
comp=Z,46nm,0.9s
FFC MLR MLR
comp=Z,3µm,19.0s
FFC Flin Flon 38.88 355 eP P 00 55 02.2 +0.1
comp=Z,46nm,0.9s
FFC LR LR
comp=Z,3µm,19.0s
A05A Maple Falls 38.88 333 eP P 00 55 03.7 +1.5
comp=Z,75nm,1.3s
PGC Sidney 39.22 332 eP P 00 55 05.0 0.0
comp=Z,2.3nm,0.9s
EDM Edmonton 39.38 344 eP P 00 55 07.0 +0.6
EDM Edmonton 39.38 344 eP P 00 55 07.0 +0.6
PTGA Pitinga 39.95 111 eP P 00 55 11.7 +0.2
comp=Z,210nm,1.0s
PTGA LR LR
comp=Z,1µm,20.0s
SAML Samuel 41.46 124 eP P 00 55 23.4 -0.6
comp=Z,103nm,1.2s
SAML LR LR
comp=Z,1µm,19.0s
LPAZ La Paz 42.74 137 P P 00 55 36.2 +1.1
LPAZ 00 57 27.2
LPAZ pmax pmax
comp=Z,23nm,0.9s
LPAZ pmax pmax
comp=Z,9.0nm,1.0s
LPAZ MLR MLR
comp=Z,2µm,18.4s
LPAZ La Paz 42.74 137 P P 00 55 36.1 +1.1
comp=Z,22nm,0.9s,baz=341,slow=10,SNR=66
LPAZ PcP PcP 00 57 27.2 +0.7
comp=Z,8.5nm,1.0s,baz=342,slow=3.2,SNR=2.4
LPAZ LR LR 01 13 47.5
comp=Z,2µm,18.4s,baz=318,slow=37
LPAZ La Paz 42.74 137 eP P 00 55 36.0 +1.0
comp=Z,26nm,0.9s
LPAZ PcP PcP 00 57 27.2 +0.7
FCC Fort Churchill 42.76 2 eP P 00 55 34.1 +0.1
FCC Fort Churchill 42.76 2 eP P 00 55 34.1 +0.1
BBB Bella Bella 43.84 332 P P 00 55 40.9 -1.9
comp=Z,18nm,1.1s,baz=107,slow=11,SNR=2.1
MNMC Minimini 43.95 142 eP P 00 55 46.3 +1.8
PB11 Plate Boundary 44.41 142 eP P 00 55 49.7 +1.8
PATCX Punta Patache 44.95 144 eP P 00 55 53.5 +1.4
SCHQ Schefferville 45.14 24 P P 00 55 52.9 -0.3
comp=Z,17nm,0.7s,baz=230,slow=7.1,SNR=28
SCHQ pP pP 00 56 02.8 -0.3
comp=Z,57nm,0.8s,baz=232,slow=7.0,SNR=19

SCHQ PcP PcP 00 57 34.0 +0.7
comp=Z,25nm,0.8s,baz=223,slow=5.0,SNR=3.2
SCHQ LR LR 01 18 20.4
comp=Z,2µm,19.4s,baz=226,slow=41
PB07 Plate Boundary 45.81 144 eP P 00 56 00.9 +1.8
PB09 Plate Boundary 46.23 144 eP P 00 56 04.7 +2.3
PB06 Plate Boundary 46.77 145 eP P 00 56 08.2 +1.6
LVC Limon Verde 47.06 144 eP P 00 56 11.2 +2.2
LVC LR LR
comp=Z,1µm,20.0s
YKA Yellowknife Ar 48.13 349 P P 00 56 16.4 -0.1
YKA *PP pP 00 56 25.8 -0.6
YKA 00 57 43.7
YKA pmax pmax
comp=Z,6.0nm,0.7s
YKA pmax pmax
comp=Z,17nm,0.8s
YKA pmax pmax
comp=Z,6.0nm,0.9s
YKA Yellowknife Ar 48.13 349 P P 00 56 16.4 -0.1
comp=Z,6.4nm,0.7s,baz=152,slow=7.4,SNR=126
YKA pP pP 00 56 25.8 -0.6
comp=Z,17nm,0.8s,baz=154,slow=7.7,SNR=26
YKA PcP PcP 00 57 43.7 +0.1
comp=Z,5.7nm,0.9s,baz=149,slow=3.6,SNR=7.2
WRAK Wrangell Islan 48.53 334 PFAKE 00 56 30.0 +10
WRAK LR LR
comp=Z,5µm,22.0s
DLBC Dease Lake 49.02 338 P P 00 56 25.5 +2.0
comp=Z,57nm,1.1s,baz=150,slow=5.4,SNR=42
DLBC pP pP 00 56 35.4 +1.9
comp=Z,34nm,0.9s,baz=155,slow=6.0,SNR=14
DLBC Dease Lake 49.02 338 eP P 00 56 22.8 -0.7
DLBC pP pP 00 56 35.4 +1.9
LCO Las Campanas 51.33 150 eP P 00 56 43.6 +1.9
LCO LR LR
comp=Z,2µm,22.0s
H03N2 Juan Fernandez 52.01 161 T T 01 52 35.3
baz=331,slow=75,SNR=214
H03N1 Juan Fernandez 52.02 161 T T 01 52 50.7
baz=331,slow=75,SNR=231
H03N3 Juan Fernandez 52.02 161 T T 01 52 56.2
baz=331,slow=75,SNR=294
PTCN Pitcairn Islan 52.15 219 PFAKE 00 57 00.0 +13
PTCN LR LR
comp=Z,8µm,19.0s
HYT Haines Junctio 53.45 337 eP P 00 57 00.6 +3.8
RKT Rikitea 53.91 225 eS S 01 04 38.9 +5.0
comp=Z,919nm,27.0s
RKT eLR LR 01 12 42.0
comp=Z,3µm,28.8s
POHA Pohakuloa 55.83 283 eP P 00 57 16.8 +2.0
comp=Z,289nm,1.5s
POHA epP pP 00 57 24.9 0.0
POHA LR LR
comp=Z,5µm,21.0s
RAGM Ragged Mountai 56.10 334 eP P 00 57 18.5 +2.6
RAGM epP pP 00 57 27.4 +1.4
BMRM Bremner River 56.37 334 eP P 00 57 17.9 0.0
comp=Z,124nm,1.3s
BMRM e 00 57 28.3
CPUP Villa Florida 56.91 137 P P 00 57 21.4 -0.6
comp=Z,26nm,0.9s,baz=309,slow=7.7,SNR=20
CPUP LR LR 01 21 24.8
comp=Z,1µm,21.4s,baz=316,slow=36
DIV Divide 56.95 334 eP P 00 57 24.1 +2.2
EGAK Eagle 57.20 339 eP P 00 57 23.9 +0.3
comp=Z,51nm,0.8s
EGAK LR LR
comp=Z,2µm,21.0s
INK Inuvik 57.28 345 P P 00 57 24.2 +0.2
INK *PP pP 00 57 34.0 -0.1
INK pmax pmax
comp=Z,54nm,1.0s
INK pmax pmax
comp=Z,55nm,0.9s
INK Inuvik 57.28 345 P P 00 57 24.2 +0.2
comp=Z,54nm,1.0s,baz=130,slow=7.8,SNR=137
INK pP pP 00 57 34.0 -0.1
comp=Z,55nm,0.9s,baz=121,slow=9.2,SNR=24
INK Inuvik 57.28 345 eP P 00 57 23.9 -0.2
comp=Z,103nm,1.0s
INK e 00 57 33.9
BDFB Brasilia 57.48 121 P P 00 57 27.2 +0.9
comp=Z,64nm,0.9s,baz=287,slow=8.8,SNR=88
BDFB LR LR 01 20 43.4
comp=Z,754nm,21.6s,baz=300,slow=35
DOT Dot Lake 57.59 337 eP P 00 57 27.7 +1.3
comp=Z,89nm,1.1s
PAX Paxson 57.77 336 eP P 00 57 27.5 -0.2
PAX e 00 57 37.7
PAX e 00 58 18.8
PAX pmax pmax
comp=Z,62nm,1.0s
PAX Paxson 57.77 336 eP P 00 57 27.5 -0.2
comp=Z,62nm,1.0s
PAX e 00 57 37.6
PAX ePcP PcP 00 58 18.8 -1.3
KIP Kipapa 57.96 286 PFAKE 00 57 40.0 +10
KIP LR LR
comp=Z,1555µm,22.0s
SEW Seward 58.07 332 eP P 00 57 31.1 +1.4
PMR Palmer 58.59 334 eP P 00 57 34.2 +0.9
PMR Palmer 58.59 334 eP P 00 57 34.2 +0.9
RC01 Rabbit Creek A 58.63 333 eP P 00 57 34.6 +1.0
KDAK Kodiak Island 58.63 329 PFAKE 00 57 50.0 +16
KDAK LR LR
comp=Z,3µm,20.0s
RES Resolute Bay 58.72 1 P P 00 57 33.7 -0.3
RES *PP pP 00 57 43.4 -0.8
RES pmax pmax
comp=Z,13nm,0.8s
RES pmax pmax
comp=Z,11nm,0.7s
RES Resolute Bay 58.72 1 P P 00 57 33.6 -0.3
comp=Z,13nm,0.8s,baz=185,slow=8.9,SNR=57
RES pP pP 00 57 43.4 -0.8
comp=Z,11nm,0.7s,baz=210,slow=6.0,SNR=12
RES LR LR 01 24 07.1
comp=Z,3µm,18.7s,baz=200,slow=37
SFJD Kangerlussuaq 59.10 19 eP P 00 57 37.3 +0.5
SFJD MLR MLR
comp=Z,1µm,19.0s
SFJD Kangerlussuaq 59.10 19 iP P 00 57 36.2 -0.6
comp=Z,35nm,0.9s
SFJD Kangerlussuaq 59.10 19 P P 00 57 36.9 +0.1
comp=Z,44nm,0.9s,baz=214,slow=5.5,SNR=13
SFJD Kangerlussuaq 59.10 19 eP P 00 57 37.3 +0.5
SFJD LR LR
comp=Z,1µm,19.0s
ILAR Eielson Array 59.24 337 P P 00 57 38.6 +0.8
ILAR *PP pP 00 57 48.2 +0.2
ILAR pmax pmax
comp=Z,38nm,1.0s
ILAR pmax pmax
comp=Z,39nm,0.7s
ILAR Eielson Array 59.24 337 P P 00 57 38.6 +0.8
comp=Z,38nm,0.9s,baz=132,slow=4.7,SNR=211
ILAR pP pP 00 57 48.1 +0.2
comp=Z,39nm,0.7s,baz=141,slow=4.9,SNR=35
MCK McKinley 59.50 336 eP P 00 57 39.6 -0.1
MCK e*PP pP 00 57 49.9 +0.1
MCK pmax pmax
comp=Z,49nm,0.8s
MCK McKinley 59.50 336 eP P 00 57 39.5 -0.1
comp=Z,49nm,0.8s
MCK epP pP 00 57 49.9 +0.1
COLA College 59.64 337 c iP P 00 57 39.6 -1.0
COLA pmax pmax
comp=Z,189nm,1.0s
COLA College 59.64 337 eP P 00 57 39.8 -0.8
comp=Z,69nm,0.8s
COLA LR LR
comp=Z,4µm,19.0s
SPU Mount Spurr 59.69 333 eP P 00 57 42.3 +1.3
SPU epP pP 00 57 51.7 +0.5
RSO Redoubt South 59.72 332 eP P 00 57 42.7 +1.2
BB16B Bebedouro 59.90 126 ⇑iP P 00 57 42.5 -0.6
BB16B i 00 57 51.3
BB16B i 00 57 54.7
TRF Thorofare Moun 59.91 335 eP P 00 57 43.5 +0.8
KTH Kantishna Hill 60.21 335 eP P 00 57 44.5 -0.1
comp=Z,81nm,0.9s
KTH epP pP 00 57 54.7 -0.1
ILULI Ilulissat 60.30 17 iP P 00 57 45.3 +0.3
ILULI pmax pmax
comp=Z,25nm,0.8s
ILULI Ilulissat 60.30 17 iP P 00 57 45.3 +0.3
comp=Z,25nm,0.8s
PPLA Purkeypile 60.45 334 eP P 00 57 46.3 0.0
comp=Z,117nm,1.2s
PPLA epP pP 00 57 56.3 -0.2
CAST Castle Rocks 60.62 335 eP P 00 57 47.9 +0.5
SVW2 Sparrevohn 61.24 332 eP P 00 57 52.2 +0.6
XMAS Kiritimati 61.28 263 PFAKE 00 58 00.0 +7.4
XMAS LR LR
comp=Z,19µm,19.0s
PLCA Paso Flores 61.45 158 P P 00 57 54.4 +1.1
PLCA *PP pP 00 58 03.5 0.0
PLCA pmax pmax
comp=Z,32nm,1.0s
PLCA pmax pmax
comp=Z,25nm,0.9s
PLCA Paso Flores 61.45 158 P P 00 57 54.4 +1.1
comp=Z,32nm,0.9s,baz=335,slow=8.1,SNR=39
PLCA pP pP 00 58 03.5 0.0
comp=Z,25nm,0.9s,baz=333,slow=6.4,SNR=12
PLCA Paso Flores 61.45 158 eP P 00 57 53.3 0.0
comp=Z,55nm,1.1s
PLCA epP pP 00 58 02.7 -0.7
COLD Coldfoot 61.64 339 eP P 00 57 57.3 -0.5
comp=Z,67nm,1.2s
COLD epP pP 00 58 04.5 +0.2
IM04 Indian Mountai 62.35 337 eP P 00 57 58.2 -0.8
IM04 epP pP 00 58 07.8 -1.4
KULLO Kullorsuaq 62.48 11 iP P 00 58 00.3 +0.6
KULLO pmax pmax
comp=Z,42nm,0.9s
KULLO MLR MLR
comp=Z,2µm,19.0s
KULLO Kullorsuaq 62.48 11 iP P 00 58 00.3 +0.6
comp=Z,42nm,0.8s
comp=Z,2µm,19.0s
TRQA Tornquist 62.89 150 eP P 00 58 03.6 +0.6
TRQA LR LR
comp=Z,2µm,21.0s
RCBR Riachuelo 64.00 105 eP P 00 58 10.9 +0.1
comp=Z,121nm,1.0s
RCBR LR LR
comp=Z,2µm,20.0s
SUMG Summit 65.60 16 iP P 00 58 21.4 +0.7
SUMG pmax pmax
comp=Z,30nm,0.9s
SUMG Summit 65.60 16 iP P 00 58 21.4 +0.7
comp=Z,30nm,0.9s
SUMG Summit 65.60 16 eP P 00 58 20.5 -0.2
comp=Z,51nm,1.1s
SUMG ePP PP 01 00 40.1 -5.0
ALE Alert 67.95 5 P P 00 58 34.5 -0.6
comp=Z,148nm,1.1s,SNR=11
BORG Borgarnes 69.46 26 iP P 00 58 47.2 +2.5
SACV Santiago Islan 70.15 80 PFAKE 00 59 00.0 +10
SACV LR LR
comp=Z,460nm,21.0s
DAG Danmarks Havn 71.83 14 iP P 00 58 58.6 -0.3
DAG pmax pmax
comp=Z,24nm,0.9s
DAG MLR MLR
comp=Z,2µm,20.0s
DAG Danmarks Havn 71.83 14 iP P 00 58 58.6 -0.3
comp=Z,29nm,0.9s
comp=Z,1µm,20.0s
MIDW Midway 74.50 295 PFAKE 00 59 30.0 +14
MIDW LR LR
comp=Z,8µm,20.0s
KPL Plockton 77.31 34 eP P 00 59 31.1 0.0
KPL AMB AMB 00 59 32.1
comp=Z,98nm,1.2s
KSB Sheil Bridge 77.45 34 eP P 00 59 31.7 -0.2
KAC Achnashellach 77.47 34 eP P 00 59 31.6 -0.4
BILL Bilibino 77.90 338 α iP P 00 59 34.9 +0.7
BILL i *PP PcP 00 59 44.0 +0.1
BILL e*SP sP 00 59 49.7 +1.3
BILL eS SKSac 01 09 37.1 -8.3
BILL i SSS SSS 01 17 46.3
BILL pmax pmax
comp=Z,51nm,1.3s
BILL MLR MLR
comp=Z,2µm,21.0s
BILL Bilibino 77.90 338 eP P 00 59 34.1 -0.1
comp=Z,39nm,0.9s
BILL ePcP PcP 00 59 43.3 -0.6
BILL LR LR
comp=Z,7µm,22.0s
KBS Kingsbay 77.95 11 PFAKE 00 59 50.0 +16
KBS LR LR
comp=Z,1µm,20.0s
EAB Aberfoyle 78.23 35 eP P 00 59 36.2 +0.1
GAL1 Galloway 78.27 36 eP P 00 59 36.2 -0.2
PTO Porto 78.31 50 eP P 00 59 37.8 +0.8
comp=Z,106nm,1.5s
LIS Lisbon 78.36 53 eP P 00 59 37.5 +0.2
LIS AMS AMS 01 30 16.2
comp=Z,2µm,22.1s
LIS Lisbon 78.36 53 eP P 00 59 37.5 +0.2
PCAS Casmilo, Conde 78.60 52 eP P 00 59 39.3 +0.7
comp=Z,263nm,1.2s
PCAB Cabril 78.63 50 eP P 00 59 39.6 +0.8
comp=Z,92nm,2.1s
PTOM Tomar 78.75 52 eP P 00 59 40.0 +0.5
comp=Z,104nm,0.9s
WME Myndd Eilian 78.80 38 eP P 00 59 39.6 +0.2
YRE Yr Eifl 78.81 38 eP P 00 59 39.1 -0.4
POLO Lamas de Olo 78.87 50 eP P 00 59 40.8 +0.6
comp=Z,42nm,1.5s
PVIS Viseu 78.92 51 eP P 00 59 40.6 +0.2
comp=Z,89nm,1.2s
PFVI Vila Bisbo 78.93 54 eP P 00 59 40.2 -0.3
comp=Z,257nm,1.6s
PVRL Vila Real 78.94 50 eP P 00 59 41.0 +0.5
comp=Z,70nm,1.6s
PNCL Nicolau / Gran 78.96 53 eP P 00 59 41.3 +0.7
comp=Z,91nm,1.4s
EBL Broad Law 79.02 35 eP P 00 59 40.6 -0.1
ESK Eskdalemuir 79.03 36 eP P 00 59 40.7 0.0
ESK Eskdalemuir 79.03 36 iP P 00 59 41.5 +0.9
ESK Eskdalemuir 79.03 36 eP P 00 59 40.2 -0.4
comp=Z,52nm,0.8s
ESK LR LR
comp=Z,1µm,20.0s
MORF Marmelete 79.03 54 eP P 00 59 41.8 +0.7
MORF AMS AMS 01 30 03.5
comp=Z,2µm,24.0s
MORF Marmelete 79.03 54 eP P 00 59 41.7 +0.6
comp=Z,99nm,1.3s
MORF Marmelete 79.03 54 eP P 00 59 41.8 +0.7
WPM1 Penmaenmawr 79.06 38 eP P 00 59 40.4 -0.4
DRUM Mains of Drumt 79.08 34 eP P 00 59 41.0 +0.1
DRUM AMB AMB 00 59 44.8
comp=Z,88nm,1.4s
ECK Cauldkaine Hil 79.10 36 eP P 00 59 40.9 -0.2
EVOP Sao Brissos 79.19 53 ⇑iP P 00 59 41.8 -0.1
EVOP pmax pmax
comp=Z,173nm,1.0s
EVOP Sao Brissos 79.19 53 ⇑iP P 00 59 41.8 -0.1
comp=Z,173nm,1.0s
LPW Lampeter 79.20 39 eP P 00 59 41.7 +0.1
LPW AMB AMB 00 59 42.7
comp=Z,110nm,1.3s
ESY Stoneypath 79.23 35 eP P 00 59 42.0 +0.3
MTE Manteigas 79.25 51 eP P 00 59 42.4 +0.1
comp=Z,156nm,1.0s
MTE Manteigas 79.25 51 PFAKE 00 59 50.0 +7.7
MTE LR LR
comp=Z,2µm,19.0s
MESJ Messejana 79.26 54 eP P 00 59 42.8 +0.5
MESJ AMS AMS 01 30 40.5
comp=Z,2µm,20.0s
MESJ Messejana 79.26 54 eP P 00 59 42.4 +0.2
MESJ Messejana 79.26 54 eP P 00 59 42.7 +0.5
EVO Evora 79.27 53 ⇑iP P 00 59 41.8 -0.5
comp=Z,173nm,1.0s
EVO eR
comp=Z,3µm,20.8s
EVO Evora 79.27 53 eP P 00 59 42.7 +0.4
comp=Z,107nm,1.7s
HSPB Hornsund (broa 79.41 12 eP P 00 59 43.0 +0.7
PCBR Castelo Branco 79.41 52 eP P 00 59 43.4 +0.3
comp=Z,142nm,1.2s
PCVE Castro Verde 79.44 54 eP P 00 59 44.0 +0.7
comp=Z,103nm,1.6s
MVO Moncorvo 79.47 50 eP P 00 59 43.8 +0.3
comp=Z,120nm,1.3s
PBEJ Beja 79.49 53 eP P 00 59 44.3 +0.8
comp=Z,93nm,1.5s
PESTR Estremoz 79.53 53 eP P 00 59 44.0 +0.3
comp=Z,79nm,1.2s
FOEL Foel Wylfa 79.55 38 eP P 00 59 43.3 -0.3
PBRG Braganca 79.55 49 eP P 00 59 43.8 -0.1
comp=Z,94nm,1.6s
PMRV Marv??o 79.56 52 eP P 00 59 43.8 -0.1
comp=Z,127nm,2.1s
PBDV Barranco-do-Ve 79.61 54 eP P 00 59 45.2 +1.0
comp=Z,169nm,1.5s
PVAQ Vaqueiros 79.74 54 eP P 00 59 46.0 +1.1
comp=Z,103nm,1.5s
HLM1 Long Mynd 79.82 38 eP P 00 59 45.0 -0.1
HLM1 AMB AMB 00 59 45.9
comp=Z,75nm,1.0s
AFI Afiamalu 79.85 252 P P 00 59 48.5 +2.6
AFI pmax pmax
comp=Z,10.0nm,0.5s
AFI Afiamalu 79.85 252 P P 00 59 48.5 +2.6
comp=Z,9.6nm,0.5s,baz=197,slow=19,SNR=2.2
MCH1 Michaelchurch 79.87 39 eP P 00 59 45.2 0.0
MCH1 AMB AMB 00 59 46.5
comp=Z,56nm,1.1s
MONM Monmouth 80.02 39 eP P 00 59 46.5 +0.4
MONM AMB AMB 00 59 47.0
comp=Z,128nm,1.1s
STNC Stoke 80.09 38 eP P 00 59 47.1 +0.7
STNC AMB AMB 00 59 47.7
comp=Z,188nm,1.5s
PBAR Barrancos 80.10 53 eP P 00 59 47.6 +0.8
comp=Z,115nm,1.6s
HPK Haverah Park 80.23 37 eP P 00 59 47.3 +0.1
HPK AMB AMB 00 59 51.3
comp=Z,105nm,2.4s
STRD Stroud 80.42 39 eP P 00 59 48.8 +0.5
STRD AMB AMB 00 59 49.2
comp=Z,161nm,1.3s
KBI1 Birley Grange 80.45 37 eP P 00 59 48.7 +0.3
ROSF Rostrenen 80.52 42 ⇑iP P 00 59 48.8 -0.1
comp=Z,113nm,1.2s
ROSF Rostrenen 80.52 42 ⇑iP P 00 59 48.8 -0.1
ROSF pmax pmax
comp=Z,113nm,1.2s
ROSF Rostrenen 80.52 42 ⇑iP P 00 59 48.8 -0.1
comp=Z,113nm,1.2s
QUIF Quistinic 80.69 43 ⇑iP P 00 59 49.8 0.0
comp=Z,139nm,1.3s
QUIF Quistinic 80.69 43 ⇑iP P 00 59 49.8 0.0
QUIF pmax pmax
comp=Z,139nm,1.3s
QUIF Quistinic 80.69 43 ⇑iP P 00 59 49.8 0.0
comp=Z,139nm,1.3s
SWN1 Swindon 80.70 39 eP P 00 59 50.4 +0.6
SWN1 AMB AMB 00 59 51.5
comp=Z,220nm,1.5s
SGMF Saint Gilles 81.01 42 ⇑iP P 00 59 51.3 -0.2
comp=Z,102nm,1.2s
SGMF Saint Gilles 81.01 42 ⇑iP P 00 59 51.3 -0.2
SGMF pmax pmax
comp=Z,102nm,1.2s
SGMF Saint Gilles 81.01 42 ⇑iP P 00 59 51.3 -0.2
comp=Z,102nm,1.2s
WOL Wolverton 81.10 39 eP P 00 59 52.2 +0.3
WOL AMB AMB 00 59 52.6
comp=Z,225nm,1.8s
RTC Rabat Centre 81.17 57 PFAKE 01 00 00.0 +7.4
RTC LR LR
comp=Z,2µm,21.0s
SUE Sulen 81.63 29 eP P 00 59 56.4 +1.9
PAB San Pablo 81.83 51 eP P 00 59 55.7 -0.4
PAB pmax pmax
comp=Z,117nm,1.1s
PAB MLR MLR
comp=Z,3µm,22.0s
PAB San Pablo 81.83 51 eP P 00 59 55.7 -0.4
comp=Z,117nm,1.1s
PAB LR LR
comp=Z,3µm,22.0s
GRR Gorron 82.07 42 ⇑iP P 00 59 57.3 +0.2
comp=Z,196nm,0.9s
GRR Gorron 82.07 42 ⇑iP P 00 59 57.3 +0.2
GRR pmax pmax
comp=Z,196nm,0.9s
GRR Gorron 82.07 42 ⇑iP P 00 59 57.3 +0.2
comp=Z,196nm,0.9s
ESDC Sonseca Array 82.09 51 P P 00 59 57.9 +0.4
comp=Z,32nm,0.9s,baz=296,slow=4.9,SNR=89
ESDC LR LR 01 32 14.7
comp=Z,1µm,21.7s,baz=290,slow=33
ESLA Sonseca Array 82.09 51 eP P 00 59 57.8 +0.3
comp=Z,31nm,1.3s
FLN La Foliniere 82.22 42 ⇑iP P 00 59 58.2 +0.3
comp=Z,230nm,0.9s
FLN eR
comp=Z,3µm,22.2s
FLN La Foliniere 82.22 42 ⇑iP P 00 59 58.2 +0.3
FLN pmax pmax
comp=Z,230nm,0.9s
FLN La Foliniere 82.22 42 ⇑iP P 00 59 58.2 +0.3
comp=Z,230nm,0.9s
HYA Hoyanger 82.26 28 eP P 00 59 59.3 +1.5
HYA IAmb IAmb 00 59 60.0
comp=Z,63nm,1.0s
KMY Karmoy 82.44 31 eP P 00 59 59.4 +0.6
KMY IAmb IAmb 01 00 00.2
comp=Z,93nm,1.1s
LDF La Druitiere 82.49 42 ⇑iP P 00 59 59.5 +0.2
comp=Z,148nm,0.9s
LDF La Druitiere 82.49 42 ⇑iP P 00 59 59.5 +0.2
LDF pmax pmax
comp=Z,148nm,0.9s
LDF La Druitiere 82.49 42 ⇑iP P 00 59 59.5 +0.2
comp=Z,148nm,0.9s
LCHF La Chataignera 82.60 44 eP P 01 00 00.4 +0.5
ODD1 Odda 82.88 30 eP P 01 00 03.0 +1.9
MFF Saint Martin d 83.01 44 ⇑iP P 01 00 02.0 0.0
comp=Z,123nm,1.3s
MFF Saint Martin d 83.01 44 ⇑iP P 01 00 02.0 0.0
MFF pmax pmax
comp=Z,123nm,1.3s
MFF Saint Martin d 83.01 44 ⇑iP P 01 00 02.0 0.0
comp=Z,123nm,1.3s
KONS Konsvik 83.14 22 eP P 01 00 04.0 +1.8
KONS IAmb IAmb 01 00 04.8
comp=Z,112nm,1.1s
SJPF Ste Jean 83.21 47 ⇑iP P 01 00 03.5 +0.3
comp=Z,137nm,1.3s
SJPF Ste Jean 83.21 47 ⇑iP P 01 00 03.5 +0.3
SJPF pmax pmax
comp=Z,137nm,1.3s
SJPF Ste Jean 83.21 47 ⇑iP P 01 00 03.5 +0.3
comp=Z,137nm,1.3s
STEI Steigen 83.28 21 eP P 01 00 04.7 +1.7
TBLU Trondheim 83.31 26 eP P 01 00 05.0 +1.8
MENF Mencas 83.36 39 eP P 01 00 04.9 +1.1
LARF Larrau 83.40 47 eP P 01 00 05.0 +0.8
NSS Namsos 83.51 24 eP P 01 00 04.3 +0.1
TRO Tromso 83.67 19 eP P 00 59 59.9 -5.0
ETSF Etsaut 83.74 47 ⇑iP P 01 00 06.3 +0.3
comp=Z,79nm,0.9s
ETSF Etsaut 83.74 47 ⇑iP P 01 00 06.3 +0.3
ETSF pmax pmax
comp=Z,79nm,0.9s
ETSF Etsaut 83.74 47 ⇑iP P 01 00 06.3 +0.3
comp=Z,79nm,0.9s
REYF Montagne du Re 83.81 47 eP P 01 00 06.6 +0.3
LFF La Frestale 84.07 45 ⇑iP P 01 00 07.6 +0.1
comp=Z,109nm,0.8s
LFF La Frestale 84.07 45 ⇑iP P 01 00 07.6 +0.1
LFF pmax pmax
comp=Z,109nm,0.8s
LFF La Frestale 84.07 45 ⇑iP P 01 00 07.6 +0.1
comp=Z,109nm,0.8s
PMSA Palmer Station 84.28 167 PFAKE 01 00 20.0 +12
PMSA LR LR
comp=Z,5µm,22.0s
EPF Esparros 84.33 47 ⇑iP P 01 00 09.1 +0.1
comp=Z,196nm,1.5s
EPF Esparros 84.33 47 ⇑iP P 01 00 09.1 +0.1
EPF pmax pmax
comp=Z,196nm,1.5s
EPF Esparros 84.33 47 ⇑iP P 01 00 09.1 +0.1
comp=Z,196nm,1.5s

HOMB Homborsund 84.36 31 eP P 01 00 09.7 +1.1
KONO Kongsberg 84.37 29 eP P 01 00 09.5 +0.8
KONO pmax pmax
comp=Z,235nm,1.4s
KONO MLR MLR
comp=Z,1µm,21.0s
KONO Kongsberg 84.37 29 eP P 01 00 09.7 +0.9
KONO Kongsberg 84.37 29 eP P 01 00 09.5 +0.8
comp=Z,235nm,1.4s
KONO LR LR
comp=Z,1µm,21.0s
RJF Les Rejaudoux 84.49 45⇑iP P 01 00 09.5 -0.2
comp=Z,128nm,1.2s
RJF eR
comp=Z,3µm,23.0s
RJF Les Rejaudoux 84.49 45⇑iP P 01 00 09.5 -0.2
RJF pmax pmax
comp=Z,128nm,1.2s
RJF Les Rejaudoux 84.49 45⇑iP P 01 00 09.5 -0.2
comp=Z,128nm,1.2s
NAO01 NORSAR Array S 84.51 28 eP P 01 00 09.7 +0.3
comp=Z,100nm,1.2s
NB2 NORSAR Subarra 84.58 28 P P 01 00 10.9 +1.1
comp=Z,2.4nm,0.8s,baz=302,slow=5.1
NB2 NORSAR Subarra 84.58 28 P P 01 00 10.9 +1.1
baz=302,slow=5.1
NOA NORSAR Array B 84.58 28 P P 01 00 11.0 +1.1
NOA pmax pmax
comp=Z,29nm,1.0s
NOA MLR MLR
comp=Z,652nm,20.8s
NOA NORSAR Array B 84.58 28 P P 01 00 11.0 +1.2
comp=Z,29nm,1.0s,baz=298,slow=5.0,SNR=57
NOA LR LR 01 38 38.5
comp=Z,652nm,20.8s,baz=310,slow=36
HYF Humbligny 84.65 42⇑iP P 01 00 10.6 +0.2
HYF Humbligny 84.65 42⇑iP P 01 00 10.6 +0.2
TCF Toulx Ste Croi 84.66 43⇑iP P 01 00 10.4 -0.1
comp=Z,170nm,1.2s
TCF Toulx Ste Croi 84.66 43⇑iP P 01 00 10.4 -0.1
TCF pmax pmax
comp=Z,170nm,1.2s
TCF Toulx Ste Croi 84.66 43⇑iP P 01 00 10.4 -0.1
comp=Z,170nm,1.2s
SNF Seneffe 84.67 39 P P 01 00 10.9 +0.5
BAIF Baives 84.77 39⇑iP P 01 00 11.2 +0.3
comp=Z,132nm,1.1s
BAIF Baives 84.77 39⇑iP P 01 00 11.2 +0.3
BAIF pmax pmax
comp=Z,132nm,1.1s
BAIF Baives 84.77 39⇑iP P 01 00 11.2 +0.3
comp=Z,132nm,1.1s
OSL Oslo 84.79 29 eP P 01 00 12.8 +2.0
OSL IAmb IAmb 01 00 13.2
comp=Z,87nm,1.1s
NC602 NORSAR Array S 84.85 28 eP P 01 00 12.6 +1.5
MLS Moulis 84.89 47 eP P 01 00 12.0 +0.3
ASCN Ascension 84.93 100 PFAKE 01 00 20.0 +7.6
ASCN LR LR
comp=Z,755nm,20.0s
CAF Calviac 84.97 45⇑iP P 01 00 12.0 -0.1
comp=Z,52nm,1.2s
CAF Calviac 84.97 45⇑iP P 01 00 12.0 -0.1
CAF pmax pmax
comp=Z,52nm,1.2s
CAF Calviac 84.97 45⇑iP P 01 00 12.0 -0.1
comp=Z,52nm,1.2s
DOU Dourbes 85.00 39 P P 01 00 12.5 +0.4
comp=Z,28nm,1.5s
BGF Bois d'Agland 85.00 43⇑iP P 01 00 12.1 -0.1
comp=Z,170nm,1.0s
BGF Bois d'Agland 85.00 43⇑iP P 01 00 12.1 -0.1
BGF pmax pmax
comp=Z,170nm,1.0s
BGF Bois d'Agland 85.00 43⇑iP P 01 00 12.1 -0.1
comp=Z,170nm,1.0s
SEY Seymchan 85.03 335 P P 01 00 12.1 +0.1
SEY *PP pP 01 00 22.3 -0.2
SEY pmax pmax
comp=Z,12nm,0.2s
SEY pmax pmax
comp=Z,7.0nm,0.6s
SEY Seymchan 85.03 335 P P 01 00 12.1 +0.1
comp=Z,12nm,0.2s,baz=83,slow=4.7,SNR=17
SEY pP pP 01 00 22.3 -0.2
comp=Z,7.3nm,0.6s,baz=112,slow=8.1,SNR=3.0
GIVF Givet 85.13 39⇑iP P 01 00 13.2 +0.4
comp=Z,332nm,1.6s
GIVF Givet 85.13 39⇑iP P 01 00 13.2 +0.4
GIVF pmax pmax
comp=Z,332nm,1.6s
GIVF Givet 85.13 39⇑iP P 01 00 13.2 +0.4
comp=Z,332nm,1.6s
FRNF Fournols 85.17 44 eP P 01 00 13.5 +0.4
AVF Avril sur Loir 85.26 43⇑iP P 01 00 13.0 -0.5
comp=Z,86nm,1.0s
AVF Avril sur Loir 85.26 43⇑iP P 01 00 13.0 -0.5
AVF pmax pmax
comp=Z,86nm,1.0s
AVF Avril sur Loir 85.26 43⇑iP P 01 00 13.0 -0.5
comp=Z,86nm,1.0s
SSF Saint Saulge 85.28 42⇑iP P 01 00 13.3 -0.3
comp=Z,146nm,1.0s
SSF Saint Saulge 85.28 42⇑iP P 01 00 13.3 -0.3
SSF pmax pmax
comp=Z,146nm,1.0s
SSF Saint Saulge 85.28 42⇑iP P 01 00 13.3 -0.3
comp=Z,146nm,1.0s
BCLA Clavier 85.32 39 P P 01 00 14.0 +0.3
comp=Z,60nm,1.7s
BCLA AP pP 01 00 24.1 -0.1
AGO Saint Agoulin 85.34 43 eP P 01 00 13.1 -0.9
PYM Petit Puy Mans 85.36 44 eP P 01 00 13.4 -0.7
MUD Monsted U'grnd 85.36 32 iP P 01 00 12.5 -1.2
MUD pmax pmax
comp=Z,10.0nm,1.0s
MUD Monsted U'grnd 85.36 32 iP P 01 00 12.5 -1.2
comp=Z,10nm,0.9s
BEBN Eben Emael 85.42 38 P P 01 00 14.6 +0.5
comp=Z,28nm,1.5s
LOR Lormes 85.44 42⇑iP P 01 00 14.4 0.0
comp=Z,221nm,1.0s
LOR eR
comp=Z,891nm,20.8s
LOR Lormes 85.44 42⇑iP P 01 00 14.4 0.0
LOR pmax pmax
comp=Z,221nm,1.0s
LOR Lormes 85.44 42⇑iP P 01 00 14.4 0.0
comp=Z,221nm,1.0s
MTLF Montolieu 85.56 46⇑iP P 01 00 15.2 +0.1
comp=Z,200nm,1.1s
MTLF Montolieu 85.56 46⇑iP P 01 00 15.2 +0.1
MTLF pmax pmax
comp=Z,200nm,1.1s
MTLF Montolieu 85.56 46⇑iP P 01 00 15.2 +0.1
comp=Z,200nm,1.1s
HGN Heimansgroeve 85.58 38 eP P 01 00 15.3 +0.3
comp=Z,123nm,1.1s
SMF Signal de Mont 85.62 43⇑iP P 01 00 14.8 -0.5
comp=Z,52nm,0.9s
SMF Signal de Mont 85.62 43⇑iP P 01 00 14.8 -0.5
SMF pmax pmax
comp=Z,52nm,0.9s
SMF Signal de Mont 85.62 43⇑iP P 01 00 14.8 -0.5
comp=Z,52nm,0.9s
ARCES ARCESS Array B 85.67 17 P P 01 00 15.1 0.0
ARCES pmax pmax
comp=Z,15nm,0.8s
ARCES ARCESS Array B 85.67 17 P P 01 00 15.1 0.0
comp=Z,15nm,0.8s,baz=286,slow=4.5,SNR=26
LBL Lubilhac 85.68 44 eP P 01 00 15.6 -0.1
MEM Membach 85.68 39 P P 01 00 15.8 +0.4
comp=Z,42nm,1.6s
MEM AP pP 01 00 25.5 -0.5
MEM E 01 00 38.5
WTSB Winterswijk 85.68 37 eP P 01 00 15.8 +0.4
comp=Z,190nm,1.3s
PLDF La Plantade 85.69 43 eP P 01 00 14.6 -1.2
MEZF Maizieres J'vi 85.80 41⇑iP P 01 00 16.3 +0.2
comp=Z,131nm,0.9s
MEZF Maizieres J'vi 85.80 41⇑iP P 01 00 16.3 +0.2
comp=Z,131nm,0.9s
PET Petropavlovsk 85.88 324 eP P 01 00 17.4 +1.0
PET eS S 01 10 45.2 -2.3
PET Petropavlovsk 85.88 324 PFAKE 01 00 30.0 +14
PET LR LR
comp=Z,3µm,21.0s
COLF Collangettes 85.89 44 eP P 01 00 18.1 +1.4
SFTF Sexfontaines 85.89 41⇑iP P 01 00 16.6 0.0
comp=Z,238nm,1.3s
SFTF Sexfontaines 85.89 41⇑iP P 01 00 16.6 0.0
comp=Z,238nm,1.3s
KEV Kevo 85.97 17 eP P 01 00 14.7 -1.8
KEV pmax pmax
comp=Z,12nm,0.8s
KEV Kevo 85.97 17 ep P 01 00 14.7 -1.8
comp=Z,12nm,0.8s
KEV Kevo 85.97 17 PFAKE 01 00 30.0 +13
KEV LR LR
comp=Z,799nm,20.0s
WLF Walferdange 86.09 39 eP P 01 00 16.6 -1.0
WLF pmax pmax
comp=Z,146nm,1.5s
WLF MLR MLR
comp=Z,2µm,20.0s
WLF Walferdange 86.09 39 eP P 01 00 18.9 +1.4
comp=Z,82nm,1.2s
WLF Walferdange 86.09 39 eP P 01 00 16.6 -1.0
comp=Z,146nm,1.5s
WLF LR LR
comp=Z,2µm,20.0s
IBBN Ibbenburen 86.11 37 eP P 01 00 19.0 +1.4
comp=Z,88nm,1.1s
BUG Bochum--Univer 86.14 37 eP P 01 00 19.0 +1.3
comp=Z,102nm,1.4s
PAGF Fort de Pagny 86.20 41⇑iP P 01 00 18.5 +0.4
comp=Z,25nm,0.9s
PAGF Fort de Pagny 86.20 41⇑iP P 01 00 18.5 +0.4
comp=Z,25nm,0.9s
PETK Petropavlovsk- 86.39 324 P P 01 00 20.0 +1.0
PETK *PP pP 01 00 29.6 +0.1
PETK pmax pmax
comp=Z,14nm,1.0s
PETK pmax pmax
comp=Z,13nm,0.8s
PETK Petropavlovsk- 86.39 324 P P 01 00 20.0 +1.0
comp=Z,14nm,1.0s,baz=81,slow=9.2,SNR=11
PETK pP pP 01 00 29.6 +0.1
comp=Z,13nm,0.8s,baz=89,slow=11,SNR=10
LASF Ste Croix 86.46 45⇑iP P 01 00 20.1 +0.6
comp=Z,212nm,1.0s
LASF Ste Croix 86.46 45⇑iP P 01 00 20.1 +0.6
comp=Z,212nm,1.0s
THEF They Montfort 86.48 41 eP P 01 00 19.7 +0.2
SSB Saint Sauveur 86.53 44 eP P 01 00 20.1 +0.2
SSB Saint Sauveur 86.53 44 PFAKE 01 00 30.0 +10
SSB LR LR
comp=Z,2µm,20.0s
HOPE Hope Point 86.67 149 PFAKE 01 00 30.0 +10
HOPE LR LR
comp=Z,2µm,21.0s
VIVF Saint-Julien-l 86.75 44⇑iP P 01 00 21.3 +0.3
comp=Z,53nm,0.9s
VIVF Saint-Julien-l 86.75 44⇑iP P 01 00 21.3 +0.3
VIVF pmax pmax
comp=Z,53nm,0.9s
VIVF Saint-Julien-l 86.75 44⇑iP P 01 00 21.3 +0.3
comp=Z,53nm,0.9s
HAU Haudompre 86.78 41⇑iP P 01 00 21.1 +0.1
comp=Z,113nm,1.0s
HAU eR
comp=Z,2µm,21.8s
HAU Haudompre 86.78 41⇑iP P 01 00 21.1 +0.1
HAU pmax pmax
comp=Z,113nm,1.0s
HAU Haudompre 86.78 41⇑iP P 01 00 21.1 +0.1
comp=Z,113nm,1.0s
BSEG Bad Segeberg 86.93 34 eP P 01 00 22.6 +1.1
comp=Z,46nm,1.1s
CABF La Chapelle 87.10 42⇑iP P 01 00 22.8 +0.1
comp=Z,76nm,1.2s
CABF La Chapelle 87.10 42⇑iP P 01 00 22.8 +0.1
CABF pmax pmax
comp=Z,76nm,1.2s
CABF La Chapelle 87.10 42⇑iP P 01 00 22.8 +0.1
comp=Z,76nm,1.2s
HINF Hinteralfeld 87.17 41⇑iP P 01 00 22.8 -0.1
comp=Z,50nm,1.1s
HINF Hinteralfeld 87.17 41⇑iP P 01 00 22.8 -0.1
HINF pmax pmax
comp=Z,50nm,1.1s
HINF Hinteralfeld 87.17 41⇑iP P 01 00 22.8 -0.1
comp=Z,50nm,1.1s
ECH Echery 87.22 41 eP P 01 00 23.0 -0.1
ECH pmax pmax
comp=Z,8.0nm,0.6s
ECH MLR MLR
comp=Z,2µm,22.0s
ECH Echery 87.22 41 eP P 01 00 23.1 -0.1
ECH Echery 87.22 41 eP P 01 00 23.0 -0.1
comp=Z,7.8nm,0.6s
ECH LR LR
comp=Z,2µm,22.0s
CDF Champ du Feu 87.22 40⇑iP P 01 00 23.3 +0.1
comp=Z,46nm,1.0s
CDF Champ du Feu 87.22 40⇑iP P 01 00 23.3 +0.1
CDF pmax pmax
comp=Z,46nm,1.0s
CDF Champ du Feu 87.22 40⇑iP P 01 00 23.3 +0.1
comp=Z,46nm,1.0s
WLS Welschbruch 87.27 40 eP P 01 00 22.6 -0.8
TNS Taunus Mts 87.28 38 eP P 01 00 24.5 +1.1
comp=Z,54nm,0.9s
LOMF Lomont 87.31 41 eP P 01 00 23.8 +0.1
MOF Molkenrain 87.33 41 eP P 01 00 23.8 0.0
TIXI Tiksi 87.34 347⇑iP P 01 00 22.7 -0.5
TIXI pmax pmax
comp=Z,93nm,1.7s
TIXI MLR MLR
comp=Z,1µm,21.0s
TIXI Tiksi 87.34 347 eP P 01 00 22.7 -0.5
comp=Z,118nm,1.5s
TIXI LR LR
comp=Z,3µm,21.0s
LANF Langenberg 87.34 40 eP P 01 00 23.6 -0.1
NRDL Niedersach Rie 87.38 36 eP P 01 00 24.7 +1.0
comp=Z,24nm,1.0s
ORIF Oris-en-Rattie 87.54 44⇑iP P 01 00 25.4 +0.5
comp=Z,33nm,1.0s
ORIF eR
comp=Z,1µm,21.2s
ORIF Oris-en-Rattie 87.54 44⇑iP P 01 00 25.4 +0.5
ORIF pmax pmax
comp=Z,33nm,1.0s
ORIF Oris-en-Rattie 87.54 44⇑iP P 01 00 25.4 +0.5
comp=Z,33nm,1.0s
SMRF Simiane la Rot 87.66 45⇑iP P 01 00 26.2 +0.8
comp=Z,94nm,1.2s
SMRF Simiane la Rot 87.66 45⇑iP P 01 00 26.2 +0.8
comp=Z,94nm,1.3s
RSL Roselend 87.77 43 eP P 01 00 27.0 +1.0
CLZ Clausthal 87.78 36 eP P 01 00 27.1 +1.3
comp=Z,38nm,1.1s
LPL La Plagne 87.90 43⇑iP P 01 00 27.5 +0.8
comp=Z,21nm,0.9s
LPL La Plagne 87.90 43⇑iP P 01 00 27.5 +0.8
LPL pmax pmax
comp=Z,21nm,0.9s
LPL La Plagne 87.90 43⇑iP P 01 00 27.5 +0.8
comp=Z,21nm,0.9s
BFO Black Forest 87.91 40ceP P 01 00 28.0 +1.6
BFO Black Forest 87.91 40 eP P 01 00 27.0 +0.6
comp=Z,14nm,1.1s
BFO Black Forest 87.91 40 eP P 01 00 25.4 -1.0
comp=Z,18nm,1.5s
BFO LR LR
comp=Z,1µm,21.0s
LPG La Plagne 87.92 43⇑iP P 01 00 27.8 +0.9
comp=Z,110nm,1.6s
LPG La Plagne 87.92 43⇑iP P 01 00 27.8 +0.9
LPG pmax pmax
comp=Z,110nm,1.6s
LPG La Plagne 87.92 43⇑iP P 01 00 27.8 +0.9
comp=Z,110nm,1.6s
UBBA Unterbreizbach 87.97 37 eP P 01 00 27.5 +1.0
comp=Z,51nm,1.9s
BNI Bardonecchia 88.03 44 PFAKE 01 00 40.0 +13
BNI LR LR
comp=Z,2µm,22.0s
MBDF Montbardon 88.20 44⇑iP P 01 00 28.7 +0.6
comp=Z,25nm,0.8s
MBDF Montbardon 88.20 44⇑iP P 01 00 28.7 +0.6
MBDF pmax pmax
comp=Z,25nm,0.8s
MBDF Montbardon 88.20 44⇑iP P 01 00 28.7 +0.6
comp=Z,25nm,0.8s
STU Stuttgart 88.27 40 eP P 01 00 28.9 +0.8
comp=Z,24nm,0.9s
LMR La Mourre 88.52 45 eP P 01 00 29.2 -0.2
comp=Z,35nm,0.9s
LMR La Mourre 88.52 45 eP P 01 00 29.2 -0.2
LMR pmax pmax
comp=Z,35nm,0.9s
LMR La Mourre 88.52 45 eP P 01 00 29.2 -0.2
comp=Z,35nm,0.9s
FRF La Foret Royal 88.53 45 eP P 01 00 29.3 -0.2
comp=Z,33nm,1.1s
FRF La Foret Royal 88.53 45 eP P 01 00 29.3 -0.2
FRF pmax pmax
comp=Z,33nm,1.1s
FRF La Foret Royal 88.53 45 eP P 01 00 29.3 -0.2
comp=Z,33nm,1.1s
NEUB Neuenburg 88.84 37 eP P 01 00 31.6 +0.9
comp=Z,39nm,1.1s
BSD Bornholm Skovb 88.87 32 iP P 01 00 31.1 +0.3
BSD pmax pmax
comp=Z,13nm,1.0s
BSD MLR MLR
comp=Z,830nm,19.0s
BSD Bornholm Skovb 88.87 32 iP P 01 00 31.1 +0.3
comp=Z,13nm,1.0s
comp=Z,830nm,19.0s
MOX Moxa 88.98 37 eP P 01 00 32.1 +0.7
comp=Z,30nm,1.2s
GRF Grafenberg Arr 89.13 38 eP P 01 00 33.3 +1.1
comp=Z,46nm,1.5s
GRF eL L 01 39 04.4
comp=Z,1µm,18.2s
APA Apatity 89.17 17⇑iP P 01 00 31.8 -0.1
APA i 01 04 07.0
APA iS S 01 11 12.0 -6.5
APA iSS SS 01 17 10.0 -1.6
TUE Stuetta 89.24 42 eP P 01 00 31.3 -1.7
comp=Z,194nm,0.4s
TUE LR LR
comp=Z,1µm,19.0s
DAVA Damuels 89.27 41⇑iPcP P 01 00 33.3 +0.3
comp=Z,18nm,1.1s,SNR=6.0
LVZ Lovozero 89.29 16 eP P 01 00 32.1 -0.5
LVZ pmax pmax
comp=Z,19nm,1.3s
LVZ Lovozero 89.29 16 PFAKE 01 00 40.0 +7.4
LVZ LR LR
comp=Z,803nm,19.0s
RUE Ruedersdorf 89.43 35 eP P 01 00 34.0 +0.6
comp=Z,18nm,0.9s
WERD Werda 89.46 37 eP P 01 00 34.7 +1.0
comp=Z,34nm,1.3s
CLL Collm 89.50 36⇑iP P 01 00 33.5 -0.3
CLL e 01 00 44.0
CLL e 01 04 03.0
CLL eS S 01 11 25.0 +2.9
CLL pmax pmax
comp=Z,20nm,1.1s
CLL pmax pmax
comp=Z,43nm,2.0s
CLL Collm 89.50 36 eP P 01 00 34.5 +0.7
comp=Z,20nm,1.1s
CLL Collm 89.50 36⇑iP P 01 00 33.5 -0.3
comp=Z,20nm,1.1s
CLL epP pP 01 00 44.0 -0.4
CLL ePP PP 01 04 03.0 -2.0
comp=Z,43nm,2.0s
CLL eS S 01 11 25.0 +2.9
CLL ePS PnS 01 12 29.0 -1.5
CLL ePPS PPS 01 12 58.0
GUNZ Gunzen 89.51 37 eP P 01 00 34.9 +0.9
comp=Z,34nm,1.1s
MANZ Manzenberg 89.54 38 eP P 01 00 35.0 +0.9
comp=Z,25nm,1.1s
TANN Tannenbergstha 89.56 37 eP P 01 00 35.1 +0.8
comp=Z,32nm,1.2s
ROTZ Rotzenmuhle 89.69 38 eP P 01 00 36.0 +1.2
comp=Z,31nm,1.4s
RETA Reutte 89.74 40⇓iPcP P 01 00 35.4 +0.2
comp=Z,23nm,1.2s,SNR=8.1
FUR Furstenfeldbru 89.78 40 eP P 01 00 36.2 +0.9
comp=Z,39nm,1.5s
FBE Freiberg 89.86 36 eP P 01 00 36.6 +1.1
comp=Z,30nm,1.1s
TIC Toumodi 89.87 83 eP P 01 00 36.0 -0.3
comp=Z,60nm,1.0s
FETA Feichten 89.91 41⇑iPcP P 01 00 36.2 +0.1
comp=Z,16nm,1.3s
TARA Tarawa 89.93 271 PFAKE 01 00 50.0 +13
TARA LR LR
comp=Z,4µm,22.0s
LIC Lamto 89.98 84⇑iP P 01 00 36.6 -0.2
comp=Z,132nm,1.1s,baz=276
LIC eR
comp=Z,2µm,23.0s
LIC Lamto 89.98 84 eP P 01 00 36.6 -0.2
comp=Z,156nm,1.1s
LIC Lamto 89.98 84⇑iP P 01 00 36.6 -0.2
comp=Z,132nm,1.1s
DBIC Dimbokro 90.02 83 P P 01 00 37.0 0.0
DBIC *PP pP 01 00 46.9 -0.7
DBIC pmax pmax
comp=Z,23nm,1.1s
DBIC pmax pmax
comp=Z,25nm,0.8s
DBIC MLR MLR
comp=Z,17nm,28.6s
DBIC Dimbokro 90.02 83 P P 01 00 37.0 0.0
comp=Z,23nm,1.1s,baz=282,slow=3.5,SNR=9.0
DBIC pP pP 01 00 46.9 -0.7
comp=Z,25nm,0.8s,baz=263,slow=4.4,SNR=13
DBIC LR LR 01 41 20.7
comp=Z,553nm,18.3s,baz=276,slow=36
RAO Raoul Island 90.21 240 P P 01 00 38.9 +1.4
RAO pmax pmax
comp=Z,306nm,0.3s
RAO Raoul Island 90.21 240 P P 01 00 38.9 +1.4
comp=Z,306nm,0.3s,baz=90,slow=20,SNR=4.5
KIC Kosan Boka 90.21 83 eP P 01 00 37.8 -0.1
comp=Z,278nm,1.5s
BRG Berggiesshubel 90.22 36 eP P 01 00 37.4 +0.1
comp=Z,31nm,0.9s
BRG e 01 00 47.3
comp=Z,13nm,1.0s
BRG ePP PP 01 04 09.1 -1.6
comp=Z,33nm,1.8s
BRG SKS SKSac 01 11 06.0 0.0
BRG S ScS 01 11 34.0 +1.2
BRG SS SS 01 17 25.0 -2.8
BRG ePKKP PKKPdf 01 18 04.3 +1.2
comp=Z,0.9nm,0.6s
comp=N,972nm,23.1s
comp=E,906nm,24.0s
comp=Z,2µm,23.1s
BRG Berggiesshubel 90.22 36 eP P 01 00 37.3 +0.1
BRG e 01 00 47.3
BRG e 01 04 09.1
BRG 01 11 06.0
BRG S ScS 01 11 34.0 +1.2
BRG SS SS 01 17 25.0 -2.8
BRG pmax pmax
comp=Z,31nm,1.0s
BRG pmax pmax
comp=Z,13nm,1.0s
BRG pmax pmax
comp=Z,33nm,1.8s
BRG pmax pmax
comp=Z,1.0nm,0.6s
BRG MLR MLR
comp=N,972nm,23.1s
BRG MLR MLR
comp=E,906nm,24.0s
BRG MLR MLR
comp=Z,2µm,23.1s
BRG Berggiesshubel 90.22 36 eP P 01 00 38.0 +0.8
comp=Z,31nm,0.9s
KAF Kangasniemi 90.31 23 eP P 01 00 34.7 -2.7
KAF pmax pmax
comp=Z,7.0nm,0.8s
KAF Kangasniemi 90.31 23 ep P 01 00 34.7 -2.7
comp=Z,7.3nm,0.8s
WATA Walderalm 90.31 40⇓iPcP P 01 00 38.1 +0.2
comp=Z,9.5nm,0.9s,SNR=5.9
WET Wettzell 90.35 38 eP P 01 00 38.9 +1.0

comp=Z,39nm,1.1s
WTTA Wattenberg 90.37 40⇑iPcP P 01 00 38.5 +0.3
comp=Z,17nm,1.4s
PGF Pioggiola 90.51 45 eP P 01 00 39.3 +0.4
comp=Z,30nm,0.9s
PGF Pioggiola 90.51 45 eP P 01 00 39.3 +0.4
PGF pmax pmax
comp=Z,31nm,0.9s
PGF Pioggiola 90.51 45 eP P 01 00 39.3 +0.4
comp=Z,30nm,0.9s
FIA1 FINESS Array S 90.62 24 eP P 01 00 37.6 -1.2
FINES FINESS Array B 90.62 24 P P 01 00 37.4 -1.4
FINES 01 04 11.5
FINES pmax pmax
comp=Z,10.0nm,1.0s
FINES pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 90.62 24 P P 01 00 37.4 -1.4
comp=Z,10nm,0.9s,baz=343,slow=2.0,SNR=20
FINES PP PP 01 04 11.5 -2.0
comp=Z,3.6nm,1.0s,baz=316,slow=3.8,SNR=3.5
KHC Kasperske Hory 90.77 38 eP P 01 00 39.7 -0.2
KHC e 01 00 50.0
KHC e 01 04 13.8
KHC MLR MLR
comp=Z,2µm,24.1s
KHC Kasperske Hory 90.77 38 eP P 01 00 39.7 -0.2
KHC epP pP 01 00 50.0 -0.5
KHC ePP PP 01 04 13.8 -1.4
KHC AMS AMS 01 39 30.0
comp=Z,2µm,24.1s
KHC Kasperske Hory 90.77 38 eP P 01 00 39.6 -0.2
comp=Z,28nm,1.4s
VLC Villacollemand 90.82 43 PFAKE 01 00 50.0 +10
VLC LR LR
comp=Z,1µm,19.0s
WAKE Wake Island 90.82 290 PFAKE 01 00 50.0 +9.4
WAKE LR LR
comp=Z,7µm,19.0s
PRA Prague 90.86 37 P P 01 00 41.0 +0.8
PRA PP PP 01 04 18.0 +2.2
RJOB Jochberg 90.89 40 eP P 01 00 41.3 +0.8
comp=Z,28nm,1.3s
GKP Gorka Klasztor 90.93 33 eP P 01 00 40.8 +0.3
GKP Gorka Klasztor 90.93 33 eP P 01 00 40.7 +0.3
PRU Pruhonice 90.96 37 eP P 01 00 40.8 +0.1
PRU e 01 00 50.3
PRU e 01 04 17.0
PRU MLR MLR
comp=Z,1µm,22.6s
PRU Pruhonice 90.96 37 eP P 01 00 40.8 +0.1
PRU epP pP 01 00 50.3 -1.0
PRU ePP PP 01 04 17.0 +0.4
PRU AMS AMS 01 37 00.0
comp=Z,1µm,22.6s
GEC2 GERESS Array S 90.96 38 eP P 01 00 41.7 +0.8
comp=Z,27nm,1.2s
GERES GERESS Array B 90.96 38 P P 01 00 40.7 -0.2
GERES 01 04 16.1
GERES pmax pmax
comp=Z,9.0nm,0.9s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES MLR MLR
comp=Z,2µm,20.6s
GERES GERESS Array B 90.96 38 P P 01 00 40.7 -0.2
comp=Z,8.9nm,0.9s,baz=319,slow=3.9,SNR=57
GERES PP PP 01 04 16.1 -0.7
comp=Z,1.2nm,0.9s,baz=300,slow=5.7,SNR=3.9
GERES PKKPbc PKKPbc 01 18 05.1 -1.1
comp=Z,0.3nm,0.6s,baz=145,slow=4.9,SNR=4.2
GERES LR LR 01 39 54.1
comp=Z,2µm,20.6s,baz=285,slow=34
ABTA Abfaltersbach 91.13 40⇑iPcP P 01 00 41.8 +0.1
comp=Z,31nm,1.2s,SNR=11
KBA Koelnbreinsper 91.51 40⇑iPcP P 01 00 43.5 0.0
comp=Z,21nm,1.0s,SNR=10
UPC Upice 91.56 36 eP P 01 00 43.6 +0.1
UPC e 01 00 53.6
UPC e 01 04 20.3
UPC Upice 91.56 36 eP P 01 00 43.6 +0.1
UPC epP pP 01 00 53.6 -0.5
UPC ePP PP 01 04 20.3 -1.1
KSP Ksiaz 91.56 36⇑eP P 01 00 43.7 +0.2
KSP Ksiaz 91.56 36 eP P 01 00 43.9 +0.4
JOF Joensuu 91.62 21 eP P 01 00 41.0 -2.4
JOF pmax pmax
comp=Z,2.0nm,0.8s
JOF Joensuu 91.62 21 ep P 01 00 41.0 -2.4
comp=Z,2.0nm,0.8s
MOA Molln 91.74 39 iPcP P 01 00 44.5 +0.1
comp=Z,21nm,0.9s,SNR=11
DPC Dobruska-Polom 91.81 36 eP P 01 00 45.1 +0.4
DPC e 01 00 54.9
DPC e 01 04 22.5
DPC Dobruska-Polom 91.81 36 eP P 01 00 45.1 +0.4
DPC epP pP 01 00 54.9 -0.4
DPC ePP PP 01 04 22.5 -0.9
DPC AMS AMS 01 38 10.0
TREC Trest 91.82 37 eP P 01 00 44.7 0.0
TREC e 01 00 54.3
TREC MLR MLR
comp=Z,2µm,23.8s
TREC Trest 91.82 37 eP P 01 00 44.7 0.0
TREC epP pP 01 00 54.3 -1.0
TREC AMS AMS 01 37 20.0
comp=Z,2µm,23.8s
MYKA Terra Mystica 91.89 40⇑iPcP P 01 00 44.8 -0.3
comp=Z,22nm,1.6s,SNR=5.8
VSL Villasalto 91.93 48 PFAKE 01 01 00.0 +15
VSL LR LR
comp=Z,1µm,21.0s
CADS Cadrg 92.12 41 iP P 01 00 46.1 -0.1
KRLC Kraliky 92.20 36 eP P 01 00 46.8 +0.3
KRLC e 01 00 56.8
KRLC e 01 04 25.5
KRLC Kraliky 92.20 36 eP P 01 00 46.8 +0.3
KRLC epP pP 01 00 56.8 -0.3
KRLC ePP PP 01 04 25.5 -1.0
VRAC Vranov 92.45 37 ⇓P P 01 00 48.3 +0.7
VRAC Vranov 92.45 37⇓iP P 01 00 48.3 +0.7
OBKA Obir 92.50 40⇑iPcP P 01 00 47.8 -0.2
comp=Z,21nm,1.0s,SNR=5.5
CONA Conrad Observa 92.66 38⇑iPcP PcP 01 00 49.1 -0.3
comp=Z,31nm,1.6s,SNR=9.2
LJU Ljubljana 92.69 41 iP P 01 00 49.0 +0.2
SOKA Soboth 92.73 40⇑iP P 01 00 48.3 -0.8
comp=Z,31nm,1.1s,SNR=16
CEY Cerknica 92.77 41 iP P 01 00 49.7 +0.5
ARSA Arzberg 92.77 39⇑iPcP P 01 00 49.1 -0.1
comp=Z,9.1nm,0.8s,SNR=5.7
MORC Moravsky Berou 92.78 36 ⇓P P 01 00 49.9 +0.7
MORC Moravsky Berou 92.78 36⇓iP P 01 00 49.9 +0.7
MORC Moravsky Berou 92.78 36 eP P 01 00 48.6 -0.6
comp=Z,43nm,1.4s
TMCR Tamitsa 92.93 18 eP P 01 00 49.8 +0.4
TMCR e 01 04 32.9
TMCR pmax pmax
comp=Z,30nm,1.4s
VISS Visnje 93.00 41 iP P 01 00 50.8 +0.6
OKC Ostrava-Krasne 93.09 36 eP P 01 00 51.4 +0.9
OKC e 01 01 00.8
OKC e 01 04 28.8
OKC MLR MLR
comp=Z,700nm,18.1s
OKC Ostrava-Krasne 93.09 36 eP P 01 00 51.4 +0.9
OKC epP pP 01 01 00.8 -0.3
OKC ePP PP 01 04 28.8 -4.6
OKC AMS AMS 01 45 00.0
comp=Z,700nm,18.1s
SOP Sopron 93.19 38⇑eP P 01 00 51.2 +0.1
SMOL Smolenice 93.31 37 eP P 01 00 52.7 +1.1
SMOL Smolenice 93.31 37 eP P 01 00 52.7 +1.1
KEST Kesra 93.33 52 P P 01 00 52.3 +0.2
comp=Z,7.1nm,0.9s,baz=270,slow=5.8,SNR=15
KEST LR LR 01 39 29.4
comp=Z,306nm,20.4s,baz=273,slow=33
GCIS Gornji Cirnik 93.46 40 eP P 01 00 52.6 +0.2
AQU L'Aquila 93.57 44 PFAKE 01 01 00.0 +7.0
AQU LR LR
comp=Z,932nm,19.0s
SUW Suwalki 93.59 31 eP P 01 00 51.9 -0.8
SUW Suwalki 93.59 31 eP P 01 00 51.9 -0.8
SUW Suwalki 93.59 31 eP P 01 00 51.3 -1.4

comp=Z,69nm,1.3s
OJC Ojcow 93.82 35 eP P 01 00 53.8 -0.1
OJC Ojcow 93.82 35 eP P 01 00 53.8 -0.1
YAK Yakutsk 94.08 340 eP P 01 00 54.1 -0.7
YAK pmax pmax
comp=Z,17nm,0.8s
YAK Yakutsk 94.08 340 PFAKE 01 01 10.0 +15
YAK LR LR
comp=Z,2µm,21.0s
VYHS Vyhne 94.14 37 eP P 01 00 55.7 +0.3
VYHS pmax pmax
comp=Z,16nm,1.4s
VYHS Vyhne 94.14 37 eP P 01 00 55.7 +0.3
PKST T~'s 94.28 38⇓eP P 01 00 56.4 +0.3
CSKK Cs^‡kako 94.36 38⇑eP P 01 00 57.2 +0.8
TOA0 Torodi Ar. Sit 94.36 75 eP P 01 00 55.8 -1.3
TOA0 epP pP 01 01 05.0 -2.6
TORD Torodi Ar. Bea 94.36 75 P P 01 00 55.9 -1.2
comp=Z,5.1nm,0.8s,baz=292,slow=5.2,SNR=30
TORD pP pP 01 01 05.6 -2.1
comp=Z,3.2nm,0.7s,baz=297,slow=6.2,SNR=9.0
TORD PP PP 01 04 44.8 +0.2
comp=Z,3.6nm,1.0s,baz=290,slow=7.7,SNR=4.2
TORD PKKPbc PKKPbc 01 17 57.8 +1.4
comp=Z,1.5nm,0.9s,baz=74,slow=2.6,SNR=7.7
TORD LR LR 01 39 08.7
comp=Z,1µm,21.9s,baz=295,slow=33
PKSG 94.42 38⇓eP P 01 00 57.2 +0.5
NIE Niedzica 94.52 36 eP P 01 00 57.0 -0.2
NIE Niedzica 94.52 36 eP P 01 00 57.0 -0.2
PKS9 Tamasi 94.75 39⇓eP P 01 00 58.7 +0.5
TAM Tamanrasset 94.80 65 eP P 01 00 59.3 +0.2
TAM pmax pmax
comp=Z,56nm,1.6s
TAM MLR MLR
comp=Z,2µm,22.0s
TAM Tamanrasset 94.80 65 eP P 01 00 59.3 +0.2
comp=Z,56nm,1.6s
TAM LR LR
comp=Z,2µm,22.0s
NACGM Naroch 94.80 29 e P 01 00 56.0 -2.3
STHS Stebnicka Huta 95.04 35 eP P 01 01 00.3 +0.7
STHS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 95.04 35 eP P 01 01 00.2 +0.7
PSZ Piszkesteto 95.04 37 ⇓P P 01 01 00.9 +1.2
PSZ Piszkesteto 95.04 37⇓iP P 01 01 00.9 +1.2
PSZ Piszkesteto 95.04 37 eP P 01 00 59.4 -0.3
comp=Z,56nm,1.8s
PSZ LR LR
comp=Z,2µm,21.0s
PSZ Piszkesteto 95.04 37⇑eP P 01 01 00.6 +0.9
KECS Kecovo 95.10 36 eP P 01 01 00.1 +0.3
KECS pmax pmax
comp=Z,7.0nm,1.1s
KECS Kecovo 95.10 36 eP P 01 01 00.1 +0.3
PKSM Moragy 95.15 39 ⇑P P 01 00 59.9 -0.2
PKSM Moragy 95.15 39⇑iP P 01 00 59.9 -0.2
PKSM Moragy 95.15 39⇓eP P 01 01 00.2 +0.1
CRVS Cervenica-Dubn 95.43 36 eP P 01 01 02.0 +0.7
CRVS pmax pmax
comp=Z,19nm,1.6s
CRVS Cervenica-Dubn 95.43 36 eP P 01 01 02.0 +0.7
KWP Kalwaria Pacla 95.73 35 ⇓P P 01 01 03.1 +0.4
KWP Kalwaria Pacla 95.73 35 eP P 01 01 03.4 +0.7
KWP Kalwaria Pacla 95.73 35⇓iP P 01 01 03.1 +0.4
KWP Kalwaria Pacla 95.73 35 PFAKE 01 01 10.0 +7.3
KWP LR LR
comp=Z,1µm,20.0s
KLMR Klimovskoe 95.84 20 eP P 01 00 58.9 -4.0
KLMR e 01 04 50.0
KLMR pmax pmax
comp=Z,57nm,1.5s
KOLS Kolonicke sedl 95.87 35 eP P 01 01 03.7 +0.4
KOLS pmax pmax
comp=Z,11nm,1.3s
KOLS Kolonicke sedl 95.87 35 eP P 01 01 03.7 +0.4
UZH Uzhgorod 96.04 36 eP P 01 01 03.2 -0.9
UZH i 01 01 10.4
CUC Castrocucco 96.24 46 PFAKE 01 01 20.0 +15
CUC LR LR
comp=Z,573nm,21.0s
LVV L'vov 96.35 34 eP P 01 01 03.9 -1.6
TRPA Tarpa 96.45 36⇓eP P 01 01 06.2 +0.3
CEL Celeste 97.07 47 PFAKE 01 01 20.0 +11
CEL LR LR
comp=Z,781nm,20.0s
PRGR Permogore 97.10 17 eP P 01 01 06.0 -2.5
PRGR pmax pmax
comp=Z,88nm,1.2s
WDD Wield Dalam 97.13 50 PFAKE 01 01 20.0 +11
WDD LR LR
comp=Z,1µm,21.0s
BZS Buzias 97.24 38 ⇓P Pdif 01 01 10.1 +0.4
BZS Buzias 97.24 38⇓iP Pdif 01 01 10.1 +0.4
TIP Timpagrande 97.26 46 PFAKE 01 01 20.0 +10
TIP LR LR
comp=Z,675nm,22.0s
DRGR 97.27 37 ⇓P Pdif 01 01 10.1 +0.2
DRGR 97.27 37⇓iP Pdif 01 01 10.1 +0.2
YUK Yuzh-Kuril'sk 97.44 320 dP P 01 01 05.7 -4.8
YUK iPS PS 01 14 47.8 +49
YSS Yuzh-Sakhalins 97.75 323 PFAKE 01 01 20.0 +8.1
YSS LR LR
comp=Z,1µm,20.0s
GZR Gura Zlata 98.05 38 ⇑P Pdif 01 01 14.2 +0.8
GZR Gura Zlata 98.05 38⇑iP Pdif 01 01 14.2 +0.8
KIEV Kiev 98.53 31 PFAKE 01 01 30.0 +15
KIEV LR LR
comp=Z,665nm,20.0s
AKASG Malin Array Be 98.53 31 ceP P 01 01 14.1 -1.1
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 98.53 31 P P 01 01 14.2 -1.0
comp=Z,0.3nm,0.3s,baz=294,slow=3.7,SNR=12
AKASG PP PP 01 05 13.9 -1.4
comp=Z,0.2nm,0.3s,baz=305,slow=6.9,SNR=4.6
AKASG PKKPbc PKKPbc 01 17 44.5 -1.7
comp=Z,0.1nm,0.3s,baz=90,slow=1.9,SNR=4.4
MOS Moscow 98.91 24 eP P 01 01 15.3 -1.5
MOS MLR MLR
comp=Z,800nm,21.0s
OBN Obninsk 98.94 25⇑eP P 01 01 16.4 -0.5
OBN e*PP pP 01 01 26.3 -1.3
OBN e*SP sP 01 01 32.8 +1.4
OBN e 01 05 20.3
OBN pmax pmax
comp=Z,17nm,0.8s
OBN MLR MLR
comp=Z,894nm,23.0s
OBN Obninsk 98.94 25 PFAKE 01 01 30.0 +13
OBN LR LR
comp=Z,1µm,21.0s
ARR Arges 99.16 38⇑iP Pdif 01 01 19.1 +0.8
SNZO South Karori 99.28 230 PFAKE 01 01 30.0 +11
SNZO LR LR
comp=Z,5µm,20.0s
VTS Vitosha 99.81 40 ⇑P Pdif 01 01 22.3 +0.9
VTS Vitosha 99.81 40⇑iP Pdif 01 01 22.3 +0.9
MLR Muntele Rosu 99.86 37 ⇑P Pdif 01 01 21.0 -0.5
MLR Muntele Rosu 99.86 37⇑iP Pdif 01 01 21.0 -0.5
ERM Erimo 100.18 319 PFAKE 01 01 30.0 +7.2
ERM LR LR
comp=Z,6µm,20.0s
KIS Kishinev 100.58 34 eP Pdif 01 01 24.0 -0.5
KIS e 01 05 30.0
KIS Kishinev 100.58 34 eP Pdif 01 01 24.0 -0.5
VSR Storozhevoye 102.83 27 eP Pdif 01 01 32.5 -1.9
VSR pmax pmax
comp=Z,20nm,1.7s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,2.2s
VORD Divnogorie 103.06 27 eP Pdif 01 01 32.5 -2.9
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=Z,5.0nm,0.7s
VORD pmax pmax
comp=E,30nm,0.8s
VRHR Novokhopersk 103.96 26 eP Pdif 01 01 37.9 -1.5
VRHR pmax pmax
comp=Z,10.0nm,0.9s

VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
ARU Arti 104.96 14 PFAKE 01 06 10.0
ARU LR LR
comp=Z,992nm,21.0s
HNR Honiara 105.22 264 PFAKE 01 06 10.0
HNR LR LR
comp=Z,333nm,21.0s
QSPA South Pole Qui 105.91 180 PFAKE 01 06 10.0
QSPA LR LR
comp=Z,3µm,19.0s
MAJO Matsushiro 106.40 317 PFAKE 01 06 10.0
MAJO LR LR
comp=Z,9µm,22.0s
MDJ Mudanjiang 106.41 327 Pdif Pdif 01 01 50.2 -0.3
MDJ PP PP 01 06 16.3 +1.8
MDJ LR LR
comp=Z,3µm,24.3s
MDJ LR LR
comp=Z,4µm,24.3s
MDJ LR LR
comp=Z,6µm,22.0s
MDJ Mudanjiang 106.41 327 PFAKE 01 06 10.0
MDJ LR LR
comp=Z,6µm,21.0s
SBA Scott Base 106.88 193 PFAKE 01 06 10.0
SBA LR LR
comp=Z,4µm,19.0s
ISP Isparta 107.12 41 PFAKE 01 06 10.0
ISP LR LR
comp=Z,1µm,21.0s
ANTO Ankara 107.27 38 PFAKE 01 06 20.0
ANTO LR LR
comp=Z,1µm,21.0s
HIA Hailar 107.44 336 PFAKE 01 06 10.0
HIA LR LR
comp=Z,6µm,21.0s
BRTR Keskin Array B 107.86 38 PKiKP PKiKP 01 06 04.8 +0.2
comp=Z,1.9nm,0.8s,baz=168,slow=0.7,SNR=9.2
BRTR PKKPbc PKKPbc 01 17 17.4 -1.0
comp=Z,0.8nm,0.9s,baz=71,slow=4.9,SNR=3.5
KIV Kislovodsk 109.79 30 PFAKE 01 06 20.0
KIV LR LR
comp=Z,681nm,20.0s
MSKU Masuku 110.04 86 PFAKE 01 06 20.0
MSKU LR LR
comp=Z,2.0nm,20.0s
TLY Talaya 110.31 347 PFAKE 01 06 20.0
TLY LR LR
comp=Z,3µm,20.0s
BRVK Borovoye 110.34 8 iPKIKP 01 06 09.2
BRVK pmax pmax
comp=Z,6.0nm,2.5s
BRVK Borovoye 110.34 8 PFAKE 01 06 20.0
BRVK LR LR
comp=Z,3µm,21.0s
ZALV Zalesovo Beam 110.34 359 iPKIKP PKiKP 01 06 08.3 -0.3
ZALV 01 06 41.8
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 110.34 359 Pdiff Pdif 01 02 13.0 +5.2
comp=Z,0.2nm,0.3s,baz=349,slow=4.7,SNR=3.0
ZALV PKiKP PKiKP 01 06 08.3 -0.3
comp=Z,1.3nm,0.6s,baz=352,slow=7.3,SNR=6.0
ZALV PP PP 01 06 41.8 -0.8
comp=Z,1.6nm,0.8s,baz=4.9,slow=7.0,SNR=6.0
ZAK Zakamensk 111.61 346 ePKIKP PKiKP 01 05 56.8 -14
ZAK e 01 06 51.0
ZAK pmax pmax
comp=Z,2.0nm,2.0s
ZAK pmax pmax
comp=Z,4.0nm,1.5s
KSRS Korea Array 112.24 323 iPKIKP PKiKP 01 06 13.4 +0.7
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KSRS Korea Array 112.24 323 PKiKP PKiKP 01 06 13.3 +0.7
comp=Z,2.1nm,0.6s,baz=10,slow=0.7,SNR=9.4
KSAR Wonju Array Be 112.27 323 PKIKP PKiKP 01 06 13.4 +0.6
KSAR Wonju Array Be 112.27 323 PKiKP PKiKP 01 06 13.3 +0.6
GUMO Guam 112.36 292 PFAKE 01 06 20.0
GUMO LR LR
comp=Z,2µm,20.0s
INCN Inchon 112.96 324 PFAKE 01 06 30.0
INCN LR LR
comp=Z,3µm,20.0s
ULN Ulaanbaatar 112.97 343 PFAKE 01 06 30.0
ULN LR LR
comp=Z,4µm,22.0s
SONM Songino Array 113.18 343 PKiKP PKiKP 01 06 14.3 -0.1
comp=Z,1.0nm,0.7s,baz=58,slow=0.3,SNR=9.9
SONM PP PP 01 07 03.6 +0.3
comp=Z,0.5nm,0.8s,baz=26,slow=5.2,SNR=3.2
SONM PKKPbc PKKPbc 01 17 00.2 -1.4
comp=Z,0.9nm,0.8s,baz=179,slow=3.4,SNR=6.7
SONM PKKPab PKKPab 01 17 09.4 -0.8
comp=Z,1.8nm,1.0s,baz=140,slow=3.7,SNR=7.4
KURK Kurchatov 113.47 3 ePKIKP PKiKP 01 06 13.0 -1.6
KURK ePP PP 01 07 03.6 -1.3
KURK LR LR
comp=Z,2µm,20.0s
GNI Garni 113.66 31 PFAKE 01 06 30.0
GNI LR LR
comp=Z,594nm,22.0s
BJI Beijing 116.38 332 PKP PKPdf 01 06 20.5 0.0
BJI PP PP 01 07 29.0 +3.1
BJI AMB AMB
comp=Z,160nm,5.2s
BJI LR LR
comp=Z,460nm,27.4s
BJI LR LR
comp=Z,900nm,25.0s
BJI LR LR
comp=Z,530nm,27.0s
BJT Baijiatuau 116.41 332 PFAKE 01 06 30.0 +9.4
BJT LR LR
comp=Z,2µm,22.0s
PMG Port Moresby 117.49 268 PFAKE 01 06 30.0 +6.7
PMG LR LR
comp=Z,1µm,19.0s
MKAR Makanchi Array 117.52 1 c iPKIKP PKPdf 01 06 21.8 -0.8
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 117.52 1 PKP PKPdf 01 06 21.9 -0.7
comp=Z,4.2nm,0.8s,baz=7.8,slow=2.7,SNR=32
MKAR pPKP pPKPdf 01 06 31.5 -2.0
comp=Z,3.0nm,0.8s,baz=186,slow=1.2,SNR=10
MKAR PP PP 01 07 30.4 -3.0
comp=Z,2.3nm,0.9s,baz=344,slow=4.0,SNR=4.2
MKAR PKKPab PKKPab 01 16 53.0 +2.1
comp=Z,1.0nm,0.8s,baz=200,slow=4.3,SNR=6.1
HHC Hu-ho-hao-te 117.65 336 ePKP PKPdf 01 06 24.0 +0.9
HHC PP PP 01 07 40.5 +5.7
HHC PKS PKSdf 01 09 59.4 -0.5
HHC SKS SKSdf 01 13 31.2 -1.9
HHC SS SS 01 23 44.9 +0.9
HHC AMB AMB
comp=Z,43nm,5.5s
HHC LR LR
comp=Z,1µm,17.7s
HHC LR LR
comp=Z,3µm,19.2s
HHC LR LR
comp=Z,2µm,18.0s
TSUM Tsumeb 117.66 104 PFAKE 01 06 40.0 +16
TSUM LR LR
comp=Z,2µm,22.0s
CAN Canberra 118.70 238 PFAKE 01 06 40.0 +15
CAN LR LR
comp=Z,1µm,19.0s
TAU Tasmania Unive 119.63 229 PFAKE 01 06 40.0 +13
TAU LR LR
comp=Z,3µm,20.0s
KKAR Karatay Array 120.06 11 ePKIKP PKPdf 01 06 26.3 -1.3
KKAR Karatay Array 120.06 11 ePKPdf PKPdf 01 06 26.3 -1.3
WMQ Urumqi 120.35 356 PKP PKPdf 01 06 28.3 +0.1
WMQ PP PP 01 07 58.7 +5.6
WMQ PKS PKSdf 01 10 03.6 -1.3
WMQ SKS SKSdf 01 13 35.3 -2.7
WMQ SKKS SKKSac 01 14 47.1 -4.8
WMQ SS SS 01 24 20.1 +1.8
WMQ LR LR
comp=Z,1µm,23.6s

WMQ LR LR
comp=Z,1µm,24.8s
WMQ LR LR
comp=Z,11µm,24.8s
USP Ospenovka 120.50 7 P PKPdf 01 06 29.1 +0.6
SNR=8.6
CHMS Chumysh 120.80 7 P PKPdf 01 06 29.6 +0.5
SNR=5.1
TKM2 Tokmak 2 120.97 7 PFAKE 01 06 40.0 +10
TKM2 LR LR
comp=Z,2µm,20.0s
EKS2 Erkin-Say 121.01 8 P PKPdf 01 06 30.4 +0.8
SNR=5.6
EKS2 Erkin-Say 121.01 8 PFAKE 01 06 40.0 +10
EKS2 LR LR
comp=Z,2µm,20.0s
AAK Ala-Archa 121.13 8 *i* PKIKP PKPdf 01 06 30.7 +0.8
AAK pmax pmax
comp=Z,51nm,2.5s
AAK Ala-Archa 121.13 8 *e*PKPdf PKPdf 01 06 29.0 -0.9
AAK LR LR
comp=Z,2µm,19.0s
SUR Sutherland 121.51 118 PFAKE 01 06 40.0 +9.2
SUR LR LR
comp=Z,3µm,19.0s
AML Almayashu 121.52 8 P PKPdf 01 06 31.3 +0.4
SNR=5.6
UCH Uchtor 121.53 8 P PKPdf 01 06 32.3 +1.2
SNR=5.4
KSH Kashi 124.38 7 *e*PKP PKPdf 01 06 37.6 +1.5
KSH *e*sPKP 01 06 51.5
KSH AMB AMB
comp=Z,70nm,6.4s
KSH LR LR
comp=Z,140nm,3.9s
KSH LR LR
comp=Z,180nm,6.9s
KSH LR LR
comp=Z,360nm,9.9s
XAN Xi'an 124.56 334 PKP PKPdf 01 06 36.3 -0.2
XAN PP PP 01 08 23.5 +1.5
XAN LR LR
comp=Z,700nm,18.9s
XAN LR LR
comp=Z,280nm,18.5s
XAN LR LR
comp=Z,250nm,18.5s
LZH Lanzhou 124.67 340 *e*PKP PKPdf 01 06 37.6 +0.8
LZH sPKP 01 06 52.7
LZH PP PP 01 08 28.2 +5.5
LZH SKKS 01 15 16.0
LZH SS SS 01 25 14.2 +0.4
LZH AMB AMB
comp=Z,230nm,9.0s
LZH LR LR
comp=Z,860nm,16.0s
LZH LR LR
comp=Z,2µm,16.2s
LZH LR LR
comp=Z,2µm,20.5s
TATO Taipei 124.79 317 PFAKE 01 06 50.0 +13
TATO LR LR
comp=Z,2µm,21.0s
WHN Wuhan 124.89 327 *i* PKP PKPdf 01 06 37.4 +0.2
STKA Stephens Creek 124.96 242 PKIKP PKPdf 01 06 37.1 -0.1
STKA 01 06 47.1
STKA pmax pmax
comp=Z,19nm,0.9s
STKA pmax pmax
comp=Z,15nm,0.7s
STKA Stephens Creek 124.96 242 PKP PKPdf 01 06 37.1 -0.1
comp=Z,19nm,0.9s,baz=64,slow=1.8,SNR=51
STKA pPKP pPKPdf 01 06 47.1 -1.0
comp=Z,15nm,0.7s,baz=69,slow=2.7,SNR=17
STKA Stephens Creek 124.96 242 *e*PKPdf PKPdf 01 06 36.8 -0.4
STKA PKP PKPdf 01 06 37.1 -0.1
STKA pPKP pPKPdf 01 06 47.1 -1.0
YHNB Yeheng 125.08 317 PFAKE 01 06 50.0 +12
YHNB LR LR
comp=Z,4µm,20.0s
BOSA Boshof 125.36 114 PKIKP PKPdf 01 06 37.8 -0.4
BOSA 01 06 47.7
BOSA pmax pmax
comp=Z,22nm,0.9s
BOSA pmax pmax
comp=Z,6.0nm,0.8s
BOSA Boshof 125.36 114 PKP PKPdf 01 06 37.8 -0.4
comp=Z,22nm,0.9s,baz=267,slow=1.1,SNR=27
BOSA pPKP pPKPdf 01 06 47.7 -1.4
comp=Z,6.1nm,0.8s,baz=254,slow=4.6,SNR=3.9
SSLB Suanglung 125.96 316 *e*PKPdf PKPdf 01 06 37.4 -2.1
RAYN Ar Rayn 126.14 44 *e*PKPdf PKPdf 01 06 39.1 -0.7
CASY Casey 126.58 193 PFAKE 01 06 50.0 +11
CASY LR LR
comp=Z,2µm,20.0s
LSZ Lusaka 127.12 97 *e*PKIKP PKPdf 01 06 41.5 -0.4
LSZ MLR MLR
comp=Z,2µm,19.0s
LSZ Lusaka 127.12 97 *e*PKPdf PKPdf 01 06 41.5 -0.4
LSZ LR LR
comp=Z,2µm,19.0s
ENH Enshi 127.52 331 *e*PKPdf PKPdf 01 06 41.1 -1.2
ENH LR LR
comp=Z,86nm,20.0s
KBL Kabul 127.98 15 *e*PKIKP PKPdf 01 06 42.0 -1.3
KBL Kabul 127.98 15 *e*PKPdf PKPdf 01 06 42.0 -1.3
CD2 Chengdu 129.37 337 PKP PKPdf 01 06 46.6 +0.8
CD2 sPKP 01 07 01.7
CD2 PP PP 01 08 59.2 +5.4
CD2 PKS PKSdf 01 10 21.7 -0.8
CD2 SKS SKSdf 01 13 52.8 -2.6
CD2 SKKS SKSac 01 15 46.0 -3.9
CD2 SS SS 01 26 13.4 +1.0
CD2 AMB AMB
comp=Z,280nm,5.6s
CD2 LR LR
comp=Z,870nm,18.1s
CD2 LR LR
comp=Z,560nm,14.7s
CD2 LR LR
comp=Z,510nm,14.5s
BBOO Buckleboo 129.56 241 *e*PKPdf PKPdf 01 06 46.0 +0.1
DAMY Dhamar 131.07 54 *e*PKPdf PKPdf 01 06 50.2 +0.5
ASUD Al Ashush, Dub 131.32 35 ⇓PKIKP PKiKP 01 06 50.2 -0.3
WRAB Tennant Creek 131.36 257 ⇑*i*PKIKP PKPdf 01 06 49.8 +0.1
WRAB pmax pmax
comp=Z,47nm,1.0s
WRAB Tennant Creek 131.36 257 *e*PKPdf PKPdf 01 06 48.4 -1.3
WRAB LR LR
comp=Z,2µm,14.9s
WRA Warramunga Arr 131.37 257 *i* PKHKP PKPpre 01 06 39.6
WRA 01 06 49.9
WRA 01 07 00.2
WRA pmax pmax
comp=Z,9.0nm,0.9s
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA pmax pmax
comp=N,3.0nm,1.3s
WRA Warramunga Arr 131.37 257 PKhKP PKPpre 01 06 39.6
comp=N,1.1nm,1.0s,baz=84,slow=3.8,SNR=5.6
WRA PKP PKPdf 01 06 49.9 +0.1
comp=N,8.7nm,0.9s,baz=83,slow=1.7,SNR=38
WRA pPKP pPKPdf 01 07 00.2 -0.4
comp=N,5.2nm,0.7s,baz=84,slow=2.6,SNR=10
WRA SKPbc SKPab 01 10 15.2 +2.2
comp=N,2.8nm,1.3s,baz=81,slow=3.7,SNR=5.1
WRA SKKPbc SKKPbc 01 19 43.1 -0.5
comp=N,1.1nm,0.8s,baz=283,slow=2.4,SNR=6.1
HATD Hatta, Dubai 131.59 34 *i* PKIKP PKPdf 01 06 50.4 +0.2
SNR=6.8
ASAR Alice Springs 131.92 252 PKHKP PKPpre 01 06 42.1
ASAR 01 06 51.3
ASAR 01 07 00.5
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR pmax pmax
comp=Z,5.0nm,0.9s
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR pmax pmax
comp=N,2.0nm,1.1s
ASAR Alice Springs 131.92 252 PKhKP PKPpre 01 06 42.0
comp=N,1.1nm,0.9s,baz=99,slow=3.5,SNR=5.6
ASAR PKP PKPdf 01 06 51.2 +0.5
comp=N,5.3nm,0.9s,baz=87,slow=2.0,SNR=24
ASAR pPKP pPKPdf 01 07 00.5 -1.1
comp=N,3.1nm,0.7s,baz=94,slow=1.5,SNR=9.2
ASAR SKPbc SKPab 01 10 16.7 +1.4
comp=N,1.8nm,1.1s,baz=108,slow=3.0,SNR=4.3
ASAR SKKPbc SKKPbc 01 19 42.2 +0.4
comp=N,2.4nm,0.9s,baz=272,slow=3.0,SNR=6.8
GYA Guiyang 132.06 331 Pdif Pdif 01 03 44.0 -1.1
GYA PKP PKPdf 01 06 50.8 -0.3
GYA sPKP 01 07 07.9
GYA PP PP 01 09 14.6 +3.2
GYA PKS PKSdf 01 10 25.2 -2.6
GYA SKKS 01 16 02.7
GYA SS SS 01 26 45.0 -0.8
GYA AMB AMB
comp=N,140nm,7.9s
GYA LR LR
comp=N,220nm,21.6s
GYA LR LR
comp=N,180nm,20.5s
GYA LR LR
comp=N,240nm,22.0s
DAV Davao City (W) 132.23 295 PFAKE 01 07 00.0 +8.4
DAV LR LR
comp=Z,915nm,19.0s
KMBO Kilima Mbogo 132.35 77 *e*PKIKP PKPdf 01 06 51.4 -0.7
KMBO MLR MLR
comp=Z,1µm,20.0s
KMBO Kilima Mbogo 132.35 77 PKP PKPdf 01 06 53.3 +1.2
comp=Z,1.2nm,0.7s,baz=296,slow=2.4,SNR=12
KMBO Kilima Mbogo 132.35 77 *e*PKPdf PKPdf 01 06 51.4 -0.7
KMBO PKP PKPdf 01 06 53.3 +1.2
KMBO LR LR
comp=Z,1µm,20.0s
LSA Lhasa 133.95 350 *e*PKIKP PKPdf 01 06 54.4 -0.6
LSA MLR MLR
comp=Z,1µm,22.0s
LSA Lhasa 133.95 350 *e*PKPdf PKPdf 01 06 54.4 -0.6
LSA LR LR
comp=Z,1µm,22.0s
KMI Kunming 134.94 335 PKP PKPdf 01 06 56.7 0.0
KMI PP PP 01 09 32.4 +2.6
KMI SKKS 01 16 21.1
KMI AMB AMB
comp=Z,80nm,3.6s
KMI LR LR
comp=Z,540nm,18.4s
KMI LR LR
comp=Z,940nm,18.4s
KMI LR LR
comp=Z,920nm,18.4s
GKN Gorkha 136.26 358 *e*P PKPpre 01 06 49.0
comp=Z,29nm,0.8s
GUN Gumba 136.30 357 *e*P PKPpre 01 06 49.9
QIZ Qiongzhong 136.46 322 PKP PKPdf 01 06 58.1 -1.3
QIZ PP PP 01 09 39.4 -0.2
QIZ LR LR
comp=Z,950nm,18.3s
QIZ LR LR
comp=Z,2µm,19.5s
QIZ Qiongzhong 136.46 322 PFAKE 01 07 10.0 +11
QIZ LR LR
comp=Z,2µm,20.0s
JIRN Jiri 136.53 356 *e*P PKPpre 01 06 49.9
comp=Z,9.7nm,0.7s
PKIN Phulchoki 136.65 357 *e*P PKPpre 01 06 50.5
PKI Pulchoki 136.66 357 *e*P PKPpre 01 06 50.3
RAMN Ramite 137.20 356 *e*P PKPpre 01 06 49.6
KKM Kota Kinabalu 140.69 301 PFAKE 01 07 20.0 +13
KKM LR LR
comp=Z,774nm,20.0s
CHTO Chiang Mai 142.12 335 *e*PKHKP PKPpre 01 07 05.0
CHTO MLR MLR
comp=Z,2µm,22.0s
CHTO Chiang Mai 142.12 335 *e*PKPdf PKPpre 01 07 05.0
CHTO LR LR
comp=Z,2µm,22.0s
CM31 Chiang Mai Arr 142.45 335 *e*PKPdf PKPpre 01 07 06.4
CMAR Chiang Mai Arr 142.45 335 *i* PKHKP PKPpre 01 07 06.5
CMAR pmax pmax
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 142.45 335 PKhKP PKPpre 01 07 06.5
comp=Z,12nm,1.0s,baz=356,slow=5.2,SNR=22
KAPI Kappang 142.54 283 PFAKE 01 07 20.0 +9.4
KAPI LR LR
comp=Z,970nm,20.0s
NWAO Narrogin (SRO) 144.95 235 PFAKE 01 07 30.0 +16
NWAO LR LR
comp=Z,1.0nm,22.0s
PAF Port-aux-Franc 145.06 165 PFAKE 01 07 30.0 +16
PAF LR LR
comp=Z,4µm,20.0s
PAF Port-aux-Franc 145.06 165 Pdif PKPbc 01 07 08.0 -5.3
PAF PP PP 01 10 30.0 -1.5
MBWA Marble Bar 145.07 256 *e*PKPdf PKPbc 01 07 13.4 -0.8
MBWA LR LR
comp=Z,1µm,22.0s
KBKI Kotabaru 145.24 288 P PKPdf 01 07 15.6 +0.3
OPO Ambohidratompo 145.52 100 PKPbc PKPab 01 07 16.8 +0.6
comp=Z,24nm,0.8s,baz=247,slow=3.5,SNR=18
ABPO Ambohimpanom 145.57 100 *e*PKP2 PKPdf 01 07 15.3 -0.6
ABPO MLR MLR
comp=Z,4µm,20.0s
ABPO Ambohimpanom 145.57 100 *e*PKPdf PKPdf 01 07 15.3 -0.6
ABPO LR LR
comp=Z,4µm,20.0s
HYB Hyderabad 146.50 8 *i* PKP PKPdf 01 07 16.0 -1.4
HYB *e* 01 07 27.5
HYB *e*pPKP pPKPdf 01 07 34.5 +6.2
BBKI Banjar Baru 146.52 288 P PKPab 01 07 19.5 -0.4
SRBI Singaraja 147.79 280 P PKPdf 01 07 20.9 +1.4
comp=Z,51nm,1.1s,comp=Z,851nm
IGBI Denpasar 148.06 279 P PKPbc 01 07 22.8 -0.4
comp=Z,77nm,1.3s
KSM Kuching 148.12 301 *e*PKPdf PKPdf 01 07 19.7 -0.5
KSM *e*PKPbc PKPbc 01 07 23.4 0.0
KSM LR LR
comp=Z,622nm,20.0s
ABJI Asem Bagus 148.63 281 P PKPbc 01 07 24.5 -0.1
KMMI Kalianget 148.64 283 P PKPbc 01 07 25.9 +1.2
JAGI Jajag, Banyuwa 148.90 280 P PKPbc 01 07 24.1 -1.3
comp=Z,68nm,1.2s,comp=Z,1µm
JAGI Jajag, Banyuwa 148.90 280 *e*PKPdf PKPdf 01 07 20.3 -1.1
BLJI Banyuglugur 149.21 282 P PKPbc 01 07 26.6 +0.5
GMJI Gumukmas 149.52 281 P PKPbc 01 07 26.5 -0.4
comp=Z,75nm,1.3s,comp=Z,1µm
MSEY Mahe Island 150.52 71 *e*PKIKP PKPdf 01 07 23.3 -0.8
MSEY MLR MLR
comp=Z,2µm,19.0s
MSEY Mahe Island 150.52 71 *e*PKPdf PKPdf 01 07 23.3 -0.8
MSEY LR LR
comp=Z,2µm,19.0s
PWJI Pagerwojo 150.98 282 P PKPdf 01 07 25.4 +0.7
NGJI Ngawi 151.09 284 P PKPbc 01 07 32.3 +1.6
UWJI Ujung Watu 151.24 286 P PKPab 01 07 37.2 -1.8
PCJI Pacitan 151.63 283 P PKPbc 01 07 31.9 0.0
WOJI Wonogiri, Jawa 151.75 283 P PKPbc 01 07 32.4 +0.2
comp=Z,119nm,0.9s,comp=Z,6µm
SMRI Semarang 151.93 285 P PKPbc 01 07 34.0 +1.4
comp=Z,121nm,1.0s,comp=Z,4µm
SMRI Semarang 151.93 285 *e*PKPdf PKPdf 01 07 25.0 -1.1
UGM Wanagama 152.15 284 P PKPbc 01 07 33.5 +0.4
KULM Kulim 152.73 319 *e*PKPdf PKPdf 01 07 26.5 -0.8
KULM *e*PKPbc PKPbc 01 07 34.1 -0.3
KULM LR LR
comp=Z,1µm,19.0s
IPM Ipoh 153.11 318 *e*PKPdf PKPdf 01 07 26.3 -1.6
KPJI Karang Pucung 153.43 286 P PKPbc 01 07 36.6 +0.7
RER Riviere de l'E 153.46 105 PFAKE 01 07 40.0 +4.1
RER LR LR
comp=Z,1µm,20.0s
COCO West Island 166.28 284 PFAKE 01 07 50.0 +7.3
COCO LR LR
comp=Z,955nm,20.0s
DGAR Diego Garcia 166.45 52 PFAKE 01 07 50.0 +7.1
DGAR LR LR
comp=Z,2µm,20.0s

ISCJB 09 00:48:28.4±0.8, 39.°21N±0.°04×74.°66E±0.°05, h10km, mb3.6/4, Error ellipse: s-maj=6.5km s-min=5.4km az=27.1
IDC 09 00:48:29.7±1.0, 39.°37N×74.°49E, h0km, mb3.7/4, mb1 3.6/10, mb1mx3.4/49, mbtmp3.5/10, ML2.9/6, Error ellipse: s-maj=21.4km s-min=13.1km az=90.0

KRNET 09 00:48:33.4±0.1, 39.°62N×74.°42E, h3km, mb3.7
NNC 09 00:48:36.2±2.2, 39.°79N×74.°37E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=19.2km s-min=12.2km az=174.0
ISC 09 00:48:28.7±1.3, 39.°17N±0.°09×74.°68E±0.°04, h10km, n42, σ1°41/51, mb3.8/4, 23C-11D, Southern Xinjiang

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSH Kashi 1.06 70 Pg Pb 00 48 48.6 -0.7
KSH Sg Sb 00 49 02.3 -1.0
KSH smax smax
comp=N,1µm,1.0s
KSH smax smax
comp=E,430nm,0.7s
SFK Sufi-Kurgan 1.24 313 *i* P Pn 00 48 44.7 -7.6
baz=300
SFK *e*S Sb 00 48 57.2 -12
baz=300
OHH Osh 1.99 314 *e*P Pn 00 49 01.4 -1.0
baz=306
OHH *e*S Sn 00 49 24.6 -2.9
baz=306
ARSB Arslanbob 2.51 330 *e*P Pn 00 49 11.0 +1.3
baz=328
ARSB *e*S Sn 00 49 40.0 -0.5
baz=328
ARLS Aral 2.70 354 ⇓*i*P Pn 00 49 12.3 -0.1
baz=358
ARLS ⇓*e*S Sn 00 49 43.1 -2.1
baz=358
KZA Kyzart 2.94 8 P Pn 00 49 16.8 +1.0
SNR=12
KZA Kyzart 2.94 8 ⇑*i*P Pn 00 49 16.8 +1.0
baz=14
KZA ⇑*i*S Sn 00 49 51.1 -0.3
baz=14
AML Almayashu 3.05 346 P Pn 00 49 17.8 +0.4
SNR=39
AML Almayashu 3.05 346 ⇑*i*P Pn 00 49 17.6 +0.2
baz=348
AML ⇑*i*S Sn 00 49 53.9 -0.3
baz=348
UCH Uchtor 3.06 358 P Pn 00 49 18.3 +0.8
SNR=41
UCH Uchtor 3.06 358 ⇓*i*P Pn 00 49 18.5 +1.0
baz=2.0
UCH ⇓*i*S Sn 00 49 52.6 -1.8
baz=2.0
BTK Batken 3.11 288 *i* P Pb 00 49 23.7 -0.4
baz=280
BTK *e*S Sb 00 50 04.3 +2.2
baz=280
ULHL Ulahol 3.30 21 P Pn 00 49 22.4 +1.8
SNR=7.8
ULHL Ulahol 3.30 21 ⇓*i*P Pn 00 49 22.5 +1.9
baz=27
ULHL ⇓*i*S Sn 00 50 01.6 +1.7
baz=27
AAK Ala-Archa 3.46 358 ⇑Pn Pn 00 49 24.4 +1.6
comp=E,54nm,0.9s
AAK ⇓Lg Lg 00 50 06.9
comp=E,72nm,0.8s
AAK Ala-Archa 3.46 358 P Pn 00 49 24.3 +1.6
SNR=13
AAK Ala-Archa 3.46 358 Pn Pn 00 49 24.4 +1.6
comp=E,3.9nm,0.3s,baz=146,slow=8.6,SNR=66
AAK Sn Sn 00 50 04.9 +0.9
comp=E,5.3nm,0.3s,baz=265,slow=16,SNR=8.4
AAK Ala-Archa 3.46 358 ⇑*i*P Pn 00 49 24.4 +1.6
baz=1.0
AAK ⇑*i*S Sn 00 50 03.5 -0.5
baz=1.0
KBK Karagaybulak 3.49 3 P Pn 00 49 25.1 +1.9
SNR=38
KBK Karagaybulak 3.49 3 ⇑*i*P Pn 00 49 25.1 +1.9
baz=7.0
KBK ⇑*i*S Sn 00 50 05.4 +0.7
baz=7.0
EKS2 Erkin-Say 3.56 349 ⇑*i*P Pn 00 49 26.0 +2.0
baz=351
EKS2 ⇑*i*S Sn 00 50 06.5 +0.3
baz=351
EKS Erkin-Say 3.56 349 *e*P Pn 00 49 25.6 +1.5
baz=351
EKS *e*S Sn 00 50 08.5 +2.2
baz=351
TKM2 Tokmak 2 3.81 10 ⇑Pn Pn 00 49 29.2 +1.6
comp=E,46nm,0.8s
TKM2 ⇑Lg Lg 00 50 18.9
comp=E,164nm,0.9s
TKM2 Tokmak 2 3.81 10 P Pn 00 49 29.4 +1.7
SNR=24
TKM2 Tokmak 2 3.81 10 ⇑*i*P Pn 00 49 29.3 +1.6
baz=15
TKM2 ⇑*i*S Sn 00 50 12.6 -0.1
baz=15
CHMS Chumysh 3.83 1 P Pn 00 49 29.2 +1.5
SNR=6.9
CHMS Chumysh 3.83 1 ⇑*i*P Pn 00 49 29.2 +1.5
baz=4.0
CHMS ⇑*i*S Sn 00 50 11.7 -1.1
baz=4.0
KNDC Almaty 4.40 22 ⇑Pg Pb 00 49 45.9 -0.2
comp=E,46nm,0.7s
KK31 Karatay Array 5.03 323 ⇑Pn Pn 00 49 44.0 -0.2
comp=E,0.8nm,0.3s,baz=131,slow=10,SNR=60
KK31 ⇑Pg Pb 00 49 54.9 -2.0
comp=E,6.7nm,0.8s,baz=136,slow=18,SNR=9.0
KK31 ⇓Sn Sn 00 50 37.7 -4.7
comp=E,13nm,0.9s,baz=143,slow=17,SNR=3.6
KK31 ⇑Lg Lg 00 50 56.4
comp=E,11nm,0.6s,baz=130,slow=28,SNR=4.9
MK31 Makanchi Array 9.44 34 ⇓Pg Pn 00 51 20.2 +35
comp=E,2.5nm,1.0s,baz=214,slow=14,SNR=4.1
MK31 ⇓Lg Lg 00 53 24.6
comp=E,1.9nm,0.8s,baz=211,slow=32,SNR=3.8
MKAR Makanchi Array 9.44 34 Pn Pn 00 50 47.0 +2.3
comp=E,0.0nm,0.3s,baz=217,slow=14,SNR=3.1
MKAR Lg Lg 00 53 27.0
comp=E,0.1nm,0.3s,baz=210,slow=32,SNR=5.2
KURBB Kurchatov Arra 11.77 12 ⇑Lg Lg 00 54 32.4
comp=E,14nm,0.9s
KURBB Kurchatov Arra 11.77 12 Pn Pn 00 51 16.1 -0.4
comp=E,0.1nm,0.3s,baz=203,slow=12,SNR=3.1
KURBB Lg Lg 00 54 27.5
comp=E,0.1nm,0.3s,baz=197,slow=28,SNR=10
KURK Kurchatov 11.88 12 ⇓Lg Lg 00 54 35.2
comp=E,9.2nm,1.2s
BVAR Borovoye Array 14.17 349 Pn Pn 00 51 47.9 -1.4
comp=E,0.1nm,0.3s,baz=159,slow=9.3,SNR=3.4
BVAR Lg Lg 00 55 56.1
comp=E,0.1nm,0.3s,baz=161,slow=29,SNR=3.3
AB31 Akbulak array 14.58 319 ⇑P Pn 00 51 51.8 -3.1
comp=E,2.0nm,0.8s,baz=127,slow=9.5,SNR=9.0
AKTO Aktyubinsk 16.29 319 Pn Pn 00 52 15.4 -1.9
comp=E,0.1nm,0.3s,baz=134,slow=12,SNR=4.3
ZALV Zalesovo Beam 16.32 22 Pn Pn 00 52 17.1 -0.7
comp=E,0.1nm,0.3s,baz=212,slow=13,SNR=3.4
ARCES ARCESS Array B 39.86 335 P P 00 56 02.0 0.0
comp=E,1.5nm,0.7s,baz=104,slow=8.9,SNR=8.3
TORD Torodi Ar. Bea 68.67 270 P P 00 59 33.7 +1.2
comp=E,0.5nm,0.8s,baz=46,slow=6.2,SNR=7.1
WRA Warramunga Arr 81.02 125 P P 01 00 47.0 +3.1
comp=E,0.4nm,0.6s,baz=327,slow=5.1,SNR=9.7
ASAR Alice Springs 83.48 128 P P 01 01 01.9 +5.2
comp=E,0.5nm,0.8s,baz=312,slow=5.6,SNR=4.2

CSEM 09 00:58:41.7, 38.°41N×21.°92E, h5km, MD2.4, After ATH
ATH 09 00:58:41.7, 38.°41N×21.°92E, h5km, MD2.4/8, Greece

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
EFP Efpalio 0.02 327 *e*PG Pg 00 58 42.7 0.0
EFP *e*SG Sg 00 58 43.4 0.0
EFP Efpalio 0.02 327 *e*Pg Pg 00 58 42.7 0.0
EFP *e*Sg Sg 00 58 43.4 0.0
KALE Kalithea 0.17 96 *e*PG Pg 00 58 45.5 +0.2
KALE *e*SG Sg 00 58 47.5 -0.2
KALE Kalithea 0.17 96 *e*Pg Pg 00 58 45.5 +0.2
KALE *e*Sg Sg 00 58 47.5 -0.2
LAKA Lakka 0.18 165 *e*PG Pg 00 58 45.6 +0.3
LAKA Lakka 0.18 165 *e*Pg Pg 00 58 45.6 +0.3
KLV Kalavryta, Ach 0.41 154 *e*PB Pg 00 58 49.6 -0.1
KLV Kalavryta, Ach 0.41 154 *e*Pb Pg 00 58 49.6 -0.1
RLS Riolos of Patr 0.50 226 *e*PG Pg 00 58 51.3 0.0
RLS *e*SB Sg 00 58 58.7 +0.8
RLS Riolos of Patr 0.50 226 *e*Pg Pg 00 58 51.3 0.0

RLS eSb Sg 00 58 58.7 +0.8
EVR Evrytania 0.51 350 ePB Pg 00 58 51.5 -0.3
EVR Evrytania 0.51 350 ePb Pg 00 58 51.5 -0.3
GUR Goura 0.58 145 ePB Pg 00 58 52.8 -0.2
GUR Goura 0.58 145 ePb Pg 00 58 52.8 -0.2
AXAR Agios Charalam 0.68 58 ePB Pg 00 58 54.5 -0.3
AXAR Agios Charalam 0.68 58 ePb Pg 00 58 54.5 -0.3

*IDC **09** 01:03:42.2±0.4, 14.98S×173.30W, h0km, mb4.9/23, mb1 5.0/23, mb1mx5.0/26, mbtmp4.9/23, MS5.6/26, Ms1 5.6/26, ms1mx5.4/29, Error ellipse: s-maj=15.9km s-min=11.7km az=123.0*
*ISCJB **09** 01:03:43.2±0.1, 15.18S±0.04×173.38W±0.03, h10km, mb5.1/160, MS5.7/202, Error ellipse: s-maj=5.9km s-min=3.2km az=156.8*
*NEIC **09** 01:03:44.0±0.0, 15.05S×173.48W, h15km Best double couple: NP1:φs14.00000°, δ87.00000°, λ126.00000°. NP2:φs108.00000°, δ36.00000°, λ5.00000°. Principal axes: T 1.3600, Plg37.0000°, Azm315.0000°; N -0.0300, Plg36.0000°, Azm191.0000°; P -1.3200, Plg32.0000°, Azm74.0000°;*
*NEIC **09** 01:03:44.4±0.2, 15.05S×173.49W, h10km, mb5.3/109, MS5.8/153, MW6.0, MW5.8, MW5.9 Error ellipse: s-maj=10.5km s-min=4.9km az=141.0, Moment Tensor Solution. s35 Moment tensor: Scale 10[17]Nm; M_{rr}0.22; $M_{\theta\theta}$2.20; $M_{\phi\phi}$-2.41; $M_{r\theta}$1.60; $M_{r\phi}$3.07; $M_{\theta\phi}$4.34; Best double couple: $M_0$6.00000×10[17] NP1:φs110.00000°, δ40.00000°, λ2.00000°. NP2:φs18.00000°, δ89.00000°, λ130.00000°. Principal axes: T 6.0700, Plg34.0000°, Azm321.0000°; N -0.1200, Plg30.0000°, Azm196.0000°; P -5.9500, Plg31.0000°, Azm75.0000°;*
NEIC Felt at Tafuna and Utulei, American Samoa.
*GCMT **09** 01:03:44.4±0.1, 15.00S×173.07W, h15km, MW6.1/133, Moment Tensor Solution. s118,c237; s133,c424; Duration: 2.6s Moment tensor: Scale 10[18]Nm; M_{rr}0.09±.01; $M_{\theta\theta}$0.53±.01; $M_{\phi\phi}$-0.62±.01; $M_{r\theta}$0.52±.02; $M_{r\phi}$0.61±.01; $M_{\theta\phi}$1.12±.03; Best double couple: $M_0$1.49400×10[18] NP1:φs21.00000°, δ88.00000°, λ124.00000°. NP2:φs114.00000°, δ34.00000°, λ4.00000°. Principal axes: T 1.5250, Plg38.0000°, Azm322.0000°; N -0.0640, Plg34.0000°, Azm200.0000°; P -1.4620, Plg34.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **09** 01:03:44.9, 15.00S×173.65W, h10km, mB6.0/48, mb5.1/36, Ms5.9/59, Ms7 5.6/55*
*MOS **09** 01:03:47.0±1.8, 15.09S×173.43W, h33km, mb5.4/44, MS5.8/36, Error ellipse: s-maj=10.2km s-min=7.7km az=53.3*
*NEIC **09** 01:04:10.3±0.0, 14.86S×173.66W, h10km Best double couple: NP1:φs115.00000°, δ42.00000°, λ8.00000°. NP2:φs19.00000°, δ85.00000°, λ131.00000°. Principal axes: T 0.9500, Plg36.0000°, Azm324.0000°; N 0.1600, Plg41.0000°, Azm194.0000°; P -1.1100, Plg27.0000°, Azm77.0000°;*
ISC 09 01:03:45.4±0.4, **15.05S**±0.05×**173.30W**±0.05, **h15**km±1km, **h15**km**:pP-P, n1113,** σ1.28/1029, **mb5.2**/160, **MS5.7**/205, **243C-255D, Tonga Islands**

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

AFI Afiamalu 1.86 53 Pn Pn 01 04 11.6 -5.3
501nm,0.3s,baz=92,slow=1.5,SNR=56
AFI Sn Sn 01 04 31.5 -8.6
4μm,0.3s,baz=72,slow=20,SNR=16
AFI Afiamalu 1.86 53 ePn Pn 01 04 08.3 -8.6
AFI eS Sn 01 04 29.0 -11
MSVF Nonsavu 8.72 251 Pn Pn 01 05 59.9 +8.7
3μm,1.2s,SNR=54
MSVF Nonsavu 8.72 251 eP Pn 01 05 57.6 +6.4
MSVF pmax pmax
comp=Z,1μm,1.3s
MSVF Nonsavu 8.72 251 ePn Pn 01 05 57.6 +6.4
comp=Z,1μm,1.3s
MSVF eS Sn 01 07 44.0 +15
RAR Rarotonga 14.24 117 Pn Pn 01 06 58.7 -7.9
comp=Z,6.6nm,0.3s,baz=149,slow=0.0,SNR=10.0
RAR Rarotonga 14.24 117 ePn Pn 01 07 01.6 -5.0
RAR eS Sn 01 09 37.9 -6.5
RAO Raoul Island 14.76 196 LR LR 01 11 34.7
comp=Z,19μm,19.3s,baz=9.0,slow=32
DZM Mont Dzumac 20.42 247 eP **P 01 08 22.9 +0.5**
comp=Z,421nm,1.4s
DZM eLQ LQ 01 12 18.5
comp=Z,21μm,28.5s
DZM eLR LR 01 13 09.6
comp=Z,55μm,25.4s
DZM Mont Dzumac 20.42 247 P **P 01 08 22.9 +0.5**
comp=Z,33nm,0.8s,baz=83,slow=20,SNR=11
DZM LR LR 01 15 08.2
comp=Z,26μm,18.3s,baz=80,slow=34
DZM Mont Dzumac 20.42 247 eP **P 01 08 22.5 +0.2**
comp=Z,256nm,1.4s
NOUC Port Laguerre 20.55 247 eP Pn 01 08 26.2 +0.3
TARA Tarawa 21.25 319 eP **P 01 08 33.7 +2.5**
comp=Z,223nm,1.0s
TARA LR LR
comp=Z,31μm,20.0s
PPT Papeete 22.90 100 P **P 01 08 47.0 -2.0**
PPT Papeete 22.90 100 P **P 01 08 47.0 -2.0**
comp=Z,28nm,0.8s,baz=76,slow=8.3,SNR=2.4
PPT LR LR 01 15 08.3
comp=Z,20μm,21.2s,baz=267,slow=30
PAE Paea 22.90 100 eP **P 01 08 48.0 -0.9**
comp=Z,31nm,1.1s
PAE Paea 22.90 100 eT T 01 32 04.1
comp=Z,17nm,0.3s
PPT2 Papeete2 22.90 100 eP **P 01 08 48.5 -0.5**
comp=Z,103nm,1.4s
PPT2 eLQ LQ 01 13 12.7
comp=Z,86μm,28.5s
PPT2 eLR LR 01 14 16.4
comp=Z,55μm,25.0s,baz=263
PPT2 Papeete2 22.90 100 eT T 01 32 04.9
comp=Z,28nm,0.3s
TIAR Tiarei 23.12 99 eP **P 01 08 50.5 -0.7**
comp=Z,20nm,1.0s
TIAR Tiarei 23.12 99 eT T 01 32 17.4
comp=Z,14nm,0.3s
XMAS Kiritimati 23.12 44 PFAKE 01 09 00.0 +8.8
XMAS LR LR
comp=Z,19μm,19.0s
TVO Taravao 23.22 100 eP **P 01 08 51.5 -0.8**
comp=Z,48nm,1.3s
OUZ Omahuta 23.28 208 eP **P 01 08 52.9 +0.3**
comp=Z,30nm,0.9s
TBI Tubuai 23.95 114 eP **P 01 08 57.8 -1.5**
comp=Z,347nm,1.2s
MEH Mehetia 24.35 100 eP **P 01 09 02.3 -0.8**
comp=Z,51nm,1.4s
PMOR Pomariorio Ree 24.53 93 eP **P 01 09 03.9 -0.8**
comp=Z,449nm,1.2s
PMOR Pomariorio Ree 24.53 93 eT T 01 34 05.8
comp=Z,27nm,0.3s
URZ Urewera 24.62 198 P **P 01 09 04.3 -1.0**
comp=Z,8.2nm,0.3s,baz=144,slow=1.9,SNR=12
URZ S **S 01 13 29.4 +3.4**
comp=Z,1.7nm,0.4s,baz=53,slow=20,SNR=1.9
URZ LR LR 01 17 47.3
comp=Z,22μm,21.9s,baz=16,slow=34
URZ Urewera 24.62 198 eP **P 01 09 03.9 -1.4**
comp=Z,34nm,0.7s
URZ S **S 01 13 29.4 +3.4**
VAH Vaihoa 24.78 94 eP **P 01 09 05.9 -1.0**
comp=Z,274nm,1.1s
VAH Vaihoa 24.78 94 eT T 01 34 23.5
comp=Z,36nm,0.3s
HNR Honiara 26.72 279 LR LR 01 18 21.2
comp=Z,21μm,18.8s,baz=124,slow=33
SNZO South Karori 28.16 199 eP **P 01 09 37.3 +0.2**
comp=Z,90nm,1.5s
SNZO LR LR
comp=Z,15μm,21.0s
TAOE Nuku Hiva Isla 32.98 83 eT T 01 44 37.9
comp=Z,674nm,0.3s
WHZ Wether Hill Ro 34.55 203 eP **P 01 10 32.9 -0.5**
comp=Z,36nm,0.8s
EIDS Eidsvold 34.87 247 eP **P 01 10 35.9 -0.5**
comp=Z,9.2nm,1.0s
ARMA Armidale 35.60 238 eP **P 01 10 42.0 -0.8**
comp=Z,17nm,1.0s
RKT Rikitea 37.01 108 eP **P 01 10 54.3 -0.5**
comp=Z,72nm,1.1s
RKT eS **S 01 16 40.2 +0.2**
comp=Z,3μm,29.8s
RKT eLQ LQ 01 19 20.7
comp=Z,12μm,27.5s
RKT eLR LR 01 20 51.5
comp=Z,30μm,24.2s,baz=282
RKT Rikitea 37.01 108 eT T 01 49 42.6
comp=Z,19nm,0.3s
H11S2 WAKE ISLAND Hy 38.72 329 T T 01 52 27.6
baz=152,slow=76,SNR=20
H11S3 WAKE ISLAND Hy 38.73 329 T T 01 52 44.2
baz=152,slow=76,SNR=19
H11S1 WAKE ISLAND Hy 38.74 329 T T 01 52 45.5
baz=152,slow=76,SNR=22
POHA Pohakuloa 38.76 27 PFAKE 01 11 20.0 +10
POHA LR LR
comp=Z,5μm,21.0s
CTA Charters Tower 38.82 257 LR LR 01 24 28.6
comp=Z,11μm,22.0s,slow=32
CTAO Charters Tower 38.82 257 eP P 01 11 06.7 -3.4
CTAO pmax pmax
comp=Z,13nm,1.0s
CTAO MLR MLR
comp=Z,14μm,22.0s
CTAO Charters Tower 38.82 257 eP P 01 11 06.7 -3.4
comp=Z,13nm,1.0s
CTAO LR LR
comp=Z,14μm,22.0s
PMG Port Moresby 39.01 274 eP **P 01 11 11.0 -0.7**
PMG pmax pmax
comp=Z,9.0nm,0.6s
PMG Port Moresby 39.01 274 P **P 01 11 11.9 +0.2**
comp=Z,14nm,0.8s,baz=80,slow=12,SNR=3.9
PMG LR LR 01 25 27.4
comp=Z,6μm,18.5s,baz=90,slow=34
PMG Port Moresby 39.01 274 eP **P 01 11 11.0 -0.7**
comp=Z,8.9nm,0.6s
CAN Canberra 39.32 232 eP **P 01 11 11.3 -2.9**
CAN pmax pmax
comp=Z,10.0nm,0.6s
CAN MLR MLR
comp=Z,6μm,20.0s
CAN Canberra 39.32 232 eP **P 01 11 11.3 -2.9**
comp=Z,9.5nm,0.6s
CAN LR LR
comp=Z,6μm,20.0s
WAKE Wake Island 39.41 329 PFAKE 01 11 30.0 +15
WAKE LR LR
comp=Z,9μm,20.0s
H11N3 WAKE ISLAND Hy 39.66 330 T T 01 53 51.9
baz=152,slow=77,SNR=28
H11N1 WAKE ISLAND Hy 39.66 330 T T 01 53 47.6
baz=152,slow=77,SNR=30
H11N2 WAKE ISLAND Hy 39.68 330 T T 01 53 53.3
baz=152,slow=77,SNR=103
PTCN Pitcairn Islan 41.63 111 PFAKE 01 11 50.0 +17
PTCN LR LR
comp=Z,8μm,19.0s
COEN Coen 42.10 266 eP **P 01 11 36.9 -0.5**
comp=Z,309nm,1.2s
MIDW Midway 43.19 355 PFAKE 01 12 00.0 +14
MIDW LR LR
comp=Z,8μm,20.0s
MOO Moorlands 43.51 223 ⇑P **P 01 11 49.5 +1.0**
baz=43,SNR=4.4
TAU Tasmania Unive 43.64 222 eP **P 01 11 47.5 -1.9**
TAU pmax pmax
comp=Z,7.0nm,0.7s
TAU MLR MLR
comp=Z,10μm,19.0s
TAU Tasmania Unive 43.64 222 eP **P 01 11 47.5 -1.9**
comp=Z,6.9nm,0.7s
TAU LR LR
comp=Z,10μm,19.0s
STKA Stephens Creek 44.30 240 eP **P 01 11 52.7 -2.2**
STKA pmax pmax
comp=Z,5.0nm,0.9s
STKA Stephens Creek 44.30 240 P **P 01 11 52.4 -2.5**
comp=Z,13nm,0.7s,baz=89,slow=9.5,SNR=22
STKA LR LR 01 28 20.1
comp=Z,5μm,21.5s,baz=73,slow=33
STKA Stephens Creek 44.30 240 eP **P 01 11 52.7 -2.2**
comp=Z,5.4nm,0.9s
STKA Stephens Creek 44.30 240 P **P 01 11 52.7 -2.2**
baz=44,SNR=6.9
QIS Mount Isa 45.06 256 P **P 01 12 00.8 -0.3**
baz=45,SNR=4.0
ARPS Mount Arapiles 45.28 233 P **P 01 12 01.4 -1.3**
baz=45,SNR=6.4
HTT Hallett 46.81 238 P **P 01 12 13.8 -1.0**
baz=46,SNR=20
BBOO Buckleboo 49.07 240 eP **P 01 12 30.4 -2.0**
comp=Z,228nm,0.8s
BBOO Buckleboo 49.07 240 ⇓P **P 01 12 29.3 -3.0**
baz=49,SNR=9.1
WRAB Tennant Creek 50.01 256 P P 01 12 35.9 -3.8
comp=Z,156nm,0.8s,SNR=6.4
WRAB Tennant Creek 50.01 256 c iP **P 01 12 39.7 0.0**
WRAB pmax pmax
comp=Z,87nm,2.0s
WRAB Tennant Creek 50.01 256 eP **P 01 12 37.4 -2.3**
comp=Z,63nm,1.4s
WRAB LR LR
comp=Z,9μm,21.0s
WRA Warramunga Arr 50.02 256 P **P 01 12 37.7 -2.0**
comp=Z,7.5nm,0.5s,baz=93,slow=6.9,SNR=40
WRA LR LR 01 31 40.4
comp=Z,9μm,20.9s,baz=95,slow=34
GUMO Guam 50.23 302 PFAKE 01 12 50.0 +8.7
GUMO LR LR
comp=Z,6μm,19.0s
AS31 Alice Springs 50.31 252 eP **P 01 12 39.4 -2.6**
ASAR Alice Springs 50.31 252 P **P 01 12 39.2 -2.8**
comp=Z,33nm,0.6s,baz=88,slow=7.6,SNR=47
ASAR LR LR 01 32 01.7
comp=Z,21μm,21.6s,baz=90,slow=34
KDU Kakadu 52.59 265 P **P 01 12 59.1 0.0**
baz=52,SNR=4.8
MTN Manton Dam 53.86 265 P **P 01 13 08.8 +0.4**
baz=54,SNR=6.6
WRKA Warakurna 55.41 250 P **P 01 13 17.8 -1.8**
baz=55,SNR=15
FORT Forrest 55.66 243 eP P 01 13 17.3 -4.0
comp=Z,29nm,0.6s
FORT Forrest 55.66 243 P **P 01 13 20.4 -0.9**
baz=55,SNR=11
KNRA Kununurra 55.72 261 P **P 01 13 22.5 +0.6**
baz=55,SNR=6.9
DRV Dumont d'Urvil 59.95 200 P P 01 13 38.0 -13
DRV S S 01 21 42.0 -20
DRV L L 01 28 00.0
DRV R 01 31 00.0
SOEI Soe 61.04 267 eP **P 01 13 59.5 +0.2**
comp=Z,80nm,1.0s
SOEI Soe 61.04 267 ⇑P **P 01 13 58.7 -0.6**
baz=61,SNR=4.6
SANI Sanana 61.22 276 P **PcP 01 14 41.3 -1.7**
comp=Z,33μmcomp=Z,341nm,0.7s
MMRI Maumere 63.24 268 eP **P 01 14 14.0 +0.1**
MBWA Marble Bar 63.55 254 eP **P 01 14 13.4 -2.5**
MBWA LR LR
comp=Z,6μm,20.0s
VNDA Vanda 63.73 186 eP **P 01 14 16.5 +0.4**
VNDA Vanda 63.73 186 P **P 01 14 16.1 0.0**
comp=Z,14nm,1.0s,baz=32,slow=9.5,SNR=4.8
VNDA LR LR 01 41 14.0
comp=Z,2μm,18.0s,baz=20,slow=35
VNDA Vanda 63.73 186 eP **P 01 14 16.5 +0.4**
MEEK Meekatharra 64.04 247 ⇓P **P 01 14 18.1 -1.0**
baz=64,SNR=3.9
DAV Davao City (W) 64.44 286 PFAKE 01 14 30.0 +8.2
DAV LR LR
comp=Z,5μm,20.0s
KLBR Kellerberrin 64.49 242 P **P 01 14 22.0 +0.1**
baz=64,SNR=6.4
GTOI Gorontalo 64.83 278 P P 01 14 31.0 +6.6
NWAO Narrogin (SRO) 64.88 240 P **P 01 14 22.5 -1.9**
comp=Z,5.1nm,0.6s,baz=117,slow=6.8,SNR=3.7
BNSI Bone 66.28 272 P **P 01 14 35.5 +1.8**
KAPI Kappang 66.47 271 PFAKE 01 14 50.0 +15
KAPI LR LR
comp=Z,3μm,21.0s
MJAR Matsushiro Arr 68.74 320 P **P 01 14 47.0 -1.8**
comp=Z,23nm,1.1s,baz=125,slow=6.1,SNR=6.8
MJAR LR LR 01 39 17.3
comp=Z,7μm,21.9s,baz=110,slow=31
MAJO Matsushiro 68.74 320 eP **P 01 14 48.6 -0.3**
MAJO pmax pmax
comp=Z,78nm,1.4s
MAJO MLR MLR
comp=Z,9μm,22.0s
MAJO Matsushiro 68.74 320 eP **P 01 14 48.6 -0.3**
comp=Z,78nm,1.4s
MAJO LR LR
comp=Z,9μm,22.0s
MAT Matsushiro 68.74 320 P **P 01 14 49.0 +0.1**
MAT S **S 01 23 55.6 +3.7**
ERM Erimo 69.53 327 PFAKE 01 15 00.0 +6.4
ERM LR LR
comp=Z,6μm,20.0s
KUR Kuril'sk 69.56 332 d iP **P 01 14 53.6 -0.1**
KUR iS **S 01 23 57.1 -4.1**
KUR iSS **SS 01 28 31.5 +2.0**
H06S1 SOCORRO T 69.96 63 T T 02 31 19.2
SNR=38
H06E1 SOCORRO T-PHAS 70.01 63 T T 02 31 20.2
SNR=35
IGBI Denpasar 70.04 266 P **P 01 15 00.1 +2.8**
comp=Z,76nm,1.2s,comp=Z,0.3nm
SRBI Singaraja 70.14 267 P **P 01 14 59.6 +1.6**
comp=Z,26nm,1.3s,comp=Z,813nmcomp=Z,0.1nm
JOW Kunigami 70.36 306 LR LR 01 39 55.1
comp=Z,613nm,21.9s,baz=118,slow=31
BSC Santa Cruz Isl 70.61 45 ⇓P **P 01 15 01.4 +1.0**
baz=71
CASY Casey 70.76 205 PFAKE 01 15 10.0 +9.2
CASY LR LR
comp=Z,2μm,19.0s
SCI San Clemente I 70.80 47 ⇓P **P 01 15 02.5 +0.8**
baz=71
SBC Santa Barbara 70.81 45 ⇓P **P 01 15 03.1 +1.5**
baz=71
JAGI Jajag, Banyuwa 71.07 266 P **P 01 15 04.1 +0.4**
comp=Z,34nm,0.9s,comp=Z,761nm
JAGI Jajag, Banyuwa 71.07 266 eP **P 01 15 02.9 -0.8**
comp=Z,31nm,0.9s
SMMC Simmler 71.11 44 ⇓P **P 01 15 04.9 +1.4**
baz=71
CIS Catalina Islan 71.14 46 ⇓P **P 01 15 04.1 +0.4**
baz=71
ASAJ Asahikawa 71.30 328 P **P 01 15 04.6 +0.3**
comp=Z,21nm,0.8s,baz=214,slow=11,SNR=7.2
ASAJ Asahikawa 71.30 328 eP **P 01 15 05.5 +1.1**
comp=Z,13nm,0.9s
FMP Fort Macarthur 71.38 46 ⇑P **P 01 15 06.3 +1.2**
baz=72
OSI Osito Adit 71.58 45 ⇑P **P 01 15 07.6 +1.2**
baz=72
KIPM Iron Peak 71.60 38 eP **P 01 15 08.7 +2.2**
comp=Z,68nm,1.7s
JNU Nakatsue 71.63 313 P **P 01 15 06.9 +0.2**
comp=Z,21nm,1.0s,baz=64,slow=4.0,SNR=7.4
109C Camp Elliot, M 71.77 47 ⇑P **P 01 15 08.7 +1.2**
baz=72
BLJI Banyuglugur 71.77 267 P P 01 15 14.5 +6.6
ARVC Arvin 71.80 45 ⇑P **P 01 15 08.8 +1.3**
baz=72
GMJI Gumukmas 71.80 266 P P 01 15 11.6 +3.5
comp=Z,18nm,1.0s,comp=Z,1μm
PET Petropavlovsk 71.98 343 eP **P 01 15 08.4 +0.2**
PET eS **S 01 24 27.1 -1.8**
PET pmax pmax
comp=Z,800nm,10.3s
PET MLR MLR
comp=Z,3μm,20.0s
PET MLR MLR
comp=Z,4μm,22.0s
PET Petropavlovsk 71.98 343 PFAKE 01 15 20.0 +12
PET LR LR
comp=Z,3μm,21.0s
VES Vestal, Richgr 72.03 44 ⇓P **P 01 15 09.9 +0.9**
baz=72
MURC Murrieta 72.08 47 ⇓P **P 01 15 10.2 +0.8**
baz=72
BFSC Mount Baldy Ra 72.11 46 ⇑P **P 01 15 11.0 +1.3**
baz=72
EDW2 Edwards Air Fo 72.23 45 ⇑P **P 01 15 11.4 +1.1**
baz=72,SNR=7.7
MONP Monument Peak 72.26 48 ⇑P **P 01 15 11.6 +0.9**
baz=73
PEA0B Petropavlovsk- 72.33 342 eP **P 01 15 10.6 +0.3**
PETK Petropavlovsk- 72.33 342 P **P 01 15 08.8 -1.6**
comp=Z,26nm,1.0s,baz=128,slow=9.6,SNR=15
PETK LR LR 01 43 48.8
comp=Z,1μm,19.4s,baz=156,slow=33
ISA Isabella 72.34 44 eP **P 01 15 12.6 +1.7**
ISA pmax pmax
comp=Z,25nm,1.3s
ISA Isabella 72.34 44 eP **P 01 15 12.6 +1.7**
comp=Z,24nm,1.3s
ISA Isabella 72.34 44 ⇓P **P 01 15 11.7 +0.8**
baz=73
CMB Columbia Colle 72.44 41 eP **P 01 15 13.2 +1.8**
CMB pmax pmax
comp=Z,16nm,1.1s
CMB Columbia Colle 72.44 41 eP **P 01 15 13.2 +1.8**
comp=Z,16nm,1.1s
PFO Pinyon Flat Ob 72.61 47 PFAKE 01 15 30.0 +17
PFO LR LR
comp=Z,7μm,20.0s
PFO Pinyon Flat Ob 72.61 47 ⇑P **P 01 15 13.8 +1.1**
baz=73
BBRC Big Bear Solar 72.64 46 ⇓P **P 01 15 14.1 +1.1**
baz=73
SWSC Sam W. Stewart 72.73 48 ⇓P **P 01 15 14.9 +1.7**
baz=73
LRMC Laurel Mountai 72.77 45 ⇑P **P 01 15 15.2 +1.6**
baz=73
N02D Trinity Center 72.79 38 ⇑P **P 01 15 15.1 +1.6**
baz=73
KKM Kota Kinabalu 72.91 281 PFAKE 01 15 30.0 +15
KKM LR LR
comp=Z,2μm,21.0s
RRX Edison Barstow 72.91 46 ⇑P **P 01 15 15.2 +0.9**
baz=73
M02C Callahan 72.97 37 ⇓P **P 01 15 16.1 +1.6**
baz=73
L02D Cave Junction, 73.02 36 ⇓P **P 01 15 16.3 +1.5**
baz=73
CWC Cottonwood Cre 73.03 44 ⇓P **P 01 15 16.1 +0.9**
baz=73
BELC Belle Mtn. Jos 73.14 47 ⇓P **P 01 15 17.1 +1.2**
baz=73
MLAC Mammoth Lakes 73.21 42 ⇑P **P 01 15 17.2 +1.0**
baz=74
YSS Yuzh-Sakhalins 73.23 330 ⇑iP **P 01 15 17.4 +1.6**
YSS e*SP **sP 01 15 25.0 +2.4**
YSS e 01 15 33.0
YSS iS **SKiKP 01 24 46.0 -1.4**
YSS ePPS PPS 01 25 26.0
YSS pmax pmax
comp=Z,50nm,1.1s
YSS pmax pmax
comp=Z,1μm,10.0s
YSS smax smax
comp=N,2μm,15.0s
YSS Yuzh-Sakhalins 73.23 330 P **P 01 15 16.5 +0.6**
comp=N,96nm,1.0s
YSS LR LR
comp=Z,1μm,20.0s
YBH Yreka Blue Hor 73.26 37 eP **P 01 15 17.3 +1.0**
YBH pmax pmax
comp=Z,16nm,0.9s
YBH Yreka Blue Hor 73.26 37 eP **P 01 15 17.3 +1.0**
comp=Z,16nm,0.9s
GSC Goldstone 73.28 45 eP **P 01 15 17.8 +1.3**
GSC pmax pmax
comp=Z,32nm,1.6s
GSC Goldstone 73.28 45 eP **P 01 15 17.8 +1.3**
comp=Z,32nm,1.6s
GSC Goldstone 73.28 45 ⇑P **P 01 15 18.1 +1.6**
baz=74
TIN Tinemaha 73.28 43 ⇓P **P 01 15 17.3 +0.7**
baz=74
WAKR Walker 73.32 41 eP **P 01 15 18.6 +1.8**
comp=Z,16nm,1.1s
BC3 Big Chuckawall 73.35 47 ⇓P **P 01 15 18.0 +1.0**
baz=74
HEC Hector,Ludlow 73.35 46 ⇑P **P 01 15 17.3 +0.3**

baz=74,SNR=6.8
PWJI Pagerwojo 73.44 266 P P 01 15 18.1 +0.3
GLA Glamis 73.49 48 ⇓P P 01 15 19.0 +1.2
baz=74
GMRC Granite Mounta 73.79 46 ⇓P P 01 15 20.5 +0.9
baz=74,SNR=6.1
M04C Macdoel 73.81 38 ⇓P P 01 15 21.0 +1.5
baz=74
GRAC Grapevine Rang 73.82 44 ⇑P P 01 15 21.1 +1.4
baz=74
IRM Iron Mountain 73.83 47 ⇓P P 01 15 21.0 +1.2
baz=74,SNR=12
FURC Furnace Creek, 73.87 44 ⇓P P 01 15 20.8 +1.0
baz=74
NGJI Ngawi 73.92 267 P PcP 01 15 38.0 +1.9
TUQ Turquoise Moun 73.95 46 ⇑P P 01 15 21.5 +0.9
baz=74,SNR=7.2
SHOC Shoshone 73.96 45 ⇑P P 01 15 22.1 +1.7
baz=74
PCJI Pacitan 74.00 266 P P 01 15 21.1 0.0
NVAR Mina Array Bea 74.01 42 P P 01 15 19.9 -1.0
comp=Z,6.3nm,1.1s,baz=231,slow=9.4,SNR=17
NVAR LR LR 01 40 20.0
comp=Z,5µm,21.5s,baz=127,slow=30
Y12C Blythe 74.06 48 ⇑P P 01 15 22.4 +1.4
baz=74
113A Mohawk Valley, 74.11 49 ⇑P P 01 15 22.7 +1.4
baz=74
I03D Drain, OR 74.14 35 ⇓P P 01 15 22.9 +1.6
baz=74
LDFC Landfair 74.33 46 eP P 01 15 23.9 +1.2
comp=Z,22nm,0.8s
K04D Chiloquin, OR 74.38 37 ⇓P P 01 15 24.6 +1.7
baz=75
214A Organ Pipe Nat 74.42 50 ⇑P P 01 15 24.5 +1.3
baz=75
TPH Tonopah 74.51 43 eP P 01 15 24.7 +0.8
TPH pmax pmax
comp=Z,40nm,1.2s
TPH Tonopah 74.51 43 eP P 01 15 24.7 +0.8
comp=Z,40nm,1.2s
J04D Umpqua Nationa 74.55 36 ⇓P P 01 15 25.0 +1.0
baz=75
KDAK Kodiak Island 74.56 11 PFAKE 01 15 40.0 +17
KDAK LR LR
comp=Z,4µm,21.0s
PDMCI Parker Dam,Lak 74.62 47 ⇑P P 01 15 25.2 +0.9
baz=75,SNR=8.6
UGM Wanagama 74.70 266 P PcP 01 15 41.2 +1.7
I04A Tendick Farm, 74.73 36 ⇑P P 01 15 25.7 +0.9
baz=75
MOD Modoc 74.79 38 eP P 01 15 24.7 -0.6
comp=Z,19nm,0.9s
YHNB Yeheng 74.94 301 PFAKE 01 15 40.0 +14
YHNB LR LR
comp=Z,4µm,20.0s
TATO Taipei 74.98 301 PFAKE 01 15 40.0 +13
TATO LR LR
comp=Z,2µm,21.0s
QSPA South Pole Qui 74.99 180 P P 01 15 26.9 +0.8
comp=Z,38nm,0.9s,baz=43,slow=1.7,SNR=67
QSPA South Pole Qui 74.99 180 eP P 01 15 25.7 -0.4
comp=Z,34nm,0.8s
Z14A Wintersburg 75.01 49 ⇑P P 01 15 27.8 +1.2
baz=75
SHPR Sheep Range 75.05 45 eP P 01 15 28.3 +1.4
comp=Z,41nm,1.6s
J05D Fort Rock, OR 75.08 37 ⇓P P 01 15 28.4 +1.4
baz=75
G03D McMinnville, O 75.16 34 ⇑P P 01 15 28.4 +1.2
baz=76
W13A Hualapai Mount 75.20 47 ⇓P P 01 15 28.9 +1.0
baz=76
Y14A Wickenburg 75.25 48 ⇑P P 01 15 29.0 +1.0
baz=76
I05D Terrebonne, OR 75.67 36 ⇓P P 01 15 31.8 +1.6
baz=76
R11A Troy Canyon, C 75.74 43 eP P 01 15 32.9 +2.0
comp=Z,18nm,1.4s
R11A Troy Canyon, C 75.74 43 ⇓P P 01 15 31.7 +0.7
baz=76
BMN Battle Mountai 75.83 41 eP P 01 15 32.6 +1.3
BMN pmax pmax
comp=Z,16nm,0.9s
BMN Battle Mountai 75.83 41 eP P 01 15 32.6 +1.3
comp=Z,16nm,0.9s
F04D Rainier, OR 75.86 34 ⇑P P 01 15 32.6 +1.5
baz=76
KSRS Korea Array 75.98 315 P P 01 15 32.7 +0.7
comp=Z,10nm,1.0s,baz=128,slow=6.9,SNR=22
KSRS LR LR 01 43 03.6
comp=Z,2µm,22.0s,baz=101,slow=31
KSAR Wonju Array Be 76.00 315 P P 01 15 32.7 +0.5
KSAR Wonju Array Be 76.00 315 P P 01 15 32.7 +0.5
TUC Tucson 76.09 51 eP P 01 15 34.4 +1.4
TUC pmax pmax
comp=Z,29nm,1.3s
TUC MLR MLR
comp=Z,6µm,21.0s
TUC Tucson 76.09 51 eP P 01 15 34.4 +1.4
comp=Z,29nm,1.3s
TUC LR LR
comp=Z,6µm,21.0s
WVOR Wild Horse Val 76.10 38 eP P 01 15 34.2 +1.4
WVOR pmax pmax
comp=Z,25nm,1.0s
WVOR MLR MLR
comp=Z,4µm,21.0s
WVOR Wild Horse Val 76.10 38 eP P 01 15 34.2 +1.4
comp=Z,25nm,1.0s
WVOR LR LR
comp=Z,4µm,21.0s
LVP Lakeview Peak 76.17 34 P P 01 15 35.1 +2.0
G05D Wamic, OR 76.25 35 ⇑P P 01 15 35.1 +1.6
baz=77
NLWA Neilton Lookou 76.26 32 eP P 01 15 36.0 +2.5
comp=Z,38nm,0.6s
CROR Criterion Ridg 76.27 35 P P 01 15 36.2 +2.6
FL2 Flat Top 2 76.28 34 P P 01 15 36.1 +2.4
TDL Tradedollar La 76.45 34 P P 01 15 36.8 +2.1
X16A Lo Mia Camp, P 76.61 49 ⇑P P 01 15 37.7 +1.7
baz=77,SNR=15
OSD Olympics--Snow 76.62 32 P P 01 15 38.5 +2.7
319A Douglas 76.80 52 ⇓P P 01 15 37.9 +0.9
baz=77
INCN Inchon 76.87 315 PFAKE 01 15 50.0 +13
INCN LR LR
comp=Z,3µm,20.0s
ARUT Antelope Range 76.89 45 eP P 01 15 38.4 +1.0
ARUT Antelope Range 76.89 45 eP P 01 15 38.4 +1.0
comp=Z,522nm,1.4s
LON Longmire 76.92 34 eP P 01 15 38.3 +1.0
LON pmax pmax
comp=Z,14nm,1.1s
LON Longmire 76.92 34 eP P 01 15 38.2 +1.0
comp=Z,14nm,1.1s
U15A North Rim 76.99 46 ⇑P P 01 15 39.9 +1.7
baz=77,SNR=14
RSO Redoubt South 77.05 10 eP P 01 15 38.1 +0.3
comp=Z,118nm,1.4s
USRK Ussuriysk Arra 77.17 323 P P 01 15 38.5 0.0
comp=Z,16nm,1.0s,baz=105,slow=4.0,SNR=9.5
USRK LR LR 01 43 29.9
comp=Z,7µm,21.8s,baz=119,slow=31
WUAZ Wupatki 77.19 48 eP P 01 15 40.7 +1.5
comp=Z,15nm,1.0s
WUAZ LR LR
comp=Z,5µm,22.0s
WUAZ Wupatki 77.19 48 ⇓P P 01 15 40.2 +1.0
baz=78,SNR=8.5
KSM Kuching 77.25 275 eP P 01 15 39.7 -0.1
comp=Z,15nm,0.9s
KSM LR LR
comp=Z,997nm,20.0s
QZH Quanzhou 77.36 300 ⇑iP P 01 15 40.5 +0.4
QZH S S 01 25 32.1 +1.8
QZH pmax pmax
comp=Z,2µm,10.2s
QZH LR LR
comp=Z,2µm,17.9s
QZH LR LR
comp=Z,3µm,20.0s
QZH LR LR
comp=Z,7µm,25.2s
X18A Snowflake 77.75 49 ⇓P P 01 15 43.1 +0.8
baz=78
SSE Sheshan 77.83 307 S S 01 25 40.0 +4.9
SSE Sheshan 77.83 307 sS sS 01 25 46.3 +3.0
SSE Sheshan 77.83 307 ScS ScS 01 26 00.4 -1.1
SSE pmax pmax
comp=Z,10.0nm,0.9s
SSE pmax pmax
comp=Z,710nm,8.8s
SSE LR LR
comp=N,780nm,24.7s
SSE LR LR
comp=E,2µm,24.4s
SSE LR LR
comp=Z,3µm,26.0s
HAWA Hanford 77.94 35 PFAKE 01 15 50.0 +7.1
HAWA LR LR
comp=Z,3µm,19.0s
W18A Petrified Fore 78.18 49 ⇓P P 01 15 45.9 +1.2
baz=78
RC01 Rabbit Creek A 78.18 11 eP P 01 15 43.7 -0.2
comp=Z,43nm,1.2s
BMO Blue Mountains 78.29 37 eP P 01 15 45.7 +0.7
comp=Z,19nm,1.1s
BMO LR LR
comp=Z,3µm,21.0s
MFID Camas Ranch 78.36 39 eP P 01 15 45.9 +0.5
comp=Z,22nm,1.0s
121A Cookes Peak, D 78.45 52 eP P 01 15 47.7 +1.4
comp=Z,22nm,0.8s
121A Cookes Peak, D 78.45 52 ⇑P P 01 15 47.7 +1.4
baz=79,SNR=16
DUG Dugway 78.54 43 eP P 01 15 48.4 +1.8
DUG pmax pmax
comp=Z,17nm,1.0s
DUG MLR MLR
comp=Z,4µm,22.0s
DUG Dugway 78.54 43 eP P 01 15 48.4 +1.8
comp=Z,17nm,1.0s
DUG LR LR
comp=Z,4µm,22.0s
DUG Dugway 78.54 43 ⇑P P 01 15 47.8 +1.2
baz=79
GAMB Gambell 78.59 1 eP P 01 15 46.1 0.0
comp=Z,22nm,0.9s
PMR Palmer 78.76 12 eP P 01 15 45.6 -1.4
PMR pmax pmax
comp=Z,57nm,1.3s
PMR Palmer 78.76 12 eP P 01 15 45.6 -1.4
comp=Z,57nm,1.3s
BGU Big Grassy Mou 78.78 42 eP P 01 15 49.5 +1.6
comp=Z,25nm,1.8s
SAW Saint Andrews 78.80 34 P P 01 15 49.4 +1.7
MDJ Mudanjiang 78.81 322 P P 01 15 50.9 +3.2
MDJ pP pP 01 15 52.7 0.0
MDJ sP sP 01 15 55.0 +0.5
MDJ PcP PcP 01 15 58.9 +2.4
MDJ PP PP 01 18 49.4 +2.9
MDJ S S 01 25 52.4 +7.2
MDJ pmax pmax
comp=Z,17nm,1.0s
MDJ pmax pmax
comp=Z,930nm,6.5s
MDJ LR LR
comp=Z,2µm,24.1s
MDJ LR LR
comp=Z,2µm,22.1s
MDJ LR LR
comp=Z,2µm,24.1s
MDJ Mudanjiang 78.81 322 eP P 01 15 50.3 +2.5
comp=Z,54nm,1.5s
MDJ LR LR
comp=Z,6µm,21.0s
OD2 Odessa Site #2 78.99 34 P P 01 15 51.0 +2.3
WRAK Wrangell Islan 78.99 22 PFAKE 01 16 00.0 +12
WRAK LR LR
comp=Z,2µm,19.0s
DIV Divide 79.04 13 eP P 01 15 48.3 -0.4
comp=Z,52nm,1.0s
TMUT Trail Mountain 79.16 44 eP P 01 15 51.0 +0.8
comp=Z,35nm,0.9s
BMRM Bremner River 79.16 14 eP P 01 15 49.7 +0.3
comp=Z,73nm,1.0s
HLID Hailey 79.30 39 eP P 01 15 50.9 +0.2
comp=Z,33nm,1.0s
HLID LR LR
comp=Z,2µm,21.0s
HLID Hailey 79.30 39 ⇑P P 01 15 51.7 +1.0
baz=80
SPUT South Promonto 79.35 42 eP P 01 15 49.0 -2.0
comp=Z,41nm,1.3s
HVU Hansel Valley 79.38 41 eP P 01 15 52.0 +0.8
HVU e 01 15 59.6
HVU pmax pmax
comp=Z,35nm,1.0s
HVU Hansel Valley 79.38 41 eP P 01 15 52.0 +0.8
comp=Z,35nm,1.0s
HVU ePcP PcP 01 15 59.6 +0.4
Z22A Elephant Butte 79.39 51 ⇑P P 01 15 52.6 +1.2
baz=80,SNR=18
SRU San Rafael 79.53 45 eP P 01 15 53.5 +1.4
SRU pmax pmax
comp=Z,37nm,1.3s
SRU San Rafael 79.53 45 eP P 01 15 53.5 +1.4
comp=Z,37nm,1.3s
DAU Daniels Canyon 79.68 43 eP P 01 15 54.1 +1.1
DAU pmax pmax
comp=Z,67nm,1.6s
DAU Daniels Canyon 79.68 43 eP P 01 15 54.1 +1.1
comp=Z,67nm,1.6s
LAZ Ladron 79.76 50 eP P 01 15 53.2 -0.2
comp=Z,38nm,1.7s
Y22D IRIS PASSCAL I 79.78 51 ⇑P P 01 15 54.1 +0.6
baz=80
LENM Lemitar 79.78 50 eP P 01 15 55.1 +1.5
comp=Z,23nm,1.3s
TCUT Toone Canyon 79.93 43 eP P 01 15 54.8 +0.5
comp=Z,78nm,0.9s
MNTX Cornudas Mount 79.94 53 eP P 01 15 53.5 -0.7
comp=Z,36nm,1.5s
MNTX LR LR
comp=Z,4µm,21.0s
NJ2 Nanjing 80.03 307 eP P 01 15 52.0 -2.7
NJ2 S S 01 25 59.0 +0.3
NJ2 sS sS 01 26 04.0 -2.8
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
NJ2 pmax pmax
comp=Z,950nm,9.8s
NJ2 LR LR
comp=Z,2µm,27.5s
NJ2 LR LR
comp=Z,5µm,29.1s
NJ2 LR LR
comp=Z,14µm,25.1s
MVCO Mesa Verde 80.04 47 PFAKE 01 16 10.0 +15
MVCO LR LR
comp=Z,6µm,21.0s
MVCO Mesa Verde 80.04 47 ⇓P P 01 15 56.6 +1.7
baz=80
LPM Los Pinos Moun 80.10 50 eP P 01 15 55.8 +0.6
comp=Z,17nm,1.2s
PV10 Paradox Valley 80.20 46 eP P 01 15 56.9 +1.1
comp=Z,492nm,0.9s
KTH Kantishna Hill 80.25 10 eP P 01 15 55.2 -0.1
comp=Z,67nm,1.3s
TRF Thorofare Moun 80.27 10 eP P 01 15 54.6 -0.8
comp=Z,31nm,0.8s
KLR Kul'dur 80.28 327 eP P 01 15 49.5 -6.1
KLR eS S 01 26 00.0 -0.6
KLR pmax pmax
comp=Z,2µm,12.5s
KLR smax smax
comp=N,2µm,12.0s
KLR smax smax
comp=E,1µm,12.0s
526A Mary Lane Ranc 80.29 55 ⇑P P 01 15 57.3 +1.0
baz=81,SNR=9.4
PV04 Paradox Valley 80.30 46 eP P 01 15 57.5 +1.2
TXAR Lajitas Array 80.34 56 P P 01 15 56.6 +0.1
comp=E,5.1nm,1.1s,baz=217,slow=6.0,SNR=19
NEW Newport 80.37 34 eP P 01 15 56.5 +0.3
NEW pmax pmax
comp=Z,33nm,1.6s
NEW MLR MLR
comp=Z,2µm,19.0s
NEW Newport 80.37 34 eP P 01 15 56.5 +0.3
comp=Z,33nm,1.6s
NEW LR LR
comp=Z,2µm,19.0s
NEW Newport 80.37 34 ⇓P P 01 15 57.6 +1.4
baz=81
Y23A Lovelace Mesa, 80.37 51 ⇑P P 01 15 58.1 +1.4
baz=81,SNR=8.6
PV01 Paradox Valley 80.41 46 eP P 01 15 57.6 +0.6
comp=Z,3µm,1.2s
TNA Tin City 80.47 2 eP P 01 15 55.2 -1.1
comp=Z,66nm,1.2s
ANMO Albuquerque 80.50 50 ceP P 01 15 57.9 +0.4
ANMO pmax pmax
comp=Z,26nm,1.0s
ANMO Albuquerque 80.50 50 eP P 01 15 57.9 +0.4
comp=Z,25nm,1.3s
ANMO LR LR
comp=Z,4µm,21.0s
225A Deer Hill, Car 80.54 53 ⇓P P 01 15 58.5 +0.8
baz=81,SNR=5.6
X23A Hourglass Bar 80.55 50 ⇓P P 01 15 58.7 +1.0
baz=81
426A McDonald Obser 80.58 55 ⇑P P 01 15 58.5 +0.5
baz=81,SNR=21
V22A San Miguel Ran 80.59 49 ⇓P P 01 15 58.9 +0.9
baz=81
Z24A Sheeppen Canyo 80.63 52 ⇑P P 01 15 59.4 +1.2
baz=81,SNR=13
PAX Paxson 80.75 12 eP P 01 15 55.5 -2.5
PAX pmax pmax
comp=Z,24nm,1.2s
PAX Paxson 80.75 12 eP P 01 15 55.5 -2.5
comp=Z,24nm,1.2s
MCK McKinley 80.77 11 eP P 01 15 57.6 -0.4
MCK pmax pmax
comp=Z,74nm,0.9s
MCK McKinley 80.77 11 eP P 01 15 57.6 -0.4
comp=Z,74nm,0.9s
W23A Werner Place, 80.82 50 ⇓P P 01 16 00.3 +1.1
baz=81,SNR=8.6
Y24A Capitan 80.83 51 ⇑P P 01 16 00.3 +1.1
baz=81,SNR=19
U22A Llaves 80.84 49 ⇓P P 01 16 00.5 +1.3
baz=81,SNR=5.3
HYT Haines Junctio 80.85 17 eP P 01 15 59.5 +0.9
326A Caldwell Ranch 80.88 54 ⇑P P 01 16 00.3 +0.9
baz=81,SNR=7.4
CN2 Changchun 80.89 320 eP P 01 16 00.0 +1.0
CN2 epP PcP 01 16 04.9 -0.6
CN2 esP sP 01 16 07.2 +1.4
CN2 eS SKSac 01 26 13.3 -3.9
CN2 SS SS 01 31 23.8 +2.3
CN2 pmax pmax
comp=Z,30nm,1.3s
CN2 LR LR
comp=Z,800nm,17.0s
CN2 LR LR
comp=Z,3µm,17.0s
CN2 LR LR
comp=Z,2µm,20.0s
125A Gardner Draw, 80.90 53 ⇑P P 01 16 00.5 +1.0
baz=81,SNR=8.2
MCMT McKenzie Canyo 80.92 39 eP P 01 16 00.4 +0.8
comp=Z,15nm,1.0s
AHID Auburn Hatcher 80.95 41 eP P 01 16 00.5 +0.8
comp=Z,30nm,1.1s
AHID LR LR
comp=Z,3µm,20.0s
628A Black Gap, Mar 81.02 56 ⇓P P 01 16 00.7 +0.6
baz=81
226B Tecolote Peak, 81.04 53 ⇑P P 01 16 01.2 +0.9
baz=81,SNR=17
V23A Ortiz Mt. (NFS 81.05 49 ⇑P P 01 16 01.3 +0.9
baz=81,SNR=7.8
SNY Shenyang 81.09 318 ⇑P P 01 16 01.6 +1.5
SNY pmax pmax
comp=Z,36nm,2.5s
SNY pmax pmax
comp=Z,1µm,10.3s
SNY LR LR
comp=Z,2µm,21.0s
SNY LR LR
comp=Z,2µm,19.2s
SNY LR LR
comp=Z,2µm,19.0s
Z25A Roswell 81.11 52 ⇑P P 01 16 02.4 +1.8
baz=81,SNR=11
GZH Guangzhou 81.13 297 P P 01 16 01.0 +0.2
GZH PP PP 01 19 07.1 +0.9
GZH S S 01 26 12.7 +2.2
GZH pmax pmax
comp=Z,1µm,8.4s
GZH LR LR
comp=Z,1µm,19.0s
GZH LR LR
comp=Z,3µm,21.6s
GZH LR LR
comp=Z,5µm,25.1s
427A Hayter Ranch, 81.15 55 ⇓P P 01 16 01.9 +1.0
baz=81,SNR=13
327A Balmorhea Ranc 81.28 54 ⇓P P 01 16 03.1 +1.6
baz=82
U23A El Rito 81.30 49 ⇓P P 01 16 03.0 +1.2
baz=82
MSO Missoula 81.35 37 ⇓P P 01 16 03.3 +1.7
baz=82
528A Cox Ranch, San 81.36 56 ⇓P P 01 16 03.2 +1.2
baz=82,SNR=10.0
126A Clayton Basin, 81.38 53 ⇑P P 01 16 03.2 +1.2
baz=82,SNR=8.5
Y25A Mesa, Roswell 81.39 52 ⇑P P 01 16 03.5 +1.4
baz=82,SNR=11
W24A Lazy 6 Ranch, 81.39 50 ⇑P P 01 16 03.2 +1.0
baz=82,SNR=12
BSMT Bassoo Peak 81.42 36 eP P 01 16 02.0 -0.1
comp=Z,26nm,1.1s
S22A 4UR Ranch, Cre 81.46 47 ⇑P P 01 16 04.0 +1.3
baz=82,SNR=12
O20A White River Ci 81.57 45 ⇑P P 01 16 04.0 +1.0
baz=82,SNR=8.0
DOT Dot Lake 81.65 13 eP P 01 16 00.6 -2.0
comp=Z,40nm,1.0s
JTMT Jette 81.65 36 eP P 01 16 03.7 +0.6
comp=Z,13nm,1.3s
X25A Clemmons Ranch 81.66 51 ⇓P P 01 16 04.5 +0.9
baz=82
428A Kincaid Ranch, 81.67 55 ⇓P P 01 16 04.6 +1.0
baz=82,SNR=6.2
Z26A Caprock 81.67 52 ⇑P P 01 16 04.2 +0.7
baz=82,SNR=16
SWMT Swartz Lake 81.68 36 eP P 01 16 04.7 +1.4
comp=Z,13nm,1.3s
LRM Limekiln Ridge 81.68 38 eP P 01 16 04.0 +0.5
comp=Z,113nm,1.0s
227A Bennet, Jal 81.69 54 ⇓P P 01 16 04.7 +1.0
baz=82
V24A Rampart Ranch, 81.71 50 ⇓P P 01 16 05.4 +1.4
baz=82,SNR=12
T23A Casias Ranch, 81.72 48 ⇓P P 01 16 04.8 +0.8
baz=82
BLMT Blacktail Moun 81.75 36 eP P 01 16 06.2 +2.4
comp=Z,10.0nm,1.1s
CHMT Chamberlain Mo 81.79 37 eP P 01 16 04.7 +0.7
comp=Z,12nm,1.0s
QLMT Earthquake Lak 81.79 39 eP P 01 16 04.6 +0.5
comp=Z,6.3nm,1.3s
529A Stev Forest Ra 81.80 56 ⇑P P 01 16 05.1 +0.7
baz=82,SNR=12
328A Wristen Ranch, 81.82 55 ⇑P P 01 16 05.5 +1.2
baz=82,SNR=10.0
SLMT Seeley Lake 81.83 37 eP P 01 16 04.0 -0.1
comp=Z,22nm,1.4s
I17A Pilgrim Ck. 81.86 40 ⇓P P 01 16 06.3 +1.8
baz=82,SNR=14
YBMT Yellow Bay 81.87 36 eP P 01 16 04.7 +0.4
comp=Z,8.2nm,1.1s
N20A Spence Gulch, 81.88 44 ⇑P P 01 16 05.9 +1.2
baz=82,SNR=13
127A Arkansas Junct 81.91 53 ⇑P P 01 16 05.7 +0.9
baz=82
BW06 Boulder Array 81.94 42 eP P 01 16 05.5 +0.5
comp=Z,23nm,1.1s
BW06 LR LR
comp=Z,3µm,20.0s
PDAR Pinedale Array 81.94 42 P P 01 16 03.1 -1.8
comp=Z,3.2nm,0.9s,baz=235,slow=3.2,SNR=17
PDAR LR LR 01 45 20.6
comp=Z,2µm,20.8s,baz=245,slow=30
YMR Madison River 81.99 40 eP P 01 16 07.0 +1.8
comp=Z,153nm,1.6s
U24A Moreno Valley 82.00 49 ⇓P P 01 16 07.0 +1.5

baz=82
COLA College 82.00 11 eP P 01 16 02.0 -2.4
COLA pmax pmax
comp=Z,85nm,1.0s
COLA MLR MLR
comp=Z,3µm,20.0s
COLA College 82.00 11 eP P 01 16 02.0 -2.4
comp=Z,85nm,1.0s
COLA LR LR
comp=Z,3µm,20.0s
S23A Nye Farm, Mont 82.03 48 ⇓P P 01 16 06.8 +1.2
Y26A Elida 82.05 52 ⇑P P 01 16 06.0 +0.4
baz=82
BOZ Bozeman (W) 82.09 39 eP P 01 16 06.1 +0.6
BOZ pmax pmax
comp=Z,54nm,1.5s
BOZ MLR MLR
comp=Z,3µm,20.0s
BOZ Bozeman (W) 82.09 39 eP P 01 16 06.1 +0.6
comp=Z,54nm,1.5s
BOZ LR LR
comp=Z,3µm,20.0s
ILAR Eielson Array 82.09 11 P P 01 16 02.3 -2.6
comp=Z,9.3nm,0.9s,baz=212,slow=5.9,SNR=33
ILAR LR LR 01 45 08.6
comp=Z,1µm,21.7s,baz=214,slow=30
H17A Grant Village 82.10 40 eP P 01 16 07.8 +2.0
comp=Z,24nm,0.9s
H17A Grant Village 82.10 40 ⇑P P 01 16 07.1 +1.3
baz=82
W25A X Bar L Ranch, 82.10 50 ⇓P P 01 16 06.9 +1.0
baz=82,SNR=9.2
IM04 Indian Mountai 82.10 8 eP P 01 16 03.2 -1.8
T24B San Luis 82.20 48 ⇓P P 01 16 07.8 +1.3
baz=82,SNR=12
V25A Rancho No Teng 82.24 50 ⇑P P 01 16 07.3 +0.6
baz=82,SNR=19
429A Davenport Ranc 82.25 56 ⇓P P 01 16 07.3 +0.6
baz=82,SNR=17
Z27A Tatum 82.27 53 ⇑P P 01 16 07.6 +0.9
baz=82
228A UT Block 9, Go 82.28 54 ⇑P P 01 16 07.4 +0.6
baz=83
X26A CR and CF Fran 82.31 51 ⇓P P 01 16 07.1 +0.1
baz=83,SNR=9.4
P22A Eagle 82.34 46 ⇑P P 01 16 07.8 +0.7
baz=83,SNR=9.7
R23A Moffat 82.37 47 ⇓P P 01 16 08.8 +1.4
baz=83,SNR=11
SDCO Great Sand Dun 82.41 48 eP P 01 16 08.4 +0.8
comp=Z,26nm,1.4s
SDCO LR LR
comp=Z,4µm,20.0s
J19A Crowheart 82.51 42 ⇑P P 01 16 08.6 +0.7
baz=83,SNR=23
HRY Holter Researc 82.51 38 eP P 01 16 08.4 +0.7
comp=Z,28nm,0.7s
HRY ePcP PcP 01 16 13.4 +0.6
329A Wagon Wheel Ra 82.52 55 ⇓P P 01 16 08.8 +0.8
baz=83,SNR=8.7
530A J-C Ranch, Com 82.52 56 ⇑P P 01 16 08.8 +0.7
baz=83,SNR=5.4
Y27A Causey 82.54 52 ⇓P P 01 16 08.7 +0.5
baz=83,SNR=15
128A Castleberry Fa 82.56 53 ⇓P P 01 16 09.0 +0.8
baz=83,SNR=5.7
W26A Owens Ranch, T 82.57 51 ⇑P P 01 16 08.9 +0.7
baz=83
S24A Houchin Ranch, 82.57 48 ⇑P P 01 16 09.4 +0.9
baz=83,SNR=13
WALA Waterton Lakes 82.57 35 eP P 01 16 08.2 +0.3
comp=Z,0.7nm,1.1s
U25A Circle Dot Ran 82.63 49 ⇓P P 01 16 09.5 +0.9
baz=83,SNR=11
Q23A Hartsel 82.68 47 ⇓P P 01 16 09.8 +0.8
baz=83
O22A Kremmling 82.73 45 ⇑P P 01 16 10.2 +0.9
baz=83,SNR=17
H18A Shoshone NF, C 82.80 40 ⇓P P 01 16 10.2 +0.8
baz=83,SNR=10
229A Bryant Ranch, 82.83 54 ⇑P P 01 16 10.3 +0.6
baz=83
430A Baggett Ranch, 82.84 56 ⇓P P 01 16 10.2 +0.5
baz=83
V26A Tequesquite Ra 82.84 50 ⇓P P 01 16 10.2 +0.5
baz=83,SNR=7.4
631A Perdido Creek 82.86 57 ⇓P P 01 16 10.3 +0.5
baz=83,SNR=8.4
QIZ Qiongzhong 82.87 292 P P 01 16 08.5 -1.5
QIZ pP PcP 01 16 12.6 -2.2
QIZ sP sP 01 16 14.4 -2.4
QIZ PP PP 01 19 19.4 -1.2
QIZ S S 01 26 27.5 -1.1
QIZ sS sS 01 26 36.7 -0.1
QIZ pmax pmax
comp=Z,320nm,4.7s
QIZ LR LR
comp=Z,1µm,23.4s
QIZ LR LR
comp=Z,3µm,24.9s
QIZ Qiongzhong 82.87 292 PFAKE 01 16 20.0 +10
QIZ LR LR
comp=Z,2µm,20.0s
MSTX Muleshoe 82.87 52 eP P 01 16 10.8 +0.9
comp=Z,63nm,1.2s
MSTX Muleshoe 82.87 52 ⇑P P 01 16 10.2 +0.4
baz=83,SNR=15
P23A Jefferson 82.88 46 ⇓P P 01 16 11.1 +1.0
baz=83
X27A F and S Farms, 82.89 51 ⇑P P 01 16 10.4 +0.4
baz=83,SNR=6.7
Z28A Tucker Farm, M 82.90 53 ⇓P P 01 16 10.1 +0.1
baz=83,SNR=9.6
R24A Sanders Place, 82.90 47 ⇑P P 01 16 11.2 +1.1
baz=83,SNR=12
I19A Meeteetse 82.91 41 ⇓P P 01 16 11.2 +1.2
baz=83,SNR=14
T25A Trinidad 82.94 49 ⇑P P 01 16 10.2 0.0
baz=83
832A Faith Ranch, C 82.94 58 ⇑P P 01 16 10.8 +0.6
baz=83,SNR=7.4
WHN Wuhan 82.98 304 ⇑iP P 01 16 09.4 -0.9
WHN S S 01 26 34.2 +5.0
WHN pmax pmax
comp=Z,1µm,9.4s
WHN LR LR
comp=Z,4µm,19.7s
WHN LR LR
comp=Z,4µm,20.6s
WHN LR LR
comp=Z,5µm,20.7s
129A Stewart Farms, 83.05 54 ⇑P P 01 16 11.1 +0.4
baz=83,SNR=8.5
TIA Tai'an 83.06 310 ⇓P P 01 16 14.0 +3.4
TIA pmax pmax
comp=Z,20nm,1.1s
N22A Wattenberg Ran 83.08 45 ⇓P P 01 16 12.3 +1.2
baz=83,SNR=22
W27A Bowe Ranch, En 83.08 51 ⇑P P 01 16 11.0 0.0
baz=83,SNR=12
732A Laxson Ranch, 83.11 58 ⇑P P 01 16 11.5 +0.5
baz=83
U26A Atchley Ranch, 83.12 50 ⇓P P 01 16 11.3 +0.1
baz=83,SNR=11
330A Mertzon 83.12 55 ⇓P P 01 16 11.5 +0.4
baz=83
S25A Robets Cordova 83.14 48 ⇑P P 01 16 12.0 +0.8
baz=83,SNR=16
531A Rocksprings 83.16 56 ⇓P P 01 16 12.5 +1.1
baz=83,SNR=15
J20A Shoshoni 83.17 42 ⇓P P 01 16 11.9 +0.6
baz=84,SNR=18
Q24A Divide 83.18 47 ⇓P P 01 16 12.3 +0.6
baz=84,SNR=12
O23A Lake Granby, G 83.19 45 ⇑P P 01 16 12.7 +1.1
baz=84
ISCO Idaho Springs 83.22 46 PFAKE 01 16 20.0 +8.2
ISCO LR LR
comp=Z,3µm,20.0s
ISCO Idaho Springs 83.22 46 ⇑P P 01 16 13.0 +1.2
baz=84,SNR=7.6
H19A Powell 83.22 40 ⇑P P 01 16 12.4 +0.9
baz=84,SNR=26
Y28A McKinney Farm, 83.25 52 ⇓P P 01 16 12.7 +0.9
baz=84
M22A Cedar Creek Ra 83.26 44 ⇓P P 01 16 12.2 +0.3
baz=84,SNR=15
EGAK Eagle 83.26 13 eP P 01 16 09.3 -1.7
comp=Z,22nm,1.0s
EGAK LR LR
comp=Z,3µm,22.0s
RLMT Red Lodge 83.27 40 eP P 01 16 12.1 +0.3
comp=Z,30nm,1.1s
RLMT LR LR
comp=Z,2µm,20.0s
933A Laredo 83.28 59 ⇓P P 01 16 12.7 +0.7
baz=84
431A Sonora 83.30 56 ⇓P P 01 16 12.4 +0.3
baz=84
GCMT Greycliff 83.35 39 eP P 01 16 10.7 -1.4
comp=Z,46nm,1.5s
230A Sterling City 83.35 55 ⇓P P 01 16 13.0 +0.6
baz=84
K21A Alcova 83.38 43 ⇑P P 01 16 12.8 +0.4
baz=84,SNR=22
Z29A Hungry Hill Ra 83.41 53 ⇓P P 01 16 14.0 +1.4
baz=84,SNR=12
I20A Worland 83.42 41 ⇑P P 01 16 12.9 +0.4
baz=84,SNR=22
833A Chaparral WMA, 83.44 58 ⇓P P 01 16 13.5 +0.7
baz=84
R25A Fountain Ranch 83.45 48 ⇓P P 01 16 13.4 +0.6
baz=84,SNR=9.3
N23A Red Feather La 83.47 45 ⇓P P 01 16 13.3 +0.2
baz=84,SNR=13
X28A Dimmitt 83.52 52 ⇓P P 01 16 13.2 0.0
baz=84,SNR=7.2
V27A Dan Oppiter Fa 83.53 50 ⇓P P 01 16 13.3 0.0
baz=84,SNR=6.4
632A Uvalde 83.54 57 ⇑P P 01 16 13.5 +0.2
baz=84
T26A Comanche Natio 83.55 49 ⇑P P 01 16 14.0 +0.6
baz=84
J21A Lysite 83.58 42 ⇓P P 01 16 13.9 +0.5
baz=84,SNR=28
034A Hebbronville 83.58 60 ⇓P P 01 16 14.2 +0.7
baz=84
P24A Kohler Place, 83.59 46 ⇑P P 01 16 14.1 +0.5
baz=84
L22A Ellis Ranch, M 83.65 44 ⇑P P 01 16 14.5 +0.7
baz=84,SNR=16
733A Divot King Ran 83.66 58 ⇑P P 01 16 14.0 +0.1
baz=84
Y29A Porterfield Fa 83.67 53 ⇓P P 01 16 14.3 +0.4
baz=84,SNR=13
331A San Angelo 83.68 55 ⇓P P 01 16 14.2 +0.2
baz=84
O24A Longmont 83.73 46 ⇑P P 01 16 14.7 +0.5
baz=84
130A Snyder 83.73 54 ⇑P P 01 16 15.0 +0.8
baz=84
H20A Greybull 83.76 41 ⇑P P 01 16 14.2 0.0
baz=84,SNR=8.5
COLD Coldfoot 83.79 9 eP P 01 16 12.7 -0.9
comp=Z,31nm,1.0s
Q25A Bedland, Calha 83.80 47 ⇑P P 01 16 14.8 +0.1
baz=84
W28A Vega 83.81 51 ⇑P P 01 16 14.8 +0.1
baz=84
U27A Thompson Grove 83.81 50 ⇑P P 01 16 14.9 +0.3
baz=84
S26A Kim 83.82 49 ⇑P P 01 16 15.0 +0.3
baz=84,SNR=7.1
F19A Roth Farm, Mol 83.82 39 ⇓P P 01 16 14.9 +0.4
baz=84,SNR=18
K22A Casper 83.86 43 ⇓P P 01 16 15.8 +0.9
baz=84,SNR=8.5
Z30A Sanderson Ranc 83.87 53 ⇓P P 01 16 15.5 +0.5
baz=84,SNR=14
X29A Tulia 83.87 52 ⇓P P 01 16 15.4 +0.4
baz=84,SNR=8.4
M23A Laramie 83.87 44 ⇑P P 01 16 15.4 +0.4
baz=84,SNR=15
JCT Junction City 83.88 56 eP P 01 16 15.4 +0.3
JCT pmax pmax
comp=Z,13nm,0.9s
JCT MLR MLR
comp=Z,4µm,20.0s
JCT Junction City 83.88 56 eP P 01 16 15.4 +0.3
comp=Z,14nm,0.9s
JCT LR LR
comp=Z,4µm,20.0s
JCT Junction City 83.88 56 ⇓P P 01 16 15.7 +0.7
baz=84
035Z Hargill 83.89 61 ⇓P P 01 16 16.3 +1.2
baz=84
I21A Big Trails, Te 83.89 42 ⇓P P 01 16 15.8 +0.8
baz=84,SNR=24
934A Benavides 83.91 59 ⇓P P 01 16 15.5 +0.3
baz=84
G20A Bridger 83.97 40 ⇓P P 01 16 16.2 +0.9
baz=84,SNR=6.0
V28A Channing 83.99 51 ⇑P P 01 16 15.6 0.0
baz=84
231A Bronte 84.00 55 ⇓P P 01 16 15.4 -0.3
baz=84,SNR=10
633A Saathoff Ranch 84.02 58 ⇓P P 01 16 16.4 +0.7
baz=84,SNR=7.4
432A Menard 84.03 56 ⇓P P 01 16 15.9 +0.1
baz=84
AMTX Amarillo 84.06 52 ⇑P P 01 16 16.4 +0.5
baz=84
834A Tilden 84.06 59 ⇑P P 01 16 16.8 +0.8
baz=84,SNR=6.2
P25A Willow Gulch B 84.11 47 ⇓P P 01 16 17.2 +1.0
baz=84,SNR=10
R26A Arlington 84.11 48 ⇑P P 01 16 16.4 +0.2
baz=84,SNR=17
T27A Campo 84.14 49 ⇑P P 01 16 16.9 +0.5
baz=84
N24A Carr 84.17 45 ⇑P P 01 16 17.3 +0.8
baz=84,SNR=11
L23A Garrett 84.17 44 ⇓P P 01 16 17.1 +0.5
baz=84,SNR=17
W29A Amraillo 84.17 51 ⇑P P 01 16 17.0 +0.5
baz=84
BILL Bilibino 84.18 352 ceP P 01 16 16.6 +1.0
BILL eSS SS 01 32 15.0 +5.5
BILL pmax pmax
comp=Z,23nm,1.0s
BILL Bilibino 84.18 352 eP P 01 16 13.8 -1.8
comp=Z,31nm,1.1s
BILL LR LR
comp=Z,7µm,22.0s
E19A Rath Farm, Rou 84.21 39 ⇑P P 01 16 17.2 +0.8
baz=84,SNR=14
131A Roby 84.22 54 ⇓P P 01 16 17.0 +0.2
baz=84
U28A Mallet 84.23 50 ⇓P P 01 16 16.5 -0.3
baz=84
J22A Midwest 84.24 42 ⇓P P 01 16 16.8 0.0
baz=84,SNR=15
332A Millersview 84.25 56 ⇑P P 01 16 16.6 -0.3
baz=84,SNR=9.9
S27A Las Animas 84.26 49 ⇓P P 01 16 17.1 +0.1
baz=84
Y30A Stafford Cattl 84.27 53 ⇓P P 01 16 17.5 +0.5
baz=84,SNR=9.2
F20A Billings 84.28 40 ⇓P P 01 16 17.4 +0.5
baz=85
734A La Parita Cree 84.31 58 ⇑P P 01 16 17.4 +0.2
baz=85
Q26A Hugo 84.32 47 ⇓P P 01 16 17.7 +0.4
baz=85
533A Kerrville 84.35 57 ⇓P P 01 16 17.7 +0.3
baz=85,SNR=9.2
O25A Wiggins 84.39 46 ⇓P P 01 16 17.9 +0.3
baz=85
EGMT Eagleton 84.40 37 eP P 01 16 17.6 +0.3
comp=Z,32nm,1.0s
EGMT LR LR
comp=Z,3µm,20.0s
EGMT Eagleton 84.40 37 ⇓P P 01 16 18.2 +0.9
baz=85,SNR=11
H21A Big Horn, Sher 84.43 41 ⇑P P 01 16 18.4 +0.7
baz=85,SNR=9.1
I22A 9 Mile Ranch, 84.45 42 ⇓P P 01 16 18.2 +0.4
baz=85,SNR=15
PMSA Palmer Station 84.45 156 PFAKE 01 16 30.0 +13
PMSA LR LR
comp=Z,5µm,22.0s
M24A Cheyenne 84.48 45 ⇑P P 01 16 18.5 +0.4
baz=85
D19A Cripps Ranch, 84.49 38 ⇑P P 01 16 19.2 +1.3
baz=85,SNR=11
X30A Coker Ranch, T 84.50 52 ⇓P P 01 16 18.7 +0.5
baz=85
K23A Bowen Ranch, D 84.50 43 ⇓P P 01 16 18.9 +0.8
baz=85,SNR=9.8
232A Coleman 84.51 55 ⇑P P 01 16 18.3 +0.1
baz=85
433A Art 84.55 56 ⇓P P 01 16 18.4 0.0
baz=85,SNR=8.8
V29A Stinnett 84.56 51 ⇓P P 01 16 18.8 +0.4
baz=85
R27A Eads 84.58 48 ⇓P P 01 16 18.1 -0.4
baz=85,SNR=6.0
G21A Lodge Grass 84.60 40 ⇑P P 01 16 19.0 +0.5
baz=85
T28A Walsh 84.61 49 ⇓P P 01 16 19.0 +0.3
baz=85
E20A Meyer Farm, Mu 84.63 39 ⇑P P 01 16 19.2 +0.7
baz=85,SNR=10
Z31A Sharp Cattle R 84.64 54 ⇑P P 01 16 18.8 -0.1
baz=85,SNR=14
L24A Wheatland 84.66 44 ⇑P P 01 16 19.5 +0.6
baz=85
634A China Grove, S 84.66 58 ⇓P P 01 16 19.3 +0.3
baz=85
C19A Slack Wire Ran 84.67 38 ⇓P P 01 16 19.3 +0.6
baz=85,SNR=14
P26A Davis Ranch, A 84.70 47 ⇑P P 01 16 19.5 +0.3
baz=85
N25A Grover 84.71 45 ⇓P P 01 16 19.7 +0.6
baz=85
835A Beeville 84.71 59 ⇓P P 01 16 19.3 +0.1
baz=85
ABTX Abilene, Hawle 84.78 54 eP P 01 16 17.9 -1.6
comp=Z,79nm,1.0s
ABTX Abilene, Hawle 84.78 54 ⇑P P 01 16 19.7 +0.1
baz=85,SNR=15
534A Blanco 84.79 57 ⇓P P 01 16 19.8 +0.2
baz=85,SNR=12
Y31A Rekieta Farm, 84.79 53 ⇓P P 01 16 19.9 +0.3
baz=85,SNR=10
333A Richland Sprin 84.83 56 ⇓P P 01 16 20.1 +0.2
baz=85,SNR=7.0
J23A Dilts Ranch, B 84.84 43 ⇓P P 01 16 20.5 +0.8
baz=85
H22A Clearmont 84.85 41 ⇓P P 01 16 20.0 +0.2
baz=85
D20A Manuel Ranch, 84.90 39 ⇑P P 01 16 20.7 +0.8
baz=85,SNR=13
735A Kenedy 84.93 58 ⇑P P 01 16 20.1 -0.2
baz=85
F21A Absaloka Mine, 84.93 40 ⇓P P 01 16 20.4 +0.3
baz=85
S28A Manter 84.95 49 ⇑P P 01 16 20.6 +0.2
baz=85,SNR=6.9
U29A Oasis Ranch, S 84.97 50 ⇑P P 01 16 20.4 -0.1
baz=85
KSCO Kaye Shedlock' 84.99 48 ⇓P P 01 16 21.0 +0.4
baz=85
M25A Palm-Egli Farm 84.99 45 ⇓P P 01 16 21.0 +0.4
baz=85
O26A Horse Wrangler 85.01 46 ⇓P P 01 16 21.0 +0.3
baz=85
W30A Crocket Farms 85.01 52 ⇓P P 01 16 21.0 +0.2
baz=85
K24A Anderson Ranch 85.03 43 ⇑P P 01 16 20.8 +0.1
baz=85
B19A Brinkman Farms 85.08 37 ⇓P P 01 16 21.7 +1.0
baz=85
EDM Edmonton 85.14 31 eP P 01 16 20.7 -0.2
EDM Edmonton 85.14 31 eP P 01 16 20.7 -0.2
I23A Meade Ranch, G 85.14 42 ⇑P P 01 16 21.4 +0.2
baz=85
V30A Spur Ranch, Mi 85.14 51 ⇑P P 01 16 22.0 +0.6
baz=85
233A Rising Star 85.15 55 ⇓P P 01 16 21.9 +0.5
baz=85,SNR=8.3
Z32A Haskell 85.16 54 ⇑P P 01 16 22.2 +0.8
baz=85,SNR=18
G22A Birney 85.17 41 ⇓P P 01 16 22.2 +0.9
baz=86
T29A Hugoton 85.22 50 ⇑P P 01 16 22.0 +0.3
baz=86
434A Burnet 85.23 57 ⇑P P 01 16 22.0 +0.2
baz=86,SNR=12
P27A Ficken Ranch, 85.24 47 ⇑P P 01 16 22.2 +0.3
baz=86
X31A McDonald Ranch 85.26 52 ⇓P P 01 16 22.1 +0.2
baz=86
C20A Veseth Ranch, 85.28 38 ⇑P P 01 16 22.6 +0.9
baz=86,SNR=14
E21A Keefer Ranch, 85.29 39 ⇑P P 01 16 22.8 +0.9
baz=86
BJT Baijiatuau 85.30 313 eP P 01 16 22.3 +0.4
BJT MLR MLR
comp=Z,2µm,22.0s
BJT Baijiatuau 85.30 313 eP P 01 16 22.3 +0.4
BJT LR LR
comp=Z,2µm,22.0s
BJI Beijing 85.30 313 P P 01 16 23.1 +1.2
BJI PP PP 01 19 37.8 -2.3
BJI S S 01 26 46.2 -5.9
BJI pmax pmax
comp=Z,18nm,2.5s
BJI pmax pmax
comp=Z,1µm,7.0s
BJI LR LR
comp=Z,2µm,20.6s
BJI LR LR
comp=Z,2µm,24.1s
BJI LR LR
comp=Z,3µm,27.3s
R28A Tribune 85.31 48 ⇑P P 01 16 22.5 +0.3
baz=86,SNR=8.5
N26A Koester Ranch, 85.31 46 ⇓P P 01 16 22.9 +0.7
baz=86
133A Hamilton Ranch 85.35 55 ⇓P P 01 16 22.6 +0.2
baz=86,SNR=8.9
L25A Engebretsen Ra 85.36 44 ⇑P P 01 16 23.2 +0.9
baz=86
J24A Dixon Ranch, L 85.39 43 ⇑P P 01 16 23.3 +0.8
baz=86
H03N2 Juan Fernandez 85.41 123 T T 02 50 50.5
baz=254
H03N3 Juan Fernandez 85.41 123 T T 02 51 09.1
baz=254
H03N1 Juan Fernandez 85.42 123 T T 02 50 55.7
baz=254
A19A Klindworth Far 85.43 37 ⇓P P 01 16 23.1 +0.6
baz=86,SNR=11
334A Lometa 85.44 56 ⇓P P 01 16 23.3 +0.4
baz=86,SNR=12
Y32A R-V Farms, Ver 85.44 53 ⇓P P 01 16 23.0 +0.1
baz=86,SNR=10
F22A Rosebud 85.45 40 ⇓P P 01 16 22.9 +0.3
baz=86
H23A Clabaugh Cattl 85.45 42 ⇑P P 01 16 22.7 0.0
baz=86
U30A WK&E Inc. Balk 85.46 50 ⇓P P 01 16 23.0 0.0
baz=86
W31A Holland Ranch, 85.49 52 ⇓P P 01 16 23.5 +0.4
baz=86,SNR=6.8
535A Dale 85.52 57 ⇑P P 01 16 24.0 +0.7
baz=86
S29A Ulysses 85.53 49 ⇓P P 01 16 23.3 0.0
baz=86
O27A Beecher Island 85.57 47 ⇓P P 01 16 24.0 +0.6
baz=86
Q28A Sharon Springs 85.58 48 ⇓P P 01 16 23.9 +0.4
baz=86
D21A La Casta Ranch 85.58 39 ⇑P P 01 16 24.0 +0.7
baz=86,SNR=11
B20A Solberg Farm, 85.61 37 ⇑P P 01 16 23.6 +0.2
baz=86,SNR=10
K25A Mack Ranch, Ha 85.61 44 ⇓P P 01 16 24.2 +0.6
baz=86
M26A McRoberts Ranc 85.63 45 ⇓P P 01 16 23.3 -0.4
baz=86
I24A Kuemmerle Ranc 85.64 43 ⇓P P 01 16 24.0 +0.3
baz=86
Z33A Whitaker Ranch 85.71 54 ⇓P P 01 16 24.7 +0.5
baz=86,SNR=8.1
X32A Elmer 85.71 53 ⇑P P 01 16 24.3 +0.2
baz=86,SNR=8.2
G23A Biddle 85.73 41 ⇑P P 01 16 24.5 +0.4
baz=86
234A Clairette 85.75 55 ⇓P P 01 16 24.7 +0.3
baz=86,SNR=9.4
T30A Plains 85.75 50 ⇓P P 01 16 24.3 -0.1

baz=86
636A Smothers Creek 85.76 58 ⇑P P 01 16 24.5 +0.1
baz=86
435B Jarrell 85.77 57 ⇑P P 01 16 24.7 +0.2
baz=86
N27A Anderson Farm, 85.78 46 ⇑P P 01 16 24.7 +0.2
baz=86
V31A Spring Creek L 85.78 51 ⇓P P 01 16 25.4 +0.9
baz=86
R29A Marienthal 85.83 49 ⇑P P 01 16 25.0 +0.3
baz=86
P28A Saint Francis 85.83 47 ⇓P P 01 16 25.1 +0.3
baz=86
C21A Desert Coulee 85.87 38 ⇓P P 01 16 25.8 +1.1
baz=86
A20A Cobblestone Ra 85.88 37 ⇑P P 01 16 25.5 +0.8
baz=86,SNR=9.6
LAO LASA Array 85.88 39 eP P 01 16 23.7 -1.1
comp=Z,50nm,1.1s
LAO LR LR
comp=Z,2μm,22.0s
L26A Underwood Farm 85.91 45 ⇓P P 01 16 25.4 +0.4
baz=86
E22A Miles City 85.94 40 ⇓P P 01 16 25.6 +0.6
baz=86
536A Bastrop 85.95 58 ⇑P P 01 16 25.3 -0.1
baz=86
F23A Volborg 85.95 41 ⇓P P 01 16 26.2 +1.0
baz=86
J25A Sunshine Ranch 85.98 43 ⇓P P 01 16 25.8 +0.4
baz=86
134A White-Moore Ra 86.00 55 ⇓P P 01 16 26.1 +0.5
baz=86,SNR=9.3
U31A Nine Bar Ranch 86.00 51 ⇑P P 01 16 26.1 +0.5
baz=86
W32A Sentinel 86.00 52 ⇑P P 01 16 26.0 +0.4
baz=86
S30A Montezuma 86.02 49 ⇑P P 01 16 25.6 -0.1
baz=86
O28A Krutsinger Ran 86.04 47 ⇓P P 01 16 26.3 +0.6
baz=86
335A Moody 86.07 56 ⇑P P 01 16 26.7 +0.7
baz=86
H24A Dirks Ranch, A 86.07 42 ⇑P P 01 16 25.8 -0.1
baz=86,SNR=14
Y33A Hilltop Ranch, 86.07 53 ⇓P P 01 16 26.7 +0.8
baz=86
D22A Cohagen 86.11 39 ⇑P P 01 16 26.5 +0.6
baz=86
K26A Motz Farm, Whi 86.11 44 ⇑P P 01 16 26.3 +0.3
baz=86
Q29A Oakley 86.12 48 ⇑P P 01 16 26.6 +0.4
baz=86
RSSD Black Hills 86.14 42 eP P 01 16 26.3 0.0
RSSD pmax pmax
comp=Z,23nm,1.2s
RSSD Black Hills 86.14 42 eP P 01 16 26.3 0.0
comp=Z,23nm,1.2s
M27A Reverse DX Ran 86.17 45 ⇑P P 01 16 26.9 +0.5
baz=86
OGNE Ogallala 86.18 46 ⇓P P 01 16 27.0 +0.6
baz=86
B21A Ellsworth Farm 86.20 38 ⇑P P 01 16 27.1 +0.9
baz=86
WHTX Lake Whitney 86.29 56 ⇑P P 01 16 27.5 +0.5
baz=87
I25A Rochford 86.30 43 ⇑P P 01 16 27.6 +0.5
baz=87,SNR=8.8
X33A Lawton 86.36 53 ⇑P P 01 16 27.5 +0.1
baz=87
V32A Arapaho 86.37 52 ⇑P P 01 16 28.0 +0.6
baz=87
T31A Randall Ranch, 86.40 50 ⇓P P 01 16 28.2 +0.7
baz=87
R30A Dighton 86.40 49 ⇑P P 01 16 28.1 +0.5
baz=87
Z34A Collier Ranch, 86.40 54 ⇓P P 01 16 28.2 +0.6
baz=87
436A Wall Ranch, Ga 86.40 57 ⇓P P 01 16 27.9 +0.2
baz=87
G24A Alzada 86.41 41 ⇓P P 01 16 28.3 +0.8
baz=87
N28A Pribbeno Ranch 86.42 46 ⇓P P 01 16 28.1 +0.5
baz=87
P29A Atwood 86.43 48 ⇑P P 01 16 28.5 +0.8
baz=87
J26A Sides Ranch, S 86.43 43 ⇑P P 01 16 27.9 +0.3
baz=87
L27A T5 Ranch, Ells 86.44 45 ⇓P P 01 16 27.6 -0.2
baz=87
135A Vickery Place, 86.52 55 ⇑P P 01 16 27.5 -0.7
baz=87
C22A Vida 86.56 39 ⇑P P 01 16 28.0 -0.1
baz=87
W33A Caddo, Fort Co 86.60 52 ⇓P P 01 16 28.1 -0.5
baz=87
F24A Ekalaka 86.61 41 ⇓P P 01 16 28.8 +0.3
baz=87
H25A Fruitdale 86.64 42 ⇑P P 01 16 28.9 +0.3
baz=87
U32A Winter Ranch, 86.64 51 ⇑P P 01 16 28.9 +0.1
baz=87
Q30A Quinter 86.70 48 ⇑P P 01 16 29.2 +0.2
baz=87
D23A Lindsay 86.72 39 ⇑P P 01 16 29.6 +0.8
baz=87
O29A 4D Ranch, Culb 86.73 47 ⇓P P 01 16 28.7 -0.4
baz=87
Y34A Reagan Ranch, 86.73 54 ⇑P P 01 16 29.2 0.0
baz=87
S31A Mullinville 86.73 50 ⇓P P 01 16 29.2 0.0
baz=87
B22A Reddig Ranch S 86.74 38 ⇓P P 01 16 29.4 +0.4
baz=87
COCO West Island 86.77 258 PFAKE 01 16 40.0 +10
COCO LR LR
comp=Z,3μm,21.0s
ENH Enshi 86.82 302 eP P 01 16 30.0 +0.2
comp=Z,10nm,0.9s
ENH LR LR
comp=Z,86nm,20.0s
M28A Bar X Bar Ranc 86.82 46 ⇓P P 01 16 29.8 +0.2
baz=87
P30A Selden 86.90 48 ⇓P P 01 16 30.8 +0.8
baz=87
X34A Smith Ranch, M 86.90 53 ⇑P P 01 16 30.9 +0.9
baz=87
Z35A Perchaven, San 86.91 54 ⇓P P 01 16 30.2 +0.1
baz=87
HKT Hockley 86.92 58 eP P 01 16 31.2 +1.1
HKT pmax pmax
comp=Z,93nm,1.8s
HKT Hockley 86.92 58 eP P 01 16 31.2 +1.1
comp=Z,93nm,1.8s
R31A Burdett 86.95 49 ⇑P P 01 16 30.8 +0.6
baz=87
HIA Hailar 86.98 323 eP P 01 16 30.1 0.0
HIA pmax pmax
comp=Z,14nm,0.8s
HIA MLR MLR
comp=Z,6μm,21.0s
HIA Hailar 86.98 323 eP P 01 16 30.1 0.0
comp=Z,14nm,0.8s
HIA LR LR
comp=Z,6μm,21.0s
V33A Lossen Ranch, 86.98 52 ⇑P P 01 16 31.3 +0.9
baz=87
G25A Newell 86.99 42 ⇓P P 01 16 30.2 -0.1
baz=87
E24A Baker 87.01 40 ⇓P P 01 16 31.0 +0.7
baz=87
C23A Lambert 87.01 39 ⇓P P 01 16 31.2 +0.9
baz=87,SNR=9.6
A22A Carney Farms, 87.10 38 ⇓P P 01 16 31.9 +1.2
baz=87
J27A Elkhorn Farm, 87.12 44 ⇑P P 01 16 32.3 +1.3
baz=87
S32A Newby Ranch, P 87.17 50 ⇓P P 01 16 32.2 +0.9
baz=87
D24A Glendive 87.23 40 ⇓P P 01 16 32.4 +1.0
baz=88,SNR=7.4
F25A Bowman 87.27 41 ⇑P P 01 16 32.7 +1.1
baz=88
M29A Burnside Ranch 87.31 46 ⇓P P 01 16 32.2 +0.3
baz=88
U33A Lingo Farm, Me 87.33 51 ⇑P P 01 16 32.3 +0.3
baz=88
K28A Ten Mile Ranch 87.34 45 ⇓P P 01 16 32.5 +0.5
baz=88
C24A Savage 87.35 39 ⇑P P 01 16 32.7 +0.8
baz=88
B23A Brockton 87.42 38 ⇓P P 01 16 32.8 +0.5
baz=88,SNR=11
I27A Quinn 87.42 43 ⇓P P 01 16 32.3 -0.1
baz=88
T33A Patterson Ranc 87.46 51 ⇑P P 01 16 32.8 +0.1
baz=88
N30A Hueftle Ranch, 87.47 47 ⇑P P 01 16 33.4 +0.7
baz=88
P31A Stockton 87.51 48 ⇓P P 01 16 32.9 0.0
baz=88
E25A Miller Ranch, 87.55 40 ⇑P P 01 16 32.5 -0.4
baz=88
KULM Kulim 87.56 276 PFAKE 01 16 40.0 +6.4
KULM LR LR
comp=Z,1μm,19.0s
G26A Maurine 87.56 42 ⇓P P 01 16 33.1 0.0
baz=88
V34A Guthrie 87.57 52 ⇓P P 01 16 33.3 +0.1
baz=88
R32A Long Quarter, 87.59 49 ⇓P P 01 16 33.5 +0.1
baz=88
H27A Howes 87.63 43 ⇑P P 01 16 33.6 +0.3
baz=88
L29A Maesberg Ranch 87.69 45 ⇓P P 01 16 34.7 +0.9
baz=88
A23A Redstone 87.70 38 ⇑P P 01 16 34.3 +0.8
baz=88
J28A Allard Ranch, 87.71 44 ⇓P P 01 16 34.5 +0.7
baz=88
F26A Lodgepole 87.74 41 ⇑P P 01 16 33.9 0.0
baz=88
U34A Anderson Ranch 87.77 51 ⇓P P 01 16 34.9 +0.7
baz=88
O31A Woolen Ranch, 87.78 47 ⇓P P 01 16 34.5 +0.3
baz=88
S33A Kaszmaul Farm, 87.82 50 ⇓P P 01 16 34.9 +0.5
baz=88
D25A Fairfield 87.87 40 ⇑P P 01 16 35.3 +0.8
baz=88
DGMT Dagmar 87.90 38 eP P 01 16 33.1 -1.4
comp=Z,40nm,1.0s
DGMT LR LR
comp=Z,4μm,20.0s
DGMT Dagmar 87.90 38 ⇓P P 01 16 35.3 +0.8
baz=88,SNR=7.5
INK Inuvik 87.91 14 eP P 01 16 32.3 -1.7
INK pmax pmax
comp=Z,20nm,1.1s
INK Inuvik 87.91 14 eP P 01 16 32.3 -1.7
comp=Z,20nm,1.1s
Q32A Meitler Ranch, 87.91 49 ⇓P P 01 16 35.2 +0.4
baz=88
M30A Dale-Ortello V 87.91 46 ⇓P P 01 16 35.1 +0.3
baz=88
GYA Guiyang 87.97 298 P P 01 16 36.0 +0.5
GYA PP PP 01 20 03.2 +1.1
GYA SKS SKSac 01 27 01.6 -2.3
GYA S S 01 27 17.5 -1.4
GYA SS SS 01 33 07.9 +0.8
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,190nm,5.4s
GYA LR LR
comp=Z,820nm,20.6s
GYA LR LR
comp=Z,780nm,21.5s
GYA LR LR
comp=Z,940nm,20.0s
I28A Midland 87.98 43 ⇑P P 01 16 35.3 +0.3
baz=88
CLNS Chul'man 87.98 331 eP P 01 16 35.9 +1.2
CLNS pmax pmax
comp=Z,22nm,0.9s
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,1.3s
G27A Dupree 88.02 42 ⇑P P 01 16 35.5 +0.3
baz=88
K29A Lazy Trails An 88.07 45 ⇓P P 01 16 36.2 +0.7
baz=88
R33A Olander Ranch, 88.09 50 ⇑P P 01 16 36.5 +0.9
baz=88
E26A Carlson Angus 88.13 41 ⇓P P 01 16 36.7 +1.0
baz=88
C25A Freed Ranch, W 88.15 39 ⇓P P 01 16 36.7 +1.0
baz=88
MAW Mawson 88.15 199 LR LR 01 56 01.7
comp=N,4μm,18.5s,baz=118,slow=36
F27A Lemmon 88.17 41 ⇓P P 01 16 36.7 +0.8
baz=88
A24A Westby 88.21 38 ⇓P P 01 16 37.0 +1.0
baz=88,SNR=5.5
J29A Okreek 88.31 44 ⇓P P 01 16 37.5 +0.9
baz=89
D26A Manning 88.37 40 ⇑P P 01 16 36.5 -0.3
baz=89,SNR=7.7
B25A Knox Farm, Ray 88.44 39 ⇑P P 01 16 37.4 +0.3
baz=89
Q33A Connelly Farm, 88.44 49 ⇑P P 01 16 37.5 +0.1
baz=89
XAN Xi'an 88.51 306 P P 01 16 38.8 +1.0
XAN pmax pmax
comp=N,4.0nm,1.3s
XAN pmax pmax
comp=N,190nm,8.0s
XAN LR LR
comp=N,1μm,21.2s
XAN LR LR
comp=N,600nm,22.5s
XAN LR LR
comp=N,640nm,20.6s
K30A Basset 88.52 45 ⇓P P 01 16 38.1 +0.4
baz=89
G28A Parade 88.56 42 ⇓P P 01 16 38.4 +0.6
baz=89
E27A Carson 88.68 41 ⇓P P 01 16 38.7 +0.4
baz=89
A25A Svangstu Ranch 88.74 38 ⇑P P 01 16 39.9 +1.4
baz=89
YAK Yakutsk 88.83 337 eP P 01 16 38.1 -0.4
YAK e*PP pP 01 16 45.6 +2.0
YAK ePPP PPP 01 22 11.7
YAK eS SKSac 01 27 04.9 -2.3
YAK e*SS S 01 27 22.2 -3.1
YAK eSS SS 01 33 11.6 -6.3
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,26nm,1.1s
YAK pmax pmax
comp=E,119nm,5.4s
YAK pmax pmax
comp=Z,474nm,9.1s
YAK pmax pmax
comp=N,277nm,9.1s
YAK smax smax
comp=E,445nm,7.8s
YAK smax smax
comp=N,699nm,8.6s
YAK Yakutsk 88.83 337 eP P 01 16 37.0 -1.5
YAK LR LR
comp=Z,2μm,21.0s
J30A Dallas 88.84 45 ⇓P P 01 16 40.0 +0.8
baz=89
HHC Hu-ho-hao-te 88.86 313 eP P 01 16 40.1 +0.7
HHC PP PP 01 20 11.9 +2.9
HHC sS S 01 27 33.4 +6.6
HHC SS SS 01 33 21.0 +1.4
HHC pmax pmax
comp=Z,20nm,1.2s
HHC pmax pmax
comp=Z,1μm,5.7s
HHC LR LR
comp=Z,1μm,15.3s
HHC LR LR
comp=Z,4μm,20.4s
HHC LR LR
comp=Z,5μm,21.2s
C26A Wahner Farm, P 88.91 40 ⇑P P 01 16 39.9 +0.6
baz=89,SNR=6.5
TUL1 Tulsa 88.91 52 ⇑P P 01 16 40.1 +0.5
baz=89
F28A McLaughlin 88.94 42 ⇑P P 01 16 40.2 +0.7
baz=89
D27A Center 88.97 40 ⇑P P 01 16 40.4 +0.8
baz=89
B26A Jensen Ranch, 89.04 39 ⇓P P 01 16 41.3 +1.3
baz=89
BGNE Belgrade 89.07 47 ⇑P P 01 16 41.8 +1.5
baz=89
C27A Sayler Ranch, 89.23 40 ⇓P P 01 16 42.0 +1.2
baz=90
KSU1 Kansas State U 89.37 49 PFAKE 01 16 50.0 +8.3
KSU1 LR LR
comp=Z,5μm,21.0s
KSU1 Kansas State U 89.37 49 ⇓P P 01 16 42.4 +0.8
baz=90
A26A Wade Farm, Ken 89.37 39 ⇓P P 01 16 42.6 +1.1
baz=90
PLCA Paso Flores 89.67 132 P P 01 16 43.2 -0.1
PLCA pmax pmax
comp=Z,55nm,2.0s
PLCA Paso Flores 89.67 132 P P 01 16 41.6 -1.6
comp=Z,0.7nm,0.2s,baz=135,slow=1.4,SNR=2.6
PLCA LR LR 01 49 32.1
comp=Z,4μm,19.3s,baz=254,slow=31
PLCA Paso Flores 89.67 132 P P 01 16 43.2 -0.1
comp=Z,55nm,2.0s
YKA Yellowknife Ar 89.74 23 P P 01 16 40.6 -2.2
comp=Z,7.2nm,0.9s,baz=236,slow=4.3,SNR=45
G30A Faulkton 89.75 43 ⇓P P 01 16 44.0 +0.7
baz=90
C28A Hausauer Farms 89.92 40 ⇑P P 01 16 44.9 +0.8
baz=90
MIAR Mount Ida 90.20 54 PFAKE 01 17 00.0 +14
MIAR LR LR
comp=Z,4μm,21.0s
B28A Dugan Ranch, T 90.22 40 ⇑P P 01 16 46.2 +0.8
baz=90
A28A Rude Farm, Bot 90.45 39 ⇑P P 01 16 47.3 +0.8
baz=91
TEIG Tepich 90.57 69 PFAKE 01 17 00.0 +12
TEIG LR LR
comp=Z,1μm,20.0s
D30A Buchanan 90.72 41 ⇓P P 01 16 48.1 +0.3
baz=91
ECSD EROS Data Cent 90.94 45 PFAKE 01 17 00.0 +11
ECSD LR LR
comp=Z,6μm,22.0s
ECSD EROS Data Cent 90.94 45 ⇑P P 01 16 49.5 +0.6
baz=91
KMI Kunming 90.97 296 ⇑P P 01 16 49.6 -0.1
KMI pP pP 01 16 53.8 -0.9
KMI PP PP 01 20 28.1 +1.9
KMI SKS SKSac 01 27 21.5 -0.3
KMI S S 01 27 47.5 +0.3
KMI sS ScS 01 27 49.9 -0.5
KMI SS SS 01 33 49.7 -1.2
KMI pmax pmax
comp=Z,7.0nm,0.5s
KMI pmax pmax
comp=Z,400nm,8.3s
KMI LR LR
comp=Z,1μm,16.4s
KMI LR LR
comp=Z,2μm,14.4s
KMI LR LR
comp=Z,2μm,18.0s
JTS JuntasAbangare 91.05 80 eP P 01 16 50.2 +0.1
JTS pmax pmax
comp=Z,44nm,1.1s
JTS MLR MLR
comp=Z,6μm,20.0s
JTS JuntasAbangare 91.05 80 eP P 01 16 50.1 +0.1
comp=Z,44nm,1.1s
JTS LR LR
comp=Z,6μm,20.0s
A29A Manning Farm, 91.09 39 ⇓P P 01 16 49.8 +0.3
baz=91
C30A Mose, Pekin 91.11 41 ⇑P P 01 16 49.8 +0.2
baz=91
B30A Myrvik Farm, E 91.48 40 ⇑P P 01 16 51.2 -0.1
baz=92
A30A Hoffart Farm, 91.67 40 ⇓P P 01 16 52.1 -0.1
baz=92
CD2 Chengdu 91.71 301 eP P 01 16 52.8 0.0
CD2 pP pP 01 16 57.6 -0.3
CD2 sP sP 01 16 59.8 +0.2
CD2 PP PP 01 20 33.8 +2.0
CD2 SKS SKSac 01 27 23.8 -1.7
CD2 S S 01 27 50.6 -2.8
CD2 sS ScS 01 27 58.1 +2.1
CD2 SS SS 01 34 00.9 -0.2
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,740nm,7.4s
CD2 LR LR
comp=Z,2μm,22.5s
CD2 LR LR
comp=Z,2μm,21.1s
CD2 LR LR
comp=Z,2μm,19.6s
FFC Flin Flon 91.76 33 PFAKE 01 17 00.0 +7.6
FFC LR LR
comp=Z,2μm,19.0s
CMAR Chiang Mai Arr 92.60 288 P P 01 16 58.2 +1.1
comp=Z,0.9nm,0.3s,baz=90,slow=3.0,SNR=9.1
CMAR LR LR 01 53 42.0
comp=Z,2μm,21.9s,baz=99,slow=32
CHTO Chiang Mai 92.69 289 PFAKE 01 17 10.0 +12
CHTO LR LR
comp=Z,2μm,22.0s
SCIA State Center 92.72 47 PFAKE 01 17 10.0 +13
SCIA LR LR
comp=Z,5μm,21.0s
SYO Syowa Base 92.96 191⇓eP P 01 16 57.1 -0.7
AGMN Agassiz Nation 92.97 41 PFAKE 01 17 10.0 +12
AGMN LR LR
comp=Z,3μm,21.0s
AGMN Agassiz Nation 92.97 41 ⇓P P 01 16 57.8 -0.4
baz=93
NNA Nana 93.04 103 PFAKE 01 17 10.0 +11
NNA LR LR
comp=Z,3μm,22.0s
LZH Lanzhou 93.10 306 eP P 01 17 01.2 +1.9
LZH pP pP 01 17 04.5 +0.2
LZH sP sP 01 17 06.0 -0.1
LZH PP PP 01 20 47.3 +4.6
LZH SKS SKSac 01 27 33.0 -0.3
LZH S S 01 28 04.4 -1.4
LZH sS sS 01 28 13.2 -0.9
LZH pmax pmax
comp=Z,65nm,1.6s
LZH pmax pmax
comp=Z,470nm,9.5s
LZH LR LR
comp=Z,1μm,17.0s
LZH LR LR
comp=Z,2μm,16.5s
LZH LR LR
comp=Z,2μm,19.7s
VNA3 Neumayer Olymp 93.19 175 P P 01 16 58.2 -0.7
SNAA Sanae 93.25 177 P P 01 16 60.0 +0.8
SNAA Sanae 93.25 177 eP P 01 16 59.2 0.0
SNAA pmax pmax
comp=Z,13nm,1.0s
SNAA Sanae 93.25 177 eP P 01 16 59.2 0.0
comp=Z,13nm,1.0s
LCO Las Campanas 93.44 121 PFAKE 01 17 10.0 +8.7
LCO LR LR
comp=Z,7μm,22.0s
ULM Lac du Bonnet 93.60 39 P P 01 16 59.5 -1.5
comp=Z,5.0nm,0.9s,baz=274,slow=1.6,SNR=6.1
ULM LR LR 01 53 58.5
comp=Z,3μm,19.7s,baz=256,slow=32
VNA2 Neumayer--Watz 93.69 175 P P 01 17 01.4 +0.2
VNA1 Neumayer--Stat 93.89 175 P P 01 17 03.0 +0.9
SPMN St. Paul 94.00 44 ⇓P P 01 17 02.4 -0.6
baz=94
ULN Ulaanbaatar 94.24 318 c iP P 01 17 05.2 +1.0
ULN pmax pmax
comp=Z,6.0nm,1.3s
ULN Ulaanbaatar 94.24 318 eP P 01 17 01.0 -3.2
comp=Z,5.2nm,0.8s
ULN LR LR

	comp=Z,4µm,22.0s						
SONM	Songino Array	94.65	318	P	P	01 17 04.2	-1.8
	comp=Z,0.6nm,0.7s,baz=130,slow=2.3,SNR=4.1						
SONM				PP	PP	01 20 53.6	-0.9
	comp=Z,1.1nm,1.0s,baz=111,slow=8.1,SNR=3.7						
SONM				LR	LR	01 54 45.8	
	comp=Z,2µm,22.0s,baz=95,slow=32						
TIXI	Tiksi	94.70	344	*c*eP	P	01 17 07.3	+1.8
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
TIXI	Tiksi	94.70	344	PFAKE		01 17 20.0	+14
TIXI				LR	LR		
	comp=Z,3µm,21.0s						
OTAV	Otavalo	94.74	91	PFAKE		01 17 20.0	+12
OTAV				LR	LR		
	comp=Z,3µm,22.0s						
PAF	Port-aux-Franc	94.97	216	PFAKE		01 17 20.0	+13
PAF				LR	LR		
	comp=Z,4µm,20.0s						
PAF	Port-aux-Franc	94.97	216	S	S	01 28 03.0	-18
PAF				SS	SS	01 34 28.0	-18
PAF				L	L	01 43 00.0	
PAF				R		01 48 00.0	
JFWS	Jewell Farm	95.12	47	*e*P	P	01 17 08.0	-0.2
JFWS				pmax	pmax		
	comp=Z,16nm,0.9s						
JFWS				MLR	MLR		
	comp=Z,6µm,21.0s						
JFWS	Jewell Farm	95.12	47	*e*P	P	01 17 08.0	-0.2
	comp=Z,16nm,0.9s						
JFWS				LR	LR		
	comp=Z,6µm,21.0s						
AIS	Amsterdam Isla	95.36	229	PP	PP	01 20 37.0	-23
AIS				S	S	01 28 23.0	-2.3
AIS				SS	SS	01 34 57.0	+5.1
AIS				L	L	01 44 00.0	
AIS				R		01 49 00.0	
BCIP	Isla Barro Col	95.65	82	PFAKE		01 17 20.0	+8.8
BCIP				LR	LR		
	comp=Z,2µm,22.0s						
EYMN	Ely	95.65	42	PFAKE		01 17 20.0	+10
EYMN				LR	LR		
	comp=Z,4µm,21.0s						
SFIN	Scholer Farm	96.76	50	⇑P	P	01 17 15.3	-0.3
	baz=97						
TRQA	Tornquist	96.83	132	PFAKE		01 17 30.0	+14
TRQA				LR	LR		
	comp=Z,4µm,22.0s						
LVC	Limon Verde	97.07	116	PFAKE		01 17 30.0	+12
LVC				LR	LR		
	comp=Z,4µm,21.0s						
TLY	Talaya	97.43	321	*e*P	Pdif	01 17 19.6	+1.1
TLY				*e*SS	SS	01 35 18.3	-3.2
TLY				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TLY	Talaya	97.43	321	PFAKE		01 17 30.0	+11
TLY				LR	LR		
	comp=Z,3µm,20.0s						
GOGA	Godfrey	97.99	58	PFAKE		01 17 30.0	+8.5
GOGA				LR	LR		
	comp=Z,3µm,22.0s						
AAM	Ann Arbor	99.70	49	PFAKE		01 17 40.0	+11
AAM				LR	LR		
	comp=Z,3µm,21.0s						
ACSO	Alum Creek Sta	99.80	51	PFAKE		01 17 40.0	+11
ACSO				LR	LR		
	comp=Z,4µm,22.0s						
LPAZ	La Paz	99.84	110	LR	LR	01 55 05.7	
	comp=Z,2µm,19.7s,baz=262,slow=31						
ROSC	El Rosal	99.89	88	LR	LR	01 53 17.2	
	comp=Z,2µm,21.0s,baz=270,slow=30						
MTDJ	Mount Denham	99.93	74	PFAKE		01 17 40.0	+9.5
MTDJ				LR	LR		
	comp=Z,2µm,20.0s						
NHSC	New Hope	100.63	59	PFAKE		01 17 50.0	+17
NHSC				LR	LR		
	comp=Z,2µm,20.0s						
BLA	Blacksburg	101.19	54	PFAKE		01 17 50.0	+14
BLA				LR	LR		
	comp=Z,4µm,20.0s						
HOPE	Hope Point	101.77	156	PFAKE		01 17 50.0	+12
HOPE				LR	LR		
	comp=Z,2µm,21.0s						
LSA	Lhasa	102.04	298	PFAKE		01 17 50.0	+10
LSA				LR	LR		
	comp=Z,1µm,22.0s						
ERPA	Erie	102.35	49	PFAKE		01 17 50.0	+9.3
ERPA				LR	LR		
	comp=Z,4µm,20.0s						
GTBY	Guantanamo Bay	102.53	73	PFAKE		01 17 50.0	+8.1
GTBY				LR	LR		
	comp=Z,2µm,21.0s						
CNNC	Cliffs of the	102.87	57	PFAKE		01 17 50.0	+6.9
CNNC				LR	LR		
	comp=Z,3µm,20.0s						
CBN	Corbin	103.74	54	PFAKE		01 18 00.0	+13
CBN				LR	LR		
	comp=Z,5µm,21.0s						
SDV	Santo Domingo	104.41	85	PFAKE		01 18 00.0	+9.3
SDV				LR	LR		
	comp=Z,3µm,20.0s						
BINY	Binghamton	105.31	50	PFAKE		01 22 20.0	
BINY				LR	LR		
	comp=Z,4µm,21.0s						
SDDR	Presa de Saban	105.88	74	PFAKE		01 22 20.0	
SDDR				LR	LR		
	comp=Z,7µm,20.0s						
GRTK	Grand Turk	106.48	72	PFAKE		01 22 20.0	
GRTK				LR	LR		
	comp=Z,3µm,22.0s						
LONY	Lake Ozonia	106.57	47	PFAKE		01 22 20.0	
LONY				LR	LR		
	comp=Z,4µm,20.0s						
WMQ	Urumqi	106.71	312	*e*Pdif	Pdif	01 18 01.3	+1.2
WMQ				PP	PP	01 22 30.3	+4.4
WMQ				S	Sdif	01 29 59.3	-1.3
WMQ				SS	SS	01 37 31.5	+0.9
WMQ				AMB	AMB		
	comp=Z,340nm,7.4s						
WMQ				LR	LR		
	comp=Z,1µm,19.6s						
WMQ				LR	LR		
	comp=Z,1µm,20.0s						
WMQ				LR	LR		
	comp=Z,1µm,20.6s						
SAML	Samuel	106.76	104	PFAKE		01 22 20.0	
SAML				LR	LR		
	comp=Z,3µm,20.0s						
NCB	Newcomb	106.77	48	PFAKE		01 22 20.0	
NCB				LR	LR		
	comp=Z,6µm,22.0s						
LBNH	Lisbon	108.44	48	PFAKE		01 22 30.0	
LBNH				LR	LR		
	comp=Z,5µm,20.0s						
ZALV	Zalesovo Beam	109.01	322	Pdiff	Pdif	01 18 09.0	-1.0
	comp=Z,0.3nm,0.3s,baz=93,slow=5.8,SNR=3.5						
ZALV				PKiKP	PKiKP	01 22 14.6	+0.3
	comp=Z,0.5nm,0.5s,baz=108,slow=0.5,SNR=3.1						
ZALV				PP	PP	01 22 39.9	-2.3
	comp=Z,0.5nm,0.4s,baz=121,slow=2.5,SNR=5.0						
SJG	San Juan	110.53	76	PFAKE		01 22 30.0	
SJG				LR	LR		
	comp=Z,2µm,20.0s						
MKAR	Makanchi Array	110.65	315*c*	*i*PKiKP	PKiKP	01 22 20.5	+2.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	110.65	315	PKiKP	PKiKP	01 22 17.3	-0.4
	comp=Z,0.6nm,0.7s,baz=61,slow=0.3,SNR=11						
DGAR	Diego Garcia	111.13	256	PFAKE		01 22 30.0	
DGAR				LR	LR		
	comp=Z,3µm,22.0s						
PTGA	Pitinga	112.29	97	PFAKE		01 22 30.0	
PTGA				LR	LR		
	comp=Z,3µm,20.0s						
KURK	Kurchatov	112.94	319	PFAKE		01 22 30.0	
KURK				LR	LR		
	comp=Z,2µm,20.0s						
BBSR	BB Station	113.47	61	PFAKE		01 22 40.0	
BBSR				LR	LR		
	comp=Z,2µm,21.0s						
GRGR	Grenville	113.73	83	PFAKE		01 22 40.0	
GRGR				LR	LR		
	comp=Z,1µm,22.0s						
ANWB	Willy Bob	114.56	77	PFAKE		01 22 40.0	+14
ANWB				LR	LR		
	comp=Z,2µm,20.0s						
FDF	Fort de France	114.69	80	PFAKE		01 22 40.0	+14
FDF				LR	LR		
	comp=Z,2µm,20.0s						
KSH	Kashi	115.34	307	*e*PKP	PKPdf	01 22 30.0	+3.0
KSH				*e*PKS	PKSdf	01 26 03.3	-0.5
KSH				SKS	SKSdf	01 29 37.3	-1.6
KSH				SKKS	SKKSac	01 30 26.5	-2.8
KSH				*e*SS	SS	01 39 30.9	+4.6
KSH				AMB	AMB		
	comp=Z,110nm,3.5s						
KSH				LR	LR		
	comp=Z,210nm,10.3s						
KSH				LR	LR		
	comp=Z,1µm,17.3s						
KSH				LR	LR		
	comp=Z,2µm,19.8s						
BBGH	Gun Hill	115.92	83	PFAKE		01 22 40.0	+11
BBGH				LR	LR		
	comp=Z,5µm,20.0s						
KBS	Kingsbay	116.05	359	PFAKE		01 22 40.0	+13
KBS				LR	LR		
	comp=Z,1µm,20.0s						
SFJD	Kangerlussuaq	116.25	22	PFAKE		01 22 40.0	+12
SFJD				LR	LR		
	comp=Z,2µm,21.0s						
AAK	Ala-Archa	116.34	310	⇓Lg	Lg	01 22 22.0	
	comp=Z,5.7nm,0.8s						
AAK	Ala-Archa	116.34	310	PFAKE		01 22 40.0	+11
AAK				LR	LR		
	comp=Z,2µm,19.0s						
BRVK	Borovoye	117.72	322	*i* PKIKP	PKPdf	01 22 31.9	+0.9
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BRVK	Borovoye	117.72	322	PFAKE		01 22 40.0	+9.0
BRVK				LR	LR		
	comp=Z,3µm,21.0s						
RER	Riviere de l'E	119.90	234	PFAKE		01 22 50.0	+14
RER				LR	LR		
	comp=Z,1µm,20.0s						
KBL	Kabul	121.06	301	*e*PKIKP	PKPdf	01 22 39.5	+1.2
KBL	Kabul	121.06	301	*e*PKPdf	PKPdf	01 22 39.5	+1.2
SVE	Sverdlovsk	121.89	328	*i* PKIKP	PKPdf	01 22 39.7	+0.8
SVE				*e*		01 24 10.2	
SVE				*e*		01 29 41.5	
SVE				*e*		01 34 04.4	
SVE				*e*		01 41 02.1	
SVE				pmax	pmax		
	comp=Z,12nm,1.2s						
SVE				MLR	MLR		
	comp=Z,2µm,19.0s						
SOKR	Solikamsk	122.51	332	*i* PKIKP	PKPdf	01 22 40.7	+0.8
SOKR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ARU	Arti	123.10	329	*i* PKIKP	PKPdf	01 22 40.9	-0.3
ARU						01 24 18.2	
ARU						01 29 38.0	
ARU				SP	SP	01 34 06.7	-7.6
ARU				PS	PS	01 34 18.8	+1.5
ARU				MLR	MLR		
	comp=Z,3µm,22.0s						
ARU	Arti	123.10	329	*e*PKPdf	PKPdf	01 22 41.5	+0.3
ARU				LR	LR		
	comp=Z,3µm,22.0s						
KEV	Kevo	123.87	352	PFAKE		01 22 50.0	+7.7
KEV				LR	LR		
	comp=Z,2µm,20.0s						
LVZ	Lovozero	124.18	348	PFAKE		01 22 50.0	+6.9
LVZ				LR	LR		
	comp=Z,2µm,20.0s						
ARCES	ARCESS Array B	124.28	352	PKP	PKPdf	01 22 42.6	-0.5
	comp=Z,3.5nm,0.6s,baz=36,slow=1.3,SNR=14						
ABKAR	Akbulak array	125.02	320	*e*PKPdf	PKPdf	01 22 46.0	+0.9
PRGR	Permogore	125.85	338	*e*PKIKP	PKPdf	01 22 44.9	-1.4
BORG	Borgarnes	126.80	15	PFAKE		01 23 00.0	+12
BORG				LR	LR		
	comp=Z,2µm,20.0s						
ABPO	Ambohimpanom	127.67	231	PFAKE		01 23 00.0	+8.6
ABPO				LR	LR		
	comp=Z,4µm,20.0s						
MSEY	Mahe Island	127.86	252	PFAKE		01 23 00.0	+8.3
MSEY				LR	LR		
	comp=Z,2µm,19.0s						
KLMR	Klimovskoe	128.50	340	*e*PKIKP	PKPdf	01 22 51.8	+0.4
KLMR				pmax	pmax		
	comp=Z,26nm,1.4s						
SUR	Sutherland	130.94	196	PFAKE		01 23 10.0	+13
SUR				LR	LR		
	comp=Z,3µm,19.0s						
FINES	FINESS Array B	131.63	348*c*	*i*PKIKP	PKPdf	01 23 01.0	+3.7
FINES				pmax	pmax		
	comp=Z,28nm,1.4s						
FINES	FINESS Array B	131.63	348	PKP	PKPdf	01 22 57.3	0.0
	comp=Z,28nm,1.4s,baz=64,slow=2.1,SNR=7.8						
RCBR	Riachuelo	132.96	113	PFAKE		01 23 10.0	+8.6
RCBR				LR	LR		
	comp=Z,3µm,20.0s						
OBN	Obninsk	133.84	337	*i* PKIKP	PKPdf	01 23 01.4	-0.3
OBN				*e*		01 25 32.0	
OBN				*i* PS	PS	01 35 43.0	-7.6
OBN				*i* SS	SS	01 43 19.5	+2.6
OBN				pmax	pmax		
	comp=Z,25nm,2.5s						
OBN				MLR	MLR		
	comp=Z,2µm,23.0s						
OBN	Obninsk	133.84	337	PFAKE		01 23 10.0	+8.3
OBN				LR	LR		
	comp=Z,2µm,20.0s						
NB2	NORSAR Subarra	133.96	357	PKP	PKPdf	01 23 06.5	+4.7
	comp=Z,1.0nm,0.7s,baz=13,slow=2.6						
NOA	NORSAR Array B	133.96	357	PKhKP	PKPpre	01 22 55.4	
	comp=Z,1.2nm,0.9s,baz=11,slow=7.2,SNR=3.5						
MAK	Makhachkala	135.41	317	*e*PKIKP	PKPdf	01 23 06.1	+1.1
MAK				*e*		01 25 38.1	
MAK				*e*PPP	PPP	01 28 35.1	
MAK				*e*		01 30 08.8	
MAK				*e*SS	SS	01 43 35.1	-2.0
MAK				MLR	MLR		
	comp=Z,5µm,23.0s						
KONO	Kongsberg	135.42	358	PFAKE		01 23 20.0	+15
KONO				LR	LR		
	comp=Z,2µm,19.0s						
NACGM	Naroch	137.29	343	*e*	SKPdf	01 26 42.0	-0.8
DGRG	David-gareji	137.50	316	P	SKPab	01 26 48.8	-0.6
TBLG	Delisi	137.79	317	P	SKPdf	01 26 44.7	+0.6
KIV	Kislovodsk	138.00	321	*i* PKIKP	PKPdf	01 23 09.0	-0.9
KIV				*e*		01 25 57.9	
KIV				*e*SS	SS	01 44 03.4	-4.6
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,2µm,22.0s						
KIV	Kislovodsk	138.00	321	PFAKE		01 23 20.0	+10
KIV				LR	LR		
	comp=Z,2µm,22.0s						
ONI	Oni	138.22	318	P	SKPdf	01 26 47.8	+2.9
GNI	Garni	138.50	315	PFAKE		01 23 20.0	+8.9
GNI				LR	LR		
	comp=Z,1µm,21.0s						
AKH	Akhalkalaki	138.77	317	P	SKPdf	01 26 48.8	+2.7
ESK	Eskdalemuir	139.09	9	PFAKE		01 23 20.0	+8.5
ESK				LR	LR		
	comp=Z,2µm,20.0s						
CLDR	Caldiran	139.51	314	*e*P	PKPdf	01 23 11.2	-1.9
SOC	Sochi	140.00	322	*e*PKIKP	PKPdf	01 23 12.5	-1.0
SOC				*e*		01 26 05.2	
SOC				*e*		01 30 22.9	
SOC				MLR	MLR		
	comp=Z,2µm,17.0s						
AKASG	Malin Array Be	140.06	338	PKhKP	PKPpre	01 23 06.9	
	comp=Z,0.5nm,0.5s,baz=46,slow=2.8,SNR=2.8						
AKASG				PKP	PKPdf	01 23 12.7	-0.7
	comp=Z,3.7nm,0.9s,baz=30,slow=2.5,SNR=8.4						
AKASG				PP	PP	01 26 08.3	-1.3
	comp=Z,0.2nm,0.3s,baz=36,slow=5.3,SNR=4.2						
KIEV	Kiev	140.07	338	PFAKE		01 23 20.0	+6.6
KIEV				LR	LR		
	comp=Z,3µm,21.0s						
CUKT	Cukurca	140.53	311	*e*P	PKPdf	01 23 12.6	-2.2
BSEG	Bad Segeberg	141.10	357	*e*PKPbc	PKPdf	01 23 15.7	+0.6
RAYN	Ar Rayn	142.51	289	*e*PKPdf	PKPdf	01 23 19.7	+1.1
LVV	L'vov	142.56	341	*e*PKIKP	PKPdf	01 23 22.7	+4.8
KWP	Kalwaria Pacla	143.12	343	*e*PKIKP	PKPdf	01 23 17.9	-1.0
KWP				MLR	MLR		
	comp=Z,2µm,20.0s						
KWP	Kalwaria Pacla	143.12	343	*e*PKP	PKPdf	01 23 18.0	-1.0
KWP	Kalwaria Pacla	143.12	343	*e*PKPdf	PKPdf	01 23 17.9	-1.0
KWP				LR	LR		
	comp=Z,2µm,20.0s						
LSZ	Lusaka	143.13	216	PKIKP	PKPbc	01 23 17.9	+1.0
LSZ				MLR	MLR		
	comp=Z,2µm,19.0s						
LSZ	Lusaka	143.13	216	PKP	PKPbc	01 23 17.9	+1.0
	comp=Z,2.0nm,0.8s,baz=157,slow=4.4,SNR=4.8						
LSZ	Lusaka	143.13	216	PKP	PKPbc	01 23 17.9	+1.0
LSZ				*e*PKPdf	PKPdf	01 23 18.1	-2.0
LSZ				LR	LR		
	comp=Z,2µm,19.0s						
CLZ	Clausthal	143.18	356	*e*PKPbc	PKPbc	01 23 17.4	+1.5
KIS	Kishinev	143.20	335	*e*PKIKP	PKPbc	01 23 16.0	0.0
KIS				MLR	MLR		
	comp=Z,3µm,23.0s						
KIS				MLR	MLR		
	comp=N,2µm,20.0s						
KIS				MLR	MLR		
	comp=E,1µm,19.0s						
KIS				MLR	MLR		
	comp=Z,2µm,24.0s						
KIS	Kishinev	143.20	335	*e*PKP	PKPbc	01 23 16.0	0.0
KIS				*e*SKP		01 27 00.0	
KIS				LRM	MLR	02 24 50.0	
	comp=Z,2µm,24.0s						
KSP	Ksiaz	143.47	350	*e*PKIKP	PKPbc	01 23 17.9	+1.2
KSP				MLR	MLR		
	comp=Z,13µm,22.2s						
KSP	Ksiaz	143.47	350	*e*PKP	PKPab	01 23 15.1	-0.6
CLL	Collm	143.48	353	*e*PKIKP	PKPdf	01 23 20.0	+0.5
CLL				*i*		01 23 27.4	
CLL				pmax	pmax		
	comp=Z,13nm,1.4s						
CLL				MLR	MLR		
	comp=Z,2µm,19.0s						
CLL	Collm	143.48	353	*e*PKPdf	PKPdf	01 23 20.0	+0.5
	comp=Z,13nm,1.4s						
CLL				*i* pPKiKP	pPKiKP	01 23 27.4	-0.6
	comp=Z,17nm,1.0s						
CLL				*i*		01 23 33.4	
CLL				*e*(PP)		01 26 42.0	
CLL				Lm	MLR	02 27 00.0	
	comp=N,2µm,21.2s						
CLL				Lm	MLR	02 27 00.0	
	comp=E,400nm,21.8s						
CLL				LmV		02 38 00.0	
	comp=Z,2µm,19.0s						
STHS	Stebnicka Huta	143.72	344	*e*PKIKP	PKPdf	01 23 19.0	-1.0
STHS	Stebnicka Huta	143.72	344	*e*PKP	PKPdf	01 23 19.0	-1.0
BRG	Berggiesshubel	143.79	352	*e*PKP	PKPdf	01 23 20.2	+0.1
	comp=Z,17nm,1.6s						
	comp=N,1µm,22.3s						
	comp=E,1µm,22.8s						
	comp=Z,2µm,16.0s						
BRG	Berggiesshubel	143.79	352	*e*PKIKP	PKPdf	01 23 20.2	+0.1
BRG				pmax	pmax		
	comp=Z,17nm,1.6s						
BRG				MLR	MLR		
	comp=N,1µm,22.3s						
BRG				MLR	MLR		
	comp=E,1µm,22.8s						
BRG				MLR	MLR		
	comp=Z,2µm,16.0s						
UPC	Upice	143.84	350	*e*PKP	PKPab	01 23 15.8	-1.3
UPC				*e*x	x	01 23 19.9	
KOLS	Kolonicke sedl	143.88	343	*e*PKIKP	PKPdf	01 23 19.9	-0.4
KOLS	Kolonicke sedl	143.88	343	*e*PKP	PKPdf	01 23 19.9	-0.4
DPC	Dobruska-Polom	143.94	350	*e*PKIKP	PKPab	01 23 16.9	-0.7
DPC				*e*		01 23 24.8	
DPC	Dobruska-Polom	143.94	350	*e*PKP	PKPab	01 23 16.9	-0.7
DPC				*e*x	x	01 23 19.9	
DPC				*e*pPKP	pPKPdf	01 23 24.8	-0.7
DPC				AMS	AMS	02 25 50.0	
NIE	Niedzica	143.96	345	*e*PKIKP	PKPdf	01 23 19.5	-0.9
NIE	Niedzica	143.96	345	*e*PKP	PKPdf	01 23 19.5	-0.9
BUR08	Bucovina Ar. S	144.06	339	*e*PKPdf	PKPdf	01 23 19.7	-1.0
OKC	Ostrava-Krasne	144.07	347	*e*PKP	PKPab	01 23 16.1	-1.9
OKC				*e*x	x	01 23 19.9	
OKC				*e*pPKP	pPKPdf	01 23 24.9	-0.8
OKC				AMS	AMS	02 22 10.0	
	comp=Z,2µm,23.2s						
KRLC	Kraliky	144.12	349	*e*PKIKP	PKPab	01 23 17.2	-1.1
KRLC				*e*		01 23 24.9	
KRLC	Kraliky	144.12	349	*e*PKP	PKPab	01 23 17.2	-1.1
KRLC				*e*x	x	01 23 20.2	
KRLC				*e*pPKP	PKiKP	01 23 24.9	+0.7
CRVS	Cervenica-Dubn	144.13	343	*e*PKIKP	PKPbc	01 23 19.6	+0.9
CRVS	Cervenica-Dubn	144.13	343	*e*PKP	PKPbc	01 23 19.6	+0.9
UZH	Uzhgorod	144.14	342	*e*PKIKP	PKPab	01 23 17.0	-1.3
UZH				*e*		01 23 23.4	
UZH				*e*		01 26 33.2	
UZH				*e*		01 30 28.2	
DARE	Darende-Malaty	144.18	317	*e*P	PKPab	01 23 17.3	-1.6
MORC	Moravsky Berou	144.26	348	⇑PKIKP	PKPdf	01 23 21.5	+0.5
MORC	Moravsky Berou	144.26	348	⇑*i*P	PKPdf	01 23 21.5	+0.5
MORC	Moravsky Berou	144.26	348	*e*PKPdf	PKPdf	01 23 20.6	-0.3
MOX	Moxa	144.28	355	*e*PKPbc	PKPdf	01 23 21.4	+0.5
TSUM	Tsumeb	144.31	198	*e*PKPdf	PKPbc	01 23 21.1	+0.8
TSUM				LR	LR		
	comp=Z,3µm,20.0s						
TANN	Tannenbergstha	144.42	354	*e*PKPbc	PKPdf	01 23 21.7	+0.5
TESR	Tescani	144.47	336	⇑*i*P	PKPdf	01 23 21.0	-0.4
PRA	Prague	144.51	351	PKP	PKPab	01 23 19.0	-0.6
TRPA	Tarpa	144.51	342	⇑*i*P	PKPdf	01 23 21.5	+0.1
TRPA	Tarpa	144.51	342	⇓*e*PKPdf	PKPdf	01 23 21.0	-0.3
MEM	Membach	144.53	1	PKP	PKPdf	01 23 21.6	+0.2
PRU	Pruhonice	144.58	351	*e*PKIKP	PKPab	01 23 18.8	-1.1
PRU				*e*		01 23 26.1	
PRU				*e*SS	SS	01 45 20.8	-2.0
PRU				MLR	MLR		
	comp=Z,3µm,21.6s						
PRU	Pruhonice	144.58	351	*e*PKP	PKPab	01 23 18.8	-1.1
PRU				*e*x	x	01 23 21.5	
PRU				*e*pPKP	pPKPdf	01 23 26.1	-0.5
PRU				*e*SS	SS	01 45 20.8	-2.0
PRU				AMS	AMS	02 26 20.0	
	comp=Z,3µm,21.6s						
SNF	Seneffe	144.58	3	PKP	PKPdf	01 23 22.3	+0.9
BMR	Baia Mare	144.62	340	⇑PKIKP	PKPdf	01 23 24.5	+2.9
BMR	Baia Mare	144.62	340	⇑*i*P	PKPdf	01 23 24.5	+2.9
BCLA	Clavier	144.71	2	PKP	PKPbc	01 23 20.6	+0.1
KECS	Kecovo	144.78	344	*e*PKIKP	PKPdf	01 23 21.5	-0.3
KECS	Kecovo	144.78	344	*e*PKP	PKPdf	01 23 21.5	-0.3
MANZ	Manzenberg	144.88	354	*e*PKPbc	PKPdf	01 23 22.4	+0.4
VRAC	Vranov	144.89	349	⇓PKIKP	PKPdf	01 23 23.9	+1.9
VRAC	Vranov	144.89	349	⇓*i*P	PKPdf	01 23 23.9	+1.9
TNS	Taunus Mts	144.89	358	*e*PKPbc	PKPdf	01 23 22.6	+0.5
CFR	Carcaliu	144.94	333	⇓PKIKP	PKPdf	01 23 23.1	+0.9
CFR	Carcaliu	144.94	333	⇓*i*P	PKPdf	01 23 23.1	+0.9
VRI	Vrincioaia	144.97	335	⇓PKIKP	PKPdf	01 23 22.7	+0.4
VRI	Vrincioaia	144.97	335	⇓*i*P	PKPdf	01 23 22.7	+0.4
DOU	Dourbes	145.01	2	PKP	PKPdf	01 23 22.5	+0.4
CORM	Corum	145.07	321	*e*P	PKPbc	01 23 20.8	-1.4
ROTZ	Rotzenmuhle	145.09	354	*e*PKPbc	PKPdf	01 23 22.7	+0.4
TREC	Trest	145.10	350	*e*PKP2	PKPbc	01 23 19.0	-2.8
TREC				*e*		01 23 23.2	
TREC				*e*		01 23 27.6	
TREC				*e*SS	SS	01 45 22.0	-7.0
TREC				MLR	MLR		
	comp=Z,3µm,23.6s						
TREC	Trest	145.10	350	*e*PKP	PKPbc	01 23 19.0	-2.8
TREC				*e*pPKP	PKPdf	01 23 23.2	+0.8
TREC				*e*x	x	01 23 27.6	
TREC				*e*SS	SS	01 45 22.0	-7.0
TREC				AMS	AMS	02 26 00.0	
	comp=Z,3µm,23.6s						
KMRS	Kahramanmaras	145.14	316	*e*P	PKPbc	01 23 22.0	-0.3
VYHS	Vyhne	145.19	346	*e*PKP2	PKPbc	01 23 19.4	-2.7
VYHS	Vyhne	145.19	346	*e*PKP	PKPbc	01 23 19.4	-2.7
GRF	Grafenberg Arr	145.26	355	*e*PKPbc	PKPdf	01 23 24.0	+1.4
GRF				*e*L	L	02 29 18.5	
	comp=Z,2µm,21.2s						
TIRR	Tirgusor	145.38	332	*e*PKIKP	PKPab	01 23 23.9	+0.9
TIRR	Tirgusor	145.38	332	*e*PKPbc	PKPab	01 23 23.9	+0.9
HARR	Harsova	145.41	333	⇓PKIKP	PKPab	01 23 24.3	+1.2
HARR	Harsova	145.41	333	⇓*i*P	PKPab	01 23 24.3	+1.2
TLB	Topalu	145.44	333	⇑PKIKP	PKPab	01 23 25.1	+1.8
TLB	Topalu	145.44	333	⇑*i*P	PKPab	01 23 25.0	+1.8
PSZ	Piszkesteto	145.46	344	⇓PKIKP	PKPab	01 23 24.8	+1.5
PSZ	Piszkesteto	145.46	344	⇓*i*P	PKPab	01 23 24.8	+1.5

Code	Station	Dist	Az	Phase	ISC	Time	Res
PSZ	Piszkesteto	145.46	344	ePKPdf	PKPbc	01 23 22.0	-1.1
PSZ				LR	LR		
	comp=Z,2μm,20.0s						
PSZ	Piszkesteto	145.46	344	⇑e	PKPab	01 23 24.2	+0.9
WLF	Walferdange	145.48	1	ePKP2	PKPab	01 23 23.9	+0.7
WLF				MLR	MLR		
	comp=Z,2μm,20.0s						
WLF	Walferdange	145.48	1	ePKPbc	PKPab	01 23 24.8	+1.6
WLF	Walferdange	145.48	1	ePKPbc	PKPab	01 23 23.9	+0.7
WLF				LR	LR		
	comp=Z,2μm,20.0s						
SMOL	Smolenice	145.48	347	ePKIKP	PKPab	01 23 23.3	0.0
SMOL	Smolenice	145.48	347	ePKP	PKPab	01 23 23.3	0.0
KHC	Kasperske Hory	145.55	352	ePKIKP	PKPdf	01 23 21.7	-1.5
KHC				e		01 23 24.5	
KHC				e		01 23 29.6	
KHC				eSS	SS	01 45 32.9	-1.2
KHC				MLR	MLR		
	comp=Z,3μm,22.6s						
KHC	Kasperske Hory	145.55	352	ePKP	PKPdf	01 23 21.7	-1.5
KHC				epPKP	PKPab	01 23 24.5	+1.0
KHC				ex	x	01 23 29.6	
KHC				eSS	SS	01 45 32.9	-1.2
KHC				AMS	AMS	02 26 10.0	
	comp=Z,3μm,22.6s						
KHC	Kasperske Hory	145.55	352	ePKPdf	PKPdf	01 23 21.8	-1.4
MLR	Muntele Rosu	145.59	336	⇑PKP2	PKPab	01 23 25.4	+1.5
MLR	Muntele Rosu	145.59	336	⇑iP	PKPab	01 23 25.4	+1.5
WET	Wettzell	145.63	353	ePKPbc	PKPab	01 23 25.3	+1.5
DRGR		145.65	340	⇓PKP2	PKPab	01 23 24.9	+0.9
DRGR		145.65	340	⇓iP	PKPab	01 23 24.9	+0.9
ISR	Istrita	145.66	335	⇑PKP2	PKPab	01 23 25.8	+1.7
ISR	Istrita	145.66	335	⇑iP	PKPab	01 23 25.8	+1.7
KMBO	Kilima Mbogo	145.77	245	ePKP2	PKPab	01 23 26.1	+0.4
KMBO				MLR	MLR		
	comp=Z,2μm,19.0s						
KMBO	Kilima Mbogo	145.77	245	PKP	PKPab	01 23 26.1	+0.4
	comp=Z,4.3nm,0.8s,baz=117,slow=5.1,SNR=16						
KMBO	Kilima Mbogo	145.77	245	ePKPbc	PKPab	01 23 26.1	+0.4
KMBO				LR	LR		
	comp=Z,2μm,19.0s						
GEC2	GERESS Array S	145.81	352	ePKPbc	PKPab	01 23 25.5	+0.9
GERES	GERESS Array B	145.81	352	PKPbc	PKPdf	01 23 22.3	-1.5
	comp=Z,15nm,1.1s,baz=8.5,slow=2.7,SNR=32						
MSAB	Monastry St. A	145.93	332	⇑iP	PKPab	01 23 26.8	+1.8
BR131	Keskin Array S	145.95	321	ePKPdf	PKPdf	01 23 23.4	-0.8
BRTR	Keskin Array B	145.95	321	PKPbc	PKPdf	01 23 23.6	-0.8
	comp=Z,41nm,0.8s,baz=105,slow=2.4,SNR=80						
VOIR		145.99	337	⇓PKP2	PKPab	01 23 26.5	+1.2
VOIR		145.99	337	⇓iP	PKPab	01 23 26.5	+1.2
SULR		146.13	335	⇓iP	PKPab	01 23 28.2	+2.4
LANF	Langenberg	146.15	359	PKP	PKPab	01 23 26.2	+0.4
ARR	Arges	146.20	337	⇑iP	PKPab	01 23 25.2	-0.3
STU	Stuttgart	146.31	357	ePKP2	PKPbc	01 23 25.9	+0.3
STU	Stuttgart	146.31	357	ePKPbc	PKPab	01 23 25.9	+0.3
PKSG		146.32	346	⇑e	PKPab	01 23 26.1	-0.3
CONA	Conrad Observa	146.35	349	⇓iPKPab	PKPab	01 23 25.8	-0.1
	comp=Z,76nm,2.0s,SNR=17						
LOD	Lodumlu	146.37	322	eP	PKPdf	01 23 24.2	-0.8
CSKK	Csˆ‡kako	146.38	346	⇓e	PKPab	01 23 26.2	+0.4
SOP	Sopron	146.45	348	⇑e	PKPab	01 23 27.4	+0.5
AFSR	Afˆar-Bala (A	146.47	321	eP	PKPdf	01 23 24.8	-0.3
KARA	Karaisali	146.50	317	eP	PKPdf	01 23 25.1	0.0
PKST	T¨'s	146.53	346	⇑e	PKPbc	01 23 26.4	+0.1
MOA	Molln	146.70	351	⇑iPKPbc	PKPdf	01 23 25.5	+0.3
	comp=Z,29nm,0.9s,SNR=9.6						
WLS	Welschbruch	146.73	359	PKP	PKPdf	01 23 25.1	-0.1
FUR	Furstenfeldbru	146.77	354	ePKPbc	PKPab	01 23 28.3	+0.1
BFO	Black Forest	146.79	358	ePKP2	PKPdf	01 23 25.8	+0.5
BFO	Black Forest	146.79	358	ePKPbc	PKPab	01 23 28.3	0.0
BFO	Black Forest	146.79	358	ePKPbc	PKPdf	01 23 25.8	+0.5
SHEL	Horse Pasture	146.82	158	PFAKE		01 23 40.0	+11
SHEL				LR	LR		
	comp=Z,2μm,19.0s						
GZR	Gura Zlata	146.85	339	⇓PKP2	PKPab	01 23 28.4	-0.2
GZR	Gura Zlata	146.85	339	⇓iP	PKPab	01 23 28.4	-0.2
MDUB	Mudurnu	146.88	325	eP	PKPbc	01 23 28.1	+0.5
THEF	They Montfort	146.91	1	PKP	PKPbc	01 23 27.0	-0.4
ECH	Echery	146.93	359	ePKP2	PKPbc	01 23 26.6	-0.8
ECH				MLR	MLR		
	comp=Z,2μm,22.0s						
ECH	Echery	146.93	359	PKP	PKPbc	01 23 27.4	-0.1
ECH	Echery	146.93	359	ePKPbc	PKPbc	01 23 26.6	-0.8
ECH				LR	LR		
	comp=Z,2μm,22.0s						
RJOB	Jochberg	147.02	352	ePKPbc	PKPab	01 23 28.5	-0.7
BZS	Buzias	147.04	341	⇓PKP2	PKPab	01 23 28.9	-0.4
BZS	Buzias	147.04	341	⇓iP	PKPab	01 23 28.9	-0.4
ARSA	Arzberg	147.07	349	⇑iPKPdf	PKPbc	01 23 28.2	+0.3
	comp=Z,34nm,1.3s,SNR=16						
PKS9	Tamasi	147.10	345	e	PKPbc	01 23 28.3	+0.4
MOF	Molkenrain	147.29	359	PKP	PKPab	01 23 30.8	+0.5
PKSM	Moragy	147.36	345	⇑PKP2	PKPab	01 23 29.9	-0.6
PKSM	Moragy	147.36	345	⇑iP	PKPab	01 23 29.9	-0.6
PKSM	Moragy	147.36	345	⇑e	PKPab	01 23 29.0	+0.3
SVRH	Sivrihisar-ESK	147.38	323	eP	PKPbc	01 23 28.0	-1.1
BANR	Banloc	147.40	341	⇑iP	PKPab	01 23 29.6	+0.8
RETA	Reutte	147.49	355	⇑iPKPbc	PKPbc	01 23 27.5	+0.9
	comp=Z,64nm,1.6s						
KBA	Koelnbreinsper	147.59	352	⇓iPKPbc	PKPbc	01 23 28.2	-1.3
	comp=Z,39nm,1.3s,SNR=5.0						
WTTA	Wattenberg	147.62	354	⇑iPKPab	PKPbc	01 23 30.5	+0.9
	comp=Z,30nm,0.6s,SNR=7.1						
LADK	Ladik-KONYA	147.68	320	eP	PKPbc	01 23 29.2	-0.7
SOKA	Soboth	147.71	349	⇑iPKPbc	PKPdf	01 23 27.2	+0.2
	comp=Z,50nm,1.2s,SNR=14						
PERS	Pernice	147.74	349	ePKPbc	PKPbc	01 23 29.9	+0.1
DAVA	Damuels	147.75	356	⇑iPKPbc	PKPdf	01 23 28.4	+1.3
	comp=Z,61nm,1.6s,SNR=9.5						
LOMF	Lomont	147.80	360	PKP	PKPbc	01 23 30.5	+0.5
KONT	Konya--Tatoy	147.84	320	eP	PKPdf	01 23 28.2	+0.8
FETA	Feichten	147.95	355	⇑iPKPdf	PKPbc	01 23 26.8	-0.6
	comp=Z,28nm,1.0s,SNR=9.7						
MYKA	Terra Mystica	147.99	351	⇑isPKPdf	PKPbc	01 23 30.6	+0.1
	comp=Z,36nm,0.9s						
ABTA	Abfaltersbach	148.03	352	⇑iPKPbc	PKPdf	01 23 28.3	+0.8
	comp=Z,38nm,0.8s,SNR=17						
GCIS	Gornji Cirnik	148.38	348	ePKPbc	PKPbc	01 23 31.9	+0.5
LJU	Ljubljana	148.41	350	ePKPbc	PKPbc	01 23 31.8	+0.2
ALT	Altintas	148.46	324	eP	PKPbc	01 23 32.3	+0.3
SHUT	Suhut-Afyon	148.54	323	eP	PKPdf	01 23 29.4	+0.8
TUE	Stuetta	148.60	356	ePKPbc	PKPbc	01 23 33.3	+1.1
TUE				ePKPab	PKPab	01 23 38.1	+2.4
TUE				LR	LR		
	comp=Z,2μm,20.0s						
CSS	Prodhromos	148.93	314	PFAKE		01 23 40.0	+2.8
CSS				LR	LR		
	comp=Z,631nm,20.0s						
AGO	Saint Agoulin	148.95	5	PKP	PKPbc	01 23 34.3	+1.4
ISP	Isparta	149.04	322	PFAKE		01 23 40.0	+2.3
ISP				LR	LR		
	comp=Z,2μm,22.0s						
ASCN	Ascension	149.06	136	PFAKE		01 23 40.0	+1.8
ASCN				LR	LR		
	comp=Z,2μm,20.0s						
PLDF	La Plantade	149.07	4	PKP	PKPbc	01 23 34.4	+1.1
VTS	Vitosha	149.10	336	eP	PKPdf	01 23 29.8	+0.3
VTS	Vitosha	149.10	336	⇓PKP2	PKPab	01 23 35.1	+1.5
VTS	Vitosha	149.10	336	eP	PKPbc	01 23 34.9	+1.3
VTS	Vitosha	149.10	336	⇓iP	PKPbc	01 23 35.1	+1.5
BCK	Bucak	149.23	321	eP	PKPdf	01 23 30.3	+0.6
PYM	Petit Puy Mans	149.24	5	PKP	PKPbc	01 23 34.3	+0.5
BALB	Balikesir	149.27	327	eP	PKPdf	01 23 31.6	+1.9
RDO	Rodhopi	149.29	331	eP	PKPbc	01 23 34.5	+0.6
KHL	Karahalli	149.29	323	eP	PKPbc	01 23 33.8	-0.4
RSL	Roselend	149.46	0	PKP	PKPbc	01 23 35.1	+1.1
MMB	Musomiste	149.73	334	eP	PKPbc	01 23 35.0	0.0
KKB	Krupnik	149.76	335	eP	PKPbc	01 23 34.0	-1.1
LBL	Lubilhac	149.78	5	PKP	PKPbc	01 23 35.8	+0.7
SSB	Saint Sauveur	149.81	3	ePKPbc	PKPbc	01 23 33.0	-2.1
SSB				LR	LR		
	comp=Z,2μm,20.0s						
NVR	Nevrokopi	149.87	334	eP	PKPbc	01 23 36.0	+0.6
KAVA	Kavala	149.87	333	eP	PKPbc	01 23 36.0	+0.7
EZN	Ezine	149.93	329	eP	PKPbc	01 23 31.8	+1.1
BNI	Bardonecchia	150.10	0	PFAKE		01 23 40.0	-1.7
BNI				LR	LR		
	comp=Z,2μm,19.0s						
ELL	Elmali	150.10	321	eP	PKPbc	01 23 37.8	+1.6
SRS	Serrai	150.17	334	eP	PKPbc	01 23 36.0	-0.1
SKO	Skopje	150.31	337	ePKP	PKPbc	01 23 36.4	0.0
PRK	Paraskevi	150.40	328	eP	PKPdf	01 23 33.0	+1.6
KNT	Kendrikon	150.43	335	eP	PKPbc	01 23 37.0	+0.3
VAY	Valandovo	150.43	335	ePKP	PKPbc	01 23 36.8	+0.2
LIA	Limnos Island	150.44	330	eP	PKPbc	01 23 34.5	-2.2
AYDB	Zeytinkoy-Aydi	150.48	325	eP	PKPbc	01 23 36.4	-0.7
PCAB	Cabril	150.54	23	PKPdf	PKPdf	01 23 31.0	-0.6
PCAB	Cabril	150.54	23	PKPab	PKPab	01 23 45.8	+2.3
OUR	Ouranopolis	150.64	332	eP	PKPbc	01 23 37.5	+0.3
HORT	Hortiatis	150.81	334	eP	PKPbc	01 23 38.5	+0.8
VLC	Villacollemand	150.82	355	PFAKE		01 23 40.0	+2.4
VLC				LR	LR		
	comp=Z,3μm,21.0s						
PLG	Polygyros	150.85	333	eP	PKPbc	01 23 37.0	-0.8
POLO	Lamas de Olo	150.91	23	ePKPdf	PKPdf	01 23 29.9	-2.4
POLO	Lamas de Olo	150.91	23	ePKPab	PKPbc	01 23 40.1	+2.1
PBRG	Braganca	150.92	21	PKPdf	PKPdf	01 23 32.6	+0.4
PBRG	Braganca	150.92	21	PKPab	PKPbc	01 23 39.4	+1.5
PVRL	Vila Real	151.03	23	PKPab	PKPbc	01 23 37.3	-0.9
PAIG	Paliouri	151.11	332	eP	PKPbc	01 23 39.0	+0.7
TOUF	Mont Tournerai	151.13	359	PKP	PKPbc	01 23 38.7	+0.2
CHOS	Chios island	151.16	327	eP	PKPbc	01 23 38.2	-0.4
CHOS	Chios island	151.16	327	eP	PKPbc	01 23 40.0	+1.4
SMG	Samos	151.24	325	eP	PKPbc	01 23 39.0	+0.3
FNA	Florina	151.36	336	eP	PKPbc	01 23 39.5	+0.5
MVO	Moncorvo	151.38	22	ePKPab	PKPbc	01 23 40.5	+1.5
PVIS	Viseu	151.44	24	ePKPdf	PKPdf	01 23 32.6	-0.5
PVIS	Viseu	151.44	24	PKPab	PKPab	01 23 46.4	-1.0
LIT	Litokhoron	151.48	334	eP	PKPbc	01 23 40.0	+0.8
KZN	Kozani	151.61	335	eP	PKPab	01 23 49.0	+0.9
NEST	Nestorio	151.80	336	eP	PKPab	01 23 41.0	+0.9
MTE	Manteigas	151.85	23	PKPdf	PKPdf	01 23 35.0	+1.3
MTE	Manteigas	151.85	23	ePKPab	PKPbc	01 23 43.3	+3.2
MTE	Manteigas	151.85	23	PFAKE		01 23 40.0	-0.1
MTE				LR	LR		
	comp=Z,2μm,21.0s						
THL	Klokotos Trika	152.13	334	eP	PKPbc	01 23 43.0	+2.3
MRKA	Markates	152.13	331	eP	PKPbc	01 23 42.5	+1.7
SMIA	Simia	152.17	332	eP	PKPab	01 23 47.5	-2.9
PTOM	Tomar	152.17	26	ePKPdf	PKPdf	01 23 33.7	-0.4
PTOM	Tomar	152.17	26	PKPab	PKPbc	01 23 39.4	-1.4
AQU	L'Aquila	152.19	349	ePKIKP	PKPbc	01 23 40.9	+0.1
AQU				MLR	MLR		
	comp=Z,4μm,21.0s						
AQU	L'Aquila	152.19	349	ePKPbc	PKPbc	01 23 40.9	+0.1
AQU				LR	LR		
	comp=Z,4μm,21.0s						
PCBR	Castelo Branco	152.36	24	PKPab	PKPab	01 23 49.7	-1.4
AGG	Agios Georgios	152.45	333	eP	PKPbc	01 23 41.5	0.0
LKR	Lokris	152.45	332	eP	PKPbc	01 23 42.0	+0.6
AXAR	Agios Charalam	152.51	332	eP	PKPbc	01 23 41.5	-0.1
PTL	Penteli	152.52	330	eP	PKPbc	01 23 41.5	-0.2
JAN	Janina	152.53	336	eP	PKPbc	01 23 42.0	+0.4
MAKR	Makrakomi, Fth	152.54	333	eP	PKPbc	01 23 41.0	-0.7
ATH	Athens Observa	152.65	330	eP	PKPbc	01 23 41.0	-0.9
PMRV	Marv??o	152.75	24	ePKPdf	PKPdf	01 23 34.1	-0.9
PMRV	Marv??o	152.75	24	PKPab	PKPbc	01 23 41.2	-0.9
EVR	Evrytania	152.76	334	eP	PKPbc	01 23 42.0	-0.3
IGT	Igoumenitsa	152.84	336	eP	PKPbc	01 23 43.0	+0.7
DSF	Desfina	152.86	332	eP	PKPbc	01 23 40.0	-2.4
LTK	Loutraki	152.97	331	eP	PKPbc	01 23 42.5	-0.1
KALE	Kalithea	153.05	333	eP	PKPbc	01 23 44.0	+1.1
EFP	Efpalio	153.13	333	eP	PKPbc	01 23 45.0	+2.1
PESTR	Estremoz	153.15	25	PKPab	PKPab	01 23 56.5	+2.0
LAKA	Lakka	153.25	333	eP	PKPbc	01 23 44.5	+1.2
DID	Didima	153.25	330	eP	PKPbc	01 23 43.0	-0.3
GUR	Goura	153.33	332	eP	PKPbc	01 23 43.0	-0.6
KLV	Kalavryta, Ach	153.33	332	eP	PKPbc	01 23 44.5	+1.0
RLS	Riolos of Patr	153.62	333	eP	PKPbc	01 23 49.0	+5.0
PAB	San Pablo	153.74	20	PFAKE		01 23 50.0	+5.6
PAB				LR	LR		
	comp=Z,2μm,20.0s						
ESDC	Sonseca Array	153.75	19	PKPab	PKPab	01 23 54.9	-2.1
	comp=Z,1.5nm,0.7s,baz=333,slow=2.8,SNR=5.8						
VLX	Vlachokerasia	153.77	331	eP	PKPbc	01 23 45.5	+1.0
CUC	Castrocucco	153.90	344	PFAKE		01 23 50.0	+5.3
CUC				LR	LR		
	comp=Z,2μm,22.0s						
VAM	Vamos	154.36	325	eP	PKPab	01 24 01.5	+1.7
TIP	Timpagrande	154.39	342	PFAKE		01 23 50.0	+4.2
TIP				LR	LR		
	comp=Z,2μm,21.0s						
CEL	Celeste	155.50	342	PFAKE		01 23 50.0	+11
CEL				LR	LR		
	comp=Z,2μm,20.0s						
VSL	Villasalto	155.54	355	PFAKE		01 23 50.0	+11
VSL				LR	LR		
	comp=Z,2μm,20.0s						
RTC	Rabat Centre	157.51	31	PFAKE		01 23 50.0	+8.4
RTC				LR	LR		
	comp=Z,3μm,21.0s						
WDD	Wield Dalam	158.12	343	PFAKE		01 23 50.0	+7.7
WDD				LR	LR		
	comp=Z,2μm,20.0s						
TAM	Tamanrasset	172.22	8	PFAKE		01 24 10.0	+15
TAM				LR	LR		
	comp=Z,2μm,20.0s						
TORD	Torodi Ar. Bea	174.79	111	PKP	PKPdf	01 23 54.2	-1.5
	comp=Z,2.2nm,1.0s,baz=229,slow=2.9,SNR=6.8						
TORD				PKPab	PKPab	01 25 29.9	-0.1
	comp=Z,3.4nm,1.1s,baz=256,slow=4.1,SNR=6.0						

IDC 09 01:14:56.9±2.4, 14.85S×173.81W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/36, mbtmp3.7/5, Error ellipse: s-maj=139.6km s-min=23.8km az=144.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.18	65	Pn	Pn	01 15 22.8	-12
	81nm,0.3s,baz=145,slow=2.2,SNR=16						
AFI				Sn	Sn	01 15 40.6	-22
	149nm,0.3s,baz=68,slow=19,SNR=12						
STKA	Stephens Creek	43.97	239	P	P	01 23 05.9	-0.2
	0.7nm,0.6s,baz=81,slow=13,SNR=2.8						
WRA	Warramunga Arr	49.59	256	P	P	01 23 50.0	-0.3
	0.4nm,0.5s,baz=91,slow=6.9,SNR=14						
ASAR	Alice Springs	49.91	251	P	P	01 23 52.3	-0.4
	1.0nm,0.4s,baz=87,slow=7.9,SNR=24						
NVAR	Mina Array Bea	74.91	42	P	P	01 26 35.9	0.0
	0.3nm,0.7s,baz=216,slow=9.0,SNR=2.9						
ILAR	Eielson Array	81.98	11	P	P	01 27 17.4	-0.9
	1.3nm,1.2s,baz=205,slow=5.3,SNR=4.4						
BRTR	Keskin Array B	145.48	321	PKPbc	PKPab	01 34 38.4	+0.7
	1.1nm,0.9s,baz=107,slow=3.1,SNR=4.6						

ISCJB 09 01:19:31.9±0.4, 66.19N±0.06×174.8W±0.1, h10km, mb4.1/26, MS4.7/2, Error ellipse: s-maj=9.8km s-min=5.8km az=25.7
NERS 09 01:19:32.1, 66.33N×174.83W, h10km
MOS 09 01:19:32.7±0.9, 66.28N×174.91W, h13km, mb4.4/21, Error ellipse: s-maj=21.8km s-min=9.2km az=95.8
IDC 09 01:19:33.0±0.9, 66.32N×174.89W, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.0/45, mbtmp4.0/17, Error ellipse: s-maj=25.7km s-min=15.3km az=2.0
NEIC 09 01:19:33.9±0.3, 66.24N×174.76W, h10km, mb4.4/8, Error ellipse: s-maj=10.2km s-min=5.2km az=195.0
ISC 09 01:19:33.8±0.4, 66.17N±0.07×174.98W±0.05, h10km, n75, σ1§08/85, mb4.2/26, 4C-2D, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GAMB	Gambell	2.78	148	ePn	Pn	01 20 17.9	-0.3
GAMB				ePg	Pg	01 20 25.8	-1.2
GAMB				eS	Sg	01 21 02.5	-0.4
TNA	Tin City	2.96	99	ePn	Pn	01 20 19.0	-1.8
TNA				ePg	Pb	01 20 27.5	+0.9
TNA				eS	Sb	01 21 03.7	+1.0
BILL	Bilibino	7.54	293	eP	Pn	01 21 23.9	+0.2
BILL				iS	Sn	01 22 45.1	-3.9
BILL				pmax	pmax		
	comp=Z,4.0nm,0.3s						
BILL	Bilibino	7.54	293	eP	Pn	01 21 23.5	-0.1
BILL				Pmax		01 21 25.1	
	comp=Z,10.0nm,0.4s						
BILL				ePg	Pb	01 21 50.1	+5.6
BILL				Pgmax		01 21 51.4	
	comp=Z,10.0nm,0.4s						
BILL				eS	Sn	01 22 45.1	-3.9
BILL				Smax		01 22 48.0	
	comp=Z,10.0nm,0.3s						
BILL				eSg	Sg	01 23 28.9	-6.6
BILL				Sgmax		01 23 38.1	
	comp=Z,200nm,0.7s						
BILL	Bilibino	7.54	293	ePn	Pn	01 21 23.9	+0.2
	comp=Z,5.1nm,0.4s						
BILL				eS	Sg	01 23 29.4	-6.1
ILAR	Eielson Array	11.71	84	Pn	Pn	01 22 20.1	-0.6
	comp=Z,0.2nm,0.3s,baz=287,slow=14,SNR=20						
ILAR				Sn	Sn	01 24 24.7	-6.6
	baz=283,slow=25,SNR=2.8						
SEY	Seymchan	14.29	272	eP	Pn	01 22 58.3	+2.4
SEY				eSg		01 27 07.3	
SEY	Seymchan	14.29	272	Pn	Pn	01 22 58.7	+2.8
	baz=80,slow=12,SNR=4.3						
SEY				Lg	Lg	01 27 11.3	
	comp=Z,0.3nm,0.3s,baz=0.0,slow=20,SNR=4.6						
INK	Inuvik	15.96	64	Pn	Pn	01 23 18.4	+0.4
	comp=Z,0.3nm,0.3s,baz=296,slow=13,SNR=23						
INK	Inuvik	15.96	64	ePn	Pn	01 23 15.9	-2.1
	comp=Z,7.1nm,0.8s						
TIXI	Tiksi	20.22	310	⇑iP	P	01 24 09.3	+0.9
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
TIXI	Tiksi	20.22	310	eP	P	01 24 09.3	+0.9
TIXI	Tiksi	20.22	310	P	P	01 24 08.0	-0.4
	comp=Z,12nm,1.1s						
YKA	Yellowknife Ar	25.51	70	eP	P	01 25 01.6	-0.2
YKA	Yellowknife Ar	25.51	70	P	P	01 25 01.7	-0.1
	comp=Z,0.5nm,0.8s,baz=304,slow=9.0,SNR=11						
RES	Resolute Bay	25.91	37	P	P	01 25 04.8	-0.6
RES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
RES	Resolute Bay	25.91	37	P	P	01 25 04.8	-0.6
	comp=Z,2.5nm,1.0s,baz=308,slow=14,SNR=5.1						
KULLO	Kullorsuaq	33.92	25	iP	P	01 26 16.7	+0.4
KULLO				MLR	MLR		
	comp=Z,2μm,22.0s						
KULLO	Kullorsuaq	33.92	25	iP	P	01 26 16.7	+0.4
	comp=Z,18nm,0.8s						
KULLO							
	comp=Z,2μm,21.0s						
DAG	Danmarks Havn	36.53	9	iP	P	01 26 38.1	-0.7
DAG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DAG				MLR	MLR		
	comp=Z,1μm,21.0s						
DAG	Danmarks Havn	36.53	9	iP	P	01 26 38.1	-0.7
	comp=Z,4.5nm,0.8s						
DAG							
	comp=Z,1μm,20.0s						
SUMG	Summit	38.51	19	iP	P	01 26 56.0	0.0
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SUMG				MLR	MLR		
	comp=Z,2μm,20.0s						
SUMG	Summit	38.51	19	iP	P	01 26 56.0	0.0
	comp=Z,4.2nm,0.9s						
SUMG							
	comp=Z,2μm,20.0s						
HLID	Hailey	39.41	94	P	P	01 27 01.4	-2.2
	comp=Z,0.7nm,0.7s						
NVAR	Mina Array Bea	42.19	102	P	P	01 27 27.6	+1.0
	comp=Z,0.8nm,0.8s,baz=311,slow=8.7,SNR=4.4						
SONM	Songino Array	43.18	285	P	P	01 27 35.5	+1.0
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	Songino Array	43.18	285	P	P	01 27 35.5	+1.0
	comp=Z,1.2nm,0.8s,baz=44,slow=8.1,SNR=9.1						
ZALV	Zalesovo Beam	46.02	306	iP	P	01 27 57.0	+0.2
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZALV	Zalesovo Beam	46.02	306	P	P	01 27 57.1	+0.2
	comp=Z,3.5nm,0.6s,baz=39,slow=7.6,SNR=17						
KURK	Kurchatov	50.77	308	eP	P	01 28 33.5	0.0
KURK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KURK	Kurchatov	50.77	308	eP	P	01 28 33.5	0.0
	comp=Z,7.9nm,1.3s						
BRVK	Borovoye	51.25	315	d iP	P	01 28 36.9	-0.2
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
BRVK	Borovoye	51.25	315	eP	P	01 28 36.8	-0.2
	comp=Z,2.9nm,0.6s						
ARU	Arti	51.27	325	d iP	P	01 28 36.9	-0.3
ARU						01 30 30.4	
ARU				S	S	01 35 57.2	+1.8
ARU				SS	SS	01 39 31.8	+1.7
ARU				pmax	pmax		
	comp=Z,19nm,2.5s						
FINES	FINESS Array B	51.75	347	iP	P	01 28 38.9	-1.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	51.75	347	P	P	01 28 40.5	-0.2
	comp=Z,0.7nm,0.5s,baz=23,slow=6.2,SNR=5.6						
MK31	Makanchi Array	52.96	303	eP	P	01 28 49.5	-0.4
MK31	Makanchi Array	52.96	303	eP	P	01 28 49.5	-0.4
MKAR	Makanchi Array	52.96	303	c eP	P	01 28 49.5	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	52.96	303	P	P	01 28 49.6	-0.3
	comp=Z,1.0nm,0.6s,baz=49,slow=7.2,SNR=18						
NB2	NORSAR Subarra	53.01	356	P	P	01 28 49.8	-0.3
	comp=Z,1.3nm,0.6s,baz=0.4,slow=7.4						
NOA	NORSAR Array B	53.01	356	P	P	01 28 50.1	0.0
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	NORSAR Array B	53.01	356	P	P	01 28 50.1	0.0
	comp=Z,2.7nm,0.9s,baz=1.3,slow=7.4,SNR=6.6						
TXAR	Lajitas Array	56.01	94	P	P	01 29 13.4	+1.1
	comp=Z,0.5nm,0.8s,baz=340,slow=7.8,SNR=4.7						
ABKAR	Akbulak array	57.50	321	eP	P	01 29 22.2	-0.4
	comp=Z,5.4nm,0.9s						
AAK	Ala-Archa	59.24	306	eP	P	01 29 35.6	+0.6
AAK	Ala-Archa	59.24	306	eP	P	01 29 36.0	+1.0
	comp=Z,2.8nm,0.6s						
AKASG	Malin Array Be	62.00	343	c eP	P	01 29 52.5	-0.9
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKASG	Malin Array Be	62.00	343	P	P	01 29 52.6	-0.9
	comp=Z,3.5nm,0.7s,baz=14,slow=6.5,SNR=13						
DPC	Dobruska-Polom	63.49	352	eP	P	01 30 04.4	+0.9
DPC				e		01 30 07.8	
DPC	Dobruska-Polom	63.49	352	eP	P	01 30 04.4	+0.9
DPC				epP	pP	01 30 07.8	+1.1
KRLC	Kraliky	63.74	352	eP	P	01 30 05.5	+0.3
KRLC	Kraliky	63.74	352	eP	P	01 30 05.5	+0.3
KWP	Kalwaria Pacla	63.74	347	eP	P	01 30 05.7	+0.6
KWP	Kalwaria Pacla	63.74	347	eP	P	01 30 05.7	+0.6
	comp=Z,8.5nm,1.1s						
OKC	Ostrava-Krasne	63.89	351	eP	P	01 30 05.8	-0.3
OKC	Ostrava-Krasne	63.89	351	eP	P	01 30 05.8	-0.3
PRU	Pruhonice	63.94	353	eP	P	01 30 05.3	-1.1
PRU				e		01 30 10.6	
PRU	Pruhonice	63.94	353	eP	P	01 30 05.3	-1.1
PRU				epP	pP	01 30 10.6	+0.9
TREC	Trest	64.59	352	eP	P	01 30 11.2	+0.5
TREC	Trest	64.59	352	eP	P	01 30 11.2	+0.5
KHC	Kasperske Hory	64.84	354	eP	P	01 30 13.4	+1.0
KHC	Kasperske Hory	64.84	354	eP	P	01 30 13.4	+1.0
GERES	GERESS Array B	65.12	354	P	P	01 30 13.8	-0.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	65.12	354	P	P	01 30 13.8	-0.5
	comp=Z,0.6nm,0.7s,baz=20,slow=4.3,SNR=6.4						
KIV	Kislovodsk	66.44	331	eP	P	01 30 22.3	-0.6
KBZ	Khabaz	66.61	331	P	P	01 30 24.8	+1.0
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	Khabaz	66.61	331	P	P	01 30 24.8	+1.0
	comp=Z,3.0nm,0.9s,baz=56,slow=5.5,SNR=4.9						
CMAR	Chiang Mai Arr	71.70	274	c eP	P	01 30 54.9	-0.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	71.70	274	P	P	01 30 56.8	+1.0
	comp=Z,3.2nm,0.3s,baz=29,slow=5.2,SNR=9.7						
BRTR	Keskin Array B	72.15	337	P	P	01 30 58.4	+0.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	72.15	337	P	P	01 30 58.4	+0.1
	comp=Z,2.3nm,0.7s,baz=23,slow=3.1,SNR=12						
ESDC	Sonseca Array	74.26	7	P	P	01 31 10.6	-0.1
	comp=Z,0.9nm,0.7s,baz=3.0,slow=5.4,SNR=5.8						
WRA	Warramunga Arr	93.88	227	P	P	01 32 51.2	+0.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	93.88	227	P	P	01 32 51.2	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.7nm,0.6s,baz=4.8,slow=7.6,SNR=8.5						

*IDC **09** 01:22:14.1±2.0, 15°11S×173°50W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/31, mbtmp3.9/7, MS4.6/1, Ms1 4.6/1, ms1mx3.4/30, Error ellipse: s-maj=117.6km s-min=20.2km az=144.0*

ISC 09 01:22:18.9±2.0, **15°0S**±0°6×**173°6W**±0°5, **h30**km, **n17**, σ**0s84**/9, **mb3.8**/7, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.06	58	Pn	Pn	01 22 43.0	-8.6
	114nm,0.3s,baz=61,slow=1.3,SNR=43						
AFI				Sn	Sn	01 23 00.6	-16
	273nm,0.3s,baz=152,slow=22,SNR=16						
RAO	Raoul Island	14.72	195	LR	LR	01 30 02.0	
	comp=Z,3μm,20.8s,baz=64,slow=32						
H11S2	WAKE ISLAND Hy	38.56	329	T	T	02 10 53.4	
	baz=152,slow=77,SNR=5.6						
H11S3	WAKE ISLAND Hy	38.57	329	T	T	02 11 03.9	
	baz=152,slow=77,SNR=6.2						
H11S1	WAKE ISLAND Hy	38.58	329	T	T	02 11 02.7	
	baz=152,slow=77,SNR=4.5						
H11N3	WAKE ISLAND Hy	39.50	330	T	T	02 12 23.2	
	baz=153						
H11N1	WAKE ISLAND Hy	39.51	330	T	T	02 12 15.1	
	baz=153						
H11N2	WAKE ISLAND Hy	39.52	330	T	T	02 12 26.2	
	baz=153						
STKA	Stephens Creek	44.08	240	P	P	01 30 25.0	+0.5
	0.8nm,0.5s,baz=91,slow=11,SNR=5.0						
WRA	Warramunga Arr	49.77	256	P	P	01 31 07.8	-1.3
	0.6nm,0.5s,baz=90,slow=7.0,SNR=20						
ASAR	Alice Springs	50.07	252	P	P	01 31 11.3	-0.1
	2.7nm,0.7s,baz=87,slow=7.9,SNR=25						
NVAR	Mina Array Bea	74.16	42	P	P	01 33 52.9	-0.1
	0.7nm,0.6s,baz=226,slow=9.2,SNR=6.3						
PDAR	Pinedale Array	82.10	42	P	P	01 34 36.2	-0.7
	0.4nm,0.7s,baz=220,slow=3.9,SNR=4.7						
ILAR	Eielson Array	82.11	11	P	P	01 34 36.1	-0.1
	0.7nm,0.6s,baz=225,slow=6.1,SNR=18						
YKA	Yellowknife Ar	89.82	23	P	P	01 35 14.5	+0.3
	0.3nm,0.6s,baz=240,slow=4.8,SNR=7.7						
GERES	GERESS Array B	145.75	351	PKPbc	PKPab	01 41 55.3	-0.2
	0.5nm,0.7s,baz=22,slow=3.2,SNR=5.4						
BRTR	Keskin Array B	145.76	321	PKPbc	PKPab	01 41 57.2	+1.3
	1.2nm,0.8s,baz=82,slow=2.0,SNR=5.4						

*IDC **09** 01:23:13.0±11.0, 35°86N×141°63E, h0km, mb3.7/2, mb1 3.5/3, mb1mx3.2/37, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=225.9km s-min=83.4km az=162.0*
*ISCJB **09** 01:23:15.0±1.3, 35°41N±0°05×141°3E±0°1, h25km, mb3.6/2, Error ellipse: s-maj=11.9km s-min=6.4km az=6.4*
*JMA **09** 01:23:15.7±0.1, 35°44N×141°21E, h33km±1km, M2.8*

ISC 09 01:23:15.3±1.8, **35°39N**±0°05×**141°3E**±0°1, **h25**km, **n13**, σ**1s00**/14, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.48	311	P	Pb	01 23 24.5	-0.7
CHOJ				S	Sb	01 23 30.8	-1.1
BSO1	Boso 1	0.78	200	P	Pn	01 23 30.3	+0.1
BSO3	Boso 3	0.88	228	P	Pn	01 23 31.9	+0.1
BSO3				S	Sn	01 23 43.3	-0.3
BSO4	Boso 4	0.89	244	P	Pn	01 23 31.8	-0.3
BSO4				S	Sb	01 23 42.2	-1.2
JYT	Yasato	1.23	313	P	Pn	01 23 35.9	-1.0
JHO	Hitachi	1.36	334	P	Pn	01 23 38.1	-0.6
MJAR	Matsushiro Arr	2.76	295	Pn	Pn	01 23 59.5	+1.5
	2.4nm,0.3s,baz=99,slow=8.0,SNR=13						
MAT	Matsushiro	2.76	295	P	Pn	01 23 59.5	+1.5
MAT				eS	Sn	01 24 31.6	+1.0
ZALV	Zalesovo Beam	42.97	314	P	P	01 31 12.8	+0.7
	0.7nm,0.4s,baz=100,slow=7.9,SNR=5.4						
MKAR	Makanchi Array	44.93	303	P	P	01 31 28.9	+0.8
	0.5nm,0.7s,baz=93,slow=9.2,SNR=5.0						
H03N2	Juan Fernandez	146.90	98	T	T	04 27 20.1	
	baz=282						
H03N3	Juan Fernandez	146.91	98	T	T	04 27 25.1	
	baz=282						
H03N1	Juan Fernandez	146.92	98	T	T	04 27 18.7	
	baz=282						

*IDC **09** 02:12:34.5±1.1, 15°26S×173°62W, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.8/7, Error ellipse: s-maj=52.2km s-min=21.5km az=132.0*
*ISCJB **09** 02:12:39.2±0.9, 15°2S±0°2×173°8W±0°2, h42km, mb3.7/7, Error ellipse: s-maj=40.5km s-min=17.7km az=40.2*

ISC 09 02:12:40.5±1.1, **15°3S**±0°3×**173°7W**±0°3, **h42**km, **n16**, σ**0s60**/9, **mb3.6**/7, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.27	53	Pn	Pn	02 13 02.9	-13
	175nm,0.3s,baz=44,slow=1.4,SNR=56						
AFI				Sn	Sn	02 13 21.6	-21
	435nm,0.3s,baz=162,slow=14,SNR=15						
URZ	Urewera	24.30	198	P	P	02 17 54.1	0.0
	1.8nm,0.3s,baz=284,slow=11,SNR=3.0						
H11S2	WAKE ISLAND Hy	38.74	329	T	T	03 01 22.4	
	baz=148,slow=74						
H11S3	WAKE ISLAND Hy	38.75	329	T	T	03 00 35.6	
	baz=148						
H11S1	WAKE ISLAND Hy	38.75	329	T	T	03 01 28.2	
	baz=148,slow=74						
H11N3	WAKE ISLAND Hy	39.69	331	T	T	03 02 34.4	
	baz=152,slow=77,SNR=2.7						
H11N1	WAKE ISLAND Hy	39.69	331	T	T	03 02 33.5	
	baz=152,slow=77,SNR=4.7						
H11N2	WAKE ISLAND Hy	39.70	331	T	T	03 02 37.9	
	baz=152,slow=77,SNR=2.9						
STKA	Stephens Creek	43.88	240	P	P	02 20 43.0	-0.2
	0.5nm,0.3s,baz=359,slow=20,SNR=2.6						
WRA	Warramunga Arr	49.63	257	P	P	02 21 28.8	+0.4
	0.3nm,0.5s,baz=92,slow=6.8,SNR=14						
ASAR	Alice Springs	49.91	252	P	P	02 21 30.3	-0.1
	1.7nm,0.5s,baz=86,slow=8.0,SNR=17						
PDAR	Pinedale Array	82.34	42	P	P	02 24 59.1	+0.8
	0.4nm,0.8s,baz=197,slow=2.8,SNR=3.5						
ILAR	Eielson Array	82.38	11	P	P	02 24 57.6	0.0
	0.3nm,0.6s,baz=225,slow=5.7,SNR=6.0						
YKA	Yellowknife Ar	90.09	23	P	P	02 25 34.6	-1.0
	0.3nm,0.9s,baz=247,slow=4.7,SNR=3.4						
BRTR	Keskin Array B	145.91	321	PKPbc	PKPab	02 32 16.9	+0.4
	1.2nm,0.8s,baz=74,slow=4.5,SNR=5.5						
GERES	GERESS Array B	145.99	351	PKPbc	PKPdf	02 32 15.0	-0.1
	0.3nm,0.6s,baz=35,slow=3.6,SNR=4.1						

*IDC **09** 02:21:40.8±2.5, 13°52N×91°74W, h0km, mb3.7/6, mb1 4.1/7, mb1mx3.8/23, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=53.6km s-min=33.9km az=3.0*

ISC 09 02:21:44.3±1.9, **13°4N**±0°2×**91°7W**±0°2, **h28**km, **n12**, σ**1s06**/13, **mb3.8**/6, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APG	El Apazote	1.99	38	Pn	Pn	02 22 16.2	-0.1
	38nm,0.3s,baz=217,slow=7.4,SNR=284						
APG				Sn	Sb	02 22 45.1	+0.6
	50nm,0.3s,baz=266,slow=16,SNR=19						
APG				LR	LR	02 23 00.6	
	comp=Z,79nm,18.3s,baz=234,slow=41						
JTS	JuntasAbangare	7.32	114	Lg	Lg	02 25 39.7	
	0.2nm,0.3s,baz=115,slow=23,SNR=4.0						
TEIG	Tepich	7.53	26	Pn	Pn	02 23 34.3	+2.1
	10.0nm,0.3s,baz=223,slow=1.9,SNR=54						
TEIG				Sn	Sn	02 24 55.0	-1.7
	baz=0.0,slow=20,SNR=2.1						
H06E1	SOCORRO T-PHAS	19.20	289	T	T	02 45 13.5	
TXAR	Lajitas Array	19.32	327	P	P	02 26 07.5	-0.1
	0.1nm,0.3s,baz=153,slow=8.4,SNR=13						
ANMO	Albuquerque	25.23	331	P	P	02 27 07.7	-0.5
	1.2nm,0.6s,baz=150,slow=11,SNR=8.7						
PDAR	Pinedale Array	33.05	336	P	P	02 28 18.2	+0.4
	0.3nm,0.7s,baz=157,slow=4.9,SNR=2.7						
NVAR	Mina Array Bea	34.29	321	P	P	02 28 29.5	+1.0
	1.1nm,0.7s,baz=135,slow=8.3,SNR=9.8						
YKA	Yellowknife Ar	51.64	347	P	P	02 30 46.9	-1.4
	0.7nm,0.8s,baz=148,slow=7.6,SNR=13						
YKA				PcP	PcP	02 32 01.8	+0.2
	0.5nm,0.7s,baz=150,slow=3.8,SNR=11						
ILAR	Eielson Array	63.47	337	P	P	02 32 11.1	-0.5
	0.9nm,0.9s,baz=175,slow=5.3,SNR=11						
NOA	NORSAR Array B	84.52	28	P	P	02 34 14.8	+0.1
	0.6nm,0.8s,baz=282,slow=10,SNR=3.4						
CMAR	Chiang Mai Arr	146.62	341	PKPbc	PKPab	02 41 25.4	+0.1
	2.5nm,0.6s,baz=342,slow=3.6,SNR=11						

MEX 09 02:27:42.0±0.6, **17°11N**×**94°80W**, **h30**km±4km, **MD3.9**, **Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.08	255	eP	Pb	02 27 46.0	-1.3
CMIG				iS	Sb	02 27 49.4	-1.6
HUIG	Huatulco	1.83	223	eP	Pn	02 28 09.2	-2.2
HUIG				iS	Sn	02 28 31.2	-2.4
VHO	Vista Hermosa	1.85	269	iP	Pn	02 28 10.3	-1.6
VHO				iS	Sn	02 28 31.2	-3.2
PNIG	Pinotepa	3.26	258	iP	Pn	02 28 28.8	-2.3
PNIG				iS	Sn	02 29 06.5	-2.6

*ATH **09** 02:34:38.5, 38°78N×23°51E, h20km, MD3.2/34, ML3.9*
*SOF **09** 02:34:38.0, 38°59N×23°53E, h37km, MD2.6*
*THE **09** 02:34:39.4, 38°75N×23°44E, h8km±1km, ML3.2/10, Error ellipse: s-maj=1.0km s-min=0.5km az=60.0*
*CSEM **09** 02:34:39.3±0.1, 38°77N×23°47E, h12km, MD3.2, Error ellipse: s-maj=2.3km s-min=1.8km az=100.0*
*ISCJB **09** 02:34:39.2±0.2, 38°79N±0°01×23°49E±0°02, h18km±3km, Error ellipse: s-maj=2.6km s-min=2.1km az=3.2*
*SKO **09** 02:34:41.5, 39°03N×23°59E, h0km, M1.9, ML2.7*

ISC 09 02:34:39.0±0.8, **38°76N**±0°01×**23°49E**±0°01, **h18**km±4km, **n176**, σ**0s95**/243, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRKA	Markates	0.09	128	P	Pg	02 34 42.7	+0.1
MRKA				S	Sg	02 34 44.7	-0.3
MRKA	Markates	0.09	128	ePB	Pg	02 34 42.7	+0.1
MRKA				eSB	Sg	02 34 44.7	-0.3
MRKA	Markates	0.09	128	P	Pg	02 34 42.7	+0.1
MRKA				eSb	Sg	02 34 44.7	-0.3
SMIA	Simia	0.25	298	P	Pb	02 34 44.6	-0.4
SMIA				S	Sg	02 34 48.1	-0.5
SMIA	Simia	0.25	298	ePB	Pb	02 34 44.7	-0.3
SMIA				eSB	Sb	02 34 48.5	-0.5
SMIA	Simia	0.25	298	ePb	Pb	02 34 44.7	-0.3
SMIA				S	Sg	02 34 48.1	-0.5
ERET	Eretria	0.40	142	P	Pb	02 34 47.8	+0.2
ERET				S	Sb	02 34 54.0	+0.5
ERET	Eretria	0.40	142	P	Pb	02 34 47.8	+0.2
ERET				S	Sb	02 34 54.0	+0.5
LKR	Lokris	0.40	254	P	Pg	02 34 46.7	-0.5
LKR				S	Sg	02 34 51.1	-1.8
LKR	Lokris	0.40	254	ePB	Pg	02 34 46.8	-0.5
LKR	Lokris	0.40	254	ePb	Pg	02 34 46.8	-0.5
LKR				S	Sg	02 34 51.1	-1.8
SKIA	Skiathos	0.40	357	P	Pb	02 34 47.9	+0.3
SKIA				S	Sb	02 34 52.5	-1.0
SKIA	Skiathos	0.40	357	ePB	Pb	02 34 47.9	+0.3
SKIA				eSB	Sb	02 34 53.8	+0.3
SKIA	Skiathos	0.40	357	P	Pb	02 34 47.9	+0.3
SKIA				S	Sb	02 34 52.5	-1.0
SKIA				eSb	Sb	02 34 53.8	+0.3
AOS	Alonnisos	0.51	36	P	Pb	02 34 49.3	-0.1
AOS				S	Sb	02 34 56.8	+0.4
AOS	Alonnisos	0.51	36	eP	Pn	02 34 49.9	-1.4
AOS	Alonnisos	0.51	36	ePB	Pb	02 34 49.2	-0.1
AOS				eSB	Sb	02 34 55.6	-0.8
AOS	Alonnisos	0.51	36	P	Pb	02 34 49.3	-0.1
AOS				eSb	Sb	02 34 55.6	-0.8
AOS				S	Sb	02 34 56.8	+0.4
NEO	Neokhori	0.58	339	P	Pb	02 34 50.7	0.0
NEO				S	Sb	02 34 58.0	-0.6
NEO	Neokhori	0.58	339	ePN	Pb	02 34 50.7	0.0
NEO				eSN	Sb	02 34 58.1	-0.6
NEO	Neokhori	0.58	339	P	Pb	02 34 50.7	0.0
NEO				eSn	Sb	02 34 58.1	-0.6
XOR	Xorichti	0.65	339	P	Pb	02 34 51.7	-0.1
XOR	Xorichti	0.65	339	ePN	Pb	02 34 51.7	-0.1
XOR				eSN	Sb	02 35 00.6	+0.1
XOR	Xorichti	0.65	339	P	Pb	02 34 51.7	-0.1
XOR				eSn	Sb	02 35 00.6	+0.1
AXAR	Agios Charalam	0.65	271	P	Pb	02 34 51.4	-0.5
AXAR				S	Sg	02 34 59.9	-0.7
AXAR	Agios Charalam	0.65	271	ePN	Pb	02 34 51.8	-0.1
AXAR				eSN	Sb	02 35 01.7	+1.1
AXAR	Agios Charalam	0.65	271	P	Pb	02 34 51.4	-0.5
AXAR	Agios Charalam	0.65	271	ePn	Pb	02 34 51.8	-0.1
AXAR				S	Sg	02 34 59.9	-0.7
AXAR				eSn	Sb	02 35 01.7	+1.1
PTL	Penteli	0.77	158	P	Pb	02 34 53.9	0.0
PTL				S	Sb	02 35 04.9	+0.9
PTL	Penteli	0.77	158	ePN	Pb	02 34 54.1	+0.2
PTL	Penteli	0.77	158	P	Pb	02 34 53.9	0.0
PTL				S	Sb	02 35 04.9	+0.9
FYTO	Fytoko, Volos	0.78	326	P	Pb	02 34 54.0	0.0
FYTO				S	Sb	02 35 04.0	-0.2
FYTO	Fytoko, Volos	0.78	326	P	Pb	02 34 54.0	0.0
FYTO				S	Sb	02 35 04.0	-0.2
ATH	Athens Observa	0.81	167	P	Pn	02 34 54.8	-0.7
ATH				S	Sn	02 35 06.4	-0.6
ATH	Athens Observa	0.81	167	ePN	Pn	02 34 55.0	-0.5
ATH				eSN	Sn	02 35 06.6	-0.4
ATH	Athens Observa	0.81	167	P	Pn	02 34 54.8	-0.7
ATH				S	Sn	02 35 06.4	-0.6
ATHU	Athens Univers	0.83	164	P	Pb	02 34 54.9	+0.1
ATHU				S	Sn	02 35 06.7	-0.8
ATHU	Athens Univers	0.83	164	P	Pb	02 34 54.9	+0.1
ATHU				S	Sn	02 35 06.7	-0.8
DSF	Desfina	0.83	245	P	Pg	02 34 53.7	-1.6
DSF				S	Sg	02 35 04.7	-1.6
DSF	Desfina	0.83	245	ePN	Pg	02 34 53.9	-1.4
DSF				eSN	Sb	02 35 06.9	+1.0
DSF	Desfina	0.83	245	P	Pg	02 34 53.7	-1.6
DSF				S	Sg	02 35 04.7	-1.6
DSF				eSn	Sb	02 35 06.9	+1.0
LTK	Loutraki	0.85	209	P	Pg	02 34 54.7	-0.8
LTK				S	Sb	02 35 06.9	+0.7
LTK	Loutraki	0.85	209	ePB	Pg	02 34 54.7	-0.8
LTK				eSN	Sn	02 35 07.7	-0.3
LTK	Loutraki	0.85	209	P	Pg	02 34 54.7	-0.8
LTK				S	Sb	02 35 06.9	+0.7
LTK				eSn	Sn	02 35 07.7	-0.3
AGG	Agios Georgios	0.94	286	P	Pg	02 34 56.4	-0.9
AGG	Agios Georgios	0.94	286	ePN	Pg	02 34 56.4	-0.9
AGG	Agios Georgios	0.94	286	P	Pg	02 34 56.4	-0.9
MRMA	Marmari	0.99	135	P	Pn	02 34 57.9	-0.1
MRMA	Marmari	0.99	135	P	Pn	02 34 57.9	-0.1
MAKR	Makrakomi, Fth	1.09	284	P	Pn	02 35 00.1	+0.7
MAKR				S	Sg	02 35 14.2	-0.3
MAKR	Makrakomi, Fth	1.09	284	ePN	Pn	02 35 00.1	+0.7
MAKR				eSN	Sn	02 35 14.4	+0.3
MAKR	Makrakomi, Fth	1.09	284	P	Pn	02 35 00.1	+0.7
MAKR				eSn	Sn	02 35 14.4	+0.3
KALE	Kalithea	1.12	251	P	Pb	02 34 58.9	-1.0
KALE				S	Sb	02 35 14.1	-0.2
KALE	Kalithea	1.12	251	ePB	Pb	02 34 59.1	-0.8
KALE	Kalithea	1.12	251	P	Pb	02 34 58.9	-1.0
KALE				S	Sb	02 35 14.1	-0.2
PAIG	Paliouri	1.17	7	P	Pg	02 35 00.9	-0.7
PAIG	Paliouri	1.17	7	ePN	Pg	02 35 00.8	-0.8
PAIG	Paliouri	1.17	7	P	Pg	02 35 00.9	-0.7
GUR	Goura	1.23	228	P	Pn	02 35 01.1	-0.2
GUR				S	Sg	02 35 17.9	-0.8
GUR	Goura	1.23	228	ePN	Pb	02 35 01.6	-0.1
GUR	Goura	1.23	228	P	Pn	02 35 01.1	-0.2
GUR	Goura	1.23	228	ePn	Pb	02 35 01.6	-0.1
GUR				S	Sg	02 35 17.9	-0.8
DID	Didima	1.27	189	P	Pg	02 35 02.5	-0.9
DID				S	Sg	02 35 19.3	-0.8
DID	Didima	1.27	189	ePN	Pg	02 35 02.6	-0.9
DID	Didima	1.27	189	ePn	Pg	02 35 02.6	-0.9
DID				S	Sg	02 35 19.3	-0.8
KLV	Kalavryta, Ach	1.28	236	P	Pg	02 35 03.0	-0.6
KLV				S	Sg	02 35 20.0	-0.3
KLV	Kalavryta, Ach	1.28	236	ePN	Pg	02 35 02.7	-0.9
KLV	Kalavryta, Ach	1.28	236	ePn	Pg	02 35 02.7	-0.9
KLV	Kalavryta, Ach	1.28	236	P	Pg	02 35 03.0	-0.6
KLV				S	Sg	02 35 20.0	-0.3
EFP	Efpalio	1.29	255	P	Pg	02 35 03.0	-0.8
EFP	Efpalio	1.29	255	P	Pg	02 35 03.0	-0.8
LAKA	Lakka	1.30	247	ePN	Pb	02 35 02.8	-0.1
LAKA	Lakka	1.30	247	ePn	Pb	02 35 02.8	-0.1
EVR	Evrytania	1.32	277	ePN	Pg	02 35 04.0	-0.6
EVR	Evrytania	1.32	277	ePn	Pg	02 35 04.0	-0.6
THL	Klokotos Trika	1.40	305	P	Pb	02 35 04.2	-0.4
THL				S	Sb	02 35 22.9	+0.7
THL	Klokotos Trika	1.40	305	ePN	Pb	02 35 04.1	-0.5
THL	Klokotos Trika	1.40	305	ePn	Pb	02 35 04.1	-0.5
THL				S	Sb	02 35 22.9	+0.7
LIT	Litokhoron	1.55	330	P	Pn	02 35 06.1	+0.4
LIT	Litokhoron	1.55	330	ePN	Pb	02 35 06.3	-0.8
LIT	Litokhoron	1.55	330	P	Pn	02 35 06.1	+0.4
PLG	Polygyros	1.61	359	P	Pb	02 35 07.1	-1.1
PLG	Polygyros	1.61	359	ePN	Pb	02 35 07.1	-1.1
PLG	Polygyros	1.61	359	P	Pb	02 35 07.1	-1.1
OUR	Ouranopolis	1.61	13	P	Pb	02 35 07.4	-0.8
OUR	Ouranopolis	1.61	13	eP	Pn	02 35 07.0	+0.4
OUR	Ouranopolis	1.61	13	ePN	Pb	02 35 07.5	-0.8
OUR	Ouranopolis	1.61	13	P	Pb	02 35 07.4	-0.8
VLX	Vlachokerasia	1.65	213	P	Pb	02 35 08.2	-0.6
VLX				S	Sb	02 35 29.1	-0.2
VLX	Vlachokerasia	1.65	213	ePN	Pb	02 35 08.6	-0.2
VLX	Vlachokerasia	1.65	213	P	Pb	02 35 08.2	-0.6
VLX	Vlachokerasia	1.65	213	ePn	Pb	02 35 08.6	-0.2
VLX				S	Sb	02 35 29.1	-0.2
LIA	Limnos Island	1.73	49	ePN	Pb	02 35 08.9	-1.3
LIA	Limnos Island	1.73	49	ePn	Pb	02 35 08.9	-1.3
RLS	Riolos of Patr	1.74	247	ePN	Pb	02 35 10.6	+0.2
RLS	Riolos of Patr	1.74	247	ePn	Pb	02 35 10.6	+0.2
HORT	Hortiatis	1.86	351	ePN	Pn	02 35 10.9	+0.9
HORT	Hortiatis	1.86	351	ePn	Pn	02 35 10.9	+0.9
AMT	Artemida-Makis	1.87	229	ePN	Pb	02 35 12.6	0.0
AMT	Artemida-Makis	1.87	229	ePn	Pb	02 35 12.6	0.0
SIGR	SIGRI	1.89	76	eP	Pn	02 35 11.1	+0.7
SIGR	SIGRI	1.89	76	eP	Pn	02 35 11.1	+0.7
THE	Thessaloniki	1.91	348	ePB	Pn	02 35 11.2	+0.6
THE	Thessaloniki	1.91	348	ePb	Pn	02 35 11.2	+0.6
ITM	Ithomi	2.01	219	ePN	Pb	02 35 14.7	-0.3
ITM	Ithomi	2.01	219	ePn	Pb	02 35 14.7	-0.3
KZN	Kozani	2.04	320	ePN	Pb	02 35 14.0	-1.5
KZN	Kozani	2.04	320	ePn	Pb	02 35 14.0	-1.5
CHOS	Chios island	2.04	100	eP	Pb	02 35 14.1	-1.5
CHOS	Chios island	2.04	100	ePN	Pb	02 35 14.1	-1.5
CHOS	Chios island	2.04	100	eP	Pb	02 35 14.1	-1.5
SOH	Sokhos	2.06	357	ePN	Pn	02 35 13.8	+1.0
SOH	Sokhos	2.06	357	ePn	Pn	02 35 13.8	+1.0
VLI	Veliai	2.09	192	P	Pn	02 35 14.4	+1.3
VLI	Veliai	2.09	192	ePB	Pn	02 35 14.0	+0.9
VLI	Veliai	2.09	192	ePb	Pn	02 35 14.0	+0.9
VLI	Veliai	2.09	192	P	Pn	02 35 14.4	+1.3
LKD2	Lefkada island	2.22	272	ePN	Pb	02 35 18.3	-0.2
PRK	Paraskevi	2.22	77	ePB	Pn	02 35 16.1	+1.2
PRK	Paraskevi	2.22	77	ePb	Pn	02 35 16.1	+1.2
SMTH	Samothraki Isl	2.32	42	ePN	Pn	02 35 16.6	+0.3
SMTH	Samothraki Isl	2.32	42	ePn	Pn	02 35 16.6	+0.3
PYL	PYLOS	2.32	217	ePB	Pb	02 35 19.3	-1.0
PYL	PYLOS	2.32	217	ePb	Pb	02 35 19.3	-1.0
APE	Apeiranthos	2.33	136	eP	Pb	02 35 18.4	-2.2
APE	Apeiranthos	2.33	136	ePN	Pn	02 35 18.0	+1.5
APE	Apeiranthos	2.33	136	ePn	Pn	02 35 18.0	+1.5
APE	Apeiranthos	2.33	136	eP	Pb	02 35 18.4	-2.2
SRS	Serrai	2.35	2	P	Pn	02 35 17.7	+0.9
SRS	Serrai	2.35	2	ePN	Pn	02 35 17.5	+0.7
SRS	Serrai	2.35	2	ePn	Pn	02 35 17.5	+0.7
VLS	Valsamata	2.35	257	ePN	Pb	02 35 19.5	-1.4
VLS	Valsamata	2.35	257	ePn	Pb	02 35 19.5	-1.4
KAVA	Kavala	2.37	19	ePN	Pn	02 35 17.1	+0.2
KAVA	Kavala	2.37	19	ePn	Pn	02 35 17.1	+0.2
KNT	Kendrikon	2.44	349	ePN	Pn	02 35 19.6	+1.7
KNT	Kendrikon	2.44	349	ePn	Pn	02 35 19.6	+1.7
KYTH	Kithira	2.50	188	P	Pn	02 35 19.8	+1.0
KYTH	Kithira	2.50	188	P	Pn	02 35 19.8	+1.0
NEST	Nestorio	2.51	312	ePB	Pn	02 35 21.0	+2.0
NEST	Nestorio	2.51	312	ePb	Pn	02 35 21.0	+2.0
IGT	Igoumenitsa	2.58	288	ePB	Pb	02 35 23.2	-1.4
IGT	Igoumenitsa	2.58	288	ePb	Pb	02 35 23.2	-1.4
FNA	Florina	2.60	322	ePN	Pn	02 35 22.0	+1.9
FNA	Florina	2.60	322	ePn	Pn	02 35 22.0	+1.9
NVR	Nevrokopi	2.60	6	ePN	Pn	02 35 21.0	+0.8
NVR	Nevrokopi	2.60	6	ePn	Pn	02 35 21.0	+0.8
VAY	Valandovo	2.65	345	iPn	Pn	02 35 22.5	+1.7
VAY				iSn	Sn	02 35 52.7	+0.1
VAY				iLg	Lg	02 35 54.5	
	comp=E,45nm,1.8s						
VAY				iLg	Lg	02 35 56.6	
	comp=N,11nm,0.5s						
VAY	Valandovo	2.65	345	iPn	Pn	02 35 22.5	+1.7
VAY				iSn	Sn	02 35 52.6	+0.1
VAY				iLg	Lg	02 35 56.6	
	comp=N,11nm,0.5s						
GELI	Tayfur-Gelibol	2.82	54	eP	Pn	02 35 24.3	+1.1
GELI	Tayfur-Gelibol	2.82	54	eP	Pn	02 35 24.3	+1.1
MMB	Musomiste	2.83	4	eP	Pn	02 35 23.7	+0.4
MMB	Musomiste	2.83	4	eP	Pn	02 35 23.7	+0.4
SMG	Samos	2.83	111	ePN	Pn	02 35 25.5	+2.1
SMG	Samos	2.83	111	ePn	Pn	02 35 25.5	+2.1
ENEZ	Enez	2.84	45	eP	Pn	02 35 24.8	+1.3
ENEZ	Enez	2.84	45	eP	Pn	02 35 24.8	+1.3
RDO	Rodhopi	2.85	33	ePN	Pn	02 35 23.9	+0.3
RDO	Rodhopi	2.85	33	ePn	Pn	02 35 23.9	+0.3
ALN	Alexandroupoli	2.90	42	eP	Pn	02 35 25.8	+1.6
ALN	Alexandroupoli	2.90	42	eP	Pn	02 35 25.8	+1.6
RZN	Rozhen	3.07	17	eP	Pn	02 35 27.5	+0.8
RZN				eS	Sn	02 36 04.0	+0.9
RZN	Rozhen	3.07	17	eP	Pn	02 35 27.5	+0.8
RZN				eS	Sn	02 36 04.0	+0.9
KKB	Krupnik	3.12	354	eP	Pn	02 35 28.0	+0.7
KKB				eS	Sn	02 36 04.4	+0.4
KKB	Krupnik	3.12	354	eP	Pn	02 35 28.0	+0.7
KKB				eS	Sn	02 36 04.4	+0.4
VAM	Vamos	3.40	170	ePN	Pn	02 35 34.1	+3.0
VAM	Vamos	3.40	170	ePn	Pn	02 35 34.1	+3.0
SKO	Skopje	3.57	335	iPn	Pn	02 35 36.5	+3.0
SKO				iSn	Sn	02 36 15.4	+0.2
SKO				iLg	Lg	02 36 16.5	
	comp=E,4.2nm,0.3s						
SKO				iLg	Lg	02 36 18.7	
	comp=N,6.1nm,0.3s						
SKO	Skopje	3.57	335	iPn	Pn	02 35 36.5	+3.0
SKO				iSn	Sn	02 36 15.4	+0.2
SKO				iLg	Lg	02 36 18.6	
	comp=N,6.1nm,0.3s						
VTS	Vitosha	3.83	357	eP	Pn	02 35 39.5	+2.3
VTS	Vitosha	3.83	357	eP	Pn	02 35 38.8	+1.6
VTS				eS	Sn	02 36 22.0	+0.1
VTS	Vitosha	3.83	357	eP	Pn	02 35 38.8	+1.6
VTS				eS	Sn	02 36 22.0	+0.1
MPEP	Malo Peshtene	4.59	2	eP	Pn	02 35 49.3	+1.8
MPEP	Malo Peshtene	4.59	2	eP	Pn	02 35 49.3	+1.8
PVL	Pavlikeni	4.66	17	eP	Pn	02 35 48.2	-0.2
PVL	Pavlikeni	4.66	17	eP	Pn	02 35 48.2	-0.2

IDC 09 02:35:45.8±60.0, **20°67S**×**178°28E**, **h0**km, **mb3.7**/3, **mb1 3.9**/3, **mb1mx3.5**/25, **mbtmp3.7**/3, **Error ellipse: s-maj=1065.0km s-min=139.0km az=82.0**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.59	244	P	P	02 42 35.6	-1.0
	0.4nm,0.3s,baz=82,slow=16,SNR=2.4						
ASAR	Alice Springs	41.09	257	P	P	02 43 31.9	+0.2
	0.8nm,0.6s,baz=100,slow=8.5,SNR=11						
WRA	Warramunga Arr	41.13	263	P	P	02 43 32.2	+0.2
	0.4nm,0.3s,baz=95,slow=7.8,SNR=25						

*IDC **09** 02:50:33.0±2.4, 9°57N×83°86W, h0km, mb3.6/6, mb1 4.0/7, mb1mx3.7/27, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=77.6km s-min=15.6km az=23.0*
*ISCJB **09** 02:50:38.6±0.5, 9°50N±0°06×84°12W±0°05, h50km±4km, mb3.5/7, Error ellipse: s-maj=12.7km s-min=5.1km az=39.4*
*CASC **09** 02:50:39.2±2.0, 9°55N×84°11W, h40km±9km, MD4.5*

ISC 09 02:50:39.2±0.8, **9°51N**±0°06×**84°12W**±0°05, **h43**km±7km,

n29,σ1§00/38,mb3.5/7,4C-3D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	Quepos	0.10	210	⇓iP	Pn	02 50 45.8	-0.5
QCR				eS	Sn	02 50 52.0	+0.9
BUS	Buena Vista	0.36	82	⇓iP	Pn	02 50 48.7	-0.1
SJS	Escuela Geolog	0.43	8	⇑iP	Pn	02 50 48.8	-0.7
SJS				eS	Sn	02 50 54.9	-1.8
CGA2	Cerro Gallo 2	0.61	326	⇑iP	Pn	02 50 50.4	-1.3
JCR	Jicaral	1.04	289	⇑iP	Pn	02 50 56.0	-1.4
JCR				eS	Sn	02 51 09.7	-1.1
CEDE	Laguna Cede˜-o	1.13	329	iP	Pn	02 50 58.6	-0.1
CEDE				iS	Sn	02 51 14.8	+1.6
JTS	JuntasAbangare	1.13	314	Pg	Pn	02 50 58.4	-0.3
	877nm,0.3s,baz=113,slow=13,SNR=4380						
JTS				Lg	Lg	02 51 13.8	
	1µm,0.3s,baz=323,slow=20,SNR=42						
JTS				LR	LR	02 51 20.2	
	comp=Z,176nm,21.2s,baz=172,slow=36						
BANL	Banca Lucia	1.23	325	iP	Pn	02 51 00.0	0.0
ACR	Cerro Adams	1.26	132	⇓iP	Pn	02 51 00.8	+0.3
ACR				eS	Sn	02 51 17.8	+1.4
PTEN	Parque Tenorio	1.48	325	⇑iP	Pn	02 51 03.5	+0.1
PTEN				iS	Sn	02 51 23.4	+1.8
COLC	Colonia	1.57	317	iP	Pn	02 51 04.6	-0.1
GUAB	Guayabo de Bag	1.62	318	iP	Pn	02 51 05.1	-0.3
MESS	Mesas	1.62	319	iP	Pn	02 51 05.3	-0.1
MESS				iS	Sn	02 51 25.3	+0.1
NY14	Universidad de	1.80	309	iP	Pn	02 51 08.1	+0.3
LAPC	Finca la Perla	1.80	314	iP	Pn	02 51 07.8	0.0
LAPC				iS	Sn	02 51 30.5	+0.9
BUEV	Buena Vista	1.81	315	iP	Pn	02 51 07.5	-0.5
GB1A	Borinquen Arri	1.81	316	iP	Pn	02 51 08.2	+0.1
GB1A				iS	Sn	02 51 30.9	+1.0
GBS3	Finca Las Im˜¡	1.83	314	iP	Pn	02 51 08.1	-0.2
GBS2	Las Lilas	1.86	315	iP	Pn	02 51 07.9	-0.8
APG	El Apazote	8.27	312	Pn	Pn	02 52 38.6	+1.8
	1.0nm,0.3s,baz=125,slow=16,SNR=9.6						
SJG	San Juan	19.42	62	P	Pn	02 55 04.1	+0.7
	0.0nm,0.3s,baz=269,slow=10,SNR=5.4						
TXAR	Lajitas Array	26.92	320	P	P	02 56 19.0	+2.4
	0.3nm,0.6s,baz=131,slow=9.7,SNR=2.7						
ULM	Lac du Bonnet	41.77	349	P	P	02 58 23.9	-0.4
	1.9nm,0.6s,baz=172,slow=10,SNR=4.4						
NVAR	Mina Array Bea	42.06	319	P	P	02 58 26.4	-0.7
	0.2nm,0.6s,baz=127,slow=7.1,SNR=2.8						
NVAR				PcP	PcP	03 00 21.9	+0.4
	0.4nm,0.6s,baz=123,slow=5.5,SNR=4.6						
YKA	Yellowknife Ar	57.32	344	P	P	03 00 19.1	-3.4
	0.2nm,0.4s,baz=139,slow=7.4,SNR=11						
ILAR	Eielson Array	70.02	336	P	P	03 01 46.7	+0.4
	0.3nm,0.6s,baz=132,slow=5.1,SNR=6.0						
ESDC	Sonseca Array	76.44	51	P	P	03 02 24.1	-0.6
	1.1nm,0.7s,baz=280,slow=5.7,SNR=6.4						
GERES	GERESS Array B	88.02	41	P	P	03 03 23.5	-1.6
	0.5nm,0.9s,baz=270,slow=9.8,SNR=3.4						
WRA	Warramunga Arr	141.48	250	PKP	PKPdf	03 10 06.7	+0.1
	0.2nm,0.8s,baz=96,slow=3.3,SNR=3.6						

MEX 09 02:56:38.1±0.6,15.98N×96.82W,h5km±7km,MD3.6,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.72	107	iP	Pg	02 56 51.0	-0.9
HUIG				iS	Sg	02 57 00.6	-0.7
VHO	Vista Hermosa	1.09	5	eP	Pg	02 56 56.6	-2.7
VHO				iS	Sg	02 57 10.4	-3.3
PNIG	Pinotepa	1.32	288	eP	Pn	02 56 58.9	-4.3
PNIG				iS	Sg	02 57 16.5	-4.1
CMIG	Matias Romero	2.17	59	iP	Pn	02 57 11.4	-3.5
CMIG				iS	Sn	02 57 38.0	-4.2

IDC 09 03:39:27.0±1.1, 7.27S×154.96E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/18, mbtmp4.1/10, MS3.5/2, Ms1 3.5/2, ms1mx2.9/30, Error ellipse: s-maj=38.6km s-min=19.9km az=121.0

ISCJB 09 03:39:32.2±0.6, 7.21S±0.09×154.82E±0.09, h41km, mb4.0/10, MS3.8/1, Error ellipse: s-maj=15.6km s-min=9.6km az=140.3

ISC 09 03:39:33.6±0.8, 7.25S±0.2×154.9E±0.1, h41km, n20, σ1§14/19, mb4.1/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.44	115	LR	LR	03 42 55.5	
	comp=Z,288nm,21.6s,baz=301,slow=39						
PMG	Port Moresby	8.00	253	Pn	Pn	03 41 28.4	+1.0
	1.3nm,0.3s,baz=45,slow=5.7,SNR=6.4						
PMG				Sn	Sn	03 42 56.0	-0.7
	2.2nm,0.3s,baz=91,slow=18,SNR=3.6						
MTSU	Mount Surprise	15.01	223	P	P	03 43 09.4	+1.5
	baz=15,SNR=4.3						
QIS	Mount Isa	19.92	227	P	P	03 44 01.4	-0.7
	baz=20,SNR=4.8						
RMQ	Roma	20.07	196	P	Pn	03 44 04.9	-0.8
	baz=20,SNR=9.5						
QLP	Quilpie	21.81	207	P	P	03 44 22.3	-0.1
	baz=22,SNR=7.1						
WRA	Warramunga Arr	23.66	236	P	P	03 44 39.4	-2.1
	6.8nm,1.0s,baz=60,slow=9.6,SNR=20						
CMSA	Cobar Meteorol	25.72	198	P	P	03 45 00.9	+0.8
	baz=26,SNR=12						
ASAR	Alice Springs	26.00	229	P	P	03 45 01.1	-1.8
	1.3nm,0.7s,baz=60,slow=9.3,SNR=12						
STKA	Stephens Creek	27.53	205	P	P	03 45 15.8	-0.8
	3.1nm,0.6s,baz=23,slow=14,SNR=10.0						
STKA	Stephens Creek	27.53	205	P	P	03 45 17.2	+0.7
	baz=28,SNR=5.8						
CMAR	Chiang Mai Arr	60.81	296	P	P	03 49 43.7	+1.6
	1.2nm,0.3s,baz=111,slow=4.9,SNR=7.2						
SONM	Songino Array	69.47	327	P	P	03 50 37.9	0.0
	0.8nm,0.9s,baz=126,slow=4.9,SNR=5.7						
MKAR	Makanchi Array	83.51	319	P	P	03 51 57.1	-0.2
	1.4nm,0.8s,baz=63,slow=5.6,SNR=12						
ILAR	Eielson Array	83.58	21	P	P	03 51 56.1	-1.2
	1.1nm,1.1s,baz=236,slow=5.1,SNR=6.4						
ZALV	Zalesovo Beam	84.31	326	P	P	03 52 00.5	-0.6
	0.4nm,0.4s,baz=100,slow=5.9,SNR=3.4						
AAK	Ala-Archa	87.84	313	LR	LR	04 31 35.6	
	comp=Z,37nm,18.8s,baz=324,slow=36						
NVAR	Mina Array Bea	91.89	52	P	P	03 52 39.5	+1.3
	0.9nm,1.0s,baz=254,slow=6.5,SNR=4.1						
YKA	Yellowknife Ar	96.54	28	P	P	03 52 58.5	-0.1
	1.1nm,1.0s,baz=271,slow=4.6,SNR=11						
TORD	Torodi Ar. Bea	153.01	285	PKPbc	PKPbc	03 59 27.0	-0.7
	1.0nm,0.9s,baz=57,slow=1.7,SNR=5.1						
TORD				PKPab	PKPab	03 59 38.5	-0.7
	0.9nm,0.8s,baz=80,slow=2.1,SNR=5.2						

KRSC 09 03:53:27.4±1.8, 47.65N×151.50E, h256km±43km, ML4.7

SKHL 09 03:53:30.0, 48.54N×151.90E, h220km±1km, mb4.5/3, mbh5.0/2

ISCJB 09 03:53:31.9±0.4, 48.81N±0.06×151.73E±0.07, h250km, mb3.3/15, Error ellipse: s-maj=10.3km s-min=3.5km az=143.0

MOS 09 03:53:31.9±1.1, 48.84N×151.82E, h254km, mb4.0/3, Error ellipse: s-maj=14.7km s-min=7.7km az=63.2

IDC 09 03:53:34.4±1.8, 48.85N×151.70E, h263km±19km, mb3.1/16, mb1 3.3/21, mb1mx3.2/33, mbtmp3.8/21, Error ellipse: s-maj=17.4km s-min=9.4km az=136.0

ISC 09 03:53:32.8±0.5, 48.76N±0.08×151.91E±0.07, h250km, n79, σ1§33/86, mb3.2/15, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.34	53	⇑iPN	Pn	03 54 26.7	-2.1
SKR				eS	S	03 55 11.5	-1.8
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,140nm,0.5s						
SKR				smax	smax		
	comp=N,80nm,0.5s						
SKR				smax	smax		
	comp=E,90nm,0.2s						
SKR	Severo-Kuril's	3.34	53	eP	Pn	03 54 29.3	+0.5
SKR	Severo-Kuril's	3.34	53	eP	Pn	03 54 27.0	-1.8
SKR				AMB	AMB	03 54 27.5	
	comp=E,50nm,0.5s						
SKR				AMB	AMB	03 54 27.5	
	comp=E,140nm,0.5s						
SKR				eS	S	03 55 11.5	-1.8
SKR				A	A	03 55 13.5	
	comp=E,80nm,0.3s						
SKR				A	A	03 55 13.5	
	comp=E,90nm,0.3s						
PAU	Pauzhetka	4.16	48	PN	Pn	03 54 38.9	+0.6
PAU				S	S	03 55 30.7	+0.3
PAU	Pauzhetka	4.16	48	eP	Pn	03 54 38.9	+0.6
PAU				eS	S	03 55 30.7	+0.3
PAU	Pauzhetka	4.16	48	eP	Pn	03 54 38.9	+0.6
MIPR	Malaya Ipel'ka	4.68	40	eP	Pn	03 54 45.8	+1.2
MIPR				eS	S	03 55 42.0	+0.2
ASAK	Asacha	5.26	44	P	Pn	03 54 52.9	+1.2
ASAK				S	S	03 55 54.5	-0.2
APC	Apacha	5.33	37	eP	Pn	03 54 53.6	+1.2
MTVR	Mutnovka	5.46	45	eP	Pn	03 54 54.7	+0.5
MTVR				eS	S	03 55 57.7	-1.5
RUS	Russkaya	5.58	46	PN	Pn	03 54 55.8	+0.3
RUS				S	S	03 55 58.0	-3.7
RUS	Russkaya	5.58	46	eP	Pn	03 54 55.8	+0.3
RUS				eS	S	03 55 58.0	-3.7
RUS	Russkaya	5.58	46	eP	Pn	03 54 55.8	+0.3
PETK	Petropavlovsk-	5.69	38	PN	Pn	03 54 57.3	+0.5
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	Petropavlovsk-	5.69	38	P	Pn	03 54 57.2	+0.5
	comp=Z,0.7nm,0.3s,baz=218,slow=12,SNR=6.1						
SHO	Shikotan	6.03	218	eP	Pn	03 54 57.5	-3.7
SHO				eS	S	03 56 02.1	-10
SHO	Shikotan	6.03	218	eP	Pn	03 54 57.2	-4.0
SHO				AMB	AMB	03 55 00.6	
	comp=Z,103nm,0.7s						
SHO				eS	S	03 56 02.5	-9.4
SHO				A	A	03 56 03.5	
	comp=Z,117nm,0.8s						
GNL	Ganaly	6.22	35	P	Pn	03 55 06.8	+3.2
UGLR	Uglovaya	6.23	42	P	Pn	03 55 05.0	+1.2
AVH	Avacha	6.24	41	P	Pn	03 55 05.6	+1.9
AVH				S	S	03 56 16.3	-0.3
SMAR	Somma	6.26	41	P	Pn	03 55 05.0	+0.8
KRX	Arik	6.26	40	P	Pn	03 55 06.5	+2.4
KRER	Koryakskii	6.27	41	P	Pn	03 55 05.9	+1.6
YSS	Yuzh-Sakhalins	6.42	257	ePN	Pn	03 55 06.3	+0.3
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS	Yuzh-Sakhalins	6.42	257	eP	Pn	03 55 04.3	-1.7
YSS				AMB	AMB	03 55 08.9	
	comp=Z,20nm,1.0s						
ASAJ	Asahikawa	7.93	238	PN	Pn	03 55 25.4	+0.2
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	Asahikawa	7.93	238	P	Pn	03 55 25.4	+0.2
	comp=Z,1.5nm,0.3s,baz=85,slow=20,SNR=6.9						
TUMR	Tumrok	8.27	35	eP	Pn	03 55 31.8	+2.4
ERM	Erimo	9.13	226	iPN	Pn	03 55 40.2	-0.1
KBTR	Krutoberegovo	9.98	38	PN	Pn	03 55 50.5	-0.4
KBTR	Krutoberegovo	9.98	38	eP	Pn	03 55 50.5	-0.4
BKI	Bering	10.80	48	PN	Pn	03 55 59.2	-1.9
BKI	Bering	10.80	48	eP	Pn	03 55 59.2	-1.9
BKI				eS	S	03 57 49.4	-12
EKMR	Ekimchan	12.71	297	eP	Pn	03 56 22.5	-2.4
EKMR				AMB	AMB	03 56 26.2	
	comp=Z,4.0nm,0.5s						
FX1	Attu Island--F	14.04	65	S	S	03 59 18.4	+2.0
	comp=Z,4.9nm,0.3s,baz=3.2,slow=18,SNR=3.9						
SEY	Seymchan	14.21	1	P	P	03 56 44.3	+0.8
SEY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY	Seymchan	14.21	1	P	P	03 56 44.3	+0.8
	comp=Z,0.5nm,0.3s,baz=178,slow=10,SNR=9.5						
SEY	Seymchan	14.21	1	eP	P	03 56 43.9	+0.4
USRK	Ussuriysk Arra	14.45	259	P	Pn	03 56 45.7	-0.5
	comp=Z,0.4nm,0.3s,baz=64,slow=14,SNR=5.6						
BMKR	Bomnak	15.44	301	erx	rx	03 56 54.0	
MAJO	Matsushiro	15.80	224	eP	P	03 57 01.4	0.0
MJAR	Matsushiro Arr	15.80	224	P	Pn	03 57 02.3	-0.2
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	15.80	224	P	Pn	03 57 02.2	-0.2
	comp=Z,1.0nm,0.3s,baz=117,slow=13,SNR=12						
YAK	Yakutsk	18.20	325	iP	P	03 57 27.3	+0.2
YAK	Yakutsk	18.20	325	eP	P	03 57 27.2	+0.2
KSRS	Korea Array	20.75	246	P	P	03 57 56.3	+1.7
	comp=Z,1.8nm,0.6s,baz=43,slow=10,SNR=6.2						
JNU	Nakatsue	22.17	233	P	P	03 58 08.7	+0.4
	comp=Z,4.4nm,0.6s,baz=220,slow=3.7,SNR=4.6						
ULN	Ulaanbaatar	29.52	285	eP	P	03 59 12.7	-1.3
ULN	Ulaanbaatar	29.52	285	eP	P	03 59 12.8	-1.3
SONM	Songino Array	29.95	286	eP	P	03 59 17.5	-0.3
SONM	Songino Array	29.95	286	P	P	03 59 16.1	-1.7
	comp=Z,0.4nm,0.7s,baz=60,slow=6.6,SNR=3.6						
TLY	Talaya	30.57	294	iP	P	03 59 22.9	-0.2
TLY	Talaya	30.57	294	eP	P	03 59 22.9	-0.2
ILAR	Eielson Array	35.51	40	eP	P	04 00 06.8	+1.3
ILAR	Eielson Array	35.51	40	P	P	04 00 06.3	+0.8
	comp=Z,0.3nm,0.4s,baz=270,slow=9.7,SNR=16						
ILAR	Eielson Array	35.51	40	eP	P	04 00 06.8	+1.3
INK	Inuvik	40.41	34	P	P	04 00 47.5	+1.3
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	Inuvik	40.41	34	P	P	04 00 47.5	+1.3
	comp=Z,1.3nm,0.4s,baz=295,slow=7.8,SNR=15						
MKAR	Makanchi Array	45.32	295	P	P	04 01 25.1	-0.7
	comp=Z,0.8nm,0.6s,baz=66,slow=8.4,SNR=9.8						
KURK	Kurchatov	45.59	302	eP	P	04 01 26.6	-1.3
KURK	Kurchatov	45.59	302	eP	P	04 01 26.5	-1.3
BRVK	Borovoye	49.01	308	⇑iP	P	04 01 53.2	-0.8
YKA	Yellowknife Ar	49.80	37	P	P	04 02 00.9	+1.0
	comp=Z,0.6nm,0.4s,baz=300,slow=7.3,SNR=7.8						
CMAR	Chiang Mai Arr	52.10	254	eP	P	04 02 19.3	+1.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	52.10	254	eP	P	04 02 19.3	+1.8
ARCES	ARCESS Array B	55.68	340	P	P	04 02 41.4	-1.3
	comp=Z,1.6nm,0.9s,baz=36,slow=7.9,SNR=3.9						
FINES	FINESS Array B	61.87	334	eP	P	04 03 24.9	-0.3
FINES	FINESS Array B	61.87	334	P	P	04 03 23.8	-1.4
	comp=Z,0.3nm,0.4s,baz=57,slow=7.0,SNR=4.8						
FINES	FINESS Array B	61.87	334	eP	P	04 03 24.9	-0.3
NVAR	Mina Array Bea	62.22	63	P	P	04 03 28.6	+0.4
	comp=Z,0.1nm,0.3s,baz=295,slow=8.6,SNR=2.8						
PDAR	Pinedale Array	64.22	54	P	P	04 03 42.2	+1.1
	comp=Z,0.2nm,0.5s,baz=319,slow=3.7,SNR=3.4						
CTA	Charters Tower	68.72	186	P	P	04 04 09.1	-0.3
CTA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CTA	Charters Tower	68.72	186	P	P	04 04 09.1	-0.3
	comp=Z,1.1nm,0.3s,baz=63,slow=2.3,SNR=2.5						
AKASG	Malin Array Be	69.42	325	P	P	04 04 12.0	-1.4
	comp=Z,0.1nm,0.3s,baz=28,slow=6.2,SNR=3.6						
WRA	Warramunga Arr	70.17	198	eP	P	04 04 20.1	+1.8
WRA	Warramunga Arr	70.17	198	P	P	04 04 18.3	0.0
	comp=Z,0.2nm,0.3s,baz=10,slow=6.0,SNR=5.0						
WRA	Warramunga Arr	70.17	198	eP	P	04 04 20.1	+1.8
ASAR	Alice Springs	73.88	197	P	P	04 04 41.0	+0.9
	comp=Z,0.5nm,0.6s,baz=8.4,slow=5.3,SNR=7.2						
TXAR	Lajitas Array	77.20	60	P	P	04 04 59.1	-0.2
	comp=Z,0.3nm,0.5s,baz=352,slow=5.5,SNR=3.4						

ISCJB 09 04:09:43.1±1.0, 7.3S±0.2×155.1E±0.1, h31km, mb3.8/6, MS3.0/1, Error ellipse: s-maj=29.2km s-min=11.7km az=153.2

IDC 09 04:09:46.7±6.2, 7.28S×155.03E, h49km±54km, mb3.7/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.9/7, ML3.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/30, Error ellipse: s-maj=51.3km s-min=27.6km az=113.0

ISC 09 04:09:44.5±1.1, 7.3S±0.2×155.2E±0.2, h31km, n8, σ0§95/9, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.19	255	P	Pn	04 11 41.7	+0.5
	1.2nm,0.3s,baz=314,slow=5.3,SNR=4.7						
PMG				S	Sn	04 13 13.0	+0.2
	2.0nm,0.3s,baz=121,slow=21,SNR=6.4						
WRA	Warramunga Arr	23.79	236	P	P	04 14 52.9	-1.7
	3.2nm,1.0s,baz=58,slow=9.5,SNR=9.7						
WRA				LR	LR	04 23 52.9	
	comp=Z,55nm,19.6s,baz=320,slow=36						
ASAR	Alice Springs	26.10	229	P	P	04 15 15.1	-0.8
	0.8nm,0.7s,baz=59,slow=9.4,SNR=9.5						
STKA	Stephens Creek	27.55	206	P	P	04 15 29.6	+0.9
	1.4nm,0.6s,baz=36,slow=15,SNR=5.1						
ILAR	Eielson Array	83.58	21	P	P	04 22 08.9	-0.5
	0.2nm,0.5s,baz=227,slow=5.9,SNR=8.6						
MKAR	Makanchi Array	83.72	319	P	P	04 22 10.6	0.0
	0.9nm,0.7s,baz=104,slow=5.1,SNR=10						
YKA	Yellowknife Ar	96.51	28	P	P	04 23 11.3	+0.7
	0.7nm,0.8s,baz=267,slow=4.6,SNR=9.0						
TORD	Torodi Ar. Bea	153.25	285	PKPbc	PKPbc	04 29 40.3	-0.2
	0.9nm,0.9s,baz=51,slow=2.2,SNR=6.0						

IDC 09 04:12:33.0±17.0, 12.56S×167.38E, h194km±156km, mb3.3/5, mb1 3.5/5, mb1mx3.2/25, mbtmp3.7/5, Error ellipse: s-maj=140.5km s-min=47.1km az=143.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.52	253	P	P	04 18 45.6	-0.2
	0.2nm,0.4s,baz=84,slow=9.2,SNR=4.9						
ASAR	Alice Springs	33.60	246	P	P	04 18 55.3	+0.1
	0.3nm,0.5s,baz=68,slow=9.1,SNR=4.7						
ILAR	Eielson Array	84.44	18	P	P	04 24 43.5	+0.2
	1.1nm,0.6s,baz=228,slow=5.5,SNR=27						
YKA	Yellowknife Ar	95.58	27	P	P	04 25 35.3	-0.5
	0.1nm,0.5s,baz=253,slow=4.9,SNR=2.8						
MKAR	Makanchi Array	95.71	317	P	P	04 25 36.6	-0.2
	0.4nm,0.6s,baz=97,slow=6.0,SNR=4.7						
ARCES	ARCESS Array B	118.19	346	PKP	PKPdf	04 30 56.3	-0.1
	1.2nm,0.9s,baz=75,slow=2.5,SNR=11						

IDC 09 04:23:45.0±2.5, 54.39N×86.77E, h0km, mb1 3.5/3, mb1mx3.2/47, mbtmp3.5/3, ML3.3/3, Error ellipse: s-maj=21.9km s-min=12.5km az=57.0

NNC 09 04:23:47.3±2.4, 54.35N×86.57E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=17.8km s-min=16.6km az=45.0

ISC 09 04:23:45.6±4.2, 54.6N±0.2×87.0E±0.2, h35km, n9, σ1§84/14, 8C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.41	243	i		04 31 06.3	
	baz=68,slow=349,SNR=58						
ZALV	Zalesovo Beam	1.41	243	Pg	Pn	04 24 07.2	-1.5
	5.3nm,0.3s,baz=66,slow=16,SNR=79						
ZALV				Lg	Lg	04 24 25.9	
	4.1nm,0.3s,baz=68,slow=27,SNR=12						
KURK	Kurchatov	6.39	236	⇑Pn	Pn	04 25 18.3	+1.2
	4.3nm,0.7s						
KURK				⇑Sn	Sn	04 26 30.5	+1.9
	3.6nm,1.2s						
KURK				⇑Lg	Lg	04 26 58.9	
	8.1nm,1.0s						
KURBB	Kurchatov Arra	6.49	236	⇑Pn	Pn	04 25 19.9	+1.4
	18nm,0.8s						
KURBB				⇑Sn	Sn	04 26 31.1	-0.2
	6.4nm,0.6s						
KURBB				⇓Lg	Lg	04 27 05.3	
	20nm,0.9s						
KURBB	Kurchatov Arra	6.49	236	Pn	Pn	04 25 20.0	+1.4
	1.1nm,0.3s,baz=54,slow=14,SNR=79						
KURBB				Lg	Lg	04 27 05.1	
	0.3nm,0.3s,baz=56,slow=28,SNR=4.6						
MK31	Makanchi Array	8.35	203	⇓Pn	Pn	04 25 45.0	+0.8
	2.6nm,0.9s,baz=25,slow=12,SNR=29						
MK31				⇓Sn	Sn	04 27 17.2	0.0
	2.7nm,1.0s,baz=34,slow=26,SNR=4.7						
MK31				⇑Lg	Lg	04 28 05.3	
	13nm,1.1s,baz=32,slow=32,SNR=6.2						
MKAR	Makanchi Array	8.35	203	Pn	Pn	04 25 44.8	+0.6
	0.3nm,0.3s,baz=24,slow=13,SNR=23						
MKAR				Sn	Sn	04 27 15.2	-1.9
	0.3nm,0.3s,baz=18,slow=25,SNR=7.3						
MKAR				Lg	Lg	04 28 02.8	
	0.1nm,0.3s,baz=22,slow=31,SNR=4.4						
VOSK	Vostochnaya	9.66	265	⇑Pn	Pn	04 26 04.9	+2.9
	2.0nm,0.5s						
VOSK				⇑Sn	Sn	04 27 50.1	+0.9
	15nm,0.9s						
BVAR	Borovoye Array	9.92	268	Pn	Pn	04 26 06.4	+0.9
	0.2nm,0.3s,baz=79,slow=15,SNR=6.4						
BVAR				Sn	Sn	04 27 52.2	-3.4
	0.3nm,0.3s,baz=74,slow=24,SNR=8.3						

IDC 09 04:32:17.0±1.2, 15.16S×173.58W, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.9/33, mbtmp3.9/8, MS3.4/2, Ms1 3.4/2, ms1mx3.1/24, Error ellipse: s-maj=56.5km s-min=22.1km az=148.0

ISCJB 09 04:32:20.1±1.2, 14.6S±0.3×173.2W±0.1, h10km, mb4.0/9, MS3.0/1, Error ellipse: s-maj=40.0km s-min=12.4km az=162.3

ISC 09 04:32:20.8±1.9, 14.8S±0.6×173.0W±0.3, h10km, n26, σ0§77/10, mb4.0/8, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.48	56	Pn	Pn	04 32 47.3	-0.3
	33nm,0.3s,baz=243,slow=14,SNR=8.1						
AFI				Sn	Sn	04 33 06.7	-0.3
	93nm,0.3s,baz=242,slow=17,SNR=14						
RAR	Rarotonga	14.15	119	LR	LR	04 40 42.3	
	comp=Z,206nm,18.6s,baz=226,slow=35						
PPT	Papeete	22.70	100	LR	LR	04 44 56.4	
	comp=Z,49nm,18.9s,baz=262,slow=33						
PPT2	Papeete2	22.70	100	eLR	LR	04 42 48.9	
	202nm,26.2s						
PPT2	Papeete2	22.70	100	eT	T	05 00 34.6	
	3.8nm,0.2s						
PAE	Paea	22.70	101	eT	T	05 00 33.9	
	2.6nm,0.2s						
TIAR	Tiarei	22.92	100	eT	T	05 00 50.0	
	2.9nm,0.3s						
TBI	Tubuai	23.84	115	eT	T	05 02 09.8	
	8.9nm,0.3s						
RKT	Rikitea	36.86	109	eT	T	05 18 21.2	
	2.9nm,0.3s						
H11S2	WAKE ISLAND Hy	38.60	328	T	T	05 20 45.8	
	baz=152,slow=77,SNR=33						
H11S3	WAKE ISLAND Hy	38.61	328	T	T	05 20 46.3	
	baz=152,slow=77,SNR=34						
H11S1	WAKE ISLAND Hy	38.62	328	T	T	05 20 46.3	
	baz=152,slow=77,SNR=32						
H11N3	WAKE ISLAND Hy	39.53	329	T	T	05 21 48.8	
	baz=152,slow=77,SNR=16						
H11N1	WAKE ISLAND Hy	39.54	329	T	T	05 21 46.9	
	baz=152,slow=77,SNR=29						
H11N2	WAKE ISLAND Hy	39.55	329	T	T	05 21 50.4	
	baz=152,slow=77,SNR=17						
WRA	Warramunga Arr	50.34	256	P	P	04 41 10.9	-7.5
	1.1nm,0.9s,baz=90,slow=7.3,SNR=12						
ASAR	Alice Springs	50.65	251	P	P	04 41 13.2	-7.5
	2.2nm,0.6s,baz=87,slow=8.2,SNR=24						
PETK	Petropavlovsk-	72.13	342	P	P	04 43 45.2	-0.2
	2.3nm,0.7s,baz=131,slow=6.7,SNR=3.8						
NVAR	Mina Array Bea	73.61	42	P	P	04 43 56.4	+1.6
	0.3nm,0.6s,baz=231,slow=9.9,SNR=2.5						
PDAR	Pinedale Array	81.55	42	P	P	04 44 39.7	+0.6
	0.6nm,0.6s,baz=215,slow=4.7,SNR=6.5						
ILAR	Eielson Array	81.75	11	P	P	04 44 39.2	-0.1
	0.8nm,0.7s,baz=230,slow=6.0,SNR=18						
INK	Inuvik	87.56	14	P	P	04 45 08.5	-0.1
	1.0nm,0.9s,baz=256,slow=3.1,SNR=3.7						
YKA	Yellowknife Ar	89.37	23	P	P	04 45 17.3	0.0
	0.8nm,0.8s,baz=240,slow=4.5,SNR=15						
LPAZ	La Paz	99.69	110	P	Pdif	04 46 06.6	+0.2
	1.0nm,0.3s,baz=10,slow=16,SNR=7.6						
GERES	GERESS Array B	145.55	352	PKPbc	PKPdf	04 51 58.7	-0.9
	0.4nm,0.6s,baz=45,slow=2.5,SNR=5.5						
BRTR	Keskin Array B	145.88	322	PKPbc	PKPdf	04 51 59.9	-0.6
	0.6nm,0.6s,baz=134,slow=1.1,SNR=4.5						

WEL 09 04:33:53.0±0.2, 37.93S×177.20E, h75km±1km, ML3.7/5, 2C-12D, Error ellipse: s-maj=1.2km s-min=1.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.34	192	⇓P*	Pn	04 34 04.6	-0.5
URZ				S*	Sn	04 34 13.2	-0.7
URZ				AML	AML	04 34 13.6	
WIZ	White Island	0.40	359	P*	Pn	04 34 05.0	-0.1

EDRZ Edgecumbe 0.41 243 ⇓P* Pn 04 34 05.5 -0.2
MARZ Manawahe 0.42 261 P* Pn 04 34 05.5 -0.2
MWZ Matawai 0.48 148 P* Pn 04 34 05.9 -0.3
MWZ AML AML 04 34 16.7
MWZ AML AML 04 34 19.9
HAZ Te Kaha 0.49 70 P* Pn 04 34 05.8 -0.4
OPRZ Ohinepanea 0.52 279 ⇓P* Pn 04 34 06.2 -0.2
RAGZ Rawiri 0.59 164 ⇑P* Pn 04 34 07.3 -0.1
RAGZ S* Sn 04 34 18.1 +0.2
TARZ Mount Tarawera 0.63 240 ⇓P* Pn 04 34 07.8 0.0
RRRZ Republican Roa 0.68 232 ⇓P* Pn 04 34 08.0 -0.2
KARZ Kaharoa 0.76 262 ⇓P* Pn 04 34 09.0 -0.1
TGRZ Tauranga 0.77 284 ⇓P* Pn 04 34 09.0 -0.1
PUZ Puketiti 0.85 100 PN Pn 04 34 09.8 -0.2
PUZ SN Sn 04 34 23.2 +0.6
PRRZ Plateau Road 0.86 228 ⇓P* Pn 04 34 09.8 -0.3
PRRZ S* Sn 04 34 23.3 +0.5
SNGZ Shannon Statio 0.86 173 PN Pn 04 34 10.0 -0.2
RIGZ Rimuhau 0.90 151 ⇑PN Pn 04 34 10.8 +0.1
RIGZ SN Sn 04 34 23.9 +0.2
ALRZ Allen Road 0.93 226 ⇓P* Pn 04 34 10.7 -0.2
MXZ Matakaoa Point 0.95 68 P* Pn 04 34 12.1 +1.0
MXZ AML AML 04 34 31.5
MXZ AML AML 04 34 31.9
MXZ AML AML 04 34 32.8
MXZ AML AML 04 34 32.8
RAHZ Arahi 1.00 185 ⇓PN Pn 04 34 12.0 +0.2
PRGZ Paritu Road 1.13 152 PN Pn 04 34 13.2 -0.3
WHHZ Waihua 1.15 179 PN Pn 04 34 13.3 -0.3
KNZ Kokohu 1.16 161 PN Pn 04 34 12.9 -0.8
NMHZ Naumai 1.21 195 PN Pn 04 34 14.8 +0.3
MHGZ Mahia Peninsul 1.35 156 PN Pn 04 34 15.4 -0.7
TOZ Tahuroa Road 1.36 278 P* Pn 04 34 16.5 +0.2
BKZ Black Stump Fm 1.36 204 ⇓P* Pn 04 34 16.0 -0.4
BKZ AML AML 04 34 41.7
BKZ AML AML 04 34 43.3
RITZ Rihia Road 1.49 225 P* Pn 04 34 18.5 +0.4
MCHZ McNeill Hill 1.57 194 PN Pn 04 34 18.7 -0.3
KUZ Kuaotunu 1.67 314 PN Pn 04 34 20.4 +0.1
KRVZ Karewarewa 1.69 226 P* Pn 04 34 20.9 +0.1
OTVZ Oturere 1.73 224 ⇓P* Pn 04 34 21.6 +0.2
WTVZ West Tongariro 1.74 226 P* Pn 04 34 21.6 +0.2
NGZ Ngauruhoe 1.77 225 P* Pn 04 34 22.2 +0.3
TWVZ Taurewa 1.80 230 P* Pn 04 34 22.3 +0.1
BHHZ Black Hill Sta 1.80 209 PN Pn 04 34 21.5 -0.7
MKAZ Moumakai 1.81 296 PN Pn 04 34 22.8 +0.6
TUVZ Tukino 1.81 222 PN Pn 04 34 22.4 0.0
WPVZ Whakapapa 1.82 225 PN Pn 04 34 22.9 +0.3
KRHZ Kereru 1.84 200 PN Pn 04 34 21.3 -1.4
WHVZ Whangaehu Hut 1.85 222 PN Pn 04 34 23.0 -0.2
FWVZ Far West T-bar 1.85 224 PN Pn 04 34 23.2 +0.1
MOVZ Moawhango 1.86 217 PN Pn 04 34 22.6 -0.5
WNVZ Wahianoa 1.88 221 PN Pn 04 34 23.3 -0.1
KAHZ Kahuranaki 1.89 188 PN Pn 04 34 21.9 -1.4
TRVZ Turoa 1.89 223 PN Pn 04 34 23.5 -0.1
MTVZ Mangateitei 1.99 222 PN Pn 04 34 24.8 0.0
PKVZ Pokaka 1.99 226 PN Pn 04 34 25.1 +0.4
PNHZ Pukenui 2.13 201 PN Pn 04 34 24.7 -1.9
TSZ Takapari Road 2.34 204 PN Pn 04 34 27.3 -2.1
DVHZ Dannevirke 2.50 198 PN Pn 04 34 29.3 -2.3
WAZ Wanganui 2.52 223 PN Pn 04 34 32.0 +0.2
ANWZ Angora Road 2.59 192 ePN Pn 04 34 31.3 -1.5
PRWZ Pori Road 2.80 200 ePN Pn 04 34 33.0 -2.5
BFZ Birch Farm 2.85 195 PN Pn 04 34 33.2 -3.1
MRZ Mangatainoka R 3.01 204 ePN Pn 04 34 34.7 -3.8
MRZ SN Sn 04 35 09.3 -4.1
TIWZ Tintock 3.03 199 ePN Pn 04 34 36.3 -2.4
HOWZ Holdsworth Sta 3.25 203 ePN Pn 04 34 37.8 -3.9
OGWZ Otaki Gorge 3.29 208 PN Pn 04 34 39.3 -2.9
TMWZ Te Maipa 3.34 197 ePN Pn 04 34 39.2 -3.7
KIW Kapiti Island 3.43 210 PN Pn 04 34 40.9 -3.2
MTW Mount Morrison 3.49 202 PN Pn 04 34 41.2 -3.7
CAW Cannon Point 3.58 207 PN Pn 04 34 42.7 -3.5
TRWZ Traveller 3.66 198 PN Pn 04 34 43.7 -3.6
PAWZ Paruwai Farm 3.71 201 PN Pn 04 34 44.2 -3.8
MSWZ Moikau Station 3.80 203 PN Pn 04 34 45.4 -3.7
PLWZ Palliser 3.94 202 PN Pn 04 34 46.3 -4.8
TCW Tory Channel 3.99 214 PN Pn 04 34 48.0 -3.7
TUWZ Tuamarina 4.31 215 PN Pn 04 34 52.0 -4.1
BSWZ Blackbirch Sta 4.57 213 ePN Pn 04 34 55.4 -4.3
KHZ Kahutara 5.29 211 ePN Pn 04 35 04.2 -5.2
MQZ McQueen's Vall 6.73 209 PN Pn 04 35 22.7 -6.4
ODZ Otahua Downs 8.65 213 ePN Pn 04 35 49.2 -6.1

SJA 09 04:46:12.1±0.3, 22°.63S×68°.36W, h229km±282km, ML3.9, MW4.5
ISCJB 09 04:46:15.4±0.4, 22°.93S±0°.03×68°.24W±0°.07, h122km±6km, mb3.9/8, Error ellipse: s-maj=10.6km s-min=4.5km az=169.4
IDC 09 04:46:16.2±2.1, 22°.82S×68°.11W, h106km±18km, mb3.8/9, mb1 3.9/14, mb1mx3.8/25, mbtmp4.2/14, Error ellipse: s-maj=19.9km s-min=16.9km az=74.0
NEIC 09 04:46:17.4, 22°.78S×68°.46W, h137km, mb4.1/4, After GUC.
GUC 09 04:46:17.4±0.6, 22°.75S×68°.52W, h145km±8km, ML4.7
ISC 09 04:46:17.2±0.7, 22°.89S±0°.04×68°.21W±0°.07, h123km±7km, n69, σ1°.85/67, mb4.0/8, 5C-5D, Northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LVC Limon Verde 0.70 293 ePn Pn 04 46 36.8 -0.4
LVC eS Sn 04 46 50.9 -1.4
PB04 Plate Boundary 1.33 298⇑eP Pn 04 46 48.5 +5.5
PB04 iS Sn 04 47 11.8 +9.4
PB04 AML AML 04 47 20.2
comp=N,5µm,0.4s
PB04 Plate Boundary 1.33 298⇑eP Pn 04 46 48.5 +5.5
PB04 eS Sn 04 47 12.5 +10
PB09 Plate Boundary 1.45 319⇓eP Pn 04 46 43.9 -0.5
PB09 eS Sn 04 47 04.1 -1.0
PB09 AML AML 04 47 06.1
comp=N,14µm,0.2s
PB09 Plate Boundary 1.45 319⇓eP Pn 04 46 43.9 -0.5
PB09 eS Sn 04 47 04.1 -1.0
MACH Maria Elena 1.59 296 eP Pn 04 46 45.4 -0.7
MACH eS Sn 04 47 06.3 -1.7
MACH Maria Elena 1.59 296 eP Pn 04 46 45.4 -0.7
MACH eS Sn 04 47 06.3 -1.7
CEN1 Los Morros 1.90 254 eP Pn 04 46 51.5 +1.8
CEN1 Los Morros 1.90 254⇓eP Pn 04 46 51.4 +1.8
CEN1 S Sn 04 47 16.0 +1.6
PB07 Plate Boundary 1.93 306 eP Pn 04 46 49.4 -0.8
PB07 iS Sn 04 47 12.9 -2.5
PB07 AML AML 04 47 14.7
comp=E,6µm,0.4s
PB07 Plate Boundary 1.93 306 eP Pn 04 46 49.4 -0.8
PB07 eS Sn 04 47 12.9 -2.5
ANCH Antofagasta 2.17 248⇑iP Pn 04 46 50.0 -2.9
ANCH eS Sn 04 47 16.4 -3.8
ANCH Antofagasta 2.17 248 P Pn 04 46 50.0 -2.9
ANCH S Sn 04 47 15.1 -5.2
PB10 Plate Boundary 2.24 253 eP Pn 04 46 53.1 -0.7
PB10 AML AML 04 47 28.6
comp=E,5µm,0.3s
PATCX Punta Patache 2.74 318⇑eP Pn 04 46 58.5 -1.8
PATCX AML AML 04 47 36.8
comp=E,3µm,0.3s
HMBC Humberstone 3.03 329⇓eP Pn 04 47 02.1 -2.1
HMBC AML AML 04 47 38.9
comp=E,2µm,0.6s
HMBC Humberstone 3.03 329 P Pn 04 47 02.1 -2.1
PSGC Pisagua 3.73 331⇑eP Pn 04 47 10.2 -3.1
PSGC Pisagua 3.73 331 P Pn 04 47 10.2 -3.1
MNMC Minimini 3.96 341⇓eP Pn 04 47 14.8 -1.7
MNMC Minimini 3.96 341 P Pn 04 47 14.8 -1.7
CYA Choya 5.94 159 iP Pn 04 47 43.2 +0.3
LCO Las Campanas 6.49 200 P Pn 04 47 47.6 -2.9
LPAZ La Paz 6.57 1 P Pn 04 47 51.9 -0.1
comp=E,3.2nm,0.3s,baz=206,slow=6.2,SNR=51
LPAZ La Paz 6.57 1 P Pn 04 47 51.9 -0.1
LPAZ ePn Pn 04 47 52.0 -0.2
AGUA GUANDACOL 6.57 182 iP Pn 04 47 51.0 -0.5
ACLC CERRO LA CRUZ 6.61 170 iP Pn 04 47 52.4 +0.4
ARE Arequipa 7.10 334 P Pn 04 47 57.0 -1.9
ARE eS Sn 04 49 14.0 -4.3
AVFE Valle Fertil 7.77 175 iP Pn 04 48 06.0 -1.6
AVFE eS Sn 04 49 31.1 -2.9
AVFE AML AML 04 50 02.5
comp=Z,8.9nm,0.3s
AMOG MOGNA 8.02 182 iP Pn 04 48 09.4 -1.6
ACHE Chepes 8.36 171 iP Pn 04 48 14.8 -0.8
RTLL Cerro Villicun 8.41 182 iP Pn 04 48 14.2 -2.0
CFAA Coronel Fontan 8.68 180 P Pn 04 48 18.1 -1.7
comp=Z,0.6nm,0.3s,baz=1.4,slow=12,SNR=57
CFAA Coronel Fontan 8.68 180 iP Pn 04 48 18.0 -1.9
RTLS Leoncito 8.93 186 iP Pn 04 48 21.4 -2.0
TCA Tanti 9.01 160 iP Pn 04 48 23.1 -1.2
AUSP Uspallata 9.36 186 iP Pn 04 48 27.0 -2.2
SIV San Ignacio 9.62 46 P Pn 04 48 28.8 -3.7
comp=Z,10nm,0.3s,baz=246,slow=8.7,SNR=177
SIV S Sn 04 50 09.8 -9.0
comp=Z,1.3nm,0.3s,baz=311,slow=19,SNR=4.8
ASAL Salagasta 9.68 183 iP Pn 04 48 31.2 -2.2
CPUP Villa Florida 10.48 111 P Pn 04 48 44.2 +0.2
comp=Z,1.0nm,0.3s,baz=281,slow=11,SNR=7.2
H03N1 Juan Fernandez 14.11 220 T T 05 01 56.2
baz=41,slow=74,SNR=3.3
H03N2 Juan Fernandez 14.12 220 T T 05 01 55.6
baz=41
H03N3 Juan Fernandez 14.13 220 T T 05 01 55.1
baz=41,slow=74,SNR=3.6
SAML Samuel 14.68 20 ePn Pn 04 49 38.3 -0.6
TRQA Tornquist 16.04 162 ePn Pn 04 49 55.5 -0.3
comp=Z,14nm,0.8s
PLCA Paso Flores 17.90 186 P Pn 04 50 18.3 -0.1
comp=Z,0.3nm,0.3s,baz=23,slow=14,SNR=7.9
PLCA Paso Flores 17.90 186 P P 04 50 17.1 -0.2
comp=Z,6.1nm,0.8s
BDFB Brasilia 20.37 73 P P 04 50 44.0 -0.5
comp=Z,3.8nm,0.4s,baz=239,slow=12,SNR=16
PTGA Pitinga 23.44 21 P P 04 51 13.5 -2.1
comp=Z,2.2nm,0.2s,baz=207,slow=17,SNR=5.5
PTGA Pitinga 23.44 21 eP P 04 51 13.7 -2.0
comp=Z,2.3nm,0.6s
DBIC Dimbokro 68.52 73 P P 04 57 07.3 +0.4
comp=Z,2.8nm,0.4s,baz=228,slow=7.7,SNR=13
DBIC Dimbokro 68.52 73 eP P 04 57 06.5 -0.4
comp=Z,4.5nm,0.7s
PDAR Pinedale Array 75.63 330 P P 04 57 49.8 +0.9
comp=Z,0.4nm,0.7s,baz=138,slow=7.3,SNR=2.7
ULM Lac du Bonnet 76.83 342 P P 04 57 55.2 0.0
comp=Z,1.4nm,0.7s,baz=127,slow=4.3,SNR=4.3
NVAR Mina Array Bea 76.98 322 P P 04 57 58.6 +1.9
comp=Z,0.1nm,0.3s,baz=144,slow=6.3,SNR=3.0
TOA0 Torodi Ar. Sit 77.22 70 eP P 04 57 58.6 +0.4
TORD Torodi Ar. Bea 77.22 70 P P 04 57 58.6 +0.4
comp=Z,2.3nm,0.4s,baz=254,slow=5.7,SNR=103
BOSA Boshof 82.23 118 P P 04 58 26.5 +1.2
comp=Z,2.5nm,0.8s,baz=172,slow=7.4,SNR=3.7
YKA Yellowknife Ar 92.71 340 P P 04 59 15.7 +0.9
comp=Z,0.7nm,0.5s,baz=134,slow=4.8,SNR=22
H11S2 WAKE ISLAND Hy 128.68 276 T T 07 25 49.3
baz=116
H11S1 WAKE ISLAND Hy 128.68 276 T T 07 25 47.0
baz=116
H11S3 WAKE ISLAND Hy 128.69 276 T T 07 25 47.5
baz=116
H11N3 WAKE ISLAND Hy 128.79 277 T T 07 25 51.7
H11N2 WAKE ISLAND Hy 128.81 277 T T 07 25 51.4
H11N1 WAKE ISLAND Hy 128.81 277 T T 07 25 53.4
ASAR Alice Springs 128.97 206 PKP PKPdf 05 05 12.4 +1.2
comp=Z,0.8nm,0.5s,baz=136,slow=2.2,SNR=11
WRA Warramunga Arr 132.07 209 PKP PKPdf 05 05 18.2 +1.0
comp=Z,1.0nm,0.5s,baz=160,slow=1.7,SNR=29
ZALV Zalesovo Beam 142.92 26 PKP PKPdf 05 05 34.7 -1.2
comp=Z,0.6nm,0.5s,baz=334,slow=4.3,SNR=3.8
MKAR Makanchi Array 146.36 38 PKPbc PKPdf 05 05 43.2 +1.1
comp=Z,2.2nm,0.8s,baz=295,slow=3.0,SNR=18

NIED 09 05:02:00, 21°.50N×120°.90E, h8km, Mw4.8 Best double couple: M0 1.52000×10^16 NP1:φs332.00000°, δ59.00000°, λ-19.00000°. NP2:φs72.00000°, δ74.00000°, λ-148.00000°.
TAP 09 05:02:09.6, 20°.94N×121°.21E, h66km, ML5.4, D
BJI 09 05:02:10.2, 21°.17N×120°.98E, h7km, mB4.9/47, mb4.8/61, ML4.4/5, Ms4.6/70, Ms7 4.4/63
IDC 09 05:02:11.9±1.9, 21°.01N×121°.23E, h20km±11km, mb4.4/28, mb1 4.5/31, mb1mx4.4/39, mbtmp4.5/31, ML3.8/3, MS4.1/24, Ms1 4.1/24, ms1mx3.9/38, Error ellipse: s-maj=14.5km s-min=9.7km az=72.0
ISCJB 09 05:02:11.3±0.5, 21°.041N±0°.010×121°.19E±0°.02, h28km±3km, mb4.9/118, MS4.2/38, Error ellipse: s-maj=3.0km s-min=1.7km az=1.3
MOS 09 05:02:11.8±1.0, 20°.98N×121°.20E, h33km, mb5.0/36, MS4.5/7, Error ellipse: s-maj=8.5km s-min=5.0km az=104.1
GCMT 09 05:02:12.4±0.3, 21°.09N×121°.06E, h29km±1km, MW5.0/84, Moment Tensor Solution. s32,c39; s84,c127; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.46±.22; Mθθ2.11±.13; Mφφ-3.56±.17; Mrθ-2.20±.25; Mθφ-2.74±.11; Mφr-0.60±.25; Best double couple: M0 4.70000×10^16 NP1:φs242.00000°, δ77.00000°, λ146.00000°. NP2: φs341.00000°, δ57.00000°, λ16.00000°. Principal axes: T 4.4160, Plg33.0000°, Azm196.0000°; N 0.5790, Plg54.0000°, Azm43.0000°; P -4.9850, Plg13.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 09 05:02:12.4±1.0, 20°.99N×121°.13E, h24km±7km, mb5.0/46 Error ellipse: s-maj=4.6km s-min=2.8km az=98.0
NEIC Recorded [2 TAP] in T'ai-tung and [1 TAP] in P'ing-tung.
JMA 09 05:02:15.5±0.9, 21°.50N×120°.92E, h68km, M5.2
ISC 09 05:02:12.3±0.3, 21°.05N±0°.03×121°.16E±0°.03, h21km±3km, h21km:pP-P, n453, σ1°.60/526, mb4.9/117, MS4.3/39, 47C-30D, Taiwan region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TSEB Hengchuen, Pin 0.88 344⇓iP Pb 05 02 28.4 -0.5
baz=341
TWK1 Hengchun 0.95 340⇓iP Pb 05 02 29.2 -0.9
baz=340
TWK1 iS Sn 05 02 43.7 +0.4
baz=340
HEN Hengchun 1.03 338⇓iP Pb 05 02 30.8 -0.6
baz=331
LAY Lan-yu 1.05 20⇓iP Pn 05 02 30.2 -1.6
baz=16
TAW Tawu 1.32 349 eP Pn 05 02 33.0 -2.5
baz=357
TAW S Sn 05 02 52.6 0.0
baz=357
EAST Anshuo 1.36 348⇓eP Pn 05 02 33.9 -2.2
baz=357
SCZT Fangliau 1.41 339⇑iP Pn 05 02 36.1 -0.6
baz=339
SCZT eS Sn 05 02 53.7 -0.9
baz=339
TWP Hsiaoliuchiu 1.49 330⇑iP Pn 05 02 37.6 -0.2
baz=331
ECL Taimali 1.55 353 eP Pn 05 02 36.3 -2.4
baz=359
TTN Taitung 1.70 360 eP Pn 05 02 38.9 -1.8
baz=358
TTN eS Sn 05 03 02.1 +0.3
baz=358
KAU Kaohsiung 1.71 332 eP Pn 05 02 38.8 -2.0
baz=333
SSD Sandimen 1.76 344⇑iP Pn 05 02 40.9 -0.6
baz=352
TWG Pinlang 1.76 357 ePn Pn 05 02 40.7 -1.0
TWG Pinlang 1.76 357 eP Pn 05 02 38.7 -2.9
baz=356
SGLT Jiouru 1.78 340 eP Pn 05 02 41.9 +0.1
baz=340
SGLT eS Sb 05 03 05.2 -0.9
baz=340
TWM1 Shoushan 1.89 339 eP Pn 05 02 42.7 -0.7
baz=339
CHKT Chengkung 2.05 5 eP Pn 05 02 43.5 -2.0
baz=354
CHKT eS Sn 05 03 10.4 0.0
baz=354
SGST Jiashian 2.09 345 P Pn 05 02 46.0 -0.2
baz=334
SGST eS Sn 05 03 11.3 -0.3
baz=334
ELDTW Lidau 2.13 356 eP Pn 05 02 46.0 -0.8
baz=2.0
CHN3 Shinhua 2.15 340 eP Pn 05 02 45.9 -1.0
baz=340
TAI1 Yung-k'ang 2.16 337 eP Pn 05 02 45.6 -1.4
baz=337
CHN1 Nanshi 2.21 345⇑iP Pn 05 02 47.3 -0.4
baz=332
WTP Ta-pu 2.24 347⇑iP Pn 05 02 47.8 -0.5
baz=347
TWK Hsinying 2.29 344 ⇑P Pn 05 02 48.3 -0.7
baz=333
TPUB Ta-pu 2.29 348 ePn Pn 05 02 48.6 -0.3
TWF1 Yuli 2.29 3 eP Pn 05 02 46.1 -2.9
baz=355
TWF1 eS Sn 05 03 16.6 0.0
baz=355
SCLT Jiali 2.30 337 P Pn 05 02 48.1 -0.8
baz=337
SCLT eS Sn 05 03 15.6 -1.0
baz=337
YULB Yu-li 2.33 3 ePn Pn 05 02 50.3 +0.8
YULB eSn Sn 05 03 17.8 +0.2
CHN4 Tsaushan 2.35 347 ⇑P Pn 05 02 49.1 -0.6
baz=347
YUS Yu-Shan 2.44 355 eP Pn 05 02 50.5 -0.8
baz=355
YUS eS Sn 05 03 21.5 +0.7
baz=355
CHN8 Yiju 2.45 339 eP Pn 05 02 49.1 -1.9
baz=329
CHN8 eS Sn 05 03 19.2 -1.1
baz=329
EHY Hungye 2.45 3 eP Pn 05 02 49.2 -1.8
baz=2.0
ALS Alishan 2.47 352 ⇑P Pn 05 02 51.6 -0.1
baz=352
CHY Chiayi 2.53 344 P Pn 05 02 51.4 -0.7
baz=334
CHN2 Minshiung 2.55 346 eP Pn 05 02 51.4 -1.0
baz=335
CHN2 eS Sn 05 03 21.3 -1.5
baz=335
CHN5 Tsauling 2.57 350⇑iP Pn 05 02 52.4 -0.5
baz=350
CHN5 eS Sn 05 03 23.8 +0.2
baz=350
WDGT Dungji 2.60 328 P Pn 05 02 50.3 -2.9
baz=329
WDGT eS Sn 05 03 19.9 -4.2
baz=329
WGK Gukeng 2.68 348 eP Pn 05 02 53.3 -1.0
baz=348
WGK eS Sn 05 03 25.7 -0.4
baz=348
WSF Szhu 2.72 342 eP Pn 05 02 53.4 -1.3
baz=342
WSF eS Sn 05 03 24.7 -2.3
baz=342
SSLB Suanglung 2.73 356 ePn Pn 05 02 54.5 -0.5
SSLB eSn Sn 05 03 25.7 -1.7
PIP Pasuquin 2.76 191⇑iP Pn 05 02 54.0 -1.3
ESL Shilin 2.76 5 eP Pn 05 02 55.2 -0.2
baz=4.0
SMLT Sun Moon Lake 2.83 355 ⇑P Pn 05 02 56.6 +0.2
baz=355
SMLT eS Sn 05 03 28.1 -1.8
baz=355
WNT Mingjian 2.85 351 eP Pn 05 02 55.8 -0.7
baz=351
TYC Yuchr 2.85 354⇑iP Pn 05 02 56.7 +0.1
baz=354
TYC eS Sn 05 03 31.3 +0.9
baz=354
PNG Penghu 2.91 330 ⇑P Pn 05 02 54.9 -2.5
baz=330
PNG eS Sn 05 03 28.6 -3.2
baz=330
SGCP Mt. Cagua 2.92 163 eP Pn 05 02 57.7 +0.3
SGCP eS Sn 05 03 19.6 -12
WTCT Ta-ch'eng 2.92 344 eP Pn 05 02 56.0 -1.4
baz=354
WTCT eS Sn 05 03 29.6 -2.3
baz=354
HWA Hwalien 2.94 8 eP Pn 05 02 57.0 -0.8
baz=359
HWA eS Sn 05 03 32.0 -0.5
baz=359
TWD Chiawan 3.04 7 eP Pn 05 02 58.5 -0.7
baz=356
TWD eS Sn 05 03 34.5 -0.5
baz=356
WHF Hehuan Shan 3.08 2 eP Pn 05 02 58.8 -1.4
baz=350
WHF eS Sn 05 03 36.0 -0.6
baz=350
TCU Taichung 3.12 352 eP Pn 05 02 60.0 -0.3
baz=351
TCU eS Sn 05 03 35.5 -1.3
baz=351
NACB Ninganchiao 3.13 7 ePn Pn 05 03 00.1 -0.4
APYP Conner 3.17 179 eP Pn 05 03 01.3 +0.3
SIPP Brgy, Tapao 3.18 192⇓eP Pb 05 03 16.7 +8.6
TWT Tachien 3.19 0 eP Pn 05 03 00.9 -0.4
baz=349
TWQ1 Liyutan 3.30 354 eP Pn 05 03 02.4 -0.4
baz=353
TWQ1 eS Sn 05 03 41.9 +0.4
baz=353
NSY Sanyi 3.37 354 eP Pn 05 03 03.6 -0.1
baz=353
NSY eS Sn 05 03 42.9 -0.3
baz=353
NNS Nan Shan 3.38 3 eP Pn 05 03 04.2 +0.3
baz=11
CVP Callao Caves 3.39 169⇑eP Pn 05 03 04.3 +0.3
CVP eS Sn 05 03 44.2 +0.7
ENA Nanau 3.41 9 eP Pn 05 03 03.8 -0.4
baz=356
ABRA Dolores 3.41 187 eP Pn 05 03 03.8 -0.4
SZP Santa 3.54 191 ePn Pn 05 03 05.8 -0.4
NSTT Nanjuang 3.57 358 eP Pn 05 03 05.9 -0.6
baz=357
NSTT eS Sn 05 03 48.6 +0.6
baz=357
TWC Suao 3.60 10 eP Pn 05 03 05.7 -1.1
baz=9.0
TWC eS Sn 05 03 49.2 +0.5
baz=9.0
YHNB Yeheng 3.61 3 ePn Pn 05 03 08.3 +1.3
NSK Sanguang 3.61 3 eP Pn 05 03 06.9 -0.2
baz=353
NSK eS Sn 05 03 49.1 -0.2
baz=353
TWE Neicheng 3.68 7 eP Pn 05 03 07.9 -0.1
baz=358
TWE eS Sn 05 03 52.9 +2.1
baz=358
JYNG Yonagunijimaku 3.76 26 P Pn 05 03 08.3 -0.8
YOJ Yonaguni jima 3.80 26 eP Pn 05 03 09.9 +0.3
YOJ Yonaguni jima 3.80 26 P Pn 05 03 09.6 0.0
YOJ Yonaguni jima 3.80 26 ePn Pn 05 03 09.9 +0.3
YOJ Yonaguni jima 3.80 26 eP Pn 05 03 09.4 -0.2
baz=25
YOJ eS Sn 05 03 52.2 -1.5
baz=25
EGS 3.84 10 eP Pn 05 03 10.5 +0.3
baz=357
HATJ Hateruma jima 3.86 39 P Pn 05 03 11.9 +1.4
HATJ S Sn 05 03 54.1 -1.1
TATO Taipei 3.92 4 ePn Pn 05 03 12.1 +0.8
TWA Mucha 3.93 6 eP Pn 05 03 12.7 +1.2
baz=5.0
TAP1 Taipei 3.98 5 eP Pn 05 03 13.8 +1.7
baz=4.0
TWB1 Santiao Chiao 4.01 11 eP Pn 05 03 13.1 +0.6
baz=357
IRIF Iriomote-Funau 4.04 35 P Pn 05 03 13.2 +0.3
TWS1 Kuangyinshan 4.04 3 eP Pn 05 03 12.9 0.0
baz=351
NWF Wu-fen Shan 4.04 8 eP Pn 05 03 14.4 +1.4
baz=357
NWF eS Sn 05 04 00.5 +0.7
baz=357
JKRS Kuro-shima 4.12 39 P Pn 05 03 14.7 +0.7
JKRS S Sn 05 04 00.3 -1.3
CAUP Cauayan 4.13 171 eP Pn 05 03 16.6 +2.4
KNM Kinmen 4.19 324 eP Pn 05 03 13.8 -1.2
baz=322
KNM eS Sn 05 03 59.7 -3.6

baz=322
TWY Chenhua 4.23 5 eP Pn 05 03 16.7 +1.2
baz=5.0
JIJ Ishigaki jima 4.30 39 P Pn 05 03 16.6 +0.2
JIJ S Sn 05 04 03.4 -2.5
QZH Quanzhou 4.54 329 ⇑iPn Pn 05 03 18.0 -1.8
QZH Sn Sn 05 04 06.5 -5.5
QZH smax smax
comp=N,900nm,1.1s
QZH smax smax
comp=E,860nm,1.0s
QZH LR LR
comp=N,3µm,11.6s
QZH LR LR
comp=E,7µm,12.6s
QZH LR LR
comp=Z,8µm,17.1s
JISG Ishigakijimahi 4.56 39 P Pn 05 03 20.4 +0.3
JISG S Sn 05 04 11.4 -1.1
JTJ Tarama 4.84 42 P Pn 05 03 24.4 +0.5
JTJ S Sn 05 04 19.0 -0.4
JIRB Irabujima 5.27 44 P Pn 05 03 31.5 +1.6
JIRB S Sn 05 04 28.7 -1.3
BALP Baler 5.29 176 eP Pn 05 03 30.7 +0.5
JMJ Miyako jima 2 5.34 45 P Pn 05 03 32.9 +2.1
JMJ S Sn 05 04 31.9 +0.2
JMJ Miyako jima 2 5.34 45 eP Pn 05 03 29.8 -1.0
baz=44
SCZP Santa Cruz 5.38 193 eP Pn 05 03 30.7 -0.6
JOGS Gusukube 5.38 46 P Pn 05 03 33.4 +2.1
JOGS S Sn 05 04 33.1 +0.4
JIKM Ikemajima 5.39 44 P Pn 05 03 33.6 +2.1
TGY Tagaytay City 6.91 182 Pn Pn 05 03 52.8 +0.3
93nm,0.3s,baz=296,slow=5.1,SNR=7.7
LUBP Lubang 7.33 187 eP Pn 05 04 00.3 +2.1
JKE Kume jima 2 7.36 43 P Pn 05 03 58.6 +0.1
GZH Guangzhou 7.53 287 Pn Pn 05 03 56.8 -4.1
GZH Sn Sn 05 05 14.4 -11
SJMP San Jose 8.54 180 eP Pn 05 04 17.1 +2.3
JOW Kunigami 8.69 47 P Pn 05 04 18.2 +1.5
JOW Kunigami 8.69 47 Pn Pn 05 04 16.9 +0.2
0.9nm,0.3s,baz=231,slow=12,SNR=11
JOW Sn Sn 05 05 49.5 -4.6
baz=302,slow=15
JOW Kunigami 8.69 47 ePn Pn 05 04 17.8 +1.0
JOW Sn Sn 05 05 49.5 -4.6
JOW Kunigami 8.69 47 eP Pn 05 04 15.6 -1.2
baz=47
JTK Tokunoshima 9.76 45 P Pn 05 04 32.4 +0.9
SSE Sheshan 10.01 0 P Pn 05 04 36.2 +1.4
SSE pmax pmax
comp=Z,13nm,0.8s
SSE pmax pmax
comp=Z,62nm,4.3s
SSE LR LR
comp=N,730nm,15.8s
SSE LR LR
comp=E,2µm,16.0s
SSE LR LR
comp=Z,1µm,20.5s
QIZ Qiongzhong 10.83 261 P Pn 05 04 44.8 -1.4
QIZ S Sn 05 06 46.2 -0.6
QIZ pmax pmax
comp=Z,35nm,0.8s
QIZ LR LR
comp=N,2µm,15.5s
QIZ LR LR
comp=Z,1µm,15.7s
QIZ Qiongzhong 10.83 261 ePn Pn 05 04 44.1 -2.0
37nm,0.6s
NJ2 Nanjing 11.15 350 eP Pn 05 04 48.6 -1.9
NJ2 S Sn 05 06 59.2 +4.7
NJ2 pmax pmax
comp=Z,260nm,1.0s
NJ2 LR LR
comp=N,2µm,11.1s
NJ2 LR LR
comp=E,2µm,12.0s
NJ2 LR LR
comp=Z,2µm,11.4s
WHN Wuhan 11.27 328 P Pn 05 04 49.5 -2.6
WHN S Sn 05 06 47.8 -10
WHN LR LR
comp=N,4µm,16.9s
WHN LR LR
comp=E,6µm,17.4s
WHN LR LR
comp=Z,4µm,11.7s
GYA Guiyang 14.32 295 P Pn 05 05 32.8 -1.2
GYA PP PnPn 05 05 44.6 +2.6
GYA S Sn 05 08 12.5 +0.2
GYA PcP PcP 05 10 50.2 -0.5
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.6s
GYA LR LR
comp=N,780nm,14.8s
GYA LR LR
comp=E,660nm,15.2s
GYA LR LR
comp=Z,770nm,14.6s
JNU Nakatsue 14.80 34 Pn Pn 05 05 42.2 +1.7
0.4nm,0.3s,baz=193,slow=7.0,SNR=4.2
JNU LR LR 05 11 52.1
comp=Z,674nm,20.4s,baz=215,slow=39
JNU Nakatsue 14.80 34 eP P 05 05 43.9 -2.3
DLV T Lat 15.15 235 ePn Pn 05 05 44.6 -0.7
64nm,1.0s
TIA Tai'an 15.51 348 ⇑P P 05 05 55.4 +1.3
TIA S S 05 08 56.2 -0.3
TIA pmax pmax
comp=Z,60nm,0.9s
TIA pmax pmax
comp=Z,620nm,3.9s
TIA LR LR
comp=N,2µm,16.1s
TIA LR LR
comp=E,2µm,17.7s
TIA LR LR
comp=Z,2µm,20.5s
KKM Kota Kinabalu 15.67 199 ePn Pn 05 05 50.8 -1.3
comp=Z,136nm,1.1s
KKM Kota Kinabalu 15.67 199 ⇑P Pn 05 05 51.6 -0.5
baz=16,SNR=3.2
KKM Kota Kinabalu 15.67 199 ⇓P Pn 05 05 52.2 +0.2
SDKM Sandakan 15.79 195 ⇓P Pn 05 05 55.2 +1.6
UBPT Khong Chiam 15.97 252 P P 05 06 02.1 +2.8
comp=Z,24nm,1.1s,comp=Z,787nm
MYLDM Lahad Datu 15.99 190 ePn Pn 05 05 55.9 -0.1
comp=Z,279nm,1.2s
SLVN Son La 16.10 274 ePn Pn 05 05 55.8 -1.7
comp=Z,29nm,1.1s
XAN Xi'an 16.87 323 P Pn 05 06 05.9 -1.3
XAN S Sn 05 09 17.3 +3.2
XAN pmax pmax
comp=Z,19nm,1.2s
XAN pmax pmax
comp=Z,57nm,4.6s
XAN LR LR
comp=Z,850nm,16.8s
XAN LR LR
comp=Z,340nm,15.5s
XAN LR LR
comp=Z,420nm,15.1s
TSM Tawau 16.96 191 ⇓P P 05 06 10.6 +0.4
KSAR Wonju Array Be 17.35 18 P P 05 06 15.0 +0.6
KSAR Wonju Array Be 17.35 18 Pn P 05 06 14.9 +0.6
KSRS Korea Array 17.37 18 Pn P 05 06 14.9 +0.4
comp=Z,2.0nm,0.3s,baz=199,slow=11,SNR=26
KMI Kunming 17.43 287 P Pn 05 06 14.0 -0.4
KMI pP pP 05 06 17.9 +2.3
KMI sP sP 05 06 21.1 -3.1
KMI PP PnPn 05 06 28.4 +3.7
KMI S Sn 05 09 24.5 -3.5
KMI sS S 05 09 31.9 -4.2
KMI SS SnSn 05 09 47.2 +5.8
KMI pmax pmax
comp=Z,9.0nm,1.1s
KMI pmax pmax
comp=Z,140nm,3.9s
KMI LR LR
comp=Z,1µm,13.2s
KMI LR LR
comp=Z,810nm,11.1s
KMI LR LR
comp=Z,750nm,11.6s
TIY Taiyuan 18.25 337 eP Pn 05 06 20.6 -3.7
TIY S Sn 05 09 44.5 -3.0
TIY pmax pmax
comp=Z,420nm,5.5s
TIY LR LR
comp=Z,2µm,15.5s
TIY LR LR
comp=Z,1µm,12.7s
TIY LR LR
comp=Z,2µm,12.9s
CD2 Chengdu 18.45 306 ⇓P Pn 05 06 27.1 +0.3
CD2 pP pP 05 06 31.5 -1.1
CD2 sP sP 05 06 35.2 -0.1
CD2 PP PnPn 05 06 42.7 +4.1
CD2 S Sn 05 09 49.2 -3.3
CD2 sS S 05 09 56.2 -0.3
CD2 SS SnSn 05 10 13.2 +6.8
CD2 pmax pmax
comp=Z,210nm,1.0s
CD2 pmax pmax
comp=Z,420nm,8.6s
CD2 LR LR
comp=Z,2µm,13.2s
CD2 LR LR
comp=Z,2µm,15.7s
CD2 LR LR
comp=Z,2µm,15.8s
BJT Baijiatuau 19.38 348 eP Pn 05 06 37.8 -0.2
BJT pmax pmax
comp=Z,78nm,0.8s
BJT Baijiatuau 19.38 348 eP Pn 05 06 37.8 -0.2
comp=Z,78nm,0.8s
BJI Beijing 19.40 348 P Pn 05 06 37.9 -0.3
BJI S Sn 05 10 13.9 -1.3
BJI pmax pmax
comp=Z,38nm,0.8s
BJI pmax pmax
comp=Z,530nm,10.4s
BJI LR LR
comp=Z,930nm,21.1s
BJI LR LR
comp=Z,1µm,21.1s
BJI LR LR
comp=Z,820nm,21.1s
BTM Bintulu 19.41 205 ⇓P Pn 05 06 38.4 0.0
PBKT Sadao Pong 19.62 260 P Pn 05 06 42.9 +1.9
comp=Z,28nm,1.0s,comp=Z,1µm
UTTA Uttaradit 19.71 264 P Pn 05 06 46.9 +4.8
comp=Z,3.8nm,0.9s
TOLI Toli-Toli 19.81 181 eP P 05 06 40.6 -1.0
GTOI Gorontalo 20.37 175 P P 05 06 46.5 -1.2
comp=Z,391nm,1.0s,comp=Z,4µm
LAMP Lampang 20.41 267 P Pn 05 06 52.2 +1.8
comp=Z,4.2nm,1.0s
SBUM Sibu 20.44 206 ePn P 05 06 48.6 +0.1
comp=Z,199nm,1.0s
SBUM Sibu 20.44 206 ⇓P Pn 05 06 49.6 -1.0
MRSI Marisa 20.46 178 P Pn 05 06 50.1 -0.8
comp=Z,179nm,1.3s
KMSI Cibinong 20.54 172 P Pn 05 06 50.7 -1.0
comp=Z,450nm,0.9s
CMAI Chiengmai2 20.75 271 P Pn 05 06 56.1 +1.6
comp=Z,17nm,0.9s
SNY Shenyang 20.82 5 ⇑P P 05 06 51.7 -0.6
SNY S S 05 10 45.7 +2.1
SNY pmax pmax
comp=Z,7.0nm,0.7s
SNY pmax pmax
comp=Z,150nm,5.8s
SNY LR LR
comp=Z,740nm,17.0s
SNY LR LR
comp=Z,900nm,19.0s
SNY LR LR
comp=Z,1µm,15.1s
CHTO Chiang Mai 21.00 268 eP P 05 06 53.7 -0.9
CHTO pmax pmax
comp=Z,33nm,1.3s
CHTO Chiang Mai 21.00 268 P P 05 06 55.7 +1.1
comp=Z,54nm,1.2s
CHTO Chiang Mai 21.00 268 ePn P 05 06 53.7 -0.9
comp=Z,33nm,1.3s
CMAR Chiang Mai Arr 21.07 267 P P 05 06 56.5 +1.3
comp=Z,11nm,0.8s,baz=74,slow=9.4,SNR=39
CMAR PcP PcP 05 11 01.8 +0.1
comp=Z,1.0nm,0.3s,baz=342,slow=0.7,SNR=5.2
CMAR LR LR 05 15 13.2
comp=Z,558nm,18.6s,baz=82,slow=37
LZH Lanzhou 21.30 318 ⇓P P 05 06 58.6 +0.8
LZH pP pP 05 07 04.0 +0.2
LZH sP sP 05 07 07.2 +0.7
LZH PP PnPn 05 07 21.2 +3.5
LZH S S 05 10 50.1 -3.5
LZH sS Sn 05 10 57.2 -4.1
LZH SS SnSn 05 11 23.0 +6.6
LZH pmax pmax
comp=Z,43nm,1.0s
LZH pmax pmax
comp=Z,390nm,7.2s
LZH LR LR
comp=Z,1µm,12.8s
LZH LR LR
comp=Z,1µm,13.0s
LZH LR LR
comp=Z,1µm,14.2s
HHC Hu-ho-hao-te 21.36 340 eP P 05 07 01.2 +2.9
HHC PP PnPn 05 07 25.2 +6.8
HHC S S 05 10 53.4 -1.2
HHC PcS PcS 05 14 41.9 +1.7
HHC pmax pmax
comp=Z,49nm,1.0s
HHC pmax pmax
comp=Z,300nm,5.0s
HHC LR LR
comp=Z,3µm,16.5s
HHC LR LR
comp=Z,2µm,13.2s
HHC LR LR
comp=Z,2µm,13.0s
MAJO Matsushiro 21.43 40 eP P 05 07 00.8 +1.8
MAJO Matsushiro 21.43 40 eP P 05 07 02.7 +3.7
comp=Z,56nm,1.3s
MAT Matsushiro 21.43 40 P P 05 06 59.8 +0.8
MAT S S 05 10 57.8 +1.9
MJAR Matsushiro Arr 21.43 40 P P 05 07 00.5 +1.5
comp=Z,4.6nm,0.6s,baz=228,slow=8.4,SNR=12
MJAR ScP ScP 05 14 36.8 -1.2
comp=Z,1.5nm,0.6s,baz=209,slow=4.0,SNR=4.9
BTO Baotou 21.68 337 eP P 05 06 59.9 -1.8
APSI Ampana 21.83 179 P P 05 07 06.3 +2.9
comp=Z,484nm,1.4s,comp=Z,4µm
LUWI Luwuk 22.01 176 P P 05 07 06.8 +1.4
comp=Z,666nm,0.9s,comp=Z,8µm
LUWI Luwuk 22.01 176 eP P 05 07 05.8 +0.4
comp=Z,446nm,0.7s
SRDT SRDT 22.02 256 P P 05 07 07.3 +1.8
comp=Z,76nm,1.1s,comp=Z,7µm
KSM Kuching 22.15 210 eP P 05 07 05.5 -1.4
comp=Z,80nm,0.9s
KSM Kuching 22.15 210 ⇑P P 05 07 06.3 -0.6
baz=22,SNR=18
KSM Kuching 22.15 210 ⇑P P 05 07 06.4 -0.5
KHLT Khaolaem Dam 22.35 258 P P 05 07 13.3 +4.3
comp=Z,9.2nm,1.4s
LBMI Labuha 22.43 163 P P 05 07 11.5 +1.6
comp=Z,191nm,0.8s,comp=Z,2µm
BKB Balikpapan 22.56 191 P P 05 07 11.7 +0.4
comp=Z,549nm,1.0s,comp=Z,12µm
MTKI Muara Teweh, K 22.70 196 P P 05 07 16.0 +3.2
comp=Z,179nm,1.0s
STKI Sintang 22.90 206 P P 05 07 18.2 +3.3
comp=Z,107nm,0.9s,comp=Z,37µm
CN2 Changchun 22.97 8 eP P 05 07 19.3 +4.0
CN2 eS S 05 11 22.6 -1.9
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,900nm,14.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,900nm,16.0s
SANI Sanana 23.44 168 P P 05 07 18.5 -1.8
comp=Z,224nm,0.8s,comp=Z,2µm
KTGM Kuala Trenggan 23.46 231 ⇓P P 05 07 21.6 +1.1
TTSI Tana Toraja 23.98 183 P P 05 07 25.9 +0.4
comp=Z,164nm,0.9s,comp=Z,2µm
MDJ Mudanjiang 24.52 15 P P 05 07 30.9 +0.7
MDJ pP pP 05 07 33.2 -3.4
MDJ sP sP 05 07 34.5 -4.7
MDJ S S 05 11 57.6 +8.0
MDJ ScP ScP 05 14 46.6 +0.7
MDJ pmax pmax
comp=Z,13nm,0.5s
MDJ pmax pmax
comp=Z,170nm,4.6s
MDJ LR LR
comp=Z,330nm,26.4s
MDJ LR LR
comp=Z,910nm,20.9s
MDJ LR LR
comp=Z,1µm,22.2s
MDJ Mudanjiang 24.52 15 eP P 05 07 30.1 -0.1
comp=Z,31nm,1.1s
SURT Suratani 24.68 244 P P 05 07 32.4 +0.4
comp=Z,17nm,1.1s,comp=Z,234nm
KBKI Kotabaru 24.69 192 P P 05 07 33.5 +1.5
comp=Z,101nm,1.3s
USRK Ussuriysk Arra 24.78 19 P P 05 07 32.4 -0.2
comp=Z,6.9nm,0.8s,baz=204,slow=8.9,SNR=9.6
USRK LR LR 05 17 51.9
comp=Z,272nm,19.9s,baz=188,slow=38
NLAI Namlea 24.83 166 P P 05 07 33.6 +0.3
comp=Z,387nm,0.9s,comp=Z,3µm
SPSI Sidrap Palu 24.90 183 P P 05 07 34.7 +0.8
comp=Z,131nm,0.9s,comp=Z,968nm
BBKI Banjar Baru 25.14 195 P P 05 07 39.2 +3.2
comp=Z,232nm,0.9s
BNSI Bone 25.31 182 P P 05 07 38.2 +0.6
comp=Z,131nm,0.9s,comp=Z,1µm
KULM Kulim 25.33 235 eP P 05 07 36.9 -0.9
comp=Z,18nm,0.8s
KULM Kulim 25.33 235 ⇑P P 05 07 38.0 +0.2
MSAI Masohi 25.41 162 P P 05 07 38.9 +0.4
comp=Z,45nm,0.9s,comp=Z,496nm
MYKOM Kota Tinggi 25.52 224 eP P 05 07 39.6 +0.1
comp=Z,120nm,1.4s
MYKOM Kota Tinggi 25.52 224 ⇓P P 05 07 39.7 +0.1
IPM Ipoh 25.57 233 eP P 05 07 39.2 -0.9
comp=Z,77nm,0.8s
IPM Ipoh 25.57 233 ⇑P P 05 07 39.6 -0.5
KAPI Kappang 25.94 183 P P 05 07 42.3 -1.0
comp=Z,896nm,0.8s,SNR=8.7
KAPI Kappang 25.94 183 eP P 05 07 42.9 -0.4
comp=Z,458nm,0.8s
FAKI Fak Fak 26.18 154 eP P 05 07 44.9 -0.7
comp=Z,27nm,0.7s
FAKI Fak Fak 26.18 154 ⇑P P 05 07 44.7 -0.9
baz=26,SNR=6.2
BKSI Bulukumba 26.23 182 P P 05 07 45.4 -0.5
comp=Z,48nm,1.0s,comp=Z,490nm
ERM Erimo 27.93 37 eP P 05 08 02.2 +1.2
ERM pmax pmax
comp=Z,57nm,1.0s
HIA Hailar 28.18 358 eP P 05 08 02.7 -0.5
HIA pmax pmax
comp=Z,22nm,0.8s
HIA Hailar 28.18 358 eP P 05 08 02.7 -0.5
comp=Z,22nm,0.8s
PSI Prapat 28.25 233 P P 05 08 03.9 -0.4
comp=Z,31nm,0.9s,baz=18,slow=5.1,SNR=24
PSI LR LR 05 19 48.4
comp=Z,293nm,20.2s,baz=34,slow=37
PSI Prapat 28.25 233 ⇓P P 05 08 03.6 -0.7
baz=28,SNR=17
LSA Lhasa 28.39 294 P P 05 08 07.4 +1.6
LSA pmax pmax
comp=Z,40nm,0.8s
LSA LR LR
comp=Z,240nm,8.0s
LSA LR LR
comp=Z,270nm,8.0s
LSA LR LR
comp=Z,280nm,9.0s
LSA Lhasa 28.39 294 eP P 05 08 05.0 -0.8
LSA pmax pmax
comp=Z,14nm,0.8s
LSA Lhasa 28.39 294 eP P 05 08 05.0 -0.8
comp=Z,14nm,0.8s
KCSI Kotacane, Aceh 28.66 236 P P 05 08 06.2 -1.6
ULN Ulaanbaatar 29.07 340 eP P 05 08 12.4 +1.0
ULN pmax pmax
comp=Z,17nm,0.9s
ULN Ulaanbaatar 29.07 340 eP P 05 08 12.4 +1.0
comp=Z,17nm,0.9s
ASAJ Asahikawa 29.08 33 P P 05 08 10.6 -0.7
SONM Songino Array 29.26 339 LR LR 05 21 13.1
comp=Z,1µm,20.7s,baz=152,slow=39
KLR Kul'dur 29.36 14 eP P 05 08 12.2 -1.5
GSI Gunungsitoli 30.24 233 eP P 05 08 19.9 -2.0
comp=Z,26nm,0.8s
UGM Wanagama 30.62 201 eP P 05 08 24.9 -0.3
comp=Z,88nm,1.2s
UGM Wanagama 30.62 201 ⇓P P 05 08 25.6 +0.4
baz=31,SNR=4.3
YUK Yuzh-Kuril'sk 30.75 36c iP P 05 08 25.6 -0.4
YUK S S 05 13 25.8 -2.2
YUK MLR MLR
comp=N,875nm,22.0s
YUK MLR MLR
comp=E,1µm,22.0s
YUK MLR MLR
comp=Z,685nm,22.0s
SOEI Soe 30.76 174 eP P 05 08 24.1 -2.4
comp=Z,90nm,0.9s
SOEI Soe 30.76 174 ⇑P P 05 08 26.8 +0.3
baz=31,SNR=4.3
TAPN Taplejung 31.09 288 eP P 05 08 29.9 +0.3
comp=Z,37nm,0.9s
YSS Yuzh-Sakhalins 31.23 29 eP P 05 08 30.6 +0.4
YSS e 05 08 41.3
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s
CISI Cisompet, Garu 31.30 206 eP P 05 08 29.8 -1.5
comp=Z,102nm,1.0s
ODAN Odare 31.34 287 eP P 05 08 32.0 +0.2
RAMN Ramite 32.05 287 eP P 05 08 38.4 +0.4
comp=Z,44nm,0.9s
JIRN Jiri 32.46 289 eP P 05 08 41.8 +0.1
comp=Z,58nm,1.0s
ZAK Zakamensk 32.50 339 eP P 05 08 40.3 -1.2
ZAK pmax pmax
comp=Z,4.0nm,1.2s
GUN Gumba 32.75 289 eP P 05 08 44.6 +0.3
comp=Z,68nm,0.9s
PKI Pulchoki 33.14 288 eP P 05 08 47.6 -0.1
comp=Z,22nm,0.9s
KKN Kakani 33.27 289 eP P 05 08 49.0 +0.3
comp=Z,27nm,0.9s
DMN Daman 33.41 288 eP P 05 08 50.0 0.0
comp=Z,63nm,1.2s
TLY Talaya 33.49 340 eP P 05 08 50.6 +0.6
TLY pmax pmax
comp=Z,17nm,0.7s
TLY Talaya 33.49 340 eP P 05 08 50.6 +0.6
comp=Z,17nm,0.7s
GKN Gorkha 33.85 289 eP P 05 08 53.1 -0.6
comp=Z,38nm,0.9s
MOY Mondy 34.37 338 eP P 05 09 00.3 +2.5
DANN Dangsing 34.65 290 eP P 05 09 00.5 -0.2
KOLN Koldanda 34.75 289 eP P 05 09 01.3 -0.3
comp=Z,39nm,0.9s
MTN Manton Dam 35.08 163 ⇓P P 05 09 01.6 -2.5
baz=35,SNR=21
WMQ Urumqi 35.87 317 P P 05 09 11.8 +1.0
WMQ pP pP 05 09 17.7 +0.5
WMQ sP sP 05 09 20.6 +0.8
WMQ PP PP 05 10 33.0 +0.6
WMQ S S 05 14 47.5 -0.1
WMQ sS sS 05 14 57.3 -0.9
WMQ ScP ScP 05 15 23.3 +0.4
WMQ pmax pmax
comp=Z,14nm,1.2s
WMQ pmax pmax
comp=Z,160nm,4.0s
WMQ LR LR
comp=Z,650nm,12.8s

WMQ LR LR
comp=Z,380nm,11.6s
WMQ LR LR
comp=Z,280nm,16.6s
KNRA Kununurra 37.25 168 ⇑P P 05 09 21.3 -1.4
baz=37,SNR=24
PMG Port Moresby 39.61 137 d iP P 05 09 41.9 -0.6
PMG pmax pmax
comp=Z,28nm,0.8s
PMG Port Moresby 39.61 137 LR LR 05 23 43.4
comp=Z,118nm,21.8s,baz=224,slow=33
PMG Port Moresby 39.61 137 eP P 05 09 42.1 -0.5
comp=Z,34nm,0.8s
MK31 Makanchi Array 40.61 319 eP P 05 09 50.7 0.0
MK31 Makanchi Array 40.61 319 eP P 05 09 50.6 0.0
MKAR Makanchi Array 40.61 319 c eP P 05 09 51.0 +0.3
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 40.61 319 P P 05 09 51.0 +0.3
comp=Z,4.0nm,0.6s,baz=115,slow=10.0,SNR=49
MKAR ScP ScP 05 15 42.2 +1.3
comp=Z,0.6nm,0.7s,baz=110,slow=4.3,SNR=3.6
MKAR LR LR 05 28 12.6
comp=Z,174nm,18.6s,baz=108,slow=38
COCO West Island 40.77 218 eP P 05 09 50.9 -1.3
COCO West Island 40.77 218 eP P 05 09 50.9 -1.3
comp=Z,946nm,1.9s
COEN Coen 40.96 146 eP P 05 09 52.6 -1.1
comp=Z,87nm,0.6s
COEN Coen 40.96 146 ⇑P P 05 09 52.5 -1.3
baz=41,SNR=19
YAK Yakutsk 41.37 6 eP P 05 09 56.5 -0.1
YAK pmax pmax
comp=Z,11nm,0.7s
YAK MLR MLR
comp=Z,508nm,16.0s
YAK MLR MLR
comp=N,370nm,15.0s
YAK MLR MLR
comp=E,192nm,14.0s
MBWA Marble Bar 41.97 182 eP P 05 10 00.0 -2.0
comp=E,15nm,0.9s
PETK Petropavlovsk- 42.49 32 LR LR 05 30 12.4
comp=E,133nm,18.6s,baz=234,slow=40
KSH Kashi 42.65 306 eP P 05 10 11.2 +3.6
KSH esP sP 05 10 16.6 -0.1
KSH ePP PP 05 11 49.5 +3.0
KSH PcS PcS 05 15 50.8 -0.8
KSH eS S 05 16 35.0 +5.2
KSH eSS SS 05 19 35.1 -5.1
KSH pmax pmax
comp=E,7.0nm,0.7s
KSH pmax pmax
comp=E,190nm,4.9s
KSH LR LR
comp=E,110nm,4.0s
KSH LR LR
comp=E,120nm,3.0s
KSH LR LR
comp=E,140nm,6.0s
WRAB Tennant Creek 42.73 162 P P 05 10 06.0 -2.1
comp=E,282nm,0.9s,SNR=64
WRAB Tennant Creek 42.73 162 c iP P 05 10 06.3 -1.8
WRAB pmax pmax
comp=Z,100nm,0.8s
WRAB Tennant Creek 42.73 162 eP P 05 10 06.5 -1.6
comp=Z,39nm,0.8s
WRA Warramunga Arr 42.73 162 iP P 05 10 06.4 -1.8
WRA pmax pmax
comp=Z,41nm,0.8s
WRA Warramunga Arr 42.73 162 P P 05 10 06.3 -1.8
comp=Z,39nm,0.8s,baz=343,slow=9.0,SNR=219
WRA ScP ScP 05 15 48.7 -0.9
comp=Z,4.5nm,1.0s,baz=338,slow=4.1,SNR=9.3
H11N1 WAKE ISLAND Hy 42.78 83 T T 05 56 15.1
baz=284,slow=76,SNR=17
H11N2 WAKE ISLAND Hy 42.78 83 T T 05 56 15.1
baz=284,slow=76,SNR=25
H11N3 WAKE ISLAND Hy 42.79 83 T T 05 56 16.6
baz=284,slow=76,SNR=13
H11S3 WAKE ISLAND Hy 42.81 85 T T 05 56 17.0
baz=284,slow=73,SNR=40
H11S1 WAKE ISLAND Hy 42.82 85 T T 05 56 15.5
baz=284,slow=73,SNR=26
H11S2 WAKE ISLAND Hy 42.83 85 T T 05 56 12.8
baz=284,slow=73,SNR=18
ZAA0 Zalesovo Array 42.88 329 eP P 05 10 08.8 -0.2
ZALV Zalesovo Beam 42.88 329 P P 05 10 09.1 +0.1
comp=Z,5.1nm,0.5s,baz=119,slow=7.3,SNR=28
ZALV ScP ScP 05 15 49.7 +0.1
comp=Z,0.7nm,0.6s,baz=114,slow=3.5,SNR=3.8
ZALV LR LR 05 29 43.2
comp=Z,395nm,18.6s,baz=82,slow=38
GIRL Giralia 43.95 189 P P 05 10 17.8 -0.1
baz=44,SNR=6.9
NVS Novosibirsk 44.15 329 ⇓iP P 05 10 18.3 -1.0
NVS e 05 12 11.7
NVS eS S 05 16 48.3 -2.7
NVS pmax pmax
comp=Z,17nm,1.0s
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=E,12nm,1.1s
NVS pmax pmax
comp=N,19nm,2.6s
NVS pmax pmax
comp=Z,27nm,2.6s
NVS pmax pmax
comp=E,15nm,2.3s
NVS smax smax
comp=N,12nm,2.4s
NVS smax smax
comp=E,21nm,2.0s
AAK Ala-Archa 44.44 310 P P 05 10 22.6 +0.6
comp=E,3.7nm,0.7s,baz=114,slow=4.8,SNR=5.4
KURK Kurchatov 44.51 322 eP P 05 10 22.1 -0.1
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 44.51 322 eP P 05 10 22.1 -0.1
comp=Z,8.0nm,0.8s
KURBB Kurchatov Arra 44.52 322 P P 05 10 22.8 +0.5
comp=Z,8.3nm,0.7s,baz=123,slow=7.5,SNR=39
MTSU Mount Surprise 45.07 148 P P 05 10 27.1 +0.1
baz=45,SNR=67
QIS Mount Isa 45.11 155 ⇑P P 05 10 26.0 -1.3
baz=45,SNR=24
AS31 Alice Springs 46.15 164 eP P 05 10 34.6 -0.9
ASPA Alice Springs 46.15 164 ⇓P P 05 10 35.3 -0.2
baz=46
ASAR Alice Springs 46.15 164 P P 05 10 34.8 -0.7
comp=Z,6.2nm,0.7s,baz=345,slow=7.1,SNR=50
ASAR ScP ScP 05 16 03.1 -0.4
comp=Z,4.5nm,1.0s,baz=347,slow=4.1,SNR=13
ASAR LR LR 05 32 39.6
comp=Z,64nm,18.1s,baz=3.0,slow=40
WRKA Warakurna 46.33 171 ⇑P P 05 10 36.0 -0.9
baz=46,SNR=30
KK31 Karatay Array 47.40 310 iP P 05 10 46.1 +0.9
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 47.40 310 eP P 05 10 46.1 +0.9
KKAR Karatay Array 47.40 310 eP P 05 10 46.1 +0.9
MEEK Meekatharra 47.47 183 ⇓P P 05 10 44.1 -1.7
baz=48,SNR=9.2
KBL Kabul 47.55 298 eP P 05 10 47.0 +0.3
KBL pmax pmax
comp=Z,14nm,0.9s
KBL Kabul 47.55 298 eP P 05 10 47.0 +0.3
comp=Z,14nm,0.9s
CTA Charters Tower 47.69 147 P P 05 10 47.7 +0.1
comp=Z,34nm,0.8s,baz=333,slow=11,SNR=39
CTAO Charters Tower 47.69 147 eP P 05 10 47.6 +0.1
CTAO Charters Tower 47.69 147 eP P 05 10 47.6 +0.1
HNR Honiara 48.68 125 LR LR 05 27 55.9
comp=Z,113nm,21.8s,baz=348,slow=32
VOSK Vostochnaya 49.67 322 eP P 05 11 02.9 +0.4
VOSK Vostochnaya 49.67 322 eP P 05 11 02.9 +0.4
MORW Morawa 50.07 186 ⇑P P 05 11 04.4 -1.3
baz=50,SNR=10
BVA0 Borovoye Array 50.10 322 iP P 05 11 05.8 0.0
BVA0 pmax pmax
comp=Z,11nm,1.2s
BVAR Borovoye Array 50.10 322 P P 05 11 06.5 +0.7
comp=Z,3.1nm,0.8s,baz=112,slow=9.2,SNR=17
BVAR PcP PcP 05 12 24.0 -1.1
comp=Z,2.6nm,0.7s,baz=103,slow=3.2,SNR=4.0
BVAR ScP ScP 05 16 19.2 -0.7
comp=Z,1.2nm,0.8s,baz=112,slow=6.6,SNR=4.0
BRVK Borovoye 50.18 322 P P 05 11 07.0 +0.7
comp=Z,114nm,0.8s,SNR=5.5
BRVK Borovoye 50.18 322 ⇑iP P 05 11 07.3 +1.0
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 50.18 322 eP P 05 11 06.8 +0.5
comp=Z,16nm,0.8s
FX1 Attu Island--F 50.76 38 LR LR 05 29 48.0
comp=Z,128nm,21.5s,baz=298,slow=33
TIXI Tiksi 50.81 3 eP P 05 11 10.2 -0.6
TIXI pmax pmax
comp=Z,7.0nm,0.6s
TIXI Tiksi 50.81 3 eP P 05 11 10.2 -0.6
comp=Z,7.2nm,0.6s
BLDU Ballidu 51.55 185 ⇑P P 05 11 15.6 -1.2
baz=52,SNR=9.7
FORT Forrest 51.96 172 eP P 05 11 19.1 -0.7
comp=Z,57nm,0.8s
FORT Forrest 51.96 172 ⇑P P 05 11 19.3 -0.5
baz=52,SNR=7.0
QLP Quilpie 52.37 154 ⇓P P 05 11 22.4 -0.5
baz=52,SNR=9.5
KLBR Kellerberrin 52.44 184 ⇑P P 05 11 22.2 -1.2
baz=53,SNR=7.5
NWAO Narrogin (SRO) 53.80 184 P P 05 11 32.2 -1.2
comp=Z,28nm,0.9s,baz=351,slow=8.0,SNR=13
RMQ Roma 54.30 149 ⇓P P 05 11 36.8 -0.5
baz=54,SNR=5.4
BILL Bilibino 54.63 19 P P 05 11 38.0 -1.1
BILL *PP pP 05 11 47.0 +1.2
BILL e 05 11 56.0
BILL pmax pmax
comp=Z,3.0nm,1.3s
BILL MLR MLR
comp=Z,281nm,18.0s
BILL Bilibino 54.63 19 eP P 05 11 39.6 +0.5
IMYA Miami 54.86 300 eP P 05 11 41.9 +0.4
BBOO Buckleboo 55.42 165 eP P 05 11 44.5 -0.7
comp=Z,1μm,0.9s
BBOO Buckleboo 55.42 165 ⇑P P 05 11 44.7 -0.5
baz=56,SNR=37
IMOG Moghan 55.48 300 eP P 05 11 46.4 +0.3
AB31 Akbulak array 55.64 316 eP P 05 11 46.8 +0.1
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 55.64 316 eP P 05 11 47.0 +0.4
IKOO Kooshah 55.98 296 eP P 05 11 50.2 +0.5
IEMG Emamgholi 55.99 302 eP P 05 11 50.2 +0.4
IKRD Kardeh 56.12 301 eP P 05 11 46.1 -4.6
STKA Stephens Creek 56.15 159 eP P 05 11 49.9 -0.5
STKA pmax pmax
comp=Z,5.0nm,0.8s
STKA Stephens Creek 56.15 159 P P 05 11 49.9 -0.5
comp=Z,24nm,0.8s,baz=336,slow=6.7,SNR=62
STKA LR LR 05 38 44.1
comp=Z,72nm,18.2s,baz=13,slow=39
STKA Stephens Creek 56.15 159 eP P 05 11 49.9 -0.5
comp=Z,5.0nm,0.8s
STKA Stephens Creek 56.15 159 P P 05 11 49.9 -0.5
baz=56,SNR=44
ITEG Tejag 56.16 296 eP P 05 11 51.8 +0.9
SVE Sverdlovsk 56.57 325 eP pP 05 12 04.1 +4.2
SVE e 05 14 03.3
SVE eS S 05 19 46.3 +2.6
SVE e 05 21 31.8
SVE pmax pmax
comp=Z,38nm,1.1s
SVE MLR MLR
comp=Z,480nm,19.0s
HTT Hallett 56.76 162 P P 05 11 54.6 -0.2
baz=57,SNR=18
AKTO Aktyubinsk 57.02 317 P P 05 11 58.4 +1.8
comp=Z,4.1nm,0.8s,baz=93,slow=7.7,SNR=11
CMSA Cobar Meteorol 57.34 155 P P 05 11 59.1 +0.2
baz=57,SNR=16
ARU Arti 57.61 324 d iP P 05 12 01.9 +1.3
ARU 05 12 52.0
ARU 05 14 07.2
ARU S S 05 20 01.4 +4.0
ARU SS SS 05 23 51.1 +3.8
ARU pmax pmax
comp=Z,6.0nm,0.7s
SOKR Solikamsk 59.14 328 eP pP 05 12 21.9 +4.0
SOKR pmax pmax
comp=Z,10.0nm,0.8s
SOKR MLR MLR
comp=Z,560nm,17.0s
ARPS Mount Arapiles 60.73 161 P P 05 12 22.1 -0.2
baz=61,SNR=9.2
IFIR Firoozkooh 60.85 300 eP P 05 12 23.1 -0.7
DZM Mont Dzumac 61.56 131 P P 05 12 28.3 0.0
comp=Z,18nm,1.0s,baz=213,slow=13,SNR=7.4
DZM LR LR 05 34 29.4
comp=Z,194nm,22.0s,baz=14,slow=32
TNA Tin City 63.14 26 eP P 05 12 39.0 +0.8
comp=Z,57nm,2.4s
IRAZ Razeghan 63.16 300 eP P 05 12 40.4 +1.1
PRGR Permogore 64.84 329 eP P 05 12 49.8 +0.4
PRGR pmax pmax
comp=Z,3.0nm,0.4s
PRGR pmax pmax
comp=Z,4.0nm,0.5s
ZEI Tsey 66.84 309 eP P 05 13 01.6 -1.4
ZEI pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 67.44 310 P P 05 13 05.5 -1.0
comp=Z,4.3nm,0.9s,baz=94,slow=6.6,SNR=5.0
KBZ LR LR 05 47 09.2
comp=Z,199nm,18.6s,baz=73,slow=40
KIV Kislovodsk 67.56 310 eP P 05 13 08.1 +0.7
KIV eS S 05 22 04.0 +0.9
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,147nm,18.0s
KIV Kislovodsk 67.56 310 eP P 05 13 09.0 +1.6
KLMR Klimovskoe 67.80 328 eP P 05 13 08.6 +0.2
KLMR pmax pmax
comp=Z,34nm,1.5s
KLMR MLR MLR
comp=Z,521nm,18.0s
TMCR Tamitsa 68.29 332 eP P 05 13 20.2 +8.8
TMCR e 05 13 44.2
TMCR pmax pmax
comp=Z,36nm,1.2s
RAYN Ar Rayn 69.26 288 eP P 05 13 18.5 +0.1
OBN Obninsk 69.95 322 P P 05 13 23.0 +1.1
OBN e 05 13 34.3
OBN 05 13 44.0
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,221nm,18.0s
RSO Redoubt South 70.02 32 eP P 05 13 22.5 0.0
COLD Coldfoot 70.27 24 eP P 05 13 23.8 +0.1
comp=Z,5.6nm,0.8s
KTH Kantishna Hill 70.46 28 eP P 05 13 25.5 +0.5
KDAK Kodiak Island 70.48 35 iP P 05 13 27.0 +1.9
TRF Thorofare Moun 70.75 28 eP P 05 13 27.4 +0.4
comp=Z,23nm,1.3s
MCK McKinley 71.31 28 eP P 05 13 29.6 -0.5
MCK McKinley 71.31 28 eP P 05 13 29.6 -0.5
RC01 Rabbit Creek A 71.39 31 eP P 05 13 29.1 -1.5
JOF Joensuu 71.42 331 eP P 05 13 32.2 +1.5
JOF pmax pmax
comp=Z,4.0nm,0.5s
JOF Joensuu 71.42 331 ep P 05 13 32.2 +1.5
comp=Z,4.3nm,0.5s
COLA College 71.58 27 ⇑iP P 05 13 30.6 -1.0
COLA pmax pmax
comp=Z,11nm,1.0s
PMR Palmer 71.59 30 eP P 05 13 31.4 -0.3
PMR pmax pmax
comp=Z,47nm,1.7s
PMR Palmer 71.59 30 eP P 05 13 31.4 -0.3
comp=Z,47nm,1.7s
KEV Kevo 71.87 339 eP P 05 13 32.4 -0.9
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 71.87 339 ep P 05 13 32.4 -0.9
comp=Z,0.7nm,0.4s
ILAR Eielson Array 72.00 27 P P 05 13 32.4 -1.9
comp=Z,1.6nm,0.6s,baz=268,slow=4.7,SNR=29
ILAR LR LR 05 49 08.0
comp=Z,59nm,18.1s,baz=302,slow=39
ARCES ARCESS Array B 72.43 338 P P 05 13 36.2 -0.5
comp=Z,2.5nm,0.7s,baz=76,slow=5.1,SNR=8.2
ARE0 ARCESS Array S 72.43 338 eP P 05 13 36.1 -0.6
SPITS Spitsbergen Ar 72.53 348 P P 05 13 37.2 0.0
comp=Z,5.1nm,0.6s,baz=88,slow=9.3,SNR=13
PAX Paxson 72.99 28 eP P 05 13 39.9 -0.4
PAX pmax pmax
comp=Z,10.0nm,1.2s
PAX Paxson 72.99 28 eP P 05 13 39.9 -0.4
comp=Z,9.8nm,1.2s
KAF Kangasniemi 73.86 331 eP P 05 13 46.0 +0.7
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 73.86 331 ep P 05 13 46.0 +0.7
comp=Z,3.3nm,0.7s
FIA1 FINESS Array S 74.13 330 eP P 05 13 47.9 +1.1
FINES FINESS Array B 74.14 330 P P 05 13 47.1 +0.3
comp=Z,4.0nm,0.9s,baz=108,slow=6.2,SNR=9.6
FINES LR LR 05 50 15.9
comp=Z,299nm,18.5s,baz=90,slow=39
EGAK Eagle 74.39 26 eP P 05 13 47.8 -0.5
comp=Z,11nm,1.0s
AFI Afiamalu 74.44 112 LR LR 05 39 28.0
comp=Z,72nm,21.4s,baz=346,slow=30
BRTR Keskin Array B 75.02 307 P P 05 13 53.6 +1.0
comp=Z,1.2nm,0.8s,baz=124,slow=8.2,SNR=5.7
BRTR LR LR 05 52 29.9
comp=Z,65nm,20.7s,baz=41,slow=40
AKASG Malin Array Be 75.20 319 P P 05 13 53.2 0.0
comp=Z,2.2nm,0.7s,baz=60,slow=5.8,SNR=4.6
AKASG LR LR 05 50 46.5
comp=Z,150nm,18.2s,baz=305,slow=39
KIEV Kiev 75.21 319 eP P 05 13 54.0 +0.7
AK02 Malin Array Si 75.22 319 eP P 05 13 52.7 -0.7
DAWY Dawson 75.33 27 eP P 05 13 53.2 -0.6
INK Inuvik 76.13 22 eP P 05 13 58.1 -0.1
INK Inuvik 76.13 22 P P 05 13 57.0 -1.2
comp=Z,1.7nm,0.5s,baz=346,slow=3.3,SNR=6.9
INK Inuvik 76.13 22 eP P 05 13 58.1 -0.1
HYT Haines Junctio 77.21 30 eP P 05 14 04.8 +0.1
CFR Carcaliu 77.43 314 ⇑iP P 05 14 18.9 +13
SUW Suwalki 77.78 323 eP P 05 14 07.8 0.0
SUW pmax pmax
comp=Z,2.0nm,1.3s
SUW Suwalki 77.78 323 eP P 05 14 10.1 +2.3
SUW Suwalki 77.78 323 eP P 05 14 07.8 0.0
comp=Z,1.8nm,1.3s
VRI Vrincioaia 78.17 315 ⇓iP P 05 14 14.4 +4.2
BURAR Bucovina Array 78.61 317 ⇓iP P 05 14 15.1 +2.4
MLR Muntele Rosu 78.81 314 ⇑iP P 05 14 18.5 +4.6
RPZ Rata Peaks 79.02 146 eP P 05 14 14.8 +0.1
VOIR 79.42 315 ⇓iP P 05 14 24.3 +7.1
DAG Danmarks Havn 79.45 351 eP P 05 14 15.4 -1.2
DAG e 05 14 24.5
DAG Danmarks Havn 79.45 351 iP P 05 14 15.4 -1.2
DAG e 05 14 24.5
KWP Kalwaria Pacla 79.51 319 eP P 05 14 17.3 -0.2
KWP pmax pmax
comp=Z,13nm,0.7s
KWP Kalwaria Pacla 79.51 319 eP P 05 14 18.4 +0.9
KWP Kalwaria Pacla 79.51 319 ⇓iP P 05 14 18.1 +0.6
KWP Kalwaria Pacla 79.51 319 eP P 05 14 17.3 -0.2
comp=Z,13nm,0.7s
KOLS Kolonicke sedl 80.02 319 eP P 05 14 25.5 +5.2
KOLS Kolonicke sedl 80.02 319 e P 05 14 25.5 +5.2
UZH Uzhgorod 80.12 318 eP P 05 14 30.4 +10
UZH e 05 14 39.6
UZH e 05 14 47.4
DRGR 80.50 316 ⇑iP P 05 14 26.0 +3.1
CRVS Cervenica-Dubn 80.53 319 eP pP 05 14 33.9 +3.9
CRVS Cervenica-Dubn 80.53 319 epP pP 05 14 33.9 +3.9
GZR Gura Zlata 80.94 315 ⇓iP pP 05 14 38.2 +5.9
NB2 NORSAR Subarra 80.98 332 P P 05 14 24.3 -0.9
comp=Z,11nm,1.1s,baz=63,slow=5.6
NOA NORSAR Array B 80.98 332 P P 05 14 24.5 -0.7
comp=Z,0.5nm,0.5s,baz=62,slow=5.1,SNR=3.0
NOA LR LR 05 54 23.9
comp=Z,598nm,18.2s,baz=70,slow=39
BZS Buzias 81.62 316 ⇑iP P 05 14 36.9 +8.0
VTS Vitosha 81.64 312 ⇑iP P 05 14 32.0 +2.8
DLBC Dease Lake 81.65 30 LR LR 05 51 36.5
comp=Z,102nm,18.3s,baz=320,slow=36
RES Resolute Bay 81.75 9 eP P 05 14 28.5 -0.4
RES pmax pmax
comp=Z,11nm,0.8s
RES Resolute Bay 81.75 9 eP P 05 14 28.5 -0.4
comp=Z,11nm,0.8s
VYHS Vyhne 82.30 319 eP P 05 14 33.3 +0.8
VYHS e 05 14 46.6
VYHS Vyhne 82.30 319 eP P 05 14 33.2 +0.8
VYHS e 05 14 46.6
MORC Moravsky Berou 82.57 321 eP P 05 14 35.5 +1.6
MORC pmax pmax
comp=Z,4.0nm,0.9s
MORC Moravsky Berou 82.57 321 ⇑iP P 05 14 36.3 +2.5
MORC Moravsky Berou 82.57 321 eP P 05 14 35.5 +1.6
comp=Z,3.8nm,0.9s
ABPO Ambohimpanom 82.59 246 eP P 05 14 33.8 -0.8
ABPO Ambohimpanom 82.59 246 eP P 05 14 33.8 -0.8
KSP Ksiaz 82.87 322 eP P 05 14 38.6 +3.3
KSP Ksiaz 82.87 322 eP P 05 14 38.7 +3.4
DPC Dobruska-Polom 83.06 321 eP P 05 14 39.2 +2.9
DPC e 05 14 47.0
DPC Dobruska-Polom 83.06 321 eP P 05 14 39.2 +2.9
DPC epP pP 05 14 47.0 +3.7
PKSM Moragy 83.32 317 ⇑iP P 05 14 39.0 +1.3
VRAC Vranov 83.33 320 ⇑iP P 05 14 38.4 +0.7
TREC Trest 83.99 321 eP P 05 14 41.8 +0.7
TREC e 05 14 50.6
TREC Trest 83.99 321 eP P 05 14 41.8 +0.7
TREC epP pP 05 14 50.6 +2.5
BRG Berggiesshubel 84.20 323 eP P 05 14 43.2 +1.1
comp=Z,23nm,2.1s
BRG Berggiesshubel 84.20 323 eP P 05 14 43.2 +1.1
BRG pmax pmax
comp=Z,23nm,2.1s
PRU Pruhonice 84.25 322 eP P 05 14 42.2 -0.2
PRU e 05 14 52.4
PRU Pruhonice 84.25 322 eP P 05 14 42.2 -0.2
PRU epP pP 05 14 52.4 +3.1
CONA Conrad Observa 84.35 319 ⇑iP P 05 14 41.9 -1.1
comp=Z,8.0nm,1.1s
CLL Collm 84.53 323 eP P 05 14 43.0 -0.8
CLL e*PP PcP 05 14 49.0 +1.6
CLL pmax pmax
comp=Z,8.0nm,1.5s
CLL Collm 84.53 323 eP P 05 14 43.0 -0.8
comp=Z,8.0nm,1.5s
CLL epP PcP 05 14 49.0 +1.6
CLL i 05 14 58.3
CLL Lm MLR 05 57 00.0
comp=N,200nm,19.5s
CLL Lm MLR 05 57 00.0
comp=E,300nm,19.2s
KMBO Kilima Mbogo 84.72 267 P P 05 14 46.3 +0.6
comp=E,4.6nm,0.7s,baz=41,slow=8.0,SNR=11
KHC Kasperske Hory 85.19 321 eP P 05 14 46.8 -0.4
KHC e 05 14 56.7
KHC Kasperske Hory 85.19 321 eP P 05 14 46.8 -0.4
KHC epP pP 05 14 56.7 +2.5
GERES GERESS Array B 85.24 321 P P 05 14 47.4 -0.1
comp=E,1.0nm,0.6s,baz=56,slow=5.0,SNR=9.1
GERES LR LR 05 57 22.0
comp=E,191nm,19.3s,baz=42,slow=39
SUMG Summit 85.60 354 eP P 05 14 48.6 -0.7
SUMG i 05 14 58.8
SUMG Summit 85.60 354 iP P 05 14 48.6 -0.7
SUMG i 05 14 58.8
SUMG Summit 85.60 354 eP P 05 14 48.1 -1.2
comp=E,9.2nm,0.7s
YKA Yellowknife Ar 85.86 23 P P 05 14 49.2 -0.9
comp=E,2.1nm,0.7s,baz=313,slow=4.8,SNR=50
YKA PKKPbc PKKPbc 05 32 48.6 -4.0
comp=E,0.5nm,0.7s,baz=126,slow=2.6,SNR=11
CASY Casey 87.43 184 eP P 05 14 56.7 -0.8
NLWA Neilton Lookou 90.34 38 P P 05 15 12.5 +0.5
LPG La Plagne 91.01 320 eP P 05 15 14.3 -1.2
comp=E,15nm,1.0s
LPG La Plagne 91.01 320 eP P 05 15 14.3 -1.2
LPG pmax pmax
comp=Z,15nm,1.0s
LPG La Plagne 91.01 320 eP P 05 15 14.3 -1.2
comp=Z,15nm,1.0s

LPL La Plagne 91.01 320 eP P 05 15 14.4 -1.0
comp=Z,37nm,1.3s
LPL La Plagne 91.01 320 eP P 05 15 14.4 -1.0
LPL pmax pmax
comp=Z,37nm,1.3s
LPL La Plagne 91.01 320 eP P 05 15 14.4 -1.0
comp=Z,37nm,1.3s
EDM Edmonton 92.33 29 eP P 05 15 20.4 -0.7
EDM Edmonton 92.33 29 eP P 05 15 20.4 -0.7
BSMT Bassoo Peak 95.07 34 eP P 05 15 34.6 +0.5
comp=Z,1.9nm,0.8s
PPT Papeete 95.49 107 LR LR 05 53 50.9
comp=Z,58nm,19.6s,baz=300,slow=32
NVAR Mina Array Bea 98.72 43 P Pdif 05 15 51.1 +0.3
comp=Z,0.5nm,0.6s,baz=307,slow=6.1,SNR=4.5
TORD Torodi Ar. Bea 111.52 294 PKKPbc PKKPbc 05 31 48.7 +8.9
comp=Z,2.1nm,0.9s,baz=248,slow=4.0,SNR=8.2
H06S1 SOCORRO T 115.44 56 T T 07 28 22.4
SNR=30
SDV Santo Domingo 148.07 22 ePKPdf PKPdf 05 21 53.5 -0.9
ROSC El Rosal 150.10 32 PKPbc PKPbc 05 22 02.2 -0.7
comp=Z,1.9nm,0.4s,baz=244,slow=9.9,SNR=2.6
OTAV Otavalo 151.45 45 ePKPdf PKPdf 05 21 59.3 -0.8
LPAZ La Paz 170.00 63 PKP PKPdf 05 22 20.1 +0.1
comp=Z,2.4nm,0.9s,baz=346,slow=2.1,SNR=5.1

MAN 09 05:02:13, 9.31N×125.47E, h0km, mb4.5, ML3.3, MS3.2, Mindanao

MEX 09 05:37:41.1±0.5, 15.43N×94.74W, h16km±8km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.36	284	eP	Pn	05 38 02.0	-3.4
HUIG				iS	Sn	05 38 17.4	-5.7
PCIG		1.49	79	iP	Pn	05 38 03.4	-3.8
PCIG				iS	Sn	05 38 21.5	-4.9
CMIG	Matias Romero	1.66	355	eP	Pn	05 38 06.3	-3.3
CMIG				iS	Sn	05 38 25.4	-5.1
VHO	Vista Hermosa	2.52	311	iP	Pn	05 38 18.0	-3.6
VHO				iS	Sn	05 38 47.1	-5.1
PNIG	Pinotepa	3.40	287	iP	Pn	05 38 31.1	-2.4
PNIG				iS	Sn	05 39 09.5	-4.0

IDC 09 05:45:51.2±2.1, 4.46S×151.55E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.2/3, Error ellipse: s-maj=160.3km s-min=30.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.76	226	P	P	05 50 55.8	+0.4
	0.5nm,0.7s,baz=51,slow=10.0,SNR=5.6						
ASAR	Alice Springs	25.58	220	P	P	05 51 21.9	-0.3
	0.4nm,0.6s,baz=50,slow=9.0,SNR=4.1						
ILAR	Eielson Array	82.32	22	P	P	05 58 14.6	0.0
	0.2nm,0.8s,baz=241,slow=5.7,SNR=4.5						

DJA 09 06:16:08.9±0.8, 2°S±12°×13°9E±°, h89km±11km, M3.5/5, MLv3.5/5
IDC 09 06:16:22.6±5.3, 3.23S×139.27E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/24, mbtmp3.6/3, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/16, Error ellipse: s-maj=134.5km s-min=46.7km az=117.0
ISC 09 06:16:14.9±1.8, 2.0S±0.2×139.1E±0.1, h29km, n6, σ1§68/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.38	277	P	Pb	06 16 23.7	+0.2
GENI	Genyem	1.21	117	P	Pn	06 16 35.3	-0.6
GENI				S	Sn	06 16 52.3	+0.9
JAY	Jayapura	1.68	106	P	Pn	06 16 41.6	-0.9
WRA	Warramunga Arr	18.39	194	P	P	06 20 25.6	-2.2
	0.1nm,0.3s,baz=18,slow=12,SNR=8.9						
WRA				S	Sn	06 23 39.5	-13
	0.1nm,0.3s,baz=19,slow=23,SNR=3.8						
WRA				LR	LR	06 27 57.9	
	comp=Z,78nm,19.5s,baz=95,slow=40						
ASAR	Alice Springs	22.08	193	P	P	06 21 07.0	-0.9
	1.1nm,0.8s,baz=22,slow=10,SNR=13						
STKA	Stephens Creek	29.78	176	P	P	06 22 21.1	+1.9
	0.6nm,0.4s,baz=0.0,slow=6.1,SNR=2.7						

MEX 09 06:21:38.7±0.6, 15.39N×94.74W, h16km±7km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.37	286	iP	Pn	06 21 59.8	-3.4
HUIG				iS	Sn	06 22 15.1	-5.9
PCIG		1.50	78	eP	Pn	06 22 01.1	-3.9
PCIG				iS	Sn	06 22 19.0	-5.1
CMIG	Matias Romero	1.69	355	eP	Pn	06 22 04.5	-3.2
CMIG				eS	Sn	06 22 23.8	-5.2
VHO	Vista Hermosa	2.54	311	iP	Pn	06 22 16.3	-3.2
VHO				iS	Sn	06 22 45.6	-4.7
PNIG	Pinotepa	3.41	287	iP	Pn	06 22 28.7	-2.5
PNIG				iS	Sn	06 23 06.8	-4.5

IDC 09 06:23:04.5±1.2, 35.41N×81.67E, h0km, mb3.5/5, mb1 3.6/10, mb1mx3.4/49, mbtmp3.5/10, ML3.2/5, MS3.7/5, Ms1 3.7/5, ms1mx3.1/32, Error ellipse: s-maj=35.2km s-min=21.4km az=67.0
BJI 09 06:23:08.0, 35.63N×81.43E, h6km, mb3.9/5, ML4.1/6, Ms7 3.8/3
NNC 09 06:23:14.2±6.3, 36.06N×81.25E, h0km, mb3.7, Error ellipse: s-maj=86.7km s-min=24.2km az=124.0
ISC 09 06:23:08.6±0.7, 35.55N±0.07×81.44E±0.08, h15km, n31, σ1§76/31, mb3.6/5, MS3.8/4, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	5.88	314	Pn	Pn	06 24 27.8	+2.4
KSH				Sn	Sn	06 25 41.9	-0.7
KSH				smax	smax		
	comp=N,240nm,0.7s						
KSH				smax	smax		
	comp=E,240nm,0.8s						
DANN	Dangsing	7.44	164	eP	Pn	06 24 55.9	-1.0
	20nm,0.4s						
KOLN	Koldanda	7.97	166	eP	Pn	06 25 02.7	-1.4
	28nm,0.6s						
GKN	Gorkha	7.99	159	eP	Pn	06 25 04.1	-0.3
	14nm,0.4s						
KKN	Kakani	8.39	156	eP	Pn	06 25 10.3	+0.4
	25nm,0.5s						
GUN	Gumba	8.49	152	eP	Pn	06 25 11.7	+0.3
	38nm,0.6s						
DMN	Daman	8.51	157	eP	Pn	06 25 12.0	+0.5
	24nm,0.8s						
PKIN	Phulchoki	8.63	156	eP	Pn	06 25 14.0	+0.8
	15nm,0.4s						
PKI	Phulchoki	8.64	156	eP	Pn	06 25 13.7	+0.3
	37nm,0.5s						
JIRN	Jiri	8.84	151	eP	Pn	06 25 17.0	+0.8
	101nm,0.5s						
AAK	Ala-Archa	8.90	325	Pn	Pn	06 25 19.6	+2.8
	0.3nm,0.3s,baz=173,slow=11,SNR=4.8						
AAK				Lg	Lg	06 27 44.7	
	1.1nm,0.3s,baz=86,slow=13,SNR=3.8						
AAK				LR	LR	06 29 11.3	
	comp=Z,157nm,19.0s,baz=126,slow=40						
RAMN	Ramite	9.63	151	eP	Pn	06 25 25.9	-1.1
	19nm,0.4s						
MK31	Makanchi Array	11.26	3	⇑Pn	Pn	06 25 48.4	-0.5
	1.9nm,0.5s,baz=183,slow=11,SNR=70						
MK31				⇑Sn	Sn	06 27 52.2	-2.3
	5.0nm,0.8s,baz=185,slow=23,SNR=4.4						
MKAR	Makanchi Array	11.26	3	Pn	Pn	06 25 48.5	-0.4
	0.7nm,0.3s,baz=174,slow=12,SNR=29						
MKAR				Sn	Sn	06 27 53.4	-1.1
	0.5nm,0.3s,baz=185,slow=24,SNR=3.5						
KURBB	Kurchatov Arra	15.22	353	⇓Lg	Lg	06 30 56.6	
	9.1nm,1.1s						
KURBB	Kurchatov Arra	15.22	353	Pn	Pn	06 26 41.6	-1.3
	0.0nm,0.3s,baz=171,slow=12,SNR=6.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	Lanzhou	18.17	82	eP	P	06 27 22.5	+1.7
LZH				pP	pP	06 27 25.0	0.0
LZH				sP	sP	06 27 27.2	+0.2
LZH				ePP	PnPn	06 27 38.1	+6.4
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
LZH				LR	LR		
	comp=Z,270nm,14.3s						
ZALV	Zalesovo Beam	18.55	6	P	P	06 27 23.6	-1.0
	0.1nm,0.3s,baz=184,slow=10,SNR=5.8						
BVA0	Borovoye Array	19.14	339	P	Pn	06 27 34.7	+2.7
	2.2nm,0.8s,baz=159,slow=12,SNR=8.3						
BVAR	Borovoye Array	19.14	339	P	Pn	06 27 31.9	-0.1
	0.1nm,0.3s,baz=141,slow=9.3,SNR=5.5						
BRVK	Borovoye	19.20	339	⇑P	Pn	06 27 34.2	+1.5
	4.3nm,1.0s						
AB31	Akbulak array	20.88	318	⇓P	Pn	06 27 53.7	+1.1
	1.3nm,0.7s,baz=117,slow=10,SNR=14						
AKTO	Aktyubinsk	22.56	318	⇑P	P	06 28 09.3	+1.2
	2.0nm,0.8s						
AKTO	Aktyubinsk	22.56	318	P	P	06 28 09.1	+1.0
	1.2nm,0.7s,baz=121,slow=18,SNR=2.3						
AKTO				LR	LR	06 37 51.6	
	comp=Z,171nm,18.2s,baz=138,slow=39						
ASF	Jabal al Asfar	36.91	278	LR	LR	06 48 25.2	
	comp=Z,234nm,21.8s,baz=294,slow=41						
AKASG	Malin Array Be	40.15	309	LR	LR	06 49 36.2	
	comp=Z,84nm,18.5s,baz=280,slow=39						
FINES	FINESS Array B	43.09	325	P	P	06 31 07.5	-0.3
	1.0nm,0.8s,baz=137,slow=19,SNR=3.4						
OPO	Ambohidratompo	62.86	217	LR	LR	06 57 02.8	
	comp=Z,85nm,21.0s,baz=202,slow=32						
TORD	Torodi Ar. Bea	74.21	275	P	P	06 34 44.4	-0.7
	0.3nm,0.6s,baz=38,slow=4.6,SNR=5.2						
WRA	Warramunga Arr	74.54	129	P	P	06 34 44.2	-2.7
	0.3nm,0.5s,baz=327,slow=5.5,SNR=5.8						
YKA	Yellowknife Ar	81.45	7	P	P	06 35 23.3	-1.4
	0.1nm,0.9s,baz=339,slow=6.8,SNR=2.7						

ISK 09 06:31:45.9, 39.56N×28.14E, h4km, MD2.1
DDA 09 06:31:46.4, 39.52N×28.06E, h7km, MD2.9
CSEM 09 06:31:46.6±0.2, 39.51N×28.11E, h2km, MD2.1, Error ellipse: s-maj=5.3km s-min=4.0km az=38.0
ISC 09 06:31:46.6±1.1, 39.51N±0.03×28.12E±0.02, h5km±10km, n24, σ0§89/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	Balikesir	0.23	306	ePG	Pg	06 31 51.0	-0.1
BALB				eSG	Sg	06 31 54.7	+0.5
BALB	Balikesir	0.23	306	ePg	Pg	06 31 51.0	-0.1
BALB				eSg	Sg	06 31 54.7	+0.5
AKHS	Akhisar	0.67	201	iP	Pg	06 31 59.0	-0.5
AKHS				iS	Sg	06 32 08.9	+0.7
AKHS	Akhisar	0.67	201	iP	Pg	06 31 59.0	-0.5
AKHS				iS	Sg	06 32 08.9	+0.7
EDC	Edincik	0.86	347	ePG	Pg	06 32 02.5	-0.7
EDC	Edincik	0.86	347	ePg	Pg	06 32 02.5	-0.7
ULDT	Uludag	1.01	51	iP	Pg	06 32 03.9	-2.1
ULDT				iS	Sb	06 32 20.6	+0.3
ULDT	Uludag	1.01	51	iP	Pg	06 32 03.9	-2.1
ULDT				iS	Sb	06 32 20.6	+0.3
TVSB	Tavsanli	1.04	93	ePG	Pg	06 32 05.9	-0.7
TVSB	Tavsanli	1.04	93	ePg	Pg	06 32 05.9	-0.7
MANT	Manisa	1.07	161	iP	Pb	06 32 08.0	+0.3
MANT				iS	Sg	06 32 20.7	-0.3
MANT	Manisa	1.07	161	iP	Pb	06 32 08.0	+0.3
MANT				iS	Sg	06 32 20.7	-0.3
KRBG	Karabiga-Canak	1.09	325	ePG	Pg	06 32 06.8	-0.7
KRBG	Karabiga-Canak	1.09	325	ePg	Pg	06 32 06.8	-0.7
AYVA	Ayvalik	1.12	260	iP	Pg	06 32 07.4	-0.8
AYVA				iS	Sg	06 32 22.6	-0.2
AYVA	Ayvalik	1.12	260	iP	Pg	06 32 07.4	-0.8
AYVA				iS	Sg	06 32 22.6	-0.2
GDZ	Gediz	1.14	111	iP	Pn	06 32 09.3	0.0
GDZ				iS	Sn	06 32 25.3	0.0
GDZ	Gediz	1.14	111	iP	Pn	06 32 09.3	0.0
GDZ				iS	Sn	06 32 25.3	0.0
SART	Tekirdag	1.39	329	iP	Pn	06 32 12.6	-0.1
SART				iS	Sn	06 32 31.5	+0.1
SART	Tekirdag	1.39	329	iP	Pn	06 32 12.6	-0.1
SART				iS	Sn	06 32 31.5	+0.1
ALT	Altintas	1.61	106	ePN	Pb	06 32 16.5	-0.3
ALT	Altintas	1.61	106	ePn	Pb	06 32 16.5	-0.3
BORA	Eskisehir	1.84	77	iP	Pb	06 32 20.9	+0.1
BORA				iS	Sg	06 32 48.2	+2.5
BORA	Eskisehir	1.84	77	iP	Pb	06 32 20.9	+0.1
BORA				iS	Sg	06 32 48.2	+2.5

BGR 09 06:35:39.7±1.0, 50.19N×19.25E, h1km, ML3.5/8, Error ellipse: s-maj=14.5km s-min=11.1km az=91.0
SIGU 09 06:35:41.1±0.2, 50.05N±0.02×19.10E±0.01, h5km, mb3.3/10
IPEC 09 06:35:41.8±0.2, 50.08N×19.18E, h2km±1km, ML3.2/3, Error ellipse: s-maj=3.0km s-min=1.1km az=164.0
CSEM 09 06:35:41.3±0.2, 50.13N×19.10E, h2km, ML3.9/13, Ms3.6, Error ellipse: s-maj=4.5km s-min=2.6km az=5.0
ISCJB 09 06:35:41.1±0.2, 50.09N±0.02×18.98E±0.02, h0km, mb3.4/2, Error ellipse: s-maj=3.0km s-min=1.5km az=10.1
IDC 09 06:35:42.2±0.8, 50.05N×19.14E, h0km, mb3.3/2, mb1 3.5/8, mb1mx3.4/54, mbtmp3.4/8, ML3.4/5, Error ellipse: s-maj=12.8km s-min=7.2km az=149.0
PRU 09 06:35:42.6, 50.06N×19.08E, h0km
VIE 09 06:35:44.4±0.6, 49.68N×18.98E, h0km, mb2.6/7, ML3.0/8, Ms3.6/3, Error ellipse: s-maj=3.9km s-min=3.3km az=168.0 55 km NNE of Zilina Suspected Mining induced.
ISC 09 06:35:40.5±0.6, 50.09N±0.02×19.16E±0.01, h0km, n152, σ1§53/229, 29C-14D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.23	332	ePg	Pg	06 35 47.2	+2.3
CHZP				i		06 35 48.7	
CHZP				eSg	Sg	06 35 52.1	+4.2
OJC	Ojcow	0.43	72	iPg	Pb	06 35 50.1	-0.9
OJC				iSg	Sg	06 35 56.1	+1.8
OJC	Ojcow	0.43	72	iPg	Pb	06 35 50.1	-0.9
OJC				iSg	Sg	06 35 56.1	+1.8
RAC	Raciborz	0.62	270	ePg	Pn	06 35 55.7	-0.8
RAC				eSg	Sb	06 36 05.4	+2.0
OKC	Ostrava-Krasne	0.70	250	ePg	Pb	06 35 56.1	+0.6
OKC				eSg	Sb	06 36 06.8	+1.1
OKC	Ostrava-Krasne	0.70	250	ePG	Pb	06 35 54.9	-0.6
OKC				eSG	Sg	06 36 03.5	+0.6
	264nm,0.4s						
OKC				AMS	AMS	06 36 50.0	
	1μm,2.6s						
OKC	Ostrava-Krasne	0.70	250	Pg	Pb	06 35 54.9	-0.6
OKC				Sg	Sg	06 36 03.5	+0.6
	264nm,0.4s						
NIE	Niedzica	1.00	131	ePg	Pb	06 36 01.4	+0.7
NIE				eSg	Sn	06 36 16.8	+0.1
NIE	Niedzica	1.00	131	iPg	Pb	06 36 01.4	+0.7
NIE				iSg	Sn	06 36 16.8	+0.1
MORC	Moravsky Berou	1.09	254	ePg	Pb	06 36 02.4	+0.2
MORC				eSg	Sb	06 36 18.0	+1.0
MORC	Moravsky Berou	1.09	254	⇑iP	Pn	06 36 02.9	-0.1
MORC	Moravsky Berou	1.09	254	S	Sn	06 36 19.3	+0.5
MORC	Moravsky Berou	1.09	254	Pg	Pb	06 36 02.4	+0.2
MORC	Moravsky Berou	1.09	254	⇑iP	Pn	06 36 02.9	-0.1
MORC				eSg	Sg	06 36 16.2	+0.8
	278nm,0.3s						
STHS	Stebnicka Huta	1.51	116	ePN	Pg	06 36 09.9	+0.6
STHS				eSN	Sn	06 36 32.3	+3.2
STHS	Stebnicka Huta	1.51	116	ePn	Pg	06 36 09.9	+0.6
STHS	Stebnicka Huta	1.51	116	eSn	Sn	06 36 32.3	+3.2
KRLC	Kraliky	1.53	271	ePG	Pn	06 36 09.1	0.0
KRLC				eSG	Sg	06 36 30.0	+0.4
KRLC	Kraliky	1.53	271	Pg	Pn	06 36 09.1	0.0
KRLC				Sg	Sg	06 36 30.0	+0.4
JAVC	Velka Javorina	1.56	219	ePg	Pg	06 36 11.7	+1.3
JAVC				eSg	Sg	06 36 34.6	+3.9
JAVC	Velka Javorina	1.56	219	Pg	Pg	06 36 11.7	+1.3
JAVC				Sg	Sg	06 36 34.6	+3.9
VYHS	Vyhne	1.61	188	ePN	Pb	06 36 11.1	+0.1
VYHS				eSN	Sg	06 36 32.8	+0.8
VYHS	Vyhne	1.61	188	ePn	Pb	06 36 11.1	+0.1
VYHS	Vyhne	1.61	188	eSn	Sg	06 36 32.8	+0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	Kecovo	1.82	151	ePN	Pn	06 36 13.9	+0.8
KECS				eSN	Sb	06 36 38.6	+0.5
KECS	Kecovo	1.82	151	ePn	Pn	06 36 13.9	+0.8
KECS				eSn	Sb	06 36 38.6	+0.5
VRAC	Vranov	1.84	246	ePg	Pb	06 36 14.5	-0.5
VRAC				eSg	Sg	06 36 40.0	+0.5
VRAC	Vranov	1.84	246	⇑iP	Pb	06 36 14.4	-0.5
VRAC	Vranov	1.84	246	S	Sg	06 36 40.5	+1.0
VRAC	Vranov	1.84	246	Pn	Pn	06 36 14.2	+0.9
	12nm,0.3s,baz=45,slow=10,SNR=21						
VRAC				Lg	Lg	06 36 40.6	
	9.5nm,0.3s,baz=66,slow=12,SNR=8.7						
VRAC	Vranov	1.84	246	⇑iP	Pb	06 36 14.4	-0.5
VRAC				Sg	Sg	06 36 40.0	+0.5
DPC	Dobruska-Polom	1.84	279	ePg	Pb	06 36 14.4	-0.7
DPC				eSg	Sb	06 36 38.7	+0.1
DPC	Dobruska-Polom	1.84	279	ePG	Pb	06 36 14.3	-0.7
DPC				eSG	Sb	06 36 38.9	+0.3
DPC	Dobruska-Polom	1.84	279	Pg	Pb	06 36 14.4	-0.7
DPC				Sg	Sb	06 36 38.9	+0.3
CRVS	Cervenica-Dubn	1.91	127	ePN	Pg	06 36 17.0	-0.1
CRVS				eSN	Sb	06 36 41.2	+0.6
CRVS	Cervenica-Dubn	1.91	127	ePn	Pg	06 36 17.0	-0.1
CRVS				eSn	Sb	06 36 41.2	+0.6
SMOL	Smolenice	1.94	216	eSN	Sg	06 36 43.9	+1.2
SMOL	Smolenice	1.94	216	eSn	Sg	06 36 43.9	+1.2
KSP	Ksiaz	1.98	294	ePn	Pn	06 36 16.1	+0.9
KSP				ePg	Pg	06 36 18.9	+0.5
KSP				eSn	Sb	06 36 42.4	-0.2
KSP				eSg	Sg	06 36 45.0	+0.9
KSP	Ksiaz	1.98	294	iPg	Pg	06 36 21.2	+2.8
KSP	Ksiaz	1.98	294	ePn	Pn	06 36 16.3	+1.1
KSP	Ksiaz	1.98	294	ePb	Pb	06 36 18.7	+0.3
KSP	Ksiaz	1.98	294	iPg	Pg	06 36 21.2	+2.8
KSP				eSg	Sg	06 36 46.4	+2.3
BEL	Belsk	2.04	30	ePn	Pn	06 36 15.0	-0.9
BEL				ePg	Pg	06 36 20.3	+0.9
BEL				eSg	Sg	06 36 49.9	+4.1
BEL	Belsk	2.04	30	ePn	Pn	06 36 15.1	-0.9
UPC	Upice	2.06	283	ePG	Pb	06 36 18.2	-0.5
UPC				eSG	Sg	06 36 46.8	+0.1
	38nm,0.5s						
UPC	Upice	2.06	283	Pg	Pb	06 36 18.2	-0.5
UPC				Sg	Sg	06 36 46.8	+0.1
	38nm,0.5s						
KRUC	Moravsky	2.07	241	ePg	Pb	06 36 18.3	-0.6
KRUC				eSg	Sg	06 36 47.2	+0.3
KRUC	Moravsky	2.07	241	ePn	Pn	06 36 17.5	+1.0
KRUC	Moravsky	2.07	241	Pg	Pb	06 36 18.3	-0.6
KRUC				eSn	Sb	06 36 45.4	+0.3
	188nm,0.5s						
KRUC				Sg	Sg	06 36 47.2	+0.3
PSZ	Piszkesteto	2.22	167	⇑iP	Pb	06 36 20.3	-1.2
PSZ	Piszkesteto	2.22	167	e	Pb	06 36 20.6	-0.9
PSZ				e		06 36 25.1	
PSZ				e		06 36 47.0	
PSZ	Piszkesteto	2.22	167	⇑iP	Pb	06 36 20.3	-1.2
PSZ	Piszkesteto	2.22	167	ePn	Pb	06 36 20.6	-0.9
PSZ	Piszkesteto	2.22	167	ePg	Pg	06 36 25.1	+2.1
PSZ				eSn	Sn	06 36 47.0	+0.2
KOLS	Kolonicke sedl	2.33	118	ePN	Pn	06 36 21.1	+1.0
KOLS				eSN	Sn	06 36 48.6	-0.9
KOLS	Kolonicke sedl	2.33	118	ePn	Pn	06 36 21.1	+1.0
KOLS				eSn	Sn	06 36 48.6	-0.9
KWP	Kalwaria Pacla	2.34	100	ePn	Pn	06 36 20.9	+0.7
KWP				ePb	Pb	06 36 22.9	-0.6
KWP				ePg	Pg	06 36 25.1	-0.2
KWP				eSn	Sg	06 36 55.3	-0.3
KWP	Kalwaria Pacla	2.34	100	⇓iP	Pn	06 36 21.6	+1.4
KWP	Kalwaria Pacla	2.34	100	ePn	Pn	06 36 20.9	+0.7
KWP	Kalwaria Pacla	2.34	100	⇓iP	Pn	06 36 21.6	+1.4
TREC	Trest	2.51	253	ePN	Pn	06 36 23.5	+0.9
TREC				ePG	Pb	06 36 27.6	+1.2
TREC				eSG	Sb	06 36 59.5	+1.6
	134nm,0.6s						
TREC	Trest	2.51	253	Pn	Pn	06 36 23.5	+0.9
UZH	Uzhgorod	2.51	124	ePn	Pb	06 36 26.8	+0.4
UZH				Pnm		06 36 33.2	
UZH				iSn	Sb	06 36 59.2	+1.3
UZH				Snm		06 37 15.4	
ONO	Onokovtsy	2.52	123	ePn	Pb	06 36 26.1	-0.4
ONO				iSn	Sb	06 36 58.7	+0.8
PKSG		2.74	191	⇑e	Pn	06 36 27.7	+2.0
PKSG						06 36 55.6	
PKSG		2.74	191	⇑ePn	Pn	06 36 27.7	+2.0
CSKK	Cs˜‡kako	2.79	193	e	Pn	06 36 28.7	+2.4
CSKK				e		06 36 59.0	
CSKK	Cs˜‡kako	2.79	193	ePn	Pn	06 36 28.7	+2.4
CSKK				eSn	Sn	06 36 59.0	-1.7
MUKU	Mukachevo	2.83	124	ePn	Pb	06 36 30.8	-1.0
MUKU				iSn	Sb	06 37 06.8	-0.2
SHIU	Shidnytsya	2.86	106	ePn	Pb	06 36 31.7	-0.7
SHIU				iSn	Sb	06 37 08.1	+0.1
PKST	T˜'s	2.93	195	e	Pn	06 36 29.9	+1.7
PKST				e		06 37 01.0	
PKST	T˜'s	2.93	195	ePn	Pn	06 36 29.9	+1.7
PKST				eSn	Sn	06 37 01.0	-3.1
BERU	Beregovo	2.94	128	ePn	Pb	06 36 32.6	-1.2
BERU				iSn	Sb	06 37 10.4	+0.1
SOP	Sopron	2.95	217	e	Pn	06 36 28.8	+0.2
SOP	Sopron	2.95	217	ePn	Pn	06 36 28.8	+0.2
TRPA	Tarpa	2.96	130	⇑iP	Pn	06 36 30.8	+2.1
TRPA	Tarpa	2.96	130	e	Pn	06 36 30.7	+2.1
TRPA	Tarpa	2.96	130	ePn	Pn	06 36 30.7	+2.1
PRU	Pruhonice	2.98	270	ePN	Pn	06 36 29.8	+0.9
PRU				ePG	Pb	06 36 34.4	0.0
PRU				eSN	Sn	06 37 06.2	+0.9
PRU				eSG	Sb	06 37 15.4	-0.7
	55nm,0.4s						
PRU	Pruhonice	2.98	270	Pn	Pn	06 36 29.8	+0.9
PRU				Sg	Sb	06 37 15.4	-0.7
	55nm,0.4s						
PRA	Prague	3.04	272	PG	Pb	06 36 35.0	-0.5
CONA	Conrad Observa	3.06	226	⇑iPn	Pn	06 36 28.9	-1.2
CONA				⇑iSn	Sn	06 37 03.0	-4.5
CONA				⇑iSg	Sb	06 37 13.7	-0.1
	37nm,0.5s						
CONA	Conrad Observa	3.06	226	Pn	Pn	06 36 28.9	-1.2
BRIU	Brid	3.08	123	ePn	Pb	06 36 34.7	-1.3
BRIU				iSn	Sb	06 37 14.1	0.0
LVV	L'vov	3.16	93	ePn	Pb	06 36 36.3	-1.1
LVV				Pnm		06 36 45.7	
LVV				iSn	Sb	06 37 17.3	+0.9
LVV				Snm		06 37 22.7	
TRSU	Trosnyk	3.19	127	ePn	Pb	06 36 37.1	-0.9
TRSU				iSn	Sb	06 37 16.9	-0.5
MORU	Morshyn	3.22	106	ePn	Pb	06 36 36.9	-1.5
MORU				iSn	Sb	06 37 19.1	+1.0
KORU	Korolevo	3.25	125	ePn	Pb	06 36 37.9	-1.0
KORU				iSn	Sb	06 37 18.7	-0.3
MEZ	Mezhgor'ye	3.25	117	ePn	Pb	06 36 38.1	-1.0
MEZ				iSn	Sb	06 37 19.5	+0.2
BRG	Berggiesshubel	3.42	285	PG	Pg	06 36 44.6	-1.4
BRG				SG	Sg	06 37 29.7	-0.7
	46nm,0.5s						
BRG	Berggiesshubel	3.42	285	ePg	Pg	06 36 45.0	-1.0
BRG	Berggiesshubel	3.42	285	Pg	Pg	06 36 45.0	-1.0
BMR	Baia Mare	3.74	128	⇑iP	Pn	06 36 43.4	+4.0
BMR	Baia Mare	3.74	128	⇑iP	Pn	06 36 43.4	+4.0
KHC	Kasperske Hory	3.75	257	ePN	Pn	06 36 40.8	+1.2
KHC				ex	x	06 36 47.6	
KHC				ePG	Pb	06 36 49.9	+2.3
KHC				eSN	Sn	06 37 22.5	-2.0
KHC				eSG	Sn	06 37 38.4	-2.6
	66nm,0.5s						
KHC	Kasperske Hory	3.75	257	Pn	Pn	06 36 40.8	+1.2
KHC				Sn	Sn	06 37 22.5	-2.0
GEC2	GERESS Array S	3.77	253	eSg	Sg	06 37 40.4	-1.1
GEC2	GERESS Array S	3.77	253	Sg	Sg	06 37 40.4	-1.1
GERES	GERESS Array B	3.77	253	Pn	Pn	06 36 41.1	+1.2
	0.8nm,0.3s,baz=59,slow=14,SNR=16						
GERES				Lg	Lg	06 37 40.4	
	7.2nm,0.3s,baz=69,slow=26,SNR=9.8						
RAK	Rakhov	3.89	120	ePn	Pb	06 36 48.1	-1.7
RAK				Pnm		06 36 55.1	
RAK				iSn	Sb	06 37 36.1	-1.3
RAK				Snm		06 37 45.9	
RAK				Snm		06 37 45.9	
PKSM	Moragy	3.89	185	⇑iP	Pn	06 36 42.8	+1.3
PKSM	Moragy	3.89	185	S	Sn	06 37 27.9	+0.1
PKSM	Moragy	3.89	185	e	Pn	06 36 42.4	+0.9

PKSM e 06 37 27.0
PKSM Moragy 3.89 185 ePn Pn 06 36 42.4 +0.9
PKSM Moragy 3.89 185 ⇑iP Pn 06 36 42.8 +1.3
PKSM eSn Sn 06 37 27.0 -0.8
MOA Molln 3.92 237 ⇑iPn Pn 06 36 41.4 -0.5
MOA ⇓iSn Sn 06 37 25.8 -2.9
MOA ⇓iSg Sg 06 37 44.6 -1.8
67nm,0.6s
MOA Molln 3.92 237 Pn Pn 06 36 41.4 -0.5
MOA Sn Sn 06 37 25.8 -2.9
MOA Sg Sg 06 37 44.6 -1.8
67nm,0.6s
DRGR 4.06 143 ⇓iP Pn 06 36 46.0 +2.2
DRGR 4.06 143 ⇓iP Pn 06 36 46.0 +2.2
CLL Collm 4.10 290 ePg Pg 06 37 02.0 +3.0
CLL iSg Sg 06 37 53.7 +1.6
comp=Z,39nm,0.6s
KSV Kosov 4.26 112 iPn Pb 06 36 53.7 -2.5
KSV Pnm 06 36 58.9
KSV iSn Sb 06 37 46.7 -1.4
KSV Snm 06 38 09.9
CJR Cluj-Napoca 4.49 137 ⇑iP Pn 06 36 51.3 +1.6
CJR Cluj-Napoca 4.49 137 ⇑iP Pn 06 36 51.3 +1.6
BURAR Bucovina Array 4.70 119 ⇓iP Pn 06 36 54.2 +1.5
BURAR Bucovina Array 4.70 119 ⇓iP Pn 06 36 54.2 +1.5
BZS Buzias 4.77 159 ⇑iP Pn 06 36 55.7 +2.2
BZS Buzias 4.77 159 ⇑iP Pn 06 36 55.7 +2.2
CHRU Chernivtsi 4.78 109 ePn Pb 06 37 01.2 -3.9
CHRU eSn Sb 06 38 01.2 -1.9
KBA Koelnbreinsper 4.89 234 ⇓iSg Sg 06 38 16.2 -1.4
comp=Z,21nm,0.6s
KBA Koelnbreinsper 4.89 234 Sg Sg 06 38 16.2 -1.4
comp=Z,21nm,0.6s
FGSL Fruska Gora 4.95 175 ⇑iPn Pn 06 36 57.8 +1.7
KMPD K-Podol'skiy 5.01 105 ePn Pb 06 37 04.7 -4.3
KMPD iSn Sb 06 38 07.9 -1.8
GZR Gura Zlata 5.29 151 ⇑iP Pn 06 37 03.0 +2.2
GZR Gura Zlata 5.29 151 ⇑iP Pn 06 37 03.0 +2.2
NDNU Novodnistrovsk 5.57 102 ePn Pb 06 37 13.6 -4.9
NDNU Pnm 06 37 20.8
NDNU iSn Sb 06 38 22.4 -3.4
NDNU Snm 06 38 28.2
BSD Bornholm Skovb 5.66 334 iP Pn 06 37 06.2 +0.5
BSD iS Sn 06 38 06.1 -5.3
BSD Bornholm Skovb 5.66 334 iP Pn 06 37 06.2 +0.5
WATA Walderalm 5.72 244 ⇑iSg Sg 06 38 43.7 -0.5
comp=Z,51nm,0.9s
WATA Walderalm 5.72 244 Sg Sg 06 38 43.7 -0.5
comp=Z,51nm,0.9s
WTTA Wattenberg 5.73 243 ⇓iSg Sg 06 38 45.5 +1.2
comp=Z,26nm,0.6s
WTTA Wattenberg 5.73 243 Sg Sg 06 38 45.5 +1.2
comp=Z,26nm,0.6s
TRUS Trudelj 5.93 171 iPn Pn 06 37 10.3 +0.9
DIVS Divibare 6.02 174 ⇑iPn Pn 06 37 12.8 +2.0
VOIR 6.11 137 ⇑iP Pn 06 37 13.0 +0.9
VOIR 6.11 137 ⇑iP Pn 06 37 13.0 +0.9
RETA Reutte 6.13 248 ⇑iSg Sg 06 38 57.8 +0.6
comp=Z,14nm,0.6s
RETA Reutte 6.13 248 Sg Sg 06 38 57.8 +0.6
comp=Z,14nm,0.6s
GRUS Gruza 6.29 170 iPn Pn 06 37 16.7 +2.3
FETA Feichten 6.38 244 ⇓iSn Sn 06 38 26.0 -3.4
FETA ⇓iSg Sg 06 39 06.6 +1.3
comp=Z,24nm,0.8s
AKASG Malin Array Be 6.47 81 Pn Pn 06 37 15.9 -0.9
comp=Z,1.6nm,0.3s,baz=263,slow=13,SNR=6.1
AKASG Sn Sn 06 38 27.6 -3.6
comp=Z,2.8nm,0.3s,baz=262,slow=24,SNR=5.4
IVAS Ivanjica 6.55 174 iPn Pn 06 37 20.4 +2.4
DAVA Damuels 6.75 249 ⇓iSn Sn 06 38 36.8 -1.7
DAVA ⇓iSg Sg 06 39 19.2 +2.0
comp=Z,32nm,0.7s
DAVA Damuels 6.75 249 Sn Sn 06 38 36.8 -1.7
DAVA Sg Sg 06 39 19.2 +2.0
comp=Z,32nm,0.7s
MICGM Minsk 6.94 47 e 06 38 55.0
DAVOX Davos/Dischmat 7.00 245 Lg Lg 06 39 26.7
comp=Z,1.2nm,0.3s,baz=73,slow=19,SNR=3.5
HFS Hagfors 10.54 345 Pn Pn 06 38 08.8 -3.8
comp=Z,0.1nm,0.3s,baz=147,slow=19,SNR=2.6
HFS Sn Sn 06 40 02.6 -8.7
comp=Z,0.2nm,0.3s,baz=163,slow=20,SNR=3.0
NOA NORSAR Array B 11.85 341 Pn Pn 06 38 28.0 -2.6
comp=Z,0.3nm,0.3s,baz=154,slow=11,SNR=4.6
FINES FINESS Array B 12.02 16 Pn Pn 06 38 30.4 -2.4
comp=Z,0.6nm,0.3s,baz=190,slow=13,SNR=21
FINES Sn Sn 06 40 35.7 -12
comp=Z,0.6nm,0.3s,baz=194,slow=23,SNR=6.3
ARCES ARCESS Array B 19.75 7 Pn P 06 40 09.8 -1.7
comp=Z,0.2nm,0.3s,baz=183,slow=13,SNR=17
MKAR Makanchi Array 40.91 69 P P 06 43 25.9 +1.7
comp=Z,0.2nm,0.4s,baz=303,slow=7.5,SNR=6.7
YKA Yellowknife Ar 61.93 338 P P 06 46 02.6 +1.2
comp=Z,0.3nm,0.8s,baz=24,slow=6.8,SNR=4.0

JMA 09 07:00:57.2±0.3, 41.87N×138.24E, h19km±4km, M3.5, Eastern Sea of Japan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JOSM Okushiri--Mats 0.94 77 P Pb 07 01 14.7 -0.3
JOSM eS Sb 07 01 27.2 +0.1
JSH Shimam 1.55 59 P Pn 07 01 23.2 -0.5
JSH eS Sn 07 01 41.3 -2.0
JYM2 Yakumo 2 1.61 80 P Pb 07 01 25.7 -0.6
JYM2 eS Sn 07 01 44.9 +0.1
JSR Shiriuchi 1.67 101 P Pb 07 01 26.6 -0.6
JIW Iwasaki 1.84 133 P Pn 07 01 27.6 -0.3
JIW eS Sn 07 01 50.4 -0.3
JOT Ohata 2.16 102 P Pn 07 01 33.2 +1.0
JOT eS Sn 07 01 59.2 +0.8
JNB Noboribetsu 2.16 73 P Pn 07 01 33.4 +1.2
JTM Tenmabayashi 2.39 116 P Pn 07 01 36.3 +1.0
JTM eS Sn 07 02 04.8 +0.8
JAH Hinai 2.47 132 P Pn 07 01 37.1 +0.7
JAH eS Sn 07 02 07.6 +1.5
JANG Nango 2.89 120 P Pn 07 01 43.3 +1.1

IDC 09 07:13:55.2±1.2, 10.29S×164.48E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/28, mbtmp3.8/7, ML4.1/1, MS3.5/3, Ms1 3.4/3, ms1mx2.9/28, Error ellipse: s-maj=45.0km s-min=23.9km az=135.0
ISCJB 09 07:13:57.1±0.9, 10.5S±0.1×164.5E±0.2, h24km, mb3.7/5, MS3.4/2, Error ellipse: s-maj=22.3km s-min=17.0km az=27.2
ISC 09 07:13:58.9±1.0, 10.4S±0.1×164.5E±0.2, h24km, n16, σ0.80/8, mb3.7/5, Santa Cruz Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 11.79 171 Pn Pn 07 16 45.9 +0.1
1.3nm,0.3s,baz=324,slow=18,SNR=15
DZM LR LR 07 20 57.2
comp=Z,115nm,18.5s,baz=29,slow=36
CTA Charters Tower 20.08 239 P P 07 18 31.5 +0.7
5.1nm,0.9s,baz=69,slow=15,SNR=3.6
RAO Raoul Island 24.96 141 LR LR 07 27 29.6
comp=Z,177nm,18.0s,baz=108,slow=32
H11S2 WAKE ISLAND Hy 28.75 4 T T 07 49 49.0
baz=185,slow=78,SNR=11
H11S3 WAKE ISLAND Hy 28.75 4 T T 07 49 48.8
baz=185,slow=78,SNR=9.6
H11S1 WAKE ISLAND Hy 28.77 4 T T 07 49 50.2
baz=185,slow=78,SNR=10
H11N1 WAKE ISLAND Hy 29.98 4 T T 07 51 20.9
baz=186,slow=76,SNR=9.8
H11N3 WAKE ISLAND Hy 29.98 5 T T 07 51 21.4
baz=186,slow=76,SNR=11
H11N2 WAKE ISLAND Hy 29.99 4 T T 07 51 21.3
baz=186,slow=76,SNR=13
STKA Stephens Creek 30.13 221 LR LR 07 31 21.5
comp=Z,59nm,18.1s,baz=24,slow=35
WRA Warramunga Arr 30.59 248 P P 07 20 11.1 -0.1
1.1nm,0.8s,baz=78,slow=9.4,SNR=11
ASAR Alice Springs 32.03 242 P P 07 20 22.6 -1.4
0.4nm,0.8s,baz=74,slow=9.8,SNR=4.6
ASAR PcP PcP 07 23 14.3 +0.8
0.3nm,0.5s,baz=64,slow=2.4,SNR=4.6
H02S1 DAWSON INLET T 82.77 33 T T 08 57 22.8
SNR=5.6
ILAR Eielson Array 83.26 19 P P 07 26 23.1 -0.1
0.6nm,0.9s,baz=236,slow=4.2,SNR=5.6
NVAR Mina Array Bea 86.51 50 P P 07 26 40.1 -0.3
0.3nm,0.6s,baz=251,slow=4.5,SNR=3.8
MKAR Makanchi Array 92.20 317 P P 07 27 07.1 +0.3
0.5nm,0.7s,baz=100,slow=6.1,SNR=4.7

IDC 09 07:21:55.4±2.6, 21.36S×175.52W, h0km, mb3.3/3, mb1 3.8/4, mb1mx3.6/26, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=122.0km s-min=26.8km az=147.0, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 8.22 26 Pn Pn 07 23 56.8 +0.7
4.2nm,0.3s,baz=228,slow=12,SNR=5.3
AFI Sn Sn 07 25 26.9 -2.9
2.9nm,0.3s,baz=258,slow=19,SNR=3.5
ASAR Alice Springs 46.58 257 P P 07 30 26.9 +1.4
0.3nm,0.7s,baz=97,slow=7.5,SNR=3.2
WRA Warramunga Arr 46.78 262 P P 07 30 25.6 -1.4
0.1nm,0.4s,baz=98,slow=7.9,SNR=4.0
NVAR Mina Array Bea 80.08 42 P P 07 34 07.4 0.0
0.4nm,0.6s,baz=213,slow=7.9,SNR=4.8
AKASG Malin Array Be 144.86 332 PKP PKPab 07 41 32.9 -0.4
0.3nm,0.5s,baz=36,slow=3.6,SNR=5.4

IDC 09 07:31:31.6±1.4, 6.97S×154.72E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/26, mbtmp3.8/6, Error ellipse: s-maj=69.7km s-min=22.7km az=123.0
ISCJB 09 07:31:36.0±1.2, 7.1S±0.3×154.7E±0.4, h39km, mb3.7/6, Error ellipse: s-maj=59.9km s-min=19.3km az=32.9
ISC 09 07:31:37.5±1.3, 7.0S±0.3×154.7E±0.4, h39km, n7, σ0.97/7, mb3.7/6, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.58 235 P P 07 36 43.9 -0.9
1.8nm,0.9s,baz=59,slow=9.6,SNR=9.3
ASAR Alice Springs 25.96 228 P P 07 37 05.9 -0.7
0.6nm,0.7s,baz=62,slow=9.2,SNR=6.3
STKA Stephens Creek 27.61 205 P P 07 37 22.1 +0.9
0.8nm,0.4s,baz=42,slow=14,SNR=3.9
MKAR Makanchi Array 83.23 319 P P 07 44 00.8 +0.9
0.8nm,0.8s,baz=95,slow=6.1,SNR=7.8
ILAR Eielson Array 83.49 22 P P 07 43 60.0 -0.9
0.5nm,0.9s,baz=237,slow=5.6,SNR=4.8
YKA Yellowknife Ar 96.48 28 P P 07 45 02.7 +0.3
0.7nm,0.8s,baz=268,slow=5.0,SNR=9.1
TORD Torodi Ar. Bea 152.76 285 PKPbc PKPbc 07 51 31.3 0.0
0.6nm,0.9s,baz=56,slow=1.9,SNR=2.8

CSEM 09 07:33:07.7, 39.52N×29.75W, h10km, ML3.0, After PDA
PDA 09 07:33:07.7±0.8, 39.52N×29.75W, h10km, MD3.5, ML3.0, Error ellipse: s-maj=12.9km s-min=5.5km az=53.0, Azores Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PCED Cedros 1.21 137 eP Pn 07 33 25.8 -4.9
PCED eS Sb 07 33 39.3 -7.0
PCED A A 07 33 41.6
78nm,0.5s
PCED Cedros 1.21 137 eP Pn 07 33 25.8 -4.9
PCED eS Sb 07 33 39.3 -7.0
CALA Caldeira 1.24 139 eS Sb 07 33 40.5 -7.0
CALA Caldeira 1.24 139 eS Sb 07 33 40.5 -7.0
HOR Horta 1.32 138 eP Pn 07 33 27.7 -4.5
HOR eS Sb 07 33 42.0 -7.6
HOR Horta 1.32 138 eP Pn 07 33 27.7 -4.5
HOR eS Sb 07 33 42.0 -7.6
ROSA Rosais 1.42 124 eS Sn 07 33 44.8 -7.5
ROSA A A 07 33 49.8
35nm,0.5s
ROSA Rosais 1.42 124 eS Sn 07 33 44.8 -7.5
PCAN Candelaria 1.44 137 eP Pn 07 33 29.3 -4.6
PCAN eS Sn 07 33 45.7 -7.3
PCAN A A 07 33 49.9
140nm,0.3s
PCAN Candelaria 1.44 137 eP Pn 07 33 29.3 -4.6
PCAN eS Sn 07 33 45.7 -7.3
PICO Pico 1.45 134 iP Pn 07 33 29.3 -4.8
PICO eS Sn 07 33 46.1 -7.1
TOPO Topo 1.70 123 eP Pn 07 33 32.8 -4.7
TOPO eS Sn 07 33 51.6 -7.8
TOPO Topo 1.70 123 eP Pn 07 33 32.8 -4.7
TOPO eS Sn 07 33 51.6 -7.8

IDC 09 07:40:15.7±1.8, 5.52S×154.64E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/23, mbtmp3.7/6, Error ellipse: s-maj=60.2km s-min=26.6km az=118.0, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 24.39 232 P P 07 45 36.7 +0.7
0.8nm,0.3s,baz=58,slow=9.8,SNR=21
ASAR Alice Springs 26.91 226 P P 07 45 58.1 -0.6
0.3nm,0.3s,baz=58,slow=9.0,SNR=6.6
SONM Songino Array 67.91 327 P P 07 51 17.5 +1.1
0.3nm,0.5s,baz=138,slow=6.1,SNR=3.6
MKAR Makanchi Array 82.07 319 P P 07 52 37.7 -0.4
0.7nm,0.6s,baz=96,slow=5.2,SNR=7.0
ZALV Zalesovo Beam 82.77 326 P P 07 52 40.4 -1.2
0.4nm,0.5s,baz=136,slow=5.0,SNR=3.1
NVAR Mina Array Bea 91.09 52 P P 07 53 23.1 +0.2
0.4nm,0.7s,baz=258,slow=4.5,SNR=3.8

IDC 09 07:44:09.6±8.1, 15.62S×176.08W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/32, mbtmp3.7/3, Error ellipse: s-maj=361.8km s-min=35.3km az=140.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 47.28 257 P P 07 52 45.2 0.0
0.3nm,0.9s,baz=92,slow=8.3,SNR=3.4
ASAR Alice Springs 47.59 252 P P 07 52 47.2 -0.3
0.5nm,0.5s,baz=84,slow=8.2,SNR=8.7
ILAR Eielson Array 83.18 12 P P 07 56 37.2 0.0
0.4nm,1.1s,baz=220,slow=6.9,SNR=2.9

DHMR 09 07:44:48.4±0.4, 13.80N×50.99E, h12km±33km, ML4.0, 1D, Eastern Gulf of Aden

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MUKL Al Mukalla 2.01 290 ⇓iP Pn 07 45 23.3 +1.2
MUKL iS Sb 07 45 50.8 +0.9
MUKL AML AML 07 45 52.5
comp=N,2μm,0.5s
BDHA Al Bayda' 5.27 273 iP Pn 07 46 09.3 +1.9
BDHA AML AML 07 46 10.6
comp=E,54nm,0.2s
BDHA iS Sn 07 47 12.1 +3.9
TRBA At Turbah 6.71 266 iP Pn 07 46 28.5 +1.3

IDC 09 07:48:09.7±0.7, 31.10S×71.74W, h62km±5km, mb4.2/12, mb1 4.4/16, mb1mx4.2/29, mbtmp4.6/16, MS3.7/6, Ms1 3.7/6, ms1mx3.4/20, Error ellipse: s-maj=17.3km s-min=10.4km az=21.0
SJA 09 07:48:09.4±1.5, 30.93S×71.63W, h123km±4km, ML4.8, MW4.7
ISCJB 09 07:48:09.4±0.5, 31.11S±0.02×71.69W±0.05, h69km±4km, mb4.3/31, Error ellipse: s-maj=7.7km s-min=3.5km az=3.9
NEIC 09 07:48:10.7±0.2, 31.10S×71.52W, mb4.5/19, Error ellipse: s-maj=7.3km s-min=3.3km az=82.0
NEIC Felt [IV] at Canela Baja, Illapel, Los Vilos and Salamanca; [III] at Coquimbo, La Serena and Ovalle.
BJI 09 07:48:12.8, 31.10S×71.40W, h67km, mB4.9/2, Ms5.0/3, Ms7 4.8/4
GUC 09 07:48:12.5±0.5, 31.38S×71.65W, h29km±2km, ML4.9
ISC 09 07:48:10.1±0.4, 31.13S±0.03×71.78W±0.05, h62km±3km, h62km:pP-P, n129, σ1.39/159, mb4.6/30, 10C-7D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMCH Combarbala 0.67 96 ⇑iP Pn 07 48 23.7 -0.5
CMCH eS Sn 07 48 33.1 -1.5
CMCH Combarbala 0.67 96 ⇑iP Pn 07 48 23.7 -0.5
CMCH eS Sn 07 48 33.1 -1.5
JACH Jahuel 1.86 148 eP Pn 07 48 39.8 -0.1
JACH Jahuel 1.86 148 eP Pn 07 48 39.8 -0.1
IHA Instituto Hidr 1.91 177 ⇓iP Pn 07 48 40.4 -0.1
IHA eS Sn 07 49 01.9 -1.6
IHA Instituto Hidr 1.91 177 ⇓iP Pn 07 48 40.4 -0.1
IHA eS Sn 07 49 01.9 -1.6
ROCH El Roble 1.97 161 ⇓iP Pn 07 48 41.4 0.0
ROCH iS Sn 07 49 03.5 -1.7
ROCH El Roble 1.97 161 ⇓iP Pn 07 48 41.4 0.0
ROCH iS Sn 07 49 03.5 -1.7
RTLS Leoncito 2.23 109 iP Pn 07 48 46.1 +1.1
PEL Peldehue 2.23 156 ⇑iP Pn 07 48 45.1 +0.3
PEL iS Sn 07 49 09.8 -1.4
PEL AML AML 07 49 15.8
comp=N,13μm,0.5s
PEL Peldehue 2.23 156 ⇑iP Pn 07 48 45.1 +0.3
PEL iS Sn 07 49 09.8 -1.4
LCO Las Campanas 2.29 24 ePn Pn 07 48 45.5 -0.3
LCO eSn Sn 07 49 12.5 -0.6
LCO Las Campanas 2.29 24 iP Pn 07 48 45.8 -0.1
LCO eS Sn 07 49 11.7 -1.4
AUSP Uspallata 2.32 119 iP Pn 07 48 47.5 +1.2
CLCH Cerro Calan 2.51 156 ⇓eP Pn 07 48 48.8 +0.1
CLCH eS Sn 07 49 16.4 -1.7
CLCH AML AML 07 49 26.4
comp=E,9μm,0.9s
SAN Santiago 2.52 158 ⇑eP Pn 07 48 48.9 +0.1
SAN eS Sn 07 49 16.3 -2.0
SAN Santiago 2.52 158 ⇑eP Pn 07 48 48.9 +0.1
SAN eS Sn 07 49 16.3 -2.0
LACH Col Las Americ 2.56 156 eP Pn 07 48 49.6 +0.2
LACH eS Sn 07 49 17.7 -1.8
LACH Col Las Americ 2.56 156 eP Pn 07 48 49.6 +0.2
LACH eS Sn 07 49 17.7 -1.8
FSR Penalolen 2.59 156 eP Pn 07 48 49.9 +0.2
FSR Penalolen 2.59 156 eP Pn 07 48 49.9 +0.2
TACH Talagante 2.63 165 ⇑iP Pn 07 48 50.5 +0.2
TACH Talagante 2.63 165 ⇑iP Pn 07 48 50.5 +0.2
ANTU Antumapu 2.64 159 ⇓eP Pn 07 48 50.4 0.0
ANTU eS Sn 07 49 19.3 -1.9
ANTU AML AML 07 49 26.4
comp=E,7μm,0.4s
ANTU Antumapu 2.64 159 ⇓eP Pn 07 48 50.4 0.0
ANTU eS Sn 07 49 19.3 -1.9
VACH Vallenar 2.68 20 P Pn 07 48 50.8 -0.1
VACH S Sn 07 49 19.9 -2.3
SJA San Juan 2.79 99 iP Pn 07 48 53.4 +1.0
AMOG MOGNA 2.83 87 iP Pn 07 48 53.8 +0.9
RTLL Cerro Villicun 2.84 95 iP Pn 07 48 53.4 +0.3
LNV Longovilo 2.85 174 P Pn 07 48 52.8 -0.4
RTCV Cerro Valdivia 2.87 106 iP Pn 07 48 54.6 +1.1
ASAL Salagasta 2.91 121 iP Pn 07 48 55.8 +1.7
ARCO CERRO ARCO 2.97 126 iP Pn 07 48 57.6 +2.5
ARCO eS Sn 07 49 32.6 +3.0
ARCO AML AML 07 49 36.8
comp=Z,4μm,0.4s
CHCH Chadas Angostu 2.97 162 ⇑eP Pn 07 48 55.0 +0.1
CHCH Chadas Angostu 2.97 162 ⇑eP Pn 07 48 55.0 +0.1
LMEL Las Melosas 3.04 154 eP Pn 07 48 56.3 +0.4
LMEL eS Sn 07 49 29.3 -1.9
LMEL AML AML 07 49 33.7
comp=N,5μm,0.3s
LMEL Las Melosas 3.04 154 eP Pn 07 48 56.3 +0.4
LMEL eS Sn 07 49 29.3 -1.9
CFAA Coronel Fontan 3.07 100 P Pn 07 48 56.8 +0.5
comp=N,19nm,0.3s,baz=273,slow=11,SNR=2037
CFAA S Sn 07 49 32.0 +0.2
comp=N,63nm,0.3s,baz=356,slow=19,SNR=10.0
CFAA Coronel Fontan 3.07 100 iP Pn 07 48 56.7 +0.5
AAGR Agrelo 3.19 129 iP Pn 07 49 00.1 +2.2
AGUA GUANDACOL 3.27 61 iP4 Pn 07 49 01.1 +2.0
AVIZ Vizcacheras 3.63 131 iP Pn 07 49 05.4 +1.4
AVFE Valle Fertil 3.74 84 iP Pn 07 49 05.0 -0.5
AVFE AML AML 07 49 32.4
comp=Z,1μm,0.6s
CPCH Copiapo 3.94 19 P Pn 07 49 06.6 -1.6
CPCH S Sn 07 49 51.1 -2.1
ACAN Cantantal 4.08 108 iP Pn 07 49 10.1 0.0
CDCH Caldera 4.11 12 P Pn 07 49 08.6 -1.9
TALC Talca 4.28 178 P Pn 07 49 12.7 0.0
TALC eS Sn 07 49 59.1 -2.3
ACHE Chepes 4.39 92 iP Pn 07 49 13.7 -0.6
ACLC CERRO LA CRUZ 4.50 69 iP4 Pn 07 49 16.0 0.0
APLL PUNTA DE LOS L 4.58 82 iP Pn 07 49 16.8 -0.1
CYA Choya 5.84 64 iP Pn 07 49 32.4 -1.7
CYA eS Sn 07 50 32.3 -7.4
CYA AML AML 07 50 37.3
comp=Z,359nm,0.5s
TCA Tanti 6.16 94 iP Pn 07 49 36.5 -2.1
SUCO SUCO 6.25 113 iP Pn 07 49 38.9 -0.9
H03N1 Juan Fernandez 6.47 247 T T 07 56 30.8
baz=69,slow=74,SNR=426
H03N3 Juan Fernandez 6.49 247 T T 07 56 34.2
baz=69,slow=74,SNR=516
H03N2 Juan Fernandez 6.49 247 T T 07 56 33.6
baz=69,slow=74,SNR=445
CANA Caviahue 6.79 175 iP4 Pn 07 49 47.5 +0.3
CEN1 Los Morros 7.82 11 P Pn 07 49 54.2 -7.2
SLA San Lorenzo 8.44 43 iP Pn 07 50 07.6 -2.3
SLA AML AML 07 51 19.2
comp=Z,55nm,0.7s
PB06 Plate Boundary 8.60 14 P Pn 07 50 07.2 -4.9
LVC Limon Verde 8.84 18 ePn Pn 07 50 11.2 -4.3
LVC eSn Sn 07 52 12.8 +19
PB07 Plate Boundary 9.50 11 P Pn 07 50 18.8 -5.6
PB09 Plate Boundary 9.55 14 P Pn 07 50 20.9 -4.2
PLCA Paso Flores 9.65 174 P Pn 07 50 26.3 0.0
comp=Z,5.0nm,0.3s,baz=343,slow=10,SNR=152
PLCA LR LR 07 54 15.9
comp=Z,210nm,18.9s,baz=310,slow=38
PLCA Paso Flores 9.65 174 ePn Pn 07 50 25.9 -0.5
comp=Z,22nm,0.5s
PB01 Plate Boundary 10.23 12 P Pn 07 50 29.0 -5.4
TRQA Tornquist 10.64 133 ePn Pn 07 50 37.3 -2.5
comp=Z,56nm,0.9s
CPUP Villa Florida 13.54 73 P Pn 07 51 14.1 -5.2
comp=Z,1.0nm,0.3s,baz=242,slow=12,SNR=6.3
CPUP LR LR 07 56 50.9
comp=Z,370nm,18.0s,baz=231,slow=39
CPUP Villa Florida 13.54 73 ePn Pn 07 51 14.3 -5.0
ARE Arequipa 14.58 1 eP Pn 07 51 35.0 +1.5
LPAZ La Paz 15.13 14 P Pn 07 51 41.5 +0.7
comp=Z,1.4nm,0.3s,baz=189,slow=7.2,SNR=106
SIV San Ignacio 17.95 35 P P 07 52 14.3 -1.0
comp=Z,2.2nm,0.3s,baz=226,slow=11,SNR=52
SIV LR LR 08 00 13.2
comp=Z,237nm,18.4s,baz=223,slow=40
SAML Samuel 23.46 22 eP P 07 53 13.6 -0.7
comp=Z,8.4nm,0.8s
USHA Ushuaia 23.83 175 P P 07 53 17.4 +0.1
comp=Z,18nm,0.7s,baz=330,slow=6.9,SNR=14
USHA LR LR 08 02 37.7
comp=Z,117nm,21.7s,baz=18,slow=36
BDFB Brasilia 26.61 60 P P 07 53 41.5 -1.5
comp=Z,52nm,0.9s,baz=229,slow=8.7,SNR=60
BDFB LR LR 08 05 48.9
comp=Z,177nm,19.7s,baz=258,slow=40
SDV Santo Domingo 39.78 2 eP P 07 55 36.4 -1.0
comp=Z,29nm,0.9s
SDV epP pP 07 55 53.4 +0.4
RCBR Riachuelo 41.99 61 P P 07 55 54.1 -1.4
comp=Z,4.8nm,0.6s,baz=224,slow=8.2,SNR=4.3
VNA2 Neumayer--Watz 52.59 158 P pP 07 57 36.3 +3.0
baz=290,slow=8.6
TEIG Tepich 53.45 341 P P 07 57 24.1 +0.2
comp=Z,10nm,0.5s,baz=246,slow=1.1,SNR=20
TEIG Tepich 53.45 341 eP P 07 57 24.3 +0.4
comp=Z,12nm,0.5s
SNAA Sanae 54.18 159 P pP 07 57 47.8 +2.8
H06E1 SOCORRO T-PHAS 62.25 317 T T 09 06 07.1
SNR=8.8
SWET Sewanee 67.31 347 eP P 07 58 57.9 -0.4
comp=Z,8.1nm,1.0s
SWET epP pP 07 59 17.0 +1.9
TXAR Lajitas Array 67.34 330 P P 07 58 59.2 +0.5
comp=Z,1.0nm,0.7s,baz=148,slow=7.4,SNR=8.0
MSTX Muleshoe 71.03 333 eP P 07 59 21.9 +0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,10nm,0.9s						
MSTX				epP	PcP	07 59 41.8	+0.3
LAZ	Ladron	73.19	330	eP	P	07 59 36.2	+1.7
	comp=Z,0.5nm,0.6s						
ANMO	Albuquerque	73.37	331	eP	P	07 59 36.8	+1.2
	comp=Z,1.6nm,0.8s						
ANMO				epP	PcP	07 59 51.6	+0.1
LIC	Lamto	73.67	72	eP	P	07 59 36.2	-1.4
	comp=Z,22nm,0.8s						
TIC	Toumodi	73.91	72	eP	P	07 59 37.7	-1.3
	comp=Z,3.9nm,0.2s						
KIC	Kosan Boka	73.98	72	eP	P	07 59 38.3	-1.1
	comp=Z,30nm,0.8s						
DBIC	Dimbokro	74.06	72	P	P	07 59 38.9	-1.0
	comp=Z,12nm,0.8s,baz=207,slow=6.5,SNR=13						
DBIC				LR	LR	08 32 06.9	
	comp=Z,77nm,18.9s,baz=270,slow=36						
DBIC	Dimbokro	74.06	72	eP	P	07 59 38.9	-1.0
	comp=Z,16nm,1.0s						
SDCO	Great Sand Dun	75.40	333	eP	P	07 59 48.6	+1.2
	comp=Z,1.2nm,0.6s						
SDCO				epP	pP	08 00 10.2	+5.8
WUAZ	Wupatki	76.01	328	eP	P	07 59 52.9	+2.1
	comp=Z,6.1nm,1.1s						
WUAZ				epP	pP	08 00 11.1	+3.2
PV01	Paradox Valley	76.97	331	eP	P	07 59 57.7	+1.5
SMCO	Snowmass	77.21	333	eP	P	07 59 59.7	+1.9
	comp=Z,4.9nm,0.8s						
ECSD	EROS Data Cent	77.88	342	eP	P	08 00 00.9	0.0
	comp=Z,12nm,1.0s						
ECSD				epP	pP	08 00 18.8	+0.8
CCUT	Cedar City	78.59	327	eP	P	08 00 07.0	+1.8
	comp=Z,2.1nm,0.9s						
CCUT				epP	pP	08 00 25.9	+3.4
ISA	Isabella	79.59	323	eP	P	08 00 12.1	+1.4
	comp=Z,2.7nm,1.0s						
ISA				epP	pP	08 00 30.7	+2.9
TSUM	Tsumeb	79.80	106	eP	P	08 00 11.0	-1.3
	comp=Z,7.6nm,1.0s						
TSUM				epP	pP	08 00 29.2	-0.2
BOSA	Boshof	81.22	118	P	P	08 00 18.9	-0.9
	comp=Z,3.6nm,0.7s,baz=272,slow=5.7,SNR=5.0						
BOSA				pP	pP	08 00 36.8	-0.2
	comp=Z,6.3nm,1.0s,baz=255,slow=6.7,SNR=4.2						
BOSA	Boshof	81.22	118	eP	P	08 00 18.5	-1.3
	comp=Z,9.1nm,1.2s						
BOSA				epP	pP	08 00 36.8	-0.2
PDAR	Pinedale Array	81.29	333	P	P	08 00 20.0	+0.2
	comp=Z,0.5nm,0.6s,baz=147,slow=7.2,SNR=4.6						
PDAR				pP	pP	08 00 36.3	-0.7
	comp=Z,0.6nm,0.8s,baz=130,slow=2.8,SNR=3.1						
NVAR	Mina Array Bea	81.65	325	P	P	08 00 22.9	+1.2
	comp=Z,0.2nm,0.4s,baz=161,slow=6.3,SNR=4.2						
TOA0	Torodi Ar. Sit	83.02	70	eP	P	08 00 27.9	-1.2
TOA0				epP	pP	08 00 45.7	-0.7
TOA0				esP	sP	08 00 53.5	+0.3
TORD	Torodi Ar. Bea	83.02	70	P	P	08 00 28.2	-0.9
	comp=Z,8.6nm,0.6s,baz=283,slow=6.3,SNR=62						
TORD				pP	pP	08 00 46.7	+0.3
	comp=Z,6.0nm,0.6s,baz=264,slow=4.5,SNR=10						
LBTB	Lobatse	83.32	115	eP	P	08 00 29.6	-1.2
	comp=Z,7.5nm,0.8s						
LBTB				epP	pP	08 00 46.8	-1.3
ULM	Lac du Bonnet	83.77	345	P	P	08 00 31.3	-0.9
	comp=Z,2.4nm,0.8s,baz=94,slow=3.2,SNR=4.3						
HLID	Hailey	83.94	330	eP	P	08 00 34.4	+1.0
	comp=Z,0.9nm,0.6s						
HLID				epP	pP	08 00 52.1	+1.4
E09A	Wood Farm, Sta	87.89	330	eP	P	08 00 53.6	+1.0
	comp=Z,17nm,1.7s						
YKA	Yellowknife Ar	99.40	341	P	Pdif	08 01 44.3	-0.8
	comp=Z,0.2nm,0.7s,baz=145,slow=4.6,SNR=6.4						
ASAR	Alice Springs	120.23	207	PKP	PKPdf	08 06 53.5	-1.2
	comp=Z,0.4nm,0.6s,baz=134,slow=1.8,SNR=6.9						
WRA	Warramunga Arr	123.38	210	PKP	PKPdf	08 06 60.0	-0.9
	comp=Z,1.1nm,0.6s,baz=160,slow=1.7,SNR=20						
WRA				pPKP	pPKPdf	08 07 19.0	0.0
	comp=Z,0.6nm,0.5s,baz=161,slow=1.6,SNR=4.5						
H11S2	WAKE ISLAND Hy	125.98	271	T	T	10 26 05.0	
	baz=119,slow=73,SNR=77						
H11S1	WAKE ISLAND Hy	126.00	271	T	T	10 26 05.9	
	baz=119,slow=73,SNR=102						
H11S3	WAKE ISLAND Hy	126.00	271	T	T	10 26 06.3	
	baz=119,slow=73,SNR=96						
H11N3	WAKE ISLAND Hy	126.33	273	T	T	10 26 30.6	
	baz=119,slow=76,SNR=17						
H11N1	WAKE ISLAND Hy	126.34	273	T	T	10 26 34.9	
	baz=119,slow=76,SNR=4.7						
H11N2	WAKE ISLAND Hy	126.34	273	T	T	10 26 34.2	
	baz=119,slow=76,SNR=31						
ZAA0	Zalesovo Array	151.64	30	ePKPbc	PKPbc	08 07 56.3	-0.6
ZALV	Zalesovo Beam	151.64	30	PKPbc	PKPbc	08 07 56.6	-0.3
	comp=Z,2.5nm,0.5s,baz=301,slow=3.2,SNR=12						
KSH	Kashi	152.49	63	ePKPbc	PKPbc	08 07 58.8	-0.7
KSH				ePKS	PKSdf	08 11 27.0	-0.1
KSH				ePP	PP	08 11 45.1	+1.9
KSH				eSKKS		08 18 29.7	
KSH				eSS	SS	08 31 08.8	-0.2
KSH				AMB	AMB		
	comp=Z,56nm,4.4s						
KSH				LR	LR		
	comp=Z,120nm,3.9s						
MKAR	Makanchi Array	154.63	45	PKPbc	PKPbc	08 08 03.0	-0.8
	comp=Z,0.4nm,0.7s,baz=287,slow=1.1,SNR=4.9						
MKAR				pPKPbc	PKPab	08 08 19.8	+1.0
	comp=Z,1.0nm,0.8s,baz=296,slow=4.0,SNR=6.2						
MKAR				pPKPab	pPKPab	08 08 36.9	+0.5
	comp=Z,1.4nm,0.6s,baz=304,slow=3.6,SNR=7.7						
WMQ	Urumqi	159.42	46	ePKP	PKPdf	08 08 01.1	-0.4
WMQ				LR	LR		
	comp=Z,58nm,17.4s						
WMQ				LR	LR		
	comp=Z,130nm,18.0s						
WMQ				LR	LR		
	comp=Z,51nm,20.0s						
HHC	Hu-ho-hao-te	169.91	345	ePKP	PKPdf	08 08 13.8	+3.0
HHC				PP	PP	08 13 22.0	+7.0
HHC				SKS	SKSdf	08 15 12.3	+3.3
HHC				SKKS	SKKSac	08 20 03.9	+6.8
HHC				SS	SS	08 34 16.0	+7.6
HHC				AMB	AMB		
	comp=Z,50nm,5.5s						
HHC				LR	LR		
	comp=Z,270nm,19.4s						
HHC				LR	LR		
	comp=Z,580nm,20.2s						
HHC				LR	LR		
	comp=Z,160nm,21.0s						
NJ2	Nanjing	170.88	279	ePKP	PKPdf	08 08 12.6	+1.2
KMI	Kunming	172.32	140	PKP	PKPdf	08 08 12.1	-0.5
LZH	Lanzhou	173.84	35	ePKP	PKPdf	08 08 13.7	+0.9
LZH				pPKP	pPKPdf	08 08 31.5	+0.4
LZH				sPKP		08 08 38.0	
LZH				LR	LR		
	comp=Z,130nm,18.1s						
LZH				LR	LR		
	comp=Z,130nm,18.0s						
LZH				LR	LR		
	comp=Z,150nm,20.5s						
CD2	Chengdu	176.16	92	PKP	PKPdf	08 08 12.9	-0.6

MEX 09 08:11:45.2±0.7, 15.96N×96.80W, h10km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.69	106	eP	Pg	08 11 57.0	-1.5
HUIG				eS	Sg	08 12 06.2	-1.4
VHO	Vista Hermosa	1.11	3	eP	Pb	08 12 02.9	-4.0
VHO				iS	Sg	08 12 17.6	-3.9
PNIG	Pinotepa	1.35	289	eP	Pn	08 12 06.1	-4.1
PNIG				iS	Sb	08 12 23.9	-4.2
CMIG	Matias Romero	2.15	58	eP	Pn	08 12 17.0	-4.2
CMIG				iS	Sn	08 12 43.5	-4.5

WEL 09 08:22:55.0±0.5, 45.44S×166.77E, h12km, ML3.8/12, 2D, Error ellipse: s-maj=3.9km s-min=3.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.27	98	⇓P*	Pb	08 23 01.3	-0.5
DCZ				S*	Sg	08 23 05.2	+0.8
DCZ				AML	AML	08 23 05.2	
DCZ				AML	AML	08 23 05.2	
DCZ				AML	AML	08 23 05.4	
WHZ	Wether Hill Ro	0.94	119	P*	Pg	08 23 12.1	-1.1
WHZ				S*	Sg	08 23 25.0	-0.5
WHZ				AML	AML	08 23 32.0	
MLZ	Mavora Lakes	0.99	85	⇓P*	Pb	08 23 12.3	-1.9
MLZ				S*	Sg	08 23 24.5	-2.6
MLZ				AML	AML	08 23 27.3	
MSZ	Milford Sound	1.12	47	P*	Pb	08 23 13.5	-2.8
MSZ				AML	AML	08 23 37.5	
MSZ				AML	AML	08 23 37.6	
MSZ				AML	AML	08 23 38.9	
MSZ				AML	AML	08 23 38.9	
APZ	The Paps	1.63	149	PN	Pn	08 23 23.2	-0.4
APZ				AML	AML	08 23 50.4	
APZ				AML	AML	08 23 50.6	
WKZ	Wanaka	1.70	70	PN	Pn	08 23 23.8	-0.7
WKZ				AML	AML	08 23 53.5	
WKZ				AML	AML	08 23 53.5	
WKZ				AML	AML	08 23 55.2	
WKZ				AML	AML	08 23 55.2	
EAZ	Earnscleugh	1.80	84	PN	Pn	08 23 25.4	-0.4
EAZ				AML	AML	08 23 53.2	
EAZ				AML	AML	08 23 54.0	
JCZ	Jackson Bay	1.97	47	PN	Pn	08 23 28.2	-0.1
JCZ				AML	AML	08 24 01.5	
JCZ				AML	AML	08 24 02.6	
SYZ	Scrubby Hill	1.98	124	PN	Pn	08 23 27.8	-0.5
SYZ				AML	AML	08 23 57.8	
SYZ				AML	AML	08 23 57.9	
SYZ				AML	AML	08 24 07.4	
SYZ				AML	AML	08 24 07.4	
LBZ	Lake Benmore	2.64	68	PN	Pn	08 23 35.9	-1.5
LBZ				AML	AML	08 24 13.2	
LBZ				AML	AML	08 24 26.0	
HHSZ	Highcliff Hill	2.72	101	ePN	Pn	08 23 38.0	-0.5
ODZ	Otahua Downs	2.76	83	PN	Pn	08 23 37.7	-1.3
FOZ	Fox Glacier	2.81	49	ePN	Pn	08 23 40.2	+0.6
FOZ				AML	AML	08 24 28.8	
FOZ				AML	AML	08 24 30.5	
RPZ	Rata Peaks	3.51	62	ePN	Pn	08 23 48.8	-0.6
RPZ				AML	AML	08 24 34.1	
RPZ				AML	AML	08 24 34.3	
WVZ	Waitaha Valley	3.70	52	ePN	Pn	08 23 51.1	-0.8
OXZ	Oxford	4.33	63	ePN	Pn	08 24 00.1	-0.5
MQZ	McQueen's Vall	4.54	70	PN	Pn	08 24 03.4	-0.1
DSZ	Denniston Nort	5.19	46	ePN	Pn	08 24 11.3	-1.2

CSEM 09 08:32:00.3±0.3, 43.14N×17.54E, h8km, ML2.3, Error ellipse: s-maj=8.0km s-min=5.1km az=42.0

BEO 09 08:32:00.0±0.5, 43.13N×17.48E, h8km±2km, ML2.3/9, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STON	Ston	0.30	148	i Pg	Pg	08 32 06.2	+0.2
STON				Sg	Sb	08 32 12.3	-0.5
STON	Ston	0.30	148	ePg	Pg	08 32 06.1	+0.1
STON				eSg	Sb	08 32 12.9	+0.2
STON	Ston	0.30	148	ePg	Pg	08 32 06.1	+0.1
STON				Sg	Sb	08 32 12.2	-0.5
TREB	Trebinje	0.76	123	ePg	Pg	08 32 11.4	-3.3
TREB				eSg	Sg	08 32 24.2	-0.4
PDG	Podgorica	1.48	118	ePg	Pn	08 32 26.1	-0.8
PDG				eSg	Sg	08 32 48.4	+0.7
PDG	Podgorica	1.48	118	ePg	Pn	08 32 26.1	-0.8
PDG				eSg	Sg	08 32 48.4	+0.7
BBLS	Lazići	1.58	62	ePn	Pn	08 32 26.2	-2.2
BBLS				eSg	Sb	08 32 50.3	+0.5
BBLS	Lazići	1.58	62	ePn	Pn	08 32 26.2	-2.2
BBLS				eSg	Sb	08 32 50.3	+0.5
BLY	Banja Luka	1.63	353	ePn	Pn	08 32 29.5	+0.5
BLY				eSg	Sg	08 32 53.7	+1.2
BLY	Banja Luka	1.63	353	ePn	Pn	08 32 29.5	+0.5
BLY				eSg	Sg	08 32 53.7	+1.2
UDBI	Udbina	1.87	319	ePn	Pn	08 32 32.5	+0.2
UDBI				Sg	Sg	08 33 01.0	+0.7
UDBI	Udbina	1.87	319	ePn	Pn	08 32 32.5	+0.2
UDBI				Sg	Sg	08 33 00.9	+0.6
IVAS	Ivanjica	2.00	76	ePn	Pn	08 32 33.5	-0.6
IVAS				eSg	Sb	08 33 02.6	+0.8
IVAS	Ivanjica	2.00	76	ePn	Pn	08 32 33.5	-0.6
IVAS				eSg	Sb	08 33 02.6	+0.8
TEKS	Tekeris	2.05	46	ePn	Pn	08 32 35.5	+0.7
TEKS	Tekeris	2.05	46	ePn	Pn	08 32 35.5	+0.7
DIVS	Divibare	2.06	61	ePn	Pn	08 32 33.9	-1.2
DIVS				eSn	Sn	08 32 59.8	-1.2
DIVS	Divibare	2.06	61	ePn	Pn	08 32 33.9	-1.2
DIVS				eSn	Sn	08 32 59.8	-1.2
NVLJ	Novalja	2.37	308	ePn	Pn	08 32 39.6	+0.5
NVLJ				Sn	Sb	08 33 10.9	-1.3
NVLJ	Novalja	2.37	308	ePn	Pn	08 32 39.5	+0.4
NVLJ				Sn	Sb	08 33 10.9	-1.3
TRUS	Trudelj	2.39	62	ePn	Pn	08 32 40.9	+1.5
TRUS	Trudelj	2.39	62	ePn	Pn	08 32 40.9	+1.5
GRUS	Gruza	2.47	71	ePn	Pn	08 32 38.9	-1.6
GRUS				eSn	Sn	08 33 11.7	+0.8
GRUS	Gruza	2.47	71	ePn	Pn	08 32 38.9	-1.6
GRUS				eSn	Sn	08 33 11.7	+0.8
BARS	Barje	3.20	94	ePn	Pn	08 32 50.9	+0.4
BARS				eSn	Sn	08 33 29.2	+0.4
BARS	Barje	3.20	94	ePn	Pn	08 32 50.9	+0.4
BARS				eSn	Sn	08 33 29.2	+0.4
ZAPS	Zavoj	3.77	86	ePn	Pn	08 32 58.5	+0.1

CSEM 09 08:32:51.0±0.2, 40.44N×21.88E, h6km±1km, MD2.9, Error ellipse: s-maj=4.4km s-min=3.0km az=41.0

ATH 09 08:32:51.2, 40.44N×21.85E, h5km±3km, MD2.9/9

THE 09 08:32:51.3, 40.42N×21.89E, h4km±10km, ML1.6/5, Error ellipse: s-maj=10.4km s-min=0.8km az=221.0, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.15	219	P	Pg	08 32 53.6	-0.8
KZN				S	Sg	08 32 57.0	+0.5
KZN	Kozani	0.15	219	ePG	Pg	08 32 54.0	-0.4
KZN	Kozani	0.15	219	P	Pg	08 32 53.6	-0.8
KZN	Kozani	0.15	219	ePg	Pg	08 32 54.0	-0.4
KZN				S	Sg	08 32 57.0	+0.5
FNA	Florina	0.53	313	P	Pg	08 33 01.1	-0.6
FNA				S	Sg	08 33 09.0	+0.3
FNA	Florina	0.53	313	ePB	Pg	08 33 01.4	-0.3
FNA				eSB	Sg	08 33 07.6	-1.1
FNA	Florina	0.53	313	P	Pg	08 33 01.1	-0.6
FNA	Florina	0.53	313	ePb	Pg	08 33 01.4	-0.3
FNA				eSb	Sg	08 33 07.6	-1.1
FNA				S	Sb	08 33 09.0	-2.5
LIT	Litokhoron	0.56	125	P	Pg	08 33 02.4	+0.3
LIT				S	Sg	08 33 09.4	0.0
LIT	Litokhoron	0.56	125	ePG	Pg	08 33 02.4	+0.3
LIT				eSB	Sb	08 33 11.8	-0.2
LIT	Litokhoron	0.56	125	P	Pg	08 33 02.4	+0.3
LIT				S	Sg	08 33 09.4	0.0
LIT				eSb	Sb	08 33 11.8	-0.2
NEST	Nestorio	0.65	270	P	Pg	08 33 03.1	-0.8
NEST				S	Sg	08 33 12.7	+0.3
NEST	Nestorio	0.65	270	ePB	Pg	08 33 03.3	-0.6
NEST				eSB	Sg	08 33 12.4	0.0
NEST	Nestorio	0.65	270	ePb	Pg	08 33 03.3	-0.6
NEST				eSb	Sg	08 33 12.4	0.0
MEV	Metsovon	0.82	219	P	Pg	08 33 07.3	+0.1
MEV	Metsovon	0.82	219	P	Pg	08 33 07.3	+0.1
THL	Klokotos Trika	0.86	174	P	Pg	08 33 07.5	-0.3
THL				S	Sg	08 33 19.7	+0.7
THL	Klokotos Trika	0.86	174	ePG	Pg	08 33 07.7	-0.1
THL	Klokotos Trika	0.86	174	ePg	Pg	08 33 07.7	-0.1
THL				S	Sg	08 33 19.7	+0.7
HORT	Hortiatis	0.94	79	ePN	Pb	08 33 10.1	-0.1
HORT	Hortiatis	0.94	79	ePn	Pb	08 33 10.1	-0.1
KNT	Kendrikon	1.06	46	P	Pg	08 33 11.4	-0.3
KNT	Kendrikon	1.06	46	ePN	Pg	08 33 11.6	-0.1
KNT	Kendrikon	1.06	46	P	Pg	08 33 11.4	-0.3
PLG	Polygyros	1.19	92	ePB	Pb	08 33 14.5	+0.1
PLG	Polygyros	1.19	92	ePb	Pb	08 33 14.5	+0.1
AGG	Agios Georgios	1.44	166	ePB	Pg	08 33 19.2	+0.2
AGG	Agios Georgios	1.44	166	ePb	Pg	08 33 19.2	+0.2

ISCJB 09 08:38:48.6±1.1, 35.8N±0.1×0.5E±0.1, h22km±27km, Error ellipse: s-maj=23.1km s-min=10.8km az=143.8

CSEM 09 08:38:48.9±0.4, 35.78N×0.55E, h20km, mb3.9, Error ellipse: s-maj=11.6km s-min=5.8km az=15.0

CRAAG 09 08:38:49.2, 35.81N×0.57E, Ml3.4

MDD 09 08:38:49.1±1.7, 35.75N×0.50E, h12km±26km, mb3.9/4, Error ellipse: s-maj=16.9km s-min=12.0km az=132.0, PRXIMO

ISC 09 08:38:48.2±1.6, 35.77N±0.07×0.48E±0.08, h16km±16km, n23, σ1§18/32, Northern Algeria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EANR	'Ain N'Sour	0.53	70	P	Pg	08 38 58.7	-0.1
EANR	'Ain N'Sour	0.53	70	P	Pg	08 38 58.7	-0.1
EANR	'Ain N'Sour	0.53	70	P	Pg	08 38 58.7	-0.1
ETRT	Tiaret	0.77	119	P	Pg	08 39 02.8	-0.4
ETRT	Tiaret	0.77	119	P	Pg	08 39 02.8	-0.4
ETRT	Tiaret	0.77	119	P	Pg	08 39 02.8	-0.4
ECHF	Ech Chlef	0.80	61	P	Pg	08 39 03.4	-0.3
ECHF	Ech Chlef	0.80	61	P	Pg	08 39 03.4	-0.3
ECHA	Ech Chlef	0.81	62	P	Pg	08 39 03.4	-0.6
ECHA	Ech Chlef	0.81	62	P	Pg	08 39 03.4	-0.6
EBNR	Beni Rached	1.00	58	P	Pn	08 39 13.9	+6.3
EMUR	La Murta	2.49	327	P	Pn	08 39 27.6	-0.5
	0.1nm,0.1s,SNR=7.9						
EMUR				S	Sn	08 39 57.6	-0.6
	8.2nm,0.3s,SNR=7.9						
EMUR	La Murta	2.49	327	P	Pn	08 39 27.6	-0.5
	0.1nm,0.1s,SNR=7.9						
EMUR				S	Sn	08 39 57.6	-0.6
	8.2nm,0.3s,SNR=7.9						
EBER	Berja	2.94	293	P	Pn	08 39 34.4	-0.1
	6.2nm,0.1s,SNR=31						
EBER				S	Sn	08 40 07.4	-2.3
	5.3nm,0.3s,SNR=7.9						
EBER	Berja	2.94	293	P	Pn	08 39 34.4	-0.1
	6.2nm,0.1s,SNR=31						
EBER				S	Sn	08 40 07.4	-2.3
	5.3nm,0.3s,SNR=7.9						
ETOB	Tobarra	3.29	331	P	Pn	08 39 40.2	+1.0
	2.2nm,0.1s,SNR=9.3						
ETOB				S	Sn	08 40 16.7	-1.5
	2.6nm,0.1s,SNR=6.1						
ETOB	Tobarra	3.29	331	P	Pn	08 39 40.2	+1.0
	2.2nm,0.1s,SNR=9.3						
ETOB				S	Sn	08 40 16.7	-1.5
	2.6nm,0.1s,SNR=6.1						
EIBI	Ibiza	3.32	12	P	Pn	08 39 40.6	+1.1
	2.2nm,0.1s,SNR=4.0						
EIBI				S	Sn	08 40 18.4	-0.3
	1.1nm,0.2s,SNR=4.0						
EIBI	Ibiza	3.32	12	P	Pn	08 39 40.6	+1.1
	2.2nm,0.1s,SNR=4.0						
EIBI				S	Sn	08 40 18.4	-0.3
	1.1nm,0.2s,SNR=4.0						
EQUE	Quentar	3.47	296	P	Pn	08 39 43.6	+1.9
	0.8nm,0.1s,SNR=6.0						
EQUE	Quentar	3.47	296	P	Pn	08 39 43.6	+1.9
	0.8nm,0.1s,SNR=6.0						
EQES	Quesada	3.50	306	P	Pn	08 39 43.8	+1.7
	1.3nm,0.1s,SNR=21						
EQES				S	Sn	08 40 24.7	+1.5
	2.8nm,0.2s,SNR=7.9						
EQES	Quesada	3.50	306	P	Pn	08 39 43.8	+1.7
	1.3nm,0.1s,SNR=21						
EQES				S	Sn	08 40 24.7	+1.5
	2.8nm,0.2s,SNR=7.9						

IDC 09 09:01:18.5±2.8, 54.07N×87.27E, h0km, mb1 2.8/3, mb1mx2.7/48, mbtmp2.8/3, ML2.8/3, Error ellipse: s-maj=26.6km s-min=13.5km az=71.0

NNC 09 09:01:41.7±5.8, 53.40N×84.14E, h6km±26km, mb3.2, mpv2.9, Error ellipse: s-maj=40.5km s-min=30.5km az=5.0

ISC 09 09:01:20.8±3.2, 54.0N±0.1×87.1E±0.2, h10km, n8, σ2§56/10, 4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.32	268	i		09 10 20.0	
	baz=84,slow=349,SNR=9.3						
ZALV	Zalesovo Beam	1.32	268	Pn	Pb	09 01 45.3	-0.5
	3.5nm,0.3s,baz=85,slow=14,SNR=30						
ZALV				Sn	Sg	09 02 07.0	+3.6
	4.5nm,0.3s,baz=82,slow=26,SNR=14						
KURK	Kurchatov	6.13	241	⇑Pn	Pn	09 02 49.3	-2.1
	1.4nm,0.9s						
KURK				⇓Sn	Sn	09 03 40.1	-21
	0.7nm,0.9s						
KURK				⇓Lg	Lg	09 03 59.7	
	0.4nm,0.5s						
KURBB	Kurchatov Arra	6.23	240	⇓Pn	Pn	09 02 50.6	-2.1
	4.1nm,1.4s						
KURBB				⇓Sn	Sn	09 03 41.3	-23
	3.0nm,1.0s						
KURBB				⇑Lg	Lg	09 04 01.4	
	2.4nm,0.6s						
KURBB	Kurchatov Arra	6.23	240	Pn	Pn	09 02 54.5	+1.8
	0.3nm,0.3s,baz=54,slow=13,SNR=4.4						
KURBB				Lg	Lg	09 04 41.4	
	0.2nm,0.3s,baz=55,slow=32,SNR=2.7						
MK31	Makanchi Array	7.84	205	⇓Pn	Pn	09 03 16.7	+1.9
	0.6nm,0.7s,baz=26,slow=13,SNR=7.5						
MK31				⇑Sn	Sn	09 04 40.6	-2.9
	0.4nm,0.6s,baz=26,slow=26,SNR=3.0						
MK31				⇑Lg	Lg	09 05 17.8	
	1.0nm,0.8s						
MKAR	Makanchi Array	7.84	205	Pn	Pn	09 03 15.9	+1.1
	0.1nm,0.3s,baz=29,slow=14,SNR=7.9						
MKAR				Sn	Sn	09 04 45.0	+1.5
	0.1nm,0.3s,baz=24,slow=24,SNR=5.2						
MKAR				Lg	Lg	09 05 30.9	
	0.1nm,0.3s,baz=20,slow=29,SNR=3.0						
BVAR	Borovoye Array	9.98	271	Pn	Pn	09 03 44.0	-0.2
	0.1nm,0.3s,baz=70,slow=17,SNR=3.1						
BVAR				Sn	Sn	09 05 33.1	-3.0
	0.1nm,0.3s,baz=77,slow=25,SNR=2.6						

IDC 09 09:09:51.5±1.2, 51.88N×75.69E, h0km, mb1 2.5/3, mb1mx2.5/52, mbtmp2.5/3, ML2.2/3, Error ellipse: s-maj=28.4km s-min=8.3km az=32.0

ISCJB 09 09:09:54.7±0.7, 51.8N±0.1×75.8E±0.1, h10km, Error ellipse: s-maj=18.7km s-min=4.9km az=27.6

NNC 09 09:09:55.1±0.9, 51.46N×75.48E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=55.5km s-min=5.5km az=25.0

ISC 09 09:09:51.6±1.6, 51.9N±0.3×75.7E±0.2, h10km, n12, σ1§16/15, 5C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	2.18	123	⇑Pn	Pb	09 10 31.2	+0.1
	1.6nm,0.6s						
KURK				⇓Sn	Sb	09 10 58.3	+0.2
	11nm,0.9s						
KURBB	Kurchatov Arra	2.19	126	⇑Pn	Pg	09 10 31.9	-1.7
	2.8nm,0.4s						
KURBB				⇓Sn	Sg	09 11 01.3	-0.6
	38nm,0.7s						
KURBB	Kurchatov Arra	2.19	126	Pg	Pb	09 10 30.1	-1.1
	1.0nm,0.3s,baz=305,slow=18,SNR=6.2						
KURBB				Lg	Lg	09 10 59.4	
	1.8nm,0.3s,baz=306,slow=31,SNR=14						
VOSK	Vostochnaya	3.03	287	⇑Pn	Pb	09 10 43.7	-1.8
	1.8nm,0.8s						
VOSK				⇑Sn	Sb	09 11 21.3	-1.2
	7.0nm,0.6s						
BVA0	Borovoye Array	3.45	290	⇓Pn	Pb	09 10 53.1	+0.4
	1.7nm,0.8s,baz=120,slow=6.9,SNR=6.9						
BVA0				Sn	Sb	09 11 35.3	+0.6
	2.0nm,0.3s,baz=109,slow=26,SNR=7.4						
BVAR	Borovoye Array	3.45	290	Pn	Pn	09 10 46.5	+1.2
	0.2nm,0.3s,baz=106,slow=15,SNR=4.3						
BVAR				Sn	Sb	09 11 26.1	-0.2
	0.6nm,0.3s,baz=105,slow=24,SNR=6.7						
BRVK	Borovoye	3.52	291	⇑Sn	Sb	09 11 37.0	+0.3
	9.8nm,0.8s						
I46RU	ZALESOVO INFRA	5.84	66	i		09 48 26.4	
	baz=249,slow=349,SNR=0.9						
ZALV	Zalesovo Beam	5.84	66	Pn	Pn	09 11 21.9	+3.7
	0.3nm,0.3s,baz=252,slow=13,SNR=4.5						
ZALV				Lg	Lg	09 13 08.0	
	0.1nm,0.3s,baz=251,slow=26,SNR=2.2						

MK31 Makanchi Array 6.69 138 ⇓Sn Sn 09 12 46.6 +0.5
1.1nm,0.8s,baz=322,slow=23,SNR=5.1
MK31 ⇓Lg Lg 09 13 21.6
3.6nm,0.8s,baz=62,slow=65,SNR=4.8
MKAR Makanchi Array 6.69 138 Pn Pn 09 11 30.7 +0.8
0.1nm,0.3s,baz=319,slow=9.9,SNR=3.4
MKAR Sn Sn 09 12 48.2 +2.1
0.1nm,0.3s,baz=328,slow=22,SNR=6.6
MKAR Lg Lg 09 13 21.3
0.2nm,0.3s,baz=326,slow=27,SNR=4.7
AAK Ala-Archa 9.35 186 Lg Lg 09 14 38.1
0.1nm,0.3s,baz=342,slow=20,SNR=3.4

MEX 09 09:15:50.8±0.5, 16˚96N×98˚98W, h26km±15km, MD3.5, Near coast of Guerrero

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TLIG Tlapa 0.72 33 eP Pb 09 16 02.3 -2.7
TLIG iS Sb 09 16 12.0 -2.6
ACX Acapulco 0.85 264 iP Pn 09 16 07.7 +0.7
ACX iS Sn 09 16 18.6 0.0
PNIG Pinotepa 0.99 124 eP Pn 09 16 06.3 -2.7
PNIG iS Sb 09 16 19.0 -3.1
PLIG Platanillo 1.51 341 iP Pn 09 16 13.7 -2.6
PLIG iS Sn 09 16 31.8 -3.5
ARIG Puente Sto Nin 1.85 315 eP Pn 09 16 19.0 -2.0
ARIG iS Sn 09 16 41.3 -2.3
ZIIG Zihuatanejo 2.46 286 iP Pn 09 16 26.9 -2.3
ZIIG iS Sn 09 16 55.3 -3.2

IDC 09 09:16:55.9±3.7, 22˚55S×175˚93W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/27, mbtmp3.8/5, Error ellipse: s-maj=191.9km s-min=25.7km az=154.0
ISC 09 09:17:05.1±3.9, 23˚S±1˚×176˚0W±0˚6, h71km, n6, σ1.04/6, mb3.9/5, Tonga Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CTA Charters Tower 35.19 267 P P 09 23 53.2 +0.6
1.6nm,0.4s,baz=89,slow=13,SNR=4.6
ASAR Alice Springs 45.89 258 P P 09 25 21.0 +0.2
0.6nm,0.7s,baz=94,slow=8.3,SNR=6.7
WRA Warramunga Arr 46.19 264 P P 09 25 22.4 -0.9
0.7nm,0.5s,baz=100,slow=8.4,SNR=6.9
NVAR Mina Array Bea 81.31 42 P P 09 29 13.8 -0.2
0.2nm,0.5s,baz=234,slow=7.7,SNR=2.7
ILAR Eielson Array 89.98 12 P P 09 29 56.9 +0.8
1.1nm,1.2s,baz=212,slow=6.4,SNR=4.1
AKASG Malin Array Be 145.77 331 PKPbc PKPab 09 36 35.1 -1.2
0.3nm,0.5s,baz=36,slow=3.2,SNR=5.4

IDC 09 09:20:57.7±2.0, 8˚42S×129˚04E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.2/27, mbtmp3.2/3, ML3.4/2, Error ellipse: s-maj=133.5km s-min=31.5km az=66.0, Timor Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 12.55 156 Pn Pn 09 23 58.0 +0.2
0.2nm,0.5s,baz=335,slow=13,SNR=13
WRA Sn Sn 09 26 12.4 -6.1
0.3nm,0.3s,baz=329,slow=23,SNR=8.6
ASAR Alice Springs 15.86 163 Pn Pn 09 24 42.2 -0.4
0.1nm,0.3s,baz=340,slow=8.6,SNR=9.8
ASAR Sn Sn 09 27 31.2 -8.0
0.0nm,0.3s,baz=347,slow=24,SNR=2.8
MKAR Makanchi Array 68.89 328 P P 09 32 04.4 0.0
0.3nm,0.7s,baz=139,slow=7.7,SNR=3.4

CSEM 09 10:01:54.8, 39˚52N×29˚67W, h5km, ML3.3, After PDA
PDA 09 10:01:54.8±1.1, 39˚52N×29˚67W, h5km, MD3.6, ML3.3, Error ellipse: s-maj=10.7km s-min=7.0km az=54.0, Azores Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PCED Cedros 1.17 140 eP Pg 10 02 13.4 -3.8
PCED eS Sg 10 02 26.2 -6.2
PCED A A 10 02 28.8
213nm,0.3s
PCED Cedros 1.17 140 eP Pg 10 02 13.4 -3.8
PCED eS Sg 10 02 26.2 -6.2
CALA Caldeira 1.20 141 eP Pg 10 02 13.9 -4.1
CALA eS Sg 10 02 27.2 -6.5
CALA Caldeira 1.20 141 eP Pg 10 02 13.9 -4.1
CALA eS Sg 10 02 27.2 -6.5
HOR Horta 1.28 141 eP Pn 10 02 14.0 -5.3
HOR eS Sg 10 02 29.3 -6.7
HOR Horta 1.28 141 eP Pn 10 02 14.0 -5.3
HOR eS Sg 10 02 29.3 -6.7
ROSA Rosais 1.37 125 eP Pn 10 02 15.7 -4.9
ROSA eS Sb 10 02 31.1 -7.6
ROSA A A 10 02 40.6
91nm,0.5s
ROSA Rosais 1.37 125 eP Pn 10 02 15.7 -4.9
ROSA eS Sb 10 02 31.1 -7.6
PGRA Graciosa 1.40 110 eS Sb 10 02 32.0 -7.6
PGRA A A 10 02 32.5
121nm,0.5s
PGRA Graciosa 1.40 110 eS Sb 10 02 32.0 -7.6
PCAN Candelaria 1.40 139 eP Pn 10 02 15.8 -5.3
PCAN eS Sb 10 02 32.5 -7.2
PCAN A A 10 02 35.7
466nm,0.3s
PCAN Candelaria 1.40 139 eP Pn 10 02 15.8 -5.3
PCAN eS Sb 10 02 32.5 -7.2
PICO Pico 1.41 136 eP Pn 10 02 16.1 -5.1
PICO eS Sb 10 02 33.0 -6.9
PICO Pico 1.41 136 eP Pn 10 02 16.1 -5.1
PICO eS Sb 10 02 33.0 -6.9
PMAN Manadas 1.52 125 eS Sn 10 02 35.0 -7.7
PMAN A A 10 02 37.5
61nm,0.2s
PMAN Manadas 1.52 125 eS Sn 10 02 35.0 -7.7
TOPO Topo 1.65 124 eP Pn 10 02 19.9 -4.6
TOPO eS Sn 10 02 38.5 -7.6
TOPO Topo 1.65 124 eP Pn 10 02 19.9 -4.6
TOPO eS Sn 10 02 38.5 -7.6

ISCJB 09 10:03:22.1±0.4, 27˚71S±0˚03×179˚91W±0˚08, h450km, mb3.9/10, Error ellipse: s-maj=9.2km s-min=4.4km az=178.9
IDC 09 10:03:23.5±0.7, 27˚51S×179˚91E, h454km±8km, mb3.6/10, mb1 3.9/12, mb1mx3.6/24, mbtmp4.5/12, Error ellipse: s-maj=16.5km s-min=12.6km az=160.0
ISC 09 10:03:23.0±0.5, 27˚64S±0˚06×179˚97W±0˚09, h450km, n68, σ1.53/77, mb4.0/10, 1C, Kermadec Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 2.41 132 P P 10 04 27.7 +1.8
178nm,0.3s,baz=273,slow=23,SNR=10
RAO S S 10 05 20.5 +3.4
128nm,0.3s,baz=270,slow=20,SNR=3.9
MXZ Matakaoa Point 10.00 188 PN P 10 05 40.3 +0.3
MXZ SN S 10 07 31.6 -1.1
HAZ Te Kaha 10.26 190 ePN P 10 05 43.4 +0.6
HAZ SN S 10 07 37.1 -0.8
PUZ Puketiti 10.51 188 ePN P 10 05 45.2 -0.3
PUZ SN S 10 07 41.1 -1.8
MWZ Matawai 10.87 191 SN S 10 07 49.1 -1.1
URZ Urewera 10.87 192 P P 10 05 50.0 +0.6
29nm,0.3s,baz=260,slow=3.5,SNR=76
URZ S S 10 07 47.1 -3.0
7.4nm,0.3s,baz=224,slow=21,SNR=11
RIGZ Rimuhau 11.19 189 ePN P 10 05 53.0 0.0
PRGZ Paritu Road 11.39 189 PN P 10 05 56.1 +0.9
RAHZ Arahi 11.51 192 ePN P 10 05 56.9 +0.5
KNZ Kokohu 11.52 189 ePN P 10 05 57.6 +1.2
MHGZ Mahia Peninsul 11.62 188 PN P 10 05 58.8 +1.3
NMHZ Naumai 11.74 192 PN P 10 06 00.4 +1.4
BKZ Black Stump Fm 11.87 194 ePN P 10 05 58.8 -1.6
MCHZ McNeill Hill 12.09 192 PN P 10 06 02.3 -0.4
MCHZ SN S 10 08 15.8 +1.3
TRVZ Turoa 12.21 197 ePN P 10 06 04.5 +0.2
BHHZ Black Hill Sta 12.27 195 ePN P 10 06 02.7 -2.0
KRHZ Kereru 12.35 193 ePN P 10 06 03.4 -2.1
KAHZ Kahuranaki 12.40 191 PN P 10 06 06.0 -0.1
PXZ Pawanui 12.63 191 PN P 10 06 07.6 -1.0
PXZ SN S 10 08 21.6 -3.6
WPHZ Waipukurau 12.74 193 PN P 10 06 10.2 +0.5
TSZ Takapari Road 12.84 194 ePN P 10 06 09.5 -1.3
TSZ SN S 10 08 25.6 -3.8
MRZ Mangatainoka R 13.50 195 PN P 10 06 16.2 -1.6
DZM Mont Dzumac 13.52 291 P P 10 06 20.9 +2.4
1.9nm,0.3s,baz=151,slow=20,SNR=20
NNZ Nelson 14.60 200 PN P 10 06 28.2 -1.5
AFI Afiamalu 15.66 31 S S 10 09 24.2 -1.0
7.5nm,0.3s,baz=70,slow=22,SNR=6.8
KHZ Kahutara 15.66 198 PN P 10 06 39.8 -1.1
WVZ Waitaha Valley 17.14 204 PN P 10 06 55.6 -1.0
LHI Lord Howe Isla 18.64 253 P P 10 07 15.2 +3.3
baz=19,SNR=3.1
ARMA Armidale 24.96 257 P P 10 08 11.7 +2.4
baz=25,SNR=4.0
MGCD Mangrove Creek 25.50 250 P P 10 08 16.6 +2.6
baz=26,SNR=11
EIDS Eidsvold 25.98 268 P P 10 08 19.4 +1.2
baz=26,SNR=5.8
CNB Canberra Magne 27.17 246 P P 10 08 31.4 +2.6
baz=27,SNR=4.7
MILA Mila 27.62 242 P P 10 08 34.9 +2.3
baz=28,SNR=9.1
RMQ Roma 27.84 265 P P 10 08 36.6 +2.0
baz=28,SNR=7.1
CMSA Cobar Meteorol 30.04 254 P P 10 08 55.0 +1.2
baz=30,SNR=9.7
QLP Quilpie 31.82 264 P P 10 09 09.9 +0.7
baz=32,SNR=5.9
STKA Stephens Creek 33.52 253 P P 10 09 24.1 +0.5
5.1nm,0.8s,baz=88,slow=11,SNR=12
STKA ScP ScP 10 14 53.6 +0.3
3.0nm,1.0s,baz=150,slow=5.8,SNR=4.2
STKA Stephens Creek 33.52 253 P P 10 09 24.8 +1.1
baz=34,SNR=7.3
MTSU Mount Surprise 34.13 278 P P 10 09 30.5 +1.4
baz=34,SNR=5.9
MTSU S S 10 13 54.7 -28
baz=34,SNR=4.6
HTT Hallett 35.70 250 P P 10 09 42.5 +0.4
baz=36,SNR=8.9
QIS Mount Isa 37.45 272 P P 10 09 56.9 +0.2
baz=38,SNR=4.4
ASAR Alice Springs 41.59 265 P P 10 10 30.1 -0.2
3.1nm,0.5s,baz=90,slow=7.2,SNR=85
ASAR ScP ScP 10 15 24.4 +0.2
0.8nm,0.8s,baz=98,slow=4.0,SNR=5.1
WRA Warramunga Arr 42.32 270 P P 10 10 35.4 -0.8
7.5nm,0.6s,baz=107,slow=7.5,SNR=112
WRA ScP ScP 10 15 27.0 -0.1
0.8nm,0.9s,baz=101,slow=3.9,SNR=4.6
WRA S S 10 16 20.0 -3.6
0.3nm,0.7s,baz=107,slow=14,SNR=3.6
WRKA Warakurna 46.16 261 P P 10 11 05.1 -0.9
baz=46,SNR=12
KNRA Kununurra 48.81 273 P P 10 11 26.7 +0.7
baz=49,SNR=4.9
FITZ Fitzroy Crossi 50.67 269 P P 10 11 40.7 +0.9
baz=51,SNR=3.7
QSPA South Pole Qui 62.45 180 P P 10 13 02.3 +1.5
5.5nm,0.6s,baz=26,slow=1.2,SNR=18
MJAR Matsushiro Arr 75.00 326 P P 10 14 15.9 -1.3
2.0nm,0.8s,baz=140,slow=6.8,SNR=3.8
PETK Petropavlovsk- 82.73 347 P P 10 14 58.1 -0.1
2.8nm,0.5s,baz=131,slow=7.9,SNR=10
USRK Ussuriysk Arra 83.92 327 P P 10 15 04.5 +0.2
2.2nm,0.6s,baz=146,slow=1.7,SNR=5.3
NVAR Mina Array Bea 87.42 44 P P 10 15 22.7 +1.0
1.6nm,0.7s,baz=222,slow=8.5,SNR=14
PDAR Pinedale Array 95.35 44 P P 10 15 56.7 -1.5
0.3nm,0.8s,baz=189,slow=5.2,SNR=3.3
ILAR Eielson Array 95.65 14 P P 10 15 57.5 -1.2
0.3nm,0.7s,baz=225,slow=4.5,SNR=6.8
MKAR Makanchi Array 114.67 311 PKP PKPdf 10 21 09.5 -1.6
0.2nm,0.5s,baz=95,slow=3.0,SNR=3.0
ZALV Zalesovo Beam 114.83 320 PKP PKPdf 10 21 10.0 -1.1
0.4nm,0.4s,baz=243,slow=1.6,SNR=3.1
SCHQ Schefferville 125.32 41 PKP PKPdf 10 21 29.2 -2.1
6.5nm,1.1s,baz=282,slow=9.3,SNR=3.1
KEV Kevo 135.06 347 ep PKPpre 10 21 33.7
0.2nm,0.4s
ARCES ARCESS Array B 135.54 348 PKhKP PKPpre 10 21 45.6
1.8nm,0.7s,baz=48,slow=1.8,SNR=6.8
ARCES PKP PKPdf 10 21 49.6 -0.6
1.2nm,0.6s,baz=76,slow=2.5,SNR=8.2
JOF Joensuu 139.23 339 ep PKPdf 10 21 55.9 -1.2
FINES FINESS Array B 141.97 340 PKhKP PKPpre 10 21 57.0
0.9nm,0.4s,baz=76,slow=3.7,SNR=13
NB2 NORSAR Subarra 145.77 350 PKP PKPdf 10 22 09.0 +0.2
comp=Z,2.7nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B 145.77 350 PKPbc PKPdf 10 22 09.4 +0.6
comp=Z,2.7nm,0.7s,baz=16,slow=4.9,SNR=15
AKASG Malin Array Be 148.07 324 PKPbc PKPbc 10 22 15.9 -0.7
comp=Z,5.9nm,0.5s,baz=44,slow=3.4,SNR=40
BRTR Keskin Array B 149.72 302 PKPbc PKPbc 10 22 20.3 -1.0
comp=Z,1.4nm,0.8s,baz=26,slow=0.4,SNR=6.0
BRTR PKPab PKPab 10 22 27.7 -0.8
comp=Z,1.2nm,0.8s,baz=145,slow=4.5,SNR=4.5
CLL Collm 154.41 341 ⇑iPKP PKPab 10 22 47.3 -0.4
comp=Z,5.0nm,0.6s
BRG Berggiesshubel 154.51 339 ePKP PKPab 10 22 47.8 -0.3
comp=Z,3.8nm,0.9s
GERES GERESS Array B 156.34 337 PKPab PKPab 10 22 55.5 -0.7
comp=Z,0.7nm,0.6s,baz=57,slow=4.9,SNR=5.1
TORD Torodi Ar. Bea 165.49 186 PKPab PKPab 10 23 36.2 -0.6
comp=Z,0.6nm,0.6s,baz=170,slow=4.1,SNR=4.8

VIE 09 10:10:55.0±0.2, 46˚65N×11˚07E, h0km, mb0.4/1, ML1.2/3, 2C, Error ellipse: s-maj=2.5km s-min=1.1km az=171.0, 5 km E of Naturno Suspected Mining explosion., Northern Italy

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FETA Feichten 0.44 327 ⇑iPg Pg 10 11 03.7 +0.1
FETA ⇑iSg Sg 10 11 09.7 +0.2
0.9nm,0.2s

ISCJB 09 10:21:40.0±0.9, 39˚00S±0˚04×179˚85W±0˚04, h14km±5km, mb5.0/25, MS4.4/22, Error ellipse: s-maj=6.0km s-min=5.2km az=7.3
IDC 09 10:21:40.7±0.6, 38˚69S×179˚98W, h0km, mb4.7/13, mb1 4.8/14, mb1mx4.7/22, mbtmp4.7/14, ML4.5/1, MS4.2/17, Ms1 4.2/17, ms1mx4.1/21, Error ellipse: s-maj=25.0km s-min=13.9km az=19.0
WEL 09 10:21:41.0±0.4, 38˚80S×179˚61W, h33km, ML5.2/63, Error ellipse: s-maj=4.3km s-min=1.9km az=90.0
NEIC 09 10:21:42.1, 38˚86S×179˚70W, h33km, mb5.2/10, ML5.1(WEL), After WEL.
GCMT 09 10:21:42.1±0.2, 38˚57S×179˚65W, h12km, MW5.0/93, Moment Tensor Solution. s33,c41; s93,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.17±.12; $M_{\theta\theta}$-0.18±.12; $M_{\phi\phi}$1.35±.10; $M_{r\theta}$0.69±.31; $M_{r\phi}$4.02±.08; $M_{\theta\phi}$0.65±.27; Best double couple: $M_0$4.17000×10^{16} NP1: ϕ_s85.00000°, δ86.00000°, λ9.00000°. NP2: ϕ_s354.00000°, δ82.00000°, λ176.00000°. Principal axes: T 4.8260, Plg9.0000°, Azm310.0000°; N -1.3130, Plg81.0000°, Azm111.0000°; P -3.5150, Plg3.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
MOS 09 10:21:48.5±1.8, 38˚14S×179˚41E, h33km, mb5.5/5 Error ellipse: s-maj=27.1km s-min=14.9km az=39.4
ISC 09 10:21:42.0±0.6, 38˚93S±0˚03×179˚91W±0˚03, h15km±3km, n309, σ1.63/306, mb5.0/26, MS4.4/22, 21C-17D, East of North Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CNGZ Carnagh Statio 1.54 286 ⇑PN Pn 10 22 08.5 -0.4
CNGZ SN Sb 10 22 29.4 -0.1
CNGZ Carnagh Statio 1.54 286 Pn Pn 10 22 08.5 -0.4
PUZ Puketiti 1.67 300 ⇑PN Pn 10 22 08.9 -1.9
PUZ SN Sn 10 22 30.7 -1.2
PUZ AML AML 10 22 33.2
PUZ Puketiti 1.67 300 Pn Pn 10 22 08.9 -1.9
PUZ Sn Sn 10 22 30.7 -1.2
MHGZ Mahia Peninsul 1.72 262 PN Pn 10 22 11.5 +0.1
MHGZ SN Sb 10 22 33.8 -0.8
PRGZ Paritu Road 1.72 269 ⇓PN Pn 10 22 11.5 +0.1
PRGZ SN Sb 10 22 34.0 -0.8
PRGZ Paritu Road 1.72 269 Pn Pn 10 22 11.5 +0.1
PRGZ Sn Sb 10 22 34.0 -0.8
RIGZ Rimuhau 1.83 276 ⇑PN Pn 10 22 13.1 +0.1
RIGZ SN Sn 10 22 36.2 +0.3
KNZ Kokohu 1.89 266 ⇑PN Pn 10 22 13.9 +0.2
KNZ Kokohu 1.89 266 Pn Pn 10 22 14.0 +0.3
MXZ Matakaoa Point 1.96 314 ⇑PN Pn 10 22 11.9 -2.7
MXZ AML AML 10 22 38.5
MXZ AML AML 10 22 38.5
MXZ AML AML 10 22 44.1
MXZ AML AML 10 22 44.1
MXZ Matakaoa Point 1.96 314 Pn Pn 10 22 12.1 -2.6
MWZ Matawai 2.09 286 ⇑PN Pn 10 22 15.7 -0.9
MWZ SN Sn 10 22 40.0 -2.3
MWZ AML AML 10 22 42.7
MWZ AML AML 10 22 42.8
MWZ AML AML 10 22 44.3
MWZ Matawai 2.09 286 Pn Pn 10 22 15.2 -1.4
MWZ Sn Sn 10 22 40.0 -2.3
RAGZ Rawiri 2.14 281 PN Pn 10 22 16.8 -0.4
RAGZ SN Sn 10 22 42.4 -1.1
SNGZ Shannon Statio 2.15 273 ⇑PN Pn 10 22 17.5 +0.1
HAZ Te Kaha 2.16 302 ⇑PN Pn 10 22 15.3 -2.1
WHHZ Waihua 2.23 265 ⇓PN Pn 10 22 19.3 +0.9
RAHZ Arahi 2.34 269 PN Pn 10 22 20.6 +0.6
RAHZ Arahi 2.34 269 Pn Pn 10 22 20.6 +0.6
URZ Urewera 2.43 285 PN Pn 10 22 20.4 -0.7
URZ AML AML 10 22 53.9
URZ AML AML 10 22 55.5
URZ Urewera 2.43 285 Pn Pn 10 22 20.6 -0.5
130nm,0.3s,baz=118,slow=5.1,SNR=586
URZ Sn Sn 10 22 49.6 -1.0
752nm,0.3s,baz=19,slow=22,SNR=13
URZ Urewera 2.43 285 ePn Pn 10 22 20.6 -0.5
URZ eSn Sn 10 22 49.1 -1.5
URZ Sn Sn 10 22 49.5 -1.0
CKHZ Cape Kidnapper 2.45 252 PN Pn 10 22 21.6 +0.2
CKHZ Cape Kidnapper 2.45 252 Pn Pn 10 22 21.6 +0.2
NMHZ Naumai 2.56 265 ⇑PN Pn 10 22 23.7 +0.6
NMHZ Naumai 2.56 265 Pn Pn 10 22 23.7 +0.6
KAHZ Kahuranaki 2.64 250 PN Pn 10 22 24.0 0.0
KAHZ Kahuranaki 2.64 250 Pn Pn 10 22 24.0 0.0
WIZ White Island 2.68 301 PN Pn 10 22 22.7 -1.8
WIZ White Island 2.68 301 Pn Pn 10 22 23.2 -1.3
MCHZ McNeill Hill 2.69 258 PN Pn 10 22 25.2 +0.5
MCHZ McNeill Hill 2.69 258 Pn Pn 10 22 25.4 +0.7
PXZ Pawanui 2.73 245 PN Pn 10 22 24.7 -0.6
PXZ AML AML 10 23 01.6
PXZ AML AML 10 23 01.6
PXZ AML AML 10 23 07.4
PXZ AML AML 10 23 07.5
PXZ Pawanui 2.73 245 Pn Pn 10 22 24.8 -0.5
EDRZ Edgecumbe 2.75 286 PN Pn 10 22 25.3 -0.4
EDRZ AML AML 10 23 09.9
EDRZ AML AML 10 23 12.1
EDRZ Edgecumbe 2.75 286 Pn Pn 10 22 25.5 -0.2
BKZ Black Stump Fm 2.81 264 PN Pn 10 22 26.6 +0.2
BKZ AML AML 10 23 02.0
BKZ AML AML 10 23 04.0
BKZ Black Stump Fm 2.81 264 ePn Pn 10 22 26.7 +0.2
RRRZ Republican Roa 2.86 281 PN Pn 10 22 26.9 -0.2
TARZ Mount Tarawera 2.89 283 PN Pn 10 22 27.5 -0.1
TARZ Mount Tarawera 2.89 283 Pn Pn 10 22 27.9 +0.2
PRRZ Plateau Road 2.92 277 PN Pn 10 22 27.7 -0.2
PRRZ Plateau Road 2.92 277 Pn Pn 10 22 28.1 +0.2
MKRZ Makatiti 2.95 284 AML AML 10 22 48.7
MKRZ AML AML 10 23 04.3
ALRZ Allen Road 2.95 276 PN Pn 10 22 28.4 0.0
ALRZ Allen Road 2.95 276 Pn Pn 10 22 28.8 +0.4
KRHZ Kereru 2.98 255 ePN Pn 10 22 28.6 -0.1
PRHZ Porangahau 2.99 242 PN Pn 10 22 28.0 -0.8
HRRZ Handcock Road 3.03 279 PN Pn 10 22 29.0 -0.4
HRRZ Handcock Road 3.03 279 Pn Pn 10 22 29.6 +0.2
WPHZ Waipukurau 3.04 247 PN Pn 10 22 29.0 -0.5
WPHZ Waipukurau 3.04 247 Pn Pn 10 22 29.1 -0.5
HATZ Hinemaiaia 3.12 269 ePN Pn 10 22 31.3 +0.6
HATZ AML AML 10 23 12.9
HATZ AML AML 10 23 16.8
HATZ Hinemaiaia 3.12 269 Pn Pn 10 22 31.3 +0.6
KARZ Kaharoa 3.15 285 PN Pn 10 22 30.2 -0.9
KARZ Kaharoa 3.15 285 Pn Pn 10 22 30.5 -0.6
GRRZ Galatos Road 3.17 279 PN Pn 10 22 31.3 0.0
PNHZ Pukenui 3.17 251 PN Pn 10 22 31.0 -0.4
PNHZ Pukenui 3.17 251 Pn Pn 10 22 31.0 -0.4
BHHZ Black Hill Sta 3.18 259 PN Pn 10 22 31.6 +0.1
BHHZ Black Hill Sta 3.18 259 Pn Pn 10 22 31.6 +0.1
ANWZ Angora Road 3.18 240 PN Pn 10 22 30.6 -0.9
TGRZ Tauranga 3.24 290 ⇑PN Pn 10 22 30.9 -1.4
TGRZ AML AML 10 23 32.3
TGRZ AML AML 10 23 37.5
TGRZ Tauranga 3.24 290 Pn Pn 10 22 30.9 -1.4
RITZ Rihia Road 3.30 268 PN Pn 10 22 34.6 +1.4
RITZ AML AML 10 23 23.6
RITZ AML AML 10 23 24.7
RITZ Rihia Road 3.30 268 Pn Pn 10 22 34.6 +1.4
DVHZ Dannevirke 3.33 244 PN Pn 10 22 32.9 -0.6
DVHZ Dannevirke 3.33 244 Pn Pn 10 22 32.9 -0.6
RATZ Rangitukua 3.37 270 AML AML 10 23 23.7
RATZ AML AML 10 23 25.7
TSZ Takapari Road 3.39 249 ⇑PN Pn 10 22 33.6 -0.8
TSZ AML AML 10 23 16.1
TSZ AML AML 10 23 16.1
TSZ Takapari Road 3.39 249 Pn Pn 10 22 33.6 -0.8
MOVZ Moawhango 3.41 261 PN Pn 10 22 35.4 +0.8
MOVZ AML AML 10 23 17.0
MOVZ AML AML 10 23 20.1
MOVZ Moawhango 3.41 261 Pn Pn 10 22 35.5 +0.8
WATZ Wairara 3.41 272 AML AML 10 23 17.6
WATZ AML AML 10 23 19.2
KATZ Kakaramea 3.43 268 AML AML 10 23 21.1
KATZ AML AML 10 23 30.0
BFZ Birch Farm 3.44 238 PN Pn 10 22 33.5 -1.5
BFZ Birch Farm 3.44 238 ePn Pn 10 22 33.7 -1.4
OTVZ Oturere 3.45 265 PN Pn 10 22 35.8 +0.5
OTVZ AML AML 10 23 23.5
OTVZ AML AML 10 23 29.2
OTVZ Oturere 3.45 265 Pn Pn 10 22 36.2 +0.9
TUVZ Tukino 3.47 263 PN Pn 10 22 36.5 +0.9
TUVZ AML AML 10 23 27.5
TUVZ AML AML 10 23 29.8
TUVZ Tukino 3.47 263 Pn Pn 10 22 36.5 +0.9
KRVZ Karewarewa 3.47 266 PN Pn 10 22 36.2 +0.6
KRVZ AML AML 10 23 22.5
KRVZ AML AML 10 23 23.5
KRVZ Karewarewa 3.47 266 Pn Pn 10 22 36.3 +0.7
NGZ Ngauruhoe 3.50 265 PN Pn 10 22 36.7 +0.6
NGZ AML AML 10 23 23.0
NGZ AML AML 10 23 25.2
NGZ Ngauruhoe 3.50 265 Pn Pn 10 22 37.0 +0.9
WTVZ West Tongariro 3.51 266 PN Pn 10 22 37.2 +1.0
WTVZ AML AML 10 23 25.1
WTVZ AML AML 10 23 32.3
WTVZ West Tongariro 3.51 266 Pn Pn 10 22 37.2 +1.0
WNVZ Wahianoa 3.52 262 PN Pn 10 22 37.0 +0.8
WNVZ AML AML 10 23 25.1
WNVZ AML AML 10 23 28.4
WNVZ Wahianoa 3.52 262 Pn Pn 10 22 37.0 +0.8
WHVZ Whangaehu Hut 3.52 263 PN Pn 10 22 37.2 +0.9
DRZ Dome Shelter 3.54 263 PN Pn 10 22 36.9 +0.3
DRZ AML AML 10 23 22.6
DRZ AML AML 10 23 25.3
DRZ Dome Shelter 3.54 263 Pn Pn 10 22 37.0 +0.3
FWVZ Far West T-bar 3.55 263 PN Pn 10 22 37.4 +0.6
FWVZ AML AML 10 23 23.0
FWVZ AML AML 10 23 28.9
FWVZ Far West T-bar 3.55 263 Pn Pn 10 22 37.4 +0.6
WPVZ Whakapapa 3.55 264 PN Pn 10 22 37.6 +0.9
WPVZ AML AML 10 23 23.9
WPVZ AML AML 10 23 30.7
WPVZ Whakapapa 3.55 264 Pn Pn 10 22 37.6 +0.9
COVZ Chateau Observ 3.55 264 ⇓PN Pn 10 22 37.4 +0.7
TRVZ Turoa 3.55 263 PN Pn 10 22 37.5 +0.6
TRVZ AML AML 10 23 20.7
TRVZ AML AML 10 23 21.8
TRVZ Turoa 3.55 263 Pn Pn 10 22 37.5 +0.6
PRWZ Pori Road 3.57 242 ⇓PN Pn 10 22 36.1 -0.7
TLZ Tolley Road 3.62 278 ePN Pn 10 22 37.5 0.0

MTVZ Mangateitei 3.62 261 ⇓PN Pn 10 22 38.6 +1.0
MTVZ AML AML 10 23 24.8
MTVZ AML AML 10 23 29.5
MTVZ Mangateitei 3.62 261 Pn Pn 10 22 38.6 +1.0
TWVZ Taurewa 3.63 266 PN Pn 10 22 38.2 +0.5
TWVZ AML AML 10 23 21.4
TWVZ AML AML 10 23 23.0
TWVZ Taurewa 3.63 266 Pn Pn 10 22 38.2 +0.5
POWZ Post Office Ro 3.64 245 PN Pn 10 22 37.4 -0.4
POWZ Post Office Ro 3.64 245 Pn Pn 10 22 37.4 -0.4
PKVZ Pokaka 3.71 263 PN Pn 10 22 39.9 +1.1
PKVZ AML AML 10 23 31.6
PKVZ AML AML 10 23 40.1
TIWZ Tintock 3.73 239 ⇓PN Pn 10 22 37.7 -1.3
TIWZ AML AML 10 23 27.7
TIWZ AML AML 10 23 30.1
TOZ Tahuroa Road 3.80 287 PN Pn 10 22 38.8 -1.2
TOZ Tahuroa Road 3.80 287 Pn Pn 10 22 38.8 -1.2
MRZ Mangatainoka R 3.88 242 PN Pn 10 22 39.7 -1.5
MRZ AML AML 10 23 27.3
MRZ AML AML 10 23 27.6
MRZ Mangatainoka R 3.88 242 Pn Pn 10 22 39.7 -1.5
TMWZ Te Maipa 3.89 235 PN Pn 10 22 39.3 -2.0
TMWZ Te Maipa 3.89 235 Pn Pn 10 22 39.3 -2.0
HOWZ Holdsworth Sta 4.03 239 PN Pn 10 22 41.4 -1.8
HOWZ Holdsworth Sta 4.03 239 Pn Pn 10 22 41.4 -1.8
WAZ Wanganui 4.04 257 PN Pn 10 22 45.0 +1.6
WAZ AML AML 10 23 40.5
WAZ AML AML 10 23 43.7
KUZ Kuaotunu 4.09 301 PN Pn 10 22 41.5 -2.5
KUZ AML AML 10 23 36.2
KUZ AML AML 10 23 37.9
KUZ Kuaotunu 4.09 301 Pn Pn 10 22 41.5 -2.5
HIZ Hauiti 4.12 274 PN Pn 10 22 44.8 +0.5
HIZ AML AML 10 23 41.7
HIZ AML AML 10 23 42.9
VRZ Vera Road 4.16 266 PN Pn 10 22 46.2 +1.2
VRZ AML AML 10 23 48.6
VRZ AML AML 10 23 51.4
VRZ Vera Road 4.16 266 Pn Pn 10 22 46.1 +1.2
MTW Mount Morrison 4.17 236 PN Pn 10 22 43.0 -2.1
MTW AML AML 10 23 37.2
MTW AML AML 10 23 37.9
MTW Mount Morrison 4.17 236 Pn Pn 10 22 43.0 -2.1
TRWZ Traveller 4.18 232 AML AML 10 23 36.7
TRWZ AML AML 10 23 48.3
MKAZ Moumakai 4.29 293 PN Pn 10 22 45.2 -1.5
MKAZ AML AML 10 23 33.6
MKAZ AML AML 10 23 37.5
MKAZ Moumakai 4.29 293 Pn Pn 10 22 45.2 -1.5
PAWZ Paruwai Farm 4.33 234 PN Pn 10 22 44.4 -2.9
PAWZ AML AML 10 23 37.2
PAWZ AML AML 10 23 39.9
PAWZ Paruwai Farm 4.33 234 Pn Pn 10 22 44.8 -2.5
CAW Cannon Point 4.43 239 PN Pn 10 22 46.8 -1.9
CAW AML AML 10 23 42.2
CAW AML AML 10 23 44.8
CAW Cannon Point 4.43 239 Pn Pn 10 22 46.8 -1.9
KIW Kapiti Island 4.43 242 AML AML 10 23 41.3
KIW AML AML 10 23 46.3
LREZ Lake Rotokare 4.45 261 PN Pn 10 22 49.3 +0.4
MSWZ Moikau Station 4.46 235 AML AML 10 23 40.7
MSWZ AML AML 10 23 43.7
MHEZ Mangahewa 4.50 266 PN Pn 10 22 51.4 +1.9
KBAZ Karaka Road Bo 4.50 292 PN Pn 10 22 49.7 +0.1
PLWZ Palliser 4.54 233 PN Pn 10 22 47.8 -2.5
DREZ Durham Road 4.59 265 PN Pn 10 22 52.7 +1.8
DFE Dawson Falls 4.67 263 PN Pn 10 22 53.8 +1.8
NEZ North Egmont 4.68 264 PN Pn 10 22 54.0 +1.9
NEZ North Egmont 4.68 264 Pn Pn 10 22 54.0 +1.9
BHW Baring Head 4.70 237 PN Pn 10 22 50.0 -2.4
BHW AML AML 10 23 45.5
BHW AML AML 10 23 46.6
BHW Baring Head 4.70 237 Pn Pn 10 22 50.0 -2.4
KHEZ Kahui Hut 4.74 264 PN Pn 10 22 55.2 +2.2
PKE Pukeiti 4.76 265 PN Pn 10 22 54.9 +1.7
PKE AML AML 10 23 48.4
PKE AML AML 10 23 50.6
SNZO South Karori 4.76 238 PN Pn 10 22 51.1 -2.1
SNZO AML AML 10 23 47.0
SNZO AML AML 10 23 49.9
SNZO South Karori 4.76 238 ePn Pn 10 22 50.8 -2.4
SNZO eSn Sn 10 23 46.4 -1.7
NMEZ Namu Road 4.85 262 PN Pn 10 22 56.6 +2.1
NWEZ Newall Road 4.85 264 PN Pn 10 22 56.6 +2.1
RVAZ Riverhead Bore 4.86 295 PN Pn 10 22 53.8 -0.8
TCW Tory Channel 5.01 241 PN Pn 10 22 54.6 -2.1
TCW AML AML 10 23 56.2
TCW AML AML 10 23 58.4
DUWZ D'Urville Isla 5.10 247 PN Pn 10 22 56.7 -1.2
DUWZ AML AML 10 24 00.4
DUWZ AML AML 10 24 17.2
CMWZ Cape Campbell 5.30 236 AML AML 10 24 06.4
CMWZ AML AML 10 24 06.5
TUWZ Tuamarina 5.33 240 AML AML 10 24 05.5
TUWZ AML AML 10 24 05.6
CTZ Chatham Island 5.41 154 PN Pn 10 23 02.0 0.0
WCZ Waipu Caves 5.46 301 PN Pn 10 23 01.1 -1.6
BSWZ Blackbirch Sta 5.50 238 PN Pn 10 23 00.7 -2.8
BSWZ AML AML 10 24 05.9
BSWZ AML AML 10 24 08.5
NNZ Nelson 5.63 244 PN Pn 10 23 03.4 -1.8
NNZ AML AML 10 24 11.1
NNZ AML AML 10 24 14.1
KHZ Kahutara 6.08 233 PN Pn 10 23 07.9 -3.3
KHZ AML AML 10 24 23.0
KHZ AML AML 10 24 24.2
KHZ Kahutara 6.08 233 ePn Pn 10 23 08.0 -3.3
KHZ eSn Sn 10 24 17.4 -3.1
QRZ Quartz Range 6.12 250 PN Pn 10 23 10.0 -1.8
QRZ Quartz Range 6.12 250 Pn Pn 10 23 10.0 -1.8
THZ Tophouse 6.18 240 PN Pn 10 23 09.7 -3.0
THZ AML AML 10 24 26.4
THZ AML AML 10 24 28.4
OUZ Omahuta 6.37 303 PN Pn 10 23 14.1 -1.2
OUZ AML AML 10 23 17.2
OUZ AML AML 10 23 40.9
OUZ Omahuta 6.37 303 ePn Pn 10 23 14.8 -0.6
DSZ Denniston Nort 6.93 243 PN Pn 10 23 19.5 -3.5
DSZ Denniston Nort 6.93 243 Pn Pn 10 23 20.7 -2.3
LTZ Lake Taylor 7.07 235 ePN Pn 10 23 21.5 -3.5
LTZ AML AML 10 24 44.4
LTZ AML AML 10 24 46.5
CRLZ Canterbury Las 7.29 228 AML AML 10 24 50.7
CRLZ AML AML 10 24 55.2
MQZ McQueen's Vall 7.36 227 ePN Pn 10 23 24.9 -3.9
MQZ McQueen's Vall 7.36 227 Pn Pn 10 23 26.1 -2.7
OXZ Oxford 7.50 232 ePN Pn 10 23 27.1 -3.7
WVZ Waitaha Valley 8.20 237 AML AML 10 25 11.3
RPZ Rata Peaks 8.31 232 ePN Pn 10 23 37.1 -4.9
RPZ AML AML 10 25 13.9
RPZ AML AML 10 25 15.3
RPZ Rata Peaks 8.31 232 ePn Pn 10 23 40.1 -1.8
RPZ eSn Sn 10 25 14.3 -1.3
FOZ Fox Glacier 9.10 236 ePN Pn 10 23 49.3 -3.4
FOZ AML AML 10 25 36.3
FOZ AML AML 10 25 42.5
FOZ Fox Glacier 9.10 236 Pn Pn 10 23 49.7 -3.0
LBZ Lake Benmore 9.20 230 AML AML 10 25 47.1
LBZ AML AML 10 25 49.6
ODZ Otahua Downs 9.31 226 ePN Pn 10 23 51.9 -3.8
ODZ Otahua Downs 9.31 226 ePn Pn 10 23 54.5 -1.2
ODZ eSn Sn 10 25 35.0 -5.1
RAO Raoul Island 9.79 10 LR LR 10 27 36.1
comp=Z,1μm,18.0s,baz=183,slow=37
JCZ Jackson Bay 9.93 235 PN Pn 10 24 00.6 -3.6
JCZ AML AML 10 25 52.2
JCZ AML AML 10 25 58.0
JCZ Jackson Bay 9.93 235 Pn Pn 10 24 01.4 -2.8
WKZ Wanaka 10.14 231 AML AML 10 26 06.9
EAZ Earnscleugh 10.19 228 AML AML 10 26 06.6
EAZ Earnscleugh 10.19 228 Pn Pn 10 24 06.2 -1.5
SYZ Scrubby Hill 11.07 223 ePN Pn 10 24 17.7 -1.9
DCZ Deep Cove 11.61 232 ePN Pn 10 24 30.7 +3.6
DZM Mont Dzumac 20.47 321 eP P 10 26 19.2 0.0
200nm,1.4s
DZM eLR LR 10 31 08.6
2μm,27.9s
DZM Mont Dzumac 20.47 321 P P 10 26 17.4 -1.8
22nm,0.7s,baz=152,slow=9.6,SNR=19
DZM Mont Dzumac 20.47 321 eP P 10 26 17.7 -1.5
DZM eS S 10 30 08.3 +0.4
MSVF Nonsavu 21.19 355 eP P 10 26 24.1 -3.0
MSVF pmax pmax
comp=Z,674nm,3.0s
MSVF Nonsavu 21.19 355 eP P 10 26 24.1 -3.0
comp=Z,674nm,3.0s
MSVF eS S 10 30 18.1 -4.2
CNB Canberra Magne 24.71 269 ⇓P P 10 27 03.5 +0.9
baz=24
ARMA Armidale 24.82 281 eP P 10 27 06.2 +2.4
comp=Z,72nm,1.4s
ARMA eS S 10 31 27.8 +1.8
ARMA Armidale 24.82 281 ⇓P P 10 27 05.8 +2.0
baz=24,SNR=4.9
MOO Moorlands 25.11 251 ⇑P P 10 27 06.2 +0.1
baz=25,SNR=8.0
EIDS Eidsvold 27.90 290 eP P 10 27 30.8 -0.7
comp=Z,25nm,1.0s
EIDS Eidsvold 27.90 290 ⇑P P 10 27 33.0 +1.5
baz=28,SNR=5.1
CMSA Cobar Meteorol 28.92 274 ⇑P P 10 27 41.2 +0.7
baz=29,SNR=12
RMQ Roma 28.99 286 ⇓P P 10 27 42.8 +1.6
baz=29
STKA Stephens Creek 31.98 271 eP P 10 28 09.0 +1.5
STKA Stephens Creek 31.98 271 P P 10 28 09.6 +2.1
comp=Z,5.5nm,0.6s,baz=100,slow=9.3,SNR=11
STKA LR LR 10 41 01.6
comp=Z,995nm,18.9s,baz=102,slow=36
STKA Stephens Creek 31.98 271 ⇑P P 10 28 09.0 +1.5
baz=32,SNR=14
QLP Quilpie 32.37 282 ⇓P P 10 28 11.2 +0.2
baz=32,SNR=8.0
PAE Paea 33.84 60 eT T 11 03 01.0
comp=Z,19nm,0.3s
PPT2 Papeete2 33.89 60 eS S 10 33 36.8 -12
comp=Z,69nm,24.0s
PPT2 eLR LR 10 37 01.2
comp=Z,1μm,27.5s
PPT2 Papeete2 33.89 60 eT T 11 03 05.5
comp=Z,12nm,0.3s
PPT Papeete 33.91 60 LR LR 10 37 57.1
comp=Z,714nm,20.0s,baz=242,slow=29
HNR Honiara 34.47 323 LR LR 10 39 55.1
comp=Z,237nm,21.4s,baz=146,slow=32
CTA Charters Tower 34.65 293 P P 10 28 31.4 +0.5
comp=Z,16nm,0.5s,baz=123,slow=11,SNR=26
CTAO Charters Tower 34.65 293 eP P 10 28 31.2 +0.3
CTAO pmax pmax
comp=Z,17nm,0.6s
CTAO Charters Tower 34.65 293 eP P 10 28 31.2 +0.3
comp=Z,17nm,0.6s
MTSU Mount Surprise 37.31 293 ⇓P P 10 28 53.5 -0.2
baz=37,SNR=20
QIS Mount Isa 39.25 286 ⇓P P 10 29 09.4 -0.7
baz=39,SNR=4.7
VNDA Vanda 39.47 186 LR LR 10 42 26.1
comp=Z,212nm,19.1s,baz=34,slow=31
COEN Coen 40.94 297 eP P 10 29 23.3 -0.7
comp=Z,235nm,1.1s
RKT Rikitea 41.18 81 eLQ LQ 10 38 47.1
comp=Z,624nm,28.9s
PMG Port Moresby 41.62 306c iP P 10 29 28.8 -0.8
PMG pmax pmax
comp=Z,26nm,0.9s
PMG Port Moresby 41.62 306 P P 10 29 29.3 -0.4
comp=Z,24nm,0.7s,baz=154,slow=13,SNR=16
PMG LR LR 10 46 18.5
comp=Z,422nm,18.1s,baz=116,slow=36
PMG Port Moresby 41.62 306 ⇑P P 10 29 29.3 -0.4
baz=42,SNR=6.3
AS06 Alice Springs 41.81 277 ⇓P P 10 29 30.9 -0.4
baz=42
AS01 Alice Springs 41.81 277 ⇓P P 10 29 31.1 -0.1
baz=42
AS16 Alice Springs 41.84 277 ⇓P P 10 29 31.3 -0.2
baz=42
AS31 Alice Springs 41.85 277 eP P 10 29 30.9 -0.7
ASAR Alice Springs 41.85 277 P P 10 29 31.1 -0.4
comp=Z,19nm,0.8s,baz=118,slow=7.6,SNR=120
ASAR S S 10 35 50.1 +1.1
comp=Z,0.8nm,0.9s,baz=124,slow=11,SNR=4.6
ASAR LR LR 10 46 08.3
comp=Z,381nm,21.9s,baz=124,slow=35
WRAB Tennant Creek 43.59 282 P P 10 29 45.3 -0.4
comp=Z,243nm,0.6s,SNR=40
WRAB Tennant Creek 43.59 282c iP P 10 29 44.9 -0.8
WRAB pmax pmax
comp=Z,57nm,1.0s
WRAB Tennant Creek 43.59 282 eP P 10 29 44.8 -0.9
comp=Z,25nm,0.6s
WRAB eS S 10 36 17.4 +2.8
WRA Warramunga Arr 43.60 282 P P 10 29 44.5 -1.3
comp=Z,20nm,0.8s,baz=124,slow=7.0,SNR=82
WRA S S 10 36 17.3 +2.6
comp=Z,0.7nm,1.1s,baz=123,slow=13,SNR=4.5
WRA LR LR 10 49 02.2
comp=Z,326nm,18.6s,baz=120,slow=38
WRKA Warakurna 45.49 272 ⇓P P 10 29 59.9 -0.9
baz=45,SNR=16
MTN Manton Dam 50.38 287 ⇑P P 10 30 37.7 -1.0
baz=50,SNR=5.6
KNRA Kununurra 50.39 283 ⇑P P 10 30 38.6 -0.2
baz=50,SNR=12
QSPA South Pole Qui 51.20 180 P P 10 30 48.2 +3.7
comp=Z,5.5nm,0.8s,baz=33,slow=4.0,SNR=13
QSPA South Pole Qui 51.20 180 eP P 10 30 44.1 -0.4
comp=Z,26nm,1.0s
MEEK Meekatharra 52.23 264 P P 10 30 52.3 -0.3
baz=52,SNR=15
MBWA Marble Bar 54.22 271 eP P 10 31 09.4 +2.2
comp=Z,6.8nm,0.7s
SOEI Soe 57.50 285 eP P 10 31 31.7 +0.8
comp=Z,74nm,1.1s
MAW Mawson 63.81 202 LR LR 10 58 52.4
comp=Z,325nm,18.7s,baz=122,slow=35
SYO Syowa Base 68.48 194⇑epP pP 10 32 47.6 -0.4
H03N3 Juan Fernandez 77.34 123 T T 11 58 30.3
baz=232,slow=75,SNR=4.3
H03N2 Juan Fernandez 77.35 123 T T 11 58 32.8
baz=232,slow=75,SNR=4.7
H03N1 Juan Fernandez 77.36 123 T T 11 58 30.8
baz=232,slow=75,SNR=4.5
PLCA Paso Flores 77.86 133 P P 10 33 39.8 +0.7
comp=Z,2.3nm,0.8s,baz=152,slow=3.3,SNR=3.2
PLCA LR LR 11 02 14.9
comp=Z,92nm,18.7s,baz=264,slow=31
MJAR Matsushiro Arr 84.45 327 P P 10 34 12.9 -0.9
comp=Z,2.6nm,0.8s,baz=168,slow=5.2,SNR=4.4
MAJO Matsushiro 84.45 327 eP P 10 34 11.6 -2.2
MAJO pmax pmax
comp=Z,46nm,1.3s
MAT Matsushiro 84.45 327 P P 10 34 12.2 -1.6
GSI Gunungsitoli 84.98 276 eP P 10 34 15.0 -2.1
comp=Z,12nm,0.8s
JNU Nakatsue 84.99 320 P P 10 34 16.0 -0.7
comp=Z,9.0nm,0.8s,baz=344,slow=2.7,SNR=5.5
QIZ Qiongzhong 87.33 297 P P 10 34 27.6 -0.8
QIZ S S 10 45 10.1 +1.7
QIZ pmax pmax
comp=Z,15nm,1.6s
QIZ LR LR
comp=Z,210nm,26.1s
KSRS Korea Array 89.90 321 P P 10 34 41.5 +1.3
comp=Z,5.8nm,0.8s,baz=140,slow=5.0,SNR=15
KSRS LR LR 11 14 44.4
comp=Z,24nm,18.1s,baz=160,slow=36
KSAR Wonju Array Be 89.91 321 P P 10 34 41.5 +1.3
KSAR Wonju Array Be 89.91 321 P P 10 34 41.5 +1.3
NJ2 Nanjing 90.67 312 eP P 10 34 44.2 +0.3
NJ2 pmax pmax
comp=Z,20nm,1.2s
YSS Yuzh-Sakhalins 91.78 335 eP P 10 34 52.0 +3.4
WHN Wuhan 92.29 308 P P 10 34 52.5 +1.1
PETK Petropavlovsk- 93.70 347 LR LR 11 15 00.8
comp=Z,38nm,18.1s,baz=153,slow=34
GYA Guiyang 94.47 300 eP P 10 35 03.2 +1.5
GYA PP PP 10 38 52.3 +2.5
GYA S S 10 46 12.4 -1.2
GYA SS SS 10 52 40.7 +3.9
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.2s
GYA LR LR
comp=Z,520nm,21.6s
GYA LR LR
comp=Z,460nm,21.4s
GYA LR LR
comp=Z,510nm,20.9s
CMAR Chiang Mai Arr 94.76 290 P P 10 35 03.9 +0.8
comp=Z,2.1nm,0.8s,baz=157,slow=4.0,SNR=9.6
CMAR LR LR 11 22 25.3
comp=Z,80nm,18.6s,baz=162,slow=38
NVAR Mina Array Bea 95.51 44 P P 10 35 07.7 +1.4
comp=Z,0.1nm,0.3s,baz=228,slow=5.4,SNR=2.3
NVAR LR LR 11 13 10.1
comp=Z,156nm,18.1s,baz=114,slow=32
CPUP Villa Florida 95.79 131 LR LR 11 12 22.5
comp=Z,330nm,18.0s,baz=216,slow=32
LPAZ La Paz 95.94 116 LR LR 11 08 21.8
comp=Z,77nm,21.2s,baz=176,slow=29
KMI Kunming 96.28 297 P P 10 35 11.7 +1.5
KMI S S 10 46 28.4 -1.3
KMI pmax pmax
comp=Z,4.0nm,0.8s
KMI LR LR
comp=Z,140nm,19.3s
KMI LR LR
comp=Z,130nm,22.4s
KMI LR LR
comp=Z,200nm,24.1s
TXAR Lajitas Array 98.22 59 LR LR 11 11 58.5
comp=Z,170nm,19.1s,baz=0.0,slow=31
CD2 Chengdu 99.29 302 P Pdif 10 35 25.3 +1.9
CD2 pP pP 10 35 30.1 +1.6
CD2 sP sP 10 35 32.3 +1.9
CD2 PP PP 10 39 31.2 +4.3
CD2 SKS SKSac 10 46 02.6 +1.4
CD2 S S 10 46 54.2 -0.5
CD2 sS sS 10 47 01.8 -1.5
CD2 SS SS 10 53 48.1 +3.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.6s
HHC Hu-ho-hao-te 101.02 314 eP Pdif 10 35 34.8 +3.9
HHC PP PP 10 39 46.4 +6.5
HHC pmax pmax
comp=Z,16nm,1.2s
HHC pmax pmax
comp=Z,210nm,5.8s
HHC LR LR
comp=Z,270nm,17.5s
HHC LR LR
comp=Z,1μm,19.8s
HHC LR LR
comp=Z,160nm,18.0s
LZH Lanzhou 102.52 306 eP Pdif 10 35 41.3 +3.5
LZH pP 10 35 44.5
LZH sP 10 35 46.0
LZH ePP PKiKP 10 39 57.5 -1.5
LZH SKS SKSac 10 46 19.0 +2.1
LZH eS Sdif 10 47 22.1 +0.4
LZH sS sS 10 47 30.2 -0.5
LZH eSS SS 10 54 34.5 +4.8
LZH pmax pmax
comp=Z,15nm,1.6s
LZH pmax pmax
comp=Z,97nm,9.7s
LZH LR LR
comp=Z,170nm,17.0s
LZH LR LR
comp=Z,180nm,17.2s
LZH LR LR
comp=Z,250nm,19.8s
YKA Yellowknife Ar 113.76 27 PKiKP PKiKP 10 40 20.2 +1.3
comp=Z,0.1nm,0.8s,baz=273,slow=4.8,SNR=2.5
WMQ Urumqi 117.09 306 PKP PKPdf 10 40 23.4 -2.6
WMQ PKS PKSdf 10 43 58.8 -3.9
WMQ SKKS 10 48 27.3
WMQ SS SS 10 57 41.0 -4.0
WMQ LR LR
comp=Z,78nm,18.4s
WMQ LR LR
comp=Z,110nm,21.6s
WMQ LR LR
comp=Z,52nm,19.8s
MKAR Makanchi Array 121.83 307 PKP PKPdf 10 40 35.5 +0.5
comp=Z,0.4nm,0.7s,baz=48,slow=1.8,SNR=4.2
KSH Kashi 122.94 297 ePKP PKPdf 10 40 40.8 +3.3
KSH ePP PP 10 42 24.9 +7.9
KSH ePKS PKSdf 10 44 15.6 +1.4
KSH eSKS SKSdf 10 47 51.7 +2.8
KSH SKKS SKKSac 10 49 16.9 +2.0
KSH eSS SS 10 59 07.3 +6.7
KSH LR LR
comp=Z,90nm,6.2s
ZALV Zalesovo Beam 123.17 315 PKP PKPdf 10 40 35.8 -1.5
comp=Z,0.4nm,0.3s,baz=159,slow=5.6,SNR=2.2
KURK Kurchatov 125.57 310 PKIKP PKPdf 10 40 40.0 -2.0
KURK Kurchatov 125.57 310 PKPpre PKPdf 10 40 40.0 -2.0
KURBB Kurchatov Arra 125.59 310 PKhKP PKPdf 10 40 40.0 -2.0
comp=Z,0.4nm,0.4s,baz=107,slow=1.8,SNR=3.9
DGRG David-gareji 145.61 289 P PKPab 10 41 29.2 +9.1
KEV Kevo 145.97 344 ePKIKP PKPab 10 41 24.4 +4.0
KEV Kevo 145.97 344 ep PKPab 10 41 24.4 +4.0
ARCES ARCESS Array B 146.47 344 PKPbc PKPab 10 41 22.4 +0.1
comp=Z,7.1nm,0.8s,baz=47,slow=3.4,SNR=14
ZEI Tsey 146.92 291 ePKP2 PKPab 10 41 27.1 +1.9
ZEI pmax pmax
comp=Z,13nm,1.3s
KLMR Klimovskoe 147.21 325 ePKIKP PKPdf 10 41 22.4 +1.0
KLMR pmax pmax
comp=Z,31nm,1.2s
DBIC Dimbokro 147.58 171 PKPbc PKPbc 10 41 26.8 +0.7
comp=Z,2.2nm,0.8s,baz=165,slow=6.6,SNR=2.5
KBZ Khabaz 147.77 293 PKP2 PKPab 10 41 27.0 -1.2
KBZ Khabaz 147.77 293 PKPbc PKPab 10 41 26.9 -1.2
comp=Z,5.6nm,0.9s,baz=289,slow=2.3,SNR=6.3
GOF Gofitskoye 147.79 295 ePKP2 PKPab 10 41 37.5 +9.2
NEY Neytrino 147.84 292 i PKIKP PKPbc 10 41 26.2 0.0
KIV Kislovodsk 147.94 293 ePKIKP PKPbc 10 41 26.3 -0.1
KIV pmax pmax
comp=Z,9.0nm,1.0s
VRHR Novokhopersk 148.63 307 ePKP2 PKPab 10 41 40.2 +8.7
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
JOF Joensuu 149.51 332 ePKIKP PKPbc 10 41 29.0 -0.6
JOF Joensuu 149.51 332 ep PKPbc 10 41 29.0 -0.6
VORD Divnogorie 150.11 307 ePKP2 PKPab 10 41 36.5 -1.0
VORD pmax pmax
comp=Z,6.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.8s
KAF Kangasniemi 151.80 334 ePKIKP PKPbc 10 41 33.8 -1.3
KAF Kangasniemi 151.80 334 ep PKPbc 10 41 33.8 -1.3
FINES FINESS Array B 152.34 333 PKPbc PKPbc 10 41 36.2 -0.1
comp=E,5.5nm,1.0s,baz=111,slow=4.3,SNR=9.3
BRTR Keskin Array B 154.12 282 PKPbc PKPbc 10 41 43.9 +2.8
comp=E,0.8nm,0.9s,baz=130,slow=4.3,SNR=2.8
BRTR PKPab PKPab 10 41 54.2 -0.6
comp=E,3.2nm,0.9s,baz=140,slow=4.4,SNR=6.9
TORD Torodi Ar. Bea 154.28 184 PKP PKPdf 10 41 35.8 +2.0
comp=E,1.3nm,1.2s,baz=208,slow=6.1,SNR=3.6
TORD PKPbc PKiKP 10 41 43.0 +1.0
comp=E,0.9nm,0.9s,baz=148,slow=2.6,SNR=4.9
AKASG Malin Array Be 156.38 309 PKPbc PKPbc 10 41 48.1
comp=E,0.2nm,0.3s,baz=64,slow=3.3,SNR=5.6
AKASG PKPab PKPab 10 42 03.4 -0.5
comp=E,1.5nm,0.7s,baz=63,slow=3.5,SNR=5.2
NOA NORSAR Array B 156.80 346 PKPab PKPab 10 42 05.2 -0.3
comp=E,0.8nm,0.8s,baz=26,slow=3.3,SNR=2.7
UZH Uzhgorod 161.32 308 ePKP2 PKPab 10 42 26.0 +0.5
CRVS Cervenica-Dubn 161.71 310 ePKIKP PKPdf 10 41 43.1 +1.2
CRVS Cervenica-Dubn 161.71 310 e PKPdf 10 41 43.1 +1.2
DPC Dobruska-Polom 163.80 320 ePKP2 PKPab 10 42 39.9 +3.6
DPC Dobruska-Polom 163.80 320 ePKPAB PKPab 10 42 39.9 +3.6
CONA Conrad Observa 165.45 313 ⇓iPKPab PKPab 10 42 42.5 -1.3
comp=E,7.7nm,1.3s
KHC Kasperske Hory 165.94 321 ePKP2 PKPab 10 42 47.3 +1.5
KHC Kasperske Hory 165.94 321 ePKPAB PKPab 10 42 47.3 +1.5
GERES GERESS Array B 166.07 320 PKPab PKPab 10 42 46.2 -0.2
comp=E,0.8nm,0.7s,baz=42,slow=6.1,SNR=5.1

*NEIC **09** 10:38:56.6, 38°.75S×179°.57W, h34km, mb3.9/1, ML4.3(WEL), After WEL.*
*WEL **09** 10:38:58.4±0.5, 38°.75S×179°.71W, h33km, ML4.2/24, Error ellipse: s-maj=4.6km s-min=2.1km az=90.0*
*IDC **09** 10:39:02.8±11.0, 37°.13S×179°.20E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.8/25, mbtmp3.8/4, ML3.7/1, MS2.4/1, Ms1 2.4/1, ms1mx2.4/22, Error ellipse: s-maj=211.2km s-min=40.7km az=119.0*
ISC 09 10:38:55.1±3.6, **38°.81S**±0°.06×**179°.7W**±0°.1, **h17**km±24km, **n138**, σ**1s41**/136, **mb3.8**/4, **6C-2D, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNGZ	Carnagh Statio	1.64	281	PN	Pb	10 39 24.5	-0.5
CNGZ	Carnagh Statio	1.64	281	Pn	Pb	10 39 24.5	-0.5
PUZ	Puketiti	1.74	294	PN	Pn	10 39 24.7	+0.1
PUZ				SN	Sn	10 39 44.7	-1.6
PUZ				SN	Sb	10 39 46.5	-1.7
PUZ	Puketiti	1.74	294	Pn	Pn	10 39 24.7	+0.1
PUZ				Sn	Sn	10 39 45.1	-1.2
PRGZ	Paritu Road	1.86	266	PN	Pn	10 39 27.7	+1.4
PRGZ				SN	Sn	10 39 50.0	+0.6
PRGZ	Paritu Road	1.86	266	Pn	Pn	10 39 27.7	+1.4
PRGZ				Sn	Sn	10 39 50.8	+1.4
MHGZ	Mahia Peninsul	1.87	259	PN	Pn	10 39 27.4	+1.1
MHGZ	Mahia Peninsul	1.87	259	Pn	Pn	10 39 27.4	+1.1
RIGZ	Rimuhau	1.96	272	⇑PN	Pn	10 39 29.0	+1.4
MXZ	Matakaoa Point	1.98	308	PN	Pn	10 39 28.1	+0.2
MXZ				AML	AML	10 39 57.7	
MXZ				AML	AML	10 39 57.7	
MXZ				AML	AML	10 39 59.0	
MXZ				AML	AML	10 39 59.1	
MXZ	Matakaoa Point	1.98	308	Pn	Pn	10 39 28.1	+0.2
KNZ	Kokohu	2.03	263	⇑PN	Pn	10 39 29.9	+1.4
KNZ	Kokohu	2.03	263	Pn	Pn	10 39 29.9	+1.4
MWZ	Matawai	2.20	282	⇑PN	Pn	10 39 31.6	+0.8
MWZ				SN	Sn	10 39 56.1	-1.6
MWZ				AML	AML	10 39 58.6	
MWZ				AML	AML	10 39 58.6	
MWZ				AML	AML	10 39 58.6	
MWZ	Matawai	2.20	282	Pn	Pn	10 39 31.4	+0.5
HAZ	Te Kaha	2.22	297	⇑PN	Pn	10 39 31.4	+0.3
RAGZ	Rawiri	2.25	277	PN	Pn	10 39 32.9	+1.2
RAGZ				SN	Sn	10 39 58.3	-0.8
SNGZ	Shannon Statio	2.29	270	⇑PN	Pn	10 39 33.4	+1.3
WHHZ	Waihua	2.38	263	PN	Pn	10 39 35.2	+1.9
RAHZ	Arahi	2.48	266	⇓PN	Pn	10 39 36.5	+1.7
RAHZ	Arahi	2.48	266	Pn	Pn	10 39 36.5	+1.7
URZ	Urewera	2.53	281	⇑PN	Pn	10 39 36.8	+1.4
URZ				AML	AML	10 40 10.1	
URZ				AML	AML	10 40 10.8	
URZ	Urewera	2.53	281	Pn	Pn	10 39 36.9	+1.4
	27nm,0.3s,baz=256,slow=4.9,SNR=153						
URZ				Sn	Sn	10 40 05.6	-0.3
	36nm,0.3s,baz=82,slow=3.7,SNR=4.9						
URZ				LR	LR	10 40 16.0	
	comp=Z,98nm,21.1s,baz=111,slow=36						
URZ	Urewera	2.53	281	ePn	Pn	10 39 36.2	+0.8
URZ				eSn	Sb	10 40 10.6	-0.4
NMHZ	Naumai	2.71	263	PN	Pn	10 39 39.6	+1.7
NMHZ	Naumai	2.71	263	Pn	Pn	10 39 39.6	+1.7
KAHZ	Kahuranaki	2.81	248	PN	Pn	10 39 40.4	+1.1
KAHZ	Kahuranaki	2.81	248	Pn	Pn	10 39 40.4	+1.1
MCHZ	McNeill Hill	2.85	256	PN	Pn	10 39 41.4	+1.6
MCHZ	McNeill Hill	2.85	256	Pn	Pn	10 39 41.4	+1.6
EDRZ	Edgecumbe	2.86	283	PN	Pn	10 39 41.5	+1.6
EDRZ				AML	AML	10 40 25.8	
EDRZ				AML	AML	10 40 28.1	
EDRZ	Edgecumbe	2.86	283	Pn	Pn	10 39 41.5	+1.6
PXZ	Pawanui	2.91	244	PN	Pn	10 39 41.2	+0.6
PXZ				AML	AML	10 40 23.3	
PXZ				AML	AML	10 40 23.3	
PXZ				AML	AML	10 40 30.3	
PXZ				AML	AML	10 40 30.3	
PXZ	Pawanui	2.91	244	Pn	Pn	10 39 41.2	+0.6
BKZ	Black Stump Fm	2.96	262	PN	Pn	10 39 42.4	+1.0
BKZ				AML	AML	10 40 18.1	
BKZ				AML	AML	10 40 19.9	
BKZ	Black Stump Fm	2.96	262	Pn	Pn	10 39 42.4	+1.0
RRRZ	Republican Roa	2.98	278	PN	Pn	10 39 43.3	+1.8
RRRZ	Republican Roa	2.98	278	Pn	Pn	10 39 43.3	+1.8
TARZ	Mount Tarawera	3.00	280	PN	Pn	10 39 43.8	+1.8
TARZ	Mount Tarawera	3.00	280	Pn	Pn	10 39 43.8	+1.8
PRRZ	Plateau Road	3.05	275	PN	Pn	10 39 44.5	+2.0
PRRZ	Plateau Road	3.05	275	Pn	Pn	10 39 44.5	+2.0
OPRZ	Ohinepanea	3.07	287	PN	Pn	10 39 43.4	+0.6
OPRZ	Ohinepanea	3.07	287	Pn	Pn	10 39 43.4	+0.6
ALRZ	Allen Road	3.08	273	PN	Pn	10 39 44.8	+1.8
ALRZ	Allen Road	3.08	273	Pn	Pn	10 39 44.8	+1.8
KRHZ	Kereru	3.14	253	PN	Pn	10 39 45.1	+1.3
PRHZ	Porangahau	3.16	241	Pn	Pn	10 39 44.6	+0.5
WPHZ	Waipukurau	3.22	246	PN	Pn	10 39 45.9	+1.1
WPHZ	Waipukurau	3.22	246	Pn	Pn	10 39 45.9	+1.1
KARZ	Kaharoa	3.25	283	PN	Pn	10 39 46.4	+1.0
KARZ	Kaharoa	3.25	283	Pn	Pn	10 39 46.4	+1.0
BHHZ	Black Hill Sta	3.34	257	PN	Pn	10 39 47.7	+1.2
BHHZ	Black Hill Sta	3.34	257	Pn	Pn	10 39 47.7	+1.2
PNHZ	Pukenui	3.34	249	PN	Pn	10 39 47.6	+1.0
PNHZ	Pukenui	3.34	249	Pn	Pn	10 39 47.6	+1.0
DVHZ	Dannevirke	3.50	244	PN	Pn	10 39 49.2	+0.4
DVHZ	Dannevirke	3.50	244	Pn	Pn	10 39 49.2	+0.4
TSZ	Takapari Road	3.56	248	PN	Pn	10 39 50.0	+0.4
TSZ				AML	AML	10 40 31.6	
TSZ				AML	AML	10 40 32.2	
TSZ	Takapari Road	3.56	248	Pn	Pn	10 39 50.0	+0.4
MOVZ	Moawhango	3.56	259	PN	Pn	10 39 52.0	+2.3
MOVZ				AML	AML	10 40 32.5	
MOVZ				AML	AML	10 40 35.2	
MOVZ	Moawhango	3.56	259	Pn	Pn	10 39 52.0	+2.3
OTVZ	Oturere	3.60	263	PN	Pn	10 39 52.5	+2.2
OTVZ				AML	AML	10 40 36.8	
OTVZ				AML	AML	10 40 39.8	
OTVZ	Oturere	3.60	263	Pn	Pn	10 39 52.5	+2.2
KRVZ	Karewarewa	3.62	264	PN	Pn	10 39 52.0	+1.6
KRVZ				AML	AML	10 40 36.0	
KRVZ				AML	AML	10 40 38.8	
KRVZ	Karewarewa	3.62	264	Pn	Pn	10 39 52.0	+1.6
BFZ	Birch Farm	3.62	238	Pn	Pn	10 39 50.0	-0.4
TUVZ	Tukino	3.62	261	PN	Pn	10 39 52.5	+1.9
TUVZ	Tukino	3.62	261	Pn	Pn	10 39 52.5	+1.9
NGZ	Ngauruhoe	3.65	263	PN	Pn	10 39 53.1	+2.1
NGZ				AML	AML	10 40 39.3	
NGZ				AML	AML	10 40 41.0	
NGZ	Ngauruhoe	3.65	263	Pn	Pn	10 39 53.1	+2.1
WTVZ	West Tongariro	3.66	264	AML	AML	10 40 48.3	
WTVZ				AML	AML	10 40 48.5	
WTVZ	West Tongariro	3.66	264	Pn	Pn	10 39 53.3	+2.3
WTVZ				Sn	Sn	10 40 28.6	-5.2
WNVZ	Wahianoa	3.67	260	PN	Pn	10 39 53.3	+2.1
WNVZ				AML	AML	10 40 41.0	
WNVZ				AML	AML	10 40 50.3	
WNVZ	Wahianoa	3.67	260	Pn	Pn	10 39 53.3	+2.1
WHVZ	Whangaehu Hut	3.67	261	PN	Pn	10 39 52.6	+1.3
FWVZ	Far West T-bar	3.70	262	PN	Pn	10 39 53.3	+1.6
FWVZ				AML	AML	10 40 40.0	
FWVZ				AML	AML	10 40 49.3	
FWVZ	Far West T-bar	3.70	262	Pn	Pn	10 39 53.3	+1.6
WPVZ	Whakapapa	3.70	262	⇓PN	Pn	10 39 53.6	+2.0
WPVZ				AML	AML	10 40 40.8	
WPVZ				AML	AML	10 40 41.1	
WPVZ	Whakapapa	3.70	262	Pn	Pn	10 39 53.6	+2.0
COVZ	Chateau Observ	3.70	262	PN	Pn	10 39 53.6	+2.0
TRVZ	Turoa	3.71	261	PN	Pn	10 39 53.7	+1.9
TRVZ				AML	AML	10 40 38.8	
TRVZ				AML	AML	10 40 39.3	
TRVZ	Turoa	3.71	261	Pn	Pn	10 39 53.7	+1.9
PRWZ	Pori Road	3.75	241	PN	Pn	10 39 52.7	+0.6
TWVZ	Taurewa	3.77	264	PN	Pn	10 39 54.5	+1.9
POWZ	Post Office Ro	3.82	244	PN	Pn	10 39 54.1	+1.0
POWZ	Post Office Ro	3.82	244	Pn	Pn	10 39 54.1	+1.0
PKVZ	Pokaka	3.86	261	PN	Pn	10 39 56.0	+2.3
PKVZ	Pokaka	3.86	261	Pn	Pn	10 39 56.0	+2.3
TIWZ	Tintock	3.91	238	AML	AML	10 40 42.9	
TIWZ				AML	AML	10 40 47.7	
TIWZ	Tintock	3.91	238	Pn	Pn	10 39 54.3	0.0
MRZ	Mangatainoka R	4.06	241	PN	Pn	10 39 56.2	-0.3
MRZ				AML	AML	10 40 43.3	
MRZ				AML	AML	10 40 46.8	
MRZ	Mangatainoka R	4.06	241	Pn	Pn	10 39 56.2	-0.3
TMWZ	Te Maipa	4.07	234	PN	Pn	10 39 56.1	-0.5
KUZ	Kuaotunu	4.15	298	PN	Pn	10 39 57.5	-0.1
KUZ	Kuaotunu	4.15	298	Pn	Pn	10 39 57.5	-0.1
HOWZ	Holdsworth Sta	4.21	239	PN	Pn	10 39 57.6	-1.0
HOWZ	Holdsworth Sta	4.21	239	Pn	Pn	10 39 58.0	-0.6
HIZ	Hauiti	4.25	272	PN	Pn	10 40 00.8	+1.8
HIZ	Hauiti	4.25	272	Pn	Pn	10 40 00.8	+1.8
VRZ	Vera Road	4.30	264	PN	Pn	10 40 02.2	+2.5
VRZ	Vera Road	4.30	264	Pn	Pn	10 40 02.2	+2.5
MTW	Mount Morrison	4.35	236	AML	AML	10 40 53.1	
MTW	Mount Morrison	4.35	236	Pn	Pn	10 39 59.7	-0.7
OGWZ	Otaki Gorge	4.41	241	Pn	Pn	10 40 01.6	+0.4
PAWZ	Paruwai Farm	4.51	234	PN	Pn	10 40 01.9	-0.8
PAWZ				AML	AML	10 40 54.0	
PAWZ				AML	AML	10 40 55.8	
PAWZ	Paruwai Farm	4.51	234	Pn	Pn	10 40 02.0	-0.8
KIW	Kapiti Island	4.61	242	ePN	Pn	10 40 04.1	+0.2
KIW	Kapiti Island	4.61	242	Pn	Pn	10 40 04.3	+0.4
CAW	Cannon Point	4.61	238	ePN	Pn	10 40 03.7	-0.3
CAW				AML	AML	10 40 58.4	
CAW				AML	AML	10 40 59.3	
CAW	Cannon Point	4.61	238	Pn	Pn	10 40 03.9	0.0
MSWZ	Moikau Station	4.64	234	AML	AML	10 40 56.7	
PLWZ	Palliser	4.73	233	Pn	Pn	10 40 06.3	+0.7
NWEZ	Newall Road	5.00	263	Pn	Pn	10 40 12.5	+3.1
TCW	Tory Channel	5.19	241	AML	AML	10 41 12.2	
TCW				AML	AML	10 41 16.6	
CTZ	Chatham Island	5.45	155	ePN	Pn	10 40 18.0	+2.5
CTZ	Chatham Island	5.45	155	Pn	Pn	10 40 18.4	+2.9
TUWZ	Tuamarina	5.51	240	PN	Pn	10 40 16.8	+0.5
TUWZ	Tuamarina	5.51	240	Pn	Pn	10 40 16.8	+0.5
NNZ	Nelson	5.81	243	PN	Pn	10 40 18.9	-1.6
NNZ	Nelson	5.81	243	Pn	Pn	10 40 18.9	-1.6
KHZ	Kahutara	6.26	233	ePN	Pn	10 40 26.2	-0.4
QRZ	Quartz Range	6.29	249	PN	Pn	10 40 26.5	-0.5
QRZ	Quartz Range	6.29	249	Pn	Pn	10 40 26.6	-0.4
THZ	Tophouse	6.36	240	ePN	Pn	10 40 27.1	-0.9
THZ	Tophouse	6.36	240	Pn	Pn	10 40 27.7	-0.3
OUZ	Omahuta	6.42	302	PN	Pn	10 40 30.6	+1.7
OUZ	Omahuta	6.42	302	Pn	Pn	10 40 30.6	+1.7
DSZ	Denniston Nort	7.11	243	Pn	Pn	10 40 37.3	-1.0
LTZ	Lake Taylor	7.25	234	Pn	Pn	10 40 39.8	-0.4
MQZ	McQueen's Vall	7.54	227	SN	Sn	10 42 02.2	-7.0
MQZ	McQueen's Vall	7.54	227	Pn	Pn	10 40 44.8	+0.7
RPZ	Rata Peaks	8.49	232	SN	Sn	10 42 25.0	-7.8
ODZ	Otahua Downs	9.50	226	SN	Sn	10 42 49.8	-7.5
STKA	Stephens Creek	32.11	270	P	P	10 45 24.9	+3.4
	0.9nm,0.7s,baz=90,slow=6.1,SNR=2.9						
ASAR	Alice Springs	41.97	277	P	P	10 46 46.7	+1.4
	0.6nm,0.7s,baz=130,slow=8.0,SNR=9.5						
WRAB	Tennant Creek	43.70	282	eP	P	10 46 58.3	-1.1
	1.3nm,0.5s						
WRA	Warramunga Arr	43.71	282	P	P	10 47 00.6	+1.1
	1.0nm,0.6s,baz=121,slow=7.8,SNR=15						

*CSEM **09** 10:39:55.7, 42°.39N×13°.35E, h9km, MD2.2/10, After ROM*
ROM 09 10:39:55.7±0.1, **42°.39N×13°.35E, h9**km±1km, **Md2.2**/10, **Ml2.0**/3, **2C-2D, Error ellipse: s-maj=2.1km s-min=1.7km az=37.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T0104	Madonna delle	0.03	204	Pg	Pg	10 39 58.0	+0.6
T0104				Sg	Sg	10 39 59.4	+0.7
AQU	L'Aquila	0.05	132	⇓iPg	Pg	10 39 57.8	+0.2
AQU				Sg	Sg	10 39 59.1	+0.1
AQU	L'Aquila	0.05	132	⇓iPg	Pg	10 39 57.8	+0.2
AQU				Sg	Sg	10 39 59.1	+0.1
FAGN	Fagnano	0.21	125	Pg	Pg	10 40 01.3	+1.2
FAGN				Sg	Sg	10 40 03.4	+0.3
	263nm,0.3s						
FAGN	Fagnano	0.21	125	Pg	Pg	10 40 01.3	+1.2
FAGN				Sg	Sg	10 40 03.4	+0.3
	263nm,0.3s						
FIAM	Fiamignano	0.21	236	Pg	Pg	10 40 00.6	+0.4
FIAM				Sg	Sg	10 40 04.1	+0.9
FIAM	Fiamignano	0.21	236	Pg	Pg	10 40 00.6	+0.4
FIAM				Sg	Sg	10 40 04.1	+0.9
SMA1	SAN MARTINO	0.24	357	Pg	Pg	10 40 01.2	+0.4
SMA1				Sg	Sg	10 40 06.0	+1.7
	188nm,0.4s						
TERO	Teramo	0.30	38	⇑iPg	Pg	10 40 01.6	-0.2
	144nm,0.3s						
TERO	Teramo	0.30	38	⇑iPg	Pg	10 40 01.6	-0.2
	144nm,0.3s						
VCEL	Villa Celiera	0.36	88	Pg	Pg	10 40 03.5	+0.5
VCEL				Sg	Sb	10 40 10.0	-0.4
VCEL	Villa Celiera	0.36	88	Pg	Pg	10 40 03.5	+0.5
VCEL				Sg	Sb	10 40 10.0	-0.4
NRCA	Norcia	0.48	338	Pg	Pg	10 40 05.3	+0.1
NRCA				Sg	Sb	10 40 13.1	-0.7
	12nm,1.4s						
NRCA	Norcia	0.48	338	Pg	Pg	10 40 05.3	+0.1
NRCA				Sg	Sb	10 40 13.1	-0.7
	12nm,1.4s						
VVLD	Villa Vallelon	0.55	159	Pg	Pb	10 40 07.9	+0.2
VVLD	Villa Vallelon	0.55	159	Pg	Pb	10 40 07.9	+0.2
INTR	Introdacqua	0.55	132	Pg	Pg	10 40 06.7	+0.1
INTR	Introdacqua	0.55	132	Pg	Pg	10 40 06.7	+0.1
FDMO	Fiordimonte	0.68	343	Pg	Pg	10 40 09.0	+0.1
FDMO	Fiordimonte	0.68	343	Pg	Pg	10 40 09.0	+0.1

*OTT **09** 10:46:39.0±0.5, 62°.74N×60°.39W, h18km, ML4.1/13, LAlbertaRADOR Sea Seismic Zone. 286km northeast from Resolution Island, Nu*
*IDC **09** 10:46:38.6±1.6, 62°.79N×60°.40W, h0km, mb3.3/4, mb1 3.7/7, mb1mx3.4/46, mbtmp3.6/7, ML3.2/3, Error ellipse: s-maj=21.9km s-min=15.3km az=35.0*
ISC 09 10:46:34.5±0.7, **62°.65N**±0°.05×**59°.94W**±0°.06, **h10**km, **n28**, σ**2s81**/30, **mb3.3**/4, **Davis Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMBN	Cumberland Cam	3.63	329	PN	Pn	10 47 32.2	+1.5
CMBN				SN	Sn	10 48 10.8	-2.7
CMBN				Trac		10 48 14.0	
	comp=Z,30nm,0.2s						
FRB	Frobisher Bay	4.05	290	PN	Pn	10 47 37.6	+1.2
FRB				SN	Sn	10 48 20.8	-3.1
FRB				Trac		10 48 35.7	
	comp=Z,56nm,0.3s						
FRB	Frobisher Bay	4.05	290	Pn	Pn	10 47 37.7	+1.2
	1.1nm,0.3s,baz=104,slow=14,SNR=44						
FRB				Sn	Sn	10 48 20.7	-3.1
	8.3nm,0.3s,baz=339,slow=18,SNR=14						
FRB				Lg	Lg	10 48 35.5	
	19nm,0.3s,baz=2.8,slow=13,SNR=13						
SFJD	Kangerlussuaq	5.90	38	iP	Pn	10 48 06.4	+4.6
SFJD				eS	Sn	10 49 07.6	-1.7
SFJD	Kangerlussuaq	5.90	38	PN	Pn	10 48 06.1	+4.4
SFJD				SN	Sn	10 49 07.5	-1.7
SFJD				Trac		10 49 17.0	
	comp=Z,80nm,0.3s						
SFJD	Kangerlussuaq	5.90	38	Pn	Pn	10 48 05.8	+4.0
	4.5nm,0.3s,baz=222,slow=12,SNR=33						
SFJD				Sn	Sn	10 49 10.3	+1.0
	3.2nm,0.3s,baz=142,slow=21,SNR=8.8						
KUQ	Kuujjuuaa	6.20	226	PN	Pn	10 48 06.6	+0.8
KUQ				SN	Sn	10 49 11.6	-5.0
KUQ				Trac		10 49 20.9	
	comp=Z,11nm,0.3s						
SCHQ	Schefferville	8.62	208	PN	Pn	10 48 42.2	+3.1
SCHQ				SN	Sn	10 50 12.9	-3.3
SCHQ				Trac		10 50 23.9	
	comp=Z,16nm,0.8s						
SCHQ	Schefferville	8.62	208	Pn	Pn	10 48 42.5	+3.4
	1.8nm,0.3s,baz=16,slow=11,SNR=31						
SCHQ				Sn	Sn	10 50 13.2	-3.1
	1.2nm,0.3s,baz=336,slow=20,SNR=4.7						
AKVQ	Akulivik	8.85	266	PN	Pn	10 48 41.7	-0.6
AKVQ				SN	Sn	10 50 13.0	-9.0
AKVQ				Trac		10 50 24.2	
	comp=Z,8.0nm,0.3s						
INUQ	Inukjuak	9.88	253	PN	Pn	10 48 54.7	-1.7
INUQ				SN	Sn	10 50 35.3	-12
INUQ				Trac		10 50 41.9	
	comp=Z,6.7nm,0.2s						
ILON	Igloolik, Nuna	11.11	317	PN	Pn	10 49 12.1	-1.0
ILON				SN	Sn	10 51 06.5	-11
ILON				Trac		10 51 09.6	
	comp=Z,42nm,0.8s						
LG4Q	La Grande 4	11.71	226	PN	Pn	10 49 19.3	-2.1
LG4Q				SN	Sn	10 51 19.7	-12
YOSQ	Ashton Mining	11.77	219	PN	Pn	10 49 21.6	-0.7
YOSQ				SN	Sn	10 51 20.9	-13
YOSQ				Trac		10 51 37.5	
	comp=Z,4.5nm,0.4s						
SUMG	Summit	12.78	30	iP	Pn	10 49 38.2	+1.9
SUMG				eS	Sn	10 51 56.6	-2.0
WAGN	Wager Bay	13.15	297	PN	Pn	10 49 34.5	-6.5
WAGN				SN	Sn	10 51 51.1	-16
NUNN	Nunuq Camp, NU	13.85	294	PN	Pn	10 49 48.2	-2.3
NUNN				SN	Sn	10 52 07.2	-17
NUNN				Trac		10 52 13.4	
	comp=Z,2.1nm,0.2s						
STLN	Stellar Camp,	14.61	303	PN	Pn	10 49 57.4	-3.5
STLN				SN	Sn	10 52 28.3	-14
BULN	Bullion Camp,	14.65	299	PN	Pn	10 50 00.1	-1.3
BULN				SN	Sn	10 52 27.9	-16
BULN				Trac		10 52 58.0	
	comp=Z,5.9nm,0.7s						
ARVN	Arviat, NU	16.06	280	PN	Pn	10 50 15.8	-4.2
ARVN				SN	Sn	10 53 01.9	-16
ARVN				Trac		10 53 09.9	
	comp=Z,3.1nm,0.6s						
RES	Resolute Bay	17.13	329	PN	Pn	10 50 29.1	-4.4
RES				SN	Sn	10 53 29.8	-14
RES	Resolute Bay	17.13	329	Pn	Pn	10 50 31.0	-2.5
	0.5nm,0.3s,baz=107,slow=8.0,SNR=12						
RES				Sn	Sn	10 53 28.4	-15
	0.2nm,0.3s,baz=170,slow=6.1,SNR=3.8						
CB31	Cambridge Bay	19.14	309	PN	P	10 50 56.4	-1.0
CB31				SN	Sn	10 54 12.8	-20
CB31				Trac		10 54 29.9	
	comp=Z,3.7nm,0.4s						
ULM	Lac du Bonnet	23.06	254	P	P	10 51 43.0	+3.3
	2.4nm,0.4s,baz=48,slow=9.1,SNR=6.6						
YKW3	Yellowknife Ar	24.53	294	PN	P	10 51 57.8	+4.1
YKW3				SN	S	10 56 18.7	+4.8
YKA	Yellowknife Ar	24.55	294	P	P	10 51 56.7	+2.8
	0.1nm,0.6s,baz=62,slow=9.6,SNR=3.2						
PDAR	Pinedale Array	34.88	259	P	P	10 53 31.8	+5.8
	0.2nm,0.5s,baz=40,slow=7.7,SNR=4.9						
ILAR	Eielson Array	35.72	313	P	P	10 53 37.4	+4.7
	0.3nm,0.8s,baz=49,slow=7.5,SNR=4.7						

*ISCJB **09** 10:47:45.3±1.1, 33°.26N±0°.06×141°.11E±0°.09, h48km, mb3.4/2, Error ellipse: s-maj=12.0km s-min=8.1km az=28.1*
*IDC **09** 10:47:45.2±3.0, 32°.77N×139°.88E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/24, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=167.0km s-min=32.9km az=80.0*
*JMA **09** 10:47:46.5±0.5, 33°.35N×141°.04E, h41km, M2.9*
ISC 09 10:47:47.0±1.5, **33°.28N**±0°.08×**141°.0E**±0°.1, **h48**km, **n8**, σ**0s77**/11, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.04	261	P	Pn	10 48 05.1	-0.2
JHJ2				eS	Sn	10 48 18.8	+0.1
JHCJ	Hachijojimakas	1.07	259	P	Pn	10 48 05.2	-0.4
JHCJ				eS	Sn	10 48 18.7	-0.6
BSO1	Boso 1	1.37	358	P	Pn	10 48 09.1	-0.1
BSO3	Boso 3	1.58	344	P	Pn	10 48 11.8	-0.5
BSO4	Boso 4	1.80	341	P	Pn	10 48 15.3	-0.2
BSO4				eS	Sn	10 48 36.2	-0.9
MJAR	Matsushiro Arr	4.00	325	Pn	Pn	10 48 47.5	+1.7
	0.8nm,0.3s,baz=160,slow=14,SNR=7.8						
WRA	Warramunga Arr	53.31	188	P	P	10 57 01.6	+0.3
	0.3nm,0.6s,baz=5.5,slow=7.8,SNR=6.7						
ASAR	Alice Springs	57.04	188	P	P	10 57 28.3	+0.1
	0.3nm,0.8s,baz=3.1,slow=6.3,SNR=4.8						

*CSEM **09** 10:56:37.0, 39°.52N×29°.68W, h5km, ML3.4, After PDA*
PDA 09 10:56:37.0±1.1, **39°.52N×29°.68W, h5**km, **MD3.5, ML3.4, Error ellipse: s-maj=18.6km s-min=8.6km az=47.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CALA	Caldeira	1.21	141	eP	Pg	10 56 56.6	-3.7
CALA				eS	Sg	10 57 10.0	-6.1
CALA	Caldeira	1.21	141	eP	Pg	10 56 56.6	-3.7
CALA				eS	Sg	10 57 10.0	-6.1
HOR	Horta	1.29	140	eP	Pn	10 56 56.3	-5.3
HOR				eS	Sg	10 57 11.4	-7.0
HOR	Horta	1.29	140	eP	Pn	10 56 56.3	-5.3
HOR				eS	Sg	10 57 11.4	-7.0
ROSA	Rosais	1.38	125	eS	Sb	10 57 13.5	-7.7
ROSA				A	A	10 57 16.0	
	53nm,0.3s						
ROSA	Rosais	1.38	125	eS	Sb	10 57 13.5	-7.7
PCAN	Candelaria	1.41	138	eP	Pn	10 56 58.6	-4.7
PCAN				eS	Sb	10 57 14.4	-7.7
PCAN				A	A	10 57 17.9	
	486nm,0.2s						
PCAN	Candelaria	1.41	138	eP	Pn	10 56 58.6	-4.7
PCAN				eS	Sb	10 57 14.4	-7.7
PICO	Pico	1.41	136	eP	Pn	10 56 58.2	-5.3
PICO				eS	Sb	10 57 14.9	-7.4
PICO	Pico	1.41	136	eP	Pn	10 56 58.2	-5.3
PICO				eS	Sb	10 57 14.9	-7.4
TOPO	Topo	1.66	124	eS	Sn	10 57 21.0	-7.5
TOPO	Topo	1.66	124	eS	Sn	10 57 21.0	-7.5

*IDC **09** 10:59:12.4±1.1, 11°.72N×142°.69E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/37, mbtmp3.8/6, Error ellipse: s-maj=43.8km s-min=28.2km az=101.0*
*NEIC **09** 10:59:13.7±0.5, 11°.71N×142°.82E, h10km, mb4.1/2, Error ellipse: s-maj=18.0km s-min=10.4km az=103.0*
ISC 09 10:59:16.8±0.8, **11°.7N**±0°.1×**143°.0E**±0°.1, **h32**km, **n10**, σ**1s00**/11, **mb3.8**/8, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.63	45	ePn	Pn	10 59 57.1	0.0
GUMO				eSn	Sb	11 00 34.2	-1.1
PMG	Port Moresby	21.40	169	P	P	11 04 01.7	-0.4
WRAB	Tennant Creek	32.58	195	eP	P	11 05 45.4	-0.1
	6.9nm,1.4s						
WRA	Warramunga Arr	32.59	195	P	P	11 05 45.0	-0.5
	0.4nm,0.7s,baz=15,slow=9.3,SNR=3.9						
MKAR	Makanchi Array	61.56	317	P	P	11 09 30.7	-0.4
	0.3nm,0.5s,baz=108,slow=7.4,SNR=2.5						
BVAR	Borovoye Array	70.24	322	P	P	11 10 26.6	-0.2
	0.8nm,0.5s,baz=112,slow=7.6,SNR=7.3						
ILAR	Eielson Array	71.04	25	P	P	11 10 32.3	+0.8
	0.6nm,0.5s,baz=247,slow=6.0,SNR=26						
ABKAR	Akbulak array	76.67	318	eP	P	11 11 04.1	-0.6
	0.4nm,0.5s						
YKA	Yellowknife Ar	85.36	27	P	P	11 11 52.8	+2.1
	0.3nm,0.6s,baz=287,slow=5.0,SNR=11						
ARCES	ARCESS Array B	88.27	342	P	P	11 12 04.0	-0.8
	1.0nm,0.7s,baz=71,slow=9.1,SNR=9.5						

WEL 09 11:03:25.7±0.1, **38°.97S×175°.77E, h6**km, **ML2.7**/23, **8C-2D, Error ellipse: s-maj=0.6km s-min=0.4km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KATZ	Kakaramea	0.06	262	⇑PG	Pg	11 03 27.8	+0.3
KATZ				SG	Sg	11 03 29.3	+0.5
KATZ				AML	AML	11 03 30.2	
RITZ	Rihia Road	0.07	99	PG	Pg	11 03 28.0	+0.5
RITZ				AML	AML	11 03 30.9	
RITZ				AML	AML	11 03 31.4	
RATZ	Rangitukua	0.10	0	PG	Pg	11 03 28.6	+0.6
RATZ				AML	AML	11 03 31.1	
RATZ				AML	AML	11 03 31.9	
KRVZ	Karewarewa	0.16	218	PG	Pg	11 03 29.6	+0.4
KRVZ				AML	AML	11 03 33.0	
KRVZ				AML	AML	11 03 34.3	
WTVZ	West Tongariro	0.20	223	PG	Pg	11 03 30.3	+0.3
WTVZ				AML	AML	11 03 32.3	
WTVZ				AML	AML	11 03 33.7	
OTVZ	Oturere	0.21	203	⇑PG	Pg	11 03 30.6	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OTVZ				SG	Sg	11 03 34.0	+0.8
OTVZ				AML	AML	11 03 34.8	
NGZ	Ngauruhoe	0.25	212	PG	Pg	11 03 31.2	+0.4
NGZ				AML	AML	11 03 36.0	
NGZ				AML	AML	11 09 49.8	
WATZ	Wairara	0.26	354	⇑PG	Pg	11 03 31.6	+0.7
WATZ				AML	AML	11 03 36.1	
HATZ	Hinemaiaia	0.26	73	PG	Pg	11 03 31.1	+0.1
HATZ				AML	AML	11 03 31.3	
HATZ				AML	AML	11 03 35.3	
TWVZ	Taurewa	0.28	248	PG	Pg	11 03 31.6	+0.2
TWVZ				AML	AML	11 03 35.6	
WPVZ	Whakapapa	0.29	216	PG	Pg	11 03 32.0	+0.3
WPVZ				AML	AML	11 03 37.3	
WPVZ				AML	AML	11 03 38.4	
TUVZ	Tukino	0.31	197	⇑PG	Pg	11 03 32.5	+0.4
TUVZ				AML	AML	11 03 37.7	
TUVZ				AML	AML	11 03 38.1	
FWVZ	Far West T-bar	0.34	210	PG	Pg	11 03 33.0	+0.4
FWVZ				AML	AML	11 03 38.0	
FWVZ				AML	AML	11 09 49.0	
WHVZ	Whangaehu Hut	0.34	204	PG	Pg	11 03 32.9	+0.1
DRZ	Dome Shelter	0.35	207	AML	AML	11 03 36.8	
DRZ				AML	AML	11 03 40.2	
TRVZ	Turoa	0.37	207	AML	AML	11 03 38.6	
TRVZ				AML	AML	11 03 39.1	
WNVZ	Wahianoa	0.39	200	⇑PG	Pg	11 03 33.7	+0.3
WNVZ				SG	Sg	11 03 38.9	+0.2
WNVZ				AML	AML	11 03 39.9	
MOVZ	Moawhango	0.44	182	⇑PG	Pg	11 03 34.4	0.0
MOVZ				AML	AML	11 03 40.0	
MOVZ				AML	AML	11 03 41.3	
PKVZ	Pokaka	0.46	225	AML	AML	11 03 43.7	
MTVZ	Mangateitei	0.48	209	SG	Sg	11 03 42.2	+0.7
BHHZ	Black Hill Sta	0.57	157	⇑P*	Pg	11 03 37.0	+0.2
BKZ	Black Stump Fm	0.60	110	AML	AML	11 03 42.1	
BKZ				AML	AML	11 03 46.5	
ALRZ	Allen Road	0.60	48	P*	Pg	11 03 37.6	+0.3
TLZ	Tolley Road	0.66	344	P*	Pg	11 03 38.3	-0.3
PRRZ	Plateau Road	0.68	46	P*	Pb	11 03 39.7	-0.2
VRZ	Vera Road	0.80	258	AML	AML	11 03 56.8	
NMHZ	Naumai	0.82	100	⇓P*	Pb	11 03 42.7	+0.3
KRHZ	Kereru	0.82	146	P*	Pb	11 03 42.1	-0.4
KRHZ				S*	Sg	11 03 52.9	+0.6
HIZ	Hauiti	0.85	302	AML	AML	11 03 56.9	
MCHZ	McNeill Hill	0.86	124	⇑P*	Pn	11 03 44.0	-0.4
PNHZ	Pukenui	1.00	161	S*	Sg	11 03 58.2	+0.1
TSZ	Takapari Road	1.10	172	AML	AML	11 04 02.4	
KAHZ	Kahuranaki	1.19	134	eP*	Pn	11 03 49.6	+0.6
SNGZ	Shannon Statio	1.24	82	P*	Pn	11 03 49.8	+0.1
TOZ	Tahuroa Road	1.25	350	P*	Pn	11 03 48.4	-1.3
TOZ				S*	Sg	11 04 04.6	-1.4
URZ	Urewera	1.27	56	eP*	Pn	11 03 48.9	-1.0
NEZ	North Egmont	1.34	256	PN	Pg	11 03 52.2	+0.7
PXZ	Pawanui	1.36	142	PN	Pg	11 03 53.1	+1.3
DVHZ	Dannevirke	1.37	167	⇓PN	Pg	11 03 52.6	+0.6
KHEZ	Kahui Hut	1.40	256	PN	Pg	11 03 53.4	+0.6
MRZ	Mangatainoka R	1.70	185	PN	Pb	11 03 57.5	+0.2
CAW	Cannon Point	2.21	194	ePN	Pb	11 04 05.4	-0.6

ISCJB 09 11:07:29.6±1.3, 16°.2S±0°.4×175°.1W±0°.3, h10km, mb4.0/8, MS3.6/3, Error ellipse: s-maj=65.3km s-min=18.4km az=143.0

IDC 09 11:07:30.6±1.6, 16°.08S×175°.23W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.1/18, mbtmp4.0/7, MS3.6/5, Ms1 3.6/5, ms1mx3.3/25, Error ellipse: s-maj=75.6km s-min=23.3km az=143.0

ISC 09 11:07:31.2±1.3, 16°.2S±0°.4×175°.1W±0°.3, h10km, n18, σ1§40/10, mb4.0/8, MS3.7/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.93	55	LR	LR	11 09 41.2	
	comp=Z,449nm,21.9s,baz=174,slow=33						
DZM	Mont Dzumac	18.39	249	eLR	LR	11 16 28.9	
	420nm,26.3s						
DZM	Mont Dzumac	18.39	249	LR	LR	11 17 49.8	
	comp=Z,233nm,20.2s,baz=153,slow=34						
PPT	Papeete	24.45	97	LR	LR	11 19 28.5	
	comp=Z,89nm,19.5s,baz=253,slow=29						
PPT2	Papeete2	24.45	97	eLR	LR	11 18 24.5	
	224nm,25.0s						
TBI	Tubuai	25.13	111	eT	T	11 38 03.9	
	7.9nm,0.3s						
HNR	Honiara	25.23	282	LR	LR	11 21 32.5	
	comp=Z,243nm,20.0s,baz=116,slow=34						
RKT	Rikitea	38.31	107	eT	T	11 54 31.5	
	2.6nm,0.3s						
STKA	Stephens Creek	42.23	240	P	P	11 15 24.6	-0.1
	3.1nm,1.1s,baz=59,slow=12,SNR=3.0						
WRA	Warramunga Arr	48.08	258	P	P	11 16 11.5	+0.1
	0.9nm,1.1s,baz=94,slow=6.4,SNR=5.5						
ASAR	Alice Springs	48.32	253	P	P	11 16 13.3	+0.1
	4.7nm,0.9s,baz=86,slow=8.2,SNR=32						
ASAR				LR	LR	11 35 47.6	
	comp=Z,125nm,18.2s,baz=100,slow=35						
PETK	Petropavlovsk-	72.90	343	P	P	11 19 01.6	+1.3
	2.8nm,0.8s,baz=130,slow=7.8,SNR=4.2						
TXAR	Lajitas Array	82.41	57	P	P	11 19 56.5	+2.4
	0.8nm,0.9s,baz=225,slow=4.8,SNR=4.4						
ILAR	Eielson Array	83.54	12	P	P	11 19 58.4	-0.7
	3.0nm,1.1s,baz=220,slow=6.0,SNR=6.4						
PDAR	Pinedale Array	83.94	42	P	P	11 19 59.6	-2.3
	1.0nm,0.9s,baz=191,slow=3.8,SNR=5.5						
YKA	Yellowknife Ar	91.47	24	P	P	11 20 37.3	-0.2
	0.8nm,1.0s,baz=235,slow=4.3,SNR=4.7						
BRTR	Keskin Array B	145.71	319	PKPbc	PKPab	11 27 11.1	-0.2
	1.1nm,0.7s,baz=117,slow=3.3,SNR=4.5						
GERES	GERESS Array B	146.65	349	PKPbc	PKPbc	11 27 12.6	-0.7
	0.9nm,0.8s,baz=52,slow=2.2,SNR=4.4						

IDC 09 11:11:22.9±2.0, 41°.97S×172°.54E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.5/22, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=58.4km s-min=34.7km az=169.0

ISCJB 09 11:11:28.7±0.3, 42°.08S±0°.03×172°.79E±0°.05, h107km±5km, mb3.9/4, Error ellipse: s-maj=7.2km s-min=2.9km az=42.0

NEIC 09 11:11:28.2, 42°.09S×172°.83E, h108km, mb4.7/3, After WEL.

NEIC Felt at Blenheim, Westport and in the Nelson area.

WEL 09 11:11:31.0±0.3, 41°.95S×172°.61E, h79km±2km, ML4.4/20, Error ellipse: s-maj=1.8km s-min=1.3km az=90.0, reported intensity MM 4.

WEL Felt from Nelson to Canterbury, and from West Coast to Marlborough, maximum.

ISC 09 11:11:29.5±0.9, 41°.99S±0°.03×172°.69E±0°.03, h88km±6km, n174, σ1§35/187, mb3.7/4, 9C-15D, South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THZ	Tophouse	0.27	36	⇓PN	Pn	11 11 42.5	-0.1
THZ				SN	Sn	11 11 50.8	-1.5
THZ	Tophouse	0.27	36	Pn	Pn	11 11 42.2	-0.4
THZ				Sn	Sn	11 11 50.8	-1.5
DSZ	Denniston Nort	0.70	289	⇑PN	Pn	11 11 46.0	+0.1
DSZ				SN	Sn	11 11 56.4	-1.7
DSZ				SN		11 11 56.4	
DSZ	Denniston Nort	0.70	289	Pn	Pn	11 11 46.0	+0.1
DSZ				Sn	Sn	11 11 56.5	-1.7
KHZ	Kahutara	0.77	125	⇑PN	Pn	11 11 47.7	+1.2
KHZ				AML	AML	11 12 03.3	
KHZ				AML	AML	11 12 03.3	
KHZ	Kahutara	0.77	125	Pn	Pn	11 11 47.4	+0.9
LTZ	Lake Taylor	0.86	201	⇓PN	Pn	11 11 48.9	+1.4
LTZ	Lake Taylor	0.86	201	Pn	Pn	11 11 48.9	+1.4
NNZ	Nelson	0.92	34	⇓PN	Pn	11 11 49.2	+1.0
NNZ	Nelson	0.92	34	Pn	Pn	11 11 48.8	+0.6
BSWZ	Blackbirch Sta	0.93	73	⇑PN	Pn	11 11 49.8	+1.6
BSWZ				SN	Sn	11 12 04.1	+1.8
BSWZ				AML	AML	11 12 06.3	
BSWZ	Blackbirch Sta	0.93	73	Pn	Pn	11 11 49.8	+1.6
BSWZ				Sn	Sn	11 12 04.1	+1.8
TUWZ	Tuamarina	1.09	60	⇓PN	Pn	11 11 51.4	+1.3
TUWZ				AML	AML	11 12 08.0	
TUWZ				AML	AML	11 12 09.3	
TUWZ	Tuamarina	1.09	60	Pn	Pn	11 11 51.4	+1.3
CMWZ	Cape Campbell	1.16	79	PN	Pn	11 11 52.9	+1.9
CMWZ				AML	AML	11 12 14.7	
CMWZ				AML	AML	11 12 17.9	
CMWZ	Cape Campbell	1.16	79	Pn	Pn	11 11 52.9	+1.9
QRZ	Quartz Range	1.16	354	⇓PN	Pn	11 11 51.1	+0.2
QRZ				SN	Sn	11 12 05.5	-1.6
QRZ	Quartz Range	1.16	354	Pn	Pn	11 11 51.2	+0.2
QRZ				Sn	Sn	11 12 05.5	-1.6
TCW	Tory Channel	1.42	58	PN	Pn	11 11 55.5	+1.4
TCW				AML	AML	11 12 16.2	
TCW				AML	AML	11 12 17.1	
TCW	Tory Channel	1.42	58	Pn	Pn	11 11 55.5	+1.4
OXZ	Oxford	1.42	200	PN	Pn	11 11 54.7	+0.5
OXZ				SN	Sn	11 12 13.2	+0.4
DUWZ	D'Urville Isla	1.50	39	⇓PN	Pn	11 11 57.0	+1.8
DUWZ				SN	Sn	11 12 16.8	+2.2
DUWZ	D'Urville Isla	1.50	39	Pn	Pn	11 11 57.0	+1.8
DUWZ				Sn	Sn	11 12 16.8	+2.2
CRLZ	Canterbury Las	1.59	182	⇓PN	Pn	11 11 57.1	+0.8
CRLZ	Canterbury Las	1.59	182	Pn	Pn	11 11 57.1	+0.8
SNZO	South Karori	1.65	67	⇑PN	Pn	11 11 58.0	+0.9
SNZO				AML	AML	11 12 25.3	
SNZO				AML	AML	11 12 25.3	
SNZO	South Karori	1.65	67	ePn	Pn	11 11 57.5	+0.4
SNZO				eSn	Sn	11 12 17.7	-0.3
WEL	Wellington	1.71	67	⇑PN	Pn	11 11 58.7	+0.9
WEL	Wellington	1.71	67	Pn	Pn	11 11 58.7	+0.9
MQZ	McQueen's Vall	1.72	181	⇓PN	Pn	11 11 58.5	+0.5
BHW	Baring Head	1.73	71	PN	Pn	11 11 58.8	+0.7
BHW				SN	Sn	11 12 18.7	-1.1
BHW				AML	AML	11 12 29.6	
BHW	Baring Head	1.73	71	Pn	Pn	11 11 58.8	+0.7
BHW				Sn	Sn	11 12 18.7	-1.1
WVZ	Waitaha Valley	1.81	232	PN	Pn	11 12 00.4	+1.3
WVZ	Waitaha Valley	1.81	232	Pn	Pn	11 12 00.4	+1.3
PLWZ	Palliser	1.96	79	PN	Pn	11 12 01.3	+0.1
PLWZ				SN	Sn	11 12 24.1	-1.2
PLWZ	Palliser	1.96	79	Pn	Pn	11 12 01.3	+0.1
PLWZ				Sn	Sn	11 12 24.1	-1.2
CAW	Cannon Point	1.99	65	⇑PN	Pn	11 12 02.1	+0.7
CAW				AML	AML	11 12 34.8	
CAW				AML	AML	11 12 38.6	
CAW	Cannon Point	1.99	65	Pn	Pn	11 12 02.1	+0.7
MSWZ	Moikau Station	2.00	74	AML	AML	11 12 25.1	
MSWZ				AML	AML	11 12 25.8	
MSWZ	Moikau Station	2.00	74	Pn	Pn	11 12 01.9	+0.2
KIW	Kapiti Island	2.01	57	PN	Pn	11 12 03.0	+1.2
KIW				AML	AML	11 12 33.3	
KIW				AML	AML	11 12 35.3	
KIW	Kapiti Island	2.01	57	Pn	Pn	11 12 03.0	+1.2
RPZ	Rata Peaks	2.11	214	PN	Pn	11 12 03.6	+0.5
RPZ	Rata Peaks	2.11	214	ePn	Pn	11 12 03.6	+0.5
RPZ				eSn	Sn	11 12 30.5	+1.8
PAWZ	Paruwai Farm	2.14	75	PN	Pn	11 12 03.7	+0.3
PAWZ				AML	AML	11 12 29.9	
PAWZ				AML	AML	11 12 42.6	
PAWZ	Paruwai Farm	2.14	75	Pn	Pn	11 12 03.7	+0.3
OGWZ	Otaki Gorge	2.20	59	PN	Pn	11 12 05.0	+0.8
OGWZ	Otaki Gorge	2.20	59	Pn	Pn	11 12 05.1	+0.8
MTW	Mount Morrison	2.27	70	⇑PN	Pn	11 12 05.1	-0.1
MTW				AML	AML	11 12 46.3	
MTW				AML	AML	11 12 48.3	
MTW	Mount Morrison	2.27	70	Pn	Pn	11 12 05.1	-0.1
TRWZ	Traveller	2.32	76	PN	Pn	11 12 05.8	-0.1
TRWZ				AML	AML	11 12 53.7	
TRWZ				AML	AML	11 13 02.8	
TRWZ	Traveller	2.32	76	Pn	Pn	11 12 05.8	-0.1
HOWZ	Holdsworth Sta	2.38	64	PN	Pn	11 12 06.9	+0.1
HOWZ	Holdsworth Sta	2.38	64	Pn	Pn	11 12 06.9	+0.1
MRZ	Mangatainoka R	2.55	60	PN	Pn	11 12 09.1	+0.2
MRZ				AML	AML	11 12 50.5	
MRZ				AML	AML	11 12 54.3	
MRZ	Mangatainoka R	2.55	60	Pn	Pn	11 12 09.2	+0.2
TMWZ	Te Maipa	2.56	71	PN	Pn	11 12 08.8	-0.3
TIWZ	Tintock	2.69	64	PN	Pn	11 12 10.6	-0.2
TIWZ				AML	AML	11 12 58.9	
TIWZ				AML	AML	11 12 59.5	
TIWZ	Tintock	2.69	64	Pn	Pn	11 12 10.7	-0.2
FOZ	Fox Glacier	2.72	233	⇓PN	Pn	11 12 10.8	-0.3
FOZ	Fox Glacier	2.72	233	Pn	Pn	11 12 10.8	-0.3
NMEZ	Namu Road	2.72	20	PN	Pn	11 12 13.4	+2.2
POWZ	Post Office Ro	2.81	57	PN	Pn	11 12 13.6	+1.1
LREZ	Lake Rotokare	2.84	28	PN	Pn	11 12 15.3	+2.5
CPWZ	Castlepoint	2.85	69	PN	Pn	11 12 14.1	+1.1
NWEZ	Newall Road	2.85	19	⇓PN	Pn	11 12 15.1	+2.1
NWEZ	Newall Road	2.85	19	Pn	Pn	11 12 15.3	+2.3
PRWZ	Pori Road	2.85	61	PN	Pn	11 12 13.0	-0.1
KHEZ	Kahui Hut	2.87	21	PN	Pn	11 12 15.5	+2.1
NEZ	North Egmont	2.91	22	PN	Pn	11 12 15.8	+1.9
NEZ	North Egmont	2.91	22	Pn	Pn	11 12 15.8	+1.9
PKE	Pukeiti	2.96	20	⇓PN	Pn	11 12 16.7	+2.2
PKE	Pukeiti	2.96	20	Pn	Pn	11 12 16.7	+2.2
BFZ	Birch Farm	2.98	65	PN	Pn	11 12 14.2	-0.5
BFZ	Birch Farm	2.98	65	Pn	Pn	11 12 14.2	-0.5
DREZ	Durham Road	3.02	23	⇓PN	Pn	11 12 17.4	+2.1
DREZ	Durham Road	3.02	23	Pn	Pn	11 12 17.4	+2.1
LBZ	Lake Benmore	3.02	217	⇓PN	Pn	11 12 15.5	+0.2
LBZ	Lake Benmore	3.02	217	Pn	Pn	11 12 15.5	+0.2
DVHZ	Dannevirke	3.12	58	PN	Pn	11 12 16.8	+0.2
DVHZ	Dannevirke	3.12	58	Pn	Pn	11 12 16.8	+0.2
TSZ	Takapari Road	3.13	53	PN	Pn	11 12 16.6	-0.3
TSZ				AML	AML	11 13 06.3	
TSZ				AML	AML	11 13 08.9	
MHEZ	Mangahewa	3.16	24	PN	Pn	11 12 19.4	+2.2
MHEZ	Mangahewa	3.16	24	Pn	Pn	11 12 19.4	+2.2
ANWZ	Angora Road	3.23	63	PN	Pn	11 12 17.6	-0.6
VRZ	Vera Road	3.26	30	⇑PN	Pn	11 12 20.8	+2.3
VRZ	Vera Road	3.26	30	Pn	Pn	11 12 20.8	+2.3
MTVZ	Mangateitei	3.35	40	⇓PN	Pn	11 12 21.6	+1.8
MTVZ	Mangateitei	3.35	40	Pn	Pn	11 12 21.6	+1.8
PKVZ	Pokaka	3.37	38	PN	Pn	11 12 21.8	+1.8
PKVZ	Pokaka	3.37	38	Pn	Pn	11 12 21.9	+1.9
PNHZ	Pukenui	3.37	53	PN	Pn	11 12 19.4	-0.6
PNHZ	Pukenui	3.37	53	Pn	Pn	11 12 19.4	-0.6
ODZ	Otahua Downs	3.40	205	PN	Pn	11 12 21.0	+0.6
ODZ	Otahua Downs	3.40	205	Pn	Pn	11 12 21.0	+0.6
WPHZ	Waipukurau	3.42	57	PN	Pn	11 12 21.1	+0.4
WPHZ	Waipukurau	3.42	57	Pn	Pn	11 12 21.1	+0.4
PRHZ	Porangahau	3.44	61	PN	Pn	11 12 20.2	-0.7
PRHZ	Porangahau	3.44	61	Pn	Pn	11 12 20.2	-0.7
TRVZ	Turoa	3.45	40	PN	Pn	11 12 22.5	+1.2
TRVZ	Turoa	3.45	40	Pn	Pn	11 12 22.5	+1.2
WNVZ	Wahianoa	3.45	41	PN	Pn	11 12 22.6	+1.3
WNVZ	Wahianoa	3.45	41	Pn	Pn	11 12 22.6	+1.3
MOVZ	Moawhango	3.47	43	PN	Pn	11 12 21.8	+0.4
MOVZ	Moawhango	3.47	43	Pn	Pn	11 12 21.9	+0.4
DRZ	Dome Shelter	3.48	40	PN	Pn	11 12 25.0	+3.2
DRZ	Dome Shelter	3.48	40	Pn	Pn	11 12 25.0	+3.2
FWVZ	Far West T-bar	3.49	40	⇑PN	Pn	11 12 23.2	+1.4
FWVZ	Far West T-bar	3.49	40	Pn	Pn	11 12 23.2	+1.4
TUVZ	Tukino	3.53	41	PN	Pn	11 12 23.3	+1.0
JCZ	Jackson Bay	3.56	233	PN	Pn	11 12 22.4	-0.2
BHHZ	Black Hill Sta	3.58	47	ePN	Pn	11 12 22.7	-0.1
NGZ	Ngauruhoe	3.58	39	ePN	Pn	11 12 24.0	+1.1
TWVZ	Taurewa	3.58	37	PN	Pn	11 12 25.2	+2.2
TWVZ	Taurewa	3.58	37	Pn	Pn	11 12 25.2	+2.2
OTVZ	Oturere	3.62	40	ePN	Pn	11 12 24.3	+0.8
WTVZ	West Tongariro	3.62	39	ePN	Pn	11 12 24.6	+1.1
KRHZ	Kereru	3.64	51	PN	Pn	11 12 23.9	+0.2
PXZ	Pawanui	3.71	60	AML	AML	11 13 07.5	
PXZ				AML	AML	11 13 08.2	
PXZ				AML	AML	11 13 38.7	
PXZ				AML	AML	11 13 39.0	
PXZ	Pawanui	3.71	60	Pn	Pn	11 12 23.8	-0.8
HIZ	Hauiti	3.84	26	PN	Pn	11 12 27.7	+1.3
HIZ	Hauiti	3.84	26	Pn	Pn	11 12 27.8	+1.4
KAHZ	Kahuranaki	3.85	57	PN	Pn	11 12 26.0	-0.6
KAHZ	Kahuranaki	3.85	57	Pn	Pn	11 12 26.0	-0.6
WKZ	Wanaka	3.90	222	PN	Pn	11 12 26.1	-1.2
WKZ	Wanaka	3.90	222	Pn	Pn	11 12 26.1	-1.2
MCHZ	McNeill Hill	3.96	52	PN	Pn	11 12 29.3	+1.3
BKZ	Black Stump Fm	4.04	47	PN	Pn	11 12 28.6	-0.5
BKZ				AML	AML	11 13 34.4	
BKZ				AML	AML	11 13 42.2	
BKZ	Black Stump Fm	4.04	47	Pn	Pn	11 12 28.6	-0.5
EAZ	Earnscleugh	4.07	216	PN	Pn	11 12 28.6	-0.8
EAZ	Earnscleugh	4.07	216	Pn	Pn	11 12 28.6	-0.8
HHSZ	Highcliff Hill	4.18	200	PN	Pn	11 12 31.2	+0.2
TLZ	Tolley Road	4.25	32	PN	Pn	11 12 33.6	+1.6
NMHZ	Naumai	4.26	49	PN	Pn	11 12 31.5	-0.7
MSZ	Milford Sound	4.39	231	PN	Pn	11 12 33.9	+0.1
RAHZ	Arahi	4.54	49	Pn	Pn	11 12 34.6	-1.3
MLZ	Mavora Lakes	4.69	223	Pn	Pn	11 12 37.5	-0.5
TOZ	Tahuroa Road	4.77	28	PN	Pn	11 12 40.1	+1.2
TOZ	Tahuroa Road	4.77	28	Pn	Pn	11 12 40.3	+1.3
PRGZ	Paritu Road	5.00	54	ePN	Pn	11 12 41.4	-0.8
PRGZ	Paritu Road	5.00	54	Pn	Pn	11 12 41.6	-0.6
URZ	Urewera	5.03	44	PN	Pn	11 12 40.4	-2.1
URZ				AML	AML	11 13 37.3	
URZ				AML	AML	11 13 41.9	
URZ	Urewera	5.03	44	Pn	Pn	11 12 40.5	-2.1
	1.7nm,0.3s,baz=240,slow=11,SNR=14						
URZ				Sn	Sn	11 13 35.9	-3.5
	8.8nm,0.3s,baz=325,slow=2.9,SNR=9.0						
URZ	Urewera	5.03	44	ePn	Pn	11 12 41.5	-1.1
	41nm,0.5s						
URZ				eSn	Sn	11 13 36.9	-2.5
KBAZ	Karaka Road Bo	5.17	20	PN	Pn	11 12 46.5	+2.1
MWZ	Matawai	5.20	47	PN	Pn	11 12 43.0	-1.9
MWZ				AML	AML	11 14 06.4	
MWZ				AML	AML	11 14 06.7	
MWZ	Matawai	5.20	47	Pn	Pn	11 12 43.0	-1.9
SYZ	Scrubby Hill	5.22	208	⇓PN	Pn	11 12 45.2	+0.2
SYZ	Scrubby Hill	5.22	208	Pn	Pn	11 12 45.2	+0.2
MKAZ	Moumakai	5.23	22	PN	Pn	11 12 46.7	+1.4
MKAZ	Moumakai	5.23	22	Pn	Pn	11 12 46.7	+1.4
WTAZ	Waiatarua	5.25	17	PN	Pn	11 12 47.8	+2.3
WTAZ	Waiatarua	5.25	17	Pn	Pn	11 12 47.8	+2.3
DCZ	Deep Cove	5.32	227	Pn	Pn	11 12 44.9	-1.5
RVAZ	Riverhead Bore	5.41	16	PN	Pn	11 12 49.0	+1.3
MTAZ	Motutapu	5.47	19	PN	Pn	11 12 50.2	+1.7
MTAZ	Motutapu	5.47	19	Pn	Pn	11 12 50.2	+1.7
KUZ	Kuaotunu	5.73	25	PN	Pn	11 12 52.9	+0.8
KUZ	Kuaotunu	5.73	25	Pn	Pn	11 12 53.1	+1.0
PUZ	Puketiti	5.79	49	Pn	Pn	11 12 50.0	-2.9
APZ	The Paps	5.90	213	Pn	Pn	11 12 53.2	-1.2
WCZ	Waipu Caves	6.17	13	PN	Pn	11 12 59.5	+1.4
WCZ	Waipu Caves	6.17	13	Pn	Pn	11 12 59.5	+1.4
MXZ	Matakaoa Point	6.18	46	ePN	Pn	11 12 55.8	-2.4
MXZ	Matakaoa Point	6.18	46	Pn	Pn	11 12 56.0	-2.2
OUZ	Omahuta	6.79	6	PN	Pn	11 13 08.5	+2.0
OUZ	Omahuta	6.79	6	Pn	Pn	11 13 08.5	+2.0
CTZ	Chatham Island	8.05	106	PN	Pn	11 13 22.8	-0.8
CTZ	Chatham Island	8.05	106	Pn	Pn	11 13 23.5	-0.1
VNDA	Vanda	35.92	184	eP	P	11 18 13.1	-7.8
	31nm,1.4s						
ASAR	Alice Springs	36.98	287	P	P	11 18 33.0	+2.5
	0.2nm,0.3s,baz=124,slow=6.8,SNR=3.1						
WRAB	Tennant Creek	39.10	292	eP	P	11 18 46.2	-2.1
	1.1nm,0.7s						
WRA	Warramunga Arr	39.10	292	P	P	11 18 50.9	+2.6
	0.2nm,0.5s,baz=135,slow=6.9,SNR=5.9						
TORD	Torodi Ar. Bea	150.22	198	PKPbc	PKPab	11 31 15.7	-1.2
	0.2nm,0.4s,baz=150,slow=2.0,SNR=4.4						

CSEM 09 11:14:17.5, 39°.44N×29°.68W, h5km, ML2.9, After PDA

PDA 09 11:14:17.5±0.9, 39°.44N×29°.68W, h5km, MD3.5, ML2.9, Error ellipse: s-maj=12.8km s-min=6.7km az=44.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCED	Cedros	1.11	136	eS	Sg	11 14 47.6	-5.8
PCED				A	A	11 14 50.3	
	104nm,0.4s						
PCED	Cedros	1.11	136	eS	Sg	11 14 47.6	-5.8
CALA	Caldeira	1.15	138	eP	Pg	11 14 35.7	-4.0
CALA				eS	Sg	11 14 48.9	-5.8
CALA	Caldeira	1.15	138	eP	Pg	11 14 35.7	-4.0
CALA				eS	Sg	11 14 48.9	-5.8
HOR	Horta	1.23	138	eP	Pg	11 14 36.4	-4.6
HOR				eS	Sg	11 14 50.6	-6.4
HOR	Horta	1.23	138	eP	Pg	11 14 36.4	-4.6
HOR				eS	Sg	11 14 50.6	-6.4
ROSA	Rosais	1.33	122	eS	Sb	11 14 53.4	-7.0
ROSA				A	A	11 14 58.3	
	60nm,0.7s						
ROSA	Rosais	1.33	122	eS	Sb	11 14 53.4	-7.0
PCAN	Candelaria	1.35	136	eP	Pn	11 14 38.5	-4.6
PCAN				eS	Sb	11 14 53.9	-7.1
PCAN				A	A	11 14 57.5	
	137nm,0.2s						
PCAN	Candelaria	1.35	136	eP	Pn	11 14 38.5	-4.6
PCAN				eS	Sb	11 14 53.9	-7.1
PICO	Pico	1.36	133	eP	Pn	11 14 37.9	-5.3
PICO				eS	Sb	11 14 54.1	-7.2
PICO	Pico	1.36	133	eP	Pn	11 14 37.9	-5.3
PICO				eS	Sb	11 14 54.1	-7.2
PMAN	Manadas	1.48	123	eS	Sn	11 14 56.5	-8.1
PMAN				A	A	11 15 01.2	
	27nm,0.4s						
PMAN	Manadas	1.48	123	eS	Sn	11 14 56.5	-8.1
TOPO	Topo	1.62	121	eS	Sn	11 15 00.3	-7.7
TOPO	Topo	1.62	121	eS	Sn	11 15 00.3	-7.7

WEL 09 11:15:24.8±0.1, 38°.98S×175°.77E, h5km±2km, ML3.7/36, 29C-5D, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KATZ	Kakaramea	0.06	268	⇓PG	Pg	11 15 26.8	+0.4
KATZ				SG	Sg	11 15 28.0	+0.6
KATZ				AML	AML	11 15 28.4	
RITZ	Rihia Road	0.07	93	⇑PG	Pg	11 15 27.0	+0.5
RITZ				AML	AML	11 15 30.4	
RITZ				AML	AML	11 15 30.8	
RATZ	Rangitukua	0.11	2	⇓PG	Pg	11 15 27.5	+0.5
RATZ				AML	AML	11 15 31.9	
RATZ				AML	AML	11 15 32.6	
KRVZ	Karewarewa	0.15	219	⇑PG	Pg	11 15 28.5	+0.4
KRVZ				AML	AML	11 15 34.0	
KRVZ				AML	AML	11 15 34.3	
WTVZ	West Tongariro	0.20	224	⇑PG	Pg	11 15 29.2	+0.4
WTVZ				AML	AML	11 15 33.1	
WTVZ				AML	AML	11 15 33.2	
OTVZ	Oturere	0.21	202	⇑PG	Pg	11 15 29.5	+0.4
OTVZ				AML	AML	11 15 33.6	
OTVZ				AML	AML	11 15 35.6	
NGZ	Ngauruhoe	0.24	212	⇑PG	Pg	11 15 30.1	+0.4
NGZ				AML	AML	11 15 37.1	
NGZ				AML	AML	11 15 37.8	
WATZ	Wairara	0.27	354	⇑PG	Pg	11 15 30.5	+0.5
WATZ				AML	AML	11 15 35.0	
HATZ	Hinemaiaia	0.27	72	⇑PG	Pg	11 15 30.0	0.0
HATZ				AML	AML	11 15 34.2	
HATZ				AML	AML	11 15 34.8	
TWVZ	Taurewa	0.27	249	⇑PG	Pg	11 15 30.5	+0.2
TWVZ				AML	AML	11 15 34.6	
TWVZ				AML	AML	11 15 35.1	
COVZ	Chateau Observ	0.28	218	⇑PG	Pg	11 15 30.8	+0.3
WPVZ	Whakapapa	0.29	216	⇑PG	Pg	11 15 30.9	+0.4
WPVZ				AML	AML	11 15 36.7	
WPVZ				AML	AML	11 15 39.0	
TUVZ	Tukino	0.31	196	⇑PG	Pg	11 15 31.4	+0.4
TUVZ				AML	AML	11 15 37.5	
TUVZ				AML	AML	11 15 39.9	
FWVZ	Far West T-bar	0.33	210	⇑PG	Pg	11 15 31.7	+0.2
FWVZ				AML	AML	11 15 37.6	
FWVZ				AML	AML	11 15 38.9	
WHVZ	Whangaehu Hut	0.34	204	⇑PG	Pg	11 15 31.9	+0.3
DRZ	Dome Shelter	0.34	207	⇓PG	Pg	11 15 32.0	+0.2
DRZ				AML	AML	11 15 43.6	
DRZ				AML	AML	11 15 44.4	
TRVZ	Turoa	0.37	207	⇑PG	Pg	11 15 32.4	+0.2
TRVZ				AML	AML	11 15 38.2	
TRVZ				AML	AML	11 15 40.5	
WNVZ	Wahianoa	0.38	200	⇑PG	Pg	11 15 32.6	+0.3
WNVZ				AML	AML	11 15 45.9	
WNVZ				AML	AML	11 15 50.6	
MOVZ	Moawhango	0.43	181	⇑PG	Pg	11 15 33.3	+0.1
MOVZ				SG	Sg	11 15 38.8	-0.3
MOVZ				AML	AML	11 15 38.9	
PKVZ	Pokaka	0.45	226	⇑PG	Pg	11 15 33.8	+0.1
PKVZ				AML	AML	11 15 46.8	
PKVZ				AML	AML	11 15 49.0	
MTVZ	Mangateitei	0.47	209	⇑PG	Pg	11 15 34.1	+0.1
MTVZ				AML	AML	11 15 50.0	
MTVZ				AML	AML	11 15 58.3	
BHHZ	Black Hill Sta	0.56	156	⇑PG	Pg	11 15 35.9	+0.1
BHHZ				SG	Sg	11 15 43.4	+0.2

BKZ Black Stump Fm 0.60 109 ⇓P* Pg 11 15 36.6 +0.2
BKZ AML AML 11 15 45.6
BKZ AML AML 11 15 47.8
ALRZ Allen Road 0.61 48 P* Pg 11 15 36.3 -0.2
TLZ Tolley Road 0.67 344 P* Pg 11 15 37.2 -0.5
GRRZ Galatos Road 0.68 23 P* Pb 11 15 38.7 -0.5
PRRZ Plateau Road 0.68 46 ⇑P* Pg 11 15 37.8 -0.2
VRZ Vera Road 0.80 259 ⇓P* Pg 11 15 40.1 0.0
VRZ AML AML 11 15 55.2
VRZ AML AML 11 15 55.5
KRHZ Kereru 0.82 145 ⇑P* Pg 11 15 40.9 +0.4
KRHZ S* Sg 11 15 51.5 +0.3
NMHZ Naumai 0.82 99 ⇑P* Pb 11 15 41.5 -0.1
HIZ Hauiti 0.85 303 P* Pg 11 15 41.1 0.0
HIZ AML AML 11 15 55.1
HIZ AML AML 11 15 58.2
MCHZ McNeill Hill 0.86 123 ⇑P* Pn 11 15 43.0 -0.6
RRRZ Republican Roa 0.86 43 P* Pb 11 15 42.0 -0.2
PNHZ Pukenui 1.00 160 ⇑P* Pg 11 15 44.3 +0.3
PNHZ S* Sg 11 15 57.1 +0.1
RAHZ Arahi 1.03 87 ⇑P* Pb 11 15 45.3 +0.1
TSZ Takapari Road 1.09 172 ⇑P* Pg 11 15 46.0 +0.1
TSZ AML AML 11 16 02.1
TSZ AML AML 11 16 02.1
MHEZ Mangahewa 1.13 264 P* Pb 11 15 46.8 +0.1
LREZ Lake Rotokare 1.16 245 P* Pg 11 15 47.1 0.0
KAHZ Kahuranaki 1.19 134 P* Pn 11 15 49.1 +0.9
KAHZ S* Sn 11 16 08.1 +3.4
WPHZ Waipukurau 1.21 155 ⇑P* Pn 11 15 49.0 +0.6
CKHZ Cape Kidnapper 1.23 124 P* Pn 11 15 49.7 +1.2
DREZ Durham Road 1.24 259 P* Pb 11 15 48.4 -0.1
SNGZ Shannon Statio 1.24 82 P* Pn 11 15 49.0 +0.2
TOZ Tahuroa Road 1.26 350 ⇑P* Pg 11 15 47.6 -1.3
URZ Urewera 1.27 56 ⇑P* Pg 11 15 48.2 -0.9
URZ AML AML 11 16 08.5
URZ AML AML 11 16 16.3
NEZ North Egmont 1.33 257 P* Pb 11 15 50.4 0.0
PXZ Pawanui 1.35 142 PN Pg 11 15 51.7 +0.9
PXZ AML AML 11 16 14.6
PXZ AML AML 11 16 15.3
DVHZ Dannevirke 1.36 167 PN Pg 11 15 51.4 +0.5
DVHZ S* Sn 11 16 09.4 +0.5
RAGZ Rawiri 1.38 70 P* Pn 11 15 50.0 -0.7
KHEZ Kahui Hut 1.40 256 PN Pn 11 15 51.2 +0.1
PKE Pukeiti 1.40 260 PN Pn 11 15 51.2 +0.2
PKE AML AML 11 16 12.8
PKE AML AML 11 16 17.2
PRHZ Porangahau 1.46 153 PN Pg 11 15 53.6 +0.9
KNZ Kokohu 1.49 92 ePN Pg 11 15 53.4 +0.1
NWEZ Newall Road 1.51 258 PN Pb 11 15 53.1 -0.1
MWZ Matawai 1.52 66 P* Pn 11 15 51.6 -1.1
MWZ AML AML 11 16 18.5
MWZ AML AML 11 16 18.9
NMEZ Namu Road 1.53 253 PN Pb 11 15 53.6 0.0
RIGZ Rimuhau 1.58 81 ePN Pb 11 15 54.7 +0.1
ANWZ Angora Road 1.58 160 ePN Pb 11 15 54.6 +0.1
PRWZ Pori Road 1.59 174 ePN Pg 11 15 55.2 0.0
MRZ Mangatainoka R 1.69 185 PN Pb 11 15 56.2 -0.2
MRZ AML AML 11 16 23.5
MRZ AML AML 11 16 31.6
TIWZ Tintock 1.80 177 AML AML 11 16 28.8
TIWZ AML AML 11 16 29.3
OGWZ Otaki Gorge 1.90 194 PN Pb 11 15 59.4 -0.5
MKAZ Moumakai 1.92 346 PN Pn 11 15 57.8 -0.2
MKAZ AML AML 11 16 34.9
KIW Kapiti Island 2.00 199 PN Pb 11 16 00.7 -0.9
KIW AML AML 11 16 34.7
KIW AML AML 11 16 34.7
KBAZ Karaka Road Bo 2.00 339 PN Pn 11 15 59.1 -0.1
PUZ Puketiti 2.15 66 PN Pn 11 16 02.7 +1.4
MTW Mount Morrison 2.19 185 AML AML 11 16 42.0
MTW AML AML 11 16 44.2
CAW Cannon Point 2.20 194 AML AML 11 16 42.4
CAW AML AML 11 16 46.3
TCW Tory Channel 2.51 207 ePN Pb 11 16 08.9 -1.4
TCW AML AML 11 16 50.1
TCW AML AML 11 16 50.1
TUWZ Tuamarina 2.82 209 ePN Pn 11 16 12.6 +2.1
TUWZ AML AML 11 17 03.8
TUWZ AML AML 11 17 04.8
NNZ Nelson 2.89 218 ePN Pb 11 16 14.3 -2.5
BSWZ Blackbirch Sta 3.10 207 ePN Pb 11 16 20.7 +0.4
QRZ Quartz Range 3.10 232 PN Pn 11 16 15.1 +0.7
WCZ Waipu Caves 3.23 339 ePN Pn 11 16 16.9 +0.7
THZ Tophouse 3.54 217 ePN Pn 11 16 24.0 +3.6
THZ AML AML 11 17 26.3

IDC 09 11:45:14.0±3.7, 30.16S×179.39W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/30, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=73.2km s-min=50.5km az=81.0

ISC 09 11:45:57.9±2.2, 32.1S±0.1×179.4E±0.3, h363km, n9, σ1°95/12, South of Kermadec Islands

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

HAZ Te Kaha 5.76 193 Pn Pn 11 47 27.3 +1.0
HAZ SN **S 11 48 36.5 -1.7**
PUZ Puketiti 6.00 189 ePN Pn 11 47 30.5 +1.5
PUZ SN **S 11 48 40.2 -2.9**
MWZ Matawai 6.38 193 PN P 11 47 35.1 +1.8
MWZ SN **S 11 48 48.0 -2.9**
URZ Urewera 6.39 196 Pn Pn 11 47 19.7 -14
0.8nm,0.3s,baz=236,slow=11,SNR=6.3
URZ Sn **S 11 48 51.7 +0.5**
2.3nm,0.3s,baz=283,slow=5.8,SNR=10
URZ Urewera 6.39 196 ePN Pn 11 47 34.6 +1.2
URZ SN **S 11 48 49.8 -1.4**
MRZ Mangatainoka R 9.05 199 SN S 11 49 45.4 -2.8
ASAR Alice Springs 40.85 270 P P 11 53 06.0 0.0
0.4nm,0.3s,baz=108,slow=7.1,SNR=14
WRA Warramunga Arr 42.00 275 P P 11 53 14.9 -0.3
0.7nm,0.3s,baz=112,slow=7.9,SNR=37
FINES FINESS Array B 145.95 337 PKP PKPdf 12 04 51.0 -2.1
0.6nm,0.5s,baz=101,slow=1.4,SNR=4.1

WEL 09 11:55:35.4±0.2, 37.70S×176.60E, h148km±2km, ML3.6/7, 7C-2D, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0, North Island

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

OPRZ Ohinepanea 0.15 193 ⇑PN Pn 11 55 55.2 -0.1
OPRZ SN Sn 11 56 11.0 +0.4
TGRZ Tauranga 0.27 264 ⇑PN Pn 11 55 55.7 +0.1
URZ Urewera 0.69 144 ⇓PN Pn 11 55 57.3 -0.3
URZ SN Sn 11 56 14.5 -0.1
URZ AML AML 11 56 18.0
HAZ Te Kaha 0.94 94 ⇓PN Pn 11 55 59.1 -0.4
HAZ SN Sn 11 56 17.8 0.0
MWZ Matawai 0.97 131 ⇑PN Pn 11 55 59.5 -0.3
MWZ AML AML 11 56 22.6
MWZ AML AML 11 56 25.4
RAGZ Rawiri 1.02 141 PN Pn 11 56 00.5 +0.2
KUZ Kuaotunu 1.18 323 ⇑PN Pn 11 56 01.5 -0.1
KUZ SN Sn 11 56 21.4 -0.2
SNGZ Shannon Statio 1.23 152 PN Pn 11 56 02.1 0.0
RIGZ Rimuhau 1.36 138 PN Pn 11 56 03.6 +0.2
MXZ Matakaoa Point 1.36 85 PN Pn 11 56 03.8 +0.5
PUZ Puketiti 1.36 106 PN Pn 11 56 03.4 -0.1
PUZ AML AML 11 56 33.5
PUZ AML AML 11 56 34.0
NMHZ Naumai 1.41 173 PN Pn 11 56 04.6 +0.7
BKZ Black Stump Fm 1.47 183 ⇑PN Pn 11 56 04.2 -0.3
BKZ AML AML 11 56 30.7
BKZ AML AML 11 56 35.3
KNZ Kokohu 1.57 148 PN Pn 11 56 05.3 -0.1
OTVZ Oturere 1.63 206 ⇑PN Pn 11 56 06.9 +0.4
NGZ Ngauruhoe 1.67 208 PN Pn 11 56 07.1 +0.2
TUVZ Tukino 1.73 205 PN Pn 11 56 07.5 0.0
MCHZ McNeill Hill 1.74 177 PN Pn 11 56 07.6 +0.1
FWVZ Far West T-bar 1.76 208 ⇑PN Pn 11 56 08.1 +0.2
MHGZ Mahia Peninsul 1.78 145 PN Pn 11 56 08.0 +0.1
TRVZ Turoa 1.80 207 PN Pn 11 56 08.3 -0.1
WNVZ Wahianoa 1.80 205 PN Pn 11 56 08.2 -0.1
MOVZ Moawhango 1.83 201 PN Pn 11 56 07.9 -0.7
BHHZ Black Hill Sta 1.83 193 PN Pn 11 56 07.9 -0.7
PKVZ Pokaka 1.87 211 PN Pn 11 56 09.1 +0.2
MTVZ Mangateitei 1.90 207 PN Pn 11 56 09.2 -0.2
KRHZ Kereru 1.95 185 PN Pn 11 56 09.4 -0.5
CKHZ Cape Kidnapper 1.99 169 PN Pn 11 56 10.1 -0.2
CKHZ SN Sn 11 56 17.0
KAHZ Kahuranaki 2.10 174 PN Pn 11 56 11.2 -0.5
PNHZ Pukenui 2.23 188 PN Pn 11 56 12.2 -1.0
PXZ Pawanui 2.34 175 PN Pn 11 56 13.5 -0.8
PXZ SN Sn 11 56 41.5 -3.0
PXZ AML AML 11 56 42.5
WPHZ Waipukurau 2.36 183 PN Pn 11 56 14.0 -0.7
TSZ Takapari Road 2.41 192 PN Pn 11 56 14.0 -1.3
PRHZ Porangahau 2.56 179 PN Pn 11 56 16.0 -1.2
DVHZ Dannevirke 2.62 187 PN Pn 11 56 16.1 -1.8
ANWZ Angora Road 2.76 182 PN Pn 11 56 18.2 -1.4
ANWZ SN Sn 11 56 50.3 -3.4
PRWZ Pori Road 2.89 190 PN Pn 11 56 19.8 -1.5
MRZ Mangatainoka R 3.06 195 PN Pn 11 56 21.1 -2.3
MRZ AML AML 11 56 58.4
TIWZ Tintock 3.12 190 PN Pn 11 56 22.0 -2.2
TIWZ AML AML 11 57 00.8
HOWZ Holdsworth Sta 3.30 194 PN Pn 11 56 23.7 -2.8
OGWZ Otaki Gorge 3.30 199 PN Pn 11 56 24.2 -2.4
KIW Kapiti Island 3.42 202 PN Pn 11 56 25.2 -2.8
TMWZ Te Maipa 3.45 189 PN Pn 11 56 25.6 -2.8
MTW Mount Morrison 3.56 193 PN Pn 11 56 26.6 -3.2
CAW Cannon Point 3.60 199 PN Pn 11 56 27.4 -3.0
TRWZ Traveller 3.76 190 PN Pn 11 56 29.3 -3.2
WEL Wellington 3.85 201 PN Pn 11 56 30.5 -3.0
MSWZ Moikau Station 3.85 195 PN Pn 11 56 30.0 -3.6
TCW Tory Channel 3.94 206 PN Pn 11 56 31.8 -3.0
PLWZ Palliser 4.00 195 PN Pn 11 56 31.8 -3.8
TUWZ Tuamarina 4.25 208 PN Pn 11 56 35.7 -3.2
NNZ Nelson 4.31 214 PN Pn 11 56 36.3 -3.2
QRZ Quartz Range 4.44 224 PN Pn 11 56 37.9 -3.4
THZ Tophouse 4.96 214 PN Pn 11 56 45.5 -2.7
OXZ Oxford 6.60 210 ePN Pn 11 57 04.7 -5.3
MQZ McQueen's Vall 6.71 205 ePN Pn 11 57 05.3 -6.1

BJI 09 11:59:03.3, 6.50S×150.34E, h65km, mB5.1/22, mb4.8/35, Ms4.8/16, Ms7 4.4/19

ISCJB 09 11:59:06.3±1.0, 6.03S±0.04×149.81E±0.05, h49km±9km, mb4.6/44, MS4.0/20, Error ellipse: s-maj=9.3km s-min=6.0km az=20.2

IDC 09 11:59:08.2±1.5, 6.01S×149.75E, h54km±13km, mb4.1/21, mb1 4.2/22, mb1mx4.1/32, mbtmp4.3/22, MS3.8/12, Ms1 3.8/12, ms1mx3.6/23, Error ellipse: s-maj=16.3km s-min=7.8km az=110.0

NEIC 09 11:59:10.4±1.3, 6.08S×149.74E, h78km±12km, mb5.0/13, Error ellipse: s-maj=10.1km s-min=7.2km az=86.0

NEIC Felt at Finschhafen, New Guinea.

ISC 09 11:59:09.6±0.5, 6.12S±0.04×149.81E±0.06, h66km±3km, n103, σ1°55/146, mb4.7/44, 8C-5D, New Britain region

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

PMG Port Moresby 4.19 219 P Pn 12 00 11.8 +0.7
55nm,0.3s,baz=23,slow=8.8,SNR=299
PMG S **Sn 12 00 59.0 +0.2**
73nm,0.3s,baz=270,slow=20,SNR=9.7
PMG Port Moresby 4.19 219 ePn Pn 12 00 11.6 +0.5
PMG eSn **Sn 12 01 01.5 +2.7**
PMG Port Moresby 4.19 219 P Pn 12 00 11.9 +0.8
baz=4.3,SNR=247
MANU Manus Island 4.73 329 ⇓P Pn 12 00 21.8 +3.3
baz=4.8,SNR=5.1
COEN Coen 10.16 219 ePn Pn 12 01 32.0 -0.8
COEN eSn **Sn 12 03 22.4 -2.8**
COEN Coen 10.16 219 ⇑P Pn 12 01 31.9 -0.9
baz=10,SNR=15
CTA Charters Tower 14.31 194 P Pn 12 02 29.6 +0.6
0.3nm,0.3s,baz=25,slow=15,SNR=11
CTAO Charters Tower 14.31 194 ePn Pn 12 02 29.7 +0.7
CTAO eSn Sn 12 04 59.4 -6.9
QIS Mount Isa 17.44 214 ⇑P Pn 12 03 08.2 -0.4
baz=18,SNR=15
KDU Kakadu 18.30 248 ⇓P P 12 03 17.8 -0.7
baz=18,SNR=7.9
EIDS Eidsvold 19.18 177 ⇑P Pn 12 03 29.9 +0.4
baz=19,SNR=6.6
MTN Manton Dam 19.59 249 ⇓P P 12 03 32.4 -0.2
baz=20,SNR=27
RMQ Roma 20.28 183 P Pn 12 03 42.2 -0.3
baz=20,SNR=34
WRAB Tennant Creek 20.35 226 eP P 12 03 41.5 +0.6
81nm,0.7s
WRAB eS **S 12 07 20.1 -5.4**
WRA Warramunga Arr 20.37 226 P P 12 03 41.3 +0.3
15nm,0.6s,baz=52,slow=11,SNR=132
WRA S **S 12 07 24.6 -1.2**
4.0nm,1.0s,baz=52,slow=20,SNR=5.5
WRA PcP **PcP 12 07 51.2 -0.6**
4.2nm,0.7s,baz=33,slow=2.0,SNR=8.3
WRA ScP **ScP 12 11 24.1 +1.2**
0.7nm,0.8s,baz=52,slow=2.9,SNR=4.2
WRA LR LR 12 12 43.8
comp=Z,438nm,18.6s,baz=50,slow=40
QLP Quilpie 21.03 194 ⇑P P 12 03 49.4 +1.4
baz=21,SNR=24
DZM Mont Dzumac 22.58 136 P P 12 04 04.5 -0.3
18nm,0.9s,baz=330,slow=17,SNR=6.1
DZM Mont Dzumac 22.58 136 eP P 12 04 04.9 +0.1
AS31 Alice Springs 23.20 220 eP P 12 04 11.7 +0.6
ASAR Alice Springs 23.21 220 P P 12 04 11.1 -0.1
8.6nm,0.6s,baz=52,slow=8.6,SNR=77
ASAR PcP **PcP 12 07 57.3 -0.1**
2.7nm,0.7s,baz=69,slow=3.1,SNR=6.5
ASAR S **S 12 08 22.9 +4.8**
7.6nm,1.1s,baz=39,slow=22,SNR=10.0
ASAR ScP **ScP 12 11 31.1 +1.2**
0.6nm,0.9s,baz=46,slow=4.0,SNR=2.9
ASAR LR LR 12 13 31.3
comp=Z,285nm,20.5s,baz=26,slow=37
ARMA Armidale 24.23 176 eP P 12 04 22.1 +1.6
34nm,1.0s
ARMA eS **S 12 08 38.9 +4.2**
ARMA Armidale 24.23 176 ⇑P P 12 04 22.3 +1.8
baz=24,SNR=6.5
SOEI Soe 25.55 260 eP P 12 04 32.0 -0.7
48nm,0.9s
SOEI eS **S 12 08 54.2 -1.9**
STKA Stephens Creek 26.75 196 P P 12 04 45.2 +2.0
4.8nm,0.8s,baz=3.5,slow=9.7,SNR=11
STKA LR LR 12 16 08.8
comp=Z,325nm,19.1s,baz=18,slow=38
STKA Stephens Creek 26.75 196 eP P 12 04 42.7 -0.5
5.4nm,0.9s
STKA eS **S 12 09 15.4 +1.0**
STKA Stephens Creek 26.75 196 ⇑P P 12 04 45.7 +2.5
baz=27,SNR=4.4
MMRI Maumere 27.46 263 eP P 12 04 48.2 -1.6
36nm,0.9s
WRKA Warakurna 27.90 225 ⇓P P 12 04 53.2 -0.5
baz=28,SNR=23
MBWA Marble Bar 32.74 240 eP P 12 05 35.5 -0.9
16nm,0.8s
CBIJ Chichi jima 33.84 348 P P 12 05 46.1 +0.3
JCJ Chichijima 33.84 348 P P 12 05 46.1 +0.3
39nm,0.6s,baz=276,slow=17,SNR=2.9
JCJ LR LR 12 19 07.6
comp=Z,181nm,18.8s,baz=116,slow=36
JAGI Jajag, Banyuwa 35.44 264 eP P 12 05 58.2 -1.7
16nm,0.7s
MEEK Meekatharra 36.05 232 ⇑P P 12 06 04.8 -0.2
baz=36,SNR=26
KLBR Kellerberrin 39.25 226 ⇓P P 12 06 31.6 -0.4
baz=39,SNR=6.4
JNU Nakatsue 42.97 336 P P 12 07 01.4 -1.0
5.1nm,0.8s,baz=315,slow=1.6,SNR=5.6
QZH Quanzhou 43.32 317 ⇑iP P 12 07 07.0 +1.7
MJAR Matsushiro Arr 43.81 346 P P 12 07 07.7 -1.4
5.0nm,0.8s,baz=166,slow=9.7,SNR=12
MJAR LR LR 12 22 55.3
comp=Z,59nm,21.3s,baz=190,slow=33
MAJO Matsushiro 43.81 346 eP P 12 07 07.4 -1.7
39nm,1.4s
MAT Matsushiro 43.81 346 P P 12 07 06.8 -2.3
QIZ Qiongzhong 46.64 303 P P 12 07 32.0 +0.2
QIZ S **S 12 14 16.5 -0.1**
QIZ pmax pmax
comp=Z,21nm,1.6s
KSRS Korea Array 47.92 336 P P 12 07 40.6 -0.8
2.2nm,0.5s,baz=151,slow=8.5,SNR=12
KSAR Wonju Array Be 47.93 336 P P 12 07 40.6 -0.9
NJ2 Nanjing 48.08 324 eP P 12 07 42.4 -0.3
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
WHN Wuhan 49.82 319 P P 12 08 00.3 +4.2
WHN S **S 12 15 01.5 +0.4**
WHN LR LR
comp=Z,430nm,17.8s
ASAJ Asahikawa 50.43 353 P P 12 08 00.3 -0.1
16nm,0.8s,baz=190,slow=18,SNR=6.6
PSI Prapat 51.58 278 LR LR 12 32 34.1
comp=Z,70nm,18.8s,baz=124,slow=39
USRK Ussuriysk Arra 52.61 344 P P 12 08 16.4 -0.4
6.5nm,0.9s,baz=149,slow=7.3,SNR=6.3
USRK LR LR 12 28 15.1
comp=Z,118nm,21.2s,baz=180,slow=33
GYA Guiyang 52.89 310 eP P 12 08 21.2 +1.9
GYA pP **pP 12 08 38.0 +1.7**
GYA sP sP 12 08 45.4 +1.6
GYA PP **PP 12 10 22.0 +2.5**
GYA S **S 12 15 42.9 -0.9**
GYA sS **sS 12 16 12.3 -0.3**
GYA SS **SS 12 19 22.7 -1.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.0s
GYA LR LR
comp=N,460nm,19.6s
GYA LR LR
comp=E,380nm,20.4s
GYA LR LR
comp=Z,440nm,18.9s
YSS Yuzh-Sakhalins 53.21 354 eP P 12 08 21.3 +0.2
10nm,0.6s
XMAS Kiritimati 53.28 83 eP P 12 08 23.0 +0.6
354nm,1.5s
MDJ Mudanjiang 53.68 342 P P 12 08 26.5 +1.8
MDJ pP **pP 12 08 42.5 +0.8**
MDJ sP **sP 12 08 49.3 +0.2**
MDJ PcP **PcP 12 09 31.9 +1.7**
MDJ pmax pmax
comp=Z,9.0nm,0.6s
MDJ pmax pmax
comp=Z,110nm,5.2s
MDJ LR LR
comp=N,83nm,24.3s
MDJ LR LR
comp=E,76nm,22.3s
MDJ LR LR
comp=Z,160nm,24.3s
KMI Kunming 55.31 306 P P 12 08 39.5 +2.4
KMI S **S 12 16 14.3 -2.4**
KMI pmax pmax
comp=Z,6.0nm,0.9s
KMI LR LR
comp=Z,69nm,25.5s
BJI Beijing 55.41 329 P P 12 08 38.1 +0.8
BJI S **S 12 16 20.2 +3.1**
BJI pmax pmax
comp=Z,8.0nm,0.5s
BJI LR LR
comp=Z,130nm,28.1s
CMAR Chiang Mai Arr 55.78 297 P P 12 08 38.5 -1.8
0.6nm,0.5s,baz=121,slow=5.3,SNR=4.4
CMAR LR LR 12 34 07.6
comp=Z,31nm,18.5s,baz=129,slow=38
CD2 Chengdu 57.39 313 eP P 12 08 53.1 +1.5
CD2 pP **pP 12 09 10.1 +1.3**
CD2 sP sP 12 09 17.6 +1.4
CD2 PcP **PcP 12 09 46.2 +1.3**
CD2 PP **PP 12 11 02.7 +3.0**
CD2 PcS **PcS 12 13 45.8 -0.4**
CD2 S **S 12 16 43.1 -0.7**
CD2 sS **sS 12 17 12.2 -0.7**
CD2 SS **SS 12 20 34.8 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.6s
HHC Hu-ho-hao-te 58.44 327 eP P 12 09 02.3 +3.4
HHC PP **PP 12 11 14.0 +5.0**
HHC PcS **PcS 12 13 52.1 +1.5**
HHC S **S 12 16 59.5 +2.2**
HHC ScS **ScS 12 18 42.8 -0.1**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,270nm,5.4s
HHC LR LR
comp=N,340nm,17.1s
HHC LR LR
comp=E,2μm,17.7s
HHC LR LR
comp=Z,410nm,17.7s
PETK Petropavlovsk- 59.38 6 P P 12 09 04.8 -0.2
9.9nm,0.6s,baz=167,slow=8.0,SNR=57
PETK LR LR 12 31 38.0
comp=Z,58nm,20.5s,baz=192,slow=33
LZH Lanzhou 60.15 318 eP P 12 09 12.7 +1.8
LZH pP **pP 12 09 28.9 +0.7**
LZH sP **sP 12 09 35.6 +0.1**
LZH PP **PP 12 11 27.5 +3.2**
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,80nm,8.0s
LZH LR LR
comp=N,410nm,14.7s
LZH LR LR
comp=E,440nm,15.0s
LZH LR LR
comp=Z,520nm,18.6s
HIA Hailar 61.08 338 eP P 12 09 17.2 +0.5
8.3nm,0.6s
ULN Ulaanbaatar 65.59 330 eP P 12 09 46.9 +0.2
2.7nm,0.9s
SONM Songino Array 65.90 330 P P 12 09 49.2 +0.5
2.4nm,0.5s,baz=146,slow=5.6,SNR=9.3
SONM LR LR 12 40 52.3
comp=Z,47nm,18.1s,baz=101,slow=38
TAPN Taplejung 68.57 302 eP P 12 10 06.3 +0.1
5.2nm,0.5s
ODAN Odare 68.68 302 eP P 12 10 07.5 +0.7
9.1nm,0.5s
SEY Seymchan 68.89 1 P P 12 10 06.8 -0.3
3.6nm,0.9s,baz=160,slow=4.6,SNR=16
RAMN Ramite 69.37 302 eP P 12 10 12.1 +0.9
7.8nm,0.5s
JIRN Jiri 69.94 302 eP P 12 10 15.3 +0.5
7.5nm,0.5s
GUN Gumba 70.28 302 eP P 12 10 17.4 +0.5
23nm,0.5s
PKI Pulchoki 70.57 302 eP P 12 10 19.2 +0.6
9.0nm,0.6s
PKIN Phulchoki 70.59 302 eP P 12 10 19.5 +0.9
6.1nm,0.5s
KKN Kakani 70.75 302 eP P 12 10 19.9 +0.3
10.0nm,0.4s
DMN Daman 70.84 302 eP P 12 10 20.6 +0.4
9.2nm,0.3s
GKN Gorkha 71.36 302 eP P 12 10 23.5 +0.3
12nm,0.4s
VNDA Vanda 71.64 177 P P 12 10 24.5 +0.8
6.9nm,0.7s,baz=339,slow=5.9,SNR=13
DANN Dangsing 72.20 302 eP P 12 10 27.9 -0.5
7.6nm,0.5s
WMQ Urumqi 74.72 318 eP P 12 10 43.4 +0.8
WMQ pP **pP 12 11 00.0 -0.5**
WMQ sP sP 12 11 08.9 +1.2
WMQ PP **PP 12 13 32.9 +2.3**
WMQ S **S 12 20 13.0 -1.0**
WMQ sS **sS 12 20 41.4 -2.9**
WMQ SS **SS 12 25 03.1 +0.1**
WMQ pmax pmax
comp=Z,10.0nm,1.0s
WMQ pmax pmax
comp=Z,160nm,6.4s
WMQ LR LR
comp=N,72nm,19.0s
WMQ LR LR
comp=E,76nm,20.6s
WMQ LR LR
comp=Z,66nm,19.8s
BILL Bilibino 74.90 6 eP P 12 10 42.9 -0.1
3.9nm,0.5s
CHGN Chignik 75.23 27 eP P 12 10 43.2 -1.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	79.38	320	P	P	12 11 06.9	-1.7
	0.3nm,0.4s,baz=96,slow=8.6,SNR=9.0						
ZALV	Zalesovo Beam	80.62	327	P	P	12 11 12.4	-2.6
	2.4nm,0.6s,baz=106,slow=5.5,SNR=12						
ZALV				LR	LR	12 47 21.8	
	comp=Z,62nm,18.9s,baz=70,slow=36						
KURK	Kurchatov	82.99	323	P	P	12 11 26.6	-1.1
KURBB	Kurchatov Arra	83.02	323	P	P	12 11 26.6	-1.2
	0.3nm,0.6s,baz=94,slow=5.8,SNR=5.3						
MCK	McKinley	83.23	23	eP	P	12 11 27.8	-0.9
QSPA	South Pole Qui	83.85	180	eP	P	12 11 32.7	+0.7
	26nm,1.1s						
ILAR	Eielson Array	84.50	23	P	P	12 11 31.1	-4.0
	2.6nm,0.7s,baz=251,slow=4.3,SNR=34						
ILAR				LR	LR	12 47 40.1	
	comp=Z,41nm,19.2s,baz=260,slow=34						
HYT	Haines Junctio	86.98	28	eP	P	12 11 49.3	+1.7
BVAR	Borovoye Array	88.52	324	P	P	12 11 52.5	-2.4
	0.7nm,0.4s,baz=103,slow=6.5						
INK	Inuvik	90.75	21	P	P	12 12 02.8	-2.2
	1.0nm,0.9s,baz=226,slow=18,SNR=3.8						
NVAR	Mina Array Bea	95.23	52	P	P	12 12 25.3	-1.4
	0.5nm,0.8s,baz=244,slow=6.9,SNR=4.4						
YKA	Yellowknife Ar	97.97	28	P	P	12 12 36.6	-1.6
	0.2nm,0.7s,baz=273,slow=4.9,SNR=3.7						
PMSA	Palmer Station	104.96	166	ePKPdf	PKiKP	12 17 21.7	-2.1
PLCA	Paso Flores	120.46	145	PKP	PKPdf	12 17 53.8	-0.4
	3.9nm,0.7s,baz=303,slow=1.8,SNR=8.4						
GERES	GERESS Array B	123.57	327	PKP	PKPdf	12 17 57.9	-2.0
	0.9nm,0.7s,baz=132,slow=1.5,SNR=6.2						
LPAZ	La Paz	136.35	121	PKP	PKPdf	12 18 25.7	0.0
	3.9nm,0.8s,baz=26,slow=1.8,SNR=6.5						
LPAZ	La Paz	136.35	121	PKP	PKPdf	12 18 25.7	0.0
LPAZ				ePKPdf	PKiKP	12 18 26.3	-1.1
CPUP	Villa Florida	138.36	142	PKP	PKPdf	12 18 28.6	+0.2
	4.6nm,0.7s,baz=292,slow=0.9,SNR=7.2						
CPUP	Villa Florida	138.36	142	PKP	PKPdf	12 18 28.6	+0.2
CPUP				ePKPdf	PKiKP	12 18 29.1	-1.3
CPUP				eSKPbc	SKPbc	12 21 53.8	-3.5
SDV	Santo Domingo	139.82	84	ePKPdf	PKPdf	12 18 29.9	-1.7
SAML	Samuel	143.86	114	ePKPdf	PKPab	12 18 35.6	-0.1
TOA0	Torodi Ar. Sit	147.83	285	ePKPdf	PKPdf	12 18 44.6	-0.7
TOA0				ePKPbc	PKPbc	12 18 46.8	-1.5
TORD	Torodi Ar. Bea	147.83	285	PKP	PKPdf	12 18 43.7	-1.5
	3.0nm,0.5s,baz=81,slow=1.9,SNR=11						
TORD				PKPbc	PKPbc	12 18 46.8	-1.5
	4.9nm,0.7s,baz=72,slow=2.4,SNR=33						
PTGA	Pitinga	149.50	102	ePKPbc	PKPbc	12 18 52.3	-0.3
BDFB	Brasilia	152.08	141	PKP	PKPdf	12 18 53.0	+0.8
	6.8nm,0.7s,baz=162,slow=3.0,SNR=8.3						
BDFB				PKPbc	PKPbc	12 18 59.0	+0.3
	22nm,0.7s,baz=217,slow=2.4,SNR=24						
DBIC	Dimbokro	154.82	273	PKPab	PKPab	12 19 19.3	-0.6
	3.7nm,0.7s,baz=81,slow=3.9,SNR=5.8						

MEX 09 12:00:12.0±0.3,14.41N×92.59W,h5km±15km,MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.43	335	iP	Pn	12 00 34.8	-3.8
PCIG				iS	Sb	12 00 52.6	-4.9
CCIG	Comitan	1.92	13	eP	Pn	12 00 42.1	-3.5
CCIG				iS	Sn	12 01 05.4	-4.8
CMIG	Matias Romero	3.46	321	eP	Pn	12 01 04.0	-2.6
CMIG				iS	Sn	12 01 44.8	-3.2
HUIG	Huatulco	3.66	292	iP	Pn	12 01 06.1	-3.2
HUIG				iS	Sn	12 01 49.4	-3.4

SJA 09 12:22:42.9±0.7,29.60S×68.54W,h3km±2km,MD3.8, ML3.0,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGUA	GUANDACOL	0.12	22	iP	Pg	12 22 45.8	+0.4
AMOG	MOGNA	1.34	178	iP	Pb	12 23 09.1	+0.3
AMOG				iS	Sn	12 23 28.4	+1.2
ACLC	CERRO LA CRUZ	1.40	83	iP	Pb	12 23 09.9	-0.1
ACLC				iS	Sn	12 23 30.3	+1.5
AVFE	Valle Fertil	1.42	139	iP	Pg	12 23 10.6	+0.3
AVFE				iS	Sn	12 23 30.9	+1.8
AVFE				AML	AML	12 23 31.8	
	comp=Z,138nm,0.5s						
RTLL	Cerro Villicun	1.73	178	iP	Pg	12 23 16.1	0.0
RTLL				iS	Sg	12 23 40.0	+1.4
APLL	PUNTA DE LOS L	1.92	115	iP	Pb	12 23 19.2	+0.5
APLL				iP	Pb	12 23 19.2	+0.5
APLL				iS	Sg	12 23 46.1	+1.3
CFAA	Coronel Fontan	2.02	173	iP	Pb	12 23 20.1	-0.3
CFAA				iS	Sg	12 23 48.1	+0.1
RTCV	Cerro Valdivia	2.26	180	iP	Pb	12 23 23.4	-1.0
RTCV				iS	Sb	12 23 54.0	+1.1
RTLS	Leoncito	2.29	196	iP	Pb	12 23 24.7	-0.5
RTLS				iS	Sg	12 23 56.0	-1.2
CYA	Choya	2.66	65	iP	Pb	12 23 29.1	-2.2
CYA				iS	Sb	12 24 03.6	-0.8
CYA				AML	AML	12 24 10.2	
	comp=Z,86nm,0.6s						
AUSP	Uspallata	2.72	195	iP	Pb	12 23 31.3	-1.3

MEX 09 12:29:57.5±1.1,17.08N×95.18W,h130km±11km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.28	88	eP	Pn	12 30 14.0	-1.6
CMIG				iS	Sn	12 30 27.1	-2.1
VHO	Vista Hermosa	1.48	270	iP	Pn	12 30 24.8	-0.9
VHO				eS	Sn	12 30 45.3	-1.8
HUIG	Huatulco	1.58	214	eP	Pn	12 30 25.1	-1.4
HUIG				iS	Sn	12 30 47.0	-1.7
PCIG		2.33	126	iP	Pn	12 30 32.8	-2.7
PCIG				iS	Sn	12 31 01.8	-3.0
PNIG	Pinotepa	2.91	257	iP	Pn	12 30 40.4	-2.6
PNIG				iS	Sn	12 31 15.6	-2.3

IDC 09 12:37:46.0±0.6,36.23S×52.53E,h0km,mb4.3/11, mb1 4.4/12,mb1mx4.1/30,mbtmp4.3/12,ML4.5/1,MS3.7/7, Ms1 3.7/7,ms1mx3.4/30,Error ellipse: s-maj=22.1km s-min=18.3km az=27.0
ISCJB 09 12:37:47.3±0.5,36.28S±0.09×52.6E±0.1,h18km, mb4.2/14,MS3.7/6,Error ellipse: s-maj=15.7km s-min=10.6km az=145.2
NEIC 09 12:37:47.7±0.4,36.21S×52.54E,h10km,mb4.4/5,Error ellipse: s-maj=13.7km s-min=9.6km az=52.0
ISC 09 12:37:48.9±0.6,36.24S±0.10×52.5E±0.1,h18km,n32, σ0°96/23,mb4.4/14,MS3.7/6,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABPO	Ambohimpanom	17.78	343	ePn	Pn	12 41 52.9	-2.7
	6.3nm,0.5s						
ABPO				eSn	Sn	12 45 15.0	+1.5
OPO	Ambohidratompo	18.22	344	P	P	12 42 01.9	+0.7
	1.5nm,0.3s,baz=168,slow=11,SNR=9.3						
OPO				LR	LR	12 47 22.1	
	comp=Z,155nm,19.6s,baz=298,slow=32						
BOSA	Boshof	24.19	281	P	P	12 43 04.0	-0.5
	13nm,0.7s,baz=108,slow=8.8,SNR=15						
BOSA	Boshof	24.19	281	eP	P	12 43 04.1	-0.4
LBTB	Lobatse	25.65	288	P	P	12 43 16.7	-1.1
	3.6nm,0.6s,baz=146,slow=8.9,SNR=5.9						
LBTB	Lobatse	25.65	288	eP	P	12 43 18.2	+0.5
MAW	Mawson	31.96	173	LR	LR	12 54 49.5	
	comp=Z,125nm,18.9s,baz=350,slow=32						
H08S1	Diego Garcia H	33.79	37	T	T	13 19 40.4	
	baz=207,slow=76,SNR=5.2						
H08S2	Diego Garcia H	33.80	37	T	T	13 19 44.7	
	baz=207,slow=76,SNR=4.4						
H08S3	Diego Garcia H	33.81	37	T	T	13 19 43.6	
	baz=207,slow=76,SNR=5.3						
KMBO	Kilima Mbogo	37.70	334	LR	LR	12 59 03.0	
	comp=Z,94nm,18.5s,baz=95,slow=34						
SNAA	Sanae	45.28	201	P	P	12 46 05.0	-0.1
	2.9nm,1.0s,baz=360,slow=6.1,SNR=3.9						
H01W2	Cape Leeuwin H	49.37	108	T	T	13 39 34.9	
	baz=249,slow=76,SNR=18						
H01W3	Cape Leeuwin H	49.37	108	T	T	13 39 34.9	
	baz=249,slow=76,SNR=18						
H01W1	Cape Leeuwin H	49.38	108	T	T	13 39 34.9	
	baz=249,slow=76,SNR=19						
QSPA	South Pole Qui	53.95	180	P	P	12 47 11.2	-0.1
	4.9nm,1.0s,baz=286,slow=2.0,SNR=11						
QSPA	South Pole Qui	53.95	180	eP	P	12 47 11.1	-0.2
	7.1nm,1.1s						
VNDA	Vanda	58.92	166	LR	LR	13 10 04.1	
	comp=Z,79nm,19.6s,baz=227,slow=33						
RAYN	Ar Rayn	59.81	353	eP	P	12 47 53.8	+0.7
	3.4nm,0.7s						
TORD	Torodi Ar. Bea	68.63	306	P	P	12 48 53.0	+1.9
	2.1nm,0.3s,baz=128,slow=5.7,SNR=4.1						
TORD				LR	LR	13 18 18.0	
	comp=Z,108nm,18.3s,baz=265,slow=35						
ASAR	Alice Springs	69.75	105	P	P	12 48 58.5	+0.2
	4.6nm,0.7s,baz=233,slow=5.8,SNR=79						
AS31	Alice Springs	69.75	105	eP	P	12 48 58.5	+0.3
CMAR	Chiang Mai Arr	69.89	47	P	P	12 48 58.6	-0.2
	1.3nm,0.8s,baz=232,slow=7.0,SNR=10						
CMAR				LR	LR	13 14 55.5	
	comp=Z,16nm,21.0s,baz=80,slow=32						
STKA	Stephens Creek	71.31	116	eP	P	12 49 08.0	+0.5
	0.5nm,0.8s						
WRA	Warramunga Arr	72.07	102	P	P	12 49 12.5	+0.2
	5.3nm,0.8s,baz=233,slow=5.3,SNR=50						
WRAB	Tennant Creek	72.08	102	eP	P	12 49 12.7	+0.3
	5.4nm,0.7s						
KEST	Kesra	82.10	326	LR	LR	13 27 51.1	
	comp=Z,61nm,18.2s,baz=268,slow=37						
MKAR	Makanchi Array	86.87	20	P	P	12 50 32.3	+0.3
	0.2nm,0.6s,baz=213,slow=5.6,SNR=3.9						
AKASG	Malin Array Be	88.97	345	P	P	12 50 41.2	-0.7
	0.8nm,0.7s,baz=160,slow=4.4,SNR=4.7						
ZALV	Zalesovo Beam	94.06	18	P	P	12 51 04.7	-0.8
	0.3nm,0.3s,baz=193,slow=2.5,SNR=3.4						
ILAR	Eielson Array	149.15	16	PKPbc	PKPbc	12 57 34.5	-0.7
	2.6nm,0.8s,baz=318,slow=3.2,SNR=28						
YKA	Yellowknife Ar	152.52	347	PKPbc	PKPbc	12 57 42.7	-0.5
	0.8nm,0.7s,baz=21,slow=2.0,SNR=22						

IDC 09 12:45:03.9±3.5,32.39S×57.50E,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.5/24,mbtmp3.7/3,Error ellipse: s-maj=141.3km s-min=50.7km az=44.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	68.78	101	P	P	12 56 10.1	0.0
	0.7nm,0.9s,baz=224,slow=6.8,SNR=5.0						
MKAR	Makanchi Array	81.93	17	P	P	12 57 24.3	-0.7
	0.4nm,0.8s,baz=217,slow=7.0,SNR=3.3						
ZALV	Zalesovo Beam	89.18	16	P	P	12 58 01.6	+0.8
	0.3nm,0.5s,baz=217,slow=4.5,SNR=2.3						
YKA	Yellowknife Ar	149.46	353	PKPbc	PKPbc	13 04 53.5	-0.7
	0.6nm,0.8s,baz=0.5,slow=2.9,SNR=16						

IDC 09 12:55:33.5±1.4,23.67N×120.97E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.3/35,mbtmp3.3/4,ML3.3/1,MS3.3/1, Ms1 3.3/1,ms1mx2.5/14,Error ellipse: s-maj=72.4km s-min=24.8km az=66.0
TAP 09 12:55:35.8,24.17N×121.57E,h20km,ML3.9,B
JMA 09 12:55:35.4,24.17N×121.60E,h12km,M2.9
ISCJB 09 12:55:36.5±0.2,24.18N±0.01×121.64E±0.02,h19km±2km, mb3.3/3,MS3.1/1,Error ellipse: s-maj=3.0km s-min=1.9km az=33.0
ISC 09 12:55:35.9±0.7,24.18N±0.02×121.59E±0.02,h18km±2km, n70,σ0°76/115,mb3.5/3,10C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWD	Chiawan	0.10	177	⇓iP	Pb	12 55 39.9	+0.5
	baz=162						
TWD				iS	Sb	12 55 42.6	+0.7
	baz=162						
EHP	Heping Village	0.19	46	eP	Pg	12 55 41.1	+0.4
	baz=51						
EHP				S	Sb	12 55 45.2	+0.9
	baz=51						
HWA	Hwalien	0.20	176	⇓iP	Pb	12 55 41.4	+0.4
	baz=168						
HWA				S	Sb	12 55 45.0	+0.5
	baz=168						
ENA	Nanau	0.29	29	⇓iP	Pg	12 55 42.5	+0.3
	baz=38						
ENA				eS	Sg	12 55 46.7	+0.1
	baz=38						
WHF	Hehuan Shan	0.30	264	⇑iP	Pg	12 55 42.7	+0.1
	baz=264						
WHF				eS	Sg	12 55 46.8	-0.4
	baz=264						
ESF	Shoufeng Towns	0.31	194	eP	Pb	12 55 43.5	+0.5
	baz=190						
ESF				eS	Sb	12 55 48.3	+0.5
	baz=190						
NNS	Nan Shan	0.33	323	⇑iP	Pg	12 55 43.2	+0.2
	baz=326						
NNS				iS	Sg	12 55 47.9	0.0
	baz=326						
TWT	Tachien	0.39	282	⇑iP	Pb	12 55 44.6	+0.2
	baz=285						
TWT				iS	Sb	12 55 50.0	-0.2
	baz=285						
ESL	Shilin	0.39	202	⇓iP	Pg	12 55 43.6	-0.3
	baz=205						
ESL				S	Sg	12 55 49.1	-0.3
	baz=205						
ENTT	Nioudou	0.46	357	⇑iP	Pg	12 55 45.4	+0.1
	baz=1.0						
ENTT				S	Sg	12 55 52.0	+0.3
	baz=1.0						
TEGC	Jichi Village	0.47	186	eP	Pb	12 55 47.0	+1.3
	baz=193						
TEGC				eS	Sb	12 55 54.0	+1.7
	baz=193						
TWC	Suao	0.49	29	⇑iP	Pg	12 55 46.2	+0.3
	baz=26						
TWC				iS	Sg	12 55 52.8	+0.3
	baz=26						
NSK	Sanguang	0.54	337	⇑iP	Pg	12 55 46.7	-0.1
	baz=339						
NSK				iS	Sg	12 55 53.6	-0.5
	baz=339						
ILA	Ilan	0.60	14	eP	Pg	12 55 47.7	-0.3
	baz=16						
SMLT	Sun Moon Lake	0.69	245	⇑P	Pg	12 55 49.3	-0.3
	baz=237						
SMLT				S	Sg	12 55 58.3	-0.6
	baz=237						
NSTT	Nanjuang	0.70	310	eP	Pb	12 55 49.8	+0.1
	baz=311						
NSTT				eS	Sg	12 55 58.5	-0.7
	baz=311						
EHY	Hungye	0.71	200	⇑eP	Pg	12 55 48.0	-1.9
	baz=188						
TYC	Yuchr	0.72	248	⇑iP	Pg	12 55 49.7	-0.4
	baz=240						
TYC				eS	Sg	12 55 59.0	-0.7
	baz=240						
EGS		0.74	25	P	Pb	12 55 50.5	+0.3
	baz=34						
EGS				eS	Sb	12 55 59.4	-0.6
	baz=34						
TWQ1	Liyutan	0.77	283	eP	Pg	12 55 51.3	+0.4
	baz=291						
TWQ1				eS	Sg	12 56 01.1	0.0
	baz=291						
NSY	Sanyi	0.79	288	eP	Pn	12 55 52.2	-0.1
	baz=288						
NSY				eS	Sn	12 56 02.8	-0.9
	baz=288						
TWA	Mucha	0.80	360	P	Pb	12 55 51.4	0.0
	baz=356						
TWA				S	Sb	12 56 01.6	-0.4
	baz=356						
TCU	Taichung	0.84	268	eP	Pn	12 55 53.0	+0.2
	baz=267						
TCU				eS	Sn	12 56 05.3	+0.6
	baz=267						
TAP1	Taipei	0.86	356	eP	Pg	12 55 53.2	+0.4
	baz=357						
TAP1				eS	Sg	12 56 04.3	+0.1
	baz=357						
TWF1	Yuli	0.86	198	eP	Pb	12 55 52.2	-0.2
	baz=196						
TWF1				eS	Sb	12 56 03.5	-0.1
	baz=196						
NCU	National Centr	0.87	335	eP	Pn	12 55 53.6	+0.3
	baz=337						
NCU				eS	Sn	12 56 06.0	+0.3
	baz=337						
WNT	Mingjian	0.88	251	eP	Pn	12 55 53.4	-0.1
	baz=249						
WNT				eS	Sn	12 56 06.2	+0.4
	baz=249						
YUS	Yu-Shan	0.90	221	eP	Pb	12 55 52.9	-0.4
	baz=208						
TWB1	Santiao Chiao	0.91	24	eP	Pb	12 55 52.6	-0.6
	baz=26						
TWB1				eS	Sb	12 56 05.2	+0.3
	baz=26						
NWF	Wu-fen Shan	0.91	11	eP	Pb	12 55 53.6	+0.3
	baz=13						
NWF				eS	Sg	12 56 06.2	+0.5
	baz=13						
TWS1	Kuangyinshan	0.94	350	P	Pn	12 55 54.5	+0.3
	baz=5.0						
TWS1				S	Sn	12 56 08.4	+1.2
	baz=5.0						
ALS	Alishan	0.98	228	P	Pb	12 55 54.7	+0.2
	baz=218						
ALS				eS	Sg	12 56 07.7	-0.2
	baz=218						
CHN5	Tsauling	1.01	236	eP	Pn	12 55 55.5	+0.1
	baz=234						
CHN5				S	Sn	12 56 10.8	+1.5
	baz=234						
WGK	Gukeng	1.06	243	eP	Pg	12 55 56.5	0.0
	baz=241						
WGK				eS	Sn	12 56 11.8	+1.5
	baz=241						
CHKT	Chengkung	1.09	191	eP	Pb	12 55 54.4	-1.9
	baz=189						
TWY	Chenhua	1.10	0	eP	Pg	12 55 57.2	0.0
	baz=353						
TWY				eS	Sg	12 56 12.0	+0.4
	baz=353						
ELDTW	Lidau	1.11	208	eP	Pb	12 55 56.9	+0.1
	baz=196						
CHN2	Minshiung	1.21	238	eP	Pg	12 55 59.1	-0.1
	baz=236						
CHN2				eS	Sg	12 56 16.5	+1.5
	baz=236						
CHN4	Tsaushan	1.23	228	eP	Pg	12 55 59.3	-0.3
	baz=214						
CHN4				eS	Sg	12 56 17.8	+2.1
	baz=214						
WTCT	Ta-ch'eng	1.24	256	eP	Pn	12 55 58.6	+0.3
	baz=254						
WTCT				eS	Sn	12 56 16.3	+0.3
	baz=254						
CHY	Chiayi	1.26	238	eP	Pb	12 55 59.6	+0.4
	baz=236						
CHY				eS	Sg	12 56 17.4	+0.5
	baz=236						
JYNG	Yonagunijimaku	1.27	77	P	Pn	12 55 58.4	-0.4
JYNG				eS	Sb	12 56 14.9	-0.4
WTP	Ta-pu	1.29	224	⇑P	Pb	12 55 59.9	+0.2
	baz=211						
WTP				eS	Sg	12 56 19.4	+1.8
	baz=211						
YOJ	Yonaguni jima	1.33	77	P	Pn	12 55 59.3	-0.4
YOJ	Yonaguni jima	1.33	77	eP	Pn	12 55 59.2	-0.4
	baz=78						
TWK	Hsinying	1.36	228	P	Pb	12 56 01.2	+0.4
	baz=211						
TWK				eS	Sg	12 56 20.9	+1.1
	baz=211						
WSF	Szhu	1.36	247	eP	Pb	12 56 00.7	-0.2
	baz=254						
WSF				eS	Sg	12 56 19.9	0.0
	baz=254						
CHN1	Nanshi	1.39	225	eP	Pb	12 56 01.5	+0.2
	baz=209						
CHN1				eS	Sg	12 56 22.0	+1.2
	baz=209						
SGST	Jiashian	1.43	221	eP	Pb	12 56 02.2	+0.1
	baz=204						
SGST				eS	Sg	12 56 21.7	-0.4
	baz=204						
TWG	Pinlang	1.43	200	eP	Pb	12 56 02.5	+0.4
	baz=184						
CHN8	Yiju	1.51	237	eP	Pb	12 56 03.6	+0.2
	baz=219						
CHN8				eS	Sg	12 56 24.5	-0.2
	baz=219						
CHN3	Shinhua	1.57	226	eP	Pn	12 56 02.3	-0.7
	baz=223						
SCLT	Jiali	1.62	232	eP	Pb	12 56 05.5	+0.2
	baz=212						
SCLT				eS	Sg	12 56 27.9	-0.3
	baz=212						
SSD	Sandimen	1.67	212	eP	Pb	12 56 05.9	-0.3
	baz=210						
TAI1	Yung-k'ang	1.69	228	eP	Pb	12 56 06.5	+0.1
	baz=225						
TWM1	Shoushan	1.72	219	eP	Pb	12 56 08.3	-0.7
	baz=216						
PNG	Penghu	1.96	252	eP	Pn	12 56 08.0	-0.3
	baz=248						
IRIF	Iriomote-Funau	1.96	85	P	Pn	12 56 08.8	+0.5
WDGT	Dungji	1.99	243	eP	Pn	12 56 09.0	+0.3
	baz=240						
WDGT				eS	Sn	12 56 34.6	+1.4
	baz=240						
SCZT	Fangliau	2.00	207	eP	Pn	12 56 10.6	+1.7
	baz=188						
TWP	Hsiaoliuchiu	2.14	212	eP	Pn	12 56 15.3	+1.0
	baz=209						
JKRS	Kuro-shima	2.21	88	P	Pn	12 56 11.9	+0.2
JIJ	Ishigaki jima	2.34	85	P	Pn	12 56 13.1	-0.4
JISG	Ishigakijimahi	2.51	80	P	Pn	12 56 15.7	-0.2
JISG				eS	Sn	12 56 46.7	+0.5
KNM	Kinmen	2.89	275	eP	Pn	12 56 22.1	+1.0
	baz=271						
KSRS	Korea Array	14.30	21	Pn	P	12 59 06.3	+1.6
	0.1nm,0.3s,baz=201,slow=12,SNR=3.9						
SONM	Songino Array	26.52	337	LR	LR	13 12 47.3	
	comp=Z,58nm,19.4s,baz=236,slow=39						
MKAR	Makanchi Array	38.60	316	P	P	13 02 57.9	-0.1
	0.1nm,0.5s,baz=111,slow=7.9,SNR=2.8						
WRA	Warramunga Arr	45.58	163	P	P	13 03 52.5	-2.7
	0.4nm,0.6s,baz=344,slow=8.6,SNR=7.7						
ASAR	Alice Springs	49.03	165	P	P	13 04 20.0	-2.0
	0.2nm,0.4s,baz=329,slow=6.7,SNR=3.9						

IDC 09 12:59:43.1±1.5,8.39S×159.69E,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.6/28,mbtmp3.8/5,ML3.6/1,Error ellipse: s-maj=51.6km s-min=28.8km az=127.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	1.07	166	LR	LR	13 00 01.7	
	comp=Z,35nm,21.5s,baz=18,slow=17						
DZM	Mont Dzumac	15.08	155	Pn	Pn	13 03 19.0	+1.3
	0.2nm,0.3s,baz=331,slow=19,SNR=2.8						
CTA	Charters Tower	17.44	227	P	P	13 03 52.8	+3.4
	0.2nm,0.3s,baz=42,slow=15,SNR=2.8						
WRA	Warramunga Arr	27.08	242	P	P	13 05 28.2	+0.4
	1.1nm,0.7s,baz=70,slow=9.3,SNR=13						
H11S2	WAKE ISLAND Hy	27.59	14	T	T	13 34 17.6	
	baz=195,slow=78,SNR=56						
H11S3	WAKE ISLAND Hy	27.59	14	T	T	13 34 15.1	
	baz=195,slow=78,SNR=34						
H11S1	WAKE ISLAND Hy	27.61	14	T	T	13 34 15.6	
	baz=195,slow=78,SNR=30						
H11N1	WAKE ISLAND Hy	28.81	14	T	T	13 35 46.1	
	baz=196,slow=76,SNR=38						
H11N3	WAKE ISLAND Hy	28.82	14	T	T	13 35 46.9	
	baz=196,slow=76,SNR=34						
H11N2	WAKE ISLAND Hy	28.83	14	T	T	13 35 50.0	
	baz=196,slow=76,SNR=60						
ASAR	Alice Springs	28.99	235	P	P	13 05 43.8	-1.0
	0.4nm,0.7s,baz=63,slow=10,SNR=5.7						
ILAR	Eielson Array	83.01	20	P	P	13 12 09.4	-0.5
	0.4nm,1.1s,baz=224,slow=3.8,SNR=2.8						
MKAR	Makanchi Array	87.53	318	P	P	13 12 33.8	+0.7
	0.6nm,0.6s,baz=94,slow=6.0,SNR=6.5						

CSEM 09 13:02:55.9,39.48N×29.61W,h0km,ML3.0,After PDA
PDA 09 13:02:55.9±1.2,39.48N×29.61W,h0km±12km,MD3.5,

ML3.0,Error ellipse: s-maj=25.1km s-min=4.0km az=26.0,Azores Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PCED Cedros 1.11 140 eS Sg 13 03 26.9 -4.7
PCED A A 13 03 27.4
118nm,0.4s
PCED Cedros 1.11 140 eS Sg 13 03 26.9 -4.7
CALA Caldeira 1.15 141 eP Pg 13 03 13.7 -4.3
CALA eS Sg 13 03 28.3 -4.7
CALA Caldeira 1.15 141 eP Pg 13 03 13.7 -4.3
CALA eS Sg 13 03 28.3 -4.7
HOR Horta 1.22 141 eS Sg 13 03 29.9 -5.3
HOR Horta 1.22 141 eS Sg 13 03 29.9 -5.3
H07S1 FLORES T-PHASE 1.24 266 eS Sg 13 03 30.5 -5.3
ROSA Rosais 1.31 125 eS Sg 13 03 32.3 -5.8
ROSA A A 13 03 34.0
25nm,0.1s
ROSA Rosais 1.31 125 eS Sg 13 03 32.3 -5.8
PCAN Candelaria 1.34 139 eP Pg 13 03 17.1 -4.6
PCAN eS Sg 13 03 33.0 -6.2
PCAN A A 13 03 35.0
126nm,0.3s
PCAN Candelaria 1.34 139 eP Pg 13 03 17.1 -4.6
PCAN eS Sg 13 03 33.0 -6.2
PICO Pico 1.35 136 eP Pg 13 03 17.4 -4.5
PICO eS Sg 13 03 33.5 -5.9
PICO Pico 1.35 136 eP Pg 13 03 17.4 -4.5
PICO eS Sg 13 03 33.5 -5.9

KRSC 09 13:11:26.6±2.6,54.31N×154.72E,h495km±31km,ML3.8
ISCJB 09 13:11:27.2±0.6,54.21N×0.07×154.8E±0.2,h500km, mb3.1/4,Error ellipse: s-maj=11.8km s-min=9.2km az=11.7
IDC 09 13:11:27.4±1.6,54.03N×154.53E,h490km±22km,mb2.6/4, mb1 2.8/6,mb1mx2.6/41,mbtmp3.5/6,Error ellipse: s-maj=51.7km s-min=20.0km az=166.0
ISC 09 13:11:28.1±1.0,54.17N±0.10×154.8E±0.1,h500km,n28, σ1§32/31,mb3.1/4,Sea of Okhotsk

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
APC Apacha 1.89 130 eP **P 13 12 31.8 -0.8**
APC eS **S 13 13 23.9 -1.2**
GNL Ganaly 1.93 103 iP **P 13 12 32.3 -0.6**
PETK Petropavlovsk- 2.04 120 P **P 13 12 32.2 -1.2**
1.4nm,0.3s,baz=306,slow=12,SNR=30
MIPR Malaya Ipel'ka 2.24 147 P **P 13 12 33.4 -1.1**
KRX Arik 2.44 108 iP **P 13 12 35.2 -0.5**
KOK Koryaka 2.45 110 iP **P 13 12 35.3 -0.4**
KRER Koryakskii 2.51 109 iP **P 13 12 35.6 -0.6**
AVH Avacha 2.52 110 P **P 13 12 35.8 -0.3**
SMAR Somma 2.56 109 eP **P 13 12 35.7 -0.8**
PET Petropavlovsk 2.58 115 eP **P 13 12 35.2 -1.1**
UGLR Uglovaya 2.59 110 eP **P 13 12 35.9 -0.6**
ASAK Asacha 2.59 133 P **P 13 12 35.4 -1.2**
SDLR Sedlovina 2.60 109 iP **P 13 12 35.7 -0.9**
MTVR Mutnovka 2.65 128 P **P 13 12 37.6 +0.6**
MTVR S **S 13 13 33.5 +0.5**
RUS Russkaya 2.84 126 P **P 13 12 40.2 +2.0**
ESO Esso 2.86 50 eP **P 13 12 38.0 0.0**
TUMR Tumrok 3.30 68 eP **P 13 12 40.8 -0.4**
SRDR Sredninyy 3.55 51 eP **P 13 12 43.0 +0.1**
SKR Severo-Kuril's 3.59 166 S **S 13 13 44.0 -0.5**
SMKR Semkarok 4.51 55 P **P 13 12 49.6 -1.1**
KBG Krutoberegovo 4.99 62 S **S 13 14 02.2 -3.6**
KBTR Krutoberegovo 5.04 63 eP **P 13 12 52.5 -2.7**
KBTR eS **S 13 13 59.3 -7.2**
BKI Bering 6.57 76 P **P 13 13 11.0 +1.2**
BKI S **S 13 14 31.6 -1.6**
SEY Seymchan 8.88 353 P **P 13 13 33.5 +0.3**
0.2nm,0.3s,baz=208,slow=13,SNR=4.0
ILAR Eielson Array 30.33 46 P **P 13 16 58.9 +1.2**
0.6nm,0.7s,baz=279,slow=9.7,SNR=9.5
INK Inuvik 34.96 38 P **P 13 17 38.5 +1.5**
0.7nm,0.4s,baz=300,slow=6.2,SNR=12
YKA Yellowknife Ar 44.48 42 P **P 13 18 55.4 +1.8**
0.3nm,0.5s,baz=302,slow=7.4,SNR=6.8
MKAR Makanchi Array 44.82 292 P **P 13 18 55.8 -0.9**
0.2nm,0.4s,baz=58,slow=5.8,SNR=8.7

IDC 09 13:12:00.7±0.9,7.99S×123.31E,h0km,mb4.3/8, mb1 4.4/9,mb1mx4.0/33,mbtmp4.3/9,ML4.3/1,MS3.4/4, Ms1 3.5/4,ms1mx3.1/21,Error ellipse: s-maj=40.7km s-min=16.9km az=54.0
NEIC 09 13:12:01.6±0.4,8.02S×123.47E,h10km,mb4.5/8,Error ellipse: s-maj=12.2km s-min=6.9km az=52.0
NEIC Felt [III] at Larantuka.
BJI 09 13:12:01.7,8.05S×123.30E,h20km,mB5.1/6,mb4.5/15, Ms4.8/1
ISCJB 09 13:12:02.9±0.2,8.09S±0.04×123.40E±0.05,h33km, mb4.4/23,MS3.4/1,Error ellipse: s-maj=8.1km s-min=3.6km az=144.9
MOS 09 13:12:02.7±1.3,8.07S×123.38E,h33km,mb4.8/12,Error ellipse: s-maj=26.5km s-min=8.3km az=125.0
DJA 09 13:12:03.8±0.6,8°S±4'×12°3E±',h10km,M4.5/7,mb4.5/3, mB5.0/2,MLv4.5/7,Mw(mB)4.3/2
ISC 09 13:12:04.9±0.4,8.13S±0.05×123.26E±0.06,h35km,n83, σ1§89/83,mb4.5/23,3C,Flores region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MMRI Maumere 1.14 243 P **Pn 13 12 25.3 +1.0**
MMRI Maumere 1.14 243 eP **Pn 13 12 25.6 +1.3**
SOEI Soe 1.90 149 P **Pn 13 12 36.5 +1.6**
SOEI Soe 1.90 149 eP **Pn 13 12 36.8 +1.9**
SOEI Soe 1.90 149 P **Pn 13 12 36.8 +1.9**
baz=1.9,SNR=197
WSI Waingapu 3.31 242 P Pn 13 12 47.7 -6.5
WSI Waingapu 3.31 242 P Pn 13 12 59.8 +5.6
baz=3.6,SNR=4.4
BKSI Bulukumba 4.18 312 P **Pn 13 13 05.9 -0.3**
KAPI Kappang 4.66 311 eP **Pn 13 13 13.6 +0.8**
BNSI Bone 4.85 320 P **Pn 13 13 17.5 +2.1**
SPSI Sidrap Palu 5.40 320 P **Pn 13 13 24.6 +1.6**
36nm,0.9s,0.2nm
TTSI Tana Toraja 6.10 326 P **Pn 13 13 33.2 +0.6**
69nm,1.0s,987nm
JAGI Jajag, Banyuwa 9.02 267 eP **Pn 13 14 15.6 +2.8**
MTN Manton Dam 9.05 122 P **Pn 13 14 12.4 -0.7**
baz=8.9,SNR=22
KNRA Kununurra 9.23 145 P **Pn 13 14 14.7 -0.9**
baz=9.2,SNR=106
KNRA S **Sn 13 15 58.9 +0.6**
baz=9.2,SNR=5.1
KDU Kakadu 10.13 117 P **Pn 13 14 27.5 -0.4**
baz=10.0,SNR=4.1
MBWA Marble Bar 13.40 194 eP **Pn 13 15 14.0 +1.3**
CISI Cisompet, Garu 15.31 271 S **Sn 13 18 23.7 -3.6**
baz=16,SNR=9.5
WRA Warramunga Arr 15.91 139 Pn **Pn 13 15 42.6 -3.6**
0.6nm,0.3s,baz=316,slow=13,SNR=25
WRA Sn **Sn 13 18 35.1 -6.5**
0.5nm,0.3s,baz=309,slow=22,SNR=7.6
WRA LR LR 13 22 55.2
comp=Z,144nm,18.7s,baz=340,slow=41
WRAB Tennant Creek 15.91 139 eP **Pn 13 15 44.5 -1.7**
WRAB pmax pmax
comp=Z,29nm,0.8s
WRAB Tennant Creek 15.91 139 eP **Pn 13 15 42.7 -3.5**
comp=Z,11nm,0.7s
WRKA Warakurna 17.49 165 P **Pn 13 16 06.0 -0.1**
baz=18,SNR=22
AS31 Alice Springs 18.52 148 eP **Pn 13 16 19.0 +0.3**
ASAR Alice Springs 18.52 148 P **Pn 13 16 19.0 +0.3**
comp=Z,0.9nm,0.3s,baz=320,slow=12,SNR=52
ASAR Sn **Sn 13 19 39.2 -5.6**
comp=Z,0.2nm,0.3s,baz=309,slow=21,SNR=9.5
ASAR LR LR 13 24 06.5
comp=Z,102nm,19.4s,baz=322,slow=39
MEEK Meekatharra 18.93 193 P Pn 13 16 30.3 +6.5
baz=19,SNR=9.0
MEEK S **Sn 13 19 50.3 -4.5**
baz=19,SNR=5.8
QIS Mount Isa 20.06 130 P Pn 13 16 36.6 -0.7
baz=20,SNR=11
COEN Coen 20.38 108 eP **P 13 16 36.8 -2.0**
comp=Z,66nm,0.8s
COEN Coen 20.38 108 P **P 13 16 39.5 +0.7**
baz=20,SNR=4.1
MNAI Manna 20.53 279 P Pn 13 16 49.2 +6.4
baz=21,SNR=4.1
MTSU Mount Surprise 22.76 118 P **P 13 17 05.3 +0.9**
baz=23,SNR=4.6
BLDU Ballidu 23.20 194 P **P 13 17 09.9 +1.2**
baz=24,SNR=4.6
PMG Port Moresby 23.65 95 eP **P 13 17 13.9 +0.6**
PMG pmax pmax
comp=Z,6.0nm,1.7s
CTA Charters Tower 25.23 121 P **P 13 17 30.1 +2.4**
comp=Z,4.3nm,0.8s,baz=275,slow=14,SNR=4.4
PSI Prapat 26.59 293 P **P 13 17 41.6 +1.4**
comp=Z,4.2nm,0.7s,baz=226,slow=5.8,SNR=3.6
BBOO Buckleboo 27.28 156 P **P 13 17 48.1 +2.0**
baz=27,SNR=5.8
HTT Hallett 29.05 152 P **P 13 18 04.3 +2.4**
baz=29,SNR=4.4
STKA Stephens Creek 29.14 147 eP **P 13 18 03.6 +0.9**
STKA Stephens Creek 29.14 147 P **P 13 18 04.0 +1.2**
comp=Z,1.7nm,0.6s,baz=315,slow=7.2,SNR=5.2
STKA LR LR 13 30 50.6
comp=Z,97nm,19.3s,baz=13,slow=39
STKA Stephens Creek 29.14 147 eP **P 13 18 03.6 +0.9**
STKA Stephens Creek 29.14 147 P **P 13 18 05.6 +2.8**
baz=29,SNR=4.0
CMAR Chiang Mai Arr 35.69 318 P **P 13 19 01.7 +1.5**
comp=Z,1.2nm,0.7s,baz=149,slow=6.4,SNR=9.1
CMAR LR LR 13 35 13.4
comp=Z,51nm,18.6s,baz=162,slow=39
LSA Lhasa 48.67 322 eP **P 13 20 47.8 +1.5**
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 48.67 322 eP **P 13 20 47.8 +1.5**
comp=Z,3.9nm,0.6s
ODAN Odare 49.19 316 eP **P 13 20 51.5 +1.4**
comp=Z,14nm,0.9s
TAPN Taplejung 49.28 317 eP **P 13 20 51.1 +0.2**
comp=Z,15nm,0.9s
RAMN Ramite 49.79 316 eP **P 13 20 56.0 +1.3**
comp=Z,29nm,0.8s
JIRN Jiri 50.52 316 eP **P 13 21 01.0 +0.6**
GUN Gumba 50.89 316 eP **P 13 21 04.0 +0.9**
comp=Z,31nm,0.9s
PKI Pulchoki 51.00 315 eP **P 13 21 04.5 +0.5**
comp=Z,16nm,0.7s
PKIN Phulchoki 51.01 315 eP **P 13 21 05.4 +1.4**
KKN Kakani 51.23 316 eP **P 13 21 06.6 +1.1**
comp=Z,14nm,0.8s
DMN Daman 51.23 315 eP **P 13 21 06.7 +1.1**
comp=Z,26nm,0.9s
GKN Gorkha 51.80 315 eP **P 13 21 10.7 +0.9**
comp=Z,24nm,0.9s
DANN Dangsing 52.63 315 eP **P 13 21 16.3 +0.3**
comp=Z,42nm,0.7s
ASAJ Asahikawa 54.87 17 P **P 13 21 32.4 +0.7**
comp=Z,9.0nm,0.9s,baz=232,slow=19,SNR=3.1
ULN Ulaanbaatar 57.56 347 eP **P 13 21 51.4 +0.2**
ULN pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 57.56 347 eP **P 13 21 51.6 +0.4**
comp=Z,4.9nm,1.0s
SONM Songino Array 57.68 347 P **P 13 21 52.0 +0.1**
comp=Z,3.3nm,0.9s,baz=162,slow=8.4,SNR=17
ZAK Zakamensk 60.80 345 eP **P 13 22 12.4 -1.1**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TLY Talaya 61.92 346 eP **P 13 22 22.1 +1.2**
TLY pmax pmax
comp=Z,4.0nm,1.7s
MK31 Makanchi Array 65.70 330 eP **P 13 22 45.9 0.0**
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 65.70 330 eP **P 13 22 46.6 +0.7**
MKAR Makanchi Array 65.70 330 iP **P 13 22 46.2 +0.4**
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 65.70 330 P **P 13 22 46.3 +0.4**
comp=Z,6.8nm,0.7s,baz=132,slow=7.8,SNR=72
KBL Kabul 66.51 313 eP **P 13 22 50.8 -0.8**
KBL pmax pmax
comp=Z,3.0nm,0.5s
KBL Kabul 66.51 313 eP **P 13 22 50.8 -0.8**
comp=Z,3.3nm,0.5s
AAK Ala-Archa 67.24 323⇑iP **P 13 22 54.9 -1.2**
AAK pmax pmax
comp=Z,58nm,2.5s
ZALV Zalesovo Beam 69.81 337 P **P 13 23 10.4 -1.1**
comp=Z,1.6nm,0.7s,baz=142,slow=4.7,SNR=8.0
KK31 Karatay Array 69.92 322 iP **P 13 23 12.7 +0.1**
YAK Yakutsk 70.12 3 eP **P 13 23 12.3 -1.0**
YAK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 70.16 332 P **P 13 23 13.5 -0.3**
KURK pmax pmax
comp=Z,5.0nm,1.1s
KURK Kurchatov 70.16 332 eP **P 13 23 13.8 0.0**
comp=Z,4.4nm,1.0s
BVA0 Borovoye Array 75.58 330 iP **P 13 23 46.1 +0.2**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 75.65 330 eP **P 13 23 46.3 0.0**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
AB31 Akbulak array 79.33 323 iP **P 13 24 07.0 0.0**
ABKAR Akbulak array 79.33 323 eP **P 13 24 06.8 -0.1**
comp=Z,1.1nm,0.8s
TIXI Tiksi 79.69 2⇑iP **P 13 24 08.4 -0.1**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 79.69 2 eP **P 13 24 08.7 +0.2**
comp=Z,4.6nm,0.9s
ARU Arti 83.21 330c iP **P 13 24 26.6 -0.8**
ARU 13 27 35.3
ARU S **S 13 34 44.9 -0.1**
ARU SS **SS 13 40 04.6 -5.7**
ARU pmax pmax
comp=Z,6.0nm,1.2s
PPT Papeete 84.90 107 LR LR 13 57 27.3
comp=Z,3µm,20.3s,baz=292,slow=32
OBN Obninsk 94.71 325 P **P 13 25 22.0 -0.4**
OBN pmax pmax
comp=Z,6.0nm,1.3s
ESK Eskdalemuir 116.85 329 i PKIKP **PKPdf 13 30 40.6 -5.0**
CPUP Villa Florida 145.75 179 PKPbc **PKPab 13 31 41.8 +0.6**
comp=Z,2.2nm,0.6s,baz=161,slow=2.5,SNR=4.3

CSEM 09 13:19:28.4,39.67N×29.76W,h5km,ML3.0,After PDA
PDA 09 13:19:28.4±0.9,39.67N×29.76W,h15km,MD3.5,ML3.0, Error ellipse: s-maj=14.1km s-min=3.0km az=24.0, Azores Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H07S1 FLORES T-PHASE 1.15 256 eP Pg 13 19 45.9 -4.7
H07S1 eS Sg 13 20 00.0 -5.6
PCED Cedros 1.33 141 eP Pn 13 19 53.1 -0.5
CALA Caldeira 1.37 143 eS Sb 13 20 04.8 -7.7
CALA Caldeira 1.37 143 eS Sb 13 20 04.8 -7.7
ROSA Rosais 1.52 128 eS Sn 13 20 08.3 -8.1
ROSA A A 13 20 13.5
33nm,0.3s
ROSA Rosais 1.52 128 eS Sn 13 20 08.3 -8.1
PCAN Candelaria 1.56 140 eP Pn 13 19 51.9 -5.0
PCAN eS Sn 13 20 09.8 -7.8
PCAN A A 13 20 10.6
182nm,0.4s
PCAN Candelaria 1.56 140 eP Pn 13 19 51.9 -5.0
PCAN eS Sn 13 20 09.8 -7.8
PICO Pico 1.57 138 eP Pn 13 19 52.6 -4.4
PICO eS Sn 13 20 10.1 -7.6
PICO Pico 1.57 138 eP Pn 13 19 52.6 -4.4
PICO eS Sn 13 20 10.1 -7.6

CSEM 09 13:22:30.7,39.40N×29.90W,h15km,ML3.0,After PDA
PDA 09 13:22:30.7±1.1,39.40N×29.90W,h15km,MD3.5,ML3.0, Error ellipse: s-maj=19.1km s-min=3.4km az=24.0, Azores Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H07S1 FLORES T-PHASE 1.01 269 eS Sb 13 22 57.4 -5.7
PCED Cedros 1.21 129 eP Pn 13 22 49.1 -4.0
PCED eS Sb 13 23 01.9 -6.9
PCED A A 13 23 04.8
85nm,0.4s
PCED Cedros 1.21 129 eP Pn 13 22 49.1 -4.0
PCED eS Sb 13 23 01.9 -6.9
CALA Caldeira 1.24 131 eS Sb 13 23 03.5 -6.4
CALA Caldeira 1.24 131 eS Sb 13 23 03.5 -6.4
HOR Horta 1.32 131 eS Sn 13 23 04.6 -7.3
HOR Horta 1.32 131 eS Sn 13 23 04.6 -7.3
PCAN Candelaria 1.45 130 eP Pn 13 22 51.8 -4.6
PCAN eS Sn 13 23 08.6 -6.6
PCAN A A 13 23 10.8
126nm,0.2s
PCAN Candelaria 1.45 130 eP Pn 13 22 51.8 -4.6
PCAN eS Sn 13 23 08.6 -6.6
PICO Pico 1.46 128 eP Pn 13 22 52.8 -3.8
PICO eS Sn 13 23 08.7 -6.9
PICO Pico 1.46 128 eP Pn 13 22 52.8 -3.8
PICO eS Sn 13 23 08.7 -6.9
ROSA Rosais 1.46 117 eS Sn 13 23 07.9 -7.6
ROSA A A 13 23 13.8
48nm,0.3s
ROSA Rosais 1.46 117 eS Sn 13 23 07.9 -7.6

IDC 09 13:24:26.9±9.7,20.96S×176.42W,h99km±86km,mb3.7/3, mb1 3.9/4,mb1mx3.4/23,mbtmp4.2/4,ML5.3/2,Error ellipse: s-maj=79.3km s-min=52.4km az=178.0,Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 8.37 189 P Pn 13 26 26.1 +0.6
206nm,0.3s,baz=37,slow=20,SNR=9.2
URZ Urewera 18.13 197 P P 13 28 29.7 -1.6
1.5nm,0.3s,baz=0.0,slow=2.0,SNR=20
STKA Stephens Creek 38.93 245 P P 13 31 43.9 +0.6
2.5nm,0.8s,baz=83,slow=8.7,SNR=6.9
ASAR Alice Springs 45.85 257 P P 13 32 39.6 0.0
2.5nm,0.9s,baz=90,slow=8.1,SNR=19
WRA Warramunga Arr 46.00 262 P P 13 32 40.2 -0.6
1.3nm,0.7s,baz=98,slow=8.8,SNR=19
BRTR Keskin Array B 148.24 313 PKPbc PKPbc 13 44 01.3 -0.6
0.6nm,0.7s,baz=113,slow=1.8,SNR=3.5

CSEM 09 13:48:40.9±1.1,32.04N×36.28E,h15km,ML1.3,Error ellipse: s-maj=24.6km s-min=11.1km az=159.0
NSSC 09 13:48:40.8±1.8,32.06N×36.27E,h7km±13km,MD1.2, ML1.3,Dead Sea region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SALA Sala 0.76 31 eP Pb 13 48 56.3 -0.3
SALA eS Sg 13 49 05.7 -0.1
SALA AML AML 13 49 05.9
comp=N,21nm,0.3s
SALA AML AML 13 49 12.9
comp=E,1.5nm,0.5s
SALA Sala 0.76 31 eP Pb 13 48 56.3 -0.3
SNR=72
SALA eS Sg 13 49 05.7 0.0
comp=E,1.5nm,0.5s,SNR=92
ZALF Zalf 1.24 46 eP Pb 13 49 03.7 -1.0
ZALF eS Sg 13 49 19.9 -1.1
ZALF AML AML 13 49 25.9
comp=E,6.3nm,0.5s
ZALF AML AML 13 49 27.0
comp=N,6.2nm,0.3s
ZALF Zalf 1.24 46 eP Pb 13 49 03.7 -1.0
SNR=61
ZALF eS Sg 13 49 19.9 -1.1
comp=N,6.2nm,0.3s,SNR=62
TOTH TOTAH 1.30 6 eP Pg 13 49 06.2 +0.3
TOTH AML AML 13 49 21.9
comp=N,12nm,0.6s
TOTH eS Sb 13 49 22.7 -0.2
TOTH AML AML 13 49 25.0
comp=E,22nm,0.8s
TOTH TOTAH 1.30 6 eP Pg 13 49 06.2 +0.2
SNR=61
TOTH eS Sb 13 49 22.7 -0.1
comp=E,22nm,0.8s,SNR=62
BRBR Barbar 1.37 349 eP Pn 13 49 04.7 -2.0
BRBR eS Sb 13 49 23.6 -1.5
BRBR AML AML 13 49 27.4
comp=E,7.8nm,0.4s
BRBR AML AML 13 49 30.0
comp=N,9.0nm,0.6s
BRBR Barbar 1.37 349 eP Pn 13 49 04.7 -2.0
SNR=61
BRBR eS Sb 13 49 23.6 -1.6
comp=N,9.0nm,0.6s,SNR=62

CSEM 09 13:50:23.7±0.3,37.07N×29.00E,h15km,MD2.8,Error ellipse: s-maj=9.5km s-min=6.1km az=167.0
DDA 09 13:50:24.2,37.13N×28.99E,h7km,MD3.0
ISK 09 13:50:22.3,36.93N×29.06E,h20km,MD2.8,Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DALY Dalyan (Mu¨la 0.35 250 ePG Pb 13 50 29.9 +0.2
DALY eSG Sb 13 50 35.8 +1.0
DALY Dalyan (Mu¨la 0.35 250 ePg Pb 13 50 29.9 +0.2
DALY eSg Sb 13 50 35.8 +1.0
GOLH Golhisar 0.50 53 iS Sb 13 50 40.0 +0.4
GOLH Golhisar 0.50 53 iP Pb 13 50 32.6 0.0
GOLH Golhisar 0.50 53 iP Pb 13 50 32.6 -0.1
GOLH iS Sb 13 50 40.0 +0.4
YER Yerkesik 0.65 288 ePG Pn 13 50 36.3 -0.3
YER Yerkesik 0.65 288 ePg Pn 13 50 36.3 -0.2
AKAS Kas 0.83 148 iP Pn 13 50 43.6 +4.6
AKAS iS Sn 13 50 59.5 +8.8
AKAS Kas 0.83 148 iP Pn 13 50 43.6 +4.6
AKAS iS Sn 13 50 59.5 +8.8
KORT Korkueli 1.04 86 iP Pn 13 50 45.2 +3.3
KORT iS Sn 13 51 02.6 +6.7
KORT Korkueli 1.04 86 iP Pn 13 50 45.2 +3.3
KORT iS Sn 13 51 02.6 +6.7
BDRM Kayabasi 1.30 276 iS Sb 13 51 04.3 +1.9
BDRM Kayabasi 1.30 276 iP Pb 13 50 47.4 +1.3
BDRM Kayabasi 1.30 276 iP Pb 13 50 47.4 +1.3
BDRM iS Sb 13 51 04.3 +2.0
BCK Bucak 1.33 66 ePN Pb 13 50 46.6 0.0
BCK Bucak 1.33 66 ePn Pb 13 50 46.7 0.0
AYDB Zeytinkoy-Aydi 1.37 318 PN Pb 13 50 47.1 -0.4
AYDB Zeytinkoy-Aydi 1.37 318 iPn Pb 13 50 47.1 -0.4
BODT Bodrum 1.41 276 ePN Pb 13 50 47.5 -0.4
BODT eSN Sb 13 51 05.6 +0.2
BODT Bodrum 1.41 276 ePn Pb 13 50 47.6 -0.3
BODT eSn Sb 13 51 05.6 +0.1
KHL Karahalli 1.44 15 ePN Pb 13 50 48.0 -0.5
KHL Karahalli 1.44 15 ePn Pb 13 50 48.0 -0.5
ISP Isparta 1.46 52 ePN Pn 13 50 48.2 +0.5
ISP Isparta 1.46 52 ePn Pn 13 50 48.2 +0.5
MANT Manisa 1.60 346 iP Pn 13 50 50.2 +0.4
MANT Manisa 1.60 346 iP Pn 13 50 50.2 +0.4
KULA Kula-Manisa 1.61 349 ePN Pn 13 50 49.8 +0.1
KULA Kula-Manisa 1.61 349 ePn Pn 13 50 49.8 +0.1

SKO 09 13:56:26.5,41.62N×22.36E,h28km,M1.4,ML1.7, Northwestern Balkan Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VAY Valandovo 0.34 152 iPg Pb 13 56 34.6 +0.3
VAY eSg Sb 13 56 40.4 +0.8
VAY eLg Lg 13 56 40.5
comp=E,90nm,0.3s
VAY eLg Lg 13 56 40.6
comp=N,55nm,0.3s

DDA 09 13:57:18.4,39.91N×27.28E,h5km,MD2.6
CSEM 09 13:57:18.8±0.1,39.94N×27.33E,h8km,MD2.8,Error ellipse: s-maj=2.9km s-min=2.0km az=50.0
ISK 09 13:57:18.0,39.94N×27.33E,h5km,MD2.8,Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KRBG Karabiga-Canak 0.46 357 ePG Pg 13 57 27.3 +0.4
KRBG eSG Sb 13 57 34.3 -1.3
KRBG Karabiga-Canak 0.46 357 ePg Pg 13 57 27.3 +0.5

KRBG				eSg	Sb	13 57 34.3	-1.4
BALB	**Balikesir**	**0.52**	**125**	ePG	Pg	13 57 28.3	+0.4
BALB				eSG	Sb	13 57 36.3	-1.1
BALB	**Balikesir**	**0.52**	**125**	ePg	Pg	13 57 28.3	+0.4
BALB				eSg	Sb	13 57 36.3	-1.0
RKY	**Sarkoy-Tekirda**	**0.76**	**351**	ePG	Pg	13 57 33.1	+0.4
RKY				eSG	Sb	13 57 44.1	-0.5
RKY	**Sarkoy-Tekirda**	**0.76**	**351**	ePg	Pg	13 57 33.1	+0.4
RKY				eSg	Sb	13 57 44.1	-0.5
SART	**Tekirdag**	**0.76**	**351**	iP	Pg	13 57 33.3	+0.5
SART				iS	Sn	13 57 46.3	-1.2
SART	**Tekirdag**	**0.76**	**351**	iP	Pb	13 57 33.3	-0.6
SART				iS	Sn	13 57 46.3	-1.2
EZN	**Ezine**	**0.78**	**262**	ePG	Pg	13 57 33.5	+0.5
EZN				eSG	Sb	13 57 44.8	-0.2
EZN	**Ezine**	**0.78**	**262**	ePg	Pg	13 57 33.5	+0.5
EZN				eSg	Sb	13 57 44.8	-0.2
GELI	**Tayfur-Gelibol**	**0.80**	**305**	ePG	Pg	13 57 33.8	+0.4
GELI				eSG	Sb	13 57 45.6	0.0
GELI	**Tayfur-Gelibol**	**0.80**	**305**	ePg	Pg	13 57 33.8	+0.4
GELI				eSg	Sb	13 57 45.6	0.0
AKHS	**Akhisar**	**1.12**	**160**	iP	Pn	13 57 40.4	0.0
AKHS				iS	Sn	13 57 56.4	+0.2
AKHS	**Akhisar**	**1.12**	**160**	iP	Pn	13 57 40.4	0.0
AKHS				iS	Sn	13 57 56.4	+0.3
ENEZ	**Enez**	**1.20**	**312**	ePN	Pn	13 57 42.0	+0.5
ENEZ	**Enez**	**1.20**	**312**	ePn	Pn	13 57 42.0	+0.5
ORLT	**Orhaneli**	**1.21**	**84**	ePN	Pn	13 57 41.7	0.0
ORLT	**Orhaneli**	**1.21**	**84**	ePn	Pn	13 57 41.7	+0.1
SIGR	**SIGRI**	**1.35**	**238**	ePN	Pg	13 57 44.1	+0.2
SIGR	**SIGRI**	**1.35**	**238**	ePn	Pg	13 57 44.1	+0.2
ALN	**Alexandroupoli**	**1.37**	**315**	ePN	Pb	13 57 44.2	+0.1
ALN	**Alexandroupoli**	**1.37**	**315**	ePn	Pg	13 57 44.3	0.0
CTKS	**Kestanelik-??a**	**1.58**	**34**	ePN	Pb	13 57 47.4	-0.3
CTKS	**Kestanelik-??a**	**1.58**	**34**	ePn	Pb	13 57 47.4	-0.2
TVSB	**Tavsanli**	**1.71**	**106**	ePN	Pb	13 57 49.4	-0.7
TVSB	**Tavsanli**	**1.71**	**106**	ePn	Pn	13 57 49.4	+0.7

GUC 09 14:22:06.6±0.4, 20°84S×69°22W, h106km±2km, ML3.7, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.33**	**232**	⇓eP	Pn	14 22 22.4	+0.3
PB01				eS	Sn	14 22 34.1	+0.4
PB01				AML	AML	14 22 35.2	
	comp=E,6µm,0.2s						
HMBC	**Humberstone**	**0.84**	**311**	eP	Pn	14 22 26.2	+0.1
HMBC				eS	Sn	14 22 41.3	+0.6
HMBC				AML	AML	14 22 42.5	
	comp=N,2µm,0.3s						
PATCX	**Punta Patache**	**0.88**	**271**	eP	Pn	14 22 26.9	+0.6
PATCX				eS	Sn	14 22 42.0	+0.8
PB09	**Plate Boundary**	**0.95**	**182**	eP	Pn	14 22 27.7	+0.5
PB09				eS	Sn	14 22 43.6	+0.9
PB07	**Plate Boundary**	**1.08**	**215**	⇑iP	Pn	14 22 28.9	+0.3
PB11	**Plate Boundary**	**1.15**	**339**	⇑eP	Pn	14 22 29.6	+0.3
PB11				eS	Sn	14 22 47.3	+0.8
PB04	**Plate Boundary**	**1.44**	**190**	⇑iP	Pn	14 22 36.7	+4.2
MNMC	**Minimini**	**1.74**	**348**	⇑eP	Pn	14 22 37.0	+0.5
MNMC				eS	Sn	14 23 00.2	+1.0
MNMC				AML	AML	14 23 05.3	
	comp=N,773nm,0.1s						

ISCJB ***09*** *14:26:17.9±0.2, 51°59N×16°01E±0°02, h0km, mb3.9/17, Error ellipse: s-maj=2.1km s-min=1.7km az=169.6*
BNS ***09*** *14:26:18.3±0.7, 51°79N×16°55E, h5km, ML3.8*
MOS ***09*** *14:26:18.7±1.3, 51°62N×15°91E, h10km, mb4.2/10, Error ellipse: s-maj=5.8km s-min=3.7km az=81.3*
LDG ***09*** *14:26:19.8±0.1, 51°58N×16°15E, h0km, Ml4.3/22, Error ellipse: s-maj=3.8km s-min=2.2km az=1.0, Suspected Mining induced.*
STR ***09*** *14:26:19.8±0.6, 51°76N×16°03E, h5km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
NEIC ***09*** *14:26:20.2±0.3, 51°58N×15°99E, h5km, mb4.1/3, Error ellipse: s-maj=5.8km s-min=3.7km az=154.0*
CSEM ***09*** *14:26:20.2±0.1, 51°58N×16°05E, h2km, mb4.0/10, ML4.4/14, Error ellipse: s-maj=2.8km s-min=2.2km az=166.0*
IDC ***09*** *14:26:21.3±0.4, 51°53N×16°01E, h0km, mb3.8/12, mb1 4.0/20, mb1mx4.0/31, mbtmp3.9/20, ML3.8/8, Error ellipse: s-maj=8.6km s-min=5.3km az=101.0*
PRU ***09*** *14:26:21.9, 51°51N×16°07E, h0km, M4.1*
BGR ***09*** *14:26:22.1±0.5, 51°50N×16°10E, h1km, ML3.9/15, Error ellipse: s-maj=5.6km s-min=2.2km az=17.0*
VIE ***09*** *14:26:22.9±0.7, 51°35N×15°96E, h0km, mb3.6/5, ML3.8/5, Error ellipse: s-maj=5.2km s-min=2.8km az=21.0 78 km WNW of Wroclaw Suspected Mining induced.*

ISC 09 14:26:19.8±0.4, 51°58N±0°02×16°06E±0°02, h0km, n384, σ1.63/480, mb3.9/17, 21C-29D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.76**	**168**	ePg	Pg	14 26 35.2	+0.8
KSP	**Ksiaz**	**0.76**	**168**	⇓iP	Pg	14 26 35.1	+0.8
KSP				e		14 26 47.6	
KSP	**Ksiaz**	**0.76**	**168**	Pg	Pg	14 26 35.1	+0.8
KSP				eSg	Sg	14 26 44.4	+0.3
KSP	**Ksiaz**	**0.76**	**168**	iP	Pg	14 26 35.1	+0.8
KSP				iSg	Sg	14 26 44.4	+0.3
KSP				eS	Sb	14 26 47.6	+0.9
UPC	**Upice**	**1.08**	**181**	⇓iP	Pg	14 26 41.1	+0.6
UPC				e		14 26 53.8	
UPC				smax	smax		
	comp=N,474nm,0.4s						
UPC	**Upice**	**1.08**	**181**	⇓iPG	Pg	14 26 41.1	+0.6
UPC				eSG	Sg	14 26 53.8	-0.6
	comp=N,474nm,0.4s						
UPC	**Upice**	**1.08**	**181**	Pg	Pg	14 26 41.1	+0.6
UPC				Sg	Sg	14 26 53.8	-0.6
	comp=N,474nm,0.4s						
DPC	**Dobruska-Polom**	**1.25**	**172**	ePg	Pg	14 26 43.9	+0.2
DPC				eSg	Sg	14 26 59.0	-0.8
DPC	**Dobruska-Polom**	**1.25**	**172**	⇓iP	Pg	14 26 43.9	+0.2
DPC				e		14 26 59.0	
DPC	**Dobruska-Polom**	**1.25**	**172**	⇓iPG	Pg	14 26 43.9	+0.2
DPC				eSG	Sg	14 26 59.0	-0.8
DPC				AMS	AMS	14 27 20.0	
DPC	**Dobruska-Polom**	**1.25**	**172**	iP	Pg	14 26 43.9	+0.2
DPC				eS	Sg	14 26 59.0	-0.8
BRG	**Berggiesshubel**	**1.51**	**243**	PN	Pn	14 26 48.3	+0.2
BRG				PG	Pg	14 26 50.1	+1.4
BRG				SG	Sn	14 27 10.1	+1.7
	comp=N,1µm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**243**	ePg	Pg	14 26 50.1	+1.4
BRG				eSg	Sn	14 27 09.9	+1.5
BRG	**Berggiesshubel**	**1.51**	**243**	P	Pn	14 26 48.3	+0.2
BRG						14 27 10.1	
BRG	**Berggiesshubel**	**1.51**	**243**	P	Pn	14 26 48.3	+0.2
BRG	**Berggiesshubel**	**1.51**	**243**	Pg	Pg	14 26 50.1	+1.4
BRG				Sg	Sn	14 27 09.9	+1.5
KRLC	**Kraliky**	**1.58**	**163**	⇓iP	Pn	14 26 49.2	+0.1
KRLC				e		14 27 09.3	
KRLC	**Kraliky**	**1.58**	**163**	⇓iPG	Pn	14 26 49.2	+0.1
KRLC				eSG	Sn	14 27 09.3	-1.0
KRLC	**Kraliky**	**1.58**	**163**	Pg	Pn	14 26 49.2	+0.1
KRLC				Sg	Sn	14 27 09.3	-1.0
RUE	**Ruedersdorf**	**1.67**	**303**	ePn	Pn	14 26 50.8	+0.5
RUE	**Ruedersdorf**	**1.67**	**303**	Pn	Pn	14 26 50.8	+0.5
FBE	**Freiberg**	**1.82**	**250**	ePg	Pg	14 26 55.6	+0.9
FBE				eSg	Sg	14 27 19.6	+1.3
FBE	**Freiberg**	**1.82**	**250**	Pg	Pg	14 26 55.6	+0.9
FBE				Sg	Sg	14 27 19.6	+1.3
GKP	**Gorka Klasztor**	**1.84**	**23**	eP	Pg	14 26 55.2	+0.1
GKP	**Gorka Klasztor**	**1.84**	**23**	ePn	Pg	14 26 55.2	+0.1
GKP				ePg	Pb	14 27 01.4	+7.1
GKP				eSn	Sg	14 27 24.5	+5.6
GKP				eSg	Sb	14 27 30.3	+12
GKP	**Gorka Klasztor**	**1.84**	**23**	eP	Pg	14 26 55.2	+0.1
PRU	**Pruhonice**	**1.86**	**212**	⇓iP	Pn	14 26 53.3	+0.3
PRU				e		14 27 18.8	
PRU				smax	smax		
	comp=N,453nm,0.6s						
PRU				MLR	MLR		
	comp=Z,900nm,5.4s						
PRU	**Pruhonice**	**1.86**	**212**	⇓iPN	Pn	14 26 53.3	+0.3
PRU				ePG	Pg	14 26 55.4	-0.1
PRU				eSG	Sb	14 27 18.8	+0.2
	comp=Z,453nm,0.6s						
PRU				AMS	AMS	14 27 30.0	
	comp=Z,900nm,5.4s						
PRU	**Pruhonice**	**1.86**	**212**	Pn	Pn	14 26 53.3	+0.3
CLL	**Collm**	**1.93**	**263**	ePn	Pn	14 26 54.3	+0.4
CLL				eSg	Sg	14 27 23.9	+2.1
CLL	**Collm**	**1.93**	**263**	iP	Pn	14 26 54.4	+0.5
CLL				e		14 27 24.0	
CLL	**Collm**	**1.93**	**263**	iPn	Pn	14 26 54.4	+0.5
CLL				ePg	Pg	14 26 58.0	+1.2
CLL				i		14 27 01.4	
CLL				eSg	Sg	14 27 24.0	+2.2
	comp=Z,430nm,0.7s						
CLL	**Collm**	**1.93**	**263**	iP	Pn	14 26 54.4	+0.5
CLL				Sg	Sg	14 27 23.9	+2.1
RAC	**Raciborz**	**2.02**	**137**	eP	Pg	14 26 58.7	+0.1
RAC				e		14 27 24.8	
RAC	**Raciborz**	**2.02**	**137**	eP	Pg	14 26 58.7	+0.1
RAC				eS	Sg	14 27 24.8	0.0
MORC	**Moravsky Berou**	**2.04**	**152**	ePn	Pn	14 26 55.1	-0.4
MORC	**Moravsky Berou**	**2.04**	**152**	eP	Pn	14 26 54.8	-0.7
MORC	**Moravsky Berou**	**2.04**	**152**	⇑iP	Pn	14 26 55.8	+0.3
MORC	**Moravsky Berou**	**2.04**	**152**	ePn	Pn	14 26 54.8	-0.7
MORC	**Moravsky Berou**	**2.04**	**152**	eP	Pn	14 26 54.8	-0.7
MORC	**Moravsky Berou**	**2.04**	**152**	Pn	Pn	14 26 55.1	-0.4
MORC				eSg	Sn	14 27 22.9	+1.2
OKC	**Ostrava-Krasne**	**2.20**	**142**	ePn	Pn	14 26 57.0	-0.6
OKC				ePg	Pg	14 27 01.6	-0.3
OKC				eSg	Sb	14 27 28.5	+0.6
OKC	**Ostrava-Krasne**	**2.20**	**142**	eP	Pn	14 26 56.9	-0.6
OKC				e		14 27 28.8	
OKC				smax	smax		
	comp=N,906nm,0.7s						
OKC				MLR	MLR		
	comp=Z,800nm,4.2s						
OKC	**Ostrava-Krasne**	**2.20**	**142**	⇓ePn	Pn	14 26 56.9	-0.6
OKC				ePG	Pb	14 27 00.3	-0.1
OKC				eSG	Sb	14 27 28.8	+0.7
	comp=Z,906nm,0.7s						
OKC				AMS	AMS	14 28 00.0	
	comp=Z,800nm,4.2s						
OKC	**Ostrava-Krasne**	**2.20**	**142**	Pn	Pn	14 26 57.0	-0.6
OKC	**Ostrava-Krasne**	**2.20**	**142**	Pg	Pg	14 27 01.6	-0.3
OKC				Sg	Sb	14 27 28.8	+0.7
	comp=Z,906nm,0.7s						
CHZP	**Chorzow**	**2.26**	**124**	ePg	Pg	14 27 03.2	0.0
CHZP				eSg	Sg	14 27 32.1	-0.4
VRAC	**Vranov**	**2.30**	**171**	⇓iP	Pn	14 26 59.6	+0.5
VRAC	**Vranov**	**2.30**	**171**	Pn	Pn	14 26 59.7	+0.7
	comp=Z,13nm,0.3s,baz=337,slow=13,SNR=49						
VRAC				Lg	Lg	14 27 32.8	
	comp=Z,32nm,0.3s,baz=115,slow=19,SNR=10						
VRAC	**Vranov**	**2.30**	**171**	ePn	Pn	14 26 59.6	+0.5
VRAC				eSg	Sb	14 27 31.3	0.0
VRAC				Lg	Lg	14 27 32.8	
TREC	**Trest**	**2.32**	**189**	eP	Pn	14 26 59.8	+0.5
TREC				e		14 27 32.9	
TREC				smax	smax		
	comp=N,277nm,0.5s						
TREC	**Trest**	**2.32**	**189**	⇓ePN	Pn	14 26 59.8	+0.5
TREC				ePG	Pb	14 27 03.0	+0.5
TREC				eSG	Sb	14 27 32.9	+1.2
	comp=N,277nm,0.5s						
TREC				AMS	AMS	14 27 50.0	
	comp=N,600nm,6.5s						
TREC	**Trest**	**2.32**	**189**	Pn	Pn	14 26 59.8	+0.5
TANN	**Tannenbergstha**	**2.55**	**244**	ePn	Pn	14 27 03.6	+1.1
TANN				ePg	Pg	14 27 09.8	+1.1
TANN	**Tannenbergstha**	**2.55**	**244**	Pn	Pn	14 27 03.6	+1.1
WERD	**Werda**	**2.63**	**246**	ePn	Pn	14 27 04.5	+1.0
WERD				eSg	Sg	14 27 44.2	0.0
WERD	**Werda**	**2.63**	**246**	Pn	Pn	14 27 04.5	+1.0
WERD				Sg	Sg	14 27 44.2	0.0
OJC	**Ojcow**	**2.73**	**118**	eP	Pn	14 27 03.5	-1.5
OJC	**Ojcow**	**2.73**	**118**	ePn	Pn	14 27 03.5	-1.5
OJC				ePP	PnPn	14 27 11.4	-0.7
OJC				ePg	Pg	14 27 12.7	+0.5
OJC				eSg	Sg	14 27 48.1	+0.4
OJC	**Ojcow**	**2.73**	**118**	eP	Pn	14 27 03.5	-1.5
KHC	**Kasperske Hory**	**2.92**	**214**	⇓iP	Pn	14 27 08.0	+0.4
KHC				e		14 27 42.6	
KHC				smax	smax		
	comp=N,182nm,0.5s						
KHC	**Kasperske Hory**	**2.92**	**214**	⇓iPN	Pn	14 27 08.0	+0.4
KHC				ePG	Pb	14 27 14.4	+1.6
KHC				eSN	Sn	14 27 42.6	-0.8
KHC				eSG	Sg	14 27 53.5	-0.2
	comp=N,182nm,0.5s						
KHC	**Kasperske Hory**	**2.92**	**214**	ePn	Pn	14 27 07.9	+0.4
KHC	**Kasperske Hory**	**2.92**	**214**	Pn	Pn	14 27 08.0	+0.4
MOX	**Moxa**	**2.95**	**253**	ePn	Pn	14 27 08.6	+0.7
MOX				eSg	Sg	14 27 55.5	+0.9
MOX	**Moxa**	**2.95**	**253**	Pn	Pn	14 27 08.6	+0.7
MOX				Sg	Sg	14 27 55.5	+0.9
MANZ	**Manzenberg**	**2.97**	**239**	ePn	Pn	14 27 09.4	+1.1
MANZ				ePg	Pg	14 27 18.3	+1.5
MANZ	**Manzenberg**	**2.97**	**239**	Pn	Pn	14 27 09.4	+1.1
ROTZ	**Rotzenmuhle**	**3.05**	**235**	ePn	Pn	14 27 10.3	+1.0
ROTZ	**Rotzenmuhle**	**3.05**	**235**	Pn	Pn	14 27 10.3	+1.0
GEC2	**GERESS Array S**	**3.13**	**210**	ePn	Pn	14 27 11.1	+0.6
GEC2	**GERESS Array S**	**3.13**	**210**	Pn	Pn	14 27 11.1	+0.6
GERES	**GERESS Array B**	**3.13**	**210**	Pn	Pn	14 27 10.9	+0.4
	comp=N,15nm,0.3s,baz=31,slow=12,SNR=326						
GERES				Pg	Pb	14 27 17.9	+1.5
	comp=N,28nm,0.3s,baz=28,slow=17,SNR=52						
GERES				Lg	Lg	14 28 00.6	
	comp=N,41nm,0.3s,baz=31,slow=26,SNR=13						
WET	**Wettzell**	**3.18**	**221**	ePn	Pn	14 27 11.9	+0.8
WET	**Wettzell**	**3.18**	**221**	Pn	Pn	14 27 11.9	+0.8
SMOL	**Smolenice**	**3.20**	**163**	eP	Pn	14 27 12.8	+1.5
SMOL				e		14 27 57.3	
SMOL	**Smolenice**	**3.20**	**163**	ePN	Pn	14 27 12.8	+1.5
SMOL				eSN	Sb	14 27 57.3	+0.3
SMOL	**Smolenice**	**3.20**	**163**	eP	Pn	14 27 12.8	+1.5
RGN	**Rugen**	**3.40**	**332**	P	Pn	14 27 13.5	-0.5
RGN	**Rugen**	**3.40**	**332**	P	Pn	14 27 13.5	-0.5
NIE	**Niedzica**	**3.48**	**127**	eP	Pn	14 27 15.9	+0.7
NIE	**Niedzica**	**3.48**	**127**	ePn	Pn	14 27 15.9	+0.7
NIE				ePg	Pg	14 27 26.0	-0.4
NIE				eS	Sg	14 28 11.8	+0.3
NIE	**Niedzica**	**3.48**	**127**	eP	Pn	14 27 15.9	+0.7
CLZ	**Clausthal**	**3.54**	**276**	ePn	Pn	14 27 17.7	+1.6
CLZ	**Clausthal**	**3.54**	**276**	Pn	Pn	14 27 17.7	+1.6
VYHS	**Vyhne**	**3.57**	**149**	eP	Pn	14 27 16.5	0.0
VYHS				e		14 28 09.0	
VYHS				pmax	pmax		
	comp=N,45nm,1.0s						
VYHS	**Vyhne**	**3.57**	**149**	ePN	Pn	14 27 16.5	0.0
VYHS				eSN	Sb	14 28 08.9	+1.1
VYHS	**Vyhne**	**3.57**	**149**	eP	Pn	14 27 16.5	0.0
	comp=N,45nm,1.0s						
BSD	**Bornholm Skovb**	**3.60**	**350**	i P	Pn	14 27 11.8	-5.1
BSD				i S	Sn	14 27 58.6	-1.5
BSD	**Bornholm Skovb**	**3.60**	**350**	i P	Pn	14 27 11.8	-5.1
BSD				i S	Sn	14 27 58.6	-1.5
BSD	**Bornholm Skovb**	**3.60**	**350**	i P	Pn	14 27 11.8	-5.1
	SNR=49						
BSD				i S	Sn	14 27 58.6	-1.5
BSD				i S	Sn	14 27 58.6	-1.5
	comp=N,48nm,0.7s,SNR=49						
GRA1	**Grafenberg Arr**	**3.61**	**240**	Pn	Pn	14 27 18.5	+1.5
GRA1				Sg	Sg	14 28 16.6	+0.8
GRF	**Grafenberg Arr**	**3.61**	**240**	ePn	Pn	14 27 18.5	+1.5
GRF				eSg	Sg	14 28 16.6	+0.8
CONA	**Conrad Observa**	**3.66**	**182**	⇓iPn	Pn	14 27 18.3	+0.5
	comp=N,24nm,0.4s,SNR=21						
CONA				⇑Sg	Sg	14 28 16.5	-0.9
	comp=N,290nm,0.5s						
CONA	**Conrad Observa**	**3.66**	**182**	Pn	Pn	14 27 18.3	+0.5
	comp=N,24nm,0.4s,SNR=21						
CONA				Sg	Sg	14 28 16.5	-0.9
	comp=N,290nm,0.5s						
MOA	**Molln**	**3.91**	**198**	⇑iPn	Pn	14 27 22.1	+0.9
	comp=N,40nm,0.3s,SNR=40						
MOA				⇑Sg	Sg	14 28 25.1	-0.4
	comp=N,225nm,0.7s						
MOA	**Molln**	**3.91**	**198**	Pn	Pn	14 27 22.1	+0.9
	comp=N,40nm,0.3s,SNR=40						
MOA				Sg	Sg	14 28 25.1	-0.4
	comp=N,225nm,0.7s						
SOP	**Sopron**	**3.92**	**175**	ePn	Pn	14 27 21.6	+0.4
SOP				eSb	Sb	14 28 19.7	+2.0
SOP	**Sopron**	**3.92**	**175**	ePn	Pn	14 27 21.6	+0.4
STHS	**Stebnicka Huta**	**3.96**	**121**	eP	Pn	14 27 22.3	+0.4
STHS				pmax	pmax		
	comp=N,106nm,0.8s						
STHS	**Stebnicka Huta**	**3.96**	**121**	ePN	Pn	14 27 22.2	+0.4
STHS				ePG	Pg	14 27 37.7	+2.0
STHS				e		14 28 26.6	
STHS	**Stebnicka Huta**	**3.96**	**121**	eP	Pn	14 27 22.3	+0.4
	comp=N,106nm,0.8s						
KECS	**Kecovo**	**4.22**	**136**	eP	Pn	14 27 25.2	-0.1
KECS	**Kecovo**	**4.22**	**136**	ePN	Pn	14 27 25.2	-0.1
KECS	**Kecovo**	**4.22**	**136**	eP	Pn	14 27 25.2	-0.1
ARSA	**Arzberg**	**4.35**	**185**	⇓ePn	Pn	14 27 28.4	+1.2
	comp=N,12nm,0.3s,SNR=14						
ARSA				⇑Sg	Sg	14 28 39.6	+0.1
	comp=N,226nm,0.8s						
ARSA	**Arzberg**	**4.35**	**185**	Pn	Pn	14 27 28.4	+1.2
	comp=N,12nm,0.3s,SNR=14						
ARSA				Sg	Sg	14 28 39.6	+0.1
	comp=N,226nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.39**	**126**	eP	Pn	14 27 28.5	+0.8
CRVS				pmax	pmax		
	comp=N,111nm,1.2s						
CRVS	**Cervenica-Dubn**	**4.39**	**126**	ePN	Pn	14 27 28.5	+0.8
CRVS				ePG	Pg	14 27 46.0	+2.1
CRVS				e		14 28 40.2	
CRVS	**Cervenica-Dubn**	**4.39**	**126**	eP	Pn	14 27 28.5	+0.8
	comp=N,111nm,1.2s						
LLD	**Lille Linde**	**4.40**	**330**	i P	Pn	14 27 27.3	-0.5
LLD	**Lille Linde**	**4.40**	**330**	i P	Pn	14 27 27.3	-0.5
LLD				i		14 27 50.6	
LLD	**Lille Linde**	**4.40**	**330**	i P	Pn	14 27 27.3	-0.5
PSZ	**Piszkesteto**	**4.43**	**144**	eP	Pn	14 27 29.2	+0.8
PSZ	**Piszkesteto**	**4.43**	**144**	⇑iP	Pn	14 27 29.5	+1.1
PSZ	**Piszkesteto**	**4.43**	**144**	ePn	Pn	14 27 29.2	+0.8
PSZ	**Piszkesteto**	**4.43**	**144**	⇓epPn	Pn	14 27 29.5	+1.1
PSZ	**Piszkesteto**	**4.43**	**144**	eP	Pn	14 27 29.2	+0.8
PKSG		**4.46**	**159**	⇓ePn	Pn	14 27 29.1	+0.4
PKSG				eSb	Sb	14 28 38.0	+4.7
PKSG		**4.46**	**159**	⇓ePn	Pn	14 27 29.1	+0.4
PKST	**T^'s**	**4.52**	**163**	ePn	Pn	14 27 30.2	+0.7
PKST	**T^'s**	**4.52**	**163**	ePn	Pn	14 27 30.2	+0.7
KWP	**Kalwaria Pacla**	**4.67**	**112**	eP	Pn	14 27 31.2	-0.3
KWP	**Kalwaria Pacla**	**4.67**	**112**	ePn	Pn	14 27 31.5	0.0
KWP				e		14 27 46.3	
KWP				ePg	Pg	14 27 50.7	+1.5
KWP				eSb	Sb	14 28 43.2	+4.0
KWP	**Kalwaria Pacla**	**4.67**	**112**	⇑iP	Pn	14 27 31.5	0.0
KWP	**Kalwaria Pacla**	**4.67**	**112**	ePn	Pn	14 27 31.1	-0.3
KWP				ePg	Pg	14 27 46.2	-3.0
KWP	**Kalwaria Pacla**	**4.67**	**112**	ePn	Pn	14 27 31.1	-0.4
KWP	**Kalwaria Pacla**	**4.67**	**112**	eP	Pn	14 27 31.2	-0.4
KOLS	**Kolonicke sedl**	**4.79**	**121**	eP	Pn	14 27 33.1	-0.1
KOLS				pmax	pmax		
	comp=N,175nm,1.3s						
KOLS	**Kolonicke sedl**	**4.79**	**121**	ePN	Pn	14 27 33.1	-0.1
KOLS				e		14 28 51.5	
KOLS	**Kolonicke sedl**	**4.79**	**121**	eP	Pn	14 27 33.1	-0.1
	comp=N,175nm,1.3s						
KBA	**Koelnbreinsper**	**4.84**	**202**	⇑iPn	Pn	14 27 35.5	+1.4
	comp=N,12nm,0.2s,SNR=21						
KBA				⇓eSg	Sg	14 28 54.2	-1.2
	comp=N,5.3nm,0.0s						
KBA	**Koelnbreinsper**	**4.84**	**202**	Pn	Pn	14 27 35.5	+1.4
	comp=N,12nm,0.2s,SNR=21						
KBA				Sg	Sg	14 28 54.2	-1.2
	comp=N,5.3nm,0.0s						
SOKA	**Soboth**	**4.96**	**188**	⇑iPn	Pn	14 27 37.8	+2.2
	comp=N,8.6nm,0.4s,SNR=5.8						
SOKA	**Soboth**	**4.96**	**188**	Pn	Pn	14 27 37.8	+2.2
	comp=N,8.6nm,0.4s,SNR=5.8						
SUW	**Suwalki**	**4.96**	**58**	eP	Pn	14 27 37.6	+2.0
SUW				e		14 28 33.8	
SUW	**Suwalki**	**4.96**	**58**	ePn	Pn	14 27 37.5	+2.0
SUW				eSn	Sn	14 28 33.8	+0.3
SUW	**Suwalki**	**4.96**	**58**	ePn	Pn	14 27 35.4	-0.1
SUW	**Suwalki**	**4.96**	**58**	ePn	Pn	14 27 35.4	-0.1
SUW	**Suwalki**	**4.96**	**58**	eP	Pn	14 27 37.6	+2.0
SUW				eS	Sn	14 28 33.8	+0.3
UZH	**Uzhgorod**	**4.98**	**124**	eP	Pn	14 27 37.1	+1.2
UZH				eS	Sn	14 28 33.3	-0.8
UZH	**Uzhgorod**	**4.98**	**124**	eP	Pn	14 27 37.1	+1.2
UZH				eS	Sn	14 28 33.3	-0.8
PERS	**Pernice**	**4.99**	**187**	i Pn	Pn	14 27 37.3	+1.3
PERS	**Pernice**	**4.99**	**187**	i Pn	Pn	14 27 37.3	+1.3
TOD	**Tromm**	**5.03**	**250**	P	Pn	14 27 35.9	-0.6
TOD				S	Sn	14 28 39.2	+4.0
KOGS	**Kog**	**5.14**	**178**	i Pn	Pn	14 27 39.1	+1.1
KOGS	**Kog**	**5.14**	**178**	i Pn	Pn	14 27 39.1	+1.1
WATA	**Walderalm**	**5.16**	**216**	⇑iPn	Pn	14 27 40.1	+1.7
	comp=N,46nm,0.6s,SNR=15						
WATA	**Walderalm**	**5.16**	**216**	Pn	Pn	14 27 40.1	+1.7
	comp=N,46nm,0.6s,SNR=15						
OBKA	**Obir**	**5.17**	**192**	⇑iPn	Pn	14 27 39.8	+1.2
	comp=N,3.6nm,0.4s						
OBKA				⇑Sg	Sg	14 29 08.2	+2.2
	comp=N,103nm,0.7s						
OBKA	**Obir**	**5.17**	**192**	Pn	Pn	14 27 39.8	+1.2
	comp=N,3.6nm,0.4s						
OBKA				Sg	Sg	14 29 08.2	+2.2
	comp=N,103nm,0.7s						
WTTA	**Wattenberg**	**5.20**	**215**	⇓ePn	Pn	14 27 40.2	+1.2
	comp=N,27nm,0.7s,SNR=14						
WTTA				⇓eSg	Sg	14 29 04.8	-1.9
	comp=N,145nm,0.8s						
WTTA	**Wattenberg**	**5.20**	**215**	Pn	Pn	14 27 40.2	+1.2
	comp=N,27nm,0.7s,SNR=14						
WTTA				Sg	Sg	14 29 04.8	-1.9
	comp=N,145nm,0.8s						
STU	**Stuttgart**	**5.23**	**240**	P	Pn	14 27 37.8	-1.4
STU				pmax	pmax		
	comp=Z,60nm,0.8s						
STU	**Stuttgart**	**5.23**	**240**	Pn	Pn	14 27 37.8	-1.4
	comp=Z,60nm,0.8s						
STU	**Stuttgart**	**5.23**	**240**	P	Pn	14 27 37.8	-1.4
	comp=Z,60nm,0.8s						
MOTA	**Moosalm**	**5.33**	**219**	⇑ePn	Pn	14 27 41.7	+0.9
	comp=Z,16nm,0.5s,SNR=18						
MOTA				⇑Sg	Sg	14 29 11.7	+0.7
	comp=Z,96nm,0.6s						
MOTA	**Moosalm**	**5.33**	**219**	Pn	Pn	14 27 41.7	+0.9
	comp=Z,16nm,0.5s,SNR=18						
MOTA				Sg	Sg	14 29 11.7	+0.7
	comp=Z,96nm,0.6s						
RETA	**Reutte**	**5.35**	**222**	⇑iPn	Pn	14 27 41.7	+0.7
	comp=Z,11nm,0.4s						
RETA	**Reutte**	**5.35**	**222**	Pn	Pn	14 27 41.7	+0.7
	comp=Z,11nm,0.4s						
ABTA	**Abfaltersbach**	**5.37**	**207**	i Pn	Pn	14 27 42.9	+1.6
	comp=Z,8.6nm,0.3s,SNR=16						
ABTA				⇓eSg	Sg	14 29 11.8	-0.4
	comp=Z,112nm,0.7s						
ABTA	**Abfaltersbach**	**5.37**	**207**	Pn	Pn	14 27 42.9	+1.6
	comp=Z,8.6nm,0.3s,SNR=16						
ABTA				Sg	Sg	14 29 11.8	-0.4
	comp=Z,112nm,0.7s						
LVV	**L'vov**	**5.37**	**106**	eP	Pn	14 27 39.8	-1.3
LVV				eS	Sn	14 28 42.8	-0.8
LVV	**L'vov**	**5.37**	**106**	eP	Pn	14 27 39.8	-1.3
LVV				eS	Sn	14 28 42.8	-0.8
KOE	**Koeppel**	**5.38**	**261**	ePn	Pn	14 27 42.3	+0.9
KOE	**Koeppel**	**5.38**	**261**	Pn	Pn	14 27 42.3	+0.9
HOBG	**Hohbusch**	**5.51**	**267**	ePn	Pn	14 27 43.9	+0.9
HOBG	**Hohbusch**	**5.51**	**267**	Pn	Pn	14 27 43.9	+0.9
VNDS	**Vrh nad Dolski**	**5.56**	**190**	i Pn	Pn	14 27 45.1	+1.3
PDKS	**Podkum**	**5.57**	**188**	i Pn	Pn	14 27 45.5	+1.5
KTD	**Kalmit**	**5.57**	**249**	P	Pn	14 27 43.4	-0.6
LJU	**Ljubljana**	**5.63**	**191**	ePn	Pn	14 27 46.0	+1.2
PKSM	**Moragy**	**5.64**	**161**	⇓iP	Pn	14 27 45.7	+0.8
PKSM	**Moragy**	**5.64**	**161**	epPn	Pn	14 27 46.2	+1.3
PKSM	**Moragy**	**5.64**	**161**	⇓iP	Pn	14 27 45.7	+0.8
PKSM	**Moragy**	**5.64**	**161**	ePn	Pn	14 27 46.2	+1.3
LEGS	**Legarje**	**5.66**	**185**	ePn	Pn	14 27 46.7	+1.5
ABH	**Alteburg**	**5.66**	**256**	P	Pn	14 27 45.7	+0.5
BGG	**Burgeitz**	**5.69**	**259**	ePn	Pn	14 27 46.8	+1.3
BGG				eSn	Sn	14 28 54.1	+2.7
	comp=Z,23nm,0.7s						
BGG	**Burgeitz**	**5.69**	**259**	Pn	Pn	14 27 46.8	+1.3
BGG				Sn	Sn	14 28 54.1	+2.7
	comp=Z,23nm,0.7s						
VOJS	**Vojsko**	**5.74**	**195**	i Pn	Pn	14 27 46.5	+0.2

FETA Feichten 5.74 219⇓iPn Pn 14 27 47.9 +1.4
comp=Z,6.6nm,0.5s
FETA Feichten 5.74 219 Pn Pn 14 27 47.9 +1.4
comp=Z,6.6nm,0.5s
VISS Visnje 5.84 188 ePn Pn 14 27 48.5 +0.9
STB Steinbach 5.89 264 ePn Pn 14 27 50.2 +1.9
STB Steinbach 5.89 264 Pn Pn 14 27 50.2 +1.9
LANF Langenberg 5.89 247 P Pn 14 27 48.8 +0.4
LANF S Sn 14 29 02.2 +5.6
LANF Langenberg 5.89 247 P Pn 14 27 48.8 +0.4
BFO Black Forest 5.95 240 eP Pn 14 27 47.9 -1.3
BFO pmax pmax
comp=Z,18nm,0.5s
BFO Black Forest 5.95 240 ePn Pn 14 27 47.9 -1.3
comp=Z,18nm,0.5s
BFO Black Forest 5.95 240 eP Pn 14 27 47.9 -1.3
comp=Z,18nm,0.5s
RUP Ruppelstein 6.03 255 P Pn 14 27 49.7 -0.5
KLL Kalltalsperre 6.21 265 ePn Pn 14 27 53.4 +0.7
KLL Kalltalsperre 6.21 265 Pn Pn 14 27 53.4 +0.7
DREG Dreilaegerbach 6.25 265 ePn Pn 14 27 54.8 +1.5
DREG Dreilaegerbach 6.25 265 Pn Pn 14 27 54.8 +1.5
DAVOX Davos/Dischmat 6.28 222 Pn Pn 14 27 55.2 +1.3
comp=Z,2.5nm,0.3s,baz=33,slow=12,SNR=15
DAVOX Lg Lg 14 29 39.2
comp=Z,2.0nm,0.3s,baz=225,slow=19,SNR=5.2
CDF Champ du Feu 6.49 244 ePn Pn 14 27 56.1 -0.5
CDF Champ du Feu 6.49 244 ePg Pg 14 28 22.4 -1.7
CDF eSg Sg 14 29 44.0 -4.1
comp=Z,156nm,0.9s
CDF Champ du Feu 6.49 244 ePn Pn 14 27 56.1 -0.5
CDF Champ du Feu 6.49 244 ePn Pn 14 27 56.1 -0.5
CDF ePg Pg 14 28 22.4 -1.7
CDF eSg Sg 14 29 44.0 -4.1
CDF Champ du Feu 6.49 244 ePn Pn 14 27 56.1 -0.5
ECH Echery 6.66 243 eP Pn 14 27 57.7 -1.2
ECH pmax pmax
comp=Z,9.0nm,0.6s
ECH Echery 6.66 243 ePn Pn 14 27 57.7 -1.2
comp=Z,8.7nm,0.6s
ECH Echery 6.66 243 eP Pn 14 27 57.7 -1.2
comp=Z,9.0nm,0.6s
TUE Stuetta 6.75 223 ePn Pn 14 28 00.4 0.0
comp=Z,389nm,0.4s
TUE Stuetta 6.75 223 ePn Pn 14 28 00.4 0.0
comp=Z,389nm,0.4s
MOF Molkenrain 6.88 241 P Pn 14 28 01.7 -0.3
MOF Molkenrain 6.88 241 P Pn 14 28 01.7 -0.3
BZS Buzias 7.02 146⇑iP Pn 14 28 05.3 +1.5
BZS Buzias 7.02 146⇑iP Pn 14 28 05.3 +1.5
HINF Hinteralfeld 7.06 241 ePn Pn 14 28 03.5 -0.9
HINF Hinteralfeld 7.06 241 ePg Pg 14 28 30.5 -4.5
HINF eSg Sg 14 30 01.9 -4.5
comp=Z,137nm,0.9s
HINF Hinteralfeld 7.06 241 eP Pn 14 28 03.5 -0.9
HINF Hinteralfeld 7.06 241 ePn Pn 14 28 03.5 -0.9
HINF ePg Pg 14 28 30.5 -4.5
HINF eSg Sg 14 30 01.9 -4.5
HINF Hinteralfeld 7.06 241 ePn Pn 14 28 03.5 -0.9
BUR08 Bucovina Ar. S 7.13 120 ePn Pn 14 28 06.0 +0.6
BUR08 Bucovina Ar. S 7.13 120 ePn Pn 14 28 06.0 +0.6
IIGN Ignalina 7.14 54 eP Pn 14 28 05.5 0.0
IIGN Ignalina 7.14 54 eP Pn 14 28 05.5 0.0
BURAR Bucovina Array 7.16 120⇑iP Pn 14 28 06.2 +0.4
BURAR Bucovina Array 7.16 120⇑iP Pn 14 28 06.2 +0.4
ISAL Salakas 7.20 52 eP Pn 14 28 03.7 -2.5
HAU Haudompre 7.23 244 ePn Pn 14 28 06.3 -0.4
HAU Haudompre 7.23 244 ePg Pg 14 28 35.2 -3.1
HAU eSg Sg 14 30 06.9 -5.0
comp=Z,80nm,0.6s
HAU Haudompre 7.23 244 eP Pn 14 28 06.3 -0.4
HAU Haudompre 7.23 244 ePn Pn 14 28 06.3 -0.4
HAU ePg Pg 14 28 35.2 -3.1
HAU eSg Sg 14 30 06.9 -5.0
HAU Haudompre 7.23 244 ePn Pn 14 28 06.3 -0.4
NACGM Naroch 7.24 59 e Pg 14 28 35.0 -3.5
GIVF Givet 7.27 263 ePn Pn 14 28 07.1 -0.1
GIVF eSg Sg 14 30 08.5 -4.5
comp=Z,88nm,0.9s
GIVF Givet 7.27 263 eP Pn 14 28 07.1 -0.1
GIVF Givet 7.27 263 ePn Pn 14 28 07.1 -0.1
GIVF eSg Sg 14 30 08.5 -4.5
GIVF Givet 7.27 263 ePn Pn 14 28 07.1 -0.1
PAGF Fort de Pagny 7.31 250 ePn Pn 14 28 06.7 -1.0
PAGF eSg Sg 14 30 09.4 -4.9
comp=Z,33nm,0.9s
PAGF Fort de Pagny 7.31 250 ePn Pn 14 28 06.7 -1.0
PAGF eSg Sg 14 30 09.4 -4.9
PAGF Fort de Pagny 7.31 250 ePn Pn 14 28 06.7 -1.0
THEF They Montfort 7.32 247 P Pn 14 28 07.1 -0.8
THEF They Montfort 7.32 247 P Pn 14 28 07.1 -0.8
GZR Gura Zlata 7.63 142⇓iP Pn 14 28 13.6 +1.3
GZR Gura Zlata 7.63 142⇓iP Pn 14 28 13.6 +1.3
BAIF Baives 7.66 263 ePn Pn 14 28 11.1 -1.5
BAIF eSg Sg 14 30 20.5 -5.1
comp=Z,60nm,1.0s
BAIF Baives 7.66 263 eP Pn 14 28 11.1 -1.5
BAIF Baives 7.66 263 ePn Pn 14 28 11.1 -1.5
BAIF eSg Sg 14 30 20.5 -5.1
BAIF Baives 7.66 263 ePn Pn 14 28 11.1 -1.5
MICGM Minsk 7.70 63 e Pg 14 28 43.0 -4.3
MEZF Maizieres J'vi 7.73 251 ePn Pn 14 28 12.3 -1.2
MEZF eSg Sg 14 30 22.6 -5.2
comp=Z,61nm,0.7s
MEZF Maizieres J'vi 7.73 251 ePn Pn 14 28 12.3 -1.2
MEZF eSg Sg 14 30 22.6 -5.2
MEZF Maizieres J'vi 7.73 251 ePn Pn 14 28 12.3 -1.2
SFTF Sexfontaines 7.88 249 ePn Pn 14 28 14.3 -1.3
SFTF Sexfontaines 7.88 249 ePg Pg 14 28 46.0 -4.6
SFTF eSg Sg 14 30 27.0 -5.6
comp=Z,92nm,0.9s
SFTF Sexfontaines 7.88 249 ePn Pn 14 28 14.3 -1.3
SFTF ePg Pg 14 28 46.0 -4.6
SFTF eSg Sg 14 30 27.0 -5.6
SFTF Sexfontaines 7.88 249 ePn Pn 14 28 14.3 -1.3
CABF La Chapelle 8.21 237 ePn Pn 14 28 19.2 -1.1
CABF La Chapelle 8.21 237 ePg Pg 14 28 51.9 -5.2
CABF eSg Sg 14 30 38.1 -5.4
comp=Z,256nm,1.2s
CABF La Chapelle 8.21 237 eP Pn 14 28 19.2 -1.1
CABF La Chapelle 8.21 237 ePn Pn 14 28 19.2 -1.1
CABF ePg Pg 14 28 51.9 -5.2
CABF eSg Sg 14 30 38.1 -5.4
CABF La Chapelle 8.21 237 ePn Pn 14 28 19.2 -1.1
KIEV Kiev 8.32 91 eP Pn 14 28 20.4 -1.3
KIEV Kiev 8.32 91 Pn Pn 14 28 19.2 -2.5
comp=Z,24nm,0.6s
KIEV Kiev 8.32 91 eP Pn 14 28 20.4 -1.3
AK01 Malin Array Si 8.33 91 ePn Pn 14 28 20.4 -1.3
AK01 Malin Array Si 8.33 91 ePn Pn 14 28 20.4 -1.3
AK02 Malin Array Si 8.33 91 ePn Pn 14 28 20.4 -1.3
AK02 Malin Array Si 8.33 91 ePn Pn 14 28 20.4 -1.3
AKASG Malin Array Be 8.33 91 P Pn 14 28 20.6 -1.2
AKASG 14 29 50.5
AKASG pmax pmax
comp=Z,6.0nm,0.3s
AKASG smax smax
comp=N,3.0nm,0.3s
AKASG Malin Array Be 8.33 91 Pn Pn 14 28 20.6 -1.2
comp=N,6.0nm,0.3s,baz=280,slow=12,SNR=26
AKASG Sn Sn 14 29 50.5 -6.0
comp=N,3.1nm,0.3s,baz=272,slow=23,SNR=5.6
AKASG Lg Lg 14 30 50.9
comp=N,0.8nm,0.3s,baz=269,slow=28,SNR=4.7
AKBB Malin Array Si 8.33 91 eP Pn 14 28 19.9 -1.9
AKBB Malin Array Si 8.33 91 ePn Pn 14 28 19.9 -1.9
AKBB Malin Array Si 8.33 91 eP Pn 14 28 19.9 -1.9
VOIR 8.57 132⇑iP Pn 14 28 26.5 +1.4
VOIR 8.57 132⇑iP Pn 14 28 26.5 +1.4
LPL La Plagne 8.66 229 ePn Pn 14 28 25.4 -1.1
LPL La Plagne 8.66 229 ePg Pg 14 29 00.8 -4.9
LPL eSg Sg 14 30 52.2 -5.6
comp=N,67nm,1.2s
LPL La Plagne 8.66 229 eP Pn 14 28 25.4 -1.1
LPL La Plagne 8.66 229 ePn Pn 14 28 25.4 -1.1
LPL ePg Pg 14 29 00.8 -4.9
LPL eSg Sg 14 30 52.2 -5.6
LPL La Plagne 8.66 229 ePn Pn 14 28 25.4 -1.1
LPG La Plagne 8.67 229 ePn Pn 14 28 25.3 -1.4
LPG La Plagne 8.67 229 ePg Pg 14 29 01.0 -4.8
LPG eSg Sg 14 30 51.8 -6.2
comp=N,75nm,1.1s
LPG La Plagne 8.67 229 eP Pn 14 28 25.3 -1.4
LPG La Plagne 8.67 229 ePn Pn 14 28 25.3 -1.4
LPG ePg Pg 14 29 01.0 -4.8
LPG eSg Sg 14 30 51.8 -6.2
LPG La Plagne 8.67 229 ePn Pn 14 28 25.3 -1.4
HFS Hagfors 8.67 352 P Pn 14 28 26.3 -0.1
HFS 14 30 01.7
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS smax smax
comp=N,1.0nm,0.3s
HFS Hagfors 8.67 352 Pn Pn 14 28 26.3 -0.1
comp=N,0.6nm,0.3s,baz=172,slow=13,SNR=17
HFS Sn Sn 14 30 01.7 -3.1
comp=N,0.7nm,0.3s,baz=180,slow=15,SNR=3.5
HFS Lg Lg 14 30 57.8
comp=N,0.5nm,0.3s,baz=166,slow=30,SNR=2.6
LOR Lormes 9.04 246 ePn Pn 14 28 31.0 -0.6
LOR Lormes 9.04 246 ePg Pn 14 29 07.3 +36
LOR eSg Sn 14 31 04.0 +50
comp=N,29nm,0.7s
LOR Lormes 9.04 246 eP Pn 14 28 31.0 -0.6
LOR Lormes 9.04 246 ePn Pn 14 28 31.0 -0.6
LOR ePg 14 29 07.3
LOR eSg Sn 14 31 04.0 +50
LOR Lormes 9.04 246 ePn Pn 14 28 31.0 -0.6
VSU Vasula 9.22 37 eP Pn 14 28 33.4 -0.5
VSU Vasula 9.22 37 eP Pn 14 28 33.4 -0.5
MBDF Montbardon 9.24 226 ePn Pn 14 28 32.4 -2.1
MBDF Montbardon 9.24 226 ePg Pn 14 29 11.4 +37
MBDF eSg Sn 14 31 10.2 +51
comp=N,20nm,0.8s
MBDF Montbardon 9.24 226 eP Pn 14 28 32.4 -2.1
MBDF Montbardon 9.24 226 ePn Pn 14 28 32.4 -2.1
MBDF ePg 14 29 11.4
MBDF eSg Sn 14 31 10.2 +51
SSF Saint Saulge 9.36 246 ePn Pn 14 28 35.5 -0.4
SSF Saint Saulge 9.36 246 ePg Pn 14 29 13.9 +38
SSF eSg Sn 14 31 13.6 +52
comp=N,16nm,0.6s
SSF Saint Saulge 9.36 246 eP Pn 14 28 35.5 -0.4
SSF Saint Saulge 9.36 246 ePn Pn 14 28 35.5 -0.4
SSF ePg 14 29 13.9
SSF eSg Sn 14 31 13.6 +52
SSF Saint Saulge 9.36 246 ePn Pn 14 28 35.5 -0.4
SMF Signal de Mont 9.41 243 ePn Pn 14 28 34.9 -1.7
SMF eSg Sn 14 31 15.5 +52
comp=N,49nm,0.8s
SMF Signal de Mont 9.41 243 eP Pn 14 28 34.9 -1.7
SMF Signal de Mont 9.41 243 ePn Pn 14 28 34.9 -1.7
SMF eSg Sn 14 31 15.5 +52
SMF Signal de Mont 9.41 243 ePn Pn 14 28 34.9 -1.7
ORIF Oris-en-Rattie 9.51 229 ePn Pn 14 28 37.0 -1.0
ORIF eSg Sn 14 31 18.1 +52
comp=N,21nm,0.8s
ORIF Oris-en-Rattie 9.51 229 eP Pn 14 28 37.0 -1.0
ORIF Oris-en-Rattie 9.51 229 ePn Pn 14 28 37.0 -1.0
ORIF eSg Sn 14 31 18.1 +52
ORIF Oris-en-Rattie 9.51 229 ePn Pn 14 28 37.0 -1.0
AVF Avril sur Loir 9.60 245 ePn Pn 14 28 37.5 -1.6
AVF eSg Sn 14 31 20.8 +53
comp=N,72nm,1.2s
AVF Avril sur Loir 9.60 245 eP Pn 14 28 37.5 -1.6
AVF Avril sur Loir 9.60 245 ePn Pn 14 28 37.5 -1.6
AVF eSg Sn 14 31 20.8 +53
AVF Avril sur Loir 9.60 245 ePn Pn 14 28 37.5 -1.6
SBF Sospel 9.66 220 ePn Pn 14 28 40.8 +0.7
SBF Sospel 9.66 220 eP Pn 14 28 40.8 +0.7
SBF Sospel 9.66 220 ePn Pn 14 28 40.8 +0.7
SBF Sospel 9.66 220 ePn Pn 14 28 40.8 +0.7
HYF Humbligny 9.75 249 ePn Pn 14 28 38.9 -2.3
HYF eSg Sn 14 31 25.6 +54
HYF Humbligny 9.75 249 ePn Pn 14 28 38.9 -2.3
HYF eSg Sn 14 31 25.6 +54
NB2 NORSAR Subarra 9.85 346 P Pn 14 28 41.2 -1.4
comp=Z,1.3nm,0.5s,baz=174,slow=14
NOA NORSAR Array B 9.85 346 Pn Pn 14 28 41.4 -1.3
comp=Z,0.5nm,0.3s,baz=254,slow=13,SNR=10
NOA Sn Sn 14 30 29.3 -4.5
comp=Z,0.4nm,0.3s,baz=178,slow=11,SNR=2.6
NOA Lg Lg 14 31 37.2
comp=Z,0.9nm,0.3s,baz=86,slow=19,SNR=4.4
BGF Bois d'Agland 10.02 245 ePn Pn 14 28 42.8 -2.1
BGF Bois d'Agland 10.02 245 ePg Pn 14 29 25.4 +40
BGF eSg Sn 14 31 34.0 +56
comp=Z,37nm,0.7s
BGF Bois d'Agland 10.02 245 eP Pn 14 28 42.8 -2.1
BGF Bois d'Agland 10.02 245 ePn Pn 14 28 42.8 -2.1
BGF ePg 14 29 25.4
BGF eSg Sn 14 31 34.0 +56
TCF Toulx Ste Croi 10.53 245 ePn Pn 14 28 50.5 -1.5
TCF eSg Sn 14 31 50.3 +60
comp=Z,27nm,0.9s
TCF Toulx Ste Croi 10.53 245 eP Pn 14 28 50.5 -1.5
TCF Toulx Ste Croi 10.53 245 ePn Pn 14 28 50.5 -1.5
TCF eSg Sn 14 31 50.3 +60
TCF Toulx Ste Croi 10.53 245 ePn Pn 14 28 50.5 -1.5
LDF La Druitiere 10.82 260 ePn Pn 14 28 53.3 -2.5
LDF La Druitiere 10.82 260 eP Pn 14 28 53.3 -2.5
LDF La Druitiere 10.82 260 ePn Pn 14 28 53.3 -2.5
FINES FINESS Array B 11.31 25 P Pn 14 29 01.8 -0.7
FINES 14 31 02.6
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES smax smax
comp=N,1.0nm,0.3s
FINES FINESS Array B 11.31 25 Pn Pn 14 29 01.8 -0.7
comp=N,1.1nm,0.3s,baz=208,slow=12,SNR=30
FINES Sn Sn 14 31 02.6 -6.9
comp=N,1.0nm,0.3s,baz=212,slow=20,SNR=5.3
FIA1 FINESS Array S 11.31 25 ePn Pn 14 29 01.5 -1.0
FIA1 FINESS Array S 11.31 25 ePn Pn 14 29 01.5 -1.0
EKA Eskdalemuir Ar 12.04 296 Pn Pn 14 29 09.8 -2.8
baz=106,slow=14,SNR=6.1
OBN Obninsk 12.74 66 eP Pn 14 29 19.9 -2.2
ANN Anapa 15.76 107 eP Pn 14 29 53.3 -10
ANN pmax pmax
comp=Z,122nm,1.9s
KLMR Klimovskoe 15.93 45 eP Pn 14 29 58.5 -6.5
KLMR eS Sn 14 32 53.3 -8.7
KLMR pmax pmax
comp=Z,15nm,1.5s
BRTR Keskin Array B 17.03 127 Pn Pn 14 30 19.7 +0.3
comp=Z,0.1nm,0.3s,baz=332,slow=12,SNR=3.3
BRTR Sn Sn 14 33 29.7 +0.5
comp=Z,0.1nm,0.3s,baz=338,slow=19,SNR=4.2
TMCR Tamitsa 17.06 34 eP Pn 14 30 15.5 -4.0
TMCR e 14 33 26.1
TMCR pmax pmax
comp=Z,11nm,0.3s
ARCES ARCESS Array B 18.56 10 P P 14 30 35.2 -2.6
ARCES 14 33 52.0
ARCES pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 18.56 10 Pn P 14 30 35.2 -2.6
comp=Z,0.9nm,0.3s,baz=194,slow=12,SNR=29
ARCES Sn Sn 14 33 52.0 -14
comp=Z,0.2nm,0.3s,baz=197,slow=21,SNR=4.0
ARE0 ARCESS Array S 18.56 10 eP P 14 30 35.7 -2.1
PRGR Permogore 18.96 47 P P 14 30 37.4 -4.9
PRGR eS Sn 14 34 07.8 -7.6
PRGR pmax pmax
comp=Z,6.0nm,0.7s
KIV Kislovodsk 19.38 103 eP P 14 30 44.4 -2.8
KIV pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 25.13 62 d iP P 14 31 45.6 -0.6
ARU S S 14 36 13.6 +1.9
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 25.13 62 eP P 14 31 46.4 +0.2
comp=Z,7.2nm,0.8s
ARU Arti 25.13 62 eP P 14 31 46.4 +0.2
comp=Z,7.2nm,0.8s
ARU S S 14 36 13.6 +1.9
AKTK Aktyubinsk 26.17 76 P P 14 31 56.5 +0.8
comp=Z,3.0nm,0.6s
AKTO Aktyubinsk 26.17 76 P P 14 31 56.5 +0.8
AKTO pmax pmax
comp=Z,3.0nm,0.6s
AKTO Aktyubinsk 26.17 76 P P 14 31 56.5 +0.8
comp=Z,2.5nm,0.6s,baz=293,slow=12,SNR=10
SVE Sverdlovsk 26.22 61 eP P 14 31 57.4 +1.3
SVE Sverdlovsk 26.22 61 eP P 14 31 57.4 +1.3
SPITS Spitsbergen Ar 26.70 0 P P 14 32 01.4 +1.1
SPITS pmax pmax
comp=Z,3.0nm,0.6s
SPITS Spitsbergen Ar 26.70 0 P P 14 32 01.4 +1.1
comp=Z,2.6nm,0.6s,baz=153,slow=9.7,SNR=4.4
ABKAR Akbulak array 27.75 77 P P 14 32 10.6 +0.7
comp=Z,0.7nm,0.6s
ABKAR Akbulak array 27.75 77 P P 14 32 10.6 +0.7
comp=Z,0.7nm,0.6s
BRVK Borovoye 32.52 66 eP P 14 32 51.7 -0.3
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BRVK Borovoye 32.52 66 eP P 14 32 53.0 +1.0
comp=Z,2.2nm,0.8s
BRVK Borovoye 32.52 66 eP P 14 32 53.0 +1.0
comp=Z,2.2nm,0.8s
KURK Kurchatov 38.19 66 eP P 14 33 44.4 +3.6
NVS Novosibirsk 38.97 58 eP P 14 33 46.4 -0.9
NVS Novosibirsk 38.97 58 eP P 14 33 46.4 -0.9
TORD Torodi Ar. Bea 40.05 202 P P 14 33 55.5 -1.2
comp=Z,1.4nm,0.8s,baz=211,slow=8.8,SNR=9.4
ZALV Zalesovo Beam 40.19 59 P P 14 33 58.5 +1.0
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 40.19 59 P P 14 33 58.5 +1.0
comp=Z,0.5nm,0.4s,baz=290,slow=8.7,SNR=4.7
MKAR Makanchi Array 42.22 69 P P 14 34 15.7 +1.3
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 42.22 69 P P 14 34 15.7 +1.3
comp=Z,0.7nm,0.6s,baz=300,slow=6.7,SNR=9.6
SONM Songino Array 54.90 55 P P 14 35 54.4 +2.3
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 54.90 55 P P 14 35 54.4 +2.3
comp=Z,1.0nm,0.8s,baz=292,slow=9.0,SNR=5.7
YAK Yakutsk 55.16 32 eP P 14 35 54.1 +0.6
YAK Yakutsk 55.16 32 eP P 14 35 54.1 +0.6
ULN Ulaanbaatar 55.22 55 eP P 14 35 53.2 -1.2
ULN pmax pmax
comp=Z,2.0nm,1.4s
ULN Ulaanbaatar 55.22 55 eP P 14 35 53.2 -1.2
comp=Z,2.0nm,1.4s
YKA Yellowknife Ar 59.78 336 P P 14 36 27.9 +1.9
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 59.78 336 P P 14 36 27.9 +1.9
comp=Z,1.5nm,0.6s,baz=29,slow=6.7,SNR=35
ILAR Eielson Array 63.23 352 P P 14 36 50.7 +1.3
comp=Z,0.2nm,0.6s,baz=359,slow=5.6,SNR=4.9
CMAR Chiang Mai Arr 71.38 84 P P 14 37 43.0 +1.2
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 71.38 84 P P 14 37 43.0 +1.2
comp=Z,0.7nm,0.6s,baz=310,slow=7.6,SNR=7.8
CMAR Chiang Mai Arr 71.38 84 P P 14 37 43.0 +1.2
comp=Z,1.0nm,0.6s
PDAR Pinedale Array 74.86 322 P P 14 38 03.9 +1.6
comp=Z,0.7nm,0.8s,baz=62,slow=4.8,SNR=6.7
NVAR Mina Array Bea 81.89 325 P P 14 38 42.4 +1.2
comp=Z,0.6nm,0.9s,baz=68,slow=8.2,SNR=3.6
TXAR Lajitas Array 83.64 310 P P 14 38 52.4 +2.1
comp=Z,0.2nm,0.5s,baz=61,slow=7.3,SNR=4.3
ASAR Alice Springs 125.39 84 PKP PKPdf 14 45 22.6 -0.1
comp=Z,0.4nm,0.8s,baz=350,slow=2.2,SNR=5.6

ISCJB 09 14:31:29.2±0.7, 51.46N±0.03×15.95E±0.04, h0km, Error ellipse: s-maj=5.2km s-min=3.4km az=33.1
CSEM 09 14:31:29.5±0.3, 51.52N×15.98E, h2km, ML3.3/6, Error ellipse: s-maj=6.3km s-min=5.0km az=68.0
PRU 09 14:31:31.0, 51.49N×16.00E, h0km
IDC 09 14:31:31.5±1.1, 51.49N×15.96E, h0km, mb1 3.3/4, mb1mx3.1/45, mbtmp3.1/4, ML2.8/3, Error ellipse: s-maj=17.1km s-min=9.1km az=125.0
VIE 09 14:31:32.6±1.1, 51.32N×16.03E, h4km±5km, mb2.5/2, ML2.7/4, Error ellipse: s-maj=5.8km s-min=2.0km az=3.0
72 km WNW of Wroclaw Suspected Mining induced.
ISC 09 14:31:28.4±0.9, 51.61N±0.03×16.07E±0.03, h0km, n31, σ0.92/61, 3C-1D, Poland

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSP Ksiaz 0.78 170 ePg Pg 14 31 44.0 +0.8
KSP eSg Sg 14 31 53.6 +0.4
KSP Ksiaz 0.78 170 ePg Pg 14 31 44.0 +0.8
KSP eSg Sg 14 31 53.6 +0.4
UPC Upice 1.10 182 ePG Pg 14 31 49.6 +0.2
UPC eSG Sg 14 32 02.3 -1.3
23nm,0.3s
UPC Upice 1.10 182 Pg Pg 14 31 49.6 +0.2
UPC Sg Sg 14 32 02.3 -1.3
23nm,0.3s
DPC Dobruska-Polom 1.27 173 ePG Pg 14 31 52.8 +0.2
DPC eSG Sg 14 32 08.0 -1.0
DPC Dobruska-Polom 1.27 173 Pg Pg 14 31 52.8 +0.2
DPC Sg Sg 14 32 08.0 -1.0
BRG Berggiesshubel 1.53 242 PG Pg 14 31 58.0 +0.4
BRG SG Sn 14 32 17.8 +0.4
164nm,0.4s
KRLC Kraliky 1.60 163 ePG Pg 14 31 58.4 +0.5
KRLC eSG Sn 14 32 18.7 -0.5
KRLC Kraliky 1.60 163 Pg Pn 14 31 58.4 +0.5
KRLC Sg Sn 14 32 18.7 -0.5
PRA Prague 1.85 215 PN Pn 14 32 01.0 -0.4
PRA PG Pb 14 32 03.0 -0.1
PRA SG Sn 14 32 25.0 -0.5
PRU Pruhonice 1.89 212 ePN Pn 14 32 01.8 0.0
PRU ePG Pb 14 32 03.6 -0.1
PRU eSG Sn 14 32 26.1 -0.2
34nm,0.3s
PRU Pruhonice 1.89 212 Pn Pn 14 32 01.8 0.0
CLL Collm 1.94 262 ePn Pn 14 32 03.0 +0.4
CLL ePg Pb 14 32 05.0 +0.4
CLL i Sg Sg 14 32 30.3 -0.4
comp=Z,48nm,0.5s
MORC Moravsky Berou 2.06 152 ePn Pn 14 32 04.5 +0.3
MORC eSg Sg 14 32 33.8 -0.5
OKC Ostrava-Krasne 2.21 142 ePG Pg 14 32 10.5 -0.1
OKC eSG Sg 14 32 38.5 -0.7
comp=Z,18nm,0.4s
OKC Ostrava-Krasne 2.21 142 Pg Pg 14 32 10.5 -0.1
OKC Sg Sg 14 32 38.5 -0.7
comp=Z,18nm,0.4s
VRAC Vranov 2.32 172 Pn Pn 14 32 09.3 +1.4
comp=Z,1.2nm,0.3s,baz=344,slow=17,SNR=7.5
VRAC Lg Lg 14 32 43.1
comp=Z,7.0nm,0.3s,baz=259,slow=22,SNR=5.4
VRAC Vranov 2.32 172 ePn Pn 14 32 08.8 +0.9
VRAC eSg Sg 14 32 41.9 -1.1
TREC Trest 2.34 189 ePN Pn 14 32 09.1 +1.0
TREC ePG Pb 14 32 11.6 +0.2
TREC eSG Sb 14 32 41.4 +0.5
comp=Z,24nm,0.3s
TREC Trest 2.34 189 Pn Pn 14 32 09.1 +1.0
KHC Kasperske Hory 2.95 214 ePN Pn 14 32 16.9 +0.5
KHC ePG Pb 14 32 22.8 +1.0
KHC eSN Sn 14 32 50.7 -1.8
KHC eSG Sg 14 33 00.4 -2.6
comp=Z,11nm,0.3s
KHC Kasperske Hory 2.95 214 Pn Pn 14 32 16.9 +0.5
GERES GERESS Array B 3.15 210 Pn Pn 14 32 20.6 +1.2
comp=Z,1.1nm,0.3s,baz=31,slow=13,SNR=11
GERES Pg Pb 14 32 26.4 +1.1
comp=Z,3.6nm,0.3s,baz=31,slow=18,SNR=17
GERES Lg Lg 14 33 06.7
comp=Z,4.5nm,0.3s,baz=31,slow=26,SNR=9.8
BSD Bornholm Skovb 3.58 349 iP Pn 14 32 25.8 +0.7
BSD iS Sn 14 33 06.4 -1.7
BSD Bornholm Skovb 3.58 349 iP Pn 14 32 26.2 +1.1
BSD iS Sn 14 33 06.4 -1.7
CONA Conrad Observa 3.68 182⇑iPn Pn 14 32 26.5 -0.1
CONA ⇓iSg Sg 14 33 24.6 -2.0
comp=Z,14nm,0.4s
CONA Conrad Observa 3.68 182 Pn Pn 14 32 26.5 -0.1
CONA Sg Sg 14 33 24.6 -2.0
comp=Z,14nm,0.4s
MOA Molln 3.94 198⇑iPn Pn 14 32 30.8 +0.8
MOA ⇑iSg Sg 14 33 33.9 -0.9
comp=Z,14nm,0.6s
MOA Molln 3.94 198 Pn Pn 14 32 30.8 +0.8
AKASG Malin Array Be 8.32 91 Pn Pn 14 33 30.7 +0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.5nm,0.3s,baz=280,slow=12,SNR=3.0						
FINES	FINESS Array B	11.29	25	Pn	Pn	14 34 10.5	-0.2
	baz=222,slow=21,SNR=3.2						

IDC 09 14:34:10.1±4.6, 6.93S×147.40E, h83km±41km, mb3.3/3, mb1 3.5/5, mb1mx3.2/26, mbtmp3.6/5, Error ellipse: s-maj=59.2km s-min=31.8km az=119.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.48	186	P	Pn	14 34 49.1	+0.7
	15nm,0.3s,baz=347,slow=12,SNR=88						
PMG				S	Sn	14 35 18.5	+0.7
	14nm,0.3s,baz=37,slow=18,SNR=9.6						
WRA	Warramunga Arr	18.11	223	P	P	14 38 15.2	-0.4
	0.2nm,0.3s,baz=51,slow=11,SNR=9.7						
ASAR	Alice Springs	21.10	216	P	P	14 38 48.0	-0.1
	0.6nm,0.4s,baz=50,slow=9.0,SNR=33						
STKA	Stephens Creek	25.41	192	P	P	14 39 30.1	+0.1
	1.5nm,0.9s,baz=355,slow=12,SNR=2.8						
ILAR	Eielson Array	86.17	23	P	P	14 46 41.9	0.0
	0.7nm,1.1s,baz=241,slow=5.8,SNR=4.0						

BJI 09 14:53:39.9, 0.00N×126.70E, h66km, mB5.2/3, mb4.3/7, Ms4.8/1, Ms7 4.1/1
IDC 09 14:53:40.6±2.6, 0.09N×126.71E, h50km±20km, mb4.1/6, mb1 4.3/6, mb1mx3.7/34, mbtmp4.4/6, MS3.4/5, Ms1 3.4/5, ms1mx3.0/36, Error ellipse: s-maj=90.1km s-min=13.3km az=65.0
ISCJB 09 14:53:41.3±0.3, 0.03N±0.04×126.71E±0.03, h73km, mb4.3/12, Error ellipse: s-maj=5.5km s-min=4.4km az=19.4
DJA 09 14:53:41.6±0.2, 0˚S±2˚×12˚7E±˚, h10km, M4.8/13, mb5.0/12, mB5.3/8, MLv4.7/13, Mw(mB)4.7/8, Mwp6.9/1
NEIC 09 14:53:42.1±0.8, 0.00N×126.73E, h65km±9km, mb4.4/8, Error ellipse: s-maj=10.4km s-min=8.2km az=49.0
ISC 09 14:53:43.2±0.5, 0.05N±0.05×126.73E±0.05, h73km, n55, σ1§60/56, mb4.4/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	0.96	41	P	Pn	14 53 59.7	-1.6
TNTI				S	Sn	14 54 13.4	-1.5
TNTI	Ternate	0.96	41	ePg	Pn	14 53 59.8	-1.6
LBMI	Labuha	1.03	132	P	Pn	14 54 00.5	-1.8
LBMI				S	Sn	14 54 15.0	-1.4
SANI	Sanana	2.21	200	P	Pn	14 54 15.5	-2.3
SANI				S	Sn	14 54 39.6	-4.7
KMSI	Cibinong	2.80	281	P	Pn	14 54 24.4	-1.4
KMSI				S	Sn	14 54 57.1	-1.4
MSAI	Masohi	4.02	147	P	Pn	14 54 44.5	+2.0
LUWI	Luwuk	4.11	255	eP	Pn	14 54 40.1	-3.5
LUWI	Luwuk	4.11	255	P	Pn	14 54 42.0	-1.5
	baz=3.9,SNR=9.4						
SWI	Sorong	4.62	101	P	Pn	14 54 51.1	+0.5
MRSI	Marisa	4.81	275	P	Pn	14 54 50.8	-2.4
APSI	Ampana	5.17	259	P	Pn	14 54 57.7	-0.4
	288nm,0.5s,3µm1.6nm						
TOLI	Toli-Toli	6.03	280	P	Pn	14 55 10.3	+0.4
FAKI	Fak Fak	6.25	118	eP	Pn	14 55 13.0	+0.1
FAKI	Fak Fak	6.25	118	P	Pn	14 55 12.7	-0.2
	baz=6.4,SNR=12						
TTSI	Tana Toraja	7.56	246	P	Pn	14 55 30.0	-0.8
	114nm,0.8s,2µm0.4nm						
BNSI	Bone	7.96	236	P	Pn	14 55 35.8	-0.4
	54nm,0.6s,964nm0.3nm						
SPSI	Sidrap Palu	8.02	240	P	Pn	14 55 37.7	+0.6
	178nm,0.5s,3µm0.8nm						
BKSI	Bulukumba	8.49	231	P	Pn	14 55 44.6	+1.1
	50nm,0.7s,651nm						
KAPI	Kappang	8.60	234	eP	Pn	14 55 44.7	-0.2
	123nm,0.6s						
BAKI	Biak	9.46	98	P	Pn	14 56 03.5	+6.8
SOEI	Soe	10.04	194	eP	Pn	14 56 00.9	-3.9
	23nm,0.8s						
BBKI	Banjar Baru	12.38	254	P	Pn	14 56 39.6	+2.9
	36nm,1.4s,736nm						
KDU	Kakadu	13.88	156	P	Pn	14 56 53.0	-3.6
	baz=14,SNR=5.4						
KNRA	Kununurra	15.75	173	P	Pn	14 57 19.1	-1.7
	baz=16,SNR=9.4						
PWJI	Pagerwojo	16.90	241	P	P	14 57 39.7	+3.6
	27nm,0.7s						
SMRI	Semarang	17.71	246	P	Pn	14 57 48.3	+3.1
	105nm,0.8s						
SMRI	Semarang	17.71	246	eP	Pn	14 57 46.9	+1.7
	40nm,0.6s						
KPJI	Karang Pucung	19.21	247	P	Pn	14 58 03.4	+0.3
WRAB	Tennant Creek	21.21	160	eP	P	14 58 21.9	-1.3
	14nm,0.6s						
WRA	Warramunga Arr	21.22	160	P	P	14 58 21.9	-1.3
	6.2nm,0.3s,baz=337,slow=10,SNR=163						
WRA				ScP	ScP	15 05 57.6	+0.8
	0.7nm,0.9s,baz=324,slow=2.5,SNR=4.7						
COEN	Coen	21.42	131	eP	P	14 58 24.8	-0.6
	97nm,0.9s						
COEN	Coen	21.42	131	P	P	14 58 25.1	-0.3
	baz=22,SNR=6.4						
PMG	Port Moresby	22.40	115	LR	LR	15 09 29.5	
	comp=Z,78nm,18.2s,baz=4.5,slow=42						
QIS	Mount Isa	24.04	149	P	P	14 58 51.7	0.0
	baz=24,SNR=18						
AS31	Alice Springs	24.58	164	eP	P	14 58 56.6	0.0
ASAR	Alice Springs	24.58	164	P	P	14 58 56.1	-0.5
	37nm,0.9s,baz=342,slow=9.6,SNR=265						
ASAR				PcP	PcP	15 02 32.8	-0.3
	0.6nm,0.6s,baz=358,slow=1.8,SNR=5.7						
ASAR				S	S	15 03 17.5	+4.9
	1.5nm,0.9s,baz=344,slow=19,SNR=5.1						
ASAR				ScP	ScP	15 06 06.2	+0.6
	0.2nm,0.6s,baz=352,slow=3.1,SNR=5.3						
ASAR				LR	LR	15 09 15.5	
	comp=Z,64nm,21.2s,baz=0.5,slow=38						
WRKA	Warakurna	24.98	177	P	P	14 59 00.2	-0.1
	baz=25,SNR=42						
CMAR	Chiang Mai Arr	32.86	305	P	P	15 00 08.9	-1.5
	0.6nm,0.8s,baz=119,slow=8.3,SNR=5.2						
CMAR				LR	LR	15 14 36.8	
	comp=Z,22nm,18.6s,baz=148,slow=38						
BBOO	Buckleboo	33.85	166	P	P	15 00 18.5	-0.2
	baz=34,SNR=6.7						
HNR	Honiara	34.38	107	LR	LR	15 14 42.1	
	comp=Z,69nm,18.9s,baz=306,slow=37						
STKA	Stephens Creek	34.73	157	P	P	15 00 26.3	-0.2
	15nm,0.8s,baz=328,slow=7.4,SNR=28						
STKA	Stephens Creek	34.73	157	eP	P	15 00 26.2	-0.2
	3.3nm,0.9s						
STKA	Stephens Creek	34.73	157	P	P	15 00 26.4	0.0
	baz=35,SNR=15						
HTT	Hallett	35.22	162	P	P	15 00 32.2	+1.5
	baz=35,SNR=3.4						
ARPS	Mount Arapiles	39.22	161	P	P	15 01 04.8	+0.4
	baz=39,SNR=13						
DZM	Mont Dzumac	44.50	122	LR	LR	15 21 55.8	
	comp=Z,104nm,18.2s,baz=310,slow=38						
LSA	Lhasa	44.93	314	eP	P	15 01 51.9	+0.3
	2.4nm,0.6s						
ULN	Ulaanbaatar	50.61	343	eP	P	15 02 35.9	+1.0
	3.5nm,0.9s						
MK31	Makanchi Array	60.58	326	eP	P	15 03 47.0	+0.7
MKAR	Makanchi Array	60.58	326	P	P	15 03 46.9	+0.6
	2.5nm,0.6s,baz=122,slow=8.7,SNR=34						
ZALV	Zalesovo Beam	63.86	334	P	P	15 04 08.2	+0.2
	0.4nm,0.3s,baz=136,slow=7.4,SNR=6.5						
KURK	Kurchatov	64.84	328	eP	P	15 04 14.6	+0.2
	4.3nm,0.8s						
KKAR	Karatay Array	65.93	318	eP	P	15 04 21.1	-0.6
	3.6nm,1.1s						
TIXI	Tiksi	71.50	1	eP	P	15 04 54.9	-0.8
TORD	Torodi Ar. Bea	123.99	286	PKP	PKPdf	15 12 32.7	-1.5
	7.4nm,0.3s,baz=57,slow=0.8,SNR=3.1						

MAN 09 15:08:17, 9.30N×125.43E, h2km, mb4.1, ML2.9, MS2.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.38	151	eP	Pg	15 08 24.2	-0.1
BUTP				eS	Sb	15 08 32.1	-0.7
SCPH	Surigao	0.48	7	⇓eP	Pb	15 08 27.3	-0.8
MSLP	Maasin	1.00	326	eP	Pb	15 08 36.7	-0.4
MSLP				eS	Sb	15 08 51.2	+0.5
BUKP	Musuan	1.46	195	eP	P	15 08 44.6	+0.1

ISCJB 09 15:11:16.0±0.9, 7.1S±0.2×154.8E±0.1, h41km, mb3.7/9, MS3.3/1, Error ellipse: s-maj=25.6km s-min=10.8km az=146.8
IDC 09 15:11:19.9±6.3, 7.11S×154.79E, h61km±52km, mb3.5/9, mb1 3.7/10, mb1mx3.5/33, mbtmp3.8/10, ML2.5/1, MS3.4/1, Ms1 3.3/1, ms1mx2.7/19, Error ellipse: s-maj=39.9km s-min=27.4km az=102.0
ISC 09 15:11:17.5±1.1, 7.1S±0.2×154.9E±0.2, h41km, n11, σ0§91/12, mb3.8/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.02	253	P	Pn	15 13 13.1	+1.6
	0.4nm,0.3s,baz=34,slow=11,SNR=2.4						
PMG				S	Sn	15 14 40.2	-0.8
	0.2nm,0.3s,baz=127,slow=15,SNR=2.0						
WRA	Warramunga Arr	23.71	235	P	P	15 16 24.4	-1.5
	1.2nm,0.7s,baz=57,slow=8.8,SNR=10						
ASAR	Alice Springs	26.06	228	P	P	15 16 46.3	-1.1
	0.3nm,0.5s,baz=61,slow=9.2,SNR=11						
STKA	Stephens Creek	27.63	205	P	P	15 17 01.6	+0.4
	1.4nm,0.8s,baz=42,slow=15,SNR=4.1						
STKA				LR	LR	15 27 01.2	
	comp=Z,76nm,19.6s,baz=29,slow=34						
CMAR	Chiang Mai Arr	60.75	296	P	P	15 21 25.3	-0.2
	0.9nm,0.7s,baz=113,slow=5.1,SNR=8.7						
MKAR	Makanchi Array	83.42	319	P	P	15 23 40.6	-0.1
	1.2nm,0.8s,baz=94,slow=5.1,SNR=9.5						
ILAR	Eielson Array	83.48	22	P	P	15 23 40.2	-0.3
	0.7nm,1.0s,baz=247,slow=5.1,SNR=5.0						
ZALV	Zalesovo Beam	84.21	326	P	P	15 23 44.0	-0.5
	0.4nm,0.4s,baz=107,slow=5.0,SNR=2.8						
KURBB	Kurchatov Arra	86.88	322	P	P	15 23 57.7	-0.2
	0.2nm,0.3s,baz=97,slow=3.8,SNR=2.1						
YKA	Yellowknife Ar	96.44	28	P	P	15 24 42.5	+0.5
	0.4nm,0.6s,baz=263,slow=4.5,SNR=7.8						
TORD	Torodi Ar. Bea	152.97	285	PKPbc	PKPbc	15 31 12.0	+0.5
	0.7nm,1.0s,baz=96,slow=2.7,SNR=3.7						

ISCJB 09 15:18:23.5±0.9, 66.5N±0.2×174.8W±0.2, h10km, mb3.6/10, Error ellipse: s-maj=30.2km s-min=10.1km az=2.4
IDC 09 15:18:23.9±1.4, 66.41N×174.88W, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.6/45, mbtmp3.6/12, ML2.8/2, Error ellipse: s-maj=42.6km s-min=19.1km az=7.0
ISC 09 15:18:25.4±1.1, 66.4N±0.2×174.81W±0.09, h10km, n13, σ0§43/10, mb3.8/10, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR	Eielson Array	11.62	85	Pn	Pn	15 21 10.7	-0.3
	0.1nm,0.3s,baz=288,slow=14,SNR=18						
SEY	Seymchan	14.36	271	Pn	Pn	15 21 48.0	-0.4
	0.0nm,0.3s,baz=91,slow=5.4,SNR=4.0						
INK	Inuvik	15.78	64	Pn	Pn	15 22 06.5	-0.8
	0.0nm,0.3s,baz=291,slow=8.6,SNR=5.1						
YKA	Yellowknife Ar	25.35	70	P	P	15 23 51.8	-0.2
	0.2nm,0.5s,baz=303,slow=8.4,SNR=4.0						
NVAR	Mina Array Bea	42.18	103	P	P	15 26 18.7	+0.6
	0.2nm,0.3s,baz=322,slow=6.8,SNR=3.8						
ZALV	Zalesovo Beam	45.91	306	P	P	15 26 47.8	+0.3
	1.0nm,0.7s,baz=34,slow=9.0,SNR=5.7						
KURBB	Kurchatov Arra	50.77	308	P	P	15 27 25.2	+0.1
	0.5nm,0.4s,baz=31,slow=7.4,SNR=5.3						
BVAR	Borovoye Array	51.11	315	P	P	15 27 27.7	+0.1
	0.7nm,0.5s,baz=37,slow=6.3,SNR=6.1						
NOA	NORSAR Array B	52.75	356	P	P	15 27 39.8	0.0
	1.2nm,0.8s,baz=3.3,slow=7.2,SNR=3.1						
MKAR	Makanchi Array	52.87	303	P	P	15 27 40.9	+1.1
	0.3nm,0.5s,baz=37,slow=8.8,SNR=3.4						
AKASG	Malin Array Be	61.76	343	P	P	15 28 43.5	0.0
	1.0nm,0.6s,baz=13,slow=6.3,SNR=5.4						
CMAR	Chiang Mai Arr	71.75	274	P	P	15 29 47.2	-0.4
	0.4nm,0.7s,baz=7.5,slow=5.6,SNR=5.2						
BRTR	Keskin Array B	71.93	337	P	P	15 29 49.1	+0.6
	0.7nm,0.6s,baz=1.6,slow=2.9,SNR=3.8						

ISCJB 09 15:22:20.6±0.4, 66.26N±0.08×174.8W±0.1, h10km, mb3.8/17, Error ellipse: s-maj=12.6km s-min=5.3km az=14.4
NEIC 09 15:22:21.4±2.8, 66.24N×174.90W, h2km±19km, mb4.1/3, Error ellipse: s-maj=11.4km s-min=5.3km az=189.0
MOS 09 15:22:21.2±0.9, 66.38N×174.93W, h11km, mb4.2/10, Error ellipse: s-maj=23.3km s-min=14.8km az=100.7
IDC 09 15:22:21.6±0.9, 66.37N×174.95W, h0km, mb3.8/15, mb1 3.9/16, mb1mx3.8/37, mbtmp3.8/16, ML3.6/1, Error ellipse: s-maj=27.6km s-min=14.1km az=5.0
ISC 09 15:22:22.2±0.6, 66.17N±0.09×174.91W±0.06, h10km, n44, σ1§12/47, mb3.8/17, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAMB	Gambell	2.76	149	ePn	Pn	15 23 06.1	-0.4
GAMB				S	Sn	15 23 36.9	-2.9
TNA	Tin City	2.93	99	P	Pn	15 23 07.5	-1.3
TNA				S	Sn	15 23 41.2	-2.8
BILL	Bilibino	7.57	293	P	Pn	15 24 12.0	-0.4
BILL				eS	Sn	15 25 34.5	-3.6
BILL	Bilibino	7.57	293	P	Pn	15 24 12.4	0.0
IM3	Indian Mountai	8.59	82	P	Pn	15 24 25.4	-1.0
TT01	Tatalina	8.75	103	P	Pn	15 24 30.6	+1.9
ILAR	Eielson Array	11.68	84	Pn	Pn	15 25 08.4	-0.3
	0.2nm,0.3s,baz=287,slow=14,SNR=12						
SEY	Seymchan	14.32	272	Pn	Pn	15 25 45.4	+0.7
	0.3nm,0.3s,baz=90,slow=19,SNR=6.1						
SEY				Lg	Lg	15 29 56.2	
	0.0nm,0.3s,baz=60,slow=20,SNR=2.3						
INK	Inuvik	15.93	64	eP	Pn	15 26 07.1	+1.0
INK	Inuvik	15.93	64	Pn	Pn	15 26 06.1	0.0
	0.1nm,0.3s,baz=294,slow=10,SNR=7.0						
INK	Inuvik	15.93	64	eP	Pn	15 26 07.1	+1.0
TIXI	Tiksi	20.24	310	eP	P	15 26 57.6	+0.6
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI	Tiksi	20.24	310	eP	P	15 26 57.6	+0.6
	comp=Z,4.1nm,0.8s						
YKA	Yellowknife Ar	25.48	70	P	P	15 27 50.4	+0.4
	comp=Z,0.3nm,0.7s,baz=303,slow=9.3,SNR=6.3						
RES	Resolute Bay	25.89	37	P	P	15 27 53.3	-0.3
RES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
RES	Resolute Bay	25.89	37	P	P	15 27 53.3	-0.3
	comp=Z,1.4nm,0.9s,baz=315,slow=11,SNR=3.7						
PDAR	Pinedale Array	42.01	90	P	P	15 30 14.6	+1.0
	comp=Z,0.5nm,0.8s,baz=321,slow=7.0,SNR=3.7						
NVAR	Mina Array Bea	42.16	102	P	P	15 30 15.8	+1.0
	comp=Z,0.7nm,0.7s,baz=305,slow=7.8,SNR=5.4						
KSRS	Korea Array	43.23	258	P	P	15 30 24.6	+1.5
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KSRS	Korea Array	43.23	258	P	P	15 30 24.6	+1.5
	comp=Z,1.1nm,0.8s,baz=30,slow=9.9,SNR=3.4						
KSAR	Wonju Array Be	43.26	258	P	P	15 30 24.6	+1.2
KSAR	Wonju Array Be	43.26	258	P	P	15 30 24.6	+1.2
ZALV	Zalesovo Beam	46.04	306	P	P	15 30 45.4	0.0
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	Zalesovo Beam	46.04	306	P	P	15 30 45.4	0.0
	comp=Z,1.9nm,0.6s,baz=38,slow=7.5,SNR=9.9						
KURK	Kurchatov	50.80	308	P	P	15 31 23.1	+1.0
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	Kurchatov	50.80	308	eP	P	15 31 22.2	+0.2
	comp=Z,0.9nm,0.3s						
KURBB	Kurchatov Arra	50.90	308	P	P	15 31 23.1	+0.2
	comp=Z,2.0nm,0.7s,baz=31,slow=7.5,SNR=8.0						
BVAR	Borovoye Array	51.27	315	P	P	15 31 25.6	-0.1
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	51.27	315	P	P	15 31 25.6	-0.1
	comp=Z,1.3nm,0.5s,baz=25,slow=6.9,SNR=11						
FINES	FINESS Array B	51.75	347	P	P	15 31 27.9	-1.2
	comp=Z,0.4nm,0.5s,baz=7.8,slow=11,SNR=4.0						
MK31	Makanchi Array	52.98	303	eP	P	15 31 37.9	-0.6
MK31	Makanchi Array	52.98	303	eP	P	15 31 37.9	-0.6
MKAR	Makanchi Array	52.98	303	P	P	15 31 38.2	-0.3
	comp=Z,0.4nm,0.4s,baz=37,slow=7.4,SNR=7.5						
NB2	NORSAR Subarra	53.01	356	P	P	15 31 38.6	+0.1
	comp=Z,0.6nm,0.7s,baz=1.9,slow=6.5						
NOA	NORSAR Array B	53.01	356	P	P	15 31 38.2	-0.3
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	NORSAR Array B	53.01	356	P	P	15 31 38.2	-0.3
	comp=Z,1.9nm,0.9s,baz=2.8,slow=7.6,SNR=4.0						
TXAR	Lajitas Array	55.98	94	P	P	15 32 02.1	+1.5
	comp=Z,0.4nm,0.8s,baz=339,slow=6.7,SNR=4.1						
ABKAR	Akbulak array	57.52	321	eP	P	15 32 11.0	-0.1
	comp=Z,3.8nm,1.0s						
AKASG	Malin Array Be	62.00	343	P	P	15 32 41.4	-0.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	62.00	343	P	P	15 32 41.4	-0.5
	comp=Z,2.1nm,0.7s,baz=11,slow=6.5,SNR=6.1						
CMAR	Chiang Mai Arr	71.73	274	P	P	15 33 44.9	+0.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	Chiang Mai Arr	71.73	274	P	P	15 33 44.9	+0.6
	comp=Z,0.9nm,0.7s,baz=4.5,slow=7.1,SNR=9.0						
BRTR	Keskin Array B	72.16	337	P	P	15 33 46.9	+0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	72.16	337	P	P	15 33 46.9	+0.1
	comp=Z,1.2nm,0.8s,baz=13,slow=6.6,SNR=5.0						

ISCJB 09 15:23:54.0±0.9, 66.2N±0.2×175.5W±0.2, h10km, mb3.7/13, Error ellipse: s-maj=29.2km s-min=11.5km az=12.2
IDC 09 15:23:54.0±1.1, 66.16N×175.53W, h0km, mb3.7/13, mb1 3.9/15, mb1mx3.7/38, mbtmp3.7/15, ML3.6/2, Error ellipse: s-maj=38.1km s-min=13.5km az=14.0
ISC 09 15:23:55.6±1.2, 66.2N±0.2×175.5W±0.1, h10km, n15, σ0§45/14, mb3.7/13, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR	Eielson Array	11.90	84	Pn	Pn	15 26 40.2	-4.9
	0.2nm,0.3s,baz=287,slow=13,SNR=3.7						
ILAR				Sn	Sn	15 28 45.0	-13
	0.0nm,0.3s,baz=302,slow=23,SNR=2.9						
INK	Inuvik	16.12	63	Pn	Pn	15 27 41.4	-0.4
	0.2nm,0.3s,baz=271,slow=9.1,SNR=10.0						
YKA	Yellowknife Ar	25.68	69	P	P	15 29 24.9	-0.3
	0.4nm,0.7s,baz=305,slow=9.0,SNR=2.9						
PDAR	Pinedale Array	42.24	90	P	P	15 31 48.8	0.0
	0.3nm,0.6s,baz=335,slow=4.1,SNR=3.1						
NVAR	Mina Array Bea	42.39	102	P	P	15 31 50.2	+0.2
	0.6nm,0.6s,baz=308,slow=7.1,SNR=4.8						
ZALV	Zalesovo Beam	45.84	306	P	P	15 32 17.2	0.0
	1.5nm,0.6s,baz=32,slow=8.7,SNR=6.2						
KURBB	Kurchatov Arra	50.71	308	P	P	15 32 55.3	+0.5
	0.6nm,0.3s,baz=31,slow=7.4,SNR=4.4						
BVAR	Borovoye Array	51.09	315	P	P	15 32 57.8	+0.1
	1.2nm,0.5s,baz=32,slow=8.5,SNR=8.9						
FINES	FINESS Array B	51.67	347	P	P	15 33 02.5	+0.6
	0.3nm,0.3s,baz=341,slow=6.3,SNR=5.2						
MKAR	Makanchi Array	52.78	303	P	P	15 33 11.0	+0.6
	0.4nm,0.5s,baz=68,slow=8.3,SNR=5.1						
NOA	NORSAR Array B	52.97	356	P	P	15 33 11.5	-0.1
	1.4nm,0.9s,baz=2.9,slow=6.6,SNR=3.7						
TXAR	Lajitas Array	56.21	94	P	P	15 33 36.0	+0.4
	0.4nm,0.8s,baz=316,slow=6.3,SNR=3.0						
AKASG	Malin Array Be	61.91	342	P	P	15 34 14.3	-0.3
	1.2nm,0.5s,baz=13,slow=6.8,SNR=4.5						
CMAR	Chiang Mai Arr	71.51	274	P	P	15 35 15.5	-0.8
	0.3nm,0.4s,baz=9.9,slow=6.6,SNR=5.0						
BRTR	Keskin Array B	72.04	337	P	P	15 35 19.5	+0.1
	0.7nm,0.5s,baz=35,slow=5.3,SNR=3.4						

CSEM 09 15:25:24.3, 39.43N×29.72W, h10km, ML2.9, After PDA
PDA 09 15:25:24.3±1.1, 39.43N×29.72W, h10km, MD3.5, ML2.9, Error ellipse: s-maj=24.5km s-min=8.2km az=61.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	Cedros	1.13	135	eS	Sb	15 25 53.9	-6.8
PCED				A	A	15 25 55.1	
	96nm,0.3s						
PCED	Cedros	1.13	135	eS	Sb	15 25 53.9	-6.8
H07S1	FLORES T-PHASE	1.15	268	eP	Pn	15 25 55.7	+9.2
CALA	Caldeira	1.16	137	eS	Sb	15 25 55.3	-6.6
CALA	Caldeira	1.16	137	eS	Sb	15 25 55.3	-6.6
HOR	Horta	1.24	136	eS	Sb	15 25 56.9	-7.0
HOR	Horta	1.24	136	eS	Sb	15 25 56.9	-7.0
ROSA	Rosais	1.35	121	eS	Sb	15 25 59.5	-7.7
ROSA				A	A	15 26 01.5	
	22nm,0.2s						
ROSA	Rosais	1.35	121	eS	Sb	15 25 59.5	-7.7
PCAN	Candelaria	1.37	135	eP	Pn	15 25 44.6	-4.9
PCAN				eS	Sb	15 26 00.7	-6.9
PCAN				A	A	15 26 03.4	
	131nm,0.3s						
PCAN	Candelaria	1.37	135	eP	Pn	15 25 44.6	-4.9
PCAN				eS	Sb	15 26 00.7	-6.9
PICO	Pico	1.37	132	iP	Pn	15 25 44.8	-4.8
PICO				eS	Sb	15 26 00.7	-7.2
PGRA	Graciosa	1.41	106	eP	Pn	15 25 34.1	-16
PMAN	Manadas	1.50	122	eP	Pn	15 25 47.2	-4.1
PMAN	Manadas	1.50	122	eP	Pn	15 25 47.2	-4.1
TOPO	Topo	1.64	120	eP	Pn	15 25 48.3	-4.9
TOPO	Topo	1.64	120	eP	Pn	15 25 48.3	-4.9

BJI 09 15:40:28.1, 21.98N×99.04E, h20km, ML3.9/4
IDC 09 15:40:28.1±1.4, 21.96N×98.98E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/50, mbtmp3.2/4, ML3.6/1, MS2.1/1, Ms1 2.3/1, ms1mx2.1/23, Error ellipse: s-maj=30.7km s-min=18.4km az=79.0
PLV 09 15:40:32.8±1.6, 22.34N×99.42E, h17km±13km, MD3.7, ML3.9
BKK 09 15:40:44.9±10.0, 21˚N±87˚×9˚9E±2˚0, h37km±22km, M4.0/5, MLv4.0/5
ISC 09 15:40:28.9±1.1, 21.92N±0.07×98.84E±0.07, h9km, n13, σ1§23/18, mb3.3/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAI	Chiengmai2	1.99	174	P	Pn	15 41 02.5	-0.4
CHTO	Chiang Mai	3.09	178	P	Pn	15 41 17.9	-0.1
CMMT	Chiang Mai	3.09	178	P	Pn	15 41 17.9	-0.1
CMAR	Chiang Mai Arr	3.44	178	Pn	Pn	15 41 22.9	0.0
	1.3nm,0.3s,baz=356,slow=13,SNR=19						
CMAR				Pg	Pb	15 41 31.0	+0.8
	9.2nm,0.3s,baz=354,slow=16,SNR=157						
CMAR				Lg	Lg	15 42 18.9	
	5.1nm,0.3s,baz=358,slow=29,SNR=4.1						
CMAR				LR	LR	15 42 26.4	
	comp=Z,29nm,21.6s,baz=0.0,slow=34						
DBV	Dienbien	3.93	97	ePg	Pb	15 41 39.2	+0.7
DBV				eSg	Sb	15 42 25.3	-0.9
DBV				AML	AML	15 42 30.9	
	comp=N,225nm,0.6s						
TGV	Tuan Giao	4.27	94	ePn	Pn	15 41 29.7	-4.5
TGV				ePg	Pb	15 41 45.8	+1.6
TGV				eSg	Sb	15 42 35.6	-0.2
SUKH	Sukhothai	4.48	170	P	Pn	15 41 36.9	-0.1
SPV	Sa-pa	4.65	84	ePn	Pn	15 41 35.2	-4.3
SPV				eSg	Sb	15 42 46.1	-0.9
KMI	Kunming	4.79	48	Pg	Pg	15 41 58.0	-2.8
KMI				Sg	Sb	15 42 51.8	+0.6
KMI				smax	smax		
	comp=N,57nm,0.9s						
KMI				smax	smax		
	comp=E,83nm,0.8s						
HGVB	Ha Giang	5.77	80	ePg	Pb	15 42 12.6	+2.8
HGVB				eSg	Sb	15 43 19.6	+0.6
MKAR	Makanchi Array	28.21	336	P	P	15 46 22.4	+0.4
	comp=E,0.2nm,0.5s,baz=144,slow=8.8,SNR=5.5						
WRA	Warramunga Arr	54.17	138	P	P	15 49 55.2	+0.2
	comp=E,0.4nm,0.8s,baz=327,slow=7.5,SNR=3.4						
ASAR	Alice Springs	56.72	141	P	P	15 50 13.7	+0.4
	comp=E,0.2nm,0.6s,baz=309,slow=6.9,SNR=3.9						

JMA 09 15:46:32.8±0.3, 43.97N×148.04E, h0km, M3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.77	251	P	Pn	15 47 04.8	+0.1
NEM2				eS	Sb	15 47 28.5	-0.4

JRA	Rausu	2.11	270	P	Pn	15 47 10.0	+0.7
JRA				eS	Sn	15 47 37.0	+0.8
JAK	Akkeshi	2.62	249	P	Pn	15 47 17.1	+0.8
JAK				eS	Sn	15 47 49.9	+1.1
JTKR	Abashiri--Toko	2.98	271	P	Pn	15 47 23.0	+1.7
JAR	Ashorobuto	3.17	259	P	Pn	15 47 25.7	+1.7
JAR				eS	Sn	15 48 05.6	+3.1
JCH	Churui	3.67	250	P	Pn	15 47 32.5	+1.7
JCH				eS	Sn	15 48 16.3	+1.5
JKK2	Kamakawa 2	3.83	270	P	Pn	15 47 35.9	+3.0
JNBK	Urakawa-nobuka	4.22	248	P	Pn	15 47 40.3	+1.9
JKB	Kayabe	5.55	250	P	Pn	15 47 58.4	+1.8
JKB				eS	Sn	15 49 01.7	+0.7
JOT	Ohata	5.77	246	P	Pn	15 48 00.9	+1.3

ISCJB 09 15:46:44.3±0.4, 68.11N±0.04×54.51W±0.09, h10km, mb3.8/16, Error ellipse: s-maj=6.6km s-min=4.4km az=160.9
IDC 09 15:46:46.3±0.6, 68.14N×53.87W, h0km, mb3.7/15, mb1 3.9/18, mb1mx3.7/49, mbtmp3.8/18, ML3.0/3, Error ellipse: s-maj=16.3km s-min=11.9km az=173.0
OTT 09 15:46:48.0±0.7, 68.18N×54.07W, h18km, ML4.3/7, Western Greenland. 425km east from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone.
ISC 09 15:46:46.6±0.5, 68.10N±0.04×54.22W±0.04, h10km, n38, σ1§91/47, mb3.7/16, Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILULI	Ilulissat	1.60	44	iP	Pb	15 47 16.5	+0.3
ILULI				iS	Sb	15 47 35.8	-0.6
SFJD	Kangerlussuaq	1.77	127	iP	Pb	15 47 18.8	-0.3
SFJD				iS	Sb	15 47 41.0	-0.2
SFJD	Kangerlussuaq	1.77	127	PN	Pb	15 47 18.8	-0.3
SFJD				PG	Pg	15 47 19.9	-0.5
SFJD				SN	Sn	15 47 38.5	-1.2
SFJD				SG	Sb	15 47 41.1	-0.2
SFJD				Trac		15 47 42.6	
	comp=Z,19μm,0.2s						
SFJD	Kangerlussuaq	1.77	127	Pn	Pb	15 47 18.6	-0.4
	195nm,0.3s,baz=306,slow=15,SNR=686						
SFJD				Sn	Sn	15 47 39.5	-0.2
	2μm,0.3s,baz=304,slow=7.3,SNR=73						
CMBN	Cumberland Cam	4.70	244	PN	Pn	15 47 59.5	+2.0
CMBN				SN	Sn	15 48 50.6	-1.4
CMBN				Trac		15 49 03.4	
	comp=Z,72nm,0.4s						
KULLO	Kullorsuaq	6.59	353	iP	Pn	15 48 23.1	-0.2
SUMG	Summit	6.95	43	iP	Pn	15 48 27.5	-1.1
SUMG				eS	Sn	15 49 42.4	-5.3
FRB	Frobisher Bay	7.30	240	PN	Pn	15 48 35.7	+2.6
FRB				SN	Sn	15 49 52.0	-3.8
FRB				Trac		15 49 53.9	
	comp=Z,27nm,0.4s						
FRB	Frobisher Bay	7.30	240	Pn	Pn	15 48 36.1	+3.0
	0.6nm,0.3s,baz=49,slow=15,SNR=4.4						
FRB				Sn	Sn	15 49 50.9	-4.9
	9.2nm,0.3s,baz=330,slow=8.1,SNR=8.3						
ILON	Igloolik, Nuna	10.06	290	PN	Pn	15 49 10.6	-0.3
ILON				SN	Sn	15 50 54.1	-10
ILON				Trac		15 51 43.3	
	comp=Z,12nm,0.3s						
AKVQ	Akulivik	12.58	246	PN	Pn	15 49 45.1	-0.2
AKVQ				SN	Sn	15 51 50.1	-15
DAG	Danmarks Havn	13.51	35	iP	Pn	15 49 55.5	-2.5
WAGN	Wager Bay	13.83	277	PN	Pn	15 50 00.1	-2.2
WAGN				SN	Sn	15 52 22.3	-13
RES	Resolute Bay	14.25	315	PN	Pn	15 50 09.1	+1.0
RES				SN	Sn	15 52 32.4	-14
RES				Trac		15 52 57.1	
	comp=Z,1.8nm,0.6s						
RES	Resolute Bay	14.25	315	Pn	Pn	15 50 09.9	+1.8
	0.3nm,0.3s,baz=106,slow=10,SNR=10						
SCHQ	Schefferville	14.56	210	PN	Pn	15 50 13.4	+1.0
SCHQ	Schefferville	14.56	210	Pn	Pn	15 50 13.2	+0.8
	0.3nm,0.3s,baz=24,slow=13,SNR=4.8						
SCHQ				Sn	Sn	15 52 49.1	-4.5
	0.2nm,0.3s,baz=31,slow=18,SNR=2.0						
STLN	Stellar Camp,	14.57	285	PN	Pn	15 50 10.5	-2.0
STLN				SN	Sn	15 52 38.8	-15
STLN				Trac		15 52 45.2	
	comp=Z,10.0nm,0.5s						
NUNN	Nunuq Camp, NU	14.74	276	PN	Pn	15 50 11.1	-3.7
NUNN				SN	Sn	15 52 44.2	-14
BULN	Bullion Camp,	14.97	282	PN	Pn	15 50 13.3	-4.7
BULN				SN	Sn	15 52 49.3	-14
BULN				Trac		15 52 56.9	
	comp=Z,5.8nm,0.6s						
LG4Q	La Grande 4	17.30	223	PN	Pn	15 50 46.4	-1.6
LG4Q				SN	Sn	15 53 47.9	-12
LG4Q				Trac		15 54 05.3	
	comp=Z,2.0nm,0.3s						
YOSQ	Ashton Mining	17.54	218	PN	Pn	15 50 50.7	-0.2
YOSQ				SN	Sn	15 53 55.6	-10
SPITS	Spitsbergen Ar	21.14	33	P	P	15 51 31.2	+0.1
	7.9nm,0.9s,baz=272,slow=9.9,SNR=2.3						
YKA	Yellowknife Ar	24.90	287	P	P	15 52 11.0	+1.9
	0.2nm,0.7s,baz=50,slow=9.5,SNR=6.4						
ARCES	ARCESS Array B	26.97	50	P	P	15 52 28.4	+0.6
	2.7nm,0.7s,baz=307,slow=8.9,SNR=7.7						
INK	Inuvik	27.58	308	P	P	15 52 35.5	+2.2
	1.3nm,1.1s,baz=69,slow=2.6,SNR=2.5						
FINES	FINESS Array B	32.51	62	P	P	15 53 17.3	+0.4
	0.5nm,0.6s,baz=304,slow=8.2,SNR=3.7						
ILAR	Eielson Array	33.90	310	P	P	15 53 31.2	+2.2
	0.3nm,0.9s,baz=33,slow=7.2,SNR=3.7						
GERES	GERESS Array B	37.90	85	P	P	15 54 04.4	+0.8
	0.7nm,0.7s,baz=325,slow=8.1,SNR=5.8						
PDAR	Pinedale Array	38.35	257	P	P	15 54 08.7	+1.1
	0.6nm,0.9s,baz=27,slow=6.1,SNR=4.1						
AKASG	Malin Array Be	42.04	71	P	P	15 54 37.8	0.0
	1.8nm,0.4s,baz=328,slow=8.6,SNR=13						
TXAR	Lajitas Array	48.34	243	P	P	15 55 30.9	+2.8
	0.2nm,0.7s,baz=19,slow=6.7,SNR=3.3						
AKTO	Aktyubinsk	51.55	49	P	P	15 55 52.3	+0.2
	0.7nm,0.6s,baz=0.0,slow=12,SNR=3.8						
BRTR	Keskin Array B	53.07	75	P	P	15 56 04.1	+0.4
	1.1nm,1.1s,baz=343,slow=6.8,SNR=2.7						
ZALV	Zalesovo Beam	54.54	28	P	P	15 56 14.4	+0.3
	1.6nm,0.6s,baz=341,slow=7.3,SNR=8.0						
MKAR	Makanchi Array	60.89	33	P	P	15 56 59.3	+0.4
	0.3nm,0.5s,baz=351,slow=5.3,SNR=5.9						
TORD	Torodi Ar. Bea	65.52	118	P	P	15 57 29.3	-0.6
	273nm,0.3s,baz=338,slow=6.9,SNR=14						
CMAR	Chiang Mai Arr	91.49	25	P	P	15 59 52.6	-0.5
	0.8nm,0.8s,baz=330,slow=5.2,SNR=6.1						

CSEM 09 16:10:30.7, 39.30N×29.87W, h10km, ML2.8, After PDA
PDA 09 16:10:30.7±1.1, 39.30N×29.87W, h10km, MD3.5, ML2.8, Error ellipse: s-maj=16.2km s-min=2.6km az=30.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	FLORES T-PHASE	1.04	275	eS	Sg	16 10 58.3	-6.1
H07N1	FLORES T-PHASE	1.04	292	eP	Pg	16 10 47.0	-3.9
H07N1				eS	Sg	16 10 59.0	-5.5
PCED	Cedros	1.13	126	eS	Sb	16 11 01.0	-6.1
PCED				A	A	16 11 03.7	
	132nm,0.3s						
PCED	Cedros	1.13	126	eS	Sb	16 11 01.0	-6.1
CALA	Caldeira	1.16	128	eP	Pb	16 10 47.9	-5.0
CALA				eS	Sb	16 11 02.0	-6.1
CALA	Caldeira	1.16	128	eP	Pb	16 10 47.9	-5.0
CALA				eS	Sb	16 11 02.0	-6.1
PICO	Pico	1.38	125	eP	Pn	16 10 51.1	-5.0
PICO				eS	Sb	16 11 07.1	-7.3
PICO	Pico	1.38	125	eP	Pn	16 10 51.1	-5.0
PICO				eS	Sb	16 11 07.1	-7.3
ROSA	Rosais	1.39	114	eS	Sn	16 11 06.6	-8.1
ROSA				A	A	16 11 12.8	
	73nm,0.5s						
ROSA	Rosais	1.39	114	eS	Sn	16 11 06.6	-8.1
PMAN	Manadas	1.54	115	eS	Sn	16 11 10.7	-7.5
PMAN				A	A	16 11 12.6	
	30nm,0.1s						
PMAN	Manadas	1.54	115	eS	Sn	16 11 10.7	-7.5

CASC 09 16:12:05.7±2.5, 13.94N×91.23W, h66km±23km, MD3.5, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.55	313	⇑eP	Pn	16 12 18.8	+0.2
JAT				eS	Sn	16 12 30.3	+2.1
PCG	Pacaya	0.75	53	eP	Pn	16 12 21.6	+0.3
PCG				eS	Sn	16 12 33.3	+0.6
NBG	Las Nubes	1.07	53	eP	Pn	16 12 26.3	+1.1
NBG				eS	Sn	16 12 42.8	+3.0
RBDL	Robledal	1.50	83	eP	Pn	16 12 30.8	-0.1
RTR	El Retiro	1.53	91	eP	Pn	16 12 31.5	+0.2
SBLS	San Blas	1.56	94	eP	Pn	16 12 31.8	+0.2
SBLS				eS	Sn	16 12 51.9	+0.6
MRL	Marmol	1.86	53	⇑eP	Pn	16 12 36.3	+0.7

LDG 09 16:17:10.7±0.1, 43.28N×19.35E, h2km, Ml3.8/15, Error ellipse: s-maj=2.6km s-min=2.4km az=140.0
ISCJB 09 16:17:10.7±0.2, 43.317N±0.009×19.25E±0.02, h7km±2km, mb3.6/7, Error ellipse: s-maj=2.1km s-min=1.5km az=175.0
IDC 09 16:17:11.7±1.0, 43.28N×19.20E, h0km, mb3.5/5, mb1 3.7/13, mb1mx3.6/40, mbtmp3.6/13, ML3.3/6, MS2.8/2, Ms1 2.8/2, ms1mx2.4/45, Error ellipse: s-maj=19.2km s-min=12.7km az=36.0
CSEM 09 16:17:11.6±0.1, 43.30N×19.26E, h2km, ML3.9, Ms3.8, Error ellipse: s-maj=2.1km s-min=1.8km az=76.0
PDG 09 16:17:11.8±0.3, 43.25N×19.32E, h11km, MD3.9/9, ML3.9/10, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0
THE 09 16:17:11.9, 43.29N×19.25E, h0km±2km, ML3.9/2, Error ellipse: s-maj=4.7km s-min=1.0km az=290.0
SOF 09 16:17:11.9, 43.30N×19.40E, h5km, MD3.5
PRU 09 16:17:12.7, 43.25N×19.31E, h10km
BEO 09 16:17:12.5±0.2, 43.27N×19.35E, h9km±2km, ML3.8/1
VIE 09 16:17:12.4±0.5, 43.39N×19.43E, h10km, mb3.4/12, ML3.4/5, Ms3.8/7, Error ellipse: s-maj=5.8km s-min=3.7km az=67.0 96 km ESE of Sarajevo
TIR 09 16:17:16.5±4.3, 42.93N×20.08E, h0km±35km
ISC 09 16:17:11.8±0.8, 43.30N±0.01×19.28E±0.02, h10km±5km, n337, σ1§46/421, mb3.5/7, 53C-58D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLE	Pljevlja	0.09	69	⇓iPg	Pg	16 17 14.4	+0.1
PLE				eSg	Sg	16 17 16.2	0.0
PLE	Pljevlja	0.09	69	⇓iPg	Pg	16 17 14.4	+0.1
PLE				eSg	Sg	16 17 16.2	0.0
UPM	Unac-Piva	0.29	251	⇑iPg	Pg	16 17 17.7	0.0
UPM				eSg	Sg	16 17 21.9	+0.2
UPM	Unac-Piva	0.29	251	⇑iPg	Pg	16 17 17.7	0.0
UPM				eSg	Sg	16 17 21.9	+0.2
BBLS	Lazići	0.57	9	⇓iPg	Pg	16 17 23.1	+0.1
BBLS	Lazići	0.57	9	⇓iPg	Pg	16 17 23.1	+0.1
NKME	Niksic	0.58	204	⇓iPg	Pg	16 17 22.0	-1.1
NKME				eSg	Sg	16 17 31.4	+0.6
NKME	Niksic	0.58	204	⇓iPg	Pg	16 17 22.0	-1.1
NKME				eSg	Sg	16 17 31.4	+0.6
BEY	Berane	0.62	133	⇑iPg	Pg	16 17 23.2	-0.6
BEY				eSg	Sg	16 17 31.6	-0.4
IVA	Berane	0.62	133	⇑iPg	Pg	16 17 23.2	-0.6
IVA				eSg	Sg	16 17 31.6	-0.4
IVAS	Ivanjica	0.69	66	⇑iPg	Pg	16 17 25.0	-0.2
IVAS				eSg	Sg	16 17 33.4	-0.9
IVAS				eSg	Sg	16 17 33.6	-0.7
IVAS	Ivanjica	0.69	66	⇑iPg	Pg	16 17 25.0	-0.2
IVAS				eSg	Sg	16 17 33.6	-0.7
PVY	Plav	0.86	144	⇑iPg	Pg	16 17 27.4	-1.0
PVY				eSg	Sg	16 17 38.9	-0.8
PVY	Plav	0.86	144	⇑iPg	Pg	16 17 27.4	-1.0
PVY				eSg	Sg	16 17 38.9	-0.8
PDG	Podgorica	0.87	181	P	Pg	16 17 26.7	-1.8
PDG				S	Sg	16 17 40.2	+0.4
PDG	Podgorica	0.87	181	ePg	Pg	16 17 26.7	-1.8
PDG				eSg	Sb	16 17 40.6	0.0
PDG	Podgorica	0.87	181	⇓iPg	Pg	16 17 26.8	-1.8
PDG				S	Sg	16 17 40.2	+0.4
TTG	Podgorica	0.87	181	⇓iPg	Pg	16 17 26.8	-1.8
TTG				eSg	Sg	16 17 40.1	+0.3
TREB	Trebinje	0.90	230	ePg	Pg	16 17 27.5	-1.6
TREB				eSg	Sn	16 17 43.1	-0.4
TREB	Trebinje	0.90	230	ePg	Pg	16 17 27.5	-1.6
TREB				eSg	Sn	16 17 43.1	-0.4
DIVS	Divibare	0.95	33	P	Pg	16 17 30.0	-0.1
DIVS				S	Sn	16 17 44.7	-0.3
DIVS	Divibare	0.95	33	⇓iPg	Pg	16 17 30.0	-0.1
DIVS				eSg	Sb	16 17 43.7	+0.6
DIVS	Divibare	0.95	33	P	Pg	16 17 30.0	-0.1
DIVS				eSg	Sb	16 17 43.7	+0.6
DIVS				S	Sn	16 17 44.7	-0.3
HCY	Herceg Novi	1.03	214	⇑iPg	Pg	16 17 30.0	-1.6
HCY				eSg	Sb	16 17 46.0	+0.7
HCY	Herceg Novi	1.03	214	⇑iPg	Pg	16 17 30.0	-1.6
HCY				eSg	Sb	16 17 46.0	+0.7
BUM	Brajici-Budva	1.04	196	⇑iPg	Pg	16 17 29.9	-1.9
BUM				eSg	Sb	16 17 46.2	+0.6
BUM	Brajici-Budva	1.04	196	⇑iPg	Pg	16 17 29.9	-1.9
BUM				eSg	Sb	16 17 46.2	+0.6
BCI	Bajram Curri	1.10	148	iPG	Pb	16 17 31.3	-1.6
BCI	Bajram Curri	1.10	148	iPg	Pb	16 17 31.3	-1.6
	SNR=90						
DRME	Dracevica, Mon	1.11	184	⇓iPg	Pb	16 17 31.4	-1.8
DRME				eSg	Sn	16 17 48.7	-0.2
DRME	Dracevica, Mon	1.11	184	⇓iPg	Pb	16 17 31.4	-1.8
DRME				eSg	Sn	16 17 48.7	-0.2
GRUS	Gruza	1.20	60	⇓iPg	Pb	16 17 34.2	-0.4
GRUS	Gruza	1.20	60	⇓iPg	Pb	16 17 34.2	-0.4
TRUS	Trudelj	1.23	41	⇓iPg	Pn	16 17 34.2	-0.9
TRUS				eSg	Sn	16 17 53.2	+1.4
TRUS	Trudelj	1.23	41	⇓iPg	Pn	16 17 34.2	-0.9
TRUS				eSg	Sn	16 17 53.2	+1.4
STON	Ston	1.23	250	iPg	Pn	16 17 34.7	-0.4
STON				Sg	Sn	16 17 52.6	+0.8
STON	Ston	1.23	250	ePg	Pn	16 17 34.5	-0.6
STON				eSg	Sn	16 17 54.2	+2.5
STON	Ston	1.23	250	ePg	Pn	16 17 34.5	-0.6
STON				Sg	Sn	16 17 52.6	+0.8
TEKS	Tekeris	1.26	8	⇓iPg	Pb	16 17 36.0	+0.3
TEKS				eSg	Sn	16 17 53.3	+0.7
TEKS	Tekeris	1.26	8	⇓iPg	Pb	16 17 36.0	+0.3
TEKS				eSg	Sn	16 17 53.3	+0.7
PUK	Puka	1.33	160	iPG	Pn	16 17 36.4	-0.2
PUK				iSG	Sg	16 17 55.4	+0.7
PUK	Puka	1.33	160	iPg	Pn	16 17 36.4	-0.2
	SNR=91						
PUK				iSg	Sg	16 17 55.4	+0.7
	SNR=91						
ULC	Ulcinj	1.34	181	⇓iPg	Pn	16 17 36.1	-0.4
ULC				eSg	Sg	16 17 56.0	+1.2
ULC	Ulcinj	1.34	181	⇓iPg	Pn	16 17 36.1	-0.4
ULC				eSg	Sg	16 17 56.0	+1.2
SELS	Selova	1.35	93	ePg	Pn	16 17 36.1	-0.6
SELS	Selova	1.35	93	ePg	Pn	16 17 36.1	-0.6
SVIS	Svilajnac	1.70	55	ePg	Pn	16 17 41.8	+0.3
SVIS				eSg	Sg	16 18 07.2	+0.7
BEO	Beograd	1.74	29	ePn	Pn	16 17 42.7	+0.7
BEO	Beograd	1.74	29	ePn	Pn	16 17 42.7	+0.7
PHP	Peshkopia	1.83	152	iPG	Pb	16 17 45.1	-0.3
PHP				iSG	Sg	16 18 10.9	+0.3
PHP	Peshkopia	1.83	152	P	Pn	16 17 44.3	+1.0
PHP				S	Sb	16 18 09.2	+0.9
PHP	Peshkopia	1.83	152	P	Pn	16 17 44.3	+1.0
PHP	Peshkopia	1.83	152	iPg	Pb	16 17 45.1	-0.3
	SNR=90						
PHP				S	Sb	16 18 09.2	+0.9
PHP				iSg	Sg	16 18 10.9	+0.3
	SNR=90						
FGSL	Fruska Gora	1.90	11	⇑iPn	Pn	16 17 44.1	-0.1
FRGS	Fruska Gora	1.90	11	⇑iPn	Pn	16 17 44.1	-0.1
BARS	Barje	1.92	104	⇑iPg	Pn	16 17 45.2	+0.7
BARS	Barje	1.92	104	⇑iPg	Pn	16 17 45.2	+0.7
BOLS	Boljevac	2.01	74	iPn	Pn	16 17 45.2	-0.6
BOLS				eSg	Sb	16 18 14.7	+1.1
BOLS	Boljevac	2.01	74	iPn	Pn	16 17 45.2	-0.6
BOLS				eSg	Sb	16 18 14.7	+1.1
SKO	Skopje	2.07	129	P	Pn	16 17 47.1	+0.4
SKO	Skopje	2.07	129	eP	Pn	16 17 47.6	+1.0
SKO	Skopje	2.07	129	iPn	Pn	16 17 47.2	+0.6
SKO	Skopje	2.07	129	iPn	Pn	16 17 47.2	+0.6
BLY	Banja Luka	2.09	315	ePn	Pb	16 17 50.2	+0.3
BLY	Banja Luka	2.09	315	ePn	Pb	16 17 50.2	+0.3
BANR	Banloc	2.47	32	⇑iP	Pb	16 17 54.6	-1.7
BANR	Banloc	2.47	32	⇑iP	Pb	16 17 54.6	-1.7
UDBI	Udbina	2.82	297	iPn	Pn	16 17 59.9	+2.9
UDBI				Sn	Sb	16 18 36.0	-1.0
UDBI	Udbina	2.82	297	iPn	Pn	16 17 59.9	+2.9
UDBI				Sn	Sb	16 18 35.9	-1.0
BAI	Bari	2.83	220	ePn	Pn	16 17 57.6	+0.7
BAI				Sn	Sn	16 18 30.6	-0.4
PE1	Pezze di Greco	2.85	210	ePn	Pn	16 17 58.0	+0.7
PE1				Sn	Sn	16 18 32.1	+0.4
BZS	Buzias	2.86	35	ePn	Pn	16 17 57.2	-0.2
BZS	Buzias	2.86	35	⇓iP	Pn	16 17 57.5	+0.1
BZS	Buzias	2.86	35	ePn	Pn	16 17 57.2	-0.2
BZS	Buzias	2.86	35	⇓iP	Pn	16 17 57.5	+0.1
KBN	Korca	2.90	157	iPN	Pb	16 18 03.3	-0.4
KBN	Korca	2.90	157	P	Pn	16 17 59.2	+1.1
KBN	Korca	2.90	157	P	Pn	16 17 59.2	+1.1
KBN	Korca	2.90	157	iPn	Pb	16 18 03.3	-0.4
	SNR=40						
MS1	Monte Sant'Ang	2.94	238	ePn	Pn	16 18 01.1	+2.5
MS1				Sn	Sn	16 18 36.7	+2.8
PKSM	Moragy	2.95	351	ePn	Pn	16 17 58.6	0.0
PKSM	Moragy	2.95	351	⇑e	Pn	16 17 58.7	+0.1
PKSM				ePKiKP	Sn	16 18 33.2	-0.9
PKSM	Moragy	2.95	351	ePn	Pn	16 17 58.6	0.0
PKSM				eSn	Sn	16 18 33.2	-0.9
FNA	Florina	2.96	147	P	Pn	16 18 00.5	+1.7
FNA				S	Sn	16 18 37.5	+3.0
FNA	Florina	2.96	147	ePN	Pn	16 18 00.6	+1.7
FNA	Florina	2.96	147	P	Pn	16 18 00.5	+1.7
FNA				S	Sn	16 18 37.5	+3.0
VTS	Vitosha	2.97	102	P	Pn	16 17 59.6	+0.5
VTS	Vitosha	2.97	102	eP	Pn	16 17 59.8	+0.7
VTS	Vitosha	2.97	102	⇑iPn	Pn	16 17 59.8	+0.7
VTS	Vitosha	2.97	102	iP	Pn	16 17 59.6	+0.5
VTS	Vitosha	2.97	102	⇑iP	Pn	16 18 00.5	+1.4
VTS	Vitosha	2.97	102	⇑iPn	Pn	16 17 59.8	+0.7
SG1	Sgolgore (BA)	3.13	219	ePn	Pn	16 18 02.0	+0.8
SG1				Sn	Sn	16 18 38.7	+0.1
VAY	Valandovo	3.14	128	P	Pn	16 18 02.5	+1.2
VAY	Valandovo	3.14	128	iP	Pn	16 18 04.5	+3.2
VAY				iS	Sg	16 18 52.0	-0.6
VAY	Valandovo	3.14	128	ePn	Pb	16 18 05.5	-2.2
VAY	Valandovo	3.14	128	P	Pn	16 18 02.5	+1.2
VAY	Valandovo	3.14	128	ePn	Pb	16 18 05.5	-2.2
SRE	Strehaia	3.14	63	⇓iP	Pn	16 18 02.7	+1.3
SRE	Strehaia	3.14	63	⇓iP	Pn	16 18 02.7	+1.3
CDT	Castel del Mon	3.15	226	iPn	Pn	16 18 02.1	+0.7
CDT				Sn	Sn	16 18 39.1	+0.1
TAR1	Taranto	3.15	209	ePn	Pn	16 18 02.1	+0.7
TAR1				Sn	Sn	16 18 39.7	+0.7
KKB	Krupnik	3.15	116	iP	Pn	16 18 02.8	+1.3
KKB	Krupnik	3.15	116	iP	Pn	16 18 02.8	+1.3
NEST	Nestorio	3.17	155	ePB	Pb	16 18 05.6	-2.7
PKS2	Kecel	3.19	359	⇑e	Pn	16 18 03.3	+1.3
PKS2	Kecel	3.19	359	⇑ePn	Pn	16 18 03.3	+1.3
MPEP	Malo Peshtene	3.25	87	iP	Pn	16 18 03.8	+0.9
MPEP	Malo Peshtene	3.25	87	iP	Pn	16 18 03.8	+0.9
GZR	Gura Zlata	3.27	49	ePn	Pn	16 18 03.3	+0.2
GZR	Gura Zlata	3.27	49	ePn	Pn	16 18 03.3	+0.2
PKS6	Bocsa	3.31	3	⇑e	Pn	16 18 03.6	0.0
PKS6	Bocsa	3.31	3	⇑ePn	Pn	16 18 03.6	0.0
PKS9	Tamasi	3.36	348	⇓e	Pn	16 18 04.7	+0.3
PKS9	Tamasi	3.36	348	⇓ePn	Pn	16 18 04.7	+0.3
NVLJ	Novalja	3.43	293	ePn	Pn	16 18 07.6	+2.3
NVLJ				Sn	Sb	16 18 51.8	-2.4
NVLJ	Novalja	3.43	293	ePn	Pn	16 18 07.5	+2.3
NVLJ				Sn	Sb	16 18 51.8	-2.4
KNT	Kendrikon	3.43	127	P	Pn	16 18 06.1	+0.8
KNT	Kendrikon	3.43	127	ePN	Pn	16 18 05.8	+0.5
KNT	Kendrikon	3.43	127	P	Pn	16 18 06.1	+0.8
SRN	Sarande	3.46	171	P	Pn	16 18 07.3	+1.6
SRN	Sarande	3.46	171	P	Pn	16 18 07.3	+1.6
KZN	Kozani	3.52	147	ePN	Pn	16 18 08.2	+1.6
KEK	Kerkira	3.60	174	P	Pn	16 18 09.1	+1.4
KEK				S	Sn	16 18 53.2	+2.9
KEK	Kerkira	3.60	174	ePN	Pn	16 18 09.5	+1.8
KEK	Kerkira	3.60	174	P	Pn	16 18 09.1	+1.4
KEK				S	Sn	16 18 53.2	+2.9
BOJS	Bojanci	3.63	309	iPn	Pn	16 18 09.7	+1.6
BOJS	Bojanci	3.63	309	iPn	Pn	16 18 09.7	+1.6
BEHE	Becsehely	3.63	332	⇑e	Pn	16 18 09.0	+0.9
BEHE						16 18 50.3	
BEHE	Becsehely	3.63	332	⇑ePn	Pn	16 18 09.0	+0.9
BEHE				eSn	Sn	16 18 50.3	-0.7
PGB	Panagyurishte	3.67	100	iP	Pn	16 18 10.0	+1.4
PGB	Panagyurishte	3.67	100	iP	Pn	16 18 10.0	+1.4
MMB	Musomiste	3.71	116	iP	Pn	16 18 10.4	+1.2
MMB				iS	Sg	16 19 14.7	+3.8
MMB	Musomiste	3.71	116	⇓iP	Pn	16 18 12.5	+3.3
MMB	Musomiste	3.71	116	iP	Pn	16 18 10.4	+1.2
CRES	Cresnjev	3.72	314	iPn	Pn	16 18 10.5	+1.2
CRES	Cresnjev	3.72	314	iPn	Pn	16 18 10.5	+1.2
THE	Thessaloniki	3.83	133	ePN	Pn	16 18 11.9	+1.2
IGT	Igoumenitsa	3.85	168	P	Pn	16 18 12.8	+1.8
IGT	Igoumenitsa	3.85	168	ePN	Pn	16 18 13.1	+2.1
IGT	Igoumenitsa	3.85	168	P	Pn	16 18 12.8	+1.8
LOT	Lotru	3.87	55	⇑iP	Pn	16 18 13.2	+1.8
LOT	Lotru	3.87	55	⇑iP	Pn	16 18 13.2	+1.8
SRS	Serrai	3.88	123	P	Pn	16 18 12.8	+1.4
SRS	Serrai	3.88	123	ePN	Pn	16 18 11.6	+0.2
SRS	Serrai	3.88	123	P	Pn	16 18 12.8	+1.4
NVR	Nevrokopi	3.92	118	P	Pn	16 18 13.5	+1.5
NVR	Nevrokopi	3.92	118	ePN	Pn	16 18 12.8	+0.8
NVR	Nevrokopi	3.92	118	P	Pn	16 18 13.5	+1.5
HORT	Hortiatis	3.92	132	ePN	Pn	16 18 13.2	+1.0
LIT	Litokhoron	4.00	142	P	Pn	16 18 14.0	+0.9
LIT	Litokhoron	4.00	142	ePN	Pn	16 18 14.4	+1.3
LIT	Litokhoron	4.00	142	P	Pn	16 18 14.0	+0.9
PKST	T˜s	4.06	348	⇑e	Pn	16 18 14.2	+0.3
PKST				e		16 19 00.5	
PKST	T˜s	4.06	348	⇑ePn	Pn	16 18 14.2	+0.3
PKST				eSn	Sn	16 19 00.5	-0.9
CSKK	Cs˜‡kako	4.13	350	⇑e	Pn	16 18 15.8	+0.9
CSKK	Cs˜‡kako	4.13	350	⇑ePn	Pn	16 18 15.8	+0.9
CSKK				eSn	Sn	16 19 04.6	+1.4
PKSG		4.14	352	⇓e	Pn	16 18 15.5	+0.5
PKSG				e		16 19 03.3	
PKSG		4.14	352	⇓ePn	Pn	16 18 15.5	+0.5
PKSG				eSn	Sn	16 19 03.3	-0.2
PLD	Plovdiv	4.17	105	iPg	Pb	16 18 26.7	+1.4
BUD	Budapest	4.19	358	⇓e	Pn	16 18 15.9	+0.2
BUD				e		16 19 04.5	
BUD	Budapest	4.19	358	⇓ePn	Pn	16 18 15.9	+0.2
BUD				eSn	Sn	16 19 04.5	-0.1
THL	Klokotos Trika	4.26	150	P	Pn	16 18 18.9	+2.2
THL	Klokotos Trika	4.26	150	ePN	Pn	16 18 18.6	+1.9
THL	Klokotos Trika	4.26	150	P	Pn	16 18 18.9	+2.2
PLG	Polygyros	4.27	132	ePN	Pn	16 18 18.0	+1.1
HUMR	Humele	4.30	71	⇓iP	Pn	16 18 18.6	+1.4
HUMR	Humele	4.30	71	⇓iP	Pn	16 18 18.6	+1.4
RZN	Rozhen	4.33	110	iP	Pn	16 18 19.3	+1.5
RZN	Rozhen	4.33	110	iP	Pn	16 18 19.3	+1.5
LJU	Ljubljana	4.36	311	ePn	Pn	16 18 21.0	+2.9
LJU				ePg	Pg	16 18 33.0	-2.3
LJU				eSg	Sg	16 19 38.5	+6.7
LJU	Ljubljana	4.36	311	ePn	Pn	16 18 21.0	+2.9
LJU	Ljubljana	4.36	311	ePg	Pg	16 18 33.0	-2.3
ARR	Arges	4.36	60	⇓iP	Pn	16 18 20.0	+1.8
ARR	Arges	4.36	60	⇓iP	Pn	16 18 20.0	+1.8
PVL	Pavlikeni	4.42	89	iSg	Sg	16 19 28.9	-4.9
KAVA	Kavala	4.52	119	ePN	Pn	16 18 21.1	+0.8
SOKA	Soboth	4.53	320	iPn	Pn	16 18 21.1	+0.7
	SNR=24						
SOKA	Soboth	4.53	320	Pn	Pn	16 18 21.1	+0.7
	SNR=24						
TIP	Timpagrande	4.54	206	P	Pn	16 18 21.6	+1.1
TIP	Timpagrande	4.54	206	P	Pn	16 18 21.6	+1.1
CJR	Cluj-Napoca	4.58	40	⇓iP	Pb	16 18 27.5	-4.8
OUR	Ouranopolis	4.60	129	eP	Pn	16 18 23.1	+1.8
OUR	Ouranopolis	4.60	129	ePN	Pn	16 18 21.4	+0.1
OUR	Ouranopolis	4.60	129	eP	Pn	16 18 23.1	+1.8
LKD2	Lefkada island	4.62	167	P	Pn	16 18 22.7	+0.9
LKD2	Lefkada island	4.62	167	ePN	Pn	16 18 21.8	0.0
LKD2	Lefkada island	4.62	167	P	Pn	16 18 22.7	+0.9
PSZ	Piszkesteto	4.64	5	⇓e	Pn	16 18 22.1	+0.1

PSZ e 16 19 12.8
PSZ Piszkesteto 4.64 5⇓ePn Pn 16 18 22.1 +0.1
PSZ eSn Sn 16 19 12.8 -3.1
OBKA Obir 4.65 315⇑iPn Pn 16 18 22.9 +0.8
SNR=11
OBKA ⇓iSn Sn 16 19 19.1 +3.0
OBKA Obir 4.65 315 Pn Pn 16 18 22.9 +0.8
SNR=11
OBKA Sn Sn 16 19 19.1 +3.0
VOIR 4.66 61⇑iP Pn 16 18 24.0 +1.8
VOIR 4.66 61⇑iP Pn 16 18 24.0 +1.8
PAIG Paliouri 4.71 134 ePN Pn 16 18 23.7 +0.8
ARSA Arzberg 4.76 327⇑iPn Pn 16 18 24.3 +0.7
SNR=18
ARSA ⇓iSn Sn 16 19 18.7 0.0
ARSA Arzberg 4.76 327 Pn Pn 16 18 24.3 +0.7
SNR=18
ARSA Sn Sn 16 19 18.7 0.0
DIM Dimitrovgrad 4.78 103 iS Sg 16 19 47.9 +2.8
EVR Evrytania 4.78 156 ePN Pn 16 18 27.6 +3.7
SOP Sopron 4.78 337⇑e Pn 16 18 24.5 +0.6
SOP Sopron 4.78 337⇑ePn Pn 16 18 24.5 +0.6
MAKR Makrakomi, Fth 4.79 152 ePN Pn 16 18 26.9 +2.8
KDZ Kurdzhali 4.83 108⇓iP Pn 16 18 27.3 +2.8
KDZ Kurdzhali 4.83 108⇓iP Pn 16 18 27.3 +2.8
AGG Agios Georgios 4.85 151 ePN Pn 16 18 25.7 +0.8
SZH Strazhica 4.86 88 iP Pn 16 18 26.3 +1.4
SZH Strazhica 4.86 88 iP Pn 16 18 26.3 +1.4
NEO Neokhori 4.97 142 ePN Pn 16 18 27.4 +0.9
RDO Rodhopi 5.12 113 ePB Pb 16 18 39.8 -1.6
MYKA Terra Mystica 5.20 312⇓iPn Pn 16 18 30.7 +1.0
MYKA Terra Mystica 5.20 312 Pn Pn 16 18 30.7 +1.0
VYHS Vyhne 5.21 357 ePN Pn 16 18 30.4 +0.7
VYHS eSN Sn 16 19 28.3 -1.4
VYHS Vyhne 5.21 357 ePN Pn 16 18 30.4 +0.7
VYHS eSn Sn 16 19 28.3 -1.4
CONA Conrad Observa 5.21 334⇓iPn Pn 16 18 30.3 +0.4
SNR=4.4
CONA ⇑iSn Sn 16 19 31.0 +1.0
CONA Conrad Observa 5.21 334 Pn Pn 16 18 30.3 +0.4
SNR=4.4
CONA Sn Sn 16 19 31.0 +1.0
VLS Valsamata 5.21 169 ePN Pn 16 18 31.1 +1.3
KECS Kecovo 5.25 9 ePN Pn 16 18 31.3 +1.0
KECS eSN Sn 16 19 26.2 -4.7
KECS Kecovo 5.25 9 ePn Pn 16 18 31.3 +1.0
MLR Muntele Rosu 5.25 63⇑iP Pn 16 18 32.5 +2.0
MLR Muntele Rosu 5.25 63 Pn Pn 16 18 33.6 +3.1
0.2nm,0.3s,baz=141,slow=20,SNR=7.9
MLR LR LR 16 21 01.2
comp=Z,47nm,19.2s,baz=264,slow=43
MLR Muntele Rosu 5.25 63⇑iP Pn 16 18 32.5 +2.0
EFP Efpalio 5.26 157 ePN Pn 16 18 34.1 +3.7
TRPA Tarpa 5.34 24 ePKiKP Pn 16 18 31.1 -0.4
TRPA Tarpa 5.34 24 ePn Pn 16 18 31.1 -0.4
KALE Kalithea 5.36 155 ePN Pn 16 18 35.1 +3.2
AOS Alonnisos 5.39 138 eP Pn 16 18 33.2 +1.0
AOS Alonnisos 5.39 138 eP Pn 16 18 33.2 +1.0
JMB Yambol 5.43 96⇓iP Pn 16 18 35.4 +2.6
JMB Yambol 5.43 96⇓iP Pn 16 18 35.4 +2.6
LKR Lokris 5.43 148 ePN Pn 16 18 36.1 +3.3
LAKA Lakka 5.45 157 ePN Pn 16 18 35.3 +2.2
DSF Desfina 5.47 152 ePN Pn 16 18 36.3 +2.9
RLS Riolos of Patr 5.49 162 ePN Pn 16 18 35.4 +1.8
ALN Alexandroupoli 5.58 113 eP Pn 16 18 37.3 +2.6
ALN Alexandroupoli 5.58 113 ePN Pn 16 18 35.3 +0.5
ALN Alexandroupoli 5.58 113 eP Pn 16 18 37.3 +2.6
MRKA Markates 5.63 143 ePN Pn 16 18 37.6 +2.1
KBA Koelnbreinsper 5.64 314⇓iPn Pn 16 18 37.4 +1.5
KBA Koelnbreinsper 5.64 314 Pn Pn 16 18 37.4 +1.5
KLV Kalavryta, Ach 5.69 156 ePN Pn 16 18 37.7 +1.3
EDRB Edirne 5.70 102 eP Pn 16 18 38.0 +1.5
EDRB Edirne 5.70 102 eP Pn 16 18 38.0 +1.5
ENEZ Enez 5.72 114 eP Pn 16 18 38.0 +1.2
ENEZ Enez 5.72 114 eP Pn 16 18 38.0 +1.2
MOA Molln 5.75 324⇑iPn Pn 16 18 38.0 +0.8
SNR=17
MOA ⇓iSn Sn 16 19 42.6 -0.6
MOA Molln 5.75 324 Pn Pn 16 18 38.0 +0.8
SNR=17
MOA Sn Sn 16 19 42.6 -0.6
CRVS Cervenica-Dubn 5.80 14 ePN Pn 16 18 39.1 +1.2
CRVS Cervenica-Dubn 5.80 14 ePN Pn 16 18 39.1 +1.2
GUR Goura 5.84 155 ePN Pn 16 18 40.0 +1.5
PLOR Plostina 5.85 62⇑iP Pn 16 18 40.1 +1.5
PLOR Plostina 5.85 62⇑iP Pn 16 18 40.1 +1.5
ABTA Abfaltersbach 5.91 308⇑iPn Pn 16 18 40.5 +1.1
SNR=14
ABTA ⇓iSn Sn 16 19 50.1 +3.0
ABTA Abfaltersbach 5.91 308 Pn Pn 16 18 40.5 +1.1
SNR=14
ABTA Sn Sn 16 19 50.1 +3.0
VRI Vrincioaia 5.91 62⇓iP Pn 16 18 41.2 +1.9
VRI Vrincioaia 5.91 62⇓iP Pn 16 18 41.2 +1.9
PRD Provadia 5.93 88 iS Sg 16 20 17.6 -4.6
LTK Loutraki 5.97 151 ePN Pn 16 18 41.5 +1.3
BURAR Bucovina Array 6.00 42⇓iP Pn 16 18 42.1 +1.4
BURAR Bucovina Array 6.00 42⇓iP Pn 16 18 42.1 +1.4
KOLS Kolonicke sedl 6.01 19 ePN Pn 16 18 41.6 +0.9
KOLS Kolonicke sedl 6.01 19 ePn Pn 16 18 41.6 +0.9
GELI Tayfur-Gelibol 6.10 116 eP Pn 16 18 43.0 +1.0
GELI Tayfur-Gelibol 6.10 116 eP Pn 16 18 43.0 +1.0
STHS Stebnicka Huta 6.27 12 ePN Pn 16 18 46.5 +2.2
STHS eSN Sn 16 19 47.5 -8.4
STHS Stebnicka Huta 6.27 12 ePn Pn 16 18 46.5 +2.2
VRAC Vranov 6.29 344⇑iP Pn 16 18 49.5 +4.9
VRAC Vranov 6.29 344 Pn Pn 16 18 46.8 +2.2
0.8nm,0.3s,baz=152,slow=13,SNR=2.7
EZN Ezine 6.32 121 eP Pn 16 18 46.3 +1.3
EZN Ezine 6.32 121 eP Pn 16 18 46.3 +1.3
ITM Ithomi 6.44 161 ePN Pn 16 18 48.3 +1.6
TLB Topalu 6.46 76⇓iP Pn 16 18 48.5 +1.7
TLB Topalu 6.46 76⇓iP Pn 16 18 48.5 +1.7
DID Didima 6.53 151 ePN Pn 16 18 49.0 +1.1
OKC Ostrava-Krasne 6.59 354 eSN Sn 16 20 02.7 -1.0
OKC Ostrava-Krasne 6.59 354 Sn Sn 16 20 02.7 -1.0
MORC Moravsky Berou 6.59 350⇑iP Pn 16 18 52.4 +3.7
CFR Carcaliu 6.63 71⇑iP Pn 16 18 51.3 +2.0
CFR Carcaliu 6.63 71⇑iP Pn 16 18 51.3 +2.0
CRLT Corlu 6.64 106 eP Pn 16 18 50.9 +1.5
CRLT Corlu 6.64 106 eP Pn 16 18 50.9 +1.5
PYL PYLOS 6.67 163 ePN Pn 16 18 49.2 -0.6
WTTA Wattenberg 6.69 309⇓iPn Pn 16 18 51.5 +1.2
SNR=9.9
WTTA Wattenberg 6.69 309 Pn Pn 16 18 51.5 +1.2
SNR=9.9
TIRR Tirgusor 6.70 77 eP Pn 16 18 50.6 +0.4
TIRR Tirgusor 6.70 77⇑iP Pn 16 18 47.9 -2.3
TIRR Tirgusor 6.70 77 eP Pn 16 18 50.6 +0.4
MRMT Marmara Adasi 6.76 111 eP Pn 16 18 53.0 +1.9
MRMT Marmara Adasi 6.76 111 eP Pn 16 18 53.0 +1.9
WATA Walderalm 6.76 309⇓iPn Pn 16 18 52.5 +1.3
WATA Walderalm 6.76 309 Pn Pn 16 18 52.5 +1.3
GERES GERESS Array B 6.77 327 Pn Pn 16 18 53.5 +2.3
0.9nm,0.3s,baz=154,slow=14,SNR=19
KRLC Kraliky 6.99 347 ePN Pn 16 18 55.1 +0.9
KRLC ex x 16 19 16.9
KRLC eSN Sn 16 20 12.4 -1.4
KRLC Kraliky 6.99 347 Pn Pn 16 18 55.1 +0.9
MOTA Moosalm 7.04 308⇓iPn Pn 16 18 56.4 +1.4
SNR=12
MOTA Moosalm 7.04 308 Pn Pn 16 18 56.4 +1.4
SNR=12
KHC Kasperske Hory 7.04 328 ePN Pn 16 18 56.3 +1.3
KHC ePB Pb 16 19 13.3 -0.9
KHC ePG Pg 16 19 31.5 +4.9
KHC eSN Sn 16 20 14.3 -0.8
KHC eSG Sg 16 20 57.0 -0.8
KHC Kasperske Hory 7.04 328 Pn Pn 16 18 56.3 +1.3
KHC Sn Sn 16 20 14.3 -0.8
FETA Feichten 7.10 305⇑iPn Pn 16 18 57.1 +1.3
SNR=6.9
FETA ⇓iSn Sn 16 20 19.4 +2.9
FETA Feichten 7.10 305 Pn Pn 16 18 57.1 +1.3
SNR=6.9
FETA Sn Sn 16 20 19.4 +2.9
VLI Veliai 7.15 156 ePN Pn 16 18 55.8 -0.6
DPC Dobruska-Polom 7.34 345 ePN Pn 16 18 59.2 +0.2
DPC ex x 16 19 10.5
DPC ex x 16 19 24.8
DPC eSN Sn 16 20 20.5 -1.8
DPC Dobruska-Polom 7.34 345 Pn Pn 16 18 59.2 +0.2
DAVOX Davos/Dischmat 7.51 301 Pn Pn 16 19 02.6 +1.1
0.7nm,0.3s,baz=122,slow=19,SNR=5.1
DAVOX LR LR 16 22 36.0
comp=Z,145nm,20.9s,baz=246,slow=43
PGF Pioggiola 7.58 268 ePn Pn 16 19 00.4 -2.0
PGF eSn Sn 16 20 22.4 -6.1
11nm,0.2s
APE Apeiranthos 7.85 140 eP Pn 16 19 06.6 +0.6
APE Apeiranthos 7.85 140 ePN Pn 16 19 08.4 +2.4
APE Apeiranthos 7.85 140 eP Pn 16 19 06.6 +0.6
BRG Berggiesshubel 8.40 336 SG Sb 16 21 11.2 -6.1
9.8nm,1.2s
SBF Sospel 8.62 278 ePn Pn 16 19 14.6 -2.0
SBF eSn Sn 16 20 47.3 -6.5
40nm,0.9s
CLL Collm 9.07 334 eSn Sn 16 20 52.0 -13
CLL eSb 16 21 35.0
CLL eSg 16 22 12.0
IDI Anoyia 9.10 150 Pn Pn 16 19 24.9 +1.6
0.6nm,0.3s,baz=322,slow=17,SNR=4.4
IDI Sn Sn 16 21 00.4 -5.4
1.0nm,0.3s,baz=294,slow=19,SNR=4.4
MBDF Montbardon 9.13 283 ePn Pn 16 19 21.7 -1.9
MBDF eSn Sn 16 20 59.6 -6.9
7.1nm,0.6s
FRF La Foret Royal 9.20 276 ePn Pn 16 19 23.3 -1.2
FRF eSn Sn 16 21 01.1 -6.9
6.5nm,0.4s
FRF La Foret Royal 9.20 276 ePn Pn 16 19 23.3 -1.2
LPG La Plagne 9.23 288 ePn Pn 16 19 25.4 +0.2
LPG eSn Sn 16 21 02.3 -7.0
14nm,0.7s
LPG La Plagne 9.23 288 ePn Pn 16 19 25.4 +0.2
GVD Gavdhos 9.24 155 eP Pn 16 19 24.4 -0.6
GVD Gavdhos 9.24 155 eP Pn 16 19 24.4 -0.6
LPL La Plagne 9.25 288 ePn Pn 16 19 25.7 +0.3
LPL eSn Sn 16 21 02.5 -7.1
5.5nm,0.4s
LPL La Plagne 9.25 288 ePn Pn 16 19 25.7 +0.3
LMR La Mourre 9.31 275 ePn Pn 16 19 24.0 -2.0
LMR eSn Sn 16 21 03.6 -7.2
2.5nm,0.5s
ORIF Oris-en-Rattie 9.78 284 ePn Pn 16 19 30.4 -2.1
ORIF eSn Sn 16 21 14.9 -7.4
4.7nm,0.4s
CDF Champ du Feu 9.81 306 ePn Pn 16 19 30.6 -2.3
CDF eSn Sn 16 21 15.7 -7.4
3.3nm,0.5s
VIVF Saint-Julien-l 10.63 283 ePn Pn 16 19 43.1 -1.0
VIVF eSn Sn 16 21 35.0 -8.1
1.5nm,0.3s
VIVF Saint-Julien-l 10.63 283 ePn Pn 16 19 43.1 -1.0
SMF Signal de Mont 11.44 292 ePn Pn 16 19 53.0 -2.1
SMF eSn Sn 16 21 54.2 -8.7
6.9nm,0.5s
LOR Lormes 11.56 295 ePn Pn 16 19 54.6 -2.3
LOR eSn Sn 16 21 57.8 -8.2
5.6nm,0.6s
MMAI Mount Meron Ar 16.29 124 Pn P 16 21 02.9 -0.8
baz=316,slow=10,SNR=2.3
HFS Hagfors 17.20 351 P P 16 21 13.3 -0.2
baz=168,slow=16,SNR=2.5
FINES FINESS Array B 18.62 10 P Pn 16 21 29.6 +0.2
0.1nm,0.3s,baz=190,slow=13,SNR=2.5
ARCES ARCESS Array B 26.50 5 P P 16 22 47.2 -1.8
1.2nm,0.8s,baz=188,slow=11,SNR=2.8
TORD Torodi Ar. Bea 33.65 212 P P 16 23 53.7 +1.0
4.5nm,0.4s,baz=13,slow=8.0,SNR=4.5
ZALV Zalesovo Beam 43.12 52 P P 16 25 14.0 +2.0
0.4nm,0.4s,baz=272,slow=9.8,SNR=2.7
MKAR Makanchi Array 43.60 63 P P 16 25 17.4 +1.4
0.3nm,0.7s,baz=283,slow=7.7,SNR=4.5
YKA Yellowknife Ar 68.27 339 P P 16 28 12.7 +0.3
0.2nm,0.5s,baz=39,slow=5.6,SNR=9.3
CMAR Chiang Mai Arr 70.16 83 P P 16 28 27.4 +2.6
0.6nm,0.7s,baz=301,slow=7.0,SNR=7.5
ILAR Eielson Array 71.72 354 P P 16 28 34.8 +1.3
0.3nm,0.7s,baz=322,slow=33,SNR=4.4

IDC 09 16:21:02.8±3.8, 6.16S×147.66E, h50km±38km, mb3.4/4, mb1 3.6/6, mb1mx3.2/33, mbtmp3.7/6, ML3.3/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/21, Error ellipse: s-maj=62.9km s-min=26.2km az=103.0
ISCJB 09 16:21:03.0±1.3, 6.24S±0.09×147.8E±0.3, h77km, mb3.5/4, Error ellipse: s-maj=48.2km s-min=11.0km az=7.1
ISC 09 16:21:05.3±1.3, 6.3S±0.1×147.6E±0.4, h77km, n8, σ0.97/9, mb3.6/4, Eastern New Guinea region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 3.15 189 P Pn 16 21 51.5 -1.1
6.2nm,0.3s,baz=349,slow=4.4,SNR=23
PMG S Sn 16 22 29.9 +0.7
16nm,0.3s,baz=338,slow=19,SNR=11
PMG LR LR 16 23 05.6
comp=Z,79nm,19.1s,baz=64,slow=38
WRA Warramunga Arr 18.75 222 P Pn 16 25 19.0 -0.6
0.3nm,0.3s,baz=47,slow=11,SNR=13
ASAR Alice Springs 21.77 216 P P 16 25 51.6 +0.8
0.8nm,0.3s,baz=49,slow=9.0,SNR=35
ASAR PcP PcP 16 29 50.4 +1.6
0.1nm,0.7s,baz=39,slow=1.5,SNR=4.0
STKA Stephens Creek 26.09 192 P P 16 26 32.1 +0.2
2.1nm,0.9s,baz=14,slow=8.3,SNR=2.9
AFI Afiamalu 40.62 104 LR LR 16 41 39.3
comp=Z,519nm,21.8s,baz=80,slow=30
PETK Petropavlovsk- 59.77 7 P P 16 31 01.8 -0.3
1.7nm,0.8s,baz=181,slow=8.1,SNR=5.3
MKAR Makanchi Array 78.11 320 P P 16 32 56.0 -0.1
0.1nm,0.4s,baz=99,slow=7.3,SNR=4.7
TORD Torodi Ar. Bea 145.78 284 PKPbc PKPab 16 40 36.9 -0.3
0.5nm,0.6s,baz=60,slow=4.0,SNR=4.1

IDC 09 16:23:27.3±4.5, 31.01N×140.96E, h92km±66km, mb3.1/3, mb1 3.4/4, mb1mx3.0/41, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=218.2km s-min=29.1km az=69.0, Southeast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MJAR Matsushiro Arr 5.98 338 P Pn 16 24 52.9 -0.4
0.8nm,0.3s,baz=149,slow=14,SNR=14
KURBB Kurchatov Arra 49.59 312 P P 16 32 08.9 -0.1
0.3nm,0.6s,baz=89,slow=6.8,SNR=5.4
WRA Warramunga Arr 51.05 188 P P 16 32 19.9 -0.4
0.3nm,0.3s,baz=5.1,slow=7.6,SNR=8.2
ASAR Alice Springs 54.78 188 P P 16 32 47.8 +0.2
0.3nm,0.7s,baz=357,slow=4.6,SNR=4.8

IDC 09 16:24:41.4±1.3, 0.37N×124.38E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/36, mbtmp3.8/3, Error ellipse: s-maj=184.1km s-min=22.9km az=63.0, Minahassa Peninsula, Sulawesi

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 22.43 155 P P 16 29 42.1 0.0
1.9nm,0.6s,baz=333,slow=10,SNR=17
WRA PcP PcP 16 33 36.5 -0.7
0.4nm,1.0s,baz=331,slow=2.2,SNR=3.1
ASAR Alice Springs 25.63 159 P P 16 30 13.0 +0.1
1.0nm,0.4s,baz=340,slow=8.8,SNR=29
ASAR PcP PcP 16 33 43.5 -0.5
0.2nm,0.4s,baz=346,slow=2.0,SNR=7.0
MKAR Makanchi Array 59.03 328 P P 16 34 43.4 +0.1
0.4nm,0.4s,baz=124,slow=7.8,SNR=21

WEL 09 16:41:42.2±0.6, 38.44S×175.36E, h255km±5km, ML3.5/10, 4C-1D, Error ellipse: s-maj=7.1km s-min=6.7km az=0.0, North Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WPVZ Whakapapa 0.78 169 PN Pn 16 42 17.3 +0.4
WPVZ SN S 16 42 44.5 +0.3
PKVZ Pokaka 0.85 181 PN Pn 16 42 17.3 +0.1
TRVZ Turoa 0.88 170 PN Pn 16 42 17.7 +0.2
WNVZ Wahianoa 0.91 168 PN Pn 16 42 17.7 +0.1
MTVZ Mangateitei 0.95 175 PN Pn 16 42 16.8 -0.9
MOVZ Moawhango 1.02 163 PN Pn 16 42 17.8 -0.2
MOVZ SN S 16 42 45.0 -1.3
BKZ Black Stump Fm 1.15 130 ⇑PN Pn 16 42 18.9 +0.2
BKZ SN S 16 42 48.2 +0.7
BHHZ Black Hill Sta 1.19 153 PN Pn 16 42 18.8 -0.2
WAZ Wanganui 1.35 192 PN Pn 16 42 19.8 -0.2
URZ Urewera 1.39 83 PN Pn 16 42 19.7 -0.5
URZ SN S 16 42 49.0 -1.1
URZ SN 16 42 49.0
KRHZ Kereru 1.44 147 PN Pn 16 42 20.6 -0.1
MCHZ McNeill Hill 1.45 134 PN Pn 16 42 21.6 +0.9
PNHZ Pukenui 1.62 156 PN Pn 16 42 21.7 -0.3
TSZ Takapari Road 1.69 164 ⇑PN Pn 16 42 21.9 -0.6
MWZ Matawai 1.71 87 PN Pn 16 42 22.5 -0.2
MWZ SN S 16 42 53.4 -1.2
KAHZ Kahuranaki 1.80 139 PN Pn 16 42 23.6 +0.1
WPHZ Waipukurau 1.83 153 SN S 16 42 55.6 -0.9
RIGZ Rimuhau 1.91 99 PN Pn 16 42 24.7 +0.3
HAZ Te Kaha 2.03 71 PN Pn 16 42 24.4 -1.0
HAZ SN S 16 42 57.0 -2.5
MRZ Mangatainoka R 2.23 176 PN Pn 16 42 25.6 -1.6
MRZ SN S 16 42 59.8 -3.0
PUZ Puketiti 2.31 82 AML AML 16 42 52.1
OGWZ Otaki Gorge 2.38 183 PN Pn 16 42 27.0 -1.6
KIW Kapiti Island 2.45 188 PN Pn 16 42 27.4 -1.9
HOWZ Holdsworth Sta 2.46 177 ⇑PN Pn 16 42 27.4 -2.1
DUWZ D'Urville Isla 2.61 205 PN Pn 16 42 28.9 -2.0
CAW Cannon Point 2.68 185 PN Pn 16 42 29.4 -2.2
CAW AML AML 16 43 09.2
MTW Mount Morrison 2.72 178 PN Pn 16 42 29.7 -2.4
TCW Tory Channel 2.90 196 PN Pn 16 42 31.6 -2.2
TCW SN S 16 43 11.0 -3.9
TCW AML AML 16 43 13.5
PLWZ Palliser 3.13 181 PN Pn 16 42 33.9 -2.6
NNZ Nelson 3.17 208 ⇑PN Pn 16 42 33.9 -2.9
TUWZ Tuamarina 3.18 200 PN Pn 16 42 34.7 -2.3
QRZ Quartz Range 3.24 222 PN Pn 16 42 34.1 -3.4
BSWZ Blackbirch Sta 3.47 199 PN Pn 16 42 37.4 -2.7
THZ Tophouse 3.82 209 PN Pn 16 42 40.6 -3.6
KHZ Kahutara 4.21 199 PN Pn 16 42 45.4 -3.2
DSZ Denniston Nort 4.29 218 ⇓PN Pn 16 42 45.3 -4.3
LTZ Lake Taylor 4.94 207 PN Pn 16 42 53.0 -4.4
OXZ Oxford 5.50 206 PN Pn 16 42 59.0 -5.2
MQZ McQueen's Vall 5.65 200 PN Pn 16 43 00.7 -5.3
WVZ Waitaha Valley 5.81 216 PN Pn 16 43 02.9 -5.1
FOZ Fox Glacier 6.68 218 PN Pn 16 43 12.9 -5.9
JCZ Jackson Bay 7.51 219 PN Pn 16 43 24.0 -5.5

JMA 09 16:45:00.7±0.3, 44.00N×147.99E, h0km, M3.8
SKHL 09 16:45:01.4±0.9, 44.34N×148.20E, h32km±9km, mb4.8/2
ISC 09 16:44:58.6±3.4, 44.3N±0.1×148.5E±0.2, h50km, n14, σ1.59/22, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 1.03 336 eP Pn 16 45 16.7 +0.1
KUR AMB AMB 16 45 17.6
73nm,0.1s
KUR AMB AMB 16 45 17.6
78nm,0.1s
KUR AMB AMB 16 45 17.6
250nm,0.1s
KUR eS Sn 16 45 28.8 -1.1
KUR A A 16 45 31.9
306nm,0.2s
KUR A A 16 45 31.9
706nm,0.2s
SHO Shikotan 1.25 251 eP Pn 16 45 19.7 0.0
SHO eS Sn 16 45 33.0 -2.4
SHO A A 16 45 38.2
3μm,0.5s
SHO A A 16 45 38.2
358nm,0.5s
YUK Yuzh-Kuril'sk 1.89 263 eP Pn 16 45 29.3 +0.9
YUK AMB AMB 16 45 30.7
80nm,0.2s
YUK AMB AMB 16 45 30.7
40nm,0.2s
YUK AMB AMB 16 45 30.7
195nm,0.2s
YUK eS Sn 16 45 50.8 -0.2
YUK A A 16 45 53.1
250nm,0.3s
YUK A A 16 45 53.1
300nm,0.3s
NEM2 Nemuro 2 2.18 246 P Pn 16 45 32.4 +0.1
NEM2 eS Sn 16 45 55.7 -2.4
JRA Rausu 2.44 263 P Pn 16 45 37.3 +1.5
JRA eS Sn 16 46 04.1 -0.2
JNK Nakash 2.80 257 P Pn 16 45 42.0 +1.2
JAK Akkeshi 3.03 246 P Pn 16 45 44.6 +0.6
JAK eS Sn 16 46 17.6 -1.4
JTKR Abashiri--Toko 3.30 266 P Pn 16 45 50.7 +3.1
JAR Ashorobuto 3.54 255 P Pn 16 45 53.1 +2.1
JAR eS Sn 16 46 32.6 +0.9
JCH Churui 4.08 247 P Pn 16 46 00.2 +1.8
JCH eS Sn 16 46 43.9 -0.9
JFR Furan 4.40 257 P Pn 16 46 06.6 +3.8
JNBK Urakawa-nobuka 4.63 246 P Pn 16 46 07.8 +1.8
JKB Kayabe 5.95 249 P Pn 16 46 25.9 +1.9
JKB eS Sn 16 47 29.4 -1.4
JOT Ohata 6.18 244 P Pn 16 46 28.4 +1.2
JOT eS Sn 16 47 33.6 -2.9

NIED 09 16:54:00, 20.40N×121.50E, h38km, Mw4.5 Best double couple: M0 5.92000×10^15 NP1:φs348.00000°, δ25.00000°, λ67.00000°. NP2:φs194.00000°, δ67.00000°, λ100.00000°.
ISCJB 09 16:54:30.4±0.3, 20.07N±0.02×121.40E±0.06, h40km, mb4.1/25, MS3.7/9, Error ellipse: s-maj=8.1km s-min=3.3km az=179.6
NEIC 09 16:54:31.3±1.0, 20.00N×121.37E, h35km±11km, mb4.1/9, Error ellipse: s-maj=14.0km s-min=8.1km az=94.0
IDC 09 16:54:33.5±2.5, 20.04N×121.47E, h56km±24km, mb3.7/14, mb1 3.8/17, mb1mx3.7/44, mbtmp4.0/17, ML3.1/3, MS3.7/10, Ms1 3.7/10, ms1mx3.3/34, Error ellipse: s-maj=18.8km s-min=11.6km az=78.0
MAN 09 16:54:34, 19.83N×121.30E, h45km, mb5.0, ML3.9, MS4.0
ISC 09 16:54:31.9±0.4, 20.05N±0.04×121.28E±0.07, h40km, n66, σ1.28/59, mb4.1/25, MS3.8/9, 1C-3D, Philippine Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PIP Pasuquin 1.83 200⇓iP Pn 16 55 00.5 -0.3
PIP eS Sn 16 55 22.3 -0.5
SGCP Mt. Cagua 1.94 158 eP Pn 16 55 03.5 +1.1
SGCP eS Sn 16 55 23.6 -1.9
APYP Conner 2.18 181 eP Pn 16 55 06.6 +0.9
SIPP Brgy, Tapao 2.26 200⇑eP Pn 16 55 25.2 +18
CVP Callao Caves 2.39 168⇓iP Pn 16 55 10.0 +1.4
CVP iS Sn 16 55 39.1 +2.5
ABRA Dolores 2.45 193 eP Pn 16 55 09.8 +0.4
SZP Santa 2.61 198 ePn Pn 16 55 12.3 +0.7
TWG Pinlang 2.76 356 ePn Pn 16 55 13.8 +0.1
CAUP Cauayan 3.13 171 eP Pn 16 55 21.7 +2.9
TPUB Ta-pu 3.29 349 ePn Pn 16 55 19.1 -1.8
YULB Yu-li 3.33 0 ePn Pn 16 55 20.9 -0.5
SSLB Suanglung 3.73 355 ePn Pn 16 55 27.2 +0.1
BOLP Bolinao 3.88 200 eP Pn 16 55 30.1 +1.1
NACB Ninganchiao 4.11 4 eP Pn 16 55 32.4 +0.1
BALP Baler 4.30 176 eP Pn 16 55 36.1 +1.3
SCZP Santa Cruz 4.45 197 eP Pn 16 55 36.8 -0.1
YHNB Yeheng 4.60 1 eP Pn 16 55 40.4 +1.4
TATO Taipei 4.91 2 eP Pn 16 55 46.0 +2.8
LQP Lukban 5.91 178 eP Pn 16 55 58.6 +1.4
TGY Tagaytay City 5.92 183 P Pn 16 55 59.4 +2.1
32nm,0.3s,baz=348,slow=9.3,SNR=3.9
GQP Guinayangan 6.21 170⇓eP Pn 16 56 03.0 +1.9
GQP eS Sn 16 56 55.9 -15
JOW Kunigami 9.31 42 P Pn 16 56 43.4 -0.3
0.2nm,0.3s,baz=211,slow=14,SNR=12
QIZ Qiongzhong 10.84 267 eP Pn 16 57 02.7 -1.8
21nm,0.6s
ENH Enshi 14.74 316 P Pn 16 57 57.6 -0.2
2.7nm,0.5s
JNU Nakatsue 15.58 31 P Pn 16 58 08.4 -0.3
0.1nm,0.3s,baz=180,slow=8.1,SNR=2.4
KSRS Korea Array 18.28 17 P P 16 58 42.0 -0.3
0.2nm,0.3s,baz=197,slow=12,SNR=6.9

KSRS LR LR 17 05 33.9
comp=Z,124nm,21.2s,baz=198,slow=36
CHTO Chiang Mai 21.10 270 eP P 16 59 14.6 +1.4
4.9nm,0.9s
CM31 Chiang Mai Arr 21.15 269 P P 16 59 16.2 +2.5
2.6nm,0.6s
CMAR Chiang Mai Arr 21.15 269 P P 16 59 15.6 +1.8
2.2nm,0.7s,baz=73,slow=9.0,SNR=20
CMAR LR LR 17 07 04.1
comp=Z,164nm,20.6s,baz=87,slow=35
MJAR Matsushiro Arr 22.12 39 P P 16 59 24.4 +0.4
1.1nm,0.6s,baz=219,slow=8.7,SNR=3.2
KAPI Kappang 24.95 184 eP P 16 59 51.6 -0.1
39nm,0.5s
PSI Prapat 27.75 235 LR LR 17 11 03.6
comp=Z,78nm,19.7s,baz=8.5,slow=35
ULN Ulaanbaatar 30.05 341 P P 17 00 38.1 +0.8
3.4nm,1.1s
SONM Songino Array 30.23 340 LR LR 17 13 56.9
comp=Z,247nm,20.6s,baz=156,slow=38
FITZ Fitzroy Crossi 38.16 173 eP P 17 01 45.4 -2.1
2.9nm,0.8s
MBWA Marble Bar 40.98 182 eP P 17 02 10.2 -0.9
8.7nm,0.6s
MKAR Makanchi Array 41.44 319 P P 17 02 15.6 +0.9
2.7nm,0.6s,baz=112,slow=8.6,SNR=56
WRAB Tennant Creek 41.75 161 eP P 17 02 15.7 -1.7
26nm,0.8s
WRA Warramunga Arr 41.75 161 P P 17 02 15.8 -1.6
19nm,0.5s,baz=343,slow=9.0,SNR=187
WRA PcP PcP 17 04 13.1 -0.3
0.8nm,0.6s,baz=339,slow=3.7,SNR=2.5
H11N1 WAKE ISLAND Hy 42.79 82 T T 17 47 42.6
baz=278,SNR=5.6
H11N2 WAKE ISLAND Hy 42.79 82 T T 17 47 42.6
baz=278,slow=74,SNR=6.8
H11S3 WAKE ISLAND Hy 42.79 84 T T 17 47 43.0
baz=282,slow=73,SNR=8.1
H11S1 WAKE ISLAND Hy 42.80 84 T T 17 47 40.0
baz=282,slow=73,SNR=10
H11N3 WAKE ISLAND Hy 42.80 82 T T 17 47 43.1
baz=278,slow=74,SNR=5.1
H11S2 WAKE ISLAND Hy 42.81 84 T T 17 47 40.3
baz=282,slow=73,SNR=6.6
PETK Petropavlovsk- 43.28 31 P P 17 02 28.3 -1.2
2.4nm,0.7s,baz=218,slow=8.9,SNR=5.4
PETK LR LR 17 21 28.7
comp=Z,50nm,18.6s,baz=136,slow=37
ZAA0 Zalesovo Array 43.80 329 eP P 17 02 34.3 +0.7
ZALV Zalesovo Beam 43.80 329 P P 17 02 33.8 +0.2
2.1nm,0.6s,baz=122,slow=7.8,SNR=14
ZALV LR LR 17 22 02.5
comp=Z,128nm,18.3s,baz=74,slow=38
AS31 Alice Springs 45.16 164 eP P 17 02 44.3 -0.6
ASAR Alice Springs 45.16 164 P P 17 02 43.9 -1.0
17nm,0.6s,baz=344,slow=6.8,SNR=642
CTA Charters Tower 46.79 147 P P 17 02 56.8 -1.0
2.6nm,0.4s,baz=316,slow=8.8,SNR=5.5
KKAR Karatay Array 48.12 310 P P 17 03 09.9 +1.9
TIXI Tiksi 51.80 3 P P 17 03 34.5 -0.8
2.1nm,0.7s
STKA Stephens Creek 55.18 159 P P 17 04 00.4 -0.3
3.7nm,0.6s,baz=337,slow=5.6,SNR=13
STKA Stephens Creek 55.18 159 eP P 17 04 00.5 -0.1
0.7nm,0.6s
BILL Bilibino 55.53 19 eP P 17 04 02.5 -0.3
1.8nm,0.5s
ABKAR Akbulak array 56.43 316 eP P 17 04 10.6 +1.1
KBZ Khabaz 68.16 310 LR LR 17 41 32.0
comp=Z,59nm,18.4s,baz=70,slow=41
ILAR Eielson Array 72.84 27 P P 17 05 54.9 -1.4
0.7nm,0.8s,baz=271,slow=4.3,SNR=9.9
FINES FINESS Array B 75.05 330 P P 17 06 08.9 -0.4
0.9nm,0.8s,baz=79,slow=7.2,SNR=3.1
BRTR Keskin Array B 75.71 307 LR LR 17 46 16.8
comp=Z,24nm,18.1s,baz=320,slow=41
AKASG Malin Array Be 76.02 319 P P 17 06 15.5 +0.5
0.3nm,0.5s,baz=63,slow=5.6,SNR=2.8
AKASG LR LR 17 42 15.0
comp=Z,55nm,18.1s,baz=270,slow=38
HFS Hagfors 81.21 331 P P 17 06 44.3 +0.9
1.7nm,0.7s,baz=74,slow=11,SNR=3.2
NOA NORSAR Array B 81.91 333 P P 17 06 47.8 +0.7
0.7nm,0.8s,baz=53,slow=6.6,SNR=2.5
NOA LR LR 17 44 55.4
comp=Z,85nm,18.2s,baz=70,slow=37
GERES GERESS Array B 86.08 321 P P 17 07 09.4 +0.7
0.3nm,0.5s,baz=54,slow=6.7,SNR=2.9
YKA Yellowknife Ar 86.73 23 P P 17 07 10.7 -0.8
0.8nm,0.5s,baz=308,slow=4.6,SNR=22

ISCJB 09 16:59:58.4±0.6, 65.°80S±0.°06×135.°2E±0.°5, h10km, mb4.1/5, Error ellipse: s-maj=28.8km s-min=8.8km az=177.1
IDC 09 16:59:58.6±0.9, 65.°81S×135.°64E, h0km, mb4.1/4, ML4.5/1, Error ellipse: s-maj=58.8km s-min=16.9km az=92.0
NEIC 09 16:59:59.8±0.7, 65.°84S×134.°07E, h10km, mb4.6/2, Error ellipse: s-maj=20.7km s-min=11.9km az=84.0
ISC 09 16:59:60.0±0.8, 65.°80S±0.°08×135.°4E±0.°2, h10km, n24, σ0.°93/19, mb4.4/5, South of Australia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CASY Casey 10.10 256 eP Pn 17 02 15.2 -10
VNDA Vanda 14.18 157 Pn Pn 17 03 20.8 +0.4
2.0nm,0.3s,baz=312,slow=13,SNR=52
VNDA Sn Sn 17 05 56.5 -1.0
baz=229,slow=18
VNDA Vanda 14.18 157 eP Pn 17 03 22.8 +2.3
22nm,1.1s
VNDA Sn Sn 17 05 56.5 -1.0
SBA Scott Base 15.21 155 eP Pn 17 03 35.0 +0.6
TAU Tasmania Unive 23.88 22 P P 17 05 12.0 -1.2
QSPA South Pole Qui 24.28 180 P P 17 05 17.6 +0.5
4.6nm,1.0s,baz=316,slow=4.9,SNR=13
QSPA South Pole Qui 24.28 180 eP P 17 05 18.1 +1.0
16nm,0.7s
H01W1 Cape Leeuwin H 33.41 327 T T 17 40 44.7
baz=165,slow=75,SNR=139
H01W2 Cape Leeuwin H 33.41 327 T T 17 40 45.6
baz=165,slow=75,SNR=170
H01W3 Cape Leeuwin H 33.43 327 T T 17 40 44.9
baz=165,slow=75,SNR=142
STKA Stephens Creek 34.16 9 P P 17 06 45.2 +0.3
baz=174,slow=9.5
SNAA Sanae 39.92 199 P P 17 07 32.7 -0.8
SNAA Sanae 39.92 199 P P 17 07 33.3 -0.3
0.9nm,0.3s,baz=141,slow=6.7,SNR=12
VNA3 Neumayer Olymp 41.17 196 P P 17 07 42.9 -0.9
VNA2 Neumayer--Watz 41.20 198 P P 17 07 43.4 -0.6
baz=152,slow=6.8
ASAR Alice Springs 42.14 358 P P 17 07 52.5 +0.3
2.6nm,0.9s,baz=175,slow=8.8,SNR=13
AS31 Alice Springs 42.14 358 P P 17 07 53.1 +0.9
WRA Warramunga Arr 45.84 359 P P 17 08 22.0 +0.1
3.9nm,0.9s,baz=186,slow=6.7,SNR=22
WRAB Tennant Creek 45.85 359 eP P 17 08 22.4 +0.4
3.8nm,0.8s
H08S2 Diego Garcia H 72.15 292 T T 18 28 43.4
baz=154
H08S1 Diego Garcia H 72.15 292 T T 18 28 42.2
baz=154
H08S3 Diego Garcia H 72.17 292 T T 18 28 42.2
baz=154
GERES GERESS Array B 145.80 269 PKPbc PKPab 17 19 38.3 -0.2
1.8nm,1.0s,baz=151,slow=3.8,SNR=10
YKA Yellowknife Ar 150.74 63 PKPbc PKPbc 17 19 50.0 -0.6
baz=246,slow=2.0

SJA 09 17:20:15.1±1.1, 28.°80S×69.°37W, h135km±10km, MD3.5, ML2.5, Chile-Argentina border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AGUA GUANDACOL 1.03 132 i P Pn 17 20 39.1 +0.2
AGUA P Pn 17 20 39.1 +0.2
AGUA i S Sn 17 20 57.9 +0.8
ACLC CERRO LA CRUZ 2.21 107 i P Pn 17 20 53.9 +1.8
ACLC i S Sn 17 21 20.8 +0.2
AMOG MOGNA 2.27 161 i P Pn 17 20 53.3 +0.6
AMOG i S Sn 17 21 22.2 +0.5
AVFE Valle Fertil 2.50 139 i P Pn 17 20 56.1 +0.5
AVFE i S Sn 17 21 27.1 +0.4
AVFE AML AML 17 21 32.5
comp=Z,16nm,0.3s
RTLL Cerro Villicun 2.64 163 i P Pn 17 20 58.5 +1.1
RTLL i S Sn 17 21 31.0 +1.0
CFAA Coronel Fontan 2.97 161 i P Pn 17 21 02.4 +0.8
CFAA i S Sn 17 21 37.1 -0.3
CYA Choya 3.16 84 i P Pn 17 21 04.8 +0.8
ACHE Chepes 3.33 136 i P Pn 17 21 08.2 +1.8
ACHE i S Sn 17 21 46.2 +0.1

IDC 09 17:34:12.9±15.0, 10.°15S×13.°01W, h0km, mb4.2/3, mb1 4.2/3, mb1mx3.6/33, mbtmp4.2/3, MS3.6/6, Ms1 3.6/6, ms1mx3.3/36, Error ellipse: s-maj=764.1km s-min=122.2km az=141.0, Ascension Island region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H10S2 ASCENSION HYDR 2.00 306 T T 17 36 50.1
baz=128,slow=74,SNR=48
H10S1 ASCENSION HYDR 2.01 306 T T 17 36 50.1
baz=128,slow=74,SNR=53
H10S3 ASCENSION HYDR 2.02 306 T T 17 36 52.5
baz=128,slow=74,SNR=48
DBIC Dimbokro 18.58 26 LR LR 17 43 58.9
comp=Z,112nm,20.1s,baz=230,slow=32
RCBR Riachuelo 23.07 279 LR LR 17 47 46.9
comp=Z,131nm,18.2s,baz=348,slow=35
H09N1 TRISTAN DA CUN 26.81 179 T T 18 07 46.8
SNR=5.1
TORD Torodi Ar. Bea 27.36 33 P P 17 40 00.1 0.0
0.7nm,0.7s,baz=216,slow=8.1,SNR=4.6
TSUM Tsumeb 30.89 110 LR LR 17 49 36.8
comp=Z,78nm,21.8s,baz=311,slow=30
BDFB Brasilia 34.52 257 LR LR 17 53 09.9
comp=Z,167nm,18.0s,baz=32,slow=33
CPUP Villa Florida 44.81 243 LR LR 17 59 03.3
comp=Z,74nm,18.0s,baz=36,slow=33
LPAZ La Paz 53.88 257 LR LR 18 04 47.8
comp=Z,93nm,18.8s,baz=94,slow=34
AKASG Malin Array Be 70.83 27 P P 17 45 31.4 0.0
0.9nm,0.7s,baz=227,slow=5.9,SNR=7.5
FINES FINESS Array B 77.66 18 P P 17 46 11.1 +0.1
1.8nm,0.9s,baz=240,slow=4.7,SNR=4.6

IDC 09 17:57:18.5±1.3, 34.°16N×26.°31E, h0km, mb3.6/2, mb1 3.4/5, mb1mx3.3/25, mbtmp3.4/5, ML3.6/3, Error ellipse: s-maj=25.5km s-min=13.8km az=37.0
ISCJB 09 17:57:20.7±1.3, 34.°17N±0.°05×26.°20E±0.°05, h24km±8km, mb3.3/2, Error ellipse: s-maj=8.6km s-min=6.3km az=0.8
ATH 09 17:57:21.7, 34.°22N×26.°13E, h21km±7km, MD3.3/6
CSEM 09 17:57:24.0±0.4, 34.°35N×26.°17E, h20km, ML2.8, Error ellipse: s-maj=8.5km s-min=4.3km az=170.0
THE 09 17:57:26.1, 34.°40N×26.°09E, h20km±4km, ML2.8/2, Error ellipse: s-maj=4.6km s-min=1.3km az=174.0
ISC 09 17:57:21.8±1.0, 34.°23N±0.°07×26.°16E±0.°03, h21km±4km, n56, σ0.°87/76, Crete

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ZKR Zakros 0.89 3 P Pb 17 57 38.4 0.0
ZKR S Sn 17 57 50.5 -0.8
ZKR Zakros 0.89 3 eP Pn 17 57 39.4 +0.3
ZKR Zakros 0.89 3 ePN Pb 17 57 38.5 0.0
ZKR eSN Sn 17 57 52.1 +0.8
ZKR Zakros 0.89 3 P Pb 17 57 38.4 0.0
ZKR S Sn 17 57 50.5 -0.8
ZKR eSn Sn 17 57 52.1 +0.8
LAST Lasithi 1.09 329 P Pn 17 57 41.9 0.0
LAST S Sb 17 57 55.0 -0.7
LAST Lasithi 1.09 329 ePN Pn 17 57 41.9 0.0
LAST eSN Sn 17 57 56.3 -0.1
LAST Lasithi 1.09 329 P Pn 17 57 41.9 0.0
LAST S Sb 17 57 55.0 -0.7
LAST eSn Sn 17 57 56.3 -0.1
NPS Neapolis 1.13 337 P Pb 17 57 43.2 +0.7
NPS S Sb 17 57 56.4 -0.3
NPS Neapolis 1.13 337 ePN Pb 17 57 42.9 +0.4
NPS Neapolis 1.13 337 ePn Pb 17 57 42.9 +0.4
NPS Neapolis 1.13 337 P Pb 17 57 43.2 +0.7
NPS S Sb 17 57 56.4 -0.3
SIVA Sivas 1.36 306 P Pb 17 57 47.4 +0.8
SIVA S Sn 17 58 02.7 -0.3
SIVA Sivas 1.36 306 eP Pb 17 57 47.5 +1.0
SIVA Sivas 1.36 306 ePN Pb 17 57 47.7 +1.1
SIVA Sivas 1.36 306 P Pb 17 57 47.4 +0.8
SIVA Sivas 1.36 306 ePn Pb 17 57 47.7 +1.1
SIVA S Sn 17 58 02.7 -0.3
IDI Anoyia 1.49 316 Pg Pb 17 57 49.9 +1.2
4.3nm,0.3s,baz=134,slow=10,SNR=43
IDI Lg Lg 17 58 09.3
6.7nm,0.3s,baz=317,slow=11,SNR=10
KARP Karpathos 1.55 32 P Pb 17 57 50.3 +0.4
KARP S Sn 17 58 07.8 0.0
KARP Karpathos 1.55 32 ePN Pb 17 57 50.2 +0.4
KARP Karpathos 1.55 32 ePn Pb 17 57 50.2 +0.4
KARP S Sn 17 58 07.8 0.0
GVD Gavdhos 1.82 290 eP Pb 17 57 53.9 -0.4
GVD Gavdhos 1.82 290 ePN Pb 17 57 54.3 0.0
GVD Gavdhos 1.82 290 P Pb 17 57 53.9 -0.4
GVD Gavdhos 1.82 290 ePn Pb 17 57 54.3 0.0
VAM Vamos 2.00 307 P Pn 17 57 55.7 +1.4
VAM Vamos 2.00 307 P Pn 17 57 55.7 +1.4
SANT Santorini 2.21 345 P Pn 17 57 57.8 +0.5
SANT Santorini 2.21 345 eP Pn 17 57 57.5 +0.2
SANT Santorini 2.21 345 P Pn 17 57 57.8 +0.5
ARG Arkhangelos 2.55 39 P Pn 17 58 04.3 +2.3
ARG S Sn 17 58 33.3 +0.9
ARG Arkhangelos 2.55 39 P Pn 17 58 04.3 +2.3
ARG S Sn 17 58 33.3 +0.9
APE Apeiranthos 2.88 350 P Pn 17 58 06.7 +0.2
APE Apeiranthos 2.88 350 eP Pn 17 58 06.7 +0.2
APE Apeiranthos 2.88 350 P Pn 17 58 06.7 +0.2
BODT Bodrum 2.98 18 eP Pn 17 58 07.6 -0.2
BODT Bodrum 2.98 18 eP Pn 17 58 07.6 -0.2
KYTH Kithira 3.27 310 P Pn 17 58 13.8 +1.9
KYTH Kithira 3.27 310 P Pn 17 58 13.8 +1.9
DALY Dalyan (Mu˘la 3.29 38 eP Pn 17 58 12.2 +0.2
DALY Dalyan (Mu˘la 3.29 38 eP Pn 17 58 12.2 +0.2
YER Yerkesik 3.38 30 eP Pn 17 58 13.4 +0.1
YER Yerkesik 3.38 30 eP Pn 17 58 13.4 +0.1
VLI Veliai 3.62 314 P Pn 17 58 17.0 +0.4
VLI S Sn 17 58 57.5 -1.2
VLI Veliai 3.62 314 P Pn 17 58 17.0 +0.4
VLI S Sn 17 58 57.5 -1.2
ELL Elmali 3.96 50 eP Pn 17 58 21.9 +0.5
ELL Elmali 3.96 50 eP Pn 17 58 21.9 +0.5
AYDB Zeytinkoy-Aydi 3.97 20 eP Pn 17 58 21.8 +0.3
AYDB Zeytinkoy-Aydi 3.97 20 eP Pn 17 58 21.8 +0.3
DID Didima 4.04 325 P Pn 17 58 22.7 +0.2
DID S Sn 17 59 08.4 -0.8
DID Didima 4.04 325 P Pn 17 58 22.7 +0.2
DID S Sn 17 59 08.4 -0.8
MMAI Mount Meron Ar 7.80 96 Pn Pn 17 59 12.2 -2.0
0.7nm,0.3s,baz=269,slow=12,SNR=2.9
EIL Elat 8.74 119 Pn Pn 17 59 24.5 -2.5
0.5nm,0.3s,baz=11,slow=5.2,SNR=6.5
EIL Sn Sn 18 00 58.3 -6.6
0.5nm,0.3s,baz=38,slow=12,SNR=3.5
AKASG Malin Array Be 16.61 7 Pn Pn 18 01 14.1 +0.9
0.5nm,0.3s,baz=193,slow=11,SNR=4.3
FINES FINESS Array B 27.23 360 P P 18 03 02.5 -1.5
1.2nm,0.8s,baz=165,slow=11,SNR=3.8
TORD Torodi Ar. Bea 30.55 233 P P 18 03 34.2 +0.2
54nm,0.7s,baz=39,slow=9.4,SNR=8.6
MKAR Makanchi Array 43.61 56 P P 18 05 24.3 -0.2
0.3nm,0.6s,baz=279,slow=8.5,SNR=4.3

CASC 09 17:58:11.1±2.0, 15.°89N×92.°55W, h252km±16km, MD4.3, mb4.8(NEIC)
NEIC 09 17:58:12.8±0.2, 16.°02N×92.°40W, mb4.9/61, MD4.5(MEX), Error ellipse: s-maj=7.1km s-min=4.1km az=46.0
ISCJB 09 17:58:13.5±0.2, 16.°10N±0.°03×92.°36W±0.°03, h224km±2km, mb4.5/67, Error ellipse: s-maj=6.1km s-min=2.9km az=140.4
IDC 09 17:58:13.2±0.6, 16.°24N×92.°04W, h204km±4km, mb4.1/27, mb1 4.2/28, mb1mx4.0/49, mbtmp4.6/28, MS3.8/1, Ms1 3.8/1, ms1mx2.7/43, Error ellipse: s-maj=18.7km s-min=5.4km az=52.0
MEX 09 17:58:14.3±1.1, 16.°02N×92.°72W, h205km±7km, MD4.5
ISC 09 17:58:13.1±0.4, 15.°94N±0.°04×92.°63W±0.°03, h216km±3km, h216km:pP-P, n532, σ1.°57/599, mb4.5/68, 190C-177D, Mexico-Guatemala border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CCIG Comitan 0.58 54 i P Pn 17 58 41.7 -0.9
CCIG i S S 17 59 02.4 -3.2
CCIG Comitan 0.58 54 i P Pn 17 58 41.7 -0.9
CCIG i S S 17 59 02.4 -3.2
PCIG 0.62 247 eP Pn 17 58 40.8 -1.8
PCIG i S S 17 59 01.7 -3.7
PCIG 0.62 247 eP Pn 17 58 40.8 -1.8
PCIG i S S 17 59 01.7 -3.7
THIG 1.09 161 eP Pn 17 58 44.3 -0.9
THIG eS S 17 59 08.4 -1.7
THIG 1.09 161 eP Pn 17 58 44.3 -0.9
THIG eS S 17 59 08.4 -1.7
JAT Jato 1.88 149⇓eP Pn 17 58 52.6 +0.9
APG El Apazote 2.29 114 P Pn 17 58 51.2 -4.8
74nm,0.3s,baz=333,slow=11,SNR=825
APG LR LR 17 59 13.6
comp=Z,62nm,19.9s,baz=110,slow=31
APG S S 17 59 22.0 -7.2
188nm,0.3s,baz=36,slow=23,SNR=65
PCG Pacaya 2.49 128 eP Pn 17 59 04.6 +6.4
PCG eS S 17 59 33.5 +0.4
NBG Las Nubes 2.58 121 eP Pn 17 58 59.6 +0.4
NBG eS S 17 59 36.0 +1.1
TUIG Tuzandepetl 2.70 321 eP Pn 17 58 58.5 -1.7
TUIG eS S 17 59 32.0 -4.8
TUIG Tuzandepetl 2.70 321 eP Pn 17 58 58.5 -1.7
TUIG eS S 17 59 32.0 -4.8
MRL Marmol 2.96 107⇓eP Pn 17 59 03.6 +0.3
MRL eS S 17 59 41.4 -1.0
SCIG Sabancuy 3.31 24 i P Pn 17 59 06.1 -1.0
SCIG eS S 17 59 46.4 -3.0
SCIG Sabancuy 3.31 24 i P Pn 17 59 06.1 -1.0
SCIG eS S 17 59 46.4 -3.0
HUIG Huatulco 3.35 267 i P Pn 17 59 05.5 -2.2
HUIG i S S 17 59 46.0 -4.2
HUIG Huatulco 3.35 267 i P Pn 17 59 05.5 -2.2
HUIG i S S 17 59 46.0 -4.2
RBDL Robledal 3.38 122 eP Pn 17 59 08.2 0.0
RTR El Retiro 3.53 125 eP Pn 17 59 10.4 +0.4
SNJE San Jose 3.58 125 eP Pn 17 59 11.0 +0.4
SBLS San Blas 3.58 125 eP Pn 17 59 11.0 +0.3
SBLS eS S 17 59 57.1 +1.6
LFU La Fuente 4.04 122 eP Pn 17 59 16.4 +0.4
VHO Vista Hermosa 4.09 286 eP Pn 17 59 16.1 -0.7
VHO i S S 18 00 02.9 -3.8
VHO Vista Hermosa 4.09 286 eP Pn 17 59 16.1 -0.7
VHO i S S 18 00 02.9 -3.8
LFRS El Faro 4.15 123 eP Pn 17 59 18.4 +1.0
VSM San Miguel 4.90 120 eP Pn 17 59 27.8 +0.8
TPIG Tehuac#an 5.15 299 eP Pn 17 59 29.3 -0.7
TPIG eS S 18 00 26.2 -4.4
TPIG Tehuac#an 5.15 299 eP Pn 17 59 29.3 -0.7
TPIG eS S 18 00 26.2 -4.4
PNIG Pinotepa 5.30 276 eP Pn 17 59 31.0 -0.7
PNIG eS S 18 00 30.1 -3.7
PNIG Pinotepa 5.30 276 eP Pn 17 59 31.0 -0.7
PNIG eS S 18 00 30.1 -3.7
TLIG Tlapa 5.91 287 eP Pn 17 59 40.2 +0.6
TLIG eS S 18 00 44.1 -4.0
TEIG Tepich 5.94 44 i P Pn 17 59 37.7 -2.1
TEIG eS S 18 00 48.9 +0.4
TEIG Tepich 5.94 44 P Pn 17 59 37.7 -2.1
50nm,0.3s,baz=250,slow=10,SNR=276
TEIG Tepich 5.94 44⇓iPn Pn 17 59 37.6 -2.2
435nm,0.6s
TEIG eS S 18 00 41.9 -6.6
YAIG Yautepec 6.80 296 eP Pn 17 59 52.2 +1.2
YAIG eS S 18 01 05.7 -3.1
YAIG Yautepec 6.80 296 eP Pn 17 59 52.2 +1.2
YAIG eS S 18 01 05.7 -3.1
PLIG Platanillo 7.01 291 i P Pn 17 59 54.9 +1.3
PLIG eS S 18 01 09.3 -4.3
PLIG Platanillo 7.01 291 i P Pn 17 59 54.9 +1.3
PLIG eS S 18 01 09.3 -4.3
JTS JuntasAbangare 9.35 126 P Pn 18 00 23.5 -0.3
23nm,0.3s,baz=326,slow=8.8,SNR=95
JTS S S 18 02 01.2 -7.9
2.1nm,0.3s,baz=288,slow=20,SNR=1.8
JCR Jicaral 9.51 129⇑eP Pn 18 00 26.4 +0.5
CGA2 Cerro Gallo 2 9.90 126 eP Pn 18 00 31.6 +0.6
QCR Quepos 10.49 127 eP Pn 18 00 38.2 -0.2
BUS Buena Vista 10.73 125⇓eP Pn 18 00 42.7 +0.8
ACR Cerro Adams 11.74 127 eP Pn 18 00 54.9 +0.5
034A Hebbronville 12.41 334 ⇑P P 18 01 08.5 +2.3
baz=12,SNR=16
934A Benavides 12.82 336 ⇑P P 18 01 10.3 -0.4
baz=13,SNR=8.8
933A Laredo 13.15 333 ⇑P P 18 01 13.1 -1.3
baz=13,SNR=6.9
835A Beeville 13.19 339 ⇑P P 18 01 13.9 -1.0
baz=13
834A Tilden 13.30 337 ⇑P P 18 01 15.6 -0.5
baz=13,SNR=7.2
735A Kenedy 13.71 340 ⇑P P 18 01 19.9 -0.7
baz=14
833A Chaparral WMA, 13.82 334 ⇓P P 18 01 23.2 +1.4
baz=14,SNR=17
734A La Parita Cree 13.96 338 ⇓P P 18 01 23.0 -0.4
baz=14
832A Faith Ranch, C 14.03 332 ⇓P P 18 01 25.8 +1.5
baz=14,SNR=47
733A Divot King Ran 14.12 335 ⇓P P 18 01 25.6 +0.4
baz=14,SNR=61
635A Leesville 14.19 341 ⇑P P 18 01 25.6 -0.4
baz=14
HKT Hockley 14.25 349 ePn P 18 01 25.6 -0.9
85nm,1.5s
634A China Grove, S 14.38 339 ⇑P P 18 01 29.0 +1.1
baz=14
732A Laxson Ranch, 14.42 333 ⇑P P 18 01 30.0 +1.6
baz=14,SNR=35
536A Bastrop 14.64 345 ⇓P P 18 01 31.3 +0.4
baz=15
535A Dale 14.74 343 ⇑P P 18 01 33.2 +1.2
baz=15,SNR=14
633A Saathoff Ranch 14.74 337 ⇑P P 18 01 33.5 +1.5
baz=15,SNR=34
534A Blanco 15.01 340 ⇓P P 18 01 36.3 +1.3
baz=15,SNR=8.7
632A Uvalde 15.02 335 ⇓P P 18 01 36.6 +1.4
baz=15,SNR=21
533A Kerrville 15.24 338 ⇓P P 18 01 39.7 +2.1
baz=15,SNR=56
631A Perdido Creek 15.27 333 ⇑P P 18 01 39.3 +1.4
baz=15,SNR=67
435B Jarrell 15.45 344 ⇑P P 18 01 40.3 +0.3
baz=16,SNR=5.8
434A Burnet 15.68 342 ⇑P P 18 01 42.9 +0.1
baz=16,SNR=15
335A Moody 15.88 345 ⇑P Pn 18 01 46.1 +0.8
baz=16,SNR=12
433A Art 15.88 339 ⇓P Pn 18 01 46.2 +0.9
baz=16,SNR=12
JCT Junction City 15.89 337 eP Pn 18 01 46.0 +0.6
29nm,0.6s
JCT Junction City 15.89 337 ⇑P Pn 18 01 46.2 +0.8
baz=16,SNR=12
531A Rocksprings 15.91 334 ⇑P Pn 18 01 47.0 +1.4
baz=16,SNR=24
334A Lometa 16.15 343 ⇑P Pn 18 01 48.5 0.0
baz=16,SNR=12
530A J-C Ranch, Com 16.24 332 ⇓P Pn 18 01 50.6 +1.1
baz=16,SNR=42
432A Menard 16.24 337 ⇑P Pn 18 01 49.8 +0.2
baz=16,SNR=44
333A Richland Sprin 16.37 340 ⇑P Pn 18 01 51.1 -0.1
baz=16,SNR=18
431A Sonora 16.39 335 ⇑P Pn 18 01 52.2 +0.9
baz=16,SNR=42
628A Black Gap, Mar 16.45 327 ⇑P Pn 18 01 54.0 +1.9
baz=16,SNR=29
WHTX Lake Whitney 16.57 345 eP Pn 18 01 52.5 +0.3
48nm,0.8s
WHTX Lake Whitney 16.57 345 ⇑P Pn 18 01 53.3 -0.1
baz=17
529A Stev Forest Ra 16.63 330 ⇑P Pn 18 01 55.3 +1.1
baz=17,SNR=22
332A Millersview 16.68 338 ⇑P Pn 18 01 54.8 0.0

baz=17,SNR=54
430A Baggett Ranch, 16.74 333 ⇑P Pn 18 01 56.5 +0.9
baz=17,SNR=18
234A Clairette 16.76 344 ⇑P Pn 18 01 55.1 -0.5
baz=17,SNR=25
TXAR Lajitas Array 16.76 325 P Pn 18 01 57.3 +1.5
0.5nm,0.3s,baz=149,slow=11,SNR=142
331A San Angelo 16.87 336 ⇓P Pn 18 01 57.1 +0.1
baz=17,SNR=46
429A Davenport Ranc 16.90 331 ⇓P Pn 18 01 58.0 +0.6
baz=17,SNR=48
528A Cox Ranch, San 16.95 328 ⇓P Pn 18 01 58.6 +0.6
baz=17,SNR=7.0
233A Rising Star 16.99 341 ⇓P Pn 18 01 58.0 -0.4
baz=17,SNR=22
135A Vickery Place, 17.10 346 ⇑P Pn 18 01 58.6 -1.0
baz=17,SNR=11
232A Coleman 17.11 339 ⇑P Pn 18 01 59.2 -0.6
baz=17,SNR=18
GTBY Guantanamo Bay 17.13 74 eP P 18 01 57.1 -1.4
36nm,0.7s
330A Mertzon 17.25 335 ⇑P Pn 18 02 01.4 -0.2
baz=17,SNR=24
134A White-Moore Ra 17.28 344 ⇓P Pn 18 02 00.8 -1.0
baz=17,SNR=18
428A Kincaid Ranch, 17.36 330 ⇓P Pn 18 02 03.9 +1.1
baz=17,SNR=22
231A Bronte 17.39 338 ⇓P Pn 18 02 02.4 -0.8
baz=18,SNR=21
TIGA Tifton 17.49 27 ⇑P Pn 18 02 03.5 -0.8
baz=17,SNR=9.0
133A Hamilton Ranch 17.55 342 ⇓P Pn 18 02 03.8 -1.1
baz=18,SNR=22
230A Sterling City 17.65 336 ⇓P Pn 18 02 05.3 -0.9
baz=18,SNR=24
329A Wagon Wheel Ra 17.67 333 ⇑P Pn 18 02 06.0 -0.4
baz=18,SNR=11
LRAL Lakeview Retre 17.76 16 eP P 18 02 05.7 +0.5
97nm,0.8s
ABTX Abilene, Hawle 17.79 340 eP Pn 18 02 06.9 -0.8
78nm,0.8s
ABTX Abilene, Hawle 17.79 340 ⇑P Pn 18 02 06.8 -1.0
baz=18,SNR=26
Z35A Perchaven, San 17.81 347 ⇑P Pn 18 02 06.7 -1.3
baz=18,SNR=10
427A Hayter Ranch, 17.81 328 ⇓P Pn 18 02 07.9 -0.2
baz=18,SNR=18
328A Wristen Ranch, 17.96 331 ⇓P Pn 18 02 09.6 -0.2
baz=18,SNR=53
426A McDonald Obser 17.99 327 ⇑P Pn 18 02 10.6 +0.2
baz=18,SNR=33
Z34A Collier Ranch, 18.00 346 ⇓P P 18 02 08.6 +0.8
baz=18,SNR=15
229A Bryant Ranch, 18.01 334 ⇑P Pn 18 02 09.3 -1.1
baz=18,SNR=19
131A Roby 18.08 338 ⇓P P 18 02 09.7 +1.0
baz=18,SNR=51
Z33A Whitaker Ranch 18.14 343 ⇑P Pn 18 02 10.4 -1.5
baz=18,SNR=37
130A Snyder 18.22 337 ⇓P P 18 02 11.3 +1.1
baz=18,SNR=27
327A Balmorhea Ranc 18.28 329 ⇓P Pn 18 02 12.9 -0.6
baz=18
Z32A Haskell 18.36 342 ⇑P P 18 02 12.7 +0.9
baz=18,SNR=75
228A UT Block 9, Go 18.48 332 ⇑P Pn 18 02 14.4 -1.5
baz=19,SNR=47
326A Caldwell Ranch 18.48 328 ⇓P Pn 18 02 15.4 -0.5
baz=19,SNR=147
Y34A Reagan Ranch, 18.52 346 ⇓P P 18 02 13.6 +0.2
baz=19,SNR=29
MIAR Mount Ida 18.54 358 eP P 18 02 13.1 -0.5
52nm,0.9s
Z31A Sharp Cattle R 18.59 340 ⇓P P 18 02 15.1 +1.0
baz=19,SNR=73
129A Stewart Farms, 18.61 335 ⇓P P 18 02 15.6 +1.2
baz=19,SNR=37
227A Bennet, Jal 18.71 331 ⇑P Pn 18 02 17.9 -0.7
baz=19,SNR=12
OXF Oxford 18.71 8 eP P 18 02 14.1 -1.4
126nm,1.0s
Y33A Hilltop Ranch, 18.78 344 ⇑P P 18 02 16.8 +0.5
baz=19,SNR=26
128A Castleberry Fa 18.86 333 ⇑P P 18 02 18.4 +1.2
baz=19,SNR=71
Z30A Sanderson Ranc 18.90 338 ⇑P P 18 02 17.9 +0.3
baz=19,SNR=50
Y32A R-V Farms, Ver 19.00 342 ⇓P P 18 02 19.3 +0.6
baz=19,SNR=30
Y32A ⇑S S 18 05 49.2 +6.5
baz=19
Z29A Hungry Hill Ra 19.10 336 ⇑P P 18 02 20.2 +0.5
baz=19,SNR=71
Z29A ⇑S S 18 05 51.6 +6.9
baz=19
X34A Smith Ranch, M 19.16 347 ⇑P P 18 02 21.0 +0.7
baz=19,SNR=13
226B Tecolote Peak, 19.18 329 ⇓P Pn 18 02 23.0 -1.3
baz=19,SNR=73
Y31A Rekieta Farm, 19.22 340 ⇑P P 18 02 21.8 +0.9
baz=19,SNR=90
Y31A ⇑S S 18 05 53.2 +6.3
baz=19
X33A Lawton 19.26 345 ⇑P P 18 02 21.3 -0.1
baz=19,SNR=11
GOGA Godfrey 19.26 24 eP P 18 02 21.5 +0.1
87nm,0.8s
127A Arkansas Junct 19.29 332 ⇑P P 18 02 22.8 +0.9
baz=19,SNR=14
X32A Elmer 19.35 343 ⇓P P 18 02 22.8 +0.5
baz=19,SNR=26
Y30A Stafford Cattl 19.35 339 ⇓P P 18 02 22.9 +0.5
baz=19,SNR=48
GDL2 Guadalupe Moun 19.38 329 eP Pn 18 02 25.3 -1.4
63nm,1.1s
Z28A Tucker Farm, M 19.39 335 ⇓P P 18 02 23.7 +0.8
baz=20,SNR=23
MNTX Cornudas Mount 19.52 326 eP P 18 02 25.4 +1.3
31nm,0.9s
225A Deer Hill, Car 19.54 328 ⇑P Pn 18 02 26.7 -2.0
baz=20,SNR=100
126A Clayton Basin, 19.58 330 ⇓P P 18 02 26.2 +1.3
baz=20,SNR=12
Y29A Porterfield Fa 19.61 337 ⇓P P 18 02 25.4 +0.1
baz=20,SNR=7.9
X31A McDonald Ranch 19.75 342 ⇓P P 18 02 27.3 +0.7
baz=20,SNR=58
W34A Bridge Creek, 19.76 347 eP P 18 02 26.7 0.0
191nm,0.8s
W34A Bridge Creek, 19.76 347 ⇓P P 18 02 26.6 0.0
baz=20,SNR=27
Z27A Tatum 19.77 333 ⇓P P 18 02 27.5 +0.5
baz=20,SNR=36
W33A Caddo, Fort Co 19.83 346 ⇑P P 18 02 28.1 +0.6
baz=20,SNR=25
X30A Coker Ranch, T 19.86 340 ⇑P P 18 02 28.8 +0.9
baz=20,SNR=34
Y28A McKinney Farm, 19.88 336 ⇓P P 18 02 28.6 +0.5
baz=20,SNR=34
125A Gardner Draw, 19.90 329 ⇑P P 18 02 29.8 +1.4
baz=20,SNR=26
W32A Sentinel 20.00 344 ⇑P P 18 02 29.2 -0.2
baz=20,SNR=23
Z26A Caprock 20.08 331 ⇓P P 18 02 30.8 +0.6
baz=20,SNR=37
TUL1 Tulsa 20.09 353 eP P 18 02 28.8 -1.4
48nm,0.6s
TUL1 Tulsa 20.09 353 ⇓P P 18 02 29.3 -0.9
baz=20,SNR=12
SWET Sewanee 20.11 16 eP P 18 02 29.5 -1.0
55nm,0.7s
MSTX Muleshoe 20.14 335 eP P 18 02 30.5 -0.5
30nm,0.7s
MSTX Muleshoe 20.14 335 ⇑P P 18 02 31.0 0.0
baz=20,SNR=15
X29A Tulia 20.15 338 ⇑P P 18 02 31.4 +0.4
baz=20,SNR=7.0
Y27A Causey 20.23 334 ⇑P P 18 02 31.9 -0.1
baz=20,SNR=30
W31A Holland Ranch, 20.25 342 ⇓P P 18 02 32.6 +0.5
baz=20,SNR=12
V34A Guthrie 20.29 348 eP P 18 02 31.6 -0.8
149nm,0.9s
V34A Guthrie 20.29 348 ⇓P P 18 02 31.5 -0.8
baz=20,SNR=31
X28A Dimmitt 20.40 337 ⇓P P 18 02 33.6 -0.1
baz=20,SNR=12
V33A Lossen Ranch, 20.43 347 ⇑P P 18 02 33.4 -0.5
baz=20,SNR=30

Z25A Roswell 20.43 330 ⇓P P 18 02 35.0 +1.0
baz=20,SNR=25
W30A Crocket Farms 20.44 341 ⇑P P 18 02 34.2 +0.2
baz=20
NHSC New Hope 20.47 31 eP P 18 02 31.7 -2.6
212nm,1.1s
V32A Arapaho 20.51 345 ⇑P P 18 02 34.5 -0.3
baz=21,SNR=22
Y26A Elida 20.55 333 ⇑P P 18 02 36.0 +0.6
baz=21,SNR=44
SDDR Presa de Saban 20.58 78 eP P 18 02 36.0 +0.3
W29A Amarillo 20.74 339 ⇓P P 18 02 37.4 +0.1
baz=21,SNR=36
V31A Spring Creek L 20.77 343 ⇓P P 18 02 38.1 +0.5
baz=21,SNR=19
Z24A Sheeppen Canyo 20.79 329 ⇓P P 18 02 39.2 +1.2
baz=21,SNR=75
X27A F and S Farms, 20.86 335 ⇑P P 18 02 38.9 +0.2
baz=21,SNR=21
U34A Anderson Ranch 20.87 349 eP P 18 02 36.8 -1.7
125nm,1.1s
U34A Anderson Ranch 20.87 349 ⇓P P 18 02 37.3 -1.2
baz=21,SNR=16
Y25A Mesa, Roswell 20.95 331 ⇑P P 18 02 40.8 +1.3
baz=21,SNR=55
OTAV Otavalo 20.96 137 eP P 18 02 41.9 +1.7
58nm,1.1s
U33A Lingo Farm, Me 20.98 348 ⇑P P 18 02 38.6 -1.2
baz=21,SNR=28
W28A Vega 21.06 338 ⇑P P 18 02 40.6 -0.1
baz=21,SNR=47
ROSC El Rosal 21.08 120 P P 18 02 39.3 -2.0
12nm,0.2s,baz=279,slow=19,SNR=8.7
ROSC S S 18 06 20.0 -3.0
25nm,0.3s,baz=257,slow=18,SNR=16
X26A CR and CF Fran 21.08 334 ⇑P P 18 02 41.1 +0.2
baz=21,SNR=28
U32A Winter Ranch, 21.13 346 ⇑P P 18 02 40.7 -0.6
baz=21
TKL Tuckaleechee C 21.17 20 eP P 18 02 41.7 0.0
W27A Bowe Ranch, En 21.21 336 ⇓P P 18 02 42.4 +0.2
baz=21,SNR=35
Y24A Capitan 21.30 330 ⇓P P 18 02 44.9 +1.6
baz=21,SNR=37
U31A Nine Bar Ranch 21.34 344 ⇓P P 18 02 43.2 -0.2
baz=21,SNR=8.0
V29A Stinnett 21.38 340 ⇓P P 18 02 44.5 +0.6
baz=21
X25A Clemmons Ranch 21.43 332 ⇑P P 18 02 45.4 +0.9
baz=22,SNR=36
121A Cookes Peak, D 21.49 323 eP P 18 02 47.2 +2.0
44nm,1.1s
121A Cookes Peak, D 21.49 323 ⇓P P 18 02 47.2 +2.0
baz=22,SNR=19
V28A Channing 21.51 338 ⇑P P 18 02 45.5 +0.3
baz=22,SNR=11
W26A Owens Ranch, T 21.52 334 ⇑P P 18 02 45.5 +0.1
baz=22,SNR=10
Z22A Elephant Butte 21.57 326 ⇓P P 18 02 47.8 +2.0
baz=22,SNR=37
319A Douglas 21.60 318 ⇑P P 18 02 48.7 +2.4
baz=22,SNR=8.5
Y23A Lovelace Mesa, 21.62 328 ⇓P P 18 02 48.1 +1.7
baz=22,SNR=44
KMSC Kings Mountain 21.63 26 eP P 18 02 46.2 -0.1
74nm,1.3s
KMSC Kings Mountain 21.63 26 ⇓P P 18 02 46.1 -0.1
baz=22,SNR=8.8
T33A Patterson Ranc 21.64 348 ⇓P P 18 02 45.0 -1.4
baz=22,SNR=13
U30A WK&E Inc. Balk 21.71 342 ⇓P P 18 02 47.7 +0.6
baz=22,SNR=35
V27A Dan Oppiter Fa 21.74 337 ⇓P P 18 02 48.0 +0.5
baz=22,SNR=11
U29A Oasis Ranch, S 21.83 341 ⇑P P 18 02 49.0 +0.7
baz=22,SNR=20
T32A Huddler Ranch, 21.88 346 ⇑P P 18 02 48.1 -0.6
baz=22,SNR=32
W25A X Bar L Ranch, 21.93 333 ⇑P P 18 02 49.9 +0.5
baz=22,SNR=52
T31A Randall Ranch, 21.98 345 ⇓P P 18 02 49.4 -0.3
baz=22,SNR=21
U28A Mallet 22.07 339 ⇑P P 18 02 50.6 -0.1
baz=22,SNR=24
S33A Kaszmaul Farm, 22.08 349 ⇑P P 18 02 49.6 -1.1
baz=22,SNR=6.9
V26A Tequesquite Ra 22.14 335 ⇑P P 18 02 52.1 +0.8
baz=22,SNR=32
T30A Plains 22.16 343 ⇓P P 18 02 51.6 +0.2
baz=22,SNR=18
X23A Hourglass Bar 22.20 329 ⇑P P 18 02 53.5 +1.5
baz=22,SNR=6.2
LPM Los Pinos Moun 22.21 328 eP P 18 02 53.6 +1.6
27nm,0.9s
LENM Lemitar 22.27 327 eP P 18 02 54.2 +1.6
36nm,1.0s
U27A Thompson Grove 22.32 338 ⇑P P 18 02 54.1 +1.1
baz=22,SNR=48
W24A Lazy 6 Ranch, 22.34 332 ⇑P P 18 02 55.0 +1.7
baz=22,SNR=51
S32A Newby Ranch, P 22.38 347 ⇓P P 18 02 53.2 -0.2
baz=22,SNR=14
S31A Mullinville 22.43 346 ⇑P P 18 02 53.8 0.0
baz=22,SNR=7.7
T29A Hugoton 22.48 342 ⇑P P 18 02 54.9 +0.5
baz=23,SNR=19
V25A Rancho No Teng 22.52 334 ⇓P P 18 02 56.4 +1.5
baz=23,SNR=22
LAZ Ladron 22.54 327 eP P 18 02 57.0 +2.0
51nm,1.8s
SDV Santo Domingo 22.58 105 eP P 18 02 54.2 -1.4
24nm,0.8s
ANMO Albuquerque 22.62 329 P P 18 02 57.5 +1.7
10nm,0.8s,baz=149,slow=12,SNR=32
U26A Atchley Ranch, 22.64 336 ⇓P P 18 02 57.3 +1.3
baz=23,SNR=59
W23A Werner Place, 22.65 330 ⇑P P 18 02 58.1 +2.0
baz=23
S30A Montezuma 22.70 344 ⇓P P 18 02 56.7 +0.5
baz=23,SNR=23
T28A Walsh 22.71 340 ⇓P P 18 02 56.3 -0.2
baz=23,SNR=9.8
V24A Rampart Ranch, 22.71 333 ⇓P P 18 02 58.5 +1.9
baz=23,SNR=26
R33A Olander Ranch, 22.77 349 ⇑P P 18 02 56.7 -0.2
baz=23,SNR=16
S29A Ulysses 22.86 342 ⇓P P 18 02 58.3 +0.5
baz=23,SNR=87
T27A Campo 22.86 339 ⇑P P 18 02 58.2 +0.3
baz=23,SNR=25
WCI Wyandotte Cave 22.89 13 eP P 18 02 56.7 -1.3
25nm,0.8s
U25A Circle Dot Ran 22.91 335 ⇓P P 18 02 59.5 +1.0
baz=23,SNR=37
R32A Long Quarter, 23.02 348 ⇓P P 18 02 59.0 -0.2
baz=23,SNR=32
OLIL Olney 23.05 9 eP P 18 02 58.0 -1.4
18nm,0.6s
OLIL e 18 03 38.3
S28A Manter 23.07 341 ⇓P P 18 02 59.9 +0.2
baz=23,SNR=10
R31A Burdett 23.07 346 ⇑P P 18 02 59.4 -0.3
baz=23,SNR=25
V23A Ortiz Mt. (NFS 23.14 331 ⇓P P 18 03 03.3 +2.8
baz=23,SNR=21
TUC Tucson 23.18 318 eP P 18 03 03.1 +2.4
9.4nm,0.9s
TUC epP pP 18 03 39.9 +0.2
TUC esP sP 18 04 11.0 +4.0
TUC ePcP PcP 18 06 43.5 +1.2
R30A Dighton 23.25 345 ⇓P P 18 03 01.8 +0.5
baz=23,SNR=115
T26A Comanche Natio 23.27 337 ⇑P P 18 03 02.5 +0.9
baz=23,SNR=12
KSU1 Kansas State U 23.33 352 eP P 18 03 01.2 -0.7
129nm,0.8s
KSU1 Kansas State U 23.33 352 ⇓P P 18 03 01.4 -0.6
baz=23,SNR=23
Q33A Connelly Farm, 23.42 350 ⇓P P 18 03 02.5 -0.3
baz=24,SNR=7.3
S27A Las Animas 23.48 339 ⇓P P 18 03 03.5 0.0
baz=24,SNR=38
Q32A Meitler Ranch, 23.54 348 ⇑P P 18 03 03.7 -0.2
baz=24,SNR=47
T25A Trinidad 23.55 336 ⇓P P 18 03 06.2 +2.0
baz=24,SNR=27
R29A Marienthal 23.61 343 ⇑P P 18 03 04.9 +0.3
baz=24,SNR=39

V22A San Miguel Ran 23.62 330 ⇓P P 18 03 06.7 +1.8
baz=24,SNR=16
U23A El Rito 23.62 332 ⇑P P 18 03 06.9 +2.0
baz=24,SNR=28
S26A Kim 23.63 338 ⇓P P 18 03 06.2 +1.4
baz=24,SNR=23
Q31A Ellis 23.73 347 ⇑P P 18 03 05.7 +0.1
baz=24,SNR=12
R28A Tribune 23.73 342 ⇑P P 18 03 06.0 +0.3
baz=24,SNR=50
P33A Williams Farm, 23.82 350 ⇑P P 18 03 06.6 +0.2
baz=24
T24B San Luis 23.88 334 ⇑P P 18 03 09.8 +2.5
baz=24,SNR=14
Q30A Quinter 23.89 345 ⇓P P 18 03 07.9 +0.7
baz=24,SNR=68
U22A Llaves 23.97 331 ⇑P P 18 03 09.7 +1.7
baz=24,SNR=9.8
R27A Eads 23.99 340 ⇓P P 18 03 08.5 +0.4
baz=24,SNR=18
Q29A Oakley 24.01 344 ⇑P P 18 03 08.4 +0.3
baz=24,SNR=32
S25A Robets Cordova 24.02 336 ⇓P P 18 03 10.1 +1.6
baz=24,SNR=15
T23A Casias Ranch, 24.14 333 ⇑P P 18 03 11.3 +1.7
baz=24
P32A Huiting Farm, 24.16 349 ⇑P P 18 03 09.8 +0.3
baz=24
X18A Snowflake 24.18 323 ⇓P P 18 03 11.9 +2.0
baz=24
P31A Stockton 24.22 347 ⇓P P 18 03 10.6 +0.5
baz=24,SNR=25
R26A Arlington 24.22 339 ⇓P P 18 03 11.7 +1.5
baz=24,SNR=9.3
S24A Houchin Ranch, 24.31 335 ⇓P P 18 03 12.4 +1.2
baz=24,SNR=5.8
214A Organ Pipe Nat 24.31 315 eP P 18 03 13.6 +2.7
9.6nm,1.0s
214A pP pP 18 03 52.7 +0.8
214A Organ Pipe Nat 24.31 315 ⇑P P 18 03 12.9 +1.9
baz=24
R25A Fountain Ranch 24.39 337 ⇑P P 18 03 12.8 +1.0
baz=24,SNR=7.1
Q28A Sharon Springs 24.41 342 ⇓P P 18 03 12.6 +0.8
baz=24,SNR=29
P30A Selden 24.44 346 ⇑P P 18 03 12.9 +0.8
baz=24,SNR=19
W18A Petrified Fore 24.48 324 ⇑P P 18 03 14.9 +2.2
baz=25,SNR=6.8
KSCO Kaye Shedlock' 24.60 341 eP P 18 03 14.2 +0.6
74nm,0.7s
KSCO Kaye Shedlock' 24.60 341 ⇑P P 18 03 14.4 +0.8
baz=25,SNR=5.4
P29A Atwood 24.66 344 ⇓P P 18 03 14.6 +0.5
baz=25,SNR=16
S23A Nye Farm, Mont 24.69 334 ⇓P P 18 03 16.3 +1.7
baz=25
O32A Brockman Farm, 24.72 350 ⇑P P 18 03 14.8 +0.2
baz=25,SNR=5.0
R24A Sanders Place, 24.77 336 ⇓P P 18 03 16.3 +1.0
baz=25
Q26A Hugo 24.81 339 ⇓P P 18 03 16.5 +1.0
baz=25,SNR=5.8
O31A Woolen Ranch, 24.82 348 ⇑P P 18 03 15.5 +0.1
baz=25,SNR=7.3
SFIN Scholer Farm 24.82 10 ⇓P P 18 03 13.9 -1.5
baz=25
P28A Saint Francis 24.86 343 ⇑P P 18 03 16.9 +1.0
baz=25,SNR=17
X16A Lo Mia Camp, P 24.99 321 ⇑P P 18 03 19.2 +1.9
baz=25
O30A MW Ranch, Wils 25.00 346 ⇑P P 18 03 17.6 +0.5
baz=25,SNR=5.5
R23A Moffat 25.03 335 ⇑P P 18 03 18.8 +1.1
baz=25
Q25A Bedland, Calha 25.05 338 ⇓P P 18 03 18.8 +0.9
baz=25,SNR=9.1
S22A 4UR Ranch, Cre 25.08 333 ⇓P P 18 03 20.3 +2.2
baz=25,SNR=21
P27A Ficken Ranch, 25.08 342 ⇓P P 18 03 19.4 +1.4
baz=25,SNR=13
O29A 4D Ranch, Culb 25.12 345 ⇑P P 18 03 18.9 +0.6
baz=25,SNR=7.4
N32A Stulken Farm, 25.22 350 ⇑P P 18 03 20.1 +1.1
baz=25
P26A Davis Ranch, A 25.33 340 ⇓P P 18 03 22.0 +1.8
baz=25,SNR=17
O28A Krutsinger Ran 25.38 343 ⇓P P 18 03 22.7 +2.1
baz=25
SJG San Juan 25.40 81 P P 18 03 17.5 -3.5
MVCO Mesa Verde 25.42 329 eP P 18 03 23.0 +1.7
22nm,0.9s
MVCO epP pP 18 04 03.7 -0.1
MVCO Mesa Verde 25.42 329 ⇓P P 18 03 23.4 +2.2
baz=26,SNR=13
113A Mohawk Valley, 25.44 315 ⇓P P 18 03 23.2 +2.1
baz=26
P25A Willow Gulch B 25.56 339 ⇑P P 18 03 23.8 +1.5
baz=26
N30A Hueftle Ranch, 25.60 347 ⇑P P 18 03 23.8 +1.3
baz=26
Y14A Wickenburg 25.65 318 ⇑P P 18 03 25.3 +2.2
baz=26
WUAZ Wupatki 25.70 323 eP P 18 03 25.9 +2.2
7.4nm,1.0s
WUAZ epP pP 18 04 08.0 +1.5
WUAZ Wupatki 25.70 323 ⇓P P 18 03 25.9 +2.2
baz=26
BGNE Belgrade 25.82 350 ⇑P P 18 03 24.7 +0.2
baz=26
M31A Lambtecht Ranc 25.90 349 ⇓P P 18 03 26.0 +0.8
baz=26
P23A Jefferson 26.05 336 ⇓P P 18 03 28.7 +1.7
baz=26,SNR=12
PV01 Paradox Valley 26.19 331 eP P 18 03 29.7 +1.6
2μm,1.1s
OGNE Ogallala 26.21 344 eP P 18 03 27.7 -0.4
17nm,0.8s
OGNE Ogallala 26.21 344 ⇑P P 18 03 29.1 +1.0
baz=26
N27A Anderson Farm, 26.22 343 ⇓P P 18 03 29.4 +1.2
baz=26
GLA Glamis 26.33 314 ⇓P P 18 03 31.2 +2.1
baz=26
ISCO Idaho Springs 26.33 337 ⇓P P 18 03 30.7 +1.3
baz=26
PV04 Paradox Valley 26.56 330 eP P 18 03 33.1 +1.8
PV04 epP pP 18 04 14.8 +0.3
P22A Eagle 26.60 335 ⇑P P 18 03 33.4 +1.7
baz=27
PDMCI Parker Dam,Lak 26.61 317 ⇓P P 18 03 33.7 +2.1
baz=27
L30A Spencer Herefo 26.63 348 ⇑P P 18 03 32.7 +1.0
baz=27
O23A Lake Granby, G 26.80 337 ⇓P P 18 03 34.8 +1.2
baz=27
U15A North Rim 26.87 323 ⇓P P 18 03 37.0 +2.7
baz=27,SNR=5.8
ATAH Atahualpa 26.92 147 P P 18 03 36.7 +1.8
19nm,0.8s,baz=353,slow=7.2,SNR=11
SWSC Sam W. Stewart 26.94 313 ⇓P P 18 03 36.9 +2.3
baz=27
O22A Kremmling 27.00 336 ⇓P P 18 03 36.6 +1.2
baz=27
BC3 Big Chuckawall 27.11 315 ⇑P P 18 03 39.0 +2.8
baz=27,SNR=7.4
IRM Iron Mountain 27.19 316 ⇑P P 18 03 39.3 +2.5
baz=27,SNR=5.8
K30A Basset 27.30 349 ⇓P P 18 03 38.8 +1.1
baz=27
MONP Monument Peak 27.36 312 ⇓P P 18 03 40.8 +2.3
baz=28
N23A Red Feather La 27.41 338 ⇑P P 18 03 40.4 +1.4
baz=28
N22A Wattenberg Ran 27.52 337 ⇑P P 18 03 41.3 +1.3
baz=28
M24A Cheyenne 27.53 340 ⇑P P 18 03 41.4 +1.4
baz=28
BELC Belle Mtn. Jos 27.67 315 ⇓P P 18 03 43.0 +1.8
baz=28
O20A White River Ci 27.68 334 ⇑P P 18 03 42.5 +1.3
baz=28
LDFC Landfair 27.72 318 eP P 18 03 45.0 +3.4
25nm,1.1s
LDFC pP pP 18 04 22.6 -2.4
PFO Pinyon Flat Ob 27.77 314 P P 18 03 44.9 +2.8
3.2nm,0.8s,baz=112,slow=8.8,SNR=3.8
M23A Laramie 27.84 339 ⇓P P 18 03 43.1 +0.4

baz=28
L25A Engebretsen Ra 27.88 342 ⇑P P 18 03 43.3 +0.3
baz=28
GMRC Granite Mounta 27.90 317 ⇓P P 18 03 45.7 +2.5
baz=28,SNR=6.6
ECSD EROS Data Cent 27.91 354 eP P 18 03 41.7 -1.2
7.8nm,0.6s
ECSD EROS Data Cent 27.91 354 ⇑P P 18 03 41.8 -1.2
baz=28,SNR=9.4
J30A Dallas 27.91 349 ⇑P P 18 03 42.8 -0.3
baz=28
M22A Cedar Creek Ra 28.10 337 ⇑P P 18 03 45.9 +0.8
baz=28
J29A Okreek 28.15 348 ⇑P P 18 03 45.0 -0.1
baz=28
N20A Spence Gulch, 28.27 334 ⇑P P 18 03 48.3 +1.8
baz=28,SNR=13
J28A Allard Ranch, 28.36 347 ⇑P P 18 03 47.1 0.0
baz=28
HEC Hector,Ludlow 28.38 316 ⇓P P 18 03 49.4 +2.0
baz=28
L23A Garrett 28.40 339 ⇑P P 18 03 48.6 +0.9
baz=28,SNR=9.1
TUQ Turquoise Moun 28.46 317 ⇑P P 18 03 50.2 +2.0
baz=29
ARUT Antelope Range 28.48 324 eP P 18 03 50.9 +2.6
401nm,1.2s
ARUT pP pP 18 04 31.9 +0.1
SHPR Sheep Range 28.64 320 eP P 18 03 51.5 +1.7
4.3nm,1.0s
SHPR epP pP 18 04 38.4 +5.0
J26A Sides Ranch, S 28.70 344 ⇑P P 18 03 50.6 +0.5
baz=29
I29A Vivian Onida 28.74 348 ⇓P P 18 03 50.4 0.0
baz=29
K23A Bowen Ranch, D 28.95 340 ⇑P P 18 03 53.7 +1.2
baz=29,SNR=5.3
BFSC Mount Baldy Ra 28.95 314 ⇓P P 18 03 54.6 +2.1
baz=29
GSC Goldstone 28.97 316 P P 18 03 54.9 +2.3
GSC Goldstone 28.97 316 ⇑P P 18 03 55.2 +2.6
baz=29
J25A Sunshine Ranch 28.97 343 ⇓P P 18 03 53.0 +0.5
baz=29
I27A Quinn 29.16 346 ⇓P P 18 03 54.1 0.0
baz=29
K22A Casper 29.16 339 eP P 18 03 55.1 +0.8
7.7nm,1.0s
K22A Casper 29.16 339 ⇑P P 18 03 54.7 +0.4
baz=29
SPMN St. Paul 29.19 360 eP P 18 03 53.0 -1.3
26nm,0.6s
SPMN St. Paul 29.19 360 ⇑P P 18 03 54.3 0.0
baz=29
K21A Alcova 29.41 338 ⇑P P 18 03 57.0 +0.5
baz=30
EDW2 Edwards Air Fo 29.53 314 ⇓P P 18 03 59.3 +1.8
baz=30
I25A Rochford 29.53 344 ⇑P P 18 03 58.7 +1.1
baz=30,SNR=6.7
G30A Faulkton 29.61 351 ⇓P P 18 03 57.5 -0.6
baz=30,SNR=16
I24A Kuemmerle Ranc 29.64 342 ⇑P P 18 03 58.7 +0.2
baz=30
FURC Furnace Creek, 29.69 318 ⇑P P 18 04 01.0 +2.2
baz=30
H27A Howes 29.69 346 ⇑P P 18 03 59.5 +0.7
baz=30
RSSD Black Hills 29.71 343 eP P 18 03 59.6 +0.5
6.2nm,0.6s
G29A Hoven 29.80 350 ⇓P P 18 03 59.2 -0.6
baz=30
DUG Dugway 29.87 328 ⇑P P 18 04 02.1 +1.5
baz=30
J21A Lysite 30.10 338 ⇓P P 18 04 04.1 +1.5
baz=30,SNR=7.9
R11A Troy Canyon, C 30.10 322 ⇑P P 18 04 05.7 +3.0
baz=30,SNR=10
I22A 9 Mile Ranch, 30.25 340 ⇑P P 18 04 04.8 +1.0
baz=30,SNR=8.4
J20A Shoshoni 30.33 337 ⇓P P 18 04 05.5 +0.8
baz=30
FDF Fort de France 30.37 88 P P 18 04 02.6 -2.5
PDAR Pinedale Array 30.41 335 P P 18 04 06.0 +0.6
1.2nm,0.6s,baz=133,slow=9.5,SNR=8.6
PDAR PcP PcP 18 07 00.0 +0.5
0.9nm,0.5s,baz=129,slow=5.8,SNR=9.6
H24A Dirks Ranch, A 30.43 343 ⇓P P 18 04 06.1 +0.7
baz=30,SNR=9.7
F28A McLaughlin 30.59 349 ⇑P P 18 04 06.8 +0.1
baz=31
J19A Crowheart 30.63 336 ⇓P P 18 04 07.5 +0.2
baz=31
VES Vestal, Richgr 30.80 315 ⇓P P 18 04 10.2 +1.6
baz=31,SNR=6.4
H22A Clearmont 30.83 341 ⇑P P 18 04 09.4 +0.5
baz=31,SNR=6.3
F27A Lemmon 30.86 347 ⇓P P 18 04 08.6 -0.5
baz=31
I20A Worland 30.87 338 ⇑P P 18 04 10.5 +1.2
baz=31,SNR=11
E30A Jud 30.91 352 ⇓P P 18 04 08.9 -0.6
baz=31
G24A Alzada 30.93 344 ⇓P P 18 04 10.4 +0.7
baz=31
F26A Lodgepole 30.98 346 ⇑P P 18 04 10.4 +0.3
baz=31
H21A Big Horn, Sher 31.08 340 ⇓P P 18 04 11.4 +0.3
baz=31
G23A Biddle 31.09 342 ⇓P P 18 04 11.7 +0.6
baz=31,SNR=5.7
E29A Napoleon 31.09 351 ⇓P P 18 04 10.5 -0.6
baz=31
RCTC Rector, Farmer 31.17 316 ⇑P P 18 04 14.7 +2.9
baz=31
F25A Bowman 31.24 345 ⇑P P 18 04 12.8 +0.4
baz=31
I19A Meeteetse 31.26 337 ⇓P P 18 04 13.8 +1.0
baz=31,SNR=6.4
E28A Huff 31.27 349 ⇑P P 18 04 12.6 0.0
baz=31,SNR=8.0
G22A Birney 31.37 341 ⇓P P 18 04 13.8 +0.1
baz=31,SNR=5.9
F24A Ekalaka 31.41 344 ⇓P P 18 04 13.9 -0.1
baz=32
D30A Buchanan 31.49 352 ⇓P P 18 04 13.9 -0.6
baz=32
E26A Carlson Angus 31.52 347 ⇓P P 18 04 15.3 +0.4
baz=32
ELK Elko 31.54 326 P P 18 04 17.2 +1.9
6.3nm,1.0s,baz=187,slow=6.1,SNR=18
ELK PcP PcP 18 07 04.0 +1.4
2.1nm,0.7s,baz=236,slow=3.6,SNR=6.4
D29A Pettibone, Tap 31.56 351 ⇑P P 18 04 14.1 -1.1
baz=32
F23A Volborg 31.56 343 ⇑P P 18 04 15.5 +0.2
baz=32
G21A Lodge Grass 31.67 340 ⇑P P 18 04 16.6 +0.4
baz=32
NV11 Mina Array Sit 31.70 320 eP P 18 04 19.4 +2.7
NV11 epP pP 18 05 01.3 +0.7
E25A Miller Ranch, 31.77 346 ⇑P P 18 04 17.4 +0.4
baz=32,SNR=7.1
I17A Pilgrim Ck. 31.78 335 ⇓P P 18 04 17.7 +0.3
baz=32,SNR=8.0
NVAR Mina Array Bea 31.79 320 P P 18 04 20.8 +3.2
16nm,0.7s,baz=134,slow=8.9,SNR=116
NVAR pP pP 18 05 01.9 +0.4
2.9nm,0.8s,baz=132,slow=8.9,SNR=2.6
NVAR PcP PcP 18 07 05.2 +1.9
1.7nm,0.6s,baz=139,slow=2.0,SNR=6.9
H19A Powell 31.80 338 ⇓P P 18 04 18.3 +0.8
baz=32
NNA Nana 31.85 150 P P 18 04 19.3 +1.3
D28A Regan 31.85 350 ⇑P P 18 04 17.6 -0.1
baz=32,SNR=8.3
F22A Rosebud 31.86 342 ⇓P P 18 04 18.2 +0.3
baz=32
EYMN Ely 31.93 1 eP P 18 04 16.0 -2.3
18nm,1.1s
D27A Center 31.94 348 ⇓P P 18 04 18.3 -0.2
baz=32
G20A Bridger 32.00 339 ⇑P P 18 04 19.2 0.0
baz=32
C30A Mose, Pekin 32.04 353 ⇑P P 18 04 18.8 -0.5
baz=32,SNR=16
E24A Baker 32.04 345 ⇓P P 18 04 20.0 +0.6
baz=32,SNR=8.6
D26A Manning 32.05 347 ⇓P P 18 04 19.3 -0.1
baz=32,SNR=7.8
H18A Shoshone NF, C 32.06 337 ⇑P P 18 04 20.4 +0.6
baz=32,SNR=15
F21A Absaloka Mine, 32.17 341 ⇓P P 18 04 21.4 +0.8
baz=32
H17A Grant Village 32.18 335 ⇑P P 18 04 22.2 +1.4
baz=32
D25A Fairfield 32.36 346 ⇓P P 18 04 23.2 +1.0
baz=32
E22A Miles City 32.37 343 ⇑P P 18 04 22.6 +0.3
baz=32
BMN Battle Mountai 32.43 324 eP P 18 04 25.3 +2.3
10nm,0.8s
BMN epP pP 18 05 07.8 +0.8
BMN esP sP 18 05 35.6 +3.6
F20A Billings 32.49 340 ⇓P P 18 04 24.1 +0.8
baz=33
D24A Glendive 32.56 345 ⇑P P 18 04 24.5 +0.6
baz=33,SNR=7.8
C26A Wahner Farm, P 32.74 348 ⇑P P 18 04 25.3 -0.2
baz=33,SNR=6.8
B30A Myrvik Farm, E 32.75 353 ⇑P P 18 04 25.0 -0.5
baz=33,SNR=9.3
E21A Keefer Ranch, 32.80 341 ⇑P P 18 04 26.4 +0.4
baz=33,SNR=5.5
F19A Roth Farm, Mol 32.80 339 ⇑P P 18 04 26.4 +0.3
baz=33
D23A Lindsay 32.84 344 ⇑P P 18 04 26.9 +0.6
baz=33,SNR=6.0
B29A Wagenman Farm, 32.90 352 ⇑P P 18 04 26.5 -0.2
baz=33,SNR=16
C24A Savage 32.98 345 ⇑P P 18 04 28.2 +0.7
baz=33
B28A Dugan Ranch, T 33.03 351 ⇑P P 18 04 28.1 +0.2
baz=33,SNR=12
D22A Cohagen 33.09 343 ⇑P P 18 04 29.6 +1.1
baz=33,SNR=17
E20A Meyer Farm, Mu 33.10 340 ⇑P P 18 04 29.3 +0.7
baz=33,SNR=7.5
B27A Peters Farms, 33.14 349 ⇓P P 18 04 28.9 +0.1
baz=33
HLID Hailey 33.19 330 eP P 18 04 30.9 +1.3
2.0nm,0.6s
HLID Hailey 33.19 330 ⇑P P 18 04 30.9 +1.3
baz=33,SNR=6.2
A30A Hoffart Farm, 33.23 353 ⇓P P 18 04 29.4 -0.3
baz=33,SNR=17
D21A La Casta Ranch 33.25 342 ⇑P P 18 04 30.9 +1.0
baz=33
E19A Rath Farm, Rou 33.28 339 ⇑P P 18 04 30.8 +0.6
baz=33
A29A Manning Farm, 33.33 352 ⇑P P 18 04 30.2 -0.3
baz=33,SNR=19
B25A Knox Farm, Ray 33.38 347 ⇓P P 18 04 31.4 +0.4
baz=33,SNR=5.2
C23A Lambert 33.42 345 ⇓P P 18 04 31.5 +0.2
baz=34,SNR=7.5
A28A Rude Farm, Bot 33.47 351 ⇓P P 18 04 31.2 -0.5
baz=34,SNR=9.4
MCMT McKenzie Canyo 33.47 334 eP P 18 04 34.0 +1.9
2.0nm,0.5s
C22A Vida 33.55 344 ⇓P P 18 04 32.8 +0.3
baz=34,SNR=5.3
D20A Manuel Ranch, 33.62 341 ⇓P P 18 04 34.0 +0.9
baz=34,SNR=8.3
A27A Ledoux Ranch, 33.67 350 ⇓P P 18 04 33.8 +0.4
baz=34
A26A Wade Farm, Ken 33.76 349 ⇓P P 18 04 34.4 +0.2
baz=34,SNR=22
DGMT Dagmar 33.80 346 ⇑P P 18 04 35.3 +0.7
baz=34
D19A Cripps Ranch, 33.92 340 ⇓P P 18 04 36.5 +0.8
baz=34
B23A Brockton 33.98 345 ⇓P P 18 04 36.9 +0.7
baz=34,SNR=5.2
A25A Svangstu Ranch 34.01 348 ⇑P P 18 04 36.3 0.0
baz=34,SNR=9.5
B22A Reddig Ranch S 34.09 344 ⇑P P 18 04 38.1 +0.9
baz=34
LRM Limekiln Ridge 34.10 335 eP P 18 04 38.2 +0.7
16nm,0.5s
LRM epP pP 18 05 21.9 +0.1
C20A Veseth Ranch, 34.13 341 ⇑P P 18 04 38.4 +0.9
baz=34,SNR=5.7
A24A Westby 34.18 347 ⇓P P 18 04 38.6 +0.8
baz=34
ULM Lac du Bonnet 34.32 356 P P 18 04 37.2 -1.7
7.4nm,0.6s,baz=176,slow=9.7,SNR=14
ULM Lac du Bonnet 34.32 356 eP P 18 04 36.5 -2.5
8.6nm,0.8s
ULM epP pP 18 05 22.1 -1.2
A23A Redstone 34.42 346 ⇓P P 18 04 40.6 +0.7
baz=34,SNR=9.4
C19A Slack Wire Ran 34.48 340 ⇑P P 18 04 41.2 +0.7
baz=35,SNR=5.4
WVOR Wild Horse Val 34.55 325 eP P 18 04 43.4 +2.1
17nm,1.0s
A22A Carney Farms, 34.70 345 ⇑P P 18 04 43.2 +0.8
baz=35,SNR=7.1
B20A Solberg Farm, 34.78 342 ⇑P P 18 04 44.0 +0.9
baz=35,SNR=6.5
EGMT Eagleton 34.97 340 eP P 18 04 44.8 +0.1
15nm,1.1s
EGMT ePcP PcP 18 07 12.5 +0.5
EGMT Eagleton 34.97 340 ⇓P P 18 04 45.6 +0.9
baz=35,SNR=5.6
B19A Brinkman Farms 35.08 341 ⇓P P 18 04 46.1 +0.5
baz=35,SNR=7.6
A20A Cobblestone Ra 35.15 342 ⇓P P 18 04 46.8 +0.6
baz=35,SNR=5.9
A19A Klindworth Far 35.44 342 ⇑P P 18 04 49.8 +1.1
baz=36
MSO Missoula 35.53 335 ⇓P P 18 04 51.0 +1.5
baz=36
M04C Macdoel 35.98 322 ⇓P P 18 04 55.7 +2.2
baz=36
PTGA Pitinga 36.26 114 P P 18 04 53.6 -2.4
1.4nm,0.4s,baz=316,slow=18,SNR=4.3
JTMT Jette 36.40 335 eP P 18 04 57.3 +0.4
1.4nm,0.9s
BSMT Bassoo Peak 36.69 335 eP P 18 04 60.0 +0.6
J04D Umpqua Nationa 37.03 323 ⇑P P 18 05 04.3 +1.9
baz=37
L02D Cave Junction, 37.27 321 ⇓P P 18 05 05.9 +1.7
baz=37
I04A Tendick Farm, 37.54 324 ⇓P P 18 05 08.1 +1.6
baz=38
G05D Wamic, OR 37.87 326 ⇑P P 18 05 11.2 +2.1
baz=38
NEW Newport 37.99 333 ⇑P P 18 05 11.1 +0.9
baz=38
I03D Drain, OR 38.02 323 ⇑P P 18 05 12.5 +2.1
baz=38
OD2 Odessa Site #2 38.06 331 P P 18 05 12.0 +1.3
KEBM Edson Butte 38.12 321 eP P 18 05 10.3 -1.0
66nm,1.1s
TDH Tom, Dick, Har 38.15 326 P P 18 05 14.3 +2.6
VLL Laurance Lake 38.21 326 P P 18 05 15.2 +3.1
SAML Samuel 38.23 128 eP P 18 05 10.2 -2.4
11nm,0.8s
SAW Saint Andrews 38.61 331 P P 18 05 17.4 +2.1
MPOR Mary's Peak 38.63 324 P P 18 05 18.0 +2.4
WTV Waterville 38.87 330 P P 18 05 19.4 +1.9
LON Longmire 39.13 328 eP P 18 05 20.9 +1.2
7.5nm,0.8s
FFC Flin Flon 39.38 351 eP P 18 05 21.0 -0.5
18nm,0.6s
FFC epP pP 18 06 06.0 -0.7
FFC ePP PP 18 06 53.2 -3.5
LPAZ La Paz 40.13 142 P P 18 05 29.4 +0.5
37nm,0.6s,baz=341,slow=10,SNR=167
LPAZ La Paz 40.13 142 eP P 18 05 29.4 +0.5
38nm,0.6s
CMW Cultus Mountai 40.41 330 P P 18 05 30.9 +0.7
EDM Edmonton 40.61 341 eP P 18 05 31.4 -0.3
OSD Olympics--Snow 40.80 328 P P 18 05 35.8 +2.3
SIV San Ignacio 44.46 134 P P 18 06 02.8 -0.3
10nm,0.5s,baz=316,slow=8.4,SNR=45
LVC Limon Verde 44.81 148 eP P 18 06 08.1 +2.1
5.9nm,0.5s
YKA Yellowknife Ar 49.01 347 P P 18 06 37.8 +0.2
22nm,0.6s,baz=149,slow=7.5,SNR=436
YKA pP pP 18 07 23.2 -1.6
2.3nm,0.8s,baz=149,slow=7.6,SNR=2.6
YKA PP PP 18 08 35.0 +1.8
1.3nm,0.8s,baz=146,slow=9.5,SNR=4.7
LCO Las Campanas 49.46 155 eP P 18 06 43.6 +1.8
DLBC Dease Lake 50.64 336 P P 18 06 51.0 +0.9
13nm,0.9s,baz=134,slow=6.5,SNR=12
BDFB Brasilia 54.08 123 P P 18 07 15.0 -1.0
7.3nm,0.5s,baz=285,slow=9.2,SNR=9.8
CPUP Villa Florida 54.26 140 P P 18 07 16.4 -0.5
11nm,0.7s,baz=301,slow=6.7,SNR=18
CPUP Villa Florida 54.26 140 eP P 18 07 16.1 -0.8
BB16B Bebedouro 56.73 129 eP P 18 07 33.6 -1.1
BB16B i 18 07 38.0
INK Inuvik 58.41 343 P P 18 07 46.1 +0.5
15nm,0.8s,baz=132,slow=6.4,SNR=53
INK pP pP 18 08 32.3 -2.2
6.1nm,1.0s,baz=128,slow=6.2,SNR=3.6
INK Inuvik 58.41 343 eP P 18 07 46.1 +0.5
18nm,0.8s
INK pP pP 18 08 32.3 -2.2
INK epP pwP 18 08 32.5 -2.0
RES Resolute Bay 58.76 359 P P 18 07 47.1 -0.8
2.3nm,0.5s,baz=191,slow=7.2,SNR=7.9
PLCA Paso Flores 60.00 161 P P 18 07 59.1 +2.1
22nm,0.8s,baz=334,slow=7.2,SNR=24
PLCA Paso Flores 60.00 161 eP P 18 07 58.6 +1.6
31nm,0.9s
RCBR Riachuelo 60.16 106 P P 18 07 57.2 -1.3
ILAR Eielson Array 60.82 337 P P 18 08 03.0 +0.9
6.7nm,0.9s,baz=120,slow=5.3,SNR=44
ILAR PcP PcP 18 08 44.3 +0.6
0.6nm,0.7s,baz=120,slow=1.5,SNR=5.4
TRQA Tornquist 60.94 153 eP P 18 08 04.1 +0.8
4.7nm,0.7s
TRF Thorofare Moun 61.63 334 eP P 18 08 08.8 +1.0
17nm,1.1s
RSO Redoubt South 61.67 331 eP P 18 08 08.5 +0.3
39nm,0.6s
TNA Tin City 69.52 335 eP P 18 08 58.6 +0.7
5.8nm,1.3s
EKA Eskdalemuir Ar 76.75 36 P P 18 09 38.9 -1.6
1.7nm,0.7s,baz=271,slow=4.9,SNR=6.3
ESDC Sonseca Array 79.00 52 P P 18 09 51.9 -1.4
0.4nm,0.6s,baz=289,slow=4.5,SNR=4.4
BILL Bilibino 79.44 338 eP P 18 09 55.7 +0.7
19nm,1.3s
NB2 NORSAR Subarra 82.74 28 P P 18 10 12.6 +0.1
comp=Z,0.6nm,0.6s,baz=290,slow=5.1
NOA NORSAR Array B 82.74 28 P P 18 10 12.1 -0.4
comp=Z,0.8nm,0.6s,baz=291,slow=5.2,SNR=5.3
HFS Hagfors 84.20 29 P P 18 10 19.6 -0.4
comp=Z,2.3nm,0.9s,baz=328,slow=5.1,SNR=3.2
ARCES ARCESS Array B 84.49 18 P P 18 10 20.5 -0.7
comp=Z,4.2nm,1.1s,baz=280,slow=5.0,SNR=12
SEY Seymchan 86.74 335 P P 18 10 33.6 +1.2
comp=Z,1.5nm,0.3s,baz=93,slow=6.2,SNR=13
PETK Petropavlovsk- 88.71 325 P P 18 10 43.5 +1.5
comp=Z,5.5nm,1.1s,baz=98,slow=11,SNR=4.4
FINES FINESS Array B 89.00 25 P P 18 10 41.8 -1.3
comp=Z,0.6nm,0.6s,baz=274,slow=5.4,SNR=4.0
KEST Kesra 90.21 53 LR LR 18 45 50.7
comp=Z,48nm,19.1s,baz=238,slow=32
HHC Hu-ho-hao-te 119.20 339 ePKP PKPdf 18 16 34.8 -2.0
HHC PP PP 18 18 01.4 +2.3
HHC PKS PKSdf 18 20 10.2 -3.4
HHC SKS SKSdf 18 23 23.4 -5.0
HHC AMB AMB
comp=Z,70nm,5.3s
HHC LR LR
comp=Z,300nm,18.4s
HHC LR LR
comp=Z,280nm,18.2s
HHC LR LR
comp=Z,170nm,19.4s
WMQ Urumqi 120.53 360 ePKP PKPdf 18 16 42.4 +3.2
WMQ PP PP 18 18 14.0 +6.2
WMQ PKS PKSdf 18 20 17.8 +1.9
WMQ SKS SKSdf 18 23 30.9 +0.2
WMQ SKKS SKKSac 18 24 43.8 -3.0
WMQ AMB AMB
comp=Z,23nm,11.8s
WMQ LR LR
comp=Z,70nm,18.0s
WMQ LR LR
comp=Z,68nm,20.4s
WMQ LR LR
comp=Z,52nm,17.6s
NJ2 Nanjing 123.54 328 ePKP PKPdf 18 16 44.7 -0.5
KSH Kashi 123.81 11 ePKP PKPdf 18 16 43.7 -2.0
KSH esPKP 18 18 05.4
KSH ePKS PKSdf 18 20 19.8 -2.7
KSH LR LR
comp=Z,190nm,4.3s
LZH Lanzhou 125.96 344 ePKP PKPdf 18 16 49.3 -0.7
LZH sPKP 18 18 05.5
LZH LR LR
comp=Z,97nm,18.0s
LZH LR LR
comp=Z,100nm,18.0s
LZH LR LR
comp=Z,130nm,20.1s
XAN Xi'an 126.22 338 PKP PKPdf 18 16 51.2 +0.8
WHN Wuhan 126.98 331 ePKP PKPdf 18 16 50.3 -1.5
CD2 Chengdu 130.82 341 PKP PKPdf 18 17 00.0 +0.8
CD2 sPKP 18 18 15.3
CD2 PP PP 18 19 20.8 +4.5
CD2 PKS PKSdf 18 20 35.0 -0.9
CD2 SKS SKSdf 18 23 49.1 -1.3
CD2 SKKS SKKSac 18 25 50.6 -2.5
CD2 SS SS 18 36 28.3 +0.5
CD2 AMB AMB
comp=Z,120nm,5.6s
GYA Guiyang 133.87 336 ePdif Pdif 18 14 03.2 -1.7
GYA PKP PKPdf 18 17 04.0 -1.2
GYA sPKP 18 18 19.4
GYA PP PP 18 19 39.8 +3.8
GYA AMB AMB
comp=Z,90nm,7.6s
WRA Warramunga Arr 135.25 258 PKP PKPdf 18 17 10.1 +2.4
comp=Z,1.2nm,0.8s,baz=78,slow=2.0,SNR=7.8
ASAR Alice Springs 135.71 252 PKhKP PKPpre 18 16 59.2
comp=Z,0.2nm,0.5s,baz=106,slow=3.5,SNR=4.4
ASAR PKP PKiKP 18 17 11.0 +0.8
comp=Z,0.3nm,0.5s,baz=92,slow=1.9,SNR=5.3
KMI Kunming 136.52 340 PKP PKPdf 18 17 11.8 +1.5
CMAR Chiang Mai Arr 143.97 341 PKP PKPbc 18 17 22.6 +0.6
comp=Z,1.9nm,0.7s,baz=338,slow=3.3,SNR=22

ISCJB ***09*** *18:10:20.6±1.4, 7.°5S±0.°3×155.°3E±0.°2, h29km, mb3.6/6, MS3.0/1, Error ellipse: s-maj=46.5km s-min=17.2km az=140.9*

IDC ***09*** *18:10:24.6±6.2, 7.°56S×155.°30E, h49km±52km, mb3.5/6, mb1 3.7/7, mb1mx3.5/19, mbtmp3.7/7, ML2.5/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/17, Error ellipse: s-maj=58.3km s-min=34.1km az=125.0*

ISC 09 18:10:21.9±1.6, 7.°6S±0.°3×155.°4E±0.°3, h29km, n9, σ1°07/8, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	Honiara	4.86	113	LR	LR	18 12 57.0	
	comp=Z,58nm,19.7s,baz=275,slow=31						
PMG	Port Moresby	8.38	257	P	Pn	18 12 22.2	+0.8
	0.3nm,0.3s,baz=42,slow=16,SNR=4.4						
PMG				LR	LR	18 15 12.0	
	comp=Z,69nm,19.0s,baz=26,slow=35						
WRA	Warramunga Arr	23.86	237	P	P	18 15 31.7	-1.3
	1.1nm,0.7s,baz=58,slow=9.5,SNR=6.6						
ASAR	Alice Springs	26.13	230	P	P	18 15 53.6	-0.1
	0.4nm,0.9s,baz=63,slow=9.6,SNR=4.4						
ASAR				LR	LR	18 25 08.4	
	comp=Z,47nm,19.2s,baz=50,slow=34						
CMAR	Chiang Mai Arr	61.40	296	P	P	18 20 36.2	+0.3
	0.9nm,0.7s,baz=109,slow=5.1,SNR=10						
ILAR	Eielson Array	83.73	21	P	P	18 22 47.7	-0.2
	0.2nm,0.5s,baz=248,slow=4.8,SNR=3.1						
MKAR	Makanchi Array	84.09	319	P	P	18 22 48.8	-1.4
	1.0nm,0.8s,baz=118,slow=6.2,SNR=10.0						
YKA	Yellowknife Ar	96.63	28	P	P	18 23 49.9	+1.0
	0.5nm,0.9s,baz=266,slow=4.7,SNR=6.8						
TORD	Torodi Ar. Bea	153.57	284	PKPbc	PKPbc	18 30 19.4	+0.5
	0.5nm,0.8s,baz=71,slow=2.9,SNR=3.6						

IDC ***09*** *18:22:39.9±0.8, 8.°53N×82.°97W, h0km, mb4.4/16, mb1 4.7/18, mb1mx4.4/38, mbtmp4.5/18, ML4.3/2, MS3.6/7,* *Ms1 3.6/7, ms1mx3.3/39, Error ellipse: s-maj=32.0km s-min=12.4km az=50.0*

ISCJB ***09*** *18:22:41.2±0.8, 8°.47N±0°.04×82°.94W±0°.03, h17km±5km, mb4.5/42, MS4.3/5, Error ellipse: s-maj=7.9km s-min=4.0km az=29.3*

NEIC ***09*** *18:22:43.5±1.7, 8°.43N×83°.08W, h24km±12km, mb4.8/31, Error ellipse: s-maj=7.1km s-min=4.3km az=49.0*

NEIC Felt [IV] at Golfito. Also felt at Alajuela, Guadalupe, Quepos, San Jose and San Vito. Felt at Potrerillos Arriba, Panama.

CASC ***09*** *18:22:43.5±2.6, 8°.68N×83°.05W, h0km±21km, MD4.3, mb4.7(NEIC)*

BJI ***09*** *18:22:46.5, 8°.40N×83°.10W, h25km, mB5.5/5, Ms5.3/4, Ms7 4.8/5*

ISC 09 18:22:43.2±1.1, **8°.58N**±0°.08×**83°.04W**±0°.07, **h13**km±6km, **n361**, σ**1°.05**/345, **mb4.7**/42, **MS4.4**/5, **124C-138D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.14	298	⇑iP	Pg	18 22 46.1	-0.8
ACR				eS	Sg	18 22 49.5	0.0
BUS	Buena Vista	1.20	324	⇑eP	Pg	18 23 04.0	-2.4
BUS				eS	Sb	18 23 22.0	+0.4
QCR	Quepos	1.39	307	⇑eP	Pg	18 23 05.5	-4.5
SJS	Escuela Geolog	1.68	323	⇓eP	Pn	18 23 12.6	+0.1
CGA2	Cerro Gallo 2	2.00	315	⇓eP	Pn	18 23 17.1	+0.2
CGA2				eS	Sb	18 23 44.2	-0.3
JCR	Jicaral	2.40	302	eP	Pn	18 23 22.1	-0.3
CEDE	Laguna Cede˘−o	2.50	319	iP	Pn	18 23 24.7	+1.0
JTS	JuntasAbangare	2.54	312	Pn	Pn	18 23 24.1	-0.1
	74nm,0.3s,baz=132,slow=11,SNR=198						
JTS				LR	LR	18 23 51.8	
	comp=Z,298nm,19.2s,baz=113,slow=27						
JTS				Sn	Sn	18 23 55.8	+0.9
	167nm,0.3s,baz=320,slow=19,SNR=12						
BANL	Banca Lucia	2.61	318	iP	Pn	18 23 26.7	+1.4
PTEN	Parque Tenorio	2.86	318	⇑iP	Pn	18 23 28.5	-0.1
PTEN				iS	Sb	18 24 09.3	+0.2
COLC	Colonia	2.97	314	iP	Pn	18 23 31.1	+1.0
MESS	Mesas	3.02	315	iP	Pn	18 23 32.7	+1.9
LAPC	Finca la Perla	3.21	313	iP	Pn	18 23 35.3	+1.9
BUEV	Buena Vista	3.21	313	iP	Pn	18 23 34.9	+1.4
GB1A	Borinquen Arri	3.21	314	iP	Pn	18 23 34.7	+1.2
GB1A				iS	Sn	18 24 15.7	+3.9
BCIP	Isla Barro Col	3.22	79	ePn	Pn	18 23 32.6	-0.8
BCIP				eSn	Sn	18 24 07.8	-3.9
GBS2	Las Lilas	3.27	313	iP	Pn	18 23 35.3	+1.1
COPN	Copaltepe	5.00	316	eP	Pn	18 24 00.2	+2.2
VSM	San Miguel	7.04	314	eP	Pn	18 24 28.6	+2.3
VSM				eS	Sn	18 25 42.0	-4.4
LFRS	El Faro	7.75	311	eP	Pn	18 24 38.6	+2.7
LFRS				eS	Sn	18 25 59.1	-4.5
LFU	La Fuente	7.87	311	eP	Pn	18 24 40.6	+3.2
BOQS	Boqueron	7.98	310	eP	Pn	18 24 42.0	+2.8
SBLS	San Blas	8.30	310	eP	Pn	18 24 46.4	+2.7
RBDL	Robledal	8.52	311	eP	Pn	18 24 49.2	+2.6
IXG	Ixpaco	9.15	308	eP	Pn	18 24 57.9	+2.7
MRL	Marmol	9.16	315	eP	Pn	18 24 57.5	+2.2
OTAV	Otavalo	9.47	151	ePn	Pn	18 24 58.2	-1.6
	23nm,1.3s						
APG	El Apazote	9.67	312	Pn	Pn	18 25 01.0	-1.4
	1.7nm,0.3s,baz=130,slow=16,SNR=86						
APG				LR	LR	18 29 03.0	
	comp=Z,202nm,20.9s,baz=96,slow=39						
MTDJ	Mount Denham	10.98	29	Pn	Pn	18 25 21.0	+0.8
SDV	Santo Domingo	12.27	88	ePn	Pn	18 25 38.0	+0.1
	9.4nm,0.7s						
TEIG	Tepich	12.63	337	LR	LR	18 30 55.9	
	comp=Z,548nm,18.5s,baz=216,slow=39						
SDDR	Presa de Saban	15.39	47	ePn	Pn	18 26 21.5	+1.2
	24nm,0.9s						
ATAH	Atahualpa	16.29	163	Pn	Pn	18 26 35.0	+2.7
	0.4nm,0.3s,baz=7.5,slow=8.2,SNR=5.1						
ATAH				LR	LR	18 32 03.6	
	comp=Z,408nm,19.9s,baz=18,slow=35						
OBIP	Obispado Ponce	18.54	58	eP	P	18 27 00.6	+1.0
	58nm,1.2s						
CELP	Cerrillos	18.57	58	eP	P	18 27 00.8	+0.7
SJG	San Juan	18.95	58	LR	LR	18 33 37.7	
	comp=Z,216nm,19.0s,baz=269,slow=35						
SJG	San Juan	18.95	58	eP	P	18 27 05.5	+1.3
	14nm,0.3s						
CDVI	St. Croix	19.97	61	eP	P	18 27 14.9	-0.5
	146nm,1.0s						
NNA	Nana	21.34	163	P	P	18 27 28.8	-1.6
	16nm,0.8s,baz=323,slow=9.0,SNR=4.3						
NNA	Nana	21.34	163	eP	P	18 27 28.1	-2.3
	41nm,1.2s						
034A	Hebbronville	23.61	323	⇑P	P	18 27 55.1	+1.1
	baz=24						
LRAL	Lakeview Retre	24.61	352	eP	P	18 28 04.6	+1.3
	76nm,1.3s						
GOGA	Godfrey	24.71	359	eP	P	18 28 04.9	+0.7
	115nm,1.2s						
PTGA	Pitinga	24.79	111	P	P	18 28 04.3	-0.8
	6.3nm,0.9s,baz=275,slow=11,SNR=7.6						
PTGA	Pitinga	24.79	111	eP	P	18 28 04.1	-1.0
	6.1nm,0.8s						
833A	Chaparral WMA,	24.96	324	⇑P	P	18 28 07.0	+0.5
	baz=25,SNR=6.0						
733A	Divot King Ran	25.20	325	⇑P	P	18 28 09.4	+0.6
	baz=25						
832A	Faith Ranch, C	25.28	323	⇑P	P	18 28 09.3	-0.1
	baz=26						
535A	Dale	25.31	329	⇓P	P	18 28 09.7	+0.1
	baz=26						
732A	Laxson Ranch,	25.60	324	⇑P	P	18 28 12.2	-0.2
	baz=26						
633A	Saathoff Ranch	25.70	326	⇓P	P	18 28 13.5	+0.2
	baz=26						
534A	Blanco	25.77	328	⇓P	P	18 28 14.1	+0.2
	baz=26						
435B	Jarrell	25.93	330	⇑P	P	18 28 15.9	+0.6
	baz=26						
632A	Uvalde	26.08	325	⇑P	P	18 28 16.8	+0.1
	baz=26						
533A	Kerrville	26.10	327	⇑P	P	18 28 17.2	+0.3
	baz=26						
335A	Moody	26.26	331	⇓P	P	18 28 18.8	+0.5
	baz=26						
434A	Burnet	26.29	329	⇓P	P	18 28 19.3	+0.6
	baz=26						
SAML	Samuel	26.36	131	eP	P	18 28 16.0	-3.3
	7.0nm,1.1s						
631A	Perdido Creek	26.46	324	⇑P	P	18 28 20.1	-0.1
	baz=27						
KMSC	Kings Mountain	26.48	3	⇓P	P	18 28 21.4	+1.2
	baz=27						
SWET	Sewanee	26.64	355	eP	P	18 28 21.4	-0.3
	18nm,1.0s						
433A	Art	26.67	328	⇑P	P	18 28 22.0	0.0
	baz=27,SNR=6.3						
334A	Lometa	26.70	330	⇑P	P	18 28 22.5	+0.2
	baz=27						
JCT	Junction City	26.84	327	⇓P	P	18 28 23.7	+0.1
	baz=27						
WHTX	Lake Whitney	26.87	332	⇓P	P	18 28 24.4	+0.7
	baz=27						
TKL	Tuckaleechee C	26.96	359	P	P	18 28 23.6	-1.0
	20nm,1.1s,baz=165,slow=9.3,SNR=4.7						
TKL				LR	LR	18 39 58.6	
	comp=Z,186nm,18.5s,baz=172,slow=38						
531A	Rocksprings	27.01	325	⇓P	P	18 28 25.6	+0.4
	baz=27						
333A	Richland Sprin	27.07	329	⇑P	P	18 28 26.1	+0.5
	baz=27						
432A	Menard	27.14	327	⇓P	P	18 28 26.3	0.0
	baz=27						
234A	Clairette	27.20	331	⇑P	P	18 28 27.9	+1.1
	baz=27,SNR=5.3						
UALR	University of	27.43	343	eP	P	18 28 28.4	-0.4
	17nm,0.9s						
431A	Sonora	27.43	326	⇓P	P	18 28 29.2	+0.2
	baz=28						
530A	J-C Ranch, Com	27.45	324	⇑P	P	18 28 29.3	+0.1
	baz=28						
332A	Millersview	27.51	328	⇓P	P	18 28 30.2	+0.6
	baz=28						
233A	Rising Star	27.58	330	⇑P	P	18 28 30.2	-0.1
	baz=28						
MIAR	Mount Ida	27.59	341	eP	P	18 28 30.1	-0.1
	38nm,1.2s						
134A	White-Moore Ra	27.64	332	⇑P	P	18 28 30.9	+0.1
	baz=28						
331A	San Angelo	27.82	327	⇑P	P	18 28 32.9	+0.5
	baz=28						
232A	Coleman	27.86	329	⇓P	P	18 28 32.9	+0.2
	baz=28						
430A	Baggett Ranch,	27.87	325	⇓P	P	18 28 33.0	+0.2
	baz=28						
628A	Black Gap, Mar	27.92	321	⇓P	P	18 28 33.7	+0.4
	baz=28						
529A	Stev Forest Ra	27.96	323	⇑P	P	18 28 34.1	+0.4
	baz=28						
133A	Hamilton Ranch	28.07	331	⇓P	P	18 28 34.8	+0.2
	baz=28						
429A	Davenport Ranc	28.13	324	⇑P	P	18 28 35.0	-0.1
	baz=28,SNR=5.8						
231A	Bronte	28.24	328	⇓P	P	18 28 36.8	+0.7
	baz=28						
330A	Mertzon	28.30	326	⇑P	P	18 28 37.2	+0.5
	baz=28						
TXAR	Lajitas Array	28.30	320	P	P	18 28 36.1	-0.7
	0.9nm,0.9s,baz=129,slow=9.4,SNR=7.8						
528A	Cox Ranch, San	28.33	322	⇑P	P	18 28 36.9	-0.2
	baz=28						
ABTX	Abilene, Hawle	28.44	330	⇑P	P	18 28 38.4	+0.5
	baz=29						
Z33A	Whitaker Ranch	28.55	332	⇓P	P	18 28 39.3	+0.4
	baz=29						
Y34A	Reagan Ranch,	28.66	334	⇑P	P	18 28 40.8	+1.0
	baz=29,SNR=5.9						
428A	Kincaid Ranch,	28.67	323	⇓P	P	18 28 40.1	0.0
	baz=29						
LPAZ	La Paz	28.78	149	P	P	18 28 38.8	-2.9
	3.5nm,1.0s,baz=336,slow=8.2,SNR=6.1						
329A	Wagon Wheel Ra	28.81	325	⇓P	P	18 28 41.2	-0.1
	baz=29						
131A	Roby	28.86	329	⇓P	P	18 28 41.9	+0.2
	baz=29						
Z32A	Haskell	28.91	331	⇑P	P	18 28 43.2	+1.1
	baz=29,SNR=12						
229A	Bryant Ranch,	29.08	326	⇓P	P	18 28 43.8	+0.2
	baz=29						
Y33A	Hilltop Ranch,	29.09	333	⇓P	P	18 28 43.9	+0.3
	baz=29						
328A	Wristen Ranch,	29.21	324	⇑P	P	18 28 44.8	0.0
	baz=29						
X34A	Smith Ranch, M	29.24	334	⇑P	P	18 28 45.5	+0.5
	baz=30						
Z31A	Sharp Cattle R	29.25	330	⇑P	P	18 28 44.7	-0.3
	baz=30						
426A	McDonald Obser	29.45	321	⇑P	P	18 28 46.8	-0.3
	baz=30						
Y32A	R-V Farms, Ver	29.46	332	⇓P	P	18 28 47.1	+0.1
	baz=30						
X33A	Lawton	29.48	333	⇑P	P	18 28 46.9	-0.2
	baz=30						
TUL1	Tulsa	29.59	339	⇓P	P	18 28 47.3	-0.7
	baz=30						
WCI	Wyandotte Cave	29.66	355	eP	P	18 28 48.0	-0.7
	46nm,1.1s						
Z30A	Sanderson Ranc	29.72	328	⇑P	P	18 28 48.7	-0.7
	baz=30						
X32A	Elmer	29.74	332	⇓P	P	18 28 48.8	-0.6
	baz=30						
W34A	Bridge Creek,	29.76	335	⇓P	P	18 28 48.7	-0.9
	baz=30						
Y31A	Rekieta Farm,	29.82	330	⇑P	P	18 28 50.4	+0.2
	baz=30						
326A	Caldwell Ranch	29.87	322	⇑P	P	18 28 50.1	-0.6
	baz=30						
W33A	Caddo, Fort Co	29.98	334	⇑P	P	18 28 51.7	+0.1
	baz=30						
Z29A	Hungry Hill Ra	30.01	328	⇑P	P	18 28 51.5	-0.4
	baz=30						
Y30A	Stafford Cattl	30.07	329	⇓P	P	18 28 51.9	-0.5
	baz=30						
V34A	Guthrie	30.18	336	⇑P	P	18 28 53.2	-0.1
	baz=30						
X31A	McDonald Ranch	30.23	331	⇓P	P	18 28 53.8	0.0
	baz=30						
W32A	Sentinel	30.30	333	⇓P	P	18 28 54.4	0.0
	baz=30						
X30A	Coker Ranch, T	30.51	330	⇓P	P	18 28 56.2	-0.1
	baz=31						
226B	Tecolote Peak,	30.52	323	⇓P	P	18 28 56.0	-0.5
	baz=31						
W31A	Holland Ranch,	30.67	332	⇓P	P	18 28 56.9	-0.8
	baz=31						
U34A	Anderson Ranch	30.71	337	⇑P	P	18 28 56.7	-1.2
	baz=31						
V32A	Arapaho	30.71	334	⇓P	P	18 28 57.6	-0.4
	baz=31						
125A	Gardner Draw,	31.22	323	⇑P	P	18 29 01.7	-1.0
	baz=31						
Y27A	Causey	31.27	327	⇑P	P	18 29 02.0	-1.1
	baz=32						
ACSO	Alum Creek Sta	31.52	0	eP	P	18 29 05.4	+0.4
	9.2nm,0.7s						
T33A	Patterson Ranc	31.55	336	⇑P	P	18 29 04.9	-0.5
	baz=32						
U31A	Nine Bar Ranch	31.61	334	⇑P	P	18 29 05.4	-0.6
	baz=32						
Y26A	Elida	31.66	326	⇓P	P	18 29 06.5	0.0
	baz=32						
SFIN	Scholer Farm	31.87	354	⇑P	P	18 29 08.3	+0.3
	baz=32						
T31A	Randall Ranch,	32.15	335	⇓P	P	18 29 10.7	+0.1
	baz=32						
Y25A	Mesa, Roswell	32.15	325	⇓P	P	18 29 10.5	-0.3
	baz=32						
SSPA	Standing Stone	32.25	7	P	P	18 29 11.5	+0.1
	16nm,1.2s						
T30A	Plains	32.48	333	⇓P	P	18 29 14.2	+0.6
	baz=33						
R33A	Olander Ranch,	32.52	338	⇓P	P	18 29 14.0	+0.2
	baz=33,SNR=8.8						
Y24A	Capitan	32.58	324	⇓P	P	18 29 15.0	+0.3
	baz=33						
SIV	San Ignacio	32.70	138	P	P	18 29 13.2	-2.5
	4.4nm,0.9s,baz=317,slow=11,SNR=8.0						
KSU1	Kansas State U	32.74	340	eP	P	18 29 15.5	-0.3
	34nm,0.8s						
KSU1	Kansas State U	32.74	340	⇓P	P	18 29 15.9	+0.2
	baz=33,SNR=5.8						
R32A	Long Quarter,	32.89	337	⇓P	P	18 29 17.8	+0.6
	baz=33,SNR=5.9						
S30A	Montezuma	32.94	334	⇑P	P	18 29 18.3	+0.6
	baz=33						
W25A	X Bar L Ranch,	32.97	327	⇓P	P	18 29 18.0	0.0
	baz=33						
Z22A	Elephant Butte	33.03	321	⇓P	P	18 29 18.4	-0.2
	baz=33						
U27A	Thompson Grove	33.05	330	⇑P	P	18 29 18.8	+0.1
	baz=33						
V26A	Tequesquite Ra	33.05	328	⇓P	P	18 29 18.5	-0.2
	baz=33						
Q33A	Connelly Farm,	33.07	339	⇓P	P	18 29 19.0	+0.3
	baz=33,SNR=5.1						
R31A	Burdett	33.10	336	⇓P	P	18 29 19.7	+0.7
	baz=33						
S29A	Ulysses	33.21	333	⇑P	P	18 29 20.8	+0.8
	baz=33						
T28A	Walsh	33.26	332	⇑P	P	18 29 20.9	+0.5
	baz=34						
319A	Douglas	33.33	317	⇑P	P	18 29 23.1	+1.9
	baz=34,SNR=5.8						
Q32A	Meitler Ranch,	33.33	338	⇓P	P	18 29 20.4	-0.6
	baz=34,SNR=6.4						
R30A	Dighton	33.41	335	⇓P	P	18 29 22.7	+1.0
	baz=34,SNR=11						
P33A	Williams Farm,	33.41	339	⇓P	P	18 29 22.5	+0.8
	baz=34						
U26A	Atchley Ranch,	33.49	329	⇑P	P	18 29 22.7	+0.1
	baz=34						
W24A	Lazy 6 Ranch,	33.49	326	⇑P	P	18 29 22.6	0.0
	baz=34						
T27A	Campo	33.50	331	⇑P	P	18 29 22.9	+0.3
	baz=34						
V25A	Rancho No Teng	33.52	327	⇑P	P	18 29 22.9	0.0
	baz=34						
S28A	Manter	33.54	332	⇓P	P	18 29 23.3	+0.4
	baz=34						
Q31A	Ellis	33.66	337	⇑P	P	18 29 24.4	+0.5
	baz=34,SNR=5.6						
ANMO	Albuquerque	33.90	324	eP	P	18 29 26.6	+0.4
	2.2nm,1.0s						
P32A	Huiting Farm,	33.90	338	⇑P	P	18 29 26.2	+0.3
	baz=34,SNR=7.5						
Q30A	Quinter	33.97	336	⇓P	P	18 29 27.2	+0.6
	baz=34,SNR=5.5						
T26A	Comanche Natio	34.02	330	⇓P	P	18 29 27.3	+0.1
	baz=34						
S27A	Las Animas	34.09	331	⇑P	P	18 29 27.8	+0.1
	baz=34						
P31A	Stockton	34.10	337	⇓P	P	18 29 28.3	+0.6
	baz=34,SNR=8.7						
R28A	Tribune	34.12	333	⇑P	P	18 29 28.4	+0.5
	baz=34,SNR=7.2						
Q29A	Oakley	34.21	335	⇑P	P	18 29 29.5	+0.8
	baz=34,SNR=6.9						
S26A	Kim	34.31	331	⇑P	P	18 29 30.9	+1.2
	baz=34						
O32A	Brockman Farm,	34.35	339	⇑P	P	18 29 30.3	+0.5
	baz=35						
P30A	Selden	34.46	336	⇑P	P	18 29 32.0	+1.1
	baz=35,SNR=11						
R27A	Eads	34.52	332	⇓P	P	18 29 32.9	+1.4
	baz=35						
O31A	Woolen Ranch,	34.63	338	⇑P	P	18 29 33.3	+1.0
	baz=35						
Q28A	Sharon Springs	34.72	334	⇑P	P	18 29 33.7	+0.5
	baz=35,SNR=8.1						
U23A	El Rito	34.74	326	⇓P	P	18 29 34.3	+0.8
	baz=35						
P29A	Atwood	34.79	335	⇓P	P	18 29 34.4	+0.7
	baz=35						
N32A	Stulken Farm,	34.80	340	⇑P	P	18 29 34.0	+0.3
	baz=35						
R26A	Arlington	34.84	331	⇓P	P	18 29 35.1	+0.9
	baz=35						
O30A	MW Ranch, Wils	34.93	337	⇑P	P	18 29 35.6	+0.7
	baz=35						
P28A	Saint Francis	35.11	334	⇑P	P	18 29 37.3	+0.8
	baz=35						
R25A	Fountain Ranch	35.12	330	⇓P	P	18 29 38.3	+1.7
	baz=35						
O29A	4D Ranch, Culb	35.18	336	⇑P	P	18 29 38.4	+1.4
	baz=35						
S24A	Houchin Ranch,	35.20	329	⇓P	P	18 29 38.2	+0.7
	baz=35						
BGNE	Belgrade	35.33	340	⇓P	P	18 29 39.2	+0.9
	baz=36						
Q26A	Hugo	35.37	332	⇓P	P	18 29 39.7	+0.8
	baz=36						
SDCO	Great Sand Dun	35.42	328	eP	P	18 29 39.3	-0.2
	1.7nm,0.9s						
N30A	Hueftle Ranch,	35.48	337	⇑P	P	18 29 40.6	+0.9
	baz=36						
M31A	Lambtecht Ranc	35.55	339	⇓P	P	18 29 40.5	+0.2
	baz=36,SNR=5.2						
O28A	Krutsinger Ran	35.58	335	⇑P	P	18 29 42.3	+1.8
	baz=36						
R24A	Sanders Place,	35.59	329	⇓P	P	18 29 43.0	+2.2
	baz=36						
N29A	Votaw Ranch, W	35.70	337	⇓P	P	18 29 43.0	+1.4
	baz=36						
Q25A	Bedland, Calha	35.70	331	⇓P	P	18 29 43.3	+1.5
	baz=36						
X18A	Snowflake	35.73	320	⇓P	P	18 29 43.3	+1.3
	baz=36						
P26A	Davis Ranch, A	35.80	333	⇑P	P	18 29 43.8	+1.2
	baz=36						
R23A	Moffat	35.93	329	⇑P	P	18 29 44.7	+0.9
	baz=36						
N28A	Pribbeno Ranch	35.96	336	⇓P	P	18 29 44.7	+0.9
	baz=36						
W18A	Petrified Fore	35.98	321	⇑P	P	18 29 45.6	+1.5
	baz=36						
M30A	Dale-Ortello V	36.04	338	⇑P	P	18 29 45.4	+0.9
	baz=36						
214A	Organ Pipe Nat	36.12	314	⇓P	P	18 29 46.8	+1.6
	baz=36,SNR=6.4						
S22A	4UR Ranch, Cre	36.12	327	⇓P	P	18 29 46.3	+0.8
	baz=36						
P25A	Willow Gulch B	36.14	332	⇓P	P	18 29 46.8	+1.3
	baz=36						
Q24A	Divide	36.18	330	⇑P	P	18 29 46.4	+0.5
	baz=36						
L31A	Butterfield Fa	36.24	340	⇓P	P	18 29 46.5	+0.4
	baz=36,SNR=5.2						
M29A	Burnside Ranch	36.27	337	⇑P	P	18 29 46.5	+0.1
	baz=36,SNR=8.0						
L30A	Spencer Herefo	36.35	339	⇑P	P	18 29 48.0	+1.0
	baz=37						
OGNE	Ogallala	36.38	335	⇑P	P	18 29 48.2	+0.9
	baz=37						
N27A	Anderson Farm,	36.47	335	⇑P	P	18 29 49.4	+1.2
	baz=37,SNR=6.2						
M28A	Bar X Bar Ranc	36.49	337	⇑P	P	18 29 48.9	+0.6
	baz=37						
X16A	Lo Mia Camp, P	36.62	319	⇓P	P	18 29 51.4	+1.7
	baz=37,SNR=5.8						
MVCO	Mesa Verde	36.66	325	⇑P	P	18 29 50.7	+0.7
	baz=37						
P23A	Jefferson	36.84	330	⇓P	P	18 29 52.5	+0.9
	baz=37						
K30A	Basset	36.95	340	⇓P	P	18 29 52.4	+0.2
	baz=37,SNR=11						
ECSD	EROS Data Cent	36.97	344	eP	P	18 29 50.8	-1.4
	16nm,1.0s						
ECSD	EROS Data Cent	36.97	344	⇑P	P	18 29 51.5	-0.7
	baz=37,SNR=8.5						
ISCO	Idaho Springs	37.06	331	⇑P	P	18 29 53.9	+0.5
	baz=37						
113A	Mohawk Valley,	37.24	315	⇑P	P	18 29 56.7	+2.0
	baz=37						
WUAZ	Wupatki	37.26	320	⇓P	P	18 29 56.5	+1.4
	baz=37						
K29A	Lazy Trails An	37.27	339	⇓P	P	18 29 56.0	+1.1
	baz=38						
Y14A	Wickenburg	37.38	317	⇓P	P	18 29 57.3	+1.4
	baz=38						
P22A	Eagle	37.47	329	⇑P	P	18 29 57.8	+1.0
	baz=38						
SPMN	St. Paul	37.47	349	⇑P	P	18 29 56.5	0.0
	baz=38						
J30A	Dallas	37.48	340	⇓P	P	18 29 56.3	-0.4
	baz=38,SNR=12						
N24A	Carr	37.52	332	⇓P	P	18 29 58.2	+1.1
	baz=38						
O23A	Lake Granby, G	37.52	331	⇓P	P	18 29 57.4	+0.1
	baz=38						
K28A	Ten Mile Ranch	37.62	338	⇑P	P	18 29 58.3	+0.5
	baz=38						
PV10	Paradox Valley	37.79	326	eP	P	18 29 58.7	-0.9
	116nm,1.1s						
O22A	Kremmling	37.79	330	⇓P	P	18 29 59.3	-0.3
	baz=38						
J29A	Okreek	37.84	339	⇑P	P	18 29 59.0	-0.7
	baz=38,SNR=8.1						
K27A	Flueckinger Fa	37.94	337	⇓P	P	18 30 01.0	+0.4
	baz=38						
M24A	Cheyenne	38.00	333	⇑P	P	18 30 02.0	+0.7
	baz=38						
GLA	Glamis	38.14	314	⇓P	P	18 30 04.3	+1.9
	baz=38						
J28A	Allard Ranch,	38.18	338	⇓P	P	18 30 02.6	0.0
	baz=38						
Y12C	Blythe	38.31	315	⇑P	P	18 30 05.1	+1.4
	baz=38						
K26A	Motz Farm, Whi	38.31	336	⇓P	P	18 30 05.3	+1.5
	baz=38						
J27A	Elkhorn Farm,	38.32	337	⇓P	P	18 30 05.1	+1.3
	baz=39						
PDMCI	Parker Dam,Lak	38.35	316	⇓P	P	18 30 05.8	+1.7
	baz=38						
I29A	Vivian Onida	38.37	340	⇑P	P	18 30 03.8	-0.4
	baz=39,SNR=6.8						
U15A	North Rim	38.41	321	⇓P	P	18 30 06.2	+1.3
	baz=39						
K25A	Mack Ranch, Ha	38.52	335	⇓P	P	18 30 07.2	+1.7
	baz=39						
O20A	White River Ci	38.63	328	⇑P	P	18 30 08.7	+2.1
	baz=39						
W13A	Hualapai Mount	38.64	318	⇓P	P	18 30 08.6	+1.8
	baz=39						
I28A	Midland	38.66	339	⇓P	P	18 30 07.5	+0.9
	baz=39						
SWSC	Sam W. Stewart	38.78	313	⇑P	P	18 30 07.9	+0.3
	baz=39						
J26A	Sides Ranch, S	38.78	336	⇑P	P	18 30 08.2	+0.5
	baz=39,SNR=11						
BC3	Big Chuckawall	38.91	315	⇓P	P	18 30 10.2	+1.3
	baz=39						
L23A	Garrett	38.91	333	⇓P	P	18 30 08.5	-0.5
	baz=39						
IRM	Iron Mountain	38.97	316	⇓P	P	18 30 10.2	+0.9
	baz=39						

G30A	Faulkton	38.98	342	⇑P	P	18 30 09.2	-0.1
	baz=39						
I27A	Quinn	39.04	338	⇓P	P	18 30 10.6	+0.9
	baz=39						
N20A	Spence Gulch,	39.16	329	⇓P	P	18 30 11.5	+0.4
	baz=39						
H28A	Mission Ridge	39.19	340	⇓P	P	18 30 10.9	-0.2
	baz=39						
MONP	Monument Peak	39.20	313	⇓P	P	18 30 12.7	+1.2
	baz=39						
BELC	Belle Mtn. Jos	39.48	315	⇑P	P	18 30 15.9	+2.2
	baz=40						
H27A	Howes	39.53	339	⇓P	P	18 30 13.5	-0.4
	baz=40,SNR=5.9						
F30A	Leola	39.59	342	⇑P	P	18 30 13.7	-0.6
	baz=40						
PFO	Pinyon Flat Ob	39.59	314	⇓P	P	18 30 15.3	+0.6
	baz=40						
I25A	Rochford	39.64	336	⇓P	P	18 30 16.1	+1.1
	baz=40						
H26A	Fairpoint	39.77	338	⇓P	P	18 30 15.8	-0.2
	baz=40						
RSSD	Black Hills	39.84	336	P	P	18 30 16.3	-0.4
	13nm,1.5s						
MURC	Murrieta	40.12	313	⇑P	P	18 30 21.1	+2.1
	baz=40						
HEC	Hector,Ludlow	40.15	316	⇑P	P	18 30 20.8	+1.6
	baz=40						
E30A	Jud	40.16	343	⇑P	P	18 30 18.2	-0.8
	baz=40,SNR=7.6						
TUQ	Turquoise Moun	40.20	317	⇓P	P	18 30 20.7	+1.0
	baz=40						
H24A	Dirks Ranch, A	40.57	336	⇑P	P	18 30 22.7	+0.1
	baz=41						
D30A	Buchanan	40.66	344	⇓P	P	18 30 22.3	-0.9
	baz=41,SNR=8.7						
GSC	Goldstone	40.73	316	eP	P	18 30 25.7	+1.7
	2.0nm,0.5s						
D29A	Pettibone, Tap	40.86	343	⇑P	P	18 30 24.2	-0.6
	baz=41						
CIS	Catalina Islan	40.90	312	⇓P	P	18 30 26.0	+0.7
	baz=41						
I21A	Big Trails, Te	40.97	333	⇓P	P	18 30 26.1	+0.1
	baz=41						
J20A	Shoshoni	40.98	332	⇑P	P	18 30 25.8	-0.3
	baz=41						
C30A	Mose, Pekin	41.13	344	⇑P	P	18 30 27.2	+0.2
	baz=41						
PDAR	Pinedale Array	41.24	330	P	P	18 30 27.3	-1.0
	1.2nm,0.9s,baz=133,slow=11,SNR=6.7						
PDAR				PcP	PcP	18 32 25.7	-1.4
	0.9nm,0.9s,baz=173,slow=2.3,SNR=4.6						
D28A	Regan	41.27	342	⇑P	P	18 30 28.1	-0.1
	baz=42						
EDW2	Edwards Air Fo	41.34	315	⇑P	P	18 30 26.6	-2.4
	baz=42,SNR=5.7						
J19A	Crowheart	41.37	331	⇓P	P	18 30 28.9	-0.3
	baz=42						
I20A	Worland	41.46	332	⇓P	P	18 30 30.2	+0.3
	baz=42						
R11A	Troy Canyon, C	41.66	320	⇑P	P	18 30 33.4	+1.7
	baz=42						
F23A	Volborg	41.71	336	⇑P	P	18 30 32.8	+0.9
	baz=42						
D26A	Manning	41.73	340	⇓P	P	18 30 32.1	0.0
	baz=42						
B30A	Myrvik Farm, E	41.78	345	⇑P	P	18 30 32.2	-0.2
	baz=42						
H03N2	Juan Fernandez	41.97	175	T	T	19 14 55.9	
	baz=354,slow=75,SNR=26						
H03N1	Juan Fernandez	41.98	175	T	T	19 14 55.4	
	baz=354,slow=75,SNR=41						
H03N3	Juan Fernandez	41.99	175	T	T	19 14 55.2	
	baz=354,slow=75,SNR=39						
C27A	Sayler Ranch,	42.03	341	⇑P	P	18 30 34.7	+0.3
	baz=42						
B29A	Wagenman Farm,	42.07	344	⇑P	P	18 30 34.1	-0.6
	baz=42,SNR=10						
A30A	Hoffart Farm,	42.22	345	⇓P	P	18 30 35.7	-0.3
	baz=42						
C26A	Wahner Farm, P	42.32	341	⇑P	P	18 30 36.6	-0.2
	baz=43						
B28A	Dugan Ranch, T	42.34	343	⇑P	P	18 30 36.9	0.0
	baz=43						
A29A	Manning Farm,	42.45	344	⇑P	P	18 30 37.2	-0.6
	baz=43,SNR=5.6						
D24A	Glendive	42.47	338	⇑P	P	18 30 38.2	+0.2
	baz=43						
G20A	Bridger	42.48	334	⇓P	P	18 30 37.9	-0.5
	baz=43						
E22A	Miles City	42.52	337	⇑P	P	18 30 38.3	-0.1
	baz=43						
I17A	Pilgrim Ck.	42.59	330	⇓P	P	18 30 39.5	+0.2
	baz=43						
VES	Vestal, Richgr	42.60	315	⇓P	P	18 30 41.2	+2.0
	baz=43,SNR=6.6						
A28A	Rude Farm, Bot	42.73	343	⇓P	P	18 30 40.4	+0.4
	baz=43						
D23A	Lindsay	42.84	338	⇓P	P	18 30 41.2	+0.1
	baz=43,SNR=7.4						
ULM	Lac du Bonnet	42.89	348	P	P	18 30 40.1	-1.2
	19nm,1.1s,baz=156,slow=8.7,SNR=14						
F20A	Billings	42.91	334	⇓P	P	18 30 41.8	+0.1
	baz=43						
B25A	Knox Farm, Ray	43.05	340	⇓P	P	18 30 43.2	+0.4
	baz=43						
D22A	Cohagen	43.19	337	⇑P	P	18 30 43.7	-0.2
	baz=43,SNR=5.2						
A26A	Wade Farm, Ken	43.24	342	⇓P	P	18 30 44.3	+0.1
	baz=44						
F19A	Roth Farm, Mol	43.30	334	⇑P	P	18 30 44.8	-0.1
	baz=44						
C23A	Lambert	43.36	338	⇓P	P	18 30 45.4	+0.2
	baz=44,SNR=8.7						
D21A	La Casta Ranch	43.44	336	⇓P	P	18 30 46.6	+0.6
	baz=44						
NVAR	Mina Array Bea	43.45	319	P	P	18 30 47.3	+0.9
	1.5nm,0.7s,baz=133,slow=7.5,SNR=11						
NVAR				LR	LR	18 50 12.2	
	comp=Z,103nm,19.6s,baz=220,slow=38						
E20A	Meyer Farm, Mu	43.46	335	⇑P	P	18 30 46.6	+0.5
	baz=44						
C22A	Vida	43.57	338	⇑P	P	18 30 47.8	+0.8
	baz=44						
DGMT	Dagmar	43.58	340	⇑P	P	18 30 47.1	+0.1
	baz=44,SNR=5.6						
E19A	Rath Farm, Rou	43.70	334	⇑P	P	18 30 47.8	-0.3
	baz=44						
B23A	Brockton	43.85	339	⇓P	P	18 30 49.6	+0.4
	baz=44,SNR=5.3						
A24A	Westby	43.90	340	⇑P	P	18 30 49.9	+0.4
	baz=44,SNR=5.3						
D20A	Manuel Ranch,	43.93	335	⇓P	P	18 30 49.8	-0.1
	baz=44						
B22A	Reddig Ranch S	44.08	338	⇓P	P	18 30 51.5	+0.5
	baz=44						
A23A	Redstone	44.23	339	⇓P	P	18 30 52.8	+0.6
	baz=44						
HLID	Hailey	44.31	327	eP	P	18 30 53.0	-0.1
	1.6nm,0.9s						
HLID	Hailey	44.31	327	⇓P	P	18 30 53.2	+0.1
	baz=44						
CMB	Columbia Colle	44.62	317	P	P	18 30 57.2	+1.7
A22A	Carney Farms,	44.62	339	⇓P	P	18 30 55.9	+0.5
	baz=45,SNR=7.5						
C19A	Slack Wire Ran	44.82	335	⇓P	P	18 30 57.4	+0.4
	baz=45,SNR=5.9						
B20A	Solberg Farm,	44.96	337	⇓P	P	18 30 58.7	+0.6
	baz=45,SNR=9.0						
A20A	Cobblestone Ra	45.28	337	⇓P	P	18 31 00.9	+0.2
	baz=46,SNR=6.8						
EGMT	Eagleton	45.34	335	⇑P	P	18 31 01.2	+0.1
	baz=46						
A19A	Klindworth Far	45.64	336	⇓P	P	18 31 03.8	+0.3
	baz=46						
MSO	Missoula	46.34	331	⇑P	P	18 31 09.1	0.0
	baz=46						
WALA	Waterton Lakes	47.93	333	eP	P	18 31 20.9	-0.6
	0.2nm,0.9s						
J04D	Umpqua Nationa	48.52	322	⇓P	P	18 31 26.0	-0.3
	baz=49						
NEW	Newport	48.88	330	eP	P	18 31 28.6	-0.2
NEW	Newport	48.88	330	⇑P	P	18 31 28.9	+0.1
	baz=49						
I04A	Tendick Farm,	49.01	323	⇓P	P	18 31 30.0	+0.2
	baz=49						
G05D	Wamic, OR	49.20	325	⇓P	P	18 31 31.8	+0.5
	baz=49						
TRQA	Tornquist	50.39	158	P	P	18 31 38.0	-2.4
PLCA	Paso Flores	50.41	168	P	P	18 31 38.0	-2.4
	5.6nm,0.9s						
FCC	Fort Churchill	50.77	353	eP	P	18 31 42.0	-0.8
	0.9nm,1.1s						
EDM	Edmonton	50.81	337	eP	P	18 31 41.7	-1.7
YKA	Yellowknife Ar	58.50	343	P	P	18 32 37.5	-1.3
	5.4nm,1.0s,baz=136,slow=7.2,SNR=47						
DLBC	Dease Lake	61.25	334	eP	P	18 32 57.9	-0.1
INK	Inuvik	68.19	342	P	P	18 33 42.8	-0.1
	18nm,1.1s,baz=138,slow=5.6,SNR=22						
INK	Inuvik	68.19	342	eP	P	18 33 42.9	-0.1
	29nm,1.3s						
SUMG	Summit	69.29	13	eP	P	18 33 48.9	-1.4
	13nm,1.1s						
DOT	Dot Lake	69.73	335	eP	P	18 33 53.1	+0.3
	20nm,1.0s						
ILAR	Eielson Array	71.29	336	P	P	18 34 01.8	-0.4
	6.5nm,1.0s,baz=111,slow=4.3,SNR=34						
MCK	McKinley	71.79	335	eP	P	18 34 05.4	+0.1
	13nm,1.1s						
COLD	Coldfoot	73.38	338	eP	P	18 34 14.4	-0.2
	12nm,1.2s						
ESDC	Sonseca Array	76.18	51	P	P	18 34 30.9	-0.6
	1.5nm,0.7s,baz=266,slow=5.4,SNR=4.7						
DBIC	Dimbokro	77.39	85	P	P	18 34 36.6	-2.1
	9.7nm,1.3s						
TNA	Tin City	80.12	335	eP	P	18 34 52.9	+0.2
	20nm,1.6s						
TORD	Torodi Ar. Bea	83.00	78	P	P	18 35 07.0	-1.9
	3.4nm,0.3s,baz=275,slow=4.6,SNR=6.2						
NB2	NORSAR Subarra	84.62	29	P	P	18 35 15.4	-1.0
	comp=Z,1.0nm,0.8s,baz=278,slow=5.1						
NOA	NORSAR Array B	84.62	29	P	P	18 35 15.4	-1.0
	comp=Z,2.2nm,0.9s,baz=276,slow=4.9,SNR=3.8						
ARCES	ARCESS Array B	88.39	19	P	P	18 35 33.1	-1.5
	comp=Z,3.9nm,0.9s,baz=284,slow=3.6,SNR=5.8						
VNA3	Neumayer Olymp	92.79	162	P	P	18 35 50.0	-5.1
VNA2	Neumayer--Watz	93.41	161	P	P	18 35 44.5	-13
	baz=15,slow=15						
SNAA	Sanae	95.02	162	P	P	18 35 55.3	-10
WMQ	Urumqi	127.17	8	ePKP	PKPdf	18 41 44.5	-3.3
WMQ				PP	PP	18 43 48.1	+2.8
WMQ				PKS	PKSdf	18 45 19.7	-4.7
WMQ				LR	LR		
	comp=Z,56nm,18.8s						
WMQ				LR	LR		
	comp=Z,56nm,22.2s						
WMQ				LR	LR		
	comp=Z,84nm,19.2s						
DL2	Dalian	127.48	336	ePKP	PKPdf	18 41 55.7	+7.3
KSH	Kashi	128.34	21	ePKP	PKPdf	18 41 48.2	-2.0
KSH				esPKP		18 42 02.9	
KSH				ePKS	PKSdf	18 45 23.9	-3.0
KSH				AMB	AMB		
	comp=Z,120nm,5.6s						
KSH				LR	LR		
	comp=Z,120nm,3.8s						
HHC	Hu-ho-hao-te	129.00	346	ePKP	PKPdf	18 41 48.5	-2.9
HHC				PP	PP	18 44 00.3	+2.8
HHC				PKS	PKSdf	18 45 23.6	-4.5
HHC				AMB	AMB		
	comp=Z,120nm,5.2s						
HHC				LR	LR		
	comp=Z,200nm,19.6s						
HHC				LR	LR		
	comp=Z,360nm,18.6s						
HHC				LR	LR		
	comp=Z,97nm,19.6s						
LZH	Lanzhou	135.10	352	ePKP	PKPdf	18 42 00.3	-2.9
LZH				sPKP		18 42 11.8	
LZH				LR	LR		
	comp=Z,140nm,18.0s						
LZH				LR	LR		
	comp=Z,140nm,18.0s						
LZH				LR	LR		
	comp=Z,180nm,20.2s						
CD2	Chengdu	140.19	351	PKP	PKPdf	18 42 10.0	-2.6
CD2				sPKP		18 42 24.4	
CD2				PP	PP	18 45 11.2	+2.9
CD2				PKS	PKSdf	18 45 44.5	-4.2
CD2				SKS	SKSdf	18 49 16.0	-7.0
CD2				SKKS	SKKSac	18 51 58.4	-5.3
CD2				AMB	AMB		
	comp=Z,120nm,5.6s						
ASAR	Alice Springs	141.62	243	PKhKP	PKPpre	18 42 07.3	
	comp=Z,0.4nm,0.9s,baz=103,slow=3.9,SNR=4.3						
WRA	Warramunga Arr	142.15	249	PKhKP	PKPpre	18 42 08.7	
	comp=Z,0.7nm,0.9s,baz=104,slow=3.6,SNR=4.3						
KMI	Kunming	146.03	351	PKPbc	PKPdf	18 42 22.1	-1.1
CMAR	Chiang Mai Arr	153.06	356	PKP	PKPdf	18 42 32.1	-2.1
	comp=Z,0.5nm,0.6s,baz=322,slow=3.0,SNR=5.6						

IDC 09 18:30:53.4±2.0,1.39N×126.56E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/34,mbtmp3.3/3,Error ellipse: s-maj=173.9km s-min=25.2km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.53	161	P	P	18 35 54.1	-1.0
	0.3nm,0.4s,baz=339,slow=11,SNR=9.2						
ASAR	Alice Springs	25.91	164	P	P	18 36 28.1	+0.8
	0.2nm,0.3s,baz=346,slow=11,SNR=7.3						
MKAR	Makanchi Array	59.38	326	P	P	18 40 57.5	-0.1
	0.2nm,0.3s,baz=120,slow=6.5,SNR=6.9						

IDC 09 18:31:47.3±3.0,18.71S×177.38W,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.7/28,mbtmp3.9/4,MS2.6/1,Ms1 2.6/1, ms1mx2.4/28,Error ellipse: s-maj=165.0km s-min=27.6km az=150.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.19	49	LR	LR	18 35 25.8	
	comp=Z,46nm,19.7s,baz=173,slow=30						
WRA	Warramunga Arr	45.45	260	P	P	18 40 08.5	0.0
	1.1nm,0.3s,baz=96,slow=7.6,SNR=53						
ASAR	Alice Springs	45.52	255	P	P	18 40 08.8	-0.3
	3.1nm,0.7s,baz=89,slow=7.4,SNR=58						
ILAR	Eielson Array	86.45	13	P	P	18 44 31.6	+0.3
	0.3nm,0.7s,baz=207,slow=5.8,SNR=3.5						
PDAR	Pinedale Array	87.26	43	P	P	18 44 35.9	-0.3
	0.1nm,0.6s,baz=284,slow=5.3,SNR=2.5						

IGQ 09 18:32:15±0.6,2.24S×77.17W,h4km±86km,Mb4.7, 10C-12D,Error ellipse: s-maj=4.6km s-min=2.3km az=12.0,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	Macas	1.02	269	⇑S	Sb	18 32 49.0	-0.5
MACE	Macas	1.02	269	⇑P	Pn	18 32 36.0	-0.4
BPAT	Tungurahua Vol	1.46	300	⇓S	Sg	18 33 03.7	+0.7
BPAT	Tungurahua Vol	1.46	300	⇓P	Pn	18 32 42.4	-0.3
PAT1	Patacocha	1.46	300	⇓P	Pn	18 32 42.2	-0.6
ULBA	Ulba	1.46	303	⇓P	Pn	18 32 42.1	-0.5
RETU	Refugio	1.50	302	P	Pb	18 32 43.8	-0.3
RUN5	Runtun	1.50	303	P	Pn	18 32 42.4	-0.6
BMAS	Trigal station	1.50	299	⇓P	Pb	18 32 43.6	-0.1
BMAS	Trigal station	1.50	299	⇓S	Sg	18 33 05.0	+0.9
JUI6	Juive	1.53	302	⇑P	Pb	18 32 43.9	-0.4
BBIL	Ulba Tungurahu	1.53	301	⇓P	Pg	18 32 44.9	+0.1
BBIL	Ulba Tungurahu	1.53	301	⇓S	Sg	18 33 05.0	-0.1
RIOE	Riobamba	1.54	288	⇓P	Pg	18 32 44.9	-0.1
RIOE	Riobamba	1.54	288	⇓S	Sn	18 33 04.2	-0.2
IGUA	Igualata	1.65	297	P	Pb	18 32 46.6	-0.1
PISA	Pisayambo	1.69	314	⇑P	Pb	18 32 46.8	-0.6
TAMB	Tambo	1.95	322	⇑P	Pb	18 32 51.0	-0.8
COV1	Cotopaxi Volc	1.96	323	P	Pb	18 32 52.5	+0.4
BMOR	Cotopaxi Volca	1.98	319	P	Pb	18 32 52.6	+0.3
MOV1	Cotopaxi Vol s	1.98	320	P	Pb	18 32 52.5	+0.1
BTAM	Cotopaxi Volca	1.98	322	⇑P	Pb	18 32 52.3	0.0
BVC2	Cotopaxi Volca	2.00	322	⇑P	Pb	18 32 52.3	-0.4
BVC2	Cotopaxi Volca	2.00	322	⇑S	Sg	18 33 19.8	-1.0
VC1	Cotopaxi 1	2.01	322	P	Pb	18 32 52.6	-0.2
BREF	Cotopaxi Volca	2.01	321	P	Pb	18 32 53.6	+0.7
ANTI	Antisana	2.04	331	⇓P	Pb	18 32 50.3	-0.5
CAMI	Rancho Maria	2.05	319	P	Pb	18 32 52.8	-0.6
NAS2	Nasa	2.05	321	P	Pb	18 32 53.3	-0.2
PITA	Cotopaxi Volc	2.09	323	P	Pb	18 32 52.9	-1.2
PAST	Pastocalle	2.13	316	⇑P	Pg	18 32 55.8	-0.7
LAV4	Lava4-Reventad	2.19	348	P	Pb	18 32 55.0	-0.5
CHAR	Charly	2.20	347	P	Pn	18 32 54.1	+1.3
CONE	Cono NE Rev Vo	2.21	348	P	Pn	18 32 55.9	-0.1
CAYR	Refugio Cayamb	2.39	340	⇓P	Pb	18 32 59.7	+0.2
ANGU	Angureal	2.42	340	P	Pb	18 32 59.4	-0.6
CAYA	Cayambe	2.44	340	⇑P	Pb	18 32 59.3	-0.9
JUA2	San Juan 2	2.47	325	P	Pb	18 33 01.2	+0.5
GGP	Refugio Guagua	2.50	325	P	Pb	18 33 01.6	+0.4
TERV	Terraza Guagua	2.50	325	P	Pb	18 33 01.7	+0.4
PINO	Pino	2.52	325	P	Pb	18 33 02.6	+1.0
OTAV	Otavalo	2.78	333	P	Pb	18 33 06.4	+0.7
GOLV	Golondrinas	3.13	321	P	Pg	18 33 13.8	-1.3
PECV	Mancha de Ca P	3.22	297	P	Pg	18 33 15.1	-1.8
MAG1	Magdalena	3.38	310	P	Pb	18 33 16.3	+0.8
ISPT	Isla de la Pla	4.02	284	P	Pn	18 33 19.9	+2.6

IDC 09 18:44:12.5±13.0,8.06N×127.77E,h0km,mb3.5/4, mb1 3.5/4,mb1mx3.3/38,mbtmp3.5/4,Error ellipse: s-maj=278.7km s-min=54.2km az=174.0
ISCJB 09 18:44:44.9±0.8,11.24N±0.03×124.64E±0.04,h15km±6km, mb3.4/3,Error ellipse: s-maj=7.0km s-min=5.8km az=14.0
MAN 09 18:44:44,11.24N×124.64E,h12km,mb4.8,ML3.7,MS3.7
ISC 09 18:44:44.6±1.2,11.25N±0.04×124.63E±0.04,h14km±9km, n14,σ1§48/19,mb3.2/3,1C-2D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.20	185	eP	Pb	18 44 49.0	-1.0
OCLP				eS	Sg	18 44 54.0	+1.9
PLP	Palo	0.36	103⇓	eP	Pb	18 44 52.2	-0.5
PLP				eS	Sb	18 44 58.1	-0.1
LLP	Lapu-Lapu	1.13	215	eP	Pb	18 45 04.5	-1.4
LLP				eS	Sn	18 45 21.5	+0.2
MSLP	Maasin	1.13	168	eP	Pg	18 45 05.6	-0.8
MSLP				eS	Sb	18 45 17.3	-3.2
CNP	Catarman	1.26	2	eP	Pn	18 45 06.8	-0.9
CNP				eS	Sg	18 45 25.3	0.0
RCP	Roxas	1.87	280⇑	eP	Pn	18 45 15.8	-0.5
GUIM	Jordan	2.09	253	eP	Pn	18 45 19.0	-0.3
GUIM				eS	Sb	18 45 47.0	-1.3
SNPH	Sibulan	2.33	216	iS	Sb	18 45 56.1	+0.8
PVCP	Virac	2.38	349⇓	eP	Pn	18 45 23.2	0.0
BUKP	Musuan	3.37	173	eP	Pn	18 45 36.5	-0.4
PAGZ	Pagadian	3.59	200	eP	Pn	18 45 41.8	+1.9
SONM	Songino Array	39.56	341	P	P	18 52 18.5	+3.1
	0.4nm,0.7s,baz=155,slow=7.9,SNR=3.6						
MKAR	Makanchi Array	50.28	323	P	P	18 53 43.3	+2.7
	0.1nm,0.6s,baz=111,slow=7.9,SNR=2.4						
ZALV	Zalesovo Beam	53.00	332	P	P	18 54 01.7	+0.8
	0.6nm,0.3s,baz=120,slow=5.2,SNR=4.2						

ATH 09 18:44:40.5,35.36N×28.01E,h6km,MD3.5/6
ISK 09 18:44:42.2,35.29N×27.78E,h11km,ML3.2
CSEM 09 18:44:43.6±0.5,35.29N×27.77E,h10km,MD3.0,Error ellipse: s-maj=13.7km s-min=5.7km az=164.0
ISCJB 09 18:44:46.1±0.9,35.41N±0.08×27.82E±0.05,h30km,Error ellipse: s-maj=12.2km s-min=5.5km az=163.3
DDA 09 18:44:56.2,36.00N×28.29E,h5km,MD3.0
ISC 09 18:44:45.7±1.2,35.32N±0.06×27.87E±0.04,h30km,n61, σ1§19/62,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	1.36	262	ePG	Pn	18 45 07.9	-0.9
ZKR				eSB	Sb	18 45 29.2	+1.5
ZKR	Zakros	1.36	262	ePg	Pn	18 45 07.9	-0.9
ZKR				eSb	Sb	18 45 29.2	+1.5
DALY	Dalyan (Mu¯la	1.62	23	ePN	Pn	18 45 12.7	+0.4
DALY	Dalyan (Mu¯la	1.62	23	ePn	Pn	18 45 12.7	+0.4
AKAS	Kas	1.68	57	iP	Pb	18 45 14.0	-2.1
AKAS	Kas	1.68	57	iP	Pb	18 45 14.0	-2.1
AKAS				iS	Sb	18 45 39.7	+2.7
BDRM	Kayabasi	1.77	349	iP	Pn	18 45 15.0	+0.6
BDRM	Kayabasi	1.77	349	iP	Pn	18 45 15.0	+0.6
BDRM				iS	Sb	18 45 43.4	+3.9
BODT	Bodrum	1.80	346	ePN	Pn	18 45 14.6	-0.1
BODT	Bodrum	1.80	346	ePn	Pn	18 45 14.6	-0.1
YER	Yerkesik	1.84	10	ePN	Pn	18 45 15.9	+0.5
YER	Yerkesik	1.84	10	ePn	Pn	18 45 15.9	+0.5
LAST	Lasithi	1.96	266	ePN	Pn	18 45 18.4	+1.4
LAST	Lasithi	1.96	266	ePn	Pn	18 45 18.4	+1.4
ELL	Elmali	2.19	49	ePN	Pn	18 45 20.9	+0.8
ELL	Elmali	2.19	49	ePn	Pn	18 45 20.9	+0.8
SANT	Santorini	2.22	299	ePN	Pn	18 45 19.6	-1.0
SANT	Santorini	2.22	299	ePN	Pn	18 45 20.7	+0.2
SANT	Santorini	2.22	299	ePn	Pn	18 45 20.7	+0.2
GOLH	Golhisar	2.35	35	iP	Pb	18 45 24.5	-3.0
GOLH	Golhisar	2.35	35	iP	Pb	18 45 24.5	-3.0
GOLH				iS	Sb	18 46 04.7	+8.5
SMG	Samos	2.52	341	ePN	Pn	18 45 25.0	+0.3
SMG	Samos	2.52	341	ePn	Pn	18 45 25.0	+0.3
APE	Apeiranthos	2.57	313	ePN	Pn	18 45 24.4	-0.9
APE	Apeiranthos	2.57	313	ePB	Pn	18 45 25.1	-0.3
APE	Apeiranthos	2.57	313	ePn	Pn	18 45 24.5	-0.9
APE	Apeiranthos	2.57	313	ePb	Pn	18 45 25.1	-0.3
KORT	Korkueli	2.62	49	eP	Pn	18 45 26.5	+0.4
KORT	Korkueli	2.62	49	eP	Pn	18 45 26.5	+0.4
KORT				iS	Sb	18 46 04.7	+9.9
AYDB	Zeytinkoy-Aydi	2.62	0	ePN	Pn	18 45 26.1	0.0
AYDB	Zeytinkoy-Aydi	2.62	0	ePn	Pn	18 45 26.1	0.0
VAM	Vamos	3.00	273	ePB	Pn	18 45 33.1	+1.9
VAM	Vamos	3.00	273	ePb	Pn	18 45 33.1	+1.9
BCK	Bucak	3.06	45	ePN	Pn	18 45 32.7	+0.5
BCK	Bucak	3.06	45	ePn	Pn	18 45 32.7	+0.5
BLCB	Balcova	3.13	348	ePN	Pn	18 45 33.3	+0.3
BLCB	Balcova	3.13	348	ePn	Pn	18 45 33.3	+0.3
KULA	Kula-Manisa	3.25	11	ePN	Pn	18 45 34.9	+0.1
KULA	Kula-Manisa	3.25	11	ePn	Pn	18 45 34.9	+0.1
KHL	Karahalli	3.28	23	ePN	Pn	18 45 35.4	+0.3
KHL	Karahalli	3.28	23	ePn	Pn	18 45 35.4	+0.3
CHOS	Chios island	3.39	335	ePN	Pn	18 45 36.3	-0.3
CHOS	Chios island	3.39	335	ePn	Pn	18 45 36.3	-0.3
AKS	Akhisar	3.55	359	ePN	Pn	18 45 39.3	+0.4
AKS	Akhisar	3.55	359	ePn	Pn	18 45 39.3	+0.4
ALT	Altintas	4.14	25	ePN	Pn	18 45 47.5	+0.5
ALT	Altintas	4.14	25	ePn	Pn	18 45 47.5	+0.5
SIGR	SIGRI	4.20	338	ePN	Pn	18 45 47.8	+0.1
SIGR	SIGRI	4.20	338	ePn	Pn	18 45 47.8	+0.1
TVSB	Tavsanli	4.31	17	ePN	Pn	18 45 50.2	+0.8
TVSB	Tavsanli	4.31	17	ePn	Pn	18 45 50.2	+0.8
KONT	Konya--Tatoy	4.46	53	ePN	Pn	18 45 52.4	+1.0
KONT	Konya--Tatoy	4.46	53	ePn	Pn	18 45 52.4	+1.0
KDHN	Kadinhani	4.67	46	iP	Pn	18 45 56.6	+2.3
KDHN	Kadinhani	4.67	46	iP	Pn	18 45 56.6	+2.3
GELI	Tayfur-Gelibol	5.19	348	ePN	Pn	18 46 02.3	+1.0
GELI	Tayfur-Gelibol	5.19	348	ePn	Pn	18 46 02.3	+1.0
ALN	Alexandroupoli	5.75	346	ePN	Pn	18 46 10.3	+1.3
ALN	Alexandroupoli	5.75	346	ePn	Pn	18 46 10.3	+1.3
AFSR	Af¯ar-Bala (A	5.84	44	ePN	Pn	18 46 12.7	+2.3
AFSR	Af¯ar-Bala (A	5.84	44	ePn	Pn	18 46 12.7	+2.3

IDC 09 18:47:58.0±1.0,35.34N×27.80E,h0km,mb3.5/8, mb1 3.5/12,mb1mx3.4/38,mbtmp3.4/12,ML3.2/4,Error ellipse: s-maj=20.7km s-min=16.8km az=172.0
ATH 09 18:47:59.2,35.18N×27.87E,h5km±4km,MD3.2/4
CSEM 09 18:48:01.5±0.2,35.33N×27.84E,h10km,ML3.3,Error ellipse: s-maj=5.1km s-min=2.7km az=169.0
ISK 09 18:48:02.5,35.33N×27.89E,h37km,ML3.5
THE 09 18:48:04.0,35.49N×27.69E,h1km±1km,ML3.3/3,Error ellipse: s-maj=4.0km s-min=1.0km az=141.0
DDA 09 18:48:13.8,36.07N×28.52E,h7km,MD3.2
ISC 09 18:48:00.3±1.2,35.27N±0.04×27.83E±0.02,h15km±8km, n127,σ1§46/156,mb3.5/9,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.61	297	P	Pg	18 48 12.2	-0.1
KARP				S	Sg	18 48 19.9	-0.6
KARP	Karpathos	0.61	297	ePG	Pg	18 48 12.2	-0.1
KARP				eSB	Sb	18 48 22.2	+1.0
KARP	Karpathos	0.61	297	P	Pg	18 48 12.2	-0.1
KARP				S	Sg	18 48 19.9	-0.6
KARP				eSb	Sb	18 48 22.2	+1.0
ARG	Arkhangelos	0.98	14	P	Pb	18 48 19.0	0.0
ARG				S	Sg	18 48 32.2	+0.1
ARG	Arkhangelos	0.98	14	ePB	Pn	18 48 19.4	-0.2

ARG eSB Sn 18 48 34.1 +0.9
ARG Arkhangelos 0.98 14 P Pb 18 48 19.0 0.0
ARG Arkhangelos 0.98 14 ePb Pn 18 48 19.4 -0.2
ARG S Sg 18 48 32.2 +0.1
ARG eSb Sn 18 48 34.1 +0.9
ZKR Zakros 1.33 264 ePB Pb 18 48 25.2 +0.2
ZKR Zakros 1.33 264 ePb Pb 18 48 25.2 +0.2
DALY Dalyan (Mu¯la 1.69 23 ePN Pn 18 48 29.8 +0.5
DALY Dalyan (Mu¯la 1.69 23 ePn Pn 18 48 29.8 +0.5
AKAS Kas 1.74 56 iP Pn 18 48 31.3 +1.1
AKAS iS Sg 18 48 56.4 +0.1
AKAS Kas 1.74 56 iP Pn 18 48 31.3 +1.1
AKAS iS Sg 18 48 56.4 +0.1
NPS Neapolis 1.81 270 P Pb 18 48 33.7 +0.5
NPS S Sb 18 48 55.8 0.0
NPS Neapolis 1.81 270 P Pb 18 48 33.7 +0.5
NPS S Sb 18 48 55.8 0.0
BDRM Kayabasi 1.82 350 iP Pn 18 48 32.1 +0.9
BDRM iS Sg 18 48 57.7 -1.3
BDRM Kayabasi 1.82 350 iP Pn 18 48 32.1 +0.9
BDRM iS Sg 18 48 57.7 -1.3
BODT Bodrum 1.84 347 ePN Pn 18 48 31.7 +0.2
BODT Bodrum 1.84 347 ePn Pn 18 48 31.7 +0.2
YER Yerkesik 1.90 11 ePN Pn 18 48 33.2 +0.9
YER Yerkesik 1.90 11 ePn Pn 18 48 33.2 +0.9
LAST Lasithi 1.92 268 P Pb 18 48 35.3 +0.1
LAST Lasithi 1.92 268 ePN Pn 18 48 35.5 +0.3
LAST Lasithi 1.92 268 P Pb 18 48 35.3 +0.1
SANT Santorini 2.22 300 P Pn 18 48 38.2 +1.6
SANT S Sn 18 49 04.4 +0.6
SANT Santorini 2.22 300 ePN Pn 18 48 38.2 +1.6
SANT Santorini 2.22 300 P Pn 18 48 38.2 +1.6
SANT S Sn 18 49 04.4 +0.6
ELL Elmali 2.24 48 ePN Pn 18 48 37.5 +0.4
ELL Elmali 2.24 48 ePn Pn 18 48 37.5 +0.4
IDI Anoyia 2.40 271 Pn Pb 18 48 41.7 -1.7
4.3nm,0.3s,baz=90,slow=15,SNR=15
IDI Sn Sb 18 49 12.9 +0.1
8.2nm,0.3s,baz=11,slow=22,SNR=6.5
GOLH Golhisar 2.42 35 iP Pn 18 48 41.5 +2.0
GOLH iS Sb 18 49 13.5 +0.3
GOLH Golhisar 2.42 35 iP Pn 18 48 41.5 +2.0
GOLH iS Sb 18 49 13.5 +0.3
SIVA Sivas 2.48 265 P Pn 18 48 42.7 +2.4
SIVA Sivas 2.48 265 P Pn 18 48 42.7 +2.4
SMG Samos 2.56 342 P Pn 18 48 42.3 +0.9
SMG S Sn 18 49 11.2 -1.2
SMG Samos 2.56 342 P Pn 18 48 42.3 +0.9
SMG S Sn 18 49 11.2 -1.2
APE Apeiranthos 2.58 315 P Pn 18 48 42.0 +0.3
APE S Sn 18 49 12.0 -0.9
APE Apeiranthos 2.58 315 ePN Pn 18 48 43.0 +1.3
APE Apeiranthos 2.58 315 P Pn 18 48 42.0 +0.3
APE Apeiranthos 2.58 315 ePn Pn 18 48 43.0 +1.3
APE S Sn 18 49 12.0 -0.9
AYDB Zeytinkoy-Aydi 2.67 1 ePN Pn 18 48 43.6 +0.6
AYDB Zeytinkoy-Aydi 2.67 1 ePn Pn 18 48 43.6 +0.6
KORT Korkueli 2.68 49 iP Pn 18 48 45.2 +2.1
KORT Korkueli 2.68 49 iP Pn 18 48 45.2 +2.1
KORT iS Sb 18 49 21.9 +1.0
ANTB Antalya 2.81 54 ePN Pn 18 48 45.8 +1.0
ANTB Antalya 2.81 54 ePn Pn 18 48 45.8 +1.0
GVD Gavdhos 3.10 263 ePN Pn 18 48 51.8 +3.1
GVD Gavdhos 3.10 263 ePn Pn 18 48 51.8 +3.1
BCK Bucak 3.12 45 ePN Pn 18 48 50.0 +0.9
BCK Bucak 3.12 45 ePn Pn 18 48 50.1 +0.9
BLCB Balcova 3.17 349 ePN Pn 18 48 50.6 +0.8
BLCB Balcova 3.17 349 ePn Pn 18 48 50.6 +0.8
MANT Manisa 3.27 10 iP Pn 18 48 51.3 0.0
MANT Manisa 3.27 10 iP Pn 18 48 51.3 0.0
MANT iS Sb 18 49 40.1 +2.1
KULA Kula-Manisa 3.31 11 ePN Pn 18 48 52.0 +0.3
KULA Kula-Manisa 3.31 11 ePn Pn 18 48 52.0 +0.3
KHL Karahalli 3.34 24 ePN Pn 18 48 52.2 0.0
KHL Karahalli 3.34 24 ePn Pn 18 48 52.2 0.0
ISP Isparta 3.35 40 ePN Pn 18 48 52.6 +0.3
ISP Isparta 3.35 40 ePn Pn 18 48 52.6 +0.3
CHOS Chios island 3.42 336 P Pn 18 48 54.4 +1.1
CHOS Chios island 3.42 336 ePN Pn 18 48 54.2 +1.0
CHOS Chios island 3.42 336 P Pn 18 48 54.4 +1.1
AKS Akhisar 3.60 360 ePN Pn 18 48 57.3 +1.6
AKS Akhisar 3.60 360 ePn Pn 18 48 57.3 +1.6
ANKY Antikythira Is 3.74 281 P Pn 18 49 00.2 +2.7
ANKY S Sn 18 49 42.9 +1.6
ANKY Antikythira Is 3.74 281 P Pn 18 49 00.2 +2.7
ANKY S Sn 18 49 42.9 +1.6
KYTH Kithira 4.02 286 P Pn 18 49 02.8 +1.3
KYTH Kithira 4.02 286 P Pn 18 49 02.8 +1.3
GDZ Gediz 4.04 19 iP Pn 18 49 02.4 +0.6
GDZ Gediz 4.04 19 iP Pn 18 49 02.4 +0.6
LEF Lefka 4.15 91 ePN Pn 18 49 04.3 +1.1
LEF Lefka 4.15 91 ePn Pn 18 49 04.3 +1.1
ALT Altintas 4.20 25 ePN Pn 18 49 05.0 +1.0
ALT Altintas 4.20 25 ePn Pn 18 49 05.0 +1.0
VLI Veliai 4.22 291 P Pn 18 49 05.3 +1.1
VLI Veliai 4.22 291 P Pn 18 49 05.3 +1.1
SIGR SIGRI 4.24 339 ePN Pn 18 49 05.9 +1.5
SIGR SIGRI 4.24 339 ePn Pn 18 49 05.9 +1.5
DID Didima 4.32 302 P Pn 18 49 07.9 +2.3
DID Didima 4.32 302 P Pn 18 49 07.9 +2.3
TVSB Tavsanli 4.37 17 ePN Pn 18 49 06.9 +0.5
TVSB Tavsanli 4.37 17 ePn Pn 18 49 06.9 +0.5
KONT Konya--Tatoy 4.52 52 ePN Pn 18 49 09.4 +1.1
KONT Konya--Tatoy 4.52 52 ePn Pn 18 49 09.5 +1.1
CSS Prodhromos 4.52 92 ePN Pn 18 49 09.5 +1.1
CSS Prodhromos 4.52 92 ePn Pn 18 49 09.5 +1.1
LFK Lefkose 4.67 88 ePN Pn 18 49 12.0 +1.6
LFK Lefkose 4.67 88 ePn Pn 18 49 12.0 +1.6
LADK Ladik-KONYA 4.67 50 ePN Pn 18 49 11.1 +0.6
LADK Ladik-KONYA 4.67 50 ePn Pn 18 49 11.1 +0.6
KDHN Kadinhani 4.73 45 iP Pn 18 49 13.4 +2.1
KDHN Kadinhani 4.73 45 iP Pn 18 49 13.4 +2.1
KDHN iS Sn 18 50 11.4 +5.5
EDC Edincik 5.07 0 ePN Pn 18 49 17.6 +1.8
EDC Edincik 5.07 0 ePn Pn 18 49 17.7 +1.8
GELI Tayfur-Gelibol 5.23 349 ePN Pn 18 49 20.3 +2.3
GELI Tayfur-Gelibol 5.23 349 ePn Pn 18 49 20.3 +2.3
SULT Sultanhani-AKS 5.43 56 ePN Pn 18 49 22.9 +2.1
SULT Sultanhani-AKS 5.43 56 ePn Pn 18 49 22.9 +2.1
ENEZ Enez 5.62 347 ePN Pn 18 49 25.4 +2.1
ENEZ Enez 5.62 347 ePn Pn 18 49 25.5 +2.1
ALN Alexandroupoli 5.79 347 ePN Pn 18 49 28.1 +2.4
BRTR Keskin Array B 6.42 44 Pn Pn 18 49 35.5 +1.1
0.2nm,0.3s,baz=130,slow=11,SNR=6.1
BRTR Sn Sn 18 50 48.1 +0.6
0.1nm,0.3s,baz=211,slow=22,SNR=4.1
EDRB Edirne 6.62 353 ePN Pn 18 49 39.5 +2.3
EDRB Edirne 6.62 353 ePn Pn 18 49 39.5 +2.3
MMAI Mount Meron Ar 6.67 108 Pn Pn 18 49 36.5 -1.4
2.4nm,0.3s,baz=307,slow=12,SNR=8.2
MMAI Sn Sn 18 50 51.7 -2.0
2.0nm,0.3s,baz=301,slow=23,SNR=4.3
KOZT Kozan 6.82 69 ePN Pn 18 49 41.5 +1.6
KOZT Kozan 6.82 69 ePn Pn 18 49 41.5 +1.6
BIDA Albida 6.96 90 eP Sn 18 50 56.5 -4.5
BRBR Barbar 6.97 103 eP Sn 18 50 59.8 -1.5
WRDH Warideh 7.02 86 eP Sn 18 50 56.4 -5.9
BTCH Batrach 7.07 81 eP Sn 18 51 01.8 -1.7
MARH Ras Al Marh 7.24 97 eP Sn 18 51 04.3 -3.8
SALA Sala 7.82 106 eP Sn 18 51 22.9 +0.6
MLR Muntele Rosu 10.31 353 Pn Pn 18 50 28.9 +1.0
0.0nm,0.3s,baz=109,slow=8.7,SNR=3.4
AKASG Malin Array Be 15.46 3 Pn Pn 18 51 39.7 +1.9
0.1nm,0.3s,baz=195,slow=12,SNR=2.3
VRAC Vranov 16.28 333 Pn Pn 18 51 49.6 +1.2
1.5nm,0.3s,baz=177,slow=8.3,SNR=3.6
GERES GERESS Array B 17.11 327 P Pn 18 51 57.1 -1.8
0.1nm,0.3s,baz=146,slow=9.5,SNR=2.2
ESDC Sonseca Array 25.54 289 P P 18 53 28.2 -0.3
0.3nm,0.4s,baz=90,slow=9.0,SNR=3.7
FINES FINESS Array B 26.22 358 P P 18 53 33.2 -1.2
0.4nm,0.5s,baz=165,slow=12,SNR=3.2
HFS Hagfors 26.52 344 P P 18 53 35.4 -1.7
0.5nm,0.5s,baz=154,slow=10,SNR=3.0
AKTO Aktyubinsk 26.59 46 P P 18 53 37.3 -0.6
1.0nm,0.6s,baz=243,slow=9.0,SNR=4.7
TORD Torodi Ar. Bea 32.27 233 P P 18 54 28.8 +0.2
3.9nm,0.3s,baz=35,slow=8.2,SNR=13
ARCES ARCESS Array B 34.35 359 P P 18 54 44.1 -2.1
2.8nm,1.0s,baz=174,slow=9.1,SNR=3.1
MKAR Makanchi Array 41.89 57 P P 18 55 50.1 0.0
0.2nm,0.6s,baz=271,slow=7.6,SNR=4.5
SONM Songino Array 57.72 51 P P 18 57 51.8 +1.2
0.4nm,0.7s,baz=294,slow=7.0,SNR=3.4
CMAR Chiang Mai Arr 64.39 85 P P 18 58 36.0 -0.1
0.2nm,0.5s,baz=300,slow=7.2,SNR=3.3

IDC **09** *18:49:02.2±1.5,20.°92N×121.°29E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.5/4, Error ellipse: s-maj=51.3km s-min=23.6km az=60.0*
TAP **09** *18:49:04.8,21.°05N×120.°94E, h82km, ML3.9, C*
ISCJB **09** *18:49:05.3±0.5,21.°04N±0.°03×121.°21E±0.°07, h46km±9km, mb3.3/4, Error ellipse: s-maj=11.2km s-min=4.2km az=174.8*
ISC 09 18:49:06.0±2.1, 21.°02N±0.°03×121.°15E±0.°08, h29km±16km, n49, σ1§07/77, mb3.4/4, 1D, Taiwan region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TSEB Hengchuen, Pin 0.90 345 iP Pn 18 49 22.7 0.0
baz=357
TSEB iS Sn 18 49 36.1 +1.4
baz=357
TWK1 Hengchun 0.97 341 iP Pn 18 49 23.4 -0.2
baz=354
TWK1 iS Sb 18 49 36.8 0.0
baz=354
HEN Hengchun 1.05 338 P Pn 18 49 24.1 -0.7
baz=344
HEN eS Sb 18 49 39.0 0.0
baz=344
LAY Lan-yu 1.08 20 eP Pn 18 49 23.1 -2.0
baz=31
TAW Tawu 1.35 350 eP Pn 18 49 27.8 -1.1
baz=352
TAW eS Sn 18 49 45.1 -0.7
baz=352
EAST Anshuo 1.38 348 eP Pn 18 49 28.1 -1.3
baz=352
EAST eS Sn 18 49 46.4 -0.3
baz=352
SCZT Fangliau 1.43 340 P Pn 18 49 28.7 -1.3
baz=349
SCZT eS Sn 18 49 46.4 -1.4
baz=349
TWP Hsiaoliuchiu 1.51 331 eP Pn 18 49 30.0 -1.0
baz=330
TWP eS Sn 18 49 50.1 +0.4
baz=330
ECL Taimali 1.58 353 eP Pn 18 49 30.2 -1.8
baz=10.0
ECL eS Sn 18 49 49.1 -2.3
baz=10.0
TTN Taitung 1.72 360 eP Pn 18 49 34.9 +1.0
baz=8.0
SSD Sandimen 1.78 344 eP Pn 18 49 34.1 -0.7
baz=343
SSD eS Sn 18 49 56.0 -0.5
baz=343
TWG Pinlang 1.79 358 eP Pn 18 49 33.1 -1.8
baz=5.0
TWG eS Sn 18 49 55.1 -1.5
baz=5.0
SGLT Jiouru 1.80 340 eP Pn 18 49 35.3 +0.2
baz=356
SGLT eS Sn 18 49 57.1 +0.2
baz=356
TWM1 Shoushan 1.92 339 eP Pn 18 49 36.3 -0.4
baz=346
TWM1 eS Sn 18 49 59.9 +0.1
baz=346
CHKT Chengkung 2.08 5 eP Pn 18 49 37.8 -1.0
baz=4.0
CHKT eS Sn 18 50 04.2 +0.5
baz=4.0
SGST Jiashian 2.12 346 eP Pn 18 49 39.3 -0.1
baz=343
SGST eS Sn 18 50 04.7 0.0
baz=343
ELDTW Lidau 2.16 357 eP Pn 18 49 40.2 +0.1
baz=12
CHN1 Nanshi 2.23 345 eP Pn 18 49 40.2 -0.8
baz=341
CHN1 eS Sn 18 50 06.2 -1.4
baz=341
WTP Ta-pu 2.27 347 eP Pn 18 49 41.0 -0.5
baz=343
WTP eS Sn 18 50 07.7 -0.8
baz=343
TWK Hsinying 2.32 345 eP Pn 18 49 43.2 +1.0
baz=340
TWF1 Yuli 2.32 3 eP Pn 18 49 42.9 +0.6
baz=9.0
CHN4 Tsaushan 2.37 347 eP Pn 18 49 43.8 +0.8
baz=344
CHN4 eS Sn 18 50 09.8 -1.3
baz=344
YUS Yu-Shan 2.46 356 eP Pn 18 49 43.4 -1.2
baz=1.0
YUS eS Sn 18 50 13.5 -0.4
baz=1.0
EHY Hungye 2.48 4 eP Pn 18 49 44.6 +0.2
baz=9.0
ALS Alishan 2.50 353 eP Pn 18 49 44.8 -0.1
baz=358
ALS eS Sn 18 50 13.8 -0.8
baz=358
CHN5 Tsauling 2.60 350 eP Pn 18 49 45.3 -0.9
baz=355
CHN5 eS Sn 18 50 15.5 -1.2
baz=355
WDGT Dungji 2.62 328 eP Pn 18 49 46.1 -0.2
baz=333
WGK Gukeng 2.71 348 eP Pn 18 49 45.9 -1.6
baz=353
WGK eS Sn 18 50 18.1 -1.2
baz=353
PIP Pasuquin 2.73 191 ⇓iP Pn 18 49 47.4 -0.5
PIP eS Sn 18 50 17.1 -2.8
ESL Shilin 2.79 5 eP Pn 18 49 49.1 +0.4
baz=10.0
SMLT Sun Moon Lake 2.86 355 eP Pn 18 49 49.9 +0.2
baz=360
SMLT eS Sn 18 50 22.3 -0.8
baz=360
WNT Mingjian 2.87 351 eP Pn 18 49 49.3 -0.5
baz=346
WNT eS Sn 18 50 22.1 -1.4
baz=346
TYC Yuchr 2.88 355 P Pn 18 49 49.2 -0.7
baz=348
PNG Penghu 2.93 330 eP Pn 18 49 49.2 -1.4
baz=334
WHF Hehuan Shan 3.11 2 eP Pn 18 49 52.4 -1.1
baz=6.0
APYP Conner 3.15 178 eP Pn 18 49 54.3 +0.7
APYP eS Sn 18 50 10.4 -20
TWT Tachien 3.21 0 eP Pn 18 49 54.3 -0.4
baz=4.0
TWQ1 Liyutan 3.33 354 eP Pn 18 49 56.2 +0.1
baz=358
TWQ1 eS Sn 18 50 33.6 -1.1
baz=358
ABRA Dolores 3.38 187 eP Pn 18 49 57.2 +0.4
ABRA eS Sn 18 50 21.8 -14
NNS Nan Shan 3.41 3 eP Pn 18 49 57.7 +0.4
baz=359
NNS eS Sn 18 50 35.2 -1.5
baz=359
ENA Nanau 3.43 9 eP Pn 18 49 58.3 +0.8
baz=5.0
NSTT Nanjuang 3.59 358 eP Pn 18 49 58.8 -0.9
baz=1.0
NSTT eS Sn 18 50 39.1 -2.1
baz=1.0
ENTT Nioudou 3.62 6 eP Pn 18 50 01.4 +1.2
baz=10.0
TWC Suao 3.63 10 eP Pn 18 50 01.9 +1.8
baz=5.0
NSK Sanguang 3.64 3 eP Pn 18 50 00.9 +0.5
baz=359
NSK eS Sn 18 50 41.6 -0.9
baz=359
CMAR Chiang Mai Arr 21.06 267 P P 18 53 48.9 +1.0
0.3nm,0.3s,baz=70,slow=8.6,SNR=7.9
SONM Songino Array 29.28 339 P P 18 55 07.7 +1.9
0.1nm,0.3s,baz=155,slow=11,SNR=2.7
WRA Warramunga Arr 42.71 162 P P 18 56 59.4 -1.1
0.6nm,0.5s,baz=345,slow=9.2,SNR=14
ASAR Alice Springs 46.12 164 P P 18 57 27.9 0.0
0.3nm,0.3s,baz=346,slow=6.6,SNR=11

IDC **09** *18:58:27.5±1.1, 1.°15N×96.°98E, h0km, mb4.1/11, mb1 4.2/13, mb1mx3.9/46, mbtmp4.1/13, ML3.8/2, MS3.4/3, Ms1 3.5/3, ms1mx3.0/38, Error ellipse: s-maj=30.6km s-min=18.4km az=51.0*
ISCJB **09** *18:58:29.8±0.4, 1.°19N±0.°06×97.°08E±0.°05, h25km, mb4.2/32, MS3.8/2, Error ellipse: s-maj=8.8km s-min=5.7km az=34.5*
NEIC **09** *18:58:29.2±2.0, 1.°20N×96.°93E, h13km±12km, mb4.5/16, Error ellipse: s-maj=11.0km s-min=8.0km az=49.0*
MOS **09** *18:58:31.1±0.8, 1.°28N×97.°13E, h33km, mb4.5/11, Error ellipse: s-maj=15.9km s-min=8.0km az=97.4*
ISC 09 18:58:31.4±0.6, 1.°22N±0.°07×97.°09E±0.°06, h25km, n103, σ1§23/93, mb4.3/32, 2C, Northern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GSI Gunungsitoli 0.50 80 ePg Pn 18 58 43.3 +0.3
SNSI Sinabang, Aceh 1.40 327 P Pn 18 58 55.4 0.0
TPTI 2.03 3 P Pn 18 59 03.0 -1.1
124nm,1.0s,0.6nm
KCSI Kotacane, Aceh 2.39 17 P Pn 18 59 09.5 +0.5
327nm,1.0s,7μm2.1nm
PSI Prapat 2.42 49 Pn Pn 18 59 10.2 +0.7
8.0nm,0.3s,baz=221,slow=5.1,SNR=46
PSI LR LR 18 59 58.8
comp=Z,415nm,20.9s,baz=310,slow=37
MNSI Mandailing Nat 2.53 100 P Pn 18 59 12.5 +1.6
2.2nm11μm338nm,0.9s
MNSI S Pb 18 59 13.2 -3.0
2.2nm11μm338nm,0.9s
LHMI Lhok Sumawe 3.98 358 ePn Pn 18 59 28.9 -2.1
BKNI Bangkinang 4.05 103 ePn Pn 18 59 31.4 -0.5
BKNI eSg Sb 19 00 44.6 +14
IPM Ipoh 5.10 50 ePn Pn 18 59 47.7 +1.4
27nm,0.7s
IPM eSg Sb 19 01 17.4 +17
KULM Kulim 5.39 41 ePn Pn 18 59 50.7 +0.4
CMBY CAMPBELL BAY 6.56 331 eP Pn 19 00 07.3 +0.9
PBA Port Blair 11.23 338 eP Pn 19 01 13.0 +2.5
DGPR DIGLIPUR 12.57 341 eP Pn 19 01 31.9 +3.0
KSM Kuching 13.22 89 Pn P 19 01 48.4 +1.0
CM31 Chiang Mai Arr 17.23 6 ePn Pn 19 02 29.5 -1.0
3.5nm,0.8s
CMAR Chiang Mai Arr 17.23 6 P Pn 19 02 29.6 -1.0
0.2nm,0.3s,baz=192,slow=12,SNR=12
CMAR LR LR 19 09 19.4
comp=Z,108nm,21.3s,baz=175,slow=38
PALK Pallekele 17.40 291 P Pn 19 02 27.9 -4.9
PALK pmax pmax
comp=Z,82nm,1.6s
PALK Pallekele 17.40 291 Pn Pn 19 02 27.9 -4.9
comp=Z,82nm,1.6s
CHTO Chiang Mai 17.58 6 eP Pn 19 02 32.8 -2.1
CHTO pmax pmax
comp=Z,3.0nm,0.9s
CHTO Chiang Mai 17.58 6 ePn Pn 19 02 32.8 -2.1
comp=Z,2.8nm,0.9s
KKM Kota Kinabalu 19.68 75 P Pn 19 03 00.2 -0.3
comp=Z,53nm,1.5s
SLVN Son La 21.07 18 eP P 19 03 14.2 +0.2
comp=Z,19nm,0.8s
VIS Vishakhapatnam 21.25 321 eP P 19 03 17.3 +1.3
SHL Shillong 24.72 349 eP P 19 03 51.2 +0.1
SHL AMB AMB 19 03 53.2
comp=Z,20nm,0.9s
BOK Bokaro 24.93 335 eP P 19 03 55.1 +2.2
BOK AMB AMB 19 03 56.8
comp=Z,9.5nm,0.4s
H08S2 Diego Garcia H 26.06 250 T T 19 31 01.5
baz=71,slow=76,SNR=2397
H08S3 Diego Garcia H 26.07 250 T T 19 31 00.2
baz=71,slow=76,SNR=1646
H08S1 Diego Garcia H 26.08 250 T T 19 31 01.3
baz=71,slow=76,SNR=1410
ODAN Odare 27.14 341 eP P 19 04 14.4 +1.3
comp=Z,23nm,0.7s
RAMN Ramite 27.49 339 eP P 19 04 18.1 +1.8
comp=Z,14nm,0.7s
TAPN Taplejung 27.49 342 eP P 19 04 18.0 +1.7
comp=Z,44nm,0.9s
PKI Pulchoki 28.49 338 eP P 19 04 26.4 +1.1
PKIN Phulchoki 28.50 338 eP P 19 04 26.3 +1.0
GUN Gumba 28.63 339 eP P 19 04 28.0 +1.5
comp=Z,28nm,0.8s
DMN Daman 28.64 337 eP P 19 04 28.5 +2.0
comp=Z,17nm,0.9s
KKN Kakani 28.74 338 eP P 19 04 28.6 +1.3
comp=Z,22nm,1.0s
LSA Lhasa 28.88 349 eP P 19 04 31.8 +3.0
LSA pmax pmax
comp=Z,5.0nm,0.8s
LSA Lhasa 28.88 349 eP P 19 04 31.8 +3.0
comp=Z,5.2nm,0.8s
BHPL Bhopal 29.04 320 eP P 19 04 29.8 -0.1
BHPL AMB AMB 19 04 53.6
comp=Z,5.5nm,1.3s
GKN Gorkha 29.18 337 eP P 19 04 32.6 +1.5
comp=Z,20nm,0.9s
KOLN Koldanda 29.39 335 eP P 19 04 34.7 +1.6
comp=Z,16nm,0.8s
DANN Dangsing 29.84 336 eP P 19 04 38.3 +1.2
comp=Z,9.7nm,0.7s
ENH Enshi 31.20 21 eP P 19 04 48.0 -0.9
comp=Z,6.4nm,0.6s
DDI Dehra Dun 34.12 330 eP P 19 05 15.2 +0.8
DHRM DHARAMSHALA 36.56 336 eP P 19 05 36.4 +0.7
H01W3 Cape Leeuwin H 39.31 158 T T 19 47 36.6
baz=333,slow=76,SNR=9.7
H01W2 Cape Leeuwin H 39.32 158 T T 19 47 38.1
baz=333,slow=76,SNR=8.1
H01W1 Cape Leeuwin H 39.32 158 T T 19 47 50.8
baz=333,slow=76,SNR=8.6
WRA Warramunga Arr 42.14 122 P P 19 06 22.1 -0.1
comp=Z,1.6nm,0.7s,baz=300,slow=9.0,SNR=16
WRAB Tennant Creek 42.15 122 eP P 19 06 22.5 +0.3
WRAB pmax pmax
comp=Z,1.0nm,0.6s
WRAB Tennant Creek 42.15 122 eP P 19 06 22.5 +0.3
comp=Z,1.5nm,0.6s
BJT Baijiatuau 42.34 22 eP P 19 06 23.3 -0.2
BJT pmax pmax
comp=Z,7.0nm,0.6s
BJT Baijiatuau 42.34 22 eP P 19 06 23.3 -0.2
comp=Z,6.7nm,0.6s
ASAR Alice Springs 43.50 127 P P 19 06 33.5 +0.3
comp=Z,1.5nm,0.9s,baz=301,slow=7.8,SNR=13
KSAR Wonju Array Be 45.87 35 P P 19 06 51.6 -0.2
KSAR Wonju Array Be 45.87 35 P P 19 06 51.6 -0.2
KSRS Korea Array 45.90 35 P P 19 06 51.6 -0.4
comp=Z,5.9nm,1.0s,baz=221,slow=8.6,SNR=9.2
EKS2 Erkin-Say 46.25 336 eP P 19 06 56.1 +1.2
EKS2 pmax pmax
comp=Z,7.0nm,1.0s
EKS2 Erkin-Say 46.25 336 eP P 19 06 56.1 +1.2
comp=Z,6.9nm,1.0s
SONM Songino Array 47.13 9 P P 19 07 02.2 +0.5
comp=Z,3.3nm,0.8s,baz=190,slow=8.6,SNR=26
MK31 Makanchi Array 47.20 346 eP P 19 07 02.6 +0.5
MK31 Makanchi Array 47.20 346 eP P 19 07 02.6 +0.5
MKAR Makanchi Array 47.20 346 ceP P 19 07 03.0 +0.9
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 47.20 346 P P 19 07 03.0 +0.9
comp=Z,3.1nm,0.6s,baz=162,slow=9.0,SNR=52
ULN Ulaanbaatar 47.26 9 P P 19 07 02.6 -0.2
ULN pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 47.26 9 P P 19 07 02.6 -0.2
comp=Z,3.4nm,0.9s
KK31 Karatay Array 47.99 334 P P 19 07 09.6 +1.3
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 47.99 334 eP P 19 07 09.5 +1.2
KKAR pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 47.99 334 eP P 19 07 09.5 +1.2
comp=Z,2.8nm,0.9s
GUMO Guam 48.84 73 P P 19 07 15.8 +0.5
GUMO Guam 48.84 73 P P 19 07 15.8 +0.5

ZAK	Zakamensk	49.26	5	eP	P	19 07 18.6	+0.5
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TLY	Talaya	50.58	5	eP	P	19 07 30.1	+2.1
TLY				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TLY				MLR	MLR		
	comp=Z,70nm,13.0s						
HIA	Hailar	51.66	19	P	P	19 07 36.4	+0.3
HIA	Hailar	51.66	19	P	P	19 07 36.4	+0.3
KURK	Kurchatov	51.74	345	P	P	19 07 37.0	+0.3
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	Kurchatov	51.74	345	P	P	19 07 37.4	+0.7
	comp=Z,1.2nm,0.4s						
MDJ	Mudanjiang	51.91	29	P	P	19 07 38.7	+0.7
USRK	Ussuriysk Arra	52.81	31	P	P	19 07 45.6	+0.9
	comp=Z,7.0nm,0.9s,baz=224,slow=5.4,SNR=9.8						
STKA	Stephens Creek	53.45	132	P	P	19 07 50.9	+1.1
STKA	Stephens Creek	53.45	132	P	P	19 07 50.9	+1.1
ZAA0	Zalesovo Array	53.52	351	eP	P	19 07 50.3	+0.5
ZALV	Zalesovo Beam	53.52	351	P	P	19 07 50.4	+0.6
	comp=Z,8.2nm,0.7s,baz=180,slow=6.4,SNR=42						
NVS	Novosibirsk	54.64	350	eP	P	19 07 57.7	-0.2
BVA0	Borovoye Array	56.19	341	iP	P	19 08 03.9	-5.3
BVA0				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRVK	Borovoye	56.26	341c	iP	P	19 08 09.7	+0.1
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	Borovoye	56.26	341	eP	P	19 08 09.3	-0.3
	comp=Z,3.6nm,1.0s						
AB31	Akbulak array	57.44	332	iP	P	19 08 18.3	+0.2
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ABKAR	Akbulak array	57.44	332	eP	P	19 08 18.1	0.0
	comp=Z,4.8nm,0.8s						
ABKAR				e		19 08 25.6	
ASAJ	Asahikawa	58.72	37	LR	LR	19 33 52.4	
	comp=Z,68nm,18.3s,baz=318,slow=36						
YAK	Yakutsk	65.43	16	eP	P	19 09 11.0	-0.9
YAK				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK	Yakutsk	65.43	16	eP	P	19 09 09.3	-2.6
	comp=Z,6.5nm,0.9s						
TIXI	Tiksi	73.19	10	eP	P	19 09 58.8	-0.9
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TIXI	Tiksi	73.19	10	eP	P	19 09 58.8	-0.9
	comp=Z,1.4nm,0.6s						
SEY	Seymchan	73.79	23	eP	P	19 10 03.5	+0.1
BOSA	Boshof	74.69	240	P	P	19 10 08.7	-0.9
BOSA	Boshof	74.69	240	P	P	19 10 08.7	-0.9
AKASG	Malin Array Be	75.17	322	P	P	19 10 10.9	-0.8
	comp=Z,0.3nm,0.4s,baz=91,slow=4.9,SNR=5.3						
FINES	FINESS Array B	79.93	333	P	P	19 10 38.2	+0.2
	comp=Z,0.7nm,0.9s,baz=92,slow=7.1,SNR=4.0						
TSUM	Tsumeb	80.49	250	P	P	19 10 39.3	-2.9
ARCES	ARCESS Array B	82.48	340	P	P	19 10 51.1	-0.4
	comp=Z,1.2nm,0.7s,baz=97,slow=3.8,SNR=4.3						
GERES	GERESS Array B	84.72	319	P	P	19 11 04.4	+0.9
	comp=Z,0.5nm,0.8s,baz=29,slow=2.2,SNR=3.7						
TXAR	Lajitas Array	143.71	32	PKP	PKPdf	19 18 06.5	+1.2
	comp=Z,0.3nm,0.7s,baz=318,slow=1.2,SNR=3.0						

IDC 09 19:05:14.2±7.0,6°62S×154°68E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.3/23,mbtmp3.3/3,Error ellipse: s-maj=152.8km s-min=42.9km az=98.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.77	234	P	P	19 10 28.8	+0.1
	0.2nm,0.3s,baz=58,slow=9.4,SNR=7.2						
ASAR	Alice Springs	26.19	227	P	P	19 10 50.4	-0.4
	0.3nm,0.7s,baz=58,slow=9.0,SNR=4.0						
CMAR	Chiang Mai Arr	60.34	295	P	P	19 15 25.7	+0.2
	0.7nm,0.6s,baz=121,slow=5.9,SNR=10.0						

MAN 09 19:09:19,9°66N×125°86E,h4km,mb4.1,ML2.9,MS2.6, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.39	288⇓	eP	Pb	19 09 28.2	-0.2
SCPH				eS	Sb	19 09 38.9	+4.2
BUTP	Butuan	0.73	199	eP	Pg	19 09 33.1	+0.1
BUTP				eS	Sn	19 09 48.6	+1.0
BUKP	Musuan	1.94	204	eP	Pn	19 09 53.1	+0.3
PAGZ	Pagadian	3.04	234	eP	Pn	19 10 09.6	+1.7

SJA 09 19:13:11.5±0.8, 35°21S×73°55W, h252km±58km, MD4.2, ML3.9
GUC 09 19:13:26.3±0.4, 34°64S×72°40W, h29km±1km, ML3.9
ISC 09 19:13:25.2±1.7,34°62S±0°05×72°41W±0°09,h9km±12km, n22,σ1.37/34,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCH	Constitucion	0.70	180	iP	Pg	19 13 39.2	+0.4
CTCH				iS	Sg	19 13 48.9	+0.8
CTCH				AML	AML	19 13 51.5	
	comp=N,12μm,0.3s						
TALC	Talca	1.00	141⇑	iP	Pb	19 13 44.0	-0.6
TALC				iS	Sb	19 13 57.3	-0.6
TALC				AML	AML	19 13 57.7	
	comp=N,11μm,0.1s						
LNV	Longovilo	1.06	51	iP	Pb	19 13 45.1	-0.6
LNV				iS	Sb	19 13 59.6	0.0
COCH	Cobquecura	1.54	192	iP	Pn	19 13 52.2	-0.6
TACH	Talagante	1.56	52	iP	Pn	19 13 53.1	0.0
TACH				iS	Sn	19 14 13.1	-0.2
CHCH	Chadas Angostu	1.61	65	iP	Pn	19 13 54.0	+0.2
CHCH				iS	Sn	19 14 14.5	-0.1
ANTU	Antumapu	1.81	55	AML	AML	19 14 27.4	
	comp=N,1μm,0.4s						
SAN	Santiago	1.86	52⇑	iP	Pn	19 13 57.6	+0.3
SAN			⇑	iS	Sn	19 14 21.4	+0.5
SAN				AML	AML	19 14 28.1	
	comp=E,811nm,0.7s						
CLCH	Cerro Calan	1.98	52	eP	Pn	19 13 59.3	+0.3
CLCH				iS	Sn	19 14 24.5	+0.6
CLCH				AML	AML	19 14 36.8	
	comp=E,1μm,0.5s						
LMEL	Las Melosas	1.98	68	iP	Pn	19 13 59.9	+0.8
LMEL				iS	Sb	19 14 25.0	-1.4
LMEL				AML	AML	19 14 28.8	
	comp=N,2μm,0.2s						
ROCH	El Roble	2.02	36	eP	Pn	19 13 59.3	-0.3
ROCH				iS	Sn	19 14 24.9	-0.1
ROCH				AML	AML	19 14 33.3	
	comp=N,1μm,0.5s						
PEL	Peldehue	2.06	45	iP	Pn	19 14 00.6	+0.6
PEL				iS	Sn	19 14 26.4	+0.6
PEL				AML	AML	19 14 34.7	
	comp=E,1μm,0.4s						
AAGR	Agrelo	3.35	64	iP	Pn	19 14 20.8	+3.0
AAGR				iS	Sg	19 15 12.9	+0.1
ARCO	CERRO ARCO	3.40	59	iP	Pn	19 14 21.9	+3.4
ARCO				iS	Sg	19 15 14.7	+0.3
ARCO				AML	AML	19 15 18.8	
	comp=Z,90nm,0.6s						
AUSP	Uspallata	3.48	47	iP	Pn	19 14 23.0	+3.2
AUSP				iS	Sg	19 15 16.6	+0.4
ASAL	Salagasta	3.60	57	iP	Pb	19 14 25.7	-3.5
ASAL				iS	Sg	19 15 18.4	-2.5
RTLS	Leoncito	3.84	44	iP	Pn	19 14 27.3	+2.6
RTLS				iS	Sb	19 15 24.0	+4.1
CFAA	Coronel Fontan	4.62	50	iP	Pn	19 14 36.5	+1.3
RTLL	Cerro Villicun	4.66	46	iP	Pn	19 14 37.2	+1.4
RTLL				iS	Sb	19 15 39.8	-3.6
AMOG	MOGNA	4.94	43	iP	Pn	19 14 40.0	+0.4
AMOG				iP	Pn	19 14 40.0	+0.4
AVFE	Valle Fertil	5.75	48	iP	Pn	19 14 51.1	+0.3
AVFE				AML	AML	19 16 28.0	
	comp=Z,13nm,0.4s						
AGUA	GUANDACOL	6.11	34	iP	Pn	19 14 56.1	+0.4

IDC 09 19:21:31.0±1.8,30°25N×139°59E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.5/25,mbtmp3.7/6,MS3.6/1,Ms1 3.6/1, ms1mx2.4/36,Error ellipse: s-maj=96.4km s-min=20.8km az=75.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	30.88	314	LR	LR	19 40 25.0	
	comp=Z,95nm,18.9s,baz=27,slow=37						
MKAR	Makanchi Array	46.73	307	P	P	19 30 01.9	0.0
	0.3nm,0.4s,baz=87,slow=9.7,SNR=18						
WRA	Warramunga Arr	50.16	186	P	P	19 30 28.5	+0.1
	0.5nm,0.4s,baz=0.4,slow=7.6,SNR=17						
ASAR	Alice Springs	53.88	186	P	P	19 30 55.9	-0.3
	0.2nm,0.6s,baz=358,slow=5.6,SNR=9.0						
STKA	Stephens Creek	61.82	178	P	P	19 31 51.6	0.0
	1.9nm,0.9s,baz=35,slow=4.9,SNR=3.4						
ARCES	ARCESS Array B	69.81	340	P	P	19 32 43.9	+1.0
	0.7nm,0.6s,baz=71,slow=8.7,SNR=4.0						
FINES	FINESS Array B	74.11	333	P	P	19 33 07.7	-1.1
	0.9nm,0.7s,baz=57,slow=5.1,SNR=4.2						

DJA 09 19:50:44.7±1.2,9°S±5°×11°0E±°,h33km±12km,M3.8/13, MLv3.8/13,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	Wanagama	0.98	17	P	Pb	19 51 03.5	+0.2
UGM				S	Sn	19 51 15.1	+0.1
PCJI	Pacitan	1.14	55	P	Pn	19 51 04.4	+0.1
PCJI				S	Sn	19 51 18.6	-0.2
WOJI	Wonogiri, Jawa	1.22	34	P	Pn	19 51 06.3	+0.8
WOJI				S	Sb	19 51 22.2	-0.5
PWJI	Pagerwojo	1.76	62	P	Pn	19 51 13.7	+0.9
PWJI				S	Sn	19 51 34.3	+0.2
SMRI	Semarang	1.81	6	P	Pn	19 51 06.7	-6.9
NGJI	Ngawi	1.91	39	P	Pn	19 51 12.4	-2.6
KPJI	Karang Pucung	2.00	319	P	Pb	19 51 19.2	-1.2
KPJI				S	Sb	19 51 45.2	+0.3
CMJI	Cimerak	2.07	301	P	Pn	19 51 18.6	+1.4
CMJI				S	Sn	19 51 42.1	+0.3
UWJI	Ujung Watu	2.52	16	P	Pn	19 51 19.4	-4.0
TBJI	Tambak Boyo	2.58	38	P	Pn	19 51 20.4	-3.8

IDC 09 19:51:27.7±1.9,4°60N×94°05E,h0km,mb3.7/5,mb1 3.7/6, mb1mx3.5/28,mbtmp3.6/6,Error ellipse: s-maj=84.6km s-min=21.8km az=57.0
ISCJB 09 19:51:31.0±1.5,4°8N±0°2×94°0E±0°2,h26km,mb3.7/5, Error ellipse: s-maj=36.2km s-min=15.1km az=141.7
ISC 09 19:51:32.9±1.7,4°8N±0°2×94°0E±0°2,h26km,n10,σ0.66/6, mb3.9/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	5.27	112	Pn	Pn	19 52 50.7	+0.6
	0.9nm,0.3s,baz=336,slow=19,SNR=4.2						
CMAR	Chiang Mai Arr	14.40	19	Pn	Pn	19 54 55.0	-0.3
	baz=211,slow=14,SNR=3.3						
H08S3	Diego Garcia H	24.79	240	T	T	20 22 57.1	
	baz=60,slow=75,SNR=23						
H08S2	Diego Garcia H	24.79	240	T	T	20 22 37.3	
	baz=60,slow=75,SNR=21						
H08S1	Diego Carcia H	24.80	240	T	T	20 22 58.8	
	baz=60,slow=75,SNR=22						
MKAR	Makanchi Array	43.05	348	P	P	19 59 31.0	+0.5
	1.0nm,0.7s,baz=159,slow=7.3,SNR=16						
WRA	Warramunga Arr	46.63	123	P	P	19 59 58.6	-0.8
	1.0nm,0.8s,baz=302,slow=9.2,SNR=8.7						
ASAR	Alice Springs	48.08	128	P	P	20 00 06.5	-4.2
	0.3nm,0.6s,baz=298,slow=8.0,SNR=4.9						
ZALV	Zalesovo Beam	49.58	353	P	P	20 00 21.5	-0.1
	0.4nm,0.3s,baz=160,slow=7.0,SNR=6.7						
FINES	FINESS Array B	75.37	333	P	P	20 03 14.1	+0.2
	0.6nm,0.5s,baz=134,slow=6.0,SNR=4.9						

KRSC 09 19:55:57.0±0.9,55°76N×160°60E,h190km±7km,ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZMR	Bezymyannaya	0.19	340	eP	Pn	19 56 23.4	+1.2
KMNR	Kamenistaya	0.21	269	eP	Pn	19 56 23.4	+1.2
BZWR	Bezymyannyi-We	0.21	343	eP	Pn	19 56 23.4	+1.1
KIRR	Kirishev	0.24	323	eP	Pn	19 56 23.4	+1.1
KPT	Kopyto	0.30	314	iP	Pn	19 56 23.6	+1.2
KOZ	Kozyrevsk	0.51	306	iP	Pn	19 56 23.9	+0.9
KOZ				eS	Sn	19 56 43.9	+0.8
TUMR	Tumrok	0.55	209	iP	Pn	19 56 24.9	+1.6
KLY	Klyuchi	0.55	3	eP	Pn	19 56 24.3	+1.2
KLY				eS	Sn	19 56 44.7	+1.3
KZV	Kizimen	0.67	195	eP	Pn	19 56 25.5	+1.5
SRDR	Srednynny	0.75	319	eP	Pn	19 56 25.0	+0.9
SRDR				eS	Sn	19 56 45.6	+0.3
BDR	Baidarnaya	0.88	22	eP	Pn	19 56 26.6	+1.7
BDR				eS	Sn	19 56 48.0	+1.3
SRKR	Sorokina	0.95	19	eP	Pn	19 56 26.8	+1.4
SRKR				eS	Sn	19 56 49.1	+1.6
SMKR	Semkarok	0.95	30	eP	Pn	19 56 26.8	+1.4
SMKR				eS	Sn	19 56 49.1	+1.5
ESO	Esso	1.09	279	iP	Pn	19 56 27.1	+0.8
ESO				eS	Sn	19 56 49.6	+0.5
KBTR	Krutoberegovo	1.32	69	iP	Pn	19 56 29.1	+0.9
KBTR				eS	Sn	19 56 52.8	+0.4
GNL	Ganaly	2.58	218	P	Pn	19 56 42.5	+1.1
AVH	Avacha	2.73	204	P	Pn	19 56 45.2	+2.2
BKI	Bering	3.10	98	eP	Pn	19 56 49.4	+2.1
BKI				eS	Sn	19 57 26.7	+0.1

WEL 09 20:03:12.8±0.7,37°09S×176°62E,h245km±9km,ML3.5/2, 1C-1D,Error ellipse: s-maj=16.2km s-min=8.1km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.14	126	PN	Pn	20 03 47.8	-0.2
MWZ	Matawai	1.43	150 ⇓	PN	Pn	20 03 50.3	+0.2
MWZ				SN	S	20 04 19.3	-0.2
PUZ	Puketiti	1.62	127 ⇑	PN	Pn	20 03 51.5	-0.1
PUZ				SN	S	20 04 20.7	-1.4
RIGZ	Rimuhau	1.84	151	PN	Pn	20 03 53.9	+0.4
KAHZ	Kahuranaki	2.71	176	PN	Pn	20 04 01.4	-0.4
MQZ	McQueen's Vall	7.27	203	SN	S	20 06 12.5	-7.5

NNC 09 20:07:08.7±11.0,36°52N×70°06E,h70km±330km,mb3.5, mpv3.7,2C,Error ellipse: s-maj=114.7km s-min=77.7km az=60.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.59	3	P	Pn	20 08 45.1	+2.3
	0.6nm,0.3s,baz=181,slow=13,SNR=22						
KK31				⇑S	Sn	20 09 56.9	+0.4
	1.7nm,0.5s,baz=188,slow=21,SNR=5.1						
AAK	Ala-Archa	7.00	28	P	Pn	20 08 48.2	-0.6
	4.7nm,0.5s						
TKM2	Tokmak 2	7.69	32	⇑P	Pn	20 08 56.1	-2.0
	4.7nm,0.6s						
AB31	Akbulak array	14.71	333	P	Pn	20 10 33.2	+0.4
	0.4nm,0.6s,baz=141,slow=12,SNR=6.4						

IDC 09 20:50:11.2±13.0,10°65S×12°90W,h0km,mb4.4/3, mb1 4.3/3,mb1mx3.7/23,mbtmp4.4/3,MS3.5/3,Ms1 3.5/3, ms1mx3.1/29,Error ellipse: s-maj=695.6km s-min=128.8km az=140.0,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	2.40	314	T	T	20 52 48.4	
	baz=128,slow=74,SNR=419						
H10S1	ASCENSION HYDR	2.42	314	T	T	20 52 48.6	
	baz=128,slow=74,SNR=220						
H10S3	ASCENSION HYDR	2.42	314	T	T	20 52 49.7	
	baz=128,slow=74,SNR=361						
DBIC	Dimbokro	18.98	25	LR	LR	21 00 05.4	
	comp=Z,88nm,18.3s,baz=253,slow=31						
TORD	Torodi Ar. Bea	27.73	32	P	P	20 56 01.6	0.0
	0.8nm,0.7s,baz=211,slow=11,SNR=4.8						
BDFB	Brasilia	34.52	258	LR	LR	21 09 01.5	
	comp=Z,145nm,18.2s,baz=345,slow=33						
BOSA	Boshof	39.91	122	LR	LR	21 11 47.9	
	comp=Z,64nm,19.8s,baz=184,slow=32						
AKASG	Malin Array Be	71.22	27	P	P	21 01 32.0	0.0
	1.1nm,0.6s,baz=228,slow=7.0,SNR=8.7						
FINES	FINESS Array B	78.10	18	P	P	21 02 11.8	+0.1
	2.3nm,0.9s,baz=235,slow=4.9,SNR=5.1						

ISCJB 09 20:53:20.9±0.4,4°69S±0°05×152°48E±0°08,h58km, mb4.3/19,MS3.3/6,Error ellipse: s-maj=11.4km s-min=6.6km az=23.7
IDC 09 20:53:25.9±3.7,4°76S×152°49E,h90km±33km,mb4.0/13, mb1 4.2/14,mb1mx4.0/28,mbtmp4.3/14,MS3.3/7, Ms1 3.3/7,ms1mx3.1/28,Error ellipse: s-maj=21.3km s-min=14.8km az=67.0
NEIC 09 20:53:26.8±1.8,4°76S×152°47E,h100km±16km,mb4.2/7, Error ellipse: s-maj=11.5km s-min=9.0km az=76.0
ISC 09 20:53:22.5±0.6,4°64S±0°07×152°52E±0°10,h58km,n56, σ1.26/52,mb4.2/19,MS3.3/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	0.56	321	P	Pn	20 53 36.3	+1.2
	baz=0.7,SNR=108						
PMG	Port Moresby	7.12	228	P	Pn	20 55 06.7	+2.6
	2.7nm,0.3s,baz=63,slow=15,SNR=10.0						
PMG				S	Sn	20 56 23.6	-0.2
	2.3nm,0.3s,baz=152,slow=17,SNR=4.2						
PMG				LR	LR	20 57 30.0	
	comp=Z,104nm,19.3s,baz=324,slow=35						
PMG	Port Moresby	7.12	228	P	Pn	20 55 06.7	+2.6
PMG				eSn	Sn	20 56 21.5	-2.3
PMG				S	Sn	20 56 23.6	-0.2
PMG	Port Moresby	7.12	228	P	Pn	20 55 08.6	+4.4
	baz=7.7,SNR=7.3						
MTSU	Mount Surprise	15.63	210	P	P	20 57 05.1	+2.7
	baz=16,SNR=8.0						
QIS	Mount Isa	20.20	217	P	P	20 57 53.5	+0.8
	baz=21,SNR=5.1						
KDU	Kakadu	21.36	247	P	P	20 58 02.8	-2.4
	baz=22,SNR=5.7						
DZM	Mont Dzumac	21.96	143	P	P	20 58 11.8	+0.1
	15nm,0.5s,baz=349,slow=10,SNR=18						
DZM				LR	LR	21 05 06.8	
	comp=Z,150nm,20.6s,baz=25,slow=32						
RMQ	Roma	22.02	189	P	P	20 58 12.7	+0.5
	baz=23,SNR=5.5						
MTN	Manton Dam	22.64	248	P	P	20 58 19.9	+1.0
	baz=23,SNR=4.8						
WRAB	Tennant Creek	23.33	228	eP	P	20 58 24.6	-1.3
	10nm,0.6s						
WRA	Warramunga Arr	23.34	228	P	P	20 58 25.0	-1.0
	7.2nm,0.5s,baz=53,slow=10.0,SNR=98						
KNRA	Kununurra	25.79	243	P	P	20 58 48.0	-0.3
	baz=26,SNR=18						
KNRA				S	S	21 02 55.1	-19
	baz=26,SNR=4.3						
AS31	Alice Springs	26.08	222	eP	P	20 58 50.2	-0.8
ASAR	Alice Springs	26.08	222	P	P	20 58 50.2	-0.8
	2.2nm,0.5s,baz=55,slow=9.2,SNR=27						
ASAR				LR	LR	21 08 37.1	
	comp=Z,29nm,21.0s,baz=83,slow=35						
H11S3	WAKE ISLAND Hy	26.89	31	T	T	21 26 39.0	
	baz=217,slow=76						
H11S2	WAKE ISLAND Hy	26.90	31	T	T	21 26 40.3	
	baz=217,slow=76						
H11S1	WAKE ISLAND Hy	26.91	31	T	T	21 26 40.7	
	baz=217,slow=76						
STKA	Stephens Creek	28.97	199	P	P	20 59 15.4	-1.3
	3.8nm,0.7s,baz=29,slow=12,SNR=12						
STKA				LR	LR	21 10 21.9	
	comp=Z,73nm,19.6s,baz=22,slow=35						
STKA	Stephens Creek	28.97	199	eP	P	20 59 15.4	-1.3
	0.6nm,0.6s						
STKA	Stephens Creek	28.97	199	P	P	20 59 15.8	-0.9
	baz=30,SNR=6.6						
WRKA	Warakurna	30.87	227	P	P	20 59 32.2	-1.4
	baz=32,SNR=3.0						
MBWA	Marble Bar	35.81	240	eP	P	21 00 15.2	-1.4
MEEK	Meekatharra	39.08	232	P	P	21 00 43.3	-1.0
	baz=40,SNR=11						
URZ	Urewera	40.27	150	P	P	21 00 54.7	+0.7
	10nm,0.8s,baz=7.7,slow=3.5,SNR=4.0						
JNU	Nakatsue	42.79	333	P	P	21 01 16.1	+1.4
	19nm,0.9s,baz=121,slow=3.0,SNR=11						
MJAR	Matsushiro Arr	43.09	343	LR	LR	21 18 37.9	
	comp=Z,37nm,20.7s,baz=150,slow=35						
KSRS	Korea Array	47.73	333	P	P	21 01 55.0	+1.4
	1.7nm,0.9s,baz=138,slow=7.4,SNR=4.4						
KSAR	Wonju Array Be	47.73	333	P	P	21 01 55.0	+1.3
CM31	Chiang Mai Arr	57.55	295	eP	P	21 03 06.6	-0.1
	1.0nm,0.5s						
CMAR	Chiang Mai Arr	57.55	295	P	P	21 03 07.8	+1.1
	1.4nm,0.9s,baz=116,slow=5.0,SNR=13						
CMAR				LR	LR	21 28 01.1	
	comp=Z,22nm,18.3s,baz=88,slow=36						
CHTO	Chiang Mai	57.66	296	P	P	21 03 06.2	-1.2
ULN	Ulaanbaatar	65.71	328	P	P	21 04 01.4	+0.1
SONM	Songino Array	66.04	328	LR	LR	21 34 48.4	
	comp=Z,50nm,18.1s,baz=294,slow=38						
VNDA	Vanda	73.00	178	P	P	21 04 45.3	-0.3
	3.5nm,0.9s,baz=342,slow=6.4,SNR=3.2						
BILL	Bilibino	73.15	5	eP	P	21 04 48.9	+2.3
	2.1nm,0.8s						
PMR	Palmer	79.65	24	P	P	21 05 22.8	-0.7
MK31	Makanchi Array	80.02	319	P	P	21 05 24.6	-1.3
MKAR	Makanchi Array	80.02	319	P	P	21 05 25.7	-0.2
	0.4nm,0.6s,baz=109,slow=6.2,SNR=9.4						
MCK	McKinley	80.82	23	eP	P	21 05 29.0	-0.8
	6.0nm,0.7s						
ZAA0	Zalesovo Array	80.86	326	eP	P	21 05 29.7	-0.5
ZALV	Zalesovo Beam	80.86	326	P	P	21 05 29.7	-0.5
	1.9nm,0.7s,baz=113,slow=5.8,SNR=12						
COLA	College	81.80	22	P	P	21 05 33.5	-1.4
	4.4nm,0.6s						
ILAR	Eielson Array	82.11	22	P	P	21 05 35.3	-1.3
	1.8nm,0.6s,baz=245,slow=5.4,SNR=34						
KURK	Kurchatov	83.47	322	P	P	21 05 43.5	-0.4
AAK	Ala-Archa	84.35	313	P	P	21 05 50.0	+1.2
H02S1	DAWSON INLET T	84.78	36	T	T	22 39 05.0	
	SNR=5.3						
EKS2	Erkin-Say	84.87	313	P	P	21 05 52.6	+1.2
BRVK	Borovoye	89.01	323	eP	P	21 06 11.0	-0.1
	1.9nm,0.8s						
ABKAR	Akbulak array	95.16	319	P	P	21 06 39.0	-0.6
YKA	Yellowknife Ar	95.41	28	P	P	21 06 40.9	+0.4
	0.5nm,0.6s,baz=270,slow=5.0,SNR=8.1						
GERES	GERESS Array B	123.77	328	PKP	PKPdf	21 12 13.3	-0.9
	0.6nm,0.5s,baz=52,slow=1.6,SNR=8.3						
TAM	Tamanrasset	143.35	303	PKPdf	PKPdf	21 12 50.6	-0.9
TOA0	Torodi Ar. Sit	149.99	288	ePKPbc	PKPbc	21 13 06.2	-1.4
TORD	Torodi Ar. Bea	149.99	288	PKPbc	PKPbc	21 13 07.0	-0.6
	1.7nm,0.6s,baz=94,slow=1.9,SNR=12						
BDFB	Brasilia	151.38	135	PKPbc	PKPbc	21 13 09.7	-1.3
	2.5nm,0.6s,baz=270,slow=2.0,SNR=4.3						

ISCJB 09 21:07:42.7±0.6,14°21N±0°07×91°94W±0°05,h67km, mb4.2/17,Error ellipse: s-maj=11.1km s-min=6.3km az=26.5
NEIC 09 21:07:43.7±1.3,14°17N×92°02W,h68km±11km,mb4.2/9, Error ellipse: s-maj=16.6km s-min=7.0km az=51.0
IDC 09 21:07:45.0±3.0,14°35N×91°81W,h69km±24km,mb3.9/10, mb1 4.1/12,mb1mx3.8/25,mbtmp4.2/12,MS3.9/19, Ms1 3.9/19,ms1mx3.7/40,Error ellipse: s-maj=27.4km s-min=16.6km az=52.0
ISC 09 21:07:44.3±0.7,14°26N±0°09×91°89W±0°09,h67km,n200, σ0.77/189,mb4.3/17,75C-82D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	1.56	62	P	Pn	21 08 11.3	+1.1
	23nm,0.3s,baz=252,slow=4.0,SNR=177						
APG				S	Sn	21 08 27.9	-1.8
	40nm,0.3s,baz=225,slow=7.1,SNR=20						
APG				LR	LR	21 09 03.0	
	comp=Z,487nm,19.8s,baz=188,slow=53						
TEIG	Tepich	6.86	30	P	Pn	21 09 25.9	+3.5
	8.2nm,0.3s,baz=191,slow=1.0,SNR=28						
TEIG				LR	LR	21 12 45.3	
	comp=Z,1μm,20.1s,baz=202,slow=44						
TEIG	Tepich	6.86	30	ePn	Pn	21 09 24.7	+2.4
	85nm,0.6s						
TEIG				eSn	Sn	21 10 36.5	-2.5
JTS	JuntasAbangare	7.84	119	P	Pn	21 09 36.0	+0.2
	0.5nm,0.3s,baz=302,slow=19,SNR=1.8						
034A	Hebbronville	14.23	335	⇑P	P	21 11 09.2	+1.3

baz=14
933A Laredo 14.96 334 ⇑P P 21 11 17.0 +1.0
baz=15
833A Chaparral WMA, 15.64 335 ⇑P P 21 11 22.5 -1.0
baz=16
832A Faith Ranch, C 15.85 333 ⇑P P 21 11 26.0 +0.1
baz=16,SNR=11
733A Divot King Ran 15.95 336 ⇑P P 21 11 26.8 -0.2
baz=16
732A Laxson Ranch, 16.24 334 ⇑P P 21 11 30.3 +0.1
baz=16,SNR=5.7
633A Saathoff Ranch 16.56 337 ⇑P P 21 11 33.7 -0.1
baz=17
534A Blanco 16.83 340 ⇑P P 21 11 36.7 -0.1
baz=17
632A Uvalde 16.84 336 ⇓P Pn 21 11 36.0 +0.2
baz=17
533A Kerrville 17.06 338 ⇑P Pn 21 11 39.0 +0.5
baz=17
631A Perdido Creek 17.09 333 ⇓P Pn 21 11 39.2 +0.4
baz=17,SNR=7.2
434A Burnet 17.49 341 ⇑P P 21 11 45.3 +1.2
baz=18
433A Art 17.70 339 ⇑P P 21 11 46.8 +0.4
baz=18
531A Rocksprings 17.73 335 ⇓P P 21 11 47.2 +0.5
baz=18
334A Lometa 17.97 342 ⇓P Pn 21 11 49.9 +0.4
baz=18
530A J-C Ranch, Com 18.06 333 ⇓P Pn 21 11 50.6 -0.1
baz=18
432A Menard 18.07 338 ⇓P Pn 21 11 50.9 +0.1
baz=18
333A Richland Sprin 18.19 340 ⇑P P 21 11 52.0 +0.2
baz=18
431A Sonora 18.21 335 ⇓P P 21 11 52.0 0.0
baz=18
628A Black Gap, Mar 18.25 328 ⇓P Pn 21 11 53.7 +0.6
baz=18,SNR=6.6
529A Stev Forest Ra 18.44 331 ⇓P P 21 11 54.7 +0.1
baz=18
332A Millersview 18.51 338 ⇓P Pn 21 11 56.0 -0.1
baz=19,SNR=6.5
TXAR Lajitas Array 18.54 326 P P 21 11 55.2 -0.5
0.1nm,0.3s,baz=153,slow=13,SNR=20
TXAR LR LR 21 21 01.6
comp=Z,90nm,18.7s,baz=0.0,slow=43
430A Baggett Ranch, 18.56 334 ⇓P P 21 11 56.4 +0.5
baz=19
331A San Angelo 18.69 337 ⇓P P 21 11 57.8 +0.5
baz=19
429A Davenport Ranc 18.71 332 ⇓P Pn 21 11 58.2 -0.4
baz=19,SNR=5.4
233A Rising Star 18.81 341 ⇓P Pn 21 11 59.4 -0.3
baz=19
135A Vickery Place, 18.90 345 ⇓P Pn 21 12 01.2 +0.4
baz=19
232A Coleman 18.93 339 ⇓P Pn 21 12 00.7 -0.5
baz=19,SNR=9.2
330A Mertzon 19.08 335 ⇑P P 21 12 01.6 +0.1
baz=19,SNR=5.7
428A Kincaid Ranch, 19.16 331 ⇑P P 21 12 02.8 +0.3
baz=19
231A Bronte 19.21 338 ⇓P P 21 12 03.1 +0.1
baz=19,SNR=5.4
133A Hamilton Ranch 19.36 342 ⇓P P 21 12 05.1 +0.5
baz=20
230A Sterling City 19.47 336 ⇓P P 21 12 05.6 -0.2
baz=20,SNR=12
329A Wagon Wheel Ra 19.49 333 ⇑P P 21 12 06.3 +0.3
baz=20
ABTX Abilene, Hawle 19.60 340 *e*P P 21 12 07.0 -0.2
6.2nm,0.5s
ABTX Abilene, Hawle 19.60 340 ⇓P P 21 12 07.9 +0.7
baz=20
Z35A Perchaven, San 19.60 347 ⇑P Pn 21 12 08.9 -0.2
baz=20
328A Wristen Ranch, 19.77 331 ⇑P P 21 12 09.2 +0.2
baz=20,SNR=15
Z34A Collier Ranch, 19.80 345 ⇓P Pn 21 12 10.5 -0.9
baz=20
229A Bryant Ranch, 19.83 334 ⇓P P 21 12 09.6 -0.2
baz=20
131A Roby 19.90 339 ⇑P P 21 12 10.7 +0.2
baz=20
LPIG La Paz 19.94 302 LR LR 21 20 26.9
comp=Z,206nm,20.4s,baz=336,slow=38
Z33A Whitaker Ranch 19.95 343 ⇓P P 21 12 12.1 +1.1
baz=20,SNR=14
130A Snyder 20.05 337 ⇑P P 21 12 12.0 0.0
baz=20
Z32A Haskell 20.18 341 ⇓P P 21 12 14.0 +0.5
baz=20,SNR=8.6
MIAR Mount Ida 20.26 356 *e*P P 21 12 12.4 -1.9
20nm,1.3s
228A UT Block 9, Go 20.29 333 ⇑P P 21 12 14.5 -0.3
baz=20
Z31A Sharp Cattle R 20.41 340 ⇓P P 21 12 16.2 +0.3
baz=20,SNR=16
129A Stewart Farms, 20.43 335 ⇑P P 21 12 15.8 -0.5
baz=20,SNR=7.4
227A Bennet, Jal 20.52 331 ⇑P P 21 12 17.5 +0.3
baz=21
Y33A Hilltop Ranch, 20.59 344 ⇑P P 21 12 18.6 +0.8
baz=21
128A Castleberry Fa 20.68 334 ⇓P P 21 12 18.6 -0.4
baz=21,SNR=20
Z30A Sanderson Ranc 20.72 338 ⇓P P 21 12 18.7 -0.7
baz=21,SNR=39
Y32A R-V Farms, Ver 20.82 342 ⇑P P 21 12 20.1 -0.2
baz=21
Z29A Hungry Hill Ra 20.92 336 ⇑P P 21 12 20.5 -1.0
baz=21,SNR=15
X34A Smith Ranch, M 20.95 346 ⇓P Pn 21 12 24.5 -0.5
baz=21
226B Tecolote Peak, 20.99 330 ⇓P P 21 12 21.9 -0.4
baz=21,SNR=11
Y31A Rekieta Farm, 21.03 340 ⇓P P 21 12 23.1 +0.4
baz=21,SNR=16
X33A Lawton 21.06 345 ⇑P P 21 12 24.3 +1.4
baz=21,SNR=7.0
127A Arkansas Junct 21.11 332 ⇑P P 21 12 23.4 -0.2
baz=21
X32A Elmer 21.16 343 ⇓P P 21 12 23.9 -0.1
baz=21
Y30A Stafford Cattl 21.17 339 ⇓P P 21 12 23.8 -0.4
baz=21,SNR=9.4
Z28A Tucker Farm, M 21.21 335 ⇑P P 21 12 23.5 -1.2
baz=21,SNR=7.7
225A Deer Hill, Car 21.34 329 ⇑P P 21 12 25.8 -0.4
baz=21,SNR=5.4
126A Clayton Basin, 21.39 331 ⇑P P 21 12 25.7 -0.8
baz=22,SNR=5.0
Y29A Porterfield Fa 21.44 337 ⇑P P 21 12 26.7 -0.4
baz=22,SNR=5.9
W34A Bridge Creek, 21.55 347 ⇑P P 21 12 28.8 +0.7
baz=22
X31A McDonald Ranch 21.56 342 ⇓P P 21 12 28.5 +0.2
baz=22,SNR=14
Z27A Tatum 21.59 333 ⇓P P 21 12 27.5 -1.2
baz=22,SNR=12
W33A Caddo, Fort Co 21.63 345 ⇓P P 21 12 29.5 +0.5
baz=22,SNR=5.8
X30A Coker Ranch, T 21.68 340 ⇑P P 21 12 29.6 0.0
baz=22,SNR=12
Y28A McKinney Farm, 21.70 336 ⇑P P 21 12 29.3 -0.6
baz=22,SNR=10.0
125A Gardner Draw, 21.70 330 ⇑P P 21 12 29.2 -0.8
baz=22,SNR=13
W32A Sentinel 21.81 344 ⇓P P 21 12 30.8 -0.1
baz=22,SNR=8.0
TUL1 Tulsa 21.84 351 ⇑P P 21 12 33.0 +1.8
baz=22
MSTX Muleshoe 21.96 335 *e*P P 21 12 31.2 -1.6
20nm,1.0s
MSTX Muleshoe 21.96 335 ⇓P P 21 12 31.6 -1.1
baz=22,SNR=7.3
X29A Tulia 21.97 338 ⇓P P 21 12 31.9 -0.9
baz=22,SNR=7.8
Y27A Causey 22.05 334 ⇑P P 21 12 32.7 -1.0
baz=22,SNR=5.5
V34A Guthrie 22.07 348 ⇓P P 21 12 33.5 -0.3
baz=22
X28A Dimmitt 22.22 337 ⇑P P 21 12 34.3 -1.2
baz=22
V33A Lossen Ranch, 22.23 346 ⇑P P 21 12 35.3 -0.1
baz=22
V32A Arapaho 22.32 345 ⇓P P 21 12 35.8 -0.6
baz=22,SNR=6.7
AMTX Amarillo 22.36 338 ⇓P P 21 12 35.6 -1.3
baz=22
Y26A Elida 22.37 333 ⇑P P 21 12 35.9 -1.2
baz=22,SNR=9.0
TKL Tuckaleechee C 22.52 17 LR LR 21 23 31.0
comp=Z,326nm,18.1s,baz=201,slow=42
W29A Amraillo 22.56 339 ⇓P P 21 12 38.2 -0.9
baz=23,SNR=14
V31A Spring Creek L 22.59 343 ⇓P P 21 12 39.7 +0.4
baz=23,SNR=8.3
Z24A Sheeppen Canyo 22.60 329 ⇑P P 21 12 39.1 -0.5
baz=23,SNR=9.1
U34A Anderson Ranch 22.66 348 ⇓P P 21 12 40.1 +0.1
baz=23
X27A F and S Farms, 22.69 335 ⇑P P 21 12 38.9 -1.5
baz=23
Y25A Mesa, Roswell 22.76 332 ⇓P P 21 12 40.7 -0.5
baz=23,SNR=6.8
U33A Lingo Farm, Me 22.77 347 ⇓P P 21 12 41.0 -0.2
baz=23,SNR=5.5
V30A Spur Ranch, Mi 22.83 341 ⇓P P 21 12 41.3 -0.6
baz=23
W28A Vega 22.88 338 ⇑P P 21 12 41.6 -0.9
baz=23,SNR=9.6
X26A CR and CF Fran 22.90 334 ⇓P P 21 12 41.3 -1.4
baz=23,SNR=5.2
U32A Winter Ranch, 22.93 345 ⇓P P 21 12 42.3 -0.6
baz=23
W27A Bowe Ranch, En 23.04 336 ⇓P P 21 12 43.4 -0.7
baz=23,SNR=18
Y24A Capitan 23.11 330 ⇑P P 21 12 44.6 -0.3
baz=23,SNR=5.5
X25A Clemmons Ranch 23.25 332 ⇓P P 21 12 46.1 -0.1
baz=23,SNR=9.1
121A Cookes Peak, D 23.26 324 *e*P P 21 12 45.6 -0.7
10nm,1.0s
121A Cookes Peak, D 23.26 324 ⇑P P 21 12 46.3 0.0
baz=23,SNR=5.8
V28A Channing 23.33 338 ⇑P P 21 12 46.0 -0.8
baz=23,SNR=13
319A Douglas 23.34 320 ⇓P P 21 12 46.6 -0.3
baz=23
W26A Owens Ranch, T 23.34 335 ⇓P P 21 12 45.3 -1.7
baz=23
Z22A Elephant Butte 23.36 327 ⇓P P 21 12 46.5 -0.7
baz=23
Y23A Lovelace Mesa, 23.42 329 ⇑P P 21 12 48.0 +0.2
baz=24,SNR=5.2
T33A Patterson Ranc 23.43 347 ⇓P P 21 12 47.6 0.0
baz=24
U29A Oasis Ranch, S 23.64 341 ⇑P P 21 12 48.8 -0.9
baz=24
T32A Huddler Ranch, 23.67 346 ⇑P P 21 12 49.7 -0.2
baz=24,SNR=5.6
W25A X Bar L Ranch, 23.74 334 ⇓P P 21 12 50.4 -0.3
baz=24,SNR=13
T31A Randall Ranch, 23.78 344 ⇑P P 21 12 50.7 -0.2
baz=24
U28A Mallet 23.89 339 ⇑P P 21 12 51.1 -0.9
baz=24
V26A Tequesquite Ra 23.96 336 ⇓P P 21 12 52.6 0.0
baz=24,SNR=9.7
T30A Plains 23.97 343 ⇓P P 21 12 52.6 -0.1
baz=24
U27A Thompson Grove 24.14 338 ⇑P P 21 12 54.8 +0.6
baz=24,SNR=18
W24A Lazy 6 Ranch, 24.16 332 ⇓P P 21 12 54.9 +0.5
baz=24,SNR=9.7
S32A Newby Ranch, P 24.17 346 ⇑P P 21 12 54.7 +0.3
baz=24
S31A Mullinville 24.23 345 ⇑P P 21 12 55.4 +0.5
baz=24
V25A Rancho No Teng 24.34 334 ⇑P P 21 12 56.5 +0.4
baz=24,SNR=12
ANMO Albuquerque 24.43 330 P P 21 12 57.0 +0.1
0.9nm,0.5s,baz=114,slow=14,SNR=3.7
ANMO Albuquerque 24.43 330 *e*P P 21 12 56.7 -0.3
1.0nm,0.5s
U26A Atchley Ranch, 24.47 336 ⇑P P 21 12 58.1 +0.8
baz=25,SNR=23
S30A Montezuma 24.50 343 ⇓P P 21 12 58.0 +0.6
baz=25
V24A Rampart Ranch, 24.53 333 ⇓P P 21 12 58.5 +0.7
baz=25
T28A Walsh 24.53 340 ⇑P P 21 12 57.1 -0.6
baz=25,SNR=6.9
R33A Olander Ranch, 24.56 348 ⇓P P 21 12 58.9 +1.1
baz=25
S29A Ulysses 24.67 342 ⇑P P 21 12 59.5 +0.5
baz=25,SNR=16
T27A Campo 24.68 339 ⇑P P 21 12 58.9 -0.2
baz=25,SNR=6.2
U25A Circle Dot Ran 24.73 335 ⇑P P 21 13 01.1 +1.4
baz=25,SNR=14
R32A Long Quarter, 24.82 347 ⇑P P 21 13 01.3 +1.0
baz=25
R31A Burdett 24.87 346 ⇑P P 21 13 01.2 +0.5
baz=25,SNR=8.3
S28A Manter 24.89 341 ⇓P P 21 13 00.7 -0.3
baz=25
V23A Ortiz Mt. (NFS 24.95 332 ⇓P P 21 13 02.3 +0.5
baz=25
R30A Dighton 25.06 344 ⇓P P 21 13 03.1 +0.6
baz=25,SNR=21
T26A Comanche Natio 25.10 338 ⇑P P 21 13 03.5 +0.5
baz=25
Q32A Meitler Ranch, 25.33 348 ⇓P P 21 13 05.5 +0.6
baz=26,SNR=7.5
T25A Trinidad 25.38 336 ⇓P P 21 13 06.6 +1.1
baz=26,SNR=12
R29A Marienthal 25.43 343 ⇓P P 21 13 06.1 +0.3
baz=26,SNR=13
V22A San Miguel Ran 25.43 331 ⇓P P 21 13 06.3 +0.2
baz=26
U23A El Rito 25.44 332 ⇓P P 21 13 07.0 +0.9
baz=26
S26A Kim 25.45 338 ⇑P P 21 13 06.6 +0.5
baz=26
R28A Tribune 25.55 342 ⇑P P 21 13 07.1 +0.1
baz=26,SNR=5.0
Q30A Quinter 25.70 345 ⇓P P 21 13 09.9 +1.6
baz=26,SNR=6.3
T24B San Luis 25.70 335 ⇓P P 21 13 08.4 -0.2
baz=26
U22A Llaves 25.78 331 ⇑P P 21 13 10.1 +0.8
baz=26
R27A Eads 25.81 340 ⇓P P 21 13 09.6 +0.2
baz=26
Q29A Oakley 25.82 344 ⇑P P 21 13 11.0 +1.6
baz=26
S25A Robets Cordova 25.84 337 ⇓P P 21 13 11.4 +1.7
baz=26,SNR=9.8
P31A Stockton 26.02 347 ⇑P P 21 13 12.8 +1.7
baz=26
R26A Arlington 26.05 339 ⇑P P 21 13 11.9 +0.4
baz=26
S24A Houchin Ranch, 26.13 335 ⇓P P 21 13 13.0 +0.5
baz=26
R25A Fountain Ranch 26.21 337 ⇓P P 21 13 13.5 +0.5
baz=26
Q28A Sharon Springs 26.22 342 ⇑P P 21 13 14.0 +1.0
baz=26
P30A Selden 26.24 345 ⇓P P 21 13 14.6 +1.5
baz=26,SNR=7.7
R24A Sanders Place, 26.60 336 ⇓P P 21 13 17.0 +0.4
baz=27
Q26A Hugo 26.63 339 ⇑P P 21 13 17.2 +0.4
baz=27
P28A Saint Francis 26.67 343 ⇓P P 21 13 17.8 +0.7
baz=27
X16A Lo Mia Camp, P 26.74 322 ⇑P P 21 13 18.3 +0.4
baz=27
R23A Moffat 26.85 335 ⇓P P 21 13 19.4 +0.5
baz=27
Q25A Bedland, Calha 26.88 338 ⇓P P 21 13 19.5 +0.4
baz=27
S22A 4UR Ranch, Cre 26.90 333 ⇑P P 21 13 19.8 +0.4
baz=27,SNR=6.8
MVCO Mesa Verde 27.23 330 ⇑P P 21 13 22.1 -0.2
baz=27
P23A Jefferson 27.87 336 ⇓P P 21 13 29.6 +1.4
baz=28
ISCO Idaho Springs 28.16 337 *e*P P 21 13 29.5 -1.1
7.8nm,1.5s
ISA Isabella 31.99 317 *e*P P 21 14 04.2 -0.1
HWUT Hardware Ranch 32.16 332 *e*P P 21 14 05.5 -0.3
SADO Sadowa 32.28 17 P P 21 14 06.9 +0.3
4.2nm,0.7s,baz=255,slow=7.9,SNR=3.6
NVAR Mina Array Bea 33.54 321 P P 21 14 18.0 +0.1
3.0nm,0.7s,baz=133,slow=7.9,SNR=24
NVAR LR LR 21 29 37.3
comp=Z,285nm,18.3s,baz=234,slow=39
HLID Hailey 35.00 331 *e*P P 21 14 29.9 -0.6
11nm,1.5s
HLID Hailey 35.00 331 ⇑P P 21 14 30.8 +0.2
baz=35
MCMT McKenzie Canyo 35.29 334 *e*P P 21 14 33.1 +0.1
6.0nm,1.1s
LRM Limekiln Ridge 35.93 335 *e*P P 21 14 37.9 -0.6
82nm,1.3s
ULM Lac du Bonnet 36.04 356 P P 21 14 39.3 +0.2
1.3nm,0.4s,baz=178,slow=13,SNR=2.8
ULM LR LR 21 30 48.1
comp=Z,84nm,18.5s,baz=192,slow=38
LPAZ La Paz 38.37 141 P P 21 15 00.7 +0.8
0.8nm,0.7s,baz=304,slow=11,SNR=2.3
LPAZ La Paz 38.37 141 *e*P P 21 14 59.7 -0.2
2.9nm,1.1s
SCHQ Schefferville 44.94 20 LR LR 21 36 08.8
comp=Z,326nm,18.2s,baz=234,slow=38
YKA Yellowknife Ar 50.80 347 P P 21 16 37.8 +0.2
6.0nm,0.7s,baz=150,slow=7.4,SNR=96
YKA PcP PcP 21 17 53.5 0.0
0.3nm,0.5s,baz=150,slow=3.9,SNR=3.9
YKW3 Yellowknife Ar 50.86 347 *e*P P 21 16 37.7 -0.3
0.2nm,0.8s
FRB Frobisher Bay 52.04 13 LR LR 21 40 55.5
comp=Z,223nm,18.5s,baz=190,slow=38
CPUP Villa Florida 52.51 140 LR LR 21 38 39.7
comp=Z,134nm,18.4s,baz=9.0,slow=35
ILAR Eielson Array 62.65 337 P P 21 18 01.2 -0.3
3.2nm,0.9s,baz=137,slow=4.0,SNR=14
ILAR LR LR 21 48 32.5
comp=Z,69nm,18.9s,baz=144,slow=39
BBTS Babate 72.61 79 LR LR 21 47 04.8
comp=Z,97nm,18.4s,baz=230,slow=32
JMIC Jan Mayen 74.46 20 LR LR 21 52 34.8
comp=Z,159nm,18.4s,baz=256,slow=36
MDT Midelt 80.16 59 LR LR 21 50 22.2
comp=Z,80nm,18.8s,baz=36,slow=32
NOA NORSAR Array B 83.87 28 LR LR 21 56 07.8
comp=Z,41nm,21.9s,baz=0.0,slow=35
ARCES ARCESS Array B 85.86 18 P P 21 20 17.3 +0.9
1.9nm,0.8s,baz=280,slow=5.1,SNR=3.3
ARCES LR LR 21 58 39.9
comp=Z,48nm,18.6s,baz=308,slow=36
GERES GERESS Array B 89.33 40 LR LR 21 59 28.8
comp=Z,71nm,19.9s,baz=295,slow=35
TORD Torodi Ar. Bea 90.21 76 P P 21 20 38.4 +0.2
2.1nm,0.3s,baz=290,slow=5.9,SNR=3.7
FINES FINESS Array B 90.22 25 P P 21 20 37.1 -0.2
0.4nm,0.7s,baz=337,slow=3.2,SNR=2.5
FINES LR LR 22 01 31.4
comp=Z,74nm,18.0s,baz=82,slow=36
AKASG Malin Array Be 97.45 33 LR LR 22 05 34.4
comp=Z,19nm,19.4s,baz=5.0,slow=36
OBN Obninsk 98.40 27 LR LR 22 07 36.7
comp=Z,106nm,18.2s,baz=148,slow=36
MKAR Makanchi Array 119.01 5 PKP PKPdf 21 26 24.5 -1.1
0.2nm,0.7s,baz=0.0,slow=1.7,SNR=2.8
WRA Warramunga Arr 135.56 256 PKP PKPdf 21 26 55.5 -2.3
0.5nm,1.0s,baz=66,slow=2.0,SNR=3.0
CMAR Chiang Mai Arr 145.78 342 PKPbc PKPdf 21 27 16.3 +0.1
3.0nm,0.9s,baz=351,slow=4.6,SNR=20

ISCJB ***09*** *21:43:03.7±0.8, 19°.8S±0°.2×178°.0W±0°.2, h569km, mb4.0/11, Error ellipse: s-maj=23.8km s-min=15.3km az=44.0*

IDC ***09*** *21:43:07.0±3.5, 19°.92S×177°.97W, h600km±38km, mb3.5/11, mb1 3.7/13, mb1mx3.5/22, mbtmp4.4/13, Error ellipse: s-maj=26.0km s-min=23.3km az=126.0*

ISC 09 21:43:04.1±0.9**, 19°.8S**±0°.2×**177°.8W**±0°.2**, h569**km**, n25, σ1s.01**/25**, mb4.0**/11**, Fiji Islands region**

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

DZM Mont Dzumac 14.89 259 P P 21 46 14.6 +2.4
1.0nm,0.3s,baz=121,slow=22,SNR=8.3
URZ Urewera 18.88 192 P P 21 46 49.2 +0.4
2.2nm,0.3s,baz=9.5,slow=6.1,SNR=5.5
CTA Charters Tower 33.75 263 P P 21 48 59.2 -0.3
10nm,0.4s,baz=90,slow=10,SNR=21
PMG Port Moresby 35.39 282 P P 21 49 13.2 0.0
8.5nm,0.6s,baz=108,slow=9.6,SNR=6.3
STKA Stephens Creek 38.25 243 P P 21 49 36.1 -0.3
2.5nm,0.6s,baz=84,slow=6.9,SNR=5.8
ASAR Alice Springs 44.86 256 P P 21 50 28.2 -0.5
6.3nm,0.4s,baz=88,slow=8.5,SNR=75
ASAR PcP PcP 21 51 57.5 -0.6
0.6nm,0.3s,baz=109,slow=3.6,SNR=4.9
WRA Warramunga Arr 44.88 261 P P 21 50 27.6 -1.2
3.7nm,0.3s,baz=98,slow=7.6,SNR=196
WRA PcP PcP 21 51 57.8 -0.4
0.5nm,0.7s,baz=93,slow=3.4,SNR=3.0
MJAR Matsushiro Arr 69.80 323 P P 21 53 17.4 -0.6
2.2nm,0.4s,baz=154,slow=5.8,SNR=10
USRK Ussuriysk Arra 78.53 326 P P 21 54 08.1 +1.1
2.5nm,0.8s,baz=123,slow=5.3,SNR=7.2
NVAR Mina Array Bea 80.42 43 P P 21 54 19.5 +2.1
0.2nm,0.6s,baz=251,slow=5.4,SNR=2.7
ILAR Eielson Array 87.64 13 P P 21 54 51.4 -0.5
5.3nm,1.3s,baz=218,slow=5.7,SNR=14
CMAR Chiang Mai Arr 90.08 290 P P 21 55 04.7 +0.3
1.3nm,0.9s,baz=124,slow=2.8,SNR=9.2
YKA Yellowknife Ar 95.84 25 P P 21 55 29.8 +0.1
0.1nm,0.5s,baz=242,slow=4.2,SNR=3.2
MKAR Makanchi Array 110.89 314 PKiKP PKiKP 22 00 31.8 -1.3
0.2nm,0.6s,baz=209,slow=0.7,SNR=4.5
KURBB Kurchatov Arra 113.69 317 PKiKP PKiKP 22 00 36.5 -1.7
0.2nm,0.4s,baz=90,slow=1.9,SNR=4.3
BVAR Borovoye Array 118.70 320 PKP PKPdf 22 00 46.4 -1.4
0.6nm,0.5s,baz=96,slow=0.3,SNR=6.6
ARCES ARCESS Array B 128.31 350 PKP PKPdf 22 01 05.6 -0.2
0.7nm,0.6s,baz=35,slow=2.2,SNR=3.9
HFS Hagfors 138.92 351 PKhKP PKPpre 22 01 16.4
0.5nm,0.3s,baz=64,slow=3.4,SNR=6.0
AKASG Malin Array Be 142.53 332 PKhKP PKPpre 22 01 28.0
1.1nm,0.3s,baz=42,slow=4.2,SNR=7.7
EKA Eskdalemuir Ar 144.34 5 PKP PKPbc 22 01 35.2 -0.2
0.7nm,0.5s,baz=324,slow=3.5,SNR=5.1
BRTR Keskin Array B 146.54 313 PKPbc PKPbc 22 01 41.7 -0.9
1.5nm,0.6s,baz=80,slow=1.6,SNR=8.6
CLL Collm 147.47 347 *i* PKPbc PKPbc 22 01 44.5 +0.1
comp=Z,5.0nm,0.7s
CLL *i* PKPab PKPab 22 01 48.2 -0.2
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 147.67 346 *e*P PKPbc 22 01 45.5 +0.5
comp=Z,5.2nm,0.9s
MLR Muntele Rosu 147.78 328 PKPbc PKPbc 22 01 45.1 -0.5
GERES GERESS Array B 149.62 345 PKPbc PKPbc 22 01 50.2 +0.2
comp=Z,2.0nm,0.8s,baz=32,slow=3.8,SNR=14

MEX 09 21:44:49.3±0.7**, 15°.92N**×**96°.89W, h23**km±29km**, MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.47**	**123**	*i* P	Pb	21 44 58.1	-0.9
PANG				*i* S	Sb	21 45 03.0	-2.6
HUIG	**Huatulco**	**0.77**	**101**	*e*P	Pb	21 45 01.9	-2.0
HUIG				*e*S	Sb	21 45 11.0	-2.9
VHO	**Vista Hermosa**	**1.15**	**7**	*i* P	Pn	21 45 07.2	-3.2
VHO				*i* S	Sb	21 45 21.3	-4.3
OXX	**Oaxaca**	**1.16**	**8**	*i* P	Pn	21 45 10.4	0.0
OXX				*e*S	Sn	21 45 23.6	-2.3
PNIG	**Pinotepa**	**1.28**	**292**	*i* P	Pn	21 45 08.6	-3.3
PNIG				*e*S	Sn	21 45 23.9	-4.5
CMIG	**Matias Romero**	**2.25**	**59**	*i* P	Pn	21 45 21.9	-3.2
CMIG				*i* S	Sn	21 45 49.0	-3.2
TPIG	**Tehuac#an**	**2.52**	**350**	*e*S	Sn	21 45 56.7	-2.7
ACX	**Acapulco**	**3.00**	**289**	*i* P	Pb	21 45 46.0	+3.9
ACX				*e*S	Sb	21 46 21.1	+2.6
PCIG		**3.54**	**93**	*i* P	Pn	21 45 40.2	-2.7
PCIG				*i* S	Sn	21 46 20.6	-3.4

IDC ***09*** *21:53:13.5±1.8, 15°.24S×173°.43W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/27, mbtmp3.8/6, MS3.3/6, Ms1 3.3/6, ms1mx3.2/33, Error ellipse: s-maj=102.4km s-min=22.6km az=145.0*

ISC 09 21:53:18.1±1.6**, 15°.2S**±0°.5×**173°.5W**±0°.4**, h30**km**, n22,**

σ0§59/9, mb3.7/6, MS3.5/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.10	53	Pn	Pn	21 53 44.0	-7.3
	23nm,0.3s,baz=240,slow=3.3,SNR=13						
AFI				Sn	Sn	21 54 02.2	-14
	294nm,0.3s,baz=66,slow=20,SNR=35						
AFI				T	T	21 55 53.9	
	20nm,0.3s,baz=299,slow=19,SNR=2.3						
RAR	Rarotonga	14.36	117	LR	LR	22 00 48.3	
	comp=Z,136nm,18.5s,baz=183,slow=32						
PPT	Papeete	23.08	99	LR	LR	22 06 24.2	
	comp=Z,51nm,18.4s,baz=282,slow=34						
H11S2	WAKE ISLAND Hy	38.73	329	T	T	22 42 08.8	
	baz=152						
H11S3	WAKE ISLAND Hy	38.74	329	T	T	22 42 11.0	
	baz=152						
H11S1	WAKE ISLAND Hy	38.74	329	T	T	22 42 08.8	
	baz=152						
H11N3	WAKE ISLAND Hy	39.67	330	T	T	22 43 22.8	
	baz=138						
H11N1	WAKE ISLAND Hy	39.68	330	T	T	22 43 23.5	
	baz=138						
H11N2	WAKE ISLAND Hy	39.69	330	T	T	22 43 20.2	
	baz=138						
STKA	Stephens Creek	44.06	240	P	P	22 01 23.0	-0.5
	1.5nm,0.7s,baz=50,slow=7.9,SNR=4.2						
WRA	Warramunga Arr	49.79	257	P	P	22 02 08.7	+0.2
	1.1nm,0.7s,baz=90,slow=7.0,SNR=25						
ASAR	Alice Springs	50.08	252	P	P	22 02 10.9	+0.3
	4.2nm,0.8s,baz=86,slow=8.4,SNR=38						
MJAR	Matsushiro Arr	68.71	320	LR	LR	22 27 45.6	
	comp=Z,37nm,21.9s,baz=55,slow=30						
JOW	Kunigami	70.27	306	LR	LR	22 29 39.6	
	comp=Z,6.0nm,20.8s,baz=313,slow=31						
KSRS	Korea Array	75.93	316	LR	LR	22 37 40.5	
	comp=Z,24nm,18.0s,baz=105,slow=35						
TXAR	Lajitas Array	80.58	56	P	P	22 05 28.6	+0.5
	0.6nm,1.0s,baz=236,slow=6.4,SNR=4.0						
ILAR	Eielson Array	82.25	11	P	P	22 05 35.6	-0.5
	0.4nm,0.8s,baz=191,slow=4.2,SNR=4.0						
YKA	Yellowknife Ar	89.94	23	P	P	22 06 13.5	-0.5
	0.2nm,0.7s,baz=237,slow=4.5,SNR=5.3						
SONM	Songino Array	94.62	318	LR	LR	22 49 17.4	
	comp=Z,35nm,18.0s,baz=188,slow=36						
BVAR	Borovoye Array	117.65	322	PKP	PKPdf	22 12 00.9	-0.2
	0.2nm,0.6s,baz=93,slow=2.9,SNR=2.5						
GERES	GERESS Array B	145.91	351	PKPbc	PKPab	22 12 55.6	+0.3
	0.5nm,0.7s,baz=106,slow=2.9,SNR=5.0						
BRTR	Keskin Array B	145.93	321	PKPbc	PKPab	22 12 56.6	+0.9
	4.5nm,1.0s,baz=55,slow=2.5,SNR=13						

ISCJB 09 22:44:28.0±0.3, 18°36N±0°05×72°62W±0°02, h13km, mb3.9/12, MS3.6/6, Error ellipse: s-maj=6.6km s-min=3.2km az=1.7
IDC 09 22:44:28.9±1.0, 18°28N×72°96W, h0km, mb3.9/11, mb1 4.2/12, mb1mx3.9/38, mbtmp4.0/12, ML4.5/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/37, Error ellipse: s-maj=30.4km s-min=19.0km az=28.0
NEIC 09 22:44:29.3±0.5, 18°44N×72°66W, h10km, mb4.0/4, Error ellipse: s-maj=10.5km s-min=7.1km az=188.0
NEIC Felt at Anse-a-Pitre, Delmas, Grand-Goave, Jacmel, Port-au-Prince and Petionville.
JSN 09 22:44:30.0±1.5, 18°70N×72°57W, h15km, MD4.7
ISC 09 22:44:30.5±0.5, 18°37N±0°07×72°66W±0°04, h13km, n41, σ1§97/48, mb4.0/12, MS3.4/6, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	Presa de Saban	1.44	65	ePn	Pn	22 44 54.2	-2.1
SDDR				eSn	Sn	22 45 10.8	-4.3
GTBY	Guantanamo Bay	2.78	304	ePn	Pn	22 45 11.9	-2.9
GTBY				eSn	Sn	22 45 48.8	+0.5
SMN1	Samana, DR	3.31	75	ePn	Pn	22 45 21.4	-0.7
SMN1				eSg	Sb	22 46 11.5	+2.1
GWJ	Greenwich	3.88	266	iP	Pn	22 45 29.3	-0.6
GWJ				iS	Sn	22 46 14.6	-0.8
HOJ	Hope	3.90	265	iP	Pn	22 45 30.2	0.0
STH	Stony Hill	3.95	266	iP	Pn	22 45 29.9	-1.0
MTDJ	Mount Denham	4.63	269	ePn	Pn	22 45 38.2	-2.1
MTDJ				eSn	Sn	22 46 34.2	+0.1
MCJ	Malvern	4.80	265	iP	Pn	22 45 43.7	+1.1
CRPR	Cabo Rojo, PR	5.29	93	ePn	Pn	22 45 46.9	-2.3
CRPR				eSn	Sn	22 46 46.4	-3.7
LSP	Las Mesas	5.30	91	ePn	Pn	22 45 49.3	-0.2
LSP				eSn	Sn	22 46 50.2	-0.3
LRS	Lares	5.53	90	ePn	Pn	22 45 51.4	-1.1
LRS				eSn	Sn	22 46 55.2	-0.8
OBIP	Obispado Ponce	5.76	92	ePn	Pn	22 45 55.3	-0.5
OBIP				eSn	Sn	22 46 57.7	-4.1
CELP	Cerrillos	5.79	92	ePn	Pn	22 45 56.3	+0.2
CELP				eSn	Sn	22 46 59.1	-3.4
SJG	San Juan	6.19	91	Pn	Pn	22 46 04.3	+2.7
	0.2nm,0.3s,baz=268,slow=8.5,SNR=4.4						
SJG				Sn	Sn	22 47 17.2	+4.8
	0.1nm,0.3s,baz=270,slow=20,SNR=4.0						
SJG	San Juan	6.19	91	ePn	Pn	22 45 59.2	-2.4
SJG				eSn	Sn	22 47 11.7	-0.7
SDV	Santo Domingo	9.63	168	ePn	Pn	22 46 49.5	+0.4
SDV				eSn	Sn	22 48 36.9	-0.5
JTS	JuntasAbangare	14.36	238	LR	LR	22 52 44.3	
	comp=Z,41nm,18.7s,baz=96,slow=35						
BBSR	BB Station	15.68	26	ePn	Pn	22 48 08.5	-2.6
	12nm,0.5s						
OTAV	Otavalo	18.90	198	eP	P	22 48 52.2	+0.2
	2.6nm,0.5s						
TKL	Tuckaleechee C	19.83	332	LR	LR	22 56 49.0	
	comp=Z,55nm,18.4s,baz=293,slow=37						
PTGA	Pitinga	22.72	145	P	P	22 49 34.4	+2.1
	6.6nm,0.9s,baz=346,slow=12,SNR=7.7						
PTGA				LR	LR	22 58 42.6	
	comp=Z,53nm,18.1s,baz=5.0,slow=37						
PTGA	Pitinga	22.72	145	eP	P	22 49 32.5	+0.1
	8.2nm,1.1s						
ATAH	Atahualpa	25.97	193	LR	LR	23 01 25.3	
	comp=Z,108nm,18.4s,baz=53,slow=39						
SADO	Sadowa	26.87	350	LR	LR	23 01 19.4	
	comp=Z,100nm,19.8s,baz=156,slow=38						
SAML	Samuel	28.71	160	eP	P	22 50 27.1	-0.6
	1.1nm,0.6s						
TXAR	Lajitas Array	30.30	297	P	P	22 50 41.5	-0.3
	2.3nm,1.3s,baz=97,slow=7.6,SNR=3.2						
LPAZ	La Paz	34.73	172	LR	LR	23 05 51.6	
	comp=Z,112nm,18.0s,baz=60,slow=37						
SCHQ	Schefferville	36.67	6	LR	LR	23 05 42.3	
	comp=Z,44nm,19.2s,baz=58,slow=35						
YKA	Yellowknife Ar	52.74	337	P	P	22 53 45.0	+0.3
	0.4nm,0.8s,baz=124,slow=7.5,SNR=6.9						
DLBC	Dease Lake	57.60	328	P	P	22 54 18.5	-1.6
	1.1nm,0.4s,baz=196,slow=27,SNR=3.3						
ESDC	Sonseca Array	62.26	54	P	P	22 54 53.8	+1.4
	1.0nm,0.8s,baz=283,slow=7.5,SNR=5.3						
ILAR	Eielson Array	66.81	333	P	P	22 55 21.8	+0.1
	0.4nm,0.9s,baz=91,slow=6.3,SNR=4.0						
TORD	Torodi Ar. Bea	71.32	82	P	P	22 55 51.5	+1.0
	0.8nm,0.3s,baz=281,slow=4.6,SNR=4.6						
GERES	GERESS Array B	74.04	43	P	P	22 56 09.3	+3.0
	2.1nm,0.8s,baz=266,slow=3.8,SNR=18						
ARCES	ARCESS Array B	75.77	21	P	P	22 56 17.5	+1.7
	6.3nm,1.1s,baz=282,slow=4.4,SNR=2.9						
FINES	FINESS Array B	78.14	29	P	P	22 56 32.1	+2.9
	1.0nm,0.7s,baz=296,slow=4.5,SNR=3.1						
AKASG	Malin Array Be	83.26	39	P	P	22 56 59.5	+2.7
	0.2nm,0.4s,baz=281,slow=4.0,SNR=3.3						
HHC	Hu-ho-hao-te	120.95	356	ePKP	PKPdf	23 03 22.7	-0.5
HHC				PP	PP	23 04 53.5	+2.8
HHC				PKS	PKSdf	23 06 58.1	-1.9
HHC				SKS	SKSdf	23 10 33.6	-1.7
HHC	Hu-ho-hao-te	120.95	356	SS	SS	23 21 18.3	-3.2
HHC				AMB	AMB		
	comp=Z,140nm,5.3s						
HHC				LR	LR		
	comp=N,290nm,18.2s						
HHC				LR	LR		
	comp=E,390nm,19.8s						
HHC				LR	LR		
	comp=Z,240nm,17.3s						
STKA	Stephens Creek	146.35	240	PKPbc	PKPdf	23 04 09.2	-1.2
	comp=Z,2.8nm,1.0s,baz=186,slow=11,SNR=3.1						
WRA	Warramunga Arr	154.46	262	PKP	PKPdf	23 04 23.0	-0.3
	comp=Z,0.2nm,0.7s,baz=69,slow=0.8,SNR=3.0						

MOS 09 22:49:47.2±1.4, 53°14N×158°07E, h142km, mb4.2/1, Error ellipse: s-maj=62.5km s-min=30.0km az=73.5
KRSC 09 22:49:47.6±0.9, 53°03N×158°77E, h140km±7km, ML3.8
ISCJB 09 22:49:48.2±0.5, 53°11N±0°05×158°6E±0°1, h141km±3km, mb3.1/4, Error ellipse: s-maj=11.4km s-min=5.4km az=33.7
IDC 09 22:49:49.1±0.8, 53°21N×158°14E, h142km±5km, mb3.1/4, mb1 3.4/4, mb1mx2.9/38, mbtmp3.5/4, Error ellipse: s-maj=34.5km s-min=26.7km az=147.0
ISC 09 22:49:48.5±0.8, 53°11N±0°05×158°64E±0°06, h143km±5km, n33, σ1§08/55, mb3.3/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	Petropavlovsk	0.09	174	ePN	Pn	22 50 07.5	-0.3
PET				eS	Sn	22 50 21.6	-0.7
PET				pmax	pmax		
	comp=Z,127nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.7s						
PET				smax	smax		
	comp=E,1μm,0.6s						
PET	Petropavlovsk	0.09	174	eP	Pn	22 50 07.7	-0.1
PET				eS	Sn	22 50 21.7	-0.6
UGLR	Uglovaya	0.15	49	iP	Pn	22 50 08.5	+0.5
UGLR				eS	Sn	22 50 22.8	0.0
AVH	Avacha	0.17	21	iP	Pn	22 50 08.3	+0.3
AVH				eS	Sn	22 50 22.7	-0.2
KOK	Koryaka	0.18	360	iP	Pn	22 50 08.3	+0.3
KOK				eS	Sn	22 50 22.4	-0.6
SMAR	Somma	0.18	33	eP	Pn	22 50 08.5	+0.3
SMAR				eS	Sn	22 50 23.0	-0.2
KRER	Koryakskii	0.20	19	iP	Pn	22 50 08.4	+0.2
KRER				eS	Sn	22 50 22.7	-0.6
SDLR	Sedlovina	0.22	42	iP	Pn	22 50 08.2	0.0
SDLR				eS	Sn	22 50 22.3	-0.8
KRX	Arik	0.25	2	iP	Pn	22 50 08.3	0.0
KRX				eS	Sn	22 50 22.3	-1.0
NLC	Nalytchevo	0.43	82	eP	Pn	22 50 09.0	+0.3
NLC				eS	Sn	22 50 23.7	-0.3
PETK	Petropavlovsk-	0.57	270	PN	Pn	22 50 09.0	-0.4
PETK				S	Sn	22 50 25.0	-0.4
PETK				pmax	pmax		
	comp=Z,59nm,0.3s						
PETK				smax	smax		
	comp=N,17nm,0.3s						
PETK	Petropavlovsk-	0.57	270	P	Pn	22 50 09.0	-0.4
	comp=N,59nm,0.3s,baz=89,slow=10,SNR=903						
PETK				S	Sn	22 50 24.9	-0.4
	comp=N,17nm,0.3s,baz=91,slow=18,SNR=14						
RUS	Russkaya	0.68	186	iP	Pn	22 50 09.7	-0.5
RUS				eS	Sn	22 50 25.4	-1.2
MTVR	Mutnovka	0.69	204	eP	Pn	22 50 11.2	+0.8
MTVR				eS	Sn	22 50 28.5	+1.5
GNL	Ganaly	0.72	325	iP	Pn	22 50 10.2	-0.3
GNL				eS	Sn	22 50 25.8	-1.5
SPN	Mys Shipunski	0.83	90	eP	Pn	22 50 11.3	+0.1
SPN				eS	Sn	22 50 27.7	-0.8
ASAK	Asacha	0.86	212	iP	Pn	22 50 12.0	+0.5
ASAK				eS	Sn	22 50 29.0	0.0
APC	Apacha	0.91	259	iP	Pn	22 50 11.9	+0.1
APC				iS	Sn	22 50 29.1	-0.5
KII	Karymskiy	1.04	27	eP	Pn	22 50 13.4	+0.3
KII				eS	Sn	22 50 31.6	-0.3
MIPR	Malaya Ipel'ka	1.42	235	eP	Pn	22 50 17.0	+0.3
PAU	Pauzhetka	1.99	215	eP	Pn	22 50 23.6	+0.5
PAU				eS	Sn	22 50 49.3	-0.3
TUMR	Tumrok	2.35	22	eP	Pn	22 50 28.7	+1.2
KMNR	Kamenistaya	2.81	19	eP	Pn	22 50 34.7	+1.5
ESO	Esso	2.82	1	eP	Pn	22 50 33.7	+0.5
SKR	Severo-Kuril's	2.89	214	ePN	Pn	22 50 31.0	-3.1
SKR				eS	Sn	22 51 05.5	-3.8
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=E,160nm,0.4s						
SKR				smax	smax		
	comp=N,200nm,0.3s						
SKR	Severo-Kuril's	2.89	214	eP	Pn	22 50 34.5	+0.4
SKR				eS	Sn	22 51 08.5	-0.8
SRDR	Sredinnyy	3.27	11	P	Pn	22 50 38.9	-0.2
KBTR	Krutoberegovo	3.94	36	eP	Pn	22 50 48.1	+0.4
BKI	Bering	4.79	61	eP	Pn	22 50 58.6	-0.3
BKI				eS	Sn	22 51 49.8	-4.0
MKAR	Makanchi Array	47.35	295	P	P	22 58 05.7	-1.9
	comp=N,0.1nm,0.4s,baz=57,slow=7.1,SNR=6.5						
TXAR	Lajitas Array	71.43	66	P	P	23 00 55.5	+2.2
	comp=N,0.3nm,0.5s,baz=295,slow=5.3,SNR=8.0						
WRA	Warramunga Arr	75.74	204	P	P	23 01 18.2	0.0
	comp=N,0.4nm,0.8s,baz=24,slow=6.4,SNR=4.1						
ASAR	Alice Springs	79.42	203	P	P	23 01 39.8	+1.3
	comp=N,0.3nm,0.3s,baz=14,slow=5.2,SNR=3.4						

IDC 09 23:10:01.6±1.1, 12°04S×170°19E, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.3/33, mbtmp4.5/11, ML3.9/1, MS3.7/16, Ms1 3.7/16, ms1mx3.6/28, Error ellipse: s-maj=43.1km s-min=18.2km az=140.0
ISCJB 09 23:10:04.7±0.6, 12°23S±0°09×170°24E±0°09, h33km, mb4.4/14, MS3.7/14, Error ellipse: s-maj=13.7km s-min=12.4km az=160.3
NEIC 09 23:10:06.6±0.5, 12°18S×170°21E, h35km, mb4.5/5, Error ellipse: s-maj=12.6km s-min=10.8km az=156.0
ISC 09 23:10:06.7±0.7, 12°2S±0°1×170°2E±0°1, h35km, n39, σ1§02/22, mb4.4/14, MS3.8/14, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	9.39	127	ePn	Pn	23 12 19.3	-0.3
	130nm,1.3s						
HNR	Honiara	10.45	284	LR	LR	23 16 14.2	
	comp=Z,786nm,18.7s,baz=116,slow=36						
DZM	Mont Dzumac	10.51	200	ePn	Pn	23 12 35.8	+0.8
	68nm,1.1s						
DZM				eLR	LR	23 15 04.8	
	849nm,26.6s						
DZM	Mont Dzumac	10.51	200	Pn	Pn	23 12 35.8	+0.8
	1.0nm,0.3s,baz=56,slow=16,SNR=8.4						
DZM				LR	LR	23 16 09.1	
	comp=Z,506nm,18.5s,baz=32,slow=35						
DZM	Mont Dzumac	10.51	200	ePn	Pn	23 12 34.8	-0.2
	25nm,0.9s						
RAO	Raoul Island	20.29	149	LR	LR	23 20 58.9	
	comp=Z,152nm,20.0s,baz=76,slow=32						
PMG	Port Moresby	22.81	275	P	P	23 15 07.5	+0.8
	5.7nm,0.3s,baz=66,slow=10.0,SNR=8.9						
PMG				LR	LR	23 22 52.9	
	comp=Z,181nm,18.5s,baz=100,slow=34						
CTA	Charters Tower	24.32	248	P	P	23 15 22.1	+0.8
	32nm,1.0s,baz=78,slow=12,SNR=21						
CTAO	Charters Tower	24.32	248	eP	P	23 15 21.7	+0.5
	29nm,0.8s						
ARMA	Armidale	25.04	221	eP	P	23 15 27.7	-0.1
	47nm,1.2s						
URZ	Urewera	26.72	168	LR	LR	23 24 01.7	
	comp=Z,68nm,19.5s,baz=3.5,slow=31						
H11S2	WAKE ISLAND Hy	30.64	353	T	T	23 48 22.6	
	baz=175,slow=78,SNR=88						
H11S3	WAKE ISLAND Hy	30.66	353	T	T	23 48 23.5	
	baz=175,slow=78,SNR=91						
H11S1	WAKE ISLAND Hy	30.66	353	T	T	23 48 24.0	
	baz=175,slow=78,SNR=71						
H11N1	WAKE ISLAND Hy	31.83	354	T	T	23 49 50.0	
	baz=174,slow=77,SNR=47						
H11N3	WAKE ISLAND Hy	31.83	354	T	T	23 49 50.2	
	baz=174,slow=77,SNR=50						
H11N2	WAKE ISLAND Hy	31.84	354	T	T	23 49 51.2	
	baz=174,slow=77,SNR=61						
STKA	Stephens Creek	32.84	229	P	P	23 16 37.9	+0.7
	3.2nm,0.9s,baz=56,slow=9.4,SNR=4.6						
STKA				LR	LR	23 29 51.8	
	comp=Z,162nm,19.0s,baz=41,slow=36						
WRAB	Tennant Creek	35.27	253	eP	P	23 16 56.8	-1.6
	4.7nm,0.8s						
WRA	Warramunga Arr	35.28	253	P	P	23 16 57.2	-1.3
	6.1nm,0.9s,baz=84,slow=8.8,SNR=33						
WRA				LR	LR	23 29 49.5	
	comp=Z,170nm,21.1s,baz=75,slow=34						
AS31	Alice Springs	36.30	247	eP	P	23 17 06.8	-0.5
ASAR	Alice Springs	36.30	247	P	P	23 17 06.8	-0.5
	19nm,0.9s,baz=74,slow=9.4,SNR=95						
ASAR				LR	LR	23 30 39.0	
	comp=Z,169nm,20.9s,baz=72,slow=34						
PPT2	Papeete2	39.18	103	eLQ	LQ	23 26 27.7	
	540nm,26.8s						
PPT2				eLR	LR	23 28 19.6	
	230nm,26.5s						
MJAR	Matsushiro Arr	57.05	329	LR	LR	23 40 42.8	
	comp=Z,74nm,21.9s,baz=105,slow=32						
KSRS	Korea Array	63.32	323	LR	LR	23 45 47.4	
	comp=Z,25nm,19.8s,baz=120,slow=34						
VNDA	Vanda	65.51	182	LR	LR	23 45 21.3	
	comp=Z,51nm,18.4s,baz=334,slow=32						
PETK	Petropavlovsk-	65.87	352	LR	LR	23 44 14.2	
	comp=Z,114nm,21.5s,baz=144,slow=31						
CMAR	Chiang Mai Arr	76.58	292	P	P	23 21 55.1	+1.0
	2.6nm,0.9s,baz=112,slow=4.1,SNR=17						
CMAR				LR	LR	23 52 10.3	
	comp=Z,19nm,21.4s,baz=119,slow=33						
QSPA	South Pole Qui	77.87	180	eP	P	23 21 59.4	-1.2
	2.4nm,0.9s						
H02S1	DAWSON INLET T	81.33	31	T	T	00 51 45.4	
	SNR=12						
ULN	Ulaanbaatar	81.80	323	eP	P	23 22 21.3	-1.0
	2.2nm,0.8s						
SONM	Songino Array	82.17	322	LR	LR	23 58 04.4	
	comp=Z,57nm,18.1s,baz=173,slow=35						
ILAR	Eielson Array	83.21	17	P	P	23 22 28.4	-0.7
	3.6nm,0.8s,baz=235,slow=5.6,SNR=20						
ILAR				LR	LR	23 52 14.1	
	comp=Z,54nm,21.8s,baz=184,slow=30						
PDAR	Pinedale Array	91.10	47	P	P	23 23 10.4	+2.2
	0.8nm,0.9s,baz=246,slow=3.8,SNR=4.7						
YKA	Yellowknife Ar	93.96	27	P	P	23 23 21.1	+0.6
	0.7nm,0.7s,baz=252,slow=4.5,SNR=11						
ZALV	Zalesovo Beam	97.02	324	LR	LR	00 06 24.7	
	comp=Z,37nm,19.2s,baz=70,slow=35						
MKAR	Makanchi Array	97.33	316	P	P	23 23 35.7	-0.7
	0.9nm,0.9s,baz=101,slow=4.6,SNR=6.7						
KEST	Kesra	150.84	327	PKPbc	PKPbc	23 29 56.1	0.0
	2.0nm,1.0s,baz=0.0,slow=3.0,SNR=5.4						
ESDC	Sonseca Array	152.10	350	PKPbc	PKPbc	23 29 57.5	-1.3
	0.1nm,0.3s,baz=79,slow=23,SNR=3.5						

NIED 09 23:16:00, 42°50N×143°00E, h44km, Mw3.6 Best double couple: $M_0$2.54000×10^14 NP1:φs273.00000°, δ44.00000°, λ20.00000°. NP2:φs168.00000°, δ77.00000°, λ132.00000°.
ISCJB 09 23:16:50.6±0.8, 42°42N±0°06×143°08E±0°06, h47km±6km, mb3.4/3, Error ellipse: s-maj=10.8km s-min=6.8km az=149.8
JMA 09 23:16:51.5±0.1, 42°48N×143°02E, h35km±1km, M3.6
JMA Felt I J1.
IDC 09 23:16:55.5±4.2, 42°62N×143°05E, h69km±28km, mb3.1/3, mb1 3.4/4, mb1mx3.1/32, mbtmp3.6/4, Error ellipse: s-maj=42.2km s-min=25.6km az=122.0
ISC 09 23:16:51.2±1.2, 42°44N±0°06×143°06E±0°05, h35km±2km, n13, σ0§83/18, mb3.3/3, 3C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.28	235	⇑P	Pn	23 16 59.1	0.0
JNBK				eS	Sn	23 17 04.8	-0.3
JCH	Churui	0.28	52	⇓P	Pn	23 16 59.1	0.0
JCH				eS	Sn	23 17 05.0	-0.2
JEM	Erimo	0.43	171	P	Pn	23 17 01.2	+0.4
JBT2	Biratori 2	0.62	303	⇑P	Pn	23 17 02.4	-1.1
JOB	Onbets	0.73	51	⇓P	Pn	23 17 05.6	+0.5
JOB				eS	Sn	23 17 16.4	+1.4
JAR	Ashorobuto	1.00	31	⇓P	Pn	23 17 08.3	-0.5
JAR				eS	Sn	23 17 20.9	-0.8
JAB	Ashibetsu	1.23	330	⇑P	Pn	23 17 12.3	+0.4
JEW	Eniwo	1.25	289	P	Pn	23 17 12.9	+0.7
JEW				eS	Sn	23 17 29.4	+1.5
ASAJ	Asahikawa	1.71	349	P	Pn	23 17 19.1	+0.6
	10.0nm,0.3s,baz=201,slow=9.1,SNR=24						
ASAJ				S	Sn	23 17 40.1	+1.0
	19nm,0.3s,baz=120,slow=32,SNR=13						
KSRS	Korea Array	12.64	252	P	P	23 19 55.2	-4.1
	0.7nm,0.3s,baz=64,slow=14,SNR=6.0						
MKAR	Makanchi Array	42.53	298	P	P	23 24 42.9	-0.3
	0.2nm,0.5s,baz=80,slow=8.6,SNR=5.0						
ILAR	Eielson Array	44.30	35	P	P	23 24 57.4	+0.3
	0.3nm,0.6s,baz=257,slow=5.1,SNR=4.3						
FINES	FINESS Array B	64.64	332	P	P	23 27 24.1	-0.8
	0.5nm,0.5s,baz=53,slow=5.4,SNR=6.4						

SJA 09 23:20:00.0±0.6, 29°85S×72°01W, h66km±7km, ML2.9, MW4.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	3.04	131	iP	Pn	23 20 48.8	+2.8
RTLS				eS	Sn	23 21 24.5	+3.0
AGUA	GUANDACOL	3.08	84	iP	Pn	23 20 48.7	+2.3
AMOG	MOGNA	3.23	111	iP	Pn	23 20 50.8	+2.4
AMOG				eS	Sn	23 21 28.2	+2.5
AUSP	Uspallata	3.27	137	iP	Pn	23 20 52.1	+2.9
AUSP				eS	Sn	23 21 30.4	+3.2
RTLL	Cerro Villicun	3.39	117	iP	Pn	23 20 53.1	+2.6
RTLL				eS	Sn	23 21 31.8	+2.2
CFAA	Coronel Fontan	3.69	119	iP	Pn	23 20 56.4	+1.8
AVFE	Valle Fertil	4.02	103	iP9	Pn	23 20 58.3	-0.9
AVFE				eS	Sn	23 21 44.2	-1.0
AVFE				AML	AML	23 21 46.4	
	comp=Z,15nm,0.3s						

IDC 09 23:39:32.0±2.7, 0°60S×133°21E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.5/21, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=191.7km s-min=20.2km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.26	177	P	P	23 43 58.1	-0.2
	0.1nm,0.3s,baz=356,slow=13,SNR=4.5						
ASAR	Alice Springs	22.94	178	P	P	23 44 38.5	+0.5
	0.7nm,0.3s,baz=357,slow=12,SNR=14						
STKA	Stephens Creek	32.10	167	P	P	23 46 00.8	-0.3
	0.5nm,0.4s,baz=0.0,slow=10,SNR=2.9						
H11N1	WAKE ISLAND Hy	38.70	57	T	T	00 28 07.3	
	baz=241						
H11N2	WAKE ISLAND Hy	38.71	57	T	T	00 28 07.0	
	baz=241						
H11N3	WAKE ISLAND Hy	38.71	57	T	T	00 28 08.8	
	baz=241						
MKAR	Makanchi Array	64.81	324	P	P	23 50 12.8	+0.1
	0.4nm,0.5s,baz=129,slow=7.3,SNR=10						
KURBB	Kurchatov Arra	68.89	326	P	P	23 50 38.4	-0.1
	0.2nm,0.3s,baz=116,slow=5.6,SNR=5.0						

IDC 09 23:47:33.6±1.7, 21°78S×179°48W, h568km±18km, mb3.7/15, mb1 3.9/17, mb1mx3.8/22, mbtmp4.6/17, Error ellipse: s-maj=18.5km s-min=12.7km az=149.0
ISCJB 09 23:47:34.6±0.3, 21°96S±0°06×179°55W±0°06, h592km, mb4.5/42, Error ellipse: s-maj=8.1km s-min=5.8km az=141.4
BJI 09 23:47:34.8, 22°13S×179°72W, h587km, mB5.0/6, mb4.6/13
NEIC 09 23:47:35.7±0.8, 21°92S×179°55W, h589km±10km, mb4.8/27, Error ellipse: s-maj=10.9km s-min=7.4km az=127.0
ISC 09 23:47:35.6±0.5, 21°95S±0°07×179°47W±0°08, h592km, n92, σ1§29/108, mb4.6/43, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.79	330	eP	P	23 49 06.0	-0.6
MSVF				eS	S	23 50 19.2	-1.4
DZM	Mont Dzumac	13.06	267	P	P	23 50 23.9	-1.4
	1.6nm,0.3s,baz=93,slow=17,SNR=10						
NFK	Norfolk Island	13.38	236	P	P	23 50 31.7	+3.4
	baz=12,SNR=4.0						
OUZ	Omahuta	14.55	203	eP	P	23 50 40.1	+0.4
URZ	Urewera	16.52	189	P	P	23 50 56.7	-1.2
	1.8nm,0.3s,baz=255,slow=2.9,SNR=7.7						
URZ	Urewera	16.52	189	eP	P	23 50 56.0	-1.9
BKZ	Black Stump Fm	17.51	190	eP	P	23 51 03.2	-3.7
	222nm,2.9s						
SNZO	South Karori	19.92	193	eP	P	23 51 29.6	+0.9
	335nm,1.7s						
LHI	Lord Howe Isla	21.38	239	P	P	23 51 51.9	+10

baz=20,SNR=3.6
RPZ Rata Peaks 23.09 198 eP P 23 51 59.1 +2.0
38nm,1.3s
EIDS Eidsvold 27.16 257 eP P 23 52 33.0 -0.2
11nm,0.6s
EIDS Eidsvold 27.16 257 P P 23 52 33.2 0.0
baz=26,SNR=7.3
ARMA Armidale 27.21 246 eP P 23 52 34.9 +1.1
14nm,0.4s
ARMA Armidale 27.21 246 P P 23 52 34.9 +1.1
baz=26,SNR=13
MGCD Mangrove Creek 28.29 240 P P 23 52 44.3 +1.3
baz=27,SNR=8.1
RMQ Roma 29.28 255 P P 23 52 52.8 +1.1
baz=28,SNR=8.3
CNB Canberra Magne 30.29 237 P P 23 53 01.3 +1.1
baz=29,SNR=12
CTA Charters Tower 32.01 267 P P 23 53 14.7 -0.3
23nm,0.4s,baz=93,slow=10.0,SNR=36
CTAO Charters Tower 32.01 267 eP P 23 53 14.8 -0.3
25nm,0.5s
CMSA Cobar Meteorol 32.43 245 P P 23 53 18.7 +0.3
baz=31,SNR=16
KWAJ Kwajalein Atol 33.08 336 eP P 23 53 25.1 +1.1
258nm,1.0s
QLP Quilpie 33.33 255 P P 23 53 26.0 -0.1
baz=32,SNR=19
MTSU Mount Surprise 34.18 270 P P 23 53 33.1 -0.2
baz=32,SNR=19
PMG Port Moresby 34.37 286 eP P 23 53 34.2 -0.7
30nm,0.8s
STKA Stephens Creek 35.93 246 P P 23 53 47.8 +0.1
11nm,0.6s,baz=92,slow=9.9,SNR=33
STKA ScP ScP 23 58 50.0 +1.6
2.5nm,0.9s,baz=23,slow=17,SNR=3.2
STKA Stephens Creek 35.93 246 eP P 23 53 48.0 +0.4
5.3nm,1.3s
STKA Stephens Creek 35.93 246 P P 23 53 48.0 +0.4
baz=35,SNR=24
COEN Coen 36.34 276 eP P 23 53 50.9 -0.2
132nm,0.8s
COEN Coen 36.34 276 P P 23 53 51.2 0.0
baz=34,SNR=23
QIS Mount Isa 38.09 264 P P 23 54 04.4 -0.9
baz=36,SNR=4.6
HTT Hallett 38.34 244 P P 23 54 07.2 -0.1
baz=37,SNR=11
BBOO Buckleboo 40.68 245 eP P 23 54 25.1 -0.9
268nm,0.9s
BBOO Buckleboo 40.68 245 P P 23 54 25.5 -0.4
baz=39,SNR=38
AS31 Alice Springs 42.87 258 eP P 23 54 41.8 -1.5
ASAR Alice Springs 42.87 258 P P 23 54 42.8 -0.5
21nm,0.8s,baz=97,slow=8.0,SNR=195
ASAR ScP ScP 23 59 18.0 +2.2
1.4nm,0.9s,baz=103,slow=4.2,SNR=6.7
WRAB Tennant Creek 43.05 264 eP P 23 54 43.4 -1.4
24nm,1.0s
WRA Warramunga Arr 43.06 264 P P 23 54 43.5 -1.3
15nm,0.8s,baz=98,slow=7.4,SNR=134
WRA ScP ScP 23 59 19.2 +2.6
2.3nm,0.9s,baz=93,slow=4.2,SNR=9.2
KDU Kakadu 46.63 273 P P 23 55 11.3 -0.8
baz=45,SNR=6.3
HPO Honuapo 47.02 32 eP P 23 55 13.9 -0.9
FORT Forrest 47.47 248 eP P 23 55 17.3 -0.9
37nm,0.7s
WRKA Warakurna 47.76 256 P P 23 55 20.0 -0.5
baz=46,SNR=86
KNRA Kununurra 49.21 268 P P 23 55 30.7 -0.5
baz=47,SNR=15
FAKI Fak Fak 50.51 285 eP P 23 55 40.0 -0.9
55nm,1.4s
PALU Palau 53.71 298 S S 00 02 50.9 -3.5
baz=52,SNR=4.3
SOEI Soe 55.19 273 eP P 23 56 15.2 +1.0
46nm,0.7s
SOEI Soe 55.19 273 P P 23 56 15.1 +1.0
baz=53,SNR=12
MEEK Meekatharra 56.16 252 P P 23 56 19.4 -1.2
baz=55,SNR=4.6
KLBR Kellerberrin 56.21 246 P P 23 56 20.2 -0.6
baz=55,SNR=6.1
VNDA Vanda 56.36 185 P P 23 56 22.6 +1.6
6.7nm,1.2s,baz=16,slow=7.8,SNR=4.2
VNDA Vanda 56.36 185 eP P 23 56 21.9 +0.9
101nm,2.0s
NWAO Narrogin (SRO) 56.50 244 P P 23 56 22.3 -0.5
7.7nm,0.8s,baz=79,slow=5.2,SNR=2.8
BLDU Ballidu 57.22 247 P P 23 56 27.2 -0.5
baz=56,SNR=5.8
MORW Morawa 58.02 249 P P 23 56 32.5 -0.6
baz=56,SNR=7.4
QSPA South Pole Qui 68.13 180 eP P 23 57 37.9 +0.6
6.7nm,0.9s
UGM Wanagama 68.57 270 P P 23 57 40.3 -0.5
baz=67,SNR=3.6
MJAR Matsushiro Arr 70.58 325 P P 23 57 51.6 -0.6
5.5nm,0.4s,baz=162,slow=6.7,SNR=6.6
PETK Petropavlovsk- 77.33 346 P P 23 58 29.5 -0.4
3.6nm,0.7s,baz=140,slow=9.7,SNR=5.4
NJ2 Nanjing 79.75 311 eP P 23 58 43.1 -0.1
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
ISA Isabella 81.32 46 eP P 23 58 52.0 +0.6
17nm,0.9s
DAC Darwin (Calif) 82.26 46 eP P 23 58 57.1 +0.8
8.0nm,1.1s
CN2 Changchun 82.61 323 eP P 23 58 57.9 +0.3
NVAR Mina Array Bea 83.02 44 P P 23 58 59.7 -0.4
2.1nm,0.8s,baz=229,slow=6.6,SNR=17
MOD Modoc 83.80 40 eP P 23 59 04.2 +0.5
10nm,1.4s
TUC Tucson 84.95 52 eP P 23 59 10.6 +1.0
CCUT Cedar City 85.80 47 eP P 23 59 14.7 +1.0
35nm,2.6s
GYA Guiyang 86.18 300 eP P 23 59 17.2 +1.6
GYA pP pP 00 01 23.8 +1.2
GYA sP sP 00 02 21.0 -0.9
GYA PP PP 00 02 50.4 +2.6
GYA SKS SKSac 00 08 45.7 -0.4
GYA S S 00 09 02.3 +0.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.0s
G08A Pilot Rock 86.60 38 eP P 23 59 17.6 +0.5
5.3nm,0.9s
SNAA Sanae 86.60 179 P P 23 59 15.6 -1.1
VNA3 Neumayer Olymp 86.79 177 P P 23 59 14.9 -2.6
E07A Sunnyside 86.84 37 eP P 23 59 18.9 +0.8
6.1nm,0.8s
VNA2 Neumayer--Watz 87.21 177 P P 23 59 18.8 -0.7
baz=184,slow=3.7
MFID Camas Ranch 87.37 41 eP P 23 59 21.1 +0.3
57nm,2.8s
D08A Wollman Farm, 87.66 37 eP P 23 59 22.5 +0.6
48nm,2.3s
HLID Hailey 88.31 41 eP P 23 59 25.6 +0.3
62nm,3.0s
HVU Hansel Valley 88.39 43 eP P 23 59 25.9 +0.3
4.4nm,0.9s
KMI Kunming 88.79 298 P P 23 59 30.1 +2.2
KMI pmax pmax
comp=Z,6.0nm,0.8s
TXAR Lajitas Array 88.99 58 P P 23 59 29.1 +0.5
2.7nm,0.9s,baz=212,slow=6.5,SNR=16
PLCA Paso Flores 89.27 134 P P 23 59 30.4 +0.6
3.2nm,0.8s,baz=236,slow=3.6,SNR=21
CMAR Chiang Mai Arr 89.31 290 P P 23 59 31.6 +1.4
2.9nm,0.8s,baz=138,slow=3.6,SNR=17
ANMO Albuquerque 89.38 52 P P 23 59 30.1 -0.4
1.1nm,0.6s,baz=238,slow=12,SNR=4.1
HHC Hu-ho-hao-te 89.39 315 eP P 23 59 36.4 +6.2
HHC PP PP 00 03 20.2 +7.4
HHC S S 00 09 39.8 +8.8
HHC pmax pmax
comp=Z,15nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.3s
ILAR Eielson Array 90.03 13 P P 23 59 31.1 -1.4
0.3nm,0.4s,baz=216,slow=8.4,SNR=7.5
CD2 Chengdu 90.42 303 eP P 23 59 35.8 +0.7
CD2 pP pP 00 01 43.9 +0.5
CD2 sP sP 00 02 41.4 -0.9
CD2 PP PP 00 03 23.8 +2.9
CD2 SKS SKSac 00 09 11.1 +0.5
CD2 S S 00 09 39.8 -0.8
CD2 sS sS 00 13 26.8 -3.0
CD2 SS SS 00 16 03.3 +3.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.8s
PDAR Pinedale Array 90.95 44 P P 23 59 36.8 -0.8
1.2nm,0.9s,baz=207,slow=4.2,SNR=7.7
LZH Lanzhou 92.56 308 P P 23 59 45.1 +0.1
LZH pP pP 00 01 54.2 +0.7
LZH sP sP 00 02 53.5 +1.1
LZH PP PP 00 03 40.7 +3.1
LZH pmax pmax
comp=Z,15nm,1.6s
LZH pmax pmax
comp=Z,82nm,9.0s
KSH Kashi 114.58 305 ePKP PKPdf 00 05 09.7 +0.1
KSH esPKP 00 08 25.1
KSH ePKS PKSdf 00 08 44.4 -2.0
KSH eSKKS 00 12 14.6
KSH eSS SS 00 21 31.0 +2.5
ARCES ARCESS Array B 130.08 349 PKP PKPdf 00 05 37.2 -1.1
4.7nm,1.2s,baz=20,slow=2.9,SNR=4.8
FINES FINESS Array B 136.75 342 PKP PKPdf 00 05 51.3 +0.3
0.4nm,0.4s,baz=80,slow=1.6,SNR=4.3
AKASG Malin Array Be 143.57 329 PKP PKPab 00 06 01.1 -1.4
1.1nm,0.3s,baz=42,slow=4.0,SNR=15
BRTR Keskin Array B 146.75 310 PKPbc PKPbc 00 06 11.4 -1.0
0.6nm,0.6s,baz=121,slow=4.0,SNR=3.9
CLL Collm 149.12 345 i PKPbc PKPbc 00 06 17.4 -0.4
comp=Z,5.0nm,1.1s
GERES GERESS Array B 151.18 342 PKPbc PKPbc 00 06 21.7 -1.1
comp=Z,0.5nm,0.5s,baz=52,slow=1.7,SNR=5.5

IDC 09 23:57:24.2±0.9, 23°.12N×94°.35E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.7/31, mbtmp3.8/11, ML3.9/1, Error ellipse: s-maj=63.2km s-min=15.5km az=52.0
ISCJB 09 23:57:29.6±0.8, 22°.9N±0°.2×94°.0E±0°.1, h58km, mb3.9/10, Error ellipse: s-maj=28.2km s-min=5.4km az=29.9
ISC 09 23:57:32.0±1.1, 23°.1N±0°.2×94°.1E±0°.2, h58km, n23, σ1s01/22, mb3.9/10, Myanmar-India border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 6.45 134 Pn Pn 23 58 58.6 -5.8
0.6nm,0.3s,baz=310,slow=12,SNR=2.9
ODAN Odare 7.16 303 ePn Pn 23 59 19.3 +4.9
ODAN eSn Sn 00 00 35.5 +1.0
TAPN Taplejung 7.19 308 ePn Pn 23 59 19.1 +4.3
TAPN eSn Sn 00 00 35.3 +0.1
RAMN Ramite 7.82 301 ePn Pn 23 59 28.6 +5.1
RAMN eSn Sn 00 00 50.2 -0.5
41nm,0.3s
JIRN Jiri 8.49 304 ePn Pn 23 59 37.1 +4.4
JIRN eSn Sn 00 01 06.0 -1.2
55nm,0.3s
GUN Gumba 8.85 305 ePn Pn 23 59 42.1 +4.4
GUN eSn Sn 00 01 14.7 -1.4
103nm,0.4s
PKI Pulchoki 9.05 301 ePn Pn 23 59 45.0 +4.7
PKI eSn Sn 00 01 20.2 -0.7
PKIN Phulchoki 9.06 301 ePn Pn 23 59 44.9 +4.5
PKIN eSn Sn 00 01 20.3 -0.9
KKN Kakani 9.25 302 ePn Pn 23 59 47.8 +4.8
KKN eSn Sn 00 01 25.5 -0.3
DMN Daman 9.31 301 ePn Pn 23 59 48.2 +4.4
DMN eSn Sn 00 01 26.8 -0.3
GKN Gorkha 9.86 302 ePn Pn 23 59 55.2 +4.0
GKN eSn Sn 00 01 39.5 -0.9
KOLN Koldanda 10.58 298 ePn Pn 00 00 05.2 +4.0
KOLN eSn Sn 00 01 57.4 -0.8
DANN Dangsing 10.70 302 ePn Pn 00 00 06.7 +3.8
DANN eSn Sn 00 01 59.7 -1.6
31nm,0.5s
AAK Ala-Archa 25.42 325 P P 00 02 56.1 +1.6
1.1nm,0.6s,baz=164,slow=7.3,SNR=5.4
MKAR Makanchi Array 25.52 341 P P 00 02 55.5 +0.4
3.0nm,0.6s,baz=148,slow=10,SNR=48
ZALV Zalesovo Beam 31.62 350 P P 00 03 48.4 -0.9
0.5nm,0.4s,baz=169,slow=7.1,SNR=5.0
BRTR Keskin Array B 53.26 303 P P 00 06 47.1 +2.0
0.4nm,0.5s,baz=127,slow=7.2,SNR=4.9
AKASG Malin Array Be 56.68 316 P P 00 07 09.2 -0.2
0.4nm,0.3s,baz=85,slow=6.0,SNR=2.7
WRA Warramunga Arr 58.04 134 P P 00 07 18.6 -0.8
0.8nm,0.7s,baz=319,slow=7.7,SNR=10
FINES FINESS Array B 59.52 329 P P 00 07 28.8 -0.3
1.6nm,0.9s,baz=89,slow=7.4,SNR=3.2
ASAR Alice Springs 60.45 138 P P 00 07 35.4 -0.7
0.5nm,0.5s,baz=322,slow=6.8,SNR=8.3
ARCES ARCESS Array B 61.12 338 P P 00 07 39.8 -0.2
2.5nm,0.9s,baz=20,slow=7.9,SNR=7.9
GERES GERESS Array B 66.80 315 P P 00 08 17.9 +0.2
0.3nm,0.4s,baz=72,slow=6.3,SNR=4.4

IDC 10 00:01:24.0±10.0, 15°.35S×172°.31W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/20, mbtmp3.4/2, Error ellipse: s-maj=485.0km s-min=66.4km az=140.0, Samoa Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 50.88 257 P P 00 10 27.1 -0.2
0.2nm,0.6s,baz=94,slow=7.0,SNR=3.6
ASAR Alice Springs 51.13 252 P P 00 10 29.1 -0.1
0.8nm,0.7s,baz=86,slow=8.1,SNR=9.1
BRTR Keskin Array B 146.77 322 PKPbc PKPbc 00 21 07.8 -0.8
0.8nm,0.8s,baz=27,slow=1.6,SNR=3.7

IDC 10 00:21:36.4±7.3, 35°.59N×71°.13E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/27, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=156.9km s-min=47.3km az=155.0
NNC 10 00:22:01.0±8.2, 36°.93N×70°.84E, h143km±131km, mb3.2, mpv4.1, Error ellipse: s-maj=67.7km s-min=46.5km az=24.0
ISC 10 00:22:03.3±1.8, 37°.1N±0°.1×70°.9E±0°.1, h150km, n15, σ1s79/19, 3C-7D, Afghanistan-Tajikistan border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AML Almayashu 5.49 22 P Pn 00 23 22.8 -0.8
SNR=14
UCH Uchtor 5.86 27 P Pn 00 23 28.6 +0.1
SNR=12
EKS2 Erkin-Say 6.00 21 P Pn 00 23 29.9 -0.2
SNR=15
KZA Kyzart 6.02 33 P Pn 00 23 30.6 -0.1
SNR=5.6
KK31 Karatay Array 6.03 357 ⇓P Pn 00 23 30.3 -0.1
11nm,0.3s,baz=181,slow=13,SNR=187
KK31 ⇓S Sn 00 24 41.8 +3.2
4.7nm,0.3s,baz=181,slow=22,SNR=5.9
AAK Ala-Archa 6.20 25 ⇓P Pn 00 23 32.5 -0.3
4.5nm,0.3s
AAK ⇓S Sn 00 24 46.2 +3.3
11nm,0.8s
AAK Ala-Archa 6.20 25 P Pn 00 23 32.9 +0.1
SNR=16
CHMS Chumysh 6.62 25 P Pn 00 23 38.4 +0.2
SNR=9.2
TKM2 Tokmak 2 6.86 30 ⇓P Pn 00 23 40.2 -1.5
3.5nm,0.5s
TKM2 ⇓S Sn 00 24 56.3 -2.5
1.9nm,0.6s
MKAR Makanchi Array 12.88 37 Pn Pn 00 24 57.0 -3.9
0.0nm,0.3s,baz=225,slow=14,SNR=3.6
AB31 Akbulak array 14.55 330 ⇑P Pn 00 25 21.3 -0.5
0.3nm,0.5s,baz=170,slow=10,SNR=15
AB31 ⇓S Sn 00 27 59.6 -3.5
0.3nm,0.5s,baz=151,slow=22,SNR=4.4
AKTO Aktyubinsk 16.25 329 ⇑P P 00 25 45.9 +2.8
2.3nm,0.8s
AKTO ⇑S S 00 28 42.7 -0.5
2.6nm,1.2s
ZALV Zalesovo Beam 19.43 25 P P 00 26 17.8 0.0
1.6nm,0.4s,baz=216,slow=9.4,SNR=13
NOA NORSAR Array B 43.88 323 P P 00 29 54.7 +0.2
0.4nm,0.4s,baz=98,slow=7.8,SNR=2.6
YKA Yellowknife Ar 80.68 3 P P 00 33 58.7 -0.4
0.1nm,0.5s,baz=349,slow=5.4,SNR=2.9

BJI 10 00:48:41.6, 1°.26N×97°.19E, h41km, mB5.1/46, mb4.9/63, Ms4.8/55, Ms7 4.6/50
ISCJB 10 00:48:44.0±0.5, 1°.52N±0°.03×97°.05E±0°.03, h41km±3km, mb4.9/107, MS4.4/37, Error ellipse: s-maj=5.6km s-min=3.1km az=137.6
MOS 10 00:48:43.2±1.0, 1°.56N×97°.08E, h33km, mb5.1/40, Error ellipse: s-maj=10.2km s-min=5.6km az=106.8
IDC 10 00:48:43.8±0.5, 1°.47N×97°.03E, h26km±2km, mb4.4/20, mb1 4.5/22, mb1mx4.4/27, mbtmp4.6/22, ML4.7/2, MS4.1/21, Ms1 4.1/21, ms1mx3.9/35, Error ellipse: s-maj=14.7km s-min=10.1km az=38.0
NEIC 10 00:48:44.5±0.5, 1°.52N×97°.06E, h31km±3km, mb5.0/47, Error ellipse: s-maj=6.3km s-min=4.2km az=219.0
DJA 10 00:48:44.6±0.7, 2°N±2°×97°E±°, h24km±8km, M4.8/25, mB5.2/17, mb4.9/25, MLv5.1/14, Mw(mB)4.6/17
KLM 10 00:48:46.8, 1°.43N×97°.01E, h42km, mb5.0, ML4.8, MS5.9
ISC 10 00:48:44.4±0.3, 1°.41N±0°.03×97°.01E±0°.04, h35km±1km, h35km:pP-P, n390, σ1s72/372, mb4.9/108, MS4.3/37, 43C-39D, Northern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GSI Gunungsitoli 0.58 100 ePn Pn 00 48 56.0 -0.1
GSI eSn Sn 00 49 04.3 -0.1
GSI Gunungsitoli 0.58 100 ⇓P Pb 00 48 56.6 +0.3
baz=0.6
SNSI Sinabang, Aceh 1.21 326 P Pn 00 49 04.4 -0.4
SNSI S Sn 00 49 18.3 -1.7
TPTI 1.85 5 P Pn 00 49 11.8 -1.9
TPTI S Sn 00 49 34.8 -1.1
KCSI Kotacane, Aceh 2.24 20 P Pn 00 49 18.4 -0.6
KCSI S Sn 00 49 47.3 +1.8
PSI Prapat 2.37 54 Pn Pn 00 49 19.6 -1.3
65nm,0.3s,baz=242,slow=4.0,SNR=66
PSI Pg Pb 00 49 26.3 -0.1
74nm,0.3s,baz=228,slow=9.7,SNR=75
PSI LR LR 00 49 47.1
comp=Z,1μm,21.4s,baz=296,slow=28
PSI Prapat 2.37 54 ⇑P Pn 00 49 19.7 -1.1
baz=2.2,SNR=97
TSI Tuntungan 2.60 37 P Pn 00 49 23.9 -0.1
MNSI Mandailing Nat 2.64 103 P Pn 00 49 26.1 +1.5
MNSI S Sb 00 50 00.7 -2.4
LHMI Lhok Sumawe 3.80 359 P Pn 00 49 40.7 +0.2
LHMI Lhok Sumawe 3.80 359 ePn Pn 00 49 40.6 +0.1
LHMI eSn Sn 00 50 23.3 -0.7
PDSI Padang 4.15 124 P Pn 00 49 48.1 +2.8
BKNI Bangkinang 4.17 105 P Pn 00 49 47.9 +2.3
BKNI Bangkinang 4.17 105 ePn Pn 00 49 46.7 +1.1
BKNI eSn Sn 00 50 32.6 -0.6
BKNI Bangkinang 4.17 105 ⇑P Pn 00 49 46.4 +0.8
baz=4.2,SNR=6.3
FRIM Kepong 4.96 68 ⇓P Pn 00 49 57.2 +0.7
SDSI Sungai Dareh 4.99 118 P Pn 00 49 59.3 +2.4
124nm,0.8s,4μm1.1nm
IPM Ipoh 5.04 53 ePn Pn 00 49 56.6 -1.0
IPM eSn Sn 00 50 52.7 -2.0
IPM Ipoh 5.04 53 ⇑P Pn 00 49 59.2 +1.6
KULM Kulim 5.30 43 ePn Pn 00 50 00.4 -0.8
KULM eSn Sn 00 50 56.5 -4.6
KULM Kulim 5.30 43 ⇓P Pn 00 50 01.7 +0.6
KGM Kluang 6.34 84 ⇓P Pn 00 50 17.7 +2.2
CMBY CAMPBELL BAY 6.36 331 eP Pn 00 50 14.6 -1.1
MYKOM Kota Tinggi 6.85 87 ePn Pn 00 50 23.7 +1.2
MYKOM eSn Sn 00 51 36.3 -3.0
MYKOM Kota Tinggi 6.85 87 ⇑P Pn 00 50 24.4 +1.9
MASI Maura Aman, Be 6.91 131 P Pb 00 50 41.9 -1.9
KTGM Kuala Trenggan 7.25 57 ⇑P Pn 00 50 29.3 +1.3
TPRI Tanjung Pinang 7.53 94 P Pn 00 50 33.4 +1.6
70nm,0.7s,41μm2.3nm
SURT Suratani 7.71 13 P Pn 00 50 31.5 -2.8
23nm,0.8s,340nm0.1nm
MNAI Manna 8.25 134 P Pn 00 50 44.5 +2.8
131nm,0.8s,2μm
MNAI Manna 8.25 134 ePn Pn 00 50 41.6 -0.1
MNAI eSn Sn 00 52 11.5 -2.3
MNAI Manna 8.25 134 ⇑P Pn 00 50 42.6 +0.8
baz=8.4,SNR=9.5
LHSI Lahat 8.33 129 P Pn 00 50 45.5 +2.7
93nm,1.0s
MDSI Maura Dua 9.25 129 P Pn 00 50 56.5 +1.1
46nm,0.8s,484nm
PBA Port Blair 11.03 338 eP Pn 00 51 16.6 -3.2
TPI Tanjungpandan 11.42 111 P Pn 00 51 27.5 +2.4
52nm,1.4s,557nm
DGPR DIGLIPUR 12.37 341 eP Pn 00 51 37.8 -0.4
CHBT CHBT 12.45 25 P P 00 51 48.7 -1.9
SRDT SRDT 13.03 9 P P 00 51 58.7 +1.6
KSM Kuching 13.30 90 ⇑P Pn 00 51 53.2 +2.4
KHLT Khaolaem Dam 13.40 7 P P 00 52 03.1 +1.9
STKI Sintang 14.53 95 P Pn 00 52 10.3 +2.7
85nm,1.0s
KPJI Karang Pucung 14.73 126 P Pn 00 52 10.4 +0.1
22nm,1.2s,2μm
SBUM Sibu 15.24 86 ePn Pn 00 52 18.2 +1.1
50nm,1.2s
SBUM Sibu 15.24 86 ⇓P P 00 52 19.8 -1.9
DLV T Lat 15.47 47 eP P 00 52 22.9 -1.5
73nm,1.5s
PBKT Sadao Pong 15.57 14 P Pn 00 52 19.6 -1.7
45nm,0.6s
UBPT Khong Chiam 16.12 31 P Pn 00 52 29.3 +0.8
92nm,1.1s,2μm
BTM Bintulu 16.16 83 ⇑P P 00 52 33.2 +1.3
SUKH Sukhothai 16.18 9 P Pn 00 52 27.9 -1.4
8.7nm,0.7s,106nm
UTTA Uttaradit 16.61 12 P Pn 00 52 35.4 +0.8
7.5nm,1.0s,66nm
CM31 Chiang Mai Arr 17.05 6 ePn Pn 00 52 38.3 -1.9
6.2nm,0.4s
CMAR Chiang Mai Arr 17.05 6 Pn Pn 00 52 38.1 -2.2
2.2nm,0.3s,baz=195,slow=12,SNR=25
CMAR LR LR 01 00 20.3
comp=Z,1μm,18.6s,baz=189,slow=41
LAMP Lampang 17.20 8 P Pn 00 52 40.6 -1.6
7.6nm,0.9s,76nm
CMMT Chiang Mai 17.40 6 P Pn 00 52 42.5 -2.2
20nm,0.9s
CHTO Chiang Mai 17.41 6 eP Pn 00 52 42.4 -2.3
CHTO pmax pmax
comp=Z,29nm,1.4s
CHTO Chiang Mai 17.41 6 P Pn 00 52 42.6 -2.0
comp=Z,68nm,0.8s
CHTO Chiang Mai 17.41 6 ePn Pn 00 52 42.4 -2.3
comp=Z,29nm,1.4s
KKM Kota Kinabalu 19.71 76 ePn P 00 53 11.2 +0.1
comp=Z,138nm,1.5s
KKM Kota Kinabalu 19.71 76 ⇓P P 00 53 12.2 -0.6
baz=20,SNR=4.8
KKM Kota Kinabalu 19.71 76 ⇑P Pn 00 53 12.1 -0.6
SDKM Sandakan 20.58 78 ⇑P P 00 53 21.5 +0.9
SLVN Son La 20.92 18 eP P 00 53 22.9 -1.3
comp=Z,77nm,1.4s
TSM Tawau 21.03 82 ⇓P P 00 53 25.9 +0.5
VIS Vishakhapatnam 21.06 321 eP P 00 53 23.8 -1.9
VIS AMB AMB 00 53 53.8
comp=Z,30nm,0.4s
TRD Trivandrum 21.17 290 eP P 00 53 25.1 -1.8
QIZ Qiongzhong 21.57 35 P P 00 53 30.6 -0.5
QIZ pP pP 00 53 40.9 +0.6
QIZ S S 00 57 27.1 -1.3
QIZ pmax pmax
comp=Z,10.0nm,0.8s
QIZ LR LR
comp=Z,970nm,13.1s
QIZ LR LR
comp=Z,480nm,15.7s
QIZ LR LR
comp=Z,720nm,15.0s
MYLDM Lahad Datu 21.78 80 eP P 00 53 34.9 +1.4
comp=Z,131nm,1.3s
MYLDM Lahad Datu 21.78 80 ⇓P P 00 53 35.0 +1.6
KAPI Kappang 23.60 106 P P 00 53 52.7 +0.4
comp=Z,173nm,0.9s,SNR=5.4
KAPI Kappang 23.60 106 eP P 00 53 52.8 +0.4
comp=Z,139nm,1.0s
BNSI Bone 23.79 104 P P 00 53 55.0 +0.8
comp=Z,37nm,1.5s,comp=Z,753nm
BKSI Bulukumba 24.04 106 P P 00 53 58.0 +1.5
comp=Z,39nm,1.3s,comp=Z,448nm
HYB Hyderabad 24.13 312 i P P 00 54 06.0 +8.7
HYB Hyderabad 24.13 312 eP P 00 53 56.4 -1.0

KMI Kunming 24.22 13 P P 00 53 59.0 +0.7
KMI pP pP 00 54 08.7 +0.5
KMI S S 00 58 19.9 +5.1
KMI pmax pmax
comp=Z,36nm,1.3s
KMI pmax pmax
comp=Z,280nm,4.6s
KMI LR LR
comp=Z,1μm,16.2s
KMI LR LR
comp=Z,1μm,14.3s
KMI LR LR
comp=Z,2μm,15.9s
SHL Shillong 24.52 349 eP P 00 54 00.1 -0.9
SHL AMB AMB 00 54 01.9
comp=Z,64nm,1.3s
BOK Bokaro 24.73 335 eP P 00 54 03.6 +0.9
APSI Ampana 24.75 95 P P 00 54 04.9 +1.9
comp=Z,173nm,1.2s,comp=Z,2μm
MRSI Marisa 24.95 92 P P 00 54 04.6 -0.2
comp=Z,47nm,0.8s,comp=Z,628nm
GTOI Gorontalo 26.01 91 P P 00 54 13.4 -1.0
H08S2 Diego Garcia H 26.05 249 T T 01 21 19.2
baz=71,slow=75,SNR=1884
H08S3 Diego Garcia H 26.05 250 T T 01 21 22.1
baz=71,slow=75,SNR=1996
H08S1 Diego Carcia H 26.07 249 T T 01 21 23.4
baz=71,slow=75,SNR=1610
GYA Guiyang 26.59 20⇑iP P 00 54 20.4 +0.8
GYA pP pP 00 54 32.2 +2.7
GYA PP PnPn 00 55 05.8 +4.8
GYA PcP PcP 00 57 45.6 +2.0
GYA S S 00 58 50.3 -1.9
GYA sS sS 00 59 10.0 +1.3
GYA SS SnSn 01 00 02.5 +6.1
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,720nm,15.6s
GYA LR LR
comp=Z,660nm,16.4s
GYA LR LR
comp=Z,710nm,15.9s
ODAN Odare 26.94 341 eP P 00 54 23.9 +0.9
comp=Z,55nm,0.7s
H08N1 Diego Carcia H 27.07 253 T T 01 23 41.4
baz=358,slow=76,SNR=32
H08N2 Diego Garcia H 27.07 253 T T 01 23 33.1
baz=358,slow=76,SNR=24
H08N3 Diego Garcia H 27.09 253 T T 01 23 39.3
baz=358,slow=76,SNR=37
RAMN Ramite 27.29 339 eP P 00 54 27.3 +1.2
comp=Z,43nm,0.5s
TAPN Taplejung 27.30 342 eP P 00 54 26.9 +0.7
comp=Z,28nm,0.6s
SZP Santa 28.08 54 eP P 00 54 32.8 -0.2
comp=Z,91nm,0.9s
JIRN Jiri 28.09 339 eP P 00 54 34.2 +0.8
comp=Z,26nm,0.6s
PKI Pulchoki 28.29 338 eP P 00 54 35.8 +0.7
comp=Z,17nm,0.6s
PKIN Phulchoki 28.30 338 eP P 00 54 36.0 +0.8
comp=Z,16nm,0.7s
GUN Gumba 28.43 339 eP P 00 54 37.3 +0.9
comp=Z,43nm,0.5s
DMN Daman 28.44 337 eP P 00 54 37.5 +1.1
comp=Z,27nm,0.8s
KKN Kakani 28.54 338 eP P 00 54 37.8 +0.6
comp=Z,50nm,1.0s
LSA Lhasa 28.69 349 eP P 00 54 37.8 -1.0
LSA pmax pmax
comp=Z,12nm,0.4s
LSA Lhasa 28.69 349 eP P 00 54 37.8 -1.0
comp=Z,12nm,0.4s
BHPL Bhopal 28.85 320 eP3 P 00 54 36.5 -3.3
GKN Gorkha 28.98 337 eP P 00 54 41.8 +0.8
KOLN Koldanda 29.19 335 eP P 00 54 44.2 +1.2
comp=Z,50nm,0.8s
SOEI Soe 29.32 113 eP P 00 54 42.4 -1.9
comp=Z,40nm,1.1s
DANN Dangsing 29.64 336 eP P 00 54 47.8 +0.8
comp=Z,23nm,0.5s
CD2 Chengdu 30.03 12 eP P 00 54 53.2 +3.0
CD2 pP pP 00 55 04.4 +4.2
CD2 sP sP 00 55 09.5 +5.1
CD2 PP PnPn 00 55 52.1 +4.2
CD2 PcP PcP 00 57 54.6 +2.7
CD2 S S 00 59 47.3 +1.0
CD2 sS sS 01 00 06.2 +3.4
CD2 SS ScP 01 01 26.2 -5.5
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,280nm,6.2s
CD2 LR LR
comp=Z,840nm,17.1s
CD2 LR LR
comp=Z,2μm,16.6s
CD2 LR LR
comp=Z,1μm,17.6s
ENH Enshi 31.06 21 eP P 00 54 57.0 -2.3
comp=Z,9.6nm,0.6s
QZH Quanzhou 31.34 40 eP P 00 54 59.8 -2.0
QZH S S 01 00 10.7 +3.9
QZH LR LR
comp=Z,2μm,14.4s
QZH LR LR
comp=Z,1μm,14.6s
QZH LR LR
comp=Z,2μm,14.6s
TWG Pinlang 31.61 46 eP P 00 55 04.8 +0.6
comp=Z,314nm,1.6s
YULB Yu-li 32.13 45 eP P 00 55 09.2 +0.4
comp=Z,12nm,0.7s
SSLB Suanglung 32.14 44 eP P 00 55 08.9 -0.1
comp=Z,14nm,0.9s
NACB Ninganchiao 32.84 44 eP P 00 55 14.4 -0.6
comp=Z,34nm,1.3s
TATO Taipei 33.28 43 eP P 00 55 14.0 -4.9
comp=Z,139nm,1.7s
XAN Xi'an 34.33 18 P P 00 55 26.1 -1.8
XAN pP pP 00 55 36.0 -1.9
XAN pmax pmax
comp=Z,10.0nm,0.7s
XAN LR LR
comp=Z,800nm,15.1s
XAN LR LR
comp=Z,230nm,13.6s
XAN LR LR
comp=Z,490nm,14.8s
LZH Lanzhou 35.09 10 ⇑P P 00 55 33.9 -0.6
LZH pP pP 00 55 42.3 -2.3
LZH sP sP 00 55 49.1 +0.3
LZH PP PP 00 56 55.5 +0.9
LZH eS S 01 01 03.2 -1.8
LZH sS sS 01 01 24.0 +2.4
LZH pmax pmax
comp=Z,50nm,1.1s
LZH pmax pmax
comp=Z,240nm,4.0s
LZH LR LR
comp=Z,820nm,14.8s
LZH LR LR
comp=Z,1μm,15.2s
LZH LR LR
comp=Z,2μm,16.6s
DHRM DHARAMSHALA 36.36 330 eP P 00 55 45.9 +0.3
DHRM AMB AMB 00 56 12.1
comp=Z,34nm,0.9s
NJ2 Nanjing 36.79 32 eP P 00 55 48.9 -0.1
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
KDU Kakadu 37.88 113 ⇑P P 00 55 57.5 -1.0
baz=38,SNR=4.6
GTA Gaotai 37.91 4 P P 00 55 58.2 -0.4
GTA pP pP 00 56 07.9 -0.8
GTA sP sP 00 56 12.1 -0.7
GTA S S 01 01 47.6 -0.5
GTA sS sS 01 02 03.3 -1.4
GTA SS SnSn 01 04 25.4 -5.9
GTA pmax pmax
comp=Z,16nm,1.5s
GTA pmax pmax
comp=Z,160nm,5.5s
GTA LR LR
comp=Z,490nm,22.3s
GTA LR LR
comp=Z,480nm,20.0s
GTA LR LR
comp=Z,460nm,23.8s
JOW Kunigami 39.24 47 P P 00 56 10.0 +0.2
comp=Z,2.5nm,0.4s,baz=233,slow=8.6,SNR=8.0
JOW Kunigami 39.24 47 eP P 00 56 08.1 -1.6
comp=Z,53nm,1.5s
TIA Tai'an 39.33 26 ⇓P P 00 56 03.3 -7.1
H01W3 Cape Leeuwin H 39.51 158 T T 01 38 31.4
baz=333,slow=76,SNR=18
H01W2 Cape Leeuwin H 39.52 158 T T 01 38 20.9
baz=333,slow=76,SNR=15
H01W1 Cape Leeuwin H 39.52 158 T T 01 38 32.4
baz=333,slow=76,SNR=15
WRKA Warakurna 40.12 133 ⇓P P 00 56 19.0 +1.8
baz=40,SNR=12
HHC Hu-ho-hao-te 41.42 17 eP P 00 56 37.5 +10
HHC PP PnPn 00 58 17.0 +8.4
HHC S S 01 02 49.0 +8.5
HHC sS sS 01 03 09.6 +12
HHC SS SS 01 05 49.3 +3.7
HHC ScS ScS 01 06 29.1 0.0
HHC pmax pmax
comp=Z,57nm,1.4s
HHC pmax pmax
comp=Z,190nm,5.8s
HHC LR LR
comp=N,2μm,13.5s
HHC LR LR
comp=E,930nm,14.1s
KBL Kabul 42.04 325 eP P 00 56 42.0 +9.0
KBL pmax pmax
comp=Z,4.0nm,0.6s
KBL Kabul 42.04 325 eP P 00 56 42.0 +9.0
comp=Z,4.3nm,0.6s
BJT Baijiatuau 42.20 22 eP P 00 56 33.4 -0.6
BJT pmax pmax
comp=Z,43nm,0.5s
BJT Baijiatuau 42.20 22 eP P 00 56 33.4 -0.6
comp=Z,43nm,0.5s
BJI Beijing 42.22 22 P P 00 56 34.3 +0.2
BJI pP pP 00 56 42.7 -1.6
BJI sP sP 00 56 50.1 +1.6
BJI S S 01 02 53.2 +1.0
BJI sS sS 01 03 12.1 +3.1
BJI pmax pmax
comp=Z,49nm,0.6s
BJI pmax pmax
comp=Z,230nm,4.6s
BJI LR LR
comp=Z,530nm,13.7s
BJI LR LR
comp=Z,410nm,15.5s
BJI LR LR
comp=Z,200nm,22.8s
WRA Warramunga Arr 42.31 122 P P 00 56 35.2 +0.1
comp=Z,4.2nm,0.8s,baz=302,slow=9.1,SNR=34
WRA pP pP 00 56 42.8 -2.6
comp=Z,7.5nm,0.6s,baz=301,slow=9.1,SNR=20
WRA S S 01 02 50.2 -3.9
comp=Z,1.1nm,1.1s,baz=290,slow=16,SNR=3.7
WRA LR LR 01 17 43.7
comp=Z,227nm,18.7s,baz=300,slow=41
WRAB Tennant Creek 42.31 122 P P 00 56 35.2 0.0
comp=Z,85nm,0.5s,SNR=11
WRAB Tennant Creek 42.31 122⇑iP P 00 56 35.5 +0.3
WRAB pmax pmax
comp=Z,29nm,1.7s
WRAB Tennant Creek 42.31 122 eP P 00 56 35.9 +0.6
comp=Z,13nm,0.8s
KSH Kashi 42.51 336 eP P 00 56 35.7 -0.9
KSH epP pP 00 56 46.8 0.0
KSH esP sP 00 56 53.5 +2.5
KSH ePP PP 00 58 16.4 +0.8
KSH PcS PcS 01 02 16.3 -4.8
KSH S S 01 02 51.0 -5.7
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH LR LR
comp=Z,170nm,5.3s
KSH LR LR
comp=Z,150nm,5.9s
KSH LR LR
comp=Z,160nm,6.2s
WMQ Urumqi 43.04 350 P P 00 56 41.4 +0.6
WMQ pP pP 00 56 53.7 +2.7
WMQ sP sP 00 56 59.1 +3.9
WMQ PP PP 00 58 24.0 +2.8
WMQ PcP PcP 00 58 32.5 +1.9
WMQ S S 01 03 02.6 -1.7
WMQ sS sS 01 03 23.4 +2.3
WMQ SS SS 01 06 09.1 -8.3
WMQ ScS ScS 01 06 35.8 -3.1
WMQ pmax pmax
comp=Z,21nm,1.2s
WMQ pmax pmax
comp=Z,270nm,4.6s
WMQ LR LR
comp=Z,190nm,20.0s
WMQ LR LR
comp=Z,330nm,23.4s
WMQ LR LR
comp=Z,140nm,21.4s
FORT Forrest 43.56 140 eP P 00 56 46.9 +1.8
comp=Z,35nm,0.8s
AS15 Alice Springs 43.66 127 ⇓P P 00 56 47.1 +0.9
baz=44
AS31 Alice Springs 43.67 127 eP P 00 56 47.4 +1.2
ASAR Alice Springs 43.67 127 P P 00 56 47.2 +1.0
comp=Z,3.2nm,0.6s,baz=299,slow=7.9,SNR=31
ASAR pP pP 00 56 54.5 -1.9
comp=Z,1.6nm,0.5s,baz=299,slow=7.9,SNR=6.8
ASAR ScP ScP 01 02 22.1 -0.2
comp=Z,1.3nm,1.0s,baz=331,slow=5.6,SNR=3.6
ASAR S S 01 03 13.1 -1.0
comp=Z,1.3nm,0.9s,baz=294,slow=14,SNR=10
ASAR LR LR 01 17 51.4
comp=Z,264nm,20.2s,baz=296,slow=40
AS11 Alice Springs 43.67 127 ⇓P P 00 56 47.0 +0.7
baz=44
AS09 Alice Springs 43.72 127 ⇓P P 00 56 48.0 +1.4
baz=44
JNU Nakatsue 44.78 42 P P 00 56 53.8 -1.2
comp=Z,24nm,1.0s,baz=123,slow=3.6,SNR=7.7
JNU Nakatsue 44.78 42 eP P 00 56 54.1 -0.9
comp=Z,16nm,1.1s
TKM2 Tokmak 2 45.56 338 eP P 00 57 03.0 +1.8
TKM2 pmax pmax
comp=Z,54nm,1.6s
TKM2 Tokmak 2 45.56 338 eP P 00 57 03.0 +1.8
comp=Z,54nm,1.6s
AAK Ala-Archa 45.74 337 eP P 00 57 04.1 +1.5
AAK 00 58 41.5
AAK pmax pmax
comp=Z,21nm,1.2s
AAK Ala-Archa 45.74 337 P P 00 57 03.7 +1.2
comp=Z,1.9nm,0.6s,baz=178,slow=6.7,SNR=5.6
AAK PcP PcP 00 58 41.5 +1.5
comp=Z,1.7nm,0.4s,baz=138,slow=5.4,SNR=5.8
AAK Ala-Archa 45.74 337 eP P 00 57 04.0 +1.5
comp=Z,21nm,1.2s
AAK PcP PcP 00 58 41.5 +1.5
KSAR Wonju Array Be 45.76 35 P P 00 57 02.4 -0.2
KSAR *PP pP 00 57 10.3 -2.6
KSAR Wonju Array Be 45.76 35 P P 00 57 02.4 -0.2
KSAR pP pP 00 57 10.2 -2.6
KSRS Korea Array 45.79 35 P P 00 57 02.4 -0.4
comp=Z,11nm,0.7s,baz=222,slow=9.3,SNR=25
KSRS pP pP 00 57 10.2 -2.8
comp=Z,11nm,1.0s,baz=225,slow=9.5,SNR=6.4
KSRS LR LR 01 16 33.8
comp=Z,273nm,19.8s,baz=224,slow=36
EKS2 Erkin-Say 46.05 336 eP P 00 57 06.8 +1.9
EKS2 pmax pmax
comp=Z,12nm,0.9s
EKS2 Erkin-Say 46.05 336 eP P 00 57 06.8 +1.9
comp=Z,12nm,0.9s
SNY Shenyang 46.81 27 ⇑P P 00 57 10.0 -0.7
SNY S S 01 03 58.8 0.0
SNY pmax pmax
comp=Z,12nm,1.0s
SNY pmax pmax
comp=Z,230nm,4.0s
SNY LR LR
comp=Z,490nm,15.6s
SNY LR LR
comp=Z,870nm,15.1s
SNY LR LR
comp=Z,770nm,14.9s
SONM Songino Array 46.96 9 P P 00 57 12.1 +0.1
baz=190,slow=9.8
SONM eP pP 00 57 20.4 -2.0
baz=193,slow=10.0
SONM LR LR 01 19 31.4
comp=Z,691nm,18.5s,baz=189,slow=39
MK31 Makanchi Array 47.00 346 eP P 00 57 12.5 +0.3
MK31 pmax pmax
comp=Z,13nm,0.5s
MKAR Makanchi Array 47.00 346 P P 00 57 12.6 +0.4
comp=Z,14nm,0.5s,baz=160,slow=8.9,SNR=399
MKAR pP pP 00 57 21.1 -1.4
comp=Z,16nm,0.5s,baz=144,slow=7.9,SNR=21
MKAR LR LR 01 20 32.8
comp=Z,219nm,20.6s,baz=156,slow=41
MKAR Makanchi Array 47.00 346 ⇓P P 00 57 12.9 +0.7
baz=47
ULN Ulaanbaatar 47.09 9c iP P 00 57 12.8 -0.3
ULN pmax pmax
comp=Z,6.0nm,0.5s
ULN Ulaanbaatar 47.09 9 eP P 00 57 12.7 -0.4
comp=Z,11nm,0.6s
KK31 Karatay Array 47.79 334 P P 00 57 18.7 +0.3
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 47.79 334 eP P 00 57 19.2 +0.8
KKAR Karatay Array 47.79 334 eP P 00 57 19.2 +0.8
COEN Coen 48.22 110 eP P 00 57 22.0 -0.1
comp=Z,160nm,1.4s
COEN Coen 48.22 110 ⇑P P 00 57 22.1 -0.1
baz=48,SNR=15
ZAK Zakamensk 49.09 5⇓iP P 00 57 28.0 -0.4
ZAK e 00 57 35.2
ZAK pmax pmax
comp=Z,5.0nm,1.1s
CN2 Changchun 49.21 27 eP P 00 57 28.7 -0.6
CN2 esP sP 00 57 46.4 +2.6
CN2 eS S 01 04 29.9 -2.9
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,500nm,16.0s
BBOO Buckleboo 50.16 136 eP P 00 57 36.9 +0.2
comp=Z,2μm,2.1s
BBOO Buckleboo 50.16 136 ⇑P P 00 57 38.5 +1.8
baz=50,SNR=11
MOY Mondy 50.20 3 eP P 00 57 37.2 +0.4
TLY Talaya 50.41 5 eP P 00 57 38.9 +0.6
TLY e 00 57 47.9
TLY pmax pmax
comp=Z,12nm,1.2s
TLY MLR MLR
comp=Z,458nm,15.0s
TLY Talaya 50.41 5 eP P 00 57 33.4 -4.9
comp=Z,30nm,1.6s
MTSU Mount Surprise 50.43 115 ⇓P P 00 57 40.5 +1.5
baz=50,SNR=4.6
IRK Irkutsk 51.02 6 eP P 00 57 38.6 -4.3
IRK pmax pmax
comp=Z,24nm,1.5s
PMG Port Moresby 51.09 103⇑iP P 00 57 44.2 +0.2
PMG pmax pmax
comp=Z,10.0nm,1.3s
PMG Port Moresby 51.09 103 P P 00 57 44.5 +0.5
comp=Z,5.2nm,0.4s,baz=191,slow=18,SNR=3.5
HIA Hailar 51.51 19 eP P 00 57 45.7 -0.9
HIA pmax pmax
comp=Z,17nm,1.1s
HIA Hailar 51.51 19 eP P 00 57 45.7 -0.9
comp=Z,17nm,1.1s
KURK Kurchatov 51.55 345 P P 00 57 46.6 -0.2
KURK pmax pmax
comp=Z,16nm,1.5s
KURK Kurchatov 51.55 345 eP P 00 57 47.2 +0.4
comp=Z,19nm,1.4s
MAJO Matsushiro 51.67 43 eP P 00 57 48.2 +0.1
MAJO pmax pmax
comp=Z,51nm,1.0s
MJAR Matsushiro Arr 51.67 43 P P 00 57 46.8 -1.3
comp=Z,1.9nm,0.4s,baz=212,slow=6.7,SNR=5.7
MJAR LR LR 01 20 11.5
comp=Z,181nm,21.2s,baz=255,slow=37
MDJ Mudanjiang 51.78 29 P P 00 57 49.5 +0.8
MDJ pP pP 00 58 00.9 +1.8
MDJ sP sP 00 58 05.7 +2.5
MDJ PcP PcP 00 59 02.6 +1.0
MDJ PP PP 00 59 48.0 +1.2
MDJ ScP ScP 01 02 54.0 -2.0
MDJ PcS PcS 01 02 58.6 -0.9
MDJ S S 01 05 07.7 -0.8
MDJ pmax pmax
comp=Z,19nm,1.2s
MDJ pmax pmax
comp=Z,220nm,4.7s
MDJ LR LR
comp=Z,220nm,13.0s
MDJ LR LR
comp=Z,390nm,16.2s
MDJ LR LR
comp=Z,620nm,15.0s
VLA Vladivostok 51.90 32 eP P 00 57 49.4 -0.2
VLA pmax pmax
comp=Z,40nm,1.3s
HTT Hallett 52.50 135 ⇓P P 00 57 56.5 +2.2
baz=53,SNR=5.1
USRK Ussuriysk Arra 52.70 31 P P 00 57 55.5 0.0
comp=Z,148nm,1.3s,baz=232,slow=6.0,SNR=31
USRK pP pP 00 58 03.9 -2.1
comp=Z,12nm,0.7s,baz=228,slow=5.3,SNR=8.9
CTA Charters Tower 52.77 117 P P 00 57 57.5 +1.0
comp=Z,11nm,1.1s,baz=264,slow=6.9,SNR=3.8
ZAA0 Zalesovo Array 53.33 351 eP P 00 57 59.8 -0.1
ZALV Zalesovo Beam 53.33 351 P P 00 58 00.1 +0.2
comp=Z,18nm,0.4s,baz=175,slow=7.3,SNR=196
ZALV pP pP 00 58 08.5 -1.9
comp=Z,26nm,0.5s,baz=174,slow=6.8,SNR=17
ZALV LR LR 01 25 45.6
comp=Z,209nm,19.2s,baz=92,slow=42
QLP Quilpie 53.34 125 ⇑P P 00 58 02.7 +2.1
baz=54,SNR=4.6
DAMY Dhamar 53.57 287 eP P 00 58 04.9 +2.1
comp=Z,30nm,1.1s
STKA Stephens Creek 53.64 132 eP P 00 58 04.8 +2.1
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 53.64 132 P P 00 58 04.3 +1.6
comp=Z,6.6nm,0.7s,baz=308,slow=6.0,SNR=17
STKA LR LR 01 24 12.6
comp=Z,254nm,19.9s,baz=327,slow=40
STKA Stephens Creek 53.64 132 eP P 00 58 04.8 +2.1
comp=Z,1.9nm,0.8s
STKA Stephens Creek 53.64 132 ⇓P P 00 58 04.8 +2.1
baz=54,SNR=6.0
NVS Novosibirsk 54.44 350⇑iP P 00 58 07.7 -0.4
NVS eS S 01 05 39.5 -4.8
NVS pmax pmax
comp=Z,24nm,1.3s
NVS pmax pmax
comp=N,19nm,1.2s
NVS pmax pmax
comp=E,10.0nm,0.8s
NVS smax smax
comp=E,63nm,3.6s
RAYN Ar Rayn 54.49 298 eP P 00 58 10.6 +1.5
comp=E,43nm,0.7s
VOSK Vostochnaya 55.55 341 eP P 00 58 15.8 -0.4
VOSK pmax pmax
comp=Z,9.0nm,0.8s
VOSK Vostochnaya 55.55 341 eP P 00 58 15.8 -0.4
comp=Z,9.0nm,0.8s
BVA0 Borovoye Array 55.99 341 iP P 00 58 19.0 -0.4
BVA0 pmax pmax
comp=Z,11nm,1.1s
BRVK Borovoye 56.06 341 eP P 00 58 19.8 0.0

BRVK pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 56.06 341 eP **P** **00 58 19.8 0.0**
comp=Z,8.8nm,0.6s
CMSA Cobar Meteorol 56.57 130 P **P** **00 58 26.2 +2.3**
baz=57,SNR=15
RMQ Roma 57.05 123 ⇑P **P** **00 58 29.9 +2.5**
baz=57,SNR=6.3
AB31 Akbulak array 57.24 332 i P **P** **00 58 28.2 -0.1**
AB31 pmax pmax
comp=Z,16nm,0.6s
ABKAR Akbulak array 57.24 332 eP **P** **00 58 28.5 +0.2**
EIDS Eidsvold 58.65 121 eP **P** **00 58 39.6 +1.0**
comp=Z,39nm,1.4s
EIDS Eidsvold 58.65 121 ⇓P **P** **00 58 40.5 +1.9**
baz=59,SNR=7.3
AKTO Aktyubinsk 58.96 332 P **P** **00 58 38.9 -1.4**
AKTO pmax pmax
comp=Z,6.0nm,0.8s
AKTO Aktyubinsk 58.96 332 LR LR 01 27 26.9
comp=Z,97nm,18.2s,slow=39
KMBO Kilima Mbogo 59.80 268 pP pP 00 58 57.7 0.0
comp=Z,1.7nm,0.8s,baz=64,slow=7.6,SNR=4.4
YSS Yuzh-Sakhalins 60.29 34⇑eP **P** **00 58 50.0 +0.5**
YSS e 00 58 58.0
YSS pmax pmax
comp=Z,30nm,1.0s
CUKT Cukurca 60.64 313 eP **P** **00 58 51.3 -1.0**
GNI Garni 61.01 316 eP **P** **00 58 53.6 -1.2**
GNI pmax pmax
comp=Z,7.0nm,1.1s
CLDR Caldiran 61.17 315 eP **P** **00 58 56.3 +0.3**
SIRT Sirnak 61.59 313 eP P 00 58 54.8 -4.0
AGRB Hanur-Agry 62.00 315 eP **P** **00 59 01.7 +0.1**
SVE Sverdlovsk 62.43 338⇑eP **P** **00 59 04.1 +0.3**
SVE pmax pmax
comp=Z,18nm,1.0s
ZEI Tsey 62.72 319 eP P 00 59 13.7 +7.4
ZEI pmax pmax
comp=Z,11nm,0.8s
ARU Arti 62.92 337d iP **P** **00 59 06.9 -0.2**
ARU 01 01 23.6
ARU S **S** **01 07 36.9 +2.4**
ARU SS **SS** **01 11 40.7 +0.4**
ARU pmax pmax
comp=Z,25nm,2.5s
ARU Arti 62.92 337 eP **P** **00 59 06.2 -0.9**
KBZ Khabaz 63.79 319 P **P** **00 59 13.8 +0.7**
comp=Z,2.1nm,0.7s,baz=149,slow=6.3,SNR=6.4
KBZ pP **pP** **00 59 22.5 -1.3**
comp=Z,8.9nm,0.7s,baz=120,slow=8.3,SNR=12
KIV Kislovodsk 64.03 319 eP **P** **00 59 13.7 -1.1**
KIV pmax pmax
comp=Z,7.0nm,0.6s
KIV Kislovodsk 64.03 319 eP P 00 59 23.0 +8.2
comp=Z,19nm,1.1s
GOF Gofitskoye 64.28 320 eP P 00 59 24.1 +7.8
BAYT Ayd¯-ntepe-Bay 64.34 315 eP P 00 59 25.9 +8.9
ILIC ilic-Erzincan 65.13 313 eP **P** **00 59 24.1 +2.0**
YAK Yakutsk 65.28 16 eP **P** **00 59 20.1 -2.3**
YAK pmax pmax
comp=Z,37nm,1.1s
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,15nm,1.3s
YAK MLR MLR
comp=Z,644nm,17.0s
YAK MLR MLR
comp=N,393nm,16.0s
YAK MLR MLR
comp=E,264nm,13.0s
YAK Yakutsk 65.28 16 eP **P** **00 59 21.2 -1.2**
comp=E,53nm,0.8s
DARE Darende-Malaty 65.63 312 eP P 00 59 22.6 -2.8
KMRS Kahramanmaras 65.73 311 eP **P** **00 59 26.9 +0.9**
SOKR Solikamsk 65.84 339 eP P 00 59 31.1 +5.0
SOKR pmax pmax
comp=Z,10.0nm,0.7s
KOZT Kozan 66.54 311 eP **P** **00 59 28.8 -2.3**
KARA Karaisali 67.06 310 eP **P** **00 59 34.9 +0.5**
NIG Nigde 67.64 311 eP P 00 59 46.8 +8.4
CSS Prodhromos 67.79 307 eP P 00 59 51.3 +12
ANN Anapa 67.82 318 eP P 00 59 31.7 -7.3
ANN e*PP pP 00 59 42.0 -7.7
ANN e 01 00 00.0
ANN pmax pmax
comp=Z,97nm,1.2s
VRHR Novokhopersk 67.85 326 eP P 00 59 46.6 +7.5
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
CORM Corum 68.24 313 eP **P** **00 59 42.9 +1.0**
SULT Sultanhani-AKS 68.50 311 eP P 00 59 51.2 +7.6
BRTR Keskin Array B 68.83 312 P **P** **00 59 45.5 -0.2**
comp=Z,1.5nm,0.6s,baz=134,slow=7.1,SNR=13
BRTR pP **pP** **00 59 53.5 -2.9**
comp=Z,9.4nm,0.7s,baz=130,slow=6.8,SNR=38
BRTR LR LR 01 34 01.2
comp=Z,48nm,18.1s,baz=106,slow=40
AFSR Af¯ar-Bala (A 69.17 312 eP **P** **00 59 48.3 +0.5**
VSR Storozhevoye 69.29 325 eP P 00 59 44.8 -3.3
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.7s
KONT Konya--Tatoy 69.31 310 eP P 00 59 56.5 +8.0
ANTO Ankara 69.50 312 eP P 00 59 57.2 +7.5
ANTO Ankara 69.50 312 eP P 00 59 57.2 +7.5
LOD Lodumlu 69.53 312 eP P 00 59 56.9 +6.9
SAFT Safranbolu 69.96 314 eP P 00 59 58.7 +6.3
SVRH Sivrihisar-ESK 70.33 312 eP P 01 00 02.0 +7.2
MDUB Mudurnu 70.84 313 eP P 01 00 05.0 +7.1
ELL Elmali 70.92 308 eP **P** **01 00 01.2 +2.7**
PRGR Permogore 71.38 337 eP **P** **00 59 57.8 -2.8**
PRGR e 01 00 18.3
PRGR pmax pmax
comp=Z,27nm,0.9s
PETK Petropavlovsk- 71.67 34 pP **pP** **01 00 11.7 -1.7**
comp=Z,1.6nm,0.5s,baz=186,slow=5.8,SNR=3.7
PETK LR LR 01 34 42.0
comp=Z,66nm,18.7s,baz=228,slow=38
TVSB Tavsanli 71.88 311 eP P 01 00 10.6 +6.4
DALY Dalyan (Mu¯la 71.91 308 eP P 01 00 12.2 +7.9
OBN Obninsk 72.34 328 eP **P** **01 00 06.1 -0.4**
OBN i 01 00 15.5
OBN e 01 00 24.7
OBN pmax pmax
comp=Z,7.0nm,1.1s
ISK Istanbul-Kandi 72.56 313 eP P 01 00 14.7 +6.5
MAW Mawson 72.87 193 LR LR 01 26 06.0
comp=Z,135nm,20.6s,baz=77,slow=31
CTKS Kestanelik-??a 73.00 313 eP **P** **01 00 13.8 +3.0**
TIXI Tiksi 73.02 10 eP **P** **01 00 09.0 -1.2**
TIXI pmax pmax
comp=Z,19nm,1.3s
TIXI Tiksi 73.02 10 eP **P** **01 00 09.0 -1.2**
comp=Z,19nm,1.3s
BALB Balikesir 73.11 311 eP P 01 00 19.6 +8.2
KLMR Klimovskoe 73.48 334 eP **P** **01 00 12.1 -1.1**
KLMR pmax pmax
comp=Z,15nm,1.4s
PSN Preselentsi 73.81 315 ⇓P **P** **01 00 16.1 +0.6**
PSN Preselentsi 73.81 315⇓iP **P** **01 00 16.1 +0.6**
TIRR Tirgusor 73.84 316 ⇓P P 01 00 24.1 +8.4
TIRR Tirgusor 73.84 316⇓iP P 01 00 24.1 +8.4
TIRR Tirgusor 73.84 316 eP P 01 00 24.0 +8.4
comp=Z,24nm,1.3s
MSAB Monastry St. A 74.16 316⇓iP P 01 00 26.7 +9.2
CFR Carcaliu 74.21 317 ⇓P P 01 00 26.2 +8.4
CFR Carcaliu 74.21 317⇓iP P 01 00 26.2 +8.4
PRD Provadia 74.25 315 ⇑P P 01 00 27.2 +9.1
JMB Yambol 74.68 314 ⇑P P 01 00 27.9 +7.3
JMB Yambol 74.68 314⇑iP P 01 00 27.9 +7.3
BOSA Boshof 74.71 240 LR LR 01 31 18.5
comp=Z,126nm,18.7s,baz=74,slow=34
AK02 Malin Array Si 74.98 322 eP **P** **01 00 21.7 -0.5**
AKASG Malin Array Be 74.98 322 P **P** **01 00 21.6 -0.5**
comp=Z,1.6nm,0.5s,baz=88,slow=5.3,SNR=22

AKASG pP **pP** **01 00 29.9 -3.1**
comp=Z,6.2nm,0.5s,baz=90,slow=5.1,SNR=17
AKBB Malin Array Si 74.98 322 eP **P** **01 00 23.3 +1.2**
AKBB Malin Array Si 74.98 322 eP **P** **01 00 23.3 +1.2**
AK01 Malin Array Si 74.98 322 eP **P** **01 00 21.5 -0.6**
KIEV Kiev 74.99 322 eP **P** **01 00 21.6 -0.6**
KIEV Kiev 74.99 322 eP **P** **01 00 21.8 -0.4**
comp=Z,6.9nm,0.7s
VRI Vrincioaia 75.34 317 ⇓P **P** **01 00 25.5 +1.1**
VRI Vrincioaia 75.34 317⇓iP **P** **01 00 25.5 +1.1**
PLOR Plostina 75.39 317 ⇑P P 01 00 34.4 +10
PLOR Plostina 75.39 317⇑iP P 01 00 34.3 +10
TESR Tescani 75.54 318⇓iP **P** **01 00 26.1 +0.6**
TMCR Tamitsa 75.66 337 eP **P** **01 00 27.1 +1.4**
TMCR e 01 00 38.9
TMCR e 01 03 16.0
TMCR pmax pmax
comp=Z,11nm,0.5s
MLR Muntele Rosu 75.79 317 ⇓P **P** **01 00 28.1 +1.0**
MLR Muntele Rosu 75.79 317⇓iP **P** **01 00 28.1 +1.0**
VOIR 76.39 316 ⇓P **P** **01 00 30.5 0.0**
VOIR 76.39 316⇓iP **P** **01 00 30.5 0.0**
ARR Arges 76.66 316⇓iP P 01 00 40.2 +8.2
BURAR Bucovina Array 76.74 319 ⇑P **P** **01 00 33.6 +1.2**
BURAR Bucovina Array 76.74 319⇑iP **P** **01 00 33.6 +1.2**
BUR08 Bucovina Ar. S 76.76 319 eP **P** **01 00 33.3 +0.8**
VTS Vitosha 77.15 313 eP P 01 00 41.5 +6.6
VTS Vitosha 77.15 313 ⇑P **P** **01 00 35.2 +0.3**
VTS Vitosha 77.15 313⇑iP **P** **01 00 35.2 +0.3**
JOF Joensuu 77.88 335 eP **P** **01 00 37.5 -0.8**
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 77.88 335 ep **P** **01 00 37.5 -0.8**
comp=Z,1.9nm,0.4s
GZR Gura Zlata 77.95 316 ⇑P P 01 00 49.4 +10
GZR Gura Zlata 77.95 316⇑iP P 01 00 49.4 +10
TRPA Tarpa 78.61 319⇓iP **P** **01 00 44.0 +1.3**
KWP Kalwaria Pacla 78.79 320 ⇓P P 01 00 53.4 +10
KWP Kalwaria Pacla 78.79 320 eP **P** **01 00 45.3 +1.6**
KWP Kalwaria Pacla 78.79 320⇓iP P 01 00 53.4 +10
KWP Kalwaria Pacla 78.79 320 eP **P** **01 00 44.4 +0.7**
comp=Z,7.8nm,0.8s
BZS Buzias 78.80 316 ⇑P P 01 00 52.1 +8.3
BZS Buzias 78.80 316⇑iP P 01 00 52.1 +8.3
APA Apatity 78.87 339⇑iP P 01 00 52.6 +8.9
APA i 01 01 10.0
APA iS S 01 10 54.0 +15
APA MLR MLR
comp=Z,400nm,21.0s
UZH Uzhgorod 78.87 319 eP P 01 00 55.7 +12
UZH e 01 01 09.9
KOLS Kolonicke sedl 78.94 320 eP **P** **01 00 45.9 +1.4**
KOLS e 01 00 54.6
KOLS Kolonicke sedl 78.94 320 eP **P** **01 00 45.9 +1.4**
KOLS epP **pP** **01 00 54.6 -0.8**
SUW Suwalki 79.40 325 eP **P** **01 00 46.9 0.0**
SUW Suwalki 79.40 325 eP **P** **01 00 46.9 0.0**
SUW Suwalki 79.40 325 eP pP 01 00 55.4 -2.3
CRVS Cervenica-Dubn 79.46 319 epP pP 01 00 58.5 +0.3
STHS Stebnicka Huta 79.69 320 eP **P** **01 00 50.3 +1.7**
STHS e 01 00 58.8
STHS Stebnicka Huta 79.69 320 eP **P** **01 00 50.3 +1.7**
STHS epP **pP** **01 00 58.8 -0.7**
FINES FINESS Array B 79.73 333 P **P** **01 00 48.8 +0.3**
comp=Z,3.2nm,0.5s,baz=114,slow=6.2,SNR=70
FINES pP **PcP** **01 00 57.6 +1.4**
comp=Z,5.0nm,0.6s,baz=104,slow=6.3,SNR=10
KAF Kangasniemi 79.81 333 eP **P** **01 00 48.6 -0.4**
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 79.81 333 ep **P** **01 00 48.6 -0.4**
comp=Z,4.8nm,0.5s
KECS Kecovo 80.03 319 eP **P** **01 00 51.1 +0.7**
KECS e 01 00 59.6
KECS Kecovo 80.03 319 eP **P** **01 00 51.1 +0.7**
KECS epP **PcP** **01 00 59.6 +1.8**
PKSM Moragy 80.94 316 ⇑P P 01 01 03.2 +7.9
PKSM Moragy 80.94 316⇑iP P 01 01 03.2 +7.9
BILL Bilibino 81.04 21 eP **P** **01 00 56.7 +1.2**
BILL e 01 01 05.9
BILL pmax pmax
comp=Z,2.0nm,0.8s
BILL MLR MLR
comp=Z,457nm,20.0s
VYHS Vyhne 81.11 319 eP **P** **01 00 57.9 +1.6**
VYHS e 01 01 05.6
VYHS Vyhne 81.11 319 eP **P** **01 00 57.9 +1.6**
VYHS epP **pP** **01 01 05.6 -1.6**
OKC Ostrava-Krasne 81.74 320 eP P 01 01 07.8 +8.3
OKC e 01 01 20.7
OKC Ostrava-Krasne 81.74 320 epP P 01 01 07.8 +8.3
OKC ex x 01 01 20.7
MORC Moravsky Berou 82.12 320 ⇑P P 01 01 10.5 +8.9
MORC Moravsky Berou 82.12 320⇑iP P 01 01 10.5 +8.9
MORC Moravsky Berou 82.12 320 eP **P** **01 01 01.0 -0.6**
comp=Z,3.6nm,0.9s
ARCES ARCESS Array B 82.28 340 P **P** **01 01 02.6 +0.6**
comp=Z,3.4nm,0.4s,baz=104,slow=5.2,SNR=55
ARCES pP **pP** **01 01 11.1 -1.8**
comp=Z,4.3nm,0.5s,baz=95,slow=5.0,SNR=5.5
ARCES LR LR 01 43 21.9
comp=Z,120nm,18.2s,baz=117,slow=40
KRLC Kraliky 82.65 320 eP P 01 01 13.5 +9.1
KRLC Kraliky 82.65 320 epP P 01 01 13.5 +9.1
DPC Dobruska-Polom 82.97 320 eP P 01 01 15.2 +9.2
DPC e 01 01 27.4
DPC Dobruska-Polom 82.97 320 eP P 01 01 15.2 +9.2
DPC ex x 01 01 27.4
DPC Dobruska-Polom 82.97 320 eP **P** **01 01 07.5 +1.5**
CONA Conrad Observa 83.02 318⇑ipP pP 01 01 15.4 -1.9
comp=Z,2.7nm,0.8s
BOJS Bojanci 83.22 316 i P P 01 01 15.0 +7.7
BOJS i 01 01 29.0
PERS Pernice 83.41 317 eP P 01 01 17.7 +9.3
PERS i 01 01 30.4
SOKA Soboth 83.47 317⇑ipP pP 01 01 17.1 -2.6
comp=Z,5.8nm,1.0s
VISS Visnje 83.53 316 i P P 01 01 17.8 +8.8
VISS i 01 01 32.1
PRU Pruhonice 84.08 320 eP P 01 01 18.9 +7.3
PRU Pruhonice 84.08 320 epP P 01 01 18.9 +7.3
BRG Berggiesshubel 84.53 321 eP P 01 01 23.4 +9.5
comp=Z,4.3nm,1.0s
BRG Berggiesshubel 84.53 321 eP P 01 01 23.4 +9.5
BRG pmax pmax
comp=Z,3.0nm,1.0s
GERES GERESS Array B 84.53 319 P **P** **01 01 14.9 +0.8**
comp=Z,0.5nm,0.6s,baz=91,slow=5.3,SNR=6.9
GERES pP **pP** **01 01 23.5 -1.6**
comp=Z,2.1nm,0.7s,baz=88,slow=3.3,SNR=12
KHC Kasperske Hory 84.63 319 eP P 01 01 23.5 +8.9
KHC e 01 01 37.6
KHC Kasperske Hory 84.63 319 epP P 01 01 23.5 +8.9
KHC ex x 01 01 37.6
VNDA Vanda 86.06 169 LR LR 01 36 44.6
comp=Z,136nm,19.2s,baz=320,slow=34
NB2 NORSAR Subarra 86.73 331 P **P** **01 01 24.8 +0.1**
comp=Z,3.0nm,0.8s,baz=94,slow=5.1
NOA NORSAR Array B 86.73 331 P **P** **01 01 25.0 +0.2**
comp=Z,0.7nm,0.6s,baz=94,slow=3.8,SNR=4.5
NOA pP **pP** **01 01 33.5 -2.2**
comp=Z,1.9nm,0.7s,baz=94,slow=5.0,SNR=6.8
NOA LR LR 01 42 36.1
comp=Z,61nm,19.7s,baz=105,slow=37
KEST Kesra 87.29 306 LR LR 01 44 16.1
comp=Z,22nm,20.0s,baz=296,slow=38
TUE Stuetta 87.37 316 eP **P** **01 01 25.8 -2.6**
comp=Z,437nm,0.5s
CDF Champ du Feu 88.78 318 eP P 01 01 38.8 +3.9
CDF Champ du Feu 88.78 318 eP P 01 01 38.8 +3.9
CDF Champ du Feu 88.78 318 eP P 01 01 38.8 +3.9
LPG La Plagne 89.19 315 eP P 01 01 44.6 +7.5
LPG La Plagne 89.19 315 eP P 01 01 44.6 +7.5
LPG La Plagne 89.19 315 eP P 01 01 44.6 +7.5
LPL La Plagne 89.20 315 eP P 01 01 44.2 +7.1
comp=Z,46nm,1.4s
LPL La Plagne 89.20 315 eP P 01 01 44.2 +7.1
LPL pmax pmax
comp=Z,47nm,1.4s
LPL La Plagne 89.20 315 eP P 01 01 44.2 +7.1
comp=Z,46nm,1.4s
HAU Haudompre 89.41 318 eP P 01 01 44.1 +6.4
HAU Haudompre 89.41 318 eP P 01 01 44.1 +6.4

HAU Haudompre 89.41 318 eP P 01 01 44.1 +6.4
WLF Walferdange 89.49 319 P **P** **01 01 37.1 -1.0**
BAIF Baives 90.74 320 eP P 01 01 49.3 +5.5
comp=Z,17nm,1.0s
BAIF Baives 90.74 320 eP P 01 01 49.3 +5.5
BAIF pmax pmax
comp=Z,17nm,1.0s
BAIF Baives 90.74 320 eP P 01 01 49.3 +5.5
comp=Z,17nm,1.0s
LOR Lormes 91.12 317 eP P 01 01 53.2 +7.5
comp=Z,42nm,1.4s
LOR Lormes 91.12 317 eP P 01 01 53.2 +7.5
LOR pmax pmax
comp=Z,42nm,1.4s
LOR Lormes 91.12 317 eP P 01 01 53.2 +7.5
comp=Z,42nm,1.4s
SSF Saint Saulge 91.37 317 eP P 01 01 53.3 +6.4
SSF Saint Saulge 91.37 317 eP P 01 01 53.3 +6.4
SSF Saint Saulge 91.37 317 eP P 01 01 53.3 +6.4
TORD Torodi Ar. Bea 94.86 283 P **P** **01 02 03.9 +0.2**
comp=Z,0.2nm,0.7s,baz=110,slow=6.5,SNR=3.2
TORD pP **pP** **01 02 13.3 -1.3**
comp=Z,0.8nm,0.6s,baz=91,slow=5.4,SNR=5.7
TORD LR LR 01 44 26.9
comp=Z,171nm,18.1s,baz=10.0,slow=35
MDT Midelt 99.00 303 LR LR 01 49 53.3
comp=Z,38nm,19.6s,baz=114,slow=37
ILAR Eielson Array 99.59 23 PP PP 01 06 28.5 +0.9
comp=Z,0.9nm,1.0s,baz=289,slow=8.5,SNR=4.3
NVAR Mina Array Bea 128.73 36 PKP **PKPdf** **01 07 50.4 +1.5**
comp=Z,0.3nm,0.5s,baz=320,slow=2.4,SNR=4.3
PDAR Pinedale Array 129.94 25 PKP **PKPdf** **01 07 51.8 +0.7**
comp=Z,0.2nm,0.5s,baz=101,slow=2.8,SNR=5.1
PDAR pPKP **pPKPdf** **01 07 59.8 -2.6**
comp=Z,0.4nm,0.6s,baz=174,slow=2.9,SNR=3.1
TXAR Lajitas Array 143.59 31 PKP PKPbc 01 08 14.3 +0.5
comp=Z,0.4nm,0.4s,baz=62,slow=0.0,SNR=9.5
TXAR pPKP **PKiKP** **01 08 23.9 +4.0**
comp=Z,0.5nm,0.5s,baz=174,slow=0.3,SNR=5.0
CPUP Villa Florida 145.03 223 PKPbc **PKPdf** **01 08 19.5 +0.6**
comp=Z,0.7nm,0.4s,baz=75,slow=3.6,SNR=3.5

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*IDC **10** 01:04:57.4±6.5, 37°.95N×142°.64E, h72km±27km, mb3.3/3, mb1 3.5/6, mb1mx3.2/35, mbtmp3.7/6, Error ellipse: s-maj=87.5km s-min=21.0km az=132.0*
*ISCJB **10** 01:05:00.8±1.1, 38°.16N±0°.05×142°.0E±0°.1, h72km±7km, mb3.4/3, Error ellipse: s-maj=15.2km s-min=6.4km az=22.0*
*JMA **10** 01:05:02.3±0.1, 38°.17N×141°.85E, h70km±1km, M3.6*
JMA Felt I J1.
ISC 10 01:05:00.9±1.9, 38°.16N±0°.06×142°.1E±0°.1, h60km±13km, n25, σ1§43/31, mb3.4/3, 4C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	0.63	298	⇓P	**Pn**	**01 05 15.2**	**+0.9**
JIO				S	**Sn**	**01 05 24.4**	**+0.4**
JMK	**Ichinoseki**	1.03	321	⇑P	**Pn**	**01 05 20.3**	**+1.0**
JMK				S	**Sn**	**01 05 33.2**	**+0.3**
JMM	**Marumori**	1.04	254	⇓P	**Pn**	**01 05 19.3**	**-0.1**
JMM				S	**Sn**	**01 05 31.8**	**-1.3**
JOU	**Okura**	1.11	281	⇓P	**Pn**	**01 05 20.6**	**+0.2**
JOU				S	**Sn**	**01 05 33.9**	**-1.1**
JFK	**Kawauchi**	1.22	230	P	**Pn**	**01 05 22.0**	**+0.1**
JFK				S	**Sn**	**01 05 36.4**	**-1.2**
JOM	**Ohasama**	1.44	336	⇑P	**Pn**	**01 05 25.8**	**+1.0**
JOM				S	**Sn**	**01 05 43.6**	**+0.8**
JFT	**Otama**	1.50	245	⇓P	**Pn**	**01 05 25.9**	**+0.3**
JFT				S	**Sn**	**01 05 43.3**	**-0.9**
JYK	**Kaneyama**	1.53	300	⇑P	**Pn**	**01 05 26.1**	**+0.1**
JYS	**Shirataka**	1.57	273	⇓P	**Pn**	**01 05 26.6**	**+0.1**
JYS				S	**Sn**	**01 05 44.8**	**-1.0**
JRG	**Rokugo**	1.66	319	⇑P	**Pn**	**01 05 28.4**	**+0.6**
JYA	**Atsumi**	1.89	284	P	**Pn**	**01 05 31.0**	**+0.1**
JYA				S	**Sn**	**01 05 52.9**	**-0.7**
JFY	**Yanaizu**	2.00	249	P	**Pn**	**01 05 32.8**	**+0.3**
JFY				S	**Sn**	**01 05 55.7**	**-0.8**
MJAR	**Matsushiro Arr**	3.46	243	P	**Pn**	**01 05 53.8**	**+1.4**
	3.0nm,0.3s,baz=80,slow=14,SNR=13						
MJAR				S	**Sn**	**01 06 37.5**	**+5.3**
	1.7nm,0.3s,baz=15,slow=26,SNR=4.8						
MAT	**Matsushiro**	3.46	243	P	**Pn**	**01 05 53.6**	**+1.2**
MAT				eS	**Sn**	**01 06 35.1**	**+3.0**
ASAJ	**Asahikawa**	5.97	4	P	**Pn**	**01 06 26.4**	**-0.2**
	1.9nm,0.3s,baz=201,slow=14,SNR=6.9						
USRK	**Ussuriysk Arra**	9.69	312	P	**Pn**	**01 07 18.6**	**+1.1**
	0.8nm,0.3s,baz=127,slow=14,SNR=8.1						
SONM	**Songino Array**	27.60	302	P	**P**	**01 10 41.9**	**-0.7**
	0.5nm,0.5s,baz=107,slow=8.3,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	28.32	123	T	T	01 41 14.7	
	baz=318,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	28.32	123	T	T	01 41 15.3	
	baz=318,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy**	28.33	123	T	T	01 41 16.0	
	baz=318,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	29.07	125	T	T	01 42 15.6	
	baz=321,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	29.07	126	T	T	01 42 13.4	
	baz=321,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	29.09	125	T	T	01 42 13.3	
	baz=321,slow=76,SNR=4.2						
ZALV	**Zalesovo Beam**	41.54	311	P	**P**	**01 12 41.6**	**-0.7**
	0.5nm,0.4s,baz=87,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	43.96	301	P	**P**	**01 13 01.2**	**-0.8**
	0.5nm,0.7s,baz=84,slow=8.7,SNR=7.2						

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*IDC **10** 01:07:13.2±0.8, 33°.08S×179°.13W, h0km, mb4.4/4, mb1 4.6/5, mb1mx4.3/19, mbtmp4.4/5, ML4.5/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/23, Error ellipse: s-maj=32.8km s-min=27.4km az=173.0*
*ISCJB **10** 01:07:19.1±0.6, 33°.33S±0°.04×179°.27W±0°.08, h45km, mb4.4/9, MS3.8/3, Error ellipse: s-maj=10.4km s-min=5.1km az=16.6*
*NEIC **10** 01:07:22.5±2.8, 33°.34S×179°.17W, h68km±22km, mb4.5/6, Error ellipse: s-maj=28.2km s-min=12.4km az=214.0*
ISC 10 01:07:19.9±0.5, 33°.28S±0°.06×179°.2W±0°.1, h45km, n76, σ1§20/69, mb4.4/8, MS3.7/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	4.15	15	LR	LR	01 09 31.3	
	comp=Z,157nm,20.3s,baz=50,slow=35						
MXZ	**Matakaoa Point**	4.75	205	ePN	**Pn**	**01 08 29.8**	**+0.9**
MXZ				eSN	**Sn**	**01 09 23.8**	**+1.1**
HAZ	**Te Kaha**	5.12	208	PN	**Pn**	**01 08 34.5**	**+0.6**
HAZ				SN	**Sn**	**01 09 33.5**	**+1.9**
PUZ	**Puketiti**	5.22	203	ePN	**Pn**	**01 08 35.3**	**-0.1**
PUZ				SN	**Sn**	**01 09 35.5**	**+1.1**
CNGZ	**Carnagh Statio**	5.62	202	ePN	**Pn**	**01 08 40.9**	**+0.1**
MWZ	**Matawai**	5.72	207	PN	**Pn**	**01 08 42.0**	**-0.2**
MWZ				eSN	**Sn**	**01 09 48.3**	**+1.8**
URZ	**Urewera**	5.82	210	Pn	**Pn**	**01 08 43.8**	**+0.2**
	11nm,0.3s,baz=288,slow=4.1,SNR=37						
URZ				Sn	**Sn**	**01 09 49.1**	**+0.1**
	16nm,0.3s,baz=142,slow=23,SNR=9.3						
URZ	**Urewera**	5.82	210	PN	**Pn**	**01 08 43.4**	**-0.2**
URZ				SN	**Sn**	**01 09 49.1**	**+0.1**
RAGZ	**Rawiri**	5.90	207	eSN	**Sn**	**01 09 52.6**	**+1.5**
RIGZ	**Rimuhau**	5.96	204	PN	**Pn**	**01 08 45.3**	**-0.3**
RIGZ				eSN	**Sn**	**01 09 54.3**	**+1.7**
PRGZ	**Paritu Road**	6.12	202	ePN	**Pn**	**01 08 48.5**	**+0.8**
SNGZ	**Shannon Statio**	6.18	206	PN	**Pn**	**01 08 49.6**	**+1.0**
KNZ	**Kokohu**	6.28	203	ePN	**Pn**	**01 08 49.4**	**-0.4**
OUZ	**Omahuta**	6.30	250	ePn	Pn	01 08 53.3	+3.1
	61nm,0.5s						
OUZ				eSn	**Sn**	**01 10 00.5**	**-0.4**
OUZ	**Omahuta**	6.30	250	ePN	Pn	01 08 54.6	+4.4
RAHZ	**Arahi**	6.39	207	PN	**Pn**	**01 08 52.4**	**+0.9**
WHHZ	**Waihua**	6.48	206	PN	**Pn**	**01 08 53.7**	**+1.1**
BKZ	**Black Stump Fm**	6.84	210	ePN	**Pn**	**01 08 56.3**	**-1.4**
KAHZ	**Kahuranaki**	7.24	205	PN	**Pn**	**01 09 01.0**	**-2.2**
KAHZ				SN	**Sn**	**01 10 22.4**	**-1.7**
BHHZ	**Black Hill Sta**	7.29	210	PN	**Pn**	**01 09 02.9**	**-1.0**
BHHZ				SN	**Sn**	**01 10 24.3**	**-1.1**
FWVZ	**Far West T-bar**	7.33	214	ePN	**Pn**	**01 09 04.5**	**-0.1**
PXZ	**Pawanui**	7.46	204	ePN	**Pn**	**01 09 03.0**	**-3.1**
PXZ				SN	**Sn**	**01 10 25.6**	**-3.7**
PNHZ	**Pukenui**	7.60	208	PN	**Pn**	**01 09 05.9**	**-2.2**
BFZ	**Birch Farm**	8.25	205	PN	Pn	01 09 13.2	-3.7

MRZ Mangatainoka R 8.48 208 PN Pn 01 09 16.6 -3.5
HOWZ Holdsworth Sta 8.71 208 PN Pn 01 09 19.4 -3.9
OGWZ Otaki Gorge 8.78 209 ePN Pn 01 09 20.1 -4.1
KIW Kapiti Island 8.93 210 ePN Pn 01 09 22.3 -3.9
THZ Tophouse 10.55 214 ePN Pn 01 09 44.5 -4.0
OXZ Oxford 12.17 212 ePN Pn 01 10 04.5 -6.1
MQZ McQueen's Vall 12.22 209 PN Pn 01 10 04.3 -6.9
JCZ Jackson Bay 14.31 218 ePN Pn 01 10 32.9 -6.8
DZM Mont Dzumac 16.93 308 eLR LR 01 14 51.9
498nm,25.8s
DZM Mont Dzumac 16.93 308 LR LR 01 15 22.0
comp=Z,88nm,19.2s,baz=219,slow=29
PAE Paea 30.76 67 eT T 01 45 30.2
4.9nm,0.2s
PPT2 Papeete2 30.81 67 eLR LR 01 21 18.3
134nm,26.0s
PPT Papeete 30.82 67 LR LR 01 21 51.7
comp=Z,76nm,21.7s,baz=180,slow=29
CTAO Charters Tower 33.42 284 eP P 01 13 56.6 +2.2
6.1nm,0.8s
VAH Vaihoa 33.71 65 eT T 01 49 22.4
27nm,0.2s
PMG Port Moresby 39.06 300 P P 01 14 41.4 -1.2
4.6nm,0.2s,baz=191,slow=16,SNR=4.2
PMG Port Moresby 39.06 300 eP P 01 14 43.7 +1.1
6.0nm,0.6s
COEN Coen 39.22 290 eP P 01 14 45.7 +1.7
RKT Rikitea 39.98 87 eT T 01 57 21.9
2.0nm,0.2s
AS31 Alice Springs 42.06 271 eP P 01 15 08.0 +0.6
ASAR Alice Springs 42.06 271 P P 01 15 07.4 0.0
2.7nm,0.6s,baz=108,slow=7.4,SNR=29
WRAB Tennant Creek 43.30 276 eP P 01 15 17.4 -0.1
5.5nm,1.0s
WRA Warramunga Arr 43.31 276 P P 01 15 17.2 -0.4
3.1nm,0.7s,baz=113,slow=8.1,SNR=36
WRA LR LR 01 31 36.9
comp=Z,100nm,18.9s,baz=280,slow=34
SNAA Sanae 75.31 179 eP P 01 18 58.8 +0.9
7.4nm,1.2s
H03N3 Juan Fernandez 79.91 123 T T 02 48 02.8
baz=236,slow=74,SNR=63
H03N2 Juan Fernandez 79.91 123 T T 02 47 58.8
baz=236,slow=74,SNR=49
H03N1 Juan Fernandez 79.92 123 T T 02 47 58.6
baz=236,slow=74,SNR=68
PLCA Paso Flores 81.27 133 eP P 01 19 33.4 +2.0
8.0nm,1.1s
NVAR Mina Array Bea 91.01 43 P P 01 20 20.1 +0.7
0.6nm,0.8s,baz=230,slow=8.2,SNR=3.6
LPAZ La Paz 97.84 115 eP Pdif 01 20 51.8 -0.1
1.3nm,0.8s
CPUP Villa Florida 98.95 129 LR LR 02 01 54.8
comp=Z,106nm,18.4s,baz=59,slow=33
MKAR Makanchi Array 118.84 309 PKP PKPdf 01 26 02.5 -0.4
0.2nm,0.5s,baz=153,slow=1.6,SNR=3.0
KURK Kurchatov 122.30 313 PKP PKPdf 01 26 08.8 -0.6
KURBB Kurchatov Arra 122.33 313 PKP PKPdf 01 26 08.8 -0.7
0.4nm,0.5s,baz=114,slow=1.7,SNR=3.0
BVAR Borovoye Array 127.74 314 PKP PKPdf 01 26 19.5 -0.3
0.6nm,0.5s,baz=82,slow=2.5,SNR=4.7
ABKAR Akbulak array 133.98 309 ePKPdf PKPdf 01 26 31.5 -0.2
ARU Arti 134.64 319 ePKPdf PKPdf 01 26 33.0 +0.3
ARCES ARCESS Array B 141.17 346 PKhKP PKPpre 01 26 37.5
2.9nm,1.0s,baz=90,slow=1.8,SNR=7.6
ARCES PKP PKPdf 01 26 44.6 +0.2
2.6nm,0.8s,baz=15,slow=1.0,SNR=6.6
JOF Joensuu 144.69 336 ep PKPab 01 26 48.2 -1.4
KBZ Khabaz 145.80 300 PKPbc PKPab 01 26 53.4 -0.9
2.2nm,0.9s,baz=109,slow=9.3,SNR=3.7
KAF Kangasniemi 146.89 338 ep PKPdf 01 26 54.1 -0.4
FINES FINESS Array B 147.46 338 PKPbc PKPbc 01 26 57.1 -1.0
3.3nm,0.4s,baz=58,slow=3.4,SNR=31
NB2 NORSAR Subarra151.42 349 PKP PKPbc 01 27 07.0 -1.0
comp=Z,2.2nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 151.42 349 PKPbc PKPbc 01 27 07.4 -0.6
comp=Z,1.0nm,0.6s,baz=23,slow=4.5,SNR=15
AKASG Malin Array Be 152.89 318 PKPbc PKPbc 01 27 11.4 -0.2
comp=Z,0.3nm,0.3s,baz=46,slow=2.7,SNR=4.0
BR131 Keskin Array S 152.96 293 ePKPdf PKPdf 01 27 04.5 -0.5
BR131 ePKPbc PKiKP 01 27 11.4 -1.0
BR131 ePKPab PKPab 01 27 22.6 -1.1
BRTR Keskin Array B 152.96 293 PKPbc PKPbc 01 27 10.8 -1.5
comp=Z,0.8nm,0.8s,baz=142,slow=3.6,SNR=5.8
DBIC Dimbokro 153.00 167 PKPbc PKPbc 01 27 13.6 +0.7
comp=Z,2.2nm,0.7s,baz=122,slow=2.7,SNR=5.4
MORC Moravsky Berou 159.39 328 ePKPdf PKPdf 01 27 11.8 -1.2
MORC ePKPab PKPab 01 27 49.1 -1.7
TOA0 Torodi Ar. Sit 159.94 182 ePKPdf PKPdf 01 27 13.8 -0.8
TOA0 ePKPab PKPab 01 27 54.4 +0.5
TORD Torodi Ar. Bea 159.94 182 PKP PKPdf 01 27 15.3 +0.7
comp=Z,0.8nm,1.1s,baz=185,slow=0.9,SNR=2.8
TORD PKPab PKPab 01 27 54.3 +0.4
comp=Z,2.7nm,0.8s,baz=168,slow=4.4,SNR=16
WLF Walferdange 163.16 348 ePKPdf PKPdf 01 27 16.0 -0.9
WLF ePKPab PKPab 01 28 06.2 -1.0

IDC 10 01:17:05.0±5.9, 20.66S×177.82W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/17, mbtmp3.7/2, Error ellipse: s-maj=298.9km s-min=61.9km az=151.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ASAR Alice Springs 44.65 257 P P 01 25 18.2 -1.6
0.3nm,0.4s,baz=92,slow=8.6,SNR=5.9
WRA Warramunga Arr 44.74 262 P P 01 25 21.5 +0.9
1.0nm,0.5s,baz=96,slow=8.2,SNR=25
AKASG Malin Array Be 143.24 331 PKP PKPbc 01 36 38.9 +0.9
0.4nm,0.4s,baz=40,slow=3.4,SNR=4.3
BRTR Keskin Array B 147.07 312 PKPbc PKPbc 01 36 50.1 -0.2
0.3nm,0.6s,baz=144,slow=5.2,SNR=2.8

CSEM 10 01:17:31.5, 25.32N×56.13E, h2km, ML2.3
DSN 10 01:17:31.5±0.0, 25.32N×56.13E, h2km, mb1.6/3, ML2.3/3, 3D, Error ellipse: s-maj=3.7km s-min=0.5km az=305.0, Eastern Arabian Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HATD Hatta, Dubai 0.49 180 P Pg 01 17 40.0 -1.0
SNR=20
HATD Hatta, Dubai 0.49 180 ⇓P Pg 01 17 40.0 -1.0
SNR=20
FAQ Al Faqa, Dubai 0.75 221 P Pg 01 17 45.4 -0.5
SNR=12
FAQ Al Faqa, Dubai 0.75 221⇓eP Pg 01 17 45.4 -0.6
SNR=12
ASUD Al Ashush, Dub 1.00 227 P Pg 01 17 50.9 +0.2
SNR=22
ASUD Al Ashush, Dub 1.00 227⇓eP Pg 01 17 50.9 +0.2
SNR=22

WEL 10 02:02:05.0±0.4, 45.09S×167.41E, h119km±3km, ML3.0/9, 1C-2D, Error ellipse: s-maj=3.4km s-min=1.9km az=90.0, South Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DCZ Deep Cove 0.43 205 PN Pn 02 02 21.9 -0.5
MSZ Milford Sound 0.56 41 PN Pn 02 02 23.4 +0.2
MSZ SN Sn 02 02 36.8 -0.1
MSZ AML AML 02 02 38.0
MLZ Mavora Lakes 0.59 116 ⇑PN Pn 02 02 23.3 -0.2
MLZ eSN Sn 02 02 36.7 -0.8
WHZ Wether Hill Ro 0.89 155 PN Pn 02 02 25.9 0.0
WKZ Wanaka 1.17 78 PN Pn 02 02 28.9 +0.2
WKZ SN Sn 02 02 46.1 -0.6
EAZ Earnscleugh 1.35 97 ⇓PN Pn 02 02 30.6 0.0
EAZ SN Sn 02 02 48.7 -1.4
JCZ Jackson Bay 1.40 44 PN Pn 02 02 30.8 -0.5
JCZ SN Sn 02 02 50.0 -1.4
APZ The Paps 1.79 167 PN Pn 02 02 35.5 -0.3
APZ eSN Sn 02 02 57.8 -1.6
SYZ Scrubby Hill 1.88 141 ⇓PN Pn 02 02 36.9 0.0
SYZ SN Sn 02 02 59.7 -1.7
FOZ Fox Glacier 2.24 48 PN Pn 02 02 40.9 -0.4
ODZ Otahua Downs 2.29 90 PN Pn 02 02 40.7 -1.4

IDC 10 02:22:52.0±8.3, 23.24S×178.55W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/33, mbtmp3.3/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/14, Error ellipse: s-maj=348.6km s-min=60.6km az=148.0, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PPT Papeete 27.70 84 LR LR 02 38 26.2
comp=Z,70nm,18.5s,baz=5.5,slow=34
ASAR Alice Springs 43.46 260 P P 02 30 57.4 +0.2
0.2nm,0.4s,baz=88,slow=6.9,SNR=4.3
WRA Warramunga Arr 43.79 265 P P 02 30 59.4 -0.4
0.3nm,0.6s,baz=104,slow=8.6,SNR=4.1
AKASG Malin Array Be 145.12 329 PKPbc PKPbc 02 42 29.8 -0.9
0.2nm,0.4s,baz=39,slow=3.3,SNR=6.1

IDC 10 02:25:00.2±7.2, 21.73S×177.27W, h0km, mb3.7/1, mb1 4.1/1, mb1mx3.6/16, mbtmp3.7/1, Error ellipse: s-maj=444.3km s-min=75.0km az=157.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ASAR Alice Springs 44.91 258 P P 02 33 22.3 +5.2
1.2nm,0.7s,baz=97,slow=7.6,SNR=7.0
WRA Warramunga Arr 45.12 263 P P 02 33 18.6 -0.1
0.7nm,0.5s,baz=102,slow=8.3,SNR=2.6
AKASG Malin Array Be 144.41 331 PKP PKPdf 02 44 38.2 0.0
0.6nm,0.5s,baz=41,slow=3.2,SNR=6.5
BRTR Keskin Array B 148.16 311 PKPbc PKPbc 02 44 47.4 -1.1
0.7nm,0.9s,baz=15,slow=6.0,SNR=3.1

IDC 10 02:26:59.2±1.0, 5.16S×145.83E, h0km, mb4.3/5, mb1 4.4/8, mb1mx3.9/35, mbtmp4.3/8, ML3.8/3, MS3.4/8, Ms1 3.4/8, ms1mx3.2/28, Error ellipse: s-maj=34.7km s-min=22.7km az=102.0
ISCJB 10 02:27:07.0±0.6, 5.39S±0.06×145.82E±0.06, h69km, mb4.2/9, Error ellipse: s-maj=9.3km s-min=8.1km az=161.1
NEIC 10 02:27:08.3±2.3, 5.38S×145.98E, h46km±19km, mb4.4/6, Error ellipse: s-maj=18.1km s-min=14.0km az=196.0
ISC 10 02:27:08.7±0.6, 5.36S±0.08×145.79E±0.08, h69km, n47, σ1§60/40, mb4.3/9, Eastern New Guinea region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 4.25 161 Pn Pn 02 28 08.9 -2.1
8.6nm,0.3s,baz=6.4,slow=9.2,SNR=16
PMG Sn Sn 02 28 57.6 -1.7
30nm,0.3s,baz=330,slow=20,SNR=5.5
PMG LR LR 02 29 37.4
comp=Z,111nm,20.4s,baz=342,slow=36
PMG Port Moresby 4.25 161 P Pn 02 28 12.9 +2.0
baz=4.9,SNR=5.4
RABL Rabaul 6.46 80 P Pn 02 28 41.6 +0.4
baz=6.6,SNR=4.2
COEN Coen 8.93 197 ePn Pn 02 29 15.7 +0.8
75nm,0.5s
COEN eSn Sn 02 30 50.5 -3.4
COEN Coen 8.93 197 P Pn 02 29 16.0 +1.1
baz=9.4,SNR=48
MTSU Mount Surprise 12.78 186 P Pn 02 30 08.1 +0.6
baz=13,SNR=4.5
CTA Charters Tower 14.65 178 Pn Pn 02 30 32.6 +0.3
0.3nm,0.3s,baz=1.4,slow=14,SNR=2.3
CTAO Charters Tower 14.65 178 ePn Pn 02 30 32.0 -0.4
KDU Kakadu 15.03 240 P Pn 02 30 36.1 -1.0
baz=15,SNR=25
QIS Mount Isa 16.26 201 P P 02 30 59.5 +4.8
baz=17,SNR=3.9
MTN Manton Dam 16.26 242 P P 02 30 53.7 -1.0
baz=16,SNR=11
WRAB Tennant Creek 18.27 217 eP P 02 31 16.7 -0.2
7.1nm,0.8s
WRA Warramunga Arr 18.28 217 P P 02 31 17.0 -0.1
0.8nm,0.3s,baz=38,slow=11,SNR=28
WRA LR LR 02 39 13.7
comp=Z,75nm,18.1s,baz=15,slow=40
KNRA Kununurra 19.61 237 P P 02 31 31.4 -0.2
baz=20,SNR=18
RMQ Roma 21.20 173 P P 02 31 53.1 +4.3
baz=22,SNR=5.6
AS31 Alice Springs 21.50 211 eP P 02 31 51.9 -0.1
ASAR Alice Springs 21.51 211 P P 02 31 51.8 -0.3
0.7nm,0.3s,baz=46,slow=8.2,SNR=20
ASAR PcP PcP 02 35 53.6 +1.0
1.0nm,0.8s,baz=32,slow=5.5,SNR=4.2
ASAR LR LR 02 41 14.0
comp=Z,84nm,18.7s,baz=36,slow=39
SOEI Soe 21.77 257 eP P 02 31 58.7 +3.6
11nm,0.6s
WRKA Warakurna 25.78 219 P P 02 32 33.6 +0.2
baz=26,SNR=14
KAPI Kappang 25.93 270 eP P 02 32 35.3 +0.6
22nm,0.6s
DZM Mont Dzumac 25.99 132 P P 02 32 34.7 -0.6
8.8nm,0.8s,baz=303,slow=12,SNR=4.2
DZM LR LR 02 41 22.3
comp=Z,192nm,19.5s,baz=18,slow=33
DZM Mont Dzumac 25.99 132 eP P 02 32 32.9 -2.5
32nm,1.3s
STKA Stephens Creek 26.68 188 P P 02 32 39.7 -1.5
1.6nm,0.3s,baz=40,slow=5.1,SNR=4.9
STKA LR LR 02 44 29.1
comp=Z,129nm,18.9s,baz=21,slow=39
HTT Hallett 28.66 192 P P 02 32 59.6 +0.6
baz=29,SNR=3.9
H11S3 WAKE ISLAND Hy 31.41 41 T T 03 06 36.6
baz=221,slow=73,SNR=7.2
H11S2 WAKE ISLAND Hy 31.41 41 T T 03 06 42.1
baz=221,slow=73,SNR=5.0
H11S1 WAKE ISLAND Hy 31.43 41 T T 03 06 38.7
baz=221,slow=73,SNR=6.9
H11N1 WAKE ISLAND Hy 32.43 39 T T 03 07 56.0
baz=223
H11N3 WAKE ISLAND Hy 32.45 39 T T 03 07 56.7
baz=223
H11N2 WAKE ISLAND Hy 32.45 39 T T 03 07 58.0
baz=223
MEEK Meekatharra 33.47 228 P P 02 33 42.6 +1.2
baz=34,SNR=16
MORW Morawa 36.72 227 P P 02 34 10.3 +0.9
baz=37,SNR=3.9
MNAI Manna 42.68 269 P P 02 34 56.3 -2.9
baz=42,SNR=5.3
KSRS Korea Array 45.73 340 LR LR 02 54 27.1
comp=Z,46nm,18.1s,baz=140,slow=36
CMAR Chiang Mai Arr 51.88 298 LR LR 02 59 02.3
comp=Z,22nm,19.4s,baz=164,slow=37
SONM Songino Array 63.26 331 LR LR 03 03 50.7
comp=Z,32nm,20.0s,baz=50,slow=35
VNDA Vanda 72.62 176 P P 02 38 29.4 +1.1
9.7nm,1.2s,baz=343,slow=9.1,SNR=6.4
KURK Kurchatov 79.98 323 eP P 02 39 10.6 +0.3
1.7nm,1.0s
ILAR Eielson Array 85.37 23 P P 02 39 36.8 -1.3
1.1nm,0.7s,baz=254,slow=5.0,SNR=15
BRVK Borovoye 85.61 324 eP P 02 39 38.2 -1.4
2.4nm,0.8s
ABKAR Akbulak array 91.30 319 eP P 02 40 08.3 +1.6
TOA0 Torodi Ar. Sit 143.76 285 ePKPdf PKPdf 02 46 38.7 +1.7
TORD Torodi Ar. Bea 143.76 285 PKP PKPdf 02 46 35.6 -1.3
0.6nm,0.6s,baz=69,slow=3.9,SNR=6.8
SIV San Ignacio 145.99 129 PKPbc PKPab 02 46 41.7 -0.6
4.4nm,0.5s,baz=243,slow=6.0,SNR=15
SAML Samuel 147.81 116 ePKPbc PKPbc 02 46 46.3 -0.6
DBIC Dimbokro 150.78 274 PKPbc PKPbc 02 46 55.3 +1.0
2.7nm,0.8s,baz=180,slow=2.0,SNR=4.7
DBIC Dimbokro 150.78 274 ePKPbc PKPbc 02 46 55.0 +0.7

IDC 10 02:29:02.7±1.6, 39.36N×54.26E, h0km, mb3.7/8, mb1 3.8/13, mb1mx3.6/42, mbtmp3.7/13, ML3.4/4, MS3.0/3, Ms1 3.0/3, ms1mx2.5/41, Error ellipse: s-maj=29.9km s-min=11.0km az=165.0
ISCJB 10 02:29:08.4±0.4, 39.77N±0.05×54.29E±0.03, h42km, mb3.5/8, MS3.2/1, Error ellipse: s-maj=6.9km s-min=3.5km az=175.5
THR 10 02:29:09.6±0.8, 39.54N×53.93E, h29km, ML3.6
CSEM 10 02:29:09.8±0.3, 39.88N×54.38E, h30km, ML3.6, Error ellipse: s-maj=9.3km s-min=5.8km az=173.0
NNC 10 02:29:15.4±5.1, 40.17N×55.56E, h0km, mb3.8, Error ellipse: s-maj=53.5km s-min=34.7km az=66.0
AZER 10 02:29:15.3±1.1, 39.46N×53.47E, h2km, Error ellipse: s-maj=11.1km s-min=8.4km az=150.0
ISC 10 02:29:09.4±0.7, 39.77N±0.06×54.38E±0.05, h42km, n74, σ2§14/88, mb3.6/8, 31C-16D, Turkmenistan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MRVT Maraveh tapeh 2.49 147 ePn Pn 02 29 50.6 +3.1
137nm,0.6s
MRVT Maraveh tapeh 2.49 147 ePn Pn 02 29 50.6 +3.1
MRVT AML AML 02 30 19.7
comp=N,137nm,0.6s
SHRO Shahrood 3.98 161 ePn Pn 02 30 10.2 +2.1
SHRO Shahrood 3.98 161 ePn Pn 02 30 10.2 +2.1
ALIB Äli-Bayra 4.14 274 ⇑P Pn 02 30 12.3 +2.2
SNR=3.2
ALIB ⇑S Sn 02 30 58.4 +1.2
ALIB Äli-Bayra 4.14 274 P Pn 02 30 12.3 +2.2
SNR=3.2
ATGJ Altiaghaj 4.30 286 P Pn 02 30 14.0 +1.6
SNR=9.1
ATGJ ⇓S Sn 02 31 01.7 +0.3
ATGJ Altiaghaj 4.30 286 P Pn 02 30 14.0 +1.6
SNR=9.1
ATGJ S Sn 02 31 01.7 +0.3
SIZA Siyzn 4.38 289 P Pn 02 30 16.0 +2.5
SNR=7.8
SIZA ⇓S Sn 02 31 07.3 +4.0
SIZA Siyzn 4.38 289 P Pn 02 30 16.0 +2.5
SNR=7.8
LKRN Lenkeran, Azer 4.48 258 ⇓P Pn 02 30 12.9 -1.7
SNR=3.9
LKRN ⇓S Sn 02 30 59.1 -6.4
PQL Pirkuli 4.54 285 ⇑P Pn 02 30 19.6 +3.8
SNR=3.8
PQL ⇑S Sn 02 31 09.5 +2.1
DAMV Damavand 4.55 206 ePn Pn 02 30 14.2 -1.8
comp=N,85nm,0.5s
DAMV Damavand 4.55 206 ePn Pn 02 30 14.2 -1.8
DAMV AML AML 02 31 04.2
comp=N,94nm,0.5s
DAMV AML AML 02 31 05.6
comp=E,85nm,0.5s
GLBA Cilabad 4.66 265 P Pn 02 30 16.6 -0.6
SNR=14
GLBA ⇑S Sn 02 31 05.2 -4.8
GLBA Cilabad 4.66 265 P Pn 02 30 16.6 -0.6
SNR=14
QUBA Quba, Azerbaij 4.76 291 ⇑P Pn 02 30 23.0 +4.4
QUBA ⇓S Sn 02 31 13.7 +1.2
KDMR Kurdemir 4.79 279 ⇓S Sn 02 31 13.3 0.0
LRK Lerik 4.83 258 ⇓P Pn 02 30 17.4 -2.2
LRK ⇑S Sn 02 31 07.9 -6.4
IML Ismayilli 4.85 284 ⇑P Pn 02 30 19.5 -0.4
SNR=3.7
IML ⇑S Sn 02 31 13.4 -1.4
IML Ismayilli 4.85 284 P Pn 02 30 19.5 -0.4
SNR=3.7
IML S Sn 02 31 13.4 -1.4
GRMI Germi 5.12 261 ePn Pn 02 30 21.9 -1.8
comp=E,34nm,0.4s
GRMI Germi 5.12 261 ePn Pn 02 30 21.9 -1.8
ZNJK Zanjan 5.45 237 ePN5 Pn 02 30 25.1 -3.1
ZNJK Sn Sn 02 31 21.1 -8.9
ZNJK AML AML 02 31 25.9
comp=E,34nm,0.4s
BRDA Brd 5.55 277 ⇑P Pn 02 30 30.2 +0.8
SNR=4.7
BRDA ⇑S Sn 02 31 31.1 -0.8
BRDA Brd 5.55 277 P Pn 02 30 30.2 +0.8
SNR=4.7
BRDA S Sn 02 31 31.1 -0.8
SEKA Sheki 5.66 287 ⇑P Pn 02 30 32.0 +1.0
SNR=3.2
SEKA ⇑S Sn 02 31 35.8 +1.0
SEKA Sheki 5.66 287 P Pn 02 30 32.0 +1.0
SNR=3.2
SEKA S Sn 02 31 35.8 +1.0
MNGR Mingechevir, A 5.67 283 ⇓S Sn 02 31 34.3 -0.6
MNGR Mingechevir, A 5.67 283 S Sn 02 31 34.3 -0.6
ZKTA Zakatala 6.19 290 ⇓P Pn 02 30 38.6 +0.5
SNR=4.1
ZKTA ⇑S Sn 02 31 46.5 -1.1
GANJ Ganja 6.23 281 ⇓P Pn 02 30 38.0 -0.8
SNR=5.9
GANJ ⇑S Sn 02 31 44.0 -4.8
GANJ Ganja 6.23 281 P Pn 02 30 38.0 -0.8
SNR=5.9
NAX Nakhchivan 6.90 268 P Pn 02 30 48.4 +0.4
SNR=9.7
NAX ⇓S Sn 02 32 02.8 -2.5
NAX Nakhchivan 6.90 268 P Pn 02 30 48.4 +0.4
SNR=9.7
QZX Qazax, Azerbai 7.00 284 ⇑P Pn 02 30 48.6 -0.7
QZX ⇑S Sn 02 32 04.1 -3.5
QZX Qazax, Azerbai 7.00 284 P Pn 02 30 48.6 -0.7
GNI Garni 7.42 276 Pn Pn 02 30 56.2 +1.0
comp=E,1.1nm,0.3s,baz=336,slow=1.8,SNR=8.2
GNI Sn Sn 02 32 19.1 +1.1
comp=E,0.8nm,0.3s,baz=156,slow=20,SNR=2.2
KBZ Khabaz 9.45 298 Pn Pn 02 31 20.8 -2.0
comp=E,0.2nm,0.3s,baz=111,slow=7.3,SNR=7.8
KBZ Sn Sn 02 33 01.9 -5.8
comp=E,0.7nm,0.3s,baz=225,slow=11,SNR=4.4
AB31 Akbulak array 10.28 21 ⇑Pn Pn 02 31 35.6 +1.4
comp=E,2.2nm,0.5s,baz=207,slow=15,SNR=7.2
AB31 ⇓Sn Sn 02 33 25.1 -2.9
comp=E,2.4nm,0.3s,baz=193,slow=25,SNR=9.2
AB31 Akbulak array 10.28 21 Pn Pn 02 31 35.6 +1.4
comp=E,2.2nm,0.5s,baz=207,slow=15,SNR=7.2
AB31 Sn Sn 02 33 25.1 -2.9
comp=E,2.4nm,0.3s,baz=193,slow=25,SNR=9.2
AKTO Aktyubinsk 10.97 12 ⇓Pn Pn 02 31 41.2 -2.4
comp=E,4.1nm,0.6s
AKTO ⇑Sn Sn 02 33 45.5 +0.6
comp=E,6.8nm,0.4s
AKTO Aktyubinsk 10.97 12 Pn Pn 02 31 44.7 +1.1
comp=E,0.9nm,0.3s,baz=201,slow=11,SNR=10
AKTO Sn Sn 02 33 44.1 -0.8
comp=E,2.6nm,0.3s,baz=218,slow=18,SNR=12
AKTO LR LR 02 36 43.1
comp=E,36nm,18.1s,baz=210,slow=40
AKTO Aktyubinsk 10.97 12 Pn Pn 02 31 41.2 -2.4
comp=E,4.1nm,0.6s
AKTO Sn Sn 02 33 45.5 +0.6
comp=E,6.8nm,0.4s
KK31 Karatay Array 12.55 69 ⇑Pn Pn 02 32 03.0 -2.4
comp=E,0.7nm,0.5s,baz=265,slow=15,SNR=5.1
KK31 ⇓Sn Sn 02 34 13.4 -10
comp=E,1.2nm,0.5s,baz=264,slow=24,SNR=6.6
AAK Ala-Archa 15.41 73 LR LR 02 38 50.8
comp=E,45nm,19.1s,baz=230,slow=38
BRTR Keskin Array B 15.96 276 Pn Pn 02 32 50.0 -1.0
comp=E,0.0nm,0.3s,baz=112,slow=12,SNR=2.3
BVA0 Borovoye Array 17.20 34 ⇑P P 02 33 08.8 +1.3
comp=E,3.9nm,0.8s,baz=233,slow=8.5,SNR=6.5
BVA0 ⇓S Sn 02 36 10.4 -6.1
comp=E,3.8nm,0.9s,baz=225,slow=24,SNR=4.9
BVA0 Borovoye Array 17.20 34 P P 02 33 08.8 +1.3
comp=E,3.9nm,0.8s,SNR=6.5
BVAR Borovoye Array 17.20 34 P P 02 33 07.4 -0.1
comp=E,0.5nm,0.3s,baz=210,slow=8.3,SNR=13
BVAR S Sn 02 36 10.4 -6.1
comp=E,0.7nm,0.3s,baz=252,slow=32,SNR=7.1
VOSK Vostochnaya 17.25 36 ⇑P P 02 33 08.7 +0.6
comp=E,2.1nm,0.7s
VOSK ⇑S Sn 02 36 09.0 -8.8
comp=E,1.2nm,0.5s
KURBB Kurchatov Arra 20.09 49 ⇑P Pn 02 33 40.2 -1.1
comp=E,2.0nm,0.9s
KURBB Kurchatov Arra 20.09 49 P Pn 02 33 41.9 +0.6
comp=E,1.0nm,0.9s,baz=243,slow=10,SNR=6.5
KURBB Kurchatov Arra 20.09 49 P Pn 02 33 40.2 -1.1
comp=E,2.0nm,0.9s
KURK Kurchatov 20.18 49 ⇓P P 02 33 39.9 -0.2
comp=E,1.9nm,1.0s
KURK Kurchatov 20.18 49 P P 02 33 39.9 -0.2
comp=E,1.9nm,1.0s
AKASG Malin Array Be 20.71 310 P P 02 33 46.4 +0.4
comp=E,2.7nm,0.5s,baz=104,slow=9.2,SNR=18
VRI Vrincioaia 21.12 296 ⇑iP P 02 34 09.3 +19
MK31 Makanchi Array 21.42 62 ⇑P P 02 33 54.5 +0.8
comp=E,0.8nm,0.6s,baz=271,slow=12,SNR=2.8
MK31 Makanchi Array 21.42 62 P P 02 33 54.5 +0.8
comp=E,0.8nm,0.6s,SNR=2.8
MKAR Makanchi Array 21.42 62 P P 02 33 55.5 +1.8
comp=E,0.9nm,0.8s,baz=274,slow=11,SNR=10
MLR Muntele Rosu 21.63 295 ⇑iP P 02 34 01.9 +5.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
MLR	Muntele Rosu	21.63	295	P	P	02 34 01.0	+5.0
	comp=E,0.3nm,0.6s,baz=337,slow=10.0,SNR=3.7						
VOIR		22.25	294	⇑iP	P	02 34 05.0	+2.4
VOIR		22.25	294	⇑iP	P	02 34 05.0	+2.4
BURAR	Bucovina Array	22.40	300	⇑iP	P	02 34 06.8	+2.6
BURAR	Bucovina Array	22.40	300	⇑iP	P	02 34 06.8	+2.6
ZALV	Zalesovo Beam	24.94	45	P	P	02 34 30.4	+2.0
	comp=E,1.8nm,0.7s,baz=254,slow=9.4,SNR=10						
FINES	FINESS Array B	27.77	331	P	P	02 34 57.2	+3.3
	comp=E,0.7nm,0.7s,baz=147,slow=13,SNR=3.8						
ARCES	ARCESS Array B	33.51	342	P	P	02 35 46.3	+1.8
	comp=E,0.9nm,0.8s,baz=140,slow=12,SNR=4.1						
NB2	NORSAR Subarra	33.88	323	P	P	02 35 48.9	+1.1
	comp=Z,1.0nm,1.0s,baz=108,slow=9.3						
NB2	NORSAR Subarra	33.88	323	P	P	02 35 48.9	+1.1
	comp=Z,1.0nm,1.0s,baz=108,slow=8.8,SNR=2.5						
NOA	NORSAR Array B	33.88	323	P	P	02 35 48.6	+0.8
	comp=Z,0.4nm,0.6s,baz=97,slow=7.7,SNR=3.0						
NOA				LR	LR	02 50 53.8	
	comp=Z,39nm,18.0s,baz=185,slow=38						
TORD	Torodi Ar. Bea	53.19	255	P	P	02 38 21.1	-2.4
	comp=Z,2.4nm,0.3s,baz=52,slow=8.6,SNR=4.5						

*IDC **10** 02:38:00.5±2.1, 2°.44N×125°.09E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/33, mbtmp3.7/4, Error ellipse: s-maj=281.0km s-min=23.1km az=64.0*
*ISCJB **10** 02:38:05.0±0.8, 1°.58N±0°.10×123°.4E±0°.1, h32km, mb3.6/4, Error ellipse: s-maj=19.3km s-min=9.8km az=35.3*
*DJA **10** 02:38:05.1±0.5, 2°N±5°×12°3E±°, h10km, M4.7/11, mb4.8/4, mB4.9/2, MLv4.7/11, Mw(mB)4.2/2*
ISC 10 02:38:06.8±1.1, 1°.6N±0°.1×123°.49E±0°.09, h32km, n16, σ1s18/13, mb3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.06	207	P	Pn	02 38 19.2	-6.2
KMSI	Cibinong	1.12	154	P	Pb	02 38 28.4	+0.7
MRSI	Marisa	1.90	234	P	Pn	02 38 30.8	-6.2
LUWI	Luwuk	2.71	195	P	Pn	02 38 46.3	-1.9
SGSI	Sangihe	2.92	44	P	Pn	02 38 51.5	+0.5
SGSI				S	Sn	02 39 06.9	-18
APSI	Ampana	3.09	217	P	Pn	02 38 51.3	-2.1
PCI	Palu	4.41	236	P	Pb	02 39 23.7	+0.1
TTSI	Tana Toraja	5.88	219	P	Pn	02 39 33.1	+1.3
	166nm,0.7s,1μm0.5nm						
SPSI	Sidrap Palu	6.65	214	P	Pn	02 39 42.8	+0.4
	62nm,0.7s,716nm0.2nm						
BNSI	Bone	6.84	210	P	Pn	02 39 46.0	+1.0
	78nm,0.8s,0.2nm						
BKSI	Bulukumba	7.64	206	P	Pn	02 39 57.2	+1.2
BSSI	Bau Bau, Buton	8.24	201	P	Pn	02 40 14.1	+10
WRA	Warramunga Arr	23.90	154	P	P	02 43 16.9	-1.0
	1.4nm,0.5s,baz=336,slow=9.6,SNR=23						
ASAR	Alice Springs	27.07	159	P	P	02 43 46.2	-0.5
	0.5nm,0.5s,baz=348,slow=14,SNR=5.0						
STKA	Stephens Creek	37.45	154	P	P	02 45 17.6	+0.2
	1.1nm,0.3s,baz=335,slow=14,SNR=2.9						
MKAR	Makanchi Array	57.53	328	P	P	02 47 53.3	+0.1
	0.3nm,0.6s,baz=127,slow=6.7,SNR=4.2						

*IDC **10** 02:43:39.3±0.7, 17°.19S×172°.32W, h0km, mb4.3/7, mb1 4.6/8, mb1mx4.2/23, mbtmp4.4/8, ML4.0/2, MS3.4/2, Ms1 3.4/2, ms1mx3.0/24, Error ellipse: s-maj=31.5km s-min=17.4km az=142.0*
*ISCJB **10** 02:43:40.9±0.6, 16°.97S±0°.09×172°.5W±0°.1, h17km, mb4.5/15, MS3.2/2, Error ellipse: s-maj=17.7km s-min=8.0km az=37.0*
*NEIC **10** 02:43:45.6±2.8, 17°.32S×172°.25W, h47km±26km, mb4.5/8, Error ellipse: s-maj=29.0km s-min=10.3km az=161.0*
ISC 10 02:43:41.5±0.5, 17°.03S±0°.09×172°.30W±0°.10, h17km, n37, σ1s38/35, mb4.5/15, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.15	9	Pn	Pn	02 44 30.7	+0.3
	4.5nm,0.3s,baz=214,slow=15,SNR=2.6						
AFI				Sn	Sn	02 45 05.9	-1.7
	27nm,0.3s,baz=318,slow=23,SNR=4.5						
RAR	Rarotonga	12.55	111	Pn	Pn	02 46 39.1	-0.3
	3.5nm,0.3s,baz=309,slow=13,SNR=3.1						
DZM	Mont Dzumac	20.64	253	eLR	LR	02 53 32.1	
	143nm,24.1s						
DZM	Mont Dzumac	20.64	253	LR	LR	02 55 00.3	
	comp=Z,109nm,19.7s,baz=253,slow=33						
DZM	Mont Dzumac	20.64	253	eP	P	02 48 19.3	-1.1
	12nm,1.0s						
PPT2	Papeete2	21.70	95	eLR	LR	02 53 09.9	
	148nm,26.0s						
PPT	Papeete	21.71	95	LR	LR	02 55 22.2	
	comp=Z,90nm,18.0s,baz=257,slow=32						
URZ	Urewera	23.10	202	P	P	02 48 45.8	-0.7
	5.8nm,0.4s,baz=295,slow=2.8,SNR=12						
CTAO	Charters Tower	39.34	259	eP	P	02 51 11.6	+1.3
	14nm,1.2s						
COEN	Coen	42.95	268	eP	P	02 51 42.7	+2.7
STKA	Stephens Creek	44.16	242	P	P	02 51 49.1	-0.4
	5.4nm,1.0s,baz=112,slow=6.0,SNR=5.3						
WRAB	Tennant Creek	50.51	258	eP	P	02 52 39.6	+0.4
	12nm,0.9s						
WRA	Warramunga Arr	50.52	258	P	P	02 52 38.7	-0.6
	12nm,1.0s,baz=93,slow=7.6,SNR=44						
AS31	Alice Springs	50.63	253	eP	P	02 52 41.0	+0.9
ASAR	Alice Springs	50.63	253	P	P	02 52 39.4	-0.7
	17nm,0.9s,baz=87,slow=8.2,SNR=82						
SOEI	Soe	61.91	268	eP	P	02 54 02.3	+1.4
	49nm,1.0s						
NVAR	Mina Array Bea	74.84	41	P	P	02 55 23.0	+1.5
	1.6nm,0.7s,baz=231,slow=10.0,SNR=12						
TUC	Tucson	76.62	50	eP	P	02 55 33.9	+2.3
	2.4nm,0.9s						
HLID	Hailey	80.23	39	eP	P	02 55 52.4	+1.0
	1.4nm,0.9s						
TXAR	Lajitas Array	80.65	56	P	P	02 55 55.2	+1.3
	1.6nm,1.1s,baz=200,slow=7.7,SNR=6.1						
ANMO	Albuquerque	81.05	49	eP	P	02 55 58.0	+2.0
	1.5nm,1.0s						
PDAR	Pinedale Array	82.78	41	P	P	02 56 06.1	+1.0
	0.5nm,1.0s,baz=216,slow=4.1,SNR=3.6						
COLA	College	83.77	10	eP	P	02 56 10.5	+1.3
	14nm,1.4s						
KULM	Kulim	88.72	276	eP	P	02 56 32.2	-2.6
	14nm,0.9s						
KURK	Kurchatov	115.05	318	ePKPdf	PKPdf	03 02 21.3	-0.3
ABKAR	Akbulak array	127.14	319	ePKPdf	PKPdf	03 02 44.8	0.0
NAO01	NORSAR Array S	136.18	358	ePKPdf	PKPdf	03 03 00.5	-1.2
KMBO	Kilima Mbogo	145.73	241	PKPbc	PKPbc	03 03 21.3	+0.5
	0.8nm,0.6s,baz=194,slow=1.5,SNR=5.8						
KMBO	Kilima Mbogo	145.73	241	ePKPbc	PKPab	03 03 23.0	+1.8
BUR08	Bucovina Ar. S	146.25	339	ePKPbc	PKPbc	03 03 21.1	-0.1
MORC	Moravsky Berou	146.38	348	ePKPbc	PKPbc	03 03 21.4	-0.2
GERES	GERESS Array B	147.89	353	PKPbc	PKPab	03 03 27.6	-0.7
	0.7nm,0.8s,baz=19,slow=3.5,SNR=6.1						
BRTR	Keskin Array B	148.08	320	PKPbc	PKPab	03 03 28.8	-0.7
	1.4nm,1.0s,baz=26,slow=3.7,SNR=2.8						
CSS	Prodhromos	150.98	313	ePKPbc	PKPbc	03 03 34.4	+0.5
TIP	Timpagrande	156.56	342	ePKPdf	PKPdf	03 03 35.8	-0.3
GVD	Gavdhos	157.00	324	ePKPdf	PKPdf	03 03 34.9	-1.7
GVD				ePKPab	PKPab	03 04 04.4	-2.3
TORD	Torodi Ar. Bea	173.04	123	PKPab	PKPab	03 05 15.5	-2.3
	0.6nm,1.1s,baz=266,slow=4.6,SNR=4.3						

*IDC **10** 02:43:51.5±1.6, 38°.69N×135°.31E, h369km±18km, mb2.8/6, mb1 2.9/8, mb1mx2.8/27, mbtmp3.5/8, Error ellipse: s-maj=41.3km s-min=25.7km az=18.0*
*JMA **10** 02:43:51.9±0.5, 38°.68N×135°.72E, h387km±4km, M3.4*
ISC 10 02:43:51.3±0.9, 38°.96N±0°.10×135°.54E±0°.10, h350km, n15, σ2s07/16, mb3.0/6, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHG	Hegura jima	1.55	135	P	Pn	02 44 42.8	+3.0
JJH	Hakui	2.26	154	P	Pn	02 44 46.7	+2.2
JSD	Sado	2.33	112	P	Pn	02 44 47.6	+2.6
JKG	Kaga	2.75	167	P	Pn	02 44 50.0	+1.5
MJAR	Matsushiro Arr	3.21	138	P	Pn	02 44 54.0	+1.4
	0.6nm,0.3s,baz=311,slow=10,SNR=7.7						
JMK	Ichinoseki	4.43	88	P	Pn	02 45 06.9	+2.2
USRK	Ussuriysk Arra	5.87	334	P	Pn	02 45 23.4	+2.9
	0.6nm,0.3s,baz=147,slow=11,SNR=13						
BSO1	Boso 1	6.12	133	P	Pn	02 45 22.5	-0.5
JCH	Churui	6.97	56	P	Pn	02 45 35.2	+2.0
JCH				S	S	02 46 53.3	-2.7
MKAR	Makanchi Array	39.15	299	P	P	02 50 44.5	-1.7
	0.2nm,0.7s,baz=81,slow=12,SNR=2.5						
ILAR	Eielson Array	50.38	33	P	P	02 52 14.0	+0.4
	0.2nm,0.6s,baz=283,slow=6.2,SNR=4.0						
ARCES	ARCESS Array B	60.51	338	P	P	02 53 24.5	-0.5
	2.2nm,0.9s,baz=50,slow=8.4,SNR=2.5						
YKA	Yellowknife Ar	64.43	29	P	P	02 53 51.5	+0.9
	0.1nm,0.6s,baz=310,slow=4.8,SNR=3.7						
FINES	FINESS Array B	64.89	330	P	P	02 53 52.9	-0.7
	0.8nm,0.6s,baz=80,slow=7.6,SNR=6.7						
AKASG	Malin Array Be	69.88	319	P	P	02 54 23.7	-1.1
	0.3nm,0.4s,baz=45,slow=6.5,SNR=3.9						

IDC 10 03:17:19.0±2.3, 3°.45N×126°.95E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.4/3, MS2.6/1, Ms1 2.6/1, ms1mx2.4/16, Error ellipse: s-maj=195.6km s-min=25.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.35	163	P	P	03 22 38.5	-0.4
	0.5nm,0.5s,baz=342,slow=10,SNR=6.8						
ASAR	Alice Springs	27.79	166	P	P	03 23 10.5	+0.5
	0.1nm,0.3s,baz=352,slow=11,SNR=3.3						
KSRS	Korea Array	33.86	1	LR	LR	03 38 51.8	
	comp=Z,10.0nm,19.8s,baz=110,slow=38						
MKAR	Makanchi Array	57.91	325	P	P	03 27 12.8	-0.2
	0.4nm,0.5s,baz=116,slow=6.8,SNR=8.5						

*NIED **10** 03:41:00, 37°.20N×141°.00E, h80km, Mw3.7 Best double couple: Mo4.13000×10^14 NP1:φs141.00000°, δ28.00000°, λ-150.00000°. NP2:φs25.00000°, δ76.00000°, λ-65.00000°.*
*ISCJB **10** 03:41:06.1±0.8, 37°.18N±0°.05×141°.06E±0°.08, h98km±3km, mb3.6/7, Error ellipse: s-maj=12.3km s-min=6.0km az=32.4*
*JMA **10** 03:41:07.3±0.1, 37°.18N×141°.01E, h92km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs24.00000°, δ77.00000°, λ-63.00000°. NP2:φs138.00000°, δ30.00000°, λ-153.00000°. Principal axes: T Plg27.0000°, Azm93.0000°; N Plg26.0000°, Azm198.0000°; P Plg51.0000°, Azm325.0000°;*
JMA Felt I J1.
*IDC **10** 03:41:10.2±4.7, 36°.88N×140°.56E, h124km±25km, mb3.5/7, mb1 3.6/7, mb1mx3.3/33, mbtmp3.9/7, MS2.9/1, Ms1 2.9/1, ms1mx2.2/47 Error ellipse: s-maj=100.2km s-min=33.9km az=158.0*
ISC 10 03:41:07.1±1.0, 37°.16N±0°.06×141°.01E±0°.07, h94km±6km, n29, σ1s35/37, mb3.7/7, 8C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.18	251	⇓P	Pn	03 41 20.6	0.0
ONAJ				S	Sn	03 41 30.4	-0.2
JFK	Kawauchi	0.23	332	⇑P	Pn	03 41 20.6	-0.1
JFK				S	Sn	03 41 30.3	-0.6
JFT	Otama	0.65	304	⇑P	Pn	03 41 23.5	0.0
JFT				S	Sn	03 41 35.6	-0.1
JMM	Marumori	0.73	346	⇑P	Pn	03 41 24.1	-0.1
JMM				S	Sn	03 41 36.3	-0.7
JFY	Yanaizu	1.07	284	⇑P	Pn	03 41 27.9	0.0
JFY				S	Sn	03 41 43.9	+0.4
JOU	Okura	1.23	347	P	Pn	03 41 29.7	-0.1
JOU				S	Sn	03 41 46.7	-0.2
JYS	Shirataka	1.30	325	⇑P	Pn	03 41 30.7	+0.2
JYS				S	Sn	03 41 48.6	+0.3
JIO	Ouri	1.32	12	⇑P	Pn	03 41 30.4	-0.4
JIO				S	Sn	03 41 47.2	-1.5
JAG	Ashikaga	1.45	240	⇑P	Pn	03 41 32.7	+0.3
JAG				S	Sn	03 41 51.2	-0.3
JKT	Katashina	1.47	255	⇑P	Pn	03 41 33.5	+0.8
JKT				eS	Sn	03 41 53.9	+1.9
JNS	Sasagawa	1.50	297	P	Pn	03 41 32.7	-0.3
JNS				S	Sn	03 41 52.7	+0.1
JMK	Ichinoseki	1.80	5	P	Pn	03 41 36.2	-0.6
JMK				S	Sn	03 41 58.3	-1.0
JYK	Kaneyama	1.83	344	P	Pn	03 41 37.4	+0.2
JYK				S	Sn	03 42 00.0	-0.1
MJAR	Matsushiro Arr	2.33	255	P	Pn	03 41 44.4	+0.6
	19nm,0.3s,baz=71,slow=11,SNR=120						
MJAR				S	Sn	03 42 07.1	-4.8
	20nm,0.3s,baz=333,slow=20,SNR=7.7						
MJAR				LR	LR	03 42 26.0	
	comp=Z,13nm,18.9s,baz=125,slow=40						
MAT	Matsushiro	2.33	256	P	Pn	03 41 44.8	+1.0
MAT				S	Sn	03 42 08.1	-3.8
USRK	Ussuriysk Arra	9.81	319	LR	LR	03 47 32.9	
	comp=Z,66nm,18.1s,baz=36,slow=39						
SEY	Seymchan	26.73	12	P	P	03 46 40.7	+3.4
	0.5nm,0.4s,baz=219,slow=8.7,SNR=5.6						
H11N2	WAKE ISLAND Hy	28.49	120	T	T	04 17 21.4	
	baz=317,slow=76,SNR=29						
H11N1	WAKE ISLAND Hy	28.50	120	T	T	04 17 20.9	
	baz=317,slow=76,SNR=16						
H11N3	WAKE ISLAND Hy	28.51	120	T	T	04 17 13.9	
	baz=317,slow=76,SNR=17						
H11S1	WAKE ISLAND Hy	29.20	123	T	T	04 18 03.6	
	baz=318,slow=76,SNR=13						
H11S3	WAKE ISLAND Hy	29.20	123	T	T	04 18 02.7	
	baz=318,slow=76,SNR=7.9						
H11S2	WAKE ISLAND Hy	29.21	123	T	T	04 18 05.2	
	baz=318,slow=76,SNR=8.8						
ZALV	Zalesovo Beam	41.59	312	P	P	03 48 45.6	+0.2
	1.6nm,0.5s,baz=104,slow=7.1,SNR=9.7						
MKAR	Makanchi Array	43.78	302	P	P	03 49 03.0	-0.2
	1.1nm,0.7s,baz=88,slow=10.0,SNR=9.2						
FINES	FINESS Array B	68.55	332	P	P	03 51 58.8	-0.3
	0.9nm,0.8s,baz=64,slow=6.7,SNR=3.6						
NOA	NORSAR Array B	73.95	337	P	P	03 52 31.2	-0.5
	1.0nm,0.9s,baz=45,slow=7.0,SNR=3.4						
AKASG	Malin Array Be	74.00	322	P	P	03 52 31.6	-0.5
	0.6nm,0.4s,baz=48,slow=5.8,SNR=7.0						
GERES	GERESS Array B	82.44	328	P	P	03 53 18.6	-0.2
	0.2nm,0.4s,baz=36,slow=7.3,SNR=4.4						

*IDC **10** 03:41:55.6±2.6, 23°.48S×176°.26W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/22, mbtmp4.0/5, MS3.9/6, Ms1 3.8/6, ms1mx3.3/33, Error ellipse: s-maj=154.6km s-min=26.0km az=152.0*
*ISCJB **10** 03:41:56.7±2.5, 23°.2S±0°.9×176°.5W±0°.5, h10km, mb3.9/5, MS4.0/5, Error ellipse: s-maj=148.5km s-min=25.5km az=152.2*
ISC 10 03:41:57.7±2.4, 23°.2S±0°.7×176°.4W±0°.5, h10km, n15, σ1s38/9, mb4.0/5, MS3.9/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.85	271	eLR	LR	03 49 29.5	
	226nm,23.9s						
URZ	Urewera	15.98	199	LR	LR	03 50 06.3	
	comp=Z,111nm,20.7s,baz=5.0,slow=31						
PPT2	Papeete2	25.77	82	eLR	LR	03 53 53.4	
	119nm,22.8s						
PPT	Papeete	25.77	82	LR	LR	03 56 40.0	
	comp=Z,134nm,18.0s,baz=284,slow=34						
STKA	Stephens Creek	38.01	248	P	P	03 49 17.0	+0.9
	0.5nm,0.4s,baz=129,slow=6.5,SNR=2.1						
STKA				LR	LR	04 03 59.2	
	comp=Z,164nm,18.4s,baz=30,slow=35						
ASAR	Alice Springs	45.38	259	P	P	03 50 16.2	-0.5
	1.6nm,0.8s,baz=98,slow=7.8,SNR=16						
ASAR				LR	LR	04 09 03.7	
	comp=Z,133nm,18.4s,baz=89,slow=36						
WRA	Warramunga Arr	45.72	264	P	P	03 50 18.6	-0.8
	1.5nm,0.6s,baz=104,slow=8.2,SNR=20						
WRA				LR	LR	04 09 23.5	
	comp=Z,144nm,18.2s,baz=125,slow=36						
NVAR	Mina Array Bea	82.02	42	P	P	03 54 18.2	-0.2
	0.2nm,0.4s,baz=225,slow=8.9,SNR=3.1						
BBB	Bella Bella	86.12	27	LR	LR	04 28 13.4	
	comp=Z,185nm,18.4s,baz=124,slow=32						
CMAR	Chiang Mai Arr	92.38	289	P	P	03 55 11.5	+2.5
	0.9nm,0.3s,baz=124,slow=3.3,SNR=9.3						
BVAR	Borovoye Array	122.08	319	PKP	PKPdf	04 00 51.4	-0.9
	0.5nm,0.8s,baz=113,slow=3.7,SNR=2.5						
AKASG	Malin Array Be	146.09	330	PKPbc	PKPab	04 01 37.9	-0.4
	1.0nm,0.5s,baz=40,slow=4.1,SNR=8.4						
BRTR	Keskin Array B	149.72	310	PKPbc	PKPbc	04 01 47.9	-0.3
	1.5nm,0.8s,baz=150,slow=4.9,SNR=10.0						
CLL	Collm	151.02	348	eP	PKPab	04 02 01.0	+2.9
	comp=Z,7.0nm,1.1s						
CLL				e		04 02 12.0	
BRG	Berggiesshubel	151.24	346	eP	PKPab	04 01 58.7	-0.4
	comp=Z,3.5nm,1.0s						
BRG				e		04 02 03.6	
	comp=Z,6.3nm,1.1s						

PGC 10 04:10:11.9±5.4, 64°.66N×138°.69W, h10km, ML3.8/4, 75km northeast of Dawson, Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAWY	Dawson	0.67	207	P	Pg	04 10 24.3	-0.6
DAWY				S	Sg	04 10 32.1	-1.7
HYT	Haines Junctio	3.89	171	Pn	Pn	04 11 12.5	+0.6
HYT				Pg	Pb	04 11 21.3	+0.6
INK	Inuvik	4.21	27	Pn	Pn	04 11 14.4	-1.6
INK				Sn	Sn	04 12 01.6	-3.5
WHY	Whitehorse	4.38	155	Pn	Pn	04 11 17.2	-1.4
WHY				Sn	Sn	04 12 06.9	-2.8
WHY				Sg	Sb	04 12 26.7	+4.6
DLBC	Dease Lake	7.48	143	Pn	Pn	04 11 59.9	-1.2
DLBC				Sg	Sb	04 13 57.1	+6.1
GALN	Gameti Lake	9.26	84	Pn	Pn	04 12 23.1	-2.2
GALN				Sn	Sn	04 14 00.6	-8.9
FNBB	Fort Nelson	9.40	121	Pn	Pn	04 12 25.6	-1.6
CTLN	Castor Lake	9.75	81	Pn	Pn	04 12 29.6	-2.4
YKR1	Yellowknife Ar	10.78	91	Pn	Pn	04 12 43.6	-2.4
YKR2	Yellowknife Ar	10.80	91	Pn	Pn	04 12 44.0	-2.4
YKR5	Yellowknife Ar	10.86	91	Pn	Pn	04 12 44.4	-2.7
YKB0	Yellowknife Ar	10.88	90	Pn	Pn	04 12 44.6	-2.8
YKR6	Yellowknife Ar	10.88	91	Pn	Pn	04 12 44.6	-2.9
YKB9	Yellowknife Ar	10.89	90	Pn	Pn	04 12 45.1	-2.5
YKW3	Yellowknife Ar	10.89	90	Pn	Pn	04 12 45.3	-2.3
YKB8	Yellowknife Ar	10.90	90	Pn	Pn	04 12 45.3	-2.4
YKR7	Yellowknife Ar	10.90	90	Pn	Pn	04 12 45.1	-2.6
YKB7	Yellowknife Ar	10.91	90	Pn	Pn	04 12 45.5	-2.3
YKB6	Yellowknife Ar	10.91	90	Pn	Pn	04 12 45.3	-2.6
YKR8	Yellowknife Ar	10.92	90	Pn	Pn	04 12 45.4	-2.6
YKB4	Yellowknife Ar	10.93	91	Pn	Pn	04 12 45.2	-2.9
YKB3	Yellowknife Ar	10.94	91	Pn	Pn	04 12 44.7	-3.6
YKR9	Yellowknife Ar	10.94	90	Pn	Pn	04 12 45.2	-3.1
YKB2	Yellowknife Ar	10.95	91	Pn	Pn	04 12 45.1	-3.3
YKW1	Yellowknife Ar	10.96	90	Pn	Pn	04 12 48.5	-0.1

*IDC **10** 04:20:52.2±2.2, 15°.83S×173°.07W, h0km, mb3.7/6, mb1 4.1/7, mb1mx3.8/38, mbtmp3.8/7, ML4.7/1, MS3.3/4, Ms1 3.3/4, ms1mx3.0/31, Error ellipse: s-maj=119.1km s-min=20.6km az=144.0*
ISC 10 04:20:58.0±2.8, 15°.3S±0°.9×173°.2W±0°.6, h29km, n11, σ1s91/8, mb3.6/6, MS3.4/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	1.91	46	Pn	Pb	04 21 30.7	-1.6
	179nm,0.3s,baz=256,slow=12,SNR=50						
AFI				Sn	Sn	04 21 51.2	-0.8
	234nm,0.3s,baz=252,slow=19,SNR=22						
RAR	Rarotonga	14.06	117	LR	LR	04 27 22.8	
	comp=Z,60nm,21.3s,baz=302,slow=28						
DZM	Mont Dzumac	20.44	248	LR	LR	04 31 51.3	
	comp=Z,89nm,19.0s,baz=7.0,slow=32						
URZ	Urewera	24.47	199	LR	LR	04 34 35.3	
	comp=Z,114nm,18.3s,baz=38,slow=34						
HNR	Honiara	26.85	279	LR	LR	04 35 47.1	
	comp=Z,95nm,18.5s,baz=315,slow=33						
WRA	Warramunga Arr	50.07	257	P	P	04 29 48.7	-2.0
	0.4nm,0.5s,baz=90,slow=7.2,SNR=14						
ASAR	Alice Springs	50.34	252	P	P	04 29 51.0	-1.8
	1.8nm,0.6s,baz=86,slow=7.8,SNR=24						
NVAR	Mina Array Bea	74.09	42	P	P	04 32 32.3	+0.5
	1.3nm,0.8s,baz=227,slow=9.3,SNR=7.7						
PDAR	Pinedale Array	82.02	42	P	P	04 33 16.4	+0.6
	0.6nm,0.9s,baz=224,slow=2.5,SNR=2.6						
ILAR	Eielson Array	82.26	11	P	P	04 33 18.0	+1.7
	0.3nm,0.7s,baz=220,slow=5.6,SNR=8.0						
YKA	Yellowknife Ar	89.88	23	P	P	04 33 56.0	+2.1
	0.1nm,0.7s,baz=244,slow=4.6,SNR=3.6						

*ISCJB **10** 04:25:45.4±0.9, 42°.18N±0°.05×144°.23E±0°.05, h51km±17km, Error ellipse: s-maj=9.6km s-min=5.8km az=152.0*
*JMA **10** 04:25:45.1±0.1, 42°.18N×144°.22E, h60km±1km, M3.6*
*SKHL **10** 04:25:45.1±0.3, 42°.05N×144°.16E, h40km±1km, mb4.4/2*
ISC 10 04:25:45.9±6.3, 42°.19N±0°.07×144°.21E±0°.04, h38km±8km, n16, σ0s99/30, 3C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCH	Churui	0.76	304	P	Pn	04 26 00.3	+0.3
JCH				eS	Sn	04 26 11.0	+0.8
JOB	Onbets	0.76	339	P	Pn	04 26 00.4	+0.3
JOB				eS	Sn	04 26 12.2	+1.8
JEM	Erimo	0.80	258	P	Pn	04 26 01.0	+0.4
JEM				eS	Sn	04 26 12.6	+1.2
JAK	Akkeshi	0.88	24	⇑P	Pn	04 26 01.6	-0.1
JAK				eS	Sn	04 26 14.2	+0.9
JNBK	Urakawa-nobuka	1.08	275	P	Pn	04 26 05.0	+0.5
JAR	Ashorobuto	1.15	344	⇑P	Pn	04 26 05.5	+0.1
JAR				eS	Sn	04 26 20.4	+0.5
JNK	Nakash	1.44	15	P	Pn	04 26 08.9	-0.5
JNK				eS	Sn	04 26 26.9	-0.2
JBT2	Biratori 2	1.49	294	P	Pn	04 26 09.9	-0.1
HRK	Horoka	1.50	328	eP	Pn	04 26 10.6	+0.3
HRK				eS	Sn	04 26 29.5	+0.8
JFR	Furan	1.54	310	P	Pn	04 26 11.0	+0.2
JFR				eS	Sn	04 26 29.5	0.0
NEM2	Nemuro 2	1.63	43	P	Pn	04 26 11.7	-0.3
NEM2				eS	Sn	04 26 31.2	-0.4
JTKR	Abashiri--Toko	1.79	353	⇑P	Pn	04 26 15.2	+1.0
JTKR				eS	Sn	04 26 37.4	+1.7
JRA	Rausu	1.87	21	P	Pn	04 26 15.5	+0.2
JRA				eS	Sn	04 26 38.0	+0.4
JMP	Maruseppu	1.92	341	P	Pn	04 26 16.9	+0.9
JMP				eS	Sn	04 26 40.4	+1.5
YUK	Yuzh-Kuril'sk	2.20	33	eP	Pn	04 26 21.0	+1.1
YUK				AMB	AMB	04 26 23.0	
	40nm,0.3s						
YUK				AMB	AMB	04 26 23.0	
	30nm,0.3s						
YUK				AMB	AMB	04 26 23.0	
	80nm,0.3s						
YUK				eS	Sn	04 26 48.1	+2.3
YUK				A	A	04 26 50.0	
	210nm,0.5s						
YUK				A	A	04 26 50.0	
	220nm,0.5s						
SHO	Shikotan	2.55	48	eP	Pn	04 26 26.0	+1.4
SHO				AMB	AMB	04 26 30.2	
	127nm,1.1s						
SHO				eS	Sn	04 26 55.5	+1.1
SHO				A	A	04 26 58.8	
	228nm,0.5s						

*IDC **10** 04:35:49.0±0.9, 36°.87N×3°.41E, h0km, mb3.8/7, mb1 3.8/11, mb1mx3.6/44, mbtmp3.7/11, ML3.4/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/39, Error ellipse: s-maj=21.5km s-min=16.1km az=153.0*
*CSEM **10** 04:35:49.6±0.2, 36°.94N×3°.30E, h10km, ML4.1, Error ellipse: s-maj=4.8km s-min=4.7km az=104.0*
*CRAAG **10** 04:35:49.8, 36°.80N×3°.33E, Ml4.1*
*NEIC **10** 04:35:50.3±1.2, 36°.86N×3°.40E, h8km±10km, ML4.1(ALG), Error ellipse: s-maj=8.9km s-min=6.3km az=167.0*
*MDD **10** 04:35:50.0±0.3, 36°.91N×3°.38E, h0km, mb4.4/18, Error ellipse: s-maj=4.9km s-min=3.5km az=74.0, PRXIMO*
*SFS **10** 04:35:54.0, 37°.07N×3°.16E, h0km, ML4.3*
*LDG **10** 04:35:55.6±0.1, 37°.27N×2°.90E, h10km, Ml3.4/36, Error ellipse: s-maj=3.0km s-min=1.4km az=141.0*
ISC 10 04:35:50.0±1.0, 36°.91N±0°.04×3°.33E±0°.02, h12km±8km, n208, σ1s66/241, mb3.8/7, Northern Algeria

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

ABMS Boumerdes 0.20 142 P Pg 04 35 53.1 -1.2
ABMS Boumerdes 0.20 142 P Pg 04 35 53.1 -1.2
ABMS Boumerdes 0.20 142 P Pg 04 35 53.1 -1.2
ABA Alger-Bouzarea 0.26 246 P Pg 04 35 55.4 0.0
ABA Alger-Bouzarea 0.26 246 P Pg 04 35 55.4 0.0
ABA Alger-Bouzarea 0.26 246 P Pg 04 35 55.4 0.0
ADJB Djebel Djouab 0.75 173 P Pg 04 36 03.5 -1.1
ADJB Djebel Djouab 0.75 173 P Pg 04 36 03.5 -1.1
ADJB Djebel Djouab 0.75 173 P Pg 04 36 03.5 -1.1
ADJB Djebel Djouab 0.75 173 P Pg 04 36 03.5 -1.1
EMHD Djebel Mahouad 0.77 203 P Pg 04 36 03.6 -1.3
EMHD Djebel Mahouad 0.77 203 P Pg 04 36 03.6 -1.3
EMHD Djebel Mahouad 0.77 203 P Pg 04 36 03.6 -1.3
EMHD Djebel Mahouad 0.77 203 P Pg 04 36 03.6 -1.3
AKET Djebel Ketaf 0.97 152 P Pg 04 36 08.4 -0.3
AKET Djebel Ketaf 0.97 152 P Pg 04 36 08.4 -0.3
AKET Djebel Ketaf 0.97 152 P Pg 04 36 08.4 -0.3
AKET Djebel Ketaf 0.97 152 P Pg 04 36 08.4 -0.3
EBNR Beni Rached 1.57 248 P Pg 04 36 19.8 -0.5
EBNR Beni Rached 1.57 248 P Pg 04 36 19.8 -0.5
ECHA Ech Chlef 1.75 245 P Pb 04 36 22.3 +0.2
ECHF Ech Chlef 1.77 246 P Pb 04 36 22.3 -0.1
ECHF Ech Chlef 1.77 246 P Pb 04 36 22.3 -0.1
SET Setif 1.81 112 P Pn 04 36 21.0 -0.1
SET Setif 1.81 112 P Pn 04 36 21.0 -0.1
SET Setif 1.81 112 P Pn 04 36 21.0 -0.1
EANR 'Ain N'Sour 2.04 243 P Pb 04 36 27.8 +0.8
EANR 'Ain N'Sour 2.04 243 P Pb 04 36 27.8 +0.8
EANR 'Ain N'Sour 2.04 243 P Pb 04 36 27.8 +0.8
ETRT Tiaret 2.23 228 P Pn 04 36 27.3 +0.3
ETRT Tiaret 2.23 228 P Pn 04 36 27.3 +0.3
ETRT Tiaret 2.23 228 P Pn 04 36 27.3 +0.3
OKGL Djebel Kef Gue 2.33 249 P Pg 04 36 34.1 -0.6
219nm,0.5s,SNR=7.9
OKGL S Sb 04 37 01.5 +0.6
592nm,0.5s,SNR=7.9
OKGL Djebel Kef Gue 2.33 249 P Pb 04 36 32.2 +0.2
OKGL S Sb 04 36 59.9 -1.0
CASM Ain Smara 2.62 103 P Pg 04 36 42.5 +2.2
CASM Ain Smara 2.62 103 P Pg 04 36 42.5 +2.2
EIBI Ibiza 2.63 324 P Pn 04 36 33.9 +1.4
35nm,0.3s
EIBI S Sn 04 37 02.7 -1.6
77nm,0.4s,SNR=4.7
EIBI Ibiza 2.63 324 P Pn 04 36 33.5 +1.1
EIBI S Sn 04 37 02.7 -1.6
EIBI Ibiza 2.63 324 P Pn 04 36 33.5 +1.1
EIBI S Sn 04 37 02.7 -1.6
77nm,0.4s,SNR=4.7
CKFL Kef-Lekhel 2.77 100 P Pg 04 36 43.0 -0.2
CKFL Kef-Lekhel 2.77 100 P Pg 04 36 43.0 -0.2
MAHO Mahon 3.07 14 P Sn 04 37 11.6 -3.5
CMAH Djebel Manchou 3.30 94 P Pn 04 36 41.0 -0.6
CMAH Djebel Manchou 3.30 94 P Pn 04 36 41.0 -0.6
CMAH Djebel Manchou 3.30 94 P Pn 04 36 41.0 -0.6
EBEN Beniarda 3.34 304 P Pn 04 36 42.9 +0.8
0.3nm,0.3s,SNR=7.9
EBEN S Sn 04 37 18.9 -2.9
2.5nm,0.2s
EBEN Beniarda 3.34 304 P Pn 04 36 42.9 +0.8
0.3nm,0.3s,SNR=7.9
EBEN S Sn 04 37 18.9 -2.9
2.5nm,0.2s
CART Cartagena 3.52 282 P Pn 04 36 42.0 -2.6
CART S Sn 04 37 22.9 -3.3
CART Cartagena 3.52 282 eP Pn 04 36 42.0 -2.6
CART eS Sn 04 37 22.9 -3.3
EMUR La Murta 3.76 286 P Pn 04 36 49.4 +1.5
0.8nm,0.2s,SNR=6.8
EMUR S Sn 04 37 31.3 -0.8
24nm,0.5s,SNR=5.1
EMUR La Murta 3.76 286 P Pn 04 36 49.4 +1.5
0.8nm,0.2s,SNR=6.8
EMUR S Sn 04 37 31.3 -0.8
24nm,0.5s,SNR=5.1
ETOB Tobarra 4.24 296 P Pn 04 36 56.3 +1.8
5.6nm,0.3s,SNR=157
ETOB S Sn 04 37 41.5 -2.4
4.6nm,0.4s
ETOB Tobarra 4.24 296 P Pn 04 36 56.3 +1.8
5.6nm,0.3s,SNR=157
ETOB S Sn 04 37 41.5 -2.4
4.6nm,0.4s
EMOS Mosqueruela 4.56 320 P Pn 04 37 00.6 +1.6
2.3nm,0.1s,SNR=28
EMOS S Sn 04 37 49.8 -2.2
4.0nm,0.3s
EMOS Mosqueruela 4.56 320 P Pn 04 37 00.6 +1.6
2.3nm,0.1s,SNR=28
EMOS S Sn 04 37 49.8 -2.2
4.0nm,0.3s
ERTA Horta de San J 4.67 331 P Pn 04 37 02.1 +1.7
0.8nm,0.3s,SNR=7.9
ERTA S Sn 04 37 51.3 -3.2
9.5nm,0.4s,SNR=7.9
ERTA Horta de San J 4.67 331 P Pn 04 37 02.1 +1.7
0.8nm,0.3s,SNR=7.9
ERTA S Sn 04 37 51.3 -3.2
9.5nm,0.4s,SNR=7.9
CFON Fontmartina 4.90 352 P Pn 04 37 04.8 +1.2
3.3nm,0.1s,SNR=20
CFON S Sn 04 37 56.6 -3.7
7.6nm,0.3s
CFON Fontmartina 4.90 352 P Pn 04 37 04.8 +1.2
3.3nm,0.1s,SNR=20
CFON S Sn 04 37 56.6 -3.7
7.6nm,0.3s
EVIA Vianos 4.93 292 P Pn 04 37 05.2 +1.1
6.3nm,0.3s,SNR=4.6
EVIA S Sn 04 37 58.7 -2.4
6.9nm,0.4s
EVIA Vianos 4.93 292 P Pn 04 37 05.2 +1.1
6.3nm,0.3s,SNR=4.6
EVIA S Sn 04 37 58.7 -2.4
6.9nm,0.4s
EBER Berja 4.99 272 P Pn 04 37 04.9 0.0
1.1nm,0.3s,SNR=7.9
EBER S Sn 04 38 01.3 -1.2
2.7nm,0.3s,SNR=7.9
EBER Berja 4.99 272 P Pn 04 37 04.9 0.0
1.1nm,0.3s,SNR=7.9
EBER S Sn 04 38 01.3 -1.2
2.7nm,0.3s,SNR=7.9
KEST Kesra 5.00 102 Pn Pn 04 37 06.1 +1.1
1.1nm,0.3s,baz=224,slow=2.7,SNR=30
KEST Sn Sn 04 38 03.9 +1.2
0.8nm,0.3s,baz=202,slow=20,SNR=8.1
KEST Kesra 5.00 102 ePn Pn 04 37 05.8 +0.8
KEST eS Sn 04 38 02.7 0.0
KEST Kesra 5.00 102 ePn Pn 04 37 05.8 +0.8
KEST eS Sn 04 38 02.7 0.0
GORA Gorafe 5.12 278 S Sn 04 38 04.1 -1.6
4.5nm,0.4s,SNR=7.9
GORA Gorafe 5.12 278 S Sn 04 38 04.1 -1.6
4.5nm,0.4s,SNR=7.9
EQES Quesada 5.18 282 P Pn 04 37 08.5 +1.0
12nm,0.5s,SNR=22
EQES S Sn 04 38 07.5 +0.3
38nm,0.7s,SNR=5.2
EQES Quesada 5.18 282 P Pn 04 37 08.5 +1.0
12nm,0.5s,SNR=22
EQES S Sn 04 38 07.5 +0.3
38nm,0.7s,SNR=5.2
EMIR Miracle 5.19 345 P Pn 04 37 10.6 +3.0
55nm,0.6s,SNR=42
EMIR S Sn 04 38 06.3 -1.2
12nm,0.5s
EMIR Miracle 5.19 345 P Pn 04 37 10.6 +3.0
55nm,0.6s,SNR=42
EMIR S Sn 04 38 06.3 -1.2
12nm,0.5s
VSL Villasalto 5.42 60 ePn Pn 04 37 10.6 -0.1
VSL eS Sn 04 38 07.3 -5.7
VSL Villasalto 5.42 60 ePn Pn 04 37 10.6 -0.1
ECOG Cogollos-Vega 5.53 276 S Sn 04 38 17.0 +1.3
SNR=7.9
EJON La Jonquera 5.54 357 P Pn 04 37 14.6 +2.2
5.6nm,0.2s,SNR=15
EJON S Sn 04 38 12.6 -3.5
1.7nm,0.3s
SJAF Saint Jean de 5.58 357 P Pn 04 37 14.6 +1.7
27nm,0.2s,SNR=7.9
SJAF S Sn 04 38 13.1 -3.9
6.8nm,0.3s,SNR=7.9
CLLI Llivia 5.66 350 P Pn 04 37 17.0 +2.9
0.9nm,0.4s,SNR=9.5
CLLI S Sn 04 38 17.3 -1.8
1.8nm,0.4s
CSOR Sort 5.72 343 P Pn 04 37 17.7 +2.8
5.5nm,0.4s,SNR=15
CSOR S Sn 04 38 17.9 -2.6
4.5nm,0.4s
ETOR Torete 5.74 315 P Pn 04 37 18.1 +3.0
2.8nm,0.3s,SNR=6.1
ETOR S Sn 04 38 19.5 -1.5
1.9nm,0.4s
ESDC Sonseca Array 6.37 298 P Pn 04 37 25.1 +1.3
2.7nm,0.7s,baz=110,slow=13,SNR=8.7
ESDC Sonseca Array 6.37 298 Pn Pn 04 37 25.4 +1.7
0.8nm,0.3s,baz=111,slow=13,SNR=13
ESDC Sn Sn 04 38 43.2 +6.8
0.2nm,0.3s,baz=108,slow=26,SNR=2.9
ESLA Sonseca Array 6.37 298 ePn Pn 04 37 24.4 +0.7
ESLA Sonseca Array 6.37 298 ePn Pn 04 37 24.4 +0.7
MTLF Montolieu 6.48 353 ePn Pn 04 37 23.5 -1.8
MTLF eSn Sn 04 38 29.2 -10
2.5nm,0.3s
MTLF Montolieu 6.48 353 P Pn 04 37 23.5 -1.8
MTLF S Sn 04 38 29.2 -10
1.2nm,0.3s
MTLF Montolieu 6.48 353 P Pn 04 37 23.5 -1.8
EPF Esparros 6.53 340 ePn Pn 04 37 23.3 -2.7
EPF eSn Sn 04 38 28.9 -12
5.3nm,0.4s
EPF Esparros 6.53 340 P Pn 04 37 23.3 -2.7
EPF S Sn 04 38 28.9 -12
2.7nm,0.4s
EPF Esparros 6.53 340 ePn Pn 04 37 23.3 -2.7
PAB San Pablo 6.59 296 ePn Pn 04 37 28.6 +1.8
PAB eS Sn 04 38 42.7 +0.7
ETSF Etsaut 6.69 335 ePn Pn 04 37 25.2 -3.0
ETSF eSn Sn 04 38 32.3 -12
1.9nm,0.5s
ETSF Etsaut 6.69 335 P Pn 04 37 25.2 -3.0
ETSF S Sn 04 38 32.3 -12
0.9nm,0.5s
ETSF Etsaut 6.69 335 ePn Pn 04 37 25.2 -3.0
IEPA Eparoz 6.85 330 P Pn 04 37 33.4 +3.1
0.4nm,0.2s,SNR=4.0
IEPA S Sn 04 38 46.5 -1.7
5.7nm,0.3s,SNR=7.9
LMR La Mourre 6.87 20 ePn Pn 04 37 31.3 +0.8
LMR eSn Sn 04 38 42.5 -6.0
8.0nm,0.3s
LMR La Mourre 6.87 20 P Pn 04 37 31.3 +0.8
LMR S Sn 04 38 42.5 -6.0
4.0nm,0.3s
LMR La Mourre 6.87 20 P Pn 04 37 31.3 +0.8
IELO Elcoad 6.89 331 P Pn 04 37 32.3 +1.4
1.5nm,0.4s,SNR=7.9
IELO S Sn 04 38 45.2 -4.1
2.3nm,0.3s,SNR=7.9
GUD Guadarrama 6.93 305 P Pn 04 37 32.9 +1.3
2.6nm,0.5s,SNR=4.0
ECAB El Cabril 7.05 282 P Pn 04 37 32.0 -1.1
0.4nm,0.4s,SNR=7.9
ECAB S Sn 04 38 49.2 -4.1
1.0nm,0.4s,SNR=7.9
ECAB El Cabril 7.05 282 P Pn 04 37 32.0 -1.1
0.4nm,0.4s,SNR=7.9
FRF La Foret Royal 7.11 20 ePn Pn 04 37 34.5 +0.6
FRF eSn Sn 04 38 48.5 -6.2
14nm,0.4s
FRF La Foret Royal 7.11 20 P Pn 04 37 34.5 +0.6
FRF S Sn 04 38 48.5 -6.2
6.8nm,0.4s
FRF La Foret Royal 7.11 20 P Pn 04 37 34.5 +0.6
SJPF Ste Jean 7.12 332 ePn Pn 04 37 30.8 -3.2
SJPF eSn Sn 04 38 42.2 -13
5.0nm,0.3s
SJPF Ste Jean 7.12 332 P Pn 04 37 30.8 -3.2
SJPF S Sn 04 38 42.2 -13
2.5nm,0.3s
SJPF Ste Jean 7.12 332 P Pn 04 37 30.8 -3.2
PGF Pioggiola 7.13 36 ePn Pn 04 37 35.2 +1.0
PGF eSn Sn 04 38 52.0 -3.2
7.6nm,0.3s
PGF Pioggiola 7.13 36 P Pn 04 37 35.2 +1.0
PGF S Sn 04 38 52.0 -3.2
3.8nm,0.3s
PGF Pioggiola 7.13 36 P Pn 04 37 35.2 +1.0
LASF Ste Croix 7.17 3 ePn Pn 04 37 33.9 -0.9
LASF eSn Sn 04 38 46.8 -9.4
12nm,0.3s
LASF Ste Croix 7.17 3 P Pn 04 37 33.9 -0.9
LASF S Sn 04 38 46.8 -9.4
5.8nm,0.3s
LASF Ste Croix 7.17 3 P Pn 04 37 33.9 -0.9
SMRF Simiane la Rot 7.26 13 ePn Pn 04 37 36.4 +0.4
SMRF eSn Sn 04 38 50.8 -7.7
0.5nm,0.2s
SMRF Simiane la Rot 7.26 13 P Pn 04 37 36.4 +0.4
SMRF S Sn 04 38 50.8 -7.7
0.5nm,0.2s
SMRF Simiane la Rot 7.26 13 P Pn 04 37 36.4 +0.4
EALK Alkurruntz 7.31 331 S Sn 04 38 57.3 -2.3
6.9nm,0.3s,SNR=123
EALK Alkurruntz 7.31 331 S Sn 04 38 57.3 -2.3
6.9nm,0.3s,SNR=123
MDT Midelt 7.70 240 Pn Pn 04 37 43.5 +1.4
0.1nm,0.3s,baz=42,slow=14,SNR=3.6
MDT Lg Lg 04 39 57.5
0.2nm,0.3s,baz=217,slow=20,SNR=2.1
VIVF Saint-Julien-l 8.01 7 ePn Pn 04 37 46.9 +0.7
VIVF eSn Sn 04 39 07.5 -9.2
10nm,0.4s
VIVF Saint-Julien-l 8.01 7 P Pn 04 37 46.9 +0.7
VIVF S Sn 04 39 07.5 -9.2
5.1nm,0.4s
VIVF Saint-Julien-l 8.01 7 P Pn 04 37 46.9 +0.7
EMIN Mina Concepcio 8.01 279 P Pn 04 37 46.3 0.0
0.4nm,0.2s,SNR=7.9
EMIN S Sn 04 39 14.8 -2.1
0.5nm,0.6s,SNR=7.9
EMIN Mina Concepcio 8.01 279 P Pn 04 37 46.3 0.0
0.4nm,0.2s,SNR=7.9
EMIN S Sn 04 39 14.8 -2.1
0.5nm,0.6s,SNR=7.9
CAF Calviac 8.07 354 ePn Pn 04 37 45.0 -2.0
CAF eSn Sn 04 39 07.0 -11
1.1nm,0.3s
CAF Calviac 8.07 354 P Pn 04 37 45.0 -2.0
CAF S Sn 04 39 07.0 -11
0.6nm,0.3s
CAF Calviac 8.07 354 P Pn 04 37 45.0 -2.0
ORIF Oris-en-Rattie 8.23 13 ePn Pn 04 37 49.0 -0.4
ORIF eSn Sn 04 39 13.9 -8.4
0.8nm,0.3s
ORIF Oris-en-Rattie 8.23 13 P Pn 04 37 49.0 -0.4
ORIF S Sn 04 39 13.9 -8.4
0.4nm,0.3s
ORIF Oris-en-Rattie 8.23 13 P Pn 04 37 49.0 -0.4
MBDF Montbardon 8.23 17 ePn Pn 04 37 49.6 +0.1
MBDF eSn Sn 04 39 14.8 -7.7
1.0nm,0.3s
MBDF Montbardon 8.23 17 P Pn 04 37 49.6 +0.1
MBDF S Sn 04 39 14.8 -7.7
0.5nm,0.3s
MBDF Montbardon 8.23 17 P Pn 04 37 49.6 +0.1
LFF La Frestale 8.26 347 ePn Pn 04 37 47.0 -2.6
LFF eSn Sn 04 39 10.7 -12
1.8nm,0.3s
LFF La Frestale 8.26 347 P Pn 04 37 47.0 -2.6
LFF S Sn 04 39 10.7 -12
0.9nm,0.3s
LFF La Frestale 8.26 347 ePn Pn 04 37 47.0 -2.6
RJF Les Rejaudoux 8.50 351 ePn Pn 04 37 50.6 -2.4
RJF eSn Sn 04 39 17.0 -12
2.6nm,0.4s
RJF Les Rejaudoux 8.50 351 P Pn 04 37 50.6 -2.4
RJF S Sn 04 39 17.0 -12
1.3nm,0.4s
RJF Les Rejaudoux 8.50 351 P Pn 04 37 50.6 -2.4
BNI Bardonecchia 8.52 16 ePn Pn 04 37 56.5 +3.1
LPG La Plagne 8.96 16 ePn Pn 04 37 59.6 +0.1
LPG eSn Sn 04 39 32.0 -8.5
2.5nm,0.5s
LPG La Plagne 8.96 16 P Pn 04 37 59.6 +0.1
LPG S Sn 04 39 32.0 -8.5
1.2nm,0.5s
LPG La Plagne 8.96 16 P Pn 04 37 59.6 +0.1
LPL La Plagne 8.97 16 ePn Pn 04 37 59.5 -0.1
LPL eSn Sn 04 39 32.3 -8.4
1.4nm,0.4s
LPL La Plagne 8.97 16 P Pn 04 37 59.5 -0.1
LPL S Sn 04 39 32.3 -8.4
0.7nm,0.4s
LPL La Plagne 8.97 16 P Pn 04 37 59.5 -0.1
VLC Villacollemand 9.02 34 ePn Pn 04 38 01.1 +1.0
VLC Villacollemand 9.02 34 ePn Pn 04 38 01.1 +1.0
MVO Moncorvo 9.11 301 P Pn 04 38 03.9 +2.5
1.2nm,0.3s,SNR=4.0
EVO Evora 9.13 284 ePn Pn 04 38 00.5 -1.2
EVO eSn Sn 04 39 34.0 -10
2.9nm,0.5s
EARI Arriondas 9.14 317 P Pn 04 38 04.3 +2.6
1.6nm,0.6s,SNR=6.5
EVOP Sao Brissos 9.22 284 ePn Pn 04 38 00.5 -2.3
ECAL Calabor 9.27 306 P Pn 04 38 05.7 +2.1
1.9nm,0.3s,SNR=7.7
BGF Bois d'Agland 9.65 358 ePn Pn 04 38 06.8 -1.9
BGF eSn Sn 04 39 45.4 -12
3.6nm,0.4s
BGF Bois d'Agland 9.65 358 P Pn 04 38 06.8 -1.9
BGF S Sn 04 39 45.4 -12
1.8nm,0.4s
BGF Bois d'Agland 9.65 358 P Pn 04 38 06.8 -1.9
SMF Signal de Mont 9.74 2 ePn Pn 04 38 08.4 -1.5
SMF eSn Sn 04 39 48.0 -11
3.1nm,0.5s
SMF Signal de Mont 9.74 2 P Pn 04 38 08.4 -1.5
SMF S Sn 04 39 48.0 -11
1.6nm,0.5s
SMF Signal de Mont 9.74 2 P Pn 04 38 08.4 -1.5
AVF Avril sur Loir 9.88 0 ePn Pn 04 38 12.8 +1.0
AVF eSn Sn 04 39 50.9 -12
3.2nm,0.6s
AVF Avril sur Loir 9.88 0 P Pn 04 38 12.8 +1.0
AVF S Sn 04 39 50.9 -12
1.6nm,0.6s
AVF Avril sur Loir 9.88 0 P Pn 04 38 12.8 +1.0
CABF La Chapelle 9.91 11 ePn Pn 04 38 12.8 +0.4
CABF eSn Sn 04 39 53.6 -10
1.0nm,0.3s
CABF La Chapelle 9.91 11 P Pn 04 38 12.8 +0.4
CABF S Sn 04 39 53.6 -10
0.0nm,0.3s
CABF La Chapelle 9.91 11 P Pn 04 38 12.8 +0.4
MFF Saint Martin d 10.03 346 ePn Pn 04 38 11.1 -2.8
MFF eSn Sn 04 39 52.8 -13
0.7nm,0.3s
MFF Saint Martin d 10.03 346 P Pn 04 38 11.1 -2.8
MFF S Sn 04 39 52.8 -13
0.3nm,0.3s
MFF Saint Martin d 10.03 346 P Pn 04 38 11.1 -2.8
SSF Saint Saulge 10.15 1 ePn Pn 04 38 13.9 -1.6
SSF eSn Sn 04 39 57.8 -11
3.4nm,0.6s
SSF Saint Saulge 10.15 1 P Pn 04 38 13.9 -1.6
SSF S Sn 04 39 57.8 -11
1.7nm,0.6s
SSF Saint Saulge 10.15 1 P Pn 04 38 13.9 -1.6
LOR Lormes 10.36 2 ePn Pn 04 38 17.3 -1.2
LOR eSn Sn 04 40 03.1 -11
2.0nm,0.4s
LOR Lormes 10.36 2 P Pn 04 38 17.3 -1.2
LOR S Sn 04 40 03.1 -11
1.0nm,0.4s
LOR Lormes 10.36 2 P Pn 04 38 17.3 -1.2
HYF Humbligny 10.37 357 ePn Pn 04 38 16.4 -2.1
HYF eSn Sn 04 40 02.5 -12
HYF Humbligny 10.37 357 P Pn 04 38 16.4 -2.1
HYF S Sn 04 40 02.5 -12
HYF Humbligny 10.37 357 P Pn 04 38 16.4 -2.1
HINF Hinteralfeld 11.21 12 ePn Pn 04 38 29.4 -0.7
HINF eSn Sn 04 40 24.8 -10
1.9nm,0.4s
HINF Hinteralfeld 11.21 12 P Pn 04 38 29.4 -0.7
HINF S Sn 04 40 24.8 -10
0.9nm,0.4s
HINF Hinteralfeld 11.21 12 P Pn 04 38 29.4 -0.7
HAU Haudompre 11.31 10 ePn Pn 04 38 30.6 -0.9
HAU eSn Sn 04 40 27.0 -11
0.7nm,0.2s
HAU Haudompre 11.31 10 P Pn 04 38 30.6 -0.9
HAU S Sn 04 40 27.0 -11
0.3nm,0.2s
HAU Haudompre 11.31 10 P Pn 04 38 30.6 -0.9
SFTF Sexfontaines 11.36 6 ePn Pn 04 38 30.8 -1.3
SFTF eSn Sn 04 40 27.3 -12
5.6nm,0.6s
SFTF Sexfontaines 11.36 6 P Pn 04 38 30.8 -1.3
SFTF S Sn 04 40 27.3 -12
5.6nm,0.6s
SFTF Sexfontaines 11.36 6 P Pn 04 38 30.8 -1.3
CDF Champ du Feu 11.86 13 ePn Pn 04 38 38.5 -0.5
CDF eSn Sn 04 40 40.5 -11
1.1nm,0.4s
CDF Champ du Feu 11.86 13 P Pn 04 38 38.5 -0.5
CDF S Sn 04 40 40.5 -11
0.6nm,0.4s
CDF Champ du Feu 11.86 13 P Pn 04 38 38.5 -0.5
BAIF Baives 13.16 2 ePn Pn 04 38 55.1 -1.6
BAIF eSn Sn 04 41 09.8 -13
15nm,0.9s
BAIF Baives 13.16 2 P Pn 04 38 55.1 -1.6
BAIF S Sn 04 41 09.8 -13
7.3nm,0.9s
BAIF Baives 13.16 2 P Pn 04 38 55.1 -1.6
GIVF Givet 13.23 4 ePn Pn 04 38 56.1 -1.6
GIVF eSn Sn 04 41 11.9 -13
2.8nm,0.2s
GIVF Givet 13.23 4 P Pn 04 38 56.1 -1.6
GIVF S Sn 04 41 11.9 -13
1.4nm,0.2s
GIVF Givet 13.23 4 P Pn 04 38 56.1 -1.6
GERES GERESS Array B 14.13 29 Pn Pn 04 39 11.3 +1.2
0.1nm,0.3s,baz=217,slow=12,SNR=2.5
CLL Collm 15.96 23 ePP P 04 39 44.0 +6.1
AKASG Malin Array Be 23.07 45 P P 04 40 54.2 -1.1
1.7nm,0.6s,baz=242,slow=10,SNR=5.6
TORD Torodi Ar. Bea 23.70 184 P P 04 41 01.1 -0.8
0.7nm,0.7s,baz=3.1,slow=9.5,SNR=6.2
HFS Hagfors 24.18 13 P P 04 41 06.1 +0.1
1.3nm,0.8s,baz=187,slow=10,SNR=3.6
HFS LR LR 04 49 48.8
comp=Z,55nm,18.5s,baz=271,slow=35
FINES FINESS Array B 28.41 23 P P 04 41 45.1 +1.0
0.9nm,0.7s,baz=195,slow=9.3,SNR=3.8
ZALV Zalesovo Beam 56.47 45 P P 04 45 32.1 +0.6
0.5nm,0.5s,baz=308,slow=7.1,SNR=2.7
MK31 Makanchi Array 57.32 53 eP P 04 45 38.5 +0.7
MK31 Makanchi Array 57.32 53 eP P 04 45 38.5 +0.7
MKAR Makanchi Array 57.32 53 P P 04 45 38.5 +0.7
0.9nm,0.6s,baz=292,slow=6.2,SNR=13
YKA Yellowknife Ar 69.19 334 P P 04 46 56.8 +0.7
0.4nm,0.5s,baz=53,slow=6.1,SNR=12
SONM Songino Array 71.35 44 P P 04 47 11.5 +1.7
baz=293,slow=7.5

KRSC 10 04:39:39.1±1.9, 52.12N×161.77E, h67km±23km, ML3.6,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NLC	Nalytchevo	1.82	306	P	Pn	04 40 10.5	+2.3
NLC				eS	Sn	04 40 32.1	+1.9
RUS	Russkaya	2.03	280	eP	Pn	04 40 12.8	+1.8
RUS				eS	Sn	04 40 36.1	+0.8
UGLR	Uglovaya	2.10	302	eP	Pn	04 40 15.0	+2.8
SDLR	Sedlovina	2.11	305	eP	Pn	04 40 15.0	+2.7
SDLR				S	Sn	04 40 39.9	+2.3
PET	Petropavlovsk	2.11	297	P	Pn	04 40 13.9	+1.8
PET				eS	Sn	04 40 37.9	+0.6
AVH	Avacha	2.17	303	eP	Pn	04 40 16.0	+2.8
AVH				eS	Sn	04 40 41.6	+2.5
KRER	Koryakskii	2.19	304	eP	Pn	04 40 16.4	+2.9
KRER				eS	Sn	04 40 42.5	+2.7
MTVR	Mutnovka	2.23	281	eP	Pn	04 40 16.0	+1.9
MTVR				eS	Sn	04 40 41.9	+1.2
KOK	Koryaka	2.24	303	eP	Pn	04 40 17.2	+3.1
KOK				eS	Sn	04 40 43.8	+3.0
KRX	Arik	2.27	304	eP	Pn	04 40 17.1	+2.6

KRX				eS	Sn	04 40 43.6	+2.0
ASAK	Asacha	2.40	278	eP	Pn	04 40 18.7	+2.5
ASAK				eS	Sn	04 40 46.2	+1.7
GNL	Ganaly	2.81	306	eP	Pn	04 40 25.5	+3.7
GNL				eS	Sn	04 40 58.2	+3.6
APC	Apacha	2.93	288	eP	Pn	04 40 26.7	+3.4
MIPR	Malaya Ipel'ka	3.09	275	P	Pn	04 40 28.6	+3.1
PAU	Pauzhetka	3.15	260	eP	Pn	04 40 28.8	+2.5
TUMR	Tumrok	3.31	344	eP	Pn	04 40 32.7	+4.0
BKI	Bering	3.97	37	eS	Sn	04 41 22.3	-0.5
KBTR	Krutoberegovo	4.14	8	eP	Pn	04 40 42.7	+2.9

IDC 10 04:43:24.9±6.8, 24.06S×176.74W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/27, mbtmp4.0/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/23, Error ellipse: s-maj=291.3km s-min=55.5km az=169.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	15.92	83	LR	LR	04 51 27.4	
	comp=Z,81nm,21.8s,baz=273,slow=30						
ASAR	Alice Springs	44.95	260	P	P	04 51 42.2	+0.3
	0.9nm,0.8s,baz=94,slow=8.6,SNR=8.8						
WRA	Warramunga Arr	45.37	265	P	P	04 51 44.6	-0.7
	0.6nm,0.6s,baz=105,slow=8.1,SNR=6.3						
CMAR	Chiang Mai Arr	92.38	289	P	P	04 56 38.1	+0.2
	0.9nm,0.4s,baz=107,slow=3.0,SNR=5.9						
AKASG	Malin Array Be	146.66	330	PKPbc	PKPdf	05 03 07.4	+0.6
	0.2nm,0.2s,baz=44,slow=4.1,SNR=2.5						

IDC 10 04:51:05.3±0.7, 22.96S×170.43E, h0km, mb4.7/14, mb1 4.8/16, mb1mx4.7/27, mbtmp4.7/16, ML4.2/2, MS3.9/21, Ms1 3.9/21, ms1mx3.9/24, Error ellipse: s-maj=21.2km s-min=17.9km az=153.0

ISCJB 10 04:51:08.7±0.2, 23.02S±0.04×170.32E±0.04, h28km, mb5.0/46, MS4.2/22, Error ellipse: s-maj=6.5km s-min=4.6km az=159.4

GCMT 10 04:51:11.6±0.3, 23.15S×170.31E, h25km, MW5.0/62, Moment Tensor Solution. s36,c43; s62,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-3.29±.20; Mθθ2.91±.14; Mφφ0.37±.13; Mrθ-1.50±.27; Mrφ-1.16±.08; Mθφ0.46±.33; Best double couple: Mo3.67700×10^{16} NP1:φs109.00000°, δ58.00000°, λ-92.00000°. NP2: φs293.00000°, δ32.00000°, λ-87.00000°. Principal axes: T 3.7110, Plg13.0000°, Azm201.0000°; N -0.0690, Plg2.0000°, Azm110.0000°; P -3.6430, Plg77.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 10 04:51:11.6±0.9, 23.06S×170.35E, h44km±8km, mb5.1/26 Error ellipse: s-maj=7.3km s-min=6.2km az=178.0

SZGRF 10 04:51:11.7, 22.81S×170.46E, h33km, Southeast of Loyalty Islands

MOS 10 04:51:12.6±1.5, 22.80S×170.27E, h51km, mb5.0/10, Error ellipse: s-maj=12.9km s-min=10.5km az=176.2

BJI 10 04:51:14.0, 22.37S×170.43E, h55km, mB5.2/27, mb4.9/41, Ms5.1/17, Ms7 4.7/17

ISC 10 04:51:10.5±0.3, 23.01S±0.06×170.28E±0.05, h28km, n276, σ1.57/284, mb5.0/46, MS4.1/22, 37C-38D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.67	284	ePn	Pn	04 52 05.3	-0.2
	326nm,0.2s						
DZM				eSn	Sn	04 52 46.9	-1.0
	1μm,0.2s						
DZM	Mont Dzumac	3.67	284	Pn	Pn	04 52 05.5	0.0
	46nm,0.3s,baz=122,slow=11,SNR=1238						
DZM				Sn	Sn	04 52 46.1	-1.9
	167nm,0.3s,baz=126,slow=19,SNR=9.1						
DZM				LR	LR	04 53 28.6	
	comp=Z,664nm,21.4s,baz=34,slow=38						
DZM	Mont Dzumac	3.67	284	ePn	Pn	04 52 05.2	-0.2
DZM				eS	Sn	04 52 47.0	-1.0
MSVF	Nonsavu	8.97	56	eP	Pn	04 53 20.2	+1.8
MSVF	Nonsavu	8.97	56	ePn	Pn	04 53 20.2	+1.8
RAO	Raoul Island	12.29	123	LR	LR	04 57 34.6	
	comp=Z,642nm,20.0s,baz=284,slow=32						
OUZ	Omahuta	12.51	167	ePn	Pn	04 54 05.3	-1.3
URZ	Urewera	16.29	161	Pn	Pn	04 54 55.0	-2.3
	0.3nm,0.3s,baz=332,slow=8.8,SNR=3.1						
URZ				LR	LR	05 00 08.7	
	comp=Z,1μm,18.3s,baz=344,slow=33						
URZ	Urewera	16.29	161	ePn	Pn	04 54 55.2	-2.1
HNR	Honiara	16.74	322	LR	LR	05 00 04.4	
	comp=Z,229nm,20.1s,baz=128,slow=32						
BKZ	Black Stump Fm	16.96	163	ePn	Pn	04 55 05.7	-0.1
	93nm,1.4s						
EIDS	Eidsvold	17.68	258	ePn	Pn	04 55 14.7	-0.1
	42nm,1.1s						
EIDS	Eidsvold	17.68	258	⇓P	P	04 55 18.2	+2.7
	baz=18,SNR=6.1						
ARMA	Armidale	18.21	242	ePn	P	04 55 23.0	+1.5
	57nm,1.4s						
ARMA	Armidale	18.21	242	⇑P	P	04 55 23.6	+2.1
	baz=18,SNR=7.0						
AFI	Afiamalu	19.25	65	LR	LR	05 00 53.1	
	comp=Z,298nm,21.6s,baz=201,slow=31						
MGCD	Mangrove Creek	19.70	235	⇓P	Pn	04 55 41.4	+2.1
	baz=20,SNR=7.9						
RMQ	Roma	19.85	256	P	Pn	04 55 42.6	+1.5
	baz=20,SNR=22						
RPZ	Rata Peaks	20.67	178	eP	P	04 55 47.0	-1.1
	90nm,1.1s						
CNB	Canberra Magne	21.95	231	P	P	04 56 04.1	+2.0
	baz=22,SNR=8.8						
ODZ	Otahua Downs	21.99	179	eP	P	04 56 01.1	-1.2
	103nm,1.6s						
YNG	Young	22.21	235	⇓P	P	04 56 06.8	+1.9
	baz=22,SNR=8.0						
CAN	Canberra	22.22	232	eP	P	04 56 05.5	+0.6
CAN				pmax	pmax		
	comp=Z,49nm,1.2s						
CAN	Canberra	22.22	232	eP	P	04 56 05.5	+0.6
	comp=Z,49nm,1.2s						
CAN	Canberra	22.22	232	⇑P	P	04 56 06.6	+1.7
	baz=22						
CTA	Charters Tower	22.53	273	P	P	04 56 09.2	+0.8
	comp=Z,4.5nm,0.8s,baz=106,slow=14,SNR=3.1						
CTA	Charters Tower	22.53	273	⇑P	P	04 56 10.2	+1.8
	baz=23						
CTAO	Charters Tower	22.53	273	eP	P	04 56 10.2	+1.8
CTAO				pmax	pmax		
	comp=Z,34nm,1.4s						
CTAO	Charters Tower	22.53	273	eP	P	04 56 10.2	+1.8
	comp=Z,34nm,1.4s						
MILA	Mila	22.97	228	⇑P	P	04 56 14.6	+1.8
	baz=23						
CMSA	Cobar Meteorol	23.41	243	⇓P	P	04 56 18.6	+1.3
	baz=24,SNR=31						
QLP	Quilpie	23.90	256	P	P	04 56 22.9	+0.9
	baz=24,SNR=24						
MTSU	Mount Surprise	24.77	276	⇓P	P	04 56 31.0	+0.9
	baz=25,SNR=7.9						
PMG	Port Moresby	25.94	298	⇓eP	P	04 56 43.5	+2.8
PMG	Port Moresby	25.94	298	P	P	04 56 40.8	+0.1
	comp=Z,7.9nm,0.3s,baz=115,slow=8.0,SNR=6.9						
PMG				LR	LR	05 05 49.1	
	comp=Z,355nm,19.1s,baz=125,slow=34						
PMG	Port Moresby	25.94	298	eP	P	04 56 40.6	-0.1
	comp=Z,23nm,1.0s						
STKA	Stephens Creek	26.89	245	eP	P	04 56 49.6	+0.4
STKA	Stephens Creek	26.89	245	P	P	04 56 49.4	+0.2
	comp=Z,9.6nm,0.8s,baz=96,slow=12,SNR=12						
STKA				LR	LR	05 06 11.5	
	comp=Z,576nm,20.9s,baz=70,slow=34						
STKA	Stephens Creek	26.89	245	eP	P	04 56 49.6	+0.4
STKA	Stephens Creek	26.89	245	P	P	04 56 49.8	+0.6
	baz=27,SNR=15						
COEN	Coen	27.20	285	eP	P	04 56 53.1	+1.0
	comp=Z,190nm,0.8s						
COEN	Coen	27.20	285	P	P	04 56 53.2	+1.1
	baz=28,SNR=14						
RAR	Rarotonga	27.78	92	LR	LR	05 08 12.7	
	comp=Z,121nm,18.4s,baz=278,slow=37						
HTT	Hallett	29.42	242	⇑P	P	04 57 12.3	+0.5
	baz=30,SNR=5.6						
AS07	Alice Springs	33.30	262	⇓P	P	04 57 45.8	-0.2
	baz=34						
AS06	Alice Springs	33.30	262	⇑P	P	04 57 45.8	-0.2
	baz=34						
AS14	Alice Springs	33.35	262	⇑P	P	04 57 46.2	-0.3
	baz=34						
AS31	Alice Springs	33.35	262	eP	P	04 57 46.1	-0.4
ASAR	Alice Springs	33.36	262	P	P	04 57 46.4	-0.2
	comp=Z,9.6nm,0.8s,baz=88,slow=9.2,SNR=57						
ASAR				LR	LR	05 10 12.4	
	comp=Z,207nm,20.2s,baz=97,slow=34						
WRAB	Tennant Creek	33.53	268	⇓eP	P	04 57 50.2	+2.2
WRAB				pmax	pmax		
	comp=Z,20nm,1.4s						
WRAB	Tennant Creek	33.53	268	eP	P	04 57 46.7	-1.4
	comp=Z,6.4nm,0.7s						
WRA	Warramunga Arr	33.54	268	P	P	04 57 46.7	-1.4
	comp=Z,0.9nm,0.3s,baz=97,slow=8.5,SNR=21						
WRA				LR	LR	05 11 20.1	
	comp=Z,428nm,19.0s,baz=100,slow=36						
PPT2	Papeete2	37.95	89	eLR	LR	05 08 44.8	
	comp=Z,154nm,23.5s						
FORT	Forrest	38.27	249	eP	P	04 58 28.3	-0.2
	comp=Z,37nm,0.6s						
WRKA	Warakurna	38.30	258	P	P	04 58 28.7	-0.2
	baz=39,SNR=8.1						
MTN	Manton Dam	38.49	278	⇓P	P	04 58 29.9	-0.7
	baz=39						
KNRA	Kununurra	39.75	273	⇓P	P	04 58 41.1	0.0
	baz=40,SNR=4.3						
MBWA	Marble Bar	46.70	262	eP	P	04 59 36.8	-0.4
	comp=Z,27nm,0.8s						
MEEK	Meekatharra	46.78	254	P	P	04 59 37.2	-0.7
	baz=47,SNR=4.1						
KLBR	Kellerberrin	47.08	248	⇓P	P	04 59 39.3	-0.8
	baz=47,SNR=8.0						
BLDU	Balldu	48.04	249	⇑P	P	04 59 46.6	-1.0
	baz=48,SNR=10						
MORW	Morawa	48.76	251	⇓P	P	04 59 52.6	-0.6
	baz=49,SNR=3.4						
KAPI	Kappang	51.89	282	eP	P	05 00 17.3	+0.4
	comp=Z,273nm,1.5s						
POHA	Pohakuloa	54.03	41	P	P	05 00 33.0	+0.1
VNDA	Vanda	54.72	182	LR	LR	05 20 22.4	
	comp=Z,306nm,19.6s,baz=348,slow=32						
JAGI	Jajag, Banyuwa	55.61	276	eP	P	05 00 42.7	-1.5
	comp=Z,14nm,0.8s						
KSM	Kuching	63.19	284	eP	P	05 01 37.0	+0.4
	comp=Z,21nm,0.8s						
MJAR	Matsushiro Arr	66.52	332	P	P	05 01 56.6	-1.1
	comp=Z,4.2nm,0.9s,baz=169,slow=6.4,SNR=4.1						
MJAR				LR	LR	05 30 44.0	
	comp=Z,44nm,19.0s,baz=190,slow=36						
MAJO	Matsushiro	66.52	332	⇑iP	P	05 01 57.7	-0.1
MAT	Matsushiro	66.52	332	P	P	05 01 57.2	-0.6
MAT				S	S	05 10 41.0	-5.8
TPUB	Ta-pu	66.70	310	eP	P	05 01 57.6	-1.6
	comp=Z,20nm,0.9s						
YHNB	Yeheng	67.06	312	eP	P	05 01 59.5	-2.1
	comp=Z,35nm,1.2s						
QSPA	South Pole Qui	67.07	180	P	P	05 02 01.2	+0.1
	comp=Z,8.3nm,1.0s,baz=16,slow=4.8,SNR=7.5						
QSPA	South Pole Qui	67.07	180	eP	P	05 02 00.8	-0.3
	comp=Z,29nm,1.1s						
YUK	Yuzh-Kuril'sk	70.37	342	P	P	05 02 19.9	-1.7
YUK				i		05 02 41.4	
YUK				S	S	05 11 24.6	-7.6
KSRS	Korea Array	72.15	326	P	P	05 02 32.9	+0.3
	comp=Z,3.8nm,0.8s,baz=131,slow=5.8,SNR=6.5						
KSRS				LR	LR	05 31 52.1	
	comp=Z,32nm,19.6s,baz=130,slow=34						
KSAR	Wonju Array Be	72.16	326	P	P	05 02 32.9	+0.2
KSAR	Wonju Array Be	72.16	326	P	P	05 02 32.9	+0.2
NJ2	Nanjing	73.58	316	eP	P	05 02 41.5	+0.3
NJ2				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS	Yuzh-Sakhalins	73.94	341	⇑eP	P	05 02 44.2	+1.3
PSI	Prapat	74.02	280	P	P	05 02 43.5	-0.9
	comp=Z,7.8nm,0.9s,baz=170,slow=11,SNR=6.4						
MAW	Mawson	75.33	202	LR	LR	05 31 54.1	
	comp=Z,110nm,18.7s,baz=126,slow=32						
USRK	Ussuriysk Arra	75.51	333	P	P	05 02 50.2	-1.9
	comp=Z,8.2nm,1.1s,baz=177,slow=3.8,SNR=7.2						
PEA0B	Petropavlovsk-	76.58	352	eP	P	05 02 58.0	0.0
PETK	Petropavlovsk-	76.58	352	P	P	05 02 58.0	0.0
PETK	Petropavlovsk-	76.58	352	P	P	05 02 58.0	0.0
	comp=Z,35nm,1.0s,baz=146,slow=6.6,SNR=25						
PETK				LR	LR	05 31 05.7	
	comp=Z,163nm,19.8s,baz=126,slow=31						
MDJ	Mudanjiang	76.88	331	P	P	05 03 01.7	+1.8
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,120nm,4.3s						
TIA	Tai'an	77.39	318	⇑P	P	05 03 03.6	+0.6
TIA				pmax	pmax		
	comp=Z,30nm,0.9s						
CN2	Changchun	78.17	329	eP	P	05 03 07.0	-0.1
CN2				eS	S	05 12 57.6	-2.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
GYA	Guiyang	78.77	305	P	P	05 03 12.2	+1.2
GYA				pP	pP	05 03 27.6	+7.7
GYA				PP	PP	05 06 12.7	+2.9
GYA				S	S	05 13 05.8	-1.4
GYA				SKS	SKSac	05 13 17.4	-7.4
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=Z,560nm,19.8s						
GYA				LR	LR		
	comp=Z,460nm,20.2s						
GYA				LR	LR		
	comp=Z,510nm,18.6s						
BJI	Beijing	80.46	321	P	P	05 03 19.9	+0.2
BJI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CMAR	Chiang Mai Arr	80.94	294	P	P	05 03 24.1	+1.4
	comp=Z,5.8nm,0.7s,baz=140,slow=4.1,SNR=31						
CMAR				LR	LR	05 42 33.0	
	comp=Z,31nm,19.2s,baz=145,slow=38						
KMI	Kunming	81.08	302	P	P	05 03 25.1	+1.4
KMI				pmax	pmax		
	comp=Z,15nm,1.2s						
CHTO	Chiang Mai	81.10	295	eP	P	05 03 24.7	+1.0
CHTO				pmax	pmax		
	comp=Z,14nm,1.0s						
CHTO	Chiang Mai	81.10	295	eP	P	05 03 24.7	+1.0
	comp=Z,14nm,1.0s						
CD2	Chengdu	83.29	307	eP	P	05 03 35.6	+0.7
CD2				pP	pP	05 03 51.5	+7.6
CD2				PP	PP	05 06 50.5	+3.4
CD2				SKS	S	05 13 49.4	-4.6
CD2				S	SKSac	05 13 51.9	-3.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.6s						
HHC	Hu-ho-hao-te	83.70	319	eP	P	05 03 38.6	+1.7
HHC				PP	PP	05 06 55.2	+4.9
HHC				S	S	05 13 57.0	-0.8
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,210nm,5.4s						
HHC				LR	LR		
	comp=Z,210nm,16.5s						
HHC				LR	LR		
	comp=Z,280nm,15.5s						
HHC				LR	LR		
	comp=Z,140nm,15.3s						
SNAA	Sanae	85.46	182	P	P	05 03 43.3	-2.1
LZH	Lanzhou	85.96	312	⇑P	P	05 03 50.2	+1.8
LZH				eS	S	05 14 12.3	-8.3
LZH				sS	sS	05 14 40.1	+4.5
LZH				SS	SS	05 19 59.0	-0.3
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,4.5s						
LZH				LR	LR		
	comp=Z,360nm,18.8s						
LZH				LR	LR		
	comp=Z,520nm,19.9s						
VNA3	Neumayer Olymp	86.01	180	P	P	05 03 41.3	-6.7
VNA2	Neumayer--Watz	86.31	181	P	P	05 03 50.0	+0.5
	baz=131,slow=2.5						
GAMB	Gambell	87.64	8	eP	P	05 03 55.9	+0.2
	comp=Z,38nm,1.3s						
N02D	Trinity Center	88.93	44	P	P	05 04 02.5	0.0
	baz=89						
CMB	Columbia Colle	88.94	48	eP	P	05 04 01.8	-0.8
CMB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMB	Columbia Colle	88.94	48	eP	P	05 04 01.8	-0.8
	comp=Z,2.8nm,0.9s						
ISA	Isabella	89.10	50	eP	P	05 04 02.1	-1.3
ISA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ISA	Isabella	89.10	50	eP	P	05 04 02.1	-1.3
	comp=Z,10nm,1.0s						
ISA	Isabella	89.10	50	P	P	05 04 02.8	-0.7
	baz=89						
M04C	Macdoel	89.91	44	P	P	05 04 07.8	+0.7
	baz=90						
SHL	Shillong	89.97	298	eP	P	05 04 09.0	+1.1
BELC	Belle Mtn. Jos	90.10	53	P	P	05 04 07.8	-0.5
	baz=90						
HEC	Hector,Ludlow	90.24	52	P	P	05 04 07.3	-1.5
	baz=90						
GTA	Gaotai	90.41	313	P	P	05 04 10.5	+1.0
GTA				S	S	05 15 00.1	-2.6
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,130nm,6.2s						
GTA				LR	LR		
	comp=Z,210nm,19.5s						
GTA				LR	LR		
	comp=Z,220nm,19.5s						
GTA				LR	LR		
	comp=Z,84nm,17.1s						
ULN	Ulaanbaatar	90.45	323	⇑iP	P	05 04 09.9	+0.3
ULN				pmax	pmax		
	comp=Z,15nm,1.5s						
ULN	Ulaanbaatar	90.45	323	eP	P	05 04 08.9	-0.7
	comp=Z,6.6nm,1.1s						
J04D	Umpqua Nationa	90.50	43	P	P	05 04 10.3	+0.3
	baz=91						
NVAR	Mina Array Bea	90.56	48	P	P	05 04 09.2	-1.2
	comp=Z,2.7nm,0.8s,baz=228,slow=7.4,SNR=19						
NVAR				LR	LR	05 39 00.2	
	comp=Z,106nm,18.1s,baz=90,slow=32						
FURC	Furnace Creek,	90.63	50	P	P	05 04 10.5	+0.1
	baz=91						
GMRC	Granite Mounta	90.70	52	P	P	05 04 10.5	-0.5
	baz=91						
IRM	Iron Mountain	90.79	53	P	P	05 04 11.6	+0.3
	baz=91						
SONM	Songino Array	90.80	323	LR	LR	05 43 01.2	
	comp=Z,46nm,20.8s,baz=1.5,slow=34						
TUQ	Turquoise Moun	90.82	52	P	P	05 04 11.8	+0.2
	baz=91						
BILL	Bilibino	90.82	358	⇓iP	P	05 04 09.8	-0.8
BILL				pmax	pmax		
	comp=Z,34nm,1.6s						
BILL	Bilibino	90.82	358	eP	P	05 04 09.9	-0.7
	comp=Z,11nm,0.4s						
J05D	Fort Rock, OR	91.07	43	P	P	05 04 12.6	+0.1
	baz=91						
Y12C	Blythe	91.07	54	P	P	05 04 12.4	-0.2
	baz=91						
TPH	Tonopah	91.14	49	eP	P	05 04 11.8	-1.3
TPH				pmax	pmax		
	comp=Z,11nm,1.2s						
TPH	Tonopah	91.14	49	eP	P	05 04 11.8	-1.3
	comp=Z,11nm,1.2s						
113A	Mohawk Valley,	91.19	55	P	P	05 04 13.5	+0.4
	baz=91						
PDMCI	Parker Dam,Lak	91.60	53	P	P	05 04 15.0	0.0
	baz=92						
Z14A	Wintersburg	92.08	55	P	P	05 04 17.1	-0.2
	baz=92						
W13A	Hualapai Mount	92.15	53	P	P	05 04 16.9	-0.9
	baz=92						
Y14A	Wickenburg	92.28	54	P	P	05 04 17.5	-0.8
	baz=92						
R11A	Troy Canyon, C	92.41	49	P	P	05 04 18.2	-0.7
	baz=93						
COLA	College	93.35	17	eP	P	05 04 19.9	-2.4
COLA				pmax	pmax		
	comp=Z,25nm,1.1s						
COLA	College	93.35	17	eP	P	05 04 19.9	-2.4
	comp=Z,25nm,1.1s						
ILAR	Eielson Array	93.53	17	P	P	05 04 20.8	-2.4
	comp=Z,6.5nm,0.9s,baz=235,slow=6.0,SNR=37						
ILAR				LR	LR	05 38 21.4	
	comp=Z,58nm,20.4s,baz=244,slow=30						
X16A	Lo Mia Camp, P	93.66	54	P	P	05 04 23.9	-0.9
	baz=94						
U15A	North Rim	93.90	52	P	P	05 04 25.4	-0.6
	baz=94						
ZAK	Zakamensk	93.90	324	⇓iP	P	05 04 25.0	-0.4
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
319A	Douglas	94.03	58	P	P	05 04 26.3	-0.2
	baz=94						
WUAZ	Wupatki	94.18	53	P	P	05 04 27.2	0.0
	baz=94						
EGAK	Eagle	95.15	19	eP	P	05 04 28.6	-2.0
	comp=Z,11nm,1.1s						
TXAR	Lajitas Array	97.70	62	LR	LR	05 40 47.7	
	comp=Z,49nm,19.7s,baz=0.0,slow=31						
PDAR	Pinedale Array	98.45	47	LR	LR	05 50 04.5	
	comp=Z,55nm,18.1s,baz=250,slow=36						
WMQ	Urumqi	100.49	313	P	Pdif	05 04 54.9	-0.4
WMQ				PP	PP	05 09 05.6	+3.0
WMQ				SKS	SKSac	05 15 27.2	-5.2
WMQ				S	Sdif	05 16 23.1	-7.0
WMQ				SS	SS	05 23 24.6	-2.3
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.8s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.6s						
WMQ				LR	LR		
	comp=Z,27nm,19.0s						
WMQ				LR	LR		
	comp=Z,93nm,23.0s						
WMQ				LR	LR		
	comp=Z,47nm,18.0s						
YKA	Yellowknife Ar	103.55	27	Pdiff	Pdif	05 05 07.6	-0.7
	comp=Z,0.3nm,0.8s,baz=263,slow=4.3,SNR=3.9						
MKAR	Makanchi Array	105.08	315	Pdiff	Pdif	05 05 15.7	+0.1
	comp=Z,0.6nm,0.7s,baz=116,slow=5.6,SNR=6.4						
BVAR	Borovoye Array	113.91	319	PKiKP	PKiKP	05 09 45.3	-1.1
	comp=Z,1.4nm,0.9s,baz=94,slow=2.2,SNR=7.8						
ARU	Arti	120.83	323	i PKIKP	PKPdf	05 09 58.5	-1.1
ARU						05 11 31.1	
ARU						05 16 47.4	
ARU				SP	SP	05 21 21.4	+5.4
ARU				SS	SS	05 28 01.0	+3.0
AKTO	Aktyubinsk	121.47	316	PKP	PKPdf	05 09 59.9	-1.2
	comp=Z,1.8nm,0.8s,baz=117,slow=0.9,SNR=8.2						
PRGR	Permogore	126.27	331	PKIKP	PKPdf	05 10 07.1	-2.8
KEV	Kevo	128.42	345	ePKIKP	PKPdf	05 10 09.8	-4.0
KEV	Kevo	128.42	345	epkp	PKPdf	05 10 09.8	-4.0
ARCES	ARCESS Array B	128.94	345	PKP	PKPdf	05 10 13.2	-1.6
	comp=Z,1.9nm,0.7s,baz=50,slow=1.9,SNR=8.8						
JOF	Joensuu	131.58	336	ePKIKP	PKPdf	05 10 18.5	-1.5
JOF	Joensuu	131.58	336	epkp	PKPdf	05 10 18.5	-1.5
OBN	Obninsk	133.15	325	ePKIKP	PKPdf	05 10 24.2	+1.1
OBN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KAF	Kangasniemi	133.90	337	ePKIKP	PKPdf	05 10 23.6	-0.8
KAF	Kangasniemi	133.90	337	epkp	PKPdf	05 10 23.6	-0.8
FINES	FINESS Array B	134.42	337	PKP	PKPdf	05 10 24.6	-0.7
	comp=Z,3.3nm,0.9s,baz=60,slow=3.4,SNR=7.8						
AKASG	Malin Array Be	139.08	322	PKhKP	PKPpre	05 10 30.2	
	comp=Z,2.6nm,1.0s,baz=64,slow=2.1,SNR=6.4						
AKASG				PKP	PKPdf	05 10 33.1	-1.2
	comp=Z,2.6nm,0.9s,baz=62,slow=2.1,SNR=7.8						
NOA	NORSAR Array B	139.32	345	PKIKP	PKPdf	05 10 34.0	-0.5
NOA	NORSAR Array B	139.32	345	PKP	PKPdf	05 10 34.0	-0.5
	comp=Z,0.9nm,0.9s,baz=15,slow=3.5,SNR=3.7						
NOA	NORSAR Array B	139.32	345	PKP	PKPdf	05 10 34.0	-0.5
BURAR	Bucovina Array	142.87	320	⇓PKIKP	PKPdf	05 10 39.5	-1.9

BURAR Bucovina Array 142.87 320 ⇓ i P PKPdf 05 10 39.5 -1.9
KWP Kalwaria Pacla 143.22 324 ⇓PKIKP PKPdf 05 10 44.6 +2.7
KWP Kalwaria Pacla 143.22 324 ⇓ i P PKPdf 05 10 44.6 +2.7
MLR Muntele Rosu 143.40 317 ⇓PKIKP PKPbc 05 10 39.9 +0.2
MLR Muntele Rosu 143.40 317 ⇓ i P PKPbc 05 10 39.8 +0.1
MLR Muntele Rosu 143.40 317 PKP PKPbc 05 10 39.3 -0.3
comp=Z,2.4nm,1.1s,baz=22,slow=6.5
VOIR 143.99 317 ⇓PKIKP PKPbc 05 10 41.8 +0.4
VOIR 143.99 317 ⇓ i P PKPbc 05 10 41.8 +0.4
UZH Uzhgorod 144.01 323 ⇑ i PKIKP PKPbc 05 10 41.0 -0.2
UZH i 05 10 54.7
TRPA Tarpa 144.15 322 ⇑ i P PKPbc 05 10 42.1 +0.5
CJR Cluj-Napoca 144.27 320 ⇑PKIKP PKPdf 05 10 43.1 -0.8
CJR Cluj-Napoca 144.27 320 ⇑ i P PKPdf 05 10 43.1 -0.8
ARR Arges 144.28 317 ⇓ i P PKPbc 05 10 43.0 +0.8
CRVS Cervenica-Dubn 144.31 324 ePKIKP PKPdf 05 10 43.1 -0.7
CRVS Cervenica-Dubn 144.31 324 ePKP PKPdf 05 10 43.1 -0.7
SZH Strazhica 144.32 313 i P PKPab 05 10 42.2 +0.2
HUMR Humele 144.43 316 ⇑ i P PKPbc 05 10 42.6 -0.1
PVL Pavlikeni 144.75 313 i P PKPab 05 10 43.5 -0.1
DRGR 144.76 320 ⇓PKIKP PKPdf 05 10 44.6 -0.1
DRGR 144.76 320 ⇓ i P PKPdf 05 10 44.6 -0.1
LOT Lotru 144.78 318 ⇓ i P PKPdf 05 10 44.9 0.0
KECS Kecovo 145.08 324 ePKIKP PKPbc 05 10 44.6 0.0
KECS Kecovo 145.08 324 ePKP PKPbc 05 10 44.6 0.0
GZR Gura Zlata 145.42 318 ⇑PKIKP PKPbc 05 10 45.9 0.0
GZR Gura Zlata 145.42 318 ⇑ i P PKPbc 05 10 45.9 0.0
OKC Ostrava-Krasne 145.44 328 ePKIKP PKPdf 05 10 45.1 -0.6
OKC e 05 10 59.6
OKC Ostrava-Krasne 145.44 328 ePKP PKPdf 05 10 45.1 -0.6
OKC epPKP pPKPdf 05 10 59.6 +4.6
BSEG Bad Segeberg 145.61 339 ePKPbc PKPbc 05 10 46.0 -0.1
KSP Ksiaz 145.64 330 ePKIKP PKPdf 05 10 45.6 -0.4
KSP Ksiaz 145.64 330 ePKP PKPdf 05 10 45.9 -0.1
PSZ Piszkesteto 145.73 324 ⇓PKP2 PKPab 05 10 47.2 0.0
PSZ Piszkesteto 145.73 324 ⇓ i P PKPab 05 10 47.2 0.0
PSZ Piszkesteto 145.73 324 ePKPbc PKPbc 05 10 46.3 -0.1
PSZ Piszkesteto 145.73 324 ⇓ePKPdf PKPbc 05 10 46.8 0.0
MORC Moravsky Berou 145.78 328 ⇓PKP2 PKPdf 05 10 46.4 0.0
MORC Moravsky Berou 145.78 328 ⇓ i P PKPdf 05 10 46.4 0.0
MORC Moravsky Berou 145.78 328 ePKPbc PKPbc 05 10 46.6 +0.2
VYHS Vyhne 145.95 325 ePKP2 PKPbc 05 10 47.4 0.0
VYHS Vyhne 145.95 325 ePKP PKPbc 05 10 47.4 0.0
DPC Dobruska-Polom 145.97 330 ePKP2 PKPdf 05 10 47.1 +0.4
DPC Dobruska-Polom 145.97 330 ePKP PKPdf 05 10 47.1 +0.4
DPC epPKP pPKPdf 05 11 00.8 +4.8
UPC Upice 146.00 330 ePKP2 PKPdf 05 10 47.1 +0.4
UPC Upice 146.00 330 ePKP PKPdf 05 10 47.1 +0.4
BZS Buzias 146.01 319 ⇓PKP2 PKPbc 05 10 47.7 +0.1
BZS Buzias 146.01 319 ⇓ i P PKPbc 05 10 47.7 +0.1
VTS Vitosha 146.43 313 ⇑PKP2 PKPbc 05 10 49.4 +0.2
VTS Vitosha 146.43 313 i P PKPbc 05 10 49.0 -0.2
VTS Vitosha 146.43 313 ⇑ i P PKPbc 05 10 49.3 +0.1
MMB Musomiste 146.48 312 ⇑PKP2 PKPbc 05 10 48.5 +0.7
MMB Musomiste 146.48 312 i P PKPbc 05 10 49.0 -0.2
MMB Musomiste 146.48 312 ⇑ i P PKPbc 05 10 48.5 +0.7
VRAC Vranov 146.55 328 PKPbc PKPdf 05 10 48.4 +0.7
comp=Z,6.9nm,0.8s,baz=27,slow=2.3,SNR=8.7
BRG Berggiesshubel 146.65 332 ePKP PKPdf 05 10 47.3 -0.4
comp=Z,24nm,1.4s
BRG e 05 11 10.6
comp=Z,16nm,1.1s
BRG Berggiesshubel 146.65 332 ePKIKP PKPdf 05 10 47.3 -0.4
BRG pmax pmax
comp=Z,8.0nm,1.4s
BRG Berggiesshubel 146.65 332 ePKPbc PKPbc 05 10 48.5 +0.8
CLL Collm 146.72 334 i PKP2 PKPdf 05 10 48.6 +0.8
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 146.72 334 ePKPbc PKPbc 05 10 49.3 -0.2
CLL Collm 146.72 334 ⇓ i PKPbc PKPbc 05 10 48.6 +0.8
comp=Z,10.0nm,1.1s
CLL i PKPab PKiKP 05 10 51.9 -0.4
CLL epPKiKP pPKiKP 05 11 06.0 +4.4
KKB Krupnik 146.81 312 i P PKPbc 05 10 49.6 -0.5
PKSG 146.86 324 ⇑ ePKPdf PKPbc 05 10 49.8 -0.2
PRU Pruhonice 147.04 331 ePKPbc PKPbc 05 10 50.2 -0.3
PRU Pruhonice 147.04 331 ePKP PKPbc 05 10 50.2 -0.3
PRU epPKP pPKPdf 05 11 03.2 +5.5
TREC Trest 147.09 329 ePKP2 PKPbc 05 10 50.4 -0.3
TREC Trest 147.09 329 ePKP PKPbc 05 10 50.4 -0.3
TREC epPKP pPKPdf 05 11 04.7 +6.8
PKST T"s 147.13 324 ⇑ ePKPdf PKPbc 05 10 50.3 -0.6
NEUB Neuenburg 147.29 335 ePKPbc PKPbc 05 10 51.2 +0.1
CLZ Clausthal 147.31 337 ePKPbc PKPbc 05 10 51.4 +0.1
EKA Eskdalemuir Ar 147.35 353 PKPbc PKPdf 05 10 49.8 +1.0
comp=Z,11nm,0.7s,baz=6.0,slow=2.8,SNR=26
VAY Valandovo 147.39 312 ePKP PKPbc 05 10 50.4 +1.1
PKSM Moragy 147.42 322 ⇑PKP2 PKPbc 05 10 51.7 0.0
PKSM Moragy 147.42 322 ⇑ i P PKPbc 05 10 51.7 0.0
PKSM Moragy 147.42 322 ⇓ ePKPdf PKPbc 05 10 51.3 -0.4
IDI Anoyia 147.56 300 PKPbc PKPbc 05 10 52.7 +0.2
comp=Z,24nm,1.1s,baz=288,slow=17,SNR=4.2
TANN Tannenbergstha 147.62 333 ePKPbc PKPbc 05 10 51.4 -0.8
MOX Moxa 147.79 334 ePKPbc PKPbc 05 10 52.2 -0.4
CONA Conrad Observa 147.84 327 ⇑ i PKPbc PKPbc 05 10 52.5 -0.4
comp=Z,23nm,1.4s,SNR=5.4
SKO Skopje 147.88 313 ePKP PKPbc 05 10 53.2 +0.1
KHC Kasperske Hory 148.09 331 ePKP2 PKPbc 05 10 53.2 -0.2
KHC Kasperske Hory 148.09 331 ePKP PKPdf 05 10 48.5 -1.8
KHC ex x 05 10 53.2
KHC epPKP pPKPdf 05 11 07.1 +7.5
KHC Kasperske Hory 148.09 331 ePKPbc PKPbc 05 10 53.3 -0.2
MANZ Manzenberg 148.10 333 ePKPbc PKPbc 05 10 53.6 +0.2
ROTZ Rotzenmuhle 148.22 333 ePKPbc PKPbc 05 10 53.9 +0.2
GEC2 GERESS Array S 148.24 330 ePKPbc PKPbc 05 10 54.0 +0.1
GERES GERESS Array B 148.24 330 PKPbc PKPbc 05 10 53.6 -0.4
comp=Z,7.3nm,0.9s,baz=45,slow=2.1,SNR=37
WET Wettzell 148.40 331 ePKPbc PKPbc 05 10 54.3 +0.1
ARSA Arzberg 148.46 326 ⇑ i PKIKP PKPbc 05 10 54.3 -0.2
comp=Z,11nm,1.5s
MOA Molln 148.68 328 ⇑ i PKIKP PKPbc 05 10 54.7 -0.3
comp=Z,9.8nm,0.9s
SOKA Soboth 149.09 326 ⇑ i PKPbc PKPbc 05 10 55.2 -1.0
comp=Z,26nm,1.3s,SNR=6.0
TNS Taunus Mts 149.34 337 ePKPbc PKPbc 05 10 56.6 0.0
RJOB Jochberg 149.46 329 ePKPbc PKPbc 05 10 56.7 -0.3
KBA Koelnbreinsper 149.66 328 i PKPbc PKPbc 05 10 56.3 -1.4
comp=Z,27nm,1.2s,SNR=7.1
BOJS Bojanci 149.73 324 i PKPbc PKPbc 05 10 57.5 -0.2
MYKA Terra Mystica 149.83 327 ⇑ i PKPbc PKPdf 05 10 55.5 +2.4
comp=Z,12nm,0.9s
MEM Membach 149.84 340 PKPbc PKPbc 05 10 57.3 -0.5
MEM PKPab PKiKP 05 11 00.4 +1.7
STU Stuttgart 150.24 334 ePKPbc PKPbc 05 10 58.9 +0.1
ABTA Abfaltersbach 150.30 328 ⇑ i PKPbc PKPbc 05 10 57.1 -2.0
comp=Z,22nm,0.9s,SNR=6.2
WATA Walderalm 150.32 330 ⇑ i PKIKP PKPbc 05 10 58.6 -0.6
comp=Z,11nm,0.7s
WTTA Wattenberg 150.34 330 ⇓ i PKIKP PKPbc 05 10 58.4 -0.9
comp=Z,49nm,1.2s,SNR=9.1
SNF Seneffe 150.45 342 PKPbc PKPbc 05 10 58.8 -0.4
MOTA Moosalm 150.53 331 ⇓ i PKIKP PKPbc 05 10 58.8 -0.9
comp=Z,34nm,1.0s,SNR=13
RETA Reutte 150.57 331 ⇓ i PKPbc PKPbc 05 10 57.9 -1.8
comp=Z,11nm,1.1s
WLF Walferdange 150.61 339 PKPbc PKPbc 05 10 59.6 0.0
WLF Walferdange 150.61 339 ePKPbc PKPbc 05 10 59.9 +0.3
DOU Dourbes 150.72 341 PKPbc PKPbc 05 10 59.7 -0.2
BFO Black Forest 150.93 335 ePKPbc PKPbc 05 11 00.0 -0.5
FETA Feichten 150.94 331 ⇑ i PKIKP PKPbc 05 11 00.5 -0.2
comp=Z,36nm,1.0s,SNR=8.4
DAVA Damuels 151.12 332 ⇑ i PKIKP PKPbc 05 11 00.6 -0.5
comp=Z,18nm,1.2s
DAVOX Davos/Dischmat 151.50 331 PKPbc PKPbc 05 11 01.6 -0.5
comp=Z,20nm,0.8s,baz=58,slow=2.6,SNR=26
TUE Stuetta 151.97 331 ePKPbc PKPbc 05 11 02.5 -0.7
TORD Torodi Ar. Bea 165.39 230 PKP PKPdf 05 11 11.8 -1.3
comp=Z,2.4nm,0.3s,baz=162,slow=1.3,SNR=5.2
TORD PKPab PKPab 05 12 11.1 0.0
comp=Z,1.0nm,1.0s,baz=97,slow=2.4,SNR=2.6

CSEM 10 05:00:50.7, 40°.65N×29°.47W, h5km, ML3.3, After PDA
PDA 10 05:00:50.7±0.9, 40°.65N×29°.47W, h5km, MD3.9, ML3.3, Error ellipse: s-maj=20.2km s-min=6.5km az=79.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	2.11	163	eS	Sn	05 01 45.0	-8.2
PCED				A	A	05 01 46.7	
	93nm,0.3s						
PCED	Cedros	2.11	163	eS	Sn	05 01 45.0	-8.2
ROSA	Rosais	2.15	153	eS	Sn	05 01 46.4	-7.9
ROSA				A	A	05 01 49.7	
	35nm,0.2s						
ROSA	Rosais	2.15	153	eS	Sn	05 01 46.4	-7.9
CALA	Caldeira	2.15	164	eS	Sn	05 01 46.2	-8.3
CALA	Caldeira	2.15	164	eS	Sn	05 01 46.2	-8.3
PMAN	Manadas	2.28	152	eP	Pn	05 01 24.4	-4.6
PMAN				eS	Sn	05 01 49.2	-8.3
PMAN				A	A	05 01 51.1	
	20nm,0.1s						
PMAN	Manadas	2.28	152	eP	Pn	05 01 24.4	-4.6
PMAN				eS	Sn	05 01 49.2	-8.3
PICO	Pico	2.29	159	eP	Pn	05 01 24.4	-4.9
PICO				eS	Sn	05 01 50.1	-7.9
PICO	Pico	2.29	159	eP	Pn	05 01 24.4	-4.9
PICO				eS	Sn	05 01 50.1	-7.9
PCAN	Candelaria	2.31	161	eS	Sn	05 01 50.8	-7.6
PCAN				A	A	05 01 54.9	
	64nm,0.2s						
PCAN	Candelaria	2.31	161	eS	Sn	05 01 50.8	-7.6
TOPO	Topo	2.38	149	eP	Pn	05 01 25.7	-4.8
TOPO				eS	Sn	05 01 51.9	-8.2
TOPO	Topo	2.38	149	eP	Pn	05 01 25.7	-4.8
TOPO				eS	Sn	05 01 51.9	-8.2

DDA 10 05:10:30.6, 40°.43N×33°.33E, h9km, ML3.7
ISK 10 05:10:30.2, 40°.46N×33°.31E, h2km, ML3.5
CSEM 10 05:10:31.4±0.1, 40°.46N×33°.31E, h2km, ML3.7, Error ellipse: s-maj=3.0km s-min=2.5km az=153.0
ISC 10 05:10:31.4±1.1, 40°.46N±0°.02×33°.31E±0°.02, h1km±13km, n96, σ0°72/122, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	Eldivan	0.10	69	i P	Pg	05 10 33.2	-0.1
ELDT				i S	Sg	05 10 35.2	+0.6
ELDT	Eldivan	0.10	69	i P	Pg	05 10 33.2	-0.1
ELDT				i S	Sg	05 10 35.2	+0.6
ILGA	Ilgaz	0.67	27	i P	Pg	05 10 43.6	-0.7
ILGA				i S	Sg	05 10 54.4	+1.4
ILGA	Ilgaz	0.67	27	i P	Pg	05 10 43.6	-0.7
ILGA				i S	Sg	05 10 54.4	+1.4
LOD	Lodumlu	0.70	217	ePG	Pg	05 10 43.7	-1.1
LOD				eSG	Sg	05 10 54.2	+0.3
LOD	Lodumlu	0.70	217	ePg	Pg	05 10 43.7	-1.1
LOD				eSg	Sg	05 10 54.2	+0.3
ANTO	Ankara	0.71	214	ePG	Pg	05 10 44.8	-0.1
ANTO				eSG	Sg	05 10 55.0	+1.0
ANTO	Ankara	0.71	214	⇑ i P	Pg	05 10 43.8	-1.1
ANTO	Ankara	0.71	214	⇑ i P	Pg	05 10 43.8	-1.1
ANTO	Ankara	0.71	214	ePg	Pg	05 10 44.8	-0.1
ANTO				eSg	Sg	05 10 55.0	+1.0
TOS	Tosya	0.79	43	ePG	Pg	05 10 46.1	-0.5
TOS	Tosya	0.79	43	ePg	Pg	05 10 46.1	-0.5
SAFT	Safranbolu	0.91	329	ePG	Pg	05 10 48.3	-0.6
SAFT	Safranbolu	0.91	329	ePg	Pg	05 10 48.3	-0.6
BBAL	Bala	0.92	189	i P	Pg	05 10 48.2	-0.8
BBAL				i S	Sg	05 11 01.7	+0.7
BBAL	Bala	0.92	189	i P	Pg	05 10 48.2	-0.8
BBAL				i S	Sg	05 11 01.7	+0.7
BCAM	Yenicaga	1.01	291	i P	Pg	05 10 49.6	-1.2
BCAM				i S	Sg	05 11 04.2	+0.3
BCAM	Yenicaga	1.01	291	i P	Pg	05 10 49.6	-1.2
BCAM				i S	Sg	05 11 04.2	+0.3
AFSR	Af˜ar-Bala (A	1.02	190	ePG	Pg	05 10 50.5	-0.5
AFSR	Af˜ar-Bala (A	1.02	190	ePg	Pg	05 10 50.5	-0.5
CORM	Corum	1.05	105	ePG	Pg	05 10 51.4	-0.1
CORM	Corum	1.05	105	ePg	Pg	05 10 51.4	-0.1
KAST	KASTAMONU	1.14	24	i P	Pg	05 10 52.5	-0.6
KAST				i S	Sg	05 11 08.2	+0.3
KAST	KASTAMONU	1.14	24	i P	Pg	05 10 52.5	-0.6
KAST				i S	Sg	05 11 08.2	+0.3
CTKT	Corum	1.14	81	i P	Pg	05 10 53.5	+0.2
CTKT				i S	Sg	05 11 07.9	-0.2
CTKT	Corum	1.14	81	i P	Pg	05 10 53.5	+0.2
CTKT				i S	Sg	05 11 07.9	-0.2
CDAG	Cicekdag	1.17	135	i P	Pg	05 10 52.2	-1.5
CDAG				i S	Sg	05 11 09.0	+0.2
CDAG	Cicekdag	1.17	135	i P	Pg	05 10 52.2	-1.5
CDAG				i S	Sg	05 11 09.0	+0.2
BOYT	Boyabat	1.55	51	i P	Pn	05 10 59.5	-0.6
BOYT				i S	Sg	05 11 21.8	+0.8
BOYT	Boyabat	1.55	51	i P	Pn	05 10 59.5	-0.6
BOYT				i S	Sg	05 11 21.8	+0.8
BZK	Bozkurt	1.59	19	ePN	Pn	05 11 00.3	-0.3
BZK	Bozkurt	1.59	19	ePn	Pn	05 11 00.3	-0.3
MDUB	Mudurnu	1.61	271	ePN	Pn	05 11 00.8	-0.2
MDUB	Mudurnu	1.61	271	ePn	Pn	05 11 00.8	-0.2
KDZE	Karadeniz Ereo	1.65	302	ePN	Pn	05 11 01.1	-0.4
KDZE	Karadeniz Ereo	1.65	302	ePn	Pn	05 11 01.1	-0.4
SVRH	Sivrihisar-ESK	1.70	234	ePN	Pn	05 11 01.9	-0.4
SVRH	Sivrihisar-ESK	1.70	234	ePn	Pn	05 11 01.9	-0.4
YOZ	Yozgat	1.75	117	ePN	Pn	05 11 02.9	0.0
YOZ	Yozgat	1.75	117	ePn	Pn	05 11 02.9	0.0
BTAS	Taskesti	1.76	274	i P	Pb	05 11 04.4	-0.1
BTAS	Taskesti	1.76	274	i P	Pb	05 11 04.4	-0.1
BTAS				i S	Sg	05 11 29.6	+1.6
DIKM	Dikmen	1.90	50	ePN	Pn	05 11 03.9	-0.9
DIKM	Dikmen	1.90	50	ePn	Pn	05 11 03.9	-0.9
HAVZ	Havza	1.93	71	i P	Pn	05 11 05.5	+0.1
HAVZ	Havza	1.93	71	i P	Pn	05 11 05.5	+0.1
HAVZ				i S	Sg	05 11 33.2	-0.3
AVNT	Avonos	2.06	144	i P	Pb	05 11 09.2	-0.4
AVNT	Avonos	2.06	144	i P	Pb	05 11 09.2	-0.4
AVNT				i S	Sg	05 11 37.4	0.0
SEYT	Eskypehyr	2.11	244	i P	Pn	05 11 07.1	-0.7
SEYT	Eskypehyr	2.11	244	i P	Pn	05 11 07.1	-0.7
SEYT				i S	Sg	05 11 40.7	+1.7
KDHN	Kadinhani	2.14	206	i S	Sb	05 11 37.3	-0.8
KDHN	Kadinhani	2.14	206	i P	Pb	05 11 11.5	+0.5
KDHN				i S	Sb	05 11 37.2	-0.8
KVT	Kavak	2.17	72	ePN	Pn	05 11 09.0	+0.3
KVT	Kavak	2.17	72	ePn	Pn	05 11 09.0	+0.3
SULT	Sultanhani-AKS	2.26	176	ePN	Pn	05 11 10.6	+0.7
SULT	Sultanhani-AKS	2.26	176	ePn	Pn	05 11 10.6	+0.7
BORA	Eskisehir	2.26	256	i P	Pn	05 11 10.4	+0.5
BORA	Eskisehir	2.26	256	i P	Pn	05 11 10.4	+0.5
BORA				i S	Sg	05 11 45.5	+1.5
LADK	Ladik-KONYA	2.37	198	ePN	Pn	05 11 12.1	+0.7
LADK	Ladik-KONYA	2.37	198	ePn	Pn	05 11 12.1	+0.7
BNN	Bunyan	2.53	128	ePN	Pn	05 11 13.7	0.0
BNN	Bunyan	2.53	128	ePn	Pn	05 11 13.7	0.0
NIG	Nigde	2.55	156	ePN	Pn	05 11 14.7	+0.6
NIG	Nigde	2.55	156	ePn	Pn	05 11 14.7	+0.6
KONT	Konya--Tatoy	2.61	197	ePN	Pn	05 11 15.0	+0.3
KONT	Konya--Tatoy	2.61	197	ePn	Pn	05 11 15.0	+0.3
CAVI	Cavuskoy	2.66	266	ePN	Pn	05 11 16.2	+0.8
CAVI	Cavuskoy	2.66	266	ePn	Pn	05 11 16.2	+0.8
HRT	Hereke	2.79	279	ePN	Pn	05 11 18.3	+1.1
HRT	Hereke	2.79	279	ePn	Pn	05 11 18.3	+1.1
ALT	Altintas	2.83	241	ePN	Pn	05 11 17.8	0.0
ALT	Altintas	2.83	241	ePn	Pn	05 11 17.8	0.0
SHUT	Suhut-Afyon	2.86	229	ePN	Pn	05 11 18.4	+0.2
SHUT	Suhut-Afyon	2.86	229	ePn	Pn	05 11 18.4	+0.2
SILT	Sile	2.87	285	ePN	Pn	05 11 18.8	+0.6
SILT	Sile	2.87	285	ePn	Pn	05 11 18.8	+0.6
SVSK	Karacayir	2.88	100	ePN	Pn	05 11 18.7	+0.4
SVSK	Karacayir	2.88	100	ePn	Pn	05 11 18.7	+0.4
RSDY	Resadiye-TOKAT	3.07	90	ePN	Pn	05 11 21.4	+0.4
RSDY	Resadiye-TOKAT	3.07	90	ePn	Pn	05 11 21.4	+0.4
TVSB	Tavsanli	3.12	252	ePN	Pn	05 11 22.4	+0.6
TVSB	Tavsanli	3.12	252	ePn	Pn	05 11 22.4	+0.6
ISK	Istanbul-Kandi	3.28	282	ePN	Pn	05 11 24.4	+0.6
ISK	Istanbul-Kandi	3.28	282	ePn	Pn	05 11 24.5	+0.6
KLYT	Kilyos	3.33	285	ePN	Pn	05 11 25.5	+0.9
KLYT	Kilyos	3.33	285	ePn	Pn	05 11 25.5	+0.9
KARA	Karaisali	3.47	156	ePN	Pn	05 11 27.5	+1.0
KARA	Karaisali	3.47	156	ePn	Pn	05 11 27.5	+1.0
KOZT	Kozan	3.56	146	ePN	Pn	05 11 28.6	+0.8
KOZT	Kozan	3.56	146	ePn	Pn	05 11 28.6	+0.8
CTKS	Kestanelik-??a	3.73	284	ePN	Pn	05 11 31.1	+1.1
CTKS	Kestanelik-??a	3.73	284	ePn	Pn	05 11 31.1	+1.1
DARE	Darende-Malaty	3.74	119	ePN	Pn	05 11 30.6	+0.4
DARE	Darende-Malaty	3.74	119	ePn	Pn	05 11 30.6	+0.4
PTK	Pertek	4.95	106	ePN	Pn	05 11 48.2	+1.2
PTK	Pertek	4.95	106	ePn	Pn	05 11 48.2	+1.2

IGQ 10 05:11:07±0.3, 0°.96S×79°.22W, h4km±1km, Mb4.0, 13C-13D, Error ellipse: s-maj=1.8km s-min=1.2km az=116.6, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAST	Pastocalle	0.63	66	P	Pn	05 11 26.4	+3.0
CAMI	Rancho Maria	0.77	69	⇓P	Pn	05 11 28.9	+3.7
IGUA	Igualata	0.78	132	P	Pn	05 11 28.1	+2.5
BMOR	Cotopaxi Volca	0.79	73	⇓P	Pn	05 11 28.8	+3.1
BMOR	Cotopaxi Volca	0.79	73	⇓S	Sn	05 11 42.4	+3.9
NAS2	Nasa	0.81	67	P	Pn	05 11 28.4	+2.4
MOV1	Cotopaxi Vol s	0.81	73	P	Pn	05 11 28.9	+2.8
BREF	Cotopaxi Volca	0.83	70	⇓P	Pn	05 11 29.6	+3.2
PISA	Pisayambo	0.84	97	⇓S	Sn	05 11 44.8	+5.2
PISA	Pisayambo	0.84	97	⇓P	Pn	05 11 28.4	+2.0
PECV	Mancha de Ca P	0.85	282	P	Pn	05 11 32.6	+6.8
BVC2	Cotopaxi Volca	0.86	70	⇓P	Pn	05 11 29.7	+3.0
BTAM	Cotopaxi Volca	0.87	71	⇓P	Pn	05 11 29.7	+2.9
VC1	Cotopaxi 1	0.87	69	⇓P	Pn	05 11 29.9	+3.0
TAMB	Tambo	0.89	73	⇑P	Pn	05 11 29.1	+2.0
RUN5	Runtun	0.92	120	S	Sn	05 11 45.1	+4.0
RUN5	Runtun	0.92	120	P	Pn	05 11 29.8	+2.6
BMAS	Trigal station	0.92	126	⇑P	Pn	05 11 28.9	+1.6
COV1	Cotopaxi Volc	0.92	71	P	Pn	05 11 29.6	+2.0
BULB	Ulba Tungurahu	0.94	120	⇑S	Sn	05 11 45.7	+3.9
BULB	Ulba Tungurahu	0.94	120	⇑P	Pn	05 11 29.0	+1.5
ULBA	Ulba	0.95	121	⇑P	Pn	05 11 29.1	+1.5
PAT1	Patacocha	0.95	125	⇑P	Pn	05 11 29.4	+1.5
BPAT	Tungurahua Vol	0.95	125	P	Pn	05 11 30.9	+3.0
JUA2	San Juan 2	0.96	40	P	Pn	05 11 29.5	+1.5
RIOE	Riobamba	0.98	143	⇑P	Pn	05 11 30.6	+2.5
TERV	Terraza Guagua	0.99	38	S	Sn	05 11 47.4	+3.9
TERV	Terraza Guagua	0.99	38	P	Pn	05 11 30.9	+2.4
GGP	Refugio Guagua	1.00	39	⇓P	Pn	05 11 30.9	+2.3
PINO	Pino	1.00	38	⇑S	Sn	05 11 47.1	+3.3
PINO	Pino	1.00	38	⇑P	Pn	05 11 30.8	+2.1
ANTI	Antisana	1.17	64	⇓P	Pn	05 11 32.9	+1.9
JAMA	Jama	1.21	305	P	Pn	05 11 31.7	+0.9
OTAV	Otavalo	1.42	33	⇓P	Pn	05 11 34.0	-0.2
OTAV	Otavalo	1.42	33	⇓S	Sb	05 11 53.1	-0.3
CAYA	Cayambe	1.60	50	⇑P	Pn	05 11 37.2	+0.3
MACE	Macas	1.64	142	⇑P	Pg	05 11 38.6	-0.2
CHAR	Charly	1.77	61	P	Pn	05 11 39.3	+0.2
ISPT	Isla de la Pla	1.88	261	P	Pn	05 11 39.4	-0.6
LITE	Lita	1.95	26	⇑P	Pn	05 11 41.8	+0.6
LITE	Lita	1.95	26	⇑S	Sn	05 12 06.1	-0.2

LDG 10 05:23:32.4±0.1, 50°.75N×2°.90W, h10km, Ml2.8/19, Error ellipse: s-maj=2.3km s-min=1.7km az=139.0
BGS 10 05:23:34.9±1.1, 50°.76N×2°.92W, h9km±5km, ML2.2
CSEM 10 05:23:32.5±0.1, 50°.65N×2°.77W, h15km, ML2.8/17, Error ellipse: s-maj=3.2km s-min=2.1km az=66.0, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYA	Yadsworthy	0.77	254	eP	Pb	05 23 47.6	0.0
DYA				eS	Sb	05 23 57.9	+0.1
DYA				AML	AML	05 24 00.5	
	comp=N,110nm,0.1s						
DYA				AML	AML	05 24 00.8	
	comp=E,171nm,0.4s						
DYA	Yadsworthy	0.77	254	eP	Pb	05 23 47.6	0.0
DYA				eS	Sb	05 23 57.9	+0.1
DYA				AML	AML	05 24 00.5	
	comp=N,110nm,0.1s						
DYA				AML	AML	05 24 00.8	
	comp=E,171nm,0.4s						
DYA	Yadsworthy	0.77	254	eP	Pb	05 23 47.6	0.0
DYA				eS	Sb	05 23 57.9	0.0
	comp=E,171nm,0.4s						
HEX	Exmoor	0.78	303	eP	Pg	05 23 46.3	-1.4
HEX	Exmoor	0.78	303	eP	Pg	05 23 46.3	-1.4
HEX	Exmoor	0.78	303	eP	Pg	05 23 46.3	-1.3
BATH	Bath	0.84	19	eP	Pg	05 23 49.3	+0.4
BATH				eS	Sg	05 23 59.4	-0.6
BATH				AML	AML	05 24 03.5	
	comp=N,183nm,0.3s						
BATH				AML	AML	05 24 06.1	
	comp=E,169nm,0.3s						
BATH	Bath	0.84	19	eP	Pg	05 23 49.3	+0.4
BATH				eS	Sg	05 23 59.4	-0.6
BATH				AML	AML	05 24 03.5	
	comp=N,183nm,0.3s						
BATH				AML	AML	05 24 06.1	
	comp=E,169nm,0.3s						
BATH	Bath	0.84	19	eP	Pg	05 23 49.3	+0.4
BATH				eS	Sg	05 23 59.4	-0.6
	comp=E,169nm,0.3s						
OLDB	Oldbury-Upon-S	1.02	8	eS	Sb	05 24 03.8	-1.3
OLDB	Oldbury-Upon-S	1.02	8	eS	Sb	05 24 03.8	-1.3
OLDB	Oldbury-Upon-S	1.02	8	eS	Sb	05 24 03.8	-1.3
SWN1	Swindon	1.06	35	eP	Pg	05 23 54.2	+1.2
SWN1				eS	Sn	05 24 07.6	+0.2
SWN1				AML	AML	05 24 10.1	
	comp=E,49nm,0.3s						
SWN1				AML	AML	05 24 10.2	
	comp=N,55nm,0.3s						
SWN1	Swindon	1.06	35	eP	Pg	05 23 54.2	+1.2
SWN1				eS	Sn	05 24 07.6	+0.2
SWN1				AML	AML	05 24 10.1	
	comp=E,49nm,0.3s						
SWN1				AML	AML	05 24 10.2	
	comp=N,55nm,0.3s						
SWN1	Swindon	1.06	35	eP	Pg	05 23 54.2	+1.2
SWN1				eS	Sn	05 24 07.6	+0.3
	comp=N,55nm,0.3s						
HTL	Hartland	1.14	288	eP	Pb	05 23 53.2	-0.7
HTL				eS	Sb	05 24 07.0	-1.5
HTL				AML	AML	05 24 10.4	
	comp=E,134nm,0.3s						
HTL				AML	AML	05 24 11.1	
	comp=N,81nm,0.3s						
HTL	Hartland	1.14	288	eP	Pb	05 23 53.2	-0.7
HTL				eS	Sb	05 24 07.0	-1.5
HTL				AML	AML	05 24 10.4	
	comp=E,134nm,0.3s						
HTL				AML	AML	05 24 11.1	
	comp=N,81nm,0.3s						
HTL	Hartland	1.14	288	eP	Pb	05 23 53.2	-0.7
HTL				eS	Sb	05 24 07.0	-1.5
	comp=N,81nm,0.3s						
WOL	Wolverton	1.18	55	eP	Pg	05 23 56.7	+1.4
WOL				eS	Sg	05 24 11.2	+0.5
WOL				AML	AML	05 24 15.1	
	comp=E,35nm,0.3s						
WOL				AML	AML	05 24 16.4	
	comp=N,31nm,0.5s						
WOL	Wolverton	1.18	55	eP	Pg	05 23 56.7	+1.4
WOL				eS	Sg	05 24 11.2	+0.5
WOL				AML	AML	05 24 15.1	
	comp=E,35nm,0.3s						
WOL				AML	AML	05 24 16.4	
	comp=N,31nm,0.5s						
MONM	Monmouth	1.19	359	eP	Pg	05 23 55.2	-0.3
MONM				eS	Sb	05 24 08.1	-1.9
MONM				AML	AML	05 24 10.8	
	comp=E,93nm,0.3s						
MONM				AML	AML	05 24 11.9	
	comp=N,57nm,0.7s						
MONM	Monmouth	1.19	359	eP	Pg	05 23 55.2	-0.3
MONM				eS	Sb	05 24 08.1	-1.9
MONM				AML	AML	05 24 10.8	
	comp=E,93nm,0.3s						
MONM				AML	AML	05 24 11.9	
	comp=N,57nm,0.7s						
MONM	Monmouth	1.19	359	eP	Pg	05 23 55.2	-0.3
MONM				eS	Sb	05 24 08.1	-1.9
	comp=N,57nm,0.7s						
STRD	Stroud	1.19	18	eP	Pg	05 23 55.4	-0.1
STRD				eS	Sb	05 24 09.6	-0.4
STRD				AML	AML	05 24 12.2	
	comp=N,100nm,0.6s						
STRD				AML	AML	05 24 12.4	
	comp=E,64nm,0.2s						
STRD	Stroud	1.19	18	eP	Pg	05 23 55.4	-0.1
STRD				eS	Sb	05 24 09.6	-0.4
STRD				AML	AML	05 24 12.2	
	comp=N,100nm,0.6s						
STRD				AML	AML	05 24 12.4	

	comp=E,64nm,0.2s						
STRD	Stroud	1.19	18	eP	Pg	05 23 55.4	-0.1
STRD				eS	Sb	05 24 09.6	-0.4
	comp=E,64nm,0.2s						
MCH1	Michaelchurch	1.36	354	eP	Pb	05 23 57.3	-0.3
MCH1				eS	Sn	05 24 13.1	-1.5
MCH1				AML	AML	05 24 14.5	
	comp=E,71nm,0.5s						
MCH1				AML	AML	05 24 15.2	
	comp=N,60nm,0.2s						
MCH1	Michaelchurch	1.36	354	eP	Pb	05 23 57.3	-0.3
MCH1				eS	Sn	05 24 13.1	-1.5
MCH1				AML	AML	05 24 14.5	
	comp=E,71nm,0.5s						
MCH1				AML	AML	05 24 15.2	
	comp=N,60nm,0.2s						
MCH1	Michaelchurch	1.36	354	eP	Pb	05 23 57.3	-0.3
MCH1				eS	Sn	05 24 13.1	-1.6
	comp=N,60nm,0.2s						
SSW	Stow on the Wo	1.44	23	eP	Sg	05 24 19.3	+0.2
SSW	Stow on the Wo	1.44	23	eP	Sg	05 24 19.3	+0.2
JSA	Saint Aubin	1.51	165	AML	AML	05 24 31.2	
	comp=E,15nm,0.2s						
JSA				AML	AML	05 24 31.9	
	comp=N,12nm,0.7s						
JSA	Saint Aubin	1.51	165	AML	AML	05 24 31.2	
	comp=E,15nm,0.2s						
JSA				AML	AML	05 24 31.9	
	comp=N,12nm,0.7s						
LPW	Lampeter	1.68	332	eP	Pn	05 24 01.6	+0.3
LPW	Lampeter	1.68	332	eP	Pn	05 24 01.6	+0.3
LPW	Lampeter	1.68	332	eP	Pn	05 24 01.6	+0.3
	comp=N,12nm,0.7s						
HLM1	Long Mynd	1.87	358	eP	Pb	05 24 05.5	-0.9
HLM1				eS	Sn	05 24 26.1	-1.3
HLM1				AML	AML	05 24 29.6	
	comp=E,23nm,0.1s						
HLM1				AML	AML	05 24 29.8	
	comp=N,19nm,0.2s						
HLM1	Long Mynd	1.87	358	eP	Pb	05 24 05.5	-0.9
HLM1				eS	Sn	05 24 26.1	-1.3
HLM1				AML	AML	05 24 29.6	
	comp=E,23nm,0.1s						
HLM1				AML	AML	05 24 29.8	
	comp=N,19nm,0.2s						
HLM1	Long Mynd	1.87	358	eP	Pb	05 24 05.5	-0.9
HLM1				eS	Sn	05 24 26.1	-1.3
	comp=N,19nm,0.2s						
ROSF	Rostrenen	2.34	188	ePn	Pn	05 24 10.8	+0.4
ROSF				eSn	Sn	05 24 38.1	-0.7
ROSF				eSg	Sg	05 24 48.2	+0.5
	comp=N,9.9nm,0.3s						
ROSF	Rostrenen	2.34	188	ePn	Pn	05 24 10.8	+0.4
ROSF				eSn	Sn	05 24 38.1	-0.7
ROSF				eSg	Sg	05 24 48.2	+0.5
	comp=N,4.9nm,0.3s						
SGMF	Saint Gilles	2.40	177	ePn	Pn	05 24 11.2	-0.1
SGMF				eSn	Sn	05 24 40.0	-0.4
SGMF				eSg	Sg	05 24 51.1	+1.4
	comp=N,7.0nm,0.3s						
SGMF	Saint Gilles	2.40	177	ePn	Pn	05 24 11.2	-0.1
SGMF				eSn	Sn	05 24 40.0	-0.4
SGMF				eSg	Sg	05 24 51.1	+1.4
	comp=N,3.5nm,0.3s						
FLN	La Foliniere	2.40	141	ePn	Pn	05 24 12.3	+1.0
	baz=327						
FLN	La Foliniere	2.40	141	ePg	Pg	05 24 19.4	+0.8
	baz=320						
FLN				eSn	Sn	05 24 40.4	0.0
FLN				eSg	Sg	05 24 52.0	+2.2
	comp=N,8.4nm,0.2s						
FLN	La Foliniere	2.40	141	ePn	Pn	05 24 12.3	+1.0
	baz=327						
FLN	La Foliniere	2.40	141	ePg	Pg	05 24 19.4	+0.8
	baz=320						
FLN				eSg	Sg	05 24 52.0	+2.2
	comp=N,4.2nm,0.2s						
GRR	Gorron	2.58	150	ePn	Pn	05 24 14.1	+0.3
GRR	Gorron	2.58	150	ePg	Pg	05 24 22.7	+0.7
GRR				eSn	Sn	05 24 44.7	-0.2
GRR				eSg	Sg	05 24 57.4	+1.9
	comp=N,7.2nm,0.3s						
GRR	Gorron	2.58	150	ePn	Pn	05 24 14.1	+0.3
GRR	Gorron	2.58	150	ePg	Pg	05 24 22.7	+0.7
GRR				eSn	Sn	05 24 44.7	-0.2
GRR				eSg	Sg	05 24 57.4	+1.9
	comp=N,3.6nm,0.3s						
LDF	La Druitiere	2.68	139	ePn	Pn	05 24 15.5	+0.4
LDF	La Druitiere	2.68	139	ePg	Pg	05 24 24.4	+0.4
LDF				eSn	Sn	05 24 47.4	0.0
LDF				eSg	Sg	05 25 00.7	+1.9
	comp=N,3.7nm,0.3s						
LDF	La Druitiere	2.68	139	ePn	Pn	05 24 15.5	+0.4
LDF	La Druitiere	2.68	139	ePg	Pg	05 24 24.4	+0.4
LDF				eSn	Sn	05 24 47.4	0.0
LDF				eSg	Sg	05 25 00.7	+1.9
	comp=N,1.9nm,0.3s						
QUIF	Quistinic	2.75	186	ePn	Pn	05 24 15.5	-0.5
QUIF				eSn	Sn	05 24 48.1	-0.8
QUIF				eSg	Sg	05 25 00.8	+0.1
	comp=N,8.1nm,0.3s						
QUIF	Quistinic	2.75	186	ePn	Pn	05 24 15.5	-0.5
QUIF				eSn	Sn	05 24 48.1	-0.8
QUIF				eSg	Sg	05 25 00.8	+0.1
	comp=N,4.1nm,0.3s						
MFF	Saint Martin d	4.41	156	ePn	Pn	05 24 38.4	-0.4
MFF				eSg	Sg	05 25 54.4	+0.4
	comp=N,0.7nm,0.3s						
MFF	Saint Martin d	4.41	156	ePn	Pn	05 24 38.4	-0.4
MFF				eSg	Sg	05 25 54.4	+0.4
	comp=N,0.3nm,0.3s						
BAIF	Baives	4.51	95	ePn	Pn	05 24 39.7	-0.5
BAIF				eSn	Sn	05 25 30.0	-2.3
	comp=N,2.3nm,0.3s						
BAIF	Baives	4.51	95	ePn	Pn	05 24 39.7	-0.5
BAIF				eSn	Sn	05 25 30.0	-2.3
	comp=N,1.1nm,0.3s						
GIVF	Givet	4.89	93	ePn	Pn	05 24 44.7	-0.8
GIVF				eSn	Sn	05 25 39.2	-2.6
	comp=N,2.1nm,0.2s						
GIVF	Givet	4.89	93	ePn	Pn	05 24 44.7	-0.8
GIVF				eSn	Sn	05 25 39.2	-2.6
	comp=N,1.0nm,0.2s						
TCF	Toulx Ste Croi	5.48	141	ePn	Pn	05 24 53.3	-0.3
TCF				eSn	Sn	05 25 54.4	-2.0
	comp=N,1.2nm,0.2s						
TCF	Toulx Ste Croi	5.48	141	ePn	Pn	05 24 53.3	-0.3
TCF				eSn	Sn	05 25 54.4	-2.0
	comp=N,0.6nm,0.2s						
SSF	Saint Saulge	5.48	128	ePn	Pn	05 24 53.4	-0.2
SSF				eSn	Sn	05 25 53.6	-2.8
SSF				eSg	Sg	05 26 28.1	-0.3
	comp=N,3.8nm,0.5s						
SSF	Saint Saulge	5.48	128	ePn	Pn	05 24 53.4	-0.2
SSF				eSg	Sg	05 26 28.1	-0.3
	comp=N,1.9nm,0.5s						
LOR	Lormes	5.52	125	ePn	Pn	05 24 54.7	+0.5
	baz=313						
LOR				eSn	Sn	05 25 55.2	-2.2
LOR				eSg	Sg	05 26 29.3	-0.5
	comp=N,1.5nm,0.3s						
LOR	Lormes	5.52	125	ePn	Pn	05 24 54.7	+0.5
	baz=313						
LOR				eSn	Sn	05 25 55.2	-2.2
LOR				eSg	Sg	05 26 29.3	-0.5
	comp=N,0.8nm,0.3s						
MEZF	Maizieres J'vi	5.53	110	ePn	Pn	05 24 53.9	-0.3
MEZF				eSg	Sg	05 26 28.8	-1.0
	comp=N,4.3nm,0.3s						
MEZF	Maizieres J'vi	5.53	110	ePn	Pn	05 24 53.9	-0.3
MEZF				eSg	Sg	05 26 28.8	-1.0
	comp=N,2.2nm,0.3s						
BGF	Bois d'Agland	5.54	136	ePn	Pn	05 24 54.4	+0.1
BGF				eSg	Sg	05 26 29.6	-0.6
	comp=N,7.3nm,0.6s						
BGF	Bois d'Agland	5.54	136	ePn	Pn	05 24 54.4	+0.1
BGF				eSg	Sg	05 26 29.6	-0.6
	comp=N,3.7nm,0.6s						
AVF	Avril sur Loir	5.60	131	ePn	Pn	05 24 55.7	+0.5
AVF				eSg	Sg	05 26 31.5	-0.6
	comp=N,3.1nm,0.5s						
AVF	Avril sur Loir	5.60	131	ePn	Pn	05 24 55.7	+0.5
AVF				eSg	Sg	05 26 31.5	-0.6
	comp=N,1.5nm,0.5s						
SFTF	Sexfontaines	5.65	113	ePn	Pn	05 24 55.6	-0.3
SFTF				eSg	Sg	05 26 32.8	-1.1
	comp=N,2.9nm,0.3s						
SFTF	Sexfontaines	5.65	113	ePn	Pn	05 24 55.6	-0.3
SFTF				eSg	Sg	05 26 32.8	-1.1
	comp=N,1.5nm,0.3s						
PAGF	Fort de Pagny	5.91	108	ePn	Pn	05 24 59.0	-0.5
PAGF				eSg	Sg	05 26 40.8	-1.3
	comp=N,3.3nm,0.6s						
PAGF	Fort de Pagny	5.91	108	ePn	Pn	05 24 59.0	-0.5
PAGF				eSg	Sg	05 26 40.8	-1.3
	comp=N,1.6nm,0.6s						

ISCJB 10 05:36:57.3±0.4, 4.°22S±0.°04×144.°25E±0.°05, h150km, mb4.3/14, Error ellipse: s-maj=7.8km s-min=5.3km az=155.8
DJA 10 05:36:58.6±0.7, 4°S±8°×14°4E±°, h146km±7km, M4.9/12, mB5.4/3, mb4.8/12, MLv5.0/5, Mw(mB)4.8/3
IDC 10 05:36:60.0±0.7, 4.°31S×144.°30E, h162km±7km, mb4.0/11, mb1 4.2/14, mb1mx4.0/30, mbtmp4.5/14, Error ellipse: s-maj=18.6km s-min=10.4km az=76.0
NEIC 10 05:37:01.2±1.7, 4.°30S×144.°26E, h178km±17km, mb4.9/6, Error ellipse: s-maj=13.1km s-min=12.3km az=97.0
ISC 10 05:36:58.9±0.5, 4.°29S±0.°06×144.°24E±0.°07, h150km, n66, σ1.s32/68, mb4.2/14, 5C-14D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	3.94	296	P	Pn	05 37 58.2	-0.3
JAY	Jayapura	3.94	296	Pn	Pn	05 37 58.4	-0.1
	baz=3.9,SNR=46						
GENI	Genyem	4.40	292	P	Pn	05 38 04.3	-0.1
PMG	Port Moresby	5.85	150	P	Pn	05 38 24.6	+0.9
	31nm,0.3s,baz=332,slow=6.6,SNR=36						
PMG				S	Sn	05 39 29.1	-0.9
	18nm,0.3s,baz=131,slow=19,SNR=8.3						
PMG	Port Moresby	5.85	150	⇓Pn	Pn	05 38 24.6	+0.9
	baz=5.9,SNR=9.8						
SMPI	Sarmi	5.97	292	P	Pn	05 38 24.7	-0.6
	128nm,0.8s,2μm0.5nm						
COEN	Coen	9.66	186	ePn	Pn	05 39 17.0	+2.5
	31nm,0.5s						
COEN	Coen	9.66	186	⇓Pn	Pn	05 39 17.0	+2.5
	baz=9.7,SNR=6.3						
FAKI	Fak Fak	12.04	276	P	Pn	05 39 45.5	-0.4
	27nm,1.4s						
FAKI	Fak Fak	12.04	276	Pn	Pn	05 39 45.4	-0.5
	baz=12,SNR=7.2						
SWI	Sorong	13.40	284	P	Pn	05 40 02.9	-0.4
	68nm,0.6s						
SWI	Sorong	13.40	284	⇑Pn	Pn	05 40 02.9	-0.4
	baz=13						
MTSU	Mount Surprise	13.76	180	P	P	05 40 10.7	-0.8
	baz=14,SNR=8.6						
KDU	Kakadu	14.31	234	⇓P	Pn	05 40 15.4	+0.6
	baz=14,SNR=5.3						
MTN	Manton Dam	15.49	236	P	Pn	05 40 30.2	+0.7
	baz=16,SNR=11						
CTA	Charters Tower	15.83	173	P	P	05 40 35.2	+0.9
	0.4nm,0.3s,baz=356,slow=11,SNR=6.6						
CTAO	Charters Tower	15.83	173	ePn	Pn	05 40 34.0	+0.4
QIS	Mount Isa	16.79	195	⇓Pn	P	05 40 46.0	+1.0
	baz=17,SNR=18						
WRAB	Tennant Creek	18.29	211	eP	P	05 41 01.4	-0.1
	28nm,0.6s						
WRA	Warramunga Arr	18.31	211	P	P	05 41 01.2	-0.4
	8.1nm,0.3s,baz=40,slow=9.9,SNR=187						
WRA				S	S	05 44 17.6	-5.6
	0.5nm,0.3s,baz=26,slow=22,SNR=6.5						
KNRA	Kununurra	18.96	232	⇓P	P	05 41 08.3	-0.5
	baz=19,SNR=9.5						
SOEI	Soe	20.55	254	P	P	05 41 27.8	+1.8
	51nm,0.9s						
SOEI	Soe	20.55	254	eP	P	05 41 26.7	+0.7
	18nm,0.7s						
SOEI	Soe	20.55	254	⇓P	P	05 41 25.4	-0.6
	baz=20,SNR=4.5						
AS05	Alice Springs	21.66	206	⇓P	P	05 41 38.0	+0.2
	baz=22						
AS07	Alice Springs	21.66	206	⇓P	P	05 41 38.1	+0.3
	baz=22						
AS31	Alice Springs	21.69	206	eP	P	05 41 38.2	+0.1
ASAR	Alice Springs	21.69	206	P	P	05 41 38.5	+0.4
	26nm,0.5s,baz=30,slow=12,SNR=350						
ASAR				S	S	05 45 26.8	-1.9
	9.1nm,1.1s,baz=22,slow=23,SNR=15						
AS09	Alice Springs	21.71	206	⇑P	P	05 41 38.3	0.0
	baz=22						
EIDS	Eidsvold	21.97	163	eP	P	05 41 41.9	+1.1
	42nm,0.8s						
EIDS	Eidsvold	21.97	163	P	P	05 41 43.1	+2.2
	baz=22,SNR=14						
QLP	Quilpie	22.17	180	P	P	05 41 43.9	+1.0
	baz=22,SNR=9.7						
RMQ	Roma	22.49	169	⇓P	P	05 41 48.0	+2.0
	baz=23,SNR=9.5						
WRKA	Warakurna	25.70	215	P	P	05 42 15.4	0.0
	baz=26,SNR=117						
CMSA	Cobar Meteorol	27.14	177	⇓P	P	05 42 29.1	+1.0
	baz=27						
STKA	Stephens Creek	27.56	185	P	P	05 42 31.9	+0.1
	1.8nm,0.3s,baz=25,slow=8.7,SNR=11						
STKA	Stephens Creek	27.56	185	eP	P	05 42 32.2	+0.4
STKA	Stephens Creek	27.56	185	⇑P	P	05 42 32.4	+0.6
	baz=28,SNR=4.0						
DZM	Mont Dzumac	27.85	131	P	P	05 42 35.1	+0.4
	3.1nm,0.4s,baz=315,slow=20,SNR=7.7						
MBWA	Marble Bar	29.12	233	eP	P	05 42 41.6	-4.2
	23nm,1.3s						
BBOO	Buckleboo	29.39	194	P	P	05 42 48.3	+0.2
	baz=30,SNR=29						
HTT	Hallett	29.41	189	P	P	05 42 49.0	+0.6
	baz=30,SNR=11						
YNG	Young	30.11	173	⇓P	P	05 42 55.9	+1.5
	baz=30						
FORT	Forrest	30.45	208	⇓P	P	05 42 57.7	+0.3
	baz=30,SNR=15						
CAN	Canberra	31.19	172	⇑P	P	05 43 05.2	+1.2
	baz=31						
ARPS	Mount Arapiles	32.40	184	⇓P	P	05 43 15.6	+1.1
	baz=33						
MORW	Morawa	36.36	224	⇓P	P	05 43 48.4	-0.3
	baz=36,SNR=7.5						
KLBR	Kellerberrin	36.83	219	P	P	05 43 52.0	-0.6
	baz=37,SNR=8.4						
BLDU	Ballidu	36.87	222	P	P	05 43 52.6	-0.4
	baz=37,SNR=10.0						
CMAR	Chiang Mai Arr	50.02	298	P	P	05 45 39.3	+0.8
	0.7nm,0.3s,baz=119,slow=7.3,SNR=4.1						
PETK	Petropavlovsk-	58.30	9	P	P	05 46 38.6	+0.8
	3.7nm,0.4s,baz=174,slow=7.7,SNR=14						
SEY	Seymchan	67.32	4	P	P	05 47 37.4	+0.1
	0.9nm,0.3s,baz=173,slow=8.1,SNR=4.8						
MK31	Makanchi Array	74.44	321	eP	P	05 48 20.1	-0.5
MKAR	Makanchi Array	74.44	321	P	P	05 48 20.6	0.0
	1.4nm,0.5s,baz=94,slow=9.2,SNR=34						
MKAR				pP	pP	05 49 00.1	+2.6
	0.9nm,0.7s,baz=104,slow=6.9,SNR=3.9						
ZALV	Zalesovo Beam	76.12	328	P	P	05 48 29.2	-0.9
	1.7nm,0.6s,baz=101,slow=5.8,SNR=8.7						
ZALV				pP	pP	05 49 10.6	+3.6
	1.2nm,0.7s,baz=116,slow=6.8,SNR=2.9						
TKM2	Tokmak 2	77.50	316	eP	P	05 48 35.5	-2.8
MAW	Mawson	82.76	202	⇑P	P	05 49 06.0	+0.3
	baz=83,SNR=8.4						
ILAR	Eielson Array	85.01	24	P	P	05 49 15.8	-1.4
	3.1nm,0.8s,baz=257,slow=5.1,SNR=33						
ILAR				pP	pP	05 49 56.6	+1.7
	0.8nm,0.8s,baz=260,slow=6.2,SNR=2.9						
QSPA	South Pole Qui	85.67	180	eP	P	05 49 19.9	-0.7
	18nm,0.6s						
ABKAR	Akbulak array	89.50	319	eP	P	05 49 37.3	-1.8
NVAR	Mina Array Bea	98.49	52	P	P	05 50 20.7	-0.2
	0.1nm,0.3s,baz=246,slow=6.8,SNR=2.9						
YKA	Yellowknife Ar	98.94	27	P	P	05 50 20.3	-1.7
	0.3nm,0.8s,baz=274,slow=5.0,SNR=5.6						
GERES	GERESS Array B	118.94	325	PKP	PKPdf	05 55 28.9	-1.0
	0.3nm,0.4s,baz=94,slow=2.0,SNR=4.6						
TORD	Torodi Ar. Bea	141.99	286	PKhKP	PKPpre	05 56 08.4	
	0.4nm,0.4s,baz=66,slow=2.4,SNR=14						
LPAZ	La Paz	142.02	123	PKhKP	PKPpre	05 56 10.8	
	1.2nm,0.6s,baz=287,slow=4.3,SNR=6.6						
DBIC	Dimbokro	149.15	276	PKPbc	PKPbc	05 56 30.2	-0.5
	3.3nm,0.5s,baz=65,slow=2.6,SNR=16						

IDC 10 05:40:56.0±57.0, 15.°73S×176.°68W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/28, mbtmp4.3/3, Error ellipse: s-maj=1058.0km s-min=159.8km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.14	239	P	P	05 48 42.2	0.0
	1.4nm,0.4s,baz=78,slow=7.3,SNR=7.1						
WRA	Warramunga Arr	46.69	257	P	P	05 49 26.9	-0.1
	0.5nm,0.3s,baz=91,slow=8.1,SNR=14						
ASAR	Alice Springs	47.00	252	P	P	05 49 29.1	-0.3
	7.5nm,0.5s,baz=89,slow=8.0,SNR=55						

NNC 10 05:57:09.6±2.2, 44.°56N×81.°30E, h0km, mb3.5, mpv3.2, 7C-5D, Error ellipse: s-maj=18.1km s-min=13.2km az=144.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK09	Makanchi Array	2.32	17	⇓Pn	Pn	05 57 50.0	+0.9
	9.4nm,0.8s,baz=198,slow=16						
MK09				⇑Lg	Lg	05 58 21.6	
	16nm,0.5s,baz=198,slow=27						
TKM2	Tokmak 2	4.45	250	⇑Pg	Pb	05 58 29.7	+0.8
	1.8nm,0.6s						
TKM2				⇓Lg	Lg	05 59 33.0	
	8.5nm,0.6s						
KURBB	Kurchatov Arra	6.35	344	⇑Pn	Pn	05 58 41.9	-2.4
	0.8nm,0.5s						
KURBB				⇓Sn	Sn	06 00 00.5	+2.9
	1.5nm,0.5s						
KURBB				⇓Lg	Lg	06 00 36.1	
	5.7nm,0.7s						
KURK	Kurchatov	6.42	345	⇑Pn	Pn	05 58 41.2	-4.2
	3.1nm,1.5s						
KURK				⇓Sn	Sn	06 00 00.9	+1.5
	1.3nm,1.0s						
KURK				⇑Lg	Lg	06 00 35.5	
	3.0nm,0.7s						
KK31	Karatay Array	7.94	263	⇑Pg	Pg	05 59 38.7	-3.0
	2.7nm,1.1s,baz=74,slow=15,SNR=3.8						
KK31				⇑Lg	Lg	06 01 20.8	
	0.6nm,0.5s,baz=79,slow=28,SNR=4.5						

IDC 10 06:00:21.2±3.1, 16.°66S×174.°14W, h71km±29km, mb3.9/8, mb1 4.1/9, mb1mx3.9/21, mbtmp4.2/9, Error ellipse: s-maj=42.0km s-min=15.8km az=134.0
ISCJB 10 06:00:23.7±0.8, 16.°6S±0.°2×174.°1W±0.°2, h111km, mb4.0/8, Error ellipse: s-maj=33.4km s-min=12.5km az=136.3
ISC 10 06:00:24.7±1.0, 16.°7S±0.°2×174.°0W±0.°2, h111km, n13, σ1.s33/12, mb3.9/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.47	39	P	Pn	06 01 14.4	-2.6
	28nm,0.3s,baz=225,slow=10.0,SNR=29						
AFI				S	Sn	06 01 50.3	-7.1
	128nm,0.3s,baz=252,slow=16,SNR=14						
DZM	Mont Dzumac	19.22	251	P	Pn	06 04 41.8	-0.5
	0.2nm,0.3s,baz=117,slow=13,SNR=2.7						
URZ	Urewera	22.90	198	P	P	06 05 18.8	-0.2
	5.6nm,0.3s,baz=292,slow=4.9,SNR=11						
STKA	Stephens Creek	42.92	241	P	P	06 08 12.0	-0.6
	4.6nm,0.8s,baz=48,slow=11,SNR=7.0						
WRA	Warramunga Arr	49.01	258	P	P	06 08 59.7	-0.9
	0.5nm,0.3s,baz=93,slow=7.4,SNR=16						
ASAR	Alice Springs	49.19	253	P	P	06 09 01.4	-0.5
	14nm,0.7s,baz=88,slow=8.6,SNR=136						
PETK	Petropavlovsk-	73.64	343	P	P	06 11 46.8	+1.0
	2.1nm,0.8s,baz=166,slow=8.0,SNR=3.1						
NVAR	Mina Array Bea	75.64	42	P	P	06 11 59.8	+1.9
	0.9nm,0.8s,baz=228,slow=11,SNR=5.4						
PDAR	Pinedale Array	83.57	42	P	P	06 12 41.7	+0.9
	0.6nm,0.6s,baz=205,slow=4.1,SNR=5.5						
ILAR	Eielson Array	83.78	11	P	P	06 12 42.2	+1.2
	0.3nm,0.5s,baz=227,slow=5.5,SNR=14						
AKASG	Malin Array Be	141.26	336	PKhKP	PKPpre	06 19 35.6	
	0.1nm,0.3s,baz=38,slow=3.6,SNR=4.3						
BRTR	Keskin Array B	146.74	319	PKPbc	PKPab	06 19 55.5	-0.1
	3.3nm,0.8s,baz=132,slow=2.2,SNR=17						
GERES	GERESS Array B	147.28	351	PKPbc	PKPbc	06 19 56.2	+0.9
	0.4nm,0.6s,baz=15,slow=5.5,SNR=5.0						

ISCJB 10 06:03:15.4±0.7, 36.°41N±0.°05×70.°0E±0.°1, h110km, mb3.9/4, Error ellipse: s-maj=12.0km s-min=6.0km az=159.7
IDC 10 06:03:21.2±5.6, 36.°20N×70.°72E, h185km±54km, mb3.0/4, mb1 3.1/8, mb1mx2.9/30, mbtmp3.7/8, Error ellipse: s-maj=47.0km s-min=29.7km az=129.0
ISC 10 06:03:16.9±1.0, 36.°31N±0.°08×70.°2E±0.°1, h110km, n39, σ1.s15/36, mb3.9/4, 2C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.86	149	⇑P	Pn	06 04 14.5	+13
CEP				S	Sn	06 04 51.0	+16
CHCP	Chirah Chowk	3.67	135	P	Pn	06 04 23.2	+11
SARP	Sargodha	4.85	154	⇑P	Pn	06 04 37.8	+10
AAK	Ala-Archa	7.15	27	S	Sn	06 06 19.4	+0.8
	baz=300,slow=8.1,SNR=1.7						
PYUN	Piuthan	13.59	123	eP	Pn	06 06 25.2	-0.1
	52nm,0.4s						
PYUN	Piuthan	13.59	123	eP	Pn	06 06 27.4	+2.1
	52nm,0.4s						
MKAR	Makanchi Array	13.85	37	P	Pn	06 06 26.6	-1.7
	0.2nm,0.3s,baz=223,slow=8.3,SNR=8.5						
DANN	Dangsing	13.96	121	eP	Pn	06 06 31.1	+0.9
	11nm,0.2s						
DANN	Dangsing	13.96	121	eP	Pn	06 06 31.3	+1.1
	11nm,0.2s						
KOLN	Koldanda	14.21	123	eP	Pn	06 06 34.6	+1.2
	9.2nm,0.3s						
KOLN	Koldanda	14.21	123	eP	Pn	06 06 34.7	+1.3
	9.2nm,0.3s						
GKN	Gorkha	14.78	120	eP	Pn	06 06 41.7	+1.2
	37nm,0.5s						
GKN	Gorkha	14.78	120	eP	Pn	06 06 41.8	+1.2
	41nm,0.6s						
DMN	Daman	15.35	120	eP	P	06 06 49.0	-1.1
	16nm,0.3s						
DMN	Daman	15.35	120	eP	P	06 06 49.0	-1.1
	16nm,0.3s						
KKN	Kakani	15.36	119	eP	Pn	06 06 48.7	+0.8
	29nm,0.5s						
KKN	Kakani	15.36	119	eP	Pn	06 06 49.0	+1.1
	33nm,0.5s						
KURBB	Kurchatov Arra	15.53	20	P	Pn	06 06 48.6	-0.9
	0.3nm,0.3s,baz=208,slow=12,SNR=9.0						
KURBB				S	Sn	06 09 34.3	-7.0
	0.1nm,0.3s,baz=202,slow=31,SNR=7.4						
PKIN	Phulchoki	15.57	120	eP	P	06 06 52.1	-0.5
	20nm,0.3s						
PKIN	Phulchoki	15.57	120	eP	P	06 06 52.4	-0.2
	27nm,0.3s						
PKI	Pulchoki	15.59	120	eP	P	06 06 52.3	-0.5
	28nm,0.5s						
PKI	Pulchoki	15.59	120	eP	P	06 06 52.4	-0.4
	28nm,0.5s						
GUN	Gumba	15.72	118	eP	P	06 06 53.7	-0.5
	11nm,0.3s						
GUN	Gumba	15.72	118	eP	P	06 06 53.9	-0.3
	11nm,0.3s						
JIRN	Jiri	16.09	118	eP	P	06 06 58.1	-0.2
	44nm,0.4s						
JIRN	Jiri	16.09	118	eP	P	06 06 58.1	-0.2
	44nm,0.4s						
AKTO	Aktyubinsk	16.62	332	P	P	06 07 06.7	+3.1
	1.5nm,0.3s,baz=134,slow=10,SNR=15						
BVAR	Borovoye Array	16.71	0	P	P	06 07 05.3	+0.7
	0.8nm,0.3s,baz=166,slow=12,SNR=10						
BVAR				S	Sn	06 10 11.0	+1.1
	0.4nm,0.3s,baz=167,slow=16,SNR=5.0						
RAMN	Ramite	16.80	119	eP	P	06 07 06.1	0.0
	24nm,0.5s						
RAMN	Ramite	16.80	119	eP	P	06 07 06.4	+0.3
	17nm,0.4s						
TAPN	Taplejung	17.36	116	eP	Pn	06 07 13.4	+0.8
	14nm,0.5s						
TAPN	Taplejung	17.36	116	eP	Pn	06 07 13.6	+1.0
	7.4nm,0.3s						
ODAN	Odare	17.42	118	eP	Pn	06 07 14.8	+1.5
	22nm,0.5s						

ODAN	Odare	17.42	118	eP	Pn	06 07 14.9	+1.6
	22nm,0.5s						
ZALV	Zalesovo Beam	20.37	25	P	P	06 07 43.1	-1.4
	1.4nm,0.5s,baz=222,slow=13,SNR=8.1						
FINES	FINESS Array B	37.27	326	P	P	06 10 17.5	-0.2
	0.7nm,0.6s,baz=34,slow=10,SNR=2.6						
ARCES	ARCESS Array B	41.06	338	P	P	06 10 48.1	-1.0
	3.7nm,1.0s,baz=92,slow=7.3,SNR=6.8						
TORD	Torodi Ar. Bea	65.04	268	P	P	06 13 44.8	-0.9
	2.9nm,0.3s,baz=45,slow=6.1,SNR=6.1						
YKA	Yellowknife Ar	81.46	2	P	P	06 15 17.7	-3.7
	0.1nm,0.5s,baz=348,slow=5.4,SNR=3.1						

*NNC **10** 06:03:42.6±12.0,39.32N×75.41E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=100.1km s-min=61.2km az=152.0*
*BJI **10** 06:03:49.7,40.23N×75.54E,h7km,ML3.6/4*
*KRNET **10** 06:03:52.0±0.1,39.63N×75.85E,h54km,mb3.9*
ISC 10 06:03:55.8±1.1,**40.07N**±0.04×**75.47E**±0.04,**h10km,n28,** σ1§**26**/44,**21C-7D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.67	145	⇑iPg	Pn	06 04 10.6	-0.9
KSH				Sg	Sn	06 04 23.9	+1.8
KSH				smax	smax		
	comp=N,2μm,0.3s						
KSH				smax	smax		
	comp=E,3μm,0.2s						
SFK	Sufi-Kurgan	1.51	269	⇓iP	Pn	06 04 20.7	-2.5
	baz=283						
SFK				⇓eS	Sb	06 04 42.7	-0.7
	baz=283						
ARLS	Aral	1.99	334	⇓iP	Pn	06 04 28.3	-1.4
	baz=333						
ARLS				⇓eS	Sb	06 04 57.3	+0.1
	baz=333						
KZA	Kyzart	2.02	355	P	Pn	06 04 29.0	-1.2
	SNR=31						
KZA	Kyzart	2.02	355	⇑iP	Pn	06 04 28.8	-1.5
	baz=350						
KZA				⇑iS	Sb	06 04 58.6	+0.5
	baz=350						
OHH	Osh	2.11	283	eP	Pn	06 04 31.4	+0.2
	baz=292						
OHH				eS	Sb	06 05 00.6	+0.3
	baz=292						
ULHL	Ulahol	2.25	15	P	Pn	06 04 32.1	-1.3
	SNR=22						
ULHL	Ulahol	2.25	15	⇑iP	Pn	06 04 31.8	-1.5
	baz=6.0						
ULHL				⇑iS	Sn	06 05 02.3	+1.0
	baz=6.0						
ARSB	Arslanbob	2.27	304	eP	Pn	06 04 34.0	+0.5
	baz=309						
ARSB				eS	Sg	06 05 09.0	+0.2
	baz=309						
UCH	Uchtor	2.28	342	P	Pn	06 04 33.1	-0.8
	SNR=44						
UCH	Uchtor	2.28	342	⇑iP	Pn	06 04 32.9	-1.0
	baz=339						
UCH				⇑iS	Sb	06 05 07.0	+1.4
	baz=339						
BOOM	Boomskoye usch	2.45	8	eP	Pn	06 04 33.4	-2.6
	baz=1.0						
BOOM				eS	Sb	06 05 08.4	-1.9
	baz=1.0						
AML	Almayashu	2.46	327	P	Pn	06 04 36.0	-0.4
	SNR=20						
AML	Almayashu	2.46	327	⇑iP	Pn	06 04 36.0	-0.4
	baz=327						
AML				⇑iS	Sb	06 05 12.5	+1.6
	baz=327						
KBK	Karagaybulak	2.62	351	P	Pn	06 04 37.9	-0.4
	SNR=16						
KBK	Karagaybulak	2.62	351	⇓iP	Pn	06 04 38.1	-0.2
	baz=348						
KBK				⇓iS	Sb	06 05 16.9	+1.7
	baz=348						
TKM2	Tokmak 2	2.85	2	⇑Pn	Pn	06 04 38.6	-3.0
	11nm,0.3s						
TKM2				⇑Sn	Sb	06 05 21.2	-0.7
	35nm,0.5s						
TKM2	Tokmak 2	2.85	2	P	Pn	06 04 40.9	-0.7
	SNR=11						
TKM2	Tokmak 2	2.85	2	⇑iP	Pn	06 04 40.9	-0.7
	baz=357						
TKM2				⇑iS	Sb	06 05 22.5	+0.5
	baz=357						
EKS2	Erkin-Say	2.89	334	P	Pn	06 04 42.1	+0.1
	SNR=10.0						
EKS2	Erkin-Say	2.89	334	⇑iP	Pn	06 04 42.0	+0.1
	baz=333						
EKS2				⇑iS	Sg	06 05 26.4	-2.2
	baz=333						
EKS	Erkin-Say	2.89	335	iP	Pn	06 04 42.5	+0.5
	baz=333						
EKS				eS	Sg	06 05 27.6	-1.1
	baz=333						
CHMS	Chumysh	2.98	350	P	Pn	06 04 42.9	-0.3
	SNR=12						
CHMS	Chumysh	2.98	350	⇑iP	Pn	06 04 42.5	-0.6
	baz=347						
CHMS				⇑iS	Sb	06 05 27.4	+2.0
	baz=347						
USP	Ospenovka	3.28	347	P	Pn	06 04 46.6	-0.6
	SNR=21						
KNDC	Almaty	3.34	19	⇓Pn	Pn	06 04 49.4	+1.3
	18nm,0.5s						
KNDC				⇑Sn	Sb	06 05 36.6	+0.7
	61nm,0.5s						
KK31	Karatay Array	4.80	311	⇑Pn	Pn	06 04 59.8	-8.4
	1.0nm,0.2s,baz=146,slow=13,SNR=76						
KK31				⇑Sn	Sn	06 06 09.6	+5.8
	7.1nm,0.5s,baz=144,slow=22,SNR=4.1						
VOSK	Vostochnaya	13.03	348	⇑P	Pn	06 07 01.3	+0.4
	2.2nm,0.7s						

*ISCJB **10** 06:13:27.8±0.3,59.70N±0.03×153.46W±0.07, h129km±3km,mb3.5/7,Error ellipse: s-maj=5.8km s-min=4.0km az=25.8*
*NEIC **10** 06:13:29.4,59.69N×153.44W,h127km,MG3.2(AEIC), After AEIC.*
*IDC **10** 06:13:31.1±7.0,59.95N×153.49W,h132km±60km,mb3.2/7, mb1 3.4/11,mb1mx3.2/38,mbtmp3.6/11,Error ellipse: s-maj=66.9km s-min=14.4km az=34.0*
ISC 10 06:13:29.8±0.7,**59.69N**±0.03×**153.47W**±0.04, **h126km**±5km,**n69,**σ1§**38**/82,**mb3.3**/7,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.12	107	P	Pn	06 13 46.3	-0.7
OPT				S	Sn	06 13 58.6	-1.4
AUH	Augustine H	0.33	178	P	Pn	06 13 47.3	-0.3
AUP	Augustine Pinn	0.33	176	P	Pn	06 13 47.4	-0.3
PDB	Pedro Bay	0.38	285	P	Pn	06 13 46.8	-1.0
PDB				S	Sn	06 14 00.1	-1.2
ILW	Iliamna West	0.41	24	P	Pn	06 13 46.9	-1.2
ILW				S	Sn	06 14 00.8	-1.2
MCNL	McNeil River	0.67	222	P	Pn	06 13 48.9	-0.6
MCNL				S	Sn	06 14 03.8	-0.7
RDN	Redoubt North	0.90	23	P	Pn	06 13 50.7	-0.8
RDN				S	Sn	06 14 06.6	-1.4
NCT	North Crescent	0.92	17	P	Pn	06 13 50.5	-1.1
HOM	Homer	0.93	91	P	Pn	06 13 51.1	-0.5
HOM				S	Sn	06 14 07.5	-0.5
DFR	Drift River	0.99	23	P	Pn	06 13 51.2	-1.1
DFR				S	Sn	06 14 08.1	-1.2
BRLK	Bradley Lake	1.31	86	P	Pn	06 13 54.4	-1.1
BRLK				S	Sn	06 14 13.0	-2.0
KAHC	Katmai Hardscr	1.31	218	P	Pn	06 13 54.2	-1.4
CKL	Chakachamna La	1.61	20	P	Pn	06 13 58.1	-0.9
KVTA	Katmai Vly 10	1.62	217	P	Pn	06 13 57.8	-1.1
KAKN	Katmai Knife C	1.62	211	P	Pn	06 13 58.8	-0.3
KAKN				S	Sn	06 14 20.6	-0.8
BGL	Barrier Glacie	1.67	18	P	Pn	06 13 59.0	-0.5
SPBG	Spurr Blockage	1.67	19	P	Pn	06 13 58.8	-0.7
CRP	Crater Peak	1.71	22	P	Pn	06 13 59.5	-0.7
KABR	Katmai Barrier	1.75	207	P	Pn	06 13 59.1	-1.4
SVW2	Sparrevohn	1.76	324	P	Pn	06 13 59.3	-1.3
CGLM	Capps Glacier	1.78	23	P	Pn	06 14 00.0	-0.9
SLKM	Skilak Lake	1.82	62	P	Pn	06 14 00.2	-1.2
KDAK	Kodiak Island	1.97	166	P	Pn	06 14 01.5	-1.6
KDAK				S	Sn	06 14 26.1	-2.4
STLK	Strandline Lak	1.99	23	P	Pn	06 14 02.6	-0.7
SEW	Seward	2.07	77	P	Pn	06 14 03.0	-1.2
FIB	Fire Island	2.20	46	P	Pn	06 14 05.8	-0.2
SUA	Susitna One	2.23	36	P	Pn	06 14 05.5	-0.9
SUA				S	Sn	06 14 33.1	-1.5
RC01	Rabbit Creek A	2.32	51	P	Pn	06 14 06.2	-1.3
OHAK	Old Harbor	2.48	178	P	Pn	06 14 07.6	-1.8
OHAK				S	Sn	06 14 36.8	-3.1
SKT	Skwentna	2.49	22	P	Pn	06 14 08.3	-1.2
PTE	Portage	2.51	60	P	Pn	06 14 08.5	-1.3
PWL	Port Wells	2.81	63	P	Pn	06 14 11.7	-2.0
PMR	Palmer	2.86	46	P	Pn	06 14 12.8	-1.5
SII	Sitkinak Islan	3.16	187	P	Pn	06 14 15.7	-2.7
PPLA	Purkeypile	3.28	10	P	Pn	06 14 19.8	-0.1
GLI	Glacier Island	3.39	67	P	Pn	06 14 20.0	-1.3
TT01	Tatalina	3.46	340	P	Pn	06 14 20.6	-1.5
JPK	Jack Peak	3.67	65	P	Pn	06 14 24.1	-1.0
SCM	Sheep Creek Mo	3.70	52	P	Pn	06 14 23.4	-2.0
VLZ	Valdez	3.82	65	P	Pn	06 14 25.8	-1.1
EYAK	Cordova Ski Ar	3.96	74	P	Pn	06 14 27.2	-1.5
KTH	Kantishna Hill	4.06	16	P	Pn	06 14 28.8	-1.4
TRF	Thorofare Moun	4.07	21	P	Pn	06 14 29.3	-1.1
DIV	Divide	4.08	66	P	Pn	06 14 29.4	-1.1
SGAM	Sherman Glacie	4.21	75	P	Pn	06 14 31.0	-1.2
RND	Reindeer	4.33	29	P	Pn	06 14 32.1	-1.7
GOAT	Goat Mountain	4.46	75	P	Pn	06 14 34.4	-1.1
BMRM	Bremner River	4.59	70	P	Pn	06 14 35.8	-1.4
MCK	McKinley	4.59	26	P	Pn	06 14 35.5	-1.8
HARP	HAARP	4.87	52	P	Pn	06 14 39.6	-1.4
PAX	Paxson	5.07	46	P	Pn	06 14 41.9	-1.7
WRH	Wood River Hil	5.42	25	P	Pn	06 14 46.1	-2.2
MLY	Manley	5.51	12	P	Pn	06 14 48.1	-1.4
MDM	Murphy Dome	5.82	23	P	Pn	06 14 51.8	-1.9
IL1	Eielson Array	5.95	28	P	Pn	06 14 53.2	-2.3
ILAR	Eielson Array	5.95	28	P	Pn	06 14 53.2	-2.3
	1.6nm,0.3s,baz=216,slow=13,SNR=110						
ILAR				S	Sn	06 15 55.2	-7.1
	2.1nm,0.3s,baz=208,slow=19,SNR=5.9						
IM04	Indian Mountai	6.31	359	eP	Pn	06 14 59.2	-1.1
IM3	Indian Mountai	6.32	359	P	Pn	06 14 59.7	-0.7
BCA3	Beaver Creek A	6.55	54	P	Pn	06 15 02.8	-0.7
DLBC	Dease Lake	12.11	86	P	Pn	06 16 19.1	+1.1
	0.9nm,0.3s,baz=253,slow=6.9,SNR=17						
DLBC				S	Sn	06 18 30.5	-0.8
	0.1nm,0.3s,baz=304,slow=14,SNR=2.6						
INK	Inuvik	12.23	37	P	Pn	06 16 19.7	+0.3
	0.1nm,0.3s,baz=250,slow=13,SNR=7.0						
YKA	Yellowknife Ar	18.80	65	P	P	06 17 38.8	-0.2
	0.0nm,0.3s,baz=276,slow=9.9,SNR=5.8						
NEW	Newport	23.91	102	P	P	06 18 33.1	+1.4
	0.7nm,0.5s,baz=0.0,slow=8.1,SNR=4.3						
NVAR	Mina Array Bea	30.78	118	P	P	06 19 35.5	+2.1
	0.4nm,0.6s,baz=312,slow=6.9,SNR=4.0						
PDAR	Pinedale Array	31.55	103	P	P	06 19 41.3	+1.2
	0.2nm,0.5s,baz=337,slow=8.8,SNR=3.4						
TXAR	Lajitas Array	45.09	110	P	P	06 21 34.8	+1.5
	0.2nm,0.5s,baz=317,slow=9.0,SNR=3.7						
SONM	Songino Array	54.78	306	P	P	06 22 45.9	-0.3
	1.2nm,0.5s,baz=42,slow=6.5,SNR=12						
ZALV	Zalesovo Beam	57.48	323	P	P	06 23 04.3	-0.8
	2.3nm,0.6s,baz=37,slow=7.7,SNR=8.3						
MKAR	Makanchi Array	64.53	321	P	P	06 23 51.3	-1.5
	0.2nm,0.5s,baz=27,slow=6.3,SNR=4.4						

*IDC **10** 06:30:38.5±20.0,37.17N×71.67E,h250km±153km, mb3.2/2,mb1 2.9/5,mb1mx2.7/28,mbtmp3.5/5,Error ellipse: s-maj=280.1km s-min=99.9km az=161.0*
ISC 10 06:30:22.8±2.3,**36.7N**±0.2×**70.9E**±0.2,**h100km,n12,** σ1§**26**/14,**3C-1D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.83	21	P	Pn	06 31 46.3	-0.8
	SNR=19						
KZA	Kyzart	6.33	31	P	Pn	06 31 52.9	-1.0
	SNR=7.9						
EKS2	Erkin-Say	6.34	20	P	Pn	06 31 53.7	-0.2
	SNR=6.4						
KK31	Karatay Array	6.38	358	⇓P	Pn	06 31 54.6	+0.4
	4.2nm,0.3s,baz=181,slow=13,SNR=232						
KK31				⇑S	Sn	06 33 05.3	-0.3
	1.5nm,0.5s,baz=186,slow=25,SNR=4.1						
CHMS	Chumysh	6.94	24	P	Pn	06 32 01.6	-0.3
	SNR=11						
USP	Ospenovka	7.11	22	P	Pn	06 32 03.6	-0.5
	SNR=7.9						
TKM2	Tokmak 2	7.18	29	⇑P	Pn	06 32 03.9	-1.4
	3.6nm,0.6s						
TKM2				⇑S	Sn	06 33 27.0	+1.6
	1.6nm,0.8s						
MKAR	Makanchi Array	13.18	37	P	Pn	06 33 27.9	+1.9
	0.1nm,0.3s,baz=219,slow=11,SNR=5.8						
KURBB	Kurchatov Arra	14.95	19	P	Pn	06 33 49.7	+1.0
	0.1nm,0.3s,baz=207,slow=10,SNR=3.0						
ZALV	Zalesovo Beam	19.76	25	P	P	06 34 42.5	-2.2
	baz=220,slow=11,SNR=2.8						
ARCES	ARCESS Array B	40.90	338	P	P	06 37 54.9	+0.2
	4.9nm,1.1s,baz=106,slow=9.6,SNR=3.1						
NOA	NORSAR Array B	44.14	323	P	P	06 38 22.1	+1.0
	0.3nm,0.5s,baz=100,slow=8.1,SNR=2.4						

*BJI **10** 06:33:39.8,9.96S×111.51E,h65km,mB5.1/16,mb4.7/26, Ms4.6/9,Ms7 4.3/10*
*IDC **10** 06:33:39.9±0.8,8.83S×111.25E,h0km,mb4.4/16, mb1 4.4/16,mb1mx4.4/23,mbtmp4.4/16,Error ellipse: s-maj=38.5km s-min=14.9km az=47.0*
*MOS **10** 06:33:43.2±0.8,8.71S×111.37E,h33km,mb4.9/16,Error ellipse: s-maj=22.9km s-min=8.8km az=123.6*
*NEIC **10** 06:33:44.3±0.6,9.26S×111.03E,h35km,mb5.0/12,Error ellipse: s-maj=17.2km s-min=7.3km az=35.0*
NEIC Felt [III] at Karangkates, Nganjuk, Pacitan and Yogyakarta. Also felt at Bantul.
*ISCJB **10** 06:33:46.9±0.6,9.15S±0.05×111.21E±0.03,h76km±4km, mb4.5/53,Error ellipse: s-maj=9.1km s-min=4.7km az=15.4*
*DJA **10** 06:33:47.5±0.6,9°S±2°×11°1E±°,h12km±5km,M5.2/36, mb5.3/14,mB5.6/10,MLv5.3/36,Mw(mB)5.1/10*
ISC 10 06:33:47.7±0.5,**9.14S**±0.05×**111.27E**±0.04,**h61km**±2km, **h61km:pP-P,n179,**σ1§**86**/182,**mb4.6**/53,**2C-4D,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	0.94	354	P	Pn	06 34 02.4	-2.7
PCJI				S	Sn	06 34 15.7	-2.2
PWJI	Pagerwojo	1.23	25	P	Pn	06 34 06.5	-2.3
PWJI				S	Sn	06 34 22.9	-1.6
WOJI	Wonogiri, Jawa	1.34	345	P	Pn	06 34 08.7	-1.6
WOJI				S	Sn	06 34 27.4	+0.2
UGM	Wanagama	1.43	329	P	Pn	06 34 11.1	-0.4
UGM				S	Sn	06 34 31.6	+2.2
UGM	Wanagama	1.43	329	ePn	Pn	06 34 10.4	-1.1
UGM	Wanagama	1.43	329	P	Pn	06 34 10.4	-1.1
	baz=1.6,SNR=619						
UGM				S	Sn	06 34 30.0	+0.6
	baz=1.6,SNR=7.7						
UGM	Wanagama	1.43	329	P	Pn	06 34 10.3	-1.2
	baz=0.9,SNR=618						
NGJI	Ngawi	1.77	6	P	Pn	06 34 17.4	+1.3
NGJI				S	Sn	06 34 52.4	+15
SMRI	Semarang	2.24	338	P	Pn	06 34 23.5	+1.1
SMRI				S	Sn	06 35 00.0	+11
SMRI	Semarang	2.24	338	ePn	Pn	06 34 23.5	+1.1
SMRI				eSn	Sn	06 34 39.6	-9.4
SMRI	Semarang	2.24	338	P	Pn	06 34 23.5	+1.1
	baz=2.4,SNR=32						
GMJI	Gumukmas	2.31	68	P	Pn	06 34 21.9	-1.5
GMJI				S	Sn	06 34 56.5	+5.7
TBJI	Tambak Boyo	2.38	14	P	Pn	06 34 26.6	+2.3
TBJI				S	Sn	06 35 02.0	+10
GRJI	Gresik	2.51	28	P	Pn	06 34 26.7	+0.5
BLJI	Banyuglugur	2.68	59	P	Pn	06 34 29.2	+0.7
UWJI	Ujung Watu	2.72	353	P	Pn	06 34 30.0	+0.9
JAGI	Jajag, Banyuwa	2.92	77	P	Pn	06 34 30.9	-0.9
JAGI	Jajag, Banyuwa	2.92	77	ePn	Pn	06 34 31.1	-0.7
JAGI	Jajag, Banyuwa	2.92	77	P	Pn	06 34 31.1	-0.7
	baz=3.0,SNR=68						
KPJI	Karang Pucung	2.93	308	P	Pn	06 34 33.0	+1.1
CMJI	Cimerak	3.10	296	P	Pn	06 34 34.6	+0.3
ABJI	Asem Bagus	3.22	66	P	Pn	06 34 36.8	+1.0
KMMI	Kalianget	3.38	52	P	Pn	06 34 46.9	+8.9
CISI	Cisompet, Garu	3.77	294	P	Pn	06 34 44.1	+0.7
CISI	Cisompet, Garu	3.77	294	ePn	Pn	06 34 43.7	+0.3
CISI	Cisompet, Garu	3.77	294	P	Pn	06 34 43.4	0.0
	baz=3.8,SNR=24						
IGBI	Denpasar	3.84	86	P	Pn	06 34 46.7	+2.4
DNP	Denpasar	3.92	84	P	Pn	06 34 42.8	-2.6
JCJI	Jatiwangi	3.97	311	P	Pn	06 34 45.3	-0.9
SRBI	Singaraja	4.03	75	P	Pn	06 34 48.5	+1.5
LEM	Lembang	4.29	302	P	Pn	06 34 52.4	+1.7
LEM	Lembang	4.29	302	P	Pn	06 34 53.5	+2.8
	baz=4.4,SNR=5.5						
CNJI	Cibinong	4.49	294	P	Pn	06 34 54.9	+1.7
XMIS	Christmas Isla	5.70	256	ePn	Pn	06 35 07.5	-2.4
XMIS	Christmas Isla	5.70	256	P	Pn	06 35 07.6	-2.2
	baz=5.6,SNR=18						
CGJI	Cibinong	6.07	294	P	Pn	06 35 17.0	+2.1
	178nm,0.7s,3μm1.1nm						
PBKI	Pangkalan Bun	6.41	4	P	Pn	06 35 24.9	+5.4
	1μm,0.9s,12μm4.1nm						
BBKI	Banjar Baru	6.66	32	P	Pn	06 35 24.8	+1.8
	255nm,0.9s,1.3nm						
KBKI	Kotabaru	7.57	40	P	Pn	06 35 46.4	+11
KASI	Kota Agung	7.62	298	P	Pn	06 35 40.6	+4.4
	78nm,0.7s,876nm0.4nm						
LWLI	Liwa	8.25	299	P	Pn	06 36 04.2	+19
MDSI	Maura Dua	8.43	303	P	Pn	06 35 56.7	+10
MTKI	Muara Teweh, K	8.91	24	P	Pn	06 36 09.6	+16
WSI	Waingapu	8.92	94	P	Pn	06 36 05.8	+12
PMBI	Palembang	8.94	313	P	Pn	06 35 54.4	+0.2
	baz=9.1,SNR=3.3						
STKI	Sintang	9.15	1	P	Pn	06 36 10.8	+14
LHSI	Lahat	9.34	304	P	Pn	06 36 20.8	+21
KAPI	Kappang	9.36	65	ePn	Pn	06 36 02.9	+3.0
SPSI	Sidrap Palu	9.88	59	P	Pn	06 36 07.5	+0.4
	48nm,1.0s,945nm						
BNSI	Bone	9.95	62	P	Pn	06 36 11.7	+3.6
	96nm,1.2s,997nm						
TTSI	Tana Toraja	10.43	55	P	Pn	06 36 22.9	+8.3
KSM	Kuching	10.59	355	ePn	Pn	06 36 16.5	-0.3
MASI	Maura Aman, Be	10.78	303	P	Pn	06 36 42.2	+23
MMRI	Maumere	10.84	88	P	Pn	06 36 20.3	0.0
	101nm,0.9s,14μm						
MMRI	Maumere	10.84	88	Pn	Pn	06 36 21.7	+1.4
	63nm,0.6s						
DSRI	Dabo	10.88	322	P	Pn	06 36 28.7	+7.9
SBUM	Sibu	11.55	5	ePn	Pn	06 36 32.5	+2.5
SOEI	Soe	12.83	94	P	P	06 36 53.4	-3.0
	80nm,1.0s,1μm						
SOEI	Soe	12.83	94	Pn	Pn	06 36 48.4	+0.8
SOEI	Soe	12.83	94	P	P	06 36 58.0	+1.6
	baz=13,SNR=4.0						
SOEI	Soe	12.83	94	P	P	06 36 58.2	+1.8
	baz=13,SNR=4.5						
MYKOM	Kota Tinggi	13.14	325	ePn	Pn	06 36 50.7	-0.9
PDSI	Padang	13.52	307	P	Pn	06 36 59.9	+3.2
	24nm,0.6s,4μm						
LUWI	Luwuk	13.99	56	S	S	06 39 52.1	-3.1
	baz=14,SNR=3.3						
MRSI	Marisa	14.29	49	P	P	06 37 16.8	+4.3
GTOI	Gorontalo	15.20	51	P	P	06 37 30.2	+7.6
SANI	Sanana	16.24	65	P	P	06 37 45.9	+12
MEEK	Meekatharra	18.74	159	S	Sn	06 41 37.3	+5.4
	baz=19,SNR=3.1						
MTN	Manton Dam	19.84	102	P	Pn	06 38 15.7	-0.1
	baz=20,SNR=3.3						
MORW	Morawa	20.32	168	S	Sn	06 42 14.9	+5.0
	baz=21,SNR=3.5						
SWI	Sorong	21.52	69	P	sP	06 38 51.2	-1.7
FAKI	Fak Fak	21.75	75	eP	P	06 38 34.8	+0.4
	34nm,0.7s						
WRA	Warramunga Arr	24.74	118	P	P	06 39 04.2	+0.5
	1.6nm,0.7s,baz=294,slow=11,SNR=30						
WRA	Warramunga Arr	24.74	118	P	P	06 39 04.2	+0.5
WRAB	Tennant Creek	24.75	118	ceP	P	06 39 04.0	+0.3
WRAB				pmax	pmax		
	comp=Z,12nm,1.7s						
WRAB	Tennant Creek	24.75	118	eP	P	06 39 03.5	-0.3
	comp=Z,28nm,0.8s						
ASAR	Alice Springs	26.02	126	P	P	06 39 17.7	+2.4
	comp=Z,0.8nm,0.4s,baz=303,slow=9.4,SNR=14						
ASAR	Alice Springs	26.02	126	P	P	06 39 17.7	+2.4
QIZ	Qiongzhong	28.03	357	P	P	06 39 33.5	+0.2
QIZ				pP	pP	06 39 48.9	+0.7
QIZ				S	S	06 44 15.6	+2.0
QIZ				pmax	pmax		
	comp=Z,13nm,1.6s						
QIZ				pmax	pmax		
	comp=Z,100nm,4.5s						
CMAR	Chiang Mai Arr	30.00	336	P	P	06 39 49.0	-1.8
CMAR	Chiang Mai Arr	30.00	336	P	P	06 39 49.0	-1.8
	comp=Z,0.7nm,0.3s,baz=161,slow=9.5,SNR=4.3						
CMAR	Chiang Mai Arr	30.00	336	P	P	06 39 49.0	-1.8
COEN	Coen	31.60	102	eP	P	06 40 05.8	+0.7
	comp=Z,164nm,0.8s						
COEN	Coen	31.60	102	P	P	06 40 05.9	+0.8
	baz=32,SNR=5.7						
SSLB	Suanglung	34.07	16	eP	P	06 40 26.9	+0.5
	comp=Z,29nm,1.3s						
PALK	Pallekele	34.55	297	iP	P	06 40 31.6	+0.8
PALK	Pallekele	34.55	297	eP	P	06 40 37.1	+6.3
	comp=Z,42nm,1.0s						
GYA	Guiyang	35.67	353	eP	P	06 40 41.2	+0.9
GYA				pP	pP	06 40 58.6	+3.1
GYA				PP	PP	06 42 05.4	+3.0
GYA				S	S	06 46 15.0	+2.3
GYA				sS	sS	06 46 43.2	+4.6
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
GYA				LR	LR		
	comp=Z,580nm,16.4s						
GYA				LR	LR		
	comp=Z,490nm,17.0s						
GYA				LR	LR		
	comp=Z,540nm,16.3s						
STKA	Stephens Creek	36.09	133	P	P	06 40 45.3	+1.6
STKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
STKA	Stephens Creek	36.09	133	P	P	06 40 45.4	+1.6
	comp=Z,1.4nm,0.5s,baz=305,slow=8.0,SNR=6.8						
STKA	Stephens Creek	36.09	133	P	P	06 40 45.3	+1.6
	comp=Z,1.9nm,0.6s						
CD2	Chengdu	40.47	350	eP	P	06 41 22.7	+2.1
CD2				pP	pP	06 41 38.9	+2.9
CD2				sP	sP	06 41 46.6	+3.5
CD2				PP	PnPn	06 43 00.9	+1.7
CD2				PcP	PcP	06 43 23.9	+1.5
CD2				PcS	PcS	06 47 13.5	+0.3
CD2				S	S	06 47 28.0	+2.9
CD2				sS	sS	06 47 55.7	+4.5
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,180nm,5.6s						
CD2				LR	LR		
	comp=Z,290nm,14.2s						
CD2				LR	LR		
	comp=Z,280nm,16.2s						
CD2				LR	LR		
	comp=Z,250nm,13.7s						
NJ2	Nanjing	41.59	10	eP	P	06 41 29.6	-0.1
NJ2				pP	pP	06 41 43.4	-1.8
NJ2				sP	sP	06 41 50.6	-1.7
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
XAN	Xi'an	43.00	357	P	P	06 41 39.6	-1.6
XAN				pP	pP	06 41 55.2	-1.6
XAN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LZH	Lanzhou	45.53	352	eP	P	06 42 04.3	+2.8
LZH				pP	pP	06 42 17.5	+0.3
LZH				sP	sP	06 42 24.5	+0.3
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
DL2	Dalian	48.76	11	eP	P	06 42 32.7	+6.3
BJT	Baijiatuau	49.12	5	P	P	06 42 32.9	+3.7
BJT				pmax	pmax		
	comp=Z,21nm,0.4s						
BJT	Baijiatuau	49.12	5	P	P	06 42 32.9	+3.7
	comp=Z,21nm,0.4s						
BJI	Beijing	49.14	5	P	P	06 42 27.4	-1.9
BJI				pmax	pmax		
	comp=Z,13nm,1.1s						

BJI LR LR
comp=Z,87nm,19.7s
GTA Gaotai 49.46 348 eP P 06 42 32.7 +0.7
GTA pP pP 06 42 47.8 0.0
GTA sP sP 06 42 54.9 +0.1
GTA pmax pmax
comp=Z,2.0nm,0.9s
HHC Hu-ho-hao-te 49.74 0 eP P 06 42 37.2 +3.2
HHC PP PP 06 44 33.8 +4.5
HHC S S 06 49 42.1 +3.3
HHC ScS ScS 06 52 19.7 -0.5
HHC SS SS 06 53 12.3 0.0
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,150nm,5.7s
HHC LR LR
comp=Z,190nm,16.1s
HHC LR LR
comp=Z,410nm,17.6s
HHC LR LR
comp=Z,140nm,16.9s
MJAR Matsushiro Arr 52.02 28 P P 06 42 49.0 -2.2
MJAR Matsushiro Arr 52.02 28 P P 06 42 49.0 -2.2
comp=Z,3.5nm,0.7s,baz=196,slow=7.3,SNR=6.8
CN2 Changchun 54.24 13 eP P 06 43 11.6 +4.3
CN2 pmax pmax
comp=Z,10.0nm,0.7s
USRK Ussuriysk Arra 56.31 18 P P 06 43 20.8 -1.4
comp=Z,8.7nm,1.1s,baz=197,slow=6.0,SNR=7.5
ULN Ulaanbaatar 56.88 357⇓iP P 06 43 24.7 -1.7
ULN pmax pmax
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 56.88 357 eP P 06 43 25.4 -1.0
WMQ Urumqi 56.89 340 eP P 06 43 28.6 +2.1
WMQ pP pP 06 43 44.6 +2.0
WMQ sP sP 06 43 51.5 +2.0
WMQ PcP PcP 06 44 23.2 +1.9
WMQ PcS PcS 06 48 22.7 +0.5
WMQ S S 06 51 16.0 +0.2
WMQ ScS ScS 06 53 08.6 -1.8
WMQ pmax pmax
comp=Z,9.0nm,0.8s
WMQ pmax pmax
comp=Z,160nm,4.2s
WMQ LR LR
comp=Z,41nm,21.4s
WMQ LR LR
comp=Z,87nm,18.2s
KBL Kabul 59.04 320 P P 06 43 49.1 +7.3
KBL pmax pmax
comp=Z,8.0nm,0.6s
KBL Kabul 59.04 320 P P 06 43 49.1 +7.3
comp=Z,7.8nm,0.6s
ZAK Zakamensk 59.68 354 eP pP 06 43 59.4 -2.7
ZAK pmax pmax
comp=Z,2.0nm,0.8s
KLR Kul'dur 60.84 15 eP P 06 44 03.0 +9.4
TKM2 Tokmak 2 61.17 331 eP P 06 43 55.8 -0.5
TKM2 Tokmak 2 61.17 331 eP P 06 43 55.8 -0.5
MK31 Makanchi Array 61.39 338 eP P 06 43 55.7 -1.8
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MK31 Makanchi Array 61.39 338 eP P 06 43 56.0 -1.4
MKAR Makanchi Array 61.39 338 P P 06 43 55.9 -1.6
comp=Z,2.3nm,0.4s,baz=150,slow=7.3,SNR=51
EKS2 Erkin-Say 61.88 329 eP P 06 44 00.1 -0.8
EKS2 Erkin-Say 61.88 329 eP P 06 44 00.1 -0.8
KK31 Karatay Array 63.88 328 iP P 06 44 11.7 -2.4
KK31 pmax pmax
comp=Z,3.0nm,1.0s
KKAR Karatay Array 63.88 328 P P 06 44 21.2 +7.1
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 63.88 328 P P 06 44 21.2 +7.1
comp=Z,1.6nm,0.6s
IDAH Dahanechah 64.27 313 eP P 06 44 15.2 -1.9
ITEG Tejag 65.16 313 eP P 06 44 21.0 -1.9
KURBB Kurchatov Arra 65.96 338 P P 06 44 26.2 -1.1
comp=Z,2.9nm,0.7s,baz=152,slow=4.9,SNR=25
KURK Kurchatov 66.00 338 eP P 06 44 25.7 -2.0
KURK e*PP pP 06 44 42.0 -2.2
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 66.00 338 eP P 06 44 25.7 -2.0
comp=Z,9.2nm,0.9s
KURK epP pP 06 44 42.0 -2.2
ZALV Zalesovo Beam 66.72 343 P P 06 44 30.2 -1.9
comp=Z,3.4nm,0.7s,baz=148,slow=4.7,SNR=9.9
IPAY Payeh 66.81 316 eP P 06 44 31.6 -1.8
IBAF Bafgh 66.89 310 eP P 06 44 33.0 -1.0
IMEH Mehriz 67.52 309 eP P 06 44 36.5 -1.6
IEMG Emamgholi 67.55 317 eP P 06 44 36.9 -1.3
ISRV Sarvestan 67.81 307 eP P 06 44 39.6 -0.5
NVS Novosibirsk 67.95 343 eP pP 06 44 52.9 -3.6
IPAR Pars 68.06 307 eP P 06 44 41.2 -0.4
ICHK Chekchek 68.06 310 eP P 06 44 39.2 -2.3
ISHV Shirvan 68.26 316 eP P 06 44 43.5 +1.0
ISAD Sadrabad 68.46 309 eP P 06 44 42.0 -2.0
IANJ Anjilo 69.90 313 eP P 06 44 51.8 -1.0
VOSK Vostochnaya 70.56 335 eP P 06 44 54.7 -1.5
VOSK pmax pmax
comp=Z,6.0nm,0.8s
VOSK Vostochnaya 70.56 335 eP P 06 44 54.7 -1.5
comp=Z,6.3nm,0.8s
IPIR Pirpir 70.93 309 eP P 06 44 57.8 -1.5
BVA0 Borovoye Array 71.02 335 iP P 06 44 57.6 -1.4
BVA0 pmax pmax
comp=Z,16nm,0.8s
BVAR Borovoye Array 71.02 335 P P 06 44 57.8 -1.2
comp=Z,3.8nm,0.7s,baz=145,slow=8.5,SNR=24
BRVK Borovoye 71.09 335⇓eP P 06 44 56.2 -3.2
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 71.09 335 eP P 06 44 58.4 -1.0
BRVK epP pP 06 45 14.0 -2.1
RAYN Ar Rayn 71.98 298 epP pP 06 45 21.3 -0.9
YAK Yakutsk 72.39 9 eP pP 06 45 18.3 -5.4
YAK pmax pmax
comp=Z,52nm,0.9s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK Yakutsk 72.39 9 epP pP 06 45 21.4 -2.2
IRAZ Razeghan 72.79 311 eP P 06 45 09.8 -0.4
PETK Petropavlovsk- 73.47 27 P P 06 45 12.4 -1.2
comp=E,3.9nm,0.9s,baz=202,slow=3.2,SNR=3.8
AKTO Aktyubinsk 75.14 328 P P 06 45 22.4 -1.0
comp=E,3.9nm,0.8s,baz=98,slow=5.1,SNR=14
IDHR Dehrash 75.18 309 eP P 06 45 21.7 -2.5
ISRB Sarab 75.45 313 eP P 06 45 22.5 -3.2
ARU Arti 78.40 333⇓iP P 06 45 40.7 -0.8
ARU 06 48 32.8
ARU PPP PPP 06 50 20.8
ARU S S 06 55 35.6 +3.2
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 78.40 333 eP P 06 45 40.5 -1.1
ARU epP pP 06 45 56.5 -2.0
ZEI Tsey 80.05 316 eP P 06 45 54.4 +3.2
ZEI pmax pmax
comp=Z,10.0nm,0.7s
NEY Neytrino 81.02 316 eP P 06 45 54.7 -1.6
SOKR Solikamsk 81.03 335 eP P 06 45 55.2 -0.5
SOKR pmax pmax
comp=Z,10.0nm,0.5s
KBZ Khabaz 81.08 317 P P 06 45 55.3 -1.0
comp=Z,1.6nm,0.6s,baz=141,slow=3.0,SNR=5.3
KIV Kislovodsk 81.30 317 eP P 06 45 55.0 -2.7
KIV pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 81.46 6⇑iP P 06 45 56.0 -1.7
TIXI pmax pmax
comp=Z,11nm,0.8s
TIXI Tiksi 81.46 6 eP P 06 45 56.1 -1.7
comp=Z,29nm,0.8s
TIXI epP pP 06 46 10.9 -3.9
ANN Anapa 85.13 317 e*PP P 06 46 11.9 -5.3
ANN pmax pmax
comp=Z,94nm,1.3s
VORD Divnogorie 85.94 323 eP pP 06 46 34.4 -3.8
VORD pmax pmax
comp=N,6.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,8.0nm,0.9s
BRTR Keskin Array B 86.41 311 iP P 06 46 24.1 +0.1
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 86.41 311 P P 06 46 24.1 +0.1
comp=Z,3.0nm,0.9s,baz=128,slow=6.4,SNR=11
PRGR Permogore 86.80 334 eP P 06 46 19.8 -5.3
PRGR i 06 46 38.8
OBN Obninsk 88.83 326⇓eP P 06 46 33.3 -1.6
OBN e 06 50 02.6
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,63nm,15.0s
KLMR Klimovskoe 89.21 332 eP P 06 46 35.6 -1.0
KLMR pmax pmax
comp=Z,24nm,1.1s
AKASG Malin Array Be 92.00 321 iP P 06 46 48.7 -1.1
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 92.00 321 P P 06 46 48.8 -1.1
comp=Z,0.9nm,0.6s,baz=87,slow=4.7,SNR=6.6
KIEV Kiev 92.01 321 iP P 06 46 47.9 -2.0
FINES FINESS Array B 95.66 331 P P 06 47 05.7 -0.7
comp=Z,1.3nm,0.8s,baz=33,slow=8.3,SNR=2.5
YKA Yellowknife Ar 117.32 22 PKIKP PKPdf 06 52 25.5 -0.4
YKA Yellowknife Ar 117.32 22 PKP PKPdf 06 52 25.5 -0.4
comp=Z,0.2nm,0.6s,baz=325,slow=1.9,SNR=5.8
YKA Yellowknife Ar 117.32 22 PKP PKPdf 06 52 25.5 -0.4
NVAR Mina Array Bea 126.91 48 PKP PKPdf 06 52 46.4 +1.0
comp=Z,0.7nm,0.7s,baz=217,slow=1.3,SNR=4.8
NVAR Mina Array Bea 126.91 48 PKP PKPdf 06 52 46.4 +1.0

*IDC **10** 06:33:56.4±0.4, 8°.77S×111°.35E, h0km, mb4.8/25, mb1 4.8/25, mb1mx4.8/28, mbtmp4.8/25, Error ellipse: s-maj=17.3km s-min=11.9km az=54.0*
*ISCJB **10** 06:34:05.3±0.3, 8°.69S±0°.08×111°.42E±0°.07, h84km, mb4.7/27, Error ellipse: s-maj=13.2km s-min=5.8km az=38.0*
ISC 10 06:34:07.3±0.4, 8°.7S±0°.1×111°.43E±0°.09, h84km, n78, σ1°.25/80, mb4.7/27, Jawa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
XMI Christmas Isla 5.91 253 P Pn 06 35 24.7 -7.7
baz=5.6,SNR=6.4
MNAI Manna 9.48 297 P Pn 06 36 21.3 +0.2
baz=9.6,SNR=4.5
KNRA Kununurra 18.28 114 P P 06 38 08.9 -5.6
baz=18,SNR=5.1
KNRA Kununurra 18.28 114 P P 06 38 14.1 -0.4
baz=19,SNR=5.6
KDU Kakadu 21.04 103 P P 06 38 41.6 -2.9
baz=21,SNR=3.8
FAKI Fak Fak 21.49 76 P P 06 38 49.6 +0.2
baz=22,SNR=4.3
WRA Warramunga Arr 24.79 119 P P 06 39 20.7 -0.9
20nm,0.7s,baz=292,slow=11,SNR=45
WRA PcP PcP 06 42 56.6 +0.3
1.4nm,0.5s,baz=318,slow=2.0,SNR=5.5
WRA Warramunga Arr 24.79 119 PcP PcP 06 42 56.6 +0.3
ASAR Alice Springs 26.13 127 P P 06 39 32.4 -1.3
10nm,0.6s,baz=304,slow=9.0,SNR=43
ASAR PcP PcP 06 42 59.9 +0.6
4.0nm,0.6s,baz=311,slow=2.0,SNR=12
ASAR Alice Springs 26.13 127 PcP PcP 06 42 59.9 +0.6
QIS Mount Isa 29.62 116 P P 06 40 04.9 0.0
baz=30,SNR=9.0
CMAR Chiang Mai Arr 29.70 336 P P 06 40 05.2 -0.3
3.9nm,0.7s,baz=172,slow=8.1,SNR=12
CMAR PcP PcP 06 43 09.5 +1.5
2.1nm,0.5s,baz=192,slow=2.8,SNR=8.0
CMAR Chiang Mai Arr 29.70 336 PcP PcP 06 43 09.5 +1.5
COEN Coen 31.53 102 P P 06 40 22.2 +0.4
baz=32,SNR=5.3
MTSU Mount Surprise 33.27 110 P P 06 40 37.6 +0.6
baz=34,SNR=4.2
HTT Hallett 35.30 138 P P 06 40 54.6 +0.2
baz=36,SNR=3.2
CTA Charters Tower 35.48 112 P P 06 40 55.9 -0.2
6.4nm,0.8s,baz=306,slow=15,SNR=6.3
QLP Quilpie 35.78 124 P P 06 40 59.4 +0.8
baz=36,SNR=6.3
STKA Stephens Creek 36.24 134 P P 06 41 01.5 -0.9
9.4nm,0.5s,baz=307,slow=9.3,SNR=20
STKA PcP PcP 06 43 26.4 +0.4
4.7nm,0.5s,baz=335,slow=3.2,SNR=5.1
STKA Stephens Creek 36.24 134 P P 06 41 01.6 -0.8
baz=37,SNR=12
STKA Stephens Creek 36.24 134 PcP PcP 06 43 26.4 +0.4
JOW Kunigami 38.96 24 P P 06 41 26.3 +1.0
1.3nm,0.5s,baz=13,slow=16,SNR=3.7
CMSA Cobar Meteorol 39.09 130 P P 06 41 26.9 +0.4
baz=40,SNR=5.4
RMQ Roma 39.51 121 P P 06 41 31.6 +1.5
baz=40,SNR=4.9
ODAN Odare 42.39 327 eP P 06 41 53.2 -0.7
18nm,0.6s
TAPN Taplejung 42.61 328 eP P 06 41 53.8 -2.0
28nm,0.7s
RAMN Ramite 42.88 327 eP P 06 41 57.2 -0.7
8.9nm,0.6s
JIRN Jiri 43.67 327 eP P 06 42 02.8 -1.6
31nm,0.6s
PKI Pulchoki 44.02 326 eP P 06 42 05.2 -2.0
GUN Gumba 44.03 327 eP P 06 42 05.2 -2.1
28nm,0.6s
DMN Daman 44.22 326 eP P 06 42 07.6 -1.1
20nm,0.7s
KKN Kakani 44.27 326 eP P 06 42 07.4 -1.6
GKN Gorkha 44.79 326 eP P 06 42 11.2 -1.9
9.6nm,0.2s
KOLN Koldanda 45.20 324 eP P 06 42 14.9 -1.5
27nm,0.6s
DANN Dangsing 45.55 325 eP P 06 42 16.4 -2.9
26nm,0.6s
JNU Nakatsue 45.56 23 P P 06 42 18.9 -0.1
6.3nm,0.7s,baz=251,slow=5.7,SNR=3.9
PYUN Piuthan 45.80 324 eP P 06 42 19.4 -1.7
23nm,0.5s
DL2 Dalian 48.34 11 eP P 06 42 47.7 +7.2
DL2 pP pP 06 42 47.8 -13
DL2 sP sP 06 42 54.9 -16
DL2 pP pwP 06 43 02.9 +1.9
DL2 sP sP 06 43 10.1 -0.4
DL2 PcP PcP 06 44 10.4 +4.5
DL2 PcP PP 06 44 10.5 -23
DL2 S S 06 50 01.5 +27
DL2 sS sS 06 50 27.9 +18
KSRS Korea Array 48.48 18 P P 06 42 42.8 +1.3
6.9nm,0.8s,baz=199,slow=8.7,SNR=9.6
MJAR Matsushiro Arr 51.60 28 P P 06 43 04.3 -0.9
7.9nm,0.5s,baz=206,slow=8.5,SNR=13
USRK Ussuriysk Arra 55.89 18 P P 06 43 36.9 +0.6
19nm,1.0s,baz=189,slow=4.0,SNR=12
KSH Kashi 58.19 328 eP P 06 43 50.7 -2.1
KSH sP sP 06 44 13.5 -10
KSH ePP PP 06 46 05.3 +2.6
KSH ePcS PcS 06 48 37.1 -8.0
KSH eS S 06 51 55.9 +7.6
KSH Kashi 58.19 328 eSS SS 06 55 54.1 +13
KSH pmax pmax
comp=Z,7.0nm,0.9s
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH LR LR
comp=N,110nm,4.8s
KSH LR LR
comp=E,68nm,6.4s
KSH LR LR
comp=Z,60nm,6.5s
MKAR Makanchi Array 61.09 338 P P 06 44 11.9 -0.6
comp=Z,7.0nm,0.4s,baz=146,slow=7.4,SNR=32
AAK Ala-Archa 61.24 330 P P 06 44 14.0 +0.2
comp=Z,2.8nm,0.7s,baz=238,slow=2.7,SNR=6.2
OPO Ambohidratompo 62.92 254 P P 06 44 25.6 0.0
comp=Z,3.6nm,0.8s,baz=112,slow=11,SNR=2.9
KURBB Kurchatov Arra 65.65 338 P P 06 44 41.5 -1.0
comp=Z,5.7nm,0.6s,baz=153,slow=5.3,SNR=32
ZALV Zalesovo Beam 66.38 343 P P 06 44 46.5 -0.7
comp=Z,5.7nm,0.4s,baz=154,slow=5.5,SNR=18
BVAR Borovoye Array 70.73 335 P P 06 45 13.7 -0.5
comp=Z,12nm,0.7s,baz=142,slow=8.9,SNR=43
PETK Petropavlovsk- 73.05 27 P P 06 45 27.9 -0.2
comp=Z,10nm,0.7s,baz=204,slow=5.8,SNR=15
IKOM Komasi 73.99 309 eP P 06 45 32.2 -2.1
KMBO Kilima Mbogo 74.19 271 P P 06 45 36.5 +0.5
comp=Z,3.9nm,0.8s,baz=54,slow=8.6,SNR=11
IGHG Ghaleghazi 74.77 309 eP P 06 45 34.8 -4.1
AKTO Aktyubinsk 74.89 328 P P 06 45 38.9 0.0
comp=Z,13nm,0.6s,baz=76,slow=2.0,SNR=26
DGRG David-gareji 78.35 315 P P 06 45 59.4 +0.7
KZR Kazreti 78.99 315 P P 06 46 01.1 -1.1
DUS Dusheti 79.06 316 P P 06 46 03.5 +0.9
KBZ Khabaz 80.90 317 P P 06 46 12.5 +0.2
comp=Z,12nm,0.9s,baz=102,slow=7.5,SNR=16
BOSA Boshof 82.53 242 P P 06 46 21.6 0.0
comp=Z,1.9nm,0.5s,baz=123,slow=6.1,SNR=6.3
BRTR Keskin Array B 86.27 311 P P 06 46 40.0 -0.2
comp=Z,9.5nm,0.8s,baz=124,slow=6.8,SNR=28
OBN Obninsk 88.58 326 P P 06 46 50.5 -0.1
comp=Z,25nm,0.5s,baz=55,slow=2.4,SNR=6.2
OBN Obninsk 88.58 326 e*PP P 06 46 50.4 -0.3
AKASG Malin Array Be 91.79 321 P P 06 47 04.2 -1.5
comp=Z,4.2nm,0.8s,baz=86,slow=4.6,SNR=22
FINES FINESS Array B 95.39 331 P P 06 47 22.1 +0.1
comp=Z,1.5nm,0.6s,baz=120,slow=5.5,SNR=6.2
ARCES ARCESS Array B 96.70 339 P P 06 47 27.9 0.0
comp=Z,2.3nm,0.9s,baz=91,slow=7.2,SNR=3.9
NOA NORSAR Array B 102.55 331 P Pdif 06 47 53.8 -0.4
comp=Z,0.6nm,0.7s,baz=90,slow=4.6,SNR=3.2
YKA Yellowknife Ar 116.90 22 PKP PKPdf 06 52 41.7 -0.1
comp=Z,0.7nm,0.7s,baz=316,slow=1.9,SNR=13
YKA Yellowknife Ar 116.90 22 PKP PKPdf 06 52 41.8 -0.1
YKA Yellowknife Ar 116.90 22 PKPdf 06 52 41.8 -0.1
NVAR Mina Array Bea 126.53 48 PKP PKPdf 06 53 03.1 +1.6
comp=Z,1.1nm,0.7s,baz=248,slow=1.7,SNR=8.6
NVAR Mina Array Bea 126.53 48 PKP PKPdf 06 53 03.1 +1.6
PDAR Pinedale Array 130.67 40 PKP PKPdf 06 53 09.9 +0.7
comp=Z,0.3nm,0.6s,baz=105,slow=1.4,SNR=3.3
PLCA Paso Flores 130.74 178 PKP PKPdf 06 53 09.9 +0.7
comp=Z,2.5nm,0.9s,baz=217,slow=5.1,SNR=2.5
SCHQ Schefferville 134.01 359 PKP PKPdf 06 53 16.2 +1.3
comp=Z,3.0nm,0.9s,baz=298,slow=15,SNR=4.0
TXAR Lajitas Array 141.24 53 PKhKP PKPpre 06 53 22.6
comp=Z,0.6nm,0.8s,baz=294,slow=0.9,SNR=5.6
TXAR PKP PKPdf 06 53 27.1 -1.9
comp=Z,0.5nm,0.7s,baz=73,slow=1.2,SNR=5.6
CPUP Villa Florida 143.47 197 PKP PKPdf 06 53 31.4 -1.5
comp=Z,2.0nm,0.6s,baz=56,slow=1.5,SNR=3.9
BDFB Brasilia 148.35 220 PKPbc PKPbc 06 53 44.9 -0.2
comp=Z,4.5nm,0.8s,baz=89,slow=4.9,SNR=7.0
LPAZ La Paz 155.13 181 PKP PKPdf 06 53 53.3 +0.8
comp=Z,0.8nm,0.8s,baz=112,slow=5.4,SNR=4.3
LPAZ PKPbc PKPbc 06 54 04.8
comp=Z,0.6nm,0.5s,baz=229,slow=9.1,SNR=4.7
LPAZ PKPab PKPab 06 54 17.8 +0.6
comp=Z,1.3nm,0.6s,baz=213,slow=10,SNR=6.6

IDC 10 06:38:00.0±2.7, 53°.75N×86°.89E, h0km, mb1 2.7/2, mb1mx2.6/30, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=25.6km s-min=14.6km az=68.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.24 280 i 06 45 08.7
baz=100,slow=348,SNR=6.2
ZALV Zalesovo Beam 1.24 280 Pg Pg 06 38 23.3 -0.6
0.6nm,0.3s,baz=94,slow=15,SNR=25
ZALV Lg Lg 06 38 40.7
0.6nm,0.3s,baz=99,slow=29,SNR=9.8
KURBB Kurchatov Arra 6.02 242 Pn Pn 06 39 30.5 +0.3
0.1nm,0.3s,baz=60,slow=14,SNR=5.8
MKAR Makanchi Array 7.56 205 Pn Pn 06 39 52.9 +1.5
0.1nm,0.3s,baz=24,slow=13,SNR=7.1

IDC 10 06:52:53.8±3.1, 54°.54N×86°.20E, h0km, mb1 2.9/2, mb1mx2.8/41, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=23.7km s-min=13.4km az=50.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.00 234 i 06 59 13.6
baz=52,slow=346,SNR=27
ZALV Zalesovo Beam 1.00 234 Pg Pg 06 53 12.1 -0.9
1.2nm,0.3s,baz=55,slow=17,SNR=15
ZALV Lg Lg 06 53 27.3
6.6nm,0.3s,baz=54,slow=28,SNR=22
KURBB Kurchatov Arra 6.10 233 Pn Pn 06 54 25.9 +0.8
0.3nm,0.3s,baz=51,slow=14,SNR=9.0
MKAR Makanchi Array 8.14 199 Pn Pn 06 54 53.9 +0.7
0.1nm,0.3s,baz=19,slow=12,SNR=4.3
MKAR Sn Sn 06 56 24.9 -0.9
0.4nm,0.3s,baz=23,slow=26,SNR=13

*IDC **10** 07:02:41.0±0.9, 53°.04N×172°.68E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/28, mbtmp3.4/5, ML2.5/1, Error ellipse: s-maj=30.5km s-min=7.9km az=32.0*
*ISCJB **10** 07:02:43.1±0.8, 53°.1N±0°.2×172°.5E±0°.1, h28km, mb3.3/4, Error ellipse: s-maj=24.7km s-min=8.5km az=19.2*
ISC 10 07:02:44.9±0.9, 53°.1N±0°.2×172°.62E±0°.10, h28km, n13, σ0°.87/8, mb3.2/4, Near Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FX1 Attu Island--F 0.37 117 Pn Pb 07 02 53.2 0.0
223nm,0.3s,baz=327,slow=4.8,SNR=190
FX1 Sn Sn 07 03 00.2 -0.5
360nm,0.3s,baz=252,slow=20,SNR=76
PETK Petropavlovsk- 8.98 276 Pn Pn 07 04 53.1 +0.4
0.2nm,0.3s,baz=91,slow=7.2,SNR=4.3
ILAR Eielson Array 23.50 44 P P 07 07 51.4 -0.7
0.6nm,0.8s,baz=254,slow=7.8,SNR=6.2
H11N2 WAKE ISLAND Hy 33.55 190 T T 07 44 54.4
baz=7.8,slow=76,SNR=8.6
H11N3 WAKE ISLAND Hy 33.57 190 T T 07 44 50.9
baz=7.8,slow=76,SNR=4.8
H11N1 WAKE ISLAND Hy 33.57 190 T T 07 44 49.7
baz=7.8,slow=76,SNR=6.5
H11S1 WAKE ISLAND Hy 34.78 190 T T 07 46 20.2
baz=5.3,slow=74,SNR=6.9
H11S3 WAKE ISLAND Hy 34.80 190 T T 07 46 21.8
baz=5.3,slow=74,SNR=4.7
H11S2 WAKE ISLAND Hy 34.80 190 T T 07 46 22.3
baz=5.3
YKA Yellowknife Ar 37.90 46 P P 07 09 59.5 +0.5
0.3nm,0.8s,baz=288,slow=8.0,SNR=3.9
SONM Songino Array 41.14 290 P P 07 10 26.7 +0.3
baz=55,slow=7.4
MKAR Makanchi Array 54.77 303 P P 07 12 10.4 -1.3
0.1nm,0.4s,baz=48,slow=5.7,SNR=4.0
TXAR Lajitas Array 63.49 76 P P 07 13 13.4 +0.9
0.7nm,0.6s,baz=296,slow=4.7,SNR=6.8

*IDC **10** 07:13:02.6±2.4, 4°.51S×101°.61E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/40, mbtmp3.8/6, Error ellipse: s-maj=109.4km s-min=20.8km az=52.0*
*ISCJB **10** 07:13:05.6±0.8, 4°.68S±0°.07×101°.75E±0°.05, h37km, mb3.9/6, Error ellipse: s-maj=11.3km s-min=5.6km az=28.1*
*DJA **10** 07:13:07.6±0.9, 5°S±9°×10°2E±°, h139km±17km, M4.0/5, MLv4.0/5*
ISC 10 07:13:07.2±1.0, 4°.74S±0°.09×101°.75E±0°.08, h37km, n17, σ1°.74/18, mb3.9/6, Southern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MNAI Manna 1.26 73 P Pn 07 13 31.1 +2.8
MNAI S Sn 07 13 42.9 -1.1
MASI Maura Aman, Be 1.66 17 P Pn 07 13 38.6 +4.8
LHSI Lahat 1.99 63 P Pn 07 13 38.3 0.0
LHSI S Sn 07 14 01.4 -0.5
LWLI Liwa 2.32 97 P Pn 07 13 44.6 +1.7
LWLI S Sn 07 14 09.5 -0.8
MDSI Maura Dua 2.44 84 P Pn 07 13 45.9 +1.5
MDSI S Sn 07 14 10.8 -2.2
KASI Kota Agung 2.85 106 P Pn 07 13 49.3 -0.8
KASI S Sn 07 14 21.1 -2.0
PDSI Padang 4.01 341 P Pn 07 14 05.7 -0.4
PDSI S Sn 07 14 51.0 -0.9
CGJI Cibinong 4.35 116 P Pn 07 14 10.6 -0.1

CGJI				S	Sn	07 14 55.4	-4.7
H08S2	Diego Garcia H	29.22	263	T	T	07 49 30.1	
	baz=86,slow=74,SNR=6.2						
H08S3	Diego Garcia H	29.23	263	T	T	07 49 31.0	
	baz=86,slow=74,SNR=6.3						
H08S1	Diego Carcia H	29.24	263	T	T	07 49 31.9	
	baz=86						
WRA	Warramunga Arr	35.14	118	P	P	07 19 59.4	+1.8
	0.3nm,0.3s,baz=304,slow=9.0,SNR=4.3						
ASAR	Alice Springs	36.26	124	P	P	07 20 10.7	+3.5
	0.4nm,0.5s,baz=296,slow=7.8,SNR=3.2						
SONM	Songino Array	52.51	4	P	P	07 22 16.3	-0.4
	2.0nm,0.6s,baz=185,slow=8.9,SNR=24						
MKAR	Makanchi Array	54.12	344	P	P	07 22 27.7	-0.8
	0.5nm,0.4s,baz=151,slow=9.0,SNR=22						
ZALV	Zalesovo Beam	60.17	349	P	P	07 23 09.8	-1.3
	0.7nm,0.3s,baz=164,slow=7.0,SNR=5.2						
FINES	FINESS Array B	87.33	332	P	P	07 25 49.9	-0.1
	0.5nm,0.5s,baz=130,slow=13,SNR=2.9						

GCMT **10** *07:18:29.4±0.1, 7°.32S×154°.89E, h12km, MW5.5/121, Moment Tensor Solution. s117,c202; s121,c258; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.65±.02; $M_{\theta\theta}$-0.95±.02; $M_{\phi\phi}$-0.70±.02; $M_{r\theta}$1.24±.05; $M_{\theta\phi}$0.97±.02; $M_{\phi r}$-0.37±.05; Best double couple: $M_0$2.16400×10^{17} NP1:ϕ_s117.00000°, δ64.00000°, λ76.00000°. NP2:ϕ_s326.00000°, δ30.00000°, λ116.00000°. Principal axes: T 2.1460, Plg68.0000°, Azm359.0000°; N 0.0320, Plg13.0000°, Azm123.0000°; P -2.1820, Plg18.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC **10** *07:18:29.4±0.1, 7°.05S×154°.86E, h10km, mb5.6/84, MS5.2/129, MW5.5 Error ellipse: s-maj=4.9km s-min=3.9km az=138.0, Moment Tensor Solution. s19 Moment tensor: Scale 10^{17}Nm; M_{rr}0.60; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-0.52; $M_{r\theta}$2.03; $M_{\theta\phi}$0.88; $M_{\phi r}$-1.08; Best double couple: $M_0$2.50000×10^{17} NP1:ϕ_s117.00000°, δ81.00000°, λ74.00000°. NP2:ϕ_s359.00000°, δ18.00000°, λ150.00000°. Principal axes: T 2.3400, Plg51.0000°, Azm9.0000°; N 0.3300, Plg15.0000°, Azm119.0000°; P -2.6800, Plg34.0000°, Azm220.0000°;*

ISCJB **10** *07:18:31.6±0.1, 7°.07S±0°.03×154°.83E±0°.02, h31km, mb5.4/160, MS5.1/171 Error ellipse: s-maj=4.5km s-min=3.2km az=175.8*

IDC **10** *07:18:32.0±0.6, 7°.05S×154°.74E, h26km±3km, mb4.8/26, mb1 4.9/29, mb1mx4.9/31, mbtmp4.9/29, ML3.7/3, MS4.8/23, Ms1 4.8/23, ms1mx4.6/32, Error ellipse: s-maj=13.5km s-min=10.5km az=114.0*

MOS **10** *07:18:32.1±1.2, 7°.05S×154°.75E, h33km, mb5.7/37, MS4.9/27, Error ellipse: s-maj=7.9km s-min=6.5km az=83.5*

BJI **10** *07:18:32.9, 6°.77S×155°.46E, h60km, mB5.6/53, mb5.2/65, Ms5.2/73, Ms7 4.9/67*

DJA **10** *07:18:52.9±2.1, 8°S±10°×15°4E±1°6, h133km±11km, M5.3/34, mb5.2/34, mB5.7/30, MLv5.4/1, Mw(mB)5.2/30*

ISC 10 07:18:35.9±0.3, **7°.18S**±0°.04×**154°.86E**±0°.04, **h58**km±2km, **n705**, σ**1s49**/638, **mb5.4**/160, **MS5.1**/172, **65C-81D,**
Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.51	114	LR	LR	07 22 26.0	
	comp=Z,20μm,18.4s,baz=278,slow=41						
PMG	Port Moresby	7.94	253	eP	Pn	07 20 26.7	-2.1
PMG						07 21 58.3	
PMG	Port Moresby	7.94	253	Pn	Pn	07 20 26.2	-2.5
	3.9nm,0.3s,baz=63,slow=12,SNR=12						
PMG				Sn	Sn	07 21 58.3	+1.1
	4.3nm,0.3s,baz=120,slow=20,SNR=3.8						
PMG	Port Moresby	7.94	253	ePn	Pn	07 20 26.6	-2.1
PMG				Sn	Sn	07 21 58.3	+1.1
PMG				eSn	Sn	07 21 60.0	+2.8
COEN	Coen	13.32	239	ePn	Pn	07 21 41.5	-0.8
CTA	Charters Tower	15.31	212	Pn	Pn	07 22 06.8	-1.8
	0.2nm,0.3s,baz=40,slow=14,SNR=4.8						
CTA				LR	LR	07 28 06.1	
	comp=Z,5μm,18.5s,baz=28,slow=37						
CTAO	Charters Tower	15.31	212	eP	Pn	07 22 07.9	-0.7
CTAO				pmax	pmax		
	comp=Z,947nm,3.0s						
CTAO	Charters Tower	15.31	212	ePn	Pn	07 22 07.9	-0.7
	comp=Z,947nm,3.0s						
GENI	Genyem	15.33	287	P	P	07 22 15.7	+3.2
	comp=Z,126nm,1.4s						
SMPI	Sarmi	16.90	287	P	Pn	07 22 29.1	+0.4
	comp=Z,98nm,1.4s,comp=Z,3μm						
EIDS	Eidsvold	18.45	191	ePn	Pn	07 22 47.9	+0.3
	comp=Z,73nm,1.1s						
DZM	Mont Dzumac	18.55	144	eP	Pn	07 22 50.2	+1.3
	comp=Z,154nm,1.3s						
DZM				eS	Sn	07 26 15.4	-0.3
	comp=Z,8μm,29.8s						
DZM				eLR	LR	07 27 16.0	
	comp=Z,3μm,22.8s						
DZM	Mont Dzumac	18.55	144	P	Pn	07 22 50.4	+1.4
	comp=Z,0.5nm,0.3s,baz=14,slow=6.0,SNR=9.6						
DZM				LR	LR	07 29 04.8	
	comp=Z,3μm,19.1s,baz=320,slow=34						
DZM	Mont Dzumac	18.55	144	eP	Pn	07 22 49.8	+0.8
	comp=Z,115nm,1.0s						
DZM	Mont Dzumac	18.55	144	eP	P	07 22 47.9	-0.2
DZM	Mont Dzumac	18.55	144	eP	P	07 22 48.1	-0.1
TARA	Tarawa	19.91	65	eP	P	07 23 02.5	-0.5
	comp=Z,1μm,1.5s						
KMPI	Kaimana, Papua	21.35	278	P	P	07 23 18.5	0.0
	comp=Z,305nm,1.8s,comp=Z,5μm						
FAKI	Fak Fak	22.92	279	P	P	07 23 37.9	+2.6
	comp=Z,122nm,1.3s,comp=Z,3μm						
FAKI	Fak Fak	22.92	279	eP	P	07 23 34.8	-0.5
	comp=Z,145nm,1.1s						
ARMA	Armidale	23.32	187	eP	P	07 23 38.9	-0.3
	comp=Z,111nm,1.3s						
WRAB	Tennant Creek	23.59	235	d iP	P	07 23 40.0	-1.7
WRAB				pmax	pmax		
	comp=Z,200nm,1.0s						
WRAB				MLR	MLR		
	comp=Z,10μm,16.0s						
WRAB	Tennant Creek	23.59	235	eP	P	07 23 40.1	-1.7
	comp=Z,384nm,1.6s						
WRAB				LR	LR		
	comp=Z,3μm,19.0s						
WRA	Warramunga Arr	23.61	235	P	P	07 23 40.2	-1.7
	comp=Z,71nm,0.9s,baz=61,slow=9.6,SNR=56						
WRA				PcP	PcP	07 27 26.5	+0.9
	comp=Z,3.6nm,0.6s,baz=65,slow=2.8,SNR=5.8						
WRA				S	S	07 27 54.8	+2.4
	comp=Z,2.4nm,0.9s,baz=60,slow=12,SNR=2.1						
WRA				ScP	ScP	07 31 02.1	+3.0
	comp=Z,1.8nm,1.1s,baz=49,slow=1.8,SNR=2.7						
WRA				LR	LR	07 32 33.0	
	comp=Z,3μm,20.2s,baz=65,slow=36						
SWI	Sorong	24.36	284	P	P	07 23 49.8	+1.1
	comp=Z,173nm,1.0s,comp=Z,2μm						
MSVF	Nonsavu	24.92	117	eP	P	07 23 56.8	+2.8
MSVF				MLR	MLR		
	comp=Z,3μm,19.0s						
MSVF	Nonsavu	24.92	117	eP	P	07 23 56.8	+2.8
MSVF				LR	LR		
	comp=Z,3μm,19.0s						
AS31	Alice Springs	25.95	229	eP	P	07 24 02.0	-1.2
ASAR	Alice Springs	25.96	229	P	P	07 24 01.8	-1.5
	comp=Z,13nm,0.8s,baz=60,slow=8.5,SNR=92						
ASAR				ScP	ScP	07 31 10.6	+4.9
	comp=Z,9.9nm,1.0s,baz=59,slow=3.4,SNR=15						
ASAR				LR	LR	07 33 52.8	
	comp=Z,2μm,20.1s,baz=57,slow=36						
STKA	Stephens Creek	27.52	205	eP	P	07 24 15.7	-1.5
STKA	Stephens Creek	27.52	205	P	P	07 24 15.8	-1.3
	comp=Z,50nm,0.8s,baz=6.3,slow=10,SNR=29						
STKA				ScP	ScP	07 31 16.2	+6.1
	comp=Z,5.7nm,1.0s,baz=78,slow=2.4,SNR=4.0						
STKA				LR	LR	07 34 46.3	
	comp=Z,4μm,21.2s,baz=24,slow=35						
LBMI	Labuha	28.05	282	P	P	07 24 40.4	+18
H11S3	WAKE ISLAND Hy	28.05	24	T	T	07 53 00.9	
	baz=202,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	28.05	24	T	T	07 52 56.8	
	baz=202,slow=76,SNR=14						
H11S1	WAKE ISLAND Hy	28.07	24	T	T	07 53 15.5	
	baz=202,slow=76,SNR=8.7						
CAN	Canberra	28.52	190	PFAKE		07 24 40.0	+14
CAN				LR	LR		
	comp=Z,5μm,19.0s						
TNTI	Ternate	28.55	285	eP	P	07 24 27.5	+1.0
	comp=Z,75nm,0.6s						
H11N1	WAKE ISLAND Hy	29.23	24	T	T	07 54 32.7	
	baz=205						
H11N3	WAKE ISLAND Hy	29.24	24	T	T	07 54 40.7	
	baz=205						
H11N2	WAKE ISLAND Hy	29.25	24	T	T	07 54 37.8	
	baz=205						
SOEI	Soe	30.36	263	P	P	07 24 42.7	-0.1
	comp=Z,83nm,1.0s,comp=Z,3μm						
SOEI	Soe	30.36	263	eP	P	07 24 42.5	-0.3
BBOO	Buckleboo	30.91	212	eP	P	07 24 45.9	-1.4
	comp=Z,1μm,1.5s						
KMSI	Cibinong	31.75	283	P	P	07 24 59.4	+4.5
	comp=Z,592nm,1.1s,comp=Z,6μm						
MMRI	Maumere	32.34	265	P	P	07 24 58.8	-1.3
	comp=Z,111nm,0.9s,comp=Z,4μm						
MMRI	Maumere	32.34	265	eP	P	07 24 59.4	-0.7
	comp=Z,438nm,1.6s						
DAV	Davao City (W)	32.46	295	PFAKE		07 25 10.0	+8.9
DAV				LR	LR		
	comp=Z,2μm,20.0s						
GTOI	Gorontalo	32.71	282	P	P	07 25 05.1	+1.8
	comp=Z,140nm,1.2s,comp=Z,2μm						
OUZ	Omahuta	32.79	151	eP	P	07 25 06.2	+2.5
	comp=Z,74nm,1.5s						
AFI	Afiamalu	33.44	104	P	P	07 25 10.1	+0.4
	comp=Z,73nm,0.9s,baz=328,slow=5.7,SNR=6.6						
AFI				LR	LR	07 36 36.1	
	comp=Z,1μm,18.2s,baz=282,slow=32						
FORT	Forrest	34.37	223	eP	P	07 25 15.9	-1.6
	comp=Z,96nm,1.1s						
BKSI	Bulukumba	34.58	271	P	P	07 25 19.1	-0.5
	comp=Z,34nm,1.0s,comp=Z,1μm						
BNSI	Bone	34.68	273	P	P	07 25 21.1	+0.6
	comp=Z,49nm,1.6s,comp=Z,1μm						
KAPI	Kappang	34.97	271	eP	P	07 25 22.3	-0.6
	comp=Z,388nm,1.1s						
KAPI				LR	LR		
	comp=Z,1μm,21.0s						
SPSI	Sidrap Palu	35.07	273	P	P	07 25 22.3	-1.5
	comp=Z,35nm,1.7s,comp=Z,700nm						
TTSI	Tana Toraja	35.14	275	P	pP	07 25 41.8	+2.9
TAU	Tasmania Unive	36.21	189	eP	P	07 25 33.3	+0.2
TAU				pmax	pmax		
	comp=Z,75nm,1.2s						
TAU				MLR	MLR		
	comp=Z,1μm,19.0s						
TAU	Tasmania Unive	36.21	189	eP	P	07 25 33.3	+0.2
	comp=Z,75nm,1.2s						
TAU				LR	LR		
	comp=Z,1μm,19.0s						
MBWA	Marble Bar	36.68	244	eP	P	07 25 35.9	-1.6
	comp=Z,87nm,1.4s						
MBWA				LR	LR		
	comp=Z,3μm,19.0s						
URZ	Urewera	36.91	150	P	P	07 25 40.7	+1.5
	comp=Z,36nm,1.2s,baz=351,slow=6.5,SNR=5.1						
URZ				LR	LR	07 39 23.9	
	comp=Z,3μm,18.1s,baz=356,slow=34						
URZ	Urewera	36.91	150	eP	P	07 25 39.0	-0.2
	comp=Z,95nm,1.4s						
RCP	Roxas	36.98	300	⇓eP	P	07 25 40.6	+0.5
SNZO	South Karori	38.30	156	PFAKE		07 26 00.0	+9.1
SNZO				LR	LR		
	comp=Z,843nm,19.0s						
MYLDM	Lahad Datu	38.31	288	⇓P	P	07 25 51.5	+0.1
RPZ	Rata Peaks	39.07	161	eP	P	07 25 57.9	+0.6
	comp=Z,16nm,0.9s						
IGBI	Denpasar	39.35	265	P	pP	07 26 14.8	0.0
SDKM	Sandakan	39.69	288	⇑P	P	07 26 04.2	+1.3
BBKI	Banjar Baru	40.01	273	P	P	07 26 08.4	+2.8
	comp=Z,123nm,1.0s,comp=Z,6μm						
JAGI	Jajag, Banyuwa	40.34	265	P	P	07 26 06.1	-2.2
	comp=Z,73nm,0.9s,comp=Z,1μm						
JAGI	Jajag, Banyuwa	40.34	265	eP	P	07 26 05.2	-3.2
	comp=Z,183nm,1.3s						
KKM	Kota Kinabalu	40.74	288	eP	P	07 26 13.2	+1.5
	comp=Z,150nm,1.5s						
KKM				LR	LR		
	comp=Z,697nm,19.0s						
KKM	Kota Kinabalu	40.74	288	⇓P	P	07 26 12.1	+0.4
GMJI	Gumukmas	41.05	266	P	pP	07 26 28.7	-0.2
PWJI	Pagerwojo	42.68	266	P	P	07 26 27.6	+0.2
	comp=Z,56nm,1.2s,comp=Z,969nm						
BTM	Bintulu	42.95	282	⇓P	P	07 26 28.8	-0.9
PBKI	Pangkalan Bun	43.24	274	P	sP	07 26 54.5	+0.8
NWAO	Narrogin (SRO)	43.28	229	P	P	07 26 30.9	-1.2
	comp=Z,12nm,0.9s,baz=73,slow=14,SNR=3.7						
PCJI	Pacitan	43.29	266	P	P	07 26 33.2	+0.8
	comp=Z,169nm,1.1s,comp=Z,2μm						
WOJI	Wonogiri, Jawa	43.55	266	P	pP	07 26 49.0	-0.5
SBUM	Sibu	43.62	281	⇑P	P	07 26 35.3	+0.2
UGM	Wanagama	43.95	266	P	P	07 26 46.0	+8.2
SMRI	Semarang	44.07	267	P	pP	07 26 56.2	+2.6
YOJ	Yonaguni jima	44.20	316	eP	P	07 26 37.8	-1.7
YOJ				pmax	pmax		
	comp=Z,42nm,0.8s						
YOJ	Yonaguni jima	44.20	316	eP	P	07 26 37.8	-1.7
	comp=Z,42nm,0.8s						
YULB	Yu-li	44.71	314	eP	P	07 26 42.6	-1.0
	comp=Z,105nm,1.1s						
NACB	Ninganchiao	44.99	315	eP	P	07 26 45.1	-0.8
	comp=Z,107nm,0.9s						
TPUB	Ta-pu	45.14	313	eP	P	07 26 46.0	-1.1
	comp=Z,61nm,0.6s						
SSLB	Suanglung	45.20	314	eP	P	07 26 46.6	-0.9
	comp=Z,74nm,0.9s						
KSM	Kuching	45.28	279	PFAKE		07 27 00.0	+12
KSM				LR	LR		
	comp=Z,582nm,20.0s						
KSM	Kuching	45.28	279	⇓P	P	07 26 49.0	+0.7
YHNB	Yeheng	45.46	315	eP	P	07 26 49.2	-0.5
	comp=Z,292nm,1.4s						
YHNB				LR	LR		
	comp=Z,867nm,19.0s						
KPJI	Karang Pucung	45.55	267	P	P	07 27 00.0	+10
TATO	Taipei	45.58	316	eP	P	07 26 48.7	-1.8
	comp=Z,122nm,1.2s						
TATO				LR	LR		
	comp=Z,1μm,19.0s						
RAR	Rarotonga	45.96	113	LR	LR	07 41 49.4	
	comp=Z,1μm,21.1s,baz=290,slow=30						
JNU	Nakatsue	46.11	332	P	P	07 26 52.3	-2.3
	comp=Z,13nm,0.7s,baz=132,slow=1.9,SNR=8.1						
JNU				pP	pP	07 27 00.8	-8.8
	comp=Z,29nm,0.8s,baz=138,slow=5.5,SNR=9.3						
JNU	Nakatsue	46.11	332	eP	P	07 26 52.7	-1.9
	comp=Z,11nm,0.8s						
JNU				pP	pP	07 27 00.8	-8.8
MJAR	Matsushiro Arr	46.21	341	pP	P	07 27 00.7	+5.4
	comp=Z,5.1nm,0.6s,baz=161,slow=7.6,SNR=4.9						
MAJO	Matsushiro	46.21	341	eP	P	07 26 55.9	+0.6
MAJO				MLR	MLR		
	comp=Z,3μm,16.0s						
MAJO	Matsushiro	46.21	341	PFAKE		07 27 10.0	+15
MAJO				LR	LR		
	comp=Z,495nm,19.0s						
CISI	Cisompet, Garu	46.64	266	P	P	07 27 07.8	+8.6
CISI	Cisompet, Garu	46.64	266	eP	P	07 27 00.3	+1.2
	comp=Z,197nm,1.0s						
LEM	Lembang	46.88	267	P	P	07 27 09.3	+8.2
QZH	Quanzhou	47.61	313	⇑iP	P	07 27 06.3	-0.1
QZH				S	S	07 34 01.6	+3.7
QZH				pmax	pmax		
	comp=Z,190nm,1.1s						
QZH				pmax	pmax		
	comp=Z,1μm,2.8s						
QZH				LR	LR		
	comp=Z,3μm,26.4s						
QZH				LR	LR		
	comp=Z,2μm,19.4s						
QZH				LR	LR		
	comp=Z,2μm,18.0s						
SSE	Sheshan	49.87	322	P	P	07 27 23.0	-0.6
SSE				pP	pP	07 27 37.2	-1.6
SSE				S	S	07 34 30.7	+1.2
SSE				pmax	pmax		
	comp=Z,25nm,0.9s						
SSE				pmax	pmax		
	comp=Z,360nm,4.7s						
SSE				LR	LR		
	comp=Z,500nm,18.3s						
DLV	T Lat	49.88	292	eP	P	07 27 24.4	+0.2
	comp=Z,149nm,1.3s						
ERM	Erimo	50.11	349	PFAKE		07 27 40.0	+15
ERM				LR	LR		
	comp=Z,1μm,20.0s						
GZH	Guangzhou	50.52	308	P	P	07 27 30.2	+1.5
GZH				S	S	07 34 46.4	+7.5
GZH				LR	LR		
	comp=Z,910nm,18.2s						
GZH				LR	LR		
	comp=Z,2μm,18.8s						
GZH				LR	LR		
	comp=Z,3μm,16.9s						
KSRS	Korea Array	51.04	332	P	P	07 27 30.9	-1.5
	comp=Z,3.1nm,0.6s,baz=144,slow=6.5,SNR=10						
KSRS				pP	pP	07 27 38.5	-9.0
	comp=Z,12nm,0.8s,baz=147,slow=8.1,SNR=14						
KSRS				LR	LR	07 48 34.9	
	comp=Z,548nm,18.6s,baz=138,slow=35						
KSAR	Wonju Array Be	51.05	332	P	P	07 27 30.9	-1.5
KSAR				*PP	pP	07 27 38.6	-9.1
KSAR	Wonju Array Be	51.05	332	P	P	07 27 30.9	-1.5
KSAR				pP	pP	07 27 38.5	-9.1
QIZ	Qiongzhong	51.44	301	P	P	07 27 35.3	-0.4
QIZ				pP	pP	07 27 51.0	0.0
QIZ				sP	sP	07 27 58.6	+1.0
QIZ				S	S	07 34 51.3	-0.5
QIZ				sS	sS	07 35 18.4	+0.9
QIZ				pmax	pmax		
	comp=Z,25nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,160nm,5.3s						
QIZ				LR	LR		
	comp=Z,930nm,17.1s						
QIZ	Qiongzhong	51.44	301	PFAKE		07 27 50.0	+14
QIZ				LR	LR		
	comp=Z,905nm,22.0s						
INCN	Inchon	51.66	331	PFAKE		07 27 50.0	+13
INCN				LR	LR		
	comp=Z,583nm,22.0s						
MYKOM	Kota Tinggi	51.67	278	⇓P	P	07 27 38.3	+0.7
NJ2	Nanjing	51.97	321	eP	P	07 27 40.1	+0.7
NJ2				pP	pP	07 27 54.6	-0.1
NJ2				pmax	pmax		
	comp=Z,60nm,1.1s						
KGM	Kluang	52.24	278	⇓P	P	07 27 42.4	+0.7
ASAJ	Asahikawa	52.24	349	P	P	07 27 40.2	-1.0
	comp=Z,7.9nm,0.7s,baz=198,slow=7.7,SNR=6.5						
ASAJ				pP	pP	07 27 48.5	-8.0
	comp=Z,23nm,0.7s,baz=229,slow=11,SNR=7.6						
ASAJ				LR	LR	07 48 35.5	
	comp=Z,998nm,19.8s,baz=171,slow=35						
ASAJ	Asahikawa	52.24	349	eP	P	07 27 39.9	-1.3
	comp=Z,12nm,0.8s						
ASAJ				pP	pP	07 27 48.5	-8.0
KUR	Kuril'sk	52.55	354	c iP	P	07 27 45.9	+2.5
KUR				i		07 29 39.5	
KUR				i PPP	PPP	07 30 43.4	
KUR				i S	S	07 35 03.8	-2.2
KTGM	Kuala Trengganu	53.09	282	⇓P	P	07 27 48.4	+0.4
SDSI	Sungai Dareh	53.63	274	P	sP	07 28 12.3	-1.6
UBPT	Khong Chiam	53.79	295	P	P	07 27 56.0	+2.9
	comp=Z,32nm,1.0s,comp=Z,1μm						
WHN	Wuhan	53.98	316	⇑P	P	07 27 54.6	+0.4
WHN				S	S	07 35 32.2	+6.2
WHN				LR	LR		
	comp=Z,860nm,10.2s						
WHN				LR	LR		
	comp=Z,1μm,12.6s						
WHN				LR	LR		
	comp=Z,2μm,15.2s						
FRIM	Kepong	54.13	279	⇓P	P	07 27 55.5	-0.2
YSS	Yuzh-Sakhalins	54.96	350	⇑eP	P	07 28 07.6	+6.6
YSS				e*PP	pP	07 28 17.9	+1.5
YSS				e*SP	sP	07 28 22.0	-1.0
YSS				eS	S	07 35 56.0	+17
YSS				e		07 37 50.0	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=N,600nm,17.0s						
YSS				MLR	MLR		
	comp=Z,1μm,17.0s						
IPM	Ipoh	54.96	281	eP	P	07 28 02.1	+0.3
	comp=Z,54nm,1.1s						
IPM	Ipoh	54.96	281	⇓P	P	07 28 01.8	0.0
PPT	Papeete	55.07	106	LR	LR	07 49 35.8	
	comp=Z,401nm,18.2s,baz=296,slow=34						
PPT2	Papeete2	55.07	106	eS	S	07 35 41.9	+0.6
	comp=Z,487nm,28.0s						
PPT2				eLQ	LQ	07 41 51.5	
	comp=Z,2μm,25.2s						
PPT2				eLR	LR	07 44 01.2	
	comp=Z,2μm,30.5s						
USRK	Ussuriysk Arra	55.16	340	P	P	07 28 00.9	-1.6
	comp=Z,6.3nm,0.8s,baz=152,slow=8.6,SNR=11						
USRK				pP	pP	07 28 09.8	-8.1
	comp=Z,14nm,0.8s,baz=177,slow=7.2,SNR=15						
USRK				LR	LR	07 47 13.5	
	comp=Z,193nm,20.4s,baz=142,slow=31						
KULM	Kulim	55.50	281	PFAKE		07 28 20.0	+14
KULM				LR	LR		
	comp=Z,283nm,20.0s						
KULM	Kulim	55.50	281	⇓P	P	07 28 05.1	-0.5
TIA	Tai'an	55.83	323	⇓P	P	07 28 07.0	-0.6
TIA				pmax	pmax		
	comp=Z,20nm,1.1s						
MDJ	Mudanjiang	56.36	339	P	P	07 28 09.5	-1.6
MDJ				pP	pP	07 28 25.6	-1.0
MDJ				sP	sP	07 28 33.0	-0.2
MDJ				ScP	ScP	07 32 57.0	-5.3
MDJ				S	S	07 36 00.1	+2.7
MDJ				pmax	pmax		
	comp=Z,15nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,330nm,4.7s						
MDJ				LR	LR		
	comp=Z,350nm,15.6s						
MDJ				LR	LR		
	comp=Z,450nm,13.5s						
MDJ				LR	LR		
	comp=Z,460nm,14.7s						
MDJ	Mudanjiang	56.36	339	eP	P	07 28 09.9	-1.2
	comp=Z,17nm,0.9s						
MDJ				LR	LR		
	comp=Z,393nm,19.0s						
PATY	Pattaya	57.24	290	P	P	07 28 31.8	+14
ENH	Enshi	57.27	313	eP	P	07 28 17.5	-0.4
	comp=Z,24nm,0.9s						
ENH				LR	LR		
	comp=Z,121nm,19.0s						
CN2	Changchun	57.30	335	eP	P	07 28 15.7	-2.1
CN2				epP	pP	07 28 31.7	-1.6
CN2				esP	sP	07 28 38.7	-1.2
CN2				eS	S	07 36 06.1	-3.7
CN2				ScS	ScS	07 37 55.8	-6.3
CN2				pmax	pmax		
	comp=Z,20nm,1.4s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,400nm,14.0s						
CN2				LR	LR		
	comp=Z,400nm,14.0s						
CN2				LR	LR		
	comp=Z,800nm,18.0s						
COCO	West Island	57.33	260	PFAKE		07 28 30.0	+11
COCO				LR	LR		
	comp=Z,733nm,22.0s						
GYA	Guiyang	57.46	308	P	P	07 28 21.2	+1.8
GYA				pP	pP	07 28 32.0	-2.9
GYA				PP	PP	07 30 31.8	+4.2
GYA				S	S	07 36 14.9	+2.1
GYA				SS	SS	07 40 05.5	+2.0
GYA				pmax	pmax		
	comp=Z,40nm,1.0s						
GYA				pmax	pmax		
	comp=Z,160nm,5.6s						
GYA				LR	LR		
	comp=Z,830nm,18.6s						
GYA				LR	LR		
	comp=Z,770nm,19.2s						
GYA				LR	LR		
	comp=Z,860nm,18.5s						
SLVN	Son La	57.47	301	eP	P	07 28 19.1	-0.4

comp=Z,25nm,1.0s
SKR Severo-Kuril's 57.63 1 eP P 07 28 22.5 +2.5
SKR e 07 28 33.5
SKR e 07 28 40.3
SKR e 07 38 10.0
SKR pmax pmax
comp=Z,90nm,1.0s
GSI Gunungsitoli 57.77 276 eP P 07 28 21.0 -0.7
comp=Z,130nm,1.2s
KCSI Kotacane, Aceh 57.96 279 P pP 07 28 40.6 +2.0
SURT Suratani 58.13 285 P P 07 28 27.7 +3.5
comp=Z,21nm,1.1s,comp=Z,398nm
PBKT Sadao Pong 58.29 294 P P 07 28 27.0 +1.7
comp=Z,41nm,1.6s,comp=Z,1µm
BJT Baijiatuau 58.98 326 PFAKE 07 28 40.0 +10
BJT LR LR
comp=Z,692nm,19.0s
BJI Beijing 59.00 326 P P 07 28 28.9 -0.8
BJI S S 07 36 32.6 +0.6
BJI pmax pmax
comp=Z,500nm,4.6s
BJI LR LR
comp=Z,470nm,19.8s
BJI LR LR
comp=Z,490nm,16.6s
BJI LR LR
comp=Z,510nm,18.7s
UTTA Uttaradit 59.06 296 P P 07 28 32.5 +1.9
comp=Z,14nm,1.1s,comp=Z,142nm
SRDT SRDT 59.28 291 P P 07 28 35.0 +2.8
comp=Z,148nm,1.4s,comp=Z,8µm
TIY Taiyuan 59.65 322 eP P 07 28 34.6 +0.2
TIY S S 07 36 45.2 +4.4
TIY pmax pmax
comp=Z,390nm,3.5s
TIY LR LR
comp=Z,190nm,5.8s
TIY LR LR
comp=Z,380nm,9.8s
KLR Kul'dur 59.70 343 eP P 07 28 28.8 -5.6
KLR eS S 07 36 45.5 +4.7
KLR pmax pmax
comp=E,50nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s
KLR MLR MLR
comp=N,900nm,13.0s
KLR MLR MLR
comp=E,800nm,13.0s
KLR MLR MLR
comp=Z,2µm,13.0s
XAN Xi'an 59.75 316 P P 07 28 33.9 -1.2
XAN pP pP 07 28 49.8 -0.9
XAN PP PP 07 30 49.3 +1.6
XAN S S 07 36 43.8 +1.7
XAN ScS ScS 07 38 19.2 -1.5
XAN SS SS 07 40 43.0 +3.9
XAN pmax pmax
comp=Z,14nm,0.7s
XAN pmax pmax
comp=Z,96nm,3.7s
XAN LR LR
comp=Z,500nm,17.0s
XAN LR LR
comp=Z,160nm,15.9s
XAN LR LR
comp=Z,260nm,18.1s
SUKH Sukhothai 59.80 295 P P 07 28 37.3 +1.6
comp=Z,16nm,0.8s,comp=Z,127nm
KHLT Khaolaem Dam 59.91 292 P P 07 28 38.6 +2.1
comp=Z,24nm,1.3s,comp=Z,556nm
KMI Kunming 60.01 304 P P 07 28 39.1 +1.8
KMI PP PP 07 30 48.0 -2.3
KMI S S 07 36 52.7 +6.5
KMI pmax pmax
comp=Z,49nm,1.7s
KMI pmax pmax
comp=Z,460nm,3.2s
KMI LR LR
comp=Z,470nm,15.6s
KMI LR LR
comp=Z,430nm,17.6s
KMI LR LR
comp=Z,530nm,19.8s
PET Petropavlovsk 60.05 3 eP P 07 28 42.3 +5.6
PET e*PP pP 07 28 59.7 +7.4
PET eS S 07 36 48.4 +3.2
PET pmax pmax
comp=Z,51nm,0.8s
PET pmax pmax
comp=Z,200nm,8.5s
PET Petropavlovsk 60.05 3 eP P 07 28 39.0 +2.3
comp=Z,41nm,0.9s
PET LR LR
comp=Z,1µm,19.0s
PEA0B Petropavlovsk- 60.10 2 eP P 07 28 36.0 -1.0
PETK Petropavlovsk- 60.10 2 P P 07 28 35.9 -1.2
comp=Z,5.3nm,0.7s,baz=178,slow=9.6,SNR=11
PETK pP pP 07 28 43.9 -8.8
comp=Z,64nm,0.8s,baz=157,slow=7.7,SNR=46
PETK LR LR 07 53 17.2
comp=Z,357nm,20.2s,baz=172,slow=35
LAMP Lampang 60.15 296 P P 07 28 40.6 +2.5
comp=Z,26nm,1.0s,comp=Z,208nm
CM31 Chiang Mai Arr 60.74 296 eP P 07 28 42.4 +0.2
comp=Z,11nm,0.2s
CMAR Chiang Mai Arr 60.74 296 P P 07 28 41.5 -0.6
comp=Z,14nm,0.6s,baz=123,slow=5.3,SNR=38
CMAR LR LR 07 53 42.2
comp=Z,317nm,21.0s,baz=116,slow=35
CMAR PKP2bc 07 58 11.2
comp=Z,0.7nm,0.3s,baz=287,slow=3.5,SNR=5.0
CMMT Chiang Mai 60.86 296 P P 07 28 45.3 +2.3
comp=Z,90nm,1.3s,comp=Z,1µm
CHTO Chiang Mai 60.86 296 eP P 07 28 43.2 +0.2
CHTO pmax pmax
comp=Z,102nm,1.3s
CHTO MLR MLR
comp=Z,468nm,19.0s
CHTO Chiang Mai 60.86 296 P P 07 28 45.4 +2.4
comp=Z,195nm,1.4s,comp=Z,4µm
CHTO Chiang Mai 60.86 296 eP P 07 28 43.2 +0.2
comp=Z,102nm,1.3s
CHTO LR LR
comp=Z,468nm,19.0s
CMAI Chiengmai2 61.16 297 P P 07 28 47.7 +2.6
comp=Z,72nm,1.6s,comp=Z,4µm
FX1 Attu Island--F 61.82 12 P P 07 28 48.2 -0.5
comp=Z,30nm,0.6s,baz=180,slow=20
CD2 Chengdu 61.83 311 ⇑iP P 07 28 49.5 +0.1
CD2 pP pP 07 29 05.9 +0.9
CD2 sP sP 07 29 13.0 +1.5
CD2 PcP PcP 07 29 29.7 -0.2
CD2 PP PP 07 31 08.4 +2.2
CD2 PcS PcS 07 33 31.4 -1.8
CD2 S S 07 37 06.5 -2.3
CD2 sS sS 07 37 34.5 -0.7
CD2 SS SS 07 41 10.8 -1.1
CD2 pmax pmax
comp=Z,130nm,1.0s
CD2 pmax pmax
comp=Z,570nm,4.0s
CD2 LR LR
comp=Z,820nm,15.2s
CD2 LR LR
comp=Z,700nm,16.6s
CD2 LR LR
comp=Z,970nm,17.6s
HHC Hu-ho-hao-te 62.16 324 eP P 07 28 51.9 +0.4
HHC PP PP 07 31 11.4 +2.5
HHC PcS PcS 07 33 33.4 -1.0
HHC S S 07 37 18.2 +5.4
HHC sS sS 07 37 37.6 -1.6
HHC ScS SKKSac 07 38 34.4 -4.3
HHC SS SS 07 41 16.8 -0.1
HHC pmax pmax
comp=Z,30nm,1.1s
HHC pmax pmax
comp=Z,390nm,5.3s
HHC LR LR
comp=Z,950nm,16.7s
HHC LR LR
comp=Z,730nm,15.3s
HHC LR LR
comp=Z,940nm,16.8s
HIA Hailar 64.03 335 eP P 07 29 02.2 -1.4
HIA pmax pmax
comp=Z,23nm,0.7s
HIA MLR MLR
comp=Z,522nm,19.0s
HIA Hailar 64.03 335 eP P 07 29 02.2 -1.4
comp=Z,23nm,0.7s
HIA LR LR
comp=Z,522nm,19.0s
LZH Lanzhou 64.35 316 ⇓P P 07 29 06.9 +0.8
LZH pP pP 07 29 24.0 +2.1
LZH PP PP 07 31 30.1 +1.7
LZH S S 07 37 42.0 +1.6
LZH SS SS 07 41 51.2 -0.2
LZH pmax pmax
comp=Z,470nm,1.7s
LZH pmax pmax
comp=Z,720nm,4.0s
LZH LR LR
comp=Z,760nm,17.6s
LZH LR LR
comp=Z,500nm,17.7s
LZH LR LR
comp=Z,640nm,17.8s
PBA Port Blair 64.56 286 eP P 07 29 06.4 -1.2
DGPR DIGLIPUR 64.75 288 ex P 07 29 03.2 -5.6
DGPR AMB AMB 07 29 10.8
comp=Z,28nm,0.7s
CASY Casey 66.38 198 PFAKE 07 29 30.0 +12
CASY LR LR
comp=Z,2µm,20.0s
CLNS Chul'man 68.36 343 eP P 07 29 30.4 -0.8
CLNS pmax pmax
comp=Z,28nm,0.9s
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,0.8s
GTA Gaotai 68.78 317 ⇑P P 07 29 34.6 +0.3
GTA pP pP 07 29 51.2 +1.0
GTA sP sP 07 29 58.0 +1.4
GTA S S 07 38 32.1 -1.7
GTA sS sS 07 39 00.4 -0.2
GTA SS SS 07 43 00.0 0.0
GTA pmax pmax
comp=E,56nm,2.1s
GTA pmax pmax
comp=E,690nm,7.4s
GTA LR LR
comp=E,460nm,18.5s
GTA LR LR
comp=E,390nm,19.5s
GTA LR LR
comp=E,520nm,19.5s
RKT Rikitea 69.00 112 eLQ LQ 07 47 32.3
comp=E,1µm,32.8s
RKT eLR LR 07 50 40.4
comp=E,838nm,34.5s
ULN Ulaanbaatar 69.09 328c iP P 07 29 35.8 -0.2
ULN pmax pmax
comp=Z,58nm,2.5s
ULN MLR MLR
comp=Z,654nm,20.0s
ULN Ulaanbaatar 69.09 328 eP P 07 29 35.4 -0.6
comp=Z,14nm,0.9s
ULN LR LR
comp=Z,674nm,19.0s
SHL Shillong 69.28 301 eP P 07 29 36.2 -1.4
SHL AMB AMB 07 29 40.4
comp=Z,80nm,1.8s
SONM Songino Array 69.42 327 P P 07 29 37.8 -0.2
baz=142,slow=6.9
SONM PKP2bc 07 57 46.4
comp=Z,0.4nm,0.8s,baz=260,slow=4.2,SNR=3.7
SONM LR LR 08 01 48.2
comp=Z,820nm,18.2s,baz=146,slow=38
SEY Seymchan 69.93 359 P P 07 29 39.5 -1.2
comp=Z,4.4nm,0.7s,baz=170,slow=4.6,SNR=13
SEY pP pP 07 29 47.5 -9.1
comp=Z,18nm,0.9s,baz=171,slow=8.0,SNR=17
VNDA Vanda 70.40 178 P P 07 29 44.6 +1.1
comp=Z,5.4nm,0.9s,baz=38,slow=8.2,SNR=3.5
VNDA LR LR 07 56 18.1
comp=Z,271nm,18.7s,baz=356,slow=32
LSA Lhasa 71.27 305 eP P 07 29 50.8 +0.7
LSA pmax pmax
comp=Z,67nm,1.0s
LSA MLR MLR
comp=Z,443nm,19.0s
LSA Lhasa 71.27 305 eP P 07 29 50.8 +0.7
comp=Z,67nm,1.0s
LSA LR LR
comp=Z,443nm,19.0s
YAK Yakutsk 71.71 348 eP P 07 29 49.9 -1.6
YAK e 07 30 08.5
YAK e*PP PcP 07 30 13.3 +3.1
YAK e 07 32 30.7
YAK eS S 07 39 02.1 -4.6
YAK e 07 39 34.5
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,20nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=N,44nm,1.5s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK smax smax
comp=E,716nm,6.2s
YAK smax smax
comp=N,142nm,2.8s
YAK MLR MLR
comp=E,250nm,14.0s
YAK MLR MLR
comp=Z,612nm,18.0s
YAK MLR MLR
comp=N,543nm,19.0s
YAK Yakutsk 71.71 348 PFAKE 07 30 00.0 +8.5
YAK LR LR
comp=Z,526nm,20.0s
ZAK Zakamensk 72.58 328⇓iP P 07 29 56.1 -1.0
ZAK e 07 30 19.2
ZAK pmax pmax
comp=Z,14nm,1.3s
TLY Talaya 73.15 330 eP P 07 29 59.7 -0.7
TLY e 07 39 52.8
TLY pmax pmax
comp=Z,23nm,1.9s
TLY MLR MLR
comp=Z,365nm,16.0s
TLY Talaya 73.15 330 eP P 07 29 59.1 -1.2
comp=Z,6.9nm,0.9s
TLY LR LR
comp=Z,402nm,19.0s
IRK Irkutsk 73.17 330 eP P 07 29 57.8 -2.7
IRK pmax pmax
comp=Z,55nm,2.6s
TAPN Taplejung 73.38 301 eP P 07 30 02.6 0.0
comp=Z,255nm,1.3s
ODAN Odare 73.51 301 eP P 07 30 03.4 +0.1
comp=Z,342nm,1.0s
BOK Bokaro 73.96 297 eP P 07 30 05.0 -0.8
BOK AMB AMB 07 30 09.4
comp=Z,64nm,1.4s
RAMN Ramite 74.21 300 eP P 07 30 07.2 -0.2
comp=Z,252nm,1.5s
MOY Mondy 74.50 329 eP P 07 30 08.9 +0.5
JIRN Jiri 74.77 301 eP P 07 30 11.5 +0.7
comp=Z,94nm,0.8s
VIS Vishakhapatnam 74.81 290 eP P 07 30 10.0 -0.7
GUN Gumba 75.10 301 eP P 07 30 12.7 0.0
comp=Z,237nm,0.9s
PALK Pallekele 75.34 279 eP P 07 30 14.2 +0.3
PALK pmax pmax
comp=Z,45nm,0.9s
PALK Pallekele 75.34 279 eP P 07 30 14.2 +0.3
comp=Z,45nm,0.9s
PKI Pulchoki 75.41 301 eP P 07 30 14.7 +0.3
comp=Z,333nm,1.5s
PKIN Phulchoki 75.42 301 eP P 07 30 15.0 +0.6
comp=Z,202nm,1.3s
BILL Bilibino 75.47 4c iP P 07 30 12.6 -0.9
BILL e 07 30 29.1
BILL eS S 07 39 53.2 +4.1
BILL pmax pmax
comp=Z,42nm,1.1s
BILL Bilibino 75.47 4 eP P 07 30 12.5 -0.9
comp=Z,78nm,1.2s
BILL LR LR
comp=Z,890nm,19.0s
KKN Kakani 75.58 301 eP P 07 30 15.1 -0.1
comp=Z,130nm,1.0s
DMN Daman 75.67 301 eP P 07 30 15.9 +0.1
comp=Z,221nm,1.1s
GKN Gorkha 76.18 301 eP P 07 30 18.2 -0.4
comp=Z,317nm,1.2s
KOLN Koldanda 77.00 301 eP P 07 30 23.1 -0.2
comp=Z,304nm,1.4s
DANN Dangsing 77.02 301 eP P 07 30 23.6 +0.1
comp=Z,413nm,1.6s
KDAK Kodiak Island 77.39 26 iP P 07 30 24.2 -0.3
TNA Tin City 77.53 15 eP P 07 30 24.9 -0.2
comp=Z,33nm,1.2s
PYUN Piuthan 77.61 301 eP P 07 30 26.5 -0.2
comp=Z,267nm,1.1s
WMQ Urumqi 78.87 317 P P 07 30 32.9 -0.3
WMQ PcP PcP 07 30 41.9 +0.2
WMQ pP pP 07 30 49.6 +0.2
WMQ sP sP 07 30 56.4 +0.7
WMQ PP PP 07 33 33.6 +1.1
WMQ S S 07 40 24.0 -3.1
WMQ sS sS 07 40 52.6 -1.8
WMQ SS SS 07 45 32.0 -1.3
WMQ pmax pmax
comp=Z,32nm,2.0s
WMQ pmax pmax
comp=Z,610nm,3.6s
WMQ LR LR
comp=Z,260nm,19.0s
WMQ LR LR
comp=Z,260nm,20.8s
WMQ LR LR
comp=Z,240nm,21.4s
HYB Hyderabad 79.21 289 iP P 07 30 36.5 +1.0
HYB ePcP PcP 07 30 45.0 +1.3
HYB e 07 30 56.0
HYB eS S 07 40 32.0 +0.4
HYB Hyderabad 79.21 289 eP P 07 30 35.4 -0.1
HYB AMB AMB 07 30 57.9
comp=Z,52nm,0.7s
NGP Nagpur 79.49 293 eP P 07 30 37.2 +0.3
NGP ex x 07 40 35.5
LGTI Lohaghat 80.28 301 eP P 07 30 43.5 +2.5
RC01 Rabbit Creek A 80.48 24 eP P 07 30 40.3 -1.2
comp=Z,23nm,0.5s
TIXI Tiksi 80.52 352 eP P 07 30 40.1 -1.2
TIXI pmax pmax
comp=Z,2.0nm,0.3s
TIXI MLR MLR
comp=Z,509nm,19.0s
TIXI Tiksi 80.52 352 eP P 07 30 40.1 -1.2
comp=Z,2.5nm,0.3s
TIXI LR LR
comp=Z,509nm,19.0s
PPLA Purkeypile 80.59 22 eP P 07 30 41.1 -1.0
comp=Z,54nm,1.2s
PMR Palmer 81.01 24 eP P 07 30 43.0 -1.2
PMR pmax pmax
comp=Z,41nm,0.8s
PMR Palmer 81.01 24 eP P 07 30 43.0 -1.2
comp=Z,41nm,0.8s
PAF Port-aux-Franc 81.12 221 S S 07 40 40.0 -10
PAF SS SS 07 45 56.0 -10
PAF L L 07 52 00.0
PAF R 07 57 00.0
BHPL Bhopal 81.39 295 eP P 07 30 46.8 -0.4
BHPL AMB AMB 07 30 51.6
comp=Z,27nm,0.5s
KTH Kantishna Hill 81.44 22 eP P 07 30 44.9 -1.7
comp=Z,42nm,1.0s
TRF Thorofare Moun 81.61 22 eP P 07 30 45.9 -1.7
comp=Z,35nm,0.9s
IM04 Indian Mountai 81.92 19 eP P 07 30 48.0 -1.0
DIV Divide 82.13 25 eP P 07 30 48.9 -1.4
comp=Z,74nm,1.1s
MCK McKinley 82.27 22 eP P 07 30 49.5 -1.4
MCK pmax pmax
comp=Z,78nm,0.8s
MCK McKinley 82.27 22 eP P 07 30 49.5 -1.4
comp=Z,78nm,0.8s
DDI Dehra Dun 82.33 302 eP P 07 30 51.3 -0.6
DDI AMB AMB 07 30 55.6
comp=Z,108nm,1.7s
BMRM Bremner River 82.54 25 eP P 07 30 52.0 -0.4
comp=Z,112nm,1.3s
NDI New Delhi 82.69 300 eP P 07 30 53.5 -0.3
QSPA South Pole Qui 82.80 180 LR LR 08 02 48.1
comp=Z,321nm,20.1s,baz=12,slow=32
PAX Paxson 83.19 23 eP P 07 30 55.3 -0.5
PAX pmax pmax
comp=Z,46nm,1.4s
PAX Paxson 83.19 23 eP P 07 30 55.3 -0.5
comp=Z,46nm,1.4s
SMLA Simla 83.25 302 eP P 07 30 55.1 -1.5
SMLA AMB AMB 07 30 59.5
comp=Z,85nm,1.1s
KAD Karad 83.29 288 eP P 07 30 57.4 +0.2
COLA College 83.30 21c iP P 07 30 55.0 -1.1
COLA pmax pmax
comp=Z,503nm,2.4s
COLA College 83.30 21 eP P 07 30 54.3 -1.8
comp=Z,43nm,0.8s
COLA LR LR
comp=Z,1µm,19.0s
MK31 Makanchi Array 83.45 319 eP P 07 30 57.0 -0.4
MK31 Makanchi Array 83.45 319 eP P 07 30 57.0 -0.4
MKAR Makanchi Array 83.45 319 P P 07 30 57.1 -0.3
comp=Z,12nm,0.7s,baz=103,slow=5.5,SNR=99
MKAR PKKPbc PKKPbc 07 49 25.6 +7.5
comp=Z,0.3nm,0.8s,baz=354,slow=1.4,SNR=3.1
ILAR Eielson Array 83.59 22 P P 07 30 55.6 -2.0
comp=Z,5.4nm,0.8s,baz=234,slow=5.6,SNR=84
ILAR LR LR 08 06 45.4
comp=Z,1µm,19.1s,baz=244,slow=35
POO Poona 83.81 289 eP P 07 31 00.1 +0.3
POO AMB AMB 07 31 22.2
comp=Z,68nm,0.5s
COLD Coldfoot 83.82 19 eP P 07 30 58.3 -0.5
comp=Z,114nm,1.7s
MENT Mentasta 83.87 24 eP P 07 30 58.7 -0.5
BHK Bhakra 83.94 303 eP P 07 31 00.0 -0.2
DOT Dot Lake 84.08 23 eP P 07 30 59.2 -1.0
comp=Z,34nm,0.8s
MAW Mawson 84.18 203 LR LR 08 06 56.2
comp=Z,273nm,18.8s,baz=94,slow=34
DHRM DHARAMSHALA 84.21 303 eP P 07 31 00.5 -1.3
DHRM AMB AMB 07 31 19.4
comp=Z,89nm,0.4s
ZAA0 Zalesovo Array 84.26 326 eP P 07 30 58.9 -2.4
ZALV Zalesovo Beam 84.26 326 P P 07 30 59.5 -1.8
comp=Z,2.6nm,0.5s,baz=114,slow=5.9,SNR=17
ZALV LR LR 08 12 12.2
comp=Z,287nm,18.0s,baz=81,slow=38
AJM Ajmer 84.49 297 eP P 07 31 03.0 -0.1
NVS Novosibirsk 85.43 327 eP P 07 31 05.7 -1.4
NVS eS S 07 41 26.6 -7.1
NVS pmax pmax
comp=N,31nm,2.3s
NVS pmax pmax
comp=Z,116nm,2.3s
NVS pmax pmax
comp=E,41nm,1.4s
NVS smax smax
comp=E,34nm,1.4s
HYT Haines Junctio 85.59 27 eP P 07 31 09.1 +1.1
EGAK Eagle 85.73 23 eP P 07 31 08.0 -0.5
comp=E,50nm,1.0s
EGAK LR LR
comp=Z,1µm,21.0s
KSH Kashi 86.03 310 eP P 07 31 12.3 +1.6
KSH epP pP 07 31 29.0 +2.0
KSH esP sP 07 31 35.1 +1.7
KSH ePP PP 07 34 35.5 +4.0
KSH S SKKSac 07 41 37.1 -2.5
KSH pmax pmax
comp=Z,90nm,1.6s
KSH pmax pmax
comp=Z,580nm,3.0s
KSH LR LR

comp=Z,290nm,15.3s
KSH LR LR
comp=Z,410nm,14.8s
KSH LR LR
comp=Z,400nm,13.8s
AAA Alma-Ata 86.16 314 eP P 07 31 12.8 +1.7
AAA eS S 07 41 46.9 +5.3
AAA pmax pmax
comp=Z,700nm,3.8s
AAA smax smax
comp=N,2μm,7.8s
WRAK Wrangell Islan 86.56 32 eP P 07 31 12.6 0.0
comp=N,123nm,1.5s
KURK Kurchatov 86.89 322 eP P 07 31 12.7 -1.7
KURK pmax pmax
comp=Z,11nm,1.2s
KURK MLR MLR
comp=Z,219nm,19.0s
KURK Kurchatov 86.89 322 eP P 07 31 12.7 -1.7
comp=Z,11nm,1.2s
KURK PKKPbc PKKPbc 07 49 08.2 -1.8
KURK LR LR
comp=Z,219nm,19.0s
KURBB Kurchatov Arra 86.92 322 PKKPbc PKKPbc 07 49 08.2 -1.7
comp=Z,0.3nm,0.7s,baz=289,slow=2.8,SNR=4.3
TKM2 Tokmak 2 87.05 314 eP P 07 31 15.3 -0.4
TKM2 pmax pmax
comp=Z,8.0nm,0.7s
TKM2 MLR MLR
comp=Z,310nm,19.0s
TKM2 Tokmak 2 87.05 314 P P 07 31 15.8 +0.1
SNR=10
TKM2 Tokmak 2 87.05 314 eP P 07 31 15.3 -0.4
comp=Z,7.7nm,0.7s
TKM2 LR LR
comp=Z,310nm,19.0s
KZA Kyzart 87.12 313 P P 07 31 18.6 +2.3
SNR=9.2
UCH Uchtor 87.68 313 iP P 07 31 19.4 +0.4
UCH Uchtor 87.68 313 P P 07 31 19.5 +0.4
SNR=11
FRU Bishkek 87.73 313 eP P 07 31 18.0 -0.7
FRU pmax pmax
comp=Z,150nm,2.0s
AAK Ala-Archa 87.78 313c iP P 07 31 18.9 -0.2
AAK pmax pmax
comp=Z,114nm,2.5s
AAK MLR MLR
comp=Z,1μm,23.0s
AAK Ala-Archa 87.78 313 P P 07 31 19.0 -0.2
SNR=5.5
AAK Ala-Archa 87.78 313 eP P 07 31 18.5 -0.6
comp=Z,147nm,2.3s
AAK LR LR
comp=Z,389nm,19.0s
USP Ospenovka 87.90 314 iP P 07 31 19.3 -0.3
USP Ospenovka 87.90 314 P P 07 31 19.3 -0.3
SNR=7.4
AML Almayashu 88.26 313 iP P 07 31 23.2 +1.5
AML Almayashu 88.26 313 P P 07 31 23.2 +1.5
SNR=12
EKS2 Erkin-Say 88.30 313 eP P 07 31 21.3 -0.3
EKS2 pmax pmax
comp=Z,34nm,1.4s
EKS2 MLR MLR
comp=Z,379nm,19.0s
EKS2 Erkin-Say 88.30 313 P P 07 31 22.0 +0.5
SNR=7.6
EKS2 Erkin-Say 88.30 313 eP P 07 31 21.3 -0.3
comp=Z,34nm,1.4s
EKS2 LR LR
comp=Z,379nm,19.0s
DLBC Dease Lake 88.36 31 P P 07 31 22.0 +0.6
comp=Z,22nm,1.0s,baz=288,slow=3.1,SNR=16
DLBC Dease Lake 88.36 31 eP P 07 31 21.6 +0.1
M02C Callahan 88.94 48 ⇑P P 07 31 24.9 +0.4
baz=89
N02D Trinity Center 88.97 49 ⇑P P 07 31 24.0 -0.7
baz=89
YBH Yreka Blue Hor 89.11 48 P P 07 31 25.8 +0.5
comp=Z,2.1nm,0.5s,baz=296,slow=15,SNR=4.5
NLWA Neilton Lookou 89.35 42 PFAKE 07 31 40.0 +14
NLWA LR LR
comp=Z,1μm,22.0s
M04C Macdoel 89.76 48 ⇓P P 07 31 28.2 -0.2
baz=90
J04D Umpqua Nationa 89.81 46 ⇓P P 07 31 29.2 +0.5
baz=90
INK Inuvik 89.94 21 P P 07 31 27.9 -0.6
comp=Z,6.4nm,0.6s,baz=299,slow=3.7,SNR=41
SMMC Simmler 90.15 55 ⇓P P 07 31 31.4 +1.1
baz=90
BSC Santa Cruz Isl 90.25 56 ⇑P P 07 31 31.6 +0.8
baz=90
CMB Columbia Colle 90.25 52 eP P 07 31 30.1 -0.6
CMB pmax pmax
comp=Z,90nm,1.9s
CMB Columbia Colle 90.25 52 eP P 07 31 30.1 -0.6
comp=Z,90nm,1.9s
J05D Fort Rock, OR 90.45 47 ⇑P P 07 31 32.2 +0.5
baz=90
I05D Terrebonne, OR 90.54 46 ⇑P P 07 31 32.1 +0.2
baz=90
KBL Kabul 90.59 305 eP P 07 31 31.6 -1.0
KBL pmax pmax
comp=Z,16nm,1.1s
KBL Kabul 90.59 305 eP P 07 31 31.6 -1.0
comp=Z,16nm,1.1s
MOD Modoc 90.91 48 eP P 07 31 33.1 -0.7
comp=Z,33nm,1.6s
VES Vestal, Richgr 90.96 54 ⇓P P 07 31 34.1 +0.1
baz=91,SNR=5.7
SCI San Clemente I 91.01 57 ⇓P P 07 31 34.9 +0.6
baz=91
WAKR Walker 91.06 51 eP P 07 31 35.1 +0.4
comp=Z,110nm,1.9s
ARVC Arvin 91.07 55 ⇑P P 07 31 35.4 +0.9
baz=91
OSI Osito Adit 91.09 55 ⇑P P 07 31 35.5 +0.8
baz=91
FMP Fort Macarthur 91.32 56 ⇓P P 07 31 36.5 +0.8
baz=91
MLAC Mammoth Lakes 91.41 52 ⇓P P 07 31 36.8 +0.4
baz=91
ISA Isabella 91.43 54 eP P 07 31 37.1 +0.8
ISA pmax pmax
comp=Z,51nm,1.6s
ISA Isabella 91.43 54 eP P 07 31 37.1 +0.8
comp=Z,51nm,1.6s
ISA Isabella 91.43 54 ⇓P P 07 31 36.5 +0.2
baz=91,SNR=12
PASC Pasadena Art C 91.47 56 eP P 07 31 36.3 -0.1
comp=Z,98nm,1.5s
MWC Mount Wilson 91.58 56 eP P 07 31 37.6 +0.4
MWC pmax pmax
comp=Z,115nm,1.4s
MWC Mount Wilson 91.58 56 eP P 07 31 37.6 +0.4
comp=Z,115nm,1.4s
EDW2 Edwards Air Fo 91.72 55 ⇓P P 07 31 38.3 +0.7
baz=92,SNR=8.6
TIN Tinemaha 91.81 53 ⇓P P 07 31 38.7 +0.6
baz=92
CWC Cottonwood Cre 91.85 54 ⇑P P 07 31 38.8 +0.4
baz=92
BFSC Mount Baldy Ra 91.91 56 ⇓P P 07 31 38.8 +0.2
baz=92,SNR=6.8
NVAR Mina Array Bea 91.94 52 P P 07 31 39.5 +0.7
comp=Z,5.9nm,0.7s,baz=255,slow=6.9,SNR=40
NVAR LR LR 08 09 17.4
comp=Z,343nm,18.6s,baz=80,slow=33
NV11 Mina Array Sit 92.05 52 eP P 07 31 39.3 +0.1
SYO Syowa Base 92.11 199⇑eP P 07 31 41.0 +2.4
HAWA Hanford 92.12 44 PFAKE 07 31 50.0 +11
HAWA LR LR
comp=Z,2μm,21.0s
109C Camp Elliot, M 92.20 57 ⇓P P 07 31 40.6 +0.8
baz=92
MURC Murrieta 92.21 57 ⇓P P 07 31 40.7 +0.8
baz=92
WVOR Wild Horse Val 92.21 48 eP P 07 31 38.7 -1.1
WVOR pmax pmax
comp=Z,71nm,1.9s
WVOR MLR MLR
comp=Z,1μm,19.0s
WVOR Wild Horse Val 92.21 48 eP P 07 31 38.7 -1.1
comp=Z,71nm,1.9s
WVOR LR LR
comp=Z,1μm,19.0s
DAC Darwin (Calif) 92.22 54 eP P 07 31 38.3 -1.8
DAC pmax pmax
comp=Z,70nm,1.4s
DAC Darwin (Calif) 92.22 54 eP P 07 31 38.3 -1.8
comp=Z,70nm,1.4s
BVA0 Borovoye Array 92.36 323 iP P 07 31 38.1 -2.0
BVA0 pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 92.43 323⇓eP P 07 31 37.6 -2.8
BRVK pmax pmax
comp=Z,21nm,2.0s
BRVK MLR MLR
comp=Z,379nm,19.0s
BRVK Borovoye 92.43 323 eP P 07 31 39.3 -1.0
comp=Z,14nm,1.4s
BRVK LR LR
comp=Z,332nm,19.0s
GRAC Grapevine Rang 92.49 53 ⇓P P 07 31 41.8 +0.6
baz=92,SNR=12
BBRC Big Bear Solar 92.52 56 ⇑P P 07 31 42.0 +0.4
baz=92
RRX Edison Barstow 92.53 55 ⇓P P 07 31 42.1 +0.8
baz=92
TPH Tonopah 92.73 52 eP P 07 31 42.7 +0.2
TPH pmax pmax
comp=Z,60nm,1.5s
TPH Tonopah 92.73 52 eP P 07 31 42.7 +0.2
comp=Z,60nm,1.5s
GSC Goldstone 92.74 55 eP P 07 31 42.3 -0.1
GSC pmax pmax
comp=Z,70nm,1.8s
GSC Goldstone 92.74 55 eP P 07 31 42.3 -0.1
comp=Z,70nm,1.8s
GSC Goldstone 92.74 55 ⇑P P 07 31 42.9 +0.5
baz=93,SNR=7.4
MONP Monument Peak 92.77 57 ⇑P P 07 31 43.4 +0.7
baz=93
PFO Pinyon Flat Ob 92.83 57 eP P 07 31 42.5 -0.4
PFO pmax pmax
comp=Z,8.0nm,1.2s
PFO MLR MLR
comp=Z,1μm,20.0s
PFO Pinyon Flat Ob 92.83 57 eP P 07 31 42.5 -0.4
comp=Z,8.1nm,1.2s
PFO LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flat Ob 92.83 57 ⇑P P 07 31 43.4 +0.5
baz=93
FURC Furnace Creek, 92.83 54 ⇑P P 07 31 43.3 +0.7
baz=93,SNR=18
BMN Battle Mountai 93.02 50 eP P 07 31 43.3 -0.3
BMN pmax pmax
comp=Z,47nm,1.5s
BMN Battle Mountai 93.02 50 eP P 07 31 43.3 -0.3
comp=Z,47nm,1.5s
HEC Hector,Ludlow 93.07 55 ⇓P P 07 31 43.8 -0.1
baz=93,SNR=8.7
SHOC Shoshone 93.23 54 ⇑P P 07 31 44.8 +0.2
baz=93
BELC Belle Mtn. Jos 93.25 56 ⇓P P 07 31 44.8 -0.1
baz=93,SNR=16
SWSC Sam W. Stewart 93.30 57 ⇑P P 07 31 45.1 +0.2
baz=93
TUQ Turquoise Moun 93.47 55 ⇑P P 07 31 46.0 +0.2
baz=93,SNR=10
BMO Blue Mountains 93.47 45 PFAKE 07 32 00.0 +14
BMO LR LR
comp=Z,1μm,19.0s
BC3 Big Chuckawall 93.66 57 ⇓P P 07 31 47.0 +0.3
baz=94,SNR=9.6
CRZF Crozet Islands 93.72 222 SS SS 07 49 07.0 -3.0
CRZF R 08 03 00.0
IRM Iron Mountain 93.97 56 ⇓P P 07 31 48.3 +0.3
baz=94,SNR=10
NEW Newport 93.98 42 P P 07 31 46.8 -0.9
NEW *PP pP 07 31 56.8 -7.5
NEW MLR MLR
comp=Z,2μm,19.0s
NEW Newport 93.98 42 P P 07 31 46.8 -0.9
comp=Z,2.4nm,0.7s,baz=223,slow=4.4,SNR=10
NEW pP pP 07 31 56.8 -7.5
comp=Z,3.9nm,0.8s,baz=254,slow=4.9,SNR=8.1
NEW Newport 93.98 42 P P 07 31 46.8 -0.9
NEW pP pP 07 31 56.8 -7.5
NEW LR LR
comp=Z,2μm,19.0s
NEW Newport 93.98 42 ⇓P P 07 31 48.6 +0.9
baz=94
R11A Troy Canyon, C 94.05 52 eP P 07 31 48.4 0.0
comp=Z,39nm,1.4s
R11A Troy Canyon, C 94.05 52 ⇓P P 07 31 48.0 -0.5
baz=94
LDFC Landfair 94.09 55 eP P 07 31 49.9 +1.2
comp=Z,122nm,1.6s
GLA Glamis 94.12 57 eP P 07 31 49.4 +0.6
GLA pmax pmax
comp=Z,18nm,1.4s
GLA Glamis 94.12 57 eP P 07 31 49.4 +0.6
comp=Z,18nm,1.4s
GLA Glamis 94.12 57 ⇓P P 07 31 49.4 +0.6
baz=94
SHPR Sheep Range 94.20 54 eP P 07 31 49.4 +0.2
comp=Z,73nm,1.6s
Y12C Blythe 94.44 57 ⇑P P 07 31 50.1 -0.1
baz=94
ELK Elko 94.55 50 P P 07 31 50.9 +0.1
comp=Z,5.3nm,1.1s,baz=312,slow=0.1,SNR=16
PDMCI Parker Dam,Lak 94.81 56 ⇑P P 07 31 52.2 +0.5
baz=95
113A Mohawk Valley, 94.98 58 ⇓P P 07 31 53.0 +0.4
baz=95
W13A Hualapai Mount 95.09 55 ⇑P P 07 31 53.4 0.0
baz=95,SNR=12
HLID Hailey 95.41 47 PFAKE 07 32 10.0 +15
HLID LR LR
comp=Z,2μm,20.0s
HLID Hailey 95.41 47 ⇓P P 07 31 54.7 +0.1
baz=95
BSMT Bassoo Peak 95.50 43 eP P 07 31 54.5 -0.3
comp=Z,6.0nm,1.1s
ARUT Antelope Range 95.68 53 eP P 07 31 56.6 +0.7
ARUT pmax pmax
comp=Z,1μm,1.9s
ARUT Antelope Range 95.68 53 eP P 07 31 56.6 +0.7
comp=Z,1μm,1.9s
Y14A Wickenburg 95.72 57 ⇑P P 07 31 56.4 +0.3
baz=96
DUG Dugway 96.35 50 PFAKE 07 32 10.0 +11
DUG LR LR
comp=Z,567nm,20.0s
DUG Dugway 96.35 50 ⇓P P 07 31 58.9 0.0
baz=96
U15A North Rim 96.49 54 ⇓P P 07 32 00.6 +0.8
baz=96
YKA Yellowknife Ar 96.56 28 P P 07 31 58.9 -0.2
comp=Z,8.5nm,0.8s,baz=266,slow=4.5,SNR=144
YKA PKKPbc PKKPbc 07 48 41.7 -3.9
comp=Z,0.2nm,0.7s,baz=85,slow=2.6,SNR=4.0
EDM Edmonton 96.76 37 eP P 07 31 59.4 -0.9
EDM Edmonton 96.76 37 eP P 07 31 59.4 -0.9
X16A Lo Mia Camp, P 97.05 56 ⇑P Pdif 07 32 03.4 +1.0
baz=97
WUAZ Wupatki 97.17 55 PFAKE 07 32 10.0 +7.2
WUAZ LR LR
comp=Z,793nm,19.0s
WUAZ Wupatki 97.17 55 ⇓P Pdif 07 32 03.4 +0.6
baz=97
TUC Tucson 97.46 58 PFAKE 07 32 10.0 +5.9
TUC LR LR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 97.53 45 PFAKE 07 32 10.0 +5.8
BOZ LR LR
comp=Z,1μm,19.0s
DAU Daniels Canyon 97.55 50 eP P 07 32 03.9 -0.6
DAU pmax pmax
comp=Z,6.0nm,1.0s
DAU Daniels Canyon 97.55 50 eP P 07 32 03.9 -0.6
comp=Z,5.9nm,1.0s
AHID Auburn Hatcher 97.78 48 PFAKE 07 32 20.0 +15
AHID LR LR
comp=Z,1μm,19.0s
I17A Pilgrim Ck. 98.21 47 ⇓P Pdif 07 32 07.7 +0.4
baz=98
H17A Grant Village 98.23 46 ⇓P Pdif 07 32 08.0 +0.6
baz=98
MSEY Mahe Island 98.70 264 PFAKE 07 32 20.0 +10
MSEY LR LR
comp=Z,407nm,22.0s
EGMT Eagleton 98.89 43 PFAKE 07 32 20.0 +10
EGMT LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 98.89 43 ⇑Pdiff P 07 32 09.6 -0.4
baz=99
BW06 Boulder Array 98.92 48 PFAKE 07 32 20.0 +9.5
BW06 LR LR
comp=Z,1μm,20.0s
PDAR Pinedale Array 98.92 48 P P 07 32 09.6 -0.9
comp=Z,1.8nm,0.9s,baz=234,slow=2.0,SNR=11
PDAR LR LR 08 15 12.5
comp=Z,743nm,18.2s,baz=285,slow=34
RLMT Red Lodge 99.18 46 PFAKE 07 32 20.0 +8.4
RLMT LR LR
comp=Z,1μm,19.0s
J19A Crowheart 99.30 47 ⇓Pdiff Pdif 07 32 11.2 -0.9
baz=99
C19A Slack Wire Ran 99.36 43 ⇓Pdiff Pdif 07 32 12.0 -0.2
baz=99
H19A Powell 99.37 46 ⇓Pdiff Pdif 07 32 11.8 -0.6
baz=99
F19A Roth Farm, Mol 99.41 45 ⇓Pdiff Pdif 07 32 12.2 -0.3
baz=99
ARU Arti 99.42 326 eP Pdif 07 32 13.3 +1.2
ARU 07 36 17.0
ARU S SKSac 07 42 47.7 +2.2
ARU SP SP 07 45 12.7 +6.2
ARU SS SS 07 50 29.5 -1.1
ARU MLR MLR
comp=Z,352nm,18.0s
ARU Arti 99.42 326 PFAKE 07 32 20.0 +7.9
ARU LR LR
comp=Z,400nm,19.0s
PV01 Paradox Valley 99.54 53 eP Pdif 07 32 13.3 -0.1
comp=Z,961nm,1.4s
A19A Klindworth Far 99.56 42 ⇓Pdiff Pdif 07 32 12.9 -0.2
baz=100
MVCO Mesa Verde 99.57 54 PFAKE 07 32 20.0 +6.4
MVCO LR LR
comp=Z,755nm,19.0s
MVCO Mesa Verde 99.57 54 ⇑Pdiff Pdif 07 32 12.5 -1.1
baz=100
N20A Spence Gulch, 99.84 50 ⇓Pdiff Pdif 07 32 14.2 -0.5
baz=100
O20A White River Ci 99.85 51 ⇓Pdiff Pdif 07 32 15.0 +0.3
baz=100
A20A Cobblestone Ra 100.10 42 ⇓Pdiff Pdif 07 32 15.8 +0.4
baz=100
I21A Big Trails, Te 100.58 47 ⇑Pdiff Pdif 07 32 18.7 +0.9
baz=100
K21A Alcova 100.61 48 ⇑Pdiff Pdif 07 32 18.1 +0.1
baz=101
U22A Llaves 100.87 54 ⇓Pdiff Pdif 07 32 19.8 +0.4
baz=101
S22A 4UR Ranch, Cre 100.91 53 ⇓Pdiff Pdif 07 32 19.4 -0.1
baz=101
P22A Eagle 100.98 51 ⇓Pdiff Pdif 07 32 19.2 -0.6
baz=101
O22A Kremmling 101.14 51 ⇑Pdiff Pdif 07 32 20.2 -0.4
baz=101
K22A Casper 101.15 48 ⇓Pdiff Pdif 07 32 20.2 -0.2
baz=101
I22A 9 Mile Ranch, 101.17 47 ⇑Pdiff Pdif 07 32 20.5 +0.2
baz=101
ANMO Albuquerque 101.17 56 PFAKE 07 32 30.0 +9.3
ANMO LR LR
comp=Z,692nm,20.0s
J22A Midwest 101.18 47 ⇓Pdiff Pdif 07 32 20.6 +0.1
baz=101
LAO LASA Array 101.29 44 PFAKE 07 32 30.0 +9.2
LAO LR LR
comp=Z,1μm,20.0s
U23A El Rito 101.41 54 ⇓Pdiff Pdif 07 32 22.7 +0.9
baz=101
N23A Red Feather La 101.60 50 ⇓Pdiff Pdif 07 32 23.0 +0.4
baz=102
O23A Lake Granby, G 101.63 51 ⇑Pdiff Pdif 07 32 21.8 -0.9
baz=102
P23A Jefferson 101.69 51 ⇓Pdiff Pdif 07 32 23.9 +0.8
baz=102
L23A Garrett 101.77 49 ⇑Pdiff Pdif 07 32 23.5 +0.3
baz=102
ISCO Idaho Springs 101.86 51 PFAKE 07 32 30.0 +6.2
ISCO LR LR
comp=Z,783nm,19.0s
ISCO Idaho Springs 101.86 51 ⇑Pdiff Pdif 07 32 24.2 +0.4
baz=102
F23A Volborg 101.89 45 ⇓Pdiff Pdif 07 32 23.4 0.0
baz=102
G23A Biddle 101.92 45 ⇓Pdiff Pdif 07 32 23.3 -0.3
baz=102
SDCO Great Sand Dun 101.96 53 PFAKE 07 32 40.0 +16
SDCO LR LR
comp=Z,957nm,20.0s
D23A Lindsay 101.97 43 ⇑Pdiff Pdif 07 32 24.3 +0.5
baz=102
MNTX Cornudas Mount 102.02 59 PFAKE 07 32 40.0 +16
MNTX LR LR
comp=Z,1μm,20.0s
B23A Brockton 102.06 42 ⇑Pdiff Pdif 07 32 24.4 +0.3
baz=102
V24A Rampart Ranch, 102.15 55 ⇓Pdiff Pdif 07 32 26.7 +1.7
baz=102
RES Resolute Bay 102.17 15 P Pdif 07 32 23.6 -0.3
comp=Z,1.6nm,0.9s,baz=348,slow=5.8,SNR=5.0
S24A Houchin Ranch, 102.19 53 ⇑Pdiff Pdif 07 32 26.4 +1.1
baz=102
R24A Sanders Place, 102.27 53 ⇑Pdiff Pdif 07 32 26.2 +0.7
baz=102
O24A Longmont 102.28 51 ⇓Pdiff Pdif 07 32 26.7 +1.3
baz=102
C24A Savage 102.49 43 ⇓Pdiff Pdif 07 32 26.3 +0.3
baz=102
DGMT Dagmar 102.59 42 PFAKE 07 32 40.0 +14
DGMT LR LR
comp=Z,1μm,19.0s
S25A Robets Cordova 102.81 53 ⇓Pdiff Pdif 07 32 28.1 +0.2
baz=103
U25A Circle Dot Ran 102.85 54 ⇑Pdiff Pdif 07 32 28.3 +0.2
baz=103
P25A Willow Gulch B 102.98 51 ⇓Pdiff Pdif 07 32 28.9 +0.3
baz=103
H25A Fruitdale 103.22 46 ⇑Pdiff Pdif 07 32 30.3 +1.0
baz=103
FFC Flin Flon 103.42 36 PFAKE 07 32 40.0 +10
FFC LR LR
comp=Z,1μm,19.0s
TXAR Lajitas Array 103.46 62 Pdiff Pdif 07 32 38.3 +7.4
comp=Z,0.6nm,0.8s,baz=214,slow=8.6,SNR=4.5
TXAR PKKP PKKPdf 07 48 39.8 +6.4
comp=Z,0.5nm,0.8s,baz=29,slow=2.9,SNR=3.5
S26A Kim 103.58 53 ⇑Pdiff Pdif 07 32 32.5 +1.3
baz=104
J26A Sides Ranch, S 103.66 47 ⇑Pdiff Pdif 07 32 31.8 +0.4
baz=104
ABPO Ambohimpanom 104.14 248 PFAKE 07 32 50.0 +16
ABPO LR LR
comp=Z,461nm,19.0s
OGNE Ogallala 104.56 50 PFAKE 07 32 50.0 +15
OGNE LR LR
comp=Z,1μm,19.0s
KBS Kingsbay 105.95 353 PFAKE 07 37 00.0
KBS LR LR
comp=Z,500nm,19.0s
JCT Junction City 106.81 60 PFAKE 07 37 10.0
JCT LR LR
comp=Z,988nm,21.0s
LVZ Lovozero 107.69 340 PFAKE 07 37 10.0
LVZ LR LR
comp=Z,524nm,19.0s
AGMN Agassiz Nation 108.12 42 PFAKE 07 37 10.0
AGMN LR LR
comp=Z,1μm,19.0s
APA Apatity 108.26 340⇑iP Pdif 07 32 56.8 +5.6
APA MLR MLR
comp=Z,600nm,17.0s
ECSD EROS Data Cent 108.30 46 PFAKE 07 37 10.0
ECSD LR LR
comp=Z,1μm,20.0s
KVTX Kingsville 108.56 63 PFAKE 07 37 10.0
KVTX LR LR
comp=Z,1μm,21.0s
KSU1 Kansas State U 108.86 51 PFAKE 07 37 10.0
KSU1 LR LR
comp=Z,862nm,20.0s

GNI Garni 109.96 310 PFAKE 07 37 10.0
GNI LR LR
comp=Z,176nm,19.0s
KIV Kislovodsk 110.88 314 iPKIKP PKiKP 07 36 58.6 -4.3
KIV e 07 37 35.9
KIV e 07 43 34.5
KIV ePS PS 07 47 08.1 -4.9
KIV eSS SS 07 53 03.8 -4.2
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 110.88 314 PFAKE 07 37 10.0
KIV LR LR
comp=Z,305nm,19.0s
SCIA State Center 111.05 48 PFAKE 07 37 10.0
SCIA LR LR
comp=Z,1μm,21.0s
EYMN Ely 111.06 41 PFAKE 07 37 10.0
EYMN LR LR
comp=Z,1μm,19.0s
MIAR Mount Ida 111.78 56 PFAKE 07 37 20.0
MIAR LR LR
comp=Z,735nm,19.0s
OBN Obninsk 111.83 327 ePKIKP PKiKP 07 37 03.4 -0.8
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,567nm,22.0s
OBN Obninsk 111.83 327 PFAKE 07 37 20.0
OBN LR LR
comp=Z,429nm,20.0s
JFWS Jewell Farm 113.02 46 PFAKE 07 37 20.0
JFWS LR LR
comp=Z,1μm,19.0s
SOC Sochi 113.06 314 iPKIKP PKiKP 07 37 04.6 -2.4
SOC MLR MLR
comp=Z,203nm,17.0s
FINES FINESS Array B 114.05 336 PKiKP PKPdf 07 37 06.9 -1.3
comp=Z,1.8nm,0.9s,baz=94,slow=6.0,SNR=4.3
ANN Anapa 114.37 316 iPKIKP PKPdf 07 37 01.6 -7.8
ANN e 07 37 17.7
ANN pmax pmax
comp=Z,63nm,1.0s
PAYG Puerto Ayora 114.55 94 PFAKE 07 37 20.0 +9.3
PAYG LR LR
comp=Z,647nm,19.0s
KMBO Kilima Mbogo 117.22 265 PFAKE 07 37 30.0 +14
KMBO LR LR
comp=Z,285nm,20.0s
AKASG Malin Array Be 117.61 324 PKP PKPdf 07 37 15.0 -0.5
comp=Z,2.4nm,0.6s,baz=59,slow=2.1,SNR=17
AK01 Malin Array Si 117.62 324 ePKPdf PKPdf 07 37 14.4 -1.1
KIEV Kiev 117.62 324 iPKIKP PKPdf 07 37 15.5 0.0
KIEV Kiev 117.62 324 PFAKE 07 37 30.0 +15
KIEV LR LR
comp=Z,408nm,19.0s
TEIG Tepich 117.62 71 PFAKE 07 37 30.0 +14
TEIG LR LR
comp=Z,657nm,21.0s
AK02 Malin Array Si 117.64 324 ePKPdf PKPdf 07 37 15.1 -0.4
AAM Ann Arbor 117.88 46 PFAKE 07 37 30.0 +14
AAM LR LR
comp=Z,1μm,19.0s
BRTR Keskin Array B 118.41 311 PKP PKPdf 07 37 17.8 +0.2
comp=Z,1.3nm,0.8s,baz=347,slow=3.8,SNR=5.8
ACSO Alum Creek Sta 118.95 48 PFAKE 07 37 30.0 +12
ACSO LR LR
comp=Z,860nm,19.0s
ANTO Ankara 118.99 312 PFAKE 07 37 30.0 +11
ANTO LR LR
comp=Z,182nm,19.0s
BOSA Boshof 119.81 231 PKP PKPdf 07 37 20.2 -0.3
comp=Z,1.9nm,0.7s,baz=111,slow=8.6,SNR=2.8
NB2 NORSAR Subarra 119.83 341 PKPdf PKPdf 07 37 18.7 -0.8
comp=Z,2.6nm,0.9s,baz=44,slow=1.9
NOA NORSAR Array B 119.83 341 PKP PKPdf 07 37 18.8 -0.7
comp=Z,1.0nm,0.6s,baz=45,slow=1.9,SNR=5.7
GOGA Godfrey 120.25 55 PFAKE 07 37 30.0 +8.9
GOGA LR LR
comp=Z,1μm,19.0s
CFR Carcaliu 120.49 319 ⇑PKIKP PKPdf 07 37 21.8 +0.6
CFR Carcaliu 120.49 319 ⇑iP PKPdf 07 37 21.8 +0.6
ERPA Erie 120.53 45 PFAKE 07 37 30.0 +8.6
ERPA LR LR
comp=Z,1μm,19.0s
TLB Topalu 120.78 318 ⇓PKIKP PKPdf 07 37 22.2 +0.5
TLB Topalu 120.78 318 ⇓iP PKPdf 07 37 22.2 +0.5
JTS JuntasAbangare 120.86 82 PFAKE 07 37 30.0 +7.2
JTS LR LR
comp=Z,421nm,19.0s
SUR Sutherland 121.17 225 PFAKE 07 37 40.0 +17
SUR LR LR
comp=Z,586nm,19.0s
ISP Isparta 121.27 310 PFAKE 07 37 30.0 +6.9
ISP LR LR
comp=Z,224nm,20.0s
BURAR Bucovina Array 121.31 322 ⇓PKIKP PKPdf 07 37 24.4 +1.5
BURAR Bucovina Array 121.31 322 ⇓iP PKPdf 07 37 24.4 +1.5
KONO Kongsberg 121.40 340 PFAKE 07 37 30.0 +7.5
KONO LR LR
comp=Z,427nm,20.0s
BLA Blacksburg 121.73 50 PFAKE 07 37 40.0 +16
BLA LR LR
comp=Z,1μm,20.0s
MLR Muntele Rosu 121.78 320 ⇑PKIKP PKPdf 07 37 27.6 +3.7
MLR Muntele Rosu 121.78 320 ⇑iP PKPdf 07 37 27.6 +3.7
KWP Kalwaria Pacla 121.82 325 PFAKE 07 37 40.0 +16
KWP LR LR
comp=Z,411nm,19.0s
VOIR 122.38 320 ⇓PKIKP PKPdf 07 37 30.3 +5.4
VOIR 122.38 320 ⇓iP PKPdf 07 37 30.3 +5.4
KOLS Kolonicke sedl 122.42 325 ePKIKP PKPdf 07 37 25.4 +0.6
KOLS Kolonicke sedl 122.42 325 ePKP PKPdf 07 37 25.4 +0.6
LSZ Lusaka 122.65 247 PFAKE 07 37 40.0 +14
LSZ LR LR
comp=Z,507nm,21.0s
STHS Stebnicka Huta 122.75 326 ePKIKP PKPdf 07 37 26.4 +0.9
STHS Stebnicka Huta 122.75 326 ePKP PKPdf 07 37 26.4 +0.9
CRVS Cervenica-Dubn 122.90 325 ePKIKP PKPdf 07 37 27.3 +1.6
CRVS Cervenica-Dubn 122.90 325 ePKP PKPdf 07 37 27.3 +1.6
LONY Lake Ozonia 123.20 40 PFAKE 07 37 40.0 +14
LONY LR LR
comp=Z,2μm,20.0s
BINY Binghamton 123.27 44 PFAKE 07 37 40.0 +13
BINY LR LR
comp=Z,2μm,19.0s
KECS Kecovo 123.67 325 ePKIKP PKPdf 07 37 27.7 +0.5
KECS Kecovo 123.67 325 ePKP PKPdf 07 37 27.7 +0.5
NCB Newcomb 123.72 41 PFAKE 07 37 40.0 +13
NCB LR LR
comp=Z,2μm,19.0s
CBN Corbin 123.72 48 PFAKE 07 37 40.0 +12
CBN LR LR
comp=Z,751nm,19.0s
CNNC Cliffs of the 124.26 52 PFAKE 07 37 40.0 +11
CNNC LR LR
comp=Z,1μm,21.0s
PSZ Piszkesteto 124.30 325 PFAKE 07 37 40.0 +11
PSZ LR LR
comp=Z,446nm,19.0s
KSP Ksiaz 124.59 329 ePKIKP PKPdf 07 37 28.1 -0.8
VYHS Vyhne 124.59 326 ePKIKP PKPdf 07 37 30.4 +1.4
VYHS Vyhne 124.59 326 ePKP PKPdf 07 37 30.4 +1.4
VTS Vitosha 124.80 318 ⇓PKIKP PKPdf 07 37 30.0 +0.2
VTS Vitosha 124.80 318 ⇓iP PKPdf 07 37 30.0 +0.2
DPC Dobruska-Polom 124.87 329 ePKIKP PKPdf 07 37 31.0 +1.5
DPC e 07 37 44.4
DPC Dobruska-Polom 124.87 329 ePKPdf PKPdf 07 37 31.0 +1.5
DPC ex x 07 37 44.4
DPC AMS AMS 08 37 30.0
MMB Musomiste 124.87 316 ⇓PKIKP PKPdf 07 37 29.3 -0.5
MMB Musomiste 124.87 316 ⇓iP PKPdf 07 37 29.3 -0.5
UPC Upice 124.93 329 ePKIKP PKPdf 07 37 32.1 +2.5
UPC Upice 124.93 329 ePKPdf PKPdf 07 37 32.1 +2.5
LBNH Lisbon 125.07 40 PFAKE 07 37 40.0 +10
LBNH LR LR
comp=Z,2μm,19.0s
NNA Nana 125.17 110 PFAKE 07 37 40.0 +8.9
NNA LR LR
comp=Z,309nm,20.0s
BSEG Bad Segeberg 125.31 335 ePKPdf PKPdf 07 37 31.7 +1.6
SANT Santorini 125.57 310 PFAKE 07 37 40.0 +8.7
SANT LR LR
comp=Z,562nm,19.0s
BRG Berggiesshubel 125.74 331 ePKP PKPdf 07 37 32.2 +1.1
comp=Z,7.5nm,1.0s
BRG e 07 37 52.7
comp=Z,7.5nm,1.3s
comp=N,231nm,18.4s
comp=E,217nm,15.1s
comp=Z,529nm,21.8s
BRG Berggiesshubel 125.74 331 ePKIKP PKPdf 07 37 32.2 +1.1
BRG pmax pmax
comp=Z,16nm,1.0s
BRG MLR MLR
comp=N,8μm,18.4s
BRG MLR MLR
comp=E,231nm,15.1s
BRG MLR MLR
comp=Z,217nm,21.8s
BRG Berggiesshubel 125.74 331 ePKPdf PKPdf 07 37 32.0 +0.9
BCIP Isla Barro Col 125.86 84 PFAKE 07 37 40.0 +7.6
BCIP LR LR
comp=Z,324nm,19.0s
CLL Collm 125.91 331 ePKIKP PKPdf 07 37 32.0 +0.6
CLL e 07 37 37.0
CLL Collm 125.91 331 ePKPdf PKPdf 07 37 32.1 +0.6
CLL Collm 125.91 331 ePKPdf PKPdf 07 37 32.0 +0.6
CLL e 07 37 37.0
CLL eSS SS 07 56 29.0 +8.0
CLL LmV 08 38 00.0
comp=N,200nm,20.9s
CLL LmV 08 38 00.0
comp=E,200nm,18.6s
CLL LmV 08 38 00.0
comp=Z,500nm,19.5s
PKSM Moragy 125.93 324 ⇓PKIKP PKPdf 07 37 32.0 +0.4
PKSM Moragy 125.93 324 ⇓iP PKPdf 07 37 32.0 +0.4
FBE Freiberg 125.99 331 ePKPdf PKPdf 07 37 32.8 +1.2
PRU Pruhonice 126.00 329 ePKIKP PKPdf 07 37 32.9 +1.3
PRU MLR MLR
comp=Z,600nm,22.0s
PRU Pruhonice 126.00 329 ePKPdf PKPdf 07 37 32.9 +1.3
PRU AMS AMS 08 36 00.0
comp=Z,600nm,22.0s
PKME Peaks-Kenny Pk 126.20 38 PFAKE 07 37 40.0 +7.9
PKME LR LR
comp=Z,2μm,21.0s
OTAV Otavalo 126.39 95 PFAKE 07 37 50.0 +16
OTAV LR LR
comp=Z,292nm,19.0s
NRDL Niedersach Rie 126.42 334 ePKPdf PKPdf 07 37 33.6 +1.4
CONA Conrad Observa 126.55 327 ⇑iPKiKP PKiKP 07 37 33.4 +0.1
comp=Z,8.8nm,1.4s
TANN Tannenbergstha 126.75 331 ePKPdf PKPdf 07 37 33.8 +0.7
CLZ Clausthal 126.76 333 ePKPdf PKPdf 07 37 34.2 +1.1
WERD Werda 126.81 331 ePKPdf PKPdf 07 37 34.4 +1.2
PLN Plauen 126.85 331 ePKPdf PKPdf 07 37 33.9 +0.6
WERN Wernitzgruen 126.88 331 ePKPdf PKPdf 07 37 34.4 +1.0
MOX Moxa 127.00 332 ePKPdf PKPdf 07 37 34.3 +0.7
KHC Kasperske Hory 127.02 329 ePKIKP PKPdf 07 37 34.4 +0.7
KHC e 07 37 46.4
KHC MLR MLR
comp=Z,500nm,19.4s
KHC Kasperske Hory 127.02 329 ePKPdf PKPdf 07 37 34.4 +0.7
KHC ex x 07 37 46.4
KHC AMS AMS 08 43 30.0
comp=Z,500nm,19.4s
KHC Kasperske Hory 127.02 329 ePKPdf PKPdf 07 37 33.9 +0.3
GEC2 GERESS Array S 127.14 329 ePKPdf PKPdf 07 37 34.5 +0.5
GERES GERESS Array B 127.14 329 PKP PKPdf 07 37 34.2 +0.2
comp=Z,2.4nm,0.7s,baz=64,slow=1.8,SNR=21
MANZ Manzenberg 127.20 331 ePKPdf PKPdf 07 37 34.8 +0.8
ROTZ Rotzenmuhle 127.30 330 ePKPdf PKPdf 07 37 34.9 +0.8
WET Wettzell 127.37 329 ePKPdf PKPdf 07 37 35.3 +1.0
IBBN Ibbenburen 127.56 335 ePKPdf PKPdf 07 37 35.4 +0.9
UBBA Unterbreizbach 127.64 333 ePKPdf PKPdf 07 37 35.8 +1.2
GRF Grafenberg Arr 127.83 331 ePKPdf PKPdf 07 37 36.0 +0.8
MTDJ Mount Denham 127.88 73 PFAKE 07 37 50.0 +14
MTDJ LR LR
comp=Z,350nm,20.0s
LVC Limon Verde 127.92 126 PFAKE 07 37 50.0 +14
LVC LR LR
comp=Z,315nm,19.0s
TNS Taunus Mts 128.76 333 ePKPdf PKPdf 07 37 40.1 +3.1
FUR Furstenfeldbru 128.81 329 ePKPdf PKPdf 07 37 37.4 +0.3
ABTA Abfaltersbach 129.08 327 ⇓iPKPdf PKPdf 07 37 37.2 -0.5
comp=Z,9.0nm,1.3s
WTTA Wattenberg 129.21 328 PKPdf 07 37 37.6 -0.5
comp=Z,21nm,1.5s
MOTA Moosalm 129.44 329 ⇑iPKiKP PKiKP 07 37 39.6 +0.4
comp=Z,6.9nm,1.1s
FETA Feichten 129.84 329 ⇑iPKPdf PKPdf 07 37 36.6 -2.7
comp=Z,9.8nm,1.1s
GTBY Guantanamo Bay 129.98 70 PFAKE 07 37 50.0 +10
GTBY LR LR
comp=Z,564nm,19.0s
DAVA Damuels 130.10 329 ⇑iPKiKP PKiKP 07 37 41.0 +0.4
comp=Z,13nm,1.2s
BFO Black Forest 130.15 331 PFAKE 07 37 50.0 +10
BFO LR LR
comp=Z,495nm,20.0s
WLF Walferdange 130.19 334 ePKPdf PKPdf 07 37 41.7 +2.1
WLF Walferdange 130.19 334 PFAKE 07 37 50.0 +10
WLF LR LR
comp=Z,572nm,20.0s
TSUM Tsumeb 130.42 237 PFAKE 07 37 50.0 +8.9
TSUM LR LR
comp=Z,629nm,20.0s
GIVF Givet 130.43 335 ePKIKP PKPdf 07 37 40.0 -0.1
GIVF Givet 130.43 335 ePKIKP PKPdf 07 37 40.0 -0.1
GIVF Givet 130.43 335 ePKPdf PKPdf 07 37 40.0 -0.1
CDF Champ du Feu 130.59 332 ePKIKP PKPdf 07 37 40.0 -0.6
CDF Champ du Feu 130.59 332 ePKIKP PKPdf 07 37 40.0 -0.6
CDF Champ du Feu 130.59 332 ePKPdf PKPdf 07 37 40.0 -0.6
TIP Timpagrande 130.71 317 PFAKE 07 37 50.0 +9.0
TIP LR LR
comp=Z,572nm,21.0s
BAIF Baives 130.72 335 ePKIKP PKPdf 07 37 40.3 -0.3
comp=Z,117nm,1.7s
BAIF Baives 130.72 335 ePKIKP PKPdf 07 37 40.3 -0.3
BAIF Baives 130.72 335 ePKPdf PKPdf 07 37 40.3 -0.3
ECH Echery 130.79 332 PFAKE 07 37 50.0 +9.1
ECH LR LR
comp=Z,430nm,20.0s
TUE Stuetta 130.92 329 PFAKE 07 37 50.0 +8.6
TUE LR LR
comp=Z,1μm,20.0s
CUC Castrocucco 130.93 318 PFAKE 07 37 50.0 +8.6
CUC LR LR
comp=Z,257nm,19.0s
ROSC El Rosal 131.04 90 PKP PKPdf 07 37 44.1 +1.3
comp=Z,2.3nm,0.5s,baz=317,slow=3.8,SNR=4.0
PAGF Fort de Pagny 131.20 333 ePKIKP PKPdf 07 37 41.3 -0.3
PAGF Fort de Pagny 131.20 333 ePKPdf PKPdf 07 37 41.3 -0.3
HINF Hinteralfeld 131.22 332 ePKIKP PKPdf 07 37 41.0 -0.7
comp=Z,72nm,1.5s
HINF Hinteralfeld 131.22 332 ePKIKP PKPdf 07 37 41.0 -0.7
HINF Hinteralfeld 131.22 332 ePKPdf PKPdf 07 37 41.0 -0.7
HAU Haudompre 131.31 332 ePKIKP PKPdf 07 37 41.2 -0.7
HAU Haudompre 131.31 332 ePKIKP PKPdf 07 37 41.2 -0.7
HAU Haudompre 131.31 332 ePKPdf PKPdf 07 37 41.2 -0.7
LPAZ La Paz 131.48 119 PKP PKPdf 07 37 44.9 +1.1
comp=Z,3.6nm,0.8s,baz=240,slow=5.7,SNR=15
LPAZ SKPbc SKiKP 07 41 10.9 -5.2
comp=Z,7.3nm,1.0s,baz=164,slow=3.4,SNR=6.4
MEZF Maizieres J'vi 131.54 333 ePKIKP PKPdf 07 37 42.4 +0.2
MEZF Maizieres J'vi 131.54 333 ePKPdf PKPdf 07 37 42.4 +0.2
CEL Celeste 131.74 316 PFAKE 07 37 50.0 +7.0
CEL LR LR
comp=Z,175nm,19.0s
SFTF Sexfontaines 131.76 333 ePKIKP PKPdf 07 37 42.3 -0.4
SFTF Sexfontaines 131.76 333 ePKPdf PKPdf 07 37 42.3 -0.4
VLC Villacollemand 131.87 326 PFAKE 07 37 50.0 +7.0
VLC LR LR
comp=Z,409nm,20.0s
CABF La Chapelle 132.44 331 ePKIKP PKPdf 07 37 44.2 +0.1
comp=Z,74nm,1.4s
CABF La Chapelle 132.44 331 ePKIKP PKPdf 07 37 44.2 +0.1
CABF La Chapelle 132.44 331 ePKPdf PKPdf 07 37 44.2 +0.1
LPG La Plagne 132.91 330 ePKIKP PKPdf 07 37 45.2 -0.1
comp=Z,16nm,0.9s
LPG La Plagne 132.91 330 ePKIKP PKPdf 07 37 45.2 -0.1
LPG La Plagne 132.91 330 ePKPdf PKPdf 07 37 45.2 -0.1
LOR Lormes 133.00 333 ePKIKP PKPdf 07 37 44.6 -0.5
LOR Lormes 133.00 333 ePKIKP PKPdf 07 37 44.6 -0.5
LOR Lormes 133.00 333 ePKPdf PKPdf 07 37 44.6 -0.5
BNI Bardonecchia 133.25 329 PFAKE 07 38 00.0 +14
BNI LR LR
comp=Z,589nm,21.0s
SSF Saint Saulge 133.31 333 ePKIKP PKPdf 07 37 45.5 -0.1
comp=Z,23nm,1.1s
SSF Saint Saulge 133.31 333 ePKIKP PKPdf 07 37 45.5 -0.1
SSF Saint Saulge 133.31 333 ePKPdf PKPdf 07 37 45.5 -0.1
SMF Signal de Mont 133.47 333 ePKIKP PKPdf 07 37 45.3 -0.7
comp=Z,28nm,1.2s
SMF Signal de Mont 133.47 333 ePKIKP PKPdf 07 37 45.3 -0.7
SMF Signal de Mont 133.47 333 ePKPdf PKPdf 07 37 45.3 -0.7
AVF Avril sur Loir 133.58 333 ePKIKP PKPdf 07 37 45.5 -0.6
AVF Avril sur Loir 133.58 333 ePKIKP PKPdf 07 37 45.5 -0.6
AVF Avril sur Loir 133.58 333 ePKPdf PKPdf 07 37 45.5 -0.6
FLN La Foliniere 133.61 338 ePKIKP PKPdf 07 37 45.3 -0.8
comp=Z,182nm,1.6s
FLN La Foliniere 133.61 338 ePKIKP PKPdf 07 37 45.3 -0.8
FLN La Foliniere 133.61 338 ePKPdf PKPdf 07 37 45.3 -0.8
LDF La Druitiere 133.61 337 ePKIKP PKPdf 07 37 45.5 -0.6
LDF La Druitiere 133.61 337 ePKIKP PKPdf 07 37 45.5 -0.6
LDF La Druitiere 133.61 337 ePKPdf PKPdf 07 37 45.5 -0.6
SBF Sospel 133.67 327 ePKIKP PKPdf 07 37 45.5 -1.0
SBF Sospel 133.67 327 ePKIKP PKPdf 07 37 45.5 -1.0
SBF Sospel 133.67 327 ePKPdf PKPdf 07 37 45.5 -1.0
SDDR Presa de Saban 133.68 71 PFAKE 07 38 00.0 +13
SDDR LR LR
comp=Z,674nm,20.0s
BGF Bois d'Agland 133.99 333 ePKIKP PKPdf 07 37 46.9 0.0
BGF Bois d'Agland 133.99 333 ePKIKP PKPdf 07 37 46.9 0.0
BGF Bois d'Agland 133.99 333 ePKPdf PKPdf 07 37 46.9 0.0
GRR Gorron 134.06 338 ePKIKP PKPdf 07 37 46.3 -0.7
GRR Gorron 134.06 338 ePKIKP PKPdf 07 37 46.3 -0.7
GRR Gorron 134.06 338 ePKPdf PKPdf 07 37 46.3 -0.7
SSB Saint Sauveur 134.15 331 PFAKE 07 38 00.0 +13
SSB LR LR
comp=Z,454nm,19.0s
CPUP Villa Florida 134.33 138 PKP PKPdf 07 37 49.4 +1.3
comp=Z,0.9nm,0.5s,baz=208,slow=12,SNR=2.4
SDV Santo Domingo 134.94 85 ePKPdf PKPdf 07 37 49.2 -0.7
SDV LR LR
comp=Z,380nm,21.0s
MFF Saint Martin d 135.24 336 ePKIKP PKPdf 07 37 48.8 -0.4
comp=Z,39nm,1.3s
MFF Saint Martin d 135.24 336 ePKIKP PKPdf 07 37 48.8 -0.4
MFF Saint Martin d 135.24 336 ePKPdf PKPdf 07 37 48.8 -0.4
BBSR BB Station 135.52 50 PFAKE 07 38 00.0 +10
BBSR LR LR
comp=Z,613nm,19.0s
CAF Calviac 135.59 332 ePKIKP PKPdf 07 37 48.5 -1.5
CAF Calviac 135.59 332 ePKIKP PKPdf 07 37 48.5 -1.5
CAF Calviac 135.59 332 ePKPdf PKPdf 07 37 48.5 -1.5
LFF La Frestale 136.17 333 ePKIKP PKPdf 07 37 49.6 -1.4
LFF La Frestale 136.17 333 ePKIKP PKPdf 07 37 49.6 -1.4
LFF La Frestale 136.17 333 ePKPdf PKPdf 07 37 49.6 -1.4
SJPF Ste Jean 138.49 333 ePKIKP PKPdf 07 37 53.5 -1.9
comp=Z,98nm,1.5s
SJPF Ste Jean 138.49 333 ePKIKP PKPdf 07 37 53.5 -1.9
SJPF Ste Jean 138.49 333 ePKPdf PKPdf 07 37 53.5 -1.9
SJG San Juan 138.63 71 PFAKE 07 38 10.0 +14
SJG LR LR
comp=Z,345nm,19.0s
SAML Samuel 138.84 112 PFAKE 07 38 10.0 +13
SAML LR LR
comp=Z,307nm,20.0s
ESDC Sonseca Array 142.47 333 PKhKP PKPpre 07 37 59.6
comp=Z,0.4nm,0.3s,baz=18,slow=3.8,SNR=3.9
POLO Lamas de Olo 142.61 338 PKP PKPdf 07 37 59.6 -3.4
PVIS Viseu 143.22 338 PKP PKPbc 07 38 01.6 +0.5
GRGR Grenville 143.69 79 PFAKE 07 38 20.0 +14
GRGR LR LR
comp=Z,333nm,20.0s
BB16B Bebedouro 143.72 141 eP PKPab 07 37 55.4 -6.9
BB16B i 07 37 60.0
BB16B i 07 38 07.0
BB16B i 07 38 09.7
BB16B i 07 38 14.8
BB16B i 07 38 19.8
PCBR Castelo Branco 143.82 337 PKP PKPdf 07 38 04.0 -1.1
FDF Fort de France 143.89 75 PFAKE 07 38 20.0 +14
FDF LR LR
comp=Z,379nm,20.0s
PMRV Marv??o 144.14 336 PKP PKPbc 07 38 04.3 +0.5
PTOM Tomar 144.37 338 PKP PKPbc 07 38 05.2 +0.7
PTGA Pitinga 144.38 101 ePKPdf PKPab 07 38 04.7 -0.3
PTGA LR LR
comp=Z,237nm,22.0s
PBAR Barrancos 145.06 335 PKP PKPab 07 38 06.9 +0.2
EVO Evora 145.16 336 ⇑iPKIKP PKPab 07 38 07.2 +0.1
comp=Z,22nm,0.9s
EVO Evora 145.16 336 PKP PKPbc 07 38 07.7 +0.3
EVOP Sao Brissos 145.21 336 ⇑iPKIKP PKPbc 07 38 07.2 +0.1
EVOP Sao Brissos 145.21 336 ⇑iPKPdf PKPbc 07 38 07.2 +0.1
PBEJ Beja 145.53 336 PKP PKPab 07 38 08.8 +0.3
PNCL Nicolau / Gran 145.72 336 PKP PKPab 07 38 09.5 +0.3
MESJ Messejana 145.83 336 eP PKPab 07 38 09.5 -0.1
MESJ Messejana 145.83 336 PKP PKPab 07 38 10.4 +0.8
PCVE Castro Verde 145.94 335 PKP PKPab 07 38 10.3 +0.3
PVAQ Vaqueiros 146.00 335 PKP PKPbc 07 38 09.7 0.0
PBDV Barranco-do-Ve 146.22 335 PKP PKPab 07 38 12.3 +1.1
PTEO Sao Teotonio 146.29 336 PKP PKPab 07 38 11.1 -0.3
MORF Marmelete 146.47 336 eP PKPdf 07 38 10.2 +0.4
MORF Marmelete 146.47 336 PKP PKPab 07 38 12.0 -0.1
TAM Tamanrasset 146.67 301 ePKP2 PKPbc 07 38 12.5 +0.2
TAM MLR MLR
comp=Z,444nm,20.0s
TAM Tamanrasset 146.67 301 ePKPdf PKPbc 07 38 12.5 +0.2
TAM LR LR
comp=Z,444nm,20.0s
PFVI Vila Bisbo 146.69 336 PKP PKPab 07 38 12.7 -0.2
BDFB Brasilia 147.94 135 PKPbc PKPbc 07 38 14.8 -1.2
comp=Z,15nm,1.0s,baz=189,slow=5.3,SNR=14
TOA0 Torodi Ar. Sit 152.95 285 ePKPdf PKPdf 07 38 22.1 +1.5
TORD Torodi Ar. Bea 152.95 285 PKP PKPdf 07 38 20.9 +0.4
comp=Z,2.3nm,0.8s,baz=46,slow=1.0,SNR=11
TORD PKPbc PKPbc 07 38 27.5 -0.3
comp=Z,11nm,0.8s,baz=72,slow=2.1,SNR=38
KIC Kosan Boka 159.73 269 ePKP1 PKPab 07 39 17.8 +9.4
comp=Z,46nm,1.2s
LIC Lamto 160.01 268 ⇑iPKIKP PKPdf 07 38 26.3 -3.5
comp=Z,69nm,1.4s
LIC Lamto 160.01 268 ePKP1 PKPab 07 39 18.7 +9.1
comp=Z,49nm,1.2s
LIC Lamto 160.01 268 ⇑iPKPdf PKPdf 07 38 26.3 -3.5
TIC Toumodi 160.02 270 ePKP1 PKPab 07 39 17.9 +8.2
comp=Z,4.3nm,0.2s
ASCN Ascension 161.54 216 PFAKE 07 38 40.0 +8.6
ASCN LR LR
comp=Z,1μm,21.0s
RCBR Riachuelo 163.20 140 PFAKE 07 38 40.0 +6.9
RCBR LR LR
comp=Z,609nm,21.0s

IDC **10** *07:21:10.3±0.8, 6.99S×154.80E, h0km, mb4.7/15, mb1 4.9/16, mb1mx4.8/21, mbtmp4.6/16, ML3.7/1, MS4.5/1, Ms1 4.5/1, ms1mx3.6/24, Error ellipse: s-maj=34.8km s-min=17.7km az=125.0*
NEIC **10** *07:21:12.0±0.3, 6.99S×154.87E, h10km, mb5.4/5, Error ellipse: s-maj=12.9km s-min=6.2km az=141.0*
ISCJB **10** *07:21:15.0±0.4, 7.00S±0.09×154.75E±0.08, h41km, mb4.8/20, MS4.5/1, Error ellipse: s-maj=14.8km s-min=7.3km az=142.4*
ISC 10 07:21:16.6±0.7, 7.0S±0.1×154.9E±0.1, h41km, n39, σ1.63/38, mb4.8/20, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 7.99 252 Sn Sn 07 24 39.5 +0.1
1.9nm,0.3s,baz=42,slow=2.3,SNR=1.6
CTA Charters Tower 15.46 212 Pn Pn 07 24 51.8 -0.2
0.2nm,0.3s,baz=31,slow=12,SNR=4.1
CTA ScP ScP 07 33 30.2 +5.3
0.2nm,0.3s,baz=42,slow=17,SNR=2.9
CTAO Charters Tower 15.46 212 Pn Pn 07 24 51.1 -0.8
TARA Tarawa 19.84 66 eP P 07 25 42.2 -2.1
WRAB Tennant Creek 23.69 235 P P 07 26 22.4 -2.4
WRA Warramunga Arr 23.70 235 P P 07 26 22.7 -2.2
36nm,1.1s,baz=61,slow=5.4
WRA ScP ScP 07 33 47.0 +3.2
2.8nm,1.0s,baz=63,slow=2.9,SNR=5.8
ASAR Alice Springs 26.07 228 P P 07 26 45.0 -1.6
3.7nm,0.8s,baz=53,slow=9.3,SNR=3.6
ASAR ScP ScP 07 33 54.5 +4.1
3.2nm,1.1s,baz=53,slow=3.7,SNR=6.7

STKA Stephens Creek 27.68 205 P P 07 27 00.8 0.0
28nm,0.8s,baz=37,slow=14,SNR=7.0
H11S3 WAKE ISLAND Hy 27.89 25 T T 07 55 32.0
baz=211
H11S2 WAKE ISLAND Hy 27.89 25 T T 07 55 30.3
baz=211
H11S1 WAKE ISLAND Hy 27.91 25 T T 07 55 31.4
baz=211
NACB Ninganchiao 44.87 315 eP P 07 29 27.3 +0.1
40nm,0.9s
YHNB Yeheng 45.33 315 eP P 07 29 30.9 -0.2
KSRS Korea Array 50.88 332 P P 07 30 13.4 -0.2
3.9nm,0.8s,baz=150,slow=9.9,SNR=3.2
KSAR Wonju Array Be 50.89 332 P P 07 30 13.4 -0.3
PSI Prapat 56.67 278 LR LR 07 58 21.1
comp=Z,377nm,18.4s,baz=142,slow=39
PETK Petropavlovsk- 59.92 2 P P 07 31 18.8 +0.4
5.0nm,0.9s,baz=152,slow=6.5,SNR=2.6
CMAR Chiang Mai Arr 60.66 296 P P 07 31 25.0 +0.9
6.3nm,0.7s,baz=117,slow=5.0,SNR=2.5
CHGN Chignik 73.81 25 eP P 07 32 49.1 +2.5
BILL Bilibino 75.29 4 eP P 07 32 54.6 -0.4
IM04 Indian Mountai 81.76 19 eP P 07 33 30.3 -0.4
MCK McKinley 82.11 22 eP P 07 33 31.7 -1.0
84nm,1.3s
BMRM Bremner River 82.39 25 eP P 07 33 33.1 -1.1
88nm,1.5s
MK31 Makanchi Array 83.32 319 eP P 07 33 38.9 -0.5
MKAR Makanchi Array 83.32 319 P P 07 33 39.4 0.0
7.7nm,0.9s,baz=101,slow=6.5,SNR=4.3
ILAR Eielson Array 83.43 22 P P 07 33 38.2 -1.2
3.8nm,0.9s,baz=242,slow=5.0,SNR=6.5
DOT Dot Lake 83.92 23 eP P 07 33 41.4 -0.6
20nm,1.1s
ZALV Zalesovo Beam 84.11 326 P P 07 33 41.1 -2.0
1.3nm,0.5s,baz=86,slow=5.9,SNR=4.7
HYT Haines Junctio 85.44 27 eP P 07 33 51.3 +1.4
DLBC Dease Lake 88.21 31 P P 07 34 04.1 +0.7
14nm,1.1s,baz=259,slow=8.4,SNR=5.7
INK Inuvik 89.77 21 P P 07 34 10.1 -0.2
1.6nm,0.6s,baz=278,slow=3.5,SNR=4.3
NVAR Mina Array Bea 91.83 52 P P 07 34 21.8 +0.9
2.9nm,1.0s,baz=252,slow=6.5,SNR=3.7
NV11 Mina Array Sit 91.94 52 eP P 07 34 21.1 -0.3
DAC Darwin (Calif) 92.12 54 eP P 07 34 22.4 +0.1
12nm,1.2s
TPH Tonopah 92.63 52 eP P 07 34 25.0 +0.4
R11A Troy Canyon, C 93.94 52 eP P 07 34 30.7 +0.1
ELK Elko 94.44 50 P P 07 34 33.4 +0.5
1.4nm,0.8s,baz=212,slow=3.0,SNR=3.8
YKA Yellowknife Ar 96.40 28 P P 07 34 40.8 -0.2
5.4nm,0.9s,baz=268,slow=4.7,SNR=7.9
PDAR Pinedale Array 98.80 48 P P 07 34 52.2 -0.5
0.8nm,0.9s,baz=235,slow=3.2,SNR=3.4

IDC 10 07:36:54.9±52.0,17°22S×173°37W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/20,mbtmp3.8/3,Error ellipse: s-maj=1005.0km s-min=202.4km az=80.0,Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 43.17 242 P P 07 44 57.7 +0.1
1.2nm,0.7s,baz=84,slow=11,SNR=3.7
WRA Warramunga Arr 49.48 258 P P 07 45 46.9 -0.5
0.2nm,0.3s,baz=96,slow=7.0,SNR=3.1
ASAR Alice Springs 49.59 253 P P 07 45 48.3 0.0
1.9nm,0.6s,baz=91,slow=8.1,SNR=25

IDC 10 07:43:31.3±2.4,53°79N×86°64E,h0km,mb1 2.8/2, mb1mx2.8/43,mbtmp2.8/2,ML2.9/2,Error ellipse: s-maj=20.4km s-min=12.3km az=68.0,Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.09 279 i 07 50 07.9
baz=96,slow=347,SNR=2.0
ZALV Zalesovo Beam 1.09 279 Pg Pg 07 43 51.1 -1.1
1.1nm,0.3s,baz=97,slow=16,SNR=16
ZALV Lg Lg 07 44 07.3
1.7nm,0.3s,baz=102,slow=31,SNR=11
KURBB Kurchatov Arra 5.91 241 Pn Pn 07 45 01.1 +1.1
0.3nm,0.3s,baz=59,slow=13,SNR=11
KURBB Lg Lg 07 46 40.6
0.1nm,0.3s,baz=55,slow=36,SNR=4.9
MKAR Makanchi Array 7.54 203 Pn Pn 07 45 23.2 +0.9
0.2nm,0.3s,baz=27,slow=13,SNR=9.3
MKAR Lg Lg 07 47 29.7
0.1nm,0.3s,baz=16,slow=30,SNR=5.2

IDC 10 07:51:37.2±0.7,0°51N×126°10E,h0km,mb4.2/11, mb1 4.2/11,mb1mx4.1/25,mbtmp4.2/11,Error ellipse: s-maj=42.8km s-min=15.4km az=71.0
ISCJB 10 07:51:41.4±0.5,0°48N±0°08×126°1E±0°1,h44km, mb4.2/13,Error ellipse: s-maj=17.8km s-min=9.4km az=156.2
NEIC 10 07:51:42.8±2.3,0°48N×126°15E,h39km±22km,mb4.4/2, Error ellipse: s-maj=22.5km s-min=7.1km az=80.0
ISC 10 07:51:43.4±0.7,0°5N±0°1×126°2E±0°1,h44km,n19, σ0§63/20,mb4.3/13,Northern Molucca Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TNTI Ternate 1.21 76 ePn Pn 07 52 03.7 -0.1
WRAB Tennant Creek 21.80 159 eP P 07 56 31.3 -0.5
12nm,0.9s
WRA Warramunga Arr 21.80 159 P P 07 56 31.4 -0.5
3.8nm,0.5s,baz=340,slow=11,SNR=22
AS31 Alice Springs 25.14 163 eP P 07 57 05.4 +0.8
ASAR Alice Springs 25.14 163 P P 07 57 05.6 +1.1
1.8nm,0.3s,baz=347,slow=13,SNR=27
STKA Stephens Creek 35.33 157 P P 07 58 34.7 +0.1
2.7nm,0.6s,baz=329,slow=7.9,SNR=7.5
ASAJ Asahikawa 45.84 16 P P 08 00 02.3 +1.2
3.2nm,0.4s,baz=173,slow=8.6,SNR=4.2
ULN Ulaanbaatar 50.05 343 eP P 08 00 34.0 +0.2
SONM Songino Array 50.21 343 P P 08 00 35.1 0.0
0.9nm,0.7s,baz=168,slow=8.3,SNR=5.6
PETK Petropavlovsk- 58.63 22 P P 08 01 35.9 0.0
1.5nm,0.6s,baz=182,slow=3.1,SNR=4.0
MK31 Makanchi Array 59.94 327 eP P 08 01 44.7 -0.4
MKAR Makanchi Array 59.94 327 P P 08 01 44.6 -0.5
1.4nm,0.3s,baz=111,slow=6.4,SNR=19
MKAR PcP PcP 08 02 31.2 +0.1
0.7nm,0.5s,baz=122,slow=5.2,SNR=2.7
ZALV Zalesovo Beam 63.24 334 P P 08 02 06.4 -0.9
0.6nm,0.3s,baz=111,slow=6.2,SNR=4.2
KURK Kurchatov 64.20 329 eP P 08 02 12.8 -0.8
3.0nm,0.6s
KKAR Karatay Array 65.26 318 eP P 08 02 21.1 +0.4
BVAR Borovoye Array 69.76 328 P P 08 02 48.7 -0.2
1.4nm,0.8s,baz=141,slow=7.6,SNR=5.5
AKTO Aktyubinsk 75.88 322 P P 08 03 25.4 +0.1
3.7nm,0.6s,baz=97,slow=8.6,SNR=15
ILAR Eielson Array 88.25 25 P P 08 04 28.9 -1.0
0.2nm,0.5s,baz=256,slow=4.6,SNR=6.3
TORD Torodi Ar. Bea 123.36 286 PKP PKPdf 08 10 36.5 -0.3
3.5nm,0.4s,baz=44,slow=1.8,SNR=6.6

IDC 10 07:52:19.8±2.4,53°77N×86°67E,h0km,mb1 2.7/2, mb1mx2.7/42,mbtmp2.7/2,ML2.8/2,5C-1D,Error ellipse: s-maj=20.7km s-min=12.8km az=71.0,Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.11 280 i 07 58 56.7
baz=96,slow=349,SNR=1.9
ZALV Zalesovo Beam 1.11 280 Pg Pg 07 52 40.4 -0.8
0.9nm,0.3s,baz=100,slow=18,SNR=8.8
ZALV Lg Lg 07 52 56.6
1.5nm,0.3s,baz=102,slow=29,SNR=9.4
KURK Kurchatov 5.81 241 ⇑Pn Pn 07 53 48.3 +1.1
0.8nm,1.0s
KURK ⇑Sn Sn 07 55 00.2 +5.6
0.2nm,0.5s
KURK ⇑Lg Lg 07 55 25.5
0.5nm,0.6s
KURBB Kurchatov Arra 5.91 241 ⇓Pn Pn 07 53 49.3 +0.6
0.4nm,0.2s,baz=59,slow=13
KURBB ⇑Sn Sn 07 55 00.5 +3.4
0.4nm,0.3s
KURBB ⇑Lg Lg 07 55 25.6
1.3nm,0.6s,baz=58,slow=32
KURBB Kurchatov Arra 5.91 241 Pn Pn 07 53 49.4 +0.8
0.2nm,0.3s,baz=55,slow=13,SNR=6.7
KURBB Lg Lg 07 55 27.4
0.0nm,0.3s,baz=61,slow=36,SNR=3.2
MKAR Makanchi Array 7.53 204 Pn Pn 07 54 11.9 +1.1
0.1nm,0.3s,baz=26,slow=15,SNR=7.5

IDC 10 07:56:56.9±2.4,54°30N×86°01E,h0km,mb1 3.1/2, mb1mx2.9/30,mbtmp3.1/2,ML3.2/2,Error ellipse: s-maj=18.3km s-min=10.8km az=52.0,Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 0.78 244 i 07 59 54.3
baz=62,slow=345,SNR=13
ZALV Zalesovo Beam 0.79 244 Pg Pg 07 57 10.7 -1.3
2.2nm,0.3s,baz=60,slow=17,SNR=18
ZALV Lg Lg 07 57 23.6
8.7nm,0.3s,baz=66,slow=30,SNR=30
KURBB Kurchatov Arra 5.87 234 Pn Pn 07 58 26.2 +1.1
0.4nm,0.3s,baz=51,slow=14,SNR=12
MKAR Makanchi Array 7.88 199 Pn Pn 07 58 53.4 +0.6
0.5nm,0.3s,baz=24,slow=13,SNR=23
MKAR Sn Sn 08 00 22.3 -0.2
0.2nm,0.3s,baz=20,slow=26,SNR=6.7

IDC 10 07:57:28.7±0.8,0°42N×125°96E,h0km,mb4.0/6, mb1 4.1/6,mb1mx3.8/34,mbtmp4.0/6,Error ellipse: s-maj=64.0km s-min=17.2km az=69.0
ISCJB 10 07:57:32.6±0.9,0°4N±0°2×126°0E±0°4,h44km,mb4.1/6, Error ellipse: s-maj=61.5km s-min=15.7km az=161.8
ISC 10 07:57:34.9±0.9,0°4N±0°2×126°0E±0°4,h44km,n7,σ0§50/8, mb4.1/6,Northern Molucca Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 21.79 158 P P 08 02 22.7 -0.5
2.2nm,0.4s,baz=336,slow=12,SNR=11
ASAR Alice Springs 25.11 163 P P 08 02 56.3 +0.5
2.2nm,0.3s,baz=346,slow=12,SNR=27
STKA Stephens Creek 35.32 157 P P 08 04 25.9 -0.1
0.8nm,0.3s,baz=326,slow=7.8,SNR=8.9
PETK Petropavlovsk- 58.77 22 P P 08 07 28.6 +0.2
0.8nm,0.6s,baz=146,slow=0.5,SNR=4.5
MKAR Makanchi Array 59.91 327 P P 08 07 36.5 0.0
1.0nm,0.4s,baz=117,slow=7.3,SNR=30
MKAR PcP PcP 08 08 22.7 +0.2
0.7nm,0.5s,baz=112,slow=3.9,SNR=5.6
ZALV Zalesovo Beam 63.24 334 P P 08 07 58.1 -0.7
0.5nm,0.4s,baz=143,slow=7.0,SNR=3.4
TORD Torodi Ar. Bea 123.22 286 PKP PKPdf 08 16 28.3 +0.3
0.2nm,0.4s,baz=88,slow=1.4,SNR=5.3

IDC 10 08:06:33.0±0.8,7°10S×154°98E,h0km,mb4.4/9, mb1 4.6/10,mb1mx4.4/19,mbtmp4.4/10,ML2.9/1,MS3.7/6, Ms1 3.8/6,ms1mx3.3/30,Error ellipse: s-maj=30.1km s-min=17.6km az=126.0
NEIC 10 08:06:34.6±0.5,7°11S×154°98E,h10km,mb4.6/5,Error ellipse: s-maj=18.4km s-min=9.2km az=129.0
ISCJB 10 08:06:37.6±0.5,7°09S±0°08×154°83E±0°08,h41km, mb4.4/12,MS3.7/4,Error ellipse: s-maj=14.2km s-min=7.7km az=135.3
ISC 10 08:06:39.2±0.6,7°2S±0°1×154°9E±0°1,h41km,n37, σ1§67/35,mb4.5/12,MS3.7/4,Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RABL Rabaul 4.01 317 P Pn 08 07 46.7 +8.5
baz=4.2,SNR=3.8
HNR Honiara 5.49 115 LR LR 08 10 11.6
comp=Z,630nm,19.3s,baz=276,slow=40
PMG Port Moresby 7.97 253 Pn Pn 08 08 33.0 +0.4
1.0nm,0.3s,baz=67,slow=15,SNR=10
PMG Sn Sn 08 10 01.3 -0.4
0.7nm,0.3s,baz=86,slow=13,SNR=2.9
PMG LR LR 08 11 06.8
comp=Z,451nm,21.1s,baz=32,slow=34
PMG Port Moresby 7.97 253 ePn Pn 08 08 32.1 -0.6
26nm,0.8s
PMG Sn Sn 08 10 01.3 -0.4
COEN Coen 13.35 239 P Pn 08 09 48.0 +1.7
baz=13,SNR=4.4
MTSU Mount Surprise 15.01 222 P P 08 10 15.1 +1.6
baz=15,SNR=6.1
CTAO Charters Tower 15.35 212 ePn Pn 08 10 13.4 +0.4
10nm,1.1s
QIS Mount Isa 19.92 226 P P 08 11 07.5 -0.1
baz=20,SNR=16
RMQ Roma 20.09 196 P Pn 08 11 11.2 -0.4
baz=20,SNR=9.8
QLP Quilpie 21.82 206 P P 08 11 28.5 +0.5
baz=22,SNR=9.7
WRAB Tennant Creek 23.63 235 eP P 08 11 45.4 -1.5
12nm,0.8s
WRA Warramunga Arr 23.64 235 P P 08 11 45.8 -1.3
10nm,0.9s,baz=60,slow=9.7,SNR=32
WRA LR LR 08 20 16.7
comp=Z,225nm,20.2s,baz=15,slow=35
MTN Manton Dam 24.06 255 P P 08 12 03.2 +12
baz=24,SNR=3.9
MTN S S 08 16 03.8 -2.0
baz=24,SNR=10
CMSA Cobar Meteorol 25.74 198 P P 08 12 07.2 +1.2
baz=26,SNR=16
ASAR Alice Springs 25.99 229 P P 08 12 07.8 -0.7
3.0nm,0.7s,baz=60,slow=8.4,SNR=35
ASAR ScP ScP 08 19 17.5 +4.7
1.9nm,1.0s,baz=68,slow=1.9,SNR=11
ASAR LR LR 08 20 48.8
comp=Z,134nm,18.6s,baz=26,slow=33
KNRA Kununurra 26.95 249 P P 08 12 18.7 +1.6
baz=27,SNR=4.4
STKA Stephens Creek 27.55 205 P P 08 12 23.8 +1.5
10.0nm,0.8s,baz=24,slow=12,SNR=17
STKA LR LR 08 22 02.4
comp=Z,272nm,19.1s,baz=22,slow=34
STKA Stephens Creek 27.55 205 P P 08 12 23.8 +1.5
18nm,0.8s
STKA Stephens Creek 27.55 205 P P 08 12 24.4 +2.1
baz=27,SNR=8.9
STKA S S 08 16 55.4 -5.4
baz=27,SNR=70
H11S3 WAKE ISLAND Hy 28.02 24 T T 08 40 54.9
baz=200,slow=74,SNR=5.3
H11S2 WAKE ISLAND Hy 28.02 24 T T 08 40 55.7
baz=200,slow=74,SNR=3.5
H11S1 WAKE ISLAND Hy 28.04 24 T T 08 41 00.5
baz=200
WRKA Warakurna 31.02 232 P P 08 12 52.1 -1.2
baz=31,SNR=4.1
WSI Waingapu 34.30 263 P P 08 13 27.4 +5.4
baz=34,SNR=9.6
PETK Petropavlovsk- 60.08 2 P P 08 16 41.4 -0.6
4.9nm,0.7s,baz=143,slow=8.1,SNR=4.2
CMAR Chiang Mai Arr 60.76 296 P P 08 16 48.8 +1.4
3.3nm,0.6s,baz=116,slow=4.9,SNR=14
CHTO Chiang Mai 60.88 296 eP P 08 16 49.6 +1.4
6.4nm,0.9s
SONM Songino Array 69.42 327 P P 08 17 43.1 -0.1
2.2nm,0.8s,baz=135,slow=6.2,SNR=14
BILL Bilibino 75.45 4 eP P 08 18 18.2 -0.4
5.1nm,0.8s
IM04 Indian Mountai 81.89 19 eP P 08 18 53.4 -0.7
ILAR Eielson Array 83.56 22 P P 08 19 01.1 -1.7
1.2nm,0.7s,baz=243,slow=5.1,SNR=6.5
ILAR LR LR 08 55 25.7
comp=Z,49nm,19.2s,baz=241,slow=35
NVAR Mina Array Bea 91.90 52 P P 08 19 43.8 -0.1
1.7nm,0.9s,baz=256,slow=6.5,SNR=9.1
YKA Yellowknife Ar 96.52 28 P P 08 20 03.8 -0.3
2.3nm,0.9s,baz=267,slow=4.6,SNR=30
GERES GERESS Array B 127.14 329 PKP PKPdf 08 25 39.2 -0.1
0.4nm,0.6s,baz=85,slow=1.5,SNR=3.9
LPAZ La Paz 131.47 119 PKP PKPdf 08 25 49.5 +0.4
1.1nm,1.0s,baz=270,slow=2.0,SNR=4.6
BDFB Brasilia 147.94 135 PKPbc PKPbc 08 26 21.3 +0.1
5.0nm,0.9s,baz=208,slow=3.5,SNR=5.3
TORD Torodi Ar. Bea 152.97 285 PKP PKPdf 08 26 26.0 0.0
4.6nm,0.5s,baz=30,slow=1.8,SNR=2.7
TORD PKPbc PKPbc 08 26 32.8 -0.4
3.0nm,0.9s,baz=58,slow=2.4,SNR=12

IDC 10 08:10:31.4±1.4,6°99S×155°00E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.8/18,mbtmp3.8/6,Error ellipse: s-maj=65.5km s-min=24.2km az=121.0
ISCJB 10 08:10:35.9±1.2,7°1S±0°2×155°0E±0°3,h41km,mb3.6/6, Error ellipse: s-maj=54.8km s-min=18.8km az=31.1
ISC 10 08:10:37.4±1.3,7°0S±0°3×155°0E±0°4,h41km,n7,σ1§09/8, mb3.7/6,Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.78 235 P P 08 15 45.9 -0.5
1.9nm,0.9s,baz=59,slow=9.6,SNR=4.5
ASAR Alice Springs 26.13 228 P P 08 16 07.4 -0.5
0.7nm,0.8s,baz=64,slow=9.6,SNR=3.9
STKA Stephens Creek 27.70 205 P P 08 16 22.6 +0.7
2.5nm,0.9s,baz=5.1,slow=9.5,SNR=3.1
SONM Songino Array 69.34 327 P P 08 21 41.8 +0.8
0.4nm,0.4s,baz=115,slow=6.1,SNR=3.9
ILAR Eielson Array 83.41 21 P P 08 22 58.6 -1.6
0.4nm,0.8s,baz=234,slow=5.3,SNR=4.8
YKA Yellowknife Ar 96.37 28 P P 08 24 02.7 +1.0
0.3nm,0.6s,baz=268,slow=4.8,SNR=5.5
TORD Torodi Ar. Bea 153.00 285 PKPbc PKPbc 08 30 32.0 +0.5
0.6nm,0.9s,baz=28,slow=3.9,SNR=3.7
TORD PKPab PKPab 08 30 42.2 -0.8
0.2nm,0.4s,baz=75,slow=2.4,SNR=3.6

IDC 10 08:16:51.4±3.1,53°82N×90°96E,h0km,mb1 3.1/3, mb1mx3.0/31,mbtmp3.1/3,ML3.2/2,Error ellipse: s-maj=26.8km s-min=22.1km az=54.0
NNC 10 08:16:52.2±5.5,53°49N×91°02E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=44.7km s-min=38.0km az=13.0
ISC 10 08:16:51.6±4.1,53°8N±0°1×91°0E±0°2,h10km,n7, σ0§96/12,4C-5D,Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 3.69 275 i 08 38 22.2
baz=91,slow=343,SNR=1.7
ZALV Zalesovo Beam 3.69 275 Pn Pn 08 17 49.1 +0.5
0.2nm,0.3s,baz=91,slow=14,SNR=3.2
ZALV Pg Pb 08 17 55.9 -0.8
1.9nm,0.3s,baz=92,slow=15,SNR=17
ZALV Lg Lg 08 18 46.0
1.8nm,0.3s,baz=85,slow=32,SNR=5.8
KURK Kurchatov 8.22 253 ⇑Pn Pn 08 18 50.7 -0.1
1.6nm,1.1s
KURK ⇑Sn Sn 08 20 25.7 +2.0
3.3nm,1.1s
KURK ⇑Lg Lg 08 21 12.6
12nm,0.9s
KURBB Kurchatov Arra 8.32 253 ⇓Pn Pn 08 18 52.4 +0.3
3.7nm,0.9s
KURBB ⇓Sn Sn 08 20 25.4 -0.5
11nm,0.9s
KURBB ⇓Lg Lg 08 21 12.7
15nm,0.8s
KURBB Kurchatov Arra 8.32 253 Pn Pn 08 18 53.0 +0.9
0.4nm,0.3s,baz=64,slow=14,SNR=8.2
KURBB Sn Sn 08 20 25.6 -0.4
0.1nm,0.3s,baz=64,slow=22,SNR=6.6
KURBB Lg Lg 08 21 13.5
0.1nm,0.3s,baz=59,slow=32,SNR=6.4
MKAR Makanchi Array 8.97 222 Pn Pn 08 19 02.0 +0.9
0.2nm,0.3s,baz=37,slow=14,SNR=21
MKAR Sn Sn 08 20 42.5 +0.4
baz=42,slow=18,SNR=3.0
MKAR Lg Lg 08 21 32.5
0.1nm,0.3s,baz=33,slow=22,SNR=3.7
MK09 Makanchi Array 8.99 222 ⇓Pn Pn 08 19 01.4 0.0
2.9nm,0.8s,baz=35,slow=14
MK09 ⇓Sn Sn 08 20 41.7 -1.0
2.2nm,0.9s,baz=41,slow=22
MK09 ⇑Lg Lg 08 21 27.7
5.8nm,0.8s,baz=22,slow=21

CASC 10 08:18:52.3±3.0,10°61N×87°07W,h38km±999km,MD3.8, 2D,Off coast of Costa Rica

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GBS2 Las Lilas 1.60 82 i P Pn 08 19 18.3 +0.2
GBS2 i S Sn 08 19 39.6 +2.0
COPN Copaltepe 1.63 16 eP Pn 08 19 19.8 +1.3
COPN eS Sn 08 19 39.8 +1.5
BUEV Buena Vista 1.64 83 i P Pn 08 19 18.7 -0.1
GB1A Borinquen Arri 1.65 83 i P Pn 08 19 19.2 +0.3
COLC Colonia 1.83 88 i P Pn 08 19 21.6 +0.3
COLC i S Sn 08 19 44.8 +1.5
MESS Mesas 1.84 86 i P Pn 08 19 21.9 +0.4
MESS i S Sn 08 19 45.1 +1.4
HUEN 1.93 27 eP Pn 08 19 24.2 +1.6
JCR Jicaral 2.06 111 ⇓i P Pn 08 19 24.0 -0.5
JCR eS Sn 08 19 47.9 -1.2
CGA2 Cerro Gallo 2 2.62 103 eP Pn 08 19 33.8 +1.4
CGA2 eS Sn 08 20 04.1 +1.0
VSM San Miguel 3.04 337 eP Pn 08 19 38.7 +0.4
QCR Quepos 3.09 112 eP Pn 08 19 39.1 +0.6
BUS Buena Vista 3.42 107 ⇓eP Pn 08 19 45.1 +1.4
BUS eS Sn 08 20 23.3 -0.1
LBRS Las Brisas 3.67 328 eP Pn 08 19 47.8 +1.2

IDC 10 08:24:21.4±2.1,4°43S×139°08E,h0km,mb3.6/1, mb1 3.8/4,mb1mx3.6/16,mbtmp3.5/4,ML3.7/3,Error ellipse: s-maj=112.3km s-min=22.9km az=119.0,Irian Jaya

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JAY Jayapura 2.50 41 Pn Pn 08 25 04.3 +0.9
97nm,0.3s,baz=106,slow=0.2,SNR=3.5
JAY Sn Sn 08 25 34.0 -0.7
41nm,0.3s,baz=43,slow=0.4,SNR=3.6
WRA Warramunga Arr 16.10 196 Pn Pn 08 28 07.2 -2.1
0.2nm,0.3s,baz=17,slow=13,SNR=3.6
WRA Sn Sn 08 30 55.7 -13
0.2nm,0.3s,baz=18,slow=22,SNR=3.8
ASAR Alice Springs 19.77 194 P Pn 08 28 54.1 -0.6
0.2nm,0.3s,baz=26,slow=9.2,SNR=13
ILAR Eielson Array 87.23 24 P P 08 37 09.2 -0.3
0.3nm,0.7s,baz=254,slow=3.4,SNR=3.5

IDC 10 08:24:54.1±3.1,54°25N×87°09E,h0km,mb1 3.1/2, mb1mx2.9/40,mbtmp3.1/2,ML2.9/2,Error ellipse: s-maj=28.6km s-min=17.7km az=59.0
NNC 10 08:24:57.3±8.9,53°96N×87°15E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=64.4km s-min=53.7km az=38.0
ISC 10 08:24:54.7±4.6,54°5N±0°2×87°3E±0°2,h35km,n7,σ1§27/9, 4C-5D,Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.56 251 i 08 32 34.1
baz=78,slow=346,SNR=14
ZALV Zalesovo Beam 1.56 251 Pg Pn 08 25 18.4 -1.5
1.6nm,0.3s,baz=73,slow=16,SNR=23
ZALV Lg Lg 08 25 38.2
1.6nm,0.3s,baz=78,slow=29,SNR=5.7
KURK Kurchatov 6.50 238 ⇑Pn Pn 08 26 29.7 +2.0
1.7nm,1.3s
KURK ⇓Sn Sn 08 27 41.2 +0.6
0.6nm,0.7s
KURK ⇓Lg Lg 08 28 16.7
1.4nm,0.9s
KURBB Kurchatov Arra 6.61 238 ⇓Pn Pn 08 26 29.8 +0.7
1.9nm,0.6s,baz=55,slow=14
KURBB ⇓Sn Sn 08 27 42.5 -0.7
1.1nm,0.6s,baz=48,slow=21
KURBB ⇑Lg Lg 08 28 18.6
1.5nm,0.7s,baz=63,slow=31
KURBB Kurchatov Arra 6.61 238 Pn Pn 08 26 30.2 +1.0
0.3nm,0.3s,baz=54,slow=14,SNR=9.0
MKAR Makanchi Array 8.33 205 Pn Pn 08 26 53.5 +0.6
0.2nm,0.3s,baz=25,slow=12,SNR=7.0
MKAR Lg Lg 08 29 10.2
0.1nm,0.3s,baz=17,slow=35,SNR=2.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
MK09	Makanchi Array	8.36	205	⇑Pn	Pn	08 26 52.9	-0.4
	0.3nm,0.5s						
MK09				⇓Sn	Sn	08 28 25.4	-0.9
	0.4nm,0.5s						
MK09				⇑Lg	Lg	08 29 06.4	
	0.6nm,0.7s						

IDC 10 08:37:26.8±2.6, 54.00N×86.58E, h0km, mb1 2.7/2, mb1mx2.7/40, mbtmp2.7/2, ML2.6/1, Error ellipse: s-maj=22.4km s-min=13.1km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
I46RU	ZALESOVO INFRA	1.04	268	i		08 43 33.8	
	baz=87,slow=346,SNR=10						
ZALV	Zalesovo Beam	1.04	268	Pg	Pg	08 37 46.2	-0.6
	0.7nm,0.3s,baz=86,slow=16,SNR=11						
ZALV				Lg	Lg	08 38 01.6	
	1.2nm,0.3s,baz=86,slow=31,SNR=9.7						
KURBB	Kurchatov Arra	5.98	239	Pn	Pn	08 38 57.1	+0.6
	baz=54,slow=14,SNR=2.5						
MKAR	Makanchi Array	7.72	203	Pn	Pn	08 39 21.5	+1.1
	0.1nm,0.3s,baz=24,slow=14,SNR=10.0						

IDC 10 08:46:12.8±0.5, 2.68S×121.73E, h0km, mb4.3/22, mb1 4.4/22, mb1mx4.4/28, mbtmp4.3/22, MS3.9/17, Ms1 3.9/17, ms1mx3.7/31, Error ellipse: s-maj=20.9km s-min=12.2km az=59.0
MOS 10 08:46:16.1±1.1, 2.68S×121.83E, h33km, mb4.8/9, Error ellipse: s-maj=17.7km s-min=8.3km az=118.1
ISCJB 10 08:46:16.8±0.4, 2.72S±0.02×121.81E±0.02, h35km±4km, mb4.5/47, MS3.9/22, Error ellipse: s-maj=4.0km s-min=3.7km az=135.9
DJA 10 08:46:17.2±0.1, 3°S±1°×12°2E±°, h10km, M4.9/44, mB5.4/23, mb4.8/44, MLv5.1/25, Mw(mB)4.8/23, Mwp6.0/1
BJI 10 08:46:18.2, 2.80S×121.90E, h35km, mB4.9/17, mb4.5/30, Ms4.6/15, Ms7 4.2/15
NEIC 10 08:46:19.1±0.5, 2.72S×121.86E, h43km±5km, mb4.6/13, Error ellipse: s-maj=6.5km s-min=5.0km az=63.0
NEIC Felt [III] at Soroako.
ISC 10 08:46:19.8±0.5, 2.78S±0.03×121.85E±0.04, h47km±4km, n155, σ1.67/157, mb4.5/45, MS3.9/23, 3C-2D, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
APSI	Ampana	1.87	354	P	Pn	08 46 44.7	-4.7
APSI				S	Sn	08 47 12.9	+1.1
LUWI	Luwuk	1.96	28	P	Pn	08 46 46.9	-3.8
LUWI				S	Sn	08 47 15.7	+1.6
LUWI	Luwuk	1.96	28	ePn	Pn	08 46 46.8	-3.8
LUWI				eSn	Sn	08 47 11.9	-2.2
LUWI	Luwuk	1.96	28	P	Pn	08 46 46.7	-4.0
	baz=1.6,SNR=58						
LUWI				S	Sn	08 47 16.0	+1.9
	baz=1.6,SNR=6.8						
TTSI	Tana Toraja	2.04	263	P	Pn	08 46 46.4	-5.3
BNSI	Bone	2.37	227	P	Pn	08 46 53.7	-2.5
SPSI	Sidrap Palu	2.38	240	P	Pn	08 46 53.5	-2.9
BBSI	Bau Bau	2.78	165	P	Pn	08 47 12.1	+10
KAPI	Kappang	3.04	223	ePn	Pn	08 47 04.2	-1.3
BKSI	Bulukumba	3.05	214	P	Pn	08 47 04.2	-1.4
MRSI	Marisa	3.24	2	P	Pn	08 47 03.3	-4.9
GTOI	Gorontalo	3.59	19	P	Pn	08 47 10.4	-2.6
GTOI				S	Sn	08 47 53.7	-0.5
BSSI	Bau Bau, Buton	3.60	202	P	Pn	08 47 12.6	-0.5
KMSI	Cibinong	3.96	33	P	Pn	08 47 16.6	-1.5
KMSI				S	Sn	08 48 05.7	+2.4
TOLI	Toli-Toli	4.02	345	ePn	Pn	08 47 16.3	-2.6
SANI	Sanana	4.20	80	S	Sn	08 48 08.2	-1.1
BKB	Balikpapan	5.17	287	P	Pn	08 47 38.7	+4.0
NLAI	Namlea	5.27	95	P	Pn	08 47 37.1	+1.1
	97nm,0.9s,0.4nm						
KBKI	Kotabaru	5.69	265	P	Pn	08 47 41.0	-0.9
	434nm,1.0s,3μm1.2nm						
MMRI	Maumere	5.83	176	P	Pn	08 47 43.7	0.0
	207nm,1.3s,3μm0.8nm						
MMRI	Maumere	5.83	176	ePn	Pn	08 47 43.5	-0.2
LBMI	Labuha	6.04	69	P	Pn	08 47 45.0	-1.7
	509nm,0.9s,4μm1.5nm						
LBMI				S	Sn	08 48 56.7	+2.1
	509nm,0.9s,4μm1.5nm						
TNTI	Ternate	6.55	57	P	Pn	08 47 51.9	-1.8
	311nm,1.1s,1.0nm						
TNTI	Ternate	6.55	57	ePn	Pn	08 47 51.3	-2.4
WSI	Waingapu	7.01	193	P	Pn	08 48 09.4	+9.4
	baz=7.4,SNR=3.2						
WSI				S	Sn	08 49 19.2	+0.8
	baz=7.4,SNR=5.2						
BBKI	Banjar Baru	7.03	264	P	Pn	08 48 01.4	+1.2
	76nm,0.8s,4μm0.7nm						
MSAI	Masohi	7.09	95	P	Pn	08 48 03.3	+2.2
	17nm,0.6s,267nm0.1nm						
MTKI	Muara Teweh, K	7.18	285	P	Pn	08 48 13.2	+11
SOEI	Soe	7.33	161	P	Pn	08 48 08.1	+3.6
	211nm,1.1s,2μm0.6nm						
SOEI	Soe	7.33	161	ePn	Pn	08 48 04.9	+0.4
SOEI	Soe	7.33	161	P	Pn	08 48 13.7	+9.2
	baz=7.6,SNR=4.1						
SRBI	Singaraja	8.44	231	P	Pn	08 48 17.3	-2.3
	48nm,0.9s						
MYLDM	Lahad Datu	8.59	337	ePn	Pn	08 48 22.0	+0.4
JAGI	Jajag, Banyuwa	9.51	233	P	Pn	08 48 38.0	+3.7
	38nm,1.0s,615nm						
JAGI	Jajag, Banyuwa	9.51	233	ePn	Pn	08 48 33.8	-0.5
	48nm,1.0s						
SWI	Sorong	9.60	79	P	Pn	08 48 35.7	+0.2
	56nm,0.6s						
FAKI	Fak Fak	10.39	91	ePn	Pn	08 48 46.1	-0.2
FAKI	Fak Fak	10.39	91	P	Pn	08 48 46.2	-0.2
	baz=10,SNR=9.5						
KKM	Kota Kinabalu	10.42	327	ePn	Pn	08 48 46.7	-0.1
STKI	Sintang	10.74	285	P	Pn	08 48 49.7	-1.5
	89nm,0.6s						
SBUM	Sibu	10.94	298	ePn	Pn	08 48 54.9	+1.1
PWJI	Pagerwojo	11.27	242	P	Pn	08 48 56.7	-1.6
	18nm,1.7s						
NGJI	Ngawi	11.30	246	P	Pn	08 49 04.8	+6.1
PCJI	Pacitan	11.90	243	P	Pn	08 49 08.1	+1.2
	55nm,1.2s,639nm						
WOJI	Wonogiri, Jawa	11.97	245	P	Pn	08 49 07.6	-0.4
	53nm,1.3s,5μm						
UGM	Wanagama	12.37	245	P	P	08 49 26.9	+2.6
UGM	Wanagama	12.37	245	ePn	Pn	08 49 13.9	+0.5
KPJI	Karang Pucung	13.63	250	P	Pn	08 49 31.2	+0.6
	40nm,1.4s						
KNRA	Kununurra	14.51	152	P	Pn	08 49 39.8	-2.6
	baz=15,SNR=6.7						
KNRA				S	Sn	08 52 25.8	+3.8
	baz=15,SNR=3.5						
SMPI	Sarmi	16.87	88	P	P	08 50 13.7	-0.6
	72nm,1.5s,6μm						
DSRI	Dabo	17.41	277	P	Pn	08 50 19.6	+0.1
	120nm,1.5s						
KASI	Kota Agung	17.52	261	P	P	08 50 22.1	+0.7
	51nm,1.1s,567nm						
MDSI	Maura Dua	17.71	264	P	Pn	08 50 22.9	-0.3
	43nm,1.0s,1μm						
LHSI	Lahat	18.32	266	P	Pn	08 50 37.4	+6.7
MBWA	Marble Bar	18.38	186	eP	Pn	08 50 31.5	+0.2
	20nm,1.3s						
MASI	Maura Aman, Be	19.58	268	P	Pn	08 50 47.6	+1.7
	176nm,1.2s,4μm						
WRAB	Tennant Creek	20.97	145	⇑iP	P	08 50 59.4	+0.3
WRAB				pmax	pmax		
	comp=Z,26nm,0.9s						
WRAB	Tennant Creek	20.97	145	eP	P	08 50 58.8	-0.3
WRA	Warramunga Arr	20.97	145	P	P	08 50 58.9	-0.3
	comp=Z,4.3nm,0.7s,baz=321,slow=12,SNR=24						
WRA				LR	LR	09 00 06.4	
	comp=Z,436nm,19.6s,baz=310,slow=40						
PDSI	Padang	21.45	275	P	P	08 51 03.6	-0.8
	comp=Z,25nm,1.3s,comp=Z,3μmcomp=Z,29μm						
IPM	Ipoh	22.02	289	eP	P	08 51 10.1	-0.4
	comp=Z,32nm,0.7s						
MNSI	Mandailing Nat	22.54	279	P	P	08 51 16.0	-0.1
	comp=Z,36nm,1.0s,comp=Z,3μm						
KULM	Kulim	22.64	291	eP	P	08 51 18.2	+1.1
	comp=Z,36nm,1.0s						
WRKA	Warakurna	22.98	165	P	P	08 51 21.8	+1.2
	baz=23,SNR=19						
WRKA				S	S	08 55 27.8	+0.1
	baz=23,SNR=4.9						
PSI	Prapat	23.57	283	P	P	08 51 23.8	-2.8
	comp=Z,44nm,1.0s,baz=135,slow=4.3,SNR=28						
PSI				LR	LR	09 02 13.6	
	comp=Z,614nm,18.4s,baz=96,slow=41						
PSI	Prapat	23.57	283	P	P	08 51 25.2	-1.4
	baz=24,SNR=27						
AS31	Alice Springs	23.81	152	eP	P	08 51 28.8	+0.2
ASAR	Alice Springs	23.81	152	P	P	08 51 29.0	+0.4
	comp=Z,6.3nm,0.6s,baz=329,slow=9.7,SNR=110						
ASAR				PcP	PcP	08 55 11.7	+0.5
	comp=Z,0.6nm,0.5s,baz=345,slow=2.0,SNR=5.5						
ASAR				LR	LR	09 01 28.6	
	comp=Z,368nm,18.4s,baz=326,slow=38						
COEN	Coen	23.81	119	eP	P	08 51 28.5	-0.1
	comp=Z,551nm,1.8s						
COEN	Coen	23.81	119	P	P	08 51 28.1	-0.6
	baz=24,SNR=22						
MEEK	Meekatharra	23.92	187	P	P	08 51 28.4	-1.1
	baz=24,SNR=4.0						
MEEK				S	S	08 55 20.7	-22
	baz=24,SNR=3.1						
GSI	Gunungsitoli	24.60	279	P	P	08 51 35.9	0.0
	comp=Z,59nm,1.5s						
GSI	Gunungsitoli	24.60	279	eP	P	08 51 33.9	-2.0
	comp=Z,66nm,1.1s						
QIZ	Qiongzhong	24.68	332	P	P	08 51 38.8	+2.3
QIZ				S	S	08 55 59.7	+4.5
QIZ				pmax	pmax		
	comp=Z,21nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,120nm,3.4s						
QIZ				LR	LR		
	comp=Z,240nm,14.4s						
QIZ				LR	LR		
	comp=Z,380nm,22.5s						
QIS	Mount Isa	24.74	137	P	P	08 51 37.9	+0.8
	baz=25,SNR=14						
KCSI	Kotacane, Aceh	24.86	284	P	P	08 51 37.7	-0.6
	comp=Z,23nm,0.8s						
PMG	Port Moresby	26.00	106	d iP	P	08 51 48.5	-0.1
PMG				pmax	pmax		
	comp=Z,35nm,1.7s						
PMG				MLR	MLR		
	comp=Z,327nm,20.0s						
PMG	Port Moresby	26.00	106	P	P	08 51 48.9	+0.2
	comp=Z,16nm,0.7s,baz=266,slow=11,SNR=9.3						
PMG				LR	LR	09 04 26.9	
	comp=Z,299nm,19.7s,baz=280,slow=42						
PMG	Port Moresby	26.00	106	eP	P	08 51 48.8	+0.2
	comp=Z,19nm,0.8s						
SSLB	Suanglung	26.43	358	eP	P	08 51 52.7	+0.3
	comp=Z,35nm,1.1s						
MTSU	Mount Surprise	26.79	126	S	S	08 56 22.7	-6.1
	baz=27,SNR=13						
NWAO	Narrogin (SRO)	30.30	188	LR	LR	09 05 54.4	
	comp=Z,169nm,18.2s,baz=15,slow=39						
CMAR	Chiang Mai Arr	30.89	314	P	P	08 52 30.1	-2.0
	comp=Z,1.5nm,0.4s,baz=140,slow=7.3,SNR=9.0						
CMAR				PcP	PcP	08 55 28.0	-0.2
	comp=Z,1.4nm,0.3s,baz=137,slow=2.0,SNR=4.4						
CMAR				LR	LR	09 08 22.9	
	comp=Z,227nm,18.1s,baz=142,slow=43						
QLP	Quilpie	31.95	140	P	P	08 52 42.9	+1.5
	baz=32,SNR=6.2						
GYA	Guiyang	32.57	334	eP	P	08 52 50.0	+3.1
GYA				pP	pP	08 53 00.4	+1.1
GYA				PP	PP	08 54 01.2	0.0
GYA				S	S	08 58 02.6	+3.2
GYA				sS	sS	08 58 20.9	+0.6
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
GYA				LR	LR		
	comp=Z,520nm,16.8s						
GYA				LR	LR		
	comp=Z,460nm,17.6s						
GYA				LR	LR		
	comp=Z,490nm,16.9s						
STKA	Stephens Creek	34.40	149	eP	P	08 53 03.2	+0.5
STKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STKA	Stephens Creek	34.40	149	P	P	08 53 03.5	+0.9
	comp=Z,5.5nm,0.7s,baz=323,slow=9.4,SNR=17						
STKA				LR	LR	09 08 35.0	
	comp=Z,342nm,18.9s,baz=333,slow=39						
STKA	Stephens Creek	34.40	149	eP	P	08 53 03.2	+0.5
	comp=Z,1.3nm,0.8s						
STKA	Stephens Creek	34.40	149	P	P	08 53 03.8	+1.1
	baz=35,SNR=12						
HTT	Hallett	34.42	154	P	P	08 53 04.0	+1.1
	baz=35,SNR=9.9						
NJ2	Nanjing	34.76	356	eP	P	08 53 07.0	+1.3
NJ2				pmax	pmax		
	comp=Z,30nm,1.2s						
CMSA	Cobar Meteorol	36.37	144	P	P	08 53 21.5	+1.9
	baz=37,SNR=11						
ARPS	Mount Arapiles	38.51	154	P	P	08 53 40.8	+3.1
	baz=39,SNR=6.8						
XAN	Xi'an	38.60	343	P	P	08 53 38.3	-0.2
XAN				LR	LR		
	comp=Z,110nm,13.9s						
XAN				LR	LR		
	comp=Z,68nm,16.2s						
KSAR	Wonju Array Be	40.41	7	P	P	08 53 51.9	-1.6
KSAR	Wonju Array Be	40.41	7	P	P	08 53 51.9	-1.6
KSRS	Korea Array	40.43	7	P	P	08 53 51.9	-1.7
	comp=Z,0.8nm,0.5s,baz=184,slow=10,SNR=2.5						
KSRS				LR	LR	09 11 59.9	
	comp=Z,93nm,18.9s,baz=204,slow=38						
CAN	Canberra	41.01	145	eP	P	08 53 59.5	+0.9
CAN				pmax	pmax		
	comp=Z,15nm,0.8s						
CAN	Canberra	41.01	145	eP	P	08 53 59.5	+0.9
	comp=Z,15nm,0.8s						
MJAR	Matsushiro Arr	41.99	20	P	P	08 54 06.1	-0.4
	comp=Z,2.5nm,0.9s,baz=197,slow=8.4,SNR=5.6						
MJAR				LR	LR	09 10 23.7	
	comp=Z,116nm,21.9s,baz=215,slow=35						
LZH	Lanzhou	42.17	338	eP	P	08 54 13.5	+5.4
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,4.2s						
LSA	Lhasa	43.66	320	eP	P	08 54 21.5	+0.9
LSA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LSA	Lhasa	43.66	320	eP	P	08 54 21.5	+0.9
	comp=Z,4.2nm,0.5s						
HHC	Hu-ho-hao-te	44.43	349	eP	P	08 54 29.8	+3.6
HHC				PP	PP	08 56 15.1	+4.5
HHC				S	S	09 01 02.9	+5.0
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,5.3s						
HHC				LR	LR		
	comp=Z,280nm,15.5s						
HHC				LR	LR		
	comp=Z,600nm,16.1s						
HHC				LR	LR		
	comp=Z,180nm,15.7s						
ODAN	Odare	44.43	314	eP	P	08 54 26.7	+0.1
	comp=Z,13nm,0.7s						
RAMN	Ramite	45.06	313	eP	P	08 54 31.3	-0.3
	comp=Z,21nm,0.7s						
JIRN	Jiri	45.77	314	eP	P	08 54 36.5	-0.9
	comp=Z,14nm,0.9s						
GUN	Gumba	46.13	314	eP	P	08 54 39.4	-0.9
	comp=Z,30nm,0.8s						
PKI	Pulchoki	46.28	313	eP	P	08 54 40.1	-1.3
	comp=Z,14nm,0.8s						
PKIN	Phulchoki	46.29	313	eP	P	08 54 39.9	-1.5
DMN	Daman	46.52	313	eP	P	08 54 42.0	-1.2
	comp=Z,12nm,0.7s						
GKN	Gorkha	47.09	313	eP	P	08 54 46.3	-1.2
	comp=Z,21nm,0.9s						
USRK	Ussuriysk Arra	47.65	10	P	P	08 54 49.8	-1.6
	comp=Z,2.4nm,0.5s,baz=201,slow=7.7,SNR=5.2						
USRK				LR	LR	09 15 18.8	
	comp=Z,51nm,19.6s,baz=173,slow=37						
KOLN	Koldanda	47.72	312	eP	P	08 54 51.4	-1.1
	comp=Z,20nm,0.7s						
PYUN	Piuthan	48.35	312	eP	P	08 54 55.9	-1.5
	comp=Z,71nm,0.7s						
ASAJ	Asahikawa	50.26	19	P	P	08 55 09.7	-1.7
	comp=Z,5.1nm,0.9s,baz=296,slow=5.7,SNR=4.5						
ULN	Ulaanbaatar	52.08	347	eP	P	08 55 22.8	-2.3
ULN				pmax	pmax		
	comp=Z,5.0nm,2.3s						
ULN	Ulaanbaatar	52.08	347	eP	P	08 55 26.9	+1.8
	comp=Z,5.3nm,1.1s						
WMQ	Urumqi	55.60	330	eP	P	08 55 53.7	+2.9
WMQ				pP	pP	08 56 03.8	-0.2
WMQ				sP	sP	08 56 07.7	-1.8
WMQ				PP	PP	08 57 59.4	+3.9
WMQ				PcS	PcS	09 00 51.7	+1.4
WMQ				S	S	09 03 35.5	+2.1
WMQ				ScS	ScS	09 05 36.7	+0.5
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,110nm,5.6s						
WMQ				LR	LR		
	comp=Z,140nm,22.0s						
WMQ				LR	LR		
	comp=Z,190nm,22.8s						
WMQ				LR	LR		
	comp=Z,130nm,23.8s						
TLY	Talaya	56.43	347	eP	P	08 55 57.6	+1.0
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,148nm,18.0s						
KSH	Kashi	59.51	320	eP	P	08 56 19.2	+0.6
KSH				ePP	PP	08 58 37.8	+7.4
KSH				eS	S	09 04 20.6	-4.4
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,57nm,3.8s						
KSH				LR	LR		
	comp=Z,120nm,6.0s						
KSH				LR	LR		
	comp=Z,92nm,4.9s						
KSH				LR	LR		
	comp=Z,140nm,5.4s						
MKAR	Makanchi Array	60.39	330	P	P	08 56 22.6	-1.8
	comp=Z,1.5nm,0.5s,baz=127,slow=7.9,SNR=16						
MKAR				LR	LR	09 24 33.9	
	comp=Z,81nm,19.1s,baz=114,slow=38						
KBL	Kabul	61.88	312	eP	P	08 56 34.3	-0.6
KBL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBL	Kabul	61.88	312	eP	P	08 56 34.3	-0.6
	comp=Z,7.1nm,0.8s						
AAK	Ala-Archa	62.17	322	P	P	08 56 36.7	0.0
	comp=Z,2.5nm,0.7s,baz=118,slow=5.5,SNR=5.1						
PETK	Petropavlovsk-	63.28	23	P	P	08 56 43.5	-0.1
	comp=Z,3.4nm,0.7s,baz=200,slow=7.9,SNR=6.2						
ZALV	Zalesovo Beam	64.38	337	P	P	08 56 49.1	-1.7
	comp=Z,1.3nm,0.7s,baz=108,slow=7.7,SNR=3.4						
KURBB	Kurchatov Arra	64.80	331	P	P	08 56 52.5	-1.1
	comp=Z,0.6nm,0.7s,baz=138,slow=6.5,SNR=7.4						
KURK	Kurchatov	64.82	331	eP	P	08 56 54.1	+0.4
KURK	Kurchatov	64.82	331	eP	P	08 56 54.1	+0.4
YAK	Yakutsk	64.92	4	eP	P	08 56 54.0	-0.1
SEY	Seymchan	69.47	14	eP	P	08 57 24.1	+1.1
BVAR	Borovoye Array	70.28	330	P	P	08 57 27.6	-0.6
	comp=Z,0.8nm,0.7s,baz=110,slow=8.4,SNR=3.8						
BRVK	Borovoye	70.35	330	⇑eP	P	08 57 29.5	+0.9
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
ABKAR	Akbulak array	74.23	323	eP	P	08 57 51.6	-0.2
	comp=Z,1.6nm,0.8s						
TIXI	Tiksi	74.44	2	⇑eP	P	08 57 50.1	-2.5
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
TIXI	Tiksi	74.44	2	eP	P	08 57 51.9	-0.7
	comp=Z,6.5nm,0.9s						
AKTO	Aktyubinsk	75.84	324	P	P	08 57 59.0	-2.1
AKTO	Aktyubinsk	75.84	324	P	P	08 57 59.0	-2.1
	comp=Z,1.3nm,0.7s,baz=101,slow=7.5,SNR=5.8						
AKTO				LR	LR	09 35 06.3	
	comp=Z,53nm,18.9s,slow=39						
BILL	Bilibino	77.08	16	eP	P	08 58 05.5	-2.2
BILL				e		09 00 57.5	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VNDA	Vanda	77.67	172	P	P	08 58 11.0	+0.1
	comp=Z,4.4nm,1.0s,baz=317,slow=8.4,SNR=2.7						
VNDA				LR	LR	09 32 57.3	
	comp=Z,96nm,18.4s,baz=328,slow=36						
KMBO	Kilima Mbogo	84.55	269	P	P	08 58 48.6	-0.5
	comp=Z,3.1nm,0.7s,baz=48,slow=8.3,SNR=9.8						
PRGR	Permogore	85.92	332	eP	P	08 58 53.0	-1.5
PPT	Papeete	87.82	107	LR	LR	09 35 12.8	
	comp=Z,54nm,19.4s,baz=234,slow=33						
BRTR	Keskin Array B	90.38	310	P	P	08 59 15.2	-1.4
	comp=Z,0.5nm,0.6s,baz=92,slow=4.8,SNR=3.1						
BRTR				LR	LR	09 47 53.5	
	comp=Z,30nm,18.6s,baz=149,slow=41						
ILAR	Eielson Array	93.04	25	P	P	08 59 26.7	-1.4
	comp=Z,0.4nm,0.7s,baz=237,slow=5.6,SNR=5.3						
ILAR				LR	LR	09 53 13.7	
	comp=Z,26nm,18.0s,baz=130,slow=43						
ARCES	ARCESS Array B	94.82	339	P	P	08 59 35.5	-0.7
	comp=Z,3.7nm,0.9s,baz=42,slow=2.0,SNR=6.6						
ARCES				LR	LR	09 46 20.6	
	comp=Z,105nm,18.6s,baz=144,slow=38						
VSU	Vasula	95.04	328	eP	P	08 59 37.7	+0.3
YKA	Yellowknife Ar	107.40	24	PKiKP	PKiKP	09 04 40.8	-0.1
	comp=Z,0.4nm,0.9s,baz=298,slow=2.0,SNR=5.0						
NVAR	Mina Array Bea	114.86	49	PKP	PKPdf	09 04 56.1	-0.1
	comp=Z,0.2nm,0.7s,baz=270,slow=0.9,SNR=2.8						
PDAR	Pinedale Array	119.44	41	PKP	PKPdf	09 05 05.3	+0.5
	comp=Z,0.6nm,0.9s,baz=243,slow=1.0,SNR=4.4						
TORD	Torodi Ar. Bea	119.97	283	PKP	PKPdf	09 05 06.4	+0.2
	comp=Z,1.1nm,0.9s,baz=73,slow=1.8,SNR=6.4						
ANMO	Albuquerque	124.98	48	⇓iPKIKP	PKPdf	09 05 19.2	+3.5
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CPUP	Villa Florida	151.05	182	PKPbc	PKPbc	09 06 06.9	-1.6
	comp=Z,2.5nm,0.7s,baz=239,slow=5.9,SNR=3.3						
LPAZ	La Paz	158.64	153	PKPab	PKPab	09 06 50.2	+1.0
	comp=Z,1.0nm,0.5s,baz=137,slow=2.1,SNR=5.8						

IDC 10 08:53:57.7±3.2, 54.59N×86.58E, h0km, mb1 3.1/2, mb1mx2.9/33, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=29.0km s-min=17.5km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
I46RU	ZALESOVO INFRA	1.22	239	i		09 01 00.0	
	baz=59,slow=344,SNR=37						
ZALV	Zalesovo Beam	1.22	239	Pg	Pg	08 54 19.7	-1.3
	2.1nm,0.3s,baz=57,slow=17,SNR=23						
ZALV				Lg	Lg	08 54 37.5	
	2.9nm,0.3s,baz=53,slow=31,SNR=21						
KURBB	Kurchatov Arra	6.31	234	Pn	Pn	08 55 32.8	+1.0
	0.3nm,0.3s,baz=53,slow=14,SNR=17						
MKAR	Makanchi Array	8.26	201	Pn	Pn	08 55 59.4	+0.7
	0.1nm,0.3s,baz=23,slow=13,SNR=9.6						

IDC 10 09:00:58.6±2.5, 54.10N×86.42E, h0km, mb1 3.1/2, mb1mx3.0/31, mbtmp3.1/2, ML3.1/2, Error ellipse: s-maj=21.1km s-min=12.8km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
I46RU	ZALESOVO INFRA	0.96	261	i		09 06 41.3	
	baz=79,slow=345,SNR=13						
ZALV	Zalesovo Beam	0.96	261	Pg	Pg	09 01 15.8	-1.2
	1.1nm,0.3s,baz=82,slow=17,SNR=4.1						
ZALV				Lg	Lg	09 01 30.7	
	2.1nm,0.3s,baz=82,slow=29,SNR=9.5						
KURBB	Kurchatov Arra	5.96	237	Pn	Pn	09 02 28.8	+0.8
	0.5nm,0.3s,baz=51,slow=12,SNR=6.6						
MKAR	Makanchi Array	7.78	201	Pn	Pn	09 02 54.0	+1.0
	0.3nm,0.3s,baz=20,slow=13,SNR=15						

CSEM 10 09:04:27.5±0.6, 38.42N×46.78E, h2km, ML3.3, Error ellipse: s-maj=12.0km s-min=5.7km az=15.0
AZER 10 09:04:27.2±0.0, 38.56N×46.91E, h9km, Error ellipse: s-maj=8.5km s-min=1.0km az=26.0
NSSP 10 09:04:29.0, 38.73N×46.82E, h22km, Ms3.3

TIF 10 09:04:36.3, 38°.66N×46°.75E, h18km±5km
ISC 10 09:04:29.3±1.3, 38°.67N±0°.05×46°.85E±0°.03, h12km±11km, n40, σ1s16/72, 24C-12D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKZ		1.15	356	⇑iP	Pg	09 04 51.9	+0.5
STKZ				⇓iS	Sg	09 05 07.3	+1.0
STKZ		1.15	356	⇑P	Pg	09 04 51.9	+0.5
STKZ				S	Sg	09 05 07.3	+1.0
LRK	Lerik	1.16	91	⇓P	Pn	09 04 50.9	-0.7
LRK				⇑S	Sn	09 05 07.5	0.0
LRK	Lerik	1.16	91	P	Pn	09 04 50.9	-0.7
LRK				S	Sn	09 05 07.5	0.0
NAX	Nakhchivan	1.18	296	⇑P	Pg	09 04 51.8	-0.1
NAX				⇑Sg	Sg	09 05 07.6	+0.4
NAX	Nakhchivan	1.18	296	P	Pg	09 04 51.8	-0.1
NAX				Sg	Sg	09 05 07.6	+0.4
LKRN	Lenkeran, Azer	1.51	88	⇓P	Pb	09 04 57.2	0.0
LKRN				⇑S	Sg	09 05 18.3	+0.5
LKRN	Lenkeran, Azer	1.51	88	P	Pb	09 04 57.2	0.0
LKRN				S	Sg	09 05 18.3	+0.5
BRDA	Brd	1.61	9	⇑P	Pg	09 05 00.0	-0.2
BRDA	Brd	1.61	9	P	Pg	09 05 00.0	-0.2
VADZ	Vardenis	1.73	331	eP	Pb	09 05 00.0	-1.2
VADZ				eS	Sb	09 05 23.0	0.0
VADZ	Vardenis	1.73	331	P	Pb	09 05 00.0	-1.2
VADZ				S	Sb	09 05 23.0	0.0
KDMR	Kurdemir	1.99	31	⇑Pn	Pb	09 05 05.6	+0.1
KDMR				⇓Sn	Sg	09 05 32.9	-0.5
GANJ	Ganja	2.02	348	⇓Pn	Pb	09 05 05.4	-0.6
GANJ	Ganja	2.02	348	Pn	Pb	09 05 05.4	-0.6
ALIB	Äli-Bayra	2.11	52	⇑Pn	Pb	09 05 07.2	-0.3
ALIB				⇑Sn	Sb	09 05 33.1	-0.6
ALIB	Äli-Bayra	2.11	52	Pn	Pb	09 05 07.2	-0.3
MNGR	Mingechevir, A	2.11	5	⇓Pn	Pb	09 05 08.0	+0.5
MNGR				⇑Sn	Sg	09 05 36.9	-0.3
MNGR	Mingechevir, A	2.11	5	Pn	Pb	09 05 08.0	+0.5
MNGR				Sn	Sg	09 05 36.9	-0.3
GNI	Garni	2.21	313	⇑P	Pg	09 05 10.3	-1.2
GNI				⇓/S	Sg	09 05 40.1	-0.1
GNI	Garni	2.21	313	⇑P	Pg	09 05 10.4	-1.2
GNI				S	Sg	09 05 40.1	-0.1
KAPZ	Kaputan	2.35	315	eP	Pg	09 05 15.2	+0.9
KAPZ				eS	Sg	09 05 45.9	+1.2
IML	Ismayilli	2.36	25	⇑Pn	Pb	09 05 10.7	-1.1
IML				⇑Sn	Sb	09 05 41.4	+0.5
IML	Ismayilli	2.36	25	Pn	Pb	09 05 10.7	-1.1
IML				Sn	Sb	09 05 41.4	+0.5
PQL	Pirkuli	2.51	32	⇑Pn	Pb	09 05 13.3	-1.1
PQL				⇓Sn	Sb	09 05 46.7	+1.4
PQL	Pirkuli	2.51	32	Pn	Pb	09 05 13.3	-1.1
PQL				Sn	Sb	09 05 46.7	+1.4
SEKA	Sheki	2.55	6	⇑Pn	Pb	09 05 12.7	-2.4
SEKA				⇑Sn	Sb	09 05 48.1	+1.6
SEKA	Sheki	2.55	6	Pn	Pb	09 05 12.7	-2.4
SEKA				Sn	Sb	09 05 48.1	+1.6
AMBZ	Amberd	2.64	311	eP	Pg	09 05 20.1	+0.1
AMBZ				eS	Sg	09 05 55.3	+1.1
QZX	Qazax, Azerbai	2.65	335	⇓Pn	Pb	09 05 15.4	-1.3
QZX				⇑Sn	Sb	09 05 52.0	-2.3
QZX	Qazax, Azerbai	2.65	335	Pn	Pb	09 05 15.4	-1.3
ATGJ	Altiaghaj	2.72	36	⇓Pn	Pb	09 05 14.4	+1.5
ATGJ				⇑Sn	Sb	09 05 51.7	+0.4
ATGJ	Altiaghaj	2.72	36	Pn	Pn	09 05 14.4	+1.5
ATGJ				Sn	Sb	09 05 51.7	+0.4
SIZA	Siyzn	2.88	33	⇑Pn	Pb	09 05 17.5	-3.1
SIZA				⇑Sn	Sb	09 05 56.7	+0.9
SIZA	Siyzn	2.88	33	Pn	Pb	09 05 17.5	-3.1
SIZA				Sn	Sb	09 05 56.7	+0.9
QUBA	Quba, Azerbaij	2.97	25	⇓Pn	Pb	09 05 20.0	-2.1
QUBA				⇓Sn	Sb	09 05 58.2	-0.2
QUBA	Quba, Azerbaij	2.97	25	Pn	Pb	09 05 20.0	-2.1
QUBA				Sn	Sb	09 05 58.2	-0.2
ZKTA	Zakatala	2.97	357	⇑Pn	Pb	09 05 20.0	-2.2
ZKTA				⇑Sn	Sb	09 05 58.9	+0.4
DGRG	David-gareji	3.00	338	P	Pb	09 05 23.9	+1.1
DGRG	David-gareji	3.00	338	P	Pb	09 05 23.9	+1.1

IDC 10 09:18:31.7±3.1, 53°.56N×87°.81E, h0km, mb1 3.1/2, mb1mx3.0/30, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=32.5km s-min=17.3km az=85.0
NNC 10 09:18:33.4±2.5, 53°.50N×87°.58E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=19.9km s-min=16.7km az=18.0
ISC 10 09:18:35.0±3.9, 53°.6N±0°.1×87°.9E±0°.2, h35km, n7, σ1s19/11, 6C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.86	282	i		09 28 59.2	
	baz=99,slow=344,SNR=15						
ZALV	Zalesovo Beam	1.86	282	Pn	Pn	09 19 03.4	-1.0
	2.0nm,0.3s,baz=101,slow=14,SNR=32						
ZALV				Sn	Sn	09 19 29.0	+2.4
	3.9nm,0.3s,baz=106,slow=22,SNR=23						
KURK	Kurchatov	6.40	247	⇑Pn	Pn	09 20 06.3	-0.5
	1.1nm,0.8s						
KURK				⇑Sn	Sn	09 21 19.1	+0.6
	1.1nm,0.8s						
KURBB	Kurchatov Arra	6.50	246	⇑Pn	Pn	09 20 06.9	-1.2
	0.9nm,0.4s						
KURBB				⇑Sn	Sn	09 21 19.7	-1.3
	4.2nm,0.7s						
KURBB				⇓Lg	Lg	09 21 54.7	
	15nm,1.1s						
KURBB	Kurchatov Arra	6.50	246	Pn	Pn	09 20 08.2	+0.1
	0.3nm,0.3s,baz=64,slow=15,SNR=13						
KURBB				Lg	Lg	09 21 54.5	
	0.4nm,0.3s,baz=63,slow=33,SNR=18						
MK31	Makanchi Array	7.71	210	⇑Pn	Pn	09 20 24.5	-0.3
	0.1nm,0.3s,baz=28,slow=12,SNR=8.7						
MK31				⇓Sn	Sn	09 21 51.2	+0.3
	1.6nm,0.9s,baz=33,slow=22,SNR=4.2						
MK31				⇑Lg	Lg	09 22 34.0	
	7.1nm,1.1s						
MKAR	Makanchi Array	7.71	210	Pn	Pn	09 20 25.4	+0.6
	0.2nm,0.3s,baz=29,slow=13,SNR=7.8						
MKAR				Sn	Sn	09 21 51.4	+0.5
	0.1nm,0.3s,baz=28,slow=25,SNR=9.2						
MKAR				Lg	Lg	09 22 32.5	
	0.1nm,0.3s,baz=31,slow=28,SNR=5.7						

IDC 10 09:43:20.3±2.4, 53°.63N×86°.85E, h0km, mb1 3.3/1, mb1mx2.9/34, mbtmp3.3/1, ML3.2/1, 1C-2D, Error ellipse: s-maj=22.5km s-min=11.8km az=76.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.24	286	i		09 50 39.5	
	baz=105,slow=346,SNR=9.3						
ZALV	Zalesovo Beam	1.24	286	Pg	Pg	09 43 43.4	-0.7
	3.4nm,0.3s,baz=102,slow=17,SNR=37						
ZALV				Lg	Lg	09 44 00.9	
	3.8nm,0.3s,baz=105,slow=31,SNR=18						
MK31	Makanchi Array	7.44	205	⇓Pn	Pn	09 45 10.7	+0.6
	0.1nm,0.2s,baz=26,slow=13,SNR=24						
MK31				⇓Sn	Sn	09 46 34.2	-1.0
	0.3nm,0.5s,baz=75,slow=33,SNR=5.4						
MK31				⇑Lg	Lg	09 47 13.7	
	0.7nm,0.7s,baz=29,slow=30,SNR=3.7						
MKAR	Makanchi Array	7.44	205	Pn	Pn	09 45 11.4	+1.4
	0.4nm,0.3s,baz=27,slow=14,SNR=24						
MKAR				Sn	Sn	09 46 35.3	+0.1
	0.1nm,0.3s,baz=25,slow=28,SNR=6.3						
MKAR				Lg	Lg	09 47 16.1	
	0.1nm,0.3s,baz=22,slow=28,SNR=7.7						

CASC 10 09:49:45.4±1.8, 13°.39N×89°.65W, h46km±15km, MD3.7, ML3.6, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.45	3	eP	Pn	09 49 56.1	0.0
SBLS				eS	Sn	09 50 04.0	+0.3
SNJE	San Jose	0.47	5	⇑eP	Pn	09 49 56.6	+0.2
SNJE				eS	Sn	09 50 04.7	+0.4
BOQS	Boqueron	0.49	46	eP	Pn	09 49 57.2	+0.5
BOQS				eS	Sn	09 50 06.1	+1.4
SNET	Serv Nac Est T	0.50	54	eP	Pn	09 49 56.7	+0.1
SNET				eS	Sn	09 50 04.7	+0.2
SNET				AML	AML	09 50 10.1	
	comp=Z,2μm,0.3s						
RTR	El Retiro	0.50	0	eP	Pn	09 49 57.0	+0.3
LFRS	El Faro	0.62	68	eP	Pn	09 49 58.1	+0.1
LFRS				eS	Sn	09 50 07.6	+0.5
LFU	La Fuente	0.63	56	eP	Pn	09 49 58.7	+0.5
LFU				eS	Sn	09 50 07.3	-0.1
LBRS	Las Brisas	0.68	60	eP	Pn	09 49 59.3	+0.4
LBRS				eS	Sn	09 50 08.4	-0.3
RBDL	Robledal	0.72	357	eP	Pn	09 49 59.8	+0.3
RBDL				eS	Sn	09 50 11.0	+1.4
SNVI	San Vicente	0.82	74	eP	Pn	09 50 01.4	+0.6
SNVI				eS	Sn	09 50 12.0	0.0
VSM	San Miguel	1.34	88	eP	Pn	09 50 08.5	+0.5
NBG	Las Nubes	1.37	330	eP	Pn	09 50 09.1	+0.7
CAHU	Cacacuatique	1.45	75	eP	Pn	09 50 09.9	+0.5
MRL	Marmol	1.66	359	eP	Pn	09 50 13.1	+0.7
MRL				eP	Pn	09 50 14.0	+1.6
CNCH	Conchagua	1.77	94	eP	Pn	09 50 14.1	+0.3
CNCH				eS	Sn	09 50 35.5	+0.3
JAT	Jato	2.14	296	eP	Pn	09 50 17.9	-0.7

IDC 10 09:52:24.6±0.8, 7°.21S×155°.06E, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.3/34, mbtmp4.3/12, ML3.2/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/22, Error ellipse: s-maj=32.1km s-min=16.5km az=129.0
NEIC 10 09:52:28.7±0.4, 7°.39S×155°.21E, h35km, mb4.8/8, Error ellipse: s-maj=10.5km s-min=8.4km az=144.0
ISCJB 10 09:52:29.6±0.5, 7°.17S±0°.06×154°.88E±0°.08, h41km, mb4.6/24, MS3.4/4, Error ellipse: s-maj=12.0km s-min=7.2km az=32.9
ISC 10 09:52:31.3±0.7, 7°.11S±0°.10×154°.96E±0°.09, h41km, n63, σ1s35/62, mb4.7/24, MS3.5/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	4.02	316	P	Pn	09 53 29.7	-0.6
	baz=4.1,SNR=3.9						
HNR	Honiara	5.45	115	LR	LR	09 56 02.7	
	comp=Z,361nm,19.1s,baz=266,slow=41						
HNR	Honiara	5.45	115	ePn	Pn	09 53 41.4	-8.6
	1.9nm,1.2s						
PMG	Port Moresby	8.05	253	Pn	Pn	09 54 24.2	-1.6
	1.6nm,0.3s,baz=108,slow=8.0,SNR=5.5						
PMG				Sn	Sn	09 55 54.8	-0.7
	1.3nm,0.3s,baz=108,slow=16,SNR=2.7						
PMG				LR	LR	09 57 13.7	
	comp=Z,226nm,20.9s,baz=35,slow=36						
PMG	Port Moresby	8.05	253	Pn	Pn	09 54 24.2	-1.6
PMG				Sn	Sn	09 55 54.8	-0.7
PMG				eSn	Sn	09 55 56.1	+0.5
PMG	Port Moresby	8.05	253	P	Pn	09 54 26.4	+0.7
	baz=8.3,SNR=4.7						
PMG				S	Sn	09 56 00.2	+4.6
	baz=8.3,SNR=3.6						
COEN	Coen	13.43	239	ePn	Pn	09 55 38.7	-0.7
	45nm,1.0s						
MTSU	Mount Surprise	15.09	222	P	P	09 56 07.7	+1.3
	baz=15,SNR=3.8						
QIS	Mount Isa	20.00	227	P	P	09 56 59.7	-0.8
	baz=20,SNR=11						
RMQ	Roma	20.15	196	P	Pn	09 57 03.0	-1.3
	baz=20,SNR=5.5						
QLP	Quilpie	21.89	207	P	P	09 57 20.7	-0.2
	baz=22,SNR=9.7						
KDU	Kakadu	22.83	254	P	P	09 57 28.9	-2.0
	baz=23,SNR=3.5						
WRAB	Tennant Creek	23.71	235	eP	P	09 57 38.1	-1.6
	6.9nm,0.8s						
WRA	Warramunga Arr	23.72	235	P	P	09 57 38.0	-1.8
	8.7nm,1.0s,baz=61,slow=9.7,SNR=29						
WRA				PcP	PcP	10 01 23.5	+0.2
	0.7nm,0.5s,baz=64,slow=2.5,SNR=8.1						
WRA				ScP	ScP	10 05 02.9	+4.4
	0.7nm,1.0s,baz=46,slow=2.7,SNR=3.6						
WRA				LR	LR	10 06 20.4	
	comp=Z,77nm,18.8s,baz=55,slow=35						
CMSA	Cobar Meteorol	25.80	198	P	P	09 57 58.8	+0.2
	baz=26,SNR=14						
AS31	Alice Springs	26.07	229	eP	P	09 58 00.1	-1.1
ASAR	Alice Springs	26.07	229	P	P	09 58 00.0	-1.2
	2.7nm,0.7s,baz=63,slow=8.5,SNR=44						
ASAR				PcP	PcP	10 01 28.9	+0.5
	0.4nm,0.8s,baz=68,slow=3.2,SNR=2.6						
ASAR				ScP	ScP	10 05 09.7	+4.6
	0.9nm,0.9s,baz=53,slow=3.2,SNR=6.4						
ASAR				LR	LR	10 07 05.7	
	comp=Z,93nm,19.9s,baz=204,slow=34						
KNRA	Kununurra	27.03	249	P	P	09 58 10.2	+0.3
	baz=27,SNR=6.0						
STKA	Stephens Creek	27.62	205	P	P	09 58 13.6	-1.4
	16nm,1.0s,baz=23,slow=12,SNR=19						
STKA				LR	LR	10 08 43.4	
	comp=Z,155nm,20.1s,baz=29,slow=36						
STKA	Stephens Creek	27.62	205	P	P	09 58 13.6	-1.4
	24nm,0.8s						
STKA	Stephens Creek	27.62	205	P	P	09 58 16.3	+1.3
	baz=28,SNR=8.5						
H11S3	WAKE ISLAND Hy	27.95	24	T	T	10 26 44.9	
	baz=202						
H11S2	WAKE ISLAND Hy	27.95	24	T	T	10 26 43.5	
	baz=202						
H11S1	WAKE ISLAND Hy	27.97	24	T	T	10 26 45.2	
	baz=202						
FITZ	Fitzroy Crossi	30.58	246	P	P	09 58 39.8	-1.6
	baz=31,SNR=4.0						
WRKA	Warakurna	31.10	232	P	P	09 58 44.3	-1.8
	baz=31,SNR=5.1						
NACB	Ninganchiao	45.01	315	eP	P	10 00 42.9	-0.1
	20nm,0.9s						
PETK	Petropavlovsk-	60.03	2	P	P	10 02 34.0	+0.3
	4.2nm,1.0s,baz=204,slow=3.3,SNR=3.5						
CMAR	Chiang Mai Arr	60.80	296	P	P	10 02 41.0	+1.3
	3.5nm,0.6s,baz=118,slow=5.2,SNR=17						
ULN	Ulaanbaatar	69.08	328	eP	P	10 03 33.5	+0.3
	1.9nm,0.8s						
VNDA	Vanda	70.47	178	eP	P	10 03 35.3	-5.8
	11nm,0.7s						
TAPN	Taplejung	73.43	301	eP	P	10 04 00.0	-0.1
	13nm,0.7s						
TAPN	Taplejung	73.43	301	eP	P	10 04 00.0	-0.1
	13nm,0.7s						
ODAN	Odare	73.56	301	eP	P	10 04 01.0	+0.2
ODAN	Odare	73.56	301	eP	P	10 04 01.0	+0.2
JIRN	Jiri	74.81	301	eP	P	10 04 08.6	+0.3
	12nm,0.8s						
JIRN	Jiri	74.81	301	eP	P	10 04 08.6	+0.3
	12nm,0.8s						
GUN	Gumba	75.15	301	eP	P	10 04 10.5	+0.3
	25nm,0.7s						
GUN	Gumba	75.15	301	eP	P	10 04 10.5	+0.3
	25nm,0.7s						
BILL	Bilibino	75.40	4	eP	P	10 04 10.2	-0.1
	5.1nm,0.9s						
PKI	Pulchoki	75.45	301	eP	P	10 04 10.9	-1.0
PKI	Pulchoki	75.45	301	eP	P	10 04 10.9	-1.0
KKN	Kakani	75.62	301	eP	P	10 04 13.0	+0.2
	19nm,0.7s						
KKN	Kakani	75.62	301	eP	P	10 04 13.0	+0.2
	19nm,0.7s						
DMN	Daman	75.72	301	eP	P	10 04 12.8	-0.6
	26nm,0.9s						
DMN	Daman	75.72	301	eP	P	10 04 12.8	-0.6
	26nm,0.9s						
GKN	Gorkha	76.23	301	eP	P	10 04 15.4	-0.7
	15nm,0.8s						
GKN	Gorkha	76.23	301	eP	P	10 04 15.4	-0.7
	15nm,0.8s						
KOLN	Koldanda	77.05	301	eP	P	10 04 20.5	-0.3
	8.7nm,0.7s						
KOLN	Koldanda	77.05	301	eP	P	10 04 20.5	-0.3
	8.7nm,0.7s						
DANN	Dangsing	77.07	301	eP	P	10 04 20.5	-0.5
	9.0nm,0.8s						
DANN	Dangsing	77.07	301	eP	P	10 04 20.5	-0.5
	9.0nm,0.8s						
MK31	Makanchi Array	83.47	319	eP	P	10 04 55.2	+0.5
MKAR	Makanchi Array	83.47	319	P	P	10 04 55.0	+0.3
	1.8nm,0.8s,baz=104,slow=5.5,SNR=12						
ILAR	Eielson Array	83.49	21	P	P	10 04 53.4	-1.1
	0.8nm,0.6s,baz=241,slow=5.6,SNR=14						
ZALV	Zalesovo Beam	84.25	326	P	P	10 04 57.7	-0.8
	0.5nm,0.4s,baz=126,slow=3.7,SNR=4.2						
INK	Inuvik	89.84	21	P	P	10 05 24.9	-0.4
	1.0nm,0.5s,baz=300,slow=5.5,SNR=8.5						
NVAR	Mina Array Bea	91.82	52	P	P	10 05 35.2	-0.3
	1.2nm,0.9s,baz=243,slow=6.0,SNR=3.8						
YKA	Yellowknife Ar	96.45	28	P	P	10 05 56.1	+0.2
	2.4nm,0.9s,baz=268,slow=4.7,SNR=15						
PDAR	Pinedale Array	98.80	48	LR	LR	10 48 11.4	
	comp=Z,22nm,18.8s,baz=336,slow=34						
GERES	GERESS Array B	127.13	329	PKP	PKPdf	10 11 32.1	+0.7
	0.5nm,0.6s,baz=54,slow=1.7,SNR=4.3						
PTGA	Pitinga	144.30	101	PKP	PKPbc	10 12 01.0	-1.4
	5.4nm,0.9s,baz=204,slow=6.0,SNR=5.4						
TORD	Torodi Ar. Bea	153.02	285	PKPbc	PKPbc	10 12 24.4	-1.1
	1.5nm,0.4s,baz=108,slow=2.9,SNR=4.1						

IDC 10 09:59:32.6±0.7, 41°.88N×88°.46W, h0km, mb3.6/7, mb1 4.0/13, mb1mx3.8/35, mbtmp3.8/13, ML3.9/6, MS3.4/2, Ms1 3.3/2, ms1mx2.7/43, Error ellipse: s-maj=11.8km s-min=8.7km az=42.0
NEIC 10 09:59:35.1, 41°.97N×88°.50W, h10km, mb3.9/8, MW3.8(SLM), After SLM.
NEIC Felt [IV] at Big Rock, Bristol, Cortland, Elburn, Elgin, Geneva, Hampshire, Maple Park, Montgomery, Saint Charles, South Elgin, Sycamore, Oak Park, Palos Hills and Sugar Grove. Widely felt in Illinois, Indiana, eastern Iowa and central and southern Wisconsin. Also felt in northeastern Arkansas, southern Michigan, southeastern Minnesota, eastern Missouri and in parts of Kentucky, Ohio and Tennessee.
ISC 10 09:59:32.3±1.1, 41°.98N±0°.03×88°.50W±0°.03, h11km±8km, n425, σ1s43/464, mb3.5/7, 163C-156D, Illinois

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAIL	Da Vinci Acade	0.12	90	P	Pb	09 59 37.9	+1.3
WCIL	Waubonsee CC	0.18	171	P	Pb	09 59 40.0	+2.4
JFWS	Jewell Farm	1.60	306	ePn	Pg	10 00 03.3	+0.3
JFWS				eSn	Sg	10 00 24.5	+0.8
SFIN	Scholer Farm	1.92	146	ePn	Pb	10 00 07.7	+0.5
SFIN				eSn	Sg	10 00 33.1	-0.7
SFIN	Scholer Farm	1.92	146	⇓P	Pg	10 00 08.2	-0.9
	baz=1.9,SNR=363						
SFIN				⇑S	Sg	10 00 33.0	-0.8
	baz=1.9						
BLO	Bloomington	3.18	151	ePn	Pn	10 00 24.9	+2.7
BLO				eSn	Sb	10 01 04.2	-3.3
OLIL	Olney	3.25	174	ePn	Pn	10 00 25.5	+2.2
OLIL				eSn	Sn	10 01 05.5	+3.6
SCIA	State Center	3.52	270	ePn	Pn	10 00 30.6	+3.7
SCIA				ePg	Pg	10 00 39.1	-0.5
SCIA				eSg	Sg	10 01 23.6	-1.7
SLM	Saint Louis	3.59	202	ePn	Pn	10 00 31.4	+3.5
AAM	Ann Arbor	3.62	83	ePn	Pn	10 00 30.6	+2.4
AAM				ePg	Pb	10 00 38.9	+2.7
AAM				eSg	Sg	10 01 27.1	-1.3
USIN	University of	4.06	171	ePn	Pn	10 00 36.4	+2.2
WCI	Wyandotte Cave	4.11	155	ePn	Pn	10 00 37.2	+2.2
SIUC	Southern Illin	4.29	188	ePn	Pn	10 00 40.5	+3.0
SPMN	St. Paul	4.51	318	ePn	Pn	10 00 41.8	+1.4
SPMN				ePb	Pb	10 00 53.5	+2.2
SPMN				ePg	Pg	10 00 57.5	-1.1
SPMN				eSn	Sn	10 01 32.7	-0.1
SPMN				eSg	Sg	10 01 54.5	-2.4
SPMN	St. Paul	4.51	318	⇓P	Pn	10 00 42.3	+1.9
	baz=4.5,SNR=13						
ACSO	Alum Creek Sta	4.52	111	ePn	Pn	10 00 42.5	+1.9
ACSO				eSn	Sn	10 01 32.9	-0.2
PARMO	Parma	5.39	191	ePn	Pn	10 00 55.4	+2.8
PARMO				eSn	Sn	10 01 57.0	+2.3
GLAT	Glass	5.73	186	ePn	Pn	10 00 59.6	+2.4
GLAT				eSn	Sn	10 02 04.7	+1.6
HALT	Halls	6.09	186	Pn	Pn	10 01 04.9	+2.6
HALT				eSn	Sn	10 02 13.9	+2.0
GNAR	Gosnell	6.12	192	ePn	Pn	10 01 04.9	+2.4
GNAR				eSn	Sn	10 02 13.9	+1.4
ECSD	EROS Data Cent	6.22	289	ePn	Pn	10 01 06.1	+2.1
ECSD				eSn	Sn	10 02 14.7	-0.3
ECSD				eSg	Sg	10 02 47.5	-4.3
ECSD	EROS Data Cent	6.22	289	⇑P	Pn	10 01 05.5	+1.5
	baz=6.2						
ALLY	Alegheny Colle	6.25	90	Pn	Pn	10 01 05.8	+1.4
	87nm,0.4s						
ALLY				eSg	Sg	10 02 44.7	-8.1
EYMN	Ely	6.33	341	ePn	Pn	10 01 06.7	+1.1
	24nm,0.6s						
ERPA	Erie	6.34	86	ePn	Pn	10 01 06.6	+1.1
ERPA				ePg	Pb	10 01 26.4	+3.8
ERPA				eSn	Sn	10 02 16.8	-1.1
ERPA				eSg	Sg	10 02 49.5	-6.2
HBAR	Harrisburg	6.63	195	Pn	Pn	10 01 11.7	+2.1
HBAR				eSn	Sn	10 02 23.1	-2.0
KSU1	Kansas State U	6.81	248	ePn	Pn	10 01 13.6	+1.4
KSU1				eSn	Sn	10 02 31.5	+1.9
KSU1				eSg	Sg	10 03 13.0	+2.1
KSU1	Kansas State U	6.81	248	⇑P	Pn	10 01 13.8	+1.6
	baz=6.8,SNR=7.6						
CPCT	Cooper Cave	7.22	153	ePn	Pn	10 01 20.2	+2.5
CPCT				eSn	Sn	10 02 39.5	-0.1
BGNE	Belgrade	7.25	269	ePn	Pn	10 01 21.6	+3.5
	150nm,0.3s						
BGNE	Belgrade	7.25	269	⇑P	Pn	10 01 18.8	+0.7
	baz=7.2,SNR=7.4						
TKL	Tuckaleechee C	7.31	148	Pn	Pn	10 01 20.4	+1.5
	2.3nm,0.3s,baz=338,slow=7.3,SNR=19						
TKL				Pg	Pb	10 01 41.5	+2.4
	6.3nm,0.3s,baz=341,slow=13,SNR=8.1						
TKL				Sn	Sn	10 02 41.2	-0.6
	15nm,0.3s,baz=340,slow=21,SNR=5.1						
TKL				Lg	Lg	10 03 22.1	
	43nm,0.3s,baz=41,slow=19,SNR=13						
TKL	Tuckaleechee C	7.31	148	Pn	Pn	10 01 20.4	+1.5
	140nm,0.5s						
TKL				Pg	Pb	10 01 41.5	+2.4
TKL				eSn	Sn	10 02 38.2	-3.6
TKL				Sn	Sn	10 02 41.2	-0.6
TKL				Lg	Lg	10 03 22.1	
SADO	Sadowa	7.37	65	Pn	Pn	10 01 20.5	+0.8
	1.4nm,0.3s,baz=266,slow=12,SNR=13						
SADO				Pg	Pb	10 01 44.0	+4.0
	2.4nm,0.3s,baz=266,slow=15,SNR=6.8						
SADO				Lg	Lg	10 03 21.6	
	21nm,0.3s,baz=285,slow=7.5,SNR=7.9						
P33A	Williams Farm,	7.43	253	⇓P	Pn	10 01 22.1	+1.4
	baz=7.4,SNR=6.5						
N32A	Stulken Farm,	7.47	264	⇑P	Pn	10 01 22.3	+1.2
	baz=7.4						
OXF	Oxford	7.49	186	ePn	Pn	10 01 23.4	+2.1
	120nm,0.7s						
O32A	Brockman Farm,	7.58	260	⇓P	Pn	10 01 23.9	+1.3
	baz=7.6						
Q33A	Connelly Farm,	7.71	250	⇓P	Pn	10 01 26.3	+1.8
	baz=7.7,SNR=11						
Q33A				⇓S	Sn	10 02 52.2	+0.4
	baz=7.7						
UALR	University of	7.80	204	ePn	Pn	10 01 27.7	+2.0
	28nm,0.5s						
UALR				eSn	Sn	10 02 52.7	-1.2
BLA	Blacksburg	7.84	125	ePn	Pn	10 01 27.1	+0.8
	53nm,0.5s						
BLA				eSn	Sn	10 02 53.5	-1.6
M31A	Lambtecht Ranc	7.87	269	⇑P	Pn	10 01 27.6	+0.9
	baz=7.8						
N31A	Bailey Ranch,	7.95	265	⇑P	Pn	10 01 29.5	+1.8
	baz=7.9						
P32A	Huiting Farm,	8.02	256	⇑P	Pn	10 01 29.5	+0.9
	baz=8.0,SNR=11						
BRSD	Miller	8.03	291	ePn	Pn	10 01 30.1	+1.3
	57nm,0.6s						
BRSD				eSn	Sn	10 02 58.2	-1.3
BRSD	Miller	8.03	291	⇑P	Pn	10 01 29.7	+0.9
	baz=8.0,SNR=9.8						
SSPA	Standing Stone	8.10	96	ePn	Pn	10 01 30.7	+1.0
	16nm,0.6s						
SSPA				eSg	Sg	10 03 42.8	-9.3
R33A	Olander Ranch,	8.14	246	⇑P	Pn	10 01 31.8	+1.5
	baz=8.1,SNR=13						
AGMN	Agassiz Nation	8.18	323	ePn	Pn	10 01 30.4	-0.5
	78nm,0.7s						
AGMN				eSn	Sn	10 03 00.9	-2.4
AGMN	Agassiz Nation	8.18	323	⇑P	Pn	10 01 31.6	+0.7

baz=8.2,SNR=12
J30A Dallas 8.21 283 ⇓P Pn 10 01 32.9 +1.5
baz=8.2,SNR=12
Q32A Meitler Ranch, 8.23 252 ⇑P Pn 10 01 32.7 +1.2
baz=8.2
K30A Basset 8.27 279 ⇓P Pn 10 01 33.2 +1.1
baz=8.2,SNR=9.3
TUL1 Tulsa 8.30 226 ePn Pn 10 01 33.5 +1.0
58nm,0.4s
TUL1 eSn Sn 10 03 02.7 -3.6
TUL1 Tulsa 8.30 226 ⇑P Pn 10 01 33.6 +1.0
baz=8.3,SNR=36
G30A Faulkton 8.35 296 ⇑P Pn 10 01 34.0 +0.8
baz=8.3,SNR=6.9
L30A Spencer Herefo 8.36 274 ⇑P Pn 10 01 35.4 +2.0
baz=8.3,SNR=7.1
O31A Woolen Ranch, 8.38 261 ⇓P Pn 10 01 35.6 +1.9
baz=8.4
MIAR Mount Ida 8.42 210 ePn Pn 10 01 35.5 +1.2
14nm,0.3s
MIAR eSn Sn 10 03 11.4 +2.1
F30A Leola 8.52 300 ⇑P Pn 10 01 35.8 +0.2
baz=8.5
S33A Kaszmaul Farm, 8.52 242 ⇓P Pn 10 01 37.6 +2.0
baz=8.5
R32A Long Quarter, 8.58 249 P Pn 10 01 37.6 +1.1
baz=8.6,SNR=7.8
P31A Stockton 8.62 257 ⇑P Pn 10 01 38.4 +1.5
baz=8.6
E30A Jud 8.73 305 ⇑P Pn 10 01 39.1 +0.7
baz=8.7,SNR=6.2
K29A Lazy Trails An 8.79 279 ⇑P Pn 10 01 41.5 +2.3
baz=8.8
N30A Hueftle Ranch, 8.80 266 ⇓P Pn 10 01 40.3 +0.9
baz=8.8
Q31A Ellis 8.82 254 ⇓P Pn 10 01 40.2 +0.6
baz=8.8
J29A Okreek 8.83 283 ⇓P Pn 10 01 41.4 +1.6
baz=8.8
KMSC Kings Mountain 8.83 138 ePn Pn 10 01 40.8 +1.0
29nm,0.4s
KMSC eSn Sn 10 03 16.2 -3.1
KMSC Kings Mountain 8.83 138 ⇓P Pn 10 01 41.3 +1.4
baz=8.8,SNR=8.3
I29A Vivian Onida 8.89 287 ⇓P Pn 10 01 41.8 +1.2
baz=8.9,SNR=15
G29A Hoven 8.89 295 ⇓P Pn 10 01 41.5 +0.9
baz=8.9
O30A MW Ranch, Wils 8.91 262 ⇓P Pn 10 01 42.4 +1.4
baz=8.9,SNR=14
L29A Maesberg Ranch 8.92 275 ⇓P Pn 10 01 41.9 +0.8
baz=8.9
U34A Anderson Ranch 8.93 235 ePn Pn 10 01 42.2 +1.0
151nm,0.4s
U34A Anderson Ranch 8.93 235 ⇓P Pn 10 01 42.9 +1.7
baz=8.9,SNR=15
D30A Buchanan 8.94 308 P Pn 10 01 41.6 +0.3
baz=8.9,SNR=9.3
H29A Onida 8.94 291 ⇓P Pn 10 01 42.2 +0.8
baz=8.9,SNR=8.4
T33A Patterson Ranc 8.97 240 ⇓P Pn 10 01 43.3 +1.5
baz=9.0
LRAL Lakeview Retre 9.01 172 ePn Pn 10 01 43.0 +0.8
26nm,0.8s
LRAL eSn Sn 10 03 21.7 -1.9
F29A Eureka 9.04 299 ⇓P Pn 10 01 42.7 +0.1
baz=9.0,SNR=6.1
S32A Newby Ranch, P 9.09 245 ⇓P Pn 10 01 44.5 +1.1
baz=9.1
C30A Mose, Pekin 9.11 312 ⇑P Pn 10 01 44.2 +0.6
baz=9.1
M29A Burnside Ranch 9.13 271 ⇑P Pn 10 01 45.7 +1.7
baz=9.1
N29A Votaw Ranch, W 9.19 267 ⇓P Pn 10 01 46.0 +1.3
baz=9.2
R31A Burdett 9.21 250 ⇑P Pn 10 01 46.0 +0.9
baz=9.2
E29A Napoleon 9.21 304 ⇑P Pn 10 01 45.8 +0.7
baz=9.2
JSRW J. Sargeant Re 9.22 114 ePn Pn 10 01 44.3 -0.8
JSRW eSn Sn 10 03 28.3 -0.5
P30A Selden 9.24 259 ⇓P Pn 10 01 47.0 +1.5
baz=9.2,SNR=9.5
U33A Lingo Farm, Me 9.29 237 ⇑P Pn 10 01 47.6 +1.5
baz=9.3
BINY Binghamton 9.31 84 ePn Pn 10 01 47.1 +0.7
27nm,0.6s
BINY eSn Sn 10 03 28.4 -2.6
CBN Corbin 9.32 110 Pn Pn 10 01 41.9 -4.6
4.0nm,0.8s
CBN eSn Sn 10 03 31.0 -0.3
V34A Guthrie 9.32 232 ePn Pn 10 01 48.8 +2.2
50nm,0.3s
V34A Guthrie 9.32 232 ⇑P Pn 10 01 48.7 +2.1
baz=9.3
T32A Huddler Ranch, 9.37 243 P Pn 10 01 48.5 +1.4
baz=9.3,SNR=10
D29A Pettibone, Tap 9.41 306 ⇑P Pn 10 01 48.2 +0.5
baz=9.4
Q30A Quinter 9.42 255 ⇑P Pn 10 01 49.2 +1.2
baz=9.4
GOGA Godfrey 9.43 153 ePn Pn 10 01 48.4 +0.3
775nm,2.6s
GOGA eSn Sn 10 03 30.2 -3.8
O29A 4D Ranch, Culb 9.47 263 ⇑P Pn 10 01 49.7 +1.0
baz=9.4
B30A Myrvik Farm, E 9.48 316 ⇑P Pn 10 01 49.1 +0.4
baz=9.5,SNR=14
J28A Allard Ranch, 9.49 283 ⇑P Pn 10 01 49.9 +1.0
baz=9.5,SNR=8.7
I28A Midland 9.50 287 ⇑P Pn 10 01 49.9 +0.9
baz=9.5,SNR=9.6
S31A Mullinville 9.51 246 ⇓P Pn 10 01 49.9 +0.8
baz=9.5
H28A Mission Ridge 9.52 291 ⇓P Pn 10 01 50.6 +1.4
baz=9.5,SNR=12
G28A Parade 9.54 293 ⇑P Pn 10 01 51.4 +1.9
baz=9.5,SNR=10
K28A Ten Mile Ranch 9.56 279 ⇑P Pn 10 01 52.1 +2.2
baz=9.5
M28A Bar X Bar Ranc 9.65 271 ⇓P Pn 10 01 52.9 +1.8
baz=9.6
F28A McLaughlin 9.68 298 ⇑P Pn 10 01 51.9 +0.4
baz=9.7
L28A Connealy Angus 9.70 275 ⇓P Pn 10 01 54.4 +2.6
baz=9.7
P29A Atwood 9.72 260 ⇑P Pn 10 01 53.7 +1.6
baz=9.7
ULM Lac du Bonnet 9.72 331 Pn Pn 10 01 51.9 -0.1
2.1nm,0.3s,baz=156,slow=12,SNR=32
ULM Sn Sn 10 03 35.2 -5.9
3.1nm,0.3s,baz=177,slow=21,SNR=3.9
ULM Lg Lg 10 04 37.3
9.8nm,0.3s,baz=210,slow=10.0,SNR=7.2
ULM LR LR 10 06 08.6
comp=Z,98nm,20.6s,baz=42,slow=40
ULM Lac du Bonnet 9.72 331 ePn Pn 10 01 52.3 +0.3
ULM Sn Sn 10 03 35.2 -5.9
ULM eSn Sn 10 03 39.3 -1.8
ULM Lg Lg 10 04 37.3
R30A Dighton 9.74 252 ⇑P Pn 10 01 52.9 +0.5
baz=9.7,SNR=6.6
A30A Hoffart Farm, 9.79 319 ⇓P Pn 10 01 53.4 +0.5
baz=9.8,SNR=14
V33A Lossen Ranch, 9.79 234 ⇑P Pn 10 01 54.2 +1.2
baz=9.8,SNR=10
E28A Huff 9.88 302 ⇓P Pn 10 01 53.7 -0.5
baz=9.9
U32A Winter Ranch, 9.88 239 P Pn 10 01 56.1 +1.9
baz=9.9,SNR=11
W34A Bridge Creek, 9.89 230 ePn Pn 10 01 55.2 +0.8
105nm,0.5s
W34A eSn Sn 10 03 45.4 0.0
W34A Bridge Creek, 9.89 230 P Pn 10 01 55.5 +1.1
baz=9.9,SNR=30
N28A Pribbeno Ranch 9.90 267 ⇑P Pn 10 01 55.8 +1.4
baz=9.9
T31A Randall Ranch, 9.91 244 ⇑P Pn 10 01 56.6 +1.9
baz=9.9
Q29A Oakley 10.00 256 ⇓P Pn 10 01 57.2 +1.3
baz=10.0
B29A Wagenman Farm, 10.03 314 ⇑P Pn 10 01 56.0 -0.2
baz=10.0,SNR=9.3
J27A Elkhorn Farm, 10.04 282 ⇑P Pn 10 01 58.4 +1.9
baz=10.0,SNR=13
D28A Regan 10.06 305 ⇑P Pn 10 01 56.5 -0.2
baz=10.0
I27A Quinn 10.14 286 ⇓P Pn 10 01 58.9 +1.1
baz=10,SNR=11
S30A Montezuma 10.17 249 ⇑P Pn 10 01 59.4 +1.1
baz=10
O28A Krutsinger Ran 10.20 264 ⇑P Pn 10 02 00.1 +1.5
baz=10
K27A Flueckinger Fa 10.20 279 ⇓P Pn 10 02 00.2 +1.5
baz=10,SNR=12
C28A Hausauer Farms 10.20 308 ⇓P Pn 10 01 59.7 +1.2
baz=10
OGNE Ogallala 10.21 269 ⇓P Pn 10 02 00.2 +1.3
baz=10
A29A Manning Farm, 10.24 316 ⇓P Pn 10 01 59.2 +0.1
baz=10,SNR=17
H27A Howes 10.25 290 ⇓P Pn 10 02 00.4 +1.1
baz=10,SNR=11
R29A Marienthal 10.30 254 ⇑P Pn 10 02 00.5 +0.5
baz=10,SNR=12
G27A Dupree 10.31 294 P Pn 10 02 01.0 +0.9
baz=10,SNR=20
V32A Arapaho 10.32 236 ⇑P Pn 10 02 01.5 +1.3
baz=10
P28A Saint Francis 10.34 261 ⇑P Pn 10 02 01.7 +1.2
baz=10,SNR=22
W33A Caddo, Fort Co 10.36 232 ⇑P Pn 10 02 02.3 +1.6
baz=10,SNR=24
E27A Carson 10.38 300 ⇑P Pn 10 02 01.1 0.0
baz=10,SNR=7.4
X34A Smith Ranch, M 10.39 228 ⇓P Pn 10 02 02.3 +1.1
baz=10,SNR=53
M27A Reverse DX Ran 10.39 272 ⇑P Pn 10 02 03.3 +2.0
baz=10
U31A Nine Bar Ranch 10.44 241 ⇑P Pn 10 02 03.4 +1.6
baz=10
F27A Lemmon 10.50 296 P Pn 10 02 02.9 +0.1
baz=10,SNR=12
T30A Plains 10.51 246 ⇓P Pn 10 02 02.7 -0.2
baz=10
Q28A Sharon Springs 10.56 258 ⇓P Pn 10 02 03.6 0.0
baz=10
B28A Dugan Ranch, T 10.57 312 ⇑P Pn 10 02 03.7 +0.1
baz=11,SNR=8.7
D27A Center 10.62 303 ⇑P Pn 10 02 05.0 +0.8
baz=11
N27A Anderson Farm, 10.62 268 ⇓P Pn 10 02 05.8 +1.5
baz=11
S29A Ulysses 10.64 250 ⇓P Pn 10 02 05.6 +1.0
baz=11,SNR=8.5
NCB Newcomb 10.65 74 ePn Pn 10 02 01.8 -2.9
O27A Beecher Island 10.71 265 ⇑P Pn 10 02 06.2 +0.6
baz=11
I26A New Underwood 10.72 286 ⇑P Pn 10 02 06.5 +0.8
baz=11,SNR=5.7
H26A Fairpoint 10.74 289 P Pn 10 02 06.7 +0.8
baz=11,SNR=12
G26A Maurine 10.74 293 ⇑P Pn 10 02 06.3 +0.3
baz=11,SNR=17
A28A Rude Farm, Bot 10.78 314 ⇓P Pn 10 02 07.0 +0.5
baz=11,SNR=12
V31A Spring Creek L 10.79 239 ⇑P Pn 10 02 08.2 +1.5
baz=11
R28A Tribune 10.81 255 ⇑P Pn 10 02 07.7 +0.6
baz=11,SNR=22
J26A Sides Ranch, S 10.82 282 ⇓P Pn 10 02 08.4 +1.3
baz=11,SNR=8.7
Y34A Reagan Ranch, 10.83 225 ⇑P Pn 10 02 08.2 +0.9
baz=11,SNR=17
W32A Sentinel 10.84 234 P Pn 10 02 08.5 +1.2
baz=11,SNR=12
C27A Sayler Ranch, 10.86 306 ⇑P Pn 10 02 09.1 +1.5
baz=11,SNR=8.3
U30A WK&E Inc. Balk 10.88 244 ⇑P Pn 10 02 09.4 +1.5
baz=11
K26A Motz Farm, Whi 10.89 279 ⇓P Pn 10 02 10.4 +2.3
baz=11
F26A Lodgepole 10.93 296 ⇑P Pn 10 02 09.4 +0.8
baz=11,SNR=5.9
P27A Ficken Ranch, 10.95 262 ⇓P Pn 10 02 10.3 +1.4
baz=11,SNR=6.9
M26A McRoberts Ranc 10.96 272 ⇓P Pn 10 02 10.9 +1.8
baz=11
E26A Carlson Angus 10.98 299 P Pn 10 02 10.0 +0.8
baz=11,SNR=10
T29A Hugoton 10.98 248 ⇓P Pn 10 02 10.1 +0.7
baz=11
ACCN Adirondack Com 11.01 78 ePn Pn 10 02 09.2 -0.4
41nm,0.4s
ACCN eSn Sn 10 04 06.2 -6.6
B27A Peters Farms, 11.06 310 ⇑P Pn 10 02 11.1 +0.9
baz=11
Z35A Perchaven, San 11.07 222 ⇑P Pn 10 02 12.9 +2.5
baz=11
N26A Koester Ranch, 11.12 269 ⇓P Pn 10 02 12.3 +1.0
baz=11
D26A Manning 11.16 302 ⇑P Pn 10 02 12.6 +0.9
baz=11,SNR=6.9
KSCO Kaye Shedlock' 11.16 259 ePn Pn 10 02 12.0 +0.2
42nm,0.4s
KSCO Kaye Shedlock' 11.16 259 ⇓P Pn 10 02 12.2 +0.4
baz=11
S28A Manter 11.20 251 ⇓P Pn 10 02 13.5 +1.2
baz=11,SNR=7.0
TIGA Tifton 11.23 158 ⇓P Pn 10 02 15.7 +3.0
baz=11
W31A Holland Ranch, 11.23 237 ⇓P Pn 10 02 14.3 +1.6
baz=11,SNR=13
Y33A Hilltop Ranch, 11.27 228 P Pn 10 02 13.7 +0.4
baz=11,SNR=15
C26A Wahner Farm, P 11.27 306 ⇓P Pn 10 02 13.7 +0.5
baz=11,SNR=7.0
G25A Newell 11.29 292 P Pn 10 02 13.6 +0.1
baz=11,SNR=11
O26A Horse Wrangler 11.31 266 ⇓P Pn 10 02 15.1 +1.1
baz=11
H25A Fruitdale 11.32 289 ⇑P Pn 10 02 13.9 -0.1
baz=11,SNR=9.9
V30A Spur Ranch, Mi 11.34 241 ⇓P Pn 10 02 15.1 +0.8
baz=11
X32A Elmer 11.35 232 P Pn 10 02 15.5 +1.2
baz=11,SNR=24
J25A Sunshine Ranch 11.36 282 ⇑P Pn 10 02 16.0 +1.5
baz=11,SNR=10
Z34A Collier Ranch, 11.37 224 ⇑P Pn 10 02 16.1 +1.4
baz=11,SNR=6.0
MDV Middlebury 11.40 75 ePn Pn 10 02 14.0 -1.0
5μm,0.3s
F25A Bowman 11.48 295 ⇑P Pn 10 02 16.5 +0.3
baz=12
P26A Davis Ranch, A 11.52 263 ⇓P Pn 10 02 17.9 +1.1
baz=12
R27A Eads 11.55 256 ⇓P Pn 10 02 17.0 -0.2
baz=12,SNR=6.9
RSSD Black Hills 11.57 286 ePn Pn 10 02 18.7 +1.1
7.6nm,0.5s
RSSD eSn Sn 10 04 26.2 -0.5
T28A Walsh 11.57 250 ⇓P Pn 10 02 17.8 +0.4
baz=12
E25A Miller Ranch, 11.60 298 P Pn 10 02 17.6 -0.2
baz=12,SNR=11
B26A Jensen Ranch, 11.61 308 ⇑P Pn 10 02 18.3 +0.5
baz=12
X31A McDonald Ranch 11.62 235 ⇑P Pn 10 02 18.9 +0.9
baz=12,SNR=23
W30A Crocket Farms 11.63 238 ⇑P Pn 10 02 19.2 +1.0
baz=12
M25A Palm-Egli Farm 11.64 273 ⇑P Pn 10 02 19.1 +0.7
baz=12
Y32A R-V Farms, Ver 11.73 231 ⇑P Pn 10 02 20.9 +1.3
baz=12,SNR=16
A26A Wade Farm, Ken 11.75 311 ⇑P Pn 10 02 19.8 +0.1
baz=12,SNR=6.5
D25A Fairfield 11.77 301 ⇓P Pn 10 02 20.2 +0.2
baz=12,SNR=7.4
N25A Grover 11.77 270 ⇓P Pn 10 02 20.9 +0.7
baz=12
135A Vickery Place, 11.77 220 ⇓P Pn 10 02 20.5 +0.4
baz=12
V29A Stinnett 11.83 243 ⇑P Pn 10 02 22.2 +1.3
baz=12
Q26A Hugo 11.84 260 ⇑P Pn 10 02 21.7 +0.4
baz=12
S27A Las Animas 11.87 254 ⇓P Pn 10 02 21.7 +0.1
baz=12
Z33A Whitaker Ranch 11.89 226 ⇑P Pn 10 02 22.5 +0.8
baz=12,SNR=12
C25A Freed Ranch, W 11.93 304 ⇓P Pn 10 02 22.3 0.0
baz=12
O25A Wiggins 11.94 266 ⇑P Pn 10 02 23.5 +1.0
baz=12
I24A Kuemmerle Ranc 11.98 284 ⇑P Pn 10 02 24.4 +1.4
baz=12
J24A Dixon Ranch, L 11.98 282 ⇓P Pn 10 02 24.4 +1.4
baz=12
G24A Alzada 12.01 292 ⇑P Pn 10 02 23.4 +0.1
baz=12
H24A Dirks Ranch, A 12.01 289 ⇑P Pn 10 02 23.8 +0.4
baz=12,SNR=23
R26A Arlington 12.02 257 ⇓P Pn 10 02 22.8 -0.8
baz=12
T27A Campo 12.03 251 ⇓P Pn 10 02 24.2 +0.5
baz=12,SNR=12
134A White-Moore Ra 12.09 222 ⇓P Pn 10 02 24.9 +0.5
baz=12,SNR=6.7
B25A Knox Farm, Ray 12.11 306 ⇓P Pn 10 02 24.1 -0.6
baz=12,SNR=12
F24A Ekalaka 12.13 294 ⇓P Pn 10 02 25.1 +0.1
baz=12,SNR=7.6
P25A Willow Gulch B 12.14 264 ⇑P Pn 10 02 26.1 +0.8
baz=12
M24A Cheyenne 12.21 273 ⇓P Pn 10 02 26.8 +0.5
baz=12
E24A Baker 12.22 297 ⇑P Pn 10 02 25.7 -0.5
baz=12
Y31A Rekieta Farm, 12.24 233 ⇑P Pn 10 02 27.9 +1.3
baz=12
WHTX Lake Whitney 12.26 219 ePn Pn 10 02 26.4 -0.4
322nm,0.6s
WHTX Sn Sn 10 04 39.0 -4.5
WHTX Lake Whitney 12.26 219 ⇑P Pn 10 02 27.1 +0.3
baz=12
Z32A Haskell 12.26 229 ⇓P Pn 10 02 26.9 0.0
baz=12
X30A Coker Ranch, T 12.29 236 P Pn 10 02 27.7 +0.5
baz=12,SNR=13
S26A Kim 12.31 254 ⇑P Pn 10 02 26.8 -0.7
baz=12
LBNH Lisbon 12.32 74 eSn Sn 10 04 35.9 -9.0
W29A Amraillo 12.35 241 ⇑P Pn 10 02 27.7 -0.5
baz=12
N24A Carr 12.36 270 ⇓P Pn 10 02 29.6 +1.3
baz=12
Q25A Bedland, Calha 12.38 261 ⇓P Pn 10 02 29.1 +0.5
baz=12
A25A Svangstu Ranch 12.39 309 ⇓P Pn 10 02 28.1 -0.4
baz=12,SNR=6.5
D24A Glendive 12.40 300 ⇑P Pn 10 02 28.8 +0.1
baz=12
U27A Thompson Grove 12.42 248 ⇑P Pn 10 02 28.9 -0.1
baz=12
133A Hamilton Ranch 12.49 225 ⇓P Pn 10 02 29.4 -0.6
baz=12
AMTX Amarillo 12.52 240 ⇑P Pn 10 02 30.5 +0.1
baz=12
234A Clairette 12.58 221 ⇑P Pn 10 02 30.4 -0.7
baz=13,SNR=14
T26A Comanche Natio 12.59 253 ⇑P Pn 10 02 30.9 -0.6
baz=13,SNR=8.3
C24A Savage 12.60 302 ⇓P Pn 10 02 30.8 -0.6
baz=13
Z31A Sharp Cattle R 12.63 231 ⇑P Pn 10 02 31.5 -0.4
baz=13,SNR=19
O24A Longmont 12.65 267 ⇑P Pn 10 02 32.6 +0.4
baz=13
G23A Biddle 12.66 290 ⇓P Pn 10 02 31.3 -1.1
baz=13
R25A Fountain Ranch 12.68 258 ⇑P Pn 10 02 32.1 -0.5
baz=13
Y30A Stafford Cattl 12.69 234 ⇓P Pn 10 02 33.2 +0.5
baz=13,SNR=32
K23A Bowen Ranch, D 12.70 279 ⇑P Pn 10 02 34.3 +1.5
baz=13
F23A Volborg 12.76 293 ⇑P Pn 10 02 32.8 -0.9
baz=13
V27A Dan Oppiter Fa 12.78 246 ⇓P Pn 10 02 34.0 +0.1
baz=13
L23A Garrett 12.79 276 ⇓P Pn 10 02 34.2 0.0
baz=13
X29A Tulia 12.81 238 ⇓P Pn 10 02 34.9 +0.6
baz=13
DGMT Dagmar 12.82 306 ePn Pn 10 02 33.6 -0.8
31nm,0.6s
DGMT eSn Sn 10 04 48.5 -8.4
DGMT Dagmar 12.82 306 ⇓P Pn 10 02 34.0 -0.4
baz=13
335A Moody 12.85 217 ⇑P Pn 10 02 34.4 -0.5
baz=13
ABTX Abilene, Hawle 12.87 227 ePn Pn 10 02 34.1 -1.0
16nm,0.5s
ABTX eSn Sn 10 04 55.8 -2.5
ABTX Abilene, Hawle 12.87 227 ⇓P Pn 10 02 35.3 +0.2
baz=13
M23A Laramie 12.88 273 ⇓P Pn 10 02 35.6 +0.1
baz=13
A24A Westby 12.90 308 P Pn 10 02 34.5 -0.9
baz=13,SNR=15
233A Rising Star 12.95 223 ⇑P Pn 10 02 35.2 -1.0
baz=13,SNR=21
S25A Robets Cordova 12.98 256 ⇓P Pn 10 02 35.9 -0.9
baz=13,SNR=7.2
D23A Lindsay 12.99 299 ⇓P Pn 10 02 35.9 -0.8
baz=13
Q24A Divide 13.03 262 ⇓P Pn 10 02 37.0 -0.6
baz=13
U26A Atchley Ranch, 13.07 250 ⇓P Pn 10 02 37.1 -0.9
baz=13,SNR=8.8
X28A Dimmitt 13.08 240 ⇓P Pn 10 02 37.5 -0.6
baz=13
ISCO Idaho Springs 13.13 266 ePn Pn 10 02 38.4 -0.6
4.6nm,0.5s
ISCO eSn Sn 10 05 01.0 -4.2
ISCO Idaho Springs 13.13 266 ⇓P Pn 10 02 38.8 -0.2
baz=13
N23A Red Feather La 13.14 271 ⇓P Pn 10 02 39.2 +0.2
baz=13
Y29A Porterfield Fa 13.17 236 ⇑P Pn 10 02 38.9 -0.4
baz=13,SNR=8.8
C23A Lambert 13.18 302 P Pn 10 02 38.7 -0.5
baz=13,SNR=12
334A Lometa 13.18 219 ⇑P Pn 10 02 38.9 -0.4
baz=13,SNR=22
T25A Trinidad 13.19 254 ⇑P Pn 10 02 38.7 -1.0
baz=13
Z30A Sanderson Ranc 13.23 233 ⇑P Pn 10 02 40.2 +0.1
baz=13,SNR=20
131A Roby 13.24 229 ⇑P Pn 10 02 39.8 -0.4
baz=13
R24A Sanders Place, 13.25 259 ⇓P Pn 10 02 40.3 -0.2
baz=13
O23A Lake Granby, G 13.26 268 ⇓P Pn 10 02 40.1 -0.6
baz=13
H22A Clearmont 13.27 287 ⇓P Pn 10 02 40.2 -0.4
baz=13,SNR=5.8
E23A Miles City 13.29 296 ⇓P Pn 10 02 39.5 -1.3
baz=13
G22A Birney 13.30 290 ⇓P Pn 10 02 40.5 -0.5
baz=13,SNR=8.1
B23A Brockton 13.30 305 ⇑P Pn 10 02 39.6 -1.4
baz=13,SNR=14
J22A Midwest 13.31 282 ⇑P Pn 10 02 40.4 -0.8
baz=13
I22A 9 Mile Ranch, 13.32 284 ⇓P Pn 10 02 40.3 -1.0
baz=13
W27A Bowe Ranch, En 13.32 244 ⇑P Pn 10 02 41.4 0.0
baz=13
435B Jarrell 13.35 216 ⇑P Pn 10 02 44.8 +3.2
baz=13
F22A Rosebud 13.36 293 ⇑P Pn 10 02 41.1 -0.7
baz=13,SNR=6.1
K22A Casper 13.36 279 ⇑P Pn 10 02 42.3 +0.4
baz=13,SNR=6.1
V26A Tequesquite Ra 13.40 248 ⇓P Pn 10 02 41.3 -1.2
baz=13
P23A Jefferson 13.42 265 ⇓P Pn 10 02 44.5 +1.6
baz=13
A23A Redstone 13.43 307 ⇑P Pn 10 02 41.8 -0.9
baz=13
232A Coleman 13.44 225 ⇑P Pn 10 02 42.0 -0.9
baz=13,SNR=5.7
Y28A McKinney Farm, 13.50 238 P Pn 10 02 43.5 -0.3
baz=14,SNR=5.7
LAO LASA Array 13.53 296 ePn Pn 10 02 42.8 -1.2
8.3nm,0.5s
U25A Circle Dot Ran 13.53 251 P Pn 10 02 43.5 -0.8
baz=14,SNR=12
N22A Wattenberg Ran 13.54 271 ⇓P Pn 10 02 45.2 +0.8
baz=14
M22A Cedar Creek Ra 13.54 274 ⇓P Pn 10 02 45.5 +1.1

	baz=14						
333A	Richland Sprin	13.55	222	⇑P	Pn	10 02 42.4	-2.0
	baz=14,SNR=32						
S24A	Houchin Ranch,	13.56	257	⇓P	Pn	10 02 44.9	+0.2
	baz=14						
X27A	F and S Farms,	13.59	242	⇑P	Pn	10 02 44.6	-0.4
	baz=14						
Z29A	Hungry Hill Ra	13.60	235	⇑P	Pn	10 02 45.0	-0.2
	baz=14,SNR=11						
C22A	Vida	13.60	301	⇑P	Pn	10 02 45.0	-0.1
	baz=14,SNR=10						
D22A	Cohagen	13.62	298	⇑P	Pn	10 02 43.9	-1.4
	baz=14,SNR=15						
434A	Burnet	13.63	218	⇑P	Pn	10 02 44.1	-1.4
	baz=14,SNR=16						
130A	Snyder	13.63	231	⇑P	Pn	10 02 44.8	-0.7
	baz=14,SNR=5.5						
SDCO	Great Sand Dun	13.72	258	ePn	Pn	10 02 46.5	-0.5
O22A	Kremmling	13.74	268	⇑P	Pn	10 02 46.9	-0.4
	baz=14						
231A	Bronte	13.76	227	⇑P	Pn	10 02 45.3	-2.0
	baz=14,SNR=24						
H21A	Big Horn, Sher	13.76	287	⇑P	Pn	10 02 46.7	-0.7
	baz=14,SNR=11						
W26A	Owens Ranch, T	13.78	245	⇑P	Pn	10 02 48.6	+1.0
	baz=14						
R23A	Moffat	13.79	260	⇑P	Pn	10 02 48.4	+0.4
	baz=14						
MSTX	Muleshoe	13.80	239	ePn	Pn	10 02 46.6	-1.2
	11nm,0.4s						
MSTX	Muleshoe	13.80	239	⇑P	Pn	10 02 47.8	0.0
	baz=14						
B22A	Reddig Ranch S	13.86	303	⇑P	Pn	10 02 47.6	-1.1
	baz=14,SNR=7.0						
332A	Millersview	13.88	224	⇓P	Pn	10 02 48.0	-1.0
	baz=14,SNR=5.3						
K21A	Alcova	13.90	279	⇑P	Pn	10 02 48.6	-0.7
	baz=14						
I21A	Big Trails, Te	13.90	284	⇑P	Pn	10 02 48.3	-0.9
	baz=14,SNR=5.8						
T24B	San Luis	13.92	255	⇓P	Pn	10 02 50.1	+0.3
	baz=14						
G21A	Lodge Grass	13.94	290	⇑P	Pn	10 02 49.2	-0.6
	baz=14						
V25A	Rancho No Teng	13.96	249	⇓P	Pn	10 02 49.8	-0.3
	baz=14						
Z28A	Tucker Farm, M	14.00	236	⇑P	Pn	10 02 49.8	-0.8
	baz=14						
J21A	Lysite	14.01	282	⇑P	Pn	10 02 50.0	-0.9
	baz=14						
P22A	Eagle	14.04	266	⇓P	Pn	10 02 51.3	0.0
	baz=14						
433A	Art	14.07	221	⇓P	Pn	10 02 50.0	-1.4
	baz=14,SNR=6.8						
Y27A	Causey	14.10	240	⇓P	Pn	10 02 52.0	-0.1
	baz=14						
X26A	CR and CF Fran	14.12	243	⇓P	Pn	10 02 51.6	-0.7
	baz=14						
D21A	La Casta Ranch	14.13	297	⇓P	Pn	10 02 51.5	-0.9
	baz=14						
129A	Stewart Farms,	14.13	233	P	Pn	10 02 51.5	-0.9
	baz=14,SNR=17						
U24A	Moreno Valley	14.14	252	⇑P	Pn	10 02 54.5	+1.8
	baz=14						
W25A	X Bar L Ranch,	14.18	247	⇑P	Pn	10 02 53.0	-0.1
	baz=14						
230A	Sterling City	14.24	229	⇑P	Pn	10 02 51.7	-2.1
	baz=14						
331A	San Angelo	14.30	226	⇑P	Pn	10 02 51.9	-2.9
	baz=14						
432A	Menard	14.32	223	⇑P	Pn	10 02 52.9	-2.0
	baz=14,SNR=18						
534A	Blanco	14.39	217	⇑P	Pn	10 02 55.0	-0.9
	baz=14,SNR=9.8						
T23A	Casias Ranch,	14.41	256	⇓P	Pn	10 02 55.8	-0.5
	baz=14						
H20A	Greybull	14.44	287	⇓P	Pn	10 02 54.9	-1.6
	baz=14						
V24A	Rampart Ranch,	14.47	250	⇓P	Pn	10 02 57.0	-0.3
	baz=14						
J20A	Shoshoni	14.48	282	⇓P	Pn	10 02 58.3	+1.2
	baz=14,SNR=6.1						
Z27A	Tatum	14.50	238	⇓P	Pn	10 02 56.7	-0.7
	baz=14						
Y26A	Elida	14.51	241	⇑P	Pn	10 02 57.3	-0.3
	baz=14						
I20A	Worland	14.51	284	⇓P	Pn	10 02 57.6	0.0
	baz=14						
128A	Castleberry Fa	14.51	234	⇓P	Pn	10 02 56.5	-1.2
	baz=14,SNR=6.5						
229A	Bryant Ranch,	14.58	231	⇑P	Pn	10 02 58.4	-0.1
	baz=15						
533A	Kerrville	14.61	219	⇓P	Pn	10 02 57.3	-1.5
	baz=15						
330A	Mertzon	14.64	228	⇓P	Pn	10 02 57.1	-2.2
	baz=15,SNR=7.3						
JCT	Junction City	14.64	222	ePn	Pn	10 02 56.0	-3.3
	15nm,0.5s						
JCT	Junction City	14.64	222	⇑P	Pn	10 02 57.7	-1.6
	baz=15						
G20A	Bridger	14.65	289	⇓P	Pn	10 02 57.4	-2.0
	baz=15,SNR=7.1						
F20A	Billings	14.67	292	⇓P	Pn	10 02 58.0	-1.7
	baz=15						
S22A	4UR Ranch, Cre	14.70	259	⇓P	Pn	10 03 00.1	-0.2
	baz=15						
E20A	Meyer Farm, Mu	14.77	294	⇓P	Pn	10 02 59.0	-2.1
	baz=15,SNR=11						
W24A	Lazy 6 Ranch,	14.84	248	⇓P	Pn	10 03 01.7	-0.5
	baz=15						
431A	Sonora	14.89	225	⇓P	Pn	10 03 01.1	-1.7
	baz=15,SNR=5.8						
D20A	Manuel Ranch,	14.90	297	P	Pn	10 03 01.0	-1.8
	baz=15,SNR=14						
228A	UT Block 9, Go	14.93	233	⇑P	Pn	10 03 02.5	-0.8
	baz=15						
C20A	Veseth Ranch,	14.96	299	P	Pn	10 03 01.8	-1.8
	baz=15,SNR=6.8						
127A	Arkansas Junct	15.01	237	⇓P	Pn	10 03 03.8	-0.7
	baz=15						
Z26A	Caprock	15.02	240	⇓P	Pn	10 03 04.3	-0.2
	baz=15,SNR=12						
329A	Wagon Wheel Ra	15.03	230	⇑P	Pn	10 03 03.5	-1.1
	baz=15						
Y25A	Mesa, Roswell	15.08	243	⇓P	Pn	10 03 05.1	-0.3
	baz=15						
V23A	Ortiz Mt. (NFS	15.11	251	⇓P	Pn	10 03 06.0	+0.2
	baz=15						
I19A	Meeteetse	15.13	285	⇓P	Pn	10 03 05.3	-0.8
	baz=15,SNR=12						
430A	Baggett Ranch,	15.14	227	⇑P	Pn	10 03 04.6	-1.6
	baz=15,SNR=13						
H19A	Powell	15.15	287	⇑P	Pn	10 03 04.3	-1.9
	baz=15						
B20A	Solberg Farm,	15.18	302	⇓P	Pn	10 03 03.2	-3.3
	baz=15						
J19A	Crowheart	15.19	282	⇓P	Pn	10 03 05.5	-1.3
	baz=15,SNR=5.8						
633A	Saathoff Ranch	15.19	218	⇓P	Pn	10 03 05.4	-1.3
	baz=15,SNR=6.4						
E19A	Rath Farm, Rou	15.21	294	⇓P	Pn	10 03 04.5	-2.4
	baz=15						
F19A	Roth Farm, Mol	15.23	292	⇓P	Pn	10 03 02.9	-4.3
	baz=15						
A20A	Cobblestone Ra	15.26	303	⇓P	Pn	10 03 05.2	-2.4
	baz=15						
531A	Rocksprings	15.27	223	⇑P	Pn	10 03 06.3	-1.6
	baz=15,SNR=13						
RLMT	Red Lodge	15.38	289	ePn	Pn	10 03 07.3	-2.0
	4.3nm,0.8s						
RLMT				eSn	Sn	10 05 56.6	-3.1
D19A	Cripps Ranch,	15.41	297	⇓P	Pn	10 03 07.4	-2.2
	baz=15,SNR=7.3						
227A	Bennet, Jal	15.43	235	⇑P	Pn	10 03 09.2	-0.7
	baz=15						
632A	Uvalde	15.43	220	⇓P	Pn	10 03 10.2	+0.2
	baz=15,SNR=7.0						
734A	La Parita Cree	15.44	215	⇑P	Pn	10 03 10.5	+0.5
	baz=15						
126A	Clayton Basin,	15.45	238	⇑P	Pn	10 03 09.8	-0.3
	baz=15						
Z25A	Roswell	15.49	241	⇑P	Pn	10 03 09.0	-1.7
	baz=16						
FFC	Flin Flon	15.55	330	ePn	Pn	10 03 06.8	-4.5
	5.6nm,0.5s						
FFC				eSn	Sn	10 05 49.5	-14
Y24A	Capitan	15.57	244	⇑P	Pn	10 03 12.2	+0.3
	baz=16						
PDAR	Pinedale Array	15.59	280	Pn	Pn	10 03 11.3	-0.7
	0.2nm,0.3s,baz=94,slow=12,SNR=10						
PDAR				Lg	Lg	10 07 38.5	
	0.5nm,0.3s,baz=85,slow=34,SNR=4.0						
BW06	Boulder Array	15.59	280	ePn	Pn	10 03 10.9	-1.1
	1.9nm,0.5s						
328A	Wristen Ranch,	15.59	232	P	Pn	10 03 10.7	-1.3
	baz=16,SNR=6.0						
429A	Davenport Ranc	15.63	228	⇓P	Pn	10 03 10.6	-2.0
	baz=16,SNR=11						
H18A	Shoshone NF, C	15.63	287	⇓P	Pn	10 03 11.6	-1.1
	baz=16						
C19A	Slack Wire Ran	15.65	299	⇑P	Pn	10 03 11.6	-1.1
	baz=16						
530A	J-C Ranch, Com	15.70	225	⇑P	Pn	10 03 12.7	-0.6
	baz=16						
ANMO	Albuquerque	15.71	249	Pn	Pn	10 03 15.3	+1.6
	0.1nm,0.3s,baz=96,slow=19,SNR=2.9						
ANMO				Lg	Lg	10 07 53.2	
	0.7nm,0.3s,baz=130,slow=23,SNR=7.4						
A19A	Klindworth Far	15.79	303	⇑P	Pn	10 03 12.5	-2.0
	baz=16						
PV01	Paradox Valley	15.84	263	Pn	P	10 03 18.7	-0.5
125A	Gardner Draw,	15.85	239	⇑P	Pn	10 03 15.0	-0.4
	baz=16						
Z24A	Sheeppen Canyo	15.88	243	⇑P	Pn	10 03 17.0	+1.0
	baz=16						
631A	Perdido Creek	15.90	222	⇓P	Pn	10 03 15.1	-0.8
	baz=16,SNR=12						
226B	Tecolote Peak,	15.92	237	⇑P	Pn	10 03 17.0	+0.7
	baz=16						
Y23A	Lovelace Mesa,	15.99	246	⇓P	Pn	10 03 17.3	0.0
	baz=16						
428A	Kincaid Ranch,	16.00	230	⇓P	Pn	10 03 16.3	-1.0
	baz=16,SNR=28						
732A	Laxson Ranch,	16.17	219	⇓P	Pn	10 03 20.0	+0.5
	baz=16						
EGMT	Eagleton	16.18	299	ePn	Pn	10 03 18.0	-1.6
	8.2nm,0.5s						
EGMT	Eagleton	16.18	299	⇑P	Pn	10 03 18.0	-1.6
	baz=16,SNR=7.1						
529A	Stev Forest Ra	16.19	227	⇓P	Pn	10 03 17.9	-1.9
	baz=16,SNR=7.0						
833A	Chaparral WMA,	16.26	217	⇑P	P	10 03 22.5	-1.1
	baz=16						
I17A	Pilgrim Ck.	16.28	284	⇑P	Pn	10 03 20.7	-0.3
	baz=16						
225A	Deer Hill, Car	16.31	238	⇓P	Pn	10 03 21.6	+0.2
	baz=16						
427A	Hayter Ranch,	16.32	232	⇓P	Pn	10 03 20.5	-0.9
	baz=16,SNR=25						
326A	Caldwell Ranch	16.33	234	⇓P	Pn	10 03 21.1	-0.5
	baz=16,SNR=6.2						
528A	Cox Ranch, San	16.48	229	⇑P	Pn	10 03 22.5	-1.0
	baz=16						
832A	Faith Ranch, C	16.55	218	⇓P	Pn	10 03 24.4	+0.1
	baz=17						
MNTX	Cornudas Mount	16.94	238	ePn	Pn	10 03 28.3	-0.9
	2.9nm,0.5s						
628A	Black Gap, Mar	17.05	228	⇓P	Pn	10 03 29.8	-0.9
	baz=17						
FCC	Fort Churchill	17.17	350	ePn	Pn	10 03 28.4	-3.5
TXAR	Lajitas Array	17.60	229	P	Pn	10 03 37.2	-0.4
	0.8nm,0.3s,baz=53,slow=12,SNR=28						
X18A	Snowflake	18.39	253	⇑P	P	10 03 48.3	+1.0
	baz=18						
DUG	Dugway	18.40	273	⇓P	Pn	10 03 48.8	+1.4
	baz=18						
SLMT	Seeley Lake	18.52	295	ePn	P	10 03 48.3	-0.4
	3.1nm,0.7s						
MSO	Missoula	18.78	294	⇑P	Pn	10 03 52.0	+0.1
	baz=19						
SWMT	Swartz Lake	18.90	296	eP	Pn	10 03 53.5	+0.1
	14nm,0.5s						
HLID	Hailey	19.07	284	⇓P	Pn	10 03 56.3	+0.7
	baz=19						
SCHQ	Schefferville	19.19	41	P	P	10 03 54.3	-1.6
	0.2nm,0.3s,baz=237,slow=11,SNR=5.4						
SCHQ				Lg	Lg	10 09 29.6	
	0.6nm,0.3s,baz=161,slow=16,SNR=4.0						
U15A	North Rim	19.23	261	⇓P	Pn	10 03 58.2	+0.6
	baz=19						
EDM	Edmonton	20.07	313	eP	Pn	10 04 07.2	-0.1
ELK	Elko	20.09	275	P	Pn	10 04 07.4	-0.4
	0.3nm,0.3s,baz=90,slow=20,SNR=2.8						
NEW	Newport	21.08	297	P	P	10 04 18.0	+1.6
	1.3nm,0.5s,baz=98,slow=13,SNR=6.0						
NEW	Newport	21.08	297	⇓P	P	10 04 18.1	+1.7
	baz=21						
WVOR	Wild Horse Val	22.28	281	eP	P	10 04 33.8	+4.3
	7.4nm,1.3s						
NVAR	Mina Array Bea	22.98	271	P	P	10 04 40.8	+3.8
	0.8nm,0.6s,baz=74,slow=7.5,SNR=6.2						
FRB	Frobisher Bay	24.70	21	P	P	10 04 55.1	+2.1
	1.0nm,0.4s,baz=213,slow=10,SNR=6.9						
YKA	Yellowknife Ar	25.70	332	P	P	10 05 06.0	+3.9
	0.7nm,0.8s,baz=129,slow=9.4,SNR=7.9						
DLBC	Dease Lake	30.65	317	LR	LR	10 17 34.4	
	comp=Z,168nm,18.3s,baz=108,slow=35						
ILAR	Eielson Array	39.69	325	P	P	10 07 06.7	+2.7
	0.5nm,0.9s,baz=90,slow=7.3,SNR=3.6						
ARCES	ARCESS Array B	58.86	22	P	P	10 09 32.4	+2.0
	4.6nm,1.1s,baz=305,slow=6.0,SNR=7.6						

IDC 10 10:11:19.9±2.7, 53.70N×86.87E, h0km, mb1 2.7/1, mb1mx2.6/34, mbtmp2.7/1, ML2.8/1, Error ellipse: s-maj=24.5km s-min=12.7km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.24	282	i		10 18 30.0	
	baz=100,slow=346,SNR=9.5						
ZALV	Zalesovo Beam	1.24	282	Pg	Pg	10 11 42.9	-0.8
	1.7nm,0.3s,baz=101,slow=16,SNR=17						
ZALV				Lg	Lg	10 12 00.6	
	1.5nm,0.3s,baz=101,slow=30,SNR=14						
MKAR	Makanchi Array	7.51	205	Pn	Pn	10 13 12.2	+1.6
	0.1nm,0.3s,baz=24,slow=13,SNR=12						
MKAR				Sn	Sn	10 14 35.9	-0.7
	0.1nm,0.3s,baz=27,slow=27,SNR=3.1						

ISCJB 10 11:16:55.7±0.7, 45.15N±0.08×150.29E±0.09, h61km, mb3.6/5, Error ellipse: s-maj=13.8km s-min=5.4km az=145.5
JMA 10 11:16:56.2±0.8, 45.60N×150.06E, h30km, M4.0
MOS 10 11:16:56.8±1.3, 45.24N×150.26E, h73km, mb4.2/1, Error ellipse: s-maj=20.0km s-min=15.1km az=55.6
SKHL 10 11:16:57.3±0.2, 45.23N×150.24E, h76km±4km, mb4.4/3
IDC 10 11:16:59.7±5.1, 45.33N×150.16E, h81km±46km, mb3.1/4, mb1 3.4/5, mb1mx3.2/27, mbtmp3.4/5, ML2.0/1, Error ellipse: s-maj=37.4km s-min=26.5km az=138.0
ISC 10 11:16:56.4±0.9, 44.99N±0.08×150.38E±0.08, h61km, n41, σ2.08/38, mb3.5/5, 2C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.79	279	d iPN	Pn	11 17 23.7	-1.4
KUR				i		11 17 43.7	
KUR				pmax	pmax		
	comp=N,88nm,0.2s						
KUR				pmax	pmax		
	comp=E,35nm,0.2s						
KUR				pmax	pmax		
	comp=Z,202nm,0.4s						
KUR				pmax	pmax		
	comp=Z,45μm,0.2s						
KUR				pmax	pmax		
	comp=N,545nm,0.3s						
KUR	Kuril'sk	1.79	279	eP	Pn	11 17 23.7	-1.4
KUR				AMB	AMB	11 17 24.5	
	comp=N,90nm,0.4s						
KUR				AMB	AMB	11 17 24.5	
	comp=N,35nm,0.4s						
KUR				AMB	AMB	11 17 24.5	
	comp=N,150nm,0.4s						
KUR				eS	Sn	11 17 43.5	-3.3
KUR				A	A	11 17 44.1	
	comp=N,570nm,0.4s						
KUR				A	A	11 17 44.1	
	comp=N,195nm,0.4s						
SHO	Shikotan	2.78	247	eP	Pn	11 17 39.4	+0.9
SHO				AMB	AMB	11 17 47.0	
	comp=N,127nm,1.1s						
SHO				eS	Sn	11 18 11.1	+0.3
SHO				A	A	11 18 21.4	
	comp=N,300nm,0.5s						
YUK	Yuzh-Kuril'sk	3.37	255	d iPN	Pn	11 17 49.1	+2.6
YUK				iS	Sn	11 18 27.8	+2.5
YUK				pmax	pmax		
	comp=Z,49nm,0.4s						
YUK				pmax	pmax		
	comp=N,17nm,0.2s						
YUK				pmax	pmax		
	comp=E,17nm,0.2s						
YUK				smax	smax		
	comp=N,142nm,0.5s						
YUK				smax	smax		
	comp=E,146nm,0.5s						
YUK	Yuzh-Kuril'sk	3.37	255	eP	Pn	11 17 49.1	+2.6
YUK				AMB	AMB	11 17 49.8	
	comp=E,20nm,0.3s						
YUK				AMB	AMB	11 17 49.8	
	comp=E,50nm,0.3s						
YUK				eS	Sn	11 18 27.8	+2.5
YUK				A	A	11 18 34.1	
	comp=E,140nm,0.5s						
YUK				A	A	11 18 34.1	
	comp=E,150nm,0.5s						
NEM2	Nemuro 2	3.71	246	P	Pn	11 17 51.8	+0.6
NEM2				eS	Sn	11 18 33.3	-0.3
JRA	Rausu	3.91	256	P	Pn	11 17 55.5	+1.6
JNK	Nakash	4.30	253	P	Pn	11 18 00.9	+1.6
JAK	Akkeshi	4.56	246	P	Pn	11 18 03.3	+0.5
JTKR	Abashiri--Toko	4.74	260	P	Pn	11 18 06.8	+1.5
JAR	Ashorobuto	5.05	253	P	Pn	11 18 11.9	+2.4
JMP	Maruseppu	5.12	261	P	Pn	11 18 12.3	+1.8
JKK2	Kamakawa 2	5.58	261	P	Pn	11 18 18.9	+2.1
JCH	Churui	5.61	247	P	Pn	11 18 18.3	+1.1
JCH				eS	Sn	11 19 20.1	-0.1
YSS	Yuzh-Sakhalins	5.66	293	ePN	Pn	11 18 18.4	+0.5
YSS	Yuzh-Sakhalins	5.66	293	eP	Pn	11 18 17.4	-0.5
MYR	Moyori	5.81	245	eP	Pn	11 18 21.6	+1.6
ERM	Erimo	6.04	243	⇑ePN	Pn	11 18 26.5	+3.5
ERM	Erimo	6.04	243	eP	Pn	11 18 26.5	+3.5
JNBK	Urakawa-nobuka	6.16	247	P	Pn	11 18 25.7	+0.9
JBT2	Biratori 2	6.20	252	P	Pn	11 18 27.9	+2.6
JKB	Kayabe	7.48	249	P	Pn	11 18 42.2	-0.5
JANG	Nango	8.00	238	P	Pn	11 18 49.2	-0.7
JANG				eS	Sn	11 20 15.3	-3.5
JTM	Tenmabayashi	8.02	242	eS	Sn	11 20 16.7	-2.8
JTH	Tanohata	8.07	234	eS	Sn	11 20 16.8	-3.8
JIO	Ouri	9.39	229	eS	Sn	11 20 47.8	-5.1
PETK	Petropavlovsk-	9.43	28	P	Pn	11 19 09.6	+0.2
	comp=E,0.1nm,0.3s,baz=204,slow=17,SNR=3.1						
YAK	Yakutsk	20.88	332	iP	P	11 21 34.0	+0.8
YAK	Yakutsk	20.88	332	eP	P	11 21 33.9	+0.8
BILL	Bilibino	24.55	14	⇑iP	P	11 22 08.1	-1.9
BILL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BILL	Bilibino	24.55	14	eP	P	11 22 08.1	-1.9
H11N2	WAKE ISLAND Hy	28.68	146	T	T	11 53 38.6	
	baz=338,slow=77,SNR=37						
H11N1	WAKE ISLAND Hy	28.70	146	T	T	11 53 42.0	
	baz=338,slow=77,SNR=29						
H11N3	WAKE ISLAND Hy	28.70	146	T	T	11 53 38.8	
	baz=338,slow=77,SNR=26						
H11S1	WAKE ISLAND Hy	29.71	147	T	T	11 54 53.3	
	baz=340,slow=78,SNR=38						
H11S3	WAKE ISLAND Hy	29.72	147	T	T	11 54 53.7	
	baz=340,slow=78,SNR=27						
H11S2	WAKE ISLAND Hy	29.73	147	T	T	11 54 54.7	
	baz=340,slow=78,SNR=18						
MKAR	Makanchi Array	46.06	298	P	P	11 25 12.8	-1.2
	comp=Z,0.2nm,0.3s,baz=286,slow=9.3,SNR=1.9						
YKA	Yellowknife Ar	53.47	35	P	P	11 26 09.2	-0.6
	comp=Z,0.3nm,0.5s,baz=299,slow=7.0,SNR=6.6						
WRA	Warramunga Arr	66.26	196	P	P	11 27 40.8	+2.8
	comp=Z,0.3nm,0.7s,baz=17,slow=6.4,SNR=3.5						
TXAR	Lajitas Array	80.03	58	P	P	11 29 00.6	+1.0
	comp=Z,0.3nm,0.5s,baz=300,slow=3.6,SNR=5.0						

IDC 10 11:37:58.6±0.9, 7.20S×155.01E, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.3/32, mbtmp4.3/14, ML2.8/1, Error ellipse: s-maj=32.9km s-min=16.8km az=126.0
ISCJB 10 11:38:03.4±0.7, 7.2S±0.1×154.9E±0.1, h41km, mb4.2/13, Error ellipse: s-maj=21.2km s-min=11.0km az=33.7
ISC 10 11:38:04.4±0.9, 7.3S±0.2×155.0E±0.2, h41km, n28, σ0.81/27, mb4.3/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.04	254	Pn	Pn	11 39 59.3	+0.5
	0.7nm,0.3s,baz=60,slow=8.5,SNR=15						
CTA	Charters Tower	15.28	213	Pn	P	11 41 40.0	-1.6
	0.2nm,0.3s,baz=14,slow=12,SNR=2.1						
WRA	Warramunga Arr	23.65	236	P	P	11 43 11.5	-0.8
	9.8nm,0.8s,baz=59,slow=9.8,SNR=40						
ASAR	Alice Springs	25.98	229	P	P	11 43 33.6	+0.1
	2.8nm,0.8s,baz=62,slow=9.1,SNR=16						
STKA	Stephens Creek	27.46	205	P	P	11 43 47.5	+0.8
	5.2nm,0.6s,baz=24,slow=13,SNR=10						
PETK	Petropavlovsk-	60.23	2	P	P	11 48 07.2	-1.0
	2.0nm,0.8s,baz=173,slow=13,SNR=4.3						
CMAR	Chiang Mai Arr	60.94	296	P	P	11 48 14.8	+1.1
	3.5nm,1.0s,baz=108,slow=5.1,SNR=16						
RKT	Rikitea	68.81	112	eT	T	11 48 51.7	
	1.6nm,0.3s						
SONM	Songino Array	69.61	327	P	P	11 49 09.5	-0.1
	baz=136,slow=8.4,SNR=6.6						
TAPN	Taplejung	73.58	301	eP	P	11 49 35.1	+1.0
	30nm,1.1s						
ODAN	Odare	73.70	301	eP	P	11 49 35.6	+0.8
	34nm,1.0s						
JIRN	Jiri	74.96	301	eP	P	11 49 41.9	-0.3
	11nm,0.7s						
GUN	Gumba	75.29	301	eP	P	11 49 44.1	0.0
	18nm,0.8s						
PKI	Pulchoki	75.60	301	eP	P	11 49 46.3	+0.4
DMN	Daman	75.87	301	eP	P	11 49 47.9	+0.6
GKN	Gorkha	76.38	301	eP	P	11 49 50.1	0.0
KOLN	Koldanda	77.20	301	eP	P	11 49 54.1	-0.7
DANN	Dangsing	77.21	301	eP	P	11 49 55.1	+0.1
PYUN	Piuthan	77.80	301	eP	P	11 49 56.9	-1.3
	22nm,1.0s						
MKAR	Makanchi Array	83.65	319	P	P	11 50 28.8	-0.1
	4.9nm,1.0s,baz=101,slow=6.5,SNR=27						
ILAR	Eielson Array	83.66	21	P	P	11 50 27.8	-0.7
	0.6nm,0.3s,baz=239,slow=5.1,SNR=30						
ZALV	Zalesovo Beam	84.45	326	P	P	11 50 31.6	-1.0
	0.4nm,0.3s,baz=97,slow=6.0,SNR=6.0						
KURBB	Kurchatov Arra	87.12	322	P	P	11 50 45.2	-0.7
	0.1nm,0.2s,baz=116,slow=3.2,SNR=3.0						
INK	Inuvik	90.01	21	P	P	11 50 59.0	-0.2
	1.2nm,0.5s,baz=257,slow=5.1,SNR=8.1						
NVAR	Mina Array Bea	91.90	52	P	P	11 51 10.3	+1.3
	2.2nm,1.1s,baz=247,slow=5.7,SNR=10						
BVAR	Borovoye Array	92.56	323	P	P	11 51 10.4	-1.0
	0.2nm,0.4s,baz=108,slow=4.7,SNR=4.4						
YKA	Yellowknife Ar	96.61	28	P	P	11 51 30.2	+0.5
	2.0nm,0.8s,baz=269,slow=4.6,SNR=26						
TORD	Torodi Ar. Bea	153.12	285	PKPbc	PKPbc	11 57 59.3	+0.6
	1.7nm,0.9s,baz=49,slow=2.3,SNR=7.4						

IDC 10 11:42:03.7±0.5, 7.05S×154.75E, h0km, mb4.8/22, mb1 4.8/25, mb1mx4.8/33, mbtmp4.7/25, ML3.5/3, MS4.2/22, Ms1 4.2/22, ms1mx4.1/30, Error ellipse: s-maj=16.5km s-min=12.5km az=103.0
BJI 10 11:42:05.6, 6.60S×155.29E, h21km, mB5.2/39, mb5.0/60, Ms4.9/40, Ms7 4.5/39
GCMT 10 11:42:05.5±0.2, 7.32S×154.84E, h12km, MW5.2/102, Moment Tensor Solution. s66,c83; s102,c149; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.66±.16; $M_{\theta\theta}$-2.55±.12; $M_{\phi\phi}$-2.11±.12; $M_{r\theta}$4.11±.40; $M_{r\phi}$2.44±.09; $M_{\theta\phi}$-2.85±.37; Best double couple: $M_0$6.87700×10^{16} NP1: ϕ_s127.00000°, δ68.00000°, λ86.00000°. NP2: ϕ_s318.00000°, δ22.00000°, λ101.00000°. Principal axes: T 6.8410, Plg66.0000°, Azm29.0000°; N 0.0740, Plg4.0000°, Azm128.0000°; P -6.9140, Plg23.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 10 11:42:05.5±0.2, 7.09S×154.83E, h10km, mb5.4/64 Error ellipse: s-maj=5.5km s-min=4.4km az=144.0

ISCJB 10 11:42:07.1±0.2, 7.14S±0.03×154.82E±0.03, h29km, mb5.1/117, MS4.4/37, Error ellipse: s-maj=4.9km s-min=3.7km az=160.0
MOS 10 11:42:07.4±1.0, 7.09S×154.76E, h33km, mb5.4/26, MS4.5/7, Error ellipse: s-maj=9.4km s-min=7.7km az=66.7
DJA 10 11:42:13.1±2.5, 7˚S±11˚×15˚5E±1˚7, h43km±14km, M5.2/19, mB5.6/8, mb5.0/19, MLv5.6/1, Mw(mB)5.1/8
ISC 10 11:42:08.6±0.3, **7.17S**±0.05×**154.90E**±0.05, **h28**km±1km, **h28**km**:pP-P, n324,** σ1.61/378, **mb5.2**/116, **MS4.3**/37, **21C-18D, Bougainville - Solomon Islands region**

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
RABL Rabaul 4.02 317 ⇑P Pn 11 43 08.5 +0.2
baz=3.8,SNR=6.0
HNR Honiara 5.48 115 LR LR 11 45 40.4
comp=Z,4μm,18.2s,baz=272,slow=38
PMG Port Moresby 7.97 253 ⇓iP Pn 11 44 03.3 +0.6
PMG pmax pmax
comp=Z,93nm,0.8s
PMG Port Moresby 7.97 253 Pn Pn 11 44 01.6 -1.1
comp=Z,1.3nm,0.3s,baz=54,slow=7.3,SNR=9.2
PMG Sn Sn 11 45 32.2 +0.1
comp=Z,1.7nm,0.3s,baz=101,slow=12,SNR=2.8
PMG LR LR 11 46 50.5
comp=Z,2μm,21.4s,baz=52,slow=36
PMG Port Moresby 7.97 253 Pn Pn 11 44 01.6 -1.1
PMG Sn Sn 11 45 32.2 +0.1
PMG eSn Sn 11 45 35.2 +3.2
PMG Port Moresby 7.97 253 ⇓P Pn 11 44 03.9 +1.2
baz=7.8,SNR=10
COEN Coen 13.35 239 ePn Pn 11 45 15.9 -0.4
comp=Z,80nm,1.0s
COEN Coen 13.35 239 ⇓P Pn 11 45 17.5 +1.2
baz=13,SNR=5.9
MTSU Mount Surprise 15.00 222 ⇓P Pn 11 45 41.1 +2.2
baz=15,SNR=18
CTA Charters Tower 15.34 212 P Pn 11 45 43.0 -0.3
CTA Charters Tower 15.34 212 Pn Pn 11 45 43.0 -0.3
comp=Z,0.2nm,0.3s,baz=52,slow=12,SNR=3.0
CTA LR LR 11 50 56.4
comp=Z,1μm,20.3s,baz=26,slow=35
CTA Charters Tower 15.34 212 ⇑P P 11 45 47.5 -0.2
baz=15
CTAO Charters Tower 15.34 212 eP Pn 11 45 42.3 -1.0
CTAO pmax pmax
comp=Z,46nm,1.0s
CTAO Charters Tower 15.34 212 ePn Pn 11 45 42.3 -1.0
comp=Z,46nm,1.0s
SMPI Sarmi 16.93 287 P P 11 46 05.0 -0.4
comp=Z,71nm,1.7s,comp=Z,7μm
DZM Mont Dzumac 18.54 144 eP Pn 11 46 25.2 +1.7
comp=Z,86nm,1.1s
DZM eLR LR 11 50 46.6
comp=Z,672nm,22.3s
DZM Mont Dzumac 18.54 144 P Pn 11 46 25.4 +1.8
comp=Z,0.4nm,0.3s,baz=357,slow=5.9,SNR=5.4
DZM LR LR 11 52 29.0
comp=Z,724nm,18.3s,baz=335,slow=33
DZM Mont Dzumac 18.54 144 eP Pn 11 46 24.6 +1.0
comp=Z,27nm,1.0s
BAKI Biak 19.65 287 P P 11 46 35.8 +0.4
comp=Z,79nm,1.4s
RMQ Roma 20.08 196 ⇓P P 11 46 41.0 +1.0
baz=20,SNR=32
QLP Quilpie 21.81 206 ⇑P P 11 46 58.5 -0.1
baz=22,SNR=36
KDU Kakadu 22.75 254 ⇑P P 11 47 07.1 -1.8
baz=23,SNR=12
FAKI Fak Fak 22.95 279 P P 11 47 10.3 -0.6
comp=Z,63nm,1.9s,comp=Z,1μm
FAKI Fak Fak 22.95 279 eP P 11 47 08.7 -2.2
comp=Z,43nm,1.0s
ARMA Armidale 23.34 187 eP P 11 47 14.9 +0.1
comp=Z,47nm,1.1s
WRAB Tennant Creek 23.63 235 P P 11 47 15.6 -2.0
comp=Z,214nm,1.0s,SNR=16
WRAB Tennant Creek 23.63 235 diP P 11 47 15.6 -2.0
WRAB pmax pmax
comp=Z,213nm,1.7s
WRAB MLR MLR
comp=Z,2μm,15.0s
WRAB Tennant Creek 23.63 235 eP P 11 47 15.8 -1.9
comp=Z,206nm,1.7s
WRA Warramunga Arr 23.64 235 P P 11 47 15.7 -2.1
comp=Z,28nm,0.9s,baz=61,slow=9.7,SNR=43
WRA PcP PcP 11 51 02.8 +0.6
comp=Z,2.3nm,0.7s,baz=61,slow=2.4,SNR=4.8
WRA ScP ScP 11 54 41.2 +2.5
comp=Z,2.8nm,1.1s,baz=58,slow=3.0,SNR=6.7
WRA LR LR 11 56 08.0
comp=Z,832nm,19.8s,baz=55,slow=36
MTN Manton Dam 24.06 255 ⇓P P 11 47 21.3 -0.4
baz=24,SNR=11
MSVF Nonsavu 24.90 117 eP P 11 47 31.5 +2.1
MSVF pmax pmax
comp=Z,139nm,1.3s
MSVF Nonsavu 24.90 117 eP P 11 47 31.4 +2.1
comp=Z,139nm,1.3s
ASAR Alice Springs 25.99 229 P P 11 47 37.6 -1.7
comp=Z,7.1nm,0.9s,baz=62,slow=8.7,SNR=35
ASAR ScP ScP 11 54 48.2 +3.0
comp=Z,7.1nm,1.1s,baz=55,slow=3.2,SNR=13
ASAR LR LR 11 56 43.6
comp=Z,862nm,22.0s,baz=75,slow=34
MGCD Mangrove Creek 26.15 187 ⇑P P 11 47 41.4 +0.8
baz=26,SNR=6.9
KNRA Kununurra 26.95 249 ⇑P P 11 47 47.4 -0.6
baz=27,SNR=17
STKA Stephens Creek 27.54 205 P P 11 47 52.0 -1.1
STKA pmax pmax
comp=Z,69nm,0.8s
STKA Stephens Creek 27.54 205 P P 11 47 52.0 -1.1
comp=Z,36nm,0.8s,baz=14,slow=10.0,SNR=36
STKA ScP ScP 11 54 53.6 +3.9
comp=Z,3.4nm,0.9s,baz=345,slow=4.7,SNR=3.1
STKA LR LR 11 58 31.9
comp=Z,979nm,21.5s,baz=25,slow=36
STKA Stephens Creek 27.54 205 P P 11 47 52.0 -1.1
comp=Z,69nm,0.8s
STKA ScP ScP 11 54 53.6 +3.9
STKA Stephens Creek 27.54 205 ⇓P P 11 47 52.2 -0.9
baz=28
HTT Hallett 30.04 207 P P 11 48 14.8 -0.5
baz=30,SNR=3.3
SOEI Soe 30.40 263 P P 11 48 23.2 +4.3
comp=Z,48nm,1.2s
SOEI Soe 30.40 263 eP P 11 48 18.3 -0.6
comp=Z,55nm,1.0s
FITZ Fitzroy Crossi 30.50 246 eP P 11 48 18.3 -1.3
FITZ Fitzroy Crossi 30.50 246 ⇑P P 11 48 18.2 -1.3
baz=30,SNR=10
WRKA Warakurna 31.02 232 ⇓P P 11 48 22.5 -1.6
baz=31,SNR=12
ARPS Mount Arapiles 31.79 200 ⇑P P 11 48 30.6 0.0
baz=32,SNR=6.0
MMRI Maumere 32.38 265 P P 11 48 35.2 -0.9
comp=Z,81nm,1.2s,comp=Z,1μm
MMRI Maumere 32.38 265 eP P 11 48 35.4 -0.8
comp=Z,88nm,1.0s
AFI Afiamalu 33.41 104 eP P 11 48 45.4 +0.1
AFI Afiamalu 33.41 104 P P 11 48 45.2 -0.1
comp=Z,32nm,0.9s,baz=300,slow=20,SNR=4.3
AFI LR LR 12 01 19.8
comp=Z,509nm,18.2s,baz=242,slow=34
AFI Afiamalu 33.41 104 eP P 11 48 45.4 +0.1
RAO Raoul Island 33.74 134 LR LR 12 00 58.2
comp=Z,453nm,18.0s,baz=297,slow=33
BKSI Bulukumba 34.61 271 P P 11 48 57.5 +1.9
comp=Z,19nm,1.4s
BNSI Bone 34.72 273 P P 11 48 58.4 +1.9
comp=Z,29nm,1.4s
KAPI Kappang 35.01 271 eP P 11 48 58.7 -0.3
comp=Z,202nm,1.4s
JCJ Chichijima 36.22 341 LR LR 12 00 37.9
comp=Z,61nm,21.9s,baz=152,slow=31
TAU Tasmania Unive 36.22 189 eP P 11 49 09.8 +0.7
TAU pmax pmax
comp=Z,37nm,1.1s
TAU Tasmania Unive 36.22 189 eP P 11 49 09.8 +0.7
comp=Z,37nm,1.1s
URZ Urewera 36.91 150 P P 11 49 17.3 +2.3
comp=Z,16nm,1.0s,baz=27,slow=3.0,SNR=5.4
URZ LR LR 12 02 28.6
comp=Z,522nm,18.6s,baz=337,slow=33
KHZ Kahutara 38.78 158 eP P 11 49 35.9 +5.2
comp=Z,38nm,1.0s

RPZ Rata Peaks 39.07 161 eP P 11 49 33.7 +0.6
comp=Z,28nm,0.9s
MEEK Meekatharra 39.54 236 ⇓P P 11 49 36.5 -0.9
baz=40,SNR=5.2
JAGI Jajag, Banyuwa 40.38 265 eP P 11 49 41.7 -2.7
comp=Z,28nm,1.0s
KLBR Kellerberrin 42.30 230 ⇑P P 11 49 58.4 -1.7
baz=42,SNR=5.9
MORW Morawa 42.58 234 ⇓P P 11 50 01.1 -1.2
baz=42,SNR=4.0
NWAO Narrogin (SRO) 43.31 229 P P 11 50 05.9 -2.3
comp=Z,8.2nm,0.8s,baz=112,slow=5.4,SNR=3.6
PCJI Pacitan 43.33 266 P P 11 50 11.1 +2.5
comp=Z,92nm,1.2s,comp=Z,973nm
YULB Yu-li 44.73 314 eP P 11 50 19.4 -0.3
comp=Z,51nm,0.9s
NACB Ninganchiao 45.01 315 eP P 11 50 21.8 -0.1
comp=Z,135nm,1.0s
TPUB Ta-pu 45.15 313 eP P 11 50 22.1 -0.9
comp=Z,89nm,1.3s
SSLB Suanglung 45.22 314 eP P 11 50 23.4 -0.3
comp=Z,34nm,0.8s
YHNB Yeheng 45.48 315 eP P 11 50 25.4 -0.3
comp=Z,61nm,0.9s
JNU Nakatsue 46.11 332 P P 11 50 28.9 -1.6
comp=Z,16nm,0.8s,baz=103,slow=3.2,SNR=5.7
MJAR Matsushiro Arr 46.21 341 P P 11 50 28.3 -3.0
comp=Z,1.7nm,0.9s,baz=173,slow=7.3,SNR=4.6
CISI Cisompet, Garu 46.68 266 eP P 11 50 34.7 -0.7
comp=Z,95nm,1.1s
QZH Quanzhou 47.63 313 ⇓iP P 11 50 42.6 +0.2
QZH S S 11 57 38.0 +1.5
QZH pmax pmax
comp=Z,130nm,1.0s
DLV T Lat 49.90 292 eP P 11 51 01.2 +0.8
comp=Z,68nm,1.1s
MDSI Maura Dua 50.51 270 P P 11 51 05.4 +0.6
comp=Z,22nm,1.4s
KSRS Korea Array 51.04 332 P P 11 51 07.0 -1.3
comp=Z,5.0nm,0.9s,baz=146,slow=8.3,SNR=8.6
KSRS LR LR 12 12 11.2
comp=Z,127nm,18.3s,baz=130,slow=36
KSAR Wonju Array Be 51.05 332 P P 11 51 07.0 -1.4
KSAR Wonju Array Be 51.05 332 P P 11 51 07.0 -1.4
QIZ Qiongzhong 51.47 301 P P 11 51 12.2 +0.3
QIZ S S 11 58 31.2 +0.7
QIZ pmax pmax
comp=Z,16nm,1.4s
QIZ LR LR
comp=Z,320nm,16.5s
NJ2 Nanjing 51.98 321 eP P 11 51 14.2 -1.3
NJ2 pP pP 11 51 20.9 -3.2
NJ2 sP sP 11 51 25.5 -1.9
NJ2 pmax pmax
comp=Z,20nm,1.0s
UBPT Khong Chiam 53.81 295 P P 11 51 43.0 +14
WHN Wuhan 53.99 316 P P 11 51 30.6 +0.2
WHN S S 11 59 07.5 +2.8
WHN LR LR
comp=Z,510nm,18.8s
YSS Yuzh-Sakhalins 54.95 350 eP P 11 51 45.0 +8.0
YSS MLR MLR
comp=Z,500nm,18.0s
IPM Ipoh 54.99 281 eP P 11 51 39.5 +1.5
comp=Z,72nm,1.7s
PPT Papeete 55.04 106 LR LR 12 10 11.8
comp=Z,115nm,20.7s,baz=342,slow=31
PPT2 Papeete2 55.04 106 eS S 11 59 21.9 +2.4
comp=Z,127nm,26.8s
PPT2 eLQ LQ 12 05 24.1
comp=Z,383nm,23.8s
PPT2 eLR LR 12 07 48.6
comp=Z,477nm,31.0s
USRK Ussuriysk Arra 55.16 340 P P 11 51 37.2 -1.4
comp=Z,6.8nm,0.9s,baz=162,slow=8.4,SNR=7.2
MNSI Mandailing Nat 55.74 276 P P 11 51 42.1 -1.3
PSI Prapat 56.73 278 LR LR 12 20 37.2
comp=Z,112nm,18.7s,baz=132,slow=41
ENH Enshi 57.28 313 eP P 11 51 53.5 -0.5
comp=Z,21nm,1.0s
CN2 Changchun 57.30 335 eP P 11 51 52.5 -1.4
CN2 esP sP 11 52 03.4 -2.5
CN2 eS S 11 59 46.0 -2.4
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
GYA Guiyang 57.48 308 P P 11 51 57.0 +1.4
GYA PP PP 11 54 05.6 +2.1
GYA ScP ScP 11 56 46.5 -0.8
GYA S S 11 59 51.0 -0.6
GYA SS SS 12 03 41.8 -0.1
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.3s
GYA LR LR
comp=Z,740nm,19.6s
GYA LR LR
comp=Z,680nm,20.0s
GYA LR LR
comp=Z,760nm,19.5s
SLVN Son La 57.49 301 eP P 11 51 56.4 +0.7
comp=Z,32nm,1.3s
GSI Gunungsitoli 57.80 276 eP P 11 51 57.0 -1.0
comp=Z,43nm,0.9s
PBKT Sadao Pong 58.32 294 P P 11 52 04.2 +2.7
comp=Z,25nm,1.4s
BJI Beijing 59.01 326 P P 11 52 06.3 +0.4
BJI S S 12 00 13.4 +2.6
BJI pmax pmax
comp=Z,10.0nm,0.8s
BJI LR LR
comp=Z,310nm,18.4s
BJI LR LR
comp=Z,190nm,13.4s
BJI LR LR
comp=Z,98nm,31.2s
UTTA Uttaradit 59.09 296 P P 11 52 09.4 +2.5
comp=Z,12nm,1.0s,comp=Z,112nm
KLR Kul'dur 59.70 343 eP P 11 52 04.7 -5.8
XAN Xi'an 59.76 316 P P 11 52 09.7 -1.6
XAN S S 12 00 15.5 -5.4
XAN ScS ScS 12 01 56.5 -3.6
XAN SS SS 12 04 11.1 -6.3
XAN pmax pmax
comp=Z,7.0nm,1.1s
XAN pmax pmax
comp=Z,36nm,3.8s
XAN LR LR
comp=Z,130nm,16.8s
XAN LR LR
comp=Z,53nm,16.0s
XAN LR LR
comp=Z,77nm,17.3s
SUKH Sukhothai 59.83 295 P P 11 52 14.8 +2.8
comp=Z,11nm,1.0s,comp=Z,106nm
KHLT Khaolaem Dam 59.94 292 P P 11 52 15.7 +2.9
comp=Z,20nm,1.2s,comp=Z,264nm
KMI Kunming 60.03 304 P P 11 52 15.3 +1.7
KMI pP pP 11 52 23.9 +1.6
KMI S S 12 00 29.2 +4.1
KMI pmax pmax
comp=Z,22nm,1.1s
KMI pmax pmax
comp=Z,160nm,3.9s
KMI LR LR
comp=Z,170nm,16.2s
KMI LR LR
comp=Z,150nm,17.7s
KMI LR LR
comp=Z,210nm,16.4s
PEA0B Petropavlovsk- 60.09 2 eP P 11 52 12.3 -0.8
PETK Petropavlovsk- 60.09 2 P P 11 52 12.2 -1.0
comp=Z,9.5nm,0.9s,baz=152,slow=6.6,SNR=12
PETK LR LR 12 16 33.0
comp=Z,87nm,20.0s,baz=175,slow=34
LAMP Lampang 60.18 296 P P 11 52 17.0 +2.6
comp=Z,18nm,0.9s,comp=Z,127nm
CM31 Chiang Mai Arr 60.77 296 eP P 11 52 18.6 +0.1
comp=Z,23nm,0.9s
CMAR Chiang Mai Arr 60.77 296 P P 11 52 19.1 +0.6
comp=Z,17nm,0.9s,baz=119,slow=4.9,SNR=57
CMAR LR LR 12 17 19.4
comp=Z,78nm,20.9s,baz=125,slow=35
CMMT Chiang Mai 60.88 296 P P 11 52 20.4 +1.2
comp=Z,39nm,1.4s,comp=Z,644nm

CHTO Chiang Mai 60.89 296 eP P 11 52 19.8 +0.6
CHTO pmax pmax
comp=Z,60nm,1.4s
CHTO Chiang Mai 60.89 296 P P 11 52 20.5 +1.3
comp=Z,93nm,1.2s,comp=Z,2μm
CHTO Chiang Mai 60.89 296 eP P 11 52 19.8 +0.6
comp=Z,60nm,1.4s
CMAI Chiengmai2 61.18 297 P P 11 52 23.7 +2.3
comp=Z,17nm,1.0s
CD2 Chengdu 61.85 311 eP P 11 52 27.4 +1.8
CD2 pP pP 11 52 35.2 +0.9
CD2 sP sP 11 52 38.5 +0.9
CD2 PcP PcP 11 53 07.9 +1.5
CD2 PP PP 11 54 45.8 +3.8
CD2 PcS PcS 11 57 09.6 0.0
CD2 S S 12 00 47.8 +0.1
CD2 sS sS 12 01 00.7 -1.4
CD2 ScS SKKSac 12 02 13.7 -2.2
CD2 SS SS 12 04 51.5 +1.2
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.6s
CD2 LR LR
comp=Z,330nm,17.6s
CD2 LR LR
comp=Z,320nm,17.6s
HHC Hu-ho-hao-te 62.17 324 eP P 11 52 29.8 +2.2
HHC PP PP 11 54 48.8 +4.0
HHC S S 12 00 52.7 +0.7
HHC ScS SKKSac 12 02 16.4 -1.6
HHC pmax pmax
comp=Z,15nm,1.5s
HHC pmax pmax
comp=Z,180nm,5.7s
HHC LR LR
comp=Z,230nm,16.7s
HHC LR LR
comp=Z,450nm,16.9s
HHC LR LR
comp=Z,120nm,17.1s
HIA Hailar 64.03 335 eP P 11 52 38.5 -1.2
HIA pmax pmax
comp=Z,17nm,0.9s
HIA Hailar 64.03 335 eP P 11 52 38.5 -1.2
comp=Z,17nm,0.9s
LZH Lanzhou 64.37 316 ⇓P P 11 52 43.1 +0.7
LZH pP pP 11 52 51.8 +0.7
LZH sP sP 11 52 56.2 +1.8
LZH PP PP 11 55 07.2 +2.9
LZH eS S 12 01 21.0 +1.7
LZH sS sS 12 01 33.3 -0.4
LZH SS SS 12 05 29.0 -0.7
LZH pmax pmax
comp=Z,68nm,1.2s
LZH pmax pmax
comp=Z,220nm,4.5s
LZH LR LR
comp=Z,160nm,14.8s
LZH LR LR
comp=Z,290nm,15.1s
LZH LR LR
comp=Z,360nm,16.0s
GTA Gaotai 68.80 317 P P 11 53 10.7 +0.1
GTA pP pP 11 53 20.5 +1.1
GTA sP sP 11 53 24.4 +1.7
GTA S S 12 02 11.2 -1.6
GTA sS sS 12 02 25.3 -2.0
GTA SS SS 12 06 39.9 +1.6
GTA pmax pmax
comp=Z,29nm,1.5s
GTA pmax pmax
comp=Z,200nm,4.8s
GTA LR LR
comp=Z,220nm,16.2s
GTA LR LR
comp=Z,200nm,16.9s
GTA LR LR
comp=Z,200nm,16.2s
ULN Ulaanbaatar 69.09 328 ⇓iP P 11 53 12.2 -0.1
ULN pmax pmax
comp=Z,9.0nm,0.8s
ULN MLR MLR
comp=Z,244nm,18.0s
ULN Ulaanbaatar 69.09 328 eP P 11 53 12.0 -0.2
comp=Z,22nm,1.1s
SHL Shillong 69.30 301 eP P 11 53 15.0 +1.0
SHL eS S 12 02 23.0 +3.7
SONM Songino Array 69.43 327 P P 11 53 14.1 -0.2
comp=Z,8.4nm,0.8s,baz=142,slow=4.9
SONM LR LR 12 25 24.6
comp=Z,239nm,18.0s,baz=120,slow=38
SEY Seymchan 69.92 359 P P 11 53 15.8 -1.0
comp=Z,3.7nm,0.9s,baz=163,slow=5.0,SNR=14
LSA Lhasa 71.29 305 eP P 11 53 26.5 0.0
LSA pmax pmax
comp=Z,33nm,1.0s
LSA Lhasa 71.29 305 eP P 11 53 26.5 0.0
comp=Z,33nm,1.0s
YAK Yakutsk 71.70 348 eP P 11 53 23.5 -4.1
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK pmax pmax
comp=Z,21nm,1.1s
YAK pmax pmax
comp=N,12nm,1.4s
ZAK Zakamensk 72.59 328 eP P 11 53 31.9 -1.5
ZAK pmax pmax
comp=Z,14nm,1.2s
TLY Talaya 73.16 330 eP P 11 53 36.1 -0.5
TLY eS S 12 02 50.0 -13
TLY pmax pmax
comp=Z,14nm,1.3s
TLY MLR MLR
comp=Z,154nm,20.0s
TLY Talaya 73.16 330 eP P 11 53 35.5 -1.1
comp=Z,11nm,1.1s
IRK Irkutsk 73.18 330 eP P 11 53 35.1 -1.6
IRK pmax pmax
comp=Z,23nm,2.5s
TAPN Taplejung 73.41 301 eP P 11 53 38.9 -0.1
comp=Z,103nm,1.2s
ODAN Odare 73.53 301 eP P 11 53 39.8 +0.1
comp=Z,86nm,0.7s
RAMN Ramite 74.23 300 eP P 11 53 43.4 -0.4
comp=Z,108nm,1.4s
MOY Mondy 74.51 329 eP P 11 53 44.0 -0.6
JIRN Jiri 74.79 301 eP P 11 53 46.9 -0.2
comp=Z,71nm,1.0s
GUN Gumba 75.12 301 eP P 11 53 49.2 +0.2
comp=Z,225nm,1.4s
PKI Pulchoki 75.43 301 eP P 11 53 51.3 +0.5
comp=Z,153nm,1.3s
PKIN Phulchoki 75.44 301 eP P 11 53 51.3 +0.5
comp=Z,46nm,0.9s
BILL Bilibino 75.46 4 ceP P 11 53 48.6 -1.1
BILL e 11 53 56.5
BILL e 11 54 02.7
BILL pmax pmax
comp=Z,30nm,0.9s
BILL MLR MLR
comp=Z,234nm,19.0s
BILL Bilibino 75.46 4 eP P 11 53 48.5 -1.1
comp=Z,22nm,0.8s
KKN Kakani 75.60 301 eP P 11 53 52.0 +0.4
comp=Z,47nm,0.8s
DMN Daman 75.70 301 eP P 11 53 52.2 0.0
comp=Z,169nm,1.3s
GKN Gorkha 76.20 301 eP P 11 53 54.8 -0.2
comp=Z,210nm,1.4s
KOLN Koldanda 77.03 301 eP P 11 53 59.3 -0.4
comp=Z,59nm,1.0s
DANN Dangsing 77.04 301 eP P 11 53 59.4 -0.5
comp=Z,233nm,1.5s
TNA Tin City 77.51 15 eP P 11 54 00.4 -0.8
comp=Z,5.8nm,0.9s
PYUN Piuthan 77.63 301 eP P 11 54 02.5 -0.6
comp=Z,92nm,1.0s
SVW2 Sparrevohn 78.19 22 eP P 11 54 05.1 -0.1
comp=Z,68nm,1.5s
WMQ Urumqi 78.88 317 P P 11 54 09.6 +0.1
WMQ pP PcP 11 54 17.5 -0.6
WMQ sP sP 11 54 20.7 -1.0
WMQ PP PP 11 57 09.9 +1.4
WMQ sS sS 12 04 18.4 -2.5
WMQ ScS SKKSac 12 04 26.2 +1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WMQ				SS	SS	12 09 12.2	+0.4
WMQ				pmax	pmax		
	comp=Z,14nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,190nm,3.8s						
WMQ				LR	LR		
	comp=Z,70nm,18.0s						
WMQ				LR	LR		
	comp=Z,88nm,18.6s						
WMQ				LR	LR		
	comp=Z,64nm,17.6s						
HYB	Hyderabad	79.23	289	iP	P	11 54 12.0	+0.1
HYB				ePcP	pP	11 54 23.5	+2.6
RC01	Rabbit Creek A	80.46	24	eP	P	11 54 16.9	-0.7
	comp=Z,435nm,2.5s						
TIXI	Tiksi	80.51	352⇓	eP	P	11 54 15.7	-1.9
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
TIXI				MLR	MLR		
	comp=Z,141nm,18.0s						
CAST	Castle Rocks	80.92	21	eP	P	11 54 19.4	-0.6
	comp=Z,18nm,0.9s						
PMR	Palmer	80.98	24	eP	P	11 54 19.5	-0.8
PMR				pmax	pmax		
	comp=Z,52nm,1.0s						
PMR	Palmer	80.98	24	eP	P	11 54 19.5	-0.8
	comp=Z,52nm,1.0s						
PAF	Port-aux-Franc	81.15	221	S	S	12 04 24.0	-5.7
PAF				SS	SS	12 09 40.0	-4.8
PAF				R		12 20 00.0	
KTH	Kantishna Hill	81.42	22	eP	P	11 54 21.0	-1.7
	comp=Z,36nm,1.1s						
TRF	Thorofare Moun	81.59	22	eP	P	11 54 14.4	-9.4
	comp=Z,28nm,1.1s						
DIV	Divide	82.11	25	eP	P	11 54 26.1	-0.3
	comp=Z,518nm,2.6s						
RAGM	Ragged Mountai	82.20	26	epP	pP	11 54 36.2	+0.3
MCK	McKinley	82.25	22	eP	P	11 54 25.2	-1.8
MCK				pmax	pmax		
	comp=Z,56nm,0.9s						
MCK	McKinley	82.25	22	eP	P	11 54 25.2	-1.8
	comp=Z,56nm,0.9s						
BMRM	Bremner River	82.52	25	eP	P	11 54 28.7	+0.1
	comp=Z,91nm,1.2s						
NDI	New Delhi	82.71	300	eP	P	11 54 30.0	-0.2
PAX	Paxson	83.17	23	eP	P	11 54 31.0	-1.0
PAX				pmax	pmax		
	comp=Z,197nm,2.7s						
PAX	Paxson	83.17	23	eP	P	11 54 30.9	-1.0
	comp=Z,197nm,2.7s						
COLA	College	83.27	21c	eP	P	11 54 30.2	-2.1
COLA				pmax	pmax		
	comp=Z,121nm,1.0s						
COLA				MLR	MLR		
	comp=Z,950nm,18.0s						
COLA	College	83.27	21	eP	P	11 54 30.0	-2.3
	comp=Z,80nm,1.4s						
MK31	Makanchi Array	83.47	319	iP	P	11 54 32.6	-1.2
MK31				pmax	pmax		
	comp=Z,12nm,0.8s						
MK31	Makanchi Array	83.47	319	eP	P	11 54 33.0	-0.8
MKAR	Makanchi Array	83.47	319	P	P	11 54 33.2	-0.6
	comp=Z,8.1nm,0.8s,baz=107,slow=5.4,SNR=54						
MKAR				LR	LR	12 33 55.5	
	comp=Z,80nm,18.1s,baz=96,slow=37						
ILAR	Eielson Array	83.57	22	P	P	11 54 31.9	-2.0
	comp=Z,8.5nm,0.9s,baz=255,slow=5.2,SNR=39						
ILAR				LR	LR	12 30 30.6	
	comp=Z,323nm,18.6s,baz=248,slow=35						
COLD	Coldfoot	83.80	19	eP	P	11 54 34.9	0.0
	comp=Z,25nm,1.3s						
MENT	Mentasta	83.85	24	eP	P	11 54 34.7	-0.6
DOT	Dot Lake	84.06	23	eP	P	11 54 35.8	-0.6
	comp=Z,58nm,1.1s						
MAW	Mawson	84.20	203	LR	LR	12 30 29.3	
	comp=Z,99nm,18.3s,baz=102,slow=34						
ZAA0	Zalesovo Array	84.27	326	eP	P	11 54 35.8	-1.9
ZALV	Zalesovo Beam	84.27	326	P	P	11 54 35.7	-1.9
	comp=Z,1.8nm,0.4s,baz=104,slow=6.3,SNR=13						
NVS	Novosibirsk	85.44	327	eP	P	11 54 40.3	-3.2
NVS				pmax	pmax		
	comp=Z,25nm,1.9s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.4s						
HYT	Haines Junctio	85.57	27	eP	P	11 54 45.8	+1.6
EGAK	Eagle	85.71	23	eP	P	11 54 44.6	-0.1
	comp=E,26nm,0.9s						
KSH	Kashi	86.05	310	P	P	11 54 48.1	+1.0
KSH				epP	pP	11 54 57.5	+1.4
KSH				esP	sP	11 55 00.0	+0.7
KSH				ePP	PP	11 58 11.3	+3.7
KSH				eS	SKKSac	12 05 17.7	-1.2
KSH				SS	SS	12 11 03.0	+4.5
KSH				pmax	pmax		
	comp=E,18nm,0.9s						
KSH				LR	LR		
	comp=E,110nm,4.7s						
KSH				LR	LR		
	comp=E,140nm,5.2s						
KSH				LR	LR		
	comp=E,190nm,5.8s						
KURK	Kurchatov	86.91	322	eP	P	11 54 49.3	-1.5
KURK	Kurchatov	86.91	322	eP	P	11 54 49.3	-1.5
KURBB	Kurchatov Arra	86.94	322	P	P	11 54 49.1	-1.8
	comp=E,0.6nm,0.6s,baz=112,slow=4.1,SNR=5.5						
TKM2	Tokmak 2	87.06	314	eP	P	11 54 51.6	-0.5
TKM2				pmax	pmax		
	comp=Z,23nm,1.7s						
TKM2	Tokmak 2	87.06	314	eP	P	11 54 51.6	-0.5
	comp=Z,23nm,1.7s						
FRU	Bishkek	87.75	313	eP	P	11 54 54.0	-1.2
AAK	Ala-Archa	87.80	313⇓	iP	P	11 54 55.4	-0.2
AAK				pmax	pmax		
	comp=Z,16nm,1.3s						
AAK				MLR	MLR		
	comp=Z,250nm,17.0s						
AAK	Ala-Archa	87.80	313	eP	P	11 54 55.2	-0.3
	comp=Z,4.7nm,1.0s						
EKS2	Erkin-Say	88.32	313	eP	P	11 54 57.8	-0.2
EKS2				pmax	pmax		
	comp=Z,9.0nm,0.9s						
EKS2	Erkin-Say	88.32	313	eP	P	11 54 57.8	-0.2
	comp=Z,8.6nm,0.9s						
M02C	Callahan	88.91	48	P	P	11 55 00.6	-0.1
	baz=89						
INK	Inuvik	89.91	21	P	P	11 55 03.8	-0.9
	comp=Z,9.1nm,0.9s,baz=235,slow=4.9,SNR=24						
J05D	Fort Rock, OR	90.42	47	P	P	11 55 07.6	-0.2
	baz=90						
KKAR	Karatay Array	90.76	313	eP	P	11 55 09.8	+0.5
KKAR				e*PP	pP	11 55 23.4	+5.1
KKAR	Karatay Array	90.76	313	eP	P	11 55 09.8	+0.5
KKAR				epP	pP	11 55 23.4	+5.1
VES	Vestal, Richgr	90.93	54	P	P	11 55 10.3	+0.1
	baz=91						
SCI	San Clemente I	90.98	57	P	P	11 55 10.7	+0.2
	baz=91						
ARVC	Arvin	91.04	55	P	P	11 55 11.0	+0.3
	baz=91						
CIS	Catalina Islan	91.15	57	P	P	11 55 11.6	+0.3
	baz=91						
MLAC	Mammoth Lakes	91.38	52	P	P	11 55 12.9	+0.4
	baz=91						
ISA	Isabella	91.40	54	P	P	11 55 12.9	+0.4
	baz=92						
PASC	Pasadena Art C	91.44	56	eP	P	11 55 12.6	-0.1
	comp=Z,7.0nm,0.4s						
MWC	Mount Wilson	91.55	56	eP	P	11 55 13.7	+0.4
MWC				pmax	pmax		
	comp=Z,36nm,1.0s						
MWC	Mount Wilson	91.55	56	eP	P	11 55 13.7	+0.4
	comp=Z,36nm,1.0s						
MTUM	Tungsten Hills	91.55	53	eP	P	11 55 14.0	+0.6
MTUM				epP	pP	11 55 23.4	+1.0
EDW2	Edwards Air Fo	91.69	55	P	P	11 55 14.1	+0.3
	baz=92						
CWC	Cottonwood Cre	91.82	54	P	P	11 55 14.8	+0.3
	baz=92						
BFSC	Mount Baldy Ra	91.88	56	P	P	11 55 15.0	+0.2
	baz=92						
NVAR	Mina Array Bea	91.90	52	P	P	11 55 15.1	+0.2
	comp=Z,6.7nm,1.0s,baz=254,slow=5.6,SNR=32						
NVAR				LR	LR	12 32 52.7	
	comp=Z,112nm,18.1s,baz=95,slow=33						
NV11	Mina Array Sit	92.02	52	eP	P	11 55 15.6	+0.2
SYO	Syowa Base	92.13	199⇑	epP	pP	11 55 24.2	0.0
109C	Camp Elliot, M	92.17	57	P	P	11 55 15.9	-0.1
	baz=92						
WVOR	Wild Horse Val	92.18	48	eP	P	11 55 15.3	-0.7
WVOR				pmax	pmax		
	comp=Z,16nm,1.5s						
WVOR	Wild Horse Val	92.18	48	eP	P	11 55 15.3	-0.7
	comp=Z,16nm,1.5s						
DAC	Darwin (Calif)	92.19	54	eP	P	11 55 16.5	+0.2
DAC				pmax	pmax		
	comp=Z,27nm,1.2s						
DAC	Darwin (Calif)	92.19	54	eP	P	11 55 16.5	+0.2
	comp=Z,27nm,1.2s						
BVAR	Borovoye Array	92.37	323	P	P	11 55 14.6	-1.9
	comp=Z,2.2nm,1.0s,baz=108,slow=4.8,SNR=8.9						
BRVK	Borovoye	92.44	323⇑	iP	P	11 55 15.3	-1.5
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BRVK	Borovoye	92.44	323	epP	pP	11 55 24.1	-1.7
GRAC	Grapevine Rang	92.45	53	P	P	11 55 17.3	0.0
	baz=92						
TPH	Tonopah	92.70	52	eP	P	11 55 18.8	+0.1
TPH				pmax	pmax		
	comp=Z,26nm,1.1s						
TPH	Tonopah	92.70	52	eP	P	11 55 18.8	+0.1
	comp=Z,26nm,1.1s						
GSC	Goldstone	92.70	55	eP	P	11 55 18.9	+0.3
GSC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GSC	Goldstone	92.70	55	eP	P	11 55 18.9	+0.3
	comp=Z,6.3nm,0.9s						
GSC	Goldstone	92.70	55	P	P	11 55 18.3	-0.2
	baz=93						
MONP	Monument Peak	92.74	57	P	P	11 55 19.2	+0.2
	baz=93						
PFO	Pinyon Flat Ob	92.79	57	P	P	11 55 19.4	+0.3
	baz=93						
FURC	Furnace Creek,	92.80	54	P	P	11 55 19.3	+0.5
	baz=93						
BMN	Battle Mountai	92.98	50	eP	P	11 55 20.0	+0.2
BMN				e*PP	pP	11 55 29.6	+0.7
BMN				pmax	pmax		
	comp=Z,16nm,1.3s						
BMN	Battle Mountai	92.98	50	eP	P	11 55 20.0	+0.2
	comp=Z,16nm,1.3s						
BMN				epP	pP	11 55 29.6	+0.7
HEC	Hector,Ludlow	93.04	55	P	P	11 55 20.2	+0.1
	baz=93						
SHOC	Shoshone	93.20	54	P	P	11 55 21.1	+0.3
	baz=93						
BELC	Belle Mtn. Jos	93.22	56	P	P	11 55 21.6	+0.6
	baz=93						
BMO	Blue Mountains	93.44	45	eP	P	11 55 21.2	-0.5
	comp=Z,26nm,2.0s						
BMO				epP	pP	11 55 30.3	-0.5
GMRC	Granite Mounta	93.58	56	P	P	11 55 22.7	0.0
	baz=94						
BC3	Big Chuckawall	93.63	57	P	P	11 55 22.9	0.0
	baz=94						
IRM	Iron Mountain	93.93	56	P	P	11 55 24.7	+0.5
	baz=94						
NEW	Newport	93.95	42	eP	P	11 55 22.8	-1.2
NEW				pmax	pmax		
	comp=Z,77nm,2.5s						
NEW	Newport	93.95	42	eP	P	11 55 22.8	-1.2
	comp=Z,76nm,2.5s						
R11A	Troy Canyon, C	94.01	52	P	P	11 55 24.8	+0.1
	baz=94						
GLA	Glamis	94.09	57	P	P	11 55 25.8	+0.9
	baz=94						
SHPR	Sheep Range	94.16	54	eP	P	11 55 26.0	+0.6
ELK	Elko	94.52	50	eP	P	11 55 27.0	0.0
ELK				e*PP	pP	11 55 36.9	+0.9
ELK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ELK	Elko	94.52	50	eP	P	11 55 27.0	0.0
	comp=Z,9.9nm,1.3s						
ELK				epP	pP	11 55 36.9	+0.9
W13A	Hualapai Mount	95.06	55	P	P	11 55 29.1	-0.5
	baz=95						
ARUT	Antelope Range	95.65	53	eP	P	11 55 31.8	-0.3
ARUT				pmax	pmax		
	comp=Z,283nm,1.5s						
ARUT	Antelope Range	95.65	53	eP	P	11 55 31.8	-0.3
	comp=Z,283nm,1.5s						
CCUT	Cedar City	95.69	53	eP	P	11 55 33.1	+0.7
	comp=Z,49nm,2.3s						
HVU	Hansel Valley	96.45	49	eP	P	11 55 35.5	-0.2
HVU				pmax	pmax		
	comp=Z,131nm,3.0s						
HVU	Hansel Valley	96.45	49	eP	P	11 55 35.5	-0.2
	comp=Z,131nm,3.0s						
U15A	North Rim	96.46	54	P	P	11 55 36.6	+0.5
	baz=96						
YKA	Yellowknife Ar	96.53	28	P	P	11 55 34.6	-0.7
	comp=Z,9.7nm,0.9s,baz=267,slow=4.7,SNR=94						
YKA				PKKP	PKKPbc	12 12 18.3	-3.8
	comp=Z,0.3nm,0.8s,baz=78,slow=3.0,SNR=4.5						
MVU	Marysvale	96.67	52	eP	P	11 55 37.7	+0.8
	comp=Z,19nm,1.6s						
EDM	Edmonton	96.73	37	eP	P	11 55 35.7	-0.9
EDM				e*PP	pP	11 55 45.4	-0.2
EDM	Edmonton	96.73	37	eP	P	11 55 35.6	-0.9
EDM				epP	pP	11 55 45.4	-0.2
TMUT	Trail Mountain	97.50	51	eP	Pdif	11 55 41.7	+0.9
	comp=Z,18nm,1.3s						
TMUT				epP	pP	11 55 51.1	+1.4
FXWY	Fox Creek	97.84	47	eP	Pdif	11 55 43.3	+1.2
	comp=Z,36nm,2.6s						
PDAR	Pinedale Array	98.88	48	P	P	11 55 45.7	-1.0
	comp=Z,1.2nm,0.9s,baz=221,slow=2.5,SNR=8.7						
PDAR				LR	LR	12 39 42.5	
	comp=Z,196nm,18.0s,baz=278,slow=35						
PV04	Paradox Valley	99.25	52	eP	Pdif	11 55 49.2	+0.8
D19A	Cripps Ranch,	99.44	43	P	Pdif	11 55 49.0	+0.1
	baz=100						
A19A	Klindworth Far	99.53	42	P	Pdif	11 55 49.1	-0.2
	baz=100						
N20A	Spence Gulch,	99.81	50	P	Pdif	11 55 50.3	-0.6
	baz=100						
H20A	Greybull	100.04	46	P	Pdif	11 55 50.4	-1.2
	baz=100						
A20A	Cobblestone Ra	100.07	42	P	Pdif	11 55 50.2	-1.4
	baz=100						
J21A	Lysite	100.44	47	P	Pdif	11 55 52.3	-1.3
	baz=100						
D21A	La Casta Ranch	100.73	44	P	Pdif	11 55 53.9	-0.7
	baz=101						
SMCO	Snowmass	100.78	52	ePdif	Pdif	11 55 56.3	+0.8
P22A	Eagle	100.95	51	P	Pdif	11 55 56.1	+0.1
	baz=101						
N22A	Wattenberg Ran	101.18	50	P	Pdif	11 55 56.8	-0.3
	baz=101						
F22A	Rosebud	101.26	45	P	Pdif	11 55 56.9	-0.1
	baz=101						
D22A	Cohagen	101.28	43	P	Pdif	11 55 56.4	-0.7
	baz=101						
GDL2	Guadalupe Moun	102.85	59	ePdif	Pdif	11 56 08.6	+4.1
KIV	Kislovodsk	110.89	314	iPKIKP	PKiKP	12 00 41.2	+1.7
KIV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKASG	Malin Array Be	117.62	324	PKP	PKPdf	12 00 50.3	-1.7
	comp=Z,0.9nm,0.5s,baz=65,slow=2.2,SNR=10						
AK02	Malin Array Si	117.65	324	ePKPdf	PKPdf	12 00 51.0	-1.1
BRTR	Keskin Array B	118.42	311c	iPKIKP	PKPdf	12 00 54.7	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	Keskin Array B	118.42	311	PKP	PKPdf	12 00 53.1	-1.0
	comp=Z,1.2nm,0.9s,baz=67,slow=4.2,SNR=5.9						
NB2	NORSAR Subarra	119.83	341	PKPdf	PKPdf	12 00 54.7	-1.3
	comp=Z,7.5nm,1.7s,baz=39,slow=1.9						
NOA	NORSAR Array B	119.83	341	PKP	PKPdf	12 00 53.4	-2.7
	comp=Z,0.7nm,0.8s,baz=89,slow=2.1,SNR=3.2						
BUR08	Bucovina Ar. S	121.32	322	ePKPdf	PKPdf	12 00 59.0	-0.5
BURAR	Bucovina Array	121.33	322⇑	iP	PKPdf	12 00 59.1	-0.3
KWP	Kalwaria Pacla	121.83	325⇑	iP	PKPdf	12 00 59.5	-0.7
KOLS	Kolonicke sedl	122.43	325	ePKIKP	PKPdf	12 01 03.6	+2.2
KOLS				e		12 01 17.8	
KOLS				pmax	pmax		
	comp=N,17nm,0.3s						
TRPA	Tarpa	122.68	324⇓	iP	PKPdf	12 01 10.3	+8.5
STHS	Stebnicka Huta	122.76	326	ePKIKP	PKPdf	12 00 57.9	-4.1
STHS				e		12 01 06.5	
STHS				pmax	pmax		
	comp=N,29nm,0.4s						
CRVS	Cervenica-Dubn	122.91	325	ePKIKP	PKPdf	12 00 52.7	-10
CRVS				e		12 00 57.8	
CRVS				pmax	pmax		
	comp=N,45nm,0.4s						
KECS	Kecovo	123.68	325	ePKIKP	PKPdf	12 00 55.5	-8.3
KECS				e		12 01 02.9	
KECS				pmax	pmax		
	comp=N,20nm,0.3s						
PSZ	Piszkesteto	124.31	325	ePKIKP	PKPdf	12 01 09.4	+4.3
PSZ	Piszkesteto	124.31	325⇓	iP	PKPdf	12 01 09.4	+4.3
PSZ	Piszkesteto	124.31	325	ePKPdf	PKPdf	12 01 09.4	+4.3
MORC	Moravsky Berou	124.58	328	⇑PKIKP	PKPdf	12 01 05.6	+0.1
MORC	Moravsky Berou	124.58	328⇑	iP	PKPdf	12 01 05.6	+0.1
BRG	Berggiesshubel	125.74	331	ePKP	PKPdf	12 01 12.0	+4.4
	comp=N,5.8nm,1.1s						
BRG				e		12 01 17.1	
	comp=N,12nm,1.2s						
BRG	Berggiesshubel	125.74	331	ePKIKP	PKPdf	12 01 12.0	+4.4
BRG				e		12 01 17.0	
BRG				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BRG				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BCIP	Isla Barro Col	125.83	84	ePdif	Pdif	11 57 46.5	-0.3
GERES	GERESS Array B	127.15	329	PKP	PKPdf	12 01 10.2	-0.3
	comp=Z,1.5nm,0.7s,baz=73,slow=1.8,SNR=6.7						
MOA	Molln	127.47	327⇑	iPKPdf	PKPdf	12 01 13.1	+2.0
	comp=Z,7.7nm,1.4s						
WTTA	Wattenberg	129.22	328⇑	iPKIKP	PKPdf	12 01 14.8	+0.2
	comp=Z,17nm,1.4s						
FETA	Feichten	129.85	329⇑	isPKiKP	pPKPdf	12 01 21.2	-3.9
	comp=Z,7.0nm,1.1s						
LPAZ	La Paz	131.46	119	PKP	PKPdf	12 01 20.4	+0.1
	comp=Z,3.4nm,1.0s,baz=4.0,slow=1.4,SNR=7.3						
LPAZ	La Paz	131.46	119	PKP	PKPdf	12 01 20.4	+0.1
LPAZ				ePKPdf	PKiKP	12 01 20.7	-0.5
SDV	Santo Domingo	134.90	85	ePKPdf	PKPdf	12 01 26.1	-0.2
SAML	Samuel	138.81	112	ePKPdf	PKPdf	12 01 33.1	-0.2
BB16B	Bebedouro	143.71	141	(P)	PKPab	12 01 31.4	-7.3
BB16B				i		12 01 37.4	
BB16B				i		12 01 46.3	
PTGA	Pitinga	144.35	101	ePKPdf	PKPab	12 01 40.2	-1.1
PBAR	Barrancos	145.06	335	ePKP	PKPab	12 01 43.2	0.0
EVO	Evora	145.16	336	ePKP	PKPab	12 01 43.5	0.0
PBEJ	Beja	145.53	336	ePKP	PKPab	12 01 45.0	+0.1
PNCL	Nicolau / Gran	145.73	336	ePKP	PKPbc	12 01 45.2	-0.1
MESJ	Messejana	145.84	336	ePKP	PKPab	12 01 46.0	-0.1
PCVE	Castro Verde	145.94	335	ePKP	PKPab	12 01 46.5	0.0
PVAQ	Vaqueiros	146.00	335	ePKP	PKPab	12 01 46.7	0.0
PTEO	Sao Teotonio	146.29	336	ePKP	PKPab	12 01 47.9	+0.1
TAM	Tamanrasset	146.69	301	ePKP2	PKPab	12 01 49.5	-0.5
TAM	Tamanrasset	146.69	301	ePKPbc	PKPab	12 01 49.5	-0.5
BDFB	Brasilia	147.93	135	PKP2	PKPbc	12 01 52.0	-0.4
BDFB	Brasilia	147.93	135	PKPbc	PKPbc	12 01 52.0	-0.4
	comp=Z,8.3nm,0.7s,baz=332,slow=3.9,SNR=9.4						
TOA0	Torodi Ar. Sit	152.98	285	ePKPdf	PKPdf	12 01 56.2	-0.9
TOA0				ePKPab	PKPab	12 02 13.7	-2.0
TORD	Torodi Ar. Bea	152.98	285	PKP	PKPdf	12 01 56.5	-0.6
	comp=Z,1.7nm,0.8s,baz=46,slow=1.7,SNR=7.5						
TORD				PKPbc	PKPbc	12 02 04.2	-0.2
	comp=Z,6.9nm,0.9s,baz=46,slow=2.1,SNR=20						
TORD				PKPab	PKPab	12 02 13.7	-2.0
	comp=Z,12nm,0.9s,baz=65,slow=2.0,SNR=12						

IDC ***10*** *11:49:45.4±0.9, 7°.31S×155°.14E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.3/25, mbtmp4.3/10, ML3.1/1, MS4.1/1, Ms1 4.1/1, ms1mx3.1/25, Error ellipse: s-maj=35.1km s-min=18.3km az=132.0*

ISCJB ***10*** *11:49:50.6±0.6, 7°.17S±0°.08×154°.94E±0°.08, h41km, mb4.2/9, MS4.0/1, Error ellipse: s-maj=13.0km s-min=9.6km az=37.3*

ISC 10 11:49:52.0±0.8**, 7°.1S**±0°.1×**155°.0E**±0°.1**, h41km, n24, σ1s.85**/24**, mb4.3**/9**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	4.04	316	P	Pn	11 50 50.7	-0.7
	baz=3.8,SNR=6.5						
PMG	Port Moresby	8.08	253	Pn	Pn	11 51 45.9	-1.0
	1.5nm,0.3s,baz=59,slow=10,SNR=15						
PMG				Sn	Sn	11 53 16.8	-0.3
	1.6nm,0.3s,baz=96,slow=15,SNR=4.6						
PMG	Port Moresby	8.08	253	P	Pn	11 51 50.0	+3.1
	baz=8.4,SNR=5.1						
PMG				S	Sn	11 53 20.7	+3.6
	baz=8.4,SNR=5.0						
COEN	Coen	13.46	239	P	P	11 53 07.7	-1.4
	baz=14,SNR=4.4						
MTSU	Mount Surprise	15.11	223	P	P	11 53 27.6	+0.2
	baz=16,SNR=5.3						
CTA	Charters Tower	15.44	212	Pn	Pn	11 53 28.1	+1.1
	0.1nm,0.3s,baz=32,slow=14,SNR=5.8						
QIS	Mount Isa	20.02	227	P	P	11 54 20.4	-1.2
	baz=21,SNR=4.1						
RMQ	Roma	20.17	196	P	Pn	11 54 23.3	-1.9
	baz=21,SNR=6.7						
QLP	Quilpie	21.91	207	P	P	11 54 42.5	+0.6
	baz=23,SNR=6.7						
KDU	Kakadu	22.86	254	P	P	11 54 51.9	-0.2
	baz=23,SNR=4.1						
WRA	Warramunga Arr	23.75	235	P	P	11 54 58.4	-2.4
	11nm,1.0s,baz=61,slow=9.6,SNR=19						
CMSA	Cobar Meteorol	25.81	198	P	P	11 55 19.6	+0.2
	baz=26,SNR=9.3						
ASAR	Alice Springs	26.10	229	P	P	11 55 20.0	-2.2
	2.5nm,0.8s,baz=61,slow=9.0,SNR=8.8						
ASAR				ScP	ScP	12 02 31.4	+5.6
	1.8nm,1.2s,baz=46,slow=3.6,SNR=4.2						
ASAR				LR	LR	12 05 10.0	
	comp=Z,368nm,18.0s,baz=42,slow=36						
KNRA	Kununurra	27.06	249	P	P	11 55 31.1	+0.2
	baz=27,SNR=4.3						
STKA	Stephens Creek	27.63	205	P	P	11 55 34.8	-1.1
	14nm,0.9s,baz=20,slow=11,SNR=17						
STKA	Stephens Creek	27.63	205	P	P	11 55 36.6	+0.7
	baz=28,SNR=15						
WRKA	Warakurna	31.13	232	P	P	11 56 04.8	-2.3
	baz=32,SNR=4.8						
CMAR	Chiang Mai Arr	60.83	296	P	P	12 00 03.2	+2.5
	1.9nm,0.6s,baz=111,slow=4.9,SNR=11						
ILAR	Eielson Array	83.48	21	P	P	12 02 13.9	-1.2
	0.6nm,0.5s,baz=235,slow=5.5,SNR=19						
MKAR	Makanchi Array	83.48	319	P	P	12 02 15.7	+0.1
	1.6nm,0.8s,baz=110,slow=5.6,SNR=11						
ZALV	Zalesovo Beam	84.27	326	P	P	12 02 20.9	+1.5
	0.5nm,0.5s,baz=106,slow=5.6,SNR=3.6						
NVAR	Mina Array Bea	91.79	52	P	P	12 02 56.9	+0.7
	1.4nm,1.0s,baz=252,slow=6.4,SNR=6.3						
YKA	Yellowknife Ar	96.44	28	P	P	12 03 16.7	+0.1
	1.9nm,1.0s,baz=267,slow=4.7,SNR=15						
TORD	Torodi Ar. Bea	153.05	285	PKPbc	PKPbc	12 09 46.0	-0.3
	1.5nm,0.7s,baz=62,slow=2.2,SNR=7.5						

ISCJB ***10*** *12:14:27.1±0.9, 11°.2S±0°.1×118°.34E±0°.06, h33km, mb3.4/1, Error ellipse: s-maj=14.8km s-min=7.8km az=12.3*

DJA ***10*** *12:14:28.5±0.7, 11°S±6°×11°8E±°, h10km, M4.2/11, mb4.2/2, mB5.0/2, MLv4.2/11, Mw(mB)4.3/2*

IDC ***10*** *12:14:33.0±3.5, 11°.01S×119°.40E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/36, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=261.6km s-min=30.7km az=48.0*

ISC 10 12:14:28.4±1.3**, 11°.2S**±0°.1×**118°.22E**±0°.06**, h35km, n10, σ2s.21**/10**, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGBI	Denpasar	3.85	308	P	Pn	12 15 27.0	+1.9
IGBI				S	Sn	12 16 07.4	-1.8
DNP	Denpasar	3.89	310	P	Pn	12 15 29.2	+3.5
SRBI	Singaraja	4.29	316	P	Pn	12 15 33.9	+2.7
MMRI	Maumere	4.71	57	P	Pn	12 15 38.9	+1.8
MMRI				S	Sn	12 16 28.4	-2.2
JAGI	Jajag, Banyuwa	4.84	304	P	Pn	12 15 39.9	+1.1
GMJI	Gumukmas	5.54	301	P	Pn	12 15 49.7	+1.3
	17nm,1.7s,858nm0.1nm						
BLJI	Banyuglugur	5.71	307	P	Pn	12 15 49.3	-1.5
WRA	Warramunga Arr	17.78	121	Pn	Pn	12 18 31.0	-2.2
	0.2nm,0.3s,baz=297,slow=13,SNR=5.9						
WRA				Sn	Sn	12 21 35.2	-15
	0.1nm,0.3s,baz=288,slow=26,SNR=3.3						
ASAR	Alice Springs	19.40	132	P	P	12 18 53.1	+1.5
	0.2nm,0.3s,baz=313,slow=14,SNR=8.4						
MKAR	Makanchi Array	66.08	334	P	P	12 25 24.1	+12

0.2nm,0.5s,baz=152,slow=6.5,SNR=4.9

ISCJB **10** *12:18:24.8±0.8, 7°.3S±0°.2×155°.0E±0°.1, h31km, mb3.6/9, Error ellipse: s-maj=25.1km s-min=10.3km az=151.5*
IDC **10** *12:18:26.2±1.2, 7°.60S×155°.24E, h38km±7km, mb3.5/8, mb1 3.8/9, mb1mx3.6/31, mbtmp3.7/9, ML2.8/1, Error ellipse: s-maj=40.5km s-min=18.9km az=139.0*
ISC 10 12:18:26.2±0.9, 7°.45±0°.2×155°.2E±0°.1, h31km, n11, σ1§51/15, mb3.9/9, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 8.16 255 Pn Pn 12 20 23.5 +0.9
0.7nm,0.3s,baz=25,slow=8.7,SNR=4.2
PMG Sn Sn 12 21 52.7 -1.1
0.6nm,0.3s,baz=143,slow=10,SNR=5.8
WRA Warramunga Arr 23.73 236 P P 12 23 33.8 -2.1
1.7nm,0.9s,baz=60,slow=9.6,SNR=7.5
WRA pP pP 12 23 45.9 +1.2
1.8nm,0.8s,baz=58,slow=9.5,SNR=7.1
ASAR Alice Springs 26.04 229 P P 12 23 55.2 -1.8
0.6nm,0.7s,baz=59,slow=10,SNR=8.1
STKA Stephens Creek 27.46 206 P P 12 24 11.4 +1.8
2.1nm,0.8s,baz=15,slow=13,SNR=3.4
CMAR Chiang Mai Arr 61.08 296 P P 12 28 37.9 +0.1
0.4nm,0.4s,baz=104,slow=3.8,SNR=4.2
SONM Songino Array 69.73 327 P P 12 29 35.3 +1.9
0.3nm,0.8s,baz=125,slow=7.6,SNR=2.1
ILAR Eielson Array 83.66 21 P P 12 30 49.9 -1.7
0.4nm,0.8s,baz=253,slow=4.6,SNR=3.6
MKAR Makanchi Array 83.78 319 P P 12 30 51.5 -1.1
0.7nm,0.7s,baz=101,slow=5.1,SNR=6.2
MKAR pP pP 12 31 04.6 +2.1
0.4nm,0.7s,baz=120,slow=4.9,SNR=4.1
NVAR Mina Array Bea 91.83 52 P P 12 31 32.2 +0.4
0.6nm,0.9s,baz=280,slow=5.4,SNR=3.2
YKA Yellowknife Ar 96.59 28 P P 12 31 52.5 -0.3
0.3nm,0.8s,baz=266,slow=4.9,SNR=7.2
TORD Torodi Ar. Bea 153.27 285 PKPbc PKPbc 12 38 21.7 -0.5
0.6nm,0.9s,baz=80,slow=1.6,SNR=3.9
TORD pPKPbc PKPab 12 38 33.3 -0.9
0.6nm,0.7s,baz=55,slow=2.2,SNR=3.9

MOS **10** *12:22:39.9±0.8, 7°.20S×154°.91E, h33km, mb5.2/16, MS4.4/4, Error ellipse: s-maj=10.8km s-min=8.6km az=66.5*
GCMT **10** *12:22:39.6±0.2, 7°.41S×154°.88E, h17km, MW5.1/96, Moment Tensor Solution. s47,c57; s96,c136; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.12±.19; Mθθ-2.47±.12; Mφφ-1.65±.13; Mrθ3.71±.36; Mrφ2.17±.09; Mθr-1.97±.34; Best double couple: M0 5.93700×10^16 NP1: φs121.00000°, δ68.00000°, λ83.00000°. NP2: φs318.00000°, δ23.00000°, λ106.00000°. Principal axes: T 5.9080, Plg67.0000°, Azm20.0000°; N 0.0580, Plg6.0000°, Azm124.0000°; P -5.9660, Plg22.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **10** *12:22:39.6±3.8, 7°.19S×154°.88E, h19km±23km, mb5.2/33 Error ellipse: s-maj=7.6km s-min=6.1km az=51.0*
BJI **10** *12:22:40.3, 6°.65S×155°.14E, h22km, mB5.3/39, mb4.9/56, Ms4.9/29, Ms7 4.4/30*
ISCJB **10** *12:22:41.4±0.2, 7°.23S±0°.03×154°.87E±0°.04, h40km, mb5.0/79, MS4.3/25, Error ellipse: s-maj=5.5km s-min=4.4km az=36.2*
IDC **10** *12:22:43.2±0.7, 7°.20S×154°.90E, h43km±5km, mb4.4/17, mb1 4.6/20, mb1mx4.4/34, mbtmp4.6/20, ML3.6/3, MS4.1/14, Ms1 4.1/14, ms1mx3.9/21, Error ellipse: s-maj=16.7km s-min=12.7km az=122.0*
DJA **10** *12:23:04.9±1.8, 8°S±9°×15°4E±1°4, h145km±12km, M5.0/20, mB5.3/7, mb4.8/20, MLv5.4/1, Mw(mB)4.7/7*
ISC 10 12:22:42.4±0.4, 7°.19S±0°.05×154°.97E±0°.05, h34km±1km, h35km:pP-P, n203, σ1§50/256, mb5.0/79, MS4.3/26, 11C-5D, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 5.41 115 LR LR 12 26 04.5
comp=Z,2μm,19.1s,baz=276,slow=37
PMG Port Moresby 8.04 254 c iP Pn 12 24 37.6 +0.8
PMG pmax pmax
comp=Z,131nm,1.2s
PMG Port Moresby 8.04 254 P Pn 12 24 36.2 -0.6
comp=Z,2.1nm,0.3s,baz=63,slow=13,SNR=21
PMG S Sn 12 26 08.2 +1.6
comp=Z,3.1nm,0.3s,baz=95,slow=15,SNR=7.6
PMG Port Moresby 8.04 254 ePn Pn 12 24 35.7 -1.1
PMG S Sn 12 26 08.2 +1.6
PMG eSn Sn 12 26 08.5 +1.9
PMG Port Moresby 8.04 254 ⇓P Pn 12 24 37.9 +1.1
baz=8.0,SNR=23
PMG ⇑S Sn 12 26 08.0 +1.4
baz=8.0,SNR=5.1
COEN Coen 13.40 239 ePn Pn 12 25 47.2 -3.1
COEN Coen 13.40 239 ⇑P Pn 12 25 49.6 -0.7
baz=13,SNR=6.0
JAY Jayapura 14.95 287 P P 12 26 20.3 +3.7
comp=Z,94nm,0.7s,comp=Z,4μm
MTSU Mount Surprise 15.04 223 P Pn 12 26 12.7 +0.2
baz=15,SNR=15
CTA Charters Tower 15.36 213 P Pn 12 26 14.9 -1.9
comp=Z,0.2nm,0.3s,baz=316,slow=7.3,SNR=3.1
CTA LR LR 12 32 22.8
comp=Z,1μm,18.0s,baz=32,slow=38
CTAO Charters Tower 15.36 213 eP Pn 12 26 14.0 -2.7
CTAO pmax pmax
comp=Z,49nm,1.0s
CTAO Charters Tower 15.36 213 ePn Pn 12 26 14.0 -2.7
comp=Z,49nm,1.0s
SMPI Sarmi 17.01 287 P P 12 26 46.5 +7.2
comp=Z,64nm,1.6s
EIDS Eidsvold 18.46 191 ePn P 12 26 55.2 -0.1
comp=Z,26nm,1.0s
EIDS Eidsvold 18.46 191 P Pn 12 26 56.4 +0.8
baz=18,SNR=4.6
DZM Mont Dzumac 18.48 144 eP Pn 12 26 58.3 +2.4
comp=Z,100nm,1.2s
DZM eLR LR 12 31 21.6
comp=Z,524nm,21.1s
DZM Mont Dzumac 18.48 144 P Pn 12 26 57.8 +1.8
comp=Z,0.3nm,0.3s,baz=350,slow=14,SNR=4.1
DZM Mont Dzumac 18.48 144 P P 12 26 55.2 -0.4
comp=Z,51nm,1.1s
QIS Mount Isa 19.95 227 P P 12 27 11.1 -0.7
baz=20,SNR=31
RMQ Roma 20.08 196 P Pn 12 27 14.0 -1.0
baz=20,SNR=17
QLP Quilpie 21.83 207 ⇓P P 12 27 31.7 -0.1
baz=22,SNR=43
KDU Kakadu 22.82 254 P P 12 27 41.5 -1.1
baz=23,SNR=9.6
ARMA Armidale 23.32 187 eP P 12 27 46.8 -0.9
comp=Z,53nm,1.3s
ARMA Armidale 23.32 187 ⇑P P 12 27 47.4 -0.3
baz=23,SNR=4.9
WRAB Tennant Creek 23.68 236 P P 12 27 49.6 -1.5
comp=Z,227nm,1.1s,SNR=19
WRAB Tennant Creek 23.68 236 d iP P 12 27 49.0 -2.1
WRAB pmax pmax
comp=Z,190nm,1.6s
WRAB MLR MLR
comp=Z,2μm,16.0s
WRAB Tennant Creek 23.68 236 eP P 12 27 48.7 -2.4
comp=Z,54nm,0.8s
WRAB ePcP PcP 12 31 42.5 +7.4
WRA Warramunga Arr 23.69 236 P P 12 27 49.4 -1.9
comp=Z,30nm,1.0s,baz=61,slow=9.7,SNR=72
WRA pP pP 12 28 02.1 +1.2
comp=Z,38nm,0.7s,baz=58,slow=9.6,SNR=17
WRA LR LR 12 36 41.7
comp=Z,656nm,20.7s,baz=55,slow=36
MTN Manton Dam 24.13 255 ⇑P P 12 27 53.6 -1.7
baz=24,SNR=16
SWI Sorong 24.46 284 P P 12 28 04.5 +6.1
comp=Z,62nm,1.2s
CMSA Cobar Meteorol 25.73 198 P P 12 28 09.1 -0.7
baz=26,SNR=39
CMSA P P 12 28 10.0 +0.3
baz=26,SNR=12
AS31 Alice Springs 26.03 229 eP P 12 28 11.2 -1.4
ASAR Alice Springs 26.03 229 P P 12 28 11.0 -1.6
ASAR Alice Springs 26.03 229 P P 12 28 10.9 -1.6
comp=Z,7.1nm,0.8s,baz=62,slow=8.8,SNR=66
ASAR ScP ScP 12 35 21.3 +3.8
comp=Z,4.4nm,1.2s,baz=55,slow=3.1,SNR=6.0
ASAR LR LR 12 38 01.7
comp=Z,334nm,21.0s,baz=64,slow=35
MGCD Mangrove Creek 26.14 187 P P 12 28 15.2 +1.8
baz=26,SNR=6.9
KNRA Kununurra 27.01 250 ⇑P P 12 28 20.8 -0.7
baz=27,SNR=12
STKA Stephens Creek 27.55 205 P P 12 28 24.9 -1.3
comp=Z,42nm,0.8s,baz=5.2,slow=8.9,SNR=28
STKA LR LR 12 38 53.8
comp=Z,862nm,21.2s,baz=28,slow=35
STKA Stephens Creek 27.55 205 P P 12 28 25.2 -0.9
baz=28,SNR=63
STKA P P 12 28 26.7 +0.6
baz=28,SNR=34
LBMI Labuha 28.15 282 P P 12 28 27.0 -4.8
SOEI Soe 30.47 263 P P 12 28 54.3 +1.8
comp=Z,41nm,1.2s,comp=Z,922nm
SOEI Soe 30.47 263 eP P 12 28 50.7 -1.7
comp=Z,62nm,1.1s
FITZ Fitzroy Crossi 30.56 246 P P 12 28 51.6 -1.4
baz=30,SNR=8.2
BBOO Buckleboo 30.96 212 eP P 12 28 54.9 -1.5
comp=Z,303nm,0.8s
WRKA Warakurna 31.06 232 P P 12 28 55.7 -1.8
baz=31,SNR=18
ARPS Mount Arapiles 31.79 200 P P 12 29 03.5 -0.2
baz=32,SNR=6.2
MMRI Maumere 32.45 265 P P 12 29 08.6 -1.1
comp=Z,91nm,1.2s,comp=Z,2μm
MMRI Maumere 32.45 265 eP P 12 29 06.2 -3.5
comp=Z,64nm,0.8s
GTOI Gorontalo 32.82 282 P P 12 29 15.3 +2.3
comp=Z,46nm,1.5s
FORT Forrest 34.43 224 eP P 12 29 25.5 -1.3
comp=Z,44nm,1.1s
TAU Tasmania Unive 36.21 190 eP P 12 29 42.2 +0.3
TAU pmax pmax
comp=Z,538nm,2.8s
TAU Tasmania Unive 36.21 190 eP P 12 29 42.2 +0.3
comp=Z,538nm,2.8s
MBWA Marble Bar 36.77 244 eP P 12 29 45.3 -1.7
comp=Z,17nm,0.9s
URZ Urewera 36.85 150 P P 12 29 47.0 -0.5
comp=Z,20nm,1.2s,baz=336,slow=12,SNR=3.9
MEEK Meekatharra 39.59 236 P P 12 30 09.6 -1.1
baz=40,SNR=5.6
JAGI Jajag, Banyuwa 40.45 265 eP P 12 30 16.2 -1.9
comp=Z,68nm,0.9s
KLBR Kellerberrin 42.34 230 P P 12 30 31.8 -1.6
baz=42,SNR=5.5
MORW Morawa 42.63 234 P P 12 30 34.3 -1.4
baz=43,SNR=3.4
NACB Ninganchiao 45.08 315 eP P 12 30 53.7 -1.6
comp=Z,66nm,1.1s
TPUB Ta-pu 45.22 313 eP P 12 30 55.7 -0.9
comp=Z,22nm,0.8s
SSLB Suanglung 45.29 314 eP P 12 30 56.5 -0.7
comp=Z,29nm,1.0s
KSM Kuching 45.39 279 P P 12 30 55.9 -2.1
comp=Z,18nm,0.9s
YHNB Yeheng 45.55 315 eP P 12 30 58.6 -0.6
comp=Z,54nm,1.0s
QZH Quanzhou 47.70 313 ⇑iP P 12 31 15.8 -0.1
QZH S S 12 38 10.0 +0.1
QZH pmax pmax
comp=Z,60nm,0.9s
DLV T Lat 49.98 292 eP P 12 31 34.0 +0.2
comp=Z,38nm,1.0s
KSRS Korea Array 51.10 332 P P 12 31 40.9 -0.8
comp=Z,2.7nm,1.0s,baz=148,slow=5.4,SNR=4.9
KSRS LR LR 12 52 45.0
comp=Z,120nm,18.4s,baz=136,slow=35
KSAR Wonju Array Be 51.10 332 P P 12 31 40.9 -0.9
KSAR Wonju Array Be 51.10 332 P P 12 31 40.9 -0.9
QIZ Qiongzhong 51.54 301 P P 12 31 43.5 -1.9
QIZ S S 12 39 03.2 -0.7
QIZ sS sS 12 39 18.2 -2.8
QIZ pmax pmax
comp=Z,16nm,1.4s
QIZ pmax pmax
comp=Z,110nm,2.9s
QIZ LR LR
comp=Z,220nm,17.5s
NJ2 Nanjing 52.05 321 eP P 12 31 47.2 -1.7
NJ2 pP pP 12 31 58.2 -1.1
NJ2 sP sP 12 32 01.1 -2.3
NJ2 pmax pmax
comp=Z,20nm,1.2s
PPT Papeete 54.97 106 LR LR 12 50 44.7
comp=Z,91nm,20.7s,baz=266,slow=31
PPT2 Papeete2 54.97 106 eLR LR 12 48 04.7
comp=Z,325nm,31.2s
YSS Yuzhno-Sakhalins 54.99 350 eP P 12 32 19.1 +8.9
IPM Ipoh 55.07 281 eP P 12 32 10.8 -0.7
comp=Z,16nm,1.2s
PSI Prapat 56.80 278 P P 12 32 23.9 -0.1
comp=Z,2.4nm,0.4s,baz=65,slow=14,SNR=4.0
CN2 Changchun 57.35 335 eP P 12 32 25.6 -1.6
CN2 esP sP 12 32 39.6 -2.1
CN2 eS S 12 40 19.6 -1.8
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,300nm,14.0s
GYA Guiyang 57.55 308 P P 12 32 30.0 +0.9
GYA pP pP 12 32 41.3 +1.7
GYA PP PP 12 34 40.4 +3.3
GYA ScP ScP 12 37 19.8 0.0
GYA S S 12 40 23.5 -1.4
GYA sS sS 12 40 41.7 -0.5
GYA SS SS 12 44 14.0 -1.5
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.8s
GYA LR LR
comp=Z,710nm,19.8s
GYA LR LR
comp=Z,640nm,20.2s
GYA LR LR
comp=Z,740nm,19.6s
GSI Gunungsitoli 57.88 276 eP P 12 32 30.2 -1.3
comp=Z,115nm,1.2s
BJI Beijing 59.07 326 P P 12 32 39.4 +0.2
BJI pmax pmax
comp=Z,6.0nm,0.6s
UTTA Uttaradit 59.16 295 P P 12 32 43.8 +3.5
comp=Z,9.9nm,1.0s,comp=Z,107nm
KLR Kul'dur 59.74 343 eP P 12 32 38.7 -5.0
XAN Xi'an 59.83 316 P P 12 32 43.8 -0.9
XAN S S 12 40 54.3 +0.2
XAN pmax pmax
comp=Z,4.0nm,0.8s
XAN pmax pmax
comp=Z,36nm,5.2s
XAN LR LR
comp=Z,90nm,17.6s
SUKH Sukhothai 59.91 295 P P 12 32 49.6 +4.2
comp=Z,7.3nm,1.1s,comp=Z,66nm
KHLT Khaolaem Dam 60.01 292 P P 12 32 49.3 +3.1
comp=Z,12nm,1.3s
KMI Kunming 60.10 304 P P 12 32 48.7 +1.7
KMI pP pP 12 32 58.4 +0.9
KMI S S 12 41 02.3 +4.0
KMI pmax pmax
comp=Z,10.0nm,1.1s
PETK Petropavlovsk- 60.11 2 P P 12 32 46.0 -0.1
comp=Z,4.5nm,0.9s,baz=180,slow=11,SNR=4.7
PETK LR LR 12 53 48.3
comp=Z,46nm,20.6s,baz=170,slow=31
LAMP Lampang 60.25 296 P P 12 32 50.8 +3.0
comp=Z,8.2nm,1.1s,comp=Z,81nm
CMAR Chiang Mai Arr 60.85 296 P P 12 32 52.1 +0.3
comp=Z,5.1nm,0.7s,baz=114,slow=4.5,SNR=25
CMAR LR LR 12 57 52.6
comp=Z,60nm,21.0s,baz=118,slow=35
CMMT Chiang Mai 60.96 296 P P 12 32 54.4 +1.7
comp=Z,33nm,1.3s,comp=Z,397nm
CHTO Chiang Mai 60.96 296 eP P 12 32 52.1 -0.6
CHTO e 12 35 07.4
CHTO pmax pmax
comp=Z,42nm,1.3s
CHTO Chiang Mai 60.96 296 P P 12 32 54.5 +1.8
comp=Z,88nm,1.1s,comp=Z,1μm
CHTO Chiang Mai 60.96 296 eP P 12 32 52.1 -0.6
comp=Z,42nm,1.3s
CHTO ePP PP 12 35 07.4 +0.1
CD2 Chengdu 61.92 311 eP P 12 33 00.8 +1.8
CD2 pP pP 12 33 11.4 +1.8
CD2 sP sP 12 33 15.6 +2.0
CD2 PcP PcP 12 33 40.9 +1.3
CD2 PP PP 12 35 19.6 +3.9
CD2 PcS PcS 12 37 42.6 -0.2
CD2 S S 12 41 21.0 +0.1
CD2 sS sS 12 41 38.7 +0.4
CD2 ScS SKKSac 12 42 46.1 -2.5
CD2 SS SS 12 45 25.2 +1.4
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,180nm,5.6s
CD2 LR LR
comp=Z,220nm,17.6s
CD2 LR LR
comp=Z,530nm,16.6s
CD2 LR LR
comp=Z,390nm,18.6s
HHC Hu-ho-hao-te 62.23 324 eP P 12 33 03.9 +2.9
HHC PP PP 12 35 23.2 +4.9
HHC PcS PcS 12 37 44.8 +0.8
HHC S S 12 41 26.7 +2.0
HHC ScS SKSac 12 42 49.6 -1.1
HHC SS SS 12 45 30.6 +2.1
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,150nm,5.4s
HHC LR LR
comp=Z,170nm,16.7s
HHC LR LR
comp=Z,420nm,17.3s
HHC LR LR
comp=Z,150nm,16.9s
HIA Hailar 64.09 335 eP P 12 33 11.9 -1.1
HIA pmax pmax
comp=Z,9.0nm,0.8s
HIA Hailar 64.09 335 eP P 12 33 11.9 -1.1
comp=Z,8.6nm,0.8s
LZH Lanzhou 64.44 316 ⇓P P 12 33 16.7 +1.0
LZH pP pP 12 33 26.3 0.0
LZH sP sP 12 33 30.8 +0.4
LZH PP PP 12 35 40.8 +3.0
LZH eS S 12 41 51.0 -1.4
LZH sS sS 12 42 07.1 -2.8
LZH SS SS 12 46 01.3 -1.9
LZH pmax pmax
comp=Z,62nm,1.4s
LZH pmax pmax
comp=Z,190nm,4.0s
LZH LR LR
comp=Z,410nm,16.9s
LZH LR LR
comp=Z,340nm,17.3s
LZH LR LR
comp=Z,570nm,18.0s
GTA Gaotai 68.86 317 eP P 12 33 44.2 +0.3
GTA pP pP 12 33 54.6 0.0
GTA sP sP 12 33 58.8 +0.2
GTA S S 12 42 45.3 -0.6
GTA sS sS 12 43 02.4 -1.1
GTA SS SS 12 47 13.0 +1.2
GTA pmax pmax
comp=Z,18nm,1.5s
GTA pmax pmax
comp=Z,190nm,5.7s
GTA LR LR
comp=Z,130nm,19.0s
GTA LR LR
comp=Z,200nm,19.0s
GTA LR LR
comp=Z,180nm,17.6s
ULN Ulaanbaatar 69.15 328 ⇑eP P 12 33 45.3 -0.2
ULN pmax pmax
comp=Z,15nm,2.3s
ULN MLR MLR
comp=Z,165nm,18.0s
ULN Ulaanbaatar 69.15 328 eP P 12 33 45.2 -0.4
comp=Z,1.5nm,0.6s
SHL Shillong 69.37 301 eP P 12 33 49.0 +1.6
SONM Songino Array 69.48 327 LR LR 13 05 58.0
comp=Z,215nm,18.2s,baz=184,slow=37
SEY Seymchan 69.94 359 P P 12 33 48.6 -1.2
comp=Z,1.5nm,0.8s,baz=192,slow=7.4,SNR=4.7
VNDA Vanda 70.39 178 LR LR 13 00 13.3
comp=Z,86nm,18.1s,baz=346,slow=32
LSA Lhasa 71.36 305 eP P 12 33 58.0 -1.8
LSA pmax pmax
comp=Z,18nm,0.9s
LSA Lhasa 71.36 305 eP P 12 33 58.0 -1.8
comp=Z,18nm,0.9s
YAK Yakutsk 71.74 348 eP P 12 34 13.9 +13
YAK pmax pmax
comp=Z,27nm,1.3s
YAK pmax pmax
comp=N,8.0nm,1.3s
ZAK Zakamensk 72.64 328 eP P 12 34 05.2 -1.4
ZAK e 12 34 19.9
ZAK pmax pmax
comp=Z,5.0nm,1.1s
ZAK pmax pmax
comp=Z,14nm,1.1s
TLY Talaya 73.22 329 eP P 12 34 09.9 0.0
TLY eS S 12 43 26.1 -10
TLY pmax pmax
comp=Z,9.0nm,1.1s
TLY MLR MLR
comp=Z,122nm,19.0s
TLY Talaya 73.22 329 eP P 12 34 08.7 -1.2
comp=Z,5.1nm,1.0s
TAPN Taplejung 73.48 301 eP P 12 34 12.5 +0.2
comp=Z,78nm,1.1s
ODAN Odare 73.61 301 eP P 12 34 13.0 0.0
RAMN Ramite 74.31 300 eP P 12 34 16.8 -0.3
comp=Z,29nm,0.8s
JIRN Jiri 74.86 301 eP P 12 34 20.2 -0.2
comp=Z,26nm,0.7s
GUN Gumba 75.20 301 eP P 12 34 22.4 +0.1
comp=Z,80nm,0.9s
PALK Pallekele 75.45 279 eP P 12 34 21.9 -1.8
PALK pmax pmax
comp=Z,39nm,1.0s
PALK Pallekele 75.45 279 eP P 12 34 21.9 -1.8
comp=Z,39nm,1.0s
BILL Bilibino 75.47 4 eP P 12 34 21.9 -0.7
BILL pmax pmax
comp=Z,21nm,1.1s
BILL Bilibino 75.47 4 eP P 12 34 21.9 -0.7
comp=Z,21nm,1.1s
PKI Pulchoki 75.50 301 eP P 12 34 23.3 -0.8
comp=Z,116nm,1.5s
PKIN Phulchoki 75.52 301 eP P 12 34 23.9 -0.2
comp=Z,67nm,1.3s
KKN Kakani 75.67 301 eP P 12 34 25.2 +0.3
comp=Z,50nm,1.0s
DMN Daman 75.77 301 eP P 12 34 25.7 +0.2
comp=Z,143nm,1.3s
GKN Gorkha 76.28 301 eP P 12 34 27.9 -0.4
comp=Z,148nm,1.4s
KOLN Koldanda 77.10 301 eP P 12 34 32.6 -0.4
comp=Z,104nm,1.4s
DANN Dangsing 77.12 301 eP P 12 34 32.7 -0.5
comp=Z,117nm,1.5s
WMQ Urumqi 78.95 317 P P 12 34 43.0 +0.2
WMQ PcP PcP 12 34 51.9 +0.6
WMQ pP pP 12 34 53.4 -0.2
WMQ sP sP 12 34 57.3 -0.3
WMQ PP PP 12 37 43.4 +1.4
WMQ S S 12 44 37.6 -1.5
WMQ sS SKSac 12 44 54.4 -1.6
WMQ ScS ScS 12 45 00.0 -2.4
WMQ SS SS 12 49 45.8 +0.6

WMQ pmax pmax
comp=Z,20nm,1.7s
WMQ pmax pmax
comp=Z,220nm,5.6s
WMQ LR LR
comp=Z,53nm,18.8s
WMQ LR LR
comp=Z,63nm,19.6s
HYB Hyderabad 79.31 289 *i* P **P 12 34 47.0 +1.8**
HYB *e*PcP **pP 12 34 56.0 -0.1**
TIXI Tiksi 80.54 352 P **P 12 34 49.5 -1.2**
TIXI pmax pmax
comp=Z,10.0nm,1.3s
TIXI Tiksi 80.54 352 P **P 12 34 49.5 -1.2**
comp=Z,10nm,1.3s
PMR Palmer 80.97 24 *e*P **P 12 34 52.5 -0.7**
PMR pmax pmax
comp=Z,13nm,0.7s
PMR Palmer 80.97 24 *e*P **P 12 34 52.5 -0.7**
comp=Z,13nm,0.7s
MCK McKinley 82.24 22 *e*P **P 12 34 57.7 -2.2**
MCK pmax pmax
comp=Z,46nm,1.0s
MCK McKinley 82.24 22 *e*P **P 12 34 57.7 -2.2**
comp=Z,46nm,1.0s
QSPA South Pole Qui 82.79 180 *e*P **P 12 35 03.3 +0.4**
comp=Z,24nm,1.1s
COLA College 83.27 21⇑*e*P **P 12 35 03.6 -1.5**
COLA pmax pmax
comp=Z,107nm,1.7s
COLA MLR MLR
comp=Z,973nm,19.0s
COLA College 83.27 21 *e*P **P 12 35 03.9 -1.2**
comp=Z,27nm,1.0s
MK31 Makanchi Array 83.53 319 *e*P **P 12 35 06.2 -0.8**
MK31 Makanchi Array 83.53 319 *e*P **P 12 35 06.2 -0.8**
MKAR Makanchi Array 83.53 319 P **P 12 35 06.7 -0.3**
comp=Z,3.3nm,0.7s,baz=109,slow=5.3,SNR=33
MKAR pP **pP 12 35 20.6 +2.7**
comp=Z,21nm,0.8s,baz=101,slow=5.5,SNR=33
ILAR Eielson Array 83.56 21 P **P 12 35 05.2 -1.4**
comp=Z,3.0nm,0.8s,baz=242,slow=5.5,SNR=36
ILAR LR LR 13 11 13.9
comp=Z,204nm,18.2s,baz=248,slow=35
MAW Mawson 84.21 203 LR LR 13 08 15.6
comp=Z,89nm,21.9s,baz=120,slow=32
ZAA0 Zalesovo Array 84.33 326 *e*P **P 12 35 09.1 -1.7**
ZALV Zalesovo Beam 84.33 326 P **P 12 35 09.2 -1.6**
comp=Z,1.1nm,0.5s,baz=102,slow=6.4,SNR=9.4
ZALV pP **pP 12 35 22.9 +1.2**
comp=Z,7.6nm,1.0s,baz=112,slow=5.0,SNR=10
ZALV LR LR 13 13 26.8
comp=Z,45nm,20.6s,baz=70,slow=36
NVS Novosibirsk 85.50 327 *e*P **P 12 35 14.0 -2.7**
NVS pmax pmax
comp=E,6.0nm,1.3s
NVS pmax pmax
comp=Z,13nm,1.3s
HYT Haines Junctio 85.55 27 *e*P **P 12 35 18.7 +1.7**
EGAK Eagle 85.70 23 *e*P **P 12 35 17.7 +0.3**
comp=Z,26nm,1.0s
KSH Kashi 86.12 310 P **P 12 35 21.4 +1.2**
KSH Kashi 86.12 310 *e*P **P 12 35 21.5 +1.2**
KSH *e*sP **sP 12 35 35.6 +0.4**
KSH *e*PP **PP 12 38 45.8 +4.7**
KSH *e*SKS **SKSac 12 45 39.1 -5.0**
KSH *e*S **SKKSac 12 45 50.2 -1.5**
KSH *e*SS **SS 12 51 34.7 +2.8**
KSH pmax pmax
comp=Z,19nm,1.3s
KSH LR LR
comp=Z,110nm,8.6s
KSH LR LR
comp=Z,170nm,5.9s
KSH LR LR
comp=Z,120nm,6.4s
KURK Kurchatov 86.97 322 P **P 12 35 23.3 -0.7**
KURK *PP **pP 12 35 37.3 +2.3**
KURK pmax pmax
comp=Z,1.0nm,1.4s
KURK Kurchatov 86.97 322 P **P 12 35 23.3 -0.7**
comp=Z,0.8nm,1.4s
KURK pP **pP 12 35 37.3 +2.3**
KURBB Kurchatov Arra 87.00 322 P **P 12 35 23.3 -0.9**
comp=Z,0.3nm,0.2s,baz=109,slow=4.2,SNR=6.7
KURBB pP **pP 12 35 37.3 +2.2**
comp=Z,1.5nm,0.7s,baz=115,slow=3.0,SNR=4.9
TKM2 Tokmak 2 87.13 314 *e*P **P 12 35 24.5 -0.8**
TKM2 pmax pmax
comp=Z,6.0nm,0.9s
TKM2 Tokmak 2 87.13 314 *e*P **P 12 35 24.5 -0.8**
comp=Z,5.6nm,0.9s
AAK Ala-Archa 87.86 313⇓*e*P **P 12 35 28.7 -0.1**
AAK pmax pmax
comp=Z,3.0nm,0.6s
AAK Ala-Archa 87.86 313 *e*P **P 12 35 27.9 -0.9**
comp=Z,3.6nm,1.1s
EKS2 Erkin-Say 88.39 313 *e*P **P 12 35 30.7 -0.5**
EKS2 pmax pmax
comp=Z,7.0nm,1.4s
EKS2 Erkin-Say 88.39 313 *e*P **P 12 35 30.7 -0.5**
comp=Z,7.2nm,1.4s
INK Inuvik 89.91 21 P **P 12 35 37.0 -0.5**
comp=Z,4.1nm,0.9s,baz=309,slow=6.0,SNR=5.4
KKAR Karatay Array 90.83 313 *e*P **P 12 35 41.3 -1.2**
KKAR pmax pmax
comp=Z,23nm,1.4s
KKAR Karatay Array 90.83 313 *e*P **P 12 35 41.3 -1.2**
comp=Z,23nm,1.4s
VES Vestal, Richgr 90.88 54 P **P 12 35 43.8 +0.9**
baz=91
ISA Isabella 91.35 54 P **P 12 35 45.7 +0.6**
baz=92
MWC Mount Wilson 91.50 56 *e*P **P 12 35 46.1 +0.1**
MWC pmax pmax
comp=Z,24nm,1.1s
MWC Mount Wilson 91.50 56 *e*P **P 12 35 46.1 +0.1**
comp=Z,24nm,1.1s
EDW2 Edwards Air Fo 91.64 55 P **P 12 35 47.2 +0.8**
baz=92
BFSC Mount Baldy Ra 91.83 56 P **P 12 35 48.5 +1.0**
baz=92
NVAR Mina Array Bea 91.86 52 P **P 12 35 48.5 +0.9**
comp=Z,11nm,1.2s,baz=252,slow=4.7,SNR=26
NV11 Mina Array Sit 91.97 52 *e*P **P 12 35 48.6 +0.5**
SYO Syowa Base 92.14 199⇑*e*P P 12 35 38.4 -10
MONP Monument Peak 92.69 57 P **P 12 35 51.9 +0.4**
baz=93
FURC Furnace Creek, 92.75 54 P **P 12 35 51.6 +0.2**
baz=93
HEC Hector,Ludlow 92.99 55 P **P 12 35 52.7 -0.1**
baz=93
SHOC Shoshone 93.15 54 P **P 12 35 54.0 +0.6**
baz=93
BELC Belle Mtn. Jos 93.17 56 P **P 12 35 54.3 +0.6**
baz=93
GMRC Granite Mounta 93.53 56 P **P 12 35 55.6 +0.3**
baz=94
BC3 Big Chuckawall 93.58 57 P **P 12 35 56.3 +0.8**
baz=94
IRM Iron Mountain 93.88 56 P **P 12 35 57.8 +0.9**
baz=94
R11A Troy Canyon, C 93.97 52 P **P 12 35 58.1 +0.8**
baz=94
LDFC Landfair 94.01 55 *e*P **P 12 35 56.7 -0.8**
SHPR Sheep Range 94.12 54 *e*P **P 12 35 58.3 +0.3**
comp=Z,12nm,1.3s
W13A Hualapai Mount 95.01 55 P **P 12 36 03.1 +0.8**
baz=95
ARUT Antelope Range 95.60 53 *e*P **P 12 36 03.9 -0.9**
ARUT Antelope Range 95.60 53 *e*P **P 12 36 03.9 -0.9**
comp=Z,131nm,1.4s
U15A North Rim 96.41 54 P **P 12 36 08.8 +0.2**
baz=96
YKA Yellowknife Ar 96.52 28 P **P 12 36 07.8 -0.3**
comp=Z,4.5nm,0.9s,baz=267,slow=4.7,SNR=38
PDAR Pinedale Array 98.84 48 P **P 12 36 18.6 -0.8**
comp=Z,1.2nm,1.0s,baz=264,slow=1.5,SNR=5.4
OBN Obninsk 111.89 327 *e*PKIKP **PKiKP 12 41 17.1 +3.4**
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,105nm,17.0s
ANN Anapa 114.45 316*c i*P **Pdif 12 37 26.1 -2.3**
ANN pmax pmax
comp=Z,35nm,0.3s
AKASG Malin Array Be 117.68 324 PKP **PKPdf 12 41 24.0 -0.9**
comp=Z,0.6nm,0.6s,baz=47,slow=2.5,SNR=3.5
AKASG pPKP **pPKPdf 12 41 36.2 -0.1**
comp=Z,0.9nm,0.5s,baz=52,slow=2.2,SNR=4.1
KOLS Kolonicke sedl 122.49 325 *e*PKIKP **PKPdf 12 41 35.3 +1.0**
KOLS Kolonicke sedl 122.49 325 *e*PKP **PKPdf 12 41 35.3 +1.0**
KECS Kecovo 123.74 325 *e*PKIKP **PKPdf 12 41 38.1 +1.4**
KECS Kecovo 123.74 325 *e*PKP **PKPdf 12 41 38.1 +1.4**
CLL Collm 125.97 331 *e*PKIKP **PKPdf 12 41 39.0 -1.9**
CLL Collm 125.97 331 *e*PKPdf **PKPdf 12 41 39.0 -1.9**
CLL *e* 12 41 56.0
GERES GERESS Array B 127.20 329 PKP **PKPdf 12 41 43.4 -0.1**
comp=Z,0.8nm,0.7s,baz=90,slow=2.7,SNR=4.7
EKA Eskdalemuir Ar 128.91 344 PKP **PKPdf 12 41 47.1 +0.7**
comp=Z,0.6nm,0.5s,baz=37,slow=3.6,SNR=3.4
LPAZ La Paz 131.38 119 PKIKP **PKPdf 12 41 54.0 +1.0**
LPAZ La Paz 131.38 119 PKP **PKPdf 12 41 54.0 +1.0**
comp=Z,3.3nm,1.1s,baz=139,slow=1.4,SNR=7.1
PTGA Pitinga 144.27 101 *e*PKPdf **PKPab 12 42 13.3 -0.6**
BDFB Brasilia 147.86 135 PKPbc **PKPbc 12 42 25.5 +0.5**
comp=Z,3.8nm,0.4s,baz=284,slow=1.1,SNR=6.8
MDT Midelt 148.22 326 PKPbc **PKPbc 12 42 26.1 +0.5**
comp=Z,8.0nm,0.9s,baz=49,slow=1.6,SNR=8.4
TORD Torodi Ar. Bea 153.05 285 PKP **PKPdf 12 42 30.9 +0.8**
comp=Z,1.2nm,0.9s,baz=58,slow=1.6,SNR=5.8
TORD PKPbc **PKPbc 12 42 37.4 -0.1**
comp=Z,6.7nm,1.0s,baz=82,slow=1.1,SNR=7.3

ISCJB **10** *12:25:08.1±0.5, 57.71N±0.04×10.90E±0.06, h0km, Error ellipse: s-maj=5.5km s-min=4.1km az=28.9*
CSEM **10** *12:25:08.9±0.2, 57.68N×10.92E, h2km, ML2.7, Error ellipse: s-maj=4.2km s-min=3.2km az=56.0, Suspected Mining explosion.*
UPP **10** *12:25:09.2, 57.67N×10.93E, h0km, ML2.7, Suspected Mining explosion.*
BER **10** *12:25:09.1±1.8, 57.63N×11.07E, h0km, MD2.1, ML1.6, ML2.3(NAO), Suspected explosion*
NAO **10** *12:25:13.9±3.7, 57.89N×11.15E, h2km±15km, ML2.3*
ISC 10 12:25:08.5±0.9,**57.73N**±0.03×**10.91E**±0.04,**h0km,n52,** σ1§07/68,**1C-1D, Denmark**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TJOU Tjoern 0.49 52 P **Pb 12 25 19.2 -0.7**
TJOU S **Sg 12 25 25.4 +1.3**
TJOU Tjoern 0.49 52 P **Pb 12 25 19.2 -0.7**
TJOU S **Sg 12 25 25.4 +1.3**
BORU Boraas 1.00 95 P **Pg 12 25 27.8 +0.1**
BORU Boraas 1.00 95 P **Pg 12 25 27.8 +0.1**
FABU Falkenberg 1.23 126 P **Pg 12 25 31.4 -0.6**
FABU Falkenberg 1.23 126 P **Pg 12 25 31.4 -0.6**
STRU Stroemstad 1.31 6 P **Pn 12 25 34.5 +0.4**
STRU Stroemstad 1.31 6 P **Pn 12 25 34.5 +0.4**
HOMB Homborsund 1.39 294 *e*P **Pn 12 25 34.8 -0.3**
HOMB *e*S **Sb 12 25 53.6 +0.1**
HOMB Homborsund 1.39 294 *e*P **Pn 12 25 34.8 -0.3**
SNR=50
HOMB *e*S **Sb 12 25 53.6 +0.1**
SNR=50
FKPU Falk 1.56 73 P **Pn 12 25 37.6 +0.1**
FKPU Falk 1.56 73 P **Pn 12 25 37.6 +0.1**
MUD Monsted U'grnd 1.59 217 *e*P **Pn 12 25 38.5 +0.6**
SNR=66
GNOU Gnosjoe 1.60 105 P **Pn 12 25 37.9 -0.1**
GNOU Gnosjoe 1.60 105 P **Pn 12 25 37.9 -0.1**
NASU Vaermlandsnaes 1.70 44 P **Pb 12 25 40.6 0.0**
NASU Vaermlandsnaes 1.70 44 P **Pb 12 25 40.6 0.0**
FINU Finntorp 1.87 26 P **Pb 12 25 43.0 -0.4**
FINU Finntorp 1.87 26 P **Pb 12 25 43.0 -0.4**
BJUU Bjuv 2.03 144 P **Pn 12 25 43.7 -0.2**
BJUU Bjuv 2.03 144 P **Pn 12 25 43.7 -0.2**
KONO Kongsberg 2.04 341 *e*P **Pn 12 25 44.6 +0.5**
KONO *e*S **Sb 12 26 11.8 -0.5**
KONO IAML 12 26 23.7
comp=Z,6.6nm,0.4s
KONO Kongsberg 2.04 341 *e*P **Pn 12 25 44.6 +0.5**
SNR=50
KONO *e*S **Sb 12 26 11.8 -0.5**
SNR=50
DEL Delary 2.05 127 P **Pn 12 25 44.4 +0.2**
DEL Delary 2.05 127 P **Pn 12 25 44.4 +0.1**
HFS Hagfors 2.81 30 Pn **Pn 12 25 55.9 +1.3**
baz=209,slow=16
HFS Pg **Pb 12 25 59.6 +0.1**
baz=206,slow=18
HFS Sn **Sn 12 26 26.4 -2.8**
baz=212,slow=28
HFS Lg Lg 12 26 36.2
baz=204,slow=37
HFS Hagfors 2.81 30 Pn **Pn 12 25 55.9 +1.3**
baz=209,slow=16
HFS Pg **Pb 12 25 59.6 +0.1**
baz=206,slow=18
HFS Sn **Sn 12 26 26.4 -2.8**
baz=212,slow=28
HFS Lg Lg 12 26 36.2
baz=204,slow=37
HFS Hagfors 2.81 30 Pn **Pn 12 25 55.9 +1.3**
baz=209,slow=16
HFS Pg **Pb 12 25 59.6 +0.1**
baz=206,slow=18
HFS Sn **Sn 12 26 26.4 -2.8**
baz=212,slow=28
HFS Lg Lg 12 26 36.2
baz=204,slow=37
HFS Hagfors 2.81 30 Pn **Pn 12 25 55.9 +1.3**
baz=209,slow=16
HFS Pg **Pb 12 25 59.6 +0.1**
baz=206,slow=18
HFS Sn **Sn 12 26 26.4 -2.8**
baz=212,slow=28
HFS Lg Lg 12 26 36.2
baz=204,slow=37
HFS Hagfors 2.81 30 Pn **Pn 12 25 55.9 +1.3**
SNR=115
HFS Hagfors 2.81 30 Pg **Pb 12 25 59.6 +0.1**
SNR=5.3
HFS Sn **Sn 12 26 26.4 -2.8**
SNR=3.3
HFS Lg Lg 12 26 36.2
SNR=9.0
BLS5 Blasjo 2.88 308 *e*P **Pn 12 25 56.4 +0.7**
BLS5 IAML 12 26 44.4
comp=Z,5.2nm,0.5s
ODD1 Odda 3.12 316 *e*P **Pn 12 26 00.2 +1.3**
ODD1 *e*S **Sn 12 26 36.2 -0.6**
ODD1 IAML 12 26 51.3
comp=Z,6.4nm,0.2s
NB2 NORSAR Subarra 3.32 3 Pn **Pn 12 26 01.9 +0.1**
baz=187,slow=14
NB2 Sn **Sn 12 26 41.2 -0.6**
baz=178,slow=28
NB2 Lg Lg 12 26 55.0
baz=179,slow=37
NB2 NORSAR Subarra 3.32 3 Pn **Pn 12 26 01.9 +0.1**
baz=187,slow=14
NB2 Sn **Sn 12 26 41.2 -0.6**
baz=178,slow=28
NB2 Lg Lg 12 26 55.0
baz=179,slow=37
NB2 NORSAR Subarra 3.32 3 Pn **Pn 12 26 01.9 +0.1**
baz=187,slow=14
NB2 Sn **Sn 12 26 41.2 -0.6**
baz=178,slow=28
NB2 Lg Lg 12 26 55.0
baz=179,slow=37
NB2 NORSAR Subarra 3.32 3 Pn **Pn 12 26 01.9 +0.1**
baz=187,slow=14
NB2 Sn **Sn 12 26 41.2 -0.6**
baz=178,slow=28
NB2 Lg Lg 12 26 55.0
baz=179,slow=37
NB2 NORSAR Subarra 3.32 3 Pn **Pn 12 26 01.9 +0.1**
SNR=3.4
NB2 Sn **Sn 12 26 41.2 -0.6**
SNR=3.2
NB2 Lg Lg 12 26 55.0
SNR=3.2
KMY Karmoy 3.32 299 *e*P **Pn 12 26 01.9 +0.3**
BSD Bornholm Skovb 3.44 138 *i* P **Pn 12 26 02.6 -0.7**
BSD Bornholm Skovb 3.44 138 *i* P **Pn 12 26 02.6 -0.7**
BSD *i* Sg **Sb 12 26 55.8 +3.2**
comp=Z,3.6nm,0.3s,SNR=92
FIA0 FINESS Array S 8.54 58 Pn **Pn 12 27 14.1 +0.8**
baz=246,slow=12
FIA0 Lg Lg 12 29 35.4
baz=244,slow=28
FIA0 FINESS Array S 8.54 58 Pn **Pn 12 27 14.1 +0.8**
baz=246,slow=12
FIA0 Lg Lg 12 29 35.4
baz=244,slow=28
FIA0 FINESS Array S 8.54 58 Pn **Pn 12 27 14.1 +0.8**
baz=246,slow=12
FIA0 Lg Lg 12 29 35.4
baz=244,slow=28
FIA0 FINESS Array S 8.54 58 Pn **Pn 12 27 14.1 +0.8**
baz=246,slow=12
FIA0 Lg Lg 12 29 35.4
baz=244,slow=28
FIA0 FINESS Array S 8.54 58 Pn **Pn 12 27 14.1 +0.8**
SNR=5.6
ARA0 ARCESS Array S 13.44 22 Pn Pn 12 28 16.8 -3.4
baz=214,slow=14
ARA0 ARCESS Array S 13.44 22 Pn Pn 12 28 16.8 -3.4
baz=214,slow=14
ARA0 ARCESS Array S 13.44 22 Pn Pn 12 28 16.8 -3.4
baz=214,slow=14
ARA0 ARCESS Array S 13.44 22 P Pn 12 28 16.8 -3.4
baz=214,slow=14
MMB Musomiste 18.11 148⇓*i*P P 12 29 30.3 +8.5
KDZ Kurdzhali 18.57 144⇑*i*P Pn 12 29 37.4 +11

IDC **10** *12:26:33.5±1.5, 7.70S×154.94E, h0km, mb4.4/6, mb1 4.5/7, mb1mx4.1/31, mbtmp4.4/7, ML3.1/1, Error ellipse: s-maj=43.3km s-min=21.6km az=119.0*
ISCJB **10** *12:26:37.2±1.0, 7.55S±0.08×154.84E±0.10, h31km, mb4.3/6, Error ellipse: s-maj=14.4km s-min=10.2km az=151.3*
ISC 10 12:26:38.9±1.1,**7.62S**±0.10×**154.9E**±0.1,**h31km,n19,** σ1§67/20,**mb4.3**/6,**Bougainville - Solomon Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 7.86 256 Pn **Pn 12 28 31.1 -0.1**
1.6nm,0.3s,baz=86,slow=12,SNR=5.0
PMG Sn **Sn 12 30 00.1 +1.0**
1.3nm,0.3s,baz=112,slow=19,SNR=2.9
PMG Port Moresby 7.86 256 S Sn 12 30 05.7 +6.6
baz=8.0,SNR=5.2
MANU Manus Island 9.33 306 S **Sn 12 30 36.9 +1.6**
baz=8.7,SNR=4.4
CTA Charters Tower 14.96 213 Pn **P 12 30 12.2 -1.3**
0.3nm,0.3s,baz=56,slow=11,SNR=6.6
QIS Mount Isa 19.61 227 P **P 12 31 05.2 +0.4**
baz=20,SNR=4.0
RMQ Roma 19.65 197 P **Pn 12 31 08.6 +1.8**
baz=21,SNR=12
QLP Quilpie 21.41 207 P **P 12 31 26.2 +1.9**
baz=22,SNR=8.2
KDU Kakadu 22.64 255 P **P 12 31 36.9 -0.7**
baz=23,SNR=4.2
WRA Warramunga Arr 23.39 236 P **P 12 31 43.6 -1.7**
11nm,0.9s,baz=62,slow=9.7,SNR=8.8
MTN Manton Dam 23.95 256 P **P 12 31 48.8 -1.9**
baz=24,SNR=6.0
CMSA Cobar Meteorol 25.30 199 P **P 12 32 04.9 +2.1**
baz=26,SNR=10
ASAR Alice Springs 25.69 229 P **P 12 32 05.7 -0.8**
3.6nm,0.7s,baz=60,slow=9.0,SNR=7.8
ASAR ScP **ScP 12 39 16.2 +2.3**
0.9nm,0.9s,baz=9.2,slow=2.4,SNR=4.6
STKA Stephens Creek 27.13 205 P **P 12 32 17.4 -2.0**
13nm,0.9s,baz=25,slow=14,SNR=2.7
STKA Stephens Creek 27.13 205 P **P 12 32 22.0 +2.7**
baz=28,SNR=10
WRKA Warakurna 30.75 233 P **P 12 32 50.0 -1.6**
baz=31,SNR=3.3
PETK Petropavlovsk- 60.54 2 P **P 12 36 45.3 -0.8**
3.3nm,0.8s,baz=212,slow=7.8,SNR=3.0
CMAR Chiang Mai Arr 60.97 296 P **P 12 36 48.5 -1.2**
2.5nm,1.0s,baz=125,slow=5.8,SNR=6.0
MKAR Makanchi Array 83.81 319 P **P 12 39 06.3 +0.9**
1.4nm,0.7s,baz=90,slow=4.9,SNR=3.4
TORD Torodi Ar. Bea 153.09 284 PKPbc **PKPbc 12 46 35.7 +1.2**
2.7nm,0.8s,baz=56,slow=2.9,SNR=7.6

ISCJB **10** *12:27:32.7±0.7, 21.50N±0.03×143.69E±0.03, h194km±6km, mb4.4/114, Error ellipse: s-maj=5.3km s-min=4.7km az=156.9*
BJI **10** *12:27:33.0, 21.60N×143.70E, h193km, mB4.8/13, mb4.6/22*
IDC **10** *12:27:34.9±0.6, 21.58N×143.77E, h204km±5km, mb4.1/30, mb1 4.2/32, mb1mx4.1/55, mbtmp4.6/32, Error ellipse: s-maj=11.4km s-min=6.8km az=85.0*
MOS **10** *12:27:34.5±1.0, 21.57N×143.67E, h213km, mb4.7/29, Error ellipse: s-maj=10.5km s-min=6.4km az=95.9*
NEIC **10** *12:27:35.5±1.0, 21.56N×143.69E, h208km±9km, mb4.6/68, Error ellipse: s-maj=5.9km s-min=4.2km az=120.0*
JMA **10** *12:27:37.9±0.2, 21.97N×144.01E, h210km, M4.9*
ISC 10 12:27:34.7±0.4,**21.61N**±0.04×**143.74E**±0.05,**h200km**±2km, **h199km:pP-P,n363,**σ1§09/413,**mb4.5**/116,**64C-73D, Mariana Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JHHJ Haha-jima-NKT 5.20 344 P **Pn 12 28 52.2 +0.6**
JHHJ S **Sn 12 29 49.7 -2.7**
CBIJ Chichi jima 5.65 346 P **Pn 12 28 57.6 +0.3**
CBIJ S **Sn 12 30 00.2 -2.6**
CBIJ Chichi jima 5.65 346 P **Pn 12 28 57.8 +0.4**
CBIJ S **Sn 12 29 58.9 -3.8**
CBIJ *e*Sn Sn 12 30 00.5 -2.2
JCJ Chichijima 5.65 346 P **Pn 12 28 57.8 +0.4**
31nm,0.3s,baz=136,slow=22,SNR=13
JCJ S **Sn 12 29 58.9 -3.8**
28nm,0.3s,baz=294,slow=19,SNR=5.2
JHJ2 Mitsune 11.98 344 P **P 12 30 23.9 -0.1**
BSO1 Boso 1 13.22 350 P **P 12 30 37.9 +0.7**
BSO1 *e*S Sn 12 33 10.4 +8.7
BSO3 Boso 3 13.45 349 P **Pn 12 30 38.5 +1.0**
BSO3 *e*S Sn 12 33 14.2 +6.7
BSO4 Boso 4 13.66 348 *e*S Sn 12 33 19.1 +6.3
JIE Ise 14.16 336 P **P 12 30 47.5 -0.8**
JKN2 Miekihoku 14.20 334 P **P 12 30 47.8 +0.7**
JOD2 Odawara 2 14.21 344 P **P 12 30 46.2 -0.9**
JAO Obara 14.75 339 P **P 12 30 54.7 -0.1**
JYT Yasato 14.89 349 P **Pn 12 30 55.3 -0.2**
JRY Ryogami san 14.97 345 P **Pn 12 30 55.7 -0.8**
JHO Hitachi 15.21 350 P **Pn 12 30 58.9 -0.4**
JHO S **S 12 33 46.6 -1.6**
JAG Ashikaga 15.23 347 P **Pn 12 30 59.1 -0.6**
JAG S **S 12 33 46.3 -2.5**
MJAR Matsushiro Arr 15.64 343 P **P 12 31 03.6 -1.0**
3.7nm,0.3s,baz=117,slow=11,SNR=37
MJAR S **S 12 33 56.5 -1.8**
0.8nm,0.3s,baz=197,slow=19,SNR=5.3
MAJO Matsushiro 15.64 343 *e*P **P 12 31 04.6 -0.1**
28nm,0.4s
MAT Matsushiro 15.64 343 P **P 12 31 04.0 -0.7**
MAT S **S 12 33 56.4 -1.9**
MAT Matsushiro 15.64 343 P **Pn 12 31 05.7 +1.0**
MAT *e*S **S 12 33 55.4 -2.9**
JSJ Shimokoshiki 16.04 312 P **Pn 12 31 12.7 +3.2**
JNU Nakatsue 16.17 318 P **Pn 12 31 13.4 +2.3**
3.1nm,0.3s,baz=127,slow=1.6,SNR=24
JHS Saijyo 16.28 327 *e*S **P 12 31 11.5 -0.2**
JMM Marumori 16.40 352 P **Pn 12 31 13.9 +0.1**
JSD Sado 17.05 345 P **P 12 31 20.4 +0.4**
JOM Ohasama 17.93 354 P **Pn 12 31 31.2 -0.6**
JOM *e*S **Sn 12 34 56.1 +2.0**
JTM Tenmabayashi 19.26 354 P **P 12 31 45.1 +1.1**
JOT Ohata 19.85 354 P **P 12 31 51.3 +1.0**
ERM Erimo 20.36 359 *e*P **P 12 31 57.8 +2.1**
ERM pmax pmax
comp=Z,28nm,0.9s
KSRS Korea Array 20.90 323 P **P 12 32 03.5 +2.0**
comp=Z,11nm,0.7s,baz=147,slow=8.8,SNR=17
KSAR Wonju Array Be 20.91 322 P **P 12 32 03.6 +1.9**
KSAR Wonju Array Be 20.91 322 P **P 12 32 03.5 +1.9**
JEW Eniwo 21.26 355 P **P 12 32 05.7 +0.4**
SZP Santa 22.30 264 *e*P **P 12 32 16.0 +0.2**
comp=Z,88nm,1.3s
JMP Maruseppu 22.34 359 P **P 12 32 16.8 +0.8**
ASAJ Asahikawa 22.47 358 P **P 12 32 18.2 +1.1**
ASAJ Asahikawa 22.47 358 P **P 12 32 18.5 +1.3**

comp=Z,25nm,0.7s,baz=173,slow=8.1,SNR=22
ASAJ Asahikawa 22.47 358 P P 12 32 18.5 +1.3
comp=Z,2.2nm,0.9s
NJ2 Nanjing 24.47 300 eP P 12 32 36.6 +1.2
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
USRK Ussuriysk Arra 24.55 339 P P 12 32 36.1 +0.2
comp=Z,7.1nm,0.6s,baz=162,slow=10,SNR=12
YSS Yuzh-Sakhalins 25.30 358⇓eP P 12 32 42.8 +0.1
MDJ Mudanjiang 25.75 336 P P 12 32 46.9 +0.1
MDJ pmax pmax
comp=Z,8.0nm,1.5s
MDJ pmax pmax
comp=Z,85nm,4.2s
CN2 Changchun 26.84 330 eP P 12 33 00.1 +3.5
CN2 pmax pmax
comp=Z,10.0nm,0.7s
FAKI Fak Fak 26.84 206 eP P 12 32 56.2 -0.7
comp=Z,6.1nm,0.5s
MYLDM Lahad Datu 29.40 240 eP P 12 33 23.3 +3.7
comp=Z,64nm,1.3s
PMG Port Moresby 31.00 173⇓eP P 12 33 33.2 -0.4
PMG pmax pmax
comp=Z,11nm,0.7s
PMG Port Moresby 31.00 173 P P 12 33 33.0 -0.7
comp=Z,7.8nm,0.5s,baz=16,slow=3.7,SNR=7.5
QIZ Qiongzhong 31.85 272 P P 12 33 40.3 -0.9
XAN Xi'an 33.03 300 P P 12 33 51.0 -0.3
XAN pmax pmax
comp=Z,2.0nm,1.0s
PETK Petropavlovsk- 33.23 15 P P 12 33 53.8 +1.2
comp=Z,2.3nm,0.5s,baz=157,slow=7.7,SNR=6.1
HHC Hu-ho-hao-te 33.27 313 eP P 12 33 55.6 +2.2
HHC PP PP 12 35 15.2 +2.3
HHC S S 12 39 01.0 +2.2
HHC pmax pmax
comp=Z,20nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.3s
HHC LR LR
comp=Z,370nm,5.0s
PET Petropavlovsk 33.39 16 eP P 12 33 55.2 +1.2
GYA Guiyang 34.12 286 eP P 12 34 02.0 +1.1
GYA pP pP 12 34 41.6 -0.6
GYA sP sP 12 35 05.4 +0.3
GYA PP PnPn 12 35 23.0 +0.4
GYA S S 12 39 12.3 +0.1
GYA pmax pmax
comp=Z,10.0nm,0.8s
DLV T Lat 35.02 260 eP P 12 34 09.6 +0.9
comp=Z,40nm,0.8s
COEN Coen 35.35 181 eP P 12 34 11.2 0.0
comp=Z,118nm,0.8s
SOEI Soe 36.56 213 eP P 12 34 20.1 -1.6
comp=Z,17nm,0.5s
CD2 Chengdu 36.87 293 eP P 12 34 25.2 +1.0
CD2 pP pP 12 35 06.3 +0.4
CD2 sP sP 12 35 28.6 -0.1
CD2 PP PnPn 12 35 57.6 +2.2
CD2 PcP PcP 12 36 43.1 +1.6
CD2 S S 12 39 54.7 +0.8
CD2 sS sS 12 41 06.8 -0.9
CD2 SS SS 12 42 36.5 -7.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.4s
LZH Lanzhou 37.53 301 eP P 12 34 32.4 +2.6
LZH pP pP 12 35 13.6 +2.0
LZH sP sP 12 35 35.5 +1.0
LZH pmax pmax
comp=Z,19nm,1.0s
SONM Songino Array 39.74 320 P P 12 34 49.0 +1.1
comp=Z,2.6nm,0.4s,baz=141,slow=10.0,SNR=7.7
GTA Gaotai 41.34 306 eP P 12 35 03.9 +2.7
GTA pP pP 12 35 45.0 +1.3
GTA sP sP 12 36 06.6 +0.2
GTA pmax pmax
comp=Z,9.0nm,1.1s
CTA Charters Tower 41.51 176 P P 12 35 02.6 +0.1
comp=Z,21nm,0.8s,baz=11,slow=7.5,SNR=13
YAK Yakutsk 41.55 350 eP P 12 35 01.3 -1.0
SEY Seymchan 41.72 6 P P 12 35 04.6 +0.9
comp=Z,8.2nm,0.6s,baz=172,slow=8.3,SNR=16
CMAR Chiang Mai Arr 42.09 274 P P 12 35 08.3 +0.9
comp=Z,2.6nm,0.4s,baz=95,slow=6.3,SNR=6.7
WRAB Tennant Creek 42.29 193c iP P 12 35 07.9 -1.0
WRAB pmax pmax
comp=Z,25nm,0.6s
WRAB Tennant Creek 42.29 193 eP P 12 35 08.1 -0.8
comp=Z,12nm,0.6s
WRAB eScP ScP 12 40 28.9 -1.5
WRA Warramunga Arr 42.30 193 P P 12 35 08.2 -0.7
comp=Z,9.8nm,0.7s,baz=13,slow=8.8,SNR=58
WRA PcP PcP 12 36 57.9 -1.0
comp=Z,2.5nm,0.6s,baz=4.9,slow=3.4,SNR=5.9
WRA ScP ScP 12 40 29.1 -1.4
comp=Z,3.3nm,0.8s,baz=8.5,slow=4.4,SNR=18
FITZ Fitzroy Crossi 43.26 206 eP P 12 35 15.9 -0.7
comp=Z,8.1nm,0.6s
KULM Kulim 44.74 255 eP P 12 35 28.8 +0.2
comp=Z,34nm,0.7s
KULM ePcP PcP 12 37 07.3 0.0
IPM Ipoh 44.76 254 eP P 12 35 28.1 -0.7
comp=Z,24nm,0.8s
IPM ePcP PcP 12 37 07.4 -0.1
AS31 Alice Springs 46.01 193 eP P 12 35 37.7 -0.6
ASAR Alice Springs 46.01 193 P P 12 35 37.4 -0.9
comp=Z,3.0nm,0.6s,baz=9.5,slow=7.0,SNR=26
ASAR PcP PcP 12 37 11.4 0.0
comp=Z,2.6nm,0.7s,baz=26,slow=3.2,SNR=8.6
ASAR ScP ScP 12 40 44.4 -1.2
comp=Z,1.4nm,0.8s,baz=9.1,slow=4.9,SNR=10
PSI Prapat 47.38 253 P P 12 35 49.7 +0.4
comp=Z,9.3nm,0.5s,baz=55,slow=4.2,SNR=9.2
PSI PcP PcP 12 37 16.1 -0.6
comp=Z,19nm,1.1s,baz=356,slow=4.4,SNR=5.8
LSA Lhasa 47.75 291 eP P 12 35 52.2 -0.2
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 47.75 291 eP P 12 35 52.2 -0.2
comp=Z,7.2nm,0.6s
BILL Bilibino 48.51 11⇓eP P 12 35 57.3 +0.3
BILL i *PP pP 12 36 39.5 -1.3
BILL e 12 37 19.3
BILL pmax pmax
comp=Z,36nm,1.6s
BILL Bilibino 48.51 11 eP P 12 35 57.7 +0.6
comp=Z,38nm,1.4s
HVS Khovu-Aksy 48.63 320 eP P 12 35 59.0 +0.6
HVS pmax pmax
comp=Z,41nm,1.9s
DZM Mont Dzumac 48.74 152 P P 12 35 59.4 0.0
comp=Z,6.4nm,0.6s,baz=54,slow=8.7,SNR=7.4
GSI Gunungsitoli 49.26 252 eP P 12 36 03.1 -0.4
comp=Z,28nm,0.6s
GSI ePcP PcP 12 37 23.6 +0.2
UNV Unalaska Valle 49.38 37 eP P 12 36 03.1 -0.6
TIXI Tiksi 50.79 354 eP P 12 36 16.0 +1.8
TIXI pmax pmax
comp=Z,2.0nm,0.5s
TAPN Taplejung 50.96 288 eP P 12 36 16.1 -0.4
comp=Z,18nm,0.4s
WMQ Urumqi 51.04 309 P P 12 36 17.5 +0.9
WMQ pP pP 12 37 00.0 -0.8
WMQ sP sP 12 37 21.1 -1.9
WMQ PcP PcP 12 37 31.0 +1.4
WMQ PP PP 12 38 17.2 +2.1
WMQ PcS PcS 12 41 27.7 +0.2
WMQ S S 12 43 19.0 +0.6
WMQ sS sS 12 44 33.7 -2.1
WMQ ScS ScS 12 45 45.0 -1.4
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,170nm,5.4s
WMQ LR LR
comp=Z,100nm,18.4s
WMQ LR LR
comp=Z,120nm,18.2s
WMQ LR LR
comp=Z,39nm,18.6s
ODAN Odare 51.30 288 eP P 12 36 16.3 -2.7
comp=Z,21nm,0.5s
RAMN Ramite 51.99 288 eP P 12 36 21.1 -3.0

comp=Z,15nm,0.6s
JIRN Jiri 52.27 289 eP P 12 36 26.0 -0.3
comp=Z,37nm,0.6s
GUN Gumba 52.51 289 eP P 12 36 28.3 +0.2
comp=Z,18nm,0.4s
PKI Pulchoki 52.97 289 eP P 12 36 30.3 -1.1
KKN Kakani 53.05 289 eP P 12 36 31.4 -0.5
comp=Z,7.6nm,0.4s
STKA Stephens Creek 53.22 182 eP P 12 36 31.6 -0.9
STKA pmax pmax
comp=Z,8.0nm,1.7s
STKA Stephens Creek 53.22 182 P P 12 36 31.6 -0.9
comp=Z,6.3nm,0.4s,baz=1.9,slow=7.3,SNR=41
STKA Stephens Creek 53.22 182 eP P 12 36 31.6 -0.9
comp=Z,7.7nm,1.7s
DMN Daman 53.23 289 eP P 12 36 32.2 -1.0
comp=Z,12nm,0.4s
GKN Gorkha 53.59 289 eP P 12 36 35.3 -0.4
comp=Z,19nm,0.4s
TNA Tin City 53.83 23 eP P 12 36 36.9 +0.3
comp=Z,7.6nm,0.7s
KIP Kipapa 53.90 79 eP P 12 36 38.8 +1.0
KIP pmax pmax
comp=Z,199nm,2.5s
DANN Dangsing 54.32 290 eP P 12 36 41.3 +0.2
comp=Z,70nm,0.3s
KOLN Koldanda 54.53 289 eP P 12 36 40.7 -1.9
ZALV Zalesovo Beam 54.60 322 P P 12 36 41.5 -0.9
comp=Z,4.6nm,0.8s,baz=112,slow=7.6,SNR=5.4
ZALV ScP ScP 12 41 19.3 -2.8
comp=Z,1.4nm,0.9s,baz=90,slow=4.4,SNR=4.4
MKAR Makanchi Array 55.14 313 P P 12 36 45.7 -0.7
comp=Z,4.1nm,0.6s,baz=88,slow=8.2,SNR=14
NVS Novosibirsk 55.69 322 eP P 12 36 49.7 -0.4
SVW2 Sparrevohn 57.23 30 eP P 12 37 01.1 +0.2
comp=Z,13nm,0.6s
KURK Kurchatov 57.89 317 P P 12 37 05.6 0.0
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 57.89 317 P P 12 37 05.6 0.0
comp=Z,0.7nm,0.8s
KURBB Kurchatov Arra 57.94 317 P P 12 37 05.6 -0.4
comp=Z,13nm,0.5s,baz=95,slow=7.7,SNR=31
KDAK Kodiak Island 57.98 34 eP P 12 37 06.2 +0.1
KDAK pmax pmax
comp=Z,15nm,0.6s
KDAK Kodiak Island 57.98 34 eP P 12 37 06.2 +0.1
comp=Z,15nm,0.6s
CAST Castle Rocks 59.38 28 eP P 12 37 15.3 -0.5
comp=Z,12nm,0.7s
TKM2 Tokmak 2 59.81 308 eP P 12 37 19.6 +0.3
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
TKM2 Tokmak 2 59.81 308 eP P 12 37 19.6 +0.3
comp=Z,6.4nm,0.6s
KTH Kantishna Hill 59.92 28 eP P 12 37 19.2 -0.3
comp=Z,6.9nm,0.5s
TRF Thorofare Moun 60.18 28 eP P 12 37 21.0 -0.4
comp=Z,27nm,0.9s
COLD Coldfoot 61.04 24 eP P 12 37 27.9 +1.0
comp=Z,14nm,1.0s
COLA College 61.50 27 eP P 12 37 31.2 +1.2
COLA pmax pmax
comp=Z,37nm,1.1s
ILAR Eielson Array 61.89 27 P P 12 37 31.3 -1.3
comp=Z,12nm,0.8s,baz=260,slow=5.5,SNR=32
ILAR pP pP 12 38 18.2 -0.3
comp=Z,1.3nm,0.7s,baz=259,slow=5.1,SNR=1.9
PAX Paxson 62.26 29 eP P 12 37 34.2 -1.0
PAX pmax pmax
comp=Z,243nm,3.0s
PAX Paxson 62.26 29 eP P 12 37 34.2 -1.0
comp=Z,243nm,3.0s
VOSK Vostochnaya 62.72 319 eP P 12 37 39.2 +0.8
VOSK pmax pmax
comp=Z,5.0nm,0.6s
VOSK Vostochnaya 62.72 319 eP P 12 37 39.2 +0.8
comp=Z,4.9nm,0.6s
DOT Dot Lake 62.96 28 eP P 12 37 39.0 -0.8
comp=Z,8.6nm,0.7s
BRVK Borovoye 63.14 320 eP P 12 37 41.6 +0.5
BRVK pmax pmax
comp=Z,13nm,0.7s
BRVK Borovoye 63.14 320 eP P 12 37 41.6 +0.5
comp=Z,13nm,0.7s
KKAR Karatay Array 63.52 308 eP P 12 37 43.8 0.0
KKAR Karatay Array 63.52 308 eP P 12 37 43.8 0.0
KBL Kabul 65.83 299 eP P 12 37 58.8 -0.4
KBL pmax pmax
comp=Z,12nm,0.8s
KBL Kabul 65.83 299 eP P 12 37 58.8 -0.4
comp=Z,12nm,0.8s
HYT Haines Junctio 65.92 32 eP P 12 38 01.6 +2.4
INK Inuvik 67.45 24 eP P 12 38 08.3 -0.2
INK pmax pmax
comp=Z,25nm,1.1s
INK Inuvik 67.45 24 P P 12 38 08.2 -0.2
comp=Z,6.9nm,0.4s,baz=303,slow=5.9,SNR=52
INK Inuvik 67.45 24 eP P 12 38 08.2 -0.2
comp=Z,25nm,1.1s
ARU Arti 69.64 324d iP P 12 38 21.4 -0.9
ARU 12 40 59.6
ARU PPP PPP 12 42 42.3
ARU S S 12 47 14.4 +0.2
ARU SS SS 12 51 42.0 -3.8
ARU pmax pmax
comp=Z,7.0nm,1.0s
ABKAR Akbulak array 69.97 316 eP P 12 38 24.0 -0.4
YKA Yellowknife Ar 76.30 28 P P 12 39 00.9 -0.2
comp=Z,20nm,0.6s,baz=291,slow=5.6,SNR=221
YKA pP pP 12 39 49.2 +0.2
comp=Z,0.6nm,0.5s,baz=287,slow=5.8,SNR=1.1
HDW Hoodsport 76.44 44 P P 12 39 03.6 +1.2
RES Resolute Bay 77.04 13 P P 12 39 05.2 0.0
comp=Z,6.0nm,0.7s,baz=322,slow=5.1,SNR=12
FL2 Flat Top 2 77.33 45 P P 12 39 08.6 +1.1
F04A Amboy 77.37 46 eP P 12 39 08.5 +1.0
I03D Drain, OR 77.43 48 ⇑P P 12 39 08.5 +0.7
baz=77
H04A Detroit Lake 77.92 47 eP P 12 39 10.6 -0.1
comp=Z,9.6nm,0.8s
VLL Laurance Lake 78.01 46 P P 12 39 12.0 +0.8
I04A Tendick Farm, 78.04 48 ⇑P P 12 39 11.8 +0.5
baz=78
LTY Liberty 78.10 44 eP P 12 39 11.8 +0.1
comp=Z,4.9nm,0.6s
TBM Table Mountain 78.17 44 P P 12 39 12.6 +0.5
G05D Wamic, OR 78.32 46 ⇑P P 12 39 13.2 +0.4
baz=78
WTV Waterville 78.41 43 P P 12 39 13.3 0.0
J04D Umpqua Nationa 78.43 48 ⇑P P 12 39 13.9 +0.2
baz=78
YBH Yreka Blue Hor 78.49 50 eP P 12 39 14.1 +0.2
YBH pmax pmax
comp=Z,8.0nm,0.8s
YBH Yreka Blue Hor 78.49 50 eP P 12 39 14.1 +0.2
comp=Z,7.8nm,0.8s
M02C Callahan 78.49 50 ⇓P P 12 39 14.8 +0.9
baz=78
LAMM Antelope Mount 78.58 50 P P 12 39 15.4 +0.8
I05D Terrebonne, OR 78.60 47 ⇓P P 12 39 14.6 +0.2
baz=78
N02D Trinity Center 78.73 50 ⇓P P 12 39 16.1 +0.9
baz=79
SAW Saint Andrews 78.76 43 P P 12 39 15.3 +0.1
E07A Sunnyside 78.86 44 eP P 12 39 15.6 -0.2
comp=Z,46nm,2.0s
WDC Whiskeytown Da 78.98 51 eP P 12 39 16.9 +0.5
WDC pmax pmax
comp=Z,39nm,1.9s
WDC Whiskeytown Da 78.98 51 eP P 12 39 16.9 +0.5
comp=Z,39nm,1.9s
M04C Macdoel 79.09 49 ⇓P P 12 39 17.9 +0.7
baz=79
HAWA Hanford 79.12 44 eP P 12 39 17.7 +0.5
comp=Z,21nm,1.8s
ARCES ARCESS Array B 79.17 342 P P 12 39 16.1 -0.8
comp=Z,2.5nm,0.6s,baz=73,slow=8.1,SNR=13
D08A Wollman Farm, 79.29 44 eP P 12 39 18.4 +0.3
comp=Z,7.4nm,0.9s
C09A Chrisman Ranch 79.44 43 eP P 12 39 19.1 +0.2
comp=Z,7.6nm,0.8s
G08A Pilot Rock 79.88 45 eP P 12 39 21.4 0.0
comp=Z,42nm,2.5s
E09A Wood Farm, Sta 79.98 44 eP P 12 39 22.1 +0.4
comp=Z,6.9nm,0.7s
NEW Newport 80.00 42 eP P 12 39 22.1 +0.2

NEW pmax pmax
comp=Z,12nm,0.9s
NEW Newport 80.00 42 eP P 12 39 22.1 +0.2
comp=Z,12nm,0.9s
NEW Newport 80.00 42 ⇓P P 12 39 22.3 +0.4
baz=80
EDM Edmonton 80.36 36 eP P 12 39 23.0 -0.7
EDM Edmonton 80.36 36 eP P 12 39 22.9 -0.7
JOF Joensuu 80.62 335 eP P 12 39 23.4 -1.4
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 80.62 335 ep P 12 39 23.4 -1.4
comp=Z,4.1nm,0.6s
BMO Blue Mountains 81.13 45 eP P 12 39 28.1 +0.1
comp=Z,14nm,1.3s
CMB Columbia Colle 81.41 53 eP P 12 39 29.8 +0.2
CMB pmax pmax
comp=Z,9.0nm,0.8s
CMB Columbia Colle 81.41 53 eP P 12 39 29.8 +0.2
comp=Z,9.3nm,0.8s
BSMT Bassoo Peak 81.61 42 eP P 12 39 30.7 +0.1
WALA Waterton Lakes 81.67 40 eP P 12 39 31.7 +0.9
comp=Z,0.2nm,0.9s
BLMT Blacktail Moun 81.81 42 eP P 12 39 32.3 +0.6
OBN Obninsk 81.85 326 eP P 12 39 32.6 +1.2
OBN pmax pmax
comp=Z,14nm,1.9s
WAKR Walker 81.94 52 eP P 12 39 32.3 -0.2
comp=Z,3.4nm,0.8s
JTMT Jette 81.97 42 eP P 12 39 32.1 -0.3
ZEI Tsey 82.49 313 eP P 12 39 33.8 -1.5
ZEI pmax pmax
comp=Z,10.0nm,0.9s
MFID Camas Ranch 82.65 46 eP P 12 39 35.6 -0.4
comp=Z,7.1nm,0.8s
SLMT Seeley Lake 82.66 42 eP P 12 39 36.3 +0.3
NVAR Mina Array Bea 82.80 52 P P 12 39 37.3 +0.3
comp=Z,7.0nm,0.7s,baz=272,slow=5.7,SNR=45
NVAR pP pP 12 40 24.6 -1.0
comp=Z,1.8nm,0.7s,baz=273,slow=5.8,SNR=3.3
KBZ Khabaz 82.80 314 P P 12 39 36.9 +0.3
comp=Z,13nm,0.8s,baz=120,slow=4.5,SNR=23
KIV Kislovodsk 82.86 314 eP P 12 39 37.4 +0.4
KIV pmax pmax
comp=Z,8.0nm,0.8s
KAF Kangasniemi 83.02 335 eP P 12 39 34.1 -3.2
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 83.02 335 ep P 12 39 34.1 -3.2
comp=Z,2.1nm,0.7s
VES Vestal, Richgr 83.17 54 ⇓P P 12 39 38.3 -0.4
baz=83
FIA1 FINESS Array S 83.48 335 eP P 12 39 37.9 -1.8
FINES FINESS Array B 83.48 335 P P 12 39 38.2 -1.5
comp=Z,2.5nm,0.5s,baz=85,slow=6.1,SNR=14
FINES pP pP 12 40 31.2 +2.8
comp=Z,2.1nm,0.6s,baz=94,slow=5.6,SNR=2.4
HLID Hailey 83.54 46 ⇓P P 12 39 41.0 +0.3
baz=83
ARVC Arvin 83.63 55 ⇓P P 12 39 41.0 0.0
baz=84
ISA Isabella 83.70 54 ⇑P P 12 39 41.1 -0.4
baz=84
TPH Tonopah 83.72 52 eP P 12 39 41.8 +0.1
TPH pmax pmax
comp=Z,4.0nm,0.7s
TPH Tonopah 83.72 52 eP P 12 39 41.8 +0.1
comp=Z,3.8nm,0.7s
LRM Limekiln Ridge 83.90 43 eP P 12 39 42.8 +0.2
HRY Holter Researc 83.91 42 eP P 12 39 42.5 +0.1
MCMT McKenzie Canyo 84.05 44 eP P 12 39 43.6 +0.3
FURC Furnace Creek, 84.60 53 ⇓P P 12 39 46.0 +0.1
baz=84
EGMT Eagleton 84.62 40 ⇓P P 12 39 45.8 0.0
baz=84
R11A Troy Canyon, C 84.80 51 eP P 12 39 47.3 +0.1
comp=Z,7.5nm,1.3s
R11A Troy Canyon, C 84.80 51 ⇓P P 12 39 47.2 +0.1
baz=85,SNR=8.0
A19A Klindworth Far 84.81 39 ⇑P P 12 39 46.9 +0.1
baz=85,SNR=12
B19A Brinkman Farms 84.91 40 ⇑P P 12 39 47.4 +0.1
baz=85,SNR=12
QLMT Earthquake Lak 84.97 44 eP P 12 39 48.8 +0.9
GSC Goldstone 85.09 54 eP P 12 39 48.9 +0.4
GSC pmax pmax
comp=Z,14nm,1.3s
GSC Goldstone 85.09 54 eP P 12 39 48.9 +0.4
comp=Z,14nm,1.3s
GSC Goldstone 85.09 54 ⇓P P 12 39 48.8 +0.4
baz=85
C19A Slack Wire Ran 85.17 40 ⇑P P 12 39 49.2 +0.6
baz=85
SHOC Shoshone 85.25 53 ⇑P P 12 39 49.2 -0.1
baz=85
A20A Cobblestone Ra 85.31 39 ⇑P P 12 39 49.3 0.0
baz=85,SNR=8.7
YMR Madison River 85.34 44 eP P 12 39 51.0 +1.3
comp=Z,15nm,0.7s
HVU Hansel Valley 85.37 47 eP P 12 39 50.6 +0.7
HVU pmax pmax
comp=Z,6.0nm,0.8s
HVU Hansel Valley 85.37 47 eP P 12 39 50.5 +0.7
comp=Z,5.5nm,0.8s
YNR Norris Junctio 85.50 44 eP P 12 39 52.7 +2.2
comp=Z,17nm,1.3s
YFT Old Faithful 85.52 44 eP P 12 39 53.4 +2.8
comp=Z,8.7nm,0.8s
D19A Cripps Ranch, 85.53 41 ⇓P P 12 39 50.6 +0.2
baz=85,SNR=11
BGU Big Grassy Mou 85.56 48 eP P 12 39 51.1 +0.3
comp=Z,1.4nm,0.6s
FFC Flin Flon 85.63 32 eP P 12 39 50.1 -0.5
FFC pmax pmax
comp=Z,13nm,0.7s
FFC Flin Flon 85.63 32 eP P 12 39 50.1 -0.5
comp=Z,13nm,0.7s
HEC Hector,Ludlow 85.64 54 ⇑P P 12 39 50.9 -0.3
baz=86
IMW Indian Meadow 85.69 44 eP P 12 39 52.5 +1.0
comp=Z,7.3nm,0.6s
TUQ Turquoise Moun 85.70 54 ⇓P P 12 39 51.9 +0.3
baz=86
H17A Grant Village 85.71 44 eP P 12 39 54.3 +2.7
comp=Z,5.0nm,0.9s
H17A Grant Village 85.71 44 ⇑P P 12 39 53.7 +2.2
baz=86
FXWY Fox Creek 85.75 45 eP P 12 39 52.5 +0.7
comp=Z,4.2nm,1.1s
FLWY Flagg Ranch 85.76 44 eP P 12 39 53.1 +1.3
comp=Z,9.2nm,0.6s
C20A Veseth Ranch, 85.81 40 ⇑P P 12 39 52.1 +0.4
baz=86,SNR=11
SHPR Sheep Range 85.84 52 eP P 12 39 53.0 +0.7
TPAW Teton Pass 85.86 45 eP P 12 39 53.1 +0.7
comp=Z,24nm,1.8s
MOOW Moose Ponds 85.88 44 eP P 12 39 53.0 +0.6
comp=Z,84nm,3.0s
E19A Rath Farm, Rou 85.91 41 ⇑P P 12 39 52.4 0.0
baz=86
I17A Pilgrim Ck. 85.92 44 ⇓P P 12 39 53.7 +1.1
baz=86
DUG Dugway 86.01 48 eP P 12 39 52.8 -0.2
DUG pmax pmax
comp=Z,8.0nm,0.8s
DUG Dugway 86.01 48 eP P 12 39 52.8 -0.2
comp=Z,7.6nm,0.8s
DUG Dugway 86.01 48 ⇑P P 12 39 53.2 +0.2
baz=86,SNR=10
D20A Manuel Ranch, 86.02 41 ⇑P P 12 39 53.0 +0.2
baz=86,SNR=12
F19A Roth Farm, Mol 86.09 42 ⇓P P 12 39 53.0 -0.2
baz=86
GMRC Granite Mounta 86.16 54 ⇓P P 12 39 53.8 0.0
baz=86
H18A Shoshone NF, C 86.17 43 ⇑P P 12 39 54.5 +0.7
baz=86
RLMT Red Lodge 86.22 43 eP P 12 39 54.3 +0.2
comp=Z,8.3nm,0.6s
E20A Meyer Farm, Mu 86.29 41 ⇑P P 12 39 54.1 -0.1
baz=86
A22A Carney Farms, 86.43 38 ⇑P P 12 39 54.5 -0.3
baz=86
CTU Camp Tracy 86.53 48 eP P 12 39 55.7 +0.1
comp=Z,5.3nm,0.9s
ARUT Antelope Range 86.58 51 eP P 12 39 56.1 +0.3
ARUT pmax pmax

	comp=Z,68nm,0.7s						
ARUT	**Antelope Range**	**86.58**	**51**	eP	**P**	**12 39 56.1**	**+0.3**
	comp=Z,68nm,0.7s						
H19A	**Powell**	**86.60**	**43**	⇑P	**P**	**12 39 56.5**	**+0.7**
	baz=86						
B22A	**Reddig Ranch S**	**86.72**	**39**	⇑P	**P**	**12 39 56.1**	**0.0**
	baz=87						
BC3	**Big Chuckawall**	**86.77**	**55**	⇑P	**P**	**12 39 56.8**	**0.0**
	baz=87						
JLU	**Jordanelle**	**86.78**	**47**	eP	**P**	**12 39 57.2**	**+0.3**
	comp=Z,6.1nm,0.9s						
SWSC	**Sam W. Stewart**	**86.79**	**56**	⇓P	**P**	**12 39 56.8**	**+0.1**
	baz=87						
IRM	**Iron Mountain**	**86.80**	**55**	⇓P	**P**	**12 39 57.0**	**+0.1**
	baz=87						
G20A	**Bridger**	**86.83**	**42**	⇓P	**P**	**12 39 57.1**	**+0.2**
	baz=87						
FCC	**Fort Churchill**	**86.89**	**26**	eP	**P**	**12 39 56.3**	**-0.4**
FCC				pmax	pmax		
	comp=Z,3.0nm,2.6s						
FCC	**Fort Churchill**	**86.89**	**26**	eP	**P**	**12 39 56.3**	**-0.4**
	comp=Z,3.2nm,2.6s						
DAU	**Daniels Canyon**	**87.00**	**48**	eP	**P**	**12 39 58.3**	**+0.3**
DAU	**Daniels Canyon**	**87.00**	**48**	eP	**P**	**12 39 58.2**	**+0.3**
C22A	**Vida**	**87.05**	**39**	⇓P	**P**	**12 39 57.5**	**-0.3**
	baz=87						
PDAR	**Pinedale Array**	**87.09**	**45**	P	**P**	**12 39 57.6**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=152,slow=2.0,SNR=14						
MVU	**Marysvale**	**87.15**	**50**	eP	**P**	**12 39 59.3**	**+0.6**
	comp=Z,24nm,2.1s						
D22A	**Cohagen**	**87.17**	**40**	⇑P	**P**	**12 39 58.8**	**+0.4**
	baz=87						
J19A	**Crowheart**	**87.20**	**44**	⇓P	**P**	**12 39 58.9**	**+0.1**
	baz=87						
B23A	**Brockton**	**87.22**	**38**	⇑P	**P**	**12 39 58.8**	**+0.2**
	baz=87						
H20A	**Greybull**	**87.31**	**43**	⇓P	**P**	**12 39 59.5**	**+0.3**
	baz=87						
W13A	**Hualapai Mount**	**87.36**	**53**	⇑P	**P**	**12 39 59.8**	**0.0**
	baz=87						
C23A	**Lambert**	**87.44**	**39**	⇓P	**P**	**12 39 59.9**	**+0.3**
	baz=87						
Y12C	**Blythe**	**87.44**	**55**	⇓P	**P**	**12 40 00.1**	**+0.3**
	baz=87						
G21A	**Lodge Grass**	**87.46**	**42**	⇑P	**P**	**12 40 00.2**	**+0.3**
	baz=87						
I20A	**Worland**	**87.48**	**43**	⇓P	**P**	**12 40 00.1**	**+0.1**
	baz=87						
GLA	**Glamis**	**87.49**	**55**	⇑P	**P**	**12 40 00.1**	**0.0**
	baz=87						
PDMCI	**Parker Dam,Lak**	**87.50**	**54**	⇓P	**P**	**12 40 00.3**	**+0.2**
	baz=87						
A24A	**Westby**	**87.56**	**38**	⇑P	**P**	**12 40 00.1**	**0.0**
	baz=87						
E22A	**Miles City**	**87.65**	**40**	⇑P	**P**	**12 40 00.2**	**-0.4**
	baz=88						
DGMT	**Dagmar**	**87.67**	**38**	⇑P	**P**	**12 40 00.7**	**0.0**
	baz=88						
D23A	**Lindsay**	**87.73**	**40**	⇑P	**P**	**12 40 01.5**	**+0.4**
	baz=88						
F22A	**Rosebud**	**87.78**	**41**	⇓P	**P**	**12 40 01.2**	**-0.1**
	baz=88						
J20A	**Shoshoni**	**87.78**	**44**	⇓P	**P**	**12 40 01.6**	**+0.1**
	baz=88						
H21A	**Big Horn, Sher**	**87.85**	**42**	⇓P	**P**	**12 40 01.9**	**+0.2**
	baz=88						
AKASG	**Malin Array Be**	**87.88**	**325**	P	**P**	**12 39 59.7**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=49,slow=5.1,SNR=4.6						
U15A	**North Rim**	**87.98**	**52**	⇓P	**P**	**12 40 03.1**	**+0.4**
	baz=88						
G22A	**Birney**	**88.03**	**42**	⇓P	**P**	**12 40 03.0**	**+0.5**
	baz=88						
SRU	**San Rafael**	**88.07**	**49**	eP	**P**	**12 40 02.5**	**-0.5**
SRU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SRU	**San Rafael**	**88.07**	**49**	eP	**P**	**12 40 02.5**	**-0.5**
	comp=Z,7.1nm,0.6s						
D24A	**Glendive**	**88.28**	**39**	⇑P	**P**	**12 40 03.6**	**-0.1**
	baz=88						
F23A	**Volborg**	**88.33**	**41**	⇓P	**P**	**12 40 03.4**	**-0.5**
	baz=88						
113A	**Mohawk Valley,**	**88.42**	**55**	⇑P	**P**	**12 40 04.6**	**+0.2**
	baz=88						
Y14A	**Wickenburg**	**88.51**	**54**	⇓P	**P**	**12 40 05.4**	**+0.4**
	baz=88						
G23A	**Biddle**	**88.60**	**41**	⇑P	**P**	**12 40 05.3**	**+0.1**
	baz=88						
K21A	**Alcova**	**88.66**	**44**	⇓P	**P**	**12 40 05.5**	**-0.2**
	baz=88						
J22A	**Midwest**	**88.79**	**43**	⇓P	**P**	**12 40 06.8**	**+0.6**
	baz=89						
Z14A	**Wintersburg**	**88.80**	**55**	⇑P	**P**	**12 40 06.8**	**+0.5**
	baz=89						
N20A	**Spence Gulch,**	**88.84**	**46**	⇓P	**P**	**12 40 06.4**	**-0.3**
	baz=89						
HFS	**Hagfors**	**89.01**	**337**	P	**P**	**12 40 04.6**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=71,slow=5.2,SNR=4.6						
WUAZ	**Wupatki**	**89.05**	**52**	⇑P	**P**	**12 40 08.0**	**+0.4**
	baz=89						
O20A	**White River Ci**	**89.18**	**47**	⇑P	**P**	**12 40 07.8**	**-0.4**
	baz=89						
F25A	**Bowman**	**89.41**	**40**	⇓P	**P**	**12 40 08.6**	**-0.4**
	baz=89						
E26A	**Carlson Angus**	**89.71**	**39**	⇓P	**P**	**12 40 10.1**	**-0.2**
	baz=90						
B28A	**Dugan Ranch, T**	**89.86**	**37**	⇓P	**P**	**12 40 10.7**	**-0.2**
	baz=90						
F26A	**Lodgepole**	**89.91**	**40**	⇓P	**P**	**12 40 11.2**	**-0.1**
	baz=90						
L23A	**Garrett**	**89.92**	**44**	⇓P	**P**	**12 40 11.0**	**-0.6**
	baz=90						
D27A	**Center**	**89.92**	**38**	⇓P	**P**	**12 40 11.3**	**0.0**
	baz=90						
H25A	**Fruitdale**	**89.99**	**41**	⇓P	**P**	**12 40 11.5**	**-0.2**
	baz=90						
A29A	**Manning Farm,**	**90.22**	**36**	⇑P	**P**	**12 40 12.5**	**0.0**
	baz=90						
G26A	**Maurine**	**90.25**	**40**	⇓P	**P**	**12 40 12.8**	**0.0**
	baz=90						
F27A	**Lemmon**	**90.29**	**40**	⇑P	**P**	**12 40 13.2**	**+0.1**
	baz=90						
O22A	**Kremmling**	**90.31**	**46**	⇓P	**P**	**12 40 13.6**	**0.0**
	baz=90						
MVCO	**Mesa Verde**	**90.36**	**49**	⇓P	**P**	**12 40 14.2**	**+0.4**
	baz=90						
N23A	**Red Feather La**	**90.36**	**45**	⇑P	**P**	**12 40 14.5**	**+0.8**
	baz=90						
P22A	**Eagle**	**90.44**	**47**	⇑P	**P**	**12 40 14.6**	**+0.4**
	baz=90						
J25A	**Sunshine Ranch**	**90.49**	**42**	⇓P	**P**	**12 40 13.9**	**-0.2**
	baz=90						
SMCO	**Snowmass**	**90.49**	**47**	eP	**P**	**12 40 14.6**	**+0.1**
	comp=Z,5.3nm,0.8s						
H26A	**Fairpoint**	**90.50**	**41**	⇑P	**P**	**12 40 13.8**	**-0.3**
	baz=90						
G27A	**Dupree**	**90.60**	**40**	⇓P	**P**	**12 40 14.6**	**+0.1**
	baz=90						
E28A	**Huff**	**90.69**	**38**	⇑P	**P**	**12 40 15.0**	**+0.2**
	baz=90						
O23A	**Lake Granby, G**	**90.71**	**46**	⇑P	**P**	**12 40 16.2**	**+0.7**
	baz=91						
A30A	**Hoffart Farm,**	**90.72**	**36**	⇑P	**P**	**12 40 15.2**	**+0.3**
	baz=91						
I26A	**New Underwood**	**90.75**	**41**	⇑P	**P**	**12 40 15.3**	**+0.1**
	baz=91						
BRTR	**Keskin Array B**	**90.78**	**314**	P	**P**	**12 40 14.0**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=113,slow=2.8,SNR=4.6						
BRTR				pP	**pP**	**12 41 07.5**	**+2.6**
	comp=Z,1.3nm,0.9s,baz=97,slow=4.6,SNR=3.9						
M24A	**Cheyenne**	**90.81**	**44**	⇓P	**P**	**12 40 16.1**	**+0.4**
	baz=91						
K25A	**Mack Ranch, Ha**	**90.85**	**43**	⇓P	**P**	**12 40 16.4**	**+0.6**
	baz=91						
B30A	**Myrvik Farm, E**	**90.98**	**36**	⇑P	**P**	**12 40 16.6**	**+0.4**
	baz=91						
J26A	**Sides Ranch, S**	**90.99**	**42**	⇑P	**P**	**12 40 16.4**	**0.0**
	baz=91						
L25A	**Engebretsen Ra**	**91.02**	**43**	⇓P	**P**	**12 40 16.9**	**+0.3**
	baz=91						
F28A	**McLaughlin**	**91.02**	**39**	⇑P	**P**	**12 40 15.8**	**-0.6**
	baz=91						
N24A	**Carr**	**91.09**	**45**	⇑P	**P**	**12 40 17.5**	**+0.5**
	baz=91						
ISCO	**Idaho Springs**	**91.11**	**46**	⇓P	**P**	**12 40 17.7**	**+0.3**
	baz=91						
P23A	**Jefferson**	**91.17**	**47**	⇓P	**P**	**12 40 18.5**	**+0.9**
	baz=91						
I27A	**Quinn**	**91.22**	**41**	⇑P	**P**	**12 40 17.2**	**-0.2**
	baz=91						
K26A	**Motz Farm, Whi**	**91.24**	**43**	⇓P	**P**	**12 40 17.6**	**0.0**
	baz=91						
S22A	**4UR Ranch, Cre**	**91.28**	**48**	⇑P	**P**	**12 40 18.2**	**+0.1**
	baz=91						
O24A	**Longmont**	**91.31**	**46**	⇓P	**P**	**12 40 18.7**	**+0.7**
	baz=91						
C30A	**Mose, Pekin**	**91.32**	**37**	⇑P	**P**	**12 40 17.8**	**0.0**
	baz=91						
G28A	**Parade**	**91.37**	**40**	⇑P	**P**	**12 40 17.9**	**-0.1**
	baz=91						
D30A	**Buchanan**	**91.50**	**37**	⇑P	**P**	**12 40 18.4**	**-0.2**
	baz=91						
H28A	**Mission Ridge**	**91.53**	**40**	⇓P	**P**	**12 40 18.4**	**-0.4**
	baz=91						
J27A	**Elkhorn Farm,**	**91.68**	**42**	⇓P	**P**	**12 40 19.9**	**+0.3**
	baz=92						
E30A	**Jud**	**91.76**	**38**	⇓P	**P**	**12 40 19.4**	**-0.4**
	baz=92						
R23A	**Moffat**	**91.76**	**48**	⇑P	**P**	**12 40 20.3**	**0.0**
	baz=92						
I28A	**Midland**	**91.80**	**41**	⇑P	**P**	**12 40 19.9**	**-0.2**
	baz=92						
O25A	**Wiggins**	**91.95**	**45**	⇓P	**P**	**12 40 21.4**	**+0.4**
	baz=92						
P25A	**Willow Gulch B**	**92.22**	**46**	⇑P	**P**	**12 40 22.4**	**+0.1**
	baz=92						
G30A	**Faulkton**	**92.39**	**39**	⇑P	**P**	**12 40 22.3**	**-0.4**
	baz=92						
U23A	**El Rito**	**92.41**	**49**	⇓P	**P**	**12 40 23.3**	**0.0**
	baz=92						
Q25A	**Bedland, Calha**	**92.47**	**46**	⇓P	**P**	**12 40 23.3**	**-0.2**
	baz=92						
T24B	**San Luis**	**92.62**	**48**	⇓P	**P**	**12 40 24.7**	**+0.4**
	baz=92						
J29A	**Okreek**	**92.64**	**41**	⇓P	**P**	**12 40 23.4**	**-0.6**
	baz=92						
ANMO	**Albuquerque**	**92.88**	**51**	⇑iP	**P**	**12 40 25.7**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,12nm,1.2s						
J30A	**Dallas**	**93.19**	**41**	⇓P	**P**	**12 40 26.1**	**-0.3**
	baz=93						
Z22A	**Elephant Butte**	**93.32**	**52**	⇑P	**P**	**12 40 27.6**	**+0.2**
	baz=93						
R26A	**Arlington**	**93.32**	**47**	⇓P	**P**	**12 40 27.4**	**+0.1**
	baz=93						
W24A	**Lazy 6 Ranch,**	**93.51**	**50**	⇑P	**P**	**12 40 28.5**	**+0.1**
	baz=93						
U25A	**Circle Dot Ran**	**93.62**	**49**	⇓P	**P**	**12 40 28.5**	**-0.4**
	baz=94						
T26A	**Comanche Natio**	**93.80**	**48**	⇑P	**P**	**12 40 28.9**	**-0.7**
	baz=94						
Y25A	**Mesa, Roswell**	**94.65**	**51**	⇑P	**P**	**12 40 32.8**	**-0.7**
	baz=94						
Z25A	**Roswell**	**94.95**	**51**	⇓P	**P**	**12 40 34.8**	**-0.1**
	baz=95						
TXAR	**Lajitas Array**	**97.69**	**54**	P	**P**	**12 40 47.1**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=275,slow=3.3,SNR=3.3						
CNNC	**Cliffs of the**	**111.05**	**36**	ePdif	**Pdif**	**12 41 51.8**	**+5.4**
BOSA	**Boshof**	**124.37**	**249**	PKP	**PKPdf**	**12 46 09.8**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=135,slow=4.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**129.20**	**309**	PKP	**PKPdf**	**12 46 19.6**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=30,slow=1.9,SNR=6.4						
PLCA	**Paso Flores**	**145.31**	**131**	PKPbc	**PKPbc**	**12 46 49.2**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=233,slow=5.3,SNR=16						
LPAZ	**La Paz**	**149.43**	**86**	PKP2	**PKPbc**	**12 47 02.0**	**+0.3**
LPAZ	**La Paz**	**149.43**	**86**	PKPbc	**PKPbc**	**12 47 01.9**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=293,slow=3.8,SNR=5.9						
LPAZ				pPKPbc	**pPKPbc**	**12 47 52.3**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=207,slow=6.8,SNR=1.6						

MEX 10 12:32:01.2±0.9,**15°.06N**×**97°.15W**,**h16**km±19km,**MD3.9**,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.89**	**47**	eP	Pb	12 32 14.8	-3.5
PANG				iS	Sb	12 32 25.9	-4.0
HUIG	**Huatulco**	**1.23**	**55**	eP	Pn	12 32 19.7	-4.0
HUIG				eS	Sb	12 32 34.4	-5.3
PNIG	**Pinotepa**	**1.62**	**325**	iP	Pn	12 32 25.1	-4.1
PNIG				iS	Sn	12 32 43.1	-6.8
VHO	**Vista Hermosa**	**2.04**	**11**	iP	Pn	12 32 32.2	-2.9
VHO				iS	Sn	12 32 55.6	-5.0
OXX	**Oaxaca**	**2.05**	**11**	eP	Pn	12 32 34.3	-1.0
OXX				eS	Sn	12 32 58.1	-2.7
TLIG	**Tlapa**	**2.84**	**332**	eP	Pn	12 32 43.7	-2.3
TLIG				iS	Sn	12 33 15.2	-4.8
CMIG	**Matias Romero**	**2.97**	**47**	eP	Pn	12 32 44.5	-3.2
CMIG				iS	Sn	12 33 19.8	-3.2
ACX	**Acapulco**	**3.17**	**305**	eP	Pn	12 32 49.0	-1.4
PCIG		**3.85**	**80**	iP	Pn	12 32 57.5	-2.3
PCIG				iS	Sn	12 33 40.9	-3.8

*AZER **10** 12:40:27.9±1.6,41°.87N×46°.16E,h15km,Error ellipse: s-maj=2.7km s-min=1.1km az=353.0*
*TIF **10** 12:40:27.3,41°.93N×46°.14E,h8km±1km*
*CSEM **10** 12:40:28.4±0.2,41°.90N×46°.19E,h2km,mb4.2,Error ellipse: s-maj=3.8km s-min=3.2km az=22.0*
*MOS **10** 12:40:28.0±1.2,41°.80N×46°.29E,h14km,mb4.2/1,Error ellipse: s-maj=8.9km s-min=6.6km az=119.5*
*NSSP **10** 12:41:26.7,41°.83N×46°.07E,h10km,Ms3.1*
ISC 10 12:40:27.4±1.1,**41°.89N**±0°.02×**46°.16E**±0°.01,**h5**km±10km,
n87,**σ0°.96**/145,**12C-9D**,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKTA	**Zakatala**	**0.43**	**126**	⇑P	**Pb**	**12 40 37.9**	**+0.4**
	SNR=23						
ZKTA				⇑S	**Sb**	**12 40 45.1**	**+0.9**
DGRG	**David-gareji**	**0.73**	**234**	ePG	**Pn**	**12 40 44.0**	**-0.5**
DGRG				S	**Sn**	**12 40 55.6**	**-0.5**
DGRG	**David-gareji**	**0.73**	**234**	P	**Pn**	**12 40 44.0**	**-0.5**
DGRG	**David-gareji**	**0.73**	**234**	P	**Pn**	**12 40 44.0**	**-0.5**
DGRG				S	**Sn**	**12 40 55.6**	**-0.5**
KMKR	**Kumukh**	**0.74**	**71**	iPG	**Pb**	**12 40 43.0**	**+0.1**
KMKR				iS	**Sb**	**12 40 53.0**	**-0.4**
KMKR				pmax	pmax		
	comp=Z,129nm,0.3s						
KMKR	**Kumukh**	**0.74**	**71**	iPg	**Pb**	**12 40 43.0**	**+0.1**
	comp=Z,129nm,0.3s						
KMKR				iSg	**Sb**	**12 40 53.0**	**-0.4**
GNBR	**Gunib**	**0.78**	**50**	ePG	**Pb**	**12 40 43.2**	**-0.3**
GNBR				eS	**Sb**	**12 40 54.1**	**-0.3**
GNBR	**Gunib**	**0.78**	**50**	ePg	**Pb**	**12 40 43.2**	**-0.3**
GNBR				eSg	**Sb**	**12 40 54.1**	**-0.3**
UNCR	**Uncukul**	**0.95**	**29**	ePG	**Pb**	**12 40 46.0**	**-0.4**
UNCR				eS	**Sb**	**12 40 59.0**	**-0.3**
UNCR				pmax	pmax		
	comp=Z,189nm,0.2s						
UNCR	**Uncukul**	**0.95**	**29**	ePg	**Pb**	**12 40 46.0**	**-0.4**
	comp=Z,189nm,0.2s						
UNCR				eSg	**Sb**	**12 40 59.0**	**-0.3**
QZX	**Qazax, Azerbai**	**1.02**	**216**	⇑P	**Pn**	**12 40 47.9**	**-0.5**
QZX				⇓S	**Sn**	**12 41 03.1**	**0.0**
QZX	**Qazax, Azerbai**	**1.02**	**216**	P	**Pn**	**12 40 47.9**	**-0.5**
QZX				S	**Sn**	**12 41 03.1**	**0.0**
SEKA	**Sheki**	**1.03**	**131**	⇑P	**Pn**	**12 40 48.4**	**-0.2**
	SNR=14						
SEKA				⇓S	**Sn**	**12 41 03.6**	**+0.1**
SEKA	**Sheki**	**1.03**	**131**	P	**Pn**	**12 40 48.4**	**-0.2**
	SNR=14						
SEKA				S	**Sn**	**12 41 03.6**	**+0.1**
TBLG	**Delisi**	**1.07**	**262**	ePG	**Pb**	**12 40 48.2**	**-0.3**
TBLG	**Delisi**	**1.07**	**262**	P	**Pb**	**12 40 48.2**	**-0.3**
TBLG	**Delisi**	**1.07**	**262**	P	**Pb**	**12 40 48.2**	**-0.3**
TBLG				S	**Sb**	**12 41 03.7**	**-0.8**
DUS	**Dusheti**	**1.11**	**281**	ePG	**Pn**	**12 40 49.7**	**+0.1**
DUS				S	**Sn**	**12 41 04.8**	**-0.5**
DUS	**Dusheti**	**1.11**	**281**	P	**Pn**	**12 40 49.7**	**+0.1**
DUS	**Dusheti**	**1.11**	**281**	P	**Pn**	**12 40 49.7**	**+0.1**
DUS				S	**Sn**	**12 41 04.8**	**-0.5**
BUJR	**Buynaksk**	**1.17**	**37**	PG	**Pg**	**12 40 49.2**	**-0.7**
BUJR				eS	**Sg**	**12 41 04.5**	**-0.6**
BUJR				pmax	pmax		
	comp=Z,95nm,0.3s						
BUJR	**Buynaksk**	**1.17**	**37**	Pg	**Pg**	**12 40 49.2**	**-0.7**
	comp=Z,95nm,0.3s						
BUJR				eSg	**Sg**	**12 41 04.5**	**-0.6**
GANJ	**Ganja**	**1.25**	**174**	⇑P	**Pn**	**12 40 51.4**	**-0.1**
	SNR=5.2						
GANJ				⇑S	**Sn**	**12 41 09.0**	**+0.3**
GANJ	**Ganja**	**1.25**	**174**	P	**Pn**	**12 40 51.4**	**-0.1**
	SNR=5.2						
GANJ				S	**Sn**	**12 41 09.0**	**+0.3**
MNGR	**Mingechevir, A**	**1.31**	**148**	⇓P	**Pg**	**12 40 52.6**	**0.0**
MNGR				⇓S	**Sn**	**12 41 13.1**	**+2.8**
MNGR	**Mingechevir, A**	**1.31**	**148**	P	**Pg**	**12 40 52.6**	**0.0**
MNGR				S	**Sn**	**12 41 13.1**	**+2.8**
GUDG	**Gudauri**	**1.38**	**295**	P	**Pn**	**12 40 52.7**	**-0.8**
GUDG	**Gudauri**	**1.38**	**295**	P	**Pn**	**12 40 52.7**	**-0.8**
GUDG				S	**Sn**	**12 41 12.0**	**-0.2**
KZR	**Kazreti**	**1.40**	**249**	P	**Pn**	**12 40 53.1**	**-0.6**
KZR	**Kazreti**	**1.40**	**249**	P	**Pn**	**12 40 53.1**	**-0.6**
KZR				S	**Sb**	**12 41 11.8**	**-0.5**
GRO	**Groznyy**	**1.46**	**348**	ePG	**Pn**	**12 40 53.9**	**-0.6**
GRO	**Groznyy**	**1.46**	**348**	ePg	**Pn**	**12 40 53.9**	**-0.6**
STEZ	**Stepenevan**	**1.59**	**237**	eP	**Pn**	**12 40 55.0**	**-1.4**
STEZ				eS	**Sn**	**12 41 16.6**	**-0.9**
VLKR	**Vladikavkaz**	**1.59**	**317**	ePN	**Pg**	**12 40 59.9**	**+1.9**
VLKR				eS	**Sg**	**12 41 22.5**	**+3.8**
VLKR	**Vladikavkaz**	**1.59**	**317**	ePn	**Pg**	**12 40 59.9**	**+1.9**
VLKR				eSg	**Sg**	**12 41 22.5**	**+3.8**
STE	**Stepanavan**	**1.61**	**237**	P	**Pn**	**12 40 55.0**	**-1.7**
STE				S	**Sn**	**12 41 16.6**	**-1.3**
LACR	**Lac**	**1.67**	**305**	iPN	**Pb**	**12 40 58.1**	**-0.6**
LACR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
LACR	**Lac**	**1.67**	**305**	iPn	**Pb**	**12 40 58.1**	**-0.6**
	comp=Z,6.0nm,0.3s						
VADZ	**Vardenis**	**1.74**	**191**	eP	**Pb**	**12 40 59.6**	**-0.4**
VADZ				eS	**Sg**	**12 41 23.6**	**+0.2**
VADZ	**Vardenis**	**1.74**	**191**	P	**Pb**	**12 40 59.6**	**-0.4**
VADZ				S	**Sg**	**12 41 23.6**	**+0.2**
BRDA	**Brd**	**1.80**	**154**	⇓Pg	**Pb**	**12 41 00.1**	**-0.7**
	SNR=3.9						
QUBA	**Quba, Azerbaij**	**1.83**	**106**	⇓Pg	**Pn**	**12 40 59.9**	**+0.3**
QUBA				⇑Sg	**Sb**	**12 41 24.7**	**+0.1**
IML	**Ismayilli**	**1.87**	**125**	⇑Pg	**Pg**	**12 41 02.3**	**-1.0**
IML				⇓Sg	**Sg**	**12 41 28.1**	**+0.5**
IML	**Ismayilli**	**1.87**	**125**	Pg	**Pg**	**12 41 02.3**	**-1.0**
IML				Sg	**Sg**	**12 41 28.1**	**+0.5**
ARNR	**Ardon**	**1.90**	**314**	ePN	**Pg**	**12 41 03.7**	**0.0**
ARNR	**Ardon**	**1.90**	**314**	ePn	**Pg**	**12 41 03.7**	**0.0**
ZEI	**Tsey**	**1.90**	**299**	⇑iPN	**Pb**	**12 41 01.6**	**-1.1**
ZEI	**Tsey**	**1.90**	**299**	iPn	**Pb**	**12 41 01.6**	**-1.1**
BTKR	**Batakoyurt**	**1.91**	**322**	ePN	**Pg**	**12 41 03.7**	**-0.2**
BTKR	**Batakoyurt**	**1.91**	**322**	ePn	**Pg**	**12 41 03.7**	**-0.2**
KAPZ	**Kaputan**	**1.92**	**216**	eP	**Pg**	**12 41 04.2**	**+0.1**
KAPZ				eS	**Sg**	**12 41 30.1**	**+1.2**
KORR	**Kora**	**1.96**	**308**	ePN	**Pg**	**12 41 04.3**	**-0.6**
KORR				eS	**Sg**	**12 41 30.4**	**+0.1**
KORR	**Kora**	**1.96**	**308**	ePn	**Pg**	**12 41 04.3**	**-0.6**
KORR				eSb	**Sg**	**12 41 30.4**	**+0.1**
GNI	**Garni**	**2.04**	**212**	eP	**Pb**	**12 41 04.9**	**-0.2**
GNI				eS	**Sg**	**12 41 33.1**	**+0.1**
GNI	**Garni**	**2.04**	**212**	iPN	**Pb**	**12 41 04.1**	**-1.0**
GNI	**Garni**	**2.04**	**212**	P	**Pb**	**12 41 04.9**	**-0.2**
GNI				S	**Sg**	**12 41 33.1**	**+0.1**
AKH	**Akhalkalaki**	**2.06**	**257**	ePN	**Pb**	**12 41 04.4**	**-0.9**
AKH				S	**Sb**	**12 41 30.4**	**-0.9**
AKH	**Akhalkalaki**	**2.06**	**257**	P	**Pb**	**12 41 04.4**	**-0.9**
AKH	**Akhalkalaki**	**2.06**	**257**	P	**Pb**	**12 41 04.4**	**-0.9**
AKH				S	**Sb**	**12 41 31.4**	**+0.1**
AMBZ	**Amberd**	**2.08**	**224**	eP	**Pb**	**12 41 05.6**	**-0.1**
AMBZ				eS	**Sb**	**12 41 32.8**	**+0.9**
TRKR	**Terskaya**	**2.11**	**331**	ePN	**Pb**	**12 41 06.4**	**+0.2**
TRKR				eS	**Sg**	**12 41 35.3**	**0.0**
TRKR	**Terskaya**	**2.11**	**331**	ePn	**Pb**	**12 41 06.4**	**+0.2**
TRKR				eSn	**Sg**	**12 41 35.3**	**0.0**
STKZ		**2.12**	**168**	eP	**Pn**	**12 41 04.1**	**+0.5**
STKZ				eS	**Sb**	**12 41 32.3**	**-0.7**
STKZ		**2.12**	**168**	P	**Pn**	**12 41 04.1**	**+0.5**
STKZ				S	**Sb**	**12 41 32.3**	**-0.7**
ONI	**Oni**	**2.13**	**290**	ePN	**Pb**	**12 41 05.0**	**-1.5**
ONI				S	**Sb**	**12 41 33.2**	**-0.1**
ONI	**Oni**	**2.13**	**290**	P	**Pb**	**12 41 05.0**	**-1.5**
ONI	**Oni**	**2.13**	**290**	P	**Pb**	**12 41 05.0**	**-1.5**
ONI				S	**Sb**	**12 41 33.2**	**-0.1**
PQL	**Pirkuli**	**2.13**	**120**	⇓Pg	**Pb**	**12 41 05.4**	**-1.2**
PQL				⇓Sg	**Sg**	**12 41 36.4**	**+0.4**
ERE	**Yerevan**	**2.14**	**217**	eP	**Pg**	**12 41 08.0**	**-0.4**
STDR	**Stavd-Durt**	**2.14**	**314**	ePN	**Pg**	**12 41 08.5**	**0.0**
STDR				eS	**Sg**	**12 41 37.3**	**+1.1**
STDR	**Stavd-Durt**	**2.14**	**314**	ePn	**Pg**	**12 41 08.5**	**0.0**
DIGR	**Digorskoe uzhe**	**2.16**	**299**	ePN	**Pb**	**12 41 06.2**	**-1.0**
DIGR				eS	**Sb**	**12 41 34.4**	**+0.1**
DIGR	**Digorskoe uzhe**	**2.16**	**299**	ePn	**Pb**	**12 41 06.2**	**-1.0**
DIGR				eSn	**Sb**	**12 41 34.4**	**+0.1**
SIZA	**Siyzn**	**2.21**	**111**	⇑Pn	**Pb**	**12 41 07.0**	**-0.9**
	SNR=3.3						
SIZA	**Siyzn**	**2.21**	**111**	Pn	**Pb**	**12 41 07.0**	**-0.9**
	SNR=3.3						
LSNR	**Lesken**	**2.21**	**310**	ePN	**Pg**	**12 41 10.1**	**+0.3**
LSNR				eS	**Sg**	**12 41 39.5**	**+1.0**
LSNR	**Lesken**	**2.21**	**310**	ePn	**Pg**	**12 41 10.1**	**+0.3**
ATGJ	**Altiaghaj**	**2.33**	**115**	⇑Pn	**Pb**	**12 41 08.4**	**-1.5**
ATGJ	**Altiaghaj**	**2.33**	**115**	Pn	**Pb**	**12 41 08.4**	**-1.5**
DIGO	**Kars**	**2.57**	**236**	iP	**Pb**	**12 41 13.7**	**-0.4**
DIGO				iS	**Sb**	**12 41 45.7**	**-0.4**
DIGO	**Kars**	**2.57**	**236**	iP	**Pb**	**12 41 13.7**	**-0.4**
DIGO				iS	**Sb**	**12 41 45.7**	**-0.4**
ARTV	**Artvin**	**3.25**	**259**	iP	**Pb**	**12 41 24.5**	**-1.3**
ARTV				eS	**Sn**	**12 42 01.0**	**+2.5**
ARTV	**Artvin**	**3.25**	**259**	iP	**Pb**	**12 41 24.5**	**-1.3**
ARTV				eS	**Sn**	**12 42 01.0**	**+2.5**
DAGI	**Agillar**	**3.29**	**257**	iP	**Pb**	**12 41 25.3**	**-1.0**
DAGI				iS	**Sb**	**12 42 07.6**	**+0.9**
DBAD	**Bademkaya**	**3.47**	**257**	iP	**Pb**	**12 41 29.3**	**0.0**
DBAD				iS	**Sb**	**12 42 12.8**	**+1.0**
LRK	**Lerik**	**3.65**	**152**	⇑Pn	**Pn**	**12 41 26.2**	**+1.6**
LRK	**Lerik**	**3.65**	**152**	Pn	**Pn**	**12 41 26.2**	**+1.6**

DJA 10 13:40:16.3±0.9,**7°S**±11°×**11°4E**±°,**h211**km±15km,**M3.2**/11,
mb3.0/1,**MLv3.2**/11,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMMI	**Kalianget**	**0.46**	**167**	P	Pn	13 40 52.7	+8.1
KMMI	**Kalianget**	**0.46**	**167**	P	Pn	13 40 52.8	+8.2
	68nm,0.9s,2μm						
GRJI	**Gresik**	**1.41**	**257**	P	Pn	13 40 41.2	-9.0
GRJI	**Gresik**	**1.41**	**257**	P	Pn	13 40 40.1	-10
	164nm,0.6s,3μm						
GMJI	**Gumukmas**	**1.71**	**194**	P	Pn	13 41 02.0	+9.1
GMJI				S	S	13 41 28.4	+7.2
GMJI	**Gumukmas**	**1.71**	**194**	P	Pn	13 41 06.4	+14
	24nm,0.6s,1μm						
JAGI	**Jajag, Banyuwa**	**1.88**	**171**	P	Pn	13 40 58.1	+3.6
JAGI				S	S	13 41 13.9	-10
SRBI	**Singaraja**	**1.99**	**138**	P	Pn	13 41 01.6	+6.0
SRBI	**Singaraja**	**1.99**	**138**	P	Pn	13 41 01.9	+6.3
	20nm,0.4s,519nm						
TBJI	**Tambak Boyo**	**2.01**	**264**	P	Pn	13 40 50.6	-5.1
PWJI	**Pagerwojo**	**2.48**	**235**	P	Pn	13 41 04.6	+3.9
PWJI	**Pagerwojo**	**2.48**	**235**	P	Pn	13 41 04.3	+3.6
	14nm,1.1s						
IGBI	**Denpasar**	**2.55**	**150**	P	Pn	13 40 52.2	-9.2
IGBI	**Denpasar**	**2.55**	**150**	P	Pn	13 40 52.6	-8.8

MEX 10 13:47:52.7±1.1,**15°.13N**×**97°.20W**,**h16**km±22km,**MD3.7**,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.23**	**59**	eP	Pn	13 48 10.9	-4.4
HUIG				iS	Sb	13 48 25.7	-5.6
PNIG	**Pinotepa**	**1.54**	**325**	eP	Pn	13 48 16.1	-3.4
PNIG				iS	Sn	13 48 33.1	-6.1
VHO	**Vista Hermosa**	**1.98**	**13**	iP	Pn	13 48 23.3	-2.6
VHO				iS	Sn	13 48 45.6	-5.0
CMIG	**Matias Romero**	**2.96**	**49**	eP	Pn	13 48 35.7	-3.4
CMIG				iS	Sn	13 49 11.0	-3.3

*IDC **10** 14:04:40.5±1.1,5°.02S×153°.39E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.7/31,mbtmp3.9/7,ML3.1/1,MS3.5/4, Ms1 3.5/4,ms1mx3.0/24,Error ellipse: s-maj=33.1km s-min=25.7km az=89.0*
*ISCJB **10** 14:04:47.0±0.9,5°.25S±0°.1×153°.2E±0°.1,h56km,mb3.7/7, MS3.6/3,Error ellipse: s-maj=19.2km s-min=11.9km*

az=143.2
NEIC 10 14:04:48.5±3.0, 5.21S×153.27E, h59km±24km, mb4.0/1, Error ellipse: s-maj=24.2km s-min=16.6km az=220.0

ISC 10 14:04:48.4±0.9, 5.2S±0.1×153.3E±0.1, h56km, n14, σ0.79/16, mb3.9/7, MS3.9/3, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.37	235	Pn	Pn	14 06 33.3	-0.2
	1.7nm,0.3s,baz=53,slow=9.6,SNR=9.1						
PMG				Sn	Sn	14 07 56.0	+0.2
	3.0nm,0.3s,baz=135,slow=20,SNR=6.6						
PMG				LR	LR	14 09 19.8	
	comp=Z,121nm,21.2s,baz=15,slow=37						
PMG	Port Moresby	7.37	235	eP	Pn	14 06 33.3	-0.2
	10.0nm,0.7s						
PMG				Sn	Sn	14 07 56.0	+0.2
DZM	Mont Dzumac	21.06	144	P	P	14 09 28.2	0.0
	3.1nm,0.5s,baz=311,slow=19,SNR=6.4						
WRAB	Tennant Creek	23.54	230	eP	P	14 09 52.2	-1.7
	5.9nm,1.0s						
WRA	Warramunga Arr	23.55	230	P	P	14 09 54.1	+0.1
	1.1nm,0.8s,baz=52,slow=10.0,SNR=10						
WRA				PcP	PcP	14 13 38.8	+0.6
	0.8nm,0.7s,baz=54,slow=2.6,SNR=7.1						
ASAR	Alice Springs	26.19	224	P	P	14 10 18.2	+0.2
	0.4nm,0.6s,baz=51,slow=9.3,SNR=4.7						
ASAR				PcP	PcP	14 13 45.1	+1.1
	0.6nm,0.7s,baz=63,slow=2.6,SNR=5.9						
ASAR				LR	LR	14 20 44.9	
	comp=Z,43nm,18.1s,baz=68,slow=36						
CMAR	Chiang Mai Arr	58.48	295	P	P	14 14 40.5	+1.2
	0.8nm,0.6s,baz=110,slow=5.0,SNR=6.5						
MKAR	Makanchi Array	80.94	319	P	P	14 16 56.8	-0.2
	0.7nm,0.8s,baz=92,slow=8.0,SNR=5.2						
ZALV	Zalesovo Beam	81.75	326	P	P	14 16 59.9	-1.2
	1.4nm,0.6s,baz=120,slow=5.9,SNR=5.9						
QSPA	South Pole Qui	84.77	180	eP	P	14 17 16.7	+0.2
YBH	Yreka Blue Hor	88.96	48	LR	LR	14 52 05.7	
	comp=Z,47nm,18.5s,baz=347,slow=32						
NEW	Newport	93.57	42	LR	LR	14 58 35.5	
	comp=Z,46nm,18.3s,baz=198,slow=35						
GERES	GERESS Array B	124.64	329	PKP	PKPdf	14 23 41.8	-0.2
	0.1nm,0.4s,baz=83,slow=3.2,SNR=4.3						
TORD	Torodi Ar. Bea	150.89	288	PKPbc	PKPbc	14 24 35.1	-0.8
	2.4nm,0.6s,baz=70,slow=2.0,SNR=20						

DJA 10 14:31:02.0±0.7, 3°S±8°×10°2E±1°2, h159km±8km, M3.6/7, MLv3.6/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MASI	Maura Aman, Be	0.48	154	P	Pn	14 31 25.9	+1.6
MASI				S	Sn	14 31 43.5	+2.0
LHSI	Lahat	1.86	127	P	Pn	14 31 36.7	+0.6
MNAI	Manna	1.88	151	P	Pn	14 31 36.9	+0.5
MNAI				S	Sn	14 32 03.9	+1.0
RGRI	Rengat	2.37	7	P	Pn	14 31 42.2	+0.2
PDSI	Padang	2.38	319	S	Sn	14 32 14.4	+1.2
MDSI	Maura Dua	2.78	130	P	Pn	14 31 47.6	+0.6
LWLI	Liwa	3.06	139	P	Pn	14 31 51.2	+0.6
KASI	Kota Agung	3.72	139	P	Pn	14 31 57.9	-1.0

MAN 10 14:35:10, 16.00N×119.77E, h26km, mb4.5, ML3.4, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.26	149	eP	Pn	14 35 18.7	+0.6
SCZP				eS	Sn	14 35 25.8	+2.6
BOLP	Bolinao	0.41	19	eP	Pn	14 35 20.6	+0.4
BOLP				eS	Sn	14 35 29.2	+2.2
BCPH	Baguio City Da	0.87	64	⇑iP	Pn	14 35 27.5	+0.7
BCPH				iS	Sn	14 35 40.5	+1.8
BALP	Baler	1.75	98	eP	Pb	14 35 41.3	-0.3
ABRA	Dolores	1.87	29	eP	Pn	14 35 41.7	+1.3
CAUP	Cauayan	2.18	64	eP	Pb	14 35 48.6	-0.2
APYP	Conner	2.33	37	eP	Pn	14 35 48.3	+1.6

ISCJB 10 15:07:19.9±0.9, 35.91N±0.06×31.00E±0.07, h10km, Error ellipse: s-maj=11.0km s-min=4.7km az=38.5
CSEM 10 15:07:20.4±0.2, 35.90N×31.02E, h10km, MD3.5, Error ellipse: s-maj=6.8km s-min=2.7km az=38.0
ISK 10 15:07:20.3, 35.96N×31.08E, h14km, MD3.5
DDA 10 15:07:21.6, 36.01N×31.08E, h7km, MD2.9

ISC 10 15:07:20.5±1.3, 35.92N±0.07×31.05E±0.05, h10km, n46, σ0.70/52, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANTB	Antalya	1.02	342	ePG	Pn	15 07 40.2	-0.7
ANTB				eSG	Sn	15 07 54.2	-1.2
ANTB	Antalya	1.02	342	ePg	Pn	15 07 40.3	-0.7
ANTB				eSg	Sn	15 07 54.2	-1.2
GAZI	Gazipasa	1.07	73	iP	Pn	15 07 41.7	+0.1
GAZI				iS	Sn	15 07 56.4	-0.1
GAZI	Gazipasa	1.07	73	iP	Pn	15 07 41.7	+0.1
GAZI				iS	Sn	15 07 56.4	-0.1
KORT	Korkueli	1.21	332	iP	Pg	15 07 43.8	-0.1
KORT				iS	Sg	15 08 02.5	+2.2
KORT	Korkueli	1.21	332	iP	Pg	15 07 43.8	-0.1
KORT				iS	Sn	15 08 02.5	+2.2
ELL	Elmali	1.24	312	ePN	Pg	15 07 44.5	+0.2
ELL	Elmali	1.24	312	ePn	Pg	15 07 44.5	+0.2
BCK	Bucak	1.58	347	ePN	Pn	15 07 48.4	-0.2
BCK	Bucak	1.58	347	ePn	Pn	15 07 48.4	-0.2
ERMK	Ermenek	1.67	64	iP	Pb	15 07 50.8	-0.6
ERMK	Ermenek	1.67	64	iP	Pb	15 07 50.8	-0.6
AKDN	Akdeniz- K¨–br	1.68	111	ePN	Pn	15 07 49.2	-0.8
AKDN	Akdeniz- K¨–br	1.68	111	ePn	Pn	15 07 49.2	-0.8
LEF	Lefka	1.70	118	ePN	Pn	15 07 49.9	-0.4
LEF	Lefka	1.70	118	ePn	Pn	15 07 49.9	-0.4
ISP	Isparta	1.94	348	ePN	Pn	15 07 53.8	+0.1
ISP	Isparta	1.94	348	ePn	Pn	15 07 53.8	+0.1
CSS	Prodhromos	2.09	117	ePN	Pn	15 07 56.2	+0.5
CSS	Prodhromos	2.09	117	ePn	Pn	15 07 56.2	+0.5
KONT	Konya--Tatoy	2.27	27	ePN	Pn	15 07 57.9	-0.3
KONT	Konya--Tatoy	2.27	27	ePn	Pn	15 07 57.9	-0.3
LADK	Ladik-KONYA	2.50	24	ePN	Pn	15 08 01.2	-0.2
LADK	Ladik-KONYA	2.50	24	ePn	Pn	15 08 01.2	-0.2
EREN	Erenkoy	2.57	98	ePN	Pn	15 08 03.2	+1.1
EREN	Erenkoy	2.57	98	ePn	Pn	15 08 03.3	+1.1
SHUT	Suhut-Afyon	2.65	352	ePN	Pn	15 08 02.9	-0.6
SHUT	Suhut-Afyon	2.65	352	ePn	Pn	15 08 02.9	-0.6
KHL	Karahalli	2.69	333	ePN	Pn	15 08 03.6	-0.3
KHL	Karahalli	2.69	333	ePn	Pn	15 08 03.6	-0.3
SULT	Sultanhani-AKS	3.01	40	ePN	Pn	15 08 08.6	+0.3
SULT	Sultanhani-AKS	3.01	40	ePn	Pn	15 08 08.6	+0.3
KIZT	Kizilcal	3.02	12	ePN	Pn	15 08 09.4	+0.8
KIZT	Kizilcal	3.02	12	ePn	Pn	15 08 09.4	+0.8
ALT	Altintas	3.21	347	ePN	Pn	15 08 11.3	+0.2
ALT	Altintas	3.21	347	ePn	Pn	15 08 11.3	+0.2
KARA	Karaisali	3.49	66	ePN	Pn	15 08 15.2	+0.4
KARA	Karaisali	3.49	66	ePn	Pn	15 08 15.2	+0.4
SVRH	Sivrihisar-ESK	3.54	6	ePN	Pn	15 08 16.0	+0.4
SVRH	Sivrihisar-ESK	3.54	6	ePn	Pn	15 08 16.0	+0.4
NIG	Nigde	3.59	51	ePN	Pn	15 08 17.3	+0.9
NIG	Nigde	3.59	51	ePn	Pn	15 08 17.3	+0.9
TVSB	Tavsanli	3.74	341	ePN	Pn	15 08 18.7	+0.3
TVSB	Tavsanli	3.74	341	ePn	Pn	15 08 18.7	+0.3
KOZT	Kozan	4.14	67	ePN	Pn	15 08 23.8	0.0
KOZT	Kozan	4.14	67	ePn	Pn	15 08 23.8	0.0

IDC 10 15:11:49.1±6.3, 18.37N×107.07W, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.5/39, mbtmp3.4/6, ML3.4/1, MS3.1/1, Ms1 3.1/1, msmx2.6/17, Error ellipse: s-maj=115.8km s-min=37.0km az=154.0
MEX 10 15:11:57.9±0.8, 18.55N×106.32W, h12km±84km, MD3.9

ISC 10 15:11:53.9±1.5, 18.6N±0.1×106.50W±0.09, h27km, n20, σ1.45/18, mb3.4/5, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CJM	Chamela	1.66	56	eP	Pn	15 12 21.4	+0.1
CJM				iS	Sn	15 12 40.2	-1.5
R15V		2.46	75	eP	Pn	15 12 32.0	-0.3
R15V				eS	Sn	15 12 59.2	-2.3
EZ5V		2.89	71	eP	Pn	15 12 39.9	+1.5
EZ5V				iS	Sn	15 13 11.3	-1.1
MMIG	Aquila	3.01	95	iP	Pn	15 12 39.9	+0.1
MMIG				iS	Sn	15 13 14.1	-0.9
ANIG	Ahuacatlan	3.10	37	iP	Pn	15 12 42.5	+1.3
ANIG				iS	Sn	15 13 17.6	+0.2
SFJM	Santa Fe	3.78	59	iP	Pn	15 12 53.0	+2.4
H06E1	SOCORRO T-PHAS	4.20	274	Pn	Pn	15 12 47.5	-8.8
H06E1				Sn	Sn	15 13 27.1	-17
H06E1				T	T	15 16 37.6	
	SNR=179						
H06S1	SOCORRO T	4.23	273	T	T	15 16 43.9	
	SNR=44						
H06N1	SOCORRO T-PHAS	4.26	275	T	T	15 16 27.9	
	SNR=9.8						
ARIG	Puente Sto Nin	5.85	92	iP	Pn	15 13 21.2	+2.3
ARIG				eS	Sn	15 14 25.0	-0.1
TXAR	Lajitas Array	11.03	13	Pn	Pn	15 14 31.9	+1.9
	0.1nm,0.3s,baz=190,slow=14,SNR=7.2						
TEIG	Tepich	17.27	82	LR	LR	15 22 28.8	
	comp=Z,62nm,18.8s,baz=53,slow=36						
NVAR	Mina Array Bea	22.31	335	P	P	15 16 48.9	-0.7
	1.4nm,1.1s,baz=160,slow=13,SNR=5.0						
ULM	Lac du Bonnet	32.73	13	P	P	15 18 27.8	+3.5
	1.2nm,0.5s,baz=168,slow=9.3,SNR=3.3						
YKA	Yellowknife Ar	44.25	355	P	P	15 20 01.1	+0.3
	0.1nm,0.4s,baz=168,slow=6.9,SNR=4.6						
INK	Inuvik	52.56	348	P	P	15 21 03.5	-1.2
	1.5nm,1.0s,baz=164,slow=7.4,SNR=3.1						
ILAR	Eielson Array	53.45	340	P	P	15 21 10.2	-1.1
	0.2nm,0.8s,baz=154,slow=5.6,SNR=5.1						
H03N2	Juan Fernandez	58.02	153	T	T	16 24 48.3	
	baz=329,slow=75,SNR=27						
H03N1	Juan Fernandez	58.03	153	T	T	16 24 50.6	
	baz=329,slow=75,SNR=32						
H03N3	Juan Fernandez	58.04	153	T	T	16 24 49.6	
	baz=329,slow=75,SNR=28						

ISCJB 10 15:13:33.9±1.1, 33.89S±0.06×179.3E±0.1, h33km, mb4.1/5, MS3.5/4, Error ellipse: s-maj=12.8km s-min=7.2km az=160.5
IDC 10 15:13:35.9±1.5, 33.95S×178.65E, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.9/26, mbtmp4.0/4, ML4.0/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/21, Error ellipse: s-maj=38.9km s-min=29.6km az=125.0
NEIC 10 15:13:45.0±2.6, 34.44S×178.61E, h81km±21km, mb4.8/2, Error ellipse: s-maj=31.0km s-min=16.4km az=215.0

ISC 10 15:13:36.5±1.5, 33.88S±0.09×179.3E±0.1, h35km, n36, σ1.78/36, mb4.2/5, MS3.5/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.76	192	PN	Pn	15 14 29.2	-2.7
MXZ				eSN	Sn	15 15 17.0	+2.0
MXZ				T	T	15 18 12.8	
HAZ	Te Kaha	4.05	197	PN	Pn	15 14 35.2	-0.8
HAZ				eSN	Sn	15 15 25.4	+3.2
KUZ	Kuaotunu	4.07	224	PN	Pn	15 14 36.4	+0.1
PUZ	Puketiti	4.26	191	PN	Pn	15 14 38.1	-0.9
PUZ				SN	Sn	15 15 27.5	0.0
WCZ	Waipu Caves	4.54	242	PN	Pn	15 14 42.7	0.0
MWZ	Matawai	4.66	197	PN	Pn	15 14 44.3	-0.1
MWZ				SN	Sn	15 15 41.0	+3.6
URZ	Urewera	4.71	201	Pn	Pn	15 14 44.6	-0.4
	7.6nm,0.3s,baz=41,slow=4.4,SNR=45						
URZ				Sn	Sn	15 15 39.0	+0.7
	baz=255,slow=20,SNR=2.3						
URZ	Urewera	4.71	201	eP	Pn	15 14 44.2	-0.8
URZ				Sn	Sn	15 15 39.0	+0.7
URZ	Urewera	4.71	201	PN	Pn	15 14 44.1	-0.8
URZ				SN	Sn	15 15 39.8	+1.5
RAGZ	Rawiri	4.84	197	ePN	Pn	15 14 46.6	-0.3
OUZ	Omahuta	4.87	252	eP	Pn	15 14 46.5	-0.7
OUZ	Omahuta	4.87	252	PN	Pn	15 14 46.5	-0.7
OUZ				eSN	Sn	15 15 40.2	-2.1
RIGZ	Rimuhau	4.97	194	PN	Pn	15 14 47.1	-1.5
SNGZ	Shannon Statio	5.13	197	PN	Pn	15 14 50.0	-0.9
SNGZ				SN	Sn	15 15 52.2	+3.3
RAO	Raoul Island	5.20	28	LR	LR	15 16 42.8	
	comp=Z,412nm,18.1s,baz=168,slow=34						
NMHZ	Naumai	5.57	200	PN	Pn	15 14 56.9	0.0
BKZ	Black Stump Fm	5.73	202	PN	Pn	15 14 58.2	-0.9
HIZ	Hauiti	5.84	216	PN	Pn	15 15 02.7	+2.1
KAHZ	Kahuranaki	6.21	197	ePN	Pn	15 15 04.1	-1.6
PXZ	Pawanui	6.43	197	ePN	Pn	15 15 06.1	-2.6
BFZ	Birch Farm	7.20	199	PN	Pn	15 15 15.8	-3.5
BFZ				SN	Sn	15 16 37.1	-2.7
MRZ	Mangatainoka R	7.38	202	PN	Pn	15 15 18.1	-3.6
MRZ				eSN	Sn	15 16 40.7	-3.5
DZM	Mont Dzumac	16.31	313	LR	LR	15 22 33.7	
	comp=Z,356nm,18.6s,baz=170,slow=34						
HNR	Honiara	30.12	319	LR	LR	15 28 34.6	
	comp=Z,111nm,21.8s,baz=359,slow=30						
STKA	Stephens Creek	31.59	263	LR	LR	15 31 36.5	
	comp=Z,72nm,19.0s,baz=48,slow=35						
AS31	Alice Springs	40.76	272	eP	P	15 21 14.2	-0.2
ASAR	Alice Springs	40.76	272	P	P	15 21 14.6	+0.2
	1.1nm,0.7s,baz=113,slow=7.8,SNR=20						
ASAR				LR	LR	15 36 29.0	
	comp=Z,64nm,20.4s,baz=82,slow=34						
WRAB	Tennant Creek	42.07	278	eP	P	15 21 24.6	-0.6
	6.8nm,0.8s						
WRA	Warramunga Arr	42.08	278	P	P	15 21 25.0	-0.2
	1.1nm,0.6s,baz=117,slow=7.6,SNR=7.2						
QSPA	South Pole Qui	56.24	180	eP	P	15 23 12.3	-0.8
	11nm,0.8s						
H03N3	Juan Fernandez	80.67	124	T	T	16 54 23.9	
	baz=235,slow=74,SNR=79						
H03N2	Juan Fernandez	80.67	124	T	T	16 54 25.3	
	baz=235,slow=74,SNR=68						
H03N1	Juan Fernandez	80.68	124	T	T	16 54 26.3	
	baz=235,slow=74,SNR=74						
NVAR	Mina Array Bea	92.35	44	P	P	15 26 49.5	+6.0
	0.8nm,0.7s,baz=221,slow=8.0,SNR=7.9						
CMAR	Chiang Mai Arr	92.40	291	LR	LR	16 11 38.1	
	comp=Z,24nm,18.5s,baz=170,slow=38						
FINES	FINESS Array B	147.50	336	PKPbc	PKPab	15 33 21.1	+2.9
	1.3nm,0.5s,baz=35,slow=4.7,SNR=8.3						

IDC 10 15:35:44.9±6.9, 2.04S×99.70E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=345.2km s-min=28.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	27.66	257	T	T	16 10 21.8	
	baz=80,slow=75,SNR=5.4						
H08S3	Diego Garcia H	27.67	257	T	T	16 10 20.7	
	baz=80,slow=75,SNR=3.1						
H08S1	Diego Garcia H	27.68	257	T	T	16 10 40.6	
	baz=80,slow=75,SNR=5.4						
WRA	Warramunga Arr	38.23	120	P	P	15 43 06.9	-0.2
	0.2nm,0.4s,baz=295,slow=8.2,SNR=4.5						
ASAR	Alice Springs	39.47	126	P	P	15 43 17.4	-0.1
	0.1nm,0.5s,baz=305,slow=8.3,SNR=5.3						
MKAR	Makanchi Array	50.99	345	P	P	15 44 48.5	-0.1
	0.3nm,0.5s,baz=159,slow=9.1,SNR=8.6						

IDC 10 16:21:11.5±2.2, 1.83S×127.24E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.1/31, mbtmp3.1/3, ML3.4/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/14, Error ellipse: s-maj=204.4km s-min=25.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	Tagaytay City	17.01	339	LR	LR	16 32 20.9	
	comp=Z,22nm,21.4s,baz=124,slow=39						
WRA	Warramunga Arr	19.30	159	P	P	16 25 37.4	-0.8
	0.1nm,0.3s,baz=342,slow=12,SNR=4.9						
ASAR	Alice Springs	22.65	164	P	P	16 26 15.1	+0.6
	0.2nm,0.3s,baz=340,slow=10.0,SNR=21						
MKAR	Makanchi Array	62.42	327	P	P	16 31 36.3	-0.1
	0.1nm,0.6s,baz=133,slow=8.5,SNR=2.6						

WEL 10 16:23:52.1±0.5, 38.26S×176.27E, h146km±4km, ML3.5/17, 15C-3D, Error ellipse: s-maj=2.0km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLZ	Tolley Road	0.58	263	⇑PN	Pn	16 24 13.7	+0.2
URZ	Urewera	0.66	91	PN	Pn	16 24 13.4	-0.5
TOZ	Tahuroa Road	0.80	311	⇓PN	Pn	16 24 14.8	-0.1
RAHZ	Arahi	0.92	136	PN	Pn	16 24 16.4	+0.5
BKZ	Black Stump Fm	0.93	169	⇑PN	Pn	16 24 15.9	-0.1
BKZ				SN	Sn	16 24 33.7	-0.5
BKZ				AML	AML	16 24 34.2	
NMHZ	Naumai	0.94	153	PN	Pn	16 24 16.9	+0.8
SNGZ	Shannon Statio	0.99	122	PN	Pn	16 24 16.8	+0.4
MWZ	Matawai	0.99	95	PN	Pn	16 24 16.4	-0.1
WTVZ	West Tongariro	1.01	211	PN	Pn	16 24 16.6	-0.1
OTVZ	Oturere	1.02	207	PN	Pn	16 24 17.1	+0.2
TWVZ	Taurewa	1.04	218	PN	Pn	16 24 16.9	-0.1
COVZ	Chateau Observ	1.10	211	⇑PN	Pn	16 24 17.5	0.0
WPVZ	Whakapapa	1.10	211	PN	Pn	16 24 17.6	+0.1
HIZ	Hauiti	1.14	257	⇑PN	Pn	16 24 17.8	+0.1
FWVZ	Far West T-bar	1.14	209	PN	Pn	16 24 17.8	-0.3
WNVZ	Wahianoa	1.19	206	⇑PN	Pn	16 24 18.4	-0.1
MOVZ	Moawhango	1.22	199	PN	Pn	16 24 18.1	-0.5
MCHZ	McNeill Hill	1.23	164	PN	Pn	16 24 19.3	+0.6
MCHZ				eSN	Sn	16 24 40.0	+1.0
BHHZ	Black Hill Sta	1.24	187	⇑PN	Pn	16 24 18.5	-0.3
RIGZ	Rimuhau	1.26	111	PN	Pn	16 24 19.1	+0.2
PKVZ	Pokaka	1.26	215	PN	Pn	16 24 18.8	-0.1
MTVZ	Mangateitei	1.29	209	PN	Pn	16 24 19.1	-0.1
HAZ	Te Kaha	1.30	68	PN	Pn	16 24 18.2	-1.0
HAZ				eSN	Sn	16 24 37.5	-2.4
KNZ	Kokohu	1.34	125	PN	Pn	16 24 19.8	+0.1
KRHZ	Kereru	1.39	177	PN	Pn	16 24 20.1	-0.1
VRZ	Vera Road	1.47	233	PN	Pn	16 24 21.0	+0.1
PUZ	Puketiti	1.58	84	PN	Pn	16 24 21.5	-0.7
PUZ				eSN	Sn	16 24 43.4	-1.9
KAHZ	Kahuranaki	1.61	163	⇑PN	Pn	16 24 22.7	+0.2
PNHZ	Pukenui	1.66	182	PN	Pn	16 24 22.6	-0.5
MXZ	Matakaoa Point	1.76	67	PN	Pn	16 24 23.7	-0.5
WAZ	Wanganui	1.80	213	⇑PN	Pn	16 24 24.3	-0.4
WPHZ	Waipukurau	1.81	176	ePN	Pn	16 24 24.2	-0.6
TSZ	Takapari Road	1.82	187	⇑PN	Pn	16 24 24.1	-0.8
TSZ				SN	Sn	16 24 48.7	-1.4
PXZ	Pawanui	1.83	166	⇑PN	Pn	16 24 24.6	-0.4
PXZ				eSN	Sn	16 24 49.0	-1.3
NEZ	North Egmont	1.98	238	PN	Pn	16 24 24.6	-2.1
PRHZ	Porangahau	2.03	172	⇑PN	Pn	16 24 26.6	-0.7
DVHZ	Dannevirke	2.04	182	⇑PN	Pn	16 24 26.4	-1.1
POWZ	Post Office Ro	2.17	190	PN	Pn	16 24 27.7	-1.2
ANWZ	Angora Road	2.21	176	PN	Pn	16 24 28.7	-0.7
PRWZ	Pori Road	2.31	186	PN	Pn	16 24 29.7	-0.9
BFZ	Birch Farm	2.42	180	PN	Pn	16 24 30.6	-1.4
MRZ	Mangatainoka R	2.46	192	⇑PN	Pn	16 24 30.8	-1.6
MRZ				eSN	Sn	16 25 00.8	-2.9
TIWZ	Tintock	2.53	187	⇑PN	Pn	16 24 31.9	-1.6
OGWZ	Otaki Gorge	2.69	198	PN	Pn	16 24 33.6	-1.8
HOWZ	Holdsworth Sta	2.70	192	⇑PN	Pn	16 24 33.4	-2.1
KIW	Kapiti Island	2.81	202	PN	Pn	16 24 34.5	-2.3
TMWZ	Te Maipa	2.86	186	PN	Pn	16 24 35.5	-2.1
MTW	Mount Morrison	2.96	191	PN	Pn	16 24 36.2	-2.5
CAW	Cannon Point	2.99	198	⇓PN	Pn	16 24 36.8	-2.3
PAWZ	Paruwai Farm	3.19	191	⇓PN	Pn	16 24 39.0	-2.6
WEL	Wellington	3.24	200	PN	Pn	16 24 39.6	-2.6
MSWZ	Moikau Station	3.25	194	PN	Pn	16 24 39.6	-2.9
SNZO	South Karori	3.28	201	PN	Pn	16 24 39.8	-3.0
TCW	Tory Channel	3.33	207	PN	Pn	16 24 40.6	-2.8
PLWZ	Palliser	3.40	193	PN	Pn	16 24 41.3	-3.1
TUWZ	Tuamarina	3.64	209	PN	Pn	16 24 44.3	-3.2
NNZ	Nelson	3.70	216	ePN	Pn	16 24 45.2	-3.1
QRZ	Quartz Range	3.87	227	PN	Pn	16 24 46.8	-3.6
LTZ	Lake Taylor	5.45	213	PN	Pn	16 25 06.9	-4.5
CRLZ	Canterbury Las	5.99	206	PN	Pn	16 25 13.8	-4.7
OXZ	Oxford	5.99	211	PN	Pn	16 25 13.4	-5.2
MQZ	McQueen's Vall	6.09	206	PN	Pn	16 25 14.4	-5.5
ODZ	Otahua Downs	7.98	210	PN	Pn	16 25 40.2	-4.9

NEIC 10 16:36:11.8±2.7, 16.19S×70.27W, h189km±11km, mb4.3/3, Error ellipse: s-maj=60.8km s-min=9.3km az=115.0
ISCJB 10 16:36:15.6±0.6, 16.59S±0.05×69.52W±0.08, h202km±6km, mb3.7/10, Error ellipse: s-maj=14.5km s-min=6.5km az=28.3
GUC 10 16:36:17.6±0.4, 16.99S×70.04W, h228km±7km, ML4.6
IDC 10 16:36:18.0±0.8, 16.34S×69.39W, h201km±7km, mb3.6/10, mb1 3.8/12, mb1mx3.6/36, mbtmp4.1/12, MS3.4/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=17.4km s-min=14.2km az=78.0

ISC 10 16:36:16.1±1.0, 16.57S±0.07×69.7W±0.1, h188km±9km, n37, σ1.55/47, mb3.9/10, 10C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	1.50	80	P	Pn	16 36 51.0	+1.5
	142nm,0.3s,baz=317,slow=6.5,SNR=3662						
LPAZ				LR	LR	16 37 14.8	
	comp=Z,79nm,18.2s,baz=268,slow=47						
LPAZ				S	Sn	16 37 15.0	-0.3
	20nm,0.3s,baz=213,slow=21,SNR=9.3						
MNMC	Minimini	2.55	178	⇑iP	Pn	16 37 02.0	+1.8
MNMC				iS	Sn	16 37 35.5	+1.0
MNMC				AML	AML	16 37 40.3	
	comp=E,3μm,0.4s						
MNMC	Minimini	2.55	178	⇑iP	Pn	16 37 02.0	+1.8
MNMC				iS	Sn	16 37 35.5	+1.0
PSGC	Pisagua	3.04	188	⇑iP	Pn	16 37 06.4	+0.7
PSGC				iS	Sn	16 37 43.1	-1.6
PSGC	Pisagua	3.04	188	⇑iP	Pn	16 37 06.4	+0.7
PSGC				iS	Sn	16 37 43.1	-1.6
PB11	Plate Boundary	3.17	180	⇑iP	Pn	16 37 08.6	+1.2
PB11				iS	Sn	16 37 47.1	-0.5
PB11	Plate Boundary	3.17	180	⇑iP	Pn	16 37 08.6	+1.2
PB11				iS	Sn	16 37 47.1	-0.5
HMBC	Humberstone	3.69	183	⇑iP	Pn	16 37 14.3	+0.5
HMBC				iS	Sn	16 37 57.2	-1.8
HMBC	Humberstone	3.69	183	⇑iP	Pn	16 37 14.3	+0.5
HMBC				iS	Sn	16 37 57.2	-1.8
PATCX	Punta Patache	4.25	186	eP	Pn	16 37 21.1	+0.3
PATCX				iS	Sn	16 38 09.1	-2.6
PB01	Plate Boundary	4.45	178	⇑iP	Pn	16 37 23.8	+0.5
PB01	Plate Boundary	4.45	178	⇑iP	Pn	16 37 23.8	+0.5
LVC	Limon Verde	6.05	173	eP	Pn	16 37 44.8	+0.6
	comp=E,32nm,0.3s						
SIV	San Ignacio	8.28	87	P	Pn	16 38 12.9	-0.2
	comp=E,1.3nm,0.3s,baz=263,slow=13,SNR=9.4						
SIV				S	Sn	16 39 39.4	-6.7
	comp=E,0.6nm,0.3s,baz=307,slow=11,SNR=4.2						
SAML	Samuel	9.87	41	eP	Pn	16 38 30.6	-3.2
	comp=E,3.7nm,0.5s						
LCO	Las Campanas	12.42	184	eP	Pn	16 39 06.3	-0.6
LCO				eS	Sn	16 41 20.1	-5.1
CFAA	Coronel Fontan	15.03	175	P	P	16 39 41.6	+1.5
	comp=E,0.1nm,0.3s,baz=350,slow=11,SNR=9.6						
PTGA	Pitinga	18.41	32	P	P	16 40 15.7	-1.7
	comp=E,2.6nm,0.3s,baz=219,slow=23,SNR=17						
BDFB	Brasilia	20.83	91	LR	LR	16 49 48.5	
	comp=E,104nm,21.2s,baz=233,slow=39						
TRQA	Tornquist	22.45	164	P	P	16 41 00.5	+1.0
PLCA	Paso Flores	24.09	182	P	P	16 41 18.1	+3.7
	comp=E,3.8nm,0.8s,baz=345,slow=8.9,SNR=7.4						
TXAR	Lajitas Array	56.21	324	P	P	16 45 36.4	-0.5
	comp=E,0.2nm,0.3s,baz=163,slow=9.0,SNR=3.8						
TXAR				PcP	PcP	16 46 32.6	+0.3
	comp=E,0.2nm,0.5s,baz=120,slow=3.2,SNR=2.2						
DBIC	Dimbokro	68.12	76	P	P	16 46 55.5	-0.7
	comp=E,1.8nm,0.4s,baz=245,slow=4.1,SNR=5.1						
DBIC	Dimbokro	68.12	76	eP	P	16 46 55.2	-1.1
	comp=E,2.1nm,0.5s						
PDAR	Pinedale Array	69.50	330	P	P	16 47 04.7	+0.1
	comp=E,0.4nm,0.4s,baz=138,slow=7.2,SNR=2.2						
ULM	Lac du Bonnet	70.42	342	P	P	16 47 07.8	-1.9
	comp=E,2.2nm,0.4s,baz=171,slow=6.2,SNR=6.0						
NVAR	Mina Array Bea	71.20	321	P	P	16 47 16.2	+1.3
	comp=E,0.6nm,0.7s,baz=143,slow=5.4,SNR=5.1						
QSPA	South Pole Qui	73.60	180	P	P	16 47 29.9	+1.4
	comp=E,1.0nm,0.8s,baz=100,slow=0.7,SNR=5.4						
TORD	Torodi Ar. Bea	76.44	72	P	P	16 47 43.7	-1.8
	comp=E,1.0nm,0.4s,baz=257,slow=5.0,SNR=16						
YKA	Yellowknife Ar	86.32	341	P	P	16 48 36.1	-0.2
	comp=E,1.1nm,0.6s,baz=134,slow=4.7,SNR=26						
INK	Inuvik	96.08	340	P	P	16 49 21.3	-0.3
	comp=E,0.5nm,0.5s,baz=93,slow=1.3,SNR=5.7						
ASAR	Alice Springs	133.85	211	PKP	PKPdf	16 55 11.3	-0.2
	comp=E,0.3nm,0.6s,baz=129,slow=2.0,SNR=6.2						
WRA	Warramunga Arr	136.72	214	PKP	PKPdf	16 55 17.6	+0.6
	comp=E,0.5nm,0.7s,baz=157,slow=1.6,SNR=5.8						
KURBB	Kurchatov Arra	137.53	30	PKP	PKPdf	16 55 18.4	+1.1

comp=E,0.8nm,0.2s,baz=303,slow=1.6,SNR=4.3
ZALV Zalesovo Beam 137.75 22 PKP **PKPdf 16 55 18.3 +0.6**
comp=E,2.0nm,0.7s,baz=285,slow=3.1,SNR=8.2
MKAR Makanchi Array 141.95 32 PKP **PKPdf 16 55 28.2 +2.6**
comp=E,0.3nm,0.7s,baz=343,slow=4.5,SNR=3.8
USRK Ussuriysk Arra 146.93 331 PKPbc **PKPbc 16 55 37.2 +0.7**
comp=E,1.8nm,0.6s,baz=314,slow=1.1,SNR=4.7

ISCJB 10 16:36:39.9±0.9, 13°.9N±0°.1×121°.0E±0°.2, h152km, mb3.5/6, Error ellipse: s-maj=29.9km s-min=16.7km az=150.5
IDC 10 16:36:41.0±0.8, 13°.90N×121°.04E, h155km±6km, mb3.2/6, mb1 3.3/6, mb1mx3.0/51, mbtmp3.7/6, Error ellipse: s-maj=34.4km s-min=15.9km az=55.0
ISC 10 16:36:41.2±1.1, 13°.9N±0°.2×121°.0E±0°.2, h152km, n7, σ1§19/8, mb3.4/6, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.24**	**353**	P	**Pn**	**16 37 02.8**	**+0.8**
	58nm,0.3s,baz=181,slow=2.5,SNR=7.4						
TGY				S	**Sn**	**16 37 19.1**	**+1.3**
	92nm,0.3s,baz=125,slow=24,SNR=4.3						
CMAR	**Chiang Mai Arr**	**21.64**	**285**	P	**P**	**16 41 18.6**	**-1.1**
	1.0nm,0.7s,baz=94,slow=7.7,SNR=11						
PSI	**Prapat**	**24.39**	**245**	P	**P**	**16 41 47.0**	**+1.2**
	4.6nm,0.6s,baz=193,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**36.07**	**158**	P	**P**	**16 43 27.6**	**-0.8**
	0.3nm,0.3s,baz=333,slow=9.8,SNR=9.2						
ASAR	**Alice Springs**	**39.38**	**161**	P	**P**	**16 43 55.9**	**-0.3**
	0.3nm,0.6s,baz=333,slow=7.7,SNR=8.8						
MKAR	**Makanchi Array**	**46.06**	**323**	P	**P**	**16 44 49.6**	**-0.2**
	0.2nm,0.3s,baz=112,slow=8.6,SNR=5.6						
ZALV	**Zalesovo Beam**	**49.04**	**332**	P	**P**	**16 45 11.5**	**-1.1**
	0.7nm,0.4s,baz=150,slow=6.8,SNR=4.4						

IDC 10 16:49:33.0±2.2, 15°.97S×172°.80W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/37, mbtmp3.8/6, MS3.5/4, Ms1 3.5/4, ms1mx3.1/28, Error ellipse: s-maj=137.1km s-min=23.7km az=144.0
NEIC 10 16:49:35.0±1.5, 15°.76S×173°.02W, h10km, mb4.1/2, Error ellipse: s-maj=99.9km s-min=14.6km az=145.0
ISC 10 16:49:37.7±1.9, 15°.3S±0°.6×173°.0W±0°.5, h26km, n17, σ1§86/14, mb3.6/7, MS3.5/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.86**	**41**	Pn	**Pn**	**16 50 06.2**	**-1.7**
	12nm,0.3s,baz=73,slow=2.1,SNR=14						
AFI				Sn	**Sn**	**16 50 29.4**	**-1.2**
	202nm,0.3s,baz=68,slow=19,SNR=22						
AFI	**Afiamalu**	**1.86**	**41**	*e*P	**Pn**	**16 50 05.9**	**-2.0**
AFI				Sn	**Sn**	**16 50 29.4**	**-1.2**
DZM	**Mont Dzumac**	**20.55**	**248**	*e*LR	LR	16 59 29.1	
	190nm,23.6s						
DZM	**Mont Dzumac**	**20.55**	**248**	LR	LR	17 00 59.7	
	comp=Z,166nm,19.1s,baz=28,slow=33						
PPT	**Papeete**	**22.61**	**99**	LR	LR	17 01 32.8	
	comp=Z,57nm,18.7s,baz=202,slow=32						
PPT2	**Papeete2**	**22.61**	**99**	*e*LR	LR	16 59 39.5	
	97nm,23.8s						
STKA	**Stephens Creek**	**44.38**	**240**	P	**P**	**16 57 44.9**	**-1.4**
	2.0nm,0.8s,baz=91,slow=10.0,SNR=3.5						
STKA	**Stephens Creek**	**44.38**	**240**	*e*P	**P**	**16 57 44.7**	**-1.6**
	0.7nm,1.0s						
WRAB	**Tennant Creek**	**50.19**	**257**	P	**P**	**16 58 31.2**	**-0.5**
	15nm,1.4s						
AS31	**Alice Springs**	**50.47**	**252**	*e*P	**P**	**16 58 31.8**	**-2.0**
ASAR	**Alice Springs**	**50.47**	**252**	P	**P**	**16 58 32.2**	**-1.6**
	2.5nm,0.7s,baz=87,slow=8.0,SNR=21						
ASAR				LR	LR	17 18 37.8	
	comp=Z,99nm,18.1s,baz=68,slow=35						
NVAR	**Mina Array Bea**	**74.03**	**42**	P	**P**	**17 01 12.0**	**+0.3**
	0.3nm,0.6s,baz=198,slow=8.5,SNR=3.3						
KSRS	**Korea Array**	**76.34**	**315**	LR	LR	17 29 39.1	
	comp=Z,25nm,21.7s,baz=15,slow=31						
PDAR	**Pinedale Array**	**81.97**	**42**	P	**P**	**17 01 58.1**	**+2.4**
	0.4nm,0.9s,baz=226,slow=4.9,SNR=3.5						
ILAR	**Eielson Array**	**82.30**	**11**	P	**P**	**17 01 58.6**	**+2.1**
	0.4nm,0.7s,baz=230,slow=6.4,SNR=8.8						
YKA	**Yellowknife Ar**	**89.88**	**23**	P	**P**	**17 02 36.0**	**+2.0**
	0.2nm,0.7s,baz=236,slow=4.7,SNR=4.4						
BRTR	**Keskin Array B**	**146.31**	**321**	PKPbc	**PKPab**	**17 09 19.0**	**+1.6**
	0.6nm,0.6s,baz=93,slow=2.1,SNR=3.5						

ISCJB 10 16:51:53.6±0.8, 6°.20S±0°.08×125°.64E±0°.08, h10km, mb3.3/1, Error ellipse: s-maj=13.7km s-min=9.1km az=141.9
IDC 10 16:51:53.9±1.9, 6°.17S×125°.77E, h0km, mb3.3/1, mb1 3.8/3, mb1mx3.5/38, mbtmp3.6/3, ML3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/14, Error ellipse: s-maj=306.3km s-min=28.3km az=62.0
DJA 10 16:51:58.0±1.0, 9°S±7°×11°9E±°, h10km, M3.4/4, mb4.4/1, MLv2.9/4
ISC 10 16:51:55.6±1.0, 6°.32S±0°.08×125°.76E±0°.10, h10km, n14, σ3§04/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.72**	**203**	P	**Pb**	**16 53 02.1**	**+0.6**
SOEI	**Soe**	**3.72**	**203**	P	**Pn**	**16 52 53.2**	**-0.1**
	baz=3.9,SNR=4.9						
BKSI	**Bulukumba**	**5.69**	**280**	P	Pn	16 53 15.1	-5.2
BNSI	**Bone**	**5.94**	**288**	P	Pn	16 53 15.1	-8.6
SPSI	**Sidrap Palu**	**6.41**	**291**	P	**Pn**	**16 53 28.8**	**-1.3**
FAKI	**Fak Fak**	**7.30**	**63**	P	**Pn**	**16 53 42.7**	**+0.3**
	baz=7.4,SNR=4.6						
MTN	**Manton Dam**	**8.37**	**141**	P	Pn	16 54 02.3	+5.2
	baz=8.7,SNR=10						
KNRA	**Kununurra**	**9.76**	**163**	P	Pn	16 54 20.1	+4.1
	baz=10,SNR=12						
WRA	**Warramunga Arr**	**15.90**	**149**	Pn	**Pn**	**16 55 38.8**	**-0.8**
	0.3nm,0.3s,baz=325,slow=13,SNR=22						
WRA				Sn	**Sn**	**16 58 30.3**	**-5.8**
	0.1nm,0.3s,baz=329,slow=23,SNR=7.8						
COEN	**Coen**	**18.74**	**115**	P	**Pn**	**16 56 17.8**	**+2.7**
	baz=19,SNR=4.2						
WRKA	**Warakurna**	**18.77**	**173**	P	**Pn**	**16 56 19.8**	**+4.3**
	baz=19,SNR=5.8						
ASAR	**Alice Springs**	**18.94**	**156**	P	**Pn**	**16 56 19.1**	**+1.4**
	0.3nm,0.3s,baz=334,slow=12,SNR=37						
ASAR				S	**Sn**	**16 59 46.9**	**-3.0**
	baz=338,slow=24,SNR=3.4						
ASAR				LR	LR	17 04 49.6	
	comp=Z,48nm,18.6s,baz=36,slow=41						
QIS	**Mount Isa**	**19.51**	**138**	P	Pn	16 56 30.7	+6.3
	baz=20,SNR=3.5						
MKAR	**Makanchi Array**	**65.40**	**329**	P	**P**	**17 02 37.6**	**-0.9**
	0.2nm,0.6s,baz=148,slow=5.7,SNR=3.2						

ISCJB 10 16:57:25.4±0.8, 7°.2S±0°.2×154°.9E±0°.1, h31km, mb3.7/9, Error ellipse: s-maj=26.3km s-min=9.9km az=150.9
IDC 10 16:57:27.2±1.2, 7°.25S×155°.02E, h36km±7km, mb3.6/9, mb1 3.8/10, mb1mx3.7/33, mbtmp3.8/10, ML2.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/20, Error ellipse: s-maj=36.3km s-min=18.2km az=134.0
ISC 10 16:57:27.0±0.9, 7°.2S±0°.2×155°.0E±0°.1, h31km, n11, σ1§24/15, mb3.8/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.06**	**254**	Pn	**Pn**	**16 59 22.4**	**+0.3**
	0.6nm,0.3s,baz=346,slow=8.3,SNR=3.8						
PMG				Sn	**Sn**	**17 00 51.9**	**-0.4**
	0.4nm,0.3s,baz=71,slow=18,SNR=3.2						
PMG				LR	LR	17 01 40.6	
	comp=Z,52nm,21.9s,baz=31,slow=31						
WRA	**Warramunga Arr**	**23.70**	**236**	P	**P**	**17 02 34.4**	**-1.9**
	0.7nm,0.8s,baz=60,slow=9.8,SNR=6.0						
WRA				pP	**pP**	**17 02 46.4**	**+1.3**
	2.9nm,1.0s,baz=57,slow=9.4,SNR=8.9						
ASAR	**Alice Springs**	**26.03**	**229**	P	**P**	**17 02 56.9**	**-0.8**
	0.5nm,0.7s,baz=65,slow=9.0,SNR=5.0						
STKA	**Stephens Creek**	**27.53**	**205**	P	**P**	**17 03 11.5**	**+0.4**
	1.3nm,0.8s,baz=29,slow=15,SNR=3.1						
CMAR	**Chiang Mai Arr**	**60.90**	**296**	P	**P**	**17 07 37.5**	**+0.3**
	0.8nm,0.7s,baz=110,slow=5.1,SNR=8.3						
CMAR				pP	**pP**	**17 07 49.3**	**+2.4**
	0.5nm,0.6s,baz=120,slow=5.4,SNR=2.6						
ILAR	**Eielson Array**	**83.58**	**21**	P	**P**	**17 09 50.2**	**-1.7**
	0.2nm,0.4s,baz=236,slow=5.3,SNR=9.9						
MKAR	**Makanchi Array**	**83.59**	**319**	P	**P**	**17 09 51.5**	**-0.8**
	0.9nm,0.7s,baz=104,slow=5.0,SNR=11						
INK	**Inuvik**	**89.93**	**21**	P	**P**	**17 10 22.6**	**-0.1**
	1.6nm,1.0s,baz=270,slow=2.0,SNR=3.1						
NVAR	**Mina Array Bea**	**91.85**	**52**	P	**P**	**17 10 34.0**	**+1.3**
	0.2nm,0.5s,baz=186,slow=1.5,SNR=4.1						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**17 10 53.1**	**-0.1**
	0.1nm,0.3s,baz=271,slow=4.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**153.10**	**285**	PKPbc	**PKPbc**	**17 17 21.9**	**-0.7**
	0.6nm,0.7s,baz=45,slow=3.2,SNR=4.4						
TORD				pPKPbc	**pPKPbc**	**17 17 32.3**	**-0.5**
	0.6nm,0.7s,baz=62,slow=1.4,SNR=3.8						

KRSC 10 17:07:23.5±1.1, 55°.28N×162°.72E, h80km±21km, ML4.5
ISCJB 10 17:07:25.5±0.3, 55°.27N±0°.02×162°.67E±0°.05, h70km±3km, mb4.1/31, Error ellipse: s-maj=4.6km s-min=2.8km az=22.8
BJI 10 17:07:25.2, 55°.20N×162°.30E, h80km, mB4.7/1, mb4.3/4
MOS 10 17:07:25.6±1.0, 55°.33N×162°.54E, h67km, mb4.4/23, Error ellipse: s-maj=11.2km s-min=7.1km az=78.7
IDC 10 17:07:28.7±0.7, 55°.41N×162°.35E, h72km±6km, mb3.7/19, mb1 4.0/21, mb1mx3.8/33, mbtmp4.1/21, MS3.4/3, Ms1 3.4/3, ms1mx2.9/29, Error ellipse: s-maj=17.8km s-min=8.2km az=142.0
ISC 10 17:07:27.6±0.6, 55°.29N±0°.03×162°.60E±0°.04, h69km±5km, n123, σ1§47/170, mb4.3/31, 4C-5D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.93**	**8**	*i* P	**Pn**	**17 07 42.8**	**-2.3**
KBTR				*e*S	**Sn**	**17 07 54.7**	**-3.4**
KBG	**Krutoberegovo**	**0.97**	**4**	PN	**Pn**	**17 07 43.4**	**-2.2**
KBG				S	**Sn**	**17 07 55.7**	**-3.3**
KBG	**Krutoberegovo**	**0.97**	**4**	*i* P	**Pn**	**17 07 43.4**	**-2.2**
KBG				*e*S	**Sn**	**17 07 55.7**	**-3.3**
ZLN	**Zelenaya**	**1.25**	**306**	*e*P	**Pn**	**17 07 49.3**	**0.0**
ZLN				*e*S	**Sn**	**17 08 04.8**	**-0.8**
KZV	**Kizimen**	**1.33**	**263**	*i* P	**Pn**	**17 07 49.5**	**-0.9**
KZV				*e*S	**Sn**	**17 08 06.2**	**-1.3**
LGNR	**Loginova**	**1.34**	**307**	*e*P	**Pn**	**17 07 50.6**	**-0.1**
LGNR				*e*S	**Sn**	**17 08 08.8**	**+0.9**
BZMR	**Bezymyannaya**	**1.36**	**299**	*e*P	**Pn**	**17 07 50.5**	**-0.3**
BZMR				*e*S	**Sn**	**17 08 08.3**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.37**	**300**	*e*P	**Pn**	**17 07 50.3**	**-0.6**
BZWR				*e*S	**Sn**	**17 08 07.8**	**-0.6**
TUMR	**Tumrok**	**1.40**	**271**	*i* P	**Pn**	**17 07 51.1**	**-0.2**
TUMR				S	**Sn**	**17 08 08.5**	**-0.6**
KMNR	**Kamenistaya**	**1.42**	**290**	*i* P	**Pn**	**17 07 51.5**	**0.0**
KMNR				*e*S	Sn	17 08 01.0	-8.5
KIRR	**Kirishev**	**1.44**	**298**	*e*P	**Pn**	**17 07 51.8**	**-0.1**
KIRR				*e*S	**Sn**	**17 08 10.0**	**-0.1**
SMKR	**Semkarok**	**1.44**	**334**	*e*P	**Pn**	**17 07 50.8**	**-1.0**
SMKR				*e*S	**Sn**	**17 08 08.7**	**-1.3**
KRSR	**Krestovskiy**	**1.48**	**310**	*e*P	**Pn**	**17 07 51.6**	**-0.7**
KRSR				*e*S	**Sn**	**17 08 09.6**	**-1.3**
KLY	**Klyuchi**	**1.50**	**314**	PN	**Pn**	**17 07 51.0**	**-1.5**
KLY				S	**Sn**	**17 08 09.6**	**-1.7**
KLY	**Klyuchi**	**1.50**	**314**	*e*P	**Pn**	**17 07 51.0**	**-1.5**
KLY				*e*S	**Sn**	**17 08 09.6**	**-1.7**
KPT	**Kopyto**	**1.51**	**298**	*e*P	**Pn**	**17 07 53.1**	**+0.4**
KPT				*e*S	**Sn**	**17 08 12.7**	**+1.1**
SRKR	**Sorokina**	**1.59**	**330**	*e*P	**Pn**	**17 07 52.7**	**-1.0**
SRKR				*e*S	**Sn**	**17 08 11.8**	**-1.6**
KOZR	**Kozyr**	**1.72**	**298**	PN	**Pn**	**17 07 55.7**	**+0.3**
KOZR				S	**Sn**	**17 08 17.2**	**+0.8**
KOZ	**Kozyrevsk**	**1.73**	**298**	*e*P	**Pn**	**17 07 55.7**	**+0.2**
KOZ				*e*S	**Sn**	**17 08 17.2**	**+0.6**
SRDR	**Sredninnyy**	**1.93**	**304**	*e*P	**Pn**	**17 07 58.4**	**+0.2**
SRDR				*e*S	**Sn**	**17 08 21.5**	**0.0**
BKI	**Bering**	**1.93**	**91**	PN	Pn	17 07 55.6	-2.6
BKI				S	Sn	17 08 16.6	-4.9
BKI	**Bering**	**1.93**	**91**	*i* P	Pn	17 07 55.6	-2.6
BKI				*i* S	Sn	17 08 16.6	-4.9
KII	**Karymskiy**	**2.22**	**237**	*e*P	**Pn**	**17 08 01.8**	**-0.4**
ESO	**Esso**	**2.30**	**288**	PN	**Pn**	**17 08 02.7**	**-0.6**
ESO				S	**Sn**	**17 08 29.1**	**-1.4**
ESO	**Esso**	**2.30**	**288**	*e*P	**Pn**	**17 08 02.7**	**-0.6**
ESO				*e*S	**Sn**	**17 08 29.1**	**-1.4**
SPN	**Mys Shipunski**	**2.67**	**216**	PN	**Pn**	**17 08 06.4**	**-1.8**
SPN				S	**Sn**	**17 08 36.1**	**-3.2**
SPN	**Mys Shipunski**	**2.67**	**216**	*e*P	**Pn**	**17 08 06.4**	**-1.8**
SPN				*e*S	**Sn**	**17 08 36.1**	**-3.2**
NLC	**Nalytchevo**	**2.85**	**223**	PN	**Pn**	**17 08 09.7**	**-1.0**
NLC				S	**Sn**	**17 08 41.5**	**-2.4**
NLC	**Nalytchevo**	**2.85**	**223**	*e*P	**Pn**	**17 08 09.7**	**-1.0**
NLC				*e*S	**Sn**	**17 08 41.5**	**-2.4**
SDLR	**Sedlovina**	**2.97**	**229**	*i* P	**Pn**	**17 08 12.1**	**-0.3**
SDLR				*e*S	**Sn**	**17 08 45.5**	**-1.3**
KRER	**Koryakskii**	**3.01**	**230**	*i* P	**Pn**	**17 08 13.1**	**+0.1**
KRER				*e*S	**Sn**	**17 08 48.0**	**0.0**
SMAR	**Somma**	**3.01**	**229**	*i* P	**Pn**	**17 08 12.9**	**-0.2**
SMAR				*e*S	**Sn**	**17 08 47.1**	**-1.0**
KRX	**Arik**	**3.01**	**232**	*e*P	**Pn**	**17 08 12.7**	**-0.3**
KRX				*e*S	**Sn**	**17 08 46.8**	**-1.3**
AVH	**Avacha**	**3.04**	**230**	*i* P	**Pn**	**17 08 13.3**	**0.0**
AVH				*e*S	**Sn**	**17 08 47.0**	**-1.6**
UGLR	**Uglovaya**	**3.04**	**228**	*i* P	**Pn**	**17 08 13.5**	**+0.1**
UGLR				*e*S	**Sn**	**17 08 48.0**	**-0.6**
KOK	**Koryaka**	**3.06**	**231**	*i* P	**Pn**	**17 08 13.9**	**+0.2**
GNL	**Ganaly**	**3.15**	**241**	*i* P	**Pn**	**17 08 15.3**	**+0.4**
PET	**Petropavlovsk**	**3.25**	**227⇓**	*i*PN	**Pn**	**17 08 15.8**	**-0.2**
PET				*e*S	**Sn**	**17 08 52.7**	**-0.7**
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				smax	smax		
	comp=N,735nm,0.5s						
PET				smax	smax		
	comp=E,1μm,0.6s						
PET				MLR	MLR		
	comp=Z,600nm,19.0s						
PET	**Petropavlovsk**	**3.25**	**227**	*i* P	**Pn**	**17 08 15.8**	**-0.2**
PET				*e*S	**Sn**	**17 08 52.3**	**-1.1**
PETK	**Petropavlovsk-**	**3.61**	**235**	PN	**Pn**	**17 08 20.2**	**-0.9**
PETK				S	**Sn**	**17 09 04.0**	**+1.5**
PETK				pmax	pmax		
	comp=Z,38nm,0.3s						
PETK				smax	smax		
	comp=N,5.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,196nm,20.2s						
PETK	**Petropavlovsk-**	**3.61**	**235**	P	**Pn**	**17 08 20.2**	**-0.9**
	comp=Z,38nm,0.3s,baz=67,slow=18,SNR=212						
PETK				S	**Sn**	**17 09 04.0**	**+1.5**
	comp=Z,5.3nm,0.3s,baz=83,slow=38,SNR=2.4						
PETK				LR	LR	17 09 56.2	
	comp=Z,196nm,20.2s,baz=65,slow=41						
RUS	**Russkaya**	**3.75**	**222**	PN	**Pn**	**17 08 22.1**	**-0.8**
RUS				S	**Sn**	**17 09 02.6**	**-3.1**
RUS	**Russkaya**	**3.75**	**222**	*i* P	**Pn**	**17 08 22.1**	**-0.8**
RUS				*e*S	**Sn**	**17 09 02.6**	**-3.1**
MTVR	**Mutnovka**	**3.84**	**225**	*e*P	**Pn**	**17 08 24.1**	**-0.2**
MTVR				*e*S	**Sn**	**17 09 06.9**	**-1.3**
OSSR	**Ossora**	**3.98**	**3**	*i* P	**Pn**	**17 08 24.6**	**-1.4**
OSSR				*e*S	**Sn**	**17 09 07.1**	**-4.3**
APC	**Apacha**	**3.98**	**236**	*e*P	**Pn**	**17 08 27.3**	**+1.2**
APC				*e*S	**Sn**	**17 09 11.1**	**-0.4**
ASAK	**Asacha**	**4.03**	**226**	*e*P	**Pn**	**17 08 27.9**	**+1.1**
ASAK				*e*S	**Sn**	**17 09 12.4**	**-0.3**
PALN	**Palana**	**4.07**	**340**	P	**Pn**	**17 08 26.2**	**-1.1**
MIPR	**Malaya Ipel'ka**	**4.59**	**231**	*e*P	**Pn**	**17 08 35.2**	**+0.7**
PAU	**Pauzhetka**	**5.16**	**225**	PN	**Pn**	**17 08 42.6**	**+0.4**
PAU	**Pauzhetka**	**5.16**	**225**	*e*P	**Pn**	**17 08 42.6**	**+0.4**
TILK	**Tilichiki**	**5.51**	**19**	*i* P	**Pn**	**17 08 46.8**	**-0.1**
SKR	**Severo-Kuril's**	**6.05**	**223**	*e*PN	Pn	17 08 50.0	-4.3
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				pmax	pmax		
	comp=N,50nm,0.3s						
SKR				pmax	pmax		
	comp=E,50nm,0.3s						
SKR	**Severo-Kuril's**	**6.05**	**223**	*e*P	**Pn**	**17 08 53.8**	**-0.5**
SKR				S	**Sn**	**17 09 57.7**	**-4.4**
FX1	**Attu Island--F**	**6.67**	**107**	P	Pn	17 09 00.2	-2.6
	comp=E,9.6nm,0.3s,baz=318,slow=4.6,SNR=8.5						
FX1				S	Sn	17 10 09.3	-7.9
	comp=E,26nm,0.3s,baz=167,slow=18,SNR=15						
BILL	**Bilibino**	**12.91**	**6⇑**	*i*PN	**Pn**	**17 10 30.3**	**+2.5**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.3s						
YUK	**Yuzh-Kuril'sk**	**15.58**	**231**	P	**Pn**	**17 10 58.7**	**-4.2**
YUK				*i* S	**Sn**	**17 13 48.5**	**-5.9**
YUK				pmax	pmax		
	comp=N,26nm,0.4s						
YUK				pmax	pmax		
	comp=Z,59nm,0.4s						
YUK				pmax	pmax		
	comp=Z,228nm,2.3s						
YUK				pmax	pmax		
	comp=Z,14μm,1.6s						
YUK				smax	smax		
	comp=N,657nm,2.7s						
YUK				smax	smax		
	comp=E,831nm,2.7s						
ASAJ	**Asahikawa**	**17.03**	**237**	P	**Pn**	**17 11 20.7**	**-0.3**
	comp=E,0.4nm,0.3s,baz=77,slow=9.7,SNR=5.9						
YAK	**Yakutsk**	**18.24**	**305**	*e*P	**P**	**17 11 34.4**	**-0.6**
YAK				pmax	pmax		
	comp=E,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
ERM	**Erimo**	**18.39**	**232⇑**	*e*P	**Pn**	**17 11 37.0**	**-0.6**
TIXI	**Tiksi**	**21.77**	**332⇓**	*i*P	**P**	**17 12 13.3**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,27nm,1.0s						
KDAK	**Kodiak Island**	**24.50**	**66**	*i* P	**P**	**17 12 40.8**	**+0.8**
MAJO	**Matsushiro**	**25.07**	**232⇑**	*i*P	**P**	**17 12 45.9**	**+0.5**
MJAR	**Matsushiro Arr**	**25.07**	**232**	P	**P**	**17 12 45.7**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MJAR	**Matsushiro Arr**	**25.07**	**232**	P	**P**	**17 12 45.7**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=19,slow=7.5,SNR=12						
COLA	**College**	**25.82**	**48**	*e*P	**P**	**17 12 55.9**	**+4.0**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ILAR	**Eielson Array**	**26.24**	**48**	P	**P**	**17 12 56.1**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**26.24**	**48**	P	**P**	**17 12 56.1**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=270,slow=9.5,SNR=18						
KSRS	**Korea Array**	**29.42**	**247**	P	**P**	**17 13 23.3**	**-1.0**
KSRS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KSRS	**Korea Array**	**29.42**	**247**	P	**P**	**17 13 23.3**	**-1.0**
	comp=Z,2.7nm,1.0s,baz=41,slow=13,SNR=3.0						
INK	**Inuvik**	**31.23**	**40**	P	**P**	**17 13 40.3**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**31.23**	**40**	P	**P**	**17 13 40.2**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=290,slow=9.9,SNR=7.0						
TLY	**Talaya**	**34.36**	**289**	*e*P	**P**	**17 14 08.5**	**+1.0**
TLY				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,85nm,16.0s						
SONM	**Songino Array**	**34.87**	**282**	P	**P**	**17 14 11.2**	**-0.9**
SONM						17 16 44.4	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**34.87**	**282**	P	**P**	**17 14 11.2**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=61,slow=12,SNR=4.4						
SONM				PcP	**PcP**	**17 16 44.4**	**+1.0**
	baz=80,slow=2.0						
KRAR	**Krasnoyarsk**	**37.82**	**301**	P	**P**	**17 14 35.8**	**-1.1**
KRAR				pmax	pmax		
	comp=Z,14nm,0.5s						
YKA	**Yellowknife Ar**	**40.56**	**45**	P	**P**	**17 15 00.9**	**+1.2**
YKA				*PP	**pP**	**17 15 19.1**	**+2.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**40.56**	**45**	P	**P**	**17 15 00.9**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=299,slow=7.9,SNR=7.4						
YKA				pP	**pP**	**17 15 19.1**	**+2.6**
	comp=Z,0.9nm,0.5s,baz=298,slow=7.9,SNR=8.1						
MK31	**Makanchi Array**	**48.54**	**295**	*i* P	**P**	**17 16 02.3**	**-1.1**
MKAR	**Makanchi Array**	**48.54**	**295**	P	**P**	**17 16 01.8**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**48.54**	**295**	P	**P**	**17 16 01.8**	**-1.7**
	comp=Z,0.8nm,0.4s,baz=43,slow=7.0,SNR=21						
BRVK	**Borovoye**	**50.21**	**308**	*d i*P	**P**	**17 16 14.8**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,2.5s						
ARCES	**ARCESS Array B**	**51.65**	**342**	P	**P**	**17 16 26.0**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ARCES	**ARCESS Array B**	**51.65**	**342**	P	**P**	**17 16 26.0**	**-0.6**
	comp=Z,7.0nm,1.1s,baz=28,slow=9.6,SNR=5.8						
ARU	**Arti**	**52.78**	**317**	*d i*P	**P**	**17 16 33.4**	**-1.7**
ARU						17 18 30.5	
ARU				S	**S**	**17 23 55.9**	**-2.0**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NVAR	**Mina Array Bea**	**53.65**	**73**	P	**P**	**17 16 43.5**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=293,slow=7.4,SNR=7.4						
PDAR	**Pinedale Array**	**55.20**	**64**	P	**P**	**17 16 55.0**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=334,slow=2.9,SNR=4.9						
PDAR				pP	**pP**	**17 17 13.6**	**+2.7**
	comp=Z,0.5nm,0.8s,baz=336,slow=3.3,SNR=3.2						
AAK	**Ala-Archa**	**55.42**	**296⇓**	*i*P	**P**	**17 16 54.6**	**-0.2**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.7s						
JOF	**Joensuu**	**56.18**	**336**	*e*P	**P**	**17 16 58.7**	**-1.0**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JOF	**Joensuu**	**56.18**	**336**	*e*p	**P**	**17 16 58.7**	**-1.0**
	comp=Z,3.1nm,0.6s						
AB31	**Akbulak array**	**57.48**	**311**	*e*P	**P**	**17 17 08.1**	**-1.0**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KAF	**Kangasniemi**	**58.03**	**337**	*e*P	**P**	**17 17 11.9**	**-0.8**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KAF	**Kangasniemi**	**58.03**	**337**	*e*p	**P**	**17 17 11.9**	**-0.8**
	comp=Z,2.7nm,0.8s						
FINES	**FINESS Array B**	**58.67**	**337**	P	**P**	**17 17 17.4**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=37,slow=6.8,SNR=13						
FINES				LR	LR	17 48 32.7	
	comp=Z,42nm,19.0s,baz=90,slow=42						
TAPN	**Taplejung**	**59.50**	**275**	*e*P	**P**	**17 17 23.0**	**-0.9**
	comp=Z,4.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**60.06**	**259**	P	**P**	**17 17 27.5**	**+0.1**
CMAR						17 18 13.9	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**60.06**	**259**	P	**P**	**17 17 27.5**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=22,slow=7.3,SNR=13						
CMAR				PcP	**PcP**	**17 18 13.9**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=12,slow=3.9,SNR=5.4						
ODAN	**Odare**	**60.06**	**275**	*e*P	**P**	**17 17 27.6**	**0.0**
	comp=Z,5.1nm,0.6s						
GUN	**Gumba**	**60.12**	**277**	*e*P	**P**	**17 17 27.1**	**-1.0**
	comp=Z,8.8nm,0.4s						
JIRN	**Jiri**	**60.13**	**276**	*e*P	**P**	**17 17 26.7**	**-1.5**
	comp=Z,4.0nm,0.3s						
RAMN	**Ramite**	**60.44**	**275**	*e*P	**P**	**17 17 29.1**	**-1.1**
KKN	**Kakani**	**60.55**	**277**	*e*P	**P**	**17 17 30.7**	**-0.2**
PKI	**Pulchoki**	**60.64**	**277**	*e*P	**P**	**17 17 30.6**	**-1.1**
PKIN	**Phulchoki**	**60.65**	**277**	*e*P	**P**	**17 17 31.4**	**-0.2**
	comp=Z,2.7nm,0.3s						
GKN	**Gorkha**	**60.75**	**278**	*e*P	**P**	**17 17 31.6**	**-0.6**
DMN	**Daman**	**60.79**	**277**	*e*P	**P**	**17 17 32.1**	**-0.5**
DANN	**Dangsing**	**60.98**	**279**	*e*P	**P**	**17 17 33.0**	**-0.9**
	comp=Z,9.5nm,0.6s						
OBN	**Obninsk**	**61.44**	**328**	*e*P	**P**	**17 17 35.2**	**-1.0**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KOLN	**Koldanda**	**61.52**	**278**	*e*P	**P**	**17 17 36.3**	**-1.1**
	comp=Z,3.5nm,0.4s						
AKASG	**Malin Array Be**	**67.47**	**330**	*c e*P	**P**	**17 18 14.8**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**67.47**	**330**	P	**P**	**17 18 14.9**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=27,slow=6.8,SNR=13						
AKASG				LR	LR	17 50 35.6	
	comp=Z,36nm,18.1s,baz=305,slow=38						
TXAR	**Lajitas Array**	**68.45**	**70**	P	**P**	**17 18 23.3**	**+1.0**
TXAR				*PP	**pP**	**17 18 41.2**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**68.45**	**70**	P	**P**	**17 18 23.2**	**+1.0**

comp=Z,0.5nm,0.4s,baz=303,slow=4.7,SNR=4.8
TXAR pP pP 17 18 41.2 +0.7
comp=Z,1.0nm,0.7s,baz=294,slow=2.9,SNR=5.0
BRTR Keskin Array B 75.83 322 P P 17 19 06.4 +0.1
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 75.83 322 P P 17 19 06.3 +0.1
comp=Z,1.5nm,0.6s,baz=54,slow=2.4,SNR=7.9
WRAB Tennant Creek 78.69 207 eP P 17 19 23.1 +1.0
WRAB pmax pmax
comp=Z,21nm,2.3s
WRA Warramunga Arr 78.70 207 iP P 17 19 23.2 +1.1
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 78.70 207 P P 17 19 23.3 +1.1
comp=Z,1.8nm,0.8s,baz=18,slow=5.9,SNR=12
ASAR Alice Springs 82.38 206 P P 17 19 43.3 +1.5
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 82.38 206 P P 17 19 43.3 +1.5
comp=Z,3.0nm,0.8s,baz=16,slow=5.4,SNR=42
ESDC Sonseca Array 84.71 350 P P 17 19 54.8 +1.0
comp=Z,0.3nm,0.4s,baz=14,slow=3.7,SNR=3.7
STKA Stephens Creek 88.67 198 P P 17 20 12.8 +0.1
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 88.67 198 P P 17 20 12.8 +0.1
comp=Z,2.3nm,0.8s,baz=75,slow=0.6,SNR=4.1

CSEM 10 17:21:44.4, 63.77N×22.91W, h10km, ML3.3, After REY
REY 10 17:21:44.4, 63.77N×22.91W, h10km, ML3.8, ML3.3, Iceland region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
IRNE Reykjanes 0.10 63 P Pg 17 21 46.9 0.0
baz=63
IRNE S Sg 17 21 48.7 -0.1
baz=63
INYL Nylenda 0.22 20 P Pg 17 21 48.7 -0.2
INYL S Sg 17 21 52.0 +0.1
INYL Nylenda 0.22 20 P Pg 17 21 48.7 -0.1
baz=20
INYL S Sg 17 21 52.0 +0.1
baz=20
IGRV Grindav??k 0.22 67 P Pg 17 21 48.8 -0.1
IGRV S Sg 17 21 52.0 +0.1
IGRV Grindav??k 0.22 67 P Pg 17 21 48.8 -0.1
baz=67
IGRV S Sg 17 21 52.0 0.0
baz=67
IVOG Vogar 0.30 49 P Pg 17 21 50.1 -0.3
IVOG S Sg 17 21 54.6 +0.1
IVOG Vogar 0.30 49 P Pg 17 21 50.1 -0.3
baz=49
IVOG S Sg 17 21 54.6 +0.2
baz=49
IKRI Krysuvik 0.38 74 P Pg 17 21 51.4 -0.6
IKRI S Sg 17 21 56.8 -0.2
IKRI Krysuvik 0.38 74 P Pg 17 21 51.4 -0.5
baz=74
IKRI S Sg 17 21 56.8 -0.3
baz=74
IKAS Kald??rsel 0.53 61 P Pg 17 21 54.0 -0.7
IKAS S Sg 17 22 01.6 -0.1
IKAS Kald??rsel 0.53 61 P Pg 17 21 54.0 -0.7
baz=61
IKAS S Sg 17 22 01.6 -0.1
baz=61
IVOS Vogsosar 0.54 81 P Pg 17 21 54.1 -0.8
IVOS S Sg 17 22 01.6 -0.4
IVOS Vogsosar 0.54 81 P Pg 17 21 54.1 -0.8
baz=81
IVOS S Sg 17 22 01.6 -0.3
baz=81
ISAN Sandskeio 0.66 64 P Pg 17 21 55.9 -1.2
ISAN S Sg 17 22 05.0 -0.7
ISAN Sandskeio 0.66 64 P Pg 17 21 55.9 -1.2
baz=64
ISAN S Sg 17 22 05.0 -0.7
baz=64
IKUD Kuludalsa 0.71 39 P Pg 17 21 56.7 -1.5
IKUD S Sg 17 22 06.5 -1.0
IKUD Kuludalsa 0.71 39 P Pg 17 21 56.7 -1.5
baz=39
IKUD S Sg 17 22 06.5 -1.0
baz=39
IBJA Bjarnastaoir 0.73 75 P Pg 17 21 57.1 -1.4
IBJA S Sg 17 22 07.2 -0.8
IBJA Bjarnastaoir 0.73 75 P Pg 17 21 57.1 -1.4
baz=76
IBJA S Sg 17 22 07.2 -0.8
baz=76
IHEI Heioarbar 0.85 59 P Pg 17 21 58.8 -2.0
IHEI S Sg 17 22 10.6 -1.3
IHEI Heioarbar 0.85 59 P Pg 17 21 58.8 -2.1
baz=59
IHEI S Sg 17 22 10.6 -1.3
baz=59
IKRO Krokur 0.85 67 P Pg 17 21 58.8 -2.0
IKRO S Sg 17 22 10.6 -1.4
IKRO Krokur 0.85 67 P Pg 17 21 58.8 -2.0
baz=67
IKRO S Sg 17 22 10.6 -1.4
baz=67
ISOL Solvholt 0.88 79 P Pg 17 21 59.3 -2.1
ISOL S Sg 17 22 11.3 -1.6
ISOL Solvholt 0.88 79 P Pg 17 21 59.3 -2.0
baz=79
ISOL S Sg 17 22 11.3 -1.6
baz=79
IASM Asmuli 1.02 85 P Pg 17 22 01.4 -2.6
IASM S Sg 17 22 15.1 -2.1
IASM Asmuli 1.02 85 P Pg 17 22 01.4 -2.5
baz=86
IASM S Sg 17 22 15.1 -2.1
baz=86
ISAU Saurbar 1.12 78 P Pb 17 22 03.2 -2.7
ISAU S Sb 17 22 18.5 -2.0
ISAU Saurbar 1.12 78 P Pb 17 22 03.2 -2.6
baz=78
ISAU S Sb 17 22 18.5 -2.1
baz=78
IASB `sbjarnarst 1.20 34 P Pb 17 22 04.3 -2.9
IASB S Sb 17 22 20.5 -2.2
IASB `sbjarnarst 1.20 34 P Pb 17 22 04.3 -2.9
baz=34
IASB S Sb 17 22 20.6 -2.1
baz=34
IGYG Gygjarholskot 1.29 65 P Pn 17 22 05.9 -2.5
IGYG S Sb 17 22 22.8 -2.5
IGYG Gygjarholskot 1.29 65 P Pn 17 22 06.0 -2.5
baz=66
IGYG S Sb 17 22 22.8 -2.5
baz=66
IHAU Haukadalur 1.32 80 P Pn 17 22 06.2 -2.6
IHAU S Sb 17 22 24.1 -2.0
IHAU Haukadalur 1.32 80 P Pn 17 22 06.2 -2.6
baz=80
IHAU S Sb 17 22 24.1 -2.0
baz=80
IMID Miomork 1.35 94 P Pn 17 22 06.2 -3.1
IMID S Sb 17 22 24.7 -2.3
IMID Miomork 1.35 94 P Pn 17 22 06.2 -3.0
baz=94
IMID S Sb 17 22 24.7 -2.3
baz=94
IESK Eystri-Skogar 1.56 98 P Pn 17 22 10.6 -1.6
IESK S Sn 17 22 30.6 -1.8
IESK Eystri-Skogar 1.56 98 P Pn 17 22 10.6 -1.5
baz=98
IESK S Sn 17 22 30.6 -1.8
baz=98
IGOD Go??abunga 1.60 92 P Pn 17 22 10.8 -2.1
IGOD Go??abunga 1.60 92 P Pn 17 22 10.8 -2.1
baz=92
IVAT Vatnsfell 1.81 75 P Pn 17 22 14.2 -1.4
IVAT Vatnsfell 1.81 75 P Pn 17 22 14.2 -1.4
baz=75
IHVE Hveravellir 1.82 51 P Pn 17 22 14.4 -1.5
IHVE Hveravellir 1.82 51 P Pn 17 22 14.4 -1.5
baz=51
IHVO Lagu-Hvolar 1.83 96 P Pn 17 22 14.3 -1.5
IHVO Lagu-Hvolar 1.83 96 P Pn 17 22 14.3 -1.5
baz=96
IKAL Kalfafell 2.32 83 P Pn 17 22 21.5 -1.0
IKAL Kalfafell 2.32 83 P Pn 17 22 21.5 -1.0
baz=83

IDC 10 17:27:59.5±2.5, 5.59N×125.17E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/33, mbtmp3.4/4, Error ellipse: s-maj=262.2km s-min=26.3km az=64.0
ISCJB 10 17:28:11.8±0.8, 5.71N±0.07×126.0E±0.1, h116km, mb3.3/4, Error ellipse: s-maj=18.6km s-min=8.5km az=162.4
ISC 10 17:28:12.9±1.0, 5.76N±0.09×125.9E±0.1, h116km, n9, σ1§23/11, mb3.2/4, 1C, Mindanao

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
MATI Mati 1.22 15 eP Pn 17 28 37.4 +0.4
MATI eS Sn 17 28 54.0 -1.2
KCP Kidapawan 1.51 326⇑eP Pn 17 28 41.4 +1.2
KCP iS Sn 17 29 01.5 +0.5
BUKP Musuan 2.28 338 eP Pn 17 28 50.7 +0.9
BUTP Butuan 3.21 354 eP Pn 17 29 03.6 +1.8
PAGZ Pagadian 3.28 309 eP Pn 17 29 03.0 +0.2
WRA Warramunga Arr 26.84 162 P P 17 33 41.9 -0.8
0.4nm,0.8s,baz=340,slow=9.9,SNR=4.9
ASAR Alice Springs 30.26 165 P P 17 34 13.4 +0.4
0.1nm,0.4s,baz=343,slow=7.1,SNR=7.1
STKA Stephens Creek 40.29 159 P P 17 35 39.6 +0.8
1.3nm,0.5s,baz=343,slow=8.6,SNR=5.9
MKAR Makanchi Array 55.46 325 P P 17 37 33.7 -1.9
0.1nm,0.3s,baz=119,slow=7.1,SNR=4.2

MOS 10 17:34:06.8±1.4, 48.29N×154.51E, h78km, mb4.2/10, Error ellipse: s-maj=17.8km s-min=9.0km az=73.0
SKHL 10 17:34:07.4±0.1, 48.09N×154.78E, h87km±2km, mb4.8/2, mbh5.1/5
KRSC 10 17:34:08.4±2.0, 48.10N×156.00E, h61km±26km, ML4.5
IDC 10 17:34:09.3±2.7, 48.19N×154.44E, h89km±25km, mb3.3/15, mb1 3.5/17, mb1mx3.4/31, mbtmp3.6/17, MS2.5/1, Ms1 2.5/1, ms1mx2.1/18, Error ellipse: s-maj=20.4km s-min=12.7km az=146.0
ISC 10 17:34:07.5±1.3, 48.15N±0.10×154.66E±0.09, h72km±10km, n89, σ1§43/91, mb3.6/19, 1C-2D, Kuril Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SKR Severo-Kuril's 2.71 20 ePN Pn 17 34 45.5 -3.2
SKR eS Sn 17 35 17.4 -3.0
SKR pmax pmax
comp=Z,110nm,0.8s
SKR pmax pmax
comp=N,50nm,0.4s
SKR pmax pmax
comp=E,60nm,0.8s
SKR smax smax
comp=N,150nm,0.4s
SKR smax smax
comp=E,240nm,0.4s
SKR Severo-Kuril's 2.71 20 eP Pn 17 34 49.4 +0.7
SKR eS Sn 17 35 20.2 -0.2
SKR Severo-Kuril's 2.71 20 eP Pn 17 34 49.5 +0.7
SKR AMB AMB 17 34 53.0
comp=E,50nm,0.6s
SKR AMB AMB 17 34 53.0
comp=E,60nm,0.6s
SKR AMB AMB 17 34 53.0
comp=E,110nm,0.6s
SKR eS Sn 17 35 21.1 +0.7
SKR A A 17 35 23.0
comp=E,150nm,0.5s
SKR A A 17 35 23.0
comp=E,240nm,0.5s
SKR A A 17 35 23.0
comp=E,60nm,0.5s
PAU Pauzhetka 3.60 22 PN Pn 17 35 01.7 +0.8
PAU S Sn 17 35 41.9 -0.3
PAU Pauzhetka 3.60 22 eP Pn 17 35 01.7 +0.8
PAU eS Sn 17 35 41.9 -0.3
PAU Pauzhetka 3.60 22 eP Pn 17 35 02.4 +1.5
PAU eS Sn 17 35 43.7 +1.5
PAU A A 17 35 45.3
comp=E,66nm,0.4s
MIPR Malaya Ipel'ka 4.34 17 eP Pn 17 35 12.1 +1.1
MIPR S Sn 17 35 59.2 -1.2
ASAK Asacha 4.72 25 P Pn 17 35 16.8 +0.6
ASAK S Sn 17 36 07.6 -2.0
MTVR Mutnovka 4.89 26 eP Pn 17 35 18.9 +0.3
MTVR eS Sn 17 36 11.4 -2.5
RUS Russkaya 4.95 28 PN Pn 17 35 19.2 0.0
RUS S Sn 17 36 11.9 -3.2
RUS Russkaya 4.95 28 P Pn 17 35 19.2 0.0
RUS eS Sn 17 36 11.9 -3.2
RUS Russkaya 4.95 28 eP Pn 17 35 19.2 0.0
APC Apacha 5.04 17 eP Pn 17 35 22.2 +1.7
PETK Petropavlovsk- 5.33 20 PN Pn 17 35 26.1 +1.6
PETK pmax pmax
comp=Z,3.0nm,0.3s
PETK MLR MLR
comp=Z,39nm,18.0s
PETK Petropavlovsk- 5.33 20 P Pn 17 35 26.1 +1.6
comp=Z,2.6nm,0.3s,baz=187,slow=11,SNR=107
PETK LR LR 17 38 14.7
comp=Z,39nm,18.0s,baz=116,slow=46
PET Petropavlovsk 5.50 26 S Sn 17 36 27.0 -1.6
PET Petropavlovsk 5.50 26 eS Sn 17 36 29.0 +0.4
PET A A 17 36 29.9
comp=Z,32nm,0.5s
PET A A 17 36 29.9
comp=Z,35nm,0.5s
KUR Kuril'sk 5.51 241 ePN Pn 17 35 37.7 +11
KUR iS Sn 17 36 28.6 -0.3
KUR pmax pmax
comp=E,13nm,1.0s
KUR pmax pmax
comp=Z,24nm,1.0s
KUR pmax pmax
comp=N,11nm,0.5s
KUR smax smax
comp=E,8.0nm,0.3s
KUR smax smax
comp=N,33nm,0.6s
UGLR Uglovaya 5.71 26 eP Pn 17 35 31.5 +1.7
KOK Koryaka 5.73 25 eP Pn 17 35 32.5 +2.4
AVH Avacha 5.74 25 eP Pn 17 35 32.0 +1.9
AVH S Sn 17 36 33.5 -1.1
SMAR Somma 5.75 26 P Pn 17 35 31.7 +1.2
KRER Koryakskii 5.78 25 eP Pn 17 35 30.9 +0.2
KRX Arik 5.80 24 eP Pn 17 35 32.4 +1.4
KRX S Sn 17 36 34.4 -1.7
GNL Ganaly 5.93 19 eP Pn 17 35 34.2 +1.5
SPN Mys Shipunski 6.01 33 S Sn 17 36 37.6 -3.6
SHO Shikotan 6.93 235 eS Sn 17 37 02.2 -1.5
SHO A A 17 37 03.7
comp=N,115nm,0.9s
TUMR Tumrok 7.91 23 eP Pn 17 36 01.9 +2.1
YSS Yuzh-Sakhalins 8.14 266 eP Pn 17 36 04.3 +1.4
YSS AMB AMB 17 36 07.1
comp=N,83nm,0.4s
YSS eS Sn 17 37 31.9 -1.4
YSS A A 17 37 34.8
comp=N,21nm,0.7s
ASAJ Asahikawa 9.29 249 PN Pn 17 36 19.7 +1.1
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 9.29 249 P Pn 17 36 19.7 +1.1
comp=Z,0.9nm,0.3s,baz=56,slow=16,SNR=9.3
KBTR Krutoberegovo 9.49 29 PN Pn 17 36 19.7 -1.6
KBTR Krutoberegovo 9.49 29 P Pn 17 36 19.7 -1.6
BKI Bering 9.95 41 eS Sn 17 38 06.2 -11
BILL Bilibino 20.80 12 eP Pn 17 38 50.0 +4.4
BILL pmax pmax
comp=Z,1.0nm,1.0s
KSRS Korea Array 22.23 251 eP P 17 39 00.6 +2.5
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS Korea Array 22.23 251 P P 17 38 57.6 -0.5
comp=Z,1.3nm,0.6s,baz=50,slow=9.9,SNR=5.9
TIXI Tiksi 26.44 342 eP P 17 39 40.7 +3.6
TIXI pmax pmax
comp=Z,1.0nm,0.6s
H11N2 WAKE ISLAND Hy 30.03 156 T T 18 12 26.5
baz=344,slow=77,SNR=20
H11N1 WAKE ISLAND Hy 30.05 157 T T 18 12 41.5
baz=344,slow=77,SNR=22
H11N3 WAKE ISLAND Hy 30.05 156 T T 18 12 27.7
baz=344,slow=77,SNR=14
H11S1 WAKE ISLAND Hy 31.15 158 T T 18 13 58.0
baz=346,slow=78,SNR=66
H11S3 WAKE ISLAND Hy 31.16 158 T T 18 13 34.7
baz=346,slow=78,SNR=65
H11S2 WAKE ISLAND Hy 31.17 158 T T 18 13 27.3
baz=346,slow=78,SNR=40
SONM Songino Array 31.88 288 P P 17 40 24.2 -1.6
comp=Z,0.4nm,0.6s,baz=83,slow=12,SNR=3.9
ILAR Eielson Array 34.80 40 P P 17 40 51.5 +0.7
comp=Z,0.2nm,0.6s,baz=255,slow=6.6,SNR=5.6
INK Inuvik 39.91 33 P P 17 41 34.2 +0.3
INK pmax pmax
comp=Z,1.0nm,0.7s
INK Inuvik 39.91 33 P P 17 41 34.2 +0.3
comp=Z,0.8nm,0.7s,baz=307,slow=12,SNR=4.6
ZALV Zalesovo Beam 42.66 305 P P 17 41 54.9 -1.7
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 42.66 305 P P 17 41 54.9 -1.7
comp=Z,0.7nm,0.4s,baz=54,slow=5.3,SNR=4.6
MKAR Makanchi Array 47.24 297 P P 17 42 31.6 -1.5
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 47.24 297 P P 17 42 31.6 -1.5
comp=Z,0.7nm,0.5s,baz=71,slow=8.5,SNR=12
KURK Kurchatov 47.47 303 iP P 17 42 33.5 -1.3
KURK Kurchatov 47.47 303 eP P 17 42 33.5 -1.3
YKA Yellowknife Ar 49.17 38 P P 17 42 48.1 +0.4
comp=Z,0.2nm,0.7s,baz=297,slow=7.1,SNR=3.0
BRVK Borovoye 50.82 309 diP P 17 42 59.4 -0.9
BRVK pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 53.72 257 eP P 17 43 22.9 +0.7
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 53.72 257 P P 17 43 21.7 -0.5
comp=Z,0.7nm,0.7s,baz=34,slow=7.5,SNR=7.1
CMAR Chiang Mai Arr 53.72 257 eP P 17 43 22.9 +0.7
AAK Ala-Archa 54.16 296⇑eP P 17 43 24.2 -1.1
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 54.16 296 eP P 17 43 24.2 -1.1
ARU Arti 54.69 317 diP P 17 43 27.7 -1.1
ARU 17 45 29.5
ARU pmax pmax
comp=Z,11nm,2.5s
ARU Arti 54.69 317 eP P 17 43 27.7 -1.1
ODAN Odare 55.60 273 eP P 17 43 35.1 -1.0
JIRN Jiri 55.88 275 eP P 17 43 37.6 -0.6
comp=Z,5.6nm,0.4s
GUN Gumba 55.92 275 eP P 17 43 37.2 -1.3
comp=Z,3.4nm,0.4s
RAMN Ramite 56.07 274 eP P 17 43 39.1 -0.3
comp=Z,6.6nm,0.5s
KKN Kakani 56.40 275 eP P 17 43 41.5 -0.2
comp=Z,3.4nm,0.5s
PKI Pulchoki 56.46 275 eP P 17 43 41.7 -0.6
PKIN Phulchoki 56.46 275 eP P 17 43 41.2 -1.0
comp=Z,4.3nm,0.7s
DMN Daman 56.64 275 eP P 17 43 43.3 -0.2
comp=Z,5.0nm,0.4s
GKN Gorkha 56.69 276 eP P 17 43 42.7 -1.0
comp=Z,4.9nm,0.5s
DANN Dangsing 57.05 277 eP P 17 43 46.0 -0.4
comp=Z,6.7nm,0.5s
KOLN Koldanda 57.53 277 eP P 17 43 49.5 -0.2
NVAR Mina Array Bea 60.86 64 P P 17 44 13.3 +0.7
comp=Z,0.2nm,0.4s,baz=295,slow=6.5,SNR=3.3
FINES FINESS Array B 63.22 335 iP P 17 44 27.7 0.0
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 63.22 335 P P 17 44 26.6 -1.1
comp=Z,1.1nm,0.5s,baz=42,slow=7.1,SNR=10
FINES FINESS Array B 63.22 335 eP P 17 44 27.7 0.0
WRA Warramunga Arr 70.19 200 P P 17 45 11.0 -1.5
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 70.19 200 P P 17 45 11.0 -1.5
comp=Z,0.5nm,0.8s,baz=20,slow=6.7,SNR=4.5
AKASG Malin Array Be 70.96 327 eP P 17 45 19.3 +2.4
AKASG Malin Array Be 70.96 327 P P 17 45 15.6 -1.3
comp=Z,0.2nm,0.3s,baz=33,slow=7.0,SNR=6.1
ASAR Alice Springs 73.88 200 P P 17 45 34.8 +0.3
comp=Z,0.4nm,1.0s,baz=19,slow=5.3,SNR=7.1
TXAR Lajitas Array 75.90 62 P P 17 45 47.6 +1.2
comp=Z,0.3nm,0.6s,baz=289,slow=3.8,SNR=4.0
BRTR Keskin Array B 78.08 318 eP P 17 45 59.4 +0.9
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 78.08 318 P P 17 45 59.5 +0.9
comp=Z,0.7nm,0.7s,baz=83,slow=3.9,SNR=4.9
H03N2 Juan Fernandez 137.70 90 T T 20 26 47.4
baz=307,slow=75,SNR=8.1
H03N1 Juan Fernandez 137.72 90 T T 20 26 49.9
baz=307,slow=75,SNR=7.9
H03N3 Juan Fernandez 137.72 90 T T 20 26 51.7
baz=307,slow=75,SNR=6.3

NNC 10 17:53:51.4±8.3, 36.96N×70.96E, h82km±168km, mb3.1, mpv3.5, 3C-3D, Error ellipse: s-maj=66.2km s-min=57.8km az=152.0, Hindu Kush region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KK31 Karatay Array 6.15 357 ⇓P Pn 17 55 20.6 +1.1
2.9nm,0.3s,baz=181,slow=13,SNR=138
KK31 ⇑S Sn 17 56 29.9 +1.4
1.2nm,0.3s,baz=180,slow=22,SNR=9.5
AAK Ala-Archa 6.29 25 ⇓P Pn 17 55 20.9 -0.8
0.9nm,0.3s
AAK ⇑S Sn 17 56 31.5 -0.7
2.6nm,0.5s
AB31 Akbulak array 14.67 330 ⇓P Pn 17 57 13.6 -0.9
0.2nm,0.3s,baz=30,slow=20,SNR=15
AKTO Aktyubinsk 16.37 329 ⇑P P 17 57 36.9 -0.5
0.3nm,0.3s

IDC 10 18:02:30.8±0.5, 13.94N×92.89E, h0km, mb4.1/17, mb1 4.3/18, mb1mx4.2/35, mbtmp4.1/18, ML4.0/1, MS3.2/3, Ms1 3.3/3, ms1mx2.8/34, Error ellipse: s-maj=20.7km s-min=13.9km az=49.0
ISCJB 10 18:02:34.2±0.3, 14.09N±0.03×93.07E±0.04, h32km, mb4.2/24, MS3.2/2, Error ellipse: s-maj=5.7km s-min=4.2km az=0.2
NEIC 10 18:02:36.5±1.1, 14.04N×92.96E, h36km±9km, mb4.5/8, Error ellipse: s-maj=11.9km s-min=6.7km az=208.0
ISC 10 18:02:35.8±0.4, 14.06N±0.05×92.95E±0.06, h32km, n83, σ0§89/83, mb4.3/24, Andaman Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
DGPR DIGLIPUR 0.88 181 eP Pb 18 02 53.0 +0.4
DGPR eS Sn 18 03 03.3 -0.3
DGPR AML AML 18 03 06.6
comp=E,31μm,0.2s
DGPR AML AML 18 03 07.6
comp=N,21μm,0.3s
PBA Port Blair 2.40 185 eP Pn 18 03 13.1 +0.2
PBA eS Sn 18 03 42.1 +1.0
CMBY CAMPBELL BAY 7.07 172 eP Pn 18 04 16.3 -0.8
CMBY ex x 18 05 32.9
CM31 Chiang Mai Arr 7.23 52 eP Pn 18 04 20.9 +1.5
comp=N,5.8nm,0.4s
CM31 eS Sn 18 05 38.3 -2.1
CMAR Chiang Mai Arr 7.23 52 Pn Pn 18 04 19.4 0.0
comp=N,0.6nm,0.3s,baz=241,slow=15,SNR=27
CMAR Sn Sn 18 05 37.6 -2.8
comp=N,1.1nm,0.3s,baz=242,slow=28,SNR=6.9
CMAR LR LR 18 07 54.7
comp=N,147nm,18.1s,baz=235,slow=44
CHTO Chiang Mai 7.45 50 eP Pn 18 04 23.4 +1.1
comp=N,9.8nm,0.8s
VIS Vishakhapatnam 9.95 293 eP Pn 18 04 56.1 -0.5
VIS ix x 18 06 37.0
VIS ex x 18 06 41.9
comp=N,224nm,0.3s
VIS ex x 18 06 41.9
comp=E,171nm,0.3s
SHL Shillong 11.49 355 ex x 18 06 57.4

ODAN	Odare	13.76	339	eP	Pn	18 05 48.9	0.0
	comp=E,7.8nm,0.2s						
ODAN	Odare	13.76	339	eP	Pn	18 05 48.9	0.0
	comp=E,7.8nm,0.2s						
TAPN	Taplejung	14.10	341	eP	Pn	18 05 53.6	-0.1
TAPN	Taplejung	14.10	341	eP	Pn	18 05 53.6	-0.1
RAMN	Ramite	14.13	336	eP	Pn	18 05 53.8	-0.3
RAMN	Ramite	14.13	336	eP	Pn	18 05 53.8	-0.3
HYB	Hyderabad	14.26	285	iP	P	18 06 00.0	-2.5
HYB				e		18 08 20.0	
HYB				eS	Sn	18 08 32.5	-0.3
HYB	Hyderabad	14.26	285	eP	P	18 06 00.0	-2.5
HYB				eS	Sn	18 08 20.0	-13
HYB				e		18 08 32.5	
JIRN	Jiri	14.93	336	eP	Pn	18 06 04.5	-0.5
JIRN	Jiri	14.93	336	eP	Pn	18 06 04.5	-0.5
PKI	Pulchoki	15.17	334	eP	Pn	18 06 07.6	-0.6
PKI	Pulchoki	15.17	334	eP	Pn	18 06 07.6	-0.6
PKIN	Phulchoki	15.18	334	eP	Pn	18 06 07.5	-0.8
	comp=E,8.5nm,0.3s						
GUN	Gumba	15.28	336	eP	Pn	18 06 08.6	-1.0
GUN	Gumba	15.28	336	eP	Pn	18 06 08.6	-1.0
DMN	Daman	15.34	333	eP	Pn	18 06 10.0	-0.3
DMN	Daman	15.34	333	eP	Pn	18 06 10.0	-0.3
KKN	Kakani	15.42	334	eP	Pn	18 06 11.6	+0.3
KKN	Kakani	15.42	334	eP	Pn	18 06 11.6	+0.3
LSA	Lhasa	15.66	354	eP	P	18 06 17.3	-1.2
	comp=E,5.1nm,0.6s						
GKN	Gorkha	15.89	332	eP	Pn	18 06 17.3	0.0
GKN	Gorkha	15.89	332	eP	Pn	18 06 17.3	0.0
KOLN	Koldanda	16.19	329	eP	Pn	18 06 21.1	-0.1
KOLN	Koldanda	16.19	329	eP	Pn	18 06 21.1	-0.1
BHPL	Bhopal	17.30	304	eP	P	18 06 36.7	+0.4
BHPL				ex	x	18 09 32.5	
SMLA	Simla	22.34	322	eP	P	18 07 32.6	+1.6
DHRM	DHARAMSHALA	23.65	323	eP	P	18 07 45.6	+0.9
H08S3	Diego Garcia H	29.61	225	T	T	18 39 36.4	
	baz=42,slow=76,SNR=33						
H08S2	Diego Garcia H	29.62	225	T	T	18 39 30.5	
	baz=42,slow=76,SNR=42						
H08S1	Diego Garcia H	29.63	225	T	T	18 39 35.5	
	baz=42,slow=76,SNR=28						
MK31	Makanchi Array	33.84	347	eP	P	18 09 16.7	+1.4
MKAR	Makanchi Array	33.84	347	P	P	18 09 16.6	+1.4
	comp=E,3.3nm,0.6s,baz=164,slow=8.7,SNR=42						
MKAR				LR	LR	18 26 44.3	
	comp=E,33nm,18.2s,baz=68,slow=43						
KURK	Kurchatov	38.37	345	eP	P	18 09 54.6	+0.8
	comp=E,3.5nm,1.0s						
KSAR	Wonju Array Be	38.80	47	P	P	18 09 57.7	0.0
KSRS	Korea Array	38.83	47	P	P	18 09 57.7	-0.3
	comp=E,0.9nm,0.8s,baz=239,slow=9.1,SNR=3.0						
ZAA0	Zalesovo Array	40.31	353	eP	P	18 10 11.0	+1.0
ZALV	Zalesovo Beam	40.31	353	P	P	18 10 11.2	+1.1
	comp=E,4.2nm,0.6s,baz=179,slow=9.0,SNR=26						
ABKAR	Akbulak array	44.31	329	eP	P	18 10 43.6	+0.9
	comp=E,3.1nm,0.9s						
WRA	Warramunga Arr	52.91	129	P	P	18 11 48.6	-0.7
	comp=E,0.6nm,0.5s,baz=311,slow=7.8,SNR=30						
WRA				PcP	PcP	18 12 58.0	0.0
	comp=E,0.8nm,0.5s,baz=320,slow=3.2,SNR=9.4						
WRAB	Tennant Creek	52.91	129	eP	P	18 11 48.6	-0.7
ASAR	Alice Springs	54.85	133	P	P	18 12 02.8	-0.7
	comp=E,1.1nm,0.4s,baz=310,slow=7.2,SNR=98						
ASAR				PcP	PcP	18 13 05.5	+0.1
	comp=E,0.6nm,0.7s,baz=302,slow=3.7,SNR=5.1						
AS31	Alice Springs	54.86	133	eP	P	18 12 02.8	-0.7
BR131	Keskin Array S	57.61	308	eP	P	18 12 23.2	0.0
	comp=E,2.4nm,0.9s						
BRTR	Keskin Array B	57.61	308	P	P	18 12 23.3	+0.2
	comp=E,2.3nm,0.8s,baz=121,slow=6.8,SNR=14						
AKASG	Malin Array Be	62.65	320	P	P	18 12 56.4	-0.9
	comp=E,0.4nm,0.5s,baz=82,slow=6.0,SNR=7.9						
PETK	Petropavlovsk-	63.76	37	P	P	18 13 07.0	+2.4
	comp=E,1.9nm,1.0s,baz=274,slow=8.7,SNR=6.0						
JOF	Joensuu	64.81	334	ep	P	18 13 11.3	+0.1
	comp=E,3.0nm,0.6s						
STKA	Stephens Creek	65.25	135	P	P	18 13 14.2	-0.4
	comp=E,1.4nm,0.6s,baz=219,slow=3.1,SNR=5.1						
FINES	FINESS Array B	66.74	331	P	P	18 13 24.1	+0.3
	comp=E,2.9nm,0.7s,baz=110,slow=7.4,SNR=17						
ARCES	ARCESS Array B	69.09	340	P	P	18 13 38.8	+0.3
	comp=E,1.4nm,0.5s,baz=88,slow=7.4,SNR=14						
GERES	GERESS Array B	72.49	317	P	P	18 14 00.4	+0.8
	comp=E,1.7nm,0.8s,baz=74,slow=4.7,SNR=12						
NB2	NORSAR Subarra	73.81	330	P	P	18 14 06.8	-0.3
	comp=Z,0.8nm,0.6s,baz=90,slow=5.9						
NOA	NORSAR Array B	73.81	330	P	P	18 14 06.3	-0.8
	comp=Z,1.2nm,0.7s,baz=91,slow=5.6,SNR=3.7						
LPG	La Plagne	77.48	314	eP	P	18 14 29.2	+0.5
	comp=Z,12nm,0.9s						
LPG	La Plagne	77.48	314	eP	P	18 14 29.2	+0.5
	comp=Z,12nm,0.9s						
LPL	La Plagne	77.49	314	eP	P	18 14 29.1	+0.4
	comp=Z,16nm,0.8s						
LPL	La Plagne	77.49	314	eP	P	18 14 29.1	+0.4
	comp=Z,16nm,0.8s						
BOSA	Boshof	77.94	236	P	P	18 14 31.4	0.0
	comp=Z,4.6nm,0.6s,baz=73,slow=3.3,SNR=14						
LOR	Lormes	79.21	316	eP	P	18 14 37.9	0.0
LOR	Lormes	79.21	316	eP	P	18 14 37.9	0.0
SMF	Signal de Mont	79.32	315	eP	P	18 14 38.4	-0.1
	comp=Z,4.2nm,0.5s						
SMF	Signal de Mont	79.32	315	eP	P	18 14 38.4	-0.1
	comp=Z,4.2nm,0.5s						
AVF	Avril sur Loir	79.63	316	eP	P	18 14 40.1	0.0
AVF	Avril sur Loir	79.63	316	eP	P	18 14 40.1	0.0
LDF	La Druitiere	81.61	318	eP	P	18 14 50.8	+0.1
	comp=Z,11nm,0.7s						
LDF	La Druitiere	81.61	318	eP	P	18 14 50.8	+0.1
	comp=Z,11nm,0.7s						
GRR	Gorron	82.13	318	eP	P	18 14 52.9	-0.5
GRR	Gorron	82.13	318	eP	P	18 14 52.9	-0.5
ESDC	Sonseca Array	86.37	310	P	P	18 15 14.7	-0.6
	comp=Z,0.4nm,0.4s,baz=59,slow=5.0,SNR=2.9						
TORD	Torodi Ar. Bea	88.06	283	P	P	18 15 24.7	+0.9
	comp=Z,1.4nm,0.9s,baz=82,slow=4.1,SNR=6.1						
ILAR	Eielson Array	89.48	22	P	P	18 15 29.4	-0.2
	comp=Z,0.9nm,0.8s,baz=300,slow=4.4,SNR=11						
AFI	Afiamalu	98.30	102	LR	LR	18 53 21.0	
	comp=Z,14nm,21.5s,baz=115,slow=31						
PDAR	Pinedale Array	119.79	19	PKP	PKPdf	18 21 22.5	-0.9
	comp=Z,0.3nm,0.5s,baz=296,slow=4.9,SNR=3.3						
NVAR	Mina Array Bea	120.14	28	PKP	PKPdf	18 21 25.7	+1.4
	comp=Z,0.6nm,0.7s,baz=254,slow=1.6,SNR=4.7						
TXAR	Lajitas Array	133.97	20	PKP	PKPdf	18 21 51.6	+0.9
	comp=Z,0.2nm,0.5s,baz=95,slow=2.2,SNR=3.7						

IDC 10 18:06:57.3±15.0, 17.49S×178.90W, h650km±202km, mb3.0/6, mb1 3.3/6, mb1mx2.9/26, mbtmp4.0/6, Error ellipse: s-maj=110.8km s-min=67.6km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.05	260	P	P	18 12 42.8	+0.3
	4.1nm,0.7s,baz=85,slow=13,SNR=3.5						
WRA	Warramunga Arr	44.25	259	P	P	18 14 12.1	0.0
	0.9nm,0.4s,baz=96,slow=7.3,SNR=21						
ASAR	Alice Springs	44.45	254	P	P	18 14 13.7	0.0
	6.2nm,0.6s,baz=87,slow=8.5,SNR=93						
ILAR	Eielson Array	85.59	13	P	P	18 18 28.2	-0.2
	0.6nm,1.0s,baz=226,slow=4.9,SNR=5.3						
TXAR	Lajitas Array	86.17	58	P	P	18 18 32.4	+0.2
	0.4nm,0.8s,baz=205,slow=5.5,SNR=3.8						
PDAR	Pinedale Array	87.37	44	P	P	18 18 37.9	+0.2
	0.4nm,0.6s,baz=232,slow=4.4,SNR=2.2						

IDC 10 18:13:17.5±2.2, 33.90S×178.63E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/22, mbtmp3.9/3, ML3.9/1, MS3.7/4, Ms1 3.7/4, ms1mx3.3/24, Error ellipse: s-maj=50.2km s-min=32.0km az=77.0

ISC 10 18:13:20.5±2.2, 33.8S±0.1×178.9E±0.4, h35km, n9, σ2.24/6, MS3.5/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	4.70	198	Pn	Pn	18 14 26.3	-2.5
	5.4nm,0.3s,baz=52,slow=4.4,SNR=38						
URZ				Sn	Sn	18 15 24.5	+2.5
	4.1nm,0.3s,baz=274,slow=23,SNR=5.7						
DZM	Mont Dzumac	16.05	313	LR	LR	18 22 15.8	
	comp=Z,212nm,18.9s,baz=162,slow=34						
HNR	Honiara	29.88	320	LR	LR	18 27 19.4	
	comp=Z,128nm,20.9s,baz=356,slow=28						
STKA	Stephens Creek	31.32	263	LR	LR	18 31 09.2	
	comp=Z,91nm,19.1s,baz=50,slow=34						
ASAR	Alice Springs	40.48	272	P	P	18 20 56.2	+0.2
	1.3nm,0.9s,baz=113,slow=7.6,SNR=20						
WRA	Warramunga Arr	41.79	278	P	P	18 21 06.4	-0.3
	1.3nm,0.8s,baz=117,slow=7.3,SNR=9.7						
CPUP	Villa Florida	99.84	131	LR	LR	19 08 58.8	
	comp=Z,45nm,18.2s,baz=178,slow=33						
FINES	FINESS Array B	147.31	336	PKPbc	PKPab	18 33 02.1	+0.8
	0.7nm,0.6s,baz=46,slow=6.0,SNR=3.9						
TORD	Torodi Ar. Bea	159.29	188	PKPab	PKPab	18 33 54.1	+1.3
	0.7nm,0.7s,baz=195,slow=3.7,SNR=4.3						

IDC 10 18:21:15.0±3.0, 6.43S×128.74E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.5/22, mbtmp3.4/3, ML3.7/2, MS3.6/1, Ms1 3.6/1, ms1mx2.8/15, Error ellipse: s-maj=305.7km s-min=31.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.50	158	Pn	Pn	18 24 39.9	-1.8
	0.4nm,0.3s,baz=334,slow=13,SNR=15						
WRA				Sn	Sn	18 27 12.6	-11
	0.5nm,0.3s,baz=358,slow=23,SNR=7.8						
ASAR	Alice Springs	17.85	164	P	P	18 25 25.9	+0.1
	0.3nm,0.3s,baz=345,slow=10,SNR=21						
ASAR				S	Sn	18 28 38.1	-6.6
	0.1nm,0.3s,baz=0.9,slow=28,SNR=5.0						
PMG	Port Moresby	18.48	100	LR	LR	18 33 19.3	
	comp=Z,162nm,18.1s,baz=110,slow=39						
MKAR	Makanchi Array	67.06	327	P	P	18 32 10.2	0.0
	0.2nm,0.5s,baz=124,slow=6.4,SNR=4.6						

WEL 10 18:26:48.2±0.3, 36.09S×177.22E, h272km±4km, ML4.0/17, 3C-3D, Error ellipse: s-maj=6.6km s-min=4.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.71	150	⇓PN	Pn	18 27 30.5	+0.4
MXZ				SN	S	18 28 02.5	-0.9
HAZ	Te Kaha	1.73	165	PN	Pn	18 27 30.4	+0.2
HAZ				eSN	S	18 28 03.0	-0.5
PUZ	Puketiti	2.15	158	PN	Pn	18 27 33.7	0.0
PUZ				SN	S	18 28 08.6	-1.5
URZ	Urewera	2.17	182	PN	Pn	18 27 34.1	+0.2
URZ				eSN	S	18 28 10.2	-0.1
MWZ	Matawai	2.26	174	PN	Pn	18 27 35.1	+0.3
MWZ				SN	S	18 28 11.8	0.0
MWZ				AML	AML	18 28 14.6	
RIGZ	Rimuhau	2.65	171	PN	Pn	18 27 38.8	+0.3
SNGZ	Shannon Statio	2.69	178	PN	Pn	18 27 39.2	+0.3
RAHZ	Arahi	2.83	182	PN	Pn	18 27 40.6	+0.3
KNZ	Kokohu	2.95	173	PN	Pn	18 27 41.3	-0.1
WHHZ	Waihua	2.98	180	PN	Pn	18 27 41.8	0.0
NMHZ	Naumai	3.02	186	⇑PN	Pn	18 27 43.1	+0.7
BKZ	Black Stump Fm	3.13	190	⇓PN	Pn	18 27 42.9	-0.5
BKZ				eSN	S	18 28 26.6	-0.8
MCHZ	McNeill Hill	3.38	187	PN	Pn	18 27 45.9	-0.1
FWVZ	Far West T-bar	3.43	202	ePN	Pn	18 27 47.1	+0.2
WNVZ	Wahianoa	3.48	201	PN	Pn	18 27 47.5	+0.1
MTVZ	Mangateitei	3.57	202	⇑PN	Pn	18 27 48.6	+0.4
KRHZ	Kereru	3.61	190	⇓PN	Pn	18 27 47.9	-0.7
KAHZ	Kahuranaki	3.71	184	PN	Pn	18 27 48.9	-0.8
PNHZ	Pukenui	3.91	192	PN	Pn	18 27 50.0	-1.9
PXZ	Pawanui	3.95	184	PN	Pn	18 27 51.1	-1.2
PXZ				eSN	S	18 28 39.2	-4.3
TSZ	Takapari Road	4.09	194	PN	Pn	18 27 52.4	-1.5
PRHZ	Porangahau	4.20	186	PN	Pn	18 27 54.0	-1.1
ANWZ	Angora Road	4.41	187	PN	Pn	18 27 56.4	-1.1
BFZ	Birch Farm	4.65	189	PN	Pn	18 27 58.7	-1.7
MRZ	Mangatainoka R	4.75	195	⇑PN	Pn	18 27 59.4	-2.1
MRZ				eSN	S	18 28 57.5	-2.8
MRZ				AML	AML	18 29 00.8	
TIWZ	Tintock	4.80	192	AML	AML	18 29 02.1	
TIWZ				AML	AML	18 29 03.1	
HOWZ	Holdsworth Sta	4.99	195	PN	Pn	18 28 02.4	-2.0
OGWZ	Otaki Gorge	4.99	198	PN	Pn	18 28 02.2	-2.2
KIW	Kapiti Island	5.10	200	PN	Pn	18 28 03.5	-2.3
MTW	Mount Morrison	5.24	194	PN	Pn	18 28 04.9	-2.6
CAW	Cannon Point	5.29	198	PN	Pn	18 28 05.4	-2.6
PAWZ	Paruwai Farm	5.47	194	AML	AML	18 29 16.3	
MSWZ	Moikau Station	5.54	196	AML	AML	18 29 18.7	
TCW	Tory Channel	5.61	203	PN	Pn	18 28 09.7	-2.3
PLWZ	Palliser	5.69	195	PN	Pn	18 28 10.1	-2.8
TUWZ	Tuamarina	5.92	205	PN	Pn	18 28 13.1	-2.5
NNZ	Nelson	5.94	209	PN	Pn	18 28 13.6	-2.3
NNZ				eSN	S	18 29 22.5	-3.9
QRZ	Quartz Range	5.99	216	ePN	Pn	18 28 14.2	-2.4
KHZ	Kahutara	6.94	203	PN	Pn	18 28 25.7	-2.5
OXZ	Oxford	8.26	207	PN	Pn	18 28 40.9	-3.7
OXZ				eSN	S	18 30 10.0	-8.9
MQZ	McQueen's Vall	8.38	203	PN	Pn	18 28 42.1	-4.0
MQZ				eSN	S	18 30 12.9	-8.6

IDC 10 18:37:11.4±0.6, 11.57N×141.45E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.1/37, mbtmp4.1/14, MS3.5/13, Ms1 3.5/13, ms1mx3.3/27, Error ellipse: s-maj=21.8km s-min=14.7km az=83.0

ISCJB 10 18:37:13.6±0.5, 11.52N±0.08×141.4E±0.1, h27km, mb4.2/16, MS3.4/13, Error ellipse: s-maj=18.6km s-min=10.7km az=171.8

NEIC 10 18:37:16.0±0.4, 11.53N×141.41E, h30km, mb4.7/2, Error ellipse: s-maj=14.4km s-min=8.4km az=82.0

ISC 10 18:37:15.6±0.6, 11.5N±0.1×141.4E±0.2, h27km, n28, σ0.81/20, mb4.2/16, MS3.5/13, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	19.62	323	LR	LR	18 48 59.4	
	comp=Z,10.0nm,20.2s,baz=348,slow=36						
PMG	Port Moresby	21.56	164	P	P	18 42 02.8	-0.3
	29nm,0.8s,baz=2.2,slow=7.6,SNR=18						
PMG				LR	LR	18 50 04.6	
	comp=Z,66nm,18.3s,baz=352,slow=36						
JNU	Nakatsue	23.58	337	LR	LR	18 49 49.3	
	comp=Z,75nm,19.1s,baz=72,slow=32						
KSRS	Korea Array	28.53	337	LR	LR	18 53 23.3	
	comp=Z,59nm,20.6s,baz=152,slow=34						
WRA	Warramunga Arr	32.03	193	P	P	18 43 39.6	-0.5
	2.5nm,0.8s,baz=8.4,slow=9.7,SNR=14						
USRK	Ussuriysk Arra	33.56	348	LR	LR	18 55 42.9	
	comp=Z,41nm,20.6s,baz=138,slow=33						
AS31	Alice Springs	35.73	192	eP	P	18 44 12.2	-0.1
ASAR	Alice Springs	35.73	192	P	P	18 44 12.8	+0.5
	0.8nm,0.6s,baz=18,slow=12,SNR=39						
ASAR				LR	LR	18 58 32.2	
	comp=Z,80nm,19.2s,baz=48,slow=36						
DZM	Mont Dzumac	41.44	144	P	P	18 45 00.7	+0.4
	11nm,0.7s,baz=127,slow=20,SNR=9.4						
DZM				LR	LR	19 00 32.6	
	comp=Z,87nm,18.1s,baz=15,slow=34						
CMAR	Chiang Mai Arr	41.53	285	P	P	18 45 01.9	+0.9
	0.9nm,0.7s,baz=87,slow=6.3,SNR=9.6						
CMAR				LR	LR	19 03 18.3	
	comp=Z,32nm,18.6s,baz=156,slow=38						
PSI	Prapat	42.99	262	P	P	18 45 13.4	+0.2
	2.4nm,0.4s,baz=47,slow=8.4,SNR=5.7						
STKA	Stephens Creek	43.15	180	P	P	18 45 12.9	-1.0
	2.2nm,0.8s,baz=360,slow=7.6,SNR=5.9						
STKA				LR	LR	19 05 04.3	
	comp=Z,73nm,18.1s,baz=26,slow=39						
STKA	Stephens Creek	43.15	180	eP	P	18 45 13.7	-0.3
PETK	Petropavlovsk-	43.49	14	LR	LR	19 03 01.6	
	comp=Z,50nm,18.6s,baz=181,slow=36						
SONM	Songino Array	46.58	328	LR	LR	19 05 21.6	
	comp=Z,48nm,19.3s,baz=46,slow=36						
YAK	Yakutsk	51.14	353	eP	P	18 46 16.0	+0.1
	16nm,0.7s						
MKAR	Makanchi Array	60.68	317	P	P	18 47 24.9	+0.4
	0.3nm,0.4s,baz=100,slow=8.8,SNR=12						
ZALV	Zalesovo Beam	61.38	326	P	P	18 47 28.8	-0.3
	0.9nm,0.6s,baz=107,slow=7.5,SNR=6.2						
KURK	Kurchatov	64.03	321	eP	P	18 47 46.5	-0.4
	1.6nm,0.6s						
ILAR	Eielson Array	71.87	25	P	P	18 48 34.7	-1.2
	0.6nm,0.6s,baz=248,slow=6.1,SNR=16						
ILAR				LR	LR	19 18 38.9	
	comp=Z,42nm,19.6s,baz=234,slow=35						
INK	Inuvik	77.55	22	P	P	18 49 08.2	-0.6
	1.3nm,0.8s,baz=292,slow=7.3,SNR=5.7						
YKA	Yellowknife Ar	86.23	27	P	P	18 49 55.0	+0.5
	0.6nm,0.4s,baz=289,slow=4.9,SNR=11						
YKA	Yellowknife Ar	86.23	27	P	P	18 49 55.0	+0.5
ARCES	ARCESS Array B	87.99	342	LR	LR	19 32 30.2	
	comp=Z,48nm,19.9s,baz=22,slow=38						
NVAR	Mina Array Bea	90.83	51	P	P	18 50 18.1	+0.9
	1.3nm,0.8s,baz=270,slow=6.3,SNR=4.4						
FINES	FINESS Array B	91.58	334	P	P	18 50 18.3	-1.5
	1.5nm,0.5s,baz=78,slow=4.4,SNR=13						
NOA	NORSAR Array B	97.73	338	LR	LR	19 38 51.6	
	comp=Z,21nm,18.5s,baz=20,slow=38						
LPAZ	La Paz	150.94	103	PKPbc	PKPbc	18 57 09.2	+1.6
	4.2nm,0.6s,baz=320,slow=1.7,SNR=20						

ISCJB 10 18:53:35.3±0.4, 22.24N±0.03×121.37E±0.02, h27km±3km, Error ellipse: s-maj=4.3km s-min=3.4km az=178.7

JMA 10 18:53:35.1, 22.38N×121.16E, h67km±1km, M3.7

TAP 10 18:53:36.0, 22.24N×121.24E, h40km, ML3.8, B

ISC 10 18:53:36.0±1.9, 22.19N±0.04×121.31E±0.03, h36km±1km, n54, σ1.13/98, 5C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.27	125	⇓iP	Pn	18 53 44.5	+0.3
	baz=118						
LAY				S	Sn	18 53 50.6	-0.5
	baz=118						
TAW	Tawu	0.42	293	⇓iP	Pn	18 53 44.6	-0.7
	baz=297						
TAW				S	Sn	18 53 50.6	-1.5
	baz=297						
EAST	Anshuo	0.47	294	⇓iP	Pn	18 53 45.3	-0.8
	baz=298						
EAST				S	Sn	18 53 51.7	-1.6
	baz=298						
TSEB	Hengchuen, Pin	0.48	233	⇑iP	Pn	18 53 46.7	+0.4
	baz=234						
TSEB				S	Sn	18 53 54.5	+1.0
	baz=234						
ECL	Taimali	0.52	320	⇓iP	Pn	18 53 45.6	-1.4
	baz=317						
ECL				eS	Sn	18 53 52.3	-2.3
	baz=317						
TWK1	Hengchun	0.53	242	⇑iP	Pn	18 53 46.6	-0.5
	baz=234						
TWK1				S	Sn	18 53 54.2	-0.7
	baz=234						
HEN	Hengchun	0.57	251	iP	Pn	18 53 47.3	-0.3
	baz=240						
HEN				iS	Sn	18 53 55.4	-0.3
	baz=240						
TTN	Taitung	0.58	345	eP	Pn	18 53 47.7	-0.1
	baz=340						
TTN				eS	Sn	18 53 56.4	+0.3
	baz=340						
TWG	Pinlang	0.66	340	⇑iP	Pn	18 53 47.6	-1.4
	baz=344						
TWG				iS	Sn	18 53 56.2	-2.0
	baz=344						
SCZT	Fangliau	0.67	286	eP	Pn	18 53 48.5	-0.5
	baz=288						
SCZT				eS	Sn	18 53 56.9	-1.2
	baz=288						
SSD	Sandimen	0.84	311	eP	Pn	18 53 50.7	-0.6
	baz=312						
TWP	Hsiaoliuchiu	0.89	280	eP	Pn	18 53 53.5	+1.5
	baz=278						
CHKT	Chengkung	0.90	3	P	Pn	18 53 51.2	-0.9
	baz=357						
CHKT				S	Sn	18 54 03.2	-0.8
	baz=357						
SGLT	Jiouru	0.93	305	eP	Pn	18 53 53.8	+1.3
	baz=311						
KAU	Kaohsiung	1.00	292	eP	Pn	18 53 54.3	+0.8
	baz=291						
ELDTW	Lidau	1.03	345	⇑P	Pn	18 53 52.7	-1.3
	baz=352						
ELDTW				eS	Sn	18 54 04.3	-2.9
	baz=352						
TWM1	Shoushan	1.03	307	⇓P	Pn	18 53 54.8	+0.8
	baz=307						
SGST	Jiashian	1.11	323	⇓iP	Pn	18 53 55.7	+0.7
	baz=323						
SGST				eS	Sn	18 54 10.0	+0.8
	baz=323						
TWF1	Yuli	1.15	359	P	Pn	18 53 54.1	-1.5
	baz=353						
TWF1				eS	Sn	18 54 07.2	-2.9
	baz=353						
CHN1	Nanshi	1.23	324	eP	Pn	18 53 57.0	+0.4
	baz=323						
CHN1				eS	Sn	18 54 12.6	+0.6
	baz=323						
WTP	Ta-pu	1.23	328	⇓iP	Pn	18 53 57.2	+0.5
	baz=329						
WTP				eS	Sn	18 54 13.2	+1.1
	baz=329						
CHN3	Shinhua	1.24	315	eP	Pn	18 53 57.6	+0.9
	baz=314						
CHN3				eS	Sn	18 54 14.2	+1.9
	baz=314						
EHY	Hungye	1.31	0	P	Pn	18 53 56.3	-1.4
	baz=355						
EHY				eS	Sn	18 54 11.2	-2.8
	baz=355						
TWK	Hsinying	1.31	325	eP	Pn	18 53 58.2	+0.4
	baz=324						
TWK				eS	Sn	18 54 14.5	+0.4
	baz=324						
CHN4	Tsaushan	1.33	330	P	Pn	18 53 58.7	+0.7
	baz=329						
CHN4				S	Sn	18 54 15.3	+0.8
	baz=329						
YUS	Yu-Shan	1.33	346	eP	Pn	18 53 58.5	-0.1
	baz=350						
ALS	Alishan	1.39	340	⇑P	Pn	18 53 59.7	+0.6
	baz=340						
ALS				eS	Sn	18 54 16.7	+0.3
	baz=340						
SCLT	Jiali	1.42	314	eP	Pn	18 53 59.4	+0.1
	baz=313						
SCLT				eS	Sn	18 54 17.1	+0.4
	baz=313						
CHN5	Tsauling	1.52	337	eP	Pn	18 54 01.3	+0.6
	baz=336						
CHN5				eS	Sn	18 54 20.3	+1.1
	baz=336						
CHY	Chiayi	1.54	328	eP	Pn	18 54 01.7	+0.8
	baz=327						
CHY				eS	Sn	18 54 19.8	+0.3
	baz=327						
CHN2	Minshiung	1.54	330	eP	Pn	18 54 01.5	+0.6
	baz=329						
CHN2				eS	Sn	18 54 20.2	+0.5
	baz=329						
ESL	Shilin	1.62	4	eP	Pn	18 54 03.0	+1.0
	baz=358						
WGK	Gukeng	1.64	335	eP	Pn	18 54 03.1	+0.8
	baz=334						
WGK				eS	Sn	18 54 23.3	+1.2
	baz=334						
SMLT	Sun Moon Lake	1.72	347	eP	Pn	18 54 04.7	+1.2
	baz=346						
SMLT				eS	Sn	18 54 25.5	+1.1
	baz=346						
TYC	Yuchr	1.75	346	eP	Pn	18 54 05.1	+1.3
	baz=345						
TYC				eS	Sn	18 54 27.0	+2.0
	baz=345						
WSF	Szhu	1.75	325	eP	Pn	18 54 03.0	-0.8
	baz=324						
WSF				eS	Sn	18 54 24.5	-0.5
	baz=324						
WNT	Mingjian	1.77	341	eP	Pn	18 54 05.1	+1.0
	baz=326						
WNT				eS	Sn	18 54 26.1	+0.7
	baz=326						
WDGT	Dungji	1.86	305	eP	Pn	18 54 03.7	-1.6
	baz=303						
WDGT				eS	Sn	18 54 25.6	-1.9
	baz=303						
WHF	Hehuan Shan	1.94	359	eP	Pn	18 54 07.6	+0.8
	baz=7.0						
WHF				eS	Sn	18 54 30.0	-0.2
	baz=7.0						

TCU	Taichung	2.03	343	eP	Pn	18 54 08.6	+0.9
	baz=330						
TWT	Tachien	2.05	356	eP	Pn	18 54 09.4	+1.2
	baz=344						
TWT				eS	Sn	18 54 33.3	+0.7
	baz=344						
PNG	Penghu	2.12	310	eP	Pn	18 54 08.0	-0.9
	baz=309						
TWQ1	Liyutan	2.20	347	eP	Pn	18 54 11.7	+1.6
	baz=344						
TWQ1				eS	Sn	18 54 36.5	+0.5
	baz=344						
NNS	Nan Shan	2.24	1	eP	Pn	18 54 12.2	+1.6
	baz=7.0						
NNS				eS	Sn	18 54 37.1	+0.1
	baz=7.0						
NSTT	Nanjuang	2.44	353	eP	Pn	18 54 14.9	+1.6
	baz=338						
NSTT				eS	Sn	18 54 43.5	+1.5
	baz=338						
TWC	Suao	2.45	11	eP	Pn	18 54 14.3	+0.8
	baz=1.0						
NSK	Sanguang	2.47	1	eP	Pn	18 54 14.5	+0.7
	baz=341						
NSK				eS	Sn	18 54 42.3	-0.4
	baz=341						
HATJ	Hateruma jima	2.95	51	P	Pn	18 54 20.6	+0.3
HATJ				eS	Sn	18 54 54.1	-0.3
IRIF	Iriomote-Funau	3.08	46	P	Pn	18 54 22.7	+0.6
IRIF				eS	Sn	18 54 58.2	+0.6
JKRS	Kuro-shima	3.21	50	P	Pn	18 54 24.6	+0.8
JKRS				eS	Sn	18 55 01.1	+0.3
JIJ	Ishigaki jima	3.38	50	P	Pn	18 54 26.9	+0.7
JIJ				eS	Sn	18 55 03.4	-1.7
JISG	Ishigakijimahi	3.64	49	P	Pn	18 54 29.4	+0.1
JISG				eS	Sn	18 55 09.1	-2.4
JTJ	Tarama	3.95	51	P	Pn	18 54 34.5	+0.4
JTJ				eS	Sn	18 55 19.4	+0.2
JIRB	Irabujima	4.41	53	P	Pn	18 54 40.7	+0.4
JIRB				eS	Sn	18 55 30.0	-0.4

IDC **10** *19:29:06.9±1.3, 3.96N×127.37E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/41, mbtmp3.7/6, Error ellipse: s-maj=91.9km s-min=17.3km az=63.0*

ISCJB **10** *19:29:09.6±1.4, 4.0N±0.3×127.4E±0.5, h33km, mb3.7/6, Error ellipse: s-maj=81.7km s-min=15.6km az=151.8*

ISC 10 19:29:12.2±1.6, 3.9N±0.3×127.3E±0.5, h35km, n7, σ0.68/7, mb3.8/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res
WRA	Warramunga Arr	24.70	164	P	P	19 34 29.3	-1.0
	2.0nm,0.8s,baz=343,slow=9.5,SNR=20						
ASAR	Alice Springs	28.17	167	P	P	19 35 01.6	+0.1
	0.2nm,0.6s,baz=345,slow=8.5,SNR=5.5						
CMAR	Chiang Mai Arr	31.29	300	P	P	19 35 29.1	-0.1
	0.3nm,0.5s,baz=130,slow=8.5,SNR=3.9						
STKA	Stephens Creek	38.11	160	P	P	19 36 28.1	+0.2
	2.2nm,0.7s,baz=318,slow=9.0,SNR=7.5						
MKAR	Makanchi Array	57.74	325	P	P	19 38 59.7	0.0
	1.0nm,0.6s,baz=118,slow=8.5,SNR=13						
ZALV	Zalesovo Beam	60.68	333	P	P	19 39 19.6	-0.3
	0.4nm,0.4s,baz=90,slow=6.1,SNR=3.1						
TORD	Torodi Ar. Bea	123.43	288	PKP	PKPdf	19 48 07.7	+0.9
	0.7nm,0.9s,baz=52,slow=2.1,SNR=2.9						

HEL 10 19:33:05.5±1.5, 68.35N×33.36E, h0km, ML1.2, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res
VRF	Varrio	1.53	249	PG	Pn	19 33 33.4	-0.7
	baz=68						
VRF				SG	Sn	19 33 52.6	-2.1
KEV	Kevo	2.69	305	SG	Sb	19 34 28.9	+1.1
KEV				MSG		19 34 28.9	
	comp=Z,0.5nm,0.2s						
KU6	Riekki	2.70	212	SB	Sn	19 34 24.8	+1.4
ARA0	ARCESS Array S	3.08	296	PB	Pn	19 33 57.8	+2.5
ARA0				SB	Sn	19 34 34.6	+1.8
ARA0				MSG		19 34 34.6	
	comp=Z,0.2nm,0.2s						
HEF	Hetta	3.59	275	SG	Sg	19 34 59.4	-1.4
HEF				MSG		19 34 59.4	
	comp=Z,0.3nm,0.2s						
KIF	Kilpisjarvi	4.63	284	SN	Sn	19 35 07.8	-3.2
KIF				MSG		19 35 07.8	
	comp=Z,0.6nm,0.2s						

IDC **10** *19:42:59.6±0.7, 36.13N×22.43E, h0km, mb4.1/18, mb1 4.2/24, mb1mx4.1/50, mbtmp4.1/24, ML3.6/7, MS3.0/4, Ms1 3.1/4, ms1mx2.7/36, Error ellipse: s-maj=17.3km s-min=13.1km az=28.0*

CSEM **10** *19:43:00.7±0.2, 35.97N×22.24E, h2km, mb4.4/10, Ms3.5, Error ellipse: s-maj=5.8km s-min=3.3km az=39.0*

NEIC **10** *19:43:01.0±0.4, 36.13N×22.39E, h10km, mb4.5/13, ML4.0(THE), Error ellipse: s-maj=8.6km s-min=4.3km az=201.0*

HLW **10** *19:43:01.6, 36.56N×22.69E, h33km±32km, Md4.1*

MOS **10** *19:43:03.5±1.2, 36.23N×22.33E, h33km, mb4.7/20, Error ellipse: s-maj=7.3km s-min=4.7km az=97.3*

ATH **10** *19:43:03.0, 36.10N×22.41E, h21km, MD3.7/46, ML3.8*

BJI **10** *19:43:04.0, 36.00N×22.20E, h60km, mb4.3/4*

THE **10** *19:43:04.2, 36.12N×22.45E, h0km±1km, ML4.0/10, Error ellipse: s-maj=2.6km s-min=0.8km az=223.0*

PDG **10** *19:43:04.1±0.3, 36.24N×22.05E, h12km±4km, ML4.1/10, Error ellipse: s-maj=5.5km s-min=2.0km az=90.0*

ISC 10 19:43:02.9±1.1, 36.09N±0.03×22.36E±0.03, h24km±8km, n469, σ1.70/486, MS3.2/4, 37C-22D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res
KYTH	Kithira	0.58	71	P	Pb	19 43 13.6	-0.9
KYTH	Kithira	0.58	71	ePN	Pb	19 43 13.6	-0.9
KYTH	Kithira	0.58	71	ePn	Pb	19 43 13.6	-0.9
VLI	Veliai	0.78	36	P	Pb	19 43 17.7	-0.2
VLI				S	Sb	19 43 28.4	+0.3
VLI	Veliai	0.78	36	ePN	Pb	19 43 17.6	-0.3
VLI	Veliai	0.78	36	P	Pb	19 43 17.7	-0.2
VLI				S	Sb	19 43 28.4	+0.3
ANKY	Antikythira Is	0.80	106	P	Pb	19 43 17.6	-0.5
ANKY				S	Sb	19 43 29.2	+0.8
ANKY	Antikythira Is	0.80	106	ePN	Pb	19 43 17.6	-0.5
ANKY				eSN	Sb	19 43 29.0	+0.6
ANKY	Antikythira Is	0.80	106	ePn	Pb	19 43 17.6	-0.5
ANKY				eSn	Sb	19 43 29.0	+0.6
PYL	PYLOS	0.95	329	P	Pb	19 43 20.4	-0.3
PYL	PYLOS	0.95	329	ePB	Pn	19 43 20.7	0.0
PYL				eSN	Sn	19 43 34.9	+1.4
PYL	PYLOS	0.95	329	P	Pn	19 43 20.4	-0.3
PYL	PYLOS	0.95	329	ePb	Pn	19 43 20.7	0.0
PYL				eSn	Sn	19 43 34.9	+1.4
ITM	Ithomi	1.14	342	P	Pb	19 43 24.4	+0.4
ITM	Ithomi	1.14	342	ePN	Pb	19 43 24.4	+0.4
ITM				eSN	Sb	19 43 41.1	+2.7
ITM	Ithomi	1.14	342	ePn	Pb	19 43 24.4	+0.4
ITM				eSn	Sb	19 43 41.1	+2.7
VLX	Vlachokerasia	1.28	1	P	Pb	19 43 27.2	+0.8
VLX				S	Sb	19 43 46.0	+3.5
VLX	Vlachokerasia	1.28	1	ePN	Pb	19 43 27.0	+0.6
VLX				eSN	Sb	19 43 44.7	+2.2
VLX	Vlachokerasia	1.28	1	P	Pb	19 43 27.2	+0.8
VLX				eSn	Sb	19 43 44.7	+2.2
VLX				S	Sb	19 43 46.0	+3.5
AMT	Artemida-Makis	1.53	340	P	Pb	19 43 31.5	+0.9
AMT	Artemida-Makis	1.53	340	ePN	Pb	19 43 31.6	+0.9
AMT				eSN	Sb	19 43 52.5	+2.8
AMT	Artemida-Makis	1.53	340	P	Pb	19 43 31.5	+0.9
AMT				eSn	Sb	19 43 52.5	+2.8
DID	Didima	1.58	26	P	Pb	19 43 32.0	+0.5
DID				S	Sb	19 43 53.2	+2.1
DID	Didima	1.58	26	ePN	Pb	19 43 32.0	+0.5
DID				eSN	Sb	19 43 52.0	+0.9
DID	Didima	1.58	26	ePn	Pb	19 43 32.0	+0.5
DID				eSn	Sb	19 43 52.0	+0.9
DID				S	Sb	19 43 53.2	+2.1
VAM	Vamos	1.65	114	P	Pb	19 43 32.3	-0.2
VAM	Vamos	1.65	114	ePN	Pb	19 43 32.3	-0.2
VAM	Vamos	1.65	114	ePn	Pb	19 43 32.3	-0.2
GUR	Goura	1.84	360	P	Pb	19 43 36.0	-0.1
GUR				S	Sb	19 44 00.4	+1.7
GUR	Goura	1.84	360	ePN	Pb	19 43 35.9	-0.1
GUR				eSN	Sb	19 43 58.7	0.0
GUR	Goura	1.84	360	ePn	Pb	19 43 35.9	-0.1
GUR				eSn	Sb	19 43 58.7	0.0
GUR				S	Sb	19 44 00.4	+1.7
GVD	Gavdhos	1.88	131	P	Pb	19 43 37.4	+0.8
GVD	Gavdhos	1.88	131	ePN	Pb	19 43 35.7	-0.9
GVD	Gavdhos	1.88	131	ePg	Pb	19 43 37.6	+1.0
GVD	Gavdhos	1.88	131	ePn	Pb	19 43 35.7	-0.9
GVD	Gavdhos	1.88	131	ePg	Pb	19 43 37.6	+1.0
DRO	Drossia	1.93	345	P	Pb	19 43 38.2	+0.8
DRO	Drossia	1.93	345	ePN	Pb	19 43 37.8	+0.4
DRO	Drossia	1.93	345	ePn	Pb	19 43 37.8	+0.4
DRO	Drossia	1.93	345	P	Pb	19 43 38.2	+0.8
KLV	Kalavryta, Ach	1.96	355	P	Pb	19 43 38.8	+0.9
KLV	Kalavryta, Ach	1.96	355	ePN	Pb	19 43 37.4	-0.5
KLV	Kalavryta, Ach	1.96	355	ePn	Pb	19 43 37.4	-0.5
KLV	Kalavryta, Ach	1.96	355	P	Pb	19 43 38.8	+0.9
LTK	Loutraki	1.99	14	P	Pb	19 43 37.9	-0.6
LTK				S	Sb	19 44 04.1	+1.3
LTK	Loutraki	1.99	14	ePN	Pb	19 43 38.2	-0.3
LTK	Loutraki	1.99	14	P	Pb	19 43 37.9	-0.6
LTK	Loutraki	1.99	14	ePn	Pb	19 43 38.2	-0.3
LTK				S	Sb	19 44 04.1	+1.3
RLS	Riolos of Patr	2.09	340	P	Pb	19 43 40.5	+0.4
RLS	Riolos of Patr	2.09	340	ePN	Pb	19 43 40.0	-0.1
RLS	Riolos of Patr	2.09	340	ePn	Pb	19 43 40.0	-0.1
RLS	Riolos of Patr	2.09	340	P	Pb	19 43 40.5	+0.4
LAKA	Lakka	2.17	352	P	Pb	19 43 41.2	-0.3
LAKA	Lakka	2.17	352	ePB	Pb	19 43 40.0	-1.5
LAKA	Lakka	2.17	352	ePb	Pb	19 43 40.0	-1.5
LAKA	Lakka	2.17	352	P	Pb	19 43 41.2	-0.3
ATH	Athens Observa	2.17	30	ePN	Pb	19 43 39.9	-1.6
ATH	Athens Observa	2.17	30	ePn	Pb	19 43 39.9	-1.6
ATHU	Athens Univers	2.19	31	P	Pb	19 43 40.5	-1.4
ATHU	Athens Univers	2.19	31	P	Pb	19 43 40.5	-1.4
IDI	Anoyia	2.21	110	Pn	Pn	19 43 38.9	+0.7
	27nm,0.3s,baz=307,slow=18,SNR=52						
SIVA	Sivas	2.27	117	P	Pb	19 43 41.4	-1.7
SIVA	Sivas	2.27	117	ePN	Pn	19 43 41.0	+2.1
SIVA	Sivas	2.27	117	ePn	Pn	19 43 41.0	+2.1
SIVA	Sivas	2.27	117	P	Pb	19 43 41.4	-1.7
PTL	Penteli	2.30	31	P	Pb	19 43 41.8	-1.9
PTL	Penteli	2.30	31	ePB	Pb	19 43 42.0	-1.7
PTL	Penteli	2.30	31	P	Pb	19 43 41.8	-1.9
KALE	Kalithea	2.31	356	P	Pb	19 43 42.8	-1.1
KALE				S	Sb	19 44 12.1	+0.2
KALE	Kalithea	2.31	356	ePB	Pb	19 43 42.7	-1.1
KALE	Kalithea	2.31	356	P	Pb	19 43 42.8	-1.1
KALE				S	Sb	19 44 12.1	+0.2
DSF	Desfina	2.32	3	P	Pb	19 43 42.2	-1.9
DSF				S	Sb	19 44 12.3	-0.1
DSF	Desfina	2.32	3	ePN	Pb	19 43 42.2	-1.9
DSF	Desfina	2.32	3	P	Pb	19 43 42.2	-1.9
DSF				S	Sb	19 44 12.3	-0.1
EFP	Efpalio	2.36	351	P	Pb	19 43 43.8	-1.0
EFP	Efpalio	2.36	351	ePB	Pb	19 43 43.9	-0.9
EFP	Efpalio	2.36	351	P	Pb	19 43 43.8	-1.0
VLS	Valsamata	2.52	326	ePN	Pn	19 43 44.4	+2.0
VLS	Valsamata	2.52	326	ePn	Pn	19 43 44.4	+2.0
SANT	Santorini	2.52	83	eP	Pn	19 43 45.3	+2.8
SANT	Santorini	2.52	83	ePN	Pn	19 43 44.3	+1.9
SANT	Santorini	2.52	83	ePg	Pb	19 43 47.1	-0.4
SANT	Santorini	2.52	83	ePn	Pn	19 43 44.3	+1.9
SANT	Santorini	2.52	83	eP	Pn	19 43 45.3	+2.8
SANT	Santorini	2.52	83	ePg	Pb	19 43 47.1	-0.4
LKR	Lokris	2.61	11	P	Pn	19 43 46.1	+2.5
LKR				S	Sb	19 44 19.2	-1.4
LKR	Lokris	2.61	11	ePN	Pn	19 43 45.9	+2.3
LKR	Lokris	2.61	11	P	Pn	19 43 46.1	+2.5
LKR				S	Sb	19 44 19.2	-1.4
PDO	Prodromos	2.67	340	ePN	Pb	19 43 47.9	-2.2
PDO	Prodromos	2.67	340	ePn	Pb	19 43 47.9	-2.2
AXAR	Agios Charalam	2.68	5	P	Pb	19 43 47.9	-2.4
AXAR				S	Sb	19 44 21.4	-1.4
AXAR	Agios Charalam	2.68	5	ePN	Pb	19 43 47.5	-2.8
AXAR	Agios Charalam	2.68	5	ePn	Pb	19 43 47.5	-2.8
AXAR	Agios Charalam	2.68	5	P	Pb	19 43 47.9	-2.4
AXAR				S	Sb	19 44 21.4	-1.4
LAST	Lasithi	2.71	109	P	Pn	19 43 47.6	+2.6
LAST	Lasithi	2.71	109	ePN	Pn	19 43 46.9	+1.9
LAST	Lasithi	2.71	109	ePn	Pn	19 43 46.9	+1.9
LAST	Lasithi	2.71	109	P	Pn	19 43 47.6	+2.6
APE	Apeiranthos	2.73	68	P	Pn	19 43 47.8	+2.4
APE	Apeiranthos	2.73	68	eP	Pn	19 43 47.4	+2.1
APE	Apeiranthos	2.73	68	ePN	Pn	19 43 47.6	+2.2
APE	Apeiranthos	2.73	68	ePn	Pn	19 43 47.7	+2.4
APE	Apeiranthos	2.73	68	⇓eP	Pn	19 43 48.3	+2.9
APE	Apeiranthos	2.73	68	⇑iP	Pn	19 43 48.3	+2.9
APE	Apeiranthos	2.73	68	ePn	Pn	19 43 47.7	+2.4
NPS	Neapolis	2.77	106	P	Pn	19 43 48.3	+2.4
NPS	Neapolis	2.77	106	ePN	Pn	19 43 47.7	+1.8
NPS	Neapolis	2.77	106	ePn	Pn	19 43 47.7	+1.8
NPS	Neapolis	2.77	106	P	Pn	19 43 48.3	+2.4
EVR	Evrytania	2.86	351	ePN	Pb	19 43 50.4	-2.9
EVR	Evrytania	2.86	351	ePn	Pb	19 43 50.4	-2.9
MAKR	Makrakomi, Fth	2.92	357	ePN	Pb	19 43 51.2	-3.2
MAKR	Makrakomi, Fth	2.92	357	ePn	Pb	19 43 51.2	-3.2
AGG	Agios Georgios	2.93	360	ePN	Pb	19 43 51.3	-3.1
AGG	Agios Georgios	2.93	360	ePn	Pb	19 43 51.3	-3.1
LKD2	Lefkada island	3.02	334	P	Pb	19 43 53.1	-2.8
LKD2	Lefkada island	3.02	334	ePN	Pb	19 43 53.2	-2.7
LKD2	Lefkada island	3.02	334	P	Pb	19 43 53.1	-2.8
SKIA	Skiathos	3.20	16	ePN	Pn	19 43 54.4	+2.7
SKIA	Skiathos	3.20	16	ePn	Pn	19 43 54.4	+2.7
NEO	Neokhori	3.29	12	ePN	Pn	19 43 55.2	+2.3
NEO	Neokhori	3.29	12	ePn	Pn	19 43 55.2	+2.3
ZKR	Zakros	3.29	106	ePN	Pn	19 43 56.1	+3.1
ZKR	Zakros	3.29	106	ePn	Pn	19 43 56.1	+3.1
THL	Klokotos Trika	3.48	356	P	Pn	19 43 58.9	+3.3
THL	Klokotos Trika	3.48	356	P	Pn	19 43 58.9	+3.3
CHOS	Chios island	3.74	51	eP	Pn	19 44 01.9	+2.7
CHOS	Chios island	3.74	51	ePN	Pn	19 44 01.3	+2.1
CHOS	Chios island	3.74	51	ePn	Pn	19 44 01.3	+2.1
CHOS	Chios island	3.74	51	eP	Pn	19 44 01.9	+2.7
JAN	Janina	3.76	342	ePN	Pn	19 44 03.1	+3.7
JAN	Janina	3.76	342	ePn	Pn	19 44 03.1	+3.7
IGT	Igoumenitsa	3.79	336	ePN	Pn	19 44 02.4	+2.5
IGT	Igoumenitsa	3.79	336	ePn	Pn	19 44 02.4	+2.5
KEK	Kerkira	4.15	332	ePN	Pn	19 44 07.3	+2.6
KEK	Kerkira	4.15	332	ePn	Pn	19 44 07.3	+2.6
SIGR	SIGRI	4.17	41	eP	Pn	19 44 08.0	+2.9
SIGR	SIGRI	4.17	41	eP	Pn	19 44 08.0	+2.9
KZN	Kozani	4.24	354	ePN	Pn	19 44 09.2	+3.1
KZN	Kozani	4.24	354	ePn	Pn	19 44 09.2	+3.1
BLCB	Balcova	4.38	57	eP	Pn	19 44 10.6	+2.6
BLCB	Balcova	4.38	57	eP	Pn	19 44 10.6	+2.6
PRK	Paraskevi	4.42	43	ePN	Pn	19 44 11.3	+2.8
PRK	Paraskevi	4.42	43	ePn	Pn	19 44 11.3	+2.8
NEST	Nestorio	4.44	347	ePN	Pn	19 44 12.6	+3.7
NEST	Nestorio	4.44	347	ePn	Pn	19 44 12.6	+3.7
KBN	Korca	4.69	345	P	Pn	19 44 16.2	+3.9
KBN	Korca	4.69	345	P	Pn	19 44 16.2	+3.9
FNA	Florina	4.75	351	ePN	Pn	19 44 15.6	+2.5
FNA	Florina	4.75	351	ePn	Pn	19 44 15.6	+2.5
SOH	Sokhos	4.79	9	ePN	Pn	19 44 16.0	+2.4
SOH	Sokhos	4.79	9	ePn	Pn	19 44 16.0	+2.4
AYDB	Zeytinkoy-Aydi	4.80	66	eP	Pn	19 44 17.9	+4.1
AYDB	Zeytinkoy-Aydi	4.80	66	eP	Pn	19 44 17.9	+4.1
EZN	Ezine	4.87	39	eP	Pn	19 44 16.6	+1.9
EZN	Ezine	4.87	39	eP	Pn	19 44 16.6	+1.9
YER	Yerkesik	4.88	76	eP	Pn	19 44 19.0	+4.2
YER	Yerkesik	4.88	76	eP	Pn	19 44 19.0	+4.2
KNT	Kendrikon	5.08	5	ePN	Pn	19 44 20.5	+2.9
KNT	Kendrikon	5.08	5	ePn	Pn	19 44 20.5	+2.9
DALY	Dalyan (Mu¯la	5.13	80	eP	Pn	19 44 22.1	+3.9
DALY	Dalyan (Mu¯la	5.13	80	eP	Pn	19 44 22.1	+3.9
SLUM		5.16	152	P	Pn	19 44 19.5	+0.8
	baz=156						
SLUM				S	Sn	19 45 18.8	+1.3
	baz=156						
SLUM		5.16	152	P	Pn	19 44 19.5	+0.8
SLUM				S	Sn	19 45 18.8	+1.3
VAY	Valandovo	5.23	2	iPn	Pn	19 44 21.8	+2.2
VAY				eSg	Sb	19 45 27.9	-8.0
VAY	Valandovo	5.23	2	iPn	Pn	19 44 21.7	+2.2
GELI	Tayfur-Gelibol	5.38	36	eP	Pn	19 44 23.9	+2.1
TIP	Timpagrande	5.41	306	ePn	Pn	19 44 23.2	+1.1
	13nm,0.5s						
TIP	Timpagrande	5.41	306	ePn	Pn	19 44 23.2	+1.1
	13nm,0.5s						
MMB	Musomiste	5.60	11	iP	Pn	19 44 26.8	+2.1
MMB	Musomiste	5.60	11	⇑iP	Pn	19 44 27.1	+2.4
MMB	Musomiste	5.60	11	S	Sn	19 45 37.2	+9.0
MMB	Musomiste	5.60	11	⇑iP	Pn	19 44 27.1	+2.4
ALN	Alexandroupoli	5.61	30	eP	Pn	19 44 26.3	+1.6
KKB	Krupnik	5.80	5	iP	Pn	19 44 29.5	+2.1
RZN	Rozhen	5.89	17	iP	Pn	19 44 32.2	+3.4
SKO	Skopje	5.92	353	iPn	Pn	19 44 31.0	+1.9
RKY	Sarkoy-Tekirda	5.95	38	eP	Pn	19 44 32.2	+2.7
ELL	Elmali	6.12	82	eP	Pn	19 44 36.4	+4.4
KHL	Karahalli	6.14	67	eP	Pn	19 44 36.6	+4.4
ULC	Ulcinj	6.35	339	⇑iPn	Pn	19 44 35.6	+0.6
ULC				eSn	Sn	19 45 44.9	-1.8
ULC	Ulcinj	6.35	339	⇑iPn	Pn	19 44 35.6	+0.6
ULC				eSn	Sn	19 45 44.9	-1.8
HMAT	Matruh	6.36	140	P	Pn	19 44 35.4	+0.2
	baz=144						
HMAT				S	Sn	19 45 45.6	-1.4
	baz=144						
HMAT	Matruh	6.36	140	P	Pn	19 44 35.4	+0.2
HMAT				S	Sn	19 45 45.6	-1.4
CUC	Castrocucco	6.47	309	ePn	Pn	19 44 39.4	+2.7
	63nm,0.8s						
CUC	Castrocucco	6.47	309	ePn	Pn	19 44 39.4	+2.7
	63nm,0.8s						
VTS	Vitosha	6.53	6	eP	Pn	19 44 39.2	+1.6
VTS	Vitosha	6.53	6	iP	Pn	19 44 41.2	+3.6
VTS	Vitosha	6.53	6	⇓iP	Pn	19 44 40.9	+3.3
VTS	Vitosha	6.53	6	S	Sn	19 46 02.5	+11
VTS	Vitosha	6.53	6	⇓iP	Pn	19 44 40.9	+3.3
TVSB	Tavsanli	6.55	57	eP	Pn	19 44 41.1	+3.3
DRME	Dracevica, Mon	6.57	339	⇑iPn	Pn	19 44 39.5	+1.5
DRME				eSn	Sn	19 45 50.2	-2.0
DRME	Dracevica, Mon	6.57	339	⇑iPn	Pn	19 44 39.5	+1.5
DRME				eSn	Sn	19 45 50.2	-2.0
EDRB	Edirne	6.69	29	eP	Pn	19 44 41.4	+1.8
BCK	Bucak	6.75	76	eP	Pn	19 44 44.7	+4.2
PVY	Plav	6.76	345	⇑iPn	Pn	19 44 42.8	+2.1
PVY				eSn	Sn	19 45 55.3	-1.7
PVY	Plav	6.76	345	⇑iPn	Pn	19 44 42.8	+2.1
PVY				eSn	Sn	19 45 55.3	-1.7
BUM	Brajici-Budva	6.76	338	⇑iPn	Pn	19 44 41.9	+1.2
BUM				eSn	Sn	19 45 54.7	-2.3
BUM	Brajici-Budva	6.76	338	⇑iPn	Pn	19 44 41.9	+1.2
BUM				eSn	Sn	19 45 54.7	-2.3
PDG	Podgorica	6.78	340	⇑iPn	Pn	19 44 41.4	+0.6
PDG				eSn	Sn	19 45 55.9	-1.3
TTG	Podgorica	6.78	340	⇑iPn	Pn	19 44 41.4	+0.6
TTG				eSn	Sn	19 45 55.9	-1.3
ALT	Altintas	6.83	62	eP	Pn	19 44 45.9	+4.2
SLVT	Silivri	6.88	40	eP	Pn	19 44 44.8	+2.5
SHUT	Suhut-Afyon	6.98	67	eP	Pn	19 44 48.1	+4.3
HCY	Herceg Novi	7.02	336	⇑iPn	Pn	19 44 44.7	+0.5
HCY				eSn	Sn	19 46 01.1	-2.2
HCY	Herceg Novi	7.02	336	⇑iPn	Pn	19 44 44.7	+0.5
HCY				eSn	Sn	19 46 01.1	-2.2
BEY	Berane	7.04	345	⇑iPn	Pn	19 44 46.2	+1.7
BEY				eSn	Sn	19 46 02.2	-1.6
IVA	Berane	7.04	345	⇑iPn	Pn	19 44 46.2	+1.7
IVA				eSn	Sn	19 46 02.2	-1.6
CTKS	Kestanelik-??a	7.04	41	eP	Pn	19 44 46.9	+2.5
BGKT	Bogazkoy	7.14	43	eP	Pn	19 44 48.5	+2.7
NKME	Niksic	7.17	339	⇑iPn	Pn	19 44 47.8	+1.5
NKME				eSn	Sn	19 46 05.2	-1.8
NKME	Niksic	7.17	339	⇑iPn	Pn	19 44 47.8	+1.5
NKME				eSn	Sn	19 46 05.2	-1.8
NKY	Niksic	7.20	340	⇓iPn	Pn	19 44 48.0	+1.2
NKY				eSn	Sn	19 46 05.6	-2.3
NKY	Niksic	7.20	340	⇓iPn	Pn	19 44 48.0	+1.2
NKY				eSn	Sn	19 46 05.6	-2.3
ISK	Istanbul-Kandi	7.23	45	eP	Pn	19 44 49.9	+2.9
PLE	Pljevlja	7.58	343	⇓iPn	Pn	19 44 53.0	+0.9
PLE				eSn	Sn	19 46 15.2	-2.1
PLE	Pljevlja	7.58	343	⇓iPn	Pn	19 44 53.0	+0.9
PLE				eSn	Sn	19 46 15.2	-2.1
UPM	Unac-Piva	7.59	341	⇓iPn	Pn	19 44 53.6	+1.4
UPM				eSn	Sn	19 46 15.3	-2.2
UPM	Unac-Piva	7.59	341	⇓iPn	Pn	19 44 53.6	+1.4
UPM				eSn	Sn	19 46 15.3	-2.2
IVAS	Ivanjica	7.67	348	eSn	Sn	19 46 18.8	-0.5
STON	Ston	7.67	333	iPn	Pn	19 44 53.0	-0.2
STON				Sn	Sn	19 46 14.6	-4.6
STON	Ston	7.67	333	iPn	Pn	19 44 52.9	-0.2
KIZT	Kizilcal	8.07	67	eP	Pn	19 45 01.9	+3.2
KONT	Konya--Tatoy	8.21	74	eP	Pn	19 45 04.8	+4.2
CSS	Prodhromos	9.02	94	eP	Pn	19 45 15.1	+3.5
SULT	Sultanhani-AKS	9.15	73	eP	Pn	19 45 16.5	+2.9
BZS	Buzias	9.54	357	⇑iP	Pn	19 45 18.9	+0.2
VOIR		9.56	11	⇑iP	Pn	19 45 21.9	+2.8
BRTR	Keskin Array B	9.62	64	Pn	Pn	19 45 21.6	+1.6
	0.1nm,0.3s,baz=230,slow=16,SNR=2.9						
BR131	Keskin Array S	9.62	64	ePg	Pn	19 45 26.7	+6.7
	4.2nm,0.7s						
BR131	Keskin Array S	9.62	64	ePg	Pn	19 45 26.7	+6.7
	4.2nm,0.7s						
MLR	Muntele Rosu	9.78	15	LR	LR	19 49 55.4	
	comp=Z,19nm,19.0s,baz=177,slow=43						
UDBI	Udbina	9.81	331	iPn	Pn	19 45 24.0	+1.4
UDBI				Sn	Sn	19 47 07.9	-4.1
UDBI	Udbina	9.81	331	iPn	Pn	19 45 24.0	+1.4
NVLJ	Novalja	10.21	328	ePn	Pn	19 45 28.6	+0.7
NVLJ				Sn	Sn	19 47 16.0	-5.5
NVLJ	Novalja	10.21	328	ePn	Pn	19 45 28.5	+0.7
PLOR	Plostina	10.28	17	⇓iP	Pn	19 45 33.6	+4.7
PLOR	Plostina	10.28	17	⇓iP	Pn	19 45 33.6	+4.7
VRI	Vrincioaia	10.31	17	⇓iP	Pn	19 45 35.8	+6.5
CORM	Corum	10.49	63	eP	Pn	19 45 34.6	+2.7
CORM	Corum	10.49	63	eP	Pn	19 45 34.6	+2.7
PKSM	Moragy	10.49	346	⇓iP	Pn	19 45 30.5	-1.3
PKSM	Moragy	10.49	346	S	Sn	19 47 24.1	-4.4
PKSM	Moragy	10.49	346	⇑ePn	Pn	19 45 30.5	-1.3
KEST	Kesra	10.56	272	Sn	Sn	19 47 28.9	-1.5
	0.1nm,0.3s,baz=36,slow=19,SNR=3.9						
KEST	Kesra	10.56	272	Sn	Sn	19 47 29.0	-1.5
BOJS	Bojanci	10.83	332	iPn	Pn	19 45 36.8	+0.4
BOJS				iSn	Sn	19 47 33.2	-3.6
BOJS	Bojanci	10.83	332	iPn	Pn	19 45 36.8	+0.4
KOZT	Kozan	10.89	79	eP	Pn	19 45 40.7	+3.4
KOZT	Kozan	10.89	79	eP	Pn	19 45 40.7	+3.4
PKS9	Tamasi	10.93	345	⇑ePn	Pn	19 45 36.3	-1.4
GBRS	Gornja Briga	11.03	331	ePn	Pn	19 45 40.5	+1.4
CRES	Cresnjev	11.03	334	iPn	Pn	19 45 38.9	-0.3
CRES	Cresnjev	11.03	334	iPn	Pn	19 45 38.9	-0.3
MMAI	Mount Meron Ar	11.19	102	Pn	Pn	19 45 40.9	-0.5
	0.9nm,0.3s,baz=304,slow=12,SNR=3.4						
CEY	Cerknica	11.35	331	iPn	Pn	19 45 44.3	+0.8
CEY				iSn	Sn	19 47 44.2	-5.4
CEY	Cerknica	11.35	331	iPn	Pn	19 45 44.3	+0.8
PKST	T’s	11.62	345	ePn	Pn	19 45 47.2	0.0
PKST	T’s	11.62	345	eP	Pn	19 45 47.2	0.0
JAVS	Javornik	11.62	330	iPn	Pn	19 45 48.4	+1.1
JAVS				iSn	Sn	19 47 51.6	-4.7
JAVS	Javornik	11.62	330	iPn	Pn	19 45 48.4	+1.1
PKSG		11.67	347	⇑ePn	Pn	19 45 48.0	+0.1
PKSG		11.67	347	⇑eP	Pn	19 45 48.0	+0.1
PERS	Pernice	11.85	335	iPn	Pn	19 45 50.2	-0.2
PERS				iSn	Sn	19 47 58.9	-3.0
PERS	Pernice	11.85	335	iPn	Pn	19 45 50.2	-0.2
SOKA	Soboth	11.92	335	⇓iPn	Pn	19 45 50.9	-0.4
SOKA				⇑iSn	Sn	19 47 59.5	-4.0
SOKA	Soboth	11.92	335	Pn	Pn	19 45 50.9	-0.4
OBKA	Obir	11.95	333	⇑iPn	Pn	19 45 51.7	-0.1
OBKA				⇑iSn	Sn	19 47 59.8	-4.5
OBKA	Obir	11.95	333	Pn	Pn	19 45 51.7	-0.1
PSZ	Piszkesteto	11.96	352	⇑iP	Pn	19 45 52.5	+0.6
TRPA	Tarpa	12.04	1	⇓iP	Pn	19 45 54.8	+2.0
TRPA	Tarpa	12.04	1	⇓iP	Pn	19 45 54.8	+2.0
PGF	Pioggiola	12.19	306	eP	Pn	19 45 54.0	-1.0
PGF	Pioggiola	12.19	306	eP	Pn	19 45 54.0	-1.0
PGF	Pioggiola	12.19	306	eP	Pn	19 45 54.0	-1.0
PGF	Pioggiola	12.19	306	eP	Pn	19 45 54.0	-1.0
ARSA	Arzberg	12.26	338	⇑iPn	Pn	19 45 55.2	-0.8
ARSA				⇓iSn	Sn	19 48 07.6	-4.2
EIL	Elat	12.36	118	Pn	Pn	19 45 55.3	-2.2
	0.4nm,0.3s,baz=295,slow=12,SNR=4.1						

EIL Sn Sn 19 48 05.6 -8.9
0.4nm,0.3s,baz=99,slow=19,SNR=3.1
KECS Kecovo 12.46 354 eP Pn 19 46 00.1 +1.4
KECS Kecovo 12.46 354 ePN Pn 19 46 00.1 +1.4
KECS Kecovo 12.46 354 eP Pn 19 46 00.1 +1.4
VYHS Vyhne 12.67 349 eP Pn 19 46 02.6 +1.1
VYHS Vyhne 12.67 349 ePN Pn 19 46 02.6 +1.1
VYHS Vyhne 12.67 349 eP Pn 19 46 02.6 +1.1
CRVS Cervenica-Dubn 12.82 357 eP Pn 19 46 04.8 +1.2
CRVS Cervenica-Dubn 12.82 357 ePN Pn 19 46 04.8 +1.2
CRVS Cervenica-Dubn 12.82 357 eP Pn 19 46 04.8 +1.2
KOLS Kolonicke sedl 12.84 360 eP Pn 19 46 05.3 +1.5
KOLS Kolonicke sedl 12.84 360 ePN Pn 19 46 05.3 +1.5
KOLS e 20 03 29.0
KOLS Kolonicke sedl 12.84 360 eP Pn 19 46 05.3 +1.5
ABTA Abfaltersbach 12.95 328⇓iPn Pn 19 46 05.6 +0.1
ABTA ⇓iSn Sn 19 48 24.1 -4.7
ABTA Abfaltersbach 12.95 328 Pn Pn 19 46 05.6 +0.1
MOA Molln 13.19 335⇓iPn Pn 19 46 08.4 -0.3
MOA ⇑iSn Sn 19 48 29.6 -5.0
MOA Molln 13.19 335 Pn Pn 19 46 08.4 -0.3
STHS Stebnicka Huta 13.35 357 eP P 19 46 22.7 +2.5
STHS Stebnicka Huta 13.35 357 eP P 19 46 22.7 +2.5
PTK Pertek 13.81 73 eP Pn 19 46 19.4 +2.0
MOTA Moosalm 14.02 327⇓iPn Pn 19 46 21.0 +0.8
MOTA ⇑iSn Sn 19 48 51.4 -3.7
MOTA Moosalm 14.02 327 Pn Pn 19 46 21.0 +0.8
OKC Ostrava-Krasne 14.08 349 eP P 19 46 30.1 +1.8
TREC Trest 14.12 341 eP P 19 46 29.5 +0.7
DAVOX Davos/Dischmat 14.18 323 Sn Sn 19 48 58.3 -0.7
0.3nm,0.3s,baz=327,slow=21,SNR=4.0
TUE Stuetta 14.24 321 Pn Pn 19 46 20.2 -3.0
8.9nm,1.0s
TUE Stuetta 14.24 321 Pn Pn 19 46 20.2 -3.0
8.9nm,1.0s
GERES GERESS Array B 14.25 336 Pn Pn 19 46 21.3 -1.8
0.1nm,0.3s,baz=173,slow=26,SNR=5.1
GERES Sn Sn 19 48 59.1 -1.3
0.3nm,0.3s,baz=154,slow=22,SNR=5.4
GERES LR LR 19 53 05.3
comp=Z,113nm,18.9s,baz=132,slow=43
KHC Kasperske Hory 14.53 336 eP P 19 46 34.8 +1.4
KRLC Kraliky 14.55 346 eP P 19 46 34.9 +1.3
MBDF Montbardon 14.66 311 eP Pn 19 46 26.9 -2.0
23nm,1.1s
MBDF Montbardon 14.66 311 eP Pn 19 46 26.9 -2.0
MBDF pmax pmax
comp=Z,23nm,1.1s
MBDF Montbardon 14.66 311 eP Pn 19 46 26.9 -2.0
comp=Z,23nm,1.1s
DPC Dobruska-Polom 14.91 345 eP P 19 46 38.5 +0.9
PRU Pruhonice 15.01 340 eP P 19 46 39.3 +0.7
LPG La Plagne 15.08 313 eP Pn 19 46 32.6 -2.0
comp=Z,17nm,1.1s
LPG La Plagne 15.08 313 eP Pn 19 46 32.6 -2.0
LPG pmax pmax
comp=Z,17nm,1.1s
LPG La Plagne 15.08 313 eP Pn 19 46 32.6 -2.0
comp=Z,17nm,1.1s
LPL La Plagne 15.10 313 eP Pn 19 46 33.1 -1.8
LPL La Plagne 15.10 313 eP Pn 19 46 33.1 -1.8
LPL La Plagne 15.10 313 eP Pn 19 46 33.1 -1.8
UPC Upice 15.13 344 eP P 19 46 41.7 +1.8
ORIF Oris-en-Rattie 15.30 310 eP Pn 19 46 35.6 -1.8
ORIF eR
comp=Z,110nm,17.8s
ORIF Oris-en-Rattie 15.30 310 eP Pn 19 46 35.6 -1.8
ORIF Oris-en-Rattie 15.30 310 eP Pn 19 46 35.6 -1.8
AK02 Malin Array Si 15.38 17 ePn Pn 19 46 37.6 -0.7
AK02 Malin Array Si 15.38 17 ePn Pn 19 46 37.6 -0.7
AK01 Malin Array Si 15.41 17 ePn Pn 19 46 37.9 -0.8
AK01 Malin Array Si 15.41 17 ePn Pn 19 46 37.8 -0.8
AKASG Malin Array Be 15.42 17ceP Pn 19 46 37.7 -1.1
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 15.42 17 Pn Pn 19 46 37.0 -1.8
comp=Z,0.7nm,0.3s,baz=204,slow=11,SNR=7.1
CABF La Chapelle 16.09 316 eP Pn 19 46 45.8 -1.7
CABF La Chapelle 16.09 316 eP Pn 19 46 45.8 -1.7
CABF La Chapelle 16.09 316 eP Pn 19 46 45.8 -1.7
SIRT Sirnak 16.15 79 eP P 19 46 51.4 -0.1
SIRT Sirnak 16.15 79 eP P 19 46 51.4 -0.1
HINF Hinteralfeld 16.41 320 eP Pn 19 46 49.5 -2.0
HINF Hinteralfeld 16.41 320 eP Pn 19 46 49.5 -2.0
HINF Hinteralfeld 16.41 320 eP Pn 19 46 49.5 -2.0
CLL Collm 16.63 339 eP P 19 47 01.0 +4.5
CLL Collm 16.63 339 e(PP) P 19 47 01.0 +4.5
AGRB Hanur-Agry 16.66 72 eP P 19 46 58.0 +0.7
AGRB Hanur-Agry 16.66 72 eP P 19 46 58.0 +0.7
CUKT Cukurca 17.09 80 eP P 19 47 03.2 +1.3
CUKT Cukurca 17.09 80 eP P 19 47 03.2 +1.3
NEY Neytrino 17.21 59 eP P 19 47 05.8 +2.5
NEY Neytrino 17.21 59 eP P 19 47 05.8 +2.5
SMF Signal de Mont 17.41 313 eP Pn 19 47 04.2 +0.1
SMF Signal de Mont 17.41 313 eP Pn 19 47 04.2 +0.1
SMF Signal de Mont 17.41 313 eP Pn 19 47 04.2 +0.1
SMF Signal de Mont 17.41 313 eP Pn 19 47 04.2 +0.1
KIV Kislovodsk 17.41 57 eP P 19 47 06.8 +1.4
KIV pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 17.41 57 eP P 19 47 06.8 +1.4
comp=Z,10.0nm,0.8s
KBZ Khabaz 17.48 58 P Pn 19 47 05.3 +0.3
comp=Z,0.1nm,0.3s,baz=236,slow=7.3,SNR=5.6
SUW Suwalki 17.93 2 eP Pn 19 47 10.6 +0.1
SUW pmax pmax
comp=Z,28nm,0.8s
SUW Suwalki 17.93 2 eP Pn 19 47 10.6 +0.1
SUW Suwalki 17.93 2 eP Pn 19 47 10.6 +0.1
comp=Z,28nm,0.8s
ETSF Etsaut 18.92 298 eP Pn 19 47 26.9 +4.2
comp=Z,4.2nm,0.5s
ETSF Etsaut 18.92 298 eP Pn 19 47 26.9 +4.2
ETSF pmax pmax
comp=Z,4.0nm,0.5s
ETSF Etsaut 18.92 298 eP Pn 19 47 26.9 +4.2
comp=Z,4.2nm,0.5s
NACGM Naroch 19.06 8 e P 19 47 21.0 -2.3
VORD Divnogorie 19.21 34 eP Pn 19 47 26.3 +0.2
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,6.0nm,1.0s
VORD Divnogorie 19.21 34 eP Pn 19 47 26.3 +0.2
VSR Storozhevoye 19.33 33 eP P 19 47 26.9 +0.5
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,4.0nm,0.8s
VSR pmax pmax
comp=Z,5.0nm,0.8s
VSR Storozhevoye 19.33 33 eP P 19 47 26.9 +0.5
SJPF Ste Jean 19.44 298 eP Pn 19 47 31.2 +2.3
comp=Z,48nm,1.4s
SJPF Ste Jean 19.44 298 eP Pn 19 47 31.2 +2.3
SJPF pmax pmax
comp=Z,48nm,1.4s
SJPF Ste Jean 19.44 298 eP Pn 19 47 31.2 +2.3
comp=Z,48nm,1.4s
BSD Bornholm Skovb 19.71 347 iP P 19 47 30.1 -0.3
BSD pmax pmax
comp=Z,6.0nm,0.3s
BSD Bornholm Skovb 19.71 347 iP P 19 47 30.1 -0.3
comp=Z,6.0nm,0.3s
BSD Bornholm Skovb 19.71 347 iP P 19 47 30.1 -0.3
comp=Z,6.0nm,0.3s
MFF Saint Martin d 19.83 309 eP Pn 19 47 34.1 +0.6
comp=Z,13nm,0.6s
MFF Saint Martin d 19.83 309 eP Pn 19 47 34.1 +0.6
MFF pmax pmax
comp=Z,13nm,0.6s
MFF Saint Martin d 19.83 309 eP Pn 19 47 34.1 +0.6
comp=Z,13nm,0.6s
MFF Saint Martin d 19.83 309 eP Pn 19 47 34.1 +0.6
comp=Z,6.6nm,0.6s
VRHR Novokhopersk 20.39 37 eP Pn 19 47 39.5 -0.6
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,40nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR Novokhopersk 20.39 37 eP Pn 19 47 39.5 -0.6
LDF La Druitiere 20.70 314 eP P 19 47 42.1 +0.8
comp=Z,29nm,0.9s
LDF La Druitiere 20.70 314 eP P 19 47 42.1 +0.8
LDF pmax pmax
comp=Z,29nm,0.9s
LDF La Druitiere 20.70 314 eP P 19 47 42.1 +0.8
comp=Z,29nm,0.9s
LDF La Druitiere 20.70 314 eP P 19 47 42.1 +0.8
comp=Z,15nm,0.9s
FLN La Foliniere 20.99 314 eP P 19 47 45.2 +0.8
comp=Z,26nm,0.9s
FLN eR
comp=Z,121nm,18.0s
FLN La Foliniere 20.99 314 eP P 19 47 45.2 +0.8
FLN pmax pmax
comp=Z,26nm,0.9s
FLN La Foliniere 20.99 314 eP P 19 47 45.2 +0.8
comp=Z,26nm,0.9s
FLN La Foliniere 20.99 314 eP P 19 47 45.2 +0.8
comp=Z,13nm,0.9s
GRR Gorron 21.04 313 eP P 19 47 46.4 +1.5
comp=Z,15nm,0.7s
GRR Gorron 21.04 313 eP P 19 47 46.4 +1.5
GRR pmax pmax
comp=Z,15nm,0.7s
GRR Gorron 21.04 313 eP P 19 47 46.4 +1.5
comp=Z,15nm,0.7s
GRR Gorron 21.04 313 eP P 19 47 46.4 +1.5
comp=Z,7.6nm,0.7s
ESDC Sonseca Array 21.05 288 P P 19 47 45.8 +0.5
comp=Z,1.7nm,0.7s,baz=83,slow=11,SNR=8.0
OBN Obninsk 21.39 23ceP P 19 47 50.8 +2.2
OBN eS Sn 19 51 50.7 -2.2
OBN pmax pmax
comp=Z,58nm,1.7s
OBN MLR MLR
comp=Z,104nm,25.0s
OBN Obninsk 21.39 23 P P 19 47 46.8 -1.8
comp=Z,15nm,0.5s,baz=103,slow=2.3,SNR=7.6
OBN Obninsk 21.39 23 eP P 19 47 47.5 -1.1
OBN Obninsk 21.39 23 eP P 19 47 50.8 +2.2
comp=Z,58nm,1.7s
SGMF Saint Gilles 22.00 311 eP P 19 47 55.9 +0.7
comp=Z,62nm,1.3s
SGMF Saint Gilles 22.00 311 eP P 19 47 55.9 +0.7
SGMF pmax pmax
comp=Z,62nm,1.3s
SGMF Saint Gilles 22.00 311 eP P 19 47 55.9 +0.7
comp=Z,62nm,1.3s
SGMF Saint Gilles 22.00 311 eP P 19 47 55.9 +0.7
comp=Z,31nm,1.3s
QUIF Quistinic 22.24 310 eP P 19 47 59.2 +1.4
comp=Z,158nm,1.5s
QUIF Quistinic 22.24 310 eP P 19 47 59.2 +1.4
QUIF pmax pmax
comp=Z,158nm,1.5s
QUIF Quistinic 22.24 310 eP P 19 47 59.2 +1.4
comp=Z,158nm,1.5s
QUIF Quistinic 22.24 310 eP P 19 47 59.2 +1.4
comp=Z,79nm,1.5s
MOS Moscow 22.25 23 eP P 19 47 58.8 +1.0
MOS Moscow 22.25 23 eP P 19 47 58.8 +1.0
ROSF Rostrenen 22.47 311 eP P 19 48 00.8 +0.5
comp=Z,55nm,1.2s
ROSF Rostrenen 22.47 311 eP P 19 48 00.8 +0.5
ROSF pmax pmax
comp=Z,55nm,1.2s
ROSF Rostrenen 22.47 311 eP P 19 48 00.8 +0.5
comp=Z,55nm,1.2s
ROSF Rostrenen 22.47 311 eP P 19 48 00.8 +0.5
comp=Z,27nm,1.2s
VSU Vasula 22.57 6⇑eP P 19 48 00.1 -1.1
VSU pmax pmax
comp=Z,41nm,0.9s
HFS Hagfors 24.70 350 P P 19 48 21.6 -0.3
comp=Z,2.8nm,0.4s,baz=153,slow=10.0,SNR=27
FINES FINESS Array B 25.49 4 P P 19 48 28.8 -0.2
comp=Z,3.2nm,0.5s,baz=170,slow=11,SNR=43
FINES PcP PcP 19 52 00.5 +0.4
comp=Z,0.4nm,0.3s,baz=225,slow=2.4,SNR=4.1
NB2 NORSAR Subarra 25.96 348 P P 19 48 32.6 -0.8
comp=Z,3.1nm,0.9s,baz=159,slow=9.3
NOA NORSAR Array B 25.96 348 P P 19 48 33.9 +0.5
comp=Z,1.7nm,0.7s,baz=161,slow=9.7,SNR=13
NOA LR LR 20 01 05.2
comp=Z,43nm,18.8s,baz=0.0,slow=42
EKA Eskdalemuir Ar 25.98 326 P P 19 48 34.3 +0.8
comp=Z,2.7nm,0.4s,baz=129,slow=6.8,SNR=22
KAF Kangasniemi 26.17 4 eP P 19 48 34.2 -0.9
KAF pmax pmax
comp=Z,3.0nm,0.4s
KAF Kangasniemi 26.17 4 ep P 19 48 34.2 -0.9
comp=Z,2.9nm,0.4s
KLMR Klimovskoe 27.10 18 eP P 19 48 40.5 -3.0
KLMR pmax pmax
comp=Z,24nm,1.8s
JOF Joensuu 27.42 9 eP P 19 48 45.6 -0.9
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 27.42 9 ep P 19 48 45.6 -0.9
comp=Z,0.6nm,0.4s
AKTO Aktyubinsk 29.34 50 P P 19 49 02.1 -1.6
comp=Z,0.6nm,0.5s,baz=273,slow=4.3,SNR=3.7
TORD Torodi Ar. Bea 29.45 224 P P 19 49 05.9 +1.0
comp=Z,0.8nm,0.6s,baz=31,slow=8.7,SNR=8.0
PRGR Permogore 29.47 23 P P 19 49 01.4 -3.3
PRGR pmax pmax
comp=Z,15nm,0.6s
ABKAR Akbulak array 30.28 52 eP P 19 49 09.9 -2.1
comp=Z,1.4nm,0.6s
ARU Arti 31.71 39c iP P 19 49 23.9 -0.6
ARU 19 50 28.5
ARU S S 19 54 36.1 +3.5
ARU SS SnSn 19 56 22.5 +2.6
ARU pmax pmax
comp=Z,10.0nm,1.7s
LVZ Lovozero 32.61 9⇓eP P 19 49 29.6 -2.8
LVZ pmax pmax
comp=Z,74nm,3.5s
SVE Sverdlovsk 32.92 39 eP P 19 49 34.5 -0.6
SVE pmax pmax
comp=Z,11nm,1.0s
ARCES ARCESS Array B 33.55 2 P P 19 49 40.8 +0.3
comp=Z,2.0nm,0.4s,baz=187,slow=9.9,SNR=50
ARCES LR LR 20 04 31.2
comp=Z,56nm,19.8s,baz=166,slow=38
KEV Kevo 33.82 3 eP P 19 49 42.6 -0.2
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 33.82 3 ep P 19 49 42.6 -0.2
comp=Z,1.3nm,0.3s
BRVK Borovoye 37.33 48⇑iP P 19 50 13.2 +0.1
BRVK pmax pmax
comp=Z,4.0nm,1.7s
BRVK Borovoye 37.33 48 iP P 19 50 13.2 +0.1
comp=Z,4.0nm,1.7s
KKAR Karatay Array 37.34 64 eP P 19 50 12.2 -1.2
KKAR Karatay Array 37.34 64 eP P 19 50 12.2 -1.2
KKAR Karatay Array 37.34 64 eP P 19 50 12.2 -1.2
AAK Ala-Archa 40.30 64 eP P 19 50 39.2 +0.8
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 40.30 64 eP P 19 50 39.2 +0.8
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 45.17 57 eP P 19 51 17.6 -0.1
MK31 Makanchi Array 45.17 57 eP P 19 51 17.6 -0.1
MK31 Makanchi Array 45.17 57 eP P 19 51 17.6 -0.1
MKAR Makanchi Array 45.17 57 iP P 19 51 17.2 -0.5
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 45.17 57 P P 19 51 17.2 -0.5
comp=Z,3.3nm,0.4s,baz=278,slow=7.1,SNR=66
ZAA0 Zalesovo Array 46.02 47 eP P 19 51 23.2 -1.1
ZALV Zalesovo Beam 46.02 47 P P 19 51 23.5 -0.8
comp=Z,2.8nm,0.5s,baz=268,slow=8.7,SNR=18
PYUN Piuthan 51.27 81 eP P 19 52 04.1 -1.1
comp=Z,18nm,0.5s
DANN Dangsing 51.77 80 eP P 19 52 08.4 -0.7
comp=Z,12nm,0.5s
KOLN Koldanda 51.89 81 eP P 19 52 09.6 -0.3
GKN Gorkha 52.62 80 eP P 19 52 13.9 -1.4
comp=Z,6.9nm,0.6s
DMN Daman 53.17 80 eP P 19 52 19.2 -0.2
comp=Z,7.8nm,0.7s
KKN Kakani 53.23 80 eP P 19 52 18.9 -0.9
comp=Z,5.3nm,0.6s
PKI Pulchoki 53.42 80 eP P 19 52 20.9 -0.5
GUN Gumba 53.65 80 eP P 19 52 22.3 -0.8
comp=Z,4.3nm,0.5s
JIRN Jiri 54.01 80 eP P 19 52 25.0 -0.7
comp=Z,5.1nm,0.5s
RAMN Ramite 54.65 80 eP P 19 52 30.2 -0.1
comp=Z,6.7nm,0.7s
ODAN Odare 55.32 80 eP P 19 52 35.1 0.0
comp=Z,2.1nm,0.4s
TAPN Taplejung 55.36 79 eP P 19 52 35.0 -0.4
LSA Lhasa 57.04 75 eP P 19 52 47.9 +0.2
LSA pmax pmax
comp=Z,2.0nm,0.6s
LSA Lhasa 57.04 75 eP P 19 52 47.9 +0.2
comp=Z,2.2nm,0.6s
LSA Lhasa 57.04 75 eP P 19 52 47.8 +0.2
comp=Z,2.2nm,0.6s
TLY Talaya 57.63 47 eP P 19 52 54.3 +3.3
TLY pmax pmax
comp=Z,3.0nm,1.1s
SCHQ Schefferville 60.99 319 P P 19 53 14.6 +0.5
comp=Z,5.3nm,1.1s,baz=58,slow=5.2,SNR=5.1
ULN Ulaanbaatar 61.05 50 eP P 19 53 15.0 +0.2
ULN pmax pmax
comp=Z,5.0nm,1.7s
ULN Ulaanbaatar 61.05 50 eP P 19 53 15.0 +0.2
comp=Z,5.0nm,1.7s
CMAR Chiang Mai Arr 68.72 82 P P 19 54 04.7 -0.3
comp=Z,0.8nm,0.8s,baz=300,slow=8.0,SNR=10.0
BILL Bilibino 72.71 13 eP P 19 54 25.5 -3.0
BILL e 19 54 40.9
BILL pmax pmax
comp=Z,4.0nm,0.6s
BILL MLR MLR
comp=Z,1µm,21.0s
SEY Seymchan 73.55 21 P P 19 54 33.9 +0.5
comp=Z,0.7nm,0.5s,baz=280,slow=6.2,SNR=5.3
INK Inuvik 74.36 351 P P 19 54 38.4 +0.3
baz=68,slow=13
YKA Yellowknife Ar 75.85 341 P P 19 54 47.5 +0.7
comp=Z,0.5nm,0.6s,baz=34,slow=5.2,SNR=14
ULM Lac du Bonnet 78.25 325 P P 19 55 01.1 +0.6
comp=Z,1.6nm,0.7s,baz=8.5,slow=1.9,SNR=3.2
ILAR Eielson Array 79.12 355 P P 19 55 06.1 +1.0
comp=Z,0.8nm,0.9s,baz=2.4,slow=4.5,SNR=9.5
PDAR Pinedale Array 90.10 327 P P 19 56 01.7 +0.5
comp=Z,0.5nm,0.8s,baz=86,slow=7.9,SNR=3.8
WRA Warramunga Arr 118.95 94 PKP PKPdf 20 01 48.6 -1.3
comp=Z,0.3nm,0.7s,baz=315,slow=1.8,SNR=5.0
ASAR Alice Springs 120.45 98 PKP PKPdf 20 01 52.8 +0.1
comp=Z,0.5nm,0.7s,baz=324,slow=1.4,SNR=6.7

IDC 10 19:46:43.0±63.0, 22°.04S×179°.53W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/31, mbtmp4.2/3, Error ellipse: s-maj=1128.0km s-min=157.6km az=84.0, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 35.85 246 P P 19 53 43.6 -1.0
0.6nm,0.3s,baz=96,slow=12,SNR=4.1
ASAR Alice Springs 42.80 259 P P 19 54 42.6 -0.2
3.9nm,0.9s,baz=97,slow=7.5,SNR=45
WRA Warramunga Arr 43.00 264 P P 19 54 45.0 +0.5
3.0nm,0.4s,baz=96,slow=8.4,SNR=372

IDC 10 19:49:09.0±1.6, 13°.73S×77°.02W, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.5/29, mbtmp3.5/6, ML3.3/3, MS2.6/1, Ms1 2.7/1, ms1mx2.6/17, Error ellipse: s-maj=36.1km s-min=14.4km az=79.0
ISCJB 10 19:49:10.5±1.1, 13°.83S±0°.09×77°.0W±0°.2, h28km, mb3.3/3, Error ellipse: s-maj=27.5km s-min=7.7km az=155.7
ISC 10 19:49:12.2±1.3, 13°.8S±0°.1×77°.1W±0°.2, h28km, n23, σ0§94/14, mb3.5/3, Off coast of Peru

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NNA Nana 1.84 7 Pn Pn 19 49 40.8 -1.2
67nm,0.3s,baz=178,slow=14,SNR=50
NNA Lg Lg 19 50 04.1
2µm,0.3s,baz=209,slow=10,SNR=34
ATAH Atahualpa 6.77 349 Pn Pn 19 50 50.4 +0.3
4.1nm,0.3s,baz=165,slow=2.5,SNR=12
ATAH Lg Lg 19 52 42.3
2.9nm,0.3s,baz=291,slow=19,SNR=3.6
PSGC Pisagua 8.79 132 eP Pn 19 51 16.2 -1.3
MNMC Minimini 8.90 127 eP Pn 19 51 18.5 -0.8
LPAZ La Paz 8.98 107 Pn Pn 19 51 22.3 +1.7
0.1nm,0.3s,baz=278,slow=12,SNR=3.3
LPAZ LR LR 19 54 14.7
comp=Z,40nm,21.0s,baz=344,slow=34
PB11 Plate Boundary 9.23 131 eP Pn 19 51 22.6 -1.1
HMBC Humberstone 9.40 134 eP Pn 19 51 26.0 0.0
PATCX Punta Patache 9.59 137 iP Pn 19 51 29.0 +0.4
PB01 Plate Boundary 10.19 136 eP Pn 19 51 36.8 0.0
PB07 Plate Boundary 10.42 140 eP Pn 19 51 40.2 +0.2
CFAA Coronel Fontan 19.47 157 P Pn 19 53 38.6 +0.3
0.1nm,0.3s,baz=350,slow=11,SNR=2.3
H03N1 Juan Fernandez 19.60 185 T T 20 14 04.5
baz=5.8,slow=75,SNR=111
H03N2 Juan Fernandez 19.60 185 T T 20 13 53.0
baz=5.8,slow=75,SNR=88
H03N3 Juan Fernandez 19.62 185 T T 20 14 05.6
baz=5.8,slow=75,SNR=100
PTGA Pitinga 21.35 54 P P 19 53 56.5 -0.9
1.8nm,0.6s,baz=208,slow=12,SNR=4.1
YKA Yellowknife Ar 81.52 343 P P 20 01 26.9 +0.2
0.1nm,0.5s,baz=139,slow=6.2,SNR=5.2
TORD Torodi Ar. Bea 82.49 75 P P 20 01 33.6 +0.7
0.4nm,0.9s,baz=268,slow=4.8,SNR=4.0
H11N3 WAKE ISLAND Hy 18.75 285 T T 22 17 57.0
baz=99,slow=74,SNR=29
H11N2 WAKE ISLAND Hy 18.77 285 T T 22 18 02.8
baz=99,slow=74,SNR=36
H11N1 WAKE ISLAND Hy 18.77 285 T T 22 18 02.4
baz=99,slow=74,SNR=11
H11S2 WAKE ISLAND Hy 18.83 284 T T 22 18 06.8
baz=96,slow=72,SNR=6.2
H11S1 WAKE ISLAND Hy 18.83 284 T T 22 18 02.1
baz=96,slow=72,SNR=4.5
H11S3 WAKE ISLAND Hy 18.85 284 T T 22 18 07.5
baz=96,slow=72,SNR=4.3

IDC 10 20:02:01.8±1.9, 8°.43S×125°.29E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.3/28, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=193.2km s-min=32.5km az=59.0, Timor region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 14.41 144 Pn Pn 20 05 26.2 -1.0
0.1nm,0.3s,baz=318,slow=13,SNR=6.6
WRA Sn Sn 20 07 57.9 -10
0.1nm,0.3s,baz=321,slow=24,SNR=3.8
ASAR Alice Springs 17.25 152 P Pn 20 06 05.0 +0.7
0.1nm,0.3s,baz=321,slow=11,SNR=5.7
MKAR Makanchi Array 66.97 329 P P 20 12 56.4 0.0
0.3nm,0.5s,baz=135,slow=7.0,SNR=5.1

ISCJB 10 20:09:43.9±0.5, 5°.50S±0°.07×149°.3E±0°.1, h100km, mb3.8/9, Error ellipse: s-maj=15.9km s-min=6.6km az=28.8
IDC 10 20:09:46.4±1.2, 5°.64S×149°.42E, h114km±10km, mb3.6/10, mb1 3.7/12, mb1mx3.6/27, mbtmp4.0/12, Error ellipse: s-maj=31.5km s-min=10.3km az=117.0
ISC 10 20:09:45.4±0.6, 5°.53S±0°.09×149°.4E±0°.1, h100km, n23, σ1§47/32, mb3.7/9, New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RABL Rabaul 3.10 65 P Pn 20 10 32.4 -0.2
baz=3.1,SNR=13
PMG Port Moresby 4.42 209 P Pn 20 10 51.6 +1.2
30nm,0.3s,baz=38,slow=6.3,SNR=77
PMG S Sn 20 11 42.0 +1.2
56nm,0.3s,baz=336,slow=19,SNR=12
PMG Port Moresby 4.42 209 P Pn 20 10 50.9 +0.6
baz=4.5,SNR=68
PMG S Sn 20 11 41.2 +0.4
baz=4.5,SNR=5.9
COEN Coen 10.35 216 P Pn 20 12 10.9 -0.1

	baz=10,SNR=16						
COEN				S	Sn	20 14 00.9	-4.2
	baz=10,SNR=8.8						
MTSU	**Mount Surprise**	**13.46**	**201**	P	**Pn**	**20 12 54.5**	**+2.0**
	baz=14,SNR=10						
CTA	**Charters Tower**	**14.78**	**192**	P	**Pn**	**20 13 09.6**	**+0.1**
	0.3nm,0.3s,baz=22,slow=13.5,SNR=5.9						
QIS	**Mount Isa**	**17.68**	**212**	P	**P**	**20 13 45.1**	**+0.1**
	baz=18,SNR=5.0						
KDU	**Kakadu**	**18.11**	**246**	P	**Pn**	**20 13 50.3**	**-0.4**
	baz=18,SNR=9.1						
MTN	**Manton Dam**	**19.39**	**247**	P	**P**	**20 14 04.6**	**+0.9**
	baz=19,SNR=5.2						
WRA	**Warramunga Arr**	**20.46**	**224**	P	**P**	**20 14 14.8**	**-0.4**
	1.6nm,0.4s,baz=51,slow=11,SNR=31						
WRA				pP	**pP**	**20 14 36.0**	**+1.6**
	1.8nm,0.7s,baz=48,slow=11,SNR=4.8						
WRA				S	**S**	**20 17 57.3**	**-1.6**
	1.0nm,1.0s,baz=42,slow=23,SNR=3.9						
WRA				ScP	**ScP**	**20 21 49.1**	**-2.2**
	0.3nm,0.6s,baz=45,slow=2.7,SNR=4.8						
KNRA	**Kununurra**	**22.59**	**242**	P	**P**	**20 14 37.3**	**-0.6**
	baz=23,SNR=5.9						
ASAR	**Alice Springs**	**23.38**	**218**	P	**P**	**20 14 45.4**	**-0.1**
	0.5nm,0.4s,baz=51,slow=8.6,SNR=14						
ASAR				pP	**pP**	**20 15 06.8**	**+0.8**
	1.3nm,0.7s,baz=50,slow=12,SNR=6.3						
ASAR				S	**S**	**20 18 54.8**	**+3.8**
	0.9nm,0.9s,baz=34,slow=18,SNR=6.1						
STKA	**Stephens Creek**	**27.20**	**195**	P	**P**	**20 15 18.5**	**-1.3**
	0.9nm,0.5s,baz=27,slow=12,SNR=3.8						
STKA				pP	**pP**	**20 15 42.7**	**+0.6**
	1.4nm,0.7s,baz=32,slow=10.0,SNR=1.7						
WRKA	**Warakurna**	**28.00**	**224**	P	**P**	**20 15 26.2**	**-0.9**
	baz=28,SNR=8.9						
MEEK	**Meekatharra**	**36.06**	**231**	P	**P**	**20 16 37.3**	**-0.3**
	baz=36,SNR=7.8						
KSRS	**Korea Array**	**47.21**	**337**	P	**P**	**20 18 08.7**	**+0.4**
	2.7nm,0.6s,baz=155,slow=8.6,SNR=8.5						
USRK	**Ussuriysk Arra**	**51.92**	**344**	P	**P**	**20 18 45.5**	**+1.5**
	2.7nm,0.6s,baz=164,slow=7.0,SNR=6.6						
PETK	**Petropavlovsk-**	**58.85**	**6**	P	**P**	**20 19 33.9**	**+0.4**
	2.9nm,0.4s,baz=165,slow=8.2,SNR=17						
MKAR	**Makanchi Array**	**78.64**	**320**	P	**P**	**20 21 36.7**	**+0.1**
	0.2nm,0.6s,baz=101,slow=7.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**79.88**	**327**	P	**P**	**20 21 42.5**	**-0.5**
	0.4nm,0.3s,baz=99,slow=8.0,SNR=3.1						
ILAR	**Eielson Array**	**84.14**	**23**	P	**P**	**20 22 03.1**	**-2.0**
	0.5nm,0.7s,baz=247,slow=4.4,SNR=3.3						
NVAR	**Mina Array Bea**	**95.23**	**52**	P	**P**	**20 22 58.7**	**+0.2**
	0.3nm,0.4s,baz=255,slow=6.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**147.24**	**286**	PKPbc	**PKPdf**	**20 29 15.8**	**-0.2**
	0.3nm,0.3s,baz=88,slow=2.7,SNR=16						

IDC 10 20:23:22.1±26.0,**19°.65S×174°.26W,h0km,mb4.1**/4,
mb1 4.3/4,**mb1mx3.8**/26,**mbtmp4.1**/4,**Error ellipse:**
s-maj=486.9km s-min=156.9km az=74.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.08**	**262**	P	P	20 30 35.7	+1.3
	1.2nm,0.3s,baz=79,slow=10,SNR=3.6						
STKA	**Stephens Creek**	**41.32**	**244**	P	P	20 31 08.8	-0.8
	1.3nm,0.7s,baz=65,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**48.14**	**255**	P	P	20 32 03.6	-0.6
	1.7nm,0.6s,baz=93,slow=7.7,SNR=33						
WRA	**Warramunga Arr**	**48.20**	**260**	P	P	20 32 04.5	-0.4
	1.0nm,0.2s,baz=95,slow=8.0,SNR=154						

*ISCJB **10** 20:25:37.2±0.7, 24°.32S±0°.04×67°.1W±0°.1, h171km±14km, mb3.2/2, Error ellipse: s-maj=15.9km s-min=7.2km az=2.8*
*IDC **10** 20:25:37.3±1.6, 24°.30S×67°.04W, h157km±16km, mb3.2/2, mb1 3.5/6, mb1mx3.3/26, mbtmp3.9/6, Error ellipse: s-maj=26.1km s-min=13.6km az=97.0*
*GUC **10** 20:25:41.0±0.3, 24°.12S×67°.60W, h210km±16km, ML4.4*
ISC 10 20:25:37.4±1.0,**24°.33S**±0°.06×**67°.04W**±0°.10,
h159km±14km,**n22,**σ**1**^{s}**58**/28,**3C-2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**Plate Boundary**	**2.83**	**304**	⇑*i*P	**Pn**	**20 26 25.1**	**+1.9**
PB06				*i* S	**Sn**	**20 26 58.4**	**-0.2**
PB06				AML	AML	20 27 00.8	
	comp=N,619nm,0.1s						
CEN1	**Los Morros**	**3.04**	**287**	⇓*i*P	**Pn**	**20 26 27.8**	**+2.1**
CEN1				*i* S	**Sn**	**20 27 03.4**	**+0.2**
CEN1				AML	AML	20 27 06.4	
	comp=E,510nm,0.7s						
PB04	**Plate Boundary**	**3.05**	**312**	*e*P	Pn	20 26 32.5	+6.8
PB04				AML	AML	20 27 15.3	
	comp=N,549nm,0.4s						
ANCH	**Antofagasta**	**3.15**	**281**	⇑*i*P	**Pn**	**20 26 25.7**	**-1.2**
ANCH				*e*S	**Sn**	**20 27 01.7**	**-3.7**
PB09	**Plate Boundary**	**3.23**	**321**	⇓*i*P	**Pn**	**20 26 30.4**	**+2.2**
PB09				*i* S	**Sn**	**20 27 08.2**	**+0.6**
PB09				AML	AML	20 27 10.5	
	comp=N,1μm,0.4s						
MACH	**Maria Elena**	**3.28**	**310**	*i* S	**Sn**	**20 27 08.4**	**-0.3**
PB10	**Plate Boundary**	**3.32**	**283**	⇑*i*P	**Pn**	**20 26 30.4**	**+1.3**
PB10				*i* S	**Sn**	**20 27 07.5**	**-1.8**
PB10				AML	AML	20 27 12.8	
	comp=E,1μm,0.6s						
PB07	**Plate Boundary**	**3.69**	**314**	*e*P	**Pn**	**20 26 35.1**	**+1.1**
PB01	**Plate Boundary**	**3.97**	**325**	*e*P	**Pn**	**20 26 38.3**	**+0.6**
HMBC	**Humberstone**	**4.82**	**326**	*e*P	**Pn**	**20 26 48.0**	**-0.7**
PB11	**Plate Boundary**	**5.15**	**331**	*e*P	**Pn**	**20 26 52.5**	**-0.7**
MNMC	**Minimini**	**5.69**	**335**	*e*P	**Pn**	**20 27 00.4**	**0.0**
LCO	**Las Campanas**	**5.70**	**214**	*e*P	**Pn**	**20 27 00.2**	**-0.3**
CFAA	**Coronel Fontan**	**7.33**	**188**	P	**Pn**	**20 27 23.6**	**+1.8**
	comp=E,0.0nm,0.3s,baz=356,slow=14,SNR=6.8						
CFAA				S	**Sn**	**20 28 42.0**	**-2.0**
	comp=E,0.1nm,0.3s,baz=127,slow=20,SNR=5.6						
LPAZ	**La Paz**	**8.06**	**353**	P	**Pn**	**20 27 33.5**	**+1.3**
	comp=E,1.4nm,0.3s,baz=165,slow=8.9,SNR=26						
LPAZ				S	**Sn**	**20 28 59.1**	**-3.5**
	comp=E,0.2nm,0.3s,baz=330,slow=18,SNR=8.0						
SIV	**San Ignacio**	**10.01**	**35**	P	**Pn**	**20 27 57.0**	**-0.5**
	comp=E,0.7nm,0.3s,baz=226,slow=15,SNR=21						
PLCA	**Paso Flores**	**16.62**	**189**	P	**Pn**	**20 29 22.2**	**+1.0**
	comp=E,0.1nm,0.3s,baz=0.0,slow=13,SNR=2.3						
BDFB	**Brasilia**	**19.84**	**68**	P	**P**	**20 29 57.1**	**+0.9**
	comp=E,0.6nm,0.3s,baz=238,slow=9.9,SNR=6.3						
TORD	**Torodi Ar. Bea**	**76.72**	**69**	P	**P**	**20 37 11.1**	**-0.5**
	comp=E,0.4nm,0.5s,baz=256,slow=5.5,SNR=11						
PDAR	**Pinedale Array**	**77.41**	**329**	P	**P**	**20 37 15.5**	**+0.4**
	comp=E,0.5nm,0.9s,baz=113,slow=6.9,SNR=3.2						
WRA	**Warramunga Arr**	**131.32**	**207**	PKP	**PKPdf**	**20 44 31.4**	**-0.2**
	comp=E,0.1nm,0.5s,baz=153,slow=1.8,SNR=6.5						
MKAR	**Makanchi Array**	**146.80**	**40**	PKPbc	**PKPdf**	**20 44 59.4**	**+0.7**
	comp=E,0.6nm,0.6s,baz=301,slow=3.2,SNR=8.1						

*ISCJB **10** 20:42:53.9±0.7, 6°.5S±0°.1×154°.9E±0°.1, h56km, mb3.7/8, MS4.1/1, Error ellipse: s-maj=19.1km s-min=14.8km az=147.6*
*IDC **10** 20:42:57.5±4.6, 6°.58S×154°.91E, h75km±41km, mb3.5/8, mb1 3.8/10, mb1mx3.6/37, mbtmp3.9/10, ML3.5/2, MS4.1/1, Ms1 4.1/1, ms1mx3.0/17, Error ellipse: s-maj=27.9km s-min=24.1km az=173.0*
ISC 10 20:42:55.3±0.8,**6°.6S**±0°.2×**155°.0E**±0°.1,**h56**km,**n15,**
σ**1**^{s}**43**/13,**mb3.7**/8,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.26**	**250**	P	**Pn**	**20 44 54.0**	**+1.5**
	2.0nm,0.3s,baz=49,slow=7.3,SNR=7.1						
DZM	**Mont Dzumac**	**18.97**	**146**	P	**Pn**	**20 47 14.1**	**+0.7**
	0.3nm,0.3s,baz=307,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**24.06**	**234**	P	**P**	**20 48 05.0**	**-0.5**
	1.0nm,0.5s,baz=56,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**26.46**	**228**	P	**P**	**20 48 25.8**	**-1.6**
	0.2nm,0.3s,baz=57,slow=9.5,SNR=8.1						
ASAR				pP	**pP**	**20 48 39.0**	**-2.2**
	0.9nm,0.4s,baz=57,slow=9.4,SNR=15						
ASAR				PcP	**PcP**	**20 51 52.2**	**+0.7**
	0.6nm,0.8s,baz=60,slow=2.4,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**27.44**	**25**	T	T	21 17 04.9	
	baz=204,slow=77,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**27.45**	**25**	T	T	21 16 46.2	
	baz=204,slow=77,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**27.46**	**25**	T	T	21 16 48.6	
	baz=204,slow=77,SNR=11						
USRK	**Ussuriysk Arra**	**54.63**	**340**	LR	LR	21 15 05.1	
	comp=Z,176nm,20.4s,baz=174,slow=35						
CMAR	**Chiang Mai Arr**	**60.60**	**295**	P	**P**	**20 53 02.2**	**+1.5**
	3.4nm,0.8s,baz=122,slow=5.3,SNR=20						
ILAR	**Eielson Array**	**82.98**	**22**	P	**P**	**20 55 13.7**	**-0.3**
	0.3nm,0.6s,baz=246,slow=5.8,SNR=9.8						
MKAR	**Makanchi Array**	**83.08**	**319**	P	**P**	**20 55 14.4**	**-0.6**
	0.5nm,0.8s,baz=95,slow=5.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**83.83**	**326**	P	**P**	**20 55 16.7**	**-2.0**
	0.7nm,0.5s,baz=101,slow=7.5,SNR=3.5						
NVAR	**Mina Array Bea**	**91.45**	**52**	P	**P**	**20 55 57.5**	**+1.4**
	0.2nm,0.5s,baz=245,slow=8.5,SNR=2.5						
YKA	**Yellowknife Ar**	**95.96**	**28**	P	**P**	**20 56 15.6**	**-0.3**
	0.3nm,0.5s,baz=267,slow=4.8,SNR=7.9						
TORD	**Torodi Ar. Bea**	**152.91**	**286**	PKPbc	**PKPbc**	**21 02 46.4**	**-0.9**
	0.9nm,0.6s,baz=76,slow=2.1,SNR=15						

*NSSP **10** 20:43:26.3, 41°.72N×44°.18E, h5km, Ms3.2*
*AZER **10** 20:43:26.3±0.1, 41°.81N×44°.23E, h9km, Error ellipse: s-maj=0.9km s-min=0.5km az=333.0*
*MOS **10** 20:43:27.9±0.7, 41°.73N×44°.17E, h12km, mb4.3/1, Error ellipse: s-maj=9.6km s-min=4.8km az=90.2*
*TIF **10** 20:43:27.3, 41°.80N×44°.24E, h20km±1km*
*CSEM **10** 20:43:28.4±0.1, 41°.80N×44°.20E, h2km, mb4.3, Error ellipse: s-maj=3.2km s-min=2.3km az=85.0*
*DDA **10** 20:43:30.9, 41°.56N×43°.97E, h11km, ML3.5*
*ISK **10** 20:43:49.4, 40°.62N×43°.37E, h21km, MD3.2*
ISC 10 20:43:27.5±1.1,**41°.76N**±0°.01×**44°.18E**±0°.01,**h1**km±9km,
n151,σ**1**^{s}**35**/250,**42C-54D,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZR	**Kazreti**	**0.41**	**154**	P	**Pb**	**20 43 36.9**	**-0.7**
KZR	**Kazreti**	**0.41**	**154**	P	**Pb**	**20 43 36.9**	**-0.7**
KZR				S	**Sb**	**20 43 43.4**	**-1.0**
TBLG	**Delisi**	**0.42**	**93**	*e*PG	**Pg**	**20 43 35.7**	**+0.1**
TBLG	**Delisi**	**0.42**	**93**	P	**Pg**	**20 43 35.7**	**+0.1**
TBLG	**Delisi**	**0.42**	**93**	P	**Pg**	**20 43 35.7**	**+0.1**
TBLG				S	**Sg**	**20 43 41.7**	**+0.7**
DUS	**Dusheti**	**0.51**	**49**	P	**Pg**	**20 43 37.6**	**+0.2**
DUS	**Dusheti**	**0.51**	**49**	P	**Pg**	**20 43 37.6**	**+0.2**
DUS				S	**Sg**	**20 43 45.0**	**+0.9**
AKH	**Akhalkalaki**	**0.62**	**236**	*e*PG	**Pb**	**20 43 40.8**	**-0.4**
AKH				S	**Sb**	**20 43 50.0**	**-0.5**
AKH	**Akhalkalaki**	**0.62**	**236**	P	**Pb**	**20 43 40.8**	**-0.4**
AKH	**Akhalkalaki**	**0.62**	**236**	P	**Pb**	**20 43 40.8**	**-0.4**
AKH				S	**Sb**	**20 43 50.0**	**-0.5**
GUDG	**Gudauri**	**0.74**	**17**	P	**Pg**	**20 43 41.1**	**-0.7**
GUDG	**Gudauri**	**0.74**	**17**	P	**Pg**	**20 43 41.1**	**-0.7**
STE	**Stepanavan**	**0.77**	**169**	⇓P	**Pn**	**20 43 44.7**	**-0.9**
STE				S	**Sb**	**20 43 53.5**	**-1.2**
STEZ	**Stepenevan**	**0.77**	**168**	⇓*i*P	**Pn**	**20 43 44.7**	**-1.0**
STEZ				⇓*i*S	**Sb**	**20 43 55.0**	**+0.1**
STEZ	**Stepenevan**	**0.77**	**168**	⇓*i*P	**Pg**	**20 43 42.5**	**+0.2**
STEZ				⇓*i*S	**Sg**	**20 43 53.5**	**+1.2**
CKLZ	**Chkalov**	**0.89**	**156**	⇓*i*P	**Pb**	**20 43 46.3**	**+0.4**
CKLZ				⇓*i*S	**Sb**	**20 43 58.5**	**+0.2**
CKLZ	**Chkalov**	**0.89**	**156**	⇓P	**Pb**	**20 43 46.3**	**+0.4**
CKLZ				S	**Sb**	**20 43 58.5**	**+0.2**
SPIZ	**Spitak**	**0.93**	**176**	⇑*i*P	**Pb**	**20 43 46.6**	**0.0**
SPIZ				⇑*i*S	**Sb**	**20 43 59.3**	**-0.2**
SPIZ	**Spitak**	**0.93**	**176**	⇑P	**Pb**	**20 43 46.6**	**0.0**
SPIZ				S	**Sb**	**20 43 59.3**	**-0.2**
KAMZ	**Kamo**	**0.94**	**191**	⇓*i*P	**Pn**	**20 43 49.9**	**+1.9**
KAMZ				⇓*i*S	**Sn**	**20 44 03.9**	**+1.7**
KAMZ	**Kamo**	**0.94**	**191**	⇓P	**Pn**	**20 43 49.9**	**+1.9**
KAMZ				S	**Sn**	**20 44 03.9**	**+1.7**
DGRG	**David-gareji**	**0.95**	**108**	*e*PG	**Pg**	**20 43 46.2**	**+0.6**
DGRG	**David-gareji**	**0.95**	**108**	P	**Pg**	**20 43 46.2**	**+0.6**
DGRG	**David-gareji**	**0.95**	**108**	P	**Pg**	**20 43 46.2**	**+0.6**
DGRG				S	**Sn**	**20 44 00.8**	**-1.3**
ONI	**Oni**	**0.99**	**327**	*e*PG	**Pg**	**20 43 46.0**	**-0.6**
ONI				S	**Sg**	**20 43 59.7**	**+0.2**
ONI	**Oni**	**0.99**	**327**	P	**Pg**	**20 43 46.0**	**-0.6**
ONI	**Oni**	**0.99**	**327**	P	**Pg**	**20 43 46.0**	**-0.6**
ONI				S	**Sg**	**20 43 59.7**	**+0.2**
ZEI	**Tsey**	**1.05**	**349**	⇓*i*PG	**Pg**	**20 43 46.7**	**-1.0**
ZEI				*e*S	**Sg**	**20 44 01.2**	**-0.2**
LACR	**Lac**	**1.07**	**5**	⇓*i*PG	**Pg**	**20 43 47.2**	**-0.9**
LACR				*e*S	**Sg**	**20 44 02.8**	**+0.7**
LACR	**Lac**	**1.07**	**5**	*i* Pg	**Pg**	**20 43 47.2**	**-0.9**
LACR				*e*Sg	**Sg**	**20 44 02.8**	**+0.7**
HNAZ	**Hnaberd**	**1.12**	**181**	⇓*i*P	**Pn**	**20 43 53.0**	**+2.5**
HNAZ				⇓*i*S	**Sn**	**20 44 10.1**	**+3.4**
HNAZ	**Hnaberd**	**1.12**	**181**	⇓P	**Pn**	**20 43 53.0**	**+2.5**
HNAZ				S	**Sn**	**20 44 10.1**	**+3.4**
QZX	**Qazax, Azerbai**	**1.14**	**127**	⇓Pg	**Pg**	**20 43 48.4**	**-0.9**
QZX				⇑Sg	**Sg**	**20 44 03.6**	**-0.4**
QZX	**Qazax, Azerbai**	**1.14**	**127**	Pg	**Pg**	**20 43 48.4**	**-0.9**
QZX				Sg	**Sg**	**20 44 03.6**	**-0.4**
HARI	**Harich**	**1.15**	**187**	⇓*i*P	**Pn**	**20 43 52.6**	**+1.6**
HARI				⇑*i*S	**Sn**	**20 44 08.8**	**+1.3**
HARI	**Harich**	**1.15**	**187**	⇓P	**Pn**	**20 43 52.6**	**+1.6**
HARI				S	**Sn**	**20 44 08.8**	**+1.3**
DIGR	**Digorskoe uzhe**	**1.23**	**339**	⇓*i*PG	**Pg**	**20 43 50.2**	**-0.8**
DIGR				*i* S	**Sg**	**20 44 06.6**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.23**	**339**	*i* Pg	**Pg**	**20 43 50.2**	**-0.8**
DIGR				*i* Sg	**Sg**	**20 44 06.6**	**-0.3**
KORR	**Kora**	**1.33**	**357**	⇑*i*PG	**Pn**	**20 43 52.3**	**-1.0**
KORR				*e*S	**Sg**	**20 44 10.7**	**+0.4**
KORR	**Kora**	**1.33**	**357**	*i* Pg	**Pn**	**20 43 52.3**	**-1.0**
KORR				*e*Sg	**Sg**	**20 44 10.7**	**+0.4**
NARZ	**Nor Artik**	**1.33**	**195**	⇓*i*P	Pb	20 43 56.8	+3.4
NARZ				⇑*i*S	**Sn**	**20 44 15.8**	**+3.9**
NARZ	**Nor Artik**	**1.33**	**195**	⇓P	Pb	20 43 56.8	+3.4
NARZ				S	**Sn**	**20 44 15.8**	**+3.9**
VLKR	**Vladikavkaz**	**1.34**	**16**	⇓*i*PG	**Pn**	**20 43 53.0**	**-0.4**
VLKR				*i* S	**Sn**	**20 44 12.4**	**+0.5**
VLKR	**Vladikavkaz**	**1.34**	**16**	*i* Pg	**Pn**	**20 43 53.0**	**-0.4**
VLKR				*i* Sg	**Sn**	**20 44 12.4**	**+0.5**
AMBZ	**Amberd**	**1.37**	**177**	⇓*i*P	**Pn**	**20 43 51.4**	**-2.6**
AMBZ				⇓*i*S	**Sg**	**20 44 10.9**	**-0.5**
AMBZ	**Amberd**	**1.37**	**177**	⇓P	**Pn**	**20 43 51.4**	**-2.6**
AMBZ				S	**Sg**	**20 44 10.9**	**-0.5**
SNJR	**Sundja**	**1.39**	**19**	⇓*i*PG	**Pn**	**20 43 53.8**	**-0.3**
SNJR				*e*S	**Sn**	**20 44 13.7**	**+0.5**
SNJR	**Sundja**	**1.39**	**19**	*i* Pg	**Pn**	**20 43 53.8**	**-0.3**
SNJR				*e*Sg	**Sn**	**20 44 13.7**	**+0.5**
KARS	**Kars**	**1.40**	**217**	*e*PG	**Pg**	**20 43 55.1**	**+0.8**
KARS	**Kars**	**1.40**	**217**	*e*Pg	**Pg**	**20 43 55.1**	**+0.8**
ARNR	**Ardon**	**1.43**	**3**	⇓*i*PG	**Pb**	**20 43 54.9**	**0.0**
ARNR				*e*S	**Sn**	**20 44 14.5**	**+0.5**
DIGO	**Kars**	**1.47**	**205**	*i* P	**Pg**	**20 43 56.0**	**+0.3**
DIGO	**Kars**	**1.47**	**205**	*i* P	**Pg**	**20 43 56.0**	**+0.3**
KAPZ	**Kaputan**	**1.48**	**164**	⇑*i*P	**Pn**	**20 43 52.9**	**-2.6**
KAPZ				⇓*i*S	**Sb**	**20 44 12.9**	**-2.5**
KAPZ	**Kaputan**	**1.48**	**164**	⇑P	**Pn**	**20 43 52.9**	**-2.6**
KAPZ				S	**Sb**	**20 44 12.9**	**-2.5**
LSNR	**Lesken**	**1.54**	**350**	⇓*i*PG	**Pn**	**20 43 56.4**	**+0.2**
LSNR				*e*S	**Sn**	**20 44 17.0**	**+0.1**
LSNR	**Lesken**	**1.54**	**350**	*i* Pg	**Pn**	**20 43 56.4**	**+0.2**
LSNR				*e*Sg	**Sn**	**20 44 17.0**	**+0.1**
AKSZ	**Araks**	**1.58**	**188**	⇓*i*P	**Pn**	**20 43 54.7**	**-2.0**
AKSZ				⇓*i*S	**Sn**	**20 44 15.4**	**-2.4**
AKSZ	**Araks**	**1.58**	**188**	⇓P	**Pn**	**20 43 54.7**	**-2.0**
AKSZ				S	**Sn**	**20 44 15.4**	**-2.4**
ERE	**Yerevan**	**1.60**	**172**	*e*P	Pn	20 43 53.0	-4.0
ERE				*e*S	**Sn**	**20 44 16.0**	**-2.3**
PAAR	**P'arak'ar**	**1.61**	**174**	⇑*i*P	**Pn**	**20 43 54.9**	**-2.2**
PAAR				⇓*i*S	**Sn**	**20 44 14.0**	**-4.6**
PAAR	**P'arak'ar**	**1.61**	**174**	⇑P	**Pn**	**20 43 54.9**	**-2.2**
STDR	**Stavd-Durt**	**1.61**	**357**	⇑*i*PN	**Pb**	**20 43 57.8**	**-0.3**
STDR				*e*S	**Sb**	**20 44 19.5**	**+0.5**
STDR	**Stavd-Durt**	**1.61**	**357**	*i* Pn	**Pb**	**20 43 57.8**	**-0.3**
STDR				*e*Sg	**Sb**	**20 44 19.5**	**+0.5**
BTKR	**Batakoyurt**	**1.64**	**9**	⇓*i*PN	**Pb**	**20 43 58.4**	**-0.1**
BTKR				*e*S	**Sg**	**20 44 20.5**	**+0.3**
BTKR	**Batakoyurt**	**1.64**	**9**	*i* Pn	**Pb**	**20 43 58.4**	**-0.1**
BTKR				*e*Sg	**Sg**	**20 44 20.5**	**+0.3**
GNI	**Garni**	**1.66**	**165**	*d i*PN	**Pb**	**20 43 58.9**	**-0.1**
GNI	**Garni**	**1.66**	**165**	⇓*i*P	**Pb**	**20 43 59.1**	**+0.1**
GNI				⇑*i*S	**Sg**	**20 44 22.0**	**+1.2**
GNI	**Garni**	**1.66**	**165**	⇓P	**Pb**	**20 43 59.1**	**+0.1**
GNI				S	**Sg**	**20 44 22.0**	**+1.2**
VNNZ	**Vanand**	**1.67**	**189**	⇑*i*P	**Pn**	**20 43 56.7**	**-1.3**
VNNZ				⇓*i*S	**Sn**	**20 44 19.6**	**-0.6**
VNNZ	**Vanand**	**1.67**	**189**	⇑P	**Pn**	**20 43 56.7**	**-1.3**
VNNZ				S	**Sn**	**20 44 19.5**	**-0.6**
VRNZ	**Vardanashen**	**1.71**	**180**	⇓*i*P	**Pn**	**20 43 57.8**	**-0.6**
VRNZ				⇑*i*S	**Sb**	**20 44 21.4**	**-0.2**
VRNZ	**Vardanashen**	**1.71**	**180**	⇓P	**Pn**	**20 43 57.8**	**-0.6**
VRNZ				S	**Sb**	**20 44 21.4**	**-0.2**
ARTV	**Artvin**	**1.78**	**252**	*i* P	**Pb**	**20 44 00.8**	**-0.3**
ARTV				*i* S	**Sn**	**20 44 20.9**	**-2.2**
ARTV	**Artvin**	**1.78**	**252**	*i* P	**Pb**	**20 44 00.8**	**-0.3**
ARTV				*i* S	**Sn**	**20 44 20.9**	**-2.2**
CHVG	**Ch'k'valeri**	**1.83**	**302**	P	**Pn**	**20 44 00.6**	**+0.5**
CHVG	**Ch'k'valeri**	**1.83**	**302**	P	**Pn**	**20 44 00.6**	**+0.5**
CHVG				S	**Sb**	**20 44 25.7**	**+0.5**
DAGI	**Agillar**	**1.83**	**249**	*i* P	**Pb**	**20 44 01.5**	**-0.4**
DAGI				*i* S	**Sn**	**20 44 24.3**	**+0.2**
ZKTA	**Zakatala**	**1.83**	**93**	⇓Pg	**Pn**	**20 43 59.5**	**-0.6**
	SNR=58						
ZKTA				⇑Sg	**Sb**	**20 44 24.6**	**-0.7**
NEY	**Neytrino**	**1.84**	**325**	⇑*i*PN	**Pb**	**20 44 01.8**	**-0.3**
NEY				*e*S	**Sg**	**20 44 29.6**	**+2.9**
NEY	**Neytrino**	**1.84**	**325**	*i* Pn	**Pb**	**20 44 01.8**	**-0.3**
NEY				*e*Sg	**Sg**	**20 44 29.6**	**+2.9**
DBOC	**Borcka**	**1.93**	**259**	*i* P	**Pb**	**20 44 03.1**	**-0.4**
DBOC				*i* S	**Sb**	**20 44 28.7**	**+0.6**
DBOC	**Borcka**	**1.93**	**259**	*i* P	**Pb**	**20 44 03.1**	**-0.4**
DBOC				*i* S	**Sb**	**20 44 28.7**	**+0.6**
GRO	**Groznyy**	**1.95**	**36**	⇓*i*PN	**Pn**	**20 44 02.3**	**+0.6**
GRO				*i* S	**Sb**	**20 44 29.4**	**+0.8**
GRO	**Groznyy**	**1.95**	**36**	*i* Pn	**Pn**	**20 44 02.3**	**+0.6**
GRO				*i* Sg	**Sb**	**20 44 29.4**	**+0.8**
GANJ	**Ganja**	**1.96**	**124**	⇑Pg	**Pn**	**20 44 01.0**	**-0.9**
	SNR=47						
GANJ				⇓Sg	**Sn**	**20 44 27.1**	**0.0**
VADZ	**Vardenis**	**1.98**	**143**	⇑*i*P	**Pg**	**20 44 06.0**	**+0.6**
VADZ				⇓*i*S	**Sg**	**20 44 33.0**	**+2.0**
VADZ	**Vardenis**	**1.98**	**143**	⇑P	**Pg**	**20 44 06.0**	**+0.6**
VADZ				S	**Sg**	**20 44 33.0**	**+2.0**
PRTR	**Priterechnaya**	**2.00**	**2**	*e*PN	**Pb**	**20 44 04.9**	**+0.3**
PRTR				*e*S	**Sg**	**20 44 31.4**	**-0.3**
PRTR	**Priterechnaya**	**2.00**	**2**	*e*Pn	**Pb**	**20 44 04.9**	**+0.3**
PRTR				*e*Sg	**Sg**	**20 44 31.4**	**-0.3**
DBAD	**Bademkaya**	**2.01**	**249**	*i* P	**Pb**	**20 44 04.3**	**-0.6**
DBAD				*i* S	**Sn**	**20 44 28.8**	**+0.4**
DBAD	**Bademkaya**	**2.01**	**249**	*i* P	**Pb**	**20 44 04.3**	**-0.6**
DBAD				*i* S	**Sn**	**20 44 28.8**	**+0.4**
TRKR	**Terskaya**	**2.01**	**12**	⇑*i*PN	**Pn**	**20 44 02.7**	**+0.2**
TRKR	**Terskaya**	**2.01**	**12**	*i* Pn	**Pn**	**20 44 02.7**	**+0.2**
DDEM	**Demirkent**	**2.02**	**246**	*i* P	**Pb**	**20 44 04.5**	**-0.6**
DDEM				*i* S	**Sb**	**20 44 29.9**	**-0.9**
DDEM	**Demirkent**	**2.02**	**246**	*i* P	**Pb**	**20 44 04.5**	**-0.6**
DDEM				*i* S	**Sb**	**20 44 29.9**	**-0.9**
GNBR	**Gunib**	**2.17**	**72**	*e*PN	**Pn**	**20 44 06.2**	**+1.4**
GNBR				*e*S	**Sb**	**20 44 35.0**	**0.0**
GNBR	**Gunib**	**2.17**	**72**	*e*Pn	**Pn**	**20 44 06.2**	**+1.4**
KMKR	**Kumukh**	**2.21**	**79**	⇑*i*PN	**Pn**	**20 44 06.5**	**+1.0**
KMKR				*e*S	**Sb**	**20 44 36.0**	**-0.3**
KMKR				pmax	pmax		
	comp=Z,70nm,0.2s						
KMKR	**Kumukh**	**2.21**	**79**	*i* Pn	**Pn**	**20 44 06.5**	**+1.0**
	comp=Z,70nm,0.2s						
KMKR				*e*Sn	**Sb**	**20 44 36.0**	**-0.3**
DYDN	**Diyadin**	**2.24**	**190**	*i* P	**Pb**	**20 44 07.6**	**-1.3**
DYDN	**Diyadin**	**2.24**	**190**	*i* P	**Pb**	**20 44 07.6**	**-1.3**
SEKA	**Sheki**	**2.33**	**103**	⇓Pn	**Pn**	**20 44 06.2**	**-0.9**
	SNR=104						
SEKA				⇑Sn	**Sn**	**20 44 36.1**	**-0.3**
SEKA	**Sheki**	**2.33**	**103**	Pn	**Pn**	**20 44 06.2**	**-0.9**
	SNR=104						
SEKA				Sn	**Sn**	**20 44 36.1**	**-0.3**
DBC	**Dubki**	**2.34**	**56**	⇓*i*PN	**Pb**	**20 44 09.6**	**-0.8**
DBC				*i* S	**Sg**	**20 44 41.7**	**-0.9**
DBC	**Dubki**	**2.34**	**56**	*i* Pn	**Pb**	**20 44 09.6**	**-0.8**
AGRB	**Hanur-Agry**	**2.36**	**203**	*e*PG	**Pb**	**20 44 09.8**	**-1.1**
AGRB	**Hanur-Agry**	**2.36**	**203**	*e*Pg	**Pb**	**20 44 09.8**	**-1.1**
MNGR	**Mingechevir, A**	**2.40**	**113**	⇑Pn	**Pn**	**20 44 08.5**	**+0.6**
MNGR				⇑Sn	**Sb**	**20 44 40.4**	**-1.2**
MNGR	**Mingechevir, A**	**2.40**	**113**	Pn	**Pn**	**20 44 08.5**	**+0.6**
MNGR				Sn	**Sb**	**20 44 40.4**	**-1.2**
PYA	**Pyatigorsk**	**2.42**	**341**	⇑*i*PN	**Pn**	**20 44 08.2**	**0.0**
PYA				*e*S	**Sb**	**20 44 43.3**	**+1.1**
PYA	**Pyatigorsk**	**2.42**	**341**	*i* Pn	**Pn**	**20 44 08.2**	**0.0**
HOMI	**Horasan**	**2.43**	**226**	*i* P	**Pn**	**20 44 07.6**	**-0.9**
KIV	**Kislovodsk**	**2.46**	**334**	⇓*i*PN	**Pn**	**20 44 09.1**	**+0.3**
KIV				*e*S	**Sb**	**20 44 44.0**	**+0.7**
KIV	**Kislovodsk**	**2.46**	**334**	*i* Pn	**Pn**	**20 44 09.1**	**+0.3**
PZAR	**Pazar-Rize**	**2.53**	**258**	*e*PN	Pg	20 44 22.2	+6.2
TUTA	**Tutak**	**2.57**	**204**	*i* P	**Pb**	**20 44 12.7**	**-1.8**
TUTA	**Tutak**	**2.57**	**204**	*i* P	**Pb**	**20 44 12.7**	**-1.8**
CLDR	**Caldiran**	**2.62**	**184**	*e*PN	**Pb**	**20 44 16.3**	**+1.0**
CLDR	**Caldiran**	**2.62**	**184**	*e*Pn	**Pb**	**20 44 16.3**	**+1.0**
BRDA	**Brd**	**2.72**	**122**	⇑Pn	**Pn**	**20 44 13.4**	**+1.1**
	SNR=14						
BRDA				⇑Sn	**Sb**	**20 44 51.2**	**+0.6**
BRDA	**Brd**	**2.72**	**122**	Pn	**Pn**	**20 44 13.4**	**+1.1**
	SNR=14						
BRDA				Sn	**Sb**	**20 44 51.2**	**+0.6**
STKZ		**2.75**	**134**	⇑P	**Pb**	**20 44 15.7**	**-1.9**
STKZ				S	**Sb**	**20 44 51.5**	**-0.3**
NAX	**Nakhchivan**	**2.77**	**158**	⇓Pn	**Pb**	**20 44 15.6**	**-2.2**
	SNR=3.4						
NAX				⇑Sn	**Sb**	**20 44 53.8**	**+1.6**
NAX	**Nakhchivan**	**2.77**	**158**	Pn	**Pb**	**20 44 15.6**	**-2.2**
	SNR=3.4						
GRS	**Goris**	**2.79**	**143**	⇑*i*P	**Pg**	**20 44 20.0**	**-0.9**
GRS				⇓*i*S	**Sg**	**20 44 59.0**	**+2.0**
ERZM	**Erzurum**	**2.82**	**230**	*i* P	**Pn**	**20 44 15.5**	**+1.5**
ERZM	**Erzurum**	**2.82**	**230**	*i* P	**Pn**	**20 44 15.5**	**+1.5**
EZM	**Erzurum**	**2.83**	**230**	*e*PN	**Pb**	**20 44 18.3**	**-0.6**
IML	**Ismayilli**	**3.17**	**106**	⇓Pn	**Pn**	**20 44 18.6**	**+0.1**
	SNR=12						
IML				⇓Sn	**Sn**	**20 44 57.7**	**+0.7**
IML	**Ismayilli**	**3.17**	**106**	Pn	**Pn**	**20 44 18.6**	**+0.1**
	SNR=12						
IML				Sn	**Sn**	**20 44 57.7**	**+0.7**
QUBA	**Quba, Azerbaij**	**3.26**	**96**	⇓Pn	**Pn**	**20 44 21.2**	**+1.4**
	SNR=4.9						
QUBA				⇑Sn	**Sn**	**20 45 00.8**	**+1.5**
QUBA	**Quba, Azerbaij**	**3.26**	**96**	Pn	**Pn**	**20 44 21.2**	**+1.4**
	SNR=4.9						
QUBA				Sn	**Sn**	**20 45 00.8**	**+1.5**
BAYT	**Ayd˜–ntepe-Bay**	**3.34**	**247**	*e*PN	**Pb**	**20 44 29.7**	**+2.0**
PQL	**Pirkuli**	**3.46**	**105**	⇑Pn	**Pn**	**20 44 23.2**	**+0.5**
	SNR=6.9						
PQL				⇓Sn	**Sn**	**20 45 07.8**	**+3.4**
PQL	**Pirkuli**	**3.46**	**105**	Pn	**Pn**	**20 44 23.2**	**+0.5**
	SNR=6.9						
PQL				Sn	**Sn**	**20 45 07.8**	**+3.4**
SIZA	**Siyzn**	**3.61**	**99**	⇑Pn	**Pn**	**20 44 25.9**	**+1.2**
	SNR=14						
SIZA				⇑Sn	**Sn**	**20 45 10.4**	**+2.4**
SIZA	**Siyzn**	**3.61**	**99**	Pn	**Pn**	**20 44 25.9**	**+1.2**
	SNR=14						
SIZA				Sn	**Sn**	**20 45 10.4**	**+2.4**
ATGJ	**Altiaghaj**	**3.69**	**102**	⇑Pn	**Pn**	**20 44 27.1**	**+1.3**
	SNR=18						
ATGJ				⇑Sn	**Sn**	**20 45 11.3**	**+1.3**
ATGJ	**Altiaghaj**	**3.69**	**102**	Pn	**Pn**	**20 44 27.1**	**+1.3**
	SNR=18						
ATGJ				Sn	**Sn**	**20 45 11.3**	**+1.3**
GUMT	**Gumushane**	**3.78**	**252**	*e*PN	**Pb**	**20 44 36.9**	**+1.8**
GLBA	**Clilabad**	**4.08**	**127**	⇑Pn	**Pn**	**20 44 32.0**	**+1.0**
GLBA				⇑Sn	**Sb**	**20 45 26.3**	**-3.5**
GLBA	**Clilabad**	**4.08**	**127**	Pn	**Pn**	**20 44 32.0**	**+1.0**
LRK	**Lerik**	**4.45**	**133**	⇑Pn	**Pn**	**20 44 37.6**	**+1.3**
LRK				⇑Sn	**Sn**	**20 45 33.1**	**+4.3**
LRK	**Lerik**	**4.45**	**133**	Pn	**Pn**	**20 44 37.6**	**+1.3**
LRK				Sn	**Sn**	**20 45 33.1**	**+4.3**
PTK	**Pertek**	**4.64**	**234**	*e*PN	Pb	20 44 44.8	-5.1
PTK	**Pertek**	**4.64**	**234**	*e*Pn	Pb	20 44 44.8	-5.1
KURK	**Kurchatov**	**25.26**	**57**	*e*P	**P**	**20 48 53.6**	**-1.3**
KURK	**Kurchatov**	**25.26**	**57**	*e*P	**P**	**20 48 53.6**	**-1.3**
MKAR	**Makanchi Array**	**27.56**	**66**	*i* P	**P**	**20 49 14.1**	**-1.7**
MKAR	**Makanchi Array**	**27.56**	**66**	*i* P	**P**	**20 49 14.1**	**-1.7**

*BJI **10** 20:46:34.4, 0°.55N×126°.31E, h8km, mB5.3/34, mb5.3/73, Ms4.8/70, Ms7 4.6/65*
*IDC **10** 20:46:38.1±0.4, 0°.92N×126°.09E, h0km, mb5.4/27, mb1 5.4/27, mb1mx5.3/33, mbtmp5.3/27, MS4.3/23, Ms1 4.3/23, ms1mx4.2/33, Error ellipse: s-maj=16.3km s-min=10.1km az=72.0*
*MOS **10** 20:46:42.3±1.3, 1°.07N×126°.26E, h33km, mb5.8/53,*

MS4.5/13, Error ellipse: s-maj=9.2km s-min=4.7km az=113.4

ISCJB ***10*** *20:46:44.4±0.3, 0.98N±0.02×126.29E±0.02, h54km±2km, mb5.5/195, MS4.5/46, Error ellipse: s-maj=2.9km s-min=2.5km az=169.5*

NEIC ***10*** *20:46:44.8±0.7, 1.04N×126.24E, h42km±6km, mb5.5/96, Error ellipse: s-maj=5.9km s-min=4.5km az=68.0*

NEIC Felt at Manado, Indonesia.

GCMT ***10*** *20:46:44.8±0.1, 1.19N×126.33E, h40km, MW5.4/98, Moment Tensor Solution. s88,c144; s98,c170; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.79±.02; $M_{\theta\theta}$0.56±.02; $M_{\phi\phi}$-1.35±.02; $M_{r\theta}$0.47±.02; $M_{\theta\phi}$-0.87±.02; $M_{\phi r}$-0.60±.03; Best double couple: $M_0$1.63800×10^{17} NP1:ϕ_s166.00000°, δ68.00000°, λ40.00000°. NP2:ϕ_s58.00000°, δ53.00000°, λ152.00000°. Principal axes: T 1.5240, Plg43.0000°, Azm28.0000°; N 0.2230, Plg45.0000°, Azm189.0000°; P -1.7520, Plg9.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

DJA ***10*** *20:46:47.5±0.2, 1°N±2°×12°6E±°, h62km±2km, M5.3/108, mb5.5/108, mB5.7/89, MLv5.7/21, Mw(mB)5.2/89, Mwp5.5/6*

KLM ***10*** *20:46:48.7, 0.96N×126.28E, h85km, mb5.6, MS5.9*

ISC 10 20:46:45.3±0.5**, 1.00N**±0.03×**126.30E**±0.03**, h45**km±4km**, n913, σ1.66**/952**, mb5.5**/194**, MS4.5**/50**, 143C-148D,**

Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.09**	**102**	P	**Pn**	**20 47 02.2**	**-2.0**
TNTI				S	**Sn**	**20 47 17.2**	**-1.0**
LBMI	**Labuha**	**2.03**	**144**	P	**Pn**	**20 47 15.8**	**-1.2**
KMSI	**Cibinong**	**2.35**	**260**	P	**Pn**	**20 47 22.5**	**+1.1**
KMSI				S	**Sn**	**20 47 52.2**	**+3.1**
SGSI	**Sangihe**	**2.77**	**344**	P	**Pn**	**20 47 28.1**	**+0.9**
SGSI				S	Sn	20 48 07.6	+8.1
SANI	**Sanana**	**3.05**	**186**	P	**Pn**	**20 47 29.6**	**-1.4**
SANI				S	**Sn**	**20 48 04.9**	**-1.4**
GTOI	**Gorontalo**	**3.31**	**264**	P	**Pn**	**20 47 37.5**	**+3.0**
LUWI	**Luwuk**	**4.07**	**240**	P	**Pn**	**20 47 47.4**	**+2.4**
LUWI				S	Sn	20 48 37.7	+6.3
LUWI	**Luwuk**	**4.07**	**240**	eP	**Pn**	**20 47 46.9**	**+1.9**
LUWI	**Luwuk**	**4.07**	**240**	⇓P	**Pn**	**20 47 48.0**	**+3.0**
	baz=4.1						
NLAI	**Namlea**	**4.29**	**169**	P	**Pn**	**20 47 47.6**	**-0.5**
NLAI				S	**Sn**	**20 48 36.2**	**-0.7**
MRSI	**Marisa**	**4.39**	**263**	P	**Pn**	**20 47 50.1**	**+0.7**
MRSI				S	**Sn**	**20 48 44.8**	**+5.6**
APSI	**Ampana**	**5.02**	**248**	P	**Pn**	**20 48 01.1**	**+3.0**
	7µm,1.2s,55µm30nm						
MSAI	**Masohi**	**5.06**	**149**	P	**Pn**	**20 48 00.9**	**+2.3**
SWI	**Sorong**	**5.30**	**110**	P	**Pn**	**20 48 02.8**	**+0.9**
	346nm,1.1s,4µm29µm1.2nm						
SWI	**Sorong**	**5.30**	**110**	⇑P	**Pn**	**20 48 02.1**	**+0.2**
	baz=5.1						
MATI	**Mati**	**5.90**	**360**	eP	**Pn**	**20 48 10.7**	**+0.5**
KCP	**Kidapawan**	**6.08**	**349**	⇓eP	**Pn**	**20 48 15.1**	**+2.3**
CTBH	**Cotabato--PC H**	**6.50**	**342**	eP	**Pn**	**20 48 20.1**	**+1.6**
CTBH				iS	**Sn**	**20 49 32.1**	**+0.6**
BNDI	**Bandanaira**	**6.57**	**147**	P	**Pn**	**20 48 18.5**	**-0.9**
	951nm,1.2s,14µm19µm3.6nm						
BUKP	**Musuan**	**6.94**	**350**	eP	**Pn**	**20 48 27.1**	**+2.6**
FAKI	**Fak Fak**	**7.11**	**123**	P	**Pn**	**20 48 26.4**	**-0.5**
	539nm,0.9s,6µm1.5nm						
FAKI	**Fak Fak**	**7.11**	**123**	eP	**Pn**	**20 48 27.1**	**+0.2**
	329nm,0.8s						
FAKI	**Fak Fak**	**7.11**	**123**	⇓P	**Pn**	**20 48 26.8**	**0.0**
	baz=6.9						
PAGZ	**Pagadian**	**7.39**	**337**	eP	**Pn**	**20 48 31.6**	**+0.9**
TTSI	**Tana Toraja**	**7.62**	**238**	P	**Pn**	**20 48 34.0**	**+0.2**
	1µm,1.0s,10µm3.7nm						
BUTP	**Butuan**	**7.94**	**355**	eP	**Pn**	**20 48 41.3**	**+3.1**
SPSI	**Sidrap Palu**	**8.18**	**233**	P	**Pn**	**20 48 42.3**	**+0.8**
	864nm,1.0s,7µm						
BNSI	**Bone**	**8.19**	**229**	P	**Pn**	**20 48 42.3**	**+0.7**
	799nm,1.2s,6µm						
KMPI	**Kaimana, Papua**	**8.73**	**122**	P	**Pn**	**20 48 51.7**	**+2.6**
	549nm,0.9s,7µm						
SCPH	**Surigao**	**8.76**	**355**	⇑eP	Pn	20 48 52.8	+3.4
BKSI	**Bulukumba**	**8.80**	**224**	P	**Pn**	**20 48 52.0**	**+2.0**
	369nm,0.7s,4µm						
MYLDM	**Lahad Datu**	**8.82**	**298**	⇑P	Pn	20 48 54.5	+4.2
SGKI	**Sangatta, Kali**	**8.82**	**260**	P	**Pn**	**20 48 49.7**	**-0.6**
	292nm,1.6s,6µm						
KAPI	**Kappang**	**8.86**	**228**	Pn	**Pn**	**20 48 52.1**	**+1.3**
	2µm,0.7s,SNR=68						
KAPI	**Kappang**	**8.86**	**228**	eP	**Pn**	**20 48 51.5**	**+0.7**
	3µm,1.0s						
BSSI	**Bau Bau, Buton**	**9.16**	**219**	P	**Pn**	**20 48 55.9**	**+0.9**
	331nm,1.4s,4µm						
MSLP	**Maasin**	**9.18**	**351**	eP	**Pn**	**20 48 58.0**	**+2.8**
SMKI	**Samarinda**	**9.20**	**261**	P	Pn	20 48 59.9	+4.4
	314nm,1.3s,4µm						
LLP	**Lapu-Lapu**	**9.54**	**346**	eP	**Pn**	**20 49 02.8**	**+2.7**
BKB	**Balikpapan**	**9.66**	**257**	P	**Pn**	**20 49 04.3**	**+2.5**
	408nm,1.5s						
OCLP	**Ormoc**	**10.12**	**351**	eP	**Pn**	**20 49 11.2**	**+3.1**
PLP	**Palo**	**10.18**	**353**	⇑eP	**Pn**	**20 49 10.4**	**+1.5**
SDKM	**Sandakan**	**10.18**	**297**	⇑P	**Pn**	**20 49 11.9**	**+2.9**
SAUI	**Saumlaki**	**10.23**	**151**	P	**Pn**	**20 49 08.8**	**-0.7**
	392nm,0.7s,3µm						
GUIM	**Jordan**	**10.24**	**339**	eP	Pn	20 49 14.6	+4.9
PALU	**Palau**	**10.30**	**52**	⇑P	**Pn**	**20 49 11.9**	**+1.3**
	baz=10,SNR=6.3						
PALU				⇑S	**Sn**	**20 51 08.1**	**+3.3**
	baz=10,SNR=3.7						
SRPI	**Serui, Papua**	**10.35**	**106**	P	Pn	20 49 15.8	+4.6
	291nm,1.7s						
MMRI	**Maumere**	**10.39**	**203**	P	**Pn**	**20 49 14.1**	**+2.3**
	200nm,1.4s,3µm6µm						
MMRI	**Maumere**	**10.39**	**203**	eP	**Pn**	**20 49 14.1**	**+2.3**
	95nm,0.7s						
SOEI	**Soe**	**10.88**	**191**	P	Pn	20 49 24.0	+5.4
	872nm,1.1s,8µm						
KBKI	**Kotabaru**	**10.99**	**247**	P	**Pn**	**20 49 22.1**	**+2.1**
	164nm,1.3s,2µm						
RCP	**Roxas**	**11.06**	**342**	⇓eP	Pn	20 49 24.4	+3.4
CUYO	**Cuyo Island**	**11.10**	**332**	eP	**Pn**	**20 49 23.9**	**+2.4**
KDM	**Kudat**	**11.12**	**302**	⇑P	**Pn**	**20 49 24.5**	**+2.8**
KKM	**Kota Kinabalu**	**11.24**	**297**	ePn	**Pn**	**20 49 26.3**	**+2.9**
KKM	**Kota Kinabalu**	**11.24**	**297**	⇓P	Pn	20 49 27.0	+3.6
CNP	**Catarman**	**11.55**	**352**	eP	Pn	20 49 21.5	-6.1
MTKI	**Muara Teweh, K**	**11.56**	**260**	P	Pn	20 49 32.3	+4.5
	150nm,1.0s						
ENPP	**El Nido**	**12.22**	**326**	eP	**Pn**	**20 49 38.1**	**+1.4**
BBKI	**Banjar Baru**	**12.28**	**249**	P	**Pn**	**20 49 40.7**	**+3.1**
	233nm,1.1s,4µm						
SJMP	**San Jose**	**12.49**	**336**	eP	Pn	20 49 44.7	+4.2
BUSP	**Coron**	**12.49**	**331**	eP	**Pn**	**20 49 42.4**	**+1.9**
PVCP	**Virac**	**12.69**	**350**	eP	**Pn**	**20 49 45.3**	**+2.1**
AUQP	**San Andres**	**12.75**	**344**	eP	**P**	**20 49 51.4**	**-2.8**
SMPI	**Sarmi**	**12.76**	**103**	P	**Pn**	**20 49 46.2**	**+2.0**
	204nm,1.5s,6µm						
BTM	**Bintulu**	**13.38**	**280**	⇑P	**Pn**	**20 49 55.2**	**+2.5**
LQP	**Lukban**	**13.85**	**340**	eP	**Pn**	**20 50 01.6**	**+2.4**
LUBP	**Lubang**	**13.99**	**335**	eP	**Pn**	**20 50 03.7**	**+2.7**
TGY	**Tagaytay City**	**14.05**	**338**	Pn	**Pn**	**20 50 01.4**	**-0.4**
	36nm,0.3s,baz=124,slow=3.6,SNR=6.6						
TGY				LR	LR	20 57 02.5	
	comp=Z,67nm,18.0s,baz=136,slow=44						
SBUM	**Sibu**	**14.14**	**276**	ePn	**Pn**	**20 50 03.3**	**+0.2**
SBUM	**Sibu**	**14.14**	**276**	⇑P	**Pn**	**20 50 04.4**	**+1.3**
SRBI	**Singaraja**	**14.27**	**231**	P	**Pn**	**20 50 06.0**	**+1.3**
	325nm,1.1s,3µm						
GENI	**Genyem**	**14.32**	**104**	P	**Pn**	**20 50 07.7**	**+2.3**
	227nm,1.8s,5µm						
DNP	**Denpasar**	**14.65**	**229**	P	**P**	**20 50 16.0**	**+0.8**
	1µm,1.0s,24µm						
KMMI	**Kalianget**	**14.68**	**237**	P	**Pn**	**20 50 12.4**	**+2.3**
	999nm,1.2s,8µm						
IGBI	**Denpasar**	**14.79**	**228**	P	**Pn**	**20 50 15.9**	**-0.8**
	448nm,1.1s,4µm						
JAY	**Jayapura**	**14.82**	**104**	P	P	20 50 23.8	+6.6
STKI	**Sintang**	**14.85**	**266**	P	**Pn**	**20 50 14.5**	**+2.1**
	211nm,1.2s,5µm						
ABJI	**Asem Bagus**	**14.87**	**234**	P	**P**	**20 50 15.7**	**-2.0**
	322nm,1.0s,3µm						
PBKI	**Pangkalan Bun**	**15.08**	**256**	P	**Pn**	**20 50 15.7**	**+0.2**
	335nm,1.3s,3µm						
JAGI	**Jajag, Banyuwa**	**15.33**	**232**	P	**Pn**	**20 50 20.7**	**+1.9**
	414nm,1.0s,4µm						
JAGI	**Jajag, Banyuwa**	**15.33**	**232**	eP	**Pn**	**20 50 20.8**	**+1.9**
	384nm,1.0s						
JAGI	**Jajag, Banyuwa**	**15.33**	**232**	⇑P	**P**	**20 50 21.1**	**-1.7**
	baz=15						
BLJI	**Banyuglugur**	**15.36**	**235**	P	**P**	**20 50 25.0**	**+1.9**
	336nm,0.7s,3µm						
GMJI	**Gumukmas**	**15.78**	**234**	P	**P**	**20 50 27.8**	**0.0**
	305nm,1.2s,3µm						
GRJI	**Gresik**	**15.87**	**240**	P	**Pn**	**20 50 27.2**	**+1.5**
	201nm,0.9s,2µm						
KSM	**Kuching**	**15.99**	**272**	eP	**Pn**	**20 50 28.3**	**+1.0**
	281nm,1.0s						
KSM	**Kuching**	**15.99**	**272**	⇓P	**Pn**	**20 50 27.9**	**+0.6**
	baz=16,SNR=6.9						
KSM	**Kuching**	**15.99**	**272**	⇑P	**P**	**20 50 29.2**	**-0.9**
BCPH	**Baguio City Da**	**16.29**	**340**	⇓iP	**P**	**20 50 33.4**	**-0.2**
TBJI	**Tambak Boyo**	**16.38**	**241**	P	**P**	**20 50 34.6**	**+0.2**
	352nm,1.2s,4µm						
BOLP	**Bolinao**	**16.52**	**338**	eP	**Pn**	**20 50 33.6**	**-0.4**
KNRA	**Kununurra**	**16.75**	**172**	⇓P	**Pn**	**20 50 35.6**	**-1.2**
	baz=17,SNR=97						
MMPI	**Merauke**	**16.90**	**124**	P	**P**	**20 50 41.0**	**+0.8**
	746nm,0.7s						
UWJI	**Ujung Watu**	**17.00**	**244**	P	**Pn**	**20 50 39.7**	**-0.3**
	270nm,1.1s,2µm						
PWJI	**Pagerwojo**	**17.01**	**238**	P	**P**	**20 50 41.5**	**+0.1**
	490nm,0.8s,4µm						
SZP	**Santa**	**17.42**	**341**	eP	**Pn**	**20 50 43.2**	**-1.9**
	4µm,2.6s						
PCJI	**Pacitan**	**17.63**	**239**	P	**P**	**20 50 50.0**	**+1.8**
	734nm,0.8s,5µm						
WOJI	**Wonogiri, Jawa**	**17.67**	**240**	P	**P**	**20 50 49.4**	**+0.7**
	304nm,1.3s,4µm						
SMRI	**Semarang**	**17.73**	**243**	P	**P**	**20 50 49.8**	**+0.4**
	271nm,1.1s,4µm						
SMRI	**Semarang**	**17.73**	**243**	eP	**P**	**20 50 50.1**	**+0.7**
	259nm,1.0s						
SMRI	**Semarang**	**17.73**	**243**	⇑P	**P**	**20 50 50.9**	**+1.5**
	baz=18						
UGM	**Wanagama**	**18.05**	**240**	P	**P**	**20 50 54.5**	**+1.5**
	356nm,1.2s,4µm						
UGM	**Wanagama**	**18.05**	**240**	⇓P	**P**	**20 50 54.0**	**+1.1**
	baz=18						
KPJI	**Karang Pucung**	**19.20**	**244**	P	**P**	**20 51 05.4**	**-0.2**
	274nm,1.0s,2µm						
CMJI	**Cimerak**	**19.82**	**244**	P	**P**	**20 51 10.5**	**-1.9**
	192nm,0.8s,2µm						
CISI	**Cisompet, Garu**	**20.30**	**245**	P	**P**	**20 51 16.1**	**-1.5**
	280nm,0.7s,2µm						
CISI	**Cisompet, Garu**	**20.30**	**245**	eP	**P**	**20 51 15.8**	**-1.9**
	157nm,0.6s						
CISI	**Cisompet, Garu**	**20.30**	**245**	⇓P	**P**	**20 51 16.3**	**-1.3**
	baz=20						
DLV	**T Lat**	**20.74**	**302**	ePn	**P**	**20 51 22.1**	**-0.4**
	586nm,1.6s						
CBJI	**Citeko**	**20.76**	**249**	P	**P**	**20 51 22.5**	**-0.1**
	543nm,0.8s						
CNJI	**Cibinong**	**20.83**	**246**	P	**P**	**20 51 24.6**	**+1.3**
	306nm,0.9s,2µm						
DBJI	**Dramaga**	**20.90**	**249**	P	**P**	**20 51 23.3**	**-0.8**
	125nm,0.9s,2µm						
SKJI	**Sukabumi**	**21.24**	**248**	P	**P**	**20 51 27.8**	**0.0**
	186nm,0.7s,4µm						
TPRI	**Tanjung Pinang**	**21.77**	**270**	P	**P**	**20 51 34.5**	**+1.1**
	116nm,1.0s,112µm						
PMBI	**Palembang**	**21.87**	**260**	P	**P**	**20 51 34.2**	**-0.3**
	289nm,1.0s,4µm						
CGJI	**Cibinong**	**21.91**	**250**	P	**P**	**20 51 34.2**	**-0.7**
	142nm,0.8s,2µm						
BLSI	**Bandar Lampung**	**21.96**	**253**	P	**P**	**20 51 35.6**	**+0.2**
	84nm,0.8s,2µm						
KLI	**Kotabumi**	**22.20**	**255**	P	**P**	**20 51 36.5**	**-1.5**
	111nm,0.8s						
WRAB	**Tennant Creek**	**22.26**	**160**	P	**P**	**20 51 37.0**	**-1.6**
	2µm,0.6s						
WRAB	**Tennant Creek**	**22.26**	**160**	eP	**P**	**20 51 36.0**	**-2.6**
WRAB	**Tennant Creek**	**22.26**	**160**	eP	**P**	**20 51 37.4**	**-1.1**
	293nm,0.8s						
WRA	**Warramunga Arr**	**22.26**	**160**	P	**P**	**20 51 36.0**	**-2.7**
	146nm,0.5s,baz=339,slow=11,SNR=492						
WRA				S	**S**	**20 55 35.8**	**-5.3**
	32nm,1.0s,baz=329,slow=19,SNR=6.4						
WRA				ScP	**ScP**	**20 59 09.4**	**+1.6**
	4.8nm,0.9s,baz=338,slow=3.0,SNR=5.8						
WRA				P3KPbc		21 25 19.6	
	1.0nm,0.9s,baz=155,slow=4.4,SNR=6.3						
TWG	**Pinlang**	**22.27**	**347**	eP	**P**	**20 51 34.7**	**-4.0**
	499nm,0.5s						
COEN	**Coen**	**22.37**	**132**	eP	**P**	**20 51 38.2**	**-1.6**
	505nm,0.6s						
COEN				eScP	**ScP**	**20 59 15.2**	**+7.1**
COEN	**Coen**	**22.37**	**132**	⇑P	**P**	**20 51 38.3**	**-1.6**
	baz=22,SNR=32						
MYKOM	**Kota Tinggi**	**22.45**	**272**	eP	**P**	**20 51 40.3**	**-0.4**
	274nm,1.1s						
MYKOM	**Kota Tinggi**	**22.45**	**272**	⇓P	**P**	**20 51 39.7**	**-1.0**
BTDF	**Bukit Timah Da**	**22.52**	**271**	⇓P	**P**	**20 51 41.0**	**-0.6**
	baz=23,SNR=16						
KASI	**Kota Agung**	**22.72**	**253**	P	**P**	**20 51 40.7**	**-2.8**
	152nm,1.0s,1µm						
MDSI	**Maura Dua**	**22.76**	**256**	P	**P**	**20 51 42.3**	**-1.7**
	72nm,0.8s,639nm						
YULB	**Yu-li**	**22.78**	**348**	eP	**P**	**20 51 40.9**	**-3.2**
	66nm,0.9s						
JMBI	**JAMBI**	**22.80**	**263**	P	**P**	**20 51 44.1**	**-0.4**
	517nm,0.8s,5µm						
TPUB	**Ta-pu**	**22.84**	**346**	eP	**P**	**20 51 41.7**	**-3.1**
	310nm,0.7s						
MBWA	**Marble Bar**	**22.94**	**196**	eP	**P**	**20 51 42.9**	**-3.0**
	72nm,0.9s						
KGM	**Kluang**	**22.99**	**273**	⇑P	**P**	**20 51 45.7**	**-0.7**
LWLI	**Liwa**	**23.00**	**255**	P	**P**	**20 51 44.6**	**-2.1**
	181nm,0.7s						
PMG	**Port Moresby**	**23.21**	**117**	P	**P**	**20 51 47.1**	**-1.5**
	36nm,0.9s,baz=269,slow=7.4,SNR=9.2						
PMG				LR	LR	21 03 44.7	
	comp=Z,2µm,18.3s,baz=312,slow=44						
PMG	**Port Moresby**	**23.21**	**117**	eP	**P**	**20 51 47.4**	**-1.2**
	66nm,0.9s						
SSLB	**Suanglung**	**23.23**	**348**	eP	**P**	**20 51 46.0**	**-2.8**
	120nm,0.9s						
LHSI	**Lahat**	**23.26**	**258**	P	**P**	**20 51 50.3**	**+1.2**
	108nm,1.0s,1µm						
XMI	**Christmas Isla**	**23.45**	**240**	⇓P	**P**	**20 51 49.9**	**-1.0**
	baz=24,SNR=11						
NACB	**Ninganchiao**	**23.48**	**349**	eP	**P**	**20 51 47.0**	**-4.1**
	345nm,2.0s						
XMIS	**Christmas Isla**	**23.50**	**240**	eP	**P**	**20 51 48.5**	**-2.8**
	967nm,0.7s						
XMIS	**Christmas Isla**	**23.50**	**240**	⇑P	**P**	**20 51 49.2**	**-2.2**
	baz=24,SNR=21						
KTGM	**Kuala Trenggan**	**23.52**	**281**	⇑P	**P**	**20 51 50.8**	**-0.7**
YOJ	**Yonaguni jima**	**23.54**	**352**	eP	**P**	**20 51 48.0**	**-3.5**
YOJ				pmax	pmax		
	comp=Z,78nm,0.9s						
YOJ	**Yonaguni jima**	**23.54**	**352**	eP	**P**	**20 51 48.0**	**-3.5**
	comp=Z,78nm,0.9s						
MNAI	**Manna**	**23.92**	**257**	⇓P	**P**	**20 51 55.6**	**+0.2**
	baz=24						
RGRI	**Rengat**	**24.00**	**267**	P	**P**	**20 51 55.5**	**-0.6**
	comp=Z,292nm,1.2s,comp=Z,98µm						
YHNB	**Yeheng**	**24.00**	**349**	eP	**P**	**20 51 53.7**	**-2.3**
	comp=Z,282nm,1.3s						
QIZ	**Qiongzhong**	**24.11**	**319**	P	**P**	**20 51 55.7**	**-1.3**
QIZ				S	**S**	**20 56 14.6**	**+2.8**
QIZ				pmax	pmax		
	comp=Z,68nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,250nm,3.4s						
QIZ				LR	LR		
	comp=Z,770nm,14.3s						
QIZ				LR	LR		
	comp=Z,2µm,21.7s						
TATO	**Taipei**	**24.28**	**349**	eP	**P**	**20 51 57.4**	**-1.1**
	comp=Z,417nm,1.7s						
MASI	**Maura Aman, Be**	**24.40**	**260**	P	**P**	**20 51 59.3**	**-0.4**
	comp=Z,491nm,1.1s,comp=Z,5µm						
FRIM	**Kepong**	**24.75**	**276**	⇑P	**P**	**20 52 02.9**	**0.0**
QZH	**Quanzhou**	**24.94**	**343**	⇑P	**P**	**20 52 02.2**	**-2.2**
QZH				S	**S**	**20 56 22.0**	**-3.0**
QZH				pmax	pmax		
	comp=Z,680nm,1.7s						
QZH				pmax	pmax		
	comp=Z,2µm,2.8s						
QZH				LR	LR		
	comp=Z,3µm,21.0s						
SDSI	**Sungai Dareh**	**24.94**	**266**	P	**P**	**20 52 03.8**	**-0.8**
	comp=Z,128nm,1.3s,comp=Z,8µm						
UBPT	**Khong Chiam**	**24.98**	**306**	P	**P**	**20 52 04.6**	**-0.3**
	comp=Z,120nm,1.0s,comp=Z,2µm						
QIS	**Mount Isa**	**25.08**	**149**	⇓P	**P**	**20 52 04.6**	**-1.2**
	baz=25,SNR=104						
BKNI	**Bangkinang**	**25.26**	**269**	P	**P**	**20 52 07.9**	**+0.3**
	comp=Z,163nm,1.2s,comp=Z,2µm						
BKNI	**Bangkinang**	**25.26**	**269**	eP	**P**	**20 52 08.1**	**+0.5**
	comp=Z,181nm,1.1s						
BKNI	**Bangkinang**	**25.26**	**269**	⇓P	**P**	**20 52 07.3**	**-0.3**
	baz=25						
IPM	**Ipoh**	**25.47**	**278**	eP	**P**	**20 52 08.2**	**-1.3**
	comp=Z,221nm,1.1s						
IPM				eScP	**ScP**	**20 59 20.4**	**+3.8**
IPM	**Ipoh**	**25.47**	**278**	⇑P	**P**	**20 52 09.0**	**-0.5**
AS15	**Alice Springs**	**25.59**	**164**	⇑P	**P**	**20 52 09.9**	**-0.6**
	baz=26						
AS31	**Alice Springs**	**25.61**	**164**	eP	**P**	**20 52 09.4**	**-1.2**
ASAR	**Alice Springs**	**25.61**	**164**	P	**P**	**20 52 09.5**	**-1.2**
	comp=Z,32nm,0.5s,baz=345,slow=12,SNR=146						
ASAR				PcP	**PcP**	**20 55 41.0**	**+0.1**
	comp=Z,8.0nm,0.8s,baz=356,slow=2.0,SNR=5.1						
ASAR				S	**S**	**20 56 32.7**	**-3.2**
	comp=Z,5.2nm,0.7s,baz=355,slow=18,SNR=3.6						
ASAR				ScP	**ScP**	**20 59 19.4**	**+2.5**
	comp=Z,1.7nm,0.7s,baz=343,slow=2.2,SNR=4.5						
ASAR				P3KPbc		21 25 08.2	
	comp=Z,0.7nm,0.9s,baz=156,slow=4.7,SNR=4.9						
JOW	**Kunigami**	**25.75**	**4**	P	**P**	**20 52 11.9**	**+0.1**
	comp=Z,27nm,0.9s,baz=199,slow=8.6,SNR=29						
JOW				LR	LR	21 03 48.7	
	comp=Z,43nm,19.1s,baz=170,slow=40						
JOW	**Kunigami**	**25.75**	**4**	eP	**P**	**20 52 11.1**	**-0.7**
	comp=Z,108nm,0.9s						
PDSI	**Padang**	**25.90**	**266**	P	**P**	**20 52 12.0**	**-1.4**
	comp=Z,147nm,1.0s,comp=Z,1µm						
KULM	**Kulim**	**25.95**	**280**	eP	**P**	**20 52 12.0**	**-1.8**
	comp=Z,96nm,1.1s						
KULM	**Kulim**	**25.95**	**280**	⇓P	**P**	**20 52 13.4**	**-0.4**
WRKA	**Warakurna**	**25.96**	**176**	⇓P	**P**	**20 52 13.0**	**-0.8**
	baz=26,SNR=294						
GIRL	**Giralia**	**26.28**	**206**	⇓P	**P**	**20 52 16.8**	**+0.2**
	baz=26,SNR=4.9						
CHBT	**CHBT**	**26.46**	**297**	P	**P**	**20 52 18.3**	**-0.1**
	comp=Z,107nm,1.0s,comp=Z,1µm						
MNSI	**Mandailing Nat**	**26.71**	**270**	P	**P**	**20 52 19.8**	**-0.9**
	comp=Z,101nm,0.9s,comp=Z,1µm						
PSI	**Prapat**	**27.41**	**274**	P	**P**	**20 52 24.8**	**-2.3**
	comp=Z,113nm,1.0s,baz=88,slow=4.5,SNR=69						
PSI				ScP	**ScP**	**20 59 24.4**	**+2.0**
	comp=Z,12nm,1.1s,baz=186,slow=5.0,SNR=5.8						
PSI	**Prapat**	**27.41**	**274**	⇓P	**P**	**20 52 26.4**	**-0.7**
	baz=28,SNR=55						
TSI	**Tuntungan**	**27.82**	**276**	P	**P**	**20 52 29.1**	**-1.5**
	comp=Z,75nm,1.2s,comp=Z,2µm						
MEEK	**Meekatharra**	**28.46**	**195**	P	**P**	**20 52 35.9**	**-0.3**
	baz=28,SNR=47						
SURT	**Suratani**	**28.49**	**287**	P	**P**	**20 52 36.8**	**+0.2**
	comp=Z,36nm,1.0s,comp=Z,313nm						
KCSI	**Kotacane, Aceh**	**28.61**	**275**	P	**P**	**20 52 35.1**	**-2.6**
	comp=Z,65nm,0.9s,comp=Z,648nm						
CTA	**Charters Tower**	**28.67**	**138**	P	**P**	**20 52 38.2**	**0.0**
	comp=Z,18nm,0.9s,baz=335,slow=11,SNR=8.0						
CTA				LR	LR	21 05 56.5	
	comp=Z,892nm,21.2s,baz=327,slow=40						
PKDT	**Phuket**	**28.69**	**285**	P	**P**	**20 52 39.2**	**+0.8**
	comp=Z,83nm,1.0s						
GSI	**Gunungsitoli**	**28.72**	**271**	P	**P**	**20 52 37.5**	**-1.1**
	comp=Z,210nm,1.1s,comp=Z,2µm						
GSI	**Gunungsitoli**	**28.72**	**271**	eP	**P**	**20 52 37.3**	**-1.4**
	comp=Z,208nm,0.9s						
GSI	**Gunungsitoli**	**28.72**	**271**	⇓P	**P**	**20 52 38.0**	**-0.6**
	baz=29						
TPTI		**29.18**	**275**	P	**P**	**20 52 40.6**	**-2.1**
	comp=Z,24nm,1.0s,comp=Z,23µm						
PBKT	**Sadao Pong**	**29.35**	**303**	P	**P**	**20 52 43.5**	**-0.7**
	comp=Z,42nm,1.0s,comp=Z,2µm						
LHMI	**Lhok Sumawe**	**29.60**	**279**	P	**P**	**20 52 46.5**	**+0.1**
	comp=Z,160nm,1.2s						
LHMI	**Lhok Sumawe**	**29.60**	**279**	⇓P	**P**	**20 52 46.5**	**+0.1**
	baz=30						
SRDT	**SRDT**	**29.96**	**298**	P	**P**	**20 52 49.7**	**+0.1**
	comp=Z,117nm,1.0s,comp=Z,6µm						
SNSI	**Sinabang, Aceh**	**29.99**	**273**	P	**P**	**20 52 48.6**	**-1.3**
	comp=Z,92nm,0.8s						
CBIJ	**Chichi jima**	**30.10**	**29**	eP	**P**	**20 52 49.5**	**-1.2**
	comp=Z,45nm,0.6s						
JCJ	**Chichijima**	**30.10**	**29**	P	**P**	**20 52 51.6**	**+0.9**
	comp=Z,122nm,0.5s,baz=226,slow=8.1,SNR=9.9						
JCJ				LR	LR	21 03 21.9	
	comp=Z,373nm,21.0s,baz=106,slow=33						
UTTA	**Uttaradit**	**30.28**	**305**	P	**P**	**20 52 51.5**	**-0.9**
	comp=Z,23nm,0.9s,comp=Z,158nm						
SSE	**Sheshan**	**30.32**	**351**	P	P	20 52 56.3	+3.8
SSE				S	**S**	**20 57 50.1**	**+0.4**
SSE				pmax	pmax		
	comp=Z,23nm,1.1s						
SSE				LR	LR		
	comp=Z,750nm,25.6s						
SSE				LR	LR		
	comp=Z,420nm,25.6s						
SSE				LR	LR		
	comp=Z,890nm,26.2s						
KHLT	**Khaolaem Dam**	**30.61**	**298**	P	**P**	**20 52 55.4**	**0.0**
	comp=Z,32nm,1.0s,comp=Z,329nm						
SUKH	**Sukhothai**	**30.91**	**304**	P	**P**	**20 52 57.5**	**-0.5**
	comp=Z,28nm,0.9s,comp=Z,178nm						
LAMP	**Lampang**	**31.43**	**305**	P	**P**	**20 53 02.6**	**0.0**
	comp=Z,17nm,0.9s,comp=Z,137nm						
MORW	**Morawa**	**31.47**	**197**	⇑P	**P**	**20 53 02.1**	**-0.7**
	baz=32,SNR=26						
WHN	**Wuhan**	**31.49**	**340**	⇑P	**P**	**20 53 04.6**	**+1.7**
WHN				LR	LR		
	comp=Z,780nm,7.9s						
WHN				LR	LR		
	comp=Z,1µm,13.0s						
WHN				LR	LR		
	comp=Z,2µm,24.7s						
GYA	**Guiyang**	**31.58**	**325**	⇑iP	**P**	**20 53 04.6**	**+0.7**
GYA				PP	**PnPn**	**20 54 08.7**	**+0.1**
GYA				PcP	**PcP**	**20 55 57.4**	**+1.6**
GYA				S	**S**	**20 58 12.0**	**+2.1**
GYA				ScP	**ScP**	**20 59 39.8**	**+4.2**
GYA				SS	**SnSn**	**21 00 01.0**	**+2.5**
GYA				pmax	pmax		
	comp=Z,40nm,0.9s						
GYA				pmax	pmax		
	comp=Z,150nm,4.9s						
GYA				LR	LR		
	comp=Z,3µm,17.6s						
GYA				LR	LR		
	comp=Z,3µm,18.0s						
GYA				LR	LR		
	comp=Z,4µm,17.9s						
FORT	**Forrest**	**31.65**	**177**	eP	**P**	**20 53 03.1**	**-1.3**
	comp=Z,204nm,0.6s						
FORT	**Forrest**	**31.65**	**177**	⇑P	**P**	**20 53 03.6**	**-0.7**
	baz=32,SNR=51						
CM31	**Chiang Mai Arr**	**31.96**	**305**	eP	**P**	**20 53 07.5**	**+0.3**
	comp=Z,21nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.96**	**305**	P	**P**	**20 53 06.5**	**-0.8**
	comp=Z,20nm,0.9s,baz=136,slow=7.5,SNR=87						
CMAR				PcP	**PcP**	**20 55 56.5**	**-0.3**
	comp=Z,10nm,0.9s,baz=157,slow=2.1,SNR=11						
CMAR				ScP	**ScP**	**20 59 38.9**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=160,slow=2.0,SNR=4.4						
CMAR				LR	LR	21 07 58.0	
	comp=Z,730nm,18.2s,baz=122,slow=40						
COCO	**West Island**	**32.06**	**245**	iP	**P**	**20 53 11.0**	**+2.9**
CMMT	**Chiang Mai**	**32.13**	**305**	P	**P**	**20 53 07.8**	**-1.0**
	comp=Z,64nm,1.0s,comp=Z,654nm						
CHTO	**Chiang Mai**	**32.14**	**305**	eScP	**ScP**	**20 59 39.5**	**+2.0**
JNU	**Nakatsue**	**32.24**	**7**	P	**P**	**20 53 08.2**	**-1.3**
	comp=Z,84nm,0.9s,baz=227,slow=2.3,SNR=20						
JNU	**Nakatsue**	**32.24**	**7**	eP	**P**	**20 53 09.9**	**+0.4**
	comp=Z,32nm,0.9s						
CMAI	**Chiengmai2**	**32.63**	**307**	P	**P**	**20 53 13.1**	**-0.2**
	comp=Z,38nm,1.0s						
BLDU	**Ballidu**	**32.74**	**195**	⇓P	**P**	**20 53 12.8**	**-1.2**
	baz=33,SNR=65						
KMI	**Kunming**	**33.05**	**318**	P	**P**	**20 53 17.6**	**+0.6**
KMI				pP	pP	20 53 21.9	-7.1
KMI				PcP	**PcP**	**20 56 00.6**	**+0.6**
KMI				S	**S**	**20 58 29.2**	**-3.9**
KMI				pmax	pmax		
	comp=Z,39nm,1.3s						
KMI				pmax	pmax		
	comp=Z,190nm,3.1s						
KMI				LR	LR		
	comp=Z,550nm,19.3s						

KMI LR LR
comp=Z,870nm,20.4s
KMI LR LR
comp=Z,1µm,20.2s
ENH Enshi 33.20 333 eP P 20 53 16.1 -1.9
comp=Z,43nm,1.0s
KLBR Kellerberrin 33.41 193 ⇓P P 20 53 19.0 -0.8
baz=34,SNR=53
NWAO Narrogin (SRO) 34.82 193 LR LR 21 09 20.9
comp=Z,377nm,20.5s,slow=39
BBOO Buckleboo 34.87 166 eP P 20 53 31.2 -1.2
comp=Z,855nm,0.6s
BBOO Buckleboo 34.87 166 ⇓P P 20 53 31.0 -1.4
baz=35,SNR=86
DGPR DIGLIPUR 35.19 292 eP P 20 53 33.2 -2.2
EIDS Eidsvold 35.53 139 eP P 20 53 38.4 +0.2
comp=Z,31nm,1.1s
STKA Stephens Creek 35.77 157 eP P 20 53 38.5 -1.7
STKA pmax pmax
comp=Z,13nm,0.7s
STKA Stephens Creek 35.77 157 P P 20 53 39.0 -1.2
comp=Z,69nm,0.7s,baz=331,slow=8.2,SNR=71
STKA Stephens Creek 35.77 157 eP P 20 53 38.5 -1.7
comp=Z,13nm,0.7s
STKA Stephens Creek 35.77 157 ⇓P P 20 53 38.7 -1.5
baz=36,SNR=102
HTT Hallett 36.26 162 ⇓P P 20 53 43.7 -0.7
baz=36,SNR=43
KSAR Wonju Array Be 36.29 2 P P 20 53 45.2 +0.7
KSAR 20 56 09.4
KSAR Wonju Array Be 36.29 2 P P 20 53 45.2 +0.7
KSAR PcP PcP 20 56 09.3 +0.6
KSRS Korea Array 36.30 2 P P 20 53 45.2 +0.6
KSRS 20 56 09.4
KSRS pmax pmax
comp=Z,20nm,0.6s
KSRS pmax pmax
comp=Z,6.0nm,0.7s
KSRS Korea Array 36.30 2 P P 20 53 45.2 +0.6
comp=Z,20nm,0.6s,baz=180,slow=9.7,SNR=73
KSRS PcP PcP 20 56 09.3 +0.6
comp=Z,5.9nm,0.7s,baz=195,slow=2.8,SNR=8.1
CD2 Chengdu 36.62 326⇓iP P 20 53 46.8 -0.7
CD2 pP pP 20 53 51.2 -8.4
CD2 sP sP 20 53 53.8 -11
CD2 PP PP 20 55 10.9 -0.6
CD2 PcP PcP 20 56 10.7 +0.7
CD2 S S 20 59 28.7 +1.2
CD2 PcS PcS 20 59 57.4 -0.7
CD2 pmax pmax
comp=Z,120nm,1.0s
CD2 pmax pmax
comp=Z,320nm,5.7s
CD2 LR LR
comp=Z,1µm,18.6s
CD2 LR LR
comp=Z,1µm,14.7s
CD2 LR LR
comp=Z,890nm,21.6s
XAN Xi'an 36.67 335 P P 20 53 46.5 -1.4
XAN PP PnPn 20 55 12.6 +0.4
XAN S S 20 59 23.3 -4.9
XAN pmax pmax
comp=Z,20nm,0.9s
XAN LR LR
comp=Z,480nm,15.7s
XAN LR LR
comp=Z,230nm,21.0s
XAN LR LR
comp=Z,250nm,22.3s
MAJO Matsushiro 37.04 16ceP P 20 53 49.7 -1.3
MAJO pmax pmax
comp=Z,945nm,2.1s
MAT Matsushiro 37.04 16 P P 20 53 49.7 -1.3
MAT S S 20 59 33.8 0.0
MJAR Matsushiro Arr 37.04 16 P P 20 53 50.2 -0.8
comp=Z,40nm,0.6s,baz=186,slow=9.4,SNR=83
MJAR PcP PcP 20 56 11.7 +0.6
comp=Z,9.1nm,1.0s,baz=180,slow=3.5,SNR=4.1
MJAR LR LR 21 08 50.5
comp=Z,194nm,21.4s,baz=205,slow=36
CMSA Cobar Meteorol 37.23 152 ⇑P P 20 53 52.4 -0.2
baz=37,SNR=33
DL2 Dalian 37.96 354 P P 20 53 59.7 +1.0
DL2 eS S 20 59 49.5 +1.9
DL2 pmax pmax
comp=Z,170nm,0.7s
ARMA Armidale 39.48 144 eP P 20 54 11.8 +0.1
comp=Z,57nm,1.0s
BJT Baijiatuau 39.91 348 eP P 20 54 14.6 -0.4
BJT pmax pmax
comp=Z,105nm,0.6s
BJT Baijiatuau 39.91 348 eP P 20 54 14.6 -0.4
comp=Z,105nm,0.6s
BJI Beijing 39.93 348 P P 20 54 15.0 -0.1
BJI S S 21 00 13.6 -3.6
BJI pmax pmax
comp=Z,73nm,0.8s
BJI LR LR
comp=Z,420nm,20.6s
BJI LR LR
comp=Z,490nm,23.0s
BJI LR LR
comp=Z,650nm,32.8s
ARPS Mount Arapiles 40.26 161 ⇓P P 20 54 17.4 -0.5
baz=40,SNR=69
LZH Lanzhou 40.65 332 ⇓P P 20 54 21.7 +0.3
LZH pP pP 20 54 24.8 -8.8
LZH sP sP 20 54 27.2 -12
LZH PP PP 20 55 57.4 +1.7
LZH PcP PcP 20 56 24.5 +1.8
LZH ScP ScP 21 00 12.4 +3.7
LZH PcS PcS 21 00 15.0 +1.4
LZH S S 21 00 30.0 +1.6
LZH SS SS 21 03 26.1 -4.0
LZH pmax pmax
comp=Z,100nm,1.1s
LZH pmax pmax
comp=Z,550nm,4.2s
LZH LR LR
comp=Z,1µm,18.7s
LZH LR LR
comp=Z,1µm,19.3s
LZH LR LR
comp=Z,2µm,20.9s
SNY Shenyang 40.71 357 ⇑P P 20 54 21.4 -0.2
SNY S S 21 00 29.4 +0.6
SNY pmax pmax
comp=Z,190nm,1.6s
SNY pmax pmax
comp=Z,930nm,5.9s
SNY LR LR
comp=Z,680nm,22.6s
SNY LR LR
comp=Z,550nm,26.2s
SHL Shillong 41.19 309 eP P 20 54 25.1 -0.9
HHC Hu-ho-hao-te 41.85 343 eP P 20 54 32.1 +1.0
HHC PP PnPn 20 56 12.0 -1.8
HHC S S 21 00 50.5 +4.5
HHC SS SS 21 03 50.4 -3.2
HHC ScS ScS 21 04 34.3 +3.9
HHC pmax pmax
comp=Z,37nm,1.2s
HHC pmax pmax
comp=Z,290nm,5.1s
HHC LR LR
comp=Z,860nm,20.4s
HHC LR LR
comp=Z,760nm,19.6s
HHC LR LR
comp=Z,1µm,21.4s
CAN Canberra 41.90 152 eP P 20 54 31.2 -0.3
CAN pmax pmax
comp=Z,61nm,0.9s
CAN Canberra 41.90 152 eP P 20 54 31.2 -0.3
comp=Z,61nm,0.9s
VLA Vladivostok 42.23 6 d iP P 20 54 35.1 +1.1
VLA pmax pmax
comp=Z,211nm,2.3s
CN2 Changchun 42.62 359 eP P 20 54 36.0 -1.1
CN2 esP sP 20 54 43.0 -12
CN2 eS S 21 00 58.1 +1.1
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,400nm,18.0s
USRK Ussuriysk Arra 43.31 6 P P 20 54 43.4 +0.7
comp=Z,60nm,0.6s,baz=186,slow=7.4,SNR=89
MDJ Mudanjiang 43.52 3 P P 20 54 44.9 +0.4
MDJ PcP PP 20 56 26.3 -0.1
MDJ PP PcP 20 56 30.7 -1.0
MDJ S S 21 01 09.2 -1.0
MDJ pmax pmax
comp=Z,120nm,0.9s
MDJ pmax pmax
comp=Z,150nm,2.7s
MDJ LR LR
comp=Z,570nm,30.9s
MDJ LR LR
comp=Z,260nm,33.5s
MDJ LR LR
comp=Z,740nm,32.2s
MDJ Mudanjiang 43.52 3 eP P 20 54 44.7 +0.2
comp=Z,75nm,0.8s
ERM Erimo 43.56 18 P P 20 54 46.0 +1.2
ERM Erimo 43.56 18 eP P 20 54 46.1 +1.4
comp=Z,51nm,0.8s
BOK Bokaro 45.22 303 eP P 20 54 57.8 -0.6
GTA Gaotai 45.23 331 ⇑P P 20 54 57.0 -1.3
GTA pP pP 20 55 01.5 -9.2
GTA sP sP 20 55 04.1 -12
GTA PcP PcP 20 56 39.3 +1.4
GTA ScP ScP 21 00 30.3 +3.2
GTA S S 21 01 36.5 +1.1
GTA SS ScS 21 04 50.2 -1.5
GTA pmax pmax
comp=Z,38nm,1.0s
GTA pmax pmax
comp=Z,180nm,4.3s
GTA LR LR
comp=Z,450nm,18.5s
GTA LR LR
comp=Z,760nm,19.0s
GTA LR LR
comp=Z,1µm,21.4s
ASAJ Asahikawa 45.31 17 P P 20 54 59.8 +1.1
ASAJ pmax pmax
comp=Z,88nm,0.9s
ASAJ Asahikawa 45.31 17 P P 20 54 59.8 +1.1
comp=Z,88nm,0.8s,baz=231,slow=9.7,SNR=36
ASAJ Asahikawa 45.31 17 eP P 20 54 59.1 +0.3
comp=Z,46nm,1.0s
TAPN Taplejung 45.32 309 eP P 20 54 57.8 -1.7
comp=Z,57nm,0.6s
ODAN Odare 45.34 308 eP P 20 54 58.6 -1.0
comp=Z,132nm,0.8s
VIS Vishakhapatnam 45.36 294 eP P 20 54 59.0 -0.5
DZM Mont Dzumac 45.38 123 eP P 20 55 00.8 +1.0
comp=Z,72nm,1.2s
DZM Mont Dzumac 45.38 123 eLR LR 21 07 51.4
comp=Z,1µm,23.6s
DZM Mont Dzumac 45.38 123 P P 20 54 59.7 0.0
comp=Z,18nm,0.9s,baz=259,slow=14,SNR=8.2
DZM Mont Dzumac 45.38 123 eP P 20 55 00.8 +1.0
comp=Z,60nm,1.4s
PALK Pallekele 45.87 279 eP P 20 55 03.0 -0.7
PALK pmax pmax
comp=Z,115nm,1.4s
PALK Pallekele 45.87 279 eP P 20 55 03.0 -0.7
comp=Z,115nm,1.4s
RAMN Ramite 46.01 308 eP P 20 55 04.1 -0.8
comp=Z,233nm,0.9s
YUK Yuzh-Kuril'sk 46.25 20⇓iP P 20 55 04.3 -1.8
YUK e 20 56 49.8
YUK iS S 21 01 50.5 +0.9
YUK MLR MLR
comp=N,244nm,22.0s
YUK MLR MLR
comp=E,315nm,22.0s
YUK MLR MLR
comp=Z,401nm,22.0s
JIRN Jiri 46.66 308 eP P 20 55 08.6 -1.5
comp=Z,123nm,0.7s
GUN Gumba 47.02 308 eP P 20 55 11.3 -1.6
comp=Z,236nm,0.7s
PKI Pulchoki 47.23 308 eP P 20 55 12.7 -1.9
comp=Z,53nm,0.6s
PKIN Phulchoki 47.24 308 eP P 20 55 13.9 -0.7
comp=Z,20nm,0.5s
KKN Kakani 47.43 308 eP P 20 55 14.2 -1.8
DMN Daman 47.49 308 eP P 20 55 15.3 -1.2
comp=Z,157nm,1.0s
TAU Tasmania Unive 47.63 159 eP P 20 55 19.5 +2.6
TAU pmax pmax
comp=Z,386nm,2.8s
TAU Tasmania Unive 47.63 159 eP P 20 55 19.5 +2.6
comp=Z,386nm,2.8s
YSS Yuzh-Sakhalins 47.97 15⇑eP P 20 55 19.5 0.0
YSS i 20 56 50.0
YSS e 20 57 14.6
YSS eS S 21 02 15.0 +0.9
YSS pmax pmax
comp=N,40nm,0.8s
YSS pmax pmax
comp=E,20nm,0.8s
YSS pmax pmax
comp=Z,70nm,0.8s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 47.97 15 eP P 20 55 19.6 +0.2
comp=Z,80nm,0.6s
GKN Gorkha 48.04 308 eP P 20 55 19.4 -1.2
comp=Z,148nm,0.9s
KLR Kul'dur 48.27 5 eP P 20 55 17.7 -4.1
KLR eS S 21 02 14.5 -3.8
KLR pmax pmax
comp=N,34nm,1.6s
KLR pmax pmax
comp=Z,120nm,1.6s
HIA Hailar 48.41 354 eP P 20 55 23.0 +0.1
HIA pmax pmax
comp=Z,404nm,1.7s
HIA Hailar 48.41 354 eP P 20 55 23.0 +0.1
comp=Z,404nm,1.7s
KOLN Koldanda 48.76 307 eP P 20 55 25.2 -1.0
comp=Z,261nm,0.7s
DANN Dangsing 48.88 308 eP P 20 55 25.9 -1.4
comp=Z,260nm,0.7s
PYUN Piuthan 49.39 307 eP P 20 55 30.1 -0.9
comp=Z,238nm,0.4s
ULN Ulaanbaatar 49.57 343 eP P 20 55 32.0 0.0
ULN pmax pmax
comp=Z,25nm,0.8s
ULN Ulaanbaatar 49.57 343 eP P 20 55 32.0 0.0
comp=Z,25nm,0.8s
HYB Hyderabad 49.68 292 iP P 20 55 31.0 -2.2
HYB eS S 21 02 32.0 -7.2
HYB Hyderabad 49.68 292 eP P 20 55 32.0 -1.2
HYB AMB AMB 20 55 35.1
comp=Z,107nm,0.9s
TRD Trivandrum 49.69 280 eP P 20 55 30.4 -2.8
TRD AMB AMB 20 55 35.2
comp=Z,93nm,1.6s
SONM Songino Array 49.74 343 LR LR 21 20 13.3
comp=Z,348nm,18.9s,baz=157,slow=40
CIT Chita 51.95 350 eP P 20 55 45.9 -3.8
CIT e 20 55 56.5
CIT pmax pmax
comp=Z,741nm,1.7s
BHPL Bhopal 52.28 299 eP P 20 55 51.3 -1.4
ZAK Zakamensk 52.95 342 eP P 20 55 55.9 -1.3
ZAK e 20 57 05.5
ZAK e 21 05 40.7
ZAK pmax pmax
comp=Z,12nm,1.3s
GOA Goa 53.71 288 eP P 20 56 00.6 -2.7
GOA AMB AMB 20 56 05.4
comp=Z,49nm,1.1s
KAD Karad 53.72 291 ex x 20 56 10.1
KAD eP P 20 56 02.1 -1.3
TLY Talaya 53.98 343 P P 20 56 05.6 +1.0
comp=Z,232nm,0.6s,SNR=9.1
TLY Talaya 53.98 343 eP P 20 56 05.2 +0.6
TLY eSS SKiKP 21 07 23.5 +10
TLY pmax pmax
comp=Z,61nm,1.4s
TLY Talaya 53.98 343 eP P 20 56 04.9 +0.3
comp=Z,25nm,0.6s
MSVF Nonsavu 54.22 113 eP P 20 56 10.8 +3.7
MSVF pmax pmax
comp=Z,44nm,1.1s
MSVF Nonsavu 54.22 113 eP P 20 56 10.8 +3.7
comp=Z,44nm,1.1s
DDI Dehra Dun 54.23 307 eP P 20 56 04.4 -2.5
DDI AMB AMB 20 56 08.2
comp=Z,68nm,1.0s
NDI New Delhi 54.29 305 eP P 20 56 06.0 -1.3
POO Poona 54.29 292 eP P 20 56 05.5 -2.0
POO AMB AMB 20 56 09.1
comp=Z,40nm,0.4s
IRK Irkutsk 54.29 344 eP P 20 56 05.0 -1.9
IRK e 20 58 08.6
IRK e 21 05 52.9
IRK pmax pmax
comp=Z,117nm,2.0s
WMQ Urumqi 54.72 326 P P 20 56 09.8 -0.4
WMQ pP pP 20 56 14.3 -8.6
WMQ sP sP 20 56 16.8 -11
WMQ PcP PcP 20 57 13.0 +0.5
WMQ PP PP 20 58 13.7 +0.4
WMQ PcS PcS 21 01 11.1 -1.1
WMQ S S 21 03 46.7 -0.8
WMQ ScS ScS 21 05 55.2 -0.7
WMQ SS SS 21 07 28.7 -2.5
WMQ pmax pmax
comp=Z,82nm,0.9s
WMQ pmax pmax
comp=Z,330nm,3.6s
WMQ LR LR
comp=Z,940nm,17.6s
WMQ LR LR
comp=Z,590nm,18.4s
WMQ LR LR
comp=Z,860nm,23.6s
MOY Mondy 54.79 341 eP P 20 56 11.6 +0.9
MOY pmax pmax
comp=Z,106nm,2.9s
SMLA Simla 55.25 308 eP P 20 56 12.7 -1.5
SMLA AMB AMB 20 56 16.1
comp=Z,120nm,1.3s
SDNR Sundarnagar 55.55 308 eP P 20 56 16.0 -0.4
SKR Severo-Kuril's 55.58 23 eP P 20 56 13.4 -2.8
AJM Ajmer 55.69 302 ex P 20 56 16.0 -1.5
BHK Bhakra 55.95 308 eP P 20 56 20.2 +0.9
DHRM DHARAMSHALA 56.37 309 eP P 20 56 21.1 -1.4
DHRM AMB AMB 20 56 25.2
comp=Z,203nm,0.8s
DLH Dalhousie 56.74 309 eP P 20 56 23.0 -2.1
OUZ Omahuta 56.96 134 eP P 20 56 27.7 +1.4
comp=Z,106nm,2.1s
PEA0B Petropavlovsk- 58.10 22 eP P 20 56 35.0 +1.0
PETK Petropavlovsk- 58.10 22 P P 20 56 35.1 +1.0
comp=Z,34nm,0.5s,baz=178,slow=4.3,SNR=173
PETK S S 21 04 38.8 +6.8
comp=Z,6.1nm,1.0s,baz=229,slow=13,SNR=3.8
PETK LR LR 21 21 45.2
comp=Z,102nm,20.5s,baz=220,slow=36
PET Petropavlovsk 58.40 22 eP P 20 56 36.9 +0.9
PET eS S 21 04 38.2 +2.6
PET pmax pmax
comp=Z,65nm,1.4s
PET pmax pmax
comp=Z,600nm,3.4s
PET MLR MLR
comp=Z,400nm,20.0s
PET Petropavlovsk 58.40 22 eP P 20 56 37.0 +0.9
comp=Z,169nm,1.4s
DCZ Deep Cove 58.69 147 eP P 20 56 40.7 +2.4
comp=Z,27nm,1.0s
WHZ Wether Hill Ro 59.38 147 eP P 20 56 44.0 +0.9
comp=Z,28nm,1.0s
MKAR Makanchi Array 59.55 326 P P 20 56 43.0 -1.2
comp=Z,84nm,0.8s,baz=118,slow=8.0,SNR=256
MKAR PcP PcP 20 57 31.5 +0.1
comp=Z,25nm,0.7s,baz=121,slow=4.7,SNR=5.4
MKAR PKPPKP P'P'df 21 26 13.2 -0.6
comp=Z,0.5nm,0.9s,baz=297,slow=3.5,SNR=3.9
MKAR P4KPbc 21 33 50.4
comp=Z,0.5nm,0.8s,baz=130,slow=4.9,SNR=5.5
KSH Kashi 59.68 316 eP P 20 56 45.9 +0.5
KSH esP sP 20 56 52.9 -11
KSH ePP PP 20 58 59.4 +1.8
KSH S S 21 04 52.4 -0.7
KSH pmax pmax
comp=Z,31nm,1.1s
KSH LR LR
comp=Z,640nm,20.4s
KSH LR LR
comp=Z,320nm,14.5s
KSH LR LR
comp=Z,440nm,17.3s
RPZ Rata Peaks 59.81 144 eP P 20 56 46.6 +0.5
comp=Z,32nm,0.9s
BKZ Black Stump Fm 60.88 137 eP P 20 56 52.8 -0.8
comp=Z,30nm,0.6s
URZ Urewera 60.88 136 eP P 20 56 52.6 -0.8
comp=Z,24nm,0.8s
YAK Yakutsk 60.93 2c iP P 20 56 52.8 -0.5
YAK e 20 57 35.0
YAK e 20 59 11.9
YAK eS S 21 05 06.2 -1.8
YAK e*SS sS 21 05 36.5 +7.1
YAK e 21 06 37.1
YAK eSS SS 21 09 14.1 +6.2
YAK pmax pmax
comp=N,28nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,134nm,0.9s
YAK pmax pmax
comp=E,22nm,1.6s
YAK pmax pmax
comp=Z,54nm,1.3s
YAK pmax pmax
comp=N,88nm,1.5s
YAK smax smax
comp=N,174nm,2.0s
YAK smax smax
comp=E,206nm,2.5s
YAK Yakutsk 60.93 2 eP P 20 56 53.0 -0.3
comp=E,163nm,0.9s
KZA Kyzart 61.34 319 iP P 20 56 57.6 +0.5
KZA Kyzart 61.34 319 P P 20 56 57.6 +0.5
SNR=42
TKM2 Tokmak 2 61.51 320 eP P 20 56 56.7 -1.3
TKM2 pmax pmax
comp=Z,33nm,0.8s
TKM2 Tokmak 2 61.51 320 P P 20 56 58.0 0.0
SNR=54
TKM2 Tokmak 2 61.51 320 eP P 20 56 56.7 -1.3
comp=Z,33nm,0.8s
KBK Karagaybulak 61.81 319 iP P 20 57 00.1 +0.2
KBK Karagaybulak 61.81 319 P P 20 57 00.1 +0.2
SNR=18
UCH Uchtor 61.90 319 iP P 20 57 00.6 -0.3
UCH Uchtor 61.90 319 P P 20 57 00.6 -0.3
SNR=70
AAK Ala-Archa 62.09 319 P P 20 57 01.7 -0.1
comp=Z,194nm,1.1s,SNR=20
AAK Ala-Archa 62.09 319 eP P 20 57 01.8 -0.1
AAK pmax pmax
comp=Z,36nm,1.1s
AAK Ala-Archa 62.09 319 P P 20 57 01.9 +0.1
SNR=28
AAK Ala-Archa 62.09 319 LR LR 21 24 40.8
comp=Z,312nm,20.7s,baz=96,slow=37
AAK Ala-Archa 62.09 319 eP P 20 57 01.8 -0.1
comp=Z,36nm,1.1s
CHMS Chumysh 62.09 319 iP P 20 57 01.0 -0.7
CHMS Chumysh 62.09 319 P P 20 57 01.0 -0.7
SNR=11
FRU Bishkek 62.11 319 eP P 20 57 00.0 -1.8
FRU pmax pmax
comp=Z,60nm,2.0s
USP Ospenovka 62.38 320 iP P 20 57 02.9 -0.7
USP Ospenovka 62.38 320 P P 20 57 02.9 -0.7
SNR=69
AML Almayashu 62.40 318 iP P 20 57 03.7 -0.5
AML Almayashu 62.40 318 P P 20 57 03.7 -0.5
SNR=54
EKS2 Erkin-Say 62.58 319 iP P 20 57 04.7 -0.3

EKS2 Erkin-Say 62.58 319 P P 20 57 04.8 -0.3
SNR=33
EKS2 Erkin-Say 62.58 319 eP P 20 57 05.0 0.0
comp=Z,42nm,1.0s
ZAA0 Zalesovo Array 62.82 334 eP P 20 57 04.8 -1.4
ZALV Zalesovo Beam 62.82 334 P P 20 57 05.0 -1.2
comp=Z,16nm,0.5s,baz=122,slow=6.5,SNR=51
ZALV S S 21 05 35.9 +3.8
comp=Z,1.6nm,0.9s,baz=144,slow=20,SNR=3.9
ZALV LR LR 21 26 01.7
comp=Z,262nm,20.7s,baz=77,slow=38
ZALV PKP2bc 21 26 13.3
comp=Z,1.4nm,0.8s,baz=276,slow=2.8,SNR=5.9
KBL Kabul 62.85 309 eP P 20 57 05.3 -1.8
KBL pmax pmax
comp=Z,63nm,0.9s
KBL Kabul 62.85 309 eP P 20 57 05.3 -1.8
comp=Z,63nm,0.9s
KURBB Kurchatov Arra 63.80 328 PKPPKP 21 26 07.6
comp=Z,0.4nm,0.7s,baz=296,slow=3.2,SNR=4.8
KURK Kurchatov 63.81 328 P P 20 57 11.6 -1.2
comp=Z,988nm,0.6s
KURK Kurchatov 63.81 328 eP P 20 57 11.7 -1.1
KURK pmax pmax
comp=Z,127nm,0.8s
KURK Kurchatov 63.81 328 eP P 20 57 11.7 -1.1
comp=Z,127nm,0.8s
KURK P'P' 21 26 07.6
NVS Novosibirsk 64.10 334 eP P 20 57 12.7 -2.0
NVS e 20 59 32.0
NVS eS S 21 05 37.7 -10
NVS pmax pmax
comp=N,23nm,0.8s
NVS pmax pmax
comp=E,25nm,0.8s
NVS pmax pmax
comp=Z,58nm,0.8s
NVS pmax pmax
comp=Z,46nm,2.5s
NVS smax smax
comp=E,36nm,2.1s
FX1 Attu Island--F 64.65 29 eP P 20 57 19.5 +1.2
FX1 Attu Island--F 64.65 29 eP P 20 57 19.5 +1.2
KKAR Karatay Array 64.94 318 eP P 20 57 19.1 -1.3
KKAR Karatay Array 64.94 318 eP P 20 57 19.1 -1.3
CASY Casey 68.08 187 eP P 20 57 41.5 +1.5
comp=E,25nm,0.9s
VOSK Vostochnaya 68.91 328 iP P 20 57 44.0 -1.5
VOSK pmax pmax
comp=Z,22nm,0.6s
BVAR Borovoye Array 69.36 328 LR LR 21 28 43.6
comp=Z,268nm,21.4s,baz=122,slow=36
PAF Port-aux-Franc 69.41 215 S S 21 07 04.0 +12
PAF L L 21 16 00.0
PAF R 21 20 00.0
BRVK Borovoye 69.44 328 P P 20 57 47.7 -1.0
comp=Z,290nm,0.8s,SNR=32
BRVK Borovoye 69.44 328c iP P 20 57 48.4 -0.3
BRVK pmax pmax
comp=Z,36nm,1.0s
BRVK Borovoye 69.44 328 eP P 20 57 47.8 -0.9
comp=Z,32nm,0.7s
JMDO Jabal Madar 69.49 293 ⇓P P 20 57 48.8 -0.9
SNR=15
IDAH Dahanechah 69.74 305 eP P 20 57 50.5 -0.8
IMYA Miami 70.36 308 eP P 20 57 53.0 -2.0
HOQ Hoqain 70.37 295 P P 20 57 57.0 +1.9
SNR=6.7
IKOO Kooshah 70.38 304 eP P 20 57 53.9 -1.4
TIXI Tiksi 70.56 1 ⇓iP P 20 57 54.3 -0.9
TIXI pmax pmax
comp=Z,48nm,1.0s
TIXI Tiksi 70.56 1 eP P 20 57 53.8 -1.4
comp=Z,38nm,0.9s
ITEG Tejag 70.69 305 eP P 20 57 55.4 -1.7
ISRO Mashad 70.85 308 eP P 20 57 56.9 -1.0
IMOG Moghan 70.91 308 eP P 20 57 57.0 -1.5
IPAY Payeh 71.25 308 eP P 20 57 59.0 -1.5
IAKL Akhelmad 71.47 308 eP P 20 58 00.6 -1.3
UOSS Wadi Hilu 71.56 296 P P 20 58 03.1 +0.9
comp=Z,85nm,0.7s,SNR=5.1
HATD Hatta, Dubai 71.61 296⇑iP P 20 58 04.2 +1.6
SNR=7.6
IKRD Kardeh 71.70 308 eP P 20 57 57.0 -6.2
IEMG Emamgholi 71.74 309 eP P 20 58 02.7 -0.8
ISFR Sfrayin 72.17 309 eP P 20 58 03.1 -2.9
ABKT Ailbek 72.27 310 P P 20 58 06.6 +0.3
comp=Z,424nm,0.8s,SNR=13
BILL Bilibino 72.28 15 eP P 20 58 05.2 -0.5
BILL pmax pmax
comp=Z,24nm,0.9s
BILL Bilibino 72.28 15 eP P 20 58 05.2 -0.5
comp=Z,24nm,0.9s
ASUD Al Ashush, Dub 72.30 295⇑iP P 20 58 08.4 +1.7
SNR=16
ISHV Shirvan 72.50 309 eP P 20 58 07.7 -0.2
RBK Rabkut 72.63 288 ⇑P P 20 58 07.9 -0.9
SNR=12
IBAF Bafgh 73.10 303 eP P 20 58 11.2 -0.3
ABTO Aybut 73.48 288 ⇑P P 20 58 12.1 -1.8
SNR=7.5
IMEH Mehriz 73.87 302 eP P 20 58 15.2 -1.0
ABKAR Akbulak array 73.98 321 eP P 20 58 14.9 -1.2
ABKAR Akbulak array 73.98 321 ⇓P P 20 58 15.5 -0.6
baz=74
ICHK Chekchek 74.18 303 eP P 20 58 16.2 -1.8
ISAD Sadrabad 74.73 303 eP P 20 58 21.0 -0.3
ISRV Sarvestan 74.87 300 eP P 20 58 20.8 -1.3
IPAR Pars 74.99 301 eP P 20 58 23.4 +0.7
IANJ Anjilo 75.10 306 eP P 20 58 22.2 -1.0
IGLO Ghaloghah 75.34 307 eP P 20 58 22.5 -2.0
AKTO Aktyubinsk 75.52 322 LR LR 21 34 15.9
comp=Z,339nm,20.8s,slow=38
ILAS Lasjerd 75.86 306 eP P 20 58 26.5 -1.1
UNV Unalaska Valle 75.90 34 eP P 20 58 27.8 +0.7
comp=Z,251nm,1.5s
IZEF Zefreh 76.01 304 eP P 20 58 26.3 -2.3
SVE Sverdlovsk 76.05 329deP P 20 58 27.0 -0.9
SVE eS S 21 08 07.8 -0.1
SVE eSS SS 21 13 01.5 0.0
SVE pmax pmax
comp=Z,213nm,1.0s
SVE MLR MLR
comp=Z,254nm,17.0s
IFIR Firoozkooh 76.06 306 eP P 20 58 27.3 -1.5
IALA Alasht 76.09 307 eP P 20 58 29.6 +0.6
AKUT Akutan 76.40 34 eP P 20 58 30.8 +0.9
comp=Z,149nm,0.7s
IPRN Peran 76.49 307 eP P 20 58 29.7 -1.3
IDMV Damavand 76.64 306 eP P 20 58 30.8 -1.3
IKLH Kolahrood 76.69 304 eP P 20 58 31.7 -0.7
IVRN Varamin 76.80 306 eP P 20 58 31.2 -1.5
QAM Ghamsar 76.87 304 eP P 20 58 31.3 -1.9
ARU Arti 77.00 328 P P 20 58 32.7 -0.6
comp=Z,808nm,0.8s,SNR=41
ARU Arti 77.00 328d iP P 20 58 31.6 -1.7
ARU PPP PPP 21 03 09.7
ARU S S 21 08 16.1 -2.2
ARU pmax pmax
comp=Z,135nm,1.0s
ARU Arti 77.00 328 eP P 20 58 31.8 -1.5
comp=Z,118nm,0.9s
GAMB Gambell 77.05 24 eP P 20 58 34.5 +1.2
comp=Z,40nm,0.8s
IPIR Pirpir 77.18 303 eP P 20 58 33.4 -1.8
IMHD Mahdasht 77.75 306 eP P 20 58 37.6 -0.4
FALS False Pass 77.92 34 eP P 20 58 39.2 +0.8
comp=Z,273nm,0.6s
IRAZ Razeghan 78.31 306 eP P 20 58 40.3 -1.0
TNA Tin City 79.25 23 eP P 20 58 46.4 +0.9
comp=Z,26nm,1.1s
SDPT Sand Point 79.68 34 eP P 20 58 47.6 -0.5
ABPO Ambohimpanom 79.99 251 P P 20 58 51.9 +1.1
ABPO Ambohimpanom 79.99 251 P P 20 58 51.9 +1.1
CRZF Crozet Islands 80.04 223 S S 21 08 49.0 -2.2
CRZF R 21 24 00.0
IKOM Komasi 80.16 304 eP P 20 58 50.4 -0.9
ISRB Sarab 80.40 308 eP P 20 58 52.2 -0.5
ILIN Lien 80.68 305 eP P 20 58 51.6 -2.7
VNDA Vanda 80.80 173 P P 20 58 53.5 -0.1
comp=Z,16nm,0.9s,baz=62,slow=1.8,SNR=3.2
VNDA LR LR 21 34 42.1
comp=Z,231nm,19.6s,baz=329,slow=36
IHRS Heris 80.94 309 eP P 20 58 54.6 -1.0
IGHG Ghaleghazi 80.95 304 eP P 20 58 53.3 -2.4

MAW Mawson 81.06 200 LR LR 21 32 50.3
comp=Z,215nm,21.4s,baz=62,slow=34
IDHR Dehrash 81.13 305 eP P 20 58 54.5 -2.2
RAYN Ar Rayn 81.16 294 eP P 20 58 55.8 -0.9
comp=Z,42nm,0.8s
ITBZ Tabriz 81.64 308 eP P 20 58 58.3 -0.9
DAMY Dhamar 81.91 284 eP P 20 59 02.9 +1.7
comp=Z,50nm,0.8s
IMRD Marand 82.03 309 eP P 20 59 00.3 -0.9
DGRG David-gareji 82.53 312 P P 20 59 05.0 +1.4
GNI Garni 82.89 310⇓eP P 20 59 06.6 +0.9
GNI pmax pmax
comp=Z,31nm,1.0s
GNI Garni 82.89 310 eP P 20 59 06.7 +1.0
comp=Z,61nm,0.8s
GNI Garni 82.89 310⇓iP P 20 59 06.3 +0.6
SNR=13
TBLG Delisi 83.03 312 P P 20 59 06.9 +0.8
DUS Dusheti 83.08 312 P P 20 59 08.6 +2.1
KZR Kazreti 83.24 311 P P 20 59 08.1 +0.8
GUDG Gudauri 83.28 312 P P 20 59 08.6 +0.8
SVW2 Sparrevohn 83.39 29 eP P 20 59 09.3 +1.7
comp=Z,41nm,0.8s
SII Sitkinak Islan 83.39 33 eP P 20 59 09.7 +2.0
comp=Z,135nm,0.8s
CLDR Caldiran 83.45 309 eP P 20 59 09.9 +1.2
HAKT HAKKARI 83.51 308 iP P 20 59 09.1 0.0
CUKT Cukurca 83.57 307 eP P 20 59 08.8 -0.4
DYDN Diyadin 83.66 310 iP P 20 59 10.8 +1.1
ZEI Tsey 83.73 313 eP P 20 59 09.0 -1.0
ZEI pmax pmax
comp=Z,97nm,1.0s
AKH Akhalkalaki 83.93 311 P P 20 59 12.0 +0.9
DIGO Kars 83.95 310 iP P 20 59 12.0 +0.7
OHAK Old Harbor 83.96 33 eP P 20 59 11.5 +0.9
comp=Z,306nm,1.7s
ONI Oni 84.05 313 P P 20 59 12.5 +1.1
GEVA Gevas 84.07 308 iP P 20 59 11.2 -0.6
KARS Kars 84.19 311 eP P 20 59 13.2 +0.8
AGRB Hanur-Agry 84.19 310 eP P 20 59 12.1 -0.4
TUTA Tutak 84.32 309 iP P 20 59 12.9 -0.3
KDAK Kodiak Island 84.41 32 P P 20 59 14.0 +1.2
comp=Z,628nm,0.8s,SNR=19
KDAK Kodiak Island 84.41 32 iP P 20 59 13.6 +0.8
KDAK Kodiak Island 84.41 32 eP P 20 59 14.0 +1.2
comp=Z,107nm,0.9s
SIRT Sirnak 84.51 307 eP P 20 59 12.9 -1.0
KBZ Khabaz 84.53 314 P P 20 59 12.6 -1.1
comp=Z,40nm,0.9s,baz=160,slow=2.3,SNR=39
KBZ LR LR 21 41 56.9
comp=Z,132nm,19.2s,baz=90,slow=39
SIRN S¨-rnak 84.53 307 iP P 20 59 13.7 -0.3
RSO Redoubt South 84.66 29 eP P 20 59 14.9 +0.6
PRGR Permogore 84.68 332⇓iP P 20 59 13.7 -0.4
PRGR eS S 21 09 37.4 -0.7
PRGR pmax pmax
comp=Z,66nm,1.0s
KIV Kislovodsk 84.70 314 P P 20 59 15.7 +0.9
comp=Z,241nm,1.2s,SNR=9.0
KIV Kislovodsk 84.70 314 eP P 20 59 14.8 0.0
KIV e 21 09 37.1
KIV pmax pmax
comp=Z,39nm,0.9s
KIV pmax pmax
comp=Z,57nm,3.8s
KIV MLR MLR
comp=Z,208nm,19.0s
KIV Kislovodsk 84.70 314 eP P 20 59 15.1 +0.4
comp=Z,70nm,1.2s
KIV Kislovodsk 84.70 314⇑iP P 20 59 14.2 -0.6
SNR=12
PPT Papeete 84.70 108 LR LR 21 34 56.1
comp=Z,115nm,19.4s,baz=328,slow=34
PPT2 Papeete2 84.70 108 eLR LR 21 26 03.7
comp=Z,479nm,27.5s
EKAR Karacoban 84.89 309 iP P 20 59 18.2 +2.1
IM04 Indian Mountai 84.98 24 eP P 20 59 16.0 +0.4
HOMI Horasan 85.06 310 iP P 20 59 17.2 +0.3
CHVG Ch'k'valeri 85.06 313 P P 20 59 17.7 +1.2
ARTV Artvin 85.10 311 iP P 20 59 17.9 +0.9
DAGI Agillar 85.10 311 iP P 20 59 17.8 +0.9
DDEM Demirkent 85.22 311 iP P 20 59 17.2 -0.3
PPLA Purkeypile 85.24 27 eP P 20 59 18.6 +1.5
comp=Z,156nm,2.1s
DBAD Bademkaya 85.26 311 iP P 20 59 17.9 +0.2
DBOC Borcka 85.30 311 iP P 20 59 17.8 0.0
VRTB Varto-Mus 85.36 309 eP P 20 59 19.4 +1.2
ERZM Erzurum 85.46 310 iP P 20 59 20.0 +1.1
EZM Erzurum 85.47 310 eP P 20 59 20.0 +1.0
SVAN Silvan-Diyarba 85.52 308 eP P 20 59 18.4 -0.6
BNGL BINGOL 85.59 309 iP P 20 59 20.8 +1.3
MARD Mardin 85.82 307 iP P 20 59 21.1 +0.5
VRHR Novokhopersk 85.87 321 eP P 20 59 19.4 -0.9
VRHR eS S 21 09 47.4 -2.9
VRHR pmax pmax
comp=N,50nm,1.1s
VRHR pmax pmax
comp=E,100nm,1.1s
VRHR pmax pmax
comp=Z,210nm,1.1s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,50nm,0.8s
VRHR pmax pmax
comp=Z,120nm,0.8s
VRHR smax smax
comp=N,290nm,2.8s
VRHR smax smax
comp=E,430nm,2.8s
VRHR smax smax
comp=Z,190nm,2.8s
KTH Kantishna Hill 85.88 26 eP P 20 59 22.8 +2.6
comp=Z,25nm,1.3s
KBSD Kabsdagh 86.00 307 eP P 20 59 20.9 -0.4
MAZI Mazidag 86.09 307 eP P 20 59 21.3 -0.6
TRF Thorofare Moun 86.16 27 eP P 20 59 22.0 +0.3
comp=Z,134nm,2.2s
RC01 Rabbit Creek A 86.20 29 eP P 20 59 21.7 0.0
comp=Z,394nm,2.4s
SEW Seward 86.26 30 eP P 20 59 22.6 +0.6
comp=Z,137nm,1.5s
SFNV Sufian 86.33 306 eP P 20 59 24.6 +1.5
BAYT Ayd¨-ntepe-Bay 86.42 310 eP P 20 59 23.3 -0.3
PMR Palmer 86.53 28 eP P 20 59 23.1 -0.2
PMR pmax pmax
comp=Z,120nm,1.7s
PMR Palmer 86.53 28 eP P 20 59 23.1 -0.2
comp=Z,120nm,1.7s
COLD Coldfoot 86.56 23 eP P 20 59 24.1 +0.8
comp=Z,42nm,1.0s
ERZN Erzincan 86.72 309 eP P 20 59 25.3 +0.3
EUZM Uzumlu 86.74 310 iP P 20 59 26.1 +1.0
MCK McKinley 86.78 26 eP P 20 59 24.9 +0.3
MCK pmax pmax
comp=Z,15nm,0.8s
MCK McKinley 86.78 26 eP P 20 59 24.9 +0.3
comp=Z,15nm,0.8s
SOC Sochi 86.83 313 eP P 20 59 24.5 -0.7
SOC e 21 02 46.7
SOC eS SKSac 21 09 50.5 +1.8
SOC eSS SS 21 15 40.4 -2.3
SOC eSSS SSS 21 19 18.5
SOC pmax pmax
comp=Z,75nm,0.9s
SOC MLR MLR
comp=Z,288nm,22.0s
GUMT Gumushane 86.93 310 eP P 20 59 26.7 +0.7
PTK Pertek 86.96 309 eP P 20 59 24.4 -1.8
KSRV Kasrt alli 87.22 306 eP P 20 59 27.1 -0.2
COLA College 87.33 25 eP P 20 59 26.3 -0.8
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 87.33 25 eP P 20 59 26.2 -0.8
comp=Z,11nm,0.9s
VORD Divnogorie 87.33 321 eP P 20 59 26.2 -1.2
VORD pmax pmax
comp=N,80nm,1.2s
VORD pmax pmax
comp=E,120nm,1.2s
VORD pmax pmax
comp=Z,90nm,1.2s
VSR Storozhevoye 87.42 321 eP P 20 59 27.1 -0.8
VSR eS S 21 10 01.2 -4.1
VSR pmax pmax

comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,50nm,0.9s
VSR pmax pmax
comp=Z,110nm,0.9s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,60nm,1.0s
VSR pmax pmax
comp=Z,150nm,1.0s
VSR smax smax
comp=N,340nm,3.2s
VSR smax smax
comp=E,140nm,3.2s
VSR smax smax
comp=Z,160nm,3.2s
KLMR Klimovskoe 87.55 331 eP P 20 59 26.9 -1.4
KLMR pmax pmax
comp=Z,70nm,0.9s
ILIC ilic-Erzincan 87.61 309 eP P 20 59 32.9 +3.6
KEMA Kemaliye 87.67 309 iP P 20 59 29.9 +0.4
ILAR Eielson Array 87.74 25 P P 20 59 27.6 -1.5
comp=Z,5.7nm,0.5s,baz=247,slow=5.0,SNR=137
ILAR PKKP PKKPbc 21 17 17.0 -2.3
comp=Z,0.4nm,0.8s,baz=57,slow=1.5,SNR=4.3
ILAR LR LR 21 34 56.8
comp=Z,100nm,20.6s,baz=272,slow=33
ATAB Bozova 87.81 307 iP P 20 59 31.0 +0.9
DIV Divide 88.12 29 eP P 20 59 32.0 +0.8
comp=Z,57nm,1.4s
PAX Paxson 88.31 27 eP P 20 59 32.0 0.0
PAX pmax pmax
comp=Z,17nm,0.8s
PAX Paxson 88.31 27 eP P 20 59 32.0 0.0
comp=Z,17nm,0.8s
TMCR Tamitsa 88.34 334 eP P 20 59 31.0 -1.0
TMCR pmax pmax
comp=Z,41nm,1.0s
GZT Gaziantep 88.39 307 iP P 20 59 33.1 0.0
MOS Moscow 88.43 326 eP P 20 59 31.4 -1.1
MOS e 21 03 07.5
MOS eS S 21 10 11.3 -3.4
MOS pmax pmax
comp=Z,101nm,1.0s
DARE Darende-Malaty 88.45 308 eP P 20 59 35.1 +1.9
ANN Anapa 88.49 315 eP P 20 59 33.2 +0.1
ANN e 21 03 00.7
ANN ePPP PPP 21 05 00.2
ANN eS SKSac 21 10 01.9 +3.2
ANN eSSS SSS 21 19 48.8
ANN pmax pmax
comp=Z,133nm,0.9s
RSDY Resadiye-TOKAT 88.57 310 eP P 20 59 37.7 +4.0
ZALF Zalf 88.59 303 eP P 20 59 34.2 +0.3
RABH Abou Rabah 88.69 304 eP P 20 59 35.4 +1.0
KUZU Kuzuini 88.78 307 iP P 20 59 32.9 -1.9
SVSK Karacayir 88.82 310 eP P 20 59 38.6 +3.8
KMRS Kahramanmaras 88.92 307 eP P 20 59 37.8 +2.5
DOT Dot Lake 88.95 27 eP P 20 59 34.9 -0.1
comp=Z,23nm,0.7s
OBN Obninsk 89.03 325 P P 20 59 35.6 +0.2
comp=Z,552nm,0.7s,SNR=7.0
OBN Obninsk 89.03 325⇑eP P 20 59 35.2 -0.1
OBN pmax pmax
comp=Z,58nm,1.3s
OBN MLR MLR
comp=Z,274nm,20.0s
OBN Obninsk 89.03 325 eP P 20 59 35.2 -0.1
comp=Z,69nm,0.8s
KMBO Kilima Mbogo 89.06 269c iP P 20 59 38.7 +1.9
KMBO pmax pmax
comp=Z,4.0nm,0.2s
KMBO Kilima Mbogo 89.06 269 LR LR 21 36 08.1
comp=Z,250nm,21.9s,baz=98,slow=33
SALA Sala 89.09 303 eP P 20 59 36.7 +0.2
MENT Mentasta 89.11 27 eP P 20 59 35.5 -0.1
MARH Ras Al Marh 89.29 304 eP P 20 59 36.9 -0.7
ARNB Al Arnab 89.68 306 eP P 20 59 35.4 -3.7
LVZ Lovozero 89.70 338⇓eP P 20 59 38.1 -0.3
LVZ pmax pmax
comp=Z,17nm,0.8s
TCHB Talchebab 89.74 302 eP P 20 59 39.8 +0.5
BRBR Barbar 89.74 303 eP P 20 59 37.5 -2.0
KOZT Kozan 89.77 307 eP P 20 59 38.1 -1.2
APA Apatity 90.19 337 iP P 20 59 39.8 -0.8
APA iS S 21 10 30.0 -0.7
APA MLR MLR
comp=Z,700nm,24.0s
EGAK Eagle 90.19 25 eP P 20 59 40.5 -0.1
KARA Karaisali 90.39 307 eP P 20 59 42.1 -0.1
BOYT Boyabat 90.39 311 iP P 20 59 39.6 -2.6
CORM Corum 90.64 310 eP P 20 59 45.8 +2.3
SIM Simferopol' 90.84 315 eP P 20 59 43.4 -0.8
SIM eS S 21 10 36.0 -1.7
SIM pmax pmax
comp=Z,33nm,0.8s
QSPA South Pole Qui 90.93 180 LR LR 21 39 18.5
comp=Z,181nm,21.3s,baz=353,slow=35
QSPA South Pole Qui 90.93 180 eP P 20 59 45.1 +0.9
comp=Z,7.7nm,0.8s
DAWY Dawson 91.00 26 eP P 20 59 44.6 +0.1
JOF Joensuu 91.39 333 eP P 20 59 44.8 -1.5
JOF pmax pmax
comp=Z,4.0nm,0.4s
JOF Joensuu 91.39 333 ep P 20 59 44.8 -1.5
comp=Z,3.6nm,0.4s
BR131 Keskin Array S 91.41 310 eP P 20 59 46.4 -0.8
comp=Z,11nm,0.8s
BRTR Keskin Array B 91.41 310 P P 20 59 46.4 -0.8
comp=Z,9.7nm,0.8s,baz=123,slow=4.6,SNR=23
SULT Sultanhani-AKS 91.58 308 eP P 20 59 50.8 +3.0
LFK Lefkose 91.69 305 eP P 20 59 47.9 -0.5
AFSR Af¨ar-Bala (A 91.86 309 eP P 20 59 47.6 -1.5
CSS Prodhromos 91.87 305 eP P 20 59 48.2 -0.9
CSS Prodhromos 91.87 305 eP P 20 59 49.3 +0.1
HYT Haines Junctio 92.16 29 eP P 20 59 52.4 +2.3
KEV Kevo 92.28 340 eP P 20 59 47.9 -2.4
KEV pmax pmax
comp=Z,6.0nm,0.8s
KEV Kevo 92.28 340 ep P 20 59 47.9 -2.4
comp=Z,6.0nm,0.8s
KONT Konya--Tatoy 92.50 308 eP P 20 59 50.9 -1.2
ARCES ARCESS Array B 92.84 340 P P 20 59 51.0 -1.8
comp=Z,20nm,0.9s,baz=87,slow=6.2,SNR=20
ARCES LR LR 21 48 13.9
comp=Z,62nm,18.6s,baz=94,slow=40
ARE0 ARCESS Array S 92.84 340 eP P 20 59 52.2 -0.7
INK Inuvik 92.84 21 P P 20 59 52.4 -0.5
comp=Z,19nm,1.0s,baz=315,slow=3.5,SNR=24
SVRH Sivrihisar-ESK 93.06 309 eP P 20 59 53.8 -0.9
AKASG Malin Array Be 93.72 321 P P 20 59 55.2 -2.1
comp=Z,6.2nm,0.8s,baz=71,slow=4.5,SNR=14
AKASG LR LR 21 45 03.5
comp=Z,274nm,21.6s,baz=85,slow=37
KAF Kangasniemi 93.80 332 eP P 20 59 55.3 -2.1
KAF pmax pmax
comp=Z,22nm,0.7s
KAF Kangasniemi 93.80 332 ep P 20 59 55.3 -2.1
comp=Z,22nm,0.7s
FIA1 FINESS Array S 94.01 332 eP P 20 59 57.5 -0.9
FINES FINESS Array B 94.01 332 P P 20 59 57.5 -0.8
comp=Z,4.7nm,0.8s,baz=68,slow=4.7,SNR=15
FINES LR LR 21 45 34.7
comp=Z,182nm,20.7s,baz=90,slow=38
NACGM Naroch 94.66 325 e P 21 00 02.0 +0.5
TIRR Tirgusor 94.94 315 ⇑P P 21 00 07.2 +4.2
TIRR Tirgusor 94.94 315⇑iP P 21 00 07.2 +4.2
TLB Topalu 95.19 315 ⇑P P 21 00 07.9 +3.8
TLB Topalu 95.19 315⇑iP P 21 00 07.9 +3.8
GRER 95.84 316⇑iP P 21 00 09.6 +2.4
TESR Tescani 95.92 317⇑iP P 21 00 06.6 -0.9
VRI Vrincioaia 95.95 316 ⇑P P 21 00 05.7 -2.0
VRI Vrincioaia 95.95 316⇑iP P 21 00 05.7 -2.0
PLOR Plostina 96.01 316 ⇑P P 21 00 07.6 -0.4
PLOR Plostina 96.01 316⇑iP P 21 00 07.6 -0.4
DLBC Dease Lake 96.29 31 P P 21 00 09.6 +0.6
comp=Z,5.2nm,0.3s,baz=162,slow=25,SNR=4.4
JMB Yambol 96.49 313 ⇑P P 21 00 09.9 -0.3
JMB Yambol 96.49 313⇑iP P 21 00 09.9 -0.3
MLR Muntele Rosu 96.55 316 ⇑P P 21 00 10.1 -0.4
MLR Muntele Rosu 96.55 316⇑iP P 21 00 10.1 -0.4
BURAR Bucovina Array 96.73 318 ⇑P P 21 00 11.2 -0.1
BURAR Bucovina Array 96.73 318⇑iP P 21 00 11.2 -0.1

BUR08 Bucovina Ar. S 96.74 318 eP P 21 00 10.9 -0.4
DOPR Dopca 96.86 316⇑iP P 21 00 12.9 +1.1
SUW Suwalki 96.88 325 eP P 21 00 11.0 -0.6
SUW pmax pmax
comp=Z,66nm,0.9s
SUW Suwalki 96.88 325 eP P 21 00 11.1 -0.6
SUW Suwalki 96.88 325 eP P 21 00 11.0 -0.6
comp=Z,66nm,0.9s
LVV L'vov 97.14 320 eP Pdif 21 00 15.0 +2.0
VOIR 97.18 316 ⇑P P 21 00 11.3 -2.0
VOIR 97.18 316⇑iP P 21 00 11.3 -2.0
BMR Baia Mare 97.87 318 ⇑P Pdif 21 00 17.2 +0.9
BMR Baia Mare 97.87 318⇑iP Pdif 21 00 17.1 +0.8
CJR Cluj-Napoca 97.97 317 ⇓P Pdif 21 00 18.5 +1.6
CJR Cluj-Napoca 97.97 317⇓iP Pdif 21 00 18.5 +1.6
KWP Kalwaria Pacla 98.02 320 ⇓P Pdif 21 00 18.4 +1.4
KWP Kalwaria Pacla 98.02 320 eP Pdif 21 00 17.7 +0.7
KWP Kalwaria Pacla 98.02 320⇓iP Pdif 21 00 18.4 +1.4
KWP Kalwaria Pacla 98.02 320 eP Pdif 21 00 17.6 +0.6
comp=Z,36nm,1.0s
LOT Lotru 98.06 316⇑iP Pdif 21 00 18.5 +1.1
LSZ Lusaka 98.08 255 eP Pdif 21 00 18.2 +0.1
LSZ pmax pmax
comp=Z,10.0nm,1.0s
LSZ Lusaka 98.08 255 eP Pdif 21 00 18.2 0.0
comp=Z,9.9nm,1.0s
TRPA Tarpa 98.42 319⇓iP Pdif 21 00 19.2 +0.5
RKT Rikitea 98.42 113 eLR LR 21 32 25.1
comp=Z,518nm,28.8s
KOLS Kolonicke sedl 98.44 320 eP Pdif 21 00 20.3 +1.5
KOLS Kolonicke sedl 98.44 320 PDIF Pdif 21 00 20.3 +1.5
UZH Uzhgorod 98.48 319⇓iP Pdif 21 00 19.0 0.0
UZH i 21 00 27.6
DRGR 98.55 318 ⇑P Pdif 21 00 19.9 +0.4
DRGR 98.55 318⇑iP Pdif 21 00 19.9 +0.4
MMB Musomiste 98.72 312 ⇑P P 21 00 11.6 -8.7
MMB Musomiste 98.72 312⇑iP P 21 00 11.6 -8.7
VTS Vitosha 98.94 313 eP Pdif 21 00 21.5 0.0
VTS Vitosha 98.94 313 ⇑P P 21 00 21.4 0.0
VTS Vitosha 98.94 313⇑iP P 21 00 21.4 0.0
CRVS Cervenica-Dubn 98.97 320 eP Pdif 21 00 22.1 +0.9
CRVS Cervenica-Dubn 98.97 320 PDIF Pdif 21 00 22.1 +0.9
STHS Stebnicka Huta 99.00 320 eP Pdif 21 00 22.6 +1.3
STHS Stebnicka Huta 99.00 320 PDIF Pdif 21 00 22.6 +1.3
BZS Buzias 99.52 316 ⇑P Pdif 21 00 23.6 -0.1
BZS Buzias 99.52 316⇑iP Pdif 21 00 23.6 -0.1
KECS Kecovo 99.69 320 eP Pdif 21 00 25.5 +1.1
KECS Kecovo 99.69 320 PDIF Pdif 21 00 25.5 +1.1
DAG Danmarks Havn 99.88 352 i P Pdif 21 00 23.7 -0.9
DAG pmax pmax
comp=Z,9.0nm,0.8s
DAG Danmarks Havn 99.88 352 i P Pdif 21 00 23.7 -0.9
comp=Z,12nm,0.8s
BOSA Boshof 100.17 241 LR LR 21 41 14.3
comp=Z,198nm,21.7s,baz=124,slow=33
PSZ Piszkesteto 100.20 319 ⇑P Pdif 21 00 26.7 -0.1
PSZ Piszkesteto 100.20 319⇑iP Pdif 21 00 26.7 -0.1
PSZ Piszkesteto 100.20 319 ePdif Pdif 21 00 30.7 +3.9
comp=Z,10nm,1.0s
RES Resolute Bay 100.55 10 P Pdif 21 00 27.8 +0.1
comp=Z,4.7nm,0.6s,baz=293,slow=6.3,SNR=25
RES PP PP 21 04 36.1 +1.7
comp=Z,2.2nm,0.9s,baz=343,slow=8.0,SNR=4.7
VYHS Vyhne 100.75 320 eP Pdif 21 00 29.4 +0.2
VYHS Vyhne 100.75 320 PDIF Pdif 21 00 29.4 +0.2
OKC Ostrava-Krasne 100.86 321 ePDIFF Pdif 21 00 31.1 +1.5
OKC ex x 21 00 35.4
NB2 NORSAR Subarra101.02 333 P Pdif 21 00 27.7 -2.4
comp=Z,5.3nm,0.9s,baz=70,slow=4.6
NB2 NORSAR Subarra101.02 333 P Pdif 21 00 27.7 -2.4
baz=70,slow=4.6
NOA NORSAR Array B 101.02 333 P Pdif 21 00 28.2 -1.8
comp=Z,3.0nm,0.8s,baz=69,slow=4.6,SNR=8.2
KRLC Kraliky 101.65 322 ePDIFF Pdif 21 00 33.9 +0.8
KRLC ex x 21 00 39.1
DPC Dobruska-Polom 101.86 322 eP Pdif 21 00 37.2 +3.1
DPC Dobruska-Polom 101.86 322 ePDIFF Pdif 21 00 34.9 +0.8
DPC ex x 21 00 38.9
DPC epP pP 21 00 44.7 -3.1
DPC AMS AMS 21 49 20.0
DPC Dobruska-Polom 101.86 322 ePdif Pdif 21 00 37.2 +3.1
UPC Upice 102.00 322 ePDIFF Pdif 21 00 40.5 +5.8
YKA Yellowknife Ar 102.14 25 P Pdif 21 00 35.1 +0.1
comp=Z,1.9nm,0.6s,baz=296,slow=4.2,SNR=27
YKA PP PP 21 04 47.1 +0.3
comp=Z,1.8nm,1.1s,baz=295,slow=8.2,SNR=4.0
YKA PKKPbc PKKPbc 21 16 38.7 -1.9
comp=Z,0.8nm,0.7s,baz=112,slow=2.4,SNR=12
PRU Pruhonice 103.06 322 ePDIFF Pdif 21 00 44.4 +5.1
PRU AMS AMS 21 50 10.0
comp=Z,300nm,16.3s
BRG Berggiesshubel 103.15 323 e(P) Pdif 21 00 45.8 +6.1
comp=Z,9.7nm,0.9s
BRG e 21 04 59.0
comp=Z,12nm,1.4s
BRG Berggiesshubel 103.15 323 eP Pdif 21 00 45.8 +6.1
BRG e 21 04 59.0
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG pmax pmax
comp=Z,10.0nm,1.4s
BRG Berggiesshubel 103.15 323 ePdiff Pdif 21 00 46.0 +6.3
CLL Collm 103.57 324 eP Pdif 21 00 47.0 +5.4
CLL e 21 04 56.0
CLL eS Sdif 21 12 18.0 -8.8
CLL Collm 103.57 324 ePdiff Pdif 21 00 47.3 +5.7
CLL Collm 103.57 324 ePP PP 21 04 56.0 -1.8
CLL eSdif Sdif 21 12 18.0 -8.8
CLL ePS PS 21 14 00.0 -8.8
CLL e 21 15 36.0
CLL eSS SS 21 19 42.0 +2.3
CLL eSSS SSS 21 23 36.0
KHC Kasperske Hory 103.92 321 ePDIFF Pdif 21 00 46.0 +2.8
KHC ex x 21 00 49.3
GERES GERESS Array B 103.93 321 Pdiff Pdif 21 00 43.4 0.0
comp=Z,1.9nm,0.9s,baz=75,slow=5.7,SNR=8.4
TANN Tannenbergstha 104.19 323 ePdiff Pdif 21 00 50.2 +5.8
MANZ Manzenberg 104.55 323 ePdiff Pdif 21 00 52.8 +6.8
ROTZ Rotzenmuhle 104.56 322 ePdiff Pdif 21 00 52.3 +6.3
MOX Moxa 104.62 323 ePdiff Pdif 21 00 52.6 +6.3
NRDL Niedersach Rie 104.83 325 ePdiff Pdif 21 00 54.0 +6.9
RJOB Jochberg 104.85 320 ePdiff Pdif 21 00 52.7 +5.2
CLZ Clausthal 104.92 325 ePdiff Pdif 21 00 53.2 +5.5
GRF Grafenberg Arr 105.19 322 eL L 21 52 12.6
comp=Z,224nm,19.8s
SUMG Summit 105.90 355 i P Pdif 21 00 56.2 +4.2
SUMG pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 105.90 355 i P Pdif 21 00 56.2 +4.2
comp=Z,4.1nm,1.0s
SUMG Summit 105.90 355 i P PP 21 05 12.8 -2.1
comp=Z,5.1nm,0.9s
TUE Stuetta 107.49 320 ePdif Pdif 21 01 04.5 +5.1
HINF Hinteralfeld 108.57 322 eP Pdif 21 01 02.6 -1.4
HINF Hinteralfeld 108.57 322 eP Pdif 21 01 02.6 -1.4
HINF Hinteralfeld 108.57 322 eP Pdif 21 01 02.6 -1.4
NVAR Mina Array Bea 109.03 49 Pdiff Pdif 21 01 05.0 -1.5
comp=Z,0.2nm,0.3s,baz=261,slow=3.6,SNR=5.4
NVAR PKiKP PKiKP 21 05 11.5 +0.7
comp=Z,0.7nm,0.6s,baz=281,slow=1.5,SNR=6.5
NVAR PP PP 21 05 40.5 +1.8
comp=Z,1.0nm,0.5s,baz=273,slow=8.8,SNR=7.1
NVAR PKKPbc PKKPbc 21 16 21.6 +2.5
comp=Z,0.6nm,0.8s,baz=145,slow=3.2,SNR=3.5
MSO Missoula 109.16 39 ⇑PKiKP PKiKP 21 05 11.0 +0.3
baz=109
LPG La Plagne 109.53 320 eP Pdif 21 01 05.5 -3.1
comp=Z,60nm,1.7s
LPG La Plagne 109.53 320 eP Pdif 21 01 05.5 -3.1
LPG La Plagne 109.53 320 eP Pdif 21 01 05.5 -3.1
LPL La Plagne 109.54 320 eP Pdif 21 01 05.4 -3.2
comp=Z,25nm,1.2s
LPL La Plagne 109.54 320 eP Pdif 21 01 05.4 -3.2
LPL La Plagne 109.54 320 eP Pdif 21 01 05.4 -3.2
HLID Hailey 110.10 42 ⇓PKiKP PKiKP 21 05 13.0 +0.4
baz=110
EDW2 Edwards Air Fo 110.29 52 ⇑PKiKP PKiKP 21 05 13.4 +0.3
baz=110
FMP Fort Macarthur 110.36 53 ⇓PKiKP PKiKP 21 05 13.6 +0.5
baz=110
LOR Lormes 110.64 322 eP Pdif 21 01 12.0 -1.2
comp=Z,17nm,1.1s
LOR Lormes 110.64 322 eP Pdif 21 01 12.0 -1.2
LOR Lormes 110.64 322 eP Pdif 21 01 12.0 -1.2
SMF Signal de Mont 110.92 322 eP Pdif 21 01 13.5 -0.9
SMF Signal de Mont 110.92 322 eP Pdif 21 01 13.5 -0.9
SMF Signal de Mont 110.92 322 eP Pdif 21 01 13.5 -0.9
R11A Troy Canyon, C 111.09 48 ⇓PKiKP PKiKP 21 05 15.1 +0.4
baz=111
EGMT Eagleton 111.22 37 ⇓PKiKP PKiKP 21 05 14.7 +0.2
baz=111
A19A Klindworth Far 111.39 35 ⇑PKiKP PKiKP 21 05 14.6 -0.1
baz=111
PFO Pinyon Flat Ob 111.87 53 ⇓PKiKP PKiKP 21 05 16.2 +0.1
baz=112
A20A Cobblestone Ra 111.89 35 ⇓PKiKP PKiKP 21 05 15.8 +0.2
baz=112
B20A Solberg Farm, 112.05 36 ⇓PKiKP PKiKP 21 05 16.5 +0.5
baz=112
TCF Toulx Ste Croi 112.09 322 eP Pdif 21 01 18.4 -1.2
comp=Z,19nm,1.2s
TCF Toulx Ste Croi 112.09 322 eP Pdif 21 01 18.4 -1.2
TCF Toulx Ste Croi 112.09 322 eP Pdif 21 01 18.4 -1.2
GMRC Granite Mounta 112.15 52 ⇓PKiKP PKiKP 21 05 16.9 +0.2
baz=112
DUG Dugway 112.46 45 ⇓PKiKP PKiKP 21 05 17.6 +0.5
baz=112
I17A Pilgrim Ck. 112.51 41 ⇓PKiKP PKiKP 21 05 17.3 +0.1
baz=112
G20A Bridger 113.45 39 ⇑PKiKP PKiKP 21 05 19.4 +0.6
baz=113
PDAR Pinedale Array 113.67 42 PKiKP PKiKP 21 05 19.8 +0.3
comp=Z,1.0nm,0.7s,baz=214,slow=1.6,SNR=8.0
PDAR PKKPbc PKKPbc 21 16 02.1 -1.9
comp=Z,1.8nm,0.9s,baz=118,slow=5.4,SNR=7.7
D22A Cohagen 113.76 36 ⇓PKiKP PKiKP 21 05 19.4 +0.1
baz=114
B23A Brockton 113.78 35 ⇓PKiKP PKiKP 21 05 19.7 +0.4
baz=114
C23A Lambert 114.01 35 ⇑PKiKP PKiKP 21 05 20.4 +0.6
baz=114
I20A Worland 114.09 40 ⇓PKiKP PKiKP 21 05 20.3 +0.2
baz=114
A24A Westby 114.09 34 ⇓PKiKP PKiKP 21 05 20.2 +0.4
baz=114
U15A North Rim 114.20 49 ⇑PKiKP PKiKP 21 05 21.4 +0.6
baz=114
E22A Miles City 114.25 37 ⇓PKiKP PKiKP 21 05 20.6 +0.3
baz=114
J20A Shoshoni 114.39 41 ⇑PKiKP PKPdf 21 05 20.6 -0.1
baz=114
FRB Frobisher Bay 114.47 7 PKP PKPdf 21 05 18.6 -1.4
comp=Z,3.0nm,0.7s,baz=331,slow=3.8,SNR=5.1
F23A Volborg 114.94 37 ⇑PKiKP PKiKP 21 05 21.5 -0.1
baz=115
E24A Baker 115.17 36 ⇓PKiKP PKPdf 21 05 22.3 +0.3
baz=115
A26A Wade Farm, Ken 115.19 33 ⇓PKiKP PKPdf 21 05 22.4 +0.5
baz=115
G23A Biddle 115.21 38 ⇓PKiKP PKPdf 21 05 22.3 +0.1
baz=115
WUAZ Wupatki 115.22 50 ⇑PKiKP PKPdf 21 05 23.1 +0.5
baz=115
K21A Alcova 115.26 41 ⇑PKiKP PKPdf 21 05 22.6 +0.1
baz=115
J22A Midwest 115.39 40 ⇓PKiKP PKPdf 21 05 22.4 -0.2
baz=115
G24A Alzada 115.74 37 ⇑PKiKP PKPdf 21 05 23.7 +0.5
baz=116
C26A Wahner Farm, P 115.76 34 ⇓PKiKP PKPdf 21 05 23.5 +0.5
baz=116
H24A Dirks Ranch, A 115.95 38 ⇓PKiKP PKPdf 21 05 23.7 +0.1
baz=116
A28A Rude Farm, Bot 116.13 32 ⇑PKiKP PKPdf 21 05 24.2 +0.5
baz=116
E26A Carlson Angus 116.30 35 ⇓PKiKP PKPdf 21 05 24.3 +0.2
baz=116
B28A Dugan Ranch, T 116.35 33 ⇓PKiKP PKPdf 21 05 24.4 +0.3
baz=116
G25A Newell 116.41 37 ⇑PKiKP PKPdf 21 05 24.8 +0.4
baz=116
H25A Fruitdale 116.60 38 ⇓PKiKP PKPdf 21 05 25.1 +0.2
baz=116
A29A Manning Farm, 116.67 32 ⇓PKiKP PKPdf 21 05 24.7 -0.1
baz=116
MVCO Mesa Verde 116.73 47 ⇓PKiKP PKPdf 21 05 25.6 0.0
baz=117
I25A Rochford 116.83 38 ⇑PKiKP PKPdf 21 05 25.0 -0.4
baz=117
O22A Kremmling 116.85 43 ⇓PKiKP PKPdf 21 05 25.7 0.0
baz=117
F27A Lemmon 116.88 36 ⇓PKiKP PKPdf 21 05 25.7 +0.4
baz=117
B29A Wagenman Farm,116.89 32 ⇑PKiKP PKPdf 21 05 25.6 +0.4
baz=117
H26A Fairpoint 117.11 37 ⇓PKiKP PKPdf 21 05 26.0 +0.2
baz=117
J25A Sunshine Ranch 117.11 39 ⇓PKiKP PKPdf 21 05 26.1 +0.1
baz=117
O23A Lake Granby, G 117.26 43 ⇓PKiKP PKPdf 21 05 26.6 +0.1
baz=117
B30A Myrvik Farm, E 117.44 32 ⇓PKiKP PKPdf 21 05 26.1 -0.1
baz=117
ULM Lac du Bonnet 117.54 29 PKP PKPdf 21 05 24.8 -1.6
comp=Z,5.3nm,0.6s,baz=329,slow=2.2,SNR=11
ULM PKKPbc PKKPbc 21 15 50.8 +0.3
comp=Z,1.7nm,0.7s,baz=206,slow=5.9,SNR=2.9
L25A Engebretsen Ra 117.62 40 ⇓PKiKP PKPdf 21 05 26.9 0.0
baz=118
ISCO Idaho Springs 117.65 43 ⇓PKiKP PKPdf 21 05 27.5 +0.2
baz=118
C30A Mose, Pekin 117.81 33 ⇓PKiKP PKPdf 21 05 27.2 +0.2
baz=118
I27A Quinn 117.83 38 ⇓PKiKP PKPdf 21 05 27.4 +0.2
baz=118
G28A Parade 117.97 36 ⇓PKiKP PKPdf 21 05 27.4 0.0
baz=118
D30A Buchanan 118.02 33 ⇓PKiKP PKPdf 21 05 27.6 +0.2
baz=118
H28A Mission Ridge 118.13 36 ⇓PKiKP PKPdf 21 05 27.9 +0.1
baz=118
R23A Moffat 118.23 45 ⇓PKiKP PKPdf 21 05 29.4 +0.9
baz=118
I28A Midland 118.41 37 ⇓PKiKP PKPdf 21 05 28.5 +0.2
baz=118
J28A Allard Ranch, 118.68 38 ⇑PKiKP PKPdf 21 05 29.2 +0.3
baz=119
P25A Willow Gulch B 118.77 43 ⇑PKiKP PKPdf 21 05 29.5 +0.2
baz=119
U23A El Rito 118.78 47 ⇑PKiKP PKPdf 21 05 30.1 +0.6
baz=119
I29A Vivian Onida 118.92 37 ⇓PKiKP PKPdf 21 05 29.6 +0.3
baz=119
M27A Reverse DX Ran 118.96 40 ⇓PKiKP PKPdf 21 05 29.7 +0.2
baz=119
G30A Faulkton 118.97 35 ⇓PKiKP PKPdf 21 05 29.7 +0.3
baz=119
O26A Horse Wrangler 119.00 42 ⇓PKiKP PKPdf 21 05 30.0 +0.2
baz=119
Q25A Bedland, Calha 119.00 44 ⇑PKiKP PKPdf 21 05 29.9 0.0
baz=119
121A Cookes Peak, D 119.09 52 ⇑PKiKP PKPdf 21 05 31.1 +0.9
baz=119
ANMO Albuquerque 119.16 48⇑iPKiKP PKPdf 21 05 31.3 +1.1
ANMO pmax pmax
comp=Z,35nm,1.7s
ESDC Sonseca Array 119.18 318 PKP PKPdf 21 05 28.9 -1.1
comp=Z,0.6nm,0.6s,baz=63,slow=3.5,SNR=3.2
ESDC PP PP 21 06 52.9 +2.6
comp=Z,1.6nm,0.8s,baz=52,slow=7.1,SNR=4.1
P26A Davis Ranch, A 119.31 42 ⇑PKiKP PKiKP 21 05 30.4 +0.1
baz=119
R25A Fountain Ranch 119.33 44 ⇑PKiKP PKiKP 21 05 31.2 +0.8
baz=119
Z22A Elephant Butte 119.45 50 ⇓PKiKP PKiKP 21 05 31.6 +0.7
baz=119
S25A Robets Cordova 119.45 45 ⇓PKiKP PKiKP 21 05 31.4 +0.6
baz=119
T25A Trinidad 119.70 45 ⇑PKiKP PKiKP 21 05 31.9 +0.5
baz=120
V24A Rampart Ranch, 119.71 47 ⇑PKiKP PKiKP 21 05 31.6 +0.2
baz=120
W24A Lazy 6 Ranch, 119.83 48 ⇑PKiKP PKiKP 21 05 31.9 +0.3
baz=120
R26A Arlington 119.84 44 ⇑PKiKP PKiKP 21 05 31.6 +0.2
baz=120
Y23A Lovelace Mesa, 119.88 49 ⇓PKiKP PKiKP 21 05 32.0 +0.3
baz=120
U25A Circle Dot Ran 120.04 46 ⇑PKiKP PKiKP 21 05 32.5 +0.5
baz=120
V25A Rancho No Teng 120.14 47 ⇓PKiKP PKiKP 21 05 32.3 +0.2
baz=120
S26A Kim 120.15 45 ⇑PKiKP PKiKP 21 05 32.2 +0.1
baz=120
T26A Comanche Natio 120.27 45 ⇑PKiKP PKPdf 21 05 32.2 -0.1
baz=120
R27A Eads 120.30 44 ⇓PKiKP PKiKP 21 05 32.7 +0.4
baz=120
Y24A Capitan 120.35 49 ⇑PKiKP PKiKP 21 05 32.6 0.0
baz=120
S27A Las Animas 120.52 44 ⇓PKiKP PKiKP 21 05 33.3 +0.5
baz=120
U26A Atchley Ranch, 120.52 46 ⇓PKiKP PKiKP 21 05 33.4 +0.5
baz=120
W25A X Bar L Ranch, 120.53 47 ⇓PKiKP PKiKP 21 05 33.1 +0.2
baz=120
Q28A Sharon Springs 120.57 42 ⇑PKiKP PKiKP 21 05 33.3 +0.5
baz=120
Z24A Sheeppen Canyo 120.65 50 ⇓PKiKP PKiKP 21 05 33.6 +0.3
baz=121
X25A Clemmons Ranch120.67 48 ⇓PKiKP PKiKP 21 05 33.4 +0.2
baz=121
V26A Tequesquite Ra 120.76 47 ⇓PKiKP PKiKP 21 05 33.4 +0.1
baz=121
Y25A Mesa, Roswell 120.91 49 ⇓PKiKP PKiKP 21 05 33.9 +0.3
baz=121
T27A Campo 120.94 45 ⇓PKiKP PKiKP 21 05 34.6 +1.0
baz=121
W26A Owens Ranch, T 121.09 47 ⇓PKiKP PKiKP 21 05 34.1 +0.2
baz=121
U27A Thompson Grove121.17 45 ⇑PKiKP PKiKP 21 05 34.3 +0.2
baz=121
EYMN Ely 121.22 29 ePKPdf PKPdf 21 05 33.7 +0.1
M31A Lambtecht Ranc 121.22 39 ⇑PKiKP PKiKP 21 05 33.9 0.0
baz=121
Q29A Oakley 121.23 42 ⇓PKiKP PKiKP 21 05 34.2 +0.2
baz=121
ECSD EROS Data Cent 121.25 35 ePKPdf PKPdf 21 05 32.8 -0.9
ECSD EROS Data Cent 121.25 35 ⇓PKiKP PKPdf 21 05 33.6 -0.2
baz=121
S28A Manter 121.26 44 ⇓PKiKP PKiKP 21 05 34.4 +0.2
baz=121
X26A CR and CF Fran 121.30 48 ⇓PKiKP PKPdf 21 05 34.3 0.0
baz=121
T28A Walsh 121.34 44 ⇓PKiKP PKiKP 21 05 34.3 0.0
baz=121
P30A Selden 121.38 41 ⇓PKiKP PKiKP 21 05 34.4 +0.1
baz=121
125A Gardner Draw, 121.46 50 ⇑PKiKP PKiKP 21 05 35.0 +0.3
baz=121
V27A Dan Oppiter Fa 121.47 46 ⇓PKiKP PKiKP 21 05 34.7 +0.1
baz=121
225A Deer Hill, Car 121.56 51 ⇑PKiKP PKiKP 21 05 35.5 +0.4
baz=122
Y26A Elida 121.56 48 ⇑PKiKP PKiKP 21 05 35.3 +0.4
baz=122
W27A Bowe Ranch, En 121.62 47 ⇓PKiKP PKPdf 21 05 34.8 -0.1
baz=122
Q30A Quinter 121.69 42 ⇓PKiKP PKPdf 21 05 34.5 -0.3
baz=122
BGNE Belgrade 121.70 38 ⇑PKiKP PKPdf 21 05 34.6 -0.1
baz=122
Z26A Caprock 121.72 49 ⇑PKiKP PKPdf 21 05 35.0 -0.1
baz=122
S29A Ulysses 121.78 43 ⇑PKiKP PKPdf 21 05 35.2 0.0
baz=122
T29A Hugoton 121.89 44 ⇓PKiKP PKPdf 21 05 35.4 0.0
baz=122
P31A Stockton 121.96 41 ⇓PKiKP PKPdf 21 05 35.8 +0.4
baz=122
R30A Dighton 122.02 42 ⇓PKiKP PKiKP 21 05 36.0 +0.4
baz=122
Y27A Causey 122.07 48 ⇓PKiKP PKiKP 21 05 36.0 +0.1
baz=122
O32A Brockman Farm, 122.27 39 ⇓PKiKP PKiKP 21 05 35.7 -0.2
baz=122
Z27A Tatum 122.28 49 ⇑PKiKP PKiKP 21 05 36.6 +0.2
baz=122
MSTX Muleshoe 122.33 48 ⇑PKiKP PKiKP 21 05 36.8 +0.4
baz=122
P32A Huiting Farm, 122.41 40 ⇓PKiKP PKiKP 21 05 36.3 0.0
baz=122
X28A Dimmitt 122.50 47 ⇓PKiKP PKiKP 21 05 37.0 +0.2
baz=122
R31A Burdett 122.52 42 ⇑PKiKP PKiKP 21 05 36.7 +0.1
baz=122
Q32A Meitler Ranch, 122.78 41 ⇑PKiKP PKiKP 21 05 37.3 +0.2
baz=123
S31A Mullinville 122.90 43 ⇑PKiKP PKiKP 21 05 37.4 +0.1
baz=123
X29A Tulia 122.90 47 ⇓PKiKP PKiKP 21 05 37.7 +0.2
baz=123
T31A Randall Ranch, 123.03 43 ⇓PKiKP PKiKP 21 05 37.7 +0.1
baz=123
P33A Williams Farm, 123.10 40 ⇑PKiKP PKiKP 21 05 37.8 +0.1
baz=123
128A Castleberry Fa 123.14 49 ⇑PKiKP PKiKP 21 05 38.1 +0.1
baz=123
427A Hayter Ranch, 123.18 52 ⇑PKiKP PKiKP 21 05 38.2 0.0
baz=123
Y29A Porterfield Fa 123.19 48 ⇑PKiKP PKiKP 21 05 37.9 0.0
baz=123
S32A Newby Ranch, P 123.22 42 ⇑PKiKP PKiKP 21 05 37.8 0.0
baz=123
Q33A Connelly Farm, 123.25 40 ⇑PKiKP PKiKP 21 05 38.1 +0.1
baz=123
SCHQ Schefferville 123.31 9 PKP PKPdf 21 05 36.5 -0.8
comp=Z,5.2nm,0.5s,baz=17,slow=1.7,SNR=18
TOA0 Torodi Ar. Sit 123.31 286 ePKPdf PKPdf 21 05 37.5 -0.9
TORD Torodi Ar. Bea 123.31 286 PKP PKPdf 21 05 37.8 -0.6
comp=Z,9.8nm,0.8s,baz=59,slow=1.6,SNR=32
TORD PP PP 21 07 23.6 +4.2
comp=Z,4.1nm,1.0s,baz=70,slow=5.8,SNR=4.7
TORD PKKPbc PKKPab 21 15 28.9 +0.6
comp=Z,5.0nm,0.8s,baz=277,slow=3.9,SNR=23
328A Wristen Ranch, 123.42 51 ⇑PKiKP PKiKP 21 05 38.5 -0.1
baz=123
Z29A Hungry Hill Ra 123.44 48 ⇓PKiKP PKiKP 21 05 38.6 0.0
baz=123
X30A Coker Ranch, T 123.50 47 ⇓PKiKP PKiKP 21 05 39.0 +0.3
baz=123
T32A Huddler Ranch, 123.51 43 ⇑PKiKP PKiKP 21 05 38.7 +0.1
baz=123
R33A Olander Ranch, 123.53 41 ⇓PKiKP PKiKP 21 05 38.8 +0.3
baz=123
TXAR Lajitas Array 123.58 53 PKP PKPdf 21 05 39.3 +0.6
comp=Z,2.1nm,0.7s,baz=251,slow=0.3,SNR=23
129A Stewart Farms, 123.60 49 ⇑PKiKP PKiKP 21 05 39.2 +0.3
baz=124
Y30A Stafford Cattl 123.75 47 ⇓PKiKP PKiKP 21 05 39.5 +0.3
baz=124
428A Kincaid Ranch, 123.80 51 ⇑PKiKP PKiKP 21 05 39.9 +0.5
baz=124
W31A Holland Ranch, 123.81 45 ⇑PKiKP PKiKP 21 05 39.7 +0.5
baz=124
Z30A Sanderson Ranc 123.86 48 ⇓PKiKP PKiKP 21 05 39.7 +0.3
baz=124
528A Cox Ranch, San 123.95 52 ⇑PKiKP PKPdf 21 05 39.5 +0.1
baz=124
KSU1 Kansas State U 123.98 40 ePKPdf PKPdf 21 05 39.1 0.0
KSU1 Kansas State U 123.98 40 ⇑PKiKP PKPdf 21 05 39.2 +0.1
baz=124
329A Wagon Wheel Ra 124.02 50 ⇑PKiKP PKiKP 21 05 40.0 +0.2
baz=124
T33A Patterson Ranc 124.02 43 ⇓PKiKP PKiKP 21 05 39.5 0.0
baz=124
X31A McDonald Ranch 124.06 46 ⇓PKiKP PKiKP 21 05 39.7 0.0
baz=124
Y31A Rekieta Farm, 124.18 47 ⇑PKiKP PKiKP 21 05 40.0 +0.1
baz=124
V32A Arapaho 124.18 44 ⇑PKiKP PKiKP 21 05 39.7 +0.1
baz=124
130A Snyder 124.30 49 ⇑PKiKP PKiKP 21 05 40.5 +0.3
baz=124
W32A Sentinel 124.34 45 ⇓PKiKP PKiKP 21 05 40.6 +0.3
baz=124
529A Stev Forest Ra 124.41 52 ⇑PKiKP PKPdf 21 05 40.3 0.0
baz=124
429A Davenport Ranc 124.46 51 ⇑PKiKP PKPdf 21 05 40.6 0.0
baz=124
230A Sterling City 124.50 49 ⇓PKiKP PKiKP 21 05 41.2 +0.5
baz=124
Z31A Sharp Cattle R 124.57 47 ⇓PKiKP PKiKP 21 05 41.4 +0.6
baz=124
U34A Anderson Ranch 124.84 43 ⇓PKiKP PKiKP 21 05 41.2 +0.1
baz=125
W33A Caddo, Fort Co 124.87 45 ⇑PKiKP PKPdf 21 05 40.8 -0.1
baz=125
430A Baggett Ranch, 124.90 51 ⇑PKiKP PKPdf 21 05 41.2 0.0

baz=125
530A J-C Ranch, Com 125.09 51 ⇑PKiKP PKiKP 21 05 42.1 +0.2
baz=125
331A San Angelo 125.29 50 ⇑PKiKP PKPdf 21 05 41.7 -0.2
baz=125
431A Sonora 125.43 51 ⇑PKiKP PKPdf 21 05 42.1 -0.1
baz=125
X34A Smith Ranch, M 125.60 45 ⇑PKiKP PKPdf 21 05 42.5 +0.1
baz=126
232A Coleman 125.61 49 ⇓PKiKP PKPdf 21 05 42.4 -0.1
baz=126
531A Rocksprings 125.70 51 ⇓PKiKP PKiKP 21 05 43.1 0.0
baz=126
631A Perdido Creek 126.01 52 ⇑PKiKP PKPdf 21 05 43.4 +0.2
baz=126
233A Rising Star 126.11 48 ⇓PKiKP PKiKP 21 05 43.8 0.0
baz=126
JCT Junction City 126.14 50 ⇑PKiKP PKiKP 21 05 43.8 -0.2
baz=126
134A White-Moore Ra 126.45 47 ⇓PKiKP PKiKP 21 05 44.5 0.0
baz=126
632A Uvalde 126.58 51 ⇑PKiKP PKiKP 21 05 44.9 0.0
baz=127
234A Clairette 126.69 48 ⇓PKiKP PKPdf 21 05 44.7 +0.2
baz=127
732A Laxson Ranch, 126.78 52 ⇓PKiKP PKiKP 21 05 45.2 -0.1
baz=127
832A Faith Ranch, C 126.97 53 ⇓PKiKP PKiKP 21 05 45.6 0.0
baz=127
833A Chaparral WMA, 127.41 53 ⇓PKiKP PKiKP 21 05 46.6 +0.1
baz=127
734A La Parita Cree 127.84 52 ⇓PKiKP PKiKP 21 05 47.7 +0.3
baz=128
636A Smothers Creek 128.71 50 ⇓PKiKP PKiKP 21 05 49.8 +0.7
baz=129
OLIL Olney 129.38 35 ePKPdf PKPdf 21 05 50.5 +1.1
936A North Padre Is 129.46 53 ⇑PKiKP PKiKP 21 05 51.2 +0.6
baz=129
KIC Kosan Boka 130.58 279 eP PKPdf 21 05 51.5 -0.9
comp=Z,51nm,1.3s
DBIC Dimbokro 130.66 280 PKP PKPdf 21 05 53.0 +0.5
comp=Z,5.9nm,0.9s,baz=62,slow=6.3,SNR=6.3
DBIC SKPbc SKPab 21 09 14.7 +1.7
comp=Z,12nm,1.0s,baz=91,slow=4.6,SNR=6.2
TIC Toumodi 130.82 280 eP PKPdf 21 05 53.2 +0.3
comp=Z,3.7nm,0.2s
LIC Lamto 130.88 279 eP PKPdf 21 05 53.3 +0.4
comp=Z,21nm,0.7s
KMSC Kings Mountain 135.73 33 ⇓PKiKP PKiKP 21 06 01.9 +0.4
baz=136
PLCA Paso Flores 137.60 161 PKhKP PKPpre 21 05 55.9
comp=Z,2.2nm,0.7s,baz=74,slow=2.4,SNR=4.1
PLCA PKP PKPdf 21 06 06.0 -0.8
comp=Z,4.2nm,0.8s,baz=341,slow=0.9,SNR=6.9
PLCA SKPbc SKiKP 21 09 38.2 -1.4
comp=Z,3.4nm,0.7s,baz=307,slow=2.0,SNR=7.4
TRQA Tornquist 142.35 169 ePKPdf PKPdf 21 06 09.1 -4.4
SACV Santiago Islan 146.26 299 ePKPdf PKPbc 21 06 21.6 -0.4
JTS JuntasAbangare 146.94 69 ePKP2 PKPbc 21 06 24.5 +0.4
JTS JuntasAbangare 146.94 69 ePKPdf PKPbc 21 06 24.5 +0.4
LCO Las Campanas 147.77 151 ePKPdf PKPbc 21 06 25.0 -1.3
MTDJ Mount Denham 149.75 50 ePKPdf PKPdf 21 06 28.8 +2.1
GRTK Grand Turk 151.88 36 PKPdf PKPdf 21 06 29.2 -0.6
SDDR Presa de Saban 153.68 40 ePKPbc PKPbc 21 06 40.1 -0.2
LVC Limon Verde 153.92 147 ePKPdf PKPbc 21 06 34.7 +1.6
CPUP Villa Florida 154.58 172 PKP PKPdf 21 06 32.9 -0.7
comp=Z,3.8nm,0.8s,baz=139,slow=2.1,SNR=2.9
ROSC El Rosal 158.59 74 PKP PKPdf 21 06 39.8 +0.2
comp=Z,6.9nm,0.5s,baz=225,slow=0.8,SNR=4.0
ROSC PKPab PKPab 21 07 16.4 +1.5
comp=Z,8.2nm,0.5s,baz=121,slow=5.0,SNR=4.6
LPAZ La Paz 159.19 138 ePKiKP PKPdf 21 06 41.3 +0.8
LPAZ La Paz 159.19 138 PKP PKPdf 21 06 41.4 +1.0
comp=Z,2.8nm,0.8s,baz=239,slow=4.3,SNR=15
LPAZ PKPab PKPab 21 07 18.5 +1.0
comp=Z,6.2nm,0.7s,baz=262,slow=1.1,SNR=5.1
LPAZ La Paz 159.19 138 ePKPdf PKPdf 21 06 41.3 +0.8
LPAZ PKP PKPdf 21 06 41.4 +1.0
LPAZ PKPab PKPab 21 07 18.5 +1.0
BB16B Bebedouro 159.47 194 (P) PKPpre 21 06 29.6
BB16B i PKPdf 21 06 37.9 -2.1
BB16B i 21 06 41.7
SDV Santo Domingo 160.48 59 ePKPdf PKPdf 21 06 41.2 -0.3
BDFB Brasilia 164.41 201 PKP PKPdf 21 06 45.4 +0.1
comp=Z,3.4nm,0.6s,baz=311,slow=0.3,SNR=5.2
BDFB PKPab PKPab 21 07 40.1 +0.6
comp=Z,5.4nm,0.9s,baz=85,slow=3.3,SNR=4.1
SAML Samuel 167.70 130 ePKPdf PKPdf 21 06 47.9 +0.1

*BJI **10** 21:00:42.7, 8°10S×119°20E, h10km, mb4.3/9*
*ISCJB **10** 21:00:44.4±0.2, 8°12S±0°03×119°02E±0°03, h34km, mb4.2/15, Error ellipse: s-maj=5.6km s-min=3.9km az=136.5*
*NEIC **10** 21:00:45.9±0.6, 8°20S×119°03E, h35km, mb4.3/6, Error ellipse: s-maj=17.8km s-min=10.0km az=224.0*
*IDC **10** 21:00:45.9±5.4, 7°78S×119°62E, h28km±37km, mb3.9/10, mb1 4.1/11, mb1mx3.8/35, mbtmp4.1/11, ML4.1/1, Error ellipse: s-maj=29.8km s-min=9.6km az=53.0*
*DJA **10** 21:00:45.5±0.4, 8°S±4'×11°9E±', h23km±7km, M4.6/24, mb4.8/10, mB5.1/6, MLv4.7/24, Mw(mB)4.4/6*
ISC 10 21:00:46.2±0.5, 8°16S±0°05×119°05E±0°05, h34km, n71, σ1°46/70, mb4.1/14, Flores region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BSSI Bau Bau, Buton 2.47 36 P Pn 21 01 23.6 -0.5
BKSI Bulukumba 3.02 21 P Pn 21 01 31.4 -0.3
MMRI Maumere 3.19 99 P Pn 21 01 35.3 +1.3
MMRI Maumere 3.19 99 ePn Pn 21 01 34.4 +0.4
MMRI eSn Sn 21 01 58.5 -12
KAPI Kappang 3.21 13 ePn Pn 21 01 33.7 -0.6
KAPI eSn Sn 21 02 00.1 -11
SRBI Singaraja 3.80 271 P Pn 21 01 42.6 +0.2
DNP Denpasar 3.83 262 P Pb 21 01 49.1 -4.0
BNSI Bone 3.88 16 P Pn 21 01 44.7 +1.1
IGBI Denpasar 3.91 260 P Pn 21 01 41.1 -2.9
SPSI Sidrap Palu 4.23 10 P Pn 21 01 47.7 -0.7
ABJI Asem Bagus 4.78 274 P Pn 21 01 55.7 -0.2
JAGI Jajag, Banyuwa 4.85 266 P Pn 21 01 53.5 -3.4
JAGI Jajag, Banyuwa 4.85 266 ePn Pn 21 01 53.5 -3.4
JAGI eSn Sb 21 03 05.6 -3.0
TTSI Tana Toraja 5.14 9 P Pn 21 02 01.5 +0.6
247nm,0.5s,4µm1.1nm
KMMI Kalianget 5.16 282 P Pn 21 02 01.6 +0.5
65nm,1.2s,0.4nm
SOEI Soe 5.39 107 P Pn 21 02 05.3 +0.8
105nm,0.8s,2µm0.7nm
BLJI Banyuglugur 5.42 274 P Pn 21 02 04.4 -0.2
101nm,0.6s,1µm0.4nm
GMJI Gumukmas 5.55 268 P Pn 21 02 06.2 -0.2
106nm,1.0s,918nm0.3nm
KBKI Kotabaru 5.62 329 P Pn 21 02 06.7 -0.7
38nm,1.6s,1µm0.7nm
BBKI Banjar Baru 6.27 318 P Pn 21 02 14.9 -1.5
70nm,0.9s,3µm0.6nm
PWJI Pelerwojo 7.17 271 P Pn 21 02 28.9 +0.1
35nm,0.8s
KNRA Kununurra 12.08 129 P Pn 21 03 35.9 -0.2
baz=11,SNR=8.1
MTN Manton Dam 12.76 112 P Pn 21 03 45.1 -0.3
baz=12,SNR=6.1
MTN S Sn 21 06 03.5 -2.8
baz=12,SNR=3.6
GIRL Giralia 15.12 197 P Pn 21 04 18.4 +1.0
baz=14,SNR=4.7
MEEK Meekatharra 18.38 181 P Pn 21 05 00.9 +2.4
baz=18,SNR=13
MEEK S Sn 21 08 10.2 -13
baz=18,SNR=4.6
WRA Warramunga Arr 18.88 130 P P 21 05 03.1 -0.8
0.7nm,0.3s,baz=304,slow=13,SNR=53
WRA S Sn 21 08 31.7 -3.4
0.1nm,0.3s,baz=307,slow=22,SNR=5.7
WRAB Tennant Creek 18.88 130 eP P 21 05 01.2 -2.7
8.7nm,0.7s
WRKA Warakurna 18.96 153 P Pn 21 05 06.2 +0.6
baz=18,SNR=17
AS31 Alice Springs 20.98 139 eP P 21 05 26.5 -0.3
ASAR Alice Springs 20.98 139 P P 21 05 27.4 +0.6
13nm,0.6s,baz=336,slow=14,SNR=44
ASAR S S 21 09 19.1 +0.2
2.7nm,0.9s,baz=318,slow=23,SNR=6.4
MORW Morawa 20.99 187 P P 21 05 30.4 +3.6
baz=20,SNR=4.0
MORW S S 21 09 16.0 -2.8
baz=20,SNR=4.6
BLDU Ballidu 22.44 185 P P 21 05 42.4 0.0
baz=22,SNR=4.6
PSI Prapat 22.84 298 P P 21 05 51.7 +4.9
1.9nm,0.5s,baz=153,slow=12,SNR=4.7
KLBR Kellerberrin 23.34 183 P P 21 05 52.3 +0.7
baz=23,SNR=7.0
QIS Mount Isa 23.38 124 P P 21 05 52.1 0.0
baz=23,SNR=8.4
COEN Coen 24.36 106 eP P 21 05 58.4 -3.0
40nm,0.5s
COEN Coen 24.36 106 P P 21 06 02.1 +0.7
baz=24,SNR=19
NWAO Narrogin (SRO) 24.70 184 P P 21 06 07.5 +3.2
6.2nm,0.6s,baz=338,slow=7.3,SNR=5.7
MTSU Mount Surprise 26.49 114 P P 21 06 21.9 +1.1
baz=26,SNR=9.5
BBOO Buckleboo 29.16 150 P P 21 06 44.7 +0.3
baz=28,SNR=10
HTT Hallett 31.14 147 P P 21 07 02.9 +0.9
baz=30,SNR=3.3
STKA Stephens Creek 31.57 141 P P 21 07 04.7 -1.0
4.0nm,0.7s,baz=317,slow=9.8,SNR=19
STKA Stephens Creek 31.57 141 eP P 21 07 04.7 -1.0
0.4nm,0.5s
STKA Stephens Creek 31.57 141 P P 21 07 06.5 +0.7
baz=31,SNR=10
CMAR Chiang Mai Arr 33.06 323 P P 21 07 20.1 +1.2
1.7nm,1.0s,baz=152,slow=7.0,SNR=8.8
CMSA Cobar Meteorol 34.01 137 P P 21 07 28.2 +1.2
baz=33,SNR=8.0
LSA Lhasa 46.23 326 eP P 21 09 08.8 -0.1
4.0nm,0.7s
ODAN Odare 46.42 320 eP P 21 09 10.5 +0.4
18nm,1.1s
TAPN Taplejung 46.55 320 eP P 21 09 08.9 -2.4
20nm,1.1s
RAMN Ramite 46.99 319 eP P 21 09 15.2 +0.6
8.2nm,0.5s
JIRN Jiri 47.74 319 eP P 21 09 19.6 -1.0
7.4nm,0.5s
GUN Gumba 48.11 319 eP P 21 09 22.3 -1.1
17nm,0.8s
PKI Pulchoki 48.19 319 eP P 21 09 24.5 +0.5
6.5nm,0.6s
PKIN Phulchoki 48.20 319 eP P 21 09 23.3 -0.7
4.6nm,0.6s
DMN Daman 48.41 319 eP P 21 09 25.7 +0.1
20nm,1.1s
KKN Kakani 48.42 319 eP P 21 09 23.9 -1.8
7.2nm,0.7s
GKN Gorkha 48.98 319 eP P 21 09 29.1 -0.8
8.5nm,0.7s
KOLN Koldanda 49.51 317 eP P 21 09 33.9 -0.1
43nm,1.5s
DANN Dangsing 49.79 318 eP P 21 09 33.7 -2.5
26nm,1.0s
PYUN Piuthan 50.14 317 eP P 21 09 37.6 -1.2
14nm,0.6s
GTA Gaotai 50.58 341 eP P 21 09 49.4 +7.5
GTA pP pP 21 09 54.0 +1.9
GTA sP sP 21 09 56.5 +0.4
GTA pmax pmax
comp=Z,5.0nm,1.2s
KBL Kabul 63.53 315 eP P 21 11 15.0 +1.2
4.1nm,0.9s
MKAR Makanchi Array 63.74 333 P P 21 11 13.7 -0.9
1.4nm,0.6s,baz=129,slow=5.5,SNR=13
KURBB Kurchatov Arra 68.24 334 P P 21 11 42.5 -0.9
0.4nm,0.6s,baz=146,slow=5.9,SNR=3.9
ZALV Zalesovo Beam 68.28 339 P P 21 11 42.1 -1.5
0.7nm,0.6s,baz=117,slow=5.2,SNR=3.9
PETK Petropavlovsk- 69.29 24 P P 21 11 46.2 -3.8
0.7nm,0.5s,baz=166,slow=15,SNR=3.0
VNDA Vanda 72.80 171 P P 21 12 11.9 +1.0
SEY Seymchan 75.35 15 P P 21 12 25.3 -0.6
1.7nm,0.9s,baz=145,slow=6.5,SNR=5.3
ABKAR Akbulak array 76.91 325 eP P 21 12 35.9 +0.8
1.9nm,0.9s
TORD Torodi Ar. Bea 118.36 281 PKP PKPdf 21 19 33.4 +2.2
0.7nm,0.9s,baz=103,slow=1.1,SNR=3.3
CPUP Villa Florida 145.53 186 PKPbc PKPab 21 20 22.8 +0.8
0.6nm,0.4s,baz=108,slow=3.8,SNR=2.8

*IDC **10** 21:18:11.7±1.0, 34°78N×86°88E, h0km, mb3.6/4, mb1 3.6/8, mb1mx3.4/32, mbtmp3.4/8, ML2.8/4, Error ellipse: s-maj=49.3km s-min=19.0km az=56.0*
*ISCJB **10** 21:18:14.5±0.6, 34°96N±0°05×87°0E±0°2, h33km, mb3.6/4, Error ellipse: s-maj=17.8km s-min=6.7km az=178.3*
ISC 10 21:18:17.0±0.8, 34°96N±0°09×87°0E±0°2, h35km, n19, σ0°62/19, mb3.6/4, Xizang

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUN Gumba 7.08 188 eP Pn 21 19 58.7 +0.2
DANN Dangsing 7.13 203 eP Pn 21 19 58.9 -0.2
GKN Gorkha 7.21 197 eP Pn 21 20 00.1 0.0
5.6nm,0.4s
KKN Kakani 7.29 192 eP Pn 21 20 01.6 +0.4
3.5nm,0.4s
JIRN Jiri 7.30 185 eP Pn 21 20 01.9 +0.4
7.7nm,0.3s
PKIN Phulchoki 7.48 191 eP Pn 21 20 04.1 +0.3
4.5nm,0.5s
DMN Daman 7.50 193 eP Pn 21 20 03.8 -0.3
5.2nm,0.4s
TAPN Taplejung 7.61 175 eP Pn 21 20 06.6 +0.9
3.3nm,0.5s
PYUN Piuthan 7.63 208 eP Pn 21 20 06.1 +0.2
19nm,0.6s
KOLN Koldanda 7.72 203 eP Pn 21 20 07.8 +0.7
7.6nm,0.6s
ODAN Odare 8.08 177 eP Pn 21 20 12.2 +0.2
4.4nm,0.5s
MKAR Makanchi Array 12.34 345 Pn Pn 21 21 10.1 -0.1
0.1nm,0.3s,baz=147,slow=15,SNR=11
KURBB Kurchatov Arra 16.82 341 Pn Pn 21 22 09.4 -0.2
0.0nm,0.3s,baz=157,slow=11,SNR=3.7
ZALV Zalesovo Beam 19.05 356 P P 21 22 36.2 +0.3
0.1nm,0.3s,baz=176,slow=8.2,SNR=2.7
CMAR Chiang Mai Arr 19.57 144 P P 21 22 42.0 0.0
0.0nm,0.3s,baz=319,slow=11,SNR=3.6
GERES GERESS Array B 54.24 309 P P 21 27 40.5 +1.2
0.6nm,0.6s,baz=70,slow=6.0,SNR=6.1
WRA Warramunga Arr 70.73 133 P P 21 29 28.3 -1.3
0.4nm,0.6s,baz=327,slow=6.6,SNR=5.9
ASAR Alice Springs 73.34 136 P P 21 29 45.5 +0.3
0.6nm,0.8s,baz=324,slow=6.4,SNR=5.8
TORD Torodi Ar. Bea 78.77 278 P P 21 30 15.5 -0.9
0.3nm,0.5s,baz=53,slow=4.5,SNR=4.5

*SZGRF **10** 21:27:41.0, 25°17S×179°55W, h33km, South of Fiji Islands*
*BJI **10** 21:28:40.2, 23°90S×179°80E, h526km, mB4.9/4, mb4.5/16*
*IDC **10** 21:28:40.9±1.3, 23°65S×179°95E, h521km±13km, mb3.8/18, mb1 4.0/20, mb1mx3.9/29, mbtmp4.6/20, Error ellipse: s-maj=15.5km s-min=10.4km az=152.0*
*ISCJB **10** 21:28:40.9±0.2, 23°73S±0°06×179°84E±0°05, h526km, mb4.4/57, Error ellipse: s-maj=8.3km s-min=5.1km az=149.1*
*NEIC **10** 21:28:41.5±0.7, 23°76S×179°84E, h528km±7km, mb4.6/33, Error ellipse: s-maj=10.8km s-min=6.3km az=151.0*
*MOS **10** 21:28:47.5±2.9, 22°78S×179°52E, h559km, mb4.7/15, Error ellipse: s-maj=13.8km s-min=11.4km az=148.0*
ISC 10 21:28:41.0±0.4, 23°82S±0°06×179°98E±0°07, h526km, n231, σ1°07/273, mb4.5/56, 32C-12D, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSVF Nonsavu 6.32 343 eP P 21 30 21.1 -0.6
MSVF Nonsavu 6.32 343 eP P 21 30 21.1 -0.6
DZM Mont Dzumac 12.60 275 P P 21 31 24.9 -1.0
1.7nm,0.3s,baz=78,slow=16,SNR=12
URZ Urewera 14.60 189 P P 21 31 46.4 0.0
2.8nm,0.3s,baz=282,slow=1.7,SNR=19
URZ S S 21 34 19.9 +0.5
4.6nm,0.3s,baz=59,slow=23,SNR=21
URZ Urewera 14.60 189 eP P 21 31 46.0 -0.4
URZ eS S 21 34 16.6 -2.9
RPZ Rata Peaks 21.16 198 eP P 21 32 48.5 0.0
EIDS Eidsvold 26.31 261 P P 21 33 35.9 +1.3
baz=27,SNR=4.5
RMQ Roma 28.36 258 P P 21 33 55.0 +2.4
baz=29,SNR=4.8
CMSA Cobar Meteorol 31.23 248 P P 21 34 19.1 +1.7
baz=32,SNR=7.4
CTA Charters Tower 31.46 270 P P 21 34 20.6 +1.1
24nm,0.4s,baz=95,slow=11,SNR=12
CTAO Charters Tower 31.46 270 eP P 21 34 20.4 +0.9
CTAO pmax pmax
comp=Z,34nm,0.5s
CTAO Charters Tower 31.46 270 eP P 21 34 20.4 +0.9
comp=Z,34nm,0.5s
QLP Quilpie 32.40 258 P P 21 34 28.5 +1.1
baz=33,SNR=5.4
MTSU Mount Surprise 33.72 273 P P 21 34 39.7 +1.0
baz=34,SNR=20
PMG Port Moresby 34.45 289 ⇓iP P 21 34 44.7 -0.2
PMG pmax pmax
comp=Z,23nm,0.8s
PMG Port Moresby 34.45 289 eP P 21 34 44.4 -0.4
comp=Z,20nm,0.6s
PMG Port Moresby 34.45 289 P P 21 34 43.6 -1.3
baz=35,SNR=3.7
STKA Stephens Creek 34.74 248 eP P 21 34 47.5 +0.4
STKA Stephens Creek 34.74 248 P P 21 34 48.1 +1.0
comp=Z,2.0nm,0.6s,baz=93,slow=10.0,SNR=8.7
STKA Stephens Creek 34.74 248 eP P 21 34 47.5 +0.4
comp=Z,0.3nm,0.5s
STKA Stephens Creek 34.74 248 P P 21 34 48.4 +1.3
baz=35,SNR=8.0
COEN Coen 36.09 279 P P 21 34 59.3 +0.8
baz=37,SNR=5.2
HTT Hallett 37.09 246 P P 21 35 07.7 +1.1
baz=38,SNR=3.3
AS31 Alice Springs 42.03 261 eP P 21 35 45.3 -1.2
ASAR Alice Springs 42.03 261 P P 21 35 46.8 +0.3
comp=Z,6.9nm,0.8s,baz=95,slow=7.9,SNR=55
ASAR PcP PcP 21 37 27.6 -1.7
comp=Z,1.8nm,0.9s,baz=106,slow=4.2,SNR=6.4
ASAR ScP ScP 21 40 32.0 +2.3
comp=Z,5.4nm,0.8s,baz=111,slow=4.3,SNR=24
ASAR S S 21 41 26.3 -1.3
comp=Z,0.9nm,0.6s,baz=98,slow=15,SNR=7.6
WRAB Tennant Creek 42.39 266 d iP P 21 35 48.6 -0.7
WRAB pmax pmax
comp=Z,30nm,1.1s
WRAB Tennant Creek 42.39 266 eP P 21 35 48.7 -0.6
comp=Z,8.3nm,0.8s
WRA Warramunga Arr 42.40 266 P P 21 35 48.9 -0.5
comp=Z,8.6nm,0.5s,baz=103,slow=8.3,SNR=89
WRA PcP PcP 21 37 30.1 -0.4
comp=Z,2.0nm,1.0s,baz=86,slow=3.5,SNR=4.5
WRA ScP ScP 21 40 33.6 +2.4
comp=Z,4.1nm,0.9s,baz=95,slow=4.1,SNR=16
WRA S S 21 41 29.6 -3.3
comp=Z,2.9nm,1.0s,baz=102,slow=14,SNR=11
WRA PKiKP PKiKP 21 44 32.2 -1.6
comp=Z,0.2nm,0.5s,baz=71,slow=0.7,SNR=4.8
KDU Kakadu 46.27 275 P P 21 36 18.8 -0.5
baz=47,SNR=3.4
WRKA Warakurna 46.84 257 P P 21 36 23.7 +0.2
baz=48,SNR=9.1
WRKA S S 21 42 34.0 -1.6
baz=48,SNR=5.3
MTN Manton Dam 47.43 274 P P 21 36 27.4 -0.7
baz=48,SNR=4.2
MTN S S 21 42 16.0 -28
baz=48,SNR=4.4
KNRA Kununurra 48.67 270 P P 21 36 37.3 0.0
baz=49,SNR=4.9
MORW Morawa 56.89 250 P P 21 37 36.2 +0.3
baz=58,SNR=3.1
QSPA South Pole Qui 66.26 180 P P 21 38 38.6 +2.0
comp=Z,3.9nm,0.7s,baz=42,slow=2.8,SNR=14
MJAR Matsushiro Arr 71.83 326 P P 21 39 09.2 -1.1
comp=Z,2.1nm,0.6s,baz=161,slow=5.2,SNR=8.1
MAJO Matsushiro 71.83 326 ⇓eP P 21 39 09.6 -0.8
MAJO pmax pmax
comp=Z,176nm,1.8s
KSRS Korea Array 78.18 320 P P 21 39 46.5 +0.6
comp=Z,2.4nm,0.8s,baz=129,slow=6.0,SNR=4.5
KSAR Wonju Array Be 78.19 320 P P 21 39 46.5 +0.6
KSAR Wonju Array Be 78.19 320 P P 21 39 46.5 +0.6
PETK Petropavlovsk- 79.02 347 P P 21 39 48.8 -1.2
comp=Z,5.2nm,0.7s,baz=126,slow=7.3,SNR=7.7
NJ2 Nanjing 80.60 311 eP P 21 39 59.6 +0.8
NJ2 pmax pmax
comp=Z,20nm,1.1s
USRK Ussuriysk Arra 80.69 327 P P 21 39 58.8 -0.1
comp=Z,1.3nm,0.5s,baz=156,slow=5.5,SNR=5.2
ISA Isabella 82.98 46 eP P 21 40 10.9 -0.1
ISA pmax pmax
comp=Z,8.0nm,0.8s
ISA Isabella 82.98 46 eP P 21 40 10.9 -0.1
comp=Z,8.4nm,0.8s
CMB Columbia Colle 83.16 43 eP P 21 40 12.5 +0.8
CMB pmax pmax
comp=Z,10.0nm,0.9s
CMB Columbia Colle 83.16 43 eP P 21 40 12.5 +0.8
comp=Z,9.8nm,0.9s
WDC Whiskeytown Da 83.41 40 eP P 21 40 14.1 +1.2
WDC pmax pmax
comp=Z,8.0nm,1.0s
WDC Whiskeytown Da 83.41 40 eP P 21 40 14.1 +1.2
comp=Z,7.6nm,1.0s
GSC Goldstone 83.88 47 eP P 21 40 16.5 +1.0
GSC pmax pmax
comp=Z,12nm,1.1s
GSC Goldstone 83.88 47 eP P 21 40 16.5 +1.0
comp=Z,12nm,1.1s
GLA Glamis 83.99 50 eP P 21 40 17.7 +1.7
GLA pmax pmax
comp=Z,15nm,0.8s
GLA Glamis 83.99 50 eP P 21 40 17.7 +1.7
comp=Z,15nm,0.8s
WAKR Walker 84.03 43 eP P 21 40 16.9 +0.6
YBH Yreka Blue Hor 84.03 39 P P 21 40 15.4 -0.7
comp=Z,2.8nm,0.8s,baz=127,slow=5.1,SNR=4.0
NVAR Mina Array Bea 84.71 44 P P 21 40 19.8 +0.2
comp=Z,3.9nm,1.0s,baz=226,slow=7.7,SNR=17
SNAA Sanae 84.74 179 P P 21 40 19.7 +0.5
VNA3 Neumayer Olymp 84.95 177 P P 21 40 20.7 +0.6
TPH Tonopah 85.19 45 eP P 21 40 22.7 +0.7
TPH pmax pmax
comp=Z,5.0nm,0.8s
TPH Tonopah 85.19 45 eP P 21 40 22.6 +0.7
comp=Z,5.4nm,0.8s
VNA2 Neumayer--Watz 85.37 178 P P 21 40 23.0 +0.9
baz=17,slow=2.7
MOD Modoc 85.55 40 eP P 21 40 24.4 +0.8
comp=Z,10nm,1.2s
TUC Tucson 86.48 52 eP P 21 40 30.1 +1.9
TUC pmax pmax
comp=Z,12nm,1.0s
TUC Tucson 86.48 52 eP P 21 40 30.1 +1.9
comp=Z,12nm,1.0s
BMN Battle Mountai 86.55 43 eP P 21 40 28.3 -0.1
BMN pmax pmax
comp=Z,8.0nm,1.0s
BMN Battle Mountai 86.55 43 eP P 21 40 28.3 -0.1
comp=Z,7.6nm,1.0s
GYA Guiyang 86.69 301 eP P 21 40 29.4 +0.1
GYA pP pP 21 42 25.6 +0.9
GYA sP sP 21 43 18.0 0.0
GYA PP PP 21 44 02.9 +1.4
GYA SKS SKSac 21 50 04.7 -1.5
GYA S S 21 50 21.6 -1.3
GYA pmax pmax
comp=Z,10.0nm,1.0s
WVOR Wild Horse Val 86.86 41 eP P 21 40 30.7 +1.0
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 86.86 41 eP P 21 40 30.7 +1.0
comp=Z,6.0nm,0.9s
BJI Beijing 86.97 316 P P 21 40 31.4 +1.3
BJI pmax pmax
comp=Z,7.0nm,0.6s
I07A Izee 87.34 39 eP P 21 40 33.0 +1.1
comp=Z,11nm,0.9s
CCUT Cedar City 87.44 47 eP P 21 40 34.0 +1.3
comp=Z,76nm,2.5s
WUAZ Wupatki 87.72 49 eP P 21 40 35.7 +1.7
comp=Z,8.1nm,1.3s
D05A Enumclaw 87.88 35 eP P 21 40 35.7 +1.5
comp=Z,37nm,1.2s
ELK Elko 87.97 43 eP P 21 40 35.9 +0.8
ELK pmax pmax
comp=Z,3.0nm,0.9s

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res
ELK	Elko	87.97	43	P	P	21 40 35.1	0.0
	comp=Z,2.2nm,0.8s,baz=204,slow=3.2,SNR=10						
ELK	Elko	87.97	43	eP	P	21 40 35.9	+0.8
	comp=Z,2.8nm,0.9s						
G08A	Pilot Rock	88.37	38	eP	P	21 40 37.4	+0.6
	comp=Z,12nm,1.0s						
E07A	Sunnyside	88.64	37	eP	P	21 40 38.8	+1.0
	comp=Z,9.7nm,0.8s						
MVU	Marysvale	88.71	47	eP	P	21 40 40.1	+1.5
	comp=Z,50nm,2.5s						
MFID	Camas Ranch	89.11	41	eP	P	21 40 41.1	+0.8
	comp=Z,10nm,0.9s						
SEY	Seymchan	89.19	348	iP	P	21 40 40.0	+0.1
CMAR	Chiang Mai Arr	89.49	290	P	P	21 40 44.0	+1.7
	comp=Z,2.0nm,0.9s,baz=141,slow=3.7,SNR=10						
TNA	Tin City	89.58	5	eP	P	21 40 41.5	-0.1
	comp=Z,6.3nm,1.0s						
F10A	Beach Ranch, E	89.76	38	eP	P	21 40 42.9	-0.2
	comp=Z,74nm,2.3s						
TMUT	Trail Mountain	89.80	46	eP	P	21 40 45.2	+1.5
	comp=Z,16nm,0.8s						
MPU	Maple Canyon	89.89	46	eP	P	21 40 45.5	+1.5
	comp=Z,7.2nm,0.9s						
HLID	Hailey	90.05	41	eP	P	21 40 45.3	+0.6
	comp=Z,3.5nm,0.8s						
HVU	Hansel Valley	90.09	44	eP	P	21 40 45.7	+0.9
HVU				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HVU	Hansel Valley	90.09	44	eP	P	21 40 45.7	+0.9
	comp=Z,9.4nm,0.7s						
SRU	San Rafael	90.16	47	eP	P	21 40 46.1	+0.8
SRU				pmax	pmax		
	comp=Z,12nm,0.8s						
SRU	San Rafael	90.16	47	eP	P	21 40 46.1	+0.8
	comp=Z,12nm,0.8s						
JLU	Jordanelle	90.32	45	eP	P	21 40 46.9	+0.9
	comp=Z,32nm,2.0s						
HHC	Hu-ho-hao-te	90.35	315	eP	P	21 40 46.1	+0.1
HHC				PP	PP	21 44 33.0	+2.9
HHC				S	S	21 50 53.6	-2.2
HHC				sS	sS	21 54 25.7	+2.0
HHC				SS	SS	21 57 15.0	+2.5
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
TXAR	Lajitas Array	90.40	58	P	P	21 40 47.5	+1.0
	comp=Z,3.1nm,0.7s,baz=217,slow=6.5,SNR=41						
TCUT	Toone Canyon	90.61	45	eP	P	21 40 47.7	+0.3
	comp=Z,15nm,0.7s						
ANMO	Albuquerque	90.92	52	⇑iP	P	21 40 49.2	+0.3
ANMO				pmax	pmax		
	comp=Z,21nm,1.1s						
ANMO	Albuquerque	90.92	52	P	P	21 40 49.4	+0.5
	comp=Z,2.9nm,0.9s,baz=221,slow=6.9,SNR=5.0						
ANMO	Albuquerque	90.92	52	eP	P	21 40 49.7	+0.8
	comp=Z,74nm,3.0s						
CD2	Chengdu	91.03	303	eP	P	21 40 49.1	-0.2
CD2				pP	pP	21 42 46.3	+0.6
CD2				sP	sP	21 43 38.2	-0.5
CD2				PP	PP	21 44 37.6	+2.2
CD2				SKS	SKSac	21 50 30.3	-0.7
CD2				sS	sS	21 54 27.8	-2.6
CD2				SS	SS	21 57 24.0	+1.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.6s						
AHID	Auburn Hatcher	91.67	43	eP	P	21 40 53.5	+1.3
	comp=Z,19nm,1.6s						
COLA	College	91.84	13	⇑eP	P	21 40 52.1	0.0
COLA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ILAR	Eielson Array	91.96	14	P	P	21 40 50.9	-1.8
	comp=Z,0.7nm,0.5s,baz=226,slow=5.8,SNR=14						
BILL	Bilibino	92.15	355	c iP	P	21 40 53.0	-0.5
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PDAR	Pinedale Array	92.64	44	P	P	21 40 56.5	-0.2
	comp=Z,2.1nm,0.7s,baz=211,slow=4.0,SNR=16						
LZH	Lanzhou	93.32	308	eP	P	21 41 01.8	+2.0
LZH				pP	pP	21 42 59.0	+2.6
LZH				sP	sP	21 43 51.0	+1.7
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
INK	Inuvik	97.96	16	P	Pdif	21 41 18.6	-1.2
	comp=Z,1.3nm,0.8s,baz=290,slow=11,SNR=4.1						
YKA	Yellowknife Ar	100.30	25	P	Pdif	21 41 29.9	-0.4
	comp=Z,0.1nm,0.6s,baz=238,slow=4.5,SNR=3.3						
USIN	University of	106.00	55	ePP	PP	21 46 37.0	+9.2
BLO	Bloomington	107.22	54	ePP	PP	21 46 39.3	+2.7
MKAR	Makanchi Array	112.09	313	PKiKP	PKiKP	21 46 15.3	-1.1
	comp=Z,0.7nm,0.6s,baz=207,slow=1.1,SNR=12						
MKAR				PKKPbc	PKKPbc	21 57 10.9	+0.7
	comp=Z,0.2nm,0.7s,baz=277,slow=4.1,SNR=4.0						
KSH	Kashi	115.22	304	ePKP	PKPdf	21 46 21.3	-1.5
KSH				ePKS	PKSdf	21 49 57.0	-2.5
KSH				eSKS	SKSdf	21 52 42.8	-2.2
KSH				eSKKS	SKKSac	21 53 34.8	-4.5
KSH				eSS	SS	22 02 52.9	+1.9
FRNY	Flat Rock	117.81	50	ePKPdf	PKPdf	21 46 34.0	+6.6
KBL	Kabul	119.79	297	ePKIKP	PKPdf	21 46 32.0	+0.2
KBL	Kabul	119.79	297	ePKPdf	PKPdf	21 46 32.0	+0.2
KKAR	Karatay Array	119.81	307	ePKIKP	PKPdf	21 46 30.7	-0.6
KKAR	Karatay Array	119.81	307	ePKPdf	PKPdf	21 46 30.7	-0.6
BVAR	Borovoye Array	120.37	319	PKP	PKPdf	21 46 30.8	-1.3
	comp=Z,2.9nm,0.4s,baz=127,slow=2.3,SNR=30						
BRVK	Borovoye	120.44	319	⇓iPKIKP	PKPdf	21 46 31.6	-0.6
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
FRB	Frobisher Bay	120.58	29	PKP	PKPdf	21 46 30.4	-1.7
	comp=Z,3.4nm,0.4s,baz=336,slow=1.8,SNR=6.9						
ARU	Arti	126.81	324	iPKIKP	PKPdf	21 46 44.0	-0.4
ARU						21 48 47.5	
ARU						21 52 58.3	
ARU				SS	SS	22 05 13.0	-2.9
ARU	Arti	126.81	324	ePKPdf	PKPdf	21 46 43.9	-0.4
ABKAR	Akbulak array	127.14	315	ePKPdf	PKPdf	21 46 45.1	0.0
AKTO	Aktyubinsk	128.23	316	PKP	PKPdf	21 46 46.9	-0.4
	comp=Z,2.8nm,0.7s,baz=68,slow=2.6,SNR=8.7						
ARCES	ARCESS Array B	131.81	348	PKhKP	PKPpre	21 46 42.9	
	comp=Z,2.6nm,0.9s,baz=67,slow=4.1,SNR=4.5						
ARCES				PKP	PKPdf	21 46 52.7	-0.7
	comp=Z,3.0nm,0.5s,baz=78,slow=1.7,SNR=17						
LSZ	Lusaka	132.36	218	PKP	PKPdf	21 46 56.7	+0.4
	comp=Z,1.6nm,0.4s,baz=24,slow=9.8,SNR=7.5						
JOF	Joensuu	135.66	340	ep	PKPpre	21 46 54.7	
	comp=Z,2.6nm,0.6s						
KMBO	Kilima Mbogo	136.12	241	SKPbc	SKPbc	21 49 47.2	+1.0
	comp=Z,1.1nm,0.8s,baz=19,slow=0.4,SNR=4.5						
KAF	Kangasniemi	137.77	342	ePKHKP	PKPpre	21 46 54.2	
KAF	Kangasniemi	137.77	342	ep	PKPpre	21 46 54.2	
FINES	FINESS Array B	138.37	341	PKhKP	PKPpre	21 46 55.4	
	comp=Z,0.6nm,0.4s,baz=90,slow=1.9,SNR=8.0						
FINES				PKP	PKPdf	21 47 05.7	-0.2
	comp=Z,1.7nm,0.5s,baz=42,slow=2.0,SNR=9.1						
FINES				SKPbc	SKPbc	21 49 50.0	-0.8
	comp=Z,2.9nm,0.9s,baz=33,slow=7.3,SNR=4.4						
ONI	Oni	139.61	308	P	Pdif	21 44 30.6	+4.9
NB2	NORSAR Subarra	142.00	351	PKP	PKPpre	21 47 07.2	
	comp=Z,3.0nm,0.7s,baz=13,slow=3.2						
NOA	NORSAR Array B	142.00	351	PKhKP	PKPpre	21 47 07.8	
	comp=Z,3.2nm,0.7s,baz=16,slow=4.7,SNR=16						
KONO	Kongsberg	143.56	352	ePKPdf	PKPab	21 47 13.2	-0.6
AKASG	Malin Array Be	144.90	327	PKP	PKPdf	21 47 17.2	-0.5
	comp=Z,10nm,0.6s,baz=43,slow=3.9,SNR=73						
AKASG				SKPbc	SKPbc	21 50 07.5	0.0
	comp=Z,0.7nm,0.6s,baz=53,slow=2.2,SNR=4.6						
AKBB	Malin Array Si	144.90	327	ePKIKP	PKPdf	21 47 17.3	-0.5
AKBB	Malin Array Si	144.90	327	ePKPdf	PKPdf	21 47 17.3	-0.5
AK01	Malin Array Si	144.91	327	ePKPdf	PKPdf	21 47 17.1	-0.7
AK02	Malin Array Si	144.94	327	ePKPdf	PKPdf	21 47 17.2	-0.6
SUW	Suwalki	145.19	336	ePKIKP	PKPdf	21 47 17.7	-0.5
SUW	Suwalki	145.19	336	ePKP	PKPdf	21 47 18.4	+0.2
SUW	Suwalki	145.19	336	ePKPdf	PKPdf	21 47 17.7	-0.5
KAC	Achnashellach	146.14	5	eP	PKPbc	21 47 21.1	-0.7
MCD	Coleburn Disti	146.19	3	eP	PKPbc	21 47 21.2	-0.7
KPL	Plockton	146.27	6	eP	PKPbc	21 47 21.6	-0.4
ASF	Jabal al Asfar	146.49	293	PKPbc	PKPbc	21 47 24.2	+0.5
	comp=Z,3.7nm,0.8s,baz=46,slow=1.7,SNR=6.4						
EAB	Aberfoyle	147.51	5	eP	PKPbc	21 47 24.8	-0.7
BR131	Keskin Array S	147.52	307	ePKPbc	PKPbc	21 47 25.4	-0.8
BRTR	Keskin Array B	147.52	307	PKPbc	PKPbc	21 47 25.6	-0.6
	comp=Z,2.7nm,0.7s,baz=144,slow=5.3,SNR=11						
MMAI	Mount Meron Ar	147.66	294	PKPbc	PKPbc	21 47 27.6	+0.9
	comp=Z,11nm,0.5s,baz=74,slow=7.0,SNR=38						
BEL	Belsk	147.79	336	ePKIKP	PKPbc	21 47 26.5	+0.2
BEL	Belsk	147.79	336	ePKP	PKPbc	21 47 26.5	+0.2
GKP	Gorka Klasztor	147.82	340	ePKIKP	PKPbc	21 47 26.1	-0.2
GKP	Gorka Klasztor	147.82	340	ePKP	PKPbc	21 47 26.1	-0.2
PGBU	Gleniffferbraes	147.88	5	eP	PKPbc	21 47 25.4	-1.0
LVV	L'vov	147.96	330	ePKIKP	PKPbc	21 47 25.8	-1.0
LEOM	Leova	147.97	322	⇑PKIKP	PKPbc	21 47 26.6	-0.3
LEOM	Leova	147.97	322	⇑iP	PKPbc	21 47 26.6	-0.3
EBL	Broad Law	148.01	3	eP	PKPbc	21 47 26.1	-0.6
EIL	Elat	148.32	288	PKPbc	PKPbc	21 47 28.7	+0.4
	comp=Z,6.5nm,0.7s,baz=330,slow=5.8,SNR=8.2						
TLCR		148.36	319	⇓PKIKP	PKPbc	21 47 27.9	0.0
TLCR		148.36	319	⇓iP	PKPbc	21 47 27.9	0.0
ECK	Cauldkaine Hil	148.59	3	eP	PKPbc	21 47 27.3	-0.9
GHRR		148.68	322	⇑iP	PKPbc	21 47 29.5	+0.8
KWP	Kalwaria Pacla	148.69	331	⇑PKIKP	PKPbc	21 47 28.6	-0.1
KWP	Kalwaria Pacla	148.69	331	ePKP	PKPbc	21 47 28.7	0.0
KWP	Kalwaria Pacla	148.69	331	⇑iP	PKPbc	21 47 28.6	-0.1
CFR	Carcaliu	148.76	320	⇑PKIKP	PKPbc	21 47 29.3	+0.4
CFR	Carcaliu	148.76	320	⇑iP	PKPbc	21 47 29.3	+0.4
GAL1	Galloway	148.80	5	eP	PKPbc	21 47 27.8	-0.9
TESR	Tescani	148.84	323	⇑iP	PKPbc	21 47 28.5	-0.6
BUR08	Bucovina Ar. S	148.89	326	ePKPbc	PKPbc	21 47 29.3	0.0
BURAR	Bucovina Array	148.90	326	⇑PKP2	PKPbc	21 47 30.4	+1.0
BURAR	Bucovina Array	148.90	326	⇑iP	PKPbc	21 47 30.4	+1.0
BSEG	Bad Segeberg	148.94	348	ePKPbc	PKPbc	21 47 29.4	+0.3
BSEG				ePKPab	PKPab	21 47 35.1	-0.1
TLB	Topalu	149.14	319	⇓iP	PKPbc	21 47 30.0	+0.1
KOLS	Kolonicke sedl	149.40	331	ePKP	PKPbc	21 47 30.7	+0.3
OJC	Ojcow	149.46	335	iPKHKP	PKPbc	21 47 30.3	-0.2
OJC	Ojcow	149.46	335	iPKP	PKPbc	21 47 30.3	-0.2
STHS	Stebnicka Huta	149.49	332	ePKP	PKPbc	21 47 31.1	+0.5
RUE	Ruedersdorf	149.51	343	ePKPbc	PKPbc	21 47 30.9	+0.4
UZH	Uzhgorod	149.61	330	⇑iPKHKP	PKPbc	21 47 30.6	-0.3
UZH				e		21 47 38.8	
CRVS	Cervenica-Dubn	149.78	331	ePKP	PKPbc	21 47 31.4	+0.1
TRPA	Tarpa	149.86	329	⇓iP	PKPbc	21 47 31.4	-0.1
DOPR	Dopca	149.86	323	⇑iP	PKPbc	21 47 31.8	+0.2
NIE	Niedzica	149.88	333	iPKP	PKPbc	21 47 32.0	+0.4
SECR		150.05	321	⇓iP	PKPbc	21 47 32.1	0.0
KSP	Ksiaz	150.21	339	ePKHKP	PKPbc	21 47 32.4	+0.2
KSP	Ksiaz	150.21	339	ePKP	PKPbc	21 47 32.5	+0.2
CJR	Cluj-Napoca	150.32	326	⇑iP	PKPbc	21 47 32.9	+0.2
VOIR		150.38	323	⇑iP	PKPbc	21 47 32.9	0.0
OKC	Ostrava-Krasne	150.40	336	⇑ePKP	PKPbc	21 47 32.6	-0.1
OKC				ePKPAB	PKPab	21 47 41.4	-0.1
ISP	Isparta	150.45	305	⇑iP	PKPbc	21 47 32.3	-1.1
KECS	Kecovo	150.52	332	ePKP	PKPbc	21 47 32.6	-0.4
KECS				e		21 47 41.7	
KBI1	Birley Grange	150.59	2	eP	PKPbc	21 47 32.2	-0.9
UPC	Upice	150.59	339	⇑ePKP	PKPbc	21 47 33.3	+0.2
DPC	Dobruska-Polom	150.62	338	ePKPDF	PKPdf	21 47 27.5	+0.3
DPC				⇑ePKP	PKPbc	21 47 33.4	+0.1
DPC				ePKPAB	PKPab	21 47 42.0	-0.5
DPC	Dobruska-Polom	150.62	338	ePKPdf	PKPbc	21 47 33.4	+0.1
ARR	Arges	150.65	323	⇑iP	PKPbc	21 47 34.3	+0.8
MORC	Moravsky Berou	150.67	336	⇑iP	PKPbc	21 47 33.3	-0.1
KRLC	Kraliky	150.70	338	ePKPDF	PKPdf	21 47 28.4	+1.1
KRLC				⇑ePKP	PKPbc	21 47 33.2	-0.2
KRLC				ePKPAB	PKPab	21 47 40.9	-1.9
DRGR		150.72	327	⇓iP	PKPbc	21 47 33.3	-0.3
CLL	Collm	150.78	343	iPKHKP	PKPbc	21 47 33.3	-0.2
CLL				i		21 47 42.5	
CLL				pmax	pmax		
	comp=Z,22nm,0.8s						
CLL				pmax	pmax		
	comp=Z,715nm,0.8s						
CLL	Collm	150.78	343	ePKPbc	PKPbc	21 47 33.5	0.0
CLL				ePKPab	PKPab	21 47 42.8	-0.2
CLL	Collm	150.78	343	⇑iPKPbc	PKPbc	21 47 33.3	-0.2
	comp=Z,22nm,0.8s						
CLL				⇓iPKPab	PKPab	21 47 42.5	-0.5
	comp=Z,7.0nm,0.8s						
FOEL	Foel Wylfa	150.88	4	eP	PKPbc	21 47 33.1	-0.6
BRG	Berggiesshubel	150.91	342	iPKP	PKPbc	21 47 33.8	0.0
	comp=Z,18nm,0.5s						
BRG				e		21 47 43.0	
	comp=Z,4.8nm,0.7s						
BRG				epPKP	pPKPdf	21 49 42.6	+11
	comp=Z,3.9nm,0.9s						
BRG	Berggiesshubel	150.91	342	ePKPbc	PKPbc	21 47 33.9	0.0
BRG				ePKPab	PKPab	21 47 43.5	-0.1
CLZ	Clausthal	150.91	347	ePKPbc	PKPbc	21 47 34.0	+0.1
NEUB	Neuenburg	151.18	345	ePKPbc	PKPbc	21 47 34.7	+0.3
NEUB				ePKPab	PKPab	21 47 44.7	0.0
VYHS	Vyhne	151.21	333	ePKP	PKPbc	21 47 34.3	-0.3
VYHS				e		21 47 45.0	
PRA	Prague	151.47	340	⇑PKP	PKPbc	21 47 35.0	-0.1
PRA				PKPAB	PKPab	21 47 46.0	0.0
PRU	Pruhonice	151.51	340	⇑ePKP	PKPbc	21 47 34.9	-0.3
PRU				ePKPAB	PKPab	21 47 46.2	+0.1
TANN	Tannenbergstha	151.73	343	ePKPbc	PKPbc	21 47 35.1	-0.7
MOX	Moxa	151.74	344	ePKPbc	PKPbc	21 47 35.0	-0.7
MOX				ePKPab	PKPab	21 47 47.0	-0.1
SMOL	Smolenice	151.75	335	ePKP	PKPbc	21 47 36.6	+0.8
SMOL				e		21 47 47.9	
TREC	Trest	151.81	338	⇑ePKP	PKPbc	21 47 35.4	-0.5
UBBA	Unterbreizbach	151.95	346	ePKPbc	PKPbc	21 47 35.6	-0.4
BZS	Buzias	152.08	326	⇓iP	PKPbc	21 47 36.3	-0.3
MANZ	Manzenberg	152.22	343	ePKPbc	PKPbc	21 47 36.7	-0.1
KHC	Kasperske Hory	152.56	340	ePKIKP	PKPdf	21 47 26.5	-3.6
KHC				e		21 47 37.2	
KHC	Kasperske Hory	152.56	340	ePKPDF	PKPdf	21 47 29.6	-0.5
KHC				⇑ePKP	PKPbc	21 47 37.4	-0.2
KHC				ePKPAB	PKPab	21 47 50.4	-0.3
WET	Wettzell	152.76	341	ePKPab	PKPab	21 47 52.0	+0.5
GEC2	GERESS Array S	152.78	340	ePKPbc	PKPbc	21 47 37.9	-0.3
GERES	GERESS Array B	152.78	340	PKPbc	PKPbc	21 47 37.7	-0.5
	comp=Z,2.5nm,0.8s,baz=50,slow=1.9,SNR=13						
GERES				PKPab	PKPab	21 47 51.5	-0.2
	comp=Z,0.6nm,0.6s,baz=46,slow=3.9,SNR=4.8						
CONA	Conrad Observa	152.83	336	⇑iPKPbc	PKPbc	21 47 38.1	-0.2
	comp=Z,4.1nm,0.7s						
CONA				⇑iPKPab	PKPab	21 47 52.1	+0.1
	comp=Z,6.2nm,0.7s						
PKSM	Moragy	153.07	331	⇑iP	PKPbc	21 47 38.3	-0.4
FUR	Furstenfeldbru	154.10	343	ePKPab	PKPab	21 47 57.2	-0.1
BFO	Black Forest	154.66	347	ePKPab	PKPab	21 47 58.3	-1.3
ESDC	Sonseca Array	163.85	11	PKPab	PKPab	21 48 39.5	-0.5
	comp=Z,1.8nm,0.8s,baz=341,slow=4.7,SNR=6.9						
TORD	Torodi Ar. Bea	169.26	189	PKP	PKPdf	21 47 48.3	-0.3
	comp=Z,2.4nm,1.0s,baz=19,slow=1.3,SNR=5.7						
TORD				PKPab	PKPab	21 49 04.6	+0.3
	comp=Z,1.7nm,0.8s,baz=168,slow=4.6,SNR=9.5						

IDC 10 21:30:10.6±3.1, 4.°85S×147.°78E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=91.3km s-min=43.8km az=99.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.91	220	P	P	21 34 42.8	-1.2
	0.4nm,0.3s,baz=47,slow=12,SNR=30						
ASAR	Alice Springs	23.00	214	P	P	21 35 16.7	-0.5
	0.9nm,0.6s,baz=50,slow=7.9,SNR=15						
STKA	Stephens Creek	27.51	191	P	P	21 36 00.2	+1.4
	0.8nm,0.5s,baz=11,slow=10,SNR=3.3						
TORD	Torodi Ar. Bea	145.54	286	PKPbc	PKPdf	21 49 51.1	-0.8
	0.2nm,0.5s,baz=65,slow=2.3,SNR=3.0						

MAN 10 21:32:22, 9.°94N×125.°07E, h27km, mb4.3, ML3.1, MS2.9, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MSLP	Maasin	0.29	313	eP	Pn	21 32 29.9	-0.5
MSLP				eS	Sn	21 32 35.2	-0.7
SCPH	Surigao	0.44	110	⇑eP	Pn	21 32 33.0	+0.5
SCPH				eS	Sn	21 32 40.8	+1.1
LLP	Lapu-Lapu	1.15	289	⇑iP	Pn	21 32 42.6	+0.2
LLP				iS	Sn	21 32 57.2	-0.1
OCLP	Ormoc	1.20	338	eP	Pb	21 32 44.6	+0.5
OCLP				eS	Sb	21 33 01.8	+2.6
TBP	Tagbilaran	1.22	259	eP	Pb	21 32 44.3	-0.1
TBP				eS	Sb	21 32 59.4	-0.4
PLP	Palo	1.23	356	⇓eP	Pb	21 32 44.1	-0.4
PLP				eS	Sb	21 32 59.9	-0.1
CGP	Cagayan de Oro	1.52	194	eP	Pn	21 32 47.7	+0.3
BUKP	Musuan	2.04	180	eP	Pb	21 32 56.9	-1.7

OMAN 10 21:36:32.9±99.0, 13.°09N×58.°06E, h0km±999km, Error ellipse: s-maj=145.3km s-min=7.9km az=340.0
IDC 10 21:36:48.0±0.6, 14.°05N×57.°75E, h0km, mb4.3/22, mb1 4.4/22, mb1mx4.2/46, mbtmp4.3/22, MS3.5/5, Ms1 3.5/5, ms1mx3.1/43, Error ellipse: s-maj=15.5km s-min=13.5km az=166.0
CSEM 10 21:36:48.6±0.3, 14.°11N×57.°62E, h2km, mb4.5/18, Error ellipse: s-maj=11.0km s-min=8.7km az=19.0
ISCJB 10 21:36:48.4±0.4, 14.°21N±0.°05×57.°57E±0.°04, h10km, mb4.3/39, MS3.6/7, Error ellipse: s-maj=7.4km s-min=5.3km az=24.8
NEIC 10 21:36:49.3±0.3, 13.°99N×57.°69E, h10km, mb4.6/14, Error ellipse: s-maj=8.2km s-min=6.3km az=181.0
MOS 10 21:36:51.4±1.2, 14.°04N×57.°70E, h33km, mb4.5/11, Error ellipse: s-maj=10.9km s-min=7.8km az=75.9
ISC 10 21:36:49.6±0.5, 14.°11N±0.°08×57.°60E±0.°06, h10km, n173, σ1°34/162, mb4.2/39, MS3.7/7, 7C-3D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RBK	Rabkut	4.69	316	P	Pn	21 37 59.1	-1.5
	SNR=40						
RBK	Rabkut	4.69	316	P	Pn	21 37 59.1	-1.5
	SNR=40						
ABTO	Aybut	5.25	308	P	Pn	21 38 07.3	-0.9
	SNR=14						
ABTO	Aybut	5.25	308	P	Pn	21 38 07.3	-0.9
	SNR=14						
JMDO	Jabal Madar	8.23	3	⇑P	Pn	21 38 48.1	-1.0
	SNR=40						
JMDO	Jabal Madar	8.23	3	P	Pn	21 38 48.1	-1.0
	SNR=40						
SMDO	Samad	8.91	3	P	Pn	21 38 57.4	-1.1
	SNR=16						
SMDO	Samad	8.91	3	P	Pn	21 38 57.4	-1.1
	SNR=16						
HOQ	Hoqain	9.42	358	⇓P	Pn	21 39 04.7	-0.8
	SNR=14						
HOQ	Hoqain	9.42	358	P	Pn	21 39 04.7	-0.8
	SNR=14						
ASHO	Ashiyiah	10.62	352	⇑P	Pn	21 39 20.1	-1.8
	SNR=8.5						
ASHO	Ashiyiah	10.62	352	P	Pn	21 39 20.1	-1.8
	SNR=8.5						
BANOM	Banah	11.81	354	⇑P	Pn	21 39 38.9	+0.7
BANOM	Banah	11.81	354	P	Pn	21 39 38.9	+0.7
RAYN	Ar Rayn	14.78	311	ePn	Pn	21 40 16.4	-2.4
	44nm,0.7s						
RAYN	Ar Rayn	14.78	311	ePn	Pn	21 40 16.4	-2.4
	44nm,0.7s						
ISRV	Sarvestan	15.75	345	eP	Pn	21 40 28.2	-3.8
IMEH	Mehriz	17.41	351	eP	Pn	21 40 47.5	-5.4
IBAF	Bafgh	17.50	354	eP	Pn	21 40 51.3	-2.6
ISAD	Sadrabad	18.08	349	eP	Pn	21 40 59.1	-2.1
ICHK	Chekchek	18.28	351	eP	Pn	21 41 02.1	-1.6
IZEF	Zefreh	19.30	346	eP	P	21 41 13.3	-1.8
IPIR	Pirpir	19.47	343	eP	P	21 41 16.1	-0.9
IKLH	Kolahrood	19.89	345	eP	P	21 41 19.4	-2.0
QAM	Ghamsar	20.34	345	eP	P	21 41 26.1	-0.3
HYB	Hyderabad	20.43	78	eP	P	21 41 27.5	+0.2
HYB	Hyderabad	20.43	78	iP	P	21 41 27.5	+0.2
HYB	Hyderabad	20.43	78	eP	P	21 41 27.5	+0.2
HYB	Hyderabad	20.43	78	eP	P	21 41 27.5	+0.2
IVRN	Varamin	21.46	347	eP	P	21 41 38.4	+0.1
IANJ	Anjilo	21.52	352	eP	P	21 41 38.5	-0.6
ILAS	Lasjerd	21.59	350	eP	P	21 41 40.2	+0.3
IDMV	Damavand	21.95	348	eP	P	21 41 44.3	+0.5
IMOG	Moghan	21.96	4	eP	P	21 41 44.3	+0.4
IKOM	Komasi	21.96	337	eP	P	21 41 43.0	-0.8
IBZA	Bozab	22.10	338	eP	P	21 41 44.2	-1.2
ISRO	Mashad	22.17	4	eP	P	21 41 46.4	+0.4
IPAY	Payeh	22.28	3	eP	P	21 41 47.0	-0.2
IAKL	Akhelmad	22.42	2	eP	P	21 41 48.1	-0.7
IGHG	Ghaleghazi	22.47	336	eP	P	21 41 47.5	-1.8
IGLO	Ghaloghah	22.55	352	eP	P	21 41 49.8	-0.3
IKRD	Kardeh	22.58	2	eP	P	21 41 51.0	+0.5
KBL	Kabul	22.82	25	eP	P	21 41 54.4	+1.4
KBL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBL	Kabul	22.82	25	eP	P	21 41 54.4	+1.4
	comp=Z,3.7nm,0.8s						
KBL	Kabul	22.82	25	eP	P	21 41 54.4	+1.4
	comp=Z,3.7nm,0.8s						
ISFR	Sfrayin	22.85	1	eP	P	21 41 52.6	-0.8
IDHR	Dehrash	22.86	336	eP	P	21 41 52.3	-1.2
IGZV	Ghazvin	23.14	345	eP	P	21 42 00.9	+4.6
ISHV	Shirvan	23.33	0	eP	P	21 41 58.5	+0.3
H08N2	Diego Garcia H	24.27	146	T	T	22 07 08.2	
	baz=326,slow=76,SNR=70						
H08N3	Diego Garcia H	24.29	146	T	T	22 07 05.3	
	baz=326,slow=76,SNR=108						
H08N1	Diego Carcia H	24.30	146	T	T	22 07 07.1	
	baz=326,slow=76,SNR=80						
KMBO	Kilima Mbogo	25.21	235	c eP	P	21 42 18.7	+2.7
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KMBO	Kilima Mbogo	25.21	235	P	P	21 42 17.1	+1.1
	comp=Z,6.3nm,0.7s,baz=46,slow=12,SNR=15						
KMBO	Kilima Mbogo	25.21	235	eP	P	21 42 15.9	-0.1
KMBO	Kilima Mbogo	25.21	235	eP	P	21 42 15.9	-0.1
IHRS	Heris	25.86	341	eP	P	21 42 19.6	-2.2
EIL	Elat	26.02	310	P	P	21 42 25.8	+2.8
	comp=Z,2.3nm,0.8s,baz=101,slow=13,SNR=2.7						
ASF	Jabal al Asfar	26.09	317	P	P	21 42 25.2	+1.5
	comp=Z,3.2nm,0.9s,baz=80,slow=8.7,SNR=6.0						
IMRD	Marand	26.66	339	eP	P	21 42 30.1	+1.2
PYUN	Piuthan	27.40	55	eP	P	21 42 37.2	+1.5
	comp=Z,21nm,0.8s						
MMAI	Mount Meron Ar	27.60	317	P	P	21 42 39.4	+2.0
	comp=Z,4.4nm,0.9s,baz=125,slow=18,SNR=3.8						
KOLN	Koldanda	27.75	57	eP	P	21 42 40.4	+1.5
	comp=Z,19nm,1.2s						
DANN	Dangsing	28.12	56	eP	P	21 42 43.1	+0.8
	comp=Z,6.8nm,0.9s						
GNI	Garni	28.28	339	eP	P	21 42 44.1	+0.7
GNI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GNI	Garni	28.28	339	P	P	21 42 45.3	+1.9
	comp=Z,2.7nm,0.7s,baz=0.0,slow=5.1,SNR=3.3						
GNI				LR	LR	21 55 45.5	
	comp=Z,172nm,18.6s,baz=108,slow=40						
GNI	Garni	28.28	339	eP	P	21 42 44.1	+0.7
	comp=Z,7.8nm,1.0s						
GNI	Garni	28.28	339	eP	P	21 42 44.1	+0.7
	comp=Z,7.8nm,1.0s						
GKN	Gorkha	28.69	57	eP	P	21 42 47.8	+0.6
	comp=Z,11nm,1.0s						
DMN	Daman	28.92	58	eP	P	21 42 50.6	+1.3
	comp=Z,10nm,0.9s						
KKN	Kakani	29.13	58	eP	P	21 42 52.1	+0.9
	comp=Z,17nm,0.8s						
PKIN	Phulchoki	29.15	58	eP	P	21 42 52.1	+0.7
	comp=Z,3.3nm,0.5s						
PKI	Pulchoki	29.15	58	eP	P	21 42 52.6	+1.1
GUN	Gumba	29.67	58	eP	P	21 42 57.0	+0.9
	comp=Z,38nm,1.0s						
JIRN	Jiri	29.83	59	eP	P	21 42 58.3	+0.7
	comp=Z,13nm,0.8s						
RAMN	Ramite	29.93	60	eP	P	21 42 58.9	+0.6
	comp=Z,19nm,1.0s						
ODAN	Odare	30.57	61	eP	P	21 43 05.0	+1.1
	comp=Z,12nm,0.7s						
KKAR	Karatay Array	30.95	19	eP	P	21 43 07.1	+0.2
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	Karatay Array	30.95	19	eP	P	21 43 07.1	+0.2
	comp=Z,0.7nm,0.6s						
KKAR	Karatay Array	30.95	19	eP	P	21 43 07.1	+0.2
	comp=Z,0.7nm,0.6s						
TAPN	Taplejung	31.00	60	eP	P	21 43 08.6	+0.8
	comp=Z,25nm,0.8s						
EKS2	Erkin-Say	31.69	23	eP	P	21 43 14.8	+1.3
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
EKS2	Erkin-Say	31.69	23	eP	P	21 43 14.8	+1.3
	comp=Z,5.9nm,0.9s						
EKS2	Erkin-Say	31.69	23	eP	P	21 43 14.8	+1.3
	comp=Z,5.8nm,0.9s						
AAK	Ala-Archa	31.94	24	c iP	P	21 43 18.6	+2.8
AAK				pmax	pmax		
	comp=Z,12nm,1.0s						

AAK MLR MLR
comp=Z,208nm,22.0s
AAK Ala-Archa 31.94 24 eP **P 21 43 17.3 +1.5**
comp=Z,4.7nm,0.9s
AAK Ala-Archa 31.94 24 eP **P 21 43 17.3 +1.5**
comp=Z,4.7nm,0.9s
KBZ Khabaz 32.09 340 LR LR 21 57 57.0
comp=Z,114nm,19.7s,baz=118,slow=39
BRTR Keskin Array B 33.07 325ceP **P 21 43 28.2 +2.5**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 33.07 325 P **P 21 43 26.2 +0.5**
comp=Z,0.7nm,0.7s,baz=144,slow=11,SNR=4.1
BRTR LR LR 21 58 25.9
comp=Z,120nm,21.0s,baz=127,slow=39
LSA Lhasa 34.62 58 eP **P 21 43 39.1 -0.6**
LSA pmax pmax
comp=Z,3.0nm,1.0s
LSA Lhasa 34.62 58 eP **P 21 43 39.1 -0.6**
comp=Z,2.6nm,1.0s
LSA Lhasa 34.62 58 eP **P 21 43 39.1 -0.6**
comp=Z,2.6nm,1.0s
ABKAR Akbulak array 35.10 3 eP **P 21 43 43.4 +0.5**
comp=Z,1.8nm,0.8s
ABKAR Akbulak array 35.10 3 eP **P 21 43 43.4 +0.5**
comp=Z,1.8nm,0.8s
AKTK Aktyubinsk 36.23 0 P **P 21 43 52.5 -0.1**
AKTO Aktyubinsk 36.23 0 P **P 21 43 52.5 -0.1**
comp=Z,2.3nm,0.7s,baz=189,slow=8.4,SNR=8.7
MK31 Makanchi Array 38.59 27 eP **P 21 44 13.4 +0.6**
MK31 Makanchi Array 38.59 27 eP **P 21 44 13.4 +0.6**
MK31 Makanchi Array 38.59 27 eP **P 21 44 13.4 +0.6**
MKAR Makanchi Array 38.59 27 P **P 21 44 13.6 +0.8**
comp=Z,3.1nm,0.6s,baz=212,slow=8.3,SNR=43
CM31 Chiang Mai Arr 39.86 78 eP **P 21 44 23.2 -0.6**
CM31 Chiang Mai Arr 39.86 78 eP **P 21 44 23.2 -0.6**
CMAR Chiang Mai Arr 39.86 78 P **P 21 44 24.0 +0.2**
comp=Z,8.7nm,0.9s,baz=276,slow=9.1,SNR=66
CMAR LR LR 22 01 01.5
comp=Z,10nm,20.7s,baz=255,slow=37
CHTO Chiang Mai 39.86 78 eP **P 21 44 23.9 +0.1**
CHTO Chiang Mai 39.86 78 ePP **P 21 44 23.9 +0.1**
CHTO Chiang Mai 39.86 78 eP **P 21 44 23.9 +0.1**
BVAR Borovoye Array 40.13 12 eP **P 21 44 26.5 +1.0**
comp=Z,0.7nm,0.8s,baz=188,slow=7.5,SNR=4.6
BRVK Borovoye 40.14 12 eP P 21 44 29.6 +4.0
BRVK pmax pmax
comp=Z,4.0nm,1.5s
BRVK Borovoye 40.14 12 eP P 21 44 29.6 +4.0
comp=Z,4.0nm,1.5s
LSZ Lusaka 41.21 226 P **P 21 44 36.4 +1.3**
comp=Z,0.9nm,0.6s,baz=59,slow=10,SNR=3.7
ARU Arti 42.24 1c iP P 21 44 46.2 +3.4
ARU 21 46 20.1
ARU S **S 21 51 07.1 +4.1**
ARU pmax pmax
comp=Z,6.0nm,1.2s
ARU Arti 42.24 1 iP P 21 44 46.2 +3.4
comp=Z,6.0nm,1.2s
ARU S **S 21 51 07.1 +4.1**
AKASG Malin Array Be 43.12 334 P **P 21 44 50.1 0.0**
comp=Z,0.6nm,0.5s,baz=136,slow=7.9,SNR=5.4
AKASG PP **PcP** 21 46 37.4 -2.4
comp=Z,0.2nm,0.4s,baz=138,slow=11,SNR=4.7
OBN Obninsk 44.06 343 eP **P 21 45 00.5 +3.0**
OBN pmax pmax
comp=Z,2.0nm,0.9s
OBN MLR MLR
comp=Z,107nm,18.0s
OBN Obninsk 44.06 343 eP **P 21 45 00.5 +3.0**
comp=Z,107nm,18.0s
ZAA0 Zalesovo Array 45.14 22 eP **P 21 45 06.0 -0.2**
ZAA0 Zalesovo Array 45.14 22 eP **P 21 45 06.0 -0.2**
ZALV Zalesovo Beam 45.14 22 P **P 21 45 05.7 -0.5**
comp=Z,8.1nm,0.7s,baz=224,slow=7.3,SNR=43
NVS Novosibirsk 45.28 21 eP **P 21 45 06.3 -1.0**
NVS Novosibirsk 45.28 21 eP **P 21 45 06.3 -1.0**
LBTB Lobatse 49.86 219 eP **P 21 45 43.3 -0.2**
LBTB pmax pmax
comp=Z,4.0nm,0.5s
LBTB Lobatse 49.86 219 P **P 21 45 43.7 +0.3**
comp=Z,5.6nm,0.7s,baz=50,slow=8.0,SNR=10
LBTB Lobatse 49.86 219 eP **P 21 45 43.3 -0.2**
comp=Z,3.5nm,0.5s
LBTB Lobatse 49.86 219 eP **P 21 45 43.3 -0.2**
comp=Z,3.5nm,0.5s
CLL Collm 51.52 326 ePP PP 21 47 54.0 +1.3
FINES FINESS Array B 52.42 342 P **P 21 46 01.7 -0.3**
comp=Z,1.3nm,0.6s,baz=138,slow=6.9,SNR=6.8
TLY Talaya 52.49 34 eP **P 21 46 03.9 +1.1**
TLY Talaya 52.49 34 eP **P 21 46 03.9 +1.1**
BOSA Boshof 52.75 216 LR LR 22 06 17.7
comp=Z,110nm,21.1s,baz=13,slow=34
ULN Ulaanbaatar 52.86 40 eP **P 21 46 06.1 +0.4**
ULN pmax pmax
comp=Z,7.0nm,2.5s
ULN Ulaanbaatar 52.86 40 eP **P 21 46 06.1 +0.4**
comp=Z,7.0nm,2.5s
LPG La Plagne 52.91 317 eP **P 21 46 07.5 +1.2**
comp=Z,60nm,1.7s
LPG La Plagne 52.91 317 eP **P 21 46 07.5 +1.2**
LPG pmax pmax
comp=Z,60nm,1.7s
LPG La Plagne 52.91 317 eP **P 21 46 07.5 +1.2**
comp=Z,60nm,1.7s
LPG La Plagne 52.91 317 eP **P 21 46 07.5 +1.2**
comp=Z,60nm,1.7s
LPL La Plagne 52.92 317 eP **P 21 46 06.7 +0.4**
LPL La Plagne 52.92 317 eP **P 21 46 06.7 +0.4**
LPL La Plagne 52.92 317 eP **P 21 46 06.7 +0.4**
LPL La Plagne 52.92 317 eP **P 21 46 06.7 +0.4**
TORD Torodi Ar. Bea 54.22 276 P **P 21 46 16.5 +0.4**
comp=Z,1.1nm,0.9s,baz=82,slow=7.4,SNR=6.5
LOR Lormes 55.37 318 eP **P 21 46 25.5 +1.6**
comp=Z,36nm,1.4s
LOR Lormes 55.37 318 eP **P 21 46 25.5 +1.6**
LOR pmax pmax
comp=Z,36nm,1.4s
LOR Lormes 55.37 318 eP **P 21 46 25.5 +1.6**
comp=Z,36nm,1.4s
LOR Lormes 55.37 318 eP **P 21 46 25.5 +1.6**
comp=Z,36nm,1.4s
SSF Saint Saulge 55.54 318 eP **P 21 46 25.8 +0.7**
comp=Z,18nm,1.1s
SSF Saint Saulge 55.54 318 eP **P 21 46 25.8 +0.7**
SSF pmax pmax
comp=Z,18nm,1.1s
SSF Saint Saulge 55.54 318 eP **P 21 46 25.8 +0.7**
comp=Z,18nm,1.1s
SSF Saint Saulge 55.54 318 eP **P 21 46 25.8 +0.7**
comp=Z,18nm,1.1s
BGF Bois d'Agland 55.82 317 eP **P 21 46 28.2 +1.1**
comp=Z,18nm,1.0s
BGF Bois d'Agland 55.82 317 eP **P 21 46 28.2 +1.1**
BGF pmax pmax
comp=Z,18nm,1.0s
BGF Bois d'Agland 55.82 317 eP **P 21 46 28.2 +1.1**
comp=Z,18nm,1.0s
BGF Bois d'Agland 55.82 317 eP **P 21 46 28.2 +1.1**
comp=Z,18nm,1.0s
ESDC Sonseca Array 59.29 308 P **P 21 46 51.8 0.0**
comp=Z,0.9nm,0.6s,baz=80,slow=6.0,SNR=7.6
KSAR Wonju Array Be 65.97 55 P **P 21 47 35.7 -0.7**
KSAR Wonju Array Be 65.97 55 P **P 21 47 35.6 -0.7**
KSAR Wonju Array Be 65.97 55 P **P 21 47 35.7 -0.7**
KSRS Korea Array 66.01 55 P **P 21 47 35.6 -0.9**
comp=Z,6.6nm,0.6s,baz=269,slow=6.3,SNR=21
USRK Ussuriysk Arra 69.14 48 P **P 21 47 55.7 -0.6**
comp=Z,4.0nm,0.8s,baz=263,slow=5.7,SNR=9.2
YAK Yakutsk 69.25 29 eP **P 21 47 54.8 -1.7**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK Yakutsk 69.25 29 eP **P 21 47 54.8 -1.7**
comp=E,13nm,0.9s
TIXI Tiksi 70.82 19⇓eP **P 21 48 05.5 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
TIXI Tiksi 70.82 19 eP **P 21 48 05.0 -1.0**
comp=Z,2.1nm,0.6s
TIXI Tiksi 70.82 19 eP **P 21 48 05.5 -0.6**
comp=Z,5.0nm,1.7s
H01W3 Cape Leeuwin H 72.43 134 T T 23 07 18.3
baz=303,slow=75,SNR=21
H01W2 Cape Leeuwin H 72.44 134 T T 23 07 11.0
baz=303,slow=75,SNR=21
H01W1 Cape Leeuwin H 72.45 134 T T 23 07 12.3
baz=303,slow=75,SNR=23
MJAR Matsushiro Arr 74.27 56 P **P 21 48 26.4 -1.0**
comp=Z,7.1nm,0.5s,baz=261,slow=7.1,SNR=11
WRA Warramunga Arr 82.70 113 P **P 21 49 12.9 -1.2**
comp=Z,7.2nm,0.6s,baz=299,slow=4.2,SNR=79
WRAB Tennant Creek 82.70 113deP **P 21 49 12.9 -1.2**
WRAB pmax pmax
comp=Z,24nm,1.0s
WRAB Tennant Creek 82.70 113 eP **P 21 49 12.6 -1.6**
comp=Z,17nm,1.0s
WRAB Tennant Creek 82.70 113 eP **P 21 49 12.9 -1.2**
comp=Z,24nm,1.0s
ASAR Alice Springs 83.46 116 P **P 21 49 16.6 -1.5**
comp=Z,6.4nm,0.7s,baz=292,slow=4.9,SNR=54

IDC 10 21:39:46.9±47.0,**16°.90S**×**175°.51W,h0**km**,mb4.1**/3,
mb1 4.3/3,**mb1mx3.7**/36,**mbtmp4.1**/3,**Error ellipse:**
s-maj=881.5km s-min=165.1km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.54**	**241**	P	P	21 47 37.8	+1.4
	1.2nm,0.5s,baz=83,slow=10,SNR=5.4						
WRA	**Warramunga Arr**	**47.54**	**258**	P	P	21 48 23.8	-0.8
	0.5nm,0.5s,baz=100,slow=7.6,SNR=20						
ASAR	**Alice Springs**	**47.73**	**253**	P	P	21 48 25.4	-0.6
	6.5nm,0.6s,baz=89,slow=8.1,SNR=119						

IDC 10 21:44:41.6±2.0,**4°.38S**×**128°.83E,h0**km**,mb3.5**/1,
mb1 4.0/3,**mb1mx3.6**/30,**mbtmp3.7**/3,**ML3.9**/2,**Error**
ellipse: s-maj=134.7km s-min=28.5km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.38**	**161**	Pn	Pn	21 48 34.4	+1.3
	0.4nm,0.3s,baz=340,slow=12,SNR=29						
ASAR	**Alice Springs**	**19.79**	**166**	P	P	21 49 13.2	-0.6
	0.6nm,0.3s,baz=347,slow=12,SNR=30						
MKAR	**Makanchi Array**	**65.41**	**327**	P	P	21 55 26.3	0.0
	0.2nm,0.4s,baz=112,slow=7.0,SNR=6.9						

*ISCJB **10** 21:47:53.9±0.3,40°.57N±0°.02×27°.19E±0°.02,h10km±3km,*
Error ellipse: s-maj=3.7km s-min=2.8km az=161.2
*ISK **10** 21:47:53.2,40°.59N×27°.21E,h4km,MD3.1,ML3.2*
*DDA **10** 21:47:53.5,40°.52N×27°.25E,h8km,MD3.0*
*CSEM **10** 21:47:54.1±0.1,40°.60N×27°.18E,h10km,MD3.0,Error*
ellipse: s-maj=4.0km s-min=2.9km az=168.0
*ATH **10** 21:47:54.8,40°.45N×27°.06E,h5km±4km,MD3.4/6*
*THE **10** 21:47:55.0,40°.56N×27°.20E,h18km±3km,ML3.0/4,Error*
ellipse: s-maj=3.2km s-min=0.8km az=40.0
ISC 10 21:47:54.3±0.8,**40°.57N**±0°.02×**27°.21E**±0°.02,**h17**km±5km,
n99,σ**1**§**24**/129,**1C,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SART	**Tekirdag**	**0.12**	**348**	iP	**Pg**	**21 47 58.2**	**0.0**
SART				iS	**Sg**	**21 48 00.9**	**+0.1**
SART	**Tekirdag**	**0.12**	**348**	iP	**Pg**	**21 47 58.2**	**0.0**
SART				iS	**Sg**	**21 48 00.9**	**+0.1**
KRBG	**Karabiga-Canak**	**0.19**	**160**	PG	**Pg**	**21 47 58.2**	**-0.8**
KRBG				eSG	**Sg**	**21 48 01.3**	**-0.8**
KRBG	**Karabiga-Canak**	**0.19**	**160**	iPg	**Pg**	**21 47 58.2**	**-0.8**
KRBG				eSg	**Sg**	**21 48 01.3**	**-0.8**
MRMT	**Marmara Adasi**	**0.29**	**84**	PG	**Pg**	**21 48 00.1**	**-0.6**
MRMT				eSG	**Sg**	**21 48 04.2**	**-0.9**
MRMT	**Marmara Adasi**	**0.29**	**84**	iPg	**Pg**	**21 48 00.1**	**-0.6**
MRMT				eSg	**Sg**	**21 48 04.2**	**-0.9**
LPK	**Lapseki**	**0.40**	**240**	PG	**Pg**	**21 48 01.8**	**-0.7**
LPK				eSG	**Sb**	**21 48 08.1**	**-0.5**
LPK	**Lapseki**	**0.40**	**240**	iPg	**Pg**	**21 48 01.8**	**-0.7**
LPK				eSg	**Sb**	**21 48 08.1**	**-0.5**
BNT	**Bandirma**	**0.58**	**111**	ePG	**Pg**	**21 48 05.0**	**-0.8**
BNT	**Bandirma**	**0.58**	**111**	ePg	**Pg**	**21 48 05.0**	**-0.8**
GELI	**Tayfur-Gelibol**	**0.59**	**253**	PG	**Pg**	**21 48 04.9**	**-1.1**
GELI	**Tayfur-Gelibol**	**0.59**	**253**	iPg	**Pg**	**21 48 04.9**	**-1.1**
CRLT	**Corlu**	**0.68**	**35**	ePG	**Pg**	**21 48 06.9**	**-0.8**
CRLT	**Corlu**	**0.68**	**35**	ePg	**Pg**	**21 48 06.9**	**-0.8**
ENEZ	**Enez**	**0.82**	**282**	ePG	**Pg**	**21 48 09.6**	**-0.7**
ENEZ	**Enez**	**0.82**	**282**	ePg	**Pg**	**21 48 09.6**	**-0.7**
ALN	**Alexandroupoli**	**0.94**	**291**	P	**Pg**	**21 48 11.9**	**-0.7**
ALN				S	**Sb**	**21 48 24.9**	**+0.5**
ALN	**Alexandroupoli**	**0.94**	**291**	ePG	**Pg**	**21 48 12.2**	**-0.5**
ALN	**Alexandroupoli**	**0.94**	**291**	ePB	**Pg**	**21 48 12.0**	**-0.7**
ALN				eSB	**Sg**	**21 48 24.1**	**-1.0**
ALN	**Alexandroupoli**	**0.94**	**291**	ePb	**Pg**	**21 48 12.0**	**-0.7**
ALN				eSb	**Sg**	**21 48 24.1**	**-1.0**
SLVT	**Silivri**	**1.00**	**49**	ePG	**Pg**	**21 48 12.7**	**-1.0**
SLVT	**Silivri**	**1.00**	**49**	ePg	**Pg**	**21 48 12.7**	**-1.0**
BALB	**Balikesir**	**1.06**	**151**	ePN	**Pg**	**21 48 13.8**	**-1.0**
BALB	**Balikesir**	**1.06**	**151**	ePn	**Pg**	**21 48 13.8**	**-1.0**
PHSR	**Pinarhisar**	**1.08**	**12**	ePN	**Pg**	**21 48 14.3**	**-1.0**
PHSR	**Pinarhisar**	**1.08**	**12**	ePn	**Pg**	**21 48 14.3**	**-1.0**
ELBA	**Catalca**	**1.09**	**58**	iP	**Pg**	**21 48 13.6**	**-1.7**
ELBA				iS	**Sg**	**21 48 28.7**	**-0.9**
ELBA	**Catalca**	**1.09**	**58**	iP	**Pg**	**21 48 13.6**	**-1.7**
ELBA				iS	**Sg**	**21 48 28.7**	**-0.9**
CTKS	**Kestanelik-??a**	**1.19**	**55**	ePN	**Pb**	**21 48 15.5**	**-0.7**
CTKS	**Kestanelik-??a**	**1.19**	**55**	ePn	**Pb**	**21 48 15.5**	**-0.7**
CTYL	**Yal??k??y-??at**	**1.22**	**42**	ePN	**Pn**	**21 48 16.5**	**+0.1**
CTYL	**Yal??k??y-??at**	**1.22**	**42**	ePn	**Pn**	**21 48 16.5**	**+0.1**
SMTH	**Samothraki Isl**	**1.29**	**266**	P	**Pn**	**21 48 16.5**	**-0.9**
SMTH				S	**Sb**	**21 48 33.9**	**-0.3**
SMTH	**Samothraki Isl**	**1.29**	**266**	ePN	**Pn**	**21 48 16.6**	**-0.9**
SMTH				eSB	**Sb**	**21 48 33.3**	**-0.9**
SMTH	**Samothraki Isl**	**1.29**	**266**	ePn	**Pn**	**21 48 16.6**	**-0.9**
SMTH				eSb	**Sb**	**21 48 33.3**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.29**	**98**	ePN	**Pn**	**21 48 18.6**	**+1.1**
MDNY	**Mudanya-Bursa**	**1.29**	**98**	ePn	**Pn**	**21 48 18.6**	**+1.1**
EDRB	**Edirne**	**1.32**	**345**	P	**Pn**	**21 48 18.0**	**+0.1**
EDRB	**Edirne**	**1.32**	**345**	ePN	**Pn**	**21 48 18.5**	**+0.6**
EDRB	**Edirne**	**1.32**	**345**	P	**Pn**	**21 48 18.0**	**+0.1**
EDRB	**Edirne**	**1.32**	**345**	ePn	**Pn**	**21 48 18.5**	**+0.6**
AYVA	**Ayvalik**	**1.32**	**198**	iP	**Pn**	**21 48 17.8**	**-0.1**
AYVA				iS	**Sb**	**21 48 34.9**	**-0.4**
AYVA	**Ayvalik**	**1.32**	**198**	iP	**Pn**	**21 48 17.8**	**-0.1**
AYVA				iS	**Sb**	**21 48 34.9**	**-0.4**
BGKT	**Bogazkoy**	**1.33**	**62**	ePN	**Pn**	**21 48 17.6**	**-0.4**
BGKT	**Bogazkoy**	**1.33**	**62**	ePn	**Pn**	**21 48 17.6**	**-0.4**
ORLT	**Orhaneli**	**1.39**	**112**	ePN	**Pn**	**21 48 19.8**	**+0.9**
ORLT	**Orhaneli**	**1.39**	**112**	ePn	**Pn**	**21 48 19.8**	**+0.9**
RDO	**Rodhopi**	**1.39**	**295**	P	**Pn**	**21 48 19.0**	**+0.1**
RDO	**Rodhopi**	**1.39**	**295**	P	**Pn**	**21 48 19.0**	**+0.1**
ISK	**Istanbul-Kandi**	**1.49**	**70**	P	**Pn**	**21 48 19.8**	**-0.4**
ISK	**Istanbul-Kandi**	**1.49**	**70**	ePN	**Pn**	**21 48 21.3**	**+1.2**
ISK	**Istanbul-Kandi**	**1.49**	**70**	P	**Pn**	**21 48 19.8**	**-0.4**
ISK	**Istanbul-Kandi**	**1.49**	**70**	ePn	**Pn**	**21 48 21.3**	**+1.2**
PRK	**Paraskevi**	**1.51**	**209**	P	**Pn**	**21 48 19.9**	**-0.6**
PRK				S	**Sn**	**21 48 39.4**	**-0.3**
PRK	**Paraskevi**	**1.51**	**209**	ePG	**Pn**	**21 48 19.8**	**-0.7**
PRK				eSB	**Sn**	**21 48 38.9**	**-0.8**
PRK	**Paraskevi**	**1.51**	**209**	P	**Pn**	**21 48 19.9**	**-0.6**
PRK				eSb	**Sn**	**21 48 38.9**	**-0.8**
PRK				S	**Sn**	**21 48 39.4**	**-0.3**
GEMT	**Gemlik**	**1.51**	**95**	ePN	**Pn**	**21 48 21.8**	**+1.2**
GEMT	**Gemlik**	**1.51**	**95**	ePn	**Pn**	**21 48 21.8**	**+1.2**
KLYT	**Kilyos**	**1.54**	**63**	ePN	**Pn**	**21 48 21.4**	**+0.4**
KLYT	**Kilyos**	**1.54**	**63**	ePn	**Pn**	**21 48 21.4**	**+0.4**
LIA	**Limnos Island**	**1.69**	**247**	ePG	**Pn**	**21 48 23.4**	**+0.4**
LIA				eSB	**Sn**	**21 48 45.7**	**+1.5**
LIA	**Limnos Island**	**1.69**	**247**	ePg	**Pn**	**21 48 23.4**	**+0.4**
LIA				eSb	**Sn**	**21 48 45.7**	**+1.5**
SIGR	**SIGRI**	**1.71**	**218**	P	**Pn**	**21 48 22.9**	**-0.4**
SIGR				S	**Sn**	**21 48 44.4**	**-0.3**
SIGR	**SIGRI**	**1.71**	**218**	ePN	**Pb**	**21 48 25.1**	**-0.1**
SIGR	**SIGRI**	**1.71**	**218**	ePG	**Pn**	**21 48 23.8**	**+0.5**
SIGR				eSB	**Sn**	**21 48 45.7**	**+1.0**
SIGR	**SIGRI**	**1.71**	**218**	P	**Pn**	**21 48 22.9**	**-0.4**
SIGR	**SIGRI**	**1.71**	**218**	ePg	**Pn**	**21 48 23.8**	**+0.5**
SIGR	**SIGRI**	**1.71**	**218**	ePn	**Pb**	**21 48 25.1**	**-0.1**
SIGR				S	**Sn**	**21 48 44.4**	**-0.3**
SIGR				eSb	**Sn**	**21 48 45.7**	**+1.0**
KDZ	**Kurdzhali**	**1.73**	**309**⇑	iP	**Pn**	**21 48 24.9**	**+1.3**
HRT	**Hereke**	**1.88**	**82**	ePN	**Pn**	**21 48 27.6**	**+1.9**
HRT	**Hereke**	**1.88**	**82**	ePn	**Pn**	**21 48 27.6**	**+1.9**
SILT	**Sile**	**1.93**	**72**	ePN	**Pn**	**21 48 27.6**	**+1.3**
SILT	**Sile**	**1.93**	**72**	ePn	**Pn**	**21 48 27.6**	**+1.3**
CAVI	**Cavuskoy**	**2.04**	**100**	ePN	**Pn**	**21 48 29.6**	**+1.7**
CAVI	**Cavuskoy**	**2.04**	**100**	ePn	**Pn**	**21 48 29.6**	**+1.7**
TVSB	**Tavsanli**	**2.06**	**122**	ePN	**Pn**	**21 48 29.9**	**+1.8**
TVSB	**Tavsanli**	**2.06**	**122**	ePn	**Pn**	**21 48 29.9**	**+1.8**
KAVA	**Kavala**	**2.09**	**283**	ePG	**Pb**	**21 48 32.9**	**+1.2**
KAVA				eSN	**Sb**	**21 48 58.2**	**+0.8**
KAVA	**Kavala**	**2.09**	**283**	ePg	**Pb**	**21 48 32.9**	**+1.2**
KAVA				eSn	**Sb**	**21 48 58.2**	**+0.8**
BLCB	**Balcova**	**2.19**	**184**	ePN	**Pn**	**21 48 31.9**	**+2.1**
BLCB	**Balcova**	**2.19**	**184**	ePn	**Pn**	**21 48 31.9**	**+2.1**
KULA	**Kula-Manisa**	**2.34**	**151**	ePN	**Pn**	**21 48 34.3**	**+2.3**
KULA	**Kula-Manisa**	**2.34**	**151**	ePn	**Pn**	**21 48 34.3**	**+2.3**
CHOS	**Chios island**	**2.36**	**203**	ePN	**Pn**	**21 48 34.6**	**+2.3**
CHOS	**Chios island**	**2.36**	**203**	ePG	**Pb**	**21 48 35.2**	**-1.1**
CHOS	**Chios island**	**2.36**	**203**	ePn	**Pn**	**21 48 34.6**	**+2.3**
CHOS	**Chios island**	**2.36**	**203**	ePg	**Pb**	**21 48 35.2**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**2.67**	**168**	ePN	**Pn**	**21 48 39.3**	**+2.7**
AYDB	**Zeytinkoy-Aydi**	**2.67**	**168**	ePn	**Pn**	**21 48 39.3**	**+2.7**
ALT	**Altintas**	**2.70**	**123**	ePN	**Pn**	**21 48 39.0**	**+2.1**
ALT	**Altintas**	**2.70**	**123**	ePn	**Pn**	**21 48 39.0**	**+2.1**
MDUB	**Mudurnu**	**3.04**	**91**	ePN	**Pn**	**21 48 44.0**	**+2.4**
MDUB	**Mudurnu**	**3.04**	**91**	ePn	**Pn**	**21 48 44.0**	**+2.4**
SHUT	**Suhut-Afyon**	**3.27**	**127**	ePN	**Pn**	**21 48 47.5**	**+2.6**
SHUT	**Suhut-Afyon**	**3.27**	**127**	ePn	**Pn**	**21 48 47.5**	**+2.6**
SVRH	**Sivrihisar-ESK**	**3.50**	**107**	ePN	**Pn**	**21 48 50.7**	**+2.8**
SVRH	**Sivrihisar-ESK**	**3.50**	**107**	ePn	**Pn**	**21 48 50.7**	**+2.8**
VTS	**Vitosha**	**3.62**	**305**	ePN	**Pn**	**21 48 51.9**	**+2.3**
VTS	**Vitosha**	**3.62**	**305**	ePn	**Pn**	**21 48 51.9**	**+2.3**

*CSEM **10** 21:48:29.5,41°.22N×23°.99E,h34km,MD3.2,After ATH*
ATH 10 21:48:29.5,41°.22N×**23°.99E,h34**km±4km**,MD3.2**/5,
Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.16**	**323**	ePB	Pb	21 48 36.0	+0.1
NVR	**Nevrokopi**	**0.16**	**323**	ePb	Pb	21 48 36.0	+0.1
SRS	**Serrai**	**0.32**	**251**	ePB	Pn	21 48 37.7	0.0
SRS	**Serrai**	**0.32**	**251**	ePb	Pn	21 48 37.7	0.0
SOH	**Sokhos**	**0.62**	**231**	ePN	Pb	21 48 42.6	+0.4
SOH	**Sokhos**	**0.62**	**231**	ePn	Pb	21 48 42.6	+0.4
KNT	**Kendrikon**	**0.83**	**266**	ePN	Pb	21 48 45.6	+0.1
KNT	**Kendrikon**	**0.83**	**266**	ePn	Pb	21 48 45.6	+0.1
PLG	**Polygyros**	**0.94**	**206**	ePN	Pb	21 48 47.0	-0.5
PLG	**Polygyros**	**0.94**	**206**	ePn	Pb	21 48 47.0	-0.5

*IDC **10** 22:32:20.6±0.9,0°.97N×120°.32E,h0km,mb4.1/10,*
mb1 4.3/10,mb1mx4.0/36,mbtmp4.1/10,MS3.1/5,
Ms1 3.2/5,ms1mx2.9/27,Error ellipse: s-maj=53.0km
s-min=14.2km az=60.0
*BJI **10** 22:32:21.0,0°.80N×120°.10E,h10km,mB4.7/4,mb4.3/7*
*ISCJB **10** 22:32:23.7±0.4,0°.83N±0°.06×120°.04E±0°.05,h28km,*
mb4.1/11,MS3.0/5,Error ellipse: s-maj=9.6km
s-min=6.2km az=31.1
*DJA **10** 22:32:29.7±0.5,1°N±4°×12°0E±°,h38km±5km,M4.4/14,*
mb4.6/6,mB4.8/5,MLv4.5/14,Mw(mB)4.0/5
ISC 10 22:32:25.6±0.6,**0°.85N**±0°.07×**120°.17E**±0°.05,**h28**km**,n42,**
σ**0**§**97**/38,**mb4.0**/11,**MS3.2**/5,**Minahassa Peninsula,**
Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.81**	**102**	P	**Pn**	**22 32 56.1**	**+1.2**
MRSI				S	**Sb**	**22 33 20.3**	**0.0**
APSI	**Ampana**	**2.29**	**140**	P	**Pb**	**22 33 05.2**	**-1.1**
GTOI	**Gorontalo**	**2.84**	**94**	P	**Pn**	**22 33 10.0**	**+0.8**
LUWI	**Luwuk**	**3.21**	**126**	P	**Pb**	**22 33 19.6**	**-2.3**
SMKI	**Samarinda**	**3.23**	**246**	P	Pb	22 33 28.9	+6.5
KMSI	**Cibinong**	**3.82**	**94**	P	**Pb**	**22 33 30.9**	**-1.4**
TTSI	**Tana Toraja**	**3.89**	**185**	P	**Pb**	**22 33 32.6**	**-0.9**
BKB	**Balikpapan**	**3.89**	**237**	P	**Pn**	**22 33 23.0**	**-0.6**
SPSI	**Sidrap Palu**	**4.80**	**185**	P	Pb	22 33 43.6	-5.5
	85nm,0.8s,738nm0.3nm						
BNSI	**Bone**	**5.22**	**181**	P	Pb	22 33 50.2	-6.0
	81nm,1.2s,893nm0.3nm						
MTKI	**Muara Teweh, K**	**5.57**	**251**	P	**Pb**	**22 34 02.1**	**-0.1**
KBKI	**Kotabaru**	**5.75**	**224**	P	Pb	22 33 58.4	-6.8
	35nm,0.7s,626nm0.1nm						
BKSI	**Bulukumba**	**6.13**	**180**	P	Pn	22 34 01.1	+6.6
	27nm,0.9s,346nm0.1nm						
KKM	**Kota Kinabalu**	**6.50**	**323**	P	**Pn**	**22 33 59.2**	**-0.3**
	baz=6.3,SNR=7.7						
LBMI	**Labuha**	**7.47**	**101**	P	**Pn**	**22 34 14.0**	**+1.1**
MTN	**Manton Dam**	**17.42**	**142**	P	**P**	**22 36 28.9**	**+1.1**
	baz=18,SNR=7.1						
KNRA	**Kununurra**	**18.49**	**153**	P	**Pn**	**22 36 40.8**	**+0.9**
	baz=19,SNR=3.5						
WRA	**Warramunga Arr**	**24.90**	**147**	P	**P**	**22 37 45.8**	**-0.7**
	11nm,0.7s,baz=335,slow=9.5,SNR=160						
WRA				LR	LR	22 49 33.0	
	comp=Z,39nm,19.0s,baz=35,slow=41						
WRKA	**Warakurna**	**26.91**	**164**	P	**P**	**22 38 04.2**	**-0.4**
	baz=27,SNR=4.9						
JOW	**Kunigami**	**26.98**	**16**	LR	LR	22 48 51.4	
	comp=Z,8.2nm,19.4s,baz=179,slow=37						
COEN	**Coen**	**27.12**	**124**	P	**P**	**22 38 06.6**	**0.0**
	baz=27,SNR=4.5						
CMAR	**Chiang Mai Arr**	**27.21**	**311**	P	**P**	**22 38 06.2**	**-1.1**
	0.2nm,0.3s,baz=122,slow=6.7,SNR=3.7						
CMAR				LR	LR	22 49 46.2	
	comp=Z,77nm,18.4s,baz=154,slow=38						
MEEK	**Meekatharra**	**27.37**	**183**	P	**P**	**22 38 08.0**	**-0.7**
	baz=28,SNR=8.7						
ASAR	**Alice Springs**	**27.79**	**152**	P	**P**	**22 38 12.1**	**-0.4**
	3.8nm,0.6s,baz=337,slow=11,SNR=43						
ASAR				LR	LR	22 49 45.5	
	comp=Z,64nm,18.1s,baz=347,slow=38						
QIS	**Mount Isa**	**28.54**	**139**	P	**P**	**22 38 19.4**	**+0.1**
	baz=29,SNR=5.1						
MORW	**Morawa**	**30.01**	**187**	P	**P**	**22 38 32.2**	**+0.1**
	baz=30,SNR=3.4						
KLBR	**Kellerberrin**	**32.35**	**184**	P	**P**	**22 38 52.2**	**-0.5**
	baz=33,SNR=5.5						
NWAO	**Narrogin (SRO)**	**33.71**	**184**	P	**P**	**22 39 04.3**	**-0.3**
	18nm,0.7s,baz=5.3,slow=8.0,SNR=17						
QLP	**Quilpie**	**35.80**	**141**	P	**P**	**22 39 23.5**	**+0.7**
	baz=36,SNR=3.4						
BBOO	**Buckleboo**	**36.69**	**157**	P	**P**	**22 39 29.7**	**-0.5**
	baz=37,SNR=6.7						
KSRS	**Korea Array**	**37.12**	**10**	LR	LR	22 54 48.5	
	comp=Z,62nm,19.8s,baz=179,slow=36						
STKA	**Stephens Creek**	**38.36**	**150**	P	**P**	**22 39 43.6**	**-0.8**
	7.0nm,0.7s,baz=324,slow=8.5,SNR=18						
STKA	**Stephens Creek**	**38.36**	**150**	P	**P**	**22 39 44.5**	**+0.1**
	baz=39,SNR=6.2						
HTT	**Hallett**	**38.40**	**154**	P	**P**	**22 39 45.1**	**+0.3**
	baz=39,SNR=15						
CMSA	**Cobar Meteorol**	**40.29**	**145**	P	**P**	**22 40 01.1**	**+0.5**
	baz=41,SNR=13						
GTA	**Gaotai**	**42.64**	**337**	eP	**P**	**22 40 21.1**	**+1.2**
GTA				pP	**pP**	**22 40 29.0**	**+0.7**
GTA				sP	**sP**	**22 40 32.9**	**+1.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARMA	**Armidale**	**43.17**	**139**	P	**P**	**22 40 26.1**	**+1.8**
	baz=44,SNR=6.4						
MKAR	**Makanchi Array**	**56.43**	**330**	P	**P**	**22 42 04.3**	**-0.5**
	1.3nm,0.8s,baz=130,slow=8.8,SNR=16						
AAK	**Ala-Archa**	**58.30**	**322**	P	**P**	**22 42 18.3**	**+0.1**
	0.5nm,0.7s,baz=135,slow=1.4,SNR=3.2						
ZALV	**Zalesovo Beam**	**60.40**	**337**	P	**P**	**22 42 30.1**	**-2.2**
	0.9nm,0.7s,baz=116,slow=6.8,SNR=5.2						
KMBO	**Kilima Mbogo**	**82.94**	**269**	P	**P**	**22 44 49.8**	**+0.6**
	0.6nm,0.6s,baz=127,slow=20,SNR=2.7						
BRTR	**Keskin Array B**	**86.79**	**310**	P	**P**	**22 45 07.0**	**-0.8**
	0.5nm,0.9s,baz=116,slow=6.6,SNR=2.4						

*IDC **10** 23:56:40.4±1.0,13°.52N×89°.06W,h37km±7km,mb3.9/11,*
mb1 4.1/11,mb1mx3.8/42,mbtmp4.1/11,MS3.6/15,
Ms1 3.6/15,ms1mx3.4/31,Error ellipse: s-maj=32.5km
s-min=16.8km az=63.0
*ISCJB **10** 23:56:41.4±0.5,13°.23N±0°.05×89°.64W±0°.05,h74km±4km,*
mb4.3/18,Error ellipse: s-maj=11.6km s-min=4.1km
az=44.3
*CASC **10** 23:56:42.3±1.7,13°.23N×89°.75W,h38km±15km,MD4.2,*
ML4.5
*NEIC **10** 23:56:45.8±0.9,13°.32N×89°.42W,h96km±8km,mb4.6/10,*

MD4.5(SNET), Error ellipse: s-maj=12.3km s-min=5.6km az=60.0
NEIC Felt [III] at San Salvador.
ISC 10 23:56:40.1±0.8, 13.14N±0.06×89.75W±0.06, h45km±6km, n77, σ1§63/70, mb4.4/18, MS3.6/14, 4C-11D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONS	**Sonsonate**	**0.60**	**3**	⇓iP	**Pn**	**23 56 52.7**	**+0.3**
SONS				eS	**Sn**	**23 57 01.6**	**+0.4**
SONS				AML	AML	23 57 03.2	
	comp=Z,17μm,0.3s						
SBLS	**San Blas**	**0.71**	**10**	⇓iP	**Pn**	**23 56 54.8**	**+0.7**
SNJE	**San Jose**	**0.74**	**11**	⇓iP	**Pn**	**23 56 55.1**	**+0.7**
SNET	**Serv Nac Est T**	**0.74**	**43**	⇓iP	**Pn**	**23 56 55.4**	**+1.0**
SNET				eS	**Sn**	**23 57 06.3**	**+1.6**
SNET				AML	AML	23 57 07.5	
	comp=Z,17μm,0.7s						
BOQS	**Boqueron**	**0.75**	**37**	⇑iP	**Pn**	**23 56 55.7**	**+1.1**
RTR	**El Retiro**	**0.76**	**8**	⇓iP	**Pn**	**23 56 55.5**	**+0.8**
LFRS	**El Faro**	**0.83**	**54**	⇓iP	**Pn**	**23 56 56.7**	**+1.2**
LBRS	**Las Brisas**	**0.91**	**49**	⇓iP	**Pn**	**23 56 58.2**	**+1.6**
RBDL	**Robledal**	**0.97**	**4**	eP	**Pn**	**23 56 58.6**	**+1.0**
SNVI	**San Vicente**	**1.01**	**62**	⇓eP	**Pn**	**23 56 59.6**	**+1.6**
VSM	**San Miguel**	**1.47**	**78**	eP	**Pn**	**23 57 06.3**	**+2.0**
PCG	**Pacaya**	**1.50**	**326**	eP	**Pn**	**23 57 05.9**	**+1.0**
PCG				eS	**Sn**	**23 57 23.9**	**+0.4**
NBG	**Las Nubes**	**1.56**	**338**	⇓eP	**Pn**	**23 57 08.0**	**+2.4**
NBG				eS	**Sn**	**23 57 28.1**	**+3.4**
CAHU	**Cacacuatique**	**1.62**	**67**	⇓eP	**Pn**	**23 57 08.5**	**+2.1**
CNCH	**Conchagua**	**1.87**	**85**	⇑iP	**Pn**	**23 57 12.0**	**+2.3**
MRL	**Marmol**	**1.92**	**2**	⇑eP	**Pn**	**23 57 12.1**	**+1.6**
APG	**El Apazote**	**1.98**	**340**	Pn	Pn	23 57 08.9	-2.5
	comp=Z,53nm,0.3s,baz=123,slow=18,SNR=112						
APG				Lg	Lg	23 57 34.5	
	comp=Z,96nm,0.3s,baz=287,slow=19,SNR=8.9						
APG				LR	LR	23 58 16.3	
	comp=Z,1μm,20.5s,baz=125,slow=48						
JAT	**Jato**	**2.18**	**303**	eP	**Pn**	**23 57 15.4**	**+1.5**
JTS	**JuntasAbangare**	**5.48**	**121**	Pn	Pn	23 58 02.5	+3.2
	comp=Z,12nm,0.3s,baz=312,slow=19,SNR=30						
JTS				Sn	**Sn**	**23 58 58.9**	**-2.3**
	comp=Z,4.9nm,0.3s,baz=295,slow=19,SNR=2.3						
JTS				Lg	Lg	23 59 23.7	
	comp=Z,12nm,0.3s,baz=99,slow=23,SNR=13						
JTS	**JuntasAbangare**	**5.48**	**121**	eP	Pn	23 58 03.0	+3.7
JTS				eS	**Sn**	**23 59 04.1**	**+3.0**
JTS				Lg	Lg	23 59 23.7	
CGA2	**Cerro Gallo 2**	**6.03**	**120**	eP	Pn	23 58 12.1	+5.1
CGA2				eS	**Sn**	**23 59 14.6**	**-0.3**
QCR	**Quepos**	**6.60**	**123**	⇓eP	Pn	23 58 19.0	+4.4
QCR				eS	**Sn**	**23 59 28.1**	**-0.6**
BUS	**Buena Vista**	**6.87**	**121**	⇑eP	Pn	23 58 23.6	+4.9
BUS				eS	**Sn**	**23 59 35.9**	**0.0**
TEIG	**Tepich**	**7.19**	**11**	Pn	**Pn**	**23 58 24.3**	**+1.6**
	comp=Z,15nm,0.3s,baz=190,slow=3.0,SNR=51						
TEIG	**Tepich**	**7.19**	**11**	eP	**Pn**	**23 58 25.3**	**+2.6**
TEIG				eS	Sn	23 59 55.5	+12
ACR	**Cerro Adams**	**7.85**	**124**	eP	Pn	23 58 37.1	+5.3
ACR				eS	**Sn**	**23 59 57.9**	**+2.2**
BCIP	**Isla Barro Col**	**10.49**	**111**	eP	**Pn**	**23 59 10.7**	**+2.6**
PAYG	**Puerto Ayora**	**13.73**	**182**	eP	Pn	23 59 57.5	+5.2
HKT	**Hockley**	**17.66**	**342**	eP	**P**	**00 00 43.9**	**+0.7**
	comp=Z,34nm,1.8s						
VBMS	**Vicksburg**	**19.01**	**358**	eP	**Pn**	**00 01 00.4**	**+1.3**
	comp=Z,55nm,0.8s						
SDV	**Santo Domingo**	**19.23**	**101**	eP	**P**	**00 01 00.7**	**-0.2**
	comp=Z,10nm,0.6s						
WHTX	**Lake Whitney**	**20.06**	**341**	eP	**P**	**00 01 10.4**	**+0.8**
TXAR	**Lajitas Array**	**20.66**	**323**	P	Pn	00 01 19.2	+0.3
	comp=Z,2.2nm,0.6s,baz=145,slow=11,SNR=37						
TXAR				PcP	**PcP**	**00 05 27.6**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=145,slow=4.6,SNR=4.6						
TXAR				pPcP		00 05 41.0	
	comp=Z,0.6nm,0.9s,baz=147,slow=5.4,SNR=3.9						
TXAR				LR	LR	00 10 44.3	
	comp=Z,68nm,18.1s,baz=0.0,slow=41						
TX31	**Lajitas Ar. Si**	**20.66**	**323**	eP	Pn	00 01 18.5	-0.4
OXF	**Oxford**	**21.29**	**1**	eP	**P**	**00 01 22.9**	**+0.1**
MIAR	**Mount Ida**	**21.60**	**351**	eP	**P**	**00 01 25.9**	**-0.2**
	comp=Z,30nm,1.4s						
TKL	**Tuckaleechee C**	**23.07**	**12**	P	**P**	**00 01 40.8**	**-1.0**
	comp=Z,5.8nm,0.7s,baz=185,slow=9.5,SNR=5.5						
TKL				LR	LR	00 10 52.1	
	comp=Z,233nm,21.1s,baz=173,slow=38						
TKL	**Tuckaleechee C**	**23.07**	**12**	eP	**P**	**00 01 39.9**	**-1.9**
ATAH	**Atahualpa**	**23.08**	**150**	LR	LR	00 09 43.9	
	comp=Z,128nm,18.3s,baz=317,slow=34						
W34A	**Bridge Creek,**	**23.17**	**343**	eP	**P**	**00 01 42.7**	**-0.1**
W34A				epP	**pP**	**00 01 55.0**	**+1.2**
MNTX	**Cornudas Mount**	**23.40**	**325**	eP	**P**	**00 01 46.0**	**+0.9**
	comp=Z,15nm,1.7s						
ANMO	**Albuquerque**	**26.46**	**328**	LR	LR	00 15 25.9	
	comp=Z,53nm,18.0s,baz=136,slow=42						
EML	**El Monte Cty P**	**31.60**	**313**	eP	**P**	**00 02 57.1**	**-1.6**
PFO	**Pinyon Flat Ob**	**31.71**	**314**	LR	LR	00 16 41.2	
	comp=Z,121nm,18.3s,baz=134,slow=38						
GMRC	**Granite Mounta**	**31.84**	**317**	eP	**P**	**00 03 03.1**	**+2.1**
PTGA	**Pitinga**	**32.59**	**113**	eP	**P**	**00 03 07.2**	**-0.4**
	comp=Z,6.0nm,0.8s						
PDAR	**Pinedale Array**	**34.14**	**334**	LR	LR	00 19 01.0	
	comp=Z,77nm,19.4s,baz=143,slow=39						
SAML	**Samuel**	**34.31**	**128**	eP	**P**	**00 03 22.4**	**-0.2**
	comp=Z,12nm,0.8s						
NVAR	**Mina Array Bea**	**35.73**	**320**	P	P	00 03 37.8	+3.0
	comp=Z,5.4nm,0.7s,baz=133,slow=8.6,SNR=55						
NVAR				PcP	**PcP**	**00 06 04.1**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=138,slow=3.8,SNR=12						
NVAR				pPcP		00 06 18.0	
	comp=Z,1.8nm,0.8s,baz=130,slow=4.2,SNR=6.8						
NVAR				ScP	**ScP**	**00 09 49.1**	**+4.3**
	comp=Z,0.6nm,0.7s,baz=128,slow=4.6,SNR=5.5						
NVAR				LR	LR	00 19 59.5	
	comp=Z,158nm,19.0s,baz=246,slow=39						
LPAZ	**La Paz**	**36.21**	**143**	P	**P**	**00 03 41.6**	**+2.0**
	comp=Z,1.1nm,0.6s,baz=334,slow=5.1,SNR=5.5						
LPAZ				LR	LR	00 18 40.1	
	comp=Z,122nm,21.3s,baz=328,slow=36						
LPAZ	**La Paz**	**36.21**	**143**	eP	**P**	**00 03 39.2**	**-0.4**
ULM	**Lac du Bonnet**	**37.35**	**354**	P	**P**	**00 03 46.0**	**-2.1**
	comp=Z,3.3nm,0.6s,baz=175,slow=10,SNR=5.5						
ULM				LR	LR	00 21 38.4	
	comp=Z,124nm,19.0s,baz=122,slow=40						
I07A	**Izee**	**40.00**	**326**	eP	P	00 04 06.7	-4.0
	comp=Z,90nm,2.6s						
I07A				epP	pP	00 04 30.8	+7.9
SCHQ	**Schefferville**	**45.31**	**18**	P	**P**	**00 04 51.2**	**-2.2**
	comp=Z,7.5nm,0.6s,baz=219,slow=7.0,SNR=13						
SCHQ				LR	LR	00 25 06.4	
	comp=Z,62nm,20.3s,baz=253,slow=38						
H03N2	**Juan Fernandez**	**47.45**	**168**	T	T	00 56 00.4	
	baz=346,slow=75,SNR=6.8						
H03N1	**Juan Fernandez**	**47.45**	**168**	T	T	00 56 00.3	
	baz=346,slow=75,SNR=8.4						
H03N3	**Juan Fernandez**	**47.47**	**168**	T	T	00 56 01.7	
	baz=346,slow=75,SNR=7.6						
CPUP	**Villa Florida**	**50.33**	**141**	LR	LR	00 26 02.6	
	comp=Z,62nm,18.3s,baz=232,slow=35						
YKA	**Yellowknife Ar**	**52.38**	**346**	P	**P**	**00 05 46.6**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=145,slow=7.7,SNR=39						
YKA				pP	**pP**	**00 05 58.1**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=144,slow=7.7,SNR=8.2						
YKA				PcP	**PcP**	**00 06 57.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=145,slow=4.3,SNR=5.9						
PLCA	**Paso Flores**	**56.47**	**163**	P	**P**	**00 06 19.0**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=321,slow=8.0,SNR=3.2						
PLCA	**Paso Flores**	**56.47**	**163**	eP	**P**	**00 06 17.4**	**-0.1**
RCBR	**Riachuelo**	**56.70**	**106**	eP	**P**	**00 06 17.9**	**-1.8**
	comp=Z,9.7nm,1.0s						
RKT	**Rikitea**	**57.08**	**231**	eT	T	01 07 42.5	
	comp=Z,2.1nm,0.3s						
RES	**Resolute Bay**	**61.61**	**358**	eP	**P**	**00 06 51.2**	**-1.3**
	comp=Z,47nm,2.3s						
ILAR	**Eielson Array**	**64.50**	**336**	P	**P**	**00 07 10.8**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=133,slow=4.7,SNR=5.0						
PPT	**Papeete**	**66.46**	**244**	LR	LR	00 30 50.2	
	comp=Z,75nm,18.6s,baz=342,slow=30						
PPT2	**Papeete2**	**66.47**	**244**	eLR	LR	00 27 23.0	
	comp=Z,91nm,25.2s						
EKA	**Eskdalemuir Ar**	**77.38**	**36**	P	P	00 08 26.6	-3.7
	comp=Z,1.4nm,0.8s,baz=263,slow=6.6,SNR=3.4						
NOA	**NORSAR Array B**	**83.85**	**29**	LR	LR	00 44 05.6	
	comp=Z,24nm,20.3s,baz=5.0,slow=34						
ARCES	**ARCESS Array B**	**86.26**	**19**	P	**P**	**00 09 15.2**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=295,slow=4.4,SNR=6.2						
TORD	**Torodi Ar. Bea**	**88.45**	**77**	P	**P**	**00 09 25.4**	**-3.0**
	comp=Z,0.3nm,0.6s,baz=292,slow=4.6,SNR=7.3						
TORD				LR	LR	00 48 12.4	
	comp=Z,24nm,18.7s,baz=220,slow=35						
SONM	**Songino Array**	**117.62**	**348**	PKP	**PKPdf**	**00 15 20.7**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=33,slow=1.8,SNR=3.2						
SONM				pPKP	**pPKPdf**	**00 15 34.4**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=345,slow=4.5,SNR=3.9						
MKAR	**Makanchi Array**	**119.92**	**6**	PKP	**PKPdf**	**00 15 24.7**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=360,slow=3.1,SNR=5.3						
MKAR				pPKP	**pPKPdf**	**00 15 37.9**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=325,slow=1.5,SNR=3.2						
STKA	**Stephens Creek**	**129.52**	**239**	PKP	**PKPdf**	**00 15 45.9**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=112,slow=4.1,SNR=3.9						
WRA	**Warramunga Arr**	**137.29**	**255**	PKP	**PKPdf**	**00 16 00.8**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=87,slow=2.3,SNR=12						
ASAR	**Alice Springs**	**137.42**	**249**	PKP	**PKPdf**	**00 16 01.1**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=70,slow=2.1,SNR=6.7						
CMAR	**Chiang Mai Arr**	**147.46**	**345**	PKPbc	**PKPbc**	**00 16 20.4**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=336,slow=3.7,SNR=20						

ISCJB 10 23:59:35.5±0.7, 50.40N±0.06×18.78E±0.04, h0km, Error ellipse: s-maj=8.3km s-min=3.0km az=12.1
CSEM 10 23:59:36.2±0.5, 50.39N×18.81E, h2km, ML2.5/5, Error ellipse: s-maj=13.3km s-min=5.3km az=2.0
PRU 10 23:59:37.4, 50.36N×18.82E, h0km
ISC 10 23:59:36.9±1.0, 50.35N±0.06×18.81E±0.02, h0km, n19, σ1§01/36, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.13**	**118**	ePg	**Pg**	**23 59 39.7**	**+0.3**
CHZP				eSg	**Sg**	**23 59 41.5**	**+0.4**
OJC	**Ojcow**	**0.65**	**102**	ePg	**Pg**	**23 59 48.7**	**-0.6**
OJC				eSg	**Sg**	**23 59 58.1**	**+0.4**
OJC	**Ojcow**	**0.65**	**102**	ePg	**Pg**	**23 59 48.7**	**-0.6**
OJC				eSg	**Sg**	**23 59 58.1**	**+0.4**
OKC	**Ostrava-Krasne**	**0.67**	**220**	ePG	**Pg**	**23 59 50.1**	**+0.4**
OKC				eSG	**Sg**	**23 59 59.7**	**+1.3**
	12nm,0.3s						
OKC	**Ostrava-Krasne**	**0.67**	**220**	Pg	**Pg**	**23 59 50.1**	**+0.4**
OKC				Sg	**Sg**	**23 59 59.7**	**+1.3**
	12nm,0.3s						
KRLC	**Kraliky**	**1.33**	**259**	ePG	**Pg**	**00 00 02.2**	**-0.2**
KRLC				eSG	**Sn**	**00 00 20.9**	**-0.3**
KRLC	**Kraliky**	**1.33**	**259**	Pg	**Pg**	**00 00 02.2**	**-0.2**
KRLC				Sg	**Sn**	**00 00 20.9**	**-0.3**
DPC	**Dobruska-Polom**	**1.59**	**271**	ePG	**Pb**	**00 00 06.8**	**-0.4**
DPC				eSG	**Sg**	**00 00 29.4**	**+1.4**
DPC	**Dobruska-Polom**	**1.59**	**271**	Pg	**Pb**	**00 00 06.8**	**-0.4**
DPC				Sg	**Sg**	**00 00 29.4**	**+1.4**
UPC	**Upice**	**1.79**	**276**	ePG	**Pb**	**00 00 10.3**	**-0.3**
UPC				eSG	**Sg**	**00 00 35.6**	**+1.1**
	1.7nm,0.4s						
UPC	**Upice**	**1.79**	**276**	Pg	**Pb**	**00 00 10.3**	**-0.3**
UPC				Sg	**Sg**	**00 00 35.6**	**+1.1**
	1.7nm,0.4s						
TREC	**Trest**	**2.40**	**245**	ePG	**Pb**	**00 00 21.1**	**+0.2**
TREC				eSG	**Sg**	**00 00 53.1**	**-0.8**
	5.8nm,0.4s						
TREC	**Trest**	**2.40**	**245**	Pg	**Pb**	**00 00 21.1**	**+0.2**
TREC				Sg	**Sg**	**00 00 53.1**	**-0.8**
	5.8nm,0.4s						
PRU	**Pruhonice**	**2.77**	**264**	ePG	**Pg**	**00 00 28.8**	**-1.1**
PRU				eSG	**Sg**	**00 01 05.5**	**-0.3**
	4.3nm,0.6s						
PRU	**Pruhonice**	**2.77**	**264**	Pg	**Pg**	**00 00 28.8**	**-1.1**
PRU				Sg	**Sg**	**00 01 05.5**	**-0.3**
	4.3nm,0.6s						
BRG	**Berggiesshubel**	**3.14**	**281**	SG	**Sg**	**00 01 18.9**	**+1.1**
	2.5nm,0.6s						
KHC	**Kasperske Hory**	**3.61**	**252**	ePN	**Pn**	**00 00 34.5**	**+0.5**
KHC				ePG	**Pg**	**00 00 44.3**	**-1.7**
KHC				eSG	**Sg**	**00 01 30.7**	**-2.0**
	5.3nm,0.6s						
KHC	**Kasperske Hory**	**3.61**	**252**	Pn	**Pn**	**00 00 34.5**	**+0.5**
CLL	**Collm**	**3.80**	**287**	eSg	**Sg**	**00 01 42.0**	**+3.0**

IDC 11 00:01:41.8±45.0, 14.90S×174.58W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/38, mbtmp4.0/3, Error ellipse: s-maj=862.4km s-min=184.0km az=77.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.30**	**239**	P	P	00 09 44.7	-1.0
	0.9nm,0.5s,baz=110,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**48.85**	**256**	P	P	00 10 29.9	+0.3
	0.5nm,0.7s,baz=88,slow=8.1,SNR=9.4						
ASAR	**Alice Springs**	**49.18**	**252**	P	P	00 10 32.1	0.0
	3.1nm,0.4s,baz=89,slow=8.0,SNR=66						

IDC 11 00:10:17.3±2.6, 35.52N×141.56E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.2/44, mbtmp3.4/5, ML3.0/2, Error ellipse: s-maj=77.6km s-min=26.4km az=58.0
ISCJB 11 00:10:20.5±1.1, 35.44N±0.05×141.4E±0.1, h25km, mb3.5/3, Error ellipse: s-maj=12.0km s-min=7.3km az=170.7
JMA 11 00:10:22.1±0.1, 35.44N×141.22E, h32km±2km, M2.4
ISC 11 00:10:21.5±1.5, 35.40N±0.07×141.3E±0.1, h25km, n17, σ1§17/14, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.47**	**310**	P	**Pb**	**00 10 30.8**	**-0.4**
CHOJ				S	**Sb**	**00 10 37.4**	**-0.4**
BSO1	**Boso 1**	**0.79**	**199**	P	**Pn**	**00 10 37.1**	**+0.6**
BSO3	**Boso 3**	**0.88**	**228**	P	**Pn**	**00 10 38.2**	**+0.2**
BSO3				S	**Sn**	**00 10 50.9**	**+1.1**
JHO	**Hitachi**	**1.35**	**334**	P	**Pb**	**00 10 44.8**	**-1.3**
JAG	**Ashikaga**	**1.81**	**305**	P	**Pb**	**00 10 52.7**	**-1.3**
MJAR	**Matsushiro Arr**	**2.75**	**295**	Pn	**Pn**	**00 11 05.9**	**+1.8**
	1.1nm,0.3s,baz=95,slow=14,SNR=11						
MAT	**Matsushiro**	**2.75**	**295**	P	**Pn**	**00 11 06.0**	**+1.9**
MAT				eS	**Sn**	**00 11 36.0**	**-0.6**
KSRS	**Korea Array**	**10.97**	**285**	Pn	**Pn**	**00 12 57.6**	**+0.8**
	0.2nm,0.3s,baz=90,slow=15,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**27.43**	**118**	T	T	00 44 59.7	
	baz=314,slow=76,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**27.44**	**118**	T	T	00 45 00.3	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**27.45**	**118**	T	T	00 45 01.2	
	baz=314,slow=76,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	00 45 51.2	
	baz=315,slow=74,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	00 45 51.6	
	baz=315,slow=74,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**28.10**	**120**	T	T	00 45 51.3	
	baz=315						
ZALV	**Zalesovo Beam**	**42.96**	**314**	P	**P**	**00 18 19.0**	**+0.7**
	0.3nm,0.3s,baz=94,slow=7.4,SNR=2.9						
MKAR	**Makanchi Array**	**44.92**	**303**	P	**P**	**00 18 33.2**	**-1.0**
	0.3nm,0.7s,baz=91,slow=9.0,SNR=3.6						
WRA	**Warramunga Arr**	**55.43**	**188**	P	**P**	**00 19 54.6**	**+0.7**
	0.6nm,0.6s,baz=4.2,slow=7.6,SNR=12						

CASC 11 00:17:04.0±1.3, 13.23N×89.79W, h31km±4km, MD3.6, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.63**	**15**	eP	Pb	00 17 17.0	0.0
SNJE	**San Jose**	**0.66**	**16**	eP	Pb	00 17 17.1	-0.4
SNJE				eS	Sb	00 17 26.6	0.0
RTR	**El Retiro**	**0.68**	**12**	eP	Pb	00 17 17.7	0.0
BOQS	**Boqueron**	**0.71**	**45**	eP	Pb	00 17 18.0	-0.3
BOQS				eS	Sn	00 17 29.1	+0.7
SNET	**Serv Nac Est T**	**0.71**	**50**	eP	Pb	00 17 17.3	-0.8
SNET				eS	Sn	00 17 28.1	-0.1
LFRS	**El Faro**	**0.81**	**61**	eP	Pn	00 17 18.8	-0.8
RBDL	**Robledal**	**0.89**	**7**	eP	Pn	00 17 20.6	0.0
LBRS	**Las Brisas**	**0.89**	**55**	eP	Pn	00 17 20.4	-0.2
LBRS				eS	Sb	00 17 33.4	+0.6
MRL	**Marmol**	**1.83**	**3**	eP	Pb	00 17 38.2	+1.1

WEL 11 00:28:27.4±0.3, 38.72S×179.69W, h33km, ML3.8/5, 1C-1D, Error ellipse: s-maj=3.5km s-min=2.0km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**1.67**	**278**	PN	Pn	00 28 54.1	-0.2
PUZ	**Puketiti**	**1.74**	**291**	PN	Pn	00 28 54.6	-0.8
PUZ				AML	AML	00 29 16.6	
PUZ				AML	AML	00 29 33.9	
PRGZ	**Paritu Road**	**1.91**	**263**	⇑PN	Pn	00 28 57.1	-0.5
PRGZ				SN	Sn	00 29 20.1	-0.6
MHGZ	**Mahia Peninsul**	**1.93**	**256**	PN	Pn	00 28 57.0	-0.9
MXZ	**Matakaoa Point**	**1.96**	**306**	PN	Pn	00 28 57.5	-0.8
RIGZ	**Rimuhau**	**2.00**	**270**	PN	Pn	00 28 58.3	-0.6
KNZ	**Kokohu**	**2.08**	**261**	PN	Pn	00 28 59.4	-0.6
HAZ	**Te Kaha**	**2.22**	**295**	PN	Pn	00 29 01.0	-0.8
MWZ	**Matawai**	**2.22**	**279**	⇓PN	Pn	00 29 01.4	-0.5
MWZ				SN	Sn	00 29 25.5	-2.8
MWZ				AML	AML	00 29 28.0	
MWZ				AML	AML	00 29 28.1	
MWZ				AML	AML	00 29 29.8	
RAGZ	**Rāwiri**	**2.28**	**275**	PN	Pn	00 29 02.4	-0.4
RAGZ				SN	Sn	00 29 28.1	-1.9
SNGZ	**Shannon Statio**	**2.33**	**268**	PN	Pn	00 29 03.0	-0.5
RAHZ	**Arahi**	**2.53**	**265**	PN	Pn	00 29 05.9	-0.3
URZ	**Urewera**	**2.56**	**279**	PN	Pn	00 29 06.5	0.0
URZ				AML	AML	00 29 39.0	
URZ				AML	AML	00 29 39.5	
NMHZ	**Naumai**	**2.76**	**261**	PN	Pn	00 29 09.2	-0.3
NMHZ				SN	Sn	00 29 41.4	-0.4
KAHZ	**Kahuranaki**	**2.88**	**247**	PN	Pn	00 29 10.1	-0.9
MCHZ	**McNeill Hill**	**2.91**	**255**	PN	Pn	00 29 11.3	-0.1
PXZ	**Pawanui**	**2.98**	**243**	PN	Pn	00 29 11.0	-1.3
BKZ	**Black Stump Fm**	**3.01**	**260**	PN	Pn	00 29 12.2	-0.7
BKZ				SN	Sn	00 29 46.4	-1.5
BKZ				AML	AML	00 29 51.1	
KRHZ	**Kereru**	**3.20**	**252**	PN	Pn	00 29 14.9	-0.6
BHHZ	**Black Hill Sta**	**3.40**	**256**	PN	Pn	00 29 17.2	-0.9
PNHZ	**Pukenui**	**3.41**	**248**	PN	Pn	00 29 17.1	-1.2
ANWZ	**Angora Road**	**3.44**	**238**	PN	Pn	00 29 16.1	-2.6
DVHZ	**Dannevirke**	**3.57**	**243**	PN	Pn	00 29 19.1	-1.4
MOVZ	**Moawhango**	**3.62**	**258**	PN	Pn	00 29 21.2	0.0
TSZ	**Takapari Road**	**3.63**	**247**	PN	Pn	00 29 19.7	-1.6
TSZ				SN	Sn	00 29 59.9	-3.2
KRVZ	**Karewarewa**	**3.67**	**263**	PN	Pn	00 29 22.2	+0.3
TUVZ	**Tukino**	**3.67**	**260**	PN	Pn	00 29 22.2	+0.1
BFZ	**Birch Farm**	**3.70**	**237**	PN	Pn	00 29 19.4	-2.8
WNVZ	**Wahianoa**	**3.72**	**259**	PN	Pn	00 29 22.5	-0.3
FWVZ	**Far West T-bar**	**3.75**	**260**	PN	Pn	00 29 22.9	-0.3
TRVZ	**Turoa**	**3.76**	**260**	PN	Pn	00 29 23.2	-0.2
PRWZ	**Pori Road**	**3.82**	**240**	PN	Pn	00 29 22.1	-1.8
PRWZ				SN	Sn	00 30 06.3	-1.4
POWZ	**Post Office Ro**	**3.89**	**243**	PN	Pn	00 29 23.3	-1.6
MRZ	**Mangatainoka R**	**4.13**	**241**	PN	Pn	00 29 25.6	-2.6
MRZ				SN	Sn	00 30 11.4	-4.0
HOWZ	**Holdsworth Sta**	**4.29**	**238**	PN	Pn	00 29 27.0	-3.4
MTW	**Mount Morrison**	**4.43**	**235**	PN	Pn	00 29 29.8	-2.4
CTZ	**Chatham Island**	**5.51**	**156**	PN	Pn	00 29 47.6	+0.5

ISCJB 11 00:39:39.9±0.7, 67.84N±0.03×20.3E±0.1, h0km, Error ellipse: s-maj=5.7km s-min=4.5km az=173.4
UPP 11 00:39:40.5, 67.84N×20.20E, h0km, ML1.2, Mining explosion.
CSEM 11 00:39:40.3±0.3, 67.84N×20.31E, h2km, ML1.5, Error ellipse: s-maj=6.2km s-min=5.8km az=115.0, Mining explosion.
HEL 11 00:39:42.7, 67.90N×20.38E, h0km, ML1.5, Explosion
ISC 11 00:39:39.9±1.0, 67.82N±0.03×20.26E±0.04, h0km, n26, σ1§19/41, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**13**	i P	**Pg**	**00 39 43.2**	**+0.8**
KUA				i S	**Sg**	**00 39 45.1**	**+0.9**
KUA	**Kurravaara**	**0.13**	**13**	P	**Pg**	**00 39 43.1**	**+0.7**
KUA				S	**Sg**	**00 39 45.0**	**+0.9**
LANU	**Lannavaara**	**0.69**	**70**	eP	**Pg**	**00 39 53.7**	**+0.6**
	baz=250						
LANU				eS	**Sg**	**00 40 03.3**	**+1.2**
LANU	**Lannavaara**	**0.69**	**70**	P	**Pg**	**00 39 53.7**	**+0.6**
LANU				S	**Sg**	**00 40 03.2**	**+1.2**
MASU	**Masugnsbyn**	**0.76**	**118**	i P	**Pg**	**00 39 55.2**	**+0.7**
MASU				i S	**Sb**	**00 40 06.1**	**-0.7**
MASU	**Masugnsbyn**	**0.76**	**118**	P	**Pg**	**00 39 55.1**	**+0.7**
MASU				S	**Sb**	**00 40 06.1**	**-0.7**
SALU	**Saltoluokta**	**0.81**	**237**	i P	**Pg**	**00 39 55.4**	**+0.1**
SALU	**Saltoluokta**	**0.81**	**237**	P	**Pg**	**00 39 55.4**	**+0.1**
KIF	**Kilpisjarvi**	**1.20**	**9**	ePB	**Pg**	**00 40 03.6**	**+0.7**
	baz=193						
KIF				eS	**Sg**	**00 40 18.2**	**-0.2**
KIF	**Kilpisjarvi**	**1.20**	**9**	Pb	**Pg**	**00 40 03.5**	**+0.7**
KIF				S	**Sg**	**00 40 18.2**	**-0.2**
HEF	**Hetta**	**1.40**	**64**	ePG	**Pg**	**00 40 06.6**	**-0.1**
	baz=240						
HEF				eSB	**Sb**	**00 40 25.2**	**-0.1**
HEF	**Hetta**	**1.40**	**64**	Pg	**Pg**	**00 40 06.6**	**-0.1**
HEF				Sb	**Sb**	**00 40 25.2**	**-0.1**
ERTU	**Ertsjaerv**	**1.48**	**149**	eP	**Pn**	**00 40 07.8**	**+0.1**
ERTU	**Ertsjaerv**	**1.48**	**149**	P	**Pn**	**00 40 07.8**	**+0.1**
KALU	**Kalix**	**2.32**	**147**	eP	**Pn**	**00 40 21.2**	**+2.0**
KALU	**Kalix**	**2.32**	**147**	P	**Pn**	**00 40 21.2**	**+2.0**
SGF	**Sodankyl**	**2.43**	**96**	eSB	**Sb**	**00 40 54.4**	**-0.4**
SGF				MSG		00 40 54.4	
	comp=Z,1.7nm,0.3s						
SGF	**Sodankyl**	**2.43**	**96**	Sb	**Sb**	**00 40 54.4**	**-0.4**
	comp=Z,1.7nm,0.3s						
RNF	**Rovaniemi**	**2.55**	**116**	ePB	**Pb**	**00 40 25.2**	**-1.2**
RNF				eSG	**Sb**	**00 40 59.9**	**+1.6**
RNF				MSG		00 40 59.9	
	comp=Z,2.3nm,0.2s						
RNF	**Rovaniemi**	**2.55**	**116**	Pb	**Pb**	**00 40 25.2**	**-1.2**
RNF				Sg	**Sb**	**00 40 59.9**	**+1.6**
	comp=Z,2.3nm,0.2s						
ARA0	**ARCESS Array S**	**2.57**	**46**	eP	**Pn**	**00 40 24.0**	**+1.2**
	baz=231						
ARA0				MSG	**Sb**	**00 40 57.4**	**-1.6**
	comp=Z,1.8nm,0.2s						
ARA0				eSB	**Sb**	**00 40 57.4**	**-1.6**
ARA0	**ARCESS Array S**	**2.57**	**46**	P	**Pn**	**00 40 24.0**	**+1.2**
ARA0				Sb	**Sb**	**00 40 57.4**	**-1.6**
KEV	**Kevo**	**3.13**	**49**	eSB	**Sb**	**00 41 12.5**	**-2.4**
KEV				MSG		00 41 12.5	
	comp=Z,0.6nm,0.2s						
KEV	**Kevo**	**3.13**	**49**	Sb	**Sb**	**00 41 12.4**	**-2.4**
	comp=Z,0.6nm,0.2s						
KU6	**Riekki**	**4.20**	**111**	eSG	**Sg**	**00 41 52.9**	**-1.7**
KU6	**Riekki**	**4.20**	**111**	Sg	**Sg**	**00 41 52.9**	**-1.7**

IDC 11 00:59:09.6±1.8, 2.82N×125.20E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/27, mbtmp3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/16, Error ellipse: s-maj=186.0km s-min=25.2km az=63.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.34**	**159**	P	P	01 04 29.2	-0.1
	0.4nm,0.4s,baz=338,slow=11,SNR=12						
HNR	**Honiara**	**36.70**	**110**	LR	LR	01 20 55.3	
	comp=Z,88nm,19.3s,baz=344,slow=36						
STKA	**Stephens Creek**	**37.86**	**157**	P	P	01 06 28.7	+0.4
	0.4nm,0.3s,baz=348,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**57.44**	**326**	P	P	01 08 59.9	-0.4
	0.1nm,0.4s,baz=113,slow=7.3,SNR=7.5						

DJA 11 01:02:49.1±1.0, 8°S±9°×10°7E±°, h30km±8km, M3.6/10, MLv3.6/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.64**	**41**	P	Pn	01 03 02.3	+0.1
CISI				S	Sn	01 03 11.9	+0.5
CNJI	**Cibinong**	**0.77**	**340**	P	Pn	01 03 03.5	-0.4
CNJI				S	Sb	01 03 14.3	+0.1
CMJI	**Cimerak**	**1.08**	**76**	P	Pn	01 03 08.0	-0.2
CMJI				S	Sn	01 03 21.4	-0.7
DBJI	**Dramaga**	**1.61**	**337**	P	Pn	01 03 16.1	+0.6
KPJI	**Karang Pucung**	**1.68**	**65**	P	Pn	01 03 17.7	+1.2
CGJI	**Cibinong**	**2.20**	**310**	P	Pn	01 03 22.5	-1.1
UGM	**Wanagama**	**3.11**	**88**	P	Pn	01 03 36.6	+0.5
PCJI	**Pacitan**	**3.75**	**93**	P	Pn	01 03 45.4	+0.4
PWJI	**Pagerwojo**	**4.37**	**90**	P	Pn	01 03 53.2	-0.3

IDC 11 01:09:56.2±9.2, 19.52S×173.65W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.5/3, Error ellipse: s-maj=398.2km s-min=39.4km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	48.72	255	P	P	01 18 42.6	-0.4
	0.3nm,0.5s,baz=105,slow=7.1,SNR=4.9						
WRA	Warramunga Arr	48.79	260	P	P	01 18 43.6	+0.1
	0.4nm,0.8s,baz=96,slow=8.2,SNR=7.0						
ILAR	Eielson Array	86.51	11	P	P	01 22 40.5	-0.1
	0.3nm,0.6s,baz=216,slow=6.0,SNR=6.4						

ISCJB 11 01:18:48.0±0.3, 57.37S±0.05×25.29W±0.08, h43km, mb4.9/35, MS4.3/14, Error ellipse: s-maj=7.5km s-min=5.9km az=30.7
NEIC 11 01:18:51.7±0.6, 57.45S×25.65W, h63km±5km, mb4.9/25, Error ellipse: s-maj=7.2km s-min=5.9km az=197.0
IDC 11 01:18:51.1±0.5, 57.43S×25.73W, h58km±4km, mb4.5/16, mb1 4.5/18, mb1mx4.5/23, mbtmp4.8/18, MS4.0/12, Ms1 4.0/12, ms1mx3.8/20, Error ellipse: s-maj=13.4km s-min=13.0km az=179.0
BJI 11 01:18:52.8, 57.50S×25.70W, h62km, mB5.3/8, Ms5.1/6, Ms7 5.1/6
AWI 11 01:19:04.5, 58.86S×27.04W
ISC 11 01:18:49.3±0.3, 57.41S±0.07×25.72W±0.06, h43km, n122, σ1.75/144, mb4.9/35, MS4.2/14, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.82	293	Pn	Pn	01 20 31.9	+5.2
	1.0nm,1.0s,SNR=16						
HOPE	Hope Point	6.82	293	ePn	Pn	01 20 30.7	+4.0
	193nm,0.8s						
HOPE				eS	Sn	01 21 44.0	+1.1
VNA1	Neumayer--Stat	15.23	158	P	Pn	01 22 22.2	+1.2
VNA3	Neumayer Olymp	15.44	160	P	Pn	01 22 24.6	+0.9
VNA3	Neumayer Olymp	15.44	160	S	Sn	01 24 59.5	-14
VNA2	Neumayer--Watz	15.62	157	P	Pn	01 22 26.5	+0.4
VNA2	Neumayer--Watz	15.62	157	S	Sn	01 25 06.3	-12
SNAA	Sanae	17.17	155	P	P	01 22 47.4	+0.6
SNAA	Sanae	17.17	155	eP	P	01 22 47.8	+1.0
SNAA	Sanae	17.17	155	P	P	01 22 47.0	+0.2
	1.1nm,0.3s,baz=324,slow=17,SNR=51						
SNAA				S	Sn	01 25 41.8	-14
	0.1nm,0.3s,baz=309,slow=18,SNR=3.8						
SNAA				LR	LR	01 28 17.3	
	comp=Z,104nm,19.8s,baz=331,slow=33						
SNAA	Sanae	17.17	155	ePn	P	01 22 47.1	+0.2
	120nm,1.5s						
SNAA				eS	Sn	01 25 41.0	-14
SNAA				S	S	01 25 41.8	-21
PMSA	Palmer Station	19.66	232	P	Pn	01 23 15.9	+0.1
	3.1nm,0.3s,baz=82,slow=7.7,SNR=11						
PMSA				LR	LR	01 29 42.5	
	comp=Z,971nm,19.0s,baz=124,slow=33						
PMSA	Palmer Station	19.66	232	eP	Pn	01 23 15.5	-0.3
	65nm,0.9s						
PMSA				ePn	Pn	01 23 15.9	+0.1
USHA	Ushuaia	23.66	258	P	P	01 23 57.7	+1.3
	15nm,0.9s,baz=93,slow=13,SNR=4.2						
USHA				LR	LR	01 31 00.0	
	comp=Z,945nm,21.8s,baz=82,slow=31						
SYO	Syowa Base	30.02	139⇑	eP	P	01 24 49.9	-3.5
TRQA	Tornquist	30.60	294	eP	P	01 24 60.0	+1.0
	4.2nm,0.9s						
QSPA	South Pole Qui	32.84	180	P	P	01 25 18.8	+0.3
	25nm,0.6s,baz=205,slow=3.6,SNR=92						
QSPA				ScP	ScP	01 31 39.1	-3.2
	4.0nm,0.7s,baz=212,slow=1.4,SNR=8.8						
PLCA	Paso Flores	33.04	281	P	P	01 25 21.3	+0.8
	7.8nm,0.8s,baz=141,slow=8.1,SNR=16						
PLCA				ScP	ScP	01 31 39.6	-3.8
	3.2nm,0.9s,baz=195,slow=1.9,SNR=4.2						
PLCA				LR	LR	01 38 02.7	
	comp=Z,183nm,18.7s,baz=100,slow=35						
CPUP	Villa Florida	38.31	311	P	P	01 26 05.8	+0.2
	2.0nm,0.4s,baz=144,slow=7.3,SNR=8.0						
CPUP	Villa Florida	38.31	311	eP	P	01 26 05.1	-0.5
	0.3nm,0.6s						
MAW	Mawson	38.58	142	LR	LR	01 39 45.7	
	comp=Z,103nm,20.3s,baz=247,slow=32						
BDFB	Brasilia	44.95	329	P	P	01 27 01.8	+1.7
	2.9nm,0.3s,baz=144,slow=3.1,SNR=12						
BDFB				LR	LR	01 45 06.3	
	comp=Z,161nm,19.0s,baz=83,slow=35						
VNDA	Vanda	45.25	182	P	P	01 27 02.6	+1.0
	23nm,0.9s,baz=195,slow=7.2,SNR=17						
VNDA				LR	LR	01 44 49.1	
	comp=Z,122nm,20.4s,baz=166,slow=34						
VNDA	Vanda	45.25	182	eP	P	01 27 02.5	+0.8
	31nm,1.0s						
BOSA	Boshof	45.56	73	eP	P	01 27 05.0	+0.2
BOSA				AMB	AMB	01 27 51.8	
	comp=Z,35nm,5.0s						
BOSA	Boshof	45.56	73	P	P	01 27 05.2	+0.4
	comp=Z,16nm,0.9s,baz=206,slow=8.0,SNR=16						
BOSA				LR	LR	01 42 05.3	
	comp=Z,546nm,21.1s,baz=224,slow=31						
BOSA	Boshof	45.56	73	eP	P	01 27 05.1	+0.2
	comp=Z,27nm,1.2s						
LVC	Limon Verde	46.68	300	eP	P	01 27 14.9	+1.0
	comp=Z,9.5nm,0.7s						
SWZ	Schweizer	46.75	72	eP	P	01 27 14.2	-0.1
SWZ				AMB	AMB	01 27 15.3	
	comp=Z,54nm,3.5s						
SWZ	Schweizer	46.75	72	P	P	01 27 14.2	-0.1
	comp=Z,54nm,3.5s						
SEK	Senekal	47.02	75	eP	P	01 27 16.2	-0.2
SEK				AMB	AMB	01 27 17.8	
	comp=Z,29nm,1.5s						
SEK	Senekal	47.02	75	P	P	01 27 16.2	-0.2
	comp=Z,29nm,1.5s						
WDLM	Western Deep L	48.45	73	eP	P	01 27 27.0	-0.5
WDLM				AMB	AMB	01 27 28.5	
	comp=Z,13nm,0.8s						
LBTB	Lobatse	48.66	71	eP	P	01 27 29.4	+0.4
LBTB				AMB	AMB	01 27 42.1	
	comp=Z,28nm,4.3s						
LBTB	Lobatse	48.66	71	P	P	01 27 29.1	+0.1
	comp=Z,12nm,0.7s,baz=222,slow=7.7,SNR=19						
LBTB	Lobatse	48.66	71	eP	P	01 27 29.0	-0.1
	comp=Z,14nm,0.8s						
CRWM	Crown Mines	48.91	74	eP	P	01 27 31.2	+0.1
CRWM				AMB	AMB	01 27 31.6	
	comp=Z,15nm,1.3s						
ERPM	east rand prop	48.94	74	eP	P	01 27 31.5	+0.2
ERPM				AMB	AMB	01 27 33.1	
	comp=Z,29nm,1.2s						
ERPM	east rand prop	48.94	74	P	P	01 27 31.5	+0.2
	comp=Z,29nm,1.2s						
OBSV	Observatory	48.98	74	eP	P	01 27 31.8	+0.2
OBSV				AMB	AMB	01 27 32.7	
	comp=Z,26nm,1.0s						
H10S2	ASCENSION HYDR	49.09	15	T	T	02 21 15.6	
	baz=188,slow=75,SNR=47						
H10S3	ASCENSION HYDR	49.10	15	T	T	02 21 15.3	
	baz=188,slow=75,SNR=35						
H10S1	ASCENSION HYDR	49.11	15	T	T	02 21 15.8	
	baz=188,slow=75,SNR=39						
TSUM	Tsumeb	49.68	58	eP	P	01 27 37.8	+0.9
	comp=Z,6.3nm,1.3s						
H10N1	ASCENSION HYDR	50.21	15	T	T	02 22 38.8	
	baz=188,slow=75,SNR=8.3						
H10N3	ASCENSION HYDR	50.21	15	T	T	02 22 41.7	
	baz=188,slow=75,SNR=29						
H10N2	ASCENSION HYDR	50.23	15	T	T	02 22 42.3	
	baz=188,slow=75,SNR=17						
LPAZ	La Paz	51.82	305	P	P	01 27 53.4	-0.2
	comp=Z,17nm,0.5s,baz=167,slow=6.3,SNR=61						
LPAZ	La Paz	51.82	305	eP	P	01 27 54.3	+0.7
	comp=Z,19nm,0.6s						
CASY	Casey	52.35	159	eP	P	01 27 54.6	-1.6
	comp=Z,8.9nm,1.1s						
MSNA	Messina	53.14	73	eP	P	01 28 02.9	+0.2
MSNA				AMB	AMB	01 28 03.4	
	comp=Z,15nm,1.1s						
MSNA	Messina	53.14	73	P	P	01 28 02.9	+0.2
	comp=Z,15nm,1.1s						
SAML	Samuel	56.33	314	eP	P	01 28 25.4	-0.4
	comp=Z,18nm,0.9s						
LSZ	Lusaka	58.14	67	P	P	01 28 39.2	+0.5
	comp=Z,9.1nm,0.9s,baz=163,slow=2.9,SNR=24						
LSZ	Lusaka	58.14	67	eP	P	01 28 38.8	+0.1
	comp=Z,12nm,0.9s						
PTGA	Pitinga	62.74	321	eP	P	01 29 10.4	+0.5
	comp=Z,6.9nm,0.9s						
LIC	Lamto	65.62	23	ePKIKP	P	01 29 29.4	+0.7
	comp=Z,44nm,1.4s						
LIC	Lamto	65.62	23	eP	P	01 29 33.7	+5.0
	comp=Z,44nm,1.4s						
KIC	Kosan Boka	65.81	23	ePKIKP	P	01 29 29.3	-0.7
	comp=Z,72nm,1.4s						
KIC	Kosan Boka	65.81	23	eP	P	01 29 30.3	+0.3
	comp=Z,76nm,1.6s						
TIC	Toumodi	66.03	23	ePKIKP	P	01 29 28.7	-2.7
	comp=Z,9.6nm,0.6s						
TIC	Toumodi	66.03	23	eP	P	01 29 31.1	-0.3
	comp=Z,39nm,1.3s						
DBIC	Dimbokro	66.09	23	P	P	01 29 32.2	+0.5
	comp=Z,2.3nm,0.7s,baz=171,slow=6.5,SNR=4.3						
DBIC				LR	LR	01 51 08.7	
	comp=Z,168nm,21.2s,baz=166,slow=29						
DBIC	Dimbokro	66.09	23	P	P	01 29 32.4	+0.6
	comp=Z,7.4nm,0.9s						
TOA0	Torodi Ar. Sit	73.86	28	eP	P	01 30 20.1	+0.8
TORD	Torodi Ar. Bea	73.86	28	P	P	01 30 20.2	+0.8
	comp=Z,9.2nm,0.7s,baz=199,slow=6.1,SNR=128						
TORD				LR	LR	01 57 09.2	
	comp=Z,114nm,21.0s,baz=225,slow=31						
KMBO	Kilima Mbogo	74.79	67	P	P	01 30 27.3	+2.1
	comp=Z,0.9nm,0.5s,baz=208,slow=12,SNR=5.2						
KMBO	Kilima Mbogo	74.79	67	eP	P	01 30 27.3	+2.1
	comp=Z,2.8nm,1.0s						
SDV	Santo Domingo	75.54	314	eP	P	01 30 29.3	-0.1
	comp=Z,9.4nm,0.8s						
WHZ	Wether Hill Ro	76.43	190	eP	P	01 30 34.1	+0.1
	comp=Z,336nm,2.8s						
TAU	Tasmania Unive	79.88	175	eP	P	01 30 52.9	-0.1
	comp=Z,40nm,0.9s						
URZ	Urewera	82.77	198	P	P	01 31 08.0	-0.5
	comp=Z,11nm,0.9s,baz=239,slow=5.9,SNR=6.5						
OUZ	Omahuta	86.29	196	eP	P	01 31 25.9	-0.3
	comp=Z,31nm,1.1s						
STKA	Stephens Creek	90.42	169	P	P	01 31 47.3	+1.3
	comp=Z,4.0nm,0.9s,baz=206,slow=2.4,SNR=2.9						
STKA				pP	pP	01 32 02.7	+3.8
	comp=Z,8.8nm,0.8s,baz=162,slow=7.0,SNR=10						
STKA				LR	LR	02 10 20.0	
	comp=Z,69nm,18.6s,baz=204,slow=34						
STKA	Stephens Creek	90.42	169	eP	P	01 31 46.1	+0.2
	comp=Z,1.3nm,0.8s						
STKA				pP	pP	01 32 02.7	+3.8
PPT	Papeete	92.03	232	LR	LR	02 04 00.5	
	comp=Z,90nm,20.6s,baz=166,slow=30						
ASAR	Alice Springs	97.44	161	P	P	01 32 17.4	-1.0
	comp=Z,2.0nm,0.8s,baz=189,slow=4.4,SNR=12						
ASAR				pP	pP	01 32 34.4	+3.0
	comp=Z,3.9nm,0.8s,baz=190,slow=4.3,SNR=12						
ASAR				PP	PP	01 36 12.5	-2.2
	comp=Z,0.3nm,0.6s,baz=198,slow=5.8,SNR=3.2						
WRA	Warramunga Arr	101.16	161	P	Pdif	01 32 34.3	-0.6
	comp=Z,0.4nm,0.7s,baz=197,slow=4.6,SNR=3.9						
WRA				pP	pP	01 32 50.4	+2.3
	comp=Z,1.0nm,0.7s,baz=194,slow=4.1,SNR=6.4						
WRA				PP	PP	01 36 38.5	-4.6
	comp=Z,0.5nm,0.9s,baz=188,slow=5.8,SNR=2.9						
WRA				PKKPbc	PKKPdf	01 48 45.6	-1.1
	comp=Z,0.3nm,0.9s,baz=358,slow=3.4,SNR=3.9						
SCHQ	Schefferville	116.74	335	PKP	PKPdf	01 37 27.2	-0.3
	comp=Z,7.5nm,1.0s,baz=225,slow=2.9,SNR=4.6						
HFS	Hagfors	121.25	22	PKKPbc	PKKPbc	01 47 36.8	-0.7
	comp=Z,0.9nm,0.5s,baz=80,slow=3.3,SNR=6.7						
DUG	Dugway	121.30	296	ePKPdf	PKPdf	01 37 37.4	+0.4
PDAR	Pinedale Array	121.74	301	PKP	PKPdf	01 37 37.1	-0.8
	comp=Z,0.5nm,0.5s,baz=131,slow=4.4,SNR=5.6						
PDAR				pPKP	pPKPdf	01 37 53.5	+2.2
	comp=Z,0.5nm,0.6s,baz=133,slow=5.5,SNR=2.9						
ULM	Lac du Bonnet	121.79	315	PKP	PKPdf	01 37 36.1	-1.2
	comp=Z,2.0nm,0.5s,baz=143,slow=2.3,SNR=5.2						
ULM				pPKP	pPKPdf	01 37 52.9	+2.1
	comp=Z,2.7nm,0.7s,baz=91,slow=4.3,SNR=3.7						
NVAR	Mina Array Bea	122.66	291	PKP	PKPdf	01 37 40.6	+0.9
	comp=Z,1.1nm,0.6s,baz=132,slow=3.1,SNR=9.1						
NVAR				pPKP	pPKPdf	01 37 56.2	+3.1
	comp=Z,0.9nm,0.7s,baz=151,slow=4.1,SNR=4.9						
CMAR	Chiang Mai Arr	123.83	110	PKP	PKPdf	01 37 41.3	-1.0
	comp=Z,0.9nm,0.3s,baz=226,slow=3.8,SNR=4.9						
CMAR				pPKP	pPKPdf	01 37 59.0	+3.3
	comp=Z,4.0nm,0.8s,baz=238,slow=3.2,SNR=3.4						
FINES	FINESS Array B	125.21	28	PKP	PKPdf	01 37 43.2	-0.3
	comp=Z,1.8nm,0.5s,baz=185,slow=2.6,SNR=18						
HRY	Holter Researc	125.80	302	ePKPdf	PKPdf	01 37 46.3	+1.0
KAF	Kangasniemi	125.84	27	epkp	PKPdf	01 37 43.8	-0.9
ABKAR	Akbulak array	127.48	55	ePKPdf	PKPdf	01 37 48.1	-0.2
JOF	Joensuu	127.80	29	epkp	PKPdf	01 37 47.7	-0.7
KKAR	Karatay Array	127.99	67	ePKPdf	PKPdf	01 37 51.4	+1.8
KSH	Kashi	128.15	74	ePKP	PKPdf	01 37 49.4	-0.7
KSH				AMB	AMB		
	comp=Z,73nm,4.2s						
KSH				LR	LR		
	comp=Z,53nm,7.0s						
KSH				LR	LR		
	comp=Z,23nm,3.5s						
KSH				LR	LR		
	comp=Z,64nm,4.0s						
QIZ	Qiongzhong	129.65	121	PKP	PKPdf	01 37 54.2	+0.8
QIZ				PP	PP	01 40 05.2	+1.1
QIZ				SS	SS	01 57 24.4	+0.6
QIZ				LR	LR		
	comp=Z,120nm,4.0s						
ARCES	ARCESS Array B	131.91	22	PKP	PKPdf	01 37 54.0	-2.1
	comp=Z,2.4nm,0.8s,baz=225,slow=2.3,SNR=4.4						
ARCES				SKPbc	SKPbc	01 41 17.4	-0.9
	comp=Z,1.0nm,0.6s,baz=321,slow=1.7,SNR=4.4						
GYA	Guiyang	134.40	112	ePdif	Pdif	01 35 02.0	-0.6
GYA				PKP	PKPdf	01 38 01.6	-0.7
GYA				sPKP		01 38 28.2	
GYA				PP	PP	01 40 37.1	+2.2
GYA				PKS	PKSdf	01 41 37.8	-1.1
GYA				AMB	AMB		
	comp=Z,120nm,8.0s						
CD2	Chengdu	136.52	105	PKP	PKPdf	01 38 06.6	+0.6
CD2				sPKP		01 38 33.2	
CD2				PKS	PKSdf	01 41 41.4	-0.9
CD2				SKS	SKSdf	01 45 08.7	-4.5
CD2				SKKS	SKKSac	01 47 35.9	-3.1
CD2				SS	SS	01 58 47.6	+0.2
CD2				AMB	AMB		
	comp=Z,230nm,4.8s						
MKAR	Makanchi Array	136.55	72	PKhKP	PKPpre	01 37 55.2	
	comp=Z,0.2nm,0.8s,baz=225,slow=1.4,SNR=2.6						
MKAR				PKP	PKPdf	01 38 04.8	-0.7
	comp=Z,0.3nm,0.6s,baz=180,slow=1.4,SNR=5.8						
MKAR				SKPbc	SKPbc	01 41 29.7	-4.4
	comp=Z,0.7nm,0.9s,baz=241,slow=3.0,SNR=3.6						
MKAR				SKPab	SKiKP	01 41 36.2	-3.3
	comp=Z,0.9nm,0.9s,baz=270,slow=1.2,SNR=4.3						
WMQ	Urumqi	137.38	79	ePKP	PKPdf	01 38 08.2	+1.0
WMQ				PKS	PKSdf	01 41 43.0	-0.3
WMQ				SKS	SKSdf	01 45 07.2	-6.9
WMQ				SKKS	SKKSac	01 47 38.2	-5.5
WMQ				LR	LR		
	comp=Z,48nm,18.8s						
WMQ				LR	LR		
	comp=Z,49nm,21.8s						
WMQ				LR	LR		
	comp=Z,78nm,24.8s						
YKA	Yellowknife Ar	137.72	316	PKhKP	PKPpre	01 37 55.4	
	comp=Z,0.1nm,0.2s,baz=134,slow=3.4,SNR=4.3						
YKA				PKP	PKPdf	01 38 07.3	+0.2
	comp=Z,4.2nm,0.6s,baz=128,slow=2.2,SNR=39						
YKA				pPKP	pPKPdf	01 38 23.5	+3.0
	comp=Z,8.4nm,0.8s,baz=130,slow=2.2,SNR=11						
YKA				PP	PP	01 40 50.8	-4.6
	comp=Z,0.9nm,0.9s,baz=122,slow=5.5,SNR=5.1						
YKA				SKPbc	SKPbc	01 41 33.7	-3.3
	comp=Z,4.9nm,0.8s,baz=127,slow=2.4,SNR=26						
LZH	Lanzhou	140.57	101	ePKP	PKPdf	01 38 20.1	+6.7
LZH				sPKP		01 38 43.9	
LZH				PP	PP	01 41 21.9	+8.4
LZH				AMB	AMB		
	comp=Z,160nm,4.7s						
LZH				LR	LR		
	comp=Z,350nm,18.8s						
LZH				LR	LR		
	comp=Z,390nm,17.3s						
LZH				LR	LR		
	comp=Z,440nm,19.8s						
GTA	Gaotai	140.84	93	ePKP	PKPdf	01 38 14.4	+0.6
GTA				sPKP		01 38 41.2	
GTA				PP	PP	01 41 20.1	+4.9
GTA				SKS	SKSdf	01 45 19.1	-1.1
GTA				SKKS	SKKSac	01 48 05.6	+1.2
GTA				SS	SS	01 59 41.8	+3.0
GTA				AMB	AMB		
	comp=Z,76nm,5.2s						
GTA				LR	LR		
	comp=Z,63nm,14.0s						
GTA				LR	LR		
	comp=Z,64nm,15.4s						
GTA				LR	LR		
	comp=Z,82nm,16.6s						
ZALV	Zalesovo Beam	142.23	65	PKP	PKPdf	01 38 12.7	-2.9
	comp=Z,0.7nm,0.5s,baz=207,slow=5.7,SNR=3.6						
NJ2	Nanjing	144.94	121	ePKP	PKPdf	01 38 21.2	+0.1
HHC	Hu-ho-hao-te	148.16	103	ePKPbc	PKPdf	01 38 23.4	-3.0
HHC				sPKP		01 38 57.3	
HHC				SS	SS	02 00 57.2	-5.3
HHC				AMB	AMB		
	comp=Z,160nm,7.9s						
HHC				LR	LR		
	comp=Z,180nm,10.3s						
HHC				LR	LR		
	comp=Z,420nm,13.4s						
HHC				LR	LR		
	comp=Z,230nm,14.1s						
DAWY	Dawson	148.30	310	ePKPbc	PKPbc	01 38 28.8	-0.5
EGAK	Eagle	149.25	311	ePKPdf	PKPbc	01 38 27.2	0.0
EGAK				ePKPbc	PKPbc	01 38 32.1	+0.6
BMRM	Bremner River	149.49	303	ePKPbc	PKPbc	01 38 33.4	+1.0
SONM	Songino Array	149.99	88	PKPbc	PKPbc	01 38 33.5	-0.6
	comp=Z,5.7nm,1.0s,baz=211,slow=3.4,SNR=17						
DOT	Dot Lake	150.13	308	ePKPdf	PKPdf	01 38 28.7	0.0
DOT				ePKPbc	PKiKP	01 38 34.3	-0.3
ULN	Ulaanbaatar	150.36	88	ePKPbc	PKPbc	01 38 34.8	-0.2
PAX	Paxson	150.50	306	ePKPbc	PKPbc	01 38 34.2	-0.6
TLY	Talaya	150.66	79	PKPbc	PKPbc	01 38 37.0	+1.6
JNU	Nakatsue	150.94	137	pPKPbc	pPKPbc	01 38 53.8	+3.7
	comp=Z,18nm,0.9s,baz=294,slow=1.9,SNR=3.5						
ILAR	Eielson Array	151.62	310	PKPbc	PKPbc	01 38 37.0	-0.2
	comp=Z,8.2nm,0.7s,baz=89,slow=0.5,SNR=66						
ILAR				pPKPbc	pPKPbc	01 38 53.9	+3.4
	comp=Z,23nm,0.9s,baz=145,slow=1.8,SNR=12						
RC01	Rabbit Creek A	151.89	301	ePKPbc	PKPbc	01 38 38.2	+0.3
COLA	College	152.04	310	ePKPbc	PKPbc	01 38 37.9	-0.3
MCK	McKinley	152.25	307	ePKPbc	PKPbc	01 38 38.9	+0.1
TRF	Thorofare Moun	152.77	306	ePKPbc	PKPbc	01 38 40.0	0.0
KTH	Kantishna Hill	153.07	306	ePKPdf	PKPdf	01 38 33.7	+0.5
KTH				ePKPbc	PKPbc	01 38 40.0	-0.7
COLD	Coldfoot	153.36	314	ePKPdf	PKPdf	01 38 33.3	-0.1
COLD				ePKPbc	PKiKP	01 38 41.6	+0.5
PPLA	Purkeypile	153.49	304	ePKPbc	PKPbc	01 38 41.6	0.0
IM04	Indian Mountai	154.66	311	ePKPbc	PKPbc	01 38 44.8	+0.9

IDC 11 01:23:44.6±5.8, 20.80S×174.49W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/20, mbtmp3.3/2, Error ellipse: s-maj=286.7km s-min=44.1km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	47.81	262	P	P	01 32 24.9	+0.6
	0.2nm,0.4s,baz=95,slow=6.9,SNR=8.2						
ILAR	Eielson Array	87.91	11	P	P	01 36 37.5	+1.8
	0.1nm,0.4s,baz=223,slow=4.8,SNR=5.6						
BRTR	Keskin Array B	149.43	314	PKPbc	PKPdf	01 43 33.2	+1.6
	0.5nm,0.8s,baz=64,slow=0.5,SNR=4.5						
GERES	GERESS Array B	151.25	349	PKPbc	PKPbc	01 43 39.3	-0.8
	0.3nm,0.7s,baz=358,slow=3.0,SNR=3.9						

IDC 11 01:25:31.2±4.0, 49.20S×123.51E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.6/14, mbtmp3.5/3, Error ellipse: s-maj=123.1km s-min=71.7km az=115.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.87	331	T	T	01 46 20.4	
	baz=154,slow=75,SNR=4.3						
H01W2	Cape Leeuwin H	15.87	331	T	T	01 46 22.6	
	baz=154,slow=75,SNR=4.6						
H01W3	Cape Leeuwin H	15.89	331	T	T	01 46 24.0	
	baz=154,slow=75,SNR=3.4						
STKA	Stephens Creek	22.00	45	P	P	01 30 26.8	-0.1
	1.6nm,0.8s,baz=217,slow=10,SNR=3.4						
ASAR	Alice Springs	26.76	22	P	P	01 31 12.3	-0.3
	0.5nm,0.7s,baz=191,slow=9.2,SNR=7.3						
WRA	Warramunga Arr	30.45	20	P	P	01 31 45.8	+0.4
	0.5nm,1.0s,baz=200,slow=8.8,SNR=2.7						
YKA	Yellowknife Arr	146.03	45	PKPbc	PKPdf	01 45 10.8	+0.1
	0.3nm,0.8s,baz=278,slow=2.8,SNR=4.0						

NEIC 11 01:28:22.6, 18.68N×65.76W, h97km, MD3.1(RSPR), After RSPR.
RSPR 11 01:28:22.6, 18.68N×65.76W, h97km±5km, MD3.1/4, 2C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	0.41	194⇑	eP	Pn	01 28 36.7	-0.9
CBYP	Canovanas	0.41	194⇑	eP	Pn	01 28 36.7	-0.9
CBYP				eS	Sn	01 28 47.6	-1.2
CBYP	Canovanas	0.41	194	ePn	Pn	01 28 36.8	-0.8
CBYP				eS	Sn	01 28 47.5	-1.3
HUMP	Col San Antoni	0.54	190⇓	eP	Pn	01 28 38.6	+0.2
HUMP	Col San Antoni	0.54	190⇓	eP	Pn	01 28 38.6	+0.2
HUMP				eS	Sn	01 28 50.4	+0.2
HUMP	Col San Antoni	0.54	190⇓	eP	Pn	01 28 38.6	+0.2
HUMP				eS	Sn	01 28 50.4	+0.2
SJG	San Juan	0.68	214	ePn	Pn	01 28 40.1	+0.5
SJG				eS	Sn	01 28 54.0	+1.7
AOPR	Arecibo Observ	1.00	251⇓	eP	Pn	01 28 42.9	0.0
AOPR	Arecibo Observ	1.00	251⇓	eP	Pn	01 28 42.9	0.0
AOPR				eS	Sn	01 28 58.1	-0.1
AOPR	Arecibo Observ	1.00	251⇓	eP	Pn	01 28 42.9	0.0
AOPR				eS	Sn	01 28 58.1	-0.1
CRPR	Cabo Rojo, PR	1.45	243⇓	eP	Pn	01 28 46.9	-1.2
CRPR	Cabo Rojo, PR	1.45	243⇓	eP	Pn	01 28 46.9	-1.2
CRPR				eS	Sn	01 29 07.1	-0.3
CRPR	Cabo Rojo, PR	1.45	243	ePn	Pn	01 28 47.2	-0.9
CRPR				eS	Sn	01 29 06.0	-1.4

IDC 11 01:47:08.4±0.9, 39.06N×23.27E, h0km, mb3.5/10, mb1 3.6/16, mb1mx3.6/35, mbtmp3.5/16, ML3.5/5, MS2.8/5, Ms1 2.8/5, ms1mx2.5/36, Error ellipse: s-maj=16.8km s-min=14.9km az=102.0
SOF 11 01:47:08.2, 39.04N×23.32E, h10km, MD3.2
PDG 11 01:47:08.6±0.5, 39.12N×23.33E, h3km±1km, ML3.7/9, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0
THE 11 01:47:09.9, 39.05N×23.26E, h13km, ML3.9/22, Error ellipse: s-maj=0.5km s-min=0.3km az=62.0
ATH 11 01:47:09.0, 39.05N×23.28E, h22km, MD3.4/37, ML3.8
CSEM 11 01:47:09.7±0.1, 39.04N×23.26E, h10km, MD3.4, Error ellipse: s-maj=2.2km s-min=1.9km az=96.0
ISCJB 11 01:47:09.7±0.2, 39.08N±0.01×23.29E±0.02, h20km±2km, mb3.5/10, MS3.0/2, Error ellipse: s-maj=2.2km s-min=1.8km az=3.4
ISC 11 01:47:10.2±0.7, 39.05N±0.01×23.29E±0.01, h15km±4km, n282, σ0.96/372, mb3.6/10, 19C-23D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIA	Simia	0.18	199	P	Pg	01 47 14.2	-0.3
SMIA				S	Sg	01 47 17.4	0.0
SMIA	Simia	0.18	199	ePB	Pg	01 47 14.3	-0.3
SMIA				eSB	Sg	01 47 17.3	-0.1
SMIA	Simia	0.18	199	P	Pg	01 47 14.2	-0.3
SMIA				S	Sg	01 47 17.4	0.0
SKIA	Skiathos	0.18	50	P	Pg	01 47 14.4	-0.2
SKIA				S	Sg	01 47 17.6	+0.1
SKIA	Skiathos	0.18	50	ePB	Pg	01 47 14.5	-0.2
SKIA				eSB	Sg	01 47 17.7	+0.2
SKIA	Skiathos	0.18	50	P	Pg	01 47 14.4	-0.2
SKIA				S	Sg	01 47 17.6	+0.1
NEO	Neokhori	0.26	349	P	Pg	01 47 15.5	-0.4
NEO				S	Sg	01 47 19.0	-0.8
NEO	Neokhori	0.26	349	ePB	Pg	01 47 15.5	-0.4

NEO eSB Sg 01 47 20.0 +0.2
NEO Neokhori 0.26 349 P Pg 01 47 15.5 -0.4
NEO S Sg 01 47 19.0 -0.8
NEO eSb Sg 01 47 20.0 +0.2
XOR Xorichti 0.33 347 P Pg 01 47 16.4 -0.6
XOR S Sg 01 47 21.1 -0.5
XOR Xorichti 0.33 347 P Pg 01 47 16.4 -0.6
XOR S Sg 01 47 21.1 -0.5
MRKA Markates 0.42 145 P Pg 01 47 18.1 -0.4
MRKA S Sg 01 47 24.3 +0.1
MRKA Markates 0.42 145 P Pg 01 47 18.1 -0.4
MRKA S Sg 01 47 24.3 +0.1
FYTO Fytoko, Volos 0.45 323 P Pg 01 47 18.6 -0.6
FYTO S Sg 01 47 24.6 -0.7
FYTO Fytoko, Volos 0.45 323 P Pg 01 47 18.6 -0.6
FYTO S Sg 01 47 24.6 -0.7
LKR Lokris 0.46 209 P Pg 01 47 18.6 -0.7
LKR S Sg 01 47 25.6 +0.2
LKR Lokris 0.46 209 ePB Pg 01 47 18.7 -0.6
LKR eSB Sg 01 47 24.9 -0.5
LKR Lokris 0.46 209 P Pg 01 47 18.6 -0.7
LKR eSb Sg 01 47 24.9 -0.5
LKR S Sg 01 47 25.6 +0.2
AOS Alonnisos 0.48 75 P Pg 01 47 18.8 -0.9
AOS S Sg 01 47 26.1 0.0
AOS Alonnisos 0.48 75 eP Pg 01 47 20.0 +0.3
AOS Alonnisos 0.48 75 ePB Pg 01 47 18.9 -0.8
AOS eSB Sg 01 47 25.9 -0.2
AOS Alonnisos 0.48 75 ePb Pg 01 47 18.9 -0.8
AOS S Sg 01 47 26.1 0.0
AXAR Agios Charalam 0.56 240 P Pg 01 47 20.4 -0.9
AXAR S Sg 01 47 28.7 -0.1
AXAR Agios Charalam 0.56 240 ePN Pg 01 47 20.6 -0.7
AXAR Agios Charalam 0.56 240 P Pg 01 47 20.4 -0.9
AXAR S Sg 01 47 28.7 -0.1
ERET Eretria 0.73 146 P Pg 01 47 23.8 -0.6
ERET S Sg 01 47 34.4 +0.3
ERET Eretria 0.73 146 P Pg 01 47 23.8 -0.6
ERET S Sg 01 47 34.4 +0.3
AGG Agios Georgios 0.74 268 P Pg 01 47 23.1 -1.6
AGG Agios Georgios 0.74 268 ePN Pg 01 47 23.3 -1.4
AGG Agios Georgios 0.74 268 P Pg 01 47 23.1 -1.6
DSF Desfina 0.87 223 P Pb 01 47 25.3 -1.7
DSF S Sb 01 47 37.9 -0.6
DSF Desfina 0.87 223 ePN Pb 01 47 25.5 -1.5
DSF eSN Sb 01 47 37.8 -0.7
DSF Desfina 0.87 223 P Pb 01 47 25.3 -1.7
DSF S Sb 01 47 37.9 -0.6
MAKR Makrakomi, Fth 0.90 268 P Pb 01 47 26.4 -1.1
MAKR S Sb 01 47 39.3 0.0
MAKR Makrakomi, Fth 0.90 268 ePN Pb 01 47 26.4 -1.1
MAKR Makrakomi, Fth 0.90 268 P Pb 01 47 26.4 -1.1
MAKR S Sb 01 47 39.3 0.0
PAIG Paliouri 0.93 19 P Pb 01 47 27.5 -0.4
PAIG S Sg 01 47 40.8 +0.4
PAIG Paliouri 0.93 19 ePN Pb 01 47 27.6 -0.4
PAIG Paliouri 0.93 19 P Pb 01 47 27.5 -0.4
PAIG S Sg 01 47 40.8 +0.4
LTK Loutraki 1.05 194 P Pb 01 47 28.9 -1.2
LTK S Sg 01 47 44.5 +0.2
LTK Loutraki 1.05 194 ePN Pb 01 47 29.3 -0.8
LTK Loutraki 1.05 194 P Pb 01 47 28.9 -1.2
LTK Loutraki 1.05 194 ePn Pb 01 47 29.3 -0.8
LTK S Sg 01 47 44.5 +0.2
PTL Penteli 1.10 155 ePN Pb 01 47 30.6 -0.2
PTL eSN Sb 01 47 44.8 -0.2
PTL Penteli 1.10 155 ePn Pb 01 47 30.6 -0.2
PTL eSn Sb 01 47 44.8 -0.2
KALE Kalithea 1.11 234 P Pb 01 47 29.9 -1.2
KALE S Sb 01 47 45.3 -0.1
KALE Kalithea 1.11 234 ePN Pb 01 47 30.3 -0.8
KALE Kalithea 1.11 234 P Pb 01 47 29.9 -1.2
KALE Kalithea 1.11 234 ePn Pb 01 47 30.3 -0.8
KALE S Sb 01 47 45.3 -0.1
ATH Athens Observa 1.13 162 P Pn 01 47 31.1 -0.3
ATH S Sn 01 47 46.3 -0.3
ATH Athens Observa 1.13 162 ePN Pn 01 47 31.0 -0.3
ATH Athens Observa 1.13 162 P Pn 01 47 31.1 -0.3
ATH S Sn 01 47 46.3 -0.3
ATHU Athens Univers 1.15 160 P Pn 01 47 31.4 -0.3
ATHU S Sn 01 47 47.2 0.0
ATHU Athens Univers 1.15 160 P Pn 01 47 31.4 -0.3
ATHU S Sn 01 47 47.2 0.0
EVR Evrytania 1.16 264 P Pn 01 47 30.6 -1.3
EVR S Sb 01 47 46.9 +0.1
EVR Evrytania 1.16 264 ePN Pn 01 47 30.7 -1.2
EVR Evrytania 1.16 264 P Pn 01 47 30.6 -1.3
EVR S Sb 01 47 46.9 +0.1
LIT Litokhoron 1.22 330 P Pn 01 47 31.8 -0.9
LIT S Sb 01 47 48.2 -0.3
LIT Litokhoron 1.22 330 ePN Pn 01 47 31.9 -0.8
LIT Litokhoron 1.22 330 ePn Pn 01 47 31.9 -0.8
LIT S Sb 01 47 48.2 -0.3
EFP Efpalio 1.25 241 P Pn 01 47 32.0 -1.0
EFP S Sb 01 47 49.0 -0.2
EFP Efpalio 1.25 241 ePN Pn 01 47 32.3 -0.7
EFP Efpalio 1.25 241 P Pn 01 47 32.0 -1.0
EFP Efpalio 1.25 241 ePn Pn 01 47 32.3 -0.7
EFP S Sb 01 47 49.0 -0.2
LAKA Lakka 1.30 232 P Pn 01 47 33.5 -0.4
LAKA Lakka 1.30 232 ePN Pn 01 47 33.7 -0.2
LAKA Lakka 1.30 232 ePn Pn 01 47 33.7 -0.2
MRMA Marmari 1.31 139 P Pn 01 47 33.8 -0.1
MRMA S Sb 01 47 51.1 0.0
MRMA Marmari 1.31 139 P Pn 01 47 33.8 -0.1
MRMA S Sb 01 47 51.1 0.0
PLG Polygyros 1.33 5 P Pn 01 47 33.2 -1.0
PLG Polygyros 1.33 5 ePN Pn 01 47 33.4 -0.8
PLG Polygyros 1.33 5 ePn Pn 01 47 33.4 -0.8
GUR Goura 1.33 214 P Pn 01 47 33.8 -0.6
GUR S Sb 01 47 51.9 0.0
GUR Goura 1.33 214 P Pn 01 47 33.8 -0.6
GUR S Sb 01 47 51.9 0.0
KLV Kalavryta, Ach 1.34 222 P Pn 01 47 33.9 -0.5
KLV S Sn 01 47 51.8 -0.2
KLV Kalavryta, Ach 1.34 222 ePN Pn 01 47 34.1 -0.3
KLV Kalavryta, Ach 1.34 222 ePn Pn 01 47 34.1 -0.3
KLV S Sn 01 47 51.8 -0.2
DID Didima 1.54 181 P Pn 01 47 36.6 -0.5
DID S Sb 01 47 57.5 -0.2
DID Didima 1.54 181 ePN Pn 01 47 36.7 -0.4
DID Didima 1.54 181 ePn Pn 01 47 36.7 -0.4
DID S Sb 01 47 57.5 -0.2
HORT Hortiatis 1.55 355 P Pn 01 47 36.6 -0.8
HORT S Sn 01 47 57.1 -0.2
HORT Hortiatis 1.55 355 ePB Pn 01 47 36.6 -0.8
HORT Hortiatis 1.55 355 P Pn 01 47 36.6 -0.8
HORT S Sn 01 47 57.1 -0.2
THE Thessaloniki 1.60 351 P Pn 01 47 36.9 -1.0
THE Thessaloniki 1.60 351 P Pn 01 47 36.9 -1.0
DRO Drossia 1.65 229 P Pn 01 47 38.5 -0.1
DRO Drossia 1.65 229 ePN Pn 01 47 39.0 +0.4
DRO Drossia 1.65 229 P Pn 01 47 38.5 -0.1
DRO Drossia 1.65 229 ePn Pn 01 47 39.0 +0.4
LIA Limnos Island 1.70 59 P Pn 01 47 38.4 -0.8
LIA S Sn 01 48 00.7 +0.1
LIA Limnos Island 1.70 59 P Pn 01 47 38.4 -0.8
LIA S Sn 01 48 00.7 +0.1
PDO Prodromos 1.70 255 ePN Pb 01 47 40.3 -0.9
PDO Prodromos 1.70 255 ePn Pb 01 47 40.3 -0.9
KZN Kozani 1.72 318 ePN Pn 01 47 39.3 -0.3
KZN Kozani 1.72 318 ePn Pn 01 47 39.3 -0.3
RLS Riolos of Patr 1.73 236 ePN Pn 01 47 40.1 +0.3
RLS Riolos of Patr 1.73 236 ePn Pn 01 47 40.1 +0.3
SOH Sokhos 1.77 2 P Pn 01 47 40.1 -0.2
SOH S Sn 01 48 02.6 0.0
SOH Sokhos 1.77 2 ePN Pn 01 47 40.2 -0.1
SOH Sokhos 1.77 2 ePn Pn 01 47 40.2 -0.1
SOH S Sn 01 48 02.6 0.0
VLX Vlachokerasia 1.82 203 ePN Pn 01 47 41.2 +0.2
VLX Vlachokerasia 1.82 203 ePn Pn 01 47 41.2 +0.2
AMT Artemida-Makis 1.96 220 ePN Pn 01 47 43.7 +0.9
AMT Artemida-Makis 1.96 220 ePn Pn 01 47 43.7 +0.9
JAN Janina 1.98 289 ePN Pn 01 47 43.9 +0.7
JAN Janina 1.98 289 ePn Pn 01 47 43.9 +0.7
SIGR SIGRI 2.00 85 eP Pn 01 47 44.1 +0.7
SIGR SIGRI 2.00 85 eP Pn 01 47 44.1 +0.7
LKD2 Lefkada island 2.07 264 ePB Pn 01 47 44.2 -0.1
LKD2 Lefkada island 2.07 264 ePb Pn 01 47 44.2 -0.1
KNT Kendrikon 2.13 352 ePN Pn 01 47 45.5 +0.3
KNT Kendrikon 2.13 352 ePn Pn 01 47 45.5 +0.3
ITM Ithomi 2.15 210 ePN Pn 01 47 46.7 +1.2
ITM Ithomi 2.15 210 ePn Pn 01 47 46.7 +1.2
NEST Nestorio 2.20 309 ePB Pn 01 47 47.0 +0.8
NEST Nestorio 2.20 309 ePb Pn 01 47 47.0 +0.8
CHOS Chios island 2.27 106 eP Pn 01 47 48.2 +1.1
CHOS Chios island 2.27 106 ePN Pn 01 47 47.2 +0.1
CHOS Chios island 2.27 106 ePn Pn 01 47 47.2 +0.1
CHOS Chios island 2.27 106 eP Pn 01 47 48.2 +1.1
FNA Florina 2.27 320 ePN Pn 01 47 47.5 +0.3
FNA Florina 2.27 320 ePn Pn 01 47 47.5 +0.3
VAY Valandovo 2.33 347 iP Pn 01 47 47.0 -1.0
VAY Valandovo 2.33 347 iPn Pn 01 47 47.9 -0.2
VAY Valandovo 2.33 347 iP Pn 01 47 47.0 -1.0
VAY Valandovo 2.33 347 iPn Pn 01 47 47.8 -0.2
NVR Nevrokopi 2.34 11 ePN Pn 01 47 47.4 -0.7
NVR Nevrokopi 2.34 11 ePn Pn 01 47 47.4 -0.7
IGT Igoumenitsa 2.34 283 ePN Pn 01 47 48.6 +0.5
IGT Igoumenitsa 2.34 283 ePn Pn 01 47 48.6 +0.5
VLI Veliai 2.34 187 ePN Pn 01 47 47.9 -0.2
VLI Veliai 2.34 187 ePn Pn 01 47 47.9 -0.2
PYL PYLOS 2.47 210 ePB Pn 01 47 51.7 +1.8
PYL PYLOS 2.47 210 ePb Pn 01 47 51.7 +1.8
EZN Ezine 2.48 71 eP Pn 01 47 50.5 +0.5
EZN Ezine 2.48 71 eP Pn 01 47 50.5 +0.5
MMB Musomiste 2.56 7 iP Pn 01 47 50.2 -1.0
MMB iS Sn 01 48 20.8 -1.3
MMB Musomiste 2.56 7⇑iP Pn 01 47 50.5 -0.7
MMB Musomiste 2.56 7 iP Pn 01 47 50.2 -1.0
MMB iS Sn 01 48 20.8 -1.3
APE Apeiranthos 2.66 137 eP Pb 01 47 55.5 -1.9
APE Apeiranthos 2.66 137 ePN Pn 01 47 52.5 0.0
APE Apeiranthos 2.66 137⇓iP Pg 01 47 59.8 -1.3
APE Apeiranthos 2.66 137 S Sg 01 48 34.0 -1.5
APE Apeiranthos 2.66 137 ePn Pn 01 47 52.5 0.0
APE Apeiranthos 2.66 137 eP Pb 01 47 55.5 -1.9
GELI Tayfur-Gelibol 2.80 60 eP Pn 01 47 54.9 +0.4
GELI Tayfur-Gelibol 2.80 60 eP Pn 01 47 54.9 +0.4
ALN Alexandroupoli 2.81 48 eP Pn 01 47 53.7 -0.9
ALN Alexandroupoli 2.81 48 eP Pn 01 47 53.7 -0.9
KKB Krupnik 2.82 357 iP Pn 01 47 54.2 -0.5
KKB iS Sn 01 48 27.6 -0.8
KKB Krupnik 2.82 357 iP Pn 01 47 54.2 -0.5
KKB iS Sn 01 48 27.6 -0.8
LPK Lapseki 2.99 63 eP Pn 01 47 56.7 -0.3
LPK Lapseki 2.99 63 eP Pn 01 47 56.7 -0.3
KDZ Kurdzhali 3.07 31 iP Pn 01 47 56.9 -1.2
KDZ Kurdzhali 3.07 31⇓iP Pn 01 47 56.8 -1.3
KDZ Kurdzhali 3.07 31 S Sn 01 48 32.5 -2.0
KDZ Kurdzhali 3.07 31 iP Pn 01 47 56.9 -1.2
SKO Skopje 3.24 335 ePn Pn 01 48 00.6 +0.1
SKO Skopje 3.24 335 ePn Pn 01 48 00.5 +0.1
KRBG Karabiga-Canak 3.37 65 eP Pn 01 48 02.2 -0.1
KRBG Karabiga-Canak 3.37 65 eP Pn 01 48 02.2 -0.1
RKY Sarkoy-Tekirda 3.41 60 eP Pn 01 48 02.8 -0.1
RKY Sarkoy-Tekirda 3.41 60 eP Pn 01 48 02.8 -0.1
VTS Vitosha 3.54 359 ePn Pn 01 48 03.3 -1.4
VTS Vitosha 3.54 359 iP Pn 01 48 05.0 +0.3
VTS Vitosha 3.54 359⇑iP Pn 01 48 05.6 +0.9
VTS Vitosha 3.54 359 iP Pn 01 48 05.0 +0.3
PGB Panagyurishte 3.56 11 iP Pn 01 48 06.5 +1.6
PGB Panagyurishte 3.56 11 iP Pn 01 48 06.5 +1.6
BALB Balikesir 3.61 79 eP Pn 01 48 05.9 +0.3
BALB Balikesir 3.61 79 eP Pn 01 48 05.9 +0.3
EDC Edincik 3.76 68 eP Pn 01 48 08.8 +1.2
EDC Edincik 3.76 68 eP Pn 01 48 08.8 +1.2
AYDB Zeytinkoy-Aydi 3.78 105 eP Pn 01 48 09.9 +1.9
AYDB Zeytinkoy-Aydi 3.78 105 eP Pn 01 48 09.9 +1.9
EDRB Edirne 3.84 42 eP Pn 01 48 08.8 0.0
EDRB Edirne 3.84 42 eP Pn 01 48 08.8 0.0
BARS Barje 3.92 344⇑iPn Pn 01 48 10.1 +0.2
IDI Anoyia 3.97 161 Pn Pn 01 48 11.2 +0.7
3.2nm,0.3s,baz=7.8,slow=9.8,SNR=17
IDI LR LR 01 49 55.0
comp=Z,86nm,19.4s,baz=239,slow=42
CRLT Corlu 4.00 57 eP Pn 01 48 11.0 +0.1
CRLT Corlu 4.00 57 eP Pn 01 48 11.0 +0.1
PHSR Pinarhisar 4.14 50 eP Pn 01 48 13.2 +0.4
PHSR Pinarhisar 4.14 50 eP Pn 01 48 13.2 +0.4
SIVA Sivas 4.20 163 eP Pn 01 48 17.7 +4.0
SIVA Sivas 4.20 163 eP Pn 01 48 17.7 +4.0
KULA Kula-Manisa 4.23 96 eP Pn 01 48 15.9 +1.8
KULA Kula-Manisa 4.23 96 eP Pn 01 48 16.0 +1.8
ULC Ulcinj 4.24 315 ePn Pn 01 48 15.8 +1.6
ULC eSn Sn 01 49 05.8 +2.4
ULC Ulcinj 4.24 315 ePn Pn 01 48 15.8 +1.6
ULC eSn Sn 01 49 05.8 +2.4
PVY Plav 4.35 326⇑iPn Pn 01 48 16.2 +0.4
PVY eSn Sn 01 49 08.0 +1.7
PVY Plav 4.35 326⇑iPn Pn 01 48 16.2 +0.4
PVY eSn Sn 01 49 08.0 +1.7
DRME Dracevica, Mon 4.42 316 ePn Pn 01 48 18.3 +1.6
DRME eSn Sn 01 49 10.3 +2.4
DRME Dracevica, Mon 4.42 316 ePn Pn 01 48 18.3 +1.6
DRME eSn Sn 01 49 10.3 +2.4
MDNY Mudanya-Bursa 4.51 71 eP Pn 01 48 19.0 +1.0
MDNY Mudanya-Bursa 4.51 71 eP Pn 01 48 19.0 +1.0
PDG Podgorica 4.56 319⇓iPn Pn 01 48 20.2 +1.6
PDG eSn Sn 01 49 12.8 +1.6
TTG Podgorica 4.56 319⇓iPn Pn 01 48 20.2 +1.6
TTG eSn Sn 01 49 12.8 +1.6
CTKS Kestanelik-??a 4.56 60 eP Pn 01 48 19.3 +0.7
CTKS Kestanelik-??a 4.56 60 eP Pn 01 48 19.3 +0.7
BEY Berane 4.60 327⇓iPn Pn 01 48 20.0 +0.7
BEY eSn Sn 01 49 14.1 +1.6
IVA Berane 4.60 327⇓iPn Pn 01 48 20.0 +0.7
IVA eSn Sn 01 49 14.1 +1.6
BUM Brajici-Budva 4.66 316⇓iPn Pn 01 48 20.3 +0.3
BUM eSn Sn 01 49 15.6 +1.8
BUM Brajici-Budva 4.66 316⇓iPn Pn 01 48 20.3 +0.3
BUM eSn Sn 01 49 15.6 +1.8
TVSB Tavsanli 4.81 83 eP Pn 01 48 23.5 +1.3
TVSB Tavsanli 4.81 83 eP Pn 01 48 23.5 +1.3
BOLS Boljevac 4.88 349⇑iPn Pn 01 48 21.2 -1.8
NKME Niksic 4.96 320 ePn Pn 01 48 25.0 +0.9
NKME eSn Sn 01 49 22.4 +1.2
NKME Niksic 4.96 320 ePn Pn 01 48 25.0 +0.9
NKME eSn Sn 01 49 22.4 +1.2
HCY Herceg Novi 4.98 315 ePn Pn 01 48 24.9 +0.6
HCY eSn Sn 01 49 22.6 +1.0
HCY Herceg Novi 4.98 315 ePn Pn 01 48 24.9 +0.6
HCY eSn Sn 01 49 22.6 +1.0
IVAS Ivanjica 5.10 333 ePn Pn 01 48 26.4 +0.3
GRUS Gruza 5.21 339 ePn Pn 01 48 27.1 -0.4
UPM Unac-Piva 5.31 323⇓iPn Pn 01 48 30.2 +1.2
UPM eSn Sn 01 49 30.9 +0.9
UPM Unac-Piva 5.31 323⇓iPn Pn 01 48 30.2 +1.2
UPM eSn Sn 01 49 30.9 +0.9
TRUS Trudelj 5.60 338 ePn Pn 01 48 31.5 -1.4
DIVS Divibare 5.62 335 ePn Pn 01 48 35.0 +1.8
BBLS Lazići 5.63 330 ePn Pn 01 48 33.8 +0.5
STON Ston 5.70 314 ePn Pn 01 48 33.5 -0.7
STON Sn Sn 01 49 38.0 -1.3
STON Ston 5.70 314 ePn Pn 01 48 33.5 -0.7
STON Sn Sn 01 49 38.0 -1.3
ARR Arges 6.39 9⇑iP Pn 01 48 43.7 -0.1
ARR Arges 6.39 9 S Sn 01 49 54.9 -1.7
ARR Arges 6.39 9⇑iP Pn 01 48 43.7 -0.1
ARR S Sn 01 49 54.9 -1.7
VOIR 6.52 11⇑iP Pn 01 48 46.0 +0.5
VOIR 6.52 11 S Sn 01 49 58.0 -1.6
VOIR 6.52 11⇑iP Pn 01 48 46.0 +0.5
VOIR S Sn 01 49 58.0 -1.6
FGSL Fruska Gora 6.63 338 ePn Pn 01 48 48.3 +1.3
BZS Buzias 6.68 350⇓iP Pn 01 48 47.9 +0.2
BZS Buzias 6.68 350⇓iP Pn 01 48 47.9 +0.2
MLR Muntele Rosu 6.73 16⇓iP Pn 01 48 50.3 +1.8
MLR Muntele Rosu 6.73 16 S Sn 01 50 05.0 0.0
MLR Muntele Rosu 6.73 16 Pn Pn 01 48 50.4 +1.8
0.4nm,0.3s,baz=321,slow=14,SNR=6.8
MLR Sn Sn 01 50 05.0 0.0
0.3nm,0.3s,baz=178,slow=12,SNR=2.6
MLR LR LR 01 52 07.0
comp=Z,22nm,20.9s,baz=236,slow=44
DEV Deva 6.84 358⇑iP Pn 01 48 50.5 +0.7
DEV Deva 6.84 358⇑iP Pn 01 48 50.5 +0.7
GRER 6.89 22⇑iP Pn 01 48 51.9 +1.3
GRER 6.89 22⇑iP Pn 01 48 51.9 +1.3
DOPR Dopca 7.09 12⇑iP Pn 01 48 54.3 +1.0
DOPR Dopca 7.09 12 S Sn 01 50 12.6 -1.0
DOPR Dopca 7.09 12⇑iP Pn 01 48 54.3 +1.0
DOPR S Sn 01 50 12.6 -1.0
PLOR Plostina 7.24 19⇓iP Pn 01 48 57.5 +2.1
PLOR Plostina 7.24 19 S Sn 01 50 18.1 +0.8
PLOR Plostina 7.24 19⇓iP Pn 01 48 57.5 +2.1
PLOR S Sn 01 50 18.1 +0.8
VRI Vrincioaia 7.27 19⇓iP Pn 01 48 58.2 +2.4
VRI Vrincioaia 7.27 19 S Sn 01 50 18.4 +0.3
VRI Vrincioaia 7.27 19⇓iP Pn 01 48 58.2 +2.4
VRI S Sn 01 50 18.4 +0.3
UDBI Udbina 7.84 317 ePn Pn 01 49 04.7 +0.9
UDBI Udbina 7.84 317 ePn Pn 01 49 04.6 +0.9
TESR Tescani 7.86 17⇓iP Pn 01 49 05.9 +2.0
TESR Tescani 7.86 17⇓iP Pn 01 49 05.9 +2.0
PKSM Moragy 7.93 336⇑e Pn 01 49 05.2 +0.3
BRTR Keskin Array B 8.05 82 Pn Pn 01 49 07.7 +1.1
0.5nm,0.3s,baz=261,slow=12,SNR=15
NVLJ Novalja 8.36 314 ePn Pn 01 49 09.9 -0.8
NVLJ Sn Sn 01 50 39.9 -4.8
NVLJ Novalja 8.36 314 ePn Pn 01 49 09.8 -0.8
PKS9 Tamasi 8.38 336 eS Pn 01 49 10.8 -0.2
PKS9 Tamasi 8.38 336 eP Pn 01 49 10.8 -0.2
BURAR Bucovina Array 8.68 9⇓iP Pn 01 49 16.2 +1.0
BURAR Bucovina Array 8.68 9⇓iP Pn 01 49 16.2 +1.0
PKST T''s 9.06 337 eS Pn 01 49 22.5 +2.2
PKST T''s 9.06 337 eP Pn 01 49 22.5 +2.2
PKSG 9.07 338 e Pn 01 49 23.9 +3.4
CSKK Cs‡kako 9.08 338⇑e Pn 01 49 25.2 +4.6
SOKA Soboth 9.73 324⇓iPn Pn 01 49 30.2 +0.5
SOKA Soboth 9.73 324 Pn Pn 01 49 30.2 +0.5
ARSA Arzberg 9.96 328⇓iPn Pn 01 49 33.9 +1.2
ARSA Arzberg 9.96 328 Pn Pn 01 49 33.9 +1.2
CONA Conrad Observa 10.38 331⇑iPn Pn 01 49 39.6 +1.1
CONA Conrad Observa 10.38 331 Pn Pn 01 49 39.6 +1.1
MMAI Mount Meron Ar 11.51 118 Pn Pn 01 49 53.2 -0.7
baz=320,slow=13,SNR=2.0
GERES GERESS Array B 11.97 328 Pn Pn 01 49 60.0 -0.3
0.1nm,0.3s,baz=147,slow=13,SNR=4.1
AKASG Malin Array Be 12.38 18 Pn Pn 01 50 05.7 -0.1
0.5nm,0.3s,baz=204,slow=12,SNR=3.4
EIL Elat 13.42 131 LR LR 01 56 22.0
comp=Z,30nm,19.6s,baz=306,slow=41
ESDC Sonseca Array 21.05 280 P P 01 51 54.5 +0.9
0.4nm,0.5s,baz=74,slow=14,SNR=5.0
HFS Hagfors 21.96 347 P P 01 52 03.7 +0.6
1.8nm,0.7s,baz=156,slow=11,SNR=7.1
HFS LR LR 02 00 57.2
comp=Z,62nm,19.0s,baz=176,slow=38
FINES FINESS Array B 22.49 4 P P 01 52 09.5 +0.8
0.4nm,0.5s,baz=164,slow=20,SNR=3.0
FINES LR LR 02 01 48.6
comp=Z,50nm,18.1s,baz=269,slow=39
NB2 NORSAR Subarra 23.26 345 P P 01 52 15.7 -1.2
comp=Z,6.2nm,1.4s,baz=156,slow=11
NB2 NORSAR Subarra 23.26 345 P P 01 52 15.7 -1.2
comp=Z,6.2nm,1.4s,SNR=4.6
NOA NORSAR Array B 23.26 345 P P 01 52 16.2 -0.6
comp=Z,1.4nm,1.0s,baz=147,slow=9.1,SNR=4.8
EKA Eskdalemuir Ar 24.04 321 P P 01 52 23.8 -0.6
comp=Z,2.4nm,0.7s,baz=113,slow=10,SNR=8.1
AKTO Aktyubinsk 26.93 54 P P 01 52 51.1 +0.5
comp=Z,0.9nm,0.8s,baz=252,slow=14,SNR=3.2
TORD Torodi Ar. Bea 32.10 222 P P 01 53 37.9 +1.1
comp=Z,0.6nm,0.6s,baz=34,slow=9.0,SNR=11
MKAR Makanchi Array 43.00 60 P P 01 55 09.2 +0.4
comp=Z,0.7nm,0.7s,baz=277,slow=7.2,SNR=11
ZALV Zalesovo Beam 43.49 49 P P 01 55 12.9 +0.3
comp=Z,1.0nm,0.7s,baz=282,slow=7.4,SNR=5.8
YKA Yellowknife Ar 73.29 341 P P 01 58 40.5 0.0
comp=Z,0.3nm,0.8s,baz=32,slow=5.0,SNR=4.6

*ATH **11** 01:48:56.8, 39.07N×23.26E, h21km, MD3.3/31, ML3.6*
*IDC **11** 01:48:56.1±1.2, 39.10N×23.23E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.3/43, mbtmp3.5/6, ML3.3/2, Error ellipse: s-maj=28.8km s-min=22.9km az=144.0*
*ISCJB **11** 01:48:57.6±0.2, 39.07N±0.01×23.28E±0.02, h20km±3km, mb3.4/4, Error ellipse: s-maj=3.2km s-min=2.4km az=1.4*
*CSEM **11** 01:48:57.3±0.1, 39.07N×23.28E, h15km, ML3.5, Error ellipse: s-maj=2.9km s-min=2.2km az=94.0*
*THE **11** 01:48:57.8, 39.05N×23.27E, h10km, ML3.5/13, Error ellipse: s-maj=0.6km s-min=0.3km az=15.0*
ISC 11 01:48:58.0±0.8, 39.06N±0.01×23.27E±0.02, h14km±5km, n130, σ0.60/176, mb3.4/4, Aegean Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SMIA Simia 0.18 195 P Pg 01 49 01.9 -0.3
SMIA S Sg 01 49 04.9 -0.2
SMIA Simia 0.18 195 ePB Pg 01 49 02.0 -0.3
SMIA eSB Sg 01 49 05.0 -0.2
SMIA Simia 0.18 195 ePb Pg 01 49 02.0 -0.3
SMIA eSb Sg 01 49 05.0 -0.2
SKIA Skiathos 0.19 54 P Pg 01 49 02.2 -0.1
SKIA S Sg 01 49 05.3 0.0
SKIA Skiathos 0.19 54 ePB Pg 01 49 02.3 -0.1
SKIA eSB Sg 01 49 05.5 +0.2
SKIA Skiathos 0.19 54 ePb Pg 01 49 02.3 -0.1
SKIA eSb Sg 01 49 05.5 +0.2
NEO Neokhori 0.25 352 P Pg 01 49 03.2 -0.2
NEO S Sg 01 49 07.1 0.0
NEO Neokhori 0.25 352 ePB Pg 01 49 03.3 -0.2
NEO eSB Sg 01 49 06.4 -0.7
NEO Neokhori 0.25 352 ePb Pg 01 49 03.3 -0.2
NEO eSb Sg 01 49 06.4 -0.7
NEO S Sg 01 49 07.1 0.0
XOR Xorichti 0.32 349 P Pg 01 49 03.8 -0.7
XOR S Sg 01 49 09.0 0.0
XOR Xorichti 0.32 349 ePB Pg 01 49 04.2 -0.3
XOR Xorichti 0.32 349 P Pg 01 49 03.8 -0.7
XOR Xorichti 0.32 349 ePb Pg 01 49 04.2 -0.3
XOR S Sg 01 49 09.0 0.0
MRKA Markates 0.43 145 P Pg 01 49 05.9 -0.6
MRKA S Sg 01 49 12.1 -0.2
MRKA Markates 0.43 145 P Pg 01 49 05.9 -0.6
MRKA S Sg 01 49 12.1 -0.2
FYTO Fytoko, Volos 0.43 324 P Pg 01 49 06.4 -0.3
FYTO S Sg 01 49 12.4 -0.2
FYTO Fytoko, Volos 0.43 324 P Pg 01 49 06.4 -0.3
FYTO S Sg 01 49 12.4 -0.2
LKR Lokris 0.46 208 P Pg 01 49 06.5 -0.6
LKR S Sg 01 49 13.7 +0.5
LKR Lokris 0.46 208 ePB Pg 01 49 06.4 -0.6
LKR eSB Sg 01 49 12.8 -0.4
LKR Lokris 0.46 208 P Pg 01 49 06.5 -0.6
LKR eSb Sg 01 49 12.8 -0.4
LKR S Sg 01 49 13.7 +0.5
AOS Alonnisos 0.49 76 P Pg 01 49 06.7 -0.9
AOS S Sg 01 49 13.7 -0.5
AOS Alonnisos 0.49 76 ePB Pg 01 49 07.2 -0.4
AOS Alonnisos 0.49 76 P Pg 01 49 06.7 -0.9
AOS Alonnisos 0.49 76 ePb Pg 01 49 07.2 -0.4
AOS S Sg 01 49 13.7 -0.5
AXAR Agios Charalam 0.56 239 P Pg 01 49 08.2 -0.7
AXAR S Sg 01 49 16.7 +0.3
AXAR Agios Charalam 0.56 239 ePN Pg 01 49 08.3 -0.7
AXAR Agios Charalam 0.56 239 P Pg 01 49 08.2 -0.7
AXAR S Sg 01 49 16.7 +0.3
AGG Agios Georgios 0.73 268 P Pg 01 49 10.9 -1.3
AGG Agios Georgios 0.73 268 ePN Pg 01 49 11.4 -0.8
AGG Agios Georgios 0.73 268 P Pg 01 49 10.9 -1.3
AGG Agios Georgios 0.73 268 ePn Pg 01 49 11.4 -0.8
ERET Eretria 0.74 146 P Pg 01 49 11.8 -0.6
ERET S Sg 01 49 22.4 +0.2
ERET Eretria 0.74 146 P Pg 01 49 11.8 -0.6
ERET S Sg 01 49 22.4 +0.2
DSF Desfina 0.87 222 P Pg 01 49 13.4 -1.4
DSF S Sg 01 49 26.5 +0.3
DSF Desfina 0.87 222 ePN Pg 01 49 13.6 -1.2
DSF eSN Sg 01 49 26.3 +0.1
DSF Desfina 0.87 222 P Pg 01 49 13.4 -1.4
DSF S Sg 01 49 26.5 +0.3
MAKR Makrakomi, Fth 0.89 268 P Pg 01 49 14.2 -1.0
MAKR S Sg 01 49 27.1 +0.3
MAKR Makrakomi, Fth 0.89 268 ePN Pg 01 49 14.1 -1.1
MAKR eSN Sg 01 49 26.6 -0.2
MAKR Makrakomi, Fth 0.89 268 P Pg 01 49 14.2 -1.0
MAKR eSn Sg 01 49 26.6 -0.2
MAKR S Sg 01 49 27.1 +0.3
PAIG Paliouri 0.93 20 P Pg 01 49 15.3 -0.7

PAIG				S	Sb	01 49 28.6	+0.7
PAIG	Paliouri	0.93	20	ePN	Pg	01 49 15.2	-0.7
PAIG	Paliouri	0.93	20	ePn	Pg	01 49 15.2	-0.7
PAIG				S	Sb	01 49 28.6	+0.7
LTK	Loutraki	1.06	193	P	Pb	01 49 17.6	-0.5
LTK				S	Sg	01 49 32.6	+0.4
LTK	Loutraki	1.06	193	ePN	Pb	01 49 17.6	-0.5
LTK	Loutraki	1.06	193	P	Pb	01 49 17.6	-0.5
LTK				S	Sg	01 49 32.6	+0.4
KALE	Kalithea	1.11	233	P	Pb	01 49 18.1	-0.8
KALE	Kalithea	1.11	233	ePN	Pb	01 49 18.1	-0.8
KALE				eSN	Sb	01 49 33.2	0.0
KALE	Kalithea	1.11	233	P	Pb	01 49 18.1	-0.8
KALE				eSn	Sb	01 49 33.2	0.0
PTL	Penteli	1.11	155	P	Pb	01 49 18.0	-0.9
PTL	Penteli	1.11	155	ePN	Pb	01 49 18.3	-0.6
PTL	Penteli	1.11	155	P	Pb	01 49 18.0	-0.9
PTL	Penteli	1.11	155	ePn	Pb	01 49 18.3	-0.6
ATH	Athens Observa	1.14	162	P	Pb	01 49 18.9	-0.5
ATH				S	Sb	01 49 34.4	+0.4
ATH	Athens Observa	1.14	162	ePN	Pb	01 49 18.8	-0.6
ATH	Athens Observa	1.14	162	P	Pb	01 49 18.9	-0.5
ATH				S	Sb	01 49 34.4	+0.4
EVR	Evrytania	1.15	263	P	Pb	01 49 19.7	+0.1
EVR	Evrytania	1.15	263	ePN	Pb	01 49 18.6	-1.0
EVR	Evrytania	1.15	263	ePn	Pb	01 49 18.6	-1.0
EVR	Evrytania	1.15	263	P	Pb	01 49 19.7	+0.1
ATHU	Athens Univers	1.16	160	P	Pb	01 49 19.2	-0.6
ATHU				S	Sb	01 49 35.3	+0.6
ATHU	Athens Univers	1.16	160	P	Pb	01 49 19.2	-0.6
ATHU				S	Sb	01 49 35.3	+0.6
LIT	Litokhoron	1.21	330	P	Pn	01 49 19.8	-0.6
LIT				S	Sn	01 49 37.1	+0.5
LIT	Litokhoron	1.21	330	ePN	Pn	01 49 19.6	-0.8
LIT	Litokhoron	1.21	330	P	Pn	01 49 19.8	-0.6
LIT				S	Sn	01 49 37.1	+0.5
EFP	Efpalio	1.24	240	P	Pn	01 49 20.2	-0.6
EFP	Efpalio	1.24	240	ePN	Pn	01 49 20.4	-0.4
EFP	Efpalio	1.24	240	ePn	Pn	01 49 20.4	-0.4
LAKA	Lakka	1.30	232	P	Pn	01 49 21.9	+0.2
LAKA	Lakka	1.30	232	ePN	Pn	01 49 22.1	+0.4
LAKA	Lakka	1.30	232	P	Pn	01 49 21.9	+0.2
PLG	Polygyros	1.32	6	P	Pn	01 49 21.3	-0.8
PLG	Polygyros	1.32	6	ePN	Pn	01 49 21.3	-0.8
PLG	Polygyros	1.32	6	P	Pn	01 49 21.3	-0.8
MRMA	Marmari	1.32	139	P	Pn	01 49 21.7	-0.3
MRMA	Marmari	1.32	139	P	Pn	01 49 21.7	-0.3
GUR	Goura	1.33	213	P	Pn	01 49 21.8	-0.5
GUR	Goura	1.33	213	ePN	Pn	01 49 21.8	-0.5
GUR	Goura	1.33	213	P	Pn	01 49 21.8	-0.5
KLV	Kalavryta, Ach	1.34	221	P	Pn	01 49 22.0	-0.3
KLV	Kalavryta, Ach	1.34	221	P	Pn	01 49 22.0	-0.3
OUR	Ouranopolis	1.39	23	P	Pn	01 49 22.3	-0.6
OUR	Ouranopolis	1.39	23	P	Pn	01 49 22.3	-0.6
HORT	Hortiatis	1.54	355	P	Pn	01 49 24.5	-0.6
HORT	Hortiatis	1.54	355	ePN	Pn	01 49 24.6	-0.5
HORT	Hortiatis	1.54	355	P	Pn	01 49 24.5	-0.6
DID	Didima	1.55	181	P	Pn	01 49 23.8	-1.3
DID	Didima	1.55	181	ePB	Pn	01 49 24.6	-0.5
DID	Didima	1.55	181	P	Pn	01 49 23.8	-1.3
DID	Didima	1.55	181	ePb	Pn	01 49 24.6	-0.5
THE	Thessaloniki	1.59	352	P	Pn	01 49 24.8	-0.9
THE	Thessaloniki	1.59	352	ePB	Pn	01 49 24.7	-0.9
THE	Thessaloniki	1.59	352	P	Pn	01 49 24.8	-0.9
DRO	Drossia	1.65	228	P	Pn	01 49 26.6	+0.1
DRO	Drossia	1.65	228	ePN	Pn	01 49 26.7	+0.2
DRO	Drossia	1.65	228	P	Pn	01 49 26.6	+0.1
PDO	Prodromos	1.69	255	ePN	Pn	01 49 27.4	+0.3
PDO	Prodromos	1.69	255	ePn	Pn	01 49 27.4	+0.3
KZN	Kozani	1.70	318	ePN	Pn	01 49 27.4	+0.1
KZN	Kozani	1.70	318	ePn	Pn	01 49 27.4	+0.1
RLS	Riolos of Patr	1.73	235	ePN	Pn	01 49 28.0	+0.4
RLS	Riolos of Patr	1.73	235	ePn	Pn	01 49 28.0	+0.4
SOH	Sokhos	1.76	2	P	Pn	01 49 27.9	-0.2
SOH	Sokhos	1.76	2	ePB	Pn	01 49 27.3	-0.8
SOH	Sokhos	1.76	2	ePb	Pn	01 49 27.3	-0.8
SOH	Sokhos	1.76	2	P	Pn	01 49 27.9	-0.2
VLX	Vlachokerasia	1.82	203	P	Pn	01 49 29.1	+0.1
VLX	Vlachokerasia	1.82	203	ePN	Pn	01 49 29.1	+0.1
VLX	Vlachokerasia	1.82	203	P	Pn	01 49 29.1	+0.1
JAN	Janina	1.97	288	ePN	Pn	01 49 31.0	+0.1
JAN	Janina	1.97	288	ePn	Pn	01 49 31.0	+0.1
LKD2	Lefkada island	2.06	263	ePN	Pn	01 49 32.3	+0.2
LKD2	Lefkada island	2.06	263	ePn	Pn	01 49 32.3	+0.2
SRS	Serrai	2.07	7	P	Pn	01 49 32.0	-0.3
SRS	Serrai	2.07	7	ePB	Pn	01 49 32.2	-0.1
SRS	Serrai	2.07	7	ePb	Pn	01 49 32.2	-0.1
SRS	Serrai	2.07	7	P	Pn	01 49 32.0	-0.3
KNT	Kendrikon	2.12	352	ePN	Pn	01 49 33.4	+0.4
KNT	Kendrikon	2.12	352	ePn	Pn	01 49 33.4	+0.4
ITM	Ithomi	2.15	210	ePN	Pn	01 49 34.4	+1.0
ITM	Ithomi	2.15	210	ePn	Pn	01 49 34.4	+1.0
FNA	Florina	2.26	320	ePB	Pn	01 49 35.6	+0.7
FNA	Florina	2.26	320	ePb	Pn	01 49 35.6	+0.7
VLI	Veliai	2.35	187	P	Pn	01 49 36.0	-0.1
VLI	Veliai	2.35	187	ePN	Pn	01 49 35.8	-0.3
VLI	Veliai	2.35	187	ePn	Pn	01 49 35.8	-0.3
IDI	Anoyia	3.98	161	Pn	Pn	01 49 59.4	+0.8
	2.3nm,0.3s,baz=342,slow=12,SNR=2.3						
IDI				Sn	Sn	01 50 43.4	-1.6
	1.6nm,0.3s,baz=224,slow=21,SNR=1.0						
BRTR	Keskin Array B	8.06	82	Pn	Pn	01 50 56.1	+1.4
	0.3nm,0.3s,baz=263,slow=13,SNR=7.8						
EKA	Eskdalemuir Ar	24.02	321	P	P	01 54 11.9	-0.3
	3.5nm,1.0s,baz=118,slow=9.1,SNR=3.6						
TORD	Torodi Ar. Bea	32.10	222	P	P	01 55 25.0	+0.3
	0.2nm,0.6s,baz=39,slow=8.3,SNR=3.6						
MKAR	Makanchi Array	43.00	60	P	P	01 56 57.1	+0.4
	0.3nm,0.6s,baz=268,slow=6.9,SNR=3.9						
ZALV	Zalesovo Beam	43.50	49	P	P	01 57 01.0	+0.4
	0.5nm,0.5s,baz=281,slow=8.7,SNR=2.4						

ISCJB 11 01:54:20.2±0.4, 12.5N±0.1×86.5W±0.1, h181km±8km, mb3.6/6, Error ellipse: s-maj=24.3km s-min=5.0km az=40.6

IDC 11 01:54:21.0±1.5, 12.54N×86.44W, h175km±19km, mb3.4/7, mb1 3.6/8, mb1mx3.3/25, mbtmp3.9/8, Error ellipse: s-maj=29.8km s-min=19.3km az=71.0

CASC 11 01:54:24.0±2.0, 11.84N×87.20W, h4km±9km, MD3.8

ISC 11 01:54:21.5±1.3, 12.4N±0.2×86.7W±0.2, h171km±9km, n25, σ1§19/24, mb3.8/6, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.43	307	eP	Pn	01 54 52.1	0.0
VSM	San Miguel	1.86	303	eP	Pn	01 54 56.8	+0.1
GBS2	Las Lilas	1.97	143	iS	Sn	01 55 24.9	-0.8
GBS3	Finca Las Im˜¡	2.01	144	iP	Pn	01 54 58.9	+0.8
GBS3				iS	Sn	01 55 25.5	-1.0
LAPC	Finca la Perla	2.04	144	iP	Pn	01 54 59.0	+0.5
LAPC				iS	Sn	01 55 26.0	-1.1
NY14	Universidad de	2.08	148	iP	Pn	01 55 00.1	+1.2
LFRS	El Faro	2.63	297	eP	Pn	01 55 05.0	-0.3
JTS	JuntasAbangare	2.70	141	P	Pn	01 55 07.1	+1.0
	4.6nm,0.3s,baz=115,slow=22,SNR=29						
JTS				S	Sn	01 55 39.9	-1.0
	6.8nm,0.3s,baz=272,slow=12,SNR=9.3						
LFU	La Fuente	2.73	299	eP	Pn	01 55 07.3	+0.8
JCR	Jicaral	2.97	149	eP	Pn	01 55 10.8	+1.3
JCR				eS	Sn	01 55 45.2	-1.7
SBLS	San Blas	3.21	296	eP	Pn	01 55 14.0	+1.4
SBLS				eS	Sn	01 55 52.2	-0.2
CGA2	Cerro Gallo 2	3.22	138	eP	Pn	01 55 14.3	+1.7
CGA2				eS	Sn	01 55 54.7	+2.3
RTR	El Retiro	3.26	297	eP	Pn	01 55 14.2	+1.1
RTR				eS	Sn	01 55 55.0	+1.7
SJG	San Juan	20.57	72	P	P	01 58 43.6	-3.5
	3.5nm,0.3s,baz=270,slow=14,SNR=2.6						
TXAR	Lajitas Array	23.09	319	P	P	01 59 11.9	-0.4
	0.9nm,0.6s,baz=146,slow=7.6,SNR=9.6						
TKL	Tuckaleechee C	23.28	6	P	P	01 59 12.8	-1.1
	3.5nm,0.5s,baz=195,slow=11,SNR=6.5						
PDAR	Pinedale Array	36.17	331	P	P	02 01 06.4	-1.3
	0.2nm,0.7s,baz=135,slow=10,SNR=2.6						
ULM	Lac du Bonnet	38.47	350	P	P	02 01 24.3	-2.4
	1.3nm,0.5s,baz=172,slow=12,SNR=3.0						
SCHQ	Schefferville	45.09	16	P	P	02 02 17.9	-2.4
	1.8nm,0.4s,baz=200,slow=5.5,SNR=13						
H03N2	Juan Fernandez	46.20	171	T	T	02 52 27.8	
	baz=354,slow=75,SNR=42						
H03N1	Juan Fernandez	46.20	171	T	T	02 52 28.0	
	baz=354,slow=75,SNR=58						
H03N3	Juan Fernandez	46.21	171	T	T	02 52 29.0	
	baz=354,slow=75,SNR=43						
PLCA	Paso Flores	54.95	165	P	P	02 03 34.5	-0.3
	1.1nm,0.7s,baz=335,slow=8.9,SNR=3.5						
ASAR	Alice Springs	139.97	248	PKhKP	PKPpre	02 13 22.6	
	0.1nm,0.3s,baz=121,slow=3.4,SNR=2.8						
ASAR				PKP	PKPdf	02 13 29.2	-1.0
	0.4nm,0.7s,baz=112,slow=1.8,SNR=4.4						
WRA	Warramunga Arr	140.00	254	PKP	PKPdf	02 13 29.9	-0.4
	0.6nm,0.6s,baz=91,slow=2.6,SNR=10						

IDC 11 02:13:19.9±3.0, 8.71S×156.25E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=116.5km s-min=34.9km az=136.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
WRA	Warramunga Arr	23.95	240	P	P	02 18 35.0	-1.2
	1.0nm,1.1s,baz=61,slow=9.3,SNR=3.7						
ILAR	Eielson Array	84.51	21	P	P	02 25 53.5	-0.9
	0.2nm,0.8s,baz=245,slow=5.4,SNR=4.2						
MKAR	Makanchi Array	85.50	319	P	P	02 26 01.4	+1.5
	0.3nm,0.7s,baz=106,slow=4.0,SNR=3.1						

ISCJB 11 02:20:40.8±0.2, 39.06N±0.01×23.28E±0.02, h20km±3km, Error ellipse: s-maj=3.2km s-min=2.3km az=179.4

CSEM 11 02:20:40.5±0.1, 39.06N×23.28E, h15km, MD3.1, Error ellipse: s-maj=2.4km s-min=1.8km az=90.0

ATH 11 02:20:40.0, 39.06N×23.28E, h21km, MD3.1/29, ML3.0

THE 11 02:20:40.8, 39.05N×23.27E, h16km, ML2.9/19, Error ellipse: s-maj=0.6km s-min=0.4km az=72.0

ISC 11 02:20:40.7±0.8, 39.06N±0.01×23.27E±0.02, h17km±5km, n101, σ0§46/164, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKIA	Skiathos	0.19	55	P	Pb	02 20 45.3	-0.4
SKIA				S	Sb	02 20 48.6	-0.4
SKIA	Skiathos	0.19	55	ePB	Pb	02 20 45.4	-0.3
SKIA				eSB	Sb	02 20 48.6	-0.4
SKIA	Skiathos	0.19	55	ePb	Pb	02 20 45.4	-0.3
SKIA				S	Sb	02 20 48.6	-0.4
SMIA	Simia	0.19	195	P	Pg	02 20 45.2	-0.1
SMIA				S	Sg	02 20 48.4	-0.1
SMIA	Simia	0.19	195	ePB	Pg	02 20 45.2	-0.1
SMIA				eSB	Sg	02 20 48.4	-0.1
SMIA	Simia	0.19	195	P	Pg	02 20 45.2	-0.1
SMIA				S	Sg	02 20 48.4	-0.1
NEO	Neokhori	0.25	352	P	Pg	02 20 46.4	+0.1
NEO				S	Sb	02 20 50.5	-0.4
NEO	Neokhori	0.25	352	ePB	Pg	02 20 46.4	+0.1
NEO				eSB	Sb	02 20 50.5	-0.4
NEO	Neokhori	0.25	352	P	Pg	02 20 46.4	+0.1
NEO				eSb	Sb	02 20 50.5	-0.4
XOR	Xorichti	0.31	349	P	Pg	02 20 47.4	0.0
XOR				S	Sg	02 20 52.2	+0.2
XOR	Xorichti	0.31	349	ePB	Pg	02 20 47.4	0.0
XOR	Xorichti	0.31	349	P	Pg	02 20 47.4	0.0
XOR				S	Sg	02 20 52.2	+0.2
MRKA	Markates	0.43	145	P	Pg	02 20 49.0	-0.4
MRKA				S	Sg	02 20 55.4	0.0
MRKA	Markates	0.43	145	ePB	Pg	02 20 49.1	-0.4
MRKA				eSB	Sg	02 20 54.8	-0.6
MRKA	Markates	0.43	145	ePb	Pg	02 20 49.1	-0.4
MRKA				eSb	Sg	02 20 54.8	-0.6
MRKA				S	Sg	02 20 55.4	0.0
FYTO	Fytoko, Volos	0.43	324	P	Pg	02 20 49.5	0.0
FYTO				S	Sb	02 20 56.2	+0.1
FYTO	Fytoko, Volos	0.43	324	P	Pg	02 20 49.5	0.0
FYTO				S	Sb	02 20 56.2	+0.1
LKR	Lokris	0.46	207	P	Pg	02 20 49.6	-0.4
LKR				S	Sg	02 20 56.3	+0.1
LKR	Lokris	0.46	207	ePB	Pg	02 20 49.4	-0.6
LKR				eSB	Sg	02 20 55.7	-0.5
LKR	Lokris	0.46	207	P	Pg	02 20 49.6	-0.4
LKR				eSb	Sg	02 20 55.7	-0.5
LKR				S	Sg	02 20 56.3	+0.1
AOS	Alonnisos	0.49	77	P	Pg	02 20 50.3	-0.2
AOS				S	Sg	02 20 57.0	-0.1
AOS	Alonnisos	0.49	77	eP	Pb	02 20 51.3	+0.5
AOS	Alonnisos	0.49	77	ePB	Pg	02 20 50.2	-0.2
AOS	Alonnisos	0.49	77	P	Pg	02 20 50.3	-0.2
AOS				S	Sg	02 20 57.0	-0.1
AXAR	Agios Charalam	0.56	239	P	Pg	02 20 51.4	-0.4
AXAR				S	Sb	02 20 59.9	+0.1
AXAR	Agios Charalam	0.56	239	ePN	Pg	02 20 51.3	-0.5
AXAR				eSN	Sb	02 21 00.2	+0.4
AXAR	Agios Charalam	0.56	239	P	Pg	02 20 51.4	-0.4
AXAR				S	Sb	02 20 59.9	+0.1
AXAR				eSn	Sb	02 21 00.2	+0.4
AGG	Agios Georgios	0.73	267	P	Pg	02 20 54.1	-0.9
AGG	Agios Georgios	0.73	267	ePN	Pg	02 20 54.6	-0.4
AGG	Agios Georgios	0.73	267	P	Pg	02 20 54.1	-0.9
AGG	Agios Georgios	0.73	267	ePn	Pg	02 20 54.6	-0.4
ERET	Eretria	0.74	146	P	Pg	02 20 54.9	-0.4
ERET				S	Sb	02 21 05.7	+0.6
ERET	Eretria	0.74	146	P	Pg	02 20 54.9	-0.4
ERET				S	Sb	02 21 05.7	+0.6
DSF	Desfina	0.87	222	P	Pb	02 20 56.3	-1.1
DSF				S	Sg	02 21 09.3	+0.2
DSF	Desfina	0.87	222	ePN	Pb	02 20 56.5	-0.9
DSF				eSN	Sg	02 21 09.2	+0.2
DSF	Desfina	0.87	222	P	Pb	02 20 56.3	-1.1
DSF				S	Sg	02 21 09.3	+0.2
MAKR	Makrakomi, Fth	0.89	267	P	Pb	02 20 57.5	-0.2
MAKR				S	Sg	02 21 09.9	+0.2
MAKR	Makrakomi, Fth	0.89	267	ePN	Pb	02 20 57.3	-0.4
MAKR				eSN	Sg	02 21 09.7	0.0
MAKR	Makrakomi, Fth	0.89	267	P	Pb	02 20 57.5	-0.2
MAKR				S	Sg	02 21 09.9	+0.2
PAIG	Paliouri	0.92	20	P	Pg	02 20 58.3	-0.3
PAIG				S	Sn	02 21 11.4	-0.3
PAIG	Paliouri	0.92	20	ePN	Pg	02 20 58.5	-0.1
PAIG	Paliouri	0.92	20	ePn	Pg	02 20 58.5	-0.1
PAIG				S	Sn	02 21 11.4	-0.3
LTK	Loutraki	1.06	193	P	Pb	02 21 00.0	-0.6
LTK				S	Sg	02 21 14.8	-0.4
LTK	Loutraki	1.06	193	ePN	Pn	02 21 00.8	0.0
LTK	Loutraki	1.06	193	P	Pb	02 21 00.0	-0.6
LTK	Loutraki	1.06	193	ePn	Pn	02 21 00.8	0.0
LTK				S	Sg	02 21 14.8	-0.4
THL	Klokotos Trika	1.10	298	P	Pb	02 21 00.5	-0.7
THL				S	Sg	02 21 16.7	+0.4
THL	Klokotos Trika	1.10	298	P	Pb	02 21 00.5	-0.7
THL				S	Sg	02 21 16.7	+0.4
KALE	Kalithea	1.11	233	P	Pn	02 21 01.6	+0.1
KALE				S	Sb	02 21 16.0	+0.4
KALE	Kalithea	1.11	233	ePN	Pn	02 21 01.5	+0.1
KALE				eSN	Sn	02 21 16.5	+0.1
KALE	Kalithea	1.11	233	P	Pn	02 21 01.6	+0.1
KALE				S	Sb	02 21 16.0	+0.4
PTL	Penteli	1.11	155	P	Pb	02 21 01.4	0.0
PTL				S	Sb	02 21 15.8	+0.1
PTL	Penteli	1.11	155	ePN	Pb	02 21 01.5	0.0
PTL				eSN	Sb	02 21 15.8	+0.1
PTL	Penteli	1.11	155	ePn	Pb	02 21 01.5	0.0
PTL				S	Sb	02 21 15.8	+0.1
ATH	Athens Observa	1.14	162	P	Pg	02 21 02.2	-0.5
ATH				S	Sb	02 21 16.6	+0.2
ATH	Athens Observa	1.14	162	ePN	Pb	02 21 02.0	+0.1
ATH				eSN	Sn	02 21 17.1	0.0
ATH	Athens Observa	1.14	162	ePn	Pb	02 21 02.0	+0.1
ATH				S	Sb	02 21 16.6	+0.2
ATH				eSn	Sn	02 21 17.1	0.0
EVR	Evrytania	1.15	263	ePN	Pb	02 21 02.5	+0.4
EVR	Evrytania	1.15	263	ePn	Pb	02 21 02.5	+0.4
ATHU	Athens Univers	1.16	160	P	Pb	02 21 02.3	0.0
ATHU				S	Sb	02 21 17.2	+0.1
ATHU	Athens Univers	1.16	160	P	Pb	02 21 02.3	0.0
ATHU				S	Sb	02 21 17.2	+0.1
LIT	Litokhoron	1.20	330	P	Pn	02 21 02.8	0.0
LIT				S	Sg	02 21 19.4	-0.2
LIT	Litokhoron	1.20	330	ePN	Pn	02 21 02.8	0.0
LIT	Litokhoron	1.20	330	P	Pn	02 21 02.8	0.0
LIT				S	Sg	02 21 19.4	-0.2
EFP	Efpalio	1.24	240	ePN	Pb	02 21 04.0	+0.4
EFP	Efpalio	1.24	240	ePn	Pb	02 21 04.0	+0.4
LAKA	Lakka	1.30	231	ePN	Pb	02 21 05.0	+0.3
LAKA	Lakka	1.30	231	ePn	Pb	02 21 05.0	+0.3
PLG	Polygyros	1.32	6	P	Pn	02 21 04.2	-0.2
PLG				S	Sn	02 21 21.3	-0.3
PLG	Polygyros	1.32	6	ePN	Pn	02 21 04.4	0.0
PLG				eSN	Sb	02 21 22.0	+0.3
PLG	Polygyros	1.32	6	P	Pn	02 21 04.2	-0.2
PLG				S	Sn	02 21 21.3	-0.3
PLG				eSn	Sb	02 21 22.0	+0.3
GUR	Goura	1.34	213	ePN	Pn	02 21 05.1	+0.4
GUR	Goura	1.34	213	ePn	Pn	02 21 05.1	+0.4
KLV	Kalavryta, Ach	1.34	221	ePN	Pn	02 21 04.7	0.0
KLV	Kalavryta, Ach	1.34	221	ePn	Pn	02 21 04.7	0.0
HORT	Hortiatis	1.54	355	P	Pn	02 21 07.6	+0.1
HORT				S	Sn	02 21 26.9	-0.3
HORT	Hortiatis	1.54	355	ePB	Pn	02 21 07.6	+0.1
HORT	Hortiatis	1.54	355	P	Pn	02 21 07.6	+0.1
HORT				S	Sn	02 21 26.9	-0.3
DID	Didima	1.55	181	P	Pn	02 21 07.6	+0.1
DID				S	Sn	02 21 26.9	-0.4
DID	Didima	1.55	181	ePB	Pn	02 21 07.8	+0.3
DID	Didima	1.55	181	P	Pn	02 21 07.6	+0.1
DID				S	Sn	02 21 26.9	-0.4
DRO	Drossia	1.65	228	ePN	Pb	02 21 10.0	-0.6
DRO	Drossia	1.65	228	ePn	Pb	02 21 10.0	-0.6
PDO	Prodromos	1.69	255	ePN	Pb	02 21 10.7	-0.7
PDO	Prodromos	1.69	255	ePn	Pb	02 21 10.7	-0.7
KZN	Kozani	1.70	318	ePN	Pn	02 21 10.4	+0.8
KZN	Kozani	1.70	318	ePn	Pn	02 21 10.4	+0.8
SOH	Sokhos	1.76	2	ePN	Pn	02 21 11.1	+0.6
SOH	Sokhos	1.76	2	ePn	Pn	02 21 11.1	+0.6
SRS	Serrai	2.07	7	ePB	Pn	02 21 15.1	+0.4
SRS	Serrai	2.07	7	ePb	Pn	02 21 15.1	+0.4
KNT	Kendrikon	2.12	352	ePB	Pn	02 21 16.2	+0.9
KNT	Kendrikon	2.12	352	ePb	Pn	02 21 16.2	+0.9
ITM	Ithomi	2.15	210	ePN	Pn	02 21 17.0	+1.2
ITM	Ithomi	2.15	210	ePn	Pn	02 21 17.0	+1.2
NEST	Nestorio	2.18	309	ePN	Pn	02 21 17.7	+1.4
NEST	Nestorio	2.18	309	ePn	Pn	02 21 17.7	+1.4
NVR	Nevrokopi	2.33	11	ePN	Pn	02 21 18.6	+0.3
NVR	Nevrokopi	2.33	11	ePn	Pn	02 21 18.6	+0.3
EZN	Ezine	2.49	71	eP	Pg	02 21 27.4	-0.9
APE	Apeiranthos	2.67	137	eP	Pg	02 21 33.9	+2.0

TIR 11 02:24:48.8±3.1, 42.31N×19.39E, h30km±17km, ML4.3

BJI 11 02:25:47.3, 42.42N×19.06E, h9km, mB4.7/3, mb4.4/16, Ms4.7/5, Ms7 4.5/5

IDC 11 02:25:49.2±0.5, 42.25N×19.40E, h0km, mb4.3/22, mb1 4.4/39, mb1mx4.3/48, mbtmp4.3/39, ML4.0/14, MS3.6/25, Ms1 3.6/25, ms1mx3.5/49, Error ellipse: s-maj=9.4km s-min=7.8km az=29.0

MOS 11 02:25:49.8±1.0, 42.31N×19.29E, h11km, mb4.5/29, Error ellipse: s-maj=4.0km s-min=2.6km az=111.2

ROM 11 02:25:51.3±0.3, 42.20N×19.51E, h10km, Ml4.8/49, Error ellipse: s-maj=4.4km s-min=1.2km az=79.0

PDG 11 02:25:52.8±0.3, 42.30N×19.44E, h21km, MD4.5/11, ML4.5/10, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0

VIE 11 02:25:52.7±0.3, 42.27N×19.39E, h10km, mb4.3/18, ML4.5/2, Ms4.5/16, Error ellipse: s-maj=3.9km s-min=1.9km az=24.0

SOF 11 02:25:52.8, 42.36N×19.43E, h10km, MD3.8

CSEM 11 02:25:52.5±0.1, 42.30N×19.37E, h12km, mb4.4/13, Ms4.5, Error ellipse: s-maj=1.7km s-min=1.5km az=36.0

LDG 11 02:25:52.2±0.1, 42.27N×19.33E, h10km, Ml4.6/41, Error ellipse: s-maj=3.1km s-min=2.4km az=165.0

NEIC 11 02:25:53.7±0.5, 42.31N×19.34E, h27km±4km, mb4.3/11, ML4.3(TIR), ML4.5(PDG), Error ellipse: s-maj=3.0km s-min=1.9km az=214.0

NEIC Felt [III] at Podgorica and Ulcinj. Also felt at Pljevlja. Felt at Koplik and Tirana, Albania; Mostar, Bosnia and Herzegovina; Dubrovnik, Croatia.

SKO 11 02:25:53.3, 42.42N×19.61E, h2km, M3.7

BEO 11 02:25:53.4±0.3, 42.29N×19.50E, h12km±1km, ML4.3/2

PRU 11 02:25:53.7, 42.39N×19.56E, h0km, M4.5

THE 11 02:25:53.6, 42.26N×19.38E, h14km±2km, ML4.2/10, Error ellipse: s-maj=2.4km s-min=0.9km az=297.0

STR 11 02:26:19.0±0.5, 43.33N×16.90E, h5km, Ml4.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0

ISC 11 02:25:52.7±0.3, 42.29N±0.01×19.41E±0.01, h20km±1km, n1050, σ1§58/1279, mb4.4/46, MS3.9/19, 62C-87D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	Podgorica	0.18	320	P	Pb	02 25 58.1	-0.2
PDG	Podgorica	0.18	320	⇑iPg	Pb	02 25 58.1	-0.2
PDG	Podgorica	0.18	320	Pn	Pb	02 25 58.1	-0.2
PDG				Sn	Sb	02 26 02.4	+0.2
	99μm,0.5s						
TTG	Podgorica	0.18	320	⇑iPg	Pb	02 25 58.1	-0.2
TTG				eSg	Sb	02 26 02.3	+0.1
TTG	Podgorica	0.18	320	P	Pb	02 25 58.1	-0.2
TTG	Podgorica	0.18	320	P	Pb	02 25 58.1	-0.2
TTG	Podgorica	0.18	320	P	Pb	02 25 58.1	-0.2
DRME	Dracevica, Mon	0.20	239	⇓iPg	Pb	02 25 58.5	+0.1
DRME				eSg	Sb	02 26 02.9	+0.6
ULC	Ulcinj	0.35	201	⇓iPg	Pb	02 26 00.1	0.0
ULC				eSg	Sb	02 26 06.8	+1.6
BUM	Brajici-Budva	0.39	272	⇓iPg	Pb	02 26 01.1	+0.4
BUM				eSg	Sb	02 26 08.0	+1.8
PUK	Puka	0.43	125	iPG	Pb	02 26 01.0	-0.5
PUK				iSG	Sb	02 26 08.1	+0.4
PUK	Puka	0.43	125	P	Pb	02 26 01.1	-0.5
PUK	Puka	0.43	125	iPg	Pb	02 26 01.0	-0.5
	SNR=91						
PUK				iSg	Sb	02 26 08.1	+0.4
	SNR=91						
BCI	Bajram Curri	0.49	81	iPG	Pb	02 26 02.0	-0.6
BCI	Bajram Curri	0.49	81	P	Pb	02 26 02.0	-0.6
BCI				S	Sb	02 26 09.9	+0.5
BCI	Bajram Curri	0.49	81	iPg	Pb	02 26 02.0	-0.6
	SNR=90						
PVY	Plav	0.51	53	⇓iPg	Pb	02 26 02.6	-0.4
PVY				eSg	Sb	02 26 10.9	+1.0
NKME	Niksic	0.59	325	⇓iPg	Pb	02 26 04.1	-0.3
NKME				eSg	Sn	02 26 13.9	-1.0
NKME	Niksic	0.59	325	⇓iPg	Pb	02 26 04.1	-0.3
NKME				eSg	Sn	02 26 13.9	-1.0
NKY	Niksic	0.61	329	⇓iPg	Pb	02 26 04.6	-0.2
NKY				eSg	Sn	02 26 14.5	-1.0
NKY	Niksic	0.61	329	⇓iPg	Pb	02 26 04.6	-0.2
NKY				eSg	Sn	02 26 14.5	-1.0
BEY	Berane	0.68	31	⇓iPg	Pb	02 26 05.5	-0.5
BEY				eSg	Sn	02 26 16.6	-0.7
IVA	Berane	0.68	31	⇓iPg	Pb	02 26 05.5	-0.5
IVA				eSg	Sn	02 26 16.6	-0.7
HCY	Herceg Novi	0.70	283	⇓iPg	Pb	02 26 06.1	-0.1
HCY				eSg	Sn	02 26 17.7	+0.1
HCY	Herceg Novi	0.70	283	⇓iPg	Pb	02 26 06.1	-0.1
HCY				eSg	Sn	02 26 17.7	+0.1
TREB	Trebinje	0.90	299	ePg	Pn	02 26 12.4	+2.3
TREB				eSg	Sn	02 26 24.3	+1.9
TREB	Trebinje	0.90	299	ePg	Pn	02 26 12.4	+2.3
TREB				eSg	Sn	02 26 24.3	+1.9
PHP	Peshkopia	0.98	128	iPG	Pn	02 26 10.0	-1.0
PHP	Peshkopia	0.98	128	P	Pn	02 26 10.0	-1.0
PHP				S	Sn	02 26 26.2	+1.7
PHP	Peshkopia	0.98	128	P	Pb	02 26 09.9	-1.0
PHP				S	Sn	02 26 25.0	+0.5
PHP				S	Sn	02 26 26.2	+1.7
PHP	Peshkopia	0.98	128	P	Pb	02 26 09.9	-1.0
PHP				S	Sn	02 26 24.9	+0.5
PHP				S	Sn	02 26 26.2	+1.7
PHP	Peshkopia	0.98	128	P	Pb	02 26 09.9	-1.0
PHP				S	Sn	02 26 25.0	+0.5
UPM	Unac-Piva	0.99	338	⇓iPg	Pn	02 26 11.0	-0.2
UPM				eSg	Sn	02 26 27.3	+2.3
UPM	Unac-Piva	0.99	338	⇓iPg	Pn	02 26 11.0	-0.2
UPM				eSg	Sn	02 26 27.3	+2.3
PLE	Pljevlja	1.04	359	⇓iPg	Pn	02 26 12.3	+0.1
PLE				eSg	Sn	02 26 28.9	+2.7
PLE	Pljevlja	1.04	359	⇓iPg	Pn	02 26 12.3	+0.1
PLE				eSg	Sn	02 26 28.9	+2.7
SJES	Sjenica	1.05	23	⇓iPg	Pb	02 26 12.3	0.0

SJES eSg Sb 02 26 26.0 +0.3
SJES Sjenica 1.05 23⇓iPg Pb 02 26 12.3 0.0
SJES eSg Sb 02 26 26.0 +0.3
STON Ston 1.39 295 iPn Pb 02 26 18.5 +0.6
STON Sn Sb 02 26 38.7 +3.4
STON Ston 1.39 295 ePg Pb 02 26 19.6 +1.7
STON eSg Sb 02 26 38.8 +3.5
STON Ston 1.39 295 iPn Pb 02 26 18.5 +0.6
STON Ston 1.39 295 ePg Pb 02 26 19.6 +1.7
STON eSg Sb 02 26 38.8 +3.5
IVAS Ivanjica 1.40 23 iPg Pb 02 26 18.3 +0.2
IVAS eSg Sb 02 26 38.6 +3.1
IVAS Ivanjica 1.40 23 iPg Pb 02 26 18.3 +0.2
IVAS eSg Sb 02 26 38.6 +3.1
SKO Skopje 1.54 101 P Pb 02 26 20.2 -0.3
SKO S Sb 02 26 42.8 +3.2
SKO Skopje 1.54 101 P Pb 02 26 20.2 -0.3
SKO S Sb 02 26 42.8 +3.2
SKO Skopje 1.54 101 ePg Pb 02 26 20.3 -0.3
SKO Skopje 1.54 101 ePn Pb 02 26 20.2 -0.3
SKO eSg Sb 02 26 39.8 +0.2
SKO eLg Lg 02 26 41.6
comp=Z,3µm,1.2s
SKO eLg Lg 02 26 41.7
comp=N,2µm,0.4s
SKO Skopje 1.54 101 P Pb 02 26 20.2 -0.3
SKO S Sb 02 26 42.8 +3.2
SKO Skopje 1.54 101 P Pb 02 26 20.2 -0.3
SKO eSg Sb 02 26 39.7 +0.2
SKO eLg Lg 02 26 41.7
comp=N,2µm,0.4s
SKO S Sb 02 26 42.8 +3.2
SELS Selova 1.56 53 ePn Pn 02 26 20.0 +0.7
SELS eSg Sb 02 26 41.1 +0.9
BBLS Lazići 1.58 360⇓iPn Pb 02 26 21.4 +0.3
BBLS eSg Sb 02 26 43.8 +3.1
BBLS Lazići 1.58 360⇓iPn Pb 02 26 21.4 +0.3
BBLS eSg Sb 02 26 43.8 +3.1
VLO Vlora 1.82 178 iPN Pb 02 26 24.5 -0.8
VLO iSN Sb 02 26 48.4 +0.8
VLO Vlora 1.82 178 P Pn 02 26 24.0 +1.2
VLO S Sn 02 26 46.4 +1.2
VLO Vlora 1.82 178 P Pb 02 26 24.5 -0.8
VLO S Sn 02 26 46.4 +1.2
VLO Vlora 1.82 178 P Pb 02 26 24.5 -0.8
VLO S Sn 02 26 46.4 +1.2
VLO Vlora 1.82 178 P Pb 02 26 24.5 -0.8
VLO S Sn 02 26 46.4 +1.2
VLO iSn Sb 02 26 48.3 +0.8
SNR=40
BARS Barje 1.85 73⇓iPn Pn 02 26 24.3 +1.1
BARS eSg Sb 02 26 49.1 +0.6
DIVS Divibare 1.86 13 P Pn 02 26 24.5 +1.1
DIVS S Sb 02 26 49.2 +0.4
DIVS Divibare 1.86 13⇓iPn Pn 02 26 24.5 +1.1
DIVS Divibare 1.86 13 P Pn 02 26 24.5 +1.1
DIVS S Sb 02 26 49.2 +0.4
GRUS Gruza 1.86 30⇓iPn Pn 02 26 24.2 +0.8
GRUS eSg Sb 02 26 52.2 +3.4
GRUS Gruza 1.86 30⇓iPn Pn 02 26 24.2 +0.8
GRUS eSg Sb 02 26 52.2 +3.4
KBN Korca 1.96 148 iPN Pb 02 26 27.7 0.0
KBN iSN Sb 02 26 54.1 +2.4
KBN Korca 1.96 148 P Pb 02 26 27.5 -0.2
KBN S Sb 02 26 50.9 -0.8
KBN Korca 1.96 148 P Pb 02 26 27.9 +0.2
KBN S Sb 02 26 53.8 +2.1
KBN Korca 1.96 148 P Pb 02 26 27.9 +0.2
KBN S Sb 02 26 53.8 +2.1
KBN Korca 1.96 148 iPn Pb 02 26 27.7 0.0
SNR=40
KBN S Sb 02 26 50.9 -0.8
KBN iSn Sb 02 26 54.1 +2.4
SNR=40
TRUS Trudelj 2.06 20⇓iPn Pn 02 26 26.0 -0.2
TRUS Trudelj 2.06 20⇓iPn Pn 02 26 26.0 -0.2
MESG Mesagne 2.07 215 Pn Pn 02 26 26.0 -0.1
comp=N,3µm,0.6s
MESG Mesagne 2.07 215 Pn Pn 02 26 26.0 -0.1
comp=N,3µm,0.6s
PE1 Pezze di Greco 2.10 226 ePn Pn 02 26 27.1 +0.4
PE1 Sn Sn 02 26 51.7 -0.5
FNA Florina 2.11 135 P Pb 02 26 29.3 -0.9
FNA S Sb 02 26 55.0 -0.9
FNA Florina 2.11 135 P Pb 02 26 29.6 -0.6
FNA S Sb 02 26 55.0 -0.9
FNA Florina 2.11 135 P Pb 02 26 29.6 -0.6
FNA S Sb 02 26 55.0 -0.9
FNA Florina 2.11 135 P Pb 02 26 29.6 -0.6
FNA S Sb 02 26 55.0 -0.9
NEST Nestorio 2.24 146 P Pb 02 26 30.9 -1.6
NEST S Sn 02 26 57.4 +1.6
NEST Nestorio 2.24 146 P Pb 02 26 30.9 -1.6
NEST S Sn 02 26 57.4 +1.6
TEKS Tekeris 2.26 2 iPn Pn 02 26 30.3 +1.4
TEKS eSn Sb 02 26 58.9 -1.4
TEKS Tekeris 2.26 2 iPn Pn 02 26 30.3 +1.4
TEKS eSn Sb 02 26 58.9 -1.4
NOCI Noci 2.31 230 Pn Pn 02 26 29.9 +0.3
comp=N,4µm,0.4s
NOCI Noci 2.31 230 Pn Pn 02 26 29.9 +0.3
comp=N,4µm,0.4s
SCTE Santa Cesarea 2.33 198 Pn Pn 02 26 29.1 -0.7
SCTE Santa Cesarea 2.33 198 Pn Pn 02 26 29.1 -0.7
TAR1 Taranto 2.38 223 ePn Pn 02 26 30.3 -0.2
TAR1 Sn Sn 02 26 57.5 -1.5
BOLS Boljevac 2.42 50⇓iPn Pn 02 26 30.3 -0.7
BOLS eSg Sb 02 27 08.8 +4.1
BOLS Boljevac 2.42 50⇓iPn Pn 02 26 30.3 -0.7
SRN Sarande 2.45 169 iPN Pn 02 26 32.5 +1.1
SRN iSN Sb 02 27 06.8 +1.2
SRN Sarande 2.45 169 P Pn 02 26 32.2 +0.8
SRN S Sn 02 27 02.9 +2.2
SRN Sarande 2.45 169 P Pn 02 26 32.7 +1.3
SRN Sarande 2.45 169 P Pn 02 26 32.2 +0.8
SRN Sarande 2.45 169 iPn Pn 02 26 32.5 +1.1
SNR=40
SRN S Sn 02 27 02.9 +2.2
SRN iSn Sb 02 27 06.8 +1.2
SNR=40
SG1 Sgolgore (BA) 2.51 236 ePn Pn 02 26 32.7 +0.4
SG1 Sn Sn 02 27 04.0 +1.7
AMUR Altamura 2.52 238 Pn Pn 02 26 32.9 +0.5
AMUR Altamura 2.52 238 Pn Pn 02 26 32.9 +0.5
VAY Valandovo 2.55 111 P Pn 02 26 34.0 +1.2
VAY S Sb 02 27 06.4 -2.2
VAY Valandovo 2.55 111 P Pn 02 26 34.0 +1.2
VAY Valandovo 2.55 111 ePn Pn 02 26 34.1 +1.2
VAY Valandovo 2.55 111 iP Pb 02 26 38.2 +0.5
VAY Valandovo 2.55 111 ePn Pn 02 26 34.8 +2.0
VAY eSg Sb 02 27 11.8 +3.2
VAY eLg Lg 02 27 17.5
comp=Z,911nm,1.1s
VAY eLg Lg 02 27 17.6
comp=N,3µm,1.9s
VAY Valandovo 2.55 111 P Pn 02 26 34.0 +1.2
VAY Valandovo 2.55 111 P Pn 02 26 34.0 +1.2
VAY S Sb 02 27 06.4 -2.2
VAY eLg Lg 02 27 17.5
comp=N,3µm,1.9s
ZAPS Zavoj 2.57 66⇓iPn Pn 02 26 34.6 +1.5
ZAPS Zavoj 2.57 66⇓iPn Pn 02 26 34.6 +1.5
LTRZ Laterza 2.58 230 Pn Pn 02 26 33.2 0.0
comp=N,116µm,8.0s
LTRZ Laterza 2.58 230 Pn Pn 02 26 33.2 0.0
comp=N,116µm,8.0s
KEK Kerkira 2.59 173 P Pn 02 26 33.9 +0.5
KEK S Sn 02 27 05.9 +1.7
KEK Kerkira 2.59 173 Pn Pn 02 26 33.8 +0.4
KEK Kerkira 2.59 173 P Pn 02 26 33.9 +0.5
KEK Kerkira 2.59 173 P Pn 02 26 33.9 +0.5
KEK S Sn 02 27 05.9 +1.7
MATE Matera 2.61 232 Pn Pn 02 26 33.9 +0.2
comp=N,3µm,0.9s
MATE Matera 2.61 232 Pn Pn 02 26 33.9 +0.2
comp=N,3µm,0.9s
BEO Beograd 2.63 17⇓iPn Pn 02 26 34.6 +0.6
BEO eSn Sn 02 27 07.0 +1.7
CDT Castel del Mon 2.64 244 ePn Pn 02 26 34.6 +0.5
CDT Sn Sn 02 27 05.7 +1.4
KZN Kozani 2.66 137 P Pn 02 26 36.5 +2.1
KZN S Sn 02 27 08.3 +2.2
KZN Kozani 2.66 137 P Pn 02 26 36.5 +2.1
KZN Kozani 2.66 137 P Pn 02 26 36.5 +2.1
KZN Kozani 2.66 137 P Pn 02 26 36.5 +2.1
KZN S Sn 02 27 08.3 +2.2
MSAG Monte S. Angel 2.67 259 Pn Pn 02 26 35.4 +0.8
MSAG Monte S. Angel 2.67 259 Pn Pn 02 26 35.4 +0.8
MRVN Minervino Murg 2.71 244 Pn Pn 02 26 35.5 +0.5
comp=N,2µm,0.4s
MRVN Minervino Murg 2.71 244 Pn Pn 02 26 35.5 +0.5
comp=N,2µm,0.4s
KKB Krupnik 2.77 98 iP Pb 02 26 39.0 -2.4
KKB Krupnik 2.77 98 iP Pb 02 26 39.0 -2.4
MIGL Miglionico 2.80 234 Pn Pn 02 26 37.0 +0.8
comp=N,9µm,0.6s
MIGL Miglionico 2.80 234 Pn Pn 02 26 37.0 +0.8
comp=N,9µm,0.6s
VTS Vitosha 2.83 83 P Pn 02 26 38.2 +1.4
VTS Vitosha 2.83 83 P Pn 02 26 38.2 +1.4
VTS Vitosha 2.83 83⇓iPn Pn 02 26 38.2 +1.4
VTS Vitosha 2.83 83 ePn Pn 02 26 38.2 +1.4
VTS eSn Sn 02 27 10.4 +0.1
VTS Vitosha 2.83 83 iP Pn 02 26 38.0 +1.2
VTS iS Sn 02 27 13.0 +2.7
VTS Vitosha 2.83 83⇓iP Pn 02 26 38.5 +1.7
VTS Vitosha 2.83 83 P Pn 02 26 38.2 +1.4
VTS Vitosha 2.83 83 ePn Pn 02 26 38.2 +1.4
VTS Vitosha 2.83 83 P Pn 02 26 38.2 +1.4
VTS Vitosha 2.83 83⇓iP Pn 02 26 38.5 +1.7
VTS eSn Sn 02 27 10.4 +0.1
VTS iS Sn 02 27 13.0 +2.7
IGT Igoumenitsa 2.84 166 P Pn 02 26 37.7 +0.9
IGT S Sn 02 27 12.9 +2.5
IGT Igoumenitsa 2.84 166 P Pn 02 26 37.8 +0.9
IGT S Sn 02 27 12.9 +2.5
IGT Igoumenitsa 2.84 166 P Pn 02 26 37.8 +0.9
IGT S Sn 02 27 12.9 +2.5
IGT Igoumenitsa 2.84 166 P Pn 02 26 37.8 +0.9
IGT S Sn 02 27 12.9 +2.5
KNT Kendrikon 2.84 112 P Pn 02 26 38.4 +1.6
KNT S Sn 02 27 13.4 +2.9
KNT Kendrikon 2.84 112 P Pn 02 26 38.4 +1.6
KNT S Sn 02 27 13.4 +2.9
KNT Kendrikon 2.84 112 P Pn 02 26 38.4 +1.6
KNT S Sn 02 27 13.4 +2.9
KNT Kendrikon 2.84 112 P Pn 02 26 38.4 +1.6
KNT S Sn 02 27 13.4 +2.9
JAN Janina 2.85 157 P Pn 02 26 39.1 +2.2
JAN S Sn 02 27 12.9 +2.3
JAN Janina 2.85 157 P Pn 02 26 39.1 +2.2
JAN S Sn 02 27 12.9 +2.3
JAN Janina 2.85 157 P Pn 02 26 39.1 +2.2
JAN S Sn 02 27 12.9 +2.3
JAN Janina 2.85 157 P Pn 02 26 39.1 +2.2
JAN S Sn 02 27 12.9 +2.3
MEV Metsovon 2.85 151 P Pb 02 26 40.5 -2.5
MEV Metsovon 2.85 151 P Pb 02 26 40.5 -2.5
FGSL Fruska Gora 2.88 6⇓iPn Pn 02 26 38.2 +0.8
FGSL eSn Sn 02 27 14.2 +2.8
FRGS Fruska Gora 2.88 6⇓iPn Pn 02 26 38.2 +0.8
FRGS eSn Sn 02 27 14.2 +2.7
PALZ Palazzo San Ge 2.92 244 Pn Pn 02 26 38.8 +0.9
comp=N,7µm,1.0s
PALZ Palazzo San Ge 2.92 244 Pn Pn 02 26 38.8 +0.9
comp=N,7µm,1.0s
BLY Banja Luka 2.94 327 ePn Pb 02 26 41.6 -2.8
BLY eSn Sb 02 27 17.6 -2.4
BLY Banja Luka 2.94 327 Pn Pn 02 26 41.1 +2.9
comp=N,4µm,0.6s
BLY Banja Luka 2.94 327 Pn Pn 02 26 41.1 +2.9
comp=N,4µm,0.6s
BLY eSn Sb 02 27 17.6 -2.4
CRAC Craco 2.95 230 Pn Pn 02 26 38.7 +0.3
comp=N,5µm,0.7s
CRAC Craco 2.95 230 Pn Pn 02 26 38.7 +0.3
comp=N,5µm,0.7s
ACER Acerenza 3.01 241 Pn Pn 02 26 39.9 +0.7
ACER Acerenza 3.01 241 Pn Pn 02 26 39.9 +0.7
PTRP Pietrapertosa 3.08 236 Pn Pn 02 26 41.1 +0.9
comp=N,1696µm,15.0s
PTRP Pietrapertosa 3.08 236 Pn Pn 02 26 41.1 +0.9
comp=N,1696µm,15.0s
THE Thessaloniki 3.14 121 P Pn 02 26 42.6 +1.7
THE S Sn 02 27 20.8 +3.0
THE Thessaloniki 3.14 121 P Pn 02 26 42.6 +1.7
THE S Sn 02 27 20.8 +3.0
THE Thessaloniki 3.14 121 P Pn 02 26 42.6 +1.7
THE S Sn 02 27 20.8 +3.0
THE Thessaloniki 3.14 121 P Pn 02 26 42.6 +1.7
THE S Sn 02 27 20.8 +3.0
VULT Monte Vulture 3.14 246 Pn Pn 02 26 41.8 +0.7
comp=N,3µm,0.9s
VULT Monte Vulture 3.14 246 Pn Pn 02 26 41.8 +0.7
comp=N,3µm,0.9s
ORI Oriolo Calabro 3.15 226 Pn Pn 02 26 41.5 +0.4
comp=N,3µm,0.4s
ORI Oriolo Calabro 3.15 226 Pn Pn 02 26 41.5 +0.4
comp=N,3µm,0.4s
LIT Litokhoron 3.19 132 P Pn 02 26 42.7 +1.1
LIT Litokhoron 3.19 132 P Pn 02 26 42.7 +1.1
LIT Litokhoron 3.19 132 P Pn 02 26 42.7 +1.1
LIT Litokhoron 3.19 132 P Pn 02 26 42.7 +1.1
HORT Hortiatis 3.25 120 P Pn 02 26 44.3 +1.8
HORT Hortiatis 3.25 120 P Pn 02 26 44.3 +1.8
HORT Hortiatis 3.25 120 P Pn 02 26 44.3 +1.8
MELA Melanico ??? S 3.25 261 Pn Pn 02 26 43.6 +1.2
comp=N,4µm,0.4s
MELA Melanico ??? S 3.25 261 Pn Pn 02 26 43.6 +1.2
comp=N,4µm,0.4s
SCHR S. Chirico Rap 3.27 231 Pn Pn 02 26 43.3 +0.5
comp=N,1µm,0.8s
DJES Djerdap 3.28 43⇑iPn Pn 02 26 43.4 +0.5
MMB Musomiste 3.29 101 iP Pn 02 26 46.4 +3.3
MMB Musomiste 3.29 101⇑iP Pn 02 26 45.8 +2.7
MMB Musomiste 3.29 101⇑iP Pn 02 26 45.8 +2.7
SOH Sokhos 3.30 115 P Pn 02 26 45.3 +2.1
SOH Sokhos 3.30 115 P Pn 02 26 45.3 +2.1
SOH Sokhos 3.30 115 P Pn 02 26 45.3 +2.1
SOH Sokhos 3.30 115 P Pn 02 26 45.3 +2.1
MOCO Biccari - m.te 3.31 255 Pn Pn 02 26 44.9 +1.5
MRLC Muro Lucano 3.32 244 Pn Pn 02 26 44.1 +0.6
MRLC Muro Lucano 3.32 244 Pn Pn 02 26 44.1 +0.6
BANR Banloc 3.33 21⇓iP Pn 02 26 45.4 +1.8
BANR Banloc 3.33 21⇓iP Pn 02 26 45.4 +1.8
SRS Serrai 3.34 109 P Pn 02 26 45.5 +1.8
SRS S Sn 02 27 26.0 +3.2
SRS Serrai 3.34 109 P Pn 02 26 45.5 +1.8
SRS S Sn 02 27 26.0 +3.2
SRS Serrai 3.34 109 P Pn 02 26 45.5 +1.8
SRS S Sn 02 27 26.0 +3.2
SRS Serrai 3.34 109 P Pn 02 26 45.5 +1.8
SRS S Sn 02 27 26.0 +3.2
SALB San Lorenzo Be 3.34 225 Pn Pn 02 26 43.9 0.0
comp=N,1µm,0.4s
SALB San Lorenzo Be 3.34 225 Pn Pn 02 26 43.9 0.0
comp=N,1µm,0.4s
MPEP Malo Peshtene 3.36 70 iP Pn 02 26 46.5 +2.6
MPEP Malo Peshtene 3.36 70 iP Pn 02 26 46.5 +2.6
THL Klokotos Trika 3.36 143 P Pn 02 26 45.5 +1.5
THL S Sn 02 27 25.9 +2.7
THL Klokotos Trika 3.36 143 P Pn 02 26 45.5 +1.5
THL S Sn 02 27 25.9 +2.7
RMGR Halanga-Turnu 3.37 44⇓iP Pn 02 26 45.8 +1.8
RMGR Halanga-Turnu 3.37 44⇓iP Pn 02 26 45.8 +1.8
SIRI Monte Sirino - 3.40 233 Pn Pn 02 26 45.9 +1.2
SIRI Monte Sirino - 3.40 233 Pn Pn 02 26 45.9 +1.2
CIGN Sant'Elia a Pi 3.42 261 Pn Pn 02 26 46.4 +1.6
comp=N,1µm,0.9s
CIGN Sant'Elia a Pi 3.42 261 Pn Pn 02 26 46.4 +1.6
comp=N,1µm,0.9s
PIPA Pietrapaola 3.42 216 Pn Pn 02 26 44.8 -0.1
comp=N,2µm,0.3s
PIPA Pietrapaola 3.42 216 Pn Pn 02 26 44.8 -0.1
comp=N,2µm,0.3s
SNAL S. Angelo Dei 3.43 248 Pn Pn 02 26 45.5 +0.4
SNAL S. Angelo Dei 3.43 248 Pn Pn 02 26 45.5 +0.4
GATE Gambatesa 3.45 259 Pn Pn 02 26 47.2 +2.0
comp=N,718nm,0.6s
GATE Gambatesa 3.45 259 Pn Pn 02 26 47.2 +2.0
comp=N,718nm,0.6s
NVR Nevrokopi 3.46 104 P Pn 02 26 47.3 +2.0
NVR Nevrokopi 3.46 104 P Pn 02 26 47.3 +2.0
NVR Nevrokopi 3.46 104 P Pn 02 26 47.3 +2.0
UDBI Udbina 3.47 311 iPn Pn 02 26 49.3 +3.6
UDBI Sn Sb 02 27 31.3 -4.0
UDBI Udbina 3.47 311 iPn Pn 02 26 49.2 +3.6
UDBI Sn Sb 02 27 31.3 -4.0
MMN Mormanno 3.53 228 Pn Pn 02 26 47.0 +0.8
comp=N,982nm,0.5s
MMN Mormanno 3.53 228 Pn Pn 02 26 47.0 +0.8
comp=N,982nm,0.5s
PGB Panagyurishte 3.53 84 iP Pn 02 26 49.2 +2.9
PGB Panagyurishte 3.53 84 iP Pn 02 26 49.2 +2.9
FRES Fresagrandinar 3.54 266 Pn Pn 02 26 48.4 +1.9
FRES Fresagrandinar 3.54 266 Pn Pn 02 26 48.4 +1.9
CUC Castrocucco 3.56 231 Pn Pn 02 26 47.7 +1.0
CUC Castrocucco 3.56 231 ePn Pn 02 26 47.3 +0.6
CUC eS Sn 02 27 28.2 +0.1
CUC Castrocucco 3.56 231 ePn Pn 02 26 47.3 +0.6
CUC eS Sn 02 27 28.2 +0.1
CDRU Civita di Ruta 3.58 241 Pn Pn 02 26 47.5 +0.5
comp=N,931nm,0.6s
CDRU Civita di Ruta 3.58 241 Pn Pn 02 26 47.5 +0.5
comp=N,931nm,0.6s
IPES Pescosannita 3.58 254 Pn Pn 02 26 48.7 +1.6
CSSN Cassano Irpino 3.59 248 Pn Pn 02 26 47.8 +0.6
CSSN Cassano Irpino 3.59 248 Pn Pn 02 26 47.8 +0.6
PLG Polygyros 3.59 121 P Pn 02 26 49.4 +2.2
PLG Polygyros 3.59 121 P Pn 02 26 49.4 +2.2
PLG Polygyros 3.59 121 P Pn 02 26 49.4 +2.2
PLG Polygyros 3.59 121 P Pn 02 26 49.4 +2.2
PSB1 Pescosannita 3.60 254 Pn Pn 02 26 48.9 +1.6
comp=N,1µm,0.8s
PSB1 Pescosannita 3.60 254 Pn Pn 02 26 48.9 +1.6
comp=N,1µm,0.8s
MGR Morigerati 3.62 235 Pn Pn 02 26 48.4 +0.9
comp=N,2µm,0.7s
MGR Morigerati 3.62 235 Pn Pn 02 26 48.4 +0.9
comp=N,2µm,0.7s
LKD2 Lefkada island 3.62 164 P Pn 02 26 48.0 +0.4
LKD2 Lefkada island 3.62 164 P Pn 02 26 48.3 +0.7
LKD2 Lefkada island 3.62 164 P Pn 02 26 48.0 +0.4
SRE Strehaia 3.64 48⇑iP Pn 02 26 49.8 +2.0
SRE Strehaia 3.64 48⇑iP Pn 02 26 49.8 +2.0
CMPR Campora 3.67 239 Pn Pn 02 26 48.7 +0.4
comp=N,1µm,0.3s
CMPR Campora 3.67 239 Pn Pn 02 26 48.7 +0.4
comp=N,1µm,0.3s
BSSO Busso 3.67 260 Pn Pn 02 26 49.6 +1.3
comp=N,767nm,0.3s
BSSO Busso 3.67 260 Pn Pn 02 26 49.6 +1.3
comp=N,767nm,0.3s
BZS Buzias 3.69 25⇓iPn Pn 02 26 48.8 +0.4
BZS eSn Sn 02 27 31.1 -0.2
BZS Buzias 3.69 25⇓iPn Pn 02 26 48.8 +0.4
BZS Buzias 3.69 25⇓iP Pn 02 26 48.8 +0.4
BZS eSn Sn 02 27 31.1 -0.2
TIP Timpagrande 3.71 214 ePn Pn 02 26 48.7 -0.1
TIP eS Sn 02 27 33.7 +1.9
TIP Timpagrande 3.71 214 ePn Pn 02 26 48.7 -0.1
TIP eS Sn 02 27 33.7 +1.9
BULG Bulgheria - Ca 3.76 235 Pn Pn 02 26 50.8 +1.2
comp=N,2µm,0.3s
BULG Bulgheria - Ca 3.76 235 Pn Pn 02 26 50.8 +1.2
comp=N,2µm,0.3s
PTRJ Pietraroja 3.77 257 Pn Pn 02 26 50.7 +1.1
PTRJ Pietraroja 3.77 257 Pn Pn 02 26 50.7 +1.1
EVR Evrytania 3.83 151 P Pn 02 26 52.9 +2.4
EVR Evrytania 3.83 151 P Pn 02 26 52.9 +2.4
EVR Evrytania 3.83 151 P Pn 02 26 52.9 +2.4
SERS Sersale 3.85 213 Pn Pn 02 26 50.5 -0.4
comp=N,614nm,1.0s
SERS Sersale 3.85 213 Pn Pn 02 26 50.5 -0.4
comp=N,614nm,1.0s
SISC Sisak 3.87 326 ePn Pn 02 26 54.0 +3.0
SISC Sn Sn 02 27 39.4 +3.7
SISC Sisak 3.87 326 ePn Pn 02 26 53.9 +3.0
SISC Sn Sn 02 27 39.3 +3.7
SGG Gregorio Mates 3.87 258 Pn Pn 02 26 52.6 +1.6
comp=N,2µm,0.5s
SGG Gregorio Mates 3.87 258 Pn Pn 02 26 52.6 +1.6
comp=N,2µm,0.5s
LPEL Lama dei Pelig 3.90 268 Pn Pn 02 26 53.3 +1.9
comp=N,2µm,0.3s
LPEL Lama dei Pelig 3.90 268 Pn Pn 02 26 53.3 +1.9
comp=N,2µm,0.3s
MIDA Miranda 3.90 262 Pn Pn 02 26 53.1 +1.6
comp=N,2µm,0.4s
MIDA Miranda 3.90 262 Pn Pn 02 26 53.1 +1.6
comp=N,2µm,0.4s
PDO Prodromos 3.93 159 P Pn 02 26 52.2 +0.4
PDO Prodromos 3.93 159 P Pn 02 26 52.2 +0.4
FYTO Fytoko, Volos 3.93 136 P Pn 02 26 53.5 +1.7
FYTO Fytoko, Volos 3.93 136 P Pn 02 26 53.5 +1.7
FYTO Fytoko, Volos 3.93 136 P Pn 02 26 53.5 +1.7
PLD Plovdiv 3.94 91 P Pn 02 26 54.4 +2.6
PLD Plovdiv 3.94 91 P Pn 02 26 54.4 +2.6
PLD Plovdiv 3.94 91 ePn Pn 02 26 54.5 +2.6
PLD Plovdiv 3.94 91 P Pn 02 26 54.4 +2.6
PLD Plovdiv 3.94 91 P Pn 02 26 54.4 +2.6
GZR Gura Zlata 3.94 37 ePn Pn 02 26 52.7 +0.7
GZR Gura Zlata 3.94 37⇑iP Pn 02 26 52.8 +0.7
GZR Gura Zlata 3.94 37⇑iP Pn 02 26 52.8 +0.7
AGG Agios Georgios 3.95 145 P Pn 02 26 53.6 +1.5
AGG Agios Georgios 3.95 145 P Pn 02 26 53.6 +1.5
AGG Agios Georgios 3.95 145 P Pn 02 26 53.6 +1.5
AGG Agios Georgios 3.95 145 P Pn 02 26 53.6 +1.5
PKSM Moragy 3.96 352⇓iPn Pn 02 26 53.3 +1.1
PKSM eSn Sn 02 27 39.6 +1.6
PKSM Moragy 3.96 352⇑iP Pn 02 26 53.3 +1.1
PKSM Moragy 3.96 352 S Sn 02 27 39.5 +1.6
PKSM Moragy 3.96 352⇓ePn Pn 02 26 53.3 +1.1
PKSM eSn Sn 02 27 38.1 +0.1
PKSM Moragy 3.96 352⇑iP Pn 02 26 53.3 +1.1
PKSM eSn Sn 02 27 38.1 +0.1
RNI2 Rionero Sannit 3.96 263 Pn Pn 02 26 54.3 +1.9
comp=N,2µm,0.5s
RNI2 Rionero Sannit 3.96 263 Pn Pn 02 26 54.3 +1.9
comp=N,2µm,0.5s
VAGA Valle Agricola 3.97 259 Pn Pn 02 26 53.9 +1.6
VAGA Valle Agricola 3.97 259 Pn Pn 02 26 53.9 +1.6
PAIG Paliouri 4.00 125 P Pn 02 26 55.1 +2.4
PAIG Paliouri 4.00 125 P Pn 02 26 55.1 +2.4
PAIG Paliouri 4.00 125 P Pn 02 26 55.1 +2.4
PAIG Paliouri 4.00 125 P Pn 02 26 55.1 +2.4
PVO Paravola 4.01 156 P Pn 02 26 54.4 +1.5
PVO Paravola 4.01 156 P Pn 02 26 54.4 +1.5
NVLJ Novalja 4.01 306 ePn Pn 02 26 54.8 +1.8
NVLJ Sn Sn 02 27 41.3 +2.0
NVLJ Novalja 4.01 306 ePn Pn 02 26 54.7 +1.8
NVLJ Sn Sn 02 27 41.3 +2.0
KAVA Kavala 4.04 107 P Pn 02 26 55.4 +2.2
KAVA Kavala 4.04 107 P Pn 02 26 55.4 +2.2
KAVA Kavala 4.04 107 P Pn 02 26 55.4 +2.2
XOR Xorichti 4.09 134 P Pn 02 26 55.3 +1.2
XOR Xorichti 4.09 134 P Pn 02 26 55.3 +1.2
XOR Xorichti 4.09 134 P Pn 02 26 55.3 +1.2
INTR Introdacqua 4.11 268 Pn Pn 02 26 55.9 +1.6
comp=N,2µm,0.6s
INTR Introdacqua 4.11 268 Pn Pn 02 26 55.9 +1.6
comp=N,2µm,0.6s
VCEL Villa Celiera 4.13 273 Pn Pn 02 26 56.5 +1.8
comp=N,1µm,0.5s
VCEL Villa Celiera 4.13 273 Pn Pn 02 26 56.5 +1.8
comp=N,1µm,0.5s
NEO Neokhori 4.15 135 P Pn 02 26 56.1 +1.2
NEO Neokhori 4.15 135 P Pn 02 26 56.1 +1.2
NEO Neokhori 4.15 135 P Pn 02 26 56.1 +1.2
PKS2 Kecel 4.20 358⇓ePn Pn 02 26 57.3 +1.8
PKS2 eSn Sn 02 27 45.5 +1.5
PKS2 Kecel 4.20 358⇓ePn Pn 02 26 57.3 +1.8
PKS2 eSn Sn 02 27 45.5 +1.5
POFI Posta Fibreno 4.29 264 Pn Pn 02 26 58.4 +1.6
comp=N,726nm,0.5s
POFI Posta Fibreno 4.29 264 Pn Pn 02 26 58.4 +1.6
comp=N,726nm,0.5s
MODR Mondragone 4.30 256 Pn Pn 02 26 58.2 +1.3
comp=N,575nm,0.4s
MODR Mondragone 4.30 256 Pn Pn 02 26 58.2 +1.3
comp=N,575nm,0.4s
AXAR Agios Charalam 4.30 144 P Pn 02 26 58.8 +1.9
AXAR Agios Charalam 4.30 144 P Pn 02 26 58.8 +1.9
AXAR Agios Charalam 4.30 144 P Pn 02 26 58.8 +1.9
EFP Efpalio 4.30 153 P Pn 02 26 59.1 +2.2
EFP Efpalio 4.30 153 P Pn 02 26 59.1 +2.2
PKS6 Bocsa 4.31 1⇑ePn Pn 02 26 58.8 +1.8

PKS6 eSn Sn 02 27 47.8 +1.2
PKS6 Bocsa 4.31 1⇑ePn Pn 02 26 58.8 +1.8
PKS6 eSn Sn 02 27 47.8 +1.2
TERO Teramo 4.31 276 Pn Pn 02 26 58.7 +1.6
comp=N,2µm,0.5s
TERO Teramo 4.31 276 Pn Pn 02 26 58.7 +1.6
comp=N,2µm,0.5s
VVLD Villa Vallelon 4.33 266 Pn Pn 02 26 59.0 +1.6
comp=N,1µm,0.7s
VVLD Villa Vallelon 4.33 266 Pn Pn 02 26 59.0 +1.6
comp=N,1µm,0.7s
T0401 Montottone (Fe 4.36 282 Pn Pn 02 27 00.0 +2.3
comp=N,5µm,0.4s
PKS9 Tamasi 4.37 350 ePn Pn 02 26 59.4 +1.5
PKS9 eSn Sn 02 27 49.3 +1.1
PKS9 Tamasi 4.37 350 ePn Pn 02 26 59.4 +1.5
PKS9 eSn Sn 02 27 49.3 +1.1
SKIA Skiathos 4.38 134 P Pn 02 26 59.4 +1.4
SKIA Skiathos 4.38 134 P Pn 02 26 59.4 +1.4
BOJS Bojanci 4.40 318 i Pn Pn 02 27 01.0 +2.7
BOJS Bojanci 4.40 318 i Pn Pn 02 27 01.0 +2.7
KALE Kalithea 4.42 151 P Pn 02 27 00.6 +2.1
KALE Kalithea 4.42 151 P Pn 02 27 00.6 +2.1
KALE Kalithea 4.42 151 P Pn 02 27 00.6 +2.1
PLAC Placanica 4.46 212 Pn Pn 02 26 58.5 -0.6
comp=N,372nm,0.4s
PLAC Placanica 4.46 212 Pn Pn 02 26 58.5 -0.6
comp=N,372nm,0.4s
SMIA Simia 4.47 138 P Pn 02 27 00.6 +1.4
SMIA Simia 4.47 138 P Pn 02 27 00.6 +1.4
LAKA Lakka 4.50 153 P Pn 02 27 01.3 +1.7
LAKA Lakka 4.50 153 P Pn 02 27 01.3 +1.7
LAKA Lakka 4.50 153 P Pn 02 27 01.3 +1.7
SMA1 SAN MARTINO 4.51 276 Pn Pn 02 27 01.5 +1.6
comp=N,3µm,0.5s
RLS Riolos of Patr 4.51 159 P Pn 02 27 01.2 +1.4
RLS Riolos of Patr 4.51 159 P Pn 02 27 01.2 +1.4
RLS Riolos of Patr 4.51 159 P Pn 02 27 01.2 +1.4
KDZ Kurdzhali 4.52 96⇓iP Pn 02 27 00.9 +1.0
KDZ Kurdzhali 4.52 96 S Sn 02 27 52.9 +1.0
KDZ Kurdzhali 4.52 96⇓iP Pn 02 27 00.9 +1.0
DSF Desfina 4.55 147 P Pn 02 27 01.4 +1.1
DSF Desfina 4.55 147 P Pn 02 27 01.4 +1.1
DSF Desfina 4.55 147 P Pn 02 27 01.4 +1.1
LKR Lokris 4.55 142 P Pn 02 27 01.8 +1.5
LKR Lokris 4.55 142 P Pn 02 27 01.8 +1.5
LKR Lokris 4.55 142 P Pn 02 27 01.8 +1.5
ZIMR 4.58 71⇓iP Pn 02 27 02.7 +2.1
ZIMR 4.58 71 S Sn 02 27 53.8 +0.6
ZIMR 4.58 71⇓iP Pn 02 27 02.7 +2.1
ZIMR S Sn 02 27 53.8 +0.6
BEHE Becsehely 4.59 337⇓ePn Pn 02 27 03.7 +2.9
BEHE eSn Sn 02 27 55.7 +2.2
BEHE Becsehely 4.59 337⇓ePn Pn 02 27 03.7 +2.9
BEHE eSn Sn 02 27 55.7 +2.2
GOLS Golise 4.61 325 i Pn Pn 02 27 03.5 +2.3
GOLS Golise 4.61 325 i Pn Pn 02 27 03.5 +2.3
GBRS Gornja Briga 4.64 316 i Pn Pn 02 27 04.3 +2.7
GBRS i Sn Sn 02 27 57.5 +2.6
comp=N,327nm,0.3s
FIAM Fiamignano 4.67 272 Pn Pn 02 27 04.5 +2.4
comp=N,1µm,0.5s
FIAM Fiamignano 4.67 272 Pn Pn 02 27 04.5 +2.4
comp=N,1µm,0.5s
DRO Drossia 4.68 157 P Pn 02 27 03.3 +1.2
DRO Drossia 4.68 157 P Pn 02 27 03.3 +1.2
FDMO Fiordimonte 4.72 281 Pn Pn 02 27 04.3 +1.6
comp=N,862nm,0.4s
FDMO Fiordimonte 4.72 281 Pn Pn 02 27 04.3 +1.6
comp=N,862nm,0.4s
KLV Kalavryta, Ach 4.73 153 P Pn 02 27 04.2 +1.3
KLV Kalavryta, Ach 4.73 153 P Pn 02 27 04.2 +1.3
KLV Kalavryta, Ach 4.73 153 P Pn 02 27 04.2 +1.3
MRKA Markates 4.79 137 P Pn 02 27 04.9 +1.3
MRKA Markates 4.79 137 P Pn 02 27 04.9 +1.3
CERT Cerreto 4.80 268 Pn Pn 02 27 05.8 +2.1
comp=N,594nm,0.4s
CERT Cerreto 4.80 268 Pn Pn 02 27 05.8 +2.1
comp=N,594nm,0.4s
CEL Celeste 4.84 215 ePn Pn 02 27 03.8 -0.6
CEL eS Sn 02 27 58.5 -1.4
CEL Celeste 4.84 215 ePn Pn 02 27 03.8 -0.6
CEL eS Sn 02 27 58.5 -1.4
CESI CESI - Serrava 4.85 281 Pn Pn 02 27 06.1 +1.6
comp=N,648nm,0.5s
CESI CESI - Serrava 4.85 281 Pn Pn 02 27 06.1 +1.6
comp=N,648nm,0.5s
ARR Arges 4.87 49⇓iP Pn 02 27 06.3 +1.5
ARR Arges 4.87 49⇓iP Pn 02 27 06.3 +1.5
ARVD Arcevia 4.91 286 Pn Pn 02 27 06.3 +1.1
comp=N,608nm,0.7s
ARVD Arcevia 4.91 286 Pn Pn 02 27 06.3 +1.1
comp=N,608nm,0.7s
MTCE Montecelio 4.97 269 Pn Pn 02 27 07.5 +1.5
comp=N,348nm,0.6s
MTCE Montecelio 4.97 269 Pn Pn 02 27 07.5 +1.5
comp=N,348nm,0.6s
MNS Montasola 4.99 273 Pn Pn 02 27 08.3 +1.9
comp=N,1µm,0.6s
MNS Montasola 4.99 273 Pn Pn 02 27 08.3 +1.9
comp=N,1µm,0.6s
LTK Loutraki 5.06 146 P Pn 02 27 08.2 +0.9
LTK Loutraki 5.06 146 P Pn 02 27 08.2 +0.9
LTK Loutraki 5.06 146 P Pn 02 27 08.2 +0.9
PKST T˜'s 5.07 349⇑ePn Pn 02 27 09.0 +1.6
PKST eSn Sn 02 28 06.3 +1.0
PKST T˜'s 5.07 349⇑ePn Pn 02 27 09.0 +1.6
PKST eSn Sn 02 28 06.3 +1.0
DRGR 5.08 27 ePn Pn 02 27 08.3 +0.6
DRGR 5.08 27⇓iP Pn 02 27 08.4 +0.7
DRGR 5.08 27 S Sn 02 28 06.2 +0.5
DRGR 5.08 27⇓iP Pn 02 27 08.4 +0.7
DRGR S Sn 02 28 06.2 +0.5
ERET Eretria 5.10 137 P Pn 02 27 10.3 +2.3
ERET Eretria 5.10 137 P Pn 02 27 10.3 +2.3
CSKK Cs˜‡kako 5.14 351⇓ePn Pn 02 27 10.5 +2.1
CSKK eSn Sn 02 28 07.6 +0.5
CSKK Cs˜‡kako 5.14 351⇓ePn Pn 02 27 10.5 +2.1
CSKK eSn Sn 02 28 07.6 +0.5
LJU Ljubljana 5.14 319 ePn Pn 02 27 11.0 +2.6
LJU eSn Sn 02 28 08.2 +1.1
VOIR 5.15 50⇓iP Pn 02 27 10.4 +1.8
VOIR 5.15 50 S Sn 02 28 09.5 +2.1
VOIR 5.15 50⇓iP Pn 02 27 10.4 +1.8
VOIR S Sn 02 28 09.5 +2.1
PKSG 5.15 352⇑ePn Pn 02 27 10.1 +1.5
PKSG eSn Sn 02 28 08.1 +0.7
PKSG 5.15 352⇑ePn Pn 02 27 10.1 +1.5
PKSG eSn Sn 02 28 08.1 +0.7
ALN Alexandroupoli 5.16 103 P Pn 02 27 10.8 +2.1
ALN Alexandroupoli 5.16 103 eP Pn 02 27 11.6 +2.9
ALN Alexandroupoli 5.16 103 P Pn 02 27 10.8 +2.1
ALN Alexandroupoli 5.16 103 P Pn 02 27 10.8 +2.1
ALN Alexandroupoli 5.16 103 eP Pn 02 27 11.6 +2.9
CIOR Ciorogarla 5.18 63⇑iP Pn 02 27 10.9 +1.9
CIOR Ciorogarla 5.18 63⇑iP Pn 02 27 10.9 +1.9
BUD Budapest 5.20 357⇑ePn Pn 02 27 10.5 +1.3
BUD eSn Sn 02 28 08.7 +0.1
BUD Budapest 5.20 357⇑ePn Pn 02 27 10.5 +1.3
BUD eSn Sn 02 28 08.7 +0.1
PIEI Pieia 5.20 286 Pn Pn 02 27 10.6 +1.3
comp=N,711nm,0.5s
PIEI Pieia 5.20 286 Pn Pn 02 27 10.6 +1.3
comp=N,711nm,0.5s
JAVS Javornik 5.27 315 i Pn Pn 02 27 12.6 +2.3
JAVS i Sn Sn 02 28 11.2 +0.6
JAVS
comp=Z,1µm,0.6s
JAVS Javornik 5.27 315 i Pn Pn 02 27 12.6 +2.3
JAVS i Sn Sn 02 28 11.1 +0.6
comp=Z,1µm,0.6s
JMB Yambol 5.31 86⇑iP Pn 02 27 12.3 +1.5
JMB Yambol 5.31 86⇑iP Pn 02 27 12.3 +1.5
TRI Trieste 5.32 312 eP Pn 02 27 12.1 +1.3
TRI eS Sn 02 28 10.0 -1.5
TRI Trieste 5.32 312 Pg Pn 02 27 12.3 +1.5
comp=Z,993nm,0.9s
TRI Trieste 5.32 312 ePn Pn 02 27 12.1 +1.3
TRI eS Sn 02 28 09.9 -1.5
TRI Trieste 5.32 312 ePn Pn 02 27 12.1 +1.3
TRI eS Sn 02 28 10.0 -1.5
PERS Pernice 5.32 326 i Pn Pn 02 27 13.1 +2.1

PERS i Sn Sn 02 28 12.9 +1.2
PERS
comp=Z,254nm,0.4s
PERS Pernice 5.32 326 i Pn Pn 02 27 13.1 +2.1
PERS i Sn Sn 02 28 12.9 +1.2
comp=Z,254nm,0.4s
BISS Bistriski jare 5.33 326 i Pn Pn 02 27 13.6 +2.6
BISS Bistriski jare 5.33 326 i Pn Pn 02 27 13.6 +2.6
CJR Cluj-Napoca 5.34 33⇑iP Pn 02 27 12.8 +1.6
CJR Cluj-Napoca 5.34 33⇑iP Pn 02 27 12.8 +1.6
SOKA Soboth 5.39 326⇑iPn Pn 02 27 14.0 +2.1
SNR=23
SOKA ⇓iSn Sn 02 28 15.0 +1.6
SOKA Soboth 5.39 326 Pn Pn 02 27 14.0 +2.1
SNR=23
SOKA Sn Sn 02 28 15.0 +1.6
MMME Mongiuffi-Meli 5.39 218 Pn Pn 02 27 11.1 -0.9
comp=Z,535nm,0.6s
MMME Mongiuffi-Meli 5.39 218 Pn Pn 02 27 11.1 -0.9
comp=Z,535nm,0.6s
MGAB Montegabbione 5.42 279 Pn Pn 02 27 13.9 +1.5
comp=Z,1µm,0.5s
MGAB Montegabbione 5.42 279 Pn Pn 02 27 13.9 +1.5
comp=Z,1µm,0.5s
OBKA Obir 5.47 322⇑iPn Pn 02 27 15.5 +2.5
SNR=12
OBKA ⇑iSn Sn 02 28 18.5 +3.1
OBKA Obir 5.47 322 Pn Pn 02 27 15.5 +2.5
SNR=12
EDRB Edirne 5.47 92 eP Pn 02 27 14.9 +1.9
SECR 5.55 58⇑iP Pn 02 27 16.6 +2.5
CAFI Castiglion Fio 5.58 283 Pn Pn 02 27 15.8 +1.4
comp=Z,569nm,0.5s
SABO M.te Sabotino 5.58 313 Pn Pn 02 27 15.9 +1.5
CRE Caprese Michel 5.63 286 Pn Pn 02 27 17.3 +2.0
comp=Z,128nm,0.4s
PSZ Piszkesteto 5.64 3 eP Pn 02 27 15.9 +0.6
PSZ eS Sn 02 28 16.1 -3.4
PSZ Piszkesteto 5.64 3⇑iP Pn 02 27 16.0 +0.6
PSZ Piszkesteto 5.64 3 S Sn 02 28 19.4 -0.1
PSZ Piszkesteto 5.64 3 ePn Pn 02 27 15.9 +0.6
PSZ eS Sn 02 28 16.1 -3.4
PSZ Piszkesteto 5.64 3⇓ePn Pn 02 27 16.1 +0.8
PSZ eSn Sn 02 28 19.4 -0.1
PSZ Piszkesteto 5.64 3⇓ePn Pn 02 27 16.1 +0.8
PSZ eS Sn 02 28 16.1 -3.4
PSZ eSn Sn 02 28 19.4 -0.1
GELI Tayfur-Gelibol 5.64 107 eP Pn 02 27 18.8 +3.5
DOPR Dopca 5.66 47⇓iP Pn 02 27 17.4 +1.9
DOPR Dopca 5.66 47 S Sn 02 28 20.7 +0.8
DOPR Dopca 5.66 47 S Sn 02 28 20.7 +0.8
ARSA Arzberg 5.68 332 ePn Pn 02 27 18.3 +2.4
ARSA Arzberg 5.68 332⇑iPn Pn 02 27 17.8 +1.9
SNR=37
ARSA Arzberg 5.68 332 Pn Pn 02 27 17.8 +1.9
SNR=37
MLR Muntele Rosu 5.70 54 P Pn 02 27 17.3 +1.1
MLR 02 28 23.5
MLR pmax pmax
comp=Z,2.0nm,0.3s
MLR smax smax
comp=N,2.0nm,0.3s
MLR Muntele Rosu 5.70 54⇑iP Pn 02 27 18.6 +2.3
MLR Muntele Rosu 5.70 54 Pn Pn 02 27 17.3 +1.1
comp=N,2.2nm,0.3s,baz=247,slow=4.1,SNR=18
MLR Sn Sn 02 28 23.5 +2.4
comp=N,1.6nm,0.3s,baz=121,slow=22,SNR=7.0
SOP Sopron 5.76 340⇓ePn Pn 02 27 18.6 +1.7
SOP eSn Sn 02 28 22.8 +0.4
SOP Sopron 5.76 340⇓ePn Pn 02 27 18.6 +1.7
SOP eSn Sn 02 28 22.8 +0.4
EZN Ezine 5.78 113 eP Pn 02 27 23.5 +6.4
ASQU Asqua 5.79 288 Pn Pn 02 27 19.5 +2.1
comp=N,272nm,1.5s
ASQU Asqua 5.79 288 Pn Pn 02 27 19.5 +2.1
comp=N,272nm,1.5s
LPK Lapseki 5.85 107 eP Pn 02 27 21.1 +2.9
VINO Villanova 5.92 314 Pn Pn 02 27 20.5 +1.3
comp=N,832nm,0.9s
VINO Villanova 5.92 314 Pn Pn 02 27 20.5 +1.3
comp=N,832nm,0.9s
MYKA Terra Mystica 5.99 318⇑iPn Pn 02 27 22.2 +2.0
SNR=14
MYKA ⇓iSn Sn 02 28 31.8 +3.7
MYKA Terra Mystica 5.99 318 Pn Pn 02 27 22.2 +2.0
SNR=14
GEPF Gemona 6.01 314 Pn Pn 02 27 21.5 +1.2
comp=N,570nm,0.6s
GEPF Gemona 6.01 314 Pn Pn 02 27 21.5 +1.2
comp=N,570nm,0.6s
RKY Sarkoy-Tekirda 6.05 103 eP Pn 02 27 23.3 +2.4
PHSR Pinarhisar 6.08 93 eP Pn 02 27 23.3 +1.9
CONA Conrad Observa 6.17 337⇓iPn Pn 02 27 24.4 +1.7
SNR=16
CONA Conrad Observa 6.17 337 Pn Pn 02 27 24.4 +1.7
SNR=16
AMRR Amara 6.21 65⇑iP Pn 02 27 25.2 +2.0
VYHS Vyhne 6.22 356 eP Pn 02 27 24.4 +1.2
VYHS e 02 28 30.9
VYHS Vyhne 6.22 356 ePN Pn 02 27 24.4 +1.2
VYHS eSN Sn 02 28 30.9 -2.8
VYHS Vyhne 6.22 356 eP Pn 02 27 24.4 +1.2
VYHS eS Sn 02 28 30.9 -2.8
KRBG Karabiga-Canak 6.23 105 eP Pn 02 27 25.4 +2.0
KECS Kecovo 6.24 7 eP Pn 02 27 25.1 +1.6
KECS e 02 28 32.8
KECS Kecovo 6.24 7 ePN Pn 02 27 25.1 +1.6
KECS eSN Sn 02 28 32.8 -1.4
KECS Kecovo 6.24 7 eP Pn 02 27 25.1 +1.6
KECS eS Sn 02 28 32.8 -1.4
TRPA Tarpa 6.24 20⇑iP Pn 02 27 24.3 +0.8
TRPA Tarpa 6.24 20 S Sn 02 28 33.2 -1.0
TRPA Tarpa 6.24 20⇓ePn Pn 02 27 24.5 +1.0
TRPA eSn Sn 02 28 31.6 -2.6
TRPA Tarpa 6.24 20⇓ePn Pn 02 27 24.5 +1.0
GRER 6.28 58⇑iP Pn 02 27 27.3 +3.2
PLOR Plostina 6.31 53⇓iP Pn 02 27 26.6 +2.1
PLOR Plostina 6.31 53 S Sn 02 28 36.8 +0.8
PLOR Plostina 6.31 53 S Sn 02 28 36.8 +0.8
CRLT Corlu 6.34 98 eP Pn 02 27 25.8 +1.0
VRI Vrincioaia 6.37 53⇑iP Pn 02 27 26.9 +1.6
VRI Vrincioaia 6.37 53 S Sn 02 28 39.3 +2.0
VRI Vrincioaia 6.37 53 S Sn 02 28 39.3 +2.0
MRMT Marmara Adasi 6.38 103 eP Pn 02 27 27.2 +1.8
SMOL Smolenice 6.38 348 eP Pn 02 27 26.2 +0.8
SMOL e 02 28 34.4
SMOL Smolenice 6.38 348 ePN Pn 02 27 26.2 +0.8
SMOL eSN Sn 02 28 34.4 -3.2
SMOL Smolenice 6.38 348 eP Pn 02 27 26.2 +0.8
MSAB Monastry St. A 6.41 71⇓iP Pn 02 27 27.4 +1.6
KBA Koelnbreinsper 6.45 320⇑iPn Pn 02 27 29.0 +2.4
SNR=26
KBA ⇑iSn Sn 02 28 42.2 +2.6
KBA Koelnbreinsper 6.45 320 Pn Pn 02 27 29.0 +2.4
SNR=26
KBA Sn Sn 02 28 42.2 +2.6
PSN Preselentsi 6.58 75⇑iP Pn 02 27 28.3 +0.1
HARR Harsova 6.64 66⇓iP Pn 02 27 30.3 +1.3
ABTA Abfaltersbach 6.65 314⇑iPn Pn 02 27 30.7 +1.5
SNR=35
ABTA Abfaltersbach 6.65 314 Pn Pn 02 27 30.7 +1.5
SNR=35
MOA Molln 6.65 329⇑iPn Pn 02 27 32.1 +3.0
SNR=22
MOA ⇓iSn Sn 02 28 46.9 +2.7
MOA Molln 6.65 329 Pn Pn 02 27 32.1 +3.0
SNR=22
MOA Sn Sn 02 28 46.9 +2.7
UZH Uzhgorod 6.66 17 eP Pn 02 27 30.0 +0.8
UZH eS Sn 02 28 45.0 +0.6
UZH MLR MLR
comp=Z,2µm,11.0s
UZH Uzhgorod 6.66 17 eP Pn 02 27 30.0 +0.8
comp=Z,2µm,11.0s
UZH eS Sn 02 28 45.0 +0.6
SLVT Silivri 6.66 96 eP Pn 02 27 31.0 +1.7
TESR Tescani 6.68 48⇑iP Pn 02 27 31.2 +1.6
TLB Topalu 6.69 67⇑iP Pn 02 27 32.8 +3.2
BURAR Bucovina Array 6.73 36⇑iP Pn 02 27 33.0 +2.7
BUR08 Bucovina Ar. S 6.75 35 ePn Pn 02 27 32.5 +2.0
BUR08 eS Sb 02 29 10.2 +0.9
BUR08 Bucovina Ar. S 6.75 35 ePn Pn 02 27 32.5 +2.0
CRVS Cervenica-Dubn 6.77 12 eP Pn 02 27 32.2 +1.4

CRVS e 02 28 47.8
CRVS Cervenica-Dubn 6.77 12 ePN Pn 02 27 32.2 +1.4
CRVS eSN Sn 02 28 47.8 +0.6
CRVS Cervenica-Dubn 6.77 12 eP Pn 02 27 32.2 +1.4
CRVS eS Sn 02 28 47.8 +0.6
VLC Villacollemand 6.85 289 ePn Pn 02 27 33.1 +1.1
VLC eS Sn 02 28 49.6 +0.3
VLC Villacollemand 6.85 289 ePn Pn 02 27 33.1 +1.1
VLC eS Sn 02 28 49.6 +0.3
CTKS Kestanelik-??a 6.88 96 eP Pn 02 27 33.8 +1.5
TIRR Tirgusor 6.91 69 eP Pn 02 27 33.8 +1.1
TIRR eS Sn 02 28 52.7 +2.1
TIRR Tirgusor 6.91 69 ePn Pn 02 27 33.8 +1.1
TIRR eS Sn 02 28 52.7 +2.1
TIRR Tirgusor 6.91 69 eP Pn 02 27 33.8 +1.1
TIRR eS Sn 02 28 52.7 +2.1
BALB Balikesir 6.93 110 eP Pn 02 27 38.1 +5.0
KOLS Kolonicke sedl 6.94 16 eP Pn 02 27 35.0 +1.9
KOLS e 02 28 51.4
KOLS Kolonicke sedl 6.94 16 ePN Pn 02 27 35.0 +1.9
KOLS eSN Sn 02 28 51.4 0.0
KOLS Kolonicke sedl 6.94 16 eP Pn 02 27 35.0 +1.9
KOLS eS Sn 02 28 51.4 0.0
CFR Carcaliu 6.95 62⇑iP Pn 02 27 34.8 +1.6
APE Apeiranthos 7.03 136 eP Pn 02 27 36.7 +2.3
APE Apeiranthos 7.03 136 eP Pn 02 27 36.7 +2.3
BGKT Bogazkoy 7.09 96 eP Pn 02 27 36.6 +1.5
NIE Niedzica 7.16 5 eP Pn 02 27 38.8 +2.7
NIE e 02 28 58.1
NIE Niedzica 7.16 5 ePn Pn 02 27 38.8 +2.7
NIE eSn Sn 02 28 58.1 +1.3
NIE Niedzica 7.16 5 eP Pn 02 27 38.8 +2.7
NIE eS Sn 02 28 58.1 +1.3
STHS Stebnicka Huta 7.24 10 eP Pn 02 27 39.7 +2.4
STHS e 02 29 01.1
STHS Stebnicka Huta 7.24 10 ePN Pn 02 27 39.7 +2.4
STHS eSN Sn 02 29 01.1 +2.3
STHS Stebnicka Huta 7.24 10 eP Pn 02 27 39.7 +2.4
STHS eS Sn 02 29 01.1 +2.3
VRAC Vranov 7.29 345 P Pn 02 27 39.3 +1.4
VRAC 02 29 01.3
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC smax smax
comp=N,11nm,0.3s
VRAC MLR MLR
comp=Z,16nm,28.6s
VRAC Vranov 7.29 345⇑iP Pn 02 27 40.0 +2.1
VRAC Vranov 7.29 345 S Sn 02 29 01.0 +1.0
VRAC Vranov 7.29 345 Pn Pn 02 27 39.3 +1.4
comp=Z,0.9nm,0.3s,baz=169,slow=11,SNR=16
VRAC Sn Sn 02 29 01.3 +1.3
comp=Z,11nm,0.3s,baz=228,slow=15,SNR=9.9
VRAC LR LR 02 30 01.0
comp=Z,83nm,21.9s,baz=164,slow=34
VRAC Vranov 7.29 345 P Pn 02 27 39.3 +1.4
comp=Z,1.0nm,0.3s
VRAC eSn Sn 02 29 00.3 +0.3
VRAC S Sn 02 29 01.3 +1.3
comp=Z,16nm,28.6s
MDNY Mudanya-Bursa 7.38 102 eP Pn 02 27 41.8 +2.6
TLCR 7.40 64⇑iP Pn 02 27 41.1 +1.7
TLCR 7.40 64 S Sn 02 29 03.4 +0.7
TLCR 7.40 64 S Sn 02 29 03.4 +0.7
WTTA Wattenberg 7.44 315⇑iPn Pn 02 27 41.9 +1.8
SNR=15
WTTA ⇑iSn Sn 02 29 06.2 +2.3
WTTA Wattenberg 7.44 315 Pn Pn 02 27 41.9 +1.8
SNR=15
WTTA Sn Sn 02 29 06.2 +2.3
WDD Wield Dalam 7.46 212 Pn Pn 02 27 37.2 -3.0
WDD eS Sn 02 28 59.2 -4.9
WATA Walderalm 7.51 315⇑iPn Pn 02 27 43.1 +2.0
SNR=54
WATA ⇑iSn Sn 02 29 09.2 +3.5
WATA Walderalm 7.51 315 Pn Pn 02 27 43.1 +2.0
SNR=54
TREC Trest 7.52 340 eP Pn 02 27 43.2 +2.1
TREC e 02 29 05.3
TREC MLR MLR
comp=Z,900nm,14.9s
TREC Trest 7.52 340 ePN Pn 02 27 43.2 +2.1
TREC ex x 02 27 50.7
TREC eSN Sn 02 29 05.3 -0.5
TREC AMS AMS 02 30 50.0
comp=Z,900nm,14.9s
TREC Trest 7.52 340 Pn Pn 02 27 43.2 +2.1
TREC Sn Sn 02 29 05.3 -0.5
MORC Moravsky Berou 7.60 351⇓iP Pn 02 27 43.4 +1.2
MORC Moravsky Berou 7.60 351 S Sn 02 29 08.6 +0.9
MORC Moravsky Berou 7.60 351 ePn Pn 02 27 43.3 +1.1
MORC eSn Sn 02 29 07.4 -0.3
OKC Ostrava-Krasne 7.60 354 eP Pn 02 27 43.6 +1.4
OKC e 02 29 06.1
OKC MLR MLR
comp=Z,900nm,12.7s
OKC Ostrava-Krasne 7.60 354 ePN Pn 02 27 43.6 +1.4
OKC ex x 02 27 50.6
OKC eSN Sn 02 29 06.1 -1.5
OKC AMS AMS 02 31 10.0
comp=Z,900nm,12.7s
OKC Ostrava-Krasne 7.60 354 Pn Pn 02 27 43.6 +1.4
OKC Sn Sn 02 29 06.1 -1.5
GEC2 GERESS Array S 7.68 331 eP Pn 02 27 43.9 +0.5
GEC2 eS Sn 02 29 10.7 +0.9
GEC2 pmax pmax
comp=Z,5µm,0.6s
GEC2 GERESS Array S 7.68 331 ePn Pn 02 27 43.9 +0.5
comp=Z,5µm,0.6s
GEC2 eS Sn 02 29 10.7 +0.9
GEC2 GERESS Array S 7.68 331 eP Pn 02 27 43.9 +0.5
comp=Z,5µm,0.6s
GEC2 eS Sn 02 29 10.7 +0.9
GERES GERESS Array B 7.68 331 P Pn 02 27 45.1 +1.7
GERES 02 29 10.7
GERES pmax pmax
comp=Z,6.0nm,0.3s
GERES smax smax
comp=N,7.0nm,0.3s
GERES MLR MLR
comp=Z,16nm,28.6s
GERES GERESS Array B 7.68 331 Pn Pn 02 27 45.1 +1.7
comp=Z,6.0nm,0.3s,baz=151,slow=13,SNR=127
GERES Sn Sn 02 29 10.7 +0.9
comp=Z,7.2nm,0.3s,baz=138,slow=25,SNR=7.1
GERES LR LR 02 31 19.6
comp=Z,550nm,19.5s,baz=136,slow=43
GERES GERESS Array B 7.68 331 P Pn 02 27 45.1 +1.7
comp=Z,6.0nm,0.3s
GERES S Sn 02 29 10.7 +0.9
comp=Z,16nm,28.6s
KWP Kalwaria Pacla 7.69 16 eP Pn 02 27 46.6 +3.1
KWP Kalwaria Pacla 7.69 16 ePn Pn 02 27 46.6 +3.1
KWP Kalwaria Pacla 7.69 16 ePn Pn 02 27 46.5 +3.1
comp=Z,34nm,0.8s
KWP Kalwaria Pacla 7.69 16 ePn Pn 02 27 46.5 +3.1
comp=Z,34nm,0.8s
PGF Pioggiola 7.71 275 ePn Pn 02 27 42.9 -0.9
PGF eSn Sn 02 29 03.1 -7.5
comp=Z,71nm,0.7s
PGF Pioggiola 7.71 275 eP Pn 02 27 42.9 -0.9
PGF e 02 29 03.1
PGF Pioggiola 7.71 275 ePn Pn 02 27 42.9 -0.9
PGF eSn Sn 02 29 03.1 -7.5
PGF Pioggiola 7.71 275 ePn Pn 02 27 42.9 -0.9
MOTA Moosalm 7.77 313⇑iPn Pn 02 27 46.9 +2.1
SNR=79
MOTA ⇓iSn Sn 02 29 14.8 +2.7
MOTA Moosalm 7.77 313 Pn Pn 02 27 46.8 +2.1
SNR=79
FETA Feichten 7.79 310⇑iPn Pn 02 27 46.6 +1.7
SNR=25
FETA ⇓iSn Sn 02 29 15.2 +2.7
FETA Feichten 7.79 310 Pn Pn 02 27 46.6 +1.7
SNR=25
AYDB Zeytinkoy-Aydi 7.81 121 eP Pn 02 27 54.5 +9.3
HRT Hereke 7.83 97 eP Pn 02 27 47.0 +1.6
FUORN Ofenpass-Fuorn 7.85 307 ePn Pn 02 27 47.3 +1.5
FUORN Ofenpass-Fuorn 7.85 307 ePn Pn 02 27 47.3 +1.5
OJC Ojcow 7.94 2 eP Pn 02 27 48.8 +2.0
OJC e 02 29 15.5
OJC Ojcow 7.94 2 ePn Pn 02 27 48.8 +2.0
OJC eSn Sn 02 29 15.5 -0.4

OJC	Ojcow	7.94	2	eP	Pn	02 27 48.8	+2.0
OJC				eS	Sn	02 29 15.5	-0.4
KHC	Kasperske Hory	7.96	331	eP	Pn	02 27 49.2	+2.0
KHC				e		02 29 16.7	
KHC				MLR	MLR		
	comp=Z,1µm,6.9s						
KHC	Kasperske Hory	7.96	331	ePN	Pn	02 27 49.2	+2.0
KHC				ex	x	02 27 59.8	
KHC				eSN	Sn	02 29 16.7	0.0
KHC				ex	x	02 29 26.5	
KHC				ex	x	02 29 32.9	
KHC				AMS	AMS	02 31 20.0	
	comp=Z,1µm,6.9s						
KHC	Kasperske Hory	7.96	331	ePn	Pn	02 27 48.6	+1.4
KHC				eS	Sn	02 29 17.9	+1.2
KHC	Kasperske Hory	7.96	331	ePn	Pn	02 27 48.6	+1.4
KHC				Sn	Sn	02 29 16.7	0.0
KHC				eS	Sn	02 29 17.9	+1.2
KRLC	Kraliky	8.00	348	eP	Pn	02 27 49.1	+1.4
KRLC				e		02 29 16.2	
KRLC	Kraliky	8.00	348	ePN	Pn	02 27 49.1	+1.4
KRLC				ex	x	02 27 57.7	
KRLC				ex	x	02 28 47.9	
KRLC				eSN	Sn	02 29 16.2	-1.3
KRLC	Kraliky	8.00	348	Pn	Pn	02 27 49.1	+1.4
KRLC				Sn	Sn	02 29 16.2	-1.3
KULA	Kula-Manisa	8.00	115	eP	Pn	02 27 54.0	+6.3
RETA	Reutte	8.04	313	⇓iPn	Pn	02 27 50.0	+1.7
	SNR=7.5						
RETA				⇓iSn	Sn	02 29 21.5	+2.9
RETA	Reutte	8.04	313	Pn	Pn	02 27 50.0	+1.7
	SNR=7.5						
VSL	Villasalto	8.10	253	ePn	Pn	02 27 49.1	+0.1
VSL				eS	Sn	02 29 17.0	-2.9
VSL	Villasalto	8.10	253	ePn	Pn	02 27 49.1	+0.1
TVSB	Tavsanli	8.12	107	eP	Pn	02 27 53.1	+3.6
DAVOX	Davos/Dischmat	8.15	307	P	Pn	02 27 49.9	-0.1
DAVOX						02 29 20.9	
DAVOX				smax	smax		
	comp=N,16nm,0.3s						
DAVOX				MLR	MLR		
	comp=Z,321nm,20.3s						
DAVOX	Davos/Dischmat	8.15	307	Pn	Pn	02 27 49.9	-0.1
	baz=108,slow=19						
DAVOX				Sn	Sn	02 29 20.9	-0.7
	comp=Z,16nm,0.3s,baz=160,slow=23,SNR=6.0						
DAVOX				LR	LR	02 31 25.6	
	comp=Z,321nm,20.3s,baz=112,slow=41						
LVV	L'vov	8.19	21	eP	Pn	02 27 53.0	+2.8
LVV				eS	Sn	02 29 24.0	+2.0
LVV				MLR	MLR		
	comp=Z,480nm,11.0s						
LVV	L'vov	8.19	21	eP	Pn	02 27 53.0	+2.8
	comp=Z,480nm,11.0s						
LVV				eS	Sn	02 29 24.0	+2.0
KIS	Kishinev	8.19	52	eP	Pn	02 27 55.0	+4.7
KIS				MLR	MLR		
	comp=Z,1µm,11.0s						
KIS				MLR	MLR		
	comp=E,1µm,13.0s						
KIS				MLR	MLR		
	comp=Z,1µm,12.0s						
KIS	Kishinev	8.19	52	eP	Pn	02 27 55.0	+4.7
KIS				LRM	MLR	02 31 50.0	
	comp=Z,1µm,12.0s						
IDI	Anoyia	8.19	147	Pn	Pn	02 27 48.5	-1.9
	comp=Z,0.9nm,0.3s,baz=318,slow=8.3,SNR=14						
IDI				Sn	Sn	02 29 16.8	-5.6
	comp=Z,2.7nm,0.3s,baz=106,slow=18,SNR=4.4						
IDI				LR	LR	02 31 23.4	
	comp=Z,248nm,21.2s,baz=288,slow=41						
GVD	Gavdhos	8.29	152	Pn	Pn	02 27 51.5	-0.2
GVD				eS	Sn	02 29 21.9	-2.8
GVD	Gavdhos	8.29	152	Pn	Pn	02 27 51.5	-0.2
DPC	Dobruska-Polom	8.34	346	eP	Pn	02 27 53.5	+1.2
DPC				e		02 29 23.6	
DPC	Dobruska-Polom	8.34	346	ePN	Pn	02 27 53.5	+1.2
DPC				ex	x	02 28 02.2	
DPC				ex	x	02 28 52.8	
DPC				eSN	Sn	02 29 23.6	-2.3
DPC				AMS	AMS	02 31 50.0	
DPC	Dobruska-Polom	8.34	346	ePn	Pn	02 27 53.6	+1.2
DPC	Dobruska-Polom	8.34	346	ePn	Pn	02 27 53.6	+1.2
PRU	Pruhonice	8.41	338	eP	Pn	02 27 55.5	+2.3
PRU				e		02 29 26.3	
PRU				MLR	MLR		
	comp=Z,700nm,18.5s						
PRU	Pruhonice	8.41	338	ePN	Pn	02 27 55.5	+2.3
PRU				ex	x	02 28 05.2	
PRU				ex	x	02 28 10.5	
PRU				eSN	Sn	02 29 26.3	-1.2
PRU				ex	x	02 29 39.6	
PRU				AMS	AMS	02 31 20.0	
	comp=Z,700nm,18.5s						
PRU	Pruhonice	8.41	338	Pn	Pn	02 27 55.5	+2.3
PRU				Sn	Sn	02 29 26.3	-1.2
DAVA	Damuels	8.42	310	⇑iPn	Pn	02 27 55.1	+1.5
	SNR=14						
DAVA				⇓iSn	Sn	02 29 31.0	+3.0
DAVA	Damuels	8.42	310	Pn	Pn	02 27 55.1	+1.5
	SNR=14						
UPC	Upice	8.55	345	eP	Pn	02 27 56.7	+1.5
UPC				e		02 29 29.0	
UPC	Upice	8.55	345	ePN	Pn	02 27 56.7	+1.5
UPC				ex	x	02 28 05.1	
UPC				eSN	Sn	02 29 29.0	-1.9
UPC	Upice	8.55	345	Pn	Pn	02 27 56.7	+1.5
UPC				Sn	Sn	02 29 29.0	-1.9
ALT	Altintas	8.75	108	eP	Pn	02 28 02.5	+4.5
KSP	Ksiaz	8.82	347	eP	Pn	02 28 02.6	+3.7
KSP				e		02 29 38.7	
KSP	Ksiaz	8.82	347	eP	Pn	02 28 02.8	+3.9
KSP				eSn	Sn	02 29 39.1	+1.5
KSP	Ksiaz	8.82	347	eP	Pn	02 28 02.6	+3.7
KSP				eS	Sn	02 29 38.7	+1.1
SAOF	Saorge	8.84	285	P	Pn	02 27 58.6	-0.6
SAOF				S	Sn	02 29 22.7	-15
SAOF	Saorge	8.84	285	P	Pn	02 27 58.6	-0.6
SAOF				S	Sn	02 29 22.7	-15
SBF	Sospel	8.91	284	ePn	Pn	02 27 59.6	-0.6
SBF				eSn	Sn	02 29 32.1	-7.8
	comp=Z,91nm,0.5s						
SBF	Sospel	8.91	284	eP	Pn	02 27 59.6	-0.6
SBF				e		02 29 32.1	
SBF	Sospel	8.91	284	ePn	Pn	02 27 59.6	-0.6
SBF				eSn	Sn	02 29 32.1	-7.8
SBF	Sospel	8.91	284	ePn	Pn	02 27 59.6	-0.6
AUTN	L'Aution	8.93	285	P	Pn	02 28 01.2	+0.6
AUTN				S	Sn	02 29 25.3	-16
AUTN	L'Aution	8.93	285	P	Pn	02 28 01.2	+0.6
AUTN				S	Sn	02 29 25.3	-16
REVF	Revere	8.95	283	P	Pn	02 28 01.0	+0.3
REVF	Revere	8.95	283	P	Pn	02 28 01.0	+0.3
MDUB	Mudurnu	9.04	98	eP	Pn	02 28 04.4	+2.3
MDUB	Mudurnu	9.04	98	eP	Pn	02 28 04.4	+2.3
TOUF	Mont Tournerai	9.06	285	P	Pn	02 28 02.6	+0.2
TOUF	Mont Tournerai	9.06	285	P	Pn	02 28 02.6	+0.2
MVIF	Mont Vial	9.12	284	P	Pn	02 28 02.2	-0.9
MVIF	Mont Vial	9.12	284	P	Pn	02 28 02.2	-0.9
SHUT	Suhut-Afyon	9.28	110	eP	Pn	02 28 09.6	+4.3
SHUT	Suhut-Afyon	9.28	110	eP	Pn	02 28 09.6	+4.3
CALN	Calern	9.29	283	P	Pn	02 28 06.6	+1.1
CALN	Calern	9.29	283	P	Pn	02 28 06.6	+1.1
GRFO	Grafenberg	9.34	325	eP	Pn	02 28 07.0	+1.0
GRFO				pmax	pmax		
	comp=Z,45nm,0.8s						
GRFO	Grafenberg	9.34	325	ePn	Pn	02 28 07.0	+1.0
	comp=Z,46nm,0.8s						
GRFO	Grafenberg	9.34	325	eP	Pn	02 28 07.0	+1.0
	comp=Z,45nm,0.8s						
BRG	Berggiesshubel	9.37	338	PN	Pn	02 28 08.6	+2.1
BRG				e		02 28 24.3	
BRG	Berggiesshubel	9.37	338	P	Pn	02 28 08.6	+2.1
BRG				MLR	MLR		
	comp=N,31µm,15.9s						
BRG				MLR	MLR		
	comp=E,421nm,9.7s						
BRG				MLR	MLR		
	comp=Z,336nm,15.4s						
BRG	Berggiesshubel	9.37	338	P	Pn	02 28 08.6	+2.1
	comp=Z,336nm,15.4s						
FRF	La Foret Royal	9.45	282	ePn	Pn	02 28 07.8	+0.2
FRF				eSn	Sn	02 29 44.7	-8.5
	comp=Z,36nm,0.4s						
FRF	La Foret Royal	9.45	282	eP	Pn	02 28 07.8	+0.2
FRF				e		02 29 44.7	
FRF	La Foret Royal	9.45	282	ePn	Pn	02 28 07.8	+0.2
FRF				eSn	Sn	02 29 44.7	-8.5
FRF	La Foret Royal	9.45	282	ePn	Pn	02 28 07.8	+0.2
MBDF	Montbardon	9.50	289	ePn	Pn	02 28 08.0	-0.4
MBDF				eSn	Sn	02 29 46.2	-8.5
	comp=Z,75nm,0.6s						
MBDF	Montbardon	9.50	289	eP	Pn	02 28 08.0	-0.4
MBDF				e		02 29 46.2	
MBDF	Montbardon	9.50	289	ePn	Pn	02 28 08.0	-0.4
MBDF				eSn	Sn	02 29 46.2	-8.5
MBDF	Montbardon	9.50	289	ePn	Pn	02 28 08.0	-0.4
LMR	La Mourre	9.54	281	ePn	Pn	02 28 07.5	-1.3
LMR				eSn	Sn	02 29 47.2	-8.2
	comp=Z,23nm,0.5s						
LMR	La Mourre	9.54	281	eP	Pn	02 28 07.5	-1.3
LMR				e		02 29 47.2	
LMR	La Mourre	9.54	281	ePn	Pn	02 28 07.5	-1.3
LMR				eSn	Sn	02 29 47.2	-8.2
SENIN	Lac Senin/Sane	9.59	299	ePn	Pn	02 28 10.6	+1.0
SENIN	Lac Senin/Sane	9.59	299	ePn	Pn	02 28 10.6	+1.0
BNI	Bardonecchia	9.63	291	eP	Pn	02 28 09.9	-0.3
BNI	Bardonecchia	9.63	291	ePn	Pn	02 28 09.9	-0.3
BNI				eS	Sn	02 29 46.7	-11
BNI	Bardonecchia	9.63	291	eP	Pn	02 28 09.9	-0.3
STU	Stuttgart	9.66	316	eP	Pn	02 28 10.7	+0.3
STU				eS	Sn	02 29 55.3	-2.9
STU	Stuttgart	9.66	316	ePn	Pn	02 28 10.7	+0.3
STU				eS	Sn	02 29 55.3	-2.9
STU	Stuttgart	9.66	316	eP	Pn	02 28 10.7	+0.3
LPG	La Plagne	9.69	294	ePn	Pn	02 28 09.8	-1.3
LPG				eSn	Sn	02 29 51.1	-8.2
	comp=Z,198nm,0.6s						
LPG	La Plagne	9.69	294	eP	Pn	02 28 09.8	-1.3
LPG				e		02 29 51.1	
LPG	La Plagne	9.69	294	ePn	Pn	02 28 09.8	-1.3
LPG				eSn	Sn	02 29 51.1	-8.2
LPL	La Plagne	9.70	294	ePn	Pn	02 28 10.4	-0.8
LPL				eSn	Sn	02 29 51.3	-8.4
	comp=Z,133nm,0.6s						
LPL	La Plagne	9.70	294	eP	Pn	02 28 10.4	-0.8
LPL				e		02 29 51.3	
LPL	La Plagne	9.70	294	ePn	Pn	02 28 10.4	-0.8
LPL				eSn	Sn	02 29 51.3	-8.4
LPL	La Plagne	9.70	294	ePn	Pn	02 28 10.4	-0.8
FELD	Feldberg im Sc	9.81	309	P	Pn	02 28 12.1	-0.5
ELL	Elmali	9.81	121	eP	Pn	02 28 20.4	+7.7
BFO	Black Forest	9.87	312	eP	Pn	02 28 13.4	+0.2
BFO				eS	Sn	02 29 59.8	-3.5
BFO	Black Forest	9.87	312	ePn	Pn	02 28 13.4	+0.2
BFO				eS	Sn	02 29 59.8	-3.5
BFO	Black Forest	9.87	312	eP	Pn	02 28 13.4	+0.2
BBS	Basel-Blauen	9.90	306	P	Pn	02 28 12.6	-1.2
OG01	Vacheresse	9.98	298	P	Pn	02 28 14.1	-0.7
OG01	Vacheresse	9.98	298	P	Pn	02 28 14.1	-0.7
CLL	Collm	10.03	336	eP	Pn	02 28 18.0	+2.6
CLL	Collm	10.03	336	ePn	Pn	02 28 18.0	+2.6
CLL				e		02 28 26.0	
CLL				e(Sn)	Sn	02 30 03.0	-4.3
CLL				e		02 30 11.0	
CLL				eSb		02 30 31.0	
CLL				eSg		02 31 10.0	
CLL				eLmax		02 31 32.0	
CLL	Collm	10.03	336	eP	Pn	02 28 18.0	+2.6
KIZT	Kizilcal	10.08	106	eP	Pn	02 28 19.5	+3.2
KIZT	Kizilcal	10.08	106	eP	Pn	02 28 19.5	+3.2
ORIF	Oris-en-Rattie	10.16	290	ePn	Pn	02 28 18.0	+0.6
ORIF				eSn	Sn	02 30 02.0	-8.7
	comp=Z,111nm,0.8s						
ORIF	Oris-en-Rattie	10.16	290	eP	Pn	02 28 18.0	+0.6
ORIF				e		02 30 02.0	
ORIF	Oris-en-Rattie	10.16	290	ePn	Pn	02 28 18.0	+0.6
ORIF				eSn	Sn	02 30 02.0	-8.7
ORIF	Oris-en-Rattie	10.16	290	ePn	Pn	02 28 18.0	+0.6
KEST	Kesra	10.21	233	Pn	Pn	02 28 20.0	+2.0
	comp=Z,0.6nm,0.3s,baz=358,slow=2.1,SNR=22						
KEST				LR	LR	02 32 54.0	
	comp=Z,168nm,19.8s,baz=348,slow=42						
KEST	Kesra	10.21	233	Pn	Pn	02 28 18.9	+0.9
KEST	Kesra	10.21	233	Pn	Pn	02 28 18.9	+0.9
SMRF	Simiane la Rot	10.26	284	ePn	Pn	02 28 16.8	-1.8
SMRF				eSn	Sn	02 30 03.8	-9.2
	comp=Z,64nm,0.9s						
SMRF	Simiane la Rot	10.26	284	ePn	Pn	02 28 16.8	-1.8
SMRF				eSn	Sn	02 30 03.8	-9.2
TOD	Tromm	10.39	318	P	Pn	02 28 20.9	+0.5
CABF	La Chapelle	10.46	299	ePn	Pn	02 28 21.4	0.0
CABF				eSn	Sn	02 30 09.3	-8.7
	comp=Z,71nm,0.7s						
CABF	La Chapelle	10.46	299	eP	Pn	02 28 21.4	0.0
CABF				e		02 30 09.3	
CABF	La Chapelle	10.46	299	ePn	Pn	02 28 21.4	0.0
CABF				eSn	Sn	02 30 09.3	-8.7
CABF	La Chapelle	10.46	299	ePn	Pn	02 28 21.4	0.0
HINF	Hinteralfeld	10.46	306	ePn	Pn	02 28 21.3	-0.1
HINF				eSn	Sn	02 30 09.7	-8.2
	comp=Z,108nm,0.6s						
HINF	Hinteralfeld	10.46	306	eP	Pn	02 28 21.3	-0.1
HINF				e		02 30 09.7	
HINF	Hinteralfeld	10.46	306	ePn	Pn	02 28 21.3	-0.1
HINF				eSn	Sn	02 30 09.7	-8.2
HINF	Hinteralfeld	10.46	306	ePn	Pn	02 28 21.3	-0.1
WLS	Welschbruch	10.46	310	P	Pn	02 28 20.6	-0.8
WLS	Welschbruch	10.46	310	P	Pn	02 28 20.6	-0.8
ECH	Echery	10.47	309	eP	Pn	02 28 21.4	-0.1
ECH				eS	Sn	02 30 10.5	-7.7
ECH				pmax	pmax		
	comp=Z,12nm,0.4s						
ECH	Echery	10.47	309	P	Pn	02 28 20.3	-1.2
ECH	Echery	10.47	309	ePn	Pn	02 28 21.4	-0.1
	comp=Z,12nm,0.4s						
ECH				eS	Sn	02 30 10.5	-7.7
ECH	Echery	10.47	309	P	Pn	02 28 20.3	-1.2
CDF	Champ du Feu	10.50	310	ePn	Pn	02 28 21.9	-0.1
CDF				eSn	Sn	02 30 10.6	-8.4
	comp=Z,36nm,0.6s						
CDF	Champ du Feu	10.50	310	eP	Pn	02 28 21.9	-0.1
CDF				e		02 30 10.6	
CDF	Champ du Feu	10.50	310	ePn	Pn	02 28 21.9	-0.1
CDF				eSn	Sn	02 30 10.6	-8.4
CDF	Champ du Feu	10.50	310	ePn	Pn	02 28 21.9	-0.1
LANF	Langenberg	10.52	313	P	Pn	02 28 21.3	-0.9
LANF	Langenberg	10.52	313	P	Pn	02 28 21.3	-0.9
KTD	Kalmit	10.57	316	P	Pn	02 28 23.3	+0.3
AFSR	Af¯ar-Bala (A	10.73	101	eP	Pn	02 28 27.2	+2.1
AFSR	Af¯ar-Bala (A	10.73	101	eP	Pn	02 28 27.2	+2.1
AK02	Malin Array Si	10.74	35	ePn	Pn	02 28 27.2	+2.0
AK02	Malin Array Si	10.74	35	ePn	Pn	02 28 27.2	+2.0
AK01	Malin Array Si	10.77	35	ePn	Pn	02 28 27.3	+1.7
AK01	Malin Array Si	10.77	35	ePn	Pn	02 28 27.3	+1.7
KIEV	Kiev	10.77	35	⇓iP	Pn	02 28 27.6	+2.0
KIEV	Kiev	10.77	35	ePn	Pn	02 28 26.9	+1.3
KIEV	Kiev	10.77	35	ePn	Pn	02 28 26.9	+1.3
KIEV	Kiev	10.77	35	iP	Pn	02 28 27.6	+2.0
AKASG	Malin Array Be	10.79	35	P	Pn	02 28 26.6	+0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				MLR	MLR		
	comp=Z,16nm,28.6s						
AKASG	Malin Array Be	10.79	35	Pn	Pn	02 28 26.6	+0.8
	comp=Z,0.5nm,0.3s,baz=224,slow=13,SNR=16						
AKASG				LR	LR	02 33 10.5	
	comp=Z,560nm,18.4s,baz=220,slow=41						
AKASG	Malin Array Be	10.79	35	P	Pn	02 28 26.6	+0.8
	comp=Z,16nm,28.6s						
AKBB	Malin Array Si	10.79	35	eP	Pn	02 28 27.2	+1.4
AKBB	Malin Array Si	10.79	35	eP	Pn	02 28 27.2	+1.4
AKBB	Malin Array Si	10.79	35	eP	Pn	02 28 27.2	+1.4
HAU	Haudompre	10.85	306	ePn	Pn	02 28 26.7	0.0
HAU				eSn	Sn	02 30 18.5	-8.9
	comp=Z,82nm,0.6s						
HAU	Haudompre	10.85	306	eP	Pn	02 28 26.7	0.0
HAU	Haudompre	10.85	306	eP	Pn	02 28 26.7	0.0
HAU				eSn	Sn	02 30 18.5	-8.9
HAU	Haudompre	10.85	306	ePn	Pn	02 28 26.7	0.0
VIVF	Saint-Julien-l	11.00	288	ePn	Pn	02 28 28.1	-0.7
VIVF				eSn	Sn	02 30 21.9	-9.3
	comp=Z,21nm,0.6s						
VIVF	Saint-Julien-l	11.00	288	eP	Pn	02 28 28.1	-0.7
VIVF	Saint-Julien-l	11.00	288	ePn	Pn	02 28 28.1	-0.7
VIVF				eSn	Sn	02 30 21.9	-9.3
VIVF	Saint-Julien-l	11.00	288	ePn	Pn	02 28 28.1	-0.7
BR131	Keskin Array S	11.05	99	ePn	Pn	02 28 30.1	+0.5
	comp=Z,1.8nm,0.6s						
BR131				eS	Sn	02 30 24.6	-8.0
BR131	Keskin Array S	11.05	99	ePn	Pn	02 28 30.1	+0.5
	comp=Z,1.8nm,0.6s						
BRTR	Keskin Array B	11.05	99	Pn	Pn	02 28 30.8	+1.2
	comp=Z,0.4nm,0.3s,baz=277,slow=14,SNR=15						
BRTR				LR	LR	02 32 34.1	
	comp=Z,199nm,19.2s,baz=285,slow=37						
SSB	Saint Sauveur	11.16	291	eP	Pn	02 28 30.2	-0.8
SSB				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SSB	Saint Sauveur	11.16	291	ePn	Pn	02 28 30.2	-0.8
	comp=Z,8.0nm,0.5s						
SSB				eS	Sn	02 30 25.1	-10
SSB	Saint Sauveur	11.16	291	eP	Pn	02 28 30.2	-0.8
	comp=Z,8.0nm,0.5s						
ABH	Alteburg	11.20	317	P	Pn	02 28 31.8	+0.4
RUP	Ruppelstein	11.34	315	P	Pn	02 28 32.9	-0.5
PAGF	Fort de Pagny	11.47	308	ePn	Pn	02 28 35.8	+0.6
PAGF				eSn	Sn	02 30 33.9	-8.7
	comp=Z,15nm,0.9s						
PAGF	Fort de Pagny	11.47	308	ePn	Pn	02 28 35.8	+0.6
PAGF				eSn	Sn	02 30 33.9	-8.7
PAGF	Fort de Pagny	11.47	308	ePn	Pn	02 28 35.8	+0.6
LASF	Ste Croix	11.50	284	ePn	Pn	02 28 33.1	-2.5
LASF				eSn	Sn	02 30 33.6	-10
	comp=Z,5.0nm,0.6s						
LASF	Ste Croix	11.50	284	ePn	Pn	02 28 33.1	-2.5
LASF				eSn	Sn	02 30 33.6	-10
CORM	Corum	11.65	95	eP	Pn	02 28 39.7	+1.9
CORM	Corum	11.65	95	eP	Pn	02 28 39.7	+1.9
SFTF	Sexfontaines	11.72	305	ePn	Pn	02 28 38.5	-0.2
SFTF				eSn	Sn	02 30 39.5	-9.3
	comp=Z,29nm,0.6s						
SFTF	Sexfontaines	11.72	305	ePn	Pn	02 28 38.5	-0.2
SFTF				eSn	Sn	02 30 39.5	-9.3
SFTF	Sexfontaines	11.72	305	ePn	Pn	02 28 38.5	-0.2
WLF	Walferdange	11.80	313	P	Pn	02 28 41.9	+2.3
WLF	Walferdange	11.80	313	eP	Pn	02 28 41.1	+1.4
WLF	Walferdange	11.80	313	ePn	Pn	02 28 41.1	+1.4
WLF	Walferdange	11.80	313	eP	Pn	02 28 41.1	+1.4
MEZF	Maizieres J'vi	11.85	307	ePn	Pn	02 28 40.3	0.0
MEZF				eSn	Sn	02 30 42.2	-10
	comp=Z,31nm,0.7s						
MEZF	Maizieres J'vi	11.85	307	ePn	Pn	02 28 40.3	0.0
MEZF				eSn	Sn	02 30 42.2	-10
MEZF	Maizieres J'vi	11.85	307	ePn	Pn	02 28 40.3	0.0
PLDF	La Plantade	11.93	293	P	Pn	02 28 40.0	-1.5
PLDF	La Plantade	11.93	293	P	Pn	02 28 40.0	-1.5
SMF	Signal de Mont	11.94	297	ePn	Pn	02 28 40.7	-1.0
SMF				eSn	Sn	02 30 44.7	-10
	comp=Z,60nm,0.5s						
SMF	Signal de Mont	11.94	297	eP	Pn	02 28 40.7	-1.0
SMF	Signal de Mont	11.94	297	ePn	Pn	02 28 40.7	-1.0
SMF				eSn	Sn	02 30 44.7	-10
SMF	Signal de Mont	11.94	297	ePn	Pn	02 28 40.7	-1.0
SUW	Suwalki	11.99	11	eP	Pn	02 28 44.2	+1.9
SUW	Suwalki	11.99	11	ePn	Pn	02 28 44.2	+1.9
SUW	Suwalki	11.99	11	eP	Pn	02 28 44.2	+1.9
LBL	Lubilhac	12.05	290	P	Pn	02 28 42.1	-1.2
LBL	Lubilhac	12.05	290	P	Pn	02 28 42.1	-1.2
LOR	Lormes	12.12	300	ePn	Pn	02 28 43.2	-0.8
LOR				eSn	Sn	02 30 50.3	-8.2
	comp=Z,88nm,0.5s						
LOR	Lormes	12.12	300	eP	Pn	02 28 43.2	-0.8
LOR				e		02 30 50.3	
LOR	Lormes	12.12	300	ePn	Pn	02 28 43.2	-0.8
LOR				eSn	Sn	02 30 50.3	-8.2
LOR	Lormes	12.12	300	ePn	Pn	02 28 43.2	-0.8
AGO	Saint Agoulin	12.28	293	P	Pn	02 28 44.8	-1.5
AGO	Saint Agoulin	12.28	293	P	Pn	02 28 44.8	-1.5
SSF	Saint Saulge	12.28	298	ePn	Pn	02 28 45.4	-0.9
SSF				eSn	Sn	02 30 53.5	-9.0
	comp=Z,42nm,0.6s						
SSF	Saint Saulge	12.28	298	eP	Pn	02 28 45.4	-0.9
SSF				e		02 30 53.5	
SSF	Saint Saulge	12.28	298	ePn	Pn	02 28 45.4	-0.9
SSF				eSn	Sn	02 30 53.5	-9.0
SSF	Saint Saulge	12.28	298	ePn	Pn	02 28 45.4	-0.9
PYM	Petit Puy Mans	12.30	292	P	Pn	02 28 45.6	-1.1
PYM	Petit Puy Mans	12.30	292	P	Pn	02 28 45.6	-1.1
AVF	Avril sur Loir	12.31	297	ePn	Pn	02 28 45.7	-0.9
AVF				eSn	Sn	02 30 53.2	-10
	comp=Z,71nm,0.9s						
AVF	Avril sur Loir	12.31	297	eP	Pn	02 28 45.7	-0.9
AVF	Avril sur Loir	12.31	297	ePn	Pn	02 28 45.7	-0.9
AVF				eSn	Sn	02 30 53.2	-10
AVF	Avril sur Loir	12.31	297	ePn	Pn	02 28 45.7	-0.9
MEM	Membach	12.42	317	P	Pn	02 28 50.7	+2.6
MEM	Membach	12.42	317	eP	Pn	02 28 51.1	+2.9
MEM	Membach	12.42	317	ePn	Pn	02 28 51.0	+2.9
MEM	Membach	12.42	317	eP	Pn	02 28 51.0	+2.9
BGF	Bois d'Agland	12.59	295	ePn	Pn	02 28 50.1	-0.3
BGF				eSn	Sn	02 31 00.0	-10
	comp=Z,62nm,0.7s						
BGF	Bois d'Agland	12.59	295	eP	Pn	02 28 50.1	-0.3
BGF	Bois d'Agland	12.59	295	ePn	Pn	02 28 50.1	-0.3
BGF				eSn	Sn	02 31 00.0	-10
BGF	Bois d'Agland	12.59	295	ePn	Pn	02 28 50.1	-0.3
BCLA	Clavier	12.68	315	P	Pn	02 28 54.3	+2.7
BCLA	Clavier	12.68	315	P	Pn	02 28 54.3	+2.7
GIVF	Givet	12.76	313	ePn	Pn	02 28 51.7	-1.1
GIVF				eSn	Sn	02 31 04.4	-10
	comp=Z,43nm,0.9s						
GIVF	Givet	12.76	313	eP	Pn	02 28 51.7	-1.1
GIVF	Givet	12.76	313	ePn	Pn	02 28 51.7	-1.1
GIVF				eSn	Sn	02 31 04.4	-10
GIVF	Givet	12.76	313	ePn	Pn	02 28 51.7	-1.1
CAF	Calviac	12.85	288	ePn	Pn	02 28 51.5	-2.6
CAF				eSn	Sn	02 31 05.8	-11
	comp=Z,6.7nm,0.7s						
CAF	Calviac	12.85	288	eP	Pn	02 28 51.5	-2.6
CAF	Calviac	12.85	288	ePn	Pn	02 28 51.5	-2.6
CAF				eSn	Sn	02 31 05.8	-11
DOU	Dourbes	12.88	312	P	Pn	02 28 58.2	+3.8
HYF	Humbligny	12.91	298	ePn	Pn	02 28 57.0	+2.2
HYF				eSn	Sn	02 31 07.4	-10
HYF	Humbligny	12.91	298	ePn	Pn	02 28 57.0	+2.2
HYF				eSn	Sn	02 31 07.4	-10
HYF	Humbligny	12.91	298	ePn	Pn	02 28 57.0	+2.2
TCF	Toulx Ste Croi	12.96	294	ePn	Pn	02 28 55.2	-0.3
TCF				eSn	Sn	02 31 08.7	-10
	comp=Z,29nm,0.6s						
TCF	Toulx Ste Croi	12.96	294	eP	Pn	02 28 55.2	-0.3
TCF	Toulx Ste Croi	12.96	294	ePn	Pn	02 28 55.2	-0.3
TCF				eSn	Sn	02 31 08.7	-10
TCF	Toulx Ste Croi	12.96	294	ePn	Pn	02 28 55.2	-0.3
BAIF	Baives	13.07	312	ePn	Pn	02 28 57.6	+0.5
BAIF				eSn	Sn	02 31 11.9	-10
	comp=Z,31nm,1.0s						
BAIF	Baives	13.07	312	eP	Pn	02 28 57.6	+0.5
BAIF	Baives	13.07	312	ePn	Pn	02 28 57.6	+0.5
BAIF				eSn	Sn	02 31 11.9	-10
BAIF	Baives	13.07	312	ePn	Pn	02 28 57.6	+0.5
RJF	Les Rejaudoux	13.28	289	ePn	Pn	02 28 56.9	-3.0
RJF				eSn	Sn	02 31 16.2	-11
	comp=Z,6.5nm,0.6s						
RJF	Les Rejaudoux	13.28	289	eP	Pn	02 28 56.9	-3.0
RJF	Les Rejaudoux	13.28	289	ePn	Pn	02 28 56.9	-3.0
RJF				eSn	Sn	02 31 16.2	-11
ANN	Anapa	13.31	73	eP	Pn	02 28 58.9	-1.4
ANN				eS	Sn	02 31 25.2	-2.4
ANN				pmax	pmax		
	comp=Z,49nm,1.2s						
MNK	Minsk	13.42	22	eP	Pn	02 29 00.0	-1.8
MICGM	Minsk	13.44	22	e	Pn	02 29 00.0	-2.0
SVSK	Karacayir	13.47	94	eP	Pn	02 29 03.7	+1.1
NACGM	Naroch	13.52	18	e	Pn	02 29 02.0	-1.1
IIGN	Ignalina	13.81	16	eP	Pn	02 29 08.9	+1.9
IIGN	Ignalina	13.81	16	eP	Pn	02 29 08.9	+1.9
IDID	Didziasalis	13.89	18	eP	Pn	02 29 03.4	-4.8
ISAL	Salakas	13.99	16	eP	Pn	02 29 11.5	+1.9
ISAL	Salakas	13.99	16	eP	Pn	02 29 11.5	+1.9
DARE	Darende-Malaty	14.25	99	eP	Pn	02 29 14.5	+1.1
ILIC	ilic-Erzincan	14.77	95	eP	Pn	02 29 21.1	+0.7
SOC	Sochi	14.93	78	eP	Pn	02 29 22.4	0.0
SOC				e		02 32 11.3	

SOC pmax pmax
comp=Z,19nm,0.9s
LDF La Druitiere 15.07 301 ePn Pn 02 29 23.1 -1.2
LDF eSn Sn 02 31 59.6 -11
comp=Z,4.4nm,0.4s
LDF La Druitiere 15.07 301 eP Pn 02 29 23.1 -1.2
LDF La Druitiere 15.07 301 ePn Pn 02 29 23.1 -1.2
LDF eSn Sn 02 31 59.6 -11
LDF La Druitiere 15.07 301 ePn Pn 02 29 23.1 -1.2
FLN La Foliniere 15.35 302 ePn Pn 02 29 26.6 -1.3
FLN eSn Sn 02 32 06.1 -11
comp=Z,14nm,0.4s
FLN La Foliniere 15.35 302 eP Pn 02 29 26.6 -1.3
FLN La Foliniere 15.35 302 ePn Pn 02 29 26.6 -1.3
FLN eSn Sn 02 32 06.1 -11
FLN La Foliniere 15.35 302 ePn Pn 02 29 26.6 -1.3
GRR Gorron 15.48 300 ePn Pn 02 29 28.1 -1.6
GRR eSn Sn 02 32 09.0 -11
comp=Z,23nm,0.7s
GRR Gorron 15.48 300 eP Pn 02 29 28.1 -1.6
GRR Gorron 15.48 300 ePn Pn 02 29 28.1 -1.6
GRR eSn Sn 02 32 09.0 -11
GRR Gorron 15.48 300 ePn Pn 02 29 28.1 -1.6
MUD Monsted U'grnd 15.64 339⇓iP P 02 29 36.7 +1.1
MUD pmax pmax
comp=Z,19nm,0.7s
MUD Monsted U'grnd 15.64 339⇓iP P 02 29 36.7 +1.1
comp=Z,19nm,0.7s
MUD i 02 29 45.5
MUD Monsted U'grnd 15.64 339 i P P 02 29 36.7 +1.1
comp=Z,19nm,0.7s
MMAI Mount Meron Ar 15.67 121 Pn Pn 02 29 32.2 0.0
comp=Z,0.3nm,0.3s,baz=301,slow=25,SNR=2.5
MMAI LR LR 02 36 41.6
comp=Z,98nm,19.4s,baz=300,slow=42
VORD Divnogorie 16.14 51 eP Pn 02 29 35.4 -2.7
VORD pmax pmax
comp=Z,7.0nm,0.7s
VORD pmax pmax
comp=N,20nm,1.6s
VORD pmax pmax
comp=E,30nm,1.6s
VSR Storozhevoye 16.18 50⇑eP Pn 02 29 37.7 -0.9
VSR pmax pmax
comp=Z,29nm,1.7s
SGMF Saint Gilles 16.55 299 ePn Pn 02 29 42.6 -0.8
SGMF eSn Sn 02 32 34.6 -12
comp=Z,5.5nm,0.4s
SGMF Saint Gilles 16.55 299 eP Pn 02 29 42.6 -0.8
SGMF e 02 32 34.6
SGMF Saint Gilles 16.55 299 ePn Pn 02 29 42.6 -0.8
SGMF eSn Sn 02 32 34.6 -12
SGMF Saint Gilles 16.55 299 ePn Pn 02 29 42.6 -0.8
VSU Vasula 16.83 13c iP Pn 02 29 46.8 0.0
VSU pmax pmax
comp=Z,224nm,1.9s
VSU MLR MLR
comp=Z,1μm,18.0s
QUIF Quistinic 16.88 297 ePn Pn 02 29 47.0 -0.5
QUIF eSn Sn 02 32 42.7 -12
comp=Z,3.3nm,0.3s
QUIF Quistinic 16.88 297 eP Pn 02 29 47.0 -0.5
QUIF e 02 32 42.7
QUIF Quistinic 16.88 297 ePn Pn 02 29 47.0 -0.5
QUIF eSn Sn 02 32 42.7 -12
QUIF Quistinic 16.88 297 ePn Pn 02 29 47.0 -0.5
ROSF Rostrenen 17.03 299 ePn Pn 02 29 49.2 -0.3
ROSF eSn Sn 02 32 46.3 -12
comp=Z,3.2nm,0.4s
ROSF Rostrenen 17.03 299 eP Pn 02 29 49.2 -0.3
ROSF e 02 32 46.3
ROSF Rostrenen 17.03 299 ePn Pn 02 29 49.2 -0.3
ROSF eSn Sn 02 32 46.3 -12
ROSF Rostrenen 17.03 299 ePn Pn 02 29 49.2 -0.3
OBN Obninsk 17.05 35⇓eP Pn 02 29 48.8 -0.8
OBN eS Sn 02 32 52.6 -5.8
OBN pmax pmax
comp=Z,15nm,1.1s
OBN MLR MLR
comp=Z,402nm,20.0s
OBN Obninsk 17.05 35 P Pn 02 29 49.4 -0.2
comp=Z,0.5nm,0.3s,baz=64,slow=17,SNR=2.7
OBN LR LR 02 36 48.5
comp=Z,397nm,18.5s,baz=260,slow=39
OBN Obninsk 17.05 35 ePn Pn 02 29 49.0 -0.6
comp=Z,29nm,1.1s
OBN Obninsk 17.05 35 ePn Pn 02 29 49.0 -0.6
comp=Z,29nm,1.1s
KIV Kislovodsk 17.07 77 eP Pn 02 29 49.1 -0.9
KIV eS Sn 02 33 00.7 +1.6
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,92nm,14.0s
KIV Kislovodsk 17.07 77 ePn P 02 29 51.6 -0.1
comp=Z,20nm,1.1s
KIV Kislovodsk 17.07 77 ePn P 02 29 51.6 -0.1
comp=Z,20nm,1.1s
KBZ Khabaz 17.23 77 P P 02 29 53.1 -0.2
comp=Z,0.1nm,0.3s,baz=302,slow=12,SNR=3.2
VRHR Novokhopersk 17.54 52 eP P 02 30 00.8 +4.0
VRHR pmax pmax
comp=Z,7.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,5.0nm,0.4s
EIL Elat 17.76 130 P P 02 29 59.6 +0.2
comp=E,0.3nm,0.3s,baz=357,slow=16,SNR=3.1
EIL LR LR 02 37 37.4
comp=E,54nm,19.9s,baz=305,slow=40
ESDC Sonseca Array 17.83 269 P P 02 30 00.1 0.0
comp=E,0.2nm,0.3s,baz=70,slow=12,SNR=13
ESDC LR LR 02 37 00.8
comp=E,142nm,18.8s,baz=25,slow=38
ESLA Sonseca Array 17.83 269 ePn P 02 30 00.2 +0.1
ESLA Sonseca Array 17.83 269 ePn P 02 30 00.2 +0.1
MOS Moscow 17.92 35 eP P 02 30 00.7 -0.1
MOS eS Sn 02 33 18.2 -1.2
MOS pmax pmax
comp=Z,43nm,1.1s
MOS Moscow 17.92 35 eP P 02 30 00.7 -0.1
comp=Z,43nm,1.1s
ZEI Tsey 18.04 80 eP P 02 30 04.4 +1.8
ZEI pmax pmax
comp=Z,9.0nm,1.1s
ZEI Tsey 18.04 80 eP P 02 30 04.4 +1.8
comp=Z,9.0nm,1.1s
HFS Hagfors 18.21 351 P Pn 02 30 03.9 0.0
HFS pmax pmax
comp=Z,2.0nm,0.3s
HFS MLR MLR
comp=Z,164nm,19.7s
HFS Hagfors 18.21 351 P Pn 02 30 03.9 0.0
comp=Z,1.6nm,0.3s,baz=163,slow=10,SNR=47
HFS LR LR 02 37 12.5
comp=Z,164nm,19.7s,baz=172,slow=37
GNI Garni 19.16 88d iP Pn 02 30 16.6 +0.9
GNI pmax pmax
comp=Z,34nm,1.7s
GNI MLR MLR
comp=Z,89nm,20.0s
GNI Garni 19.16 88 P Pn 02 30 15.4 -0.4
comp=Z,0.2nm,0.3s,baz=282,slow=1.0,SNR=11
GNI Garni 19.16 88 eP Pn 02 30 16.0 +0.3
comp=Z,19nm,1.0s
GNI Garni 19.16 88 eP Pn 02 30 16.0 +0.3
comp=Z,19nm,1.0s
NAO01 NORSAR Array S 19.29 347 eP P 02 30 15.5 -0.4
comp=Z,8.0nm,0.5s
NAO01 NORSAR Array S 19.29 347 eP P 02 30 15.5 -0.4
comp=Z,8.0nm,0.5s
PBRG Braganca 19.41 277 eP Pn 02 30 20.0 +1.3
comp=Z,26nm,1.7s
NB2 NORSAR Subarra 19.42 348 P P 02 30 16.5 -0.9
comp=Z,5.7nm,0.8s,baz=161,slow=11
NB2 NORSAR Subarra 19.42 348 P P 02 30 16.5 -0.9
comp=Z,5.7nm,0.8s,SNR=7.7
NOA NORSAR Array B 19.42 348 P P 02 30 16.9 -0.6
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA MLR MLR
comp=Z,15nm,28.6s
NOA NORSAR Array B 19.42 348 P P 02 30 16.9 -0.6
comp=Z,1.2nm,0.3s,baz=150,slow=9.9,SNR=22

NOA LR LR 02 38 28.2
comp=Z,167nm,18.8s,baz=160,slow=39
NOA NORSAR Array B 19.42 348 P P 02 30 16.9 -0.6
comp=Z,15nm,28.6s
FINES FINESS Array B 19.60 10 P P 02 30 18.9 -0.4
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 19.60 10 P P 02 30 18.9 -0.4
comp=Z,0.8nm,0.3s,baz=183,slow=12,SNR=26
FIA1 FINESS Array S 19.60 10 eP P 02 30 18.9 -0.4
FIA1 eS S 02 33 55.2 -4.1
FIA1 FINESS Array S 19.60 10 eP P 02 30 18.9 -0.4
EKA Eskdalemuir Ar 19.66 319 P P 02 30 20.5 +0.4
baz=112,slow=9.1,SNR=54
MVO Moncorvo 19.75 276 eP Pn 02 30 26.8 +4.1
PVRL Vila Real 20.23 276 eP P 02 30 26.2 -0.2
comp=Z,36nm,1.5s
PVRL Vila Real 20.23 276 eP P 02 30 26.2 -0.2
comp=Z,36nm,1.5s
KAF Kangasniemi 20.28 9 eP P 02 30 26.0 -0.6
KAF pmax pmax
comp=Z,5.0nm,0.6s
KAF Kangasniemi 20.28 9 ep P 02 30 26.0 -0.6
comp=Z,4.5nm,0.6s
KAF Kangasniemi 20.28 9 eP P 02 30 26.0 -0.6
comp=Z,5.0nm,0.6s
MTE Manteigas 20.30 274 eP P 02 30 28.2 +1.0
MTE Manteigas 20.30 274 eP P 02 30 28.2 +1.0
PMRV Marv??o 20.45 271 eP P 02 30 28.5 -0.2
comp=Z,21nm,1.9s
PMRV Marv??o 20.45 271 eP P 02 30 28.5 -0.2
comp=Z,21nm,1.9s
PVIS Viseu 20.48 275 eP Pn 02 30 32.5 +1.1
comp=Z,55nm,2.1s
PBAR Barrancos 20.58 267 eP P 02 30 30.4 +0.3
comp=Z,89nm,1.2s
PBAR Barrancos 20.58 267 eP P 02 30 30.4 +0.3
comp=Z,89nm,1.2s
PESTR Estremoz 20.76 270 eP P 02 30 31.4 -0.7
PESTR Estremoz 20.76 270 eP P 02 30 31.4 -0.7
PTOM Tomar 21.15 272 eP P 02 30 37.6 +1.3
comp=Z,89nm,1.3s
PTOM Tomar 21.15 272 eP P 02 30 37.6 +1.3
comp=Z,89nm,1.3s
EVO Evora 21.18 269 eP P 02 30 40.0 +3.4
comp=Z,54nm,1.8s
MDT Midelt 21.21 251 P P 02 30 37.7 +0.6
comp=Z,5.0nm,0.9s,baz=86,slow=14,SNR=2.0
MDT LR LR 02 39 35.1
comp=Z,92nm,18.2s,baz=335,slow=39
MESJ Messejana 21.57 267 eP P 02 30 41.9 +1.1
MESJ Messejana 21.57 267 eP P 02 30 41.9 +1.1
PNCL Nicolau / Gran 21.70 268 eP P 02 30 43.6 +1.4
comp=Z,58nm,1.6s
PNCL Nicolau / Gran 21.70 268 eP P 02 30 43.6 +1.4
comp=Z,58nm,1.6s
JOF Joensuu 21.82 15 eP P 02 30 42.5 -0.7
JOF pmax pmax
comp=Z,8.0nm,0.7s
JOF Joensuu 21.82 15 ep P 02 30 42.5 -0.7
comp=Z,8.3nm,0.7s
JOF Joensuu 21.82 15 eP P 02 30 42.5 -0.7
comp=Z,8.0nm,0.7s
KLMR Klimovskoe 22.23 26 eP P 02 30 46.9 -0.8
KLMR pmax pmax
comp=Z,65nm,1.4s
KLMR Klimovskoe 22.23 26 eP P 02 30 46.9 -0.8
comp=Z,65nm,1.4s
TAM Tamanrasset 22.64 215 P P 02 30 54.0 +1.5
TAM pmax pmax
comp=Z,12nm,1.3s
TAM Tamanrasset 22.64 215 P P 02 30 54.0 +1.5
comp=Z,12nm,1.3s
TAM Tamanrasset 22.64 215 P P 02 30 54.0 +1.5
comp=Z,12nm,1.3s
PRGR Permogore 24.92 30 eP P 02 31 13.1 -0.9
PRGR pmax pmax
comp=Z,32nm,0.9s
PRGR Permogore 24.92 30 eP P 02 31 13.1 -0.9
comp=Z,32nm,0.9s
ARCES ARCESS Array B 27.49 5 P P 02 31 36.0 -1.2
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 27.49 5 P P 02 31 36.0 -1.2
comp=Z,1.5nm,0.4s,baz=190,slow=10,SNR=32
ARCES ARCESS Array B 27.49 5 P P 02 31 36.0 -1.2
comp=Z,2.0nm,0.4s
AKTO Aktyubinsk 27.60 59 LR LR 02 44 22.9
comp=Z,199nm,21.5s,baz=275,slow=40
KEV Kevo 27.81 6 eP P 02 31 38.1 -1.9
KEV Kevo 27.81 6 ep P 02 31 38.1 -1.9
comp=Z,0.4nm,0.3s
ARU Arti 28.70 47d iP P 02 31 47.3 -0.8
ARU PPP PPP 02 32 46.2
ARU S S 02 36 38.1 +2.2
ARU SS SnSn 02 37 58.1 +1.3
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU MLR MLR
comp=Z,264nm,16.0s
ARU Arti 28.70 47 eP P 02 31 47.4 -0.7
comp=Z,4.8nm,1.0s
ARU Arti 28.70 47 eP P 02 31 47.4 -0.7
comp=Z,4.8nm,1.0s
ABKAR Akbulak array 28.84 62 eP P 02 31 49.2 -0.2
comp=Z,1.3nm,0.6s
ABKAR Akbulak array 28.84 62 eP P 02 31 49.2 -0.2
comp=Z,1.3nm,0.6s
SVE Sverdlovsk 29.91 47 eP P 02 31 58.4 -0.4
SVE pmax pmax
comp=Z,9.0nm,0.8s
SVE MLR MLR
comp=Z,356nm,15.0s
TOA0 Torodi Ar. Sit 32.86 213 eP P 02 32 25.4 +0.3
TOA0 Torodi Ar. Sit 32.86 213 eP P 02 32 25.4 +0.3
TORD Torodi Ar. Bea 32.86 213 P P 02 32 25.9 +0.9
comp=Z,2.7nm,0.9s,baz=17,slow=10.0,SNR=27
TORD LR LR 02 47 50.6
comp=Z,127nm,18.9s,baz=5.0,slow=40
BRVK Borovoye 35.20 54c iP P 02 32 45.3 +0.2
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK MLR MLR
comp=Z,213nm,18.0s
BRVK Borovoye 35.20 54 eP P 02 32 45.3 +0.2
comp=Z,5.0nm,0.6s
BRVK Borovoye 35.20 54 eP P 02 32 45.3 +0.2
comp=Z,4.9nm,0.6s
BVAR Borovoye Array 35.27 54 P P 02 32 45.8 +0.1
BVAR pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 35.27 54 P P 02 32 45.8 +0.1
comp=Z,3.7nm,0.8s,baz=269,slow=7.1,SNR=28
SPITS Spitsbergen Ar 36.02 359 P P 02 32 51.5 -0.4
SPITS pmax pmax
comp=Z,3.0nm,0.6s
SPITS Spitsbergen Ar 36.02 359 P P 02 32 51.5 -0.4
comp=Z,2.5nm,0.6s,baz=155,slow=12,SNR=7.2
KKAR Karatay Array 37.09 71 eP P 02 33 01.6 +0.2
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 37.09 71 eP P 02 33 01.6 +0.2
comp=Z,0.7nm,0.4s
KKAR Karatay Array 37.09 71 eP P 02 33 01.6 +0.2
comp=Z,0.7nm,0.4s
EKS2 Erkin-Say 39.51 70 eP P 02 33 22.8 +0.9
EKS2 pmax pmax
comp=Z,8.0nm,0.8s
EKS2 Erkin-Say 39.51 70 eP P 02 33 22.8 +0.9
comp=Z,8.4nm,0.8s
EKS2 Erkin-Say 39.51 70 eP P 02 33 22.8 +0.9
comp=Z,8.4nm,0.8s
AAK Ala-Archa 40.02 70⇑eP P 02 33 26.7 +0.5
AAK pmax pmax
comp=Z,12nm,1.7s
KURK Kurchatov 40.63 57 eP P 02 33 30.6 -0.3
KURK pmax pmax
comp=Z,19nm,2.3s
KURK Kurchatov 40.63 57 eP P 02 33 30.6 -0.3
comp=Z,19nm,2.3s
KURK Kurchatov 40.63 57 eP P 02 33 30.6 -0.3
comp=Z,19nm,2.3s
DBIC Dimbokro 41.47 218 P P 02 33 38.1 -0.1
DBIC pmax pmax
comp=Z,1.0nm,0.6s
DBIC MLR MLR
comp=Z,116nm,20.1s

DBIC Dimbokro 41.47 218 P P 02 33 38.1 -0.1
comp=Z,1.2nm,0.6s,baz=2.7,slow=14,SNR=3.1
DBIC LR LR 02 52 53.4
comp=Z,116nm,20.1s,baz=20,slow=39
NVS Novosibirsk 42.59 50 eP P 02 33 46.8 -0.1
ZAA0 Zalesovo Array 43.67 51 eP P 02 33 55.3 -0.4
ZAA0 Zalesovo Array 43.67 51 eP P 02 33 55.3 -0.4
ZALV Zalesovo Beam 43.67 51 P P 02 33 54.7 -1.0
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV MLR MLR
comp=Z,221nm,18.4s
ZALV Zalesovo Beam 43.67 51 P P 02 33 54.6 -1.0
comp=Z,1.6nm,0.6s,baz=292,slow=7.8,SNR=11
ZALV LR LR 02 54 26.7
comp=Z,220nm,18.4s,baz=250,slow=39
MKAR Makanchi Array 43.98 62 P P 02 33 58.1 -0.2
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 43.98 62 P P 02 33 58.1 -0.2
comp=Z,0.7nm,0.4s,baz=279,slow=7.5,SNR=12
SFJD Kangerlussuaq 44.27 328 P P 02 33 59.1 -1.2
SFJD pmax pmax
comp=Z,6.0nm,0.7s
SFJD Kangerlussuaq 44.27 328 P P 02 33 59.1 -1.2
comp=Z,5.9nm,0.7s,baz=45,slow=2.1,SNR=3.5
WMQ Urumqi 48.60 64 eP P 02 34 37.0 +2.3
WMQ pP pP 02 34 41.5 +0.3
WMQ sP sP 02 34 44.0 +0.3
WMQ PcS PcS 02 39 57.5 +1.3
WMQ S S 02 41 38.6 +3.2
WMQ sS sS 02 41 44.8 -1.2
WMQ ScS ScS 02 44 26.3 +0.2
WMQ pmax pmax
comp=Z,8.0nm,0.8s
WMQ LR LR
comp=Z,75nm,18.4s
WMQ LR LR
comp=Z,94nm,20.0s
WMQ LR LR
comp=Z,88nm,18.0s
PYUN Piuthan 52.71 84 eP P 02 35 04.9 -1.2
comp=Z,45nm,1.0s
DANN Dangsing 53.14 83 eP P 02 35 08.1 -1.3
comp=Z,24nm,0.9s
KOLN Koldanda 53.34 84 eP P 02 35 09.6 -1.2
GKN Gorkha 53.98 83 eP P 02 35 13.7 -1.7
DMN Daman 54.54 83 eP P 02 35 18.5 -1.1
PKI Pulchoki 54.79 83 eP P 02 35 20.2 -1.3
SCHQ Schefferville 54.91 315 P P 02 35 21.1 -0.5
comp=Z,6.3nm,0.7s,baz=54,slow=6.4,SNR=8.8
SCHQ LR LR 02 57 07.8
comp=Z,78nm,18.5s,baz=28,slow=34
GUN Gumba 54.95 82 eP P 02 35 21.3 -1.3
comp=Z,30nm,1.0s
TLY Talaya 55.18 49 eP P 02 35 30.6 +7.0
TLY e 02 43 03.7
TLY pmax pmax
comp=Z,4.0nm,1.3s
TLY MLR MLR
comp=Z,201nm,14.0s
JIRN Jiri 55.31 82 eP P 02 35 24.3 -1.0
RES Resolute Bay 55.59 343 P P 02 35 25.3 -0.9
RES pmax pmax
comp=Z,2.0nm,0.8s
RES Resolute Bay 55.59 343 P P 02 35 25.3 -0.9
comp=Z,2.3nm,0.8s,baz=6.8,slow=3.6,SNR=9.7
RAMN Ramite 56.01 83 eP P 02 35 28.5 -1.7
TIXI Tiksi 56.11 21⇑eP P 02 35 31.6 +1.7
TIXI pmax pmax
comp=Z,4.0nm,1.7s
TIXI MLR MLR
comp=Z,182nm,22.0s
ODAN Odare 56.64 83 eP P 02 35 33.5 -1.2
LSZ Lusaka 57.85 170 LR LR 03 02 31.9
comp=Z,50nm,20.0s,baz=288,slow=38
GTA Gaotai 58.68 63 eP P 02 35 48.6 -0.2
GTA pP pP 02 35 54.2 -1.1
GTA sP sP 02 35 57.5 -0.3
GTA pmax pmax
comp=Z,3.0nm,1.1s
ULN Ulaanbaatar 58.92 52 P P 02 35 50.9 +0.6
HHC Hu-ho-hao-te 65.44 56 eP P 02 36 35.0 +0.9
HHC S S 02 45 13.2 -4.3
HHC pmax pmax
comp=Z,12nm,0.6s
HHC LR LR
comp=Z,200nm,11.0s
HHC LR LR
comp=Z,220nm,10.7s
HHC LR LR
comp=Z,230nm,13.7s
CD2 Chengdu 66.08 69 P P 02 36 40.4 +2.2
CD2 pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 67.87 349 P P 02 36 47.6 -1.4
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 67.87 349 P P 02 36 47.5 -1.4
comp=Z,1.9nm,0.6s,baz=339,slow=10.0,SNR=5.3
SEY Seymchan 68.61 21 P P 02 36 53.5 -0.2
comp=Z,2.5nm,0.8s,baz=252,slow=6.2,SNR=6.3
YKA Yellowknife Ar 69.25 339 P P 02 36 57.0 -0.6
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 69.25 339 P P 02 36 57.0 -0.6
comp=Z,2.6nm,0.7s,baz=35,slow=5.5,SNR=51
YKA Yellowknife Ar 69.25 339 P P 02 36 57.0 -0.6
YKA Yellowknife Ar 69.25 339 P P 02 36 57.0 -0.6
CMAR Chiang Mai Arr 70.19 83 P P 02 37 03.3 -0.9
comp=Z,1.4nm,0.3s,baz=303,slow=7.7,SNR=12
CMAR LR LR 03 15 01.5
comp=Z,22nm,20.1s,baz=20,slow=42
BOSA Boshof 70.76 175 LR LR 03 11 06.5
comp=Z,113nm,18.3s,baz=322,slow=38
ULM Lac du Bonnet 71.91 322 P P 02 37 13.5 -0.6
ULM pmax pmax
comp=Z,5.0nm,0.6s
ULM Lac du Bonnet 71.91 322 P P 02 37 13.5 -0.6
comp=Z,4.8nm,0.6s,baz=44,slow=6.2,SNR=10
COLA College 72.71 354⇑iP P 02 37 19.4 +0.8
COLA pmax pmax
comp=Z,25nm,1.3s
ILAR Eielson Array 72.74 354 P P 02 37 18.4 -0.4
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 72.74 354 P P 02 37 18.4 -0.4
comp=Z,1.1nm,0.8s,baz=3.8,slow=5.6,SNR=13
USRK Ussuriysk Arra 74.88 43 LR LR 03 14 52.9
comp=Z,120nm,18.7s,baz=320,slow=39
YSS Yuzh-Sakhalins 77.94 36ceP P 02 37 48.9 0.0
YSS pmax pmax
comp=Z,9.0nm,0.8s
PETK Petropavlovsk- 78.41 24 LR LR 03 17 17.4
comp=Z,120nm,18.1s,baz=307,slow=39
PDAR Pinedale Array 83.69 325 P P 02 38 19.5 -0.6
comp=Z,2.1nm,0.8s,baz=70,slow=4.5,SNR=13
MJAR Matsushiro Arr 83.71 45 P P 02 38 19.9 -0.1
MJAR pmax pmax
comp=Z,5.0nm,1.2s
MJAR MLR MLR
comp=Z,16nm,28.6s
MJAR Matsushiro Arr 83.71 45 P P 02 38 19.9 -0.1
comp=Z,4.5nm,1.2s,baz=329,slow=3.9,SNR=4.0
MJAR LR LR 03 19 05.4
comp=Z,70nm,18.1s,baz=190,slow=38
BDFB Brasilia 84.56 243 P P 02 38 25.8 +1.1
BDFB pmax pmax
comp=Z,2.0nm,0.8s
BDFB Brasilia 84.56 243 P P 02 38 25.8 +1.1
comp=Z,2.1nm,0.8s,baz=135,slow=4.3,SNR=3.5
NVAR Mina Array Bea 90.93 328 P P 02 38 55.9 +0.7
comp=Z,0.4nm,0.8s,baz=58,slow=5.4,SNR=3.3
TXAR Lajitas Array 91.54 313 P P 02 38 58.7 +0.6
TXAR pmax pmax
comp=Z,4.0nm,0.9s
TXAR Lajitas Array 91.54 313 P P 02 38 58.7 +0.6
comp=Z,3.8nm,0.9s,baz=65,slow=4.5,SNR=30
WRA Warramunga Arr 121.43 89 PKP PKPdf 02 44 42.8 -1.9
comp=Z,0.5nm,0.9s,baz=319,slow=2.6,SNR=3.0
WRA PKPbc PKKPab 02 54 45.7 +0.1
comp=Z,0.2nm,0.6s,baz=123,slow=3.6,SNR=5.2
ASAR Alice Springs 123.34 93 PKIKP PKPdf 02 44 46.5 -1.8
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 123.34 93 PKP PKPdf 02 44 46.5 -1.8

comp=Z,0.6nm,0.8s,baz=335,slow=2.7,SNR=4.9

KRSC 11 02:31:03.8±0.7, 55.°12N×160.°44E, h-1^{km}±4^{km}, ML4.1
IDC 11 02:31:04.8±0.9, 55.°04N×160.°39E, h0^{km}, mb3.4/8, mb1 3.7/10, mb1mx3.5/29, mbtmp3.5/10, ML3.5/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/29, Error ellipse: s-maj=24.9km s-min=16.7km az=1.0
MOS 11 02:31:05.0±0.7, 55.°12N×160.°43E, h12^{km}, mb4.3/1, Error ellipse: s-maj=18.4km s-min=8.7km az=79.1
ISC 11 02:31:04.6±1.0,**55.°11N**±0.°02×**160.°38E**±0.°03,**h3^{km}**±7^{km}, **n55**,σ1.°06/77,**mb3.6**/8,**Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	Kizimen	0.05	270	eP	Pg	02 31 06.2	+0.4
TUMR	Tumrok	0.21	322	eP	Pg	02 31 08.9	+0.1
KMNR	Kamenistaya	0.65	353	eP	Pg	02 31 17.1	0.0
KMNR				eS	Sb	02 31 27.6	-0.6
BZMR	Bezymyannaya	0.83	5	eP	Pg	02 31 20.6	+0.1
BZMR				eS	Sn	02 31 34.3	-1.8
KIRR	Kirishev	0.84	359	eP	Pg	02 31 20.7	-0.1
KIRR				eS	Sn	02 31 34.5	-2.0
BZWR	Bezymyannyi-We	0.86	5	eP	Pg	02 31 21.0	0.0
BZWR				S	Sb	02 31 34.4	+0.2
KPT	Kopyto	0.86	354	eP	Pg	02 31 21.7	+0.6
KPT				eS	Sn	02 31 35.4	-1.4
ZLN	Zelenaya	0.94	15	eP	Pb	02 31 23.3	-0.3
ZLN				S	Sn	02 31 37.9	-0.9
LGNR	Loginova	0.99	10	eP	Pn	02 31 25.0	-0.7
KOZ	Kozyrevsk	0.99	343	eP	Pg	02 31 24.2	+0.6
KOZ				eS	Sn	02 31 39.8	-0.1
KOZR	Kozyr	0.99	344	PN	Pb	02 31 24.2	-0.3
KOZR				S	Sn	02 31 39.9	-0.1
CIRR	Tsirk	1.03	12	P	Pn	02 31 25.5	-0.6
CIRR				S	Sn	02 31 41.5	+0.5
KRSR	Krestovskiy	1.11	5	eP	Pg	02 31 26.3	+0.4
KRSR				eS	Sn	02 31 43.8	+0.7
KLY	Klyuchi	1.21	7	PN	Pb	02 31 27.7	-0.5
KLY				S	Sn	02 31 46.5	+1.1
KLY	Klyuchi	1.21	7	eP	Pb	02 31 27.7	-0.5
KLY				eS	Sn	02 31 46.5	+1.1
ESO	Esso	1.25	311	PN	Pn	02 31 26.8	-2.2
ESO				S	Sb	02 31 44.1	-1.3
ESO	Esso	1.25	311	eP	Pn	02 31 26.8	-2.2
ESO				eS	Sb	02 31 44.1	-1.3
SRDR	Sredinnyy	1.26	343	eP	Pn	02 31 28.6	-0.6
BDR	Baidarnaya	1.53	18	eP	Pn	02 31 33.3	-0.4
BDR				eS	Sg	02 31 56.0	+2.2
SMKR	Semkarok	1.60	22	eP	Pb	02 31 34.4	-0.4
SMKR				eS	Sg	02 31 57.7	+1.8
SRKR	Sorokina	1.61	16	eP	Pb	02 31 34.1	-0.9
SRKR				eS	Sg	02 31 57.5	+1.2
KBG	Krutoberegovo	1.75	48	PN	Pb	02 31 36.4	-0.9
KBG				S	Sg	02 31 59.8	-0.9
KBG	Krutoberegovo	1.75	48	eP	Pb	02 31 36.4	-0.9
KBG				eS	Sg	02 31 59.8	-0.9
KBTR	Krutoberegovo	1.77	51	PN	Pn	02 31 35.8	-0.3
KBTR				S	Sg	02 32 00.5	-0.9
KBTR	Krutoberegovo	1.77	51	eP	Pn	02 31 35.8	-0.3
KBTR				eS	Sg	02 32 00.5	-0.9
GNL	Ganaly	2.01	226	eP	Pn	02 31 40.2	+0.7
GNL				eS	Sb	02 32 09.0	+1.7
KRX	Arik	2.03	211	eP	Pb	02 31 41.6	-0.6
KRX				eS	Sg	02 32 09.9	+0.1
NLC	Nalytchevo	2.04	198	PN	Pn	02 31 40.5	+0.7
NLC				S	Sg	02 32 09.4	-0.6
NLC	Nalytchevo	2.04	198	eP	Pn	02 31 40.5	+0.7
NLC				eS	Sg	02 32 09.4	-0.6
SMAR	Somma	2.07	207	eP	Pb	02 31 41.8	-1.2
AVH	Avacha	2.09	208	eP	Pb	02 31 42.8	-0.3
KOK	Koryaka	2.09	210	eP	Pb	02 31 42.9	-0.3
UGLR	Uglovaya	2.12	206	eP	Pb	02 31 42.7	-0.9
PET	Petropavlovsk	2.33	207	ePN	Pb	02 31 46.4	-0.8
PET				eS	Sg	02 32 18.8	-0.5
PET				pmax	pmax		
	comp=Z,110nm,0.5s						
PET				smax	smax		
	comp=N,239nm,0.6s						
PET				MLR	MLR		
	comp=Z,1µm,8.0s						
PET	Petropavlovsk	2.33	207	P	Pb	02 31 45.7	-1.5
PET				S	Sg	02 32 18.5	-0.8
PETK	Petropavlovsk-	2.55	219	PN	Pn	02 31 47.1	+0.2
PETK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PETK	Petropavlovsk-	2.55	219	Pn	Pn	02 31 47.1	+0.2
	comp=Z,5.8nm,0.3s,baz=60,slow=14,SNR=33						
APC	Apacha	2.90	222	eP	Pn	02 31 53.4	+1.8
BKI	Bering	3.21	86	PN	Pn	02 31 55.9	0.0
BKI				S	Sn	02 32 34.4	-0.2
BKI	Bering	3.21	86	eP	Pn	02 31 55.9	0.0
BKI				eS	Sn	02 32 33.5	-1.1
FX1	Attu Island--F	7.86	101	Pn	Pn	02 33 00.0	+0.3
	comp=Z,5.4nm,0.3s,baz=32,slow=5.5,SNR=6.2						
FX1				Sn	Sn	02 34 25.5	-3.6
	comp=Z,1.3nm,0.3s,baz=312,slow=10,SNR=2.1						
ASAJ	Asahikawa	15.88	233	LR	LR	02 40 55.2	
	comp=Z,151nm,19.4s,baz=106,slow=37						
ILAR	Eielson Array	27.30	48	P	P	02 36 50.4	+0.3
	comp=Z,0.2nm,0.6s,baz=259,slow=7.6,SNR=5.6						
H11N2	WAKE ISLAND Hy	35.67	169	T	T	03 15 23.6	
	baz=357,slow=76,SNR=8.8						
H11N3	WAKE ISLAND Hy	35.68	169	T	T	03 15 25.0	
	baz=357,slow=76,SNR=4.9						
H11N1	WAKE ISLAND Hy	35.69	169	T	T	03 15 24.9	
	baz=357,slow=76,SNR=6.2						
YKA	Yellowknife Ar	41.58	44	P	P	02 38 53.1	0.0
	comp=Z,0.1nm,0.5s,baz=300,slow=8.0,SNR=3.8						
MKAR	Makanchi Array	47.45	294	P	P	02 39 39.1	-1.2
	comp=Z,0.5nm,0.8s,baz=62,slow=10.0,SNR=4.5						
NVAR	Mina Array Bea	54.92	72	P	P	02 40 38.7	+2.0
	comp=Z,0.3nm,0.6s,baz=305,slow=7.1,SNR=3.6						
AKTO	Aktyubinsk	56.59	312	LR	LR	03 06 37.8	
	comp=Z,20nm,18.5s,baz=38						
FINES	FINESS Array B	58.33	336	P	P	02 41 02.6	+2.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	FINESS Array B	58.33	336	P	P	02 41 02.6	+2.3
	comp=Z,1.9nm,0.9s,baz=38,slow=7.0,SNR=3.7						
AKASG	Malin Array Be	66.97	329	P	P	02 41 59.6	+1.5
	comp=Z,0.2nm,0.4s,baz=29,slow=7.0,SNR=2.9						
TXAR	Lajitas Array	69.70	68	P	P	02 42 17.3	+1.6
	comp=Z,0.2nm,0.6s,baz=311,slow=7.1,SNR=2.8						
WRA	Warramunga Arr	77.99	205	P	P	02 43 04.5	+0.4
	comp=Z,0.4nm,0.5s,baz=16,slow=6.1,SNR=3.0						

IDC 11 02:33:17.9±1.4, 15.°13S×173.°41W, h0^{km}, mb4.0/8, mb1 4.3/8, mb1mx4.1/23, mbtmp4.0/8, MS3.8/13, Ms1 3.8/13, ms1mx3.5/36, Error ellipse: s-maj=89.0km s-min=18.5km az=147.0
ISCJB 11 02:33:21.1±1.2, 14.°9S±0.°5×173.°6W±0.°4, h30^{km}, mb4.0/8, MS3.9/11, Error ellipse: s-maj=85.5km s-min=16.2km az=146.5
ISC 11 02:33:22.6±1.4,**15.°1S**±0.°5×**173.°5W**±0.°4,**h30^{km}**,**n28**, σ0.°56/11,**mb4.0**/8,**MS3.9**/11,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.02	55	Pn	Pn	02 33 45.7	-8.9
	70nm,0.3s,baz=214,slow=2.8,SNR=33						
AFI				Sn	Sn	02 34 03.5	-15
	273nm,0.3s,baz=222,slow=19,SNR=17						
RAR	Rarotonga	14.38	117	LR	LR	02 40 34.5	
	comp=Z,55nm,21.7s,baz=316,slow=30						
RAO	Raoul Island	14.69	195	LR	LR	02 41 27.3	
	comp=Z,426nm,21.7s,baz=134,slow=33						
DZM	Mont Dzumac	20.25	247	eLR	LR	02 42 55.0	
	451nm,24.1s						
DZM	Mont Dzumac	20.25	247	LR	LR	02 44 33.4	
	comp=Z,393nm,21.0s,baz=41,slow=33						
PPT2	Papeete2	23.07	100	eLR	LR	02 43 48.1	
	82nm,23.2s						
PAE	Paea	23.07	100	eT	T	03 01 36.3	
	1.7nm,0.3s						
URZ	Urewera	24.54	198	LR	LR	02 46 47.5	
	comp=Z,337nm,20.7s,baz=18,slow=33						
RKT	Rikitea	37.17	108	eT	T	03 19 14.4	
	1.5nm,0.3s						
H11S2	WAKE ISLAND Hy	38.65	329	T	T	03 22 12.3	
	baz=152,slow=76,SNR=5.6						
H11S3	WAKE ISLAND Hy	38.66	329	T	T	03 22 07.6	
	baz=152,slow=76,SNR=5.6						
H11S1	WAKE ISLAND Hy	38.67	329	T	T	03 22 13.7	
	baz=152,slow=76,SNR=5.8						
H11N3	WAKE ISLAND Hy	39.59	330	T	T	03 23 33.6	
	baz=152,slow=77,SNR=3.9						
H11N1	WAKE ISLAND Hy	39.60	330	T	T	03 23 24.5	
	baz=152,slow=77,SNR=5.1						
H11N2	WAKE ISLAND Hy	39.61	330	T	T	03 23 30.0	
	baz=152,slow=77,SNR=4.6						
STKA	Stephens Creek	44.13	240	P	P	02 41 28.6	0.0
	3.2nm,0.9s,baz=90,slow=11,SNR=5.4						
STKA				LR	LR	02 56 32.6	
	comp=Z,85nm,22.0s,baz=29,slow=32						
WRA	Warramunga Arr	49.84	257	P	P	02 42 13.2	-0.2
	0.3nm,0.3s,baz=95,slow=7.8,SNR=18						
WRA				PcP	PcP	02 43 33.9	+0.1
	0.8nm,1.0s,baz=92,slow=3.4,SNR=2.2						
WRA				LR	LR	03 01 38.7	
	comp=Z,59nm,21.8s,baz=145,slow=34						
ASAR	Alice Springs	50.14	252	P	P	02 42 15.2	-0.4
	2.3nm,0.6s,baz=88,slow=7.6,SNR=21						
ASAR				LR	LR	03 01 47.8	
	comp=Z,214nm,21.3s,baz=88,slow=34						
MJAR	Matsushiro Arr	68.64	320	LR	LR	03 08 18.5	
	comp=Z,34nm,21.5s,baz=185,slow=31						
NVAR	Mina Array Bea	74.14	42	P	P	02 44 56.4	-0.1
	0.4nm,0.7s,baz=228,slow=9.5,SNR=3.3						
NVAR				LR	LR	03 09 20.2	
	comp=Z,126nm,20.7s,baz=102,slow=29						
TXAR	Lajitas Array	80.50	56	P	P	02 45 32.7	+0.5
	1.4nm,1.1s,baz=238,slow=7.0,SNR=7.0						
TXAR				LR	LR	03 13 50.0	
	comp=Z,60nm,20.2s,baz=0.0,slow=30						
PDAR	Pinedale Array	82.08	42	P	P	02 45 40.0	-0.4
	0.8nm,0.9s,baz=169,slow=2.3,SNR=4.4						
ILAR	Eielson Array	82.15	11	P	P	02 45 39.8	-0.3
	2.7nm,1.1s,baz=209,slow=5.8,SNR=11						
ILAR				LR	LR	03 14 33.4	
	comp=Z,55nm,19.9s,baz=198,slow=30						
YKA	Yellowknife Ar	89.83	23	P	P	02 46 17.7	-0.3
	1.5nm,0.9s,baz=235,slow=4.4,SNR=21						
ATAH	Atahualpa	93.04	98	LR	LR	03 18 36.9	
	comp=Z,43nm,20.7s,baz=332,slow=29						
ULM	Lac du Bonnet	93.73	39	LR	LR	03 23 15.2	
	comp=Z,121nm,20.0s,baz=290,slow=32						
GERES	GERESS Array B	145.81	352	PKPbc	PKPab	02 52 59.3	0.0
	0.8nm,0.8s,baz=46,slow=5.8,SNR=6.4						
BRTR	Keskin Array B	145.86	321	PKPbc	PKPab	02 53 01.2	+1.3
	2.5nm,0.9s,baz=349,slow=2.5,SNR=7.7						

NEIC 11 02:39:06.8, 19.°31N×64.°85W, h14^{km}, MD3.0(RSPR), After RSPR.
RSPR 11 02:39:06.8, 19.°31N×64.°85W, h14^{km}±6^{km}, MD3.0/4
TRN 11 02:39:05.2,19.°22N×64.°84W,h37^{km},MD3.1(RSPR), **14C-3D,Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.68	135	↑eP	Pn	02 39 19.7	+1.3
ABV	Anegada	0.68	135	↑eP	Pn	02 39 19.7	+1.3
ABV				eS	Sn	02 39 30.4	+2.6
ABVI	Anegada Island	0.68	135	↑eP	Pn	02 39 19.7	+1.3
ABVI				eS	Sn	02 39 30.0	+2.3
CBYP	Canovanas	1.35	226	ePn	Pn	02 39 29.9	+2.3
CBYP				eS	Sn	02 39 46.3	+2.1
CBYP	Canovanas	1.35	226	eS	Sn	02 39 46.6	+2.4
HUMP	Col San Antoni	1.44	222	↑eP	Pn	02 39 30.3	+1.7
HUMP	Col San Antoni	1.44	222	↑eP	Pn	02 39 30.3	+1.7
HUMP				eS	Sn	02 39 48.4	+2.1
HUMP	Col San Antoni	1.44	222	↑eP	Pn	02 39 30.3	+1.7
HUMP				eS	Sn	02 39 48.4	+2.1
CPD	Cerro la Pandu	1.56	221	↑eP	Pn	02 39 32.0	+1.7
CPD	Cerro la Pandu	1.56	221	↑eP	Pn	02 39 32.3	+2.0
CPD				eS	Sn	02 39 52.3	+3.0
CPD	Cerro la Pandu	1.56	221	↑eP	Pn	02 39 32.0	+1.7
CPD				eS	Sn	02 39 52.0	+2.7
SJG	San Juan	1.66	229	↑eP	Pn	02 39 33.5	+1.8
SJG				eS	Sn	02 39 53.7	+1.9
SJG	San Juan	1.66	229	↑eP	Pn	02 39 33.5	+1.8
SJG				eS	Sn	02 39 53.7	+1.9
SJG	San Juan	1.66	229	Pn	Pn	02 39 36.4	+4.7
SJG				eS	Sn	02 39 53.5	+1.8
AOPR	Arecibo Observ	2.01	245	↑eP	Pn	02 39 38.4	+1.8
AOPR	Arecibo Observ	2.01	245	↑eP	Pn	02 39 38.4	+1.8
AOPR				eS	Sn	02 40 02.4	+1.9
AOPR	Arecibo Observ	2.01	245	↑eP	Pn	02 39 38.4	+1.8
AOPR				eS	Sn	02 40 02.4	+1.9
CRPR	Cabo Rojo, PR	2.47	241	↓eP	Pn	02 39 42.9	+0.1
CRPR	Cabo Rojo, PR	2.47	241	↓eP	Pn	02 39 42.9	+0.1
CRPR	Cabo Rojo, PR	2.47	241	↓eP	Pn	02 39 42.9	+0.1

IDC 11 02:50:33.9±0.9, 39.°03N×23.°34E, h0^{km}, mb3.5/10, mb1 3.6/16, mb1mx3.5/35, mbtmp3.5/16, ML3.4/6, MS2.7/3, Ms1 2.7/3, ms1mx2.4/28, Error ellipse: s-maj=17.2km s-min=15.0km az=103.0
SOF 11 02:50:34.1, 39.°04N×23.°37E, h10^{km}, MD3.1
ATH 11 02:50:34.1, 39.°06N×23.°30E, h24^{km}, MD3.3/39, ML3.8
ISCJB 11 02:50:35.1±0.4, 39.°07N±0.°01×23.°28E±0.°02, h15^{km}±3^{km}, mb3.3/10, Error ellipse: s-maj=2.2km s-min=1.6km az=17.7
THE 11 02:50:35.2, 39.°05N×23.°30E, h12^{km}, ML3.7/28, Error ellipse: s-maj=0.7km s-min=0.4km az=91.0
CSEM 11 02:50:35.2±0.1, 39.°05N×23.°24E, h10^{km}, MD3.3, Error ellipse: s-maj=2.7km s-min=2.1km az=120.0
ISC 11 02:50:35.8±0.7,**39.°05N**±0.°01×**23.°28E**±0.°01,**h12^{km}**±4^{km}, **n252**,σ1.°09/333,**mb3.4**/10,**13C-8D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIA	Simia	0.18	197	P	Pg	02 50 39.4	-0.4
SMIA				S	Sg	02 50 42.7	0.0
SMIA	Simia	0.18	197	ePB	Pg	02 50 39.5	-0.4
SMIA				eSB	Sg	02 50 43.2	+0.5
SMIA	Simia	0.18	197	P	Pg	02 50 39.4	-0.4
SMIA				S	Sg	02 50 42.7	0.0
SMIA				eSb	Sg	02 50 43.2	+0.5
SKIA	Skiathos	0.19	52	P	Pg	02 50 39.6	-0.4
SKIA				S	Sg	02 50 42.7	-0.2
SKIA	Skiathos	0.19	52	ePB	Pg	02 50 39.8	-0.2
SKIA				eSB	Sg	02 50 42.9	0.0
SKIA	Skiathos	0.19	52	P	Pg	02 50 39.6	-0.4
SKIA				eSb	Sg	02 50 42.9	0.0
NEO	Neokhori	0.26	351	P	Pg	02 50 40.7	-0.5
NEO				S	Sg	02 50 45.0	+0.2
NEO	Neokhori	0.26	351	ePB	Pg	02 50 40.8	-0.5
NEO				eSB	Sg	02 50 45.1	+0.2
NEO	Neokhori	0.26	351	P	Pg	02 50 40.7	-0.5
NEO				eSb	Sg	02 50 45.1	+0.2
XOR	Xorichti	0.32	348	P	Pg	02 50 41.8	-0.5
XOR				S	Sg	02 50 46.5	-0.2
XOR	Xorichti	0.32	348	ePB	Pg	02 50 41.8	-0.5
XOR	Xorichti	0.32	348	P	Pg	02 50 41.8	-0.5
MRKA	Markates	0.42	145	P	Pg	02 50 43.3	-0.8
MRKA				S	Sg	02 50 49.8	0.0
MRKA	Markates	0.42	145	P	Pg	02 50 43.3	-0.8
MRKA				S	Sg	02 50 49.8	0.0
FYTO	Fytoko, Volos	0.44	324	P	Pg	02 50 43.9	-0.6
FYTO				S	Sg	02 50 50.4	0.0
FYTO	Fytoko, Volos	0.44	324	P	Pg	02 50 43.9	-0.6
LKR	Lokris	0.46	208	P	Pg	02 50 43.8	-0.9
LKR				S	Sg	02 50 51.3	+0.5
LKR	Lokris	0.46	208	ePB	Pg	02 50 43.9	-0.8
LKR				eSB	Sg	02 50 50.1	-0.7
LKR	Lokris	0.46	208	P	Pg	02 50 43.8	-0.9
LKR				eSb	Sg	02 50 50.1	-0.7
AOS	Alonnisos	0.48	76	P	Pg	02 50 44.2	-1.1
AOS				S	Sg	02 50 51.2	-0.6
AOS	Alonnisos	0.48	76	eP	Pg	02 50 44.5	-0.8
AOS	Alonnisos	0.48	76	ePB	Pg	02 50 44.3	-1.1
AOS	Alonnisos	0.48	76	P	Pg	02 50 44.2	-1.1
AOS				S	Sg	02 50 51.2	-0.6
AXAR	Agios Charalam	0.56	240	P	Pg	02 50 45.8	-0.9
AXAR				S	Sg	02 50 54.5	+0.4
AXAR	Agios Charalam	0.56	240	ePN	Pg	02 50 45.7	-0.9
AXAR				eSN	Sg	02 50 54.7	+0.6
AXAR	Agios Charalam	0.56	240	P	Pg	02 50 45.8	-0.9
AXAR				eSn	Sg	02 50 54.7	+0.6
ERET	Eretria	0.74	146	P	Pg	02 50 49.1	-0.9
ERET				S	Sg	02 50 59.4	-0.3
ERET	Eretria	0.74	146	P	Pg	02 50 49.1	-0.9
ERET				S	Sg	02 50 59.4	-0.3
AGG	Agios Georgios	0.74	268	P	Pg	02 50 48.2	-1.9
AGG	Agios Georgios	0.74	268	ePN	Pg	02 50 48.6	-1.5
AGG	Agios Georgios	0.74	268	P	Pg	02 50 48.2	-1.9
DSF	Desfina	0.87	223	P	Pb	02 50 50.8	-1.9
DSF				S	Sb	02 51 03.2	-1.1
DSF	Desfina	0.87	223	ePN	Pb	02 50 50.8	-1.9
DSF				eSN	Sb	02 51 03.8	-0.5
DSF	Desfina	0.87	223	P	Pb	02 50 50.8	-1.9
DSF				S	Sb	02 51 03.2	-1.1
MAKR	Makrakomi, Fth	0.89	268	P	Pb	02 50 51.9	-1.3
MAKR				S	Sg	02 51 05.1	+0.4
MAKR	Makrakomi, Fth	0.89	268	ePN	Pb	02 50 51.7	-1.5
MAKR	Makrakomi, Fth	0.89	268	P	Pb	02 50 51.9	-1.3
PAIG	Paliouri	0.93	20	P	Pb	02 50 52.8	-1.0
PAIG				S	Sb	02 51 05.5	-0.6
PAIG	Paliouri	0.93	20	ePN	Pb	02 50 52.0	-1.8
PAIG	Paliouri	0.93	20	ePn	Pb	02 50 52.0	-1.8
PAIG	Paliouri	0.93	20	P	Pb	02 50 52.8	-1.0
PAIG				S	Sb	02 51 05.5	-0.6
LTK	Loutraki	1.05	193	P	Pb	02 50 54.3	-1.6
LTK				S	Sg	02 51 10.2	+0.4
LTK	Loutraki	1.05	193	ePN	Pb	02 50 54.3	-1.6
LTK	Loutraki	1.05	193	P	Pb	02 50 54.3	-1.6
LTK				S	Sg	02 51 10.2	+0.4
PTL	Penteli	1.10	155	P	Pb	02 50 55.7	-1.0
PTL				S	Sb	02 51 10.1	-1.0
PTL	Penteli	1.10	155	ePN	Pb	02 50 55.7	-1.0
PTL				eSN	Sb	02 51 10.1	-1.0
PTL	Penteli	1.10	155	P	Pb	02 50 55.7	-1.0
PTL				S	Sb	02 51 10.1	-1.0
THL	Klokotos Trika	1.10	298	P	Pb	02 50 55.1	-1.7
THL				S	Sn	02 51 12.2	+0.1
THL	Klokotos Trika	1.10	298	P	Pb	02 50 55.1	-1.7
THL				S	Sn	02 51 12.2	+0.1
KALE	Kalithea	1.11	234	P	Pb	02 50 55.6	-1.2
KALE				S	Sg	02 51 11.6	+0.1
KALE	Kalithea	1.11	234	ePN	Pb	02 50 55.7	-1.1
KALE	Kalithea	1.11	234	P	Pb	02 50 55.6	-1.2
KALE				S	Sg	02 51 11.6	+0.1
ATH	Athens Observa	1.13	162	P	Pb	02 50 56.1	-1.1
ATH				S	Sb	02 51 11.6	-0.2
ATH	Athens Observa	1.13	162	ePN	Pb	02 50 56.1	-1.1
ATH				eSN	Sb	02 51 11.1	-0.7
ATH	Athens Observa	1.13	162	P	Pb	02 50 56.1	-1.1
ATH				eSn	Sb	02 51 11.1	-0.7
EVR	Evrytania	1.15	264	P	Pn	02 50 56.8	-0.9
EVR				S	Sg	02 51 14.5	+1.6
EVR	Evrytania	1.15	264	ePN	Pn	02 50 56.6	-1.1
EVR	Evrytania	1.15	264	P	Pn	02 50 56.8	-0.9
EVR				S	Sg	02 51 14.5	+1.6
ATHU	Athens Univers	1.15	160	P	Pn	02 50 56.4	-1.3
ATHU				S	Sb	02 51 11.8	-0.7
ATHU	Athens Univers	1.15	160	P	Pn	02 50 56.4	-1.3
ATHU				S	Sb	02 51 11.8	-0.7
LIT	Litokhoron	1.21	330	P	Pn	02 50 57.1	-1.4
LIT				S	Sb	02 51 13.9	-0.3
LIT	Litokhoron	1.21	330	ePN	Pn	02 50 57.2	-1.3
LIT	Litokhoron	1.21	330	ePn	Pn	02 50 57.2	-1.3
LIT				S	Sb	02 51 13.9	-0.3
EFP	Efpalio	1.24	240	P	Pn	02 50 57.7	-1.1
EFP				S	Sg	02 51 15.8	+0.1
EFP	Efpalio	1.24	240	ePN	Pn	02 50 57.5	-1.3
EFP	Efpalio	1.24	240	P	Pn	02 50 57.7	-1.1
EFP				S	Sg	02 51 15.8	+0.1
LAKA	Lakka	1.30	232	P	Pn	02 50 59.3	-0.4
LAKA	Lakka	1.30	232	ePN	Pn	02 50 58.7	-1.0
LAKA	Lakka	1.30	232	ePn	Pn	02 50 58.7	-1.0
LAKA	Lakka	1.30	232	P	Pn	02 50 59.3	-0.4
MRMA	Marmari	1.32	139	P	Pn	02 50 58.7	-1.2
MRMA				S	Sb	02 51 16.4	-0.8
MRMA	Marmari	1.32	139	P	Pn	02 50 58.7	-1.2
MRMA				S	Sb	02 51 16.4	-0.8
PLG	Polygyros	1.33	6	P	Pn	02 50 58.5	-1.6
PLG				S	Sn	02 51 16.4	-1.3
PLG	Polygyros	1.33	6	ePN	Pn	02 50 58.7	-1.4
PLG	Polygyros	1.33	6	P	Pn	02 50 58.7	-1.4
PLG				S	Sn	02 51 16.4	-1.3
GUR	Goura	1.33	214	P	Pn	02 50 59.3	-0.9
GUR				S	Sb	02 51 17.9	+0.1
GUR	Goura	1.33	214	ePN	Pn	02 50 59.3	-0.9
GUR	Goura	1.33	214	P	Pn	02 50 59.3	-0.9
GUR				S	Sb	02 51 17.9	+0.1
KLV	Kalavryta, Ach	1.34	222	P	Pn	02 50 59.5	-0.8
KLV				S	Sn	02 51 17.5	-0.5
KLV	Kalavryta, Ach	1.34	222	ePN	Pn	02 50 59.4	-0.8
KLV	Kalavryta, Ach	1.34	222	P	Pn	02 50 59.5	-0.8
KLV				S	Sn	02 51 17.5	-0.5
OUR	Ouranopolis	1.39	23	P	Pn	02 50 59.8	-1.2
OUR	Ouranopolis	1.39	23	P	Pn	02 50 59.8	-1.2
PVO	Paravola	1.43	253	P	Pn	02 51 01.7	+0.2
PVO				S	Sn	02 51 20.0	-0.3
PVO	Paravola	1.43	253	P	Pn	02 51 01.7	+0.2
PVO				S	Sn	02 51 20.0	-0.3
DID	Didima	1.54	181	P	Pn	02 51 02.0	-1.1
DID				S	Sn	02 51 22.3	-0.7
DID	Didima	1.54	181	ePN	Pn	02 51 02.0	-1.1
DID	Didima	1.54	181	P	Pn	02 51 02.0	-1.1
DID				S	Sn	02 51 22.3	-0.7
HORT	Hortiatis	1.55	355	P	Pn	02 51 02.0	-1.3
HORT				S	Sn	02 51 22.4	-0.9
HORT	Hortiatis	1.55	355	ePN	Pn	02 51 01.9	-1.3
HORT	Hortiatis	1.55	355	P	Pn	02 51 02.0	-1.3
HORT				S	Sn	02 51 22.4	-0.9
THE	Thessaloniki	1.60	351	P	Pn	02 51 02.3	-1.5
THE				S	Sn	02 51 22.8	-1.5
THE	Thessaloniki	1.60	351	ePB	Pn	02 51 02.2	-1.5
THE	Thessaloniki	1.60	351	P	Pn	02 51 02.3	-1.5
THE				S	Sn	02 51 22.8	-1.5
DRO	Drossia	1.65	229	P	Pn	02 51 04.5	-0.1
DRO				S	Sn	02 51 25.8	+0.2
DRO	Drossia	1.65	229	ePN	Pn	02 51 04.4	-0.1
DRO	Drossia	1.65	229	ePn	Pn	02 51 04.4	-0.1
DRO				S	Sn	02 51 25.8	+0.2
PDO	Prodromos	1.70	255	P	Pn	02 51 05.7	+0.6
PDO				S	Sn	02 51 27.1	+0.4
PDO	Prodromos	1.70	255	ePN	Pn	02 51 04.6	-0.5
PDO	Prodromos	1.70	255	ePn	Pn	02 51 04.6	-0.5
PDO	Prodromos	1.70	255	P	Pn	02 51 05.7	+0.6
PDO				S	Sn	02 51 27.1	+0.4
LIA	Limnos Island	1.70	60	P	Pn	02 51 03.6	-1.6
LIA				S	Sn	02 51 25.5	-1.4
LIA	Limnos Island	1.70	60	ePB	Pn	02 51 03.6	-1.6
LIA	Limnos Island	1.70	60	P	Pn	02 51 03.6	-1.6
LIA				S	Sn	02 51 25.5	-1.4
KZN	Kozani	1.71	318	P	Pn	02 51 04.9	-0.5
KZN				S	Sn	02 51 27.4	+0.2
KZN	Kozani	1.71	318	ePN	Pn	02 51 04.8	-0.6
KZN	Kozani	1.71	318	P	Pn	02 51 04.9	-0.5
KZN				S	Sn	02 51 27.4	+0.2
RLS	Riolos of Patr	1.73	236	P	Pb	02 51 06.5	-0.9
RLS				S	Sn	02 51 27.7	+0.1
RLS	Riolos of Patr	1.73	236	ePN	Pn	02 51 05.4	-0.2
RLS	Riolos of Patr	1.73	236	ePn	Pn	02 51 05.4	-0.2
RLS	Riolos of Patr	1.73	236	P	Pb	02 51 06.5	-0.9
RLS				S	Sn	02 51 27.7	+0.1
SOH	Sokhos	1.77	2	P	Pn	02 51 05.5	-0.7
SOH				S	Sn	02 51 27.8	-0.9
SOH	Sokhos	1.77	2	ePN	Pn	02 51 05.5	-0.7
SOH	Sokhos	1.77	2	P	Pn	02 51 05.5	-0.7
SOH				S	Sn	02 51 27.8	-0.9
VLX	Vlachokerasia	1.82	203	ePB	Pn	02 51 06.0	-1.0
AMT	Artemida-Makis	1.95	220	P	Pn	02 51 08.4	-0.3
AMT	Artemida-Makis	1.95	220	ePN	Pn	02 51 08.4	-0.3
AMT	Artemida-Makis	1.95	220	P	Pn	02 51 08.4	-0.3
JAN	Janina	1.98	289	ePN	Pn	02 51 09.2	+0.2
JAN	Janina	1.98	289	ePn	Pn	02 51 09.2	+0.2
SIGR	SIGRI	2.01	85	eP	Pn	02 51 09.7	+0.2
SIGR	SIGRI	2.01	85	eP	Pn	02 51 09.7	+0.2
LKD2	Lefkada island	2.06	264	ePN	Pn	02 51 10.5	+0.3
LKD2	Lefkada island	2.06	264	ePn	Pn	02 51 10.5	+0.3
SRS	Serrai	2.08	7	P	Pn	02 51 09.4	-1.0
SRS				S	Sn	02 51 35.0	-1.2
SRS	Serrai	2.08	7	ePB	Pn	02 51 09.2	-1.2
SRS	Serrai	2.08	7	P	Pn	02 51 09.4	-1.0
SRS				S	Sn	02 51 35.0	-1.2
KNT	Kendrikon	2.13	352	P	Pn	02 51 10.9	-0.2

KNT	Kendrikon	2.13	352	ePB	Pn	02 51 10.7	-0.4
KNT	Kendrikon	2.13	352	P	Pn	02 51 10.9	-0.2
ITM	Ithomi	2.15	210	ePB	Pn	02 51 11.9	+0.5
KAVA	Kavala	2.16	26	P	Pn	02 51 09.8	-1.8
KAVA	Kavala	2.16	26	P	Pn	02 51 09.8	-1.8
NEST	Nestorio	2.19	309	P	Pn	02 51 11.9	-0.2
NEST	Nestorio	2.19	309	ePN	Pn	02 51 11.6	-0.5
NEST	Nestorio	2.19	309	ePn	Pn	02 51 11.6	-0.5
NEST	Nestorio	2.19	309	P	Pn	02 51 11.9	-0.2
FNA	Florina	2.27	320	P	Pn	02 51 12.7	-0.3
FNA	Florina	2.27	320	ePB	Pn	02 51 12.8	-0.3
FNA	Florina	2.27	320	P	Pn	02 51 12.7	-0.3
CHOS	Chios island	2.27	106	P	Pn	02 51 12.5	-0.6
CHOS	Chios island	2.27	106	P	Pn	02 51 12.5	-0.6
VAY	Valandovo	2.33	347	iP	Pn	02 51 13.3	-0.6
VAY	Valandovo	2.33	347	iPn	Pn	02 51 13.3	-0.6
VAY	Valandovo	2.33	347	iP	Pn	02 51 13.3	-0.6
IGT	Igoumenitsa	2.33	283	ePB	Pn	02 51 14.2	+0.3
PRK	Paraskevi	2.34	84	P	Pn	02 51 12.9	-1.0
PRK	Paraskevi	2.34	84	P	Pn	02 51 12.9	-1.0
NVR	Nevrokopi	2.34	11	P	Pn	02 51 12.9	-1.1
NVR	Nevrokopi	2.34	11	ePN	Pn	02 51 12.8	-1.2
NVR	Nevrokopi	2.34	11	P	Pn	02 51 12.9	-1.1
VLI	Veliai	2.34	187	ePN	Pn	02 51 13.2	-0.9
VLI	Veliai	2.34	187	ePn	Pn	02 51 13.2	-0.9
PYL	PYLOS	2.47	210	ePN	Pn	02 51 15.7	-0.1
PYL	PYLOS	2.47	210	ePn	Pn	02 51 15.7	-0.1
EZN	Ezine	2.48	71	eP	Pn	02 51 17.7	+1.7
EZN	Ezine	2.48	71	eP	Pn	02 51 17.7	+1.7
MMB	Musomiste	2.56	8	iP	Pn	02 51 16.1	-0.9
MMB				iS	Sn	02 51 46.5	-1.6
MMB	Musomiste	2.56	8	⇑iP	Pg	02 51 27.6	+2.8
MMB	Musomiste	2.56	8	iP	Pn	02 51 16.1	-0.9
MMB				iS	Sn	02 51 46.5	-1.6
APE	Apeiranthos	2.66	137	P	Pn	02 51 17.8	-0.7
APE	Apeiranthos	2.66	137	eP	Pn	02 51 15.3	-3.2
APE	Apeiranthos	2.66	137	⇑iP	Pg	02 51 25.7	-1.1
APE	Apeiranthos	2.66	137	S	Sb	02 51 58.0	+2.0
APE	Apeiranthos	2.66	137	P	Pn	02 51 17.8	-0.7
GELI	Tayfur-Gelibol	2.81	60	eP	Pn	02 51 20.9	+0.4
GELI	Tayfur-Gelibol	2.81	60	eP	Pn	02 51 20.9	+0.4
ALN	Alexandroupoli	2.82	48	eP	Pn	02 51 21.2	+0.7
ALN	Alexandroupoli	2.82	48	eP	Pn	02 51 21.2	+0.7
KKB	Krupnik	2.82	357	iP	Pn	02 51 20.2	-0.4
KKB	Krupnik	2.82	357	iP	Pn	02 51 20.2	-0.4
LPK	Lapseki	2.99	63	eP	Pn	02 51 24.6	+1.7
LPK	Lapseki	2.99	63	eP	Pn	02 51 24.7	+1.7
KDZ	Kurdzhali	3.07	32	iP	Pn	02 51 22.5	-1.5
KDZ	Kurdzhali	3.07	32	iP	Pn	02 51 22.5	-1.5
SKO	Skopje	3.24	335	ePn	Pn	02 51 24.3	-2.1
SKO	Skopje	3.24	335	ePn	Pn	02 51 24.2	-2.1
KRBG	Karabiga-Canak	3.38	65	eP	Pn	02 51 29.7	+1.5
KRBG	Karabiga-Canak	3.38	65	eP	Pn	02 51 29.7	+1.5
RKY	Sarkoy-Tekirda	3.42	60	eP	Pn	02 51 31.0	+2.1
RKY	Sarkoy-Tekirda	3.42	60	eP	Pn	02 51 31.0	+2.1
VTS	Vitosha	3.54	359	eP	Pn	02 51 30.5	-0.2
VTS	Vitosha	3.54	359	iP	Pn	02 51 30.4	-0.2
VTS	Vitosha	3.54	359	⇑iP	Pn	02 51 30.7	+0.1
VTS	Vitosha	3.54	359	S	Sn	02 52 11.7	-0.7
VTS	Vitosha	3.54	359	iP	Pn	02 51 30.4	-0.2
BALB	Balikesir	3.62	79	eP	Pn	02 51 33.5	+2.0
BALB	Balikesir	3.62	79	eP	Pn	02 51 33.5	+2.0
MRMT	Marmara Adasi	3.67	64	eP	Pn	02 51 33.8	+1.4
MRMT	Marmara Adasi	3.67	64	eP	Pn	02 51 33.8	+1.4
EDC	Edincik	3.77	68	eP	Pn	02 51 36.0	+2.4
EDC	Edincik	3.77	68	eP	Pn	02 51 36.1	+2.4
AYDB	Zeytinkoy-Aydi	3.79	106	eP	Pn	02 51 33.5	-0.5
AYDB	Zeytinkoy-Aydi	3.79	106	eP	Pn	02 51 33.5	-0.5
EDRB	Edirne	3.85	42	eP	Pn	02 51 36.7	+2.0
EDRB	Edirne	3.85	42	eP	Pn	02 51 36.7	+2.0
IDI	Anoyia	3.97	161	Pn	Pn	02 51 36.6	+0.1
	3.3nm,0.3s,baz=310,slow=11,SNR=15						
IDI				LR	LR	02 53 08.2	
	comp=Z,90nm,19.8s,baz=339,slow=39						
CRLT	Corlu	4.00	57	eP	Pn	02 51 39.2	+2.4
CRLT	Corlu	4.00	57	eP	Pn	02 51 39.2	+2.4
PHSR	Pinarhisar	4.14	50	eP	Pn	02 51 41.1	+2.3
PHSR	Pinarhisar	4.14	50	eP	Pn	02 51 41.1	+2.3
JMB	Yambol	4.24	35	⇑iP	Pn	02 51 40.2	+0.1
JMB	Yambol	4.24	35	⇑iP	Pn	02 51 40.2	+0.1
SLVT	Silivri	4.36	59	eP	Pn	02 51 44.3	+2.5
SLVT	Silivri	4.36	59	eP	Pn	02 51 44.3	+2.5
MDNY	Mudanya-Bursa	4.52	71	eP	Pn	02 51 45.5	+1.6
MDNY	Mudanya-Bursa	4.52	71	eP	Pn	02 51 45.5	+1.6
CTKS	Kestanelik-??a	4.56	60	eP	Pn	02 51 46.2	+1.6
CTKS	Kestanelik-??a	4.56	60	eP	Pn	02 51 46.2	+1.6
TVSB	Tavsanli	4.82	83	eP	Pn	02 51 49.3	+1.2
TVSB	Tavsanli	4.82	83	eP	Pn	02 51 49.3	+1.2
ALT	Altintas	5.32	88	eP	Pn	02 51 55.8	+0.8
ALT	Altintas	5.32	88	eP	Pn	02 51 55.8	+0.8
ARR	Arges	6.39	9	⇓iP	Pn	02 52 09.3	-0.4
ARR	Arges	6.39	9	S	Sn	02 53 21.0	-1.6
ARR	Arges	6.39	9	⇓iP	Pn	02 52 09.3	-0.4
ARR				S	Sn	02 53 21.0	-1.6
VOIR		6.52	11	⇓iP	Pn	02 52 11.4	0.0
VOIR		6.52	11	S	Sn	02 53 24.5	-1.2
VOIR		6.52	11	⇓iP	Pn	02 52 11.4	0.0
VOIR				S	Sn	02 53 24.5	-1.2
MLR	Muntele Rosu	6.73	16	⇑iP	Pn	02 52 16.1	+1.6
MLR	Muntele Rosu	6.73	16	Pn	Pn	02 52 15.0	+0.5
	0.3nm,0.3s,baz=170,slow=18,SNR=6.6						
MLR				Sn	Sn	02 53 30.9	-0.2
	0.3nm,0.3s,baz=184,slow=3.8,SNR=1.6						
MLR				LR	LR	02 55 12.8	
	comp=Z,32nm,18.6s,baz=166,slow=41						
MLR	Muntele Rosu	6.73	16	⇑iP	Pn	02 52 16.1	+1.6
DOPR	Dopca	7.09	12	⇑iP	Pn	02 52 19.2	0.0
DOPR	Dopca	7.09	12	⇑iP	Pn	02 52 19.2	0.0
PLOR	Plostina	7.24	19	⇑iP	Pn	02 52 22.8	+1.5
PLOR	Plostina	7.24	19	S	Sn	02 53 43.8	+0.4
PLOR	Plostina	7.24	19	⇑iP	Pn	02 52 22.8	+1.5
PLOR				S	Sn	02 53 43.8	+0.4
VRI	Vrincioaia	7.27	19	⇓iP	Pn	02 52 22.6	+0.8
VRI	Vrincioaia	7.27	19	⇓iP	Pn	02 52 22.6	+0.8
PKSM	Moragy	7.93	336	⇑iP	Pn	02 52 30.8	+0.1
PKSM	Moragy	7.93	336	⇓e	Pn	02 52 33.7	+3.0
PKSM	Moragy	7.93	336	⇑iP	Pn	02 52 30.8	+0.1
PKS6	Bocsa	8.02	341	e	Pn	02 52 33.1	+1.1
BRTR	Keskin Array B	8.05	82	Pn	Pn	02 52 32.7	0.0
	0.5nm,0.3s,baz=259,slow=12,SNR=11						
PKS9	Tamasi	8.38	336	e	Pn	02 52 40.7	+3.8
PKST	T"s	9.05	337	⇓e	Pn	02 52 50.1	+3.9
PKSG		9.06	338	e	Pn	02 52 49.3	+3.6
CSKK	Csˆ‡kako	9.08	338	ePP	Pn	02 52 49.0	+2.5
MMAI	Mount Meron Ar	11.51	118	Pn	Pn	02 53 18.9	-1.1
	0.4nm,0.3s,baz=301,slow=12,SNR=2.6						
GERES	GERESS Array B	11.97	328	Pn	Pn	02 53 27.2	+1.1
	0.1nm,0.3s,baz=167,slow=8.9,SNR=2.4						
AKASG	Malin Array Be	12.38	18	Pn	Pn	02 53 32.0	+0.3
	0.4nm,0.3s,baz=204,slow=11,SNR=2.6						
DAVOX	Davos/Dischmat	12.48	313	LR	LR	02 59 29.9	
	comp=Z,51nm,18.3s,baz=168,slow=43						
ESDC	Sonseca Array	21.05	280	P	P	02 55 20.8	+1.2
	0.2nm,0.4s,baz=76,slow=11,SNR=5.3						
HFS	Hagfors	21.95	347	P	P	02 55 30.1	+1.1
	1.8nm,0.8s,baz=143,slow=12,SNR=4.0						
FINES	FINESS Array B	22.49	4	P	P	02 55 34.5	-0.1
	0.9nm,0.6s,baz=169,slow=8.3,SNR=3.7						
NOA	NORSAR Array B	23.26	345	P	P	02 55 42.8	0.0
	0.8nm,0.8s,baz=152,slow=11,SNR=4.0						
EKA	Eskdalemuir Ar	24.03	321	P	P	02 55 49.1	-1.1
	1.1nm,0.6s,baz=114,slow=9.0,SNR=4.9						
AKTO	Aktyubinsk	26.93	54	P	P	02 56 16.4	-0.3
	0.4nm,0.5s,baz=270,slow=5.1,SNR=3.8						
TORD	Torodi Ar. Bea	32.10	222	P	P	02 57 03.4	+0.6
	0.5nm,0.5s,baz=30,slow=8.5,SNR=10						
MKAR	Makanchi Array	43.00	60	P	P	02 58 34.5	-0.3
	0.6nm,0.6s,baz=277,slow=7.3,SNR=9.7						
ZALV	Zalesovo Beam	43.50	49	P	P	02 58 38.1	-0.6
	0.7nm,0.5s,baz=283,slow=9.0,SNR=4.1						
YKA	Yellowknife Ar	73.29	341	P	P	03 02 05.8	-0.7
	0.2nm,0.8s,baz=35,slow=5.3,SNR=3.4						

IDC 11 02:52:04.8±5.8,0°.75S×132°.88E,h176km±63km,mb3.2/3, mb1 3.4/4,mb1mx3.1/21,mbtmp3.7/4,Error ellipse: s-maj=102.6km s-min=17.8km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.13	176	P	P	02 56 14.5	-0.2
	0.2nm,0.3s,baz=356,slow=11,SNR=13						
WRA				S	S	02 59 42.6	+0.4
	0.1nm,0.3s,baz=354,slow=22,SNR=5.0						
ASAR	Alice Springs	22.80	178	P	P	02 56 52.9	+0.3
	1.6nm,0.7s,baz=1.7,slow=9.7,SNR=18						
STKA	Stephens Creek	32.04	166	P	P	02 58 15.1	+0.2
	1.0nm,0.4s,baz=359,slow=11,SNR=3.8						
H11N1	WAKE ISLAND Hy	39.05	57	T	T	03 40 31.1	
	baz=245,slow=75,SNR=16						
H11N2	WAKE ISLAND Hy	39.07	57	T	T	03 40 31.7	
	baz=245,slow=75,SNR=15						
H11N3	WAKE ISLAND Hy	39.07	57	T	T	03 40 33.2	
	baz=245,slow=75,SNR=10						
MKAR	Makanchi Array	64.74	324	P	P	03 02 24.0	-0.3
	0.3nm,0.9s,baz=124,slow=7.3,SNR=3.2						

KRSC 11 02:53:23.3±0.6,55°.13N×160°.33E,h-1km±3km,ML4.0
IDC 11 02:53:23.9±1.0,55°.07N×160°.34E,h0km,mb3.3/5, mb1 3.6/7,mb1mx3.4/52,mbtmp3.4/7,ML3.3/2,MS2.9/1, Ms1 2.9/1,ms1mx2.5/24,Error ellipse: s-maj=32.2km s-min=16.3km az=5.0
MOS 11 02:53:24.1±1.2,55°.15N×160°.34E,h11km,mb4.0/1,Error ellipse: s-maj=20.8km s-min=9.5km az=80.7
ISC 11 02:53:24.2±1.0,55°.13N±0°.03×160°.35E±0°.04,h4km±7km, n46,σ1s31/69,mb3.6/6,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	Kizimen	0.04	250	eP	Pg	02 53 25.5	+0.2
TUMR	Tumrok	0.20	324	iP	Pg	02 53 28.3	+0.2
KMNR	Kamenistaya	0.64	354	eP	Pb	02 53 36.6	-1.3
KMNR				eS	Sn	02 53 47.6	-3.1
BZMR	Bezymyannaya	0.82	5	eP	Pb	02 53 40.2	-0.8
BZMR				eS	Sn	02 53 54.3	-0.9
KIRR	Kirishev	0.83	360	eP	Pg	02 53 40.0	-0.1
KIRR				eS	Sn	02 53 53.2	-2.4
BZWR	Bezymyannyi-We	0.84	6	eP	Pg	02 53 40.2	-0.2
BZWR				S	Sn	02 53 53.4	-2.6
KPT	Kopyto	0.85	355	eP	Pb	02 53 40.9	-0.6
KPT				eS	Sn	02 53 54.4	-1.5
ZLN	Zelenaya	0.93	16	P	Pn	02 53 42.7	-1.4
KOZ	Kozyrevsk	0.97	344	eP	Pb	02 53 42.9	-0.7
KOZ				eS	Sn	02 53 58.7	-0.2
KOZR	Kozyr	0.98	345	PN	Pb	02 53 42.9	-0.8
KOZR				S	Sn	02 53 58.7	-0.3
KRSR	Krestovskiy	1.10	6	eP	Pb	02 53 44.8	-1.0
KRSR				eS	Sn	02 54 02.3	+0.1
KLY	Klyuchi	1.20	8	PN	Pg	02 53 47.3	+0.1
KLY				S	Sn	02 54 06.5	+2.0
KLY	Klyuchi	1.20	8	eP	Pg	02 53 47.3	+0.1
KLY				eS	Sn	02 54 06.5	+2.0
KII	Karymskiy	1.21	206	P	Pn	02 53 47.0	-0.9
ESO	Esso	1.23	311	PN	Pn	02 53 46.0	-2.2
ESO				S	Sn	02 54 04.2	-1.2
ESO	Esso	1.23	311	eP	Pn	02 53 46.0	-2.2
ESO				eS	Sn	02 54 04.2	-1.2
SRDR	Sredinnyy	1.25	344	eP	Pn	02 53 46.8	-1.7
SRDR				eS	Sn	02 54 05.4	-0.3
BDR	Baidarnaya	1.52	18	eP	Pg	02 53 52.8	-0.6
BDR				eS	Sg	02 54 15.1	+2.0
SMKR	Semkarok	1.59	23	P	Pg	02 53 53.8	-0.8
SMKR				S	Sg	02 54 17.4	+2.2
SRKR	Sorokina	1.60	16	eP	Pb	02 53 53.6	-0.7
SRKR				eS	Sg	02 54 18.0	+2.4
KBG	Krutoberegovo	1.75	49	PN	Pn	02 53 54.9	-0.3
KBG				S	Sg	02 54 18.9	-1.4
KBG	Krutoberegovo	1.75	49	eP	Pn	02 53 54.9	-0.3
KBG				eS	Sg	02 54 18.9	-1.4
KBTR	Krutoberegovo	1.77	51	PN	Pb	02 53 55.4	-1.8
KBTR				S	Sg	02 54 20.6	-0.4
KBTR	Krutoberegovo	1.77	51	eP	Pb	02 53 55.4	-1.8
KBTR				S	Sg	02 54 20.6	-0.4
GNL	Ganaly	2.01	225	eP	Pn	02 53 59.6	+0.7
GNL				S	Sg	02 54 28.3	-0.3
KRX	Arik	2.03	210	eP	Pb	02 54 00.6	-1.1
NLC	Nalytchevo	2.04	197	PN	Pb	02 54 00.2	-1.6
NLC				S	Sb	02 54 28.8	+1.2
NLC	Nalytchevo	2.04	197	eP	Pb	02 54 00.2	-1.6
NLC				eS	Sb	02 54 28.7	+1.2
SMAR	Somma	2.08	207	P	Pb	02 54 01.3	-1.2
AVH	Avacha	2.09	208	eP	Pb	02 54 01.9	-0.8
KOK	Koryaka	2.10	209	eP	Pb	02 54 01.4	-1.3
UGLR	Uglovaya	2.12	206	eP	Pb	02 54 02.1	-1.1
PET	Petropavlovsk	2.33	206	ePN	Pb	02 54 05.2	-1.4
PET				eS	Sb	02 54 36.5	+0.7
PET				pmax	pmax		
	comp=Z,77nm,0.5s						
PET				smax	smax		
	comp=N,154nm,0.8s						
PET	Petropavlovsk	2.33	206	P	Pb	02 54 05.3	-1.4
PETK	Petropavlovsk-	2.55	219	PN	Pn	02 54 07.2	+0.8
PETK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PETK	Petropavlovsk-	2.55	219	Pn	Pn	02 54 07.2	+0.8
	comp=Z,5.7nm,0.3s,baz=64,slow=16,SNR=30						
APC	Apacha	2.90	222	eP	Pn	02 54 11.9	+0.9
FX1	Attu Island--F	7.88	101	PN	Pn	02 55 19.9	+0.5
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1	Attu Island--F	7.88	101	Pn	Pn	02 55 19.9	+0.5
	comp=Z,3.1nm,0.3s,baz=90,slow=7.1,SNR=3.3						
YKA	Yellowknife Ar	41.58	44	P	P	03 01 14.0	+1.6
	comp=Z,0.1nm,0.6s,baz=301,slow=7.4,SNR=2.8						
KURK	Kurchatov	46.81	300	P	P	03 01 55.9	+1.4
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	Kurchatov Arra	46.91	300	P	P	03 01 55.9	+0.5
	comp=Z,0.6nm,0.5s,baz=57,slow=7.5,SNR=4.2						
MKAR	Makanchi Array	47.44	294	P	P	03 01 58.6	-0.9
	comp=Z,0.4nm,0.7s,baz=53,slow=7.4,SNR=3.8						
TGY	Tagaytay City	51.04	232	LR	LR	03 26 53.9	
	comp=Z,11nm,18.4s,baz=123,slow=39						
NVAR	Mina Array Bea	54.93	72	P	P	03 02 56.7	+0.5
	comp=Z,0.3nm,0.5s,baz=309,slow=5.7,SNR=3.6						
TXAR	Lajitas Array	69.71	68	P	P	03 04 35.5	+0.4
	comp=Z,0.1nm,0.5s,baz=331,slow=5.4,SNR=2.1						

TIR 11 02:56:10.2±2.7,42°.28N×19°.41E,h0km±20km,ML3.1
SOF 11 02:56:11.6,42°.26N×19°.29E,h10km,MD2.6
PDG 11 02:56:13.9±0.2,42°.30N×19°.46E,h20km,MD3.4/7, ML3.3/10,Error ellipse: s-maj=0.3km s-min=0.3km az=0.0
PRU 11 02:56:14.5,42°.32N×19°.57E,h0km
THE 11 02:56:14.0,42°.32N×19°.44E,h6km±2km,ML3.1/2,Error ellipse: s-maj=2.8km s-min=1.5km az=106.0
BEO 11 02:56:14.9±0.3,42°.31N×19°.49E,h13km±2km,ML3.0/2
ISCJB 11 02:56:15.0±0.2,42°.34N±0°.02×19°.42E±0°.02,h24km±2km, Error ellipse: s-maj=3.0km s-min=2.2km az=141.5
VIE 11 02:56:14.1±0.6,42°.24N×19°.41E,h10km,mb3.1/4,ML2.5/1, Ms3.5/4,Error ellipse: s-maj=7.2km s-min=3.1km az=90.0 39 km ENE of Shkoder
SKO 11 02:56:14.1,42°.20N×19°.43E,h8km
CSEM 11 02:56:14.3±0.1,42°.33N×19°.46E,h10km,ML3.3,Ms3.5, Error ellipse: s-maj=2.5km s-min=2.0km az=47.0
ISC 11 02:56:14.5±0.8,42°.30N±0°.02×19°.47E±0°.01,h17km±6km, n170,σ1s07/256,37C-34D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	Podgorica	0.20	309	⇑iPg	Pg	02 56 19.1	-0.3
PDG	Podgorica	0.20	309	⇑iPg	Pg	02 56 19.1	-0.3
TTG	Podgorica	0.20	309	⇑iPg	Pg	02 56 19.1	-0.3
TTG				eSg	Sb	02 56 23.3	-0.1
DRME	Dracevica, Mon	0.24	241	⇓iPg	Pg	02 56 19.4	-0.6
DRME				eSg	Sg	02 56 24.1	+0.5
DRME	Dracevica, Mon	0.24	241	⇓iPg	Pg	02 56 19.4	-0.6
DRME				eSg	Sg	02 56 24.1	+0.5
ULC	Ulcinj	0.38	206	⇓iPg	Pg	02 56 21.1	-1.2
ULC				eSg	Sg	02 56 27.6	0.0
ULC	Ulcinj	0.38	206	⇓iPg	Pg	02 56 21.1	-1.2
ULC				eSg	Sg	02 56 27.6	0.0
PUK	Puka	0.41	129	iPG	Pg	02 56 22.1	-0.8
PUK				iSG	Sg	02 56 29.0	+0.4
PUK	Puka	0.41	129	iPg	Pg	02 56 22.1	-0.8
	SNR=91						
PUK				iSg	Sg	02 56 29.0	+0.4
	SNR=91						
BUM	Brajici-Budva	0.43	270	⇓iPg	Pg	02 56 22.3	-0.9
BUM				eSg	Sg	02 56 29.5	+0.4
BUM	Brajici-Budva	0.43	270	⇓iPg	Pg	02 56 22.3	-0.9
BUM				eSg	Sg	02 56 29.5	+0.4
BCI	Bajram Curri	0.45	82	iPG	Pg	02 56 22.9	-0.7
BCI				iSG	Sb	02 56 30.7	+0.2
BCI	Bajram Curri	0.45	82	iPg	Pg	02 56 22.9	-0.7
	SNR=91						
BCI				iSg	Sb	02 56 30.7	+0.2
	SNR=91						
PVY	Plav	0.47	51	⇑iPg	Pg	02 56 23.4	-0.6
PVY				eSg	Sb	02 56 31.2	+0.1
PVY	Plav	0.47	51	⇑iPg	Pg	02 56 23.4	-0.6
PVY				eSg	Sb	02 56 31.2	+0.1
NKME	Niksic	0.60	321	⇓iPg	Pg	02 56 25.1	-1.3
NKME				eSg	Sb	02 56 34.8	-0.1
NKME	Niksic	0.60	321	⇓iPg	Pg	02 56 25.1	-1.3
NKME				eSg	Sb	02 56 34.8	-0.1
NKY	Niksic	0.62	326	⇓iPg	Pg	02 56 25.5	-1.3
NKY				eSg	Sb	02 56 35.8	+0.3
NKY	Niksic	0.62	326	⇓iPg	Pg	02 56 25.5	-1.3
NKY				eSg	Sb	02 56 35.8	+0.3
BEY	Berane	0.65	29	⇓iPg	Pg	02 56 26.7	-0.7
BEY				eSg	Sb	02 56 36.8	+0.4
IVA	Berane	0.65	29	⇓iPg	Pg	02 56 26.7	-0.7
IVA				eSg	Sb	02 56 36.8	+0.4
HCY	Herceg Novi	0.74	282	⇑iPg	Pg	02 56 27.4	-1.5
HCY				eSg	Sb	02 56 39.6	+0.8
HCY	Herceg Novi	0.74	282	⇑iPg	Pg	02 56 27.4	-1.5
HCY				eSg	Sb	02 56 39.6	+0.8
TREB	Trebinje	0.92	297	ePg	Pb	02 56 31.3	-0.9
TREB				eSg	Sn	02 56 47.2	+1.5
TREB	Trebinje	0.92	297	ePg	Pb	02 56 31.3	-0.9
TREB				eSg	Sn	02 56 47.2	+1.5
PHP	Peshkopia	0.95	130	iPG	Pb	02 56 31.6	-1.1
PHP	Peshkopia	0.95	130	P	Pb	02 56 31.2	-1.5
PHP				S	Sn	02 56 47.1	+0.6
PHP	Peshkopia	0.95	130	P	Pb	02 56 31.2	-1.5
PHP	Peshkopia	0.95	130	iPg	Pb	02 56 31.6	-1.1
	SNR=90						
PHP				S	Sn	02 56 47.1	+0.6
UPM	Unac-Piva	0.99	335	⇑iPg	Pb	02 56 32.4	-1.0
UPM				eSg	Sn	02 56 48.2	+0.5
UPM	Unac-Piva	0.99	335	⇑iPg	Pb	02 56 32.4	-1.0
SJES	Sjenica	1.03	21	⇓iPg	Pb	02 56 33.3	-0.7
SJES				eSg	Sn	02 56 49.0	+0.5
SJES	Sjenica	1.03	21	⇓iPg	Pb	02 56 33.3	-0.7
SJES				eSg	Sn	02 56 49.0	+0.5
PLE	Pljevlja	1.03	357	⇑iPg	Pb	02 56 33.5	-0.5
PLE				eSg	Sn	02 56 49.4	+0.9
PLE	Pljevlja	1.03	357	⇑iPg	Pb	02 56 33.5	-0.5
IVAS	Ivanjica	1.37	21	⇑iPg	Pn	02 56 39.3	+0.3
IVAS				eSg	Sg	02 56 58.7	-0.1
IVAS	Ivanjica	1.37	21	⇑iPg	Pn	02 56 39.3	+0.3
IVAS				eSg	Sg	02 56 58.7	-0.1
STON	Ston	1.42	294	ePn	Pn	02 56 39.2	-0.5
STON				Sn	Sg	02 57 00.3	-0.3
STON	Ston	1.42	294	ePg	Pb	02 56 41.0	+0.3
STON				eSg	Sg	02 57 01.1	+0.6
STON	Ston	1.42	294	ePn	Pn	02 56 39.2	-0.5
STON	Ston	1.42	294	ePg	Pb	02 56 41.0	+0.3
STON				Sn	Sg	02 57 00.2	-0.3
STON				eSg	Sg	02 57 01.1	+0.6
SKO	Skopje	1.50	102	P	Pb	02 56 41.6	-0.4
SKO				S	Sg	02 57 03.8	+0.8
SKO	Skopje	1.50	102	ePg	Pb	02 56 41.6	-0.4
SKO				eSg	Sg	02 57 03.6	+0.6
SKO	Skopje	1.50	102	ePn	Pb	02 56 41.9	-0.1
SKO				eSg	Sg	02 57 03.2	+0.2
SKO	Skopje	1.50	102	P	Pb	02 56 41.6	-0.4
SKO	Skopje	1.50	102	ePn	Pb	02 56 41.9	-0.1
SKO				eSg	Sg	02 57 03.2	+0.2
SELS	Selova	1.52	52	ePg	Pn	02 56 41.0	-0.1
BBLS	Lazići	1.56	358	⇓iPg	Pn	02 56 42.4	+0.7
BBLS				eSg	Sn	02 57 03.4	+0.7
BBLS	Lazići	1.56	358	⇓iPg	Pn	02 56 42.4	+0.7
BBLS				eSg	Sn	02 57 03.4	+0.7
BARS	Barje	1.81	73	⇓iPn	Pn	02 56 45.2	+0.2
BARS				eSg	Sg	02 57 12.5	-0.3
BARS	Barje	1.81	73	⇓iPn	Pn	02 56 45.2	+0.2
BARS				eSg	Sg	02 57 12.5	-0.3
GRUS	Gruza	1.83	30	⇓iPn	Pn	02 56 45.2	-0.1
GRUS	Gruza	1.83	30	⇓iPn	Pn	02 56 45.2	-0.1
DIVS	Divibare	1.84	12	P	Pn	02 56 45.6	+0.1
DIVS				S	Sn	02 57 09.6	+1.2
DIVS	Divibare	1.84	12	⇓iPn	Pn	02 56 45.5	+0.1
DIVS	Divibare	1.84	12	P	Pn	02 56 45.6	+0.1
DIVS				S	Sn	02 57 09.6	+1.2
KBN	Korca	1.95	149	iPN	Pb	02 56 48.9	-0.8
KBN	Korca	1.95	149	P	Pb	02 56 48.6	-1.1
KBN				S	Sb	02 57 14.0	+0.3
KBN	Korca	1.95	149	P	Pb	02 56 48.6	-1.1
KBN	Korca	1.95	149	iPn	Pb	02 56 48.9	-0.8
	SNR=40						
KBN				S	Sb	02 57 14.0	+0.3
TRUS	Trudelj	2.04	19	⇓iPn	Pn	02 56 47.0	-1.2
TRUS	Trudelj	2.04	19	⇓iPn	Pn	02 56 47.0	-1.2
FNA	Florina	2.09	136	P	Pn	02 56 50.1	+1.2
FNA				S	Sb	02 57 16.6	-1.1
FNA	Florina	2.09	136	P	Pn	02 56 50.1	+1.2
FNA				S	Sb	02 57 16.6	-1.1
PE1	Pezze di Greco	2.14	226	ePn	Pn	02 56 48.2	-1.4
PE1				Sn	Sn	02 57 13.0	-2.8
NEST	Nestorio	2.23	147	P	Pn	02 56 52.0	+1.1
NEST				S	Sn	02 57 19.9	+1.8
NEST	Nestorio	2.23	147	P	Pn	02 56 52.0	+1.1
NEST				S	Sn	02 57 19.9	+1.8
TEKS	Tekeris	2.25	1	⇓iPn	Pn	02 56 51.4	+0.4
TEKS				eSn	Sn	02 57 19.9	+1.5
TEKS	Tekeris	2.25	1	⇓iPn	Pn	02 56 51.4	+0.4
TEKS				eSn	Sn	02 57 19.9	+1.5
BOLS	Boljevac	2.38	49	iPn	Pn	02 56 51.3	-1.5
BOLS	Boljevac	2.38	49	iPn	Pn	02 56 51.3	-1.5
SRN	Sarande	2.45	170	iPN	Pn	02 56 55.4	+1.6
SRN	Sarande	2.45	170	P	Pn	02 56 53.2	-0.6
SRN	Sarande	2.45	170	P	Pn	02 56 53.2	-0.6
SRN	Sarande	2.45	170	iPn	Pn	02 56 55.4	+1.6
	SNR=40						
VAY	Valandovo	2.52	112	P	Pn	02 56 54.5	-0.2
VAY	Valandovo	2.52	112	ePn	Pn	02 56 54.7	0.0
VAY	Valandovo	2.52	112	ePn	Pn	02 56 55.9	+1.2
VAY	Valandovo	2.52	112	P	Pn	02 56 54.5	-0.2
VAY	Valandovo	2.52	112	ePn	Pn	02 56 55.9	+1.2
ZAPS	Zavoj	2.52	66	⇑iPn	Pn	02 56 55.7	+0.8
ZAPS				eSn	Sn	02 57 27.5	+2.2
ZAPS	Zavoj	2.52	66	⇑iPn	Pn	02 56 55.7	+0.8
ZAPS				eSn	Sn	02 57 27.5	+2.2
KEK	Kerkira	2.60	174	P	Pn	02 56 55.3	-0.5
KEK				S	Sn	02 57 28.7	+1.7
KEK	Kerkira	2.60	174	P	Pn	02 56 55.3	-0.5
KEK				S	Sn	02 57 28.7	+1.7
KKB	Krupnik	2.73	98	iP	Pn	02 56 58.8	+1.2
KKB				iS	Sn	02 57 32.9	+2.7
KKB	Krupnik	2.73	98	iP	Pn	02 56 58.8	+1.2
KKB				iS	Sn	02 57 32.9	+2.7
VTS	Vitosha	2.78	83	P	Pn	02 56 59.1	+0.6
VTS				S	Sn	02 57 32.9	+1.1
VTS	Vitosha	2.78	83	ePn	Pn	02 56 59.3	+0.8
VTS	Vitosha	2.78	83	iP	Pn	02 56 59.3	+0.8
VTS				iS	Sn	02 57 35.0	+3.2
VTS	Vitosha	2.78	83	⇓iP	Pn	02 56 59.4	+0.9
VTS	Vitosha	2.78	83	iP	Pn	02 56 59.3	+0.8
VTS				S	Sn	02 57 32.9	+1.1
KNT	Kendrikon	2.81	113	P	Pn	02 56 59.3	+0.6
KNT	Kendrikon	2.81	113	P	Pn	02 56 59.3	+0.6
BLY	Banja Luka	2.96	327	ePn	Pn	02 57 02.9	+2.1
BLY	Banja Luka	2.96	327	ePn	Pn	02 57 02.9	+2.1
MMB	Musomiste	3.26	101	iP	Pn	02 57 06.5	+1.6
MMB	Musomiste	3.26	101	⇑iP	Pn	02 57 07.0	+2.1
MMB	Musomiste	3.26	101	S	Sn	02 57 46.9	+3.6
MMB	Musomiste	3.26	101	iP	Pn	02 57 06.5	+1.6
MPEP	Malo Peshtene	3.31	70	iP	Pn	02 57 06.5	+0.8
MPEP	Malo Peshtene	3.31	70	iP	Pn	02 57 06.5	+0.8
PGB	Panagyurishte	3.49	84	iP	Pn	02 57 10.5	+2.4
PGB	Panagyurishte	3.49	84	iP	Pn	02 57 10.5	+2.4
UDBI	Udbina	3.50	311	Sn	Sn	02 57 51.8	+2.5
UDBI	Udbina	3.50	311	Sn	Sn	02 57 51.8	+2.5
BZS	Buzias	3.66	24	ePn	Pn	02 57 10.3	-0.1
BZS	Buzias	3.66	24	⇑iP	Pn	02 57 10.3	-0.1
BZS	Buzias	3.66	24	S	Sn	02 57 51.9	-1.3
BZS	Buzias	3.66	24	⇑iP	Pn	02 57 10.3	-0.1
BZS				S	Sn	02 57 51.9	-1.3

PLD	Plovdiv	3.89	91	ePn	Pn	02 57 15.7	+2.1
PLD	Plovdiv	3.89	91	ePn	Pn	02 57 15.7	+2.1
GZR	Gura Zlata	3.91	37	ePn	Pn	02 57 13.9	+0.1
GZR	Gura Zlata	3.91	37⇓	iP	Pn	02 57 14.0	+0.1
GZR	Gura Zlata	3.91	37⇓	iP	Pn	02 57 14.0	+0.1
PKSM	Moragy	3.95	352⇓	iPn	Pn	02 57 14.4	0.0
PKSM	Moragy	3.95	352⇑	iP	Pn	02 57 14.6	+0.2
PKSM	Moragy	3.95	352	S	Sn	02 57 59.1	-1.3
PKSM	Moragy	3.95	352⇑	e	Pn	02 57 14.7	+0.3
PKSM				e		02 58 00.6	
PKSM	Moragy	3.95	352⇑	iP	Pn	02 57 14.6	+0.2
PKSM				eSn	Sn	02 58 00.6	+0.2
NVLJ	Novalja	4.04	306	ePn	Pn	02 57 16.1	+0.4
NVLJ				Sn	Sn	02 58 03.3	+0.7
NVLJ	Novalja	4.04	306	ePn	Pn	02 57 16.0	+0.4
NVLJ				Sn	Sn	02 58 03.2	+0.7
PKS6	Bocsa	4.30	1⇑	e	Pn	02 57 19.7	+0.5
PKS6				e		02 58 07.6	
PKS6	Bocsa	4.30	1⇑	ePn	Pn	02 57 19.7	+0.5
PKS6				eSn	Sn	02 58 07.6	-1.3
PKS9	Tamasi	4.37	349⇑	e	Pn	02 57 20.5	+0.4
PKS9				e		02 58 10.1	
PKS9	Tamasi	4.37	349⇑	ePn	Pn	02 57 20.5	+0.4
PKS9				eSn	Sn	02 58 10.1	-0.5
BEHE	Becsehely	4.59	336	e	Sn	02 58 16.8	+0.6
BEHE	Becsehely	4.59	336	eSn	Sn	02 58 16.8	+0.6
CEY	Cerknica	5.00	315	iPn	Pn	02 57 30.7	+1.8
CEY	Cerknica	5.00	315	Pn	Pn	02 57 30.7	+1.8
DRGR		5.05	26	S	Sn	02 58 26.4	-1.2
DRGR		5.05	26	S	Sn	02 58 26.4	-1.2
PKST	T"s	5.06	349⇑	e	Pn	02 57 30.3	+0.6
PKST				e		02 58 27.3	
PKST	T"s	5.06	349⇑	ePn	Pn	02 57 30.3	+0.6
PKST				eSn	Sn	02 58 27.3	-0.4
VOIR		5.11	50⇓	iP	Pn	02 57 31.5	+1.1
VOIR		5.11	50⇓	iP	Pn	02 57 31.5	+1.1
CSKK	Csˆ‡kako	5.13	351⇑	e	Pn	02 57 31.8	+1.1
CSKK				e		02 58 30.4	
CSKK	Csˆ‡kako	5.13	351⇑	ePn	Pn	02 57 31.8	+1.1
CSKK				eSn	Sn	02 58 30.4	+0.9
PKSG		5.15	352⇑	e	Pn	02 57 31.3	+0.5
PKSG				e		02 58 28.8	
PKSG		5.15	352⇑	ePn	Pn	02 57 31.3	+0.5
PKSG				eSn	Sn	02 58 28.8	-1.0
SOKA	Soboth	5.40	326⇓	iPn	Pn	02 57 35.3	+0.8
SOKA			⇑	iSn	Sn	02 58 36.6	+0.3
SOKA	Soboth	5.40	326	Pn	Pn	02 57 35.3	+0.8
SOKA				Sn	Sn	02 58 36.6	+0.3
DOPR	Dopca	5.62	47	S	Sn	02 58 41.7	+0.2
DOPR	Dopca	5.62	47	S	Sn	02 58 41.7	+0.2
PSZ	Piszkesteto	5.62	3⇑	iP	Pn	02 57 37.4	-0.1
PSZ	Piszkesteto	5.62	3	S	Sn	02 58 41.0	-0.7
PSZ	Piszkesteto	5.62	3⇑	ePKKPdf	Pn	02 57 37.3	-0.2
PSZ				e		02 58 40.5	
PSZ	Piszkesteto	5.62	3⇑	iP	Pn	02 57 37.4	-0.1
PSZ				eSn	Sn	02 58 40.5	-1.2
CADS	Cadrg	5.69	316	iPn	Pn	02 57 39.1	+0.8
CADS	Cadrg	5.69	316	iPn	Pn	02 57 39.1	+0.8
ARSA	Arzberg	5.69	332	ePn	Pn	02 57 39.2	+0.9
ARSA	Arzberg	5.69	332⇓	iPn	Pn	02 57 39.2	+0.9
ARSA	Arzberg	5.69	332	ePn	Pn	02 57 39.2	+0.9
VYHS	Vyhne	6.21	356	ePN	Pn	02 57 46.0	+0.6
VYHS				eSN	Sn	02 58 56.2	+0.2
VYHS	Vyhne	6.21	356	ePn	Pn	02 57 46.0	+0.6
VYHS				eSn	Sn	02 58 56.2	+0.2
KECS	Kecovo	6.22	6	ePN	Pn	02 57 46.1	+0.5
KECS				eSN	Sn	02 58 56.1	-0.2
KECS	Kecovo	6.22	6	ePn	Pn	02 57 46.1	+0.5
KECS				eSn	Sn	02 58 56.1	-0.2
MOA	Molln	6.66	328⇑	iPn	Pn	02 57 53.3	+1.7
MOA			⇑	iSn	Sn	02 59 08.8	+1.7
MOA	Molln	6.66	328	Pn	Pn	02 57 53.3	+1.7
MOA				Sn	Sn	02 59 08.8	+1.7
ABTA	Abfaltersbach	6.67	314⇓	iPn	Pn	02 57 52.2	+0.4
ABTA	Abfaltersbach	6.67	314	Pn	Pn	02 57 52.2	+0.4
CRVS	Cervenica-Dubn	6.75	11	ePN	Pn	02 57 53.8	+1.0
CRVS	Cervenica-Dubn	6.75	11	ePn	Pn	02 57 53.8	+1.0
STHS	Stebnicka Huta	7.22	9	ePN	Pn	02 58 00.7	+1.3
STHS				eSN	Sn	02 59 20.7	-0.3
STHS	Stebnicka Huta	7.22	9	ePn	Pn	02 58 00.7	+1.3
STHS				eSn	Sn	02 59 20.7	-0.3
KHC	Kasperske Hory	7.97	331	ePN	Pn	02 58 10.8	+1.1
KHC				ex	x	02 58 15.0	
KHC				eSN	Sn	02 59 38.5	-1.0
KHC	Kasperske Hory	7.97	331	Pn	Pn	02 58 10.8	+1.1
KHC				Sn	Sn	02 59 38.5	-1.0
KRLC	Kraliky	7.99	347	ePN	Pn	02 58 10.7	+0.7
KRLC				eSN	Sn	02 59 38.3	-1.7
KRLC	Kraliky	7.99	347	Pn	Pn	02 58 10.7	+0.7
KRLC				Sn	Sn	02 59 38.3	-1.7
DPC	Dobruska-Polom	8.34	346	eSN	Sn	02 59 46.7	-1.7
DPC	Dobruska-Polom	8.34	346	Sn	Sn	02 59 46.7	-1.7

SJA 11 02:58:39.9±0.8,31.44S×68.65W,h117km±4km,MD3.1, ML3.7
ISCJB 11 02:58:40.3±0.4,31.46S±0.03×68.62W±0.04,h118km±3km, mb4.0/5,Error ellipse: s-maj=6.6km s-min=4.8km az=43.5
GUC 11 02:58:40.6±0.6,31.50S×68.87W,h150km,ML4.1
IDC 11 02:58:41.2±0.8,31.57S×68.57W,h108km±4km,mb3.8/5, mb1 3.7/9,mb1mx3.6/21,mbtmp4.0/9,Error ellipse: s-maj=24.0km s-min=16.9km az=90.0
ISC 11 02:58:41.3±0.6,31.47S±0.04×68.65W±0.04,h114km±4km, n32,σ0s66/51,mb4.0/5,3C-3D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	San Juan	0.10	127	iP	Pn	02 58 57.0	0.0
RTLL	Cerro Villicun	0.20	48	iP	Pn	02 58 57.1	-0.1
RTLL				eS	Sn	02 59 08.7	-0.5
RTLL				iS	Sn	02 59 09.8	+0.6
CFAA	Coronel Fontan	0.38	112	LR	LR	02 58 47.2	
	comp=Z,9.8nm,21.6s,baz=142,slow=21						
CFAA				P	Pn	02 58 57.5	-0.4
	67nm,0.3s,baz=349,slow=0.7,SNR=3693						
CFAA				S	Sn	02 59 10.0	-0.4
	248nm,0.3s,baz=151,slow=17,SNR=55						
CFAA	Coronel Fontan	0.38	112	iP	Pn	02 58 57.7	-0.2
CFAA			⇓	eS	Sn	02 59 10.4	0.0
RTCV	Cerro Valdivia	0.41	166	iP	Pn	02 58 57.8	-0.3
RTCV				iS	Sn	02 59 10.9	+0.2
RTLS	Leoncito	0.64	239	iP	Pn	02 58 59.9	+0.1
AUSP	Uspallata	0.98	219	iP	Pn	02 59 02.8	-0.1
AUSP				iS	Sn	02 59 20.1	+0.9
ACAN	Cantantal	1.48	123	iP	Pn	02 59 08.2	+0.1
ACAN				eS	Sn	02 59 28.5	-0.1
CMCH	Combarbala	2.03	278⇓	eP	Pn	02 59 14.7	-0.2
CMCH				eS	Sn	02 59 40.7	+0.1
CMCH				AML	AML	02 59 42.4	
	comp=E,8μm,0.7s						
JACH	Jahuel	2.04	233	eP	Pn	02 59 15.1	0.0
PEL	Peldehue	2.40	225⇑	eP	Pn	02 59 19.2	-0.4
PEL				eS	Sn	02 59 48.4	-0.6
PEL				AML	AML	02 59 52.3	
	comp=E,752nm,0.3s						
CLCH	Cerro Calan	2.50	219⇑	eP	Pn	02 59 20.9	0.0
CLCH				eS	Sn	02 59 51.0	-0.3
CLCH				AML	AML	03 00 01.0	
	comp=E,512nm,0.5s						
ROCH	El Roble	2.50	232	eP	Pn	02 59 20.3	-0.8
ROCH				eS	Sn	02 59 50.8	-0.7
ANTU	Antumapu	2.68	218	eP	Pn	02 59 23.3	0.0
ANTU				eS	Sn	02 59 54.9	-0.7
ANTU				AML	AML	02 59 58.5	
	comp=E,528nm,0.6s						
LMEL	Las Melosas	2.71	208	eP	Pn	02 59 23.9	+0.1
LMEL				AML	AML	03 00 07.4	
	comp=N,270nm,0.3s						
VACH	Vallenar	3.41	327⇑	eP	Pn	02 59 32.9	0.0
VACH				eS	Sn	03 00 11.4	-1.3
CYA	Choya	3.90	40	iP	Pn	02 59 38.6	-0.8
CYA			⇓	eS	Sn	03 00 22.5	-1.9
CYA				AML	AML	03 00 25.7	
	comp=Z,100nm,0.4s						
CDCH	Caldera	4.77	336	eP	Pn	02 59 51.1	0.0
PLCA	Paso Flores	9.37	189	P	Pn	03 00 51.5	-1.9
	comp=Z,0.2nm,0.3s,baz=5.8,slow=15,SNR=3.0						
CPUP	Villa Florida	11.16	66	P	Pn	03 01 18.2	+0.7
	comp=Z,0.6nm,0.3s,baz=206,slow=9.5,SNR=4.6						
LPAZ	La Paz	15.12	2	P	Pn	03 02 10.2	+0.6
	comp=Z,0.4nm,0.3s,baz=193,slow=7.4,SNR=18						
SIV	San Ignacio	16.89	26	P	Pn	03 02 30.5	-0.3
	comp=Z,0.4nm,0.3s,baz=220,slow=9.7,SNR=10						
USHA	Ushuaia	23.36	180	P	P	03 03 38.7	-0.6
	comp=Z,22nm,0.8s,baz=342,slow=8.8,SNR=11						
SNAA	Sanae	52.88	159	P	P	03 07 45.2	+0.2
	comp=Z,2.1nm,0.9s,baz=291,slow=9.7,SNR=7.6						
TXAR	Lajitas Array	69.03	328	P	P	03 09 35.9	+1.2
	comp=Z,0.4nm,0.8s,baz=146,slow=9.8,SNR=3.0						
BOSA	Boshof	78.68	117	P	P	03 10 31.6	+0.2
	comp=Z,2.0nm,0.9s,baz=304,slow=3.6,SNR=3.7						
TORD	Torodi Ar. Bea	80.64	68	P	P	03 10 42.1	+0.3
	comp=Z,2.0nm,0.7s,baz=276,slow=6.1,SNR=36						
TORD				pP	pP	03 11 10.7	-0.2
	comp=Z,0.9nm,0.7s,baz=277,slow=5.3,SNR=4.1						
TORD				sP	sP	03 11 23.4	+0.3
	comp=Z,0.8nm,0.6s,baz=260,slow=4.8,SNR=3.8						
WRA	Warramunga Arr	124.33	206	PKP	PKPdf	03 17 26.4	-1.1
	comp=Z,0.3nm,0.5s,baz=174,slow=1.6,SNR=6.7						
AAK	Ala-Archa	148.77	59	PKPbc	PKPbc	03 18 16.4	+0.9
	comp=Z,1.2nm,0.4s,baz=214,slow=3.6,SNR=5.4						
KURBB	Kurchatov Arra	149.08	42	PKPbc	PKPbc	03 18 16.0	+0.2
	comp=Z,0.2nm,0.3s,baz=301,slow=3.1,SNR=5.4						
KURBB				pPKPbc	pPKPbc	03 18 45.1	-1.2
	comp=Z,0.2nm,0.4s,baz=298,slow=3.2,SNR=1.7						
ZALV	Zalesovo Beam	150.56	32	PKPbc	PKPbc	03 18 19.6	+0.4
	comp=Z,1.8nm,0.4s,baz=328,slow=2.6,SNR=11						
ZALV				pPKPbc	pPKPbc	03 18 49.6	-0.4
	comp=Z,0.6nm,0.3s,baz=358,slow=4.1,SNR=3.1						
MKAR	Makanchi Array	152.95	47	PKPbc	PKPbc	03 18 25.0	0.0
	comp=Z,0.4nm,0.6s,baz=301,slow=0.8,SNR=5.1						
MKAR				PKPab	PKPab	03 18 36.9	+0.2
	comp=Z,0.5nm,0.5s,baz=278,slow=4.0,SNR=9.0						

ISCJB 11 02:59:35.9±1.1,6.8S±0.2×155.4E±0.2,h50km,mb3.9/6, MS3.1/1,Error ellipse: s-maj=38.7km s-min=11.1km az=149.9
IDC 11 02:59:39.6±5.7,6.83S×155.36E,h71km±46km,mb3.7/6, mb1 4.0/7,mb1mx3.6/33,mbtmp4.0/7,ML3.3/1,MS3.2/2, Ms1 3.2/2,ms1mx2.7/30,Error ellipse: s-maj=37.4km s-min=27.0km az=118.0
ISC 11 02:59:36.8±0.9,6.8S±0.2×155.5E±0.1,h50km,n17, σ0s99/15,mb3.8/6,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.65	252	P	Pn	03 01 41.0	+1.6
	2.1nm,0.3s,baz=90,slow=13,SNR=3.0						
PMG				S	Sn	03 03 14.7	-0.9
	1.1nm,0.3s,baz=358,slow=12,SNR=2.0						
PMG				LR	LR	03 04 26.2	
	comp=Z,131nm,19.6s,baz=33,slow=34						
WRA	Warramunga Arr	24.32	236	P	P	03 04 50.0	-0.1
	5.6nm,0.5s,baz=60,slow=9.6,SNR=118						
WRA				PcP	PcP	03 08 29.5	+0.5
	0.3nm,0.5s,baz=61,slow=2.1,SNR=4.9						
ASAR	Alice Springs	26.66	229	P	P	03 05 10.5	-0.7
	1.8nm,0.7s,baz=61,slow=9.2,SNR=22						
ASAR				PcP	PcP	03 08 35.0	+0.7
	0.4nm,0.7s,baz=72,slow=2.0,SNR=3.4						
ASAR				LR	LR	03 15 45.2	
	comp=Z,49nm,18.8s,baz=69,slow=36						
H11S3	WAKE ISLAND Hy	27.48	24	T	T	03 33 37.1	
	baz=203,slow=77,SNR=32						
H11S2	WAKE ISLAND Hy	27.48	24	T	T	03 33 37.4	
	baz=203,slow=77,SNR=28						
H11S1	WAKE ISLAND Hy	27.50	24	T	T	03 33 37.0	
	baz=203,slow=77,SNR=21						
H11N1	WAKE ISLAND Hy	28.66	23	T	T	03 35 10.9	
	baz=211,slow=74,SNR=5.4						
H11N3	WAKE ISLAND Hy	28.67	23	T	T	03 35 07.2	
	baz=211,slow=74,SNR=7.7						
H11N2	WAKE ISLAND Hy	28.68	23	T	T	03 35 10.5	
	baz=211						
CMAR	Chiang Mai Arr	61.17	295	P	P	03 09 47.5	+0.7
	2.8nm,0.7s,baz=117,slow=4.8,SNR=11						
ILAR	Eielson Array	83.04	21	P	P	03 11 56.7	+0.1
	0.3nm,0.6s,baz=253,slow=4.2,SNR=7.7						
MKAR	Makanchi Array	83.61	319	P	P	03 11 59.4	-0.6
	0.3nm,0.7s,baz=96,slow=9.6,SNR=4.4						
YKA	Yellowknife Ar	95.96	28	P	P	03 12 59.1	+0.9
	0.5nm,0.5s,baz=264,slow=4.6,SNR=5.8						
PLCA	Paso Flores	116.55	142	PKP	PKPdf	03 18 15.6	-0.2
	1.0nm,0.9s,baz=197,slow=1.4,SNR=3.6						
KEST	Kesra	137.71	318	PKP	PKPdf	03 18 55.4	-0.8
	1.6nm,0.9s,baz=252,slow=3.2,SNR=4.3						
BDFB	Brasilia	147.74	134	PKPbc	PKPbc	03 19 17.5	+0.2
	1.0nm,0.6s,baz=225,slow=1.4,SNR=3.4						
TORD	Torodi Ar. Bea	153.47	286	PKPbc	PKPbc	03 19 30.1	-0.7
	0.3nm,0.4s,baz=68,slow=2.0,SNR=12						
TORD				PKPab	PKPab	03 19 41.2	-2.0
	0.8nm,0.7s,baz=75,slow=3.0,SNR=8.1						

ISCJB 11 03:01:17.6±0.4,32.23N±0.04×104.65E±0.05,h10km, mb3.9/17,Error ellipse: s-maj=6.8km s-min=4.8km az=24.0
IDC 11 03:01:18.5±0.7,32.22N×104.57E,h0km,mb3.8/14, mb1 4.0/15,mb1mx3.8/42,mbtmp3.8/15,Error ellipse: s-maj=30.6km s-min=15.1km az=53.0
BJI 11 03:01:22.2,32.19N×104.51E,h15km,ML3.9/22,Ms3.8/5, Ms7 3.6/3
ISC 11 03:01:21.0±0.5,32.25N±0.04×104.45E±0.06,h10km,n28, σ1s58/36,mb4.0/17,1C,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	1.46	204	Pg	Pn	03 01 47.0	-0.4
CD2				Sg	Sn	03 02 06.9	+0.3
CD2				smax	smax		
	comp=N,4μm,0.8s						
CD2				smax	smax		
	comp=E,4μm,0.8s						
LZH	Lanzhou	3.86	353	⇑Pn	Pn	03 02 23.8	+3.2
LZH				Pg	Pb	03 02 33.8	+4.5
LZH				Sn	Sn	03 03 09.4	+3.2
LZH				Sg	Sg	03 03 24.4	-0.7
LZH				smax	smax		
	comp=N,420nm,0.9s						
LZH				smax	smax		
	comp=E,360nm,0.6s						
LZH				LR	LR		
	comp=N,760nm,7.3s						
LZH				LR	LR		
	comp=E,850nm,6.4s						
LZH				LR	LR		
	comp=Z,570nm,7.0s						
XAN	Xi'an	4.16	63	Pn	Pn	03 02 23.0	-1.5
XAN				Pg	Pb	03 02 36.1	+1.8
XAN				Sn	Sn	03 03 07.7	-5.5
XAN				Sg	Sb	03 03 26.3	+1.7
XAN				smax	smax		
	comp=N,280nm,0.6s						
XAN				smax	smax		
	comp=E,130nm,0.7s						
GYA	Guiyang	6.08	161	Pn	Pn	03 02 53.9	+2.8
GYA				Pg	Pb	03 03 08.7	+1.6
GYA				Sn	Sn	03 03 58.5	-2.3
GYA				Sg	Sb	03 04 21.8	+1.7
GYA				smax	smax		
	comp=N,110nm,0.7s						
GYA				smax	smax		
	comp=E,100nm,0.8s						
GTA	Gaotai	8.08	334	eP	Pn	03 03 25.8	+7.3
GTA				pP	pP	03 03 30.4	
GTA				sP	sP	03 03 32.9	
CMAR	Chiang Mai Arr	14.60	201	Pn	Pn	03 04 48.4	+0.7
	baz=11,slow=11,SNR=5.0						
JIRN	Jiri	16.47	259	eP	P	03 05 16.3	+1.0
	5.6nm,0.5s						
GUN	Gumba	16.64	260	eP	Pn	03 05 17.4	+2.7
GKN	Gorkha	17.65	261	eP	Pn	03 05 27.8	+0.6
KOLN	Koldanda	18.59	262	eP	P	03 05 36.4	-2.2
	14nm,0.9s						
MKAR	Makanchi Array	22.33	317	P	P	03 06 19.4	+0.6
	0.6nm,0.7s,baz=108,slow=12,SNR=9.5						
USRK	Ussuriysk Arra	24.59	53	P	P	03 06 40.9	-0.3
	3.3nm,0.8s,baz=255,slow=10.0,SNR=4.2						
ZALV	Zalesovo Beam	25.83	333	P	P	03 06 52.1	-0.2
	2.0nm,0.4s,baz=128,slow=9.8,SNR=20						
KURBB	Kurchatov Arra	26.52	321	P	P	03 06 58.1	-0.4
	0.6nm,0.9s,baz=121,slow=11,SNR=5.4						
KURBB				PcP	PcP	03 10 21.9	-1.1
	0.4nm,0.6s,baz=120,slow=1.8,SNR=4.9						
AKTO	Aktyubinsk	38.58	312	P	P	03 08 44.7	+0.8
	0.8nm,0.6s,baz=149,slow=14,SNR=5.4						
JOF	Joensuu	54.22	327	ep	P	03 10 45.3	-1.2
	1.3nm,0.5s						
KEV	Kevo	55.81	336	ep	P	03 10 56.5	-1.4
	0.8nm,0.4s						
ARCES	ARCESS Array B	56.34	336	P	P	03 11 01.4	-0.3
	1.7nm,0.5s,baz=76,slow=7.5,SNR=11						
BRTR	Keskin Array B	56.44	299	P	P	03 11 02.8	-0.3
	0.5nm,0.7s,baz=86,slow=7.6,SNR=3.9						
KAF	Kangasniemi	56.60	327	ep	P	03 11 02.2	-1.4
	2.0nm,0.6s						
FINES	FINESS Array B	56.79	326	P	P	03 11 04.8	-0.2
	2.8nm,0.7s,baz=86,slow=7.0,SNR=18						
AKASG	Malin Array Be	56.82	313	P	P	03 11 04.7	-0.7
	0.7nm,0.4s,baz=66,slow=7.4,SNR=5.6						
WRA	Warramunga Arr	59.26	147	P	P	03 11 20.8	-2.0
	1.1nm,0.6s,baz=340,slow=7.8,SNR=19						
ASAR	Alice Springs	62.32	149	P	P	03 11 42.5	-1.1
	0.5nm,0.5s,baz=339,slow=7.0,SNR=9.1						
NB2	NORSAR Subarra	63.86	327	P	P	03 11 52.0	-1.4
	comp=Z,0.9nm,0.5s,baz=71,slow=7.4						
NOA	NORSAR Array B	63.86	327	P	P	03 11 52.2	-1.2
	comp=Z,0.9nm,0.6s,baz=68,slow=7.0,SNR=6.3						
GERES	GERESS Array B	66.96	314	P	P	03 12 13.4	-0.4
	comp=Z,0.6nm,0.7s,baz=70,slow=7.8,SNR=4.2						
YKA	Yellowknife Ar	80.52	17	P	P	03 13 31.5	-1.4
	comp=Z,0.6nm,0.7s,baz=330,slow=5.4,SNR=12						

ISCJB 11 03:03:11.5±0.6,23.03S±0.05×70.18W±0.09,h60km±7km, mb3.8/2,Error ellipse: s-maj=15.9km s-min=5.9km az=27.3
GUC 11 03:03:12.4±0.6,22.95S×70.19W,h46km±1km,ML3.9
IDC 11 03:03:18.5±2.9,22.76S×69.90W,h91km±23km,mb3.6/2, mb1 3.5/5,mb1mx3.3/26,mbtmp3.7/5,Error ellipse: s-maj=49.8km s-min=21.0km az=93.0
ISC 11 03:03:13.1±1.0,22.96S±0.06×70.24W±0.09,h57km±10km, n26,σ1s50/21,6C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	Los Morros	0.43	175	eP	Pn	03 03 25.7	+1.5
CEN1				eS	Sn	03 03 35.1	+2.8
CEN1				AML	AML	03 03 36.8	
	comp=N,4μm,0.2s						
PB10	Plate Boundary	0.62	207⇑	eP	Pn	03 03 25.4	-0.9
PB10				eS	Sn	03 03 35.3	-0.5
PB10				AML	AML	03 03 36.6	
	comp=N,10μm,0.3s						
PB06	Plate Boundary	0.67	68⇓	eP	Pn	03 03 25.6	-1.4
PB06				eS	Sn	03 03 35.0	-2.0
PB06				AML	AML	03 03 35.5	
	comp=N,15μm,0.3s						
ANCH	Antofagasta	0.74	192	eP	Pn	03 03 24.2	-3.4
ANCH				eS	Sn	03 03 34.7	-3.5
PB04	Plate Boundary	0.98	45⇑	eP	Pn	03 03 25.6	-5.1
PB04				eS	Sn	03 03 35.1	-8.7
PB04				AML	AML	03 03 35.9	
	comp=N,5μm,0.4s						
PB07	Plate Boundary	1.27	15⇑	eP	Pn	03 03 34.3	-0.5
PB07				eS	Sn	03 03 51.5	+0.5
PB07				AML	AML	03 03 52.8	
	comp=E,4μm,0.7s						
PB09	Plate Boundary	1.48	39⇑	eP	Pn	03 03 37.5	-0.1
PB09				eS	Sn	03 03 56.3	+0.3
PB09				AML	AML	03 04 02.3	
	comp=E,8μm,0.5s						
PB01	Plate Boundary	2.03	20⇑	eP	Pn	03 03 45.0	0.0
PB01				eS	Sn	03 04 10.1	+0.7
PB01				AML	AML	03 04 16.0	
	comp=E,987nm,0.1s						
PATCX	Punta Patache	2.13	2	eP	Pn	03 03 45.4	-1.0
HMBC	Humberstone	2.69	7	eP	Pn	03 03 53.0	-1.0
PB11	Plate Boundary	3.23	10⇑	eP	Pn	03 04 00.2	-1.2
LPAZ	La Paz	6.93	17	P	Pn	03 04 54.5	+2.0
	comp=E,0.6nm,0.3s,baz=194,slow=5.8,SNR=11						
LPAZ				S	Sn	03 06 21.0	+10
	baz=208,slow=24,SNR=1.1						
CFAA	Coronel Fontan	8.79	169	P	Pn	03 05 25.1	+7.5
	comp=E,0.1nm,0.3s,baz=344,slow=15,SNR=2.9						
CFAA				S	Sn	03 07 03.9	+8.6
	comp=E,0.1nm,0.3s,baz=155,slow=18,SNR=2.0						
SIV	San Ignacio	11.08	53	P	Pn	03 05 48.8	-0.1
	comp=E,0.4nm,0.3s,baz=248,slow=13,SNR=4.8						
H03N1	Juan Fernandez	12.93	214	T	T	03 18 59.5	
	baz=38,slow=74,SNR=52						
H03N2	Juan Fernandez	12.94	214	T	T	03 18 59.8	
	baz=38,slow=74,SNR=51						
H03N3	Juan Fernandez	12.95	214	T	T	03 19 00.9	
	baz=38,slow=74,SNR=55						
TORD	Torodi Ar. Bea	79.00	71	P	P	03 15 10.9	-0.5
	comp=E,0.9nm,0.5s,baz=256,slow=5.2,SNR=21						
YKA	Yellowknife Ar	92.15	341	P	P	03 16 16.4	+0.6
	comp=E,0.2nm,0.5s,baz=142,slow=4.5,SNR=7.2						
H11S2	WAKE ISLAND Hy	126.82	276	T	T	05 41 43.9	
H11S1	WAKE ISLAND Hy	126.83	276	T	T	05 41 38.9	
	baz=344,slow=74,SNR=6.2						
H11S3	WAKE ISLAND Hy	126.84	276	T	T	05 41 45.5	
	baz=109,slow=74,SNR=5.7						
H11N3	WAKE ISLAND Hy	126.95	278	T	T	05 41 47.9	
	baz=108,slow=76,SNR=6.5						
H11N2	WAKE ISLAND Hy	126.96	278	T	T	05 41 53.4	
	baz=108,slow=76,SNR=5.8						
H11N1	WAKE ISLAND Hy	126.96	278	T	T	05 41 49.0	
	baz=108,slow=76,SNR=4.6						
MKAR	Makanchi Array	147.53	36	PKPbc	PKPbc	03 22 51.4	+0.5
	comp=E,0.2nm,0.4s,baz=336,slow=3.2,SNR=4.4						

IDC 11 03:11:21.1±2.0,0.06S×126.50E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.5/32,mbtmp3.6/3,Error ellipse: s-maj=174.8km s-min=26.8km az=65.0
DJA 11 03:11:26.0±0.5,0˚S±3˚×12˚7E±˚,h0km,M3.8/3,MLv3.8/3
ISCJB 11 03:11:28.1±0.8,0.00N±0.07×126.81E±0.08,h73km, mb3.5/3,Error ellipse: s-maj=11.5km s-min=9.3km az=163.4
ISC 11 03:11:28.9±1.1,0.06S±0.06×126.82E±0.07,h73km,n7, σ1s94/9,mb3.5/3,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	0.89	130	P	Pn	03 11 46.1	-0.2
LBMI				S	Sn	03 12 00.0	+0.9
TNTI	Ternate	0.99	34	P	Pn	03 11 46.4	-1.1
TNTI				S	Sn	03 11 59.9	-1.4
SANI	Sanana	2.15	203	S	Sn	03 12 24.5	-3.8
GTOI	Gorontalo	3.87	280	P	Pn	03 12 26.9	+0.9
WRA	Warramunga Arr	21.09	160	P	P	03 16 08.1	+0.6
	0.8nm,0.4s,baz=338,slow=10,SNR=27						
ASAR	Alice Springs	24.45	164	P	P	03 16 43.0	+1.8
	2.4nm,0.7s,baz=343,slow=9.4,SNR=28						
MKAR	Makanchi Array	60.72	326	P	P	03 21 33.2	+0.3
	0.1nm,0.3s,baz=125,slow=7.6,SNR=4.3						

ISCJB 11 03:35:33.8±1.1,60.8S±0.2×45.6W±0.6,h10km,mb3.8/4, Error ellipse: s-maj=45.3km s-min=28.2km az=148.9
IDC 11 03:35:33.7±1.0,60.85S×45.65W,h0km,mb4.0/4, mb1 4.1/4,mb1mx3.8/20,mbtmp3.9/4,Error ellipse: s-maj=50.7km s-min=35.1km az=38.0
ISC 11 03:35:34.7±1.1,60.9S±0.3×45.7W±0.3,h10km,n8,σ0s66/7, mb3.9/3,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	25.29	312	P	P	03 41 01.2	+0.1
	2.3nm,1.0s,baz=183,slow=9.4,SNR=5.7						
TORD	Torodi Ar. Bea	82.80	46	P	P	03 47 58.9	+0.1
	0.8nm,0.9s,baz=192,slow=6.0,SNR=6.0						
ASAR	Alice Springs	95.75	180	P	P	03 49 00.6	-0.2
	0.2nm,0.4s,baz=149,slow=3.8,SNR=2.2						
WRA	Warramunga Arr	99.45	180	P	Pdif	03 49 18.8	+1.3
	0.3nm,1.0s,baz=185,slow=4.2,SNR=2.0						
ARCES	ARCESS Array B	139.56	31	PKhKP	PKPpre	03 54 50.1	
	1.8nm,0.8s,baz=270,slow=1.4,SNR=3.7						
BVAR	Borovoye Array	145.59	74	PKPbc	PKPab	03 55 12.2	-0.1
	2.5nm,0.8s,baz=222,slow=2.9,SNR=5.3						
ILAR	Eielson Array	145.98	311	PKPbc	PKPab	03 55 13.2	-0.2
	1.0nm,0.8s,baz=153,slow=3.3,SNR=16						
MKAR	Makanchi Array	147.19	91	PKPbc	PKPbc	03 55 16.8	-0.2
	0.6nm,0.6s,baz=232,slow=3.5,SNR=9.7						

KRSC 11 03:40:22.8±0.7, 60°.74N×166°.85E, h27km±2km, ML4.2
MOS 11 03:40:23.9±1.1, 60°.81N×166°.36E, h14km, mb4.0/3, Error ellipse: s-maj=42.5km s-min=17.9km az=82.3
IDC 11 03:40:23.4±1.2, 60°.60N×166°.47E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.6/33, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=34.7km s-min=17.4km az=175.0
ISC 11 03:40:26.6±0.8, 60°.90N±0°.07×166°.00E±0°.07, h24km, n16, σ1§57/17, mb3.6/6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	Tilichiki	0.46	171	*i* P	Pb	03 40 32.8	-3.3
TILK				*i* S	Sb	03 40 39.7	-2.8
OSSR	Ossora	2.21	223	*e*P	Pn	03 41 02.7	+0.9
OSSR				*e*S	Sb	03 41 32.6	-0.2
KBTR	Krutoberegovo	4.99	201	PN	Pn	03 41 41.1	+1.2
KBTR	Krutoberegovo	4.99	201	*e*P	Pn	03 41 41.1	+1.2
BKI	Bering	5.71	180	PN	Pn	03 41 48.6	-1.2
BKI	Bering	5.71	180	P	Pn	03 41 48.6	-1.2
SEY	Seymchan	6.75	294	Pn	Pn	03 42 08.6	+4.6
	0.4nm,0.3s,baz=117,slow=12,SNR=7.8						
SEY				Sn	Sb	03 43 38.8	-4.2
	0.4nm,0.3s,baz=358,slow=23,SNR=1.5						
SEY				Lg	Lg	03 44 06.9	
	0.6nm,0.3s,baz=1.4,slow=19,SNR=4.3						
ILAR	Eielson Array	21.45	59	P	P	03 45 13.1	+0.4
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	Eielson Array	21.45	59	P	P	03 45 13.1	+0.4
	comp=Z,2.0nm,0.6s,baz=272,slow=8.8,SNR=45						
INK	Inuvik	25.92	48	P	P	03 45 56.3	0.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	25.92	48	P	P	03 45 56.3	0.0
	comp=Z,1.4nm,0.6s,baz=308,slow=6.2,SNR=10.0						
YKA	Yellowknife Ar	35.47	52	P	P	03 47 20.5	-0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	35.47	52	P	P	03 47 20.5	-0.1
	comp=Z,0.9nm,0.5s,baz=304,slow=8.4,SNR=21						
MKAR	Makanchi Array	47.88	293	P	P	03 49 03.8	+1.5
	comp=Z,0.3nm,0.6s,baz=44,slow=6.2,SNR=4.6						
PDAR	Pinedale Array	51.31	70	P	P	03 49 28.9	+0.2
	comp=Z,0.6nm,0.8s,baz=304,slow=3.4,SNR=5.9						
WRA	Warramunga Arr	84.51	210	P	P	03 52 57.6	+0.4
	comp=Z,0.3nm,0.8s,baz=23,slow=5.9,SNR=4.0						

IDC 11 04:11:53.4±7.6, 15°.26S×172°.95W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/34, mbtmp3.4/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/18, Error ellipse: s-maj=358.5km s-min=24.8km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.76	40	Pn	Pn	04 12 23.5	-1.7
	21nm,0.3s,baz=153,slow=3.6,SNR=10.0						
AFI				Sn	Sn	04 12 41.5	-6.9
	67nm,0.3s,baz=206,slow=21,SNR=12						
PMG	Port Moresby	39.36	274	LR	LR	04 33 50.9	
	comp=Z,110nm,18.3s,baz=217,slow=34						
WRA	Warramunga Arr	50.30	257	P	P	04 20 50.9	-1.3
	0.3nm,0.8s,baz=92,slow=6.9,SNR=4.7						
ASAR	Alice Springs	50.57	252	P	P	04 20 53.8	-0.4
	0.4nm,0.5s,baz=88,slow=7.9,SNR=3.2						
ILAR	Eielson Array	82.22	11	P	P	04 24 16.7	+0.6
	0.5nm,1.0s,baz=222,slow=6.4,SNR=5.7						
BRTR	Keskin Array B	146.32	322	PKPbc	PKPab	04 31 37.9	+0.5
	1.2nm,1.0s,baz=64,slow=3.4,SNR=2.9						

MOS 11 04:18:59.3±0.8, 44°.83N×147°.15E, h134km, mb3.9/6, Error ellipse: s-maj=22.5km s-min=11.3km az=62.7
ISCJB 11 04:18:59.3±0.4, 44°.74N±0°.05×147°.22E±0°.06, h134km±3km, mb3.5/12, Error ellipse: s-maj=9.2km s-min=5.6km az=145.6
JMA 11 04:19:00.3±0.5, 44°.67N×147°.31E, h119km, M3.6
NIED 11 04:19:00, 44°.70N×147°.30E, h107km, Mw3.9 Best double couple: M₀7.41000×10¹⁴ NP1:φs124.00000°, δ24.00000°, λ-172.00000°. NP2:φs27.00000°, δ87.00000°, λ-66.00000°.
SKHL 11 04:19:00.2±0.9, 44°.73N×147°.17E, h137km±8km, mb5.2/3, mbh5.4/3
IDC 11 04:19:01.6±1.8, 44°.85N×147°.07E, h139km±16km, mb3.3/12, mb1 3.6/16, mb1mx3.4/42, mbtmp3.8/16, MS3.1/1, Ms1 3.1/1, ms1mx2.3/23, Error ellipse: s-maj=22.1km s-min=11.6km az=141.0
ISC 11 04:19:00.4±0.6, 44°.71N±0°.06×147°.22E±0°.05, h131km±5km, n65, σ1§06/73, mb3.7/12, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.69	41 *d*	*i*PN	Pn	04 19 20.6	-0.2
KUR				*i* S	Sn	04 19 36.2	-0.1
KUR				pmax	pmax		
	comp=N,214nm,0.5s						
KUR				pmax	pmax		
	comp=E,192nm,0.5s						
KUR				pmax	pmax		
	comp=Z,1μm,0.5s						
KUR				smax	smax		
	comp=N,265nm,0.6s						
KUR				smax	smax		
	comp=E,434nm,0.6s						
KUR	Kuril'sk	0.69	41	*e*P	Pn	04 19 20.6	-0.2
KUR				AMB	AMB	04 19 21.0	
	comp=E,240nm,0.5s						
KUR				AMB	AMB	04 19 21.0	
	comp=E,200nm,0.5s						
KUR				AMB	AMB	04 19 21.0	
	comp=E,610nm,0.5s						
KUR				*e*S	Sn	04 19 36.2	-0.1
KUR				A	A	04 19 36.5	
	comp=E,340nm,0.6s						
KUR				A	A	04 19 36.5	
	comp=E,820nm,0.6s						
KUR				A	A	04 19 38.0	
	comp=E,5μm,3.0s						
KUR				A	A	04 19 38.0	
	comp=E,4μm,3.0s						
SHO	Shikotan	0.89	199	*e*P	Pn	04 19 21.9	-0.4
SHO				AMB	AMB	04 19 22.0	
	comp=E,537nm,0.2s						
SHO				AMB	AMB	04 19 22.0	
	comp=E,287nm,0.2s						
SHO				AMB	AMB	04 19 22.0	
	comp=E,827nm,0.2s						
SHO				*e*S	Sn	04 19 37.4	-1.5
SHO				A	A	04 19 38.0	
	comp=E,1μm,0.6s						
SHO				A	A	04 19 38.0	
	comp=E,2μm,0.6s						
YUK	Yuzh-Kuril'sk	1.19	236 *c*	*i*PN	Pn	04 19 25.3	+0.2
YUK				*i* S	Sn	04 19 44.6	+0.6
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				pmax	pmax		
	comp=N,114nm,0.2s						
YUK				pmax	pmax		
	comp=E,126nm,0.2s						
YUK				smax	smax		
	comp=N,228nm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.7s						
YUK	Yuzh-Kuril'sk	1.19	236	*e*P	Pn	04 19 25.3	+0.2
YUK				AMB	AMB	04 19 25.6	
	comp=E,110nm,0.3s						
YUK				AMB	AMB	04 19 25.6	
	comp=E,130nm,0.3s						
YUK				AMB	AMB	04 19 25.6	
	comp=E,1μm,0.3s						
YUK				*e*S	Sn	04 19 44.6	+0.6
YUK				A	A	04 19 47.2	
	comp=E,230nm,0.5s						
YUK				A	A	04 19 47.2	
	comp=E,1μm,0.5s						
JRA	Rausu	1.69	244	P	Pn	04 19 30.7	0.0
NEM2	Nemuro 2	1.72	219	P	Pn	04 19 30.3	-0.7
NEM2				*e*S	Sn	04 19 52.3	-2.0
JNK	Nakash	2.12	239	P	Pn	04 19 36.1	+0.2
JTKR	Abashiri--Toko	2.49	254	P	Pn	04 19 40.3	-0.1
JTKR				*e*S	Sn	04 20 11.2	0.0
JAK	Akkeshi	2.50	228	P	Pn	04 19 40.5	-0.1
JAK				*e*S	Sn	04 20 11.3	-0.3
JMP	Maruseppu	2.86	257	P	Pn	04 19 45.2	0.0
JAR	Ashorobuto	2.87	242	P	Pn	04 19 46.7	+1.5
JSE	Soyaes	3.31	276	P	Pn	04 19 50.9	-0.1
JKK2	Kamakawa 2	3.32	257	P	Pn	04 19 51.8	+0.6
JKA	Kamikawa-asahi	3.37	261	*e*P	Pn	04 19 51.9	+0.2
ASAJ	Asahikawa	3.37	261	PN	Pn	04 19 51.9	+0.1
ASAJ				S	Sn	04 20 32.2	+0.7
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
ASAJ	Asahikawa	3.37	261	P	Pn	04 19 51.9	+0.1
	comp=N,4.4nm,0.3s,baz=93,slow=17,SNR=30						
ASAJ				S	Sn	04 20 32.2	+0.7
	comp=N,1.0nm,0.3s,baz=320,slow=19,SNR=3.9						
JCH	Churui	3.50	235	P	Pn	04 19 53.7	+0.2
JCH				*e*S	Sn	04 20 32.6	-2.0
JFR	Furan	3.68	247	P	Pn	04 19 57.5	+1.6
JFR				*e*S	Sn	04 20 42.1	+3.1
JWK2	Keihoku	3.83	281	P	Pn	04 19 59.2	+1.4
YSS	Yuzh-Sakhalins	3.85	307	*e*PN	Pn	04 20 07.9	+10
YSS				*e*		04 20 40.8	
YSS	Yuzh-Sakhalins	3.85	307	*e*rx	rx	04 20 07.9	
YSS				*e*S	Sn	04 20 40.8	-1.9
ERM	Erimo	4.01	229 *d*	*i*PN	Pn	04 20 01.0	+0.8
ERM	Erimo	4.01	229	*e*P	Pn	04 20 01.0	+0.8
JNBK	Urakawa-nobuka	4.06	235	P	Pn	04 20 00.2	-0.7
JKB	Kayabe	5.33	240	P	Pn	04 20 17.1	-0.7
JKB				*e*S	Sn	04 21 14.2	-3.9
PETK	Petropavlovsk-	10.86	36	PN	Pn	04 21 31.2	-0.8
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	Petropavlovsk-	10.86	36	P	Pn	04 21 31.2	-0.8
	comp=Z,1.7nm,0.3s,baz=173,slow=13,SNR=17						
USRK	Ussuriysk Arra	10.91	273	P	Pn	04 21 32.5	-0.2
	comp=Z,0.3nm,0.3s,baz=80,slow=12,SNR=3.7						
EKMR	Ekimchan	12.56	317	*e*P	Pn	04 21 49.3	-5.0
JCJ	Chichijima	18.04	195	LR	LR	04 28 05.2	
	comp=Z,63nm,21.9s,baz=122,slow=30						
SEY	Seymchan	18.50	7	P	P	04 23 06.4	+0.3
	comp=Z,0.2nm,0.3s,baz=188,slow=9.9,SNR=4.0						
H11N2	WAKE ISLAND Hy	29.80	140	T	T	04 56 13.4	
	baz=336,slow=76,SNR=41						
H11N1	WAKE ISLAND Hy	29.81	140	T	T	04 56 22.3	
	baz=336,slow=76,SNR=38						
H11N3	WAKE ISLAND Hy	29.82	140	T	T	04 56 04.6	
	baz=336,slow=76,SNR=37						
H11S1	WAKE ISLAND Hy	30.78	142	T	T	04 57 16.2	
	baz=336,slow=77,SNR=47						
H11S3	WAKE ISLAND Hy	30.79	142	T	T	04 57 16.6	
	baz=336,slow=77,SNR=38						
H11S2	WAKE ISLAND Hy	30.80	142	T	T	04 57 17.5	
	baz=336,slow=77,SNR=34						
COLA	College	40.27	37 ⇓	*i*P	P	04 26 24.4	+0.5
COLA	College	40.27	37	*e*P	P	04 26 24.4	+0.5
ILAR	Eielson Array	40.69	37	P	P	04 26 26.9	-0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ILAR	Eielson Array	40.69	37	P	P	04 26 26.9	-0.5
	comp=Z,0.7nm,0.4s,baz=261,slow=4.9,SNR=28						
MKAR	Makanchi Array	44.19	297	*e*P	P	04 26 56.7	+0.6
MKAR	Makanchi Array	44.19	297	P	P	04 26 55.2	-0.8
	comp=Z,0.3nm,0.6s,baz=80,slow=10.0,SNR=4.4						
MKAR				PcP	PcP	04 28 37.9	-0.5
	comp=Z,0.2nm,0.3s,baz=38,slow=7.3,SNR=3.5						
MKAR	Makanchi Array	44.19	297	*e*P	P	04 26 56.7	+0.6
KURK	Kurchatov	45.04	303	P	P	04 27 02.3	-0.4
KURK						04 28 40.7	
KURK	Kurchatov	45.04	303	*e*P	P	04 27 02.3	-0.4
KURBB	Kurchatov Arra	45.13	303	P	P	04 27 02.3	-1.0
	comp=Z,0.2nm,0.4s,baz=74,slow=8.1,SNR=2.6						
KURBB				PcP	PcP	04 28 40.6	-0.9
	comp=Z,0.4nm,0.8s,baz=87,slow=3.7,SNR=4.0						
INK	Inuvik	45.55	31	P	P	04 27 05.4	-1.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	Inuvik	45.55	31	P	P	04 27 05.4	-1.0
	comp=Z,0.9nm,0.4s,baz=296,slow=6.6,SNR=18						
CMAR	Chiang Mai Arr	47.85	253	*e*P	P	04 27 26.5	+1.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	47.85	253	P	P	04 27 24.9	0.0
	comp=Z,1.0nm,0.4s,baz=37,slow=6.6,SNR=4.7						
CMAR	Chiang Mai Arr	47.85	253	*e*P	P	04 27 26.5	+1.5
YKA	Yellowknife Ar	54.98	34	P	P	04 28 17.4	0.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	54.98	34	P	P	04 28 17.4	0.0
	comp=Z,1.3nm,0.6s,baz=299,slow=6.9,SNR=21						
FINES	FINESS Array B	64.05	333	P	P	04 29 18.0	-1.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	64.05	333	P	P	04 29 18.0	-1.5
	comp=Z,0.7nm,0.8s,baz=23,slow=10,SNR=5.0						
WRA	Warramunga Arr	65.41	193	P	P	04 29 29.1	+0.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	65.41	193	P	P	04 29 29.1	+0.2
	comp=Z,1.0nm,0.7s,baz=9.7,slow=6.6,SNR=8.1						
NVAR	Mina Array Bea	67.03	58	P	P	04 29 40.7	+1.3
	comp=Z,0.9nm,0.5s,baz=294,slow=7.5,SNR=10						
ASAR	Alice Springs	69.12	193	P	P	04 29 53.7	+1.5
	comp=Z,0.2nm,0.6s,baz=9.8,slow=6.4,SNR=2.6						
PDAR	Pinedale Array	69.25	50	P	P	04 29 53.9	+0.6
	comp=Z,0.5nm,0.6s,baz=352,slow=1.3,SNR=5.8						
AKASG	Malin Array Be	70.84	324	*i* P	P	04 30 01.5	-1.0
TXAR	Lajitas Array	82.07	56	P	P	04 31 07.6	+1.3
TXAR				*PP	pP	04 31 39.9	+0.6
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	82.07	56	P	P	04 31 07.6	+1.3
	comp=Z,0.5nm,0.6s,baz=291,slow=3.4,SNR=7.0						
TXAR				pP	pP	04 31 39.9	+0.6
	comp=Z,0.5nm,0.6s,baz=302,slow=3.6,SNR=4.2						

KRSC 11 04:27:33.4±0.3, 55°.15N×160°.38E, h-1km±2km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	Kizimen	0.06	233	*e*P	Pg	04 27 34.0	-0.8
TUMR	Tumrok	0.19	315	*e*P	Pg	04 27 36.8	-0.4
KMNR	Kamenistaya	0.61	353	*e*P	Pb	04 27 46.4	-0.8
KMNR				*e*S	Sb	04 27 57.1	+0.6
BZMR	Bezymyannaya	0.79	5	*e*P	Pb	04 27 50.5	+0.3
BZMR				S	Sn	04 28 04.1	-0.6
KIRR	Kirishev	0.81	359	P	Pb	04 27 50.1	-0.4
KIRR				S	Sb	04 28 03.6	+1.5
KPT	Kopyto	0.82	354	*e*P	Pg	04 27 50.0	+0.6
KPT				*e*S	Sn	04 28 04.1	-1.3
KOZ	Kozyrevsk	0.95	343	*e*P	Pb	04 27 52.7	-0.2
KOZ				*e*S	Sn	04 28 08.0	-0.5
KLY	Klyuchi	1.18	7	P	Pn	04 27 57.3	+0.2
KLY				S	Sn	04 28 16.3	+2.5
SRDR	Sredninyy	1.23	343	*e*P	Pg	04 27 56.8	-0.4
ESO	Esso	1.23	310	*e*P	Pg	04 27 55.9	-1.2
ESO				*e*S	Sb	04 28 14.1	+0.1
KII	Karymskiy	1.24	206	P	Pb	04 27 57.6	-0.2
BDR	Baidarnaya	1.50	18	*e*P	Pg	04 28 02.6	+0.4
BDR				*e*S	Sn	04 28 26.0	+4.0
SMKR	Semkarok	1.56	23	*e*P	Pg	04 28 03.5	0.0
SMKR				*e*S	Sg	04 28 27.3	+3.5
SRKR	Sorokina	1.57	16	*e*P	Pb	04 28 03.5	0.0
SRKR				*e*S	Sg	04 28 27.6	+3.5
KBTR	Krutoberegovo	1.74	51	*e*P	Pn	04 28 05.2	+0.3
KBTR				*e*S	Sg	04 28 30.7	+1.3
GNL	Ganaly	2.04	225	*e*P	Pn	04 28 09.5	+0.4
KRX	Arik	2.06	210	*e*P	Pb	04 28 10.9	-1.0
NLC	Nalytchevo	2.07	197	*e*P	Pn	04 28 10.2	+0.8
NLC				*e*S	Sb	04 28 38.5	+0.4
KRER	Koryakskii	2.08	208	*e*P	Pb	04 28 11.4	-0.9
SMAR	Somma	2.10	207	P	Pn	04 28 11.2	+1.0
AVH	Avacha	2.12	208	*e*P	Pb	04 28 11.9	-0.9
KOK	Koryaka	2.12	210	*e*P	Pb	04 28 11.9	-1.0
UGLR	Uglovaya	2.15	206	*e*P	Pb	04 28 12.3	-1.0
PET	Petropavlovsk	2.36	206	P	Pb	04 28 17.3	+0.6
PET				S	Sg	04 28 50.9	+1.7
APC	Apacha	2.93	222	*e*P	Pn	04 28 21.6	+0.5
MTVR	Mutnovka	2.97	207	*e*P	Pb	04 28 25.2	-2.2
MTVR				S	Sb	04 29 04.9	+0.6
ASAK	Asacha	3.14	209	P	Pb	04 28 28.3	-1.8
BKI	Bering	3.21	87	P	Pn	04 28 25.0	0.0
BKI				S	Sn	04 29 04.6	+0.7

IDC 11 04:33:09.2±0.9, 3°.39S×129°.43E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.0/33, mbtmp4.2/9, MS3.5/1, Ms1 3.4/1, ms1mx2.6/29, Error ellipse: s-maj=74.6km s-min=16.7km az=60.0
DJA 11 04:33:11.8±0.3, 3°S±5°×12°9E±°, h10km, M4.6/13, mb5.0/4, mB5.8/1, MLv4.3/13, Mw(mB)5.4/1
ISCJB 11 04:33:12.0±0.4, 3°.59S±0°.05×129°.14E±0°.06, h33km, mb4.0/8, MS3.4/1, Error ellipse: s-maj=9.2km s-min=5.2km az=144.6
ISC 11 04:33:14.0±0.6, 3°.57S±0°.08×129°.14E±0°.08, h35km, n34, σ1§52/33, mb4.0/8, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.30	317	P	Pn	04 33 19.9	-2.1
MSAI				S	Sn	04 33 24.4	-3.1
BNDI	Bandanaira	1.22	141	P	Pn	04 33 34.3	-0.3
NLAI	Namlea	2.06	279	P	Pn	04 33 51.1	+4.9
FAKI	Fak Fak	3.17	78	P	Pn	04 34 00.8	-0.7
FAKI	Fak Fak	3.17	78	P	Pn	04 34 01.9	+0.4
	baz=3.3,SNR=40						
LBMI	Labuha	3.34	331	P	Pn	04 34 05.3	+1.5
SWI	Sorong	3.42	38	P	Pn	04 34 04.8	-0.2
SANI	Sanana	3.49	296	P	Pn	04 34 04.3	-1.5
KMPI	Kaimana, Papua	4.56	91	P	Pn	04 34 18.8	-1.8
RKPI	Ransiki, Papua	5.43	68	P	Pn	04 34 26.4	-6.2
	190nm,0.7s,10μm2.6nm						
BAKI	Biak	7.35	71	P	Pn	04 34 56.2	-2.8
	128nm,1.1s,0.6nm						
APSI	Ampana	7.93	289	P	Pn	04 35 04.7	-2.3
MTN	Manton Dam	9.43	168	P	Pn	04 35 29.2	+1.8
	baz=9.5,SNR=48						
KDU	Kakadu	9.64	160	P	Pn	04 35 30.5	+0.1
	baz=9.7,SNR=22						
KNRA	Kununurra	12.04	182	P	Pn	04 36 04.6	+1.4
	baz=12,SNR=20						
WRA	Warramunga Arr	17.05	163	P	Pn	04 37 06.8	-3.1
	0.6nm,0.5s,baz=343,slow=13,SNR=21						
COEN	Coen	17.28	128	P	Pn	04 37 11.4	-1.4
	baz=17,SNR=24						
QIS	Mount Isa	19.73	150	P	P	04 37 40.9	0.0
	baz=20,SNR=28						
ASAR	Alice Springs	20.51	167	P	P	04 37 50.1	+0.8
	15nm,0.5s,baz=344,slow=11,SNR=130						
MTSU	Mount Surprise	20.75	135	P	P	04 37 52.5	+0.5
	baz=21,SNR=20						
WRKA	Warakurna	21.36	182	P	P	04 37 59.1	+0.6
	baz=22,SNR=66						
CTA	Charters Tower	23.41	136	P	P	04 38 20.5	+0.4
	13nm,0.9s,baz=323,slow=12,SNR=7.6						
MEEK	Meekatharra	25.06	203	P	P	04 38 33.8	-1.5
	baz=25,SNR=3.7						
QLP	Quilpie	27.07	149	P	P	04 38 53.7	+0.2
	baz=27,SNR=5.6						
BBOO	Buckleboo	29.80	168	P	P	04 39 17.3	-0.5
	baz=30,SNR=9.2						
STKA	Stephens Creek	30.50	159	P	P	04 39 24.0	+0.1
	0.7nm,0.3s,baz=329,slow=10,SNR=5.4						
STKA				LR	LR	04 52 55.7	
	comp=Z,76nm,18.4s,baz=21,slow=39						
STKA	Stephens Creek	30.50	159	P	P	04 39 24.1	+0.1
	baz=31,SNR=4.0						
CMAR	Chiang Mai Arr	36.93	307	P	P	04 40 22.2	+2.2
	1.0nm,0.3s,baz=119,slow=7.3,SNR=3.9						
MKAR	Makanchi Array	64.91	326	P	P	04 43 50.2	+0.2
	0.7nm,0.5s,baz=118,slow=9.0,SNR=12						
ZALV	Zalesovo Beam	68.14	334	P	P	04 44 10.6	+0.1
	0.5nm,0.4s,baz=96,slow=7.7,SNR=3.5						
KURBB	Kurchatov Arra	69.16	328	P	P	04 44 16.1	-0.8
	1.5nm,0.5s,baz=127,slow=5.9,SNR=19						
BVAR	Borovoye Array	74.72	328	P	P	04 44 52.1	+1.8
	0.8nm,0.7s,baz=123,slow=11,SNR=4.8						
AKTO	Aktyubinsk	80.85	322	P	P	04 45 26.4	+2.0
	0.8nm,0.4s,baz=87,slow=5.9,SNR=5.7						
TORD	Torodi Ar. Bea	127.23	284	PKP	PKPdf	04 52 15.9	0.0
	0.3nm,0.7s,baz=59,slow=1.2,SNR=3.3						

MEX 11 04:51:08.1±0.5, 16°.68N×99°.68W, h5km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.26	317	*i* P	Pb	04 51 14.3	-0.9
ACX				*i* S	Sg	04 51 17.6	+1.0
CAIG	El Cayaco	0.67	303	*e*P	Pg	04 51 20.2	-0.9
CAIG				*i* S	Sg	04 51 29.5	-0.3
TLIG	Tlapa	1.38	50	*i* P	Pn	04 51 30.6	-3.5
TLIG				*i* S	Sb	04 51 47.3	-5.2
PNIG	Pinotepa	1.51	101	*e*P	Pn	04 51 31.8	-4.2
PNIG				*i* S	Sn	04 51 51.2	-4.9
ARIG	Puente Sto Nin	1.71	338	*i* P	Pn	04 51 35.5	-3.2
ARIG				*i* S	Sn	04 51 56.4	-4.6

IDC 11 05:04:43.6±48.0, 15°.55S×171°.59W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/26, mbtmp4.2/3, Error ellipse: s-maj=944.5km s-min=185.2km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.48	240	P	P	05 13 05.2	+0.4
	2.3nm,0.7s,baz=76,slow=11,SNR=5.0						
WRA	Warramunga Arr	51.51	257	P	P	05 13 51.0	-0.5
	0.6nm,0.6s,baz=95,slow=7.0,SNR=15						
ASAR	Alice Springs	51.73	252	P	P	05 13 53.0	-0.1
	5.6nm,0.6s,baz=90,slow=8.1,SNR=43						

IDC 11 05:19:04.2±8.3, 6°.38S×148°.86E, h63km±66km, mb2.9/1, mb1 3.4/3, mb1mx3.1/31, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=120.6km s-min=56.3km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.45	209	P	Pn	05 19 56.1	+0.5
	8.9nm,0.3s,baz=30,slow=6.8,SNR=10						
PMG				S	Sn	05 20 35.9	+0.7
	10nm,0.3s,baz=329,slow=20,SNR=3.9						
WRA	Warramunga Arr	19.51	225	P	P	05 23 26.3	-0.3
	0.1nm,0.3s,baz=51,slow=11,SNR=6.3						
ASAR	Alice Springs	22.41	218	P	P	05 23 57.8	-0.1
	0.4nm,0.5s,baz=52,slow=9.8,SNR=5.4						
TORD	Torodi Ar. Bea	146.97	284	PKPbc	PKPbc	05 38 40.1	-0.7
	0.3nm,0.5s,baz=70,slow=2.4,SNR=6.3						

KRSC 11 05:23:14.0±2.3, 49°.89N×156°.88E, h44km±17km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.93	329	*e*P	Pn	05 23 30.5	-0.1
SKR				*e*S	Sn	05 23 42.7	-0.1
SKR	Severo-Kuril's	0.93	329	*e*P	Pn	05 23 30.5	-0.1
SKR				*e*S	Sn	05 23 42.4	-0.4
PAU	Pauzhetka	1.58	359	*e*P	Pn	05 23 41.2	+1.7
PAU				*e*S	Sn	05 24 01.5	+2.9
PAU	Pauzhetka	1.58	359	*e*P	Pn	05 23 41.3	+1.8
PAU				*e*S	Sn	05 24 01.2	+2.6
MIPR	Malaya Ipel'ka	2.39	358	P	Pn	05 23 52.2	+1.6
ASAK	Asacha	2.58	14	P	Pn	05 23 56.8	+3.5
MTVR	Mutnovka	2.72	17	*e*P	Pn	05 23 58.3	+2.9
MTVR				*e*S	Sn	05 24 31.1	+3.9
RUS	Russkaya	2.75	21	P	Pn	05 23 58.3	+2.8
UGLR	Uglovaya	3.54	19	*e*P	Pn	05 24 10.7	+4.2
AVH	Avacha	3.57	18	*e*P	Pn	05 24 11.6	+4.7
KOK	Koryaka	3.58	17	*e*P	Pn	05 24 11.9	+4.9
SMAR	Somma	3.58	19	*e*P	Pn	05 24 11.0	+3.7
KRER	Koryakskii	3.61	18	*e*P	Pn	05 24 12.2	+4.6
KRX	Arik	3.64	17	*e*P	Pn	05 24 12.2	+4.2
GNL	Ganaly	3.87	9	*e*P	Pn	05 24 15.7	+4.7
KBTR	Krutoberegovo	7.27	27	*e*P	Pn	05 25 00.1	+2.6

IDC 11 05:27:24.0±2.2, 19°.23N×38°.98E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/29, mbtmp3.9/5, Error ellipse: s-maj=68.7km s-min=23.2km az=149.0, Red Sea

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
BRTR Keskin Array B 20.94 348 P P 05 32 08.7 0.0
2.3nm,1.0s,baz=162,slow=12,SNR=6.6
TORD Torodi Ar. Bea 36.26 266 P P 05 34 29.3 -0.1
1.6nm,0.8s,baz=76,slow=7.8,SNR=9.0
DBIC Dimbokro 44.38 260 P P 05 35 36.5 -0.1
4.6nm,1.0s,baz=34,slow=11,SNR=1.9
MKAR Makanchi Array 44.74 42 P P 05 35 39.3 +0.1
0.9nm,0.9s,baz=242,slow=6.3,SNR=7.7
ZALV Zalesovo Beam 49.22 34 P P 05 36 13.7 -0.3
1.5nm,0.7s,baz=251,slow=9.2,SNR=9.4

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*BJI **11** 05:28:01.0, 3.°95S×100.°28E, h10km, mB5.1/42, mb4.7/56, Ms4.9/45, Ms7 4.7/43*
*ISCJB **11** 05:28:05.1±0.9, 3.°39S±0.°03×100.°12E±0.°03, h2km±5km, mb4.7/67, MS4.5/32, Error ellipse: s-maj=5.8km s-min=3.6km az=138.9*
*IDC **11** 05:28:07.4±0.8, 3.°20S×100.°27E, h0km, mb4.6/16, mb1 4.7/17, mb1mx4.5/30, mbtmp4.6/17, ML3.4/1, MS4.2/17, Ms1 4.2/17, ms1mx4.0/34, Error ellipse: s-maj=30.8km s-min=14.6km az=54.0*
*NEIC **11** 05:28:08.4±0.3, 3.°28S×100.°21E, h10km, mb4.7/21, Error ellipse: s-maj=6.8km s-min=4.0km az=54.0*
NEIC Felt [III] at Padang, Sumatra and in the Kepulauan Pagai.
*DJA **11** 05:28:09.8±0.3, 3.°S±2.°×10.°0E±.°, h10km, M4.9/43, mb5.0/43, mB5.4/34, MLv5.2/28, Mw(mB)4.8/34*
*KLM **11** 05:28:10.0, 3.°43S×100.°05E, h116km, mb4.7, ML4.8, MS5.5*
*MOS **11** 05:28:12.9±1.2, 3.°03S×100.°43E, h47km, mb5.0/37, MS4.4/11, Error ellipse: s-maj=14.5km s-min=6.7km az=109.1*
ISC 11 05:28:09.4±0.5, 3.°26S±0.°04×100.°27E±0.°04, h15km±2km, n324, σ1§45/319, mb4.8/67, MS4.5/32, 62C-33D, Southern Sumatera

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MASI Maura Aman, Be 1.97 87 P **Pn 05 28 43.2 +0.8**
MASI S Sg 05 29 22.8 +10
PDSI Padang 2.34 5 P **Pn 05 28 47.3 -0.2**
PDSI S **Sg 05 29 24.0 -0.7**
SDSI Sungai Dareh 2.58 27 P **Pn 05 28 51.2 +0.4**
SDSI S **Sb 05 29 28.4 +1.3**
MNAI Manna 2.89 112 P **Pn 05 28 55.7 +0.6**
MNAI S **Sb 05 29 34.5 -1.6**
MNAI Manna 2.89 112 *e*Pn **Pn 05 28 55.7 +0.6**
MNAI *e*Sn **Sn 05 29 31.3 +1.6**
MNAI Manna 2.89 112 P **Pn 05 28 55.8 +0.7**
baz=3.1,SNR=53
LHSI Lahat 3.29 100 P **Pn 05 29 03.0 +2.4**
RGRI Rengat 3.55 36 P **Pn 05 29 05.5 +1.4**
RGRI S **Sb 05 29 52.9 -2.1**
BKNI Bangkinang 3.64 12 P **Pn 05 29 08.0 +2.7**
BKNI S **Sb 05 29 54.0 -3.7**
BKNI Bangkinang 3.64 12 *e*Pn **Pn 05 29 04.6 -0.7**
BKNI Bangkinang 3.64 12 P **Pn 05 29 08.1 +2.7**
baz=3.8,SNR=6.0
JMBI JAMBI 3.73 64 P **Pb 05 29 13.0 -2.2**
JMBI S **Sb 05 29 56.9 -3.4**
MDSI Maura Dua 4.08 108 P **Pn 05 29 13.1 +1.6**
MNSI Mandailing Nat 4.08 350 P **Pn 05 29 14.5 +3.0**
LWLI Liwa 4.16 115 P **Pn 05 29 13.9 +1.3**
KASI Kota Agung 4.78 118 P **Pn 05 29 20.6 -0.4**
KLI Kotabumi 4.84 109 P **Pn 05 29 24.6 +2.7**
DSRI Dabo 5.11 57 P **Pn 05 29 26.4 +0.8**
529nm,0.6s,7μm2.5nm
GSI Gunungsitoli 5.27 329 P **Pn 05 29 26.4 -1.4**
108nm,0.5s,5μm1.3nm
GSI Gunungsitoli 5.27 329 *e*Pn **Pn 05 29 26.6 -1.3**
BLSI Bandar Lampung 5.38 113 P Pn 05 29 32.6 +3.2
231nm,0.6s,1.1nm
BTDF Bukit Timah Da 5.77 37 P Pb 05 29 44.4 -5.5
baz=6.1,SNR=6.1
TPRI Tanjung Pinang 5.94 46 P Pn 05 29 40.6 +3.6
215nm,0.6s,1.7nm
KGM Kluang 6.06 30 ⇑P **Pn 05 29 41.2 +2.6**
MYKOM Kota Tinggi 6.16 36 *e*Pn **Pn 05 29 41.7 +1.7**
MYKOM Kota Tinggi 6.16 36 ⇑P **Pn 05 29 42.9 +2.9**
PSI Prapat 6.17 347 P **Pn 05 29 38.7 -1.5**
PSI 05 30 56.9
PSI pmax pmax
comp=Z,1.0nm,0.3s
PSI smax smax
comp=N,2.0nm,0.3s
PSI Prapat 6.17 347 Pn **Pn 05 29 38.7 -1.5**
comp=N,1.1nm,0.3s,baz=167,slow=13,SNR=4.0
PSI Sn Sn 05 30 56.9 +6.3
comp=N,2.0nm,0.3s,baz=174,slow=11,SNR=0.9
PSI Prapat 6.17 347 P **Pn 05 29 39.4 -0.8**
baz=6.1,SNR=4.5
CGJI Cibinong 6.35 122 P **Pn 05 29 42.0 -0.6**
comp=N,225nm,1.0s,comp=N,3μmcomp=N,0.9nm
SBJI Serang 6.50 116 P **Pn 05 29 46.6 +2.0**
comp=N,174nm,1.0s,comp=N,14μmcomp=N,1.0nm
FRIM Kepong 6.59 12 ⇑P **Pn 05 29 48.5 +2.5**
SNSI Sinabang, Aceh 6.87 325 P Pn 05 29 53.1 +3.3
comp=N,110nm,0.9s,comp=N,4μmcomp=N,0.6nm
TPTI 7.17 334 P **Pn 05 29 53.3 -0.6**
comp=N,20nm,0.5s,comp=N,31μmcomp=N,0.2nm
KCSI Kotacane, Aceh 7.18 340 P **Pn 05 29 53.9 -0.2**
comp=N,50nm,1.0s,comp=N,798nmcomp=N,0.8nm
CBJI Citeko 7.27 116 P Pn 05 29 59.6 +4.4
comp=N,619nm,0.6s,comp=N,2.5nm
SKJI Sukabumi 7.28 121 P **Pn 05 29 57.0 +1.6**
comp=N,256nm,0.7s,comp=N,2μmcomp=N,1.3nm
TPI Tanjungpandan 7.39 86 P **Pn 05 29 57.2 +0.3**
comp=N,23nm,0.8s,comp=N,412nmcomp=N,0.3nm
IPM Ipoh 7.72 6 *e*Pn **Pn 05 30 03.0 +1.4**
IPM Ipoh 7.72 6 ⇑P **Pn 05 30 02.9 +1.4**
CNJI Cibinong 7.93 121 P **Pn 05 30 02.8 -1.5**
comp=N,322nm,0.8s,comp=N,3μm
LEM Lembang 8.13 116 P **Pn 05 30 09.8 +2.6**
comp=N,191nm,0.7s,comp=N,2μm
LEM Lembang 8.13 116 P Pn 05 30 15.5 +8.3
baz=8.4,SNR=5.5
KULM Kulim 8.50 3 *e*Pn **Pn 05 30 13.0 +0.8**
KULM Kulim 8.50 3 ⇓P **Pn 05 30 13.3 +1.2**
CISI Cisompet, Garu 8.64 120 P **Pn 05 30 13.1 -1.0**
comp=N,408nm,0.7s,comp=N,10μm
CISI Cisompet, Garu 8.64 120 *e*Pn **Pn 05 30 13.1 -1.0**
comp=N,264nm,0.5s
CISI Cisompet, Garu 8.64 120 P **Pn 05 30 13.1 -1.0**
baz=8.9,SNR=6.0
CISI S Sn 05 31 32.1 -19
baz=8.9,SNR=4.3
KTGM Kuala Trenggan 8.99 19 ⇑P **Pn 05 30 20.6 +1.6**
CMJI Cimerak 9.30 119 P **Pn 05 30 21.8 -1.3**
comp=N,225nm,0.7s,comp=N,2μm
COCO West Island 9.50 201 *e*P **Pn 05 30 24.5 -1.4**
COCO West Island 9.50 201 *e*Pn **Pn 05 30 24.5 -1.4**
KPJI Karang Pucung 9.53 115 P **Pn 05 30 28.0 +1.8**
comp=N,115nm,0.6s,comp=N,17μm
SMRI Semarang 10.80 111 P **Pn 05 30 46.4 +2.6**
comp=N,82nm,1.4s,comp=N,4μm
SMRI Semarang 10.80 111 *e*Pn **Pn 05 30 45.1 +1.4**
comp=N,52nm,0.5s
KSM Kuching 11.08 65 *e*Pn **Pn 05 30 47.6 0.0**
KSM Kuching 11.08 65 ⇓P **Pn 05 30 47.5 -0.1**
UGM Wanagama 11.20 115 P **Pn 05 30 48.9 -0.4**
comp=N,76nm,1.4s,comp=N,2μm
UGM Wanagama 11.20 115 *e*Pn Pn 05 30 45.3 -4.0
UGM Wanagama 11.20 115 P **Pn 05 30 48.8 -0.4**
baz=11,SNR=7.0
PWJI Pagerwojo 12.41 113 P **Pn 05 31 06.6 +0.8**
comp=N,29nm,0.8s,comp=N,530nm
SBUM Sibu 13.22 65 *e*Pn P 05 31 22.4 -4.4
SBUM Sibu 13.22 65 ⇓P **Pn 05 31 14.5 -2.3**
BLJI Banyuglugur 13.99 109 P **P 05 31 36.5 +1.2**
comp=N,44nm,0.6s,comp=N,3μm
BTM Bintulu 14.32 64 ⇑P **Pn 05 31 29.2 -2.7**
BBKI Banjar Baru 14.55 91 P **P 05 31 42.4 +0.9**
comp=N,79nm,0.8s
ABJI Asem Bagus 14.61 109 P **Pn 05 31 36.2 +0.4**
comp=N,120nm,0.7s,comp=N,1μm
JAGI Jajag, Banyuwa 14.74 111 P **Pn 05 31 36.5 -1.2**
comp=N,48nm,0.6s,comp=N,962nm
JAGI Jajag, Banyuwa 14.74 111 *e*Pn **Pn 05 31 35.7 -2.0**
comp=N,32nm,0.4s
JAGI *e*Sn Sn 05 34 13.7 -7.3
JAGI Jajag, Banyuwa 14.74 111 P **Pn 05 31 36.1 -1.6**
baz=15,SNR=3.8
SRBI Singaraja 15.62 109 P P 05 32 08.3 +15
DLV T Lat 17.17 28 *e*P **P 05 32 10.6 -0.2**
comp=N,6.8nm,0.6s
KKM Kota Kinabalu 18.41 60 P **Pn 05 32 25.4 +0.9**
baz=19,SNR=3.5
KKM Kota Kinabalu 18.41 60 ⇑P **P 05 32 21.9 -2.6**
UBPT Khong Chiam 19.12 15 P **P 05 32 32.2 0.0**
comp=N,22nm,1.0s
KDM Kudat 19.38 59 ⇑P **P 05 32 32.1 -2.9**
SPSI Sidrap Palu 19.47 93 P **Pn 05 32 38.0 +0.7**
comp=N,32nm,0.8s
KAPI Kappang 19.51 96 *e*Pn **Pn 05 32 37.7 0.0**
comp=N,45nm,0.9s
TTSI Tana Toraja 19.52 90 P Pn 05 32 51.1 +13
PBKT Sadao Pong 19.71 2 P **Pn 05 32 42.1 +2.0**
comp=N,11nm,0.9s,comp=N,813nm
BNSI Bone 19.82 94 P **P 05 32 40.4 +0.5**
comp=N,47nm,1.6s,comp=N,848nm
BKSI Bulukumba 19.90 97 P **P 05 32 40.9 +0.2**
comp=N,79nm,1.4s,comp=N,1μm
WBSI Waikabubak, Su 20.02 109 P Pn 05 32 49.6 +5.7
comp=N,100nm,0.7s,comp=N,1μm
SUKH Sukhothai 20.62 358 P Pn 05 32 54.1 +3.4
comp=N,3.8nm,0.8s,comp=N,51nm
APSI Ampana 21.49 84 P **P 05 33 00.2 +2.3**
comp=N,72nm,0.8s,comp=N,904nm
CM31 Chiang Mai Arr 21.62 357 *e*P **P 05 32 59.1 -0.2**
comp=N,13nm,0.7s
CMAR Chiang Mai Arr 21.62 357 P **P 05 32 57.9 -1.3**
CMAR 05 37 02.5
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,803nm,21.0s
CMAR Chiang Mai Arr 21.62 357 P **P 05 32 57.9 -1.3**
comp=Z,4.7nm,0.7s,baz=184,slow=9.5,SNR=28
CMAR PcP **PcP 05 37 02.5 +1.4**
comp=Z,1.1nm,0.4s,baz=204,slow=3.2,SNR=5.4
CMAR LR LR 05 41 42.0
comp=Z,803nm,21.0s,baz=184,slow=38
LAMP Lampang 21.65 358 P **P 05 33 03.4 +3.8**
comp=Z,6.2nm,0.8s,comp=Z,76nm
CMMT Chiang Mai 21.97 357 P **P 05 33 05.9 +2.9**
comp=Z,12nm,0.8s
CHTO Chiang Mai 21.97 357 *e*P **P 05 33 03.5 +0.4**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 21.97 357 P **P 05 33 05.9 +2.9**
comp=Z,41nm,0.8s
CHTO Chiang Mai 21.97 357 *e*P **P 05 33 03.5 +0.4**
comp=Z,6.0nm,1.0s
MRSI Marisa 21.98 81 P **P 05 32 59.4 -3.7**
comp=Z,31nm,1.4s,comp=Z,931nm
GTOI Gorontalo 23.06 81 P **P 05 33 12.3 -2.3**
comp=Z,72nm,1.2s,comp=Z,1μm
CMAI Chiengmai2 23.08 357 P **P 05 33 17.1 +2.2**
comp=Z,17nm,1.4s
QIZ Qiongzhong 24.07 23 P **P 05 33 25.1 +0.6**
QIZ S **S 05 37 45.0 +3.5**
QIZ pmax pmax
comp=Z,15nm,2.6s
QIZ LR LR
comp=Z,810nm,14.4s
QIZ LR LR
comp=Z,420nm,15.4s
QIZ LR LR
comp=Z,980nm,14.9s
SOEI Soe 24.69 106 P P 05 33 36.0 +5.6
SOEI Soe 24.69 106 *e*P **P 05 33 30.5 +0.2**
comp=Z,22nm,0.8s
SOEI *e*S S 05 37 44.6 -7.4
SLVN Son La 24.70 8 *e*P **P 05 33 29.2 -1.1**
comp=Z,31nm,1.6s
H08S2 Diego Garcia H 27.99 260 T T 06 03 10.5
baz=82,slow=75,SNR=4228
H08S3 Diego Garcia H 27.99 260 T T 06 03 09.5
baz=82,slow=75,SNR=5913
H08S1 Diego Carcia H 28.00 260 T T 06 03 12.0
baz=82,slow=75,SNR=2796
MEEK Meekatharra 29.14 145 P P 05 34 18.3 +8.0
baz=29,SNR=4.1
SHL Shillong 29.79 345 *e*P **P 05 34 19.0 +2.9**
GYA Guiyang 30.18 11 *e*P **P 05 34 21.6 +2.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
KNRA Kununurra 30.64 116 P **P 05 34 22.5 -1.1**
baz=31,SNR=9.4
MTN Manton Dam 31.97 109 P **P 05 34 36.2 +1.0**
baz=32,SNR=5.1
ODAN Odare 32.42 338 *e*P **P 05 34 40.3 +0.9**
comp=Z,26nm,0.5s
TAPN Taplejung 32.75 339 *e*P **P 05 34 43.7 +1.3**
comp=Z,56nm,0.8s
KDU Kakadu 33.20 108 P **P 05 34 46.0 0.0**
baz=34,SNR=3.5
JIRN Jiri 33.60 337 *e*P **P 05 34 50.7 +0.9**
comp=Z,22nm,0.5s
LSA Lhasa 33.92 346 P **P 05 34 53.2 +0.5**
LSA Lhasa 33.92 346 *e*P **P 05 34 52.4 -0.3**
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 33.92 346 *e*P **P 05 34 52.4 -0.3**
comp=Z,8.5nm,0.6s
GUN Gumba 33.95 337 *e*P **P 05 34 53.6 +0.8**
H01W3 Cape Leeuwin H 34.00 159 T T 06 10 46.8
baz=335,slow=76,SNR=183
H01W2 Cape Leeuwin H 34.01 159 T T 06 10 43.9
baz=335,slow=76,SNR=227
H01W1 Cape Leeuwin H 34.02 159 T T 06 10 40.8
baz=335,slow=76,SNR=165
KKN Kakani 34.08 336 *e*P **P 05 34 55.0 +1.2**
comp=Z,29nm,0.7s
CD2 Chengdu 34.14 5 P **P 05 34 53.7 -0.4**
CD2 pP **pP 05 34 58.0 -0.6**
CD2 sP **sP 05 35 00.7 +0.3**
CD2 PP **PnPn 05 36 09.0 +1.0**
CD2 S **S 05 40 20.6 +0.7**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,220nm,6.0s
CD2 LR LR
comp=Z,1μm,14.4s
CD2 LR LR
comp=Z,1μm,13.8s
GKN Gorkha 34.53 335 *e*P **P 05 34 58.9 +1.2**
WRKA Warakurna 34.59 131 P P 05 34 54.9 -3.2
baz=35,SNR=4.4
KOLN Koldanda 34.78 334 *e*P **P 05 35 00.6 +0.7**
comp=Z,30nm,0.8s
DANN Dangsing 35.21 334 *e*P **P 05 35 04.9 +1.2**
comp=Z,31nm,0.5s
PYUN Piuthan 35.34 333 *e*P **P 05 35 05.7 +1.0**
comp=Z,44nm,0.6s
WRA Warramunga Arr 37.14 119 P **P 05 35 19.8 -0.2**
WRA pmax pmax
comp=Z,6.0nm,0.4s
WRA MLR MLR
comp=Z,17nm,28.6s
WRA Warramunga Arr 37.14 119 P **P 05 35 19.8 -0.2**
comp=Z,5.9nm,0.4s,baz=301,slow=9.1,SNR=89
WRA LR LR 05 52 41.3
comp=Z,561nm,20.4s,baz=275,slow=40
WRAB Tennant Creek 37.14 119 *d* P **P 05 35 19.9 -0.2**
WRAB pmax pmax
comp=Z,15nm,0.5s
WRAB MLR MLR
comp=Z,2μm,21.0s
WRAB Tennant Creek 37.14 119 *e*P **P 05 35 19.6 -0.5**
comp=Z,13nm,0.4s
XAN Xi'an 37.98 12 P **P 05 35 26.0 -1.0**
XAN pP **pP 05 35 31.2 -0.3**
XAN S S 05 41 26.6 +7.9
XAN pmax pmax
comp=Z,15nm,0.6s
XAN pmax pmax
comp=Z,26nm,3.9s
XAN LR LR
comp=Z,690nm,15.3s
XAN LR LR
comp=Z,340nm,15.3s
XAN LR LR
comp=Z,420nm,15.3s
ASAR Alice Springs 38.31 125 P **P 05 35 30.1 +0.2**
ASAR pmax pmax
comp=Z,8.0nm,0.6s
ASAR MLR MLR
comp=Z,827nm,20.6s
ASAR Alice Springs 38.31 125 P **P 05 35 30.1 +0.2**
comp=Z,8.1nm,0.6s,baz=299,slow=8.0,SNR=74
ASAR LR LR 05 53 20.9
comp=Z,827nm,20.6s,baz=292,slow=40
LZH Lanzhou 39.28 5 *e*P **P 05 35 38.7 +0.7**
LZH pP **pP 05 35 41.1 -1.5**
LZH sP **sP 05 35 43.4 -1.0**
LZH S **S 05 41 40.5 +2.0**
LZH SS **SS 05 44 27.0 -5.3**
LZH pmax pmax
comp=Z,32nm,1.2s
LZH pmax pmax
comp=Z,180nm,5.8s
LZH LR LR
comp=Z,840nm,15.4s
LZH LR LR
comp=Z,700nm,13.2s
LZH LR LR
comp=Z,1μm,17.1s
NJ2 Nanjing 39.30 25 *e*P **P 05 35 38.5 +0.5**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
QIS Mount Isa 41.98 117 P **P 05 36 00.5 +0.1**
baz=42,SNR=8.8
GTA Gaotai 42.46 359 *e*P **P 05 36 04.5 +0.4**
GTA pP **pP 05 36 09.3 +0.6**
GTA sP **sP 05 36 11.6 +1.1**
GTA S **S 05 42 28.4 +2.7**
GTA SS **SS 05 45 32.5 -2.9**
GTA pmax pmax
comp=Z,11nm,1.7s
GTA pmax pmax
comp=Z,250nm,5.9s
GTA LR LR
comp=Z,570nm,15.2s
GTA LR LR
comp=Z,1μm,15.7s
GTA LR LR
comp=Z,560nm,15.7s
COEN Coen 43.65 107 P **P 05 36 16.2 +2.2**
baz=44,SNR=6.9
HHC Hu-ho-hao-te 45.09 12 *e*P **P 05 36 25.6 +0.3**
HHC sP **sP 05 36 33.0 +1.3**
HHC S **S 05 43 04.1 0.0**
HHC sS **sS 05 43 13.6 +1.9**
HHC ScS ScS 05 46 13.8 -8.5
HHC pmax pmax
comp=Z,43nm,1.6s
HHC pmax pmax
comp=Z,320nm,5.2s
HHC LR LR
comp=Z,750nm,17.1s
HHC LR LR
comp=Z,2μm,14.5s
HHC LR LR
comp=Z,1μm,13.3s
BJT Baijiatuau 45.47 17 *e*P **P 05 36 26.7 -1.4**
BJT pmax pmax
comp=Z,15nm,0.5s
BJT Baijiatuau 45.47 17 *e*P **P 05 36 26.7 -1.4**
comp=Z,15nm,0.5s
BJI Beijing 45.49 17 P **P 05 36 26.8 -1.5**
BJI S **S 05 43 13.7 +4.1**
BJI LR LR
comp=Z,1μm,15.0s
BJI LR LR
comp=Z,620nm,17.1s
BJI LR LR
comp=Z,730nm,17.5s
MTSU Mount Surprise 45.58 112 P **P 05 36 29.1 -0.3**
baz=46,SNR=7.9
PMG Port Moresby 46.97 100 *e*P **P 05 36 40.0 -0.3**
PMG pmax pmax
comp=Z,20nm,2.0s
PMG MLR MLR
comp=Z,336nm,30.0s
KSAR Wonju Array Be 47.94 30 P **P 05 36 47.2 -0.3**
KSAR Wonju Array Be 47.94 30 P **P 05 36 47.1 -0.3**
KSRS Korea Array 47.96 30 P **P 05 36 47.2 -0.5**
KSRS pmax pmax
comp=Z,3.0nm,0.6s
KSRS MLR MLR
comp=Z,220nm,18.3s
KSRS Korea Array 47.96 30 P **P 05 36 47.1 -0.5**
comp=Z,3.3nm,0.6s,baz=226,slow=8.2,SNR=8.8
KSRS LR LR 05 59 08.6
comp=Z,220nm,18.3s,baz=240,slow=39
QLP Quilpie 48.04 123 P **P 05 36 49.1 +0.6**
baz=48,SNR=9.9
KSH Kashi 48.08 335 *e*P **P 05 36 47.3 -1.5**
KSH *e*sP **sP 05 36 54.1 -1.1**
KSH *e*PP **PP 05 38 39.7 -1.4**
KSH *e*PcS PcS 05 42 06.3 -6.0
KSH S **S 05 43 42.2 -4.8**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,63nm,2.9s
KSH LR LR
comp=Z,97nm,4.1s
KSH LR LR
comp=Z,54nm,5.1s
KSH LR LR
comp=Z,130nm,7.0s
STKA Stephens Creek 48.12 131 P **P 05 36 49.9 +0.8**
STKA pmax pmax
comp=Z,6.0nm,0.6s
STKA MLR MLR
comp=Z,652nm,21.2s
STKA Stephens Creek 48.12 131 P **P 05 36 49.9 +0.8**
comp=Z,6.4nm,0.6s,baz=304,slow=8.0,SNR=29
STKA LR LR 05 58 38.0
comp=Z,652nm,21.1s,baz=296,slow=38
STKA Stephens Creek 48.12 131 *e*P **P 05 36 49.6 +0.5**
comp=Z,2.5nm,0.8s
STKA Stephens Creek 48.12 131 P **P 05 36 50.2 +1.1**
baz=48,SNR=22
WMQ Urumqi 48.21 348 P **P 05 36 50.6 +1.0**
WMQ pP **pP 05 36 55.1 +0.8**
WMQ sP **sP 05 36 57.6 +1.5**
WMQ PcP **PcP 05 38 18.1 +1.3**
WMQ PP **PP 05 38 42.4 +0.2**
WMQ PcS **PcS 05 42 12.5 0.0**
WMQ S **S 05 43 48.4 -0.2**
WMQ ScS **ScS 05 46 40.4 -2.1**
WMQ SS **SS 05 47 12.5 -5.7**
WMQ pmax pmax
comp=Z,25nm,0.6s
WMQ pmax pmax
comp=Z,150nm,4.2s
WMQ LR LR
comp=Z,400nm,17.0s
WMQ LR LR
comp=Z,350nm,15.6s
WMQ LR LR
comp=Z,260nm,23.2s
TKM2 Tokmak 2 51.09 337 *e*P **P 05 37 11.9 +0.1**
TKM2 pmax pmax
comp=Z,18nm,0.8s
TKM2 Tokmak 2 51.09 337 *e*P **P 05 37 11.8 +0.1**
comp=Z,18nm,0.8s
CMSA Cobar Meteorol 51.12 129 P **P 05 37 13.1 +1.1**
baz=51,SNR=21
SONM Songino Array 51.16 5 P **P 05 37 12.6 +0.5**
SONM 05 38 27.4
SONM pmax pmax
comp=Z,11nm,0.5s
SONM Songino Array 51.16 5 P **P 05 37 12.6 +0.5**
comp=Z,11nm,0.5s,baz=188,slow=9.3
SONM PcP **PcP 05 38 27.4 -0.1**
baz=184,slow=4.9
AAK Ala-Archa 51.29 336 ⇓*i*P **P 05 37 14.7 +1.5**
AAK pmax pmax
comp=Z,25nm,2.3s
AAK MLR MLR
comp=Z,617nm,19.0s
AAK Ala-Archa 51.29 336 *e*P **P 05 37 10.4 -2.8**
comp=Z,6.0nm,0.9s
EKS2 Erkin-Say 51.61 335 *e*P **P 05 37 15.5 -0.1**
EKS2 pmax pmax
comp=Z,20nm,0.9s
EKS2 Erkin-Say 51.61 335 *e*P **P 05 37 15.5 -0.1**

comp=Z,20nm,0.9s
CN2 Changchun 52.03 23 eP P 05 37 17.3 -1.2
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,400nm,12.0s
CN2 LR LR
comp=Z,500nm,12.0s
CN2 LR LR
comp=Z,600nm,13.0s
MK31 Makanchi Array 52.30 344 eP P 05 37 20.6 0.0
MK31 Makanchi Array 52.30 344 eP P 05 37 20.6 0.0
MKAR Makanchi Array 52.30 344 P P 05 37 20.8 +0.2
MKAR pmax pmax
comp=Z,18nm,0.6s
MKAR Makanchi Array 52.30 344 P P 05 37 20.8 +0.2
comp=Z,18nm,0.6s,baz=155,slow=8.5,SNR=287
KKAR Karatay Array 53.39 333 eP P 05 37 28.0 -0.7
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 53.39 333 eP P 05 37 27.9 -0.7
comp=Z,1.8nm,0.6s
ZAK Zakamensk 53.49 2 eP P 05 37 28.6 -0.7
ZAK pmax pmax
comp=Z,3.0nm,1.8s
MDJ Mudanjiang 54.40 25 P P 05 37 36.7 +0.8
MDJ pP pP 05 37 39.9 -0.7
MDJ sP sP 05 37 41.2 -1.2
MDJ PP PP 05 39 38.2 0.0
MDJ S S 05 45 17.1 +3.2
MDJ ScS ScS 05 47 26.1 +1.2
MDJ SS SS 05 48 57.2 +0.8
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,170nm,3.9s
MDJ LR LR
comp=Z,500nm,15.7s
MDJ LR LR
comp=Z,440nm,14.7s
MDJ LR LR
comp=Z,690nm,16.6s
MOY Mondy 54.72 1 eP P 05 37 47.4 +9.1
TLY Talaya 54.80 3 eP P 05 37 33.8 -5.0
TLY eS S 05 45 18.6 -0.6
TLY e 05 47 15.9
TLY pmax pmax
comp=Z,11nm,1.8s
TLY MLR MLR
comp=Z,611nm,15.0s
TLY Talaya 54.80 3 eP P 05 37 39.2 +0.4
comp=Z,4.4nm,0.8s
USRK Ussuriysk Arra 55.14 27 P P 05 37 41.2 -0.1
comp=Z,19nm,0.5s,baz=221,slow=4.9,SNR=35
USRK LR LR 06 03 20.3
comp=Z,452nm,18.9s,baz=218,slow=38
CAN Canberra 55.18 132 eP P 05 37 43.3 +1.4
CAN pmax pmax
comp=Z,5.0nm,0.8s
CAN Canberra 55.18 132 eP P 05 37 43.3 +1.4
comp=Z,5.0nm,0.8s
KURK Kurchatov 56.88 344 eP P 05 37 53.4 -0.3
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 56.88 344 eP P 05 37 53.4 -0.3
comp=Z,8.6nm,0.9s
ZAA0 Zalesovo Array 58.45 349 eP P 05 38 04.2 -0.4
ZALV Zalesovo Beam 58.45 349 P P 05 38 04.3 -0.3
ZALV pmax pmax
comp=Z,10.0nm,0.7s
ZALV MLR MLR
comp=Z,142nm,21.5s
ZALV Zalesovo Beam 58.45 349 P P 05 38 04.3 -0.3
comp=Z,9.8nm,0.7s,baz=164,slow=5.1,SNR=43
ZALV LR LR 06 05 58.4
comp=Z,142nm,21.5s,baz=241,slow=39
KLR Kul'dur 58.97 24 eP P 05 38 03.8 -4.5
NVS Novosibirsk 59.59 349 eP P 05 38 10.7 -1.8
BRVK Borovoye 61.51 340 eP P 05 38 24.6 -1.1
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 61.51 340 eP P 05 38 24.6 -1.1
comp=Z,4.8nm,0.6s
YSS Yuzh-Sakhalins 62.40 31⇓eP P 05 38 33.4 +1.6
YSS pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 62.87 332 eP P 05 38 34.1 -0.8
comp=Z,7.6nm,0.6s
KMBO Kilima Mbogo 63.00 270 LR LR 06 03 02.7
comp=Z,126nm,18.4s,baz=90,slow=33
DZM Mont Dzumac 66.72 113 LR LR 06 10 51.1
comp=Z,276nm,18.9s,baz=221,slow=38
ZEI Tsey 68.36 319 eP P 05 39 10.9 +0.1
ZEI pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 68.46 337c iP P 05 39 10.0 -0.8
ARU 05 39 32.5
ARU S S 05 48 13.1 +1.0
ARU pmax pmax
comp=Z,21nm,2.5s
YAK Yakutsk 68.88 14⇓eP P 05 39 13.9 +0.6
YAK pmax pmax
comp=Z,12nm,0.6s
MAW Mawson 69.14 194 LR LR 06 02 25.6
comp=Z,225nm,21.0s,baz=5.0,slow=30
KIV Kislovodsk 69.67 319 eP P 05 39 19.0 +0.3
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,61nm,18.0s
VRHR Novokhopersk 73.52 326 eP P 05 39 41.0 -0.6
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
PETK Petropavlovsk- 73.80 32 P P 05 39 42.7 -0.6
PETK pmax pmax
comp=Z,3.0nm,0.7s
PETK Petropavlovsk- 73.80 32 P P 05 39 42.6 -0.6
comp=Z,3.2nm,0.7s,baz=192,slow=9.5,SNR=4.2
BR131 Keskin Array S 74.37 313 eP P 05 39 46.4 -0.7
comp=Z,2.8nm,0.6s
BRTR Keskin Array B 74.37 313 P P 05 39 46.3 -0.8
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR MLR MLR
comp=Z,16nm,28.6s
BRTR Keskin Array B 74.37 313 P P 05 39 46.2 -0.8
comp=Z,3.4nm,0.6s,baz=134,slow=6.9,SNR=17
BRTR LR LR 06 14 45.0
comp=Z,81nm,20.6s,baz=114,slow=38
VSR Storozhevoye 74.96 325 eP P 05 39 49.3 -0.8
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,3.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.8s
BOSA Boshof 75.29 241 LR LR 06 08 13.2
comp=E,135nm,20.4s,baz=160,slow=32
SEY Seymchan 76.69 22 eP P 05 40 00.4 +0.7
SEY Seymchan 76.69 22 P P 05 39 59.4 -0.3
comp=E,2.8nm,0.5s,baz=231,slow=7.8,SNR=7.9
PRGR Permogore 76.92 336 eP P 05 39 59.0 -2.0
PRGR pmax pmax
comp=Z,19nm,0.9s
TIXI Tiksi 77.05 9⇓iP P 05 40 00.4 -1.2
TIXI pmax pmax
comp=Z,24nm,2.5s
TIXI MLR MLR
comp=Z,466nm,20.0s
TIXI Tiksi 77.05 9 eP P 05 39 59.9 -1.7
comp=Z,9.0nm,0.9s
OBN Obninsk 78.00 328⇑eP P 05 40 08.5 +1.3
OBN e 05 42 58.5
OBN eS S 05 50 06.2 +5.9
OBN eSS SS 05 54 55.5 -6.2
OBN pmax pmax
comp=Z,7.0nm,0.5s
AKASG Malin Array Be 80.64 322 P P 05 40 21.2 -0.5
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 80.64 322 P P 05 40 21.2 -0.5
comp=Z,0.6nm,0.5s,baz=89,slow=5.1,SNR=3.4
VNDA Vanda 80.88 169 LR LR 06 11 08.3
comp=Z,127nm,20.9s,baz=303,slow=32
TMCR Tamitsa 81.20 337 eP P 05 40 25.3 +0.9
TMCR e 05 43 31.6
TMCR pmax pmax
comp=Z,12nm,0.7s
JOF Joensuu 83.46 335 eP P 05 40 35.0 -1.3
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 83.46 335 ep P 05 40 35.0 -1.3
comp=Z,2.8nm,0.6s
VSU Vasula 84.22 330 eP P 05 40 41.9 +1.7
VSU pmax pmax
comp=Z,26nm,0.9s
BILL Bilibino 84.24 20⇑eP P 05 40 40.5 +0.3
BILL eS S 05 51 05.4 +0.6
BILL pmax pmax
comp=Z,11nm,1.3s
KOLS Kolonicke sedl 84.58 320 eP P 05 40 43.3 +1.0
KOLS Kolonicke sedl 84.58 320 eP P 05 40 43.3 +1.0
CRVS Cervenica-Dubn 85.10 319 eP P 05 40 46.8 +1.8
CRVS Cervenica-Dubn 85.10 319 eP P 05 40 46.8 +1.8
STHS Stebnicka Huta 85.33 320 eP P 05 40 47.4 +1.3
STHS Stebnicka Huta 85.33 320 eP P 05 40 47.4 +1.3
FINES FINESS Array B 85.34 332 P P 05 40 46.1 +0.2
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES MLR MLR
comp=Z,117nm,19.8s
FINES FINESS Array B 85.34 332 P P 05 40 46.1 +0.2
comp=Z,2.0nm,0.5s,baz=119,slow=6.0,SNR=29
FINES LR LR 06 23 04.8
comp=Z,117nm,19.8s,baz=91,slow=39
KAF Kangasniemi 85.42 333 eP P 05 40 47.0 +0.8
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 85.42 333 ep P 05 40 47.0 +0.8
comp=Z,2.7nm,0.6s
KEV Kevo 87.30 341 eP P 05 40 50.5 -4.8
KEV Kevo 87.30 341 ep P 05 40 50.5 -4.8
comp=Z,0.3nm,0.4s
ARCES ARCESS Array B 87.74 340 P P 05 40 57.8 +0.3
comp=Z,3.5nm,0.8s,baz=102,slow=6.8,SNR=11
ARCES LR LR 06 24 46.0
comp=Z,199nm,19.3s,baz=122,slow=39
GERES GERESS Array B 90.17 319 P P 05 41 10.5 +1.0
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 90.17 319 P P 05 41 10.4 +1.0
comp=Z,0.8nm,0.7s,baz=84,slow=5.5,SNR=4.6
NOA NORSAR Array B 92.37 331 LR LR 06 25 32.1
comp=Z,41nm,20.0s,baz=80,slow=37
TORD Torodi Ar. Bea 99.08 283 LR LR 06 22 07.1
comp=Z,78nm,21.8s,baz=70,slow=33
YKA Yellowknife Ar 115.49 17 PKP PKPdf 05 46 50.2 -0.4
comp=Z,0.3nm,0.7s,baz=329,slow=1.8,SNR=5.7
NVAR Mina Array Bea 130.39 40 PKP PKPdf 05 47 21.3 +1.1
comp=Z,0.5nm,0.5s,baz=257,slow=3.4,SNR=7.2
ULM Lac du Bonnet 131.22 14 PKIKP PKPdf 05 47 21.1 -0.1
ULM pmax pmax
comp=Z,2.0nm,0.6s
ULM Lac du Bonnet 131.22 14 PKP PKPdf 05 47 21.1 -0.1
comp=Z,1.5nm,0.6s,baz=14,slow=4.2,SNR=3.4
PDAR Pinedale Array 132.53 30 PKP PKPdf 05 47 24.9 +0.7
comp=Z,0.2nm,0.4s,baz=103,slow=1.3,SNR=5.8
ANMO Albuquerque 139.88 35 i PKIKP PKPdf 05 47 40.0 +2.0
ANMO pmax pmax
comp=Z,64nm,2.5s
W32A Sentinel 143.49 27 ⇑P PKPbc 05 47 41.6 +0.1
baz=143
X31A McDonald Ranch 143.55 29 ⇑P PKPbc 05 47 41.7 +0.1
baz=144
V34A Guthrie 143.65 25 ⇓P PKPbc 05 47 42.4 +0.5
baz=144
Y30A Stafford Cattl 143.70 30 ⇑P PKPbc 05 47 42.5 +0.4
baz=144
Z29A Hungry Hill Ra 143.76 32 ⇑P PKPbc 05 47 42.6 +0.2
baz=144
W33A Caddo, Fort Co 143.82 26 ⇓P PKPbc 05 47 42.6 +0.2
baz=144
227A Bennet, Jal 143.83 35 ⇓P PKPbc 05 47 42.7 +0.1
baz=144
128A Castleberry Fa 143.83 34 ⇓P PKPbc 05 47 42.6 0.0
baz=144
326A Caldwell Ranch 143.93 37 ⇓P PKPbc 05 47 43.0 0.0
baz=144
Y31A Rekieta Farm, 143.95 30 ⇑P PKPbc 05 47 42.8 0.0
baz=144
Z30A Sanderson Ranc 144.04 31 ⇓P PKPbc 05 47 43.2 0.0
baz=144
X32A Elmer 144.05 28 ⇑P PKPab 05 47 42.8 +0.2
baz=144
W34A Bridge Creek, 144.05 26 ⇑P PKPbc 05 47 43.1 0.0
baz=144
228A UT Block 9, Go 144.15 34 ⇓P PKPbc 05 47 43.4 -0.2
baz=144
129A Stewart Farms, 144.16 33 ⇓P PKPbc 05 47 43.6 0.0
baz=144
327A Balmorhea Ranc 144.18 36 ⇑P PKPbc 05 47 43.6 -0.1
baz=144
TUL1 Tulsa 144.27 23 ⇑P PKPab 05 47 43.5 +0.1
baz=144
X33A Lawton 144.31 27 ⇑P PKPab 05 47 43.6 0.0
baz=144
Y32A R-V Farms, Ver 144.31 29 ⇓P PKPbc 05 47 43.9 0.0
baz=144
Z31A Sharp Cattle R 144.52 30 ⇑P PKPbc 05 47 44.7 0.0
baz=144
X34A Smith Ranch, M 144.56 26 ⇓P PKPbc 05 47 45.0 +0.2
baz=144
328A Wristen Ranch, 144.57 35 ⇑P PKPab 05 47 44.7 0.0
baz=144,SNR=7.6
427A Hayter Ranch, 144.61 37 ⇑P PKPbc 05 47 45.3 +0.2
baz=145
130A Snyder 144.67 32 ⇓P PKPab 05 47 45.1 +0.1
baz=145
Y33A Hilltop Ranch, 144.70 28 ⇑P PKPab 05 47 44.8 -0.3
baz=145
Z32A Haskell 144.86 29 ⇑P PKPab 05 47 45.7 0.0
baz=145
131A Roby 144.91 31 ⇑P PKPbc 05 47 46.0 +0.1
baz=145
329A Wagon Wheel Ra 144.96 34 ⇑P PKPbc 05 47 46.3 +0.1
baz=145,SNR=12
428A Kincaid Ranch, 145.12 36 ⇑P PKPdf 05 47 47.6 +0.2
baz=145,SNR=20
Y34A Reagan Ranch, 145.13 27 ⇓P PKPbc 05 47 46.3 -0.3
baz=145
230A Sterling City 145.14 33 ⇓P PKPbc 05 47 46.7 -0.1
baz=145,SNR=25
Z33A Whitaker Ranch 145.22 29 ⇑P PKPbc 05 47 46.3 -0.6
baz=145
ABTX Abilene, Hawle 145.33 30 ⇑P PKPbc 05 47 46.7 -0.6
baz=145
528A Cox Ranch, San 145.47 37 ⇑P PKPab 05 47 48.1 0.0
baz=145,SNR=10
330A Mertzon 145.47 33 ⇓P PKPbc 05 47 47.6 -0.3
baz=145,SNR=7.4
TXAR Lajitas Array 145.52 39 PKIKP PKPab 05 47 48.7 +0.4
TXAR pmax pmax
comp=Z,11nm,0.5s
TXAR Lajitas Array 145.52 39 PKPbc PKPab 05 47 48.6 +0.4
comp=Z,11nm,0.5s,baz=236,slow=0.7,SNR=206
231A Bronte 145.53 32 ⇑P PKPdf 05 47 47.7 -0.2
baz=146,SNR=7.9
Z34A Collier Ranch, 145.55 28 ⇑P PKPdf 05 47 47.7 -0.2
baz=146
429A Davenport Ranc 145.66 35 ⇑P PKPdf 05 47 48.3 +0.1
baz=146,SNR=5.6
133A Hamilton Ranch 145.70 29 ⇑P PKPdf 05 47 48.2 0.0
baz=146,SNR=6.5
529A Stev Forest Ra 145.83 36 ⇑P PKPbc 05 47 49.1 +0.1
baz=146,SNR=7.2
Z35A Perchaven, San 145.89 27 ⇓P PKPbc 05 47 49.1 +0.1
baz=146
430A Baggett Ranch, 145.91 34 ⇓P PKPbc 05 47 49.3 +0.1
baz=146
232A Coleman 145.91 31 ⇓P PKPbc 05 47 49.1 -0.1
baz=146,SNR=9.2
331A San Angelo 145.96 33 ⇑P PKPbc 05 47 49.1 -0.2
baz=146,SNR=8.2
134A White-Moore Ra 146.14 28 ⇓P PKPbc 05 47 49.8 0.0
baz=146
233A Rising Star 146.19 30 ⇑P PKPbc 05 47 49.8 -0.2
baz=146,SNR=9.2
332A Millersview 146.26 32 ⇑P PKPbc 05 47 50.3 0.0
baz=146,SNR=20
MIAR Mount Ida 146.31 21 ePKP2 PKPbc 05 47 50.3 +0.1
MIAR Mount Ida 146.31 21 ePKPbc PKPbc 05 47 50.3 +0.1
530A J-C Ranch, Com 146.33 35 ⇑P PKPab 05 47 51.0 -0.3
baz=146,SNR=15
431A Sonora 146.34 34 ⇑P PKPab 05 47 50.9 -0.3
baz=146,SNR=8.5
135A Vickery Place, 146.47 28 ⇑P PKPbc 05 47 50.4 -0.4
baz=146
234A Clairette 146.58 29 ⇓P PKPbc 05 47 50.6 -0.5
baz=146
432A Menard 146.63 32 ⇓P PKPbc 05 47 51.0 -0.3
baz=147
333A Richland Sprin 146.70 31 ⇑P PKPbc 05 47 51.3 -0.2
baz=147,SNR=18
531A Rocksprings 146.77 34 ⇑P PKPbc 05 47 51.7 -0.1
baz=147,SNR=10
WHTX Lake Whitney 146.91 28 ⇑P PKPbc 05 47 51.8 -0.3
baz=147
JCT Junction City 146.94 33 ePKP2 PKPbc 05 47 52.6 +0.3
JCT Junction City 146.94 33 ePKPbc PKPbc 05 47 52.6 +0.3
JCT Junction City 146.94 33 ⇑P PKPbc 05 47 52.2 0.0
baz=147,SNR=20
334A Lometa 147.07 30 ⇑P PKPbc 05 47 52.3 -0.3
baz=147
433A Art 147.10 32 ⇑P PKPbc 05 47 52.2 -0.5
baz=147,SNR=6.9
631A Perdido Creek 147.32 35 ⇓P PKPbc 05 47 52.6 -0.7
baz=147,SNR=5.6
434A Burnet 147.48 31 ⇓P PKPbc 05 47 53.1 -0.6
baz=147,SNR=8.2
335A Moody 147.51 29 ⇑P PKPbc 05 47 53.4 -0.3
baz=147
533A Kerrville 147.67 32 ⇑P PKPbc 05 47 53.9 -0.4
baz=148
632A Uvalde 147.69 34 ⇑P PKPbc 05 47 54.3 0.0
baz=148
534A Blanco 148.00 32 ⇑P PKPbc 05 47 53.8 -1.4
baz=148
732A Laxson Ranch, 148.18 35 ⇓P PKPbc 05 47 54.7 -1.0
baz=148
KMSC Kings Mountain 148.24 2 ⇑P PKPbc 05 47 54.9 -0.7
baz=148
832A Faith Ranch, C 148.51 36 ⇑P PKPbc 05 47 56.7 +0.2
baz=148
733A Divot King Ran 148.57 34 ⇑P PKPbc 05 47 57.1 +0.4
baz=148
833A Chaparral WMA, 148.82 35 ⇑P PKPbc 05 47 57.8 +0.5
baz=149
635A Leesville 148.87 32 ⇑P PKPbc 05 47 58.5 +1.1
baz=149
636A Smothers Creek 149.17 30 ⇑P PKPbc 05 47 59.2 +1.1
baz=149
735A Kenedy 149.28 32 ⇑P PKPbc 05 47 59.6 +1.1
baz=149
538A Harpers Horsep 149.31 27 ⇑P PKPbc 05 48 00.0 +1.6
baz=149
933A Laredo 149.42 36 ⇑P PKPbc 05 48 00.1 +1.3
baz=149
834A Tilden 149.44 34 ⇓P PKPbc 05 47 59.7 +0.8
baz=149
934A Benavides 149.87 35 ⇓P PKPbc 05 48 01.2 +1.3
baz=150

IDC 11 05:32:32.5±1.2, 54.62N×161.24W, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.5/41, mbtmp3.5/10, ML3.4/3, Error ellipse: s-maj=30.5km s-min=15.7km az=176.0
ISCJB 11 05:32:33.9±0.6, 54.52N±0.05×160.91W±0.07, h10km, mb3.4/7, Error ellipse: s-maj=8.1km s-min=4.9km az=157.3
NEIC 11 05:32:35.4, 54.69N×161.14W, h2km, ML3.4(AEIC), After AEIC.
ISC 11 05:32:34.6±0.8, 54.69N±0.08×160.95W±0.04, h10km, n35, σ0.97/32, mb3.5/7, Alaska Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SDPT Sand Point 0.71 22 P Pn 05 32 52.1 +1.3
SDPT S Sn 05 33 03.1 +1.3
DRIA Deer Island 0.81 291 P Pg 05 32 50.3 +0.1
HAG Hague Volcano 0.84 319 P Pb 05 32 52.3 +1.1
PVV Pavlof Volcano 0.84 325 P Pb 05 32 52.3 +1.0
PS4A Pavlof South-4 0.84 322 P Pb 05 32 52.2 +0.9
DT1 Dutton Round H 0.88 299 P Pg 05 32 51.7 +0.3
FALS False Pass 1.44 278 P Pn 05 33 00.9 +0.2
FALS S Sg 05 33 20.5 -0.4
ISNN Isanotski Nort 1.65 276 P Pn 05 33 03.9 +0.4
SSLN Shishaldin Nor 1.77 275 P Pn 05 33 05.6 +0.3
SSLW Shishaldin Wes 1.84 274 P Pn 05 33 06.8 +0.5
SSLW S Sn 05 33 30.9 +1.3
WESN West Dahl Nort 2.12 268 P Pn 05 33 10.9 +0.9
WESN S Sb 05 33 38.6 -0.8
WESE West Dahl East 2.13 266 P Pn 05 33 10.7 +0.4
CHGN Chignik 2.17 41 P Pb 05 33 13.9 0.0
AKUT Akutan 2.87 261 P Pn 05 33 21.9 +1.5
ZRO Akutan Zero 3.00 261 P Pn 05 33 22.5 +0.3
UNV Unalaska Valle 3.36 258 P Pn 05 33 27.7 +0.6
MSW Makushin Switc 3.50 260 P Pn 05 33 28.8 -0.3
MREP Makushin Rep't 3.51 258 P Pn 05 33 30.2 +0.9
OKFG Magazine Ridge 4.30 256 P Pn 05 33 41.2 +1.2
ILAR Eielson Array 12.31 29 Pn Pn 05 35 28.1 -1.7
0.1nm,0.3s,baz=220,slow=14,SNR=5.1
FX1 Attu Island--F 15.38 274 Pn Pn 05 36 11.2 -0.3
0.6nm,0.3s,baz=18,slow=20,SNR=3.6
INK Inuvik 18.66 32 Pn P 05 36 51.0 -1.2
0.1nm,0.3s,baz=257,slow=16,SNR=5.2
PETK Petropavlovsk- 24.17 283 P P 05 37 49.1 -1.6
1.4nm,0.4s,baz=91,slow=12,SNR=9.9
YKA Yellowknife Ar 24.88 53 P P 05 37 57.5 +0.5
0.2nm,0.5s,baz=270,slow=8.8,SNR=13
NVAR Mina Array Bea 32.92 102 P P 05 39 10.5 +1.4
0.3nm,0.6s,baz=293,slow=5.8,SNR=3.9
H11N2 WAKE ISLAND Hy 42.59 228 T T 06 25 17.5
baz=29,slow=76,SNR=7
H11N3 WAKE ISLAND Hy 42.59 228 T T 06 25 13.1
baz=29,slow=76,SNR=5.7
H11N1 WAKE ISLAND Hy 42.60 228 T T 06 25 20.2
baz=29,slow=76,SNR=5.1
H11S1 WAKE ISLAND Hy 43.75 227 T T 06 26 45.4
baz=27,slow=77,SNR=6.4
H11S2 WAKE ISLAND Hy 43.77 227 T T 06 26 41.4
baz=27,slow=77,SNR=4.6
H11S3 WAKE ISLAND Hy 43.77 227 T T 06 26 42.0
baz=27,slow=77,SNR=4.3
TXAR Lajitas Array 47.87 98 P P 05 41 13.3 +0.6
0.1nm,0.5s,baz=311,slow=6.8,SNR=3.6
SONM Songino Array 54.30 304 P P 05 42 00.7 -0.1
0.4nm,0.8s,baz=64,slow=6.6,SNR=3.6
FINES FINESS Array B 64.08 356 P P 05 43 06.7 -1.3
0.7nm,0.8s,baz=25,slow=11,SNR=3.4
MKAR Makanchi Array 65.67 318 P P 05 43 16.7 -2.1
0.4nm,0.5s,baz=37,slow=5.5,SNR=7.1

IDC 11 05:48:15.1±3.7, 5.98S×148.40E, h0km, mb3.0/1, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, ML3.2/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/12, Error ellipse: s-maj=119.4km s-min=40.7km az=105.0, New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 3.62 200 Pn Pn 05 49 13.7 +1.2
7.8nm,0.3s,baz=8.1,slow=7.1,SNR=7.6
PMG Sn Sn 05 49 54.1 -1.9
18nm,0.3s,baz=342,slow=19,SNR=6.9
WRA Warramunga Arr 19.48 223 P P 05 52 43.7 -0.1
0.1nm,0.3s,baz=50,slow=11,SNR=6.8
ASAR Alice Springs 22.45 217 P P 05 53 15.6 -0.3
0.4nm,0.5s,baz=52,slow=9.5,SNR=5.5
JCJ Chichijima 33.42 350 LR LR 06 06 37.1
comp=Z,78nm,21.8s,baz=171,slow=33
TORD Torodi Ar. Bea 146.43 285 PKPbc PKPdf 06 07 58.3 +0.3
0.2nm,0.3s,baz=73,slow=2.5,SNR=4.3

IDC 11 06:06:15.7±7.4, 14.25S×167.25E, h169km±75km, mb3.4/5, mb1 3.6/6, mb1mx3.3/31, mbtmp3.8/6, Error ellipse: s-maj=65.9km s-min=24.1km az=156.0, Vanuatu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 7.82 185 P Pn 06 08 08.5 +1.8
0.5nm,0.3s,baz=169,slow=19,SNR=1.6

DZM S Sn 06 09 32.1 -2.4
0.4nm,0.3s,baz=97,slow=22,SNR=2.3
STKA Stephens Creek 29.29 229 P P 06 12 02.9 +0.6
2.0nm,0.5s,baz=48,slow=9.0,SNR=14
WRA Warramunga Arr 31.92 255 P P 06 12 25.3 -0.4
0.5nm,0.5s,baz=86,slow=9.4,SNR=14
ASAR Alice Springs 32.83 248 P P 06 12 33.2 -0.3
0.8nm,0.5s,baz=77,slow=9.5,SNR=16
ILAR Eielson Array 86.08 18 P P 06 18 36.9 -0.1
0.5nm,0.7s,baz=240,slow=5.0,SNR=11
YKA Yellowknife Ar 97.13 27 P P 06 19 27.6 -0.7
0.1nm,0.6s,baz=256,slow=5.0,SNR=1.8
ARCES ARCESS Array B 119.78 345 PKP PKPdf 06 24 45.2 +0.1
2.6nm,0.9s,baz=29,slow=2.8,SNR=6.6

IDC 11 06:13:54.0±3.1, 30°.15S×138°.59E, h0km, mb1 2.8/3, mb1mx2.8/21, mbtmp2.5/3, ML2.6/3, Error ellipse: s-maj=83.6km s-min=15.3km az=46.0, South Australia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 3.11 124 Pn Pn 06 14 43.8 -0.5
0.3nm,0.3s,baz=305,slow=14,SNR=2.2
STKA Pg Pb 06 14 51.1 +1.0
1.1nm,0.3s,baz=290,slow=13,SNR=7.1
STKA Sn Sn 06 15 20.8 -1.3
1.0nm,0.3s,baz=286,slow=12,SNR=2.6
STKA Lg Lg 06 15 32.3
1.2nm,0.3s,baz=22,slow=23,SNR=4.4
ASAR Alice Springs 7.69 326 Pn Pn 06 15 47.8 +0.4
0.1nm,0.3s,baz=148,slow=13,SNR=2.6
ASAR Sn Sn 06 17 14.3 -1.0
0.1nm,0.3s,baz=158,slow=22,SNR=1.7
WRA Warramunga Arr 10.86 338 Pn Pn 06 16 31.9 +1.0
0.1nm,0.3s,baz=154,slow=13,SNR=1.6
WRA Sn Sn 06 18 32.4 -0.9
0.0nm,0.3s,baz=162,slow=24,SNR=1.9

MEX 11 06:21:06.9±0.9, 16°.78N×95°.25W, h107km±8km, MD3.8, Oaxaca

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMIG Matias Romero 0.46 49 *i* P Pn 06 21 22.0 -1.2
CMIG *i* S Sn 06 21 33.1 -2.3
HUIG Huatulco 1.30 219 *i* P Pn 06 21 29.6 -1.6
HUIG *e*S Sn 06 21 48.5 -1.1
VHO Vista Hermosa 1.45 282 *i* P Pn 06 21 32.5 -0.6
VHO *i* S Sn 06 21 52.2 -0.8
PCIG 2.23 119 *e*P Pn 06 21 42.3 -0.4
PCIG *i* S Sn 06 22 09.1 -1.0
PNIG Pinotepa 2.79 262 *e*P Pn 06 21 48.5 -1.5
PNIG *i* S Sn 06 22 21.3 -2.0
CCIG Comitan 3.03 99 *i* P Pn 06 21 53.0 -0.4
CCIG *e*S Sn 06 22 28.7 -0.6

ISCJB 11 06:22:13.9±0.8, 7°.0S±0°.1×154°.9E±0°.1, h39km, mb3.7/7, Error ellipse: s-maj=24.5km s-min=10.6km az=147.2
IDC 11 06:22:21.9±5.7, 7°.12S×154°.69E, h99km±48km, mb3.5/7, mb1 3.7/9, mb1mx3.6/35, mbtmp3.9/9, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=46.8km s-min=25.8km az=115.0
ISC 11 06:22:15.2±1.0, 7°.0S±0°.2×155°.0E±0°.2, h39km, n11, σ1s.75/11, mb3.7/7, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 5.43 116 LR LR 06 26 05.1
comp=Z,287nm,20.4s,baz=234,slow=39
PMG Port Moresby 8.13 253 P **Pn** **06 24 11.8 +1.1**
0.8nm,0.3s,baz=305,slow=10,SNR=2.1
PMG S **Sn** **06 25 41.5 +0.1**
0.5nm,0.3s,baz=292,slow=21,SNR=2.1
CTA Charters Tower 15.52 212 P **Pn** **06 25 53.0 +1.6**
0.3nm,0.3s,baz=32,slow=8.5,SNR=3.9
WRA Warramunga Arr 23.82 235 P **P** **06 27 21.8 -3.0**
2.2nm,0.9s,baz=60,slow=9.6,SNR=11
ASAR Alice Springs 26.17 228 P **P** **06 27 44.3 -1.9**
0.7nm,0.6s,baz=58,slow=7.9,SNR=7.0
STKA Stephens Creek 27.71 205 P **P** **06 28 00.2 +0.3**
1.5nm,0.8s,baz=20,slow=10,SNR=4.8
ILAR Eielson Array 83.40 21 P **P** **06 34 40.5 +2.4**
0.4nm,0.8s,baz=238,slow=6.3,SNR=2.2
MKAR Makanchi Array 83.44 319 P **P** **06 34 38.5 -0.3**
0.5nm,0.7s,baz=108,slow=4.0,SNR=5.7
INK Inuvik 89.74 21 P **P** **06 35 08.5 -0.5**
0.5nm,0.5s,baz=260,slow=4.8,SNR=2.1
YKA Yellowknife Ar 96.36 28 P **P** **06 35 39.4 -0.2**
0.6nm,0.8s,baz=265,slow=4.5,SNR=12
TORD Torodi Ar. Bea 153.06 285 PKPbc **PKPbc** **06 42 08.2 -1.4**
0.8nm,0.7s,baz=39,slow=2.2,SNR=6.1

MAN 11 06:29:27, 9°.75N×124°.51E, h9km, mb4.8, ML3.7, MS3.7, Mindanao

IDC 11 06:32:34.5±9.3, 17°.51S×177°.30W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/32, mbtmp3.4/3, Error ellipse: s-maj=413.4km s-min=42.3km az=142.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 45.74 259 P P 06 40 57.9 -0.1
0.3nm,0.9s,baz=93,slow=7.6,SNR=1.9
ASAR Alice Springs 45.91 254 P P 06 40 59.2 -0.1
0.4nm,0.5s,baz=92,slow=8.4,SNR=6.4
ILAR Eielson Array 85.27 13 P P 06 45 12.7 0.0
0.4nm,0.7s,baz=224,slow=4.6,SNR=2.6

GUC 11 06:36:31.6±0.7, 36°.15S×71°.66W, h115km±8km, ML4.3, 2C-2D, Central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TALC Talca 0.75 2⇓*e*P Pn 06 36 50.1 -0.7
TALC *e*S Sn 06 37 02.7 -2.5
TALC AML AML 06 37 03.2
comp=N,37μm,0.5s
CTCH Constitucion 1.02 323 *e*P Pn 06 36 53.1 -0.2
CTCH *e*S Sn 06 37 09.3 -0.5
CTCH AML AML 06 37 11.7
comp=E,14μm,0.4s
CCSP San Pedro de C 1.36 239 *e*P Pn 06 36 57.0 -0.1
CCSP *e*S Sn 06 37 15.9 -0.5
LNV Longovilo 2.19 5 *e*P Pn 06 37 08.0 +0.7
CHCH Chadas Angostu 2.36 21 *e*P Pn 06 37 09.5 +0.1
TACH Talagante 2.56 14⇑*i*P Pn 06 37 12.0 0.0
LMEL Las Melosas 2.58 28 *e*P Pn 06 37 13.8 +1.2
LMEL *e*S Sn 06 37 45.7 +1.8
LMEL AML AML 06 37 52.3
comp=N,459nm,0.2s
LACH Col Las Americ 2.84 19 *e*P Pn 06 37 15.9 +0.1
LACH *e*S Sn 06 37 49.7 0.0
CLCH Cerro Calan 2.89 19⇓*e*P Pn 06 37 16.8 +0.4
CLCH *e*S Sn 06 37 51.1 +0.1
CLCH AML AML 06 38 23.6
comp=N,334nm,0.7s
PEL Peldehue 3.10 15⇑*e*P Pn 06 37 19.6 +0.4
PEL *e*S Sn 06 37 55.7 -0.1
PEL AML AML 06 37 57.5
comp=E,474nm,0.3s
ROCH El Roble 3.21 10 *e*P Pn 06 37 20.9 +0.1
ROCH *i* S Sn 06 37 58.8 -0.1
ROCH AML AML 06 38 00.9
comp=N,390nm,0.3s

ISCJB 11 07:02:13.6±0.9, 57°.3S±0°.3×147°.8W±0°.2, h10km, mb3.9/6, MS3.9/12, Error ellipse: s-maj=36.9km s-min=19.2km az=5.8
IDC 11 07:02:14.1±0.8, 57°.31S×147°.79W, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/23, mbtmp3.8/6, MS3.9/12, Ms1 3.9/12, ms1mx3.7/21, Error ellipse: s-maj=47.7km s-min=22.8km az=5.0
ISC 11 07:02:15.7±0.9, 57°.3S±0°.3×147°.7W±0°.2, h10km, n32, σ1s.05/10, mb4.0/6, MS3.9/12, Pacific-Antarctic Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VNDA Vanda 26.49 202 LR LR 07 15 58.6
comp=Z,162nm,18.1s,baz=110,slow=31
URZ Urewera 29.86 294 LR LR 07 16 32.2
comp=Z,125nm,21.2s,baz=101,slow=29
QSPA South Pole Qui 32.84 180 P **P** **07 08 49.3 0.0**
2.1nm,1.1s,baz=111,slow=2.4,SNR=2.7
QSPA LR LR 07 20 09.2
comp=Z,273nm,19.5s,baz=64,slow=33
TBI Tubuai 33.94 357 *e*T T 07 44 50.1
13nm,0.3s
RKT Rikitea 35.39 21 *e*T T 07 46 35.3
2.6nm,0.3s
RAR Rarotonga 37.12 341 LR LR 07 20 45.8
comp=Z,207nm,19.7s,baz=110,slow=30
MEH Mehetia 39.37 360 *e*T T 07 51 36.2
33nm,0.3s
TVO Taravao 39.48 358 *e*T T 07 51 44.7
2.7nm,0.3s
PPT2 Papeete2 39.67 357 *e*LR LR 07 20 42.3
417nm,25.8s
PPT2 Papeete2 39.67 357 *e*T T 07 51 59.6
2.1nm,0.3s
PPT Papeete 39.70 357 LR LR 07 21 53.6
comp=Z,152nm,19.8s,baz=180,slow=30
VAH Vaihoa 41.99 0 *e*T T 07 54 52.5
25nm,0.3s
AFI Afiamalu 47.00 327 LR LR 07 24 44.6
comp=Z,113nm,20.5s,baz=218,slow=29
PLCA Paso Flores 50.40 106 LR LR 07 26 55.7
comp=Z,86nm,21.6s,baz=255,slow=29
H03N3 Juan Fernandez 51.33 93 T T 08 06 51.8
baz=220,slow=75,SNR=76
H03N2 Juan Fernandez 51.34 93 T T 08 06 42.8
baz=220,slow=75,SNR=135
H03N1 Juan Fernandez 51.35 93 T T 08 06 47.6
baz=220,slow=75,SNR=74
MAW Mawson 53.36 194 LR LR 07 31 52.2
comp=Z,160nm,18.1s,baz=180,slow=33
STKA Stephens Creek 53.54 267 P **P** **07 11 37.6 +1.3**
2.5nm,1.0s,baz=120,slow=10,SNR=4.0
STKA LR LR 07 31 18.5
comp=Z,100nm,19.2s,baz=171,slow=33
CFAA Coronel Fontan 58.51 100 P **P** **07 12 11.1 -0.9**
0.3nm,0.9s,baz=291,slow=5.5,SNR=5.0
ASAR Alice Springs 64.17 266 P **P** **07 12 49.8 -0.6**
1.8nm,1.0s,baz=121,slow=4.8,SNR=5.1
H01W1 Cape Leeuwin H 65.46 243 T T 08 24 37.3
baz=143,slow=76,SNR=9.3
H01W2 Cape Leeuwin H 65.46 243 T T 08 24 35.5
baz=143,slow=76,SNR=7.6
H01W3 Cape Leeuwin H 65.47 243 T T 08 24 33.0
baz=143,slow=76,SNR=7.7
WRA Warramunga Arr 66.95 269 P **P** **07 13 06.5 -1.8**
1.1nm,1.0s,baz=151,slow=5.6,SNR=5.3
LPAZ La Paz 70.84 90 P **P** **07 13 34.0 +0.7**
1.0nm,0.8s,baz=284,slow=4.2,SNR=2.5
LPAZ LR LR 07 36 59.7
comp=Z,74nm,18.9s,baz=246,slow=29
BDFB Brasilia 82.14 107 LR LR 07 47 50.9
comp=Z,68nm,19.0s,baz=300,slow=33
BOSA Boshof 94.21 174 LR LR 07 55 14.7
comp=Z,115nm,18.9s,baz=192,slow=34
ILAR Eielson Array 121.75 0 PKP **PKPdf** **07 21 08.1 -0.1**
0.4nm,0.8s,baz=245,slow=1.8,SNR=5.0
MKAR Makanchi Array 148.19 273 PKPbc **PKPbc** **07 22 00.3 -0.5**
1.8nm,0.7s,baz=90,slow=3.6,SNR=11
ESDC Sonseca Array 150.69 111 PKPbc **PKPbc** **07 22 08.1 +0.8**
0.2nm,0.3s,baz=246,slow=1.3,SNR=1.7
ZALV Zalesovo Beam 150.75 286 PKPbc **PKPbc** **07 22 07.5 +0.6**
1.3nm,0.7s,baz=180,slow=1.4,SNR=4.4

IDC 11 07:08:30.7±3.1, 53°.75N×86°.92E, h0km, mb1 2.5/2, mb1mx2.5/32, mbtmp2.5/2, ML2.7/2, Error ellipse: s-maj=31.2km s-min=17.4km az=64.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.26 280 *i* 07 15 33.0
baz=99,slow=346,SNR=1.3
ZALV Zalesovo Beam 1.26 280 Pn Pg 07 08 53.7 -1.1
0.9nm,0.3s,baz=105,slow=12,SNR=11
ZALV Pg Pn 07 08 55.9 +0.4
0.9nm,0.3s,baz=118,slow=9.8,SNR=2.4
ZALV Lg Lg 07 09 11.5
0.7nm,0.3s,baz=101,slow=27,SNR=3.5
KURBB Kurchatov Arra 6.04 242 Pn Pn 07 10 01.9 +0.7
0.1nm,0.3s,baz=59,slow=13,SNR=6.1
MKAR Makanchi Array 7.57 205 Pn Pn 07 10 23.6 +1.4
0.2nm,0.3s,baz=23,slow=14,SNR=2.0

IDC 11 07:46:40.3±0.7, 6°.52S×147°.75E, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.3/30, mbtmp4.2/14, ML3.5/2, MS4.2/21, Ms1 4.2/21, ms1mx4.0/35, Error ellipse: s-maj=31.5km s-min=14.8km az=101.0
DJA 11 07:46:42.2±1.4, 7°.S±8°×14°8E±1°6, h10km, M4.9/12, mB5.4/7, mb4.9/12, MLv5.0/1, Mw(mB)4.8/7
MOS 11 07:46:43.6±1.3, 6°.61S×147°.50E, h28km, mb4.6/26, Error ellipse: s-maj=14.6km s-min=8.1km az=88.7
NEIC 11 07:46:45.5±0.4, 6°.66S×147°.75E, h35km, mb4.8/15, Error ellipse: s-maj=11.7km s-min=7.2km az=106.0
BJI 11 07:46:45.5, 6°.50S×147°.89E, h45km, mB5.1/27, mb4.7/38, Ms4.8/20, MS7 4.5/20
GCMT 11 07:46:45.5±0.2, 6°.78S×147°.30E, h18km, MW5.1/77, Moment Tensor Solution. s58,c75; s77,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.29±.16; $M_{\theta\theta}$-3.43±.10; $M_{\phi\phi}$-0.86±.12; $M_{r\theta}$2.47±.24; $M_{r\phi}$1.95±.07; $M_{\theta\phi}$0.35±.29; Best double couple: $M_0$5.04500×10^{16} NP1:ϕ_s102.00000°, δ60.00000°, λ72.00000°. NP2: ϕ_s314.00000°, δ35.00000°, λ117.00000°. Principal axes: T 5.1500, Plg70.0000°, Azm333.0000°; N -0.2130, Plg15.0000°, Azm111.0000°; P -4.9390, Plg13.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
ISCJB 11 07:46:47.4±0.3, 6°.75S±0°.03×147°.56E±0°.05, h63km, mb4.6/54 Error ellipse: s-maj=7.7km s-min=4.2km az=9.3
ISC 11 07:46:49.0±0.4, 6°.67S±0°.04×147°.65E±0°.06, h63km, n160, σ2s.04/165, mb4.6/52, 3D, Eastern New Guinea region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 2.76 190 P **Pn** **07 47 29.8 -1.2**
PMG 07 48 07.0
PMG pmax pmax
comp=Z,13nm,0.3s
PMG smax smax
comp=N,84nm,0.3s
PMG Port Moresby 2.76 190 Pn **Pn** **07 47 29.8 -1.2**
comp=N,13nm,0.3s,baz=352,slow=8.8,SNR=20
PMG Sn **Sn** **07 48 07.0 +3.9**
comp=N,84nm,0.3s,baz=4.5,slow=22,SNR=4.8
PMG Port Moresby 2.76 190 *e*Pn **Pn** **07 47 29.4 -1.6**
PMG *e*Sn **Sn** **07 48 06.7 +3.5**
JAY Jayapura 8.06 300 P **Pn** **07 48 42.0 -1.5**
comp=N,67nm,0.7s,comp=N,4μm
COEN Coen 8.47 211 *e*Pn **Pn** **07 48 47.1 -2.1**
COEN *e*Sn **Sn** **07 50 20.9 -2.5**
COEN Coen 8.47 211 P **Pn** **07 48 46.7 -2.5**
baz=4.7,SNR=17
GENI Genyem 8.48 298 P **Pn** **07 48 48.3 -1.0**
comp=N,110nm,1.1s
MTSU Mount Surprise 11.85 196 P **Pn** **07 49 34.8 -0.5**
baz=8.5,SNR=7.6
CTA Charters Tower 13.41 186 LR LR 07 55 13.9
comp=N,852nm,18.6s,baz=7.0,slow=38
CTAO Charters Tower 13.41 186 *e*P Pn 07 49 53.3 -3.2
CTAO *e* 07 52 22.5
CTAO Charters Tower 13.41 186 *e*Pn **Pn** **07 49 53.3 -3.2**
CTAO *e*Sn **Sn** **07 52 22.5 -1.5**
QIS Mount Isa 15.86 209 P **Pn** **07 50 27.3 -1.1**
baz=12,SNR=9.3
KDU Kakadu 16.11 247 P **Pn** **07 50 29.4 -2.2**
baz=13,SNR=14
SWI Sorong 17.34 289 P **Pn** **07 50 42.7 -4.2**
comp=N,118nm,1.2s,comp=N,1μm
MTN Manton Dam 17.39 248 P **P** **07 50 49.8 +1.8**
baz=14,SNR=4.8
WRAB Tennant Creek 18.45 223 *e*P **P** **07 50 57.7 -2.1**
WRAB *e*S **S** **07 54 29.9 +2.9**
WRAB pmax pmax
comp=Z,25nm,0.9s
WRAB Tennant Creek 18.45 223 *e*P **P** **07 50 57.7 -2.1**
comp=Z,25nm,0.9s
WRAB *e*S **S** **07 54 29.9 +2.9**
WRA Warramunga Arr 18.47 223 P **P** **07 50 58.1 -1.9**
WRA S Sn 07 54 16.6 -10
WRA pmax pmax
comp=Z,1.0nm,0.3s
WRA MLR MLR
comp=Z,17nm,28.6s
WRA Warramunga Arr 18.47 223 P **P** **07 50 58.1 -1.9**
comp=Z,0.5nm,0.3s,baz=46,slow=12,SNR=31
WRA S Sn 07 54 16.6 -10
comp=Z,0.1nm,0.3s,baz=37,slow=22,SNR=3.1
WRA LR LR 07 58 26.7
comp=Z,1μm,20.0s,baz=45,slow=38
WRA ScP ScP 07 59 08.2 +10
comp=Z,0.1nm,0.3s,baz=27,slow=2.0,SNR=4.7
MSAI Masohi 18.94 279 P **Pn** **07 51 07.4 +1.0**
comp=Z,14nm,1.0s,comp=Z,445nm
RMQ Roma 19.74 177 P **Pn** **07 51 18.7 +3.0**
baz=17,SNR=13
QLP Quilpie 20.07 189 P Pn 07 51 19.5 -0.2
baz=17,SNR=19
KNRA Kununurra 20.56 243 P **P** **07 51 21.0 -1.7**
baz=17,SNR=9.8
LBMI Labuha 20.97 286 P **P** **07 51 27.1 -0.1**
comp=Z,142nm,1.1s
AS31 Alice Springs 21.45 217 *e*P **P** **07 51 31.2 -1.1**
ASAR Alice Springs 21.45 217 P **P** **07 51 31.4 -0.9**
ASAR S **S** **07 55 27.4 +0.4**
ASAR pmax pmax
comp=Z,12nm,0.8s
ASAR pmax pmax
comp=N,3.0nm,1.0s
ASAR MLR MLR
comp=Z,16nm,28.6s
ASAR Alice Springs 21.45 217 P **P** **07 51 31.4 -0.9**
comp=Z,12nm,0.8s,baz=26,slow=13,SNR=33
ASAR S **S** **07 55 27.4 +0.4**
comp=Z,0.4nm,0.5s,baz=280,slow=36,SNR=2.6
ASAR ScP ScP 07 59 16.2 +11
comp=Z,2.6nm,1.0s,baz=60,slow=2.2,SNR=5.6
ASAR LR LR 08 00 40.7
comp=Z,717nm,19.6s,baz=36,slow=39
TNTI Ternate 21.55 289 *e*P **P** **07 51 32.9 -0.5**
comp=Z,35nm,0.5s
TNTI *e*S **S** **07 55 30.9 +1.9**
SOEI Soe 23.34 261 P P 07 51 59.0 +6.7
SOEI Soe 23.34 261 P **P** **07 51 52.4 +0.1**
comp=Z,108nm,1.3s
DZM Mont Dzumac 23.74 132 *e*S **S** **07 56 01.8 -5.0**
comp=Z,433nm,23.2s
DZM *e*LR LR 07 57 42.2
comp=Z,623nm,22.6s
KMSI Cibinong 24.69 286 P **P** **07 52 02.0 -2.4**
comp=Z,439nm,1.1s
STKA Stephens Creek 25.71 192 P **P** **07 52 14.7 +1.2**
STKA pmax pmax
comp=Z,10.0nm,0.9s
STKA MLR MLR
comp=Z,17nm,28.6s
STKA Stephens Creek 25.71 192 P **P** **07 52 14.7 +1.2**
comp=Z,9.8nm,0.8s,baz=345,slow=8.3,SNR=15
STKA LR LR 08 02 44.8
comp=Z,1μm,21.6s,baz=10,slow=37
STKA Stephens Creek 25.71 192 P **P** **07 52 14.7 +1.2**
STKA *e*S **S** **07 56 41.1 +3.3**
STKA Stephens Creek 25.71 192 P **P** **07 52 15.7 +2.2**
baz=22,SNR=9.6
WRKA Warakurna 26.01 223 P **P** **07 52 14.9 -1.5**
baz=22,SNR=19
APSI Ampana 26.56 281 P **P** **07 52 20.9 -0.4**
MRSI Marisa 26.62 284 P pP 07 52 35.1 -2.1
WSI Waingapu 27.23 262 P **pP** **07 52 41.7 -1.0**
baz=25,SNR=5.2
WSI S S 07 56 50.0 -12
baz=25,SNR=3.6
HTT Hallett 27.83 196 P P 07 52 38.1 +5.4
baz=24,SNR=9.0
BBOO Buckleboo 28.16 201 *e*P **P** **07 52 33.7 -1.8**
comp=Z,351nm,1.0s
MEEK Meekatharra 34.02 231 P **P** **07 53 26.3 -1.0**
baz=30,SNR=17
SBUM Sibu 36.51 283 *e*P **P** **07 53 49.0 +0.2**
comp=Z,39nm,1.6s
MORW Morawa 37.22 229 P **P** **07 53 56.6 +2.0**
baz=34,SNR=3.9
KLBR Kellerberrin 37.34 225 P **P** **07 53 57.8 +2.2**
baz=34,SNR=7.0
NWAO Narrogin (SRO) 38.48 223 LR LR 08 10 29.5
comp=Z,753nm,19.3s,baz=48,slow=37
CISI Cisompet, Garu 39.53 266 *e*P **P** **07 54 17.2 +3.0**
MJAR Matsushiro Arr 43.89 349 LR LR 08 11 27.9
comp=Z,149nm,18.3s,baz=140,slow=34
UBPT Khong Chiam 47.14 298 P P 07 55 27.8 +12
NJ2 Nanjing 47.29 326 *e*P **P** **07 55 15.6 -0.8**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
KSRS Korea Array 47.60 339 P **P** **07 55 17.3 -1.4**
comp=Z,1.4nm,0.7s,baz=156,slow=9.2,SNR=2.6
KSRS LR LR 08 13 31.0
comp=Z,310nm,21.4s,baz=146,slow=34
KSAR Wonju Array Be 47.61 339 P **P** **07 55 17.3 -1.4**
KSAR Wonju Array Be 47.61 339 P **P** **07 55 17.3 -1.4**
KULM Kulim 48.39 283 *e*P **P** **07 55 25.2 0.0**
comp=Z,18nm,1.1s
PSI Prapat 49.54 279 P **P** **07 55 34.0 -0.2**
baz=48,SNR=3.9
SURT Suratani 51.11 287 P **P** **07 55 46.7 +0.9**
comp=Z,12nm,1.0s
PKDT Phuket 51.26 286 P **P** **07 55 48.4 +1.4**
comp=Z,51nm,1.0s
GYA Guiyang 51.61 311 *e*P **P** **07 55 51.2 +1.7**
GYA pP **pP** **07 56 02.7 -3.2**
GYA PP **PP** **07 57 50.4 +2.8**
GYA S **S** **08 03 08.9 +2.7**
GYA sS sS 08 03 24.4 -9.5
GYA SS **SS** **08 06 43.0 -0.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.4s
GYA LR LR
comp=Z,460nm,18.5s
GYA LR LR
comp=Z,380nm,19.0s
GYA LR LR
comp=Z,420nm,18.3s
PBKT Sadao Pong 51.62 297 P P 07 55 56.2 +6.6
comp=Z,13nm,2.4s
UTTA Uttaradit 52.45 298 P **P** **07 55 58.2 +2.5**
comp=Z,8.5nm,0.8s
USRK Ussuriysk Arra 52.57 346 P **P** **07 55 56.6 +0.4**
comp=Z,1.5nm,0.8s,baz=191,slow=6.6,SNR=2.2
USRK LR LR 08 15 03.5
comp=Z,90nm,21.8s,baz=148,slow=32
KHLT Khaolaem Dam 53.11 294 P P 07 56 07.2 +6.5
comp=Z,9.4nm,1.6s
SUKH Sukhothai 53.15 298 P P 07 56 07.3 +6.3
comp=Z,5.1nm,1.1s
YSS Yuzh-Sakhalins 53.56 356 *e*P P 07 56 13.3 +10
MDJ Mudanjiang 53.58 344 P **P** **07 56 06.1 +2.5**
MDJ pP **pP** **07 56 15.1 -5.0**
MDJ sP sP 07 56 19.0 -8.2
MDJ PP **PP** **07 58 06.6 +1.6**
MDJ S S 08 03 39.7 +7.4
MDJ ScS **ScS** **08 05 50.4 +3.0**
MDJ pmax pmax
comp=Z,6.0nm,1.3s
MDJ pmax pmax
comp=Z,150nm,5.3s
MDJ LR LR
comp=Z,210nm,25.4s
MDJ LR LR
comp=Z,190nm,18.4s
MDJ LR LR
comp=Z,340nm,22.8s
CMAR Chiang Mai Arr 54.13 298 P **P** **07 56 08.5 +0.3**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR MLR MLR
comp=Z,16nm,28.6s
CMAR Chiang Mai Arr 54.13 298 P **P** **07 56 08.5 +0.3**
comp=Z,4.8nm,0.7s,baz=124,slow=5.7,SNR=12
CMAR LR LR 08 22 11.0

comp=Z,94nm,18.3s,baz=138,slow=39
CMMT Chiang Mai 54.27 299 P P 07 56 15.3 +6.1
CHTO Chiang Mai 54.27 299 eP P 07 56 10.0 +0.8
CHTO pmax pmax
comp=Z,14nm,1.2s
CHTO Chiang Mai 54.27 299 eP P 07 56 10.0 +0.8
comp=Z,14nm,1.2s
XAN Xi'an 54.61 320 P P 07 56 09.7 -1.7
XAN pP pP 07 56 19.5 -8.4
XAN S S 08 03 41.4 -5.2
XAN pmax pmax
comp=Z,2.0nm,1.2s
XAN LR LR
comp=Z,120nm,18.3s
BJT Baijiatuau 54.78 331 eP P 07 56 12.8 +0.3
BJT pmax pmax
comp=Z,7.0nm,0.3s
BJT Baijiatuau 54.78 331 eP P 07 56 12.8 +0.3
comp=Z,6.5nm,0.3s
BJI Beijing 54.80 331 P P 07 56 11.7 -0.9
BJI S S 08 03 48.8 0.0
BJI pmax pmax
comp=Z,10.0nm,1.0s
BJI LR LR
comp=Z,270nm,22.5s
BJI LR LR
comp=Z,360nm,21.3s
BJI LR LR
comp=Z,160nm,24.5s
CD2 Chengdu 56.20 314 P P 07 56 25.7 +2.8
CD2 pP pP 07 56 37.3 -2.2
CD2 sP sP 07 56 42.0 -4.6
CD2 PP PP 07 58 32.9 +4.1
CD2 S S 08 04 11.8 +3.8
CD2 sS sS 08 04 31.2 -4.8
CD2 SS SS 08 07 59.5 +3.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,210nm,4.3s
CD2 LR LR
comp=Z,380nm,12.0s
CD2 LR LR
comp=Z,330nm,16.8s
KLR Kul'dur 57.38 348 eP P 07 56 26.0 -4.8
HHC Hu-ho-hao-te 57.74 328 eP P 07 56 37.1 +3.4
HHC sP sP 07 56 54.6 -2.8
HHC PP PP 07 58 45.4 +3.0
HHC S S 08 04 34.7 +6.6
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,180nm,6.5s
HHC LR LR
comp=Z,500nm,19.2s
HHC LR LR
comp=Z,570nm,19.0s
HHC LR LR
comp=Z,290nm,25.5s
LZH Lanzhou 59.13 319 eP P 07 56 48.2 +4.6
LZH pmax pmax
comp=Z,10.0nm,1.0s
PETK Petropavlovsk- 60.16 7 P P 07 56 50.0 0.0
comp=Z,7.4nm,1.0s,baz=116,slow=5.0,SNR=4.3
PETK LR LR 08 19 08.9
comp=Z,152nm,21.1s,baz=197,slow=32
PET Petropavlovsk 60.20 8 eP P 07 56 53.8 +3.6
PET eS S 08 05 04.7 +5.6
HIA Hailar 60.80 339 eP P 07 56 54.6 0.0
HIA pmax pmax
comp=Z,19nm,1.2s
HIA Hailar 60.80 339 eP P 07 56 54.5 0.0
comp=Z,19nm,1.2s
PPT2 Papeete2 62.09 106 eS S 08 05 28.4 +3.7
comp=Z,351nm,26.2s
PPT2 Papeete2 62.09 106 eLR LR 08 15 36.7
comp=Z,186nm,23.5s
SHL Shillong 62.92 303 eP P 07 57 11.0 +1.5
GTA Gaotai 63.67 320 eP P 07 57 16.7 +2.6
GTA pP pP 07 57 27.2 -3.7
GTA sP sP 07 57 30.9 -7.1
GTA S S 08 05 49.0 +5.2
GTA sS sS 08 06 06.6 -5.7
GTA pmax pmax
comp=Z,3.0nm,1.3s
GTA pmax pmax
comp=Z,110nm,4.7s
GTA LR LR
comp=Z,83nm,15.7s
GTA LR LR
comp=Z,150nm,15.2s
GTA LR LR
comp=Z,96nm,17.3s
ULN Ulaanbaatar 65.00 331 eP P 07 57 23.1 +0.4
ULN pmax pmax
comp=Z,9.0nm,2.5s
LSA Lhasa 65.16 307 eP P 07 57 25.7 +1.3
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 65.16 307 eP P 07 57 25.7 +1.3
comp=Z,3.5nm,0.6s
SONM Songino Array 65.30 331 LR LR 08 24 59.7
comp=Z,216nm,21.2s,baz=116,slow=35
TAPN Taplejung 67.06 303 eP P 07 57 37.3 +0.9
ODAN Odare 67.15 303 eP P 07 57 38.6 +1.6
RAMN Ramite 67.84 303 eP P 07 57 43.3 +2.0
JIRN Jiri 68.43 303 eP P 07 57 45.4 +0.2
ZAK Zakamensk 68.53 331 eP P 07 57 44.5 -0.5
ZAK pmax pmax
comp=Z,5.0nm,1.3s
GUN Gumba 68.77 303 eP P 07 57 46.6 -0.7
comp=Z,48nm,1.1s
TLY Talaya 69.23 332 eP P 07 57 49.9 +0.7
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY MLR MLR
comp=Z,160nm,19.0s
DMN Daman 69.31 303 eP P 07 57 49.9 -0.6
comp=Z,47nm,1.1s
SEY Seymchan 69.50 2 P P 07 57 50.1 -0.5
SEY pmax pmax
comp=Z,4.0nm,1.0s
SEY Seymchan 69.50 2 P P 07 57 50.0 -0.5
comp=Z,4.2nm,1.0s,baz=203,slow=5.5,SNR=7.8
GKN Gorkha 69.84 303 eP P 07 57 52.9 -0.7
YAK Yakutsk 69.90 351 ⇓iP P 07 57 53.4 +0.4
YAK pmax pmax
comp=Z,6.0nm,1.0s
KOLN Koldanda 70.63 302 eP P 07 57 55.9 -2.6
DANN Dangsing 70.68 303 eP P 07 57 57.4 -1.5
PYUN Piuthan 71.25 303 eP P 07 57 59.0 -3.3
TAOE Nuku Hiva Isla 71.48 97 eP P 07 57 58.8 -5.0
comp=Z,2μm,1.3s
HYB Hyderabad 72.30 291 iP P 07 58 13.0 +4.4
WMQ Urumqi 73.72 319 eP P 07 58 17.5 +1.0
WMQ pP PcP 07 58 30.6 -1.3
WMQ PcP pP 07 58 33.2 -0.5
WMQ sP sP 07 58 35.9 -4.8
WMQ PP PP 08 01 04.3 +2.6
WMQ S S 08 07 44.6 +1.9
WMQ sS sS 08 08 05.6 -6.2
WMQ ScS ScS 08 08 19.9 -0.8
WMQ SS SS 08 12 29.9 +2.3
WMQ pmax pmax
comp=Z,10.0nm,1.2s
WMQ pmax pmax
comp=Z,130nm,4.6s
WMQ LR LR
comp=Z,110nm,20.2s
WMQ LR LR
comp=Z,170nm,23.6s
WMQ LR LR
comp=Z,91nm,19.2s
BILL Bilibino 75.69 7 eP P 07 58 28.7 +1.4
BILL pmax pmax
comp=Z,5.0nm,1.0s
POO Poona 76.91 291 eP P 07 58 34.0 -1.3
MKAR Makanchi Array 78.42 320 P P 07 58 41.2 -1.9
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 78.42 320 P P 07 58 41.1 -1.9
comp=Z,0.7nm,0.6s,baz=97,slow=7.0,SNR=8.5
TIXI Tiksi 79.14 354 eP P 07 58 46.6 +0.2
TIXI pmax pmax
comp=Z,3.0nm,1.7s
ZAA0 Zalesovo Array 79.92 328 eP P 07 58 49.5 -1.6
ZALV Zalesovo Beam 79.92 328 P P 07 58 49.2 -1.9
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV MLR MLR
comp=Z,16nm,28.6s
ZALV Zalesovo Beam 79.92 328 P P 07 58 49.2 -1.9
comp=Z,1.3nm,0.6s,baz=126,slow=5.8,SNR=6.1
ZALV LR LR 08 35 40.1
comp=Z,128nm,18.8s,baz=70,slow=37
KSH Kashi 80.30 312 eP P 07 58 59.9 +6.3
KSH esP sP 07 59 18.7 +0.7
KSH ePP PP 08 02 05.2 +8.0
KSH eS SKSac 08 09 04.8 -1.5
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH pmax pmax
comp=Z,69nm,3.5s
KSH LR LR
comp=Z,90nm,5.6s
KSH LR LR
comp=Z,49nm,3.9s
KSH LR LR
comp=Z,110nm,5.7s
KURK Kurchatov 82.13 323 eP P 07 59 02.5 -0.4
KURK pmax pmax
comp=Z,3.0nm,1.4s
KURK Kurchatov 82.13 323 eP P 07 59 02.5 -0.4
comp=Z,3.5nm,1.4s
AAK Ala-Archa 82.27 315 eP P 07 59 05.0 +1.0
AAK pmax pmax
comp=Z,4.0nm,1.3s
KKAR Karatay Array 85.22 314 eP P 07 59 19.9 +1.0
KKAR Karatay Array 85.22 314 eP P 07 59 19.9 +1.0
COLA College 85.51 23 eP P 07 59 19.6 -0.2
COLA pmax pmax
comp=Z,8.0nm,1.2s
COLA College 85.51 23 eP P 07 59 19.6 -0.2
comp=Z,7.7nm,1.2s
ILAR Eielson Array 85.84 23 P P 07 59 19.5 -2.0
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR MLR MLR
comp=Z,89nm,18.0s
ILAR Eielson Array 85.84 23 P P 07 59 19.4 -2.0
comp=Z,1.8nm,0.8s,baz=250,slow=4.5,SNR=17
ILAR LR LR 08 39 03.1
comp=Z,89nm,18.0s,baz=262,slow=37
BVAR Borovoye Array 87.69 324 LR LR 08 41 58.8
comp=Z,44nm,18.1s,baz=95,slow=38
BRVK Borovoye 87.76 324 ⇓iP P 07 59 31.1 0.0
BRVK pmax pmax
comp=Z,5.0nm,1.7s
BRVK Borovoye 87.76 324 eP P 07 59 30.9 -0.1
comp=Z,6.0nm,1.2s
DAWY Dawson 88.60 25 eP P 07 59 37.3 +2.4
DLBC Dease Lake 91.62 31 LR LR 08 34 21.7
comp=Z,148nm,19.9s,baz=280,slow=31
BBB Bella Bella 91.69 38 LR LR 08 38 35.0
comp=Z,155nm,18.1s,baz=258,slow=34
INK Inuvik 92.04 21 eP P 07 59 51.5 +0.8
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 92.04 21 LR LR 08 38 10.1
comp=Z,98nm,19.9s,baz=296,slow=34
INK Inuvik 92.04 21 eP P 07 59 51.5 +0.8
comp=Z,4.3nm,1.1s
ABKAR Akbulak array 93.50 319 eP P 07 59 57.1 -0.8
comp=Z,2.0nm,0.9s
YBH Yreka Blue Hor 94.12 49 LR LR 08 35 22.0
comp=Z,225nm,20.1s,baz=276,slow=31
AKTO Aktyubinsk 94.85 320 LR LR 08 43 54.1
comp=Z,60nm,20.0s,baz=80,slow=36
ARU Arti 95.00 326 d iP P 08 00 03.3 -1.3
ARU 08 03 51.9
ARU S SKSac 08 10 35.8 +1.1
ARU pmax pmax
comp=Z,7.0nm,1.7s
NVAR Mina Array Bea 97.27 52 P P 08 00 13.7 -2.0
comp=Z,0.1nm,0.4s,baz=240,slow=5.0,SNR=1.6
NVAR LR LR 08 37 59.5
comp=Z,191nm,20.4s,baz=108,slow=32
NEW Newport 98.41 42 eP Pdif 08 00 22.1 +1.7
NEW pmax pmax
comp=Z,1.0nm,0.5s
NEW Newport 98.41 42 LR LR 08 38 58.6
comp=Z,164nm,19.7s,baz=281,slow=32
NEW Newport 98.41 42 eP Pdif 08 00 22.1 +1.7
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 99.46 28 P Pdif 08 00 24.8 +0.2
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 99.46 28 P Pdif 08 00 24.8 +0.2
comp=Z,0.6nm,1.0s,baz=272,slow=5.1,SNR=6.2
PDAR Pinedale Array 103.89 48 Pdiff Pdif 08 00 48.5 +3.3
comp=Z,0.3nm,0.8s,baz=207,slow=3.0,SNR=3.9
GERES GERESS Array B 122.82 326 PKIKP PKPdf 08 05 39.0 +0.8
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 122.82 326 PKP PKPdf 08 05 39.0 +0.8
comp=Z,0.5nm,0.6s,baz=29,slow=2.2,SNR=1.7
LPAZ La Paz 137.88 123 PKIKP PKPdf 08 06 07.0 -1.3
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 137.88 123 PKP PKPdf 08 06 07.0 -1.3
comp=Z,0.9nm,0.7s,baz=342,slow=1.9,SNR=3.8
LPAZ La Paz 137.88 123 PKIKP PKPdf 08 06 07.0 -1.3
LPAZ ePKPdf PKiKP 08 06 10.0 -0.3
CRPR Cabo Rojo, PR 144.30 68 ePKPdf PKPab 08 06 15.3 -1.6
SAML Samuel 145.57 116 ePKPbc PKPab 08 06 22.4 +0.6
TOA0 Torodi Ar. Sit 145.88 284 ePKPbc PKPab 08 06 23.1 +0.1
TORD Torodi Ar. Bea 145.88 284 PKPbc PKPab 08 06 22.9 0.0
comp=Z,23nm,1.1s,baz=70,slow=3.3,SNR=54
SMRT St. Maarten 147.99 66 ePKPab PKPab 08 06 30.9 -0.2
PTGA Pitinga 151.48 104 ePKPbc PKPbc 08 06 35.3 -1.8
BDFB Brasilia 152.94 145 PKIKP PKPbc 08 06 39.7 -0.7
BDFB pmax pmax
comp=Z,5.0nm,0.9s
BDFB Brasilia 152.94 145 PKPbc PKPbc 08 06 39.7 -0.7
comp=Z,4.5nm,0.9s,baz=58,slow=5.6,SNR=5.2

WEL 11 07:56:48.9±0.4, 38.27S×175.83E, h165km±3km, ML3.8/13, 16C-1D, Error ellipse: s-maj=3.0km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	Karewarewa	0.84	190	PN	Pn	07 57 14.1	0.0
TWVZ	Taurewa	0.86	201	PN	Pn	07 57 14.3	+0.1
WTVZ	West Tongariro	0.87	192	PN	Pn	07 57 14.3	+0.1
WTVZ				SN	Sn	07 57 33.2	-0.7
OTVZ	Oturere	0.91	188	PN	Pn	07 57 14.7	+0.1
OTVZ				SN	Sn	07 57 34.0	-0.5
NGZ	Ngauruhoe	0.93	191	PN	Pn	07 57 14.9	+0.1
COVZ	Chateau Observ	0.96	193	⇑PN	Pn	07 57 15.0	0.0
COVZ				SN	Sn	07 57 34.1	-1.0
WPVZ	Whakapapa	0.96	193	⇑PN	Pn	07 57 15.1	+0.1
URZ	Urewera	1.01	90	PN	Pn	07 57 14.9	-0.2
URZ				SN	Sn	07 57 34.1	-1.1
URZ				AML	AML	07 57 34.9	
TUVZ	Tukino	1.01	188	⇑PN	Pn	07 57 15.4	0.0
FWVZ	Far West T-bar	1.01	192	PN	Pn	07 57 15.3	-0.2
DRZ	Dome Shelter	1.03	192	PN	Pn	07 57 16.3	+0.6
WHVZ	Whangaehu Hut	1.03	190	PN	Pn	07 57 15.8	+0.1
TRVZ	Turoa	1.05	192	⇑PN	Pn	07 57 15.8	0.0
WNVZ	Wahianoa	1.07	190	PN	Pn	07 57 15.8	-0.1
WNVZ				SN	Sn	07 57 35.6	-1.3
PKVZ	Pokaka	1.09	200	PN	Pn	07 57 15.9	0.0
NMHZ	Naumai	1.13	138	PN	Pn	07 57 16.9	+0.6
MOVZ	Moawhango	1.14	183	⇑PN	Pn	07 57 15.9	-0.5
MTVZ	Mangateitei	1.15	194	PN	Pn	07 57 16.4	0.0
RAHZ	Arahi	1.18	124	PN	Pn	07 57 17.2	+0.5
RAHZ				SN	Sn	07 57 37.7	-0.3
RAGZ	Rawiri	1.27	101	PN	Pn	07 57 17.6	+0.1
RAGZ				SN	Sn	07 57 38.7	-0.8
SNGZ	Shannon Statio	1.29	114	⇑PN	Pn	07 57 18.0	+0.3
SNGZ				SN	Sn	07 57 39.2	-0.6
MWZ	Matawai	1.34	93	⇑PN	Pn	07 57 18.0	-0.1
MWZ				SN	Sn	07 57 39.2	-1.4
MWZ				AML	AML	07 57 41.9	
MWZ				AML	AML	07 57 41.9	
MCHZ	McNeill Hill	1.36	150	⇑PN	Pn	07 57 18.7	+0.4
WHHZ	Waihua	1.36	127	PN	Pn	07 57 18.6	+0.3
KRHZ	Kereru	1.44	163	⇑PN	Pn	07 57 18.7	-0.3
RIGZ	Rimuhau	1.58	107	⇑PN	Pn	07 57 20.6	+0.1
HAZ	Te Kaha	1.62	72	PN	Pn	07 57 20.6	-0.2
WAZ	Wanganui	1.63	204	PN	Pn	07 57 20.7	-0.2
KNZ	Kokohu	1.63	118	PN	Pn	07 57 20.7	-0.2
PNHZ	Pukenui	1.67	170	PN	Pn	07 57 20.6	-0.8
CKHZ	Cape Kidnapper	1.70	145	⇑PN	Pn	07 57 21.5	-0.1
KAHZ	Kahuranaki	1.73	152	PN	Pn	07 57 21.8	-0.2
TSZ	Takapari Road	1.79	177	⇑PN	Pn	07 57 21.8	-0.9
MHGZ	Mahia Peninsul	1.85	119	PN	Pn	07 57 23.3	0.0
WPHZ	Waipukurau	1.86	165	⇑PN	Pn	07 57 22.5	-0.8
PUZ	Puketiti	1.92	85	AML	AML	07 57 50.1	
PUZ				AML	AML	07 57 50.9	
PXZ	Pawanui	1.94	156	⇑PN	Pn	07 57 23.5	-0.7
PXZ				AML	AML	07 57 51.1	
PXZ				AML	AML	07 57 52.0	
PXZ				AML	AML	07 57 52.0	
DVHZ	Dannevirke	2.05	173	PN	Pn	07 57 23.9	-1.6
MXZ	Matakaoa Point	2.08	71	PN	Pn	07 57 26.2	+0.3
POWZ	Post Office Ro	2.12	181	PN	Pn	07 57 24.7	-1.6
ANWZ	Angora Road	2.25	167	⇑PN	Pn	07 57 26.6	-1.1
PRWZ	Pori Road	2.29	177	PN	Pn	07 57 26.9	-1.3
MRZ	Mangatainoka R	2.40	185	⇓PN	Pn	07 57 27.6	-2.0
MRZ				AML	AML	07 57 58.9	
MRZ				AML	AML	07 57 59.0	
BFZ	Birch Farm	2.43	173	PN	Pn	07 57 28.2	-1.8
TIWZ	Tintock	2.51	179	PN	Pn	07 57 29.0	-1.8
TIWZ				AML	AML	07 58 00.8	
TIWZ				AML	AML	07 58 00.8	
OGWZ	Otaki Gorge	2.60	191	PN	Pn	07 57 29.9	-2.0
HOWZ	Holdsworth Sta	2.64	185	PN	Pn	07 57 30.0	-2.4
CPWZ	Castlepoint	2.66	174	PN	Pn	07 57 30.9	-1.7
KIW	Kapiti Island	2.69	195	PN	Pn	07 57 30.6	-2.4
TMWZ	Te Maipa	2.84	179	PN	Pn	07 57 32.4	-2.4
CAW	Cannon Point	2.90	191	PN	Pn	07 57 33.0	-2.6
CAW				AML	AML	07 58 08.8	
CAW				AML	AML	07 58 09.2	
MTW	Mount Morrison	2.90	185	PN	Pn	07 57 32.8	-2.8
MTW				AML	AML	07 58 08.6	
MTW				AML	AML	07 58 08.7	
WEL	Wellington	3.12	195	PN	Pn	07 57 35.7	-2.7
PAWZ	Paruwai Farm	3.13	186	PN	Pn	07 57 35.4	-3.0
PAWZ				AML	AML	07 58 13.8	
TRWZ	Traveller	3.13	182	PN	Pn	07 57 35.6	-2.9
SNZO	South Karori	3.16	196	PN	Pn	07 57 35.5	-3.3
MSWZ	Moikau Station	3.18	188	PN	Pn	07 57 35.9	-3.2
MSWZ				AML	AML	07 58 13.7	
MSWZ				AML	AML	07 58 14.4	
TCW	Tory Channel	3.18	202	PN	Pn	07 57 36.2	-2.8
TCW				AML	AML	07 58 14.6	
TCW				AML	AML	07 58 14.7	
PLWZ	Palliser	3.33	187	PN	Pn	07 57 37.6	-3.5
TUWZ	Tuamarina	3.48	204	PN	Pn	07 57 39.6	-3.2
TUWZ				AML	AML	07 58 21.1	
NNZ	Nelson	3.50	212	PN	Pn	07 57 39.7	-3.4
QRZ	Quartz Range	3.61	224	PN	Pn	07 57 40.9	-3.6
BSWZ	Blackbirch Sta	3.76	203	PN	Pn	07 57 43.1	-3.3
THZ	Tophouse	4.15	212	PN	Pn	07 57 47.6	-4.0
KHZ	Kahutara	4.50	202	PN	Pn	07 57 52.3	-3.7
KHZ				AML	AML	07 58 43.6	
DSZ	Denniston Nort	4.65	220	PN	Pn	07 57 54.4	-3.6
LTZ	Lake Taylor	5.26	210	PN	Pn	07 58 01.5	-4.5
OXZ	Oxford	5.81	208	PN	Pn	07 58 08.0	-5.3
MQZ	McQueen's Vall	5.94	203	⇑PN	Pn	07 58 09.1	-5.8

IDC 11 08:01:36.0±0.8, 8.78S×108.73E, h0km, mb4.4/15, mb1 4.5/15, mb1mx4.3/25, mbtmp4.4/15, MS3.9/2, Ms1 3.8/2, ms1mx3.0/38, Error ellipse: s-maj=35.8km s-min=14.3km az=51.0
ISCJB 11 08:01:38.1±0.4, 9.26S±0.03×108.53E±0.02, h42km±3km, mb4.6/50, MS4.3/9, Error ellipse: s-maj=5.4km s-min=3.9km az=4.8
MOS 11 08:01:39.4±1.0, 8.79S×108.72E, h34km, mb4.8/28, Error ellipse: s-maj=16.1km s-min=7.5km az=113.5
DJA 11 08:01:40.7±0.3, 9°S±4'×10°9E±', h53km±12km, M4.8/35, mb4.9/12, mB5.3/9, MLv4.7/35, Mw(mB)4.7/9
NEIC 11 08:01:40.8±0.8, 9.03S×108.46E, h35km±7km, mb4.7/14, Error ellipse: s-maj=9.3km s-min=6.6km az=216.0
BJI 11 08:01:40.8, 9.00S×108.50E, h35km, mB5.0/24, mb4.7/37, Ms4.7/12, Ms7 4.3/10
KLM 11 08:01:40.2, 8.91S×108.52E, h155km, mb4.6, ML4.1, MS6.0
ISC 11 08:01:40.0±0.5, 9.19S±0.04×108.50E±0.03, h35km±2km, n161, σ1.42/187, mb4.7/50, MS4.3/9, 7C-4D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	1.40	358	P	Pn	08 02 01.6	-1.4
CMJI				S	Sn	08 02 22.4	+2.1
CISI	Cisompet, Garu	1.76	337	P	Pn	08 02 07.8	-0.3
CISI				S	Sn	08 02 30.2	+0.9
CISI	Cisompet, Garu	1.76	337	ePn	Pn	08 02 06.3	-1.7
CISI				eSn	Sn	08 02 28.2	-1.1
CISI	Cisompet, Garu	1.76	337	P	Pn	08 02 07.7	-0.3
	baz=1.7,SNR=41						
CISI				S	Sn	08 02 29.9	+0.6
	baz=1.7,SNR=4.5						
KPJI	Karang Pucung	1.90	13	P	Pn	08 02 10.1	+0.2
CNJI	Cibinong	2.31	324	P	Pn	08 02 15.9	+0.4
CNJI				S	Sn	08 02 44.4	+1.7
UGM	Wanagama	2.37	58	P	Pn	08 02 15.6	-0.9
UGM				S	Sn	08 02 44.2	-0.2
UGM	Wanagama	2.37	58	ePn	Pn	08 02 15.3	-1.2
UGM	Wanagama	2.37	58	P	Pn	08 02 15.7	-0.8
	baz=2.4,SNR=72						
LEM	Lembang	2.51	340	P	Pn	08 02 19.1	+0.7
LEM	Lembang	2.51	340	P	Pn	08 02 20.6	+2.2
	baz=2.5,SNR=50						
WOJI	Wonogiri, Jawa	2.75	61	P	Pn	08 02 20.3	-1.3
PCJI	Pacitan	2.83	70	P	Pn	08 02 22.3	-0.4
SMRI	Semarang	2.87	42	P	Pn	08 02 22.9	-0.4
SMRI	Semarang	2.87	42	ePn	Pn	08 02 24.7	+1.4
SMRI				eSn	Sn	08 02 59.2	+2.5
SMRI	Semarang	2.87	42	P	Pn	08 02 25.0	+1.7
	baz=2.9,SNR=13						
SKJI	Sukabumi	2.90	318	P	Pn	08 02 24.4	+0.7
XMI	Christmas Isla	3.04	245	P	Pn	08 02 27.1	+1.5
	baz=3.0,SNR=17						
XMI				S	Sn	08 02 59.1	-1.6
	baz=3.0,SNR=7.1						
XMIS	Christmas Isla	3.08	245	ePn	Pn	08 02 27.2	+1.1
XMIS				eSn	Sn	08 02 59.3	-2.6
XMIS	Christmas Isla	3.08	245	P	Pn	08 02 27.3	+1.1
	baz=3.0,SNR=41						
XMIS				S	Sn	08 02 59.5	-2.3
	baz=3.0,SNR=6.2						
DBJI	Dramaga	3.14	326	P	Pn	08 02 27.7	+0.7
PWJI	Pagerwojo	3.47	71	P	Pn	08 02 30.6	-0.9
CGJI	Cibinong	3.78	313	P	Pn	08 02 36.4	+0.6
SBJI	Serang	3.85	322	P	Pn	08 02 37.5	+0.8
TBJI	Tambak Boyo	4.07	55	P	Pn	08 02 39.6	-0.2
GRJI	Gresik	4.55	60	P	Pn	08 02 46.0	-0.3
GMJI	Gumukmas	4.98	80	P	Pn	08 02 52.0	-0.2
BLJI	Banyuglugur	5.25	74	P	Pn	08 02 55.6	-0.3
	94nm,0.9s,3μm1.3nm						
KLI	Kotabumi	5.62	320	P	Pn	08 03 04.6	+3.5
JAGI	Jajag, Banyuwa	5.64	83	P	Pn	08 03 01.8	+0.5
	118nm,0.8s,2μm0.7nm						
JAGI	Jajag, Banyuwa	5.64	83	ePn	Pn	08 03 02.0	+0.7
	84nm,0.7s						
JAGI				eSn	Sn	08 04 04.6	-0.3
JAGI	Jajag, Banyuwa	5.64	83	P	Pn	08 03 04.9	+3.5
	baz=5.7,SNR=6.4						
ABJI	Asem Bagus	5.84	77	P	Pn	08 03 03.2	-1.0
	128nm,0.6s,1μm0.4nm						
LWLI	Liwa	6.05	313	P	Pn	08 03 07.3	+0.2
	70nm,0.8s,6μm0.7nm						
MDSI	Maura Dua	6.34	317	P	Pn	08 03 11.3	+0.3
	32nm,0.8s,448nm0.1nm						
TPI	Tanjungpandan	6.45	352	P	Pn	08 03 12.4	-0.1
	33nm,0.8s,0.1nm						
IGBI	Denpasar	6.58	87	P	Pn	08 03 13.6	-0.7
	75nm,0.9s,3μm0.6nm						
DNP	Denpasar	6.65	86	P	Pn	08 03 14.3	-1.0
	213nm,0.7s,2.8nm						
SRBI	Singaraja	6.73	81	P	Pn	08 03 17.9	+1.5
	66nm,0.7s,967nm0.3nm						
PBKI	Pangkalan Bun	7.18	26	P	Pn	08 03 22.2	-0.3
MNAI	Manna	7.30	311	P	Pn	08 03 26.1	+1.9

baz=7.3,SNR=3.8
STKI Sintang 9.66 18 P Pn 08 04 00.8 +4.1
KSM Kuching 10.75 10 ePn Pn 08 04 10.8 -0.7
KSM eSn Sn 08 06 12.2 +1.6
KSM Kuching 10.75 10 ⥣P Pn 08 04 18.4 +6.9
WSI Waingapu 11.65 93 P Pn 08 04 15.1 -8.8
baz=12,SNR=3.2
MYKOM Kota Tinggi 11.85 337 ⥣P Pn 08 04 25.0 -1.6
SBUM Sibu 12.15 18 ⥣P Pn 08 04 22.8 -7.8
BTM Bintulu 13.13 21 ⥣P Pn 08 04 35.6 -8.5
GIRL Giralia 14.46 158 P Pn 08 05 00.2 -2.0
baz=15,SNR=3.6
GIRL S Sn 08 07 30.9 -10
baz=15,SNR=4.1
SOEI Soe 15.57 93 S Sn 08 08 03.7 -4.9
baz=16,SNR=3.4
KULM Kulim 16.38 331 ⥣P Pn 08 05 27.5 +0.1
KKM Kota Kinabalu 16.98 27 ePn Pn 08 05 34.2 -0.8
MEEK Meekatharra 19.82 152 P Pn 08 06 12.7 +3.2
baz=20,SNR=6.0
MEEK S S 08 09 37.9 -11
baz=20,SNR=10.0
WRKA Warakurna 24.57 132 P P 08 06 51.5 -5.3
baz=25,SNR=5.2
WRKA S S 08 11 35.2 +20
baz=25,SNR=3.3
WRA Warramunga Arr 27.16 116 P P 08 07 21.6 +1.3
WRA 08 10 41.9
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 27.16 116 P P 08 07 21.6 +1.3
comp=Z,1.7nm,0.6s,baz=289,slow=11,SNR=14
WRA PcP PcP 08 10 41.9 +1.4
comp=Z,0.6nm,0.6s,baz=299,slow=1.8,SNR=4.2
WRAB Tennant Creek 27.16 116 eP P 08 07 22.2 +1.9
WRAB pmax pmax
comp=Z,9.0nm,0.7s
WRAB Tennant Creek 27.16 116 eP P 08 07 22.2 +1.9
comp=Z,9.2nm,0.7s
QIZ Qiongzhong 28.07 3 P P 08 07 29.5 +1.1
QIZ pP pP 08 07 39.0 +0.5
QIZ S S 08 12 13.5 +2.4
QIZ pmax pmax
comp=Z,9.0nm,1.3s
ASAR Alice Springs 28.23 124 P P 08 07 30.8 +0.9
ASAR 08 10 44.6
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 28.23 124 P P 08 07 30.8 +0.9
comp=Z,1.0nm,0.5s,baz=297,slow=9.0,SNR=10
ASAR PcP PcP 08 10 44.5 +1.5
comp=Z,0.8nm,0.7s,baz=316,slow=1.7,SNR=4.7
CMAR Chiang Mai Arr 29.05 341 P P 08 07 35.8 -1.3
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 29.05 341 P P 08 07 35.8 -1.3
comp=Z,1.0nm,0.3s,baz=180,slow=9.1,SNR=6.5
GYA Guiyang 35.48 357 P P 08 08 35.4 +1.9
GYA pP pP 08 08 45.2 +1.5
GYA PP PP 08 09 56.8 +2.2
GYA S S 08 14 07.4 +0.7
GYA sS sS 08 14 25.0 +1.6
GYA SS SnSn 08 16 27.0 -1.4
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=Z,490nm,17.8s
GYA LR LR
comp=Z,420nm,18.2s
GYA LR LR
comp=Z,450nm,17.6s
H08S2 Diego Garcia H 35.64 270 T T 08 46 33.8
baz=93,slow=76,SNR=6.8
H08S3 Diego Garcia H 35.65 270 T T 08 46 41.5
baz=93,slow=76,SNR=6.2
H08S1 Diego Garcia H 35.66 270 T T 08 46 36.9
baz=93,slow=76,SNR=5.6
CTA Charters Tower 38.01 111 LR LR 08 26 33.0
comp=Z,233nm,20.4s,baz=280,slow=40
CTAO Charters Tower 38.01 111 eP P 08 08 59.1 +4.0
CTAO pmax pmax
comp=Z,7.0nm,0.9s
CTAO Charters Tower 38.01 111 eP P 08 08 59.1 +4.0
comp=Z,6.8nm,0.9s
STKA Stephens Creek 38.09 131 P P 08 08 57.1 +1.5
STKA pmax pmax
comp=Z,3.0nm,0.6s
STKA MLR MLR
comp=Z,16nm,28.6s
STKA Stephens Creek 38.09 131 P P 08 08 57.1 +1.5
comp=Z,3.3nm,0.6s,baz=313,slow=8.7,SNR=11
STKA LR LR 08 24 22.8
comp=Z,115nm,21.1s,baz=358,slow=36
STKA Stephens Creek 38.09 131 eP P 08 08 57.7 +2.1
comp=Z,1.5nm,1.0s
STKA Stephens Creek 38.09 131 P P 08 08 57.8 +2.2
baz=38,SNR=7.1
PMG Port Moresby 38.14 94 eP P 08 08 57.3 +1.0
PMG pmax pmax
comp=Z,3.0nm,0.3s
PMG Port Moresby 38.14 94 eP P 08 08 57.3 +1.0
comp=Z,2.7nm,0.3s
CD2 Chengdu 40.13 354 P P 08 09 14.3 +1.7
CD2 pP pP 08 09 24.5 +1.6
CD2 sP sP 08 09 28.8 +1.7
CD2 PP PnPn 08 10 51.4 +2.2
CD2 S S 08 15 18.7 +1.8
CD2 sS sS 08 15 35.3 +1.5
CD2 SS SS 08 18 11.2 -4.5
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,190nm,4.6s
CD2 LR LR
comp=Z,300nm,5.4s
CD2 LR LR
comp=Z,240nm,12.0s
CMSA Cobar Meteorol 41.05 128 P P 08 09 23.8 +3.5
baz=41,SNR=8.9
LSA Lhasa 42.12 337 eP P 08 09 30.2 +0.7
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 42.12 337 eP P 08 09 30.2 +0.7
comp=Z,5.4nm,0.7s
NJ2 Nanjing 42.19 13 eP P 08 09 28.1 -1.4
NJ2 pmax pmax
comp=Z,20nm,1.3s
XAN Xi'an 43.00 1 P P 08 09 35.9 -0.2
XAN pP pP 08 09 45.5 -0.9
XAN pmax pmax
comp=Z,3.0nm,0.8s
GTA Gaotai 49.02 351 eP P 08 10 25.0 +1.4
GTA pP pP 08 10 34.8 +0.8
GTA sP sP 08 10 38.7 +0.5
GTA pmax pmax
comp=Z,4.0nm,1.1s
BJI Beijing 49.50 8 P P 08 10 25.7 -1.3
BJI pmax pmax
comp=Z,9.0nm,1.3s
KSAR Wonju Array Be 49.82 20 P P 08 10 28.3 -1.2
KSAR Wonju Array Be 49.82 20 P P 08 10 28.3 -1.2
KSRS Korea Array 49.84 20 P P 08 10 28.3 -1.4
KSRS pmax pmax
comp=Z,3.0nm,0.9s
KSRS Korea Array 49.84 20 P P 08 10 28.3 -1.4
comp=Z,3.0nm,0.9s,baz=190,slow=9.1,SNR=6.0
HHC Hu-ho-hao-te 49.87 3 eP P 08 10 31.6 +1.6
HHC pP pP 08 10 41.9 +1.4
HHC S S 08 17 45.2 +7.5
HHC sS sS 08 17 51.2 -3.8
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,210nm,9.6s
HHC LR LR
comp=Z,250nm,16.3s
HHC LR LR
comp=Z,230nm,16.5s
HHC LR LR
comp=Z,230nm,16.7s
MJAR Matsushiro Arr 53.38 30 P P 08 10 52.6 -3.6
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR Matsushiro Arr 53.38 30 P P 08 10 52.6 -3.6
comp=Z,3.4nm,0.8s,baz=203,slow=6.4,SNR=8.4
WMQ Urumqi 56.04 342 P P 08 11 15.9 +0.5
WMQ pP pP 08 11 26.0 -0.1
WMQ sP sP 08 11 29.9 -0.3
WMQ PcP PcP 08 12 14.2 +0.8
WMQ PP PP 08 13 22.1 +1.3
WMQ PcS PcS 08 16 13.1 -0.7
WMQ S S 08 18 59.6 -2.1
WMQ sS sS 08 19 16.3 -2.8
WMQ ScS ScS 08 20 58.9 -3.1
WMQ SS SS 08 22 45.4 -3.1
WMQ pmax pmax
comp=Z,10.0nm,1.2s
WMQ pmax pmax
comp=Z,100nm,4.2s
WMQ LR LR
comp=Z,61nm,16.8s
WMQ LR LR
comp=Z,44nm,18.6s
SONM Songino Array 56.81 358 P P 08 11 20.2 -0.7
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 56.81 358 P P 08 11 20.2 -0.7
comp=Z,3.7nm,0.7s,baz=173,slow=8.3,SNR=35
ULN Ulaanbaatar 56.82 359 d iP P 08 11 20.8 -0.2
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 56.82 359 eP P 08 11 20.3 -0.7
comp=Z,8.1nm,0.9s
MDJ Mudanjiang 56.85 18 P P 08 11 15.0 -6.1
MDJ pmax pmax
comp=Z,5.0nm,0.8s
MDJ pmax pmax
comp=Z,97nm,4.6s
KSH Kashi 57.09 330 eP P 08 11 21.4 -1.6
KSH esP sP 08 11 35.6 -2.2
KSH ePP PP 08 13 30.2 0.0
KSH ePcS PcS 08 16 18.2 -0.5
KSH eS S 08 19 06.8 -9.0
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH pmax pmax
comp=Z,61nm,7.4s
KSH LR LR
comp=Z,73nm,4.5s
KSH LR LR
comp=Z,94nm,4.7s
KSH LR LR
comp=Z,140nm,5.3s
USRK Ussuriysk Arra 57.25 20 P P 08 11 20.9 -3.0
comp=Z,2.8nm,0.6s,baz=182,slow=4.0,SNR=5.8
KZA Kyzart 59.42 332 P P 08 11 40.0 +0.4
SNR=13
KZA Kyzart 59.42 332 iP P 08 11 40.0 +0.4
ZAK Zakamensk 59.50 356 eP P 08 11 38.0 -1.6
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TKM2 Tokmak 2 59.92 333 P P 08 11 42.6 -0.2
SNR=27
TKM2 Tokmak 2 59.92 333 eP P 08 11 42.6 -0.2
TKM2 pmax pmax
comp=Z,18nm,0.6s
TKM2 Tokmak 2 59.92 333 eP P 08 11 42.6 -0.2
comp=Z,18nm,0.6s
KBK Karagaybulak 60.01 332 P P 08 11 43.7 +0.3
SNR=12
KBK Karagaybulak 60.01 332 iP P 08 11 43.7 +0.3
AML Almayashu 60.20 331 P P 08 11 45.1 +0.1
SNR=6.2
AML Almayashu 60.20 331 iP P 08 11 45.1 +0.1
AAK Ala-Archa 60.20 332 P P 08 11 44.3 -0.4
AAK pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 60.20 332 P P 08 11 44.3 -0.4
comp=Z,2.2nm,0.7s,baz=109,slow=5.5,SNR=8.2
AAK Ala-Archa 60.20 332 eP P 08 11 44.1 -0.7
comp=Z,3.3nm,0.9s
MK31 Makanchi Array 60.44 340 eP P 08 11 45.7 -0.4
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 60.44 340 eP P 08 11 46.0 -0.1
MKAR Makanchi Array 60.44 340 P P 08 11 45.9 -0.2
MKAR pmax pmax
comp=Z,6.0nm,0.5s
MKAR Makanchi Array 60.44 340 P P 08 11 45.9 -0.2
comp=Z,6.4nm,0.5s,baz=147,slow=8.0,SNR=76
EKS2 Erkin-Say 60.56 331 P P 08 11 47.1 0.0
SNR=11
EKS2 Erkin-Say 60.56 331 eP P 08 11 47.5 +0.4
EKS2 pmax pmax
comp=Z,11nm,0.8s
EKS2 Erkin-Say 60.56 331 eP P 08 11 47.5 +0.4
comp=Z,11nm,0.8s
TLY Talaya 60.77 357 eP P 08 11 48.7 +0.5
TLY pmax pmax
comp=Z,2.0nm,1.0s
KLR Kul'dur 61.65 17 eP P 08 11 47.8 -6.4
YSS Yuzh-Sakhalins 63.68 25 ⥥iP P 08 12 06.4 -1.3
YSS pmax pmax
comp=Z,16nm,1.3s
KURK Kurchatov 65.06 340 eP P 08 12 16.1 -0.6
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 65.06 340 eP P 08 12 16.1 -0.6
comp=Z,10.0nm,1.0s
ZAA0 Zalesovo Array 66.02 345 eP P 08 12 21.6 -1.2
ZALV Zalesovo Beam 66.02 345 P P 08 12 21.5 -1.3
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV Zalesovo Beam 66.02 345 P P 08 12 21.5 -1.3
comp=Z,4.3nm,0.4s,baz=121,slow=4.3,SNR=32
NVS Novosibirsk 67.23 344 eP P 08 12 27.8 -2.7
BVA0 Borovoye Array 69.95 337 iP P 08 12 47.1 -0.5
BVA0 pmax pmax
comp=Z,11nm,0.8s
BVAR Borovoye Array 69.95 337 P P 08 12 47.6 0.0
BVAR pmax pmax
comp=Z,11nm,0.7s
BVAR Borovoye Array 69.95 337 P P 08 12 47.6 0.0
comp=Z,11nm,0.7s,baz=143,slow=8.9,SNR=67
BRVK Borovoye 70.02 337 eP P 08 12 48.1 +0.1
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 70.02 337 eP P 08 12 48.1 +0.1
comp=Z,10nm,0.8s
AB31 Akbulak array 72.04 329 iP P 08 13 00.0 -0.4
AB31 pmax pmax
comp=Z,9.0nm,0.5s
ABKAR Akbulak array 72.04 329 eP P 08 13 00.6 +0.2
comp=Z,8.3nm,0.5s
YAK Yakutsk 72.90 10 eP P 08 13 04.2 -1.0
YAK pmax pmax
comp=Z,26nm,0.7s
AKTO Aktyubinsk 73.75 329 P P 08 13 10.0 -0.5
AKTO pmax pmax
comp=Z,5.0nm,1.2s
AKTO Aktyubinsk 73.75 329 P P 08 13 09.8 -0.7
comp=Z,1.0nm,0.5s,baz=106,slow=4.7,SNR=8.4
ARU Arti 77.23 334 d iP P 08 13 30.7 +0.4
ARU 08 16 19.0
ARU S S 08 23 16.7 -0.6
ARU SS SS 08 28 08.4 -7.6
ARU pmax pmax
comp=Z,7.0nm,0.7s
ARU Arti 77.23 334 eP P 08 13 30.6 +0.3
comp=Z,10nm,1.1s
KBZ Khabaz 79.26 318 P P 08 13 42.8 +1.0
KBZ pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 79.26 318 P P 08 13 42.8 +1.0
comp=Z,1.4nm,0.8s,baz=89,slow=8.1,SNR=3.9
SEY Seymchan 79.38 19 ⥥iP P 08 13 41.7 -0.3
KIV Kislovodsk 79.49 318 eP P 08 13 42.7 -0.5
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,82nm,19.0s
TIXI Tiksi 81.80 6 eP P 08 13 53.6 -1.2
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 81.80 6 eP P 08 13 53.5 -1.2
comp=Z,6.3nm,0.8s
ANN Anapa 83.30 317 eP P 08 14 00.4 -2.8
ANN ePPP PPP 08 19 03.4
ANN eS S 08 24 18.6 -2.9
ANN pmax pmax
comp=Z,71nm,1.4s
BRTR Keskin Array B 84.38 312 eP P 08 14 10.3 +1.2
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 84.38 312 P P 08 14 09.5 +0.4
comp=Z,2.6nm,0.9s,baz=129,slow=5.7,SNR=9.0
PRGR Permogore 85.67 335 P P 08 14 13.6 -1.2
BILL Bilibino 87.08 19 eP P 08 14 23.6 +2.0
BILL pmax pmax
comp=Z,1.0nm,0.9s
BILL MLR MLR
comp=Z,6μm,18.0s
OBN Obninsk 87.36 327 ⥣eP P 08 14 23.8 +0.6
OBN pmax pmax
comp=Z,9.0nm,1.3s
OBN MLR MLR
comp=Z,156nm,18.0s
KLMR Klimovskoe 88.00 333 eP P 08 14 25.5 -0.7
KLMR pmax pmax
comp=Z,20nm,1.4s
KIEV Kiev 90.33 321 eP P 08 14 35.9 -1.5
KOLS Kolonicke sedl 94.38 319 eP P 08 14 58.2 +2.0
KOLS Kolonicke sedl 94.38 319 eP P 08 14 58.2 +2.0
YKA Yellowknife Ar 118.38 21 PKP PKPdf 08 20 23.9 +0.5
comp=Z,0.4nm,0.8s,baz=322,slow=1.7,SNR=8.1
NVAR Mina Array Bea 128.98 47 PKP PKPdf 08 20 47.5 +2.6
comp=Z,0.3nm,0.7s,baz=256,slow=3.6,SNR=3.0
TXAR Lajitas Array 143.82 52 PKP PKPbc 08 21 11.1 +1.0
comp=Z,0.3nm,0.6s,baz=262,slow=0.9,SNR=3.8
JCT Junction City 146.16 47 ePKP2 PKPab 08 21 18.3 +0.4
JCT Junction City 146.16 47 ePKPbc PKPab 08 21 18.3 +0.4

IDC 11 08:09:57.4±2.6,28°.14N×51°.48E,h0^{km},mb3.6/6, mb1 3.7/6,mb1mx3.5/38,mbtmp3.6/6,MS3.2/1,Ms1 3.2/1, ms1mx2.4/33,Error ellipse: s-maj=66.4km s-min=29.8km az=155.0
THR 11 08:09:57.2±0.3,28°.16N×51°.42E,h18^{km}±6^{km},ML3.5
ISCJB 11 08:09:58.2±0.6,28°.10N±0°.04×51°.58E±0°.07,h16^{km}, mb3.6/6,MS3.1/1,Error ellipse: s-maj=9.3km s-min=4.5km az=155.9
TEH 11 08:09:58.1,28°.04N×51°.44E,h3^{km},ML3.5
OMAN 11 08:10:04.1±0.1,27°.73N×51°.41E,h49^{km}±12^{km},Error ellipse: s-maj=19.2km s-min=7.3km az=5.0
CSEM 11 08:10:05.4±0.4,28°.16N×52°.07E,h20^{km},ML3.5,Error ellipse: s-maj=11.6km s-min=7.0km az=73.0
ISC 11 08:10:00.0±0.6,28°.16N±0°.03×51°.63E±0°.03,h16^{km},n53, σ1°43/62,mb3.6/6,8C-4D,Southern Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GHIR Ghir-Karzin 1.20 84 ePg Pb 08 10 22.8 +0.3
GHIR Ghir-Karzin 1.20 84 ePg Pb 08 10 22.8 +0.3
GHIR eSg Sg 08 10 41.6 +2.6
GHIR AML AML 08 10 45.7
comp=E,1μm,0.7s
GHIR AML AML 08 10 55.5
comp=N,1μm,0.8s
ISRV Sarvestan 1.78 47 ePn Pb 08 10 32.3 -0.2
ISRV eSg Sg 08 11 00.0 +2.5
ISRV e 08 11 05.7
comp=Z,7μm,0.4s
ISRV Sarvestan 1.78 47 ePn Pb 08 10 32.3 -0.2
IPAR Pars 2.09 36 ePn Pb 08 10 36.5 -1.2
IPAR e 08 11 12.8
comp=Z,3μm,0.4s
IPAR Pars 2.09 36 ePn Pb 08 10 36.5 -1.2
BOQSS 3.04 222 P Pg 08 11 01.0 +2.7
BOQSS 3.04 222 S Sg 08 11 47.6 +10
BOQSS 3.04 222 P Pg 08 11 00.8 +2.5
KFJS 3.26 271 P Pg 08 11 02.0 -0.4
KFJS S Sg 08 11 47.0 +2.3
KFJS 3.26 271 S Sg 08 11 46.6 +1.9
KFJS 3.26 271 P Pg 08 11 02.4 -0.1
SLWS 3.46 195 P Pg 08 11 05.0 -1.4
SLWS 3.46 195 S Sg 08 11 54.9 +3.5
SLWS 3.46 195 P Pg 08 11 05.5 -1.0
IMEH Mehriz 4.13 38 ePn Pn 08 11 05.0 +2.4
IMEH e 08 11 59.5
comp=Z,448nm,0.2s
IMEH Mehriz 4.13 38 ePn Pn 08 11 05.1 +2.4
ISAD Sadrabad 4.14 25 ePn Pn 08 11 04.4 +1.5
ISAD e 08 12 15.2
comp=Z,612nm,0.3s
ISAD Sadrabad 4.14 25 ePn Pn 08 11 04.4 +1.5
BTHS 4.16 190 P Pn 08 11 05.4 +2.5
IPIR Pirpir 4.55 352 ePn Pn 08 11 08.7 +0.1
IPIR e 08 12 04.7
comp=Z,348nm,0.3s
IPIR Pirpir 4.55 352 ePn Pn 08 11 08.7 +0.1
BANOM Banah 4.72 117 ⥥P Pn 08 11 11.1 +0.5
BANOM ⥣S Sn 08 12 03.8 -1.3
BANOM Banah 4.72 117 P Pn 08 11 11.1 +0.5
BANOM S Sn 08 12 03.8 -1.3
NASN Na'in 4.73 12 ePn Pn 08 11 10.7 -0.3
NASN AML AML 08 12 07.4
comp=N,12nm,0.4s
IZEF Zefreh 4.76 7 ePn Pn 08 11 12.2 +0.9
IZEF e 08 11 58.5
comp=Z,159nm,0.2s
IZEF eSn Sn 08 12 06.3 0.0
IZEF Zefreh 4.76 7 ePn Pn 08 11 12.2 +0.9
IZEF eSn Sn 08 12 06.3 0.0
IBAF Bafgh 4.83 44 ePn Pn 08 11 13.8 +1.5
IBAF e 08 11 50.7
comp=Z,181nm,0.2s
IBAF Bafgh 4.83 44 ePn Pn 08 11 13.8 +1.5
KRBR Kerman 4.84 67 ePn Pn 08 11 14.0 +1.4
ASHO Ashiyiah 5.27 130 ⥥P Pn 08 11 18.6 +0.5
ASHO ⥣S Sn 08 12 18.3 -0.3
ASHO Ashiyiah 5.27 130 P Pn 08 11 18.6 +0.5
ASHO S Sn 08 12 18.3 -0.3
ARQ Araqi 6.52 136 ⥣P Pn 08 11 35.5 +0.1
ARQ Araqi 6.52 136 P Pn 08 11 35.5 +0.1
HOQ Hoqain 6.85 130 ⥥P Pn 08 11 40.4 +0.5
HOQ ⥣S Sn 08 12 55.1 -2.5
HOQ Hoqain 6.85 130 P Pn 08 11 40.4 +0.5
HOQ S Sn 08 12 55.1 -2.5
TABS Tabas 7.22 39 ePn Pn 08 11 46.0 +1.0
TABS Tabas 7.22 39 ePn Pn 08 11 46.0 +1.0
DAMV Damavand 7.45 2 ePn Pn 08 11 48.1 -0.3
SMDO Samad 7.70 130 ⥣P Pn 08 11 52.3 +0.6
SMDO Samad 7.70 130 P Pn 08 11 52.3 +0.6
JMDO Jabal Madar 8.22 133 ⥣P Pn 08 11 58.6 -0.1
JMDO Jabal Madar 8.22 133 P Pn 08 11 58.6 -0.1
WBK Wadi Bani Khal 8.63 128 ⥣P Pn 08 12 05.8 +1.4
WBK Wadi Bani Khal 8.63 128 P Pn 08 12 05.8 +1.4
ABTO Aybut 10.87 172 ⥣P Pn 08 12 32.3 -2.7
ABTO ⥥S Sn 08 14 29.3 -7.1
OBN Obninsk 29.06 342 LR LR 08 28 31.7
comp=Z,45nm,19.8s,baz=186,slow=38
MKAR Makanchi Array 30.35 44 P P 08 16 11.1 +0.2
comp=Z,0.4nm,0.5s,baz=227,slow=9.0,SNR=3.9
ZALV Zalesovo Beam 35.37 34 P P 08 16 55.7 +1.0
comp=Z,0.4nm,0.4s,baz=191,slow=15,SNR=3.0
FINES FINESS Array B 37.39 340 P P 08 17 10.8 -1.0
comp=Z,0.9nm,0.5s,baz=156,slow=9.8,SNR=5.4
NOA NORSAR Array B 42.50 332 P P 08 17 54.3 -0.1
comp=Z,0.6nm,0.6s,baz=124,slow=8.6,SNR=3.3
TORD Torodi Ar. Bea 48.72 263 P P 08 18 42.8 -1.3
comp=Z,0.4nm,0.6s,baz=52,slow=6.6,SNR=3.7
YKA Yellowknife Ar 88.99 354 P P 08 22 54.0 +0.3
comp=Z,0.1nm,0.5s,baz=12,slow=5.6,SNR=4.0

IDC 11 08:12:52.8±1.3,6°.48S×147°.76E,h0^{km},mb3.7/5, mb1 3.9/7,mb1mx3.7/29,mbtmp3.7/7,ML3.6/1,MS3.2/1, Ms1 3.2/1,ms1mx2.7/17,Error ellipse: s-maj=36.7km s-min=12.4km az=117.0
ISC 11 08:12:59.2±1.3,6°.51S±0°.10×147°.9E±0°.2,h51^{km},n8, σ1°48/11,mb3.7/5,Eastern New Guinea region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 2.96 194 Pn Pn 08 13 42.1 -1.7
1.0nm,0.3s,baz=18,slow=16,SNR=6.7
PMG Sn Sn 08 14 19.8 +1.8
15nm,0.3s,baz=356,slow=17,SNR=6.5

WRA Warramunga Arr 18.73 223 P P 08 17 11.8 -2.1
0.2nm,0.3s,baz=45,slow=12,SNR=14
WRA S S 08 20 44.6 +0.1
0.3nm,0.3s,baz=50,slow=26,SNR=5.4
WRA LR LR 08 24 01.3
comp=Z,74nm,20.6s,baz=100,slow=36
ASAR Alice Springs 21.70 217 P P 08 17 45.1 -1.0
2.1nm,0.8s,baz=38,slow=11,SNR=13
ASAR S S 08 21 45.9 +2.1
0.6nm,0.7s,baz=36,slow=19,SNR=5.0
STKA Stephens Creek 25.91 192 P P 08 18 27.3 +0.7
1.9nm,0.9s,baz=18,slow=8.2,SNR=4.0
CMAR Chiang Mai Arr 54.25 298 P P 08 22 21.2 +0.7
0.9nm,0.3s,baz=118,slow=4.6,SNR=4.8
MKAR Makanchi Array 78.44 320 P P 08 24 54.3 -0.5
0.4nm,0.3s,baz=104,slow=6.1,SNR=5.7
ILAR Eielson Array 85.61 23 P P 08 25 32.6 +0.6
0.6nm,1.0s,baz=246,slow=5.1,SNR=5.4
TORD Torodi Ar. Bea 146.05 284 PKPbc PKPab 08 32 35.6 +0.3
1.6nm,0.7s,baz=81,slow=4.1,SNR=10.0

CSEM 11 08:17:34.9±0.2, 42°.92N×47°.08E, h2km, mb4.3, Error ellipse: s-maj=4.8km s-min=3.2km az=26.0
IDC 11 08:17:34.9±0.9, 43°.02N×46°.83E, h0km, mb3.3/2, mb1 3.6/6, mb1mx3.3/28, mbtmp3.5/6, ML1.8/2, Error ellipse: s-maj=15.5km s-min=10.3km az=138.0
MOS 11 08:17:34.7±2.0, 42°.86N×47°.07E, h6km, mb4.3/1, Error ellipse: s-maj=6.0km s-min=5.2km az=9.9
MOS Felt (III) at Untsukul'.
AZER 11 08:17:35.5±6.0, 42°.80N×46°.82E, h24km±2km, Error ellipse: s-maj=5.0km s-min=2.3km az=14.0
NNC 11 08:17:42.6±3.8, 43°.32N×47°.75E, h0km, mb3.9, Error ellipse: s-maj=120.1km s-min=33.1km az=132.0
ISC 11 08:17:35.7±0.8, 42°.84N±0°.02×46°.98E±0°.02, h7km±5km, n106, σ1.55/160, 16C-24D, Eastern Caucasus

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KRNR Karanay 0.06 261 i PG Pg 08 17 36.5 -0.9
KRNR Karanay 0.06 261 i Pg Pg 08 17 36.5 -0.9
BUJR Buynaksk 0.09 96 i PG Pg 08 17 37.8 0.0
BUJR eS Sg 08 17 41.0 +1.7
BUJR Buynaksk 0.09 96 i Pg Pg 08 17 37.8 0.0
BUJR eSg Sg 08 17 41.0 +1.7
UNCR Uncukul 0.18 229 i PG Pg 08 17 37.5 -1.9
DBC Dubki 0.22 329 ⇓/PG Pg 08 17 39.5 -0.5
DBC i S Sg 08 17 43.4 +0.5
DBC Dubki 0.22 329 i Pg Pg 08 17 39.5 -0.5
MAK Makhachkala 0.40 72 ⇑/PG Pb 08 17 45.0 -0.1
MAK e 08 17 52.1
MAK pmax pmax
comp=Z,2μm,0.3s
MAK smax smax
comp=E,7μm,0.3s
MAK smax smax
comp=N,7μm,0.4s
GNBR Gunib 0.45 182 ⇓/PG Pg 08 17 43.1 -1.2
GNBR i S Sg 08 17 49.7 -0.5
KMKR Kumukh 0.71 173 ⇓/PG Pg 08 17 48.3 -1.0
KMKR eS Sg 08 17 58.0 -0.5
KMKR pmax pmax
comp=Z,161nm,0.3s
GRO Groznyy 1.02 299 ⇓/PG Pg 08 17 54.1 -1.2
GRO i S Sg 08 18 08.2 -0.4
GRO Groznyy 1.02 299 i Pg Pg 08 17 54.1 -1.2
GRO i Sg Sg 08 18 08.2 -0.4
ZKTA Zakatala 1.23 193 ⇑Pg Pn 08 17 56.8 -2.5
SNR=40
ZKTA ⇑Sg Sg 08 18 13.3 -1.7
DRN Derbent 1.28 128 ePG Pb 08 18 00.0 -0.1
DRN i S Sn 08 18 18.8 +1.4
DRN Derbent 1.28 128 ePg Pb 08 18 00.0 -0.1
DRN i Sg Sn 08 18 18.8 +1.4
SNJR Sundja 1.61 279 ⇓/PN Pn 08 18 05.1 +0.5
SNJR eS Sb 08 18 27.5 +1.2
SNJR Sundja 1.61 279 i Pn Pn 08 18 05.1 +0.5
SNJR eSg Sb 08 18 27.5 +1.2
SEKA Sheki 1.63 174 ⇓Pg Pn 08 18 04.4 -0.5
SNR=5.7
SEKA ⇓Sg Sn 08 18 28.0 +1.8
SEKA Sheki 1.63 174 Pg Pn 08 18 04.4 -0.5
SNR=5.7
SEKA Sg Sn 08 18 28.0 +1.8
VLKR Vladikavkaz 1.71 278 ePN Pn 08 18 06.8 +0.9
VLKR eS Sb 08 18 30.4 +1.3
VLKR Vladikavkaz 1.71 278 ePn Pn 08 18 06.8 +0.9
VLKR eSg Sb 08 18 30.4 +1.3
DGRG David-gareji 1.83 221 PN Pn 08 18 09.0 +1.4
DGRG S Sn 08 18 33.2 +2.1
DGRG David-gareji 1.83 221 P Pn 08 18 09.0 +1.4
DGRG David-gareji 1.83 221 P Pn 08 18 09.0 +1.4
DGRG S Sn 08 18 33.2 +2.1
DUS Dusheti 1.84 247 PN Pn 08 18 08.2 +0.4
DUS Dusheti 1.84 247 P Pn 08 18 08.2 +0.4
DUS Dusheti 1.84 247 P Pn 08 18 08.2 +0.4
DUS S Sn 08 18 33.6 +2.1
QUBA Quba, Azerbaij 1.86 142 ⇓Pg Pb 08 18 09.5 -0.5
SNR=4.2
QUBA ⇑Sg Sg 08 18 36.0 +0.7
QUBA Quba, Azerbaij 1.86 142 Pg Pb 08 18 09.5 -0.5
SNR=4.2
QUBA Sg Sg 08 18 36.0 +0.7
BTKR Batakoyurt 1.87 288 ePN Pb 08 18 10.3 +0.2
BTKR i S Sb 08 18 34.9 +1.2
BTKR pmax pmax
comp=Z,130nm,0.3s
BTKR smax smax
comp=N,456nm,0.5s
BTKR Batakoyurt 1.87 288 ePn Pb 08 18 10.3 +0.2
comp=N,130nm,0.3s
BTKR i Sg Sb 08 18 34.9 +1.2
comp=N,456nm,0.5s
TRKR Terskaya 1.87 299 ePN Pb 08 18 10.2 +0.1
TRKR i S Sg 08 18 36.3 +0.6
TRKR Terskaya 1.87 299 ePn Pb 08 18 10.2 +0.1
TRKR i Sg Sg 08 18 36.3 +0.6
GUDG Gudauri 1.89 260 P Pn 08 18 08.1 -0.4
GUDG Gudauri 1.89 260 P Pn 08 18 08.1 -0.4
GUDG S Sn 08 18 35.0 +2.3
LACR Lac 1.98 271 ⇓/PN Pn 08 18 09.7 0.0
LACR Lac 1.98 271 i Pn Pn 08 18 09.7 0.0
TBLG Delisi 2.00 237 PN Pn 08 18 11.5 +1.6
TBLG Delisi 2.00 237 P Pn 08 18 11.5 +1.6
TBLG Delisi 2.00 237 P Pn 08 18 11.5 +1.6
TBLG S Sn 08 18 38.4 +3.2
ARNR Ardon 2.01 281 ePN Pn 08 18 11.6 +1.6
ARNR eS Sb 08 18 38.5 +0.7
ARNR Ardon 2.01 281 ePn Pn 08 18 11.6 +1.6
ARNR eSb Sb 08 18 38.5 +0.7
QZX Qazax, Azerbai 2.14 215 ⇑Pg Pn 08 18 12.7 +0.8
QZX ⇓Sg Sn 08 18 40.9 +2.1
KORR Kora 2.15 278 ePN Pn 08 18 13.6 +1.5
KORR eS Sn 08 18 41.8 +2.7
KORR Kora 2.15 278 ePn Pn 08 18 13.6 +1.5
KORR eSn Sn 08 18 41.8 +2.7
PRTR Priterechnaya 2.17 296 ⇓/PN Pb 08 18 15.9 +0.6
PRTR i S Sg 08 18 45.0 -0.5
PRTR Priterechnaya 2.17 296 i Sb Sg 08 18 45.0 -0.5
STDR Stavd-Durt 2.20 285 ⇑/PN Pb 08 18 16.5 +0.7
STDR eS Sb 08 18 45.3 +1.9
IML Ismayilli 2.23 156 ⇑Pg Pb 08 18 16.1 -0.2
SNR=5.8
IML ⇑Sg Sg 08 18 47.0 -0.3
IML Ismayilli 2.23 156 Pg Pb 08 18 16.1 -0.2
SNR=5.8
IML Sg Sg 08 18 47.0 -0.3
GANJ Ganja 2.24 193 ⇑Pg Pn 08 18 12.6 -0.7
SNR=4.9
GANJ ⇓Sg Sn 08 18 43.2 +2.0
SIZA Siyzn 2.27 140 ⇓Pg Pb 08 18 17.9 +1.0
SNR=4.0
SIZA ⇓Sg Sg 08 18 49.4 +1.0
SIZA Siyzn 2.27 140 Pg Pb 08 18 17.9 +1.0
SNR=4.0
SIZA Sg Sg 08 18 49.4 +1.0
ZEI Tsey 2.27 270 ePN Pn 08 18 14.1 +0.3
ZEI eS Sn 08 18 42.3 +0.2
ZEI pmax pmax
comp=Z,46nm,0.2s
ZEI smax smax
comp=E,176nm,0.2s
ZEI Tsey 2.27 270 ePn Pn 08 18 14.1 +0.3
comp=E,46nm,0.2s
ZEI eSn Sn 08 18 42.3 +0.2
LSNR Lesken 2.35 282 ePN Pb 08 18 17.7 -0.8
LSNR eS Sb 08 18 48.1 +0.3
LSNR Lesken 2.35 282 ePn Pb 08 18 17.7 -0.8
PQL Pirkuli 2.37 149 ⇓Pg Pb 08 18 18.3 -0.5
SNR=4.1
PQL ⇑Sg Sg 08 18 54.0 +2.1
PQL Pirkuli 2.37 149 Pg Pb 08 18 18.3 -0.5
SNR=4.1
PQL Sg Sg 08 18 54.0 +2.1
ATGJ Altiaghaj 2.46 143 ⇓Pg Pb 08 18 19.1 -1.1
SNR=5.1
ATGJ ⇑Sg Sg 08 18 54.5 0.0
ATGJ Altiaghaj 2.46 143 Pg Pb 08 18 19.1 -1.1
SNR=5.1
ATGJ Sg Sg 08 18 54.5 0.0
DIGR Digorskoe uzhe 2.50 273 ePN Pn 08 18 18.7 +1.7
DIGR eS Sn 08 18 50.8 +2.9
DIGR Digorskoe uzhe 2.50 273 ePn Pn 08 18 18.7 +1.7
DIGR eSn Sn 08 18 50.8 +2.9
BRDA Brd 2.58 177 ⇓Sg Sb 08 18 55.3 +1.3
ONI Oni 2.61 266 PN Pb 08 18 21.6 -1.3
ONI S Sb 08 18 58.8 +3.6
ONI Oni 2.61 266 P Pb 08 18 21.6 -1.3
ONI Oni 2.61 266 P Pb 08 18 21.6 -1.3
ONI Sb Sb 08 18 58.8 +3.6
AKH Akhalkalaki 2.96 242 PN Pb 08 18 30.5 +1.6
AKH S Sn 08 19 04.7 +5.5
AKH Akhalkalaki 2.96 242 P Pb 08 18 30.5 +1.6
KBZ Khabaz 3.11 288 Pn Pn 08 18 24.9 -0.3
comp=E,0.9nm,0.3s,baz=104,slow=12,SNR=14
KBZ Lg Lg 08 19 10.7
comp=E,7.5nm,0.3s,baz=316,slow=20,SNR=7.6
NEY Neytrino 3.15 279 ePN Pn 08 18 27.7 +1.8
NEY Neytrino 3.15 279 ePn Pn 08 18 27.7 +1.8
GNI Garni 3.17 213 PN Pb 08 18 30.8 -1.6
GNI 08 19 11.5
GNI pmax pmax
comp=Z,4.0nm,0.3s
GNI smax smax
comp=N,2.0nm,0.3s
GNI Garni 3.17 213 Pn Pb 08 18 30.8 -1.6
comp=N,4.4nm,0.3s,baz=348,slow=3.0,SNR=8.3
GNI Sn Sb 08 19 11.5 +0.2
comp=N,1.9nm,0.3s,baz=190,slow=23,SNR=5.7
KIV Kislovodsk 3.33 291 ⇓/PN Pn 08 18 29.1 +0.9
KIV Kislovodsk 3.33 291 i Pn Pn 08 18 29.1 +0.9
GLBA Clilabad 3.75 163 ⇓Pn Pn 08 18 35.4 +1.5
GLBA ⇓Sn Sn 08 19 21.5 +3.3
GLBA Clilabad 3.75 163 Pn Pn 08 18 35.4 +1.5
GLBA Sn Sn 08 19 21.5 +3.3
LRK Lerik 4.31 166 ⇑Pn Pn 08 18 42.6 +0.7
LRK ⇓Sn Sn 08 19 35.5 +3.0
LRK Lerik 4.31 166 Pn Pn 08 18 42.6 +0.7
LRK Sn Sn 08 19 35.5 +3.0
ANN Anapa 7.18 289 eP Pn 08 19 21.4 +0.4
ANN pmax pmax
comp=Z,75nm,1.6s
ANN Anapa 7.18 289 eP Pn 08 19 21.4 +0.4
comp=Z,75nm,1.6s
VSR Storozhevoye 9.93 330 eP Pn 08 20 04.5 +5.8
VSR pmax pmax
comp=Z,4.0nm,1.0s
AKTK Aktyubinsk 10.73 41 P Pn 08 20 08.6 -1.1
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 10.73 41 ⇑Pn Pn 08 20 08.4 -1.3
comp=Z,2.4nm,0.6s
AKTO ⇑Sn Sn 08 22 00.1 -10
comp=Z,4.0nm,0.6s
AKTO Aktyubinsk 10.73 41 Pn Pn 08 20 08.6 -1.1
comp=Z,0.8nm,0.3s,baz=240,slow=4.4,SNR=12
AKTO Sn Sn 08 22 00.6 -9.5
comp=Z,0.5nm,0.3s,baz=102,slow=20,SNR=7.5
AKTO Aktyubinsk 10.73 41 Pn Pn 08 20 08.4 -1.3
comp=Z,2.4nm,0.6s
AB31 Akbulak array 11.05 50 ⇓Pn Pn 08 20 12.6 -1.5
comp=Z,0.7nm,0.2s,baz=234,slow=12,SNR=92
AB31 ⇑Sn Sn 08 22 10.4 -7.5
comp=Z,2.1nm,0.5s,baz=234,slow=16,SNR=6.7
AB31 Akbulak array 11.05 50 Pn Pn 08 20 12.6 -1.5
comp=Z,0.7nm,0.2s,SNR=92
ARU Arti 15.50 25c iP P 08 21 15.6 -3.5
ARU S Sn 08 24 10.3 +3.8
ARU pmax pmax
comp=Z,10.0nm,2.5s
ARU Arti 15.50 25 i P P 08 21 15.6 -3.5
comp=Z,10.0nm,2.5s
BRVK Borovoye 18.58 49 ⇓Pn P 08 21 51.8 -1.3
comp=Z,4.7nm,0.6s
BRVK Borovoye 18.58 49 eP Pn 08 21 52.7 -0.6
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 18.58 49 Pn P 08 21 51.8 -1.3
comp=Z,4.7nm,0.6s
BRVK Borovoye 18.58 49 eP Pn 08 21 52.7 -0.6
comp=Z,2.0nm,0.8s
BVA0 Borovoye Array 18.62 49 Pn P 08 21 52.2 -1.4
comp=Z,1.6nm,0.7s,baz=246,slow=43,SNR=13
BVA0 Borovoye Array 18.62 49 Pn P 08 21 52.2 -1.4
comp=Z,1.6nm,0.7s,SNR=13
BVAR Borovoye Array 18.62 49 P Pn 08 21 53.2 -0.6
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 18.62 49 P Pn 08 21 53.2 -0.6
comp=Z,0.6nm,0.3s,baz=232,slow=12,SNR=12
VOSK Vostochnaya 18.83 50 ⇓Pn P 08 21 54.0 -1.9
comp=Z,1.9nm,0.8s
KBL Kabul 19.07 108 eP Pn 08 22 00.5 +0.9
KBL Kabul 19.07 108 eP Pn 08 22 00.5 +0.9
AAK Ala-Archa 20.18 81 eP P 08 22 08.5 -2.4
AAK Ala-Archa 20.18 81 eP P 08 22 08.5 -2.4
FINES FINESS Array B 22.44 333 P P 08 22 32.8 -2.0
comp=Z,1.1nm,0.8s,baz=142,slow=16,SNR=3.7
MKAR Makanchi Array 25.22 69 P P 08 23 01.2 -0.8
comp=Z,0.4nm,0.5s,baz=273,slow=9.1,SNR=6.0

ISCJB 11 08:22:52.9±0.4, 37°.78S±0°.06×93°.92W±0°.08, h10km, mb4.7/32, MS4.3/16, Error ellipse: s-maj=11.0km s-min=7.6km az=137.4
IDC 11 08:22:52.4±0.7, 37°.75S×94°.06W, h0km, mb4.5/14, mb1 4.6/15, mb1mx4.5/22, mbtmp4.5/15, ML4.0/1, MS4.3/17, Ms1 4.4/17, ms1mx4.3/22, Error ellipse: s-maj=20.1km s-min=17.4km az=63.0
GCMT 11 08:22:54.2±0.2, 37°.71S×94°.09W, h12km, MW5.1/100, Moment Tensor Solution. s58,c71; s100,c148; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.88±.09; $M_{\theta\theta}$-0.03±.09; $M_{\phi\phi}$4.91±.09; $M_{r\theta}$0.82±.27; $M_{r\phi}$1.39±.08; $M_{\theta\phi}$0.75±.26; Best double couple: $M_0$5.20100×10^{16} NP1:ϕ_s202.00000°, δ40.00000°, λ-101.00000°. NP2: ϕ_s7.00000°, δ40.00000°, λ-81.00000°. Principal axes: T 5.3600, Plg5.0000°, Azm285.0000°; N -0.3200, Plg7.0000°, Azm16.0000°; P -5.0420, Plg81.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 11 08:22:54.2±0.4, 37°.76S×94°.00W, h10km, mb4.9/20 Error ellipse: s-maj=11.6km s-min=8.6km az=43.0
ISC 11 08:22:55.2±0.5, 37°.70S±0°.10×93°.80W±0°.08, h10km, n80, σ1.69/75, mb4.8/32, MS4.3/16, 1C, West Chile Rise

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
H03N2 Juan Fernandez 12.83 75 T T 08 39 26.1
baz=246,slow=73,SNR=578
H03N3 Juan Fernandez 12.83 75 T T 08 39 25.8
baz=246,slow=73,SNR=790
H03N1 Juan Fernandez 12.84 75 T T 08 39 27.6
baz=246,slow=73,SNR=512
PLCA Paso Flores 18.26 107 P Pn 08 27 10.5 +1.9
0.1nm,0.3s,baz=277,slow=12,SNR=14
PLCA LR LR 08 32 28.6
comp=Z,2μm,19.9s,baz=266,slow=31
PLCA Paso Flores 18.26 107 ePn P 08 27 11.4 +2.5
96nm,1.8s
PLCA eSn Sn 08 30 28.1 -4.4
LCO Las Campanas 21.11 73 eP P 08 27 41.7 +1.4
312nm,2.4s
LCO eS S 08 31 39.3 +3.9
CFAA Coronel Fontan 21.86 81 P P 08 27 48.8 +0.8
3.5nm,1.0s,baz=238,slow=9.8,SNR=23
CFAA LR LR 08 34 24.2
comp=Z,234nm,20.2s,baz=246,slow=31
USHA Ushuaia 24.30 143 P P 08 28 12.9 +0.3
27nm,1.1s,baz=265,slow=13,SNR=3.6
USHA LR LR 08 35 46.4
comp=Z,2μm,19.1s,baz=276,slow=32
TRQA Tornquist 25.06 101 eP P 08 28 20.3 +0.7
10nm,0.9s
LVC Limon Verde 26.14 62 eP P 08 28 31.4 +1.5
43nm,1.0s
NNA Nana 29.77 35 P P 08 29 01.1 -1.0
7.9nm,0.6s,baz=209,slow=10,SNR=7.1
NNA LR LR 08 37 48.5
comp=Z,734nm,20.9s,baz=208,slow=30
NNA Nana 29.77 35 eP P 08 29 01.8 -0.3
11nm,0.7s
LPAZ La Paz 31.09 54 P P 08 29 15.6 +1.1
15nm,1.0s,baz=208,slow=5.7,SNR=38
LPAZ LR LR 08 38 53.4
comp=Z,652nm,22.0s,baz=215,slow=31
LPAZ La Paz 31.09 54 eP P 08 29 15.6 +1.1
27nm,1.1s
CPUP Villa Florida 32.74 80 P P 08 29 27.6 -0.6
4.3nm,0.7s,baz=244,slow=8.7,SNR=7.7
CPUP LR LR 08 41 17.1
comp=Z,967nm,18.9s,baz=232,slow=34
CPUP Villa Florida 32.74 80 eP P 08 29 27.8 -0.4
ATAH Atahualpa 33.49 29 P P 08 29 36.6 +1.4
15nm,1.0s,baz=178,slow=4.5,SNR=9.7
RKT Rikitea 38.06 281 eLR LR 08 40 24.3
2μm,28.8s,baz=130
SAML Samuel 39.78 52 eP P 08 30 27.9 -0.5
4.1nm,0.8s
OTAV Otavalo 40.33 24 eP P 08 30 33.4 -0.1
15nm,1.3s
BDFB Brasilia 45.89 74 P P 08 31 18.1 -0.1
11nm,1.1s,baz=252,slow=7.5,SNR=8.1
BDFB LR LR 08 49 47.2
comp=Z,842nm,18.9s,baz=232,slow=35
ROSC El Rosal 46.06 27 P P 08 31 20.8 +1.1
1.8nm,0.3s,baz=139,slow=3.1,SNR=7.6
ROSC LR LR 08 48 50.0
comp=Z,200nm,18.0s,baz=298,slow=34
PTGA Pitinga 48.20 48 eP P 08 31 35.0 -1.0
17nm,1.3s
SDV Santo Domingo 51.16 30 eP P 08 31 56.9 -1.9
25nm,1.6s
QSPA South Pole Qui 52.52 180 P P 08 32 07.6 -0.7
6.1nm,0.8s,baz=170,slow=1.9,SNR=18
PPT2 Papeete2 52.53 276 eS S 08 39 29.3 -6.5
433nm,24.5s
PPT2 eLR LR 08 47 07.4
1μm,26.5s,baz=127
PPT Papeete 52.54 276 LR LR 08 48 33.9
comp=Z,230nm,21.7s,baz=118,slow=30
VNA3 Neumayer Olymp 52.95 156 P P 08 32 10.6 -0.7
VNA1 Neumayer--Stat 53.51 156 P P 08 32 14.8 -0.5
VNA2 Neumayer--Watz 53.74 156 P P 08 32 15.8 -1.2
SNAA Sanae 55.00 157 P P 08 32 25.3 -1.0
SNAA Sanae 55.00 157 eP P 08 32 25.9 -0.5
36nm,1.2s
VNDA Vanda 56.52 195 LR LR 08 51 54.5
comp=Z,179nm,20.2s,baz=126,slow=31
RAR Rarotonga 58.64 266 LR LR 08 51 30.7
comp=Z,258nm,21.1s,baz=78,slow=29
TXAR Lajitas Array 67.33 351 P P 08 33 49.7 -0.6
2.2nm,0.7s,baz=170,slow=8.9,SNR=31
TXAR LR LR 08 58 14.2
comp=Z,357nm,18.9s,baz=0.0,slow=32
URZ Urewera 67.33 239 LR LR 08 55 48.5
comp=Z,476nm,20.8s,baz=135,slow=29
SYO Syowa Base 68.17 164 ⇑eX 08 33 53.6
ABTX Abilene, Hawle 70.18 355 eP P 08 34 06.7 -1.3
ABTX epP pP 08 34 13.3 +2.1
MSTX Muleshoe 71.80 352 eP P 08 34 17.0 -0.8
109nm,2.3s
AMTX Amarillo 72.59 353 eP P 08 34 22.0 -0.5
16nm,1.0s
ANMO Albuquerque 73.23 349 P P 08 34 25.9 -0.6
1.8nm,1.0s,baz=172,slow=7.8,SNR=6.0
ANMO Albuquerque 73.23 349 eP P 08 34 26.1 -0.4
LDFC Landfair 75.07 342 eP P 08 34 37.6 +0.5
20nm,1.1s
PV01 Paradox Valley 76.69 348 eP P 08 34 46.2 -0.2
559nm,1.2s
PV04 Paradox Valley 76.99 348 eP P 08 34 47.9 -0.2
CCUT Cedar City 77.03 344 eP P 08 34 48.9 +0.5
SMCO Snowmass 77.46 350 eP P 08 34 51.3 +0.4
8.0nm,1.0s
BGNE Belgrade 78.84 357 eP P 08 34 56.3 -1.8
37nm,0.9s
NVAR Mina Array Bea 79.06 341 LR LR 09 02 22.6
comp=Z,130nm,19.1s,baz=161,slow=30
DAU Daniels Canyon 79.37 347 eP P 08 35 01.0 -0.4
12nm,1.0s
DUG Dugway 79.46 345 eP P 08 35 02.7 +1.1
7.3nm,1.1s
PDAR Pinedale Array 81.37 348 P P 08 35 10.8 -1.1
2.4nm,0.8s,baz=160,slow=6.3,SNR=22
PDAR LR LR 09 06 02.5
comp=Z,132nm,18.8s,baz=149,slow=32
TPAW Teton Pass 82.30 347 eP P 08 35 16.6 -0.3
12nm,1.3s
HLID Hailey 83.03 345 eP P 08 35 21.0 +0.5
12nm,1.5s
DZM Mont Dzumac 84.10 247 eLR LR 09 01 54.0
636nm,27.4s
ULM Lac du Bonnet 87.60 359 P P 08 35 42.9 -0.1
3.6nm,1.1s,baz=174,slow=7.8,SNR=3.1
ULM LR LR 09 12 04.3
comp=Z,103nm,19.5s,baz=250,slow=34
BOSA Boshof 92.78 130 P P 08 36 06.2 -2.1
2.7nm,1.0s,baz=218,slow=6.3,SNR=3.6
DBIC Dimbokro 93.19 84 LR LR 09 11 52.9
comp=Z,155nm,20.8s,baz=210,slow=32
YKA Yellowknife Ar 101.25 350 P Pdif 08 36 45.3 +0.1
0.1nm,0.7s,baz=150,slow=5.0,SNR=3.5
GERES GERESS Array B 127.94 53 PKP PKPdf 08 41 58.9 -1.9
0.4nm,0.6s,baz=191,slow=4.1,SNR=3.6
BRTR Keskin Array B 139.42 70 PKP PKPdf 08 42 21.8 -1.0
1.8nm,1.1s,baz=354,slow=2.5,SNR=4.6
USRK Ussuriysk Arra 145.18 295 PKPbc PKPbc 08 42 30.0 -2.2
2.2nm,0.8s,baz=48,slow=9.0,SNR=5.0
KIV Kislovodsk 146.79 65 ePKPbc PKPdf 08 42 35.6 +0.1
KBZ Khabaz 146.92 66 PKPbc PKPdf 08 42 36.0 +0.4
5.7nm,1.0s,baz=208,slow=2.5,SNR=5.3
NJ2 Nanjing 152.71 268 ePKPbc PKPdf 08 42 44.4 -0.7
AKTO Aktyubinsk 156.25 49 PKPab PKPab 08 43 16.7 -0.8
2.2nm,1.0s,baz=307,slow=3.6,SNR=4.9
ABKAR Akbulak array 157.84 50 ePKPdf PKPdf 08 42 48.8 -2.7
ABKAR ePKPab PKPab 08 43 24.0 -0.4
GYA Guiyang 159.40 243 PKP PKPdf 08 42 54.8 +0.5
GYA PKPab PKPab 08 43 35.4 +3.4
GYA PKS PKSdf 08 46 26.0 -2.0
GYA PP PP 08 47 17.6 +4.3
GYA AMB AMB
comp=Z,90nm,7.6s
HHC Hu-ho-hao-te 160.14 287 ePKP PKPdf 08 42 57.8 +3.2
HHC PP PP 08 47 19.9 +2.4
HHC SS SS 09 07 24.4 -3.5
BVAR Borovoye Array 161.14 31 PKPab PKPab 08 43 38.2 -0.4
1.7nm,0.8s,baz=270,slow=3.0,SNR=6.6
SONM Songino Array 162.10 311 PKPab PKPab 08 43 39.6 -3.5
1.3nm,1.0s,baz=66,slow=3.5,SNR=6.6
ZALV Zalesovo Beam 163.72 3 PKPab PKPab 08 43 47.1 -2.7
0.9nm,0.7s,baz=0.0,slow=1.4,SNR=4.2
CD2 Chengdu 164.00 250 PKP PKPdf 08 43 00.3 +1.5
LZH Lanzhou 165.79 269 ePKP PKPdf 08 43 00.6 +0.3
LZH pPKP pPKPdf 08 43 10.3 -0.8
LZH sPKP 08 43 04.7
KURK Kurchatov 165.91 20 PKP PKPdf 08 42 58.5 -1.2
KURK PKPab PKPab 08 43 56.4 -3.1
KURBB Kurchatov Arra 165.97 21 PKP PKPdf 08 42 58.5 -1.2
0.2nm,0.5s,baz=14,slow=0.9,SNR=3.6
KURBB PKPab PKPab 08 43 56.4 -3.4
0.4nm,0.8s,baz=324,slow=3.5,SNR=4.4
AAK Ala-Archa 169.78 58 PKPab PKPab 08 44 16.9 -0.4
5.9nm,1.0s,baz=207,slow=2.6,SNR=9.2
MKAR Makanchi Array 170.47 16 PKP PKPdf 08 43 02.3 -0.7
0.3nm,0.6s,baz=270,slow=1.0,SNR=4.0
KSH Kashi 171.79 74 ePKP PKPdf 08 43 06.1 +2.1
KSH SKKS 08 55 00.0
KSH AMB AMB
comp=Z,130nm,4.2s
WMQ Urumqi 173.78 350 ePKP PKPdf 08 43 08.0 +3.3

IDC 11 08:39:34.8±2.6,53.97N×86.57E,h0km,mb1 2.9/2, mb1mx2.8/30,mbtmp2.9/2,ML2.9/2,Error ellipse: s-maj=22.8km s-min=13.5km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.03	270	i		08 45 38.3	
	baz=88,slow=347,SNR=12						
ZALV	Zalesovo Beam	1.03	270	Pg	Pg	08 39 53.6	-1.0
	0.7nm,0.3s,baz=89,slow=18,SNR=5.8						
ZALV				Lg	Lg	08 40 09.1	
	3.3nm,0.3s,baz=92,slow=30,SNR=14						
ZALV				Rg	Rg	08 40 15.3	
	20nm,1.1s,baz=89,slow=31,SNR=15						
KURBB	Kurchatov Arra	5.96	239	Pn	Pn	08 41 05.2	+1.0
	0.3nm,0.3s,baz=49,slow=10.0,SNR=10.0						
MKAR	Makanchi Array	7.68	203	Pn	Pn	08 41 28.8	+0.9
	0.2nm,0.3s,baz=26,slow=14,SNR=9.8						

IDC 11 08:47:01.5±7.3,30.55S×178.56W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.7/17,mbtmp3.6/2,Error ellipse: s-maj=300.7km s-min=58.1km az=156.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.62	267	P	P	08 54 59.6	-0.2
	0.2nm,0.3s,baz=107,slow=7.6,SNR=6.3						
WRA	Warramunga Arr	43.62	273	P	P	08 55 07.7	-0.2
	0.6nm,0.3s,baz=110,slow=8.1,SNR=19						
FINES	FINESS Array B	145.12	339	PKPbc	PKPbc	09 06 38.9	-0.7
	1.5nm,1.0s,baz=67,slow=4.7,SNR=5.6						

NIED 11 08:47:00,23.80N×126.10E,h17km,Mw3.7 Best double couple: Mo4.05000×10^14 NP1:φs9.00000°,δ60.00000°, λ35.00000°. NP2:φs260.00000°,δ61.00000°,λ145.00000°.
JMA 11 08:47:48.3±0.4,23.82N×126.13E,h38km,M3.5
IDC 11 08:47:52.5±1.3,23.83N×124.90E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.4/24,mbtmp3.4/4,MS4.0/1,Ms1 4.0/1, ms1mx2.8/14,Error ellipse: s-maj=68.1km s-min=26.6km az=71.0
ISC 11 08:47:52.7±2.2,23.96N±0.06×125.64E±0.08,h4km±12km, n15,σ1§60/19,mb3.4/4,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	Gusukube	0.83	345	P	Pg	08 48 08.3	-0.3
JOGS				eS	Sb	08 48 22.6	+1.5
JMJ	Miyako jima 2	0.91	340	P	Pg	08 48 10.0	-0.2
JMJ				eS	Sn	08 48 26.6	+0.8
JIRB	Irabujima	0.97	334	P	Pg	08 48 11.3	0.0
JIRB				eS	Sn	08 48 26.8	-0.4
JIKM	Ikemajima	1.03	340	P	Pb	08 48 11.2	-1.8
JIKM				eS	Sn	08 48 28.9	+0.2
JTJ	Tarama	1.10	309	P	Pb	08 48 13.8	-0.4
JISG	Ishigakijimahi	1.37	298	P	Pn	08 48 17.8	-0.7
JIJ	Ishigaki jima	1.43	287	P	Pg	08 48 19.8	-0.3
JKRS	Kuro-shima	1.52	281	P	Pb	08 48 20.7	-0.7
JKRS				eS	Sg	08 48 44.8	+3.3
HATJ	Hateruma jima	1.69	274	eS	Sg	08 48 47.0	+0.2
IRIF	Iriomote-Funau	1.79	283	P	Pb	08 48 24.3	-1.7
JKE	Kume jima 2	2.58	23	eS	Sn	08 48 55.3	-12
MKAR	Makanchi Array	41.37	314	P	P	08 55 36.9	-3.0
	0.1nm,0.4s,baz=105,slow=8.9,SNR=5.2						
WRA	Warramunga Arr	44.45	168	P	P	08 56 05.3	+0.4
	0.9nm,0.9s,baz=350,slow=8.9,SNR=5.1						
ASAR	Alice Springs	48.01	170	P	P	08 56 33.6	+0.6
	0.3nm,0.8s,baz=355,slow=6.0,SNR=4.3						
ASAR				LR	LR	09 16 04.2	
	comp=Z,162nm,21.7s,baz=165,slow=35						
YKA	Yellowknife Ar	81.56	24	P	P	09 00 14.1	+2.8
	0.2nm,0.7s,baz=300,slow=5.4,SNR=3.8						

MAN 11 08:54:09,13.82N×119.92E,h27km,mb4.2,ML3.0,MS2.8, 1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.33	105	eP	Pn	08 54 17.7	-0.3
TGY	Tagaytay City	1.02	74⇑	eP	Pn	08 54 27.7	0.0
TGY				eS	Sb	08 54 41.3	0.0
SJMP	San Jose	1.78	139	eP	Pn	08 54 39.4	+1.3
SJMP				eS	Sn	08 54 56.3	-3.6
BUSP	Coron	1.83	171	eP	Pn	08 54 34.0	-4.7
BUSP				eS	Sn	08 55 01.6	+0.7
ENPP	El Nido	2.64	191	eP	Pn	08 54 50.9	+1.0
CUYO	Cuyo Island	3.14	160	eP	Pn	08 54 57.2	+0.4

MEX 11 09:08:24.7±0.4,14.85N×93.75W,h9km±7km,MD3.6,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.99	31	eP	Pg	09 08 41.0	-2.7
PCIG				eS	Sg	09 08 53.4	-3.3
THIG		1.43	88	i P	Pn	09 08 47.1	-3.8
THIG				i S	Sn	09 09 04.9	-5.0
CCIG	Comitan	2.10	47	eP	Pn	09 08 57.0	-3.4
CCIG				i S	Sn	09 09 22.6	-4.3
CMIG	Matias Romero	2.48	334	eP	Pn	09 09 02.2	-3.2
CMIG				i S	Sn	09 09 31.8	-4.0

MEX 11 09:11:59.1±0.4,16.99N×100.18W,h48km±3km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.10	306	eP	Pn	09 12 05.4	-1.4
CAIG				i S	Sn	09 12 10.3	-1.9
ACX	Acapulco	0.33	111	eP	Pn	09 12 06.3	-2.2
ACX				i S	Sn	09 12 12.4	-2.6
ARIG	Puente Sto Nin	1.30	353	i P	Pn	09 12 19.2	-1.7
ARIG				i S	Sn	09 12 34.9	-2.2
TLIG	Tlapa	1.65	69	i P	Pn	09 12 24.8	-1.0
TLIG				i S	Sn	09 12 43.6	-2.3
PNIG	Pinotepa	2.05	106	i P	Pn	09 12 30.7	-0.5
PNIG				i S	Sn	09 12 53.5	-2.2

ISCJB 11 09:13:15.5±1.0,9.38S±0.07×108.37E±0.06,h31km, mb3.4/5,Error ellipse: s-maj=11.3km s-min=7.3km az=30.0
DJA 11 09:13:17.6±0.6,9°S±6°×10°8E±°,h53km±32km,M3.7/14, MLv3.7/14
IDC 11 09:13:18.4±3.2,8.01S×109.49E,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.4/24,mbtmp3.5/5,Error ellipse: s-maj=190.5km s-min=21.0km az=48.0
ISC 11 09:13:19.2±1.2,9.21S±0.09×108.46E±0.07,h31km,n15, σ1§41/18,mb3.6/5,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMJI	Cimerak	1.42	360	P	Pn	09 13 40.3	-2.6
CMJI				S	Sb	09 14 03.0	+0.3
CISI	Cisompet, Garu	1.76	339	P	Pn	09 13 47.8	+0.1
CISI				S	Sn	09 14 08.8	-0.3
KPJI	Karang Pucung	1.92	14	P	Pn	09 13 50.2	+0.4
KPJI				S	Sb	09 14 17.8	+0.6
CNJI	Cibinong	2.30	325	P	Pn	09 13 51.0	-4.0
UGM	Wanagama	2.42	58	P	Pn	09 13 55.4	-1.3
LEM	Lembang	2.51	341	P	Pn	09 14 00.6	+2.5
WOJI	Wonogiri, Jawa	2.79	61	P	Pn	09 14 01.2	-0.6
PCJI	Pacitan	2.87	70	P	Pn	09 14 02.6	-0.3
PCJI				S	Sn	09 14 37.2	+0.8
SKJI	Sukabumi	2.89	319	P	Pn	09 14 01.3	-1.8
PWJI	Pagerwojo	3.51	71	P	Pn	09 14 10.0	-1.7
WRA	Warramunga Arr	27.18	116	P	P	09 19 01.1	+0.8
	0.3nm,0.8s,baz=292,slow=11,SNR=2.7						
ASAR	Alice Springs	28.25	124	P	P	09 19 11.9	+2.0
	0.2nm,0.8s,baz=309,slow=9.2,SNR=2.6						
MKAR	Makanchi Array	60.44	340	P	P	09 23 24.8	-1.1
	0.5nm,0.5s,baz=144,slow=6.9,SNR=9.9						
KURBB	Kurchatov Arra	65.01	339	P	P	09 23 55.1	-1.1
	0.6nm,0.7s,baz=158,slow=4.6,SNR=5.1						
BVAR	Borovoye Array	69.95	337	P	P	09 24 27.2	-0.2
	0.3nm,0.6s,baz=134,slow=6.2,SNR=5.2						

DJA 11 09:15:55.0±0.4,2°S±3°×11°6E±°,h0km,M3.9/6,MLv3.9/6, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKB	Balikpapan	0.83	72	P	Pg	09 16 08.9	-2.1
BKB				S	Sb	09 16 22.7	0.0
MTKI	Muara Teweh, K	1.34	295	P	Pn	09 16 18.6	-1.2
KBKI	Kotabaru	1.77	178	P	Pn	09 16 24.0	-1.7
KBKI				S	Sn	09 16 46.3	-2.0
BBKI	Banjar Baru	2.31	213	P	Pn	09 16 33.2	+0.1

BJI 11 09:18:14.2,39.86S×81.29E,h10km,mB5.5/38,mb5.1/49, Ms5.1/40,Ms7 4.8/40
MOS 11 09:18:19.5±0.8,39.11S×82.08E,h10km,mb5.4/23,Error ellipse: s-maj=13.3km s-min=8.3km az=90.4
IDC 11 09:18:19.4±0.4,39.15S×82.02E,h0km,mb4.8/30, mb1 4.9/30,mb1mx4.8/33,mbtmp4.8/30,MS4.5/27, Ms1 4.5/27,ms1mx4.3/35,Error ellipse: s-maj=13.5km s-min=11.7km az=5.0
ISCJB 11 09:18:19.3±0.2,39.16S±0.05×82.01E±0.06,h10km, mb5.1/81,MS4.6/41,Error ellipse: s-maj=6.7km s-min=6.2km az=36.5
NEIC 11 09:18:20.9±0.1,39.15S×81.98E,h10km,mb5.3/30,Error ellipse: s-maj=5.7km s-min=4.9km az=181.0
GCMT 11 09:18:20.9±0.1,39.16S×82.14E,h12km,MW5.3/111, Moment Tensor Solution. s82,c120; s111,c192; Duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr1.23±.02; Mθθ-0.81±.02; Mφφ-0.42±.02; Mrθ-0.07±.05; Mrφ0.38±.01; Mθφ-0.22±.05; Best double couple: Mo1.15200×10^17 NP1:φs130.00000°,δ47.00000°, λ102.00000°. NP2:φs293.00000°,δ44.00000°,λ77.00000°. Principal axes: T 1.2660, Plg81.0000°, Azm112.0000°; N -0.2270, Plg9.0000°, Azm302.0000°; P -1.0380, Plg2.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
ISC 11 09:18:21.2±0.3,39.22S±0.05×81.98E±0.06,h10km,n442, σ1§06/458,mb5.1/81,MS4.7/41,9C-7D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	25.94	91	T	T	09 50 44.5	
	baz=251,slow=74,SNR=117						
H01W3	Cape Leeuwin H	25.95	91	T	T	09 50 52.8	
	baz=251,slow=74,SNR=115						
H01W1	Cape Leeuwin H	25.96	91	T	T	09 50 53.2	
	baz=251,slow=74,SNR=187						
NWAO	Narrogin (SRO)	29.05	89	P	P	09 24 21.3	-0.3
	7.7nm,0.9s,baz=246,slow=2.2,SNR=3.7						
NWAO				LR	LR	09 33 02.6	
	comp=Z,2μm,21.7s,baz=250,slow=30						
MAW	Mawson	30.35	194	P	P	09 24 33.0	+0.3
	24nm,1.0s,baz=26,slow=7.9,SNR=5.5						
MAW				LR	LR	09 33 52.6	
	comp=Z,1μm,21.3s,baz=25,slow=31						
CASY	Casey	31.58	158	P	P	09 24 43.6	0.0
	13nm,1.1s						
H08S2	Diego Garcia H	32.57	342	T	T	09 59 00.3	
	baz=166,slow=76,SNR=47						
H08S1	Diego Garcia H	32.58	342	T	T	09 59 00.6	
	baz=166,slow=76,SNR=66						
H08S3	Diego Garcia H	32.59	342	T	T	09 59 01.7	
	baz=166,slow=76,SNR=62						
H08N1	Diego Garcia H	34.20	340	T	T	10 01 24.1	
	baz=194						
H08N3	Diego Garcia H	34.20	340	T	T	10 01 21.3	
	baz=194						
H08N2	Diego Garcia H	34.22	340	T	T	10 01 21.4	
	baz=194						
OPO	Ambohidratompo	36.44	294	P	P	09 25 26.8	+0.4
	11nm,0.9s,baz=151,slow=1.6,SNR=7.5						
MBWA	Marble Bar	36.94	72	eP	P	09 25 30.4	-0.1
SYO	Syowa Base	37.42	204⇑	eX	P	09 25 32.6	-1.4
FORT	Forrest	38.33	92	eP	P	09 25 43.1	+0.9
	49nm,0.9s						
UGM	Wanagama	40.35	47	eP	P	09 26 00.1	+1.0
	102nm,1.2s						
DRV	Dumont d'Urvil	42.15	150	S	S	09 32 22.0	-11
DRV				R		09 38 00.0	
GSI	Gunungsitoli	42.80	23	eP	P	09 26 13.5	-5.7
	28nm,0.4s						
BBOO	Buckleboo	43.66	99	eP	P	09 26 26.4	+0.2
	465nm,1.1s						
PSI	Prapat	44.63	24	P	P	09 26 33.9	-0.2
	7.0nm,0.7s,baz=197,slow=9.2,SNR=6.3						
PSI				PcP	PcP	09 28 15.6	-1.3
	4.4nm,0.4s,baz=177,slow=5.3,SNR=4.6						
PSI				LR	LR	09 40 47.0	
	comp=Z,1μm,21.3s,baz=200,slow=30						
ASAR	Alice Springs	46.32	86	P	P	09 26 47.1	-0.3
	17nm,0.9s,baz=231,slow=7.5,SNR=146						
ASAR				PcP	PcP	09 28 22.1	-0.5
	11nm,0.9s,baz=229,slow=3.0,SNR=15						
ASAR				LR	LR	09 44 07.7	
	comp=Z,1μm,19.6s,baz=240,slow=33						
AS31	Alice Springs	46.32	86	eP	P	09 26 47.0	-0.5
NVL	N'lazarevskaya	47.03	205	eP	P	09 26 55.3	+3.0
NVL				eS	S	09 33 42.2	-1.4
NVL				pmax	pmax		
	comp=Z,15nm,0.9s						
MMRI	Maumere	47.15	61	eP	P	09 26 53.3	-0.5
	comp=Z,79nm,0.9s						
BOSA	Boshof	47.56	265	P	P	09 26 58.2	+1.0
	comp=Z,3.6nm,0.8s,baz=105,slow=9.1,SNR=6.0						
BOSA				LR	LR	09 42 39.4	
	comp=Z,730nm,21.6s,baz=124,slow=31						
SOEI	Soe	47.74	64	eP	P	09 26 57.7	-0.9
	comp=Z,31nm,1.0s						
STKA	Stephens Creek	48.30	101	eP	P	09 27 02.4	-0.3
STKA	Stephens Creek	48.30	101	P	P	09 27 02.3	-0.4
	comp=Z,25nm,0.7s,baz=238,slow=6.8,SNR=71						
STKA				LR	LR	09 43 16.0	
	comp=Z,679nm,21.7s,baz=235,slow=31						
STKA	Stephens Creek	48.30	101	eP	P	09 27 02.4	-0.3
WRA	Warramunga Arr	48.71	82	P	P	09 27 05.5	-0.5
	comp=Z,41nm,0.9s,baz=235,slow=7.4,SNR=193						
WRA				PcP	PcP	09 28 30.4	-0.7
	comp=Z,4.0nm,0.9s,baz=238,slow=2.6,SNR=6.8						
WRA				LR	LR	09 45 11.6	
	comp=Z,957nm,20.6s,baz=255,slow=33						
WRAB	Tennant Creek	48.73	82	P	P	09 27 06.0	-0.1
	comp=Z,287nm,1.0s,SNR=23						
WRAB	Tennant Creek	48.73	82 d	iP	P	09 27 06.1	-0.1
WRAB				pmax	pmax		
	comp=Z,247nm,1.7s						
WRAB	Tennant Creek	48.73	82	eP	P	09 27 05.8	-0.4
LBTB	Lobatse	49.08	269	P	P	09 27 08.7	-0.2
	comp=Z,5.3nm,0.7s,baz=135,slow=8.3,SNR=7.6						
SUR	Sutherland	49.26	258	P	P	09 27 12.2	+1.8
	comp=Z,26nm,1.1s,baz=125,slow=8.0,SNR=5.8						
VNDA	Vanda	49.88	164	P	P	09 27 13.4	-0.8
	comp=Z,6.5nm,0.9s,baz=273,slow=8.3,SNR=10						
VNDA				LR	LR	09 46 01.6	
	comp=Z,929nm,20.7s,baz=268,slow=33						
SBUM	Sibu	49.93	41	eP	P	09 27 14.5	-0.8
	comp=Z,136nm,1.8s						
QSPA	South Pole Qui	50.94	180	P	P	09 27 22.5	0.0
	comp=Z,22nm,1.0s,baz=139,slow=0.4,SNR=32						
SNAA	Sanae	51.72	204	P	P	09 27 28.8	+0.6
SNAA	Sanae	51.72	204	ceP	P	09 27 24.8	-3.4
SNAA				pmax	pmax		
	comp=Z,11nm,1.5s						
SNAA	Sanae	51.72	204	P	P	09 27 28.7	+0.6
	comp=Z,3.4nm,1.0s,baz=138,slow=9.9,SNR=6.8						
CAN	Canberra	52.38	108	eP	P	09 27 33.3	-0.3
CAN				pmax	pmax		
	comp=Z,22nm,0.9s						
CAN	Canberra	52.38	108	eP	P	09 27 33.3	-0.3
	comp=Z,22nm,0.9s						
LSZ	Lusaka	52.57	281	eP	P	09 27 36.0	+0.7
LSZ				pmax	pmax		
	comp=Z,30nm,1.1s						
LSZ	Lusaka	52.57	281	eP	P	09 27 36.0	+0.7
	comp=Z,30nm,1.1s						
VNA2	Neumayer--Watz	53.31	204	P	P	09 27 40.5	+0.6
	baz=62,slow=7.0						
VNA3	Neumayer Olymp	53.94	204	P	P	09 27 45.1	+0.6
KMBO	Kilima Mbogo	55.66	302	P	P	09 27 59.0	+1.0
	comp=Z,4.6nm,0.9s,baz=137,slow=7.4,SNR=12						
KMBO				LR	LR	09 46 23.9	
	comp=Z,196nm,21.8s,baz=104,slow=30						
HYB	Hyderabad	56.43	356	eP	P	09 28 02.0	-1.0
HYB	Hyderabad	56.43	356	i P	P	09 28 02.0	-1.0
HYB	Hyderabad	56.43	356	eP	P	09 28 02.0	-1.0
KAD	Karad	56.70	351	ex	P	09 28 06.5	+1.5
CTA	Charters Tower	57.86	91	P	P	09 28 12.8	-0.5
	comp=Z,15nm,0.9s,baz=246,slow=13,SNR=9.7						
CTAO	Charters Tower	57.86	91	eP	P	09 28 13.6	+0.2
CTAO				pmax	pmax		
	comp=Z,77nm,1.6s						
CTAO	Charters Tower	57.86	91	eP	P	09 28 13.6	+0.2
	comp=Z,77nm,1.6s						
POO	Poona	57.95	351⇓	iP	P	09 28 12.0	-1.8
	comp=Z,114nm,1.2s						
TSUM	Tsumeb	58.46	270	eP	P	09 28 18.8	+1.1
	comp=Z,27nm,1.0s						
COEN	Coen	59.05	83	eP	P	09 28 22.1	+0.4
	comp=Z,96nm,1.2s						
CM31	Chiang Mai Arr	59.53	19	eP	P	09 28 24.9	+0.1
	comp=Z,13nm,0.9s						
CMAR	Chiang Mai Arr	59.53	19	P	P	09 28 25.1	+0.3
	comp=Z,7.2nm,0.8s,baz=208,slow=7.1,SNR=29						
CMAR				LR	LR	09 49 52.4	
	comp=Z,602nm,21.7s,baz=210,slow=32						
CHTO	Chiang Mai	59.87	19	eP	P	09 28 26.9	-0.2
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	Chiang Mai	59.87	19	eP	P	09 28 26.9	-0.2
	comp=Z,6.3nm,0.8s						
RBK	Rabkut	62.12	330	P	P	09 28 43.3	+0.8
	SNR=6.7						
QIZ	Qiongzhong	63.54	30	P	P	09 28 52.8	+1.0
QIZ				pP	pP	09 28 56.3	+1.2
QIZ				S	S	09 37 27.6	+2.2
QIZ				pmax	pmax		
	comp=Z,13nm,1.3s						
QIZ				LR	LR		
	comp=Z,470nm,20.7s						
QIZ				LR	LR		
	comp=Z,830nm,19.3s						
SLVN	Son La	63.63	23	eP	P	09 28 52.7	+0.1
	comp=Z,13nm,1.2s						
DAMY	Dhamar	63.99	319	eP	P	09 28 54.8	-0.4
	comp=Z,143nm,1.3s						
PMG	Port Moresby	64.91	81⇓	iP	P	09 29 01.7	+0.6
PMG				pmax	pmax		
	comp=Z,99nm,1.7s						
PMG	Port Moresby	64.91	81	P	P	09 29 02.1	+1.0
	comp=Z,32nm,0.9s,baz=253,slow=9.9,SNR=19						
PMG				LR	LR	09 57 54.0	
	comp=Z,484nm,19.1s,baz=231,slow=37						
PMG	Port Moresby	64.91	81	eP	P	09 29 01.0	-0.1
SHL	Shillong	65.11	10	ex	P	09 29 04.0	+1.8
WBK	Wadi Bani Khal	65.17	337	P	P	09 29 02.8	+0.3
	SNR=9.1						
JMDO	Jabal Madar	65.21	336	P	P	09 29 02.7	-0.1
	SNR=6.2						
SMDO	Samad	65.88	336	P	P	09 29 07.5	+0.4
	SNR=9.6						
HOQ	Hoqain	66.60	335	P	P	09 29 11.5	-0.2
	SNR=17						
ARQ	Araqi	66.63	335	P	P	09 29 12.0	+0.1
	SNR=5.9						
KMI	Kunming	66.89	20	P	P	09 29 14.3	+0.6
KMI				pP	pP	09 29 19.7	+2.7
KMI				S	S	09 38 03.9	-2.8
KMI				pmax	pmax		
	comp=Z,11nm,1.2s						
KMI				LR	LR		
	comp=Z,440nm,18.2s						
KMI				LR	LR		
	comp=Z,300nm,21.2s						
KMI				LR	LR		
	comp=Z,550nm,25.1s						
ASHO	Ashiyiah	68.03	335	P	P	09 29 20.5	-0.3
	SNR=5.1						
HATD	Hatta, Dubai	68.14	335⇓	iP	P	09 29 20.5	-1.0
	SNR=6.9						
ASUD	Al Ashush, Dub	68.23	334⇑	iP	P	09 29 21.9	0.0
	SNR=11						
FAQ	Al Faqa, Dubai	68.25	334	⇓P	P	09 29 21.5	-0.6
NAZ	Nazwa, Dubai	68.45	334⇓	iP	P	09 29 22.5	-0.8
	SNR=6.0						
LSA	Lhasa	69.09	9	P	P	09 29 27.3	-0.6
LSA				LR	LR		
	comp=Z,480nm,21.9s						
LSA				LR	LR		
	comp=Z,1μm,21.0s						
LSA	Lhasa	69.09	9	eP	P	09 29 27.2	-0.6
LSA				pmax	pmax		
	comp=Z,13nm,0.9s						
LSA	Lhasa	69.09	9	eP	P	09 29 27.2	-0.6
	comp=Z,13nm,0.9s						
BANOM	Banah	69.11	335	P	P	09 29 26.6	-0.9
	SNR=15						
GYA	Guiyang	69.29	24	P	P	09 29 32.0	+3.3
GYA				PP	PP	09 32 06.9	+4.7
GYA				S	S	09 38 37.0	+1.8
GYA				SKS	SKSac	09 39 27.7	-1.2
GYA				SS	SS	09 43 06.2	+3.6
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=Z,640nm,19.6s						
GYA				LR	LR		
	comp=Z,580nm,20.0s						
GYA				LR	LR		
	comp=Z,620nm,19.4s						
BKZ	Black Stump Fm	69.60	124	eP	P	09 29 30.2	-0.4
	comp=Z,21nm,0.7s						
URZ	Urewera	70.51	124	LR	LR	09 55 43.1	
	comp=Z,259nm,19.1s,baz=216,slow=32						
URZ	Urewera	70.51	124	eP	P	09 29 35.2	-0.9
DZM	Mont Dzumac	72.26	104	eLR	LR	09 51 50.4	
	comp=Z,557nm,27.1s						
DZM	Mont Dzumac	72.26	104	P	P	09 29 47.4	+0.4
	comp=Z,11nm,0.9s,baz=98,slow=12,SNR=4.0						
DZM				LR	LR	09 56 18.2	
	comp=Z,218nm,20.4s,baz=218,slow=32						
CD2	Chengdu	72.66	20	P	P	09 29 48.7	-0.2
CD2				pP	pP	09 29 53.4	+1.2
CD2				sP	sP	09 29 55.7	+2.3
CD2				PP	PP	09 32 32.8	+1.8
CD2				S	S	09 39 13.8	-0.2
CD2				SS	SS	09 43 56.0	+1.9
CD2				pmax	pmax		
	comp=Z,30nm,1.7s						
CD2				pmax	pmax		
	comp=Z,350nm,3.7s						
CD2				LR	LR		
	comp=Z,590nm,20.8s						
CD2				LR	LR		
	comp=Z,640nm,22.6s						
KBL	Kabul	74.36	349	eP	P	09 29 58.3	-0.8
KBL				pmax	pmax		
	comp=Z,83nm,1.3s						
KBL	Kabul	74.36	349	eP	P	09 29 58.3	-0.8
	comp=Z,83nm,1.3s						
HNR	Honiara	74.79	90	LR	LR	10 00 58.7	
	comp=Z,241nm,18.1s,baz=257,slow=34						
WHN	Wuhan	75.66	28	P	P	09 30 07.4	+1.0
XAN	Xi'an	77.05	23	P	P	09 30 13.5	-0.8
XAN				pP	pP	09 30 22.2	+4.6
XAN				sP	sP	09 30 26.5	+7.7
XAN				S	S	09 39 59.9	-2.9
XAN				ScS	SKSac	09 40 25.3	-1.3
XAN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
XAN				pmax	pmax		
	comp=Z,28nm,3.6s						
XAN				LR	LR		
	comp=Z,230nm,23.4s						
XAN				LR	LR		
	comp=Z,120nm,21.4s						
LZH	Lanzhou	77.60	18	⇑P	P	09 30 17.5	0.0
LZH				pP	pP	09 30 24.1	+3.3
LZH				sP	sP	09 30 28.1	+6.1
LZH				PP	PP	09 33 13.5	+0.5
LZH				eS	S	09 40 09.0	-0.1
LZH				sS	sS	09 40 21.2	+6.7
LZH				pmax	pmax		
	comp=Z,33nm,1.0s						
LZH				pmax	pmax		
	comp=Z,190nm,4.9s						
LZH				LR	LR		

comp=Z,620nm,18.6s
LZH LR LR
comp=Z,510nm,17.5s
LZH LR LR
comp=Z,690nm,19.0s
KSH Kashi 78.55 355 P P 09 30 19.8 -2.8
KSH *e*sP sP 09 30 24.0 -3.1
KSH *e*PP **PP 09 33 18.7 -2.2**
KSH S S 09 40 09.1 -10
KSH SKS SKSac 09 40 24.2 -13
KSH pmax pmax
comp=Z,20nm,0.9s
KSH pmax pmax
comp=Z,200nm,4.0s
KSH LR LR
comp=Z,200nm,6.2s
KSH LR LR
comp=Z,83nm,5.0s
KSH LR LR
comp=Z,220nm,8.9s
JOW Kunigami 78.65 41 LR LR 10 03 28.5
comp=Z,18nm,21.0s,baz=321,slow=34
NJ2 Nanjing 78.75 31 *e*P **P 09 30 23.4 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
RAO Raoul Island 79.22 119 LR LR 10 00 28.8
comp=Z,120nm,18.6s,baz=134,slow=32
ABKT Ailbek 79.85 341 P **P 09 30 29.3 -0.4**
comp=Z,193nm,1.0s,SNR=5.4
GTA Gaotai 79.94 14 ⇑P **P 09 30 30.3 +0.1**
GTA pP **pP 09 30 35.1 +1.5**
GTA sP **sP 09 30 37.3 +2.6**
GTA S **S 09 40 33.0 -0.8**
GTA SS **SS 09 45 46.1 +1.7**
GTA pmax pmax
comp=Z,27nm,1.5s
GTA pmax pmax
comp=Z,240nm,5.2s
GTA LR LR
comp=Z,270nm,17.1s
GTA LR LR
comp=Z,270nm,17.1s
GTA LR LR
comp=Z,300nm,19.0s
KZA Kyzart 81.15 355 P **P 09 30 36.8 -0.3**
SNR=16
KZA Kyzart 81.15 355 *i* P **P 09 30 36.7 -0.3**
ULHL Ulahol 81.25 356 P **P 09 30 37.1 -0.2**
SNR=21
ULHL Ulahol 81.25 356 *i* P **P 09 30 37.1 -0.2**
AML Almayashu 81.32 354 P **P 09 30 37.8 -0.1**
SNR=48
AML Almayashu 81.32 354 *i* P **P 09 30 37.8 -0.1**
UCH Uchtor 81.35 354 P **P 09 30 37.7 -0.4**
SNR=24
UCH Uchtor 81.35 354 *i* P **P 09 30 37.7 -0.4**
KBK Karagaybulak 81.74 355 P **P 09 30 39.9 0.0**
SNR=14
KBK Karagaybulak 81.74 355 *i* P **P 09 30 39.8 0.0**
AAK Ala-Archa 81.75 354 P **P 09 30 39.0 -0.9**
comp=Z,108nm,0.8s,SNR=16
AAK Ala-Archa 81.75 354 P **P 09 30 40.0 +0.1**
SNR=16
AAK Ala-Archa 81.75 354 *e*P **P 09 30 39.5 -0.4**
AAK pmax pmax
comp=Z,17nm,0.9s
AAK Ala-Archa 81.75 354 P **P 09 30 39.9 -0.1**
comp=Z,9.0nm,0.7s,baz=176,slow=5.4,SNR=29
AAK Ala-Archa 81.75 354 *e*P **P 09 30 39.5 -0.4**
comp=Z,17nm,0.9s
EKS2 Erkin-Say 81.84 354 P **P 09 30 40.3 0.0**
SNR=31
EKS2 Erkin-Say 81.84 354 *e*P **P 09 30 39.9 -0.4**
EKS2 pmax pmax
comp=Z,26nm,0.8s
EKS2 Erkin-Say 81.84 354 *e*P **P 09 30 39.9 -0.4**
comp=Z,26nm,0.8s
FRU Bishkek 81.94 355 *e*P **P 09 30 40.0 -0.7**
FRU pmax pmax
comp=Z,130nm,2.5s
TKM2 Tokmak 2 81.96 355 P **P 09 30 40.3 -0.8**
SNR=16
TKM2 Tokmak 2 81.96 355 *e*P **P 09 30 39.9 -1.2**
TKM2 pmax pmax
comp=Z,29nm,1.4s
TKM2 Tokmak 2 81.96 355 *e*P **P 09 30 39.9 -1.2**
comp=Z,29nm,1.4s
CHMS Chumysh 82.10 355 P **P 09 30 41.0 -0.6**
SNR=23
CHMS Chumysh 82.10 355 *i* P **P 09 30 40.9 -0.6**
USP Ospenovka 82.38 354 P **P 09 30 42.6 -0.4**
SNR=20
USP Ospenovka 82.38 354 *i* P **P 09 30 42.6 -0.4**
KK31 Karatay Array 82.60 352 *i* P **P 09 30 43.6 -0.5**
KK31 pmax pmax
comp=Z,8.0nm,0.4s
KKAR Karatay Array 82.60 352 *e*P **P 09 30 43.5 -0.7**
KKAR pmax pmax
comp=Z,32nm,0.8s
KKAR Karatay Array 82.60 352 *e*P **P 09 30 43.5 -0.7**
comp=Z,32nm,0.8s
WMQ Urumqi 82.82 4 P **P 09 30 45.2 -0.1**
WMQ pP **pP 09 30 50.0 +1.3**
WMQ sP **sP 09 30 52.2 +2.4**
WMQ PP **PP 09 33 56.0 -0.1**
WMQ S **S 09 41 00.6 -2.8**
WMQ pmax pmax
comp=Z,32nm,1.3s
WMQ pmax pmax
comp=Z,350nm,4.0s
WMQ LR LR
comp=Z,640nm,19.0s
WMQ LR LR
comp=Z,430nm,16.8s
WMQ LR LR
comp=Z,830nm,24.8s
HHC Hu-ho-hao-te 84.14 22 *e*P **P 09 30 52.3 +0.1**
HHC sP **sP 09 30 58.8 +2.1**
HHC PP PP 09 34 14.4 +7.4
HHC S **SKSac 09 41 13.8 -1.6**
HHC pmax pmax
comp=Z,28nm,1.5s
HHC pmax pmax
comp=Z,190nm,3.6s
HHC LR LR
comp=Z,730nm,27.0s
HHC LR LR
comp=Z,790nm,21.6s
HHC LR LR
comp=Z,800nm,24.0s
BJI Beijing 84.85 26 P **P 09 30 54.6 -1.1**
BJI S **S 09 41 20.2 -3.6**
BJI pmax pmax
comp=Z,12nm,1.0s
BJI LR LR
comp=Z,240nm,28.3s
BJI LR LR
comp=Z,450nm,24.8s
BJI LR LR
comp=Z,400nm,25.5s
MK31 Makanchi Array 85.63 0 *i* P **P 09 30 57.8 -1.7**
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 85.63 0 P **P 09 30 58.2 -1.3**
comp=Z,7.5nm,0.7s,baz=165,slow=6.1,SNR=54
MKAR PKKP **PKKPdf 09 49 00.4 +2.8**
comp=Z,0.4nm,0.9s,baz=270,slow=1.1,SNR=3.7
MKAR LR LR 10 06 46.4
comp=Z,101nm,21.1s,baz=149,slow=34
GNI Garni 86.01 332 *e*P **P 09 31 00.9 -0.8**
GNI pmax pmax
comp=Z,48nm,1.4s
GNI Garni 86.01 332 *e*P **P 09 31 00.9 -0.8**
comp=Z,48nm,1.4s
JCJ Chichijima 86.63 51 LR LR 10 07 21.4
comp=Z,104nm,19.7s,baz=118,slow=34
KSAR Wonju Array Be 87.19 35 P **P 09 31 05.9 -1.4**
KSAR Wonju Array Be 87.19 35 P **P 09 31 05.9 -1.4**
KSRS Korea Array 87.22 35 P **P 09 31 05.9 -1.6**
comp=Z,4.1nm,1.0s,baz=213,slow=5.3,SNR=4.8
KSRS LR LR 10 10 08.2
comp=Z,98nm,18.5s,baz=222,slow=36
SONM Songino Array 89.36 16 P **P 09 31 16.5 -1.1**
comp=Z,3.3nm,0.9s,baz=191,slow=5.2,SNR=20
SONM LR LR 10 10 28.9
comp=Z,208nm,20.9s,baz=182,slow=35

KURBB Kurchatov Arra 89.52 358 P **P 09 31 17.7 -0.3**
comp=Z,18nm,0.8s,baz=194,slow=4.5,SNR=65
ULN Ulaanbaatar 89.53 17 *e*P **P 09 31 16.5 -1.9**
ULN pmax pmax
comp=Z,28nm,1.5s
ULN Ulaanbaatar 89.53 17 *e*P **P 09 31 16.5 -1.9**
comp=Z,28nm,1.5s
KURK Kurchatov 89.61 358 P **P 09 31 17.8 -0.6**
KURK pmax pmax
comp=Z,12nm,0.7s
KURK Kurchatov 89.61 358 *e*P **P 09 31 17.8 -0.6**
KBZ Khabaz 89.81 333 LR LR 10 09 17.7
comp=Z,109nm,18.0s,baz=146,slow=34
BR131 Keskin Array S 90.15 325 *e*P **P 09 31 21.3 -0.2**
comp=Z,8.5nm,1.1s
BRTR Keskin Array B 90.15 325*ce*P **P 09 31 21.5 0.0**
BRTR pmax pmax
comp=Z,8.0nm,1.1s
BRTR Keskin Array B 90.15 325 P **P 09 31 21.1 -0.4**
comp=Z,8.3nm,1.1s,baz=153,slow=8.3,SNR=14
BRTR LR LR 10 07 28.6
comp=Z,102nm,20.8s,baz=114,slow=33
AB31 Akbulak array 90.23 346 *i* P **P 09 31 19.5 -1.9**
ABKAR Akbulak array 90.23 346 *e*P **P 09 31 19.5 -1.9**
comp=Z,3.7nm,0.8s
TOA0 Torodi Ar. Sit 90.84 286 *e*P **P 09 31 24.8 -0.4**
TORD Torodi Ar. Bea 90.84 286 P **P 09 31 24.1 -1.0**
comp=Z,3.6nm,0.9s,baz=118,slow=4.0,SNR=18
TORD LR LR 10 09 19.7
comp=Z,310nm,21.2s,baz=105,slow=34
ZAK Zakamensk 91.17 13 *e*P **P 09 31 24.5 -1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
MJAR Matsushiro Arr 91.47 42 P **P 09 31 26.8 -0.7**
comp=Z,1.8nm,0.7s,baz=182,slow=6.1,SNR=5.1
MJAR LR LR 10 09 09.2
comp=Z,78nm,20.8s,baz=235,slow=33
DBIC Dimbokro 91.72 277 LR LR 10 09 41.7
comp=Z,223nm,18.8s,baz=118,slow=34
AKTO Aktyubinsk 91.73 345 P **P 09 31 27.4 -1.0**
comp=Z,5.9nm,0.7s,baz=180,slow=3.9,SNR=21
BVA0 Borovoye Array 92.42 353 *i* P **P 09 31 30.0 -1.5**
BVA0 pmax pmax
comp=Z,11nm,1.2s
BVAR Borovoye Array 92.42 353 P **P 09 31 30.5 -1.0**
comp=Z,6.1nm,1.0s,baz=162,slow=6.2,SNR=21
BRVK Borovoye 92.46 353 P **P 09 31 30.9 -0.8**
comp=Z,64nm,0.9s,SNR=6.7
BRVK Borovoye 92.46 353*c i*P **P 09 31 30.5 -1.2**
BRVK pmax pmax
comp=Z,13nm,1.1s
BRVK Borovoye 92.46 353 *e*P **P 09 31 30.3 -1.4**
comp=Z,26nm,1.4s
TLY Talaya 92.48 13 *e*P **P 09 31 31.1 -0.8**
TLY pmax pmax
comp=Z,9.0nm,1.5s
TLY MLR MLR
comp=Z,480nm,19.0s
ANN Anapa 92.76 330 *e*P **P 09 31 32.4 -0.8**
ANN *e*S **SKSac 09 42 03.5 -3.1**
ANN pmax pmax
comp=Z,76nm,1.1s
ZAA0 Zalesovo Array 92.83 2 *e*P **P 09 31 31.2 -2.2**
ZALV Zalesovo Beam 92.83 2 *i* P **P 09 31 32.7 -0.6**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 92.83 2 P **P 09 31 31.4 -2.0**
comp=Z,1.7nm,0.7s,baz=199,slow=4.1,SNR=7.8
ZALV LR LR 10 11 16.0
comp=Z,329nm,22.0s,baz=246,slow=34
NVS Novosibirsk 93.69 1 *e*P P 09 31 34.2 -3.1
USRK Ussuriysk Arra 94.50 34 LR LR 10 14 51.8
comp=Z,130nm,18.7s,baz=235,slow=36
PLCA Paso Flores 96.57 201 P **P 09 31 50.8 -0.6**
comp=Z,2.6nm,0.9s,baz=321,slow=1.1,SNR=4.1
PLCA LR LR 10 16 27.7
comp=Z,206nm,18.3s,baz=134,slow=36
ARU Arti 97.33 347*c i*P **P 09 31 52.6 -1.3**
ARU 09 35 49.7
ARU S **SKSac 09 42 27.1 -3.5**
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARU MLR MLR
comp=Z,248nm,19.0s
ARU Arti 97.33 347 *e*P **P 09 31 52.3 -1.6**
comp=Z,2.9nm,0.4s
AKASG Malin Array Be 100.78 329 P **Pdif 09 32 09.2 -0.3**
comp=Z,0.2nm,0.3s,baz=137,slow=3.8,SNR=4.9
CRVS Cervenica-Dubn 102.76 324 *e*P **Pdif 09 32 21.0 +2.6**
CRVS Cervenica-Dubn 102.76 324 PDIF **Pdif 09 32 21.0 +2.6**
KECS Kecovo 102.91 323 *e*P **Pdif 09 32 20.3 +1.3**
KECS Kecovo 102.91 323 PDIF **Pdif 09 32 20.3 +1.3**
PPT2 Papeete2 105.76 129 *e*LR LR 10 07 24.0
comp=Z,744nm,30.8s
KSP Ksiaz 106.51 323 *e*PKP **PKiKP 09 36 50.7 +5.0**
RKT Rikitea 109.00 144 *e*T T 11 34 42.0
comp=Z,3.7nm,0.3s
NOA NORSAR Array B 115.19 329 PKP **PKPdf 09 37 01.6 -0.3**
comp=Z,0.9nm,0.8s,baz=113,slow=3.4,SNR=3.3
ARCES ARCESS Array B 116.01 341 PKP **PKPdf 09 37 02.4 -0.8**
comp=Z,4.2nm,0.9s,baz=170,slow=0.7,SNR=4.8
SEY Seymchan 116.15 29 PKP **PKPdf 09 37 02.0 -1.5**
comp=Z,0.5nm,0.4s,baz=56,slow=18,SNR=4.5
BILL Bilibino 123.67 27⇓*e*PKIKP **PKPdf 09 37 16.4 -1.5**
BILL pmax pmax
comp=Z,6.0nm,1.8s
NNA Nana 125.37 206*c i*PKIKP **PKPdf 09 37 24.6 +1.7**
OTAV Otavalo 137.27 210 *e*PKPdf **PKPdf 09 37 44.9 -1.1**
ILAR Eielson Array 142.00 32 PKhKP PKPpre 09 37 46.0
comp=Z,0.9nm,0.6s,baz=283,slow=3.6,SNR=15
BMRM Bremner River 144.11 37 *e*PKPdf **PKPab 09 37 54.5 +0.6**
RES Resolute Bay 144.41 359 *e*PKIKP **PKPab 09 37 54.9 +0.3**
RES Resolute Bay 144.41 359 *e*PKPdf **PKPab 09 37 54.9 +0.3**
INK Inuvik 145.06 22 PKP **PKPbc 09 37 56.2 -0.9**
comp=Z,27nm,1.0s,baz=303,slow=3.3,SNR=53
CBYP Canovanas 145.19 242 *e*PKPbc **PKPbc 09 37 58.0 -1.1**
DAWY Dawson 145.28 31 *e*PKPdf **PKPbc 09 37 57.1 -0.9**
SJG San Juan 145.29 242 *e*PKIKP **PKPbc 09 37 58.2 -1.0**
SJG San Juan 145.29 242 *e*PKPbc **PKPbc 09 37 58.2 -1.0**
OBIP Obispado Ponce 145.55 241 *e*PKPdf **PKPdf 09 37 59.1 -0.9**
CELP Cerrillos 145.55 241 *e*PKPdf **PKPdf 09 37 58.9 -1.1**
CRPR Cabo Rojo, PR 145.87 241 *e*PKPdf **PKPdf 09 37 56.5 -4.0**
LRS Lares 145.88 241 *e*PKPdf **PKPdf 09 38 00.2 -0.5**
HYT Haines Junctio 147.43 35 *e*PKPab **PKPdf 09 38 05.6 +1.0**
SMN1 Samana, DR 148.15 239 *e*PKPdf **PKPdf 09 38 05.5 +1.1**
JTS JuntasAbangare 148.92 206 *e*PKP2 **PKPbc 09 38 09.9 +0.2**
JTS JuntasAbangare 148.92 206 *e*PKPbc **PKPbc 09 38 09.9 +0.2**
SDDR Presa de Saban 149.33 237 *e*PKPbc **PKPbc 09 38 09.8 -0.9**
FRB Frobisher Bay 149.86 334 PKPbc **PKPdf 09 38 08.8 +3.2**
comp=Z,25nm,1.0s,baz=57,slow=14,SNR=3.5
SCHQ Schefferville 153.91 317 PKPbc **PKPbc 09 38 19.5 -0.6**
comp=Z,8.9nm,0.9s,baz=43,slow=4.5,SNR=13
YKA Yellowknife Ar 154.61 18 PKP **PKPdf 09 38 11.6 -1.2**
comp=Z,0.8nm,0.9s,baz=324,slow=1.5,SNR=7.9
YKA PKPbc **PKPbc 09 38 20.0 -1.2**
comp=Z,1.1nm,0.7s,baz=337,slow=2.6,SNR=20
YKA PKPab **PKPab 09 38 34.6 -1.4**
comp=Z,1.7nm,0.8s,baz=332,slow=4.1,SNR=8.8
I05D Terrebonne, OR 161.89 66 P **PKPdf 09 38 23.5 +1.2**
baz=162
J05D Fort Rock, OR 162.09 69 P **PKPdf 09 38 23.5 +0.8**
baz=162
WAKR Walker 163.30 86 *e*PKPdf **PKPdf 09 38 25.4 +1.3**
ISA Isabella 163.38 96 P **PKPdf 09 38 24.4 +0.3**
baz=163
EDW2 Edwards Air Fo 163.49 99 P **PKPdf 09 38 25.3 +1.1**
baz=164
NEW Newport 163.53 50 P **PKPdf 09 38 24.5 +0.7**
baz=164
MLAC Mammoth Lakes 163.61 89 P **PKPdf 09 38 25.4 +1.0**
baz=164
MONP Monument Peak 163.85 107 P **PKPdf 09 38 26.3 +1.5**
baz=164
PFO Pinyon Flat Ob 164.15 105 P **PKPdf 09 38 24.7 -0.3**
baz=164
NVAR Mina Array Bea 164.17 86 PKP **PKPdf 09 38 25.6 +0.6**
comp=Z,3.4nm,1.1s,baz=222,slow=1.6,SNR=13
NVAR PKPab **PKPab 09 39 18.6 -0.2**
comp=Z,3.8nm,0.7s,baz=243,slow=6.0,SNR=15
MPMC Manual Prospec 164.26 95 P **PKPdf 09 38 25.2 +0.1**
baz=164
NV11 Mina Array Sit 164.28 87 *e*PKPdf **PKPdf 09 38 25.6 +0.7**
GSC Goldstone 164.54 99 P **PKPdf 09 38 25.4 +0.2**
baz=165
GRAC Grapevine Rang 164.61 92 P **PKPdf 09 38 25.9 +0.8**
baz=165

FURC Furnace Creek, 164.86 95 P **PKPdf 09 38 26.6 +1.3**
baz=165
SHOC Shoshone 165.14 97 P **PKPdf 09 38 27.2 +1.6**
baz=165
GMRC Granite Mounta 165.23 102 P **PKPdf 09 38 26.9 +1.0**
baz=165
TUQ Turquoise Moun 165.26 99 P **PKPdf 09 38 27.1 +1.3**
baz=165
214A Organ Pipe Nat 165.96 117 P **PKPdf 09 38 27.7 +1.3**
baz=166
MSO Missoula 166.11 52 P **PKPdf 09 38 27.6 +1.4**
baz=166
R11A Troy Canyon, C 166.27 88 *e*PKPdf **PKPdf 09 38 27.2 +0.5**
R11A Troy Canyon, C 166.27 88 P **PKPdf 09 38 27.5 +0.9**
baz=166
W13A Hualapai Mount 166.70 103 P **PKPdf 09 38 28.3 +1.2**
baz=167
Y14A Wickenburg 166.86 109 P **PKPdf 09 38 27.8 +0.7**
baz=167
HLID Hailey 166.95 65 P **PKPdf 09 38 27.8 +0.8**
baz=167
TUC Tucson 167.56 120 *e*PKIKP **PKPdf 09 38 27.5 -0.2**
TUC Tucson 167.56 120 *e*PKPdf **PKPdf 09 38 27.5 -0.2**
034A Hebbronville 167.87 177 P **PKPdf 09 38 30.0 +2.1**
baz=168
319A Douglas 167.93 127 P **PKPdf 09 38 29.6 +1.6**
baz=168
X16A Lo Mia Camp, P 168.23 110 P **PKPdf 09 38 30.0 +1.7**
baz=168
B20A Solberg Farm, 168.30 35 P **PKPdf 09 38 27.3 -0.3**
baz=168
C19A Slack Wire Ran 168.32 40 P **PKPdf 09 38 29.6 +1.9**
baz=168
U15A North Rim 168.37 99 P **PKPdf 09 38 29.8 +1.5**
baz=168
DUG Dugway 168.56 80 P **PKPdf 09 38 29.4 +1.2**
baz=169
WUAZ Wupatki 168.75 105 P **PKPdf 09 38 29.4 +0.8**
baz=169
D19A Cripps Ranch, 168.79 41 P **PKPdf 09 38 27.6 -0.4**
baz=169
C20A Veseth Ranch, 168.84 37 P **PKPdf 09 38 28.3 +0.3**
baz=169
ULM Lac du Bonnet 168.87 353 PKPab **PKPab 09 39 37.3 -1.3**
comp=Z,3.6nm,0.8s,baz=18,slow=0.8,SNR=4.6
832A Faith Ranch, C 168.97 171 P **PKPdf 09 38 29.1 +0.4**
baz=169
TXAR Lajitas Array 169.09 153 PKP **PKPdf 09 38 28.2 -0.6**
comp=Z,1.8nm,1.0s,baz=180,slow=3.8,SNR=11
TXAR PKPab **PKPab 09 39 41.1 +0.8**
comp=Z,0.8nm,0.8s,baz=185,slow=9.3,SNR=5.4
C21A Desert Coulee 169.17 34 P **PKPdf 09 38 28.3 +0.1**
baz=169
E19A Rath Farm, Rou 169.29 44 P **PKPdf 09 38 28.4 0.0**
baz=169
732A Laxson Ranch, 169.41 171 P **PKPdf 09 38 28.9 0.0**
baz=170
I17A Pilgrim Ck. 169.49 59 P **PKPdf 09 38 29.8 +1.0**
baz=170
F19A Roth Farm, Mol 169.57 47 P **PKPdf 09 38 28.4 -0.2**
baz=170
E20A Meyer Farm, Mu 169.61 42 P **PKPdf 09 38 28.8 +0.2**
baz=170
DGMT Dagmar 169.74 24 P **PKPdf 09 38 28.9 +0.4**
baz=170
C22A Vida 169.74 31 P **PKPdf 09 38 28.5 -0.1**
baz=170
H18A Shoshone NF, C 169.76 54 P **PKPdf 09 38 29.3 +0.4**
baz=170
C23A Lambert 169.97 29 P **PKPdf 09 38 30.1 +1.4**
baz=170
631A Perdido Creek 169.99 167 P **PKPdf 09 38 28.7 -0.6**
baz=170
F20A Billings 170.05 45 P **PKPdf 09 38 29.1 +0.2**
baz=170
632A Uvalde 170.20 171 P **PKPdf 09 38 29.2 -0.2**
baz=170
636A Smothers Creek 170.25 185 P **PKPdf 09 38 29.2 -0.1**
baz=170
A29A Manning Farm, 170.26 5 P **PKPdf 09 38 28.3 -0.4**
baz=170
G20A Bridger 170.35 48 P **PKPdf 09 38 28.4 -0.7**
baz=170
I19A Meeteetse 170.48 56 P **PKPdf 09 38 29.5 +0.2**
baz=170
530A J-C Ranch, Com 170.55 162 P **PKPdf 09 38 29.6 0.0**
baz=171
427A Hayter Ranch, 170.56 151 P **PKPdf 09 38 29.8 +0.2**
baz=171
PDAR Pinedale Array 170.58 64 PKP **PKPdf 09 38 29.7 +0.2**
comp=Z,3.2nm,1.1s,baz=208,slow=2.9,SNR=11
PDAR PKPab **PKPab 09 39 46.3 -0.7**
comp=Z,2.0nm,1.0s,baz=278,slow=4.2,SNR=6.1
B28A Dugan Ranch, T 170.62 10 P **PKPdf 09 38 28.7 -0.2**
baz=171
Z22A Elephant Butte 170.64 127 P **PKPdf 09 38 29.7 0.0**
baz=171
428A Kincaid Ranch, 170.71 154 P **PKPdf 09 38 29.9 +0.2**
baz=171
B29A Wagenman Farm,170.71 6 P **PKPdf 09 38 28.8 -0.2**
baz=171
AGMN Agassiz Nation 170.79 351 P **PKPdf 09 38 29.7 +0.6**
baz=171
534A Blanco 170.82 178 P **PKPdf 09 38 29.8 +0.1**
baz=171
535A Dale 170.82 182 P **PKPdf 09 38 30.8 +1.2**
baz=171
533A Kerrville 170.84 174 P **PKPdf 09 38 29.1 -0.6**
baz=171
429A Davenport Ranc 170.86 159 P **PKPdf 09 38 28.9 -0.8**
baz=171
H20A Greybull 170.88 52 P **PKPdf 09 38 29.8 +0.4**
baz=171
I20A Worland 171.07 55 P **PKPdf 09 38 28.8 -0.7**
baz=171
C27A Sayler Ranch, 171.14 15 P **PKPdf 09 38 29.5 +0.2**
baz=171
JCT Junction City 171.16 170 P **PKPdf 09 38 29.5 -0.4**
baz=171
430A Baggett Ranch, 171.19 162 P **PKPdf 09 38 30.0 0.0**
baz=171
226B Tecolote Peak, 171.30 143 P **PKPdf 09 38 30.2 +0.2**
baz=171
J20A Shoshoni 171.37 58 P **PKPdf 09 38 29.8 +0.1**
baz=171
433A Art 171.51 174 P **PKPdf 09 38 30.1 +0.1**
baz=172
MVCO Mesa Verde 171.51 100 P **PKPdf 09 38 30.3 +0.2**
baz=172
125A Gardner Draw, 171.53 139 P **PKPdf 09 38 29.9 -0.2**
baz=172
432A Menard 171.55 170 P **PKPdf 09 38 29.9 -0.2**
baz=172
434A Burnet 171.61 179 P **PKPdf 09 38 30.0 -0.1**
baz=172
Z24A Sheeppen Canyo 171.65 132 P **PKPdf 09 38 30.0 -0.3**
baz=172
Y23A Lovelace Mesa, 171.66 127 P **PKPdf 09 38 30.0 -0.3**
baz=172
I21A Big Trails, Te 171.67 54 P **PKPdf 09 38 29.3 -0.6**
baz=172
H22A Clearmont 171.79 46 P **PKPdf 09 38 29.8 0.0**
baz=172
J21A Lysite 171.79 57 P **PKPdf 09 38 29.8 -0.2**
baz=172
331A San Angelo 171.87 165 P **PKPdf 09 38 30.5 +0.3**
baz=172
N20A Spence Gulch, 171.98 75 P **PKPdf 09 38 30.1 -0.1**
baz=172
Z25A Roswell 171.98 136 P **PKPdf 09 38 29.9 -0.4**
baz=172
Y24A Capitan 172.03 129 P **PKPdf 09 38 30.4 0.0**
baz=172
332A Millersview 172.06 169 P **PKPdf 09 38 30.4 +0.1**
baz=172
O20A White River Ci 172.06 80 P **PKPdf 09 38 29.9 -0.3**
baz=172
335A Moody 172.07 184 P **PKPdf 09 38 30.4 +0.2**
baz=172
333A Richland Sprin 172.09 174 P **PKPdf 09 38 29.8 -0.5**
baz=172
D30A Buchanan 172.09 4 P **PKPdf 09 38 28.2 -1.5**
baz=172
I22A 9 Mile Ranch, 172.12 51 P **PKPdf 09 38 30.4 +0.3**
baz=172
334A Lometa 172.13 179 P **PKPdf 09 38 29.4 -0.9**
baz=172
127A Arkansas Junct 172.17 145 P **PKPdf 09 38 30.6 +0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=172						
V22A	San Miguel Ran	172.21	112	P	PKPdf	09 38 30.9	+0.4
	baz=172						
K21A	Alcova	172.22	61	P	PKPdf	09 38 30.0	-0.2
	baz=172						
Z26A	Caprock	172.36	139	P	PKPdf	09 38 30.1	-0.4
	baz=172						
J22A	Midwest	172.38	54	P	PKPdf	09 38 29.4	-0.8
	baz=172						
E28A	Huff	172.39	14	P	PKPdf	09 38 29.4	-0.5
	baz=172						
U22A	Llaves	172.45	109	P	PKPdf	09 38 31.4	+0.8
	baz=172						
Y25A	Mesa, Roswell	172.47	133	P	PKPdf	09 38 30.6	0.0
	baz=172						
128A	Castleberry Fa	172.49	150	P	PKPdf	09 38 30.6	+0.1
	baz=172						
231A	Bronte	172.50	165	P	PKPdf	09 38 31.0	+0.5
	baz=172						
F26A	Lodgepole	172.54	26	P	PKPdf	09 38 29.7	-0.3
	baz=172						
H24A	Dirks Ranch, A	172.64	39	P	PKPdf	09 38 29.8	-0.4
	baz=173						
V23A	Ortiz Mt. (NFS	172.64	116	P	PKPdf	09 38 31.5	+0.8
	baz=173						
K22A	Casper	172.71	59	P	PKPdf	09 38 30.4	0.0
	baz=173						
F27A	Lemmon	172.72	23	P	PKPdf	09 38 29.8	-0.3
	baz=173						
Z27A	Tatum	172.77	143	P	PKPdf	09 38 31.1	+0.5
	baz=173						
WHTX	Lake Whitney	172.77	184	P	PKPdf	09 38 31.1	+0.6
	baz=173						
233A	Rising Star	172.78	174	P	PKPdf	09 38 30.5	-0.1
	baz=173						
W24A	Lazy 6 Ranch,	172.88	122	P	PKPdf	09 38 31.8	+1.0
	baz=173						
X25A	Clemmons Ranch	172.91	129	P	PKPdf	09 38 31.6	+0.9
	baz=173						
U23A	El Rito	172.91	111	P	PKPdf	09 38 31.8	+1.0
	baz=173						
S22A	4UR Ranch, Cre	172.94	99	P	PKPdf	09 38 31.6	+0.8
	baz=173						
Y26A	Elida	172.95	137	P	PKPdf	09 38 29.9	-0.8
	baz=173						
G26A	Maurine	173.04	28	P	PKPdf	09 38 31.0	+0.7
	baz=173						
F28A	McLaughlin	173.06	16	P	PKPdf	09 38 29.5	-0.7
	baz=173						
M22A	Cedar Creek Ra	173.09	69	P	PKPdf	09 38 31.0	+0.3
	baz=173						
H25A	Fruitdale	173.19	36	P	PKPdf	09 38 30.2	-0.2
	baz=173						
G27A	Dupree	173.20	24	P	PKPdf	09 38 30.4	+0.1
	baz=173						
P22A	Eagle	173.22	84	P	PKPdf	09 38 30.7	-0.1
	baz=173						
Y27A	Causey	173.26	141	P	PKPdf	09 38 31.1	+0.3
	baz=173						
V24A	Rampart Ranch,	173.26	119	P	PKPdf	09 38 30.9	0.0
	baz=173						
ABTX	Abilene, Hawle	173.29	168	P	PKPdf	09 38 30.7	-0.1
	baz=173						
N22A	Wattenberg Ran	173.34	74	P	PKPdf	09 38 31.1	+0.3
	baz=173						
Z29A	Hungry Hill Ra	173.35	152	P	PKPdf	09 38 30.5	-0.3
	baz=173						
134A	White-Moore Ra	173.37	180	P	PKPdf	09 38 30.7	0.0
	baz=173						
X26A	CR and CF Fran	173.43	133	P	PKPdf	09 38 30.5	-0.4
	baz=174						
L23A	Garrett	173.48	61	P	PKPdf	09 38 30.5	-0.3
	baz=174						
W25A	X Bar L Ranch,	173.49	126	P	PKPdf	09 38 31.2	+0.3
	baz=174						
H26A	Fairpoint	173.55	32	P	PKPdf	09 38 30.6	0.0
	baz=174						
I25A	Rochford	173.57	40	P	PKPdf	09 38 30.6	-0.1
	baz=174						
N23A	Red Feather La	173.69	72	P	PKPdf	09 38 31.3	+0.3
	baz=174						
M23A	Laramie	173.70	67	P	PKPdf	09 38 31.3	+0.4
	baz=174						
Y28A	McKinney Farm,	173.70	146	P	PKPdf	09 38 30.7	-0.3
	baz=174						
G28A	Parade	173.76	19	P	PKPdf	09 38 29.6	-1.0
	baz=174						
V25A	Rancho No Teng	173.77	121	P	PKPdf	09 38 31.3	+0.2
	baz=174						
H27A	Howes	173.80	28	P	PKPdf	09 38 30.7	+0.1
	baz=174						
R23A	Moffat	173.81	97	P	PKPdf	09 38 31.5	+0.4
	baz=174						
T24B	San Luis	173.81	108	P	PKPdf	09 38 32.2	+1.0
	baz=174						
O23A	Lake Granby, G	173.83	78	P	PKPdf	09 38 31.5	+0.5
	baz=174						
G29A	Hoven	173.87	13	P	PKPdf	09 38 31.1	+0.5
	baz=174						
Z31A	Sharp Cattle R	173.87	163	P	PKPdf	09 38 31.4	+0.4
	baz=174						
X27A	F and S Farms,	173.89	137	P	PKPdf	09 38 31.4	+0.3
	baz=174						
P23A	Jefferson	173.93	86	P	PKPdf	09 38 32.0	+0.8
	baz=174						
SDCO	Great Sand Dun	173.95	102	ePKPdf	PKPdf	09 38 31.3	+0.1
J25A	Sunshine Ranch	173.97	44	P	PKPdf	09 38 30.7	-0.1
	baz=174						
I26A	New Underwood	173.98	35	P	PKPdf	09 38 31.4	+0.6
	baz=174						
Z32A	Haskell	173.98	168	P	PKPdf	09 38 31.0	0.0
	baz=174						
Z33A	Whitaker Ranch	174.05	174	P	PKPdf	09 38 30.8	-0.2
	baz=174						
Z35A	Perchaven, San	174.09	186	P	PKPdf	09 38 31.0	0.0
	baz=174						
ISCO	Idaho Springs	174.10	82	P	PKPdf	09 38 31.6	+0.4
	baz=174						
H28A	Mission Ridge	174.11	21	P	PKPdf	09 38 30.3	-0.3
	baz=174						
S24A	Houchin Ranch,	174.14	103	P	PKPdf	09 38 32.1	+0.8
	baz=174						
U25A	Circle Dot Ran	174.21	117	P	PKPdf	09 38 31.7	+0.5
	baz=174						
V26A	Tequesquite Ra	174.28	125	P	PKPdf	09 38 31.5	+0.3
	baz=174						
I27A	Quinn	174.29	31	P	PKPdf	09 38 30.0	-0.8
	baz=174						
R24A	Sanders Place,	174.37	98	P	PKPdf	09 38 32.1	+0.9
	baz=174						
X29A	Tulia	174.40	147	P	PKPdf	09 38 32.0	+0.8
	baz=174						
J26A	Sides Ranch, S	174.41	41	P	PKPdf	09 38 29.6	-1.3
	baz=174						
Q24A	Divide	174.45	90	P	PKPdf	09 38 32.2	+0.8
	baz=174						
Y31A	Rekieta Farm,	174.45	160	P	PKPdf	09 38 31.6	+0.4
	baz=174						
N24A	Carr	174.49	71	P	PKPdf	09 38 31.3	+0.2
	baz=174						
T25A	Trinidad	174.55	110	P	PKPdf	09 38 32.6	+1.3
	baz=175						
U26A	Atchley Ranch,	174.66	120	P	PKPdf	09 38 31.0	-0.4
	baz=175						
I28A	Midland	174.67	25	P	PKPdf	09 38 30.7	-0.1
	baz=175						
Y32A	R-V Farms, Ver	174.67	167	P	PKPdf	09 38 31.0	-0.2
	baz=175						
X30A	Coker Ranch, T	174.72	153	P	PKPdf	09 38 31.6	+0.4
	baz=175						
S25A	Robets Cordova	174.73	105	P	PKPdf	09 38 32.3	+0.9
	baz=175						
Y34A	Reagan Ranch,	174.75	182	P	PKPdf	09 38 31.4	+0.3
	baz=175						
AMTX	Amarillo	174.78	145	P	PKPdf	09 38 31.4	+0.2
	baz=175						
Y33A	Hilltop Ranch,	174.78	174	P	PKPdf	09 38 31.7	+0.5
	baz=175						
M25A	Palm-Egli Farm	174.88	62	P	PKPdf	09 38 31.7	+0.5
	baz=175						
I29A	Vivian Onida	174.91	19	P	PKPdf	09 38 31.7	+0.7
	baz=175						
J27A	Elkhorn Farm,	174.97	35	P	PKPdf	09 38 30.8	-0.2
	baz=175						
R25A	Fountain Ranch	174.98	100	P	PKPdf	09 38 31.7	+0.4
	baz=175						
X32A	Elmer	175.11	168	P	PKPdf	09 38 31.3	0.0
	baz=175						
Q25A	Bedland, Calha	175.14	92	P	PKPdf	09 38 31.1	-0.3
	baz=175						
J28A	Allard Ranch,	175.15	29	P	PKPdf	09 38 30.0	-1.0
	baz=175						
X31A	McDonald Ranch	175.16	160	P	PKPdf	09 38 30.5	-0.8
	baz=175						
P25A	Willow Gulch B	175.23	85	P	PKPdf	09 38 31.8	+0.4
	baz=175						
U27A	Thompson Grove	175.28	125	P	PKPdf	09 38 31.8	+0.4
	baz=175						
X33A	Lawton	175.32	175	P	PKPdf	09 38 31.6	+0.3
	baz=175						
ECSD	EROS Data Cent	175.37	347	P	PKPdf	09 38 32.0	+0.9
	baz=175						
X34A	Smith Ranch, M	175.39	182	P	PKPdf	09 38 31.2	-0.2
	baz=175						
S26A	Kim	175.43	109	P	PKPdf	09 38 32.5	+1.0
	baz=176						
J29A	Okreek	175.47	22	P	PKPdf	09 38 31.2	+0.1
	baz=175						
R26A	Arlington	175.66	100	P	PKPdf	09 38 31.3	-0.2
	baz=176						
W31A	Holland Ranch,	175.69	159	P	PKPdf	09 38 32.1	+0.7
	baz=176						
T27A	Campo	175.71	119	P	PKPdf	09 38 31.9	+0.4
	baz=176						
J30A	Dallas	175.75	15	P	PKPdf	09 38 31.3	+0.1
	baz=176						
O26A	Horse Wrangler	175.79	74	P	PKPdf	09 38 31.9	+0.5
	baz=176						
W32A	Sentinel	175.80	166	P	PKPdf	09 38 31.9	+0.5
	baz=176						
P26A	Davis Ranch, A	175.86	84	P	PKPdf	09 38 31.9	+0.4
	baz=176						
W33A	Caddo, Fort Co	175.93	175	P	PKPdf	09 38 31.5	+0.1
	baz=176						
V30A	Spur Ranch, Mi	175.95	148	P	PKPdf	09 38 32.6	+1.0
	baz=176						
K29A	Lazy Trails An	176.06	25	P	PKPdf	09 38 31.3	0.0
	baz=176						
R27A	Eads	176.15	102	P	PKPdf	09 38 32.6	+1.1
	baz=176						
T28A	Walsh	176.15	122	P	PKPdf	09 38 31.0	-0.6
	baz=176						
TUL1	Tulsa	176.25	209	P	PKPdf	09 38 31.6	+0.1
	baz=176						
K30A	Basset	176.34	19	P	PKPdf	09 38 31.6	+0.2
	baz=176						
KSCO	Kaye Shedlock'	176.41	92	P	PKPdf	09 38 31.9	+0.2
	baz=176						
V32A	Arapaho	176.41	167	P	PKPdf	09 38 31.7	+0.1
	baz=176						
O27A	Beecher Island	176.43	73	P	PKPdf	09 38 31.9	+0.3
	baz=176						
P27A	Ficken Ranch,	176.45	83	P	PKPdf	09 38 31.4	-0.2
	baz=176						
R28A	Tribune	176.91	105	P	PKPdf	09 38 32.2	+0.5
	baz=177						
N28A	Pribbeno Ranch	176.92	60	P	PKPdf	09 38 32.0	+0.3
	baz=177						
L31A	Butterfield Fa	176.98	12	P	PKPdf	09 38 32.4	+0.9
	baz=177						
M29A	Burnside Ranch	176.98	42	P	PKPdf	09 38 32.2	+0.6
	baz=177						
P28A	Saint Francis	177.09	82	P	PKPdf	09 38 31.8	+0.1
	baz=177						
N29A	Votaw Ranch, W	177.44	51	P	PKPdf	09 38 32.2	+0.6
	baz=177						
R29A	Marienthal	177.44	107	P	PKPdf	09 38 32.3	+0.5
	baz=178						
O29A	4D Ranch, Culb	177.67	66	P	PKPdf	09 38 32.1	+0.4
	baz=178						
Q29A	Oakley	177.67	97	P	PKPdf	09 38 32.5	+0.7
	baz=178						
P29A	Atwood	177.71	79	P	PKPdf	09 38 32.5	+0.8
	baz=178						
N30A	Hueftle Ranch,	177.76	45	P	PKPdf	09 38 32.7	+1.0
	baz=178						
BGNE	Belgrade	177.81	3	P	PKPdf	09 38 32.3	+0.7
	baz=178						
R30A	Dighton	178.00	117	P	PKPdf	09 38 32.8	+0.9
	baz=178						
Q30A	Quinter	178.27	97	P	PKPdf	09 38 31.5	-0.3
	baz=178						
R31A	Burdett	178.50	128	P	PKPdf	09 38 32.0	+0.1
	baz=178						
P31A	Stockton	178.91	74	P	PKPdf	09 38 32.0	+0.2
	baz=179						
O32A	Brockman Farm,	178.94	11	P	PKPdf	09 38 32.4	+0.6
	baz=179						
R32A	Long Quarter,	179.04	146	P	PKPdf	09 38 32.2	+0.4
	baz=179						
P32A	Huiting Farm,	179.40	48	P	PKPdf	09 38 31.6	-0.2
	baz=179						

IDC 11 09:21:36.5±2.3, **54.09N**×**86.24E**, **h0km**, **mb1 3.2**/2, **mb1mx3.0**/30, **mbtmp3.2**/2, **ML3.2**/2, **Error ellipse: s-maj=18.8km s-min=11.6km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.85	261	*i*		09 27 22.0	
	baz=80,slow=347,SNR=35						
ZALV	Zalesovo Beam	0.85	261	Pg	Pg	09 21 52.3	-0.5
	1.4nm,0.3s,baz=79,slow=16,SNR=16						
ZALV				Lg	Lg	09 22 04.5	
	2.2nm,0.3s,baz=81,slow=27,SNR=13						
KURBB	Kurchatov Arra	5.86	237	Pn	Pn	09 23 05.8	+1.2
	0.5nm,0.3s,baz=54,slow=13,SNR=6.5						
MKAR	Makanchi Array	7.72	201	Pn	Pn	09 23 30.9	+0.7
	0.4nm,0.3s,baz=23,slow=14,SNR=19						
MKAR				Lg	Lg	09 25 41.6	
	0.1nm,0.3s,baz=21,slow=28,SNR=3.0						

*IDC **11** 09:29:23.1±1.1, 10.12N×125.50E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/36, mbtmp3.8/8, MS4.1/4, Ms1 4.1/4, ms1mx3.2/41, Error ellipse: s-maj=68.3km s-min=16.8km az=63.0*

*NEIC **11** 09:29:24.6±0.5, 10.13N×125.50E, h10km, Error ellipse: s-maj=12.3km s-min=6.3km az=68.0*

NEIC Felt [I PIVS] on Camiguin Island.

*MAN **11** 09:29:27, 9.75N×124.51E, h9km, mb4.8, ML3.7, MS3.7*

MAN INTENSITY I - CAMIGUIN ISLAND.

*ISCJB **11** 09:29:28.1±0.6, 9.75N±0.03×124.56E±0.04, h28km±5km, mb3.8/8, MS4.2/4, Error ellipse: s-maj=6.0km s-min=4.9km az=2.2*

ISC 11 09:29:27.4±1.2, **9.73N**±0.03×**124.56E**±0.03, **h15**km±9km, **n33**, σ**1.51**/35, **mb3.9**/8, **MS4.2**/4, **2C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.50	36	*e*P	Pb	09 29 38.0	+0.1
MSLP				*e*S	Sb	09 29 46.3	+1.4
TBP	Tagbilaran	0.69	267	*e*P	Pb	09 29 40.5	-0.7
TBP				*i* S	Sb	09 29 50.7	+0.2
LLP	Lapu-Lapu	0.83	315	⇓*i*P	Pg	09 29 42.3	-1.2
LLP				*i* S	Sb	09 29 54.0	-0.5
SCPH	Surigao	0.91	87	⇑*e*P	Pg	09 29 43.7	-1.5
CGP	Cagayan de Oro	1.27	174	⇓*e*P	Pn	09 29 50.0	-0.6
CGP				*e*S	Sb	09 30 07.0	-0.3
BUTP	Butuan	1.29	126	*e*P	Pn	09 29 51.2	+0.3
BUTP				*e*S	Sg	09 30 11.7	+2.6
OCLP	Ormoc	1.31	2	*e*P	Pb	09 29 51.8	0.0
OCLP				*e*S	Sg	09 30 10.8	+0.9
PLP	Palo	1.48	16	⇓*e*P	Pn	09 29 53.3	-0.2
PLP				*e*S	Sn	09 30 13.1	+0.3
BUKP	Musuan	1.90	165	*e*P	Pn	09 30 00.9	+1.5
GUIM	Jordan	2.14	295	*e*P	Pn	09 30 03.0	+0.4
PAGZ	Pagadian	2.20	212	*e*P	Pn	09 30 04.7	+1.2
CTBH	Cotabato--PC H	2.51	187	*e*P	Pn	09 30 09.4	+1.5
CTBH				*i* S	Sb	09 30 41.6	-1.3
RCP	Roxas	2.55	316	⇑*e*P	Pn	09 30 08.9	+0.6
IPIL	Ipil	2.76	226	*e*P	Pn	09 30 12.7	+1.6
DAV	Davao City (W)	2.83	159	*e*Pn	Pn	09 30 13.0	+0.9
SZP	Santa	8.74	333	Pn	Pn	09 31 32.3	-1.0
KKM	Kota Kinabalu	9.04	247	Pn	Pn	09 31 49.4	+12.9
KSM	Kuching	16.38	241	*e*Pn	Pn	09 33 27.5	+7.8
SOEI	Soe	19.36	181	P	Pn	09 33 55.1	+1.3
CM31	Chiang Mai Arr	26.29	292	P	P	09 35 06.6	+4.0
CMAR	Chiang Mai Arr	26.29	292	P	P	09 35 07.5	+4.8
	1.0nm,0.3s,baz=115,slow=6.3,SNR=3.3						
CHTO	Chiang Mai	26.39	293	P	P	09 35 07.5	+4.0
WRA	Warramunga Arr	31.02	162	P	P	09 35 42.4	-2.2
	0.2nm,0.6s,baz=344,slow=9.5,SNR=3.1						
ASAR	Alice Springs	34.42	165	P	P	09 36 13.7	-0.8
	0.5nm,0.5s,baz=342,slow=7.0,SNR=18						
CTA	Charters Tower	36.52	144	LR	LR	09 51 41.1	
	comp=Z,461nm,21.0s,baz=252,slow=37						
STKA	Stephens Creek	44.47	159	P	P	09 37 37.6	-0.5
	0.9nm,0.5s,baz=327,slow=10,SNR=4.0						
MKAR	Makanchi Array	51.45	324	P	P	09 38 31.9	-0.2
	0.4nm,0.6s,baz=120,slow=8.5,SNR=3.6						
KURK	Kurchatov	55.57	326	P	P	09 39 01.7	-0.5
KURBB	Kurchatov Arra	55.57	326	P	P	09 39 01.7	-0.6
	0.9nm,0.7s,baz=126,slow=6.7,SNR=4.8						
BVAR	Borovoye Array	61.16	326	P	P	09 39 40.4	-0.9
	0.3nm,0.3s,baz=108,slow=9.5,SNR=3.5						
ARCES	ARCESS Array B	84.11	340	P	P	09 41 55.9	-1.6
	1.9nm,0.9s,baz=95,slow=5.6,SNR=2.6						
ARCES				LR	LR	10 22 03.7	
	comp=Z,92nm,20.2s,baz=128,slow=38						
FINES	FINESS Array B	85.56	332	LR	LR	10 23 41.5	
	comp=Z,128nm,21.3s,baz=91,slow=38						
NOA	NORSAR Array B	92.49	333	LR	LR	10 30 07.2	
	comp=Z,53nm,18.3s,baz=100,slow=39						

IDC 11 09:38:29.8±2.9, **54.30N**×**85.93E**, **h0km**, **mb1 2.7**/2, **mb1mx2.6**/30, **mbtmp2.7**/2, **ML2.3**/2, **Error ellipse: s-maj=19.8km s-min=11.0km az=54.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.74	242	*i*		09 43 00.0	
	baz=64,slow=346,SNR=7.5						
ZALV	Zalesovo Beam	0.74	242	Pg	Pg	09 38 43.5	-0.5
	0.6nm,0.3s,baz=59,slow=16,SNR=7.0						
ZALV				Lg	Lg	09 38 54.5	
	1.5nm,0.3s,baz=57,slow=34,SNR=14						
ZALV				Rg	Rg	09 38 57.4	
	1.4nm,0.4s,baz=65,slow=31,SNR=7.2						
KURBB	Kurchatov Arra	5.83	234	Pn	Pn	09 39 58.9	+1.5
	0.1nm,0.3s,baz=50,slow=14,SNR=3.1						
MKAR	Makanchi Array	7.86	199	Pn	Pn	09 40 25.5	+0.2
	0.0nm,0.3s,baz=13,slow=9.6,SNR=2.5						

*NEIC **11** 09:46:34.7, 45.13S×167.26E, h76km, ML4.2(WEL), After WEL.*

WEL 11 09:46:34.8±0.2, **45.15S**×**167.24E**, **h77**km±1km, **ML4.0**/12, **5C-5D, Error ellipse: s-maj=1.9km s-min=0.9km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.33	190	⇑PN	Pn	09 46 46.9	0.0
DCZ				SN	Sn	09 46 55.6	-0.3
DCZ				AML	AML	09 46 56.3	
DCZ				AML	AML	09 46 56.3	
DCZ	Deep Cove	0.33	190	Pn	Pn	09 46 46.8	-0.1
DCZ				Sn	Sn	09 46 55.5	-0.3
MSZ	Milford Sound	0.68	46	⇑PN	Pn	09 46 49.8	-0.2
MSZ				SN	Sn	09 47 00.9	-0.3
MSZ				AML	AML	09 47 02.7	
MSZ				AML	AML	09 47 03.3	
MSZ				AML	AML	09 47 03.3	
MSZ	Milford Sound	0.68	46	Pn	Pn	09 46 49.5	-0.4
MSZ				Sn	Sn	09 47 00.5	-0.7
MLZ	Mavora Lakes	0.69	107	⇓PN	Pn	09 46 49.5	-0.6
MLZ				AML	AML	09 47 00.7	
MLZ				AML	AML	09 47 00.8	
MLZ	Mavora Lakes	0.69	107	Pn	Pn	09 46 49.1	-1.1
MLZ				Sn	Sn	09 47 00.2	-1.3
WHZ	Wether Hill Ro	0.90	146	⇓PN	Pn	09 46 52.2	-0.2
WHZ				AML	AML	09 47 06.1	
WHZ				AML	AML	09 47 07.1	
WHZ	Wether Hill Ro	0.90	146	Pn	Pn	09 46 52.3	-0.1
WKZ	Wanaka	1.30	76	⇑PN	Pn	09 46 57.4	-0.1
WKZ				SN	Sn	09 47 14.2	-0.3
WKZ				AML	AML	09 47 15.2	
WKZ				AML	AML	09 47 15.4	
WKZ				AML	AML	09 47 15.4	
WKZ	Wanaka	1.30	76	Pn	Pn	09 46 57.4	-0.1
WKZ				Sn	Sn	09 47 14.2	-0.3
EAZ	Earnscleugh	1.47	94	⇓PN	Pn	09 46 59.3	-0.2
EAZ				AML	AML	09 47 16.7	
EAZ				AML	AML	09 47 16.7	
EAZ				AML	AML	09 47 17.0	
EAZ				AML	AML	09 47 17.0	
EAZ	Earnscleugh	1.47	94	Pn	Pn	09 46 59.3	-0.2
JCZ	Jackson Bay	1.53	46	PN	Pn	09 46 59.6	-0.9
JCZ				AML	AML	09 47 21.5	
JCZ				AML	AML	09 47 25.0	
JCZ	Jackson Bay	1.53	46	Pn	Pn	09 46 59.6	-0.9
APZ	The Paps	1.76	163	⇓PN	Pn	09 47 03.1	-0.4
APZ				AML	AML	09 47 26.5	
APZ				AML	AML	09 47 28.1	
APZ	The Paps	1.76	163	Pn	Pn	09 47 03.1	-0.4
SYZ	Scrubby Hill	1.92	137	PN	Pn	09 47 05.1	-0.4
SYZ				SN	Sn	09 47 27.5	-1.4
SYZ				AML	AML	09 47 28.3	
SYZ				AML	AML	09 47 28.3	
SYZ				AML	AML	09 47 28.4	
SYZ	Scrubby Hill	1.92	137	Pn	Pn	09 47 04.8	-0.7
LBZ	Lake Benmore	2.23	71	⇑PN	Pn	09 47 08.1	-1.6
LBZ				AML	AML	09 47 50.0	
LBZ				AML	AML	09 47 53.0	
LBZ				AML	AML	09 48 06.4	
LBZ				AML	AML	09 48 06.4	
LBZ	Lake Benmore	2.23	71	Pn	Pn	09 47 08.2	-1.5
FOZ	Fox Glacier	2.37	49	PN	Pn	09 47 10.2	-1.2
FOZ				AML	AML	09 47 41.5	
FOZ				AML	AML	09 47 42.9	
FOZ				AML	AML	09 47 48.4	
FOZ				AML	AML	09 47 55.6	
FOZ	Fox Glacier	2.37	49	Pn	Pn	09 47 10.8	-0.7
ODZ	Otahua Downs	2.42	89	⇑PN	Pn	09 47 10.8	-1.3
ODZ				SN	Sn	09 47 36.4	-4.4
ODZ	Otahua Downs	2.42	89	Pn	Pn	09 47 10.8	-1.3
HHSZ	Highcliff Hill	2.48	109	PN	Pn	09 47 12.4	-0.6
HHSZ				SN	Sn	09 47 38.3	-4.0
RPZ	Rata Peaks	3.09	64	⇓PN	Pn	09 47 18.7	-2.5
RPZ				AML	AML	09 47 54.3	
RPZ				AML	AML	09 48 18.0	
RPZ	Rata Peaks	3.09	64	Pn	Pn	09 47 18.8	-2.5
WVZ	Waitaha Valley	3.26	52	PN	Pn	09 47 21.5	-2.1
WVZ	Waitaha Valley	3.26	52	Pn	Pn	09 47 21.4	-2.1
OXZ	Oxford	3.90	64	PN	Pn	09 47 28.8	-3.5
MQZ	McQueen's Vall	4.14	72	PN	Pn	09 47 33.0	-2.4
MQZ	McQueen's Vall	4.14	72	Pn	Pn	09 47 33.1	-2.3
DSZ	Denniston Nort	4.75	46	PN	Pn	09 47 42.3	-1.7
DSZ	Denniston Nort	4.75	46	Pn	Pn	09 47 42.4	-1.7
THZ	Tophouse	5.33	53	PN	Pn	09 47 48.6	-3.3
THZ	Tophouse	5.33	53	Pn	Pn	09 47 48.6	-3.3
QRZ	Quartz Range	5.81	44	PN	Pn	09 47 56.4	-1.9
QRZ	Quartz Range	5.81	44	Pn	Pn	09 47 56.4	-1.9

IDC 11 09:52:28.4±3.2, **15.45S**×**173.16W**, **h0km**, **mb3.9**/5, **mb1 4.1**/6, **mb1mx3.9**/22, **mbtmp3.9**/6, **ML4.1**/1, **Error ellipse: s-maj=172.9km s-min=20.7km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.03	41	Pn	Pn	09 53 02.0	-2.0
	70nm,0.3s,baz=202,slow=2.9,SNR=86						
AFI				Sn	Sn	09 53 21.9	-8.3
	330nm,0.3s,baz=213,slow=18,SNR=15						
STKA	Stephens Creek	44.21	240	P	P	10 00 39.0	-0.6
	1.9nm,0.7s,baz=102,slow=9.3,SNR=4.8						
WRA	Warramunga Arr	50.06	257	P	P	10 01 24.6	-0.8
	1.2nm,0.5s,baz=91,slow=7.0,SNR=30						
WRA				PcP	PcP	10 02 46.0	+0.6
	0.4nm,0.6s,baz=89,slow=3.6,SNR=4.2						
ASAR	Alice Springs	50.32	252	P	P	10 01 26.8	-0.6
	4.0nm,0.8s,baz=88,slow=8.5,SNR=68						
ILAR	Eielson Array	82.45	11	P	P	10 04 52.8	+0.5
	0.2nm,0.4s,baz=224,slow=5.0,SNR=5.6						
YKA	Yellowknife Ar	90.05	23	P	P	10 05 29.7	-0.1
	0.2nm,1.0s,baz=247,slow=6.0,SNR=2.7						
BRTR	Keskin Array B	146.34	321	PKPbc	PKPab	10 12 12.6	+0.1
	1.1nm,0.7s,baz=55,slow=1.8,SNR=5.1						

IDC 11 10:19:29.5±3.4, 11.65S×166.95E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/19, mbtmp3.5/5, MS3.2/1, Ms1 3.2/1, ms1mx2.7/16, Error ellipse: s-maj=121.8km s-min=31.2km az=136.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	20.87	98	LR	LR	10 30 41.7	
	comp=Z,65nm,21.6s,baz=302,slow=32						
WRA	Warramunga Arr	32.39	251	P	P	10 26 01.8	+0.5
	0.3nm,0.8s,baz=85,slow=9.3,SNR=4.7						
ASAR	Alice Springs	33.59	245	P	P	10 26 11.6	-0.1
	0.3nm,0.9s,baz=69,slow=10,SNR=4.5						
SONM	Songino Array	79.85	323	P	P	10 31 40.2	0.0
	0.1nm,0.4s,baz=102,slow=5.0,SNR=3.0						
ILAR	Eielson Array	83.71	18	P	P	10 32 00.2	+0.3
	0.6nm,0.7s,baz=240,slow=5.0,SNR=13						
MKAR	Makanchi Array	94.77	317	P	P	10 32 52.1	-1.0
	0.5nm,0.8s,baz=101,slow=6.3,SNR=4.2						

IDC 11 10:24:38.0±2.5, 54.15N×87.42E, h0km, mb1 3.1/3, mb1mx2.9/42, mbtmp3.1/3, ML3.1/3, Error ellipse: s-maj=23.1km s-min=14.0km az=63.0
NNC 11 10:24:38.1±10.0, 53.72N×87.77E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=74.4km s-min=57.7km az=54.0
ISC 11 10:24:39.9±4.2, 54.3N±0.2×87.5E±0.2, h35km, n9, σ1§20/12, 5C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.63	260	i		10 33 00.0	
	baz=81,slow=346,SNR=15						
ZALV	Zalesovo Beam	1.63	260	Pg	Pn	10 25 04.7	-1.4
	3.9nm,0.3s,baz=84,slow=15,SNR=32						
ZALV				Lg	Lg	10 25 25.9	
	2.7nm,0.3s,baz=78,slow=25,SNR=7.4						
KURK	Kurchatov	6.50	240	⇑Pn	Pn	10 26 13.8	+0.8
	0.8nm,1.0s						
KURK				⇓Sn	Sn	10 27 27.0	+1.2
	0.6nm,1.1s						
KURK				⇑Lg	Lg	10 27 58.1	
	1.0nm,1.1s						
KURBB	Kurchatov Arra	6.60	240	⇓Pn	Pn	10 26 15.0	+0.6
	0.9nm,0.4s,baz=57,slow=14						
KURBB				⇓Sn	Sn	10 27 27.0	-1.3
	1.2nm,0.5s						
KURBB				⇓Lg	Lg	10 28 00.8	
	1.1nm,0.5s,baz=59,slow=34						
KURBB	Kurchatov Arra	6.60	240	Pn	Pn	10 26 15.2	+0.8
	0.4nm,0.3s,baz=57,slow=14,SNR=14						
KURBB				Lg	Lg	10 28 07.1	
	0.1nm,0.3s,baz=58,slow=32,SNR=4.3						
MK31	Makanchi Array	8.20	206	⇑Pn	Pn	10 26 36.8	+0.5
	0.1nm,0.2s,baz=26,slow=14,SNR=12						
MK31				⇓Sn	Sn	10 28 05.6	-2.0
	0.2nm,0.4s						
MK31				⇑Lg	Lg	10 28 48.1	
	0.3nm,0.5s,baz=35,slow=34						
MKAR	Makanchi Array	8.20	206	Pn	Pn	10 26 36.8	+0.5
	0.2nm,0.3s,baz=28,slow=14,SNR=14						
MKAR				Sn	Sn	10 28 08.3	+0.7
	0.1nm,0.3s,baz=39,slow=27,SNR=4.7						
MKAR				Lg	Lg	10 28 56.5	
	0.1nm,0.3s,baz=24,slow=27,SNR=3.3						
VOSK	Vostochnaya	9.98	268	⇑Pn	Pn	10 27 01.3	+0.6
	0.4nm,0.5s						
BVAR	Borovoye Array	10.25	270	Pn	Pn	10 27 05.3	+0.9
	0.2nm,0.3s,baz=75,slow=17,SNR=3.5						
BVAR				Lg	Lg	10 30 00.0	
	0.5nm,0.3s,baz=81,slow=35,SNR=20						

IDC 11 10:40:48.7±3.2, 54.05N×87.55E, h0km, mb1 2.7/2, mb1mx2.7/30, mbtmp2.7/2, ML2.5/2, 4C-2D, Error ellipse: s-maj=27.4km s-min=18.2km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.61	267	i		10 49 49.3	
	baz=83,slow=346,SNR=3.4						
ZALV	Zalesovo Beam	1.61	267	Pg	Pn	10 41 17.4	-1.0
	1.9nm,0.3s,baz=84,slow=13,SNR=24						
ZALV				Lg	Lg	10 41 41.0	
	1.9nm,0.3s,baz=86,slow=23,SNR=16						
KURK	Kurchatov	6.41	242	⇑Pn	Pn	10 42 32.4	+8.2
	1.4nm,1.0s						
KURK				⇓Sn	Sn	10 43 37.4	-0.5
	1.2nm,0.9s						
KURK				⇓Lg	Lg	10 44 07.5	
	4.7nm,1.0s						
KURBB	Kurchatov Arra	6.51	242	⇑Pn	Pn	10 42 33.7	+8.2
	baz=60,slow=14						
KURBB				⇑Sn	Sn	10 43 38.8	-1.6
	3.6nm,0.8s						
KURBB				⇑Lg	Lg	10 44 08.2	
	10nm,1.1s,baz=58,slow=34						
KURBB	Kurchatov Arra	6.51	242	Pn	Pn	10 42 25.8	+0.3
	0.1nm,0.3s,baz=58,slow=14,SNR=7.0						
KURBB				Lg	Lg	10 44 13.0	
	0.1nm,0.3s,baz=54,slow=33,SNR=7.3						
MKAR	Makanchi Array	8.00	207	Pn	Pn	10 42 47.9	+1.7
	0.1nm,0.3s,baz=33,slow=14,SNR=3.7						
MKAR				Lg	Lg	10 45 01.2	
	0.0nm,0.3s,baz=27,slow=23,SNR=4.3						

IDC 11 10:45:24.9±2.9, 54.21N×87.25E, h0km, mb1 3.0/2, mb1mx2.9/47, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=25.7km s-min=16.3km az=66.0
NNC 11 10:45:29.9±5.9, 53.67N×87.25E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=42.7km s-min=33.9km az=45.0
ISC 11 10:45:26.9±4.5, 54.3N±0.2×87.3E±0.2, h35km, n7, σ1§26/10, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.53	257	i		10 53 40.0	
	baz=80,slow=347,SNR=22						
ZALV	Zalesovo Beam	1.53	257	Pg	Pn	10 45 50.8	-1.0
	3.9nm,0.3s,baz=80,slow=17,SNR=28						
ZALV				Lg	Lg	10 46 11.1	
	0.8nm,0.3s,baz=78,slow=21,SNR=3.6						
KURK	Kurchatov	6.43	239	⇑Pn	Pn	10 47 00.5	+1.5
	0.6nm,0.8s						
KURK				⇑Sn	Sn	10 48 12.1	+0.9
	2.3nm,1.4s						
KURK				⇑Lg	Lg	10 48 44.8	
	2.0nm,0.8s						
KURBB	Kurchatov Arra	6.53	239	⇑Pn	Pn	10 47 00.8	+0.3
	1.1nm,0.4s,baz=60,slow=15						
KURBB				⇓Sn	Sn	10 48 12.9	-0.8
	4.6nm,0.8s						
KURBB				⇓Lg	Lg	10 48 47.0	
	7.8nm,0.8s,baz=61,slow=32						
KURBB	Kurchatov Arra	6.53	239	Pn	Pn	10 47 01.4	+0.9
	0.4nm,0.3s,baz=54,slow=14,SNR=12						
KURBB				Lg	Lg	10 48 48.8	
	0.1nm,0.3s,baz=51,slow=32,SNR=5.7						
MK31	Makanchi Array	8.20	205	⇑Pn	Pn	10 47 22.7	-0.6
	3.5nm,1.2s,baz=26,slow=15,SNR=8.3						
MK31				⇑Sn	Sn	10 48 52.6	-2.0
	0.7nm,0.7s						
MK31				⇑Lg	Lg	10 49 35.8	
	4.2nm,1.0s,baz=31,slow=32,SNR=5.0						
MKAR	Makanchi Array	8.20	205	Pn	Pn	10 47 24.4	+1.0
	0.1nm,0.3s,baz=25,slow=14,SNR=6.4						
MKAR				Sn	Sn	10 48 55.2	+0.6
	0.1nm,0.3s,baz=30,slow=26,SNR=3.9						
MKAR				Lg	Lg	10 49 42.2	
	0.0nm,0.3s,baz=26,slow=43,SNR=5.7						

MAN 11 10:59:34, 16.27N×120.54E, h1km, mb4.5, ML3.3, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.12	20	⇑P	Pg	10 59 38.1	+1.5
BCPH				iS	Sg	10 59 40.6	+2.2
BOLP	Bolinao	0.61	281	eP	Pb	10 59 46.8	-0.8
BALP	Baler	1.13	118	eP	Pn	10 59 57.2	+0.3
BALP				eS	Sb	11 00 11.8	+0.4
CAUP	Cauayan	1.40	61	eP	Pn	11 00 00.2	-0.6
APYP	Conner	1.72	23	eP	Pb	11 00 06.0	-0.4
APYP				eS	Sn	11 00 23.8	-4.0

NNC 11 11:00:07.3±5.5, 54.55N×86.52E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=39.6km s-min=33.6km az=34.0
IDC 11 11:00:06.8±3.0, 54.60N×86.55E, h0km, mb1 2.9/2, mb1mx2.8/29, mbtmp2.9/2, ML2.8/2, 6C-3D, Error ellipse: s-maj=23.2km s-min=15.0km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.21	238	i		11 07 06.8	
	baz=58,slow=348,SNR=37						
ZALV	Zalesovo Beam	1.21	238	Pg	Pg	11 00 28.3	-1.6
	0.9nm,0.3s,baz=57,slow=17,SNR=10						
ZALV				Lg	Lg	11 00 46.0	
	1.8nm,0.3s,baz=54,slow=27,SNR=14						
KURK	Kurchatov	6.20	234	⇓Pn	Pn	11 01 40.1	+0.7
	1.3nm,1.1s						
KURK				⇓Sn	Sn	11 02 50.3	-0.6
	0.6nm,0.7s						
KURK				⇑Lg	Lg	11 03 26.9	
	2.6nm,1.2s						
KURBB	Kurchatov Arra	6.30	234	⇑Pn	Pn	11 01 41.4	+0.6
	1.0nm,0.5s,baz=52,slow=14						
KURBB				⇑Sn	Sn	11 02 55.0	+1.5
	4.0nm,0.6s,baz=44,slow=21						
KURBB				⇑Lg	Lg	11 03 28.4	
	3.3nm,0.7s,baz=45,slow=22						
KURBB	Kurchatov Arra	6.30	234	Pn	Pn	11 01 41.7	+0.9
	0.3nm,0.3s,baz=52,slow=14,SNR=14						
KURBB				Sn	Sn	11 02 53.4	0.0
	0.1nm,0.3s,baz=44,slow=22,SNR=5.3						
KURBB				Lg	Lg	11 03 27.7	
	0.1nm,0.3s,baz=47,slow=33,SNR=4.5						
MKAR	Makanchi Array	8.27	201	Pn	Pn	11 02 08.8	+0.9
	0.1nm,0.3s,baz=24,slow=12,SNR=4.9						
MKAR				Sn	Sn	11 03 40.8	-1.2
	0.1nm,0.3s,baz=23,slow=28,SNR=8.5						
MKAR				Lg	Lg	11 04 28.9	
	0.1nm,0.3s,baz=27,slow=34,SNR=3.1						
MK09	Makanchi Array	8.29	201	⇓Pn	Pn	11 02 07.5	-0.7
	0.5nm,0.8s						
MK07	Makanchi Array	8.30	201	⇑Sn	Sn	11 03 41.7	-1.0
	0.9nm,0.6s						
MK07				⇑Lg	Lg	11 04 27.4	
	1.2nm,0.8s						

DHMR 11 11:02:31.6±1.2, 12.50N×45.50E, h10km±13km, ML3.6, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBOS		1.39	350	iP	Pn	11 02 56.7	-0.8
LBOS				iS	Sg	11 03 17.7	+0.6
BDHA	Al Bayda'	1.47	2	iP	Pb	11 02 59.2	-0.2
BDHA				iS	Sg	11 03 19.2	-0.4
BDHA				AML	AML	11 03 29.4	
	comp=E,874nm,0.6s						
TRBA	At Turbah	1.54	298	iP	Pn	11 02 59.5	+0.1
TRBA				iS	Sg	11 03 21.5	-0.2
TRBA				AML	AML	11 03 24.2	
	comp=N,801nm,0.5s						

ISCJB 11 11:06:52.4±0.8, 24.04N±0.02×122.27E±0.01, h12km±5km, Error ellipse: s-maj=2.9km s-min=2.1km az=161.4
JMA 11 11:06:52.7±0.1, 24.02N×122.25E, h26km±2km, M3.1
TAP 11 11:06:53.0, 24.10N×122.25E, h22km, ML3.5, C
ISC 11 11:06:52.9±1.2, 24.04N±0.02×122.25E±0.02, h22km±5km, n53, σ0§69/103, 7C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.60	264	eP	Pb	11 07 04.7	0.0
	baz=243						
TWD	Chiawan	0.60	274	P	Pb	11 07 04.9	+0.1
	baz=254						
TWD				eS	Sb	11 07 13.3	+0.4
	baz=254						
ENA	Nanau	0.61	310	⇑P	Pb	11 07 04.2	-0.7
	baz=316						
ENA				eS	Sb	11 07 12.8	-0.3
	baz=316						
TWC	Suao	0.68	327	⇑P	Pb	11 07 04.9	-1.2
	baz=332						
TWC				eS	Sb	11 07 12.8	-2.2
	baz=332						
JYNG	Yonagunijimaku	0.75	57	P	Pb	11 07 07.0	-0.3
JYNG				eS	Sb	11 07 17.2	0.0
ESL	Shilin	0.78	254	⇑P	Pb	11 07 07.5	-0.4
	baz=239						
ESL				eS	Sb	11 07 18.8	+0.8
	baz=239						
YOJ	Yonaguni jima	0.81	59	P	Pb	11 07 08.1	-0.2
YOJ				S	Sb	11 07 18.5	-0.3
EGS		0.85	340	P	Pb	11 07 08.7	-0.4
	baz=339						
EGS				eS	Sb	11 07 18.4	-1.6
	baz=339						
ILA	Ilan	0.86	328	eP	Pb	11 07 09.0	-0.1
	baz=325						
ILA				eS	Sb	11 07 20.0	-0.2
	baz=325						
ENTT	Nioudou	0.87	314	P	Pb	11 07 09.2	0.0
	baz=318						
ENTT				S	Sb	11 07 20.3	-0.2
	baz=318						
NNS	Nan Shan	0.90	297	P	Pb	11 07 09.8	0.0
	baz=293						
NNS				S	Sb	11 07 22.0	+0.6
	baz=293						
WHF	Hehuan Shan	0.91	277	P	Pb	11 07 10.0	-0.2
	baz=261						
WHF				eS	Sb	11 07 21.9	-0.1
	baz=261						
TWB1	Santiao Chiao	0.99	346	P	Pb	11 07 10.9	-0.5
	baz=344						
TWB1				S	Sb	11 07 23.4	-0.7
	baz=344						
EHY	Hungye	1.00	238	eP	Pb	11 07 11.0	-0.6
	baz=226						
TWT	Tachien	1.01	282	eP	Pn	11 07 12.3	+0.4
	baz=267						
TWT				eS	Sb	11 07 24.4	-0.2
	baz=267						
NSK	Sanguang	1.03	308	⇑P	Pb	11 07 12.0	-0.2
	baz=305						
NSK				eS	Sb	11 07 25.7	+0.4
	baz=305						
TWF1	Yuli	1.11	232	eP	Pn	11 07 12.7	-0.5
	baz=218						
TWF1				eS	Sb	11 07 26.9	-0.5
	baz=218						
NWF	Wu-fen Shan	1.11	337	⇓P	Pn	11 07 12.8	-0.5
	baz=335						
NWF				S	Sb	11 07 27.3	-0.4
	baz=335						
TAP1	Taipei	1.20	326	eP	Pb	11 07 15.4	+0.6
	baz=323						
TAP1				eS	Sn	11 07 30.6	+0.7
	baz=323						
TAP	Taipei	1.21	326	eP	Pb	11 07 15.1	+0.1
	baz=323						
TAP				eS	Sb	11 07 30.6	+0.4
	baz=323						
CHKT	Chengkung	1.24	221	eP	Pn	11 07 13.9	-1.0
	baz=208						
CHKT				eS	Sn	11 07 29.0	-2.0
	baz=208						
SMLT	Sun Moon Lake	1.25	263	eP	Pn	11 07 15.3	+0.2
	baz=261						
SMLT				eS	Sn	11 07 31.1	-0.2
	baz=261						
TYC	Yuchr	1.28	264	P	Pn	11 07 15.9	+0.3
	baz=262						
TYC				eS	Sn	11 07 32.3	+0.2
	baz=262						
NSTT	Nanjuang	1.28	298	P	Pb	11 07 16.6	+0.3
	baz=295						
NSTT				eS	Sb	11 07 32.5	0.0
	baz=295						
TWS1	Kuangyinshan	1.30	324	eP	Pb	11 07 16.5	-0.2
	baz=334						
TWS1				eS	Sb	11 07 33.4	+0.4
	baz=334						
YUS	Yu-Shan	1.31	246	eP	Pn	11 07 16.6	+0.2
	baz=244						
YUS				eS	Sn	11 07 33.1	-0.4
	baz=244						
NCU	National Centr	1.34	314	eP	Pb	11 07 17.5	+0.2
	baz=311						
NCU				eS	Sb	11 07 34.9	+0.8
	baz=311						
TWY	Chenhua	1.37	334	eP	Pb	11 07 17.7	-0.1
	baz=332						
TWY				eS	Sn	11 07 33.9	-0.3
	baz=332						
IRIF	Iriomote-Funau	1.38	77	P	Pn	11 07 17.1	+0.2
IRIF				S	Sb	11 07 36.3	+1.1
TWQ1	Liyutan	1.39	283	eP	Pb	11 07 18.3	+0.2
	baz=267						
TWQ1				eS	Sb	11 07 36.5	+1.2
	baz=267						
NSY	Sanyi	1.41	286	eP	Pb	11 07 19.0	+0.4
	baz=270						
NSY				eS	Sb	11 07 36.1	0.0
	baz=270						
ELDTW	Lidau	1.42	233	eP	Pn	11 07 16.9	-0.6
	baz=232						
HATJ	Hateruma jima	1.42	89	P	Pn	11 07 17.6	+0.2
HATJ				eS	Sb	11 07 37.2	+0.9
ALS	Alishan	1.43	249	⇑P	Pn	11 07 18.6	+0.8
	baz=247						
ALS				eS	Sn	11 07 36.5	+0.4
	baz=247						
WNT	Mingjian	1.44	264	eP	Pb	11 07 18.9	-0.2
	baz=262						
WNT				eS	Sb	11 07 37.9	+0.8
	baz=262						
TCU	Taichung	1.45	275	eP	Pn	11 07 18.5	+0.7
	baz=273						
TCU				eS	Sb	11 07 38.3	+1.2
	baz=273						
CHN5	Tsauling	1.51	253	⇑P	Pb	11 07 20.0	-0.2
	baz=242						
CHN5				eS	Sb	11 07 39.6	+0.6
	baz=242						
WGK	Gukeng	1.59	258	eP	Pb	11 07 22.5	+0.9
	baz=243						
WGK				eS	Sb	11 07 41.9	+0.8
	baz=243						
JKRS	Kuro-shima	1.62	83	P	Pn	11 07 20.8	+0.7
JKRS				eS	Sb	11 07 42.0	0.0
TWG	Pinlang	1.63	222	eP	Pn	11 07 19.4	-0.8
	baz=222						
TWG				eS	Sn	11 07 38.7	-1.9
	baz=222						
CHN4	Tsaushan	1.67	246	eP	Pb	11 07 22.9	-0.1
	baz=235						
CHN4				eS	Sb	11 07 45.2	+1.7
	baz=235						
WTP	Ta-pu	1.70	243	⇑P	Pb	11 07 22.9	-0.6
	baz=242						
WTP				eS	Sb	11 07 44.6	+0.2
	baz=242						
JIJ	Ishigaki jima	1.76	79	P	Pn	11 07 22.0	0.0
JIJ				S	Sn	11 07 43.7	0.0
CHY	Chiayi	1.76	253	eP	Pb	11 07 23.9	-0.6
	baz=251						
CHY				eS	Sb	11 07 46.7	+0.6
	baz=251						
TWK	Hsinying	1.79	245	eP	Pb	11 07 24.4	-0.6
	baz=244						
TWK				eS	Sb	11 07 47.0	-0.1
	baz=244						
CHN1	Nanshi	1.80	242	eP	Pb	11 07 24.8	-0.4
	baz=242						
CHN1				eS	Sb	11 07 47.3	+0.1
	baz=242						
SGST	Jiashian	1.80	238	eP	Pb	11 07 25.0	-0.3
	baz=238						
SGST				eS	Sb	11 07 47.9	+0.5
	baz=238						
WSF	Szhu	1.90	258	eP	Pb	11 07 26.0	-0.9
	baz=257						
WSF				eS	Sb	11 07 49.5	-0.7
	baz=257						
JISG	Ishigakijimahi	1.96	73	P	Pn	11 07 24.7	-0.1
JISG				S	Sn	11 07 48.5	-0.2
SSD	Sandimen	1.97	229	eP	Pb	11 07 27.1	-1.0
	baz=222						
SSD				eS	Sb	11 07 51.9	-0.3
	baz=222						
SCZT	Fangliau	2.24	222	eP	Pn	11 07 29.7	+1.0
	baz=217						
SCZT				eS	Sn	11 07 57.5	+1.8
	baz=217						
JTJ	Tarama	2.31	74	P	Pn	11 07 30.4	+0.7
JTJ				eS	Sn	11 07 58.1	+0.6
WDGT	Dungji	2.50	252	eP	Pn	11 07 32.6	+0.3
	baz=239						
WDGT				eS	Sn	11 08 01.9	-0.3
	baz=239						

IDC 11 11:09:19.8±3.0, 53.19N×63.12E, h0km, mb1 2.7/3, mb1mx2.7/30, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=62.7km s-min=10.2km az=161.0
ISCJB 11 11:09:20.5±1.4, 52.8N±0.2×63.4E±0.1, h0km, Error ellipse: s-maj=26.4km s-min=4.5km az=156.2
CSEM 11 11:09:23.8, 52.65N×63.46E, h0km, mb2.9, Suspected Mining explosion. After NNC
NNC 11 11:09:23.8±1.6, 52.65N×63.46E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=28.9km s-min=6.5km az=156.0
ISC 11 11:09:24.0±1.3, 52.8N±0.1×63.38E±0.07, h0km, n17, σ1§22/25, 12C-5D, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	4.08	237	⇑Pn	Pn	11 10 26.6	-1.1
	1.7nm,1.2s						
AKTO				⇓Pg	Pb	11 10 37.5	+0.7
	0.4nm,0.6s						
AKTO				⇑Sn	Sn	11 11 16.2	+0.1
	1.0nm,0.5s						
AKTO				⇑Lg	Lg	11 11 30.0	
	1.8nm,0.6s						
AKTO	Aktyubinsk	4.08	237	Pg	Pb	11 10 36.4	-0.4
	0.1nm,0.3s,baz=53,slow=10,SNR=2.8						
AKTO				Lg	Lg	11 11 30.9	
	0.4nm,0.3s,baz=120,slow=20,SNR=6.3						
AKTO	Aktyubinsk	4.08	237	Pn	Pn	11 10 26.6	-1.1
	1.7nm,1.2s						
AKTO	Aktyubinsk	4.08	237	Pg	Pb	11 10 37.5	+0.7
	0.4nm,0.6s						
AKTO				Sn	Sn	11 11 16.2	+0.1
	1.0nm,0.5s						
AKTO				Lg	Lg	11 11 30.0	
	1.8nm,0.6s						
I31KZ	AKTYUBINSK INF	4.09	237	i		11 32 58.8	
	baz=47,slow=336,SNR=15						
AB31	Akbulak array	4.14	213	⇓Pn	Pn	11 10 27.8	-0.6
	0.1nm,0.3s,baz=45,slow=14,SNR=6.6						
AB31				Pg	Pb	11 10 37.4	-0.4
	0.1nm,0.2s,baz=24,slow=15,SNR=3.6						
AB31				⇓Sn	Sn	11 11 17.0	-0.6
	0.9nm,0.5s,baz=34,slow=26						
AB31				⇓Lg	Lg	11 11 35.7	
	0.1nm,0.1s,baz=32,slow=29,SNR=9.8						
AB31	Akbulak array	4.14	213	Pn	Pn	11 10 27.8	-0.6
	0.1nm,0.3s,SNR=6.6						
AB31	Akbulak array	4.14	213	Pg	Pb	11 10 37.3	-0.4
	0.1nm,0.2s,SNR=3.6						
AB31				Sn	Sn	11 11 17.0	-0.6
	0.9nm,0.5s						
AB31				Lg	Lg	11 11 35.7	
	0.1nm,0.1s,SNR=9.8						
BRVK	Borovoye	4.19	83	⇑Pn	Pn	11 10 27.2	-1.9
	5.5nm,1.4s						
BRVK				⇑Sn	Sn	11 11 18.6	-0.1
	2.0nm,0.7s						
BRVK				⇑Lg	Lg	11 11 38.8	
	2.7nm,0.7s						
BRVK	Borovoye	4.19	83	Pn	Pn	11 10 27.2	-1.9
	5.5nm,1.4s						
BRVK				Sn	Sn	11 11 18.6	-0.1
	2.0nm,0.7s						
BRVK				Lg	Lg	11 11 38.8	
	2.7nm,0.7s						
BVA0	Borovoye Array	4.25	84	⇑Pn	Pn	11 10 26.0	-4.0

baz=287,slow=13,SNR=8.8
BVA0 ⇑Sn Sn 11 11 21.7 +1.4
1.3nm,0.6s
BVA0 ⇑Lg Lg 11 11 40.4
2.1nm,0.8s
BVA0 Borovoye Array 4.25 84 Pn Pn 11 10 26.0 -4.0
SNR=8.8
BVA0 Sn **Sn** **11 11 21.7 +1.4**
1.3nm,0.6s
BVA0 Lg Lg 11 11 40.4
2.1nm,0.8s
BVAR Borovoye Array 4.25 84 Pn **Pn** **11 10 27.2 -2.8**
0.2nm,0.3s,baz=286,slow=14,SNR=6.2
BVAR Sn **Sn** **11 11 19.6 -0.7**
0.3nm,0.3s,baz=264,slow=27,SNR=3.3
BVAR Lg Lg 11 11 39.9
0.5nm,0.3s,baz=263,slow=30,SNR=4.6
VOSK Vostochnaya 4.62 88 ⇓Pn **Pn** **11 10 37.0 +1.9**
2.3nm,1.1s
VOSK ⇑Pg **Pb** **11 10 45.7 -0.2**
2.0nm,0.9s
VOSK ⇑Sn **Sn** **11 11 29.1 -0.2**
VOSK ⇑Lg Lg 11 11 53.5
1.0nm,0.6s
KURBB Kurchatov Arra 9.65 97 Pn **Pn** **11 11 42.0 -2.1**
0.0nm,0.3s,baz=290,slow=14,SNR=2.4
I46RU ZALESOVO INFRA 12.85 76 *i* 12 32 57.7
baz=271,slow=334,SNR=3.1
MKAR Makanchi Array 13.59 109 Pn Pn 11 12 34.4 -3.5
0.0nm,0.3s,baz=303,slow=14,SNR=2.3

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*ISCJB **11** 11:17:02.5±1.3, 12.30N±0.10×45.62E±0.08, h10km, mb3.4/4, MS3.3/4, Error ellipse: s-maj=15.4km s-min=9.7km az=30.2*
*DHMR **11** 11:17:03.4±0.7, 12.47N×45.53E, h5km±32km, ML3.5*
*IDC **11** 11:17:04.9±2.2, 12.31N×45.93E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/26, mbtmp3.4/4, MS3.4/5, Ms1 3.4/5, ms1mx3.1/23, Error ellipse: s-maj=77.2km s-min=28.2km az=166.0*
ISC 11 11:17:06.2±1.4, **12.5N**±0.1×**45.7E**±0.1, **h10km, n11, σ1.86**/9, **mb3.5**/4, **MS3.2**/4, **Western Gulf of Aden**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
BDHA Al Bayda' 1.46 356 *i* P **Pn** **11 17 31.3 -1.6**
BDHA *i* S **Sn** **11 17 52.7 +0.5**
BDHA AML AML 11 18 13.4
comp=E,874nm,0.6s
TRBA At Turbah 1.69 295 *i* P Pn 11 17 32.0 -4.0
TRBA *i* S **Sn** **11 17 55.2 -2.6**
TRBA AML AML 11 17 58.3
comp=N,443nm,0.5s
DHBB Dhamar BB 2.41 329 *i* P **Pn** **11 17 45.1 -0.8**
DHBB *i* S **Sn** **11 18 17.3 +1.7**
KMBO Kilima Mbogo 15.92 212 LR LR 11 26 35.5
comp=N,229nm,18.6s,baz=83,slow=36
GNI Garni 27.55 358 LR LR 11 35 26.9
comp=N,49nm,18.4s,baz=185,slow=40
AAK Ala-Archa 39.04 34 LR LR 11 43 34.0
comp=N,45nm,18.8s,baz=284,slow=41
TORD Torodi Ar. Bea 42.85 276 P **P** **11 25 07.3 +2.3**
comp=N,0.4nm,0.9s,baz=93,slow=6.0,SNR=2.6
BVAR Borovoye Array 44.98 21 LR LR 11 47 08.7
comp=N,80nm,18.9s,baz=230,slow=40
MKAR Makanchi Array 45.97 35 P **P** **11 25 30.5 +0.9**
comp=N,0.7nm,0.9s,baz=231,slow=7.7,SNR=6.4
KURBB Kurchatov Arra 46.49 28 P **P** **11 25 33.4 -0.1**
comp=N,0.2nm,0.6s,baz=226,slow=8.7,SNR=2.8
CMAR Chiang Mai Arr 51.52 76 P **P** **11 26 11.4 -1.2**
comp=N,0.5nm,0.4s,baz=269,slow=8.6,SNR=6.5
CMAR LR LR 11 46 57.5
comp=N,17nm,19.4s,baz=140,slow=35

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*MOS **11** 11:30:35.9±0.9, 53.37N×108.50E, h9km, mb4.0/2, Error ellipse: s-maj=11.4km s-min=7.1km az=59.8*
*IDC **11** 11:30:36.6±0.9, 53.29N×108.48E, h0km, mb3.6/6, mb1 3.7/10, mb1mx3.6/31, mbtmp3.6/10, ML3.1/4, Error ellipse: s-maj=21.6km s-min=16.9km az=109.0*
*BYKL **11** 11:30:37.0±0.2, 53.36N×108.48E, h7km±4km*
ISC 11 11:30:37.1±1.0, **53.36N**±0.02×**108.49E**±0.02, **h4km**±8km, **n61, σ1.82**/117, **mb3.5**/6, **14C-19D, Lake Baykal region**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
MXMB Maximikha 0.18 123 ⇑*i*Pg **Pg** **11 30 40.8 +0.1**
MXMB Pmax 11 30 41.3
16μm,0.4s
MXMB *e*Sg **Sg** **11 30 43.8 +0.7**
MXMB Smax 11 30 44.7
61μm,0.8s
OGRR Ongureny 0.60 298 ⇑*i*PG **Pg** **11 30 48.4 -0.3**
OGRR *e* 11 30 56.4
OGRR pmax pmax
comp=Z,987nm,0.3s
OGRR smax smax
comp=E,9μm,0.4s
OGRR Ongureny 0.60 298 ⇑*i*Pg **Pg** **11 30 48.4 -0.3**
comp=E,762nm,0.5s
OGRR ⇓*i*Pg **Pg** **11 30 48.4 -0.3**
comp=E,889nm,0.5s
OGRR ⇑*i*Pg **Pg** **11 30 48.4 -0.3**
comp=E,2μm,0.5s
OGRR Pmax 11 30 48.8
OGRR *i* Sg **Sg** **11 30 56.5 0.0**
OGRR Smax 11 30 57.0
comp=E,9μm,0.3s
SYVR Suvo 0.95 71 *e*PG **Pg** **11 30 54.1 -1.2**
SYVR *e* 11 31 06.8
SYVR pmax pmax
comp=Z,124nm,0.1s
SYVR smax smax
comp=E,2μm,0.3s
SYVR Suvo 0.95 71 ⇓*i*Pg **Pg** **11 30 54.1 -1.2**
comp=E,34nm,0.5s
SYVR ⇓*i*Pg **Pg** **11 30 54.1 -1.2**
comp=E,90nm,0.5s
SYVR ⇓*i*Pg **Pg** **11 30 54.1 -1.2**
comp=E,131nm,0.5s
SYVR Pmax 11 30 56.7
comp=E,177nm,0.7s
SYVR *i* Sg **Sg** **11 31 06.7 -0.9**
SYVR Smax 11 31 07.1
comp=E,2μm,0.3s
ZRHB Zarechye 1.14 225 ⇓*i*Pg **Pg** **11 30 58.2 -0.8**
ZRHB ⇑*i*Pb **Pn** **11 30 59.5 -0.4**
ZRHB max 11 30 59.8
comp=E,2μm,0.6s
ZRHB *e*Sg **Sb** **11 31 14.1 -0.6**
ZRHB Smax 11 31 19.0
comp=E,5μm,0.5s
TRG Tyrgan 1.43 246 *e*PG **Pn** **11 31 02.3 -1.6**
TRG *e* 11 31 21.8
TRG pmax pmax
comp=Z,1μm,0.3s
TRG smax smax
comp=N,2μm,0.3s
TRG Tyrgan 1.43 246 ⇓*i*Pg **Pn** **11 31 02.2 -1.6**
TRG Pmax 11 31 04.1
comp=N,1μm,0.3s
TRG *e*Sg **Sg** **11 31 21.8 -1.1**
TRG Smax 11 31 25.1
comp=N,2μm,0.3s
KAB Kabansk 1.72 221 *e*PN **Pb** **11 31 08.7 -0.6**
KAB Kabansk 1.72 221 ⇑*i*Pg **Pb** **11 31 08.7 -0.6**
KAB Pmax 11 31 09.8
comp=N,656nm,0.9s
KAB *i* Sg **Sg** **11 31 31.9 -0.6**
KAB Smax 11 31 34.0
comp=N,5μm,0.5s
HRMR Khuramsha 1.97 209 ⇓*i*Pn **Pn** **11 31 11.1 -0.2**
HRMR ⇓*i*Pg **Pb** **11 31 13.0 -0.6**
HRMR *e* 11 31 15.5
HRMR *i* Sg **Sg** **11 31 39.5 -1.0**
HRMR *e* 11 31 41.5
HRMR max 11 31 41.8
comp=N,9μm,0.4s
YLYR Ulyunkhan 2.19 45 *e*PN **Pn** **11 31 13.8 -0.5**
YLYR *e* 11 31 15.6
YLYR *e* 11 31 45.0
YLYR pmax pmax
comp=Z,106nm,0.5s
YLYR smax smax
comp=N,2μm,0.7s
YLYR Ulyunkhan 2.19 45 ⇑*i*Pn **Pn** **11 31 13.8 -0.5**
YLYR ⇑*i*Pg **Pb** **11 31 15.6 -1.6**
YLYR Pmax 11 31 18.4
comp=N,204nm,0.9s
YLYR *e*Sg **Sb** **11 31 45.0 +0.3**
YLYR Smax 11 31 46.5
comp=N,2μm,0.7s
NIZ Nizh Angarsk 2.49 14 *e*PN **Pn** **11 31 18.6 +0.1**
NIZ *e* 11 31 22.0
NIZ *e*S **Sn** **11 31 48.7 -0.7**
NIZ *e* 11 31 53.8
NIZ pmax pmax
comp=Z,94nm,0.4s
NIZ smax smax
comp=N,665nm,0.6s
NIZ Nizh Angarsk 2.49 14 ⇓*i*Pn **Pn** **11 31 18.6 +0.1**
NIZ *e*Pg **Pb** **11 31 21.8 -0.7**
NIZ Pmax 11 31 22.7
comp=N,94nm,0.4s
NIZ *e* 11 31 26.0
NIZ *e* 11 31 41.3
NIZ *e* 11 31 50.6
NIZ *e*Sg **Sb** **11 31 53.6 +0.1**
NIZ Smax 11 31 58.4
comp=N,668nm,0.6s
LSTR Listvyanka 2.68 238 *e*PN **Pb** **11 31 24.5 -1.2**
LSTR *e* 11 31 59.3
LSTR pmax pmax
comp=Z,111nm,0.8s
LSTR smax smax
comp=E,467nm,0.8s
LSTR Listvyanka 2.68 238 ⇑*i*Pn **Pn** **11 31 20.5 -0.6**
comp=E,50nm,0.8s
LSTR ⇑*i*Pn **Pn** **11 31 20.5 -0.6**
comp=E,76nm,0.8s
LSTR ⇓*i*Pn **Pn** **11 31 20.5 -0.6**
comp=E,79nm,0.8s
LSTR max 11 31 21.2
comp=E,86nm,0.6s
LSTR ⇑*i*Pg **Pb** **11 31 23.8 -1.9**
LSTR *e* 11 31 32.1
LSTR *i* Sg **Sb** **11 31 59.4 +0.4**
LSTR *e* 11 32 02.2
LSTR max 11 32 04.2
comp=E,467nm,0.9s
IRK Irkutsk 2.79 248 *e*PN **Pn** **11 31 21.7 -0.9**
IRK *e* 11 31 26.3
IRK *e* 11 32 02.4
IRK pmax pmax
comp=Z,332nm,0.4s
IRK smax smax
comp=E,2μm,0.3s
IRK Irkutsk 2.79 248 Pg **Pb** **11 31 26.1 -1.5**
IRK Pmax 11 31 29.7
comp=E,331nm,0.4s
IRK *e*PgPg **Pg** **11 31 30.2 -0.4**
IRK *e*Sg **Sb** **11 32 03.1 +1.0**
IRK Smax 11 32 14.6
comp=E,2μm,0.4s
KMO Kumora 2.98 31 *e*PN **Pn** **11 31 23.9 -1.3**
KMO *e* 11 31 29.9
KMO *e*S **Sn** **11 32 00.1 -1.3**
KMO *e* 11 32 08.9
KMO pmax pmax
comp=Z,169nm,0.4s
KMO smax smax
comp=E,960nm,0.7s
KMO Kumora 2.98 31 *e*Pn **Pn** **11 31 25.1 -0.1**
KMO *e*Pg **Pb** **11 31 30.4 -0.4**
KMO Pmax 11 31 34.0
comp=E,237nm,0.5s
KMO *e*Sg **Sg** **11 32 10.4 -2.4**
KMO Smax 11 32 19.1
comp=E,964nm,1.1s
YOA Uoyan 3.35 33 *e*PN **Pb** **11 31 37.1 0.0**
YOA *i* 11 32 21.9
YOA pmax pmax
comp=Z,127nm,0.3s
YOA smax smax
comp=N,3μm,0.8s
YOA Uoyan 3.35 33 *e*Pg **Pb** **11 31 37.3 +0.2**
YOA Pmax 11 31 53.8
comp=N,254nm,0.9s
YOA *i* Sg **Sg** **11 32 22.3 -2.4**
YOA Smax 11 32 34.5
comp=N,3μm,1.7s
CIT Chita 3.36 112 *e*PN **Pn** **11 31 31.9 +1.5**
CIT *e* 11 31 38.9
CIT *e* 11 32 20.6
CIT pmax pmax
comp=Z,250nm,0.6s
CIT smax smax
comp=E,891nm,0.6s
CIT Chita 3.36 112 *e*Pg **Pb** **11 31 36.6 -0.7**
CIT Pmax 11 31 50.4
comp=E,160nm,0.4s
CIT *e* 11 32 12.7
CIT *e*Sg **Sb** **11 32 21.0 +2.5**
CIT Smax 11 32 31.5
comp=E,899nm,0.7s
TLY Talaya 3.40 242 ⇓*i*PN **Pn** **11 31 30.3 -0.8**
TLY *e* 11 31 36.8
TLY *e* 11 32 21.5
TLY pmax pmax
comp=Z,41nm,0.4s
TLY smax smax
comp=E,303nm,0.7s
TLY Talaya 3.40 242 ⇓*i*Pn **Pn** **11 31 30.2 -0.8**
TLY *e* 11 31 33.0
TLY ⇓*i*Pg **Pb** **11 31 37.0 -1.0**
TLY Pmax 11 31 44.1
comp=E,84nm,1.0s
TLY *e* 11 32 07.4
TLY *e*Sg **Sb** **11 32 21.5 +1.8**
TLY Smax 11 32 25.3
comp=E,300nm,0.6s
ARS Arshan 3.97 251 *e*PN **Pn** **11 31 38.2 -0.6**
ARS *e* 11 31 47.9
ARS *e* 11 32 37.0
ARS pmax pmax
comp=Z,131nm,0.3s
ARS smax smax
comp=E,1μm,0.6s
ARS Arshan 3.97 251 ⇓*i*Pn **Pn** **11 31 37.9 -0.9**
ARS ⇑*i* 11 31 39.4
ARS *e*Pg **Pb** **11 31 48.1 +0.5**
ARS Pmax 11 31 51.9
comp=E,132nm,0.6s
ARS *e*Sn **Sn** **11 32 22.4 -3.3**
ARS *e*Sg **Sb** **11 32 39.5 +3.6**
ARS Smax 11 32 44.2
comp=E,1μm,0.9s
SVKR Severomuysk 4.03 45 *e*Pn Pn 11 31 42.9 +3.3
SVKR *e*Pg **Pb** **11 31 49.1 +0.4**
SVKR Pmax 11 31 55.3
comp=E,77nm,0.4s
SVKR *e*Sn **Sn** **11 32 23.3 -4.0**
SVKR *e*Sg **Sg** **11 32 43.1 -3.4**
SVKR Smax 11 32 47.3
comp=E,1μm,0.5s
ZAK Zakamensk 4.39 229 *e*PN **Pn** **11 31 44.7 +0.1**
ZAK *e* 11 31 55.4
ZAK *e* 11 32 53.4
ZAK pmax pmax
comp=Z,34nm,0.7s
ZAK smax smax
comp=N,145nm,0.9s
ZAK Zakamensk 4.39 229 ⇓*i*Pn **Pn** **11 31 44.8 +0.1**
ZAK *e*Pg **Pb** **11 31 55.5 +0.6**
ZAK Pmax 11 31 59.8
comp=N,33nm,0.8s
ZAK *e* 11 32 31.9
ZAK *i* Sg **Sg** **11 32 53.7 -4.5**
ZAK Smax 11 33 13.7
comp=N,146nm,1.0s
KPC Khapcheranga 4.40 145 *e*PN **Pn** **11 31 43.5 -1.2**
KPC *e* 11 31 55.3
KPC *e*S **Sn** **11 32 33.8 -2.6**
KPC *e* 11 32 52.3
KPC pmax pmax
comp=Z,78nm,0.5s
KPC smax smax
comp=E,457nm,1.2s
KPC Khapcheranga 4.40 145 ⇑*i*Pn **Pn** **11 31 43.1 -1.6**
KPC *e* 11 31 46.7
KPC *e*Pg **Pb** **11 31 55.1 +0.2**
KPC Pmax 11 31 58.6
comp=E,82nm,1.0s
KPC *e* 11 32 01.0
KPC *e*Sn **Sn** **11 32 33.7 -2.6**
KPC *e*Sg **Sb** **11 32 51.9 +3.6**
KPC Smax 11 33 06.5
comp=E,457nm,0.9s
MOY Mondy 4.88 253 *e*PN **Pn** **11 31 51.7 +0.3**
MOY *e*S **Sn** **11 32 44.9 -3.5**
MOY *e*S **Sb** **11 33 07.2 +4.9**
MOY smax smax
comp=N,453nm,1.7s
MOY Mondy 4.88 253 *e*Pn **Pn** **11 31 51.7 +0.3**
MOY ⇓*i* 11 31 53.1
MOY *e*Pg **Pb** **11 32 04.1 +0.9**
MOY Pmax 11 32 14.6
comp=N,91nm,0.8s
MOY *e*Sg **Sb** **11 33 07.2 +4.9**
MOY Smax 11 33 19.9
comp=N,451nm,1.4s
NLYR Nelyaty 5.21 50 *e*PN **Pn** **11 31 56.2 +0.4**
NLYR *e*S **Sn** **11 32 52.5 -3.8**
NLYR Nelyaty 5.21 50 *e*Pn **Pn** **11 31 57.5 +1.7**
NLYR *e* 11 32 02.4
NLYR *e*Pg **Pb** **11 32 08.9 +0.2**
NLYR Pmax 11 32 18.0
comp=N,31nm,0.7s
NLYR *e* 11 32 53.1
NLYR *e* 11 33 13.9
NLYR *e*Sg Sb 11 33 17.5 +5.9
NLYR Smax 11 33 28.9
comp=N,398nm,1.2s
ORL Orlik 5.31 265 *e*PN **Pn** **11 31 58.4 +1.1**
ORL *e* 11 32 12.2
ORL *e*S **Sn** **11 32 57.5 -1.4**
ORL *e* 11 33 18.0
ORL pmax pmax
comp=Z,55nm,0.9s
ORL smax smax
comp=N,411nm,1.3s
ORL Orlik 5.31 265 ⇓*i*Pn **Pn** **11 31 58.2 +0.9**
comp=N,18nm,1.4s
ORL ⇓*i*Pn **Pn** **11 31 58.2 +0.9**
comp=N,41nm,1.4s
ORL ⇑*i*Pn **Pn** **11 31 58.2 +0.9**
comp=N,33nm,1.4s
ORL *e* 11 32 07.1
ORL max 11 32 07.8
comp=N,50nm,1.0s
ORL *e*Pg **Pb** **11 32 12.5 +2.0**
ORL *e* 11 32 59.4
ORL *e* 11 33 11.3
ORL *e*Sg **Sg** **11 33 22.5 -5.1**
ORL Smax 11 33 28.3
comp=N,408nm,1.0s
BOD Bodaibo 5.45 33 *e*PN **Pn** **11 31 57.7 -1.4**
BOD *e* 11 32 12.4
BOD *e* 11 33 24.3
BOD pmax pmax
comp=Z,20nm,1.1s
BOD smax smax
comp=E,170nm,1.6s
BOD Bodaibo 5.45 33 *e* Pn 11 32 05.0 +5.9
BOD *e*Pg **Pb** **11 32 13.5 +0.7**
BOD *e* 11 32 17.0
BOD max 11 32 21.2
comp=E,10.0nm,0.7s
BOD *e*Sn **Sn** **11 32 58.4 -3.8**
BOD *e*Sg **Sb** **11 33 24.4 +5.9**
BOD Smax 11 33 38.8
comp=E,168nm,1.3s
ULN Ulaanbaatar 5.58 190 ⇓*i*Pn **Pn** **11 32 01.8 +0.8**
ULN *e* 11 32 18.2
ULN *e* 11 32 54.1
ULN *e*Sg **Sg** **11 33 31.4 -4.8**
ULN *e* 11 33 37.2
SONM Songino Array 5.69 194 PN **Pn** **11 32 02.6 +0.1**
SONM 11 32 20.4
SONM 11 33 08.1
SONM pmax pmax
comp=Z,2.0nm,0.3s
SONM pmax pmax
comp=Z,3.0nm,0.3s
SONM smax smax
comp=N,4.0nm,0.3s
SONM Songino Array 5.69 194 Pn **Pn** **11 32 02.6 +0.1**
comp=N,1.6nm,0.3s,baz=8.2,slow=13,SNR=59
SONM Pg Pb 11 32 20.4 +3.4
comp=N,3.3nm,0.3s,baz=5.4,slow=18,SNR=20
SONM Sn **Sn** **11 33 08.1 -0.2**
comp=N,3.9nm,0.3s,baz=3.8,slow=17,SNR=4.2
SONM Lg Lg 11 33 36.1
comp=N,27nm,0.3s,baz=7.9,slow=31,SNR=23
CRS Chara 6.63 54 *e*PG **Pb** **11 32 35.0 +2.0**
CRS *e* 11 34 01.5
CRS pmax pmax
comp=Z,88nm,1.8s
CRS smax smax
comp=E,257nm,1.9s
CRS Chara 6.63 54 *e*Pg **Pb** **11 32 35.5 +2.5**
CRS *e* 11 33 13.7
CRS *e* 11 33 33.5
CRS *e*Sg Sg 11 34 02.6 -7.3
CRS Smax 11 34 20.2
comp=E,257nm,1.9s
TUP Tupik 6.86 76 *i* Pn **Pn** **11 32 17.6 -0.9**
TUP *e*Pg Pb 11 32 41.1 +4.2
TUP Pmax 11 32 44.0
comp=E,15nm,1.9s
TUP *e*Sg Sg 11 34 10.2 -7.1
TUP Smax 11 34 12.0
comp=E,490nm,1.4s
KZLR Kyzyl 8.72 265 *e*Sg Sg 11 35 05.4 -11
ZALV Zalesovo Beam 14.04 282 Pn **Pn** **11 33 56.5 0.0**
comp=E,0.1nm,0.3s,baz=85,slow=6.1,SNR=3.1
MKAR Makanchi Array 17.99 259 P **Pn** **11 34 47.2 -0.7**
comp=E,0.1nm,0.3s,baz=68,slow=10.0,SNR=5.4
KURK Kurchatov 18.50 274 P **Pn** **11 34 54.1 0.0**
KURBB Kurchatov Arra 18.59 274 P **Pn** **11 34 54.1 -0.8**
comp=E,0.1nm,0.3s,baz=77,slow=12,SNR=2.6
BVAR Borovoye Array 22.65 285 P **P** **11 35 39.0 0.0**
comp=E,1.0nm,0.5s,baz=69,slow=15,SNR=7.1
AAK Ala-Archa 24.92 258 P **P** **11 36 01.7 +0.5**
comp=E,0.5nm,0.5s,baz=45,slow=1.4,SNR=3.9
ILAR Eielson Array 48.82 33 P **P** **11 39 24.9 +1.9**
comp=E,0.6nm,0.9s,baz=298,slow=6.0,SNR=7.8
YKA Yellowknife Ar 59.62 22 P **P** **11 40 41.4 -0.2**
comp=E,0.3nm,0.9s,baz=332,slow=7.4,SNR=3.3
WRA Warramunga Arr 76.35 155 P **P** **11 42 26.3 -0.9**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 76.35 155 P **P** **11 42 26.3 -0.9**
comp=Z,0.8nm,0.8s,baz=344,slow=5.7,SNR=5.0
ASAR Alice Springs 79.82 156 P **P** **11 42 45.8 -0.6**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 79.82 156 P **P** **11 42 45.8 -0.6**
comp=Z,0.5nm,0.6s,baz=351,slow=5.5,SNR=12

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*IDC **11** 11:42:02.4±3.1, 8.77S×108.65E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/22, mbtmp3.7/6, Error ellipse: s-maj=154.4km s-min=20.0km az=53.0*
*ISCJB **11** 11:42:03.6±0.5, 9.12S±0.05×108.62E±0.04, h31km, mb3.6/6, Error ellipse: s-maj=6.8km s-min=5.4km az=177.4*
*DJA **11** 11:42:04.1±0.4, 9°S±3°×10°9E±°, h10km, M3.9/21, mb4.1/2, mB5.2/1, MLv3.8/21, Mw(mB)4.6/1*
ISC 11 11:42:04.5±0.9, **9.08S**±0.05×**108.61E**±0.04, **h31km, n29, σ1.38**/31, **mb3.8**/6, **South of Jawa**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
CMJI Cimerak 1.30 353 P **Pn** **11 42 26.6 +0.1**
CMJI S **Sb** **11 42 43.3 -1.3**
CISI Cisompet, Garu 1.71 332 P **Pn** **11 42 32.8 +0.6**
CISI S **Sb** **11 42 55.9 -0.5**
CISI Cisompet, Garu 1.71 332 S **Pb** **11 42 33.7 -1.6**
baz=0.8,SNR=30
KPJI Karang Pucung 1.76 10 P **Pn** **11 42 33.6 +0.7**

KPJI S Sn 11 42 54.5 +0.2
UGM Wanagama 2.22 59 P Pn 11 42 39.3 +0.1
UGM S Sn 11 43 06.5 +0.9
UGM Wanagama 2.22 59 P Pb 11 42 41.9 -2.0
baz=2.7,SNR=13
CNJI Cibinong 2.29 320 P Pn 11 42 40.3 +0.1
LEM Lembang 2.44 336 P Pb 11 42 46.2 -1.7
LEM Lembang 2.44 336 S Pb 11 42 46.6 -1.3
baz=1.6,SNR=7.9
WOJI Wonogiri, Jawa 2.60 62 P Pn 11 42 44.7 +0.3
PCJI Pacitan 2.68 71 P Pn 11 42 45.7 +0.1
SMRI Semarang 2.71 42 P Pn 11 42 43.1 -2.9
SMRI Semarang 2.71 42 P Pb 11 42 51.0 -1.3
baz=2.9,SNR=3.8
SKJI Sukabumi 2.90 315 P Pn 11 42 50.3 +1.8
XMI Christmas Isla 3.19 244 P Pn 11 42 52.7 +0.1
baz=3.0,SNR=3.6
XMI S Sn 11 43 26.6 -2.9
baz=3.0,SNR=3.7
XMIS Christmas Isla 3.23 244 P Pn 11 42 52.9 -0.3
baz=3.0,SNR=13
PWJI Pagerwojo 3.33 72 P Pn 11 42 54.3 -0.1
CGJI Cibinong 3.79 310 P Pn 11 43 02.8 +2.0
GRJI Gresik 4.39 61 P Pn 11 43 09.1 0.0
GMJI Gumukmas 4.84 81 P Pn 11 43 16.9 +1.6
JAGI Jajag, Banyuwa 5.51 84 P Pn 11 43 24.1 -0.4
19nm,0.7s,0.1nm
JAGI Jajag, Banyuwa 5.51 84 P Pn 11 43 30.7 +6.2
baz=6.2,SNR=4.6
KMMI Kalianget 5.67 70 P Pn 11 43 26.8 +0.1
WRA Warramunga Arr 27.10 116 P P 11 47 47.8 +2.9
0.5nm,0.7s,baz=289,slow=11,SNR=3.0
ASAR Alice Springs 28.20 124 P P 11 47 59.0 +4.3
0.3nm,0.7s,baz=293,slow=9.5,SNR=6.5
STKA Stephens Creek 38.07 131 P P 11 49 24.1 +3.5
1.1nm,0.7s,baz=315,slow=10.0,SNR=2.9
SONM Songino Array 56.70 358 P P 11 51 45.6 +0.5
0.5nm,0.7s,baz=168,slow=7.3,SNR=6.3
MKAR Makanchi Array 60.38 339 P P 11 52 11.7 +0.9
1.0nm,0.5s,baz=140,slow=5.9,SNR=13
ZALV Zalesovo Beam 65.94 345 P P 11 52 47.9 +0.5
0.6nm,0.4s,baz=152,slow=6.8,SNR=5.8

*IDC **11** 11:51:52.6±0.5, 40°.54S×16°.79W, h0^{km}, mb4.8/32, mb1 4.8/32, mb1mx4.8/35, mbtmp4.8/32, MS4.9/17, Ms1 4.9/17, ms1mx4.9/17, Error ellipse: s-maj=17.2km s-min=10.2km az=173.0*

*ISCJB **11** 11:51:53.2±0.3, 40°.53S±0°.06×16°.86W±0°.06, h10^{km}, mb5.4/116, MS5.2/156, Error ellipse: s-maj=9.0km s-min=6.4km az=158.2*

*NEIC **11** 11:51:54.0±0.2, 40°.59S×16°.77W, h10^{km}, mb5.8/54, MS5.2/126, Error ellipse: s-maj=8.0km s-min=5.2km az=164.0*

*MOS **11** 11:51:53.0±0.7, 40°.57S×16°.81W, h10^{km}, mb5.9/34, MS5.0/15, Error ellipse: s-maj=16.4km s-min=7.4km az=74.5*

*GCMT **11** 11:51:54.0±0.1, 40°.65S×16°.63W, h12^{km}, MW5.5/126, Moment Tensor Solution. s78,c118; s126,c313; Duration: 1.3s Moment tensor: Scale 10^{17}Nm; M_{rr}-2.09±.02; $M_{\theta\theta}$0.21±.02; $M_{\phi\phi}$1.87±.02; $M_{r\theta}$-0.65±.08; $M_{\theta\phi}$-0.08±.02; $M_{\phi r}$0.08±.06; Best double couple: $M_0$2.06900×10^{17} NP1:ϕ_s163.00000°, δ49.00000°, λ-110.00000°. NP2:ϕ_s11.00000°, δ45.00000°, λ-69.00000°. Principal axes: T 1.8780, Plg2.0000°, Azm266.0000°; N 0.3770, Plg15.0000°, Azm176.0000°; P -2.2600, Plg75.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 11 11:51:54.4±0.3, **40°.46S**±0°.08×**16°.78W**±0°.06, **h10^{km}, n459,** σ1.28/355, **mb5.5**/115, **MS5.2**/156, **25C-13D, Southern Mid-Atlantic Ridge**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VNA2 Neumayer--Watz 30.91 174 P P 11 58 10.9 +0.1
baz=324,slow=12
VNA3 Neumayer Olymp 31.06 176 P P 11 58 12.2 0.0
SUR Sutherland 31.12 87 PFAKE 11 58 30.0 +17
SUR LR LR
comp=Z,9µm,21.0s
H10S2 ASCENSION HYDR31.43 4 T T 12 31 26.9
baz=183,slow=75,SNR=311
H10S3 ASCENSION HYDR31.44 4 T T 12 31 27.9
baz=183,slow=75,SNR=347
H10S1 ASCENSION HYDR31.45 4 T T 12 31 26.9
baz=183,slow=75,SNR=338
SNAA Sanae 32.06 172 P P 11 58 21.4 +0.4
SNAA Sanae 32.06 172 eP P 11 58 20.5 -0.4
SNAA pmax pmax
comp=Z,7.0nm,0.8s
SNAA Sanae 32.06 172 P P 11 58 20.3 -0.7
comp=Z,2.7nm,0.9s,baz=304,slow=9.0,SNR=3.7
H10N1 ASCENSION HYDR32.54 4 T T 12 32 51.1
baz=190,slow=79,SNR=35
H10N3 ASCENSION HYDR32.55 4 T T 12 32 45.5
baz=190,slow=79,SNR=351
H10N2 ASCENSION HYDR32.56 4 T T 12 32 49.8
baz=190,slow=79,SNR=95
TRQA Tornquist 34.80 259 eP P 11 58 45.9 +0.7
comp=Z,258nm,2.3s
TRQA LR LR
comp=Z,5µm,21.0s
TSUM Tsumeb 36.24 64 P P 11 58 56.9 -0.9
comp=Z,16nm,0.8s,baz=225,slow=7.5,SNR=34
TSUM Tsumeb 36.24 64 eP P 11 58 57.1 -0.7
comp=Z,71nm,1.4s
TSUM LR LR
comp=Z,6µm,20.0s
BOSA Boshof 36.27 84 P P 11 58 57.2 -0.8
comp=Z,16nm,1.1s,baz=239,slow=9.2,SNR=8.5
BOSA PcP PcP 12 01 23.0 0.0
comp=Z,8.6nm,1.1s,baz=225,slow=1.4,SNR=3.4
BOSA LR LR 12 11 07.2
comp=Z,4µm,19.1s,baz=236,slow=32
CPUP Villa Florida 36.35 280 eP P 11 58 59.4 +0.8
CPUP pmax pmax
comp=Z,1.0nm,0.6s
CPUP Villa Florida 36.35 280 P P 11 58 57.9 -0.7
comp=Z,10nm,1.0s,baz=107,slow=6.9,SNR=8.4
CPUP LR LR 12 12 00.9
comp=Z,6µm,19.6s,baz=108,slow=33
CPUP Villa Florida 36.35 280 eP P 11 58 59.4 +0.8
comp=Z,1.1nm,0.6s
BDFB Brasilia 36.71 303 P P 11 59 01.1 -0.7
comp=Z,13nm,1.0s,baz=125,slow=6.9,SNR=12
BDFB LR LR 12 11 26.2
comp=Z,2µm,18.3s,baz=124,slow=32
USHA Ushuaia 36.77 229 P P 11 59 02.6 +0.9
comp=Z,20nm,1.0s,baz=94,slow=8.4,SNR=4.2
LBTB Lobatse 38.44 80 eP P 11 59 16.2 -0.3
LBTB pmax pmax
comp=Z,439nm,3.0s
LBTB Lobatse 38.44 80 P P 11 59 16.0 -0.5
comp=Z,14nm,1.1s,baz=236,slow=10,SNR=9.8
LBTB Lobatse 38.44 80 eP P 11 59 16.1 -0.3
comp=Z,439nm,3.0s
RCBR Riachuelo 38.52 328 P P 11 59 16.2 -0.8
comp=Z,15nm,1.0s,baz=144,slow=13,SNR=3.8
RCBR Riachuelo 38.52 328 P P 11 59 16.2 -0.8
RCBR LR LR
comp=Z,2µm,20.0s
PLCA Paso Flores 40.29 251 P P 11 59 31.4 -0.3
comp=Z,8.6nm,1.1s,baz=99,slow=7.1,SNR=8.2
PLCA LR LR 12 14 04.2
comp=Z,5µm,20.2s,baz=113,slow=33
SYO Syowa Base 40.95 153$\Downarrow$eP P 11 59 35.2 -1.4
CFAA Coronel Fontan 42.04 265 P P 11 59 45.7 -0.5
comp=Z,2.5nm,1.0s,baz=108,slow=7.4,SNR=19
LCO Las Campanas 45.14 267 eP P 12 00 11.1 -0.3
comp=Z,39nm,1.2s
LCO LR LR
comp=Z,4µm,22.0s
SIV San Ignacio 45.40 289 P P 12 00 13.5 +0.2
comp=Z,5.8nm,1.1s,baz=143,slow=7.8,SNR=12
LSZ Lusaka 46.35 70 eP P 12 00 21.1 +0.2
LSZ pmax pmax
comp=Z,14nm,0.9s
LSZ MLR MLR
comp=Z,2µm,20.0s
LSZ Lusaka 46.35 70 P P 12 00 21.4 +0.5
comp=Z,9.5nm,0.8s,baz=207,slow=8.0,SNR=20
LSZ Lusaka 46.35 70 eP P 12 00 21.1 +0.2
comp=Z,14nm,0.9s
LSZ LR LR
comp=Z,2µm,20.0s
LVC Limon Verde 47.17 276 eP P 12 00 27.1 -0.3
comp=Z,42nm,1.8s
LVC LR LR
comp=Z,3µm,22.0s
LIC Lamto 47.70 16 eP P 12 00 29.9 -1.3
comp=Z,245nm,1.4s,baz=198
LIC eR
comp=Z,404nm,19.0s
LIC Lamto 47.70 16 eP P 12 00 31.1 -0.1
comp=Z,475nm,2.3s
LIC Lamto 47.70 16 eP P 12 00 29.9 -1.3
comp=Z,245nm,1.4s
KIC Kosan Boka 47.89 16 eP P 12 00 32.5 -0.2
comp=Z,612nm,1.8s
TIC Toumodi 48.11 16 eP P 12 00 34.3 -0.1
comp=Z,161nm,1.3s
DBIC Dimbokro 48.17 16 eP P 12 00 35.0 +0.2
DBIC pmax pmax
comp=Z,128nm,1.5s
DBIC Dimbokro 48.17 16 P P 12 00 34.5 -0.4
comp=Z,41nm,1.2s,baz=221,slow=6.6,SNR=9.3
DBIC LR LR 12 16 13.3
comp=Z,326nm,18.9s,baz=164,slow=30
DBIC Dimbokro 48.17 16 eP P 12 00 35.0 +0.2
comp=Z,128nm,1.5s
CRZF Crozet Islands 48.77 121 S S 12 07 11.0 -31
CRZF R 12 13 00.0
MAW Mawson 49.49 150 LR LR 12 17 12.9
comp=Z,2µm,21.3s,baz=274,slow=31
QSPA South Pole Qui 49.80 180 PFAKE 12 01 00.0 +13
QSPA LR LR
comp=Z,964nm,22.0s
LPAZ La Paz 50.38 283 eP P 12 00 52.5 -0.1
LPAZ pmax pmax
comp=Z,35nm,1.8s
LPAZ La Paz 50.38 283 P P 12 00 51.6 -0.9
comp=Z,3.2nm,0.9s,baz=102,slow=8.2,SNR=8.7
LPAZ LR LR 12 21 55.6
comp=Z,3µm,19.5s,baz=137,slow=36
LPAZ La Paz 50.38 283 eP P 12 00 52.5 -0.1
comp=Z,35nm,1.8s
SAML Samuel 51.71 294 eP P 12 01 02.2 +0.4
comp=Z,57nm,1.4s
SAML LR LR
comp=Z,5µm,19.0s
BBTS Babate 54.84 0 P P 12 01 24.7 0.0
comp=Z,56nm,1.0s,baz=174,slow=4.7,SNR=5.3
SACV Santiago Islan 55.51 352 PFAKE 12 01 40.0 +10
SACV LR LR
comp=Z,681nm,20.0s
PTGA Pitinga 55.64 304 P P 12 01 31.4 +0.7
comp=Z,19nm,1.1s,baz=133,slow=9.3,SNR=18
PTGA Pitinga 55.64 304 eP P 12 01 31.6 +1.0
comp=Z,107nm,1.6s
PTGA LR LR
comp=Z,2µm,20.0s
TOA0 Torodi Ar. Sit 56.02 22 eP P 12 01 32.6 -0.7
TORD Torodi Ar. Bea 56.02 22 P P 12 01 32.7 -0.6
comp=Z,36nm,1.3s,baz=198,slow=5.4,SNR=37
TORD LR LR 12 20 27.9
comp=Z,785nm,20.7s,baz=180,slow=31
ABPO Ambohimpanom 58.28 89 PFAKE 12 02 00.0 +10
ABPO LR LR
comp=Z,2µm,20.0s
OPO Ambohidratompo 58.51 88 P P 12 01 52.1 +0.9
comp=Z,7.6nm,1.0s,baz=219,slow=10,SNR=4.0
MBAR Mbarara 58.53 60 P P 12 01 53.7 +2.3
comp=Z,52nm,1.4s,SNR=5.2
PAF Port-aux-Franc 58.98 130 PFAKE 12 02 10.0 +16
PAF LR LR
comp=Z,3µm,20.0s
PAF Port-aux-Franc 58.98 130 S S 12 09 51.0 -9.1
PAF L L 12 16 00.0
PAF R 12 18 00.0
NNA Nana 59.61 281 PFAKE 12 02 10.0 +11
NNA LR LR
comp=Z,3µm,20.0s
VNDA Vanda 62.29 180 LR LR 12 27 42.1
comp=Z,457nm,19.0s,baz=170,slow=35
KMBO Kilima Mbogo 62.57 66 P P 12 02 20.1 +1.1
comp=Z,1.0nm,0.5s,baz=211,slow=7.8,SNR=12
KMBO LR LR 12 26 59.5
comp=Z,4µm,19.9s,baz=228,slow=34
RER Riviere de l'E 63.52 96 PFAKE 12 02 40.0 +15
RER LR LR
comp=Z,1µm,22.0s
ATAH Atahualpa 63.92 284 P P 12 02 29.1 +0.9
comp=Z,5.0nm,0.9s,baz=132,slow=2.6,SNR=8.0
CASY Casey 66.17 159 eP P 12 02 48.2 +6.7
comp=Z,60nm,1.7s
CASY LR LR
comp=Z,803nm,20.0s
TAM Tamanrasset 66.27 22 eP P 12 02 43.9 +1.0
TAM pmax pmax
comp=Z,40nm,1.4s
TAM MLR MLR
comp=Z,733nm,21.0s
TAM Tamanrasset 66.27 22 eP P 12 02 43.9 +1.0
comp=Z,40nm,1.4s
TAM LR LR
comp=Z,733nm,21.0s
BBGH Gun Hill 66.46 314 PFAKE 12 03 00.0 +16
BBGH LR LR
comp=Z,3µm,19.0s
GRGR Grenville 66.81 311 PFAKE 12 03 00.0 +14
GRGR LR LR
comp=Z,691nm,20.0s
FDF Fort de France 68.64 313 PFAKE 12 03 10.0 +12
FDF LR LR
comp=Z,514nm,20.0s
OTAV Otavalo 68.94 289 eP P 12 03 02.4 +2.0
comp=Z,90nm,1.9s
OTAV LR LR
comp=Z,2µm,20.0s
ROSC El Rosal 69.30 296 P P 12 03 03.3 +0.8
comp=Z,4.4nm,0.3s,baz=124,slow=1.6,SNR=7.4
ROSC LR LR 12 31 59.3
comp=Z,5µm,20.0s,baz=176,slow=35
AIS Amsterdam Isla 69.59 123 S S 12 12 01.0 -11
AIS R 12 23 00.0
SDV Santo Domingo 69.79 302 eP P 12 03 06.4 +1.1
SDV LR LR
comp=Z,2µm,19.0s
ANWB Willy Bob 71.38 315 PFAKE 12 03 30.0 +15
ANWB LR LR
comp=Z,563nm,20.0s
SABA Saba 72.14 313 eP P 12 03 19.8 +0.5
comp=Z,179nm,1.3s
MSEY Mahe Island 73.50 82 PFAKE 12 03 40.0 +12
MSEY LR LR
comp=Z,1µm,21.0s
MDT Midelt 73.78 11 P P 12 03 29.6 +0.8
comp=Z,9.4nm,1.0s,baz=172,slow=6.8,SNR=6.7
CBYP Canovanas 74.13 312 eP P 12 03 30.3 -0.8
comp=Z,38nm,1.3s
SJG San Juan 74.17 311 P P 12 03 29.7 -1.5
SJG MLR MLR
comp=Z,810nm,20.0s
SJG San Juan 74.17 311 P P 12 03 29.7 -1.5
comp=Z,9.1nm,0.3s,baz=271,slow=1.4,SNR=3.4
SJG San Juan 74.17 311 P P 12 03 29.7 -1.5
SJG LR LR
comp=Z,810nm,20.0s
CELP Cerrillos 74.39 311 P P 12 03 31.3 -1.2
RTC Rabat Centre 74.65 9 PFAKE 12 03 50.0 +16
RTC LR LR
comp=Z,1µm,19.0s
LRS Lares 74.72 311 eP P 12 03 32.9 -1.5
BCIP Isla Barro Col 76.17 295 PFAKE 12 03 50.0 +7.1
BCIP LR LR
comp=Z,901nm,20.0s
PAYG Puerto Ayora 77.05 280 PFAKE 12 04 00.0 +12
PAYG LR LR
comp=Z,2µm,20.0s
MORF Marmelete 77.75 7 eP P 12 03 52.5 +1.1
MORF AMS AMS 12 34 10.6
comp=Z,693nm,20.5s
MORF Marmelete 77.75 7 eP P 12 03 52.4 +1.1
SDDR Presa de Saban 77.87 308 eP P 12 03 51.8 -0.5
comp=Z,18nm,0.8s
SDDR LR LR
comp=Z,1µm,21.0s
MESJ Messejana 78.32 7 eP P 12 03 55.7 +1.3
MESJ AMS AMS 12 34 57.8
comp=Z,583nm,18.5s
MESJ Messejana 78.32 7 eP P 12 03 55.6 +1.3
EVOP Sao Brissos 79.01 7 eP P 12 03 58.8 +0.7
EVOP pmax pmax
comp=Z,53nm,1.3s
EVOP Sao Brissos 79.01 7 eP P 12 03 58.8 +0.7
comp=Z,53nm,1.3s
EVO Evora 79.03 7 eP P 12 03 58.8 +0.6
comp=Z,53nm,1.3s
EVO eR
comp=Z,804nm,21.5s
KEST Kesra 79.54 21 P P 12 04 02.9 +1.7
comp=Z,14nm,1.0s,baz=207,slow=4.1,SNR=16
KEST LR LR 12 36 04.5
comp=Z,405nm,19.5s,baz=165,slow=33
GRTK Grand Turk 79.73 310 PFAKE 12 04 10.0 +7.6
GRTK LR LR
comp=Z,1µm,19.0s
PAB San Pablo 80.44 10 eP P 12 04 06.4 +0.4
PAB MLR MLR
comp=Z,501nm,19.0s
PAB San Pablo 80.44 10 eP P 12 04 06.4 +0.4
PAB LR LR
comp=Z,501nm,19.0s
JTS JuntasAbangare 80.54 292 eP P 12 04 08.2 +1.1
JTS pmax pmax
comp=Z,99nm,2.5s
JTS JuntasAbangare 80.54 292 P P 12 04 07.1 0.0
comp=Z,20nm,1.1s,baz=118,slow=8.3,SNR=4.3
JTS JuntasAbangare 80.54 292 eP P 12 04 07.1 0.0
JTS LR LR
comp=Z,862nm,20.0s
ESDC Sonseca Array 80.61 10 P P 12 04 07.2 +0.4
comp=Z,16nm,0.9s,baz=184,slow=5.7,SNR=26
ESDC LR LR 12 36 53.5
comp=Z,312nm,19.3s,baz=205,slow=34
ESLA Sonseca Array 80.61 10 eP P 12 04 07.4 +0.5
comp=Z,9.6nm,1.1s
GTBY Guantanamo Bay 80.92 306 PFAKE 12 04 20.0 +11
GTBY LR LR
comp=Z,870nm,20.0s
MTE Manteigas 80.92 7 PFAKE 12 04 20.0 +11
MTE LR LR
comp=Z,723nm,19.0s
MTDJ Mount Denham 81.18 303 PFAKE 12 04 20.0 +10
MTDJ LR LR
comp=Z,1µm,20.0s
WDD Wield Dalam 81.23 25 PFAKE 12 04 20.0 +10
WDD LR LR
comp=Z,386nm,19.0s
CEL Celeste 83.86 25 PFAKE 12 04 40.0 +16
CEL LR LR
comp=Z,816nm,20.0s
ETSF Etsaut 84.27 12 eP P 12 04 26.6 +0.7
comp=Z,77nm,1.4s
ETSF Etsaut 84.27 12 eP P 12 04 26.6 +0.7
ETSF pmax pmax
comp=Z,77nm,1.4s
ETSF Etsaut 84.27 12 eP P 12 04 26.6 +0.7
comp=Z,77nm,1.4s
EPF Esparros 84.54 13 eP P 12 04 27.8 +0.5
EPF Esparros 84.54 13 eP P 12 04 27.8 +0.5
EPF Esparros 84.54 13 eP P 12 04 27.8 +0.5
IDI Anoyia 84.58 33 P P 12 04 27.9 +0.3
comp=Z,7.1nm,0.3s,baz=220,slow=7.9,SNR=6.8
DGAR Diego Garcia 84.66 95 PFAKE 12 04 40.0 +11
DGAR LR LR
comp=Z,1µm,20.0s
EIL Elat 84.67 43 P P 12 04 30.2 +2.0
comp=Z,4.8nm,0.8s,baz=191,slow=9.0,SNR=3.8
TIP Timpagrande 84.97 26 PFAKE 12 04 40.0 +10
TIP LR LR
comp=Z,707nm,20.0s
MTLF Montolieu 85.17 14 eP P 12 04 30.1 -0.3
comp=Z,143nm,1.6s
MTLF Montolieu 85.17 14 eP P 12 04 30.1 -0.3
MTLF pmax pmax
comp=Z,143nm,1.6s
MTLF Montolieu 85.17 14 eP P 12 04 30.1 -0.3
comp=Z,143nm,1.6s
LMR La Mourre 86.03 17 eP P 12 04 34.8 +0.2
LMR La Mourre 86.03 17 eP P 12 04 34.8 +0.2
LMR La Mourre 86.03 17 eP P 12 04 34.8 +0.2
RAYN Ar Rayn 86.03 55 eP P 12 04 36.3 +1.1
comp=Z,79nm,1.6s
LASF Ste Croix 86.19 15 eP P 12 04 35.8 +0.4
comp=Z,96nm,1.4s
LASF Ste Croix 86.19 15 eP P 12 04 35.8 +0.4
comp=Z,96nm,1.4s
FRF La Foret Royal 86.27 17 eP P 12 04 36.4 +0.6
comp=Z,181nm,1.5s
FRF La Foret Royal 86.27 17 eP P 12 04 36.4 +0.6
FRF pmax pmax
comp=Z,181nm,1.5s
FRF La Foret Royal 86.27 17 eP P 12 04 36.4 +0.6
comp=Z,181nm,1.5s
SMRF Simiane la Rot 86.44 16 eP P 12 04 37.4 +0.7
comp=Z,46nm,1.3s
SMRF Simiane la Rot 86.44 16 eP P 12 04 37.4 +0.7
comp=Z,46nm,1.3s
LFF La Frestale 86.46 12 eP P 12 04 37.2 +0.5
comp=Z,131nm,1.5s
LFF La Frestale 86.46 12 eP P 12 04 37.2 +0.5
LFF pmax pmax
comp=Z,131nm,1.5s
LFF La Frestale 86.46 12 eP P 12 04 37.2 +0.5
comp=Z,131nm,1.5s
CAF Calviac 86.67 13 eP P 12 04 38.4 +0.6
comp=Z,68nm,1.4s
CAF Calviac 86.67 13 eP P 12 04 38.4 +0.6
CAF pmax pmax
comp=Z,68nm,1.4s
CAF Calviac 86.67 13 eP P 12 04 38.4 +0.6
comp=Z,68nm,1.4s
AQU L'Aquila 86.85 22 PFAKE 12 04 50.0 +11
AQU LR LR
comp=Z,697nm,19.0s
RJF Les Rejaudoux 86.95 13 eP P 12 04 39.7 +0.6
comp=Z,138nm,1.6s
RJF eR
comp=Z,485nm,23.0s
RJF Les Rejaudoux 86.95 13 eP P 12 04 39.7 +0.6
RJF pmax pmax
comp=Z,138nm,1.6s
RJF Les Rejaudoux 86.95 13 eP P 12 04 39.7 +0.6
comp=Z,138nm,1.6s
VIVF Saint-Julien-l 87.10 15 eP P 12 04 40.4 +0.5
comp=Z,96nm,1.5s
VIVF Saint-Julien-l 87.10 15 eP P 12 04 40.4 +0.5
VIVF pmax pmax
comp=Z,96nm,1.5s
VIVF Saint-Julien-l 87.10 15 eP P 12 04 40.4 +0.5
comp=Z,96nm,1.5s
ORIF Oris-en-Rattie 87.40 16 eP P 12 04 42.1 +0.7
comp=Z,56nm,1.3s
ORIF eR
comp=Z,996nm,20.8s
ORIF Oris-en-Rattie 87.40 16 eP P 12 04 42.1 +0.7
ORIF pmax pmax
comp=Z,56nm,1.3s
ORIF Oris-en-Rattie 87.40 16 eP P 12 04 42.1 +0.7
comp=Z,56nm,1.3s
MBDF Montbardon 87.41 17 eP P 12 04 42.0 +0.5
comp=Z,38nm,1.1s
MBDF Montbardon 87.41 17 eP P 12 04 42.0 +0.5
MBDF pmax pmax
comp=Z,38nm,1.1s
MBDF Montbardon 87.41 17 eP P 12 04 42.0 +0.5
comp=Z,38nm,1.1s
SSB Saint Sauveur 87.48 15 PFAKE 12 04 50.0 +8.3
SSB LR LR
comp=Z,470nm,19.0s
MMAI Mount Meron Ar 87.56 42 P P 12 04 43.4 +0.9
comp=Z,1.1nm,0.3s,baz=208,slow=7.8,SNR=3.7
BNI Bardonecchia 87.70 16 PFAKE 12 04 50.0 +7.1
BNI LR LR
comp=Z,2µm,20.0s
VLC Villacollemand 87.72 19 PFAKE 12 04 50.0 +7.1
VLC LR LR
comp=Z,921nm,22.0s
MFF Saint Martin d 87.95 11 eP P 12 04 44.6 +0.7
comp=Z,108nm,1.5s
MFF Saint Martin d 87.95 11 eP P 12 04 44.6 +0.7
MFF pmax pmax
comp=Z,108nm,1.5s
MFF Saint Martin d 87.95 11 eP P 12 04 44.6 +0.7
comp=Z,108nm,1.5s

TCF Toulx Ste Croi 88.02 13 eP P 12 04 45.2 +0.9
comp=Z,283nm,1.8s
TCF Toulx Ste Croi 88.02 13 eP P 12 04 45.2 +0.9
TCF pmax pmax
comp=Z,283nm,1.8s
TCF Toulx Ste Croi 88.02 13 eP P 12 04 45.2 +0.9
comp=Z,283nm,1.8s
CSS Prodhromos 88.10 39 PFAKE 12 05 00.0 +15
CSS LR LR
comp=Z,223nm,20.0s
LPG La Plagne 88.14 16 eP P 12 04 45.8 +0.6
comp=Z,46nm,1.2s
LPG La Plagne 88.14 16 eP P 12 04 45.8 +0.6
LPG pmax pmax
comp=Z,46nm,1.2s
LPG La Plagne 88.14 16 eP P 12 04 45.8 +0.6
comp=Z,46nm,1.2s
LPL La Plagne 88.15 16 eP P 12 04 45.8 +0.6
comp=Z,36nm,1.1s
LPL La Plagne 88.15 16 eP P 12 04 45.8 +0.6
LPL pmax pmax
comp=Z,36nm,1.1s
LPL La Plagne 88.15 16 eP P 12 04 45.8 +0.6
comp=Z,36nm,1.1s
BGF Bois d'Agland 88.39 13 eP P 12 04 46.8 +0.8
comp=Z,63nm,1.5s
BGF Bois d'Agland 88.39 13 eP P 12 04 46.8 +0.8
BGF pmax pmax
comp=Z,63nm,1.5s
BGF Bois d'Agland 88.39 13 eP P 12 04 46.8 +0.8
comp=Z,63nm,1.5s
SMF Signal de Mont 88.66 14 eP P 12 04 47.8 +0.5
comp=Z,105nm,1.6s
SMF Signal de Mont 88.66 14 eP P 12 04 47.8 +0.5
SMF pmax pmax
comp=Z,105nm,1.6s
SMF Signal de Mont 88.66 14 eP P 12 04 47.8 +0.5
comp=Z,105nm,1.6s
AVF Avril sur Loir 88.71 14 eP P 12 04 48.2 +0.7
comp=Z,182nm,1.7s
AVF Avril sur Loir 88.71 14 eP P 12 04 48.2 +0.7
AVF pmax pmax
comp=Z,182nm,1.7s
AVF Avril sur Loir 88.71 14 eP P 12 04 48.2 +0.7
comp=Z,182nm,1.7s
QUIF Quistinic 88.83 9 eP P 12 04 48.6 +0.6
comp=Z,316nm,1.8s
QUIF Quistinic 88.83 9 eP P 12 04 48.6 +0.6
QUIF pmax pmax
comp=Z,316nm,1.8s
QUIF Quistinic 88.83 9 eP P 12 04 48.6 +0.6
comp=Z,316nm,1.8s
VAY Valandovo 88.90 29 iP P 12 04 50.0 +1.5
SSF Saint Saulge 89.00 14 eP P 12 04 49.5 +0.7
comp=Z,145nm,1.8s
SSF Saint Saulge 89.00 14 eP P 12 04 49.5 +0.7
SSF pmax pmax
comp=Z,145nm,1.8s
SSF Saint Saulge 89.00 14 eP P 12 04 49.5 +0.7
comp=Z,145nm,1.8s
HYF Humbligny 89.04 13 eP P 12 04 50.2 +1.1
HYF Humbligny 89.04 13 eP P 12 04 50.2 +1.1
CABF La Chapelle 89.06 16 eP P 12 04 49.5 +0.2
comp=Z,178nm,1.9s
CABF La Chapelle 89.06 16 eP P 12 04 49.5 +0.2
CABF pmax pmax
comp=Z,178nm,1.9s
CABF La Chapelle 89.06 16 eP P 12 04 49.5 +0.2
comp=Z,178nm,1.9s
SKO Skopje 89.07 27 iP P 12 04 51.0 +1.7
LOR Lormes 89.26 14 eP P 12 04 50.7 +0.6
comp=Z,170nm,1.7s
LOR eR
comp=Z,535nm,22.5s
LOR Lormes 89.26 14 eP P 12 04 50.7 +0.6
LOR pmax pmax
comp=Z,170nm,1.7s
LOR Lormes 89.26 14 eP P 12 04 50.7 +0.6
comp=Z,170nm,1.7s
MMB Musomiste 89.56 29 ⇑P P 12 04 52.6 +0.9
MMB Musomiste 89.56 29 eP P 12 04 51.9 +0.2
MMB Musomiste 89.56 29⇑iP P 12 04 52.6 +0.9
KKB Krupnik 89.56 29 eP P 12 04 52.2 +0.6
TUE Stuetta 89.64 18 PFAKE 12 05 00.0 +7.8
TUE LR LR
comp=Z,838nm,20.0s
TEIG Tepich 89.70 297 PFAKE 12 05 00.0 +7.2
TEIG LR LR
comp=Z,939nm,22.0s
LDF La Druitiere 89.89 11 eP P 12 04 53.6 +0.6
comp=Z,226nm,1.8s
LDF La Druitiere 89.89 11 eP P 12 04 53.6 +0.6
LDF pmax pmax
comp=Z,226nm,1.8s
LDF La Druitiere 89.89 11 eP P 12 04 53.6 +0.6
comp=Z,226nm,1.8s
FLN La Foliniere 90.01 11 eP P 12 04 53.8 +0.3
comp=Z,284nm,1.8s
FLN eR
comp=Z,640nm,21.5s
FLN La Foliniere 90.01 11 eP P 12 04 53.8 +0.3
FLN pmax pmax
comp=Z,284nm,1.8s
FLN La Foliniere 90.01 11 eP P 12 04 53.8 +0.3
comp=Z,284nm,1.8s
PTCN Pitcairn Islan 90.08 236 PFAKE 12 05 10.0 +15
PTCN LR LR
comp=Z,2μm,21.0s
VTS Vitosha 90.24 28 ⇓P P 12 04 56.7 +1.7
VTS Vitosha 90.24 28 eP P 12 04 55.4 +0.4
VTS Vitosha 90.24 28⇓iP P 12 04 56.7 +1.7
KDZ Kurdzhali 90.25 30 ⇓P P 12 04 56.0 +1.1
KDZ Kurdzhali 90.25 30⇓iP P 12 04 56.0 +1.1
HINF Hinteralfeld 90.37 16 eP P 12 04 55.3 0.0
comp=Z,147nm,1.9s
HINF Hinteralfeld 90.37 16 eP P 12 04 55.3 0.0
HINF pmax pmax
comp=Z,147nm,1.9s
HINF Hinteralfeld 90.37 16 eP P 12 04 55.3 0.0
comp=Z,147nm,1.9s
SFTF Sexfontaines 90.38 14 eP P 12 04 55.9 +0.6
comp=Z,187nm,1.4s
SFTF Sexfontaines 90.38 14 eP P 12 04 55.9 +0.6
comp=Z,187nm,1.4s
HAU Haudompre 90.45 15 eP P 12 04 55.9 +0.3
comp=Z,36nm,1.1s
HAU eR
comp=Z,571nm,22.2s
HAU Haudompre 90.45 15 eP P 12 04 55.9 +0.3
HAU pmax pmax
comp=Z,36nm,1.1s
HAU Haudompre 90.45 15 eP P 12 04 55.9 +0.3
comp=Z,36nm,1.1s
FETA Feichten 90.48 18⇑iP P 12 04 56.2 +0.2
comp=Z,17nm,1.8s
DAVA Damuels 90.53 18⇑iP P 12 04 56.0 -0.2
comp=Z,39nm,1.4s,SNR=5.4
MEZF Maizieres J'vi 90.67 14 eP P 12 04 57.5 +0.9
comp=Z,240nm,1.4s
MEZF Maizieres J'vi 90.67 14 eP P 12 04 57.5 +0.9
comp=Z,240nm,1.4s
ABTA Abfaltersbach 90.67 20⇑iP P 12 04 58.3 +1.6
comp=Z,36nm,1.3s,SNR=5.7
ECH Echery 90.81 16 PFAKE 12 05 10.0 +13
ECH LR LR
comp=Z,730nm,19.0s
PAGF Fort de Pagny 90.85 15 eP P 12 04 58.2 +0.7
comp=Z,57nm,1.7s
PAGF Fort de Pagny 90.85 15 eP P 12 04 58.2 +0.7
comp=Z,57nm,1.7s
MOTA Moosalm 90.88 19⇑iP P 12 04 58.7 +0.9
comp=Z,21nm,1.3s
WTTA Wattenberg 90.93 19⇑iP P 12 04 59.1 +1.0
comp=Z,66nm,1.6s,SNR=7.8
OBKA Obir 90.99 21⇑iP P 12 04 59.5 +1.2
comp=Z,17nm,1.1s
CDF Champ du Feu 91.02 16 eP P 12 04 58.6 +0.2
comp=Z,149nm,1.6s
CDF Champ du Feu 91.02 16 eP P 12 04 58.6 +0.2
CDF pmax pmax
comp=Z,149nm,1.6s
CDF Champ du Feu 91.02 16 eP P 12 04 58.6 +0.2
comp=Z,149nm,1.6s
BFO Black Forest 91.17 16 P P 12 04 59.2 +0.2
comp=Z,86nm,1.8s,SNR=5.5
BFO Black Forest 91.17 16 eP P 12 04 58.9 -0.1

BFO pmax pmax
comp=Z,43nm,1.5s
BFO MLR MLR
comp=Z,799nm,19.0s
BFO Black Forest 91.17 16 eP P 12 04 59.2 +0.2
comp=Z,68nm,1.7s
BFO Black Forest 91.17 16 eP P 12 04 58.9 -0.1
comp=Z,42nm,1.5s
BFO LR LR
comp=Z,799nm,19.0s
SOKA Soboth 91.28 21⇑iP P 12 05 01.3 +1.7
comp=Z,33nm,1.6s
RJOB Jochberg 91.66 19 eP P 12 05 01.2 -0.1
comp=Z,24nm,1.5s
FUR Furstenfeldbru 91.69 18 eP P 12 05 02.1 +0.7
comp=Z,192nm,2.0s
STU Stuttgart 91.78 17 eP P 12 05 02.7 +1.0
comp=Z,67nm,1.5s
ANTO Ankara 91.83 36 PFAKE 12 05 10.0 +7.7
ANTO LR LR
comp=Z,612nm,19.0s
PKSM Moragy 91.91 24 ⇓P P 12 05 03.9 +1.5
PKSM Moragy 91.91 24⇓iP P 12 05 03.9 +1.5
PKSM Moragy 91.91 24⇑eP P 12 05 03.6 +1.2
ARSA Arzberg 91.94 21⇑iP P 12 05 01.7 -0.9
comp=Z,23nm,1.4s
WLF Walferdange 91.99 15 eP P 12 05 03.4 +0.7
comp=Z,140nm,2.0s
WLF Walferdange 91.99 15 PFAKE 12 05 10.0 +7.3
WLF LR LR
comp=Z,578nm,19.0s
BAIF Baives 92.01 13 eP P 12 05 03.4 +0.6
comp=Z,175nm,1.8s
BAIF Baives 92.01 13 eP P 12 05 03.4 +0.6
BAIF pmax pmax
comp=Z,175nm,1.8s
BAIF Baives 92.01 13 eP P 12 05 03.4 +0.6
comp=Z,175nm,1.8s
BR131 Keskin Array S 92.09 36 eP P 12 05 04.2 +0.6
comp=Z,7.4nm,0.9s
BRTR Keskin Array B 92.09 36 P P 12 05 05.0 +1.4
comp=Z,16nm,1.1s,baz=188,slow=5.0,SNR=23
BRTR LR LR 12 46 39.5
comp=Z,224nm,18.7s,baz=199,slow=36
MOA Molln 92.15 20⇑iP P 12 05 04.5 +0.9
comp=Z,16nm,1.3s
GIVF Givet 92.16 14 eP P 12 05 04.3 +0.8
comp=Z,191nm,1.8s
GIVF Givet 92.16 14 eP P 12 05 04.3 +0.8
GIVF pmax pmax
comp=Z,191nm,1.8s
GIVF Givet 92.16 14 eP P 12 05 04.3 +0.8
comp=Z,191nm,1.8s
BZS Buzias 92.34 26 ⇓P P 12 05 05.8 +1.4
BZS Buzias 92.34 26⇓iP P 12 05 05.8 +1.4
H01W2 Cape Leeuwin H 92.44 142 T T 13 48 56.0
baz=216,slow=75,SNR=38
H01W3 Cape Leeuwin H 92.45 142 T T 13 48 56.5
baz=216,slow=75,SNR=43
H01W1 Cape Leeuwin H 92.45 142 T T 13 48 56.0
baz=216,slow=75,SNR=53
GZR Gura Zlata 92.53 27 ⇓P P 12 05 06.9 +1.5
GZR Gura Zlata 92.53 27⇓iP P 12 05 06.9 +1.5
BCLA Clavier 92.56 14 P P 12 05 08.8 +3.5
comp=Z,31nm,1.9s
CONA Conrad Observa 92.65 21⇑iP P 12 05 07.4 +1.4
comp=Z,32nm,1.8s
PKST T`'s 92.67 23 eP P 12 05 06.8 +0.8
GERES GERESS Array B 92.92 20 P P 12 05 07.7 +0.6
comp=Z,2.0nm,1.1s,baz=218,slow=6.3,SNR=6.7
GERES PP PP 12 08 48.2 -2.1
comp=Z,0.4nm,0.6s,baz=202,slow=12,SNR=4.6
GERES LR LR 12 45 30.9
comp=Z,344nm,18.4s,baz=201,slow=35
TNS Taunus Mts 92.98 16 eP P 12 05 08.5 +1.1
comp=Z,36nm,1.6s
WET Wettzell 92.99 19 eP P 12 05 07.9 +0.5
comp=Z,54nm,1.8s
GRF Grafenberg Arr 93.10 18 eP P 12 05 10.4 +2.5
comp=Z,183nm,2.0s
GRF eL L 12 45 14.0
comp=Z,366nm,19.5s
KHC Kasperske Hory 93.15 19⇑iP P 12 05 09.0 +0.8
KHC pmax pmax
comp=Z,28nm,1.3s
KHC Kasperske Hory 93.15 19 eP P 12 05 08.9 +0.8
KHC AMS AMS 12 43 10.0
comp=Z,800nm,18.0s
ARR Arges 93.16 28⇑iP P 12 05 09.4 +1.1
ROTZ Rotzenmuhle 93.40 18 eP P 12 05 09.9 +0.6
comp=Z,36nm,1.7s
MANZ Manzenberg 93.58 18 eP P 12 05 12.5 +2.4
comp=Z,50nm,2.0s
DRGR 93.73 26 ⇑P P 12 05 12.2 +1.3
DRGR 93.73 26⇑iP P 12 05 12.2 +1.3
MLR Muntele Rosu 93.74 29 ⇑P P 12 05 12.1 +1.0
MLR Muntele Rosu 93.74 29⇑iP P 12 05 12.1 +1.0
TREC Trest 93.80 21 eP P 12 05 12.0 +0.9
TREC MLR MLR
comp=Z,400nm,17.0s
TREC Trest 93.80 21 eP P 12 05 12.0 +0.9
TREC AMS AMS 12 45 20.0
comp=Z,400nm,17.0s
PSZ Piszkesteto 93.82 24 eP P 12 05 11.2 -0.1
PSZ pmax pmax
comp=Z,39nm,1.4s
PSZ MLR MLR
comp=Z,440nm,22.0s
PSZ Piszkesteto 93.82 24 eP P 12 05 11.2 -0.1
comp=Z,39nm,1.4s
PSZ LR LR
comp=Z,440nm,22.0s
PSZ Piszkesteto 93.82 24⇑eP P 12 05 12.2 +0.9
UBBA Unterbreizbach 93.88 17 eP P 12 05 14.2 +2.9
comp=Z,44nm,2.0s
VYHS Vyhne 94.02 23 eP P 12 05 13.2 +1.1
VYHS pmax pmax
comp=Z,33nm,1.9s
VYHS Vyhne 94.02 23 eP P 12 05 13.2 +1.1
TANN Tannenbergstha 94.07 18 eP P 12 05 13.8 +1.4
comp=Z,86nm,2.3s
MOX Moxa 94.08 18 eP P 12 05 14.2 +1.8
comp=Z,43nm,2.0s
PRU Pruhonice 94.19 20 eP P 12 05 13.8 +1.0
PRU MLR MLR
comp=Z,600nm,17.8s
PRU Pruhonice 94.19 20 eP P 12 05 13.8 +1.0
PRU AMS AMS 12 43 10.0
comp=Z,600nm,17.8s
CFR Carcaliu 94.29 30 ⇑P P 12 05 15.1 +1.7
CFR Carcaliu 94.29 30⇑iP P 12 05 15.1 +1.7
VRI Vrincioaia 94.34 29 ⇓P P 12 05 14.4 +0.7
VRI Vrincioaia 94.34 29⇓iP P 12 05 14.4 +0.7
KECS Kecovo 94.51 24 eP P 12 05 15.3 +0.9
KECS pmax pmax
comp=Z,5.0nm,1.1s
KECS Kecovo 94.51 24 eP P 12 05 15.3 +0.9
RKT Rikitea 94.56 234 ePS PS 12 17 48.3 +4.0
comp=Z,508nm,28.2s
RKT Rikitea 94.56 234 eLR LR 12 35 46.8
comp=Z,1μm,34.2s
BRG Berggiesshubel 94.85 19 eP P 12 05 19.2 +3.3
comp=Z,9.4nm,1.3s
BRG Berggiesshubel 94.85 19 eP P 12 05 19.2 +3.3
BRG pmax pmax
comp=Z,3.0nm,1.3s
DPC Dobruska-Polom 94.98 21 eP P 12 05 17.5 +0.9
DPC e 12 05 23.3
DPC Dobruska-Polom 94.98 21 eP P 12 05 17.5 +0.9
DPC epP pP 12 05 23.3 +3.4
DPC AMS AMS 12 46 40.0
CLL Collm 95.02 18 iP P 12 05 20.5 +3.9
CLL pmax pmax
comp=Z,14nm,1.5s
CLL Collm 95.02 18 i(P) P 12 05 20.5 +3.9
comp=Z,14nm,1.5s
CLL eSS SS 12 22 59.0 +1.7
CLL eSSS SSS 12 27 12.0
CLL LmH 12 44 00.0
comp=N,200nm,21.4s
CLL LmH 12 44 00.0
comp=E,200nm,21.8s
CLL LmV 12 45 00.0
comp=Z,300nm,19.1s
OKC Ostrava-Krasne 95.03 22 eP P 12 05 18.1 +1.4
OKC Ostrava-Krasne 95.03 22 eP P 12 05 18.1 +1.4

OKC AMS AMS 12 46 30.0
UPC Upice 95.05 20 eP P 12 05 19.4 +2.6
UPC Upice 95.05 20 eP P 12 05 19.4 +2.6
CRVS Cervenica-Dubn 95.18 24 eP P 12 05 19.1 +1.6
CRVS pmax pmax
comp=Z,45nm,2.3s
CRVS Cervenica-Dubn 95.18 24 eP P 12 05 19.1 +1.6
UZH Uzhgorod 95.21 25 eP P 12 05 18.2 +0.7
UZH e 12 05 23.4
BURAR Bucovina Array 95.30 27 ⇑P P 12 05 17.5 -0.6
BURAR Bucovina Array 95.30 27⇑iP P 12 05 17.5 -0.6
KOLS Kolonicke sedl 95.46 25 eP P 12 05 19.8 +1.1
KOLS pmax pmax
comp=Z,24nm,2.1s
KOLS Kolonicke sedl 95.46 25 eP P 12 05 19.8 +1.1
NRDL Niedersach Rie 95.48 16 eP P 12 05 22.5 +3.9
comp=Z,143nm,2.8s
TAU Tasmania Unive 95.77 168 PFAKE 12 05 30.0 +9.4
TAU LR LR
comp=Z,1μm,19.0s
GOGA Godfrey 95.84 309 PFAKE 12 05 30.0 +9.2
GOGA LR LR
comp=Z,940nm,22.0s
KWP Kalwaria Pacla 96.21 25 PFAKE 12 05 30.0 +7.9
KWP LR LR
comp=Z,422nm,21.0s
GNI Garni 97.83 43 eP P 12 05 29.6 -0.3
GNI pmax pmax
comp=Z,6.0nm,1.3s
GNI Garni 97.83 43 PFAKE 12 05 40.0 +10
GNI LR LR
comp=Z,1μm,20.0s
SNZO South Karori 97.94 189 PFAKE 12 05 40.0 +10
SNZO LR LR
comp=Z,558nm,22.0s
NCB Newcomb 98.68 322 PFAKE 12 05 40.0 +6.6
NCB LR LR
comp=Z,5μm,21.0s
KIEV Kiev 99.30 28 eP Pdif 12 05 37.0 +1.0
KIEV Kiev 99.30 28 PFAKE 12 05 50.0 +14
KIEV LR LR
comp=Z,324nm,19.0s
AKASG Malin Array Be 99.31 28 P Pdif 12 05 36.1 +0.1
comp=Z,2.4nm,0.9s,baz=220,slow=5.1,SNR=9.9
AKASG LR LR 12 49 03.2
comp=Z,263nm,21.1s,baz=185,slow=34
COCO West Island 99.39 115 PFAKE 12 05 50.0 +13
COCO LR LR
comp=Z,734nm,20.0s
KBZ Khabaz 99.56 39 LR LR 12 51 10.3
comp=Z,373nm,18.4s,baz=206,slow=36
KIV Kislovodsk 99.62 39 eP Pdif 12 05 36.3 -1.4
KIV e 12 16 12.1
KIV eSS SS 12 24 02.1 -0.6
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,463nm,20.0s
KIV Kislovodsk 99.62 39 PFAKE 12 05 50.0 +12
KIV LR LR
comp=Z,477nm,19.0s
KVTX Kingsville 101.11 297 PFAKE 12 06 00.0 +15
KVTX LR LR
comp=Z,931nm,20.0s
KONO Kongsberg 102.11 13 PFAKE 12 06 00.0 +12
KONO LR LR
comp=Z,454nm,22.0s
CAN Canberra 103.46 168 PFAKE 12 06 10.0 +15
CAN LR LR
comp=Z,912nm,20.0s
JCT Junction City 104.26 298 PFAKE 12 06 10.0 +11
JCT LR LR
comp=Z,595nm,21.0s
OBN Obninsk 105.51 29 PFAKE 12 10 30.0
OBN LR LR
comp=Z,349nm,21.0s
JFWS Jewell Farm 106.21 313 PFAKE 12 10 30.0
JFWS LR LR
comp=Z,653nm,20.0s
MBWA Marble Bar 106.54 138 PFAKE 12 10 30.0
MBWA LR LR
comp=Z,530nm,20.0s
PPT2 Papeete2 107.48 227 eSP SP 12 19 55.8 -5.3
comp=Z,185nm,24.8s
PPT2 eSS SS 12 25 54.9 +5.3
comp=Z,331nm,27.0s
PPT2 Papeete2 107.48 227 eLR LR 12 41 39.8
comp=Z,2μm,31.8s
KSU1 Kansas State U 107.53 307 PFAKE 12 10 30.0
KSU1 LR LR
comp=Z,744nm,21.0s
MNTX Cornudas Mount 108.80 296 PFAKE 12 10 40.0
MNTX LR LR
comp=Z,622nm,21.0s
ECSD EROS Data Cent 110.35 310 PFAKE 12 10 40.0
ECSD LR LR
comp=Z,1μm,22.0s
ASAR Alice Springs 110.60 151 PKiKP PKiKP 12 10 25.8 -1.8
comp=Z,0.4nm,0.8s,baz=198,slow=1.0,SNR=4.9
ANMO Albuquerque 111.42 298 PFAKE 12 10 40.0
ANMO LR LR
comp=Z,1μm,20.0s
OGNE Ogallala 111.98 306 PFAKE 12 10 40.0
OGNE LR LR
comp=Z,693nm,20.0s
SDCO Great Sand Dun 112.37 301 PFAKE 12 10 40.0
SDCO LR LR
comp=Z,1μm,19.0s
AGMN Agassiz Nation 112.63 315 PFAKE 12 10 40.0
AGMN LR LR
comp=Z,740nm,22.0s
TUC Tucson 112.89 294 PFAKE 12 10 40.0
TUC LR LR
comp=Z,691nm,22.0s
ISCO Idaho Springs 113.59 303 PFAKE 12 10 40.0
ISCO LR LR
comp=Z,812nm,19.0s
MVCO Mesa Verde 114.05 299 PFAKE 12 10 50.0 +16
MVCO LR LR
comp=Z,875nm,20.0s
KULM Kulim 114.15 104 PFAKE 12 10 50.0 +16
KULM LR LR
comp=Z,534nm,19.0s
WRA Warramunga Arr 114.16 150 PKP PKPdf 12 10 32.7 -1.7
comp=Z,0.8nm,0.9s,baz=228,slow=1.7,SNR=6.0
APA Apatity 114.17 19 iPKIKP PKPdf 12 10 22.6 -10
APA MLR MLR
comp=Z,600nm,24.0s
WRAB Tennant Creek 114.17 150 PFAKE 12 10 50.0 +16
WRAB LR LR
comp=Z,523nm,20.0s
KEV Kevo 114.47 15 PFAKE 12 10 40.0 +6.8
KEV LR LR
comp=Z,413nm,19.0s
LVZ Lovozero 114.73 19 PFAKE 12 10 50.0 +16
LVZ LR LR
comp=Z,442nm,21.0s
WUAZ Wupatki 115.07 296 PFAKE 12 10 50.0 +14
WUAZ LR LR
comp=Z,820nm,20.0s
ARU Arti 115.48 37 PFAKE 12 10 50.0 +14
ARU LR LR
comp=Z,845nm,21.0s
KSH Kashi 115.98 59 ePKP PKPdf 12 10 40.1 +2.8
KSH PKS PKSdf 12 14 12.2 -1.8
KSH SKS SKSdf 12 17 48.3 -1.1
KSH SKKS SKKSac 12 18 39.5 -3.3
KSH SS SS 12 27 42.3 -2.1
KSH AMB AMB
comp=Z,77nm,6.1s
KSH LR LR
comp=Z,42nm,4.2s
KSH LR LR
comp=Z,120nm,7.3s
KSH LR LR
comp=Z,480nm,22.4s
EKS2 Erkin-Say 116.23 55 PFAKE 12 10 50.0 +12
EKS2 LR LR
comp=Z,1μm,19.0s
AAK Ala-Archa 116.66 56 ePKIKP PKPdf 12 10 38.9 +0.3
AAK Ala-Archa 116.66 56 PFAKE 12 10 50.0 +11
AAK LR LR
comp=Z,818nm,20.0s
TKM2 Tokmak 2 117.50 56 PFAKE 12 10 50.0 +10
TKM2 LR LR

comp=Z,610nm,21.0s
PFO Pinyon Flat Ob 117.59 292 PFAKE 12 10 50.0 +9.4
PFO LR LR
comp=Z,599nm,20.0s
LAO LASA Array 117.63 309 PFAKE 12 10 50.0 +10
LAO LR LR
comp=Z,937nm,19.0s
BW06 Boulder Array 117.69 304 PFAKE 12 10 50.0 +9.4
BW06 LR LR
comp=Z,976nm,22.0s
PDAR Pinedale Array 117.69 304 PKP PKPdf 12 10 39.0 -1.7
comp=Z,0.8nm,1.1s,baz=128,slow=4.5,SNR=3.7
DZM Mont Dzumac 117.72 183 eLR LR 12 46 29.1
comp=Z,745nm,21.8s
CTAO Charters Tower 117.72 162 PFAKE 12 10 50.0 +8.8
CTAO LR LR
comp=Z,687nm,19.0s
HWUT Hardware Ranch 118.39 302 PFAKE 12 10 50.0 +8.1
HWUT LR LR
comp=Z,2µm,22.0s
KSM Kuching 118.45 115 PFAKE 12 10 50.0 +7.3
KSM LR LR
comp=Z,818nm,21.0s
DUG Dugway 118.49 300 PFAKE 12 10 50.0 +7.9
DUG LR LR
comp=Z,395nm,20.0s
AHID Auburn Hatcher 118.67 303 PFAKE 12 10 50.0 +7.5
AHID LR LR
comp=Z,851nm,21.0s
RLMT Red Lodge 118.69 306 PFAKE 12 10 50.0 +7.6
RLMT LR LR
comp=Z,899nm,19.0s
BRVK Borovoye 119.46 44 PFAKE 12 10 50.0 +6.6
BRVK LR LR
comp=Z,1µm,21.0s
KAPI Kappang 119.70 128 PFAKE 12 11 00.0 +15
KAPI LR LR
comp=Z,496nm,21.0s
KBS Kingsbay 120.32 6 PFAKE 12 11 00.0 +16
KBS LR LR
comp=Z,321nm,21.0s
EGMT Eagleton 120.38 309 PFAKE 12 11 00.0 +15
EGMT LR LR
comp=Z,590nm,21.0s
BOZ Bozeman (W) 120.40 306 PFAKE 12 11 00.0 +14
BOZ LR LR
comp=Z,1µm,22.0s
HLID Hailey 121.17 303 PFAKE 12 11 00.0 +13
HLID LR LR
comp=Z,1µm,20.0s
CMAR Chiang Mai Arr 121.18 92 PKP PKPdf 12 10 47.0 -0.7
comp=Z,0.9nm,0.6s,baz=242,slow=3.4,SNR=8.4
NVAR Mina Array Bea 121.33 296 PKP PKPdf 12 10 48.0 +0.3
comp=Z,0.3nm,0.7s,baz=191,slow=5.4,SNR=4.2
NVAR PP PP 12 12 18.0 -1.3
comp=Z,0.6nm,0.9s,baz=197,slow=3.1,SNR=3.7
NVAR PKKPab PKKPbc 12 20 49.8 +1.4
comp=Z,1.0nm,0.8s,baz=272,slow=4.9,SNR=9.0
CHTO Chiang Mai 121.39 91 PFAKE 12 11 00.0 +12
CHTO LR LR
comp=Z,453nm,20.0s
LSA Lhasa 121.53 76 ePKIKP PKPdf 12 10 48.2 -0.5
LSA MLR MLR
comp=Z,703nm,19.0s
LSA Lhasa 121.53 76 ePKPdf PKPdf 12 10 48.2 -0.5
LSA LR LR
comp=Z,703nm,19.0s
KURK Kurchatov 123.00 49 ePKIKP PKPdf 12 10 49.3 -0.9
KURK Kurchatov 123.00 49 PFAKE 12 11 00.0 +10
KURK LR LR
comp=Z,566nm,20.0s
WVOR Wild Horse Val 123.41 300 PFAKE 12 11 00.0 +8.5
WVOR LR LR
comp=Z,519nm,19.0s
MK31 Makanchi Array 123.53 54 ePKIKP PKPdf 12 10 50.5 -0.9
MK31 Makanchi Array 123.53 54 ePKPdf PKPdf 12 10 50.5 -0.9
MKAR Makanchi Array 123.53 54 PKP PKPdf 12 10 50.5 -0.9
comp=Z,0.8nm,0.7s,baz=251,slow=3.7,SNR=7.3
MKAR PP PP 12 12 31.5 -2.3
comp=Z,0.7nm,1.0s,baz=282,slow=2.2,SNR=3.7
BMO Blue Mountains 123.61 303 PFAKE 12 11 00.0 +8.2
BMO LR LR
comp=Z,1µm,22.0s
NEW Newport 124.93 307 PFAKE 12 11 10.0 +16
NEW LR LR
comp=Z,682nm,19.0s
HAWA Hanford 125.67 304 PFAKE 12 11 10.0 +14
HAWA LR LR
comp=Z,643nm,21.0s
WMQ Urumqi 125.73 60 ePKP PKPdf 12 10 54.8 -1.0
WMQ PP PP 12 12 51.9 +3.2
WMQ PKS PKSdf 12 14 30.1 -2.3
WMQ SKS SKSdf 12 18 01.5 -6.1
WMQ SKKS SKKSac 12 19 39.8 -6.4
WMQ SS SS 12 29 46.9 -2.4
WMQ LR LR
comp=Z,400nm,19.2s
WMQ LR LR
comp=Z,520nm,20.4s
WMQ LR LR
comp=Z,580nm,20.6s
KKM Kota Kinabalu 125.80 116 PFAKE 12 11 10.0 +13
KKM LR LR
comp=Z,840nm,21.0s
NVS Novosibirsk 127.16 46 ePKIKP PKPdf 12 10 57.1 -0.9
NVS pmax pmax
comp=Z,11nm,1.4s
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,2.0nm,1.1s
ZALV Zalesovo Beam 127.74 47 PKP PKPdf 12 10 58.2 -0.9
comp=E,1.0nm,0.7s,baz=329,slow=2.5,SNR=5.2
ZALV PP PP 12 13 01.8 +0.2
comp=E,0.3nm,0.3s,baz=262,slow=4.4,SNR=2.5
PMG Port Moresby 128.21 160 PKIKP PKPdf 12 10 59.7 -1.7
PMG MLR MLR
comp=Z,521nm,20.0s
PMG Port Moresby 128.21 160 PKP PKPdf 12 10 59.7 -1.7
comp=Z,3.4nm,0.7s,baz=256,slow=4.2,SNR=3.9
PMG Port Moresby 128.21 160 PKP PKPdf 12 10 59.7 -1.7
PMG LR LR
comp=Z,521nm,20.0s
YKA Yellowknife Ar 128.37 324 PKP PKPdf 12 10 59.1 -1.0
comp=Z,2.7nm,0.9s,baz=101,slow=2.1,SNR=34
YKA PP PP 12 13 06.6 +1.1
comp=Z,0.2nm,0.8s,baz=101,slow=6.7,SNR=4.0
NLWA Neilton Lookou 128.81 304 PFAKE 12 11 10.0 +8.5
NLWA LR LR
comp=Z,329nm,20.0s
QIZ Qiongzhong 129.79 99 PKP PKPdf 12 11 03.8 -0.4
QIZ PP PP 12 13 16.6 +1.0
QIZ SS SS 12 30 41.9 +2.0
QIZ AMB AMB
comp=Z,76nm,4.5s
QIZ LR LR
comp=Z,510nm,18.7s
QIZ LR LR
comp=Z,820nm,19.0s
QIZ Qiongzhong 129.79 99 PFAKE 12 11 20.0 +16
QIZ LR LR
comp=Z,853nm,19.0s
HNR Honiara 130.26 176 PFAKE 12 11 20.0 +15
HNR LR LR
comp=Z,186nm,20.0s
GYA Guiyang 131.56 89 Pdif Pdif 12 08 01.0 +0.8
GYA PKP PKPdf 12 11 07.4 -0.1
GYA PP PP 12 13 31.8 +4.6
GYA PKS PKSdf 12 14 42.9 -1.3
GYA SKKS 12 20 21.5
GYA SS SS 12 31 01.2 -0.7
GYA AMB AMB
comp=Z,140nm,7.8s
GYA LR LR
comp=Z,170nm,22.6s
GYA LR LR
comp=Z,140nm,23.0s
GYA LR LR
comp=Z,160nm,21.4s
CD2 Chengdu 131.57 82 PKP PKPdf 12 11 07.6 +0.3
CD2 PP PP 12 13 31.7 +4.5
CD2 PKS PKSdf 12 14 42.5 -1.4
CD2 SKS SKSdf 12 18 16.3 -2.6
CD2 SKKS SKKSac 12 20 21.5 -1.8
CD2 SS SS 12 31 03.7 +1.8
CD2 AMB AMB
comp=Z,180nm,7.1s
CD2 LR LR
comp=Z,640nm,4.9s
CD2 LR LR
comp=Z,470nm,17.3s
GTA Gaotai 132.32 70 ePKP PKPdf 12 11 09.4 +0.8
GTA PP PP 12 13 36.2 +4.2
GTA SKS SKSdf 12 18 19.4 -0.6
GTA SKKS SKKSac 12 20 27.2 -0.5
GTA SS SS 12 31 13.7 +2.7
GTA AMB AMB
comp=Z,95nm,7.4s
GTA LR LR
comp=Z,450nm,18.1s
GTA LR LR
comp=Z,470nm,17.1s
GTA LR LR
comp=Z,760nm,18.1s
DAV Davao City (W) 132.74 124 PFAKE 12 11 20.0 +10
DAV LR LR
comp=Z,507nm,22.0s
LZH Lanzhou 133.94 75 ePKP PKPdf 12 11 11.0 -0.8
LZH sPKP 12 11 16.8
MOY Mondy 136.65 53 ePKIKP PKPdf 12 11 17.9 +1.6
INK Inuvik 136.70 331 PKP PKPdf 12 11 15.3 -0.4
comp=Z,2.1nm,0.8s,baz=83,slow=1.9,SNR=6.8
ZAK Zakamensk 137.84 56 ePKIKP PKPdf 12 11 12.2 -6.3
ZAK pmax pmax
comp=Z,5.0nm,1.4s
TLY Talaya 138.28 54 ePKIKP PKPdf 12 11 17.7 -1.5
TLY eSS SS 12 32 48.8 +27
TLY pmax pmax
comp=Z,7.0nm,1.4s
TLY MLR MLR
comp=Z,667nm,19.0s
TLY Talaya 138.28 54 PFAKE 12 11 30.0 +11
TLY LR LR
comp=Z,767nm,20.0s
SONM Songino Array 139.37 60 PKP PKPdf 12 11 20.8 -0.6
comp=Z,2.0nm,0.8s,baz=225,slow=2.5,SNR=14
WHN Wuhan 139.45 88 PKP PKPdf 12 11 24.8 +2.9
ULN Ulaanbaatar 139.81 60 ePKIKP PKPdf 12 11 21.6 -0.7
ULN Ulaanbaatar 139.81 60 PFAKE 12 11 30.0 +7.7
ULN LR LR
comp=Z,586nm,19.0s
TARA Tarawa 140.09 195 PFAKE 12 11 30.0 +6.3
TARA LR LR
comp=Z,5µm,22.0s
EGAK Eagle 140.24 326 ePKPdf PKPdf 12 11 22.1 -0.2
EGAK LR LR
comp=Z,668nm,22.0s
TWG Pinlang 140.46 103 ePKPdf PKPdf 12 11 23.0 -1.0
HHC Hu-ho-hao-te 141.28 72 ePKP PKPdf 12 11 29.9 +4.8
HHC LR LR
comp=Z,710nm,17.8s
HHC LR LR
comp=Z,740nm,21.6s
HHC LR LR
comp=Z,810nm,20.4s
ILAR Eielson Array 142.63 327 PKP PKPdf 12 11 25.7 -0.9
comp=Z,4.3nm,1.0s,baz=323,slow=1.1,SNR=16
ILAR PP PP 12 14 34.6 -0.6
comp=Z,0.8nm,1.1s,baz=64,slow=6.5,SNR=4.0
COLA College 143.00 328 PFAKE 12 11 40.0 +13
COLA LR LR
comp=Z,493nm,20.0s
NJ2 Nanjing 143.56 89 ePKP PKPdf 12 11 30.6 +1.3
TIXI Tiksi 144.36 18 ePKIKP PKPab 12 11 27.0 -0.5
TIXI Tiksi 144.36 18 ePKPdf PKPab 12 11 27.1 -0.5
TIXI LR LR
comp=Z,581nm,21.0s
BJT Baijiatuau 144.41 75 ePKIKP PKPab 12 11 28.6 -0.1
BJT MLR MLR
comp=Z,488nm,20.0s
BJT Baijiatuau 144.41 75 ePKPdf PKPab 12 11 28.6 -0.1
BJT LR LR
comp=Z,488nm,20.0s
BJI Beijing 144.42 75 PKP PKPab 12 11 28.6 -0.1
BJI SS SS 12 33 34.9 +1.1
BJI LR LR
comp=Z,480nm,19.3s
BJI LR LR
comp=Z,440nm,19.3s
BJI LR LR
comp=Z,360nm,23.2s
TRF Thorofare Moun 144.44 326 ePKPdf PKPbc 12 11 28.7 +0.1
KTH Kantishna Hill 144.68 326 ePKPdf PKPab 12 11 28.2 -0.9
IM04 Indian Mountai 144.91 331 ePKPbc PKPab 12 11 28.5 -1.3
PPLA Purkeypile 145.44 325 ePKPdf PKPdf 12 11 31.2 -0.5
HIA Hailar 148.33 59 ePKIKP PKPdf 12 11 36.5 -0.4
HIA MLR MLR
comp=Z,455nm,20.0s
HIA Hailar 148.33 59 ePKPdf PKPdf 12 11 36.5 -0.4
HIA LR LR
comp=Z,455nm,20.0s
TNA Tin City 149.98 336 ePKPdf PKPdf 12 11 38.6 -0.4
YAK Yakutsk 150.45 32 ePKIKP PKPbc 12 11 43.9 -1.2
YAK e 12 15 26.4
YAK ePPP PPP 12 18 51.0
YAK eSS SS 12 34 44.2 +4.2
YAK eSSS SSS 12 40 22.8
YAK pmax pmax
comp=Z,189nm,2.3s
YAK pmax pmax
comp=E,29nm,2.2s
YAK pmax pmax
comp=N,17nm,1.9s
YAK pmax pmax
comp=Z,200nm,4.7s
YAK pmax pmax
comp=E,169nm,4.3s
YAK pmax pmax
comp=N,133nm,4.1s
YAK Yakutsk 150.45 32 PFAKE 12 11 50.0 -1.7
YAK LR LR
comp=Z,588nm,20.0s
INCN Inchon 151.53 84 PFAKE 12 11 50.0 +1.5
INCN LR LR
comp=Z,817nm,19.0s
CN2 Changchun 151.95 71 ePKPbc PKPbc 12 11 47.8 -1.4
BILL Bilibino 152.32 358⇑ePKIKP PKPdf 12 11 42.1 -0.4
BILL pmax pmax
comp=Z,17nm,1.1s
BILL Bilibino 152.32 358 ePKPdf PKPdf 12 11 42.3 -0.2
BILL LR LR
comp=Z,595nm,22.0s
KSAR Wonju Array Be 152.46 85 PKIKP PKPbc 12 11 49.5 -1.0
KSAR Wonju Array Be 152.46 85 PKPbc PKPbc 12 11 49.5 -1.0
KSRS Korea Array 152.50 85 PKPbc PKPbc 12 11 49.5 -1.1
comp=Z,2.4nm,0.9s,baz=240,slow=3.3,SNR=4.6
MDJ Mudanjiang 154.98 69 PFAKE 12 12 00.0 +4.2
MDJ LR LR
comp=Z,500nm,21.0s
SEY Seymchan 156.58 13 PKP PKPdf 12 11 47.4 -1.2
comp=Z,2.3nm,0.9s,baz=61,slow=1.9,SNR=5.9
MAJO Matsushiro 160.06 93 PFAKE 12 12 00.0 +6.3
MAJO LR LR
comp=Z,627nm,21.0s
YSS Yuzh-Sakhalins 163.86 60 PFAKE 12 12 10.0 +13
YSS LR LR
comp=Z,306nm,21.0s
ERM Erimo 164.82 78 PFAKE 12 12 10.0 +12
ERM LR LR
comp=Z,969nm,21.0s
PET Petropavlovsk 167.05 12 PFAKE 12 12 10.0 +10
PET LR LR
comp=Z,231nm,19.0s

ISCJB 11 12:12:44.4±0.5, 57.24N±0.04×155.06W±0.06, h64km±6km, mb3.6/5, Error ellipse: s-maj=7.3km s-min=4.8km az=154.1
NEIC 11 12:12:47.2, 57.34N×155.03W, h51km, ML3.2(AEIC), After AEIC.
IDC 11 12:12:54.3±6.1, 57.87N×154.91W, h126km±51km, mb3.2/6, mb1 3.4/8, mb1mx3.2/28, mbtmp3.5/8, Error ellipse: s-maj=45.5km s-min=19.6km az=31.0
ISC 11 12:12:45.4±1.0, 57.23N±0.05×155.07W±0.04, h49km±12km, n55, σ0.97/62, mb3.7/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	Peulik 3	0.79	306	P	Pn	12 13 01.2	+0.9
PLK3				S	Sn	12 13 11.2	0.0
PLK4	Peulik 4	0.80	301	P	Pn	12 13 01.0	+0.5
PLK4				S	Sn	12 13 11.3	-0.2
KABR	Katmai Barrier	0.90	3	P	Pn	12 13 01.3	-0.5
KABR				S	Sn	12 13 12.6	-1.3
OHAK	Old Harbor	0.97	90	P	Pn	12 13 03.1	+0.5
OHAK				S	Sn	12 13 15.9	+0.5
KCE	Katmai Mt Cerb	1.02	357	P	Pn	12 13 03.1	-0.2
PLWL	Peulik Whale M	1.06	321	P	Pn	12 13 04.3	+0.4
PLWL				S	Sn	12 13 18.3	+0.7
KAKN	Katmai Knife C	1.07	0	P	Pn	12 13 04.6	+0.5
KAKN				S	Sn	12 13 18.4	+0.5
KVTA	Katmai Vly 10	1.16	354	P	Pn	12 13 04.7	-0.5
KELA	Mount Kelaz	1.26	344	P	Pn	12 13 06.1	-0.7
KAHC	Katmai Hardscr	1.42	1	P	Pn	12 13 08.4	-0.5
KDAK	Kodiak Island	1.45	67	P	Pn	12 13 09.7	+0.5
MCNL	McNeil River	2.00	11	P	Pn	12 13 17.3	+0.7
CHGN	Chignik	2.06	245	P	Pn	12 13 18.1	+0.6
AUH	Augustine H	2.30	21	P	Pn	12 13 22.3	+1.4
ILS	Iliamna Low So	2.93	20	P	Pn	12 13 31.2	+1.7
ILW	Iliamna West	3.01	19	P	Pn	12 13 32.0	+1.3
HOM	Homer	3.03	35	P	Pn	12 13 31.9	+1.2
BRLK	Bradley Lake	3.36	39	P	Pn	12 13 35.3	0.0
BRLK				S	Sn	12 14 11.1	-2.8
RSO	Redoubt South	3.46	19	ePn	Pn	12 13 38.4	+1.6
RSO				eSn	Sn	12 14 16.1	-0.4
NCT	North Crescent	3.52	18	P	Pn	12 13 39.3	+1.8
SDPT	Sand Point	3.55	240	P	Pn	12 13 38.4	+0.5
SVW2	Sparrevohn	3.89	356	P	Pn	12 13 43.2	+0.7
SEW	Seward	4.11	43	P	Pn	12 13 45.0	-0.6
SLKM	Skilak Lake	4.14	35	P	Pn	12 13 46.6	+0.6
CKL	Chakachamna La	4.22	18	P	Pn	12 13 48.8	+1.6
PS4A	Pavlof South-4	4.23	246	P	Pn	12 13 46.8	-0.4
HAG	Hague Volcano	4.26	246	P	Pn	12 13 48.0	+0.2
BGL	Barrier Glacie	4.27	18	P	Pn	12 13 49.7	+1.8
SPBG	Spurr Blockage	4.27	18	P	Pn	12 13 51.1	+3.2
DTNA	Dutton South F	4.52	246	P	Pn	12 13 50.6	-0.7
STLK	Strandline Lak	4.59	20	P	Pn	12 13 53.6	+1.4
RC01	Rabbit Creek A	4.74	33	P	Pn	12 13 54.5	+0.2
SUA	Susitna One	4.79	26	P	Pn	12 13 55.6	+0.7
PWL	Port Wells	5.03	41	P	Pn	12 13 57.7	-0.5
PMR	Palmer	5.32	32	ePn	Pn	12 14 04.0	+1.8
	8.8nm,0.7s						
TT01	Tatalina	5.71	356	P	Pn	12 14 08.5	+1.0
PPLA	Purkeypile	5.86	13	P	Pn	12 14 09.4	-0.4
EYAK	Cordova Ski Ar	5.87	52	P	Pn	12 14 09.0	-0.6
VLZ	Valdez	5.95	45	P	Pn	12 14 10.6	-0.2
SCM	Sheep Creek Mo	6.07	37	P	Pn	12 14 12.3	-0.2
SGAM	Sherman Glacie	6.08	53	P	Pn	12 14 12.3	-0.2
DIV	Divide	6.17	47	P	Pn	12 14 13.5	-0.4
RAGM	Ragged Mountai	6.26	55	P	Pn	12 14 14.8	-0.3
GOAT	Goat Mountain	6.32	54	P	Pn	12 14 15.9	-0.1
BMRM	Bremner River	6.56	51	P	Pn	12 14 18.8	-0.5
PS11	TAPS Pump St11	6.87	41	P	Pn	12 14 24.5	+1.0
HARP	HAARP	7.20	40	P	Pn	12 14 29.0	+1.1
ILAR	Eielson Array	8.54	24	P	Pn	12 14 46.2	0.0
	0.3nm,0.3s,baz=215,slow=13,SNR=17						
ILAR				S	Sn	12 16 14.2	-6.8
	0.4nm,0.3s,baz=135,slow=14,SNR=8.0						
INK	Inuvik	14.74	32	P	Pn	12 16 10.2	-0.2
	0.0nm,0.3s,baz=234,slow=12,SNR=2.8						
YKA	Yellowknife Ar	20.71	58	P	P	12 17 21.0	-0.2
	1.1nm,0.6s,baz=270,slow=11,SNR=16						
YKA				PcP	PcP	12 21 28.0	-0.8
	0.1nm,0.4s,baz=265,slow=1.9,SNR=6.8						
NVAR	Mina Array Bea	30.50	112	P	P	12 18 55.9	+2.1
	0.2nm,0.5s,baz=293,slow=7.8,SNR=2.9						
PDAR	Pinedale Array	31.96	97	P	P	12 19 07.8	+1.1
	0.7nm,0.5s,baz=332,slow=4.3,SNR=11						
ULM	Lac du Bonnet	34.69	76	P	P	12 19 30.0	0.0
	1.3nm,0.6s,baz=299,slow=13,SNR=2.7						
SONM	Songino Array	55.54	306	P	P	12 22 14.4	-1.0
	0.4nm,0.8s,baz=47,slow=4.3,SNR=3.1						
AKASG	Malin Array Be	72.37	357	P	P	12 24 00.3	-5.3
	0.5nm,0.5s,baz=4.7,slow=6.0,SNR=3.7						

KRSC 11 12:15:34.6±1.6, 54.86N×159.55E, h232km±14km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	Tumrok	0.54	39	eP	Pn	12 16 07.4	+1.8
TUMR				eS	S	12 16 30.8	+0.8
KII	Karymskiy	0.83	184	eP	Pn	12 16 08.3	+1.4
KMNR	Kamenistaya	0.98	23	iP	Pn	12 16 09.1	+1.5
ESO	Esso	1.17	336	eP	Pn	12 16 08.9	+0.2
SRDR	Sredinnyy	1.46	4	iP	Pn	12 16 11.8	+0.9
GNL	Ganaly	1.50	220	eP	Pn	12 16 12.1	+0.7
KRX	Arik	1.60	200	eP	Pn	12 16 13.5	+1.3
KRER	Koryakskii	1.63	197	eP	Pn	12 16 14.4	+1.8
SMAR	Somma	1.66	196	eP	Pn	12 16 14.1	+1.2
KOK	Koryaka	1.66	199	eP	Pn	12 16 14.2	+1.5
AVH	Avacha	1.67	197	eP	Pn	12 16 13.7	+0.9
UGLR	Uglovaya	1.71	195	eP	Pn	12 16 14.5	+1.4
SMKR	Semkarok	2.04	31	eP	Pn	12 16 18.9	+3.0
KBTR	Krutoberegovo	2.29	53	eP	Pn	12 16 19.8	+1.4
KBTR				eS	S	12 16 51.3	-1.4
RUS	Russkaya	2.51	195	eP	Pn	12 16 21.0	+0.3
BKI	Bering	3.71	82	eS	S	12 17 21.8	+0.9

BJI 11 12:30:06.2, 13.29N×120.45E, h10km, mB4.9/27, mb4.6/43, Ms4.4/26, Ms7 4.1/22
NEIC 11 12:30:12.6±0.2, 13.82N×120.24E, h10km, mb4.6/20, Error ellipse: s-maj=7.1km s-min=4.9km az=90.0
NEIC Felt [III PIVS] at Lubang. Felt [I PIVS] at Tondo, Luzon. Also felt at Manila.
MAN 11 12:30:15, 13.71N×119.77E, h25km, mb5.4, ML4.4, MS4.6
MAN INTENSITY III - LUBANG OCCIDENTAL MINDORO; INTENSITY I - TONDO MANILA.
ISCJB 11 12:30:15.6±0.2, 13.77N±0.02×119.79E±0.03, h33km, mb4.5/60, MS3.7/7, Error ellipse: s-maj=3.9km s-min=3.1km az=150.7
MOS 11 12:30:19.1±0.9, 13.79N×120.19E, h80km, mb4.6/37, Error ellipse: s-maj=11.6km s-min=6.0km az=113.4
IDC 11 12:30:21.6±0.9, 13.81N×120.11E, h82km±7km, mb4.0/28, mb1 4.1/28, mb1mx4.1/33, mbtmp4.3/28, MS3.6/2, Ms1 3.6/2, ms1mx3.1/31, Error ellipse: s-maj=15.3km s-min=11.0km az=68.0
ISC 11 12:30:14.6±0.4, 13.72N±0.03×119.80E±0.04, h22km±2km, n182, σ1.85/213, mb4.5/60, MS3.8/8, 9C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.43	88	eP	Pn	12 30 25.9	+0.4
PGP	Puerto Galera	1.14	101⇑	eP	Pb	12 30 36.6	+1.0
PGP				eS	Sn	12 30 50.8	+0.6
TGY	Tagaytay City	1.17	71	P	Pb	12 30 37.5	+1.4
TGY	Tagaytay City	1.17	71	P	Pb	12 30 37.5	+1.4
	3µm,0.3s,baz=256,slow=3.2,SNR=233						
TGY				S	Sb	12 30 53.4	+2.5
	6µm,0.3s,baz=270,slow=20,SNR=28						
TGY	Tagaytay City	1.17	71⇑	iP	Pb	12 30 37.2	+1.1
TGY				iS	Sb	12 30 53.2	+2.3
LQP	Lukban	1.73	77⇑	iP	Pb	12 30 44.9	+1.4
BUSP	Coron	1.75	167	eP	Pb	12 30 45.3	-0.6
BUSP				eS	Sn	12 31 06.2	+1.1
SJMP	San Jose	1.79	134	eP	Pn	12 30 45.8	+1.6
SJMP				eS	Sn	12 30 60.0	-6.2
SCZP	Santa Cruz	2.05	3	eP	Pn	12 30 47.1	-0.7
SCZP				eS	Sn	12 31 09.4	-3.2
ENPP	El Nido	2.52	188	eP	Pn	12 30 56.5	+2.3
OTRP	Odiongan	2.55	122	eP	Pn	12 30 56.0	+1.4
GQP	Guinayangan	2.58	86⇓	eP	Pn	12 30 57.4	+2.4
GQP				eS	Sn	12 31 28.1	+2.5
BALP	Baler	2.65	40	eP	Pn	12 30 57.5	+1.6
BCPH	Baguio City Da	2.75	16⇑	iP	Pn	12 30 58.6	+1.0
BCPH				iS	Sn	12 31 30.2	0.0
CUYO	Cuyo Island	3.09	157	eP	Pn	12 31 03.3	+1.3
RCP	Roxas	3.59	126⇑	eP	Pn	12 31 10.8	+2.0
CAUP	Cauayan	3.76	31	eP	Pn	12 31 13.4	+2.2
SZP	Santa	3.87	9	ePn	Pn	12 31 13.6	+0.9
SZP				eSn	Sn	12 31 52.2	-5.2
ABRA	Dolores	4.01	13	eP	Pn	12 31 16.6	+1.9
GUIM	Jordan	4.11	138	eP	Pn	12 31 18.3	+2.2
PALP	Palanan	4.18	37	eP	Pn	12 31 18.9	+1.9
SIPP	Brgy, Tapao	4.23	9⇑	eP	Pn	12 31 21.3	+3.6
SIPP				iS	Sb	12 32 18.5	-0.5

PVCP Virac 4.24 91⇓eP Pb 12 31 24.0 -4.4
APYP Conner 4.35 18 eP Pn 12 31 21.5 +2.2
PIP Pasuquin 4.65 10⇓iP Pn 12 31 27.5 +4.0
PIP iS Sn 12 32 22.2 +5.4
PAGZ Pagadian 6.81 149 eP Pn 12 31 56.7 +3.5
BUKP Musuan 7.77 138 eP Pn 12 32 11.7 +5.3
KKM Kota Kinabalu 8.40 205 ePn Pn 12 32 18.0 +2.9
KKM eSn Sn 12 33 44.0 -5.4
QIZ Qiongzhong 10.92 300 P Pn 12 32 52.7 +3.2
QIZ S Sn 12 34 59.8 +8.8
QIZ pmax pmax
comp=Z,16nm,1.0s
SBUM Sibu 13.47 214 ePn Pn 12 33 28.9 +4.4
KSM Kuching 15.37 218 ePn P 12 33 54.9 +0.2
20nm,0.8s
SLVN Son La 16.94 299 ePn P 12 34 14.7 +2.5
113nm,2.9s
GYA Guiyang 17.67 318 eP P 12 34 22.8 +2.5
GYA pmax pmax
comp=Z,10.0nm,0.7s
NJ2 Nanjing 18.27 357 eP P 12 34 27.6 +0.9
NJ2 pmax pmax
comp=Z,30nm,1.0s
KMI Kunming 19.66 308 P Pn 12 34 48.6 +4.8
KMI pmax pmax
comp=Z,6.0nm,1.2s
CM31 Chiang Mai Arr 20.58 286 eP Pn 12 34 57.2 +2.7
5.9nm,0.7s
CMAR Chiang Mai Arr 20.58 286 P Pn 12 34 57.2 +2.7
CMAR 12 39 05.1
CMAR pmax pmax
comp=Z,11nm,0.8s
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR pmax pmax
comp=N,1.0nm,0.7s
CMAR Chiang Mai Arr 20.58 286 P Pn 12 34 57.1 +2.7
comp=N,10nm,0.8s,baz=95,slow=9.2,SNR=68
CMAR PcP PcP 12 39 05.1 +2.2
comp=N,1.6nm,0.6s,baz=91,slow=0.7,SNR=9.7
CMAR ScP ScP 12 42 33.0 -5.3
comp=N,0.7nm,0.7s,baz=56,slow=2.3,SNR=3.2
CHTO Chiang Mai 20.65 287 eP Pn 12 34 56.5 +1.3
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 20.65 287 eP Pn 12 34 56.5 +1.2
comp=Z,4.5nm,0.8s
JNU Nakatsue 21.80 26 P P 12 35 06.3 +1.2
comp=Z,15nm,1.2s,baz=239,slow=7.8,SNR=4.6
XAN Xi'an 22.51 336 P P 12 35 14.3 +1.5
XAN pP pP 12 35 19.2 +0.1
XAN S S 12 39 21.8 +3.1
XAN pmax pmax
comp=Z,2.0nm,0.7s
XAN LR LR
comp=Z,130nm,14.3s
CD2 Chengdu 22.60 322 P P 12 35 16.6 +2.8
CD2 pP pP 12 35 20.8 +0.7
CD2 sP sP 12 35 23.6 +0.6
CD2 PP PnPn 12 35 45.8 +8.1
CD2 S S 12 39 21.5 +1.1
CD2 SS SnSn 12 40 04.8 +14
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 pmax pmax
comp=Z,120nm,5.7s
CD2 LR LR
comp=Z,370nm,4.9s
CD2 LR LR
comp=Z,180nm,9.5s
SOEI Soe 23.74 169 eP P 12 35 25.6 +0.2
comp=Z,24nm,0.8s
KSAR Wonju Array Be 24.70 16 P P 12 35 32.5 -1.6
KSAR Wonju Array Be 24.70 16 P P 12 35 32.5 -1.6
KSRS Korea Array 24.73 16 P P 12 35 32.5 -1.7
KSRS pmax pmax
comp=Z,12nm,0.6s
KSRS MLR MLR
comp=Z,16nm,28.6s
KSRS Korea Array 24.73 16 P P 12 35 32.5 -1.7
comp=Z,12nm,0.6s,baz=199,slow=10,SNR=37
KSRS LR LR 12 47 20.5
comp=Z,147nm,18.2s,baz=204,slow=42
JCJ Chichijima 24.79 54 LR LR 12 43 13.6
comp=Z,139nm,21.8s,baz=346,slow=32
BJI Beijing 26.42 354 P P 12 35 51.0 +1.5
BJI S S 12 40 22.5 +0.7
BJI pmax pmax
comp=Z,16nm,0.7s
BJI LR LR
comp=Z,140nm,16.8s
BJI LR LR
comp=Z,210nm,18.0s
LZH Lanzhou 26.49 330 eP P 12 35 54.5 +4.0
LZH pP pP 12 35 57.5 +0.3
LZH sP sP 12 35 59.1 -0.9
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,68nm,4.3s
HHC Hu-ho-hao-te 27.98 347 eP P 12 36 03.8 +0.1
HHC sP sP 12 36 11.0 -2.3
HHC S S 12 40 43.0 -3.7
HHC pmax pmax
comp=Z,14nm,1.3s
HHC pmax pmax
comp=Z,170nm,5.5s
HHC LR LR
comp=Z,330nm,12.5s
HHC LR LR
comp=Z,370nm,10.4s
HHC LR LR
comp=Z,310nm,14.1s
MJAR Matsushiro Arr 28.08 33 P P 12 36 03.3 -1.3
MJAR pmax pmax
comp=Z,6.0nm,0.5s
MJAR Matsushiro Arr 28.08 33 P P 12 36 03.3 -1.3
comp=Z,6.0nm,0.5s,baz=270,slow=5.8,SNR=5.0
CN2 Changchun 30.37 8 eP P 12 36 23.3 -1.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
GTA Gaotai 31.07 329 eP P 12 36 32.7 +1.5
GTA pP pP 12 36 36.7 -1.3
GTA sP sP 12 36 39.8 -1.0
GTA PcP PcP 12 39 27.9 +1.3
GTA S S 12 41 39.9 +4.5
GTA sS sS 12 41 47.5 +0.9
GTA SS SnSn 12 43 29.0 +12
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA pmax pmax
comp=Z,150nm,5.7s
GTA LR LR
comp=Z,120nm,16.4s
GTA LR LR
comp=Z,130nm,15.9s
GTA LR LR
comp=Z,150nm,15.7s
MDJ Mudanjiang 31.91 13 P P 12 36 37.5 -0.9
MDJ pP pP 12 36 40.5 -4.6
MDJ sP sP 12 36 42.0 -5.9
MDJ S S 12 41 47.4 -0.7
MDJ pmax pmax
comp=Z,14nm,1.1s
MDJ pmax pmax
comp=Z,100nm,4.2s
MDJ LR LR
comp=Z,190nm,18.1s
MDJ LR LR
comp=Z,130nm,19.6s
MDJ LR LR
comp=Z,190nm,17.7s
MDJ Mudanjiang 31.91 13 eP P 12 36 35.9 -2.4
comp=Z,7.5nm,0.9s
USRK Ussuriysk Arra 32.12 17 P P 12 36 39.2 -1.0
comp=Z,5.6nm,0.6s,baz=210,slow=7.3,SNR=12
RAMN Ramite 33.68 298 eP P 12 36 56.3 +1.9
JIRN Jiri 34.24 299 eP P 12 37 01.2 +1.8
comp=Z,9.7nm,0.5s
GUN Gumba 34.57 300 eP P 12 37 04.0 +1.7
comp=Z,8.8nm,0.4s
MBWA Marble Bar 34.66 180 P P 12 37 05.0 +2.5
comp=Z,3.3nm,0.6s
PKI Pulchoki 34.88 299 eP P 12 37 05.3 +0.4
HIA Hailar 35.45 360 eP P 12 37 08.1 -1.1
HIA pmax pmax
comp=Z,12nm,0.8s
HIA Hailar 35.45 360 eP P 12 37 08.1 -1.1
comp=Z,12nm,0.8s
PMG Port Moresby 35.57 129 eP P 12 37 07.8 -2.7
PMG pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 35.66 345 eP P 12 37 12.3 +1.1
ULN pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 35.66 345 eP P 12 37 10.5 -0.7
comp=Z,3.6nm,0.7s
SONM Songino Array 35.80 345 P P 12 37 12.4 +0.1
SONM 12 39 40.0
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 35.80 345 P P 12 37 12.4 +0.1
comp=Z,3.2nm,0.7s,baz=165,slow=9.5,SNR=26
SONM PcP PcP 12 39 40.0 +0.3
comp=Z,1.9nm,0.8s,baz=164,slow=2.1,SNR=9.6
ASAJ Asahikawa 36.03 28 P P 12 37 12.4 -1.7
ASAJ pmax pmax
comp=Z,2.0nm,0.4s
ASAJ Asahikawa 36.03 28 P P 12 37 12.4 -1.7
comp=Z,2.4nm,0.4s,baz=251,slow=8.7,SNR=14
WRAB Tennant Creek 36.38 157 eP P 12 37 15.1 -2.3
WRAB pmax pmax
comp=Z,6.0nm,0.6s
WRAB Tennant Creek 36.38 157 eP P 12 37 15.1 -2.3
comp=Z,6.3nm,0.6s
WRA Warramunga Arr 36.38 157 P P 12 37 16.8 -0.6
WRA S S 12 42 49.7 -8.0
WRA pmax pmax
comp=Z,6.0nm,0.6s
WRA smax smax
comp=N,3.0nm,1.3s
WRA Warramunga Arr 36.38 157 P P 12 37 16.8 -0.6
comp=N,5.6nm,0.6s,baz=336,slow=9.5,SNR=37
WRA S S 12 42 49.7 -8.0
comp=N,2.7nm,1.3s,baz=333,slow=15,SNR=4.9
KOLN Koldanda 36.47 298 eP P 12 37 17.2 -1.2
DANN Dangsing 36.49 299 eP P 12 37 19.2 +0.5
comp=N,8.7nm,0.6s
KLR Kul'dur 36.76 13 eP P 12 37 15.2 -5.1
PYUN Piuthan 37.08 299 eP P 12 37 23.6 0.0
ZAK Zakamensk 38.97 343 eP P 12 37 38.2 -0.9
ZAK e 12 39 46.9
ZAK pmax pmax
comp=Z,2.0nm,1.1s
AS31 Alice Springs 39.63 159 eP P 12 37 44.8 0.0
ASAR Alice Springs 39.63 159 P P 12 37 44.9 +0.1
ASAR 12 39 51.2
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 39.63 159 P P 12 37 44.9 +0.1
comp=Z,2.5nm,0.6s,baz=336,slow=6.7,SNR=64
ASAR PcP PcP 12 39 51.1 -0.6
comp=Z,1.1nm,0.9s,baz=344,slow=3.8,SNR=4.0
TLY Talaya 40.04 344 eP P 12 37 48.9 +1.0
TLY pmax pmax
comp=Z,4.0nm,1.0s
TLY Talaya 40.04 344 eP P 12 37 47.6 -0.4
WMQ Urumqi 40.67 324 eP P 12 37 55.3 +2.0
WMQ pP pP 12 37 59.8 -0.4
WMQ sP sP 12 38 02.3 -0.7
WMQ PP PnPn 12 39 33.1 +1.8
WMQ S S 12 44 06.2 +3.9
WMQ SS SS 12 47 02.5 -0.5
WMQ ScS ScS 12 47 57.7 0.0
WMQ pmax pmax
comp=Z,8.0nm,0.6s
WMQ pmax pmax
comp=Z,99nm,4.0s
WMQ LR LR
comp=Z,170nm,21.8s
WMQ LR LR
comp=Z,170nm,20.0s
WMQ LR LR
comp=Z,240nm,19.0s
MOY Mondy 40.77 342 eP P 12 37 55.1 +1.0
MK31 Makanchi Array 45.50 324 eP P 12 38 33.8 +1.5
MK31 e 12 40 11.0
MK31 Makanchi Array 45.50 324 eP P 12 38 33.8 +1.5
MK31 ePcP PcP 12 40 11.0 +0.1
MKAR Makanchi Array 45.50 324 P P 12 38 33.8 +1.5
MKAR 12 40 11.4
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 45.50 324 P P 12 38 33.8 +1.5
comp=Z,2.5nm,0.8s,baz=127,slow=9.3,SNR=29
MKAR PcP PcP 12 40 11.4 +0.4
comp=Z,2.0nm,0.7s,baz=104,slow=3.8,SNR=7.8
MKAR ScP ScP 12 43 57.0 -5.6
comp=Z,0.4nm,0.8s,baz=110,slow=6.3,SNR=2.6
KSH Kashi 46.24 312 eP P 12 38 41.8 +3.4
KSH esP sP 12 38 48.6 +0.5
KSH ePP PP 12 40 31.2 +4.2
KSH PcS PcS 12 44 09.7 +1.3
KSH S S 12 45 29.4 +5.4
KSH SS SS 12 48 47.5 -2.0
KSH pmax pmax
comp=Z,14nm,2.2s
KSH LR LR
comp=Z,42nm,4.2s
KSH LR LR
comp=Z,100nm,5.6s
KSH LR LR
comp=Z,260nm,8.0s
ULHL Ulahol 47.10 316 P P 12 38 47.7 +2.5
SNR=5.5
ULHL Ulahol 47.10 316 iP P 12 38 47.7 +2.5
TKM2 Tokmak 2 47.81 316 P P 12 38 53.0 +2.3
SNR=6.0
TKM2 Tokmak 2 47.81 316 eP P 12 38 52.4 +1.7
TKM2 pmax pmax
comp=Z,3.0nm,0.5s
TKM2 Tokmak 2 47.81 316 eP P 12 38 52.4 +1.7
comp=Z,3.4nm,0.5s
KBK Karagaybulak 48.14 316 P P 12 38 55.7 +2.4
SNR=7.0
KBK Karagaybulak 48.14 316 iP P 12 38 55.6 +2.4
UCH Uchtor 48.27 315 P P 12 38 57.2 +2.6
SNR=7.8
UCH Uchtor 48.27 315 iP P 12 38 57.2 +2.6
AAK Ala-Archa 48.44 315 eP P 12 38 57.8 +2.2
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 48.44 315 P P 12 38 57.5 +2.0
comp=Z,1.5nm,0.8s,baz=125,slow=5.6,SNR=6.8
AAK Ala-Archa 48.44 315 eP P 12 38 57.7 +2.2
comp=Z,2.7nm,0.9s
ZALV Zalesovo Beam 48.65 333 P P 12 38 57.0 +0.3
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 48.65 333 P P 12 38 57.0 +0.3
comp=Z,2.3nm,0.5s,baz=116,slow=6.9,SNR=10
YAK Yakutsk 48.76 6 eP P 12 38 55.6 -1.8
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK Yakutsk 48.76 6 eP P 12 38 55.9 -1.5
comp=E,36nm,0.9s
AML Almayashu 48.80 315 P P 12 39 01.2 +2.6
SNR=6.5
AML Almayashu 48.80 315 iP P 12 39 01.2 +2.6
EKS2 Erkin-Say 48.94 315 eP P 12 39 01.5 +2.2
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 48.94 315 eP P 12 39 01.5 +2.2
comp=Z,3.2nm,0.8s
PETK Petropavlovsk- 49.44 29 P P 12 39 00.9 -1.9
PETK pmax pmax
comp=Z,5.0nm,0.9s
PETK Petropavlovsk- 49.44 29 P P 12 39 00.8 -1.9
comp=Z,4.8nm,0.9s,baz=243,slow=1.0,SNR=5.6
KURBB Kurchatov Arra 49.69 327 P P 12 39 06.0 +1.2
comp=Z,4.0nm,0.8s,baz=126,slow=7.6,SNR=27
KURK Kurchatov 49.69 327 eP P 12 39 06.1 +1.4
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 49.69 327 eP P 12 39 06.1 +1.4
comp=Z,6.8nm,0.8s
STKA Stephens Creek 49.92 156 P P 12 39 06.2 -0.5
STKA pmax pmax
comp=Z,1.0nm,0.4s
STKA Stephens Creek 49.92 156 P P 12 39 06.2 -0.5
comp=Z,0.8nm,0.4s,baz=318,slow=12,SNR=3.9
NVS Novosibirsk 49.93 333 eP P 12 39 06.4 -0.1
NVS eS S 12 46 23.6 +8.1
NVS pmax pmax
comp=N,2.0nm,1.1s
NVS pmax pmax
comp=E,3.0nm,1.1s
NVS pmax pmax
comp=Z,5.0nm,1.1s
NVS smax smax
comp=E,13nm,2.4s
NVS smax smax
comp=N,9.0nm,2.4s
KKAR Karatay Array 51.34 315 eP P 12 39 18.9 +1.5
KKAR Karatay Array 51.34 315 eP P 12 39 18.9 +1.5
SEY Seymchan 54.26 18 P P 12 39 37.8 -0.8
SEY 12 40 42.1
SEY pmax pmax
comp=Z,2.0nm,0.7s
SEY pmax pmax
comp=Z,1.0nm,0.5s
SEY Seymchan 54.26 18 P P 12 39 37.8 -0.8
comp=Z,2.3nm,0.7s,baz=216,slow=6.5,SNR=11
SEY PcP PcP 12 40 42.1 -0.5
comp=Z,1.0nm,0.5s,baz=218,slow=2.6,SNR=5.0
BVAR Borovoye Array 55.27 326 P P 12 39 47.1 +1.0
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 55.27 326 P P 12 39 47.1 +1.0
comp=Z,2.1nm,0.6s,baz=117,slow=8.7,SNR=13
BRVK Borovoye 55.34 326⇓iP P 12 39 48.1 +1.5
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 55.34 326 eP P 12 39 47.8 +1.2
comp=Z,12nm,1.1s
TIXI Tiksi 58.17 3c iP P 12 40 04.6 -1.7
TIXI pmax pmax
comp=Z,17nm,1.0s
TIXI Tiksi 58.17 3 eP P 12 40 04.3 -2.0
comp=Z,16nm,0.9s
ABKAR Akbulak array 60.15 319 eP P 12 40 21.5 +1.1
AKTO Aktyubinsk 61.64 320 P P 12 40 31.4 +0.8
AKTO pmax pmax
comp=Z,4.0nm,0.9s
AKTO Aktyubinsk 61.64 320 P P 12 40 31.4 +0.8
comp=Z,4.0nm,0.9s,baz=98,slow=5.2,SNR=13
SVE Sverdlovsk 61.92 328 eP P 12 40 32.9 +0.6
SVE pmax pmax
comp=Z,19nm,1.2s
BILL Bilibino 61.96 18 eP P 12 40 30.3 -2.1
BILL pmax pmax
comp=Z,6.0nm,1.3s
ARU Arti 62.89 327c iP P 12 40 38.7 -0.1
ARU 12 42 54.1
ARU S S 12 49 08.4 +1.2
ARU SS SS 12 53 04.8 -7.6
ARU pmax pmax
comp=Z,16nm,1.7s
ARU Arti 62.89 327 eP P 12 40 39.1 +0.3
comp=Z,6.1nm,0.7s
GAMB Gambell 68.33 26 eP P 12 41 11.3 -2.4
comp=Z,10nm,1.0s
KBZ Khabaz 71.22 312 P P 12 41 33.0 +1.0
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 71.22 312 P P 12 41 33.0 +1.0
comp=Z,3.1nm,0.9s,baz=128,slow=7.9,SNR=3.9
KIV Kislovodsk 71.37 312 eP P 12 41 34.7 +1.7
KIV pmax pmax
comp=Z,6.0nm,1.0s
CAST Castle Rocks 77.01 27 eP P 12 42 04.5 -1.0
JOF Joensuu 77.22 332 eP P 12 42 05.9 -0.7
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 77.22 332 ep P 12 42 05.9 -0.7
comp=Z,2.2nm,0.4s
KDAK Kodiak Island 77.26 33c eP P 12 42 05.6 -1.3
MCK McKinley 78.38 27 eP P 12 42 11.4 -1.7
MCK pmax pmax
comp=Z,12nm,0.8s
MCK McKinley 78.38 27 eP P 12 42 11.4 -1.7
comp=Z,12nm,0.8s
BRTR Keskin Array B 78.45 308 P P 12 42 14.4 +0.2
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 78.45 308 P P 12 42 14.4 +0.2
comp=Z,0.8nm,0.8s,baz=116,slow=8.2,SNR=4.4
ARCES ARCESS Array B 78.76 339 P P 12 42 15.2 +0.1
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 78.76 339 P P 12 42 15.2 +0.1
comp=Z,1.7nm,0.5s,baz=76,slow=6.0,SNR=18
ILAR Eielson Array 79.12 26 P P 12 42 14.5 -2.6
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 79.12 26 P P 12 42 14.5 -2.6
comp=Z,0.9nm,0.7s,baz=262,slow=3.0,SNR=19
KAF Kangasniemi 79.62 332 eP P 12 42 18.8 -1.1
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 79.62 332 ep P 12 42 18.8 -1.1
comp=Z,2.6nm,0.6s
FINES FINESS Array B 79.84 331 P P 12 42 20.9 -0.2
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 79.84 331 P P 12 42 20.9 -0.2
comp=Z,1.6nm,0.5s,baz=60,slow=5.4,SNR=11
AKASG Malin Array Be 79.88 320 P P 12 42 21.4 -0.1
comp=Z,0.2nm,0.4s,baz=63,slow=5.7,SNR=4.0
INK Inuvik 83.40 21 P P 12 42 38.1 -1.7
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 83.40 21 P P 12 42 38.0 -1.7
comp=Z,2.3nm,0.7s,baz=308,slow=4.6,SNR=12
CRVS Cervenica-Dubn 85.18 319 eP P 12 42 50.0 +0.7
CRVS pmax pmax
comp=Z,47nm,2.8s
CRVS Cervenica-Dubn 85.18 319 eP P 12 42 50.0 +0.7
STHS Stebnicka Huta 85.18 320 eP P 12 42 51.0 +1.7
STHS Stebnicka Huta 85.18 320 eP P 12 42 51.0 +1.7
NB2 NORSAR Subarra 86.84 332 P P 12 42 55.9 -1.3
comp=Z,4.0nm,0.8s,baz=68,slow=4.4
NB2 NORSAR Subarra 86.84 332 P P 12 42 55.9 -1.3
baz=68,slow=4.4
NOA NORSAR Array B 86.84 332 P P 12 42 56.0 -1.3
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 86.84 332 P P 12 42 56.0 -1.3
comp=Z,2.7nm,0.7s,baz=69,slow=4.7,SNR=13
CLL Collm 89.59 323 eP P 12 43 10.0 -0.5
CLL Collm 89.59 323 eP P 12 43 10.0 -0.5
GERES GERESS Array B 90.06 321 P P 12 43 13.4 +0.5
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 90.06 321 P P 12 43 13.4 +0.5
comp=Z,0.8nm,0.7s,baz=70,slow=6.4,SNR=4.9
YKA Yellowknife Ar 93.09 22 P P 12 43 25.1 -1.3
YKA 13 00 34.8
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 93.09 22 P P 12 43 25.1 -1.3
comp=Z,0.9nm,0.5s,baz=306,slow=4.4,SNR=46
YKA PKKPbc PKKPdf 13 00 34.8 +0.1
comp=Z,0.1nm,0.5s,baz=120,slow=2.1,SNR=4.1
TORD Torodi Ar. Bea 113.12 291 PKiKP PKiKP 12 48 51.1 -0.1
comp=Z,0.7nm,0.7s,baz=55,slow=1.7,SNR=5.0
TXAR Lajitas Array 120.07 44 PKP PKPdf 12 49 03.2 -1.2
comp=Z,0.4nm,0.9s,baz=321,slow=1.2,SNR=3.4
PLCA Paso Flores 151.60 163 PKIKP PKPbc 12 50 07.8 +0.3
PLCA pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 151.60 163 PKPbc PKPbc 12 50 07.8 +0.3
comp=Z,1.8nm,0.7s,baz=190,slow=0.3,SNR=7.5
CPUP Villa Florida 167.16 192 PKIKP PKPdf 12 50 16.8 -2.6
CPUP pmax pmax
comp=Z,1.0nm,0.5s
CPUP Villa Florida 167.16 192 PKP PKPdf 12 50 16.8 -2.6

comp=Z,1.1nm,0.5s,baz=292,slow=1.6,SNR=3.1

CSEM 11 12:41:30.6±0.1,56.22N×13.07E,h3km,ML1.1,Error ellipse: s-maj=1.5km s-min=0.9km az=76.0,Mining explosion.

UPP 11 12:41:30.8,56.21N×13.10E,h0km,ML1.1,Mining explosion.,Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BJUU	**Bjuv**	**0.15**	**196**	P	Pg	12 41 33.8	+0.2
BJUU				S	Sg	12 41 35.9	+0.4
DEL	**Delary**	**0.50**	**59**	P	Pg	12 41 40.4	0.0
DEL				S	Sg	12 41 47.1	+0.1
FABU	**Falkenberg**	**0.82**	**345**	P	Pg	12 41 46.1	-0.3
GNOU	**Gnosjoe**	**1.14**	**18**	P	Pg	12 41 52.2	-0.5
BORU	**Boraas**	**1.44**	**353**	P	Pn	12 41 57.0	-1.1
BSD	**Bornholm Skovb**	**1.51**	**136**	*i* P	Pn	12 41 58.6	-0.4
BSD				*e*S	Sg	12 42 18.5	-0.8
BSD	**Bornholm Skovb**	**1.51**	**136**	*e*P	Pn	12 41 58.7	-0.3
	SNR=66						
BSD				*e*S	Sg	12 42 18.6	-0.7
	SNR=66						
BLEU	**Blekinge**	**1.52**	**85**	P	Pn	12 41 58.8	-0.4

MEX 11 12:43:22.5±0.8,15.96N×96.79W,h10km,MD3.7,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.68**	**106**	*i* P	Pg	12 43 34.2	-1.6
HUIG				*i* S	Sg	12 43 43.3	-1.4
VHO	**Vista Hermosa**	**1.11**	**3**	*i* P	Pb	12 43 40.7	-3.4
VHO				*e*S	Sg	12 43 54.8	-4.0
PNIG	**Pinotepa**	**1.35**	**289**	*i* P	Pn	12 43 43.5	-4.0
PNIG				*i* S	Sb	12 44 01.0	-4.5
CMIG	**Matias Romero**	**2.15**	**58**	*i* P	Pn	12 43 52.1	-6.3
CMIG				*i* S	Sn	12 44 16.9	-8.3

IDC 11 12:43:27.1±5.2,16.08N×87.80E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/36,mbtmp3.6/4,Error ellipse: s-maj=281.9km s-min=23.2km az=63.0,Bay of Bengal

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**30.97**	**353**	P	P	12 49 47.5	+1.5
	0.4nm,0.7s,baz=167,slow=9.8,SNR=4.7						
KURBB	**Kurchatov Arra**	**35.26**	**350**	P	P	12 50 22.0	-1.4
	0.2nm,0.2s,baz=169,slow=7.6,SNR=2.6						
WRA	**Warramunga Arr**	**58.07**	**126**	P	P	12 53 22.2	-0.3
	0.4nm,0.6s,baz=305,slow=7.4,SNR=4.5						
ASAR	**Alice Springs**	**59.91**	**130**	P	P	12 53 35.2	-0.1
	0.5nm,0.8s,baz=306,slow=6.5,SNR=7.8						
ASAR				PcP	PcP	12 54 21.9	+0.2
	0.2nm,0.5s,baz=313,slow=4.7,SNR=4.9						

IDC 11 13:29:53.1±14.0,14.33S×167.10E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.5/37,mbtmp3.7/4,ML3.4/1,Error ellipse: s-maj=252.2km s-min=40.5km az=65.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.73**	**185**	Pn	Pn	13 31 46.2	-0.8
	0.6nm,0.3s,baz=143,slow=22,SNR=6.4						
DZM				Sn	Sn	13 33 15.6	+0.1
	0.2nm,0.3s,baz=60,slow=20,SNR=2.2						
STKA	**Stephens Creek**	**29.13**	**229**	P	P	13 35 57.2	+1.3
	2.2nm,0.8s,baz=58,slow=9.5,SNR=5.0						
WRA	**Warramunga Arr**	**31.76**	**255**	P	P	13 36 18.8	-0.5
	0.3nm,0.8s,baz=89,slow=7.8,SNR=2.8						
ASAR	**Alice Springs**	**32.66**	**248**	P	P	13 36 26.8	-0.5
	0.4nm,0.7s,baz=75,slow=9.5,SNR=11						

IDC 11 13:30:15.1±1.0,29.83S×177.33W,h0km,mb4.5/5, mb1 4.7/6,mb1mx4.3/20,mbtmp4.4/6,ML3.3/1,MS3.8/1, Ms1 3.8/1,ms1mx3.0/28,Error ellipse: s-maj=24.7km s-min=23.1km az=34.0

ISCJB 11 13:30:18.4±1.2,30.09S×0.05×177.4W±0.2,h33km, mb4.6/4,Error ellipse: s-maj=22.0km s-min=6.8km az=7.0

ISC 11 13:30:19.9±0.9,29.87S±0.06×177.47W±0.1,h35km,n46, σ2°05/37,mb4.8/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.75**	**324**	Pn	**Pn**	**13 30 33.1**	**-0.9**
	3μm,0.3s,baz=9.9,slow=19,SNR=281						
RAO				Sn	**Sn**	**13 30 42.5**	**-1.7**
	7μm,0.3s,baz=73,slow=19,SNR=33						
HAZ	**Te Kaha**	**8.82**	**206**	PN	**Pn**	**13 32 24.4**	**-0.4**
HAZ				SN	**Sn**	**13 34 06.8**	**+3.8**
MWZ	**Matawai**	**9.43**	**205**	PN	**Pn**	**13 32 31.6**	**-1.6**
URZ	**Urewera**	**9.52**	**207**	PN	**Pn**	**13 32 32.3**	**-2.2**
	0.3nm,0.3s,baz=279,slow=3.7,SNR=13						
URZ				Sn	**Sn**	**13 34 19.8**	**-0.4**
	3.2nm,0.3s,baz=306,slow=19,SNR=9.3						
URZ	**Urewera**	**9.52**	**207**	PN	**Pn**	**13 32 32.2**	**-2.2**
URZ				SN	**Sn**	**13 34 19.3**	**-0.9**
RIGZ	**Rimuhau**	**9.67**	**203**	SN	**Sn**	**13 34 23.7**	**-0.4**
SNGZ	**Shannon Statio**	**9.89**	**205**	PN	**Pn**	**13 32 37.8**	**-1.8**
QRZ	**Quartz Range**	**13.66**	**214**	SN	**Sn**	**13 35 57.4**	**-4.1**
THZ	**Tophouse**	**14.22**	**211**	SN	Sn	13 36 06.3	-9.0
JCZ	**Jackson Bay**	**17.94**	**214**	P*	**Pn**	**13 34 25.1**	**-1.5**
ARMA	**Armidale**	**26.74**	**261**	P	**P**	**13 36 00.7**	**+4.3**
	baz=28,SNR=5.2						
EIDS	**Eidsvold**	**28.22**	**271**	P	**P**	**13 36 11.9**	**+2.4**
	baz=29,SNR=3.7						
RMQ	**Roma**	**29.95**	**268**	P	P	13 36 28.1	+3.2
	baz=31,SNR=7.2						
CMSA	**Cobar Meteorol**	**31.67**	**257**	P	P	13 36 43.6	+3.5
	baz=33,SNR=6.0						
QLP	**Quilpie**	**33.84**	**266**	P	**P**	**13 37 00.8**	**+1.7**
	baz=35,SNR=5.2						
CTA	**Charters Tower**	**34.22**	**278**	P	**P**	**13 37 04.8**	**+2.4**
	6.4nm,0.3s,baz=99,slow=11,SNR=15						
STKA	**Stephens Creek**	**35.09**	**256**	P	**P**	**13 37 12.0**	**+2.2**
	7.0nm,0.6s,baz=101,slow=9.8,SNR=20						
STKA	**Stephens Creek**	**35.09**	**256**	P	**P**	**13 37 12.6**	**+2.7**
	baz=36,SNR=16						
MTSU	**Mount Surprise**	**36.70**	**280**	P	**P**	**13 37 26.0**	**+2.3**
	baz=38,SNR=5.3						
HTT	**Hallett**	**37.14**	**253**	P	**P**	**13 37 29.6**	**+2.2**
	baz=38,SNR=9.1						
BBOO	**Buckleboo**	**39.60**	**253**	P	**P**	**13 37 49.1**	**+1.1**
	baz=41,SNR=7.9						
ASAR	**Alice Springs**	**43.65**	**266**	P	**P**	**13 38 21.2**	**-0.1**
	2.1nm,0.4s,baz=106,slow=7.3,SNR=75						
ASAR				LR	LR	13 56 17.9	
	comp=Z,110nm,18.3s,baz=48,slow=36						
WRA	**Warramunga Arr**	**44.59**	**271**	P	**P**	**13 38 28.8**	**-0.1**
	7.1nm,0.4s,baz=110,slow=7.8,SNR=64						
WRKA	**Warakurna**	**48.05**	**262**	P	**P**	**13 38 55.4**	**-0.7**
	baz=49,SNR=10						
KNRA	**Kununurra**	**51.17**	**274**	P	**P**	**13 39 20.2**	**+0.3**
	baz=52,SNR=5.0						
MORW	**Morawa**	**57.17**	**253**	P	**P**	**13 40 03.0**	**-0.5**
	baz=58,SNR=4.3						
PMBI	**Palembang**	**77.98**	**274**	P	P	13 42 06.0	-9.0
	baz=79,SNR=3.2						
H03N3	**Juan Fernandez**	**80.52**	**123**	T	T	15 12 14.0	
	baz=246,slow=80,SNR=22						
H03N2	**Juan Fernandez**	**80.53**	**123**	T	T	15 11 58.9	
	baz=246,slow=80,SNR=22						
H03N1	**Juan Fernandez**	**80.54**	**123**	T	T	15 12 00.4	
	baz=246,slow=80,SNR=17						
NVAR	**Mina Array Bea**	**87.51**	**42**	P	**P**	**13 43 05.5**	**+1.3**
	0.5nm,0.7s,baz=221,slow=9.1,SNR=4.7						
H10S3	**ASCENSION HYDR**	**137.99**	**154**	T	T	16 24 49.6	
	baz=204,slow=75,SNR=9.5						
H10S2	**ASCENSION HYDR**	**137.99**	**154**	T	T	16 24 50.4	
	baz=204,slow=75,SNR=9.5						
H10S1	**ASCENSION HYDR**	**138.00**	**154**	T	T	16 24 52.9	
	baz=204,slow=75,SNR=12						
ARCES	**ARCESS Array B**	**138.18**	**348**	PKhKP	PKPpre	13 49 34.9	
	5.6nm,1.1s,baz=76,slow=1.5,SNR=11						
ARCES				PKP	**PKiKP**	**13 49 41.5**	**-0.9**
	0.5nm,0.5s,baz=69,slow=1.5,SNR=6.0						
H10N3	**ASCENSION HYDR**	**139.07**	**154**	T	T	16 26 28.4	
	baz=203,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**139.07**	**154**	T	T	16 26 28.5	
	baz=203,slow=75,SNR=8.3						
H10N2	**ASCENSION HYDR**	**139.08**	**154**	T	T	16 26 29.7	
	baz=203,slow=75,SNR=12						
JOF	**Joensuu**	**142.11**	**339**	*e*pkp	**PKPdf**	**13 49 42.5**	**-5.1**
KAF	**Kangasniemi**	**144.21**	**341**	*e*pkp	**PKPab**	**13 49 48.1**	**-1.0**
FINES	**FINESS Array B**	**144.82**	**341**	PKP	**PKPab**	**13 49 51.1**	**-0.3**
	12nm,0.5s,baz=80,slow=3.2,SNR=108						
NB2	**NORSAR Subarra**	**148.30**	**352**	PKP	**PKPbc**	**13 50 02.1**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=24,slow=3.2						
NOA	**NORSAR Array B**	**148.30**	**352**	PKPbc	**PKPbc**	**13 50 01.9**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=15,slow=4.6,SNR=7.4						
AKASG	**Malin Array Be**	**151.18**	**324**	PKPbc	**PKPbc**	**13 50 09.1**	**0.0**
	comp=Z,3.2nm,0.4s,baz=47,slow=2.9,SNR=22						
BRTR	**Keskin Array B**	**152.78**	**300**	PKPbc	**PKPbc**	**13 50 13.3**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=122,slow=4.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**163.34**	**177**	PKPab	**PKPab**	**13 51 11.8**	**+1.7**
	comp=Z,0.8nm,1.0s,baz=184,slow=3.8,SNR=4.3						

DDA 11 13:31:13.8,41.32N×41.36E,h7km,MD3.1

TIF 11 13:31:13.2,41.37N×41.32E,h7km±2km

CSEM 11 13:31:14.3±0.2,41.30N×41.34E,h2km,MD3.1,Error ellipse: s-maj=6.2km s-min=3.8km az=171.0

ISK 11 13:31:14.7,41.38N×41.27E,h20km,MD3.2

ISC 11 13:31:14.5±1.0,41.31N±0.03×41.35E±0.02,h7km±9km, n41,σ1°01/66,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBOC	**Borcka**	**0.24**	**81**	*i* P	**Pg**	**13 31 19.0**	**-0.3**
DBOC				*i* S	**Sg**	**13 31 22.4**	**-0.1**
DBOC	**Borcka**	**0.24**	**81**	*i* P	**Pg**	**13 31 19.0**	**-0.3**
DBOC				*i* S	**Sg**	**13 31 22.4**	**-0.1**
PZAR	**Pazar-Rize**	**0.36**	**249**	*e*PG	**Pg**	**13 31 22.3**	**+0.7**
PZAR				*e*SG	**Sb**	**13 31 28.5**	**-0.6**
PZAR	**Pazar-Rize**	**0.36**	**249**	*e*Pg	**Pg**	**13 31 22.3**	**+0.7**
PZAR				*e*Sg	**Sb**	**13 31 28.5**	**-0.6**
DBAD	**Bademkaya**	**0.39**	**138**	*i* P	**Pg**	**13 31 21.6**	**-0.5**
DBAD				*i* S	**Sg**	**13 31 25.5**	**-1.7**
DBAD	**Bademkaya**	**0.39**	**138**	*i* P	**Pg**	**13 31 21.6**	**-0.5**
DBAD				*i* S	**Sg**	**13 31 25.5**	**-1.7**
ARTV	**Artvin**	**0.45**	**105**	*i* P	**Pg**	**13 31 23.0**	**-0.3**
ARTV				*i* S	**Sg**	**13 31 29.6**	**+0.3**
ARTV	**Artvin**	**0.45**	**105**	*i* P	**Pg**	**13 31 23.0**	**-0.3**
ARTV				*i* S	**Sg**	**13 31 29.6**	**+0.3**
DAGI	**Agillar**	**0.48**	**118**	*i* P	**Pg**	**13 31 23.6**	**-0.3**
DAGI				*i* S	**Sg**	**13 31 30.3**	**+0.1**
DDEM	**Demirkent**	**0.51**	**144**	*i* P	**Pg**	**13 31 23.9**	**-0.5**
DDEM				*i* S	**Sg**	**13 31 31.2**	**+0.1**
DDEM	**Demirkent**	**0.51**	**144**	*i* P	**Pg**	**13 31 23.9**	**-0.5**
DDEM				*i* S	**Sg**	**13 31 31.2**	**+0.1**
KTUT	**Trabzon**	**1.24**	**256**	*e*PN	**Pn**	**13 31 37.1**	**-1.1**
KTUT				*e*SN	**Sb**	**13 31 53.4**	**-0.9**
KTUT	**Trabzon**	**1.24**	**256**	*e*Pn	**Pn**	**13 31 37.1**	**-1.1**
KTUT				*e*Sn	**Sb**	**13 31 53.4**	**-0.9**
MACK	**Trabzon**	**1.25**	**254**	*i* P	**Pn**	**13 31 37.2**	**-1.2**
MACK	**Trabzon**	**1.25**	**254**	*i* P	**Pn**	**13 31 37.2**	**-1.2**
MACK				*i* S	**Sb**	**13 31 52.8**	**-1.8**
BAYT	**Ayd˘-ntepe-Bay**	**1.29**	**226**	*e*PN	**Pn**	**13 31 37.7**	**-1.4**
BAYT				*e*SN	**Sb**	**13 31 55.2**	**-0.9**
BAYT	**Ayd˘-ntepe-Bay**	**1.29**	**226**	*e*Pn	**Pn**	**13 31 37.7**	**-1.4**
BAYT				*e*Sn	**Sb**	**13 31 55.2**	**-0.9**
HOMI	**Horasan**	**1.33**	**161**	*i* P	**Pn**	**13 31 40.2**	**+0.5**
HOMI				*i* S	**Sb**	**13 31 58.5**	**+1.3**
ERZM	**Erzurum**	**1.40**	**179**	*i* P	**Pn**	**13 31 41.1**	**+0.4**
ERZM				*i* S	**Sn**	**13 32 00.7**	**+1.2**
ERZM	**Erzurum**	**1.40**	**179**	*i* P	**Pn**	**13 31 41.1**	**+0.4**
ERZM				*i* S	**Sn**	**13 32 00.7**	**+1.2**
EZM	**Erzurum**	**1.40**	**180**	*e*PN	**Pb**	**13 31 41.9**	**+0.8**
EZM	**Erzurum**	**1.40**	**180**	*e*Pn	**Pb**	**13 31 41.9**	**+0.8**
KARS	**Kars**	**1.48**	**117**	*e*PN	**Pn**	**13 31 42.2**	**+0.6**
KARS	**Kars**	**1.48**	**117**	*e*Pn	**Pn**	**13 31 42.2**	**+0.6**
CHVG	**Ch'k'valeri**	**1.51**	**21**	P	**Pg**	**13 31 42.5**	**-1.0**
CHVG	**Ch'k'valeri**	**1.51**	**21**	P	**Pg**	**13 31 42.5**	**-1.0**
CHVG				S	**Sg**	**13 32 06.0**	**+2.9**
AKH	**Akhalkalaki**	**1.62**	**86**	P	**Pb**	**13 31 44.8**	**+0.1**
AKH	**Akhalkalaki**	**1.62**	**86**	P	**Pb**	**13 31 44.8**	**+0.1**
AKH				S	**Sb**	**13 32 06.2**	**+0.8**
DIGO	**Kars**	**1.78**	**119**	*i* P	**Pn**	**13 31 46.9**	**+1.1**
DIGO	**Kars**	**1.78**	**119**	*i* P	**Pn**	**13 31 46.9**	**+1.1**
DIGO				*i* S	**Sn**	**13 32 05.5**	**-3.3**
KELT	**Kelkit**	**1.97**	**235**	*i* P	**Pn**	**13 31 49.1**	**+0.7**
KELT				*i* S	**Sb**	**13 32 15.5**	**0.0**
KELT	**Kelkit**	**1.97**	**235**	*i* P	**Pn**	**13 31 49.1**	**+0.7**
KELT				*i* S	**Sb**	**13 32 15.5**	**0.0**
ONI	**Oni**	**2.03**	**50**	P	**Pn**	**13 31 49.5**	**+0.4**
ONI	**Oni**	**2.03**	**50**	P	**Pn**	**13 31 49.5**	**+0.4**
TBLG	**Delisi**	**2.58**	**79**	P	**Pb**	**13 32 00.7**	**-0.4**
TBLG	**Delisi**	**2.58**	**79**	P	**Pb**	**13 32 00.7**	**-0.4**
SUSE	**Susehri**	**2.63**	**246**	*i* P	**Pn**	**13 31 59.0**	**+1.5**
SUSE	**Susehri**	**2.63**	**246**	*i* P	**Pn**	**13 31 59.0**	**+1.5**
SUSE				*i* S	**Sb**	**13 32 35.4**	**+0.8**
PTK	**Pertek**	**2.84**	**213**	*e*PN	**Pn**	**13 32 00.8**	**+0.4**
PTK	**Pertek**	**2.84**	**213**	*e*Pn	**Pn**	**13 32 00.8**	**+0.4**
DGRG	**David-gareji**	**3.03**	**86**	P	**Pb**	**13 32 09.7**	**+0.9**

MAN 11 14:14:28,9.83N×124.50E,h35km,mb4.5,ML3.3,MS3.2, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.47**	**50**	*e*P	Pn	14 14 39.3	+1.1
MSLP				*e*S	Sn	14 14 48.4	+3.0
TBP	**Tagbilaran**	**0.64**	**257**	*e*P	Pn	14 14 43.1	+2.5
TBP				*e*S	Sn	14 14 52.0	+2.5
LLP	**Lapu-Lapu**	**0.71**	**313**⇓	*e*P	Pn	14 14 42.1	+0.5
LLP				*e*S	Sn	14 14 53.0	+1.7
CGP	**Cagayan de Oro**	**1.38**	**172**	*e*P	Pn	14 14 51.0	+0.2
CGP				*i* S	Sn	14 14 58.6	-9.3
BUKP	**Musuan**	**2.02**	**164**	*e*P	Pn	14 15 02.3	+2.7
BUKP				*e*S	Sn	14 15 25.6	+1.9
GUIM	**Jordan**	**2.04**	**293**	*e*P	Pn	14 15 01.4	+1.6
PAGZ	**Pagadian**	**2.26**	**209**	*e*P	Pn	14 15 04.2	+1.4
PAGZ				*e*S	Sn	14 15 22.3	-7.2

MAN 11 14:25:22,11.62N×125.73E,h1km,mb5.1,ML4.1,MS4.3

MAN INTENSITY III - BORONGAN E. SAMAR; LLORENTE E. SAMAR; SAN JULIAN E. SAMAR; INTENSITY II - TACLOBAN CITY; DOLORES E. SAMAR.

MOS 11 14:25:24.8±0.9,11.44N×125.71E,h51km,mb4.4/32,Error ellipse: s-maj=14.4km s-min=6.8km az=112.5

IDC 11 14:25:26.4±3.1,11.48N×125.60E,h43km±27km,mb3.9/21, mb1 4.0/21,mb1mx3.9/30,mbtmp4.1/21,MS3.5/6, Ms1 3.5/6,ms1mx3.1/38,Error ellipse: s-maj=20.7km s-min=11.3km az=75.0

NEIC 11 14:25:29.8±1.6,11.47N×125.59E,h76km±14km,mb4.3/7, Error ellipse: s-maj=12.3km s-min=6.4km az=74.0

NEIC Felt [III PIVS] at Borongan, Llorente and San Julian and [II PIVS] at Dolores. Also felt [II PIVS] at Tacloban, Leyte.

ISC 11 14:25:23.1±1.3,11.66N±0.03×125.67E±0.05,h16km±8km, n118,σ1°23/119,mb4.5/43,MS3.5/8,5C-7D,Samar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.84**	**234**⇓	*i* P	**Pb**	**14 25 39.6**	**+0.3**
PLP				*i* S	**Sg**	**14 25 49.9**	**-0.6**
OCLP	**Ormoc**	**1.20**	**240**	*e*P	**Pn**	**14 25 47.0**	**+1.7**
OCLP				*e*S	**Sn**	**14 26 03.8**	**+2.5**
CNP	**Catarman**	**1.30**	**311**	*e*P	**Pb**	**14 25 48.6**	**+1.4**
CNP				*e*S	**Sg**	**14 26 02.9**	**-2.3**
MSLP	**Maasin**	**1.71**	**208**	*e*P	**Pg**	**14 25 54.7**	**-1.3**
MSLP				*e*S	**Sn**	**14 26 09.8**	**-4.0**
SCPH	**Surigao**	**1.87**	**185**⇓	*e*P	**Pn**	**14 25 55.4**	**+0.9**
SCPH				*e*S	**Sn**	**14 26 19.0**	**+1.2**
MMPH	**Masbate**	**2.12**	**289**	*e*P	**Pb**	**14 26 01.4**	**+0.2**
MMPH				*e*S	**Sb**	**14 26 30.4**	**+3.1**
LLP	**Lapu-Lapu**	**2.14**	**232**	*e*P	**Pn**	**14 25 59.7**	**+1.5**
LLP				*e*S	**Sb**	**14 26 28.6**	**+0.8**
PVCP	**Virac**	**2.43**	**323**⇑	*e*P	**Pn**	**14 26 03.6**	**+1.5**
TBP	**Tagbilaran**	**2.64**	**222**	*e*P	**Pb**	**14 26 10.9**	**+0.9**
TBP				*e*S	**Sg**	**14 26 49.9**	**+1.8**
BUTP	**Butuan**	**2.67**	**181**	*e*P	**Pn**	**14 26 07.0**	**+1.6**
BUTP				*e*S	**Sn**	**14 26 40.2**	**+2.6**
RCP	**Roxas**	**2.87**	**268**⇑	*e*P	Pn	14 26 11.9	+3.7
GUIM	**Jordan**	**3.19**	**252**	*e*P	**Pn**	**14 26 15.2**	**+2.9**
SNPH	**Sibulan**	**3.32**	**226**	*e*S	**Sn**	**14 26 51.4**	**-2.2**
CGP	**Cagayan de Oro**	**3.33**	**197**⇓	*e*P	**Pn**	**14 26 16.0**	**+1.6**
CGP				*e*S	**Sn**	**14 26 53.5**	**-0.2**
AUQP	**San Andres**	**3.36**	**300**	*e*P	**Pn**	**14 26 15.2**	**+0.3**
BUKP	**Musuan**	**3.80**	**189**	*e*P	**Pn**	**14 26 23.5**	**+2.5**
GQP	**Guinayangan**	**3.86**	**306**	*e*P	**Pg**	**14 26 35.0**	**-2.0**
PAGZ	**Pagadian**	**4.41**	**211**	*e*P	**Pn**	**14 26 31.8**	**+2.5**
CUYO	**Cuyo Island**	**4.63**	**260**	*e*P	Pn	14 26 36.2	+3.7
MATI	**Mati**	**4.72**	**173**	*e*P	Pn	14 26 36.5	+2.9
TGY	**Tagaytay City**	**5.22**	**298**	P	Pn	14 26 46.4	+5.9
TGY				pmax	pmax		
	comp=Z,28nm,0.3s						
TGY	**Tagaytay City**	**5.22**	**298**	P	Pn	14 26 46.4	+5.9
	comp=Z,28nm,0.3s,baz=139,slow=9.3,SNR=2.3						
ENPP	**El Nido**	**6.14**	**266**	*e*P	Pn	14 26 57.3	+4.1
SOEI	**Soe**	**21.32**	**184**	*e*P	**P**	**14 30 09.7**	**+0.1**
	comp=Z,21nm,0.6s						
JCJ	**Chichijima**	**21.83**	**43**	LR	LR	14 37 20.8	
	comp=Z,110nm,20.9s,baz=122,slow=32						
IPM	**Ipoh**	**25.41**	**256**	*e*P	**P**	**14 30 49.2**	**-0.9**
	comp=Z,31nm,1.4s						
KSAR	**Wonju Array Be**	**25.75**	**4**	P	**P**	**14 30 54.5**	**+1.5**
KSAR	**Wonju Array Be**	**25.75**	**4**	P	**P**	**14 30 54.5**	**+1.5**
KSRS	**Korea Array**	**25.77**	**4**	P	**P**	**14 30 54.5**	**+1.4**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSRS	**Korea Array**	**25.77**	**4**	P	**P**	**14 30 54.5**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=179,slow=9.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**26.66**	**288**	*c*eP	**P**	**14 31 02.2**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**26.66**	**288**	P	**P**	**14 31 01.7**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=99,slow=7.4,SNR=16						
CMAR				LR	LR	14 43 21.0	
	comp=Z,72nm,18.2s,baz=96,slow=40						
MJAR	**Matsushiro Arr**	**27.23**	**22**	LR	LR	14 40 07.4	
	comp=Z,88nm,21.4s,baz=205,slow=32						
PSI	**Prapat**	**27.93**	**254**	P	**P**	**14 31 12.9**	**-0.1**
PSI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PSI	**Prapat**	**27.93**	**254**	P	**P**	**14 31 12.8**	**-0.1**
	comp=Z,3.2nm,0.5s,baz=108,slow=3.2,SNR=3.3						
WRAB	**Tennant Creek**	**32.53**	**165**	*e*P	P	14 31 51.1	-2.4
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRAB	**Tennant Creek**	**32.53**	**165**	*e*P	P	14 31 51.1	-2.4
	comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**32.54**	**165**	P	P	14 31 50.5	-3.1
WRA						14 34 38.9	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**32.54**	**165**	P	P	14 31 50.5	-3.1
	comp=Z,0.9nm,0.8s,baz=344,slow=9.2,SNR=5.5						
WRA				PcP	**PcP**	**14 34 38.9**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=341,slow=3.0,SNR=7.5						
AS31	**Alice Springs**	**36.02**	**167**	*e*P	**P**	**14 32 22.6**	**-1.2**
ASAR	**Alice Springs**	**36.02**	**167**	P	**P**	**14 32 22.0**	**-1.8**
ASAR						14 34 48.8	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
ASAR				MLR	MLR		
	comp=Z,15nm,28.6s						
ASAR	**Alice Springs**	**36.02**	**167**	P	**P**	**14 32 21.9**	**-1.8**
	comp=Z,0.9nm,0.4s,baz=352,slow=7.2,SNR=53						
ASAR				PcP	**PcP**	**14 34 48.8**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=344,slow=2.8,SNR=7.1						
ASAR				ScP	ScP	14 38 30.7	-5.3
	comp=Z,0.6nm,0.8s,baz=345,slow=2.2,SNR=6.9						
ASAR				LR	LR	14 47 48.0	
	comp=Z,59nm,21.8s,baz=45,slow=37						
TAPN	**Taplejung**	**38.85**	**299**	*e*P	**P**	**14 32 48.1**	**0.0**
	comp=Z,8.4nm,0.5s						
ODAN	**Odare**	**38.99**	**298**	*e*P	**P**	**14 32 49.4**	**+0.1**
	comp=Z,22nm,0.6s						
ULN	**Ulaanbaatar**	**39.33**	**340**	*e*P	**P**	**14 32 54.4**	**+2.8**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.3s						
SONM	**Songino Array**	**39.52**	**340**	P	**P**	**14 32 54.1**	**+0.9**
SONM						14 35 00.3	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**39.52**	**340**	P	**P**	**14 32 54.1**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=157,slow=9.9,SNR=18						
SONM				PcP	**PcP**	**14 35 00.3**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=146,slow=2.8,SNR=3.4						
RAMN	**Ramite**	**39.70**	**298**	*e*P	**P**	**14 32 55.5**	**+0.3**
	comp=Z,14nm,0.7s						
JIRN	**Jiri**	**40.24**	**299**	*e*P	**P**	**14 32 59.8**	**0.0**
	comp=Z,18nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**40.40**	**73**	T	T	15 16 25.3	
	baz=268,slow=75,SNR=74						
H11N2	**WAKE ISLAND Hy**	**40.41**	**73**	T	T	15 16 25.8	
	baz=268,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy**	**40.42**	**73**	T	T	15 16 26.6	
	baz=268,slow=75,SNR=71						
GUN	**Gumba**	**40.57**	**299**	*e*P	**P**	**14 33 02.3**	**-0.2**
	comp=Z,44nm,1.0s						
PKI	**Pulchoki**	**40.88**	**299**	*e*P	**P**	**14 33 04.3**	**-0.8**
	comp=Z,5.0nm,0.5s						
PKIN	**Phulchoki**	**40.90**	**299**	*e*P	**P**	**14 33 04.5**	**-0.6**
	comp=Z,6.0nm,0.6s						
KKN	**Kakani**	**41.05**	**299**	*e*P	**P**	**14 33 06.1**	**-0.2**
DMN	**Daman**	**41.15**	**299**	*e*P	**P**	**14 33 07.3**	**+0.1**
GKN	**Gorkha**	**41.65**	**299**	*e*P	**P**	**14 33 10.7**	**-0.5**
	comp=Z,10nm,0.9s						
KOLN	**Koldanda**	**42.49**	**298**	*e*P	**P**	**14 33 17.6**	**-0.5**
	comp=Z,17nm,1.0s						
DANN	**Dangsing**	**42.49**	**299**	*e*P	**P**	**14 33 17.6**	**-0.6**
	comp=Z,11nm,0.6s						
ZAK	**Zakamensk**	**42.77**	**339**	*e*P	**P**	**14 33 19.6**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
TLY	**Talaya**	**43.74**	**340**⇓	*e*P	**P**	**14 33 29.3**	**+1.7**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**45.06**	**190**	P	**P**	**14 33 36.4**	**-1.9**
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**45.06**	**190**	P	**P**	**14 33 36.4**	**-1.9**
	comp=Z,7.5nm,0.7s,baz=9.0,slow=8.3,SNR=7.7						
STKA	**Stephens Creek**	**45.90**	**161**	P	**P**	**14 33 43.9**	**-1.1**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
STKA	**Stephens Creek**	**45.90**	**161**	P	**P**	**14 33 43.9**	**-1.1**
	comp=Z,2.8nm,0.5s,baz=332,slow=7.8,SNR=21						
PETK	**Petropavlovsk-**	**48.63**	**25**	P	**P**	**14 34 07.2**	**+1.1**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PETK	**Petropavlovsk-**	**48.63**	**25**	P	**P**	**14 34 07.2**	**+1.1**
	comp=Z,3.8nm,0.9s,baz=155,slow=4.9,SNR=4.9						
YAK	**Yakutsk**	**50.37**	**2**	*d i* P	**P**	**14 34 19.9**	**+0.7**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
MK31	**Makanchi Array**	**50.57**	**322**	*e*P	**P**	**14 34 21.9**	**+0.9**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	**Makanchi Array**	**50.57**	**322**	P	**P**	**14 34 22.0**	**+1.0**
MKAR						14 35 38.4	
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MKAR	**Makanchi Array**	**50.57**	**322**	P	**P**	**14 34 22.0**	**+1.0**
	comp=Z,4.7nm,0.5s,baz=118,slow=8.3,SNR=76						
MKAR				PcP	**PcP**	**14 35 38.4**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=109,slow=4.8,SNR=1.4						
ZALV	**Zalesovo Beam**	**53.13**	**331**	P	**P**	**14 34 40.4**	**+0.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,55nm,18.2s						
ZALV	**Zalesovo Beam**	**53.13**	**331**	P	**P**	**14 34 40.4**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=121,slow=5.7,SNR=6.3						
ZALV				LR	LR	14 58 00.5	
	comp=Z,55nm,18.2s,baz=68,slow=37						
AAK	**Ala-Archa**	**53.93**	**315**	P	**P**	**14 34 47.0**	**+0.8**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**53.93**	**315**	P	**P**	**14 34 47.0**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=140,slow=7.9,SNR=3.2						
KURK	**Kurchatov**	**54.60**	**325**	P	**P**	**14 34 51.8**	**+1.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KURBB	**Kurchatov Arra**	**54.60**	**325**	P	**P**	**14 34 51.8**	**+1.0**
	comp=Z,6.6nm,0.5s,baz=128,slow=7.0,SNR=37						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SEY	Seymchan	54.63	15	P	P	14 34 52.2	+1.5
SEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SEY	Seymchan	54.63	15	P	P	14 34 52.2	+1.5
	comp=Z,1.3nm,0.8s,baz=235,slow=9.1,SNR=4.6						
KK31	Karatay Array	56.87	314	iP	P	14 35 07.0	-0.2
KKAR	Karatay Array	56.87	314	eP	P	14 35 07.2	0.0
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	Karatay Array	56.87	314	eP	P	14 35 07.2	0.0
	comp=Z,0.6nm,0.5s						
TIXI	Tiksi	59.98	1	⇓iP	P	14 35 28.2	-0.2
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI				MLR	MLR		
	comp=Z,48nm,19.0s						
TIXI	Tiksi	59.98	1	eP	P	14 35 28.5	+0.1
	comp=Z,3.0nm,0.8s						
BVA0	Borovoye Array	60.20	325	iP	P	14 35 30.2	0.0
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	Borovoye	60.27	325	eP	P	14 35 31.4	+0.7
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL	Bilibino	62.24	16	⇓eP	P	14 35 43.5	-0.3
BILL				e		14 38 04.1	
BILL				iSS	SS	14 48 18.8	+7.0
BILL				pmax	pmax		
	comp=Z,1.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,74nm,18.0s						
AB31	Akbulak array	65.45	319	iP	P	14 36 05.0	-0.2
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ABKAR	Akbulak array	65.45	319	eP	P	14 36 04.9	-0.3
	comp=Z,1.8nm,0.5s						
ARU	Arti	67.75	326c	iP	P	14 36 19.4	-0.4
ARU						14 38 46.0	
ARU				S	S	14 45 15.9	-1.0
ARU				SS	SS	14 49 36.9	-1.1
ARU				pmax	pmax		
	comp=Z,15nm,2.5s						
ARU	Arti	67.75	326	eP	P	14 36 18.8	-1.0
	comp=Z,2.8nm,0.7s						
PRGR	Permogore	75.09	331	eP	P	14 37 01.8	-2.2
PRGR				e		14 37 11.9	
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KLMR	Klimovskoe	78.04	330	eP	P	14 37 19.4	-1.3
KLMR				pmax	pmax		
	comp=Z,18nm,1.6s						
ILAR	Eielson Array	78.45	26	P	P	14 37 22.7	-0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	78.45	26	P	P	14 37 22.7	-0.3
	comp=Z,0.9nm,0.8s,baz=243,slow=6.2,SNR=9.2						
JOF	Joensuu	81.69	333	eP	P	14 37 40.4	-0.1
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
JOF	Joensuu	81.69	333	ep	P	14 37 40.4	-0.1
	comp=Z,1.5nm,0.4s						
KEV	Kevo	82.13	340	eP	P	14 37 42.8	+0.1
KEV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KEV	Kevo	82.13	340	ep	P	14 37 42.8	+0.1
	comp=Z,4.0nm,0.7s						
ARCES	ARCESS Array B	82.69	340	P	P	14 37 46.0	+0.3
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARCES	ARCESS Array B	82.69	340	P	P	14 37 46.0	+0.3
	comp=Z,3.2nm,0.6s,baz=82,slow=7.2,SNR=16						
INK	Inuvik	83.22	22	P	P	14 37 48.6	+0.3
INK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
INK	Inuvik	83.22	22	P	P	14 37 48.6	+0.3
	comp=Z,1.8nm,1.1s,baz=300,slow=4.2,SNR=5.5						
KAF	Kangasniemi	84.13	332	eP	P	14 37 52.5	-0.7
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KAF	Kangasniemi	84.13	332	ep	P	14 37 52.5	-0.7
	comp=Z,3.4nm,0.7s						
BRTR	Keskin Array B	84.20	309c	eP	P	14 37 53.2	-1.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	Keskin Array B	84.20	309	P	P	14 37 53.0	-1.2
	comp=Z,0.5nm,0.5s,baz=122,slow=6.4,SNR=3.8						
FINES	FINESS Array B	84.40	332	P	P	14 37 54.3	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	84.40	332	P	P	14 37 54.3	-0.2
	comp=Z,1.9nm,0.5s,baz=90,slow=4.3,SNR=18						
AKASG	Malin Array Be	85.12	321	P	P	14 37 57.3	-1.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG				MLR	MLR		
	comp=Z,34nm,18.4s						
AKASG	Malin Array Be	85.12	321	P	P	14 37 57.3	-1.1
	comp=Z,1.8nm,0.6s,baz=65,slow=5.2,SNR=5.7						
AKASG				LR	LR	15 18 30.7	
	comp=Z,34nm,18.4s,baz=325,slow=37						
YKA	Yellowknife Ar	92.73	24	P	P	14 38 34.7	+0.4
	comp=Z,0.2nm,0.4s,baz=292,slow=4.4,SNR=6.6						
TXAR	Lajitas Array	117.36	48	PKP	PKPdf	14 44 09.2	+0.5
	comp=Z,0.2nm,0.7s,baz=38,slow=1.6,SNR=2.7						
PLCA	Paso Flores	147.71	157	PKP2	PKPdf	14 45 04.3	-0.3
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PLCA	Paso Flores	147.71	157	PKP	PKPdf	14 45 04.3	-0.3
	comp=Z,2.3nm,0.7s,baz=163,slow=1.2,SNR=7.4						
PLCA				PKPbc	PKPbc	14 45 07.3	-0.1
	comp=Z,2.3nm,0.7s,baz=217,slow=0.9,SNR=7.3						
LPAZ	La Paz	165.84	111	PKP2	PKPab	14 46 29.9	+1.4
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ	La Paz	165.84	111	PKPab	PKPab	14 46 29.9	+1.4
	comp=Z,1.9nm,0.8s,baz=278,slow=9.2,SNR=5.5						

IDC 11 14:27:48.7±2.7, 6°.22S×104°.79E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/40, mbtmp3.6/5, Error ellipse: s-maj=96.6km s-min=22.9km az=56.0

ISCJB 11 14:28:06.2±0.6, 6°.11S±0°.09×105°.38E±0°.08, h139km±4km, mb3.5/5, Error ellipse: s-maj=18.8km s-min=4.4km az=40.1

DJA 11 14:28:07.9±0.4, 6°S±4°×10°5E±°, h115km±4km, M3.9/21, mb3.9/3, MLv3.9/21

ISC 11 14:28:07.1±1.0, 6°.2S±0°.1×105°.36E±0°.09, h133km±8km, n30, σ0°.78/31, mb3.4/5, Sunda Strait

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	0.56	143	P	Pn	14 28 27.3	+0.4
CGJI				S	Sn	14 28 41.6	-0.2
SBJI	Serang	0.77	87	P	Pn	14 28 28.7	+0.4
BLSI	Bandar Lampung	0.80	352	P	Pn	14 28 28.7	+0.1
BLSI				S	Sn	14 28 43.9	-0.9
KASI	Kota Agung	1.06	306	P	Pn	14 28 31.5	+0.6
KASI				S	Sn	14 28 48.1	-0.8
KLI	Kotabumi	1.38	339	P	Pn	14 28 37.5	+3.3
KLI				S	Sn	14 28 54.4	-0.4
SKJI	Sukabumi	1.46	125	P	Pn	14 28 35.6	+0.7
SKJI				S	Sn	14 28 57.0	+0.9
CBJI	Citeko	1.51	100	P	Pn	14 28 38.0	+2.5
KLSI		1.59	337	S	Sn	14 28 58.4	-0.4
LWLI	Liwa	1.72	311	P	Pn	14 28 38.6	+0.5
LWLI				S	Sn	14 29 01.8	+0.1
MDSI	Maura Dua	2.04	325	P	Pn	14 28 42.3	+0.6
MDSI				S	Sn	14 29 07.8	-0.4
CNJI	Cibinong	2.10	123	P	Pn	14 28 41.9	-0.5
LEM	Lembang	2.34	107	P	Pn	14 28 46.9	+1.3
CISI	Cisompet, Garu	2.81	120	P	Pn	14 28 51.4	0.0
CISI				S	Sn	14 29 24.1	-1.4
LHSI	Lahat	2.95	322	P	Pn	14 28 54.2	+0.9
MNAI	Manna	2.99	307	P	Pn	14 28 54.3	+0.6
MNAI				S	Sn	14 29 28.4	-1.2
CMJI	Cimerak	3.47	118	P	Pn	14 28 59.8	-0.1
KPJI	Karang Pucung	3.73	108	P	Pn	14 29 04.3	+0.8
MASI	Maura Aman, Be	4.32	314	P	Pn	14 29 12.3	+1.0
UGM	Wanagama	5.41	109	P	Pn	14 29 27.0	+1.1
	46nm,1.5s,0.3nm						
PCJI	Pacitan	6.12	110	P	Pn	14 29 36.0	+0.7
	23nm,1.3s,0.1nm						
PWJI	Pagerwojo	6.66	106	P	Pn	14 29 42.0	-0.6
H01W3	Cape Leeuwin H	29.71	165	T	T	15 04 48.4	
	baz=344,slow=76,SNR=7.0						
H01W1	Cape Leeuwin H	29.72	165	T	T	15 04 48.8	
	baz=344,slow=76,SNR=6.8						
H01W2	Cape Leeuwin H	29.72	165	T	T	15 04 48.1	
	baz=344,slow=76,SNR=12						
WRA	Warramunga Arr	31.30	119	P	P	14 34 14.4	-0.6
	0.4nm,0.6s,baz=294,slow=9.8,SNR=2.7						
ASAR	Alice Springs	32.50	125	P	P	14 34 26.1	+0.6
	0.4nm,0.4s,baz=298,slow=7.7,SNR=8.3						
SONM	Songino Array	53.77	1	P	P	14 37 13.9	-2.0
	0.2nm,0.4s,baz=176,slow=9.4,SNR=3.1						
USRK	Ussuriysk Arra	55.58	23	P	P	14 37 27.8	-1.0
	1.7nm,0.6s,baz=210,slow=8.3,SNR=3.1						
MKAR	Makanchi Array	56.56	341	P	P	14 37 32.2	-3.6
	0.3nm,0.8s,baz=132,slow=6.0,SNR=2.6						
TXAR	Lajitas Array	144.21	46	PKP	PKPab	14 47 25.9	-0.3
	0.4nm,0.7s,baz=253,slow=0.9,SNR=4.4						

ISCJB 11 14:39:04.4±0.3, 24°.52N±0°.03×122°.94E±0°.01, h101km±2km, mb3.7/7, Error ellipse: s-maj=4.3km s-min=2.0km az=168.1

TAP 11 14:39:04.5, 24°.57N×122°.94E, h102km, ML4.4, B

IDC 11 14:39:04.0±3.5, 24°.63N×123°.01E, h94km±34km, mb3.5/7, mb1 3.6/8, mb1mx3.3/27, mbtmp3.8/8, MS3.1/1, Ms1 3.1/1, ms1mx2.3/32, Error ellipse: s-maj=23.7km s-min=17.7km az=89.0

JMA 11 14:39:05.0±0.1, 24°.50N×122°.90E, h100km±2km, M3.5

ISC 11 14:39:04.8±0.7, 24°.52N±0°.04×122°.94E±0°.02, h101km±5km, n93, σ0°.97/157, mb3.9/7, 2C-20D, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.07	178	P	Pn	14 39 19.1	+0.2
JYNG				S	Sn	14 39 29.1	-0.3
YOJ	Yonaguni jima	0.09	134	P	Pn	14 39 19.2	+0.3
YOJ				eS	Sn	14 39 29.2	-0.2
YOJ	Yonaguni jima	0.09	134	⇓iP	Pn	14 39 19.2	+0.3
	baz=166						
YOJ				iS	Sn	14 39 29.5	+0.1
	baz=166						
IRIF	Iriomote-Funau	0.74	104	P	Pn	14 39 23.1	+0.4
IRIF				S	Sn	14 39 36.3	+0.1
HATJ	Hateruma jima	0.91	120	P	Pn	14 39 25.4	+1.0
HATJ				S	Sn	14 39 39.3	+0.1
EGS		0.97	290	eP	Pn	14 39 25.4	+0.3
	baz=281						
EGS				eS	Sn	14 39 39.4	-0.9
	baz=281						
TWB1	Santiao Chiao	0.99	299	⇑P	Pn	14 39 25.4	+0.1
	baz=290						
TWB1				eS	Sn	14 39 39.6	-1.1
	baz=290						
TWC	Suao	1.00	275	⇓iP	Pn	14 39 25.2	-0.1
	baz=272						
TWC				S	Sn	14 39 39.1	-1.7
	baz=272						
JKRS	Kuro-shima	1.01	106	P	Pn	14 39 26.3	+0.8
JKRS				S	Sn	14 39 41.9	+0.9
ENA	Nanau	1.10	265	eP	Pn	14 39 26.3	-0.1
	baz=256						
ENA				eS	Sn	14 39 42.0	-0.8
	baz=256						
JIJ	Ishigaki jima	1.11	98	P	Pn	14 39 26.9	+0.4
JIJ				S	Sn	14 39 42.3	-0.6
ILA	Ilan	1.11	283	eP	Pn	14 39 27.0	+0.5
	baz=272						
ILA				eS	Sn	14 39 42.4	-0.6
	baz=272						
NWF	Wu-fen Shan	1.19	298	⇑eP	Pn	14 39 28.0	+0.5
	baz=287						
NWF				S	Sn	14 39 44.4	-0.3
	baz=287						
JISG	Ishigakijimahi	1.25	87	P	Pn	14 39 28.5	+0.4
JISG				S	Sn	14 39 45.5	-0.2
ENTT	Nioudou	1.26	276	⇓P	Pn	14 39 28.8	+0.5
	baz=270						
TWD	Chiawan	1.30	251	⇓iP	Pn	14 39 28.5	-0.3
	baz=248						
TWD				S	Sn	14 39 45.6	-1.4
	baz=248						
HWA	Hwalien	1.34	246	P	Pn	14 39 29.1	-0.1
	baz=244						
HWA				eS	Sn	14 39 46.3	-1.3
	baz=244						
TAP1	Taipei	1.39	292	eP	Pn	14 39 30.1	+0.4
	baz=280						
TAP1				eS	Sn	14 39 48.1	-0.6
	baz=280						
TAP	Taipei	1.40	292	eP	Pn	14 39 29.9	0.0
	baz=280						
TAP				eS	Sn	14 39 48.2	-0.8
	baz=280						
NNS	Nan Shan	1.43	267	⇓P	Pn	14 39 30.5	0.0
	baz=257						
NNS				eS	Sn	14 39 49.0	-0.9
	baz=257						
TWY	Chenhua	1.43	302	eP	Pn	14 39 30.8	+0.5
	baz=299						
TWY				eS	Sn	14 39 49.4	-0.2
	baz=299						
NSK	Sanguang	1.45	276	⇓P	Pn	14 39 31.1	+0.5
	baz=266						
NSK				S	Sn	14 39 49.4	-0.8
	baz=266						
ESF	Shoufeng Towns	1.46	244	eP	Pn	14 39 30.7	0.0
	baz=243						
TWS1	Kuangyinshan	1.50	293	⇓P	Pn	14 39 31.6	+0.5
	baz=284						
TWS1				eS	Sn	14 39 50.9	-0.2
	baz=284						
TEGC	Jichi Village	1.52	238	eP	Pn	14 39 31.9	+0.6
	baz=233						
ESL	Shilin	1.55	243	⇓P	Pn	14 39 31.3	-0.4
	baz=247						
ESL				eS	Sn	14 39 50.7	-1.5
	baz=247						
WHF	Hehuan Shan	1.57	257	⇓P	Pn	14 39 32.6	0.0
	baz=260						
WHF				S	Sn	14 39 51.9	-1.6
	baz=260						
JTJ	Tarama	1.61	85	P	Pn	14 39 33.3	+0.8
JTJ				eS	Sn	14 39 53.6	+0.1
TWT	Tachien	1.63	261	⇓P	Pn	14 39 33.8	+0.8
	baz=259						
TWT				eS	Sn	14 39 54.0	-0.3
	baz=259						
NCU	National Centr	1.66	286	eP	Pn	14 39 33.9	+0.8
	baz=274						
NCU				S	Sn	14 39 55.0	+0.3
	baz=274						
NSTT	Nanjuang	1.77	274	⇓P	Pn	14 39 35.0	+0.5
	baz=271						
NSTT				eS	Sn	14 39 56.5	-0.7
	baz=271						
EHY	Hungye	1.79	236	⇓P	Pn	14 39 34.5	-0.4
	baz=234						
EHY				eS	Sn	14 39 55.8	-2.0
	baz=234						
HSN	Hsinchu	1.82	279	eP	Pn	14 39 35.1	0.0
	baz=278						
HSN				eS	Sn	14 39 57.3	-0.8
	baz=278						
TWF1	Yuli	1.90	233	⇓iP	Pn	14 39 36.3	0.0
	baz=229						
SMLT	Sun Moon Lake	1.97	252	⇓P	Pn	14 39 37.8	+0.6
	baz=247						
SMLT				eS	Sn	14 40 02.5	+0.6
	baz=247						
TWQ1	Liyutan	1.98	265	⇓P	Pn	14 39 38.0	+0.7
	baz=263						
TWQ1				eS	Sn	14 40 01.4	-0.7
	baz=263						
NSY	Sanyi	1.99	267	eP	Pn	14 39 38.3	+0.9
	baz=265						
NSY				eS	Sn	14 40 02.4	+0.2
	baz=265						
TYC	Yuchr	2.00	253	eP	Pn	14 39 38.1	+0.6
	baz=247						
TYC				eS	Sn	14 40 01.9	-0.5
	baz=247						
CHKT	Chengkung	2.02	226	P	Pn	14 39 37.1	-0.7
	baz=222						
CHKT				eS	Sn	14 40 00.7	-2.2
	baz=222						
JIRB	Irabujima	2.05	81	P	Pn	14 39 38.7	+0.6
JIRB				eS	Sn	14 40 02.9	-0.7
YUS	Yu-Shan	2.09	241	eP	Pn	14 39 39.8	+0.7
	baz=233						
YUS				eS	Sn	14 40 04.0	-1.3
	baz=233						
TCU	Taichung	2.10	260	eP	Pn	14 39 39.7	+1.0
	baz=267						
TCU				eS	Sn	14 40 04.6	-0.1
	baz=267						
JIKM	Ikemajima	2.13	79	S	Sn	14 40 05.3	-0.2
JMJ	Miyako jima 2	2.16	82	S	Sn	14 40 05.7	-0.3
WNT	Mingjian	2.16	253	eP	Pn	14 39 40.8	+1.3
	baz=251						
WNT				eS	Sn	14 40 06.7	+0.6
	baz=251						
ALS	Alishan	2.20	243	eP	Pn	14 39 41.4	+1.1
	baz=236						
ALS				eS	Sn	14 40 06.8	-0.6
	baz=236						
ELDTW	Lidau	2.21	233	⇓P	Pn	14 39 40.2	-0.1
	baz=228						
ELDTW				eS	Sn	14 40 06.1	-1.3
	baz=228						
JOGS	Gusukube	2.25	83	P	Pn	14 39 41.8	+1.0
JOGS				eS	Sn	14 40 08.6	+0.3
CHN5	Tsauling	2.27	246	eP	Pn	14 39 42.0	+1.0
	baz=239						
CHN5				eS	Sn	14 40 09.0	+0.3
	baz=239						
WGK	Gukeng	2.33	250	eP	Pn	14 39 42.9	+1.2
	baz=248						
WGK				eS	Sn	14 40 11.8	+1.8
	baz=248						
TTN	Taitung	2.41	223	eP	Pn	14 39 43.8	+0.9
	baz=220						
TWG	Pinlang	2.41	226	⇓P	Pn	14 39 42.4	-0.4
	baz=232						
TWG				eS	Sn	14 40 10.2	-1.7
	baz=232						
CHN4	Tsaushan	2.44	242	⇓eP	Pn	14 39 44.5	+1.2
	baz=234						
CHN4				eS	Sn	14 40 13.7	+0.9
	baz=234						
CHN2	Minshiung	2.46	247	eP	Pn	14 39 45.0	+1.5
	baz=239						
CHN2				eS	Sn	14 40 14.1	+1.0
	baz=239						
WTP	Ta-pu	2.48	240	⇓eP	Pn	14 39 44.8	+1.0
	baz=238						
WTP				eS	Sn	14 40 14.5	+0.8
	baz=238						
WTCT	Ta-ch'eng	2.52	255	eP	Pn	14 39 44.2	+0.1
	baz=254						
WTCT				eS	Sn	14 40 13.9	-0.5
	baz=254						
CHY	Chiayi	2.52	247	eP	Pn	14 39 45.4	+1.1
	baz=237						
CHY				eS	Sn	14 40 15.0	+0.6
	baz=237						
TWK	Hsinying	2.57	241	eP	Pn	14 39 46.0	+1.0
	baz=240						
TWK				eS	Sn	14 40 16.4	+0.6
	baz=240						
CHN1	Nanshi	2.58	239	eP	Pn	14 39 46.1	+1.1
	baz=238						
CHN1				eS	Sn	14 40 16.2	+0.2
	baz=238						
SGST	Jiashian	2.59	237	eP	Pn	14 39 46.7	+1.5
	baz=236						
SGST				eS	Sn	14 40 17.8	+1.6
	baz=236						
WSF	Szhu	2.64	251	P	Pn	14 39 46.6	+0.8
	baz=258						
WSF				eS	Sn	14 40 17.5	+0.3
	baz=258						
ECL	Taimali	2.65	224	eP	Pn	14 39 45.2	-0.7
	baz=230						
CHN8	Yiju	2.76	245	eP	Pn	14 39 48.3	+0.8
	baz=236						
CHN8				eS	Sn	14 40 20.6	+0.5
	baz=236						
SSD	Sandimen	2.76	231	eP	Pn	14 39 48.5	+1.0
	baz=236						
SSD				eS	Sn	14 40 21.4	+1.2
	baz=236						
CHN3	Shinhua	2.77	239	eP	Pn	14 39 49.1	+1.6
	baz=249						
LAY	Lan-yu	2.78	208	eP	Pn	14 39 47.0	-0.7
	baz=203						
LAY				eS	Sn	14 40 17.8	-3.0
	baz=203						
SCLT	Jiali	2.85	243	eP	Pn	14 39 49.6	+0.9
	baz=241						
SCLT				eS	Sn	14 40 22.7	+0.4
	baz=241						
TAW	Tawu	2.86	222	eP	Pn	14 39 48.2	-0.5
	baz=227						
TWM1	Shoushan	2.86	234	eP	Pn	14 39 50.3	+1.5
	baz=234						
EAST	Anshuo	2.87	223	eP	Pn	14 39 48.6	-0.3
	baz=227						
SCZT	Fangliau	3.02	225	eP	Pn	14 39 51.5	+0.6
	baz=225						
SCZT				eS	Sn	14 40 25.7	-0.7
	baz=225						
TWP	Hsiaoliuchiu	3.21	228	eP	Pn	14 39 55.7	+2.3
	baz=228						
TSEB	Hengchuen, Pin	3.21	216	eP	Pn	14 39 54.8	+1.3
	baz=223						
HEN	Hengchun	3.22	219	eP	Pn	14 39 54.2	+0.6
	baz=220						
TWK1	Hengchun	3.23	218	eP	Pn	14 39 53.9	+0.2
	baz=218						
TWK1				eS	Sn	14 40 30.3	-1.2
	baz=218						
PNG	Penghu	3.24	254	⇓eP	Pn	14 39 53.3	-0.5
	baz=252						
PNG				eS	Sn	14 40 29.5	-2.1
	baz=252						
WDGT	Dungji	3.26	248	eP	Pn	14 39 54.1	0.0
	baz=246						
WDGT				eS	Sn	14 40 30.2	-1.8
	baz=246						
JKE	Kume jima 2	3.91	62	P	Pn	14 40 02.7	-0.2
KNM	Kinmen	4.11	269	eP	Pn	14 40 07.2	+1.7
	baz=267						
KNM				eS	Sn	14 40 52.1	-0.5
	baz=267						
JJT2	Tamagusuku 2	4.64	69	P	Pn	14 40 13.2	+0.6
JNTH	Nagotoyohara	5.00	66	P	Pn	14 40 16.6	-1.0
JIH	Iheya	5.17	60	P	Pn	14 40 19.0	-0.9
JOW	Kunigami	5.33	63	P	Pn	14 40 20.8	-1.3
JOW	Kunigami	5.33	63	P	Pn	14 40 20.7	-1.3
	0.8nm,0.3s,baz=189,slow=13,SNR=63						
JOW				S	Sn	14 41 19.4	-2.9
	0.6nm,0.3s,baz=148,slow=19,SNR=3.4						
JOW	Kunigami	5.33	63	eP	Pn	14 40 20.6	-1.5
	baz=64						
KSRS	Korea Array	13.58	17	P	Pn	14 42 14.4	+1.3
	1.8nm,0.3s,baz=197,slow=12,SNR=40						
KSRS				LR	LR	14 48 35.9	
	comp=Z,74nm,19.4s,baz=151,slow=43						
CMAR	Chiang Mai Arr	23.11	260	P	P	14 44 02.8	+0.5
	0.3nm,0.3s,baz=58,slow=7.6,SNR=4.7						
ASAJ	Asahikawa	25.29	35	P	P	14 44 19.1	-2.7
	1.8nm,0.4s,baz=235,slow=9.5,SNR=11						
MKAR	Makanchi Array	39.22	315	P	P	14 46 22.7	-0.5
	0.2nm,0.6s,baz=104,slow=8.5,SNR=3.9						
WRA	Warramunga Arr	45.57	165	P	P	14 47 15.1	+0.3
	4.7nm,0.7s,baz=347,slow=8.4,SNR=25						
ASAR	Alice Springs	49.07	167	P	P	14 47 42.7	+0.8
	0.6nm,0.3s,baz=352,slow=6.8,SNR=59						
STKA	Stephens Creek	58.85	161	P	P	14 48 52.9	-0.1
	0.6nm,0.4s,baz=341,slow=9.4,SNR=4.8						
YKA	Yellowknife Ar	82.03	23	P	P	14 51 14.2	+0.7
	0.2nm,0.5s,baz=306,slow=5.2,SNR=7.3						

BJI 11 14:48:17.0, 39°.70N×83°.05E, h5km, mB4.5/5, mb4.3/10, ML4.4/11, Ms3.9/7, Ms7 3.6/4

ISCJB 11 14:48:18.4±0.3, 39°.81N±0°.03×83°.25E±0°.04, h10km, mb3.9/20, MS3.0/3, Error ellipse: s-maj=5.3km s-min=3.7km az=138.5

IDC 11 14:48:18.4±0.8, 39°.73N×83°.12E, h0km, mb3.8/14,

mb1 3.9/20, mb1mx3.9/35, mbtmp3.8/20, ML3.7/6, MS3.0/5, Ms1 3.0/5, ms1mx2.8/50, Error ellipse: s-maj=20.0km s-min=13.5km az=46.0
NNC 11 14:48:21.4±2.4, 39.94N×83.09E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=19.4km s-min=14.4km az=155.0
MOS 11 14:48:22.6±0.8, 39.84N×83.13E, h36km, mb4.1/15, Error ellipse: s-maj=11.0km s-min=5.7km az=126.0
ISC 11 14:48:20.6±0.5, 39.90N±0.05×83.16E±0.04, h10km, n93, σ1.52/90, mb3.8/20, MS3.4/3, 20C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	5.17	39	Pg	Pb	14 49 47.1	-4.1
WMQ				Sn	Sb	14 50 51.0	-2.4
WMQ	comp=N,290nm,0.6s			smax	smax		
WMQ	comp=E,320nm,0.6s			smax	smax		
KSH	Kashi	5.56	268	Pn	Pn	14 49 48.2	+4.8
KSH				Sn	Sn	14 50 54.2	+6.8
KSH	comp=N,340nm,0.6s			smax	smax		
KSH	comp=E,340nm,0.5s			smax	smax		
KNDC	Almaty 39nm,0.3s	5.71	307	⇑Pn	Pn	14 49 49.1	+3.6
KNDC	59nm,0.5s			⇑Pg	Pg	14 50 08.0	-1.8
KNDC	78nm,0.7s			⇑Sn	Sn	14 50 51.3	+0.3
KNDC	394nm,1.0s			⇑Lg	Lg	14 51 23.2	
ULHL	Ulahol SNR=65	5.73	296	P	Pn	14 49 47.6	+1.6
ULHL	Ulahol	5.73	296	*i* P	Pn	14 49 47.5	+1.6
AAA	Alma-Ata	5.75	308	*e*P	Pb	14 49 59.1	-1.9
AAA				*e*S	Sn	14 50 58.2	+6.2
AAA	comp=Z,100nm,0.3s			pmax	pmax		
KZA	Kyzart SNR=7.1	6.37	293	P	Pn	14 49 56.0	+1.1
KZA	Kyzart	6.37	293	*i* P	Pn	14 49 55.9	+1.1
TKM2	Tokmak 2 comp=Z,5.4nm,0.2s	6.44	300	⇑Pn	Pn	14 49 57.0	+1.4
TKM2	comp=Z,25nm,0.6s			⇓Sn	Sn	14 51 08.6	-0.6
TKM2	comp=Z,101nm,0.6s			⇓Lg	Lg	14 51 45.4	
TKM2	Tokmak 2 SNR=79	6.44	300	P	Pn	14 49 58.2	+2.6
TKM2	Tokmak 2	6.44	300	*i* P	Pn	14 49 58.1	+2.6
KBK	Karagaybulak SNR=14	6.77	297	P	Pn	14 50 02.6	+2.5
KBK	Karagaybulak	6.77	297	*i* P	Pn	14 50 02.6	+2.5
MK02	Makanchi Array comp=Z,2.9nm,0.4s	6.89	355	⇑Pn	Pn	14 50 04.8	+3.1
MK02	comp=Z,24nm,0.7s			⇑Sn	Sn	14 51 21.9	+1.8
MK02	comp=Z,72nm,0.7s			⇓Lg	Lg	14 52 02.7	
MK31	Makanchi Array	6.92	355	P	Pn	14 50 04.9	+2.9
MK31	comp=Z,8.0nm,0.2s			pmax	pmax		
MKAR	Makanchi Array	6.92	355	*i* P	Pn	14 50 05.1	+3.1
MKAR	comp=Z,4.0nm,0.3s			pmax	pmax		
MKAR	Makanchi Array comp=Z,2.8nm,0.3s,baz=186,slow=12,SNR=123	6.92	355	Pn	Pn	14 50 05.6	+3.6
MKAR	comp=Z,12nm,0.3s,baz=172,slow=23,SNR=5.6			Lg	Lg	14 52 05.5	
UCH	Uchtor SNR=9.2	6.94	292	P	Pn	14 50 04.5	+1.8
UCH	Uchtor	6.94	292	*i* P	Pn	14 50 04.5	+1.8
AAK	Ala-Archa comp=Z,5.3nm,0.6s	7.08	295	⇑Pn	Pn	14 50 06.1	+1.7
AAK	comp=Z,19nm,0.7s			⇓Sn	Sn	14 51 29.1	+4.2
AAK	comp=Z,67nm,1.0s			⇑Lg	Lg	14 52 07.9	
AAK	Ala-Archa SNR=13	7.08	295	P	Pn	14 50 07.0	+2.6
AAK	Ala-Archa	7.08	295	*e*P	Pn	14 50 06.7	+2.4
AAK	comp=Z,16nm,0.7s			pmax	pmax		
AAK	Ala-Archa comp=Z,1.7nm,0.3s,baz=109,slow=7.9,SNR=32	7.08	295	Pn	Pn	14 50 06.6	+2.2
AAK	comp=Z,4.1nm,0.3s,baz=209,slow=19,SNR=3.8			Lg	Lg	14 52 06.7	
AAK	comp=Z,26nm,19.0s,baz=112,slow=37			LR	LR	14 52 43.5	
USP	Ospenovka SNR=13	7.31	300	P	Pn	14 50 09.5	+2.0
USP	Ospenovka	7.31	300	*i* P	Pn	14 50 09.4	+2.0
AML	Almayashu SNR=7.0	7.50	290	P	Pn	14 50 12.1	+1.7
AML	Almayashu	7.50	290	*i* P	Pn	14 50 12.0	+1.7
EKS2	Erkin-Say SNR=11	7.59	294	P	Pn	14 50 14.2	+2.9
EKS2	Erkin-Say	7.59	294	*i* P	Pn	14 50 14.2	+2.9
KK31	Karatay Array comp=Z,0.5nm,0.6s,baz=115,slow=12,SNR=5.8	10.02	293	⇓Pn	Pn	14 50 45.0	+0.6
KK31	comp=Z,3.9nm,0.7s,baz=107,slow=14,SNR=7.3			⇓Pg		14 51 21.6	
KK31	comp=Z,4.6nm,0.8s			⇑Sn	Sn	14 52 41.9	+5.1
KK31	comp=Z,29nm,1.1s,baz=103,slow=27,SNR=5.0			⇑Lg	Lg	14 53 34.6	
CHCP	Chirah Chowk	10.09	235	P	Pn	14 50 42.8	-2.7
CEP	Cherat	10.86	240	P	Pn	14 50 52.7	-3.5
CEP				S	Sn	14 52 48.0	-10
KURBB	Kurchatov Arra comp=Z,16nm,0.6s	11.20	345	⇑Sn	Sn	14 53 11.2	+5.3
KURBB	comp=Z,57nm,0.8s			⇓Lg	Lg	14 54 18.5	
KURBB	Kurchatov Arra comp=Z,0.6nm,0.3s,baz=171,slow=12,SNR=13	11.20	345	Pn	Pn	14 51 01.7	+1.1
KURBB	comp=Z,0.8nm,0.3s,baz=67,slow=31,SNR=4.4			Lg	Lg	14 54 24.2	
KURK	Kurchatov comp=Z,2.2nm,0.7s	11.27	345	⇓Pn	Pn	14 51 02.1	+0.4
KURK	comp=Z,8.4nm,0.8s			⇑Sn	Sn	14 53 09.6	+2.0
KURK	comp=Z,6.6nm,0.7s			⇑Lg	Lg	14 54 18.1	
KURK	Kurchatov	11.27	345	P	Pn	14 51 02.0	+0.4
KURK	comp=Z,2.0nm,0.7s			pmax	pmax		
DANN	Dangsing	11.53	177	*e*P	Pn	14 51 05.9	+0.4
SARP	Sargodha	11.64	230	P	Pn	14 51 01.6	-5.2
KOLN	Koldanda comp=Z,7.7nm,0.5s	12.11	178	*e*P	Pn	14 51 10.8	-2.5
GUN	Gumba comp=Z,8.3nm,0.6s	12.17	169	*e*P	Pn	14 51 15.6	+1.3
PKIN	Phulchoki comp=Z,7.9nm,0.6s	12.43	171	*e*P	Pn	14 51 15.3	-2.5
PKI	Pulchoki	12.44	171	*e*P	Pn	14 51 15.4	-2.6
JIRN	Jiri	12.46	167	*e*P	Pn	14 51 18.2	-0.2
GTA	Gaotai	12.85	87	*e*P	Pn	14 51 22.7	-0.6
GTA				pP		14 51 26.3	
GTA				sP		14 51 29.0	
GTA				S	Sn	14 53 46.1	-0.2
GTA				sS		14 53 51.6	
GTA				SS	SnSn	14 54 00.8	+2.5
GTA	comp=Z,7.0nm,1.2s			pmax	pmax		
GTA	comp=Z,240nm,8.3s			LR	LR		
GTA	comp=Z,140nm,7.4s			LR	LR		
ZALV	Zalesovo Beam comp=Z,0.4nm,0.3s,baz=193,slow=12,SNR=11	14.10	4	Pn	Pn	14 51 41.0	+0.8
ZALV	comp=Z,0.4nm,0.3s,baz=176,slow=23,SNR=3.4			Sn	Sn	14 54 13.3	-3.2
VOSK	Vostochnaya comp=Z,4.3nm,0.6s	15.31	331	⇑P	Pn	14 51 56.8	+0.2
BVA0	Borovoye Array comp=Z,12nm,0.9s,baz=141,slow=12,SNR=42	15.77	331	⇑P	Pn	14 52 03.6	+1.1
BVA0	Borovoye Array	15.77	331	*i* P	Pn	14 52 03.9	+1.3
BVA0	comp=Z,13nm,0.9s			pmax	pmax		
BVAR	Borovoye Array comp=Z,1.0nm,0.3s,baz=145,slow=15,SNR=27	15.77	331	Pn	Pn	14 52 03.1	+0.5
BVAR	comp=Z,0.2nm,0.3s,baz=134,slow=23,SNR=3.3			Lg	Lg	14 56 50.5	
BRVK	Borovoye comp=Z,26nm,0.9s	15.84	330	⇑P	Pn	14 52 04.3	+0.9
BRVK	Borovoye	15.84	330	*e*P	Pn	14 52 04.9	+1.5
BRVK	comp=Z,9.0nm,0.8s			pmax	pmax		
ZAK	Zakamensk	17.59	47	*e*P	P	14 52 38.6	+12
ZAK	comp=Z,2.0nm,1.7s			pmax	pmax		
SONM	Songino Array comp=Z,0.1nm,0.3s,baz=248,slow=14,SNR=16	18.48	57	P	Pn	14 52 37.6	+0.8
SONM	comp=Z,97nm,20.8s,baz=214,slow=41			LR	LR	15 01 05.5	
ULN	Ulaanbaatar	18.92	57	⇓*i*P	Pn	14 52 45.6	+3.5
ULN	comp=Z,5.0nm,1.7s			pmax	pmax		
AB31	Akbulak array comp=Z,1.8nm,0.5s,baz=106,slow=12,SNR=65	18.94	307	P	Pn	14 52 41.5	-0.6
AB31	Akbulak array	18.94	307	*i* P	Pn	14 52 41.5	-0.6
AB31	comp=Z,2.0nm,0.4s			pmax	pmax		
AKTO	Aktyubinsk comp=Z,6.4nm,0.8s	20.52	309	⇑P	P	14 52 59.0	+0.1
AKTO	Aktyubinsk	20.52	309	P	P	14 52 58.9	+0.1
AKTO	comp=Z,5.0nm,0.6s			pmax	pmax		
AKTO	Aktyubinsk comp=Z,5.0nm,0.6s,baz=99,slow=14,SNR=16	20.52	309	P	P	14 52 58.8	0.0
SVE	Sverdlovsk	22.43	326	*e*P	P	14 53 20.6	+1.4
SVE	comp=Z,12nm,0.9s			pmax	pmax		
ARU	Arti	23.10	324	*d i*P	P	14 53 26.8	+0.5
ARU				S	S	14 57 34.0	-3.3
ARU				SS	SnSn	14 58 11.1	+1.3
ARU	comp=Z,5.0nm,1.0s			pmax	pmax		
CMAR	Chiang Mai Arr	25.35	143	P	P	14 53 46.8	-0.9
CMAR	comp=Z,1.0nm,0.4s			pmax	pmax		
CMAR	comp=Z,6.0nm,21.1s			MLR	MLR		
CMAR	Chiang Mai Arr comp=Z,0.7nm,0.3s,baz=336,slow=11,SNR=4.1	25.35	143	P	P	14 53 46.8	-0.9
CMAR	comp=Z,5.7nm,21.1s,baz=320,slow=41			LR	LR	15 05 28.3	
BRTR	Keskin Array B comp=Z,1.2nm,0.6s,baz=85,slow=7.3,SNR=5.8	37.64	286	P	P	14 55 35.6	-0.2
AKASG	Malin Array Be	38.64	305	P	P	14 55 43.6	-0.3
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax		
AKASG	Malin Array Be comp=Z,0.8nm,0.4s,baz=65,slow=9.2,SNR=5.2	38.64	305	P	P	14 55 43.6	-0.3
TIXI	Tiksi	39.09	21	*e*P	P	14 55 47.9	+0.6
TIXI	comp=Z,1.0nm,1.0s			pmax	pmax		
FINES	FINESS Array B	40.43	322	P	P	14 55 59.0	+0.3
FINES	comp=Z,1.0nm,0.4s			pmax	pmax		
FINES	comp=Z,15nm,28.6s			MLR	MLR		
FINES	FINESS Array B comp=Z,0.8nm,0.4s,baz=109,slow=8.6,SNR=9.3	40.43	322	P	P	14 55 59.0	+0.3
FINES	comp=Z,73nm,18.5s,baz=89,slow=37			LR	LR	15 13 27.3	
ARCES	ARCESS Array B	42.02	334	P	P	14 56 12.9	+1.2
ARCES	comp=Z,4.0nm,0.7s			pmax	pmax		
ARCES	ARCESS Array B comp=Z,3.7nm,0.7s,baz=90,slow=8.2,SNR=19	42.02	334	P	P	14 56 12.9	+1.2
DPC	Dobruska-Polom	46.81	306	*e*P	P	14 56 51.3	+1.0
DPC	Dobruska-Polom	46.81	306	*e*P	P	14 56 51.3	+1.0
UPC	Upice	46.97	306	*e*P	P	14 56 52.2	+0.8
UPC	Upice	46.97	306	*e*P	P	14 56 52.2	+0.8
NB2	NORSAR Subarra comp=Z,1.2nm,0.4s,baz=82,slow=7.9	47.61	321	P	P	14 56 56.3	-0.1
NOA	NORSAR Array B	47.61	321	P	P	14 56 56.7	+0.3
NOA	comp=Z,2.0nm,0.5s			pmax	pmax		
NOA	comp=Z,15nm,28.6s			MLR	MLR		
NOA	NORSAR Array B comp=Z,1.5nm,0.5s,baz=83,slow=7.6,SNR=7.5	47.61	321	P	P	14 56 56.7	+0.3
NOA	comp=Z,34nm,18.5s,baz=65,slow=39			LR	LR	15 19 04.0	
GERES	GERESS Array B	48.86	305	P	P	14 57 06.6	+0.4
GERES	comp=Z,1.0nm,0.5s			pmax	pmax		
GERES	GERESS Array B comp=Z,0.6nm,0.5s,baz=72,slow=8.6,SNR=6.1	48.86	305	P	P	14 57 06.6	+0.4
LPL	La Plagne comp=Z,5.5nm,0.3s	54.46	303	*e*P	P	14 57 48.5	+0.2
SMF	Signal de Mont comp=Z,4.6nm,0.6s	55.85	305	*e*P	P	14 57 57.7	-0.4
AVF	Avril sur Loir comp=Z,6.3nm,0.7s	56.10	305	*e*P	P	14 57 59.7	-0.1
TCF	Toulx Ste Croi comp=Z,2.3nm,0.4s	57.03	305	*e*P	P	14 58 05.9	-0.6
KMBO	Kilima Mbogo	58.49	237	*c e*P	P	14 58 17.8	+0.4
KMBO	comp=Z,1.0nm,0.4s			pmax	pmax		
ILAR	Eielson Array	68.56	21	P	P	14 59 23.5	+0.5
ILAR	comp=Z,1.0nm,0.9s			pmax	pmax		
ILAR	Eielson Array comp=Z,0.5nm,0.9s,baz=306,slow=4.9,SNR=6.6	68.56	21	P	P	14 59 23.4	+0.5
INK	Inuvik comp=Z,0.3nm,0.6s,baz=15,slow=3.0,SNR=3.8	68.67	14	P	P	14 59 24.2	+0.7
TORD	Torodi Ar. Bea comp=Z,1.0nm,0.6s,baz=41,slow=5.1,SNR=6.2	75.19	275	P	P	15 00 01.7	-1.9
WRA	Warramunga Arr comp=Z,0.4nm,0.5s,baz=330,slow=5.6,SNR=3.0	76.29	131	P	P	15 00 08.8	-0.8
YKA	Yellowknife Ar	76.95	8	*c e*P	P	15 00 12.8	0.0
YKA	Yellowknife Ar comp=Z,0.3nm,0.6s,baz=340,slow=5.8,SNR=5.8	76.95	8	P	P	15 00 11.9	-0.9
ASAR	Alice Springs comp=Z,0.2nm,0.8s,baz=322,slow=5.1,SNR=4.2	78.97	134	P	P	15 00 23.9	-0.7

ZUR 11 14:54:42.7, 47.54N×8.18E, h3km±2km, ML1.7/3, 3C, Suspected Mining explosion., Switzerland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SULZ	Cheisacher 5μm,0.9s	0.04	255	⇑*i*Pg	Pg	14 54 44.0	+0.3
SLE	Schleitheim 170nm,1.4s	0.31	43	⇑*i*Pg	Pg	14 54 49.1	+0.3
BALST	Balsthal 116nm,0.5s	0.38	238	⇑*i*Pg	Pg	14 54 50.8	+0.6

ISCJB 11 14:55:15.9±0.7, 14.78S±0.06×167.4E±0.1, h129km, mb4.0/12, Error ellipse: s-maj=15.5km s-min=8.2km az=7.1
IDC 11 14:55:16.9±2.6, 14.77S×167.38E, h122km±23km, mb3.9/14, mb1 4.0/15, mb1mx3.9/24, mbtmp4.3/15, Error ellipse: s-maj=20.5km s-min=17.3km az=102.0
ISC 11 14:55:17.4±0.7, 14.79S±0.08×167.4E±0.1, h129km, n30, σ1.04/32, mb4.1/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac 4.2nm,0.3s,baz=30,slow=14,SNR=32	7.30	187	P	Pn	14 57 01.9	+0.3
DZM	baz=44,slow=18,SNR=2.0			S	Sn	14 58 22.1	-0.9
EIDS	Eidsvold baz=20,SNR=9.9	18.59	233	P	Pn	14 59 26.2	-0.3
PMG	Port Moresby 9.1nm,1.0s,baz=103,slow=7.9,SNR=3.8	20.52	283	P	P	14 59 46.2	+0.6
CTA	Charters Tower 8.5nm,0.8s,baz=79,slow=14,SNR=7.0	20.86	252	P	P	14 59 49.7	+0.3
RMQ	Roma baz=22,SNR=12	20.95	233	P	P	14 59 51.4	+1.1
QLP	Quilpie baz=26,SNR=9.7	24.61	238	P	P	15 00 26.2	+0.3
URZ	Urewera 1.8nm,0.4s,baz=234,slow=8.7,SNR=5.8	24.90	162	P	P	15 00 29.8	+1.5
CMSA	Cobar Meteorol baz=27,SNR=6.3	25.94	226	P	P	15 00 40.3	+2.5
STKA	Stephens Creek 3.9nm,0.3s,baz=54,slow=8.6,SNR=45	29.07	230	P	P	15 01 06.3	+0.6
STKA	Stephens Creek baz=30,SNR=6.3	29.07	230	P	P	15 01 06.3	+0.6
HTT	Hallett baz=33,SNR=3.2	31.79	229	P	P	15 01 30.1	+0.3
WRA	Warramunga Arr 0.4nm,0.3s,baz=89,slow=8.1,SNR=5.3	31.95	256	P	P	15 01 29.5	-1.9
ASAR	Alice Springs 3.0nm,0.8s,baz=80,slow=9.4,SNR=50	32.79	249	P	P	15 01 36.9	-1.8
ASAR	0.4nm,0.8s,baz=84,slow=3.5,SNR=4.7			ScP	ScP	15 07 54.5	+1.2
BBOO	Buckleboo baz=35,SNR=8.2	33.66	232	P	P	15 01 46.2	+0.2
WRKA	Warakurna baz=39,SNR=14	38.05	248	P	P	15 02 22.4	-1.3
WSI	Waingapu baz=47,SNR=3.8	46.27	271	S	S	15 10 17.1	+9.3
MEEK	Meekatharra baz=48,SNR=5.5	46.90	247	P	P	15 03 34.5	-0.7
ASAJ	Asahikawa 5.1nm,0.8s,baz=166,slow=12,SNR=5.4	62.85	340	P	P	15 05 30.7	+1.2
PETK	Petropavlovsk- 1.9nm,0.4s,baz=148,slow=11,SNR=4.6	68.14	354	P	P	15 06 04.0	+0.7
CMAR	Chiang Mai Arr 0.5nm,0.3s,baz=126,slow=4.6,SNR=5.3	75.11	294	P	P	15 06 46.7	+0.8
SONM	Songino Array 0.6nm,0.4s,baz=140,slow=6.0,SNR=9.2	82.63	324	P	P	15 07 26.7	+0.2
ILAR	Eielson Array 1.2nm,0.7s,baz=241,slow=4.9,SNR=9.0	86.54	18	P	P	15 07 44.0	-1.6
MKAR	Makanchi Array 1.0nm,0.7s,baz=63,slow=6.5,SNR=13	97.35	316	P	P	15 08 36.0	-0.1
ZALV	Zalesovo Beam 0.9nm,0.7s,baz=99,slow=7.7,SNR=4.9	97.53	324	P	P	15 08 35.9	-0.8
YKA	Yellowknife Ar 0.2nm,0.8s,baz=251,slow=4.5,SNR=3.7	97.53	27	P	P	15 08 35.2	-1.3
ARCES	ARCESS Array B 1.3nm,0.3s,baz=80,slow=1.9,SNR=14	120.35	345	PKP	PKPdf	15 13 52.3	-0.6
FINES	FINESS Array B 0.5nm,0.4s,baz=96,slow=1.4,SNR=6.3	125.83	338	PKP	PKPdf	15 14 04.0	+0.4
KEST	Kesra 1.6nm,0.7s,baz=37,slow=10,SNR=3.3	151.35	321	PKPbc	PKPbc	15 14 56.5	0.0
ESDC	Sonseca Array 0.3nm,0.4s,baz=25,slow=2.8,SNR=2.9	154.08	345	PKPab	PKPab	15 15 17.3	+1.0
TORD	Torodi Ar. Bea 0.4nm,0.9s,baz=90,slow=1.4,SNR=2.2	166.05	265	PKP	PKPdf	15 15 08.1	0.0
TORD	0.6nm,0.9s,baz=107,slow=5.0,SNR=3.1			PKPab	PKPab	15 16 08.8	-0.4

JMA 11 15:06:02.9, 24.08N×121.74E, h53km±1km, M3.2
ISCJB 11 15:06:03.5±0.3, 24.14N±0.02×121.78E±0.02, h58km±4km, Error ellipse: s-maj=3.8km s-min=2.2km az=147.9
TAP 11 15:06:03.3, 24.14N×121.72E, h53km, ML3.6, C
ISC 11 15:06:04.1±1.2, 24.13N±0.03×121.77E±0.02, h52km±6km, n61, σ0.80/111, 8C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWD	Chiawan baz=257	0.16	252	*i* P	Pn	15 06 12.2	-0.2
TWD	baz=257			S	Sn	15 06 18.5	+0.1
EHP	Heping Village baz=9.0	0.18	353	*e*P	Pn	15 06 12.7	+0.1
HWA	Hwalien baz=204	0.21	224	*e*P	Pn	15 06 13.0	+0.2
HWA	baz=204			*e*S	Sn	15 06 19.5	+0.5
ENA	Nanau	0.30	356	⇑*i*P	Pn	15 06 13.4	0.0
ENA				*e*S	Sn	15 06 20.9	+0.8
ESL	Shilin baz=225	0.44	224	⇑P	Pn	15 06 13.8	-1.1
ESL	baz=225			*e*S	Sn	15 06 21.3	-1.3
WHF	Hehuan Shan baz=271	0.46	272	⇑*i*P	Pn	15 06 15.0	-0.5
WHF	baz=271			S	Sn	15 06 22.8	-0.8
TEGC	Jichi Village baz=200	0.47	206	*e*P	Pn	15 06 15.5	+0.3
NNS	Nan Shan baz=317	0.47	311	⇑*i*P	Pn	15 06 14.9	-0.5
NNS	baz=317			*e*S	Sn	15 06 23.2	-0.2
TWC	Suao baz=21	0.48	9	*i* P	Pn	15 06 15.6	+0.3
TWC	baz=21			S	Sn	15 06 24.4	+1.0
ENTT	Nioudou baz=342	0.54	340	⇑*i*P	Pn	15 06 15.7	-0.4
ENTT	baz=342			S	Sn	15 06 24.7	+0.1
TWT	Tachien baz=277	0.55	283	⇑*i*P	Pn	15 06 16.3	0.0
TWT	baz=277			S	Sn	15 06 25.2	+0.1
ILA	Ilan baz=357	0.63	358	*e*P	Pn	15 06 17.6	+0.5
NSK	Sanguang baz=329	0.66	326	⇑*i*P	Pn	15 06 17.1	-0.4
NSK	baz=329			*e*S	Sn	15 06 26.9	-0.4
EGS	baz=26	0.73	12	P	Pn	15 06 18.9	+0.5
EGS	baz=26			*e*S	Sn	15 06 29.4	+0.7
EHY	Hungye baz=210	0.74	213	*e*P	Pn	15 06 16.8	-1.8
SMLT	Sun Moon Lake baz=247	0.83	253	*e*P	Pn	15 06 19.8	0.0
SMLT	baz=247			*e*S	Sn	15 06 31.4	+0.3
NSTT	Nanjuang baz=306	0.86	306	P	Pn	15 06 19.8	-0.3
NSTT	baz=306			S	Sn	15 06 31.8	+0.1
TYC	Yuchr baz=249	0.86	255	P	Pn	15 06 20.2	+0.2
TYC	baz=249			*e*S	Sn	15 06 32.3	+0.5
TWF1	Yuli baz=212	0.89	209	*e*P	Pn	15 06 18.6	-1.8
TWB1	Santiao Chiao baz=30	0.90	13	*e*P	Pn	15 06 20.8	+0.2
TWB1	baz=30			S	Sn	15 06 33.4	+0.8
TWQ1	Liyutan baz=283	0.93	284	⇓*i*P	Pn	15 06 20.8	-0.3
TWQ1	baz=283			*e*S	Sn	15 06 33.4	-0.1
NWF	Wu-fen Shan baz=352	0.94	1	P	Pn	15 06 20.9	-0.2
NWF	baz=352			S	Sn	15 06 34.6	+0.9
NSY	Sanyi baz=287	0.96	287	P	Pn	15 06 21.4	0.0
NSY	baz=287			*e*S	Sn	15 06 34.2	+0.1
YUS	Yu-Shan baz=218	0.98	230	P	Pn	15 06 21.9	-0.2
YUS	baz=218			*e*S	Sn	15 06 34.7	-0.6
NCU	National Centr baz=330	0.99	328	*e*P	Pn	15 06 21.3	-0.5
NCU	baz=330			*e*S	Sn	15 06 34.7	-0.1
TCU	Taichung baz=270	1.00	271	P	Pn	15 06 21.7	-0.2
TCU	baz=270			*e*S	Sn	15 06 35.1	+0.1
TWS1	Kuangyinshan baz=345	1.02	342	*e*P	Pn	15 06 21.6	-0.6
TWS1	baz=345			*e*S	Sn	15 06 35.3	-0.2
WNT	Mingjian baz=254	1.02	256	*e*P	Pn	15 06 22.4	+0.2
WNT	baz=254			*e*S	Sn	15 06 36.8	+1.3
ALS	Alishan baz=226	1.07	235	⇑*i*P	Pn	15 06 23.5	+0.3
ALS	baz=226			*e*S	Sn	15 06 37.7	+0.4
CHKT	Chengkung baz=197	1.09	200	*e*P	Pn	15 06 22.1	-1.0
CHKT	baz=197			*e*S	Sn	15 06 37.6	+0.4
JYNG	Yonagunijimaku	1.12	73	P	Pn	15 06 23.5	0.0
JYNG				*e*S	Sn	15 06 38.7	+0.8
CHN5	Tsauling baz=232	1.13	242	⇓*i*P	Pn	15 06 23.9	+0.1
CHN5	baz=232			*e*S	Sn	15 06 39.3	+1.1
ELDTW	Lidau baz=208	1.16	216	*e*P	Pn	15 06 23.5	-0.7
YOJ	Yonaguni jima	1.18	74	P	Pn	15 06 24.1	-0.2
YOJ				*e*S	Sn	15 06 39.2	-0.2

WGK	Gukeng	1.19	248	eP	Pn	15 06 24.9	+0.4
	baz=246						
WGK				eS	Sn	15 06 41.0	+1.5
	baz=246						
CHN2	Minshiung	1.32	244	eP	Pn	15 06 26.9	+0.6
	baz=233						
CHN2				eS	Sn	15 06 45.0	+2.2
	baz=233						
CHN4	Tsaushan	1.33	234	P	Pn	15 06 26.9	+0.6
	baz=232						
CHN4				eS	Sn	15 06 44.3	+1.4
	baz=232						
WTP	Ta-pu	1.38	230	P	Pn	15 06 27.4	+0.3
	baz=228						
WTP				eS	Sn	15 06 45.2	+1.1
	baz=228						
CHY	Chiayi	1.38	243	eP	Pn	15 06 27.6	+0.5
	baz=231						
CHY				eS	Sn	15 06 45.2	+1.0
	baz=231						
WTCT	Ta-ch'eng	1.38	259	eP	Pn	15 06 26.1	-0.9
	baz=258						
WTCT				eS	Sn	15 06 44.3	+0.1
	baz=258						
TWG	Pinlang	1.45	206	eP	Pn	15 06 26.6	-1.4
	baz=194						
TWG				eS	Sn	15 06 43.4	-2.5
	baz=194						
TWK	Hsinying	1.45	234	P	Pn	15 06 28.2	+0.1
	baz=232						
TWK				eS	Sn	15 06 46.9	+0.9
	baz=232						
CHN1	Nanshi	1.48	231	⇓P	Pn	15 06 28.5	+0.2
	baz=229						
CHN1				S	Sn	15 06 47.6	+1.1
	baz=229						
WSF	Szhu	1.50	251	eP	Pn	15 06 28.3	-0.3
	baz=261						
WSF				eS	Sn	15 06 47.9	+0.9
	baz=261						
SGST	Jiashian	1.50	226	P	Pn	15 06 29.2	+0.4
	baz=224						
SGST				eS	Sn	15 06 48.3	+1.0
	baz=224						
CHN3	Shinhua	1.66	231	eP	Pn	15 06 32.0	+1.2
	baz=229						
ECL	Taimali	1.70	206	eP	Pn	15 06 32.7	+1.3
	baz=197						
SCLT	Jiali	1.73	237	eP	Pn	15 06 32.2	+0.5
	baz=235						
SSD	Sandimen	1.73	217	eP	Pn	15 06 32.7	+0.9
	baz=227						
SSD				S	Sn	15 06 53.8	+1.1
	baz=227						
TWM1	Shoushan	1.79	224	eP	Pn	15 06 33.3	+0.6
	baz=221						
IRIF	Iriomote-Funau	1.80	83	P	Pn	15 06 32.4	-0.4
IRIF				eS	Sn	15 06 54.4	-0.1
HATJ	Hateruma jima	1.86	92	P	Pn	15 06 33.9	+0.3
EAST	Anshuo	1.93	206	eP	Pn	15 06 34.7	+0.1
	baz=197						
EAST				eS	Sn	15 06 58.9	+1.1
	baz=197						
SCZT	Fangliau	2.04	211	eP	Pn	15 06 36.5	+0.4
	baz=222						
SCZT				eS	Sn	15 07 01.8	+1.4
	baz=222						
JKRS	Kuro-shima	2.05	87	P	Pn	15 06 36.4	+0.2
JKRS				S	Sn	15 07 01.2	+0.6
PNG	Penghu	2.10	255	eP	Pn	15 06 34.8	-2.1
	baz=254						
PNG				eS	Sn	15 07 00.6	-1.2
	baz=254						
WDGT	Dungji	2.12	246	eP	Pn	15 06 36.5	-0.6
	baz=245						
WDGT				eS	Sn	15 07 01.2	-1.0
	baz=245						
JIJ	Ishigaki jima	2.18	83	P	Pn	15 06 37.3	-0.7
JIJ				S	Sn	15 07 03.0	-0.8
JISG	Ishigakijimahi	2.36	78	P	Pn	15 06 39.8	-0.7
JISG				S	Sn	15 07 07.3	-1.0
JTJ	Tarama	2.72	79	P	Pn	15 06 45.3	-0.1
JTJ				eS	Sn	15 07 17.3	+0.2
KNM	Kinmen	3.06	276	eP	Pn	15 06 49.4	-0.6
	baz=274						
KNM				eS	Sn	15 07 24.7	-0.6
	baz=274						

TAP 11 15:23:18.9, 24°.24N×121°.70E, h30km, ML3.7, B
JMA 11 15:23:18.1±0.1, 24°.16N×121°.65E, h35km±1km, M2.8
ISCJB 11 15:23:19.2±0.3, 24°.21N±0°.02×121°.77E±0°.02, h23km±2km, Error ellipse: s-maj=3.4km s-min=2.2km az=42.0
ISC 11 15:23:19.5±0.9, **24°.23N**±0°.02×**121°.72E**±0°.02, **h28km**±5km, **n64**, σ0s.76/108, **8C-3D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.09	12	eP	Pb	15 23 24.1	-0.3
	baz=35						
EHP				S	Sb	15 23 28.8	+1.0
	baz=35						
TWD	Chiawan	0.19	218	⇑iP	Pb	15 23 25.1	-0.1
	baz=215						
TWD				iS	Sb	15 23 29.6	+0.4
	baz=215						
ENA	Nanau	0.20	5	⇓iP	Pb	15 23 25.3	-0.2
	baz=14						
ENA				iS	Sb	15 23 29.7	+0.1
	baz=14						
HWA	Hwalien	0.27	203	P	Pb	15 23 26.2	-0.1
	baz=202						
HWA				eS	Sb	15 23 32.1	-0.7
	baz=202						
NNS	Nan Shan	0.38	304	⇑iP	Pb	15 23 27.4	-0.7
	baz=304						
NNS				S	Sb	15 23 33.3	-0.6
	baz=304						
TWC	Suao	0.40	17	⇓iP	Pb	15 23 28.0	-0.2
	baz=18						
TWC				iS	Sb	15 23 34.7	+0.6
	baz=18						
ESF	Shoufeng Towns	0.41	209	eP	Pb	15 23 28.5	+0.2
	baz=217						
WHF	Hehuan Shan	0.42	259	⇑iP	Pb	15 23 28.3	-0.6
	baz=263						
WHF				iS	Sb	15 23 34.6	-0.8
	baz=263						
ENTT	Nioudou	0.43	341	⇓iP	Pb	15 23 28.2	-0.6
	baz=343						
ENTT				eS	Sb	15 23 34.8	-0.3
	baz=343						
ESL	Shilin	0.49	213	⇑iP	Pb	15 23 28.5	-1.1
	baz=220						
ESL				eS	Sb	15 23 35.9	-0.6
	baz=220						
TWT	Tachien	0.50	273	⇑P	Pb	15 23 29.7	-0.2
	baz=268						
TWT				iS	Sb	15 23 37.1	+0.1
	baz=268						
ILA	Ilan	0.54	3	eP	Pb	15 23 29.9	-0.5
	baz=360						
ILA				eS	Sb	15 23 38.2	+0.3
	baz=360						
NSK	Sanguang	0.56	324	⇑iP	Pb	15 23 30.0	-0.8
	baz=317						
NSK				iS	Sb	15 23 37.7	-0.9
	baz=317						
EGS		0.65	17	eP	Pb	15 23 31.3	-0.9
	baz=20						
NSTT	Nanjuang	0.77	302	eP	Pb	15 23 34.1	-0.2
	baz=301						
NSTT				eS	Sb	15 23 43.8	-0.7
	baz=301						
EHY	Hungye	0.81	207	eP	Pn	15 23 32.4	-2.6
	baz=205						
TWB1	Santiao Chiao	0.81	17	eP	Pb	15 23 35.2	+0.1
	baz=19						
TWB1				eS	Sn	15 23 46.5	+0.2
	baz=19						
SMLT	Sun Moon Lake	0.82	246	⇑P	Pn	15 23 34.5	-0.9
	baz=241						
SMLT				eS	Sb	15 23 45.9	-0.2
	baz=241						
TAP1	Taipei	0.83	347	eP	Pn	15 23 34.9	-0.4
	baz=347						
TAP1				eS	Sb	15 23 46.0	-0.1
	baz=347						
TAP	Taipei	0.83	346	eP	Pn	15 23 34.8	-0.6
	baz=347						
TAP				eS	Sb	15 23 46.2	0.0
	baz=347						
NWF	Wu-fen Shan	0.84	4	P	Pn	15 23 35.4	-0.2
	baz=351						
NWF				eS	Sn	15 23 47.2	+0.1
	baz=351						
TYC	Yuchr	0.85	248	⇑P	Pn	15 23 34.8	-0.8
	baz=243						
TYC				eS	Sb	15 23 46.7	-0.1
	baz=243						
TWQ1	Liyutan	0.87	278	eP	Pb	15 23 36.4	+0.4
	baz=277						
TWQ1				eS	Sn	15 23 48.0	+0.2
	baz=277						
NCU	National Centr	0.89	327	eP	Pn	15 23 35.4	-0.7
	baz=326						
NCU				eS	Sn	15 23 48.6	+0.6
	baz=326						
HSN	Hsinchu	0.89	310	eP	Pb	15 23 36.4	0.0
	baz=312						
HSN				eS	Sn	15 23 48.8	+0.6
	baz=312						
NSY	Sanyi	0.90	282	eP	Pb	15 23 36.9	+0.4
	baz=281						
NSY				eS	Sn	15 23 49.5	+1.1
	baz=281						
TWS1	Kuangyinshan	0.91	342	eP	Pn	15 23 36.3	-0.2
	baz=352						
TWS1				eS	Sn	15 23 49.1	+0.4
	baz=352						
TWF1	Yuli	0.95	204	eP	Pn	15 23 34.6	-2.4
	baz=212						
TCU	Taichung	0.96	266	eP	Pb	15 23 37.6	+0.1
	baz=264						
TCU				eS	Sb	15 23 51.6	+1.8
	baz=264						
WNT	Mingjian	1.01	250	eP	Pb	15 23 38.5	+0.1
	baz=250						
WNT				eS	Sb	15 23 52.8	+1.5
	baz=250						
YUS	Yu-Shan	1.02	224	eP	Pn	15 23 37.7	-0.6
	baz=214						
YUS				eS	Sn	15 23 50.6	-1.3
	baz=214						
ALS	Alishan	1.10	230	eP	Pn	15 23 39.3	0.0
	baz=219						
JYNG	Yonagunijimaku	1.14	78	P	Pn	15 23 39.3	-0.3
CHN5	Tsauling	1.14	237	eP	Pn	15 23 39.9	+0.2
	baz=237						
CHN5				eS	Sb	15 23 56.5	+1.4
	baz=237						
CHKT	Chengkung	1.17	196	eP	Pn	15 23 40.1	+0.1
	baz=209						
CHKT				eS	Sn	15 23 55.0	0.0
	baz=209						
WGK	Gukeng	1.19	243	eP	Pb	15 23 41.3	-0.1
	baz=243						
WGK				eS	Sb	15 23 57.7	+1.3
	baz=243						
YOJ	Yonaguni jima	1.20	78	P	Pn	15 23 40.3	-0.1
YOJ	Yonaguni jima	1.20	78	eP	Pn	15 23 40.2	-0.1
	baz=79						
ELDTW	Lidau	1.22	212	eP	Pn	15 23 39.2	-1.6
	baz=201						
CHN2	Minshiung	1.33	239	eP	Pb	15 23 44.0	+0.2
	baz=240						
CHN2				eS	Sb	15 24 02.8	+2.3
	baz=240						
CHN4	Tsaushan	1.35	230	eP	Pn	15 23 43.4	+0.8
	baz=222						
CHN4				eS	Sb	15 24 02.2	+1.1
	baz=222						
WTCT	Ta-ch'eng	1.36	255	eP	Pb	15 23 43.6	-0.7
	baz=255						
WTCT				eS	Sb	15 24 01.6	+0.2
	baz=255						
CHY	Chiayi	1.39	239	eP	Pb	15 23 44.1	-0.7
	baz=239						
CHY				eS	Sb	15 24 03.5	+1.3
	baz=239						
WTP	Ta-pu	1.41	226	eP	Pn	15 23 44.1	+0.8
	baz=227						
WTP				eS	Sb	15 24 03.3	+0.6
	baz=227						
TWK	Hsinying	1.48	230	eP	Pb	15 23 45.4	-0.9
	baz=220						
TWK				eS	Sb	15 24 04.7	-0.1
	baz=220						
WSF	Szhu	1.49	247	eP	Pn	15 23 44.3	-0.1
	baz=247						
WSF				eS	Sb	15 24 05.3	+0.2
	baz=247						
CHN1	Nanshi	1.51	227	eP	Pb	15 23 46.0	-0.8
	baz=230						
CHN1				eS	Sb	15 24 06.0	+0.5
	baz=230						
TWG	Pinlang	1.52	203	eP	Pn	15 23 44.9	+0.1
	baz=190						
SGST	Jiashian	1.54	223	P	Pn	15 23 46.1	+0.9
	baz=214						
SGST				S	Sb	15 24 07.6	+1.0
	baz=214						
CHN8	Yiju	1.64	238	eP	Pn	15 23 47.0	+0.5
	baz=228						
CHN8				eS	Sb	15 24 09.5	+0.3
	baz=228						
SCLT	Jiali	1.75	234	eP	Pn	15 23 48.1	+0.1
	baz=224						
SCLT				eS	Sb	15 24 12.1	-0.3
	baz=224						
ECL	Taimali	1.77	204	eP	Pn	15 23 48.0	-0.2
	baz=195						
SSD	Sandimen	1.78	214	eP	Pn	15 23 49.0	+0.6
	baz=216						
IRIF	Iriomote-Funau	1.84	86	P	Pn	15 23 48.8	-0.4
TWM1	Shoushan	1.84	221	eP	Pb	15 23 51.8	-0.7
	baz=223						
EAST	Anshuo	2.00	204	eP	Pn	15 23 52.1	+0.6
	baz=198						
JKRS	Kuro-shima	2.09	89	P	Pn	15 23 52.7	+0.1
JKRS				eS	Sn	15 24 18.3	+0.6
PNG	Penghu	2.09	252	eP	Pn	15 23 52.7	+0.1
	baz=250						
SCZT	Fangliau	2.11	209	eP	Pn	15 23 54.1	+1.3
	baz=200						
WDGT	Dungji	2.12	243	eP	Pn	15 23 53.2	+0.1
	baz=243						
JIJ	Ishigaki jima	2.21	86	P	Pn	15 23 54.0	-0.4
JIJ				eS	Sn	15 24 21.2	+0.4
JISG	Ishigakijimahi	2.39	81	P	Pn	15 23 56.2	-0.5
JISG				eS	Sn	15 24 26.0	+0.9
TWK1	Hengchun	2.42	201	eP	Pn	15 23 56.8	-0.5
	baz=196						
JTJ	Tarama	2.75	81	P	Pn	15 24 01.8	+0.1

ISCJB 11 15:23:40.5±0.5, 57°.71N±0°.04×10°.63E±0°.05, h0km, Error ellipse: s-maj=6.4km s-min=3.7km az=9.1
CSEM 11 15:23:40.8±0.2, 57°.64N×10°.64E, h2km, ML2.6, Error ellipse: s-maj=4.1km s-min=2.9km az=10.0, Suspected Mining explosion.
UPP 11 15:23:41.0, 57°.63N×10°.67E, h0km, ML2.6, Suspected Mining explosion.
BER 11 15:23:43.6±1.5, 57°.65N×10°.80E, h15km, MD2.2, ML1.4
IDC 11 15:23:44.4±2.2, 57°.79N×10°.71E, h0km, mb1 3.1/4, mb1mx2.9/30, mbtmp3.0/4, ML2.7/4, Error ellipse: s-maj=22.0km s-min=16.4km az=86.0
ISC 11 15:23:40.8±0.9, **57°.65N**±0°.04×**10°.64E**±0°.03, **h0km, n42**, σ0s.47/49, **Denmark**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TJOU	Tjoern	0.65	54	P	Pg	15 23 53.5	+0.2
TJOU				S	Sg	15 24 01.6	-0.1
TJOU	Tjoern	0.65	54	P	Pg	15 23 53.5	+0.2
TJOU				S	Sg	15 24 01.6	-0.1
VANU	Vaenersborg	1.14	42	P	Pg	15 24 02.5	-0.1
VANU	Vaenersborg	1.14	42	P	Pg	15 24 02.5	-0.1
BORU	Boraas	1.15	90	P	Pg	15 24 02.1	-0.6
BORU	Boraas	1.15	90	P	Pg	15 24 02.1	-0.6
HOMB	Homborsund	1.29	300	eP	Pg	15 24 05.6	0.0
HOMB				ePg	Pn	15 24 06.4	+0.4
HOMB				eS	Sb	15 24 22.9	-0.2
HOMB				IAML		15 24 25.9	
	comp=Z,6.0nm,0.2s						
HOMB	Homborsund	1.29	300	eP	Pg	15 24 05.6	0.0
	SNR=55						
STRU	Stroemstad	1.42	11	P	Pg	15 24 07.6	-0.3
STRU	Stroemstad	1.42	11	P	Pg	15 24 07.6	-0.3
MUD	Monsted U'grnd	1.44	214	eP	Pb	15 24 09.4	+1.0
MUD	Monsted U'grnd	1.44	214	iP	Pb	15 24 09.4	+1.0
MUD	Monsted U'grnd	1.44	214	eP	Pn	15 24 06.7	-1.4
	SNR=66						
GNOU	Gnosjoe	1.72	101	P	Pn	15 24 12.0	0.0
GNOU	Gnosjoe	1.72	101	P	Pn	15 24 12.0	0.0
FKPU	Falk	1.73	72	P	Pn	15 24 11.9	-0.1
FKPU	Falk	1.73	72	P	Pn	15 24 11.9	-0.1
NASU	Vaermlandsnaes	1.86	45	P	Pn	15 24 14.1	+0.3
NASU	Vaermlandsnaes	1.86	45	P	Pn	15 24 14.1	+0.3
SNART	Snartemo	1.95	292	eP	Pn	15 24 15.1	0.0
SNART				eS	Sn	15 24 40.1	-0.1
SNART				IAML		15 24 44.8	
	comp=Z,11nm,0.3s						
FINU	Finntorp	2.01	28	P	Pn	15 24 16.3	+0.4
FINU	Finntorp	2.01	28	P	Pn	15 24 16.3	+0.4
KONO	Kongsberg	2.08	345	eP	Pn	15 24 16.8	0.0
KONO				eSg	Sg	15 24 47.0	-0.4
KONO				IAML		15 24 52.8	
	comp=Z,4.4nm,0.4s						
KONO	Kongsberg	2.08	345	eP	Pn	15 24 16.8	0.0
	SNR=55						
KONO				eSg	Sg	15 24 47.0	-0.4
	SNR=91						
DEL	Delary	2.13	122	P	Pn	15 24 17.9	+0.4
DEL	Delary	2.13	122	P	Pn	15 24 17.9	+0.4
ASKU	Askersund	2.54	59	P	Pn	15 24 23.8	+0.6
ASKU	Askersund	2.54	59	P	Pn	15 24 23.8	+0.6
BLS5	Blasjo	2.82	311	eP	Pn	15 24 27.4	+0.2
HFS	Hagfors	2.95	31	Pn	Pn	15 24 29.2	+0.3
	comp=Z,0.5nm,0.3s,baz=215,slow=12,SNR=19						
HFS				Lg	Lg	15 25 11.6	
	comp=Z,0.9nm,0.3s,baz=216,slow=27,SNR=8.9						
ODD1	Odda	3.08	319	eP	Pn	15 24 31.2	+0.5
ODD1				eS	Sn	15 25 07.2	-1.0
KMY	Karmoy	3.24	301	eP	Pn	15 24 32.8	0.0
KMY				IAML		15 25 13.7	
	comp=Z,2.7nm,0.6s						
NOA	NORSAR Array B	3.41	5	Pn	Pn	15 24 34.5	-0.8
	comp=Z,0.3nm,0.3s,baz=182,slow=12,SNR=13						
NOA				Lg	Lg	15 25 29.3	
	comp=Z,0.8nm,0.3s,baz=157,slow=20,SNR=5.6						
RUND	Rundenannen	3.88	318	eP	Pn	15 24 41.7	0.0
ASK	Askoy	3.99	318	eP	Pn	15 24 43.5	+0.3
HYA	Hoyanger	4.20	329	eP	Pn	15 24 45.7	-0.2
SUE	Sulen	4.55	321	eP	Pn	15 24 50.8	0.0
SUE	Sulen	4.55	321	eP	Pn	15 24 50.8	0.0
	SNR=53						
AKN	Aaknes	4.90	340	eP	Pn	15 24 54.9	-0.7
AKN	Aaknes	4.90	340	eP	Pn	15 24 54.9	-0.7
	SNR=53						
FINES	FINESS Array B	8.71	58	Pn	Pn	15 25 47.8	-0.1
	comp=Z,0.3nm,0.3s,baz=249,slow=12,SNR=13						
ARCES	ARCESS Array B	13.57	23	Pn	Pn	15 26 50.4	-3.9
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=4.0						

BJI 11 15:29:00.5, 60°.20N×152°.40W, h107km, mB5.0/8, mb4.7/21
ISCJB 11 15:29:02.1±0.2, 60°.25N±0°.02×152°.44W±0°.04, h113km±2km, mb4.1/21, Error ellipse: s-maj=3.9km s-min=3.0km az=141.7
NEIC 11 15:29:03.2, 60°.22N×152°.48W, h113km, mb3.7/1, After AEIC.
NEIC Felt [II] at Homer. Also felt at Anchorage, Anchor Point, Eagle River and Kenai.
IDC 11 15:29:04.9±0.8, 60°.51N×152°.64W, h111km±7km, mb3.7/16, mb1 3.9/20, mb1mx3.7/49, mbtmp4.2/20, MS3.1/1, Ms1 3.1/1, ms1mx2.5/37, Error ellipse: s-maj=13.6km s-min=10.1km az=4.0
ISC 11 15:29:03.8±0.5, **60°.26N**±0°.03×**152°.49W**±0°.03, **h111km**±3km, **h110km:pP-P, n133**, σ1s.25/164, **mb4.1**/21, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSO	Redoubt South	0.25	327	P	Pn	15 29 18.5	-1.2
RDN	Redoubt North	0.29	332	P	Pn	15 29 18.6	-1.1
DFR	Drift River	0.35	344	P	Pn	15 29 18.8	-1.2
DFR				S	Sn	15 29 30.2	-1.9
IVE	Iliamna Volcan	0.36	228	P	Pn	15 29 18.9	-1.2
NCT	North Crescent	0.38	325	P	Pn	15 29 18.9	-1.2
ILW	Iliamna West	0.38	239	P	Pn	15 29 19.0	-1.2
OPT	Oil Point	0.71	212	P	Pn	15 29 21.4	-0.9
HOM	Homer	0.73	144	P	Pn	15 29 21.9	-0.5
HOM				S	Sn	15 29 36.5	-0.1
BRLK	Bradley Lake	0.94	121	P	Pn	15 29 23.4	-1.0
BRLK				S	Sn	15 29 38.9	-1.1
CKL	Chakachamna La	0.95	4	P	Pn	15 29 23.9	-0.7
CKT	Bend	0.96	8	P	Pn	15 29 23.9	-0.8
CKT				S	Sn	15 29 39.4	-1.0
AUL	Augustine Lava	1.00	209	P	Pn	15 29 24.4	-0.6
SPBG	Spurr Blockage	1.01	3	P	Pn	15 29 24.7	-0.5
SPBG				S	Sn	15 29 40.8	-0.6
BGL	Barrier Glacie	1.01	3	P	Pn	15 29 24.8	-0.4
AUP	Augustine Pinn	1.01	208	P	Pn	15 29 24.5	-0.7
AUH	Augustine H	1.02	209	P	Pn	15 29 24.6	-0.7
AUI	Augustine Isla	1.04	208	P	Pn	15 29 24.6	-0.8
CGLM	Capps Glacier	1.08	12	P	Pn	15 29 25.5	-0.5
CGLM				S	Sn	15 29 41.7	-1.0
SLKM	Skilak Lake	1.15	76	P	Pn	15 29 25.8	-0.8
STLK	Strandline Lak	1.29	14	P	Pn	15 29 27.8	-0.4
MCNL	McNeil River	1.43	222	P	Pn	15 29 28.6	-1.1
FIB	Fire Island	1.46	50	P	Pn	15 29 30.8	+0.8
FIB				S	Sn	15 29 51.3	+1.3
SUA	Susitna One	1.48	34	P	Pn	15 29 30.4	-0.1
SUA				S	Sn	15 29 50.5	-0.3
SEW	Seward	1.52	94	P	Pn	15 29 29.8	-1.0
SEW				S	Sn	15 29 49.6	-1.8
RC01	Rabbit Creek A	1.59	57	P	Pn	15 29 31.4	-0.3
RC01				S	Sn	15 29 51.8	-1.1
SVW2	Sparrevohn	1.74	300	P	Pn	15 29 32.2	-1.3
SVW2				S	Sn	15 29 54.4	-1.8
SKT	Skwentna	1.79	15	P	Pn	15 29 33.5	-0.6
SKT				S	Sn	15 29 57.0	-0.3
PTE	Portage	1.82	69	P	Pn	15 29 34.3	-0.1
KAHC	Katmai Hardscr	2.06	220	P	Pn	15 29 35.6	-2.1
PMR	Palmer	2.12	49	P	Pn	15 29 37.0	-1.1
PMR				S	Sn	15 30 02.4	-2.1
PWL	Port Wells	2.14	72	P	Pn	15 29 37.1	-1.4
PWL				S	Sn	15 30 03.1	-1.9
KAKN	Katmai Knife C	2.37	215	P	Pn	15 29 40.7	-0.8
KVTA	Katmai Vly 10	2.37	219	P	Pn	15 29 39.6	-1.8
KCE	Katmai Mt Cerb	2.45	216	P	Pn	15 29 41.1	-1.4
KELA	Mount Kelaz	2.47	224	P	Pn	15 29 41.1	-1.8
KDAK	Kodiak Island	2.48	181	P	Pn	15 29 40.9	-2.0
KABR	Katmai Barrier	2.48	212	P	Pn	15 29 41.5	-1.6
PPLA	Purkeypile	2.66	3	P	Pn	15 29 45.4	+0.1
GLI	Glacier Island	2.73	74	P	Pn	15 29 43.8	-2.5
GLI				S	Sn	15 30 15.6	-3.3
SCM	Sheep Creek Mo	2.97	56	P	Pn	15 29 48.2	-1.1
HIN	Hinchinbrook I	2.98	85	P	Pn	15 29 47.4	-2.0
JPK	Jack Peak	3.01	72	P	Pn	15 29 48.7	-1.2
OHAK	Old Harbor	3.07	188	P	Pn	15 29 48.2	-2.5
TT01	Tatalina	3.15	329	P	Pn	15 29 50.9	-0.8
VLZ	Valdez	3.15	71	P	Pn	15 29 50.2	-1.4
CAST	Castle Rocks	3.18	3	P	Pn	15 29 51.6	-0.5
MID	Middleton Isla	3.21	102	P	Pn	15 29 52.5	0.0
EYAK	Cordova Ski Ar	3.36	82	P	Pn	15 29 52.2	-2.2
TRF	Thorofare Moun	3.37	17	P	Pn	15 29 53.8	-0.9
KTH	Kantishna Hill	3.39	12	P	Pn	15 29 54.3	-0.6
DIV	Divide	3.42	72	P	Pn	15 29 53.7	-1.6
RND	Reindeer	3.60	27	P	Pn	15 29 56.9	-0.8
SGAM	Sherman Glacie	3.62	83	P	Pn	15 29 55.7	-2.3
CHUM	Lake Minchumin	3.64	1	P	Pn	15 29 57.7	-0.5
DHY	Denali Highway	3.73	39	P	Pn	15 29 58.8	-0.8
PS12	TAPS Pump St12	3.79	68	P	Pn	15 29 59.2	-1.1
PS11	TAPS Pump St11	3.86	59	P	Pn	15 30 00.5	-0.6
GOAT	Goat Mountain	3.86	82	P	Pn	15 29 59.3	-2.0
MCK	McKinley	3.87	24	P	Pn	15 30 00.8	-0.5
RAGM	Ragged Mountai	3.89	85	P	Pn	15 30 00.9	-0.6
BMRM	Bremner River	3.95	76	P	Pn	15 30 00.7	-1.7
HARP	HAARP	4.14	55	P	Pn	15 30 04.3	-0.6
BWN	Browne	4.18	18	P	Pn	15 30 05.5	+0.2

PAX Paxson 4.32 48 P Pn 15 30 06.9 -0.5
PS10 TAPS Pump St10 4.50 42 P Pn 15 30 10.2 +0.5
WRH Wood River Hil 4.70 24 P Pn 15 30 11.0 -1.4
MLY Manley 4.86 9 P Pn 15 30 12.9 -1.7
HDA Harding Lake 4.90 29 P Pn 15 30 14.6 -0.5
CCB Clear Creek Bu 4.91 24 P Pn 15 30 13.8 -1.4
GCSA Galena City Sc 4.95 338 P Pn 15 30 15.6 0.0
MENT Mentasta 4.98 53 ePn Pn 15 30 14.4 -1.7
PS08 TAPS Pump Stn8 5.04 29 P Pn 15 30 16.4 -0.6
COLA College 5.11 23 P Pn 15 30 17.6 -0.2
MDM Murphy Dome 5.11 21 P Pn 15 30 16.6 -1.3
ILAR Eielson Array 5.22 27 P Pn 15 30 18.9 -0.5
51nm,0.3s,baz=213,slow=14,SNR=4101
ILAR S Sn 15 31 14.8 -3.5
24nm,0.3s,baz=216,slow=25,SNR=4.8
IL1 Eielson Array 5.22 27 P Pn 15 30 18.7 -0.7
DOT Dot Lake 5.23 46 P Pn 15 30 18.9 -0.7
GLM Gilmore Dome 5.30 24 P Pn 15 30 20.0 -0.5
CHX Chaix Hills 5.68 87 P Pn 15 30 25.2 -0.5
PS06 TAPS Pump Stn6 5.76 11 P Pn 15 30 26.9 +0.2
IM04 Indian Mountai 5.77 355 ePn Pn 15 30 25.4 -1.4
IM3 Indian Mountai 5.78 355 P Pn 15 30 26.3 -0.6
BCA3 Beaver Creek A 5.82 56 P Pn 15 30 26.8 -0.8
EGAK Eagle 6.93 44 P Pn 15 30 41.5 -1.0
COLD Coldfoot 7.07 7 P Pn 15 30 44.3 -0.1
FYU Fort Yukon 7.12 24 P Pn 15 30 44.4 -0.6
DAWY Dawson 7.22 52 P Pn 15 30 46.0 -0.5
DRIA Deer Island 7.46 229 P Pn 15 30 47.8 -2.0
TNA Tin City 8.81 314 ePn Pn 15 31 07.7 -0.3
10nm,0.4s
WRAK Wrangell Islan 11.24 101 ePn Pn 15 31 41.0 +0.1
29nm,0.6s
INK Inuvik 11.48 37 P Pn 15 31 41.9 -2.0
1.5nm,0.3s,baz=234,slow=18,SNR=47
INK S Sn 15 33 46.5 -3.4
0.4nm,0.3s,baz=168,slow=14,SNR=2.4
INK Inuvik 11.48 37 ePn Pn 15 31 41.6 -2.4
16nm,0.6s
INK S Sn 15 33 46.5 -3.4
DLBC Dease Lake 11.59 89 P Pn 15 31 47.0 +1.4
2.3nm,0.3s,baz=264,slow=7.5,SNR=13
DLBC S Sn 15 33 51.9 -1.1
1.4nm,0.3s,baz=270,slow=20,SNR=5.3
DLBC LR LR 15 36 29.2
comp=Z,92nm,20.4s,baz=232,slow=38
DLBC Dease Lake 11.59 89 ePn Pn 15 31 46.1 +0.5
DLBC S Sn 15 33 51.9 -1.1
BBB Bella Bella 15.70 110 P P 15 32 42.6 +2.5
0.4nm,0.3s,baz=298,slow=8.8,SNR=9.3
BBB S Sn 15 35 32.4 +0.3
0.5nm,0.3s,baz=104,slow=17,SNR=4.4
YKA Yellowknife Ar 18.11 66 P Pn 15 33 07.4 -0.3
1.1nm,0.3s,baz=274,slow=9.8,SNR=100
YKA PcP PcP 15 37 35.0 +0.2
0.1nm,0.3s,baz=278,slow=1.7,SNR=5.1
YKA ScP ScP 15 41 00.0 +0.4
baz=294,slow=2.0,SNR=9.5
BILL Bilibino 19.23 311 eP P 15 33 19.0 +0.1
2.7nm,0.7s
NEW Newport 23.56 105 pP pP 15 34 29.1 +2.6
2.6nm,0.9s,baz=314,slow=10,SNR=3.7
RES Resolute Bay 24.95 32 P P 15 34 15.7 -0.5
1.7nm,0.6s,baz=266,slow=13,SNR=3.6
SEY Seymchan 25.68 300 P P 15 34 21.9 -1.0
1.2nm,0.6s,baz=77,slow=20,SNR=6.5
PETK Petropavlovsk- 27.68 278 P P 15 34 40.8 -0.1
1.1nm,0.6s,baz=75,slow=14,SNR=8.1
NVAR Mina Array Bea 30.62 120 P P 15 35 10.2 +2.8
0.2nm,0.7s,baz=324,slow=9.1,SNR=2.6
NVAR pP pP 15 35 33.6 +1.8
0.4nm,0.5s,baz=324,slow=10,SNR=3.4
PDAR Pinedale Array 31.21 105 P P 15 35 16.3 +3.8
0.4nm,0.9s,baz=15,slow=3.7,SNR=2.8
PDAR pP pP 15 35 40.0 +3.0
1.0nm,0.9s,baz=323,slow=5.9,SNR=4.8
SPITS Spitsbergen Ar 41.64 3 P P 15 36 39.4 -1.0
2.6nm,0.6s,baz=23,slow=7.8,SNR=11
SCHQ Schefferville 43.21 57 P P 15 36 54.2 +1.0
2.2nm,1.0s,baz=304,slow=11,SNR=4.3
SCHQ pP pP 15 37 20.6 +1.8
3.3nm,0.6s,baz=320,slow=7.4,SNR=2.7
USRK Ussuriysk Arra 46.22 285 P P 15 37 16.3 -0.9
2.2nm,0.7s,baz=32,slow=8.5,SNR=4.5
CN2 Changchun 49.63 290 eP P 15 37 43.4 -0.1
CN2 pmax pmax
comp=Z,10.0nm,0.7s
ARCES ARCESS Array B 50.49 1 P P 15 37 50.0 +0.3
2.4nm,0.9s,baz=12,slow=6.2,SNR=5.5
KSRS Korea Array 53.37 283 P P 15 38 12.2 +0.8
4.2nm,0.9s,baz=43,slow=7.7,SNR=7.6
KSAR Wonju Array Be 53.40 283 P P 15 38 12.2 +0.6
SONM Songino Array 54.85 306 P P 15 38 22.8 +0.6
10nm,0.7s,baz=37,slow=7.6,SNR=87
ZALV Zalesovo Beam 57.32 324 P P 15 38 39.1 -0.4
7.3nm,0.5s,baz=29,slow=6.9,SNR=35
MKAR Makanchi Array 64.39 322 P P 15 39 26.3 -1.2
2.1nm,0.8s,baz=40,slow=7.0,SNR=24
MKAR pP pP 15 39 54.0 -0.8
0.8nm,0.8s,baz=72,slow=4.7,SNR=3.9
GTA Gaotai 64.49 305 eP P 15 39 28.4 0.0
GTA pmax pmax
comp=Z,11nm,1.2s
WMQ Urumqi 65.25 316 P P 15 39 33.8 +0.6
WMQ pP pP 15 40 01.1 +0.6
WMQ PcP PcP 15 40 05.0 +0.3
WMQ sP sP 15 40 13.6 +1.0
WMQ PP PP 15 42 00.8 +3.4
WMQ PcS 15 44 07.8
WMQ S S 15 48 07.0 -0.6
WMQ sS sS 15 48 54.5 +0.1
WMQ ScS SKSac 15 49 14.6 -2.9
WMQ pmax pmax
comp=Z,10.0nm,1.0s
WMQ pmax pmax
comp=Z,110nm,4.4s
WMQ LR LR
comp=N,32nm,17.6s
WMQ LR LR
comp=E,83nm,19.4s
WMQ LR LR
comp=Z,37nm,18.0s
LZH Lanzhou 65.61 300 eP P 15 39 36.1 +0.4
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,87nm,4.4s
AKASG Malin Array Be 69.39 359 P P 15 39 57.9 -1.1
0.7nm,0.4s,baz=3.0,slow=6.3,SNR=5.8
CD2 Chengdu 70.05 297 P P 15 40 03.1 -0.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GERES GERESS Array B 70.68 10 P P 15 40 07.1 0.0
0.5nm,0.7s,baz=356,slow=4.0,SNR=4.2
TAPN Taplejung 79.88 308 eP P 15 41 00.5 +0.2
21nm,0.8s
GUN Gumba 80.09 310 eP P 15 41 01.9 +0.4
JIRN Jiri 80.19 310 eP P 15 41 02.5 +0.4
19nm,0.7s
KKN Kakani 80.42 311 eP P 15 41 03.3 +0.2
ODAN Odare 80.45 308 eP P 15 41 03.4 +0.1
9.5nm,0.9s
GKN Gorkha 80.47 311 eP P 15 41 03.4 +0.1
DANN Dangsing 80.49 312 eP P 15 41 03.9 +0.3
22nm,0.7s
PKIN Phulchoki 80.57 310 eP P 15 41 03.9 -0.1
4.5nm,0.7s
PKI Pulchoki 80.57 310 eP P 15 41 04.0 -0.1
DMN Daman 80.65 311 eP P 15 41 04.5 +0.1
RAMN Ramite 80.67 309 eP P 15 41 04.4 -0.1
21nm,0.9s
KOLN Koldanda 81.07 312 eP P 15 41 06.8 +0.2
CMAR Chiang Mai Arr 82.99 295 P P 15 41 16.0 -0.5
2.4nm,1.0s,baz=12,slow=5.6,SNR=14
BOSA Boshof 148.32 4 PKPbc PKPbc 15 48 36.0 -0.6
1.5nm,0.4s,baz=2.1,slow=2.9,SNR=14

IDC 11 15:30:24.4±3.0, 17°.00S×174°.20W, h90km±28km, mb3.7/7, mb1 3.9/8, mb1mx3.6/32, mbtmp4.1/8, Error ellipse: s-maj=37.5km s-min=16.5km az=132.0
ISCJB 11 15:30:25.7±0.8, 16°.83S±0°.2×174°.1W±0°.2, h124km, mb3.9/7, Error ellipse: s-maj=36.2km s-min=10.1km az=41.8
ISC 11 15:30:27.2±0.9, 16°.9S±0°.2×174°.0W±0°.2, h124km, n10, σ1°.70/12, mb4.0/7, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 3.66 36 P Pn 15 31 21.5 -0.9
5.2nm,0.3s,baz=220,slow=3.2,SNR=28
AFI S Sn 15 32 02.2 -2.9
59nm,0.3s,baz=121,slow=15,SNR=18
URZ Urewera 22.68 198 P P 15 35 16.7 -1.4
4.2nm,0.6s,baz=110,slow=12,SNR=9.4
STKA Stephens Creek 42.80 241 P P 15 38 12.2 -0.7
4.2nm,0.9s,baz=74,slow=11,SNR=7.9
WRA Warramunga Arr 48.96 258 P P 15 39 00.0 -1.3
1.5nm,0.5s,baz=96,slow=7.3,SNR=12
ASAR Alice Springs 49.12 253 P P 15 39 01.2 -1.3
9.4nm,0.7s,baz=88,slow=8.5,SNR=196
ASAR PcP PcP 15 40 24.5 +0.2
0.7nm,0.6s,baz=106,slow=3.6,SNR=5.9
PETK Petropavlovsk- 73.87 343 P P 15 41 50.1 +1.9
1.7nm,0.8s,baz=139,slow=11,SNR=3.5
TXAR Lajitas Array 81.92 56 P P 15 42 35.9 +2.4
0.1nm,0.3s,baz=228,slow=12,SNR=3.1
ILAR Eielson Array 84.01 11 P P 15 42 44.5 +1.2
0.3nm,0.7s,baz=234,slow=5.7,SNR=8.5
KMBO Kilima Mbogo 144.36 243 PKP PKPdf 15 49 50.0 0.0
1.2nm,0.4s,baz=62,slow=2.0,SNR=5.1
BRTR Keskin Array B 146.92 319 PKPbc PKPbc 15 49 56.0 +0.3
1.1nm,0.8s,baz=44,slow=3.8,SNR=4.3

MEX 11 15:36:39.8±0.5, 16°.03N×96°.70W, h15km±7km, MD3.5, Oaxaca

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HUIG Huatulco 0.63 115 eP Pg 15 36 49.9 -2.2
HUIG iS Sg 15 36 58.2 -2.3
VHO Vista Hermosa 1.03 358 iP Pb 15 36 55.8 -4.0
VHO iS Sb 15 37 08.8 -4.5
PNIG Pinotepa 1.42 285 eP Pn 15 37 01.8 -3.3
PNIG iS Sn 15 37 18.7 -4.9
CMIG Matias Romero 2.03 59 iP Pn 15 37 10.7 -2.8
CMIG iS Sn 15 37 34.9 -3.8
PCIG 3.36 95 iP Pn 15 37 29.2 -2.7
PCIG iS Sn 15 38 08.2 -3.4

IDC 11 16:02:03.6±1.2, 28°.26S×177°.74W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.8/17, mbtmp3.6/4, MS3.0/1, Ms1 3.0/1, ms1mx2.7/22, Error ellipse: s-maj=33.1km s-min=25.1km az=100.0
ISCJB 11 16:02:08.1±1.4, 28°.40S±0°.09×177°.7W±0°.2, h54km, mb3.6/4, MS2.9/1, Error ellipse: s-maj=29.5km s-min=12.6km az=5.8
ISC 11 16:02:10.5±1.2, 28°.5S±0°.1×177°.7W±0°.2, h54km, n9, σ1°.85/9, mb3.7/4, Kermadec Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 0.78 193 Pn Pn 16 02 24.2 -1.3
220nm,0.3s,baz=273,slow=2.6,SNR=16
RAO Sn Sn 16 02 36.8 +0.3
948nm,0.3s,baz=255,slow=23,SNR=49
PPT Papeete 28.01 73 LR LR 16 18 51.9
comp=Z,29nm,18.5s,baz=142,slow=36
STKA Stephens Creek 35.20 254 P P 16 08 59.5 -0.1
0.9nm,0.7s,baz=90,slow=12,SNR=2.1
ASAR Alice Springs 43.50 265 P P 16 10 08.3 -0.6
0.3nm,0.6s,baz=102,slow=7.0,SNR=10
WRA Warramunga Arr 44.31 270 P P 16 10 15.3 -0.2
0.6nm,0.4s,baz=107,slow=8.0,SNR=2.3
NVAR Mina Array Bea 86.67 43 P P 16 14 46.8 -1.8
0.4nm,0.7s,baz=231,slow=10.0,SNR=3.9
AKASG Malin Array Be 149.91 325 PKPbc PKPbc 16 21 55.9 +1.5
1.2nm,0.6s,baz=44,slow=3.1,SNR=8.2
BRTR Keskin Array B 151.86 302 PKPbc PKPbc 16 22 00.2 +0.6
0.6nm,0.6s,baz=136,slow=3.4,SNR=3.0
TORD Torodi Ar. Bea 164.73 178 PKPab PKPab 16 23 08.1 +3.5
0.3nm,0.5s,baz=172,slow=3.7,SNR=3.4

IDC 11 16:21:44.5±2.4, 14°.84S×173°.21W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/23, mbtmp3.5/4, Error ellipse: s-maj=128.1km s-min=18.4km az=149.0
ISC 11 16:21:47.1±4.5, 15°S±1°×172°.9W±0°.9, h29km, n6, σ0°.22/6, mb3.4/4, Samoa Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 1.67 42 Pn Pn 16 22 14.6 +0.1
17nm,0.3s,baz=205,slow=4.1,SNR=41
AFI Sn Sb 16 22 37.9 0.0
60nm,0.3s,baz=179,slow=19,SNR=9.0
WRA Warramunga Arr 50.35 257 P P 16 30 42.1 +0.2
0.2nm,0.4s,baz=92,slow=6.8,SNR=9.7
ASAR Alice Springs 50.62 252 P P 16 30 43.9 0.0
0.7nm,0.5s,baz=87,slow=7.9,SNR=34
ILAR Eielson Array 82.13 11 P P 16 34 04.3 -0.3
0.3nm,0.8s,baz=210,slow=7.1,SNR=3.9
YKA Yellowknife Ar 89.70 23 P P 16 34 45.2 +3.2
0.1nm,0.5s,baz=237,slow=4.3,SNR=4.0
BRTR Keskin Array B 146.26 322 PKPbc PKPab 16 41 26.2 +0.1
1.3nm,0.9s,baz=4.3,slow=5.8,SNR=2.9

BJI 11 16:29:37.7, 33°.30N×47°.20E, h10km, mB4.9/21, mb4.6/40, Ms4.6/12, Ms7 4.3/11
ISCJB 11 16:29:38.9±0.5, 33°.29N±0°.02×47°.25E±0°.02, h13km±2km, mb4.6/135, MS3.6/9, Error ellipse: s-maj=3.6km s-min=2.3km az=30.8
ISN 11 16:29:39.2±1.9, 33°.48N×47°.43E, h4km±7km, ML4.4
NEIC 11 16:29:40.7±0.8, 33°.36N×47°.27E, h13km±4km, mb4.6/35, MN3.7(TEH), Error ellipse: s-maj=5.3km s-min=3.0km az=181.0
THR 11 16:29:40.8±1.3, 33°.32N×47°.13E, h15km±10km, ML4.3
CSEM 11 16:29:40.4±0.1, 33°.36N×47°.28E, h10km, mb4.7/84, Ms3.8, Error ellipse: s-maj=3.0km s-min=2.2km az=35.0
TEH 11 16:29:41.1, 33°.39N×47°.32E, h14km, ML4.3
MOS 11 16:29:41.1±0.9, 33°.38N×47°.23E, h26km, mb4.8/57, Error ellipse: s-maj=5.7km s-min=3.9km az=116.6
SGS 11 16:29:42.4, 33°.48N×48°.01E, h12km
IDC 11 16:29:43.6±2.2, 33°.38N×47°.27E, h31km±15km, mb4.1/27, mb1 4.1/35, mb1mx4.1/38, mbtmp4.2/35, ML2.6/2, MS3.4/9, Ms1 3.4/9, ms1mx3.2/28, Error ellipse: s-maj=15.5km s-min=10.4km az=171.0
DSN 11 16:29:44.1±99.0, 33°.18N×47°.24E, h25km, mb4.4/7, Ms4.5/6, Error ellipse: s-maj=23.6km s-min=1.6km az=267.0
OMAN 11 16:29:48.6±0.5, 33°.03N×47°.64E, h96km±24km, Error ellipse: s-maj=15.0km s-min=9.6km az=40.0
BGS 11 16:29:51.8±2.1, 34°.53N×46°.36E, h10km, mb5.0
ISC 11 16:29:41.5±0.4, 33°.36N±0°.02×47°.30E±0°.02, h18km±1km, h18km:pP-P, n606, σ1°.15/652, mb4.7/135, MS3.5/9, 40C-27D, Western Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IKFM Kafar-mosalman 0.49 70 ePg Pg 16 29 51.2 -0.2
IKFM Kafar-mosalman 0.49 70 ePg Pg 16 29 51.2 -0.2
IKOM Komasi 0.83 12⇓ePg Pb 16 29 57.0 -0.5
IKOM eSg Sn 16 30 09.8 -0.6
IKOM e 16 30 10.1
comp=Z,30μm,0.2s
IKOM Komasi 0.83 12 Pg Pb 16 29 57.2 -0.3
IKOM Komasi 0.83 12⇓ePg Pb 16 29 57.0 -0.5
IKOM eSg Sn 16 30 09.7 -0.6
IDOB Doab 0.85 60 ePg Pb 16 29 57.5 -0.3
IDOB Doab 0.85 60 ePg Pb 16 29 57.5 -0.3
IKMR Kamar-syah 0.92 80 ePg Pb 16 29 58.5 -0.4
IKMR Kamar-syah 0.92 80 ePg Pb 16 29 58.5 -0.4
IGHG Ghaleghazi 1.14 328 ePg Pn 16 30 02.5 -0.3
IGHG eSg Sg 16 30 21.4 +2.7
IGHG e 16 30 25.4
comp=Z,91μm,0.2s
IGHG Ghaleghazi 1.14 328 Pg Pb 16 30 02.8 -0.1
IGHG Ghaleghazi 1.14 328 ePg Pn 16 30 02.5 -0.3
IBDR Badra 1.17 258 ePG Pg 16 30 07.7 +3.5
IBDR ePG Sg 16 30 23.0 +3.4
IBZA Bozab 1.20 23 e Sg 16 30 26.0 +5.4
comp=Z,8μm,0.2s
IBZA ePg Pn 16 30 03.5 -0.2
IDHR Dehrash 1.54 331 e Sg 16 30 33.8 +2.5
comp=Z,16μm,0.1s
IDHR ePg Pb 16 30 09.8 +0.2
ILIN Lien 1.58 350 ePg Pb 16 30 10.6 +0.3
ILIN e 16 30 44.1
comp=Z,39μm,0.2s
ILIN Lien 1.58 350 Pg Pb 16 30 10.8 +0.5
ILIN Lien 1.58 350 Pg Pb 16 30 10.8 +0.5
SNGE Sanandaj 1.73 1 ePg Pb 16 30 13.7 +0.8
comp=Z,4μm,0.4s
SNGE Sanandaj 1.73 1 ePg Pb 16 30 13.7 +0.8
SNGE AML AML 16 30 40.6
comp=N,4μm,0.4s
SHGR Shooshtar-Gavs 1.78 134 ePg Pb 16 30 14.7 +1.2
SHGR eSg Sg 16 30 39.4 +0.5
comp=N,3μm,0.7s
SHGR Shooshtar-Gavs 1.78 134 ePg Pb 16 30 14.7 +1.2
SHGR eSg Sg 16 30 39.4 +0.5
SHGR AML AML 16 30 48.1
comp=E,3μm,0.6s
SHGR AML AML 16 31 04.3
comp=N,3μm,0.7s
KHMZ Khomeyn 2.25 80 ePn Pb 16 30 21.6 -0.2
comp=N,1μm,0.6s
KHMZ Khomeyn 2.25 80 ePn Pb 16 30 21.6 -0.2
KHMZ Sn Sb 16 30 52.1 +2.7
KHMZ AML AML 16 31 01.2
comp=E,1μm,0.6s
KHMZ AML AML 16 31 03.4
comp=N,1μm,0.6s
BHD Baghdad 2.44 269 ePn Pn 16 30 21.0 +0.6
SNR=3.0
BHD eSn Sn 16 30 51.0 +1.2
SNR=3.0
BHD Baghdad 2.44 269 ePn Pn 16 30 21.0 +0.6
BHD eSn Sn 16 30 51.0 +1.2
NSR Nassriya 2.54 203 ePn Pn 16 30 22.0 +0.3
SNR=3.0
NSR eSn Sn 16 30 53.0 +0.8
SNR=3.0
NSR Nassriya 2.54 203 ePn Pn 16 30 22.0 +0.3
NSR eSn Sn 16 30 53.0 +0.8
ASAO Ashtian 2.56 62 ePn Pb 16 30 25.9 -1.1
ASAO Ashtian 2.56 62 ePn Pb 16 30 25.9 -1.1
IKRK Kirkuk 3.18 311 ePn Pn 16 30 30.5 -0.1
SNR=39
IKRK eSn Sn 16 31 05.0 -3.1
SNR=3.0
IKRK Kirkuk 3.18 311 ePN Pn 16 30 30.5 -0.1
IKRK eSn Sn 16 31 05.0 -3.1
ZNJK Zanjan 3.50 19 ePn Pn 16 30 38.5 +3.4
ZNJK Zanjan 3.50 19 ePn Pn 16 30 38.5 +3.4
ZNJK ePg Pb 16 30 45.1 +2.1
GHVR GHOM 3.51 70 ePn Pn 16 30 38.3 +3.1
comp=N,760nm,0.8s
GHVR GHOM 3.51 70 ePn Pn 16 30 38.3 +3.1
GHVR AML AML 16 31 41.5
comp=N,664nm,0.6s
GHVR AML AML 16 31 50.5
comp=E,760nm,0.8s
CHTH Charan 4.05 50 ePn Pn 16 30 45.4 +2.5
CHTH Charan 4.05 50 ePn Pn 16 30 45.4 +2.5
CHTH Sn Sn 16 31 34.7 +4.7
DAMV Damavand 4.47 58 ePn Pn 16 30 51.7 +3.0
DAMV Damavand 4.47 58 ePn Pn 16 30 51.7 +3.0
MSL Mosul 4.59 313 ePN Pn 16 30 51.2 +1.2
MSL eSn Sn 16 31 40.0 -2.8
CUKT Cukurca 4.92 323 eP Pn 16 30 55.1 +0.5
CUKT Cukurca 4.92 323 eP Pn 16 30 55.1 +0.5
KFJS 5.18 174 P Pn 16 31 00.0 +1.8
KFJS S Sn 16 31 58.0 +0.5
KFJS 5.18 174 S Sn 16 31 57.9 +0.5
KFJS 5.18 174 P Pn 16 31 00.2 +2.0
GRMI Germi 5.46 5 ePn Pn 16 31 05.3 +3.2
SIRT Sirnak 5.73 318 eP Pn 16 31 05.8 +0.1
RTB Rutbah 5.87 269 ePN Pn 16 31 11.0 +3.4
RTB eSN Sn 16 32 13.9 -0.5
CLDR Caldiran 6.39 336 eP Pn 16 31 16.2 +1.3
BTMT Batman 6.75 317 eP Pn 16 31 19.8 +0.1
MAZI Mazidag 6.93 308 eP Pn 16 31 22.2 0.0
GNI Garni 7.08 344 eP Pn 16 31 21.5 -2.8
GNI pmax pmax
comp=Z,29nm,0.8s
GNI Garni 7.08 344 Pn Pn 16 31 28.1 +3.8
comp=Z,0.4nm,0.3s,baz=135,slow=1.4,SNR=3.0
GNI Lg Lg 16 33 29.8
comp=Z,0.6nm,0.3s,baz=0.0,slow=20,SNR=1.8
GNI Garni 7.08 344 ePn Pn 16 31 21.5 -2.8
comp=Z,29nm,0.8s
GNI Lg Lg 16 33 29.8
AGRB Hanur-Agry 7.11 332 eP Pn 16 31 27.0 +2.2
DYBB Diyarbakir 7.41 310 eP Pn 16 31 29.6 +0.8
BOQSS 7.68 166 P Pn 16 31 34.0 +1.6
BOQSS 7.68 166 P Pn 16 31 33.7 +1.3
URFA Urfa 8.03 303 eP Pn 16 31 37.8 +0.5
PTK Pertek 8.45 313 eP Pn 16 31 43.3 +0.2
ASF Jabal al Asfar 8.84 265 P Pn 16 31 47.1 -1.3
ASF 16 33 24.2
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF smax smax
comp=N,2.0nm,0.3s
ASF Jabal al Asfar 8.84 265 Pn Pn 16 31 47.1 -1.3
comp=N,0.7nm,0.3s,baz=44,slow=2.1,SNR=6.1
ASF Sn Sn 16 33 24.2 -3.4
comp=N,1.6nm,0.3s,baz=221,slow=20,SNR=3.0
ASF Lg Lg 16 34 26.8
comp=N,0.7nm,0.3s,baz=202,slow=19,SNR=3.2
SLWS 9.02 160 P Pn 16 31 51.0 +0.3
SLWS 9.02 160 S Sn 16 33 25.6 -6.2
SLWS 9.02 160 P Pn 16 31 51.1 +0.3
BAYT Ayd¯-ntepe-Bay 9.06 323 eP Pn 16 31 52.4 +0.9
ILIC ilic-Erzincan 9.30 313 eP Pn 16 31 55.0 +0.3
KMRS Kahramanmaras 9.44 299 eP Pn 16 31 57.1 +0.6
DARE Darende-Malaty 9.50 306 eP Pn 16 31 57.6 +0.1
MAK Makhachkala 9.59 1 eP Pn 16 31 58.1 -0.4
MAK MLR MLR
comp=Z,1μm,18.0s
MAK Makhachkala 9.59 1 eP Pn 16 31 58.1 -0.4
comp=Z,1μm,18.0s
BTHS 9.79 161 P Pn 16 32 01.0 -0.3
BTHS 9.79 161 S Sn 16 33 46.5 -4.3
BTHS 9.79 161 P Pn 16 32 01.4 +0.1
RAYN Ar Rayn 9.93 190 ePn Pn 16 32 01.6 -1.7
comp=Z,408nm,1.5s
RAYN Ar Rayn 9.93 190 ePn Pn 16 32 01.6 -1.7
comp=Z,408nm,1.5s
MMAI Mount Meron Ar 9.97 271 Pn Pn 16 32 04.5 +0.6
comp=Z,0.8nm,0.3s,baz=85,slow=18,SNR=3.1
MMAI LR LR 16 36 50.4
comp=Z,159nm,21.8s,baz=60,slow=43
SVSK Karacayir 10.55 311 eP Pn 16 32 12.6 +1.0
BANOM Banah 10.78 131 P Pn 16 32 13.8 -1.1
SNR=57
BANOM ⇑S Sn 16 34 08.6 -6.5
BANOM Banah 10.78 131 P Pn 16 32 13.8 -1.1
SNR=57
KBZ Khabaz 10.91 343 Pn Pn 16 32 20.8 +4.2
comp=Z,0.0nm,0.3s,baz=166,slow=14,SNR=1.7
KBZ LR LR 16 37 03.1
comp=Z,103nm,21.8s,baz=147,slow=40
NAZ Nazwa, Dubai 11.08 137 P Pn 16 32 20.3 +1.2
SNR=24
NAZ Nazwa, Dubai 11.08 137⇑iP Pn 16 32 20.3 +1.2
SNR=24
EIL Elat 11.16 254 Pn Pn 16 32 19.3 -0.8
comp=Z,1.2nm,0.3s,baz=121,slow=4.6,SNR=7.3
EIL Lg Lg 16 35 43.6
comp=Z,0.2nm,0.3s,baz=156,slow=20,SNR=3.8
KIV Kislovodsk 11.18 343 eP Pn 16 32 26.6 +6.2
KIV pmax pmax
comp=Z,5.0nm,0.8s
KIV MLR MLR
comp=Z,31nm,9.0s
KIV Kislovodsk 11.18 343 Pn Pn 16 32 13.2 -7.2
ASUD Al Ashush, Dub 11.18 139 P Pn 16 32 21.0 +0.6
SNR=43
ASUD Al Ashush, Dub 11.18 139 iP Pn 16 32 21.0 +0.6
SNR=43
FAQ Al Faqa, Dubai 11.23 138 P Pn 16 32 21.4 +0.3
SNR=9.6
FAQ Al Faqa, Dubai 11.23 138⇓iP Pn 16 32 21.4 +0.3
SNR=9.6
HATD Hatta, Dubai 11.48 135 P Pn 16 32 25.2 +0.6
SNR=17
HATD Hatta, Dubai 11.48 135⇑iP Pn 16 32 25.2 +0.6
SNR=17

ASHO	Ashiyiah	11.55	136	P	Pn	16 32 25.6	+0.1
	SNR=68						
ASHO				⇑S	Sn	16 34 28.4	-5.6
ASHO	Ashiyiah	11.55	136	P	Pn	16 32 25.6	+0.1
	SNR=68						
BR131	Keskin Array S	12.68	304	ePn	Pn	16 32 44.0	+3.0
	comp=Z,1.0nm,0.5s						
BRTR	Keskin Array B	12.68	304	Pn	Pn	16 32 43.4	+2.4
	comp=Z,0.1nm,0.3s,baz=128,slow=14,SNR=16						
BRTR				LR	LR	16 37 57.1	
	comp=Z,62nm,19.2s,baz=110,slow=39						
ARQ	Araqi	12.86	139	⇑P	Pn	16 32 43.1	-0.3
	SNR=11						
ARQ	Araqi	12.86	139	P	Pn	16 32 43.1	-0.3
	SNR=11						
HOQ	Hoqain	13.12	135	⇑P	Pn	16 32 45.6	-1.4
HOQ				⇓S	Sn	16 35 05.7	-6.8
HOQ	Hoqain	13.12	135	P	Pn	16 32 45.6	-1.4
SMDO	Samad	13.96	135	⇓P	Pn	16 32 57.2	-1.3
	SNR=24						
SMDO	Samad	13.96	135	P	Pn	16 32 57.2	-1.3
	SNR=24						
ISP	Isparta	14.36	293	P	Pn	16 33 03.0	-0.9
ISP				pmax	pmax		
	comp=Z,20nm,0.7s						
ISP	Isparta	14.36	293	P	Pn	16 33 03.0	-0.9
	comp=Z,20nm,0.7s						
JMDO	Jabal Madar	14.52	136	P	Pn	16 33 03.7	-2.4
	SNR=14						
WBK	Wadi Bani Khal	14.85	133	⇓P	Pn	16 33 09.7	-1.0
	SNR=17						
DALY	Dalyan (Mu˜la	15.65	288	eP	P	16 33 25.0	0.0
KULA	Kula-Manisa	15.94	294	eP	Pn	16 33 23.3	-1.6
ABTO	Aybut	16.83	160	⇓P	Pn	16 33 33.3	-3.0
	SNR=28						
RBK	Rabkut	16.97	157	P	Pn	16 33 35.6	-2.4
	SNR=12						
KBL	Kabul	18.08	80	eP	P	16 33 53.2	+1.0
KBL				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KBL	Kabul	18.08	80	eP	P	16 33 53.2	+1.0
	comp=Z,6.8nm,0.7s						
KBL	Kabul	18.08	80	eP	P	16 33 53.2	+1.0
	comp=Z,6.8nm,0.7s						
SANT	Santorini	18.17	286	P	Pn	16 33 46.7	-6.1
	comp=Z,65nm,0.9s						
VRHR	Novokhopersk	18.21	348	eP	Pn	16 33 52.6	-0.5
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRHR	Novokhopersk	18.21	348	eP	Pn	16 33 52.6	-0.5
	comp=E,10.0nm,0.7s						
AB31	Akbulak array	18.46	27	P	Pn	16 33 56.4	+0.1
AB31				pmax	pmax		
	comp=Z,12nm,0.7s						
AB31	Akbulak array	18.46	27	P	Pn	16 33 56.4	+0.1
	comp=Z,12nm,0.7s						
ABKAR	Akbulak array	18.46	27	eP	Pn	16 33 56.4	+0.1
	comp=Z,11nm,0.7s						
ABKAR	Akbulak array	18.46	27	eP	Pn	16 33 56.4	+0.1
	comp=Z,11nm,0.7s						
VORD	Divnogorie	18.55	344	eP	P	16 33 56.2	-0.8
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=N,50nm,0.9s						
VORD				pmax	pmax		
	comp=E,20nm,0.8s						
VORD	Divnogorie	18.55	344	eP	P	16 33 56.2	-0.8
	comp=E,50nm,0.9s						
IDI	Anoyia	18.61	282	P	Pn	16 33 59.5	+1.3
	comp=E,1.3nm,0.3s,baz=46,slow=9.6,SNR=6.4						
AKTK	Aktyubinsk	18.80	22	P	Pn	16 34 00.9	+0.5
	comp=E,15nm,28.6s						
AKTO	Aktyubinsk	18.80	22	P	Pn	16 34 00.9	+0.5
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,15nm,28.6s						
AKTO	Aktyubinsk	18.80	22	P	Pn	16 34 00.8	+0.5
	comp=Z,0.6nm,0.3s,baz=200,slow=12,SNR=14						
AKTO				LR	LR	16 43 42.6	
	comp=Z,134nm,18.0s,baz=219,slow=45						
VSR	Storozhevoye	18.81	344	eP	P	16 33 59.1	-0.8
VSR				pmax	pmax		
	comp=N,100nm,0.9s						
VSR				pmax	pmax		
	comp=Z,50nm,0.9s						
VSR				pmax	pmax		
	comp=E,50nm,1.0s						
VSR	Storozhevoye	18.81	344	eP	P	16 33 59.1	-0.8
CFR	Carcaliu	18.91	314	⇑iP	P	16 34 00.8	-0.2
KDZ	Kurdzhali	19.20	302	⇑iP	Pn	16 34 06.4	+1.2
VRI	Vrincioaia	20.11	314	⇑iP	Pn	16 34 15.4	-0.7
PGB	Panagyurishte	20.37	303	eP	P	16 34 17.8	+0.7
MMB	Musomiste	20.39	301	eP	P	16 34 17.7	+0.4
MMB	Musomiste	20.39	301	⇓iP	Pn	16 34 18.4	-1.0
MMB	Musomiste	20.39	301	⇓iP	Pn	16 34 18.4	-1.0
MLR	Muntele Rosu	20.39	313	P	P	16 34 14.5	-2.9
MLR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MLR	Muntele Rosu	20.39	313	⇑iP	Pn	16 34 21.4	+1.8
MLR	Muntele Rosu	20.39	313	P	P	16 34 14.5	-2.9
	comp=Z,0.5nm,0.4s,baz=71,slow=21,SNR=3.2						
TESR	Tescani	20.50	316	⇑iP	P	16 34 19.1	+0.7
SORM	Soroca	20.51	322	⇑iP	P	16 34 18.2	-0.2
KK31	Karatay Array	20.61	55	iP	P	16 34 20.2	+0.5
KK31				pmax	pmax		
	comp=Z,12nm,0.7s						
KK31	Karatay Array	20.61	55	iP	P	16 34 20.2	+0.5
	comp=Z,12nm,0.7s						
KKAR	Karatay Array	20.61	55	eP	P	16 34 20.1	+0.4
KKAR				pmax	pmax		
	comp=Z,15nm,0.8s						
KKAR	Karatay Array	20.61	55	eP	P	16 34 20.1	+0.4
	comp=Z,15nm,0.8s						
KKAR	Karatay Array	20.61	55	eP	P	16 34 20.1	+0.4
	comp=Z,15nm,0.8s						
KKB	Krupnik	20.93	301	eP	P	16 34 22.9	-0.2
DOPR	Dopca	20.97	313	⇑iP	Pn	16 34 24.8	-1.3
VTS	Vitosha	21.05	303	eP	P	16 34 25.8	+1.2
VTS	Vitosha	21.05	303	⇓iP	P	16 34 27.2	+2.6
LOT	Lotru	21.74	311	⇑iP	P	16 34 33.7	+1.8
AKASG	Malin Array Be	21.82	328	P	P	16 34 31.2	-1.4
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKASG	Malin Array Be	21.82	328	P	P	16 34 31.2	-1.4
	comp=Z,4.2nm,0.6s,baz=135,slow=10,SNR=28						
KIEV	Kiev	21.82	328	eP	P	16 34 31.7	-0.9
KIEV				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KIEV	Kiev	21.82	328	eP	P	16 34 31.7	-0.9
	comp=Z,9.5nm,0.6s						
KIEV	Kiev	21.82	328	eP	P	16 34 31.7	-0.9
	comp=Z,9.5nm,0.6s						
BURAR	Bucovina Array	21.91	317	⇓iP	P	16 34 34.2	+0.5
BUR08	Bucovina Ar. S	21.94	317	eP	P	16 34 33.7	-0.3
BUR08	Bucovina Ar. S	21.94	317	eP	P	16 34 33.7	-0.3
GZR	Gura Zlata	22.35	310	⇑iP	P	16 34 40.6	+2.2
AML	Almayashu	22.57	60	P	P	16 34 42.9	+1.8
	SNR=9.8						
EKS2	Erkin-Say	22.76	58	eP	P	16 34 43.8	+0.9
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EKS2	Erkin-Say	22.76	58	eP	P	16 34 43.8	+0.9
	comp=Z,6.2nm,0.8s						
DRGR		22.99	313	⇓iP	P	16 34 45.5	+0.3
OBN	Obninsk	23.02	344	⇓eP	P	16 34 44.2	-1.0
OBN				pmax	pmax		
	comp=Z,17nm,0.6s						
OBN				MLR	MLR		
	comp=Z,129nm,19.0s						
OBN	Obninsk	23.02	344	P	P	16 34 44.6	-0.5
	comp=Z,18nm,0.6s,baz=57,slow=9.7,SNR=5.6						
OBN	Obninsk	23.02	344	eP	P	16 34 43.9	-1.3
	comp=Z,13nm,0.6s						
BZS	Buzias	23.18	309	⇑iP	P	16 34 48.2	+1.1
AAK	Ala-Archa	23.27	59	P	P	16 34 48.5	+0.4
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	Ala-Archa	23.27	59	P	P	16 34 48.5	+0.4
	comp=Z,1.8nm,0.6s,baz=258,slow=4.0,SNR=8.3						
TRPA	Tarpa	23.73	316	⇑iP	P	16 34 53.1	+0.7
LVV	L'vov	23.80	321	eP	P	16 34 54.7	+1.7
KSH	Kashi	23.82	67	P	P	16 34 52.1	-1.4
KSH				esP	sP	16 34 53.9	-7.5
KSH				ePP	PnPn	16 35 17.6	-3.8
KSH				eS	S	16 39 02.1	-6.3
KSH				SS	SnSn	16 39 49.6	+2.2
KSH				pmax	pmax		
	comp=Z,45nm,2.3s						
KSH				LR	LR		
	comp=Z,110nm,4.9s						
KSH				LR	LR		
	comp=Z,130nm,7.7s						
KSH				LR	LR		
	comp=Z,160nm,6.6s						
TKM2	Tokmak 2	24.12	58	eP	P	16 34 58.2	+1.8
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TKM2	Tokmak 2	24.12	58	eP	P	16 34 58.2	+1.8
	comp=Z,4.8nm,0.6s						
KOLS	Kolonicke sedl	24.28	317	eP	P	16 35 00.0	+2.4
KOLS				pmax	pmax		
	comp=Z,28nm,1.8s						
KOLS	Kolonicke sedl	24.28	317	eP	P	16 35 00.0	+2.4
KOLS	Kolonicke sedl	24.28	317	eP	P	16 35 00.0	+2.4
	comp=Z,28nm,1.8s						
ARU	Arti	24.35	15	c iP	P	16 34 58.9	+0.8
ARU						16 35 27.1	
ARU				S	S	16 39 04.8	-12
ARU				pmax	pmax		
	comp=Z,12nm,0.6s						
ARU	Arti	24.35	15	eP	P	16 34 58.8	+0.8
	comp=Z,13nm,0.8s						
KWP	Kalwaria Pacla	24.41	319	eP	P	16 34 59.8	+1.1
KWP				pmax	pmax		
	comp=Z,16nm,0.8s						
KWP	Kalwaria Pacla	24.41	319	eP	P	16 35 00.0	+1.3
KWP	Kalwaria Pacla	24.41	319	⇓iP	P	16 35 00.3	+1.6
KWP	Kalwaria Pacla	24.41	319	eP	P	16 34 59.8	+1.1
	comp=Z,16nm,0.8s						
KWP	Kalwaria Pacla	24.41	319	⇓iP	P	16 35 00.3	+1.6
CRVS	Cervenica-Dubn	24.73	317	eP	P	16 35 02.9	+1.2
CRVS				pmax	pmax		
	comp=Z,13nm,0.9s						
CRVS	Cervenica-Dubn	24.73	317	eP	P	16 35 02.9	+1.2
CRVS	Cervenica-Dubn	24.73	317	eP	P	16 35 02.9	+1.2
	comp=Z,13nm,0.9s						
STON	Ston	25.04	301	P	P	16 35 04.8	+0.3
KECS	Kecovo	25.10	315	eP	P	16 35 06.2	+1.2
KECS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KECS	Kecovo	25.10	315	eP	P	16 35 06.2	+1.2
KECS	Kecovo	25.10	315	eP	P	16 35 06.2	+1.2
	comp=Z,3.4nm,0.8s						
STHS	Stebnicka Huta	25.11	317	eP	P	16 35 06.1	+1.0
STHS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STHS	Stebnicka Huta	25.11	317	eP	P	16 35 06.1	+1.0
STHS	Stebnicka Huta	25.11	317	eP	P	16 35 06.1	+1.0
	comp=Z,3.1nm,0.8s						
SVE	Sverdlovsk	25.20	17	⇑eP	P	16 35 07.3	+1.6
SVE				pmax	pmax		
	comp=Z,28nm,1.2s						
PSZ	Piszkesteto	25.21	313	eP	P	16 35 06.1	0.0
PSZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PSZ	Piszkesteto	25.21	313	⇑iP	P	16 35 08.3	+2.2
PSZ	Piszkesteto	25.21	313	eP	P	16 35 06.1	0.0
	comp=Z,8.1nm,0.9s						
PSZ	Piszkesteto	25.21	313	⇑iP	P	16 35 08.3	+2.2
TIP	Timpagrande	25.23	292	eP	P	16 35 07.3	+1.0
	comp=Z,8.1nm,0.6s						
PKSM	Moragy	25.34	309	⇓iP	P	16 35 08.6	+1.4
PKSM	Moragy	25.34	309	⇓eP	P	16 35 08.5	+1.4
PKSM	Moragy	25.34	309	⇓iP	P	16 35 08.6	+1.4
BRVK	Borovoye	25.66	33	c iP	P	16 35 11.0	+1.0
BRVK				pmax	pmax		
	comp=Z,19nm,1.7s						
BRVK	Borovoye	25.66	33	eP	P	16 35 10.5	+0.5
	comp=Z,7.6nm,0.6s						
BVA0	Borovoye Array	25.68	33	iP	P	16 35 10.8	+0.6
BVA0				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BVAR	Borovoye Array	25.68	33	P	P	16 35 11.2	+1.0
BVAR						16 38 39.5	
BVAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR				pmax	pmax		
	comp=N,1.0nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,15nm,28.6s						
BVAR	Borovoye Array	25.68	33	P	P	16 35 11.2	+1.0
	comp=Z,7.2nm,0.5s,baz=221,slow=8.4,SNR=68						
BVAR				PcP	PcP	16 38 39.5	-0.7
	comp=Z,1.0nm,0.7s,baz=173,slow=2.6,SNR=3.8						
BVAR				ScP	ScP	16 42 16.5	-2.2
	comp=Z,1.3nm,0.7s,baz=242,slow=2.8,SNR=12						
BVAR				LR	LR	16 48 04.7	
	comp=Z,118nm,18.1s,baz=233,slow=43						
BVAR	Borovoye Array	25.68	33	PcP	PcP	16 38 39.5	-0.7
	comp=Z,15nm,28.6s						
NACGM	Naroch	25.91	332	e	P	16 35 11.0	-1.2
PKSG		25.93	311	⇓eP	P	16 35 13.9	+1.4
VYHS	Vyhne	26.09	314	eP	P	16 35 15.1	+1.1
VYHS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VYHS	Vyhne	26.09	314	eP	P	16 35 15.1	+1.1
VYHS	Vyhne	26.09	314	eP	P	16 35 15.1	+1.1
	comp=Z,3.7nm,0.8s						
OJC	Ojcow	26.32	318	eP	P	16 35 16.7	+0.7
OJC	Ojcow	26.32	318	eP	P	16 35 16.7	+0.7
OJC	Ojcow	26.32	318	eP	P	16 35 16.7	+0.7
UDBI	Udbina	26.78	304	P	P	16 35 19.9	-0.5
SUW	Suwalki	26.79	328	eP	P	16 35 19.4	-0.8
SUW				pmax	pmax		
	comp=Z,31nm,0.6s						
SUW	Suwalki	26.79	328	eP	P	16 35 20.1	-0.1
SUW				e		16 35 22.7	
SUW	Suwalki	26.79	328	eP	P	16 35 19.4	-0.8
	comp=Z,31nm,0.6s						
SUW	Suwalki	26.79	328	eP	P	16 35 20.2	0.0
SOKR	Solikamsk	26.99	11	⇑iP	P	16 35 23.4	+1.5
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s						
OKC	Ostrava-Krasne	27.08	316	eP	P	16 35 23.4	+0.5
OKC	Ostrava-Krasne	27.08	316	eP	P	16 35 23.4	+0.5
OKC	Ostrava-Krasne	27.08	316	P	P	16 35 23.4	+0.5
GCIS	Gornji Cirnik	27.22	307	iP	P	16 35 25.4	+1.1
BOJS	Bojanci	27.38	306	iP	P	16 35 26.6	+1.0
MORC	Moravsky Berou	27.41	316	⇑iP	P	16 35 26.7	+0.8
MORC	Moravsky Berou	27.41	316	⇑iP	P	16 35 26.7	+0.8
CONA	Conrad Observa	27.71	311	⇓iP	P	16 35 29.6	+0.9
	comp=Z,9.9nm,1.4s						
CONA	Conrad Observa	27.71	311	P	P	16 35 29.6	+0.9
	comp=Z,9.9nm,1.4s						
VRAC	Vranov	27.78	314	P	P	16 35 30.1	+0.9
VRAC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VRAC	Vranov	27.78	314	P	P	16 35 30.1	+0.9
	comp=Z,3.4nm,0.8s,baz=128,slow=8.3,SNR=5.3						
KLMR	Klimovskoe	27.97	352	eP	P	16 35 28.5	-2.2
KLMR				pmax	pmax		
	comp=Z,11nm,0.8s						
KRLC	Kraliky	27.98	316	eP	P	16 35 31.7	+0.7
KRLC				e		16 35 35.4	
KRLC	Kraliky	27.98	316	eP	P	16 35 31.7	+0.7
KRLC				epP	pP	16 35 35.4	-1.2
KRLC	Kraliky	27.98	316	P	P	16 35 31.7	+0.7
CRNS	Crni Vrh	28.20	307	iP	P	16 35 34.2	+1.2
PRGR	Permogore	28.31	358	eP	P	16 35 32.3	-1.4
PRGR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
DPC	Dobruska-Polom	28.36	316	eP	P	16 35 34.6	+0.2
DPC	Dobruska-Polom	28.36	316	eP	P	16 35 34.6	+0.2
DPC	Dobruska-Polom	28.36	316	P	P	16 35 34.6	+0.2
TREC	Trest	28.44	314	eP	P	16 35 35.9	+0.8
TREC				e		16 35 40.8	
TREC	Trest	28.44	314	eP	P	16 35 35.9	+0.8
TREC				epP	pP	16 35 40.8	+0.1
TREC	Trest	28.44	314	P	P	16 35 35.9	+0.8
KSP	Ksiaz	28.59	317	eP	P	16 35 36.8	+0.4
KSP				e		16 35 45.1	
UPC	Upice	28.61	316	eP	P	16 35 36.6	0.0
UPC	Upice	28.61	316	eP	P	16 35 36.6	0.0
UPC	Upice	28.61	316	P	P	16 35 36.6	0.0
KURBB	Kurchatov Arra	28.63	44	P	P	16 35 38.2	+1.6
	comp=Z,5.1nm,0.7s,baz=249,slow=9.2,SNR=57						
KURBB				ScP	ScP	16 42 24.8	-2.8
	comp=Z,0.5nm,0.8s,baz=246,slow=4.1,SNR=5.8						
MOA	Molln	28.70	310	iP	P	16 35 38.4	+1.0
	comp=Z,12nm,1.2s,SNR=5.1						
MOA	Molln	28.70	310	P	P	16 35 38.4	+1.0
	comp=Z,12nm,1.2s,SNR=5.1						
KURK	Kurchatov	28.72	43	P	P	16 35 38.3	+0.8
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK				pmax	pmax		
	comp=N,1.0nm,0.8s						
KURK	Kurchatov	28.72	43	P	P	16 35 38.2	+0.8
KURK				ScP	ScP	16 42 24.8	-3.1
KBA	Koelnbreinsper	29.07	308	⇓iP	P	16 35 42.1	+1.2
	comp=N,15nm,0.8s,SNR=5.9						
PRU	Pruhonice	29.27	314	eP	P	16 35 38.7	-3.7
PRU	Pruhonice	29.27	314	eP	P	16 35 38.7	-3.7
GERES	GERESS Array B	29.38	312	P	P	16 35 43.8	+0.3
GERES						16 38 49.8	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	GERESS Array B	29.38	312	P	P	16 35 43.8	+0.3
	comp=Z,1.4nm,0.8s,baz=110,slow=7.7,SNR=8.6						
GERES				PcP	PcP	16 38 49.8	+0.4
	comp=Z,0.9nm,0.6s,baz=158,slow=1.4,SNR=6.8						
ABTA	Abfaltersbach	29.54	307	⇑iP	P	16 35 45.6	+0.7
	comp=Z,13nm,1.3s						
ABTA	Abfaltersbach	29.54	307	P	P	16 35 45.6	+0.7
	comp=Z,13nm,1.3s						
KHC	Kasperske Hory	29.55	312	⇑iP	P	16 35 46.1	+1.1
KHC				pmax	pmax		
	comp=Z,31nm,1.9s						
KHC	Kasperske Hory	29.55	312	eP	P	16 35 45.7	+0.7
KHC				epP	pP	16 35 51.0	+0.4
KHC	Kasperske Hory	29.55	312	iP	P	16 35 46.1	+1.1
	comp=Z,31nm,1.9s						
MK31	Makanchi Array	29.69	53	eP	P	16 35 47.9	+1.7
MK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31	Makanchi Array	29.69	53	eP	P	16 35 46.9	+0.7
MK31	Makanchi Array	29.69	53	eP	P	16 35 46.9	+0.7
MKAR	Makanchi Array	29.69	53	P	P	16 35 47.6	+1.4
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	29.69	53	P	P	16 35 47.5	+1.4
	comp=Z,3.2nm,0.6s,baz=249,slow=11,SNR=20						
WTTA	Wattenberg	30.25	308	⇑iP	P	16 35 51.7	+0.4
	comp=Z,12nm,0.6s,SNR=5.7						
WTTA	Wattenberg	30.25	308	P	P	16 35 51.7	+0.4
	comp=Z,12nm,0.6s,SNR=5.7						
WATA	Walderalm	30.30	308	⇓iP	P	16 35 51.9	+0.1
	comp=Z,9.7nm,0.6s						
WATA	Walderalm	30.30	308	P	P	16 35 51.9	+0.1
	comp=Z,9.7nm,0.6s						
MOTA	Moosalm	30.62	308	⇑iP	P	16 35 54.3	-0.3
	comp=Z,14nm,0.7s,SNR=11						
MOTA	Moosalm	30.62	308	P	P	16 35 54.3	-0.3
	comp=Z,14nm,0.7s,SNR=11						
CLL	Collm	30.68	316	eP	P	16 35 55.0	+0.2
CLL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CLL	Collm	30.68	316	eP	P	16 35 55.0	+0.2
	comp=Z,9.0nm,1.1s						
CLL	Collm	30.68	316	eP	P	16 35 55.0	+0.2
	comp=Z,9.0nm,1.1s						
FETA	Feichten	30.79	307	⇑iP	P	16 35 56.4	+0.3
	comp=Z,17nm,1.0s,SNR=5.2						
FETA	Feichten	30.79	307	P	P	16 35 56.4	+0.3
	comp=Z,17nm,1.0s,SNR=5.2						
RETA	Reutte	30.88	308	⇑iP	P	16 35 56.8	0.0
	comp=Z,6.0nm,0.7s						
RETA	Reutte	30.88	308	P	P	16 35 56.8	0.0
	comp=Z,6.0nm,0.7s						
VSL	Villasalto	30.95	292	eP	P	16 35 58.3	+0.8
	comp=Z,30nm,1.1s						
VSL	Villasalto	30.95	292	eP	P	16 35 58.3	+0.8
	comp=Z,30nm,1.1s						
FINES	FINESS Array B	31.26	340	P	P	16 36 00.0	+0.2
FINES						16 38 53.2	
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,119nm,18.4s						
FINES	FINESS Array B	31.26	340	P	P	16 36 00.0	+0.2
	comp=Z,4.1nm,0.5s,baz=148,slow=10,SNR=42						
FINES				PcP	PcP	16 38 53.2	-0.6
	comp=Z,1.2nm,0.6s,baz=121,slow=5.4,SNR=3.6						
FINES				LR	LR	16 50 09.1	
	comp=Z,119nm,18.4s,baz=270,slow=39						
JOF	Joensuu	31.26	346	eP	P	16 35 59.7	-0.1
JOF				pmax	pmax		
	comp=Z,8.0nm,0.7s						
JOF	Joensuu	31.26	346	ep	P	16 35 59.7	-0.1
	comp=Z,8.2nm,0.7s						
JOF	Joensuu	31.26	346	eP	P	16 35 59.7	-0.1
	comp=Z,8.0nm,0.7s						
PGF	Pioggiola	31.34	298	eP	P	16 36 01.4	+0.5
	comp=Z,132nm,1.2s						
PGF	Pioggiola	31.34	298	eP	P	16 36 01.4	+0.5
PGF				pmax	pmax		
	comp=Z,132nm,1.2s						
PGF	Pioggiola	31.34	298	eP	P	16 36 01.4	+0.5
	comp=Z,132nm,1.2s						
PGF	Pioggiola	31.34	298	eP	P	16 36 01.4	+0.5
	comp=Z,66nm,1.2s						
TMCR	Tamitsa	31.36	352	eP	P	16 36 03.4	+2.7
TMCR				e		16 37 09.3	
TMCR				pmax	pmax		
	comp=Z,16nm,0.4s						
TMCR	Tamitsa	31.36	352	eP	P	16 36 03.4	+2.7
	comp=Z,16nm,0.4s						
DAVA	Damuels	31.41	307	⇑iP	P	16 36 01.7	+0.1
	comp=Z,21nm,0.5s,SNR=7.3						
DAVA	Damuels	31.41	307	P	P	16 36 01.7	+0.1
	comp=Z,21nm,0.5s,SNR=7.3						
DANN	Dangsing	31.59	89	eP	P	16 36 04.6	+1.1
	comp=Z,26nm,0.8s						
KOLN	Koldanda	31.64	90	eP	P	16 36 04.4	+0.5
	comp=Z,10nm,0.7s						
KAF	Kangasniemi	31.74	341	eP	P	16 36 03.1	-1.0
KAF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KAF	Kangasniemi	31.74	341	ep	P	16 36 03.1	-1.0
	comp=Z,6.3nm,0.6s						
KAF	Kangasniemi	31.74	341	eP	P	16 36 03.1	-1.0
	comp=Z,6.0nm,0.6s						
HYB	Hyderabad	32.23	112	eP	P	16 36 09.0	+0.1
HYB	Hyderabad	32.23	112	iP	P	16 36 09.0	+0.1
HYB	Hyderabad	32.23	112	eP	P	16 36 09.0	+0.1
HYB	Hyderabad	32.23	112	eP	P	16 36 09.0	+0.1
GKN	Gorkha	32.44	89	eP	P	16 36 11.4	+0.6
	comp=Z,18nm,0.5s						
SBF	Sospel	32.59	301	eP	P	16 36 12.5	+0.7
	comp=Z,82nm,0.9s						
SBF	Sospel	32.59	301	eP	P	16 36 12.5	+0.7
SBF				pmax	pmax		
	comp=Z,82nm,0.9s						
SBF	Sospel	32.59	301	eP	P	16 36 12.5	+0.7
	comp=Z,82nm,0.9s						
SBF	Sospel	32.59	301	eP	P	16 36 12.5	+0.7
	comp=Z,41nm,0.9s						
BFO	Black Forest	32.66	309	iP	P	16 36 14.4	+2.0
BFO	Black Forest	32.66	309	iP	P	16 36 14.4	+2.0
DMN	Daman	32.96	90	eP	P	16 36 16.2	+0.7
	comp=Z,19nm,0.6s						
WMQ	Urumqi	32.97	60	P	P	16 36 16.5	+1.3
WMQ				pP	pP	16 36 20.9	+0.1
WMQ				sP	sP	16 36 23.5	+0.4
WMQ				PP	PnPn	16 37 27.0	+2.7
WMQ				PcP	PcP	16 39 00.3	+1.3
WMQ				S	S	16 41 33.4	+0.9
WMQ				sS	sS	16 41 40.7	-1.1
WMQ				PcS	PcS	16 42 44.6	+0.3
WMQ				SS	SnSn	16 43 33.1	+2.8
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,180nm,4.6s						

WMQ LR LR
comp=Z,65nm,20.0s
WMQ LR LR
comp=Z,72nm,18.6s
NVS Novosibirsk 33.03 39 eP P 16 36 16.2 +0.8
NVS e 16 37 27.0
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS pmax pmax
comp=Z,9.0nm,1.0s
NVS Novosibirsk 33.03 39 eP P 16 36 16.2 +0.8
KKN Kakani 33.04 89 eP P 16 36 16.9 +0.7
comp=Z,24nm,0.5s
MBDF Montbardon 33.14 302 eP P 16 36 17.2 +0.4
comp=Z,36nm,0.7s
MBDF Montbardon 33.14 302 eP P 16 36 17.2 +0.4
MBDF pmax pmax
comp=Z,36nm,0.7s
MBDF Montbardon 33.14 302 eP P 16 36 17.2 +0.4
comp=Z,36nm,0.7s
MBDF Montbardon 33.14 302 eP P 16 36 17.2 +0.4
comp=Z,18nm,0.7s
PKIN Phulchoki 33.21 90 eP P 16 36 18.2 +0.5
comp=Z,14nm,0.6s
PKI Pulchoki 33.22 90 eP P 16 36 18.5 +0.6
comp=Z,19nm,0.5s
BNI Bardonecchia 33.24 303 eP P 16 36 17.7 0.0
BNI pmax pmax
comp=Z,49nm,0.9s
BNI Bardonecchia 33.24 303 eP P 16 36 17.7 0.0
comp=Z,49nm,0.9s
BNI Bardonecchia 33.24 303 eP P 16 36 17.7 0.0
comp=Z,49nm,0.9s
LPG La Plagne 33.24 303 eP P 16 36 18.1 +0.3
comp=Z,65nm,0.9s
LPG La Plagne 33.24 303 eP P 16 36 18.1 +0.3
LPG pmax pmax
comp=Z,65nm,0.9s
LPG La Plagne 33.24 303 eP P 16 36 18.1 +0.3
comp=Z,65nm,0.9s
LPG La Plagne 33.24 303 eP P 16 36 18.1 +0.3
comp=Z,33nm,0.9s
LPL La Plagne 33.26 304 eP P 16 36 18.1 +0.2
comp=Z,36nm,0.7s
LPL La Plagne 33.26 304 eP P 16 36 18.1 +0.2
LPL pmax pmax
comp=Z,36nm,0.7s
LPL La Plagne 33.26 304 eP P 16 36 18.1 +0.2
comp=Z,36nm,0.7s
LPL La Plagne 33.26 304 eP P 16 36 18.1 +0.2
comp=Z,18nm,0.7s
CDF Champ du Feu 33.37 309 eP P 16 36 18.7 +0.1
comp=Z,7.9nm,0.8s
CDF Champ du Feu 33.37 309 eP P 16 36 18.7 +0.1
CDF pmax pmax
comp=Z,8.0nm,0.8s
CDF Champ du Feu 33.37 309 eP P 16 36 18.7 +0.1
comp=Z,7.9nm,0.8s
CDF Champ du Feu 33.37 309 eP P 16 36 18.7 +0.1
comp=Z,4.0nm,0.8s
ECH Echery 33.41 308 eP P 16 36 18.2 -0.7
ECH pmax pmax
comp=Z,12nm,1.1s
ECH Echery 33.41 308 eP P 16 36 18.2 -0.7
comp=Z,12nm,1.1s
ECH Echery 33.41 308 eP P 16 36 18.2 -0.7
comp=Z,12nm,1.1s
GUN Gumba 33.51 89 eP P 16 36 21.2 +0.8
comp=Z,24nm,0.4s
ZALV Zalesovo Beam 33.51 41 P P 16 36 20.4 +0.7
ZALV 16 38 59.4
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 33.51 41 P P 16 36 20.4 +0.7
comp=Z,7.4nm,0.7s,baz=256,slow=9.0,SNR=35
ZALV PcP PcP 16 38 59.4 -0.7
comp=Z,0.5nm,0.4s,baz=287,slow=1.8,SNR=3.1
HINF Hinteralfeld 33.53 308 eP P 16 36 19.6 -0.4
comp=Z,8.4nm,0.7s
HINF Hinteralfeld 33.53 308 eP P 16 36 19.6 -0.4
HINF pmax pmax
comp=Z,8.0nm,0.7s
HINF Hinteralfeld 33.53 308 eP P 16 36 19.6 -0.4
comp=Z,8.4nm,0.7s
HINF Hinteralfeld 33.53 308 eP P 16 36 19.6 -0.4
comp=Z,4.2nm,0.7s
ORIF Oris-en-Rattie 33.79 302 eP P 16 36 21.5 -0.9
comp=Z,24nm,0.9s
ORIF Oris-en-Rattie 33.79 302 eP P 16 36 21.5 -0.9
ORIF pmax pmax
comp=Z,24nm,0.9s
ORIF Oris-en-Rattie 33.79 302 eP P 16 36 21.5 -0.9
comp=Z,24nm,0.9s
ORIF Oris-en-Rattie 33.79 302 eP P 16 36 21.5 -0.9
comp=Z,12nm,0.9s
JIRN Jiri 33.85 89 eP P 16 36 24.3 +0.9
comp=Z,41nm,0.5s
CABF La Chapelle 33.85 305 eP P 16 36 23.3 +0.5
comp=Z,72nm,0.9s
CABF La Chapelle 33.85 305 eP P 16 36 23.3 +0.5
CABF pmax pmax
comp=Z,72nm,0.9s
CABF La Chapelle 33.85 305 eP P 16 36 23.3 +0.5
comp=Z,72nm,0.9s
CABF La Chapelle 33.85 305 eP P 16 36 23.3 +0.5
comp=Z,36nm,0.9s
HAU Haudompre 33.90 308 eP P 16 36 22.8 -0.4
comp=Z,49nm,1.3s
HAU Haudompre 33.90 308 eP P 16 36 22.8 -0.4
HAU pmax pmax
comp=Z,49nm,1.3s
HAU Haudompre 33.90 308 eP P 16 36 22.8 -0.4
comp=Z,49nm,1.3s
HAU Haudompre 33.90 308 eP P 16 36 22.8 -0.4
comp=Z,24nm,1.3s
PAGF Fort de Pagny 34.41 309 eP P 16 36 27.5 -0.1
PAGF Fort de Pagny 34.41 309 eP P 16 36 27.5 -0.1
PAGF Fort de Pagny 34.41 309 eP P 16 36 27.5 -0.1
RAMN Ramite 34.43 90 eP P 16 36 28.6 +0.3
comp=Z,44nm,0.6s
VIVF Saint-Julien-l 34.64 302 eP P 16 36 29.5 -0.2
comp=Z,23nm,0.9s
VIVF Saint-Julien-l 34.64 302 eP P 16 36 29.5 -0.2
VIVF pmax pmax
comp=Z,23nm,0.9s
VIVF Saint-Julien-l 34.64 302 eP P 16 36 29.5 -0.2
comp=Z,23nm,0.9s
VIVF Saint-Julien-l 34.64 302 eP P 16 36 29.5 -0.2
comp=Z,11nm,0.9s
SFTF Sexfontaines 34.80 308 eP P 16 36 30.9 0.0
comp=Z,28nm,0.8s
SFTF Sexfontaines 34.80 308 eP P 16 36 30.9 0.0
comp=Z,28nm,0.8s
SFTF Sexfontaines 34.80 308 eP P 16 36 30.9 0.0
comp=Z,14nm,0.8s
MEZF Maizieres J'vi 34.84 308 eP P 16 36 31.4 +0.1
comp=Z,48nm,1.0s
MEZF Maizieres J'vi 34.84 308 eP P 16 36 31.4 +0.1
comp=Z,48nm,1.0s
MEZF Maizieres J'vi 34.84 308 eP P 16 36 31.4 +0.1
comp=Z,24nm,1.0s
MUD Monsted U'grnd 34.84 323 iP P 16 36 32.6 +1.4
MUD pmax pmax
comp=Z,14nm,0.8s
MUD Monsted U'grnd 34.84 323 iP P 16 36 32.6 +1.4
comp=Z,14nm,0.8s
MUD Monsted U'grnd 34.84 323 iP P 16 36 32.6 +1.4
comp=Z,14nm,0.8s
ODAN Odare 35.12 90 eP P 16 36 35.0 +0.7
comp=Z,13nm,0.6s
LASF Ste Croix 35.18 301 eP P 16 36 34.0 -0.3
comp=Z,42nm,1.1s
LASF Ste Croix 35.18 301 eP P 16 36 34.0 -0.3
comp=Z,42nm,1.1s
LASF Ste Croix 35.18 301 eP P 16 36 34.0 -0.3
comp=Z,21nm,1.1s
TAPN Taplejung 35.22 89 eP P 16 36 36.1 +0.9
comp=Z,31nm,0.5s
GIVF Givet 35.29 311 eP P 16 36 35.6 +0.5
GIVF Givet 35.29 311 eP P 16 36 35.6 +0.5
GIVF Givet 35.29 311 eP P 16 36 35.6 +0.5
GIVF Givet 35.29 311 eP P 16 36 35.6 +0.5
SMF Signal de Mont 35.39 305 eP P 16 36 36.0 -0.1
comp=Z,43nm,0.7s
SMF Signal de Mont 35.39 305 eP P 16 36 36.0 -0.1
SMF pmax pmax
comp=Z,43nm,0.7s
SMF Signal de Mont 35.39 305 eP P 16 36 36.0 -0.1
comp=Z,43nm,0.7s
SMF Signal de Mont 35.39 305 eP P 16 36 36.0 -0.1
comp=Z,22nm,0.7s
LOR Lormes 35.45 306 eP P 16 36 36.3 -0.3
comp=Z,7.4nm,0.6s
LOR Lormes 35.45 306 eP P 16 36 36.3 -0.3
LOR pmax pmax
comp=Z,7.0nm,0.6s
LOR Lormes 35.45 306 eP P 16 36 36.3 -0.3
comp=Z,7.4nm,0.6s
LOR Lormes 35.45 306 eP P 16 36 36.3 -0.3
comp=Z,3.7nm,0.6s
SSF Saint Saulge 35.66 306 eP P 16 36 38.3 -0.1
comp=Z,39nm,1.0s
SSF Saint Saulge 35.66 306 eP P 16 36 38.3 -0.1
SSF pmax pmax
comp=Z,39nm,1.0s
SSF Saint Saulge 35.66 306 eP P 16 36 38.3 -0.1
comp=Z,39nm,1.0s
SSF Saint Saulge 35.66 306 eP P 16 36 38.3 -0.1
comp=Z,19nm,1.0s
BAIF Baives 35.67 311 eP P 16 36 39.0 +0.6
comp=Z,29nm,1.0s
BAIF Baives 35.67 311 eP P 16 36 39.0 +0.6
BAIF pmax pmax
comp=Z,29nm,1.0s
BAIF Baives 35.67 311 eP P 16 36 39.0 +0.6
comp=Z,29nm,1.0s
BAIF Baives 35.67 311 eP P 16 36 39.0 +0.6
comp=Z,15nm,1.0s
AVF Avril sur Loir 35.74 305 eP P 16 36 39.0 0.0
comp=Z,42nm,1.0s
AVF Avril sur Loir 35.74 305 eP P 16 36 39.0 0.0
AVF pmax pmax
comp=Z,42nm,1.0s
AVF Avril sur Loir 35.74 305 eP P 16 36 39.0 0.0
comp=Z,42nm,1.0s
AVF Avril sur Loir 35.74 305 eP P 16 36 39.0 0.0
comp=Z,21nm,1.0s
BGF Bois d'Agland 36.06 305 eP P 16 36 41.8 0.0
comp=Z,22nm,0.9s
BGF Bois d'Agland 36.06 305 eP P 16 36 41.8 0.0
BGF pmax pmax
comp=Z,22nm,0.9s
BGF Bois d'Agland 36.06 305 eP P 16 36 41.8 0.0
comp=Z,22nm,0.9s
BGF Bois d'Agland 36.06 305 eP P 16 36 41.8 0.0
comp=Z,11nm,0.9s
KONO Kongsberg 36.12 328 eP P 16 36 41.5 -0.7
KONO pmax pmax
comp=Z,12nm,1.1s
KONO Kongsberg 36.12 328 eP P 16 36 41.5 -0.7
comp=Z,12nm,1.1s
KONO Kongsberg 36.12 328 eP P 16 36 41.5 -0.7
comp=Z,12nm,1.1s
NB2 NORSAR Subarra 36.17 331 P P 16 36 41.9 -0.7
comp=Z,1.3nm,0.7s,baz=125,slow=8.6
NB2 NORSAR Subarra 36.17 331 P P 16 36 41.9 -0.7
comp=Z,1.3nm,0.7s,SNR=9.7
NOA NORSAR Array B 36.17 331 P P 16 36 42.2 -0.4
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,15nm,28.6s
NOA NORSAR Array B 36.17 331 P P 16 36 42.1 -0.4
comp=Z,2.1nm,0.8s,baz=124,slow=8.6,SNR=10
NOA LR LR 16 53 21.8
comp=Z,30nm,18.0s,baz=255,slow=39
NOA NORSAR Array B 36.17 331 P P 16 36 42.2 -0.4
comp=Z,15nm,28.6s
TCF Toulx Ste Croi 36.48 304 eP P 16 36 45.4 0.0
comp=Z,26nm,1.0s
TCF Toulx Ste Croi 36.48 304 eP P 16 36 45.4 0.0
TCF pmax pmax
comp=Z,26nm,1.0s
TCF Toulx Ste Croi 36.48 304 eP P 16 36 45.4 0.0
comp=Z,26nm,1.0s
TCF Toulx Ste Croi 36.48 304 eP P 16 36 45.4 0.0
comp=Z,13nm,1.0s
CAF Calviac 36.50 302 eP P 16 36 45.5 -0.1
comp=Z,35nm,1.1s
CAF Calviac 36.50 302 eP P 16 36 45.5 -0.1
CAF pmax pmax
comp=Z,35nm,1.1s
CAF Calviac 36.50 302 eP P 16 36 45.5 -0.1
comp=Z,35nm,1.1s
CAF Calviac 36.50 302 eP P 16 36 45.5 -0.1
comp=Z,17nm,1.1s
RJF Les Rejaudoux 36.90 303 eP P 16 36 49.1 +0.1
comp=Z,42nm,1.3s
RJF Les Rejaudoux 36.90 303 eP P 16 36 49.1 +0.1
RJF pmax pmax
comp=Z,43nm,1.3s
RJF Les Rejaudoux 36.90 303 eP P 16 36 49.1 +0.1
comp=Z,42nm,1.3s
RJF Les Rejaudoux 36.90 303 eP P 16 36 49.1 +0.1
comp=Z,21nm,1.3s
LSA Lhasa 37.35 83 P P 16 36 53.8 +0.2
LSA Lhasa 37.35 83 eP P 16 36 53.8 +0.2
LSA pmax pmax
comp=Z,11nm,1.0s
LSA Lhasa 37.35 83 eP P 16 36 53.8 +0.2
comp=Z,11nm,1.0s
LSA Lhasa 37.35 83 eP P 16 36 53.8 +0.2
comp=Z,11nm,1.0s
LFF La Frestale 37.44 302 eP P 16 36 53.5 0.0
comp=Z,20nm,0.7s
LFF La Frestale 37.44 302 eP P 16 36 53.5 0.0
LFF pmax pmax
comp=Z,20nm,0.7s
LFF La Frestale 37.44 302 eP P 16 36 53.5 0.0
comp=Z,20nm,0.7s
LFF La Frestale 37.44 302 eP P 16 36 53.5 0.0
comp=Z,9.9nm,0.7s
TAM Tamanrasset 38.11 265 P P 16 37 03.0 +3.3
TAM pmax pmax
comp=Z,6.0nm,1.0s
TAM Tamanrasset 38.11 265 P P 16 37 03.0 +3.3
comp=Z,5.9nm,1.0s
MFF Saint Martin d 38.12 305 eP P 16 36 58.8 -0.5
MFF Saint Martin d 38.12 305 eP P 16 36 58.8 -0.5
MFF Saint Martin d 38.12 305 eP P 16 36 58.8 -0.5
MFF Saint Martin d 38.12 305 eP P 16 36 58.8 -0.5
KEV Kevo 38.16 349 P P 16 37 00.0 +0.7
KEV pmax pmax
comp=Z,6.0nm,0.8s
KEV Kevo 38.16 349 ep P 16 36 59.2 -0.1
comp=Z,3.2nm,0.6s
KEV Kevo 38.16 349 P P 16 37 00.0 +0.7
comp=Z,6.2nm,0.8s
KEV Kevo 38.16 349 P P 16 37 00.0 +0.7
comp=Z,6.2nm,0.8s
ARCES ARCESS Array B 38.22 348 P P 16 36 59.9 0.0
ARCES 16 38 26.5
ARCES 16 39 13.8
ARCES 16 43 00.5
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES pmax pmax
comp=N,2.0nm,0.8s
ARCES ARCESS Array B 38.22 348 P P 16 36 59.9 0.0
comp=N,2.5nm,0.7s,baz=142,slow=6.1,SNR=14
ARCES PP PP 16 38 26.4 -0.7
comp=N,2.8nm,0.7s,baz=149,slow=8.9,SNR=4.0
ARCES PcP PcP 16 39 13.8 -0.1
comp=N,2.3nm,0.8s,baz=192,slow=2.4,SNR=3.6
ARCES ScP ScP 16 43 00.5 -0.3
comp=N,2.0nm,0.8s,baz=140,slow=2.9,SNR=4.6
LDF La Druitiere 38.26 308 eP P 16 36 59.7 -0.7
LDF La Druitiere 38.26 308 eP P 16 36 59.7 -0.7
LDF La Druitiere 38.26 308 eP P 16 36 59.7 -0.7
LDF La Druitiere 38.26 308 eP P 16 36 59.7 -0.7
FLN La Foliniere 38.51 308 eP P 16 37 02.0 -0.6
comp=N,47nm,0.9s
FLN La Foliniere 38.51 308 eP P 16 37 02.0 -0.6
FLN pmax pmax
comp=Z,47nm,0.9s
FLN La Foliniere 38.51 308 eP P 16 37 02.0 -0.6
comp=Z,47nm,0.9s
FLN La Foliniere 38.51 308 eP P 16 37 02.0 -0.6
comp=Z,23nm,0.9s
GRR Gorron 38.73 307 eP P 16 37 04.0 -0.4
comp=Z,43nm,0.9s
GRR Gorron 38.73 307 eP P 16 37 04.0 -0.4
GRR pmax pmax
comp=Z,43nm,0.9s
GRR Gorron 38.73 307 eP P 16 37 04.0 -0.4
comp=Z,43nm,0.9s
GRR Gorron 38.73 307 eP P 16 37 04.0 -0.4
comp=Z,22nm,0.9s
SJPF Ste Jean 38.87 299 eP P 16 37 05.6 0.0
SJPF Ste Jean 38.87 299 eP P 16 37 05.6 0.0
SJPF Ste Jean 38.87 299 eP P 16 37 05.6 0.0
SJPF Ste Jean 38.87 299 eP P 16 37 05.6 0.0
SGMF Saint Gilles 39.85 307 eP P 16 37 13.4 -0.3
SGMF Saint Gilles 39.85 307 eP P 16 37 13.4 -0.3
SGMF Saint Gilles 39.85 307 eP P 16 37 13.4 -0.3
SGMF Saint Gilles 39.85 307 eP P 16 37 13.4 -0.3
HPK Haverah Park 39.96 316 eP P 16 37 14.5 -0.1
HPK AMB AMB 16 37 18.5
comp=Z,68nm,2.2s
HPK Haverah Park 39.96 316 eP P 16 37 14.5 -0.1
QUIF Quistinic 40.24 307 eP P 16 37 16.3 -0.7
QUIF Quistinic 40.24 307 eP P 16 37 16.3 -0.7
QUIF Quistinic 40.24 307 eP P 16 37 16.3 -0.7
QUIF Quistinic 40.24 307 eP P 16 37 16.3 -0.7
ROSF Rostrenen 40.33 307 eP P 16 37 17.1 -0.6
ROSF Rostrenen 40.33 307 eP P 16 37 17.1 -0.6
ROSF Rostrenen 40.33 307 eP P 16 37 17.1 -0.6
ROSF Rostrenen 40.33 307 eP P 16 37 17.1 -0.6
PALK Pallekele 40.36 123 P P 16 37 20.0 +1.6
PALK pmax pmax
comp=Z,8.0nm,0.7s
PALK Pallekele 40.36 123 P P 16 37 20.0 +1.6
comp=Z,7.7nm,0.7s
PALK Pallekele 40.36 123 P P 16 37 20.0 +1.6
comp=Z,7.7nm,0.7s
MCH1 Michaelchurch 40.47 313 eP P 16 37 18.6 -0.2
MCH1 AMB AMB 16 37 19.6
comp=Z,50nm,1.9s
MCH1 Michaelchurch 40.47 313 eP P 16 37 18.6 -0.2
FOEL Foel Wylfa 40.72 314 eP P 16 37 21.3 +0.4
FOEL Foel Wylfa 40.72 314 eP P 16 37 21.3 +0.4
ESY Stoneypath 40.91 319⇑eP P 16 37 22.6 +0.2
ESY Stoneypath 40.91 319⇑eP P 16 37 22.6 +0.2
KESW Keswick, Cumbr 40.93 317 eP P 16 37 22.4 -0.2
KESW AMB AMB 16 37 23.1
comp=Z,59nm,2.5s
KESW Keswick, Cumbr 40.93 317 eP P 16 37 22.4 -0.2
ECK Cauldkaine Hil 41.05 318⇑eP P 16 37 23.4 -0.2
ECK Cauldkaine Hil 41.05 318⇑eP P 16 37 23.4 -0.2
EBL Broad Law 41.12 319⇑eP P 16 37 24.6 +0.4
EBL Broad Law 41.12 319⇑eP P 16 37 24.5 +0.4
ESK Eskdalemuir 41.12 318 eP P 16 37 23.8 -0.3
ESK Eskdalemuir 41.12 318 eP P 16 37 23.8 -0.3
WPM1 Penmaenmawr 41.19 315 eP P 16 37 25.3 +0.6
WPM1 Penmaenmawr 41.19 315 eP P 16 37 25.3 +0.6
ESDC Sonseca Array 41.22 294 P P 16 37 25.8 +0.5
comp=Z,0.7nm,0.3s,baz=72,slow=8.9,SNR=6.2
EAB Aberfoyle 41.91 319 eP P 16 37 30.5 -0.1
EAB Aberfoyle 41.91 319 eP P 16 37 30.5 -0.1
GTA Gaotai 42.22 66 eP P 16 37 35.2 +1.7
GTA pP pP 16 37 38.7 -0.6
GTA sP sP 16 37 41.5 -0.1
GTA S S 16 43 54.7 +1.7
GTA sS sS 16 44 02.0 -0.5
GTA SS SS 16 46 56.4 -4.7
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,4.5s
GTA LR LR
comp=Z,120nm,19.0s
GTA LR LR
comp=Z,160nm,18.0s
GTA LR LR
comp=Z,120nm,18.3s
ZAK Zakamensk 43.93 50 eP P 16 37 39.2 -8.0
ZAK pmax pmax
comp=Z,2.0nm,1.1s
TLY Talaya 44.19 48⇓iP P 16 37 51.4 +2.2
TLY pmax pmax
comp=Z,5.0nm,1.6s
TLY Talaya 44.19 48 P P 16 37 50.9 +1.7
comp=Z,2.8nm,0.9s
TLY Talaya 44.19 48 P P 16 37 50.9 +1.7
comp=Z,2.8nm,0.9s
VAL Valentia 44.94 312 eP P 16 37 51.9 -3.2
LZH Lanzhou 46.00 70 ⇑P P 16 38 05.2 +1.2
LZH pP pP 16 38 08.1 -1.7
LZH sP sP 16 38 09.6 -2.4
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.0s
TORD Torodi Ar. Bea 46.05 255 P P 16 38 05.0 +0.7
comp=Z,0.5nm,0.5s,baz=63,slow=7.2,SNR=8.5
TORD PcP PcP 16 39 41.2 +0.6
comp=Z,1.0nm,0.8s,baz=54,slow=3.2,SNR=3.6
SONM Songino Array 46.05 53 P P 16 38 05.2 +1.0
SONM 16 39 39.6
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 46.05 53 P P 16 38 05.2 +1.0
comp=Z,0.6nm,0.5s,baz=272,slow=8.0,SNR=1.9
SONM PcP PcP 16 39 39.6 -0.7
comp=Z,1.1nm,0.7s,baz=253,slow=4.0,SNR=5.2
ULN Ulaanbaatar 46.49 53 eP P 16 38 08.4 +0.8
ULN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 46.49 53 eP P 16 38 08.4 +0.8
comp=Z,4.6nm,0.8s
ULN Ulaanbaatar 46.49 53 eP P 16 38 08.4 +0.8
comp=Z,4.6nm,0.8s
CD2 Chengdu 47.38 77 P P 16 38 15.6 +0.9
CD2 pP pP 16 38 20.1 -0.4
CD2 sP sP 16 38 22.6 -0.1
CD2 PP PP 16 40 06.2 +0.3
CD2 S S 16 45 08.6 +0.7
CD2 sS sS 16 45 15.5 -1.9
CD2 SS SS 16 48 29.4 -6.0
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,170nm,5.7s
CD2 LR LR
comp=Z,450nm,4.5s
CD2 LR LR
comp=Z,190nm,5.1s
CMAI Chiengmai2 47.70 93 P P 16 38 16.9 -0.6
comp=Z,87nm,1.3s
CHTO Chiang Mai 48.14 94 eP P 16 38 20.1 -0.5
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 48.14 94 P P 16 38 20.3 -0.3
comp=Z,56nm,0.8s
CHTO Chiang Mai 48.14 94 eP P 16 38 20.1 -0.5
comp=Z,8.6nm,0.8s
CHTO Chiang Mai 48.14 94 eP P 16 38 20.1 -0.5
comp=Z,8.6nm,0.8s
CMMT Chiang Mai 48.14 94 P P 16 38 20.3 -0.4
comp=Z,16nm,0.8s
CM31 Chiang Mai Arr 48.30 95 eP P 16 38 21.6 -0.3
comp=Z,5.6nm,0.5s
CM31 Chiang Mai Arr 48.30 95 eP P 16 38 21.6 -0.3
comp=Z,5.6nm,0.5s
CMAR Chiang Mai Arr 48.30 95 P P 16 38 22.0 +0.1
CMAR 16 39 49.2
CMAR 16 40 14.5
CMAR pmax pmax
comp=Z,6.0nm,0.6s
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR pmax pmax
comp=Z,1.0nm,0.9s
CMAR MLR MLR
comp=Z,33nm,19.5s
CMAR Chiang Mai Arr 48.30 95 P P 16 38 21.9 +0.1
comp=Z,6.4nm,0.6s,baz=292,slow=8.3,SNR=80
CMAR PcP PcP 16 39 49.2 +0.5
comp=Z,0.6nm,0.7s,baz=286,slow=5.9,SNR=2.3

CMAR PP PP 16 40 14.5 +0.1
comp=Z,0.7nm,0.9s,baz=297,slow=9.6,SNR=4.3
CMAR LR LR 17 00 45.8
comp=Z,33nm,19.4s,baz=212,slow=38
CMAR Chiang Mai Arr 48.30 95 P P 16 38 22.0 +0.1
comp=Z,6.0nm,0.6s
KMI Kunming 48.59 84 P P 16 38 23.9 -0.4
KMI pmax pmax
comp=Z,7.0nm,0.9s
LAMP Lampang 48.85 94 P P 16 38 26.8 +0.7
comp=Z,5.0nm,0.8s
SUKH Sukhothai 49.34 95 P P 16 38 30.3 +0.4
comp=Z,4.2nm,0.8s
UTTA Uttaradit 49.99 94 P P 16 38 34.8 0.0
comp=Z,6.0nm,0.7s
XAN Xi'an 50.56 71 P P 16 38 39.1 0.0
XAN pP pP 16 38 45.3 +0.4
XAN pmax pmax
comp=Z,3.0nm,1.0s
PBKT Sadao Pong 50.91 95 P P 16 38 41.6 -0.1
SLVN Son La 51.14 88 eP P 16 38 43.6 0.0
comp=Z,3.1nm,0.6s
SLVN Son La 51.14 88 eP P 16 38 43.6 0.0
comp=Z,3.1nm,0.6s
GYA Guiyang 51.33 81⇓iP P 16 38 44.6 -0.4
GYA PP PP 16 40 43.2 +1.2
GYA S S 16 46 03.8 +0.2
GYA SS SS 16 49 35.6 -3.6
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,90nm,5.2s
GYA LR LR
comp=Z,470nm,18.3s
GYA LR LR
comp=Z,340nm,19.6s
GYA LR LR
comp=Z,460nm,18.2s
DAG Danmarks Havn 52.33 345 iP P 16 38 51.4 -0.2
DAG pmax pmax
comp=Z,1.0nm,0.6s
DAG Danmarks Havn 52.33 345 iP P 16 38 51.4 -0.2
comp=Z,2.1nm,0.6s
BJI Beijing 54.39 62 P P 16 39 05.1 -2.2
BJI pmax pmax
comp=Z,12nm,2.3s
HIA Hailar 54.63 50 eP P 16 39 09.4 +0.5
HIA pmax pmax
comp=Z,8.0nm,0.9s
HIA Hailar 54.63 50 eP P 16 39 09.4 +0.5
comp=Z,7.6nm,0.9s
HIA Hailar 54.63 50 eP P 16 39 09.4 +0.5
comp=Z,7.6nm,0.9s
DBIC Dimbokro 55.02 253 P P 16 39 12.8 +0.6
DBIC pmax pmax
comp=Z,2.0nm,0.5s
DBIC MLR MLR
comp=Z,15nm,28.6s
DBIC Dimbokro 55.02 253 P P 16 39 12.8 +0.6
comp=Z,2.0nm,0.5s,baz=72,slow=3.2,SNR=2.6
DBIC LR LR 17 05 50.1
comp=Z,92nm,18.8s,baz=25,slow=39
DBIC Dimbokro 55.02 253 P P 16 39 12.8 +0.6
comp=Z,15nm,28.6s
TIXI Tiksi 56.08 22⇓iP P 16 39 19.4 +0.4
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 56.08 22 eP P 16 39 18.8 -0.2
comp=Z,5.2nm,0.8s
TIXI Tiksi 56.08 22 iP P 16 39 19.4 +0.4
comp=Z,6.0nm,1.2s
KULM Kulim 56.80 107 eP P 16 39 23.5 -1.4
comp=Z,8.2nm,0.6s
KULM Kulim 56.80 107 eP P 16 39 23.5 -1.4
comp=Z,8.2nm,0.6s
SUMG Summit 57.28 339 iP P 16 39 28.8 +0.8
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 57.28 339 iP P 16 39 28.8 +0.8
comp=Z,4.9nm,0.8s
SUMG Summit 57.28 339 eP P 16 39 27.6 -0.4
comp=Z,5.2nm,0.7s
SUMG Summit 57.28 339 iP P 16 39 28.8 +0.8
comp=Z,5.0nm,0.8s
YAK Yakutsk 57.66 34 eP P 16 39 30.2 -0.1
YAK pmax pmax
comp=Z,7.0nm,1.0s
YAK Yakutsk 57.66 34 P P 16 39 29.7 -0.6
YAK Yakutsk 57.66 34 eP P 16 39 30.2 -0.1
comp=Z,7.0nm,1.0s
NJ2 Nanjing 59.08 70 eP P 16 39 39.6 -1.1
NJ2 pmax pmax
comp=Z,10.0nm,1.2s
KSAR Wonju Array Be 63.88 61 P P 16 40 12.9 -0.2
KSAR Wonju Array Be 63.88 61 P P 16 40 12.9 -0.2
KSAR Wonju Array Be 63.88 61 P P 16 40 12.9 -0.2
KSRS Korea Array 63.90 61 P P 16 40 12.9 -0.3
KSRS pmax pmax
comp=Z,3.0nm,0.5s
KSRS Korea Array 63.90 61 P P 16 40 12.9 -0.3
comp=Z,3.4nm,0.5s,baz=284,slow=6.5,SNR=17
USRK Ussuriysk Arra 64.16 53 P P 16 40 14.5 -0.3
comp=Z,2.9nm,0.6s,baz=274,slow=6.5,SNR=12
BOSA Boshof 65.08 201 P P 16 40 21.6 +0.6
BOSA pmax pmax
comp=Z,3.0nm,0.9s
BOSA Boshof 65.08 201 P P 16 40 21.6 +0.6
comp=Z,2.9nm,0.9s,baz=16,slow=7.4,SNR=2.7
SEY Seymchan 67.23 29⇓iP P 16 40 35.7 +1.4
SEY Seymchan 67.23 29 iP P 16 40 35.7 +1.4
BILL Bilibino 69.23 21ceP P 16 40 47.5 +0.7
BILL i 16 43 24.5
BILL eS S 16 49 43.5 -8.1
BILL pmax pmax
comp=Z,17nm,1.3s
BILL Bilibino 69.23 21 eP P 16 40 47.5 +0.7
comp=Z,17nm,1.3s
YSS Yuzh-Sakhalins 69.87 47 eP P 16 40 51.1 +0.1
YSS pmax pmax
comp=Z,16nm,1.3s
YSS Yuzh-Sakhalins 69.87 47 eP P 16 40 51.1 +0.1
comp=Z,16nm,1.3s
MJAR Matsushiro Arr 71.72 58 P P 16 41 02.8 +0.3
MJAR pmax pmax
comp=Z,1.0nm,0.5s
MJAR Matsushiro Arr 71.72 58 P P 16 41 02.8 +0.3
comp=Z,0.7nm,0.5s,baz=257,slow=3.1,SNR=4.6
PETK Petropavlovsk- 74.89 36 P P 16 41 19.5 -1.4
PETK pmax pmax
comp=Z,1.0nm,0.7s
PETK Petropavlovsk- 74.89 36 P P 16 41 19.5 -1.4
comp=Z,1.3nm,0.7s,baz=258,slow=5.7,SNR=4.9
SCHQ Schefferville 75.61 327 P P 16 41 24.4 -0.7
comp=Z,3.6nm,0.8s,baz=146,slow=17,SNR=4.7
INK Inuvik 78.64 0 eP P 16 41 40.8 -1.0
INK pmax pmax
comp=Z,10.0nm,1.4s
INK Inuvik 78.64 0 eP P 16 41 40.8 -1.0
comp=Z,10.0nm,1.4s
INK Inuvik 78.64 0 eP P 16 41 40.8 -1.0
comp=Z,10.0nm,1.4s
IM04 Indian Mountai 79.65 9 eP P 16 41 47.4 0.0
IM04 ePcP pP 16 41 54.2 +0.7
IM04 Indian Mountai 79.65 9 eP P 16 41 47.4 0.0
COLA College 81.37 6⇓iP P 16 41 56.5 -0.1
COLA pmax pmax
comp=Z,14nm,0.8s
COLA College 81.37 6 eP P 16 41 56.1 -0.5
comp=Z,5.5nm,0.8s
COLA College 81.37 6 iP P 16 41 56.5 -0.1
comp=Z,14nm,0.8s
ILAR Eielson Array 81.56 6 P P 16 41 57.5 -0.2
comp=Z,1.2nm,0.8s,baz=319,slow=3.9,SNR=20
ILAR PKKPbc PKKPbc 17 00 29.8 -1.2
comp=Z,0.4nm,0.6s,baz=205,slow=2.1,SNR=14
FCC Fort Churchill 82.74 341 eP P 16 42 03.9 0.0
FCC Fort Churchill 82.74 341 eP P 16 42 03.9 0.0
comp=Z,0.1nm,0.7s
FCC Fort Churchill 82.74 341 eP P 16 42 03.9 0.0
comp=Z,0.1nm,0.7s
YKA Yellowknife Ar 83.38 352 P P 16 42 06.7 -0.4
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 83.38 352 P P 16 42 06.7 -0.4
comp=Z,0.7nm,0.7s,baz=10,slow=5.5,SNR=2.7
KDAK Kodiak Island 87.68 11 iP P 16 42 30.0 +1.4
KDAK Kodiak Island 87.68 11 iP P 16 42 30.0 +1.4
FFC Flin Flon 88.37 343 eP P 16 42 31.5 -0.5
FFC pmax pmax
comp=Z,3.0nm,0.7s
FFC Flin Flon 88.37 343 eP P 16 42 31.4 -0.5
comp=Z,3.1nm,0.7s
FFC Flin Flon 88.37 343 eP P 16 42 31.5 -0.5
comp=Z,3.1nm,0.7s
WRA Warramunga Arr 98.33 108 P P 16 43 17.1 -1.3
comp=Z,0.4nm,0.9s,baz=314,slow=4.0,SNR=3.9
WRAB Tennant Creek 98.34 108 eP Pdif 16 43 21.6 +3.2
WRAB pmax pmax
comp=Z,6.0nm,1.0s
WRAB Tennant Creek 98.34 108 P P 16 43 12.8 -5.6
comp=Z,4.3nm,1.1s
ASAR Alice Springs 99.96 112 P Pdif 16 43 25.0 -0.7
ASAR Alice Springs 99.96 112 P Pdif 16 43 24.9 -0.7
comp=Z,0.2nm,0.6s,baz=301,slow=4.5,SNR=5.3
ASAR PKKPbc **PKKPbc 16 59 45.5 +1.3**
comp=Z,0.2nm,0.4s,baz=116,slow=3.8,SNR=13
ASAR Alice Springs 99.96 112 P Pdif 16 43 25.0 -0.7

IDC 11 16:32:21.4±1.1, 0.35N×121.94E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/30, mbtmp3.5/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/21, Error ellipse: s-maj=189.9km s-min=20.1km az=61.0
ISCJB 11 16:32:40.4±0.7, 0.43N±0.09×122.1E±0.1, h186km±5km, mb3.3/4, Error ellipse: s-maj=18.3km s-min=14.0km az=173.3
DJA 11 16:32:43.5±0.7, 0°N±5°×12°2E±°, h161km±6km, M3.7/5, mb4.1/1, MLv3.5/5
ISC 11 16:32:41.4±1.0, 0.46N±0.09×122.0E±0.1, h178km±8km, n11, σ1.51/13, mb3.2/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.10**	**284**	P	**Pn**	**16 33 05.2**	**+0.2**
MRSI				S	**Sn**	**16 33 22.4**	**-0.6**
GTOI	**Gorontalo**	**0.99**	**80**	P	**Pn**	**16 33 09.0**	**+0.1**
GTOI				S	**Sn**	**16 33 29.8**	**-0.2**
APSI	**Ampana**	**1.41**	**196**	P	**Pn**	**16 33 12.9**	**+0.5**
LUWI	**Luwuk**	**1.66**	**154**	P	**Pn**	**16 33 17.1**	**+2.3**
LUWI				S	**Sn**	**16 33 40.2**	**-0.5**
KMSI	**Cibinong**	**1.95**	**86**	P	**Pn**	**16 33 19.0**	**+1.2**
BNSI	**Bone**	**5.19**	**202**	P	**Pn**	**16 33 58.8**	**+0.9**
WRA	**Warramunga Arr**	**23.59**	**150**	P	**P**	**16 37 33.6**	**-2.6**
	0.6nm,0.5s,baz=326,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.61**	**155**	P	**P**	**16 38 01.5**	**-1.9**
	0.2nm,0.5s,baz=343,slow=15,SNR=11						
DZM	**Mont Dzumac**	**48.73**	**120**	LR	LR	17 01 45.6	
	comp=Z,51nm,18.8s,baz=19,slow=36						
MKAR	**Makanchi Array**	**57.72**	**329**	P	**P**	**16 42 14.3**	**+0.8**
	0.7nm,0.4s,baz=126,slow=9.1,SNR=18						
KURBB	**Kurchatov Arra**	**62.09**	**330**	P	**P**	**16 42 44.2**	**+1.1**
	0.1nm,0.3s,baz=115,slow=6.2,SNR=6.6						

MAN 11 16:55:32, 16.52N×120.35E, h89km, mb4.8, ML3.7, MS3.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.27**	**122**	⇑iP	Pn	16 55 47.4	+2.0
BCPH				iS	Sn	16 55 58.5	+3.2
BOLP	**Bolinao**	**0.44**	**252**	eP	Pn	16 55 48.8	+2.6
BOLP				eS	Sn	16 55 56.8	+0.1
ABRA	**Dolores**	**1.18**	**17**	eP	Pn	16 55 55.2	+1.5
BALP	**Baler**	**1.41**	**123**	eP	Pn	16 55 57.9	+1.3
CAUP	**Cauayan**	**1.48**	**73**	eP	Pn	16 55 59.2	+1.8
APYP	**Conner**	**1.58**	**33**	eP	Pn	16 56 00.1	+1.3

JMA 11 17:03:43.2±0.5, 31.46N×141.11E, h0km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.98**	**327**	eS	Sb	17 04 44.4	-0.9
BSO1	**Boso 1**	**3.19**	**358**	P	Pn	17 04 36.0	+2.1
BSO3	**Boso 3**	**3.37**	**352**	eS	Sn	17 05 19.4	+2.2
BSO4	**Boso 4**	**3.58**	**350**	P	Pn	17 04 41.8	+2.0
JOD2	**Odawara 2**	**4.15**	**337**	P	Pn	17 04 49.6	+1.7
JHU	**Hanno**	**4.64**	**341**	P	Pn	17 04 56.8	+2.3
JHU				S	Sn	17 05 50.9	+1.8
JHO	**Hitachi**	**5.16**	**355**	P	Pn	17 05 01.6	-0.1
JHO				S	Sn	17 06 03.2	+1.3

NNC 11 17:06:25.0±9.2, 36.95N×70.63E, h0km, mb3.8, mpv3.5, 3C-3D, Error ellipse: s-maj=75.8km s-min=57.3km az=173.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.15**	**359**	P	Pn	17 07 60.0	+2.8
	2.3nm,0.3s,baz=179,slow=13,SNR=80						
KK31				S	Sn	17 09 11.4	+3.2
	1.6nm,0.4s,baz=186,slow=25,SNR=9.0						
AAK	**Ala-Archa**	**6.41**	**26**	⇑P	Pn	17 08 00.4	-0.6
	2.1nm,0.5s						
AAK				⇓S	Sn	17 09 13.4	-1.5
	5.0nm,0.7s						
TKM2	**Tokmak 2**	**7.08**	**31**	⇑P	Pn	17 08 08.1	-2.1
	2.5nm,0.9s						
AB31	**Akbulak array**	**14.55**	**331**	⇓P	Pn	17 09 52.0	0.0
	0.3nm,0.4s,baz=154,slow=12,SNR=15						
AB31				⇓S	Sn	17 12 32.1	-2.0
	0.6nm,0.6s						
AKTO	**Aktyubinsk**	**16.25**	**330**	⇑P	Pn	17 10 16.1	+1.6
	2.9nm,1.2s						

ISCJB 11 17:19:09.1±0.9, 42.50N±0.06×144.33E±0.05, h66km±9km, Error ellipse: s-maj=10.7km s-min=4.6km az=157.3
JMA 11 17:19:09.5±0.1, 42.53N×144.30E, h70km±1km, M3.2
SKHL 11 17:19:11.5±0.1, 42.41N×144.62E, h30km±1km, mb4.5/1
ISC 11 17:19:09.7±1.6, 42.47N±0.08×144.33E±0.04, h60km±14km, n17, σ0.76/32, 2C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.56**	**320**	⇓P	**Pn**	**17 19 22.7**	**+0.3**
JOB				eS	**Sn**	**17 19 32.2**	**+0.6**
JAK	**Akkeshi**	**0.59**	**27**	⇓P	**Pn**	**17 19 22.7**	**+0.1**
JAK				eS	**Sn**	**17 19 32.9**	**+0.3**
JCH	**Churui**	**0.73**	**282**	⇓P	**Pn**	**17 19 24.6**	**+0.3**
JCH				eS	**Sn**	**17 19 35.1**	**+0.1**
JAR	**Ashorobuto**	**0.92**	**334**	⇓P	**Pn**	**17 19 26.4**	**-0.3**
JAR				eS	**Sn**	**17 19 38.6**	**-0.7**
JNK	**Nakash**	**1.15**	**14**	P	**Pn**	**17 19 29.3**	**-0.4**
JNK				eS	**Sn**	**17 19 43.8**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.18**	**261**	P	**Pn**	**17 19 30.1**	**0.0**
JNBK				eS	**Sn**	**17 19 45.5**	**+0.1**
NEM2	**Nemuro 2**	**1.37**	**49**	P	**Pn**	**17 19 32.0**	**-0.6**
NEM2				eS	**Sn**	**17 19 48.3**	**-1.5**
JFR	**Furan**	**1.45**	**299**	P	**Pn**	**17 19 33.7**	**0.0**
JFR				eS	**Sn**	**17 19 51.0**	**-0.8**
JBT2	**Biratori 2**	**1.48**	**283**	P	**Pn**	**17 19 33.5**	**-0.6**
JBT2				eS	**Sn**	**17 19 51.7**	**-0.8**
JTKR	**Abashiri--Toko**	**1.53**	**349**	⇑P	**Pn**	**17 19 35.0**	**+0.3**
JTKR				eS	**Sn**	**17 19 53.5**	**-0.1**
JRA	**Rausu**	**1.58**	**21**	P	**Pn**	**17 19 35.5**	**+0.1**
JRA				eS	**Sn**	**17 19 54.5**	**-0.2**
JMP	**Maruseppu**	**1.69**	**336**	P	**Pn**	**17 19 36.8**	**-0.2**
JMP				eS	**Sn**	**17 19 57.5**	**-0.1**
JKK2	**Kamakawa 2**	**1.82**	**321**	⇑P	**Pn**	**17 19 38.7**	**+0.1**
JAB	**Ashibetsu**	**1.86**	**304**	P	**Pn**	**17 19 40.1**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**1.92**	**35**	eP	**Pn**	**17 19 40.8**	**+0.8**
YUK				AMB	AMB	17 19 44.5	
	30nm,0.2s						
YUK				AMB	AMB	17 19 44.5	
	60nm,0.2s						
YUK				AMB	AMB	17 19 44.5	
	90nm,0.2s						
YUK				eS	**Sn**	**17 20 02.9**	**-0.2**
YUK				A	A	17 20 05.0	
	290nm,0.3s						
YUK				A	A	17 20 05.0	
	70nm,0.3s						
SHO	**Shikotan**	**2.30**	**52**	eP	**Pn**	**17 19 45.3**	**+0.1**
SHO				eS	**Sn**	**17 20 10.6**	**-1.8**
SHO				A	A	17 20 11.6	
	1µm,0.7s						
SHO				A	A	17 20 11.6	
	1µm,0.7s						
KUR	**Kuril'sk**	**3.76**	**42**	eP	**Pn**	**17 20 07.3**	**+2.1**
KUR				eS	**Sn**	**17 20 48.9**	**+0.7**
KUR				A	A	17 20 52.9	
	150nm,0.4s						
KUR				A	A	17 20 52.9	
	190nm,0.4s						

IDC 11 17:21:04.7±1.1, 40.62S×45.57E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/30, mbtmp3.9/5, MS3.2/1, Ms1 3.2/1, ms1mx2.7/28, Error ellipse: s-maj=62.0km s-min=26.1km az=21.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**22.81**	**307**	P	P	17 26 09.2	+0.1
	1.4nm,0.6s,baz=161,slow=10,SNR=2.7						
LBTB				LR	LR	17 33 57.1	
	comp=Z,55nm,18.2s,baz=206,slow=34						
H01W2	**Cape Leeuwin H**	**53.27**	**107**	T	T	18 27 42.5	
	baz=243,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**53.28**	**107**	T	T	18 27 40.9	
	baz=243,slow=75,SNR=14						
H01W1	**Cape Leeuwin H**	**53.29**	**107**	T	T	18 27 42.0	
	baz=243,slow=75,SNR=15						
ASAR	**Alice Springs**	**73.79**	**107**	P	P	17 32 40.6	-0.5
	0.7nm,0.8s,baz=227,slow=5.9,SNR=13						
STKA	**Stephens Creek**	**74.17**	**118**	P	P	17 32 44.0	+0.9
	0.9nm,0.6s,baz=240,slow=8.1,SNR=4.5						
WRA	**Warramunga Arr**	**76.40**	**105**	P	P	17 32 56.2	+0.1
	0.7nm,0.7s,baz=225,slow=4.4,SNR=10						
PLCA	**Paso Flores**	**80.39**	**224**	P	P	17 33 18.1	0.0
	0.6nm,0.3s,baz=135,slow=8.6,SNR=4.0						

IDC 11 17:21:49.1±3.1, 22.52N×11.72W, h0km, mb1 3.6/2, mb1mx3.2/27, mbtmp3.6/2, ML3.8/2, Error ellipse: s-maj=142.9km s-min=56.0km az=64.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.80**	**124**	Pn	Pn	17 25 33.5	+0.4
	0.3nm,0.3s,baz=313,slow=11,SNR=4.4						
TORD				Sn	Sn	17 28 21.7	-7.3
	0.1nm,0.3s,baz=312,slow=21,SNR=3.7						
I17CI	**DIMBOKRO INFRA**	**17.09**	**156**	i		19 09 40.0	
	baz=339,slow=318,SNR=1.4						
DBIC	**Dimbokro**	**17.09**	**156**	P	Pn	17 25 49.2	-0.4
	0.4nm,0.3s,baz=326,slow=16,SNR=5.1						
WRA	**Warramunga Arr**	**148.30**	**92**	PKPbc	PKPbc	17 41 37.3	-0.8
	0.3nm,0.6s,baz=304,slow=1.8,SNR=5.1						
ASAR	**Alice Springs**	**148.40**	**99**	PKPbc	PKPbc	17 41 37.8	-0.5
	0.3nm,0.5s,baz=277,slow=1.7,SNR=7.7						

CASC 11 17:31:54.6±2.1, 13.97N×91.22W, h52km±33km, MD3.5, 3C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.53**	**311**	⇑eP	Pn	17 32 07.3	+1.0
PCG	**Pacaya**	**0.73**	**55**	eP	Pn	17 32 10.0	+0.9
PCG				eS	Sn	17 32 22.4	+2.7
IXG	**Ixpaco**	**0.77**	**75**	eP	Pn	17 32 09.1	-0.5
IXG				eS	Sn	17 32 19.9	-0.6
NBG	**Las Nubes**	**1.04**	**54**	eP	Pn	17 32 14.8	+1.4
RBDL	**Robledal**	**1.50**	**84**	⇑eP	Pn	17 32 19.4	+0.1
SBLS	**San Blas**	**1.56**	**95**	⇑eP	Pn	17 32 20.5	+0.2
SBLS				eS	Sn	17 32 40.3	+0.7
SNJE	**San Jose**	**1.57**	**94**	eP	Pn	17 32 20.6	+0.1
MRL	**Marmol**	**1.84**	**54**	eP	Pn	17 32 24.0	0.0
MRL				eP		17 32 24.7	

ISCJB 11 17:34:06.1±0.5, 44.50N±0.08×147.17E±0.09, h145km±4km, mb3.7/15, Error ellipse: s-maj=15.4km s-min=6.4km az=143.8
MOS 11 17:34:07.0±1.5, 44.80N×146.87E, h145km, mb4.1/6, Error ellipse: s-maj=20.3km s-min=12.0km az=74.6
SKHL 11 17:34:07.1±0.4, 44.63N×147.09E, h147km±3km, mb4.8/2, mbh5.3/2
JMA 11 17:34:08.4±0.4, 44.39N×147.14E, h133km±4km, M3.6
JMA Felt I J1.
IDC 11 17:34:09.9±2.3, 44.87N×146.87E, h153km±23km, mb3.4/12, mb1 3.7/15, mb1mx3.4/35, mbtmp3.9/15, MS3.4/1, Ms1 3.4/1, ms1mx2.7/25, Error ellipse: s-maj=38.7km s-min=16.7km az=175.0
ISC 11 17:34:07.0±0.8, 44.55N±0.08×147.10E±0.07, h143km±6km, n67, σ1.36/70, mb3.6/15, 3C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.87**	**38**	c iPN	**Pn**	**17 34 29.8**	**-0.1**
KUR				iS	**Sn**	**17 34 46.5**	**-1.0**
KUR				pmax	pmax		
	comp=E,33nm,0.4s						
KUR				pmax	pmax		
	comp=Z,78nm,0.4s						
KUR				pmax	pmax		
	comp=N,26nm,0.2s						
KUR				smax	smax		
	comp=N,345nm,0.4s						
KUR				smax	smax		
	comp=E,171nm,0.4s						
KUR	**Kuril'sk**	**0.87**	**38**	eP	**Pn**	**17 34 29.8**	**-0.1**
KUR				AMB	AMB	17 34 33.3	
	comp=E,30nm,0.3s						
KUR				AMB	AMB	17 34 33.3	
	comp=E,34nm,0.3s						
KUR				AMB	AMB	17 34 33.3	
	comp=E,80nm,0.3s						
KUR				eS	**Sn**	**17 34 46.5**	**-1.0**
KUR				A	A	17 34 47.9	
	comp=E,345nm,0.4s						
KUR				A	A	17 34 47.9	
	comp=E,171nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.03**	**240**	c iPN	**Pn**	**17 34 31.4**	**+0.1**
YUK				iS	**Sn**	**17 34 49.9**	**+0.1**
YUK				pmax	pmax		
	comp=N,140nm,0.2s						
YUK				pmax	pmax		
	comp=E,246nm,0.2s						
YUK				pmax	pmax		
	comp=Z,608nm,0.2s						
YUK				smax	smax		
	comp=N,772nm,0.5s						
YUK				smax	smax		
	comp=E,1µm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.03**	**240**	eP	**Pn**	**17 34 31.4**	**+0.1**
YUK				AMB	AMB	17 34 32.8	
	comp=E,140nm,0.2s						
YUK				AMB	AMB	17 34 32.8	
	comp=E,246nm,0.2s						
YUK				AMB	AMB	17 34 32.8	
	comp=E,610nm,0.2s						
YUK				eS	**Sn**	**17 34 49.9**	**+0.1**
YUK				A	A	17 34 51.7	
	comp=E,772nm,0.5s						
YUK				A	A	17 34 51.7	
	comp=E,1µm,0.5s						
NEM2	**Nemuro 2**	**1.54**	**220**	P	**Pn**	**17 34 35.8**	**-0.6**
NEM2				eS	**Sn**	**17 34 56.5**	**-2.4**
JRA	**Rausu**	**1.55**	**247**	P	**Pn**	**17 34 37.0**	**+0.5**
JNK	**Nakash**	**1.97**	**241**	P	**Pn**	**17 34 42.0**	**+0.7**
JAK	**Akkeshi**	**2.33**	**229**	P	**Pn**	**17 34 45.6**	**-0.1**
JAK				eS	**Sn**	**17 35 13.8**	**-1.6**
JTKR	**Abashiri--Toko**	**2.37**	**257**	P	**Pn**	**17 34 46.8**	**+0.7**
JTKR				eS	**Sn**	**17 35 16.7**	**+0.6**
JAR	**Ashorobuto**	**2.71**	**244**	P	**Pn**	**17 34 52.0**	**+1.6**
JMP	**Maruseppu**	**2.74**	**260**	P	**Pn**	**17 34 51.6**	**+0.8**
JOB	**Onbets**	**2.88**	**236**	P	**Pn**	**17 34 53.5**	**+0.9**
JOB				eS	**Sn**	**17 35 27.5**	**-0.2**
HRK	**Horoka**	**3.06**	**251**	eP	**Pn**	**17 34 56.4**	**+1.5**
JKK2	**Kamakawa 2**	**3.20**	**259**	P	**Pn**	**17 34 58.0**	**+1.4**
JSE	**Soyaes**	**3.24**	**279**	P	**Pn**	**17 34 58.2**	**+1.1**
ASAJ	**Asahikawa**	**3.26**	**264**	PN	**Pn**	**17 34 59.0**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ	**Asahikawa**	**3.26**	**264**	P	**Pn**	**17 34 59.0**	**+1.6**
	comp=Z,6.1nm,0.3s,baz=112,slow=13,SNR=199						
JCH	**Churui**	**3.34**	**236**	P	**Pn**	**17 34 58.8**	**+0.4**

JCH eS Sn 17 35 36.8 -1.3
JFR Furan 3.54 248 P Pn 17 35 02.8 +1.7
JWK2 Keihoku 3.77 283 P Pn 17 35 06.3 +2.3
ERM Erimo 3.84 230 ePN Pn 17 35 06.1 +1.2
ERM Erimo 3.84 230 eP Pn 17 35 06.1 +1.2
JNBK Urakawa-nobuka 3.90 236 P Pn 17 35 05.5 -0.2
JNBK eS Sn 17 35 50.0 -1.2
JHR Hokuryu 3.95 260 P Pn 17 35 08.8 +2.4
JEW Eniwo 4.44 249 P Pn 17 35 14.6 +1.8
USRK Ussuriysk Arra 10.83 273 P Pn 17 36 38.5 +0.5
comp=Z,0.3nm,0.3s,baz=82,slow=12,SNR=6.1
SEY Seymchan 18.67 8⇓iP Pn 17 38 14.8 -0.9
SEY Seymchan 18.67 8 P P 17 38 12.8 -0.9
comp=Z,0.1nm,0.3s,baz=186,slow=9.3,SNR=10
SEY Seymchan 18.67 8 eP Pn 17 38 14.8 -0.9
H11N2 WAKE ISLAND Hy 29.73 140 T T 18 11 11.4
baz=334,slow=77,SNR=52
H11N1 WAKE ISLAND Hy 29.75 140 T T 18 11 13.6
baz=334,slow=77,SNR=45
H11N3 WAKE ISLAND Hy 29.75 140 T T 18 11 10.7
baz=334,slow=77,SNR=50
H11S1 WAKE ISLAND Hy 30.71 141 T T 18 12 22.5
baz=336,slow=77,SNR=88
H11S3 WAKE ISLAND Hy 30.72 141 T T 18 12 19.9
baz=336,slow=77,SNR=62
H11S2 WAKE ISLAND Hy 30.73 141 T T 18 12 23.8
baz=336,slow=77,SNR=43
COLA College 40.45 37 eP P 17 41 32.3 +1.4
COLA pmax pmax
comp=Z,22nm,1.0s
COLA College 40.45 37 eP P 17 41 32.3 +1.4
ILAR Eielson Array 40.86 37 P P 17 41 35.0 +0.6
ILAR pmax pmax
comp=Z,3.0nm,1.2s
ILAR Eielson Array 40.86 37 P P 17 41 35.0 +0.6
comp=Z,3.3nm,1.2s,baz=267,slow=5.9,SNR=19
ILAR Eielson Array 40.86 37 eP P 17 41 34.8 +0.4
MKAR Makanchi Array 44.19 297 PcP PcP 17 43 44.2 +0.6
comp=Z,0.2nm,0.5s,baz=73,slow=5.0,SNR=3.9
KURK Kurchatov 45.05 303 eP P 17 42 07.2 -1.0
KURK pmax pmax
comp=Z,1.0nm,1.7s
KURK Kurchatov 45.05 303 eP P 17 42 07.2 -1.0
INK Inuvik 45.73 31 P P 17 42 13.8 +0.5
INK pmax pmax
comp=Z,3.0nm,0.4s
INK Inuvik 45.73 31 P P 17 42 13.8 +0.5
comp=Z,3.2nm,0.4s,baz=300,slow=9.3,SNR=51
ARU Arti 53.74 316c iP P 17 43 10.4 -3.6
ARU S S 17 50 31.1 -5.7
ARU pmax pmax
comp=Z,8.0nm,1.7s
SPITS Spitsbergen Ar 53.99 349 LR LR 18 08 02.8
comp=Z,29nm,18.1s,baz=350,slow=38
YKA Yellowknife Ar 55.16 34 P P 17 43 25.3 +1.3
comp=Z,0.3nm,0.4s,baz=300,slow=6.9,SNR=11
ARCES ARCESS Array B 58.48 339 P P 17 43 46.1 -1.4
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 58.48 339 P P 17 43 46.1 -1.4
comp=Z,1.0nm,0.7s,baz=52,slow=7.3,SNR=3.5
FINES FINESS Array B 64.14 333 P P 17 44 24.2 -1.4
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 64.14 333 P P 17 44 24.2 -1.4
comp=Z,1.0nm,0.5s,baz=37,slow=7.4,SNR=8.2
NVAR Mina Array Bea 67.18 58 P P 17 44 46.8 +1.0
comp=Z,0.3nm,0.6s,baz=306,slow=7.7,SNR=2.4
NOA NORSAR Array B 68.84 339 eP P 17 44 54.6 -0.9
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 68.84 339 P P 17 44 54.4 -1.2
comp=Z,0.5nm,0.5s,baz=32,slow=6.6,SNR=6.9
NOA NORSAR Array B 68.84 339 eP P 17 44 54.6 -0.9
KBZ Khabaz 69.24 311 P P 17 45 00.0 +1.8
KBZ pmax pmax
comp=Z,2.0nm,0.6s
KBZ Khabaz 69.24 311 P P 17 45 00.0 +1.8
comp=Z,1.5nm,0.6s,baz=127,slow=5.1,SNR=3.7
PDAR Pinedale Array 69.42 50 P P 17 45 00.9 +1.2
comp=Z,0.4nm,0.7s,baz=310,slow=1.7,SNR=3.8
AKASG Malin Array Be 70.91 324 P P 17 45 07.3 -1.0
comp=Z,0.2nm,0.3s,baz=38,slow=6.8,SNR=3.0
KHC Kasperske Hory 78.24 331 eP P 17 45 51.8 +1.2
KHC Kasperske Hory 78.24 331 eP P 17 45 51.8 +1.2
KHC Kasperske Hory 78.24 331 eP P 17 45 51.8 +1.2
GERES GERESS Array B 78.44 331 eP P 17 45 52.4 +0.6
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 78.44 331 P P 17 45 51.6 -0.2
comp=Z,0.6nm,0.5s,baz=35,slow=4.9,SNR=6.7
GERES GERESS Array B 78.44 331 eP P 17 45 52.4 +0.6
TXAR Lajitas Array 82.23 56 P P 17 46 13.7 +1.2
comp=Z,0.2nm,0.5s,baz=292,slow=4.8,SNR=3.3

MEX 11 17:37:13.7±0.8, 16.03N×97.16W, h16km±10km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	1.00	291	eP	Pb	17 37 28.9	-3.8
PNIG				eS	Sb	17 37 41.3	-4.3
HUIG	Huatulco	1.04	105	eP	Pb	17 37 30.3	-3.2
HUIG				eS	Sb	17 37 42.3	-4.6
VHO	Vista Hermosa	1.11	21	iP	Pb	17 37 30.4	-4.4
VHO				iS	Sb	17 37 44.2	-5.0
TLIG	Tlapa	2.03	319	iP	Pn	17 37 45.0	-2.4
TLIG				iS	Sn	17 38 08.1	-4.5
CMIG	Matias Romero	2.42	64	eP	Pn	17 37 49.9	-2.8
CMIG				iS	Sn	17 38 17.6	-4.4

IDC 11 17:42:59.9±0.5, 14.91N×87.27W, h0km, mb4.3/19, mb1 4.5/22, mb1mx4.3/35, mbtmp4.3/22, ML4.2/3, MS3.5/11, Ms1 3.5/11, ms1mx3.3/31, Error ellipse: s-maj=15.3km s-min=11.0km az=43.0

ISCJB 11 17:43:01.4±0.3, 14.97N±0.05×86.97W±0.05, h10km, mb4.6/57, MS3.5/9, Error ellipse: s-maj=8.7km s-min=4.1km az=138.0

NEIC 11 17:43:02.7±0.3, 14.98N×86.98W, h10km, mb4.8/42, Error ellipse: s-maj=13.4km s-min=5.4km az=55.0

NEIC Felt [III] at San Pedro Sula and Tegucigalpa. Also felt at Agalteca, Cerro Grande, El Chimbo, La Cuesta, Las Tapias, Puerto Cortes, Santa Barbara, Villa Nueva and Yorito.

BJI 11 17:43:02.3, 15.10N×86.90W, h10km, mB5.3/2, Ms4.5/1, Ms7 4.3/1

ISC 11 17:43:02.2±0.4, 15.03N±0.05×87.05W±0.07, h10km, n305, σ1.79/298, mb4.7/56, MS3.5/9, 98C-109D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	3.30	270	Pn	Pn	17 43 49.0	-5.2
	38nm,0.3s,baz=91,slow=12,SNR=274						
APG				Pg	Pb	17 43 54.3	-6.7
	80nm,0.3s,baz=103,slow=14,SNR=50						
APG				Lg	Lg	17 44 37.0	
	86nm,0.3s,baz=78,slow=7.1,SNR=7.8						
APG				LR	LR	17 45 23.5	
	comp=Z,1μm,20.7s,baz=86,slow=46						
THIG		5.04	269	P	Pn	17 44 17.8	-0.1
CCIG	Comitan	5.06	285	P	Pn	17 44 17.6	-0.8
JTS	JuntasAbangare	5.13	156	Pn	Pn	17 44 20.0	+0.8
	1.9nm,0.3s,baz=12,slow=14,SNR=11						
JTS				Lg	Lg	17 45 38.4	
	15nm,0.3s,baz=248,slow=17,SNR=3.7						
JTS	JuntasAbangare	5.13	156	ePn	Pn	17 44 20.0	+0.8
JTS				eSn	Sn	17 45 21.7	+3.1
JTS				Lg	Lg	17 45 38.4	
TEIG	Tepich	5.30	347	Pn	Pn	17 44 20.9	-0.5
	28nm,0.3s,baz=275,slow=1.6,SNR=48						
TEIG				Sn	Sn	17 45 19.6	-3.0
	37nm,0.3s,baz=268,slow=20,SNR=11						
TEIG				LR	LR	17 46 39.7	
	comp=Z,510nm,19.0s,baz=248,slow=41						
TEIG	Tepich	5.30	347	ePn	Pn	17 44 21.0	-0.5
TEIG				eSn	Sn	17 45 20.4	-2.2
PCIG		5.99	277	P	Pn	17 44 29.1	-1.9
CMIG	Matias Romero	7.81	286	P	Pn	17 44 52.5	-3.5
HUIG	Huatulco	8.77	276	P	Pn	17 45 06.0	-3.2
VHO	Vista Hermosa	9.53	284	P	Pn	17 45 15.5	-4.2
ROSC	El Rosal	16.08	128	LR	LR	17 53 11.0	

comp=Z,114nm,21.6s,baz=342,slow=38
933A Laredo 16.91 320 ⇑P Pn 17 46 56.0 -3.0
baz=17
HKT Hockley 16.91 333 ePn Pn 17 46 59.3 +0.4
12nm,0.9s
OTAV Otavalo 16.98 149 ePn P 17 47 00.5 -1.8
92nm,2.3s
SDV Santo Domingo 17.17 109 eP P 17 47 03.5 -0.7
32nm,1.3s
734A La Parita Cree 17.39 324 ⇓P Pn 17 47 03.1 -2.0
baz=18
833A Chaparral WMA, 17.49 321 ⇑P Pn 17 47 04.5 -1.9
baz=18
536A Bastrop 17.59 330 ⇑P Pn 17 47 06.9 -0.6
baz=18
634A China Grove, S 17.69 326 ⇑P Pn 17 47 06.7 -2.0
baz=18
733A Divot King Ran 17.72 322 ⇑P Pn 17 47 06.4 -2.8
baz=18
535A Dale 17.80 329 ⇓P Pn 17 47 08.2 -1.9
baz=18
832A Faith Ranch, C 17.82 320 ⇓P Pn 17 47 09.6 -0.8
baz=18
732A Laxson Ranch, 18.14 321 ⇓P Pn 17 47 12.8 -1.5
baz=18,SNR=16
633A Saathoff Ranch 18.21 324 ⇑P Pn 17 47 12.9 -2.3
baz=18
534A Blanco 18.26 327 ⇓P Pn 17 47 14.0 -1.9
baz=18,SNR=23
632A Uvalde 18.59 323 ⇓P P 17 47 17.9 -1.8
baz=19
533A Kerrville 18.60 326 ⇑P P 17 47 17.9 -1.8
baz=19
335A Moody 18.76 331 ⇑P P 17 47 19.9 -1.6
baz=19
434A Burnet 18.78 329 ⇑P P 17 47 20.4 -1.3
baz=19,SNR=12
631A Perdido Creek 18.99 321 ⇑P P 17 47 22.6 -1.4
baz=19,SNR=20
433A Art 19.16 327 ⇑P P 17 47 25.6 -0.3
baz=19,SNR=12
334A Lometa 19.19 330 ⇓P P 17 47 26.0 -0.2
baz=19,SNR=8.2
JCT Junction City 19.33 325 ePn P 17 47 28.0 +0.2
14nm,0.8s
JCT Junction City 19.33 325 ⇓P P 17 47 27.6 -0.2
baz=20
WHTX Lake Whitney 19.37 332 ePn P 17 47 28.6 +0.4
51nm,0.8s
WHTX Lake Whitney 19.37 332 ⇓P P 17 47 27.9 -0.2
baz=20
OXF Oxford 19.52 354 ePn Pn 17 47 33.5 +2.6
46nm,0.9s
531A Rocksprings 19.52 323 ⇓P P 17 47 29.3 -0.6
baz=20,SNR=8.1
333A Richland Sprin 19.56 328 ⇑P P 17 47 30.6 +0.4
baz=20,SNR=36
432A Menard 19.63 326 ⇑P P 17 47 31.3 +0.2
baz=20,SNR=9.2
234A Clairette 19.70 331 ⇑P P 17 47 32.1 +0.4
baz=20,SNR=7.4
135A Vickery Place, 19.84 333 ⇑P P 17 47 34.6 +1.3
baz=20
431A Sonora 19.94 324 ⇑P P 17 47 35.5 +1.1
baz=20,SNR=6.9
530A J-C Ranch, Com 19.98 321 ⇑P P 17 47 36.4 +1.5
baz=20,SNR=22
332A Millersview 20.00 327 ⇑P P 17 47 35.7 +0.7
baz=20,SNR=17
233A Rising Star 20.07 329 ⇓P P 17 47 36.9 +1.0
baz=20,SNR=9.4
134A White-Moore Ra 20.15 332 ⇓P Pn 17 47 39.1 +0.6
baz=20,SNR=11
UALR University of 20.23 347 ePn P 17 47 37.6 +0.1
93nm,1.8s
SJG San Juan 20.26 78 P Pn 17 47 38.7 -1.3
13nm,0.3s,baz=270,slow=12,SNR=3.9
SJG LR LR 17 54 46.1
comp=Z,238nm,22.0s,baz=270,slow=34
MIAR Mount Ida 20.30 344 ePn P 17 47 39.0 +0.7
25nm,0.9s
331A San Angelo 20.31 325 ⇓P P 17 47 40.0 +1.5
baz=20,SNR=13
232A Coleman 20.35 328 ⇓P P 17 47 40.4 +1.5
baz=20,SNR=14
430A Baggett Ranch, 20.38 323 ⇓P Pn 17 47 41.4 +0.1
baz=20,SNR=9.5
Z35A Perchaven, San 20.44 335 ⇓P Pn 17 47 42.0 +0.1
baz=21
529A Stev Forest Ra 20.51 320 ⇓P Pn 17 47 42.6 -0.3
baz=21,SNR=8.5
133A Hamilton Ranch 20.57 330 ⇑P Pn 17 47 43.3 -0.1
baz=21,SNR=14
429A Davenport Ranc 20.66 321 ⇓P P 17 47 43.4 +1.2
baz=21,SNR=15
KMSC Kings Mountain 20.68 13 ⇑P P 17 47 43.3 +0.9
baz=21
231A Bronte 20.73 327 ⇑P Pn 17 47 45.2 -0.2
baz=21,SNR=12
Z34A Collier Ranch, 20.75 334 ⇑P Pn 17 47 45.3 -0.3
baz=21,SNR=8.1
TKL Tuckaleechee C 20.75 8 P Pn 17 47 46.2 +0.6
13nm,0.9s,baz=184,slow=13,SNR=8.7
330A Mertzon 20.80 324 ⇓P P 17 47 45.4 +1.6
baz=21,SNR=22
528A Cox Ranch, San 20.89 319 ⇓P P 17 47 46.0 +1.1
baz=21
TXAR Lajitas Array 20.93 316 P P 17 47 46.8 +1.6
10nm,0.7s,baz=139,slow=8.1,SNR=51
TXAR S S 17 51 38.6 0.0
0.3nm,0.6s,baz=138,slow=26,SNR=4.1
TXAR LR LR 17 57 24.8
comp=Z,82nm,18.8s,baz=0.0,slow=42
ABTX Abilene, Hawle 20.93 329 eP P 17 47 47.0 +1.9
19nm,0.8s
ABTX Abilene, Hawle 20.93 329 ⇓P P 17 47 46.6 +1.4
baz=21
Z33A Whitaker Ranch 21.06 332 ⇑P P 17 47 48.1 +1.6
baz=21,SNR=8.8
230A Sterling City 21.13 325 ⇓P P 17 47 49.1 +1.7
baz=21,SNR=8.0
Y34A Reagan Ranch, 21.19 335 ⇑P P 17 47 50.1 +2.2
baz=21,SNR=13
428A Kincaid Ranch, 21.21 320 ⇓P P 17 47 50.3 +2.0
baz=21,SNR=11
329A Wagon Wheel Ra 21.33 323 ⇓P P 17 47 51.1 +1.6
baz=22,SNR=5.4
131A Roby 21.35 328 ⇓P P 17 47 51.5 +1.8
baz=22
Z32A Haskell 21.41 330 ⇑P P 17 47 52.3 +2.0
baz=22,SNR=12
229A Bryant Ranch, 21.58 324 ⇑P P 17 47 54.2 +2.0
baz=22
130A Snyder 21.59 327 ⇓P P 17 47 53.7 +1.3
baz=22
Y33A Hilltop Ranch, 21.60 333 ⇓P P 17 47 54.5 +2.1
baz=22
Z31A Sharp Cattle R 21.74 329 ⇓P P 17 47 55.9 +2.0
baz=22,SNR=6.6
427A Hayter Ranch, 21.75 319 ⇓P P 17 47 55.5 +1.5
baz=22
328A Wristen Ranch, 21.75 321 ⇓P P 17 47 55.7 +1.7
baz=22,SNR=30
X34A Smith Ranch, M 21.78 335 ⇑P P 17 47 56.8 +2.6
baz=22,SNR=7.7
PBMO Poplar Bluff 21.87 353 eP P 17 47 57.7 +2.5
49nm,1.0s
Y32A R-V Farms, Ver 21.96 332 ⇑P P 17 47 58.7 +2.4
baz=22
X33A Lawton 22.00 334 ⇑P P 17 47 59.2 +2.6
baz=22
129A Stewart Farms, 22.11 325 ⇓P P 17 47 59.2 +1.3
baz=22,SNR=5.7
228A UT Block 9, Go 22.14 323 ⇑P P 17 47 59.8 +1.6
baz=22,SNR=5.1
Z30A Sanderson Ranc 22.21 327 ⇑P P 17 48 00.1 +1.1
baz=22,SNR=13
TUL1 Tulsa 22.22 341 eP P 17 48 00.1 +1.1
20nm,0.8s
TUL1 Tulsa 22.22 341 ⇓P P 17 48 00.9 +2.0
baz=22
X32A Elmer 22.24 332 ⇓P P 17 48 00.8 +1.6
baz=22,SNR=9.6
W34A Bridge Creek, 22.31 336 ⇓P P 17 48 01.9 +1.9
baz=22
Y31A Rekieta Farm, 22.32 330 ⇑P P 17 48 02.9 +2.8
baz=22,SNR=22
PCRV Puerto La Cruz 22.39 100 LR LR 17 57 25.4
comp=Z,100nm,18.1s,baz=290,slow=38

326A Caldwell Ranch 22.42 319 ⇑P P 17 48 03.2 +1.9
baz=22,SNR=7.0
128A Castleberry Fa 22.45 324 ⇓P P 17 48 02.8 +1.2
baz=23,SNR=10.0
227A Bennet, Jal 22.48 322 ⇓P P 17 48 02.5 +0.6
baz=23
Z29A Hungry Hill Ra 22.50 326 ⇑P P 17 48 03.4 +1.3
baz=23,SNR=6.6
W33A Caddo, Fort Co 22.51 335 ⇓P P 17 48 03.6 +1.4
baz=23
Y30A Stafford Cattl 22.56 329 ⇑P P 17 48 04.3 +1.6
baz=23
X31A McDonald Ranch 22.73 331 ⇑P P 17 48 05.7 +1.2
baz=23,SNR=8.3
V34A Guthrie 22.74 338 ⇑P P 17 48 05.2 +0.6
baz=23,SNR=5.2
W32A Sentinel 22.82 333 ⇓P P 17 48 06.2 +0.8
baz=23,SNR=6.8
Z28A Tucker Farm, M 22.89 325 ⇓P P 17 48 06.7 +0.5
baz=23,SNR=7.5
127A Arkansas Junct 22.99 323 ⇓P P 17 48 08.4 +1.1
baz=23,SNR=6.1
X30A Coker Ranch, T 23.01 330 ⇑P P 17 48 08.6 +1.2
baz=23
V33A Lossen Ranch, 23.02 336 ⇑P P 17 48 08.3 +0.8
baz=23
226B Tecolote Peak, 23.06 320 ⇑P P 17 48 08.8 +0.8
baz=23,SNR=18
WCI Wyandotte Cave 23.12 2 eP P 17 48 07.7 -0.8
29nm,0.8s
W31A Holland Ranch, 23.18 332 ⇑P P 17 48 10.2 +1.0
baz=23
V32A Arapaho 23.24 335 ⇑P P 17 48 10.8 +1.1
baz=23
Y28A McKinney Farm, 23.29 327 ⇑P P 17 48 11.1 +0.8
baz=23
U34A Anderson Ranch 23.29 338 ⇑P P 17 48 11.3 +1.1
baz=23
126A Clayton Basin, 23.36 322 ⇓P P 17 48 12.5 +1.4
baz=24,SNR=8.7
Z27A Tatum 23.37 324 ⇑P P 17 48 12.4 +1.2
baz=24,SNR=11
X29A Tulia 23.42 328 ⇓P P 17 48 12.5 +0.8
baz=24
225A Deer Hill, Car 23.49 319 ⇓P P 17 48 13.6 +1.2
baz=24
U33A Lingo Farm, Me 23.49 337 ⇑P P 17 48 13.8 +1.6
baz=24
MSTX Muleshoe 23.61 326 eP P 17 48 14.1 +0.5
130nm,1.9s
MSTX Muleshoe 23.61 326 ⇑P P 17 48 14.5 +0.9
baz=24
V31A Spring Creek L 23.62 333 ⇓P P 17 48 14.7 +1.1
baz=24
ATAH Atahualpa 23.63 158 LR LR 17 56 51.2
comp=Z,250nm,18.1s,baz=336,slow=35
OLIL Olney 23.63 358 eP P 17 48 14.3 +0.7
58nm,1.1s
LPIG La Paz 23.67 296 LR LR 17 57 53.4
comp=Z,243nm,18.3s,baz=51,slow=38
X28A Dimmitt 23.73 328 ⇓P P 17 48 15.8 +1.1
baz=24
AMTX Amarillo 23.75 329 eP P 17 48 16.9 +2.0
40nm,1.4s
AMTX Amarillo 23.75 329 ⇑P P 17 48 16.4 +1.5
baz=24
125A Gardner Draw, 23.76 321 ⇓P P 17 48 16.1 +1.1
baz=24,SNR=21
Y27A Causey 23.76 325 ⇑P P 17 48 16.5 +1.5
baz=24,SNR=6.9
Z26A Caprock 23.78 323 ⇑P P 17 48 16.9 +1.7
baz=24
U32A Winter Ranch, 23.79 336 ⇑P P 17 48 16.7 +1.5
baz=24
W29A Amraillo 23.93 329 ⇓P P 17 48 18.1 +1.6
baz=24
T33A Patterson Ranc 24.12 338 ⇑P P 17 48 19.7 +1.4
baz=24
U31A Nine Bar Ranch 24.13 334 ⇓P P 17 48 20.0 +1.5
baz=24
Y26A Elida 24.16 324 ⇓P P 17 48 20.0 +1.2
baz=24,SNR=6.2
Z25A Roswell 24.22 322 ⇑P P 17 48 21.0 +1.6
baz=24
T32A Huddler Ranch, 24.46 337 ⇑P P 17 48 22.7 +1.3
baz=25
W27A Bowe Ranch, En 24.60 327 ⇓P P 17 48 24.2 +1.4
baz=25
U30A WK&E Inc. Balk 24.61 333 ⇑P P 17 48 24.7 +1.8
baz=25
X26A CR and CF Fran 24.62 325 ⇑P P 17 48 24.1 +1.1
baz=25
Z24A Sheeppen Canyo 24.65 321 ⇓P P 17 48 25.0 +1.6
baz=25,SNR=19
Y25A Mesa, Roswell 24.66 323 ⇑P P 17 48 24.6 +1.2
baz=25,SNR=8.1
T31A Randall Ranch, 24.68 335 ⇑P P 17 48 25.0 +1.6
baz=25
U29A Oasis Ranch, S 24.83 332 ⇑P P 17 48 27.2 +2.5
baz=25
W26A Owens Ranch, T 25.00 326 ⇓P P 17 48 28.3 +1.9
baz=25
T30A Plains 25.00 334 ⇓P P 17 48 28.5 +2.2
baz=25
V27A Dan Oppiter Fa 25.02 328 ⇓P P 17 48 28.0 +1.4
baz=25
X25A Clemmons Ranch 25.08 324 ⇓P P 17 48 29.9 +2.8
baz=25
Y24A Capitan 25.10 322 ⇑P P 17 48 29.5 +2.1
baz=25,SNR=27
R33A Olander Ranch, 25.12 339 ⇓P P 17 48 29.2 +1.8
baz=25
U28A Mallet 25.21 330 ⇑P P 17 48 30.3 +2.0
baz=25
SFIN Scholer Farm 25.26 360 eP P 17 48 31.0 +2.5
316nm,2.7s
SFIN Scholer Farm 25.26 360 ⇑P P 17 48 30.3 +1.8
baz=25
W25A X Bar L Ranch, 25.47 325 ⇑P P 17 48 32.2 +1.5
baz=26
S30A Montezuma 25.47 335 ⇑P P 17 48 32.4 +1.8
baz=26
Y23A Lovelace Mesa, 25.48 321 ⇑P P 17 48 32.3 +1.4
baz=26,SNR=12
U27A Thompson Grove 25.54 329 ⇑P P 17 48 32.9 +1.6
baz=26
V26A Tequesquite Ra 25.54 327 ⇓P P 17 48 33.4 +2.0
baz=26,SNR=15
Z22A Elephant Butte 25.60 319 ⇓P P 17 48 33.1 +1.2
baz=26
R31A Burdett 25.66 337 ⇑P P 17 48 33.7 +1.4
baz=26
121A Cookes Peak, D 25.68 316 ⇓P P 17 48 33.6 +0.9
baz=26
Q33A Connelly Farm, 25.70 340 ⇓P P 17 48 34.5 +2.0
baz=26
T28A Walsh 25.76 331 ⇓P P 17 48 34.4 +1.2
baz=26
Q32A Meitler Ranch, 25.93 339 ⇑P P 17 48 36.3 +1.6
baz=26
R30A Dighton 25.95 336 ⇑P P 17 48 36.7 +1.8
baz=26
W24A Lazy 6 Ranch, 25.99 324 ⇑P P 17 48 37.5 +2.0
baz=26
T27A Campo 26.00 330 ⇓P P 17 48 37.0 +1.5
baz=26
X23A Hourglass Bar 26.01 322 ⇓P P 17 48 37.5 +1.8
baz=26
V25A Rancho No Teng 26.02 326 ⇓P P 17 48 37.6 +1.9
baz=26
319A Douglas 26.04 313 ⇓P P 17 48 37.4 +1.5
baz=26
V24A Rampart Ranch, 26.29 325 ⇓P P 17 48 41.2 +2.9
baz=26
U25A Circle Dot Ran 26.33 327 ⇓P P 17 48 41.0 +2.5
baz=26
W23A Werner Place, 26.39 323 ⇓P P 17 48 41.0 +1.9
baz=26
R29A Marienthal 26.42 335 ⇑P P 17 48 41.2 +2.0
baz=27
ANMO Albuquerque 26.42 322 P P 17 48 36.9 -2.5
1.5nm,0.3s,baz=117,slow=6.8,SNR=3.7
ANMO LR LR 18 02 43.8
comp=Z,68nm,18.4s,baz=74,slow=45
T26A Comanche Natio 26.51 329 ⇓P P 17 48 42.3 +2.1
baz=27
Q30A Quinter 26.52 337 ⇑P P 17 48 42.3 +2.2
baz=27

R28A Tribune 26.63 333 ⇓P P 17 48 43.1 +1.9
baz=27
Q29A Oakley 26.75 335 ⇑P P 17 48 44.4 +2.3
baz=27
S26A Kim 26.80 330 ⇑P P 17 48 44.6 +1.9
baz=27
T25A Trinidad 26.89 328 ⇑P P 17 48 45.6 +2.0
baz=27
R27A Eads 27.02 332 ⇓P P 17 48 46.3 +1.6
baz=27
P30A Selden 27.03 337 ⇑P P 17 48 46.9 +2.3
baz=27
U23A El Rito 27.24 325 ⇓P P 17 48 48.7 +1.8
baz=27
Q28A Sharon Springs 27.25 334 ⇓P P 17 48 48.8 +2.2
baz=27
R26A Arlington 27.34 331 ⇓P P 17 48 49.9 +2.4
baz=28
T24B San Luis 27.34 327 ⇓P P 17 48 50.2 +2.4
baz=28
V22A San Miguel Ran 27.36 323 ⇓P P 17 48 50.6 +2.8
baz=28
O30A MW Ranch, Wils 27.52 338 ⇓P P 17 48 52.2 +3.1
baz=28
KSCO Kaye Shedlock' 27.54 333 ⇑P P 17 48 52.4 +3.0
baz=28
P28A Saint Francis 27.64 335 ⇓P P 17 48 53.6 +3.4
baz=28
Q26A Hugo 27.87 332 ⇑P P 17 48 55.4 +3.1
baz=28
R24A Sanders Place, 28.09 329 ⇓P P 17 48 58.5 +4.2
baz=28
P26A Davis Ranch, A 28.31 333 ⇓P P 17 49 00.2 +3.9
baz=28
S22A 4UR Ranch, Cre 28.62 326 ⇑P P 17 49 02.9 +3.7
baz=29
P25A Willow Gulch B 28.64 332 ⇑P P 17 49 03.0 +3.8
baz=29
NNA Nana 28.68 159 LR LR 18 00 12.0
comp=Z,67nm,19.6s,baz=337,slow=36
MVCO Mesa Verde 29.17 323 ⇑P P 17 49 06.6 +2.5
baz=29
P22A Eagle 29.96 329 ⇑P P 17 49 13.6 +2.6
baz=30
O23A Lake Granby, G 30.02 330 ⇓P P 17 49 14.1 +2.6
baz=30
O22A Kremmling 30.28 330 ⇓P P 17 49 16.9 +2.9
baz=30
SADO Sadowa 30.39 11 P P 17 49 14.3 -0.1
7.6nm,0.9s,baz=183,slow=1.8,SNR=5.0
U15A North Rim 31.00 318 ⇑P P 17 49 23.3 +3.0
baz=31
PTGA Pitinga 31.02 118 P P 17 49 19.7 -0.6
2.2nm,0.7s,baz=334,slow=10,SNR=4.1
W13A Hualapai Mount 31.30 315 ⇓P P 17 49 25.4 +2.5
baz=31
L23A Garrett 31.43 333 ⇑P P 17 49 27.9 +3.9
baz=32
SRU San Rafael 31.64 324 eP P 17 49 29.7 +4.0
128nm,2.9s
N20A Spence Gulch, 31.65 328 ⇓P P 17 49 28.6 +2.7
baz=32
K23A Bowen Ranch, D 31.91 334 ⇑P P 17 49 30.6 +2.5
baz=32
K21A Alcova 32.53 332 ⇓P P 17 49 37.3 +3.7
baz=32
J22A Midwest 32.81 333 ⇓P P 17 49 38.8 +2.9
baz=33
HEC Hector,Ludlow 32.88 312 ⇑P P 17 49 39.1 +2.5
baz=33
H24A Dirks Ranch, A 33.13 337 ⇑P P 17 49 43.2 +4.5
baz=33
J21A Lysite 33.18 332 ⇓P P 17 49 42.1 +2.8
baz=33
I22A 9 Mile Ranch, 33.20 334 ⇓P P 17 49 42.4 +3.1
baz=33
J20A Shoshoni 33.48 332 ⇓P P 17 49 43.5 +1.7
baz=34
I21A Big Trails, Te 33.48 333 ⇓P P 17 49 43.5 +1.6
baz=34
SAML Samuel 33.57 134 eP P 17 49 41.5 -1.2
38nm,2.8s
PDAR Pinedale Array 33.73 329 P P 17 49 45.2 +1.1
0.5nm,0.6s,baz=134,slow=10,SNR=4.2
PDAR PcP PcP 17 52 23.1 -0.5
0.8nm,0.6s,baz=146,slow=2.9,SNR=5.1
I20A Worland 33.96 332 ⇑P P 17 49 48.2 +2.2
baz=34
H20A Greybull 34.33 333 ⇓P P 17 49 51.7 +2.5
baz=34
I19A Meeteetse 34.42 332 ⇑P P 17 49 52.8 +2.7
baz=35
REDW Red Top Meadow 34.81 329 eP P 17 49 51.6 -1.8
10nm,0.9s
LOHW Long Hollow 34.87 329 eP P 17 49 56.5 +2.5
82nm,3.0s
TPAW Teton Pass 34.95 329 eP P 17 49 55.7 +0.9
104nm,2.8s
G20A Bridger 35.00 334 ⇓P P 17 49 55.9 +0.9
baz=35,SNR=6.0
MOOW Moose Ponds 35.04 330 eP P 17 49 57.0 +1.5
5.1nm,0.8s
I17A Pilgrim Ck. 35.09 330 ⇓P P 17 49 58.1 +2.3
baz=35
FXWY Fox Creek 35.10 329 eP P 17 49 58.9 +3.0
81nm,2.9s
H18A Shoshone NF, C 35.22 332 ⇓P P 17 49 59.4 +2.4
baz=35
IMW Indian Meadow 35.24 330 eP P 17 49 59.1 +1.8
3.5nm,0.6s
FLWY Flagg Ranch 35.27 330 eP P 17 49 59.7 +2.3
8.6nm,0.8s
F20A Billings 35.44 334 ⇑P P 17 50 00.8 +2.2
baz=36
F19A Roth Farm, Mol 35.82 334 ⇓P P 17 50 03.4 +1.4
baz=36
ULM Lac du Bonnet 35.85 350 P P 17 50 00.6 -1.4
2.0nm,0.6s,baz=166,slow=10,SNR=4.6
ULM PcP PcP 17 52 29.5 +0.2
2.3nm,0.7s,baz=243,slow=2.3,SNR=2.9
C23A Lambert 35.97 339 ⇓P P 17 50 04.3 +1.2
baz=36
E20A Meyer Farm, Mu 35.99 335 ⇑P P 17 50 05.3 +1.9
baz=36
D21A La Casta Ranch 36.01 337 ⇑P P 17 50 05.3 +1.8
baz=36
NVAR Mina Array Bea 36.08 316 P P 17 50 07.2 +2.7
1.5nm,0.8s,baz=123,slow=8.0,SNR=12
NVAR PcP PcP 17 52 31.7 +1.2
2.3nm,0.9s,baz=138,slow=4.4,SNR=8.9
C22A Vida 36.16 338 ⇓P P 17 50 06.5 +1.7
baz=36
E19A Rath Farm, Rou 36.23 334 ⇑P P 17 50 07.1 +1.7
baz=36
LPAZ La Paz 36.29 148 P P 17 50 05.7 -1.2
1.6nm,0.7s,baz=329,slow=9.1,SNR=4.6
D20A Manuel Ranch, 36.47 336 ⇓P P 17 50 09.5 +2.0
baz=37
HLID Hailey 36.80 326 eP P 17 50 12.0 +1.5
71nm,2.8s
HLID Hailey 36.80 326 ⇓P P 17 50 12.4 +1.9
baz=37
D19A Cripps Ranch, 36.83 335 ⇑P P 17 50 12.1 +1.5
baz=37
C20A Veseth Ranch, 36.93 336 ⇓P P 17 50 12.8 +1.4
baz=37
A22A Carney Farms, 37.24 339 ⇓P P 17 50 15.5 +1.5
baz=37
C19A Slack Wire Ran 37.36 335 ⇑P P 17 50 16.7 +1.7
baz=38
LRM Limekiln Ridge 37.39 330 eP P 17 50 17.8 +2.2
B20A Solberg Farm, 37.53 337 ⇑P P 17 50 18.5 +2.0
baz=38
A20A Cobblestone Ra 37.86 337 ⇑P P 17 50 21.2 +1.9
baz=38
EGMT Eagleton 37.88 335 ⇑P P 17 50 21.0 +1.6
baz=38
B19A Brinkman Farms 37.90 336 ⇓P P 17 50 21.1 +1.6
baz=38
A19A Klindworth Far 38.21 337 ⇓P P 17 50 24.2 +2.0
baz=38
WVOR Wild Horse Val 38.51 321 eP P 17 50 26.1 +1.2
9.4nm,1.0s
MSO Missoula 38.83 330 ⇓P P 17 50 29.6 +2.1
baz=39
F10A Beach Ranch, E 39.90 327 eP P 17 50 39.8 +3.4
6.8nm,0.9s
SIV San Ignacio 40.10 139 P P 17 50 37.1 -1.2
2.0nm,0.7s,baz=311,slow=9.6,SNR=5.3
SIV PcP PcP 17 52 42.9 -0.1
1.1nm,0.6s,baz=292,slow=4.2,SNR=5.6
M04C Macdoel 40.14 319 ⇓P P 17 50 40.4 +1.8
baz=40
WALA Waterton Lakes 40.44 333 eP P 17 50 42.5 +1.6
1.5nm,1.9s
J04D Umpqua Nationa 41.07 320 ⇑P P 17 50 49.2 +2.9
baz=41
NEW Newport 41.37 330 ⇓P P 17 50 50.9 +2.4
baz=42
I04A Tendick Farm, 41.56 321 ⇑P P 17 50 52.9 +2.8
baz=42
C09A Chrisman Ranch 41.64 328 eP P 17 50 53.6 +2.9
47nm,2.0s
H04A Detroit Lake 41.91 322 eP P 17 50 55.6 +2.7
12nm,0.8s
I03D Drain, OR 42.08 320 ⇓P P 17 50 57.0 +2.7
baz=42
SCHQ Schefferville 42.71 17 P P 17 50 59.5 +0.1
6.9nm,0.9s,baz=201,slow=6.7,SNR=6.7
SCHQ PcP PcP 17 52 51.2 +0.3
3.6nm,0.7s,baz=246,slow=5.0,SNR=4.9
CFAA Coronel Fontan 49.76 159 P P 17 51 54.1 -0.9
0.2nm,0.4s,baz=323,slow=6.6,SNR=4.2
CFAA PcP PcP 17 53 14.3 -1.6
0.1nm,0.3s,baz=79,slow=6.4,SNR=3.2
YKA Yellowknife Ar 51.25 344 P P 17 52 05.6 -0.2
4.3nm,0.8s,baz=141,slow=7.6,SNR=39
YKA PcP PcP 17 53 21.0 +0.1
1.5nm,0.8s,baz=144,slow=3.7,SNR=9.6
RCBR Riachuelo 54.76 108 P P 17 52 34.0 +1.4
11nm,0.7s,baz=283,slow=7.4,SNR=5.7
PLCA Paso Flores 57.55 165 P P 17 52 50.5 -1.5
4.3nm,1.0s,baz=340,slow=7.5,SNR=4.3
INK Inuvik 60.88 342 eP P 17 53 15.1 +0.5
120nm,2.9s
DOT Dot Lake 62.27 335 eP P 17 53 25.3 +1.1
12nm,0.9s
PAX Paxson 62.59 334 eP P 17 53 27.1 +0.7
7.3nm,0.8s
ILAR Eielson Array 63.84 336 P P 17 53 34.9 +0.3
6.3nm,0.8s,baz=143,slow=4.2,SNR=55
RC01 Rabbit Creek A 63.85 331 eP P 17 53 35.5 +0.8
268nm,2.8s
SUMG Summit 64.01 15 iP P 17 53 36.2 +0.2
10nm,1.0s
SUMG Summit 64.01 15 eP P 17 53 36.0 -0.1
14nm,1.1s
COLA College 64.26 336 eP P 17 53 39.5 +2.3
7.1nm,0.8s
MCK McKinley 64.32 334 eP P 17 53 40.3 +2.5
12nm,1.0s
TRF Thorofare Moun 64.81 334 eP P 17 53 41.8 +0.7
15nm,0.7s
KTH Kantishna Hill 65.11 334 eP P 17 53 43.4 +0.4
10nm,0.8s
RSO Redoubt South 65.11 330 eP P 17 53 43.2 0.0
COLD Coldfoot 65.97 338 eP P 17 53 50.8 +2.3
7.9nm,1.0s
DAG Danmarks Havn 70.57 13 iP P 17 54 16.3 -0.7
2.2nm,0.9s
TNA Tin City 72.66 335 eP P 17 54 30.7 +0.9
6.0nm,0.8s
GAMB Gambell 74.28 333 eP P 17 54 41.0 +1.6
9.1nm,0.9s
ESDC Sonseca Array 75.31 52 P P 17 54 46.6 +0.7
3.2nm,0.7s,baz=288,slow=5.7,SNR=9.8
DBIC Dimbokro 80.78 86 LR LR 18 31 42.7
comp=Z,25nm,18.1s,baz=217,slow=36
NB2 NORSAR Subarra 80.94 29 P P 17 55 17.3 +0.6
comp=Z,1.4nm,0.7s,baz=286,slow=5.3
NOA NORSAR Array B 80.94 29 P P 17 55 17.4 +0.7
comp=Z,2.3nm,0.8s,baz=285,slow=5.3,SNR=7.9
ARCES ARCESS Array B 83.63 19 P P 17 55 30.8 +0.2
comp=Z,3.4nm,0.9s,baz=299,slow=5.0,SNR=8.3
TORD Torodi Ar. Bea 85.47 78 P P 17 55 40.3 -0.6
comp=Z,0.6nm,0.6s,baz=286,slow=4.6,SNR=3.5
GERES GERESS Array B 85.73 41 P P 17 55 41.9 +0.1
comp=Z,0.8nm,0.8s,baz=253,slow=1.4,SNR=7.6
FINES FINESS Array B 87.50 26 P P 17 55 50.1 +0.1
comp=Z,0.9nm,0.6s,baz=228,slow=2.3,SNR=7.0
TIXI Tiksi 90.20 349 eP P 17 56 02.2 -0.4
comp=Z,3.1nm,0.8s
WMQ Urumqi 121.24 4 ePKP PKPdf 18 01 56.4 +0.5
WMQ PP PP 18 03 30.2 +5.3
WMQ PKS PKSdf 18 05 31.8 -0.8
WMQ SKS SKSdf 18 09 07.2 -1.1
WMQ SKKS SKKSac 18 10 22.2 -3.9
WMQ LR LR
comp=Z,43nm,19.6s
WMQ LR LR
comp=Z,32nm,18.6s
WMQ LR LR
comp=Z,68nm,19.0s
HHC Hu-ho-hao-te 121.79 343 ePKP PKPdf 18 01 57.8 +0.7
HHC PP PP 18 03 28.7 -0.1
HHC SS SS 18 20 07.4 +2.4
HHC AMB AMB
comp=Z,100nm,9.6s
KSH Kashi 123.47 16 ePKP PKPdf 18 02 02.4 +2.0
KSH ePP PP 18 03 48.4 +8.2
KSH PKS PKSdf 18 05 33.2 -4.0
KSH SKS SKSdf 18 09 09.7 -3.1
KSH SKKS SKKSac 18 10 34.3 -6.6
KSH SS SS 18 20 25.9 -0.5
GTA Gaotai 125.47 353 ePKP PKPdf 18 02 05.1 +0.9
STKA Stephens Creek 132.73 240 PKP PKPdf 18 02 18.0 0.0
comp=Z,1.4nm,0.9s,baz=87,slow=5.3,SNR=3.4
GYA Guiyang 136.66 342 ePdif Pdif 17 59 29.8 -1.6
GYA PKP PKPdf 18 02 24.3 -1.4
GYA PP PP 18 05 08.7 +2.6
GYA AMB AMB
comp=Z,90nm,7.6s
WRA Warramunga Arr 140.30 257 PKhKP PKPpre 18 02 23.9
comp=Z,0.9nm,0.7s,baz=88,slow=3.1,SNR=9.7
WRA PKP PKPdf 18 02 32.6 +0.3
comp=Z,3.7nm,0.8s,baz=85,slow=1.6,SNR=18
ASAR Alice Springs 140.53 251 PKhKP PKPpre 18 02 24.8
comp=Z,0.9nm,0.7s,baz=104,slow=3.1,SNR=16
ASAR PKP PKPdf 18 02 32.9 +0.2
comp=Z,2.1nm,0.8s,baz=91,slow=1.6,SNR=13
CMAR Chiang Mai Arr 146.21 350 PKPbc PKPbc 18 02 43.8 0.0
comp=Z,5.7nm,0.8s,baz=333,slow=3.6,SNR=37

IDC 11 17:56:04.5±0.6, 14.°92N×87.°24W, h0km, mb4.3/19, mb1 4.4/22, mb1mx4.3/42, mbtmp4.3/22, ML4.2/3, MS3.7/9, Ms1 3.7/9, ms1mx3.4/24, Error ellipse: s-maj=16.8km s-min=13.1km az=20.0

ISCJB 11 17:56:06.4±0.2, 15.°03N±0.°02×87.°00W±0.°03, h10km, mb4.6/61, MS3.7/6, Error ellipse: s-maj=4.4km s-min=3.1km az=4.3

NEIC 11 17:56:09.1±0.5, 15.°17N×86.°96W, h10km, mb4.9/53, Error ellipse: s-maj=17.3km s-min=7.7km az=59.0

NEIC Felt at El Progreso, San Pedro Sula, Santa Barbara, Tegucigalpa and Tela.

CASC 11 17:56:11.4±3.3, 14.°77N×87.°31W, h0km±13km, MD4.6, ML4.4, mb4.8(NEIC)

ISC 11 17:56:08.6±0.4, 15.°04N±0.°05×87.°09W±0.°05, h10km, n325, σ1°.00/279, mb4.7/63, MS3.6/6, 100C-111D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAHU	Cacacuatique	1.67	221	eP	Pn	17 56 35.7	-2.4
CAHU				eS	Sn	17 56 57.9	-1.8
CNCH	Conchagua	1.90	202	eP	Pn	17 56 39.2	-2.0
CNCH				eS	Sn	17 57 02.5	-2.7
VSM	San Miguel	1.97	216	eP	Pn	17 56 40.3	-2.0
SNVI	San Vicente	2.21	230	eP	Pn	17 56 44.7	-0.9
LBRS	Las Brisas	2.29	236	eP	Pn	17 56 45.6	-1.0
LFRS	El Faro	2.38	234	eP	Pn	17 56 46.9	-0.9
LFRS				eS	Sn	17 57 16.4	-0.4
SNET	Serv Nac Est T	2.48	237	eP	Pn	17 56 48.7	-0.4
SNET				AML	AML	17 57 27.9	
	comp=Z,4μm,0.4s						
MRL	Marmol	2.51	271	eP	Pn	17 56 46.9	-2.8
MRL				eS	Sn	17 57 22.0	+1.4
SBLS	San Blas	2.73	244	eP	Pn	17 56 52.1	-0.7
NBG	Las Nubes	3.18	262	eP	Pn	17 56 59.6	+0.6
NBG				eS	Sb	17 57 45.1	+0.7
APG	El Apazote	3.26	270	Pn	Pn	17 56 53.4	-6.7
	comp=Z,18nm,0.3s,baz=346,slow=17,SNR=168						
APG				Pg	Pb	17 56 59.8	-7.1
	comp=Z,99nm,0.3s,baz=95,slow=17,SNR=76						
APG				Lg	Lg	17 57 42.0	
	comp=Z,106nm,0.3s,baz=181,slow=18,SNR=9.7						
APG				LR	LR	17 58 27.5	
	comp=Z,1μm,20.4s,baz=86,slow=46						
JTS	JuntasAbangare	5.16	156	Pn	Pn	17 57 22.5	-3.6
	comp=Z,5.5nm,0.3s,baz=341,slow=9.5,SNR=17						
JTS				Lg	Lg	17 58 42.5	
	comp=Z,21nm,0.3s,baz=262,slow=18,SNR=3.0						
JTS				LR	LR	17 59 32.1	
	comp=Z,1μm,18.2s,baz=14,slow=41						
JTS	JuntasAbangare	5.16	156	ePn	Pn	17 57 26.4	+0.3
JTS				eSn	Sn	17 58 25.4	-0.3
JTS				Lg	Lg	17 58 42.5	
TEIG	Tepich	5.28	348	Pn	Pn	17 57 25.4	-2.2
	comp=Z,17nm,0.3s,baz=313,slow=1.5,SNR=47						
TEIG				Sn	Sn	17 58 25.6	-2.9
	comp=Z,33nm,0.3s,baz=241,slow=22,SNR=11						
TEIG				LR	LR	17 59 43.8	
	comp=Z,802nm,18.0s,baz=216,slow=41						
TEIG	Tepich	5.28	348	ePn	Pn	17 57 25.4	-2.2
TEIG				eSn	Sn	17 58 25.0	-3.5
CGA2	Cerro Gallo 2	5.61	153	eP	Pn	17 57 38.1	+5.8
PCIG		5.95	277	P	Pn	17 57 33.7	-3.1
PCIG		5.95	277	S	Sb	17 59 11.9	+8.1
QCR	Quepos	6.27	153	eP	Pn	17 57 42.8	+1.5
BUS	Buena Vista	6.35	149	eP	Pn	17 57 48.2	+5.4
VHO	Vista Hermosa	9.49	284	P	Pn	17 58 18.5	-7.2
VHO				S	Sn	18 00 00.1	-13
ROSC	El Rosal	16.12	128	Pn	Pn	17 59 56.9	+1.0
	baz=63,slow=7.4,SNR=8.1						
ROSC				LR	LR	18 05 54.6	
	comp=Z,150nm,20.6s,baz=271,slow=36						
ROSC	El Rosal	16.12	128	eP	P	18 00 01.7	+2.5
933A	Laredo	16.88	320	⇑P	Pn	18 00 02.1	-2.9
	baz=17						
HKT	Hockley	16.88	333	ePn	Pn	18 00 03.8	-1.2
	comp=Z,12nm,0.8s						
OTAV	Otavalo	17.01	149	ePn	Pn	18 00 08.1	+0.8
	comp=Z,38nm,1.7s						
SDV	Santo Domingo	17.21	109	eP	Pn	18 00 11.1	+1.5
	comp=Z,66nm,1.5s						
833A	Chaparral WMA,	17.46	321	⇓P	Pn	18 00 09.7	-2.6
	baz=18,SNR=5.5						
733A	Divot King Ran	17.69	322	⇓P	Pn	18 00 12.5	-2.6
	baz=18						
832A	Faith Ranch, C	17.79	320	⇑P	Pn	18 00 13.8	-2.5
	baz=18						
732A	Laxson Ranch,	18.10	321	⇓P	Pn	18 00 17.9	-2.3
	baz=18						
633A	Saathoff Ranch	18.17	324	⇓P	Pn	18 00 19.2	-2.0
	baz=18						
534A	Blanco	18.23	327	⇓P	Pn	18 00 20.6	-1.3
	baz=18,SNR=36						
435B	Jarrell	18.39	330	⇓P	P	18 00 22.1	-1.7
	baz=18						
632A	Uvalde	18.56	323	⇓P	P	18 00 24.2	-1.5
	baz=19,SNR=6.4						
533A	Kerrville	18.56	326	⇑P	P	18 00 24.7	-1.1
	baz=19						
GOGA	Godfrey	18.58	10	ePn	P	18 00 24.4	-1.5
	comp=Z,343nm,3.0s						
335A	Moody	18.73	331	⇑P	P	18 00 26.0	-1.6
	baz=19						
434A	Burnet	18.75	329	⇑P	P	18 00 26.3	-1.5
	baz=19,SNR=15						
631A	Perdido Creek	18.96	321	⇑P	P	18 00 29.0	-1.1
	baz=19,SNR=9.5						
433A	Art	19.13	327	⇑P	P	18 00 30.5	-1.5
	baz=19,SNR=17						
334A	Lometa	19.16	330	⇑P	P	18 00 31.0	-1.2
	baz=19,SNR=13						
JCT	Junction City	19.30	325	ePn	P	18 00 34.2	+0.3
	comp=Z,16nm,0.7s						
JCT	Junction City	19.30	325	⇓P	P	18 00 33.2	-0.7
	baz=19						
WHTX	Lake Whitney	19.34	333	ePn	P	18 00 36.0	+1.7
	comp=Z,43nm,0.9s						
WHTX	Lake Whitney	19.34	333	⇓P	P	18 00 33.9	-0.4
	baz=19,SNR=13						
531A	Rocksprings	19.49	323	⇑P	P	18 00 35.5	-0.5
	baz=20,SNR=7.5						
OXF	Oxford	19.50	354	ePn	Pn	18 00 40.0	+2.8
	comp=Z,42nm,0.9s						
333A	Richland Sprin	19.52	328	⇑P	P	18 00 36.1	-0.2
	baz=20,SNR=40						
432A	Menard	19.60	326	⇓P	P	18 00 37.0	-0.1
	baz=20,SNR=7.9						
234A	Clairette	19.66	331	⇓P	P	18 00 37.9	+0.1
	baz=20,SNR=9.2						
135A	Vickery Place,	19.81	333	⇓P	P	18 00 39.4	+0.1
	baz=20						
431A	Sonora	19.91	324	⇓P	P	18 00 41.1	+0.6
	baz=20,SNR=7.7						
530A	J-C Ranch, Com	19.95	321	⇑P	P	18 00 41.8	+0.8
	baz=20,SNR=29						
332A	Millersview	19.96	327	⇓P	P	18 00 41.7	+0.6
	baz=20,SNR=26						
233A	Rising Star	20.04	330	⇑P	P	18 00 42.6	+0.6
	baz=20,SNR=13						
134A	White-Moore Ra	20.11	332	⇑P	P	18 00 42.9	+0.2
	baz=20,SNR=11						
UALR	University of	20.21	347	ePn	P	18 00 43.2	-0.5
	comp=Z,107nm,1.9s						
331A	San Angelo	20.28	325	⇑P	P	18 00 45.4	+0.8
	baz=20,SNR=16						
MIAR	Mount Ida	20.28	344	ePn	P	18 00 46.3	+1.8
	comp=Z,422nm,2.7s						
SJG	San Juan	20.30	78	P	P	18 00 42.5	-2.3
	comp=Z,6.5nm,0.2s,baz=270,slow=19,SNR=3.3						
232A	Coleman	20.31	328	⇓P	P	18 00 45.5	+0.6
	baz=20,SNR=14						
430A	Baggett Ranch,	20.35	323	⇑P	P	18 00 46.3	+1.0
	baz=20						
Z35A	Perchaven, San	20.41	335	⇑P	P	18 00 46.5	+0.6
	baz=20						
529A	Stev Forest Ra	20.47	320	⇓P	P	18 00 48.0	+1.4
	baz=20,SNR=9.2						
133A	Hamilton Ranch	20.53	330	⇓P	P	18 00 47.9	+0.6
	baz=20,SNR=20						
429A	Davenport Ranc	20.62	321	⇓P	P	18 00 48.6	+0.3
	baz=21,SNR=19						
KMSC	Kings Mountain	20.67	13	⇑P	P	18 00 48.0	-0.8
	baz=21						
231A	Bronte	20.70	327	⇓P	P	18 00 49.4	+0.3
	baz=21,SNR=9.3						
Z34A	Collier Ranch,	20.72	334	⇑P	P	18 00 49.7	+0.4
	baz=21,SNR=9.1						
TKL	Tuckaleechee C	20.74	8	P	P	18 00 50.0	+0.5
	comp=Z,10nm,1.0s,baz=189,slow=16,SNR=4.4						
330A	Mertzon	20.77	324	⇑P	P	18 00 49.9	0.0
	baz=21,SNR=20						
528A	Cox Ranch, San	20.85	319	⇓P	P	18 00 51.1	+0.2
	baz=21						
TXAR	Lajitas Array	20.89	316	P	P	18 00 50.8	-0.5
	comp=Z,8.7nm,0.7s,baz=133,slow=8.7,SNR=60						
TXAR				LR	LR	18 09 33.5	
	comp=Z,102nm,19.7s,baz=0.0,slow=39						
ABTX	Abilene, Hawle	20.90	329	ePn	P	18 00 53.2	+1.9
	comp=Z,23nm,0.9s						
ABTX	Abilene, Hawle	20.90	329	⇑P	P	18 00 51.7	+0.4
	baz=21,SNR=8.1						
Z33A	Whitaker Ranch	21.02	332	⇑P	P	18 00 52.6	0.0
	baz=21,SNR=8.5						
230A	Sterling City	21.10	325	⇑P	P	18 00 53.5	+0.1
	baz=21,SNR=13						
Y34A	Reagan Ranch,	21.16	335	⇑P	P	18 00 54.8	+0.8
	baz=21,SNR=13						
428A	Kincaid Ranch,	21.18	320	⇑P	P	18 00 55.2	+0.9
	baz=21						
329A	Wagon Wheel Ra	21.29	323	⇑P	P	18 00 56.2	+0.6
	baz=21,SNR=5.9						
131A	Roby	21.32	328	⇓P	P	18 00 56.1	+0.4
	baz=21,SNR=9.0						
Z32A	Haskell	21.38	330	⇓P	P	18 00 56.9	+0.5
	baz=21,SNR=18						
229A	Bryant Ranch,	21.55	324	⇓P	P	18 00 59.2	+0.9
	baz=22						
130A	Snyder	21.56	327	⇑P	P	18 00 58.5	+0.1
	baz=22,SNR=6.6						
Y33A	Hilltop Ranch,	21.57	333	⇓P	P	18 00 59.5	+1.1
	baz=22						
Z31A	Sharp Cattle R	21.71	329	⇑P	P	18 01 00.2	+0.3
	baz=22						
427A	Hayter Ranch,	21.71	319	⇑P	P	18 01 00.8	+0.8
	baz=22,SNR=8.4						
328A	Wristen Ranch,	21.71	321	⇓P	P	18 01 01.2	+1.2
	baz=22,SNR=38						

X34A Smith Ranch, M 21.75 335 ⇑P P 18 01 01.2 +0.9
baz=22
PBMO Poplar Bluff 21.85 353 eP P 18 01 02.1 +0.7
comp=Z,47nm,0.9s
Y32A R-V Farms, Ver 21.93 332 ⇓P P 18 01 03.7 +1.3
baz=22
X33A Lawton 21.97 334 ⇑P P 18 01 03.4 +0.6
baz=22,SNR=6.2
228A UT Block 9, Go 22.11 323 ⇑P P 18 01 04.8 +0.5
baz=22
Z30A Sanderson Ranc 22.18 327 ⇑P P 18 01 05.2 +0.2
baz=22,SNR=5.6
TUL1 Tulsa 22.20 341 eP P 18 01 03.0 -2.1
comp=Z,21nm,0.8s
TUL1 Tulsa 22.20 341 ⇓P P 18 01 05.2 +0.1
baz=22
X32A Elmer 22.21 332 ⇑P P 18 01 05.6 +0.3
baz=22,SNR=26
W34A Bridge Creek, 22.28 336 ⇑P P 18 01 06.0 0.0
baz=22,SNR=5.7
Y31A Rekieta Farm, 22.29 330 ⇓P P 18 01 06.5 +0.4
baz=22,SNR=10
326A Caldwell Ranch 22.39 319 ⇑P P 18 01 07.6 +0.2
baz=22
128A Castleberry Fa 22.41 324 ⇑P P 18 01 07.6 0.0
baz=22,SNR=20
227A Bennet, Jal 22.45 322 ⇓P P 18 01 08.6 +0.7
baz=22,SNR=7.8
Z29A Hungry Hill Ra 22.46 326 ⇓P P 18 01 07.9 -0.2
baz=22,SNR=5.1
W33A Caddo, Fort Co 22.48 335 ⇑P P 18 01 08.3 +0.1
baz=22
Y30A Stafford Cattl 22.53 329 ⇑P P 18 01 08.8 0.0
baz=22
X31A McDonald Ranch 22.70 332 ⇓P P 18 01 10.5 -0.1
baz=23,SNR=11
V34A Guthrie 22.71 338 ⇓P P 18 01 10.1 -0.5
baz=23,SNR=8.5
W32A Sentinel 22.79 334 ⇑P P 18 01 10.6 -0.9
baz=23
Z28A Tucker Farm, M 22.86 325 ⇓P P 18 01 12.3 +0.1
baz=23,SNR=11
Y29A Porterfield Fa 22.91 327 ⇓P P 18 01 12.3 -0.6
baz=23
127A Arkansas Junct 22.96 323 ⇓P P 18 01 13.0 -0.4
baz=23
X30A Coker Ranch, T 22.97 330 ⇑P P 18 01 13.3 -0.1
baz=23
V33A Lossen Ranch, 22.99 336 ⇓P P 18 01 13.3 -0.3
baz=23
226B Tecolote Peak, 23.02 320 ⇓P P 18 01 13.9 -0.2
baz=23,SNR=21
WCI Wyandotte Cave 23.11 2 eP P 18 01 12.2 -2.6
comp=Z,34nm,0.8s
W31A Holland Ranch, 23.15 332 ⇓P P 18 01 15.1 -0.1
baz=23
V32A Arapaho 23.21 335 ⇓P P 18 01 15.9 +0.1
baz=23
Y28A McKinney Farm, 23.25 327 ⇑P P 18 01 15.9 -0.5
baz=23
U34A Anderson Ranch 23.26 338 ⇑P P 18 01 15.7 -0.6
baz=23
126A Clayton Basin, 23.33 322 ⇑P P 18 01 16.9 -0.2
baz=23,SNR=8.0
Z27A Tatum 23.34 324 ⇓P P 18 01 16.7 -0.6
baz=23,SNR=13
X29A Tulia 23.39 328 ⇑P P 18 01 17.5 -0.2
baz=23
225A Deer Hill, Car 23.45 319 ⇓P P 18 01 17.9 -0.6
baz=24
U33A Lingo Farm, Me 23.47 337 ⇓P P 18 01 18.4 0.0
baz=24
MSTX Muleshoe 23.58 326 eP P 18 01 18.4 -1.3
comp=Z,139nm,2.0s
MSTX Muleshoe 23.58 326 ⇓P P 18 01 19.4 -0.3
baz=24
V31A Spring Creek L 23.59 333 ⇑P P 18 01 19.6 -0.1
baz=24
OLIL Olney 23.62 358 eP P 18 01 21.0 +1.2
comp=Z,36nm,1.0s
SLM Saint Louis 23.67 354 eP P 18 01 21.7 +1.4
comp=Z,35nm,0.7s
X28A Dimmitt 23.70 328 ⇑P P 18 01 20.4 -0.4
baz=24
AMTX Amarillo 23.72 329 eP P 18 01 21.0 0.0
comp=Z,145nm,2.1s
AMTX Amarillo 23.72 329 ⇓P P 18 01 20.6 -0.4
baz=24
125A Gardner Draw, 23.72 321 ⇑P P 18 01 20.4 -0.7
baz=24,SNR=15
Y27A Causey 23.73 325 ⇑P P 18 01 19.8 -1.4
baz=24,SNR=8.2
Z26A Caprock 23.75 323 ⇓P P 18 01 20.4 -0.9
baz=24
U32A Winter Ranch, 23.76 336 ⇓P P 18 01 20.4 -0.9
baz=24
W29A Amraillo 23.89 329 ⇑P P 18 01 21.8 -0.9
baz=24
BLO Bloomington 24.04 1 eP P 18 01 27.1 +3.2
comp=Z,29nm,1.0s
T33A Patterson Ranc 24.09 338 ⇓P P 18 01 23.0 -1.4
baz=24
Y26A Elida 24.13 324 ⇑P P 18 01 24.7 -0.2
baz=24,SNR=6.5
Z25A Roswell 24.19 322 ⇓P P 18 01 24.9 -0.6
baz=24,SNR=7.7
X27A F and S Farms, 24.27 326 ⇓P P 18 01 25.4 -0.8
baz=24
T32A Huddler Ranch, 24.43 337 ⇑P P 18 01 27.4 -0.2
baz=24
W27A Bowe Ranch, En 24.57 327 ⇑P P 18 01 29.1 +0.2
baz=25
U30A WK&E Inc. Balk 24.58 333 ⇑P P 18 01 29.0 0.0
baz=25
X26A CR and CF Fran 24.58 325 ⇓P P 18 01 29.3 +0.2
baz=25
Z24A Sheeppen Canyo 24.61 321 ⇑P P 18 01 29.7 +0.2
baz=25,SNR=24
Y25A Mesa, Roswell 24.63 323 ⇓P P 18 01 29.7 +0.2
baz=25,SNR=10
T31A Randall Ranch, 24.66 335 ⇓P P 18 01 29.3 -0.3
baz=25
V27A Dan Oppiter Fa 24.99 328 ⇓P P 18 01 32.7 -0.1
baz=25
S31A Mullinville 25.03 336 ⇑P P 18 01 32.8 -0.2
baz=25
Y24A Capitan 25.07 322 ⇑P P 18 01 34.1 +0.5
baz=25,SNR=16
SFIN Scholer Farm 25.24 360 eP P 18 01 35.9 +1.1
comp=Z,372nm,2.8s
SFIN Scholer Farm 25.24 360 ⇓P P 18 01 34.2 -0.6
baz=25
W25A X Bar L Ranch, 25.44 325 ⇑P P 18 01 36.8 0.0
baz=26
S30A Montezuma 25.44 335 ⇓P P 18 01 36.7 0.0
baz=26,SNR=7.0
Y23A Lovelace Mesa, 25.45 321 ⇑P P 18 01 37.2 +0.3
baz=26,SNR=7.4
U27A Thompson Grove 25.51 329 ⇑P P 18 01 37.5 +0.1
baz=26
V26A Tequesquite Ra 25.51 327 ⇓P P 18 01 38.3 +0.9
baz=26,SNR=19
Z22A Elephant Butte 25.56 319 ⇓P P 18 01 38.5 +0.5
baz=26
R31A Burdett 25.63 337 ⇓P P 18 01 38.3 -0.1
baz=26
121A Cookes Peak, D 25.64 316 ⇓P P 18 01 39.3 +0.6
baz=26
Q33A Connelly Farm, 25.67 340 ⇓P P 18 01 38.8 +0.1
baz=26
T28A Walsh 25.73 331 ⇑P P 18 01 39.5 +0.1
baz=26
Q32A Meitler Ranch, 25.91 339 ⇓P P 18 01 41.1 +0.2
baz=26
R30A Dighton 25.92 336 ⇓P P 18 01 41.2 +0.1
baz=26
U26A Atchley Ranch, 25.95 328 ⇑P P 18 01 41.6 +0.1
baz=26
W24A Lazy 6 Ranch, 25.96 324 ⇓P P 18 01 42.4 +0.7
baz=26
T27A Campo 25.97 331 ⇓P P 18 01 41.5 -0.1
baz=26
X23A Hourglass Bar 25.97 322 ⇓P P 18 01 42.8 +1.0
baz=26
V25A Rancho No Teng 25.98 326 ⇓P P 18 01 42.8 +0.9
baz=26
319A Douglas 26.00 313 ⇓P P 18 01 42.4 +0.4
baz=26

S28A Manter 26.02 332 ⇑P P 18 01 42.3 +0.3
baz=26
P33A Williams Farm, 26.02 341 ⇓P P 18 01 42.7 +0.8
baz=26
LENM Lemitar 26.17 320 eP P 18 01 43.5 0.0
Q31A Ellis 26.21 338 ⇑P P 18 01 44.5 +0.8
baz=26
V24A Rampart Ranch, 26.26 325 ⇓P P 18 01 45.3 +0.9
baz=26
U25A Circle Dot Ran 26.29 327 ⇓P P 18 01 45.9 +1.3
baz=26
W23A Werner Place, 26.35 323 ⇑P P 18 01 46.1 +0.9
baz=26
ANMO Albuquerque 26.38 322 P P 18 01 42.9 -2.6
comp=Z,0.5nm,0.3s,baz=207,slow=2.3,SNR=3.4
R29A Marienthal 26.39 335 ⇑P P 18 01 45.5 +0.1
baz=26
T26A Comanche Natio 26.48 329 ⇓P P 18 01 46.7 +0.4
baz=26
P32A Huiting Farm, 26.49 340 ⇓P P 18 01 46.0 -0.2
baz=26
Q30A Quinter 26.50 337 ⇓P P 18 01 47.0 +0.7
baz=26
S27A Las Animas 26.55 331 ⇑P P 18 01 47.0 +0.1
baz=27
R28A Tribune 26.60 333 ⇓P P 18 01 47.4 +0.1
baz=27
P31A Stockton 26.66 338 ⇑P P 18 01 48.1 +0.3
baz=27
Q29A Oakley 26.72 335 ⇑P P 18 01 48.1 -0.2
baz=27
S26A Kim 26.77 330 ⇑P P 18 01 48.9 0.0
baz=27
T25A Trinidad 26.86 328 ⇑P P 18 01 50.4 +0.6
baz=27
R27A Eads 26.99 332 ⇓P P 18 01 51.6 +0.8
baz=27
P30A Selden 27.00 337 ⇓P P 18 01 50.9 +0.1
baz=27
U23A El Rito 27.21 325 ⇓P P 18 01 53.6 +0.7
baz=27
Q28A Sharon Springs 27.21 334 ⇓P P 18 01 53.1 +0.3
baz=27
R26A Arlington 27.30 331 ⇓P P 18 01 53.8 +0.2
baz=27
P29A Atwood 27.31 336 ⇓P P 18 01 53.9 +0.2
baz=27
KSCO Kaye Shedlock' 27.51 333 ⇑P P 18 01 55.8 +0.2
baz=28
P28A Saint Francis 27.62 335 ⇑P P 18 01 56.6 +0.2
baz=28
S24A Houchin Ranch, 27.65 328 ⇓P P 18 01 57.7 +0.7
baz=28
Q26A Hugo 27.84 332 ⇑P P 18 01 59.1 +0.6
baz=28
P25A Willow Gulch B 28.61 332 ⇑P P 18 02 06.0 +0.6
baz=29
K29A Lazy Trails An 29.87 340 ⇑P P 18 02 16.8 +0.4
baz=30
O22A Kremmling 30.25 330 ⇓P P 18 02 20.7 +0.6
baz=30
J29A Okreek 30.45 341 ⇑P P 18 02 21.7 +0.2
baz=30
U15A North Rim 30.96 318 ⇑P P 18 02 27.1 +0.8
baz=31
W13A Hualapai Mount 31.26 315 ⇓P P 18 02 30.2 +1.2
baz=31
J26A Sides Ranch, S 31.32 337 ⇑P P 18 02 29.8 +0.6
baz=31
L23A Garrett 31.39 333 ⇓P P 18 02 30.8 +0.8
baz=31
SRU San Rafael 31.60 324 eP P 18 02 33.8 +1.9
comp=Z,6.0nm,0.9s
N20A Spence Gulch, 31.61 328 ⇓P P 18 02 32.7 +0.7
baz=32
I25A Rochford 32.18 337 ⇓P P 18 02 37.2 +0.3
baz=32
GMRC Granite Mounta 32.34 313 ⇓P P 18 02 38.4 +0.1
baz=32
J22A Midwest 32.78 333 ⇑P P 18 02 42.1 0.0
baz=33
TUQ Turquoise Moun 32.86 313 ⇓P P 18 02 43.8 +0.9
baz=33
G26A Maurine 32.88 340 ⇑P P 18 02 42.9 +0.1
baz=33
J21A Lysite 33.15 332 ⇓P P 18 02 46.0 +0.5
baz=33
I22A 9 Mile Ranch, 33.17 334 ⇑P P 18 02 45.6 +0.1
baz=33
J20A Shoshoni 33.45 332 ⇑P P 18 02 48.9 +1.0
baz=34
I21A Big Trails, Te 33.45 333 ⇓P P 18 02 48.6 +0.6
baz=34
SAML Samuel 33.61 134 eP P 18 02 47.1 -2.4
comp=Z,33nm,2.3s
DUG Dugway 33.64 323 ⇑P P 18 02 49.9 +0.3
baz=34
H22A Clearmont 33.69 335 ⇑P P 18 02 50.4 +0.5
baz=34
PDAR Pinedale Array 33.70 330 P P 18 02 49.7 -0.6
comp=Z,1.0nm,0.8s,baz=120,slow=11,SNR=7.9
PDAR PcP PcP 18 05 28.2 -1.8
comp=Z,0.9nm,0.8s,baz=140,slow=7.2,SNR=4.4
G23A Biddle 33.81 336 ⇑P P 18 02 51.9 +0.9
baz=34
I20A Worland 33.93 332 ⇑P P 18 02 52.7 +0.6
baz=34
AGMN Agassiz Nation 33.94 349 eP P 18 02 52.0 +0.1
comp=Z,168nm,2.6s
AGMN Agassiz Nation 33.94 349 ⇑P P 18 02 52.1 +0.1
baz=34
G22A Birney 34.17 336 ⇑P P 18 02 54.2 0.0
baz=34
F23A Volborg 34.25 337 ⇓P P 18 02 55.2 +0.4
baz=34
I19A Meeteetse 34.39 332 ⇑P P 18 02 55.5 -0.7
baz=34
B30A Myrvik Farm, E 34.58 347 ⇓P P 18 02 56.9 -0.6
baz=35
REDW Red Top Meadow 34.78 329 eP P 18 02 59.1 -0.5
comp=Z,20nm,0.9s
ISA Isabella 34.78 312 ⇑P P 18 02 59.5 -0.1
baz=35
LOHW Long Hollow 34.84 330 eP P 18 03 02.1 +2.0
comp=Z,93nm,2.8s
TPAW Teton Pass 34.92 329 eP P 18 03 02.2 +1.4
comp=Z,139nm,2.9s
G20A Bridger 34.97 334 ⇑P P 18 03 01.1 -0.1
baz=35
C26A Wahner Farm, P 34.97 342 ⇓P P 18 03 00.7 -0.2
baz=35
MOOW Moose Ponds 35.01 330 eP P 18 03 01.5 -0.1
comp=Z,4.6nm,0.8s
D24A Glendive 35.05 339 ⇓P P 18 03 01.4 -0.3
baz=35
I17A Pilgrim Ck. 35.05 330 ⇑P P 18 03 02.0 0.0
baz=35
E22A Miles City 35.06 337 ⇑P P 18 03 01.5 -0.3
baz=35
FXWY Fox Creek 35.07 329 eP P 18 03 03.7 +1.6
comp=Z,7.5nm,1.1s
IMW Indian Meadow 35.21 330 eP P 18 03 02.7 -0.8
comp=Z,4.6nm,0.9s
A29A Manning Farm, 35.23 346 ⇓P P 18 03 03.0 -0.2
baz=35
FLWY Flagg Ranch 35.23 330 eP P 18 03 04.2 +0.7
comp=Z,13nm,1.1s
D23A Lindsay 35.41 339 ⇓P P 18 03 05.3 +0.5
baz=35
ELK Elko 35.42 322 eP P 18 03 07.1 +2.0
comp=Z,5.4nm,1.1s
F19A Roth Farm, Mol 35.79 334 ⇓P P 18 03 07.7 -0.4
baz=36
ULM Lac du Bonnet 35.83 350 P P 18 03 05.2 -3.0
comp=Z,1.9nm,0.6s,baz=178,slow=8.4,SNR=4.4
ULM PcP PcP 18 05 33.3 -2.4
comp=Z,2.9nm,0.8s,baz=169,slow=10,SNR=3.3
C23A Lambert 35.94 339 ⇑P P 18 03 09.3 0.0
baz=36
E20A Meyer Farm, Mu 35.97 335 ⇑P P 18 03 09.4 -0.1
baz=36
D21A La Casta Ranch 35.98 337 ⇓P P 18 03 09.7 +0.1
baz=36
NVAR Mina Array Bea 36.04 316 P P 18 03 10.6 +0.1
comp=Z,2.1nm,0.8s,baz=126,slow=7.8,SNR=14
NVAR PcP PcP 18 05 35.6 -1.2
comp=Z,2.6nm,0.8s,baz=133,slow=3.4,SNR=11
NVAR LR LR 18 20 34.4

comp=Z,135nm,18.3s,baz=208,slow=41
C22A Vida 36.14 338 ⇓P P 18 03 11.1 +0.1
baz=36
LPAZ La Paz 36.33 148 P P 18 03 10.7 -2.8
comp=Z,1.6nm,0.7s,baz=294,slow=2.9,SNR=3.7
LPAZ LR LR 18 18 15.6
comp=Z,131nm,21.0s,baz=346,slow=37
D20A Manuel Ranch, 36.44 336 ⇓P P 18 03 13.1 -0.5
baz=36,SNR=8.9
B23A Brockton 36.45 340 ⇑P P 18 03 13.3 -0.3
baz=36
A24A Westby 36.53 341 ⇓P P 18 03 14.3 0.0
baz=36
HLID Hailey 36.77 326 ⇑P P 18 03 16.5 -0.1
baz=37
D19A Cripps Ranch, 36.80 335 ⇓P P 18 03 17.1 +0.3
baz=37
BOZ Bozeman (W) 36.84 331 eP P 18 03 18.2 +1.1
comp=Z,106nm,3.0s
C20A Veseth Ranch, 36.90 336 ⇓P P 18 03 17.3 -0.2
baz=37
A22A Carney Farms, 37.21 339 ⇓P P 18 03 20.4 +0.3
baz=37
C19A Slack Wire Ran 37.33 335 ⇑P P 18 03 21.2 0.0
baz=37,SNR=5.3
LRM Limekiln Ridge 37.36 330 eP P 18 03 22.7 +1.0
MFID Camas Ranch 37.45 325 eP P 18 03 24.6 +2.3
comp=Z,8.1nm,1.1s
B20A Solberg Farm, 37.50 337 ⇑P P 18 03 22.7 +0.1
baz=38
A20A Cobblestone Ra 37.83 337 ⇑P P 18 03 25.5 +0.1
baz=38
EGMT Eagleton 37.85 335 eP P 18 03 25.8 +0.2
comp=Z,155nm,3.0s
EGMT Eagleton 37.85 335 ⇓P P 18 03 25.7 +0.1
baz=38
B19A Brinkman Farms 37.87 336 ⇓P P 18 03 26.0 +0.3
baz=38
WVOR Wild Horse Val 38.47 321 eP P 18 03 33.3 +2.3
comp=Z,8.2nm,0.9s
MSO Missoula 38.80 330 ⇓P P 18 03 33.2 -0.4
baz=39
BMO Blue Mountains 39.18 325 eP P 18 03 36.1 -0.8
comp=Z,68nm,2.6s
F10A Beach Ranch, E 39.87 327 eP P 18 03 41.7 -0.9
comp=Z,12nm,0.9s
M04C Macdoel 40.10 319 ⇑P P 18 03 44.9 +0.2
baz=40
WALA Waterton Lakes 40.41 333 eP P 18 03 47.3 +0.2
comp=Z,7.4nm,2.9s
J04D Umpqua Nationa 41.04 320 ⇓P P 18 03 52.7 +0.3
baz=41
C09A Chrisman Ranch 41.61 328 eP P 18 03 58.0 +1.2
comp=Z,5.2nm,0.8s
G05D Wamic, OR 41.68 323 ⇑P P 18 03 57.9 +0.4
baz=42
I03D Drain, OR 42.05 320 ⇓P P 18 04 00.8 +0.4
baz=42
SCHQ Schefferville 42.71 17 P P 18 04 03.2 -2.5
comp=Z,6.1nm,0.8s,baz=226,slow=5.7,SNR=4.9
SCHQ PcP PcP 18 05 55.8 -1.6
comp=Z,2.5nm,0.7s,baz=315,slow=1.4,SNR=4.1
EDM Edmonton 43.36 337 eP P 18 04 10.6 -0.5
FCC Fort Churchill 43.95 355 eP P 18 04 13.8 -1.8
comp=Z,4.5nm,2.8s
CPUP Villa Florida 50.29 145 LR LR 18 25 58.2
comp=Z,51nm,19.3s,baz=252,slow=36
YKA Yellowknife Ar 51.23 344 P P 18 05 10.4 -1.7
comp=Z,4.8nm,0.8s,baz=139,slow=7.7,SNR=38
YKA PcP PcP 18 06 24.9 -2.3
comp=Z,1.5nm,0.7s,baz=144,slow=3.9,SNR=12
PLCA Paso Flores 57.58 165 P P 18 05 56.2 -2.4
comp=Z,3.6nm,1.0s,baz=333,slow=9.8,SNR=4.4
INK Inuvik 60.86 342 eP P 18 06 20.0 -0.9
comp=Z,5.1nm,0.8s
DOT Dot Lake 62.24 335 eP P 18 06 29.8 -0.6
comp=Z,14nm,0.8s
PAX Paxson 62.56 334 eP P 18 06 31.6 -1.0
comp=Z,6.9nm,0.8s
ILAR Eielson Array 63.81 336 P P 18 06 39.5 -1.3
comp=Z,6.7nm,0.8s,baz=127,slow=4.5,SNR=48
ILAR LR LR 18 36 45.9
comp=Z,38nm,20.1s,baz=142,slow=38
RC01 Rabbit Creek A 63.82 331 eP P 18 06 41.7 +0.7
comp=Z,77nm,1.8s
SUMG Summit 64.00 15 iP P 18 06 40.6 -1.8
comp=Z,14nm,0.9s
SUMG Summit 64.00 15 eP P 18 06 40.7 -1.8
comp=Z,18nm,1.0s
COLA College 64.23 336 eP P 18 06 43.9 +0.3
comp=Z,11nm,1.0s
MCK McKinley 64.29 334 eP P 18 06 43.9 -0.1
comp=Z,11nm,0.8s
TRF Thorofare Moun 64.78 334 eP P 18 06 46.4 -1.0
comp=Z,20nm,0.9s
KTH Kantishna Hill 65.08 334 eP P 18 06 48.2 -1.0
comp=Z,10nm,0.8s
RSO Redoubt South 65.08 330 eP P 18 06 50.1 +0.7
PPLA Purkeypile 65.44 333 eP P 18 06 50.4 -1.2
comp=Z,37nm,1.6s
CAST Castle Rocks 65.54 333 eP P 18 06 51.9 -0.3
comp=Z,8.0nm,0.6s
COLD Coldfoot 65.94 338 eP P 18 06 55.3 +0.7
comp=Z,6.4nm,0.8s
DAG Danmarks Havn 70.56 13 iP P 18 07 20.9 -2.5
comp=Z,2.8nm,0.9s
TNA Tin City 72.63 335 eP P 18 07 35.7 -0.3
comp=Z,9.9nm,0.8s
GAMB Gambell 74.25 333 eP P 18 07 45.5 -0.2
comp=Z,9.0nm,0.8s
EKA Eskdalemuir Ar 74.33 36 P P 18 07 43.6 -2.7
comp=Z,3.8nm,0.8s,baz=279,slow=5.5,SNR=7.8
ESDC Sonseca Array 75.33 52 P P 18 07 51.3 -1.2
comp=Z,3.0nm,0.7s,baz=287,slow=5.7,SNR=9.5
NB2 NORSAR Subarra 80.94 29 P P 18 08 21.6 -1.6
comp=Z,4.6nm,0.9s,baz=283,slow=5.6
NOA NORSAR Array B 80.94 29 P P 18 08 22.2 -1.0
comp=Z,2.8nm,0.8s,baz=285,slow=5.3,SNR=7.9
HFS Hagfors 82.37 30 P P 18 08 28.7 -1.9
comp=Z,2.8nm,0.8s,baz=199,slow=4.1,SNR=3.6
ARCES ARCESS Array B 83.63 19 P P 18 08 35.7 -1.4
comp=Z,3.5nm,0.9s,baz=297,slow=5.3,SNR=4.5
TORD Torodi Ar. Bea 85.51 78 P P 18 08 44.8 -2.8
comp=Z,0.6nm,0.8s,baz=270,slow=4.3,SNR=3.0
GERES GERESS Array B 85.75 41 P P 18 08 46.5 -1.8
comp=Z,1.5nm,0.9s,baz=278,slow=3.9,SNR=10
KEST Kesra 86.45 54 P P 18 08 51.6 -0.4
comp=Z,2.1nm,1.0s,baz=71,slow=4.5,SNR=3.7
FINES FINESS Array B 87.50 26 P P 18 08 53.0 -3.4
comp=Z,1.0nm,0.8s,baz=324,slow=6.9,SNR=2.1
TIXI Tiksi 90.18 349 eP P 18 09 06.9 -1.9
comp=Z,3.5nm,0.8s
WMQ Urumqi 121.23 4 PKP PKPdf 18 15 01.2 -1.1
WMQ PP PP 18 16 35.0 +3.8
WMQ PKS PKSdf 18 18 36.6 -2.4
WMQ SKS SKSdf 18 22 08.2 -6.5
WMQ SKKS SKKSac 18 23 22.9 -10
WMQ LR LR
comp=Z,41nm,19.2s
WMQ LR LR
comp=Z,38nm,20.0s
WMQ LR LR
comp=Z,59nm,19.8s
KSH Kashi 123.47 16 ePKP PKPdf 18 15 09.3 +2.5
KSH PP PP 18 16 53.7 +7.1
KSH PKS PKSdf 18 18 44.9 +1.3
KSH SKS SKSdf 18 22 20.5 +1.3
KSH SKKS SKKSac 18 23 45.7 -1.6
KSH SS SS 18 33 37.0 +4.2
GTA Gaotai 125.45 353 ePKP PKPdf 18 15 10.0 -0.6
STKA Stephens Creek 132.71 240 PKP PKPdf 18 15 21.8 -2.5
comp=Z,1.9nm,0.8s,baz=149,slow=5.6,SNR=3.6
GYA Guiyang 136.63 342 ePdif Pdif 18 12 34.6 -3.2
GYA PKP PKPdf 18 15 30.8 -1.3
GYA PP PP 18 18 15.0 +2.6
WRA Warramunga Arr 140.26 257 PKhKP PKPpre 18 15 28.9
comp=Z,1.2nm,0.9s,baz=87,slow=3.4,SNR=8.9
WRA PKP PKPdf 18 15 36.4 -2.3
comp=Z,2.4nm,0.8s,baz=79,slow=1.9,SNR=13
ASAR Alice Springs 140.50 251 PKhKP PKPpre 18 15 29.9
comp=Z,0.7nm,0.7s,baz=99,slow=2.6,SNR=7.2
CMAR Chiang Mai Arr 146.19 350 PKPbc PKPdf 18 15 48.3 -0.9
comp=Z,6.2nm,0.8s,baz=340,slow=4.4,SNR=31

CSEM 11 18:04:48.7±0.2, 67.°09N×20.°97E, h2km, ML2.2, Error ellipse: s-maj=4.7km s-min=3.5km az=106.0, Mining explosion.

ISCJB **11** *18:04:48.0±0.4, 67.10N±0.02×21.00E±0.08, h0km, Error ellipse: s-maj=4.6km s-min=2.8km az=17.7*
HEL **11** *18:04:49.5±0.1, 67.08N×20.90E, h0km, ML1.7, ML2.2(UPP), Explosion*
IDC **11** *18:04:49.4±1.0, 67.08N×21.08E, h0km, mb1 3.0/4, mb1mx2.8/34, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=18.6km s-min=8.9km az=111.0*
UPP **11** *18:04:49.0, 67.07N×20.93E, h1km, ML2.2, Mining explosion.*
NAO **11** *18:04:49.8±0.9, 67.03N×21.27E, ML2.4*
BER **11** *18:04:50.8±3.0, 67.09N×20.87E, h0km, ML1.8, ML2.4(NAO), Suspected explosion*

ISC 11 18:04:48.4±0.6, 67.06N±0.02×20.94E±0.02, h0km, n91, σ1§19/132, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.57	45	iP	Pg	18 04 59.8	+0.4
MASU				iS	Sg	18 05 07.3	+0.5
MASU	Masugnsbyn	0.57	45	P	Pg	18 04 59.7	+0.4
MASU				S	Sg	18 05 07.2	+0.5
MASU	Masugnsbyn	0.57	45	P	Pg	18 04 59.8	+0.4
MASU				S	Sg	18 05 07.3	+0.5
ERTU	Ertsjaerv	0.71	135	iP	Pg	18 05 02.4	+0.5
ERTU	Ertsjaerv	0.71	135	P	Pg	18 05 02.4	+0.5
ERTU	Ertsjaerv	0.71	135	P	Pg	18 05 02.4	+0.5
HARU	Harads	0.90	179	eP	Pg	18 05 05.9	+0.3
HARU	Harads	0.90	179	P	Pg	18 05 05.9	+0.3
HARU	Harads	0.90	179	P	Pg	18 05 05.9	+0.3
SALU	Saltoluokta	1.00	290	eP	Pg	18 05 07.4	-0.1
SALU	Saltoluokta	1.00	290	P	Pg	18 05 07.4	-0.1
SALU	Saltoluokta	1.00	290	P	Pg	18 05 07.4	-0.1
LANU	Lannavaara	1.07	22	eP	Pg	18 05 08.2	-0.6
LANU	Lannavaara	1.07	22	P	Pg	18 05 08.3	-0.6
LANU	Lannavaara	1.07	22	P	Pg	18 05 08.3	-0.6
KALU	Kalix	1.55	140	eP	Pn	18 05 17.4	+0.3
KALU	Kalix	1.55	140	P	Pn	18 05 17.4	+0.3
KALU	Kalix	1.55	140	P	Pn	18 05 17.4	+0.3
SJUU	Sjulsmark	1.58	170	eP	Pn	18 05 18.0	+0.3
SJUU	Sjulsmark	1.58	170	P	Pn	18 05 17.9	+0.3
SJUU	Sjulsmark	1.58	170	P	Pn	18 05 18.0	+0.3
HEF	Hetta	1.70	36	eP	Pn	18 05 19.4	+0.1
HEF				eSG	Sn	18 05 41.6	-0.2
HEF	Hetta	1.70	36	P	Pn	18 05 19.4	+0.1
HEF				Sg	Sn	18 05 41.6	-0.2
LILU	Lilltraesk	1.84	194	eP	Pb	18 05 22.0	-0.8
LILU	Lilltraesk	1.84	194	P	Pb	18 05 22.0	-0.8
LILU	Lilltraesk	1.84	194	P	Pb	18 05 22.0	-0.8
KIF	Kilpisjarvi	1.95	359	ePB	Pb	18 05 24.4	-0.4
KIF				MSG	Sg	18 05 50.8	-0.2
	comp=Z,11nm,0.3s						
KIF				eSG	Sg	18 05 50.8	-0.2
KIF	Kilpisjarvi	1.95	359	Pb	Pb	18 05 24.4	-0.4
KIF				Sg	Sg	18 05 50.8	-0.2
RNF	Rovaniemi	2.06	100	ePB	Pb	18 05 25.6	-0.9
RNF				eSG	Sg	18 05 53.7	-0.6
RNF	Rovaniemi	2.06	100	Pb	Pb	18 05 25.6	-0.9
RNF				Sg	Sg	18 05 53.7	-0.6
KTK1	Kautokeino	2.14	23	eP	Pb	18 05 26.9	-1.1
KTK1				eSg	Sb	18 05 55.5	+0.5
KTK1				IAML		18 05 59.2	
	comp=N,13nm,0.3s						
SGF	Sodankyl	2.20	77	eP	Pb	18 05 27.7	-1.3
SGF				eSG	Sb	18 05 57.3	+0.5
SGF	Sodankyl	2.20	77	P	Pb	18 05 27.7	-1.3
SGF				Sg	Sb	18 05 57.3	+0.5
BURU	Burvik	2.50	176	eP	Pn	18 05 31.8	+1.6
BURU	Burvik	2.50	176	P	Pn	18 05 31.7	+1.6
BURU	Burvik	2.50	176	P	Pn	18 05 31.8	+1.6
SVAU	Svanoeiden	2.64	193	eP	Pn	18 05 33.5	+1.4
SVAU	Svanoeiden	2.64	193	P	Pn	18 05 33.5	+1.4
SVAU	Svanoeiden	2.64	193	P	Pn	18 05 33.5	+1.4
TRO	Tromso	2.69	345	eSg	Sb	18 06 12.3	+1.5
TRO				IAML		18 06 17.0	
	comp=Z,8.1nm,0.2s						
TRO	Tromso	2.69	345	eSg	Sb	18 06 12.3	+1.5
	SNR=90						
OUL	Oulu	2.83	132	ePG	Pb	18 05 40.1	+0.4
OUL				MSG	Sg	18 06 17.8	-1.4
	comp=Z,1.8nm,0.3s						
OUL				eSG	Sg	18 06 17.8	-1.4
OUL	Oulu	2.83	132	Pg	Pb	18 05 40.1	+0.4
OUL				Sg	Sg	18 06 17.8	-1.4
ARA0	ARCESS Array S	3.01	32	Pn	Pn	18 05 38.0	+0.7
	baz=206,slow=14						
ARA0				Sn	Sn	18 06 15.1	+1.1
	baz=210,slow=28						
ARA0	ARCESS Array S	3.01	32	Pn	Pn	18 05 38.0	+0.7
	baz=206,slow=14						
ARA0				Sn	Sn	18 06 15.1	+1.1
	baz=210,slow=28						
ARA0	ARCESS Array S	3.01	32	Pn	Pn	18 05 38.0	+0.7
	baz=206,slow=14						
ARA0				Sn	Sn	18 06 15.1	+1.1
	baz=210,slow=28						
ARA0	ARCESS Array S	3.01	32	Pn	Pn	18 05 38.0	+0.7
	baz=206,slow=14						
ARA0				Sn	Sn	18 06 15.1	+1.1
	baz=210,slow=28						
ARA0	ARCESS Array S	3.01	32	Pn	Pn	18 05 38.0	+0.7
	SNR=50						
ARA0				Sn	Sn	18 06 15.1	+1.1
	SNR=50						
ARCES	ARCESS Array B	3.01	32	Pn	Pn	18 05 38.0	+0.8
	comp=Z,0.6nm,0.3s,baz=211,slow=14,SNR=91						
ARCES				Sn	Sn	18 06 14.1	+0.2
	comp=Z,0.8nm,0.3s,baz=211,slow=22,SNR=6.2						
LOF	Lofoten	3.03	294	eSg	Sg	18 06 24.8	-0.8
LOF	Lofoten	3.03	294	eSg	Sg	18 06 24.8	-0.8
	SNR=90						
UMAU	Umeaa	3.19	182	eP	Pn	18 05 41.1	+1.4
UMAU	Umeaa	3.19	182	P	Pn	18 05 41.1	+1.4
UMAU	Umeaa	3.19	182	P	Pn	18 05 41.1	+1.4
VRF	Varrio	3.42	74	ePB	Pb	18 05 48.9	-0.8
VRF				eSB	Sb	18 06 32.7	+1.0
VRF				MSG		18 06 32.7	
	comp=Z,1.5nm,0.3s						
VRF	Varrio	3.42	74	Pb	Pb	18 05 48.9	-0.8
VRF				Sb	Sb	18 06 32.7	+1.0
MSF	Maaselka	3.44	106	eP	Pn	18 05 45.2	+2.0
MSF				eSG	Sb	18 06 35.6	+3.1
MSF				MSG		18 06 35.6	
	comp=Z,1.3nm,0.3s						
KEV	Kevo	3.51	37	eP	Pn	18 05 44.6	+0.4
KEV				MSG	Sn	18 06 26.4	+0.1
	comp=Z,1.2nm,0.3s						
KEV				eS	Sn	18 06 26.4	+0.1
KEV	Kevo	3.51	37	P	Pn	18 05 44.5	+0.4
KEV				S	Sn	18 06 26.4	+0.1
KU6	Riekki	3.73	102	eP	Pn	18 05 48.3	+1.3
KU6				eSG	Sg	18 06 45.3	-2.6
VAF	Ylistaro	4.10	169	eP	Pn	18 05 54.2	+2.0
VAF				MSG	S	18 06 43.2	+2.4
	comp=Z,1.1nm,0.2s						
VAF				eS	S	18 06 43.2	+2.4
VAF	Ylistaro	4.10	169	P	Pn	18 05 54.2	+2.0
APA0	Apatity Array	4.70	78	Pn	Pn	18 05 58.2	-2.1
	baz=263,slow=12						
APA0				Sn	Sn	18 06 55.4	0.0
	baz=275,slow=22						
APA0	Apatity Array	4.70	78	Pn	Pn	18 05 58.2	-2.1
	baz=263,slow=12						
APA0				Sn	Sn	18 06 55.4	0.0
	baz=275,slow=22						
APA0	Apatity Array	4.70	78	Pn	Pn	18 05 58.2	-2.1
	baz=263,slow=12						
APA0				Sn	Sn	18 06 55.4	0.0
	baz=275,slow=22						
APA0	Apatity Array	4.70	78	Pn	Pn	18 05 58.2	-2.1
	baz=263,slow=12						
APA0				Sn	Sn	18 06 55.4	0.0
	baz=275,slow=22						
APA0	Apatity Array	4.70	78	Pn	Pn	18 05 58.2	-2.1
	SNR=50						
APA0				Sn	Sn	18 06 55.4	0.0
	SNR=50						
FIA0	FINESS Array S	6.07	156	Pn	Pn	18 06 21.0	+1.9
	baz=342,slow=12						
FIA0				Sn	Sn	18 07 26.2	-2.9
	baz=345,slow=16						
FIA0				Lg	Lg	18 07 58.5	
	baz=349,slow=37						
FIA0	FINESS Array S	6.07	156	Pn	Pn	18 06 21.0	+1.9
	baz=342,slow=12						
FIA0				Sn	Sn	18 07 26.2	-2.9
	baz=345,slow=16						
FIA0				Lg	Lg	18 07 58.5	
	baz=349,slow=37						
FIA0	FINESS Array S	6.07	156	Pn	Pn	18 06 21.0	+1.9
	baz=342,slow=12						
FIA0				Sn	Sn	18 07 26.2	-2.9
	baz=345,slow=16						
FIA0				Lg	Lg	18 07 58.5	
	baz=349,slow=37						
FIA0	FINESS Array S	6.07	156	Pn	Pn	18 06 21.0	+1.9
	baz=342,slow=12						
FIA0				Sn	Sn	18 07 26.2	-2.9
	baz=345,slow=16						
FIA0				Lg	Lg	18 07 58.5	
	baz=349,slow=37						
FIA0	FINESS Array S	6.07	156	Pn	Pn	18 06 21.0	+1.9
	SNR=50						
FINES	FINESS Array B	6.07	156	Pn	Pn	18 06 20.8	+1.6
	comp=Z,0.2nm,0.3s,baz=345,slow=11,SNR=9.5						
FINES				Sn	Sn	18 07 29.1	-0.1
	comp=Z,0.3nm,0.3s,baz=338,slow=28,SNR=4.1						
NB2	NORSAR Subarra	7.39	220	Pn	Pn	18 06 37.1	-0.3
	baz=27,slow=16						
NB2				Lg	Lg	18 08 39.0	
NB2	NORSAR Subarra	7.39	220	Pn	Pn	18 06 37.1	-0.3
	baz=27,slow=16						
NB2				Lg	Lg	18 08 39.0	
NB2	NORSAR Subarra	7.39	220	Pn	Pn	18 06 37.1	-0.3
	baz=27,slow=16						
NB2				Lg	Lg	18 08 39.0	
NB2	NORSAR Subarra	7.39	220	Pn	Pn	18 06 37.1	-0.3
	baz=27,slow=16						
NB2				Lg	Lg	18 08 39.0	
NB2	NORSAR Subarra	7.39	220	Pn	Pn	18 06 37.1	-0.3
	SNR=50						
NOA	NORSAR Array B	7.39	220	Pn	Pn	18 06 37.1	-0.3
	comp=Z,0.1nm,0.3s,baz=25,slow=11,SNR=3.1						
HFS	Hagfors	7.66	208	Pn	Pn	18 06 41.5	+0.4
	baz=28,slow=12						
HFS	Hagfors	7.66	208	Pn	Pn	18 06 41.5	+0.4
	baz=28,slow=12						
HFS	Hagfors	7.66	208	Pn	Pn	18 06 41.5	+0.4
	baz=28,slow=12						
HFS	Hagfors	7.66	208	Pn	Pn	18 06 41.5	+0.4
	baz=28,slow=12						
HFS	Hagfors	7.66	208	Pn	Pn	18 06 41.2	+0.1
	comp=Z,0.1nm,0.3s,baz=26,slow=12,SNR=6.2						
HFS	Hagfors	7.66	208	Pn	Pn	18 06 41.5	+0.4
	SNR=50						
SPA0	Spitsbergen Ar	11.25	355	Pn	Pn	18 07 30.3	+0.2
	baz=156,slow=16						
SPA0	Spitsbergen Ar	11.25	355	Pn	Pn	18 07 30.3	+0.2
	baz=156,slow=16						
SPA0	Spitsbergen Ar	11.25	355	Pn	Pn	18 07 30.3	+0.2
	baz=156,slow=16						
SPA0	Spitsbergen Ar	11.25	355	Pn	Pn	18 07 30.3	+0.2
	baz=156,slow=16						
SPA0	Spitsbergen Ar	11.25	355	Pn	Pn	18 07 30.3	+0.2
	SNR=50						
CLL	Collm	16.29	198	eP	P	18 08 42.0	+0.6

ISCJB **11** *18:21:47.8±0.3, 51.54N±0.02×16.09E±0.03, h0km, Error ellipse: s-maj=3.0km s-min=2.6km az=160.5*
CSEM **11** *18:21:49.8±0.2, 51.52N×16.07E, h2km, ML3.3/7, Error ellipse: s-maj=4.8km s-min=2.9km az=84.0*
PRU **11** *18:21:51.5, 51.47N×16.07E, h0km*
IDC **11** *18:21:52.1±1.1, 51.53N×15.87E, h0km, mb1 3.4/4, mb1mx3.2/31, mbtmp3.2/4, ML2.7/4, Error ellipse: s-maj=25.5km s-min=9.0km az=126.0*
VIE **11** *18:21:53.3±0.6, 51.27N×16.06E, h0km, mb2.1/3, ML2.9/4, Error ellipse: s-maj=4.0km s-min=3.2km az=0.0 69 km WNW of Wroclaw Suspected Mining induced.*
UPP **11** *18:21:56.4, 51.91N×15.82E, h0km, ML2.0, Suspected Mining explosion.*

ISC 11 18:21:49.6±0.7, 51.57N±0.03×16.08E±0.02, h0km, n57, σ1§40/94, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.74	169	ePg	Pg	18 22 03.8	-0.1
KSP				eSg	Sg	18 22 13.1	-0.4
KSP	Ksiaz	0.74	169	ePg	Pg	18 22 04.0	+0.1
KSP				eSg	Sg	18 22 13.0	-0.4
UPC	Upice	1.07	182	ePG	Pg	18 22 09.9	-0.2
UPC				eSG	Sg	18 22 22.6	-1.3
	60nm,0.3s						
UPC	Upice	1.07	182	Pg	Pg	18 22 09.9	-0.2
UPC				Sg	Sg	18 22 22.6	-1.3
	60nm,0.3s						
DPC	Dobruska-Polom	1.23	173	ePG	Pg	18 22 12.7	-0.6
DPC				eSG	Sg	18 22 27.7	-1.5
DPC	Dobruska-Polom	1.23	173	Pg	Pg	18 22 12.7	-0.6
DPC				Sg	Sg	18 22 27.7	-1.5
BRG	Berggiesshubel	1.51	243	PN	Pn	18 22 17.3	-0.6
BRG				PG	Pg	18 22 19.0	+0.4
BRG				SG	Sn	18 22 38.8	+0.5
	37nm,0.4s						
KRLC	Kraliky	1.57	163	ePG	Pn	18 22 18.3	-0.4
KRLC				eSG	Sn	18 22 38.5	-1.2
KRLC	Kraliky	1.57	163	Pg	Pn	18 22 18.3	-0.4
KRLC				Sg	Sn	18 22 38.5	-1.2
PRA	Prague	1.83	215	PN	Pn	18 22 22.0	-0.3
PRA				PG	Pb	18 22 23.0	-0.9
PRA				SG	Sn	18 22 46.0	-0.1
PRU	Pruhonice	1.86	212	ePN	Pn	18 22 22.5	-0.2
PRU				ePG	Pb	18 22 24.1	-0.4
PRU				eSG	Sb	18 22 48.1	-0.2
	21nm,0.3s						
PRU	Pruhonice	1.86	212	Pn	Pn	18 22 22.5	-0.2
CLL	Collm	1.94	263	ePn	Pn	18 22 24.0	+0.2
CLL				ePg	Pg	18 22 27.0	+0.2
CLL				e		18 22 31.0	
CLL				eSg	Sg	18 22 52.0	+0.1
	comp=Z,23nm,0.5s						
MORC	Moravsky Berou	2.03	152	ePn	Pn	18 22 24.8	-0.3
MORC				eSg	Sb	18 22 52.7	-0.4
OKC	Ostrava-Krasne	2.18	142	ePG	Pb	18 22 29.8	-0.1
OKC				eSG	Sb	18 22 58.2	+0.7
	comp=Z,40nm,0.7s						
OKC	Ostrava-Krasne	2.18	142	Pg	Pb	18 22 29.8	-0.1
OKC				Sg	Sb	18 22 58.2	+0.7
	comp=Z,40nm,0.7s						
VRAC	Vranov	2.29	171	ePn	Pn	18 22 29.0	+0.3
VRAC				eSg	Sb	18 23 00.9	+0.2
TREC	Trest	2.31	190	ePN	Pn	18 22 30.0	+1.0
TREC				ePG	Pb	18 22 31.7	-0.5
TREC				eSG	Sb	18 23 01.9	+0.6
	comp=Z,20nm,0.2s						
TREC	Trest	2.31	190	Pn	Pn	18 22 30.0	+1.0
OJC	Ojcow	2.72	118	ePn	Pn	18 22 33.0	-1.5
OJC				ePg	Pg	18 22 42.2	+0.5
OJC				eSg	Sg	18 23 17.9	+1.0
OJC	Ojcow	2.72	118	ePn	Pn	18 22 33.0	-1.5
KHC	Kasperske Hory	2.92	214	ePN	Pn	18 22 37.2	-0.2
KHC				ePG	Pb	18 22 43.3	+0.7
KHC				eSN	Sn	18 23 12.0	-1.2
KHC				eSG	Sb	18 23 20.7	+1.9
	comp=Z,8.6nm,0.2s						
KHC	Kasperske Hory	2.92	214	Pn	Pn	18 22 37.2	-0.2
GERES	GERESS Array B	3.13	210	Pn	Pn	18 22 41.1	+0.8
	comp=Z,0.5nm,0.3s,baz=24,slow=13,SNR=17						
GERES				Pg	Pb	18 22 47.3	+1.2
	comp=Z,1.5nm,0.3s,baz=31,slow=16,SNR=16						
GERES				Sn	Sn	18 23 17.8	-0.6
	comp=Z,1.4nm,0.3s,baz=27,slow=16,SNR=6.2						
GERES				Lg	Lg	18 23 27.1	
	comp=Z,3.1nm,0.3s,baz=36,slow=29,SNR=11						
SMOL	Smolenice	3.19	164	eSG	Sg	18 23 30.1	-1.8
SMOL	Smolenice	3.19	164	eSg	Sg	18 23 30.1	-1.8
VYHS	Vyhne	3.56	149	eSG	Sg	18 23 41.0	-2.9
VYHS	Vyhne	3.56	149	eSg	Sg	18 23 41.0	-2.9
BSD	Bornholm Skovb	3.62	349	iP	Pn	18 22 47.2	+0.4
BSD				iS	Sn	18 23 28.9	-1.2
BSD	Bornholm Skovb	3.62	349	iP	Pn	18 22 47.2	+0.4
BSD				iS	Sn	18 23 28.9	-1.2
CONA	Conrad Observa	3.65	182	⇓iPn	Pn	18 22 46.9	-0.5
CONA				⇑iSg	Sb	18 23 43.0	+3.1
	comp=Z,18nm,0.6s						
CONA	Conrad Observa	3.65	182	Pn	Pn	18 22 46.9	-0.5
CONA				Sg	Sb	18 23 43.0	+3.1
	comp=Z,18nm,0.6s						
MOA	Molln	3.91	198	⇑iPn	Pn	18 22 51.4	+0.5
MOA				⇓iSg	Sg	18 23 53.5	-1.6
	comp=Z,6.5nm,0.2s						
MOA	Molln	3.91	198	Pn	Pn	18 22 51.4	+0.5
MOA				Sg	Sg	18 23 53.5	-1.6
	comp=Z,6.5nm,0.2s						
STHS	Stebnicka Huta	3.94	121	e	Pg	18 23 07.6	+2.4
STHS	Stebnicka Huta	3.94	121	eSG	Sg	18 23 55.1	-1.1
STHS	Stebnicka Huta	3.94	121	eSg	Sg	18 23 55.1	-1.1
KECS	Kecovo	4.20	136	e	Pg	18 23 10.8	+0.7
KECS	Kecovo	4.20	136	eSG	Sg	18 24 03.0	-1.5
KECS	Kecovo	4.20	136	eSg	Sg	18 24 03.0	-1.5
CRVS	Cervenica-Dubn	4.37	126	e	Pg	18 23 14.0	+0.7
CRVS	Cervenica-Dubn	4.37	126	eSG	Sg	18 24 14.9	+5.0
BLEU	Blekinge	4.74	358	P	Pn	18 23 02.9	+0.6
BLEU				S	Sn	18 23 54.9	-3.0
BLEU	Blekinge	4.74	358	P	Pn	18 23 02.9	+0.6
BLEU				S	Sn	18 23 54.9	-3.0
KOLS	Kolonicke sedl	4.77	121	e	Pg	18 23 24.0	+2.9
KOLS	Kolonicke sedl	4.77	121	eSG	Sg	18 24 29.4	+6.5
ASPU	Aespoe	5.87	3	P	Pn	18 23 19.0	+1.3
ASPU	Aespoe	5.87	3	P	Pn	18 23 19.0	+1.3
GNOU	Gnosjoe	5.89	348	P	Pn	18 23 18.4	+0.4
GNOU	Gnosjoe	5.89	348	P	Pn	18 23 18.4	+0.3
FKPU	Falk	6.74	349	P	Pn	18 23 30.6	+0.9
FKPU	Falk	6.74	349	P	Pn	18 23 30.6	+0.9
FKPU				S	Sn	18 24 43.2	-3.8
NYNU	Nynaeshamn	7.53	8	P	Pn	18 23 41.5	+1.0
NYNU	Nynaeshamn	7.53	8	P	Pn	18 23 41.5	+1.0
AKASG	Malin Array Be	8.32	91	Pn	Pn	18 23 51.9	+0.5
	comp=Z,0.5nm,0.3s,baz=277,slow=12,SNR=5.1						
FINES	FINESS Array B	11.31	25	Pn	Pn	18 24 31.6	-0.8
	comp=Z,0.1nm,0.3s,baz=213,slow=14,SNR=3.4						
ARCES	ARCESS Array B	18.56	10	Pn	P	18 26 05.8	-1.9
	comp=Z,0.0nm,0.3s,baz=188,slow=13,SNR=3.7						

ISCJB **11** *18:33:52.1±0.6, 4.20N±0.06×123.4E±0.1, h545km, mb3.8/8, Error ellipse: s-maj=16.5km s-min=5.6km az=156.7*
IDC **11** *18:33:56.4±1.8, 3.93N×123.09E, h585km±21km, mb3.2/8, mb1 3.3/8, mb1mx2.9/31, mbtmp4.2/8, Error ellipse: s-maj=45.8km s-min=9.7km az=64.0*
DJA **11** *18:34:01.1±1.0, 4°N±11°×12°3E±°, h546km±6km, M3.8/10, mB4.5/5, mb4.3/10, MLv3.7/2, Mw(mB)3.7/5*

ISC 11 18:33:52.8±0.8, 4.04N±0.10×123.3E±0.2, h545km, n37, σ1§41/33, mb3.9/8, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	3.52	168	P	P	18 35 16.0	+5.1
MRSI	Marisa	3.78	200	P	P	18 35 16.1	+3.3
MRSI				S	S	18 36 19.4	+1.6
LUWI	Luwuk	5.08	186	S	S	18 36 36.2	-0.5
	baz=4.6,SNR=4.8						
TNTI	Ternate	5.23	128	P	P	18 35 29.7	+5.3
	104nm,1.0s,3μm						
TNTI				S	S	18 36 49.5	+10
	104nm,1.0s,3μm						
LBMI	Labuha	6.29	138	P	P	18 35 40.0	+6.1
	70nm,0.6s,927nm						
SANI	Sanana	6.64	156	S	S	18 37 01.5	-1.0
TTSI	Tana Toraja	7.84	206	P	P	18 35 51.6	+2.8
	62nm,0.9s,696nm						
SPSI	Sidrap Palu	8.69	204	P	P	18 35 59.9	+2.6
	43nm,1.1s						
BNSI	Bone	8.96	201	P	P	18 36 03.4	+3.3
	86nm,0.8s,806nm						
FAKI	Fak Fak	11.33	127	P	P	18 36 30.1	+5.6
	baz=11,SNR=6.9						
MMRI	Maumere	12.64	185	P	P	18 36 44.4	+6.4
	20nm,0.9s						
SOEI	Soe	13.74	176	P	P	18 36 50.9	+1.3
	baz=13,SNR=7.2						
JAGI	Jajag, Banyuwa	15.40	216	P	P	18 37 05.0	-1.6
	baz=15,SNR=3.4						
KDU	Kakadu	18.97	151	P	P	18 37 42.0	+2.0
	baz=19,SNR=3.4						
WRA	Warramunga Arr	26.20	156	P	P	18 38 45.4	+0.8
	1.5nm,0.4s,baz=336,slow=9.6,SNR=54						
WRA				S	S	18 42 32.0	-6.7
	0.3nm,0.7s,baz=336,slow=16,SNR=3.4						
WRA				ScP	ScP	18 44 38.3	-3.4
	0.3nm,0.6s,baz=338,slow=3.2,SNR=5.8						
CMAR	Chiang Mai Arr	27.76	303	P	P	18 38 58.9	+0.6
	0.7nm,0.6s,baz=120,slow=7.3,SNR=10						
ASAR	Alice Springs	29.43	160	P	P	18 39 14.2	+1.4
	1.2nm,0.3s,baz=342,slow=6.9,SNR=37						
ASAR				S	S	18 43 25.9	-3.0
	0.3nm,0.7s,baz=338,slow=13,SNR=4.9						
ASAR				ScP	ScP	18 44 48.5	-3.3
	0.7nm,0.8s,baz=336,slow=2.5,SNR=7.2						
BLDU	Ballidu	35.03	190	P	P	18 39 59.3	-0.8
	baz=35,SNR=5.4						
NWAO	Narrogin (SRO)	37.21	188	P	P	18 40 18.0	-0.1
	7.0nm,0.9s,baz=31,slow=10,SNR=6.1						
BBOO	Buckleboo	38.61	163	P	P	18 40 30.7	+1.2
	baz=38,SNR=8.3						
STKA	Stephens Creek	39.75	155	P	P	18 40 40.9	+2.1
	1.6nm,0.8s,baz=6.3,slow=9.2,SNR=4.6						
HTT	Hallett	40.11	159	P	P	18 40 43.6	+1.9
	baz=40,SNR=4.4						
TAPN	Taplejung	41.07	308	eP	P	18 40 49.8	0.0
	6.7nm,0.6s						
ODAN	Odare	41.10	307	eP	P	18 40 50.0	+0.1
	11nm,0.7s						
RAMN	Ramite	41.77	307	eP	P	18 40 55.7	+0.5
	17nm,0.8s						
JIRN	Jiri	42.41	308	eP	P	18 41 00.6	+0.2
	9.8nm,0.3s						
GUN	Gumba	42.77	308	eP	P	18 41 03.3	+0.1
	19nm,0.4s						
PKI	Pulchoki	42.99	307	eP	P	18 41 04.6	-0.3
	6.0nm,0.3s						
PKIN	Phulchoki	43.01	307	eP	P	18 41 04.5	-0.5
	5.1nm,0.3s						
KKN	Kakani	43.19	307	eP	P	18 41 06.4	+0.1
	9.2nm,0.4s						
DMN	Daman	43.25	307	eP	P	18 41 07.0	+0.1
GKN	Gorkha	43.80	307	eP	P	18 41 10.7	-0.3
	6.1nm,0.4s						
KOLN	Koldanda	44.53	306	eP	P	18 41 17.0	+0.3
	24nm,0.4s						
DANN	Dangsing	44.64	307	eP	P	18 41 17.8	+0.1
	30nm,0.5s						
MKAR	Makanchi Array	55.36	327	P	P	18 42 36.5	+0.9
	2.5nm,0.3s,baz=124,slow=7.7,SNR=118						
MKAR				PcP	PcP	18 43 27.6	-0.2
	0.6nm,0.5s,baz=123,slow=3.6,SNR=7.4						
ZALV	Zalesovo Beam	58.78	335	P	P	18 42 58.2	-0.5
	0.7nm,0.4s,baz=134,slow=6.4,SNR=4.5						
ARCES	ARCESS Array B	88.96	340	P	P	18 45 48.2	-0.9
	4.4nm,1.0s,baz=90,slow=5.4,SNR=3.4						

SKO 11 18:39:17.4, 41.29N×22.69E, h15km, M0.1, ML0.4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.10	289	ePg	Pg	18 39 20.6	0.0
VAY				iSg	Sg	18 39 22.6	-0.2
VAY				eLg	Lg	18 39 22.6	
	comp=E,22nm,0.4s						
VAY				eLg	Lg	18 39 22.9	
	comp=N,21nm,0.3s						

IDC **11** *18:43:02.2±0.3, 9.80S×113.91E, h0km, mb5.5/36, mb1 5.5/37, mb1mx5.5/41, mbtmp5.5/37, ML4.8/1, MS5.0/20, Ms1 5.0/20, ms1mx4.7/33, Error ellipse: s-maj=12.7km s-min=10.0km az=55.0*
BJI **11** *18:43:06.9, 10.10S×113.80E, h60km, mB6.2/49, mb6.1/79, Ms5.3/85, Ms7 5.2/78*
MOS **11** *18:43:07.8±1.0, 9.40S×113.71E, h33km, mb6.2/55, MS5.2/53, Error ellipse: s-maj=8.5km s-min=5.3km az=112.5*
ISCJB **11** *18:43:08.8±0.3, 9.99S±0.02×113.85E±0.02, h67km±2km, mb5.8/205, Error ellipse: s-maj=3.2km s-min=2.5km az=18.0*

DJA **11** 18:43:09.3±0.2, 10°S±2°×11°4E±°, h52km±3km, M6.0/112, mb6.1/112, mB6.3/111, MLv6.5/40, Mw(mB)6.1/111, Mwp5.9/36

GCMT **11** 18:43:09.7±0.1, 10°15S×113°92E, h50km, MW5.8/128, Moment Tensor Solution. s108,c209; s128,c349; Duration: 1s9 Moment tensor: Scale 10^{17}Nm; Mrr1.43±.05; Mθθ2.45±.04; Mφφ-3.88±.05; Mrθ3.11±.05; Mθφ-3.36±.04; Mφr-1.34±.05; Best double couple: Mo5.80100×10^{17} NP1:φs63.00000°, δ66.00000°, λ154.00000°. NP2:φs164.00000°, δ66.00000°, λ26.00000°. Principal axes: T 6.2700, Plg35.0000°, Azm23.0000°; N -0.9390, Plg55.0000°, Azm203.0000°; P -5.3310, Plg0.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

NEIC **11** 18:43:09.7±0.4, 9°91S×113°85E, h51km±3km, mb5.9/99, MS5.3/130, MW5.7 Error ellipse: s-maj=5.1km s-min=3.9km az=49.0

NEIC Felt [IV] at Jember and Karangkates; [III] at Bandung; [II] at Yogyakarta. Also felt at Banyuwangi, Blitar, Bondowoso, Malang and Situbondo. Felt [III] at Denpasar, Kuta and Tabanan; [II] at Ubud, Bali. Also felt at Singaraja. Felt [II] at Lombok, Lombok. Also felt at Mataram.

AUST **11** 18:43:09.5±0.6, 10°10S×113°74E, h58km±7km, Error ellipse: s-maj=6.8km s-min=4.4km az=11.0

NEIC **11** 18:43:20.7±0.0, 10°35S×113°93E, h38km, Moment Tensor Solution. s148 Moment tensor: Scale 10^{17}Nm; Mrr0.66; Mθθ1.87; Mφφ-2.53; Mrθ3.38; Mθφ-3.38; Mφr-0.50; Best double couple: Mo5.20000×10^{17} NP1:φs169.00000°, δ55.00000°, λ13.00000°. NP2:φs71.00000°, δ79.00000°, λ144.00000°. Principal axes: T 5.7700, Plg32.0000°, Azm24.0000°; N -1.0700, Plg52.0000°, Azm236.0000°; P -4.7000, Plg15.0000°, Azm124.0000°;

ISC 11 18:43:09.7±0.2, 9°89S±0°03×113°86E±0°03, h59km±1km, h59km:pP-P, n1453, σ1s80/1452, mb6.0/202, MS5.3/180, 268C-217D, South of Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
JAGI	Jajag, Banyuwa	1.44	11	P	Pn	18 43 35.7	+2.0
JAGI				S	Sn	18 43 55.8	+4.2
JAGI	Jajag, Banyuwa	1.44	11	eP	Pn	18 43 35.0	+1.4
JAGI	Jajag, Banyuwa	1.44	11	⇓P	Pn	18 43 35.7	+2.0
	baz=1.7,SNR=1000						
IGBI	Denpasar	1.66	50	P	Pn	18 43 38.0	+1.5
IGBI				S	Sn	18 43 59.4	+2.6
GMJI	Gumukmas	1.66	346	P	Pn	18 43 38.1	+1.5
GMJI				S	Sn	18 44 00.5	+3.6
DNP	Denpasar	1.80	48	P	Pn	18 43 40.7	+2.3
DNP				S	Sn	18 44 05.4	+5.2
ABJI	Asem Bagus	2.12	10	P	Pn	18 43 47.0	+4.2
BLJI	Banyuglugur	2.15	353	P	Pn	18 43 46.7	+3.5
BLJI				S	Sn	18 44 15.5	+6.7
SRBI	Singaraja	2.24	37	P	Pn	18 43 47.1	+2.7
SRBI				S	Sn	18 44 17.4	+6.4
PWJI	Pagerwojo	2.75	312	P	Pn	18 43 52.5	+1.0
PWJI				S	Sn	18 44 26.0	+2.4
KMMI	Kalianget	2.83	2	P	Pn	18 43 56.6	+4.1
KMMI				S	Sn	18 44 30.8	+5.4
PCJI	Pacitan	3.14	302	P	Pn	18 43 57.1	+0.3
PCJI				S	Sn	18 44 33.9	+0.8
GRJI	Gresik	3.26	335	P	Pn	18 44 01.3	+2.9
GRJI				S	Sn	18 44 41.6	+5.6
NGJI	Ngawi	3.45	316	P	Pn	18 44 04.5	+3.4
NGJI				S	Sn	18 44 47.7	+6.9
WOJI	Wonogiri, Jawa	3.55	305	P	Pn	18 44 03.0	+0.6
WOJI				S	Sn	18 44 45.2	+2.1
TBJI	Tambak Boyo	3.65	327	P	Pn	18 44 06.4	+2.7
TBJI				S	Sn	18 44 50.6	+5.1
UGM	Wanagama	3.84	301	P	Pn	18 44 06.7	+0.3
UGM				S	Sn	18 44 51.4	+1.1
UGM	Wanagama	3.84	301	ePn	Pn	18 44 06.4	0.0
UGM	Wanagama	3.84	301	⇑P	Pn	18 44 07.0	+0.6
	baz=3.9,SNR=1000						
SMRI	Semarang	4.41	310	P	Pn	18 44 15.5	+1.3
SMRI				S	Sn	18 45 12.1	+7.8
SMRI	Semarang	4.41	310	eP	Pn	18 44 15.4	+1.2
SMRI	Semarang	4.41	310	⇓P	Pn	18 44 15.0	+0.8
	baz=4.5,SNR=207						
UWJI	Ujung Watu	4.50	320	P	Pn	18 44 16.8	+1.4
WBSI	Waikabubak, Su	5.46	88	P	Pn	18 44 25.3	-3.2
	2μm,0.7s,107μm41nm						
KPJI	Karang Pucung	5.50	297	P	Pn	18 44 29.9	+0.8
	7μm,0.6s,71μm23nm						
CMJI	Cimerak	5.75	291	P	Pn	18 44 31.5	-1.0
	8μm,1.1s,109μm57μm30nm						
WSI	Waingapu	6.35	89	P	Pn	18 44 39.6	-1.1
	5μm,0.6s,226μm83μm135nm						
WSI	Waingapu	6.35	89	⇓P	Pn	18 44 39.9	-0.8
	baz=6.5,SNR=13						
CISI	Cisompet, Garu	6.41	291	P	Pn	18 44 40.6	-1.1
	10μm,0.6s,221μm61μm41nm						
CISI	Cisompet, Garu	6.41	291	eP	Pn	18 44 40.1	-1.5
	6μm,0.4s						
CISI	Cisompet, Garu	6.41	291	⇓P	Pn	18 44 40.9	-0.8
	baz=6.4,SNR=1000						
BBKI	Banjar Baru	6.46	9	P	Pn	18 44 46.6	+4.3
	4μm,1.1s,62μm15nm						
JCJI	Jatiwangi	6.49	301	P	Pn	18 44 42.2	-0.4
	5μm,0.9s,48μm99μm17nm						
LEM	Lembang	6.89	296	P	Pn	18 44 50.0	+1.7
	7μm,1.0s,53μm95μm21nm						
KBKI	Kotabaru	6.94	19	P	Pn	18 44 52.6	+3.8
	2μm,0.9s,25μm5.8nm						
CNJI	Cibinong	7.13	291	P	Pn	18 44 51.4	-0.1
	9μm,0.9s,95μm42μm30nm						
PBKI	Pangkalan Bun	7.47	343	P	Pn	18 44 59.7	+3.6
	3μm,1.1s,22μm9.3nm						
BSSI	Bau Bau, Buton	7.55	61	P	Pn	18 44 58.6	+1.4
	2μm,0.7s,35μm12nm						
KAPI	Kappang	7.59	51	ePn	Pn	18 44 59.0	+1.2
BKSI	Bulukumba	7.69	54	P	Pn	18 45 00.1	+1.0
	852nm,0.6s,11μm4.2nm						
SKJI	Sukabumi	7.78	291	P	Pn	18 45 01.9	+1.6
	12μm,0.9s,114μm30μm44nm						
TNG	Tangerang	8.04	297	P	Pn	18 45 05.5	+1.5
	57μm6μm,0.8s						
TNG				P	Pn	18 45 05.4	+1.5
	87μm35μm3μm,0.9s						
XMI	Christmas Isla	8.06	265	⇑P	Pn	18 45 00.7	-3.6
	baz=7.9,SNR=207						
XMIS	Christmas Isla	8.10	265	ePn	Pn	18 45 00.9	-3.9
XMIS	Christmas Isla	8.10	265	⇑P	Pn	18 45 00.6	-4.2
	baz=8.0,SNR=324						
BNSI	Bone	8.26	49	P	Pn	18 45 10.3	+3.4
	2μm,1.6s,36μm22μm						
SPSI	Sidrap Palu	8.31	45	P	Pn	18 45 10.3	+2.7
	504nm,1.3s,9μm24μm						
MMRI	Maumere	8.36	82	P	Pn	18 45 06.5	-1.8
	2μm,1.5s,26μm45μm						
MMRI	Maumere	8.36	82	eP	Pn	18 45 05.7	-2.7
	2μm,1.0s						
SBJI	Serang	8.52	296	P	Pn	18 45 11.6	+1.1
	6μm,0.8s,57μm						
CGJI	Cibinong	8.72	291	P	Pn	18 45 12.3	-0.9
	9μm,0.7s,113μm32μm						
MTKI	Muara Teweh, K	8.95	7	P	Pn	18 45 20.2	+3.8
	2μm,0.9s,23μm						
TTSI	Tana Toraja	9.02	41	P	Pn	18 45 21.2	+3.9
	1μm,1.1s,15μm						
BKB	Balikpapan	9.09	20	P	Pn	18 45 25.3	+7.0
	1μm,1.1s,24μm						
TPI	Tanjungpandan	9.40	319	P	Pn	18 45 23.8	+1.3
	462nm,1.1s,6μm46μm						
BLSI	Bandar Lampung	9.65	297	P	Pn	18 45 26.9	+0.9
	2μm,0.9s,23μm30μm						
SMKI	Samarinda	9.96	20	P	Pn	18 45 36.2	+6.0
	2μm,1.2s,19μm						
SGKI	Sangatta, Kali	10.02	22	P	Pn	18 45 49.7	+19
STKI	Sintang	10.17	346	P	Pn	18 45 37.7	+4.6
	702nm,1.5s						
KLI	Kotabumi	10.23	299	P	Pn	18 45 33.9	0.0
	2μm,0.9s,21μm						
KASI	Kota Agung	10.24	294	P	Pn	18 45 32.8	-1.3
	3μm,0.8s,44μm						
SOEI	Soe	10.26	90	P	Pn	18 45 31.7	-2.7
	645nm,1.1s,16μm65μm						
SOEI	Soe	10.26	90	ePn	Pn	18 45 31.6	-2.7
LWLI	Liwa	10.86	296	P	Pn	18 45 42.4	-0.2
	6μm,0.8s,108μm						
MDSI	Maura Dua	11.00	299	P	Pn	18 45 43.7	-0.8
	1μm,1.0s,15μm						
PMBI	Palembang	11.38	307	P	Pn	18 45 51.9	+2.4
	2μm,1.1s,14μm33μm						
PMBI	Palembang	11.38	307	ePn	Pn	18 45 51.6	+2.1
APSI	Ampana	11.82	41	P	Pn	18 46 00.9	+5.3
	2μm,1.2s,27μm						
KSM	Kuching	11.83	342	ePn	Pn	18 45 57.6	+1.8
KSM	Kuching	11.83	342	P	Pn	18 45 57.8	+2.0
	baz=12,SNR=26						
KSM	Kuching	11.83	342	⇑P	Pn	18 45 58.6	+2.8
LHSI	Lahat	11.90	300	P	Pn	18 45 57.2	+0.5
	2μm,1.0s,21μm26μm						
MNAI	Manna	12.13	296	P	Pn	18 45 58.3	-1.6
	11μm,1.2s,135μm49μm						
MNAI	Manna	12.13	296	eP	Pn	18 45 58.2	-1.8
	20μm,1.3s						
MNAI	Manna	12.13	296	P	Pn	18 45 58.2	-1.8
	baz=12,SNR=376						
SBUM	Sibu	12.37	352	ePn	Pn	18 46 06.1	+2.9
SBUM	Sibu	12.37	352	⇓P	Pn	18 46 06.9	+3.7
LUWI	Luwuk	12.48	46	P	Pn	18 46 08.2	+3.5
	644nm,1.4s,10μm19μm						
LUWI	Luwuk	12.48	46	eP	Pn	18 46 06.7	+2.0
LUWI	Luwuk	12.48	46	P	Pn	18 46 08.2	+3.5
	baz=13,SNR=9.0						
MBWA	Marble Bar	12.54	154	ePn	Pn	18 45 56.4	-9.1
TOLI	Toli-Toli	12.94	33	eP	Pn	18 46 14.5	+3.7
	846nm,0.6s						
BTM	Bintulu	13.03	357	⇑P	Pn	18 46 16.0	+3.8
JMBI	JAMBI	13.06	308	P	Pn	18 46 14.4	+1.9
	2μm,1.6s,32μm						
MRSI	Marisa	13.07	38	P	Pn	18 46 14.6	+1.9
	945nm,0.9s,7μm						
MASI	Maura Aman, Be	13.35	299	P	Pn	18 46 14.6	-1.9
	7μm,1.2s,67μm						
GTOI	Gorontalo	13.87	42	P	P	18 46 27.7	-2.2
	2μm,0.9s,31μm						
TPRI	Tanjung Pinang	14.20	319	P	Pn	18 46 27.1	-0.8
	201nm,1.4s,4μm13μm						
SANI	Sanana	14.35	58	P	Pn	18 46 30.6	+0.7
	738nm,1.6s,11μm						
KMSI	Cibinong	14.48	45	P	P	18 46 35.4	-1.3
	3μm,1.3s,30μm16μm						
NLAI	Namlea	14.71	64	P	P	18 46 37.7	-1.6
	502nm,1.7s,8μm						
SDSI	Sungai Dareh	15.24	305	P	Pn	18 46 39.5	-1.9
	909nm,1.2s,10μm						
MYKOM	Kota Tinggi	15.30	319	ePn	Pn	18 46 41.4	-0.8
	172nm,0.8s						
MYKOM	Kota Tinggi	15.30	319	⇑P	Pn	18 46 41.9	-0.3
SDKM	Sandakan	15.79	12	⇑P	P	18 46 50.9	-0.4
KGM	Kluang	15.82	318	⇓P	Pn	18 46 48.7	-0.1
KKM	Kota Kinabalu	16.00	9	ePn	Pn	18 46 51.5	+0.2
	450nm,0.8s						
PDSI	Padang	16.04	303	P	Pn	18 46 47.0	-4.6
	679nm,0.7s,8μm						
BKNI	Bangkinang	16.31	308	P	Pn	18 46 54.5	-0.5
	2μm,1.2s,25μm24μm						
BKNI	Bangkinang	16.31	308	ePn	Pn	18 46 54.0	-1.0
	2μm,1.0s						
BKNI	Bangkinang	16.31	308	⇓P	Pn	18 46 54.4	-0.6
	baz=16,SNR=44						
MSAI	Masohi	16.31	68	P	Pn	18 46 53.7	-1.4
	100nm,1.1s,1μm						
LBMI	Labuha	16.39	57	P	Pn	18 46 56.9	+0.8
	893nm,1.3s,11μm						
BNDI	Bandanaira	16.78	73	P	P	18 47 02.7	+0.4
	4μm,1.3s,52μm						
COCO	West Island	16.87	261	P	Pn	18 47 01.4	-0.6
	7μm,1.3s,SNR=11						
COCO	West Island	16.87	261	eP	Pn	18 47 01.3	-0.7
COCO				pmax	pmax		
	comp=Z,1μm,0.8s						
COCO	West Island	16.87	261	eP	Pn	18 47 01.2	-0.7
	comp=Z,1μm,0.8s						
KDM	Kudat	16.96	10	⇓P	P	18 47 05.1	+0.9
TNTI	Ternate	17.12	53	P	P	18 47 06.1	+0.1
	comp=Z,1μm,1.6s,comp=Z,26μm						
TNTI	Ternate	17.12	53	ePn	Pn	18 47 05.3	+0.3
	comp=Z,1μm,1.1s						
SAUI	Saumlaki	17.33	85	P	Pn	18 47 06.0	-1.8
	comp=Z,2μm,1.5s,comp=Z,21μm						
SAUI	Saumlaki	17.33	85	ePn	Pn	18 47 05.2	-2.5
	comp=Z,2μm,0.9s						
MNSI	Mandailing Nat	17.74	306	P	Pn	18 47 08.5	-4.3
	comp=Z,790nm,1.0s,comp=Z,8μm						
FRIM	Kepong	17.85	316	⇓P	Pn	18 47 14.2	0.0
KDU	Kakadu	18.46	100	⇓P	P	18 47 19.9	-0.9
	baz=18,SNR=35						
KTGM	Kuala Trenggan	18.52	324	⇑P	P	18 47 22.6	+0.4
IPM	Ipoh	19.17	318	eP	P	18 47 28.7	+0.1
	comp=Z,276nm,0.7s						
IPM	Ipoh	19.17	318	⇓P	Pn	18 47 30.2	+0.1
GSPH	General Santos	19.34	35	⇓eP	Pn	18 47 33.1	+1.0
SWI	Sorong	19.49	64	P	P	18 47 31.4	-0.7
	comp=Z,1μm,1.1s,comp=Z,11μm						
PSI	Prapat	19.50	310	P	P	18 47 29.7	-2.7
	comp=Z,2.6nm,0.3s,baz=150,slow=7.7,SNR=60						
PSI				S	S	18 51 03.1	-6.7
	comp=Z,0.8nm,0.3s,baz=180,slow=7.1,SNR=3.1						
PSI				LR	LR	18 56 51.4	
	comp=Z,5μm,18.8s,baz=130,slow=43						
FAKI	Fak Fak	19.53	70	P	P	18 47 30.3	-2.3
	comp=Z,657nm,0.9s,comp=Z,10μm						
FAKI	Fak Fak	19.53	70	eP	P	18 47 30.0	-2.6
	comp=Z,413nm,0.6s						
GSI	Gunungsitoli	19.66	304	P	P	18 47 31.3	-2.7
	comp=Z,510nm,0.8s,comp=Z,7μm						
GSI	Gunungsitoli	19.66	304	eP	P	18 47 30.6	-3.3
	comp=Z,399nm,0.9s						
CTBH	Cotabato--PC H	19.90	32	⇑eP	P	18 47 36.9	+0.4
PAGZ	Pagadian	20.01	29	eP	Pn	18 47 39.2	-0.7
KULM	Kulim	20.02	318	eP	P	18 47 37.9	0.0
KULM				LR	LR		
	comp=Z,9μm,21.0s						
KULM	Kulim	20.02	318	⇑P	P	18 47 38.8	+1.0
KULM	Kulim	20.02	318	⇓S	Sn	18 51 22.5	-2.4
TSI	Tuntungan	20.23	310	P	P	18 47 40.5	+0.4
	comp=Z,440nm,1.0s,comp=Z,6μm						
WRKA	Warakurna	20.38	139	⇑P	P	18 47 40.5	-1.3
	baz=20,SNR=577						
DAV	Davao City (W)	20.50	35	eP	Pn	18 47 44.8	-1.0
	comp=Z,886nm,1.0s						
DAV				LR	LR		
	comp=Z,5μm,22.0s						
KMPI	Kaimana, Papua	20.64	74	P	P	18 47 45.1	+0.5
	comp=Z,1μm,1.3s,comp=Z,16μm						
BLDU	Ballidu	20.79	173	⇓P	P	18 47 44.3	-1.7
	baz=21,SNR=19						
MATI	Mati	20.79	37	eP	P	18 47 47.1	+0.9
KCSI	Kotacane, Aceh	20.84	309	P	P	18 47 45.8	-1.0
	comp=Z,166nm,1.1s,comp=Z,3μm						
BUKP	Musuan	20.88	33	eP	P	18 47 48.1	+0.9
TPTI		21.14	307	P	P	18 47 47.3	-2.6
	comp=Z,98nm,0.9s,comp=Z,30μm						
CGP	Cagayan de Oro	21.18	31	⇓eP	P	18 47 49.9	-0.4
SNSI	Sinabang, Aceh	21.32	304	P	P	18 47 50.0	-1.8
	comp=Z,388nm,0.8s,comp=Z,7μm						
ENPP	El Nido	21.68	15	eP	P	18 47 56.6	+0.9
RKPI	Ransiki, Papua	21.85	69	P	P	18 47 56.4	-1.1
	comp=Z,1μm,0.7s,comp=Z,12μm						
TBP	Tagbilaran	21.85	27	eP	P	18 48 02.3	+4.7
KLBR	Kellerberrin	21.89	171	⇓P	P	18 47 56.5	-1.3
	baz=22,SNR=19						
BUTP	Butuan	22.09	32	eP	P	18 47 59.6	-0.6
WRA	Warramunga Arr	22.14	119	P	P	18 47 58.5	-2.3
	comp=Z,261nm,0.8s,baz=288,slow=11,SNR=295						
WRA				S	S	18 51 54.6	-6.8
	comp=Z,16nm,0.7s,baz=272,slow=24,SNR=4.8						
WRAB	Tennant Creek	22.15	119	dP	P	18 47 58.7	-2.0
WRAB				pmax	pmax		
	comp=Z,2μm,1.7s						
WRAB	Tennant Creek	22.15	119	eP	P	18 47 58.8	-2.0
WRAB				LR	LR		
	comp=Z,7μm,22.0s						
GUIM	Jordan	22.16	23	eP	P	18 48 01.2	+0.3
DLV	T Lat	22.34	346	eP	P	18 48 03.7	+0.7
	comp=Z,772nm,1.2s						
LLP	Lapu-Lapu	22.45	27	eP	P	18 48 03.2	-0.9
LHMI	Lhok Sumawe	22.57	311	P	P	18 48 06.1	+0.7
	comp=Z,545nm,1.0s,comp=Z,5μm						
LHMI	Lhok Sumawe	22.57	311	eP	P	18 48 04.5	-0.9
	comp=Z,436nm,0.9s						
LHMI	Lhok Sumawe	22.57	311	⇑P	P	18 48 06.3	+0.9
	baz=23,SNR=20						
BUSP	Coron	22.65	16	eP	P	18 48 07.0	+0.9
MSLP	Maasin	22.71	29	eP	P	18 48 05.9	-0.8
RCP	Roxas	23.07	23	⇑eP	P	18 48 09.5	-1.0
NWAO	Narrogin (SRO)	23.13	173	P	P	18 48 09.2	-1.8
	comp=Z,22nm,0.8s,baz=358,slow=8.3,SNR=18						
NWAO				S	S	18 52 12.2	-5.6
	comp=Z,74nm,0.3s,baz=281,slow=16,SNR=6.9						
NWAO				LR	LR	18 56 29.4	
	comp=Z,2μm,19.7s,baz=330,slow=35						
SJMP	San Jose	23.35	18	eP	P	18 48 13.9	+0.8
OCLP	Ormoc	23.39	27	eP	P	18 48 13.2	-0.3
PKDT	Phuket	23.48	318	P	P	18 48 14.9	+0.6
	comp=Z,826nm,0.9s,comp=Z,6μm						
ASAR	Alice Springs	23.53	128	P	P	18 48 13.2	-1.6
	comp=Z,262nm,0.9s,baz=302,slow=9.0,SNR=1302						
ASAR				PcP	PcP	18 51 59.8	+0.8
	comp=Z,5.9nm,0.8s,baz=0.0,slow=2.0,SNR=4.3						
ASAR				S	S	18 52 27.1	+2.6
	comp=Z,13nm,0.7s,baz=296,slow=18,SNR=3.0						
AS31	Alice Springs	23.53	128	eP	P	18 48 13.0	-1.9
SRPI	Serui, Papua	23.63	72	P	P	18 48 14.8	-1.0
	comp=Z,879nm,1.6s,comp=Z,16μm						
PLP	Palo	23.66	28	⇓eP	P	18 48 14.4	-1.6
BAKI	Biak	23.75	70	P	P	18 48 16.8	-0.1
	comp=Z,952nm,1.4s,comp=Z,16μm						
SURT	Suratani	23.99	321	P	P	18 48 20.1	+1.1
	comp=Z,277nm,1.0s,comp=Z,3μm						
FORT	Forrest	24.63	150	eP	P	18 48 23.0	-1.7
FORT	Forrest	24.63	150	P	P	18 48 23.2	-1.4
	baz=25,SNR=84						
AUQP	San Andres	24.67	21	eP	P	18 48 26.6	+1.5
RKGY	Rocky Gully	24.77	174	⇓P	P	18 48 24.9	-1.0
	baz=25,SNR=7.9						
TGY	Tagaytay City	24.85	17	P	P	18 48 28.1	+1.2
	comp=Z,151nm,0.4s,baz=225,slow=2.7,SNR=14						
TGY				LR	LR	19 00 10.0	
	comp=Z,45nm,20.4s,baz=123,slow=42						
LQP	Lukban	25.04	18	⇑eP	P	18 48 28.2	-0.6
GQP	Guinayangan	25.13	20	eP	P	18 48 31.0	+1.6
CHBT	CHBT	25.25	333	P	P	18 48 31.8	+1.4
	comp=Z,191nm,1.3s,comp=Z,3μm						
SMPI	Sarmi	25.91	74	P	P	18 48 36.3	-0.2
	comp=Z,729nm,1.5s,comp=Z,9μm						
CMBY	CAMPBELL BAY	26.01	309	eP	P	18 48 37.5	+0.1
CMBY				AMB	AMB	18 48 40.5	
	comp=Z,920nm,1.1s						
PATY	Pattaya	26.08	330	P	P	18 48 40.4	+2.4
	comp=Z,144nm,0.9s,comp=Z,1μm						
MMPI	Merauke	26.22	89	P	P	18 48 39.5	+0.2
	comp=Z,616nm,0.8s,comp=Z,8μm						
BALP	Baler	26.59	17	eP	P	18 48 42.7	+0.1
BCPH	Baguio City Da	26.94	14	⇓eP	P	18 48 39.8	-6.1
QIS	Mount Isa	26.96	116	⇑P	P	18 48 44.9	-1.1
	baz=27,SNR=98						
GENI	Genyem	27.12	76	P	P	18 48 46.5	-0.9
	comp=Z,301nm,0.9s,comp=Z,5μm						
JAY	Jayapura	27.66	76	P	P	18 48 51.5	-0.8
	comp=Z,105nm,1.3s,comp=Z,2μm						
CAUP	Cauayan	27.80	17	eP	P	18 48 53.3	-0.1
SZP	Santa	28.04	13	eP	P	18 48 55.7	+0.2
	comp=Z,525nm,1.4s						
SRDT	SRDT	28.18	329	P	P	18 48 58.8	+2.0
	comp=Z,618nm,1.6s,comp=Z,10μm						
ABRA	Dolores	28.19	14	eP	P	18 48 56.9	0.0
APYP	Conner	28.53	15	eP	P	18 48 58.4	-1.5
KHLT	Khaolaem Dam	28.83	328	P	P	18 49 04.4	+1.8
	comp=Z,72nm,1.1s,comp=Z,882nm						
COEN	Coen	28.95	101	eP	P	18 49 03.5	-0.3
	comp=Z,1μm,1.2s						
COEN	Coen	28.95	101	⇑P	P	18 49 03.4	-0.3
	baz=29,SNR=54						
QIZ	Qiongzhong	29.01	352	P	P	18 49 06.2	+2.0
QIZ				pP	pP	18 49 19.1	+0.2
QIZ				sP	sP	18 49 25.1	-0.8
QIZ				S	S	18 53 56.8	+5.4
QIZ				pmax	pmax		
	comp=Z,520nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,1μm,3.7s						
QIZ				LR	LR		
	comp=Z,2μm,22.5s						
QIZ				LR	LR		
	comp=Z,3μm,24.3s						
QIZ	Qiongzhong	29.01	352	eP	P	18 49 06.7	+2.5
	comp=Z,427nm,0.9s						
QIZ				LR	LR		
	comp=Z,3μm,21.0s						
PBKT	Sadao Pong	29.22	334	P	P	18 49 07.5	+1.4
	comp=Z,508nm,1.0s,comp=Z,6μm						
PBA	Port Blair	29.98	315	eP	P	18 49 13.4	+0.6
PBA				AMB	AMB	18 49 14.9	
	comp=Z,100nm,0.3s						
UTTA	Uttaradit	30.45	334	P	P	18 49 18.8	+1.9
	comp=Z,210nm,0.9s,comp=Z,2μm						
SUKH	Sukhothai	30.62	333	P	P	18 49 20.5	+2.1
	comp=Z,66nm,1.0s,comp=Z,730nm						
MTSU	Mount Surprise	30.63	109	⇑P	P	18 49 19.0	+0.4
	baz=31,SNR=268						
BBOO	Buckleboo	30.65	141	eP	P	18 49 16.5	-2.1
	comp=Z,2μm,0.9s						
BBOO	Buckleboo	30.65	141	⇓P	P	18 49 16.5	-2.1
	baz=31,SNR=88						
DGPR	DIGLIPUR	30.94	317	eP	P	18 49 20.7	-0.6
DGPR				AMB	AMB	18 49 23.2	
	comp=Z,204nm,0.8s						
LAMP	Lampang	31.53	334	P	P	18 49 28.7	+2.2
	comp=Z,156nm,1.0s,comp=Z,1μm						
CM31	Chiang Mai Arr	31.79	332	eP	P	18 49 30.3	+1.6
	comp=Z,139nm,0.6s						
CMAR	Chiang Mai Arr	31.79	332	P	P	18 49 30.4	+1.7
	comp=Z,190nm,0.8s,baz=164,slow=8.7,SNR=542						
CMAR				S	S	18 54 41.6	+6.7
	comp=Z,16nm,1.2s,baz=163,slow=13,SNR=6.6						
CMAR				LR	LR	19 04 34.0	
	comp=Z,4μm,18.0s,baz=174,slow=41						
CMMT	Chiang Mai	32.09	333	P	P	18 49 32.7	+1.3
	comp=Z,373nm,1.5s,comp=Z,5μm						
CHTO	Chiang Mai	32.10	333	eP	P	18 49 32.7	+1.3
CHTO				MLR	MLR		
	comp=Z,4μm,19.0s						
CHTO	Chiang Mai	32.10	333	P	P	18 49 32.8	+1.3
	comp=Z,1μm,1.3s,comp=Z,18μm						
CHTO	Chiang Mai	32.10	333	eP	P	18 49 32.7	+1.3
CHTO				LR	LR		
	comp=Z,4μm,19.0s						
SLVN	Son La	32.54	343	eP	P	18 49 37.6	+2.3
GZH	Guangzhou	32.78	359	P	P	18 49 43.6	+6.3
GZH				S	S	18 55 00.3	+10
GZH				LR	LR		
	comp=Z,2μm,23.3s						
GZH				LR	LR		
	comp=Z,4μm,24.7s						
PMG	Port Moresby	32.82	92	eP	P	18 49 37.8	-0.1
PMG				S	S	18 54 51.8	+0.6
PMG				pmax	pmax		
	comp=Z,69nm,1.1s						
PMG				MLR	MLR		
	comp=Z,4μm,22.0s						
PMG	Port Moresby	32.82	92	P	P	18 49 38.1	+0.2
	comp=Z,30nm,1.0s,baz=310,slow=7.1,SNR=23						
PMG				S	S	18 54 51.8	+0.6
	comp=Z,12nm,1.1s,baz=173,slow=19,SNR=2.8						
PMG	Port Moresby	32.82	92	eP	P	18 49 37.8	-0.1
	comp=Z,69nm,1.1s						
PMG				S	S	18 54 51.8	+0.6
PMG				LR	LR		
	comp=Z,4μm,22.0s						
PMG	Port Moresby	32.82	92	P	P	18 49 39.3	+1.4
	baz=33,SNR=11						
CTA	Charters Tower	32.83	112	P	P	18 49 38.3	+0.4
	comp=Z,42nm,0.7s,baz=282,slow=11,SNR=80						
CTAO	Charters Tower	32.83	112	eP	P	18 49 38.1	+0.1
CTAO				MLR	MLR		
	comp=Z,3μm,20.0s						
CTAO	Charters Tower	32.83	112	eP	P	18 49 38.1	+0.1
CTAO				LR	LR		
	comp=Z,3μm,20.0s						
HTT	Hallett	32.86	139	⇓P	P	18 49 36.7	-1.4
	baz=33,SNR=64						
CMAI	Chiengmai2	33.03	334	P	P	18 49 41.1	+1.3
	comp=Z,350nm,1.2s						
QLP	Quilpie	33.15	124	⇑P	P	18 49 39.9	-0.7
	baz=33,SNR=54						
TWG	Pinlang	33.27	12	eP	P	18 49 38.3	-3.3
TPUB	Ta-pu	33.65	11	eP	P	18 49 44.5	-0.4
	comp=Z,198nm,1.1s						
STKA	Stephens Creek	33.73	135	eP	P	18 49 44.8	-0.8
STKA				pmax	pmax		
	comp=Z,46nm,0.8s						

Sta	Name	Dist	Az	Ph	Phase	Time	Res
STKA	Stephens Creek	33.73	135	P	P	18 49 44.8	-0.8
	comp=Z,242nm,0.7s,baz=307,slow=8.6,SNR=485						
STKA				LR	LR	19 04 19.0	
	comp=Z,6µm,21.5s,baz=303,slow=38						
STKA	Stephens Creek	33.73	135	eP	P	18 49 44.8	-0.8
	comp=Z,46nm,0.8s						
STKA	Stephens Creek	33.73	135	⇑P	P	18 49 44.3	-1.3
	baz=34,SNR=337						
YULB	Yu-li	33.87	12	eP	P	18 49 46.2	-0.7
	comp=Z,68nm,1.0s						
SSLB	Suanglung	34.19	12	eP	P	18 49 50.0	+0.4
	comp=Z,235nm,1.1s						
NACB	Ninganchiao	34.69	12	eP	P	18 49 52.7	-1.3
	comp=Z,149nm,1.1s						
QZH	Quanzhou	34.93	8	⇑iP	P	18 49 56.6	+0.6
QZH				S	S	18 55 23.2	-0.2
QZH				pmax	pmax		
	comp=Z,2µm,1.7s						
QZH				LR	LR		
	comp=Z,3µm,18.2s						
QZH				LR	LR		
	comp=Z,2µm,14.7s						
QZH				LR	LR		
	comp=Z,6µm,22.6s						
YHNB	Yeheng	35.13	12	eP	P	18 49 57.6	-0.1
	comp=Z,249nm,1.2s						
YHNB				LR	LR		
	comp=Z,3µm,20.0s						
TATO	Taipei	35.45	12	PFAKE		18 50 10.0	+10
TATO				LR	LR		
	comp=Z,5µm,20.0s						
KMI	Kunming	36.45	343	P	P	18 50 12.4	+3.1
KMI				pP	pP	18 50 21.4	-2.9
KMI				sP	sP	18 50 33.6	+2.4
KMI				S	S	18 55 51.6	+4.3
KMI				sS	ScP	18 56 15.8	+1.7
KMI				pmax	pmax		
	comp=Z,780nm,1.1s						
KMI				pmax	pmax		
	comp=Z,3µm,3.1s						
KMI				LR	LR		
	comp=Z,3µm,18.0s						
KMI				LR	LR		
	comp=Z,3µm,17.5s						
KMI				LR	LR		
	comp=Z,3µm,18.9s						
CMSA	Cobar Meteorol	36.52	131	⇓P	P	18 50 09.1	-0.5
	baz=36,SNR=38						
GYA	Guiyang	36.80	349	⇑iP	P	18 50 13.7	+1.5
GYA				pP	pP	18 50 29.8	+2.7
GYA				sP	sP	18 50 36.2	+2.1
GYA				PP	PnPn	18 51 43.0	+5.3
GYA				PcP	PcP	18 52 34.9	+1.6
GYA				S	S	18 55 53.5	+1.1
GYA				ScP	ScP	18 56 15.4	+0.2
GYA				sS	sS	18 56 22.0	+4.3
GYA				SS	SnSn	18 58 29.6	+0.5
GYA				pmax	pmax		
	comp=Z,860nm,1.0s						
GYA				pmax	pmax		
	comp=Z,1µm,4.0s						
GYA				LR	LR		
	comp=Z,2µm,25.2s						
GYA				LR	LR		
	comp=Z,3µm,24.2s						
GYA				LR	LR		
	comp=Z,3µm,24.0s						
ARPS	Mount Arapiles	36.83	141	⇓P	P	18 50 11.2	-1.0
	baz=37,SNR=18						
RMQ	Roma	36.87	121	⇑P	P	18 50 13.0	+0.3
	baz=37,SNR=11						
PALK	Pallekele	37.17	296	eP	P	18 50 16.5	+1.1
PALK				pmax	pmax		
	comp=Z,106nm,1.1s						
PALK	Pallekele	37.17	296	eP	P	18 50 16.4	+1.1
	comp=Z,106nm,1.1s						
RABL	Rabaul	38.41	84	⇑P	P	18 50 25.7	-0.2
	baz=39,SNR=4.8						
EIDS	Eidsvold	38.50	118	eP	P	18 50 26.7	+0.2
	comp=Z,340nm,2.5s						
EIDS	Eidsvold	38.50	118	⇓P	P	18 50 26.0	-0.5
	baz=38,SNR=12						
GUMO	Guam	38.62	53	eP	P	18 50 26.5	-1.0
GUMO				pmax	pmax		
	comp=Z,2µm,0.6s						
GUMO				MLR	MLR		
	comp=Z,2µm,21.0s						
GUMO	Guam	38.62	53	eP	P	18 50 26.5	-1.0
	comp=Z,2µm,0.6s						
GUMO				LR	LR		
	comp=Z,2µm,21.0s						
JOW	Kunigami	39.10	21	P	P	18 50 30.5	-0.8
	comp=Z,17nm,0.8s,baz=220,slow=6.6,SNR=13						
JOW	Kunigami	39.10	21	eP	P	18 50 32.1	+0.8
	comp=Z,88nm,1.1s						
YNG	Young	39.85	133	P	P	18 50 37.7	0.0
	baz=40,SNR=40						
ENH	Enshi	40.15	354	eP	P	18 50 41.0	+0.8
	comp=Z,1µm,1.2s						
ENH				LR	LR		
	comp=Z,1µm,20.0s						
WHN	Wuhan	40.21	1	⇑iP	P	18 50 41.7	+1.2
WHN				S	S	18 56 44.9	+1.6
WHN				pmax	pmax		
	comp=Z,1µm,1.0s						
WHN				LR	LR		
	comp=Z,7µm,24.7s						
MDRS	Chennai	40.43	304	eS	S	18 56 49.2	+2.1
ARMA	Armidale	40.64	126	eP	P	18 50 44.5	+0.2
ARMA	Armidale	40.64	126	⇑P	P	18 50 43.6	-0.8
	baz=41,SNR=12						
VIS	Vishakhapatnam	40.77	312	eP	P	18 50 45.7	+0.3
VIS				AMB	AMB	18 50 51.0	
	comp=Z,246nm,0.9s						
CAN	Canberra	40.78	134	eP	P	18 50 44.9	-0.5
CAN				pmax	pmax		
	comp=Z,175nm,1.8s						
CAN				MLR	MLR		
	comp=Z,5µm,21.0s						
CAN	Canberra	40.78	134	eP	P	18 50 44.9	-0.5
	comp=Z,174nm,1.8s						
CAN				LR	LR		
	comp=Z,5µm,21.0s						
H08S2	Diego Garcia H	40.93	270	P	P	18 50 48.2	+1.7
	baz=61,slow=11,SNR=7.1						
H08S2				T	T	19 33 55.3	
	baz=96,slow=75,SNR=45						
H08S3	Diego Garcia H	40.94	270	P	P	18 50 48.3	+1.7
	baz=61,slow=11,SNR=5.3						
H08S3				T	T	19 34 01.2	
	baz=96,slow=75,SNR=37						
H08S1	Diego Carcia H	40.95	270	P	P	18 50 47.7	+1.1
	baz=61,slow=11,SNR=5.3						
H08S1				T	T	19 33 58.8	
	baz=96,slow=75,SNR=53						
DGAR	Diego Garcia	40.99	270	eP	P	18 50 47.0	-0.3
DGAR				pmax	pmax		
	comp=Z,154nm,0.9s						
DGAR				MLR	MLR		
	comp=Z,3µm,20.0s						
DGAR	Diego Garcia	40.99	270	eP	P	18 50 47.0	-0.3
	comp=Z,154nm,0.9s						
DGAR				LR	LR		
	comp=Z,3µm,20.0s						
TRD	Trivandrum	41.04	295	eP	P	18 50 48.7	+1.0
TRD				⇑ex	x	18 51 06.9	
CNB	Canberra Magne	41.04	134	⇑P	P	18 50 47.1	-0.4
	baz=41,SNR=4.9						
SHL	Shillong	41.23	329	eP	P	18 50 50.0	+0.7
SHL				AMB	AMB	18 50 57.0	
	comp=Z,315nm,0.7s						
SHL				ex	x	18 56 58.0	
SSE	Sheshan	41.36	10	⇑P	P	18 50 51.0	+1.0
SSE				pP	pP	18 51 04.2	-0.9
SSE				PcP	PcP	18 52 48.8	+1.4
SSE				S	S	18 57 02.1	+1.7
SSE				sS	sS	18 57 26.0	0.0
SSE				pmax	pmax		
	comp=Z,440nm,1.0s						
SSE				pmax	pmax		
	comp=Z,1µm,5.3s						
SSE				LR	LR		
	comp=Z,2µm,21.7s						
SSE				LR	LR		
	comp=Z,650nm,21.7s						
SSE				LR	LR		
	comp=Z,2µm,23.7s						
MGCD	Mangrove Creek	41.36	130	⇑P	P	18 50 50.7	+0.6
	baz=41,SNR=7.2						
CD2	Chengdu	41.71	347	P	P	18 50 54.0	+1.0
CD2				pP	pP	18 51 08.1	0.0
CD2				sP	sP	18 51 14.6	-0.4
CD2				PP	PnPn	18 52 35.4	-0.4
CD2				PcP	PcP	18 52 48.5	-0.2
CD2				PcS	PcS	18 56 39.0	-1.3
CD2				S	S	18 57 03.5	-2.3
CD2				sS	sS	18 57 33.4	+1.9
CD2				SS	SS	19 00 12.5	-1.1
CD2				pmax	pmax		
	comp=Z,2µm,1.3s						
CD2				pmax	pmax		
	comp=Z,3µm,3.5s						
CD2				LR	LR		
	comp=Z,3µm,18.4s						
CD2				LR	LR		
	comp=Z,3µm,29.7s						
NJ2	Nanjing	41.98	6	eP	P	18 50 56.2	+1.2
NJ2				S	S	18 57 12.0	+2.4
NJ2				LR	LR		
	comp=Z,3µm,26.7s						
NJ2				LR	LR		
	comp=Z,4µm,31.5s						
NJ2				LR	LR		
	comp=Z,4µm,29.2s						
H08N1	Diego Carcia H	42.54	271	T	T	19 35 36.0	
	baz=217,slow=70,SNR=174						
H08N2	Diego Garcia H	42.56	271	T	T	19 35 35.1	
	baz=217,slow=70,SNR=151						
H08N3	Diego Garcia H	42.56	271	T	T	19 35 35.3	
	baz=217,slow=70,SNR=207						
AIS	Amsterdam Isla	42.84	224	P	P	18 51 03.0	+1.0
AIS				S	S	18 57 25.0	+2.8
AIS				R		19 02 00.0	
BOK	Bokaro	43.23	321	eP	P	18 51 06.4	+1.0
XAN	Xi'an	43.94	354	P	P	18 51 11.3	+0.3
XAN				PcS	PcS	18 56 49.4	+0.2
XAN				S	S	18 57 34.1	-4.4
XAN				ScS	SS	19 00 59.3	+2.1
XAN				pmax	pmax		
	comp=Z,170nm,1.5s						
XAN				pmax	pmax		
	comp=Z,470nm,4.4s						
XAN				LR	LR		
	comp=Z,2µm,25.4s						
XAN				LR	LR		
	comp=Z,980nm,23.4s						
TAU	Tasmania Unive	43.97	144	PFAKE		18 51 20.0	+9.0
TAU				LR	LR		
	comp=Z,3µm,19.0s						
HYB	Hyderabad	44.20	308	iP	P	18 51 12.0	-1.3
	comp=Z,125nm,1.0s						
HYB				epP	pP	18 51 27.0	-1.6
HYB				esP	sP	18 51 32.5	-2.9
HYB				eS	S	18 57 38.0	-4.7
HYB				eScS	SS	19 01 04.0	+1.3
HYB	Hyderabad	44.20	308	eP	P	18 51 13.4	+0.1
ODAN	Odare	44.67	325	eP	P	18 51 17.5	+0.4
	comp=Z,696nm,0.7s						
TAPN	Taplejung	44.87	326	eP	P	18 51 19.6	+0.8
	comp=Z,637nm,0.7s						
LSA	Lhasa	45.03	332	P	P	18 51 21.7	+1.4
LSA				sP	sP	18 51 36.6	-5.8
LSA				S	S	18 57 48.6	-6.7
LSA				LR	LR		
	comp=Z,2µm,30.4s						
LSA				LR	LR		
	comp=Z,3µm,33.9s						
LSA	Lhasa	45.03	332	eP	P	18 51 21.4	+1.1
LSA				pmax	pmax		
	comp=Z,200nm,0.8s						
LSA				MLR	MLR		
	comp=Z,3µm,22.0s						
LSA	Lhasa	45.03	332	eP	P	18 51 21.4	+1.1
	comp=Z,200nm,0.8s						
LSA				LR	LR		
	comp=Z,3µm,22.0s						
RAMN	Ramite	45.18	325	eP	P	18 51 21.7	+0.5
	comp=Z,236nm,0.5s						
KSJDO	Jindo	45.67	14	P	P	18 51 25.8	+1.1
	SNR=5.2						
JNU	Nakatsue	45.75	20	P	P	18 51 23.8	-1.5
	baz=305,slow=0.5						
JNU	Nakatsue	45.75	20	eP	P	18 51 24.5	-0.8
	comp=Z,194nm,1.2s						
CBIJ	Chichi jima	45.90	36	eP	P	18 51 23.9	-2.7
	comp=Z,802nm,1.4s						
JCJ	Chichijima	45.90	36	P	P	18 51 24.7	-1.9
	comp=Z,360nm,0.7s,baz=259,slow=4.7,SNR=22						
JIRN	Jiri	45.96	325	eP	P	18 51 28.0	+0.5
	comp=Z,1µm,0.6s						
TIA	Tai'an	45.96	4	⇑P	P	18 51 26.7	-0.2
TIA				S	S	18 58 05.2	-2.3
TIA				pmax	pmax		
	comp=Z,460nm,1.1s						
TIA				LR	LR		
	comp=Z,2µm,19.6s						
TIA				LR	LR		
	comp=Z,700nm,14.3s						
TIA				LR	LR		
	comp=Z,2µm,20.2s						
NGP	Nagpur	46.06	312	eP	P	18 51 28.8	+0.8
NGP				ex	x	18 51 34.7	
	comp=Z,324nm,1.2s						
NGP				ex	x	18 58 05.6	
GUN	Gumba	46.33	325	eP	P	18 51 30.9	+0.5
	comp=Z,984nm,0.5s						
PKI	Pulchoki	46.34	324	eP	P	18 51 30.4	0.0
	comp=Z,306nm,0.6s						
PKIN	Phulchoki	46.35	324	eP	P	18 51 30.3	-0.1
	comp=Z,239nm,0.5s						
DMN	Daman	46.54	324	eP	P	18 51 32.1	+0.2
KKN	Kakani	46.58	324	eP	P	18 51 32.2	0.0
	comp=Z,274nm,0.6s						
LZH	Lanzhou	46.70	349	⇑P	P	18 51 34.3	+1.4
LZH				pP	pP	18 51 50.4	+2.1
LZH				sP	sP	18 51 57.0	+1.9
LZH				PP	PP	18 53 23.0	-0.6
LZH				S	S	18 58 18.5	+0.1
LZH				sS	sS	18 58 42.2	-2.2
LZH				SS	SS	19 01 41.4	-4.2
LZH				pmax	pmax		
	comp=Z,2µm,1.3s						
LZH				pmax	pmax		
	comp=Z,4µm,4.0s						
LZH				LR	LR		
	comp=Z,2µm,15.1s						
LZH				LR	LR		
	comp=Z,1µm,13.4s						
LZH				LR	LR		
	comp=Z,4µm,19.0s						
GOA	Goa	47.00	302	eP	P	18 51 36.1	+0.7
GKN	Gorkha	47.11	324	eP	P	18 51 36.3	0.0
	comp=Z,454nm,0.4s						
TIY	Taiyuan	47.37	358	P	P	18 51 38.8	+0.8
TIY				pP	pP	18 51 52.0	-1.5
TIY				PP	PP	18 53 29.3	-0.6
TIY				S	S	18 58 25.5	-2.3
TIY				pmax	pmax		
	comp=Z,160nm,0.7s						
TIY				pmax	pmax		
	comp=Z,2µm,5.4s						
KOLN	Koldanda	47.55	323	eP	P	18 51 39.7	0.0
	comp=Z,901nm,0.6s						
KAD	Karad	47.63	304	eP	P	18 51 40.2	-0.1
TJN	Taejon	47.75	15	eP	P	18 51 41.4	+0.6
KSCPR	CHUPUNGNYEONG	47.76	15	P	P	18 51 42.5	+1.6
	SNR=8.1						
DANN	Dangsing	47.88	323	eP	P	18 51 42.7	+0.3
	comp=Z,1µm,0.6s						
KSBON	Boeun	47.97	15	P	P	18 51 43.7	+1.0
	SNR=5.6						
KSCEA	Cheonan	48.14	14	P	P	18 51 44.7	+0.8
	SNR=5.8						
KSCHJ	Chungju	48.37	15	P	P	18 51 46.8	+1.2
	SNR=6.1						
BHPL	Bhopal	48.53	313	eP	P	18 51 46.8	-0.4
BHPL				AMB	AMB	18 51 53.5	
	comp=Z,147nm,1.0s						
POO	Poona	48.54	306	eP	P	18 51 47.2	-0.1
POO				iPCP	PcP	18 53 13.0	+0.5
INCN	Inchon	48.62	14	eP	P	18 51 47.5	-0.1
	comp=Z,236nm,1.4s						
INCN				LR	LR		
	comp=Z,2µm,22.0s						
KSGAH	Ganghwa	48.80	13	P	P	18 51 50.4	+1.5
	SNR=6.7						
KSTBA	Taebaek	48.87	16	P	P	18 51 50.6	+1.1
	SNR=7.2						
KSAR	Wonju Array Be	48.89	15	P	P	18 51 49.5	-0.1
KSAR						18 53 15.4	
KSAR	Wonju Array Be	48.89	15	P	P	18 51 49.5	-0.1
KSAR				PcP	PcP	18 53 15.4	+2.1
KSWJU	Wonju	48.89	15	P	P	18 51 50.9	+1.2
	SNR=12						
KSRS	Korea Array	48.91	15	P	P	18 51 49.5	-0.3
	comp=Z,279nm,1.0s,baz=195,slow=7.6,SNR=223						
KSRS				PcP	PcP	18 53 15.4	+2.0
	comp=Z,13nm,0.8s,baz=188,slow=6.2,SNR=2.4						
DL2	Dalian	49.08	8	⇑iP	P	18 51 51.0	-0.1
DL2				S	S	18 58 46.5	-5.2
DL2				pmax	pmax		
	comp=Z,560nm,1.3s						
DL2				pmax	pmax		
	comp=Z,2µm,2.9s						
DL2				LR	LR		
	comp=Z,1µm,26.3s						
DL2				LR	LR		
	comp=Z,1µm,25.8s						
KSCHC	Chuncheon	49.19	15	P	P	18 51 53.6	+1.7
	SNR=5.1						
YNCB	YEONCHEON	49.22	14	P	P	18 51 53.6	+1.4
	SNR=8.3						
KSCWO	Cheorwon	49.41	14	P	P	18 51 54.8	+1.2
	SNR=15						
KSIJA	INJE	49.46	15	P	P	18 51 55.2	+1.2
	SNR=9.3						
KSJMJ	Jumunjin	49.53	16	P	P	18 51 55.8	+1.3
	SNR=12						
BJT	Baijiatuau	49.70	2	eP	P	18 51 54.8	-1.0
BJT				pmax	pmax		
	comp=Z,923nm,1.3s						
BJT				MLR	MLR		
	comp=Z,2µm,21.0s						
BJT	Baijiatuau	49.70	2	eP	P	18 51 54.8	-1.0
	comp=Z,923nm,1.3s						
BJT				LR	LR		
	comp=Z,2µm,21.0s						
BJI	Beijing	49.73	2	P	P	18 51 56.0	+0.1
BJI				sP	sP	18 52 17.8	-0.5
BJI				PP	PP	18 53 50.5	-0.6
BJI				S	S	18 58 58.9	-1.8
BJI				sS	sS	18 59 27.1	+0.2
BJI				pmax	pmax		
	comp=Z,580nm,1.3s						
BJI				LR	LR		
	comp=Z,2µm,26.1s						
BJI				LR	LR		
	comp=Z,680nm,17.4s						
BJI				LR	LR		
	comp=Z,2µm,28.1s						
KSSKC	Sokcho	49.85	15	P	P	18 51 58.4	+1.5
	SNR=20						
BTO	Baotou	50.37	356	eP	P	18 52 01.9	+0.9
HHC	Hu-ho-hao-te	50.53	358	eP	P	18 52 02.3	+0.1
HHC				sP	sP	18 52 24.7	+0.1
HHC				S	S	18 59 08.2	-4.0
HHC				ScS	ScS	19 01 45.8	-2.1
HHC				pmax	pmax		
	comp=Z,400nm,1.0s						
HHC				pmax	pmax		
	comp=Z,2µm,5.3s						
HHC				LR	LR		
	comp=Z,2µm,24.3s						
HHC				LR	LR		
	comp=Z,1µm,20.4s						
HHC				LR	LR		
	comp=Z,3µm,26.2s						
GTA	Gaotai	50.76	346	⇑P	P	18 52 05.3	+1.3
GTA				pP	pP	18 52 15.1	-4.5
GTA				ScP	ScP	18 57 14.5	+2.9
GTA				S	S	18 59 18.3	+2.9
GTA				ScS	ScS	19 01 49.0	-0.6
GTA				SS	SS	19 02 49.7	-1.2
GTA				pmax	pmax		
	comp=Z,250nm,1.2s						
GTA				pmax	pmax		
	comp=Z,2µm,4.7s						
GTA				LR	LR		
	comp=Z,1µm,20.4s						
GTA				LR	LR		
	comp=Z,1µm,20.4s						
GTA				LR	LR		
	comp=Z,2µm,22.8s						
LGTI	Lohaghat	50.79	321	eP	P	18 52 06.9	+2.7
MAJO	Matsushiro	51.56	25	eP	P	18 52 08.3	-1.6
MAJO				pmax	pmax		
	comp=Z,583nm,1.3s						
MAJO				MLR	MLR		
	comp=Z,1µm,21.0s						
MAJO	Matsushiro	51.56	25	eP	P	18 52 08.3	-1.6
	comp=Z,583nm,1.3s						
MAJO				LR	LR		
	comp=Z,1µm,21.0s						
MAT	Matsushiro	51.56	25	P	P	18 52 07.8	-2.1
MJAR	Matsushiro Arr	51.56	25	P	P	18 52 08.2	-1.6
	comp=Z,244nm,1.0s,baz=204,slow=9.0,SNR=136						
MJAR				PcP	PcP	18 53 23.8	+0.6
	comp=Z,29nm,1.1s,baz=192,slow=5.2,SNR=1.9						
DZM	Mont Dzumac	51.75	110	eP	P	18 52 12.5	+0.8
	comp=Z,76nm,1.3s						
DZM				eS	S	18 59 28.9	-0.8
	comp=Z,3µm,28.1s						
DZM				eLR	LR	19 06 54.7	
	comp=Z,5µm,22.7s						
DZM	Mont Dzumac	51.75	110	P	P	18 52 12.4	+0.6
	comp=Z,16nm,1.0s,baz=347,slow=5.3,SNR=5.8						
DZM				LR	LR	19 15 01.5	
	comp=Z,4µm,19.4s,baz=274,slow=37						
DZM	Mont Dzumac	51.75	110	eP	P	18 52 11.5	-0.2
	comp=Z,26nm,0.9s						
NDI	New Delhi	52.18	318	eP	P	18 52 14.0	-0.7
NDI				ex	x	18 59 29.0	
SNY	Shenyang	52.23	9	⇑P	P	18 52 13.8	-1.0
SNY				S	S	18 59 30.4	-4.9
SNY				pmax	pmax		
	comp=Z,500nm,1.5s						
SNY				pmax	pmax		
	comp=Z,3µm,3.5s						
SNY				LR	LR		
	comp=Z,2µm,23.4s						
SNY				LR	LR		
	comp=Z,840nm,27.0s						
SNY				LR	LR		
	comp=Z,1µm,19.8s						
AJM	Ajmer	52.52	314	ex	P	18 52 17.0	-0.2
DDI	Dehra Dun	52.76	321	eP	P	18 52 17.8	-1.1
DDI				AMB	AMB	18 52 36.7	
	comp=Z,169nm,1.1s						
PAF	Port-aux-Franc	53.46	214	PFAKE		18 52 40.0	+16
PAF				LR	LR		
	comp=Z,4µm,22.0s						
PAF	Port-aux-Franc	53.46	214	P	P	18 52 16.0	-7.8
PAF				S	S	18 59 43.0	-8.9
PAF				R		19 07 00.0	
SMLA	Simla	53.86	321	eP	P	18 52 26.4	-0.6
SMLA				AMB	AMB	18 52 28.1	
	comp=Z,156nm,0.7s						
SDNR	Sundarnagar	54.24	321	eP	P	18 52 29.0	-0.8
BHJ	Bhuj	54.37	308	eP	P	18 52 32.0	+1.2
BHJ				AMB	AMB	18 52 50.4	
	comp=Z,179nm,1.0s						
CN2	Changchun	54.47	10	⇑P	P	18 52 29.8	-1.3
CN2				pmax	pmax		
	comp=Z,30nm,1.3s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,500nm,18.0s						
CN2				LR	LR		
	comp=Z,800nm,18.0s						
CN2				LR	LR		
	comp=Z,1µm,21.0s						
BHK	Bhakra	54.53	320	eP	P	18 52 32.2	+0.3
DHRM	DHARAMSHALA	55.17	321	eP	P	18 52 36.2	-0.6
DHRM				AMB	AMB	18 52 54.7	
	comp=Z,254nm,1.4s						
VLA	Vladivostok	55.26	16	c iP	P	18 52 36.6	-0.3
VLA				pmax	pmax		

comp=Z,439nm,1.3s
MDJ Mudanjiang 56.09 13 P P 18 52 42.6 -0.2
MDJ pP pP 18 52 56.3 -2.3
MDJ sP sP 18 53 02.3 -3.0
MDJ PP PP 18 54 48.2 -0.3
MDJ S S 19 00 26.6 -0.7
MDJ ScS ScS 19 02 26.1 -0.6
MDJ SS SS 19 04 15.0 +0.4
MDJ pmax pmax
comp=Z,670nm,1.3s
MDJ pmax pmax
comp=Z,1µm,4.7s
MDJ LR LR
comp=Z,2µm,29.8s
MDJ LR LR
comp=Z,850nm,29.8s
MDJ LR LR
comp=Z,3µm,28.3s
MDJ Mudanjiang 56.09 13 eP P 18 52 42.3 -0.5
comp=Z,775nm,1.1s
MDJ LR LR
comp=Z,789nm,22.0s
USRK Ussuriysk Arra 56.29 16 P P 18 52 43.9 -0.4
comp=Z,532nm,0.9s,baz=198,slow=6.4,SNR=375
USRK LR LR 19 19 11.6
comp=Z,263nm,19.3s,baz=192,slow=39
CASY Casey 56.35 182 epP pP 18 53 00.8 +0.6
CASY LR LR
comp=Z,3µm,22.0s
RER Riviere de l'E 56.84 251 PFAKE 18 53 00.0 +11
RER LR LR
comp=Z,2µm,22.0s
DCZ Deep Cove 57.61 138 eP P 18 52 54.5 +0.8
comp=Z,268nm,1.9s
ULN Ulaanbaatar 57.82 355 eP P 18 52 55.4 +0.2
ULN pmax pmax
comp=Z,424nm,0.9s
ULN MLR MLR
comp=Z,1µm,19.0s
ULN Ulaanbaatar 57.82 355 eP P 18 52 55.4 +0.2
comp=Z,424nm,0.9s
ULN LR LR
comp=Z,1µm,19.0s
SONM Songino Array 57.85 354 P P 18 52 56.0 +0.6
SONM Songino Array 57.85 354 P P 18 52 56.0 +0.6
comp=Z,288nm,0.7s,baz=173,slow=7.7,SNR=510
SONM LR LR 19 19 22.5
comp=Z,1µm,21.5s,baz=178,slow=38
MSEY Mahe Island 58.08 271 iP P 18 53 00.7 +3.1
MSEY Mahe Island 58.08 271 PFAKE 18 53 10.0 +12
MSEY LR LR
comp=Z,2µm,21.0s
ERM Erimo 58.23 25 P P 18 52 58.4 +0.5
comp=Z,820nm,1.0s,SNR=8.9
ERM Erimo 58.23 25⇑iP P 18 52 58.3 +0.4
ERM pmax pmax
comp=Z,329nm,1.7s
ERM Erimo 58.23 25 eP P 18 52 57.9 0.0
comp=Z,186nm,1.0s
ERM LR LR
comp=Z,1µm,22.0s
WHZ Wether Hill Ro 58.28 138 eP P 18 52 58.6 +0.3
comp=Z,51nm,1.2s
WMQ Urumqi 58.51 338 P P 18 53 00.7 +0.7
WMQ pP pP 18 53 16.7 +0.8
WMQ sP sP 18 53 23.7 +1.1
WMQ PcP PcP 18 53 49.9 0.0
WMQ PP PP 18 55 13.0 +2.8
WMQ PcS PcS 18 57 50.0 -1.5
WMQ S S 19 00 59.1 -0.2
WMQ sS sS 19 01 26.5 +0.5
WMQ ScS ScS 19 02 43.7 -0.9
WMQ SS SS 19 04 55.4 +2.5
WMQ pmax pmax
comp=Z,120nm,0.8s
WMQ pmax pmax
comp=Z,2µm,4.6s
WMQ LR LR
comp=Z,1µm,18.2s
WMQ LR LR
comp=Z,1µm,20.0s
WMQ LR LR
comp=Z,2µm,22.8s
HIA Hailar 59.13 4 eP P 18 53 03.6 -0.6
HIA pmax pmax
comp=Z,159nm,0.9s
HIA MLR MLR
comp=Z,909nm,19.0s
HIA Hailar 59.13 4 eP P 18 53 03.5 -0.6
comp=Z,159nm,0.9s
HIA LR LR
comp=Z,909nm,19.0s
DRV Dumont d'Urvil 59.41 168 P P 18 53 06.0 +0.2
DRV S S 19 01 11.0 +0.9
DRV L L 19 07 00.0
DRV R R 19 10 00.0
RPZ Rata Peaks 59.69 135 eP P 18 53 08.1 -0.1
comp=Z,98nm,1.0s
OUZ Omahuta 59.70 125 eP P 18 53 09.9 +1.5
comp=Z,54nm,1.4s
OUZ epP pP 18 53 22.7 -1.5
ASAJ Asahikawa 59.74 24 P P 18 53 07.5 -0.9
comp=Z,99nm,0.7s,baz=238,slow=7.6,SNR=87
ASAJ Asahikawa 59.74 24 eP P 18 53 08.3 -0.1
comp=Z,112nm,1.1s
ODZ Otahua Downs 59.80 137 epP pP 18 53 22.4 -2.4
TARA Tarawa 59.84 83 PFAKE 18 53 20.0 +10
TARA LR LR
comp=Z,3µm,21.0s
KSH Kashi 60.44 327 P P 18 53 12.6 -0.9
KSH epP pP 18 53 31.0 +1.6
KSH esP sP 18 53 34.7 -1.4
KSH ePP PP 18 55 29.3 +1.9
KSH S S 19 01 18.8 -5.6
KSH eScS SKKSac 19 02 55.8 -3.3
KSH eSS SS 19 05 20.6 -2.9
KSH pmax pmax
comp=Z,73nm,0.6s
KSH pmax pmax
comp=Z,420nm,2.9s
KSH LR LR
comp=Z,1µm,19.7s
KSH LR LR
comp=Z,1µm,18.8s
KSH LR LR
comp=Z,1µm,19.2s
ZAK Zakamensk 60.73 352⇓iP P 18 53 14.6 -0.6
ZAK e 19 01 28.3
ZAK pmax pmax
comp=Z,123nm,1.2s
KLR Kul'dur 60.94 13⇓iP P 18 53 11.3 -5.1
KLR eS S 19 01 23.5 -6.6
KLR e 19 05 28.0
KLR pmax pmax
comp=N,170nm,1.8s
KLR pmax pmax
comp=E,130nm,1.8s
KLR pmax pmax
comp=Z,700nm,1.8s
KLR pmax pmax
comp=N,800nm,7.5s
KLR pmax pmax
comp=Z,2µm,7.5s
KLR smax smax
comp=N,94nm,2.2s
KLR smax smax
comp=E,300nm,2.2s
YUK Yuzh-Kuril'sk 61.02 26c iP P 18 53 07.3 -10
YUK i 18 55 26.8
YUK iS S 19 01 22.0 -9.4
YUK i 19 03 01.1
YUK iSS SS 19 05 30.3 -1.8
YUK pmax pmax
comp=N,346nm,1.3s
YUK pmax pmax
comp=E,250nm,1.3s
YUK pmax pmax
comp=Z,750nm,1.3s
YUK pmax pmax
comp=Z,2µm,2.2s
YUK MLR MLR
comp=N,765nm,21.0s
YUK MLR MLR
comp=E,584nm,21.0s
YUK MLR MLR
comp=Z,639nm,21.0s

KHZ Kahutara 61.11 133 eP P 18 53 17.0 -0.9
comp=Z,142nm,1.5s
KHZ epP pP 18 53 30.3 -3.5
KBL Kabul 61.27 318 eP P 18 53 18.5 -0.8
KBL pmax pmax
comp=Z,203nm,1.5s
KBL Kabul 61.27 318 eP P 18 53 18.5 -0.8
comp=Z,203nm,1.5s
CIT Chita 61.66 360 eP P 18 53 22.0 +0.6
CIT e 18 53 28.1
CIT e 18 53 34.3
CIT e 18 54 02.6
CIT pmax pmax
comp=Z,1µm,1.7s
SNZO South Karori 61.71 132 epP pP 18 53 38.7 +0.8
SNZO LR LR
comp=Z,4µm,19.0s
TLY Talaya 61.95 353 P P 18 53 24.3 +1.0
comp=Z,1µm,0.8s,SNR=63
TLY Talaya 61.95 353c iP P 18 53 23.7 +0.4
TLY e 18 55 42.5
TLY eS S 19 01 43.3 +0.3
TLY e 19 03 09.9
TLY pmax pmax
comp=Z,232nm,1.0s
TLY MLR MLR
comp=Z,759nm,20.0s
TLY Talaya 61.95 353 eP P 18 53 24.0 +0.6
comp=Z,154nm,0.8s
TLY LR LR
comp=Z,738nm,19.0s
YSS Yuzh-Sakhalins 62.19 22α iP P 18 53 24.2 -0.7
YSS e 18 53 31.1
YSS e*PP pP 18 53 41.1 +0.2
YSS e 18 55 38.0
YSS eS S 19 01 47.0 +1.0
YSS ePS PnS 19 01 58.0 -11
YSS ePPS PPS 19 02 12.0
YSS pmax pmax
comp=N,330nm,1.5s
YSS pmax pmax
comp=E,220nm,1.5s
YSS pmax pmax
comp=Z,860nm,1.5s
YSS Yuzh-Sakhalins 62.19 22 eP P 18 53 24.0 -0.9
comp=Z,1µm,1.8s
YSS LR LR
comp=Z,443nm,22.0s
MOY Mondy 62.31 351 eP P 18 53 26.2 +0.4
MOY pmax pmax
comp=Z,287nm,1.7s
IRK Irkutsk 62.43 353 eP P 18 53 26.9 +0.4
IRK e 18 55 39.8
IRK eS S 19 01 49.7 +0.7
IRK pmax pmax
comp=Z,39nm,1.8s
MSVF Nonsavu 62.58 105 eP P 18 53 29.3 +1.0
MSVF e*PP pP 18 53 36.1 -8.2
MSVF pmax pmax
comp=Z,319nm,2.1s
MSVF MLR MLR
comp=Z,7µm,19.0s
MSVF Nonsavu 62.58 105 eP P 18 53 29.2 +1.0
comp=Z,319nm,2.1s
MSVF epP pP 18 53 36.1 -8.2
MSVF LR LR
comp=Z,7µm,19.0s
BKZ Black Stump Fm 62.65 129 eP P 18 53 28.3 0.0
comp=Z,75nm,1.0s
KZA Kyzart 62.66 328 P P 18 53 29.3 +0.6
SNR=94
KZA Kyzart 62.66 328 iP P 18 53 29.3 +0.6
AAA Alma-Ata 62.69 330 iP P 18 53 28.8 +0.4
AAA iS S 19 01 51.4 -1.2
AAA pmax pmax
comp=Z,1µm,4.2s
AAA smax smax
comp=E,2µm,4.3s
AAA MLR MLR
comp=Z,3µm,23.0s
WBK Wadi Bani Khal 62.72 302 P P 18 53 29.8 +0.8
SNR=17
BFZ Birch Farm 62.73 131 epP pP 18 53 46.4 +1.5
KUR Kuril'sk 62.85 26c iP P 18 53 28.6 -0.7
KUR iS S 19 01 52.3 -2.0
KUR eSS SS 19 05 57.4 -3.2
KUR pmax pmax
comp=N,266nm,1.5s
KUR pmax pmax
comp=E,95nm,1.5s
KUR pmax pmax
comp=Z,829nm,1.5s
KUR pmax pmax
comp=Z,2µm,1.8s
URZ Urewera 62.97 128 LR LR 19 20 56.9
comp=Z,2µm,20.3s,baz=302,slow=36
MK31 Makanchi Array 63.08 336 P P 18 53 30.7 -0.2
MK31 pmax pmax
comp=Z,137nm,0.7s
MK31 Makanchi Array 63.08 336 eP P 18 53 30.7 -0.2
MKAR Makanchi Array 63.08 336 P P 18 53 31.0 +0.1
comp=Z,91nm,0.6s,baz=148,slow=7.2,SNR=498
MKAR PKPPKP P'P'df 19 22 33.3 +4.6
comp=Z,0.9nm,1.0s,baz=343,slow=1.3,SNR=5.0
TKM2 Tokmak 2 63.10 329 P P 18 53 31.8 +0.4
SNR=141
TKM2 Tokmak 2 63.10 329 eP P 18 53 31.8 +0.4
TKM2 pmax pmax
comp=Z,166nm,0.9s
TKM2 MLR MLR
comp=Z,964nm,20.0s
TKM2 Tokmak 2 63.10 329 eP P 18 53 31.8 +0.4
comp=Z,166nm,0.9s
TKM2 LR LR
comp=Z,964nm,20.0s
UCH Uchtor 63.15 328 P P 18 53 32.4 +0.4
SNR=52
UCH Uchtor 63.15 328 iP P 18 53 32.4 +0.4
KBK Karagaybulak 63.23 329 P P 18 53 33.2 +1.0
SNR=166
KBK Karagaybulak 63.23 329 iP P 18 53 33.2 +1.0
JMDO Jabal Madar 63.34 301 ⇑P P 18 53 33.0 -0.2
SNR=14
AAK Ala-Archa 63.45 328 P P 18 53 34.0 +0.4
SNR=104
AAK Ala-Archa 63.45 328 eP P 18 53 34.0 +0.4
AAK S S 19 02 01.5 -0.9
AAK pmax pmax
comp=Z,108nm,1.0s
AAK MLR MLR
comp=Z,1µm,20.0s
AAK Ala-Archa 63.45 328 P P 18 53 34.5 +0.9
comp=Z,80nm,0.8s,baz=138,slow=6.6,SNR=156
AAK S S 19 02 01.5 -0.9
comp=Z,3.2nm,1.1s,baz=317,slow=18,SNR=6.2
AAK LR LR 19 25 30.0
comp=Z,1µm,19.2s,baz=132,slow=40
AAK Ala-Archa 63.45 328 eP P 18 53 34.0 +0.4
comp=Z,108nm,1.0s
AAK S S 19 02 01.5 -0.9
AAK LR LR
comp=Z,1µm,20.0s
AML Almayashu 63.51 328 P P 18 53 35.0 +0.7
SNR=134
AML Almayashu 63.51 328 iP P 18 53 35.0 +0.7
FRU Bishkek 63.53 329⇑iP P 18 53 34.0 0.0
FRU e 18 53 52.0
FRU eS S 19 02 02.0 -1.1
FRU e 19 02 36.0
FRU pmax pmax
comp=Z,320nm,2.0s
FRU pmax pmax
comp=Z,700nm,2.8s
FRU smax smax
comp=N,130nm,2.0s
FRU smax smax
comp=E,1µm,5.6s
FRU MLR MLR
comp=Z,3µm,24.0s
CHMS Chumysh 63.58 329 P P 18 53 34.4 0.0
SNR=26
CHMS Chumysh 63.58 329 iP P 18 53 34.3 0.0
SMDO Samad 63.67 302 ⇓P P 18 53 35.4 0.0
SNR=18
CRZF Crozet Islands 63.69 223 P P 18 53 40.0 +5.0
CRZF S S 19 02 19.0 +14

CRZF R 19 12 00.0
EKS2 Erkin-Say 63.84 328 P P 18 53 36.9 +0.8
SNR=181
EKS2 Erkin-Say 63.84 328 eP P 18 53 37.0 +0.8
EKS2 pmax pmax
comp=Z,194nm,1.1s
EKS2 MLR MLR
comp=Z,2µm,21.0s
EKS2 Erkin-Say 63.84 328 eP P 18 53 37.0 +0.8
comp=Z,194nm,1.1s
EKS2 LR LR
comp=Z,2µm,21.0s
USP Ospenovka 63.90 329 P P 18 53 36.8 +0.3
SNR=58
USP Ospenovka 63.90 329 iP P 18 53 36.8 +0.3
HOQ Hoqain 64.51 302 P P 18 53 41.5 +0.7
SNR=17
ABPO Ambohimpanom 64.85 254 eP P 18 53 42.4 -0.9
ABPO e 18 53 57.1
ABPO pmax pmax
comp=Z,273nm,1.7s
ABPO MLR MLR
comp=Z,1µm,21.0s
ABPO Ambohimpanom 64.85 254 eP P 18 53 42.4 -0.9
comp=Z,273nm,1.7s
ABPO e 18 53 57.1
ABPO LR LR
comp=Z,1µm,21.0s
OPO Ambohidratompo 64.90 254 P P 18 53 45.7 +2.0
comp=Z,4.7nm,0.6s,baz=232,slow=1.2,SNR=6.9
RBK Rabkut 64.92 295 ⇓P P 18 53 43.6 0.0
SNR=21
ABTO Aybut 65.68 294 ⇑P P 18 53 48.4 -0.1
SNR=68
KK31 Karatay Array 65.89 327 P P 18 53 49.1 -0.2
KK31 pmax pmax
comp=Z,18nm,0.6s
KKAR Karatay Array 65.89 327 eP P 18 53 49.1 -0.2
KKAR Karatay Array 65.89 327 eP P 18 53 49.1 -0.2
UOSS Wadi Hilu 65.99 303 P P 18 53 49.8 -0.5
comp=Z,274nm,0.8s,SNR=11
HATD Hatta, Dubai 66.00 303⇑iP P 18 53 50.5 +0.1
SNR=15
ASHO Ashiyiah 66.00 303 P P 18 53 50.8 +0.3
SNR=14
RAO Raoul Island 66.27 118 PFAKE 18 54 10.0 +18
RAO LR LR
comp=Z,2µm,19.0s
BANOM Banah 66.31 304 P P 18 53 54.4 +1.9
SNR=8.0
FAQ Al Faqa, Dubai 66.41 302⇑iP P 18 53 53.0 -0.1
SNR=138
NAZ Nazwa, Dubai 66.45 303⇑iP P 18 53 53.3 -0.1
SNR=22
ASUD Al Ashush, Dub 66.58 302 iP P 18 53 54.3 +0.2
SNR=37
MAW Mawson 66.71 199 LR LR 19 17 51.6
comp=Z,1µm,21.6s,baz=50,slow=31
KURBB Kurchatov Arra 67.64 337 P P 18 54 00.3 0.0
comp=Z,45nm,0.8s,baz=153,slow=5.1,SNR=284
KURBB S S 19 02 48.6 -4.3
comp=Z,2.4nm,1.2s,baz=145,slow=13,SNR=3.1
KURK Kurchatov 67.68 337 P P 18 54 00.6 +0.1
comp=Z,322nm,0.8s,SNR=89
KURK Kurchatov 67.68 337 eP P 18 53 59.6 -0.9
KURK S S 19 02 48.6 -4.7
KURK pmax pmax
comp=Z,51nm,0.9s
KURK MLR MLR
comp=Z,604nm,22.0s
KURK Kurchatov 67.68 337 eP P 18 53 59.6 -0.9
comp=Z,51nm,0.9s
KURK S S 19 02 48.6 -4.7
KURK LR LR
comp=Z,604nm,22.0s
ZAA0 Zalesovo Array 68.19 342 eP P 18 54 02.8 -0.9
ZALV Zalesovo Beam 68.19 342 P P 18 54 03.1 -0.6
comp=Z,67nm,0.5s,baz=142,slow=4.1,SNR=204
ZALV S S 19 02 56.4 -2.9
comp=Z,12nm,1.1s,baz=123,slow=10,SNR=7.2
ZALV PKPPKP P'P'df 19 22 22.8 +3.0
comp=Z,3.0nm,1.0s,baz=316,slow=4.1,SNR=14
ZALV LR LR 19 27 41.6
comp=Z,1µm,19.1s,baz=188,slow=39
NVS Novosibirsk 69.44 342⇑iP P 18 54 10.3 -1.1
NVS e 18 56 47.4
NVS eS S 19 03 09.9 -4.1
NVS ePS PnS 19 03 57.6 +10
NVS pmax pmax
comp=N,94nm,1.9s
NVS pmax pmax
comp=E,88nm,1.9s
NVS pmax pmax
comp=Z,201nm,1.9s
NVS pmax pmax
comp=N,36nm,1.8s
NVS pmax pmax
comp=E,44nm,1.8s
NVS pmax pmax
comp=Z,60nm,1.8s
NVS smax smax
comp=N,58nm,2.5s
NVS smax smax
comp=E,89nm,2.5s
ABKT Ailbek 70.48 316 P P 18 54 19.0 +0.7
comp=E,625nm,0.8s,SNR=52
SKR Severo-Kuril's 70.59 27 eP P 18 54 14.0 -4.6
SKR e 18 54 21.0
SKR e 18 54 39.2
SKR e 19 03 26.0
SKR pmax pmax
comp=Z,220nm,1.0s
VNDA Vanda 71.94 170 P P 18 54 27.8 +1.4
comp=Z,7.8nm,0.8s,baz=283,slow=12,SNR=4.1
VNDA LR LR 19 23 12.9
comp=Z,2µm,20.8s,baz=324,slow=34
VOSK Vostochnaya 72.32 334 eP P 18 54 28.7 -0.3
VOSK pmax pmax
comp=Z,72nm,0.9s
VOSK Vostochnaya 72.32 334 eP P 18 54 28.7 -0.3
comp=Z,72nm,0.9s
YAK Yakutsk 72.76 8c iP P 18 54 30.9 -0.4
YAK e 18 54 46.4
YAK eS S 19 03 48.2 -4.0
YAK e 19 04 28.1
YAK e*SS ScS 19 04 33.2 -0.2
YAK pmax pmax
comp=Z,1µm,1.3s
YAK pmax pmax
comp=N,615nm,1.3s
YAK pmax pmax
comp=E,219nm,1.3s
YAK pmax pmax
comp=Z,189nm,2.5s
YAK pmax pmax
comp=E,165nm,2.2s
YAK pmax pmax
comp=N,110nm,2.0s
YAK smax smax
comp=E,551nm,2.3s
YAK smax smax
comp=N,503nm,2.3s
YAK MLR MLR
comp=Z,1µm,25.0s
YAK MLR MLR
comp=N,678nm,25.0s
YAK Yakutsk 72.76 8 eP P 18 54 30.9 -0.4
comp=N,1µm,1.1s
YAK LR LR
comp=Z,736nm,20.0s
BVA0 Borovoye Array 72.79 334 iP P 18 54 31.5 -0.3
BVA0 pmax pmax
comp=Z,148nm,1.0s
BVAR Borovoye Array 72.79 334 P P 18 54 31.9 +0.1
comp=Z,76nm,0.7s,baz=143,slow=7.9,SNR=330
BRVK Borovoye 72.86 334 P P 18 54 32.9 +0.8
comp=Z,671nm,0.9s,SNR=77
BRVK Borovoye 72.86 334c iP P 18 54 32.4 +0.3
BRVK pmax pmax
comp=Z,176nm,1.3s
BRVK Borovoye 72.86 334 eP P 18 54 32.0 -0.1
comp=Z,138nm,1.0s
BRVK LR LR
comp=Z,1µm,20.0s
SBA Scott Base 72.98 170 PFAKE 18 54 50.0 +17
SBA LR LR
comp=Z,2µm,19.0s

PEA0B Petropavlovsk- 73.00 26 eP P 18 54 33.2 +0.1
PETK Petropavlovsk- 73.00 26 P P 18 54 33.6 +0.6
comp=Z,157nm,0.9s,baz=199,slow=3.1,SNR=86
PETK LR LR 19 27 52.5
comp=Z,176nm,21.9s,baz=235,slow=37
DAMY Dhamar 73.03 289 eP P 18 54 35.6 +1.2
comp=Z,103nm,1.2s
PET Petropavlovsk 73.36 26α iP P 18 54 34.8 -0.3
PET e 18 57 16.6
PET iS S 19 04 00.0 +0.6
PET ePS PnS 19 04 35.3 -3.6
PET eSS SS 19 08 44.2 +1.4
PET pmax pmax
comp=Z,262nm,1.4s
PET pmax pmax
comp=Z,700nm,15.8s
PET MLR MLR
comp=Z,1μm,16.0s
PET Petropavlovsk 73.36 26 eP P 18 54 35.7 +0.6
comp=Z,480nm,1.4s
PET LR LR
comp=Z,689nm,21.0s
RAYN Ar Rayn 74.58 298 eP P 18 54 42.6 -0.4
comp=Z,39nm,0.9s
SYO Syowa Base 75.20 201⇑iP P 18 54 43.2 -2.4
ABKAR Akbulak array 75.45 327 eP P 18 54 47.6 +0.3
KMBO Kilima Mbogo 76.61 271 iP P 18 54 57.0 +1.9
KMBO pmax pmax
comp=Z,9.0nm,0.8s
KMBO Kilima Mbogo 76.61 271 P P 18 54 56.5 +1.4
comp=Z,9.0nm,0.8s,baz=70,slow=8.5,SNR=29
KMBO S S 19 04 39.5 +1.8
comp=Z,0.4nm,0.3s,baz=326,slow=20,SNR=7.0
KMBO LR LR 19 24 44.4
comp=Z,2μm,20.3s,baz=98,slow=33
KMBO Kilima Mbogo 76.61 271 eP P 18 54 57.0 +1.9
comp=Z,36nm,1.2s
KMBO S S 19 04 39.5 +1.8
KMBO LR LR
comp=Z,2μm,20.0s
AKTO Aktyubinsk 77.14 327 P P 18 54 57.1 +0.2
comp=Z,38nm,0.7s,baz=122,slow=6.8,SNR=151
AKTO S S 19 04 37.5 -4.0
comp=Z,3.3nm,1.1s,baz=326,slow=21,SNR=14
SEY Seymchan 78.41 17⇑iP P 18 55 04.0 +0.3
SEY Seymchan 78.41 17 S S 19 04 52.7 -1.9
comp=Z,1.3nm,1.0s,baz=81,slow=20,SNR=6.9
MOPA Mopani 79.26 248 eP P 18 55 10.2 +0.9
MOPA AMB AMB 18 55 27.0
comp=Z,139nm,1.9s
MOPA Mopani 79.26 248 P P 18 55 10.2 +0.9
comp=Z,139nm,1.9s
SVE Sverdlovsk 79.53 333d iP P 18 55 10.5 +0.6
SVE eS S 19 05 04.1 -2.7
SVE eSS SS 19 10 07.2 -8.8
SVE pmax pmax
comp=Z,411nm,1.2s
SVE pmax pmax
comp=Z,274nm,9.4s
MAK Makhachkala 79.97 317 eP P 18 55 08.2 -4.4
MAK eS S 19 05 06.5 -5.5
MAK pmax pmax
comp=Z,180nm,4.6s
MAK MLR MLR
comp=Z,2μm,23.0s
QSPA South Pole Qui 80.11 180 eP P 18 55 12.1 -1.1
comp=Z,113nm,1.3s
QSPA LR LR
comp=Z,1μm,21.0s
ARU Arti 80.23 332 P P 18 55 14.0 +0.3
comp=Z,1μm,1.1s,SNR=71
ARU Arti 80.23 332c iP P 18 55 13.8 +0.1
ARU 18 58 18.7
ARU PPP PPP 19 00 04.2
ARU eS S 19 05 16.7 +2.5
ARU pmax pmax
comp=Z,473nm,1.7s
ARU MLR MLR
comp=Z,2μm,23.0s
ARU Arti 80.23 332 eP P 18 55 13.8 +0.1
comp=Z,344nm,1.2s
ARU LR LR
comp=Z,2μm,22.0s
FX1 Attu Island--F 80.27 32 eP P 18 55 15.0 +1.0
FX1 Attu Island--F 80.27 32 eP P 18 55 15.0 +1.0
KSD Kokstad 80.29 241 eP P 18 55 15.8 +0.9
KSD AMB AMB 18 55 30.5
comp=Z,27nm,3.5s
KSD Kokstad 80.29 241 P P 18 55 15.8 +0.9
comp=Z,27nm,3.5s
CUKT Cukurca 80.63 310 eP P 18 55 14.3 -2.2
MSNA Messina 80.65 249 eP P 18 55 16.4 -0.5
MSNA AMB AMB 18 55 34.0
comp=Z,103nm,2.7s
MSNA Messina 80.65 249 P P 18 55 16.4 -0.5
comp=Z,103nm,2.7s
GNI Garni 80.82 313c iP P 18 55 18.3 +0.8
GNI pmax pmax
comp=Z,52nm,1.3s
GNI Garni 80.82 313 P P 18 55 18.2 +0.7
comp=Z,8.0nm,0.8s,baz=180,slow=2.3,SNR=13
GNI Garni 80.82 313 eP P 18 55 18.9 +1.4
comp=Z,64nm,1.1s
GNI LR LR
comp=Z,555nm,22.0s
GNI Garni 80.82 313⇓iP P 18 55 18.3 +0.8
SNR=5.6
DGRG David-gareji 80.85 315 P P 18 55 19.1 +1.7
CLDR Caldiran 81.06 312 eP P 18 55 19.2 +0.3
TBLG Delisi 81.39 315 P P 18 55 21.6 +1.3
ERPM east rand prop 81.79 245 eP P 18 55 23.4 +0.4
ERPM AMB AMB 18 55 40.2
comp=Z,111nm,1.8s
ERPM east rand prop 81.79 245 P P 18 55 23.4 +0.4
comp=Z,111nm,1.8s
SLR Silverton 81.82 245 eP P 18 55 23.6 +0.4
SLR AMB AMB 18 55 39.9
comp=Z,114nm,3.8s
SLR Silverton 81.82 245 P P 18 55 23.6 +0.4
SLR pmax pmax
comp=Z,114nm,3.8s
SLR Silverton 81.82 245 P P 18 55 23.6 +0.4
comp=Z,114nm,3.8s
AGRB Hanur-Agry 81.88 312 eP P 18 55 23.9 +0.8
OBSV Observatory 81.95 245 eP P 18 55 24.3 +0.4
OBSV AMB AMB 18 55 40.6
comp=Z,83nm,2.1s
TIXI Tiksi 81.98 5c iP P 18 55 21.8 -0.9
TIXI pmax pmax
comp=Z,393nm,1.0s
TIXI MLR MLR
comp=Z,1μm,24.0s
TIXI Tiksi 81.98 5 eP P 18 55 21.7 -0.9
comp=Z,417nm,1.1s
TIXI LR LR
comp=Z,988nm,22.0s
CRWM Crown Mines 82.00 245 eP P 18 55 20.8 -3.3
CRWM AMB AMB 18 55 44.0
comp=Z,89nm,2.4s
SEK Senekal 82.09 243 eP P 18 55 22.2 -2.4
SEK AMB AMB 18 55 41.3
comp=Z,89nm,1.9s
SEK Senekal 82.09 243 P P 18 55 22.2 -2.4
comp=Z,89nm,1.9s
AKH Akhalkalaki 82.15 314 P P 18 55 25.9 +1.3
ZEI Tsey 82.36 316 eP P 18 55 25.6 0.0
ZEI eS S 19 05 36.7 -0.6
ZEI pmax pmax
comp=Z,101nm,1.4s
WDLM Western Deep L 82.51 245 eP P 18 55 26.0 -0.8
WDLM AMB AMB 18 55 43.7
comp=Z,69nm,1.8s
ONI Oni 82.59 315 P P 18 55 28.3 +1.7
SOKR Solikamsk 82.79 335c iP P 18 55 27.3 +0.2
SOKR S S 19 05 36.5 -3.9
SOKR pmax pmax
comp=Z,210nm,1.3s
VRTB Varto-Mus 82.87 312 eP P 18 55 30.1 +1.8
KBSD Kabsdagh 82.87 309 eP P 18 55 29.8 +1.6
BFSD Buffelsfontein 83.01 244 eP P 18 55 38.0 +8.7
BFSD AMB AMB 18 55 49.1
comp=Z,110nm,2.0s
BFSD Buffelsfontein 83.01 244 P P 18 55 38.0 +8.7
comp=Z,110nm,2.0s
SFNV Sufian 83.02 309 eP P 18 55 33.0 +3.9
KSR Koster 83.05 245 eP P 18 55 37.1 +7.5
KSR AMB AMB 18 55 46.5
comp=Z,43nm,1.9s
KSR Koster 83.05 245 P P 18 55 37.1 +7.5
comp=Z,43nm,1.9s
MBAR Mbarara 83.12 271 P P 18 55 31.9 +1.7
comp=Z,60nm,0.8s,SNR=6.0
LSZ Lusaka 83.31 256 eP P 18 55 31.9 +0.9
LSZ pmax pmax
comp=Z,31nm,0.8s
LSZ MLR MLR
comp=Z,2μm,22.0s
LSZ Lusaka 83.31 256 eP P 18 55 31.9 +0.9
comp=Z,31nm,0.8s
LSZ LR LR
comp=Z,2μm,22.0s
KBZ Khabaz 83.37 316 P P 18 55 31.5 +1.0
comp=Z,26nm,1.0s,baz=90,slow=5.1,SNR=28
KBZ LR LR 19 37 28.5
comp=Z,225nm,20.8s,baz=94,slow=39
MNKR ALMNKUR 83.53 308 eP P 18 55 29.9 -1.7
CHVG Ch'k'valeri 83.59 315 P P 18 55 33.3 +1.6
KIV Kislovodsk 83.59 317 P P 18 55 33.6 +1.8
comp=Z,165nm,1.5s,SNR=6.5
KIV Kislovodsk 83.59 317 eP P 18 55 32.6 +0.8
KIV eS S 19 05 50.0 +0.4
KIV eSS SS 19 11 20.9 +3.6
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,443nm,19.0s
KIV Kislovodsk 83.59 317 eP P 18 55 33.4 +1.6
comp=Z,79nm,1.1s
KIV LR LR
comp=Z,461nm,21.0s
KIV Kislovodsk 83.59 317⇓iP P 18 55 32.7 +0.8
SNR=7.7
HVD Gariep Dam 83.64 240 eP P 18 55 33.1 +0.6
HVD AMB AMB 18 56 04.8
comp=Z,80nm,2.0s
HVD Gariep Dam 83.64 240 P P 18 55 33.1 +0.6
HVD pmax pmax
comp=Z,80nm,2.0s
HVD Gariep Dam 83.64 240 P P 18 55 33.1 +0.6
comp=Z,80nm,2.0s
GOF Gofitskoye 83.74 318 eP P 18 55 33.7 +1.3
GOF eS S 19 05 50.2 -0.6
GOF pmax pmax
comp=Z,100nm,1.4s
GOF smax smax
comp=N,150nm,1.3s
GOF smax smax
comp=E,70nm,1.3s
BUFB Buffelsbos 83.80 237 eP P 18 55 40.4 +7.3
BUFB AMB AMB 18 55 43.2
comp=Z,1.2nm,1.2s
BUFB Buffelsbos 83.80 237 P P 18 55 40.4 +7.3
comp=Z,1.2nm,1.2s
JHLN Al Jahlan 84.10 308 eP P 18 55 33.9 -0.6
BOSA Boshof 84.12 242 eP P 18 55 35.4 +0.4
BOSA AMB AMB 18 55 51.6
comp=Z,116nm,2.0s
BOSA Boshof 84.12 242 eP P 18 55 36.0 +1.0
BOSA pmax pmax
comp=Z,177nm,1.6s
BOSA Boshof 84.12 242 P P 18 55 36.0 +1.0
comp=Z,8.4nm,0.7s,baz=102,slow=4.3,SNR=24
BOSA LR LR 19 26 04.9
comp=Z,2μm,21.7s,baz=99,slow=31
BOSA Boshof 84.12 242 eP P 18 55 36.0 +1.0
comp=Z,177nm,1.6s
ZALF Zalf 84.22 305 eP P 18 55 37.8 +2.6
SWZ Schweizer 84.26 244 eP P 18 55 36.3 +0.6
SWZ AMB AMB 18 55 52.5
comp=Z,136nm,1.8s
SWZ Schweizer 84.26 244 P P 18 55 36.3 +0.6
comp=Z,136nm,1.8s
LBTB Lobatse 84.33 246 eP P 18 55 36.5 +0.4
LBTB AMB AMB 18 55 55.6
comp=Z,74nm,2.8s
LBTB Lobatse 84.33 246 eP P 18 55 37.0 +0.9
LBTB pmax pmax
comp=Z,100nm,1.3s
LBTB Lobatse 84.33 246 eP P 18 55 37.0 +0.9
comp=Z,100nm,1.3s
ASF Jabal al Asfar 84.37 304 P P 18 55 36.8 +0.7
comp=Z,33nm,1.0s,baz=113,slow=2.2
SALA Sala 84.65 304 eP P 18 55 40.7 +3.1
NVL N'lazarevskaya 84.66 199 eP pP 18 55 51.9 -1.5
NVL pmax pmax
comp=Z,17nm,1.0s
EIL Elat 85.36 301 P P 18 55 41.8 +0.9
comp=Z,28nm,0.8s,baz=124,slow=2.3
EIL Elat 85.36 301 ⇑P P 18 55 42.0 +1.0
baz=85,SNR=23
BRBR Barbar 85.47 305 eP P 18 55 44.5 +2.8
SOC Sochi 85.51 315c iP P 18 55 41.5 +0.1
SOC e*SP pP 18 55 53.6 -4.5
SOC e 18 58 55.3
SOC eS S 19 06 02.9 -5.5
SOC eSS SS 19 11 45.4 +0.1
SOC pmax pmax
comp=Z,127nm,1.1s
MMAI Mount Meron Ar 85.81 304 P P 18 55 44.8 +1.6
comp=Z,20nm,0.7s,baz=91,slow=6.3,SNR=4.4
BILL Bilibino 86.11 17c iP P 18 55 43.5 -0.3
BILL i 18 59 06.7
BILL iS S 19 06 09.0 -4.3
BILL pmax pmax
comp=Z,105nm,1.7s
BILL Bilibino 86.11 17 eP P 18 55 43.4 -0.4
comp=Z,56nm,1.0s
BILL LR LR
comp=Z,706nm,21.0s
VRHR Novokhopersk 86.73 323 eP P 18 55 46.6 -0.6
VRHR eS S 19 06 17.0 -3.0
VRHR pmax pmax
comp=Z,140nm,0.9s
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,170nm,1.4s
VRHR smax smax
comp=E,630nm,2.7s
VRHR smax smax
comp=Z,120nm,2.0s
VRHR smax smax
comp=N,450nm,1.7s
VRHR MLR MLR
comp=Z,1μm,28.0s
VRHR MLR MLR
comp=N,1μm,27.0s
VRHR MLR MLR
comp=E,650nm,21.0s
KARA Karaisali 87.15 308 eP P 18 55 47.8 -1.8
SUR Sutherland 87.33 238 PFAKE 18 56 00.0 +9.1
SUR LR LR
comp=Z,2μm,21.0s
KVT Kavak 87.39 312 eP P 18 55 49.5 -1.3
ANN Anapa 87.44 316 eP P 18 55 51.1 +0.3
ANN eS SKSac 19 06 14.9 +1.4
ANN i 19 06 25.5
ANN pmax pmax
comp=Z,153nm,1.3s
ANN MLR MLR
comp=Z,640nm,23.0s
LFK Lefkose 87.86 306 eP P 18 55 53.2 +0.1
CSS Prodhromos 87.95 306 eP P 18 55 52.5 -1.0
CSS Prodhromos 87.95 306 eP P 18 55 54.8 +1.3
comp=Z,26nm,1.0s
CSS LR LR
comp=Z,524nm,21.0s
VORD Divnogorie 88.08 322 eP P 18 55 52.4 -1.3
VORD eS S 19 06 29.3 -3.6
VORD pmax pmax
comp=Z,90nm,0.9s
VORD pmax pmax
comp=N,60nm,1.0s
VORD pmax pmax
comp=E,70nm,0.6s
VORD smax smax
comp=N,860nm,3.5s
VORD smax smax
comp=Z,60nm,2.1s
VORD smax smax
comp=E,710nm,3.6s
VORD MLR MLR
comp=Z,2μm,28.0s
VORD MLR MLR
comp=N,2μm,24.0s
VORD MLR MLR
comp=E,1μm,25.0s
DIKM Dikmen 88.11 313 eP P 18 55 56.0 +1.9
CORM Corum 88.20 311 eP P 18 55 55.4 +0.7
VSR Storozhevoye 88.23 323 eP P 18 55 53.9 -0.5
VSR eS S 19 06 30.7 -3.7
VSR pmax pmax
comp=Z,190nm,0.8s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,150nm,0.9s
VSR smax smax
comp=N,1μm,4.5s
VSR smax smax
comp=Z,60nm,2.4s
VSR smax smax
comp=E,350nm,2.1s
VSR MLR MLR
comp=Z,2μm,29.0s
VSR MLR MLR
comp=N,1μm,26.0s
VSR MLR MLR
comp=E,2μm,34.0s
VOR Voronezh 88.37 323 eP P 18 55 54.0 -1.1
VOR pmax pmax
comp=Z,500nm,1.8s
CER Ceres 88.41 237 eP pP 18 56 12.6 -0.1
CER AMB AMB 18 56 37.4
comp=Z,91nm,4.8s
SULT Sultanhani-AKS 88.56 309 eP P 18 55 56.5 +0.1
PRGR Permogore 88.60 334 eP P 18 55 54.2 -1.7
PRGR e 18 59 22.5
PRGR eS SKSac 19 06 19.9 +0.2
PRGR pmax pmax
comp=Z,126nm,1.0s
SNAA Sanae 88.75 196 P P 18 55 57.0 +0.4
SNAA Sanae 88.75 196 pP P 18 56 03.3 +6.6
SNAA Sanae 88.75 196 sP sP 18 56 15.2 -4.8
SNAA Sanae 88.75 196 eP P 18 55 54.6 -2.0
SNAA Sanae 88.75 196 eP P 18 55 54.6 -2.0
SNAA pmax pmax
comp=Z,19nm,1.3s
SNAA Sanae 88.75 196 P P 18 55 54.6 -2.0
SNAA eP PcP 18 56 01.3 +3.1
BR131 Keskin Array S 88.83 311 eP P 18 55 57.8 0.0
comp=Z,26nm,0.8s
BRTR Keskin Array B 88.83 311 iP P 18 55 58.2 +0.5
BRTR pmax pmax
comp=Z,27nm,0.8s
BRTR Keskin Array B 88.83 311 P P 18 55 58.0 +0.2
comp=Z,26nm,0.8s,baz=134,slow=5.2,SNR=113
BRTR LR LR 19 38 24.3
comp=Z,1μm,22.0s,baz=104,slow=37
AFSR Af'ar-Bala (A 89.19 310 eP P 18 55 57.6 -1.8
KONT Konya--Tatoy 89.39 309 eP P 18 56 00.3 0.0
LADK Ladik-KONYA 89.45 309 eP P 18 56 00.3 -0.3
ANTO Ankara 89.50 311 eP P 18 56 00.2 -0.6
ANTO Ankara 89.50 311 eP P 18 56 02.5 +1.7
ANTO pmax pmax
comp=Z,98nm,1.7s
ANTO MLR MLR
comp=Z,2μm,22.0s
ANTO Ankara 89.50 311⇓iP P 18 56 02.3 +1.5
ANTO Ankara 89.50 311 eP P 18 56 02.5 +1.7
comp=Z,98nm,1.7s
ANTO LR LR
comp=Z,2μm,22.0s
SIM Simferopol' 89.75 316 eP P 18 56 03.1 +1.4
SIM e 19 06 29.0
SIM iS S 19 06 49.1 +0.2
SIM eSS SS 19 12 42.0 -5.2
SIM pmax pmax
comp=Z,32nm,0.7s
SIM pmax pmax
comp=Z,90nm,8.9s
SIM MLR MLR
comp=N,530nm,19.4s
SAFT Safranbolu 89.89 312 eP P 18 56 03.0 +0.5
KIZT Kizilcal 89.97 309 eP P 18 55 54.9 -8.2
SVRH Sivrihisar-ESK 90.36 310 eP P 18 56 01.9 -2.9
VNA2 Neumayer--Watz 90.39 196 P P 18 56 04.6 +0.3
baz=92,slow=6.2
VNA2 Neumayer--Watz 90.39 196 pP P 18 56 11.1 +6.8
VNA2 Neumayer--Watz 90.39 196 sP sP 18 56 23.8 -3.9
MOS Moscow 90.47 327 eP P 18 56 05.7 +0.9
MOS e 18 59 41.1
MOS ePPP PPP 19 01 42.3
MOS e 19 06 50.1
MOS e 19 08 01.4
MOS pmax pmax
comp=Z,155nm,1.3s
MOS pmax pmax
comp=Z,400nm,2.0s
KOMG Komaggas 90.61 240 eP P 18 56 07.2 +1.0
KOMG AMB AMB 18 56 27.6
comp=Z,78nm,1.4s
KOMG Komaggas 90.61 240 P P 18 56 07.2 +1.0
comp=Z,78nm,1.4s
VNA1 Neumayer--Stat 90.78 196 P P 18 56 06.3 +0.3
VNA1 Neumayer--Stat 90.78 196 pP P 18 56 12.2 +6.1
VNA1 Neumayer--Stat 90.78 196 sP sP 18 56 22.5 -6.9
ISP Isparta 90.79 308 PFAKE 18 56 20.0 +13
ISP LR LR
comp=Z,999nm,20.0s
MDUB Mudurnu 90.82 311 eP P 18 56 05.2 -1.8
VNA3 Neumayer Olymp 90.83 196 P P 18 56 07.4 +1.0
VNA3 Neumayer Olymp 90.83 196 pP P 18 56 14.4 +8.0
VNA3 Neumayer Olymp 90.83 196 sP sP 18 56 25.2 -4.5
OBN Obninsk 90.87 326 P P 18 56 08.2 +1.6
comp=Z,424nm,0.7s,SNR=6.5
OBN Obninsk 90.87 326c iP P 18 56 06.9 +0.3
OBN i 18 59 41.0
OBN iS S 19 06 48.8 -10
OBN eSS SS 19 12 55.8 -7.0
OBN pmax pmax
comp=Z,218nm,2.0s
OBN MLR MLR
comp=Z,620nm,23.0s
OBN Obninsk 90.87 326 P P 18 56 06.8 +0.2
comp=Z,35nm,0.6s,baz=106,slow=2.4,SNR=24
OBN Obninsk 90.87 326 eP P 18 56 07.1 +0.5
comp=Z,324nm,1.7s
OBN LR LR
comp=Z,908nm,21.0s
KLMR Klimovskoe 91.07 332c iP P 18 56 07.0 -0.5
KLMR S SKSac 19 06 38.0 +3.8
KLMR pmax pmax
comp=Z,237nm,1.4s
KLMR pmax pmax
comp=Z,450nm,1.8s
KLMR MLR MLR
comp=Z,1μm,24.0s
UNV Unalaska Valle 91.86 36 eP P 18 56 11.9 +0.6
comp=Z,455nm,2.0s
GAMB Gambell 92.03 25 eP P 18 56 13.3 +1.5
comp=Z,146nm,1.2s
GAMB ePP PP 18 59 51.9 -0.3
AKUT Akutan 92.35 35 eP P 18 56 13.8 +0.3
comp=Z,234nm,1.2s
WIN Windhoek 92.41 247 eP P 18 56 16.6 +1.7
WIN AMB AMB 18 56 34.1
comp=Z,20nm,3.5s
WIN Windhoek 92.41 247 P P 18 56 16.6 +1.7
WIN pmax pmax
comp=Z,20nm,3.5s
WIN Windhoek 92.41 247 P P 18 56 16.6 +1.7
comp=Z,20nm,3.5s
TSUM Tsumeb 92.64 250 eP P 18 56 17.9 +2.0
comp=Z,49nm,1.3s
TSUM epP pP 18 56 33.3 +0.5
TSUM LR LR
comp=Z,1μm,20.0s
TMCR Tamitsa 92.73 335 eP P 18 56 12.9 -2.2
TMCR e 18 59 59.0
TMCR pmax pmax
comp=Z,141nm,1.4s
PPT2 Papeete2 93.22 108 eS S 19 07 22.8 +1.2
comp=Z,404nm,23.5s
PPT2 Papeete2 93.22 108 eLR LR 19 26 05.9
comp=Z,2μm,24.5s
FALS False Pass 93.85 35 eP P 18 56 20.9 +0.4

comp=Z,204nm,1.0s
CFR Carcaliu 93.94 315 ⇓P P 18 56 22.1 +1.0
CFR Carcaliu 93.94 315 ⇓iP P 18 56 22.1 +1.0
TNA Tin City 94.10 24 eP P 18 56 22.2 +0.9
comp=Z,114nm,1.9s
TNA ePP PP 19 00 11.4 +3.0
AKASG Malin Array Be 94.20 321 P P 18 56 21.1 -1.1
comp=Z,5.4nm,0.7s,baz=84,slow=5.5,SNR=52
AKASG PP PP 19 00 06.1 -3.5
comp=Z,5.7nm,0.8s,baz=85,slow=5.9,SNR=8.0
AKASG LR LR 19 45 39.1
comp=Z,367nm,19.4s,baz=100,slow=40
AKBB Malin Array Si 94.20 321 eP P 18 56 21.8 -0.3
AKBB Malin Array Si 94.20 321 eP P 18 56 21.8 -0.3
AK02 Malin Array Si 94.20 321 eP P 18 56 21.2 -0.9
AK01 Malin Array Si 94.20 321 eP P 18 56 21.0 -1.2
KIEV Kiev 94.20 321 eP P 18 56 21.9 -0.3
KIEV pmax pmax
comp=Z,17nm,0.9s
KIEV MLR MLR
comp=Z,895nm,22.0s
KIEV Kiev 94.20 321 eP P 18 56 21.9 -0.3
comp=Z,17nm,0.9s
KIEV LR LR
comp=Z,895nm,22.0s
VRI Vrincioaia 95.03 316 ⇑P P 18 56 27.5 +1.4
VRI Vrincioaia 95.03 316 ⇑iP P 18 56 27.5 +1.4
LVZ Lovozero 95.06 338 PFAKE 18 56 40.0 +14
LVZ LR LR
comp=Z,1µm,22.0s
PLOR Plostina 95.08 316 ⇑P P 18 56 27.8 +1.4
PLOR Plostina 95.08 316 ⇑iP P 18 56 27.8 +1.4
JOF Joensuu 95.35 333 eP P 18 56 27.9 +0.8
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 95.35 333 ep P 18 56 27.9 +0.8
comp=Z,1.2nm,0.3s
APA Apatity 95.45 338 ⇓iP P 18 56 33.2 +5.7
APA i 19 06 54.0
APA i PS PS 19 09 02.0 -2.4
APA MLR MLR
comp=Z,2µm,24.0s
MLR Muntele Rosu 95.52 315 ⇓iP P 18 56 29.8 +1.3
MLR Muntele Rosu 95.52 315 ⇑iP PP 19 00 18.0 -2.2
MLR Muntele Rosu 95.52 315 P P 18 56 29.1 +0.6
comp=Z,3.8nm,1.1s,baz=148,slow=4.4,SNR=6.8
MLR PP PP 19 00 18.0 -2.2
comp=Z,3.6nm,0.8s,baz=330,slow=8.1,SNR=3.3
SDPT Sand Point 95.60 35 eP P 18 56 29.1 +0.6
comp=Z,245nm,0.8s
MICGM Minsk 95.65 324 e P 18 56 26.0 -2.7
MNK Minsk 95.67 324 eP P 18 56 26.0 -2.8
DOPR Dopca 95.97 315 ⇓iP PP 19 00 23.4 -0.2
BURAR Bucovina Array 96.31 317 ⇓P P 18 56 33.4 +1.4
BURAR Bucovina Array 96.31 317 ⇓iP P 18 56 33.4 +1.4
BUR08 Bucovina Ar. S 96.33 317 eP P 18 56 32.8 +0.7
LVV L'vov 97.36 319 eP P 18 56 36.5 -0.1
LVV e 19 00 32.9
LVV eS S 19 07 53.1 -3.0
LVV ePS PS 19 09 16.9 -9.1
KAF Kangasniemi 97.52 332 eP P 18 56 36.7 -0.3
KAF pmax pmax
comp=Z,28nm,0.7s
KAF Kangasniemi 97.52 332 ep P 18 56 36.7 -0.3
comp=Z,28nm,0.7s
FIA1 FINESS Array S 97.55 331 eP Pdif 18 56 37.2 0.0
FINES FINESS Array B 97.55 331 P Pdif 18 56 37.5 +0.4
comp=Z,12nm,0.6s,baz=107,slow=6.4,SNR=32
FINES PP PP 19 00 41.6 +6.4
comp=Z,5.4nm,0.8s,baz=101,slow=7.5,SNR=3.8
FINES LR LR 19 47 28.0
comp=Z,824nm,19.9s,baz=90,slow=40
DRGR 97.91 316 ⇑P Pdif 18 56 40.1 +0.8
DRGR 97.91 316 ⇑iP Pdif 18 56 40.1 +0.8
KEV Kevo 98.12 339 PFAKE 18 56 50.0 +10
KEV LR LR
comp=Z,735nm,21.0s
KWP Kalwaria Pacla 98.20 319 eP Pdif 18 56 41.3 +0.9
KWP Kalwaria Pacla 98.20 319 eP Pdif 18 56 41.3 +0.9
KWP Kalwaria Pacla 98.20 319 PFAKE 18 56 50.0 +10
KWP LR LR
comp=Z,600nm,20.0s
SUW Suwalki 98.32 323 eP Pdif 18 56 41.8 +1.0
SUW pmax pmax
comp=Z,43nm,0.9s
SUW Suwalki 98.32 323 eP Pdif 18 56 41.7 +0.9
SUW Suwalki 98.32 323 eP Pdif 18 56 41.8 +1.0
comp=Z,44nm,0.9s
UZH Uzhgorod 98.37 318 eP Pdif 18 56 43.1 +1.9
UZH e 18 57 01.6
KOLS Kolonicke sedl 98.41 318 eP Pdif 18 56 41.9 +0.5
KOLS e 19 00 40.9
KOLS Kolonicke sedl 98.41 318 PDIF Pdif 18 56 41.9 +0.5
KOLS ePP PP 19 00 40.9 -1.3
ARCES ARCESS Array B 98.62 339 P Pdif 18 56 42.5 +0.7
comp=Z,11nm,0.8s,baz=109,slow=3.4,SNR=25
ARCES LR LR 19 47 38.3
comp=Z,392nm,18.8s,baz=106,slow=39
ARE0 ARCESS Array S 98.62 339 eP P 18 56 40.2 -1.7
SVW2 Sparrevohn 98.85 29 eP Pdif 18 56 44.4 +1.4
comp=Z,94nm,1.8s
SVW2 ePP PP 19 00 51.2 +6.0
CRVS Cervenica-Dubn 98.94 318 eP P 18 56 42.0 -1.8
CRVS e 19 00 42.3
CRVS Cervenica-Dubn 98.94 318 PDIF P 18 56 42.0 -1.8
CRVS ePP PP 19 00 42.3 -4.0
STHS Stebnicka Huta 99.13 319 eP Pdif 18 56 45.5 +0.9
STHS e 19 00 45.1
STHS Stebnicka Huta 99.13 319 PDIF Pdif 18 56 45.5 +0.9
STHS ePP PP 19 00 45.1 -2.6
KECS Kecovo 99.56 318 eP Pdif 18 56 47.4 +0.9
KECS e 19 00 50.7
KECS Kecovo 99.56 318 PDIF Pdif 18 56 47.4 +0.9
KECS ePP PP 19 00 50.7 -0.2
PSZ Piszkesteto 99.91 317 eP PP 19 00 55.1 +1.8
PSZ LR LR
comp=Z,480nm,20.0s
IM04 Indian Mountai 99.92 25 eP Pdif 18 56 48.5 +0.8
KDAK Kodiak Island 100.19 33 ePP PP 19 00 51.7 -3.6
KDAK LR LR
comp=Z,2µm,21.0s
RSO Redoubt South 100.20 30 ePdif Pdif 18 56 51.3 +2.0
PPLA Purkeypile 100.53 28 ePdif Pdif 18 56 51.5 +0.9
VYHS Vyhne 100.65 318 eP Pdif 18 56 52.6 +1.2
VYHS e 19 00 57.4
VYHS Vyhne 100.65 318 PDIF Pdif 18 56 52.6 +1.2
VYHS ePP PP 19 00 57.4 -1.9
KTH Kantishna Hill 101.11 27 ePP PP 19 00 59.1 -3.3
SPITS Spitsbergen Ar 101.16 348 P Pdif 18 56 53.1 +0.1
comp=Z,73nm,0.9s,baz=125,slow=8.6,SNR=53
OKC Ostrava-Krasne 101.16 319 eP Pdif 18 56 54.9 +1.3
OKC e 19 01 02.3
OKC e 19 15 20.8
OKC MLR MLR
comp=Z,600nm,22.0s
OKC Ostrava-Krasne 101.16 319 ePDIFF Pdif 18 56 54.9 +1.3
OKC ePP PP 19 01 02.3 -0.8
OKC ex x 19 07 45.1
OKC ex x 19 15 20.8
OKC AMS AMS 19 46 40.0
comp=Z,600nm,22.0s
COLD Coldfoot 101.36 23 ePdif Pdif 18 56 55.8 +1.8
TRF Thorofare Moun 101.40 27 ePdif Pdif 18 56 55.6 +1.1
MORC Moravsky Berou 101.55 319 eP Pdif 18 56 56.4 +1.0
MORC pmax pmax
comp=Z,5.0nm,1.0s
MORC Moravsky Berou 101.55 319 eP Pdif 18 56 56.4 +1.0
comp=Z,4.7nm,1.0s
TIP Timpagrande 101.66 308 PFAKE 18 57 10.0 +14
TIP LR LR
comp=Z,410nm,21.0s
RC01 Rabbit Creek A 101.69 30 ePdif Pdif 18 56 56.3 +0.6
RC01 ePP PP 19 01 03.5 -3.2
KBS Kingsbay 101.94 349 PFAKE 18 57 10.0 +14
KBS LR LR
comp=Z,1µm,20.0s
PMR Palmer 101.97 29 eP Pdif 18 56 57.3 +0.4
PMR Palmer 101.97 29 ePdif Pdif 18 56 57.3 +0.4
MCK McKinley 102.00 27 eP Pdif 18 56 57.5 +0.5
MCK McKinley 102.00 27 ePdif Pdif 18 56 57.5 +0.5
KRLC Kraliky 102.05 319 eP Pdif 18 56 59.1 +1.5
KRLC e 19 01 08.4
KRLC Kraliky 102.05 319 ePDIFF Pdif 18 56 59.1 +1.5
KRLC ePP PP 19 01 08.4 -1.4
CEL Celeste 102.28 307 PFAKE 18 57 10.0 +11
CEL LR LR
comp=Z,721nm,21.0s
DPC Dobruska-Polom 102.35 319 eP Pdif 18 56 58.6 -0.3
DPC e 19 01 09.6
DPC eS Sdif 19 08 36.7 -1.3
DPC Dobruska-Polom 102.35 319 ePDIFF Pdif 18 56 58.6 -0.3
DPC ePP PP 19 01 09.6 -2.4
DPC eSDIF 19 08 36.7
DPC ex x 19 15 34.0
DPC AMS AMS 19 47 30.0
KSP Ksiaz 102.37 320 eP Pdif 18 56 58.7 -0.2
COLA College 102.42 26 PFAKE 18 57 10.0 +11
COLA LR LR
comp=Z,742nm,20.0s
CUC Castrocucco 102.43 309 PFAKE 18 57 10.0 +10
CUC LR LR
comp=Z,788nm,19.0s
UPC Upice 102.55 320 ePP PP 19 01 07.5 -6.0
CONA Conrad Observa 102.62 317 ⇑iPP PP 19 01 10.9 -3.4
comp=Z,26nm,1.3s
ILAR Eielson Array 102.83 26 P Pdif 18 57 00.2 -0.4
comp=Z,2.1nm,0.8s,baz=260,slow=4.1,SNR=18
ILAR PP PP 19 01 09.2 -5.9
comp=Z,3.7nm,1.1s,baz=244,slow=5.9,SNR=6.7
ILAR PKKPbc PKKPbc 19 12 58.7 -2.7
comp=Z,0.5nm,0.5s,baz=96,slow=1.5,SNR=12
ARSA Arzberg 102.84 316 ⇓iPP PP 19 01 13.5 -2.4
comp=Z,19nm,1.2s
TREC Trest 102.88 318 ePP PP 19 01 08.7 -7.3
TREC AMS AMS 19 47 20.0
comp=Z,800nm,23.5s
SOKA Soboth 103.17 316 ⇑iPP PP 19 01 17.7 -0.7
comp=Z,21nm,1.4s
WDD Wield Dalam 103.26 305 PFAKE 18 57 20.0 +17
WDD LR LR
comp=Z,993nm,21.0s
PRU Pruhonice 103.50 319 ePP PP 19 01 17.2 -3.3
PRU eSDIF 19 08 46.2
PRU ex x 19 15 50.0
PRU AMS AMS 19 46 40.0
comp=Z,900nm,22.2s
PRA Prague 103.56 319 PP PP 19 01 18.0 -3.0
HFS Hagfors 103.58 330 Pdiff Pdif 18 57 05.2 +1.1
comp=Z,4.2nm,0.7s,baz=100,slow=7.7,SNR=8.3
PAX Paxson 103.60 28 eP Pdif 18 57 05.6 +1.3
PAX e 19 01 18.8
PAX Paxson 103.60 28 ePdif Pdif 18 57 05.6 +1.3
PAX ePP PP 19 01 18.8 -2.3
DIV Divide 103.61 29 ePP PP 19 01 27.9 +6.8
BRG Berggiesshubel 103.86 320 ePDIF Pdif 18 57 12.4 +6.8
comp=Z,29nm,2.0s
BRG PP PKiKP 19 01 19.0 -4.1
BRG SKS 19 07 53.0
BRG SDIFF Sdif 19 08 49.0 -1.5
BRG SS SS 19 15 50.0 -16
comp=N,493nm,24.3s
comp=E,815nm,27.1s
comp=Z,800nm,20.7s
BRG Berggiesshubel 103.86 320 eP Pdif 18 57 12.4 +6.8
BRG 19 01 19.0
BRG S Sdif 19 08 49.0 -1.5
BRG pmax pmax
comp=Z,9.0nm,2.0s
BRG MLR MLR
comp=N,29µm,24.3s
BRG MLR MLR
comp=E,493nm,27.1s
BRG MLR MLR
comp=Z,815nm,20.7s
GERES GERESS Array B 104.06 318 Pdiff Pdif 18 57 08.3 +1.6
comp=Z,0.4nm,0.6s,baz=139,slow=8.9,SNR=4.6
GERES PP PKiKP 19 01 22.2 -1.5
comp=Z,2.6nm,0.9s,baz=81,slow=8.0,SNR=4.7
KHC Kasperske Hory 104.14 318 ePP PP 19 01 22.3 -3.1
KHC eSDIF 19 08 51.3
KHC ex x 19 15 57.2
KHC AMS AMS 19 45 50.0
comp=Z,800nm,22.3s
DOT Dot Lake 104.17 27 ePdif Pdif 18 57 08.6 +1.9
DOT ePP PP 19 01 27.2 +2.1
BMRM Bremner River 104.19 30 ePdif Pdif 18 57 08.4 +1.6
AQU L'Aquila 104.31 311 PFAKE 18 57 20.0 +12
AQU LR LR
comp=Z,1µm,22.0s
CLL Collm 104.44 320 eP Pdif 18 57 04.0 -4.1
CLL Collm 104.44 320 ePP PP 19 01 25.0 -2.5
CLL epPP 19 01 40.0
CLL epSKSac pSKSac 19 08 04.0 -2.4
CLL eSdif Sdif 19 08 55.0 -0.3
CLL epPS 19 10 58.0
CLL ePPS PPS 19 11 48.0
CLL eSS SS 19 16 01.0 -13
CLL eSSSS 19 23 36.0
NB2 NORSAR Subarra 104.72 331 P Pdif 18 57 09.3 +0.1
comp=Z,12nm,1.2s,baz=78,slow=4.8
NB2 NORSAR Subarra 104.72 331 P Pdif 18 57 09.3 +0.1
baz=78,slow=4.8
NOA NORSAR Array B 104.72 331 Pdiff Pdif 18 57 08.8 -0.5
comp=Z,2.2nm,1.0s,baz=81,slow=5.2,SNR=3.6
NOA PP PP 19 01 27.9 -1.5
comp=Z,2.1nm,0.9s,baz=79,slow=6.8,SNR=3.9
RKT Rikitea 105.12 117 ePS PS 19 10 44.8 -4.5
comp=Z,899nm,29.5s
EGAK Eagle 105.27 25 ePdif Pdif 18 57 13.3 +1.8
EGAK LR LR
comp=Z,860nm,19.0s
PMSA Palmer Station 105.53 181 PFAKE 19 01 40.0
PMSA LR LR
comp=Z,1µm,22.0s
KONO Kongsberg 105.68 329 PFAKE 19 01 40.0
KONO LR LR
comp=Z,1µm,21.0s
DAWY Dawson 106.15 26 eP Pdif 18 57 15.5 0.0
VLC Villacollemand 106.48 313 PFAKE 19 01 40.0
VLC LR LR
comp=Z,1µm,20.0s
DAVOX Davos/Dischmat 106.72 316 Pdiff Pdif 18 57 17.1 -1.5
comp=Z,2.3nm,0.8s,baz=27,slow=4.5,SNR=3.5
TUE Stuetta 107.10 316 ePdif Pdif 18 57 28.9 +8.6
TUE LR LR
comp=Z,790nm,22.0s
HYT Haines Junctio 107.64 29 ePdif Pdif 18 57 26.4 +4.1
HYT ePP PP 19 01 48.1 -2.8
BFO Black Forest 107.65 318 PFAKE 19 01 40.0
BFO LR LR
comp=Z,618nm,22.0s
ECH Echery 108.44 318 PFAKE 19 01 40.0
ECH LR LR
comp=Z,558nm,21.0s
DAG Danmarks Havn 108.63 350 iP Pdif 18 57 26.9 +0.7
DAG pmax pmax
comp=Z,5.0nm,1.0s
DAG Danmarks Havn 108.63 350 iP Pdif 18 57 26.9 +0.7
comp=Z,4.5nm,1.0s
LPG La Plagne 108.98 315 eP Pdif 18 57 29.4 +0.6
comp=Z,81nm,1.7s
LPG La Plagne 108.98 315 eP Pdif 18 57 29.4 +0.6
LPG pmax pmax
comp=Z,81nm,1.7s
LPG La Plagne 108.98 315 eP Pdif 18 57 29.4 +0.6
comp=Z,81nm,1.7s
LPL La Plagne 108.99 315 eP Pdif 18 57 30.1 +1.3
LPL La Plagne 108.99 315 eP Pdif 18 57 30.1 +1.3
LPL La Plagne 108.99 315 eP Pdif 18 57 30.1 +1.3
BNI Bardonecchia 109.07 314 PFAKE 19 01 50.0
BNI LR LR
comp=Z,1µm,22.0s
SSB Saint Sauveur 110.55 315 PFAKE 19 01 50.0
SSB LR LR
comp=Z,534nm,22.0s
TAM Tamanrasset 110.60 291 PFAKE 19 01 50.0
TAM LR LR
comp=Z,635nm,20.0s
HOPE Hope Point 111.33 198 PFAKE 19 01 50.0
HOPE LR LR
comp=Z,539nm,20.0s
TCF Toulx Ste Croi 112.03 316 eP Pdif 18 57 43.0 +1.0
comp=Z,41nm,1.4s
TCF Toulx Ste Croi 112.03 316 eP Pdif 18 57 43.0 +1.0
TCF Toulx Ste Croi 112.03 316 eP Pdif 18 57 43.0 +1.0
ESK Eskdalemuir 113.35 326 PFAKE 19 01 50.0
ESK LR LR
comp=Z,956nm,21.0s
TOA0 Torodi Ar. Sit 113.62 280 ePKiKP PKiKP 19 01 42.3 -0.1
TORD Torodi Ar. Bea 113.62 280 PKiKP PKiKP 19 01 42.5 +0.1
comp=Z,9.5nm,0.7s,baz=67,slow=1.4,SNR=50
TORD PKKPbc PKKPbc 19 12 24.6 -1.0
comp=Z,0.3nm,0.4s,baz=324,slow=1.6,SNR=7.8
SUMG Summit 115.19 351 iPKIKP PKPdf 19 01 46.1 +1.8
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 115.19 351 iP Pdif 18 57 58.6 +2.6
comp=Z,3.5nm,0.9s
SUMG Summit 115.19 351 iP PKPdf 19 01 46.1 +1.8
comp=Z,5.1nm,0.9s
BORG Borgarnes 117.00 340 PFAKE 19 02 00.0 +13
BORG LR LR
comp=Z,2µm,19.0s
YKA Yellowknife Ar 117.03 23 Pdiff Pdif 18 58 05.8 +1.9
comp=Z,0.5nm,0.7s,baz=303,slow=4.5,SNR=7.2
YKA PKP PKiKP 19 01 47.7 +0.1
comp=Z,12nm,0.7s,baz=309,slow=1.9,SNR=120
YKA PKKP PKKPdf 19 12 31.1 -11
comp=Z,1.3nm,0.9s,baz=117,slow=3.6,SNR=4.1
ESDC Sonseca Array 117.61 310 PKP PKPdf 19 01 49.6 +0.1
comp=Z,0.6nm,0.6s,baz=19,slow=2.5,SNR=5.2
ESDC PP PP 19 02 59.8 -2.8
comp=Z,1.9nm,0.7s,baz=67,slow=4.3,SNR=4.9
PAB San Pablo 117.93 310 PFAKE 19 02 00.0 +10
PAB LR LR
comp=Z,674nm,22.0s
NLWA Neilton Lookou 118.86 41 PFAKE 19 02 00.0 +8.4
NLWA LR LR
comp=Z,997nm,20.0s
KIC Kosan Boka 119.19 272 ePKIKP PKPdf 19 01 53.8 +0.6
comp=Z,98nm,1.5s
E03A Lebam 119.32 42 ePKPdf PKPdf 19 01 54.9 +2.5
DBIC Dimbokro 119.34 272 PKP PKPdf 19 01 54.3 +0.8
comp=Z,8.2nm,0.5s,baz=75,slow=2.6,SNR=17
DBIC PKKPab PKKPab 19 12 07.9 -0.1
comp=Z,3.7nm,0.9s,baz=294,slow=3.2,SNR=4.0
DBIC Dimbokro 119.34 272 PKP PKPdf 19 01 54.3 +0.8
DBIC ePKPdf PKPdf 19 01 54.6 +1.1
DBIC PKKPab PKKPab 19 12 07.9 -0.1
LIC Lamto 119.45 272 ePKIKP PKPdf 19 01 54.2 +0.5
comp=Z,75nm,1.5s
TIC Toumodi 119.50 272 ePKIKP PKPdf 19 01 54.3 +0.5
comp=Z,16nm,0.5s
G03D McMinnville, O 119.92 43 ⇓P PKPdf 19 01 56.0 +2.3
baz=120
B06A Marblemount 120.00 39 ePKPdf PKPdf 19 01 55.5 +1.8
D05A Enumclaw 120.14 41 ePKPdf PKPdf 19 01 56.9 +2.8
MTE Manteigas 120.15 311 PFAKE 19 02 10.0 +16
MTE LR LR
comp=Z,592nm,22.0s
PCBR Castelo Branco 120.23 310 ePKPdf PKPdf 19 01 56.4 +2.0
F04A Amboy 120.27 42 ePKPdf PKPdf 19 01 56.3 +2.0
I03D Drain, OR 120.30 45 ⇓P PKPdf 19 01 56.6 +2.1
baz=120
LON Longmire 120.40 41 ePKIKP PKPdf 19 01 56.5 +1.8
LON Longmire 120.40 41 ePKPdf PKPdf 19 01 56.5 +1.8
L02D Cave Junction, 120.54 47 ⇑P PKPdf 19 01 57.3 +2.3
baz=121
KHMM Horse Mountain 120.78 48 ePKPdf PKPdf 19 01 58.6 +3.0
H04A Detroit Lake 120.81 44 ePKPdf PKPdf 19 01 57.0 +1.5
RTC Rabat Centre 120.88 304 PFAKE 19 02 10.0 +14
RTC LR LR
comp=Z,681nm,20.0s
HUMO Hull Mountain 120.88 46 ePKPdf PKPdf 19 01 58.0 +2.4
VLL Laurance Lake 120.91 43 P PKPdf 19 01 57.9 +2.2
I04A Tendick Farm, 120.92 45 ⇓P PKPdf 19 01 57.2 +1.5
baz=121
LTY Liberty 120.96 40 ePKPdf PKPdf 19 01 56.9 +1.2
ETW Entiat 121.05 40 P PKPdf 19 01 57.5 +1.5
VFP Flag Point 121.10 43 P PKPdf 19 01 58.3 +2.1
EBG Ellensburg 121.15 41 P PKPdf 19 01 58.1 +2.0
G05D Wamic, OR 121.22 43 ⇓P PKPdf 19 01 58.3 +2.1
baz=121
WTV Waterville 121.25 40 P PKPdf 19 01 57.7 +1.4
M02C Callahan 121.28 47 ⇑P PKPdf 19 01 58.6 +2.0
baz=121
J04D Umpqua Nationa 121.30 45 ⇑P PKPdf 19 01 59.0 +2.3
baz=121
YBH Yreka Blue Hor 121.30 47 PKIKP PKPdf 19 01 56.9 +0.3
YBH e 19 03 28.0
YBH Yreka Blue Hor 121.30 47 PKP PKPdf 19 01 56.9 +0.3
comp=Z,8.5nm,0.8s,baz=48,slow=1.1,SNR=7.9
YBH Yreka Blue Hor 121.30 47 PKP PKPdf 19 01 56.9 +0.3
YBH ePKPdf PKiKP 19 01 58.7 +2.0
YBH ePP PP 19 03 28.0 +0.1
TRW Toppenish Ridg 121.38 41 P PKPdf 19 01 58.5 +2.0
SAW Saint Andrews 121.60 39 P PKPdf 19 01 58.4 +1.5
G06A Carlson Farm, 121.68 43 ePKPdf PKPdf 19 01 59.3 +2.2
WDC Whiskeytown Da 121.73 48 ePKIKP PKPdf 19 01 59.1 +1.8
WDC Whiskeytown Da 121.73 48 ePKPdf PKPdf 19 01 59.1 +1.8
E07A Sunnyside 121.73 41 ePKPdf PKPdf 19 01 59.7 +2.5
E07A ePP PP 19 03 36.7 +6.2
PFVI Vila Bisbo 121.86 308 PKPdf PKPdf 19 01 56.2 -1.5
J05D Fort Rock, OR 121.89 45 ⇑P PKPdf 19 02 00.1 +2.3
baz=122
M04C Macdoel 121.91 47 ⇑P PKPdf 19 01 59.6 +1.8
baz=122
HAWA Hanford 122.00 41 ePKPdf PKPdf 19 02 00.0 +2.4
HAWA LR LR
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 122.01 353 PKIKP PKPdf 19 01 57.8 +0.8
SFJD MLR MLR
comp=Z,1µm,21.0s
SFJD Kangerlussuaq 122.01 353 iP PKPdf 19 01 57.6 +0.6
comp=Z,12nm,0.8s
SFJD Kangerlussuaq 122.01 353 PKP PKPdf 19 01 57.8 +0.8
comp=Z,13nm,0.8s,baz=354,slow=5.4,SNR=4.4
SFJD Kangerlussuaq 122.01 353 PKP PKPdf 19 01 57.8 +0.8
SFJD LR LR
comp=Z,1µm,21.0s
D08A Wollman Farm, 122.14 40 ePKPdf PKPdf 19 02 00.1 +2.2
C09A Chrisman Ranch 122.26 39 ePKPdf PKPdf 19 01 59.9 +1.7
C09A ePP PP 19 03 23.7 -10
EDM Edmonton 122.61 32 ePKIKP PKPdf 19 01 59.4 +0.8
EDM Edmonton 122.61 32 ePKPdf PKPdf 19 01 59.4 +0.8
G08A Pilot Rock 122.77 42 ePKPdf PKPdf 19 02 01.5 +2.2
NEW Newport 122.78 38 ePKIKP PKPdf 19 02 00.8 +1.6
NEW MLR MLR
comp=Z,1µm,19.0s
NEW Newport 122.78 38 PKP PKPdf 19 02 00.8 +1.6
comp=Z,14nm,0.8s,baz=272,slow=0.3,SNR=26
NEW Newport 122.78 38 ePKPdf PKPdf 19 02 00.8 +1.6
NEW LR LR
comp=Z,1µm,19.0s
NEW Newport 122.78 38 ⇑P PKPdf 19 02 00.5 +1.4
baz=123,SNR=11
I07A Izee 122.82 43 ePKPdf PKPdf 19 02 01.6 +2.2
OHCM Honcut 122.84 49 ePKPdf PKPdf 19 02 01.1 +1.7
OHCM ePP PP 19 03 34.8 -3.5
E09A Wood Farm, Sta 122.84 40 ePKPdf PKPdf 19 02 00.7 +1.4
MOD Modoc 122.97 46 ePKPdf PKPdf 19 02 02.1 +2.2
F10A Beach Ranch, E 123.64 41 ePKPdf PKPdf 19 02 02.1 +1.1
WVOR Wild Horse Val 123.97 45 ePKIKP PKPdf 19 02 03.3 +1.6
WVOR MLR MLR
comp=Z,680nm,21.0s
WVOR Wild Horse Val 123.97 45 ePKPdf PKPdf 19 02 03.3 +1.6
WVOR LR LR
comp=Z,680nm,21.0s
CMB Columbia Colle 124.01 51 ePKIKP PKPdf 19 02 03.7 +1.9
CMB e 19 03 44.3
CMB Columbia Colle 124.01 51 ePKPdf PKPdf 19 02 03.7 +1.9
CMB ePP PP 19 03 44.3 -2.0
BMO Blue Mountains 124.02 42 ePKIKP PKPdf 19 02 03.0 +1.3
BMO MLR MLR
comp=Z,926nm,19.0s
BMO Blue Mountains 124.02 42 ePKPdf PKPdf 19 02 03.0 +1.3
BMO LR LR
comp=Z,926nm,19.0s
WALA Waterton Lakes 124.34 36 ePKPdf PKPdf 19 02 03.4 +1.2
BSMT Bassoo Peak 124.38 38 ePKPdf PKPdf 19 02 03.8 +1.3
BLMT Blacktail Moun 124.56 37 ePKPdf PKPdf 19 02 04.5 +1.7
BLMT ePP PP 19 03 48.9 -0.8
WAKR Walker 124.60 50 ePKPdf PKPdf 19 02 05.7 +2.5
WAKR ePP PP 19 03 47.9 -2.5
JTMT Jette 124.73 38 ePKPdf PKPdf 19 02 04.2 +1.2
PTRM Twissleman Ran 124.74 53 ePKPdf PKPdf 19 02 06.5 +3.2
YBMT Yellow Bay 124.84 37 ePKPdf PKPdf 19 02 04.3 +1.1
SMMC Simmler 124.99 54 ⇓P PKPdf 19 02 06.5 +2.7
baz=125
SWMT Swartz Lake 125.01 38 ePKPdf PKPdf 19 02 04.8 +1.2
MSO Missoula 125.35 39 ePKPdf PKPdf 19 02 05.1 +0.9
MSO Missoula 125.35 39 ⇓P PKPdf 19 02 05.4 +1.2

baz=125,SNR=37
NVAR Mina Array Bea 125.47 50 PKP PKPdf 19 02 07.2 +2.4
comp=Z,16nm,0.8s,baz=249,slow=2.2,SNR=68
NVAR PP PP 19 03 48.4 -7.9
comp=Z,6.7nm,1.0s,baz=272,slow=5.8,SNR=5.7
ASCN Ascension 125.48 253 PFAKE 19 02 20.0 +15
ASCN LR LR
comp=Z,1μm,20.0s
MFID Camas Ranch 125.55 43 ePKPdf PKPdf 19 02 07.2 +2.5
NV11 Mina Array Sit 125.58 50 ePKPdf PKPdf 19 02 07.0 +2.0
VES Vestal, Richgr 125.58 53 ⇑P PKPdf 19 02 06.4 +1.5
baz=126
MTUM Tungsten Hills 125.59 51 ePKPdf PKPdf 19 02 07.6 +2.5
BSC Santa Cruz Isl 125.59 55 ⇓P PKPdf 19 02 07.6 +2.6
baz=126
BMN Battle Mountai 125.64 47 ePKIKP PKPdf 19 02 07.5 +2.5
BMN e 19 03 55.4
BMN Battle Mountai 125.64 47 ePKPdf PKPdf 19 02 07.5 +2.5
BMN ePP PP 19 03 55.4 -1.8
CHMT Chamberlain Mo 125.73 38 ePKPdf PKPdf 19 02 06.3 +1.2
TIN Tinemaha 125.93 51 ⇓P PKPdf 19 02 08.4 +2.7
baz=126
ARVC Arvin 125.97 54 ⇑P PKPdf 19 02 08.6 +3.0
baz=126
ISA Isabella 126.11 53 ePKIKP PKPdf 19 02 07.8 +1.8
ISA Isabella 126.11 53 ePKPdf PKPdf 19 02 07.8 +1.8
FRB Frobisher Bay 126.21 1 PKP PKPdf 19 02 06.2 +1.1
comp=Z,9.3nm,0.8s,baz=18,slow=1.3,SNR=8.2
CWC Cottonwood Cre 126.21 52 ⇓P PKPdf 19 02 09.0 +2.8
baz=126
TPH Tonopah 126.39 50 ePKIKP PKPdf 19 02 08.9 +2.3
TPH e 19 04 01.4
TPH Tonopah 126.39 50 ePKPdf PKPdf 19 02 08.9 +2.3
TPH ePP PP 19 04 01.4 -1.0
HLID Hailey 126.44 42 ePKPdf PKPdf 19 02 08.6 +2.1
HLID LR LR
comp=Z,980nm,19.0s
HLID Hailey 126.44 42 ⇑P PKPdf 19 02 09.2 +2.7
baz=126
DECC Green Verdugo 126.58 55 ⇑P PKPdf 19 02 09.5 +2.6
baz=127
GRAC Grapevine Rang 126.60 51 ⇑P PKPdf 19 02 09.4 +2.6
baz=127
DAC Darwin (Calif) 126.63 52 ePKIKP PKPdf 19 02 09.5 +2.4
DAC Darwin (Calif) 126.63 52 ePKPdf PKPdf 19 02 09.5 +2.4
HRY Holter Researc 126.69 38 ePKPdf PKPdf 19 02 08.5 +1.7
EDW2 Edwards Air Fo 126.70 54 ⇓P PKPdf 19 02 10.1 +3.0
baz=127
PASC Pasadena Art C 126.72 55 ePKPdf PKPdf 19 02 09.4 +2.3
LRM Limekiln Ridge 126.72 39 ePKPdf PKPdf 19 02 08.8 +1.7
LRM ePP PP 19 04 03.2 -1.0
FCC Fort Churchill 126.82 18 ePKIKP PKPdf 19 02 07.7 +1.2
FCC Fort Churchill 126.82 18 ePKPdf PKPdf 19 02 07.7 +1.2
DLMT Dillon 126.84 40 ePKPdf PKPdf 19 02 09.0 +1.8
MCMT McKenzie Canyo 126.92 40 ePKPdf PKPdf 19 02 09.4 +1.9
ELK Elko 126.95 46 ePKIKP PKPdf 19 02 10.1 +2.4
ELK Elko 126.95 46 PKP PKPdf 19 02 10.5 +2.8
comp=Z,24nm,0.9s,baz=268,slow=0.9,SNR=63
ELK Elko 126.95 46 ePKPdf PKPdf 19 02 10.1 +2.4
ELK PKP PKPdf 19 02 10.5 +2.8
FFC Flin Flon 127.04 25 ePKIKP PKPdf 19 02 08.1 +1.0
FFC e 19 04 03.4
FFC MLR MLR
comp=Z,879nm,19.0s
FFC Flin Flon 127.04 25 ePKPdf PKPdf 19 02 08.1 +1.0
FFC ePP PP 19 04 03.4 -2.1
FFC LR LR
comp=Z,879nm,19.0s
BFSC Mount Baldy Ra 127.12 54 ⇓P PKPdf 19 02 10.4 +2.4
baz=127
FURC Furnace Creek, 127.15 52 ⇑P PKPdf 19 02 10.7 +2.9
baz=127
EGMT Eagleton 127.26 36 ePKPdf PKPdf 19 02 09.5 +1.7
EGMT LR LR
comp=Z,935nm,21.0s
EGMT Eagleton 127.26 36 ⇓P PKPdf 19 02 09.6 +1.8
baz=127,SNR=35
BOZ Bozeman (W) 127.31 39 ePKIKP PKPdf 19 02 09.8 +1.7
BOZ MLR MLR
comp=Z,711nm,21.0s
BOZ Bozeman (W) 127.31 39 ePKPdf PKPdf 19 02 09.8 +1.7
BOZ LR LR
comp=Z,711nm,21.0s
A19A Klindworth Far 127.34 34 ⇑P PKPdf 19 02 09.4 +1.5
baz=127,SNR=13
B19A Brinkman Farms 127.49 35 ⇓P PKPdf 19 02 09.9 +1.8
baz=128,SNR=15
GSC Goldstone 127.52 53 ePKIKP PKPdf 19 02 11.5 +2.8
GSC Goldstone 127.52 53 ePKPdf PKPdf 19 02 11.5 +2.8
GSC Goldstone 127.52 53 ⇑P PKPdf 19 02 11.4 +2.7
baz=128
R11A Troy Canyon, C 127.53 49 ePKPdf PKPdf 19 02 11.0 +2.3
R11A Troy Canyon, C 127.53 49 ⇓P PKPdf 19 02 11.4 +2.7
baz=128
MURC Murrieta 127.65 55 ⇓P PKPdf 19 02 11.8 +2.8
baz=128
BBRC Big Bear Solar 127.71 54 ⇑P PKPdf 19 02 11.9 +2.6
baz=128
SHOC Shoshone 127.76 52 ⇓P PKPdf 19 02 11.8 +2.8
baz=128
C19A Slack Wire Ran 127.81 36 ⇓P PKPdf 19 02 10.8 +2.0
baz=128,SNR=23
QLMT Earthquake Lak 127.82 40 ePKPdf PKPdf 19 02 11.9 +2.8
A20A Cobblestone Ra 127.82 34 ⇓P PKPdf 19 02 10.3 +1.5
baz=128,SNR=7.7
B20A Solberg Farm, 128.01 34 ⇓P PKPdf 19 02 10.8 +1.6
baz=128,SNR=14
HEC Hector,Ludlow 128.03 53 ⇓P PKPdf 19 02 11.7 +2.0
baz=128
TUQ Turquoise Moun 128.17 52 ⇑P PKPdf 19 02 11.9 +1.9
baz=128
YMR Madison River 128.19 40 ePKPdf PKPdf 19 02 12.4 +2.5
D19A Cripps Ranch, 128.21 36 ⇓P PKPdf 19 02 11.7 +2.0
baz=128
PFO Pinyon Flat Ob 128.25 55 PKIKP PKPdf 19 02 13.0 +2.8
PFO MLR MLR
comp=Z,1μm,20.0s
PFO Pinyon Flat Ob 128.25 55 PKP PKPdf 19 02 13.0 +2.8
comp=Z,27nm,1.1s,baz=275,slow=1.2,SNR=13
PFO Pinyon Flat Ob 128.25 55 PKP PKPdf 19 02 13.0 +2.8
PFO ePKPdf PKiKP 19 02 13.2 +2.4
PFO LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flat Ob 128.25 55 ⇑P PKPdf 19 02 12.9 +2.7
baz=128
HVU Hansel Valley 128.27 44 ePKIKP PKPdf 19 02 12.1 +2.1
HVU Hansel Valley 128.27 44 ePKPdf PKPdf 19 02 12.1 +2.1
YNR Norris Junctio 128.35 40 ePKPdf PKPdf 19 02 14.0 +3.8
YFT Old Faithful 128.37 40 ePKPdf PKPdf 19 02 14.6 +4.3
C20A Veseth Ranch, 128.42 35 ⇓P PKPdf 19 02 12.2 +2.2
baz=128,SNR=18
BGU Big Grassy Mou 128.43 45 ePKPdf PKPdf 19 02 13.2 +2.8
SHPR Sheep Range 128.44 51 ePKPdf PKPdf 19 02 13.3 +2.7
SHPR ePP PP 19 04 15.3 -0.6
MONP Monument Peak 128.46 56 ⇓P PKPdf 19 02 13.3 +2.6
baz=128
BELC Belle Mtn. Jos 128.51 54 ⇓P PKPdf 19 02 13.4 +2.7
baz=128
H17A Grant Village 128.56 40 ePKPdf PKPdf 19 02 14.5 +3.8
H17A Grant Village 128.56 40 ⇓P PKPdf 19 02 14.1 +3.5
baz=129,SNR=9.0
IMW Indian Meadow 128.56 41 ePKPdf PKPdf 19 02 13.5 +2.8
GMRC Granite Mounta 128.57 53 ⇓P PKPdf 19 02 13.6 +2.8
baz=129
B21A Ellsworth Farm 128.57 34 ⇑P PKPdf 19 02 12.1 +1.9
baz=129,SNR=6.6
FXWY Fox Creek 128.62 41 ePKPdf PKPdf 19 02 13.0 +2.2
FLWY Flagg Ranch 128.63 40 ePKPdf PKPdf 19 02 13.2 +2.5
E19A Rath Farm, Rou 128.63 37 ⇑P PKPdf 19 02 11.9 +1.4
baz=129
D20A Manuel Ranch, 128.68 36 ⇑P PKPdf 19 02 12.6 +2.1
baz=129,SNR=13
SPUT South Promonto 128.68 44 ePKPdf PKPdf 19 02 13.1 +2.2
TPAW Teton Pass 128.74 41 ePKPdf PKPdf 19 02 13.2 +2.2
MOOW Moose Ponds 128.75 41 ePKPdf PKPdf 19 02 13.0 +2.0
I17A Pilgrim Ck. 128.78 40 ⇓P PKPdf 19 02 13.4 +2.4
baz=129
A22A Carney Farms, 128.85 33 ⇓P PKPdf 19 02 12.4 +1.6
baz=129
F19A Roth Farm, Mol 128.85 38 ⇓P PKPdf 19 02 12.6 +1.7
baz=129
REDW Red Top Meadow 128.86 41 ePKPdf PKPdf 19 02 13.5 +2.3
C21A Desert Coulee 128.87 35 ⇓P PKPdf 19 02 12.8 +2.0
baz=129,SNR=8.2
DUG Dugway 128.87 46 ePKIKP PKPdf 19 02 13.7 +2.5
DUG MLR MLR
comp=Z,769nm,20.0s
DUG Dugway 128.87 46 ePKPdf PKPdf 19 02 13.7 +2.5
DUG LR LR
comp=Z,769nm,20.0s
DUG Dugway 128.87 46 ⇑P PKPdf 19 02 13.4 +2.2
baz=129
LOHW Long Hollow 128.91 41 ePKPdf PKPdf 19 02 13.1 +1.8
SWSC Sam W. Stewart 128.96 56 ⇓P PKPdf 19 02 13.6 +2.2
baz=129
AHID Auburn Hatcher 128.97 42 PFAKE 19 02 20.0 +8.6
AHID LR LR
comp=Z,2μm,22.0s
E20A Meyer Farm, Mu 129.00 36 ⇑P PKPdf 19 02 13.2 +2.0
baz=129
H18A Shoshone NF, C 129.00 39 ⇑P PKPdf 19 02 12.7 +1.3
baz=129,SNR=5.8
RLMT Red Lodge 129.03 39 ePKPdf PKPdf 19 02 12.8 +1.4
BC3 Big Chuckawall 129.04 55 ⇑P PKPdf 19 02 14.3 +2.6
baz=129
IRM Iron Mountain 129.15 54 ⇑P PKPdf 19 02 14.6 +2.8
baz=129
HWUT Hardware Ranch 129.16 44 ePKPdf PKPdf 19 02 13.3 +1.6
HWUT LR LR
comp=Z,957nm,21.0s
D21A La Casta Ranch 129.35 35 ⇑P PKPdf 19 02 13.5 +1.7
baz=129,SNR=15
F20A Billings 129.36 37 ⇑P PKPdf 19 02 13.1 +1.2
baz=129
CTU Camp Tracy 129.42 45 ePKPdf PKPdf 19 02 15.1 +2.8
CTU ePP PP 19 04 20.1 -2.0
H19A Powell 129.42 39 ⇑P PKPdf 19 02 14.1 +2.0
baz=129,SNR=16
CCUT Cedar City 129.45 49 ePKPdf PKPdf 19 02 15.1 +2.6
CCUT ePP PP 19 04 14.9 -7.5
PLCA Paso Flores 129.46 176 PKP PKPdf 19 02 14.5 +2.2
comp=Z,5.2nm,1.1s,baz=190,slow=3.6,SNR=5.8
TCUT Toone Canyon 129.47 44 ePKPdf PKPdf 19 02 14.7 +2.2
NLU North Lily Min 129.49 46 ePKPdf PKPdf 19 02 15.4 +3.0
NLU ePP PP 19 04 21.7 -0.8
C22A Vida 129.59 34 ⇑P PKPdf 19 02 14.3 +2.1
baz=130,SNR=13
E21A Keefer Ranch, 129.59 36 ⇓P PKPdf 19 02 14.5 +2.3
baz=130,SNR=12
G20A Bridger 129.62 38 ⇓P PKPdf 19 02 14.6 +2.1
baz=130,SNR=15
B23A Brockton 129.65 33 ⇑P PKPdf 19 02 14.6 +2.4
baz=130
JLU Jordanelle 129.66 45 ePKPdf PKPdf 19 02 15.6 +2.8
JLU ePP PP 19 04 14.8 -8.9
GLA Glamis 129.71 55 ePKIKP PKPdf 19 02 16.0 +3.1
GLA Glamis 129.71 55 ePKPdf PKPdf 19 02 16.0 +3.1
GLA Glamis 129.71 55 ⇑P PKPdf 19 02 15.5 +2.6
baz=130
I19A Meeteetse 129.73 40 ⇑P PKPdf 19 02 14.7 +1.9
baz=130,SNR=7.7
Y12C Blythe 129.76 54 ⇓P PKPdf 19 02 15.2 +2.4
baz=130
D22A Cohagen 129.76 35 ⇓P PKPdf 19 02 15.1 +2.6
baz=130,SNR=23
W13A Hualapai Mount 129.86 52 ⇓P PKPdf 19 02 15.6 +2.2
baz=130
DAU Daniels Canyon 129.88 45 ePKIKP PKPdf 19 02 15.6 +2.3
DAU e 19 04 23.8
DAU Daniels Canyon 129.88 45 ePKPdf PKPdf 19 02 15.6 +2.3
DAU ePP PP 19 04 23.8 -1.4
A24A Westby 129.90 32 ⇓P PKPdf 19 02 15.0 +2.2
baz=130
PDMCI Parker Dam,Lak 129.91 53 ⇓P PKPdf 19 02 15.6 +2.5
baz=130
C23A Lambert 129.94 34 ⇑P PKPdf 19 02 15.3 +2.5
baz=130,SNR=13
MVU Marysvale 129.95 47 ePKPdf PKPdf 19 02 16.8 +3.4
F21A Absaloka Mine, 129.95 37 ⇓P PKPdf 19 02 15.2 +2.2
baz=130
BW06 Boulder Array 129.98 41 ePKPdf PKPdf 19 02 12.7 -0.7
BW06 LR LR
comp=Z,1μm,20.0s
PDAR Pinedale Array 129.98 41 PKP PKPdf 19 02 13.2 -0.1
comp=Z,3.8nm,0.6s,baz=270,slow=1.2,SNR=29
LAO LASA Array 130.00 35 PFAKE 19 02 30.0 +17
LAO LR LR
comp=Z,569nm,19.0s
J19A Crowheart 130.07 41 ⇑P PKPdf 19 02 15.3 +1.9
baz=130,SNR=15
DGMT Dagmar 130.07 32 ePKPdf PKPdf 19 02 14.6 +1.6
DGMT Dagmar 130.07 32 ⇑P PKPdf 19 02 15.2 +2.1
baz=130
H20A Greybull 130.12 39 ⇑P PKPdf 19 02 15.2 +1.8
baz=130,SNR=6.1
G21A Lodge Grass 130.22 37 ⇑P PKPdf 19 02 15.5 +1.9
baz=130
D23A Lindsay 130.29 34 ⇓P PKPdf 19 02 16.3 +2.8
baz=130,SNR=10.0
E22A Miles City 130.30 35 ⇓P PKPdf 19 02 15.9 +2.3
baz=130,SNR=5.8
I20A Worland 130.32 39 ⇓P PKPdf 19 02 15.7 +1.9
baz=130,SNR=18
A25A Svangstu Ranch 130.34 31 ⇑P PKPdf 19 02 15.7 +2.1
baz=130
TMUT Trail Mountain 130.37 46 ePKPdf PKPdf 19 02 17.0 +2.8
F22A Rosebud 130.49 36 ⇓P PKPdf 19 02 15.7 +1.7
baz=130,SNR=7.0
C24A Savage 130.51 34 ⇓P PKPdf 19 02 16.0 +2.1
baz=130
J20A Shoshoni 130.64 40 ⇓P PKPdf 19 02 16.4 +1.9
baz=131,SNR=21
113A Mohawk Valley, 130.65 55 ⇓P PKPdf 19 02 16.9 +2.3
baz=131
D24A Glendive 130.81 34 ⇑P PKPdf 19 02 17.1 +2.5
baz=131
Y14A Wickenburg 130.91 53 ⇓P PKPdf 19 02 17.3 +2.1
baz=131
A26A Wade Farm, Ken 130.92 31 ⇓P PKPdf 19 02 17.3 +2.6
baz=131
SRU San Rafael 130.93 46 ePKIKP PKPdf 19 02 17.1 +1.9
SRU San Rafael 130.93 46 ePKPdf PKPdf 19 02 17.1 +1.9
F23A Volborg 131.01 36 ⇑P PKPdf 19 02 17.1 +2.1
baz=131,SNR=13
Z14A Wintersburg 131.14 54 ⇑P PKPdf 19 02 17.4 +1.9
baz=131
E24A Baker 131.15 34 ⇑P PKPdf 19 02 17.6 +2.4
baz=131,SNR=7.7
D25A Fairfield 131.34 33 ⇑P PKPdf 19 02 17.2 +1.6
baz=131
K21A Alcova 131.53 40 ⇑P PKPdf 19 02 18.2 +1.9
baz=132,SNR=260
C26A Wahner Farm, P 131.57 32 ⇓P PKPdf 19 02 18.1 +2.2
baz=132
214A Organ Pipe Nat 131.65 56 ⇓P PKPdf 19 02 18.9 +2.3
baz=132
WUAZ Wupatki 131.66 51 ePKPdf PKPdf 19 02 19.3 +2.6
WUAZ LR LR
comp=Z,1μm,20.0s
WUAZ Wupatki 131.66 51 ⇑P PKPdf 19 02 18.9 +2.3
baz=132
E25A Miller Ranch, 131.69 34 ⇑P PKPdf 19 02 18.6 +2.3
baz=132
A28A Rude Farm, Bot 131.79 30 ⇓P PKPdf 19 02 18.5 +2.2
baz=132
G24A Alzada 131.81 36 ⇓P PKPdf 19 02 17.9 +1.4
baz=132,SNR=104
D26A Manning 131.89 33 ⇑P PKPdf 19 02 19.0 +2.4
baz=132
C27A Sayler Ranch, 131.95 32 ⇑P PKPdf 19 02 18.8 +2.2
baz=132
K22A Casper 131.99 40 ePKPdf PKPdf 19 02 14.7 -2.4
X16A Lo Mia Camp, P 131.99 52 ⇓P PKPdf 19 02 19.8 +2.4
baz=132
F25A Bowman 132.00 35 ⇑P PKPdf 19 02 18.7 +1.8
baz=132,SNR=5.5
RWWY Rawlins 132.03 41 ePKPdf PKPdf 19 02 12.4 -4.9
B28A Dugan Ranch, T 132.05 30 ⇑P PKPdf 19 02 18.8 +2.0
baz=132
O20A White River Ci 132.07 44 ePKPdf PKPdf 19 02 20.0 +2.7
O20A White River Ci 132.07 44 ⇑P PKPdf 19 02 19.6 +2.2
baz=132
TRQA Tornquist 132.14 184 PFAKE 19 02 30.0 +13
TRQA LR LR
comp=Z,764nm,21.0s
J23A Dilts Ranch, B 132.20 39 ⇓P PKPdf 19 02 19.7 +2.3
baz=132
E26A Carlson Angus 132.22 34 ⇓P PKPdf 19 02 19.8 +2.6
baz=132
A29A Manning Farm, 132.28 29 ⇓P PKPdf 19 02 19.8 +2.6
baz=132
D27A Center 132.33 32 ⇑P PKPdf 19 02 19.7 +2.3
baz=132
PV04 Paradox Valley 132.38 46 ePKPdf PKPdf 19 02 20.8 +2.9
G25A Newell 132.46 35 ⇑P PKPdf 19 02 19.4 +1.7
baz=132
F26A Lodgepole 132.49 34 ⇓P PKPdf 19 02 19.1 +1.3
baz=132,SNR=6.0
B29A Wagenman Farm, 132.54 30 ⇓P PKPdf 19 02 19.0 +1.3
baz=132
M22A Cedar Creek Ra 132.57 42 ⇑P PKPdf 19 02 19.9 +1.6
baz=133,SNR=12
A30A Hoffart Farm, 132.71 29 ⇑P PKPdf 19 02 19.0 +1.0
baz=133
E27A Carson 132.74 33 ⇓P PKPdf 19 02 19.2 +1.0
baz=133
D28A Regan 132.77 32 ⇓P PKPdf 19 02 19.2 +1.0
baz=133
F27A Lemmon 132.84 34 ⇑P PKPdf 19 02 19.4 +1.0
baz=133
ULM Lac du Bonnet 132.85 26 PKP PKPdf 19 02 17.9 -0.3
comp=Z,11nm,0.9s,baz=316,slow=3.4,SNR=13
ULM PP PP 19 04 39.4 -3.9
comp=Z,2.5nm,0.3s,baz=303,slow=7.5,SNR=4.0
ULM SKPbc SKPab 19 05 42.2 -0.2
comp=Z,8.7nm,0.8s,baz=286,slow=3.6,SNR=3.9
ULM SKP 19 05 52.9
comp=Z,16nm,1.0s,baz=180,slow=1.0,SNR=3.8
ULM Lac du Bonnet 132.85 26 PKP PKPdf 19 02 17.9 -0.3
ULM ePKPdf PKiKP 19 02 19.1 -0.3
ULM PP PP 19 04 39.4 -3.9
ULM SKPbc SKPab 19 05 42.2 -0.2
ULM SKP 19 05 52.9
G26A Maurine 132.87 35 ⇓P PKPdf 19 02 19.7 +1.2
baz=133,SNR=7.4
N22A Wattenberg Ran 132.96 42 ⇓P PKPdf 19 02 20.7 +1.6
baz=133,SNR=12
B30A Myrvik Farm, E 133.04 29 ⇑P PKPdf 19 02 20.1 +1.4
baz=133
W18A Petrified Fore 133.06 51 ePKPdf PKPdf 19 02 22.5 +3.2
W18A Petrified Fore 133.06 51 ⇑P PKPdf 19 02 22.0 +2.7
baz=133
M23A Laramie 133.10 41 ⇓P PKPdf 19 02 21.1 +1.8
baz=133
X18A Snowflake 133.11 52 ⇑P PKPdf 19 02 21.5 +2.0
baz=133
E28A Huff 133.11 32 ⇓P PKPdf 19 02 20.4 +1.5
baz=133
MVCO Mesa Verde 133.16 48 ePKPdf PKPdf 19 02 22.2 +2.7
MVCO LR LR
comp=Z,980nm,19.0s
MVCO Mesa Verde 133.16 48 ⇑P PKPdf 19 02 21.6 +2.1
baz=133
H26A Fairpoint 133.17 36 ⇑P PKPdf 19 02 20.9 +1.8
baz=133
G27A Dupree 133.19 34 ⇑P PKPdf 19 02 20.5 +1.4
baz=133,SNR=16
TUC Tucson 133.19 55 ePKIKP PKPdf 19 02 22.1 +2.5
TUC e 19 04 44.1
TUC MLR MLR
comp=Z,992nm,20.0s
TUC Tucson 133.19 55 ePKPdf PKPdf 19 02 22.1 +2.5
TUC ePP PP 19 04 44.0 -2.6
TUC LR LR
comp=Z,992nm,20.0s
O22A Kremmling 133.21 43 ⇓P PKPdf 19 02 21.1 +1.4
baz=133
N23A Red Feather La 133.25 42 ⇓P PKPdf 19 02 21.1 +1.5
baz=133,SNR=6.0
P22A Eagle 133.33 44 ⇓P PKPdf 19 02 21.4 +1.6
baz=133
PHWY Pilot Hill 133.36 41 ePKPdf PKPdf 19 02 21.1 +1.2
D29A Pettibone, Tap 133.36 31 ⇑P PKPdf 19 02 20.7 +1.4
baz=133
SMCO Snowmass 133.38 44 ePKPdf PKPdf 19 02 22.2 +2.1
C30A Mose, Pekin 133.49 30 ⇑P PKPdf 19 02 21.3 +1.8
baz=134
O23A Lake Granby, G 133.60 43 ⇑P PKPdf 19 02 22.4 +2.1
baz=134,SNR=18
D30A Buchanan 133.75 31 ⇑P PKPdf 19 02 21.7 +1.6
baz=134
I27A Quinn 133.91 36 ⇓P PKPdf 19 02 22.1 +1.6
baz=134,SNR=6.3
G28A Parade 133.94 34 ⇓P PKPdf 19 02 22.3 +1.8
baz=134
N24A Carr 133.98 41 ⇓P PKPdf 19 02 22.4 +1.5
baz=134
ISCO Idaho Springs 134.01 43 ePKIKP PKPdf 19 02 21.5 +0.3
ISCO MLR MLR
comp=Z,875nm,19.0s
ISCO Idaho Springs 134.01 43 ePKPdf PKPdf 19 02 21.5 +0.3
ISCO LR LR
comp=Z,875nm,19.0s
ISCO Idaho Springs 134.01 43 ⇓P PKPdf 19 02 22.4 +1.3
baz=134,SNR=7.4
F29A Eureka 134.05 33 ⇓P PKPdf 19 02 22.0 +1.3
baz=134
P23A Jefferson 134.06 44 ⇓P PKPdf 19 02 22.5 +1.2
baz=134,SNR=5.7
E30A Jud 134.09 31 ⇓P PKPdf 19 02 21.7 +1.0
baz=134
H28A Mission Ridge 134.13 35 ⇑P PKPdf 19 02 22.5 +1.7
baz=134
S22A 4UR Ranch, Cre 134.13 46 ⇑P PKPdf 19 02 23.5 +2.1
baz=134
O24A Longmont 134.21 42 ⇓P PKPdf 19 02 47.6 +26
baz=134
Q23A Hartsel 134.29 44 ⇑P PKPdf 19 02 23.9 +2.2
baz=134
AGMN Agassiz Nation 134.30 28 PFAKE 19 02 30.0 +9.0
AGMN LR LR
comp=Z,870nm,19.0s
AGMN Agassiz Nation 134.30 28 ⇑P PKPdf 19 02 22.1 +1.1
baz=134
G29A Hoven 134.41 33 ⇓P PKPdf 19 02 23.2 +1.8
baz=134
J27A Elkhorn Farm, 134.42 37 ⇓P PKPdf 19 02 23.3 +1.8
baz=134
I28A Midland 134.46 35 ⇓P PKPdf 19 02 22.9 +1.4
baz=134,SNR=9.4
F30A Leola 134.47 32 ⇑P PKPdf 19 02 23.1 +1.7
baz=134
L26A Underwood Farm 134.47 39 ⇓P PKPdf 19 02 23.0 +1.3
baz=134
K27A Flueckinger Fa 134.61 38 ⇓P PKPdf 19 02 23.3 +1.4
baz=135
H29A Onida 134.61 34 ⇑P PKPdf 19 02 23.4 +1.7
baz=135
R23A Moffat 134.63 45 ⇑P PKPdf 19 02 24.5 +2.1
baz=135
319A Douglas 134.70 55 ⇑P PKPdf 19 02 25.1 +2.6
baz=135
U22A Llaves 134.71 48 ⇑P PKPdf 19 02 24.8 +2.4
baz=135
Q24A Divide 134.73 44 ⇑P PKPdf 19 02 25.0 +2.5
baz=135
M26A McRoberts Ranc 134.75 40 ⇑P PKPdf 19 02 24.2 +1.9
baz=135
J28A Allard Ranch, 134.77 36 ⇓P PKPdf 19 02 23.3 +1.2
baz=135,SNR=9.1
O25A Wiggins 134.84 42 ⇑P PKPdf 19 02 24.3 +1.9
baz=135
V22A San Miguel Ran 134.87 48 ⇑P PKPdf 19 02 24.5 +1.7
baz=135
G30A Faulkton 134.87 33 ⇑P PKPdf 19 02 23.8 +1.6
baz=135
L27A T5 Ranch, Ells 134.91 38 ⇑P PKPdf 19 02 23.2 +0.7
baz=135
I29A Vivian Onida 134.94 35 ⇑P PKPdf 19 02 24.1 +1.7
baz=135
T23A Casias Ranch, 135.01 47 ⇑P PKPdf 19 02 25.2 +2.1
baz=135
SDCO Great Sand Dun 135.07 45 PFAKE 19 02 40.0 +17
SDCO LR LR
comp=Z,892nm,20.0s
R24A Sanders Place, 135.11 45 ⇑P PKPdf 19 02 23.4 +0.2
baz=135
P25A Willow Gulch B 135.12 42 ⇓P PKPdf 19 02 24.2 +1.2
baz=135,SNR=18
SCHQ Schefferville 135.18 1 PKP PKPdf 19 02 23.8 +1.3
comp=Z,6.7nm,0.9s,baz=312,slow=3.2,SNR=4.9
SCHQ PP PP 19 04 56.6 -1.0
comp=Z,29nm,1.2s,baz=7.1,slow=8.1,SNR=5.0
U23A El Rito 135.21 48 ⇑P PKPdf 19 02 23.2 -0.2
baz=135
J29A Okreek 135.31 36 ⇓P PKPdf 19 02 24.3 +1.2
baz=135
S24A Houchin Ranch, 135.32 45 ⇑P PKPdf 19 02 24.0 +0.3
baz=135

Q25A Bedland, Calha 135.37 43 ⇓P PKPdf 19 02 24.2 +0.6
baz=135,SNR=9.4
BRSD Miller 135.42 34 ePKPdf PKPdf 19 02 24.9 +1.6
BRSD Miller 135.42 34 ⇑P PKPdf 19 02 24.3 +1.0
baz=135
L28A Connealy Angus 135.44 38 ⇑P PKPdf 19 02 24.3 +0.8
baz=135
T24B San Luis 135.47 46 ⇑P PKPdf 19 02 25.1 +1.2
baz=136
V23A Ortiz Mt. (NFS 135.47 48 ⇓P PKPdf 19 02 24.9 +1.0
baz=136
N27A Anderson Farm, 135.49 40 ⇑P PKPdf 19 02 25.3 +1.7
baz=136
121A Cookes Peak, D 135.51 53 ⇑P PKPdf 19 02 25.9 +2.0
baz=136
LENM Lemitar 135.53 51 ePKPdf PKPdf 19 02 28.2 +4.2
ANMO Albuquerque 135.60 49 PKHKP PKPpre 19 02 14.5
ANMO e 19 02 25.7
ANMO MLR MLR
comp=Z,758nm,20.0s
ANMO Albuquerque 135.60 49 PKhKP PKPpre 19 02 14.4
comp=Z,2.6nm,0.8s,baz=286,slow=4.6,SNR=3.7
ANMO PKP PKiKP 19 02 26.1 +0.3
comp=Z,17nm,0.9s,baz=201,slow=1.8,SNR=21
ANMO SKPab SKiKP 19 06 07.2 +10
comp=Z,7.9nm,0.9s,baz=317,slow=4.5,SNR=5.5
ANMO Albuquerque 135.60 49 PKPpre PKPpre 19 02 14.4
ANMO ePKPdf PKiKP 19 02 25.7 0.0
ANMO PKP PKiKP 19 02 26.1 +0.3
ANMO SKPab SKiKP 19 06 07.2 +10
ANMO LR LR
comp=Z,758nm,20.0s
P26A Davis Ranch, A 135.64 42 ⇓P PKPdf 19 02 24.8 +0.8
baz=136
K29A Lazy Trails An 135.71 36 ⇓P PKPdf 19 02 24.8 +0.9
baz=136
R25A Fountain Ranch 135.72 44 ⇓P PKPdf 19 02 24.6 +0.4
baz=136,SNR=6.6
LPM Los Pinos Moun 135.73 50 ePKPdf PKPdf 19 02 28.2 +3.9
OGNE Ogallala 135.73 40 PFAKE 19 02 40.0 +16
OGNE LR LR
comp=Z,1μm,19.0s
OGNE Ogallala 135.73 40 ⇑P PKPdf 19 02 24.9 +0.8
baz=136
W23A Werner Place, 135.74 49 ⇓P PKPdf 19 02 26.8 +2.3
baz=136
J30A Dallas 135.84 35 ⇓P PKPdf 19 02 25.5 +1.5
baz=136
Q26A Hugo 135.85 43 ⇑P PKPdf 19 02 24.5 0.0
baz=136,SNR=8.1
S25A Robets Cordova 135.85 45 ⇑P PKPdf 19 02 24.2 -0.3
baz=136
O27A Beecher Island 135.87 41 ⇑P PKPdf 19 02 24.9 +0.5
baz=136
Z22A Elephant Butte 135.88 52 ⇑P PKPdf 19 02 25.3 +0.6
baz=136
M28A Bar X Bar Ranc 135.89 39 ⇑P PKPdf 19 02 24.9 +0.6
baz=136
X23A Hourglass Bar 135.95 50 ⇑P PKPdf 19 02 25.4 +0.6
baz=136
L29A Maesberg Ranch 136.03 37 ⇑P PKPdf 19 02 25.3 +0.7
baz=136
T25A Trinidad 136.12 46 ⇑P PKPdf 19 02 25.0 -0.1
baz=136,SNR=7.0
P27A Ficken Ranch, 136.14 42 ⇑P PKPdf 19 02 25.6 +0.7
baz=136
V24A Rampart Ranch, 136.15 48 ⇑P PKPdf 19 02 26.1 +0.9
baz=136
K30A Basset 136.17 36 ⇓P PKPdf 19 02 25.9 +1.2
baz=136
N28A Pribbeno Ranch 136.19 40 ⇑P PKPdf 19 02 26.1 +1.2
baz=136
R26A Arlington 136.22 44 ⇑P PKPdf 19 02 25.8 +0.7
baz=136,SNR=8.4
W24A Lazy 6 Ranch, 136.27 49 ⇓P PKPdf 19 02 26.5 +1.1
baz=136
Y23A Lovelace Mesa, 136.32 51 ⇓P PKPdf 19 02 25.9 +0.5
baz=136
O28A Krutsinger Ran 136.35 40 ⇓P PKPdf 19 02 25.9 +0.7
baz=136
U25A Circle Dot Ran 136.47 47 ⇑P PKPdf 19 02 25.8 +0.1
baz=136,SNR=6.3
EYMN Ely 136.47 25 ePKPdf PKPdf 19 02 27.0 +1.9
S26A Kim 136.54 44 ⇑P PKPdf 19 02 25.7 0.0
baz=136,SNR=6.2
L30A Spencer Herefo 136.56 37 ⇑P PKPdf 19 02 25.9 +0.4
baz=136
V25A Rancho No Teng 136.57 47 ⇓P PKPdf 19 02 26.0 +0.1
baz=137,SNR=6.9
R27A Eads 136.66 43 ⇑P PKPdf 19 02 26.1 +0.2
baz=137,SNR=6.4
P28A Saint Francis 136.67 41 ⇑P PKPdf 19 02 26.7 +0.9
baz=137
T26A Comanche Natio 136.68 45 ⇑P PKPdf 19 02 27.1 +1.0
baz=137,SNR=14
N29A Votaw Ranch, W 136.68 39 ⇑P PKPdf 19 02 26.5 +0.7
baz=137
M30A Dale-Ortello V 136.71 37 ⇓P PKPdf 19 02 26.8 +1.0
baz=137
Y24A Capitan 136.79 50 ⇑P PKPdf 19 02 27.8 +1.4
baz=137
Q28A Sharon Springs 136.90 42 ⇓P PKPdf 19 02 27.7 +1.5
baz=137
S27A Las Animas 136.90 44 ⇓P PKPdf 19 02 27.6 +1.2
baz=137
L31A Butterfield Fa 136.93 36 ⇑P PKPdf 19 02 27.4 +1.3
baz=137
U26A Atchley Ranch, 136.94 46 ⇓P PKPdf 19 02 27.6 +1.0
baz=137
W25A X Bar L Ranch, 136.97 48 ⇓P PKPdf 19 02 27.4 +0.8
baz=137,SNR=5.5
O29A 4D Ranch, Culb 136.97 40 ⇓P PKPdf 19 02 27.5 +1.2
baz=137
N30A Hueftle Ranch, 137.02 38 ⇓P PKPdf 19 02 28.1 +1.7
baz=137
Z24A Sheeppen Canyo 137.09 51 ⇓P PKPdf 19 02 28.7 +1.8
baz=137
X25A Clemmons Ranch 137.12 49 ⇑P PKPdf 19 02 28.0 +1.1
baz=137
ECSD EROS Data Cent 137.15 33 ePKPdf PKPdf 19 02 24.9 -1.6
ECSD LR LR
comp=Z,966nm,20.0s
ECSD EROS Data Cent 137.15 33 ⇓P PKPdf 19 02 27.3 +0.8
baz=137
V26A Tequesquite Ra 137.19 47 ⇓P PKPdf 19 02 27.7 +0.7
baz=137,SNR=5.2
R28A Tribune 137.30 43 ⇓P PKPdf 19 02 28.1 +1.1
baz=137
T27A Campo 137.34 45 ⇑P PKPdf 19 02 28.7 +1.5
baz=137,SNR=7.8
Y25A Mesa, Roswell 137.35 50 ⇑P PKPdf 19 02 28.7 +1.4
baz=137
M31A Lambtecht Ranc 137.37 37 ⇓P PKPdf 19 02 27.8 +0.8
baz=137
O30A MW Ranch, Wils 137.41 39 ⇑P PKPdf 19 02 28.5 +1.4
baz=137
W26A Owens Ranch, T 137.53 48 ⇑P PKPdf 19 02 29.3 +1.7
baz=138
Q29A Oakley 137.55 41 ⇓P PKPdf 19 02 28.4 +1.0
baz=138,SNR=10
U27A Thompson Grove 137.58 46 ⇓P PKPdf 19 02 28.6 +1.0
baz=138,SNR=8.7
Z25A Roswell 137.60 51 ⇓P PKPdf 19 02 29.7 +1.9
baz=138
S28A Manter 137.63 44 ⇑P PKPdf 19 02 29.2 +1.5
baz=138
P30A Selden 137.65 40 ⇑P PKPdf 19 02 29.4 +1.8
baz=138
R29A Marienthal 137.70 42 ⇑P PKPdf 19 02 29.5 +1.7
baz=138
MNTX Cornudas Mount 137.71 53 ePKPdf PKPdf 19 02 30.1 +2.2
MNTX LR LR
comp=Z,744nm,19.0s
X26A CR and CF Fran 137.74 49 ⇑P PKPdf 19 02 28.8 +0.8
baz=138,SNR=5.3
BGNE Belgrade 137.81 36 ePKPdf PKPdf 19 02 27.0 -0.8
BGNE Belgrade 137.81 36 ⇑P PKPdf 19 02 28.4 +0.6
baz=138
O31A Woolen Ranch, 137.87 39 ⇓P PKPdf 19 02 28.8 +0.8
baz=138
V27A Dan Oppiter Fa 137.89 46 ⇑P PKPdf 19 02 28.9 +0.7
baz=138
125A Gardner Draw, 137.90 52 ⇑P PKPdf 19 02 29.1 +0.7
baz=138
225A Deer Hill, Car 137.99 52 ⇑P PKPdf 19 02 29.7 +1.1
baz=138
Q30A Quinter 137.99 41 ⇑P PKPdf 19 02 29.9 +1.6
baz=138

SPMN St. Paul 137.99 28 ePKPdf PKPdf 19 02 29.9 +1.9
SPMN St. Paul 137.99 28 ⇑P PKPdf 19 02 29.7 +1.8
baz=138
Y26A Elida 138.00 49 ⇓P PKPdf 19 02 29.5 +1.0
baz=138
U28A Mallet 138.02 45 ⇑P PKPdf 19 02 29.7 +1.2
baz=138
W27A Bowe Ranch, En 138.06 48 ⇑P PKPdf 19 02 29.4 +0.8
baz=138
N32A Stulken Farm, 138.13 37 ⇑P PKPdf 19 02 29.6 +1.2
baz=138
S29A Ulysses 138.14 43 ⇓P PKPdf 19 02 29.6 +1.0
baz=138
SACV Santiago Islan 138.21 281 PFAKE 19 02 40.0 +11
SACV LR LR
comp=Z,1μm,20.0s
P31A Stockton 138.21 40 ⇓P PKPdf 19 02 29.9 +1.3
baz=138
X27A F and S Farms, 138.22 48 ⇓P PKPdf 19 02 29.9 +1.0
baz=138
T29A Hugoton 138.27 44 ⇓P PKPdf 19 02 29.9 +1.0
baz=138
V28A Channing 138.33 46 ⇑P PKPdf 19 02 30.7 +1.7
baz=138
R30A Dighton 138.34 42 ⇓P PKPdf 19 02 30.4 +1.5
baz=138
126A Clayton Basin, 138.40 51 ⇑P PKPdf 19 02 30.0 +0.8
baz=138
O32A Brockman Farm, 138.45 38 ⇑P PKPdf 19 02 29.9 +0.9
baz=138
Q31A Ellis 138.50 40 ⇓P PKPdf 19 02 30.4 +1.2
baz=138
226B Tecolote Peak, 138.51 52 ⇓P PKPdf 19 02 30.4 +1.0
baz=138
Y27A Causey 138.52 49 ⇑P PKPdf 19 02 30.8 +1.4
baz=138,SNR=5.0
W28A Vega 138.58 47 ⇑P PKPdf 19 02 30.4 +0.9
baz=139
P32A Huiting Farm, 138.64 39 ⇑P PKPdf 19 02 30.5 +1.2
baz=139
U29A Oasis Ranch, S 138.65 45 ⇓P PKPdf 19 02 30.8 +1.2
baz=139
CFAA Coronel Fontan 138.69 177 PKP PKPdf 19 02 30.1 +0.3
comp=Z,0.5nm,0.6s,baz=238,slow=3.6
Z27A Tatum 138.73 50 ⇓P PKPpre 19 02 22.6
baz=139,SNR=12
MSTX Muleshoe 138.77 49 ePKPdf PKPpre 19 02 25.3
MSTX Muleshoe 138.77 49 ⇓P PKPpre 19 02 23.2
baz=139
R31A Burdett 138.83 41 ⇑P PKPpre 19 02 23.2
baz=139
326A Caldwell Ranch 138.96 53 ⇓P PKPpre 19 02 22.1
baz=139
U30A WK&E Inc. Balk 139.04 44 ⇑P PKPpre 19 02 24.1
baz=139,SNR=6.4
Q32A Meitler Ranch, 139.04 40 ⇓P PKPpre 19 02 23.1
baz=139
W29A Amarillo 139.05 47 ⇑P PKPpre 19 02 24.0
baz=139
AMTX Amarillo 139.14 47 ePKPdf PKPpre 19 02 24.3
AMTX Amarillo 139.14 47 ⇑P PKPpre 19 02 24.4
baz=139
Y28A McKinney Farm, 139.18 49 ⇓P PKPpre 19 02 24.5
baz=139
227A Bennet, Jal 139.22 52 ⇑P PKPpre 19 02 24.8
baz=139
S31A Mullinville 139.23 42 ⇑P PKPpre 19 02 24.5
baz=139
R32A Long Quarter, 139.28 40 ⇓P PKPpre 19 02 24.7
baz=139
P33A Williams Farm, 139.31 38 ⇑P PKPpre 19 02 25.4
baz=139
X29A Tulia 139.34 48 ⇑P PKPpre 19 02 25.1
baz=139
Z28A Tucker Farm, M 139.36 50 ⇓P PKPpre 19 02 24.6
baz=139
T31A Randall Ranch, 139.39 43 ⇓P PKPpre 19 02 25.2
baz=139
V30A Spur Ranch, Mi 139.41 45 ⇑P PKPpre 19 02 25.6
baz=139
Q33A Connelly Farm, 139.49 39 ⇓P PKPpre 19 02 25.6
baz=140
S32A Newby Ranch, P 139.54 41 ⇑P PKPpre 19 02 25.5
baz=140
128A Castleberry Fa 139.58 50 ⇑P PKPpre 19 02 25.4
baz=140
427A Hayter Ranch, 139.60 53 ⇓P PKPpre 19 02 25.4
baz=140
Y29A Porterfield Fa 139.63 48 ⇓P PKPpre 19 02 25.5
baz=140
U31A Nine Bar Ranch 139.67 44 ⇓P PKPpre 19 02 25.8
baz=140
228A UT Block 9, Go 139.71 51 ⇑P PKPpre 19 02 25.9
baz=140
R33A Olander Ranch, 139.81 40 ⇑P PKPpre 19 02 25.7
baz=140
T32A Huddler Ranch, 139.85 42 ⇓P PKPpre 19 02 26.3
baz=140
328A Wristen Ranch, 139.85 52 ⇑P PKPpre 19 02 26.0
baz=140
Z29A Hungry Hill Ra 139.88 49 ⇓P PKPpre 19 02 26.3
baz=140
X30A Coker Ranch, T 139.93 47 ⇓P PKPpre 19 02 26.9
baz=140
TXAR Lajitas Array 139.95 56 PKhKP PKPpre 19 02 24.6
comp=Z,5.0nm,0.7s,baz=254,slow=3.0,SNR=34
V31A Spring Creek L 139.99 45 ⇑P PKPpre 19 02 26.8
baz=140
129A Stewart Farms, 140.04 50 ⇑P PKPpre 19 02 27.1
baz=140
KSU1 Kansas State U 140.18 38 ePKPdf PKPpre 19 02 25.9
KSU1 LR LR
comp=Z,1μm,20.0s
KSU1 Kansas State U 140.18 38 ⇑P PKPpre 19 02 27.3
baz=140
Y30A Stafford Cattl 140.19 48 ⇑P PKPpre 19 02 28.0
baz=140
S33A Kaszmaul Farm, 140.21 41 ⇓P PKPpre 19 02 27.7
baz=140
428A Kincaid Ranch, 140.21 53 ⇑P PKPpre 19 02 27.3
baz=140
SCIA State Center 140.22 32 ePKPdf PKPpre 19 02 27.5
SCIA ePP PP 19 05 28.1 -1.5
SCIA LR LR
comp=Z,1μm,20.0s
W31A Holland Ranch, 140.22 45 ⇓P PKPpre 19 02 27.8
baz=140
Z30A Sanderson Ranc 140.30 49 ⇑P PKPpre 19 02 27.5
baz=140
T33A Patterson Ranc 140.35 42 ⇑P PKPpre 19 02 28.4
baz=140
528A Cox Ranch, San 140.35 54 ⇓P PKPpre 19 02 28.4
baz=140
229A Bryant Ranch, 140.38 51 ⇑P PKPpre 19 02 28.5
baz=140
329A Wagon Wheel Ra 140.45 52 ⇑P PKPpre 19 02 28.3
baz=140
X31A McDonald Ranch 140.48 46 ⇓P PKPpre 19 02 28.4
baz=140
V32A Arapaho 140.57 44 ⇑P PKPpre 19 02 29.2
baz=141
Y31A Rekieta Farm, 140.61 47 ⇓P PKPpre 19 02 29.2
baz=141
130A Snyder 140.74 50 ⇓P PKPpre 19 02 29.4
baz=141
W32A Sentinel 140.75 45 ⇑P PKPpre 19 02 29.7
baz=141
U33A Lingo Farm, Me 140.80 43 ⇑P PKPpre 19 02 30.5
baz=141
529A Stev Forest Ra 140.82 54 ⇑P PKPpre 19 02 29.5
baz=141
429A Davenport Ranc 140.88 53 ⇓P PKPpre 19 02 29.2
baz=141
JFWS Jewell Farm 140.94 28 ePKIKP PKPdf 19 02 34.7 +1.3
JFWS Jewell Farm 140.94 28 ePKPdf PKPdf 19 02 34.7 +1.3
230A Sterling City 140.95 51 ⇑P PKPpre 19 02 29.7
baz=141
Z31A Sharp Cattle R 141.01 48 ⇑P PKPpre 19 02 29.5
baz=141
V33A Lossen Ranch, 141.03 43 ⇓P PKPpre 19 02 30.1
baz=141
LCO Las Campanas 141.07 174 ePKPdf PKPdf 19 02 34.3 -0.2
LCO LR LR
comp=Z,1μm,22.0s
X32A Elmer 141.08 46 ⇑P PKPpre 19 02 29.8
baz=141,SNR=5.2
330A Mertzon 141.11 51 ⇑P PKPpre 19 02 29.8
baz=141

131A Roby 141.13 49 ⇓P PKPpre 19 02 30.3
baz=141
Y32A R-V Farms, Ver 141.18 47 ⇑P PKPpre 19 02 30.0
baz=141
U34A Anderson Ranch 141.19 42 ⇓P PKPpre 19 02 30.3
baz=141
W33A Caddo, Fort Co 141.27 44 ⇓P PKPpre 19 02 30.4
baz=141
430A Baggett Ranch, 141.33 52 ⇓P PKPpre 19 02 30.5
baz=141
Z32A Haskell 141.50 48 ⇓P PKPpre 19 02 31.0
baz=142
530A J-C Ranch, Com 141.51 53 ⇑P PKPpre 19 02 30.8
baz=142
231A Bronte 141.53 50 ⇓P PKPpre 19 02 30.9
baz=142
V34A Guthrie 141.54 43 ⇓P PKPpre 19 02 31.3
baz=142
X33A Lawton 141.57 45 ⇑P PKPpre 19 02 31.7
baz=142
ABTX Abilene, Hawle 141.71 49 ePKPdf PKPdf 19 02 32.5 -2.7
ABTX Abilene, Hawle 141.71 49 ⇓P PKPdf 19 02 32.6 -2.6
baz=142,SNR=6.3
Y33A Hilltop Ranch, 141.76 46 ⇓P PKPdf 19 02 32.0 -3.1
baz=142
431A Sonora 141.86 52 ⇓P PKPdf 19 02 32.6 -2.9
baz=142
X34A Smith Ranch, M 142.01 45 ⇑P PKPdf 19 02 33.6 -2.0
baz=142,SNR=5.4
Z33A Whitaker Ranch 142.03 47 ⇓P PKPdf 19 02 33.6 -2.1
baz=142,SNR=11
232A Coleman 142.06 50 ⇑P PKPdf 19 02 33.9 -1.9
baz=142,SNR=10
531A Rocksprings 142.13 53 ⇓P PKPdf 19 02 33.2 -2.8
baz=142
332A Millersview 142.22 51 ⇑P PKPdf 19 02 34.1 -2.0
baz=142,SNR=22
133A Hamilton Ranch 142.26 48 ⇓P PKPdf 19 02 33.6 -2.5
baz=142,SNR=6.5
Y34A Reagan Ranch, 142.40 46 ⇓P PKPdf 19 02 33.7 -2.7
baz=142
432A Menard 142.41 51 ⇑P PKPdf 19 02 33.8 -2.7
baz=142,SNR=6.2
631A Perdido Creek 142.41 54 ⇓P PKPdf 19 02 34.2 -2.3
baz=142,SNR=19
233A Rising Star 142.56 49 ⇑P PKPdf 19 02 34.8 -1.9
baz=143,SNR=20
JCT Junction City 142.57 52 ePKHKP PKPdf 19 02 33.9 -2.9
JCT MLR MLR
comp=Z,1μm,19.0s
JCT Junction City 142.57 52 ePKPdf PKPdf 19 02 33.9 -2.9
JCT LR LR
comp=Z,1μm,19.0s
JCT Junction City 142.57 52 ⇓P PKPdf 19 02 34.2 -2.6
baz=143
Z34A Collier Ranch, 142.60 47 ⇓P PKPdf 19 02 34.1 -2.6
baz=143,SNR=13
TUL1 Tulsa 142.64 41 ePKPdf PKPdf 19 02 34.7 -2.0
TUL1 Tulsa 142.64 41 ⇑P PKPdf 19 02 34.4 -2.2
baz=143
333A Richland Sprin 142.82 50 ⇑P PKPdf 19 02 35.1 -2.0
baz=143,SNR=44
134A White-Moore Ra 142.89 48 ⇑P PKPdf 19 02 35.5 -1.7
baz=143,SNR=8.0
CPUP Villa Florida 142.99 193 PKP PKPdf 19 02 38.2 +0.7
comp=Z,3.2nm,0.5s,baz=164,slow=0.6,SNR=10
433A Art 143.00 51 ⇓P PKPdf 19 02 35.7 -1.8
baz=143,SNR=35
632A Uvalde 143.00 53 ⇑P PKPdf 19 02 36.0 -1.6
baz=143,SNR=18
Z35A Perchaven, San 143.09 46 ⇓P PKPbc 19 02 36.0 +1.5
baz=143,SNR=13
234A Clairette 143.13 49 ⇓P PKPbc 19 02 36.2 +1.5
baz=143,SNR=18
732A Laxson Ranch, 143.17 55 ⇓P PKPbc 19 02 36.1 +1.3
baz=143,SNR=14
533A Kerrville 143.35 52 ⇑P PKPbc 19 02 36.6 +1.2
baz=143,SNR=10
334A Lometa 143.38 50 ⇑P PKPbc 19 02 36.7 +1.3
baz=143,SNR=18
135A Vickery Place, 143.38 47 ⇑P PKPdf 19 02 37.2 -0.9
baz=143,SNR=11
SADO Sadowa 143.48 16 PKhKP PKPpre 19 02 34.7
comp=Z,10.0nm,0.8s,baz=332,slow=1.6,SNR=7.1
SADO PP PP 19 05 51.8 +2.9
comp=Z,11nm,0.8s,baz=12,slow=1.5,SNR=4.1
633A Saathoff Ranch 143.50 53 ⇑P PKPdf 19 02 37.2 -1.2
baz=144,SNR=22
434A Burnet 143.60 50 ⇑P PKPdf 19 02 37.4 -1.2
baz=144,SNR=17
WHTX Lake Whitney 143.63 48 ePKPdf PKPdf 19 02 37.5 -1.0
WHTX Lake Whitney 143.63 48 ⇑P PKPdf 19 02 38.0 -0.5
baz=144,SNR=18
733A Divot King Ran 143.72 54 ⇑P PKPdf 19 02 38.6 -0.2
baz=144,SNR=17
534A Blanco 143.80 52 ⇑P PKPdf 19 02 38.5 -0.5
baz=144,SNR=47
833A Chaparral WMA, 143.80 55 ⇑P PKPdf 19 02 38.8 -0.1
baz=144,SNR=25
335A Moody 144.01 49 ⇓P PKPdf 19 02 39.1 -0.2
baz=144,SNR=14
435B Jarrell 144.13 50 ⇓P PKPdf 19 02 39.6 +0.2
baz=144,SNR=7.7
SLM Saint Louis 144.15 33 ePKIKP PKPbc 19 02 37.6 +0.2
SLM Saint Louis 144.15 33 ePKPdf PKPbc 19 02 37.6 +0.2
933A Laredo 144.18 56 ⇓P PKPdf 19 02 40.3 +0.7
baz=144,SNR=21
634A China Grove, S 144.19 53 ⇑P PKPdf 19 02 40.1 +0.5
baz=144
AAM Ann Arbor 144.25 22 ePKIKP PKPdf 19 02 39.0 -0.3
AAM MLR MLR
comp=Z,1μm,20.0s
AAM Ann Arbor 144.25 22 ePKPdf PKPdf 19 02 39.0 -0.3
AAM LR LR
comp=Z,1μm,20.0s
734A La Parita Cree 144.25 54 ⇑P PKPdf 19 02 40.5 +0.8
baz=144,SNR=8.4
SFIN Scholer Farm 144.40 28 ePKPdf PKPdf 19 02 38.9 -0.7
SFIN Scholer Farm 144.40 28 ⇑P PKPdf 19 02 39.6 0.0
baz=144
535A Dale 144.50 51 ⇑P PKPdf 19 02 41.1 +1.0
baz=144,SNR=28
834A Tilden 144.56 55 ⇑P PKPdf 19 02 42.1 +1.8
baz=145,SNR=31
PTN Potsdam (NY) 144.61 11 ePKIKP PKPdf 19 02 39.4 -0.4
PTN Potsdam (NY) 144.61 11 ePKPdf PKPdf 19 02 39.4 -0.4
635A Leesville 144.63 52 ⇓P PKPdf 19 02 42.0 +1.6
baz=145,SNR=24
LONY Lake Ozonia 144.64 10 ePKPdf PKPdf 19 02 40.2 +0.3
LONY ePP PP 19 05 56.3 +0.6
PKME Peaks-Kenny Pk 144.65 4 ePKPdf PKPdf 19 02 40.8 +0.9
PKME LR LR
comp=Z,5μm,20.0s
436A Wall Ranch, Ga 144.73 49 ⇓P PKPdf 19 02 42.2 +1.7
baz=145
BB16B Bebedouro 144.76 209 (P) PKPab 19 02 34.8 -4.9
BB16B Bebedouro 144.76 209 (P) PKPab 19 02 36.5 -3.2
934A Benavides 144.80 56 ⇓P PKPdf 19 02 43.4 +2.7
baz=145,SNR=34
735A Kenedy 144.84 53 ⇑P PKPdf 19 02 43.0 +2.3
baz=145,SNR=43
536A Bastrop 144.86 51 ⇑P PKPdf 19 02 42.5 +1.7
baz=145,SNR=23
034A Hebbronville 144.88 56 ⇓P PKPdf 19 02 43.9 +3.0
baz=145,SNR=70
MIAR Mount Ida 144.91 41 ePKIKP PKPdf 19 02 40.5 -0.2
MIAR MLR MLR
comp=Z,966nm,20.0s
MIAR Mount Ida 144.91 41 ePKPdf PKPdf 19 02 40.5 -0.2
MIAR LR LR
comp=Z,966nm,20.0s
835A Beeville 145.07 54 ⇓P PKPdf 19 02 44.0 +2.9
baz=145,SNR=43
636A Smothers Creek 145.15 52 ⇑P PKPdf 19 02 44.3 +3.0
baz=145,SNR=109
OLIL Olney 145.19 31 ePKPab PKPdf 19 02 40.9 -0.1
WVL Waterville 145.32 4 ePKPab PKPab 19 02 41.4 +0.3
KVTX Kingsville 145.33 55 ePKPdf PKPab 19 02 45.1 +3.5
KVTX LR LR
comp=Z,1μm,20.0s
NCB Newcomb 145.33 10 ePKPdf PKPab 19 02 42.1 +0.9
PBMO Poplar Bluff 145.37 36 ePKPab PKPbc 19 02 41.3 0.0
SIUC Southern Illin 145.37 33 ePKPdf PKPab 19 02 42.4 +0.9
LBNH Lisbon 145.41 7 ePKIKP PKPab 19 02 43.2 +1.8
LBNH Lisbon 145.41 7 ePKPdf PKPab 19 02 43.2 +1.8
MDV Middlebury 145.47 9 ePKPdf PKPab 19 02 43.2 +1.6
UALR University of 145.55 40 ePKPab PKPab 19 02 42.9 +0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
035Z	Hargill	145.62	57	⇑P	PKPab	19 02 45.6	+2.9
	baz=146,SNR=20						
BLO	Bloomington	145.62	29	ePKIKP	PKPab	19 02 42.6	+0.2
BLO	Bloomington	145.62	29	ePKPdf	PKPab	19 02 42.6	+0.2
ERPA	Erie	145.67	18	ePKPdf	PKPab	19 02 43.1	+0.6
MMNY	Mt. Morris Dam	145.70	15	ePKPdf	PKPab	19 02 43.1	+0.6
PARMO	Parma	145.83	35	ePKPdf	PKPdf	19 02 42.0	-0.2
HKT	Hockley	145.86	50	ePKP2	PKPab	19 02 45.0	+1.5
HKT	Hockley	145.86	50	ePKPab	PKPab	19 02 45.0	+1.5
HNH	Hanover	145.89	8	ePKPab	PKPab	19 02 44.9	+1.7
ACCN	Adirondack Com	146.00	10	ePKPab	PKPab	19 02 44.6	+0.9
USIN	University of	146.00	31	ePKPab	PKPab	19 02 44.6	+0.8
RCBR	Riachuelo	146.07	244	PKPbc	PKPab	19 02 45.7	+0.8
	comp=Z,4.4nm,0.5s,baz=83,slow=6.0,SNR=7.5						
RCBR	Riachuelo	146.07	244	ePKPbc	PKPbc	19 02 44.2	0.0
RCBR				LR	LR		
	comp=Z,890nm,20.0s						
HBAR	Harrisburg	146.08	37	ePKPbc	PKPab	19 02 44.4	+0.2
GNAR	Gosnell	146.17	36	ePKPbc	PKPab	19 02 44.7	+0.2
ACSO	Alum Creek Sta	146.28	24	ePKPdf	PKPbc	19 02 44.3	+0.2
ACSO				LR	LR		
	comp=Z,1µm,20.0s						
GLAT	Glass	146.38	35	ePKPbc	PKPab	19 02 45.2	-0.1
WCI	Wyandotte Cave	146.48	29	ePKP2	PKPbc	19 02 44.9	+0.2
WCI	Wyandotte Cave	146.48	29	ePKPdf	PKPbc	19 02 44.9	+0.2
HALT	Halls	146.60	36	ePKPbc	PKPbc	19 02 45.4	+0.3
TRY	Troy	146.63	10	ePKPab	PKPab	19 02 46.9	+0.9
BINY	Binghamton	146.68	13	ePKPbc	PKPbc	19 02 45.4	+0.2
HRV	Adam Dziewonsk	147.17	7	ePKP2	PKPab	19 02 48.4	+0.2
HRV	Adam Dziewonsk	147.17	7	ePKPab	PKPab	19 02 48.4	+0.2
KSPA	Keystone Colle	147.34	13	ePKPdf	PKPbc	19 02 46.9	-0.1
PB06	Plate Boundary	147.43	174	eP	PKPdf	19 02 45.5	0.0
OXF	Oxford	147.54	37	ePKIKP	PKPbc	19 02 46.5	-1.3
OXF	Oxford	147.54	37	ePKPdf	PKPbc	19 02 46.5	-1.3
LVC	Limon Verde	147.58	175	ePKPdf	PKPbc	19 02 48.3	-0.3
LVC				LR	LR		
	comp=Z,1µm,22.0s						
SSPA	Standing Stone	147.66	17	ePKPdf	PKPbc	19 02 46.8	-1.1
ODNJ	Ogdensburg	148.05	12	ePKPdf	PKPbc	19 02 47.9	-1.0
PAL	Palisades	148.26	11	ePKP2	PKPbc	19 02 50.2	+0.7
PAL	Palisades	148.26	11	ePKPdf	PKPbc	19 02 50.2	+0.7
VBMS	Vicksburg	148.35	42	ePKPab	PKPbc	19 02 52.1	-1.2
PB07	Plate Boundary	148.36	173	eP	PKPbc	19 02 49.0	-1.5
BRNJ	Basking Ridge	148.44	12	ePKPbc	PKPab	19 02 52.4	-0.8
CPNY	Central Park	148.46	11	ePKPab	PKPab	19 02 52.2	-1.1
MVL	Millersville	148.67	15	ePKPdf	PKPbc	19 02 49.1	-1.5
BDFB	Brasilia	148.92	215	PKPbc	PKPbc	19 02 52.9	+0.8
	comp=Z,9.0nm,0.4s,baz=87,slow=3.0,SNR=17						
SWET	Sewanee	148.99	33	ePKPbc	PKPbc	19 02 52.3	+0.6
PB01	Plate Boundary	149.08	174	iP	PKPbc	19 02 50.4	-2.0
SDMD	Soldier's Deli	149.09	16	ePKPdf	PKPbc	19 02 52.5	+0.9
TZTN	Tazewell	149.13	28	ePKPdf	PKPdf	19 02 48.9	+1.2
PATCX	Punta Patache	149.22	173	iP	PKPdf	19 02 49.8	+1.3
CPCT	Cooper Cave	149.54	31	ePKPbc	PKPbc	19 02 51.7	-1.2
TKL	Tuckaleechee C	149.74	29	ePKPdf	PKPdf	19 02 50.4	+1.6
	comp=Z,192nm,0.8s,baz=150,slow=4.3,SNR=19						
TKL				PKPbc	PKiKP	19 02 55.4	+0.9
	comp=Z,165nm,0.7s,baz=171,slow=1.6,SNR=90						
TKL	Tuckaleechee C	149.74	29	ePKPdf	PKPdf	19 02 50.8	+2.0
HMBC	Humberstone	149.79	173	⇓iP	PKPdf	19 02 51.1	+1.7
BLA	Blacksburg	149.90	23	ePKP2	PKPbc	19 02 54.6	+0.8
BLA	Blacksburg	149.90	23	ePKPbc	PKPbc	19 02 54.5	+0.8
LRAL	Lakeview Retre	150.00	37	ePKPdf	PKPdf	19 02 50.3	+1.1
VWCC	Virginia Weste	150.04	22	ePKPdf	PKPbc	19 02 55.2	+1.1
CBN	Corbin	150.06	18	ePKPab	PKPbc	19 02 56.0	+1.9
CBN				LR	LR		
	comp=Z,978nm,19.0s						
PB11	Plate Boundary	150.33	173	eP	PKPbc	19 02 53.3	-2.2
JSRW	J. Sargeant Re	150.37	19	ePKPdf	PKPdf	19 02 51.3	+1.7
PSGC	Pisagua	150.43	172	eP	PKPdf	19 02 51.9	+1.5
BRAL	Brewton	151.37	40	ePKPbc	PKPbc	19 02 57.5	+0.1
BRAL				LR	LR		
	comp=Z,2µm,19.0s						
GOGA	Godfrey	151.68	32	PFAKE		19 03 00.0	+1.9
GOGA				LR	LR		
	comp=Z,1µm,20.0s						
TIGA	Tifton	153.13	35	ePKPdf	PKPdf	19 02 56.6	+2.7
PAYG	Puerto Ayora	153.77	112	PFAKE		19 03 10.0	-6.3
PAYG				LR	LR		
	comp=Z,702nm,20.0s						
SIV	San Ignacio	153.80	191	PKP	PKPdf	19 02 56.5	+1.1
	comp=Z,9.4nm,1.1s,baz=238,slow=1.3,SNR=12						
SIV				PKPbc	PKiKP	19 03 04.0	+0.6
	comp=Z,2.7nm,0.5s,baz=191,slow=2.5,SNR=8.4						
LPAZ	La Paz	153.91	176	PKP	PKPdf	19 02 57.9	+1.6
	comp=Z,4.0nm,0.9s,baz=102,slow=1.0,SNR=12						
LPAZ				PKPbc	PKiKP	19 03 05.3	+1.0
	comp=Z,35nm,1.3s,baz=55,slow=2.6,SNR=15						
LPAZ	La Paz	153.91	176	PKP	PKPdf	19 02 57.9	+1.6
LPAZ				ePKPdf	PKPbc	19 02 58.3	-5.9
LPAZ				PKPbc	PKiKP	19 03 05.3	+1.0
NNA	Nana	155.80	154	PFAKE		19 03 10.0	+12
NNA				LR	LR		
	comp=Z,846nm,20.0s						
TEIG	Tepich	156.31	62	PKP	PKPdf	19 02 59.9	+1.2
	comp=Z,8.3nm,0.4s,baz=295,slow=2.8,SNR=5.2						
TEIG				PKPab	PKPab	19 03 29.0	+2.0
	comp=Z,7.3nm,0.4s,baz=261,slow=7.2,SNR=4.8						
TEIG	Tepich	156.31	62	PKP	PKPdf	19 02 59.9	+1.2
TEIG				ePKPab	PKPab	19 03 28.0	+1.1
TEIG				PKPab	PKPab	19 03 29.0	+2.0
TEIG				LR	LR		
	comp=Z,901nm,22.0s						
SAML	Samuel	161.05	189	ePKPdf	PKPdf	19 03 05.6	+1.1
SAML				LR	LR		
	comp=Z,759nm,20.0s						
JTS	JuntasAbangare	161.47	87	PFAKE		19 03 20.0	+15
JTS				LR	LR		
	comp=Z,594nm,21.0s						
OTAV	Otavalo	164.44	127	ePKPdf	PKPdf	19 03 09.9	+1.5
OTAV				LR	LR		
	comp=Z,524nm,20.0s						
MTDJ	Mount Denham	166.19	52	PFAKE		19 03 20.0	+11
MTDJ				LR	LR		
	comp=Z,1µm,19.0s						
BCIP	Isla Barro Col	166.47	92	PFAKE		19 03 20.0	+11
BCIP				LR	LR		
	comp=Z,497nm,20.0s						
GTBY	Guantanamo Bay	166.79	40	PFAKE		19 03 20.0	+10
GTBY				LR	LR		
	comp=Z,1µm,20.0s						
GRTK	Grand Turk	167.49	22	PFAKE		19 03 20.0	+10
GRTK				LR	LR		
	comp=Z,1µm,19.0s						
PTGA	Pitinga	167.79	211	PKP	PKPdf	19 03 11.9	+1.4
	comp=Z,13nm,1.2s,baz=94,slow=1.7,SNR=10.0						
PTGA	Pitinga	167.79	211	ePKPdf	PKPdf	19 03 11.2	+0.7
PTGA				LR	LR		
	comp=Z,1µm,22.0s						
SDDR	Presa de Saban	169.68	28	PFAKE		19 03 20.0	+8.4
SDDR				LR	LR		
	comp=Z,1µm,19.0s						
ROSC	El Rosal	170.46	121	PKP	PKPdf	19 03 14.1	+1.4
	comp=Z,4.4nm,0.4s,baz=74,slow=9.6,SNR=7.0						
ROSC	El Rosal	170.46	121	ePKPdf	PKPdf	19 03 14.0	+1.4
ANWB	Willy Bob	171.19	332	PFAKE		19 03 20.0	+7.7
ANWB				LR	LR		
	comp=Z,1µm,20.0s						
LRS	Lares	171.62	5	ePKPdf	PKPdf	19 03 13.3	+0.8
CBYP	Canovanas	171.67	358	ePKPdf	PKPdf	19 03 13.4	+0.8
LSP	Las Mesas	171.72	6	ePKPab	PKPab	19 04 36.1	+1.8
SJG	San Juan	171.83	0	ePKIKP	PKPdf	19 03 13.6	+0.9
SJG				MLR	MLR		
	comp=Z,1µm,22.0s						
SJG	San Juan	171.83	0	ePKPdf	PKPdf	19 03 13.6	+0.9
SJG				LR	LR		
	comp=Z,1µm,22.0s						
CELP	Cerrillos	171.86	3	ePKPdf	PKPdf	19 03 13.8	+1.1
OBIP	Obispado Ponce	171.89	3	ePKPdf	PKPdf	19 03 12.8	+0.2
CDVI	St. Croix	172.07	350	ePKPab	PKPab	19 04 36.9	+1.1
BBGH	Gun Hill	172.79	297	PFAKE		19 03 20.0	+6.8
BBGH				LR	LR		
	comp=Z,1µm,20.0s						
FDF	Fort de France	173.15	315	ePKIKP	PKPdf	19 03 14.5	+1.1
FDF				MLR	MLR		
	comp=Z,591nm,22.0s						
FDF	Fort de France	173.15	315	ePKPdf	PKPdf	19 03 14.5	+1.1
FDF				LR	LR		
	comp=Z,591nm,22.0s						
GRGR	Grenville	175.07	297	PFAKE		19 03 30.0	+16
GRGR				LR	LR		
	comp=Z,739nm,22.0s						
SDV	Santo Domingo	175.45	102	ePKPdf	PKPdf	19 03 14.1	-0.3
SDV				LR	LR		
	comp=Z,2µm,22.0s						

CSEM 11 18:43:49.2±0.5, 51°50N×16°07E, h2km, Error ellipse: s-maj=8.0km s-min=5.2km az=5.0

PRU 11 18:43:51.1, 51°46N×16°09E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	168	ePg	Pg	18 44 03.3	+0.1
KSP				eSg	Sg	18 44 12.6	+1.2
UPC	Upice	0.95	183	ePG	Pg	18 44 09.1	-0.3
UPC				eSG	Sg	18 44 21.8	-0.1
	3.9nm,0.2s						
UPC	Upice	0.95	183	Pg	Pg	18 44 09.1	-0.3
UPC				Sg	Sg	18 44 21.8	-0.1
	3.9nm,0.2s						
DPC	Dobruska-Polom	1.12	172	ePG	Pg	18 44 12.2	-0.5
DPC				eSG	Sg	18 44 27.2	-0.1
DPC	Dobruska-Polom	1.12	172	Pg	Pg	18 44 12.2	-0.5
DPC				Sg	Sg	18 44 27.2	-0.1
KRLC	Kraliky	1.45	162	ePG	Pn	18 44 17.9	-0.8
KRLC				eSG	Sg	18 44 37.5	-0.5
KRLC	Kraliky	1.45	162	Pg	Pn	18 44 17.9	-0.8
KRLC				Sg	Sg	18 44 37.5	-0.5
BRG	Berggiesshubel	1.47	247	PG	Pn	18 44 18.3	-0.6
BRG				SG	Sg	18 44 38.2	-0.3
	8.7nm,0.4s						
PRU	Pruhonice	1.77	214	ePG	Pn	18 44 23.5	+0.5
PRU				eSG	Sb	18 44 47.6	+0.4
	2.5nm,0.3s						
PRU	Pruhonice	1.77	214	Pg	Pn	18 44 23.5	+0.5
PRU				Sg	Sb	18 44 47.6	+0.4
	2.5nm,0.3s						
MORC	Moravsky Berou	1.92	151	ePn	Pn	18 44 24.0	-1.1
MORC				eSg	Sb	18 44 51.8	+0.1
CLL	Collm	1.94	267	ePg	Pn	18 44 26.0	+0.7
CLL				e		18 44 46.0	
CLL				eSg	Sb	18 44 52.0	-0.1
	comp=Z,6.0nm,0.6s						
OKC	Ostrava-Krasne	2.09	140	ePG	Pb	18 44 29.5	-0.3
OKC				eSG	Sb	18 44 57.1	+0.8
OKC	Ostrava-Krasne	2.09	140	Pg	Pb	18 44 29.5	-0.3
OKC				Sg	Sb	18 44 57.1	+0.8
VRAC	Vranov	2.18	171	eSg	Sg	18 45 01.4	+0.2
TREC	Trest	2.20	190	eSG	Sg	18 45 01.2	-0.7
	comp=Z,2.9nm,0.2s						
TREC	Trest	2.20	190	Sg	Sg	18 45 01.2	-0.7
	comp=Z,2.9nm,0.2s						
KHC	Kasperske Hory	2.83	216	ePN	Pn	18 44 36.9	-0.8
KHC				ePG	Pb	18 44 42.9	+0.3
KHC				eSN	Sn	18 45 11.2	-1.3
KHC				eSG	Sg	18 45 20.8	-1.5
KHC	Kasperske Hory	2.83	216	Pn	Pn	18 44 36.9	-0.8

ISCJB 11 18:59:35.7±0.4, 40°06N±0°01×25°35E±0°02, h8km±3km, Error ellipse: s-maj=2.3km s-min=2.1km az=11.9
ATH 11 18:59:35.5, 40°05N×25°39E, h24km, MD3.5/22
ISK 11 18:59:35.2, 40°02N×25°41E, h5km, ML3.4
CSEM 11 18:59:36.6±0.1, 40°06N×25°35E, h10km, MD3.5, Error ellipse: s-maj=2.3km s-min=1.9km az=177.0
THE 11 18:59:36.8, 40°05N×25°40E, h16km, ML3.2/13, Error ellipse: s-maj=1.0km s-min=0.6km az=100.0
SOF 11 18:59:37.0, 40°02N×25°47E, h59km, MD3.2
DDA 11 18:59:38.2, 40°11N×25°70E, h5km, MD3.3

ISC 11 18:59:36.2±0.9, 40°06N±0°01×25°39E±0°01, h14km±7km, n216, σ1°08/288, 7C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.23	224	P	Pg	18 59 41.3	+0.1
LIA				S	Sb	18 59 45.4	-0.6
LIA	Limnos Island	0.23	224	ePB	Pg	18 59 41.2	+0.1
LIA				eSB	Sb	18 59 45.4	-0.6
LIA	Limnos Island	0.23	224	P	Pg	18 59 41.3	+0.1
LIA				S	Sb	18 59 45.4	-0.6
SMTH	Samothraki Isl	0.42	15	P	Pg	18 59 45.0	+0.4
SMTH				S	Sb	18 59 52.3	+0.6
SMTH	Samothraki Isl	0.42	15	ePB	Pg	18 59 44.5	-0.1
SMTH				eSB	Sb	18 59 51.8	+0.1
SMTH	Samothraki Isl	0.42	15	ePb	Pg	18 59 44.5	-0.1
SMTH	Samothraki Isl	0.42	15	P	Pg	18 59 45.0	+0.4
SMTH				eSb	Sb	18 59 51.8	+0.1
SMTH				S	Sb	18 59 52.3	+0.6
BOZC	Bozcaada	0.56	113	iP	Pg	18 59 46.6	-0.5
BOZC				iS	Sg	18 59 54.0	-0.5
EZN	Ezine	0.76	108	ePG	Pg	18 59 50.3	-0.6
EZN	Ezine	0.76	108	ePg	Pg	18 59 50.3	-0.6
ENEZ	Enez	0.89	41	ePG	Pg	18 59 53.5	+0.1
ENEZ	Enez	0.89	41	ePg	Pg	18 59 53.5	+0.1
GELI	Tayfur-Gelibol	0.90	68	ePG	Pg	18 59 53.8	+0.3
GELI	Tayfur-Gelibol	0.90	68	ePg	Pg	18 59 53.8	+0.3
SIGR	SIGRI	0.92	157	P	Pb	18 59 53.3	-0.7
SIGR				S	Sg	19 00 06.2	+0.1
SIGR	SIGRI	0.92	157	ePG	Pb	18 59 53.2	-0.7
SIGR	SIGRI	0.92	157	ePN	Pb	18 59 53.2	-0.7
SIGR				eSN	Sg	19 00 06.2	+0.1
SIGR	SIGRI	0.92	157	P	Pb	18 59 53.3	-0.7
SIGR				S	Sg	19 00 06.2	+0.1
ALN	Alexandroupoli	0.97	31	P	Pb	18 59 54.4	-0.3
ALN				S	Sg	19 00 08.0	+0.3
ALN	Alexandroupoli	0.97	31	ePG	Pb	18 59 54.6	-0.2
ALN	Alexandroupoli	0.97	31	ePN	Pb	18 59 54.5	-0.3
ALN				eSN	Sb	19 00 07.2	-0.3
ALN	Alexandroupoli	0.97	31	ePg	Pb	18 59 54.6	-0.2
ALN				S	Sg	19 00 08.0	+0.3
PRK	Paraskevi	1.06	140	P	Pb	18 59 56.0	-0.3
PRK				S	Sb	19 00 10.2	+0.2
PRK	Paraskevi	1.06	140	ePN	Pb	18 59 56.2	-0.1
PRK				eSN	Sb	19 00 09.9	-0.1
PRK	Paraskevi	1.06	140	P	Pb	18 59 56.0	-0.3
PRK				S	Sb	19 00 10.2	+0.2
LPK	Lapseki	1.09	73	ePN	Pb	18 59 56.8	-0.1
LPK	Lapseki	1.09	73	ePn	Pb	18 59 56.8	-0.1
OUR	Ouranopolis	1.11	285	P	Pn	18 59 57.3	0.0
OUR				S	Sn	19 00 12.3	-0.1
OUR	Ouranopolis	1.11	285	ePN	Pg	18 59 58.3	+0.7
OUR	Ouranopolis	1.11	285	ePN	Pn	18 59 57.2	0.0
OUR				eSN	Sn	19 00 12.3	-0.1
OUR	Ouranopolis	1.11	285	P	Pn	18 59 57.3	0.0
OUR				S	Sn	19 00 12.3	-0.1
KAVA	Kavala	1.15	325	P	Pb	18 59 57.9	+0.1
KAVA				S	Sg	19 00 13.6	+0.3
KAVA	Kavala	1.15	325	ePN	Pb	18 59 57.9	+0.1
KAVA				eSN	Sn	19 00 12.8	-0.5
KAVA	Kavala	1.15	325	P	Pb	18 59 57.9	+0.1
KAVA				S	Sg	19 00 13.6	+0.3
AYVA	Ayvalik	1.25	126	iP	Pg	19 00 00.2	-0.1
AYVA				iS	Sn	19 00 15.8	-0.1
AYVA	Ayvalik	1.25	126	iP	Pg	19 00 00.2	-0.1
AYVA				iS	Sn	19 00 15.8	-0.1
PAIG	Paliouri	1.32	265	P	Pn	19 00 00.0	-0.2
PAIG				S	Sn	19 00 17.9	+0.3
PAIG	Paliouri	1.32	265	ePN	Pn	18 59 59.9	-0.2
PAIG				eSN	Sg	19 00 18.1	-0.7
PAIG	Paliouri	1.32	265	P	Pn	19 00 00.0	-0.2
PAIG				S	Sn	19 00 17.9	+0.3
AOS	Alonnisos	1.47	233	P	Pn	19 00 02.0	-0.1
AOS				S	Sg	19 00 23.2	-0.3
AOS	Alonnisos	1.47	233	ePN	Pb	19 00 03.3	+0.1
AOS	Alonnisos	1.47	233	ePN	Pn	19 00 02.1	-0.1
AOS				eSN	Sg	19 00 22.9	-0.6
AOS	Alonnisos	1.47	233	ePn	Pn	19 00 02.1	-0.1
AOS				eSn	Sg	19 00 22.9	-0.6
AOS				S	Sg	19 00 23.2	-0.3
KRBG	Karabiga-Canak	1.50	77	ePN	Pb	19 00 03.6	-0.1
KRBG	Karabiga-Canak	1.50	77	ePn	Pb	19 00 03.6	-0.1
RKY	Sarkoy-Tekirda	1.50	65	ePN	Pb	19 00 03.5	-0.4
RKY	Sarkoy-Tekirda	1.50	65	ePn	Pb	19 00 03.5	-0.4
SART	Tekirdag	1.50	65	iP	Pn	19 00 02.5	-0.2
SART				iS	Sg	19 00 24.5	-0.2
SART	Tekirdag	1.50	65	iP	Pn	19 00 02.5	-0.2
SART				iS	Sg	19 00 24.5	-0.2
PLG	Polygyros	1.52	282	P	Pn	19 00 03.1	+0.1
PLG				S	Sn	19 00 22.4	-0.2
PLG	Polygyros	1.52	282	ePN	Pn	19 00 03.3	+0.3
PLG				eSN	Sn	19 00 22.1	-0.5
PLG	Polygyros	1.52	282	ePn	Pn	19 00 03.3	+0.3
PLG				eSn	Sn	19 00 22.1	-0.5
KDZ	Kurdzhali	1.59	1	iP	Pn	19 00 03.6	-0.3
KDZ				iS	Sn	19 00 23.4	-0.8
KDZ	Kurdzhali	1.59	1	⇓iP	Pn	19 00 03.5	-0.3
KDZ	Kurdzhali	1.59	1	iP	Pn	19 00 03.6	-0.3
KDZ				iS	Sn	19 00 23.4	-0.8
RZN	Rozhen	1.70	343	iP	Pn	19 00 06.1	+0.5
RZN				iS	Sn	19 00 27.2	-0.1
RZN	Rozhen	1.70	343	iP	Pn	19 00 06.1	+0.5
RZN				iS	Sn	19 00 27.2	-0.1
SRS	Serrai	1.73	308	P	Pn	19 00 05.9	+0.2
SRS				S	Sn	19 00 26.8	-0.8
SRS	Serrai	1.73	308	ePN	Pn	19 00 06.0	+0.2
SRS	Serrai	1.73	308	ePn	Pn	19 00 06.0	+0.2
SRS				S	Sn	19 00 26.8	-0.8
SOH	Sokhos	1.73	297	P	Pn	19 00 06.0	+0.2
SOH				S	Sb	19 00 28.6	-0.7
SOH	Sokhos	1.73	297	ePN	Pn	19 00 06.1	+0.2
SOH				eSN	Sb	19 00 29.4	+0.1
SOH	Sokhos	1.73	297	ePn	Pn	19 00 06.1	+0.2
SOH				S	Sb	19 00 28.6	-0.7
SOH				eSn	Sb	19 00 29.4	+0.1
NVR	Nevrokopi	1.73	318	P	Pn	19 00 06.1	+0.2
NVR				S	Sn	19 00 27.6	-0.2
NVR	Nevrokopi	1.73	318	ePN	Pn	19 00 06.4	+0.5
NVR				eSN	Sb	19 00 29.2	-0.2
NVR	Nevrokopi	1.73	318	P	Pn	19 00 06.1	+0.2
NVR	Nevrokopi	1.73	318	ePn	Pn	19 00 06.4	+0.5
NVR				S	Sn	19 00 27.6	-0.2
NVR				eSn	Sb	19 00 29.2	-0.2
SKIA	Skiathos	1.73	240	ePN	Pn	19 00 05.6	-0.3
SKIA				eSN	Sn	19 00 28.4	+0.6
SKIA	Skiathos	1.73	240	ePn	Pn	19 00 05.6	-0.3
SKIA				eSn	Sn	19 00 28.4	+0.6
CHOS	Chios island	1.75	163	P	Pn	19 00 06.1	-0.1
CHOS				S	Sn	19 00 28.4	+0.1
CHOS	Chios island	1.75	163	ePN	Pn	19 00 06.4	+0.2
CHOS	Chios island	1.75	163	ePN	Pn	19 00 06.2	0.0
CHOS	Chios island	1.75	163	P	Pn	19 00 06.1	-0.1
CHOS	Chios island	1.75	163	ePn	Pn	19 00 06.4	+0.2
CHOS				S	Sn	19 00 28.4	+0.1
MRMT	Marmara Adasi	1.77	72	ePN	Pb	19 00 07.7	-0.7
MRMT	Marmara Adasi	1.77	72	ePn	Pb	19 00 07.7	-0.7
HORT	Hortiatis	1.83	288	ePN	Pn	19 00 07.7	+0.4
HORT	Hortiatis	1.83	288	ePn	Pn	19 00 07.7	+0.4
XOR	Xorichti	1.83	248	P	Pn	19 00 07.0	-0.2
XOR	Xorichti	1.83	248	ePB	Pn	19 00 06.8	-0.4
XOR	Xorichti	1.83	248	P	Pn	19 00 07.0	-0.2
NEO	Neokhori	1.83	246	ePB	Pn	19 00 06.9	-0.4
EDC	Edincik	1.92	81	ePN	Pb	19 00 10.3	-0.5
EDC	Edincik	1.92	81	ePn	Pb	19 00 10.3	-0.5
THE	Thessaloniki	1.94	288	ePN	Pn	19 00 09.8	+1.1
THE	Thessaloniki	1.94	288	ePn	Pn	19 00 09.8	+1.1
MRKA	Markates	1.95	226	ePN	Pn	19 00 09.4	+0.6
MRKA				eSN	Sn	19 00 33.1	+0.1
MRKA	Markates	1.95	226	ePn	Pn	19 00 09.4	+0.6
MRKA				eSn	Sn	19 00 33.1	+0.1
BALB	Balikesir	1.96	102	ePN	Pn	19 00 09.4	+0.4
BALB	Balikesir	1.96	102	ePn	Pn	19 00 09.4	+0.4
MMB	Musomiste	1.98	321	iP	Pn	19 00 09.4	+0.1
MMB				iS	Sg	19 00 38.4	-1.4
MMB	Musomiste	1.98	321	⇑iP	Pn	19 00 09.7	+0.4
MMB	Musomiste	1.98	321	iP	Pn	19 00 09.4	+0.1
MMB				iS	Sg	19 00 38.4	-1.4
DIM	Dimitrovgrad	1.99	3	iP	Pn	19 00 09.8	+0.4
DIM				iS	Sg	19 00 40.6	+0.5
DIM	Dimitrovgrad	1.99	3	iP	Pn	19 00 09.8	+0.4
EDRB	Edirne	2.06	29	P	Pn	19 00 10.1	-0.2
EDRB	Edirne	2.06	29	ePN	Pb	19 00 12.4	-0.8
EDRB	Edirne	2.06	29	P	Pn	19 00 10.1	-0.2
EDRB	Edirne	2.06	29	ePn	Pb	19 00 12.4	-0.9
SMIA	Simia	2.06	236	ePN	Pn	19 00 10.8	+0.4
SMIA	Simia	2.06	236	ePn	Pn	19 00 10.8	+0.4
CRLT	Corlu	2.08	58	ePN	Pb	19 00 12.9	-0.8
CRLT	Corlu	2.08	58	ePn	Pb	19 00 12.9	-0.8
PLD	Plovdiv	2.10	346	P	Pn	19 00 11.5	+0.5
PLD				S	Sn	19 00 37.5	+0.6
PLD	Plovdiv	2.10	346	P	Pn	19 00 11.5	+0.5
PLD				S	Sn	19 00 37.5	+0.6
BLCB	Balcova	2.11	142	ePN	Pn	19 00 12.2	+1.2
BLCB	Balcova	2.11	142	ePn	Pn	19 00 12.2	+1.2
KNT	Kendrikon	2.19	301	P	Pn	19 00 12.6	+0.4
KNT				S	Sn	19 00 39.0	-0.1
KNT	Kendrikon	2.19	301	ePB	Pn	19 00 13.0	+0.8
KNT	Kendrikon	2.19	301	P	Pn	19 00 12.6	+0.4
KNT				S	Sn	19 00 39.0	-0.1
AKHS	Akhisar	2.22	121	iP	Pn	19 00 11.9	-0.6
AKHS				iS	Sb	19 00 43.7	+0.4
AKHS	Akhisar	2.22	121	iP	Pn	19 00 11.9	-0.6
AKHS				iS	Sb	19 00 43.7	+0.4
AKS	Akhisar	2.22	121	ePN	Pn	19 00 14.1	+1.6
AKS	Akhisar	2.22	121	ePn	Pn	19 00 14.1	+1.6
LIT	Litokhoron	2.23	272	ePN	Pn	19 00 13.0	+0.4
LIT	Litokhoron	2.23	272	ePn	Pn	19 00 13.0	+0.4
PHSR	Pinarhisar	2.25	45	ePN	Pb	19 00 15.4	-1.2
PHSR	Pinarhisar	2.25	45	ePn	Pb	19 00 15.4	-1.2
LKR	Lokris	2.33	233	ePN	Pn	19 00 14.2	+0.2
LKR	Lokris	2.33	233	ePn	Pn	19 00 14.2	+0.2
SLVT	Silivri	2.44	61	ePN	Pn	19 00 17.6	+2.0
SLVT	Silivri	2.44	61	ePn	Pn	19 00 17.6	+2.0
VAY	Valandovo	2.48	301	ePn	Pn	19 00 17.7	+1.5
VAY				eSg	Sg	19 00 57.8	+1.7
VAY	Valandovo	2.48	301	ePn	Pn	19 00 17.6	+1.5
VAY				eSg	Sg	19 00 57.7	+1.7
JMB	Yambol	2.56	20	P	Pn	19 00 17.9	+0.6
JMB	Yambol	2.56	20	iP	Pn	19 00 17.7	+0.4
JMB				iS	Sg	19 00 57.6	-1.0
JMB	Yambol	2.56	20	⇑iP	Pg	19 00 24.1	-1.2
JMB	Yambol	2.56	20	P	Pn	19 00 17.9	+0.6
AGG	Agios Georgios	2.58	247	ePN	Pn	19 00 18.5	+0.9
AGG	Agios Georgios	2.58	247	ePn	Pn	19 00 18.5	+0.9
SMG	Samos	2.61	154	ePN	Pn	19 00 18.8	+0.9
SMG	Samos	2.61	154	ePn	Pn	19 00 18.8	+0.9
CTYL	Yal??k??y-??at	2.62	56	ePN	Pb	19 00 20.4	-2.4
CTYL	Yal??k??y-??at	2.62	56	ePn	Pb	19 00 20.4	-2.4
CTKS	Kestanelik-??a	2.65	63	ePN	Pn	19 00 20.8	+2.4
CTKS	Kestanelik-??a	2.65	63	ePn	Pn	19 00 20.8	+2.4
THL	Klokotos Trika	2.65	260	ePN	Pn	19 00 18.8	+0.4
THL	Klokotos Trika	2.65	260	ePn	Pn	19 00 18.8	+0.4
PGB	Panagyurishte	2.65	340	iPg	Pn	19 00 18.8	+0.3
PGB				iS	Sn	19 00 49.4	-1.1
MDNY	Mudanya-Bursa	2.69	82	ePN	Pn	19 00 20.8	+1.7
MDNY	Mudanya-Bursa	2.69	82	ePn	Pn	19 00 20.8	+1.7
MAKR	Makrakomi, Fth	2.73	248	ePN	Pn	19 00 20.3	+0.7
MAKR	Makrakomi, Fth	2.73	248	ePn	Pn	19 00 20.3	+0.7
DSF	Desfina	2.77	234	ePN	Pn	19 00 20.4	+0.3
DSF	Desfina	2.77	234	ePn	Pn	19 00 20.4	+0.3
LTK	Loutraki	2.78	224	ePN	Pn	19 00 20.4	+0.2
LTK	Loutraki	2.78	224	ePn	Pn	19 00 20.4	+0.2
LTK	Loutraki	2.78	224	ePn	Pn	19 00 20.4	+0.2
BGKT	Bogazkoy	2.81	65	ePN	Pn	19 00 23.0	+2.4
BGKT	Bogazkoy	2.81	65	ePn	Pn	19 00 23.0	+2.4
AYDB	Zeytinkoy-Aydi	2.87	137	ePN	Pn	19 00 23.6	+1.9
AYDB	Zeytinkoy-Aydi	2.87	137	ePn	Pn	19 00 23.6	+1.9
ULDT	Uludag	2.87	87	iP	Pb	19 00 26.0	-1.3
ULDT	Uludag	2.87	87	iP	Pb	19 00 26.0	-1.3
ULDT				iS	Sg	19 01 06.6	-1.9
ISK	Istanbul-Kandi	2.97	69	ePN	Pn	19 00 25.5	+2.7
ISK	Istanbul-Kandi	2.97	69	ePn	Pn	19 00 25.5	+2.7
KULA	Kula-Manisa	2.97	120	ePN	Pn	19 00 24.2	+1.2
KULA	Kula-Manisa	2.97	120	ePn	Pn	19 00 24.2	+1.2
VTS	Vitosha	3.01	328	ePN	Pn	19 00 26.3	+2.7
VTS	Vitosha	3.01	328	⇑iP	Pg	19 00 33.5	-0.4
VTS	Vitosha	3.01	328	ePn	Pn	19 00 26.3	+2.7
KLYT	Kilyos	3.02	66	ePN	Pn	19 00 26.1	+2.6
KLYT	Kilyos	3.02	66	ePn	Pn	19 00 26.1	+2.6
KALE	Kalithea	3.03	238	ePN	Pn	19 00 23.9	+0.2
KALE	Kalithea	3.03	238	ePn	Pn	19 00 23.9	+0.2
DID	Didima	3.06	214	ePN	Pn	19 00 24.6	+0.5
DID	Didima	3.06	214	ePN	Pn	19 00 24.5	+0.5
DID	Didima	3.06	214	ePn	Pn	19 00 24.6	+0.5
FNA	Florina	3.15	285	ePN	Pn	19 00 26.1	+0.7
FNA	Florina	3.15	285	ePn	Pn	19 00 26.1	+0.7
EFP	Efpalio	3.16	240	ePN	Pn	19 00 26.5	+1.0
EFP	Efpalio	3.16	240	ePn	Pn	19 00 26.5	+1.0
GUR	Goura	3.19	229	ePN	Pn	19 00 26.3	+0.4
GUR	Goura	3.19	229	ePn	Pn	19 00 26.3	+0.4
GUR	Goura	3.19	229	ePn	Pn	19 00 26.3	+0.4
TVSB	Tavsanli	3.20	100	ePN	Pn	19 00 28.0	+1.9

TVSB Tavsanli 3.20 100 ePn Pn 19 00 28.0 +1.9
LAKA Lakka 3.22 237 ePN Pn 19 00 27.3 +1.0
LAKA Lakka 3.22 237 ePn Pn 19 00 27.3 +1.0
KLV Kalavryta, Ach 3.23 232 ePN Pn 19 00 26.7 +0.2
KLV Kalavryta, Ach 3.23 232 ePn Pn 19 00 26.7 +0.2
GDZ Gediz 3.31 106 iP Pb 19 00 33.5 -1.1
GDZ iS Sg 19 01 19.4 -3.0
NEST Nestorio 3.34 277 ePN Pn 19 00 29.8 +1.7
NEST Nestorio 3.34 277 ePn Pn 19 00 29.8 +1.7
HRT Hereke 3.35 76 ePN Pn 19 00 30.9 +2.7
HRT Hereke 3.35 76 ePn Pn 19 00 30.9 +2.7
BODT Bodrum 3.35 153 ePN Pn 19 00 29.9 +1.8
BODT Bodrum 3.35 153 ePn Pn 19 00 29.9 +1.8
CAVI Cavuskoy 3.42 86 ePN Pn 19 00 31.2 +2.2
CAVI Cavuskoy 3.42 86 ePn Pn 19 00 31.2 +2.2
SILT Sile 3.42 70 ePN Pn 19 00 31.8 +2.8
SILT Sile 3.42 70 ePn Pn 19 00 31.8 +2.8
MPEP Malo Peshtene 3.52 340 iP Pn 19 00 31.5 +1.1
MPEP Malo Peshtene 3.52 340 iP Pn 19 00 31.5 +1.1
DRO Drossia 3.56 235 ePN Pn 19 00 32.0 +1.0
DRO Drossia 3.56 235 ePn Pn 19 00 32.2 +1.2
DRO Drossia 3.56 235 ePn Pn 19 00 32.0 +1.0
PDO Prodromos 3.58 247 ePN Pn 19 00 33.3 +2.1
PDO Prodromos 3.58 247 ePn Pn 19 00 33.3 +2.1
KHL Karahalli 3.65 117 ePN Pn 19 00 34.6 +2.3
KHL Karahalli 3.65 117 ePn Pn 19 00 34.6 +2.3
ALT Altintas 3.79 104 ePN Pn 19 00 36.2 +2.1
ALT Altintas 3.79 104 ePn Pn 19 00 36.2 +2.1
SHUT Suhut-Afyon 4.28 109 ePN Pn 19 00 43.8 +2.8
SHUT Suhut-Afyon 4.28 109 ePn Pn 19 00 43.8 +2.8
MSAB Monastry St. A 4.41 23 ⇑iP Pn 19 00 43.7 +1.0
MSAB Monastry St. A 4.41 23 ⇑iP Pn 19 00 43.7 +1.0
MDUB Mudurnu 4.46 83 ePN Pn 19 00 46.0 +2.5
MDUB Mudurnu 4.46 83 ePn Pn 19 00 46.0 +2.5
SVRH Sivrihisar-ESK 4.77 95 ePN Pn 19 00 50.4 +2.8
SVRH Sivrihisar-ESK 4.77 95 ePn Pn 19 00 50.4 +2.8
TLB Topalu 4.93 23 ⇓iP Pg 19 01 09.5 -1.0
LOT Lotru 5.51 348 ⇓iP Pn 19 00 58.2 +0.3
LOT Lotru 5.51 348 ⇓iP Pn 19 00 58.2 +0.3
GZR Gura Zlata 5.66 341 ⇑iP Pn 19 01 00.6 +0.7
GZR Gura Zlata 5.66 341 ⇑iP Pn 19 01 00.6 +0.7

ISCJB **11** *19:05:24.8±2.5, 24.°17S±0.°05×175.°77W±0.°03, h9km±15km, mb5.3/88, MS4.9/30, Error ellipse: s-maj=8.2km s-min=4.0km az=154.9*

IDC **11** *19:05:25.0±0.5, 24.°05S×175.°91W, h0km, mb4.9/17, mb1 5.1/19, mb1mx4.8/33, mbtmp4.9/19, ML4.8/2, MS4.7/16, Ms1 4.7/16, ms1mx4.4/31, Error ellipse: s-maj=19.5km s-min=13.4km az=150.0*

BJI **11** *19:05:29.1, 23.°55S×175.°49W, h27km, mB5.8/12, mb5.5/43, Ms5.4/21, Ms7 4.9/21*

SZGRF **11** *19:05:29.4, 24.°17S×174.°46W, h33km, South of Tonga Islands*

MOS **11** *19:05:29.9±1.4, 24.°16S×175.°88W, h41km, mb5.6/23, Error ellipse: s-maj=11.4km s-min=10.5km az=110.4*

NEIC **11** *19:05:30.6±1.4, 24.°15S×175.°81W, h40km±11km, mb5.4/39, MS5.1/7, Error ellipse: s-maj=9.9km s-min=8.1km az=136.0*

GCMT **11** *19:05:30.6±0.3, 24.°02S×175.°20W, h25km, MW5.2/71, Moment Tensor Solution. s52,c76; s71,c111; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.85±.03; $M_{\theta\theta}$-0.22±.02; $M_{\phi\phi}$-0.63±.02; $M_{r\theta}$0.12±.06; $M_{\theta\phi}$-0.06±.02; $M_{\phi r}$0.48±.04; Best double couple: $M_0$0.89800×10^{17} NP1:ϕ_s11.00000°, δ62.00000°, λ92.00000°. NP2: ϕ_s187.00000°, δ28.00000°, λ86.00000°. Principal axes: T 1.0040, Plg73.0000°, Azm286.0000°; N -0.2100, Plg2.0000°, Azm190.0000°; P -0.7930, Plg17.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 11 19:05:30.7±0.3, 24.°20S±0.°06×175.°76W±0.°07, h38km±3km, h39km:pP-P, n619, σ1s17/645, mb5.4/86, MS4.9/30, 164C-152D, South of Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 5.39 201 Pn Pn 19 06 47.3 -1.2
93nm,0.3s,baz=56,slow=16,SNR=3.9
RAO Sn Sn 19 07 49.1 -0.1
38nm,0.3s,baz=270,slow=20,SNR=3.3
NIUE Niue 7.45 48 ⇑P Pn 19 07 06.8 -10
baz=7.0,SNR=5.5
MSVF Nonsavu 8.65 317 Pn Pn 19 07 36.3 +2.9
1μm,1.0s,SNR=28
MSVF Nonsavu 8.65 317 eP Pn 19 07 34.9 +1.5
MSVF pmax pmax
comp=Z,317nm,0.9s
MSVF Nonsavu 8.65 317 eP Pn 19 07 34.9 +1.5
comp=Z,317nm,0.9s
AFI Afiamalu 10.91 21 Pn Pn 19 07 54.6 -10
comp=Z,5.2nm,0.3s,baz=200,slow=14,SNR=8.7
AFI Sn Sn 19 09 46.2 -19
comp=Z,3.5nm,0.3s,baz=198,slow=20,SNR=3.1
AFI Afiamalu 10.91 21 eP Pn 19 07 54.8 -10
comp=Z,201nm,1.1s
AFI Sn Sn 19 09 46.2 -19
RAR Rarotonga 15.05 82 Pn Pn 19 08 51.1 -10
comp=Z,7.3nm,0.3s,baz=250,slow=8.1,SNR=15
RAR LR LR 19 15 26.0
comp=Z,3,μm,19.1s,baz=262,slow=40
RAR Rarotonga 15.05 82 eP Pn 19 08 50.4 -10
URZ Urewera 15.28 202 Pn Pn 19 09 03.3 -0.2
comp=Z,1.0nm,0.3s,baz=114,slow=1.5,SNR=5.8
URZ Sn Sn 19 11 38.9 -13
comp=Z,1.2nm,0.3s,baz=3.4,slow=17,SNR=3.1
URZ Urewera 15.28 202 eP P 19 09 06.4 -1.5
URZ Sn Sn 19 11 38.9 -13
DZM Mont Dzumac 16.50 274 eP P 19 09 24.1 +2.3
comp=Z,367nm,1.2s
DZM Mont Dzumac 16.50 274 Pn P 19 09 21.9 +0.1
comp=Z,0.8nm,0.3s,baz=92,slow=15,SNR=25
DZM Mont Dzumac 16.50 274 eP P 19 09 23.8 +2.1
NOUC Port Laguerre 16.63 274 eP P 19 09 27.1 +4.1
KHZ Kahutara 20.22 203 eP P 19 09 59.5 -2.7
comp=Z,27nm,0.8s
RPZ Rata Peaks 22.27 206 eP P 19 10 16.6 -7.9
PAE Paea 25.28 80 eT T 19 36 46.2
comp=Z,5.9nm,0.4s
PPT2 Papeete2 25.31 80 eLR LR 19 17 24.9
comp=Z,2μm,21.8s
PPT Papeete 25.32 80 LR LR 19 20 11.1
comp=Z,2μm,18.4s,baz=247,slow=35
WHZ Wether Hill Ro 25.33 207 PFAKE 19 11 10.0 +16
WHZ LR LR
comp=Z,4μm,22.0s
DCZ Deep Cove 25.34 209 PFAKE 19 11 10.0 +16
DCZ LR LR
comp=Z,3μm,22.0s
TARA Tarawa 27.68 335 PFAKE 19 11 30.0 +15
TARA LR LR
comp=Z,4μm,20.9s
ARMA Armidale 29.56 251 ⇑P P 19 11 33.5 +1.4
baz=30,SNR=4.7
EIDS Eidsvold 30.08 261 P P 19 11 36.3 -0.3
baz=31,SNR=4.6
RMQ Roma 32.09 258 ⇑P P 19 11 54.9 +0.6
baz=33,SNR=9.7
CAN Canberra 32.38 242 ⇑P P 19 11 58.1 +1.3
baz=33
MILA Mila 32.61 239 ⇑P P 19 12 00.7 +1.9
baz=33
YNG Young 32.70 244 ⇓P P 19 12 01.1 +1.4
baz=33
CMSA Cobar Meteorol 34.72 249 P P 19 12 17.3 +0.1
baz=35,SNR=8.0
CTA Charters Tower 35.35 269 P P 19 12 22.5 -0.2
baz=91,slow=12
CTA Charters Tower 35.35 269 ⇓P P 19 12 22.5 -0.2
baz=36
CTAO Charters Tower 35.35 269 eP P 19 12 22.0 -0.7
CTAO pmax pmax
comp=Z,69nm,1.1s
CTAO Charters Tower 35.35 269 eP P 19 12 22.0 -0.7
comp=Z,69nm,1.1s
QLP Quilpie 36.12 258 P P 19 12 29.0 -0.2
baz=37,SNR=12
RKT Rikitea 37.28 97 eLR LR 19 22 09.5
comp=Z,1μm,34.0s
RKT Rikitea 37.28 97 eT T 19 52 00.7
comp=Z,2.0nm,0.4s
MTSU Mount Surprise 37.62 271 ⇓P P 19 12 41.4 -0.7
baz=38,SNR=31
STKA Stephens Creek 38.22 249 P P 19 12 46.4 -0.6
comp=Z,7.8nm,1.0s,baz=84,slow=8.7,SNR=14
STKA LR LR 19 27 52.8
comp=Z,3μm,18.2s,baz=78,slow=35
STKA Stephens Creek 38.22 249 ⇓P P 19 12 46.6 -0.4
baz=39,SNR=11
PMG Port Moresby 38.28 286 ceP P 19 12 46.1 -1.5
PMG pmax pmax
comp=Z,104nm,0.7s
PMG Port Moresby 38.28 286 P P 19 12 46.3 -1.4
comp=Z,151nm,0.8s,baz=111,slow=7.9,SNR=109
PMG LR LR 19 25 36.2
comp=Z,618nm,19.7s,baz=189,slow=32
ARPS Mount Arapiles 38.33 241 ⇓P P 19 12 49.7 +1.8
baz=39
COEN Coen 39.99 277 eP P 19 13 00.8 -1.2
comp=Z,176nm,1.0s
COEN Coen 39.99 277 P P 19 13 01.6 -0.4
baz=40,SNR=11
HTT Hallett 40.49 246 ⇓P P 19 13 05.5 -0.5
baz=41,SNR=19
QIS Mount Isa 41.30 266 ⇓P P 19 13 12.0 -0.8
baz=42,SNR=6.1
BBOO Buckleboo 42.90 247 eP P 19 13 24.2 -1.4
comp=Z,499nm,1.4s
BBOO Buckleboo 42.90 247 ⇑P P 19 13 24.7 -1.0
baz=43,SNR=5.9
AS17 Alice Springs 45.72 260 ⇑P P 19 13 48.3 -0.1
baz=46
AS31 Alice Springs 45.80 260 eP P 19 13 48.1 -0.9
ASAR Alice Springs 45.80 260 P P 19 13 47.9 -1.2
comp=Z,24nm,0.9s,baz=97,slow=8.2,SNR=88
ASAR ScP ScP 19 19 20.7 +4.4
comp=Z,0.7nm,0.8s,baz=111,slow=4.1,SNR=3.5
ASAR S S 19 20 31.1 +0.6
comp=Z,0.9nm,0.9s,baz=93,slow=15,SNR=6.5
ASAR LR LR 19 32 56.9
comp=Z,2μm,18.2s,baz=105,slow=36
WRAB Tennant Creek 46.24 265 P P 19 13 50.0 -2.5
comp=Z,238nm,1.0s,SNR=9.2
WRAB Tennant Creek 46.24 265 ⇓iP P 19 13 50.8 -1.7
WRAB pmax pmax
comp=Z,86nm,0.8s
WRAB Tennant Creek 46.24 265 eP P 19 13 50.2 -2.3
WRA Warramunga Arr 46.25 265 P P 19 13 50.5 -2.1
comp=Z,30nm,0.9s,baz=101,slow=8.1,SNR=64
WRA PcP PcP 19 15 28.4 +0.6
comp=Z,5.4nm,0.9s,baz=99,slow=3.7,SNR=4.9
WRA S S 19 20 34.5 -2.4
comp=Z,3.5nm,1.0s,baz=104,slow=14,SNR=5.0
WRA LR LR 19 32 57.9
comp=Z,2μm,18.9s,baz=95,slow=36
FORT Forrest 49.83 249 ⇑P P 19 14 19.0 -1.2
baz=50,SNR=9.0
KDU Kakadu 50.17 274 P P 19 14 21.2 -1.7
baz=51,SNR=5.4
WRKA Warakurna 50.55 257 ⇓P P 19 14 23.8 -1.9
baz=51,SNR=9.4
MTN Manton Dam 51.34 273 P P 19 14 29.9 -1.7
baz=52,SNR=3.4
KNRA Kununurra 52.56 268 P P 19 14 39.6 -1.1
baz=53,SNR=6.9
FAKI Fak Fak 54.39 285 ⇑P P 19 14 52.5 -1.8
baz=55
SWI Sorong 56.23 286 P P 19 15 06.3 -1.2
comp=Z,117nm,0.9s,comp=Z,1μm
SWI Sorong 56.23 286 ⇓P P 19 15 06.4 -1.0
baz=57
PALU Palau 57.77 296 ⇓P P 19 15 16.1 -2.3
baz=58
KLBR Kellerberrin 58.44 247 P P 19 15 22.8 -0.1
baz=59,SNR=9.6
MEEK Meekatharra 58.73 253 ⇑P P 19 15 23.6 -1.4
baz=59
SOEI Soe 58.73 273 P P 19 15 24.1 -1.2
comp=Z,77nm,1.0s
SOEI Soe 58.73 273 eP P 19 15 24.0 -1.3
comp=Z,50nm,0.8s
SOEI Soe 58.73 273 ⇑P P 19 15 24.6 -0.7
baz=59,SNR=10.0
BLDU Ballidu 59.51 248 ⇑P P 19 15 29.7 -0.5
baz=60,SNR=6.4
LBMI Labuha 59.65 284 P P 19 15 30.0 -1.5
comp=Z,78nm,1.0s
MORW Morawa 60.40 249 ⇓P P 19 15 36.3 -0.1
baz=61
TNTI Ternate 60.43 286 eP P 19 15 33.4 -3.4
comp=Z,94nm,1.2s
MMRI Maumere 61.01 273 P P 19 15 39.5 -1.3
comp=Z,32nm,1.0s
MMRI Maumere 61.01 273 eP P 19 15 38.7 -2.0
comp=Z,19nm,0.8s
CASY Casey 61.54 206 eP P 19 15 44.9 +1.3
comp=Z,32nm,0.8s
WSI Waingapu 62.38 272 P P 19 15 49.1 -0.9
comp=Z,101nm,0.6s
WSI Waingapu 62.38 272 ⇓P P 19 15 49.3 -0.7
baz=63
BKSI Bulukumba 64.25 276 P P 19 16 00.4 -2.0
comp=Z,30nm,0.8s
QSPA South Pole Qui 65.89 180 P P 19 16 14.2 +1.9
comp=Z,23nm,1.0s,baz=44,slow=2.9,SNR=18
JAGI Jajag, Banyuwa 68.45 270 ⇑P P 19 16 27.4 -1.9
baz=69
KMMI Kalianget 69.17 272 P P 19 16 33.7 -0.1
UGM Wanagama 71.98 269 ⇓P P 19 16 51.0 +0.1
baz=72,SNR=3.9
MJAR Matsushiro Arr 74.40 323 P P 19 17 03.7 -1.0
comp=Z,9.0nm,0.9s,baz=138,slow=5.7,SNR=7.0
MJAR LR LR 19 46 23.1
comp=Z,180nm,21.1s,baz=190,slow=33
MAT Matsushiro 74.40 323 P P 19 17 03.3 -1.4
CISI Cisompet, Garu 74.59 269 eP P 19 17 05.2 -1.2
comp=Z,27nm,0.9s
LEM Lembang 75.05 269 ⇑P P 19 17 09.5 +0.3
baz=76,SNR=8.6
KSM Kuching 75.98 278 eP P 19 17 13.6 -0.7
comp=Z,17nm,0.8s
KSM Kuching 75.98 278 ⇑P P 19 17 13.9 -0.4
baz=76,SNR=6.8
FX1 Attu Island--F 77.36 353 LR LR 19 44 27.0
comp=Z,420nm,20.4s,baz=188,slow=30
TPUB Ta-pu 77.71 303 eP P 19 17 21.6 -2.2
comp=Z,62nm,1.0s
SSLB Suanglung 77.73 303 eP P 19 17 22.3 -1.6
comp=Z,11nm,0.8s
ARVC Arvin 79.93 44 ⇑P P 19 17 35.7 0.0
baz=80
PET Petropavlovsk 80.06 345 ceP P 19 17 36.0 0.0
PET pmax pmax
comp=Z,69nm,2.5s
PET Petropavlovsk 80.06 345 PFAKE 19 17 50.0 +14
PET LR LR
comp=Z,700nm,18.4s
YSS Yuzh-Sakhalins 80.12 333 iP P 19 17 36.8 +0.4
YSS e 19 17 49.4
YSS pmax pmax
comp=Z,90nm,1.0s
YSS Yuzh-Sakhalins 80.12 333 eP P 19 17 36.7 +0.2
comp=Z,82nm,0.9s
MONP Monument Peak 80.13 47 ⇓P P 19 17 36.9 -0.3
baz=80
BFSC Mount Baldy Ra 80.13 46 ⇑P P 19 17 36.3 -0.7
baz=80
VES Vestal, Richgr 80.22 44 ⇓P P 19 17 36.9 -0.4
baz=80,SNR=5.4
EDW2 Edwards Air Fo 80.31 45 ⇑P P 19 17 36.6 -1.3
baz=80,SNR=5.4
PEA0B Petropavlovsk- 80.37 344 eP P 19 17 36.1 -1.6
PETK Petropavlovsk- 80.37 344 P P 19 17 37.5 -0.1
comp=Z,29nm,0.8s,baz=135,slow=8.1,SNR=31
ISA Isabella 80.49 44 eP P 19 17 38.2 -0.7
ISA pmax pmax
comp=Z,23nm,1.3s
ISA Isabella 80.49 44 eP P 19 17 38.2 -0.7
comp=Z,23nm,1.3s
ISA Isabella 80.49 44 ⇑P P 19 17 38.5 -0.4
baz=81
PFO Pinyon Flat Ob 80.54 47 P P 19 17 39.1 -0.1
comp=Z,3.2nm,0.8s,baz=201,slow=1.3,SNR=3.6
PFO Pinyon Flat Ob 80.54 47 ⇓P P 19 17 37.5 -1.8
baz=81
SWSC Sam W. Stewart 80.58 48 ⇑P P 19 17 38.8 -0.5
baz=81
CMB Columbia Colle 80.82 41 eP P 19 17 39.8 -0.7
CMB pmax pmax
comp=Z,19nm,1.2s
CMB Columbia Colle 80.82 41 eP P 19 17 39.8 -0.7
comp=Z,19nm,1.2s
KSRS Korea Array 81.02 318 P P 19 17 42.2 +0.7
comp=Z,7.8nm,0.9s,baz=139,slow=5.5,SNR=10
KSRS LR LR 19 49 35.3
comp=Z,318nm,19.6s,baz=146,slow=33
KSAR Wonju Array Be 81.03 318 P P 19 17 42.2 +0.6
KSAR Wonju Array Be 81.03 318 P P 19 17 42.2 +0.6
BELC Belle Mtn. Jos 81.08 47 ⇓P P 19 17 40.6 -1.5
baz=81
CWC Cottonwood Cre 81.22 44 ⇓P P 19 17 41.8 -1.1
baz=81
BC3 Big Chuckawall 81.23 47 ⇑P P 19 17 41.6 -1.3
baz=81
GLA Glamis 81.30 48 eP P 19 17 42.8 -0.4
GLA pmax pmax
comp=Z,20nm,1.4s
GLA Glamis 81.30 48 eP P 19 17 42.8 -0.4
comp=Z,20nm,1.4s
GLA Glamis 81.30 48 ⇑P P 19 17 43.0 -0.2
baz=82
GSC Goldstone 81.34 45 ⇑P P 19 17 42.8 -0.6
baz=82
HEC Hector,Ludlow 81.36 46 ⇑P P 19 17 43.2 -0.3
baz=82
N02D Trinity Center 81.42 38 ⇑P P 19 17 43.6 0.0
baz=82
M02C Callahan 81.61 37 ⇑P P 19 17 44.8 +0.1
baz=82
WAKR Walker 81.69 41 eP P 19 17 44.3 -1.0
comp=Z,46nm,1.5s
L02D Cave Junction, 81.72 36 ⇑P P 19 17 45.3 +0.1
baz=82
IRM Iron Mountain 81.74 47 ⇓P P 19 17 45.5 +0.1
baz=82,SNR=6.1
GMRC Granite Mounta 81.77 46 ⇓P P 19 17 45.2 -0.5
baz=82
113A Mohawk Valley, 81.86 49 ⇑P P 19 17 45.8 -0.3
baz=82
Y12C Blythe 81.92 48 ⇓P P 19 17 46.3 0.0
baz=82
YBH Yreka Blue Hor 81.92 37 LR LR 19 48 57.0
comp=Z,504nm,19.6s,baz=281,slow=32
TUQ Turquoise Moun 81.99 45 ⇓P P 19 17 46.6 -0.3
baz=82
FURC Furnace Creek, 82.02 44 ⇓P P 19 17 46.9 +0.1
baz=82
GRAC Grapevine Rang 82.02 44 ⇑P P 19 17 46.8 -0.1
baz=82
214A Organ Pipe Nat 82.05 50 ⇓P P 19 17 46.6 -0.5
baz=82
NVAR Mina Array Bea 82.33 42 P P 19 17 48.8 0.0
comp=Z,7.7nm,0.9s,baz=222,slow=8.8,SNR=25
NVAR LR LR 19 49 05.2
comp=Z,483nm,18.8s,baz=70,slow=32
M04C Macdoel 82.44 38 ⇑P P 19 17 49.2 +0.1
baz=83
VLA Vladivostok 82.49 324 eP P 19 17 50.2 +1.1
VLA pmax pmax
comp=Z,22nm,1.0s
PDMCI Parker Dam,Lak 82.50 47 ⇑P P 19 17 49.4 0.0
baz=83
Z14A Wintersburg 82.76 49 ⇑P P 19 17 50.6 -0.2
baz=83
Y14A Wickenburg 83.05 48 ⇑P P 19 17 51.9 -0.5
baz=83
SHPR Sheep Range 83.13 45 eP P 19 17 52.7 -0.1
comp=Z,29nm,1.6s
W13A Hualapai Mount 83.13 47 ⇓P P 19 17 52.8 -0.2
baz=83,SNR=7.9
USRK Ussuriysk Arra 83.17 325 P P 19 17 53.6 +0.9
comp=Z,44nm,0.9s,baz=127,slow=3.5,SNR=44
USRK LR LR 19 54 58.4
comp=Z,172nm,18.3s,baz=161,slow=36
J04D Umpqua Nationa 83.27 36 ⇑P P 19 17 53.3 -0.2
baz=84
MOD Modoc 83.38 38 eP P 19 17 53.6 -0.4
comp=Z,15nm,1.1s
I04A Tendick Farm, 83.48 36 ⇓P P 19 17 54.5 +0.1
baz=84
SYO Syowa Base 83.57 192 ⇑iP P 19 17 54.1 -0.4
TUC Tucson 83.67 51 eP P 19 17 55.5 -0.1
TUC pmax pmax
comp=Z,20nm,1.2s
TUC Tucson 83.67 51 eP P 19 17 55.5 -0.1
comp=Z,20nm,1.2s
J05D Fort Rock, OR 83.77 37 ⇑P P 19 17 55.8 -0.2
baz=84
NJ2 Nanjing 83.82 309 eP P 19 17 56.3 0.0
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
R11A Troy Canyon, C 83.96 43 ⇑P P 19 17 56.6 -0.5
baz=84
G03D McMinnville, O 84.00 34 ⇑P P 19 17 57.1 +0.2
baz=84
319A Douglas 84.23 52 ⇓P P 19 17 57.9 -0.7
baz=84
BMN Battle Mountai 84.24 41 eP P 19 17 58.1 -0.3
BMN pmax pmax
comp=Z,36nm,1.7s
BMN Battle Mountai 84.24 41 eP P 19 17 58.1 -0.3
comp=Z,36nm,1.7s
SNAA Sanae 84.26 178 P P 19 17 59.5 +1.5
SNAA Sanae 84.26 178 sP sP 19 18 11.8 -2.5
SNAA Sanae 84.26 178 ⇓iP P 19 17 59.1 +1.1
SNAA pmax pmax
comp=Z,65nm,2.5s
SNAA Sanae 84.26 178 eP P 19 17 58.2 +0.2
comp=Z,23nm,1.0s
VNA3 Neumayer Olymp 84.32 176 P P 19 17 59.5 +1.2
X16A Lo Mia Camp, P 84.39 48 ⇑P P 19 17 58.9 -0.5
baz=85,SNR=12
WVOR Wild Horse Val 84.67 39 eP P 19 18 00.0 -0.5
WVOR pmax pmax
comp=Z,27nm,1.5s
WVOR Wild Horse Val 84.67 39 eP P 19 18 00.0 -0.5
comp=Z,27nm,1.5s
MDJ Mudanjiang 84.72 324 P P 19 18 01.1 +0.5
MDJ pmax pmax
comp=Z,54nm,1.1s
MDJ pmax pmax
comp=Z,300nm,5.5s
MDJ Mudanjiang 84.72 324 eP P 19 18 01.1 +0.5
comp=Z,47nm,0.9s
VNA2 Neumayer--Watz 84.78 176 P P 19 18 02.2 +1.6
baz=175,slow=2.8
U15A North Rim 84.96 46 ⇑P P 19 18 02.4 +0.1
baz=85,SNR=21
VNA1 Neumayer--Stat 85.00 176 P P 19 18 03.3 +1.7
VNA1 Neumayer--Stat 85.00 176 sP sP 19 18 15.4 -2.6
WUAZ Wupatki 85.05 48 ⇓P P 19 18 03.0 +0.3
baz=85,SNR=5.8
X18A Snowflake 85.48 49 ⇓P P 19 18 04.8 0.0
baz=86
ELK Elko 85.62 42 LR LR 19 51 26.6
comp=Z,550nm,18.6s,baz=200,slow=32
IPM Ipoh 85.64 277 eP P 19 18 06.2 +0.2
comp=Z,25nm,1.1s
121A Cookes Peak, D 85.92 52 ⇓P P 19 18 06.7 -0.4
baz=86
W18A Petrified Fore 85.95 49 ⇓P P 19 18 07.1 0.0
baz=86
WHN Wuhan 86.29 306 ⇓P P 19 18 09.6 +0.9
SNY Shenyang 86.36 319 ⇑P P 19 18 07.9 -0.8
SNY pmax pmax
comp=Z,30nm,2.5s
CN2 Changchun 86.48 322 ⇑P P 19 18 09.5 +0.2
CN2 pmax pmax
comp=Z,50nm,1.2s
KLR Kul'dur 86.75 329 eP P 19 18 07.1 -3.4
KLR pmax pmax
comp=Z,78nm,1.8s
DUG Dugway 86.79 43 ⇑P P 19 18 11.1 -0.1
baz=87
PSI Prapat 86.86 274 P P 19 18 12.0 -0.1
comp=Z,33nm,0.8s,baz=141,slow=3.4,SNR=28
PSI Prapat 86.86 274 ⇑P P 19 18 11.6 -0.5
baz=87,SNR=13
Z22A Elephant Butte 86.89 51 ⇓P P 19 18 11.7 -0.1
baz=87
TXAR Lajitas Array 87.34 56 P P 19 18 14.0 0.0
TXAR Lajitas Array 87.34 56 P P 19 18 14.0 0.0
comp=Z,5.4nm,1.0s,baz=212,slow=4.4,SNR=16
GSI Gunungsitoli 87.48 273 eP P 19 18 16.4 +1.5
comp=Z,86nm,0.8s
GAMB Gambell 87.74 2 eP P 19 18 14.8 -0.1
comp=Z,9.5nm,0.9s

HLID Hailey 87.80 40 ⇓P P 19 18 15.8 -0.2
baz=88
225A Deer Hill, Car 87.86 53 ⇓P P 19 18 16.2 -0.4
baz=88
Y23A Lovelace Mesa, 87.89 51 ⇓P P 19 18 16.6 -0.1
baz=88
MVCO Mesa Verde 87.92 47 ⇑P P 19 18 16.8 0.0
baz=88
CHBT CHBT 87.94 285 P P 19 18 19.0 +2.0
comp=Z,40nm,1.5s,comp=Z,717nm
Z24A Sheeppen Canyo 88.08 52 ⇓P P 19 18 17.6 0.0
baz=88
326A Caldwell Ranch 88.08 54 ⇑P P 19 18 17.2 -0.3
baz=88
X23A Hourglass Bar 88.13 51 ⇑P P 19 18 17.9 +0.1
baz=88
125A Gardner Draw, 88.25 53 ⇓P P 19 18 18.3 0.0
baz=88
427A Hayter Ranch, 88.28 55 ⇑P P 19 18 18.4 -0.1
baz=88
V22A San Miguel Ran 88.32 49 ⇓P P 19 18 18.6 -0.1
baz=88
226B Tecolote Peak, 88.32 54 ⇓P P 19 18 18.5 -0.1
baz=88
Y24A Capitan 88.33 52 ⇓P P 19 18 18.8 0.0
baz=88,SNR=14
DIV Divide 88.43 14 eP P 19 18 17.8 -0.6
comp=Z,28nm,1.3s
Z25A Roswell 88.52 52 ⇓P P 19 18 19.7 +0.1
baz=89
126A Clayton Basin, 88.71 53 ⇑P P 19 18 20.3 -0.1
baz=89
V23A Ortiz Mt. (NFS 88.73 50 ⇓P P 19 18 19.8 -0.8
baz=89
428A Kincaid Ranch, 88.76 55 ⇓P P 19 18 19.9 -0.8
baz=89
529A Stev Forest Ra 88.82 56 ⇑P P 19 18 20.9 -0.1
baz=89
Y25A Mesa, Roswell 88.86 52 ⇓P P 19 18 20.9 -0.3
baz=89,SNR=7.1
328A Wristen Ranch, 88.98 55 ⇓P P 19 18 21.1 -0.7
baz=89
W24A Lazy 6 Ranch, 89.00 50 ⇑P P 19 18 21.8 -0.1
baz=89,SNR=6.2
U23A El Rito 89.03 49 ⇓P P 19 18 22.0 -0.1
baz=89
Z26A Caprock 89.05 53 ⇓P P 19 18 21.8 -0.3
baz=89
NEW Newport 89.18 35 ⇑P P 19 18 22.2 0.0
baz=89
X25A Clemmons Ranch 89.19 51 ⇑P P 19 18 22.1 -0.7
baz=89
127A Arkansas Junct 89.21 54 ⇓P P 19 18 22.2 -0.7
baz=89
PATY Pattaya 89.30 284 P P 19 18 26.0 +2.5
comp=Z,29nm,0.9s,comp=Z,1μm
429A Davenport Ranc 89.31 56 ⇑P P 19 18 22.6 -0.7
baz=90
S22A 4UR Ranch, Cre 89.33 48 ⇓P P 19 18 23.0 -0.5
baz=90
V24A Rampart Ranch, 89.36 50 ⇑P P 19 18 22.5 -1.1
baz=90
PKDT Phuket 89.48 279 P P 19 18 26.7 +2.3
comp=Z,52nm,1.4s
Y26A Elida 89.49 52 ⇑P P 19 18 24.0 -0.2
baz=90
228A UT Block 9, Go 89.50 54 ⇑P P 19 18 24.5 +0.3
baz=90
530A J-C Ranch, Com 89.50 57 ⇑P P 19 18 24.3 +0.2
baz=90
SURT Suratani 89.51 280 P P 19 18 26.5 +2.0
comp=Z,39nm,1.2s,comp=Z,412nm
KTH Kantishna Hill 89.62 11 eP P 19 18 22.0 -1.9
comp=Z,18nm,1.0s
Z27A Tatum 89.63 53 ⇑P P 19 18 24.5 -0.3
baz=90
TRF Thorofare Moun 89.64 11 eP P 19 18 22.9 -1.2
comp=Z,25nm,0.8s
329A Wagon Wheel Ra 89.66 55 ⇑P P 19 18 24.6 -0.3
baz=90
O20A White River Ci 89.66 45 ⇓P P 19 18 24.7 -0.1
baz=90
W25A X Bar L Ranch, 89.68 51 ⇑P P 19 18 24.6 -0.4
baz=90,SNR=9.9
TNA Tin City 89.68 3 eP P 19 18 23.4 -0.6
comp=Z,18nm,1.0s
832A Faith Ranch, C 89.68 59 ⇓P P 19 18 24.3 -0.7
baz=90
631A Perdido Creek 89.74 58 ⇓P P 19 18 24.9 -0.3
baz=90
X26A CR and CF Fran 89.81 52 ⇓P P 19 18 25.0 -0.7
baz=90
ENH Enshi 89.81 303 eP P 19 18 26.6 +1.0
comp=Z,108nm,1.6s
V25A Rancho No Teng 89.88 50 ⇑P P 19 18 25.5 -0.4
baz=90,SNR=5.3
732A Laxson Ranch, 89.89 58 ⇑P P 19 18 25.1 -0.8
baz=90
933A Laredo 89.92 60 ⇓P P 19 18 25.4 -0.7
baz=90
Y27A Causey 89.94 53 ⇑P P 19 18 25.8 -0.4
baz=90
BJT Baijiatuau 89.95 315 eP P 19 18 26.4 +0.5
BJT pmax pmax
comp=Z,43nm,1.4s
BJT Baijiatuau 89.95 315 eP P 19 18 26.4 +0.5
comp=Z,43nm,1.4s
BJI Beijing 89.96 315 P P 19 18 26.5 +0.5
BJI pmax pmax
comp=Z,27nm,2.5s
T24B San Luis 89.96 49 ⇓P P 19 18 26.1 -0.4
baz=90
MSO Missoula 90.02 37 ⇑P P 19 18 26.2 0.0
baz=90
N20A Spence Gulch, 90.02 45 ⇓P P 19 18 26.0 -0.5
baz=90
W26A Owens Ranch, T 90.11 51 ⇑P P 19 18 26.3 -0.6
baz=90
531A Rocksprings 90.11 57 ⇑P P 19 18 26.7 -0.3
baz=90
034A Hebbronville 90.14 60 ⇓P P 19 18 26.5 -0.6
baz=90
MCK McKinley 90.14 12 eP P 19 18 24.8 -1.5
MCK pmax pmax
comp=Z,13nm,0.9s
MCK McKinley 90.14 12 eP P 19 18 24.8 -1.5
comp=Z,13nm,0.9s
833A Chaparral WMA, 90.15 59 ⇓P P 19 18 26.3 -0.8
baz=90
330A Mertzon 90.22 56 ⇓P P 19 18 26.7 -0.8
baz=90
Z28A Tucker Farm, M 90.22 53 ⇑P P 19 18 26.7 -0.8
baz=90
R23A Moffat 90.24 48 ⇑P P 19 18 27.3 -0.5
baz=90
PDAR Pinedale Array 90.26 42 P P 19 18 26.8 -0.9
comp=Z,1.9nm,0.9s,baz=210,slow=3.9,SNR=8.9
PDAR LR LR 19 53 08.6
comp=Z,369nm,19.5s,baz=326,slow=32
SLVN Son La 90.26 293 eP P 19 18 29.3 +1.4
comp=Z,79nm,1.8s
GYA Guiyang 90.26 299 eP P 19 18 28.9 +1.0
GYA pP pP 19 18 40.6 +0.7
GYA PP PP 19 22 06.4 +4.0
GYA SKS SKSac 19 28 55.9 -0.5
GYA S S 19 29 18.0 -1.6
GYA sS sS 19 29 37.2 -2.3
GYA SS SS 19 35 21.7 +1.5
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.8s
GYA LR LR
comp=Z,660nm,20.4s
GYA LR LR
comp=Z,580nm,21.2s
GYA LR LR
comp=Z,620nm,20.0s
MSTX Muleshoe 90.27 53 ⇓P P 19 18 27.3 -0.4
baz=90
U25A Circle Dot Ran 90.30 50 ⇑P P 19 18 27.4 -0.5
baz=90
X27A F and S Farms, 90.37 52 ⇑P P 19 18 28.0 -0.2
baz=90
S24A Houchin Ranch, 90.37 48 ⇓P P 19 18 28.4 0.0
baz=91
632A Uvalde 90.39 58 ⇓P P 19 18 28.2 -0.1
baz=91

SEY Seymchan 90.44 346 ⇓iP P 19 18 27.7 +0.1
V26A Tequesquite Ra 90.44 51 ⇓P P 19 18 27.8 -0.7
baz=91
W27A Bowe Ranch, En 90.59 52 ⇓P P 19 18 28.6 -0.6
baz=91
T25A Trinidad 90.67 49 ⇑P P 19 18 29.1 -0.6
baz=91
Z29A Hungry Hill Ra 90.71 54 ⇑P P 19 18 29.1 -0.7
baz=91
PBKT Sadao Pong 90.74 288 P P 19 18 31.9 +1.8
comp=Z,44nm,1.6s,comp=Z,2μm
331A San Angelo 90.74 56 ⇑P P 19 18 29.4 -0.6
baz=91
R24A Sanders Place, 90.75 48 ⇑P P 19 18 29.6 -0.4
baz=91
U26A Atchley Ranch, 90.77 50 ⇑P P 19 18 29.4 -0.7
baz=91
O22A Kremmling 90.78 46 ⇓P P 19 18 29.4 -0.8
baz=91
J19A Crowheart 90.84 42 ⇑P P 19 18 29.7 -0.5
baz=91
633A Saathoff Ranch 90.84 58 ⇓P P 19 18 29.8 -0.6
baz=91
S25A Robets Cordova 90.92 49 ⇑P P 19 18 30.3 -0.5
baz=91
130A Snyder 90.94 55 ⇑P P 19 18 30.1 -0.8
baz=91
X28A Dimmitt 90.95 52 ⇑P P 19 18 30.5 -0.4
baz=91
432A Menard 91.02 57 ⇓P P 19 18 30.4 -0.8
baz=91
Y29A Porterfield Fa 91.02 53 ⇓P P 19 18 31.1 -0.1
baz=91
Q24A Divide 91.09 47 ⇓P P 19 18 31.3 -0.4
baz=91
V27A Dan Oppiter Fa 91.09 51 ⇓P P 19 18 30.9 -0.6
baz=91
231A Bronte 91.12 55 ⇑P P 19 18 31.1 -0.5
baz=91
Z30A Sanderson Ranc 91.15 54 ⇑P P 19 18 31.3 -0.5
baz=91
N22A Wattenberg Ran 91.17 45 ⇓P P 19 18 31.6 -0.4
baz=91
ISCO Idaho Springs 91.20 46 ⇓P P 19 18 31.5 -0.7
baz=91
O23A Lake Granby, G 91.22 46 ⇑P P 19 18 32.5 +0.3
baz=91
533A Kerrville 91.23 58 ⇑P P 19 18 31.7 -0.5
baz=91
H18A Shoshone NF, C 91.24 41 ⇑P P 19 18 32.1 -0.1
baz=92
T26A Comanche Natio 91.26 50 ⇓P P 19 18 31.7 -0.7
baz=91
R25A Fountain Ranch 91.26 48 ⇓P P 19 18 32.1 -0.2
baz=92
X29A Tulia 91.28 53 ⇓P P 19 18 32.0 -0.4
baz=92
332A Millersview 91.29 56 ⇓P P 19 18 32.3 -0.2
baz=92
I19A Meeteetse 91.30 42 ⇑P P 19 18 32.5 +0.1
baz=92
COLA College 91.38 12 ⇓iP P 19 18 31.1 -0.9
COLA pmax pmax
comp=Z,57nm,1.0s
COLA College 91.38 12 eP P 19 18 30.5 -1.5
comp=Z,17nm,1.0s
936A North Padre Is 91.39 61 ⇑P P 19 18 32.7 -0.2
baz=92
131A Roby 91.41 55 ⇑P P 19 18 32.7 -0.3
baz=92
U27A Thompson Grove 91.42 50 ⇓P P 19 18 32.6 -0.5
baz=92
SRDT SRDT 91.44 285 P P 19 18 35.6 +2.2
comp=Z,87nm,1.4s
IM04 Indian Mountai 91.45 9 eP P 19 18 31.5 -0.8
ILAR Eielson Array 91.47 12 P P 19 18 31.6 -0.9
comp=Z,5.2nm,1.0s,baz=219,slow=5.8,SNR=24
J20A Shoshoni 91.48 42 ⇑P P 19 18 32.6 -0.6
baz=92
433A Art 91.50 57 ⇓P P 19 18 32.9 -0.6
baz=92,SNR=7.9
AMTX Amarillo 91.50 52 ⇓P P 19 18 32.4 -1.0
baz=92
V28A Channing 91.53 51 ⇑P P 19 18 33.4 -0.1
baz=92
N23A Red Feather La 91.55 45 ⇑P P 19 18 33.3 -0.4
baz=92
S26A Kim 91.56 49 ⇑P P 19 18 33.5 -0.2
baz=92
UTTA Uttaradit 91.59 289 P P 19 18 35.8 +1.7
comp=Z,12nm,1.0s,comp=Z,102nm
Y30A Stafford Cattl 91.59 53 ⇓P P 19 18 33.6 -0.3
baz=92
232A Coleman 91.60 56 ⇑P P 19 18 33.1 -0.8
baz=92
K21A Alcova 91.62 43 ⇑P P 19 18 33.9 0.0
baz=92
W29A Amraillo 91.64 52 ⇓P P 19 18 33.8 -0.3
baz=92
534A Blanco 91.64 58 ⇓P P 19 18 33.8 -0.4
baz=92
H19A Powell 91.64 41 ⇓P P 19 18 33.7 -0.2
baz=92
Q25A Bedland, Calha 91.67 48 ⇓P P 19 18 33.6 -0.6
baz=92
I20A Worland 91.78 42 ⇓P P 19 18 34.2 -0.3
baz=92
T27A Campo 91.81 50 ⇓P P 19 18 34.2 -0.6
baz=92
U28A Mallet 91.83 51 ⇓P P 19 18 34.1 -0.8
baz=92
333A Richland Sprin 91.84 56 ⇓P P 19 18 34.6 -0.4
baz=92
J21A Lysite 91.87 43 ⇑P P 19 18 34.5 -0.6
baz=92
X30A Coker Ranch, T 91.88 53 ⇓P P 19 18 34.3 -0.8
baz=92
Z31A Sharp Cattle R 91.89 54 ⇓P P 19 18 34.4 -0.7
baz=92
635A Leesville 91.90 59 ⇓P P 19 18 34.9 -0.3
baz=92
R26A Arlington 91.91 49 ⇓P P 19 18 34.5 -0.8
baz=92
ABTX Abilene, Hawle 91.94 55 ⇑P P 19 18 35.2 -0.3
baz=92
XAN Xi'an 92.00 307 P P 19 18 36.5 +0.8
XAN pP pP 19 18 47.1 -0.6
XAN sP sP 19 18 52.4 +0.3
XAN pmax pmax
comp=Z,14nm,0.9s
XAN LR LR
comp=Z,170nm,13.2s
XAN LR LR
comp=Z,81nm,17.3s
P25A Willow Gulch B 92.02 47 ⇑P P 19 18 35.5 -0.3
baz=92
KHLT Khaolaem Dam 92.09 285 P P 19 18 38.9 +2.5
comp=Z,9.9nm,1.5s
Y31A Rekieta Farm, 92.10 54 ⇑P P 19 18 35.5 -0.6
baz=92
H20A Greybull 92.14 42 ⇑P P 19 18 35.7 -0.4
baz=92
434A Burnet 92.16 57 ⇑P P 19 18 35.8 -0.7
baz=92
Q26A Hugo 92.17 48 ⇓P P 19 18 35.9 -0.6
baz=92
I21A Big Trails, Te 92.21 42 ⇑P P 19 18 35.9 -0.7
baz=92
233A Rising Star 92.22 56 ⇑P P 19 18 36.2 -0.6
baz=92
T28A Walsh 92.26 50 ⇑P P 19 18 36.1 -0.8
baz=92
SUKH Sukhothai 92.28 288 P P 19 18 39.1 +1.8
comp=Z,15nm,0.9s,comp=Z,122nm
F19A Roth Farm, Mol 92.31 40 ⇓P P 19 18 36.4 -0.5
baz=92
L23A Garrett 92.33 44 ⇑P P 19 18 37.7 +0.4
baz=92
R27A Eads 92.35 49 ⇑P P 19 18 36.5 -0.8
baz=92
Z32A Haskell 92.38 55 ⇑P P 19 18 37.2 -0.2
baz=93,SNR=8.7
334A Lometa 92.42 57 ⇑P P 19 18 37.1 -0.6
baz=93
133A Hamilton Ranch 92.48 55 ⇑P P 19 18 37.5 -0.4
baz=93
636A Smothers Creek 92.50 59 ⇑P P 19 18 37.2 -0.8
baz=93

J22A Midwest 92.51 43 ⇓P P 19 18 37.4 -0.5
baz=93
P26A Davis Ranch, A 92.60 48 ⇓P P 19 18 38.0 -0.4
baz=93
X31A McDonald Ranch 92.62 53 ⇓P P 19 18 38.2 -0.3
baz=93
V30A Spur Ranch, Mi 92.63 52 ⇑P P 19 18 38.5 -0.1
baz=93
LAMP Lampang 92.71 289 P P 19 18 41.1 +1.8
comp=Z,41nm,0.9s,comp=Z,279nm
Y32A R-V Farms, Ver 92.72 54 ⇑P P 19 18 38.4 -0.6
baz=93
E19A Rath Farm, Rou 92.73 40 ⇓P P 19 18 38.6 -0.2
baz=93
F20A Billings 92.75 40 ⇑P P 19 18 38.7 -0.3
baz=93
I22A 9 Mile Ranch, 92.75 43 ⇑P P 19 18 38.5 -0.5
baz=93
234A Clairette 92.79 56 ⇑P P 19 18 38.9 -0.4
baz=93
H21A Big Horn, Sher 92.80 42 ⇓P P 19 18 38.7 -0.5
baz=93
KMI Kunming 92.85 296 P P 19 18 41.7 +1.6
KMI pP pP 19 18 53.4 +1.3
KMI pmax pmax
comp=Z,41nm,1.0s
Z33A Whitaker Ranch 92.90 55 ⇓P P 19 18 39.3 -0.5
baz=93
W31A Holland Ranch, 92.90 53 ⇑P P 19 18 39.5 -0.3
baz=93
BILL Bilibino 92.92 353 ceP P 19 18 38.5 -0.6
BILL eS SKSac 19 29 14.4 +5.0
BILL pmax pmax
comp=Z,12nm,0.8s
BILL Bilibino 92.92 353 eP P 19 18 38.4 -0.7
comp=Z,10nm,0.9s
U30A WK&E Inc. Balk 93.02 51 ⇑P P 19 18 40.0 -0.3
baz=93
X32A Elmer 93.03 54 ⇓P P 19 18 39.9 -0.5
baz=93
EGMT Eagleton 93.03 38 ⇓P P 19 18 40.6 +0.4
baz=93
D19A Cripps Ranch, 93.06 39 ⇓P P 19 18 40.7 +0.4
baz=93
134A White-Moore Ra 93.09 56 ⇓P P 19 18 40.2 -0.5
baz=93
H22A Clearmont 93.20 42 ⇓P P 19 18 41.2 +0.1
baz=93
V31A Spring Creek L 93.25 52 ⇓P P 19 18 41.8 +0.4
baz=93
C19A Slack Wire Ran 93.27 38 ⇓P P 19 18 41.3 +0.1
baz=94
CM31 Chiang Mai Arr 93.28 289 eP P 19 18 43.6 +1.8
comp=Z,38nm,0.9s
CMAR Chiang Mai Arr 93.28 289 iP P 19 18 43.7 +1.8
CMAR pmax pmax
comp=Z,30nm,0.9s
CMAR Chiang Mai Arr 93.28 289 P P 19 18 43.8 +1.8
comp=Z,28nm,0.9s,baz=138,slow=3.3,SNR=198
CMAR LR LR 20 02 19.4
comp=Z,114nm,18.0s,baz=160,slow=37
Y33A Hilltop Ranch, 93.33 54 ⇑P P 19 18 41.2 -0.6
baz=94
W32A Sentinel 93.38 53 ⇓P P 19 18 41.8 -0.2
baz=94,SNR=5.9
HHC Hu-ho-hao-te 93.40 313 eP P 19 18 42.8 +0.7
HHC pmax pmax
comp=Z,41nm,1.2s
HHC pmax pmax
comp=Z,1μm,12.7s
CMMT Chiang Mai 93.42 289 P P 19 18 43.8 +1.3
comp=Z,77nm,1.0s
CHTO Chiang Mai 93.42 289 eP P 19 18 44.1 +1.5
CHTO pmax pmax
comp=Z,50nm,0.9s
CHTO Chiang Mai 93.42 289 P P 19 18 43.9 +1.3
comp=Z,266nm,1.1s
CHTO Chiang Mai 93.42 289 eP P 19 18 44.1 +1.5
comp=Z,50nm,0.9s
D20A Manuel Ranch, 93.45 39 ⇓P P 19 18 42.1 0.0
baz=94
K25A Mack Ranch, Ha 93.75 45 ⇓P P 19 18 43.1 -0.6
baz=94
E21A Keefer Ranch, 93.78 40 ⇑P P 19 18 44.0 +0.4
baz=94
CMAI Chiengmai2 93.79 290 P P 19 18 45.9 +1.5
comp=Z,34nm,1.2s
V32A Arapaho 93.80 53 ⇓P P 19 18 43.8 -0.1
baz=94
C20A Veseth Ranch, 93.86 39 ⇑P P 19 18 43.6 -0.3
baz=94
F22A Rosebud 93.87 41 ⇑P P 19 18 43.5 -0.5
baz=94
W33A Caddo, Fort Co 93.96 53 ⇓P P 19 18 44.2 -0.5
baz=94
T31A Randall Ranch, 93.97 51 ⇓P P 19 18 43.4 -1.3
baz=94
A19A Klindworth Far 94.09 37 ⇓P P 19 18 44.8 -0.2
baz=94
R30A Dighton 94.09 50 ⇓P P 19 18 44.4 -0.9
baz=94
G23A Biddle 94.10 42 ⇑P P 19 18 44.7 -0.5
baz=94
D21A La Casta Ranch 94.10 40 ⇓P P 19 18 44.6 -0.5
baz=94
F23A Volborg 94.35 41 ⇑P P 19 18 45.6 -0.7
baz=94
H24A Dirks Ranch, A 94.38 43 ⇓P P 19 18 45.6 -0.9
baz=95
V33A Lossen Ranch, 94.39 53 ⇓P P 19 18 45.9 -0.7
baz=95
CD2 Chengdu 94.51 302 P P 19 18 48.5 +1.2
CD2 pP pP 19 19 00.2 +0.9
CD2 sP sP 19 19 04.6 +0.9
CD2 PP PP 19 22 39.2 +3.5
CD2 SKS SKSac 19 29 19.6 -0.2
CD2 S S 19 29 55.4 -1.8
CD2 sS sS 19 30 15.2 -2.1
CD2 SS SS 19 36 23.1 +2.1
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 LR LR
comp=Z,370nm,4.8s
CD2 LR LR
comp=Z,370nm,20.8s
A20A Cobblestone Ra 94.52 38 ⇓P P 19 18 46.5 -0.4
baz=95
I25A Rochford 94.53 44 ⇓P P 19 18 46.5 -0.8
baz=95
J26A Sides Ranch, S 94.61 44 ⇓P P 19 18 46.9 -0.7
baz=95
D22A Cohagen 94.62 40 ⇑P P 19 18 46.7 -0.7
baz=95
J27A Elkhorn Farm, 95.26 45 ⇓P P 19 18 50.7 +0.2
baz=96
C23A Lambert 95.53 40 ⇑P P 19 18 51.3 -0.3
baz=96
F25A Bowman 95.64 42 ⇑P P 19 18 51.8 -0.4
baz=96
L29A Maesberg Ranch 95.70 46 ⇑P P 19 18 52.2 -0.4
baz=96
J28A Allard Ranch, 95.84 45 ⇓P P 19 18 52.9 -0.2
baz=96
YAK Yakutsk 96.31 337 eP P 19 18 53.6 -1.1
YAK pmax pmax
comp=Z,11nm,1.0s
G27A Dupree 96.31 43 ⇑P P 19 18 54.3 -0.9
baz=96
F27A Lemmon 96.49 42 ⇑P P 19 18 55.4 -0.6
baz=97
K30A Basset 96.55 46 ⇑P P 19 18 56.1 -0.3
baz=97
LZH Lanzhou 96.64 306 ⇓P P 19 18 58.6 +1.5
LZH pP pP 19 19 08.0 -1.1
LZH sP sP 19 19 12.8 -0.7
LZH PP PP 19 22 56.1 +3.8
LZH SKS SKSac 19 29 33.0 +1.9
LZH S ScS 19 30 16.0 -0.2
LZH sS sS 19 30 35.0 -0.8
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,240nm,9.5s
LZH LR LR
comp=Z,260nm,18.5s
LZH LR LR
comp=Z,410nm,20.0s

D26A Manning 96.78 41 ⇓P P 19 18 56.9 -0.4
baz=97
J30A Dallas 96.92 46 ⇑P P 19 18 57.3 -0.7
baz=97
YKA Yellowknife Ar 99.00 24 P Pdif 19 19 06.0 -0.8
YKA Yellowknife Ar 99.00 24 P Pdif 19 19 06.0 -0.8
comp=Z,0.3nm,0.8s,baz=234,slow=4.3,SNR=4.9
YKA PKKPbc PKKPbc 19 35 34.4 -0.9
comp=Z,0.3nm,0.7s,baz=34,slow=2.6,SNR=6.0
ULN Ulaanbaatar 99.50 318 ⇑iP Pdif 19 19 09.9 +0.3
ULN pmax pmax
comp=Z,10.0nm,2.5s
SONM Songino Array 99.89 318 P Pdif 19 19 11.0 -0.3
SONM Songino Array 99.89 318 P Pdif 19 19 11.0 -0.3
comp=Z,0.6nm,0.9s,baz=108,slow=4.7,SNR=5.3
SONM LR LR 20 05 14.0
comp=Z,95nm,18.0s,baz=150,slow=36
GTA Gaotai 100.90 308 eP Pdif 19 19 16.9 +0.9
GTA pP pP 19 19 27.7 -0.5
GTA sP sP 19 19 31.4 -1.1
GTA PP PP 19 23 28.6 +3.9
GTA S Sdif 19 30 50.4 -1.1
GTA sS sS 19 31 08.0 -3.7
GTA pmax pmax
comp=Z,6.0nm,1.8s
GTA LR LR
comp=Z,130nm,18.5s
GTA LR LR
comp=Z,190nm,17.6s
GTA LR LR
comp=Z,300nm,19.5s
TAPN Taplejung 106.18 293 eP PKiKP 19 23 52.5 +0.8
ODAN Odare 106.29 292 eP PKiKP 19 23 52.0 +0.1
comp=Z,10nm,0.8s
RAMN Ramite 106.98 292 eP PKiKP 19 23 53.1 -0.1
JIRN Jiri 107.56 293 eP PKiKP 19 23 54.0 -0.4
comp=Z,65nm,2.0s
PKI Pulchoki 108.19 293 eP PKiKP 19 23 55.0 -0.5
PKIN Phulchoki 108.20 293 eP PKiKP 19 23 54.2 -1.3
KKN Kakani 108.36 293 eP PKiKP 19 23 55.4 -0.3
KOLN Koldanda 109.77 292 eP PKiKP 19 23 57.7 -0.6
comp=Z,5.5nm,0.8s
DANN Dangsing 109.81 293 eP PKiKP 19 23 57.8 -0.7
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 114.66 320 PKP PKPdf 19 24 05.7 -0.8
comp=Z,0.3nm,0.3s,baz=104,slow=3.0,SNR=2.7
MKAR Makanchi Array 115.22 312 PKP PKPdf 19 24 07.4 -0.5
comp=Z,1.7nm,0.9s,baz=46,slow=3.5,SNR=7.1
MKAR PKKPab PKKPab 19 34 52.5 +5.4
comp=Z,0.2nm,0.7s,baz=209,slow=1.2,SNR=3.7
KURK Kurchatov 118.10 316 i PKIKP PKPdf 19 24 12.3 -0.9
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 118.10 316 ePKPdf PKPdf 19 24 11.7 -1.6
KURK PKP PKiKP 19 24 12.1 -1.1
KURBB Kurchatov Arra 118.15 316 PKP PKPdf 19 24 12.1 -1.2
comp=Z,1.7nm,0.8s,baz=99,slow=2.1,SNR=14
KSH Kashi 118.67 303 ePKP PKPdf 19 24 16.2 +1.3
KSH LR LR
comp=Z,120nm,4.9s
KSH LR LR
comp=Z,120nm,5.7s
KSH LR LR
comp=Z,170nm,5.5s
TKM2 Tokmak 2 119.41 307 ePKIKP PKPdf 19 24 15.6 -0.7
TKM2 Tokmak 2 119.41 307 ePKPdf PKPdf 19 24 15.6 -0.7
AAK Ala-Archa 120.18 307 PKP PKPdf 19 24 17.0 -0.7
comp=Z,2.0nm,0.9s,baz=207,slow=5.6,SNR=5.4
SUR Sutherland 121.55 196 PFAKE 19 24 30.0 +9.1
SUR LR LR
comp=Z,2µm,18.1s
KKAR Karatay Array 123.14 307 ePKIKP PKPdf 19 24 22.5 -0.7
KKAR Karatay Array 123.14 307 ePKPdf PKPdf 19 24 22.5 -0.7
BRVK Borovoye 123.28 319 ⇓iPKIKP PKPdf 19 24 22.5 -0.6
BRVK pmax pmax
comp=Z,11nm,2.5s
KBL Kabul 123.43 296 ePKIKP PKPdf 19 24 24.5 +0.2
KBL Kabul 123.43 296 ePKPdf PKPdf 19 24 24.5 +0.2
BOSA Boshof 123.72 202 PKP PKPdf 19 24 26.2 +1.2
comp=Z,5.9nm,1.0s,baz=193,slow=0.7,SNR=4.6
SUMG Summit 126.22 15 i PKIKP PKPdf 19 24 28.3 -0.5
SUMG pmax pmax
comp=Z,4.0nm,1.1s
SUMG Summit 126.22 15 i P PKPdf 19 24 28.3 -0.5
comp=Z,3.8nm,1.1s
ARU Arti 129.41 324 i PKIKP PKPdf 19 24 37.3 +2.6
ARU 19 26 46.4
ARU 19 31 41.9
ARU SS SS 19 44 20.5 +17
ARU Arti 129.41 324 eP PKPdf 19 24 35.0 +0.2
ABKAR Akbulak array 130.17 315 ePKPdf PKPdf 19 24 36.6 +0.2
KLMR Klimovskoe 136.09 336 ePKIKP PKPdf 19 24 43.3 -3.9
KLMR pmax pmax
comp=Z,15nm,1.5s
FINES FINESS Array B 139.89 344 PKhKP PKPpre 19 24 45.8
comp=Z,1.8nm,0.8s,baz=79,slow=4.1,SNR=4.8
FINES PKP PKPdf 19 24 54.9 +0.7
comp=Z,2.5nm,0.9s,baz=116,slow=3.2,SNR=4.5
OBN Obninsk 140.98 331 ⇑ePKIKP PKPdf 19 24 54.2 -2.1
OBN pmax pmax
comp=Z,4.0nm,1.6s
RAYN Ar Rayn 142.35 278 ePKPpre PKPpre 19 24 55.6
NB2 NORSAR Subarra 142.87 354 PKP PKPpre 19 24 54.8
comp=Z,5.3nm,1.2s,baz=10,slow=3.2
NOA NORSAR Array B 142.87 354 PKhKP PKPpre 19 24 54.5
comp=Z,1.6nm,0.9s,baz=17,slow=4.7,SNR=5.2
KBZ Khabaz 142.91 311 PKhKP PKPpre 19 24 56.6
comp=Z,3.8nm,0.9s,baz=219,slow=5.0,SNR=5.5
AGRB Hanur-Agry 144.00 305 eP PKPbc 19 25 00.4 -0.1
SIRT Sirnak 144.87 301 eP PKPab 19 25 01.2 -1.8
MICGM Minsk 144.99 336 ⇑eP PKPbc 19 25 01.0 -1.8
MNK Minsk 145.01 336 ⇑ePKIKP PKPbc 19 25 01.0 -1.8
MNK pmax pmax
comp=Z,390nm,2.0s
NACGM Naroch 145.07 337 e PKPbc 19 25 01.0 -2.0
EZM Erzurum 145.14 306 eP PKPbc 19 25 03.2 -1.0
VRTB Varto-Mus 145.26 304 eP PKPdf 19 25 05.3 +0.7
ANN Anapa 146.13 316 ePKP2 PKPbc 19 25 05.9 +0.2
ANN pmax pmax
comp=Z,398nm,2.2s
KBSD Kabsdagh 146.45 301 eP PKPab 19 25 08.7 -0.3
MZRK Al-Mazaregh 146.59 299 eP PKPab 19 25 11.9 +2.4
SFNV Sufian 146.91 300 eP PKPab 19 25 11.9 +1.1
SUW Suwalki 147.02 339 ePKP2 PKPbc 19 25 08.4 -0.5
SUW Suwalki 147.02 339 ePKPdf PKPdf 19 25 07.6 +0.7
SUW ePKPbc PKPbc 19 25 08.4 -0.5
SUW ePKPab PKPab 19 25 10.2 -0.3
SUW epPKPdf pPKPdf 19 25 18.4 -0.8
SUW Suwalki 147.02 339 ePKPdf PKPdf 19 25 07.3 +0.4
AKASG Malin Array Be 147.24 330 PKPbc PKPbc 19 25 08.7 -1.0
comp=Z,12nm,0.7s,baz=43,slow=3.9,SNR=37
AK01 Malin Array Si 147.25 330 ePKPdf PKPdf 19 25 08.4 +1.0
KIEV Kiev 147.25 330 ePKP2 PKPbc 19 25 08.6 -1.1
KIEV Kiev 147.25 330 ePKPbc PKPbc 19 25 08.6 -1.1
ILIC ilic-Erzincan 147.34 306 eP PKPab 19 25 13.3 +0.8
MUD Monsted U'grnd 147.58 355 i PKP2 PKPbc 19 25 09.7 -0.7
MUD pmax pmax
comp=Z,25nm,0.9s
MUD Monsted U'grnd 147.58 355 i P PKPbc 19 25 09.7 -0.7
comp=Z,25nm,0.8s
SIM Simferopol' 148.13 318 i PKHKP PKPpre 19 24 56.1
SIM pmax pmax
comp=Z,41nm,0.9s
SVSK Karacayir 148.34 308 eP PKPbc 19 25 13.2 +0.2
JHLN Al Jahlan 148.38 299 eP PKPab 19 25 06.8 -3.0
DARE Darende-Malaty 148.40 305 eP PKPbc 19 25 12.2 -1.2
KMRS Kahramanmaras 149.15 303 eP PKPbc 19 25 12.2 +1.2
GKP Gorka Klasztor 149.35 345 ePKPdf PKPdf 19 25 12.7 +2.0
GKP ePKPbc PKPbc 19 25 14.9 -0.2
GKP ePKPab PKPab 19 25 19.6 -0.2
BNN Bunyan 149.53 306 eP PKPbc 19 25 15.5 -0.8
BEL Belsk 149.63 340 ePKP2 PKPbc 19 25 16.0 +0.1
BEL Belsk 149.63 340 ePKPbc PKPbc 19 25 16.0 +0.1
BEL ePKPab PKPab 19 25 21.5 +0.5
ZALF Zalf 149.76 294 eP PKPbc 19 25 17.6 +0.7
HLG Helgoland 149.93 356 ePKPab PKPab 19 25 23.9 +1.8
CORM Corum 149.94 309 eP PKPbc 19 25 16.3 -0.9
BSEG Bad Segeberg 149.96 353 ePKPbc PKPbc 19 25 17.2 +0.6
BSEG ePKPab PKPab 19 25 23.2 +0.9
KOZT Kozan 149.97 304 eP PKPdf 19 25 13.2 +0.9
LVV L'vov 150.12 334 ePKIKP PKPbc 19 25 16.7 -0.5
LVV MLR MLR
comp=Z,600nm,21.0s
LVV MLR MLR
comp=N,300nm,23.0s
LVV MLR MLR
comp=E,900nm,23.0s
SALA Sala 150.29 294 eP PKPbc 19 25 19.1 +0.7
KARA Karaisali 150.63 304 eP PKPbc 19 25 18.8 0.0
KWP Kalwaria Pacla 150.79 335 ePKIKP PKPdf 19 25 14.9 +1.7
KWP Kalwaria Pacla 150.79 335 ePKPdf PKPdf 19 25 14.8 +1.6
KWP ePKPbc PKPbc 19 25 18.5 -0.3
KWP ePKPab PKPab 19 25 25.3 -0.6
KWP Kalwaria Pacla 150.79 335 ⇓iP PKPbc 19 25 19.5 +0.7
KWP Kalwaria Pacla 150.79 335 ePKPbc PKPbc 19 25 19.1 +0.3
BRTR Keskin Array B 150.81 309c iPKIKP PKPbc 19 25 19.2 -0.1
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 150.81 309 PKPbc PKPbc 19 25 19.2 -0.1
comp=Z,8.5nm,0.9s,baz=104,slow=2.1,SNR=35
SAFT Safranbolu 150.83 313 eP PKPbc 19 25 17.6 -1.6
RUE Ruedersdorf 150.84 348 ePKPbc PKPbc 19 25 19.4 +0.7
RUE Ruedersdorf 150.84 348 ePKPbc PKPbc 19 25 18.8 +0.1
BUR08 Bucovina Ar. S 151.27 330 ePKPbc PKPbc 19 25 21.5 +1.4
BURAR Bucovina Array 151.29 330 ⇑PKIKP PKPbc 19 25 21.4 +1.3
BURAR Bucovina Array 151.29 330 ⇑iP PKPbc 19 25 21.4 +1.3
AFSR Af'ar-Bala (A 151.33 309 eP PKPbc 19 25 20.0 -0.5
OJC Ojcow 151.34 339 ePKIKP PKPbc 19 25 20.0 0.0
OJC Ojcow 151.34 339 ePKP PKPbc 19 25 20.0 0.0
ANTO Ankara 151.35 310 eP PKPbc 19 25 21.0 +0.5
ANTO Ankara 151.35 310 ePKIKP PKPbc 19 25 20.7 +0.2
ANTO MLR MLR
comp=Z,2µm,22.0s
ANTO Ankara 151.35 310 ⇓iP PKPbc 19 25 20.9 +0.4
ANTO Ankara 151.35 310 ePKPbc PKPbc 19 25 20.7 +0.2
ANTO LR LR
comp=Z,2µm,22.0s
NRDL Niedersach Rie 151.40 352 ePKPbc PKPbc 19 25 19.2 -0.8
SULT Sultanhani-AKS 151.47 306 eP PKPbc 19 25 19.9 -1.0
CFR Carcaliu 151.48 323 ⇑PKIKP PKPbc 19 25 20.8 +0.3
CFR Carcaliu 151.48 323 ⇑iP PKPbc 19 25 20.8 +0.3
STHS Stebnicka Huta 151.52 336 ePKIKP PKPbc 19 25 21.5 +1.0
STHS e 19 25 28.3
STHS Stebnicka Huta 151.52 336 ePKP PKPbc 19 25 21.5 +1.0
STHS e 19 25 28.3
KOLS Kolonicke sedl 151.53 335 ePKIKP PKPbc 19 25 20.5 0.0
KOLS e 19 25 28.0
KOLS Kolonicke sedl 151.53 335 ePKP PKPbc 19 25 20.5 0.0
KOLS e 19 25 28.0
UZH Uzhgorod 151.76 334 ePKIKP PKPbc 19 25 20.3 -0.7
UZH e 19 25 39.9
VRI Vrincioaia 151.78 326 ⇓iP PKPab 19 25 26.7 -3.5
IBBN Ibbenburen 151.81 355 ePKPbc PKPbc 19 25 21.4 +0.4
KSP Ksiaz 151.81 344 ePKIKP PKPbc 19 25 21.3 +0.2
KSP Ksiaz 151.81 344 ePKPbc PKPbc 19 25 21.2 +0.2
PLOR Plostina 151.83 326 ⇓iP PKPab 19 25 26.6 -3.8
NIE Niedzica 151.85 337 ePKIKP PKPbc 19 25 21.8 +0.5
NIE Niedzica 151.85 337 ePKP PKPbc 19 25 21.8 +0.5
CRVS Cervenica-Dubn 151.86 336 ePKIKP PKPbc 19 25 21.0 -0.3
CRVS e 19 25 30.3
CRVS Cervenica-Dubn 151.86 336 ePKP PKPbc 19 25 21.0 -0.3
CRVS e 19 25 30.3
TLB Topalu 151.91 322 ⇓PKIKP PKPbc 19 25 21.8 +0.3
TLB Topalu 151.91 322 ⇓iP PKPbc 19 25 21.8 +0.3
CLZ Clausthal 152.00 352 ePKPbc PKPbc 19 25 22.0 +0.5
TRPA Tarpa 152.06 333 ⇓iP PKPbc 19 25 25.6 +3.9
CLL Collm 152.11 348 ⇑iPKIKP PKPbc 19 25 21.4 -0.3
CLL i 19 25 28.5
CLL pmax pmax
comp=Z,21nm,1.0s
CLL pmax pmax
comp=Z,24nm,1.1s
CLL Collm 152.11 348 ePKPbc PKPbc 19 25 22.0 +0.3
CLL Collm 152.11 348 ⇑iPKPbc PKPbc 19 25 21.4 -0.3
comp=Z,21nm,1.0s
CLL i 19 25 28.5
comp=Z,24nm,1.1s
CLL esPKPbc sPKPbc 19 25 37.0 -1.3
MDUB Mudurnu 152.19 312 eP PKPbc 19 25 21.9 -0.5
UPC Upice 152.19 344 ePKIKP PKPdf 19 25 13.8 -1.5
UPC e 19 25 22.6
UPC e 19 25 32.3
UPC Upice 152.19 344 ePKPDF PKPdf 19 25 13.8 -1.5
UPC ⇑ePKP PKiKP 19 25 22.6 +0.3
UPC ePKPAB PKPab 19 25 32.3 +0.6
OKC Ostrava-Krasne 152.20 341 ePKIKP PKPbc 19 25 22.3 +0.3
OKC e 19 25 30.4
OKC pmax pmax
comp=Z,2.0nm,0.3s
OKC Ostrava-Krasne 152.20 341 ⇑ePKP PKPbc 19 25 22.3 +0.3
OKC ePKPAB PKPab 19 25 30.4 -1.3
DPC Dobruska-Polom 152.26 343 ePKIKP PKPbc 19 25 22.9 +0.7
DPC e 19 25 29.4
DPC e 19 25 32.9
DPC Dobruska-Polom 152.26 343 ⇑ePKP PKPbc 19 25 22.9 +0.7
DPC ePKPAB PKPab 19 25 29.4 -2.6
DPC epPKP pPKPdf 19 25 32.9 +5.1
DPC AMS AMS 20 43 50.0
LADK Ladik-KONYA 152.32 307 eP PKPab 19 25 29.9 -3.0
BRG Berggiesshubel 152.33 347 ePKP PKPbc 19 25 22.4 +0.1
comp=Z,16nm,0.9s
BRG Berggiesshubel 152.33 347 ePKIKP PKPbc 19 25 22.4 +0.1
BRG pmax pmax
comp=Z,1.0nm,0.9s
BRG Berggiesshubel 152.33 347 ePKPbc PKPbc 19 25 22.9 +0.7
KRLC Kraliky 152.38 342 ePKIKP PKPdf 19 25 14.0 -1.6
KRLC e 19 25 22.5
KRLC e 19 25 29.6
KRLC Kraliky 152.38 342 ePKPDF PKPdf 19 25 14.0 -1.6
KRLC ⇑ePKP PKPbc 19 25 22.5 0.0
KRLC ePKPAB PKPab 19 25 29.6 -3.0
DOPR Dopca 152.39 327 ⇑iP PKPbc 19 25 23.3 +0.7
KIZT Kizilcal 152.40 309 eP PKPdf 19 25 19.5 +3.4
KONT Konya--Tatoy 152.41 306 eP PKPab 19 25 26.6 +3.7
NEUB Neuenburg 152.42 350 ePKPbc PKPbc 19 25 22.9 +0.5
MORC Moravsky Berou 152.43 341 ⇓PKIKP PKPbc 19 25 23.0 +0.4
MORC Moravsky Berou 152.43 341 ⇓iP PKPbc 19 25 23.0 +0.4
MLR Muntele Rosu 152.44 326 ⇑PKIKP PKPbc 19 25 22.5 -0.4
MLR Muntele Rosu 152.44 326 ⇑iP PKPbc 19 25 22.5 -0.4
KECS Kecovo 152.57 336 ePKIKP PKPbc 19 25 23.1 +0.2
KECS e 19 25 33.6
KECS Kecovo 152.57 336 ePKP PKPbc 19 25 23.1 +0.2
KECS e 19 25 33.6
CSS Prodhromos 152.61 300 PFAKE 19 25 30.0 -4.1
CSS LR LR
comp=Z,500nm,21.0s
CJR Cluj-Napoca 152.70 330 ⇑iP PKPab 19 25 28.9 -5.1
BUG Bochum--Univer 152.71 356 ePKPab PKPab 19 25 33.4 -0.4
PRA Prague 152.98 345 ⇑PKP PKPbc 19 25 24.0 +0.3
MOX Moxa 152.99 350 ePKPbc PKPbc 19 25 24.1 +0.4
PRU Pruhonice 153.03 345 ePKIKP PKPdf 19 25 14.5 -2.0
PRU e 19 25 23.7
PRU e 19 25 30.9
PRU MLR MLR
comp=Z,300nm,20.7s
PRU Pruhonice 153.03 345 ePKPDF PKPdf 19 25 14.5 -2.0
PRU ⇑ePKP PKPbc 19 25 23.7 -0.1
PRU epPKP pPKPdf 19 25 30.9 +2.0
PRU AMS AMS 20 41 00.0
comp=Z,300nm,20.7s
DRGR 153.03 331 ⇑PKIKP PKPbc 19 25 23.5 -0.6
DRGR 153.03 331 ⇑iP PKPbc 19 25 23.5 -0.6
TANN Tannenbergstha 153.06 348 ePKPbc PKPbc 19 25 24.3 +0.3
VRAC Vranov 153.13 342 ⇑iP PKPab 19 25 36.5 +0.8
VYHS Vyhne 153.15 338 ePKIKP PKPbc 19 25 23.7 -0.5
VYHS e 19 25 35.9
VYHS Vyhne 153.15 338 ePKP PKPbc 19 25 23.7 -0.5
VYHS e 19 25 35.9
ARR Arges 153.19 327 ⇑iP PKPbc 19 25 25.6 +1.2
PSZ Piszkesteto 153.26 336 ⇑iP PKPab 19 25 36.9 +0.5
PSZ Piszkesteto 153.26 336 ePKPab PKPab 19 25 35.7 -0.7
PSZ Piszkesteto 153.26 336 ⇓e PKPab 19 25 36.7 +0.3
TREC Trest 153.44 343 ePKIKP PKPdf 19 25 16.6 -0.6
TREC e 19 25 24.5
TREC MLR MLR
comp=Z,200nm,21.5s
TREC Trest 153.44 343 ePKPDF PKPdf 19 25 16.6 -0.6
TREC ⇑ePKP PKPbc 19 25 24.5 -0.3
TREC AMS AMS 20 35 20.0
comp=Z,200nm,21.5s
MANZ Manzenberg 153.54 349 ePKPbc PKPbc 19 25 25.3 +0.3
MANZ ePKPab PKPab 19 25 38.0 +0.6
ALT Altintas 153.58 310 eP PKPab 19 25 35.4 -2.7
TNS Taunus Mts 153.82 354 ePKPab PKPab 19 25 38.3 -0.3
TVSB Tavsanli 153.84 312 eP PKPbc 19 25 23.6 -2.5
GRF Grafenberg Arr 153.97 350 ePKPab PKPab 19 25 39.2 -0.1
KHC Kasperske Hory 154.06 346 ePKIKP PKPdf 19 25 18.2 +0.1
KHC e 19 25 24.6
KHC e 19 25 33.8
KHC Kasperske Hory 154.06 346 ePKPDF PKPdf 19 25 18.2 +0.1
KHC ⇑ePKP PKPbc 19 25 24.6 -1.6
KHC epPKP pPKPdf 19 25 33.8 +3.4
KHC ex x 19 25 51.9
KHC Kasperske Hory 154.06 346 ePKPdf PKPdf 19 25 17.8 -0.3
GZR Gura Zlata 154.07 329 ⇓iP PKPbc 19 25 28.0 +1.7
WET Wettzell 154.19 347 ePKPab PKPab 19 25 40.3 +0.1
GERES GERESS Array B 154.30 345 PKP PKPdf 19 25 17.4 -1.0
comp=Z,1.7nm,1.0s,baz=324,slow=1.8,SNR=7.6
GERES PKPbc PKiKP 19 25 26.8 0.0
comp=Z,1.1nm,0.7s,baz=276,slow=2.5,SNR=6.1
BZS Buzias 154.42 331 ⇓PKIKP PKPbc 19 25 25.7 -1.3
BZS Buzias 154.42 331 ⇓iP PKPbc 19 25 25.7 -1.3
CONA Conrad Observa 154.58 342 ⇑iPKPab PKPab 19 25 42.3 +0.3
comp=Z,20nm,1.1s
ELL Elmali 154.67 306 eP PKPab 19 25 37.8 -5.1
MOA Molln 155.09 344 ⇑isPKPbc PKPab 19 25 44.7 +0.7
comp=Z,12nm,1.2s
PKSM Moragy 155.16 336 ⇓PKIKP PKPdf 19 25 19.1 -0.5
PKSM Moragy 155.16 336 ⇓iP PKPdf 19 25 19.0 -0.5
PKSM Moragy 155.16 336 ⇓ePKPdf PKPdf 19 25 19.1 -0.5
KDZ Kurdzhali 155.23 320 ⇓iP PKPab 19 25 36.0 -8.9
ARSA Arzberg 155.29 341 ⇓isPKPbc PKPab 19 25 45.0 +0.1
comp=Z,6.7nm,0.9s
FUR Furstenfeldbru 155.44 349 ePKPab PKPab 19 25 45.3 -0.3
RJOB Jochberg 155.54 346 ePKPab PKPab 19 25 46.4 +0.3
BFO Black Forest 155.70 353 ePKP2 PKPab 19 25 46.0 -0.7
BFO Black Forest 155.70 353 ePKPab PKPab 19 25 46.2 -0.5
BFO Black Forest 155.70 353 ePKPab PKPab 19 25 46.0 -0.7
KOGS Kog 155.79 339 ePKPbc PKPab 19 25 46.4 -0.7
SOKA Soboth 155.96 342 ⇑iPKPab PKPab 19 25 47.4 -0.5
comp=Z,19nm,1.1s
PERS Pernice 155.97 341 i PKPbc PKPab 19 25 47.1 -0.8
KBA Koelnbreinsper 156.04 345 ⇑iPKPbc PKPab 19 25 48.8 +0.5
comp=Z,14nm,1.0s
MMB Musomiste 156.25 322 ⇓PKP2 PKPab 19 25 49.7 +0.4
MMB Musomiste 156.25 322 ⇓iP PKPab 19 25 49.7 +0.4
PCBR Castelo Branco 161.54 30 PKPdf PKPdf 19 25 28.5 +1.0
MESJ Messejana 162.74 35 PKPdf PKPdf 19 25 30.2 +1.4
ESDC Sonseca Array 163.09 22 PKP PKPdf 19 25 29.6 +0.4
comp=Z,2.6nm,1.0s,baz=356,slow=3.2,SNR=6.0
PBDV Barranco-do-Ve 163.34 36 PKPdf PKPdf 19 25 31.3 +1.9
KEST Kesra 167.69 340 PKPab PKPab 19 26 36.9 -2.5
comp=Z,4.7nm,1.1s,baz=10,slow=1.6,SNR=4.6
TORD Torodi Ar. Bea 168.75 167 PKP PKPdf 19 25 33.6 -0.7
comp=Z,3.4nm,1.1s,baz=3.2,slow=1.3,SNR=12
TORD PKPab PKPab 19 26 45.6 +1.2
comp=Z,2.6nm,0.9s,baz=165,slow=3.4,SNR=6.7
TORD PP PP 19 30 34.5 +2.2
comp=Z,1.7nm,1.0s,baz=143,slow=2.5,SNR=5.4
TAM Tamanrasset 178.17 220 ePKIKP PKPdf 19 25 37.8 -0.1
TAM Tamanrasset 178.17 220 ePKPdf PKPdf 19 25 37.8 -0.1

IDC 11 19:05:54.6±2.1, 6°.62S×129°.34E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.5/28, mbtmp3.7/3, ML3.8/2, MS3.9/1, Ms1 3.9/1, ms1mx3.4/20, Error ellipse: s-maj=111.6km s-min=31.7km az=68.0, Banda Sea

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
WRA Warramunga Arr 14.10 160 Pn Pn 19 09 15.7 -0.1
0.4nm,0.3s,baz=339,slow=13,SNR=28
WRA Sn Sn 19 11 39.7 -13
1.0nm,0.3s,baz=328,slow=22,SNR=10.0
ASAR Alice Springs 17.50 166 P Pn 19 10 00.2 -0.1
0.6nm,0.3s,baz=338,slow=11,SNR=77
ASAR S Sn 19 13 01.1 -15
0.2nm,0.3s,baz=346,slow=25,SNR=6.5
NWAO Narrogin (SRO) 28.49 202 LR LR 19 22 41.3
comp=Z,261nm,20.5s,slow=35
MKAR Makanchi Array 67.55 327 P P 19 16 53.0 0.0
0.3nm,0.6s,baz=122,slow=8.0,SNR=5.0

ISCJB 11 19:35:02.7±0.7, 6°.78N±0°.10×72°.9W±0°.1, h166km, mb3.2/1, Error ellipse: s-maj=18.9km s-min=5.8km az=42.2
FUNV 11 19:35:03.9, 6°.75N×73°.04W, h167km, MW3.4
IDC 11 19:35:05.7±6.9, 6°.78N×75°.63W, h135km±86km, mb2.9/1, mb1 3.3/2, mb1mx2.9/31, mbtmp3.5/2, Error ellipse: s-maj=208.3km s-min=40.4km az=81.0
ISC 11 19:35:02.8±1.1, 6°.80N±0°.09×72°.9W±0°.1, h166km, n11, σ1§55/19, 1C, Northern Colombia

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
CAPV Capacho 1.22 30 ⇑iP Pn 19 35 32.5 +1.2
CAPV eS Sn 19 35 53.9 +0.8
ROSC El Rosal 2.39 216 P Pn 19 35 44.2 +0.4
22nm,0.3s,baz=283,slow=9.4,SNR=16
ROSC S Sn 19 36 14.4 -1.2
58nm,0.3s,baz=115,slow=16,SNR=9.3
SOCV Socops 2.52 54 eP Pn 19 35 46.7 +1.6
SOCV eS Sn 19 36 18.1 +0.4
VIGV El Vigia 2.54 37 eP Pn 19 35 46.7 +1.4
VIGV eS Sn 19 36 18.1 -0.2
QARV Quebrada Arrib 4.13 35 eP Pn 19 36 06.5 +1.2
QARV eS Sn 19 36 52.3 -1.7
CURV Curarigua 4.33 42 eP Pn 19 36 09.2 +1.3
CURV eS Sn 19 36 57.3 -1.4
BAUV El Baul 5.28 66 eP Pn 19 36 20.4 +0.2
BAUV eS Sn 19 37 18.6 -2.2
MAPV Macapo 5.34 55 eP Pn 19 36 22.5 +1.4
MONV Montecano 5.89 29 eP Pn 19 36 28.5 +0.2
MONV eS Sn 19 37 31.5 -3.9
YKA Yellowknife Ar 63.35 340 P P 19 45 14.3 +0.3
0.2nm,0.5s,baz=134,slow=6.6,SNR=6.5
WRA Warramunga Arr 150.50 241 PKPbc PKPbc 19 54 35.8 -0.1
0.1nm,0.4s,baz=104,slow=2.7,SNR=3.9

DJA 11 19:37:23.2±2.3, 10°S±5°×11°4E±°, h39km±29km, M3.6/16, mb3.9/3, MLv3.5/16, South of Jawa

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
JAGI Jajag, Banyuwa 1.58 11 P Pn 19 37 48.3 -0.4
IGBI Denpasar 1.75 47 P Pn 19 37 50.8 -0.2
GMJI Gumukmas 1.79 347 P Pn 19 37 50.8 -0.8
GMJI S Sn 19 38 12.4 -0.8
DNP Denpasar 1.89 45 P Pn 19 37 53.2 +0.2
DNP S Sn 19 38 16.7 +1.1
ABJI Asem Bagus 2.25 9 P Pn 19 37 59.4 +1.5
BLJI Banyuglugur 2.29 353 P Pn 19 37 59.4 +1.0
PWJI Pagerwojo 2.85 314 P Pn 19 38 05.2 -0.9
PWJI S Sn 19 38 38.0 -1.2
PCJI Pacitan 3.22 304 P Pn 19 38 10.5 -0.7
PCJI S Sn 19 38 44.5 -3.8
UGM Wanagama 3.91 302 P Pn 19 38 20.3 -0.5
UGM S Sn 19 39 02.5 -3.0
KPJI Karang Pucung 5.56 298 P Pn 19 38 44.5 +1.0
12nm,1.5s,0.1nm
CMJI Cimerak 5.79 292 P Pn 19 38 44.4 -2.3
18nm,1.4s,0.1nm

IDC 11 19:40:51.7±2.7, 27°.97N×51°.52E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/32, mbtmp3.6/6, Error ellipse: s-maj=62.4km s-min=34.3km az=151.0
ISCJB 11 19:40:52.4±2.2, 28°.0N±0°.3×51°.5E±0°.3, h16km, mb3.5/6, Error ellipse: s-maj=51.6km s-min=27.8km az=150.7
ISC 11 19:40:54.5±2.3, 28°.1N±0°.4×51°.5E±0°.3, h16km, n6, σ1§42/6, mb3.5/6, Southern Iran

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
MKAR Makanchi Array 30.52 44 P P 19 47 06.8 -0.2
0.2nm,0.7s,baz=231,slow=11,SNR=5.4
FINES FINESS Array B 37.43 340 P P 19 48 06.7 +0.1
0.7nm,0.6s,baz=159,slow=12,SNR=4.2
NOA NORSAR Array B 42.51 332 P P 19 48 47.8 -1.1
0.5nm,0.7s,baz=122,slow=8.4,SNR=3.4
ARCES ARCESS Array B 44.14 347 P P 19 49 04.1 +2.1
2.3nm,0.9s,baz=132,slow=7.7,SNR=3.3
TORD Torodi Ar. Bea 48.55 263 P P 19 49 37.6 +0.2
0.4nm,0.7s,baz=58,slow=7.3,SNR=3.7
YKA Yellowknife Ar 89.06 354 P P 19 53 48.2 -0.4
0.1nm,0.6s,baz=9.5,slow=4.9,SNR=4.3

IDC 11 19:41:33.9±2.5, 25.48S×70.44W, h0km, mb3.5/1, mb1 3.7/2, mb1mx3.5/22, mbtmp3.7/2, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx3.3/16, Error ellipse: s-maj=148.7km s-min=72.3km az=146.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	Juan Fernandez	10.83	221	T	T	19 54 56.6	
	baz=43,SNR=20						
H03N2	Juan Fernandez	10.84	221	T	T	19 55 28.9	
	baz=43,slow=74,SNR=23						
H03N3	Juan Fernandez	10.85	221	T	T	19 55 00.5	
	baz=43,slow=74,SNR=24						
SIV	San Ignacio	12.88	45	Pn	Pn	19 44 38.4	+0.1
	0.2nm,0.3s,baz=201,slow=17,SNR=3.1						
SIV				LR	LR	19 49 37.3	
	comp=Z,184nm,20.6s,baz=286,slow=38						
TORD	Torodi Ar. Bea	80.02	70	P	P	19 53 45.8	0.0
	0.2nm,0.5s,baz=250,slow=5.1,SNR=4.1						
ZALV	Zalesovo Beam	146.13	26	PKPbc	PKPdf	20 01 14.7	-0.1
	1.2nm,0.6s,baz=292,slow=3.4,SNR=7.5						
MKAR	Makanchi Array	149.64	39	PKPbc	PKPbc	20 01 25.1	-0.3
	0.3nm,0.6s,baz=317,slow=2.7,SNR=6.0						

IDC 11 19:58:34.6±2.4, 35.46S×179.08E, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.9/24, mbtmp4.1/3, ML4.4/1, Error ellipse: s-maj=55.7km s-min=40.8km az=118.0
WEL 11 19:58:43.1±0.5, 35.99S×179.13E, h12km, ML4.2/17, Error ellipse: s-maj=3.8km s-min=3.5km az=0.0
ISC 11 19:58:45.9±3.2, 36.3S±0.2×179.1E±0.1, h21km±7km, n76, σ1§51/67, 3C-5D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.38	207	P*	Pb	19 59 12.1	+1.0
MXZ				S*	Sb	19 59 31.6	+3.3
MXZ				AML	AML	19 59 36.9	
HAZ	Te Kaha	1.77	216	P*	Pb	19 59 17.0	-0.6
PUZ	Puketiti	1.86	201	PN	Pb	19 59 19.5	+0.2
PUZ				AML	AML	19 59 46.3	
PUZ				AML	AML	19 59 57.2	
WIZ	White Island	1.94	231	P*	Pn	19 59 18.5	+0.9
WIZ				S*	Sn	19 59 41.6	+0.4
CNGZ	Carnagh Statio	2.27	198	⇓PN	Pb	19 59 24.8	-1.3
CNGZ				SN	Sb	19 59 56.6	+3.0
MWZ	Matawai	2.36	211	P*	Pb	19 59 25.5	-2.3
MWZ				S*	Sb	19 59 56.6	+0.2
MWZ				AML	AML	20 00 13.6	
MYRZ	Mayor Island	2.48	247	P*	Pn	19 59 25.4	+0.3
MYRZ				S*	Sn	19 59 55.0	+0.3
URZ	Urewera	2.49	219	P*	Pn	19 59 26.3	+1.1
URZ				AML	AML	20 00 02.3	
URZ				AML	AML	20 00 03.0	
URZ	Urewera	2.49	219	Pn	Pn	19 59 26.4	+1.1
	43nm,0.3s,baz=0.5,slow=1.4,SNR=108						
URZ				Sn	Sb	19 59 57.3	-2.9
	43nm,0.3s,baz=113,slow=22,SNR=13						
OPRZ	Ohinepanea	2.53	233	P*	Pn	19 59 26.6	+0.8
RAGZ	Rawiri	2.54	211	⇑P*	Pn	19 59 27.8	+1.9
MARZ	Manawahe	2.54	229	P*	Pn	19 59 27.0	+1.0
EDRZ	Edgecumbe	2.59	226	P*	Pn	19 59 28.4	+1.9
EDRZ				AML	AML	19 59 35.8	
EDRZ				AML	AML	19 59 48.0	
RIGZ	Rimuhau	2.60	204	⇓PN	Pn	19 59 28.2	+1.5
TGRZ	Tauranga	2.66	237	P*	Pn	19 59 28.5	+0.9
TGRZ				S*	Sn	20 00 00.7	+1.5
TGRZ				AML	AML	20 00 01.4	
KUZ	Kuaotunu	2.75	260	PN	Pn	19 59 27.7	-1.0
PRGZ	Paritu Road	2.76	200	PN	Pn	19 59 30.4	+1.4
TARZ	Mount Tarawera	2.81	227	P*	Pn	19 59 31.4	+1.8
SNGZ	Shannon Statio	2.82	209	⇑PN	Pn	19 59 31.2	+1.5
SNGZ				SN	Sb	20 00 06.9	-2.6
KARZ	Kaharoa	2.83	233	P*	Pn	19 59 31.4	+1.4
RRRZ	Republican Roa	2.87	225	P*	Pn	19 59 31.1	+0.6
KNZ	Kokohu	2.91	202	⇓PN	Pn	19 59 31.5	+0.5
MHGZ	Mahia Peninsul	2.97	198	PN	Pn	19 59 32.9	+1.1
RAHZ	Arahi	3.04	211	PN	Pn	19 59 33.9	+1.2
PRRZ	Plateau Road	3.05	224	⇓P*	Pn	19 59 34.2	+1.3
WHHZ	Waihua	3.11	208	PN	Pn	19 59 34.9	+1.2
ALRZ	Allen Road	3.12	224	P*	Pn	19 59 34.6	+0.7
TOZ	Tahuroa Road	3.20	243	P*	Pn	19 59 35.4	+0.5
MKAZ	Moumakai	3.25	255	⇓PN	Pn	19 59 35.6	0.0
NMHZ	Naumai	3.31	213	⇑PN	Pn	19 59 37.2	+0.8
WHTZ	Whakaora	3.42	226	P*	Pn	19 59 39.2	+1.2
BKZ	Black Stump Fm	3.50	215	P*	Pn	19 59 39.0	-0.2
BKZ				AML	AML	20 00 39.7	
BKZ				AML	AML	20 00 44.3	
MCHZ	McNeill Hill	3.64	211	PN	Pn	19 59 41.5	+0.5
CKHZ	Cape Kidnapper	3.69	205	PN	Pn	19 59 41.7	+0.1
KAHZ	Kahuranaki	3.88	206	PN	Pn	19 59 43.9	-0.4
KRVZ	Karewarewa	3.89	224	P*	Pn	19 59 44.8	+0.3
KRVZ				AML	AML	19 59 54.1	
OTVZ	Oturere	3.92	223	P*	Pn	19 59 44.6	-0.4
OTVZ				AML	AML	20 00 45.4	
OTVZ				AML	AML	20 00 50.8	
WTVZ	West Tongariro	3.93	224	P*	Pn	19 59 46.0	+0.9
WTVZ				AML	AML	19 59 56.1	
KRHZ	Kereru	3.95	212	PN	Pn	19 59 44.1	-1.1
BHHZ	Black Hill Sta	3.96	216	P*	Pn	19 59 44.8	-0.7
NGZ	Ngauruhoe	3.97	223	P*	Pn	19 59 46.5	+0.8
TWVZ	Taurewa	3.99	226	P*	Pn	19 59 46.4	+0.5
HIZ	Hauiti	4.02	236	PN	Pn	19 59 47.7	+1.6
FWVZ	Far West T-bar	4.05	223	P*	Pn	19 59 47.1	+0.2
FWVZ				AML	AML	20 00 48.8	
MOVZ	Moawhango	4.05	220	P*	Pn	19 59 46.3	-0.5
MOVZ				AML	AML	20 00 48.3	
MOVZ				AML	AML	20 00 49.3	
WNVZ	Whahianoa	4.08	222	P*	Pn	19 59 47.8	+0.6
WNVZ				AML	AML	20 00 53.5	
TRVZ	Turoa	4.08	222	P*	Pn	19 59 50.2	+2.9
PXZ	Pawanui	4.09	205	PN	Pn	19 59 45.9	-1.3
PXZ				AML	AML	20 00 35.4	
PXZ				AML	AML	20 00 35.4	
PXZ				AML	AML	20 00 36.9	
PXZ				AML	AML	20 00 37.0	
PNHZ	Pukenui	4.25	212	PN	Pn	19 59 48.0	-1.3
PRHZ	Porangahau	4.38	205	PN	Pn	19 59 48.0	-3.2
TSZ	Takapari Road	4.47	213	PN	Pn	19 59 50.2	-2.2
TSZ				AML	AML	20 01 06.0	
TSZ				AML	AML	20 01 06.7	
DVHZ	Dannevirke	4.58	209	PN	Pn	19 59 51.8	-2.2
ANWZ	Angora Road	4.61	206	PN	Pn	19 59 52.7	-1.6
BFZ	Birch Farm	4.89	206	PN	Pn	19 59 55.6	-2.5
TIWZ	Tintock	5.10	209	PN	Pn	19 59 59.6	-1.5
MRZ	Mangatainoka R	5.13	211	PN	Pn	19 59 58.5	-3.0
MRZ				AML	AML	20 00 58.8	
MRZ				AML	AML	20 01 29.4	
HOWZ	Holdsworth Sta	5.35	210	PN	Pn	20 00 01.9	-2.7
TMWZ	Te Maipa	5.39	207	PN	Pn	20 00 02.0	-3.0
OGWZ	Otaki Gorge	5.43	213	PN	Pn	20 00 03.6	-2.1
MTW	Mount Morrison	5.58	209	PN	Pn	20 00 04.4	-3.2
KIW	Kapiti Island	5.59	215	PN	Pn	20 00 04.6	-3.1
CAW	Cannon Point	5.72	212	PN	Pn	20 00 06.8	-2.7
CAW				AML	AML	20 01 43.0	
TRWZ	Traveller	5.72	207	PN	Pn	20 00 06.2	-3.4
PAWZ	Paruwai Farm	5.80	208	PN	Pn	20 00 07.5	-3.1
MSWZ	Moikau Station	5.90	209	PN	Pn	20 00 09.9	-2.1
PLWZ	Palliser	6.03	209	PN	Pn	20 00 09.9	-4.0
QRZ	Quartz Range	6.83	227	PN	Pn	20 00 20.5	-4.3
CTZ	Chatham Island	8.09	157	PN	Pn	20 00 43.1	+1.0
OXZ	Oxford	8.84	216	PN	Pn	20 00 47.0	-5.4
MQZ	McQueen's Vall	8.87	212	PN	Pn	20 00 46.9	-5.8
ASAR	Alice Springs	40.78	275	P	P	20 06 16.6	-9.1
	1.8nm,0.6s,baz=118,slow=7.7,SNR=42						
WRA	Warramunga Arr	42.31	280	P	P	20 06 29.2	-9.2
	0.8nm,0.4s,baz=119,slow=7.8,SNR=16						
ARCES	ARCESS Array B	143.76	345	PKP	PKPab	20 18 06.9	-8.3
	1.5nm,0.8s,baz=50,slow=2.8,SNR=3.6						
JOF	Joensuu	146.84	334	*ep*	PKPdf	20 18 15.1	-8.6
	0.5nm,0.4s						
KAF	Kangasniemi	149.12	335	*ep*	PKPdf	20 18 20.9	-6.6
	1.8nm,0.6s						
FINES	FINESS Array B	149.66	334	PKPbc	PKPdf	20 18 23.1	-5.2
	1.2nm,0.5s,baz=30,slow=3.2,SNR=13						

IDC 11 20:17:52.1±2.0, 28.81N×141.23E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/31, mbtmp3.7/5, MS4.1/1, Ms1 4.1/1, ms1mx2.7/42, Error ellipse: s-maj=98.8km s-min=22.9km az=79.0
JMA 11 20:18:37.7±0.1, 28.58N×140.57E, h411km, M3.8
ISC 11 20:18:36.7±0.9, 28.5N±0.1×140.1E±0.2, h400km, n11, σ1§60/12, mb3.1/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.32	127	P	Pn	20 19 35.3	+0.5
JHHJ	Haha-jima-NKT	2.63	135	P	Pn	20 19 37.6	+0.5
JHHJ				S	S	20 20 25.0	-0.8
JRY	Ryogami san	7.54	353	P	P	20 20 28.5	+1.6
JAG	Ashikaga	7.90	356	P	P	20 20 31.2	+0.4
JAG				*e*S	S	20 22 00.1	-3.4
JHO	Hitachi	8.07	3	P	P	20 20 34.8	+2.0
FX1	Attu Island--F	34.43	36	LR	LR	20 37 42.1	
	comp=Z,332nm,19.9s,baz=322,slow=35						
MKAR	Makanchi Array	48.15	309	P	P	20 26 38.8	+0.4
	0.3nm,0.4s,baz=94,slow=8.8,SNR=10.0						
WRA	Warramunga Arr	48.50	187	P	P	20 26 39.9	-1.3
	0.3nm,0.3s,baz=6.5,slow=6.6,SNR=13						
ASAR	Alice Springs	52.23	187	P	P	20 27 08.1	-0.7
	0.1nm,0.3s,baz=15,slow=12,SNR=3.0						
ARCES	ARCESS Array B	71.59	340	P	P	20 29 16.2	+0.8
	1.6nm,0.8s,baz=74,slow=7.6,SNR=4.3						
FINES	FINESS Array B	75.85	333	P	P	20 29 40.0	+0.1
	0.9nm,0.9s,baz=86,slow=4.3,SNR=5.6						

BJI 11 20:30:01.9, 5.10S×101.33E, h20km, mB4.8/8, mb4.6/20
KLM 11 20:30:08.3, 4.29S×100.80E, h288km, mb4.5, ML4.3, MS5.6
IDC 11 20:30:10.9±1.0, 4.29S×101.09E, h23km±4km, mb4.1/12, mb1 4.2/12, mb1mx3.9/36, mbtmp4.3/12, MS3.0/2, Ms1 3.1/2, ms1mx2.8/36, Error ellipse: s-maj=32.8km s-min=15.5km az=53.0
ISCJB 11 20:30:10.5±1.1, 4.42S±0.07×101.09E±0.07, h37km±8km, mb4.3/33, MS3.8/3, Error ellipse: s-maj=15.7km s-min=5.1km az=136.5
MOS 11 20:30:11.5±1.0, 4.18S×101.25E, h38km, mb4.6/25, Error ellipse: s-maj=20.8km s-min=10.0km az=109.6
DJA 11 20:30:11.6±0.6, 5°S±6°×10°1E±°, h60km±25km, M4.6/15, mb4.8/8, mB4.9/4, MLv4.7/15, Mw(mB)4.2/4
ISC 11 20:30:11.1±0.6, 4.33S±0.06×101.05E±0.05, h26km±3km, h26km:pP-P, n117, σ1§41/117, mb4.4/33, MS4.0/3, 8C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	Maura Aman, Be	1.68	45	P	Pn	20 30 39.8	+0.9
MASI				S	Sb	20 31 05.2	+3.1
MNAI	Manna	1.90	91	P	Pn	20 30 41.6	-0.3
MNAI				S	Sb	20 31 10.9	+2.4
MNAI	Manna	1.90	91	P	Pn	20 30 41.3	-0.6
	baz=2.0,SNR=14						
LHSI	Lahat	2.52	79	P	Pn	20 30 51.1	+0.7
LWLI	Liwa	3.08	103	P	Pn	20 30 58.2	0.0
MDSI	Maura Dua	3.12	93	P	Pn	20 30 59.0	+0.3
MDSI				S	Sn	20 31 35.4	+0.2
SDSI	Sungai Dareh	3.40	6	P	Pn	20 31 04.2	+1.7
PDSI	Padang	3.45	350	P	Pn	20 31 03.6	+0.4
KASI	Kota Agung	3.63	109	P	Pn	20 31 05.8	+0.1
KASI				S	Sn	20 31 43.4	-4.4
JMBI	JAMBI	3.73	44	P	Pb	20 31 14.9	-1.4
KLI	Kotabumi	3.83	98	P	Pb	20 31 20.7	+2.6
PMBI	Palembang	3.97	70	P	Pb	20 31 28.2	+7.8
BLSI	Bandar Lampung	4.31	104	P	Pb	20 31 27.9	+1.7
BKNI	Bangkinang	4.63	360	P	Pb	20 31 42.1	+10
CGJI	Cibinong	5.15	116	P	Pn	20 31 25.7	-0.9
	108nm,0.8s,1µm0.5nm						
MNSI	Mandailing Nat	5.30	344	P	Pn	20 31 29.3	+0.6
	30nm,0.7s,945nm0.3nm						
TPRI	Tanjung Pinang	6.27	34	P	Pb	20 31 57.1	-2.5
MYKOM	Kota Tinggi	6.70	25	⇑P	Pb	20 31 59.3	-7.6
KGM	Kluang	6.70	20	⇓P	Pn	20 31 57.3	+9.3
CNJI	Cibinong	6.73	116	P	Pn	20 31 46.1	-2.3
	61nm,0.8s,852nm0.3nm						
CNJI				S	Sn	20 32 57.5	-6.8
	61nm,0.8s,852nm0.3nm						
LEM	Lembang	6.99	111	P	Pn	20 31 53.4	+1.3
	55nm,0.8s,0.2nm						
PSI	Prapat	7.40	343	LR	LR	20 34 14.2	
	comp=Z,53nm,19.4s,baz=152,slow=34						
CISI	Cisompet, Garu	7.45	116	P	Pn	20 31 57.2	-1.1
	69nm,0.7s,1µm0.4nm						
CISI	Cisompet, Garu	7.45	116	P	Pn	20 31 56.3	-2.1
	baz=7.5,SNR=13						
CISI				S	Sn	20 33 16.9	-5.2
	baz=7.5,SNR=6.7						
FRIM	Kepong	7.54	4	⇑P	Pn	20 32 00.1	+0.7
KPJI	Karang Pucung	8.39	111	P	Pn	20 32 10.3	-0.8
	32nm,0.8s						
KCSI	Kotacane, Aceh	8.46	337	P	Pn	20 32 22.6	+10
TPTI		8.47	333	P	Pn	20 32 13.9	+1.6
IPM	Ipoh	8.75	360	⇑P	Pn	20 32 16.0	-0.1
KULM	Kulim	9.57	358	⇑P	Pn	20 32 27.7	+0.4
UGM	Wanagama	10.07	111	P	Pn	20 32 32.7	-1.5
	baz=10,SNR=7.1						
STKI	Sintang	11.30	68	P	Pn	20 32 58.3	+7.3
PWJI	Pagerwojo	11.30	109	P	Pn	20 32 57.1	+6.0
SBUM	Sibu	13.04	59	⇓P	Pn	20 33 06.4	-8.4
JAGI	Jajag, Banyuwa	13.65	108	P	P	20 33 33.1	+1.3
JAGI	Jajag, Banyuwa	13.65	108	P	P	20 33 22.7	-0.5
	baz=14,SNR=4.2						
JAGI				S	Sn	20 35 51.1	-3.1
	baz=14,SNR=3.2						
CHBT	CHBT	17.02	4	P	P	20 34 09.4	+0.2
	16nm,1.3s						
SDKM	Sandakan	18.93	59	⇑P	Pn	20 34 31.4	+0.3
MRSI	Marisa	21.41	78	P	P	20 35 01.4	+4.1
UTTA	Uttaradit	21.94	359	P	P	20 35 06.4	+3.5
	2.0nm,0.9s						
CMAR	Chiang Mai Arr	22.74	355	P	P	20 35 09.9	-1.5
CMAR						20 39 04.3	
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,67nm,18.5s						
CMAR	Chiang Mai Arr	22.74	355	P	P	20 35 09.9	-1.5
	comp=Z,8.5nm,0.9s,baz=183,slow=8.6,SNR=65						
CMAR				PcP	PcP	20 39 04.2	+1.1
	comp=Z,0.3nm,0.5s,baz=213,slow=4.3,SNR=3.7						
CMAR				LR	LR	20 43 35.8	
	comp=Z,67nm,18.5s,baz=185,slow=36						
CMMT	Chiang Mai	23.09	355	P	P	20 35 15.2	+0.1
	comp=Z,12nm,1.0s						
CHTO	Chiang Mai	23.09	355	P	P	20 35 15.3	+0.2
	comp=Z,52nm,1.1s						
H08S2	Diego Garcia H	28.58	262	T	T	21 05 49.4	
	baz=85,slow=76,SNR=354						
H08S3	Diego Garcia H	28.59	262	T	T	21 06 00.6	
	baz=85,slow=76,SNR=345						
H08S1	Diego Garcia H	28.60	262	T	T	21 06 01.4	
	baz=85,slow=76,SNR=286						
KNRA	Kununurra	29.48	114	P	P	20 36 12.0	-1.3
	baz=30,SNR=3.1						
H08N1	Diego Carcia H	29.97	265	T	T	21 08 15.7	
	baz=259,SNR=29						
H08N2	Diego Garcia H	29.98	265	T	T	21 08 15.6	
	baz=259,SNR=24						
H08N3	Diego Garcia H	29.99	265	T	T	21 08 14.2	
	baz=259,SNR=32						
KDU	Kakadu	32.14	107	P	P	20 36 34.5	-2.4
	baz=32,SNR=4.1						
H01W3	Cape Leeuwin H	32.73	160	T	T	21 11 02.0	
	baz=336,slow=76,SNR=79						
H01W2	Cape Leeuwin H	32.74	160	T	T	21 11 03.0	
	baz=336,slow=76,SNR=85						
H01W1	Cape Leeuwin H	32.75	160	T	T	21 11 03.1	
	baz=336,slow=76,SNR=59						
ODAN	Odare	33.70	338	*e*P	P	20 36 51.7	+1.0
	comp=Z,24nm,0.8s						
TAPN	Taplejung	34.03	338	*e*P	P	20 36 55.1	+1.6
	comp=Z,37nm,0.8s						
RAMN	Ramite	34.09	337	*e*P	P	20 36 55.8	+1.8
	comp=Z,14nm,0.7s						
JIRN	Jiri	34.89	337	*e*P	P	20 37 02.5	+1.4
	comp=Z,37nm,0.9s						
PKI	Pulchoki	35.13	335	*e*P	P	20 37 04.0	+0.9
PKIN	Phulchoki	35.14	335	*e*P	P	20 37 04.1	+1.0
LSA	Lhasa	35.14	345	P	P	20 37 03.3	0.0
GUN	Gumba	35.23	336	*e*P	P	20 37 05.2	+1.2
	comp=Z,32nm,0.7s						
DMN	Daman	35.29	335	*e*P	P	20 37 06.0	+1.6
KKN	Kakani	35.37	335	*e*P	P	20 37 06.1	+1.0
	comp=Z,13nm,0.7s						
GKN	Gorkha	35.83	335	*e*P	P	20 37 10.0	+1.1
	comp=Z,21nm,1.0s						
WRA	Warramunga Arr	35.94	118	P	P	20 37 08.7	-1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	35.94	118	P	P	20 37 08.7	-1.2
	comp=Z,1.3nm,0.6s,baz=301,slow=9.1,SNR=25						
WRAB	Tennant Creek	35.95	118	⇑*i*P	P	20 37 09.7	-0.2
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KOLN	Koldanda	36.08	333	*e*P	P	20 37 12.4	+1.3
	comp=Z,18nm,0.7s						
DANN	Dangsing	36.51	334	*e*P	P	20 37 15.6	+0.7
	comp=Z,18nm,0.9s						
ASAR	Alice Springs	37.06	124	P	P	20 37 19.1	-0.3
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	37.06	124	P	P	20 37 19.1	-0.3
	comp=Z,1.0nm,0.6s,baz=298,slow=7.9,SNR=14						
XAN	Xi'an	38.88	10	P	P	20 37 33.4	-1.2
XAN				pP	pP	20 37 41.0	-1.4
XAN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
LZH	Lanzhou	40.29	4	*e*P	P	20 37 47.8	+1.4
LZH				pP	pP	20 37 53.9	-0.4
LZH				sP	sP	20 37 58.0	+0.6
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH				pmax	pmax		
	comp=Z,82nm,6.6s						
QIS	Mount Isa	40.81	117	P	P	20 37 50.4	-0.4
	baz=41,SNR=4.5						
GTA	Gaotai	43.54	359	*e*P	P	20 38 13.3	+0.4
GTA				pP	pP	20 38 21.6	+0.8
GTA				sP	sP	20 38 25.6	+1.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
PMG	Port Moresby	46.03	99	*e*P	P	20 38 27.8	-5.2
PMG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
STKA	Stephens Creek	46.84	131	P	P	20 38 39.7	+0.6
STKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STKA	Stephens Creek	46.84	131	P	P	20 38 39.7	+0.6
	comp=Z,1.6nm,0.7s,baz=312,slow=11,SNR=5.8						
STKA	Stephens Creek	46.84	131	P	P	20 38 39.9	+0.8
	baz=47,SNR=4.8						
KSRS	Korea Array	48.52	29	P	P	20 38 51.9	-0.1
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KSRS	Korea Array	48.52	29	P	P	20 38 51.9	-0.1
	comp=Z,5.2nm,0.9s,baz=216,slow=9.4,SNR=8.2						
CMSA	Cobar Meteorol	49.84	128	P	P	20 39 03.2	+0.9
	baz=50,SNR=5.8						
ULN	Ulaanbaatar	52.24	5	*e*P	P	20 39 20.9	+0.7
ULN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MKAR	Makanchi Array	53.54	344	P	P	20 39 29.9	+0.2
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	Makanchi Array	53.54	344	P	P	20 39 29.9	+0.2
	comp=Z,5.4nm,0.7s,baz=148,slow=8.5,SNR=85						
ZAK	Zakamensk	54.53	2	*e*P	P	20 39 36.6	-0.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
USRK	Ussuriysk Arra	55.73	27	P	P	20 39 44.7	-0.9
	comp=Z,8.9nm,0.7s,baz=214,slow=6.0,SNR=14						
USRK				pP	pP	20 39 52.8	-0.8
	comp=Z,8.8nm,0.6s,baz=219,slow=5.4,SNR=9.7						
TLY	Talaya	55.84	2	*e*P	P	20 39 47.1	+0.9
TLY				pmax	pmax		
	comp=Z,8.0nm,2.5s						
KURK	Kurchatov	58.13	343	*e*P	P	20 40 02.9	+0.5
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZALV	Zalesovo Beam	59.64	349	P	P	20 40 12.6	-0.2
ZALV				*PP	pP	20 40 20.3	-0.7
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZALV	Zalesovo Beam	59.64	349	P	P	20 40 12.6	-0.2
	comp=Z,3.7nm,0.5s,baz=187,slow=5.1,SNR=23						
ZALV				pP	pP	20 40 20.3	-0.7
	comp=Z,2.7nm,0.4s,baz=169,slow=6.7,SNR=12						
BRVK	Borovoye	62.78	340	*e*P	P	20 40 34.7	+0.5
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
SVE	Sverdlovsk	69.22	338	*e*P	P	20 41 15.7	+0.2
SVE				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK	Yakutsk	69.73	14	*e*P	P	20 41 16.4	-2.1
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
ARU	Arti	69.75	336	P	P	20 41 18.4	-0.4
BRTR	Keskin Array B	75.66	313	P	P	20 41 54.0	-0.5
BRTR				*PP	pP	20 42 01.2	-1.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	75.66	313	P	P	20 41 54.0	-0.5
	comp=Z,0.6nm,0.8s,baz=134,slow=8.7,SNR=4.7						
BRTR				pP	pP	20 42 01.1	-1.7
	comp=Z,0.6nm,0.6s,baz=133,slow=6.3,SNR=3.3						
SEY	Seymchan	77.39	21	P	P	20 42 03.4	-0.2
SEY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SEY	Seymchan	77.39	21	P	P	20 42 03.4	-0.2
	comp=Z,2.2nm,0.9s,baz=266,slow=4.3,SNR=7.7						
TIXI	Tiksi	77.98	9	⇑*i*P	P	20 42 04.7	-2.0
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
PRGR	Permogore	78.21	336	*e*P	P	20 42 07.2	-0.9
PRGR				*e*		20 42 15.3	
PRGR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
OBN	Obninsk	79.31	328	*e*P	P	20 42 14.5	+0.2
OBN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
OBN				MLR	MLR		
	comp=Z,62nm,16.0s						
KLMR	Klimovskoe	80.37	334	*e*P	P	20 42 18.7	-1.3
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BILL	Bilibino	84.97	20	*e*P	P	20 42 43.6	-0.2
BILL				*e*		20 46 06.4	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,106nm,20.0s						
KOLS	Kolonicke sedl	85.89	320	*e*P	P	20 42 50.5	+1.7
KOLS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KOLS	Kolonicke sedl	85.89	320	*e*P	P	20 42 50.5	+1.7
FINES	FINESS Array B	86.65	332	P	P	20 42 52.6	+0.4
FINES				*PP	pP	20 43 00.7	0.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	86.65	332	P	P	20 42 52.5	+0.4
	comp=Z,0.7nm,0.6s,baz=98,slow=3.9,SNR=6.3						
FINES				pP	pP	20 43 00.7	0.0
	comp=Z,0.4nm,0.4s,baz=108,slow=6.2,SNR=2.3						
STHS	Stebnicka Huta	86.65	320	*e*P	P	20 42 53.6	+1.1
STHS				pmax	pmax		
	comp=Z,2.0nm,1.2s						
STHS	Stebnicka Huta	86.65	320	*e*P	P	20 42 53.6	+1.1
ARCES	ARCESS Array B	89.01	340	P	P	20 43 03.2	-0.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	ARCESS Array B	89.01	340	P	P	20 43 03.2	-0.2
	comp=Z,2.2nm,0.8s,baz=84,slow=8.4,SNR=4.4						
FFC	Flin Flon	126.40	16	*c i*PKIKP	PKPdf	20 49 12.5	+0.8
TXAR	Lajitas Array	145.85	41	PKP2	PKPab	20 49 49.6	+0.2
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TXAR	Lajitas Array	145.85	41	PKPbc	PKPab	20 49 49.5	+0.2
	comp=Z,3.0nm,0.8s,baz=270,slow=2.5,SNR=17						

MEX 11 20:54:44.8±0.6,17.11N×100.55W,h33km±8km,MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.28	102	eP	Pb	20 54 50.9	-1.4
CAIG				iS	Sn	20 55 03.6	-4.7
ACX	Acapulco	0.71	109	eP	Pb	20 54 55.8	-2.7
ACX				iS	Sn	20 55 03.6	-4.7
ZIIG	Zihuatanejo	1.00	300	iP	Pn	20 55 00.3	-2.3
ZIIG				iS	Sn	20 55 13.5	-2.0
ARIG	Puente Sto Nin	1.19	10	iP	Pn	20 55 03.2	-1.9
ARIG				eS	Sn	20 55 17.5	-2.6
MEIG	Mezcala	1.21	47	iP	Pn	20 55 02.5	-3.0
MEIG				iS	Sn	20 55 17.7	-3.2
PLIG	Platanillo	1.62	38	iP	Pn	20 55 09.4	-1.9
PLIG				eS	Sn	20 55 28.8	-2.3
TLIG	Tlapa	1.95	76	iP	Pn	20 55 14.0	-1.8
TLIG				iS	Sn	20 55 36.5	-2.8
PNIG	Pinotepa	2.43	107	iP	Pn	20 55 21.0	-1.2
PNIG				iS	Sn	20 55 49.5	-1.4

CSEM 11 21:04:02.4±0.7,50.33N×18.79E,h1km,Error ellipse: s-maj=11.4km s-min=7.4km az=65.0
PRU 11 21:04:03.6,50.28N×18.77E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.14	85	ePg	Pg	21 04 06.9	+0.5
CHZP				eSg	Sg	21 04 09.2	+0.9
OKC	Ostrava-Krasne	0.60	222	ePG	Pg	21 04 14.8	-0.3
OKC				eSG	Sg	21 04 22.5	-0.3
	2.1nm,0.3s						
OKC	Ostrava-Krasne	0.60	222	Pg	Pg	21 04 14.8	-0.3
OKC				Sg	Sg	21 04 22.5	-0.3
	2.1nm,0.3s						
OJC	Ojcow	0.66	95	ePg	Pg	21 04 16.0	-0.4
OJC				eSg	Sg	21 04 24.9	-0.1
MORC	Moravsky Berou	0.94	238	ePg	Pg	21 04 21.8	+0.1
MORC				eSg	Sg	21 04 33.8	-0.1
KRLC	Kraliky	1.29	262	ePG	Pg	21 04 27.3	-1.2
KRLC				eSG	Sg	21 04 44.9	-0.5
KRLC	Kraliky	1.29	262	Pg	Pg	21 04 27.3	-1.2
KRLC				Sg	Sg	21 04 44.9	-0.5
DPC	Dobruska-Polom	1.57	274	ePG	Pn	21 04 32.8	0.0
DPC				eSG	Sn	21 04 54.0	+0.1
DPC	Dobruska-Polom	1.57	274	Pg	Pn	21 04 32.8	0.0
DPC				Sg	Sn	21 04 54.0	+0.1

PRU 11 21:04:51.0,50.28N×19.03E,h0km
CSEM 11 21:04:49.8±0.9,50.37N×19.04E,h1km,Error ellipse: s-maj=13.4km s-min=10.4km az=68.0,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.08	201	ePg	Pg	21 04 54.4	+3.0
CHZP				eSg	Sg	21 04 56.6	+4.1
OJC	Ojcow	0.51	107	ePg	Pb	21 05 01.0	-0.6
OJC				eSg	Sb	21 05 08.3	-1.2
OKC	Ostrava-Krasne	0.78	228	ePG	Pg	21 05 04.9	+0.1
OKC				eSG	Sg	21 05 14.0	-1.0
	2.8nm,0.4s						
OKC	Ostrava-Krasne	0.78	228	Pg	Pg	21 05 04.9	+0.1
OKC				Sg	Sg	21 05 14.0	-1.0
	2.8nm,0.4s						
MORC	Moravsky Berou	1.13	239	ePg	Pb	21 05 12.1	-0.1
MORC				eSg	Sg	21 05 25.9	-0.4
NIE	Niedzica	1.26	139	ePg	Pb	21 05 14.4	0.0
NIE				eSg	Sb	21 05 30.9	-0.2
KRLC	Kraliky	1.48	259	ePG	Pb	21 05 18.2	0.0
KRLC				eSG	Sn	21 05 37.7	0.0
KRLC	Kraliky	1.48	259	Pg	Pb	21 05 18.2	0.0
KRLC				Sg	Sn	21 05 37.7	0.0
DPC	Dobruska-Polom	1.74	270	ePG	Pb	21 05 22.7	+0.1
DPC				eSG	Sg	21 05 46.6	+0.7
DPC	Dobruska-Polom	1.74	270	Pg	Pb	21 05 22.7	+0.1
DPC				Sg	Sg	21 05 46.6	+0.7

CSEM 11 21:07:52.2±0.2,30.91N×50.07E,h2km,ML3.9,Error ellipse: s-maj=5.9km s-min=3.4km az=74.0
THR 11 21:07:52.6±0.4,30.93N×50.12E,h15km±7km,ML3.9
IDC 11 21:07:52.5±1.2,31.19N×49.82E,h0km,mb3.6/15, mb1 3.8/18,mb1mx3.7/35,mbtmp3.6/18,ML3.5/3,Error ellipse: s-maj=28.5km s-min=15.4km az=174.0
ISCJB 11 21:07:53.0±0.3,30.86N±0.02×50.01E±0.04,h30km, mb3.7/17,Error ellipse: s-maj=4.7km s-min=3.0km az=161.1
TEH 11 21:07:53.7,30.93N×50.04E,h8km,ML3.9
OMAN 11 21:08:02.9±99.0,30.90N×51.04E,h259km±18km,Error ellipse: s-maj=23.5km s-min=7.3km az=263.0
ISC 11 21:07:54.7±0.5,30.90N±0.04×49.99E±0.04,h30km,n122, σ1§21/126,mb3.6/17,8C-7D,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.58	320	ePg	Pb	21 08 22.3	-0.9
SHGR	Shooshtar-Gavs	1.58	320	ePg	Pb	21 08 22.3	-0.9
SHGR				AML	AML	21 08 53.0	
	comp=N,2μm,0.9s						
SHGR				AML	AML	21 08 54.0	
	comp=E,2μm,0.6s						
IPIR	Pirpir	1.94	23	ePn	Pn	21 08 25.6	-0.3
IPIR				eSg	Sb	21 08 52.8	-0.6
IPIR				e		21 08 54.6	
	comp=Z,10μm,0.3s						
IPIR	Pirpir	1.94	23	ePn	Pn	21 08 25.6	-0.3
IPIR				eSg	Sb	21 08 52.8	-0.6
IKLH	Kolahrood	2.76	29	ePn	Pn	21 08 37.8	+0.6
IKLH				e		21 09 32.7	
	comp=Z,5μm,0.3s						
IKLH	Kolahrood	2.76	29	ePn	Pn	21 08 37.8	+0.6
IZEF	Zefreh	2.81	44	ePn	Pn	21 08 38.5	+0.7
IZEF				e		21 08 44.0	
	comp=Z,2μm,0.3s						
IZEF	Zefreh	2.81	44	ePn	Pn	21 08 38.5	+0.7
KHMZ	Khomeyn	2.83	359	ePn	Pn	21 08 39.1	+1.0
KHMZ	Khomeyn	2.83	359	ePn	Pn	21 08 39.1	+1.0
KHMZ				AML	AML	21 09 33.1	
	comp=E,252nm,0.8s						
KHMZ				AML	AML	21 09 36.8	
	comp=N,167nm,0.6s						
IPAR	Pars	2.84	111	ePn	Pn	21 08 38.8	+0.5
IPAR				e		21 09 17.4	
	comp=Z,4μm,0.3s						
IPAR	Pars	2.84	111	ePn	Pn	21 08 38.8	+0.5
IKMR	Kamar-syah	2.95	333	ePn	Pn	21 08 40.2	+0.8
IKMR				e		21 09 31.8	
	comp=Z,99nm,0.2s						
IKMR	Kamar-syah	2.95	333	ePn	Pn	21 08 40.2	+0.8
NASN	Na'in	3.05	51	ePn	Pn	21 08 41.4	+0.1
NASN	Na'in	3.05	51	ePn	Pn	21 08 41.4	+0.1
ISRV	Sarvestan	3.10	118	ePn	Pn	21 08 42.7	+0.9
ISRV				e		21 09 46.6	
	comp=Z,5μm,0.4s						
ISRV	Sarvestan	3.10	118	ePn	Pn	21 08 42.7	+0.9
QAM	Ghamsar	3.10	23	ePn	Pn	21 08 42.8	+1.0
IKFM	Kafar-mosalman	3.19	326	ePn	Pn	21 08 45.1	+2.4
IKFM				e		21 09 44.3	
	comp=Z,99nm,0.3s						
IKFM	Kafar-mosalman	3.19	326	ePn	Pn	21 08 45.1	+2.4
KFJS		3.24	214	P	Pn	21 08 47.0	+3.5
KFJS		3.24	214	S	Sb	21 09 29.2	-1.4
KFJS		3.24	214	P	Pn	21 08 47.0	+3.5
ISAD	Sadrabad	3.32	71	ePn	Pn	21 08 45.1	+0.3
ISAD				e		21 09 28.4	
	comp=Z,6μm,0.3s						
ISAD	Sadrabad	3.32	71	ePn	Pn	21 08 45.1	+0.3
ASAO	Ashtian	3.64	0	ePn	Pn	21 08 50.2	+1.0
ASAO	Ashtian	3.64	0	ePn	Pn	21 08 50.1	+1.0
GHIR	Ghir-Karzin	3.69	134	ePn	Pn	21 08 50.5	+0.7
	comp=Z,255nm,0.6s						
GHIR	Ghir-Karzin	3.69	134	ePn	Pn	21 08 50.5	+0.7
GHIR				AML	AML	21 10 07.8	
	comp=N,228nm,0.5s						
GHIR				AML	AML	21 10 11.7	
	comp=E,255nm,0.6s						
IKOM	Komasi	3.88	328	ePn	Pn	21 08 53.9	+1.5
IKOM				e		21 09 07.4	
	comp=Z,5μm,0.3s						
IKOM	Komasi	3.88	328	ePn	Pn	21 08 53.9	+1.5
IBZA	Bozab	3.99	334	ePn	Pn	21 08 54.6	+0.7
IBZA				e		21 09 08.6	
	comp=Z,2μm,0.2s						
IBZA	Bozab	3.99	334	ePn	Pn	21 08 54.7	+0.7
IMEH	Mehriz	3.99	82	ePn	Pn	21 08 54.4	+0.4
IMEH				e		21 10 09.2	
	comp=Z,1μm,0.4s						
IMEH	Mehriz	3.99	82	ePn	Pn	21 08 54.4	+0.4
ICHK	Chekchek	4.00	69	ePn	Pn	21 08 54.4	+0.2
ICHK				e		21 09 42.8	
	comp=Z,3μm,0.5s						
ICHK	Chekchek	4.00	69	ePn	Pn	21 08 54.4	+0.2
IVRN	Varamin	4.34	19	ePn	Pn	21 08 58.8	+0.1
IVRN				e		21 10 24.8	
	comp=Z,808nm,0.4s						
IVRN	Varamin	4.34	19	ePn	Pn	21 08 58.8	+0.1
IGHG	Ghaleghazi	4.48	321	ePn	Pn	21 09 01.4	+0.7
IGHG				e		21 10 10.8	
	comp=Z,2μm,0.3s						
IGHG	Ghaleghazi	4.48	321	ePn	Pn	21 09 01.4	+0.7
IRAZ	Razeghan	4.49	359	ePn	Pn	21 09 01.5	+0.6
IRAZ				e		21 10 27.7	
	comp=Z,1μm,0.4s						
IRAZ	Razeghan	4.49	359	ePn	Pn	21 09 01.5	+0.6
IMHD	Mahdasht	4.81	7	ePn	Pn	21 09 05.4	+0.3
IMHD				e		21 10 29.1	
	comp=Z,382nm,0.2s						
IMHD	Mahdasht	4.81	7	ePn	Pn	21 09 05.4	+0.3
IBAF	Bafgh	4.82	80	ePn	Pn	21 09 05.2	-0.2
IBAF				e		21 10 28.9	
	comp=Z,517nm,0.5s						
IBAF	Bafgh	4.82	80	ePn	Pn	21 09 05.2	-0.2
IDHR	Dehrash	4.86	322	ePn	Pn	21 09 06.2	+0.3
IDHR				e		21 10 04.5	
	comp=Z,3μm,0.1s						
IDHR	Dehrash	4.86	322	ePn	Pn	21 09 06.2	+0.3
IDMV	Damavand	4.97	20	ePn	Pn	21 09 07.4	-0.1
IDMV				e		21 10 48.9	
	comp=Z,744nm,0.5s						
IDMV	Damavand	4.97	20	ePn	Pn	21 09 07.4	-0.1
BOQSS		5.04	186	P	Pn	21 09 11.0	+2.7
BOQSS		5.04	186	P	Pn	21 09 10.7	+2.4
ILAS	Lasjerd	5.12	28	e		21 09 36.4	
	comp=Z,376nm,0.2s						
ILAS				ePn	Pn	21 09 09.6	+0.1
IFIR	Firoozkooh	5.26	25	ePn	Pn	21 09 11.6	0.0
IFIR				e		21 09 19.0	
	comp=Z,846nm,0.2s						
IFIR	Firoozkooh	5.26	25	ePn	Pn	21 09 11.6	0.0
IANJ	Anjilo	5.62	35	ePn	Pn	21 09 16.2	-0.2
IANJ				e		21 11 03.0	
	comp=Z,278nm,0.3s						
IANJ	Anjilo	5.62	35	ePn	Pn	21 09 16.2	-0.2
IPRN	Peran	5.68	20	ePn	Pn	21 09 17.4	+0.3
IPRN				e		21 09 43.4	
	comp=Z,560nm,0.3s						
IALA	Alasht	5.68	24	ePn	Pn	21 09 17.3	0.0
IALA				e		21 09 51.8	
	comp=Z,480nm,0.1s						
IALA	Alasht	5.68	24	ePn	Pn	21 09 17.3	0.0
KRBR	Kerman	5.92	97	ePn	Pn	21 09 20.6	0.0
KRBR	Kerman	5.92	97	ePn	Pn	21 09 20.6	0.0
SLWS		6.11	174	P	Pn	21 09 24.0	+1.1
SLWS				S	Sn	21 10 34.0	+2.3
SLWS		6.11	174	P	Pn	21 09 24.4	+1.6
IGLO	Ghaloghah	6.44	29	ePn	Pn	21 09 27.5	-0.1
IGLO				e		21 09 43.2	
	comp=Z,387nm,0.2s						
TABS	Tabas	6.63	64	ePn	Pn	21 09 30.2	+0.1
TABS	Tabas	6.63	64	ePn	Pn	21 09 30.2	+0.1
BTHS		6.87	173	P	Pn	21 09 34.0	+0.6
BTHS				S	Sn	21 10 52.0	+1.5
BTHS		6.87	173	P	Pn	21 09 34.5	+1.1
BANOM	Banah	7.44	130	⇑P	Pn	21 09 41.0	-0.3
BANOM				⇑S	Sn	21 11 00.7	-4.0
BANOM	Banah	7.44	130	P	Pn	21 09 41.0	-0.3
NAZ	Nazwa, Dubai	7.73	138	P	Pn	21 09 46.2	+0.9
	SNR=12						
NAZ	Nazwa, Dubai	7.73	138	⇓iP	Pn	21 09 46.2	+0.9
	SNR=12						
IKOO	Kooshah	7.83	76	ePn	Pn	21 09 46.7	-0.1
IKOO				e		21 10 13.9	
	comp=N,109nm,0.2s						
IKOO	Kooshah	7.83	76	ePn	Pn	21 09 46.7	-0.1
ASUD	Al Ashush, Dub	7.83	142	P	Pn	21 09 47.2	+0.6
	SNR=9.0						
ASUD	Al Ashush, Dub	7.83	142	⇑iP	Pn	21 09 47.2	+0.6
	SNR=9.0						
FAQ	Al Faqa, Dubai	7.88	140	P	Pn	21 09 47.8	+0.5
	SNR=6.2						
FAQ	Al Faqa, Dubai	7.88	140	⇓iP	Pn	21 09 47.8	+0.5
	SNR=6.2						
HATD	Hatta, Dubai	8.13	137	P	Pn	21 09 50.8	+0.1
	SNR=11						
HATD	Hatta, Dubai	8.13	137	⇓iP	Pn	21 09 50.8	+0.1
	SNR=11						
ASHO	Ashiyiah	8.20	138	⇓P	Pn	21 09 51.8	+0.2
ASHO				⇓S	Sn	21 11 19.6	-3.7
ASHO	Ashiyiah	8.20	138	P	Pn	21 09 51.8	+0.2
ISFR	Sfrayin	9.05	45	ePn	Pn	21 10 03.0	-0.5
ISFR	Sfrayin	9.05	45	ePn	Pn	21 10 03.0	-0.5
ARQ	Araqi	9.51	141	⇑P	Pn	21 10 10.0	+0.3
ARQ	Araqi	9.51	141	P	Pn	21 10 10.0	+0.3
HOQ	Hoqain	9.77	136	⇓P	Pn	21 10 11.0	-2.2
HOQ	Hoqain	9.77	136	P	Pn	21 10 11.0	-2.2
SMDO	Samad	10.61	135	⇓P	Pn	21 10 24.3	-0.5
SMDO	Samad	10.61	135	P	Pn	21 10 24.3	-0.5
JMDO	Jabal Madar	11.17	138	⇑P	Pn	21 10 31.8	-0.5
JMDO	Jabal Madar	11.17	138	P	Pn	21 10 31.8	-0.5
ASF	Jabal al Asfar	11.25	280	Pn	Pn	21 10 33.1	-0.3
	comp=N,0.6nm,0.3s,baz=48,slow=4.5,SNR=12						
ASF				Sn	Sn	21 12 33.6	-4.6
	comp=N,0.3nm,0.3s,baz=23,slow=19,SNR=2.5						
WBK	Wadi Bani Khal	11.51	134	⇑P	Pn	21 10 34.8	-2.2
WBK	Wadi Bani Khal	11.51	134	P	Pn	21 10 34.8	-2.2
EIL	Elat	13.06	268	Pn	Pn	21 10 58.8	+0.6
	comp=N,0.3nm,0.3s,baz=84,slow=9.2,SNR=3.2						
ABTO	Aybut	13.82	167	⇑P	Pn	21 11 06.6	-2.0
ABTO	Aybut	13.82	167	P	Pn	21 11 06.6	-2.0
RBK	Rabkut	13.88	163	⇑P	Pn	21 11 07.8	-1.6
RBK	Rabkut	13.88	163	P	Pn	21 11 07.8	-1.6
BRTR	Keskin Array B	15.97	308	Pn	Pn	21 11 37.0	-0.3
	comp=N,0.1nm,0.3s,baz=128,slow=12,SNR=2.6						
AKTO	Aktyubinsk	20.42	15	P	P	21 12 29.2	0.0
	comp=N,0.9nm,0.3s,baz=163,slow=11,SNR=3.5						
IDI	Anoyia	21.46	288	P	P	21 12 42.6	+1.9
	comp=N,6.3nm,0.6s,baz=108,slow=3.2,SNR=6.5						
AAK	Ala-Archa	22.77	52	P	P	21 12 57.1	+2.3
	comp=N,0.5nm,0.4s,baz=233,slow=5.1,SNR=4.4						
AKASG	Malin Array Be	25.11	328	P	P	21 13 16.0	-0.7
	comp=N,0.4nm,0.3s,baz=133,slow=8.8,SNR=6.1						
BVAR	Borovoye Array	26.63	28	P	P	21 13 30.7	+0.2
	comp=N,0.9nm,0.5s,baz=222,slow=6.4,SNR=12						
MKAR	Makanchi Array	29.48	48	P	P	21 13 56.2	+0.1
	comp=N,0.2nm,0.3s,baz=254,slow=7.8,SNR=6.3						
GERES	GERESS Array B	32.72	314	P	P	21 14 23.7	-0.9
	comp=N,0.2nm,0.4s,baz=127,slow=7.8,SNR=3.4						
ZALV	Zalesovo Beam	33.98	37	P	P	21 14 37.0	+1.7
	comp=N,0.7nm,0.5s,baz=258,slow=9.7,SNR=5.2						
JOF	Joensuu	34.20	345	ep	P	21 14 36.5	-0.7
	comp=N,1.6nm,0.7s						
FINES	FINESS Array B	34.34	340	P	P	21 14 37.6	-0.8
	comp=N,1.3nm,0.4s,baz=149,slow=10,SNR=22						
KAF	Kangasniemi	34.80	341	ep	P	21 14 40.4	-2.0
	comp=N,0.6nm,0.3s						
NOA	NORSAR Array B	39.42	331	P	P	21 15 20.6	-1.0
	comp=N,0.6nm,0.7s,baz=122,slow=8.3,SNR=3.5						
ARCES	ARCESS Array B	41.11	347	P	P	21 15 35.2	-0.3
	comp=N,1.6nm,0.8s,baz=140,slow=7.1,SNR=4.0						
SONM	Songino Array	45.73	52	P	P	21 16 15.1	+1.9
	comp=N,0.3nm,0.8s,baz=265,slow=7.9,SNR=3.7						
CMAR	Chiang Mai Arr	45.84	94	P	P	21 16 17.8	+3.4
	comp=N,0.2nm,0.5s,baz=276,slow=8.1,SNR=3.4						
TORD	Torodi Ar. Bea	47.74	259	P	P	21 16 30.4	+1.2
	comp=N,0.9nm,0.6s,baz=55,slow=8.7,SNR=16						
ILAR	Eielson Array	83.73	7	P	P	21 20 22.3	+1.9
	comp=N,0.4nm,0.7s,baz=339,slow=4.7,SNR=5.9						
YKA	Yellowknife Ar	86.11	353	P	P	21 20 34.1	+1.7
	comp=N,0.2nm,0.5s,baz=9.9,slow=5.3,SNR=6.8						

MEX 11 21:24:19.4±0.7,16.81N×100.10W,h5km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.24	75	eP	Pg	21 24 22.3	-1.9
ACX				eS	Sg	21 24 25.9	-1.5
CAIG	El Cayaco	0.29	326	eP	Pg	21 24 24.3	-0.7
CAIG				iS	Sg	21 24 28.4	-0.4
ARIG	Puente Sto Nin	1.48	351	eP	Pn	21 24 43.5	-3.3
ARIG				iS	Sn	21 25 02.1	-4.5
ZIIG	Zihuatanejo	1.53	302	iP	Pn	21 24 44.4	-2.9
ZIIG				iS	Sn	21 25 02.7	-4.9
TLIG	Tlapa	1.65	63	iP	Pn	21 24 45.7	-3.5
TLIG				iS	Sn	21 25 06.7	-4.2
PNIG	Pinotepa	1.94	102	iP	Pn	21 24 50.2	-2.8
PNIG				iS	Sn	21 25 13.8	-4.0

ISCJB 11 21:42:20.7±0.8,24.55S±0.2×175.5W±0.1,h19km,mb4.3/10, MS3.6/2,Error ellipse: s-maj=24.9km s-min=13.7km az=173.0
IDC 11 21:42:20.3±1.9,24.47S×175.59W,h0km,mb4.2/7, mb1 4.4/8,mb1mx4.1/33,mbtmp4.3/8,ML4.5/1,MS3.5/3, Ms1 3.5/3,ms1mx4.1/29,Error ellipse: s-maj=65.4km s-min=25.4km az=152.0
NEIC 11 21:42:25.1±1.1,24.52S×175.49W,h35km,mb4.7/3,Error ellipse: s-maj=34.6km s-min=18.7km az=173.0
ISC 11 21:42:22.7±0.9,24.55S±0.2×175.5W±0.1,h19km,n15, σ1§65/14,mb4.3/10,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	9.07	317	ePn	Pn	21 44 31.9	-0.8
RAR	Rarotonga	14.86	80	Pn	Pn	21 45 50.7	-1.1
	2.1nm,0.3s,baz=244,slow=9.9,SNR=5.0						
RAR				LR	LR	21 52 45.2	
	comp=Z,88nm,18.1s,baz=274,slow=42						
RAR	Rarotonga	14.86	80	ePn	Pn	21 45 50.9	-1.0
	51nm,0.8s						
PPT	Papeete	25.13	79	LR	LR	21 57 21.7	
	comp=Z,99nm,18.6s,baz=192,slow=36						
CTA	Charters Tower	35.59	269	P	P	21 49 19.8	+0.4
	4.2nm,0.5s,baz=92,slow=9.8,SNR=5.9						
STKA	Stephens Creek	38.33	249	P	P	21 49 41.1	-1.3
	0.6nm,0.5s,baz=100,slow=12,SNR=5.0						
STKA				LR	LR	22 04 13.9	
	comp=Z,138nm,18.2s,baz=33,slow=34						
PMG	Port Moresby	38.61	286	P	P	21 49 43.5	-1.6
	15nm,0.8s,baz=112,slow=5.9,SNR=10						
PMG	Port Moresby	38.61	286	eP	P	21 49 43.4	-1.6
	12nm,0.7s						
ASAR	Alice Springs	45.99	260	P	P	21 50 45.7	+0.6
	1.5nm,0.7s,baz=100,slow=7.9,SNR=15						
WRAB	Tennant Creek	46.46	265	eP	P	21 50 47.5	-1.2
	1.5nm,0.4s						
WRA	Warramunga Arr	46.47	265	P	P	21 50 48.6	-0.2
	1.6nm,0.7s,baz=103,slow=8.4,SNR=19						
PETK	Petropavlovsk-	80.77	344	P	P	21 54 34.7	+0.2
	2.1nm,0.7s,baz=120,slow=8.5,SNR=2.8						
ILAR	Eielson Array	91.75	12	P	P	21 55 29.8	+1.3
	0.9nm,1.0s,baz=225,slow=5.5,SNR=6.4						
CMAR	Chiang Mai Arr	93.62	289	P	P	21 55 41.2	+2.9
	2.4nm,0.8s,baz=135,slow=3.1,SNR=23						
CHTO	Chiang Mai	93.77	289	eP	P	21 55 41.8	+2.9
	2.9nm,0.7s						

CSEM 11 21:43:01.0,39.89N×15.54E,h8km,MD1.9/7,After ROM
ROM 11 21:43:01.0±0.4,39.89N×15.54E,h8km±1km,Md1.9/7, Ml1.9/5,Error ellipse: s-maj=4.2km s-min=1.9km az=29.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULG	Bulgheria - Ca	0.23	327	Pg	Pg	21 43 06.8	+1.1
BULG				Sg	Sg	21 43 11.0	+2.2
	191nm,0.3s						
BULG	Bulgheria - Ca	0.23	327	Pg	Pg	21 43 06.8	+1.1
BULG				Sg	Sg	21 43 11.0	+2.2
	191nm,0.3s						
CUC	Castrocucco	0.24	64	Pg	Pg	21 43 06.6	+0.7
CUC				Sg	Sg	21 43 10.1	+0.9
	141nm,0.2s						
CUC	Castrocucco	0.24	64	Pg	Pg	21 43 06.6	+0.7
CUC				Sg	Sg	21 43 10.1	+0.9
	141nm,0.2s						
MGR	Morigerati	0.25	3	Pg	Pg	21 43 06.7	+0.7
MGR				Sg	Sg	21 43 10.7	+1.3
	144nm,0.3s						
MGR	Morigerati	0.25	3	Pg	Pg	21 43 06.7	+0.7
MGR				Sg	Sg	21 43 10.7	+1.3
	144nm,0.3s						
MMN	Mormanno	0.35	90	Pg	Pb	21 43 08.7	-0.7
MMN				Sg	Sb	21 43 14.6	-0.5
	137nm,0.2s						
MMN	Mormanno	0.35	90	Pg	Pb	21 43 08.7	-0.7
MMN				Sg	Sb	21 43 14.6	-0.5
	137nm,0.2s						
SIRI	Monte Sirino -	0.39	41	Pg	Pb	21 43 09.8	-0.5
SIRI				Sg	Sb	21 43 16.2	-0.3
	118nm,0.6s						
SIRI	Monte Sirino -	0.39	41	Pg	Pb	21 43 09.8	-0.5
SIRI				Sg	Sb	21 43 16.2	-0.3
	118nm,0.6s						
CMPR	Campora	0.46	337	Pg	Pg	21 43 10.3	+0.2
CMPR				Sg	Sb	21 43 18.0	-0.6
CMPR	Campora	0.46	337	Pg	Pg	21 43 10.3	+0.2
CMPR				Sg	Sb	21 43 18.0	-0.6
CDRU	Civita di Ruta	0.62	343	Pg	Pg	21 43 12.8	-0.5
CDRU				Sg	Sb	21 43 22.5	-0.9
CDRU	Civita di Ruta	0.62	343	Pg	Pg	21 43 12.8	-0.5
CDRU				Sg	Sb	21 43 22.5	-0.9

SZGRF 11 21:56:08.6,32.47N×27.71E,h33km,mb5.7,MS4.8, Eastern Mediterranean Sea
ISCJB 11 21:56:29.9±0.4,34.05N±0.01×25.42E±0.01,h12km±2km, mb5.3/295,MS5.0/135,Error ellipse: s-maj=1.9km s-min=1.5km az=27.4
IDC 11 21:56:29.4±0.4,34.14N×25.43E,h0km,mb5.1/26, mb1 5.1/37,mb1mx5.1/40,mbtmp5.0/37,ML4.5/8,MS4.9/36, Ms1 4.9/36,ms1mx4.8/54,Error ellipse: s-maj=10.9km s-min=10.0km az=127.0
HLW 11 21:56:30.2,34.29N×25.34E,h33km±38km,Md4.5,Ml4.5
BJI 11 21:56:30.5,34.10N×25.34E,h23km,mB5.3/47,mb5.0/58, Ms5.1/59,Ms7 4.8/53
MOS 11 21:56:31.0±1.1,34.11N×25.38E,h20km,mb5.4/113, MS4.9/53,Error ellipse: s-maj=4.2km s-min=2.1km az=98.7
GCMT 11 21:56:31.5±0.1,34.12N×25.36E,h12km,MW5.5/109, Moment Tensor Solution. s92,c151; s109,c223; Duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.49±.03; $M_{\theta\theta}$-1.54±.02; $M_{\phi\phi}$0.04±.02; $M_{r\theta}$0.72±.06; $M_{r\phi}$0.67±.02; $M_{\theta\phi}$-0.46±.06; Best double couple: $M_0$1.84800×10^{17} NP1:ϕ_s117.00000°,δ59.00000°, λ98.00000°. NP2:ϕ_s282.00000°,δ32.00000°,λ77.00000°. Principal axes: T 1.7110, Plg75.0000°, Azm48.0000°; N 0.2690, Plg7.0000°, Azm293.0000°; P -1.9840, Plg14.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
SFS 11 21:56:31.0,34.08N×25.41E,h14km,ML5.2
NEIC 11 21:56:31.5±0.1,34.00N×25.39E,h14km,mb5.4/194, MS5.1/58,MW5.3,Error ellipse: s-maj=2.3km s-min=1.9km az=205.0,Moment Tensor Solution. s40 Moment tensor: Scale 10^{17}Nm; M_{rr}0.67; $M_{\theta\theta}$-1.03; $M_{\phi\phi}$0.35; $M_{r\theta}$-0.16; $M_{\theta\phi}$0.55; $M_{r\phi}$0.11; Best double couple: $M_0$1.10000×10^{17} NP1:ϕ_s90.00000°,δ43.00000°,λ62.00000°. NP2: ϕ_s306.00000°,δ53.00000°,λ114.00000°. Principal axes: T 0.7100, Plg70.0000°, Azm273.0000°; N 0.5300, Plg18.0000°, Azm111.0000°; P -1.2400, Plg5.0000°, Azm19.0000°;
NEIC Felt at Iraklion.
CSEM 11 21:56:32.3±0.1,34.00N×25.40E,h20km,mb5.4/99,Ms4.9, Mw5.4 Error ellipse: s-maj=2.4km s-min=1.8km az=28.0
ISK 11 21:56:35.4,34.19N×25.44E,h79km,ML4.7
ATH 11 21:56:35.5,34.33N×25.40E,h29km±2km,MD4.6/60, ML4.8
THE 11 21:56:35.6,34.32N×25.35E,h0km,ML4.8/12,Error ellipse: s-maj=1.7km s-min=0.5km az=179.0

PDG **11** 21:56:36.7±0.4, 34.31N×24.64E, h8km±1km, ML4.8/11,
Error ellipse: s-maj=11.9km s-min=7.0km az=90.0
NIC **11** 21:56:37.0, 36.12N×25.78E, h25km, mb4.9, ML4.5
DDA **11** 21:56:58.6, 35.33N×27.28E, h21km, ML4.7
ISC 11 21:56:33.7±0.3, **34.11N**±0.03×**25.42E**±0.02, **h27**km±1km, **h26**km**:pP-P, n2265**, σ1§43/2452, **mb5.3**/297, **MS5.0**/137, **150C-139D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIVA	Sivas	1.04	331	P	Pn	21 56 52.2	-0.4
SIVA				S	Sn	21 57 05.5	-0.7
SIVA	Sivas	1.04	331	ePN	Pn	21 56 52.4	-0.2
SIVA	Sivas	1.04	331	P	Pn	21 56 52.2	-0.4
SIVA	Sivas	1.04	331	ePn	Pn	21 56 52.4	-0.2
SIVA				S	Sn	21 57 05.5	-0.7
LAST	Lasithi	1.05	3	P	Pn	21 56 51.6	-1.2
LAST				S	Sn	21 57 05.5	-1.2
LAST	Lasithi	1.05	3	ePN	Pn	21 56 51.8	-1.0
LAST	Lasithi	1.05	3	P	Pn	21 56 51.6	-1.2
LAST	Lasithi	1.05	3	ePn	Pn	21 56 51.8	-1.0
LAST				S	Sn	21 57 05.5	-1.2
NPS	Neapolis	1.16	8	P	Pn	21 56 53.6	-0.7
NPS				S	Sn	21 57 08.8	-0.5
NPS	Neapolis	1.16	8	P	Pn	21 56 53.6	-0.7
NPS	Neapolis	1.16	8	ePN	Pn	21 56 53.7	-0.6
NPS	Neapolis	1.16	8	P	Pn	21 56 53.6	-0.7
NPS	Neapolis	1.16	8	ePn	Pn	21 56 53.7	-0.6
NPS				S	Sn	21 57 08.8	-0.5
ZKR	Zakros	1.20	33	P	Pb	21 56 56.2	+0.4
ZKR				S	Sb	21 57 12.3	+1.4
ZKR	Zakros	1.20	33	ePN	Pn	21 56 55.3	+0.5
ZKR	Zakros	1.20	33	P	Pb	21 56 56.2	+0.4
ZKR				S	Sb	21 57 12.3	+1.4
ZKR	Zakros	1.20	33	ePn	Pn	21 56 55.3	+0.5
ZKR	Zakros	1.20	33	P	Pb	21 56 56.2	+0.4
ZKR				S	Sb	21 57 12.3	+1.4
IDI	Anoyia	1.25	340	Pn	Pn	21 56 54.7	-1.0
	190nm,0.3s,baz=157,slow=9.1,SNR=493						
IDI				Sn	Sb	21 57 15.2	+2.6
	1μm,0.3s,baz=260,slow=17,SNR=15						
GVD	Gavdhos	1.32	304	P	Pb	21 56 57.9	0.0
GVD	Gavdhos	1.32	304	ePN	Pb	21 56 58.9	+1.0
GVD	Gavdhos	1.32	304	ePb	Pb	21 56 58.2	+0.3
GVD	Gavdhos	1.32	304	ePN	Pn	21 56 56.7	+0.2
GVD	Gavdhos	1.32	304	ePn	Pn	21 56 56.7	+0.2
GVD	Gavdhos	1.32	304	P	Pb	21 56 57.9	0.0
VAM	Vamos	1.64	322	P	Pn	21 57 00.9	0.0
VAM				S	Sn	21 57 21.0	-0.1
VAM	Vamos	1.64	322	P	Pn	21 57 00.9	0.0
VAM				S	Sn	21 57 21.0	-0.1
VAM	Vamos	1.64	322	ePB	Pn	21 57 00.3	-0.6
VAM	Vamos	1.64	322	P	Pn	21 57 00.9	0.0
VAM				S	Sn	21 57 21.0	-0.1
VAM	Vamos	1.64	322	ePb	Pn	21 57 00.3	-0.6
VAM	Vamos	1.64	322	P	Pn	21 57 00.9	0.0
VAM				S	Sn	21 57 21.0	-0.1
KARP	Karpathos	2.03	44	P	Pb	21 57 08.7	-1.2
KARP				S	Sb	21 57 34.5	-0.2
KARP	Karpathos	2.03	44	ePB	Pb	21 57 08.5	-1.4
KARP	Karpathos	2.03	44	P	Pb	21 57 08.7	-1.2
KARP				S	Sb	21 57 34.5	-0.2
KARP	Karpathos	2.03	44	P	Pb	21 57 08.7	-1.2
KARP				S	Sb	21 57 34.5	-0.2
SANT	Santorini	2.26	1	P	Pn	21 57 10.3	+0.9
SANT	Santorini	2.26	1	ePN	Pn	21 57 11.2	+1.8
SANT	Santorini	2.26	1	ePB	Pb	21 57 11.8	-2.0
SANT	Santorini	2.26	1	ePn	Pn	21 57 10.7	+1.3
SANT	Santorini	2.26	1	P	Pn	21 57 10.3	+0.9
SANT	Santorini	2.26	1	ePn	Pn	21 57 10.7	+1.3
SANT	Santorini	2.26	1	ePb	Pb	21 57 11.8	-2.0
ANKY	Antikythira Is	2.47	316	P	Pn	21 57 13.6	+1.3
ANKY				S	Sn	21 57 43.4	+1.8
ANKY	Antikythira Is	2.47	316	ePB	Pb	21 57 15.4	-2.1
ANKY	Antikythira Is	2.47	316	P	Pn	21 57 13.6	+1.3
ANKY				S	Sn	21 57 43.4	+1.8
ANKY	Antikythira Is	2.47	316	P	Pn	21 57 13.6	+1.3
ANKY	Antikythira Is	2.47	316	ePb	Pb	21 57 15.4	-2.1
ANKY				S	Sn	21 57 43.4	+1.8
SLUM		2.62	184	P	Pn	21 57 11.2	-3.1
	baz=183						
SLUM		2.62	184	P	Pn	21 57 11.2	-3.1
KYTH	Kithira	2.92	319	ePB	Pn	21 57 21.3	+2.9
KYTH	Kithira	2.92	319	ePb	Pn	21 57 21.3	+2.9
APE	Apeiranthos	2.96	2	P	Pn	21 57 19.8	+0.8
APE				S	Sn	21 57 54.7	+1.1
APE	Apeiranthos	2.96	2	ePN	Pn	21 57 21.0	+2.0
APE	Apeiranthos	2.96	2	P	Pn	21 57 21.0	+2.0
APE				S	Sn	21 57 54.7	+1.1
APE	Apeiranthos	2.96	2	ePN	Pn	21 57 19.9	+0.9
APE	Apeiranthos	2.96	2⇓	iP	Pn	21 57 20.5	+1.5
APE	Apeiranthos	2.96	2	Pn	Pn	21 57 21.0	+2.0
APE				S	Sn	21 57 54.7	+1.1
APE	Apeiranthos	2.96	2	ePn	Pn	21 57 19.9	+0.9
APE				S	Sn	21 57 54.7	+1.1
ARG	Arkhangelos	3.05	46	P	Pn	21 57 22.7	+2.4
ARG				S	Sn	21 57 59.3	+3.3
ARG	Arkhangelos	3.05	46	P	Pn	21 57 22.7	+2.4
ARG				S	Sn	21 57 59.3	+3.3
ARG	Arkhangelos	3.05	46	ePN	Pn	21 57 22.9	+2.6
ARG	Arkhangelos	3.05	46	P	Pn	21 57 22.7	+2.4
ARG				S	Sn	21 57 59.3	+3.3
ARG	Arkhangelos	3.05	46	P	Pn	21 57 22.7	+2.4
ARG				S	Sn	21 57 59.3	+3.3
MATC	Matruh	3.15	151	P	Pn	21 57 19.4	-2.2
	baz=151						
VLI	Veliai	3.30	323	P	Pn	21 57 24.1	+0.4
VLI				S	Sn	21 58 02.8	+0.7
VLI	Veliai	3.30	323	ePN	Pn	21 57 24.1	+0.4
VLI	Veliai	3.30	323	P	Pn	21 57 24.1	+0.4
VLI	Veliai	3.30	323	P	Pn	21 57 24.1	+0.4
VLI				S	Sn	21 58 02.8	+0.7
HMAT	Matruh	3.32	154	P	Pn	21 57 19.4	-4.6
BODT	Bodrum	3.32	27	ePN	Pn	21 57 26.4	+2.4
BODT	Bodrum	3.32	27	Pn	Pn	21 57 26.4	+2.4
BODT	Bodrum	3.32	27	ePn	Pn	21 57 26.4	+2.4
BDRM	Kayabasi	3.38	29	iP	Pn	21 57 25.9	+1.1
BDRM	Kayabasi	3.38	29	iP	Pn	21 57 25.9	+1.1
SMG	Samos	3.77	17	P	Pn	21 57 31.2	+1.0
SMG				S	Sn	21 58 14.5	+0.8
SMG	Samos	3.77	17	ePN	Pn	21 57 30.8	+0.6
SMG	Samos	3.77	17	P	Pn	21 57 31.2	+1.0
SMG				S	Sn	21 58 14.5	+0.8
SMG	Samos	3.77	17	ePn	Pn	21 57 30.8	+0.6
SMG	Samos	3.77	17	P	Pn	21 57 31.2	+1.0
SMG				S	Sn	21 58 14.5	+0.8
DALY	Dalyan (Mu¯la	3.77	43	ePN	Pn	21 57 32.0	+1.8
DALY	Dalyan (Mu¯la	3.77	43	ePn	Pn	21 57 32.0	+1.8
YER	Yerkesik	3.81	37	ePN	Pn	21 57 32.6	+1.8
YER	Yerkesik	3.81	37	P	Pn	21 57 32.6	+1.8
YER	Yerkesik	3.81	37	Pn	Pn	21 57 32.6	+1.8
YER	Yerkesik	3.81	37	ePn	Pn	21 57 32.6	+1.8
DID	Didima	3.83	333	P	Pn	21 57 31.8	+0.8
DID				S	Sn	21 58 16.3	+1.2
DID	Didima	3.83	333	ePN	Pn	21 57 31.2	+0.2
DID				eSN	Sn	21 58 12.9	-2.2
DID	Didima	3.83	333	P	Pn	21 57 31.8	+0.8
DID				S	Sn	21 58 16.3	+1.2
DID	Didima	3.83	333	ePn	Pn	21 57 31.2	+0.2
DID	Didima	3.83	333	P	Pn	21 57 31.8	+0.8
DID				eSn	Sn	21 58 12.9	-2.2
DID				S	Sb	21 58 16.3	-10
KSL	Kastellorizon	3.97	58	ePN	Pn	21 57 34.6	+1.7
AKAS	Kas	4.03	57	iP	Pn	21 57 34.0	+0.2
AKAS				iS	Sn	21 58 18.1	-2.1
AKAS	Kas	4.03	57	iP	Pn	21 57 34.0	+0.2
AKAS				iS	Sn	21 58 18.1	-2.1
MRMA	Marmari	4.03	348	P	Pn	21 57 34.9	+1.2
MRMA				S	Sn	21 58 19.9	-0.1
MRMA	Marmari	4.03	348	P	Pn	21 57 34.9	+1.2
MRMA				S	Sn	21 58 19.9	-0.1
ATHU	Athens Univers	4.07	341	P	Pn	21 57 35.2	+0.9
ATHU	Athens Univers	4.07	341	P	Pn	21 57 35.2	+0.9
ATHU	Athens Univers	4.07	341	P	Pn	21 57 35.2	+0.9
VLX	Vlachokerasia	4.09	324	P	Pn	21 57 35.8	+1.2
VLX				S	Sn	21 58 22.1	+0.5
VLX	Vlachokerasia	4.09	324	ePN	Pn	21 57 35.2	+0.6
VLX	Vlachokerasia	4.09	324	P	Pn	21 57 35.8	+1.2
VLX				S	Sn	21 58 22.1	+0.5
VLX	Vlachokerasia	4.09	324	ePn	Pn	21 57 35.2	+0.6
VLX	Vlachokerasia	4.09	324	P	Pn	21 57 35.8	+1.2
VLX				S	Sn	21 58 22.1	+0.5
PYL	PYLOS	4.09	314	P	Pn	21 57 35.7	+1.1
PYL				S	Sn	21 58 22.7	+1.1
PYL	PYLOS	4.09	314	ePN	Pn	21 57 37.4	+2.8
PYL	PYLOS	4.09	314	P	Pn	21 57 35.7	+1.1
PYL				S	Sn	21 58 22.7	+1.1
PYL	PYLOS	4.09	314	P	Pn	21 57 35.7	+1.1
PYL	PYLOS	4.09	314	ePn	Pn	21 57 37.4	+2.8
PYL				S	Sn	21 58 22.7	+1.1
ATH	Athens Observa	4.09	341	P	Pn	21 57 35.0	+0.4
ATH				S	Sn	21 58 22.5	+0.9
ATH	Athens Observa	4.09	341	P	Pn	21 57 35.0	+0.4
ATH				S	Sn	21 58 22.5	+0.9
ATH	Athens Observa	4.09	341	ePN	Pn	21 57 35.6	+1.0
ATH				eSN	Sn	21 58 20.8	-0.8
ATH	Athens Observa	4.09	341	P	Pn	21 57 35.0	+0.4
ATH				S	Sn	21 58 22.5	+0.9
ATH	Athens Observa	4.09	341	P	Pn	21 57 35.0	+0.4
ATH	Athens Observa	4.09	341	ePn	Pn	21 57 35.6	+1.0
ATH				eSn	Sn	21 58 20.8	-0.8
ATH				S	Sn	21 58 22.5	+0.9
PTL	Penteli	4.13	343	P	Pn	21 57 36.0	+0.9
PTL	Penteli	4.13	343	ePN	Pn	21 57 36.2	+1.1
PTL	Penteli	4.13	343	P	Pn	21 57 36.0	+0.9
PTL	Penteli	4.13	343	ePn	Pn	21 57 36.2	+1.1
ITM	Ithomi	4.18	318	P	Pn	21 57 36.9	+1.1
ITM				S	Sn	21 58 25.2	+1.4
ITM	Ithomi	4.18	318	ePN	Pn	21 57 38.8	+3.0
ITM	Ithomi	4.18	318	P	Pn	21 57 36.9	+1.1
ITM				S	Sn	21 58 25.2	+1.4
ITM	Ithomi	4.18	318	P	Pn	21 57 36.9	+1.1
ITM	Ithomi	4.18	318	ePn	Pn	21 57 38.8	+3.0
ITM				S	Sn	21 58 25.2	+1.4
CHOS	Chios island	4.30	7	P	Pn	21 57 38.8	+1.3
CHOS				S	Sn	21 58 28.2	+1.4
CHOS	Chios island	4.30	7	ePN	Pn	21 57 38.6	+1.2
CHOS	Chios island	4.30	7	ePN	Pn	21 57 39.0	+1.5
CHOS	Chios island	4.30	7	Pn	Pn	21 57 38.6	+1.2
CHOS				S	Sn	21 58 28.2	+1.4
CHOS	Chios island	4.30	7	ePn	Pn	21 57 38.7	+1.2
CHOS				S	Sn	21 58 28.2	+1.4
AYDB	Zeytinkoy-Aydi	4.32	27	ePN	Pn	21 57 39.9	+2.1
AYDB	Zeytinkoy-Aydi	4.32	27	ePn	Pn	21 57 39.9	+2.1
LTK	Loutraki	4.38	334	P	Pn	21 57 39.6	+1.0
LTK				S	Sn	21 58 29.7	+0.9
LTK	Loutraki	4.38	334	ePN	Pn	21 57 39.9	+1.3
LTK	Loutraki	4.38	334	P	Pn	21 57 39.6	+1.0
LTK				S	Sn	21 58 29.7	+0.9
LTK	Loutraki	4.38	334	P	Pn	21 57 39.6	+1.0
LTK	Loutraki	4.38	334	ePn	Pn	21 57 39.9	+1.3
LTK				S	Sn	21 58 29.7	+0.9
BLCB	Balcova	4.46	17	ePN	Pn	21 57 40.5	+0.8
BLCB	Balcova	4.46	17	Pn	Pn	21 57 40.5	+0.8
BLCB	Balcova	4.46	17	ePn	Pn	21 57 40.5	+0.8
AMT	Artemida-Makis	4.56	320	P	Pn	21 57 42.8	+1.8
AMT				S	Sn	21 58 33.5	+0.4
AMT	Artemida-Makis	4.56	320	ePN	Pn	21 57 43.9	+2.9
AMT	Artemida-Makis	4.56	320	P	Pn	21 57 42.8	+1.8
AMT	Artemida-Makis	4.56	320	ePn	Pn	21 57 43.9	+2.9
AMT				S	Sn	21 58 33.5	+0.4
GUR	Goura	4.56	328	P	Pn	21 57 41.6	+0.5
GUR				S	Sn	21 58 33.4	+0.1
GUR	Goura	4.56	328	ePN	Pn	21 57 41.4	+0.3
GUR	Goura	4.56	328	P	Pn	21 57 41.6	+0.5
GUR				S	Sn	21 58 33.4	+0.1
GUR	Goura	4.56	328	P	Pn	21 57 41.6	+0.5
GUR				S	Sn	21 58 33.4	+0.1
GOLH	Golhisar	4.59	46	iP	Pn	21 57 43.7	+2.2
GOLH				iS	Sn	21 58 34.2	+0.2
GOLH	Golhisar	4.59	46	iP	Pn	21 57 43.7	+2.2
GOLH				iS	Sn	21 58 34.2	+0.2
KLV	Kalavryta, Ach	4.74	327	P	Pn	21 57 43.7	+0.2
KLV	Kalavryta, Ach	4.74	327	ePN	Pn	21 57 44.2	+0.7
KLV	Kalavryta, Ach	4.74	327	P	Pn	21 57 43.7	+0.2
KLV	Kalavryta, Ach	4.74	327	P	Pn	21 57 43.7	+0.2
KLV	Kalavryta, Ach	4.74	327	ePn	Pn	21 57 44.2	+0.7
MRKA	Markates	4.82	343	P	Pn	21 57 45.1	+0.5
MRKA	Markates	4.82	343	ePN	Pn	21 57 45.8	+1.2
MRKA	Markates	4.82	343	P	Pn	21 57 45.1	+0.5
MRKA	Markates	4.82	343	ePn	Pn	21 57 45.8	+1.2
SWA2		4.85	180	P	Pn	21 57 42.0	-3.0
	baz=178						
SWA2				S	Sn	21 58 36.9	-3.4
	baz=178						
SWA2		4.85	180	P	Pn	21 57 42.0	-3.0
SWA2				S	Sn	21 58 36.9	-3.4
DRO	Drossia	4.87	323	P	Pn	21 57 46.4	+1.1
DRO	Drossia	4.87	323	ePN	Pn	21 57 47.5	+2.2
DRO	Drossia	4.87	323	P	Pn	21 57 46.4	+1.1
DRO	Drossia	4.87	323	ePn	Pn	21 57 47.5	+2.2
DSF	Desfina	4.89	332	P	Pn	21 57 45.9	+0.3
DSF	Desfina	4.89	332	ePN	Pn	21 57 47.2	+1.6
DSF	Desfina	4.89	332	P	Pn	21 57 45.9	+0.3
DSF	Desfina	4.89	332	P	Pn	21 57 45.9	+0.3
DSF	Desfina	4.89	332	ePn	Pn	21 57 47.2	+1.6
LKR	Lokris	4.94	337	P	Pn	21 57 47.9	+1.8
LKR	Lokris	4.94	337	ePN	Pn	21 57 46.6	+0.5
LKR	Lokris	4.94	337	P	Pn	21 57 47.9	+1.8
LKR	Lokris	4.94	337	ePn	Pn	21 57 46.6	+0.5
LKR	Lokris	4.94	337	P	Pn	21 57 47.9	+1.8
LAKA	Lakka	4.97	327	P	Pn	21 57 47.2	+0.5
LAKA	Lakka	4.97	327	ePN	Pn	21 57 48.4	+1.7
LAKA	Lakka	4.97	327	P	Pn	21 57 47.2	+0.5
LAKA	Lakka	4.97	327	P	Pn	21 57 47.2	+0.5
LAKA	Lakka	4.97	327	ePn	Pn	21 57 48.4	+1.7
KALE	Kalithea	5.03	329	P	Pn	21 57 48.8	+1.3
KALE	Kalithea	5.03	329	ePN	Pn	21 57 48.8	+1.3
KALE	Kalithea	5.03	329	P	Pn	21 57 48.8	+1.3
KALE	Kalithea	5.03	329	P	Pn	21 57 48.8	+1.3
RLS	Riolos of Patr	5.08	322	P	Pn	21 57 49.4	+1.3
RLS	Riolos of Patr	5.08	322	ePN	Pn	21 57 51.5	+3.4
RLS	Riolos of Patr	5.08	322	P	Pn	21 57 49.4	+1.3
RLS	Riolos of Patr	5.08	322	P	Pn	21 57 49.4	+1.3
RLS	Riolos of Patr	5.08	322	ePn	Pn	21 57 51.5	+3.4
SMIA	Simia	5.08	340	P	Pn	21 57 49.3	+1.1
SMIA	Simia	5.08	340	ePN	Pn	21 57 49.6	+1.4
SMIA	Simia	5.08	340	P	Pn	21 57 49.3	+1.1
SMIA	Simia	5.08	340	ePn	Pn	21 57 49.6	+1.4
ANTB	Antalya	5.09	55	ePN	Pn	21 57 50.7	+2.4
ANTB	Antalya	5.09	55	ePn	Pn	21 57 50.7	+2.4
SIGR	SIGRI	5.10	4	P	Pn	21 57 49.6	+1.1
SIGR	SIGRI	5.10	4	ePN	Pn	21 57 49.6	+1.1
SIGR	SIGRI	5.10	4	ePN	Pn	21 57 49.6	+1.1
SIGR	SIGRI	5.10	4	Pn	Pn	21 57 49.6	+1.1
SIGR	SIGRI	5.10	4	P	Pn	21 57 49.6	+1.1
KULA	Kula-Manisa	5.12	30	P	Pn	21 57 50.2	+1.5
KULA	Kula-Manisa	5.12	30	ePN	Pn	21 57 49.5	+0.8
KULA	Kula-Manisa	5.12	30	Pn	Pn	21 57 49.5	+0.8
KULA	Kula-Manisa	5.12	30	ePn	Pn	21 57 49.5	+0.8
KULA	Kula-Manisa	5.12	30	P	Pn	21 57 50.2	+1.5
AKHS	Akhisar	5.13	21	iP	Pn	21 57 51.2	+2.3
AKHS	Akhisar	5.13	21	iP	Pn	21 57 51.2	+2.3
AKS	Akhisar	5.13	21	ePN	Pn	21 57 51.2	+2.3
AKS	Akhisar	5.13	21	Pn	Pn	21 57 51.2	+2.3
AKS	Akhisar	5.13	21	ePn	Pn	21 57 51.2	+2.3
AXAR	Agios Charalam	5.15	335	P	Pn	21 57 50.2	+1.0
AXAR	Agios Charalam	5.15	335	ePN	Pn	21 57 50.6	+1.4
AXAR	Agios Charalam	5.15	335	P	Pn	21 57 50.2	+1.0
AXAR	Agios Charalam	5.15	335	P	Pn	21 57 50.2	+1.0
AXAR	Agios Charalam	5.15	335	ePn	Pn	21 57 50.6	+1.4
EFP	Efpalio	5.16	328	P	Pn	21 57 50.9	+1.7
EFP	Efpalio	5.16	328	ePN	Pn	21 57 51.1	+1.9
EFP	Efpalio	5.16	328	P	Pn	21 57 50.9	+1.7
PRK	Paraskevi	5.17	7	P	Pn	21 57 50.4	+1.1
PRK				S	Sn	21 58 48.6	+0.4
PRK	Paraskevi	5.17	7	P	Pn	21 57 50.4	+1.1
PRK				S	Sn	21 58 48.6	+0.4
PRK	Paraskevi	5.17	7	ePN	Pn	21 57 50.5	+1.1
PRK	Paraskevi	5.17	7	P	Pn	21 57 50.4	+1.1
PRK				S	Sn	21 58 48.6	+0.4
PRK	Paraskevi	5.17	7	ePn	Pn	21 57 50.5	+1.1
PRK				S	Sn	21 58 48.6	+0.4
AOS	Alonnisos	5.20	347	P	Pn	21 57 50.9	+1.1
AOS	Alonnisos	5.20	347	ePN	Pn	21 57 50.8	+1.0
AOS	Alonnisos	5.20	347	ePN	Pn	21 57 51.6	+1.8
AOS	Alonnisos	5.20	347	Pn	Pn	21 57 50.8	+1.0
AOS	Alonnisos	5.20	347	ePn	Pn	21 57 51.6	+1.8
SKIA	Skiathos	5.29	343	P	Pn	21 57 52.1	+1.1
SKIA	Skiathos	5.29	343	ePN	Pn	21 57 53.3	+2.3
SKIA	Skiathos	5.29	343	P	Pn	21 57 52.1	+1.1
SKIA	Skiathos	5.29	343	ePn	Pn	21 57 53.3	+2.3
KHL	Karahalli	5.35	37	ePN	Pn	21 57 52.9	+0.9
KHL	Karahalli	5.35	37	Pn	Pn	21 57 52.9	+0.9
KHL	Karahalli	5.35	37	ePn	Pn	21 57 52.9	+0.9
BCK	Bucak	5.37	50	ePN	Pn	21 57 54.0	+1.9
BCK	Bucak	5.37	50	P	Pn	21 57 54.1	+1.9
BCK	Bucak	5.37	50	Pn	Pn	21 57 54.0	+1.9
BCK	Bucak	5.37	50	ePn	Pn	21 57 54.0	+1.9
NEO	Neokhori	5.48	342	ePN	Pn	21 57 54.8	+1.1
NEO	Neokhori	5.48	342	ePn	Pn	21 57 54.8	+1.1
AGG	Agios Georgios	5.50	334	P	Pn	21 57 54.8	+0.9
AGG	Agios Georgios	5.50	334	P	Pn	21 57 54.8	+0.9
AGG	Agios Georgios	5.50	334	ePN	Pn	21 57 55.3	+1.4
AGG	Agios Georgios	5.50	334	P	Pn	21 57 54.8	+0.9
AGG	Agios Georgios	5.50	334	P	Pn	21 57 54.8	+0.9
AGG	Agios Georgios	5.50	334	ePn	Pn	21 57 55.3	+1.4
XOR	Xorichti	5.54	342	P	Pn	21 57 55.9	+1.4
XOR	Xorichti	5.54	342	ePN	Pn	21 57 56.7	+2.2
XOR	Xorichti	5.54	342	P	Pn	21 57 55.9	+1.4
XOR	Xorichti	5.54	342	P	Pn	21 57 55.9	+1.4
XOR	Xorichti	5.54	342	ePn	Pn	21 57 56.7	+2.2
ISP	Isparta	5.55	47	ePN	Pn	21 57 56.0	+1.3
ISP	Isparta	5.55	47	eP	Pn	21 57 56.4	+1.7
ISP	Isparta	5.55	47⇑	iP	Pn	21 57 58.5	+3.8
ISP	Isparta	5.55	47	ePn	Pn	21 57 56.4	+1.7
ISP	Isparta	5.55	47	ePn	Pn	21 57 56.0	+1.3
ISP	Isparta	5.55	47	eP	Pn	21 57 56.4	+1.7
MAKR	Makrakomi, Fth	5.56	333	P	Pn	21 57 56.9	+2.1
MAKR	Makrakomi, Fth	5.56	333	ePN	Pn	21 57 56.7	+1.9
MAKR	Makrakomi, Fth	5.56	333	P	Pn	21 57 56.9	+2.1
MAKR	Makrakomi, Fth	5.56	333	ePn	Pn	21 57 56.7	+1.9
EVR	Evrytania	5.61	330	P	Pn	21 57 57.5	+1.9
EVR	Evrytania	5.61	330	ePN	Pn	21 57 57.4	+1.9
EVR	Evrytania	5.61	330	P	Pn	21 57 57.5	+1.9
EVR	Evrytania	5.61	330	ePn	Pn	21 57 57.4	+1.9
PDO	Prodromos	5.64	324	P	Pn	21 57 58.0	+2.2
PDO	Prodromos	5.64	324	ePN	Pn	21 57 58.8	+3.0
PDO	Prodromos	5.64	324	P	Pn	21 57 58.0	+2.2
PDO	Prodromos	5.64	324	ePn	Pn	21 57 58.8	+3.0
VLS	Valsamata	5.64	317	P	Pn	21 57 57.1	+1.3
VLS	Valsamata	5.64	317	P	Pn	21 57 57.1	+1.3
VLS	Valsamata	5.64	317	ePN	Pn	21 57 57.3	+1.5
VLS	Valsamata	5.64	317	P	Pn	21 57 57.1	+1.3
VLS	Valsamata	5.64	317	P	Pn	21 57 57.1	+1.3
FYTO	Fytoko, Volos	5.65	340	P	Pn	21 57 58.0	+2.0
FYTO	Fytoko, Volos	5.65	340	P	Pn	21 57 58.0	+2.0
FYTO	Fytoko, Volos	5.65	340	P	Pn	21 57 58.0	+2.0
EZN	Ezine	5.75	7	ePN	Pn	21 57 58.6	+1.3
EZN	Ezine	5.75	7	P	Pn	21 57 58.6	+1.3
EZN	Ezine	5.75	7	Pn	Pn	21 57 58.6	+1.3
EZN	Ezine	5.75	7	ePn	Pn	21 57 58.6	+1.3
PPCY	Paphos	5.77	80	P	Pn	21 57 57.4	-0.2
	baz=284						
PPCY	Paphos	5.77	80	P	Pn	21 57 57.4	-0.2
AKMC	Akamas	5.77	79	P	Pn	21 57 56.5	-1.2
	baz=283						
AKMC	Akamas	5.77	79	P	Pn	21 57 56.5	-1.2
LIA	Limnos Island	5.78	358	ePN	Pn	21 58 00.0	+2.3
LIA	Limnos Island	5.78	358	ePn	Pn	21 58 00.0	+2.3
BALB	Balikesir	5.86	19	ePN	Pn	21 57 59.7	+0.9
BALB	Balikesir	5.86	19	Pn	Pn	21 57 59.7	+0.9
BALB	Balikesir	5.86	19	ePn	Pn	21 57 59.7	+0.9
PAIG	Paliouri	5.97	347	ePN	Pn	21 58 03.0	+2.6
PAIG	Paliouri	5.97	347	ePn	Pn	21 58 03.0	+2.6
ALFC	Alevga	6.01	78	P	Pn	21 58 00.1	-0.8
	baz=281						
ALFC				S	Sn	21 59 03.9	-5.0
ALFC	Alevga	6.01	78	P	Pn	21 58 00.1	-0.8
ALFC				S	Sn	21 59 03.9	-5.0
GAZI	Gazipasa	6.03	67	iP	Pn	21 58 01.4	+0.2
GAZI				iS	Sn	21 59 04.6	-4.8
LKD2	Lefkada island	6.04	322	ePN	Pn	21 58 03.3	+1.9
LKD2	Lefkada island	6.04	322	ePn	Pn	21 58 03.3	+1.9
SHUT	Suhut-Afyon	6.07	42	ePN	Pn	21 58 02.5	+0.7
SHUT	Suhut-Afyon	6.07	42	Pn	Pn	21 58 02.5	+0.7
SHUT	Suhut-Afyon	6.07	42	ePn	Pn	21 58 02.5	+0.7
SZAC	Souni-Zanaja	6.20	82	P	Pn	21 58 03.5	0.0
	baz=285						
SZAC				S	Sn	21 59 12.7	-0.9
SZAC	Souni-Zanaja	6.20	82	P	Pn	21 58 03.5	0.0
SZAC				S	Sn	21 59 12.7	-0.9
ALT	Altintas	6.21	36	ePN	Pn	21 58 04.8	+1.0
ALT	Altintas	6.21	36	Pn	Pn	21 58 04.8	+1.0
ALT	Altintas	6.21	36	ePn	Pn	21 58 04.8	+1.0
TVSB	Tavsanli	6.24	30	ePN	Pn	21 58 05.3	+1.2
TVSB	Tavsanli	6.24	30	ePn	Pn	21 58 05.3	+1.2
LEF	Lefka	6.24	79	ePN	Pn	21 58 05.3	+1.3
LEF	Lefka	6.24	79	Pn	Pn	21 58 05.3	+1.3
LEF	Lefka	6.24	79	ePn	Pn	21 58 05.3	+1.3
HMYD	Mayadein	6.28	132	P	Pn	21 58 02.3	-2.3
	baz=132						
HMYD	Mayadein	6.28	132	P	Pn	21 58 02.3	-2.3
OUR	Ouranopolis	6.32	350	P	Pn	21 58 06.7	+1.5
OUR	Ouranopolis	6.32	350	ePN	Pn	21 58 06.6	+1.5
OUR	Ouranopolis	6.32	350	P	Pn	21 58 06.6	+1.5
OUR	Ouranopolis	6.32	350	ePN	Pn	21 58 07.3	+2.2
OUR	Ouranopolis	6.32	350	Pn	Pn	21 58 06.6	+1.5
OUR	Ouranopolis	6.32	350	ePn	Pn	21 58 06.6	+1.5
GELI	Tayfur-Gelibol	6.33	7	ePN	Pn	21 58 05.9	+0.6
GELI	Tayfur-Gelibol	6.33	7	Pn	Pn	21 58 05.9	+0.6
GELI	Tayfur-Gelibol	6.33	7	ePn	Pn	21 58 05.9	+0.6
LPK	Lapseki	6.34	9	ePN	Pn	21 58 05.9	+0.4
LPK	Lapseki	6.34	9	Pn	Pn	21 58 05.9	+0.4
LPK	Lapseki	6.34	9	ePn	Pn	21 58 05.9	+0.4
LIT	Litokhoron	6.42	339	P	Pn	21 58 08.0	+1.4
LIT	Litokhoron	6.42	339	P	Pn	21 58 08.0	+1.4
LIT	Litokhoron	6.42	339	ePN	Pn	21 58 08.6	+2.0
LIT				eSN	Sn	21 59 18.6	-0.4
LIT	Litokhoron	6.42	339	P	Pn	21 58 08.0	+1.4
LIT	Litokhoron	6.42	339	P	Pn	21 58 08.0	+1.4
LIT	Litokhoron	6.42	339	ePn	Pn	21 58 08.6	+2.0
KRBG	Karabiga-Canak	6.45	13	ePN	Pn	21 58 07.0	+0.1
KRBG	Karabiga-Canak	6.45	13	Pn	Pn	21 58 07.0	+0.1
KRBG	Karabiga-Canak	6.45	13	ePn	Pn	21 58 07.0	+0.1
PLG	Polygyros	6.45	346	P	Pn	21 58 08.4	+1.4
PLG	Polygyros	6.45	346	P	Pn	21 58 08.4	+1.4
PLG	Polygyros	6.45	346	ePN	Pn	21 58 08.8	+1.8
PLG	Polygyros	6.45	346	P	Pn	21 58 08.4	+1.4
PLG	Polygyros	6.45	346	P	Pn	21 58 08.4	+1.4
PLG	Polygyros	6.45	346	ePn	Pn	21 58 08.8	+1.8
AWBH		6.49	152	P	Pn	21 58 04.6	-3.0
	baz=151						
AWBH		6.49	152	P	Pn	21 58 04.6	-3.0
MAMC	Mammari	6.51	78	P	Pn	21 58 08.1	+0.3
	baz=280						
MAMC	Mammari	6.51	78	P	Pn	21 58 08.1	+0.3
EDC	Edincik	6.52	17	ePN	Pn	21 58 08.7	+0.8
EDC	Edincik	6.52	17	P	Pn	21 58 08.7	+0.8
EDC	Edincik	6.52	17	Pn	Pn	21 58 08.7	+0.8
EDC	Edincik	6.52	17	ePn	Pn	21 58 08.7	+0.8
ORLT	Orhaneli	6.54	24	ePN	Pn	21 58 09.3	+1.0
ORLT	Orhaneli	6.54	24	Pn	Pn	21 58 09.3	+1.0
ORLT	Orhaneli	6.54	24	ePn	Pn	21 58 09.3	+1.0
CSS	Prodhromos	6.58	80	P	Pn	21 58 08.5	-0.3
	baz=282						
CSS				S	Sn	21 59 21.5	-1.5
CSS	Prodhromos	6.58	80	ePN	Pn	21 58 10.2	+1.4
CSS	Prodhromos	6.58	80	ePn	Pn	21 58 08.7	-0.1
CSS				eSn	Sn	21 59 20.5	-2.5
CSS	Prodhromos	6.58	80	P	Pn	21 58 08.5	-0.3
CSS				eSn	Sn	21 59 20.5	-2.5
CSS				S	Sn	21 59 21.5	-1.5
ERMK	Ermenek	6.62	65	iP	Pn	21 58 10.9	+1.4
JAN	Janina	6.64	328	P	Pn	21 58 10.8	+1.2
JAN	Janina	6.64	328	P	Pn	21 58 10.8	+1.2
JAN	Janina	6.64	328	ePN	Pn	21 58 10.8	+1.2
JAN				eSN	Sn	21 59 23.5	-0.9
JAN	Janina	6.64	328	P	Pn	21 58 10.8	+1.2
JAN	Janina	6.64	328	P	Pn	21 58 10.8	+1.2
ENEZ	Enez	6.64	5	ePN	Pn	21 58 11.0	+1.5
ENEZ	Enez	6.64	5	ePn	Pn	21 58 11.0	+1.5
MRMT	Marmara Adasi	6.71	14	ePN	Pn	21 58 11.6	+1.0
MRMT	Marmara Adasi	6.71	14	Pn	Pn	21 58 11.6	+1.0
MRMT	Marmara Adasi	6.71	14	ePn	Pn	21 58 11.6	+1.0
RKY	Sarkoy-Tekirda	6.71	11	ePN	Pn	21 58 11.0	+0.4
RKY	Sarkoy-Tekirda	6.71	11	Pn	Pn	21 58 11.0	+0.4
RKY	Sarkoy-Tekirda	6.71	11	ePn	Pn	21 58 11.0	+0.4
HORT	Hortiatis	6.74	345	P	Pn	21 58 13.1	+2.2

HORT Hortiatis 6.74 345 ePN Pn 21 58 13.5 +2.6
HORT Hortiatis 6.74 345 P Pn 21 58 13.1 +2.2
HORT Hortiatis 6.74 345 P Pn 21 58 13.1 +2.2
HORT Hortiatis 6.74 345 ePn Pn 21 58 13.5 +2.6
IGT Igoumenitsa 6.78 324 ePN Pn 21 58 13.2 +1.7
IGT eSN Sn 21 59 26.5 -1.3
IGT Igoumenitsa 6.78 324 ePn Pn 21 58 13.2 +1.7
LFK Lefkose 6.78 78 ePN Pn 21 58 13.3 +1.7
LFK Lefkose 6.78 78 Pn Pn 21 58 13.3 +1.7
LFK Lefkose 6.78 78 ePn Pn 21 58 13.3 +1.7
ALN Alexandroupoli 6.79 4 P Pn 21 58 13.1 +1.4
ALN Alexandroupoli 6.79 4 ePN Pn 21 58 12.5 +0.9
ALN Alexandroupoli 6.79 4 P Pn 21 58 12.5 +0.9
ALN Alexandroupoli 6.79 4 ePN Pn 21 58 14.4 +2.7
ALN Alexandroupoli 6.79 4 Pn Pn 21 58 12.5 +0.9
ALN Alexandroupoli 6.79 4 ePn Pn 21 58 12.5 +0.9
ALN Alexandroupoli 6.79 4 P Pn 21 58 13.1 +1.4
THE Thessaloniki 6.80 344 ePN Pn 21 58 13.2 +1.5
THE Thessaloniki 6.80 344 ePn Pn 21 58 13.2 +1.5
KONT Konya--Tatoy 6.80 54 ePN Pn 21 58 12.7 +0.9
KONT Konya--Tatoy 6.80 54 Pn Pn 21 58 12.7 +0.9
KONT Konya--Tatoy 6.80 54 ePn Pn 21 58 12.7 +0.9
MDNY Mudanya-Bursa 6.83 23 ePN Pn 21 58 12.7 +0.6
MDNY Mudanya-Bursa 6.83 23 Pn Pn 21 58 12.7 +0.6
MDNY Mudanya-Bursa 6.83 23 ePn Pn 21 58 12.7 +0.6
KZN Kozani 6.84 336 P Pn 21 58 13.8 +1.5
KZN Kozani 6.84 336 P Pn 21 58 13.8 +1.5
KZN Kozani 6.84 336 ePN Pn 21 58 14.9 +2.6
KZN eSN Sn 21 59 26.6 -2.7
KZN Kozani 6.84 336 P Pn 21 58 13.8 +1.5
KZN Kozani 6.84 336 P Pn 21 58 13.8 +1.5
KZN Kozani 6.84 336 ePn Pn 21 58 14.9 +2.6
KOT Kottamia 6.85 126 P Pn 21 58 10.3 -2.3
baz=126
KOT AMP 21 59 00.0
comp=N,550μm,0.8s,logA/T=5.8,baz=126
KOT Kottamia 6.85 126 P Pn 21 58 10.3 -2.3
KOT S Sn 21 59 22.5 -7.2
KOT Kottamia 6.85 126 P Pn 21 58 10.3 -2.3
KOT S Sn 21 59 22.5 -7.2
HSAF As Saff 6.87 129 P Pn 21 58 09.4 -3.4
baz=129
HSAF As Saff 6.87 129 P Pn 21 58 09.4 -3.4
SOH Sokhos 6.90 347 ePN Pn 21 58 16.5 +3.3
SOH Sokhos 6.90 347 ePn Pn 21 58 16.5 +3.3
KAVA Kavala 6.91 354 ePN Pn 21 58 14.9 +1.6
KAVA Kavala 6.91 354 ePn Pn 21 58 14.9 +1.6
LADK Ladik-KONYA 6.94 52 ePN Pn 21 58 14.4 +0.6
LADK Ladik-KONYA 6.94 52 Pn Pn 21 58 14.4 +0.6
LADK Ladik-KONYA 6.94 52 ePn Pn 21 58 14.4 +0.6
KDHN Kadinhani 6.97 49 iP Pn 21 58 15.6 +1.4
GLL Jalalah 7.00 128 P Pn 21 58 11.7 -2.9
baz=129
GLL Jalalah 7.00 128 P Pn 21 58 11.7 -2.9
GLL Jalalah 7.00 128 P Pn 21 58 11.7 -2.9
CAVI Cavuskoy 7.03 29 ePN Pn 21 58 16.1 +1.2
CAVI Cavuskoy 7.03 29 ePn Pn 21 58 16.1 +1.2
KIZT Kizilcal 7.05 46 ePN Pn 21 58 15.5 +0.2
KIZT Kizilcal 7.05 46 Pn Pn 21 58 15.5 +0.2
KIZT Kizilcal 7.05 46 ePn Pn 21 58 15.5 +0.2
SRS Serrai 7.14 349 ePN Pn 21 58 19.4 +2.9
SRS Serrai 7.14 349 ePn Pn 21 58 19.4 +2.9
KEK Kerkira 7.18 323 ePN Pn 21 58 16.8 -0.2
KEK Kerkira 7.18 323 ePn Pn 21 58 16.8 -0.2
ADVT Abdulvahap 7.19 27 ePN Pn 21 58 18.4 +1.3
ADVT Abdulvahap 7.19 27 Pn Pn 21 58 18.4 +1.3
ADVT Abdulvahap 7.19 27 ePn Pn 21 58 18.4 +1.3
NEST Nestorio 7.19 332 ePN Pn 21 58 18.9 +1.6
NEST eSN Sn 21 59 37.0 -1.1
NEST Nestorio 7.19 332 ePn Pn 21 58 18.9 +1.6
SVRH Sivrihisar-ESK 7.23 41 ePN Pn 21 58 18.4 +0.6
SVRH Sivrihisar-ESK 7.23 41 Pn Pn 21 58 18.4 +0.6
SVRH Sivrihisar-ESK 7.23 41 ePn Pn 21 58 18.4 +0.6
CRLT Corlu 7.24 14 ePN Pn 21 58 18.9 +1.1
CRLT Corlu 7.24 14 Pn Pn 21 58 18.9 +1.1
CRLT Corlu 7.24 14 ePn Pn 21 58 18.9 +1.1
KNT Kendrikon 7.32 345 P Pn 21 58 21.0 +2.1
KNT Kendrikon 7.32 345 P Pn 21 58 21.0 +2.1
KNT Kendrikon 7.32 345 ePN Pn 21 58 21.0 +2.1
KNT Kendrikon 7.32 345 P Pn 21 58 21.0 +2.1
KNT Kendrikon 7.32 345 P Pn 21 58 21.0 +2.1
NVR Nevrokopi 7.33 351 P Pn 21 58 20.9 +1.8
NVR Nevrokopi 7.33 351 ePN Pn 21 58 21.3 +2.2
NVR Nevrokopi 7.33 351 P Pn 21 58 20.9 +1.8
NVR Nevrokopi 7.33 351 P Pn 21 58 20.9 +1.8
NVR Nevrokopi 7.33 351 ePn Pn 21 58 21.3 +2.2
HFRF Wahat Farafira 7.37 160 P Pn 21 58 16.5 -3.1
baz=159
HFRF Wahat Farafira 7.37 160 P Pn 21 58 16.5 -3.1
HFRF Wahat Farafira 7.37 160 P Pn 21 58 16.5 -3.1
FNA Florina 7.40 335 ePN Pn 21 58 21.4 +1.4
FNA Florina 7.40 335 ePn Pn 21 58 21.4 +1.4
AMAG Maghara 7.44 116 P Pn 21 58 16.9 -3.7
baz=116
AMAG Maghara 7.44 116 P Pn 21 58 16.9 -3.7
SLVT Silivri 7.44 16 ePN Pn 21 58 21.2 +0.6
SLVT Silivri 7.44 16 Pn Pn 21 58 21.2 +0.6
SLVT Silivri 7.44 16 ePn Pn 21 58 21.2 +0.6
HRT Hereke 7.50 25 ePN Pn 21 58 22.9 +1.5
HRT Hereke 7.50 25 ePn Pn 21 58 22.9 +1.5
KIZK Mersin 7.51 69 iP Pn 21 58 21.0 -0.5
KIZK iS Sn 21 59 39.7 -6.1
ISK Istanbul-Kandi 7.52 22 ePN Pn 21 58 21.7 +0.1
ISK Istanbul-Kandi 7.52 22 P Pn 21 58 21.7 +0.1
ISK Istanbul-Kandi 7.52 22 Pn Pn 21 58 21.7 +0.1
ISK Istanbul-Kandi 7.52 22 ePn Pn 21 58 21.7 +0.1
CTKS Kestanelik-??a 7.52 18 ePN Pn 21 58 22.3 +0.7
CTKS Kestanelik-??a 7.52 18 Pn Pn 21 58 22.3 +0.7
CTKS Kestanelik-??a 7.52 18 ePn Pn 21 58 22.3 +0.7
KDZ Kurdzhali 7.53 360 ⇑P Pn 21 58 23.6 +1.8
KDZ Kurdzhali 7.53 360 eP Pn 21 58 23.6 +1.8
KDZ Kurdzhali 7.53 360 ⇑iP Pn 21 58 23.6 +1.8
KDZ Kurdzhali 7.53 360 P Pn 21 58 23.6 +1.8
BGKT Bogazkoy 7.54 20 ePN Pn 21 58 22.9 +1.0
BGKT Bogazkoy 7.54 20 Pn Pn 21 58 22.9 +1.0
BGKT Bogazkoy 7.54 20 ePn Pn 21 58 22.9 +1.0
VAY Valandovo 7.54 343 iPn Pn 21 58 27.8 +5.8
MMB Musomiste 7.59 350 eP Pn 21 58 25.7 +3.1
RZN Rozhen 7.59 356 eP Pn 21 58 26.0 +3.3
SUZ 7.60 122 P Pn 21 58 20.3 -2.4
baz=122
SUZ 7.60 122 P Pn 21 58 20.3 -2.4
SUZ 7.60 122 P Pn 21 58 20.3 -2.4
RSH 7.68 112 P Pn 21 58 20.5 -3.4
baz=112
RSH S Sn 21 59 44.1 -5.8
baz=112
RSH 7.68 112 P Pn 21 58 20.5 -3.4
KLYT Kilyos 7.69 21 ePN Pn 21 58 24.0 +0.1
KLYT Kilyos 7.69 21 Pn Pn 21 58 24.0 +0.1
KLYT Kilyos 7.69 21 ePn Pn 21 58 24.0 +0.1
PHSR Pinarhisar 7.69 12 ePN Pn 21 58 23.4 -0.5
PHSR Pinarhisar 7.69 12 ePn Pn 21 58 23.4 -0.5
CTYL Yal??k??y-??at 7.70 16 ePN Pn 21 58 25.1 +1.1
CTYL Yal??k??y-??at 7.70 16 Pn Pn 21 58 25.1 +1.1
CTYL Yal??k??y-??at 7.70 16 ePn Pn 21 58 25.1 +1.1
SULT Sultanhani-AKS 7.71 56 ePN Pn 21 58 25.1 +0.7
SULT Sultanhani-AKS 7.71 56 Pn Pn 21 58 25.1 +0.7
SULT Sultanhani-AKS 7.71 56 ePn Pn 21 58 25.1 +0.7
SILT Sile 7.79 24 ePN Pn 21 58 25.7 +0.4
SILT Sile 7.79 24 Pn Pn 21 58 25.7 +0.4
SILT Sile 7.79 24 ePn Pn 21 58 25.7 +0.4
EDRB Edirne 7.79 7 P Pn 21 58 27.2 +1.8
EDRB Edirne 7.79 7 ePN Pn 21 58 26.3 +0.9
EDRB Edirne 7.79 7 Pn Pn 21 58 26.3 +0.9
EDRB Edirne 7.79 7 ePn Pn 21 58 26.3 +0.9
EDRB Edirne 7.79 7 P Pn 21 58 27.2 +1.8
MDUB Mudurnu 7.84 34 ePN Pn 21 58 26.8 +0.7
MDUB Mudurnu 7.84 34 Pn Pn 21 58 26.8 +0.7
MDUB Mudurnu 7.84 34 ePn Pn 21 58 26.8 +0.7
DIM Dimitrovgrad 7.93 1 eP Pn 21 58 28.8 +1.6
KKB Krupnik 7.96 347 eP Pn 21 58 34.6 +6.9
PLD Plovdiv 8.00 356 eP Pn 21 58 30.9 +2.7
AFSR Af¯ar-Bala (A 8.12 47 ePN Pn 21 58 30.2 +0.2
AFSR Af¯ar-Bala (A 8.12 47 ePn Pn 21 58 30.2 +0.2
BR231 Keskin MP Arra 8.21 44 ePn Pn 21 58 37.4 +6.2
BR231 Keskin MP Arra 8.21 44 ePn Pn 21 58 37.4 +6.2
LOD Lodumlu 8.23 43 ePN Pn 21 58 31.9 +0.5
LOD Lodumlu 8.23 43 Pn Pn 21 58 31.9 +0.5
LOD Lodumlu 8.23 43 ePn Pn 21 58 31.9 +0.5
ANTO Ankara 8.23 44 ePN Pn 21 58 31.6 +0.2
ANTO Ankara 8.23 44 eP Pn 21 58 32.8 +1.3
ANTO Ankara 8.23 44 ⇓iP Pn 21 58 33.2 +1.7
ANTO Ankara 8.23 44 ePn Pn 21 58 32.8 +1.3
ANTO Ankara 8.23 44 ePn Pn 21 58 31.7 +0.2
ANTO Ankara 8.23 44 eP Pn 21 58 32.8 +1.3
HNKL Nakhl 8.38 118 P Pn 21 58 29.8 -3.7
baz=118
HNKL Nakhl 8.38 118 P Pn 21 58 29.8 -3.7
HNKL Nakhl 8.38 118 P Pn 21 58 29.8 -3.7
JMB Yambol 8.39 6 ⇑P Pn 21 58 33.6 0.0
JMB Yambol 8.39 6 eP Pn 21 58 33.8 +0.2
JMB Yambol 8.39 6 ⇑iP Pn 21 58 33.6 0.0
JMB Yambol 8.39 6 P Pn 21 58 33.6 0.0
MMAI Mount Meron Ar 8.40 95 Pn Pn 21 58 30.6 -3.3
comp=N,19nm,0.3s,baz=266,slow=12,SNR=71
MMAI Sn Sn 22 00 04.1 -3.7
comp=N,37nm,0.3s,baz=271,slow=22,SNR=7.6
NIG Nigde 8.44 59 ePN Pn 21 58 35.3 +0.8
NIG Nigde 8.44 59 Pn Pn 21 58 35.3 +0.8
NIG Nigde 8.44 59 ePn Pn 21 58 35.3 +0.8
KARA Karaisali 8.44 65 ePN Pn 21 58 35.3 +1.0
KARA Karaisali 8.44 65 ePn Pn 21 58 35.3 +1.0
SKO Skopje 8.45 339 ePN Pn 21 58 35.3 +0.9
SKO Skopje 8.45 339 P Pn 21 58 35.3 +0.9
SKO Skopje 8.45 339 iPn Pn 21 58 34.0 -0.5
SKO Skopje 8.45 339 Pn Pn 21 58 35.3 +0.9
SKO Skopje 8.45 339 ePn Pn 21 58 35.3 +0.9
PGB Panagyurishte 8.48 354 eP Pn 21 58 44.2 +9.3
BHL Bhannes 8.50 89 eP Pn 21 58 34.3 -0.9
BHL Bhannes 8.50 89 eP Pn 21 58 34.3 -0.9
TIP Timpagrande 8.61 309 ePn Pn 21 58 34.5 -2.1
TIP eSn Sn 22 00 03.7 -9.1
TIP Timpagrande 8.61 309 ePn Pn 21 58 34.5 -2.1
TIP eSn Sn 22 00 03.7 -9.1
BRTR Keskin Array B 8.64 47 P Pn 21 58 38.7 +1.5
BRTR 22 00 15.1
BRTR pmax pmax
comp=Z,2.0nm,0.3s
BRTR smax smax
comp=N,1.0nm,0.3s
BRTR Keskin Array B 8.64 47 Pn Pn 21 58 38.7 +1.5
comp=N,1.6nm,0.3s,baz=222,slow=14,SNR=38
BRTR Sn Sn 22 00 15.1 +1.3
comp=N,1.0nm,0.3s,baz=216,slow=20,SNR=3.7
BRTR PKiKP PKiKP 22 13 05.1 0.0
comp=N,0.1nm,0.3s,baz=174,slow=2.5,SNR=4.7
VTS Vitosha 8.64 349 ePN Pn 21 58 37.5 +0.4
VTS Vitosha 8.64 349 P Pn 21 58 37.6 +0.4
VTS Vitosha 8.64 349 eP Pn 21 58 40.2 +3.0
VTS Vitosha 8.64 349 ⇓iP Pn 21 58 40.0 +2.8
VTS Vitosha 8.64 349 Pn Pn 21 58 37.5 +0.4
VTS Vitosha 8.64 349 ePn Pn 21 58 37.6 +0.4
VTS Vitosha 8.64 349 eP Pn 21 58 40.2 +3.0
RCY Rachaya 8.69 91 eP Pn 21 58 35.3 -2.6
HWQ Hawqa 8.72 86 eP Pn 21 58 37.4 -0.9
HWQ Hawqa 8.72 86 eP Pn 21 58 37.4 -0.9
CEL Celeste 8.74 301 ePn Pn 21 58 37.6 -0.9
CEL eSn Sn 22 00 09.6 -6.6
CEL Celeste 8.74 301 ePn Pn 21 58 37.6 -0.9
CEL eSn Sn 22 00 09.6 -6.6
CEYT Ceyhan 8.90 68 ePN Pn 21 58 41.0 +0.5
CEYT Ceyhan 8.90 68 Pn Pn 21 58 41.0 +0.5
CEYT Ceyhan 8.90 68 ePn Pn 21 58 41.0 +0.5
PVL Pavlikeni 9.09 360 eP Pn 21 58 44.5 +1.3
KOZT Kozan 9.10 65 ePN Pn 21 58 43.8 +0.5
KOZT Kozan 9.10 65 ePn Pn 21 58 43.8 +0.5
FKH Fakeheh 9.11 86 eP Pn 21 58 40.9 -2.7
WDD Wield Dalam 9.11 284 ePn Pn 21 58 43.2 -0.3
WDD eSn Sn 22 00 19.4 -5.8
WDD Wield Dalam 9.11 284 ePn Pn 21 58 43.2 -0.3
WDD eSn Sn 22 00 19.4 -5.8
SAFT Safranbolu 9.15 37 ePN Pn 21 58 44.9 +0.9
SAFT Safranbolu 9.15 37 Pn Pn 21 58 44.9 +0.9
SAFT Safranbolu 9.15 37 ePn Pn 21 58 44.9 +0.9
SZH Strazhica 9.15 2 eP Pn 21 58 47.3 +3.3
EIL Elat 9.23 116 Pn Pn 21 58 42.8 -2.3
comp=N,10nm,0.3s,baz=301,slow=1.1,SNR=64
EIL Sn Sn 22 00 21.8 -6.3
comp=N,8.6nm,0.3s,baz=300,slow=20,SNR=4.1
ULC Ulcinj 9.23 330 ⇓iPn Pn 21 58 45.3 +0.2
ULC eSn Sn 22 00 21.9 -6.1
ULC Ulcinj 9.23 330 P Pn 21 58 45.4 +0.3
ULC S Sn 22 00 23.2 -4.8
ULC Ulcinj 9.23 330 P Pn 21 58 45.4 +0.3
ULC S Sn 22 00 23.2 -4.8
ULC Ulcinj 9.23 330 P Pn 21 58 45.4 +0.3
ULC S Sn 22 00 23.2 -4.8
DRME Dracevica, Mon 9.44 331 ePn Pn 21 58 48.0 0.0
DRME eSn Sn 22 00 26.6 -6.6
DRME Dracevica, Mon 9.44 331 ePn Pn 21 58 48.0 0.0
PVY Plav 9.49 335 ⇑iPn Pn 21 58 49.5 +0.7
PVY eSn Sn 22 00 29.4 -5.3
PVY Plav 9.49 335 P Pn 21 58 48.6 -0.2
PVY S Sn 22 00 28.9 -5.8
PVY Plav 9.49 335 P Pn 21 58 48.6 -0.2
PVY Plav 9.49 335 ⇑iPn Pn 21 58 49.5 +0.7
PVY S Sn 22 00 28.9 -5.8
HQLS 9.51 118 P Pn 21 58 46.0 -3.0
HQLS 9.51 118 S Sn 22 00 26.6 -8.3
HQLS 9.51 118 P Pn 21 58 45.5 -3.5
ANDN Andirin 9.52 66 iP Pn 21 58 50.9 +1.8
CORM Corum 9.52 48 ePN Pn 21 58 49.4 +0.2
CORM Corum 9.52 48 Pn Pn 21 58 49.4 +0.2
CORM Corum 9.52 48 ePn Pn 21 58 49.4 +0.2
PDG Podgorica 9.62 332 ⇑iPn Pn 21 58 50.4 +0.1
TTG Podgorica 9.62 332 ⇑iPn Pn 21 58 50.4 +0.1
TTG eSn Sn 22 00 32.0 -5.4
BNN Bunyan 9.63 58 ePN Pn 21 58 51.1 +0.4
BNN Bunyan 9.63 58 Pn Pn 21 58 51.1 +0.4
BNN Bunyan 9.63 58 ePn Pn 21 58 51.1 +0.4
BUM Brajici-Budva 9.65 330 ⇓iPn Pn 21 58 50.9 -0.1
BUM eSn Sn 22 00 32.0 -6.5
BUM Brajici-Budva 9.65 330 P Pn 21 58 50.5 -0.5
BUM S Sn 22 00 32.5 -6.0
BUM Brajici-Budva 9.65 330 P Pn 21 58 50.5 -0.5
BUM Brajici-Budva 9.65 330 ⇓iPn Pn 21 58 50.9 -0.1
BUM S Sn 22 00 32.5 -6.0
CUC Castrocucco 9.66 310 ePn Pn 21 58 51.6 +0.5
CUC eSn Sn 22 00 33.1 -5.7
CUC Castrocucco 9.66 310 ePn Pn 21 58 51.6 +0.5
CUC eSn Sn 22 00 33.1 -5.7
BEY Berane 9.76 335 ePn Pn 21 58 52.8 +0.4
IVA Berane 9.76 335 ePn Pn 21 58 52.8 +0.4
IVA eSn Sn 22 00 34.7 -6.5
PSN Preselentsi 9.80 12 ⇑P Pn 21 58 55.2 +2.4
PSN Preselentsi 9.80 12 ⇑P Pn 21 58 55.2 +2.4
PSN Preselentsi 9.80 12 P Pn 21 58 55.2 +2.4
ASF Jabal al Asfar 9.81 98 P Pn 21 58 50.3 -2.9
ASF 22 00 37.6
ASF pmax pmax
comp=Z,3.0nm,0.3s
ASF smax smax
comp=N,5.0nm,0.3s
ASF Jabal al Asfar 9.81 98 Pn Pn 21 58 50.3 -2.9
comp=N,3.4nm,0.3s,baz=246,slow=4.1,SNR=20
ASF Sn Sn 22 00 37.6 -5.0
comp=N,4.8nm,0.3s,baz=282,slow=19,SNR=3.7
HHRG Al Ghardaqah 9.81 132 P Pn 21 58 51.4 -1.7
HHRG Al Ghardaqah 9.81 132 P Pn 21 58 51.4 -1.7
KUZU Kuzuini 9.87 71 iP Pn 21 58 54.5 +0.6
RSHS 9.89 123 P Pn 21 58 51.0 -3.3
RSHS 9.89 123 P Pn 21 58 51.3 -2.9
KMRS Kahramanmaras 9.92 67 ePN Pn 21 58 54.5 -0.1
KMRS Kahramanmaras 9.92 67 Pn Pn 21 58 54.5 -0.1
KMRS Kahramanmaras 9.92 67 ePn Pn 21 58 54.5 -0.1
HCY Herceg Novi 9.94 329 ⇑iPn Pn 21 58 54.7 -0.2
HCY eSn Sn 22 00 38.4 -7.1
HCY Herceg Novi 9.94 329 P Pn 21 58 54.6 -0.3
HCY S Sn 22 00 40.7 -4.9
HCY Herceg Novi 9.94 329 P Pn 21 58 54.6 -0.3
HCY S Sn 22 00 40.7 -4.9
HCY Herceg Novi 9.94 329 ⇑iPn Pn 21 58 54.7 -0.2
HCY S Sn 22 00 40.7 -4.9
NKME Niksic 10.02 332 ⇓iPn Pn 21 58 55.7 -0.2
NKME eSn Sn 22 00 40.9 -6.6
NKME Niksic 10.02 332 ⇓iPn Pn 21 58 55.7 -0.2
BDAS Al Bad' 10.03 122 P Pn 21 58 54.0 -2.1
BDAS Al Bad' 10.03 122 P Pn 21 58 54.4 -1.7
NKY Niksic 10.04 332 ⇓iPn Pn 21 58 56.9 +0.7
NKY eSn Sn 22 00 41.4 -6.7
NKY Niksic 10.04 332 P Pn 21 58 57.0 +0.7
NKY S Sn 22 00 42.6 -5.5
NKY Niksic 10.04 332 P Pn 21 58 57.0 +0.7
NKY S Sn 22 00 42.6 -5.5
NKY Niksic 10.04 332 P Pn 21 58 57.0 +0.7
NKY S Sn 22 00 42.6 -5.5
JLOS 10.13 119 P Pn 21 58 53.0 -4.6
JLOS 10.13 119 S Sn 22 00 40.7 -10
JLOS 10.13 119 P Pn 21 58 53.4 -4.2
MSAB Monastry St. A 10.14 10 ⇑iP Pn 21 59 00.0 +2.5
BRY Bratogost 10.30 330 P Pn 21 58 58.2 -1.6
BRY S Sn 22 00 49.3 -5.2
BRY Bratogost 10.30 330 P Pn 21 58 58.2 -1.6
BRY S Sn 22 00 49.3 -5.2
BRY Bratogost 10.30 330 P Pn 21 58 58.2 -1.6
BRY S Sn 22 00 49.3 -5.2
PLE Pljevlja 10.34 335 ⇑iPn Pn 21 59 01.4 +1.0
PLE eSn Sn 22 00 49.4 -6.0
PLE Pljevlja 10.34 335 P Pn 21 59 00.1 -0.3
PLE S Sn 22 00 50.3 -5.1
PLE Pljevlja 10.34 335 P Pn 21 59 00.1 -0.3
PLE S Sn 22 00 50.3 -5.1
PLE Pljevlja 10.34 335 P Pn 21 59 00.1 -0.3
PLE Pljevlja 10.34 335 ⇑iPn Pn 21 59 01.4 +1.0
PLE S Sn 22 00 50.3 -5.1
GZT Gaziantep 10.39 68 iP Pn 21 59 01.7 +0.6
UPM Unac-Piva 10.41 333 ⇓iPn Pn 21 59 01.2 -0.2
UPM eSn Sn 22 00 51.3 -5.9
UPM Unac-Piva 10.41 333 P Pn 21 59 01.0 -0.4
UPM S Sn 22 00 51.6 -5.6
UPM Unac-Piva 10.41 333 ⇓iPn Pn 21 59 01.2 -0.2
UPM S Sn 22 00 51.6 -5.6
HUMR Humele 10.41 358 ⇑iP Pn 21 59 02.9 +1.7
SULR 10.57 3 ⇑iP Pn 21 59 05.2 +1.7
TIRR Tirgusor 10.59 12 eP Pn 21 59 00.8 -2.9
TIRR Tirgusor 10.59 12 ⇓iP Pn 21 59 13.9 +10
TIRR Tirgusor 10.59 12 ePn Pn 21 59 00.8 -2.9
TIRR Tirgusor 10.59 12 ePn Pn 21 59 00.8 -2.9
STON Ston 10.63 328 ePn Pn 21 59 01.7 -2.6
TLB Topalu 10.66 10 ⇓P Pn 21 59 07.1 +2.5
TLB Topalu 10.66 10 ⇓iP Pn 21 59 07.1 +2.5
TLB Topalu 10.66 10 P Pn 21 59 07.1 +2.5
DARE Darende-Malaty 10.70 62 ePN Pn 21 59 05.2 0.0
DARE Darende-Malaty 10.70 62 ePn Pn 21 59 05.3 0.0
SVSK Karacayir 10.92 55 ePN Pn 21 59 08.6 +0.5
SVSK Karacayir 10.92 55 Pn Pn 21 59 08.6 +0.5
SVSK Karacayir 10.92 55 ePn Pn 21 59 08.6 +0.5
KVT Kavak 10.92 47 ePN Pn 21 59 08.1 -0.2
KVT Kavak 10.92 47 P Pn 21 59 08.1 -0.2
KVT Kavak 10.92 47 Pn Pn 21 59 08.1 -0.2
KVT Kavak 10.92 47 ePn Pn 21 59 08.1 -0.2
ISR Istrita 11.03 4 ⇑P Pn 21 59 13.9 +4.1
ISR Istrita 11.03 4 ⇑iP Pn 21 59 13.9 +4.1
MTUR Matau 11.11 359 ⇓P Pn 21 59 12.3 +1.5
MTUR Matau 11.11 359 ⇓iP Pn 21 59 12.3 +1.5
MTUR Matau 11.11 359 P Pn 21 59 12.3 +1.5
TBKS Tabuk 11.18 119 P Pn 21 59 09.0 -2.9
TBKS Tabuk 11.18 119 S Sn 22 01 11.6 -4.5
TBKS Tabuk 11.18 119 P Pn 21 59 08.6 -3.3
CFR Carcaliu 11.25 10 ⇓P Pn 21 59 10.6 -2.1
CFR Carcaliu 11.25 10 ⇓iP Pn 21 59 10.6 -2.1
RSDY Resadiye-TOKAT 11.37 53 ePN Pn 21 59 14.3 -0.1
RSDY Resadiye-TOKAT 11.37 53 Pn Pn 21 59 14.3 -0.1
RSDY Resadiye-TOKAT 11.37 53 ePn Pn 21 59 14.3 -0.1
MLR Muntele Rosu 11.38 2 ⇓iP Pn 21 59 18.9 +4.3
MLR Muntele Rosu 11.38 2 Pn Pn 21 59 15.2 +0.7
comp=N,0.1nm,0.3s,baz=194,slow=5.7,SNR=29
MLR LR LR 22 04 22.5
comp=N,2μm,18.0s,baz=185,slow=42
LOT Lotru 11.40 354 ⇑iP Pn 21 59 19.8 +5.0
GZR Gura Zlata 11.45 351 ⇑P Pn 21 59 17.5 +2.0
GZR Gura Zlata 11.45 351 ⇑iP Pn 21 59 17.5 +2.0
GZR Gura Zlata 11.45 351 P Pn 21 59 17.5 +2.0
BANR Banloc 11.73 345 ⇓iP Pn 21 59 26.0 +6.7
PLOR Plostina 11.77 4 ⇓P Pn 21 59 21.6 +1.8
PLOR Plostina 11.77 4 ⇓iP Pn 21 59 21.6 +1.8
PLOR Plostina 11.77 4 P Pn 21 59 21.6 +1.8
VRI Vrincioaia 11.79 4 ⇑P Pn 21 59 23.2 +3.1
VRI Vrincioaia 11.79 4 ⇑iP Pn 21 59 23.2 +3.1
VRI Vrincioaia 11.79 4 P Pn 21 59 23.2 +3.1
ILIC ilic-Erzincan 11.81 59 ePN Pn 21 59 19.9 -0.6
ILIC ilic-Erzincan 11.81 59 ePn Pn 21 59 19.9 -0.6
DOPR Dopca 11.84 360 ⇑iP Pn 21 59 24.1 +3.2
BZS Buzias 11.86 347 ⇑P Pn 21 59 21.2 +0.2
BZS Buzias 11.86 347 ⇑iP Pn 21 59 21.2 +0.2
BZS Buzias 11.86 347 P Pn 21 59 21.2 +0.2
PTK Pertek 12.21 63 ePN Pn 21 59 25.6 -0.5
PTK Pertek 12.21 63 Pn Pn 21 59 25.6 -0.5
PTK Pertek 12.21 63 ePn Pn 21 59 25.6 -0.5
BIDS Bi'r al Bayda' 12.28 123 P Pn 21 59 27.0 0.0
BIDS Bi'r al Bayda' 12.28 123 P Pn 21 59 26.5 -0.4
EZC Erzincan 12.48 59 ePn Pn 21 59 31.8 +2.0
AQU L'Aquila 12.52 315 eP Pn 21 59 29.7 -0.5
AQU e 22 01 45.9
AQU L'Aquila 12.52 315 ePn Pn 21 59 29.6 -0.5
AQU eSn Sn 22 01 45.9 -2.9
AQU L'Aquila 12.52 315 eP Pn 21 59 29.7 -0.5
AQU eSn Sn 22 01 45.9 -2.9
LEOM Leova 12.54 9 ⇓iP P 21 59 43.2 +1.6
MAZI Mazidag 12.65 70 ePN Pn 21 59 32.4 +0.4
MAZI Mazidag 12.65 70 ePn Pn 21 59 32.4 +0.4
CJR Cluj-Napoca 12.67 354 ⇓P P 21 59 42.5 -0.7
CJR Cluj-Napoca 12.67 354 ⇓iP P 21 59 42.5 -0.7
ERZN Erzincan 12.69 60 ePN Pn 21 59 31.8 -0.7
SIM Simferopol' 12.73 29 eP P 21 59 42.2 -1.6
SIM pmax pmax
comp=Z,44nm,1.0s
SIM MLR MLR
comp=Z,2μm,15.2s
UDBI Udbina 12.80 327 ePn Pn 21 59 32.6 -1.4
UDBI Udbina 12.80 327 ePn Pn 21 59 32.6 -1.4
DRGR 12.84 352 ⇓P Pn 21 59 37.0 +2.6
DRGR 12.84 352 ⇓iP Pn 21 59 37.0 +2.6
DRGR 12.84 352 P Pn 21 59 37.0 +2.6
GUMT Gumushane 12.86 56 ePN Pn 21 59 34.6 -0.2
GUMT Gumushane 12.86 56 Pn Pn 21 59 34.6 -0.2
GUMT Gumushane 12.86 56 ePn Pn 21 59 34.6 -0.2
KIS Kishinev 13.13 10 eP Pn 21 59 40.0 +1.6
KIS eS Sn 22 02 06.0 +2.6
KIS smax smax
comp=E,2μm,12.0s
KIS smax smax
comp=N,2μm,13.0s
KIS MLR MLR
comp=N,10μm,12.0s
KIS MLR MLR
comp=Z,10μm,12.0s
KIS MLR MLR
comp=E,4μm,10.0s
KIS MLR MLR
comp=Z,11μm,12.0s
KIS Kishinev 13.13 10 eP Pn 21 59 40.0 +1.6
KIS Kishinev 13.13 10 ePP P 21 59 48.0 -0.2
KIS eS Sn 22 02 06.0 +2.6
comp=Z,2μm,13.0s
KIS iLi 22 03 07.0
KIS iLg1 22 03 26.0
KIS iLg2 22 04 02.0
KIS eRg Rg 22 04 21.0
KIS LRM MLR 22 05 24.0
comp=Z,11μm,12.0s
KIS Kishinev 13.13 10 eP Pn 21 59 40.0 +1.6
KIS eS Sn 22 02 06.0 +2.6
comp=Z,2μm,13.0s
PKSM Moragy 13.15 339 ⇓P Pn 21 59 37.5 -1.1
PKSM Moragy 13.15 339 ⇓iP Pn 21 59 37.5 -1.1
PKSM Moragy 13.15 339 ⇑e Pn 21 59 37.5 -1.1
PKSM Moragy 13.15 339 ⇑eP Pn 21 59 37.5 -1.1
NVLJ Novalja 13.24 325 ePn Pn 21 59 36.3 -3.6
BAYT Ayd¯-ntepe-Bay 13.29 58 ePN Pn 21 59 40.3 -0.5
BAYT Ayd¯-ntepe-Bay 13.29 58 ePn Pn 21 59 40.3 -0.5
KEST Kesra 13.29 282 Pn Pn 21 59 40.1 -0.7
comp=Z,0.2nm,0.3s,baz=26,slow=1.7,SNR=12
KEST Sn Sn 22 02 00.1 -7.6
comp=Z,0.0nm,0.3s,baz=355,slow=18,SNR=2.1
BURAR Bucovina Array 13.49 359 ⇑P P 21 59 50.4 -2.0
BURAR Bucovina Array 13.49 359 ⇑iP P 21 59 50.4 -2.0
BUR04 Bucovina Ar. S 13.50 359 ePn Pn 21 59 46.9 +3.4
BUR04 Bucovina Ar. S 13.50 359 ePn Pn 21 59 46.9 +3.4
PKS9 Tamasi 13.59 339 ⇑e Pn 21 59 45.0 +0.3
BMR Baia Mare 13.63 354 ⇑P P 21 59 53.6 -0.2

BMR Baia Mare 13.63 354⇑iP P 21 59 53.6 -0.2
VRTB Varto-Mus 13.82 64 ePN Pn 21 59 47.6 -0.4
VRTB Varto-Mus 13.82 64 ePn Pn 21 59 47.6 -0.4
VSL Villasalto 13.93 297 ePn Pn 21 59 50.1 +0.7
VSL Villasalto 13.93 297 ePn Pn 21 59 50.1 +0.7
EZM Erzurum 13.98 61 ePN Pn 21 59 49.9 -0.5
EZM Erzurum 13.98 61 Pn Pn 21 59 49.9 -0.5
HSHL Bi'r Shalatayn 14.02 139 P Pn 21 59 49.3 -1.4
baz=139
ANN Anapa 14.13 37 eP Pn 21 59 51.3 -0.7
ANN eS Sn 22 02 26.1 -1.7
ANN pmax pmax
comp=Z,85nm,1.4s
ANN MLR MLR
comp=Z,1μm,11.0s
KOGS Kog 14.16 333 ePn Pn 21 59 49.8 -2.6
TRPA Tarpa 14.17 352⇓iP P 21 59 53.9 +1.3
TRPA Tarpa 14.17 352⇓e P 22 00 01.9 +2.1
TRPA Tarpa 14.17 352⇓eP P 22 00 01.9 +2.1
SIRT Sirnak 14.22 71 ePN Pn 21 59 52.7 -0.7
SIRT Sirnak 14.22 71 ePn Pn 21 59 52.7 -0.7
PKST T''s 14.27 339 e Pn 21 59 56.5 +2.5
PKSG 14.29 340 e P 21 59 58.7 -2.4
CSKK Csˆ‡kako 14.30 340 e P 21 59 58.3 -3.0
SKDS Skadanscina 14.38 326 i Pn Pn 21 59 52.6 -2.9
PSZ Piszkesteto 14.41 345 eP Pn 21 59 56.0 +0.1
PSZ Piszkesteto 14.41 345⇑iP Pn 21 59 57.9 +2.0
PSZ Piszkesteto 14.41 345 ePn Pn 21 59 56.0 +0.1
PSZ Piszkesteto 14.41 345⇓e Pn 21 59 57.5 +1.6
PSZ Piszkesteto 14.41 345 ePn Pn 21 59 56.0 +0.1
LJU Ljubljana 14.53 328 ePn Pn 21 59 57.0 -0.6
SOC Sochi 14.60 45 eP Pn 21 59 58.4 0.0
SOC e 22 02 39.4
SOC pmax pmax
comp=Z,30nm,0.8s
SOC MLR MLR
comp=Z,4μm,16.0s
TRI Trieste 14.62 326 eP Pn 21 59 57.2 -1.5
TRI Trieste 14.62 326 ePn Pn 21 59 57.2 -1.5
TRI Trieste 14.62 326 ePn Pn 21 59 57.2 -1.5
UZH Uzhgorod 14.70 352 eP Pn 21 59 58.8 -0.9
UZH eS Sn 22 02 42.0 +0.4
UZH MLR MLR
comp=N,7μm,11.0s
UZH MLR MLR
comp=E,5μm,11.0s
UZH MLR MLR
comp=Z,3μm,11.0s
PERS Pernice 14.76 331 ePn Pn 21 59 55.9 -4.7
PERS e 22 00 08.9
PERS e 22 02 47.2
SOKA Soboth 14.82 331 Pn Pn 21 59 56.5 -5.0
comp=Z,74nm,0.8s
KECS Kecovo 14.83 347 eP Pn 22 00 03.0 +1.5
KECS Kecovo 14.83 347 e Pn 22 00 03.0 +1.5
ABSA Djebel Ababsia 14.83 283 P P 22 00 06.8 -0.6
ABSA Djebel Ababsia 14.83 283 P P 22 00 06.8 -0.6
OBKA Obir 14.89 330⇑iPn Pn 22 00 00.9 -1.5
comp=Z,81nm,0.8s
OBKA ⇑iP P 22 00 07.5 -0.4
comp=Z,83nm,0.8s
OBKA Obir 14.89 330 Pn Pn 22 00 00.9 -1.5
comp=Z,81nm,0.8s
CMAH Djebel Manchou 14.90 285 P Pn 22 00 02.6 -0.1
KOLS Kolonicke sedl 15.00 352 eP Pn 22 00 03.5 -0.3
KOLS Kolonicke sedl 15.00 352 ePN Pn 22 00 03.5 -0.3
KOLS Kolonicke sedl 15.00 352 ePn Pn 22 00 03.5 -0.3
CRVS Cervenica-Dubn 15.07 350 eP Pn 22 00 02.0 -2.8
CRVS Cervenica-Dubn 15.07 350 ePN Pn 22 00 02.0 -2.8
CRVS Cervenica-Dubn 15.07 350 eP P 22 00 11.1 +1.3
CRVS Cervenica-Dubn 15.07 350 eP P 22 00 11.1 +1.3
AGRB Hanur-Agry 15.08 64 ePN Pn 22 00 04.6 -0.6
AGRB Hanur-Agry 15.08 64 ePn Pn 22 00 04.6 -0.6
ARSA Arzberg 15.11 333⇑iPn Pn 22 00 03.2 -2.1
comp=Z,42nm,0.7s,SNR=18
CUKT Cukurca 15.11 73 ePN Pn 22 00 05.2 -0.3
CUKT Cukurca 15.11 73 ePn Pn 22 00 05.2 -0.3
SOP Sopron 15.11 336 e P 22 00 08.1 -2.2
SOP Sopron 15.11 336 eP P 22 00 08.1 -2.2
VYHS Vyhne 15.19 343 eP Pn 22 00 05.1 -1.3
VYHS Vyhne 15.19 343 ePN Pn 22 00 05.1 -1.3
VYHS Vyhne 15.19 343 ePn Pn 22 00 05.1 -1.3
MYKA Terra Mystica 15.37 328⇑iPn Pn 22 00 07.5 -1.3
comp=Z,27nm,0.7s
MYKA ⇑iP P 22 00 11.9 -1.4
comp=Z,22nm,0.7s
MYKA Terra Mystica 15.37 328 Pn Pn 22 00 07.5 -1.3
comp=Z,27nm,0.7s
PGF Pioggiola 15.38 308 eP Pn 22 00 10.9 +1.9
comp=Z,1μm,1.4s
PGF Pioggiola 15.38 308 eP Pn 22 00 10.9 +1.9
PGF pmax pmax
comp=Z,1μm,1.4s
PGF Pioggiola 15.38 308 eP Pn 22 00 10.9 +1.9
comp=Z,1μm,1.4s
PGF Pioggiola 15.38 308 eP Pn 22 00 10.9 +1.9
comp=Z,591nm,1.4s
KARS Kars 15.46 60 ePN Pn 22 00 09.1 -1.0
KARS Kars 15.46 60 P Pn 22 00 09.1 -1.0
KARS Kars 15.46 60 Pn Pn 22 00 09.1 -1.0
KARS Kars 15.46 60 ePn Pn 22 00 09.1 -1.0
CONA Conrad Observa 15.56 335⇓iPn Pn 22 00 11.3 0.0
comp=Z,18nm,0.9s,SNR=24
CONA ⇑iP P 22 00 15.1 -0.3
comp=Z,18nm,0.9s
CONA Conrad Observa 15.56 335 Pn Pn 22 00 11.3 0.0
comp=Z,18nm,0.9s,SNR=24
SMOL Smolenice 15.58 340 eP P 22 00 16.1 +0.6
SMOL Smolenice 15.58 340 eP P 22 00 16.1 +0.6
SMOL Smolenice 15.58 340 eP P 22 00 16.1 +0.6
STHS Stebnicka Huta 15.61 350 eP Pn 22 00 11.5 -0.3
STHS Stebnicka Huta 15.61 350 ePN Pn 22 00 11.5 -0.3
STHS Stebnicka Huta 15.61 350 eP P 22 00 17.9 +2.1
STHS Stebnicka Huta 15.61 350 ePn Pn 22 00 11.5 -0.3
STHS Stebnicka Huta 15.61 350 eP P 22 00 17.9 +2.1
CHVG Ch'k'valeri 15.62 52 P P 22 00 14.5 -1.4
CHVG Ch'k'valeri 15.62 52 P P 22 00 14.5 -1.4
CASM Ain Smara 15.63 283 P P 22 00 17.4 +1.2
CASM Ain Smara 15.63 283 P P 22 00 17.4 +1.2
KWP Kalwaria Pacla 15.64 353 eP Pn 22 00 13.9 +1.7
KWP eS Sn 22 03 08.8 +4.1
KWP MLR MLR
comp=Z,5μm,23.3s
KWP Kalwaria Pacla 15.64 353 eP Pn 22 00 13.8 +1.6
KWP eS Sn 22 03 08.7 +4.1
KWP LMZ LR 22 06 39.0
KWP Kalwaria Pacla 15.64 353⇑iP Pn 22 00 12.7 +0.5
KWP Kalwaria Pacla 15.64 353 eP Pn 22 00 13.9 +1.7
comp=Z,5μm,23.3s
CLDR Caldiran 15.67 66 ePN Pn 22 00 11.9 -1.0
CLDR Caldiran 15.67 66 Pn Pn 22 00 11.9 -1.0
CLDR Caldiran 15.67 66 ePn Pn 22 00 11.9 -1.0
LVV L'vov 15.73 357 eP P 22 00 19.1 +2.0
LVV MLR MLR
comp=Z,6μm,14.0s
LVV MLR MLR
comp=N,4μm,13.0s
LVV MLR MLR
comp=E,3μm,13.0s
LVV L'vov 15.73 357 eP P 22 00 19.1 +2.0
comp=E,6μm,14.0s
NIE Niedzica 15.76 348 eP P 22 00 16.8 -0.7
NIE MLR MLR
comp=Z,5μm,19.1s
NIE Niedzica 15.76 348 eP P 22 00 16.8 -0.7
NIE eS S 22 03 22.9 +1.1
NIE L L 22 09 37.0
comp=Z,5μm,19.1s
NIE Niedzica 15.76 348 eP P 22 00 16.8 -0.7
comp=Z,5μm,19.1s
KBA Koelnbreinsper 15.85 328⇑iPn Pn 22 00 13.3 -1.8
comp=Z,129nm,0.8s,SNR=23
KBA ⇑iP P 22 00 17.4 -1.3
comp=Z,129nm,0.8s
KBA Koelnbreinsper 15.85 328 Pn Pn 22 00 13.3 -1.8
comp=Z,129nm,0.8s,SNR=23
ABTA Abfaltersbach 15.97 326⇑iPn Pn 22 00 14.3 -2.3
comp=Z,76nm,0.6s,SNR=32
ABTA ⇑iPn Pn 22 00 17.9 +1.3
comp=Z,96nm,0.7s
ABTA Abfaltersbach 15.97 326 Pn Pn 22 00 17.9 +1.3
comp=Z,96nm,0.7s
AKH Akhalkalaki 16.03 58 P P 22 00 25.7 +5.1

MOA Molln 16.08 332 i Pn Pn 22 00 17.9 0.0
comp=Z,96nm,0.8s,SNR=31
MOA ⇓iP P 22 00 21.3 +0.3
comp=Z,96nm,0.8s
MOA Molln 16.08 332 Pn Pn 22 00 17.9 0.0
comp=Z,96nm,0.8s,SNR=31
ONI Oni 16.46 54 P Pn 22 00 22.8 -0.1
ONI Oni 16.46 54 P Pn 22 00 22.8 -0.1
SET Setif 16.51 283 P P 22 00 28.0 +2.0
GNI Garni 16.53 63 P P 22 00 26.4 +0.1
GNI pmax pmax
comp=Z,5.0nm,0.3s
GNI MLR MLR
comp=Z,6μm,18.4s
GNI Garni 16.53 63 Pn P 22 00 26.4 +0.1
comp=Z,5.1nm,0.3s,baz=288,slow=3.4,SNR=66
GNI LR LR 22 08 29.0
comp=Z,6μm,18.4s,baz=264,slow=44
GNI Garni 16.53 63 ePn P 22 00 26.8 +0.5
comp=Z,148nm,0.7s
GNI Garni 16.53 63 ePn P 22 00 26.8 +0.5
comp=Z,148nm,0.7s
GNI Garni 16.53 63 P P 22 00 27.1 +0.8
SNR=11
GNI Garni 16.53 63⇑iP P 22 00 27.1 +0.8
SNR=11
VRAC Vranov 16.54 339 P Pn 22 00 24.6 +0.9
VRAC pmax pmax
comp=Z,3.0nm,0.3s
VRAC MLR MLR
comp=Z,5μm,19.0s
VRAC Vranov 16.54 339⇓iP P 22 00 25.5 -0.6
VRAC Vranov 16.54 339 Pn Pn 22 00 24.6 +0.9
comp=Z,2.8nm,0.3s,baz=150,slow=11,SNR=30
VRAC LR LR 22 08 06.7
comp=Z,5μm,18.9s,baz=170,slow=42
KIV Kislovodsk 16.60 49 P P 22 00 27.4 +0.5
comp=Z,1μm,1.0s,SNR=15
KIV Kislovodsk 16.60 49 eP P 22 00 26.1 -0.8
KIV eS Sn 22 03 27.5 -0.7
KIV pmax pmax
comp=Z,234nm,1.1s
KIV MLR MLR
comp=Z,1μm,13.0s
KIV Kislovodsk 16.60 49 ePn P 22 00 26.9 0.0
comp=Z,178nm,0.9s
KIV Kislovodsk 16.60 49 eP P 22 00 26.1 -0.8
comp=Z,234nm,1.1s
KIV Kislovodsk 16.60 49 ePn P 22 00 26.9 0.0
comp=Z,178nm,0.9s
KIV Kislovodsk 16.60 49 P P 22 00 27.4 +0.5
SNR=24
KIV Kislovodsk 16.60 49⇓iP P 22 00 27.4 +0.5
SNR=24
OKC Ostrava-Krasne 16.61 343 eP Pn 22 00 23.8 -0.8
OKC eS S 22 03 34.3 -4.7
OKC MLR MLR
comp=Z,6μm,19.8s
OKC Ostrava-Krasne 16.61 343 eP Pn 22 00 23.8 -0.8
OKC ex x 22 00 25.7
OKC epP pP 22 00 31.8 -2.2
OKC eS S 22 03 34.3 -4.7
OKC AMS AMS 22 07 30.0
comp=Z,6μm,19.8s
KBZ Khabaz 16.62 50 P P 22 00 26.7 -0.3
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ Khabaz 16.62 50 Pn P 22 00 26.7 -0.3
comp=Z,0.8nm,0.3s,baz=226,slow=6.6,SNR=27
OJC Ojcow 16.62 347 eP Pn 22 00 22.5 -2.3
OJC eS Sn 22 03 28.9 +0.5
OJC MLR MLR
comp=Z,6μm,11.4s
OJC Ojcow 16.62 347 eP Pn 22 00 22.5 -2.3
OJC eS Sn 22 03 28.9 +0.5
OJC L L 22 08 53.0
comp=Z,6μm,11.4s
KZR Kazreti 16.67 59 P P 22 00 28.8 +1.2
KZR Kazreti 16.67 59 P P 22 00 28.8 +1.2
MORC Moravsky Berou 16.70 342 eP Pn 22 00 23.7 -2.1
MORC pmax pmax
comp=Z,90nm,1.4s
MORC Moravsky Berou 16.70 342⇑iP Pn 22 00 24.5 -1.3
MORC Moravsky Berou 16.70 342 ePn Pn 22 00 23.6 -2.1
comp=Z,90nm,1.4s
MORC Moravsky Berou 16.70 342 ePn Pn 22 00 23.6 -2.2
comp=Z,90nm,1.4s
KIEV Kiev 16.80 8 eP Pn 22 00 27.3 +0.3
KIEV eS S 22 03 39.1 -3.9
KIEV pmax pmax
comp=Z,188nm,0.7s
KIEV Kiev 16.80 8 ePn Pn 22 00 27.3 +0.3
comp=Z,188nm,0.7s
KIEV eS S 22 03 39.1 -3.9
KIEV Kiev 16.80 8 ePn Pn 22 00 27.3 +0.3
comp=Z,188nm,0.7s
KIEV eS S 22 03 39.1 -3.9
AKASG Malin Array Be 16.81 8 P Pn 22 00 25.8 -1.3
AKASG 22 03 37.2
AKASG pmax pmax
comp=Z,8.0nm,0.3s
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG MLR MLR
comp=Z,17nm,28.6s
AKASG Malin Array Be 16.81 8 Pn Pn 22 00 25.8 -1.3
comp=Z,7.5nm,0.3s,baz=202,slow=11,SNR=53
AKASG Sn Sn 22 03 37.2 +4.2
baz=192,slow=21,SNR=5.0
AKASG PcP PcP 22 05 14.9 +0.8
comp=Z,0.7nm,0.3s,baz=247,slow=1.3,SNR=5.1
AKASG LR LR 22 07 01.8
comp=Z,5μm,21.4s,baz=185,slow=38
WATA Walderalm 16.84 326⇓iPn Pn 22 00 27.7 0.0
comp=Z,69nm,0.7s,SNR=20
WATA Walderalm 16.84 326 Pn Pn 22 00 27.7 0.0
comp=Z,69nm,0.7s,SNR=20
ZEI Tsey 16.84 54 eP Pn 22 00 27.5 -0.3
ZEI pmax pmax
comp=Z,210nm,1.2s
TREC Trest 16.86 337 eP Pn 22 00 28.6 +0.7
TREC eS Sn 22 03 35.0 +0.6
TREC MLR MLR
comp=Z,5μm,11.7s
TREC Trest 16.86 337 eP Pn 22 00 28.6 +0.7
TREC epP P 22 00 32.6 +2.9
TREC eS Sn 22 03 35.0 +0.6
TREC AMS AMS 22 08 10.0
comp=Z,5μm,11.7s
TREC Trest 16.86 337 eP Pn 22 00 28.6 +0.7
FUORN Ofenpass-Fuorn 16.98 322 ePn P 22 00 30.8 -0.5
comp=Z,810nm,1.6s
FUORN Ofenpass-Fuorn 16.98 322 ePn P 22 00 30.8 -0.5
comp=Z,810nm,1.6s
REVF Revere 16.99 310 eP Pn 22 00 30.5 +1.0
REVF Revere 16.99 310 eP Pn 22 00 30.5 +1.0
SBF Sospel 17.01 310 eP P 22 00 31.0 -0.4
comp=Z,312nm,0.8s
SBF Sospel 17.01 310 eP P 22 00 31.0 -0.4
SBF pmax pmax
comp=Z,313nm,0.8s
SBF Sospel 17.01 310 eP P 22 00 31.0 -0.4
comp=Z,312nm,0.8s
SBF Sospel 17.01 310 eP P 22 00 31.0 -0.4
comp=Z,156nm,0.8s
TBLG Delisi 17.01 58 P P 22 00 32.3 +0.8
TBLG Delisi 17.01 58 P P 22 00 32.3 +0.8
FETA Feichten 17.02 324⇓iPn Pn 22 00 30.7 +0.7
comp=Z,69nm,0.9s,SNR=33
FETA Feichten 17.02 324 Pn Pn 22 00 30.7 +0.7
comp=Z,69nm,0.9s,SNR=33
MOTA Moosalm 17.07 325⇑iPn Pn 22 00 30.0 -0.5
comp=Z,48nm,0.7s,SNR=27
MOTA Moosalm 17.07 325 Pn Pn 22 00 30.0 -0.5
comp=Z,48nm,0.7s,SNR=27
AUTN L'Aution 17.08 311 eP Pn 22 00 31.5 +0.7
AUTN L'Aution 17.08 311 eP Pn 22 00 31.5 +0.7
GEC2 GERESS Array S 17.11 333 eP Pn 22 00 30.3 -0.7
GEC2 GERESS Array S 17.11 333 ePn Pn 22 00 30.3 -0.7
GEC2 GERESS Array S 17.11 333 ePn Pn 22 00 30.3 -0.7
GERES GERESS Array B 17.11 333 P Pn 22 00 30.9 -0.2
comp=Z,7.8nm,0.3s,baz=145,slow=11,SNR=94
GERES PcP PcP 22 05 15.6 +0.8
comp=Z,0.1nm,0.3s,baz=172,slow=2.7,SNR=4.3
GERES LR LR 22 08 48.5
comp=Z,8μm,18.0s,baz=147,slow=43

GERES ScP ScP 22 08 51.0 +3.2
comp=Z,0.1nm,0.3s,baz=96,slow=2.7,SNR=3.6
DUS Dusheti 17.12 57 P P 22 00 35.1 +2.5
KRLC Kraliky 17.18 341 eP Pn 22 00 31.2 -0.6
KRLC Kraliky 17.18 341 eP Pn 22 00 31.2 -0.6
KRLC ex x 22 00 34.3
KRLC Kraliky 17.18 341 eP Pn 22 00 31.2 -0.6
TOUF Mont Tournerai 17.20 310 eP P 22 00 33.6 -0.1
TOUF Mont Tournerai 17.20 310 eP P 22 00 33.6 -0.1
MVIF Mont Vial 17.21 310 eP P 22 00 35.0 +1.3
MVIF Mont Vial 17.21 310 eP P 22 00 35.0 +1.3
DAVOX Davos/Dischmat 17.28 322 P P 22 00 35.7 +1.1
DAVOX pmax pmax
comp=Z,2.0nm,0.3s
DAVOX MLR MLR
comp=Z,7μm,19.6s
DAVOX Davos/Dischmat 17.28 322 P P 22 00 35.7 +1.1
comp=Z,1.9nm,0.3s,baz=165,slow=16,SNR=16
DAVOX LR LR 22 07 57.9
comp=Z,7μm,19.6s,baz=116,slow=40
CALN Calern 17.31 309 eP P 22 00 36.1 +1.3
CALN Calern 17.31 309 eP P 22 00 36.1 +1.3
RETA Reutte 17.33 325⇑iPn Pn 22 00 34.2 +0.5
comp=Z,36nm,0.5s,SNR=28
RETA Reutte 17.33 325 Pn Pn 22 00 34.2 +0.5
comp=Z,36nm,0.5s,SNR=28
TUE Stuetta 17.36 320 eP Pn 22 00 34.9 +0.6
comp=Z,263nm,1.5s
TUE Stuetta 17.36 320 eP Pn 22 00 34.9 +0.6
comp=Z,263nm,1.5s
LMR La Mourre 17.37 308 eP P 22 00 36.4 +1.1
comp=Z,752nm,1.7s
LMR La Mourre 17.37 308 eP P 22 00 36.4 +1.1
LMR pmax pmax
comp=Z,752nm,1.7s
LMR La Mourre 17.37 308 eP P 22 00 36.4 +1.1
comp=Z,752nm,1.7s
LMR La Mourre 17.37 308 eP P 22 00 36.4 +1.1
comp=Z,376nm,1.7s
DGRG David-gareji 17.37 59 P P 22 00 36.7 +1.3
DGRG David-gareji 17.37 59 P P 22 00 36.7 +1.3
FRF La Foret Royal 17.38 308 eP P 22 00 35.0 -0.4
comp=Z,262nm,1.3s
FRF La Foret Royal 17.38 308 eP P 22 00 35.0 -0.4
FRF pmax pmax
comp=Z,262nm,1.3s
FRF La Foret Royal 17.38 308 eP P 22 00 35.0 -0.4
comp=Z,262nm,1.3s
FRF La Foret Royal 17.38 308 eP P 22 00 35.0 -0.4
comp=Z,131nm,1.3s
KHC Kasperske Hory 17.39 333 eP Pn 22 00 31.9 -2.6
KHC eS Sn 22 03 47.7 +0.5
KHC MLR MLR
comp=Z,8μm,14.4s
KHC Kasperske Hory 17.39 333 eP Pn 22 00 31.9 -2.6
KHC ex x 22 00 34.9
KHC epP P 22 00 39.1 +3.5
KHC ex x 22 00 46.5
KHC eS Sn 22 03 47.7 +0.5
KHC AMS AMS 22 08 20.0
comp=Z,8μm,14.4s
KHC Kasperske Hory 17.39 333 ePn Pn 22 00 34.8 +0.3
comp=Z,921nm,2.0s
KHC Kasperske Hory 17.39 333 ePn Pn 22 00 34.8 +0.3
comp=Z,921nm,2.0s
GOF Gofitskoye 17.40 46 eP P 22 00 36.3 +0.7
GOF pmax pmax
comp=Z,180nm,1.2s
GOF Gofitskoye 17.40 46 eP P 22 00 36.3 +0.7
comp=Z,180nm,1.2s
DPC Dobruska-Polom 17.55 340 eP Pn 22 00 34.6 -1.8
DPC eS Sn 22 03 53.1 +2.1
DPC Dobruska-Polom 17.55 340 eP Pn 22 00 34.6 -1.8
DPC ex x 22 00 37.1
DPC epP pP 22 00 41.8 -2.7
DPC eS Sn 22 03 53.1 +2.1
DPC ex x 22 04 15.4
DPC AMS AMS 22 08 20.0
DPC Dobruska-Polom 17.55 340 ePn Pn 22 00 34.6 -1.8
comp=Z,217nm,0.8s
DPC Dobruska-Polom 17.55 340 ePn Pn 22 00 34.6 -1.8
comp=Z,217nm,0.8s
FUR Furstenfeldbru 17.59 327 eP P 22 00 38.4 +0.7
comp=Z,2μm,2.1s
FUR Furstenfeldbru 17.59 327 eP P 22 00 38.4 +0.7
comp=Z,2μm,2.1s
DAVA Damuels 17.62 323⇑iPn Pn 22 00 37.3 -0.2
comp=Z,41nm,0.6s,SNR=37
DAVA Damuels 17.62 323 Pn Pn 22 00 37.3 -0.2
comp=Z,41nm,0.6s,SNR=37
WET Wettzell 17.67 332 eP P 22 00 39.1 +0.4
comp=Z,654nm,1.4s
WET Wettzell 17.67 332 eP P 22 00 39.1 +0.4
comp=Z,654nm,1.4s
SURF Saint Ours 17.70 311 eP P 22 00 41.1 +1.9
SURF Saint Ours 17.70 311 eP P 22 00 41.1 +1.9
PRU Pruhonice 17.77 336 eP Pn 22 00 34.1 -5.0
PRU eS Sn 22 03 56.9 +0.6
PRU MLR MLR
comp=Z,6μm,18.5s
PRU Pruhonice 17.77 336 eP Pn 22 00 34.1 -5.0
PRU ex x 22 00 39.5
PRU epP P 22 00 41.9 +2.2
PRU eS Sn 22 03 56.9 +0.6
PRU ex x 22 04 18.2
PRU AMS AMS 22 08 00.0
comp=Z,6μm,18.5s
UPC Upice 17.78 340 eP Pn 22 00 39.1 -0.1
UPC Upice 17.78 340 eP Pn 22 00 39.1 -0.1
UPC epP pP 22 00 44.5 -2.5
UPC Upice 17.78 340 eP Pn 22 00 39.1 -0.1
MAHO Mahon 17.84 295 i P Pn 22 00 46.0 +5.4
MAHO i S Sn 22 03 55.9 -2.2
MBDF Montbardon 17.85 312 eP Pn 22 00 39.5 -0.8
comp=Z,244nm,1.1s
MBDF Montbardon 17.85 312 eP Pn 22 00 39.5 -0.8
MBDF pmax pmax
comp=Z,244nm,1.1s
MBDF Montbardon 17.85 312 eP Pn 22 00 39.5 -0.8
comp=Z,244nm,1.1s
MBDF Montbardon 17.85 312 eP Pn 22 00 39.5 -0.8
comp=Z,122nm,1.1s
PRA Prague 17.88 336 P Pn 22 00 35.0 -5.4
LEPF PUYLOUBIER 17.98 307 eP Pn 22 00 40.0 -1.7
LEPF PUYLOUBIER 17.98 307 eP Pn 22 00 40.0 -1.7
KSP Ksiaz 18.00 341 eP Pn 22 00 40.6 -1.3
KSP eS Sn 22 03 58.3 -3.6
KSP Ksiaz 18.00 341 eP P 22 00 42.3 0.0
KSP eS S 22 04 11.3 +3.9
KSP Ksiaz 18.00 341 eP Pn 22 00 40.6 -1.3
BEL Belsk 18.03 351 eP P 22 00 44.2 +1.6
BEL eS S 22 04 05.8 -2.2
BEL MLR MLR
comp=Z,4μm,24.8s
BEL Belsk 18.03 351 eP P 22 00 44.2 +1.6
BEL epP pP 22 00 48.6 -1.1
BEL esP sP 22 00 52.5 -0.7
BEL eS S 22 04 05.7 -2.2
BEL LMZ LR 22 07 50.0
BEL Belsk 18.03 351 eP P 22 00 44.2 +1.6
comp=Z,4μm,24.8s
BNI Bardonecchia 18.07 313 eP P 22 00 43.5 +0.3
BNI pmax pmax
comp=Z,108nm,1.3s
BNI Bardonecchia 18.07 313 ePn P 22 00 43.5 +0.3
comp=Z,108nm,1.3s
BNI Bardonecchia 18.07 313 ePn P 22 00 43.5 +0.3
comp=Z,108nm,1.3s
SMRF Simiane la Rot 18.26 309 eP P 22 00 46.0 +0.8
comp=Z,447nm,1.4s
SMRF Simiane la Rot 18.26 309 eP P 22 00 46.0 +0.8
comp=Z,447nm,1.4s
SMRF Simiane la Rot 18.26 309 eP P 22 00 46.0 +0.8
comp=Z,223nm,1.4s
LPG La Plagne 18.26 314 eP Pn 22 00 46.3 +0.9
comp=Z,45nm,0.5s
LPG La Plagne 18.26 314 eP Pn 22 00 46.3 +0.9
LPG pmax pmax
comp=Z,45nm,0.5s
LPG La Plagne 18.26 314 eP Pn 22 00 46.3 +0.9
comp=Z,45nm,0.5s
LPG La Plagne 18.26 314 eP Pn 22 00 46.3 +0.9
comp=Z,22nm,0.5s
LPL La Plagne 18.28 314 eP Pn 22 00 47.0 +1.4
comp=Z,37nm,0.6s

LPL La Plagne 18.28 314 eP Pn 22 00 47.0 +1.4
LPL pmax pmax
comp=Z,37nm,0.6s
LPL La Plagne 18.28 314 eP Pn 22 00 47.0 +1.4
comp=Z,37nm,0.6s
LPL La Plagne 18.28 314 eP Pn 22 00 47.0 +1.4
comp=Z,18nm,0.6s
SENIN Lac Senin/Sane 18.42 317 eP P 22 00 47.1 -0.1
SENIN Lac Senin/Sane 18.42 317 eP P 22 00 47.1 -0.1
EMHD Djebel Mahouad 18.49 283 P Pn 22 00 54.1 +6.0
GDM Grand'Maison 18.49 313 eP Pn 22 00 50.3 +2.2
ORIF Oris-en-Rattie 18.50 311 eP P 22 00 47.1 -0.8
comp=Z,185nm,1.2s
ORIF eR
comp=Z,7µm,22.0s
ORIF Oris-en-Rattie 18.50 311 eP P 22 00 47.1 -0.8
ORIF pmax pmax
comp=Z,185nm,1.2s
ORIF Oris-en-Rattie 18.50 311 eP P 22 00 47.1 -0.8
comp=Z,185nm,1.2s
ORIF Oris-en-Rattie 18.50 311 eP P 22 00 47.1 -0.8
comp=Z,92nm,1.2s
OG26 St.-Nazaire-De 18.70 310 eP P 22 00 49.9 -0.2
OG26 St.-Nazaire-De 18.70 310 eP P 22 00 49.9 -0.2
BRG Berggiesshubel 18.73 337 eP P 22 00 50.4 +0.1
comp=Z,80nm,1.8s
BRG i 22 01 00.1
comp=Z,47nm,1.1s
BRG S Sn 22 04 13.0 -6.5
BRG ePCS PcS 22 08 56.0 +2.1
comp=Z,11nm,1.5s
comp=N,4µm,14.6s
comp=E,6µm,14.5s
comp=Z,4µm,15.3s
BRG Berggiesshubel 18.73 337 eP P 22 00 50.4 +0.1
BRG S Sn 22 04 13.0 -6.5
BRG pmax pmax
comp=Z,16nm,1.8s
BRG pmax pmax
comp=Z,80nm,1.1s
BRG pmax pmax
comp=Z,47nm,1.5s
BRG MLR MLR
comp=N,11µm,14.6s
BRG MLR MLR
comp=E,4µm,14.5s
BRG MLR MLR
comp=Z,6µm,15.3s
BRG Berggiesshubel 18.73 337 eP P 22 00 50.4 +0.1
comp=Z,80nm,1.1s
GRN Grenoble 18.74 312 eP Pn 22 00 52.1 +1.1
GRN Grenoble 18.74 312 eP Pn 22 00 52.1 +1.1
OG01 Vacheresse 18.75 316 eP Pn 22 00 51.8 +0.6
OG01 Vacheresse 18.75 316 eP Pn 22 00 51.8 +0.6
GRFO Grafenberg 18.77 330 eP P 22 00 51.1 +0.4
GRFO pmax pmax
comp=Z,678nm,1.4s
GRFO Grafenberg 18.77 330 eP P 22 00 51.1 +0.4
comp=Z,678nm,1.4s
GRFO Grafenberg 18.77 330 eP P 22 00 51.1 +0.4
comp=Z,678nm,1.4s
GRA1 Grafenberg Arr 18.77 330 eP Pn 22 00 51.2 -0.1
comp=Z,2µm,2.1s
GRF Grafenberg Arr 18.77 330 eP Pn 22 00 51.2 -0.1
comp=Z,2µm,2.1s
GRF eL L 22 09 58.1
comp=Z,4µm,19.1s
TANN Tannenbergstha 18.86 334 eP P 22 00 51.8 0.0
comp=Z,217nm,1.0s
TANN Tannenbergstha 18.86 334 eP P 22 00 51.8 0.0
comp=Z,217nm,1.0s
BBS Basel-Blauen 18.96 320 eP P 22 00 51.6 -1.3
FELD Feldberg im Sc 18.97 322 eP P 22 00 52.9 -0.1
STU Stuttgart 18.98 325 eP P 22 00 53.1 +0.1
STU pmax pmax
comp=Z,109nm,0.8s
STU Stuttgart 18.98 325 eP P 22 00 52.7 -0.4
comp=Z,140nm,0.9s
STU Stuttgart 18.98 325 eP P 22 00 53.1 +0.1
comp=Z,109nm,0.8s
STU Stuttgart 18.98 325 eP P 22 00 53.1 +0.1
comp=Z,109nm,0.8s
BFO Black Forest 19.10 323 Pn Pn 22 00 56.8 +1.5
comp=Z,528nm,0.9s,SNR=11
BFO Black Forest 19.10 323 eP P 22 00 54.7 +0.3
BFO pmax pmax
comp=Z,240nm,1.5s
BFO Black Forest 19.10 323 eP P 22 00 54.9 +0.5
comp=Z,174nm,1.4s
BFO Black Forest 19.10 323 eP P 22 00 54.7 +0.3
comp=Z,240nm,1.5s
BFO Black Forest 19.10 323 eP P 22 00 54.7 +0.3
comp=Z,240nm,1.5s
VIVF Saint-Julien-l 19.23 310 eP P 22 00 54.7 -1.1
comp=Z,125nm,1.1s
VIVF Saint-Julien-l 19.23 310 eP P 22 00 54.7 -1.1
VIVF pmax pmax
comp=Z,125nm,1.1s
VIVF Saint-Julien-l 19.23 310 eP P 22 00 54.7 -1.1
comp=Z,125nm,1.1s
VIVF Saint-Julien-l 19.23 310 eP P 22 00 54.7 -1.1
comp=Z,62nm,1.1s
CABF La Chapelle 19.25 316 eP P 22 00 55.4 -0.7
comp=Z,93nm,0.7s
CABF La Chapelle 19.25 316 eP P 22 00 55.4 -0.7
CABF pmax pmax
comp=Z,93nm,0.7s
CABF La Chapelle 19.25 316 eP P 22 00 55.4 -0.7
comp=Z,93nm,0.7s
CABF La Chapelle 19.25 316 eP P 22 00 55.4 -0.7
comp=Z,47nm,0.7s
LOMF Lomont 19.26 319 eP P 22 00 54.2 -2.0
LOMF Lomont 19.26 319 eP P 22 00 54.2 -2.0
LIBD Limburg 19.35 322 eP P 22 00 55.4 -1.7
MAK Makhachkala 19.36 56 eP P 22 00 55.9 -1.3
MAK eS S 22 04 32.8 -1.8
MAK pmax pmax
comp=Z,439nm,6.8s
MAK MLR MLR
comp=Z,3µm,16.0s
MAK Makhachkala 19.36 56 eP P 22 00 55.9 -1.3
comp=Z,439nm,6.8s
MOX Moxa 19.36 333 eP P 22 00 57.1 -0.1
comp=Z,76nm,0.9s
MOX Moxa 19.36 333 eP P 22 00 57.1 -0.1
comp=Z,76nm,0.9s
MOF Molkenrain 19.40 320 eP P 22 00 55.7 -2.1
MOF Molkenrain 19.40 320 eP P 22 00 55.7 -2.1
CLL Collm 19.41 336 eP P 22 00 57.0 -0.7
CLL eS S 22 04 30.0 -5.6
CLL pmax pmax
comp=Z,87nm,0.8s
CLL Collm 19.41 336 eP P 22 00 57.7 0.0
comp=Z,122nm,1.1s
CLL Collm 19.41 336 eP P 22 00 57.0 -0.7
CLL ePlp 22 00 58.0
comp=Z,400nm,25.3s
CLL i 22 01 00.9
CLL i sP sP 22 01 03.4 -5.0
comp=Z,87nm,0.8s
CLL eS S 22 04 30.0 -5.6
CLL e 22 04 47.0
CLL eSSS SSS 22 05 00.0
CLL Lmax 22 11 00.0
CLL Collm 19.41 336 eP P 22 00 57.0 -0.7
comp=Z,87nm,0.8s
LASF Ste Croix 19.42 307 eP P 22 00 57.1 -0.9
comp=Z,639nm,1.6s
LASF Ste Croix 19.42 307 eP P 22 00 57.1 -0.9
comp=Z,639nm,1.6s
LASF Ste Croix 19.42 307 eP P 22 00 57.1 -0.9
comp=Z,320nm,1.6s
SSB Saint Sauveur 19.50 311 eP P 22 00 56.8 -2.0
SSB Saint Sauveur 19.50 311 eP P 22 00 56.8 -2.0
SJAF Saint Jean de 19.53 302 eP P 22 00 57.6 -1.5
SJAF Saint Jean de 19.53 302 eP P 22 00 57.6 -1.5
HINF Hinteralfeld 19.53 320 eP P 22 00 58.8 -0.3
comp=Z,713nm,1.6s
HINF Hinteralfeld 19.53 320 eP P 22 00 58.8 -0.3
HINF pmax pmax
comp=Z,713nm,1.6s
HINF Hinteralfeld 19.53 320 eP P 22 00 58.8 -0.3
comp=Z,713nm,1.6s
HINF Hinteralfeld 19.53 320 eP P 22 00 58.8 -0.3
comp=Z,357nm,1.6s
STR Strasbourg 19.55 323 eP Pn 22 01 00.1 -0.5
STR Strasbourg 19.55 323 eP Pn 22 01 00.1 -0.5
ECH Echery 19.62 321 eP P 22 01 00.8 +0.7
ECH Echery 19.62 321 eP P 22 01 00.8 +0.7
EBNR Beni Rached 19.64 283 P Pn 22 01 02.7 +0.8
WLS Welschbruch 19.65 322 eP P 22 00 57.7 -2.7
VORD Divnogorie 19.65 27 eP Pn 22 01 01.3 -0.5
VORD eS S 22 04 34.2 -6.1
VORD pmax pmax
comp=Z,70nm,0.7s
VORD pmax pmax
comp=N,170nm,0.8s
VORD pmax pmax
comp=E,190nm,0.8s
VORD smax smax
comp=E,3µm,10.9s
VORD smax smax
comp=Z,2µm,9.6s
VORD smax smax
comp=N,1µm,6.3s
VORD MLR MLR
comp=Z,4µm,14.0s
VORD MLR MLR
comp=N,3µm,17.0s
VORD MLR MLR
comp=E,2µm,14.0s
VORD Divnogorie 19.65 27 eP Pn 22 01 01.3 -0.5
comp=E,70nm,0.7s
CDF Champ du Feu 19.68 322 eP P 22 01 00.8 0.0
comp=E,116nm,0.9s
CDF Champ du Feu 19.68 322 eP P 22 01 00.8 0.0
CDF pmax pmax
comp=Z,117nm,0.9s
CDF Champ du Feu 19.68 322 eP P 22 01 00.8 0.0
comp=Z,116nm,0.9s
CDF Champ du Feu 19.68 322 eP P 22 01 00.8 0.0
comp=Z,58nm,0.9s
TOD Tromm 19.75 327 eP P 22 01 01.6 +0.1
ECHA Ech Chlef 19.77 283 P Pn 22 01 03.0 -0.4
ECHA Ech Chlef 19.77 283 P Pn 22 01 03.0 -0.4
FILF Fillols 19.78 302 eP Pn 22 01 03.4 -0.1
FILF Fillols 19.78 302 eP Pn 22 01 03.4 -0.1
LANF Langenberg 19.79 324 eP Pn 22 01 03.4 -0.2
LANF Langenberg 19.79 324 eP Pn 22 01 03.4 -0.2
VSR Storozhevoye 19.80 26 eP P 22 01 02.5 +0.5
VSR eS S 22 04 38.0 -5.6
VSR pmax pmax
comp=Z,50nm,0.6s
VSR pmax pmax
comp=N,120nm,0.8s
VSR pmax pmax
comp=E,70nm,0.8s
VSR smax smax
comp=N,3µm,9.8s
VSR smax smax
comp=Z,4µm,13.4s
VSR smax smax
comp=E,1µm,6.8s
VSR MLR MLR
comp=Z,5µm,14.0s
VSR MLR MLR
comp=N,3µm,15.0s
VSR MLR MLR
comp=E,2µm,14.0s
VSR Storozhevoye 19.80 26 eP P 22 01 02.5 +0.5
comp=E,50nm,0.6s
ETRT Tiaret 19.86 281 P P 22 01 03.7 +0.8
ETRT Tiaret 19.86 281 P P 22 01 03.7 +0.8
KTD Kalmit 19.89 325 eP P 22 01 03.6 +0.6
LRDF Laroque-de-Fa 19.91 303 eP P 22 01 02.7 -0.6
LRDF Laroque-de-Fa 19.91 303 eP P 22 01 02.7 -0.6
HAU Haudompre 19.92 320 eP P 22 01 03.1 -0.2
comp=E,280nm,0.9s
HAU eR
comp=E,6µm,19.8s
HAU Haudompre 19.92 320 eP P 22 01 03.1 -0.2
HAU pmax pmax
comp=Z,280nm,0.9s
HAU Haudompre 19.92 320 eP P 22 01 03.1 -0.2
comp=Z,280nm,0.9s
HAU Haudompre 19.92 320 eP P 22 01 03.1 -0.2
comp=Z,140nm,0.9s
SUW Suwalki 19.96 356 eP P 22 01 01.9 -1.8
SUW eS S 22 04 45.4 -1.3
SUW pmax pmax
comp=Z,282nm,0.9s
SUW Suwalki 19.96 356 eP P 22 01 03.5 -0.2
SUW epP Pn 22 01 06.3 +0.8
SUW esP sP 22 01 11.7 -2.6
SUW eS S 22 04 46.1 -0.6
SUW LMZ LR 22 10 04.2
SUW Suwalki 19.96 356 eP P 22 01 01.9 -1.8
comp=Z,282nm,0.9s
SUW eS S 22 04 45.4 -1.3
SUW Suwalki 19.96 356 eP P 22 01 01.9 -1.8
comp=Z,282nm,0.9s
SUW eS S 22 04 45.4 -1.3
EANR 'Ain N'Sour 19.99 282 P P 22 01 05.0 +0.7
EANR 'Ain N'Sour 19.99 282 P P 22 01 05.0 +0.7
GKP Gorka Klasztor 20.02 346 eP Pn 22 01 06.8 +0.6
GKP e*SP sP 22 01 10.3 -4.7
GKP eS S 22 04 45.5 -2.5
GKP MLR MLR
comp=Z,6µm,18.6s
GKP Gorka Klasztor 20.02 346 eP Pn 22 01 06.8 +0.6
GKP epP P 22 01 08.0 +3.7
GKP esP sP 22 01 10.2 -4.7
GKP eS S 22 04 45.4 -2.5
GKP LMZ LR 22 09 53.6
GKP Gorka Klasztor 20.02 346 eP Pn 22 01 06.8 +0.6
VALF Valcebollere 20.11 301 eP P 22 01 05.7 +0.1
VALF Valcebollere 20.11 301 eP P 22 01 05.7 +0.1
UBBA Unterbreizbach 20.14 331 eP P 22 01 05.9 +0.4
comp=Z,251nm,1.6s
UBBA Unterbreizbach 20.14 331 eP P 22 01 05.9 +0.4
comp=Z,251nm,1.6s
COLF Collangettes 20.14 311 eP P 22 01 04.0 -1.8
COLF Collangettes 20.14 311 eP P 22 01 04.0 -1.8
IRAZ Razeghan 20.17 79 eP Pn 22 01 07.4 -1.0
IRAZ Razeghan 20.17 79 eP Pn 22 01 07.4 -1.0
RUE Ruedersdorf 20.18 339 eP P 22 01 05.7 -0.3
comp=Z,137nm,1.0s
RUE Ruedersdorf 20.18 339 eP P 22 01 05.7 -0.3
comp=Z,137nm,1.0s
VOR Voronezh 20.24 25 eP P 22 01 06.0 -0.7
VOR pmax pmax
comp=Z,260nm,2.0s
VOR Voronezh 20.24 25 eP P 22 01 06.0 -0.7
comp=Z,260nm,2.0s
THEF They Montfort 20.24 320 eP P 22 01 06.2 -0.6
THEF They Montfort 20.24 320 eP P 22 01 06.2 -0.6
MTLF Montolieu 20.26 304 eP P 22 01 06.5 -0.6
comp=Z,172nm,1.4s
MTLF Montolieu 20.26 304 eP P 22 01 06.5 -0.6
MTLF pmax pmax
comp=Z,172nm,1.4s
MTLF Montolieu 20.26 304 eP P 22 01 06.5 -0.6
comp=Z,172nm,1.4s
MTLF Montolieu 20.26 304 eP P 22 01 06.5 -0.6
comp=Z,86nm,1.4s
LBL Lubilhac 20.30 310 eP P 22 01 06.5 -1.0
LBL Lubilhac 20.30 310 eP P 22 01 06.5 -1.0
TNS Taunus Mts 20.36 327 eP P 22 01 08.8 +0.7
comp=Z,440nm,1.5s
TNS Taunus Mts 20.36 327 eP P 22 01 08.8 +0.7
comp=Z,440nm,1.5s
IGZV Ghazvin 20.37 77 eP P 22 01 09.4 +0.9
IGZV Ghazvin 20.37 77 eP P 22 01 09.4 +0.9
PLDF La Plantade 20.39 312 eP P 22 01 07.5 -1.1
PLDF La Plantade 20.39 312 eP P 22 01 07.5 -1.1
MNK Minsk 20.46 4 deP P 22 01 07.0 -2.1
MNK e 22 01 32.0
MNK eS S 22 04 44.0 -13
MNK eSS SnSn 22 05 18.0 +2.2
MNK pmax pmax
comp=Z,460nm,1.6s
MNK pmax pmax
comp=N,520nm,1.6s
MNK MLR MLR
comp=Z,7µm,9.0s
MNK MLR MLR
comp=N,6µm,9.0s
MNK Minsk 20.46 4 eP P 22 01 07.0 -2.1
comp=N,520nm,1.6s
MICGM Minsk 20.46 4 ‖eP P 22 01 07.0 -2.1
RAYN Ar Rayn 20.48 116 eP Pn 22 01 10.8 -1.1
comp=N,34nm,0.9s
RAYN Ar Rayn 20.48 116 eP Pn 22 01 10.8 -1.1
comp=N,34nm,0.9s
ABH Alteburg 20.53 326 eP P 22 01 09.7 -0.2
PAGF Fort de Pagny 20.58 320 eP P 22 01 10.1 -0.4
comp=N,367nm,1.5s,baz=122
PAGF Fort de Pagny 20.58 320 eP P 22 01 10.1 -0.4
comp=N,367nm,1.5s
PAGF Fort de Pagny 20.58 320 eP P 22 01 10.1 -0.4
comp=N,183nm,1.5s
SMF Signal de Mont 20.59 314 eP P 22 01 09.8 -0.8
comp=N,124nm,0.9s
SMF Signal de Mont 20.59 314 eP P 22 01 09.8 -0.8
SMF pmax pmax
comp=Z,124nm,0.9s
SMF Signal de Mont 20.59 314 eP P 22 01 09.8 -0.8
comp=Z,124nm,0.9s
SMF Signal de Mont 20.59 314 eP P 22 01 09.8 -0.8
comp=Z,62nm,0.9s
VRHR Novokhopersk 20.67 30 eP P 22 01 12.5 +1.1
VRHR eS S 22 04 59.0 -1.8
VRHR pmax pmax
comp=Z,300nm,0.7s
VRHR pmax pmax
comp=N,290nm,0.8s
VRHR pmax pmax
comp=E,130nm,0.7s
VRHR smax smax
comp=E,4µm,11.5s
VRHR smax smax
comp=Z,1µm,11.4s
VRHR smax smax
comp=N,2µm,6.3s
VRHR MLR MLR
comp=Z,2µm,16.0s
VRHR MLR MLR
comp=N,1µm,21.0s
VRHR MLR MLR
comp=E,1µm,17.0s
PYM Petit Puy Mans 20.68 311 eP P 22 01 11.2 -0.4
AGO Saint Agoulin 20.74 312 eP P 22 01 10.1 -2.1
AGO Saint Agoulin 20.74 312 eP P 22 01 10.1 -2.1
SFTF Sexfontaines 20.74 319 eP P 22 01 13.5 +1.3
comp=E,351nm,1.1s,baz=134
SFTF Sexfontaines 20.74 319 eP P 22 01 13.5 +1.3
comp=E,351nm,1.1s
IMHD Mahdasht 20.75 78 eP P 22 01 13.3 +0.7
CLZ Clausthal 20.79 333 eP P 22 01 12.0 -0.8
comp=Z,170nm,1.0s
FRNF Fournols 20.80 310 eP P 22 01 13.0 +0.1
NACGM Naroch 20.81 2 eP P 22 01 11.0 -1.9
LOR Lormes 20.89 315 eP P 22 01 12.8 -1.1
comp=Z,174nm,1.1s,baz=127
LOR eR
comp=Z,6µm,22.2s
LOR Lormes 20.89 315 eP P 22 01 12.8 -1.1
LOR pmax pmax
comp=Z,174nm,1.1s
LOR Lormes 20.89 315 eP P 22 01 12.8 -1.1
comp=Z,174nm,1.1s
MEZF Maizieres J'vi 20.91 320 eP P 22 01 13.9 -0.1
comp=Z,402nm,0.9s,baz=130
MEZF Maizieres J'vi 20.91 320 eP P 22 01 13.9 -0.1
comp=Z,402nm,0.9s
MLS Moulis 20.93 302 eP P 22 01 14.7 +0.4
CAF Calviac 20.94 308 eP P 22 01 13.4 -1.0
comp=Z,126nm,1.0s
CAF Calviac 20.94 308 eP P 22 01 13.4 -1.0
CAF pmax pmax
comp=Z,126nm,1.0s
CAF Calviac 20.94 308 eP P 22 01 13.4 -1.0
comp=Z,126nm,1.0s
AVF Avril sur Loir 20.95 314 eP P 22 01 13.7 -0.8
comp=Z,113nm,0.9s
AVF Avril sur Loir 20.95 314 eP P 22 01 13.7 -0.8
AVF pmax pmax
comp=Z,113nm,0.9s
AVF Avril sur Loir 20.95 314 eP P 22 01 13.7 -0.8
comp=Z,113nm,0.9s
SSF Saint Saulge 21.00 315 eP P 22 01 14.1 -0.9
comp=Z,67nm,0.7s
SSF Saint Saulge 21.00 315 eP P 22 01 14.1 -0.9
SSF pmax pmax
comp=Z,67nm,0.7s
SSF Saint Saulge 21.00 315 eP P 22 01 14.1 -0.9
comp=Z,67nm,0.7s
WLF Walferdange 21.06 323 P P 22 01 16.2 +0.6
comp=Z,22nm,1.3s
WLF Walferdange 21.06 323 eP P 22 01 15.7 +0.1
comp=Z,348nm,1.1s
MELF Melles 21.14 302 eP P 22 01 17.6 +1.0
BGF Bois d'Agland 21.15 313 eP P 22 01 16.5 -0.1
comp=Z,391nm,1.0s
BGF Bois d'Agland 21.15 313 eP P 22 01 16.5 -0.1
BGF pmax pmax
comp=Z,391nm,1.0s
BGF Bois d'Agland 21.15 313 eP P 22 01 16.5 -0.1
comp=Z,391nm,1.0s
IDID Didziasalis 21.22 2 eP P 22 01 17.1 -0.2
IDID AMB AMB 22 01 23.5
comp=Z,37nm,1.2s
IDID Didziasalis 21.22 2 eP P 22 01 17.1 -0.2
comp=Z,37nm,1.2s,SNR=29
IIGN Ignalina 21.25 1 eP P 22 01 17.6 0.0
IIGN AMB AMB 22 01 27.3
comp=Z,58nm,0.8s
IIGN Ignalina 21.25 1 eP P 22 01 17.6 0.0
comp=Z,58nm,0.8s,SNR=29
IPIR Pirpir 21.30 87 eP P 22 01 18.9 +0.2
NRDL Niedersach Rie 21.41 334 eP P 22 01 18.6 -0.7
comp=Z,558nm,2.0s
TCF Toulx Ste Croi 21.41 312 eP P 22 01 19.5 0.0
comp=Z,328nm,1.2s
TCF Toulx Ste Croi 21.41 312 eP P 22 01 19.5 0.0
TCF pmax pmax
comp=Z,328nm,1.2s
TCF Toulx Ste Croi 21.41 312 eP P 22 01 19.5 0.0
comp=Z,328nm,1.2s
RJF Les Rejaudoux 21.44 309 eP P 22 01 18.4 -1.4
comp=Z,241nm,1.1s
RJF eR
comp=Z,3µm,21.1s
RJF Les Rejaudoux 21.44 309 eP P 22 01 18.4 -1.4
RJF pmax pmax
comp=Z,241nm,1.1s
RJF Les Rejaudoux 21.44 309 eP P 22 01 18.4 -1.4
comp=Z,241nm,1.1s
ISAL Salakas 21.47 1 eP P 22 01 19.8 -0.1
ISAL AMB AMB 22 01 34.7
comp=Z,44nm,1.0s
ISAL Salakas 21.47 1 eP P 22 01 19.8 -0.1
comp=Z,44nm,1.0s,SNR=28
EPF Esparros 21.48 302 eP P 22 01 19.8 -0.4
comp=Z,95nm,1.1s
EPF Esparros 21.48 302 eP P 22 01 19.8 -0.4
EPF pmax pmax
comp=Z,95nm,1.1s
EPF Esparros 21.48 302 eP P 22 01 19.8 -0.4
comp=Z,95nm,1.1s
QAM Ghamsar 21.57 84 eP P 22 01 22.6 +1.1
VIEF Viey 21.66 301 eP P 22 01 22.7 +0.4
IVRN Varamin 21.67 80 eP P 22 01 23.8 +1.4
LABF Labassere 21.67 302 eP P 22 01 23.8 +1.5
CART Cartagena 21.67 287 i P P 22 01 23.0 +0.7
CART i S Sn 22 05 26.9 -3.6
MEM Membach 21.75 325 P P 22 01 22.7 -0.3
comp=Z,112nm,1.2s
MEM Membach 21.75 325 eP P 22 01 23.2 +0.2
MEM pmax pmax
comp=Z,164nm,0.8s
MEM MLR MLR
comp=Z,8735µm,21.0s
MEM Membach 21.75 325 eP P 22 01 23.2 +0.2
comp=Z,164nm,0.8s
MEM LR LR
comp=Z,8735µm,21.0s
MEM Membach 21.75 325 eP P 22 01 23.2 +0.2
comp=Z,164nm,0.8s
BUG Bochum--Univer 21.75 328 eP P 22 01 23.4 +0.4
comp=Z,464nm,1.3s
IKLH Kolahrood 21.76 85 eP P 22 01 23.7 +0.1
LFF La Frestale 21.81 307 eP P 22 01 23.5 -0.3
comp=Z,105nm,0.6s
LFF La Frestale 21.81 307 eP P 22 01 23.5 -0.3
LFF pmax pmax
comp=Z,105nm,0.6s
LFF La Frestale 21.81 307 eP P 22 01 23.5 -0.3

comp=Z,105nm,0.6s
IDMV Damavand 21.87 79 eP P 22 01 26.1 +1.3
HGN Heimansgroeve 21.89 325 eP P 22 01 24.5 0.0
comp=Z,341nm,1.6s
HGN eS S 22 05 28.6 +3.7
HGN eL L 22 11 07.4
comp=Z,3μm,21.4s
BCLA Clavier 21.96 324 P P 22 01 26.4 +1.1
comp=Z,74nm,2.0s
GIVF Givet 22.00 323 eP P 22 01 25.2 -0.5
comp=Z,165nm,0.9s
GIVF Givet 22.00 323 eP P 22 01 25.2 -0.5
GIVF pmax pmax
comp=Z,165nm,0.9s
GIVF Givet 22.00 323 eP P 22 01 25.2 -0.5
comp=Z,165nm,0.9s
BEBN Eben Emael 22.03 325 P P 22 01 26.4 +0.4
comp=Z,40nm,1.6s
ETSF Etsaut 22.08 301 eP P 22 01 26.6 -0.1
comp=Z,157nm,1.0s
ETSF Etsaut 22.08 301 eP P 22 01 26.6 -0.1
ETSF pmax pmax
comp=Z,157nm,1.0s
ETSF Etsaut 22.08 301 eP P 22 01 26.6 -0.1
comp=Z,157nm,1.0s
IPRN Peran 22.08 77 eP P 22 01 28.4 +1.6
DOU Dourbes 22.11 323 P P 22 01 26.1 -0.8
comp=Z,60nm,1.2s
IBBN Ibbenburen 22.18 330 eP P 22 01 27.9 +0.3
comp=Z,701nm,1.8s
ATE Arette 22.23 301 eP P 22 01 28.5 +0.2
BSD Bornholm Skovb 22.25 344 iP P 22 01 28.2 -0.1
BSD iS S 22 05 29.0 -2.5
BSD pmax pmax
comp=Z,57nm,1.1s
BSD MLR MLR
comp=Z,2μm,11.0s
BSD Bornholm Skovb 22.25 344 iP P 22 01 28.2 -0.1
comp=Z,57nm,1.0s
BSD iS S 22 05 29.0 -2.5
comp=Z,2μm,11.0s
BAIF Baives 22.28 322 eP P 22 01 28.9 +0.1
comp=Z,208nm,0.8s
BAIF Baives 22.28 322 eP P 22 01 28.9 +0.1
BAIF pmax pmax
comp=Z,208nm,0.8s
BAIF Baives 22.28 322 eP P 22 01 28.9 +0.1
comp=Z,208nm,0.8s
WTSB Winterswijk 22.33 329 eP P 22 01 28.4 -0.8
comp=Z,772nm,1.6s
OBN Obninsk 22.40 17 P P 22 01 29.6 -0.3
comp=Z,1μm,0.5s,SNR=13
OBN Obninsk 22.40 17⇓iP P 22 01 28.4 -1.5
OBN iS S 22 05 33.2 -1.0
OBN pmax pmax
comp=Z,325nm,2.5s
OBN MLR MLR
comp=Z,6μm,18.0s
OBN Obninsk 22.40 17 P P 22 01 28.4 -1.5
comp=Z,85nm,0.5s,baz=73,slow=0.4,SNR=18
OBN LR LR 22 10 58.8
comp=Z,4μm,20.9s,baz=214,slow=39
OBN Obninsk 22.40 17 eP P 22 01 29.7 -0.2
comp=Z,102nm,0.7s
OBN eS S 22 05 29.9 -4.4
OBN Obninsk 22.40 17 eP P 22 01 29.7 -0.2
comp=Z,102nm,0.7s
LARF Larrau 22.42 301 eP P 22 01 31.0 +0.7
IZEF Zefreh 22.45 86 eP P 22 01 31.5 +0.5
IFIR Firoozkooh 22.45 78 eP P 22 01 32.5 +1.5
IALA Alasht 22.47 77 eP P 22 01 33.4 +2.2
BSEG Bad Segeberg 22.51 336 eP P 22 01 29.2 -1.9
comp=Z,987nm,2.1s
SNF Seneffe 22.52 323 P P 22 01 32.2 +0.9
SJPF Ste Jean 22.61 301 eP P 22 01 32.8 +0.5
comp=Z,146nm,1.0s
SJPF Ste Jean 22.61 301 eP P 22 01 32.8 +0.5
SJPF pmax pmax
comp=Z,146nm,1.0s
SJPF Ste Jean 22.61 301 eP P 22 01 32.8 +0.5
comp=Z,146nm,1.0s
ILAS Lasjerd 22.64 79 eP P 22 01 33.1 +0.1
MFF Saint Martin d 23.02 310 eP P 22 01 36.0 -0.6
comp=Z,305nm,1.1s
MFF Saint Martin d 23.02 310 eP P 22 01 36.0 -0.6
MFF pmax pmax
comp=Z,305nm,1.1s
MFF Saint Martin d 23.02 310 eP P 22 01 36.0 -0.6
comp=Z,305nm,1.1s
LLD Lille Linde 23.13 341 iP P 22 01 37.9 +0.4
LLD pmax pmax
comp=Z,140nm,0.8s
LLD Lille Linde 23.13 341 iP P 22 01 37.9 +0.4
comp=Z,145nm,0.8s
MOS Moscow 23.22 18 eP P 22 01 39.3 +0.8
MOS e 22 02 07.4
MOS eS S 22 05 52.8 +4.2
MOS pmax pmax
comp=Z,155nm,1.5s
MOS pmax pmax
comp=Z,400nm,1.7s
MOS MLR MLR
comp=Z,5μm,12.0s
IGLO Ghaloghah 23.27 76 eP P 22 01 40.1 +0.6
COP Copenhagen 23.38 341 iP P 22 01 40.9 +0.9
COP iS S 22 05 53.7 +2.6
COP pmax pmax
comp=Z,30nm,0.8s
COP MLR MLR
comp=Z,1μm,14.0s
COP Copenhagen 23.38 341 iP P 22 01 40.9 +0.9
comp=Z,30nm,0.8s
COP iS S 22 05 53.7 +2.6
comp=Z,1μm,13.0s
IANJ Anjilo 23.41 79 eP P 22 01 40.2 -0.7
ISAD Sadrabad 23.77 87 eP P 22 01 45.0 +0.6
IPAR Pars 23.79 93 eP P 22 01 45.0 +0.4
LDF La Druitiere 23.88 315 eP P 22 01 43.9 -1.0
comp=Z,141nm,0.8s
LDF La Druitiere 23.88 315 eP P 22 01 43.9 -1.0
LDF pmax pmax
comp=Z,141nm,0.8s
LDF La Druitiere 23.88 315 eP P 22 01 43.9 -1.0
comp=Z,141nm,0.8s
ISRV Sarvestan 23.98 94 eP P 22 01 47.0 +0.5
ES19 SONSECA Array 24.04 292 eP P 22 01 46.0 -0.7
ES19 ePcP PcP 22 05 28.7 +0.8
ES19 SONSECA Array 24.04 292 eP P 22 01 46.0 -0.7
ESDC Sonseca Array 24.09 292 P P 22 01 46.7 -0.4
comp=Z,16nm,0.6s,baz=83,slow=9.3,SNR=80
ESDC PcP PcP 22 05 29.2 +1.3
comp=Z,1.8nm,0.7s,baz=46,slow=1.8,SNR=4.3
FLN La Foliniere 24.17 315 eP P 22 01 46.6 -1.0
comp=Z,140nm,0.7s,baz=128
FLN eR
comp=Z,6μm,22.0s
FLN La Foliniere 24.17 315 eP P 22 01 46.6 -1.0
FLN pmax pmax
comp=Z,140nm,0.6s
FLN La Foliniere 24.17 315 eP P 22 01 46.6 -1.0
comp=Z,140nm,0.6s
GRR Gorron 24.22 314 eP P 22 01 47.3 -0.8
comp=Z,119nm,0.8s
GRR Gorron 24.22 314 eP P 22 01 47.3 -0.8
GRR pmax pmax
comp=Z,119nm,0.8s
GRR Gorron 24.22 314 eP P 22 01 47.3 -0.8
comp=Z,119nm,0.8s
ICHK Chekchek 24.30 86 eP P 22 01 49.0 -0.3
VSU Vasula 24.38 2 d iP P 22 01 49.0 -0.4
VSU pmax pmax
comp=Z,240nm,1.7s
PAB San Pablo 24.38 292 eP P 22 01 49.5 -0.3
PAB e 22 05 30.1
PAB pmax pmax
comp=Z,281nm,1.6s
PAB San Pablo 24.38 292 eP P 22 01 49.5 -0.3
comp=Z,281nm,1.6s
PAB ePcP PcP 22 05 30.1 +1.4
PAB San Pablo 24.38 292 eP P 22 01 49.5 -0.3
comp=Z,281nm,1.6s
EMAL Malaga-Limoner 24.42 285 iP P 22 01 46.5 -3.6
EMAL iS S 22 06 18.0 +10
IMEH Mehriz 24.66 88 eP P 22 01 53.5 +0.9
HMNX Herstmonceux 24.77 320 AMS AMS 22 13 11.0
comp=Z,5μm,22.2s
MUD Monsted U'grnd 24.97 338⇑iP P 22 01 54.0 -0.8
MUD iS S 22 06 19.7 +2.9
MUD pmax pmax
comp=Z,54nm,0.9s
MUD MLR MLR
comp=Z,2μm,12.0s
MUD Monsted U'grnd 24.97 338⇑iP P 22 01 54.0 -0.8
comp=Z,54nm,0.8s
MUD iS S 22 06 19.7 +2.9
comp=Z,2μm,11.0s
MDT Midelt 25.05 276 P P 22 01 56.1 +0.1
comp=Z,52nm,1.0s,baz=89,slow=12,SNR=24
REAL Reales 25.06 284 iP P 22 01 55.0 -1.1
SGMF Saint Gilles 25.19 313 eP P 22 01 56.7 -0.2
comp=Z,483nm,1.1s
SGMF Saint Gilles 25.19 313 eP P 22 01 56.7 -0.2
SGMF pmax pmax
comp=Z,483nm,1.1s
SGMF Saint Gilles 25.19 313 eP P 22 01 56.7 -0.2
comp=Z,483nm,1.1s
LIJA Lijar 25.20 285 iP P 22 01 56.0 -1.2
JSA Saint Aubin 25.35 315 eP P 22 01 57.1 -1.3
JSA AMB AMB 22 02 02.7
comp=Z,80nm,1.1s
JSA AMS AMS 22 13 08.7
comp=Z,3μm,17.8s
JSA Saint Aubin 25.35 315 eP P 22 01 57.1 -1.3
IBAF Bafgh 25.41 87 eP P 22 01 59.8 +0.6
QUIF Quistinic 25.43 311 eP P 22 01 58.3 -0.8
comp=Z,361nm,1.1s
QUIF Quistinic 25.43 311 eP P 22 01 58.3 -0.8
QUIF pmax pmax
comp=Z,361nm,1.1s
QUIF Quistinic 25.43 311 eP P 22 01 58.3 -0.8
comp=Z,361nm,1.1s
ROSF Rostrenen 25.66 312 eP P 22 01 59.7 -1.5
comp=Z,120nm,0.8s
ROSF Rostrenen 25.66 312 eP P 22 01 59.7 -1.5
ROSF pmax pmax
comp=Z,120nm,0.8s
ROSF Rostrenen 25.66 312 eP P 22 01 59.7 -1.5
comp=Z,120nm,0.8s
WOL Wolverton 25.84 320 eP P 22 02 01.8 -1.0
WOL AMB AMB 22 02 07.2
comp=Z,129nm,1.5s
WOL AMS AMS 22 14 13.3
comp=Z,4μm,18.6s
WOL Wolverton 25.84 320 eP P 22 02 01.8 -1.0
SFS San Fernando 25.87 284 eS S 22 06 36.5 +5.1
PUL Pulkovo 25.87 6 eP P 22 02 02.8 -0.1
PUL pmax pmax
comp=Z,93nm,0.8s
DAMY Dhamar 25.93 134 eP P 22 02 03.6 -0.7
DAMY LR LR
comp=Z,2μm,19.0s
DAMY Dhamar 25.93 134 eP P 22 02 03.6 -0.7
SWN1 Swindon 26.25 320 eP P 22 02 06.5 -0.1
SWN1 AMB AMB 22 02 14.6
comp=Z,241nm,1.1s
SWN1 AMS AMS 22 14 27.2
comp=Z,5μm,17.2s
SWN1 Swindon 26.25 320 eP P 22 02 06.5 -0.1
PBRG Braganca 26.39 296 eP P 22 02 07.3 -0.6
comp=Z,138nm,1.2s
PBAR Barrancos 26.45 288 eP P 22 02 07.9 -0.6
comp=Z,313nm,1.4s
MVO Moncorvo 26.54 295 eP P 22 02 08.8 -0.5
comp=Z,146nm,1.3s
STRD Stroud 26.58 320 eP P 22 02 09.0 -0.5
STRD AMB AMB 22 02 14.8
comp=Z,177nm,0.9s
STRD AMS AMS 22 14 38.4
comp=Z,5μm,13.3s
STRD Stroud 26.58 320 eP P 22 02 09.0 -0.5
ABKT Ailbek 26.64 72 P P 22 02 14.0 +3.7
comp=Z,287nm,1.1s,SNR=7.7
RTC Rabat Centre 26.69 279 PFAKE 22 02 20.0 +9.4
RTC LR LR
comp=Z,800nm,21.0s
PMRV Marv??o 26.73 291 eP P 22 02 10.2 -0.8
comp=Z,136nm,1.5s
PCBR Castelo Branco 26.80 292 eP P 22 02 10.9 -0.7
comp=Z,90nm,1.3s
PESTR Estremoz 26.88 290 eP P 22 02 11.7 -0.6
comp=Z,148nm,1.2s
MTE Manteigas 26.88 293 eP P 22 02 12.2 -0.2
comp=Z,72nm,1.2s
MTE Manteigas 26.88 293 eP P 22 02 11.9 -0.5
comp=Z,38nm,0.8s
MTE Manteigas 26.88 293 eP P 22 02 11.9 -0.5
comp=Z,38nm,0.8s
DYA Yadsworthy 26.92 316 AMS AMS 22 13 57.0
comp=Z,3μm,17.8s
DYA Yadsworthy 26.92 316 eP P 22 02 13.3 +0.7
DYA Yadsworthy 26.92 316 eP P 22 02 13.3 +0.7
MONM Monmouth 26.96 320 eP P 22 02 12.1 -0.8
MONM AMB AMB 22 02 19.6
comp=Z,104nm,1.2s
MONM AMS AMS 22 14 58.3
comp=Z,4μm,14.4s
MONM Monmouth 26.96 320 eP P 22 02 12.1 -0.8
PVAQ Vaqueiros 27.02 287 eP P 22 02 13.2 -0.4
comp=Z,211nm,1.3s
KBI1 Birley Grange 27.05 323 eP P 22 02 13.2 -0.5
KBI1 Birley Grange 27.05 323 eP P 22 02 13.2 -0.5
PVRL Vila Real 27.06 295 eP P 22 02 13.7 -0.3
comp=Z,69nm,1.5s
PBEJ Beja 27.11 288 eP P 22 02 13.9 -0.5
comp=Z,98nm,1.5s
POLO Lamas de Olo 27.13 295 eP P 22 02 14.0 -0.7
comp=Z,41nm,1.4s
HEX Exmoor 27.14 318 eP P 22 02 15.1 +0.6
HEX Exmoor 27.14 318 eP P 22 02 15.1 +0.6
MCH1 Michaelchurch 27.14 320 eP P 22 02 15.1 +0.6
MCH1 AMB AMB 22 02 21.3
comp=Z,92nm,1.3s
MCH1 AMS AMS 22 15 03.3
comp=Z,5μm,16.6s
MCH1 Michaelchurch 27.14 320 eP P 22 02 15.1 +0.6
HFS Hagfors 27.15 347 P P 22 02 13.5 -1.0
HFS pmax pmax
comp=Z,15nm,0.5s
HFS MLR MLR
comp=Z,17nm,28.6s
HFS Hagfors 27.15 347 P P 22 02 13.5 -1.0
comp=Z,14nm,0.5s,baz=145,slow=8.3,SNR=34
HFS LR LR 22 14 08.2
comp=Z,2μm,21.2s,baz=172,slow=39
PVIS Viseu 27.16 294 eP P 22 02 14.6 -0.3
comp=Z,67nm,1.2s
PBDV Barranco-do-Ve 27.20 286 eP P 22 02 14.2 -1.0
comp=Z,153nm,2.3s
EVO Evora 27.21 289 eP P 22 02 15.6 +0.3
comp=Z,238nm,1.4s
EVO eR
comp=Z,3μm,20.0s
EVO Evora 27.21 289 eP P 22 02 14.9 -0.4
comp=Z,128nm,1.8s
PCVE Castro Verde 27.26 287 eP P 22 02 14.9 -0.9
comp=Z,113nm,1.3s
EVOP Sao Brissos 27.30 289 eP P 22 02 15.6 -0.5
EVOP pmax pmax
comp=Z,238nm,1.4s
EVOP Sao Brissos 27.30 289 eP P 22 02 15.6 -0.5
comp=Z,238nm,1.4s
STNC Stoke 27.30 322 eP P 22 02 15.1 -0.9
STNC AMB AMB 22 02 23.3
comp=Z,114nm,1.3s
STNC AMS AMS 22 13 52.2
comp=Z,2μm,18.2s
STNC Stoke 27.30 322 eP P 22 02 15.1 -0.9
PCAB Cabril 27.33 296 eP P 22 02 16.2 -0.2
comp=Z,134nm,1.1s
HLM1 Long Mynd 27.35 321 eP P 22 02 14.4 -2.0
HLM1 AMB AMB 22 02 20.4
comp=Z,53nm,1.3s
HLM1 Long Mynd 27.35 321 eP P 22 02 14.4 -2.0
FINES FINESS Array B 27.35 1 P P 22 02 14.5 -1.8
FINES 22 05 35.2
FINES pmax pmax
comp=Z,6.0nm,0.5s
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES MLR MLR
comp=Z,17nm,28.6s
FINES FINESS Array B 27.35 1 P P 22 02 14.5 -1.8
comp=Z,6.2nm,0.5s,baz=163,slow=8.8,SNR=37
FINES PcP PcP 22 05 35.2 +0.3
comp=Z,5.8nm,0.7s,baz=130,slow=3.9,SNR=4.8
FINES LR LR 22 14 30.7
comp=Z,3μm,18.2s,baz=184,slow=40
PMTG Montargil 27.37 290 eP P 22 02 17.4 +0.7
comp=Z,74nm,1.6s
LHO Holmfirth 27.38 324 eP P 22 02 14.8 -1.9
LHO Holmfirth 27.38 324 eP P 22 02 14.8 -1.9
MESJ Messejana 27.39 288 eP P 22 02 16.2 -0.8
MESJ AMb AMB 22 02 22.6
comp=Z,103nm,1.1s
MESJ eS S 22 06 57.9 +2.4
MESJ Messejana 27.39 288 eP P 22 02 16.1 -0.8
MESJ Messejana 27.39 288 eP P 22 02 16.1 -0.8
MESJ eS S 22 06 57.9 +2.4
MESJ pmax pmax
comp=Z,103nm,1.0s
HPK Haverah Park 27.50 324 eP P 22 02 18.1 +0.3
HPK AMB AMB 22 02 25.6
comp=Z,113nm,2.0s
HPK AMS AMS 22 15 31.5
comp=Z,3μm,16.0s
HPK Haverah Park 27.50 324 eP P 22 02 18.1 +0.3
PTOM Tomar 27.52 291 eP P 22 02 17.5 -0.5
comp=Z,91nm,1.3s
PCAS Casmilo, Conde 27.59 292 eP P 22 02 19.5 +0.8
comp=Z,57nm,1.5s
KONO Kongsberg 27.60 343 eP P 22 02 17.4 -1.1
KONO pmax pmax
comp=Z,78nm,1.4s
KONO Kongsberg 27.60 343 eP P 22 02 17.4 -1.1
comp=Z,78nm,1.4s
KONO Kongsberg 27.60 343 eP P 22 02 17.4 -1.1
comp=Z,78nm,1.4s
PNCL Nicolau / Gran 27.63 288 eP P 22 02 19.5 +0.5
comp=Z,90nm,1.7s
ASUD Al Ashush, Dub 27.64 102 P P 22 02 21.6 +2.3
SNR=6.0
ASUD Al Ashush, Dub 27.64 102⇑iP P 22 02 21.6 +2.3
SNR=6.0
FOEL Foel Wylfa 27.70 321 eP P 22 02 18.6 -1.0
FOEL Foel Wylfa 27.70 321 eP P 22 02 18.6 -1.0
ITEG Tejag 27.75 83 eP P 22 02 21.5 +1.1
NAZ Nazwa, Dubai 27.75 101 P P 22 02 22.9 +2.6
NAZ Nazwa, Dubai 27.75 101 ⇓P P 22 02 22.9 +2.6
MORF Marmelete 27.76 286 eP P 22 02 20.3 0.0
MORF AMb AMB 22 02 25.1
comp=Z,62nm,1.2s
MORF eS S 22 07 03.2 +1.7
MORF Marmelete 27.76 286 eP P 22 02 21.1 +0.7
comp=Z,63nm,1.5s
MORF Marmelete 27.76 286 eP P 22 02 20.3 0.0
MORF eS S 22 07 03.2 +1.7
MORF pmax pmax
comp=Z,62nm,1.2s
LPW Lampeter 27.77 319 AMS AMS 22 15 23.8
comp=Z,3μm,13.5s
PTEO Sao Teotonio 27.81 287 eP P 22 02 20.5 -0.2
comp=Z,170nm,1.4s
BANOM Banah 27.87 99 ⇑P P 22 02 21.1 -0.3
FURI Furi 27.90 151 eP P 22 02 21.7 -0.3
comp=Z,213nm,2.3s
FURI LR LR
comp=Z,3μm,18.0s
FURI Furi 27.90 151 eP P 22 02 21.7 -0.3
comp=Z,213nm,2.3s
PFVI Vila Bisbo 27.92 286 eP P 22 02 21.1 -0.5
comp=Z,106nm,1.7s
KAF Kangasniemi 28.03 1 eP P 22 02 19.6 -2.7
KAF pmax pmax
comp=Z,10.0nm,0.6s
KAF Kangasniemi 28.03 1 ep P 22 02 19.6 -2.7
comp=Z,9.9nm,0.6s
IKOO Kooshah 28.06 84 eP P 22 02 24.1 +0.8
PMAFR Mafra 28.20 290 eP P 22 02 25.3 +1.2
comp=Z,194nm,1.2s
HATD Hatta, Dubai 28.20 101 P P 22 02 26.2 +1.9
SNR=5.7
HATD Hatta, Dubai 28.20 101⇓iP P 22 02 26.2 +1.9
SNR=5.7
ASHO Ashiyiah 28.21 101 ⇓P P 22 02 24.2 -0.2
SNR=6.8
UOSS Wadi Hilu 28.21 101 P P 22 02 24.8 +0.4
comp=Z,118nm,1.1s,SNR=8.6
WPM1 Penmaenmawr 28.26 322 eP P 22 02 23.5 -1.0
WPM1 Penmaenmawr 28.26 322 eP P 22 02 23.5 -1.0
KLMR Klimovskoe 28.28 15c iP P 22 02 22.8 -1.8
KLMR pmax pmax
comp=Z,101nm,0.9s
KLMR MLR MLR
comp=Z,5μm,12.0s
NB201 NORSAR Array S 28.46 346 eP P 22 02 25.9 -0.4
NB201 NORSAR Array S 28.46 346 eP P 22 02 25.9 -0.4
NB2 NORSAR Subarra 28.47 345 P P 22 02 25.4 -0.9
comp=Z,48nm,1.2s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.47 345 P P 22 02 25.4 -0.9
baz=156,slow=9.3
NB2 NORSAR Subarra 28.47 345 P P 22 02 25.4 -0.9
comp=Z,48nm,1.2s,SNR=5.9
NOA NORSAR Array B 28.47 345 P P 22 02 25.0 -1.3
NOA pmax pmax
comp=Z,16nm,0.9s
NOA NORSAR Array B 28.47 345 P P 22 02 25.0 -1.3
comp=Z,16nm,0.9s,baz=151,slow=9.5,SNR=52
NBO02 NORSAR Array S 28.55 345 eP P 22 02 26.3 -0.8
NBO02 ePcP PcP 22 05 39.5 +1.7
NBO02 NORSAR Array S 28.55 345 eP P 22 02 26.3 -0.8
KESW Keswick, Cumbr 28.58 324 eP P 22 02 24.9 -2.4
KESW AMS AMS 22 16 36.2
comp=Z,2μm,14.8s
KESW Keswick, Cumbr 28.58 324 eP P 22 02 24.9 -2.4
IDAH Dahanechah 28.70 83 eP P 22 02 30.0 +0.9
AKTO Aktyubinsk 28.82 46 P P 22 02 28.9 -0.6
AKTO pmax pmax
comp=Z,7.0nm,0.7s
AKTO Aktyubinsk 28.82 46 P P 22 02 28.9 -0.6
comp=Z,6.7nm,0.7s,baz=252,slow=11,SNR=22
ECK Cauldkaine Hil 28.92 325 eP P 22 02 29.4 -1.0
ECK Cauldkaine Hil 28.92 325 eP P 22 02 29.4 -1.0
EKA Eskdalemuir Ar 29.02 326 P P 22 02 30.4 -0.9
EKA 22 05 40.7
EKA pmax pmax
comp=Z,87nm,1.1s
EKA pmax pmax
comp=Z,8.0nm,0.8s
EKA Eskdalemuir Ar 29.02 326 P P 22 02 30.4 -0.9
comp=Z,87nm,1.1s,baz=126,slow=9.0,SNR=24
EKA PcP PcP 22 05 40.6 +1.5
comp=Z,8.4nm,0.8s,baz=115,slow=3.1,SNR=8.3
ESK Eskdalemuir 29.04 326 P P 22 02 32.3 +0.9
comp=Z,319nm,1.0s,SNR=5.5
ESK Eskdalemuir 29.04 326 eP P 22 02 30.9 -0.5
ESK AMS AMS 22 16 30.6
comp=Z,3μm,14.8s
ESK Eskdalemuir 29.04 326 eP P 22 02 30.0 -1.4
ESK e 22 05 40.5
ESK pmax pmax
comp=Z,56nm,1.0s
ESK Eskdalemuir 29.04 326 eP P 22 02 30.0 -1.4
comp=Z,56nm,1.0s
ESK ePcP PcP 22 05 40.5 +1.3
ESK Eskdalemuir 29.04 326 eP P 22 02 30.9 -0.5
JOF Joensuu 29.07 6 eP P 22 02 29.7 -1.9
JOF pmax pmax
comp=Z,18nm,0.6s
JOF Joensuu 29.07 6 ep P 22 02 29.7 -1.9
comp=Z,18nm,0.6s
ARQ Araqi 29.20 103 ⇓P P 22 02 33.3 0.0
SNR=10
EBL Broad Law 29.23 327 eP P 22 02 33.4 +0.3
EBL Broad Law 29.23 327 eP P 22 02 33.4 +0.3
EDI Edinburgh 29.38 327 AMS AMS 22 16 39.0
comp=Z,3μm,13.8s
GAL1 Galloway 29.51 324 eP P 22 02 34.2 -1.4
GAL1 AMB AMB 22 02 42.8
comp=Z,60nm,1.2s
GAL1 AMS AMS 22 17 13.9
comp=Z,2μm,11.9s
GAL1 Galloway 29.51 324 eP P 22 02 34.2 -1.4
DSB Dublin 29.55 320 eP P 22 02 36.3 +0.3
comp=Z,38nm,1.0s
DSB ePcP PcP 22 05 41.6 +1.1
DSB LR LR
comp=Z,4μm,19.0s
DSB Dublin 29.55 320 eP P 22 02 36.3 +0.3

comp=Z,38nm,1.0s
ABKAR Akbulak array 29.59 49 eP P 22 02 35.9 -0.5
ABKAR ePcP PcP 22 05 40.9 +0.2
ABKAR Akbulak array 29.59 49 eP P 22 02 35.9 -0.5
HOQ Hoqain 29.73 102 ⇑P P 22 02 37.1 -0.8
SNR=7.3
PGBU Glenifferbraes 29.92 326 eP P 22 02 40.5 +1.3
PGBU AMS AMS 22 17 04.5
comp=Z,3μm,15.5s
PGBU Glenifferbraes 29.92 326 eP P 22 02 40.5 +1.3
TOA0 Torodi Ar. Sit 29.99 232 eP P 22 02 39.2 -1.1
TOA0 ePcP PcP 22 05 42.8 +0.6
TOA0 eScP ScP 22 09 21.4 -1.2
TOA0 Torodi Ar. Sit 29.99 232 eP P 22 02 39.2 -1.1
TORD Torodi Ar. Bea 29.99 232 P P 22 02 39.0 -1.3
comp=Z,12nm,0.7s,baz=35,slow=8.0,SNR=34
TORD PcP PcP 22 05 42.5 +0.2
comp=Z,6.2nm,0.8s,baz=30,slow=3.2,SNR=4.8
TORD LR LR 22 16 51.1
comp=Z,8μm,18.1s,baz=40,slow=41
TORD Torodi Ar. Bea 29.99 232 P P 22 02 39.0 -1.3
EAB Aberfoyle 30.06 326 eP P 22 02 40.0 -0.5
EAB Aberfoyle 30.06 326 eP P 22 02 40.0 -0.5
MCD Coleburn Disti 30.41 329 eP P 22 02 43.1 -0.5
MCD Coleburn Disti 30.41 329 eP P 22 02 43.1 -0.5
PRGR Permogore 30.43 19⇓iP P 22 02 42.5 -1.1
PRGR e*PP pP 22 02 52.0 +0.5
PRGR eS S 22 07 42.7 +0.1
PRGR pmax pmax
comp=Z,17nm,0.4s
SMDO Samad 30.57 102 ⇓P P 22 02 45.3 -0.1
SNR=8.5
JMDO Jabal Madar 30.95 104 ⇓P P 22 02 48.3 -0.4
SNR=12
TMCR Tamitsa 31.07 11 eP P 22 02 50.5 +1.3
TMCR e 22 03 53.6
TMCR pmax pmax
comp=Z,35nm,1.2s
VAL Valentia 31.17 316 eP P 22 02 49.8 -0.4
LRW Lerwick 31.29 334 eP P 22 02 50.7 -0.5
LRW AMB AMB 22 02 57.9
comp=Z,53nm,1.9s
LRW AMS AMS 22 19 28.3
comp=Z,3μm,16.0s
LRW Lerwick 31.29 334 eP P 22 02 50.7 -0.5
KPL Plockton 31.31 327 eP P 22 02 50.0 -1.5
KPL AMS AMS 22 18 08.3
comp=Z,3μm,15.4s
KPL Plockton 31.31 327 eP P 22 02 50.0 -1.5
WBK Wadi Bani Khal 31.53 102 P P 22 02 56.5 +2.6
SNR=8.6
ARU Arti 31.78 35 P P 22 02 57.8 +2.2
comp=Z,119nm,0.7s,SNR=8.8
ARU Arti 31.78 35 diP P 22 02 57.0 +1.4
ARU 22 04 01.6
ARU PPP PPP 22 04 11.8
ARU S S 22 08 06.4 +2.5
ARU SS SnSn 22 09 51.6 -0.4
ARU SSS SSS 22 10 12.0
ARU pmax pmax
comp=Z,27nm,1.2s
ARU MLR MLR
comp=Z,1μm,15.0s
ARU Arti 31.78 35 eP P 22 02 57.0 +1.4
comp=Z,54nm,1.3s
ARU Arti 31.78 35 eP P 22 02 57.0 +1.4
comp=Z,54nm,1.3s
SOKR Solikamsk 32.76 29 diP P 22 03 04.5 +0.4
SOKR S S 22 08 18.9 -0.2
SOKR pmax pmax
comp=Z,50nm,1.3s
SOKR MLR MLR
comp=Z,2μm,18.0s
SVE Sverdlovsk 32.97 36 eP P 22 03 07.2 +1.1
SVE eS S 22 08 23.3 +0.8
SVE e 22 13 26.4
SVE pmax pmax
comp=Z,45nm,0.6s
SVE MLR MLR
comp=Z,2μm,14.0s
APA Apatity 33.82 5⇑iP P 22 03 12.0 -1.3
APA i 22 04 42.0
APA i 22 05 47.0
APA iS S 22 08 30.0 -5.4
APA iSS SnSn 22 10 48.0 +6.7
APA pmax pmax
comp=Z,25nm,0.6s
APA MLR MLR
comp=Z,3μm,15.0s
LVZ Lovozero 34.25 6 eP P 22 03 15.7 -1.4
LVZ pmax pmax
comp=Z,50nm,1.1s
LVZ MLR MLR
comp=Z,2μm,18.0s
LVZ Lovozero 34.25 6 eP P 22 03 15.7 -1.4
comp=Z,50nm,1.1s
LVZ LR LR
comp=Z,2μm,18.0s
LVZ Lovozero 34.25 6 eP P 22 03 15.6 -1.5
comp=Z,50nm,1.1s
ARA0 ARCESS Array S 35.48 0 eP P 22 03 26.1 -1.5
ARA0 ePcP PcP 22 05 58.0 +1.5
ARA0 ARCESS Array S 35.48 0 eP P 22 03 26.1 -1.5
ARCES ARCESS Array B 35.48 0 P P 22 03 25.9 -1.8
ARCES pmax pmax
comp=Z,5.0nm,0.5s
ARCES MLR MLR
comp=Z,2μm,20.0s
ARCES ARCESS Array B 35.48 0 P P 22 03 25.9 -1.8
comp=Z,4.5nm,0.5s,baz=175,slow=8.6,SNR=41
ARCES LR LR 22 19 39.8
comp=Z,2μm,20.0s,baz=174,slow=39
KEV Kevo 35.71 1 eP P 22 03 29.4 -0.2
KEV pmax pmax
comp=Z,71nm,1.6s
KEV MLR MLR
comp=Z,3μm,21.0s
KEV Kevo 35.71 1 ep P 22 03 28.8 -0.8
comp=Z,6.6nm,0.5s
KEV Kevo 35.71 1 eP P 22 03 29.4 -0.2
comp=Z,72nm,1.6s
KEV LR LR
comp=Z,3μm,21.0s
KEV Kevo 35.71 1 eP P 22 03 29.4 -0.2
comp=Z,72nm,1.6s
KBL Kabul 35.82 77 eP P 22 03 31.5 +0.2
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL MLR MLR
comp=Z,300nm,18.5s
KBL Kabul 35.82 77 eP P 22 03 31.5 +0.2
comp=Z,8.2nm,0.9s
KBL LR LR
comp=Z,300nm,18.5s
KBL Kabul 35.82 77 eP P 22 03 31.5 +0.2
comp=Z,8.2nm,0.9s
KKAR Karatay Array 35.99 62 eP P 22 03 32.6 +0.2
KKAR Karatay Array 35.99 62 eP P 22 03 32.6 +0.2
KKAR Karatay Array 35.99 62 eP P 22 03 32.6 +0.2
KMBO Kilima Mbogo 36.77 160 P P 22 03 39.9 +0.4
KMBO 22 06 03.1
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO MLR MLR
comp=Z,2μm,20.8s
KMBO Kilima Mbogo 36.77 160 P P 22 03 39.9 +0.4
comp=Z,0.8nm,0.6s,baz=41,slow=19,SNR=2.8
KMBO PcP PcP 22 06 03.0 +1.5
comp=Z,2.7nm,0.8s,baz=39,slow=6.6,SNR=5.0
KMBO LR LR 22 18 11.5
comp=Z,2μm,20.8s,baz=334,slow=35
KMBO Kilima Mbogo 36.77 160 eP P 22 03 39.6 +0.1
comp=Z,74nm,2.8s
KMBO PcP PcP 22 06 03.0 +1.5
KMBO Kilima Mbogo 36.77 160 eP P 22 03 39.6 +0.1
comp=Z,74nm,2.8s
BRVK Borovoye 36.87 45 eP P 22 03 38.8 -0.9
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK MLR MLR
comp=Z,700nm,18.0s
BRVK Borovoye 36.87 45 eP P 22 03 38.8 -0.9
comp=Z,15nm,0.8s

BRVK LR LR
comp=Z,700nm,18.0s
BRVK Borovoye 36.87 45 eP P 22 03 38.8 -0.9
comp=Z,15nm,0.8s
VOSK Vostochnaya 37.21 46 eP P 22 03 42.5 -0.1
VOSK e 22 06 04.1
VOSK pmax pmax
comp=Z,24nm,0.8s
VOSK MLR MLR
comp=Z,500nm,21.9s
VOSK Vostochnaya 37.21 46 eP P 22 03 42.5 -0.1
comp=Z,24nm,0.8s
VOSK ePcP PcP 22 06 04.1 +2.1
VOSK LR LR
comp=Z,500nm,21.9s
VOSK Vostochnaya 37.21 46 eP P 22 03 42.5 -0.1
comp=Z,24nm,0.8s
EKS2 Erkin-Say 38.41 63 P P 22 03 53.6 +0.5
SNR=17
EKS2 Erkin-Say 38.41 63 eP P 22 03 53.0 -0.1
EKS2 pmax pmax
comp=Z,14nm,0.9s
EKS2 Erkin-Say 38.41 63 eP P 22 03 53.0 -0.1
comp=Z,14nm,0.9s
EKS2 Erkin-Say 38.41 63 eP P 22 03 53.0 -0.1
comp=Z,14nm,0.9s
AAK Ala-Archa 38.94 63 P P 22 03 58.6 +1.0
comp=Z,102nm,0.7s,SNR=14
AAK Ala-Archa 38.94 63 P P 22 03 58.3 +0.7
SNR=16
AAK Ala-Archa 38.94 63 eP P 22 03 57.8 +0.3
AAK pmax pmax
comp=Z,15nm,0.7s
AAK Ala-Archa 38.94 63 eP P 22 03 57.8 +0.3
comp=Z,16nm,0.7s
AAK Ala-Archa 38.94 63 eP P 22 03 57.8 +0.3
comp=Z,16nm,0.7s
FRU Bishkek 39.02 62 eP P 22 03 58.0 0.0
FRU pmax pmax
comp=Z,110nm,2.0s
DBIC Dimbokro 39.09 233 eP P 22 03 59.1 +0.3
DBIC Dimbokro 39.09 233 P P 22 03 57.4 -1.4
DBIC 22 06 09.2
DBIC pmax pmax
comp=Z,16nm,0.8s
DBIC pmax pmax
comp=Z,9.0nm,0.7s
DBIC MLR MLR
comp=Z,6μm,18.3s
DBIC Dimbokro 39.09 233 P P 22 03 57.4 -1.4
comp=Z,16nm,0.8s,baz=20,slow=9.6,SNR=18
DBIC PcP PcP 22 06 09.2 +0.7
comp=Z,9.3nm,0.7s,baz=13,slow=4.4,SNR=4.3
DBIC LR LR 22 22 25.8
comp=Z,6μm,18.3s,baz=20,slow=40
DBIC Dimbokro 39.09 233 eP P 22 03 57.2 -1.6
comp=Z,73nm,1.5s
DBIC ePcP PcP 22 06 09.3 +0.9
DBIC Dimbokro 39.09 233 eP P 22 03 57.2 -1.6
comp=Z,73nm,1.5s
CHMS Chumysh 39.10 62 P P 22 04 00.1 +1.4
SNR=12
CHMS Chumysh 39.10 62 iP P 22 04 00.1 +1.4
TIC Toumodi 39.22 233 eP P 22 04 01.2 +1.3
comp=Z,26nm,0.5s
KIC Kosan Boka 39.25 232 eP P 22 04 00.4 +0.2
comp=Z,79nm,1.0s
KBK Karagaybulak 39.27 62 P P 22 04 04.7 +4.3
SNR=10
KBK Karagaybulak 39.27 62 iP P 22 04 04.6 +4.3
LIC Lamto 39.54 232 eP P 22 04 04.5 +1.9
comp=Z,95nm,1.0s
KZA Kyzart 39.54 63 P P 22 04 03.2 +0.2
SNR=7.9
KZA Kyzart 39.54 63 iP P 22 04 03.1 +0.2
TKM2 Tokmak 2 39.73 62 P P 22 04 04.1 -0.1
SNR=9.1
TKM2 Tokmak 2 39.73 62 eP P 22 04 02.4 -1.8
TKM2 pmax pmax
comp=Z,17nm,1.0s
TKM2 Tokmak 2 39.73 62 eP P 22 04 02.4 -1.8
comp=Z,17nm,1.0s
TKM2 Tokmak 2 39.73 62 eP P 22 04 02.4 -1.8
comp=Z,17nm,1.0s
ULHL Ulahol 40.26 63 P P 22 04 14.3 +5.6
SNR=5.4
ULHL Ulahol 40.26 63 iP P 22 04 14.2 +5.6
KSH Kashi 40.40 67 eP P 22 04 07.8 -1.9
KSH epP pP 22 04 16.6 -1.1
KSH esP sP 22 04 21.7 +0.8
KSH ePP PP 22 05 43.4 +0.6
KSH PcS PcS 22 10 00.1 -3.0
KSH eS S 22 10 09.9 -6.5
KSH SS SS 22 13 01.5 -14
KSH pmax pmax
comp=Z,12nm,1.3s
KSH pmax pmax
comp=Z,44nm,2.9s
KSH LR LR
comp=Z,390nm,12.4s
KSH LR LR
comp=Z,270nm,7.2s
KSH LR LR
comp=Z,530nm,20.5s
BORG Borgarnes 41.57 332 eP P 22 04 19.3 +0.5
BORG pmax pmax
comp=Z,135nm,1.6s
BORG Borgarnes 41.57 332 eP P 22 04 19.3 +0.5
comp=Z,135nm,1.6s
BORG Borgarnes 41.57 332 eP P 22 04 19.3 +0.5
comp=Z,135nm,1.6s
KURK Kurchatov 41.68 50 P P 22 04 19.1 -0.8
comp=Z,122nm,0.9s,SNR=34
KURK Kurchatov 41.68 50 ciP P 22 04 19.9 0.0
KURK pmax pmax
comp=Z,27nm,1.3s
KURK Kurchatov 41.68 50 eP P 22 04 19.9 0.0
comp=Z,17nm,0.8s
KURK ePcP PcP 22 06 18.1 +1.8
KURK Kurchatov 41.68 50 eP P 22 04 19.9 0.0
comp=Z,17nm,0.8s
NDI New Delhi 44.16 82 eP P 22 04 43.0 +2.7
MKAR Makanchi Array 44.18 56 P P 22 04 40.2 -0.1
MKAR 22 06 25.8
MKAR pmax pmax
comp=Z,48nm,0.6s
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR MLR MLR
comp=Z,1μm,22.0s
MKAR Makanchi Array 44.18 56 P P 22 04 40.2 -0.1
comp=Z,48nm,0.6s,baz=273,slow=6.2,SNR=378
MKAR PcP PcP 22 06 25.8 +1.0
comp=Z,5.1nm,0.7s,baz=281,slow=5.9,SNR=1.7
MKAR LR LR 22 26 49.2
comp=Z,1μm,22.0s,baz=270,slow=41
MKAR Makanchi Array 44.18 56 eP P 22 04 40.7 +0.4
MKAR ePP PcP 22 06 26.4 +1.6
MKAR Makanchi Array 44.18 56 eP P 22 04 40.7 +0.4
MK01 Makanchi Array 44.19 56 eP P 22 04 40.5 +0.2
MK01 ePP PcP 22 06 26.3 +1.5
MK01 Makanchi Array 44.19 56 eP P 22 04 40.5 +0.2
NVS Novosibirsk 44.68 44 iP P 22 04 44.1 0.0
NVS e 22 06 27.6
NVS eS S 22 11 24.5 +5.7
NVS eSS ScS 22 14 44.2 +4.5
NVS pmax pmax
comp=Z,34nm,1.0s
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=E,18nm,1.0s
NVS pmax pmax
comp=Z,29nm,1.4s
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,1.0nm,1.2s
NVS smax smax
comp=E,26nm,2.1s
NVS smax smax
comp=N,30nm,2.2s
KBS Kingsbay 45.28 356 eP P 22 04 48.2 -0.4
KBS pmax pmax
comp=Z,125nm,1.4s
KBS MLR MLR

comp=Z,3μm,20.0s
KBS Kingsbay 45.28 356 eP P 22 04 48.2 -0.4
comp=Z,125nm,1.4s
KBS LR LR
comp=Z,3μm,20.0s
KBS Kingsbay 45.28 356 eP P 22 04 48.2 -0.4
comp=Z,125nm,1.4s
ZAA0 Zalesovo Array 45.58 45 eP P 22 04 50.8 -0.5
ZAA0 Zalesovo Array 45.58 45 eP P 22 04 50.8 -0.5
ZALV Zalesovo Beam 45.58 45 P P 22 04 50.7 -0.6
ZALV 22 06 30.5
ZALV pmax pmax
comp=Z,17nm,0.5s
ZALV pmax pmax
comp=Z,6.0nm,0.8s
ZALV MLR MLR
comp=Z,852nm,18.8s
ZALV Zalesovo Beam 45.58 45 P P 22 04 50.6 -0.6
comp=Z,17nm,0.5s,baz=269,slow=8.4,SNR=66
ZALV PcP PcP 22 06 30.5 +1.1
comp=Z,5.8nm,0.8s,baz=222,slow=4.8,SNR=1.9
ZALV LR LR 22 28 16.0
comp=Z,852nm,18.8s,baz=272,slow=42
POO Poona 45.68 97 ex P 22 04 52.0 -0.5
DAG Danmarks Havn 47.12 347 iP P 22 05 02.4 -0.6
DAG pmax pmax
comp=Z,11nm,0.8s
DAG MLR MLR
comp=Z,520nm,16.0s
DAG Danmarks Havn 47.12 347 iP P 22 05 02.4 -0.6
comp=Z,14nm,0.8s
comp=Z,510nm,16.0s
MSEY Mahe Island 47.89 138 PFAKE 22 05 20.0 +10
MSEY LR LR
comp=Z,500nm,20.0s
SACV Santiago Islan 48.01 259 eP P 22 05 09.8 -0.9
comp=Z,139nm,1.6s
SACV LR LR
comp=Z,2μm,19.0s
SACV Santiago Islan 48.01 259 eP P 22 05 09.8 -0.9
comp=Z,139nm,1.6s
WMQ Urumqi 48.35 59 P P 22 05 13.5 +0.3
WMQ pP pP 22 05 23.4 +2.1
WMQ sP sP 22 05 27.3 +2.8
WMQ PcP PcP 22 06 40.4 +0.9
WMQ PP PP 22 07 05.5 -0.1
WMQ PcS PcS 22 10 34.8 -0.6
WMQ S S 22 12 10.1 -1.7
WMQ sS sS 22 12 26.7 +1.5
WMQ ScS ScS 22 15 01.3 -2.9
WMQ SS SS 22 15 34.6 -6.6
WMQ pmax pmax
comp=Z,33nm,0.8s
WMQ pmax pmax
comp=Z,300nm,4.0s
WMQ LR LR
comp=Z,1μm,17.2s
WMQ LR LR
comp=Z,900nm,14.0s
WMQ LR LR
comp=Z,850nm,20.8s
LSZ Lusaka 49.18 176 eP P 22 05 20.4 +0.7
LSZ pmax pmax
comp=Z,13nm,0.8s
LSZ MLR MLR
comp=Z,2μm,19.0s
LSZ Lusaka 49.18 176 eP P 22 05 20.4 +0.7
comp=Z,13nm,0.8s
LSZ LR LR
comp=Z,2μm,19.0s
LSZ Lusaka 49.18 176 eP P 22 05 20.4 +0.7
comp=Z,13nm,0.8s
DANN Dangsing 49.64 80 eP P 22 05 23.6 +0.1
comp=Z,374nm,0.8s
KOLN Koldanda 49.73 81 eP P 22 05 23.4 -0.7
comp=Z,90nm,0.9s
SUMG Summit 50.03 339 eP P 22 05 25.2 -0.8
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG Summit 50.03 339 iP P 22 05 26.3 +0.3
comp=Z,21nm,0.9s
SUMG Summit 50.03 339 eP P 22 05 25.2 -0.8
comp=Z,26nm,0.9s
SUMG Summit 50.03 339 eP P 22 05 25.2 -0.8
comp=Z,26nm,0.9s
HYB Hyderabad 50.11 95 iP P 22 05 25.0 -1.9
HYB eS S 22 12 42.0 +5.1
GKN Gorkha 50.49 80 eP P 22 05 29.2 -0.6
comp=Z,165nm,1.0s
DMN Daman 51.02 80 eP P 22 05 33.5 -0.5
comp=Z,123nm,0.7s
KKN Kakani 51.10 80 eP P 22 05 33.8 -0.6
comp=Z,80nm,0.6s
PKIN Phulchoki 51.27 80 eP P 22 05 35.1 -0.7
comp=Z,76nm,0.8s
PKI Pulchoki 51.29 80 eP P 22 05 35.3 -0.7
comp=Z,125nm,0.7s
GUN Gumba 51.54 79 eP P 22 05 37.3 -0.6
comp=Z,237nm,0.8s
JIRN Jiri 51.89 80 eP P 22 05 40.0 -0.6
comp=Z,112nm,0.9s
TSUM Tsumeb 53.54 189 eP P 22 05 52.2 -0.1
comp=Z,19nm,1.0s
TSUM LR LR
comp=Z,6μm,19.0s
TSUM Tsumeb 53.54 189 eP P 22 05 52.2 -0.1
comp=Z,19nm,1.0s
SFJD Kangerlussuaq 53.71 332 eP P 22 05 53.5 +0.6
SFJD pmax pmax
comp=Z,33nm,1.1s
SFJD Kangerlussuaq 53.71 332 eP P 22 05 53.5 +0.6
comp=Z,33nm,1.1s
SFJD Kangerlussuaq 53.71 332 eP P 22 05 53.5 +0.6
comp=Z,33nm,1.1s
LSA Lhasa 55.12 75 P P 22 06 04.0 -0.4
LSA LR LR
comp=Z,710nm,32.1s
LSA LR LR
comp=Z,940nm,31.4s
LSA Lhasa 55.12 75 eP P 22 06 03.9 -0.4
LSA pmax pmax
comp=Z,18nm,0.7s
LSA MLR MLR
comp=Z,300nm,20.0s
LSA Lhasa 55.12 75 eP P 22 06 03.9 -0.4
comp=Z,18nm,0.7s
LSA LR LR
comp=Z,300nm,20.0s
LSA Lhasa 55.12 75 eP P 22 06 03.9 -0.4
comp=Z,18nm,0.7s
KULLO Kullorsuaq 55.51 341 iP P 22 06 04.8 -1.1
KULLO MLR MLR
comp=Z,1μm,19.0s
KULLO Kullorsuaq 55.51 341 iP P 22 06 04.8 -1.1
comp=Z,1μm,18.0s
MOY Mondy 55.56 47 eP P 22 06 07.8 +1.0
MOY pmax pmax
comp=Z,26nm,1.8s
ALE Alert 56.11 351 P P 22 06 09.7 -0.4
comp=Z,74nm,1.0s,SNR=8.7
MSNA Messina 56.31 175 eP P 22 06 12.5 +0.3
MSNA AMB AMB 22 06 14.3
comp=Z,42nm,5.1s
MSNA Messina 56.31 175 P P 22 06 12.5 +0.3
comp=Z,42nm,5.1s
MSNA Messina 56.31 175 P P 22 06 12.5 +0.3
comp=Z,42nm,5.1s
ABPO Ambohimpanom 56.77 155 PFAKE 22 06 30.0 +14
ABPO LR LR
comp=Z,1μm,20.0s
WIN Windhoek 56.91 189 eP P 22 06 16.9 +0.2
WIN AMB AMB 22 06 24.6
comp=Z,11nm,2.1s
WIN Windhoek 56.91 189 P P 22 06 16.9 +0.2
WIN pmax pmax
comp=Z,11nm,2.1s
WIN Windhoek 56.91 189 P P 22 06 16.9 +0.2
comp=Z,11nm,2.1s
WIN Windhoek 56.91 189 P P 22 06 16.9 +0.2
comp=Z,11nm,2.1s
TLY Talaya 57.16 47 P P 22 06 19.2 +1.1
comp=Z,84nm,0.9s,SNR=8.6
TLY Talaya 57.16 47 eP P 22 06 19.6 +1.5
TLY eS S 22 14 13.5 +1.8
TLY pmax pmax
comp=Z,26nm,1.0s
TLY MLR MLR

comp=Z,916nm,16.0s
TLY Talaya 57.16 47 eP P 22 06 18.9 +0.8
comp=Z,23nm,1.0s
TLY Talaya 57.16 47 eP P 22 06 18.9 +0.8
comp=Z,23nm,1.0s
ZAK Zakamensk 57.28 48 eP P 22 06 18.9 -0.1
ZAK pmax pmax
comp=Z,20nm,1.0s
PALK Pallekele 57.38 105 eP P 22 06 20.5 +0.4
PALK pmax pmax
comp=Z,70nm,1.1s
PALK MLR MLR
comp=Z,1µm,19.0s
PALK Pallekele 57.38 105 eP P 22 06 20.5 +0.4
comp=Z,70nm,1.1s
PALK LR LR
comp=Z,1µm,19.0s
PALK Pallekele 57.38 105 eP P 22 06 20.5 +0.4
comp=Z,70nm,1.1s
IRK Irkutsk 57.39 46 eP P 22 06 19.2 -0.5
IRK e 22 06 32.0
IRK pmax pmax
comp=Z,55nm,1.7s
SHL Shillong 57.39 79 ex P 22 06 22.5 +2.2
MOPA Mopani 57.59 174 eP P 22 06 22.9 +1.6
MOPA AMB AMB 22 06 25.0
comp=Z,28nm,3.7s
MOPA Mopani 57.59 174 P P 22 06 22.9 +1.6
comp=Z,28nm,3.7s
MOPA Mopani 57.59 174 P P 22 06 22.9 +1.6
comp=Z,28nm,3.7s
GTA Gaotai 58.27 61 eP P 22 06 26.0 -0.2
GTA pP pP 22 06 35.9 +1.4
GTA sP sP 22 06 40.1 +2.4
GTA S S 22 14 22.5 -4.3
GTA sS sS 22 14 39.3 -1.2
GTA SS SS 22 18 15.7 -2.8
GTA pmax pmax
comp=Z,13nm,1.3s
GTA pmax pmax
comp=Z,150nm,9.7s
GTA LR LR
comp=Z,350nm,19.5s
GTA LR LR
comp=Z,520nm,18.1s
GTA LR LR
comp=Z,480nm,20.9s
LBTB Lobatse 58.80 180 eP P 22 06 30.0 +0.2
LBTB AMB AMB 22 06 44.7
comp=Z,54nm,3.9s
LBTB Lobatse 58.80 180 eP P 22 06 29.9 +0.1
LBTB pmax pmax
comp=Z,55nm,1.4s
LBTB MLR MLR
comp=Z,2µm,18.7s
LBTB Lobatse 58.80 180 eP P 22 06 29.9 +0.1
comp=Z,55nm,1.4s
LBTB LR LR
comp=Z,2µm,18.7s
LBTB Lobatse 58.80 180 eP P 22 06 29.9 +0.1
comp=Z,55nm,1.4s
SLR Silverton 59.58 177 eP P 22 06 35.6 +0.3
SLR AMB AMB 22 07 06.9
comp=Z,52nm,4.8s
SLR Silverton 59.58 177 P P 22 06 35.6 +0.3
SLR pmax pmax
comp=Z,52nm,4.8s
SLR Silverton 59.58 177 P P 22 06 35.6 +0.3
comp=Z,52nm,4.8s
SLR Silverton 59.58 177 P P 22 06 35.6 +0.3
comp=Z,52nm,4.8s
KSR Koster 59.65 178 eP P 22 06 33.7 -2.1
KSR AMB AMB 22 06 41.7
comp=Z,17nm,1.1s
KSR Koster 59.65 178 P P 22 06 33.7 -2.1
comp=Z,17nm,1.1s
KSR Koster 59.65 178 P P 22 06 33.7 -2.1
comp=Z,17nm,1.1s
SONM Songino Array 59.99 50 LR LR 22 36 46.3
comp=Z,872nm,19.9s,baz=296,slow=40
OBSV Observatory 60.02 177 eP P 22 06 39.9 +1.6
OBSV AMB AMB 22 06 52.0
comp=Z,27nm,3.2s
CRWM Crown Mines 60.07 177 eP P 22 06 39.8 +1.1
CRWM AMB AMB 22 06 51.0
comp=Z,26nm,2.9s
KLOF Kloof 60.16 178 eP P 22 06 40.7 +1.4
KLOF AMB AMB 22 06 48.4
comp=Z,30nm,6.2s
KLOF Kloof 60.16 178 P P 22 06 40.7 +1.4
comp=Z,30nm,6.2s
KLOF Kloof 60.16 178 P P 22 06 40.7 +1.4
comp=Z,30nm,6.2s
ERPM east rand prop 60.18 177 eP P 22 06 39.1 -0.3
ERPM AMB AMB 22 06 45.3
comp=Z,36nm,4.5s
ERPM east rand prop 60.18 177 P P 22 06 39.1 -0.3
comp=Z,36nm,4.5s
ERPM east rand prop 60.18 177 P P 22 06 39.1 -0.3
comp=Z,36nm,4.5s
ULN Ulaanbaatar 60.40 50 eP P 22 06 40.3 -0.5
ULN pmax pmax
comp=Z,22nm,1.0s
ULN MLR MLR
comp=Z,1µm,20.0s
ULN Ulaanbaatar 60.40 50 eP P 22 06 40.3 -0.5
comp=Z,22nm,1.0s
ULN LR LR
comp=Z,1µm,20.0s
ULN Ulaanbaatar 60.40 50 eP P 22 06 40.3 -0.5
comp=Z,22nm,1.0s
DRLN Deer Lake 60.75 312 eP P 22 06 42.3 -0.7
comp=Z,89nm,1.1s
DRLN Deer Lake 60.75 312 eP P 22 06 42.3 -0.7
comp=Z,89nm,1.1s
SWZ Schweizer 60.96 180 eP P 22 06 44.5 -0.1
SWZ AMB AMB 22 06 56.2
comp=Z,67nm,4.2s
SWZ Schweizer 60.96 180 P P 22 06 44.5 -0.1
comp=Z,67nm,4.2s
SWZ Schweizer 60.96 180 P P 22 06 44.5 -0.1
comp=Z,67nm,4.2s
TIXI Tiksi 62.07 20 eP P 22 06 50.7 -0.8
TIXI pmax pmax
comp=Z,10.0nm,1.3s
TIXI MLR MLR
comp=Z,4µm,21.0s
TIXI Tiksi 62.07 20 eP P 22 06 51.5 0.0
comp=Z,7.8nm,0.8s
TIXI LR LR
comp=Z,3µm,19.0s
TIXI Tiksi 62.07 20 eP P 22 06 51.5 0.0
comp=Z,7.8nm,0.8s
SEK Senekal 62.13 178 eP P 22 06 53.5 +0.9
SEK AMB AMB 22 07 01.5
comp=Z,56nm,5.7s
SEK Senekal 62.13 178 P P 22 06 53.5 +0.9
comp=Z,56nm,5.7s
SEK Senekal 62.13 178 P P 22 06 53.5 +0.9
comp=Z,56nm,5.7s
BOSA Boshof 62.38 180 eP P 22 06 54.6 +0.4
BOSA AMB AMB 22 06 57.9
comp=Z,30nm,2.5s
BOSA Boshof 62.38 180 P P 22 06 54.5 +0.2
BOSA pmax pmax
comp=Z,19nm,0.8s
BOSA MLR MLR
comp=Z,17nm,28.6s
BOSA Boshof 62.38 180 P P 22 06 54.5 +0.2
comp=Z,19nm,0.8s,baz=6.8,slow=7.4,SNR=23
BOSA LR LR 22 34 37.1
comp=Z,1µm,19.3s,baz=358,slow=37
BOSA Boshof 62.38 180 eP P 22 06 54.4 +0.2
comp=Z,22nm,0.8s
BOSA Boshof 62.38 180 eP P 22 06 54.4 +0.2
comp=Z,22nm,0.8s
LZH Lanzhou 62.47 63 ⇓P P 22 06 55.4 +0.4
LZH pP pP 22 07 05.1 +1.8
LZH sP sP 22 07 09.4 +2.9
LZH PP PP 22 09 14.5 +2.2
LZH S S 22 15 18.1 -2.7
LZH sS sS 22 15 33.0 -1.5
LZH SS SS 22 19 23.0 -1.5
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,90nm,5.7s
LZH LR LR
comp=Z,930nm,16.8s
LZH LR LR
comp=Z,920nm,16.0s
LZH LR LR
comp=Z,1µm,17.5s
SCHQ Schefferville 64.13 320 P P 22 07 05.1 -0.4
comp=Z,33nm,0.5s,baz=62,slow=4.6,SNR=80
SCHQ Schefferville 64.13 320 eP P 22 07 05.2 -0.3
comp=Z,50nm,0.8s
SCHQ Schefferville 64.13 320 eP P 22 07 05.2 -0.3
comp=Z,50nm,0.8s
HVD Gariep Dam 64.37 180 eP P 22 07 10.5 +3.2
HVD AMB AMB 22 07 17.0
comp=Z,64nm,5.9s
HVD Gariep Dam 64.37 180 P P 22 07 10.5 +3.2
HVD pmax pmax
comp=Z,64nm,5.9s
HVD Gariep Dam 64.37 180 P P 22 07 10.5 +3.2
comp=Z,64nm,5.9s
KSD Kokstad 64.41 176 eP P 22 07 09.2 +1.5
KSD AMB AMB 22 07 15.1
comp=Z,22nm,4.0s
KSD Kokstad 64.41 176 P P 22 07 09.2 +1.5
comp=Z,22nm,4.0s
KSD Kokstad 64.41 176 P P 22 07 09.1 +1.5
comp=Z,22nm,4.0s
CD2 Chengdu 64.56 69⇑iP P 22 07 08.5 -0.3
CD2 pP pP 22 07 19.4 +2.2
CD2 sP sP 22 07 23.0 +2.7
CD2 PP PP 22 09 33.8 +3.1
CD2 S S 22 15 45.1 -1.7
CD2 sS sS 22 16 00.2 -0.4
CD2 SS SS 22 19 56.4 -0.8
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,220nm,4.5s
CD2 LR LR
comp=Z,730nm,15.5s
CD2 LR LR
comp=Z,720nm,19.0s
CMAI Chiengmai2 65.84 82 P P 22 07 16.9 -0.5
comp=Z,343nm,1.0s
HHC Hu-ho-hao-te 66.04 56 eP P 22 07 18.7 +0.4
HHC sP sP 22 07 31.3 +1.5
HHC S S 22 16 04.8 0.0
HHC sS sS 22 16 14.5 -4.1
HHC SS SS 22 20 17.5 -2.3
HHC pmax pmax
comp=Z,69nm,1.0s
HHC pmax pmax
comp=Z,350nm,3.2s
HHC LR LR
comp=Z,1µm,29.2s
HHC LR LR
comp=Z,730nm,24.3s
HHC LR LR
comp=Z,950nm,26.1s
SUR Sutherland 66.28 184 eP P 22 07 21.1 +1.3
comp=Z,488nm,2.8s
SUR Sutherland 66.28 184 eP P 22 07 21.1 +1.3
comp=Z,488nm,2.8s
CHTO Chiang Mai 66.31 83 eP P 22 07 19.6 -0.5
CHTO pmax pmax
comp=Z,24nm,1.4s
CHTO Chiang Mai 66.31 83 P P 22 07 20.9 +0.7
comp=Z,58nm,1.1s
CHTO Chiang Mai 66.31 83 eP P 22 07 19.6 -0.5
comp=Z,24nm,1.4s
CHTO Chiang Mai 66.31 83 eP P 22 07 19.6 -0.5
comp=Z,24nm,1.4s
CMMT Chiang Mai 66.31 83 P P 22 07 20.9 +0.7
comp=Z,16nm,1.1s
KMI Kunming 66.37 75 P P 22 07 21.3 +0.5
KMI pP pP 22 07 32.3 +3.1
KMI S S 22 16 05.1 -4.3
KMI pmax pmax
comp=Z,11nm,0.8s
KMI LR LR
comp=Z,340nm,20.8s
KMI LR LR
comp=Z,240nm,20.6s
KMI LR LR
comp=Z,430nm,21.6s
CMAR Chiang Mai Arr 66.48 83 P P 22 07 20.6 -0.7
CMAR pmax pmax
comp=Z,10.0nm,1.0s
CMAR MLR MLR
comp=Z,189nm,20.3s
CMAR Chiang Mai Arr 66.48 83 P P 22 07 20.6 -0.7
comp=Z,10nm,1.0s,baz=298,slow=8.0,SNR=50
CMAR LR LR 22 43 51.8
comp=Z,189nm,20.3s,baz=292,slow=43
CM01 Chiang Mai Arr 66.51 83 eP P 22 07 20.6 -0.9
CM01 Chiang Mai Arr 66.51 83 eP P 22 07 20.6 -0.9
YAK Yakutsk 66.68 30 eP P 22 07 20.9 -0.9
YAK e*PP pP 22 07 30.5 +0.3
YAK e 22 07 48.1
YAK e 22 09 50.9
YAK ePPP PPP 22 11 26.1
YAK eS S 22 16 13.0 +1.5
YAK e*SS sS 22 16 28.1 +2.8
YAK e 22 17 11.9
YAK eSSS SSS 22 23 23.5
YAK pmax pmax
comp=Z,27nm,0.8s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,116nm,3.9s
YAK pmax pmax
comp=N,86nm,3.9s
YAK pmax pmax
comp=E,20nm,2.0s
YAK smax smax
comp=N,84nm,4.1s
YAK smax smax
comp=E,100nm,3.2s
YAK MLR MLR
comp=Z,675nm,16.0s
YAK MLR MLR
comp=N,674nm,18.0s
YAK MLR MLR
comp=E,741nm,20.0s
YAK Yakutsk 66.68 30 eP P 22 07 20.9 -0.9
comp=E,37nm,0.7s
YAK Yakutsk 66.68 30 eP P 22 07 20.9 -0.9
comp=E,37nm,0.7s
CLNS Chul'man 66.97 36 eP P 22 07 19.6 -4.2
CLNS pmax pmax
comp=Z,14nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,1.0s
LAMP Lampang 67.02 83 P P 22 07 25.4 +0.7
comp=N,10nm,0.9s,comp=N,91nm
XAN Xi'an 67.11 64 P P 22 07 25.0 -0.1
XAN pP pP 22 07 30.4 -3.1
XAN S S 22 16 17.5 -0.2
XAN ScS SKSac 22 17 20.5 -0.3
XAN SS SS 22 20 35.6 -0.9
XAN pmax pmax
comp=N,3.0nm,0.9s
XAN LR LR
comp=N,400nm,22.4s
XAN LR LR
comp=N,150nm,22.4s
XAN LR LR
comp=N,170nm,20.3s
SUKH Sukhothai 67.53 84 P P 22 07 28.9 +1.0
comp=N,7.7nm,1.0s,comp=N,71nm
UMPA Umpang Tak 67.54 85 P P 22 07 23.4 -4.6
comp=N,29nm,0.9s,comp=N,3µm
HIA Hailar 67.61 45 eP P 22 07 27.8 -0.3
HIA pmax pmax
comp=Z,44nm,1.1s
HIA Hailar 67.61 45 eP P 22 07 27.8 -0.3
comp=Z,44nm,1.1s
HIA Hailar 67.61 45 eP P 22 07 27.8 -0.3
comp=Z,44nm,1.1s
KHLT Khaolaem Dam 68.03 87 P P 22 07 33.0 +1.9
comp=Z,5.1nm,1.2s
UTTA Uttaradit 68.16 83 P P 22 07 32.9 +1.0
comp=Z,4.8nm,0.8s,comp=Z,46nm
SRDT SRDT 68.70 87 P P 22 07 36.8 +1.5
comp=Z,42nm,1.2s,comp=Z,3µm
EMMW East Machias 68.80 310 eP P 22 07 35.5 0.0
comp=Z,64nm,0.9s
EMMW East Machias 68.80 310 eP P 22 07 35.5 0.0
comp=Z,64nm,0.9s
GYA Guiyang 68.86 72⇑iP P 22 07 37.1 +0.7
GYA PP PP 22 10 11.0 +2.6
GYA ScP 22 12 03.8
GYA S S 22 16 38.9 -0.1
GYA SKS SKSac 22 17 32.5 -2.0
GYA SS SS 22 21 05.4 +1.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.6s
GYA LR LR
comp=Z,640nm,20.8s
GYA LR LR
comp=Z,590nm,21.4s
GYA LR LR
comp=Z,720nm,20.6s
PBKT Sadao Pong 69.10 84 P P 22 07 38.2 +0.5
comp=Z,22nm,1.0s
SLVN Son La 69.12 78 eP P 22 07 38.1 +0.1
comp=Z,21nm,1.4s
SLVN Son La 69.12 78 eP P 22 07 38.1 +0.1
comp=Z,21nm,1.4s
ENH Enshi 69.25 67 eP P 22 07 38.7 +0.1
comp=Z,45nm,1.6s
ENH Enshi 69.25 67 eP P 22 07 38.7 +0.1
comp=Z,45nm,1.6s
BJI Beijing 69.55 55 P P 22 07 40.7 +0.5
BJI PP PP 22 10 13.7 -0.1
BJI S S 22 16 47.8 +1.3
BJI sS sS 22 16 55.7 -4.7
BJI SS SS 22 21 15.8 +1.9
BJI pmax pmax
comp=Z,15nm,0.9s
BJI pmax pmax
comp=Z,220nm,5.3s
BJI LR LR
comp=Z,790nm,21.3s
BJI LR LR
comp=Z,870nm,20.4s
BJI LR LR
comp=Z,820nm,21.8s
BJT Baijiatuau 69.56 55 eP P 22 07 39.5 -0.8
BJT pmax pmax
comp=Z,23nm,1.0s
BJT Baijiatuau 69.56 55 eP P 22 07 39.5 -0.8
comp=Z,23nm,1.0s
BJT Baijiatuau 69.56 55 eP P 22 07 39.5 -0.8
comp=Z,22nm,1.0s
RCBR Riachuelo 70.13 248 eP P 22 07 44.5 +0.3
comp=Z,36nm,1.4s
RCBR LR LR
comp=Z,2µm,20.0s
RCBR Riachuelo 70.13 248 eP P 22 07 44.5 +0.3
comp=Z,36nm,1.4s
LBNH Lisbon 71.83 311 eP P 22 07 54.9 +0.8
LBNH pmax pmax
comp=Z,771nm,2.6s
LBNH Lisbon 71.83 311 eP P 22 07 54.9 +0.8
comp=Z,771nm,2.6s
LBNH Lisbon 71.83 311 eP P 22 07 54.9 +0.8
comp=Z,771nm,2.6s
CHBT CHBT 72.19 86 P P 22 07 58.2 +1.6
comp=Z,14nm,1.1s,comp=Z,4µm
HNH Hanover 72.33 311 eP P 22 07 56.5 -0.5
comp=Z,740nm,2.8s
HNH Hanover 72.33 311 eP P 22 07 56.5 -0.5
comp=Z,740nm,2.8s
WES Weston 72.38 309 eP P 22 07 58.1 +0.7
WES pmax pmax
comp=Z,936nm,2.4s
WES Weston 72.38 309 eP P 22 07 58.0 +0.7
comp=Z,936nm,2.4s
WES Weston 72.38 309 eP P 22 07 58.0 +0.7
comp=Z,936nm,2.4s
BRYW Bryant College 72.75 309 eP P 22 08 00.6 +1.0
comp=Z,985nm,2.5s
BRYW Bryant College 72.75 309 eP P 22 08 00.6 +1.0
comp=Z,985nm,2.5s
QUA2 Belchertown 73.09 310 eP P 22 08 00.7 -0.9
comp=Z,565nm,2.3s
QUA2 Belchertown 73.09 310 eP P 22 08 00.7 -0.9
comp=Z,565nm,2.3s
LONY Lake Ozonia 73.27 313 eP P 22 08 04.9 +2.2
comp=Z,536nm,2.8s
LONY Lake Ozonia 73.27 313 eP P 22 08 04.9 +2.2
comp=Z,536nm,2.8s
ACCN Adirondack Com 73.35 311 eP P 22 08 05.1 +1.9
comp=Z,558nm,3.0s
ACCN Adirondack Com 73.35 311 eP P 22 08 05.1 +1.9
comp=Z,558nm,3.0s
UBPT Khong Chiam 73.47 83 P P 22 08 05.8 +1.6
comp=Z,10nm,1.1s,comp=Z,980nm
PTN Potsdam (NY) 73.54 313 eP P 22 08 05.6 +1.4
PTN pmax pmax
comp=Z,752nm,2.6s
PTN Potsdam (NY) 73.54 313 eP P 22 08 05.6 +1.4
comp=Z,752nm,2.6s
PTN Potsdam (NY) 73.54 313 eP P 22 08 05.6 +1.4
comp=Z,752nm,2.6s
SNY Shenyang 73.57 50 ⇓P P 22 08 05.1 +0.7
SNY pmax pmax
comp=Z,15nm,1.2s
SNY LR LR
comp=Z,430nm,30.6s
SNY LR LR
comp=Z,810nm,19.8s
SNY LR LR
comp=Z,980nm,21.6s
TRY Troy 73.69 311 PFAKE 22 08 20.0 +15
TRY LR LR
comp=Z,2µm,19.9s
CN2 Changchun 73.72 48 eP P 22 08 05.3 0.0
CN2 eS S 22 17 38.3 +3.9
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,800nm,20.0s
CN2 LR LR
comp=Z,700nm,21.0s
YLE Yale 73.96 309 PFAKE 22 08 20.0 +13
YLE LR LR
comp=Z,4µm,20.0s
BILL Bilibino 74.03 14 eP P 22 08 07.2 +0.6
BILL e 22 10 53.5
BILL pmax pmax
comp=Z,20nm,1.3s
BILL MLR MLR
comp=Z,992nm,22.0s
BILL Bilibino 74.03 14 eP P 22 08 06.6 0.0
comp=Z,19nm,1.1s
BILL Bilibino 74.03 14 eP P 22 08 06.6 0.0
comp=Z,19nm,1.1s
KLR Kul'dur 74.42 41 eP P 22 08 06.2 -3.1
KLR eS S 22 17 39.0 -3.1
SEY Seymchan 74.45 22 eP P 22 08 08.9 -0.3
GSI Gunungsitoli 74.52 99 eP P 22 08 09.9 -0.5
comp=Z,91nm,1.8s
GSI Gunungsitoli 74.52 99 eP P 22 08 09.9 -0.5
comp=Z,91nm,1.8s
FCC Fort Churchill 74.73 332 eP P 22 08 10.5 -0.3
FCC Fort Churchill 74.73 332 eP P 22 08 10.5 -0.3
FCC Fort Churchill 74.73 332 eP P 22 08 10.5 -0.3
KULM Kulim 74.82 94 eP P 22 08 11.5 -0.7
comp=Z,34nm,1.1s
KULM Kulim 74.82 94 eP P 22 08 11.5 -0.7
comp=Z,34nm,1.1s
QIZ Qiongzhong 75.09 77 eP P 22 08 14.4 +0.7
comp=Z,389nm,2.3s
QIZ Qiongzhong 75.09 77 eP P 22 08 14.4 +0.7
comp=Z,389nm,2.3s
ODNJ Ogdensburg 75.16 310 eP P 22 08 14.3 +0.6
comp=Z,841nm,2.8s
ODNJ Ogdensburg 75.16 310 eP P 22 08 14.3 +0.6
comp=Z,841nm,2.8s
NJ2 Nanjing 75.37 61 eP P 22 08 16.7 +1.7

NJ2 pmax pmax
comp=Z,30nm,1.0s
BINY Binghamton 75.43 311 eP P 22 08 16.0 +0.7
comp=Z,869nm,2.8s
BINY Binghamton 75.43 311 eP P 22 08 16.0 +0.7
comp=Z,869nm,2.8s
IPM Ipoh 75.58 94 PFAKE 22 08 30.0 +13
IPM LR LR
comp=Z,400nm,22.0s
KSPA Keystone Colle 75.64 311 eP P 22 08 15.3 -1.2
comp=Z,568nm,2.5s
KSPA Keystone Colle 75.64 311 eP P 22 08 15.3 -1.2
comp=Z,568nm,2.5s
MDJ Mudanjiang 75.78 46 P P 22 08 16.9 -0.3
MDJ PcP PcP 22 08 29.6 -0.2
MDJ PP PP 22 11 05.6 -1.2
MDJ S S 22 17 57.2 -0.2
MDJ ScS ScS 22 18 29.4 -0.1
MDJ SS SS 22 22 50.0 +1.3
MDJ pmax pmax
comp=Z,10.0nm,1.3s
MDJ pmax pmax
comp=Z,62nm,2.9s
MDJ LR LR
comp=Z,570nm,20.9s
MDJ LR LR
comp=Z,690nm,19.1s
MDJ LR LR
comp=Z,800nm,17.9s
MDJ Mudanjiang 75.78 46 PFAKE 22 08 30.0 +13
MDJ LR LR
comp=Z,800nm,19.0s
SADO Sadowa 75.93 315 LR LR 22 41 41.2
comp=Z,949nm,20.8s,baz=28,slow=36
MMNY Mt. Morris Dam 76.32 312 eP P 22 08 22.1 +1.8
comp=Z,84nm,0.9s
MMNY Mt. Morris Dam 76.32 312 eP P 22 08 22.1 +1.8
comp=Z,84nm,0.9s
INK Inuvik 76.69 352 eP P 22 08 21.1 -0.8
INK pmax pmax
comp=Z,27nm,0.8s
INK Inuvik 76.69 352 LR LR 22 45 30.1
comp=Z,891nm,20.1s,baz=14,slow=38
INK Inuvik 76.69 352 eP P 22 08 21.1 -0.8
comp=Z,27nm,0.8s
INK Inuvik 76.69 352 eP P 22 08 21.1 -0.8
comp=Z,27nm,0.8s
MVL Millersville 76.86 309 eP P 22 08 25.0 +1.6
comp=Z,266nm,2.3s
MVL Millersville 76.86 309 eP P 22 08 25.0 +1.6
comp=Z,266nm,2.3s
USRK Ussuriysk Arra 77.43 45 P P 22 08 25.8 -0.7
comp=Z,27nm,0.8s,baz=297,slow=4.3,SNR=56
SSPA Standing Stone 77.48 311 eP P 22 08 27.1 +0.2
comp=Z,234nm,2.3s
SSPA Standing Stone 77.48 311 eP P 22 08 27.1 +0.2
comp=Z,234nm,2.3s
SDMD Soldier's Deli 77.50 309 eP P 22 08 27.8 +0.8
SDMD Soldier's Deli 77.50 309 eP P 22 08 27.8 +0.8
SSE Sheshan 77.56 61 eP P 22 08 28.3 +0.8
SSE S S 22 18 06.0 -11
SSE pmax pmax
comp=Z,11nm,0.8s
SSE pmax pmax
comp=Z,180nm,3.5s
SSE LR LR
comp=Z,210nm,20.4s
SSE LR LR
comp=Z,290nm,20.5s
SSE LR LR
comp=Z,330nm,22.2s
DLV T Lat 77.71 84 eP P 22 08 28.8 0.0
comp=Z,18nm,1.1s
DLV T Lat 77.71 84 eP P 22 08 28.8 0.0
comp=Z,18nm,1.1s
BKNI Bangkinang 77.92 98 eP P 22 08 27.8 -1.9
comp=Z,101nm,1.2s
BKNI LR LR
comp=Z,400nm,20.0s
BKNI Bangkinang 77.92 98 eP P 22 08 27.8 -1.9
comp=Z,101nm,1.2s
ERPA Erie 77.94 313 eP P 22 08 30.3 +0.9
comp=Z,54nm,1.0s
ERPA Erie 77.94 313 eP P 22 08 30.3 +0.9
comp=Z,54nm,1.0s
YKA Yellowknife Ar 78.51 342 P P 22 08 31.6 -0.6
comp=Z,9.4nm,0.6s,baz=34,slow=5.6,SNR=127
YKA PKKPbc PKKPbc 22 27 26.8 -1.6
comp=Z,0.2nm,0.7s,baz=214,slow=1.3,SNR=4.3
YKA PKPPKP P'P'df 22 35 20.9 -16
comp=Z,0.3nm,0.9s,baz=170,slow=2.4,SNR=4.3
YKB5 Yellowknife Ar 78.51 342 eP P 22 08 31.1 -1.1
YKB5 Yellowknife Ar 78.51 342 eP P 22 08 31.1 -1.1
KS01 Wonju Array Si 78.72 52 eP P 22 08 33.5 -0.3
KS01 Wonju Array Si 78.72 52 eP P 22 08 33.5 -0.3
KSAR Wonju Array Be 78.73 52 P P 22 08 34.0 +0.1
KSAR Wonju Array Be 78.73 52 P P 22 08 34.0 +0.1
KSAR Wonju Array Be 78.73 52 P P 22 08 34.0 +0.1
KSRS Korea Array 78.75 52 P P 22 08 34.0 0.0
KSRS pmax pmax
comp=Z,9.0nm,0.6s
KSRS MLR MLR
comp=Z,858nm,20.0s
KSRS Korea Array 78.75 52 P P 22 08 34.0 0.0
comp=Z,8.9nm,0.6s,baz=307,slow=4.8,SNR=18
KSRS LR LR 22 48 54.5
comp=Z,858nm,20.0s,baz=312,slow=40
SMRT St. Maarten 78.89 284 PFAKE 22 08 50.0 +15
SMRT LR LR
comp=Z,700nm,19.4s
COLD Coldfoot 78.92 358 eP P 22 08 34.2 -0.2
comp=Z,24nm,0.9s
COLD Coldfoot 78.92 358 eP P 22 08 34.2 -0.2
comp=Z,24nm,0.9s
URVA University of 78.98 308 eP P 22 08 34.8 -0.5
URVA University of 78.98 308 eP P 22 08 34.8 -0.5
JSRW J. Sargeant Re 79.14 308 eP P 22 08 37.1 +1.0
JSRW J. Sargeant Re 79.14 308 eP P 22 08 37.1 +1.0
SABA Saba 79.26 284 PFAKE 22 08 50.0 +13
SABA LR LR
comp=Z,900nm,18.3s
MYKOM Kota Tinggi 79.42 95 PFAKE 22 08 50.0 +12
MYKOM LR LR
comp=Z,500nm,20.0s
TNA Tin City 80.11 6 eP P 22 08 41.0 +0.2
comp=Z,23nm,0.8s
TNA Tin City 80.11 6 eP P 22 08 41.0 +0.2
comp=Z,23nm,0.8s
CDVI St. Croix 80.41 285 eP P 22 08 43.2 -0.1
comp=Z,64nm,0.7s
CDVI LR LR
comp=Z,900nm,19.2s
CDVI St. Croix 80.41 285 eP P 22 08 43.2 -0.1
comp=Z,64nm,0.7s
FFC Flin Flon 80.66 332 P P 22 08 44.3 +0.3
comp=Z,168nm,0.6s,SNR=8.8
FFC Flin Flon 80.66 332 eP P 22 08 44.0 0.0
FFC pmax pmax
comp=Z,22nm,0.8s
FFC Flin Flon 80.66 332 eP P 22 08 44.0 0.0
comp=Z,22nm,0.8s
FFC Flin Flon 80.66 332 eP P 22 08 44.0 0.0
comp=Z,22nm,0.8s
COWI Conover 80.74 320 eP P 22 08 44.6 0.0
comp=Z,70nm,0.9s
COWI Conover 80.74 320 eP P 22 08 44.7 0.0
comp=Z,70nm,0.9s
EYMN Ely 80.75 323 eP P 22 08 44.1 -0.6
comp=Z,137nm,2.4s
EYMN Ely 80.75 323 eP P 22 08 44.1 -0.6
comp=Z,137nm,2.4s
VWCC Virginia Weste 80.76 309 eP P 22 08 44.6 -0.3
VWCC Virginia Weste 80.76 309 eP P 22 08 44.6 -0.3
ACSO Alum Creek Sta 80.88 313 eP P 22 08 45.6 +0.1
comp=Z,24nm,0.8s
ACSO Alum Creek Sta 80.88 313 eP P 22 08 45.6 +0.1
comp=Z,24nm,0.8s
EGAK Eagle 80.88 354 eP P 22 08 45.8 +0.8
comp=Z,24nm,0.7s
EGAK Eagle 80.88 354 eP P 22 08 45.8 +0.8
comp=Z,24nm,0.7s
CBYP Canovanas 81.00 286 eP P 22 08 46.5 -0.1
comp=Z,14nm,0.7s
CBYP Canovanas 81.00 286 eP P 22 08 46.5 -0.1
comp=Z,14nm,0.7s
HUMP Col San Antoni 81.07 286 eP P 22 08 47.3 +0.5
comp=Z,38nm,1.0s
HUMP Col San Antoni 81.07 286 eP P 22 08 47.3 +0.5
comp=Z,38nm,1.0s
CPD Cerro la Pandu 81.18 286 eP P 22 08 46.4 -1.1
CPD pmax pmax
comp=Z,30nm,0.9s
CPD MLR MLR
comp=Z,6μm,21.7s
CPD Cerro la Pandu 81.18 286 eP P 22 08 46.4 -1.1
comp=Z,30nm,0.9s
CPD LR LR
comp=Z,6μm,21.7s
CPD Cerro la Pandu 81.18 286 eP P 22 08 46.3 -1.1
comp=Z,30nm,0.9s
COLA College 81.20 357 eP P 22 08 46.3 -0.4
COLA pmax pmax
comp=Z,26nm,0.8s
COLA College 81.20 357 eP P 22 08 46.3 -0.4
comp=Z,26nm,0.8s
COLA College 81.20 357 eP P 22 08 46.3 -0.4
comp=Z,26nm,0.8s
IL1 Eielson Array 81.26 357 eP P 22 08 47.1 0.0
IL1 Eielson Array 81.26 357 eP P 22 08 47.1 0.0
ILAR Eielson Array 81.26 357 P P 22 08 47.0 -0.1
ILAR pmax pmax
comp=Z,14nm,0.7s
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR MLR MLR
comp=Z,803nm,21.3s
ILAR Eielson Array 81.26 357 P P 22 08 47.0 -0.1
comp=Z,14nm,0.7s,baz=348,slow=3.5,SNR=108
ILAR PKKPbc PKKPbc 22 27 21.6 -0.9
comp=Z,2.8nm,0.9s,baz=225,slow=3.2,SNR=20
ILAR PKPPKP P'P'df 22 35 22.3 -10
comp=Z,0.6nm,0.9s,baz=229,slow=3.5,SNR=4.8
ILAR LR LR 22 45 32.3
comp=Z,803nm,21.3s,baz=15,slow=36
ILB Eielson Array 81.26 357 eP P 22 08 47.0 -0.1
ILB Eielson Array 81.26 357 eP P 22 08 47.0 -0.1
ULM Lac du Bonnet 81.30 326 P P 22 08 46.5 -1.0
ULM pmax pmax
comp=Z,10.0nm,0.5s
ULM MLR MLR
comp=Z,697nm,21.8s
ULM Lac du Bonnet 81.30 326 P P 22 08 46.5 -1.0
comp=Z,10nm,0.5s,baz=71,slow=4.7,SNR=15
ULM LR LR 22 44 04.4
comp=Z,697nm,21.8s,baz=50,slow=35
ULM Lac du Bonnet 81.30 326 eP P 22 08 47.3 -0.2
comp=Z,37nm,1.4s
ULM Lac du Bonnet 81.30 326 eP P 22 08 47.3 -0.2
comp=Z,37nm,1.4s
SJG San Juan 81.33 286 eP P 22 08 49.9 +1.7
SJG pmax pmax
comp=Z,16nm,0.8s
SJG San Juan 81.33 286 eP P 22 08 49.9 +1.7
comp=Z,16nm,0.8s
SJG San Juan 81.33 286 eP P 22 08 49.8 +1.6
comp=Z,16nm,0.8s
GAMB Gambell 81.50 8 eP P 22 08 48.6 +0.3
comp=Z,12nm,1.0s
GAMB Gambell 81.50 8 eP P 22 08 48.6 +0.3
comp=Z,12nm,1.0s
YSS Yuzh-Sakhalins 81.62 38 eP P 22 08 50.0 +0.7
YSS eS S 22 19 05.0 +5.2
YSS pmax pmax
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 81.62 38 eP P 22 08 49.8 +0.5
comp=Z,41nm,0.9s
YSS Yuzh-Sakhalins 81.62 38 eP P 22 08 49.8 +0.5
comp=Z,41nm,0.9s
AOPR Arecibo Observ 81.68 286 eP P 22 08 50.1 0.0
comp=Z,25nm,0.8s
AOPR LR LR
comp=Z,1μm,19.5s
AOPR Arecibo Observ 81.68 286 eP P 22 08 50.1 0.0
comp=Z,25nm,0.8s
CELP Cerrillos 81.69 286 eP P 22 08 50.0 -0.1
CELP Cerrillos 81.69 286 eP P 22 08 50.0 -0.1
OBIP Obispado Ponce 81.73 286 eP P 22 08 50.7 +0.4
comp=Z,32nm,0.8s
OBIP Obispado Ponce 81.73 286 eP P 22 08 50.7 +0.4
comp=Z,32nm,0.8s
LRS Lares 81.78 286 eP P 22 08 51.5 +0.9
LRS Lares 81.78 286 eP P 22 08 51.5 +0.9
YULB Yu-li 81.82 67 eP P 22 08 51.2 +0.5
comp=Z,566nm,3.0s
YULB Yu-li 81.82 67 eP P 22 08 51.2 +0.5
comp=Z,566nm,3.0s
CRPR Cabo Rojo, PR 82.15 286 eP P 22 08 49.9 -2.6
comp=Z,19nm,0.8s
CRPR Cabo Rojo, PR 82.15 286 eP P 22 08 49.9 -2.6
comp=Z,19nm,0.8s
DOT Dot Lake 82.22 355 eP P 22 08 53.0 +0.9
comp=Z,35nm,0.9s
DOT Dot Lake 82.22 355 eP P 22 08 53.0 +0.9
comp=Z,35nm,0.9s
MCK McKinley 82.39 357 eP P 22 08 52.9 -0.1
MCK pmax pmax
comp=Z,51nm,1.0s
MCK McKinley 82.39 357 eP P 22 08 52.9 -0.1
comp=Z,51nm,1.0s
MCK McKinley 82.39 357 eP P 22 08 52.9 -0.1
comp=Z,51nm,1.0s
KTH Kantishna Hill 82.63 358 eP P 22 08 54.1 -0.2
comp=Z,43nm,1.0s
KTH Kantishna Hill 82.63 358 eP P 22 08 54.1 -0.2
comp=Z,43nm,1.0s
TRF Thorofare Moun 82.71 358 eP P 22 08 54.6 -0.3
comp=Z,33nm,0.8s
TRF Thorofare Moun 82.71 358 eP P 22 08 54.6 -0.3
comp=Z,33nm,0.8s
CAST Castle Rocks 82.78 359 eP P 22 08 55.3 +0.2
comp=Z,21nm,0.8s
CAST LR LR
comp=Z,400nm,19.2s
CAST Castle Rocks 82.78 359 eP P 22 08 55.3 +0.2
comp=Z,21nm,0.8s
PMBI Palembang 82.83 98 PFAKE 22 09 10.0 +14
PMBI LR LR
comp=Z,700nm,20.0s
KMSC Kings Mountain 82.89 308 eP P 22 08 54.9 -1.3
comp=Z,21nm,0.6s
KMSC Kings Mountain 82.89 308 eP P 22 08 54.8 -1.3
comp=Z,21nm,0.6s
KMSC Kings Mountain 82.89 308 ⇓P P 22 08 56.8 +0.7
baz=83
MENT Mentasta 82.89 355 eP P 22 08 56.3 +0.6
MENT Mentasta 82.89 355 eP P 22 08 56.3 +0.6
PAX Paxson 82.98 356 eP P 22 08 56.2 0.0
PAX pmax pmax
comp=Z,8.0nm,0.8s
PAX Paxson 82.98 356 eP P 22 08 56.2 0.0
comp=Z,7.7nm,0.8s
PAX Paxson 82.98 356 eP P 22 08 56.2 0.0
comp=Z,7.7nm,0.8s
SPMN St. Paul 83.25 321 eP P 22 08 57.0 -0.8
comp=Z,38nm,0.9s
SPMN LR LR
comp=Z,1μm,18.3s
SPMN St. Paul 83.25 321 eP P 22 08 57.0 -0.8
comp=Z,38nm,0.9s
SPMN St. Paul 83.25 321 ⇑P P 22 08 58.3 +0.5
baz=83
SFIN Scholer Farm 83.25 315 eP P 22 08 56.6 -1.3
comp=Z,28nm,1.0s
SFIN Scholer Farm 83.25 315 eP P 22 08 56.6 -1.3
comp=Z,28nm,1.0s
SFIN Scholer Farm 83.25 315 ⇓P P 22 08 57.8 -0.1
baz=83
PPLA Purkeypile 83.31 359 eP P 22 08 58.5 +0.5
PPLA Purkeypile 83.31 359 eP P 22 08 58.5 +0.5
A30A Hoffart Farm, 83.34 326 ⇑P P 22 08 57.5 -0.8
baz=83,SNR=15
JFWS Jewell Farm 83.42 318 eP P 22 08 57.7 -1.0
JFWS pmax pmax
comp=Z,26nm,0.9s
JFWS Jewell Farm 83.42 318 eP P 22 08 57.7 -1.0
comp=Z,26nm,0.9s
JFWS Jewell Farm 83.42 318 eP P 22 08 57.7 -1.0
comp=Z,26nm,0.9s
ASAJ Asahikawa 83.44 40 eP P 22 08 59.1 +0.3
comp=Z,91nm,1.6s
ASAJ LR LR
comp=Z,2μm,19.4s
ASAJ Asahikawa 83.44 40 eP P 22 08 59.1 +0.3
comp=Z,91nm,1.6s
TZTN Tazewell 83.47 310 eP P 22 09 00.1 +1.0
comp=Z,218nm,1.0s
TZTN Tazewell 83.47 310 eP P 22 09 00.1 +1.0
comp=Z,218nm,1.0s
CRZF Crozet Islands 83.64 162 S S 22 19 25.0 +5.2
CRZF R 22 39 00.0
BLO Bloomington 83.68 313 eP P 22 09 00.1 -0.1
BLO Bloomington 83.68 313 eP P 22 09 00.1 -0.1
BLO Bloomington 83.68 313 eP P 22 09 00.1 -0.1
B30A Myrvik Farm, E 83.71 326 ⇑P P 22 09 00.2 +0.1
baz=84,SNR=11
PEA0 Petropavlovsk- 83.75 27 eP P 22 08 59.3 -1.0
PEA0 Petropavlovsk- 83.75 27 eP P 22 08 59.3 -1.0
PETK Petropavlovsk- 83.75 27 P P 22 08 59.9 -0.4
PETK pmax pmax
comp=Z,5.0nm,0.8s
PETK MLR MLR
comp=Z,17nm,28.6s
PETK Petropavlovsk- 83.75 27 P P 22 08 59.9 -0.4
comp=Z,4.8nm,0.8s,baz=325,slow=1.8,SNR=5.6
PETK LR LR 22 52 09.9
comp=Z,721nm,18.0s,baz=320,slow=40
A29A Manning Farm, 83.78 327 ⇓P P 22 09 00.4 -0.1
baz=84,SNR=20
WCI Wyandotte Cave 84.13 313 eP P 22 09 01.7 -0.8
WCI pmax pmax
comp=Z,53nm,1.1s
WCI Wyandotte Cave 84.13 313 eP P 22 09 01.7 -0.8
comp=Z,53nm,1.1s
WCI Wyandotte Cave 84.13 313 eP P 22 09 01.7 -0.8
comp=Z,53nm,1.1s
TKL Tuckaleechee C 84.16 309 LR LR 22 47 23.7
comp=Z,745nm,19.4s,baz=61,slow=36
B29A Wagenman Farm, 84.17 327 ⇓P P 22 09 02.8 +0.3
baz=84
A28A Rude Farm, Bot 84.25 327 ⇑P P 22 09 03.0 0.0
baz=84,SNR=6.4
C30A Mose, Pekin 84.32 326 ⇓P P 22 09 03.5 +0.2
baz=84,SNR=16
HYT Haines Junctio 84.38 352 eP P 22 09 05.3 +1.8
HYT Haines Junctio 84.38 352 eP P 22 09 05.3 +1.8
PMR Palmer 84.53 357 eP P 22 09 05.3 +1.2
PMR pmax pmax
comp=Z,89nm,1.4s
PMR Palmer 84.53 357 eP P 22 09 05.2 +1.2
comp=Z,89nm,1.4s
PMR Palmer 84.53 357 eP P 22 09 05.2 +1.2
comp=Z,89nm,1.4s
B28A Dugan Ranch, T 84.64 327 ⇑P P 22 09 05.2 +0.3
baz=84,SNR=6.7
D30A Buchanan 84.88 325 ⇓P P 22 09 05.9 -0.2
baz=85,SNR=6.9
OLIL Olney 84.90 314 eP P 22 09 05.0 -1.3
comp=Z,37nm,0.9s
OLIL Olney 84.90 314 eP P 22 09 05.0 -1.3
comp=Z,37nm,0.9s
BMRM Bremner River 84.91 355 eP P 22 09 07.0 +0.9
comp=Z,74nm,1.4s
BMRM Bremner River 84.91 355 eP P 22 09 06.9 +0.9
comp=Z,74nm,1.4s
KSM Kuching 84.94 92 eP P 22 09 07.5 +0.5
comp=Z,31nm,1.3s
KSM LR LR
comp=Z,400nm,21.0s
KSM Kuching 84.94 92 eP P 22 09 07.4 +0.5
comp=Z,31nm,1.3s
A26A Wade Farm, Ken 85.05 328 ⇑P P 22 09 07.7 +0.8
baz=85,SNR=18
RC01 Rabbit Creek A 85.06 358 eP P 22 09 07.1 +0.4
comp=Z,44nm,0.8s
RC01 Rabbit Creek A 85.06 358 eP P 22 09 07.1 +0.4
comp=Z,44nm,0.8s
B27A Peters Farms, 85.07 328 ⇑P P 22 09 07.8 +0.8
baz=85,SNR=6.5
SVW2 Sparrevohn 85.13 0 eP P 22 09 07.8 +0.7
comp=Z,22nm,0.8s
SVW2 Sparrevohn 85.13 0 eP P 22 09 07.8 +0.7
comp=Z,22nm,0.8s
USIN University of 85.14 313 eP P 22 09 07.5 -0.1
comp=Z,29nm,0.8s
USIN University of 85.14 313 eP P 22 09 07.5 -0.1
comp=Z,29nm,0.8s
C28A Hausauer Farms 85.19 327 ⇓P P 22 09 07.8 +0.2
baz=85
D29A Pettibone, Tap 85.31 326 ⇓P P 22 09 08.6 +0.3
baz=85,SNR=14
GOGA Godfrey 85.34 307 eP P 22 09 09.0 +0.3
GOGA pmax pmax
comp=Z,25nm,1.1s
GOGA Godfrey 85.34 307 eP P 22 09 09.0 +0.3
comp=Z,25nm,1.1s
GOGA Godfrey 85.34 307 eP P 22 09 09.0 +0.3
comp=Z,25nm,1.1s
E30A Jud 85.39 325 ⇑P P 22 09 09.2 +0.6
baz=85
A25A Svangstu Ranch 85.48 329 ⇑P P 22 09 10.0 +0.9
baz=85
RAGM Ragged Mountai 85.50 355 eP P 22 09 09.8 +0.8
comp=Z,167nm,1.7s
RAGM Ragged Mountai 85.50 355 eP P 22 09 09.8 +0.8
comp=Z,167nm,1.7s
BDFB Brasilia 85.51 248 P P 22 09 11.1 +1.3
BDFB pmax pmax
comp=Z,17nm,0.8s
BDFB MLR MLR
comp=Z,2μm,18.9s
BDFB Brasilia 85.51 248 P P 22 09 11.1 +1.3
comp=Z,17nm,0.8s,baz=74,slow=4.5,SNR=19
BDFB LR LR 22 49 23.6
comp=Z,2μm,18.9s,baz=80,slow=37
BDFB Brasilia 85.51 248 eP P 22 09 10.9 +1.1
BDFB Brasilia 85.51 248 eP P 22 09 10.9 +1.1
B26A Jensen Ranch, 85.52 328 ⇓P P 22 09 09.6 +0.3
baz=85
DLBC Dease Lake 85.54 347 LR LR 22 47 24.6
comp=Z,887nm,22.0s,baz=18,slow=36
DLBC Dease Lake 85.54 347 eP P 22 09 11.4 +2.1
DLBC Dease Lake 85.54 347 eP P 22 09 11.4 +2.1
D28A Regan 85.66 326 ⇑P P 22 09 10.1 0.0
baz=85
E29A Napoleon 85.69 326 ⇑P P 22 09 10.8 +0.7
baz=86,SNR=8.7
C27A Sayler Ranch, 85.69 327 ⇑P P 22 09 10.1 -0.1
baz=86
SCIA State Center 85.72 319 eP P 22 09 11.0 +0.6
comp=Z,20nm,0.7s
SCIA State Center 85.72 319 eP P 22 09 11.0 +0.6
comp=Z,20nm,0.7s
RSO Redoubt South 85.76 359 eP P 22 09 10.6 +0.1
RSO Redoubt South 85.76 359 eP P 22 09 10.6 +0.1
MAJO Matsushiro 85.86 48 eP P 22 09 11.2 0.0
MAJO Matsushiro 85.86 48 eP P 22 09 11.4 +0.2
MAJO Matsushiro 85.86 48 eP P 22 09 11.4 +0.2
MAT Matsushiro 85.86 48 P P 22 09 12.2 +1.0
MAT eS S 22 19 39.6 -3.3
MJAR Matsushiro Arr 85.86 48 P P 22 09 12.7 +1.5
MJAR pmax pmax
comp=Z,16nm,1.0s
MJAR MLR MLR
comp=Z,17nm,28.6s
MJAR Matsushiro Arr 85.86 48 P P 22 09 12.7 +1.5
comp=Z,16nm,1.0s,baz=300,slow=2.6,SNR=6.5
MJAR LR LR 22 52 33.4
comp=Z,529nm,20.2s,baz=315,slow=39
A24A Westby 85.87 329 ⇓P P 22 09 11.4 +0.4
baz=86,SNR=8.8
C26A Wahner Farm, P 85.88 328 ⇑P P 22 09 11.4 +0.3
baz=86
F30A Leola 85.93 325 ⇓P P 22 09 11.8 +0.4
baz=86,SNR=12
EDM Edmonton 85.94 337 eP P 22 09 11.0 -0.3
EDM Edmonton 85.94 337 eP P 22 09 11.0 -0.3
EDM Edmonton 85.94 337 eP P 22 09 11.0 -0.3
SBUM Sibu 85.98 90 eP P 22 09 11.7 -0.4
comp=Z,15nm,1.1s
SBUM Sibu 85.98 90 eP P 22 09 11.7 -0.4
comp=Z,15nm,1.1s
SEW Seward 86.04 357 eP P 22 09 12.2 +0.6
SEW Seward 86.04 357 eP P 22 09 12.2 +0.6
D27A Center 86.16 327 ⇑P P 22 09 12.4 -0.1
baz=86
E28A Huff 86.17 326 ⇑P P 22 09 12.7 +0.2
baz=86
A23A Redstone 86.21 330 ⇓P P 22 09 13.0 +0.2
baz=86,SNR=12

SLM Saint Louis 86.23 315 eP P 22 09 12.3 -0.7
SLM pmax pmax
comp=Z,75nm,1.3s
SLM Saint Louis 86.23 315 eP P 22 09 12.3 -0.7
comp=Z,75nm,1.3s
SLM Saint Louis 86.23 315 eP P 22 09 12.3 -0.7
comp=Z,75nm,1.3s
SIUC Southern Illin 86.23 314 eP P 22 09 12.3 -0.7
comp=Z,49nm,0.9s
SIUC Southern Illin 86.23 314 eP P 22 09 12.3 -0.7
comp=Z,49nm,0.9s
ECSD EROS Data Cent 86.25 322 eP P 22 09 13.1 +0.1
comp=Z,32nm,0.8s
ECSD EROS Data Cent 86.25 322 eP P 22 09 13.1 +0.1
comp=Z,32nm,0.8s
ECSD EROS Data Cent 86.25 322 ⇓P P 22 09 13.4 +0.5
baz=86,SNR=20
DGMT Dagmar 86.30 329 eP P 22 09 11.0 -2.2
comp=Z,52nm,1.1s
DGMT Dagmar 86.30 329 eP P 22 09 11.0 -2.2
comp=Z,52nm,1.1s
F29A Eureka 86.31 325 ⇑P P 22 09 13.5 +0.2
baz=86,SNR=6.4
G30A Faulkton 86.50 324 ⇓P P 22 09 14.2 -0.1
baz=86
PTGA Pitinga 86.58 267 eP P 22 09 15.8 +0.7
comp=Z,18nm,0.9s
PTGA LR LR
comp=Z,600nm,21.0s
PTGA Pitinga 86.58 267 eP P 22 09 15.8 +0.7
comp=Z,18nm,0.9s
A22A Carney Farms, 86.61 330 ⇑P P 22 09 15.2 +0.4
baz=86,SNR=26
D26A Manning 86.63 327 ⇓P P 22 09 15.8 +1.0
baz=86,SNR=5.8
TIGA Tifton 86.64 306 ⇓P P 22 09 16.3 +1.2
baz=86
B23A Brockton 86.64 329 ⇓P P 22 09 15.7 +0.9
baz=86,SNR=14
F28A McLaughlin 86.76 326 ⇑P P 22 09 16.1 +0.6
baz=86
BRSD Miller 86.91 324 eP P 22 09 16.0 -0.3
comp=Z,61nm,0.9s
BRSD Miller 86.91 324 eP P 22 09 16.0 -0.3
comp=Z,61nm,0.9s
BRSD Miller 86.91 324 ⇓P P 22 09 16.7 +0.4
baz=87
D25A Fairfield 86.93 328 ⇑P P 22 09 17.2 +0.8
baz=87
E26A Carlson Angus 87.06 327 ⇓P P 22 09 17.8 +0.9
baz=87
C24A Savage 87.12 329 ⇑P P 22 09 17.6 +0.4
baz=87,SNR=5.5
B22A Reddig Ranch S 87.19 330 ⇓P P 22 09 18.3 +0.7
baz=87
C23A Lambert 87.24 329 ⇑P P 22 09 18.4 +0.6
baz=87,SNR=12
F27A Lemmon 87.31 326 ⇓P P 22 09 18.6 +0.4
baz=87,SNR=5.8
H29A Onida 87.39 324 ⇓P P 22 09 19.0 +0.4
baz=87
G28A Parade 87.39 325 ⇓P P 22 09 19.0 +0.4
baz=87,SNR=6.2
D24A Glendive 87.40 328 ⇑P P 22 09 19.2 +0.6
baz=87,SNR=9.5
E25A Miller Ranch, 87.46 327 ⇓P P 22 09 19.5 +0.6
baz=87,SNR=8.6
B21A Ellsworth Farm 87.51 331 ⇑P P 22 09 19.9 +0.9
baz=87,SNR=6.2
A20A Cobblestone Ra 87.52 331 ⇓P P 22 09 19.7 +0.6
baz=87,SNR=11
PBMO Poplar Bluff 87.58 314 eP P 22 09 18.6 -1.0
comp=Z,20nm,0.8s
PBMO Poplar Bluff 87.58 314 eP P 22 09 18.6 -1.0
comp=Z,20nm,0.8s
C22A Vida 87.58 330 ⇓P P 22 09 20.0 +0.6
baz=87,SNR=21
F26A Lodgepole 87.62 327 ⇑P P 22 09 20.1 +0.4
baz=87
G27A Dupree 87.64 326 ⇑P P 22 09 20.2 +0.4
baz=87
D23A Lindsay 87.74 329 ⇓P P 22 09 20.3 +0.1
baz=88
H28A Mission Ridge 87.74 325 ⇓P P 22 09 20.8 +0.5
baz=88,SNR=6.2
A19A Klindworth Far 87.80 332 ⇑P P 22 09 21.1 +0.5
baz=88
I29A Vivian Onida 87.88 324 ⇓P P 22 09 21.6 +0.7
baz=88
LRAL Lakeview Retre 87.88 309 eP P 22 09 21.6 +0.5
comp=Z,54nm,0.8s
LRAL Lakeview Retre 87.88 309 eP P 22 09 21.6 +0.5
comp=Z,54nm,0.8s
B20A Solberg Farm, 87.91 331 ⇑P P 22 09 21.7 +0.7
baz=88
F25A Bowman 87.93 327 ⇑P P 22 09 21.6 +0.5
baz=88
CISI Cisompet, Garu 87.94 100 eP P 22 09 21.1 -0.6
comp=Z,32nm,0.8s
CISI LR LR
comp=Z,400nm,21.0s
CISI Cisompet, Garu 87.94 100 eP P 22 09 21.1 -0.6
comp=Z,32nm,0.8s
J30A Dallas 87.99 323 ⇑P P 22 09 22.4 +0.9
baz=88,SNR=7.8
G26A Maurine 88.01 326 ⇑P P 22 09 22.2 +0.6
baz=88,SNR=6.8
C21A Desert Coulee 88.02 330 ⇑P P 22 09 22.5 +1.0
baz=88,SNR=7.8
D22A Cohagen 88.17 329 ⇓P P 22 09 23.2 +1.0
baz=88,SNR=15
B19A Brinkman Farms 88.26 332 ⇑P P 22 09 23.3 +0.6
baz=88
I28A Midland 88.31 325 ⇓P P 22 09 23.9 +0.9
baz=88,SNR=6.2
J29A Okreek 88.34 324 ⇑P P 22 09 24.0 +0.9
baz=88,SNR=15
F24A Ekalaka 88.43 328 ⇑P P 22 09 24.4 +0.8
baz=88,SNR=13
KDAK Kodiak Island 88.44 359 eP P 22 09 23.8 +0.6
KDAK Kodiak Island 88.44 359 eP P 22 09 23.8 +0.6
KDAK Kodiak Island 88.44 359 eP P 22 09 23.8 +0.6
G25A Newell 88.47 327 ⇓P P 22 09 24.2 +0.5
baz=88,SNR=5.4
L31A Butterfield Fa 88.50 322 ⇑P P 22 09 24.2 +0.3
baz=88
K30A Basset 88.53 323 ⇓P P 22 09 24.4 +0.4
baz=88,SNR=12
LAO LASA Array 88.55 329 eP P 22 09 24.9 +0.9
LAO LASA Array 88.55 329 eP P 22 09 25.0 +0.9
D21A La Casta Ranch 88.58 330 ⇓P P 22 09 24.7 +0.7
baz=88,SNR=10.0
E22A Miles City 88.63 329 ⇑P P 22 09 24.9 +0.5
baz=88
I27A Quinn 88.68 325 ⇓P P 22 09 24.8 0.0
baz=88,SNR=5.6
BGNE Belgrade 88.70 321 eP P 22 09 25.6 +0.7
comp=Z,46nm,0.6s
BGNE Belgrade 88.70 321 eP P 22 09 25.6 +0.7
comp=Z,46nm,0.6s
J28A Allard Ranch, 88.77 324 ⇑P P 22 09 25.9 +0.7
baz=89,SNR=7.7
K29A Lazy Trails An 88.81 323 ⇓P P 22 09 26.0 +0.6
baz=89
G24A Alzada 88.82 327 ⇓P P 22 09 25.8 +0.4
baz=89
C19A Slack Wire Ran 88.89 331 ⇑P P 22 09 26.1 +0.4
baz=89
FX1 Attu Island--F 88.92 19 eP P 22 09 26.3 +0.7
FX1 Attu Island--F 88.92 19 eP P 22 09 26.3 +0.7
FX1 Attu Island--F 88.92 19 eP P 22 09 26.3 +0.7
EGMT Eagleton 88.93 332 eP P 22 09 26.4 +0.5
EGMT Eagleton 88.93 332 eP P 22 09 26.4 +0.5
EGMT Eagleton 88.93 332 ⇑P P 22 09 26.5 +0.6
baz=89,SNR=9.7
F23A Volborg 88.95 328 ⇓P P 22 09 26.5 +0.4
baz=89,SNR=24
H25A Fruitdale 88.99 326 ⇓P P 22 09 26.5 +0.3
baz=89
OHAK Old Harbor 89.02 359 eP P 22 09 26.8 +0.9
comp=Z,67nm,1.0s
OHAK Old Harbor 89.02 359 eP P 22 09 26.8 +0.9
comp=Z,67nm,1.0s
E21A Keefer Ranch, 89.03 329 ⇓P P 22 09 27.3 +0.9
baz=89
D20A Manuel Ranch, 89.03 330 ⇑P P 22 09 27.0 +0.7
baz=89,SNR=11
M31A Lambtecht Ranc 89.18 322 ⇓P P 22 09 27.9 +0.8
baz=89
J27A Elkhorn Farm, 89.27 325 ⇑P P 22 09 28.2 +0.6
baz=89
D19A Cripps Ranch, 89.28 331 ⇑P P 22 09 27.9 +0.4
baz=89
F22A Rosebud 89.28 328 ⇑P P 22 09 28.0 +0.4
baz=89,SNR=7.0
H24A Dirks Ranch, A 89.33 327 ⇑P P 22 09 28.4 +0.5
baz=89,SNR=7.7
G23A Biddle 89.35 328 ⇓P P 22 09 28.2 +0.3
baz=89,SNR=6.4
E20A Meyer Farm, Mu 89.50 330 ⇓P P 22 09 29.2 +0.7
baz=89
I25A Rochford 89.51 326 ⇑P P 22 09 30.0 +1.2
baz=89,SNR=8.0
KSU1 Kansas State U 89.53 319 eP P 22 09 26.1 -2.7
comp=Z,18nm,0.7s
KSU1 Kansas State U 89.53 319 eP P 22 09 26.1 -2.7
comp=Z,18nm,0.7s
RSSD Black Hills 89.57 326 eP P 22 09 30.1 +0.9
RSSD pmax pmax
comp=Z,19nm,0.7s
RSSD Black Hills 89.57 326 eP P 22 09 30.1 +0.9
comp=Z,19nm,0.7s
RSSD Black Hills 89.57 326 eP P 22 09 30.0 +0.9
comp=Z,19nm,0.7s
F21A Absaloka Mine, 89.62 329 ⇑P P 22 09 29.1 -0.1
baz=89
WALA Waterton Lakes 89.63 335 eP P 22 09 29.0 -0.2
WALA Waterton Lakes 89.63 335 eP P 22 09 29.0 -0.2
G22A Birney 89.73 328 ⇓P P 22 09 30.7 +1.0
baz=90
J26A Sides Ranch, S 89.74 325 ⇓P P 22 09 31.0 +1.2
baz=90
E19A Rath Farm, Rou 89.80 330 ⇑P P 22 09 31.0 +1.0
baz=90
P33A Williams Farm, 89.88 320 ⇓P P 22 09 31.1 +0.7
baz=90
CHGN Chignik 89.89 2 eP P 22 09 30.0 0.0
CHGN Chignik 89.89 2 eP P 22 09 30.0 0.0
J25A Sunshine Ranch 90.02 326 ⇓P P 22 09 32.0 +0.9
baz=90,SNR=7.4
I24A Kuemmerle Ranc 90.04 326 ⇓P P 22 09 32.0 +0.7
baz=90
SDV Santo Domingo 90.05 281 eP P 22 09 30.9 -0.9
comp=Z,16nm,0.8s
SDV Santo Domingo 90.05 281 eP P 22 09 30.9 -0.9
comp=Z,16nm,0.8s
F20A Billings 90.07 330 ⇓P P 22 09 31.9 +0.6
baz=90
P32A Huiting Farm, 90.23 320 ⇑P P 22 09 32.5 +0.4
baz=90
H22A Clearmont 90.25 328 ⇓P P 22 09 33.0 +0.9
baz=90,SNR=5.2
K26A Motz Farm, Whi 90.25 325 ⇓P P 22 09 32.7 +0.5
baz=90
Q33A Connelly Farm, 90.27 319 ⇓P P 22 09 32.7 +0.5
baz=90
M28A Bar X Bar Ranc 90.35 323 ⇓P P 22 09 33.7 +1.1
baz=90
F19A Roth Farm, Mol 90.36 330 ⇑P P 22 09 32.7 +0.1
baz=90,SNR=11
N29A Votaw Ranch, W 90.41 322 ⇑P P 22 09 33.9 +1.0
baz=90
J24A Dixon Ranch, L 90.47 326 ⇓P P 22 09 34.1 +0.9
baz=90
H21A Big Horn, Sher 90.53 328 ⇓P P 22 09 34.4 +0.9
baz=90
G20A Bridger 90.56 329 ⇓P P 22 09 33.8 +0.2
baz=90,SNR=10.0
K25A Mack Ranch, Ha 90.65 325 ⇑P P 22 09 34.3 +0.2
baz=90,SNR=16
YBMT Yellow Bay 90.67 334 eP P 22 09 34.5 +0.4
YBMT Yellow Bay 90.67 334 eP P 22 09 34.5 +0.4
BLMT Blacktail Moun 90.68 334 eP P 22 09 34.3 +0.1
BLMT Blacktail Moun 90.68 334 eP P 22 09 34.3 +0.1
GCMT Greycliff 90.71 330 eP P 22 09 34.8 +0.5
GCMT Greycliff 90.71 330 eP P 22 09 34.8 +0.5
P31A Stockton 90.72 321 ⇑P P 22 09 35.2 +0.9
baz=90
HRY Holter Researc 90.82 332 eP P 22 09 34.2 -0.6
HRY Holter Researc 90.82 332 eP P 22 09 34.2 -0.6
I22A 9 Mile Ranch, 90.86 327 ⇓P P 22 09 35.9 +0.8
baz=91
JTMT Jette 90.87 334 eP P 22 09 35.9 +0.9
JTMT Jette 90.87 334 eP P 22 09 35.9 +0.9
BSMT Bassoo Peak 90.96 334 eP P 22 09 34.0 -1.5
BSMT Bassoo Peak 90.96 334 eP P 22 09 34.0 -1.5
SWMT Swartz Lake 90.97 334 eP P 22 09 36.1 +0.6
SWMT Swartz Lake 90.97 334 eP P 22 09 36.1 +0.6
N28A Pribbeno Ranch 90.97 323 ⇑P P 22 09 36.9 +1.3
baz=91
MIAR Mount Ida 90.97 314 eP P 22 09 34.3 -1.3
MIAR pmax pmax
comp=Z,158nm,2.6s
MIAR Mount Ida 90.97 314 eP P 22 09 34.2 -1.3
comp=Z,158nm,2.6s
MIAR Mount Ida 90.97 314 eP P 22 09 34.2 -1.3
comp=Z,158nm,2.6s
BBB Bella Bella 91.00 344 LR LR 22 54 26.2
comp=Z,319nm,18.1s,baz=4.0,slow=38
SLMT Seeley Lake 91.01 333 eP P 22 09 35.8 +0.1
SLMT Seeley Lake 91.01 333 eP P 22 09 35.8 +0.1
H20A Greybull 91.05 329 ⇑P P 22 09 36.6 +0.7
baz=91
RLMT Red Lodge 91.08 330 eP P 22 09 35.9 -0.3
comp=Z,17nm,1.0s
RLMT Red Lodge 91.08 330 eP P 22 09 35.9 -0.3
comp=Z,17nm,1.0s
CHMT Chamberlain Mo 91.19 333 eP P 22 09 36.1 -0.5
CHMT Chamberlain Mo 91.19 333 eP P 22 09 36.1 -0.5
J22A Midwest 91.23 327 ⇑P P 22 09 36.9 0.0
baz=91,SNR=7.8
I21A Big Trails, Te 91.28 328 ⇑P P 22 09 37.1 0.0
baz=91,SNR=11
H19A Powell 91.33 329 ⇓P P 22 09 37.5 +0.3
baz=91,SNR=16
K23A Bowen Ranch, D 91.36 326 ⇓P P 22 09 37.9 +0.4
baz=91,SNR=8.0
NEW Newport 91.42 336 eP P 22 09 37.7 +0.2
NEW pmax pmax
comp=Z,17nm,0.8s
NEW Newport 91.42 336 LR LR 22 52 45.2
comp=Z,729nm,20.1s,baz=28,slow=37
NEW Newport 91.42 336 eP P 22 09 37.6 +0.2
comp=Z,17nm,0.8s
NEW Newport 91.42 336 eP P 22 09 37.7 +0.2
comp=Z,17nm,0.8s
NEW Newport 91.42 336 ⇑P P 22 09 38.4 +1.0
baz=91
MSO Missoula 91.52 333 eP P 22 09 38.4 +0.4
comp=Z,12nm,1.0s
MSO Missoula 91.52 333 eP P 22 09 38.4 +0.4
comp=Z,12nm,1.0s
MSO Missoula 91.52 333 ⇑P P 22 09 38.6 +0.5
baz=91
I20A Worland 91.54 328 ⇑P P 22 09 38.1 -0.1
baz=91,SNR=13
H18A Shoshone NF, C 91.61 330 ⇑P P 22 09 38.9 +0.3
baz=91,SNR=12
BOZ Bozeman (W) 91.62 331 eP P 22 09 38.1 -0.4
BOZ pmax pmax
comp=Z,21nm,1.4s
BOZ Bozeman (W) 91.62 331 eP P 22 09 38.1 -0.4
comp=Z,21nm,1.4s
BOZ Bozeman (W) 91.62 331 eP P 22 09 38.1 -0.4
comp=Z,21nm,1.4s
R31A Burdett 91.70 320 ⇓P P 22 09 39.1 +0.1
baz=92
J21A Lysite 91.72 328 ⇑P P 22 09 39.1 0.0
baz=92
LRM Limekiln Ridge 91.79 332 eP P 22 09 39.1 -0.4
LRM Limekiln Ridge 91.79 332 eP P 22 09 39.1 -0.4
I19A Meeteetse 91.84 329 ⇑P P 22 09 40.1 +0.4
baz=92,SNR=23
K22A Casper 91.85 327 eP P 22 09 39.5 -0.2
K22A Casper 91.85 327 eP P 22 09 39.5 -0.2
K22A Casper 91.85 327 ⇑P P 22 09 39.9 +0.1
baz=92
L23A Garrett 91.89 326 ⇑P P 22 09 39.6 -0.4
baz=92,SNR=8.7
U34A Anderson Ranch 91.94 317 eP P 22 09 39.9 -0.2
comp=Z,100nm,1.9s
U34A Anderson Ranch 91.94 317 eP P 22 09 39.9 -0.2
comp=Z,100nm,1.9s
U34A Anderson Ranch 91.94 317 ⇓P P 22 09 40.5 +0.5
baz=92
M24A Cheyenne 91.98 325 ⇓P P 22 09 40.5 +0.1
baz=92,SNR=7.1
J20A Shoshoni 92.00 328 ⇓P P 22 09 40.5 +0.2
baz=92
YNR Norris Junctio 92.00 330 eP P 22 09 41.2 +0.7
comp=Z,8.9nm,0.9s
YNR LR LR
comp=Z,1μm,19.5s
YNR Norris Junctio 92.00 330 eP P 22 09 41.2 +0.7
comp=Z,8.9nm,0.9s
R30A Dighton 92.10 320 ⇑P P 22 09 41.5 +0.7
baz=92
PAF Port-aux-Franc 92.13 153 PP PP 22 13 49.0 +28
PAF SS SS 22 27 35.0 +44
PAF R 22 39 00.0
YMR Madison River 92.15 330 eP P 22 09 40.6 -0.5
comp=Z,20nm,1.1s
YMR Madison River 92.15 330 eP P 22 09 40.7 -0.5
comp=Z,20nm,1.1s
T32A Huddler Ranch, 92.18 319 ⇑P P 22 09 42.1 +0.9
baz=92
K21A Alcova 92.20 327 ⇓P P 22 09 41.6 +0.2
baz=92
C09A Chrisman Ranch 92.21 336 eP P 22 09 40.9 -0.2
comp=Z,21nm,0.9s
C09A Chrisman Ranch 92.21 336 eP P 22 09 40.9 -0.2
comp=Z,21nm,0.9s
QLMT Earthquake Lak 92.21 331 eP P 22 09 40.3 -1.1
QLMT Earthquake Lak 92.21 331 eP P 22 09 40.3 -1.1
H17A Grant Village 92.22 330 eP P 22 09 42.4 +0.9
comp=Z,17nm,1.0s
H17A Grant Village 92.22 330 eP P 22 09 42.4 +0.9
comp=Z,17nm,1.0s
H17A Grant Village 92.22 330 ⇓P P 22 09 43.1 +1.6
baz=92,SNR=8.3
DLMT Dillon 92.23 332 eP P 22 09 38.2 -3.2
comp=Z,137nm,3.0s
U33A Lingo Farm, Me 92.27 318 ⇑P P 22 09 42.0 +0.4
baz=92
YFT Old Faithful 92.28 330 eP P 22 09 41.7 -0.1
comp=Z,24nm,1.1s
YFT Old Faithful 92.28 330 eP P 22 09 41.7 -0.1
comp=Z,24nm,1.1s
L22A Ellis Ranch, M 92.30 326 ⇓P P 22 09 42.1 +0.2
baz=92
P27A Ficken Ranch, 92.34 322 ⇑P P 22 09 42.7 +0.7
baz=92
M23A Laramie 92.41 325 ⇑P P 22 09 43.1 +0.7
baz=92
PHWY Pilot Hill 92.41 325 eP P 22 09 42.0 -0.5
comp=Z,24nm,0.8s
PHWY Pilot Hill 92.41 325 eP P 22 09 42.0 -0.5
comp=Z,24nm,0.8s
J19A Crowheart 92.49 329 ⇓P P 22 09 43.0 +0.3
baz=92,SNR=6.1
N24A Carr 92.51 325 ⇓P P 22 09 43.6 +0.8
baz=92
I17A Pilgrim Ck. 92.61 330 ⇑P P 22 09 44.5 +1.3
baz=92
P26A Davis Ranch, A 92.73 323 ⇑P P 22 09 44.5 +0.7
baz=92
IMW Indian Meadow 92.78 330 eP P 22 09 44.2 +0.1
comp=Z,17nm,0.9s
IMW Indian Meadow 92.78 330 eP P 22 09 44.2 +0.1
comp=Z,17nm,0.9s
MCMT McKenzie Canyo 92.78 332 eP P 22 09 42.5 -1.6
MCMT McKenzie Canyo 92.78 332 eP P 22 09 42.5 -1.6
V33A Lossen Ranch, 92.81 317 ⇓P P 22 09 44.8 +0.7
baz=93
MOOW Moose Ponds 92.82 330 eP P 22 09 44.3 +0.1
comp=Z,7.0nm,0.8s
MOOW Moose Ponds 92.82 330 eP P 22 09 44.3 +0.1
comp=Z,7.0nm,0.8s
LOHW Long Hollow 92.87 330 eP P 22 09 43.8 -0.7
comp=Z,13nm,1.3s
LOHW Long Hollow 92.87 330 eP P 22 09 43.8 -0.7
comp=Z,13nm,1.3s
M22A Cedar Creek Ra 92.87 326 ⇓P P 22 09 44.9 +0.4
baz=93,SNR=7.0
N23A Red Feather La 92.96 325 ⇓P P 22 09 45.4 +0.4
baz=93,SNR=8.2
FXWY Fox Creek 93.02 330 eP P 22 09 44.5 -0.7
comp=Z,11nm,1.0s
FXWY Fox Creek 93.02 330 eP P 22 09 44.5 -0.7
comp=Z,11nm,1.0s
BW06 Boulder Array 93.11 329 eP P 22 09 45.6 +0.1
BW06 Boulder Array 93.11 329 eP P 22 09 45.7 +0.1
PD31 Pinedale Array 93.11 329 eP P 22 09 44.6 -1.0
PD31 Pinedale Array 93.11 329 eP P 22 09 44.6 -1.0
PDAR Pinedale Array 93.11 329 P P 22 09 44.8 -0.8
comp=Z,7.2nm,1.0s,baz=60,slow=3.5,SNR=18
PDAR LR LR 22 53 24.4
comp=Z,672nm,19.1s,baz=46,slow=37
TPAW Teton Pass 93.11 330 eP P 22 09 46.6 +0.9
comp=Z,16nm,1.0s
TPAW Teton Pass 93.11 330 eP P 22 09 46.6 +0.9
comp=Z,16nm,1.0s
O24A Longmont 93.14 324 ⇑P P 22 09 46.6 +0.9
baz=93
P25A Willow Gulch B 93.17 323 ⇑P P 22 09 47.1 +1.2
baz=93
N22A Wattenberg Ran 93.27 326 ⇑P P 22 09 47.2 +0.7
baz=93
E09A Wood Farm, Sta 93.29 336 eP P 22 09 47.0 +1.0
comp=Z,95nm,2.5s
E09A Wood Farm, Sta 93.29 336 eP P 22 09 47.0 +1.0
comp=Z,95nm,2.5s
S28A Manter 93.47 321 ⇓P P 22 09 47.8 +0.6
baz=93
O23A Lake Granby, G 93.48 325 ⇓P P 22 09 48.2 +0.7
baz=93
JAGI Jajag, Banyuwa 93.64 98 PFAKE 22 10 00.0 +12
JAGI LR LR
comp=Z,400nm,22.0s
ISCO Idaho Springs 93.66 324 eP P 22 09 48.8 +0.5
ISCO pmax pmax
comp=Z,9.0nm,0.8s
ISCO Idaho Springs 93.66 324 eP P 22 09 48.8 +0.5
comp=Z,8.8nm,0.8s
ISCO Idaho Springs 93.66 324 eP P 22 09 48.8 +0.5
comp=Z,8.8nm,0.8s
ISCO Idaho Springs 93.66 324 ⇑P P 22 09 48.5 +0.2
baz=93,SNR=7.0
R26A Arlington 93.73 322 ⇓P P 22 09 48.9 +0.4
baz=94,SNR=5.5
SAML Samuel 93.80 262 eP P 22 09 47.7 -1.2
comp=Z,4.1nm,0.8s
SAML LR LR
comp=Z,300nm,20.0s
SAML Samuel 93.80 262 eP P 22 09 47.7 -1.2
comp=Z,4.1nm,0.8s
O22A Kremmling 93.82 325 ⇓P P 22 09 49.5 +0.4
baz=94
HAWA Hanford 93.86 337 eP P 22 09 48.3 -0.4
comp=Z,17nm,1.0s
HAWA Hanford 93.86 337 eP P 22 09 48.3 -0.4
comp=Z,17nm,1.0s
P23A Jefferson 94.10 324 ⇓P P 22 09 51.0 +0.6
baz=94,SNR=9.1
LON Longmire 94.27 338 eP P 22 09 51.4 +0.7
LON Longmire 94.27 338 eP P 22 09 51.4 +0.7
LON Longmire 94.27 338 eP P 22 09 51.4 +0.7
R25A Fountain Ranch 94.28 323 ⇓P P 22 09 51.5 +0.5
baz=94
Y33A Hilltop Ranch, 94.31 316 ⇓P P 22 09 52.0 +1.0
baz=94
P22A Eagle 94.37 325 ⇑P P 22 09 52.2 +0.8
baz=94
X32A Elmer 94.39 317 ⇑P P 22 09 52.1 +0.8
baz=94
BMO Blue Mountains 94.43 334 eP P 22 09 50.3 -1.2
comp=Z,9.0nm,1.1s
BMO Blue Mountains 94.43 334 eP P 22 09 50.3 -1.2
comp=Z,9.0nm,1.1s
JCJ Chichijima 94.60 53 LR LR 22 56 30.4
comp=Z,285nm,20.8s,baz=312,slow=38
O20A White River Ci 94.63 326 ⇑P P 22 09 53.3 +0.6
baz=94
Y32A R-V Farms, Ver 94.78 317 ⇑P P 22 09 53.8 +0.6
baz=95
HWUT Hardware Ranch 94.92 329 eP P 22 09 52.3 -1.6
HWUT Hardware Ranch 94.92 329 eP P 22 09 52.3 -1.6
R23A Moffat 95.01 324 ⇑P P 22 09 54.6 +0.1
baz=95
WHTX Lake Whitney 95.07 314 PFAKE 22 10 10.0 +15
WHTX LR LR
comp=Z,1μm,21.9s

MFID Camas Ranch 95.12 333 eP P 22 09 52.1 -2.6
comp=Z,12nm,0.9s
MFID Camas Ranch 95.12 333 eP P 22 09 52.1 -2.6
comp=Z,12nm,0.9s
SDCO Great Sand Dun 95.20 323 eP P 22 09 53.9 -1.5
comp=Z,7.1nm,1.0s
SDCO Great Sand Dun 95.20 323 eP P 22 09 53.9 -1.5
comp=Z,7.1nm,1.0s
G06A Carlson Farm, 95.24 337 eP P 22 09 55.4 +0.3
comp=Z,158nm,2.5s
G06A Carlson Farm, 95.24 337 eP P 22 09 55.4 +0.3
comp=Z,158nm,2.5s
TCUT Toone Canyon 95.25 329 PFAKE 22 10 10.0 +14
TCUT LR LR
comp=Z,1μm,19.4s
X30A Coker Ranch, T 95.26 318 ⇑P P 22 09 56.0 +0.6
baz=95
Z32A Haskell 95.31 316 ⇑P P 22 09 56.5 +0.9
baz=95
ROSC El Rosal 95.34 279 LR LR 22 51 54.2
comp=Z,213nm,20.0s,baz=46,slow=35
SPUT South Promonto 95.54 329 PFAKE 22 10 10.0 +13
SPUT LR LR
comp=Z,800nm,20.6s
U25A Circle Dot Ran 95.68 321 ⇓P P 22 09 58.8 +1.3
baz=96
JLU Jordanelle 95.69 328 eP P 22 09 53.3 -4.3
comp=Z,18nm,1.5s
S22A 4UR Ranch, Cre 95.85 324 ⇑P P 22 09 58.9 +0.5
baz=96
ABTX Abilene, Hawle 95.90 316 ⇑P P 22 09 59.2 +0.8
baz=96
G03D McMinnville, O 96.10 338 ⇑P P 22 10 00.2 +1.3
baz=96
H04A Detroit Lake 96.23 337 eP P 22 09 58.3 -1.3
comp=Z,140nm,2.3s
H04A Detroit Lake 96.23 337 eP P 22 09 58.3 -1.3
comp=Z,140nm,2.3s
MPU Maple Canyon 96.25 328 PFAKE 22 10 10.0 +10
MPU LR LR
comp=Z,1μm,19.3s
PV04 Paradox Valley 96.33 326 eP P 22 09 57.9 -2.5
PV04 Paradox Valley 96.33 326 eP P 22 09 57.9 -2.5
W26A Owens Ranch, T 96.34 320 ⇓P P 22 10 00.8 +0.4
baz=96
PV09 Paradox Valley 96.36 326 eP P 22 10 00.2 -0.4
PV09 Paradox Valley 96.36 326 eP P 22 10 00.2 -0.4
KAPI Kappang 96.36 92 PFAKE 22 10 10.0 +9.4
KAPI LR LR
comp=Z,1μm,20.7s
PV01 Paradox Valley 96.38 325 eP P 22 09 59.8 -0.9
PV01 Paradox Valley 96.38 325 eP P 22 09 59.8 -0.9
PV10 Paradox Valley 96.41 326 eP P 22 10 00.9 +0.1
PV10 Paradox Valley 96.41 326 eP P 22 10 00.9 +0.1
232A Coleman 96.44 316 ⇓P P 22 10 01.7 +0.9
baz=96
SRU San Rafael 96.50 327 eP P 22 10 01.0 -0.1
SRU pmax pmax
comp=Z,7.0nm,0.7s
SRU San Rafael 96.50 327 eP P 22 10 01.0 -0.1
comp=Z,6.9nm,0.7s
SRU San Rafael 96.50 327 eP P 22 10 01.0 -0.1
comp=Z,6.9nm,0.7s
W25A X Bar L Ranch, 96.61 321 ⇓P P 22 10 02.1 +0.5
baz=96
TMUT Trail Mountain 96.66 328 PFAKE 22 10 10.0 +8.0
TMUT LR LR
comp=Z,2μm,20.1s
U22A Llaves 96.94 323 ⇓P P 22 10 04.1 +0.8
baz=97
TEIG Tepich 96.97 300 LR LR 22 51 11.0
comp=Z,219nm,21.1s,baz=144,slow=34
WVOR Wild Horse Val 97.01 334 PFAKE 22 10 10.0 +6.6
WVOR LR LR
comp=Z,1μm,19.0s
I04A Tendick Farm, 97.10 337 ⇑P Pdif 22 10 04.0 +0.3
baz=97
JCT Junction City 97.55 315 PFAKE 22 10 20.0 +14
JCT LR LR
comp=Z,1μm,20.0s
CPUP Villa Florida 98.76 244 P P 22 10 10.9 -0.2
CPUP pmax pmax
comp=Z,1.0nm,0.4s
CPUP MLR MLR
comp=Z,992nm,19.4s
CPUP Villa Florida 98.76 244 P P 22 10 10.8 -0.2
comp=Z,0.7nm,0.4s,baz=72,slow=9.6,SNR=3.7
CPUP LR LR 22 56 11.8
comp=Z,992nm,19.4s,baz=36,slow=36
YBH Yreka Blue Hor 99.05 336 LR LR 22 57 37.9
comp=Z,808nm,20.4s,baz=20,slow=37
034A Hebbronville 99.34 312 ⇓Pdiff Pdif 22 10 13.2 -0.6
baz=99
U15A North Rim 99.50 327 ⇑Pdiff Pdif 22 10 13.8 -1.0
baz=99
N02D Trinity Center 99.72 336 ⇑Pdiff Pdif 22 10 14.3 -1.1
baz=100
NVAR Mina Array Bea 100.36 332 PKKP PKKPbc 22 26 35.3 +1.0
comp=Z,1.0nm,0.8s,baz=179,slow=4.5,SNR=4.6
LPAZ La Paz 101.83 258 PFAKE 22 10 40.0 +14
LPAZ LR LR
comp=Z,700nm,18.5s
MWC Mount Wilson 103.89 329 PFAKE 22 10 50.0 +16
MWC LR LR
comp=Z,900nm,20.7s
NNA Nana 106.72 267 PFAKE 22 15 10.0
NNA LR LR
comp=Z,600nm,19.0s
PLCA Paso Flores 115.37 237 PKIKP PKPdf 22 15 13.5 +0.6
PLCA pmax pmax
comp=Z,1.0nm,0.6s
PLCA Paso Flores 115.37 237 PKP PKPdf 22 15 13.5 +0.6
comp=Z,1.3nm,0.6s,baz=50,slow=4.4,SNR=5.1
FORT Forrest 116.13 111 ePKPdf PKPdf 22 15 14.3 -0.2
FORT Forrest 116.13 111 ePKIKP PKPdf 22 15 14.3 -0.2
WRA Warramunga Arr 116.25 97 PKIKP PKPdf 22 15 14.0 -1.1
WRA 22 16 19.7
WRA pmax pmax
comp=Z,4.0nm,0.6s
WRA pmax pmax
comp=Z,2.0nm,1.0s
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 116.25 97 PKP PKPdf 22 15 13.9 -1.1
comp=Z,3.6nm,0.6s,baz=314,slow=1.6,SNR=48
WRA PP PP 22 16 19.7 -1.5
comp=Z,1.5nm,1.0s,baz=311,slow=6.7,SNR=3.9
WRA PKKPab PKKPbc 22 25 45.3 +1.8
comp=Z,0.8nm,0.8s,baz=118,slow=3.7,SNR=4.7
WRAB Tennant Creek 116.26 97 ePKIKP PKPdf 22 15 14.3 -0.8
WRAB Tennant Creek 116.26 97 ePKPdf PKPdf 22 15 14.3 -0.8
WRAB Tennant Creek 116.26 97 ePKIKP PKPdf 22 15 14.3 -0.8
ASAR Alice Springs 117.64 101 PKIKP PKPdf 22 15 16.8 -0.9
ASAR 22 16 36.3
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,1.0s
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 117.64 101 PKP PKPdf 22 15 16.8 -0.9
comp=Z,5.2nm,0.7s,baz=315,slow=1.6,SNR=55
ASAR PP PP 22 16 36.2 +5.3
comp=Z,2.1nm,1.0s,baz=308,slow=6.6,SNR=6.4
ASAR PKKPab PKKPab 22 25 40.5 -1.5
comp=Z,1.0nm,0.7s,baz=122,slow=3.8,SNR=9.6
AS01 Alice Springs 117.68 101 ePKPdf PKPdf 22 15 16.9 -0.9
AS01 Alice Springs 117.68 101 ePKIKP PKPdf 22 15 16.9 -0.9
COEN Coen 120.59 86 ePKPdf PKPdf 22 15 23.3 -0.3
COEN Coen 120.59 86 ePKIKP PKPdf 22 15 23.3 -0.3
PMG Port Moresby 121.42 80c iPKIKP PKPdf 22 15 27.6 +2.4
PMG pmax pmax
comp=Z,5.0nm,1.0s
BBOO Buckleboo 123.18 110 ePKPdf PKPdf 22 15 27.0 -1.1
BBOO Buckleboo 123.18 110 ePKIKP PKPdf 22 15 27.0 -1.1
QSPA South Pole Qui 123.97 180 ePKPdf PKPdf 22 15 28.3 -0.3
QSPA South Pole Qui 123.97 180 ePKIKP PKPdf 22 15 28.3 -0.3
STKA Stephens Creek 127.21 107 PKIKP PKPdf 22 15 36.0 +0.2
STKA pmax pmax
comp=Z,9.0nm,0.8s
STKA Stephens Creek 127.21 107 PKP PKPdf 22 15 36.0 +0.2
comp=Z,9.0nm,0.8s,baz=339,slow=4.2,SNR=22
STKA Stephens Creek 127.21 107 ePKPdf PKPdf 22 15 34.4 -1.4
STKA LR LR
comp=Z,100nm,20.8s
STKA Stephens Creek 127.21 107 ePKIKP PKPdf 22 15 34.4 -1.4

HNR Honiara 131.68 70 PFAKE 22 16 00.0 +15
HNR LR LR
comp=Z,800nm,20.0s
ARMA Armidale 134.80 101 PFAKE 22 16 00.0 +10
ARMA LR LR
comp=Z,500nm,22.0s
DCZ Deep Cove 148.76 123 ePKPdf PKPdf 22 16 14.5 0.0
DCZ Deep Cove 148.76 123 ePKIKP PKPdf 22 16 14.5 0.0
MSVF Nonsavu 150.60 63 ePKIKP PKPdf 22 16 19.4 +1.0
MSVF Nonsavu 150.60 63 ePKPdf PKPdf 22 16 19.4 +1.0
MSVF Nonsavu 150.60 63 ePKIKP PKPdf 22 16 19.4 +1.0
RPZ Rata Peaks 151.76 120 ePKPdf PKPdf 22 16 21.4 +2.1
RPZ Rata Peaks 151.76 120 ePKIKP PKPdf 22 16 21.4 +2.1
KHZ Kahutara 153.75 118 PFAKE 22 16 30.0 -0.1
KHZ LR LR
comp=Z,1μm,20.0s
SNZO South Karori 154.75 116 PFAKE 22 16 30.0 -2.2
SNZO LR LR
comp=Z,900nm,19.6s
BFZ Birch Farm 155.98 114 PFAKE 22 16 40.0 -13
BFZ LR LR
comp=Z,700nm,19.0s

IDC 11 22:22:31.2±49.0, 24.44S×175.39W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/29, mbtmp4.0/3, Error ellipse: s-maj=921.9km s-min=169.6km az=89.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.45	249	P	P	22 29 54.0	-0.9
	0.7nm,0.5s,baz=106,slow=15,SNR=4.8						
ASAR	Alice Springs	46.09	260	P	P	22 30 57.5	+0.1
	1.3nm,0.4s,baz=92,slow=7.4,SNR=31						
WRA	Warramunga Arr	46.56	265	P	P	22 31 01.4	+0.2
	2.8nm,0.8s,baz=104,slow=8.1,SNR=23						

IDC 11 22:45:39.0±1.5, 34.12N×25.44E, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.1/26, mbtmp3.2/4, ML3.5/2, MS3.2/1, Ms1 3.1/1, ms1mx2.7/14, Error ellipse: s-maj=25.4km s-min=21.1km az=51.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	Anoyia	1.25	339	Pn	Pg	22 46 02.8	-0.2
	2.6nm,0.3s,baz=229,slow=10.0,SNR=30						
IDI				Sn	Sn	22 46 22.6	+1.2
	5.9nm,0.3s,baz=308,slow=22,SNR=12						
MMAI	Mount Meron Ar	8.39	95	Pn	Pn	22 47 42.1	+0.2
	0.4nm,0.3s,baz=274,slow=13,SNR=3.6						
MMAI				Sn	Sn	22 49 15.9	-1.4
	0.4nm,0.3s,baz=315,slow=55,SNR=3.1						
KBZ	Khabaz	16.60	50	LR	LR	22 56 34.5	
	comp=Z,82nm,19.9s,baz=140,slow=40						
GERES	GERESS Array B	17.11	333	P	P	22 49 41.3	0.0
	0.1nm,0.3s,baz=151,slow=12,SNR=3.8						
TORD	Torodi Ar. Bea	30.02	232	P	P	22 51 49.5	-0.1
	0.2nm,0.5s,baz=37,slow=8.1,SNR=2.2						
MKAR	Makanchi Array	44.16	56	P	P	22 53 49.7	+0.3
	0.3nm,0.6s,baz=258,slow=9.1,SNR=4.9						

IDC 11 22:46:17.8±1.9, 1.31N×124.98E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.3/37, mbtmp3.6/3, Error ellipse: s-maj=190.3km s-min=24.0km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.03	157	P	P	22 51 24.0	-0.8
	1.0nm,0.3s,baz=335,slow=10,SNR=23						
ASAR	Alice Springs	26.30	161	P	P	22 51 55.9	+0.5
	0.6nm,0.3s,baz=344,slow=12,SNR=21						
MKAR	Makanchi Array	58.57	327	P	P	22 56 16.4	0.0
	0.1nm,0.5s,baz=134,slow=7.0,SNR=3.3						

DDA 11 22:47:32.6, 37.55N×36.44E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	Andirin	0.08	292	iP	Pg	22 47 33.6	-1.2
ANDN				iS	Sg	22 47 37.6	+1.4
KMRS	Kahramanmaras	0.37	97	ePG	Pg	22 47 38.0	-1.9
KMRS				eSG	Sb	22 47 48.0	+0.3

IDC 11 22:47:44.7±1.0, 9.43N×58.20E, h0km, mb3.5/8, mb1 3.6/8, mb1mx3.4/39, mbtmp3.6/8, MS3.6/1, Ms1 3.5/1, ms1mx2.9/31, Error ellipse: s-maj=29.9km s-min=23.0km az=139.0
ISCJB 11 22:47:46.2±0.9, 9.5N±0.2×58.2E±0.2, h17km, mb3.5/8, MS3.6/1, Error ellipse: s-maj=27.4km s-min=18.4km az=43.6
ISC 11 22:47:47.5±1.1, 9.5N±0.2×58.2E±0.2, h17km, n12, σ1s48/8, mb3.5/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	20.24	140	T	T	23 13 27.1	
	baz=320,slow=76,SNR=26						
H08N3	Diego Garcia H	20.25	140	T	T	23 13 26.6	
	baz=320,slow=76,SNR=22						
H08N1	Diego Garcia H	20.26	140	T	T	23 13 28.8	
	baz=320,slow=76,SNR=28						
KMBO	Kilima Mbogo	23.35	244	P	P	22 52 57.3	+1.7
	0.7nm,0.4s,baz=30,slow=9.3,SNR=4.3						
AAK	Ala-Archa	35.99	21	P	P	22 54 49.8	+1.9
	0.7nm,0.9s,baz=218,slow=5.9,SNR=3.9						
MKAR	Makanchi Array	42.48	25	P	P	22 55 42.7	+0.9
	0.4nm,0.9s,baz=209,slow=6.7,SNR=4.1						
KURBB	Kurchatov Arra	44.34	18	P	P	22 55 56.4	-0.3
	0.6nm,1.0s,baz=216,slow=8.1,SNR=6.1						
ZALV	Zalesovo Beam	49.22	20	P	P	22 56 33.6	-1.2
	0.7nm,0.6s,baz=232,slow=7.3,SNR=5.3						
BOSA	Boshof	49.45	219	LR	LR	23 16 35.9	
	comp=Z,59nm,18.6s,baz=2.0,slow=35						
TORD	Torodi Ar. Bea	55.41	279	P	P	22 57 20.2	-1.3
	1.0nm,0.9s,baz=120,slow=4.2,SNR=6.6						
WRA	Warramunga Arr	80.42	112	P	P	22 59 59.0	+0.1
	0.4nm,0.8s,baz=293,slow=4.6,SNR=5.0						
ASAR	Alice Springs	80.93	116	P	P	23 00 00.9	-0.7
	0.3nm,0.6s,baz=302,slow=5.3,SNR=4.5						

ATH 11 22:53:36.7, 39.06N×23.28E, h24km, MD2.8/20, ML2.5
CSEM 11 22:53:37.4±0.1, 39.06N×23.27E, h15km, MD2.8, Error ellipse: s-maj=2.2km s-min=1.7km az=104.0
THE 11 22:53:37.8, 39.06N×23.27E, h15km, ML2.0/13, Error ellipse: s-maj=0.5km s-min=0.3km az=104.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIA	Simia	0.18	195	P	Pg	22 53 42.1	-0.2
SMIA				S	Sg	22 53 45.6	+0.4
SMIA	Simia	0.18	195	ePB	Pg	22 53 42.2	-0.1
SMIA				eSB	Sg	22 53 45.3	+0.1
SMIA	Simia	0.18	195	ePb	Pg	22 53 42.2	-0.1
SMIA				eSb	Sg	22 53 45.3	+0.1
SKIA	Skiathos	0.19	54	P	Pg	22 53 42.4	+0.1
SKIA				S	Sg	22 53 45.5	+0.2
SKIA	Skiathos	0.19	54	ePB	Pg	22 53 42.4	+0.1
SKIA				eSB	Sg	22 53 45.4	+0.1
SKIA	Skiathos	0.19	54	P	Pg	22 53 42.4	+0.1
SKIA				eSb	Sg	22 53 45.4	+0.1
NEO	Neokhori	0.25	352	P	Pg	22 53 43.4	0.0
NEO				S	Sg	22 53 47.5	+0.4
NEO	Neokhori	0.25	352	ePB	Pg	22 53 43.4	0.0
NEO				eSB	Sg	22 53 46.7	-0.4
NEO	Neokhori	0.25	352	P	Pg	22 53 43.4	0.0
NEO				eSb	Sg	22 53 46.7	-0.4
NEO				S	Sb	22 53 47.5	-0.9
XOR	Xorichti	0.31	349	P	Pg	22 53 44.4	0.0
XOR				S	Sg	22 53 49.2	+0.2
XOR	Xorichti	0.31	349	ePB	Pg	22 53 44.4	0.0
XOR				eSB	Sg	22 53 49.2	+0.2
XOR	Xorichti	0.31	349	P	Pg	22 53 44.4	0.0
XOR				S	Sg	22 53 49.2	+0.2
MRKA	Markates	0.43	145	P	Pg	22 53 46.1	-0.4
MRKA				S	Sg	22 53 52.4	0.0
MRKA	Markates	0.43	145	ePB	Pg	22 53 46.1	-0.4
MRKA				eSB	Sg	22 53 52.1	-0.3
MRKA	Markates	0.43	145	P	Pg	22 53 46.1	-0.4
MRKA				eSb	Sg	22 53 52.1	-0.3
FYTO	Fytoko, Volos	0.43	324	P	Pg	22 53 46.5	0.0
FYTO				S	Sg	22 53 52.6	+0.1
FYTO	Fytoko, Volos	0.43	324	P	Pg	22 53 46.5	0.0
FYTO				S	Sg	22 53 52.6	+0.1
LKR	Lokris	0.46	208	P	Pg	22 53 46.6	-0.3
LKR				S	Sb	22 53 53.8	-0.4
LKR	Lokris	0.46	208	ePB	Pg	22 53 46.6	-0.3
LKR				eSB	Sg	22 53 52.7	-0.4
LKR	Lokris	0.46	208	P	Pg	22 53 46.6	-0.3
LKR				eSb	Sg	22 53 52.7	-0.4
LKR				S	Sb	22 53 53.8	-0.4
AOS	Alonnisos	0.49	76	P	Pg	22 53 47.1	-0.4
AOS				S	Sg	22 53 53.9	-0.2
AOS	Alonnisos	0.49	76	ePB	Pg	22 53 46.7	-0.8
AOS				eSB	Sg	22 53 53.4	-0.7
AOS	Alonnisos	0.49	76	ePb	Pg	22 53 46.7	-0.8
AOS	Alonnisos	0.49	76	P	Pg	22 53 47.1	-0.4
AOS				eSb	Sg	22 53 53.4	-0.7
AXAR	Agios Charalam	0.56	239	P	Pg	22 53 48.3	-0.6
AXAR				S	Sb	22 53 57.0	-0.1
AXAR	Agios Charalam	0.56	239	ePN	Pg	22 53 48.1	-0.8
AXAR				eSN	Sb	22 53 57.1	0.0
AXAR	Agios Charalam	0.56	239	P	Pg	22 53 48.3	-0.6
AXAR				S	Sb	22 53 57.0	-0.1
AGG	Agios Georgios	0.73	268	P	Pg	22 53 51.3	-0.9
AGG				S	Sb	22 54 02.7	+0.5
AGG	Agios Georgios	0.73	268	ePN	Pg	22 53 50.9	-1.3
AGG				eSN	Sb	22 54 02.3	+0.1
AGG	Agios Georgios	0.73	268	ePn	Pg	22 53 50.9	-1.3
AGG	Agios Georgios	0.73	268	P	Pg	22 53 51.3	-0.9
AGG				eSn	Sb	22 54 02.3	+0.1
ERET	Eretria	0.74	145	P	Pg	22 53 51.9	-0.5
ERET				S	Sb	22 54 03.5	+0.9
ERET	Eretria	0.74	145	P	Pg	22 53 51.9	-0.5
ERET				S	Sb	22 54 03.5	+0.9
DSF	Desfina	0.87	222	P	Pb	22 53 53.7	-1.0
DSF				S	Sg	22 54 06.2	0.0
DSF	Desfina	0.87	222	ePB	Pb	22 53 53.1	-1.6
DSF				eSN	Sb	22 54 05.4	-0.8
DSF	Desfina	0.87	222	ePb	Pb	22 53 53.1	-1.6
DSF	Desfina	0.87	222	P	Pb	22 53 53.7	-1.0
DSF				eSn	Sb	22 54 05.4	-0.8
DSF				S	Sg	22 54 06.2	0.0
MAKR	Makrakomi, Fth	0.89	268	P	Pb	22 53 54.5	-0.5
MAKR				S	Sg	22 54 07.0	+0.2
MAKR	Makrakomi, Fth	0.89	268	ePN	Pb	22 53 54.2	-0.8
MAKR	Makrakomi, Fth	0.89	268	ePn	Pb	22 53 54.2	-0.8
MAKR	Makrakomi, Fth	0.89	268	P	Pb	22 53 54.5	-0.5
MAKR				S	Sg	22 54 07.0	+0.2
PAIG	Paliouri	0.93	20	P	Pb	22 53 55.3	-0.3
PAIG				S	Sg	22 54 08.4	+0.5
PAIG	Paliouri	0.93	20	ePN	Pb	22 53 54.8	-0.8
PAIG	Paliouri	0.93	20	ePn	Pb	22 53 54.8	-0.8
PAIG	Paliouri	0.93	20	P	Pb	22 53 55.3	-0.3
PAIG				S	Sg	22 54 08.4	+0.5
LTK	Loutraki	1.06	193	P	Pb	22 53 57.5	-0.4
LTK				S	Sn	22 54 12.6	-0.1
LTK	Loutraki	1.06	193	ePN	Pb	22 53 57.4	-0.5
LTK				eSN	Sn	22 54 13.1	+0.4
LTK	Loutraki	1.06	193	P	Pb	22 53 57.5	-0.4
LTK				S	Sn	22 54 12.6	-0.1
LTK				eSn	Sn	22 54 13.1	+0.9
THL	Klokotos Trika	1.10	298	P	Pb	22 53 58.2	-0.3
THL				S	Sg	22 54 13.4	0.0
THL	Klokotos Trika	1.10	298	P	Pb	22 53 58.2	-0.3
THL				S	Sg	22 54 13.4	0.0
KALE	Kalithea	1.11	233	ePN	Pb	22 53 58.0	-0.7
KALE				eSN	Sb	22 54 13.2	+0.2
KALE	Kalithea	1.11	233	ePn	Pb	22 53 58.0	-0.7
KALE				eSn	Sb	22 54 13.2	+0.2
PTL	Penteli	1.11	155	P	Pb	22 53 58.4	-0.4
PTL				S	Sb	22 54 13.1	0.0
PTL	Penteli	1.11	155	ePN	Pb	22 53 58.3	-0.5
PTL	Penteli	1.11	155	ePn	Pb	22 53 58.3	-0.5
PTL				S	Sb	22 54 13.1	0.0
ATH	Athens Observa	1.14	162	ePN	Pb	22 53 59.0	-0.2
ATH				eSN	Sb	22 54 13.6	-0.2
ATH	Athens Observa	1.14	162	ePn	Pb	22 53 59.0	-0.2
ATH				eSn	Sb	22 54 13.6	-0.2
LIT	Litokhoron	1.20	330	ePN	Pb	22 53 59.8	-0.4
LIT				eSN	Sg	22 54 17.6	+0.7
LIT	Litokhoron	1.20	330	ePn	Pb	22 53 59.8	-0.4
LIT				eSn	Sg	22 54 17.6	+0.7
LAKA	Lakka	1.30	231	ePN	Pn	22 54 01.5	0.0
LAKA	Lakka	1.30	231	ePn	Pn	22 54 01.5	0.0
PLG	Polygyros	1.32	6	P	Pn	22 54 01.3	-0.5
PLG				S	Sn	22 54 18.2	-1.0
PLG	Polygyros	1.32	6	ePN	Pn	22 54 01.4	-0.4
PLG				eSN	Sn	22 54 18.1	-1.1
PLG	Polygyros	1.32	6	P	Pn	22 54 01.3	-0.5
PLG				S	Sn	22 54 18.2	-1.0
GUR	Goura	1.33	213	ePN	Pn	22 54 02.1	0.0
GUR				eSN	Sn	22 54 20.7	-0.5
GUR	Goura	1.33	213	ePn	Pn	22 54 02.1	0.0
GUR				eSn	Sn	22 54 20.7	-0.5
KLV	Kalavryta, Ach	1.34	221	ePN	Pb	22 54 02.9	+0.2
KLV				eSN	Sb	22 54 20.0	+0.2
KLV	Kalavryta, Ach	1.34	221	ePn	Pb	22 54 02.9	+0.2
KLV				eSn	Sb	22 54 20.0	+0.2
OUR	Ouranopolis	1.39	23	P	Pn	22 54 02.4	-0.2
OUR				S	Sn	22 54 20.4	-0.3
OUR	Ouranopolis	1.39	23	ePN	Pn	22 54 02.5	-0.1
OUR	Ouranopolis	1.39	23	P	Pn	22 54 02.4	-0.2
OUR				S	Sn	22 54 20.4	-0.3
HORT	Hortiatis	1.54	355	ePN	Pn	22 54 04.5	-0.4
HORT				eSN	Sn	22 54 24.3	-0.5
HORT	Hortiatis	1.54	355	ePn	Pn	22 54 04.5	-0.4
HORT				eSn	Sn	22 54 24.3	-0.5
DID	Didima	1.55	181	ePN	Pn	22 54 04.7	-0.2
DID				eSN	Sn	22 54 24.7	-0.1
DID	Didima	1.55	181	ePn	Pn	22 54 04.7	-0.2
DID				eSn	Sn	22 54 24.7	-0.1
DRO	Drossia	1.65	228	ePN	Pn	22 54 06.7	+0.5
DRO	Drossia	1.65	228	ePn	Pn	22 54 06.7	+0.5
SOH	Sokhos	1.76	2	ePN	Pn	22 54 07.7	-0.2
SOH	Sokhos	1.76	2	ePn	Pn	22 54 07.7	-0.2
SRS	Serrai	2.07	7	ePB	Pn	22 54 11.5	-0.6
SRS	Serrai	2.07	7	ePb	Pn	22 54 11.5	-0.6
KNT	Kendrikon	2.12	352	ePN	Pn	22 54 12.7	-0.1
KNT	Kendrikon	2.12	352	ePn	Pn	22 54 12.7	-0.1
FNA	Florina	2.26	320	ePN	Pn	22 54 14.0	-0.7
FNA	Florina	2.26	320	ePn	Pn	22 54 14.0	-0.7

IDC 11 22:57:52.3±1.9, 2.03N×127.99E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/29, mbtmp3.7/4, Error ellipse: s-maj=136.7km s-min=24.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.70	164	P	P	23 02 55.9	0.0
	2.0nm,0.5s,baz=344,slow=11,SNR=25						
ASAR	Alice Springs	26.18	168	P	P	23 03 28.6	-0.2
	0.8nm,0.5s,baz=346,slow=7.1,SNR=14						
STKA	Stephens Creek	36.11	160	P	P	23 04 56.1	0.0
	0.7nm,0.4s,baz=355,slow=12,SNR=4.6						
MKAR	Makanchi Array	59.66	325	P	P	23 07 58.6	+0.1
	0.2nm,0.5s,baz=108,slow=7.6,SNR=5.9						

IDC 11 23:24:36.3±0.9, 9.58N×57.93E, h0km, mb3.7/13, mb1 3.8/13, mb1mx3.6/52, mbtmp3.7/13, MS3.6/10, Ms1 3.6/10, ms1mx3.3/38, Error ellipse: s-maj=22.0km s-min=18.8km az=180.0
ISCJB 11 23:24:37.5±0.7, 9.7N±0.1×57.9E±0.1, h17km, mb3.6/13, MS3.6/10, Error ellipse: s-maj=18.6km s-min=15.4km az=155.7
ISC 11 23:24:39.2±1.0, 9.6N±0.2×57.9E±0.1, h17km, n22, σ0s75/13, mb3.6/13, MS3.6/10, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	20.50	140	T	T	23 50 19.2	
	baz=320,slow=76,SNR=64						
H08N3	Diego Garcia H	20.52	140	T	T	23 50 19.8	
	baz=320,slow=76,SNR=77						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N1	**Diego Carcia H**	**20.53**	**140**	T	T	23 50 20.7	
	baz=320,slow=76,SNR=58						
KMBO	**Kilima Mbogo**	**23.16**	**244**	P	**P**	**23 29 45.4**	**+0.1**
	1.5nm,0.8s,baz=42,slow=11,SNR=8.0						
KMBO				LR	LR	23 39 43.0	
	comp=Z,133nm,18.1s,baz=86,slow=39						
EIL	**Elat**	**29.32**	**316**	LR	LR	23 42 04.6	
	comp=Z,87nm,19.2s,baz=131,slow=36						
OPO	**Ambohidratompo**	**29.92**	**201**	LR	LR	23 39 53.1	
	comp=Z,180nm,21.0s,baz=18,slow=31						
BRTR	**Keskin Array B**	**36.98**	**328**	P	**P**	**23 31 48.6**	**+0.7**
	0.8nm,0.9s,baz=156,slow=6.7,SNR=3.1						
CMAR	**Chiang Mai Arr**	**40.70**	**73**	P	**P**	**23 32 20.6**	**+1.3**
	0.4nm,0.3s,baz=268,slow=7.9,SNR=8.3						
CMAR				LR	LR	23 48 53.4	
	comp=Z,23nm,19.2s,baz=190,slow=36						
AKTO	**Aktyubinsk**	**40.71**	**0**	P	**P**	**23 32 18.9**	**0.0**
	0.8nm,0.6s,baz=169,slow=9.6,SNR=4.5						
MKAR	**Makanchi Array**	**42.48**	**25**	P	**P**	**23 32 33.4**	**-0.1**
	1.0nm,1.0s,baz=206,slow=6.1,SNR=6.1						
MKAR				LR	LR	23 50 31.6	
	comp=Z,95nm,21.6s,baz=236,slow=37						
KURBB	**Kurchatov Arra**	**44.31**	**19**	P	**P**	**23 32 47.9**	**-0.2**
	0.8nm,1.0s,baz=215,slow=8.0,SNR=8.1						
BVAR	**Borovoye Array**	**44.47**	**11**	P	**P**	**23 32 49.1**	**-0.2**
	0.4nm,0.6s,baz=193,slow=5.9,SNR=5.6						
ZALV	**Zalesovo Beam**	**49.20**	**21**	P	**P**	**23 33 25.2**	**-1.2**
	1.4nm,0.7s,baz=234,slow=6.8,SNR=6.5						
ZALV				LR	LR	23 55 12.4	
	comp=Z,94nm,21.2s,baz=252,slow=37						
BOSA	**Boshof**	**49.37**	**219**	LR	LR	23 51 49.4	
	comp=Z,144nm,20.5s,baz=46,slow=33						
TORD	**Torodi Ar. Bea**	**55.13**	**279**	P	**P**	**23 34 11.7**	**+0.5**
	1.5nm,0.9s,baz=82,slow=7.0,SNR=7.6						
FINES	**FINESS Array B**	**56.78**	**342**	P	**P**	**23 34 21.4**	**-0.7**
	0.7nm,0.8s,baz=134,slow=14,SNR=2.7						
NOA	**NORSAR Array B**	**61.71**	**336**	LR	LR	00 03 51.3	
	comp=Z,32nm,20.0s,baz=175,slow=38						
ESDC	**Sonseca Array**	**62.34**	**310**	P	**P**	**23 35 00.7**	**-0.3**
	0.7nm,0.8s,baz=80,slow=5.1,SNR=3.1						
USRK	**Ussuriysk Arra**	**71.97**	**47**	LR	LR	00 09 09.5	
	comp=Z,57nm,21.9s,baz=136,slow=37						
JMIC	**Jan Mayen**	**73.39**	**342**	LR	LR	00 09 08.2	
	comp=Z,33nm,18.3s,baz=226,slow=36						
WRA	**Warramunga Arr**	**80.71**	**112**	P	**P**	**23 36 51.4**	**-0.7**
	0.6nm,0.6s,baz=296,slow=4.5,SNR=9.4						
ASAR	**Alice Springs**	**81.22**	**116**	P	**P**	**23 36 54.1**	**-0.7**
	0.6nm,0.6s,baz=288,slow=5.1,SNR=6.6						

CSEM ***11*** *23:25:14.0±0.2, 38.18N×36.62E, h10km, MD2.8, Error ellipse: s-maj=4.7km s-min=3.5km az=122.0*
DDA ***11*** *23:25:26.8, 37.66N×36.13E, h20km, MD2.8*
ISK 11 23:25:13.6, 38.18N×36.63E, h6km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.64**	**200**	*i* P	Pn	23 25 31.5	+2.1
ANDN				*i* S	Sb	23 25 35.8	-0.9
ANDN	**Andirin**	**0.64**	**200**	*i* P	Pn	23 25 31.5	+2.1
ANDN				*i* S	Sb	23 25 35.8	-0.9
KMRS	**Kahramanmaras**	**0.71**	**162**	*e*PG	Pg	23 25 27.8	+0.5
KMRS	**Kahramanmaras**	**0.71**	**162**	*e*PG	Pg	23 25 27.8	+0.5
DARE	**Darende-Malaty**	**0.78**	**60**	*e*PG	Pg	23 25 29.1	+0.4
DARE				*e*SG	Sb	23 25 40.1	-0.6
DARE	**Darende-Malaty**	**0.78**	**60**	*e*Pg	Pg	23 25 29.1	+0.4
DARE				*e*Sg	Sb	23 25 40.1	-0.5
BNN	**Bunyan**	**0.91**	**318**	*e*PG	Pg	23 25 31.6	+0.3
BNN	**Bunyan**	**0.91**	**318**	*e*Pg	Pb	23 25 31.6	-0.4
KOZT	**Kozan**	**0.94**	**222**	*e*PG	Pg	23 25 31.9	+0.1
KOZT	**Kozan**	**0.94**	**222**	*e*Pg	Pg	23 25 31.9	+0.1

IDC 11 23:42:26.2±3.0, 18.41S×71.25W, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.4/18, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=102.0km s-min=50.4km az=177.0, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.65**	**55**	Pn	Pn	23 43 24.8	-0.1
	0.4nm,0.3s,baz=236,slow=7.3,SNR=11						
H03N1	**Juan Fernandez**	**16.47**	**203**	T	T	00 03 52.6	
	baz=28,slow=75,SNR=42						
H03N2	**Juan Fernandez**	**16.47**	**203**	T	T	00 03 53.1	
	baz=28,slow=75,SNR=40						
H03N3	**Juan Fernandez**	**16.48**	**203**	T	T	00 03 53.8	
	baz=28,slow=75,SNR=48						
TORD	**Torodi Ar. Bea**	**78.45**	**72**	P	P	23 54 29.6	0.0
	0.6nm,1.1s,baz=265,slow=6.6,SNR=3.2						
YKA	**Yellowknife Ar**	**87.56**	**341**	P	P	23 55 15.7	0.0
	0.1nm,0.5s,baz=138,slow=5.6,SNR=4.6						

MAN 11 23:51:14, 11.67N×125.58E, h18km, mb4.6, ML3.4, MS3.4, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.15**	**245**	*e*P	Pg	23 51 20.4	+2.1
PLP	**Palo**	**0.77**	**230**	⇓*i*P	Pg	23 51 29.1	0.0
CNP	**Catarman**	**1.23**	**313**	*e*P	Pb	23 51 37.2	+0.5
MSLP	**Maasin**	**1.68**	**205**	*e*P	Pb	23 51 43.9	-0.5
PVCP	**Virac**	**2.37**	**324**	*e*P	Pb	23 51 52.6	+0.6

IDC 12 00:02:04.0±5.6, 2.66S×139.96E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.2/3, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/12, Error ellipse: s-maj=218.6km s-min=32.3km az=89.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.81**	**133**	LR	LR	00 08 52.8	
	comp=Z,127nm,19.6s,baz=168,slow=42						
WRA	**Warramunga Arr**	**18.04**	**197**	P	Pn	00 06 15.0	-1.4
	0.1nm,0.3s,baz=19,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**21.70**	**195**	P	P	00 06 57.4	+0.7
	0.2nm,0.4s,baz=22,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**70.51**	**322**	P	P	00 13 20.8	+0.1
	0.5nm,0.9s,baz=103,slow=7.0,SNR=3.6						

SKO ***12*** *00:23:40.5, 41.29N×22.39E, h23km, M1.7, ML1.8*
ISCJB ***12*** *00:23:41.5±0.8, 41.4N±0.1×22.5E±0.1, h18km±9km, Error ellipse: s-maj=22.3km s-min=6.2km az=40.9*
CSEM ***12*** *00:23:41.7±0.3, 41.43N×22.52E, h20km, ML2.1, Error ellipse: s-maj=16.1km s-min=5.4km az=41.0*
ATH ***12*** *00:23:45.1, 41.32N×22.71E, h13km, MD2.6/6*
ISC 12 00:23:41.0±1.4, 41.50N±0.06×22.62E±0.05, h20km±4km, n15, σ1§44/25, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.18**	**191**	⇑*i*Pg	**Pg**	**00 23 46.5**	**+0.7**
VAY				*i* Sg	**Sg**	**00 23 47.9**	**-1.2**
VAY				*i* Lg	Lg	00 23 48.0	
	comp=E,150nm,0.3s						
VAY				*i* Lg	Lg	00 23 48.0	
	comp=N,352nm,0.2s						
VAY	**Valandovo**	**0.18**	**191**	⇑*i*Pg	**Pg**	**00 23 46.5**	**+0.7**
VAY				*i* Sg	**Sg**	**00 23 47.9**	**-1.2**
VAY				*i* Lg	Lg	00 23 48.0	
	comp=N,352nm,0.2s						
KNT	**Kendrikon**	**0.40**	**147**	*e*PG	**Pg**	**00 23 49.8**	**+0.5**
KNT				*e*SG	**Sg**	**00 23 53.2**	**-1.8**
KNT	**Kendrikon**	**0.40**	**147**	*e*Pg	**Pg**	**00 23 49.8**	**+0.5**
KNT				*e*Sg	**Sg**	**00 23 53.2**	**-1.8**
SRS	**Serrai**	**0.83**	**117**	*e*PB	**Pb**	**00 23 58.5**	**+1.7**
SRS	**Serrai**	**0.83**	**117**	*e*Pb	**Pb**	**00 23 58.5**	**+1.7**
SOH	**Sokhos**	**0.88**	**140**	*e*PB	**Pb**	**00 23 58.5**	**+0.9**
SOH				*e*SB	**Sb**	**00 24 08.2**	**-0.7**
SOH	**Sokhos**	**0.88**	**140**	*e*Pb	**Pb**	**00 23 58.5**	**+0.9**
SOH				*e*Sb	**Sb**	**00 24 08.2**	**-0.7**
THE	**Thessaloniki**	**0.90**	**163**	*e*PB	**Pb**	**00 23 58.7**	**+0.7**
THE				*e*SB	**Sb**	**00 24 08.1**	**-1.5**
THE	**Thessaloniki**	**0.90**	**163**	*e*Pb	**Pb**	**00 23 58.7**	**+0.7**
THE				*e*Sb	**Sb**	**00 24 08.1**	**-1.5**
HORT	**Hortiatis**	**0.97**	**158**	*e*PB	**Pb**	**00 24 00.1**	**+0.9**
HORT	**Hortiatis**	**0.97**	**158**	*e*Pb	**Pb**	**00 24 00.1**	**+0.9**
SKO	**Skopje**	**1.00**	**299**	*i* Pn	**Pb**	**00 24 00.4**	**+0.7**
SKO				*i* Sg	**Sb**	**00 24 10.3**	**-2.1**
SKO				*i* Lg	Lg	00 24 10.6	
	comp=E,38nm,0.3s						
SKO				*i* Lg	Lg	00 24 11.3	
	comp=N,39nm,0.3s						
SKO	**Skopje**	**1.00**	**299**	*i* Pn	**Pb**	**00 24 00.4**	**+0.7**
SKO				*i* Sg	**Sb**	**00 24 10.3**	**-2.1**
SKO				*i* Lg	Lg	00 24 11.3	
	comp=N,39nm,0.3s						
FNA	**Florina**	**1.18**	**233**	*e*PB	**Pg**	**00 24 06.6**	**+2.8**

ISCJB ***12*** *00:26:27.8±1.1, 12.97N±0.10×89.05W±0.06, h55km, mb3.5/4, Error ellipse: s-maj=14.6km s-min=5.8km az=22.6*
CASC ***12*** *00:26:29.1±1.4, 13.04N×89.03W, h36km±188km, MD3.9, ML4.2*
IDC ***12*** *00:26:37.0±3.0, 13.51N×88.49W, h140km±27km, mb3.1/4, mb1 3.5/6, mb1mx3.3/23, mbtmp3.7/6, Error ellipse: s-maj=76.5km s-min=22.6km az=59.0*
ISC 12 00:26:26.9±1.0, 12.95N±0.09×89.04W±0.06, h55km, n26, σ1§49/30, mb3.4/4, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.67**	**358**	*e*P	**Pn**	**00 26 41.0**	**+0.3**
SNVI	**San Vicente**	**0.69**	**17**	*e*P	**Pn**	**00 26 41.5**	**+0.5**
SNET	**Serv Nac Est T**	**0.76**	**346**	*e*P	**Pn**	**00 26 42.2**	**+0.5**
SNET				*e*S	**Sn**	**00 26 51.6**	**-1.0**
SNET				AML	AML	00 26 53.6	
	comp=Z,9μm,0.3s						
LBRS	**Las Brisas**	**0.79**	**360**	*e*P	**Pn**	**00 26 42.9**	**+0.7**
BOQS	**Boqueron**	**0.82**	**344**	*e*P	**Pn**	**00 26 43.4**	**+0.7**
BOQS				*e*S	**Sn**	**00 26 54.9**	**+0.8**
VSM	**San Miguel**	**0.89**	**57**	*e*P	**Pn**	**00 26 44.7**	**+1.0**
BLLM	**Bellamira**	**0.93**	**58**	*e*P	**Pn**	**00 26 44.7**	**+0.8**
SBLS	**San Blas**	**1.05**	**328**	*e*P	**Pn**	**00 26 47.0**	**+1.2**
SNJE	**San Jose**	**1.07**	**329**	*e*P	**Pn**	**00 26 47.0**	**+1.1**
RTR	**El Retiro**	**1.11**	**328**	*e*P	**Pn**	**00 26 47.5**	**+1.0**
CAHU	**Cacacuatique**	**1.15**	**45**	*e*P	**Pn**	**00 26 47.7**	**+0.7**
CNCH	**Conchagua**	**1.22**	**74**	*e*P	**Pn**	**00 26 49.0**	**+1.1**
CNCH				*e*S	**Sn**	**00 27 05.4**	**+1.9**
RBDL	**Robledal**	**1.32**	**332**	*e*P	**Pn**	**00 26 50.4**	**+1.2**
IXG	**Ixpaco**	**1.84**	**312**	*e*P	**Pn**	**00 26 57.4**	**+1.2**
NBG	**Las Nubes**	**2.06**	**322**	*e*P	**Pn**	**00 27 02.0**	**+2.5**
MRL	**Marmol**	**2.20**	**343**	*e*P	**Pn**	**00 27 02.6**	**+1.4**
MRL				⇑*e*P	**Pn**	**00 27 03.7**	**+2.5**
COPN	**Copaltepe**	**2.51**	**107**	*e*P	**Pn**	**00 27 06.9**	**+1.5**
JTS	**JuntasAbangare**	**4.80**	**123**	P	Pn	00 27 47.0	+10
	comp=Z,3.0nm,0.3s,baz=310,slow=19,SNR=15						
JTS				S	Sn	00 28 48.9	+18
	comp=Z,3.7nm,0.3s,baz=126,slow=23,SNR=9.6						
TEIG	**Tepich**	**7.28**	**6**	P	**Pn**	**00 28 11.8**	**+1.2**
	comp=Z,4.9nm,0.3s,baz=309,slow=1.2,SNR=19						
TXAR	**Lajitas Array**	**21.22**	**322**	P	**P**	**00 31 10.1**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=145,slow=11,SNR=9.8						
PDAR	**Pinedale Array**	**34.61**	**333**	P	**P**	**00 33 12.5**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=131,slow=9.7,SNR=3.1						
PDAR				PcP	**PcP**	**00 35 43.9**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=123,slow=3.3,SNR=3.8						
NVAR	**Mina Array Bea**	**36.31**	**320**	PcP	**PcP**	**00 35 48.5**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=127,slow=3.9,SNR=5.9						
YKA	**Yellowknife Ar**	**52.73**	**345**	P	**P**	**00 35 34.9**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=148,slow=6.8,SNR=13						
ILAR	**Eielson Array**	**64.94**	**336**	P	**P**	**00 36 58.8**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=172,slow=4.4,SNR=7.6						
MKAR	**Makanchi Array**	**120.03**	**7**	PKP	**PKPdf**	**00 45 08.0**	**-3.7**
	comp=Z,0.1nm,0.5s,baz=355,slow=1.7,SNR=3.7						
WRA	**Warramunga Arr**	**137.91**	**255**	PKP	**PKPdf**	**00 45 47.4**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=93,slow=2.6,SNR=6.2						

IDC 12 00:28:41.8±2.5, 6.90S×129.06E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.3/19, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=199.9km s-min=33.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.94**	**159**	Pn	Pn	00 32 01.0	+0.2
	0.1nm,0.3s,baz=333,slow=15,SNR=4.9						
WRA				Sn	Sn	00 34 23.0	-13
	0.2nm,0.3s,baz=336,slow=23,SNR=7.7						
ASAR	**Alice Springs**	**17.31**	**165**	P	Pn	00 32 44.9	-0.2
	0.1nm,0.3s,baz=344,slow=13,SNR=3.2						
ASAR				S	Sn	00 35 42.6	-16
	0.1nm,0.3s,baz=348,slow=27,SNR=3.7						
MKAR	**Makanchi Array**	**67.64**	**327**	P	P	00 39 40.6	0.0
	0.4nm,1.0s,baz=111,slow=7.9,SNR=4.9						

IDC 12 00:36:14.8±483.0, 44.94N×64.99E, h0km, Error ellipse: s-maj=210.4km s-min=134.5km az=163.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.20**	**322**	*i*		01 17 30.0	
	baz=135,slow=340,SNR=0.3						
I46RU	**ZALESOVO INFRA**	**15.69**	**48**	*i*		02 19 02.7	
	baz=242,slow=344,SNR=4.3						
I34MN	**SONGINO INFRAS**	**28.48**	**69**	*i*		03 31 40.0	
	baz=274,slow=343,SNR=1.2						

CSEM ***12*** *00:55:31.1, 39.21N×22.33E, h6km, MD2.8, After ATH*
ATH 12 00:55:30.6, 39.18N×22.33E, h17km±1km, MD2.9/5, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.16**	**180**	*e*PG	Pg	00 55 34.9	0.0
AGG	**Agios Georgios**	**0.16**	**180**	*e*Pg	Pg	00 55 34.9	0.0
MAKR	**Makrakomi, Fth**	**0.23**	**223**	*e*PG	Pb	00 55 36.2	-0.1
MAKR	**Makrakomi, Fth**	**0.23**	**223**	*e*Pg	Pb	00 55 36.2	-0.1
THL	**Klokotos Trika**	**0.46**	**328**	*e*PB	Pg	00 55 39.3	-0.5
THL	**Klokotos Trika**	**0.46**	**328**	*e*Pb	Pg	00 55 39.3	-0.5
EVR	**Evrytania**	**0.48**	**237**	*e*PB	Pb	00 55 40.8	0.0
EVR				*e*SB	Sb	00 55 48.1	+0.4
EVR	**Evrytania**	**0.48**	**237**	*e*Pb	Pb	00 55 40.8	0.0
EVR				*e*Sb	Sb	00 55 48.1	+0.4
XOR	**Xorichti**	**0.69**	**74**	*e*PN	Pg	00 55 44.0	-0.3
XOR				*e*SN	Sb	00 55 54.3	+0.6
XOR	**Xorichti**	**0.69**	**74**	*e*Pn	Pg	00 55 44.0	-0.3
XOR				*e*Sn	Sb	00 55 54.3	+0.6
NEO	**Neokhori**	**0.70**	**79**	*e*PB	Pb	00 55 44.5	0.0
NEO				*e*SB	Sb	00 55 54.5	+0.5
NEO	**Neokhori**	**0.70**	**79**	*e*Pb	Pb	00 55 44.5	0.0
NEO				*e*Sb	Sb	00 55 54.5	+0.5
LKR	**Lokris**	**0.74**	**135**	*e*PG	Pg	00 55 45.3	+0.1
LKR	**Lokris**	**0.74**	**135**	*e*Pg	Pg	00 55 45.3	+0.1
SMIA	**Simia**	**0.75**	**113**	*e*PB	Pb	00 55 44.4	-0.8
SMIA	**Simia**	**0.75**	**113**	*e*Pb	Pb	00 55 44.4	-0.8
DSF	**Desfina**	**0.78**	**169**	*e*PN	Pb	00 55 45.3	-0.6
DSF				*e*SN	Sn	00 55 57.6	-0.7
DSF	**Desfina**	**0.78**	**169**	*e*Pn	Pb	00 55 45.3	-0.6
DSF				*e*Sn	Sn	00 55 57.6	-0.7
KALE	**Kalithea**	**0.80**	**191**	*e*PN	Pb	00 55 46.2	0.0
KALE	**Kalithea**	**0.80**	**191**	*e*Pn	Pb	00 55 46.2	0.0
EFP	**Efpalio**	**0.82**	**204**	*e*PN	Pn	00 55 47.5	+0.1
EFP	**Efpalio**	**0.82**	**204**	*e*Pn	Pn	00 55 47.5	+0.1
LIT	**Litokhoron**	**0.93**	**8**	*e*PN	Pb	00 55 48.2	-0.1
LIT	**Litokhoron**	**0.93**	**8**	*e*Pn	Pb	00 55 48.2	-0.1
LAKA	**Lakka**	**0.98**	**196**	*e*PN	Pg	00 55 50.0	+0.4
LAKA	**Lakka**	**0.98**	**196**	*e*Pn	Pg	00 55 50.0	+0.4
PDO	**Prodromos**	**1.07**	**237**	*e*PN	Pg	00 55 52.0	+0.7
PDO	**Prodromos**	**1.07**	**237**	*e*Pn	Pg	00 55 52.0	+0.7
KLV	**Kalavryta, Ach**	**1.14**	**187**	*e*PN	Pg	00 55 53.0	+0.2
KLV	**Kalavryta, Ach**	**1.14**	**187**	*e*Pn	Pg	00 55 53.0	+0.2
AOS	**Alonnisos**	**1.21**	**90**	*e*PN	Pb	00 55 53.0	0.0
AOS	**Alonnisos**	**1.21**	**90**	*e*Pn	Pb	00 55 53.0	0.0
PAIG	**Paliouri**	**1.28**	**54**	*e*PN	Pg	00 55 54.9	-0.5
PAIG	**Paliouri**	**1.28**	**54**	*e*Pn	Pg	00 55 54.9	-0.5
DRO	**Drossia**	**1.32**	**202**	*e*PN	Pg	00 55 56.2	+0.1
DRO				*e*SN	Sg	00 56 16.8	+3.5
DRO	**Drossia**	**1.32**	**202**	*e*Pn	Pg	00 55 56.2	+0.1
DRO				*e*Sn	Sg	00 56 16.8	+3.5
NEST	**Nestorio**	**1.58**	**322**	*e*PN	Pb	00 56 00.0	+0.5
NEST	**Nestorio**	**1.58**	**322**	*e*Pn	Pb	00 56 00.0	+0.5

IDC 12 01:08:38.3±3.2, 29.92S×177.44W, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.4/18, mbtmp3.3/2, Error ellipse: s-maj=65.5km s-min=25.0km az=78.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.79**	**328**	Pn	Pn	01 08 57.7	+1.0
	71nm,0.3s,baz=206,slow=22,SNR=6.3						
RAO				Sn	Sn	01 09 08.2	-0.9
	290nm,0.3s,baz=59,slow=18,SNR=11						
ASAR	**Alice Springs**	**43.62**	**266**	P	P	01 16 44.1	-0.6
	0.2nm,0.3s,baz=100,slow=7.8,SNR=3.0						
WRA	**Warramunga Arr**	**44.57**	**271**	P	P	01 16 52.7	+0.4
	0.1nm,0.3s,baz=110,slow=8.3,SNR=6.8						
FINES	**FINESS Array B**	**144.86**	**341**	PKP	PKPab	01 28 14.9	-0.7
	0.4nm,0.4s,baz=11,slow=2.8,SNR=5.4						

IDC ***12*** *01:20:56.2±0.5, 9.17N×126.18E, h0km, mb4.5/21, mb1 4.5/21, mb1mx4.5/26, mbtmp4.4/21, MS3.5/4, Ms1 3.6/4, ms1mx3.1/30, Error ellipse: s-maj=21.3km s-min=12.7km az=80.0*
DJA ***12*** *01:21:00.1±3.2, 10°N±9°×12°7E±1°1, h34km±21km, M4.7/17, mB5.3/6, mb4.7/17, Mw(mB)4.8/6*
MOS ***12*** *01:21:02.7±1.2, 9.19N×126.21E, h60km, mb4.8/43, Error ellipse: s-maj=13.3km s-min=6.4km az=118.3*
BJI ***12*** *01:21:03.4, 8.80N×126.39E, h99km, mB5.2/21, mb4.6/33*
ISCJB ***12*** *01:21:04.7±0.5, 9.21N±0.02×126.32E±0.04, h78km±4km, mb4.5/77, Error ellipse: s-maj=6.7km s-min=3.5km az=163.5*
MAN ***12*** *01:21:04, 9.19N×126.38E, h30km, mb5.4, ML4.4, MS4.7*
MAN INTENSITY II - TANDAG & TAGO SURIGAO DEL SUR; GENERAL LUNA SURIGAO DEL NORTE.
NEIC ***12*** *01:21:08.0±1.0, 9.24N×126.28E, h93km±9km, mb4.6/36, Error ellipse: s-maj=9.0km s-min=5.3km az=70.0*
NEIC Felt [II PIVS] at General Luna, Tago and Tandag.
ISC 12 01:21:07.6±0.4, 9.19N±0.03×126.22E±0.05, h87km±3km, n237, σ1§41/260, mb4.5/77, 5C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.63**	**250**	*e*P	Pn	01 21 18.1	-5.1
BUTP				*e*S	Sn	01 21 27.9	-6.9
SCPH	**Surigao**	**0.93**	**309**	⇓*e*P	Pn	01 21 22.3	-4.1
SCPH				*e*S	**Sn**	**01 21 36.7**	**-3.6**
MSLP	**Maasin**	**1.64**	**305**	*e*P	**Pn**	**01 21 33.6**	**-1.4**
CGP	**Cagayan de Oro**	**1.67**	**244**	*e*P	**Pn**	**01 21 32.3**	**-3.2**
CGP				*i* S	**Sn**	**01 21 54.6**	**-2.0**
BUKP	**Musuan**	**1.73**	**221**	*e*P	**Pn**	**01 21 34.3**	**-2.1**
BUKP				*e*S	**Sn**	**01 21 55.2**	**-2.9**
DAV	**Davao City (W)**	**2.20**	**197**	*e*Pn	**Pn**	**01 21 43.7**	**+1.2**
DAV				*e*Sn	**Sn**	**01 22 08.9**	**0.0**
MATI	**Mati**	**2.23**	**179**	*e*P	**Pn**	**01 21 40.6**	**-2.3**
PLP	**Palo**	**2.31**	**328**	⇓*e*P	**Pn**	**01 21 42.5**	**-1.4**
PLP				*e*S	Sn	01 21 50.4	-21
TBP	**Tagbilaran**	**2.38**	**282**	*e*P	**Pn**	**01 21 46.6**	**+1.9**
TBP				*e*S	**Sn**	**01 22 15.0**	**+1.8**
OCLP	**Ormoc**	**2.44**	**320**	*e*P	**Pn**	**01 21 45.5**	**-0.1**
LLP	**Lapu-Lapu**	**2.49**	**297**	*e*P	**Pn**	**01 21 45.7**	**-0.5**
LLP				*e*S	**Sn**	**01 22 17.2**	**+1.4**
PAGZ	**Pagadian**	**3.11**	**245**	*e*P	**Pn**	**01 21 53.5**	**-1.1**
CNP	**Catarman**	**3.64**	**335**	*e*P	**Pn**	**01 21 59.8**	**-1.9**
GUIM	**Jordan**	**3.85**	**292**	*e*P	**Pn**	**01 22 03.7**	**-0.9**
RCP	**Roxas**	**4.15**	**305**	⇓*e*P	**Pn**	**01 22 08.8**	**+0.1**
PVCP	**Virac**	**4.82**	**335**	⇓*e*P	**Pn**	**01 22 16.8**	**-1.1**
OTRP	**Odiongan**	**5.19**	**308**	*e*P	**Pn**	**01 22 23.5**	**+0.6**
TGY	**Tagaytay City**	**7.11**	**314**	P	**Pn**	**01 22 47.7**	**-1.4**
TGY				pmax	pmax		
	comp=Z,59nm,0.3s						
TGY	**Tagaytay City**	**7.11**	**314**	Pn	**Pn**	**01 22 47.7**	**-1.4**
	comp=Z,59nm,0.3s,baz=6.8,slow=7.9,SNR=4.0						
LUBP	**Lubang**	**7.39**	**308**	*e*P	**Pn**	**01 22 55.2**	**+2.3**
BALP	**Baler**	**7.93**	**326**	*e*P	Pn	01 22 55.5	-4.7
TNTI	**Ternate**	**8.44**	**172**	P	Pn	01 23 23.1	+16
CAUP	**Cauayan**	**8.82**	**331**	*e*P	Pn	01 23 08.8	-3.5
GTOI	**Gorontalo**	**9.08**	**201**	P	**Pn**	**01 23 14.4**	**-1.5**
MRSI	**Marisa**	**9.65**	**206**	P	**Pn**	**01 23 23.2**	**-0.5**
KKM	**Kota Kinabalu**	**10.40**	**253**	*e*Pn	**Pn**	**01 23 36.6**	**+2.6**
LUWI	**Luwuk**	**10.73**	**199**	S	**Sn**	**01 25 36.5**	**-0.2**
	baz=11,SNR=3.8						
APSI	**Ampana**	**11.02**	**205**	P	Pn	01 23 47.6	+5.2
	comp=Z,59nm,0.4s,comp=Z,1μm						
FAKI	**Fak Fak**	**13.45**	**153**	P	**Pn**	**01 24 13.0**	**-1.9**
	baz=14,SNR=4.5						
TTSI	**Tana Toraja**	**13.73**	**208**	P	**P**	**01 24 21.9**	**-2.3**
	comp=Z,20nm,0.8s,comp=Z,974nm						
BNSI	**Bone**	**14.81**	**205**	P	**P**	**01 24 36.3**	**0.0**
	comp=Z,31nm,1.0s						
SBUM	**Sibu**	**15.45**	**245**	*e*P	**P**	**01 24 46.4**	**+3.0**
	comp=Z,18nm,0.7s						
KAPI	**Kappang**	**15.51**	**205**	*e*Pn	**Pn**	**01 24 42.9**	**+1.4**
QIZ	**Qiongzhong**	**18.64**	**303**	P	**Pn**	**01 25 19.1**	**-0.7**
QIZ				sP	**sP**	**01 25 48.3**	**+1.8**
QIZ				S	**Sn**	**01 28 47.7**	**-0.5**
QIZ				pmax	pmax		
	comp=Z,52nm,2.0s						
SOEI	**Soe**	**18.92**	**186**	P	Pn	01 25 35.3	+12
SOEI	**Soe**	**18.92**	**186**	*e*P	**Pn**	**01 25 24.7**	**+1.4**
	comp=Z,39nm,1.0s						
KMMI	**Kalianget**	**20.23**	**218**	P	Pn	01 25 43.8	+5.2
	comp=Z,30nm,1.2s,comp=Z,1μm						
JAGI	**Jajag, Banyuwa**	**21.27**	**215**	*e*P	**P**	**01 25 48.8**	**+1.7**
	comp=Z,11nm,0.9s						
GMJI	**Gumukmas**	**21.52**	**217**	P	P	01 25 57.8	+8.1
	comp=Z,15nm,1.0s						
MTN	**Manton Dam**	**22.43**	**167**	P	**P**	**01 25 59.1**	**-0.3**
	baz=23,SNR=3.1						
KDU	**Kakadu**	**22.61**	**164**	P	**P**	**01 25 59.4**	**-1.9**
	baz=23,SNR=6.8						
KDU				S	Sn	01 30 34.5	+11
	baz=23,SNR=3.9						
NJ2	**Nanjing**	**23.75**	**344**	*e*P	**P**	**01 26 11.9**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KPJI	**Karang Pucung**	**23.79**	**227**	P	**P**	**01 26 17.0**	**+4.4**
	comp=Z,24nm,0.8s,comp=Z,975nm						
JNU	**Nakatsue**	**24.20**	**10**	P	**P**	**01 26 15.3**	**-0.8**
	comp=Z,6.3nm,0.8s,baz=288,slow=6.4,SNR=3.6						
KNRA	**Kununurra**	**24.84**	**174**	P	**P**	**01 26 21.6**	**-0.4**
	baz=25,SNR=15						
GYA	**Guiyang**	**25.26**	**315**	*e*P	**P**	**01 26 26.8**	**+0.8**
GYA				pP	**pP**	**01 26 47.9**	**+2.2**
GYA				sP	sP	01 26 59.0	+3.1
GYA				PP	**PnPn**	**01 27 09.4**	**+3.8**
GYA				S	**S**	**01 30 44.5**	**-1.1**
GYA				sS	**sS**	**01 31 19.7**	**-0.2**
GYA				ScP	**ScP**	**01 33 26.4**	**-2.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
IPM	**Ipoh**	**25.44**	**261**	*e*P	**P**	**01 26 29.7**	**+2.1**
	comp=Z,10nm,0.8s						
KULM	**Kulim**	**25.65**	**263**	*e*P	**P**	**01 26 30.3**	**+0.8**
	comp=Z,10nm,1.1s						
MDSI	**Maura Dua**	**25.83**	**239**	P	**P**	**01 26 34.1**	**+3.0**
	comp=Z,7.1nm,1.2s,comp=Z,324nm						
KMI	**Kunming**	**27.39**	**308**	P	**P**	**01 26 47.5**	**+2.2**
KMI				S	**S**	**01 31 18.7**	**-0.7**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,100nm,4.2s						
KMI				LR	LR		
	comp=Z,270nm,9.0s						
KMI				LR	LR		
	comp=Z,140nm,9.6s						
KMI				LR	LR		
	comp=Z,120nm,16.4s						
PSI	**Prapat**	**27.86**	**259**	P	**P**	**01 26 49.4**	**-0.1**
PSI				pmax	pmax		
	comp=Z,4.0nm,0.4s						
PSI	**Prapat**	**27.86**	**259**	P	**P**	**01 26 49.4**	**-0.1**
	comp=Z,4.1nm,0.4s,baz=82,slow=6.9,SNR=5.9						
CMAR	**Chiang Mai Arr**	**28.01**	**292**	P	**P**	**01 26 50.7**	**+0.1**
CMAR						01 30 05.1	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR				pmax	pmax		
	comp=N,2.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,87nm,21.9s						
CMAR	**Chiang Mai Arr**	**28.01**	**292**	P	**P**	**01 26 50.7**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=105,slow=6.9,SNR=8.7						
CMAR				PcP	**PcP**	**01 30 05.1**	**+1.4**
	comp=Z,2.6nm,0.7s,baz=107,slow=1.3,SNR=7.4						

CMAR ScP ScP 01 33 47.5 +10
comp=Z,1.5nm,0.3s,baz=96,slow=1.3,SNR=8.4
CMAR LR LR 01 37 11.6
comp=Z,87nm,21.9s,baz=78,slow=35
KSAR Wonju Array Be 28.17 3 P P 01 26 50.3 -1.5
KSAR Wonju Array Be 28.17 3 P P 01 26 50.3 -1.5
KSRS Korea Array 28.18 3 P P 01 26 50.3 -1.6
KSRS pmax pmax
comp=Z,8.0nm,0.8s
KSRS Korea Array 28.18 3 P P 01 26 50.3 -1.6
comp=Z,7.7nm,0.8s,baz=180,slow=9.5,SNR=14
COEN Coen 28.50 144 eP P 01 26 55.9 +1.0
COEN Coen 28.50 144 P P 01 26 55.9 +1.0
baz=29,SNR=5.0
MJAR Matsushiro Arr 29.33 20 LR LR 01 39 25.4
comp=Z,87nm,19.2s,baz=220,slow=38
XAN Xi'an 29.40 330 P P 01 27 00.3 -2.6
XAN pmax pmax
comp=Z,1.0nm,0.8s
WRAB Tennant Creek 30.03 165 eP P 01 27 06.8 -1.6
WRAB pmax pmax
comp=Z,4.0nm,0.7s
WRAB Tennant Creek 30.03 165 eP P 01 27 06.8 -1.6
comp=Z,3.9nm,0.7s
WRA Warramunga Arr 30.03 165 P P 01 27 06.5 -2.0
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA pmax pmax
comp=N,1.0nm,1.0s
WRA Warramunga Arr 30.03 165 P P 01 27 06.5 -2.0
comp=N,2.5nm,0.6s,baz=346,slow=9.4,SNR=25
WRA ScP ScP 01 33 51.7 +8.4
comp=N,0.8nm,1.0s,baz=345,slow=3.4,SNR=3.9
CD2 Chengdu 30.08 319 P P 01 27 11.1 +2.2
CD2 pP pP 01 27 32.7 +3.8
CD2 sP sP 01 27 44.3 +5.2
CD2 PP PnPn 01 28 13.1 +3.4
CD2 S S 01 32 01.8 +0.5
CD2 sS sS 01 32 39.6 +3.7
CD2 SS ScP 01 33 46.6 +3.2
CD2 pmax pmax
comp=N,10.0nm,0.5s
CD2 pmax pmax
comp=N,260nm,5.9s
CD2 LR LR
comp=N,430nm,7.1s
CD2 LR LR
comp=N,270nm,6.5s
MBWA Marble Bar 30.83 192 eP P 01 27 15.9 +0.4
comp=N,12nm,1.0s
BJI Beijing 32.00 345 P P 01 27 25.3 -0.3
BJI pmax pmax
comp=N,6.0nm,0.8s
QIS Mount Isa 32.36 156 P P 01 27 27.8 -1.2
baz=33,SNR=10
MTSU Mount Surprise 32.50 147 P P 01 27 29.8 -0.5
baz=33,SNR=5.8
AS31 Alice Springs 33.51 167 eP P 01 27 37.5 -1.5
ASAR Alice Springs 33.51 167 P P 01 27 37.8 -1.2
ASAR 01 30 18.6
ASAR pmax pmax
comp=Z,1.0nm,0.3s
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR pmax pmax
comp=N,1.0nm,0.7s
ASAR Alice Springs 33.51 167 P P 01 27 37.8 -1.2
comp=N,0.9nm,0.3s,baz=351,slow=7.9,SNR=22
ASAR PcP PcP 01 30 18.6 +0.4
comp=N,1.1nm,0.7s,baz=346,slow=2.8,SNR=6.6
ASAR ScP ScP 01 34 05.2 +10
comp=N,1.0nm,0.7s,baz=349,slow=3.4,SNR=7.5
LZH Lanzhou 33.63 326 eP P 01 27 39.7 -0.5
LZH pP pP 01 28 05.0 +4.7
LZH sP sP 01 28 16.2 +5.7
LZH pmax pmax
comp=N,12nm,1.0s
WRKA Warakurna 34.08 177 P P 01 27 43.6 -0.4
baz=34,SNR=18
HHC Hu-ho-hao-te 34.11 340 eP P 01 27 46.2 +2.1
HHC S S 01 33 02.8 -1.0
HHC pmax pmax
comp=N,15nm,1.0s
HHC pmax pmax
comp=N,160nm,4.4s
HHC LR LR
comp=N,320nm,14.2s
HHC LR LR
comp=N,240nm,10.8s
HHC LR LR
comp=N,270nm,11.4s
CN2 Changchun 34.49 359 eP P 01 27 49.5 +2.3
CN2 eS S 01 33 10.7 +1.4
CN2 LR LR
comp=N,400nm,13.0s
CN2 LR LR
comp=N,300nm,13.0s
CN2 LR LR
comp=N,400nm,18.0s
CTAO Charters Tower 35.15 146 eP P 01 27 52.8 -0.4
CTAO pmax pmax
comp=Z,8.0nm,1.0s
CTAO Charters Tower 35.15 146 eP P 01 27 52.8 -0.4
comp=Z,7.7nm,1.0s
USRK Ussuriysk Arra 35.24 7 P P 01 27 54.0 +0.4
comp=Z,20nm,0.8s,baz=195,slow=7.5,SNR=26
MDJ Mudanjiang 35.42 4 eP P 01 27 55.8 +0.6
comp=Z,19nm,0.9s
MEEK Meekatharra 36.37 192 P P 01 28 03.9 +0.3
baz=37,SNR=5.6
GTA Gaotai 38.24 326 eP P 01 28 18.6 -0.8
GTA pP pP 01 28 40.9 +1.0
GTA sP sP 01 28 52.7 +2.7
GTA PcP PcP 01 30 33.6 +1.5
GTA pmax pmax
comp=Z,2.0nm,0.9s
LSA Lhasa 38.62 307 P P 01 28 21.1 -2.0
LSA Lhasa 38.62 307 eP P 01 28 24.6 +1.5
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 38.62 307 eP P 01 28 24.6 +1.5
comp=Z,3.7nm,0.6s
MORW Morawa 39.28 194 P P 01 28 28.0 0.0
baz=40,SNR=5.3
FORT Forrest 39.78 178 eP P 01 28 32.2 +0.1
comp=Z,59nm,0.7s
FORT Forrest 39.78 178 P P 01 28 32.5 +0.4
baz=40,SNR=37
H11S3 WAKE ISLAND Hy 40.28 72 T T 02 11 44.6
baz=263,slow=73,SNR=155
H11S1 WAKE ISLAND Hy 40.30 72 T T 02 11 39.9
baz=263,slow=73,SNR=97
H11S2 WAKE ISLAND Hy 40.30 72 T T 02 11 33.9
baz=263,slow=73,SNR=71
TAPN Taplejung 40.56 302 eP P 01 28 39.3 +0.2
BLDU Ballidu 40.62 193 P P 01 28 40.5 +1.4
baz=41,SNR=5.0
H11N1 WAKE ISLAND Hy 40.65 70 T T 02 12 13.8
baz=268,slow=74,SNR=99
H11N2 WAKE ISLAND Hy 40.66 70 T T 02 12 14.3
baz=268,slow=74,SNR=56
H11N3 WAKE ISLAND Hy 40.67 70 T T 02 12 15.1
baz=268,slow=74,SNR=87
ODAN Odare 40.67 301 eP P 01 28 39.5 -0.5
comp=Z,43nm,0.8s
ULN Ulaanbaatar 41.82 341 ceP P 01 28 48.9 0.0
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 41.82 341 eP P 01 28 48.3 -0.6
comp=Z,3.0nm,0.9s
JIRN Jiri 41.94 301 eP P 01 28 50.8 +0.3
comp=Z,22nm,0.6s
SONM Songino Array 42.01 340 P P 01 28 49.6 -0.8
SONM 01 30 44.3
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 42.01 340 P P 01 28 49.6 -0.8
comp=Z,0.6nm,0.6s,baz=165,slow=8.9,SNR=5.9
SONM PcP PcP 01 30 44.3 +0.2
comp=Z,0.9nm,0.7s,baz=152,slow=2.2,SNR=5.0
GUN Gumba 42.28 302 eP P 01 28 53.3 +0.1
comp=Z,33nm,0.7s
PKI Pulchoki 42.57 301 eP P 01 28 54.9 -0.7
comp=Z,16nm,0.9s

PKIN Phulchoki 42.58 301 eP P 01 28 54.8 -0.8
KKN Kakani 42.75 301 eP P 01 28 56.6 -0.3
BBOO Buckleboo 42.81 168 eP P 01 28 56.9 0.0
BBOO Buckleboo 42.81 168 P P 01 28 56.9 0.0
baz=43,SNR=38
DMN Daman 42.84 301 eP P 01 28 57.3 -0.4
GKN Gorkha 43.35 301 eP P 01 29 01.8 +0.1
STKA Stephens Creek 43.40 161 eP P 01 29 01.2 -0.6
STKA pmax pmax
comp=Z,17nm,3.0s
STKA Stephens Creek 43.40 161 P P 01 29 00.8 -0.9
comp=Z,3.9nm,0.6s,baz=340,slow=9.1,SNR=10
STKA Stephens Creek 43.40 161 eP P 01 29 01.1 -0.6
comp=Z,17nm,3.0s
STKA Stephens Creek 43.40 161 P P 01 29 01.1 -0.6
baz=44,SNR=5.7
HTT Hallett 44.07 165 P P 01 29 08.3 +1.2
baz=44,SNR=5.2
KOLN Koldanda 44.16 301 eP P 01 29 08.3 +0.1
comp=Z,32nm,0.8s
DANN Dangsing 44.20 301 eP P 01 29 08.4 -0.2
comp=Z,26nm,0.6s
PALK Pallekele 45.07 271 eP P 01 29 15.6 +0.2
PALK pmax pmax
comp=Z,42nm,1.2s
PALK Pallekele 45.07 271 eP P 01 29 15.6 +0.2
comp=Z,42nm,1.2s
HYB Hyderabad 47.00 285 iP P 01 29 30.5 0.0
ARPS Mount Arapiles 48.01 163 P P 01 29 38.3 +0.3
baz=48,SNR=5.8
WMQ Urumqi 48.04 323 eP P 01 29 39.0 +0.7
WMQ pP pP 01 30 02.1 +2.7
WMQ sP sP 01 30 13.5 +4.2
WMQ PcP PcP 01 31 06.0 +1.1
WMQ PcS PcS 01 35 00.4 -0.3
WMQ S S 01 36 28.4 -1.7
WMQ sS sS 01 37 08.9 +2.5
WMQ ScS ScS 01 39 19.5 -3.6
WMQ pmax pmax
comp=Z,8.0nm,0.6s
WMQ pmax pmax
comp=Z,140nm,5.0s
WMQ LR LR
comp=Z,48nm,16.4s
WMQ LR LR
comp=Z,45nm,17.6s
WMQ LR LR
comp=Z,27nm,18.8s
DZM Mont Dzumac 50.21 129 eP P 01 29 55.2 +0.1
comp=Z,8.4nm,1.0s
PETK Petropavlovsk- 50.64 24 P P 01 29 58.9 +1.1
PETK pmax pmax
comp=Z,6.0nm,0.5s
PETK Petropavlovsk- 50.64 24 P P 01 29 58.9 +1.1
comp=Z,6.4nm,0.5s,baz=202,slow=3.3,SNR=13
YAK Yakutsk 52.80 2 eP P 01 30 15.5 +1.8
YAK pmax pmax
comp=Z,9.0nm,0.7s
MK31 Makanchi Array 52.85 323 eP P 01 30 14.1 -0.3
MK31 e 01 31 21.4
MK31 Makanchi Array 52.85 323 eP P 01 30 14.1 -0.3
MK31 ePcP PcP 01 31 21.4 -1.2
MKAR Makanchi Array 52.85 323 P P 01 30 14.2 -0.2
MKAR 01 31 22.0
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR MLR MLR
comp=Z,48nm,20.4s
MKAR Makanchi Array 52.85 323 P P 01 30 14.2 -0.2
comp=Z,8.4nm,0.6s,baz=122,slow=8.1,SNR=138
MKAR PcP PcP 01 31 22.0 -0.6
comp=Z,1.7nm,0.5s,baz=108,slow=4.9,SNR=7.1
MKAR LR LR 01 54 06.4
comp=Z,48nm,20.4s,baz=94,slow=38
KSH Kashi 53.92 313 eP P 01 30 23.9 +1.4
KSH esP sP 01 30 54.5 +0.7
KSH ePP PP 01 32 27.8 +3.3
KSH ePcS PcS 01 35 22.3 -4.1
KSH eS S 01 37 49.1 -2.4
KSH eSS SS 01 41 36.6 +2.8
KSH pmax pmax
comp=Z,100nm,6.2s
KSH LR LR
comp=Z,77nm,5.5s
KSH LR LR
comp=Z,34nm,3.6s
KSH LR LR
comp=Z,180nm,6.0s
TKM2 Tokmak 2 55.40 316 eP P 01 30 32.4 -0.9
TKM2 pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 55.40 316 eP P 01 30 32.4 -0.9
comp=Z,3.4nm,0.6s
ZAA0 Zalesovo Array 55.55 332 eP P 01 30 32.2 -1.5
ZALV Zalesovo Beam 55.55 332 iP P 01 30 32.7 -1.1
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 55.55 332 P P 01 30 32.1 -1.6
comp=Z,3.3nm,0.6s,baz=118,slow=7.0,SNR=17
AAK Ala-Archa 56.05 316 eP P 01 30 38.5 +0.6
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 56.05 316 eP P 01 30 38.5 +0.6
comp=Z,2.9nm,0.8s
EKS2 Erkin-Say 56.56 316 eP P 01 30 40.7 -0.7
EKS2 pmax pmax
comp=Z,6.0nm,0.9s
EKS2 Erkin-Say 56.56 316 eP P 01 30 40.7 -0.7
comp=Z,5.8nm,0.9s
NVS Novosibirsk 56.82 332 eP P 01 30 41.1 -1.8
SEY Seymchan 56.87 14 eP P 01 30 43.4 +0.3
KURK Kurchatov 56.93 326 eP P 01 30 43.3 -0.4
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 56.93 326 eP P 01 30 43.2 -0.4
comp=Z,6.8nm,0.8s
KBL Kabul 57.90 305 eP P 01 30 51.3 +0.1
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 57.90 305 eP P 01 30 51.2 +0.1
comp=Z,5.0nm,0.6s
KBL Kabul 57.90 305 P P 01 30 51.0 -0.1
baz=58,SNR=5.4
KKAR Karatay Array 58.97 315 eP P 01 30 57.8 -0.4
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 58.97 315 eP P 01 30 57.8 -0.4
comp=Z,2.6nm,0.6s
TIXI Tiksi 62.43 1 eP P 01 31 21.0 0.0
TIXI pmax pmax
comp=Z,13nm,0.8s
TIXI Tiksi 62.43 1 eP P 01 31 20.7 -0.3
comp=Z,11nm,0.6s
BRVK Borovoye 62.59 326 ceP P 01 31 22.3 -0.2
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 62.59 326 eP P 01 31 22.0 -0.5
comp=Z,9.4nm,0.8s
BILL Bilibino 64.45 16 eP P 01 31 33.4 -1.1
BILL pmax pmax
comp=Z,2.0nm,0.8s
BILL MLR MLR
comp=Z,88nm,21.0s
BILL Bilibino 64.45 16 eP P 01 31 33.7 -0.8
ABKAR Akbulak array 67.66 320 eP P 01 31 54.8 -0.5
SVE Sverdlovsk 69.09 328 eP P 01 32 04.1 0.0
SVE pmax pmax
comp=Z,13nm,1.2s
AKTO Aktyubinsk 69.12 321 LR LR 02 03 49.8
comp=Z,45nm,18.7s,slow=37
ARU Arti 70.10 327 c iP P 01 32 09.3 -1.1
ARU 01 34 41.9
ARU S S 01 41 20.0 +5.6
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 70.10 327 eP P 01 32 09.0 -1.4
comp=Z,8.0nm,0.6s
PRGR Permogore 77.50 331 eP P 01 32 52.2 -1.3
KDAK Kodiak Island 77.59 33 ceP P 01 32 55.9 +1.8
RAYN Ar Rayn 77.93 292 eP P 01 32 56.7 -0.1
comp=Z,8.2nm,0.9s
ZEI Tsey 78.20 312 eP P 01 32 57.2 -0.9
ZEI pmax pmax

comp=Z,6.0nm,0.6s
KIV Kislovodsk 79.04 313 eP P 01 33 01.6 -1.0
KIV pmax pmax
comp=Z,7.0nm,0.7s
KIV Kislovodsk 79.04 313 eP P 01 33 01.6 -1.0
comp=Z,7.1nm,0.7s
COLD Coldfoot 79.10 23 eP P 01 33 04.4 +2.2
comp=Z,5.4nm,0.8s
COLA College 80.02 26 eP P 01 33 07.2 0.0
COLA pmax pmax
comp=Z,6.0nm,0.9s
COLA College 80.02 26 eP P 01 33 07.2 0.0
comp=Z,5.7nm,0.9s
ILAR Eielson Array 80.43 26 P P 01 33 09.2 -0.3
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR Eielson Array 80.43 26 P P 01 33 09.2 -0.3
comp=Z,1.6nm,0.7s,baz=239,slow=4.9,SNR=34
RAGM Ragged Mountai 81.64 30 eP P 01 33 13.2 -2.9
comp=Z,104nm,0.8s
OBN Obninsk 82.34 325 eP P 01 33 19.0 -0.7
OBN i 01 36 32.8
OBN pmax pmax
comp=Z,5.0nm,1.0s
ANN Anapa 82.74 314 eP P 01 33 20.2 -1.9
ANN pmax pmax
comp=Z,179nm,1.8s
DAWY Dawson 83.73 26 eP P 01 33 28.4 +1.5
JOF Joensuu 84.12 333 eP P 01 33 27.3 -1.4
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 84.12 333 ep P 01 33 27.3 -1.4
comp=Z,5.2nm,0.6s
KEV Kevo 84.62 340 eP P 01 33 30.3 -0.9
KEV pmax pmax
comp=Z,34nm,1.4s
KEV Kevo 84.62 340 ep P 01 33 28.6 -2.5
comp=Z,5.5nm,0.7s
KEV Kevo 84.62 340 eP P 01 33 30.3 -0.9
comp=Z,34nm,1.4s
ARCES ARCESS Array B 85.18 340 P P 01 33 34.0 0.0
ARCES pmax pmax
comp=Z,11nm,0.6s
ARCES ARCESS Array B 85.18 340 P P 01 33 34.0 0.0
comp=Z,11nm,0.6s,baz=81,slow=6.6,SNR=56
ARE0 ARCESS Array S 85.18 340 eP P 01 33 33.2 -0.8
INK Inuvik 85.30 22 eP P 01 33 35.1 +0.5
INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 85.30 22 eP P 01 33 35.1 +0.5
comp=Z,6.2nm,1.0s
BR131 Keskin Array S 86.17 309 eP P 01 33 39.0 -0.8
comp=Z,1.5nm,0.7s
BRTR Keskin Array B 86.17 309 ceP P 01 33 38.9 -0.8
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 86.17 309 P P 01 33 38.8 -0.8
comp=Z,1.1nm,0.6s,baz=90,slow=4.3,SNR=8.5
KAF Kangasniemi 86.55 332 eP P 01 33 39.4 -1.5
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 86.55 332 ep P 01 33 39.4 -1.5
comp=Z,3.2nm,0.6s
FINES FINESS Array B 86.81 332 iP P 01 33 41.7 -0.4
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 86.81 332 P P 01 33 41.6 -0.6
comp=Z,3.0nm,0.6s,baz=92,slow=4.9,SNR=31
CSS Prodhromos 87.15 305 eP P 01 33 44.3 -0.2
comp=Z,3.6nm,0.7s
AKASG Malin Array Be 87.36 321 P P 01 33 43.5 -1.5
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 87.36 321 P P 01 33 43.5 -1.5
comp=Z,0.6nm,0.4s,baz=61,slow=5.6,SNR=8.4
KIEV Kiev 87.38 321 eP P 01 33 44.3 -0.8
KIEV Kiev 87.38 321 eP P 01 33 44.3 -0.8
KMBO Kilima Mbogo 89.16 269 iP P 01 33 55.9 +1.3
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 89.16 269 P P 01 33 54.9 +0.2
comp=Z,1.5nm,0.6s,baz=39,slow=9.1,SNR=6.6
KMBO Kilima Mbogo 89.16 269 eP P 01 33 55.8 +1.2
comp=Z,2.6nm,1.0s
BUR08 Bucovina Ar. S 90.61 318 eP P 01 33 59.6 -1.0
KWP Kalwaria Pacla 91.69 321 eP P 01 34 05.0 -0.4
KWP pmax pmax
comp=Z,7.0nm,0.9s
KWP Kalwaria Pacla 91.69 321 eP P 01 34 05.0 -0.4
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 91.81 352 iP P 01 34 04.5 -0.9
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 91.81 352 iP P 01 34 04.5 -0.9
comp=Z,4.6nm,0.8s
STHS Stebnicka Huta 92.66 321 eP P 01 34 11.1 +1.2
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 92.66 321 eP P 01 34 11.1 +1.2
CRVS Cervenica-Dubn 92.68 320 eP P 01 34 10.1 +0.1
CRVS pmax pmax
comp=Z,5.0nm,1.0s
CRVS Cervenica-Dubn 92.68 320 eP P 01 34 10.1 +0.1
NOA NORSAR Array B 93.70 334 P P 01 34 12.7 -1.8
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA NORSAR Array B 93.70 334 P P 01 34 12.7 -1.8
comp=Z,1.0nm,0.9s,baz=64,slow=5.1,SNR=3.2
PSZ Piszkesteto 93.97 320 eP P 01 34 16.9 +0.9
PSZ pmax pmax
comp=Z,3.0nm,0.9s
PSZ Piszkesteto 93.97 320 eP P 01 34 16.9 +0.9
comp=Z,3.1nm,0.9s
YKA Yellowknife Ar 94.76 24 P P 01 34 19.7 +0.5
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 94.76 24 P P 01 34 19.7 +0.5
comp=Z,0.8nm,0.6s,baz=300,slow=4.2,SNR=24
MORC Moravsky Berou 94.83 322 eP P 01 34 20.0 +0.1
MORC pmax pmax
comp=Z,1.0nm,0.6s
MORC Moravsky Berou 94.83 322 eP P 01 34 20.0 +0.1
comp=Z,0.9nm,0.6s
GERES GERESS Array B 97.51 322 P P 01 34 31.8 -0.3
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 97.51 322 P P 01 34 31.8 -0.3
comp=Z,0.9nm,0.8s,baz=69,slow=4.9,SNR=7.4
TXAR Lajitas Array 118.56 49 PKP PKPdf 01 39 46.9 +0.7
comp=Z,0.3nm,0.6s,baz=260,slow=2.7,SNR=4.2
TOA0 Torodi Ar. Sit 120.61 291 ePKPdf PKPdf 01 39 49.9 -0.5
TORD Torodi Ar. Bea 120.61 291 PKP PKPdf 01 39 50.2 -0.1
comp=Z,2.9nm,0.7s,baz=61,slow=2.3,SNR=25
DBIC Dimbokro 128.76 286 ePKIKP PKPdf 01 40 05.7 -0.3
DBIC Dimbokro 128.76 286 ePKPdf PKPdf 01 40 05.7 -0.3
ASCN Ascension 141.01 269 ePKPdf PKPdf 01 40 27.4 -1.4
PLCA Paso Flores 145.24 157 PKIKP PKPdf 01 40 36.4 +0.8
PLCA pmax pmax
comp=Z,5.0nm,0.7s
PLCA Paso Flores 145.24 157 PKPbc PKPdf 01 40 36.4 +0.8
comp=Z,4.6nm,0.7s,baz=253,slow=3.1,SNR=9.8
PLCA Paso Flores 145.24 157 ePKPbc PKPdf 01 40 36.3 +0.6
BCIP Isla Barro Col 148.29 56 ePKPbc PKPdf 01 40 42.3 +0.9
TRQA Tornquist 150.32 167 ePKPbc PKPbc 01 40 49.2 -0.1
ROSC El Rosal 155.22 57 ePKPbc PKPdf 01 40 59.8 +7.5
ROSC ePKPab PKPab 01 41 15.7 -1.8
BBGH Gun Hill 157.08 15 ePKPab PKPab 01 41 23.8 -0.9
LPAZ La Paz 164.33 118 ePKIKP PKPdf 01 41 03.2 +0.4
LPAZ La Paz 164.33 118 ePKPdf PKPdf 01 41 03.2 +0.4
SAML Samuel 170.71 89 ePKPdf PKPdf 01 41 06.5 -0.2
SAML ePKPab PKPab 01 42 24.1 -0.9

IDC 12 01:28:21.9±1.0, 54°.98S×129°.92W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/16, mbtmp4.0/4, MS3.4/1, Ms1 3.4/1, ms1mx3.0/23, Error ellipse: s-maj=41.9km s-min=29.8km az=160.0

ISCJB 12 01:28:22.8±1.2, 55°.2S±0°.3×129°.9W±0°.4, h10km, mb3.9/4, MS3.3/1, Error ellipse: s-maj=40.9km s-min=27.8km az=159.3

ISC 12 01:28:23.3±1.1, 55°.0S±0°.3×130°.0W±0°.2, h10km, n16, σ1§60/6, mb4.0/4, Pacific-Antarctic Ridge

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

QSPA South Pole Qui 35.19 180 P P 01 35 16.8 -0.5
1.8nm,0.8s,baz=188,slow=3.0,SNR=2.6
PPT Papeete 40.25 330 LR LR 01 47 09.1
comp=Z,46nm,20.4s,baz=250,slow=28
H03N3 Juan Fernandez 41.30 80 T T 02 20 17.1
baz=223,slow=75,SNR=78
H03N2 Juan Fernandez 41.31 80 T T 02 20 17.9
baz=223,slow=75,SNR=100
H03N1 Juan Fernandez 41.32 80 T T 02 20 18.3
baz=223,slow=75,SNR=95
LPAZ La Paz 60.74 76 P P 01 38 36.6 +0.8
0.9nm,0.4s,baz=203,slow=9.0,SNR=5.6
ASAR Alice Springs 74.34 251 P P 01 40 02.3 +1.2
0.6nm,0.7s,baz=142,slow=6.5,SNR=9.8
H01W1 Cape Leeuwin H 75.00 230 T T 03 03 05.0
baz=145
H01W2 Cape Leeuwin H 75.01 230 T T 03 03 03.2
baz=145,slow=74
H01W3 Cape Leeuwin H 75.02 230 T T 03 03 06.2
baz=145,slow=74
WRA Warramunga Arr 77.08 254 P P 01 40 17.7 +0.9
0.8nm,0.6s,baz=141,slow=5.2,SNR=9.3
H11S2 WAKE ISLAND Hy 90.68 302 T T 03 21 32.7
baz=152,slow=74
H11S3 WAKE ISLAND Hy 90.69 302 T T 03 21 25.2
baz=152,slow=74
H11S1 WAKE ISLAND Hy 90.70 302 T T 03 21 31.6
baz=152
ILAR Eielson Array 120.13 352 PKP PKPdf 01 47 10.8 -1.9
0.5nm,0.8s,baz=163,slow=2.1,SNR=5.7
SONM Songino Array 144.97 282 PKPbc PKPbc 01 47 58.4 -0.9
0.7nm,0.8s,baz=99,slow=2.2,SNR=7.4

CSEM 12 01:31:46.6, 43.14N×13.43E, h23km, ML2.0/6, After ROM
ROM 12 01:31:46.6±0.2, 43.14N×13.43E, h23km±3km, Ml2.0/6, 2C, Error ellipse: s-maj=1.9km s-min=1.7km az=119.510, Central Italy

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
T0401 Montottone (Fe 0.14 122 Pg Pb 01 31 51.5 0.0
T0401 Sg Sb 01 31 55.4 +0.6
603nm,0.2s
FDMO Fiordimonte 0.27 248 Pg Pb 01 31 53.0 -0.1
FDMO Sg Sb 01 31 58.0 +0.4
91nm,0.2s
FDMO Fiordimonte 0.27 248 Pg Pb 01 31 53.0 -0.1
FDMO Sg Sb 01 31 58.0 +0.4
91nm,0.2s
OFFI Offida 0.28 137 Pg Pb 01 31 54.2 +1.0
OFFI Offida 0.28 137 Pg Pb 01 31 54.2 +1.0
GUMA Gualdo di Mace 0.38 102⇑iPg Pb 01 31 50.8 -4.0
GUMA Sg Sb 01 31 54.1 -6.3
218nm,0.2s
GUMA Gualdo di Mace 0.38 102⇑iPg Pb 01 31 50.8 -4.0
GUMA Sg Sb 01 31 54.1 -6.3
218nm,0.2s
NRCA Norcia 0.38 217 Pg Pb 01 31 54.8 -0.1
NRCA Sg Sb 01 32 01.3 +0.7
431nm,0.1s
NRCA Norcia 0.38 217 Pg Pb 01 31 54.8 -0.1
NRCA Sg Sb 01 32 01.3 +0.7
431nm,0.1s
CESI CESI - Serrava 0.41 251 Pg Pb 01 31 55.4 +0.1
CESI Sg Sb 01 32 02.4 +1.1
20nm,0.3s
CESI CESI - Serrava 0.41 251 Pg Pb 01 31 55.4 +0.1
CESI Sg Sb 01 32 02.4 +1.1
20nm,0.3s
AOI Ancona 0.43 17 Pg Pb 01 31 55.5 -0.1
AOI Sg Sb 01 32 03.1 +1.3
AOI Ancona 0.43 17 Pg Pb 01 31 55.5 -0.1
AOI Sg Sb 01 32 03.1 +1.3
ARVD Arcevia 0.51 315 Pg Pb 01 31 57.3 +0.4
ARVD Arcevia 0.51 315 Pg Pb 01 31 57.3 +0.4
SMA1 SAN MARTINO 0.51 188 Pg Pb 01 31 56.9 -0.3
SMA1 Sg Sb 01 32 05.3 +1.0
71nm,0.3s
TERO Teramo 0.53 166 Pg Pb 01 31 57.1 -0.3
TERO Teramo 0.53 166 Pg Pb 01 31 57.1 -0.3
CAMP Campotosto 0.60 181 Pg Pb 01 31 58.4 -0.3
CAMP Sg Sn 01 32 08.2 -0.9
CAMP Campotosto 0.60 181 Pg Pb 01 31 58.4 -0.3
CAMP Sg Sn 01 32 08.2 -0.9

BYKL 12 01:33:26.5±0.3, 53.37N×108.46E
MOS 12 01:33:26.6±2.1, 53.40N×108.46E, h10km, mb4.2/1, Error ellipse: s-maj=22.2km s-min=11.6km az=51.4
ISC 12 01:33:25.7±1.1, 53.36N±0.02×108.56E±0.02, h4km±9km, n37, σ1.86/74, 10C-8D, Lake Baykal region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MXMB Maximikha 0.15 132⇑iPg Pg 01 33 30.3 +1.7
MXMB eSg Sg 01 33 33.3 +2.8
MXMB Pmax
704nm,0.1s
MXMB Smax
17μm,0.7s
OGRR Ongureny 0.64 297 ePG Pg 01 33 37.9 -0.1
OGRR e 01 33 46.1
OGRR pmax pmax
comp=Z,153nm,0.4s
OGRR smax smax
comp=E,3μm,0.4s
OGRR Ongureny 0.64 297⇑iPg Pg 01 33 37.9 -0.1
comp=E,115nm,0.4s
OGRR ⇓iPg Pg 01 33 37.9 -0.1
comp=E,131nm,0.4s
OGRR ⇑iPg Pg 01 33 37.9 -0.1
comp=E,202nm,0.4s
OGRR e 01 33 45.2
OGRR eSg Sg 01 33 46.1 -0.3
OGRR Pmax
comp=E,152nm,0.3s
OGRR Smax
comp=E,3μm,0.3s
SYVR Suvo 0.91 70⇓iPg Pb 01 33 43.6 -0.4
SYVR eSg Sb 01 33 56.1 -0.4
SYVR Pmax
comp=E,37nm,0.3s
SYVR Smax
comp=E,109nm,0.3s
ZRHB Zarechye 1.18 227 ePg Pg 01 33 47.6 -0.6
ZRHB ePb Pn 01 33 48.9 0.0
ZRHB eSg Sg 01 34 03.6 +0.2
ZRHB max
comp=E,295nm,0.3s
ZRHB Smax
comp=E,1μm,0.6s
TRG Tyrgan 1.47 247 ePG Pn 01 33 51.8 -1.2
TRG e 01 34 12.0
TRG pmax pmax
comp=Z,294nm,0.3s
TRG smax smax
comp=N,665nm,0.3s
TRG Tyrgan 1.47 247⇓iPg Pn 01 33 51.7 -1.2
TRG ⇓i 01 33 53.2
TRG eSg Sb 01 34 10.8 -1.7
TRG max
comp=N,292nm,0.3s
TRG Smax
comp=N,658nm,0.3s
KAB Kabansk 1.75 222 ePN Pg 01 33 59.4 +0.1
KAB e 01 34 22.9
KAB pmax pmax
comp=Z,91nm,0.3s
KAB smax smax
comp=E,694nm,0.3s
KAB Kabansk 1.75 222 ePg Pb 01 33 58.4 0.0
KAB e 01 34 02.5
KAB eSg Sg 01 34 21.7 -0.2
KAB max
comp=E,127nm,0.5s
KAB Smax
comp=E,915nm,0.4s
HRMR Khuramsha 1.99 210 ePn Pn 01 34 00.6 +0.4
HRMR ePg Pb 01 34 02.3 -0.2
HRMR e 01 34 04.7
HRMR eSg Sb 01 34 28.8 +1.1
YLYR Ulyunkhan 2.16 44⇑iPn Pn 01 34 03.4 +1.0
YLYR ⇓iPg Pb 01 34 05.7 +0.4
YLYR i Sg Sg 01 34 34.7 -0.2
YLYR Pmax
comp=E,25nm,0.5s
YLYR Smax
comp=E,182nm,0.8s
NIZ Nizh Angarsk 2.49 13 ePN Pb 01 34 11.3 +0.4
NIZ e 01 34 44.7
NIZ pmax pmax
comp=Z,31nm,0.4s
NIZ smax smax
comp=N,105nm,0.6s
NIZ Nizh Angarsk 2.49 13 ePn Pn 01 34 08.3 +1.4
NIZ ePg Pb 01 34 11.3 +0.4
NIZ ePgPg PnPn 01 34 15.8 +1.6
NIZ eSg Sg 01 34 43.8 -1.7
NIZ max
comp=N,30nm,0.5s
NIZ Smax
comp=N,105nm,0.6s
LSTR Listvyanka 2.72 238 ePN Pn 01 34 09.8 -0.4
LSTR e 01 34 15.1
LSTR e 01 34 48.8
LSTR pmax pmax
comp=Z,20nm,0.6s
LSTR smax smax
comp=N,97nm,0.3s
LSTR Listvyanka 2.72 238⇑iPn Pn 01 34 09.8 -0.4
LSTR ⇓iPg Pb 01 34 13.6 -1.3
LSTR e 01 34 42.9
LSTR eSg Sb 01 34 48.8 +0.2
LSTR eSgSg Sg 01 34 52.8 -0.2
LSTR Pmax
comp=N,20nm,0.7s
LSTR max
comp=N,99nm,0.4s
IRK Irkutsk 2.83 248 ePN Pb 01 34 16.8 0.0
IRK e 01 34 52.0
IRK pmax pmax
comp=Z,131nm,0.1s
IRK smax smax
comp=N,355nm,0.5s
IRK Irkutsk 2.83 248 eSg Sb 01 34 51.8 -0.1
IRK Smax
comp=N,343nm,0.5s
KMO Kumora 2.96 30 ePN Pb 01 34 17.4 -1.6
KMO eS Sn 01 34 47.8 -1.6
KMO e 01 34 56.6
KMO pmax pmax
comp=Z,28nm,0.3s
KMO smax smax
comp=N,157nm,1.1s
KMO Kumora 2.96 30⇑iPn Pn 01 34 14.8 +1.4
KMO ePg Pb 01 34 19.9 +0.9
KMO e 01 34 48.5
KMO eSg Sg 01 34 59.5 -1.2
KMO Pmax
comp=N,51nm,0.4s
KMO Smax
comp=N,157nm,1.6s
CIT Chita 3.32 112 eSg Sg 01 35 11.4 -0.8
CIT Smax
comp=N,117nm,0.3s
YOA Uoyan 3.33 32 e x 01 34 47.7
YOA eSg Sg 01 35 11.9 -0.6
YOA Smax
comp=N,490nm,1.7s
TLY Talaya 3.44 243 ePN Pn 01 34 18.8 -1.3
TLY e 01 34 26.4
TLY e 01 35 11.0
TLY pmax pmax
comp=Z,13nm,0.4s
TLY smax smax
comp=E,79nm,0.4s
TLY Talaya 3.44 243⇑iPn Pn 01 34 20.0 -0.1
TLY e 01 34 22.6
TLY ePg Pb 01 34 26.1 -1.1
TLY e 01 34 30.6
TLY eSg Sb 01 35 11.2 +1.8
TLY eSgSg SnSn 01 35 13.5 +1.5
TLY max
comp=E,13nm,0.4s
TLY max
comp=E,77nm,0.4s
SVKR Severomuysk 4.00 44 eSg Sg 01 35 31.7 -2.4
SVKR Smax
comp=E,175nm,0.8s
ARS Arshan 4.01 251 ePN Pb 01 34 36.8 -0.1
ARS Arshan 4.01 251⇑iPn Pn 01 34 28.9 +1.0
ARS ePg Pb 01 34 36.7 -0.1
ARS eSn Sn 01 35 12.1 -3.2
ARS eSg Sb 01 35 27.2 +1.5
ARS Pmax
comp=E,27nm,0.5s
ARS Smax
comp=E,222nm,0.7s
KPC Khapcheranga 4.37 145⇓iPn Pn 01 34 32.8 0.0
KPC ePg Pb 01 34 44.8 +1.8
KPC e 01 34 46.6
KPC eSn Sn 01 35 23.3 -0.9
KPC eSg Sg 01 35 42.2 -3.7
KPC max
comp=E,16nm,0.7s
KPC Smax
comp=E,61nm,1.2s
ZAK Zakamensk 4.43 230 ePg Pb 01 34 46.3 +2.3
ZAK eSg Sg 01 35 44.7 -3.1
MOY Mondy 4.92 253⇑iPn Pn 01 34 42.7 +2.2
MOY e 01 34 54.2
MOY e 01 35 42.2
MOY eSg Sb 01 35 57.0 +4.9
MOY max
comp=E,10.0nm,0.6s
MOY Smax
comp=E,72nm,1.1s
NLYR Nelyaty 5.18 50 ePg Pb 01 35 00.5 +3.8
NLYR e 01 35 05.4
NLYR eSn Sn 01 35 42.6 -1.4
NLYR eSg Sg 01 36 08.2 -3.6
NLYR max
comp=E,6.0nm,0.7s
NLYR Smax
comp=E,63nm,1.1s
ORL Orlik 5.36 265 ePN Pn 01 34 47.8 +1.3
ORL e 01 35 02.7
ORL e 01 36 09.1
ORL pmax pmax
comp=Z,15nm,0.5s
ORL smax smax
comp=N,59nm,1.3s
ORL Orlik 5.36 265⇑iPn Pn 01 34 48.0 +1.5
ORL eSn Sn 01 35 49.1 +0.5
ORL eSg Sb 01 36 08.9 +4.4
ORL max
comp=N,1.0nm,0.4s
ORL Smax
comp=N,59nm,1.2s
BOD Bodaibo 5.43 32 eSg Sb 01 36 13.0 +6.6
BOD Smax
comp=N,20nm,1.1s
ULN Ulaanbaatar 5.58 191 e Pb 01 35 01.0 -2.8
ULN ePg Pg 01 35 07.0 -5.6
ULN ⇓i 01 35 10.1
ULN eSg Sg 01 36 21.0 -4.0
ULN e 01 36 26.2
CRS Chara 6.60 54 eSg Sg 01 36 52.0 -5.4
CRS Smax
comp=N,18nm,1.2s
TUP Tupik 6.82 76 ePN Pn 01 35 08.5 +2.1
TUP e 01 35 30.5
TUP eS Sn 01 36 25.3 +0.9
TUP e 01 36 59.5
TUP pmax pmax
comp=Z,3.0nm,0.9s
TUP smax smax
comp=N,51nm,1.4s
TUP Tupik 6.82 76 ePg Pg 01 35 30.7 -5.5
TUP e 01 35 32.1
TUP eSg Sg 01 37 00.2 -4.2
TUP max
comp=N,200nm,0.0s
TUP Smax
comp=N,55nm,1.5s

IDC 12 01:49:03.4±10.0, 6.56S×154.87E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=313.0km s-min=44.6km az=112.0, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.97 234 P P 01 54 20.4 +0.6
2.3nm,1.0s,baz=61,slow=10,SNR=13
ASAR Alice Springs 26.37 228 P P 01 54 41.0 -0.6
0.1nm,0.4s,baz=58,slow=9.3,SNR=4.2
H11S3 WAKE ISLAND Hy 27.49 25 T T 02 22 41.3
baz=203,slow=77,SNR=606
H11S2 WAKE ISLAND Hy 27.49 25 T T 02 22 39.3
baz=203,slow=77,SNR=732
H11S1 WAKE ISLAND Hy 27.50 25 T T 02 22 42.6
baz=203,slow=77,SNR=538
H11N1 WAKE ISLAND Hy 28.66 24 T T 02 24 10.2
baz=204,slow=76,SNR=77
H11N3 WAKE ISLAND Hy 28.68 24 T T 02 24 11.2
baz=204,slow=76,SNR=72
H11N2 WAKE ISLAND Hy 28.68 24 T T 02 24 12.5
baz=204,slow=76,SNR=36
MKAR Makanchi Array 83.00 319 P P 02 01 30.6 -0.1
0.4nm,0.7s,baz=105,slow=5.9,SNR=3.0

IDC 12 01:48:59.0±0.6, 11.52N×125.68E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.1/28, mbtmp4.2/15, MS3.7/7, Ms1 3.7/7, ms1mx3.2/34, Error ellipse: s-maj=24.9km s-min=13.9km az=67.0
MAN 12 01:49:04, 11.64N×125.74E, h20km, mb5.0, ML3.9, MS4.0
MAN INTENSITY III - TACLOBAN CITY; PALO LEYTE; BORONGAN E. SAMAR.
NEIC 12 01:49:06.8±1.2, 11.48N×125.70E, h58km±11km, mb4.3/19, Error ellipse: s-maj=8.3km s-min=4.5km az=65.0
NEIC Felt [III PIVS] at Borongan. Also felt [III PIVS] at Palo and Tacloban, Leyte.
ISC 12 01:49:04.0±1.4, 11.59N±0.03×125.77E±0.06, h31km±9km, n85, σ1.21/80, mb4.3/36, MS3.5/8, 3C-2D, Samar

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BESP Borongan 0.32 272 eP Pb 01 49 11.4 -0.5
PLP Palo 0.88 241⇓iP Pn 01 49 19.9 -0.4
PLP eS Sb 01 49 30.1 -2.1
OCLP Ormoc 1.25 245 eP Pb 01 49 27.1 0.0
OCLP eS Sb 01 49 43.2 +0.3
CNP Catarman 1.41 310 eP Pn 01 49 28.1 +0.5
CNP eS Sn 01 49 45.6 +0.5
MSLP Maasin 1.70 212 eP Pb 01 49 34.0 -0.6
SCPH Surigao 1.82 189⇑eP Pn 01 49 34.3 +1.1
SCPH eS Sb 01 49 57.7 -1.4
LLP Lapu-Lapu 2.17 235 eP Pn 01 49 39.7 +1.6
LLP eS Sb 01 50 10.3 +1.0
PVCP Virac 2.54 322⇑eP Pn 01 49 44.5 +1.4
PVCP eS Sb 01 50 22.6 +2.8
PVCP Virac 2.54 322 eP Pb 01 49 47.1 -1.9
BUTP Butuan 2.61 183 eP Pn 01 49 46.1 +2.0
RCP Roxas 2.96 270⇓eP Pn 01 49 51.2 +2.3
GUIM Jordan 3.26 253 eP Pn 01 49 54.8 +1.7
CGP Cagayan de Oro 3.29 199⇑eP Pn 01 49 55.1 +1.6
CGP i S Sn 01 50 35.4 +3.9
OTRP Odiongan 3.74 282 eP Pn 01 50 01.4 +1.7
BUKP Musuan 3.75 191 eP Pn 01 50 02.8 +2.9
PAGZ Pagadian 4.40 212 eP Pn 01 50 11.4 +2.7
TGY Tagaytay City 5.33 298 Pn Pn 01 50 23.8 +2.3
68nm,0.3s,baz=106,slow=19,SNR=2.0
KAPI Kappang 17.55 200 ePn Pn 01 53 05.9 -0.5
JHJ2 Mitsune 25.00 29 eP P 01 54 27.7 +2.6
910nm,1.4s
IPM Ipoh 25.48 256 eP P 01 54 29.9 +0.2
6.8nm,0.6s
KULM Kulim 25.61 258 eP P 01 54 30.6 -0.3
16nm,0.9s
KSAR Wonju Array Be 25.81 4 P P 01 54 33.4 +1.0
KSRS Korea Array 25.82 4 P P 01 54 33.4 +0.9
2.4nm,0.9s,baz=178,slow=9.6,SNR=5.5
CMAR Chiang Mai Arr 26.77 288 P P 01 54 40.6 -0.7
1.6nm,0.3s,baz=101,slow=8.4,SNR=13
CMAR LR LR 02 04 48.6
comp=Z,68nm,21.3s,baz=90,slow=36
CHTO Chiang Mai 26.84 289 eP P 01 54 42.0 +0.1
2.0nm,0.4s
XAN Xi'an 27.13 328 P P 01 54 51.2 +6.8
XAN pP pP 01 54 56.2 +2.7
XAN pmax pmax
comp=Z,2.0nm,0.9s
XAN LR LR
comp=N,170nm,10.2s
XAN LR LR
comp=E,54nm,13.3s
XAN LR LR
comp=Z,47nm,13.3s
KNRA Kununurra 27.25 174 P P 01 54 44.4 -1.2
baz=16,SNR=3.6
PSI Prapat 28.00 254 P P 01 54 50.7 -1.8
comp=Z,3.5nm,0.6s,baz=15,slow=7.7,SNR=4.7
PSI LR LR 02 07 22.8
comp=Z,221nm,18.0s,baz=78,slow=40
COEN Coen 30.70 145 eP P 01 55 14.9 -1.4
COEN Coen 30.70 145 P P 01 55 15.4 -0.8
baz=19,SNR=3.9
WRAB Tennant Creek 32.45 165 eP P 01 55 30.3 -1.3
comp=Z,2.9nm,0.9s
WRA Warramunga Arr 32.45 165 P P 01 55 29.7 -2.0
comp=Z,1.0nm,0.7s,baz=342,slow=9.6,SNR=6.5
WRA PcP PcP 01 58 17.8 -0.8
comp=Z,1.0nm,0.7s,baz=344,slow=3.3,SNR=6.2
MBWA Marble Bar 33.08 190 eP P 01 55 36.0 -1.1
comp=Z,32nm,1.4s
QIS Mount Isa 34.73 157 P P 01 55 50.9 -0.6
baz=23,SNR=8.0
MTSU Mount Surprise 34.75 148 P P 01 55 52.4 +0.6
baz=23,SNR=4.4
AS31 Alice Springs 35.93 167 eP P 01 56 02.1 +0.3
ASAR Alice Springs 35.94 167 P P 01 56 01.6 -0.3
comp=Z,1.2nm,0.5s,baz=350,slow=8.0,SNR=17
ASAR PcP PcP 01 58 27.8 -0.7
comp=Z,0.8nm,0.6s,baz=337,slow=2.8,SNR=4.4
ASAR LR LR 02 12 14.5
comp=Z,58nm,18.4s,baz=338,slow=39
WRKA Warakurna 36.49 176 P P 01 56 06.4 -0.2
baz=25,SNR=8.3
LSA Lhasa 36.87 305 eP P 01 56 10.6 +0.2
ODAN Odare 39.11 298 eP P 01 56 28.9 -0.2
RAMN Ramite 39.81 298 eP P 01 56 34.7 -0.3
HNR Honiara 39.89 120 LR LR 02 10 10.4
comp=Z,214nm,19.9s,baz=306,slow=32
H11S3 WAKE ISLAND Hy 40.04 75 T T 02 39 41.1
baz=270,slow=73,SNR=30
H11S1 WAKE ISLAND Hy 40.05 75 T T 02 39 43.9
baz=270,slow=73,SNR=10
H11S2 WAKE ISLAND Hy 40.06 75 T T 02 39 40.0
baz=270,slow=73,SNR=15
H11N1 WAKE ISLAND Hy 40.33 73 T T 02 39 58.7
baz=268,slow=75,SNR=60
H11N2 WAKE ISLAND Hy 40.34 73 T T 02 39 58.1
baz=268,slow=75,SNR=71
H11N3 WAKE ISLAND Hy 40.35 73 T T 02 39 58.5
baz=268,slow=75,SNR=79
JIRN Jiri 40.35 299 eP P 01 56 39.0 -0.5
comp=Z,12nm,0.5s
GUN Gumba 40.68 299 eP P 01 56 42.1 -0.2
comp=Z,42nm,1.0s
PKI Pulchoki 40.99 299 eP P 01 56 43.9 -0.9
QLP Quilpie 41.98 155 P P 01 56 51.7 -0.7
baz=30,SNR=6.2
FORT Forrest 42.18 177 eP P 01 56 53.8 -0.2
comp=Z,16nm,0.8s
DANN Dangsing 42.60 299 eP P 01 56 56.9 -1.0
NWAO Narrogin (SRO) 45.01 190 P P 01 57 16.0 -0.7
comp=Z,8.8nm,0.9s,baz=4.7,slow=9.0,SNR=3.3
NWAO LR LR 02 17 44.7
comp=Z,13nm,19.6s,baz=20,slow=38
BBOO Buckleboo 45.23 168 P P 01 57 18.4 -0.1
baz=34,SNR=6.1
STKA Stephens Creek 45.80 161 P P 01 57 22.8 -0.2
comp=Z,3.0nm,0.4s,baz=341,slow=10,SNR=15
STKA Stephens Creek 45.80 161 P P 01 57 23.1 +0.1
baz=34,SNR=9.7
CMSA Cobar Meteorol 46.95 157 P P 01 57 32.9 +0.9
baz=35,SNR=5.1
PETK Petropavlovsk- 48.65 25 LR LR 02 15 43.5
comp=Z,60nm,21.9s,baz=215,slow=33

MK31 Makanchi Array 50.68 322 eP P 01 58 01.4 +0.8
MKAR Makanchi Array 50.68 322 P P 01 58 01.3 +0.7
comp=Z,3.2nm,0.6s,baz=115,slow=8.2,SNR=46
DZM Mont Dzumac 52.07 130 P P 01 58 12.0 +0.5
comp=Z,4.8nm,0.7s,baz=284,slow=12,SNR=5.3
DZM Mont Dzumac 52.07 130 eP P 01 58 11.9 +0.5
comp=Z,9.5nm,1.0s
TKM2 Tokmak 2 53.38 315 eP P 01 58 21.2 +0.2
comp=Z,1.0nm,0.6s
AAK Ala-Archa 54.05 315 eP P 01 58 26.4 +0.5
comp=Z,1.2nm,0.8s
EKS2 Erkin-Say 54.56 314 eP P 01 58 30.1 +0.6
comp=Z,2.0nm,0.8s
KURK Kurchatov 54.70 325 eP P 01 58 30.8 +0.6
comp=Z,3.5nm,0.6s
KBL Kabul 56.19 304 eP P 01 58 41.3 -0.2
comp=Z,2.1nm,0.7s
KKAR Karatay Array 56.98 314 eP P 01 58 46.6 -0.1
comp=Z,1.3nm,0.6s
BVAR Borovoye Array 60.30 325 P P 01 59 10.8 +1.1
comp=Z,1.0nm,0.5s,baz=106,slow=8.3,SNR=5.8
BILL Bilibino 62.27 16 eP P 01 59 22.8 0.0
ABKAR Akbulak array 65.56 319 eP P 01 59 44.5 -0.2
comp=Z,1.0nm,0.5s
ARU Arti 67.86 326 eP P 01 59 58.5 -0.7
comp=Z,2.6nm,0.6s
RPZ Rata Peaks 68.75 146 eP P 02 00 04.7 -0.3
comp=Z,10nm,0.7s
KIV Kislovodsk 77.09 313 eP P 02 00 55.6 +1.0
comp=Z,12nm,1.0s
COLA College 78.06 26 eP P 02 00 59.6 +0.2
comp=Z,4.2nm,0.9s
ILAR Eielson Array 78.47 26 P P 02 01 01.6 -0.1
comp=Z,0.5nm,0.7s,baz=284,slow=5.4,SNR=8.7
RAR Rarotonga 80.03 114 LR LR 02 31 32.0
comp=Z,292nm,21.4s,baz=59,slow=32
JOF Joensuu 81.80 333 ep P 02 01 17.4 -2.3
comp=Z,1.6nm,0.5s
KAF Kangasniemi 84.23 332 ep P 02 01 30.8 -1.5
comp=Z,2.5nm,0.7s
BRTR Keskin Array B 84.31 309 P P 02 01 33.4 -0.1
comp=Z,0.8nm,0.8s,baz=107,slow=6.3,SNR=3.6
FINES FINESS Array B 84.50 332 P P 02 01 33.0 -0.7
comp=Z,1.2nm,0.6s,baz=96,slow=5.4,SNR=8.8
AKASG Malin Array Be 85.23 321 P P 02 01 36.8 -0.8
comp=Z,0.4nm,0.4s,baz=66,slow=4.9,SNR=7.3
YKA Yellowknife Ar 92.76 24 P P 02 02 13.0 -0.1
comp=Z,0.3nm,0.6s,baz=301,slow=4.4,SNR=7.0

MOS 12 01:49:56.8±1.1, 53°.37N×108°.49E, h9km, mb4.0/8, Error ellipse: s-maj=10.8km s-min=6.8km az=58.4
BYKL 12 01:49:57.7±0.2, 53°.37N×108°.48E, h8km±3km
IDC 12 01:49:57.3±0.9, 53°.25N×108°.32E, h0km, mb3.7/8, mb1 3.8/12, mb1mx3.6/32, mbtmp3.6/12, ML3.0/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/39, Error ellipse: s-maj=20.5km s-min=17.1km az=101.0
ISC 12 01:49:57.9±0.5, 53°.35N±0°.02×108°.51E±0°.02, h10km, n72, σ1°60/119, mb3.8/10, 19C-19D, Lake Baykal region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MXMB Maximikha 0.17 120 ⇑iPg Pg 01 50 01.5 0.0
MXMB Pmax 01 50 02.0
5μm,0.1s
MXMB eSg Sg 01 50 04.6 +0.6
MXMB Smax 01 50 05.6
54μm,0.8s
OGRR Ongureny 0.62 299 ⇑iPG Pg 01 50 09.1 -0.9
OGRR e 01 50 17.3
OGRR pmax pmax
comp=Z,976nm,0.1s
OGRR smax smax
comp=E,9μm,0.3s
OGRR Ongureny 0.62 299 ⇑iPg Pg 01 50 09.0 -0.9
comp=E,1μm,0.5s
OGRR ⇓iPg Pg 01 50 09.0 -0.9
comp=E,1μm,0.5s
OGRR ⇑iPg Pg 01 50 09.0 -0.9
comp=E,2μm,0.5s
OGRR Pmax 01 50 09.7
comp=E,983nm,0.2s
OGRR iSg Sg 01 50 17.4 -0.7
OGRR Smax 01 50 17.6
comp=E,9μm,0.2s
SYVR Suvo 0.95 70 ePG Pg 01 50 14.7 -1.3
SYVR e 01 50 27.4
SYVR pmax pmax
comp=Z,131nm,0.2s
SYVR smax smax
comp=E,1μm,0.3s
SYVR Suvo 0.95 70 ⇓iPg Pg 01 50 14.8 -1.3
comp=E,13nm,0.4s
SYVR ⇓iPg Pg 01 50 14.8 -1.3
comp=E,24nm,0.4s
SYVR ⇓iPg Pg 01 50 14.8 -1.3
comp=E,42nm,0.4s
SYVR ⇓iPb Pn 01 50 16.3 -1.0
SYVR max 01 50 17.9
comp=E,130nm,0.2s
SYVR eSg Sg 01 50 27.5 -0.9
SYVR Smax 01 50 28.3
comp=E,1μm,0.3s
ZRHB Zarechye 1.14 226 ⇓iPg Pb 01 50 18.9 -0.8
ZRHB iPb Pn 01 50 20.1 +0.2
ZRHB max 01 50 20.3
comp=E,2μm,0.7s
ZRHB e 01 50 23.7
ZRHB eSg Sn 01 50 34.4 -1.2
ZRHB Smax 01 50 38.2
comp=E,8μm,0.7s
ZRHB e 01 50 39.3
TRG Tyrgan 1.43 247 ePG Pn 01 50 22.9 -1.0
TRG e 01 50 42.6
TRG pmax pmax
comp=Z,1μm,0.3s
TRG smax smax
comp=N,4μm,0.3s
TRG Tyrgan 1.43 247 ⇑iPg Pn 01 50 22.9 -1.0
comp=N,52nm,0.5s
TRG ⇑iPg Pn 01 50 22.9 -1.0
comp=N,62nm,0.5s
TRG ⇓iPg Pn 01 50 22.9 -1.0
comp=N,72nm,0.5s
TRG ⇑iPb Pg 01 50 24.3 -1.0
TRG max 01 50 24.5
comp=N,1μm,0.4s
TRG eSg Sb 01 50 42.6 -0.3
TRG Smax 01 50 44.5
comp=N,4μm,0.5s
KAB Kabansk 1.72 222 ePN Pb 01 50 28.1 -1.5
KAB Kabansk 1.72 222 ⇑iPg Pb 01 50 29.3 -0.3
KAB Pmax 01 50 31.2
comp=N,983nm,0.8s
KAB iSg Sg 01 50 52.6 -0.5
KAB Smax 01 50 53.3
comp=N,6μm,1.0s
HRMR Khuramsha 1.96 209 ⇓iPn Pn 01 50 31.7 +0.4
HRMR ⇑iPg Pb 01 50 33.5 -0.3
HRMR Pmax 01 50 38.1
comp=N,1μm,0.5s
HRMR eSg Sg 01 51 00.1 -0.9
HRMR Smax 01 51 02.6
comp=N,10μm,0.5s
YLYR Ulyunkhan 2.19 44 ePN Pn 01 50 34.4 +0.1
YLYR e 01 50 36.4
YLYR e 01 51 05.1
YLYR pmax pmax
comp=Z,226nm,0.5s
YLYR smax smax
comp=N,962nm,0.5s
YLYR Ulyunkhan 2.19 44 ⇑iPn Pn 01 50 34.5 +0.1
YLYR ⇓iPg Pb 01 50 36.1 -1.5
YLYR e 01 50 39.9
YLYR Pmax 01 50 41.9
comp=N,253nm,1.1s
YLYR iSg Sb 01 51 05.7 +0.9
YLYR Smax 01 51 07.1
comp=N,982nm,1.0s
NIZ Nizh Angarsk 2.51 14 ePN Pn 01 50 39.4 +0.7
NIZ e 01 50 42.6
NIZ eS Sn 01 51 09.3 -0.1
NIZ e 01 51 14.2
NIZ pmax pmax
comp=Z,98nm,0.3s
NIZ smax smax
comp=N,535nm,0.6s
NIZ Nizh Angarsk 2.51 14 ⇓iPn Pn 01 50 39.4 +0.7
NIZ ⇑i 01 50 40.6
NIZ ⇓iPg Pb 01 50 42.1 -0.9
NIZ Pmax 01 50 47.7
comp=N,98nm,0.3s
NIZ e 01 51 02.2
NIZ eSg Sb 01 51 14.3 +0.4
NIZ Smax 01 51 15.8
comp=N,533nm,0.6s
LSTR Listvyanka 2.68 238 ⇓iPN Pn 01 50 41.2 +0.1
LSTR e 01 50 45.1
LSTR e 01 51 20.1
LSTR pmax pmax
comp=Z,147nm,0.7s
LSTR smax smax
comp=N,682nm,0.9s
LSTR Listvyanka 2.68 238 ⇑iPn Pn 01 50 41.2 +0.1
comp=N,55nm,0.9s
LSTR ⇑iPn Pn 01 50 41.2 +0.1
comp=N,71nm,0.9s
LSTR ⇓iPn Pn 01 50 41.2 +0.1
comp=N,84nm,0.9s
LSTR ePg Pb 01 50 45.1 -0.9
LSTR e 01 51 51.4
LSTR Pmax 01 50 53.4
comp=N,147nm,0.7s
LSTR iSg Sb 01 51 20.0 +1.0
LSTR Smax 01 51 23.3
comp=N,682nm,1.2s
IRK Irkutsk 2.80 248 ePN Pn 01 50 41.9 -0.8
IRK e 01 50 46.8
IRK e 01 51 23.8
IRK pmax pmax
comp=Z,183nm,0.2s
IRK smax smax
comp=N,2μm,0.5s
IRK Irkutsk 2.80 248 ePg Pb 01 50 46.7 -1.2
IRK Pmax 01 50 49.7
comp=N,214nm,0.3s
IRK e 01 51 11.8
IRK eSg Sb 01 51 23.6 +1.4
IRK Smax 01 51 34.9
comp=N,2μm,0.9s
KMO Kumora 2.99 31 ePN Pn 01 50 43.8 -1.6
KMO e 01 50 49.9
KMO e 01 51 29.4
KMO pmax pmax
comp=Z,101nm,0.3s
KMO smax smax
comp=N,964nm,1.1s
KMO Kumora 2.99 31 ePn Pn 01 50 46.5 +1.1
KMO ⇑iPg Pb 01 50 51.4 +0.2
KMO e 01 50 56.6
KMO max 01 50 57.0
comp=N,248nm,0.3s
KMO eSg Sg 01 51 30.6 -3.3
KMO Smax 01 51 35.3
comp=N,963nm,1.0s
CIT Chita 3.35 111 ePN Pb 01 50 53.8 -3.5
CIT e 01 50 59.6
CIT e 01 51 43.1
CIT pmax pmax
comp=Z,289nm,0.6s
CIT smax smax
comp=N,888nm,1.1s
CIT Chita 3.35 111 ePg Pb 01 50 58.4 +1.1
CIT Pmax 01 51 00.6
comp=N,93nm,0.2s
CIT e 01 51 24.5
CIT eSg Sg 01 51 42.0 -3.3
CIT eSgSg SbSb 01 51 47.1 +3.9
CIT max 01 51 50.4
comp=N,884nm,1.1s
YOA Uoyan 3.36 32 ePN Pb 01 50 58.9 +1.4
YOA i 01 51 43.0
YOA pmax pmax
comp=Z,123nm,0.3s
YOA smax smax
comp=N,2μm,1.0s
YOA Uoyan 3.36 32 ePg Pb 01 50 58.7 +1.2
YOA Pmax 01 51 05.1
comp=N,148nm,0.5s
YOA iSg Sg 01 51 43.0 -2.7
YOA Smax 01 51 55.1
comp=N,2μm,1.7s
TLY Talaya 3.41 243 ePN Pn 01 50 50.9 -0.2
TLY e 01 50 58.3
TLY e 01 51 41.8
TLY pmax pmax
comp=Z,104nm,0.5s
TLY smax smax
comp=E,438nm,0.4s
TLY Talaya 3.41 243 ⇑iPn Pn 01 50 50.9 -0.2
comp=E,11nm,0.8s
TLY ⇑iPn Pn 01 50 50.9 -0.2
comp=E,22nm,0.8s
TLY ⇓iPn Pn 01 50 50.9 -0.2
comp=E,24nm,0.8s
TLY ePg Pb 01 50 58.4 +0.1
TLY ePgPg PbPb 01 51 00.7 -0.8
TLY max 01 51 04.7
comp=E,108nm,0.9s
TLY e 01 51 35.3
TLY eSg Sb 01 51 42.2 +2.4
TLY eSgSg SbSb 01 51 44.7 -0.2
TLY max 01 51 49.5
comp=E,506nm,1.1s
ARS Arshan 3.97 251 ePN Pn 01 51 00.0 +1.1
ARS e 01 51 08.1
ARS e 01 51 57.9
ARS pmax pmax
comp=Z,140nm,0.5s
ARS smax smax
comp=E,2μm,0.6s
ARS Arshan 3.97 251 e Pb 01 51 03.6 -4.4
ARS ePg Pg 01 51 08.4 -5.5
ARS ⇑i 01 51 15.3
ARS max 01 51 15.4
comp=E,149nm,0.6s
ARS e 01 51 49.3
ARS eSg Sb 01 51 58.8 +2.8
ARS Smax 01 52 04.9
comp=E,2μm,0.9s
SVKR Severomuysk 4.04 45 ePg Pb 01 51 09.2 +0.1
SVKR e 01 51 16.4
SVKR max 01 51 16.9
comp=E,100nm,1.0s
SVKR iSg Sg 01 52 03.0 -4.4
SVKR Smax 01 52 15.1
comp=E,1μm,1.5s
KPC Khapcheranga 4.38 145 ⇓iPn Pn 01 51 04.0 -0.4
KPC ePg Pb 01 51 15.9 +1.0
KPC e 01 51 17.4
KPC max 01 51 19.7
comp=E,80nm,1.0s
KPC eSn Sn 01 51 53.8 -1.7
KPC eSg Sg 01 52 13.0 -5.3
KPC Smax 01 52 27.3
comp=E,547nm,1.6s
ZAK Zakamensk 4.39 230 ePN Pn 01 51 05.4 +0.7
ZAK e 01 51 16.0
ZAK eS Sg 01 52 14.9 -3.9
ZAK pmax pmax
comp=Z,49nm,1.1s
ZAK smax smax
comp=N,193nm,1.1s
ZAK Zakamensk 4.39 230 ⇓iPn Pn 01 51 05.4 +0.7
ZAK ⇑ePg Pb 01 51 16.7 +1.5
ZAK Pmax 01 51 17.7
comp=N,49nm,1.1s
ZAK eSg Sg 01 52 14.9 -3.9
ZAK Smax 01 52 27.8
comp=N,193nm,1.3s
MOY Mondy 4.89 253 ePN Pn 01 51 13.2 +1.7
MOY e 01 51 26.7
MOY eS Sn 01 52 06.0 -2.1
MOY e 01 52 27.9
MOY pmax pmax
comp=Z,140nm,1.0s
MOY smax smax
comp=E,771nm,0.9s
MOY Mondy 4.89 253 ⇓iPn Pn 01 51 13.6 +2.1
MOY ⇓i 01 51 22.0
MOY ePg Pb 01 51 24.0 +0.4
MOY e 01 51 33.5
MOY max 01 51 35.3
comp=E,107nm,1.0s
MOY eSn Sn 01 52 10.0 +1.9
MOY eSg Sg 01 52 28.1 -6.6
MOY Smax 01 52 39.6
comp=E,777nm,1.8s
NLYR Nelyaty 5.21 50 ePn Pn 01 51 17.1 +1.2
NLYR e 01 51 23.0
NLYR ePg Pb 01 51 31.3 +2.2
NLYR Pmax 01 51 42.5
comp=E,33nm,0.7s
NLYR eSg Sg 01 52 39.4 -5.7
NLYR Smax 01 52 52.0
comp=E,534nm,1.1s
ORL Orlik 5.32 265 ePN Pn 01 51 18.8 +1.3
ORL e 01 51 33.4
ORL eS Sn 01 52 18.2 -0.6
ORL e 01 52 40.9
ORL pmax pmax
comp=Z,96nm,1.1s
ORL smax smax
comp=N,597nm,1.4s
ORL Orlik 5.32 265 iPn Pn 01 51 18.8 +1.3
ORL max 01 51 29.4
comp=N,96nm,1.2s
ORL iSn Sn 01 52 19.7 +0.9
ORL eSg Sb 01 52 40.9 +6.0
ORL Smax 01 52 48.9
comp=N,600nm,1.4s
BOD Bodaibo 5.46 33 ePN Pn 01 51 20.8 +1.6
BOD e 01 51 34.8
BOD Bodaibo 5.46 33 ePn Pn 01 51 20.3 +1.1
BOD ePg Pb 01 51 34.3 +1.0
BOD Pmax 01 51 50.0
comp=N,8.0nm,0.5s
BOD eSg Sb 01 52 44.9 +6.1
BOD Smax 01 52 59.6
comp=N,215nm,1.7s
ULN Ulaanbaatar 5.56 190 d iPN Pn 01 51 22.3 +1.4
ULN Ulaanbaatar 5.56 190 iPn Pn 01 51 22.4 +1.5
ULN ⇑iPg Pg 01 51 39.5 -4.9
ULN e 01 52 31.3
ULN eSg Sg 01 52 52.2 -4.2
SONM Songino Array 5.68 195 PN Pn 01 51 23.1 +0.7
SONM 01 51 39.7
SONM pmax pmax
comp=Z,1.0nm,0.3s
SONM pmax pmax
comp=Z,3.0nm,0.3s
SONM Songino Array 5.68 195 Pn Pn 01 51 23.1 +0.7
comp=Z,1.4nm,0.3s,baz=4.7,slow=15,SNR=61
SONM Pg Pb 01 51 39.7 +2.6
comp=Z,2.6nm,0.3s,baz=20.8,slow=17,SNR=23
SONM Lg Lg 01 52 54.6
comp=Z,11nm,0.3s,baz=9.1,slow=30,SNR=8.9
CRS Chara 6.63 54 ePG Pg 01 52 00.0 -4.9
CRS Chara 6.63 54 ePn Pn 01 51 35.6 +0.2
CRS Pg Pb 01 51 56.7 +3.4
CRS eSg Sg 01 53 23.6 -7.1
CRS Smax 01 53 31.1
comp=Z,345nm,1.8s
TUP Tupik 6.86 76 ePN Pn 01 51 38.6 +0.2
TUP e 01 52 01.0
TUP eS Sn 01 52 55.7 -0.8
TUP e 01 53 30.8
TUP pmax pmax
comp=Z,25nm,0.8s
TUP smax smax
comp=N,485nm,1.6s
TUP Tupik 6.86 76 iPn Pn 01 51 38.3 -0.1
TUP ePg Pb 01 52 01.9 +4.8
TUP e 01 52 06.3
TUP max 01 52 14.1
comp=N,17nm,1.4s
TUP eSg Sg 01 53 30.4 -7.4
TUP Smax 01 53 36.3
comp=N,516nm,1.6s
KZLR Kyzyl 8.73 265 e 01 53 56.4
KZLR eSg Sg 01 54 27.4 -10
ZALV Zalesovo Beam 14.05 282 Pn Pn 01 53 16.8 0.0
comp=N,0.1nm,0.3s,baz=81,slow=13,SNR=3.7
MKAR Makanchi Array 18.00 259 P P 01 54 07.7 -0.8
comp=N,0.1nm,0.3s,baz=71,slow=11,SNR=6.3
KURK Kurchatov 18.51 274 P Pn 01 54 15.0 +0.8
KURBB Kurchatov Arra 18.60 274 P Pn 01 54 15.0 -0.3
baz=69,slow=13,SNR=3.0
KSRS Korea Array 20.83 132 LR LR 02 03 49.0
comp=N,45nm,18.8s,baz=160,slow=40
BVAR Borovoye Array 22.67 285 P P 01 54 58.3 -0.8
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 22.67 285 P P 01 54 58.3 -0.8
comp=Z,1.1nm,0.4s,baz=73,slow=11,SNR=8.9
BRVK Borovoye 22.72 285 eP P 01 54 59.8 +0.2
BRVK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 24.93 258 eP P 01 55 23.1 +1.9
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 24.93 258 P P 01 55 21.1 0.0
comp=Z,0.5nm,0.5s,baz=193,slow=18,SNR=2.3
ARU Arti 28.38 297 eP P 01 55 55.5 +3.5
ARU 01 56 42.5
ARU S S 02 00 45.4 +6.9
ARU SS SnSn 02 01 59.0 +3.2
BILL Bilibino 30.48 39 eP P 01 56 13.4 +3.0
BILL e 01 57 16.2
BILL pmax pmax
comp=Z,2.0nm,1.2s
FINES FINESS Array B 42.28 315 P P 01 57 51.7 +0.7
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 42.28 315 P P 01 57 51.7 +0.7
comp=Z,1.6nm,0.9s,baz=90,slow=7.2,SNR=3.4
ILAR Eielson Array 48.83 33 eP P 01 58 48.0 +5.1
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 48.83 33 P P 01 58 46.5 +3.6
comp=Z,0.8nm,0.9s,baz=300,slow=6.5,SNR=8.2
BRTR Keskin Array B 50.94 286 iP P 01 59 05.3 +5.9
BRTR pmax pmax
comp=Z,1.0nm,0.3s
YKA Yellowknife Ar 59.63 22 P P 02 00 02.6 +1.1
comp=Z,0.2nm,0.6s,baz=333,slow=7.2,SNR=3.6
WRA Warramunga Arr 76.33 155 P P 02 01 46.6 -0.3
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 76.33 155 P P 02 01 46.6 -0.3
comp=Z,0.6nm,0.7s,baz=345,slow=5.9,SNR=3.9
ASAR Alice Springs 79.80 156 P P 02 02 06.7 +0.6
ASAR pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 79.80 156 P P 02 02 06.7 +0.6
comp=Z,1.7nm,0.9s,baz=354,slow=3.4,SNR=7.7
TORD Torodi Ar. Bea 89.31 291 P P 02 02 54.2 -0.3
comp=Z,1.4nm,1.2s,baz=35,slow=3.2,SNR=2.9

IDC 12 01:58:48.5±10.0, 15°.47S×173°.01W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.6/27, Error ellipse: s-maj=457.7km s-min=25.3km az=140.0, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 1.96 38 Pn Pn 01 59 21.4 -1.7
16nm,0.3s,baz=314,slow=23,SNR=10
AFI Sn Sn 01 59 41.3 -7.2
28nm,0.3s,baz=78,slow=20,SNR=5.0
PPT Papeete 22.56 99 LR LR 02 09 51.6
comp=Z,34nm,20.1s,baz=110,slow=29
WRA Warramunga Arr 50.19 257 P P 02 07 45.8 -0.7
0.4nm,0.8s,baz=93,slow=6.8,SNR=6.0
ASAR Alice Springs 50.45 252 P P 02 07 48.2 -0.2
0.5nm,0.6s,baz=85,slow=8.4,SNR=5.7
ILAR Eielson Array 82.44 11 P P 02 11 14.2 +1.9
0.5nm,0.9s,baz=210,slow=5.2,SNR=3.2

IDC 12 02:03:03.9±11.0, 8°.00N×102°.96W, h0km, mb3.1/4, mb1 3.5/4, mb1mx3.5/19, mbtmp3.1/4, MS3.4/3, Ms1 3.4/3,

ms1mx3.0/12, Error ellipse: s-maj=380.3km s-min=106.8km az=110.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	14.08	59	LR	LR	02 10 37.1	
	comp=Z,130nm,21.8s,baz=285,slow=32						
LPIG	La Paz	17.49	337	LR	LR	02 12 07.2	
	comp=Z,129nm,18.8s,baz=196,slow=31						
TXAR	Lajitas Array	21.24	358	P	P	02 07 52.1	+0.3
	0.3nm,0.9s,baz=184,slow=9.9,SNR=2.4						
ATAH	Atahualpa	28.74	121	LR	LR	02 18 25.9	
	comp=Z,72nm,19.7s,baz=336,slow=32						
PDAR	Pinedale Array	35.12	352	P	P	02 09 59.0	-0.4
	0.8nm,1.1s,baz=143,slow=7.6,SNR=2.8						
H03N2	Juan Fernandez	47.11	152	T	T	03 02 36.3	
	baz=328,slow=75,SNR=27						
H03N1	Juan Fernandez	47.12	152	T	T	03 02 37.0	
	baz=328,slow=75,SNR=38						
H03N3	Juan Fernandez	47.13	152	T	T	03 02 37.8	
	baz=328,slow=75,SNR=39						
YKA	Yellowknife Ar	55.06	353	P	P	02 12 37.0	-0.3
	0.1nm,0.5s,baz=168,slow=7.0,SNR=2.5						
ILAR	Eielson Array	64.50	341	P	P	02 13 42.5	+0.2
	0.3nm,0.7s,baz=160,slow=4.5,SNR=6.8						

*IDC **12** 02:26:28.1±0.7, 8.33N×103.26W, h0km, mb4.4/14, mb1 4.6/15, mb1mx4.3/33, mbtmp4.4/15, ML4.0/1, MS4.8/25, Ms1 4.8/25, ms1mx4.7/32, Error ellipse: s-maj=29.5km s-min=13.8km az=65.0*

*ISCJB **12** 02:26:30.4±0.4, 8.30N±0.04×103.05W±0.05, h19km, mb4.6/99, MS4.8/22, Error ellipse: s-maj=7.2km s-min=5.3km az=145.7*

*GCMT **12** 02:26:31.8±0.2, 8.47N×103.12W, h12km, MW5.3/113, Moment Tensor Solution. s87,c133; s113,c204; Duration: 1.1s Moment tensor: Scale 10^{17}Nm; M_{rr}-0.09±.02; $M_{\theta\theta}$0.17±.02; $M_{\phi\phi}$-0.07±.02; $M_{r\theta}$-0.39±.04; $M_{r\phi}$-1.14±.01; $M_{\theta\phi}$-0.06±.05; Best double couple: $M_0$1.21200×10^{17} NP1:ϕ_s88.00000°, δ87.00000°, λ-161.00000°. NP2:ϕ_s357.00000°, δ71.00000°, λ-4.00000°. Principal axes: T 1.2410, Plg11.0000°, Azm221.0000°; N -0.0560, Plg71.0000°, Azm97.0000°; P -1.1840, Plg16.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **12** 02:26:31.8±0.3, 8.43N×102.92W, h10km, mb4.7/88 Error ellipse: s-maj=9.9km s-min=5.1km az=60.0*

ISC 12 02:26:32.5±0.4, 8.34N±0.06×103.12W±0.08, h19km, n460, σ1.04/437, mb4.7/101, MS4.8/23, 134C-146D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	9.35	10	P	Pn	02 28 41.4	-4.9
MMIG	Aquila	9.89	359	P	Pn	02 28 55.1	+1.4
H06S1	SOCORRO T	12.83	324	T	T	02 42 34.1	
	SNR=96						
H06E1	SOCORRO T-PHAS	12.85	325	T	T	02 42 33.3	
	SNR=126						
APG	El Apazote	14.04	61	Pn	Pn	02 29 43.4	-7.5
	5.4nm,0.3s,baz=274,slow=4.7,SNR=52						
APG				Sn	Sn	02 32 33.6	+7.1
	0.1nm,0.3s,baz=148,slow=23,SNR=2.0						
APG				LR	LR	02 33 59.6	
	comp=Z,8μm,21.6s,baz=222,slow=32						
PAYG	Puerto Ayora	15.62	124	ePn	Pn	02 30 12.0	+0.2
	142nm,1.4s						
LPIG	La Paz	17.11	337	LR	LR	02 35 30.3	
	comp=Z,7μm,19.1s,baz=160,slow=32						
JTS	JuntasAbangare	18.03	82	LR	LR	02 35 47.4	
	comp=Z,2μm,19.4s,baz=262,slow=31						
JTS	JuntasAbangare	18.03	82	ePn	Pn	02 30 41.2	-1.1
TEIG	Tepich	18.59	49	P	P	02 30 48.1	-0.6
	0.5nm,0.3s,baz=233,slow=13,SNR=6.3						
TEIG				LR	LR	02 36 59.6	
	comp=Z,5μm,20.9s,baz=256,slow=34						
034A	Hebbronville	19.09	12	⇓P	Pn	02 30 56.6	+1.5
	baz=19						
933A	Laredo	19.51	10	⇑P	Pn	02 31 00.8	+0.7
	baz=20						
934A	Benavides	19.64	12	⇓P	Pn	02 31 02.2	+0.5
	baz=20						
832A	Faith Ranch, C	20.06	8	⇓P	Pn	02 31 05.7	-0.9
	baz=20,SNR=18						
834A	Tilden	20.14	12	⇓P	Pn	02 31 07.4	-0.2
	baz=20						
833A	Chaparral WMA,	20.18	10	⇓P	Pn	02 31 07.4	-0.6
	baz=20						
732A	Laxson Ranch,	20.50	8	⇓P	P	02 31 10.1	+0.6
	baz=20,SNR=13						
733A	Divot King Ran	20.59	10	⇑P	Pn	02 31 11.9	-0.9
	baz=21						
SRIG	Santa Rosalia	20.76	337	P	P	02 31 11.2	-1.1
734A	La Parita Cree	20.84	11	⇑P	Pn	02 31 14.9	-0.9
	baz=21						
TXAR	Lajitas Array	20.89	359	P	P	02 31 13.6	-0.3
	5.6nm,1.0s,baz=180,slow=12,SNR=24						
TXAR				LR	LR	02 38 46.1	
	comp=Z,4μm,18.3s,baz=0.0,slow=35						
735A	Kenedy	21.01	13	⇓P	P	02 31 15.8	+0.7
	baz=21						
631A	Perdido Creek	21.09	6	⇑P	P	02 31 16.2	+0.2
	baz=21,SNR=9.2						
632A	Uvalde	21.29	8	⇓P	P	02 31 19.2	+1.1
	baz=21,SNR=12						
633A	Saathoff Ranch	21.33	9	⇑P	P	02 31 19.6	+1.1
	baz=21,SNR=17						
529A	Stev Forest Ra	21.69	2	⇑P	P	02 31 24.1	+1.7
	baz=22,SNR=9.9						
530A	J-C Ranch, Com	21.76	4	⇑P	P	02 31 24.9	+1.8
	baz=22,SNR=18						
636A	Smothers Creek	21.79	14	⇑P	P	02 31 24.4	+1.0
	baz=22						
531A	Rocksprings	21.84	6	⇓P	P	02 31 25.3	+1.2
	baz=22,SNR=16						
533A	Kerrville	21.95	10	⇑P	P	02 31 25.6	+0.4
	baz=22,SNR=15						
534A	Blanco	22.01	11	⇓P	P	02 31 25.8	-0.1
	baz=22,SNR=20						
535A	Dale	22.19	13	⇓P	P	02 31 29.0	+1.3
	baz=22,SNR=7.1						
429A	Davenport Ranc	22.20	3	⇓P	P	02 31 30.0	+2.1
	baz=22,SNR=6.3						
JCT	Junction City	22.24	8	eP	P	02 31 28.7	+0.3
	38nm,0.9s						
JCT	Junction City	22.24	8	⇓P	P	02 31 28.9	+0.5
	baz=22,SNR=18						
428A	Kincaid Ranch,	22.27	1	⇑P	P	02 31 29.3	+0.6
	baz=22						
431A	Sonora	22.35	6	⇑P	P	02 31 31.1	+1.6
	baz=22,SNR=15						
536A	Bastrop	22.35	14	⇓P	P	02 31 29.8	+0.3
	baz=22						
427A	Hayter Ranch,	22.39	359	⇓P	P	02 31 31.7	+1.6
	baz=22,SNR=15						
430A	Baggett Ranch,	22.40	4	⇓P	P	02 31 31.4	+1.4
	baz=22,SNR=8.7						
HKT	Hockley	22.55	17	eP	P	02 31 30.0	-1.6
	56nm,1.3s						
433A	Art	22.61	9	⇓P	P	02 31 32.7	+0.4
	baz=23,SNR=10						
432A	Menard	22.63	7	⇑P	P	02 31 32.7	+0.2
	baz=23						
434A	Burnet	22.81	11	⇑P	P	02 31 34.3	-0.1
	baz=23,SNR=12						
326A	Caldwell Ranch	22.87	358	⇑P	P	02 31 35.1	0.0
	baz=23						
435B	Jarrell	22.92	12	⇓P	P	02 31 37.0	+1.6
	baz=23,SNR=6.0						
328A	Wristen Ranch,	22.92	1	⇓P	P	02 31 35.7	+0.1
	baz=23						
331A	San Angelo	22.99	6	⇑P	P	02 31 35.8	-0.5
	baz=23						
330A	Mertzon	23.02	4	⇓P	P	02 31 37.2	+0.6
	baz=23,SNR=7.4						
329A	Wagon Wheel Ra	23.05	2	⇑P	P	02 31 36.8	-0.1
	baz=23						
332A	Millersview	23.14	7	⇑P	P	02 31 37.8	0.0
	baz=23,SNR=10						
333A	Richland Sprin	23.19	9	⇑P	P	02 31 38.7	+0.4
	baz=23,SNR=21						
334A	Lometa	23.32	11	⇑P	P	02 31 39.8	+0.2
	baz=23,SNR=18						
MNTX	Cornudas Mount	23.33	355	eP	P	02 31 39.0	-0.7
	14nm,1.2s						
335A	Moody	23.43	12	⇑P	P	02 31 40.4	-0.3
	baz=23						
230A	Sterling City	23.50	4	⇓P	P	02 31 41.0	-0.4
	baz=24						
229A	Bryant Ranch,	23.54	3	⇓P	P	02 31 42.0	+0.2
	baz=24,SNR=5.6						
227A	Bennet, Jal	23.55	360	⇑P	P	02 31 42.1	+0.1
	baz=24						
231A	Bronte	23.62	6	⇑P	P	02 31 42.4	-0.2
	baz=24,SNR=7.6						
319A	Douglas	23.63	347	⇑P	P	02 31 42.8	0.0
	baz=24						
226B	Tecolote Peak,	23.64	358	⇑P	P	02 31 43.1	+0.3
	baz=24,SNR=13						
232A	Coleman	23.65	7	⇓P	P	02 31 42.7	-0.1
	baz=24,SNR=11						
228A	UT Block 9, Go	23.66	1	⇓P	P	02 31 42.9	-0.1
	baz=24						
225A	Deer Hill, Car	23.70	356	⇓P	P	02 31 43.8	+0.3
	baz=24,SNR=7.7						
233A	Rising Star	23.88	9	⇓P	P	02 31 44.2	-0.9
	baz=24						
234A	Clairette	23.99	10	⇓P	P	02 31 45.9	-0.2
	baz=24,SNR=8.5						
WHTX	Lake Whitney	24.11	12	⇓P	P	02 31 46.5	-0.7
	baz=24						
128A	Castleberry Fa	24.17	1	⇓P	P	02 31 47.1	-0.7
	baz=24						
129A	Stewart Farms,	24.20	3	⇑P	P	02 31 48.0	0.0
	baz=24,SNR=7.5						
126A	Clayton Basin,	24.20	358	⇑P	P	02 31 47.4	-0.7
	baz=24						
127A	Arkansas Junct	24.21	360	⇓P	P	02 31 47.6	-0.7
	baz=24						
130A	Snyder	24.22	4	⇓P	P	02 31 47.8	-0.4
	baz=24,SNR=12						
125A	Gardner Draw,	24.24	357	⇓P	P	02 31 48.2	-0.3
	baz=24,SNR=6.8						
131A	Roby	24.34	6	⇑P	P	02 31 49.0	-0.3
	baz=24,SNR=16						
ABTX	Abilene, Hawle	24.38	7	eP	P	02 31 48.5	-1.2
	40nm,1.0s						
ABTX	Abilene, Hawle	24.38	7	⇑P	P	02 31 48.9	-0.7
	baz=24,SNR=19						
121A	Cookes Peak, D	24.46	350	eP	P	02 31 50.3	-0.2
	22nm,1.0s						
121A	Cookes Peak, D	24.46	350	⇓P	P	02 31 50.6	+0.1
	baz=24,SNR=15						
133A	Hamilton Ranch	24.46	9	⇑P	P	02 31 49.4	-1.0
	baz=24						
134A	White-Moore Ra	24.56	10	⇓P	P	02 31 50.7	-0.6
	baz=25,SNR=8.0						
NATX	Nacogdoches	24.59	18	eP	P	02 31 52.6	+1.1
135A	Vickery Place,	24.67	12	⇑P	P	02 31 51.6	-0.7
	baz=25						
Z26A	Caprock	24.82	358	⇑P	P	02 31 53.0	-0.8
	baz=25						
Z29A	Hungry Hill Ra	24.83	3	⇑P	P	02 31 53.6	-0.2
	baz=25						
Z28A	Tucker Farm, M	24.83	1	⇓P	P	02 31 54.5	+0.6
	baz=25,SNR=13						
Z27A	Tatum	24.85	360	⇓P	P	02 31 54.7	+0.7
	baz=25,SNR=18						
Z25A	Roswell	24.86	357	⇑P	P	02 31 53.6	-0.5
	baz=25,SNR=13						
TUC	Tucson	24.89	344	eP	P	02 31 54.1	-0.2
	11nm,1.1s						
Z30A	Sanderson Ranc	24.89	4	⇓P	P	02 31 53.3	-1.0
	baz=25,SNR=16						
Z24A	Sheeppen Canyo	24.95	356	⇑P	P	02 31 54.7	-0.4
	baz=25						
Z31A	Sharp Cattle R	25.00	6	⇑P	P	02 31 54.5	-0.9
	baz=25,SNR=14						
Z22A	Elephant Butte	25.05	352	⇑P	P	02 31 56.0	+0.1
	baz=25,SNR=9.1						
Z32A	Haskell	25.07	7	⇓P	P	02 31 55.5	-0.4
	baz=25,SNR=11						
Z33A	Whitaker Ranch	25.15	9	⇓P	P	02 31 56.3	-0.3
	baz=25,SNR=7.8						
214A	Organ Pipe Nat	25.16	340	eP	P	02 31 57.3	+0.5
	10nm,1.1s						
214A	Organ Pipe Nat	25.16	340	⇑P	P	02 31 56.7	-0.1
	baz=25						
Z34A	Collier Ranch,	25.37	10	⇑P	P	02 31 58.2	-0.4
	baz=25,SNR=5.9						
Y27A	Causey	25.42	360	⇓P	P	02 31 58.9	-0.3
	baz=26,SNR=20						
Y29A	Porterfield Fa	25.43	3	⇓P	P	02 31 59.2	-0.1
	baz=26,SNR=8.7						
Z35A	Perchaven, San	25.45	11	⇓P	P	02 31 58.6	-0.8
	baz=25						
Y28A	McKinney Farm,	25.45	2	⇑P	P	02 31 59.6	+0.1
	baz=26						
Y26A	Elida	25.46	359	⇑P	P	02 31 59.4	-0.3
	baz=26						
Y30A	Stafford Cattl	25.49	4	⇓P	P	02 31 59.2	-0.6
	baz=26						
Y25A	Mesa, Roswell	25.50	357	⇑P	P	02 31 60.0	0.0
	baz=26,SNR=8.2						
MSTX	Muleshoe	25.50	1	eP	P	02 31 57.7	-2.3
	22nm,1.3s						
MSTX	Muleshoe	25.50	1	⇓P	P	02 31 59.5	-0.4
	baz=26						
Y24A	Capitan	25.55	356	⇓P	P	02 31 59.7	-0.7
	baz=26						
Y23A	Lovelace Mesa,	25.61	354	⇑P	P	02 32 01.4	+0.4
	baz=26,SNR=7.0						
Y31A	Rekieta Farm,	25.63	5	⇑P	P	02 32 01.2	+0.2
	baz=26,SNR=8.2						
Y32A	R-V Farms, Ver	25.76	7	⇓P	P	02 32 01.7	-0.5
	baz=26						
OTAV	Otavalo	25.86	107	eP	P	02 32 06.5	+2.7
	22nm,1.1s						
Y33A	Hilltop Ranch,	25.88	9	⇓P	P	02 32 02.9	-0.3
	baz=26						
Y34A	Reagan Ranch,	25.97	10	⇓P	P	02 32 03.8	-0.2
	baz=26						
X29A	Tulia	26.01	3	⇓P	P	02 32 04.3	-0.2
	baz=26						
X30A	Coker Ranch, T	26.06	4	⇑P	P	02 32 04.6	-0.3
	baz=26						
X28A	Dimmitt	26.06	2	⇑P	P	02 32 05.2	+0.2
	baz=26,SNR=6.2						
X26A	CR and CF Fran	26.09	359	⇑P	P	02 32 04.7	-0.6
	baz=26						
X27A	F and S Farms,	26.18	0	⇓P	P	02 32 06.1	0.0
	baz=26						
X32A	Elmer	26.19	7	⇓P	P	02 32 06.5	+0.4
	baz=26,SNR=6.7						
LAZ	Ladron	26.20	352	eP	P	02 32 06.8	+0.4
	5.6nm,1.0s						
113A	Mohawk Valley,	26.23	339	⇓P	P	02 32 06.7	+0.3
	baz=26						
X31A	McDonald Ranch	26.32	6	⇑P	P	02 32 07.7	+0.4
	baz=26,SNR=6.4						
X33A	Lawton	26.42	9	⇓P	P	02 32 07.8	-0.3
	baz=26						
AMTX	Amarillo	26.45	3	eP	P	02 32 07.9	-0.6
	19nm,1.2s						
AMTX	Amarillo	26.45	3	⇑P	P	02 32 08.3	-0.2
	baz=26						
Z14A	Wintersburg	26.50	341	⇓P	P	02 32 09.1	+0.2
	baz=27						
X34A	Smith Ranch, M	26.58	10	⇓P	P	02 32 09.1	-0.4
	baz=27						
W27A	Bowe Ranch, En	26.59	0	⇓P	P	02 32 09.9	+0.1
	baz=27,SNR=5.8						
W26A	Owens Ranch, T	26.63	359	⇓P	P	02 32 10.0	-0.1
	baz=27						
ANMO	Albuquerque	26.65	354	P	P	02 32 10.2	-0.2
	2.9nm,1.1s,baz=164,slow=12,SNR=5.4						
ANMO				LR	LR	02 41 15.5	
	comp=Z,1μm,19.4s,baz=179,slow=33						
ANMO	Albuquerque	26.65	354	eP	P	02 32 10.4	-0.1
	6.0nm,1.3s						
W29A	Amraillo	26.69	3	⇓P	P	02 32 10.8	+0.2
	baz=27						
W25A	X Bar L Ranch,	26.78	358	⇑P	P	02 32 11.8	+0.3
	baz=27						
W28A	Vega	26.80	2	⇓P	P	02 32 11.5	-0.2
	baz=27						
X18A	Snowflake	26.81	347	⇑P	P	02 32 12.1	+0.2
	baz=27						
W30A	Crocket Farms	26.81	5	⇑P	P	02 32 11.9	+0.2
	baz=27						
W24A	Lazy 6 Ranch,	26.82	356	⇓P	P	02 32 11.9	-0.1
	baz=27						
W23A	Werner Place,	26.84	354	⇑P	P	02 32 11.9	-0.2
	baz=27						
GLA	Glamis	26.87	338	eP	P	02 32 12.7	+0.5
	18nm,1.0s						
GLA	Glamis	26.87	338	⇑P	P	02 32 12.7	+0.5
	baz=27,SNR=7.9						
W31A	Holland Ranch,	26.88	6	⇑P	P	02 32 12.1	-0.2
	baz=27						
W32A	Sentinel	26.89	7	⇓P	P	02 32 11.4	-1.0
	baz=27						
W33A	Caddo, Fort Co	27.02	8	⇑P	P	02 32 13.3	-0.3
	baz=27						
Y14A	Wickenburg	27.05	342	⇑P	P	02 32 14.1	+0.2
	baz=27						
X16A	Lo Mia Camp, P	27.06	345	⇓P	P	02 32 14.6	+0.6
	baz=27,SNR=5.6						
BAR	Barrett	27.28	334	eP	P	02 32 18.2	+2.3
	20nm,1.3s						
V24A	Rampart Ranch,	27.33	356	⇑P	P	02 32 15.9	-0.6
	baz=27						
W18A	Petrified Fore	27.33	348	eP	P	02 32 18.4	+1.9
	15nm,1.1s						
W18A	Petrified Fore	27.33	348	⇓P	P	02 32 16.5	0.0
	baz=27						
V26A	Tequesquite Ra	27.33	359	⇓P	P	02 32 15.9	-0.6
	baz=27						
MONP	Monument Peak	27.36	335	⇓P	P	02 32 17.1	+0.2
	baz=28						
V23A	Ortiz Mt. (NFS	27.42	355	⇓P	P	02 32 16.9	-0.4
	baz=28						
V31A	Spring Creek L	27.47	6	⇓P	P	02 32 17.3	-0.3
	baz=28						
V32A	Arapaho	27.50	7	⇓P	P	02 32 17.5	-0.4
	baz=28						
MIAR	Mount Ida	27.52	17	eP	P	02 32 17.5	-0.5
	26nm,0.9s						
BC3	Big Chuckawall	27.64	337	⇓P	P	02 32 19.2	-0.1
	baz=28						
V22A	San Miguel Ran	27.66	353	⇓P	P	02 32 19.1	-0.4
	baz=28						
V33A	Lossen Ranch,	27.70	8	⇑P	P	02 32 19.3	-0.4
	baz=28						
PDMCI	Parker Dam,Lak	27.75	340	⇓P	P	02 32 20.7	+0.6
	baz=28,SNR=6.8						
U26A	Atchley Ranch,	27.93	359	⇑P	P	02 32 21.4	-0.5
	baz=28						
U25A	Circle Dot Ran	27.95	358	⇓P	P	02 32 21.6	-0.5
	baz=28						
IRM	Iron Mountain	27.98	338	⇓P	P	02 32 22.9	+0.7
	baz=28,SNR=10						
PFO	Pinyon Flat Ob	28.00	336	LR	LR	02 41 33.2	
	comp=Z,2μm,19.8s,baz=146,slow=32						
PFO	Pinyon Flat Ob	28.00	336	eP	P	02 32 22.8	+0.3
	10nm,1.1s						
PFO	Pinyon Flat Ob	28.00	336	⇓P	P	02 32 22.8	+0.3
	baz=28						
U31A	Nine Bar Ranch	28.06	6	⇑P	P	02 32 23.2	+0.3
	baz=28,SNR=7.1						
WUAZ	Wupatki	28.08	346	eP	P	02 32 24.0	+0.7
	14nm,1.1s						
WUAZ	Wupatki	28.08	346	⇑P	P	02 32 23.6	+0.3
	baz=28,SNR=9.3						
U22A	Llaves	28.11	354	⇓P	P	02 32 23.7	+0.1
	baz=28,SNR=6.9						
BELC	Belle Mtn. Jos	28.16	337	⇓P	P	02 32 23.2	-0.7
	baz=28						
U32A	Winter Ranch,	28.16	7	⇑P	P	02 32 23.2	-0.6
	baz=28						
TUL1	Tulsa	28.24	13	eP	P	02 32 24.5	0.0
	9.7nm,0.8s						
TUL1	Tulsa	28.24	13	⇑P	P	02 32 23.6	-0.8
	baz=28						
W13A	Hualapai Mount	28.40	341	⇑P	P	02 32 25.5	-0.6
	baz=28						
T27A	Campo	28.59	1	⇑P	P	02 32 27.0	-0.7
	baz=29						
T24B	San Luis	28.66	356	⇓P	P	02 32 27.6	-0.9
	baz=29						
T25A	Trinidad	28.69	358	⇑P	P	02 32 27.7	-1.0
	baz=29						
GMRC	Granite Mounta	28.72	338	⇓P	P	02 32 28.7	-0.2
	baz=29,SNR=5.2						
LDFC	Landfair	28.79	339	eP	P	02 32 31.7	+2.2
	24nm,1.4s						
T31A	Randall Ranch,	28.80	6	⇓P	P	02 32 29.0	-0.4
	baz=29						
HEC	Hector,Ludlow	29.02	337	⇓P	P	02 32 31.9	+0.4
	baz=29						
BFSC	Mount Baldy Ra	29.04	335	⇑P	P	02 32 31.9	+0.1
	baz=29						
ATAH	Atahualpa	29.05	121	LR	LR	02 41 47.9	
	comp=Z,5μm,20.4s,baz=310,slow=32						
S28A	Manter	29.14	2	⇓P	P	02 32 32.2	-0.3
	baz=29						
MVCO	Mesa Verde	29.15	351	eP	P	02 32 32.8	0.0
	13nm,1.1s						
MVCO	Mesa Verde	29.15	351	⇑P	P	02 32 32.5	-0.3
	baz=29,SNR=6.8						
U15A	North Rim	29.18	345	⇓P	P	02 32 33.5	+0.4
	baz=29						
S25A	Robets Cordova	29.21	358	⇑P	P	02 32 33.7	+0.4
	baz=29						
S24A	Houchin Ranch,	29.23	357	⇑P	P	02 32 33.8	+0.2
	baz=29						
SDCO	Great Sand Dun	29.35	356	eP	P	02 32 34.5	-0.1
	9.9nm,1.5s						
TUQ	Turquoise Moun	29.40	338	⇑P	P	02 32 35.4	+0.4
	baz=30						
S22A	4UR Ranch, Cre	29.46	354	⇓P	P	02 32 36.1	+0.4
	baz=30,SNR=6.2						
GSC	Goldstone	29.62	337	eP	P	02 32 36.9	+0.1
	7.8nm,1.0s						
GSC	Goldstone	29.62	337	⇑P	P	02 32 37.1	+0.2
	baz=30						
R25A	Fountain Ranch	29.69	358	⇓P	P	02 32 37.2	-0.3
	baz=30						
BSC	Santa Cruz Isl	29.72	332	⇓P	P	02 32 38.1	+0.4
	baz=30						
EDW2	Edwards Air Fo	29.73	335	⇑P	P	02 32 38.0	+0.2
	baz=30						
R24A	Sanders Place,	29.81	357	⇓P	P	02 32 38.3	-0.3
	baz=30						
R27A	Eads	29.81	1	⇑P	P	02 32 38.2	-0.3
	baz=30						
R23A	Moffat	29.82	356	⇓P	P	02 32 38.1	-0.6
	baz=30						
R26A	Arlington	29.83	359	⇓P	P	02 32 38.4	-0.3
	baz=30						
R28A	Tribune	29.89	2	⇑P	P	02 32 38.6	-0.6
	baz=30						
R30A	Dighton	29.92	4	⇓P	P	02 32 38.8	-0.6
	baz=30						
R31A	Burdett	29.99	6	⇓P	P	02 32 39.1	-0.9
	baz=30						
R33A	Olander Ranch,	30.19	8	⇓P	P	02 32 41.2	-0.6
	baz=30						
R32A	Long Quarter,	30.21	7	⇑P	P	02 32 41.3	-0.7
	baz=30						
PV04	Paradox Valley	30.37	351	eP	P	02 32 45.0	+1.5
Q26A	Hugo	30.45	359	⇑P	P	02 32 43.4	-0.8
	baz=30						
Q25A	Bedland, Calha	30.45	358	⇓P	P	02 32 43.5	-0.8
	baz=30						
Q29A	Oakley	30.48	3	⇑P	P	02 32 44.0	-0.3
	baz=30,SNR=8.5						
CCUT	Cedar City	30.52	344	eP	P	02 32 46.6	+1.6
	6.2nm,1.2s						
ISA	Isabella	30.60	335	⇓P	P	02 32 46.1	+0.5
	baz=31						
ARUT	Antelope Range	30.77	344	eP	P	02 32 48.6	+1.5
	189nm,1.1s						
DAC	Darwin (Calif)	30.78	337	eP	P	02 32 48.4	+1.2
	7.5nm,1.1s						
Q32A	Meitler Ranch,	30.79	7	⇓P	P	02 32 46.3	-0.8
	baz=31						
Q33A	Connelly Farm,	30.89	8	⇓P	P	02 32 47.1	-0.8
	baz=31						
SMCO	Snowmass	30.90	354	eP	P	02 32 49.4	+1.0
	18nm,1.4s						
P25A	Willow Gulch B	31.05	358	⇓P	P	02 32 49.6	+0.1
	baz=31						
MVU	Marysvale	31.13	346	eP	P	02 32 45.6	-4.7
	67nm,2.6s						
P30A	Selden	31.17	4	⇓P	P	02 32 49.5	-1.0
	baz=31						
KSU1	Kansas State U	31.18	10	⇑P	P	02 32 49.3	-1.2
	baz=31						
P31A	Stockton	31.23	6	⇑P	P	02 32 50.9	0.0

	baz=31,SNR=5.8						
P22A	Eagle	31.29	355	⇑P	P	02 32 51.3	-0.4
	baz=31						
P33A	Williams Farm,	31.34	8	⇓P	P	02 32 51.4	-0.5
	baz=31						
SRU	San Rafael	31.35	349	eP	P	02 32 53.0	+0.8
	7.9nm,1.2s						
P32A	Huiting Farm,	31.41	7	⇑P	P	02 32 51.9	-0.6
	baz=31						
O25A	Wiggins	31.65	359	⇓P	P	02 32 54.0	-0.8
	baz=32						
TMUT	Trail Mountain	31.66	348	eP	P	02 32 57.0	+1.9
	97nm,2.4s						
O26A	Horse Wrangler	31.77	360	⇑P	P	02 32 55.1	-0.7
	baz=32						
O30A	MW Ranch, Wils	31.82	4	⇑P	P	02 32 55.3	-0.8
	baz=32						
O22A	Kremmling	31.83	355	⇑P	P	02 32 55.7	-0.9
	baz=32						
R11A	Troy Canyon, C	31.92	341	eP	P	02 32 58.6	+1.4
	13nm,1.7s						
R11A	Troy Canyon, C	31.92	341	⇓P	P	02 32 57.8	+0.6
	baz=32						
O20A	White River Ci	31.99	353	eP	P	02 32 58.5	+0.7
	17nm,1.1s						
O20A	White River Ci	31.99	353	⇑P	P	02 32 58.2	+0.4
	baz=32,SNR=6.6						
SDV	Santo Domingo	32.12	87	eP	P	02 32 59.5	+0.2
	12nm,0.9s						
TPH	Tonopah	32.23	339	eP	P	02 33 02.1	+2.1
	20nm,1.5s						
TKL	Tuckaleechee C	32.43	30	P	P	02 33 00.9	-0.6
	7.2nm,1.0s,baz=199,slow=15,SNR=4.2						
MPU	Maple Canyon	32.44	348	eP	P	02 33 03.3	+1.5
	20nm,1.0s						
N22A	Wattenberg Ran	32.46	355	⇓P	P	02 33 02.2	+0.2
	baz=32						
N23A	Red Feather La	32.51	356	⇑P	P	02 33 02.6	+0.1
	baz=33						
DAU	Daniels Canyon	32.75	348	eP	P	02 33 04.6	0.0
DUG	Dugway	32.88	346	eP	P	02 33 07.2	+1.6
	12nm,1.0s						
DUG	Dugway	32.88	346	⇓P	P	02 33 06.6	+1.0
	baz=33,SNR=12						
NVAR	Mina Array Bea	32.94	338	P	P	02 33 07.1	+0.9
	3.0nm,0.9s,baz=158,slow=8.3,SNR=16						
NVAR				LR	LR	02 44 19.4	
	comp=Z,2µm,21.5s,baz=217,slow=33						
JLU	Jordanelle	32.97	348	eP	P	02 33 07.5	+1.0
	9.8nm,1.2s						
CTU	Camp Tracy	33.12	348	eP	P	02 33 09.0	+1.3
	16nm,1.1s						
BGNE	Belgrade	33.22	7	⇑P	P	02 33 08.4	0.0
	baz=33						
WCI	Wyandotte Cave	33.40	24	eP	P	02 33 09.0	-1.1
	16nm,1.0s						
WAKR	Walker	33.44	336	eP	P	02 33 11.8	+1.3
	9.9nm,1.2s						
L30A	Spencer Herefo	33.60	5	⇑P	P	02 33 12.2	+0.4
	baz=34						
BGU	Big Grassy Mou	33.62	346	eP	P	02 33 13.1	+1.0
	4.5nm,1.1s						
L23A	Garrett	33.71	357	⇑P	P	02 33 12.8	-0.1
	baz=34						
L31A	Butterfield Fa	33.91	6	⇑P	P	02 33 14.5	+0.1
	baz=34						
HWUT	Hardware Ranch	33.96	349	eP	P	02 33 15.2	+0.2
	10nm,1.0s						
ELK	Elko	34.02	343	eP	P	02 33 17.2	+1.6
	3.7nm,1.0s						
BMN	Battle Mountai	34.34	341	eP	P	02 33 18.9	+0.7
	23nm,1.3s						
K23A	Bowen Ranch, D	34.34	357	⇓P	P	02 33 18.6	+0.3
	baz=34						
K29A	Lazy Trails An	34.37	4	⇓P	P	02 33 18.7	+0.3
	baz=34						
HVU	Hansel Valley	34.38	347	eP	P	02 33 19.8	+1.2
	12nm,1.1s						
PDAR	Pinedale Array	34.75	352	P	P	02 33 21.8	-0.1
	10nm,1.0s,baz=161,slow=8.6,SNR=39						
BW06	Boulder Array	34.75	352	eP	P	02 33 21.4	-0.5
	10nm,1.0s						
J26A	Sides Ranch, S	34.83	0	⇑P	P	02 33 22.7	+0.3
	baz=35						
SFIN	Scholer Farm	34.95	22	eP	P	02 33 23.6	+0.1
	112nm,2.1s						
SFIN	Scholer Farm	34.95	22	⇓P	P	02 33 23.0	-0.4
	baz=35						
OHCM	Honcut	34.98	335	eP	P	02 33 26.0	+2.4
J30A	Dallas	34.99	5	⇑P	P	02 33 24.0	+0.3
	baz=35						
J29A	Okreek	35.01	4	⇑P	P	02 33 24.5	+0.6
	baz=35						
J22A	Midwest	35.06	356	⇓P	P	02 33 25.1	+0.7
	baz=35						
J21A	Lysite	35.07	355	⇑P	P	02 33 25.4	+0.8
	baz=35						
J20A	Shoshoni	35.14	354	⇓P	P	02 33 26.0	+0.8
	baz=35						
J19A	Crowheart	35.17	352	⇑P	P	02 33 26.3	+0.8
	baz=35						
I21A	Big Trails, Te	35.52	355	⇑P	P	02 33 29.1	+0.7
	baz=36						
I22A	9 Mile Ranch,	35.53	356	⇓P	P	02 33 29.2	+0.7
	baz=36						
REDW	Red Top Meadow	35.53	350	eP	P	02 33 29.2	+0.5
I28A	Midland	35.56	2	⇓P	P	02 33 29.1	+0.5
	baz=36						
RSSD	Black Hills	35.65	359	eP	P	02 33 29.6	0.0
	2.7nm,0.8s						
TPAW	Teton Pass	35.67	350	eP	P	02 33 32.2	+2.3
	5.6nm,0.9s						
ECSD	EROS Data Cent	35.71	8	eP	P	02 33 30.7	+0.8
	46nm,2.0s						
ECSD	EROS Data Cent	35.71	8	⇑P	P	02 33 30.2	+0.3
	baz=36						
LOHW	Long Hollow	35.74	351	eP	P	02 33 30.5	+0.1
I20A	Worland	35.74	354	⇓P	P	02 33 30.4	+0.1
	baz=36,SNR=6.9						
FXWY	Fox Creek	35.83	350	eP	P	02 33 31.1	-0.2
	9.9nm,1.4s						
MOOW	Moose Ponds	35.89	351	eP	P	02 33 32.0	+0.3
	52nm,2.5s						
I19A	Meeteetse	35.92	353	⇑P	P	02 33 32.6	+0.7
	baz=36						
I17A	Pilgrim Ck.	36.03	351	⇓P	P	02 33 33.0	+0.1
	baz=36						
IMW	Indian Meadow	36.07	350	eP	P	02 33 33.7	+0.4
H25A	Fruitdale	36.14	359	⇓P	P	02 33 34.0	+0.3
	baz=36						
H27A	Howes	36.16	1	⇑P	P	02 33 34.1	+0.3
	baz=36						
FLWY	Flagg Ranch	36.21	351	eP	P	02 33 34.1	-0.3
	175nm,3.0s						
H22A	Clearmont	36.22	356	⇓P	P	02 33 34.6	+0.2
	baz=36						
H29A	Onida	36.23	4	⇑P	P	02 33 34.5	+0.1
	baz=36						
H28A	Mission Ridge	36.24	3	⇑P	P	02 33 34.4	0.0
	baz=36						
H20A	Greybull	36.26	354	⇑P	P	02 33 34.8	+0.1
	baz=36						
H24A	Dirks Ranch, A	36.29	358	⇓P	P	02 33 35.1	+0.2
	baz=36						
HLID	Hailey	36.45	346	eP	P	02 33 36.8	+0.3
	7.1nm,1.1s						
HLID	Hailey	36.45	346	⇓P	P	02 33 36.5	+0.1
	baz=36						
ACSO	Alum Creek Sta	36.48	26	eP	P	02 33 35.8	-0.7
	69nm,1.9s						
H19A	Powell	36.55	353	⇓P	P	02 33 37.3	+0.1
	baz=37						
WVOR	Wild Horse Val	36.60	341	eP	P	02 33 37.8	+0.1
	8.3nm,1.1s						
H18A	Shoshone NF, C	36.64	352	⇑P	P	02 33 37.9	-0.2
	baz=37						
G28A	Parade	36.64	3	⇓P	P	02 33 37.6	-0.3
	baz=37						
MFID	Camas Ranch	36.66	344	eP	P	02 33 39.2	+1.1
	6.7nm,1.1s						
MOD	Modoc	36.71	338	eP	P	02 33 39.3	+0.6
	13nm,1.1s						
G25A	Newell	36.71	360	⇑P	P	02 33 38.3	-0.2
	baz=37						
G23A	Biddle	36.77	357	⇑P	P	02 33 38.9	-0.2
	baz=37						
G30A	Faulkton	36.81	5	⇓P	P	02 33 39.0	-0.3
	baz=37						

G26A	Maurine	36.82	1	⇑P	P	02 33 39.2	-0.2
	baz=37,SNR=5.8						
G29A	Hoven	36.82	4	⇓P	P	02 33 39.1	-0.3
	baz=37						
YMR	Madison River	36.83	351	eP	P	02 33 39.8	+0.1
	21nm,1.5s						
G22A	Birney	36.84	356	⇑P	P	02 33 39.6	0.0
	baz=37						
N02D	Trinity Center	36.86	335	⇓P	P	02 33 40.5	+0.6
	baz=37						
G24A	Alzada	36.86	358	⇑P	P	02 33 39.9	0.0
	baz=37						
G27A	Dupree	36.91	1	⇓P	P	02 33 40.2	0.0
	baz=37						
G20A	Bridger	37.00	354	⇓P	P	02 33 41.2	+0.1
	baz=37						
QLMT	Earthquake Lak	37.06	350	eP	P	02 33 42.1	+0.5
	0.3nm,0.2s						
M04C	Macdoel	37.19	337	⇓P	P	02 33 43.0	+0.3
	baz=37						
M02C	Callahan	37.27	335	⇑P	P	02 33 43.3	0.0
	baz=37						
F23A	Volborg	37.29	357	⇑P	P	02 33 42.9	-0.5
	baz=37						
MCMT	McKenzie Canyo	37.31	349	eP	P	02 33 44.6	+0.7
	4.5nm,1.3s						
F26A	Lodgepole	37.37	1	⇓P	P	02 33 43.9	-0.2
	baz=37						
F24A	Ekalaka	37.38	358	⇑P	P	02 33 44.4	+0.2
	baz=37						
F22A	Rosebud	37.40	356	⇓P	P	02 33 44.2	-0.1
	baz=38						
F27A	Lemmon	37.40	1	⇑P	P	02 33 44.5	+0.1
	baz=38						
F29A	Eureka	37.46	4	⇓P	P	02 33 45.0	+0.2
	baz=38						
F20A	Billings	37.57	354	⇓P	P	02 33 45.6	-0.2
	baz=38						
F19A	Roth Farm, Mol	37.71	353	⇓P	P	02 33 46.7	-0.3
	baz=38						
DLMT	Dillon	37.78	349	eP	P	02 33 48.8	+1.1
	15nm,1.3s						
SPMN	St. Paul	37.81	12	eP	P	02 33 47.2	-0.6
	12nm,0.8s						
SPMN	St. Paul	37.81	12	⇑P	P	02 33 47.1	-0.6
	baz=38						
BOZ	Bozeman (W)	37.88	350	eP	P	02 33 48.5	-0.1
	7.6nm,1.2s						
E26A	Carlson Angus	37.99	1	⇓P	P	02 33 49.3	-0.1
	baz=38						
E22A	Miles City	38.04	357	⇑P	P	02 33 49.5	-0.2
	baz=38						
LRM	Limekiln Ridge	38.20	349	eP	P	02 33 50.7	-0.6
E29A	Napoleon	38.20	4	⇓P	P	02 33 50.8	-0.3
	baz=38						
E21A	Keefer Ranch,	38.21	356	⇑P	P	02 33 51.2	0.0
	baz=38						
J05D	Fort Rock, OR	38.25	338	⇓P	P	02 33 52.1	+0.4
	baz=38						
E20A	Meyer Farm, Mu	38.27	354	⇓P	P	02 33 51.5	-0.2
	baz=38,SNR=13						
E19A	Rath Farm, Rou	38.29	354	⇑P	P	02 33 51.7	-0.2
	baz=38,SNR=12						
D24A	Glendive	38.65	359	⇓P	P	02 33 54.8	0.0
	baz=39,SNR=5.5						
D25A	Fairfield	38.67	360	⇓P	P	02 33 54.7	-0.3
	baz=39						
D29A	Pettibone, Tap	38.70	4	⇑P	P	02 33 54.6	-0.6
	baz=39						
D21A	La Casta Ranch	38.73	356	⇓P	P	02 33 55.6	0.0
	baz=39						
D20A	Manuel Ranch,	38.85	355	⇑P	P	02 33 56.1	-0.4
	baz=39						
HRY	Holter Researc	38.95	350	eP	P	02 33 56.8	-0.7
	5.2nm,1.0s						
D19A	Cripps Ranch,	39.00	354	⇑P	P	02 33 57.6	-0.2
	baz=39,SNR=14						
C24A	Savage	39.07	359	⇑P	P	02 33 58.1	-0.3
	baz=39						
I05D	Terrebonne, OR	39.21	339	⇑P	P	02 34 00.3	+0.7
	baz=39						
C27A	Sayler Ranch,	39.26	2	⇓P	P	02 33 59.8	-0.1
	baz=39						
C22A	Vida	39.34	357	⇑P	P	02 34 01.1	+0.5
	baz=39						
C26A	Wahner Farm, P	39.36	1	⇓P	P	02 34 01.2	+0.4
	baz=39						
C23A	Lambert	39.36	358	⇑P	P	02 34 00.6	-0.2
	baz=39,SNR=8.5						
MSO	Missoula	39.45	348	eP	P	02 34 01.4	-0.2
	14nm,1.6s						
MSO	Missoula	39.45	348	⇑P	P	02 34 01.8	+0.1
	baz=40						
C20A	Veseth Ranch,	39.45	355	⇑P	P	02 34 01.9	+0.3
	baz=40						
C21A	Desert Coulee	39.49	356	⇓P	P	02 34 01.4	-0.4
	baz=40,SNR=6.1						
C19A	Slack Wire Ran	39.58	354	⇓P	P	02 34 02.7	+0.1
	baz=40						
SLMT	Seeley Lake	39.76	349	eP	P	02 34 03.6	-0.6
	6.8nm,1.1s						
H04A	Detroit Lake	39.81	339	eP	P	02 34 06.2	+1.7
	22nm,0.9s						
EGMT	Eagleton	39.94	353	eP	P	02 34 05.9	+0.2
	59nm,1.9s						
EGMT	Eagleton	39.94	353	⇑P	P	02 34 05.3	-0.4
	baz=40						
DGMT	Dagmar	40.00	359	eP	P	02 34 05.1	-1.0
	20nm,0.9s						
DGMT	Dagmar	40.00	359	⇑P	P	02 34 05.5	-0.6
	baz=40,SNR=6.4						
B23A	Brockton	40.02	358	⇓P	P	02 34 06.1	-0.1
	baz=40						
B29A	Wagenman Farm,	40.11	4	⇑P	P	02 34 06.5	-0.5
	baz=40						
B20A	Solberg Farm,	40.17	355	⇑P	P	02 34 06.8	-0.8
	baz=40,SNR=11						
B30A	Myrvik Farm, E	40.18	5	⇑P	P	02 34 06.8	-0.8
	baz=40,SNR=10						
AGMN	Agassiz Nation	40.29	7	eP	P	02 34 07.5	-1.0
	16nm,1.0s						
AGMN	Agassiz Nation	40.29	7	⇑P	P	02 34 07.5	-1.0
	baz=40,SNR=7.5						
A24A	Westby	40.45	359	⇑P	P	02 34 09.8	0.0
	baz=40						
A25A	Svangstu Ranch	40.46	0	⇑P	P	02 34 09.7	-0.1
	baz=40						
A28A	Rude Farm, Bot	40.50	3	⇑P	P	02 34 09.8	-0.5
	baz=40						
A29A	Manning Farm,	40.58	4	⇑P	P	02 34 10.6	-0.2
	baz=41						
A22A	Carney Farms,	40.58	357	⇑P	P	02 34 10.8	-0.1
	baz=41						
A20A	Cobblestone Ra	40.60	355	⇓P	P	02 34 10.4	-0.7
	baz=41,SNR=7.7						
TAOE	Nuku Hiva Isla	40.66	246	eT	T	03 17 14.4	
	594nm,0.3s						
A30A	Hoffart Farm,	40.66	5	⇓P	P	02 34 10.9	-0.6
	baz=41,SNR=7.4						
EYMN	Ely	40.68	12	eP	P	02 34 10.2	-1.5
	240nm,3.0s						
E07A	Sunnyside	40.69	342	eP	P	02 34 13.0	+1.2
	26nm,1.1s						
D08A	Wollman Farm,	40.87	343	eP	P	02 34 14.6	+1.3
	133nm,2.8s						
C09A	Chrisman Ranch	41.37	345	eP	P	02 34 17.4	0.0
	19nm,1.4s						
LON	Longmire	41.48	341	eP	P	02 34 20.1	+1.7
	20nm,1.3s						
NEW	Newport	41.51	346	eP	P	02 34 17.6	-1.0
	12nm,1.0s						
NEW	Newport	41.51	346	eP	P	02 34 18.2	-0.4
	baz=42,SNR=9.0						
ULM	Lac du Bonnet	42.21	7	P	P	02 34 22.7	-1.5
	3.4nm,0.8s,baz=187,slow=8.1,SNR=5.1						
ULM				LR	LR	02 50 55.7	
	comp=Z,856nm,20.0s,baz=204,slow=35						
ULM	Lac du Bonnet	42.21	7	eP	P	02 34 22.9	-1.3
	8.3nm,1.1s						
LPAZ	La Paz	42.40	125	P	P	02 34 27.6	+0.7
	4.3nm,0.8s,baz=300,slow=6.8,SNR=15						
LPAZ	La Paz	42.40	125	eP	P	02 34 28.1	+1.1
	18nm,1.2s						
SAML	Samuel	43.33	112	eP	P	02 34 33.2	-0.7
	11nm,0.9s						
RKT	Rikitea	44.15	224	eS	S	02 41 09.6	-2.9
	512nm,33.2s						
RKT				eLR	LR	02 47 01.1	

	3µm,27.0s,baz=43						
RKT	Rikitea	44.15	224	eT	T	03 21 37.5	
	24nm,0.3s						
EDM	Edmonton	45.51	351	eP	P	02 34 49.9	-0.8
FFC	Flin Flon	46.26	1	eP	P	02 34 55.9	-0.7
	13nm,1.3s						
H03N2	Juan Fernandez	47.49	152	T	T	03 25 56.4	
	baz=328,slow=75,SNR=599						
H03N1	Juan Fernandez	47.50	152	T	T	03 25 59.3	
	baz=328,slow=75,SNR=840						
H03N3	Juan Fernandez	47.51	152	T	T	03 25 58.8	
	baz=328,slow=75,SNR=528						
SIV	San Ignacio	48.14	120	P	P	02 35 10.1	-1.8
	2.9nm,0.8s,baz=302,slow=7.9,SNR=5.4						
LCO	Las Campanas	48.54	141	eP	P	02 35 16.6	+1.6
	13nm,1.0s						
VAH	Vaihoa	49.94	242	eT	T	03 28 50.8	
	7.1nm,0.3s						
PMOR	Pomariorio Ree	50.08	243	eT	T	03 29 00.7	
	6.9nm,0.2s						
FCC	Fort Churchill	50.78	6	eP	P	02 35 28.9	-2.3
	0.2nm,0.8s						
MEH	Mehetia	51.47	239	eT	T	03 30 44.9	
	7.5nm,0.2s						
PPT	Papeete	52.62	240	LR	LR	02 52 15.8	
	comp=Z,1µm,18.4s,baz=44,slow=30						
PPT2	Papeete2	52.63	240	eS	S	02 43 12.4	-0.4
	393nm,26.2s						
PPT2				eLQ	LQ	02 48 39.2	
	833nm,24.5s						
PPT2				eLR	LR	02 50 43.7	
	2µm,24.8s,baz=55						
SCHQ	Schefferville	54.61	25	P	P	02 35 57.5	-2.3
	12nm,1.0s,baz=226,slow=6.9,SNR=5.2						
SCHQ				LR	LR	03 01 04.8	
	comp=Z,1µm,18.8s,baz=236,slow=38						
YKA	Yellowknife Ar	54.70	353	P	P	02 35 58.1	-2.1
	4.9nm,1.0s,baz=162,slow=7.6,SNR=38						
YKA				PcP	PcP	02 37 01.7	-1.1
	1.9nm,1.0s,baz=159,slow=3.1,SNR=7.1						
YKW3	Yellowknife Ar	54.76	354	eP	P	02 35 58.8	-1.9
	0.2nm,1.2s						
TBI	Tubuai	55.18	234	eT	T	03 35 23.4	
	8.7nm,0.3s						
CPUP	Villa Florida	56.24	129	P	P	02 36 11.4	-0.5
	1.8nm,0.7s,baz=310,slow=7.9,SNR=4.2						
CPUP				LR	LR	02 56 34.3	
	comp=Z,279nm,18.6s,baz=298,slow=32						
PLCA	Paso Flores	57.31	151	P	P	02 36 18.9	-0.5
	3.2nm,0.9s,baz=311,slow=7.6,SNR=6.2						
PLCA				LR	LR	02 55 36.2	
	comp=Z,1µm,18.9s,baz=292,slow=30						
PLCA	Paso Flores	57.31	151	eP	P	02 36 20.2	+0.9
	10nm,1.4s						
BDFB	Brasilia	59.55	114	P	P	02 36 34.3	-1.2
	3.6nm,0.9s,baz=293,slow=7.7,SNR=3.3						
BDFB				LR	LR	03 01 10.7	
	comp=Z,693nm,18.1s,baz=289,slow=35						
TRQA	Tornquist	60.01	143	eP	P	02 36 38.7	+0.6
	14nm,1.3s						
INK	Inuvik	63.18	348	P	P	02 36 56.7	-2.3
	12nm,1.1s,baz=152,slow=6.5,SNR=16						
INK	Inuvik	63.18	348	eP	P	02 36 57.8	-1.2
	22nm,1.3s						
ILAR	Eielson Array	64.12	341	P	P	02 37 03.5	-1.9
	7.4nm,0.9s,baz=150,slow=4.3,SNR=40						
ILAR				LR	LR	03 03 41.5	
	comp=Z,339nm,19.0s,baz=142,slow=35						
COLA	College	64.50	341	eP	P	02 37 06.5	-1.2
	2.1nm,0.5s						
COLD	Coldfoot	66.73	342	eP	P	02 37 21.7	-0.4
	9.1nm,1.1s						
RCBR	Riachuelo	68.49	100	LR	LR	03 06 48.7	
	comp=Z,819nm,19.9s,baz=280,slow=35						
USHA	Ushuaia	69.32	159	LR	LR	03 02 14.5	
	comp=Z,592nm,18.2s,baz=300,slow=31						
SUMG	Summit	74.63	16	iP	P	02 38 10.1	-0.6
	10nm,1.0s						
SUMG	Summit	74.63	16	eP	P	02 38 09.0	-1.7
	15nm,1.0s						
PMSA	Palmer Station	78.52	164	LR	LR	03 04 56.8	
	comp=Z,265nm,19.0s,baz=324,slow=29						
DAG	Danmarks Havn	80.66	13	iP	P	02 38 42.4	-1.4
	3.1nm,1.0s						
PETK	Petropavlovsk-	88.86	323	LR	LR	03 12 31.5	
	comp=Z,149nm,19.6s,baz=108,slow=31						
ESDC	Sonseca Array	91.71	50	LR	LR	03 18 05.8	
	comp=Z,266nm,18.6s,baz=305,slow=34						
TIXI	Tiksi	93.23	346	eP	P	02 39 43.5	-1.9
	4.3nm,0.8s						
DZM	Mont Dzumac	93.49	248	eLR	LR	03 09 50.1	
	682nm,22.9s						
NOA	NORSAR Array B	94.16	26	LR	LR	03 20 17.1	
	comp=Z,419nm,21.6s,baz=280,slow=34						
ARCES	ARCESS Array B	94.72	16	LR	LR	03 22 29.5	
	comp=Z,690nm,21.7s,baz=306,slow=36						
DBIC	Dimbokro	97.16	82	LR	LR	03 20 56.9	
	comp=Z,182nm,20.1s,baz=268,slow=34						
VNDA	Vanda	99.18	193	LR	LR	03 16 20.6	
	comp=Z,248nm,19.8s,baz=88,slow=30						
FINES	FINESS Array B	100.02	22	P	Pdif	02 40 14.5	-1.9
	1.3nm,0.8s,baz=328,slow=4.9,SNR=3.8						
COEN	Coen	114.89	258	ePKPdf	PKPdf	02 45 14.8	+1.6
BRTR	Keskin Array B	117.66	37	PKP	PKPdf	02 45 17.6	-0.5
	0.7nm,0.8s,baz=11,slow=3.9,SNR=3.0						
ULN	Ulaanbaatar	118.00	337	ePKPdf	PKPdf	02 45 19.9	+1.4
KIV	Kislovodsk	119.43	28	ePKPdf	PKPdf	02 45 21.6	+0.3
BJI	Beijing	119.71	326	PKP	PKPdf	02 45 22.6	+0.8
CSS	Prodhromos	120.45	41	ePKPdf	PKPdf	02 45 24.0	+0.6
HHC	Hu-ho-hao-te	121.56	330	ePKP	PKPdf	02 45 23.8	-1.7
HHC				LR	LR		
	comp=N,490nm,12.4s						
HHC				LR	LR		
	comp=E,490nm,20.0s						
HHC				LR	LR		
	comp=Z,520nm,17.7s						
WRAB	Tennant Creek	123.33	252	ePKPdf	PKPdf	02 45 31.7	+2.4
WRA	Warramunga Arr	123.34	252	PKP	PKPdf	02 45 26.4	-2.9
	0.6nm,0.9s,baz=91,slow=2.4,SNR=7.0						
ASAR	Alice Springs	123.46	247	PKP	PKPdf	02 45 27.9	-1.6
	0.6nm,0.7s,baz=104,slow=3.0,SNR=6.1						
MKAR	Makanchi Array	124.90	355	PKP	PKPdf	02 45 28.5	-3.1
	0.9nm,0.9s,baz=0.0,slow=1.4,SNR=5.5						
WMQ	Urumqi	127.16	350	ePKP	PKPdf	02 45 37.6	+1.5
WMQ				PP	PP	02 47 39.4	+5.8
WMQ				PKS	PKSdf	02 49 12.8	+0.1
WMQ				SKS	SKSdf	02 52 44.2	-3.0
WMQ				SKKS	SKKSac	02 54 27.7	-4.2
WMQ				SS	SS	03 04 42.7	+2.2
WMQ				AMB	AMB		
	comp=Z,19nm,11.6s						
WMQ				LR	LR		
	comp=N,410nm,21.0s						
WMQ				LR	LR		
	comp=E,280nm,23.0s						
WMQ				LR	LR		
	comp=Z,390nm,20.6s						
FORT	Forrest	127.40	238	ePKPdf	PKPdf	02 45 39.0	+2.2
TKM2	Tokmak 2	128.97	1	ePKPdf	PKPdf	02 45 42.1	+2.3
LZH	Lanzhou	129.04	332	ePKP	PKPdf	02 45 37.6	-2.4
LZH				sPKP		02 45 44.3	
EKS2	Erkin-Say	129.16	3	ePKPdf	PKPdf	02 45 41.4	+1.4
AAK	Ala-Archa	129.22	2	ePKPdf	PKPdf	02 45 40.1	-0.1
KSH	Kashi	132.38	1	ePKP	PKPdf	02 45 49.6	+3.4
KSH				ePP	PP	02 48 15.8	+8.2
KSH				ePKS	PKSdf	02 49 24.9	+2.1
KSH				eSKS	SKSdf	02 52 59.8	+2.8
KSH				eSKKS	SKKSac	02 55 07.0	+2.5
KSH				eSS	SS	03 05 51.4	+6.7
KSH				AMB	AMB		
	comp=Z,81nm,3.7s						
KSH				LR	LR		
	comp=N,37nm,4.6s						
KSH				LR	LR		
	comp=E,21nm,3.5s						
KSH				LR	LR		
	comp=Z,170nm,4.5s						
CD2	Chengdu	133.23	328	PKP	PKPdf	02 45 49.1	+1.1
KBL	Kabul	136.71	9	ePKPdf	PKPdf	02 45 56.0	+1.4
KAPI	Kappang	137.31	272	ePKPdf	PKPdf	02 45 58.0	+2.1
KKM	Kota Kinabalu	138.25	289	ePKPdf	PKPdf	02 45 58.5	+0.7
KMI	Kunming	138.27	324	PKP	PKPdf	02 46 00.4	+2.7
CHTO	Chiang Mai	145.34	321	ePKPbc	PKPbc	02 46 09.6	-0.3
CMAR	Chiang Mai Arr	145.60	321	PKPbc	PKPdf	02 46 10.0	-0.7
	2.0nm,0.5s,baz=4.6,slow=3.0,SNR=11						
KULM	Kulim	152.70	299	ePKPdf	PKPdf	02 46 22.2	0.0
KULM				ePKPbc	PKiKP	02 46 30.1	+0.7

KULM ePKPab PKPab 02 46 43.8 +4.0
PALK Pallekele 164.03 346 ePKPdf PKPdf 02 46 38.9 +3.1
PALK ePKPab PKPab 02 47 26.0 -2.5

IDC 12 02:29:30.3±2.2, 36°.61N×141°.71E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/25, mbtmp3.5/5, ML4.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/22, Error ellipse: s-maj=46.6km s-min=31.1km az=56.0
ISCJB 12 02:29:33.0±1.1, 36°.50N±0°.09×141°.59E±0°.08, h26km, mb3.3/4, Error ellipse: s-maj=12.9km s-min=9.2km az=163.4
JMA 12 02:29:36.4±0.1, 36°.58N×141°.32E, h46km±3km, M3.4
ISC 12 02:29:35.1±1.5, 36°.60N±0°.08×141°.44E±0°.09, h26km, n24, σ1§00/17, mb3.4/4, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
JHO	Hitachi	0.70	271	⇓P	Pb	02 29 48.7	0.0
JHO				S	Sb	02 29 57.6	-0.4
ONAJ	Iwakimizuishiy	0.72	314	⇓P	Pn	02 29 49.3	-0.3
JFK	Kawauchi	0.89	330	P	Pn	02 29 51.9	-0.1
JYT	Yasato	1.07	250	P	Pn	02 29 53.8	-0.6
JFT	Otama	1.27	316	⇓P	Pb	02 29 58.3	-0.1
JMM	Marumori	1.36	338	⇓P	Pb	02 29 58.8	+0.3
JFY	Yanaizu	1.60	301	P	Pn	02 30 03.1	-1.0
JAG	Ashikaga	1.61	264	P	Pn	02 30 02.1	+0.3
MJAR	Matsushiro Arr	2.70	270	Pn	Pn	02 30 17.1	+1.6
	22nm,0.3s,baz=96,slow=9.9,SNR=78						
MJAR				Sn	Sb	02 30 50.4	-2.2
	7.7nm,0.3s,baz=87,slow=17,SNR=4.5						
MAT	Matsushiro	2.60	270	P	Pn	02 30 16.4	+0.9
MAT				S	Sn	02 30 48.0	+1.7
JCJ	Chichijima	9.50	176	LR	LR	02 36 31.7	
	comp=Z,90nm,18.9s,baz=197,slow=44						
H11N2	WAKE ISLAND Hy	27.91	120	T	T	03 04 46.2	
	baz=315,slow=76,SNR=25						
H11N1	WAKE ISLAND Hy	27.92	120	T	T	03 04 41.1	
	baz=315,slow=76,SNR=26						
H11N3	WAKE ISLAND Hy	27.93	120	T	T	03 04 43.6	
	baz=315,slow=76,SNR=20						
SONM	Songino Array	28.04	305	P	P	02 35 24.5	+0.2
	0.6nm,0.7s,baz=108,slow=8.9,SNR=5.7						
H11S1	WAKE ISLAND Hy	28.61	122	T	T	03 05 34.3	
	baz=318,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	28.61	122	T	T	03 05 35.4	
	baz=318,slow=76,SNR=10						
H11S2	WAKE ISLAND Hy	28.63	122	T	T	03 05 39.0	
	baz=318,slow=76,SNR=9.4						
ZALV	Zalesovo Beam	42.22	313	P	P	02 37 26.3	+0.6
	0.4nm,0.5s,baz=98,slow=7.4,SNR=3.3						
MKAR	Makanchi Array	44.37	302	P	P	02 37 43.7	+0.5
	0.2nm,0.7s,baz=85,slow=9.1,SNR=4.4						
WRA	Warramunga Arr	56.64	188	P	P	02 39 15.3	-0.7
	0.3nm,0.7s,baz=6.3,slow=7.6,SNR=3.0						
H03N2	Juan Fernandez	146.96	97	T	T	05 33 36.8	
	baz=288						
H03N3	Juan Fernandez	146.97	97	T	T	05 33 33.7	
	baz=288,slow=74						
H03N1	Juan Fernandez	146.97	97	T	T	05 33 39.3	
	baz=288,slow=74						

NIED 12 02:42:00, 23°.90N×121°.10E, h26km, Mw4.8 Best double couple: M0 1.92000×10^16 NP1:φs21.00000°, δ38.00000°, λ104.00000°. NP2:φs183.00000°, δ53.00000°, λ79.00000°.
BJI 12 02:42:36.8, 23°.93N×121°.13E, h11km, mB4.9/43, mb4.5/62, ML5.3/11, Ms4.9/72, Ms7 4.8/66
GCMT 12 02:42:38.5±0.5, 24°.01N×120°.95E, h33km±1km, MW4.9/52, Moment Tensor Solution. s23,c29; s52,c73; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.56±.23; Mθθ0.45±.14; Mφφ-3.01±.15; Mrθ-0.81±.17; Mθφ-1.10±.10; Mφr-0.87±.16; Best double couple: M0 3.19600×10^16 NP1:φs209.00000°, δ56.00000°, λ106.00000°. NP2: φs1.00000°, δ37.00000°, λ67.00000°. Principal axes: T 2.8750, Plg73.0000°, Azm162.0000°; N 0.6420, Plg14.0000°, Azm20.0000°; P -3.5170, Plg10.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
TAP 12 02:42:38.6, 23°.90N×121°.08E, h18km, ML5.2, B
JMA 12 02:42:38.5±0.2, 23°.91N×121°.08E, h5km±5km, M4.9
MOS 12 02:42:38.7±0.9, 23°.88N×121°.30E, h33km, mb5.2/58, MS4.6/11, Error ellipse: s-maj=8.5km s-min=4.2km az=118.9
BKK 12 02:42:38.8±0.3, 24°N±4°×12°2E±°, h10km, M4.8/26, mB5.0/12, mb5.0/26, MLv5.7/1, Mw(mB)4.3/12
NEIC 12 02:42:38.5±0.1, 23°.85N×121°.19E, mb5.2/98, ML5.3(TAP), Error ellipse: s-maj=3.3km s-min=2.6km az=97.0
NEIC Felt [II] at T'ai-chung. Also felt at Hsin-chu, Pu-li, T'ai-nan, Taipei and Tou-liu. Recorded [4 TAP] in Nan-t'ou; [3 TAP] in Chang-hua, Hua-lien, Miao-li, T'ai-chung and T'ai-nan; [2 TAP] in Chia-i, I-lan, P'eng-hu, T'ai-tung and Yun-lin; [1 TAP] in Hsin-chu, Kao-hsiung, P'ing-tung and T'ai-pei.
ISCJB 12 02:42:39.8±0.1, 23°.87N±0°.01×121°.14E±0°.01, h39km±1km, mb5.0/177, MS4.5/34, Error ellipse: s-maj=2.3km s-min=1.7km az=37.7
IDC 12 02:42:43.3±2.6, 23°.82N×121°.28E, h62km±23km, mb4.3/23, mb1 4.5/28, mb1mx4.4/36, mbtmp4.6/28, ML3.8/4, MS4.3/16, Ms1 4.3/16, ms1mx4.0/46, Error ellipse: s-maj=15.6km s-min=11.5km az=64.0
ISC 12 02:42:38.8±0.2, 23°.88N±0°.01×121°.17E±0°.02, h21km±1km, h21km:pP-P, n693, σ1§33/829, mb5.0/177, MS4.6/34, 75C-44D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
SSLB	Suanglung	0.22	244	ePn	Pb	02 42 42.8	-2.0
SSLB				eSn	Sb	02 42 46.6	-2.4
SMLT	Sun Moon Lake	0.24	270	⇓iP	Pb	02 42 43.4	-1.7
	baz=258						
ESL	Shilin	0.25	105	⇑iP	Pb	02 42 46.4	+1.3
	baz=104						
WHF	Hehuan Shan	0.28	19	⇑iP	Pb	02 42 45.8	+0.1
	baz=36						
TYC	Yuchr	0.28	275	⇓iP	Pb	02 42 43.8	-1.6
	baz=267						
ESF	Shoufeng Towns	0.31	92	⇓iP	Pn	02 42 48.0	-0.2
	baz=93						
ESF				eS	Sn	02 42 54.0	-0.1
	baz=93						
TWT	Tachien	0.37	1	⇓iP	Pb	02 42 46.4	-0.4
	baz=12						
TEGC	Jichi Village	0.38	117	⇓eP	Pn	02 42 49.8	+0.7
	baz=113						
TEGC				eS	Sn	02 42 57.4	+1.6
	baz=113						
EHY	Hungye	0.40	159	⇑iP	Pn	02 42 48.3	-1.1
	baz=143						
EHY				eS	Sb	02 42 54.5	+1.7
	baz=143						
HWA	Hwalien	0.41	77	⇑P	Pn	02 42 49.2	-0.4
	baz=80						
YUS	Yu-Shan	0.44	207	⇑P	Pb	02 42 48.0	0.0
	baz=200						
TWD	Chiawan	0.44	63	⇑iP	Pn	02 42 49.0	-0.9
	baz=69						
TWD				eS	Sn	02 42 56.8	-0.4
	baz=69						
WNT	Mingjian	0.44	270	⇑iP	Pb	02 42 47.2	-0.7
	baz=267						
WNT				eS	Sb	02 42 53.5	-0.5
	baz=267						
NACB	Ninganchiao	0.49	53	ePn	Pb	02 42 49.0	+0.3
NACB				eSn	Sn	02 42 56.8	-1.6
ALS	Alishan	0.50	222	eP	Pb	02 42 48.7	-0.3
	baz=213						
ALS				eS	Sb	02 42 57.3	+1.4
	baz=213						
YULB	Yu-li	0.50	166	ePn	Pb	02 42 49.2	+0.2
YULB				eSn	Sn	02 42 57.5	-1.3
TCU	Taichung	0.52	301	⇑P	Pb	02 42 48.9	-0.4
	baz=304						
CHN5	Tsauling	0.53	238	⇑iP	Pb	02 42 49.0	-0.6
	baz=232						
TWF1	Yuli	0.54	167	⇑iP	Pn	02 42 50.6	-0.7
	baz=151						
TWF1				eS	Sn	02 43 00.5	+0.7
	baz=151						
NNS	Nan Shan	0.59	19	⇓iP	Pb	02 42 50.5	-0.1
	baz=27						
NNS				eS	Sb	02 42 58.1	-0.5
	baz=27						
WGK	Gukeng	0.59	251	⇑eP	Pb	02 42 49.9	-0.7
	baz=246						
TWQ1	Liyutan	0.59	322	⇑iP	Pb	02 42 50.4	-0.2
	baz=336						
TWQ1				eS	Sn	02 43 00.5	-0.5
	baz=336						
NSY	Sanyi	0.65	325	⇑iP	Pb	02 42 51.9	+0.3
	baz=331						
NSY				eS	Sb	02 43 01.3	+1.1
	baz=331						
EHP	Heping Village	0.68	51	iP	Pn	02 42 53.1	-0.1
	baz=67						
EHP				S	Sn	02 43 03.0	-0.1
	baz=67						
ELDTW	Lidau	0.70	191	⇑iP	Pb	02 42 52.4	-0.1
	baz=189						
CHN2	Minshiung	0.72	241	⇑eP	Pb	02 42 52.3	-0.5
	baz=237						
CHN4	Tsaushan	0.74	225	P	Pb	02 42 53.0	-0.1
	baz=220						
ENA	Nanau	0.76	44	⇑iP	Pn	02 42 54.2	-0.1
	baz=49						
ENA				eS	Sn	02 43 04.0	-1.1
	baz=49						
TPUB	Ta-pu	0.76	221	ePn	Pb	02 42 52.8	-0.6
TPUB				eSn	Sb	02 43 03.9	+0.7
NSTT	Nanjuang	0.76	349	⇓P	Pb	02 42 53.7	+0.3
	baz=2.0						
NSTT				eS	Sb	02 43 03.7	+0.4
	baz=2.0						
CHY	Chiayi	0.78	241	⇑iP	Pb	02 42 53.2	-0.5
	baz=237						
CHKT	Chengkung	0.80	167	⇑iP	Pn	02 42 55.6	+0.8
	baz=161						
CHKT				S	Sn	02 43 08.4	+2.2
	baz=161						
YHNB	Yeheng	0.81	14	ePn	Pb	02 42 53.8	-0.5
YHNB				eSn	Sn	02 43 06.7	+0.2
NSK	Sanguang	0.81	12	⇓iP	Pb	02 42 54.4	+0.1
	baz=19						
NSK				eS	Sn	02 43 06.8	+0.2
	baz=19						
WTCT	Ta-ch'eng	0.81	269	⇑eP	Pb	02 42 53.1	-1.1
	baz=267						
WTCT				eS	Sb	02 43 04.1	-0.6
	baz=267						
WTP	Ta-pu	0.81	219	⇑eP	Pb	02 42 54.0	-0.3
	baz=213						
ENTT	Nioudou	0.84	26	⇓P	Pn	02 42 55.1	-0.3
	baz=26						
TWK	Hsinying	0.87	226	⇑iP	Pb	02 42 54.9	-0.4
	baz=221						
TWK				eS	Sb	02 43 06.7	+0.1
	baz=221						
WSF	Szhu	0.90	255	eP	Pb	02 42 54.6	-1.1
	baz=252						
WSF				eS	Sb	02 43 06.7	-0.5
	baz=252						
CHN1	Nanshi	0.91	220	⇑P	Pb	02 42 55.5	-0.4
	baz=216						
CHN1				eS	Sn	02 43 08.5	-0.4
	baz=216						
HSN	Hsinchu	0.93	349	eP	Pn	02 42 57.3	+0.6
	baz=358						
HSN				eS	Sn	02 43 11.4	+2.0
	baz=358						
TWE	Neicheng	0.95	29	eP	Pn	02 42 57.6	+0.6
	baz=33						
TWE				S	Sn	02 43 11.4	+1.5
	baz=33						
TWC	Suao	0.95	41	⇑iP	Pn	02 42 57.7	+0.7
	baz=38						
TWC				S	Sn	02 43 10.5	+0.5
	baz=38						
SGST	Jiashian	0.96	214	eP	Pn	02 42 57.1	0.0
	baz=210						
SGST				eS	Sn	02 43 11.1	+1.0
	baz=210						
CHN8	Yiju	1.03	239	⇑eP	Pb	02 42 57.2	-0.7
	baz=236						
CHN8				eS	Sn	02 43 12.0	+0.3
	baz=236						
ILA	Ilan	1.03	31	eP	Pn	02 42 59.0	+1.0
	baz=42						
TWG	Pinlang	1.06	185	ePn	Pb	02 42 58.9	+0.4
TWG				eSn	Sn	02 43 14.9	+2.3
TWG	Pinlang	1.06	185	eP	Pb	02 42 59.3	+0.8
	baz=175						
TWG				S	Sn	02 43 14.0	+1.4
	baz=175						
NCU	National Centr	1.08	1	eP	Pb	02 42 59.4	+0.5
	baz=7.0						
NCU				eS	Sn	02 43 14.7	+1.5
	baz=7.0						
CHN3	Shinhua	1.09	223	eP	Pb	02 42 59.6	+0.6
	baz=221						
CHN3				S	Sn	02 43 15.3	+2.1
	baz=221						
TTN	Taitung	1.12	181	eP	Pb	02 43 00.5	+1.0
	baz=177						
TATO	Taipei	1.13	15	ePn	Pb	02 43 00.5	+0.8
TATO				eSn	Sn	02 43 14.8	+0.6
SCLT	Jiali	1.14	232	P	Pn	02 42 59.5	0.0
	baz=229						
SCLT				iS	Sn	02 43 15.9	+1.4
	baz=229						
EGS		1.19	36	eP	Pb	02 43 01.9	+1.3
	baz=50						
TAP	Taipei	1.19	15	eP	Pb	02 43 01.0	+0.2
	baz=28						
TAP				eS	Sn	02 43 20.5	+4.6
	baz=28						
TAP1	Taipei	1.20	16	eP	Pb	02 43 01.5	+0.7
	baz=28						
TAP1				eS	Sn	02 43 19.1	+3.2
	baz=28						
TAI1	Yung-k'ang	1.20	226	eP	Pb	02 43 00.8	0.0
	baz=232						
TAI1				eS	Sn	02 43 17.2	+1.2
	baz=232						
SSD	Sandimen	1.23	204	⇓P	Pb	02 43 01.7	+0.2
	baz=201						
SSD				S	Sb	02 43 19.3	+2.4
	baz=201						
TWS1	Kuangyinshan	1.23	11	⇑P	Pb	02 43 02.1	+0.6
	baz=17						
TWS1				eS	Sb	02 43 19.3	+2.4
	baz=17						
TWM1	Shoushan	1.26	213	eP	Pb	02 43 02.9	+1.0
	baz=228						
ECL	Taimali	1.29	189	eP	Pb	02 43 03.0	+0.5
	baz=172						
SGLT	Jiouru	1.31	208	eP	Pb	02 43 04.0	+1.2
	baz=222						
NWF	Wu-fen Shan	1.31	25	eP	Pb	02 43 04.0	+1.2
	baz=30						
NWF				eS	Sb	02 43 23.4	+4.2
	baz=30						
TWB1	Santiao Chiao	1.35	34	P	Pb	02 43 05.0	+1.5
	baz=39						
TWB1				S	Sb	02 43 23.1	+2.9
	baz=39						
TWY	Chenhua	1.44	16	eP	Pb	02 43 05.2	+0.2
	baz=20						
PNG	Penghu	1.51	258	⇑P	Pn	02 43 03.7	-0.9
	baz=250						
PNG				eS	Sn	02 43 22.4	-1.2
	baz=250						
WDGT	Dungji	1.51	246	⇑P	Pn	02 43 03.8	-0.9
	baz=244						
WDGT				eS	Sn	02 43 23.3	-0.5
	baz=244						
EAST	Anshuo	1.52	191	⇓eP	Pb	02 43 06.5	+0.1
	baz=190						
EAST				eS	Sb	02 43 28.3	+3.1
	baz=190						
KAU	Kaohsiung	1.53	211	eP	Pb	02 43 07.4	+0.9
	baz=211						
TAW	Tawu	1.54	189	eP	Pb	02 43 06.4	-0.2
	baz=178						
TAW				eS	Sb	02 43 29.2	+3.6
	baz=178						
SCZT	Fangliau	1.58	199	⇓eP	Pb	02 43 06.8	-0.6
	baz=217						
SCZT				eS	Sb	02 43 29.0	+2.0
	baz=217						
TWP	Hsiaoliuchiu	1.70	206	eP	Pb	02 43 12.0	+2.6
	baz=206						
JYNG	Yonagunijimaku	1.72	70	P	Pb	02 43 09.8	+0.1
JYNG				S	Sb	02 43 31.9	+1.0
YOJ	Yonaguni jima	1.78	71	eP	Pb	02 43 09.6	-1.1
YOJ	Yonaguni jima	1.78	71	P	Pb	02 43 10.0	-0.8
YOJ				S	Sb	02 43 31.6	-1.0
YOJ	Yonaguni jima	1.78	71	ePn	Pb	02 43 09.6	-1.1
YOJ	Yonaguni jima	1.78	71	⇓P	Pb	02 43 09.8	-0.9
	baz=82						
YOJ				eS	Sb	02 43 33.1	+0.5
	baz=82						
LAY	Lan-yu	1.87	169	eP	Pn	02 43 10.1	+0.5
	baz=153						
HEN	Hengchun	1.91	192	eP	Pb	02 43 12.0	-0.9
	baz=200						
HEN				eS	Sb	02 43 41.2	+4.9
	baz=200						
TWK1	Hengchun	1.96	190	⇑eP	Pb	02 43 12.6	-1.2
	baz=207						
TWK1				eS	Sb	02 43 39.7	+1.9
	baz=207						
TSEB	Hengchuen, Pin	1.99	187	eP	Pb	02 43 13.0	-1.3
	baz=182						
IRIF	Iriomote-Funau	2.38	79	P	Pn	02 43 18.5	+1.8
IRIF				S	Sb	02 43 47.6	-2.5
HATJ	Hateruma jima	2.42	85	P	Pn	02 43 19.0	+1.8
HATJ				S	Sb	02 43 48.6	-2.5
KNM	Kinmen	2.55	283	⇑eP	Pn	02 43 19.0	0.0
	baz=280						
QZH	Quanzhou	2.57	295	⇓iPn	Pn	02 43 17.3	-2.0
QZH				Sn	Sn	02 43 47.6	-2.4
QZH				smax	smax		
	comp=N,7μm,0.8s						
QZH				smax	smax		
	comp=E,8μm,0.8s						
QZH				LR	LR		
	comp=N,24μm,6.4s						
QZH				LR	LR		
	comp=E,25μm,7.5s						
QZH				LR	LR		
	comp=Z,32μm,10.6s						
JKRS	Kuro-shima	2.62	82	P	Pb	02 43 22.9	-2.2
JKRS				eS	Sb	02 43 55.3	-1.6
JIJ	Ishigaki jima	2.76	79	P	Pn	02 43 23.2	+1.3
JIJ				S	Sn	02 43 56.2	+1.6
JISG	Ishigakijimahi	2.96	76	P	Pn	02 43 26.1	+1.6
JISG				S	Sn	02 44 00.6	+1.2
JTJ	Tarama	3.31	76	P	Pn	02 43 31.1	+1.6
SZP	Santa	6.33	186	ePn	Pn	02 44 11.1	0.0
SZP				eSn	Sn	02 45 20.1	-2.6
JOW	Kunigami	7.07	64	P	Pn	02 44 21.9	+0.8
	1.8nm,0.3s,baz=128,slow=24,SNR=9.7						
JOW				S	Sn	02 45 29.1	-12
	1.3nm,0.3s,baz=291,slow=18,SNR=4.2						
JOW	Kunigami	7.07	64	eP	Pn	02 44 21.7	+0.6
	baz=68						
SSE	Sheshan	7.19	0	eP	Pn	02 44 21.7	-1.0
SSE				S	Sn	02 45 39.3	-4.4
SSE				pmax	pmax		
	comp=Z,46nm,0.9s						
SSE				pmax	pmax		
	comp=Z,140nm,3.8s						
SSE				smax	smax		
	comp=N,560nm,1.2s						
SSE				smax	smax		
	comp=E,620nm,1.1s						
SSE				LR	LR		
	comp=N,3μm,12.7s						
SSE				LR	LR		
	comp=E,910nm,12.7s						
SSE				LR	LR		
	comp=Z,3μm,10.7s						
NJ2	Nanjing	8.39	346	eP	Pn	02 44 36.8	-2.4
NJ2				pP	pP	02 44 40.9	
NJ2				sP		02 44 48.7	
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,480nm,4.2s						
NJ2				LR	LR		
	comp=N,14μm,13.8s						
NJ2				LR	LR		
	comp=E,14μm,16.0s						
NJ2				LR	LR		
	comp=Z,14μm,15.0s						
WHN	Wuhan	8.99	319	⇑P	Pn	02 44 45.5	-1.9
WHN				S	Sn	02 46 22.3	-5.7
WHN				LR	LR		
	comp=N,10μm,7.2s						
WHN				LR	LR		
	comp=E,11μm,12.3s						
WHN				LR	LR		
	comp=Z,16μm,11.7s						
TGY	Tagaytay City	9.73	181	LR	LR	02 48 55.7	
	comp=Z,56nm,20.4s,baz=121,slow=38						
QIZ	Qiongzhong	11.60	248	P	Pn	02 45 23.1	-0.1
QIZ				S	Sn	02 47 33.4	+1.3
QIZ				pmax	pmax		
	comp=Z,21nm,1.7s						
QIZ				LR	LR		
	comp=N,2μm,15.1s						
QIZ				LR	LR		
	comp=Z,2μm,16.4s						
QIZ	Qiongzhong	11.60	248	ePn	Pn	02 45 24.2	+1.0
	124nm,1.4s						
ENH	Enshi	12.19	304	ePn	Pn	02 45 30.7	-0.7
	20nm,1.0s						
JNU	Nakatsue	12.55	41	P	Pn	02 45 39.2	+3.0
	0.5nm,0.3s,baz=224,slow=4.4,SNR=5.9						
JNU	Nakatsue	12.55	41	ePn	Pn	02 45 34.6	-1.6
TIA	Tai'an	12.78	345	P	Pn	02 45 41.7	+2.4
TIA				LR	LR		
	comp=N,4μm,11.3s						
TIA				LR	LR		
	comp=E,2μm,11.0s						
TIA				LR	LR		
	comp=Z,5μm,11.9s						
GYA	Guiyang	13.38	284	⇑iP	Pn	02 45 46.0	-1.7
GYA				pP	P	02 45 55.3	-1.8
GYA				PP	PnPn	02 46 01.0	+5.4
GYA				S	Sn	02 48 19.4	+3.5
GYA				pmax	pmax		
	comp=Z,80nm,0.9s						
GYA				pmax	pmax		
	comp=Z,140nm,4.6s						
GYA				LR	LR		
	comp=N,620nm,16.5s						
GYA				LR	LR		
	comp=E,550nm,17.0s						
GYA				LR	LR		
	comp=Z,650nm,16.3s						
TJN	Taejon	13.55	22	eP	Pn	02 45 50.8	+0.9
KSAR	Wonju Array Be	14.69	22	P	P	02 46 09.8	-1.7
KSAR	Wonju Array Be	14.69	22	P	P	02 46 09.8	-1.7
KSRS	Korea Array	14.72	22	P	P	02 46 09.8	-1.9
	0.7nm,0.3s,baz=197,slow=11,SNR=23						
KSRS				LR	LR	02 52 11.1	
	comp=Z,604nm,19.6s,baz=194,slow=39						
XAN	Xi'an	14.73	316	P	Pn	02 46 04.5	-1.5
XAN				S	Sn	02 48 45.8	-2.8
XAN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
XAN				LR	LR		
	comp=N,1μm,10.7s						
XAN				LR	LR		
	comp=E,950nm,11.7s						
XAN				LR	LR		
	comp=Z,1μm,13.5s						
TIY	Taiyuan	15.68	334	P	P	02 46 21.5	-1.1
TIY				LR	LR		
	comp=N,3μm,8.1s						
TIY				LR	LR		
	comp=E,2μm,6.6s						
TIY				LR	LR		
	comp=Z,4μm,14.1s						
SLVN	Son La	16.14	264	ePn	Pn	02 46 24.2	-0.4
	65nm,0.9s						
BJT	Baijiatuau	16.63	346	eP	P	02 46 31.8	-1.2
BJT				pmax	pmax		
	comp=Z,29nm,0.8s						
BJT	Baijiatuau	16.63	346	ePn	P	02 46 31.8	-1.2
	comp=Z,29nm,0.8s						
BJI	Beijing	16.65	347	P	P	02 46 32.7	-0.5

BJI S Sn 02 49 39.9 +4.7
BJI pmax pmax
comp=Z,13nm,1.2s
BJI pmax pmax
comp=Z,61nm,5.4s
BJI LR LR
comp=Z,2μm,13.7s
BJI LR LR
comp=Z,1μm,14.5s
BJI LR LR
comp=Z,940nm,15.3s
KMI Kunming 16.82 278 P **Pn 02 46 32.3 -1.1**
KMI pP **P 02 46 38.0 +2.6**
KMI sP **sP 02 46 41.1 -3.0**
KMI PP **PnPn 02 46 48.6 +5.7**
KMI S **Sn 02 49 39.5 -0.3**
KMI sS **S 02 49 48.2 -2.0**
KMI SS **SnSn 02 50 00.7 +7.7**
KMI pmax pmax
comp=Z,230nm,4.5s
KMI LR LR
comp=Z,2μm,12.5s
KMI LR LR
comp=Z,4μm,9.3s
KMI LR LR
comp=Z,5μm,9.9s
DLV T Lat 16.91 228 *e*Pn **Pn 02 46 33.7 -0.8**
comp=Z,45nm,1.2s
CD2 Chengdu 16.96 298 P **Pn 02 46 34.7 -0.2**
CD2 pP **P 02 46 39.6 +2.9**
CD2 sP **sP 02 46 43.5 -1.9**
CD2 PP **PnPn 02 46 49.2 +4.5**
CD2 S **Sn 02 49 42.0 -0.9**
CD2 sS **S 02 49 50.0 -2.8**
CD2 SS **SnSn 02 50 03.0 +6.8**
CD2 pmax pmax
comp=Z,50nm,1.3s
CD2 pmax pmax
comp=Z,190nm,4.5s
CD2 LR LR
comp=Z,5μm,9.5s
CD2 LR LR
comp=Z,6μm,9.5s
UBPT Khong Chiam 17.07 243 P P 02 46 45.0 +7.0
comp=Z,25nm,1.4s
SNY Shenyang 18.01 6 ⇑P P 02 46 57.0 +8.8
SNY S **Sn 02 50 10.7 +2.6**
SNY pmax pmax
comp=Z,23nm,1.2s
SNY pmax pmax
comp=Z,3μm,3.5s
SNY LR LR
comp=N,1μm,10.5s
SNY LR LR
comp=E,1μm,10.9s
SNY LR LR
comp=Z,1μm,11.8s
KKM Kota Kinabalu 18.36 196 *e*Pn **Pn 02 46 54.6 +2.2**
comp=Z,130nm,1.0s
HHC Hu-ho-hao-te 18.74 337 *e*P **Pn 02 46 58.6 +1.7**
HHC pP **pP 02 47 02.4 +0.1**
HHC PP **PnPn 02 47 14.2 +5.1**
HHC S **Sn 02 50 24.5 -1.4**
HHC sS **S 02 50 32.1 +3.4**
HHC SS **SnSn 02 50 49.5 +9.4**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,350nm,3.5s
HHC LR LR
comp=Z,3μm,11.4s
HHC LR LR
comp=Z,1μm,10.4s
HHC LR LR
comp=Z,3μm,14.1s
BTO Baotou 19.13 333 *e*P **Pn 02 47 02.2 +0.7**
CBIJ Chichi jima 19.24 76 P **Pn 02 47 02.8 -0.1**
JCJ Chichijima 19.24 76 P **Pn 02 47 02.8 -0.1**
comp=Z,4.3nm,0.3s,baz=263,slow=16,SNR=3.5
JCJ LR LR 02 54 02.1
comp=Z,724nm,20.2s,baz=250,slow=35
LZH Lanzhou 19.28 313 ⇓P **Pn 02 47 04.3 +0.8**
LZH pP **pP 02 47 10.8 +2.5**
LZH sP **sP 02 47 13.4 +2.3**
LZH PP **PnPn 02 47 22.3 +5.7**
LZH S **Sn 02 50 39.4 +0.3**
LZH sS **sS 02 50 47.1 -2.3**
LZH SS SnSn 02 51 04.1 +11
LZH pmax pmax
comp=Z,100nm,1.3s
LZH pmax pmax
comp=Z,320nm,4.0s
LZH LR LR
comp=Z,3μm,10.6s
LZH LR LR
comp=Z,4μm,10.9s
LZH LR LR
comp=Z,6μm,11.2s
MAJO Matsushiro 19.36 45 *e*P P 02 46 55.6 -7.5
MAJO Matsushiro 19.36 45 *e*P P 02 46 55.5 -7.5
MAT Matsushiro 19.36 45 P Pn 02 47 12.5 +8.3
MJAR Matsushiro Arr 19.36 45 P **Pn 02 47 03.8 -0.4**
comp=Z,0.6nm,0.3s,baz=248,slow=12,SNR=2.8
MJAR LR LR 02 55 09.6
comp=Z,519nm,21.6s,baz=235,slow=39
CN2 Changchun 20.18 9 *e*P Pn 02 47 14.6 +0.7
CN2 *e*pP pP 02 47 21.3 +3.4
CN2 *e*S **S 02 50 55.0 -2.5**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=Z,2μm,14.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,2μm,15.0s
UTTA Uttaradit 20.20 256 P Pn 02 47 24.9 +11
PBKT Sadao Pong 20.29 253 P Pn 02 47 17.9 +2.6
comp=Z,36nm,1.1s,comp=Z,1μm
LAMP Lampang 20.77 259 P Pn 02 47 28.5 +7.5
comp=Z,9.5nm,0.8s,comp=Z,81nm
CMAI Chiengmai2 20.89 263 P Pn 02 47 25.2 +2.5
comp=Z,31nm,1.1s
SUKH Sukhothai 21.12 257 P P 02 47 32.1 +10
comp=Z,7.2nm,1.2s,comp=Z,76nm
VLA Vladivostok 21.13 22⇓*i*P **P 02 47 20.2 -2.0**
VLA *i* 02 47 40.0
VLA pmax pmax
comp=Z,34nm,0.8s
CMMT Chiang Mai 21.29 261 P P 02 47 29.7 +5.5
comp=Z,52nm,1.1s,comp=Z,634nm
CHTO Chiang Mai 21.30 261 *e*P **P 02 47 25.1 +0.8**
CHTO pmax pmax
comp=Z,33nm,1.0s
CHTO Chiang Mai 21.30 261 P P 02 47 29.7 +5.5
comp=Z,145nm,0.9s,comp=Z,2μm
CHTO Chiang Mai 21.30 261 *e*P **P 02 47 25.1 +0.8**
comp=Z,33nm,1.0s
CMAR Chiang Mai Arr 21.41 260*ce*P **P 02 47 26.2 +0.8**
CMAR pmax pmax
comp=Z,3.0nm,0.3s
CMAR Chiang Mai Arr 21.41 260 P **P 02 47 28.6 +3.1**
comp=Z,2.5nm,0.3s,baz=67,slow=7.7,SNR=8.4
CMAR LR LR 02 56 10.3
comp=Z,578nm,20.0s,baz=74,slow=38
MDJ Mudanjiang 21.80 16 P **P 02 47 30.3 +0.9**
MDJ pP **pP 02 47 35.9 +0.5**
MDJ sP **sP 02 47 38.4 +0.2**
MDJ S **S 02 51 30.8 +1.3**
MDJ PcS **PcS 02 55 08.0 +0.6**
MDJ pmax pmax
comp=Z,12nm,1.7s
MDJ pmax pmax
comp=Z,86nm,4.2s
MDJ LR LR
comp=Z,920nm,12.0s
MDJ LR LR
comp=Z,470nm,13.2s
MDJ LR LR
comp=Z,1μm,15.6s
MDJ Mudanjiang 21.80 16 *e*P **P 02 47 28.4 -1.0**
comp=Z,16nm,0.9s
USRK Ussuriysk Arra 22.12 21 P **P 02 47 34.8 +1.9**
comp=Z,5.1nm,0.7s,baz=204,slow=9.6,SNR=8.7
USRK LR LR 02 56 44.9
comp=Z,452nm,18.6s,baz=180,slow=38

SRDT SRDT 22.86 249 P P 02 47 54.1 +13
SBUM Sibu 23.00 203 *e*P **P 02 47 42.0 -0.4**
comp=Z,154nm,1.7s
SBUM Sibu 23.00 203 ⇓P **P 02 47 42.2 -0.2**
MRSI Marisa 23.28 178 P **P 02 47 47.2 +2.0**
comp=Z,66nm,1.2s,comp=Z,999nm
TNTI Ternate 23.75 164 P **P 02 47 51.7 +1.9**
comp=Z,142nm,1.1s
TNTI Ternate 23.75 164 *e*P **P 02 47 48.8 -1.0**
comp=Z,176nm,1.1s
GTA Gaotai 23.79 316 ⇓P **P 02 47 50.3 +0.1**
GTA pP **pP 02 47 55.8 -0.7**
GTA sP **sP 02 47 59.2 0.0**
GTA PcP **PcP 02 51 34.9 +1.4**
GTA S **S 02 52 07.3 +2.5**
GTA sS **sS 02 52 17.0 +1.7**
GTA pmax pmax
comp=Z,260nm,5.9s
GTA LR LR
comp=Z,2μm,12.6s
GTA LR LR
comp=Z,3μm,12.4s
GTA LR LR
comp=Z,3μm,12.4s
GUMO Guam 24.63 110 *e*P **P 02 47 59.9 +1.9**
GUMO *e**PP pP 02 48 13.4 +9.0
GUMO pmax pmax
comp=Z,663nm,1.4s
GUMO Guam 24.63 110 *e*P **P 02 47 59.9 +1.9**
comp=Z,663nm,1.4s
GUMO *e*pP pP 02 48 13.4 +9.0
KSM Kuching 24.63 207 *e*P **P 02 47 57.2 -0.8**
KSM Kuching 24.63 207 ⇓P **P 02 47 58.3 +0.2**
APSI Ampana 24.65 179 P **P 02 47 58.0 -0.1**
comp=Z,127nm,0.9s,comp=Z,2μm
LUWI Luwuk 24.82 176 P **P 02 47 59.6 -0.1**
comp=Z,372nm,1.3s,comp=Z,6μm
LUWI Luwuk 24.82 176 *e*P **P 02 47 59.0 -0.7**
comp=Z,529nm,1.2s
LBMI Labuha 25.14 165 P P 02 48 10.7 +8.1
KTGM Kuala Trenggan 25.33 226 ⇓P **P 02 48 03.2 -1.2**
HIA Hailar 25.36 358 *e*P **P 02 48 04.0 -0.4**
HIA pmax pmax
comp=Z,47nm,1.2s
HIA Hailar 25.36 358 *e*P **P 02 48 04.0 -0.4**
comp=Z,47nm,1.2s
MTKI Muara Teweh, K 25.42 195 P **P 02 48 06.5 +1.4**
comp=Z,266nm,0.3s,comp=Z,16μm
STKI Sintang 25.47 203 P **P 02 48 07.0 +1.4**
comp=Z,131nm,1.4s,comp=Z,18μm
SANI Sanana 26.20 169 P **P 02 48 10.3 -1.9**
comp=Z,37nm,1.4s
ULN Ulaanbaatar 26.44 338*ce*P **P 02 48 15.2 +0.9**
ULN pmax pmax
comp=Z,26nm,1.7s
ULN Ulaanbaatar 26.44 338 *e*P **P 02 48 15.2 +0.9**
comp=Z,42nm,1.1s
SHL Shillong 26.63 280 *e*P P 02 48 25.0 +8.7
KLR Kul'dur 26.64 16 *e*P **P 02 48 11.8 -4.1**
KLR MLR MLR
comp=E,1μm,16.5s
KLR MLR MLR
comp=E,900nm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s
SONM Songino Array 26.64 337 P **P 02 48 16.5 +0.4**
comp=Z,5.7nm,0.8s,baz=158,slow=9.6,SNR=42
SONM LR LR 02 59 20.8
comp=Z,784nm,22.0s,baz=150,slow=37
ASAJ Asahikawa 26.75 36 LR LR 02 59 22.8
comp=Z,927nm,19.3s,baz=317,slow=37
TTSI Tana Toraja 26.80 183 P **P 02 48 16.4 -1.2**
comp=Z,36nm,1.0s,comp=Z,3μm
KULM Kulim 27.05 230 *e*P **P 02 48 19.5 -0.4**
comp=Z,17nm,1.1s
LSA Lhasa 27.37 289 P **P 02 48 24.7 +1.4**
LSA S **S 02 53 04.3 +1.7**
LSA LR LR
comp=Z,2μm,16.5s
LSA Lhasa 27.37 289 *e*P **P 02 48 24.2 +0.9**
LSA pmax pmax
comp=Z,29nm,0.9s
LSA Lhasa 27.37 289 *e*P **P 02 48 24.1 +0.9**
comp=Z,29nm,0.9s
IPM Ipoh 27.37 228 *e*P **P 02 48 22.5 -0.4**
comp=Z,25nm,0.8s
IPM Ipoh 27.37 228 ⇑P **P 02 48 21.2 -1.6**
NLAI Namlea 27.57 167 P **P 02 48 26.3 +1.8**
comp=Z,120nm,0.8s
SPSI Sidrap Palu 27.71 183 P **P 02 48 25.5 -0.3**
comp=Z,21nm,1.1s,comp=Z,3μm
KGM Kluang 27.77 221 ⇓P **P 02 48 24.5 -1.8**
BBKI Banjar Baru 27.87 194 P **P 02 48 27.8 +0.6**
comp=Z,74nm,1.3s,comp=Z,4μm
FRIM Kepong 27.89 226 ⇓P **P 02 48 26.0 -1.4**
YUK Yuzh-Kuril'sk 28.52 39 P **P 02 48 30.5 -2.2**
YUK *e* 02 49 20.6
YUK *i* S **S 02 53 16.7 -2.7**
YUK MLR MLR
comp=N,989nm,19.0s
YUK MLR MLR
comp=E,507nm,19.0s
YUK MLR MLR
comp=Z,647nm,19.0s
KAPI Kappang 28.75 183 *e*P **P 02 48 33.7 -1.4**
comp=Z,175nm,1.3s
YSS Yuzh-Sakhalins 28.79 32 *e*P **P 02 48 38.0 +2.8**
YSS *e* 02 48 44.8
YSS MLR MLR
comp=Z,500nm,13.0s
YSS MLR MLR
comp=N,500nm,15.0s
YSS Yuzh-Sakhalins 28.79 32 *e*P **P 02 48 34.8 -0.4**
TPI Tanjungpandan 29.57 208 P **P 02 48 43.2 +0.9**
comp=N,36nm,1.4s,comp=N,451nm
ZAK Zakamensk 29.89 337 *e*P **P 02 48 42.9 -2.1**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
TAPN Taplejung 30.31 284 *e*P **P 02 48 50.3 +1.0**
ODAN Odare 30.61 283 *e*P **P 02 48 52.8 +0.9**
TLY Talaya 30.85 339 *e*P **P 02 48 54.5 +1.1**
TLY pmax pmax
comp=Z,8.0nm,0.7s
TLY MLR MLR
comp=Z,1μm,16.0s
TLY Talaya 30.85 339 *e*P **P 02 48 54.2 +0.8**
comp=Z,8.4nm,0.8s
MNSI Mandailing Nat 31.06 225 P **P 02 48 55.9 +0.4**
comp=Z,116nm,0.8s,comp=Z,12μm
RAMN Ramite 31.31 283 *e*P **P 02 48 58.9 +0.8**
comp=Z,92nm,1.2s
KMMI Kalianget 31.54 194 P **P 02 49 00.3 +0.6**
comp=Z,26nm,1.1s,comp=Z,2μm
JIRN Jiri 31.66 284 *e*P **P 02 49 02.4 +1.2**
comp=Z,23nm,0.7s
MOY Mondy 31.78 336 *e*P P 02 49 07.9 +6.2
GUN Gumba 31.93 285 *e*P **P 02 49 04.5 +0.9**
BLJI Banyuglugur 32.29 194 P **P 02 49 06.7 +0.4**
comp=Z,70nm,1.0s,comp=Z,3μm
MMRI Maumere 32.34 178 P **P 02 49 05.6 -1.2**
comp=Z,86nm,1.1s,comp=Z,2μm
MMRI Maumere 32.34 178 *e*P **P 02 49 05.5 -1.2**
comp=Z,86nm,1.0s
PKI Pulchoki 32.35 284 *e*P **P 02 49 08.9 +1.6**
KKN Kakani 32.46 285 *e*P **P 02 49 09.0 +0.9**
DMN Daman 32.62 284 *e*P **P 02 49 10.2 +0.6**
comp=Z,57nm,1.3s
GMJI Gumukmas 32.84 194 P **P 02 49 10.9 -0.2**
comp=Z,28nm,1.1s,comp=Z,846nm
PWJI Pagerwojo 33.00 197 P **P 02 49 12.4 -0.2**
comp=Z,89nm,0.8s,comp=Z,727nm
IGBI Denpasar 33.03 191 P **P 02 49 15.1 +2.3**
comp=Z,40nm,1.2s
WOJI Wonogiri, Jawa 33.08 199 P **P 02 49 13.9 +0.7**
comp=Z,196nm,1.1s,comp=Z,5μm
KPJI Karang Pucung 33.25 203 P **P 02 49 16.4 +1.7**
comp=Z,104nm,1.1s
LEM Lembang 33.26 205 P **P 02 49 16.7 +1.6**
comp=Z,78nm,1.0s
UGM Wanagama 33.27 199 P **P 02 49 14.9 0.0**
comp=Z,137nm,1.3s
UGM Wanagama 33.27 199 *e*P **P 02 49 14.7 -0.3**
comp=Z,179nm,1.2s
PCJI Pacitan 33.34 198 P **P 02 49 15.6 +0.1**
comp=Z,42nm,1.3s
SOEI Soe 33.57 174 P pP 02 49 27.7 +3.6

SOEI Soe 33.57 174 *e*P **P 02 49 16.5 -1.2**
comp=Z,32nm,0.9s
SOEI *e*pP **pP 02 49 25.3 +1.2**
DANN Dangsing 33.79 286 *e*P **P 02 49 21.2 +1.4**
comp=Z,32nm,0.8s
WMQ Urumqi 33.85 314 P **P 02 49 21.7 +1.8**
WMQ pP **pP 02 49 27.6 +1.2**
WMQ sP **sP 02 49 30.5 +1.5**
WMQ PP **PP 02 50 35.4 -1.2**
WMQ PcP **PcP 02 52 00.2 +1.7**
WMQ S **S 02 54 44.3 +1.2**
WMQ sS **sS 02 54 54.5 +0.8**
WMQ PcS **PcS 02 55 45.1 +0.7**
WMQ SS **SnSn 02 56 50.0 +1.1**
WMQ ScS **ScS 02 59 43.0 -0.8**
WMQ pmax pmax
comp=Z,20nm,1.0s
WMQ pmax pmax
comp=Z,240nm,3.8s
WMQ LR LR
comp=Z,1μm,13.0s
WMQ LR LR
comp=Z,2μm,13.0s
WMQ LR LR
comp=Z,680nm,14.2s
CISI Cisompet, Garu 33.86 204 P **P 02 49 20.2 +0.1**
comp=Z,54nm,0.9s,comp=Z,7μm
CISI Cisompet, Garu 33.86 204 *e*P **P 02 49 19.3 -0.8**
comp=Z,27nm,0.6s
KOLN Koldanda 33.95 285 *e*P **P 02 49 21.7 +0.6**
comp=Z,38nm,0.9s
MK31 Makanchi Array 38.54 316 *e*P **P 02 50 00.1 +0.2**
MK31 pmax pmax
comp=Z,23nm,0.8s
MK31 Makanchi Array 38.54 316 *e*P **P 02 50 00.6 +0.6**
MKAR Makanchi Array 38.54 316 P **P 02 50 00.7 +0.8**
comp=Z,5.0nm,0.7s,baz=111,slow=9.4,SNR=64
MKAR LR LR 03 07 01.3
comp=Z,505nm,18.8s,baz=104,slow=38
YAK Yakutsk 38.57 6 *e*P **P 02 49 58.9 -0.9**
YAK pmax pmax
comp=Z,17nm,0.6s
HYB Hyderabad 40.28 269 *i* P P 02 50 20.0 +5.3
ZAA0 Zalesovo Array 40.49 327 *e*P **P 02 50 15.6 -0.3**
ZAA0 *e*pP **pP 02 50 21.9 -0.6**
ZALV Zalesovo Beam 40.49 327 *i* P **P 02 50 16.0 0.0**
ZALV pmax pmax
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 40.49 327 P **P 02 50 16.0 0.0**
comp=Z,13nm,0.8s,baz=111,slow=8.1,SNR=65
ZALV LR LR 03 08 12.2
comp=Z,653nm,18.9s,baz=74,slow=38
PET Petropavlovsk 40.57 34 *e*P **P 02 50 17.9 +1.3**
PET pmax pmax
comp=Z,10.0nm,0.9s
PET MLR MLR
comp=Z,300nm,18.0s
KSH Kashi 41.05 303 *e*P P 02 50 26.1 +5.1
KSH *e*sP sP 02 50 30.4 +0.2
KSH *e*PP **PnPn 02 52 05.4 +5.2**
KSH PcS **PcS 02 56 14.9 +3.2**
KSH *e*S S 02 56 39.1 +6.5
KSH *e*SS **SnSn 02 59 39.9 -3.1**
KSH pmax pmax
comp=Z,10.0nm,1.2s
KSH pmax pmax
comp=Z,100nm,5.8s
KSH LR LR
comp=Z,760nm,10.7s
KSH LR LR
comp=Z,550nm,13.9s
KSH LR LR
comp=Z,770nm,13.9s
ULHL Ulahol 41.33 307 P P 02 50 31.2 +7.8
SNR=5.2
ULHL Ulahol 41.33 307 *i* P P 02 50 31.2 +7.8
PMG Port Moresby 41.71 139⇑*i*P **P 02 50 25.9 -0.5**
PMG pmax pmax
comp=Z,20nm,1.0s
PMG Port Moresby 41.71 139 *e*P **P 02 50 26.1 -0.4**
comp=Z,17nm,0.9s
NVS Novosibirsk 41.75 328 *e*P **P 02 50 25.3 -1.0**
NVS *e* 02 52 04.2
NVS pmax pmax
comp=N,11nm,1.4s
NVS pmax pmax
comp=E,19nm,1.4s
NVS pmax pmax
comp=Z,25nm,1.4s
TKM2 Tokmak 2 41.94 308 P **P 02 50 30.8 +2.4**
SNR=8.3
TKM2 Tokmak 2 41.94 308 *e*P **P 02 50 30.0 +1.7**
TKM2 *e**PP **pP 02 50 35.5 +0.6**
TKM2 pmax pmax
comp=Z,16nm,0.9s
TKM2 Tokmak 2 41.94 308 *e*P **P 02 50 30.0 +1.7**
comp=Z,16nm,0.9s
TKM2 *e*pP **pP 02 50 35.5 +0.6**
KZA Kyzart 42.02 307 P P 02 50 37.8 +8.5
SNR=7.8
KZA Kyzart 42.02 307 *i* P P 02 50 37.8 +8.5
KURK Kurchatov 42.31 320 P **P 02 50 31.2 +0.2**
comp=Z,69nm,1.0s,SNR=7.8
KURK Kurchatov 42.31 320 *e*P **P 02 50 31.1 +0.1**
KURK *e**PP **pP 02 50 37.3 -0.2**
KURK pmax pmax
comp=Z,17nm,1.1s
KURK Kurchatov 42.31 320 *e*P **P 02 50 31.1 +0.1**
comp=Z,18nm,1.1s
KURK *e*pP **pP 02 50 37.3 -0.2**
H11N1 WAKE ISLAND Hy 42.52 86 T T 03 35 45.1
baz=286,slow=75,SNR=28
H11N2 WAKE ISLAND Hy 42.52 86 T T 03 35 44.5
baz=286,slow=75,SNR=36
H11N3 WAKE ISLAND Hy 42.54 86 T T 03 35 46.6
baz=286,slow=75,SNR=54
CHMS Chumysh 42.56 308 P P 02 50 40.4 +7.1
SNR=6.0
CHMS Chumysh 42.56 308 *i* P P 02 50 40.3 +7.1
UCH Uchtor 42.59 307 P P 02 50 38.2 +4.3
SNR=15
UCH Uchtor 42.59 307 *i* P P 02 50 38.2 +4.3
FRU Bishkek 42.63 308 *i* P P 02 50 40.0 +6.3
FRU *e* 02 50 54.0
FRU MLR MLR
comp=Z,400nm,1.6s
H11S3 WAKE ISLAND Hy 42.64 88 T T 03 35 44.0
baz=286,slow=73,SNR=105
H11S1 WAKE ISLAND Hy 42.65 88 T T 03 35 44.6
baz=286,slow=73,SNR=55
H11S2 WAKE ISLAND Hy 42.66 88 T T 03 35 45.2
baz=286,slow=73,SNR=40
AAK Ala-Archa 42.68 308 P P 02 50 40.5 +6.2
SNR=5.5
AAK Ala-Archa 42.68 308 *e*P **P 02 50 34.5 +0.2**
AAK *e**PP **pP 02 50 41.5 +0.6**
AAK pmax pmax
comp=Z,11nm,1.3s
AAK Ala-Archa 42.68 308 *e*P **P 02 50 34.5 +0.2**
comp=Z,11nm,1.3s
AAK *e*pP **pP 02 50 41.5 +0.6**
COCO West Island 43.02 216 *i* P **P 02 50 39.8 +2.7**
AML Almayashu 43.17 307 P P 02 50 45.3 +6.7
SNR=8.2
EKS2 Erkin-Say 43.20 308 *e*P **P 02 50 39.4 +0.9**
EKS2 *e**PP **pP 02 50 46.2 +1.1**
EKS2 pmax pmax
comp=Z,8.0nm,1.0s
EKS2 Erkin-Say 43.20 308 *e*P **P 02 50 39.4 +0.9**
comp=Z,8.1nm,1.0s
EKS2 *e*pP **pP 02 50 46.2 +1.1**
COEN Coen 43.33 148 *e*P **P 02 50 39.0 -0.5**
COEN *e*pP **pP 02 50 46.5 +0.4**
SEY Seymchan 44.27 20 P **P 02 50 45.7 -0.8**
comp=Z,2.0nm,0.7s,baz=227,slow=11,SNR=5.0
MBWA Marble Bar 44.79 182 *e*P **P 02 50 49.4 -1.8**
comp=Z,45nm,0.9s
WRAB Tennant Creek 45.41 162 P **P 02 50 54.0 -2.1**
comp=Z,116nm,0.9s,SNR=11
WRAB Tennant Creek 45.41 162 *e*P **P 02 50 53.8 -2.4**
WRAB *e**PP **pP 02 51 02.3 -0.4**
WRAB pmax pmax
comp=Z,29nm,1.1s
WRAB Tennant Creek 45.41 162 *e*P **P 02 50 53.8 -2.4**
comp=Z,29nm,1.1s

WRAB				*e*pP	pP	02 51 02.3	-0.4
WRA	**Warramunga Arr**	**45.41**	**162**	P	**P**	**02 50 54.1**	**-2.1**
	comp=Z,10nm,0.8s,baz=345,slow=8.7,SNR=53						
WRA				PcP	**PcP**	**02 52 33.7**	**-1.6**
	comp=Z,3.7nm,0.8s,baz=336,slow=3.9,SNR=5.2						
KK31	**Karatay Array**	**45.64**	**308**	*e*P	**P**	**02 50 58.9**	**+1.0**
KK31				pmax	pmax		
	comp=Z,22nm,1.2s						
KKAR	**Karatay Array**	**45.64**	**308**	*e*P	**P**	**02 50 59.2**	**+1.3**
KKAR				*e**PP	**pP**	**02 51 04.3**	**-0.2**
KKAR				*e*		02 52 35.1	
KKAR				pmax	pmax		
	comp=Z,14nm,0.9s						
KKAR	**Karatay Array**	**45.64**	**308**	*e*P	**P**	**02 50 59.2**	**+1.3**
	comp=Z,14nm,0.9s						
KKAR				*e*pP	**pP**	**02 51 04.3**	**-0.2**
KKAR				*e*PcP	**PcP**	**02 52 35.1**	**-0.9**
KBL	**Kabul**	**46.28**	**296**	*e*P	**P**	**02 51 05.0**	**+1.7**
KBL				*e**PP	**pP**	**02 51 10.5**	**+0.6**
KBL				pmax	pmax		
	comp=Z,31nm,1.1s						
KBL	**Kabul**	**46.28**	**296**	*e*P	**P**	**02 51 05.0**	**+1.7**
	comp=Z,31nm,1.1s						
KBL				*e*pP	**pP**	**02 51 10.5**	**+0.6**
BVA0	**Borovoye Array**	**47.90**	**321**	*i* P	**P**	**02 51 17.6**	**+2.2**
BVA0				pmax	pmax		
	comp=Z,21nm,0.8s						
BVAR	**Borovoye Array**	**47.90**	**321**	LR	LR	03 11 12.9	
	comp=Z,173nm,19.1s,baz=100,slow=36						
BRVK	**Borovoye**	**47.97**	**321**	P	**P**	**02 51 16.5**	**+0.6**
	comp=Z,227nm,0.9s,SNR=7.8						
BRVK	**Borovoye**	**47.97**	**321**	*e*P	**P**	**02 51 16.8**	**+0.9**
BRVK				*e**PP	**pP**	**02 51 22.4**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,36nm,0.9s						
BRVK	**Borovoye**	**47.97**	**321**	*e*P	**P**	**02 51 16.8**	**+0.9**
	comp=Z,36nm,0.9s						
BRVK				*e*pP	**pP**	**02 51 22.4**	**-0.1**
TIXI	**Tiksi**	**48.00**	**3**	*d i*P	**P**	**02 51 15.0**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,13nm,1.3s						
TIXI				MLR	MLR		
	comp=Z,246nm,14.0s						
TIXI	**Tiksi**	**48.00**	**3**	*e*P	**P**	**02 51 14.8**	**-1.0**
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**48.85**	**164**	*e*P	**P**	**02 51 21.7**	**-1.3**
ASAR	**Alice Springs**	**48.85**	**164**	P	**P**	**02 51 21.6**	**-1.4**
	comp=Z,6.4nm,0.9s,baz=341,slow=6.5,SNR=44						
ASAR				PcP	**PcP**	**02 52 46.2**	**-1.3**
	comp=Z,3.4nm,0.9s,baz=347,slow=2.1,SNR=4.2						
CTAO	**Charters Tower**	**50.08**	**149**	*e*P	**P**	**02 51 32.2**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,27nm,0.8s						
CTAO	**Charters Tower**	**50.08**	**149**	*e*P	**P**	**02 51 32.2**	**-0.2**
	comp=Z,27nm,0.8s						
HNR	**Honiara**	**50.32**	**127**	LR	LR	03 11 43.4	
	comp=Z,208nm,18.9s,baz=334,slow=35						
BILL	**Bilibino**	**51.97**	**20**	*e*P	**P**	**02 51 45.4**	**-0.7**
BILL				*i*		02 51 55.4	
BILL				*i*		02 52 58.0	
BILL				pmax	pmax		
	comp=Z,11nm,1.4s						
BILL				MLR	MLR		
	comp=Z,418nm,15.0s						
BILL	**Bilibino**	**51.97**	**20**	*e*P	**P**	**02 51 45.7**	**-0.4**
	comp=Z,6.9nm,0.9s						
AB31	**Akbulak array**	**53.64**	**315**	P	P	02 52 05.0	+6.3
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ABKAR	**Akbulak array**	**53.64**	**315**	*e*P	**P**	**02 51 59.7**	**+1.0**
ABKAR				*e*pP	**pP**	**02 52 05.8**	**+0.4**
ABKAR				*e*PcP	**PcP**	**02 53 00.4**	**-0.9**
SVE	**Sverdlovsk**	**54.28**	**324**	*e*P	**P**	**02 52 04.2**	**+1.0**
SVE				pmax	pmax		
	comp=Z,52nm,1.2s						
FORT	**Forrest**	**54.75**	**173**	*e*P	**P**	**02 52 06.0**	**-0.8**
	comp=Z,27nm,0.9s						
IKOO	**Kooshah**	**54.81**	**294**	*e*P	**P**	**02 52 08.9**	**+1.1**
ITEG	**Tejag**	**54.96**	**294**	*e*P	**P**	**02 52 10.2**	**+1.4**
AKTO	**Aktyubinsk**	**54.98**	**316**	P	**P**	**02 52 08.4**	**0.0**
AKTO				pmax	pmax		
	comp=Z,26nm,1.3s						
AKTO	**Aktyubinsk**	**54.98**	**316**	LR	LR	03 17 12.4	
	comp=Z,463nm,18.2s,slow=38						
ISFR	**Sfrayin**	**55.10**	**299**	*e*P	**P**	**02 52 08.9**	**-1.0**
ARU	**Arti**	**55.34**	**323**	P	**P**	**02 52 11.6**	**+0.7**
	comp=Z,221nm,0.9s,SNR=8.2						
ARU	**Arti**	**55.34**	**323**	*c i*P	**P**	**02 52 11.0**	**+0.1**
ARU				pmax	pmax		
	comp=Z,301nm,15.9s						
ARU	**Arti**	**55.34**	**323**	*e*P	**P**	**02 52 11.2**	**+0.3**
	comp=Z,42nm,1.0s						
ARU				*e*pP	**pP**	**02 52 17.1**	**-0.6**
SOKR	**Solikamsk**	**56.77**	**327**	⇑*i*P	**P**	**02 52 21.5**	**+0.4**
SOKR				S	**S**	**03 00 06.9**	**-5.8**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SOKR				MLR	MLR		
	comp=Z,440nm,18.0s						
EIDS	**Eidsvold**	**56.89**	**147**	*e*P	**P**	**02 52 21.7**	**-0.6**
	comp=Z,15nm,1.0s						
EIDS				*e*pP	**pP**	**02 52 31.8**	**+2.7**
IBAF	**Bafgh**	**57.82**	**293**	*e*P	**P**	**02 52 30.5**	**+1.3**
BBOO	**Buckleboo**	**58.14**	**165**	*e*P	**P**	**02 52 29.7**	**-1.3**
	comp=Z,401nm,0.8s						
IANJ	**Anjilo**	**58.57**	**298**	*e*P	P	02 52 41.1	+6.7
GAMB	**Gambell**	**58.76**	**29**	*e*P	**P**	**02 52 34.7**	**-0.2**
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**58.79**	**160**	*e*P	**P**	**02 52 34.3**	**-1.2**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
STKA	**Stephens Creek**	**58.79**	**160**	P	**P**	**02 52 34.5**	**-1.0**
	comp=Z,17nm,0.6s,baz=338,slow=6.7,SNR=99						
STKA	**Stephens Creek**	**58.79**	**160**	*e*P	**P**	**02 52 34.3**	**-1.2**
	comp=Z,3.9nm,0.6s						
ISAD	**Sadrabad**	**59.34**	**294**	*e*P	**P**	**02 52 40.3**	**+0.4**
IFIR	**Firoozkooh**	**59.48**	**298**	*e*P	**P**	**02 52 39.3**	**-1.5**
ISRV	**Sarvestan**	**60.32**	**291**	*e*P	P	02 52 43.2	-3.6
IMHD	**Mahdasht**	**61.15**	**299**	*e*P	P	02 52 59.1	+7.0
ARMA	**Armidale**	**61.39**	**150**	*e*P	**P**	**02 52 53.7**	**+0.1**
IRAZ	**Razeghan**	**61.79**	**299**	*e*P	**P**	**02 52 56.4**	**-0.1**
PRGR	**Permogore**	**62.43**	**329**	*e*P	**P**	**02 52 58.7**	**-1.3**
PRGR				pmax	pmax		
	comp=Z,12nm,0.3s						
DZM	**Mont Dzumac**	**63.44**	**133**	*e*LR	LR	03 12 10.8	
	comp=Z,682nm,22.9s						
IHRS	**Heris**	**63.54**	**302**	*e*P	**P**	**02 53 08.8**	**+0.6**
SDPT	**Sand Point**	**64.15**	**38**	*e*P	**P**	**02 53 10.0**	**-1.6**
	comp=Z,29nm,0.7s						
IDHR	**Dehrash**	**64.78**	**298**	*e*P	**P**	**02 53 16.7**	**+0.3**
GNI	**Garni**	**64.96**	**305**	*e*P	**P**	**02 53 18.1**	**+0.7**
GNI				pmax	pmax		
	comp=Z,22nm,1.7s						
GNI	**Garni**	**64.96**	**305**	*e*P	**P**	**02 53 17.8**	**+0.4**
	comp=Z,78nm,1.5s						
ZEI	**Tsey**	**65.10**	**308**	*e*P	**P**	**02 53 17.9**	**-0.4**
ZEI				pmax	pmax		
	comp=Z,37nm,1.5s						
VRHR	**Novokhopersk**	**65.34**	**317**	*e*P	**P**	**02 53 17.9**	**-1.5**
VRHR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VRHR				pmax	pmax		
	comp=E,10.0nm,1.0s						
VRHR				pmax	pmax		
	comp=Z,20nm,1.0s						
KLMR	**Klimovskoe**	**65.41**	**328**	*e*P	**P**	**02 53 18.7**	**-1.0**
KLMR				*e*		02 55 43.8	
KLMR				pmax	pmax		
	comp=Z,33nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,833nm,21.0s						
KBZ	**Khabaz**	**65.66**	**309**	P	**P**	**02 53 22.0**	**+0.4**
KBZ	**Khabaz**	**65.66**	**309**	P	**P**	**02 53 21.9**	**+0.4**
	comp=Z,8.2nm,0.9s,baz=142,slow=5.4,SNR=8.4						
KIV	**Kislovodsk**	**65.77**	**309**	*e*P	**P**	**02 53 23.2**	**+0.8**
KIV				*i*		02 53 29.4	
KIV				*i*		02 53 59.5	
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
KIV	**Kislovodsk**	**65.77**	**309**	*e*P	**P**	**02 53 22.7**	**+0.3**
	comp=Z,22nm,0.7s						
KIV				*e*pP	**pP**	**02 53 29.7**	**+0.4**
TMCR	**Tamitsa**	**65.81**	**332**	*e*P	**P**	**02 53 22.1**	**-0.1**
TMCR				*e*		02 55 47.2	
TMCR				pmax	pmax		
	comp=Z,40nm,1.0s						
SVW2	**Sparrevohn**	**66.16**	**32**	*e*P	**P**	**02 53 22.9**	**-1.7**
	comp=Z,16nm,1.0s						
IM04	**Indian Mountai**	**66.45**	**26**	*e*P	**P**	**02 53 26.0**	**-0.3**
VORD	**Divnogorie**	**66.81**	**317**	*e*P	**P**	**02 53 27.1**	**-1.8**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.2s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=E,10.0nm,1.2s						
VSR	**Storozhevoye**	**66.85**	**317**	*e*P	**P**	**02 53 28.3**	**-0.8**
VSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MOS	**Moscow**	**67.03**	**322**	*e*P	P	02 53 36.0	+5.8
MOS				*e*		02 53 49.3	
MOS				pmax	pmax		
	comp=Z,45nm,1.6s						
MOS				pmax	pmax		
	comp=Z,200nm,2.3s						
APA	**Apatity**	**67.33**	**335**	⇑*i*P	**P**	**02 53 32.9**	**+1.1**
APA				MLR	MLR		
	comp=Z,600nm,14.0s						
CAST	**Castle Rocks**	**67.49**	**29**	*e*P	**P**	**02 53 34.2**	**+1.2**
PPLA	**Purkeypile**	**67.52**	**30**	*e*P	**P**	**02 53 34.1**	**+0.7**
	comp=Z,85nm,1.8s						
RSO	**Redoubt South**	**67.62**	**32**	*e*P	**P**	**02 53 35.1**	**+1.0**
OBN	**Obninsk**	**67.73**	**322**	*d i*P	**P**	**02 53 34.6**	**0.0**
OBN				pmax	pmax		
	comp=Z,25nm,1.7s						
OBN				MLR	MLR		
	comp=Z,861nm,25.0s						
OBN	**Obninsk**	**67.73**	**322**	*e*P	**P**	**02 53 34.4**	**-0.2**
	comp=Z,12nm,0.6s						
OBN				*e*pP	**pP**	**02 53 40.5**	**-0.9**
SOC	**Sochi**	**67.95**	**309**	*e*P	**P**	**02 53 34.5**	**-1.7**
SOC				*e*		02 56 14.2	
SOC				*e*S	**S**	**03 02 33.1**	**-0.9**
KTH	**Kantishna Hill**	**67.98**	**29**	*e*P	**P**	**02 53 35.4**	**-0.7**
	comp=Z,34nm,1.4s						
KDAK	**Kodiak Island**	**68.16**	**35**	*ce*P	**P**	**02 53 37.4**	**+0.2**
TRF	**Thorofare Moun**	**68.28**	**29**	*e*P	**P**	**02 53 38.5**	**+0.3**
	comp=Z,10nm,0.9s						
RAYN	**Ar Rayn**	**68.42**	**287**	*e*P	**P**	**02 53 40.0**	**+0.4**
	comp=Z,47nm,1.3s						
JOF	**Joensuu**	**68.96**	**331**	*e*P	**P**	**02 53 41.0**	**-1.2**
JOF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
JOF	**Joensuu**	**68.96**	**331**	*e*p	**P**	**02 53 41.0**	**-1.2**
	comp=Z,9.3nm,0.9s						
COLA	**College**	**69.06**	**27**	*e*P	**P**	**02 53 43.1**	**+0.3**
COLA				pmax	pmax		
	comp=Z,19nm,1.0s						
COLA	**College**	**69.06**	**27**	*e*P	**P**	**02 53 42.8**	**+0.1**
	comp=Z,7.9nm,1.0s						
KEV	**Kevo**	**69.25**	**338**	*e*P	**P**	**02 53 43.7**	**-0.2**
KEV				pmax	pmax		
	comp=Z,23nm,0.8s						
KEV	**Kevo**	**69.25**	**338**	*e*p	**P**	**02 53 43.0**	**-0.8**
	comp=Z,16nm,0.7s						
KEV	**Kevo**	**69.25**	**338**	*e*P	**P**	**02 53 43.6**	**-0.2**
	comp=Z,22nm,0.8s						
ANN	**Anapa**	**69.28**	**311**	*e*P	**P**	**02 53 44.8**	**+0.3**
ANN				pmax	pmax		
	comp=Z,130nm,1.5s						
ILAR	**Eielson Array**	**69.49**	**27**	P	**P**	**02 53 44.8**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=286,slow=7.2,SNR=14						
ARCES	**ARCESS Array B**	**69.81**	**338**	P	**P**	**02 53 47.7**	**+0.3**
	comp=Z,13nm,0.8s,baz=64,slow=8.5,SNR=20						
ARE0	**ARCESS Array S**	**69.81**	**338**	*e*P	**P**	**02 53 47.5**	**+0.1**
PAX	**Paxson**	**70.52**	**29**	*e*P	**P**	**02 53 52.3**	**+0.4**
PAX	**Paxson**	**70.52**	**29**	*e*P	**P**	**02 53 52.3**	**+0.4**
KAF	**Kangasniemi**	**71.41**	**330**	*e*P	**P**	**02 53 55.9**	**-1.3**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KAF	**Kangasniemi**	**71.41**	**330**	*e*p	**P**	**02 53 55.9**	**-1.3**
	comp=Z,5.9nm,0.8s						
FIA1	**FINESS Array S**	**71.70**	**330**	*e*P	**P**	**02 53 58.6**	**-0.4**
FIA1				*e*pP	**pP**	**02 54 05.0**	**-0.8**
FINES	**FINESS Array B**	**71.70**	**330**	P	**P**	**02 53 58.9**	**0.0**
	comp=Z,15nm,0.9s,baz=96,slow=7.7,SNR=39						
EGAK	**Eagle**	**71.86**	**27**	*e*P	**P**	**02 53 59.5**	**-0.4**
	comp=Z,10nm,1.0s						
VSU	**Vasula**	**72.22**	**327**	*c i*P	**P**	**02 54 02.2**	**+0.1**
MICGM	**Minsk**	**72.76**	**322**	*e*	P	02 54 10.0	+4.6
MNK	**Minsk**	**72.78**	**322**	*e*P	P	02 54 10.0	+4.4
AKASG	**Malin Array Be**	**73.08**	**318**	P	**P**	**02 54 06.5**	**-1.0**
	comp=Z,4.6nm,0.8s,baz=59,slow=6.2,SNR=22						
AKASG				LR	LR	03 25 42.1	
	comp=Z,459nm,21.5s,baz=300,slow=35						
AKBB	**Malin Array Si**	**73.08**	**318**	*e*P	**P**	**02 54 06.8**	**-0.6**
AKBB	**Malin Array Si**	**73.08**	**318**	*e*P	**P**	**02 54 06.8**	**-0.6**
AK01	**Malin Array Si**	**73.09**	**318**	*e*P	**P**	**02 54 06.6**	**-0.9**
AK01				*e*pP	**pP**	**02 54 13.0**	**-1.4**
KIEV	**Kiev**	**73.10**	**318**	⇓*i*P	**P**	**02 54 07.2**	**-0.3**
KIEV	**Kiev**	**73.10**	**318**	*e*P	**P**	**02 54 07.2**	**-0.3**
	comp=Z,15nm,1.2s						
KIEV				*e*pP	**pP**	**02 54 13.5**	**-0.9**
AK02	**Malin Array Si**	**73.11**	**318**	*e*P	**P**	**02 54 06.5**	**-1.0**
IDID	**Didziasalis**	**73.15**	**323**	*e*P	**P**	**02 54 07.3**	**-0.3**
IDID				AMB	AMB	02 54 09.8	
	comp=Z,19nm,1.1s						
NACGM	**Naroch**	**73.25**	**323**	*e*	**P**	**02 54 07.0**	**-1.3**
BR131	**Keskin Array S**	**73.34**	**306**	*e*P	**P**	**02 54 09.1**	**-0.2**
	comp=Z,5.0nm,0.7s						
BRTR	**Keskin Array B**	**73.34**	**306**	*ce*P	**P**	**02 54 09.6**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRTR	**Keskin Array B**	**73.34**	**306**	P	**P**	**02 54 09.4**	**+0.1**
	comp=Z,5.4nm,0.9s,baz=79,slow=7.6,SNR=14						
BRTR				LR	LR	03 31 24.5	
	comp=Z,242nm,21.8s,baz=294,slow=40						
ISAL	**Salakas**	**73.40**	**324**	*e*P	**P**	**02 54 08.8**	**-0.3**
ISAL				AMB	AMB	02 54 10.4	
	comp=Z,9.7nm,1.4s						
IIGN	**Ignalina**	**73.42**	**324**	*e*P	**P**	**02 54 08.9**	**-0.4**
IIGN				AMB	AMB	02 54 11.0	
	comp=Z,12nm,1.4s						
INK	**Inuvik**	**73.51**	**22**	*e*P	**P**	**02 54 08.8**	**-0.8**
INK				pmax	pmax		
	comp=Z,16nm,1.2s						
INK	**Inuvik**	**73.51**	**22**	*e*P	**P**	**02 54 08.8**	**-0.8**
	comp=Z,16nm,1.2s						
ANTO	**Ankara**	**73.92**	**307**	*e*P	**P**	**02 54 12.4**	**-0.2**
ANTO				*e**PP	**pP**	**02 54 19.6**	**+0.1**
ANTO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ANTO	**Ankara**	**73.92**	**307**	*e*P	**P**	**02 54 12.4**	**-0.2**
	comp=Z,8.4nm,0.7s						
ANTO				*e*pP	**pP**	**02 54 19.6**	**+0.1**
CSS	**Prodhromos**	**75.05**	**302**	*e*P	**P**	**02 54 19.1**	**-0.1**
	comp=Z,4.4nm,0.7s						
CFR	**Carcaliu**	**75.50**	**313**	⇑P	**P**	**02 54 22.6**	**+1.0**
CFR	**Carcaliu**	**75.50**	**313**	⇑*i*P	**P**	**02 54 22.6**	**+1.0**
SUW	**Suwalki**	**75.53**	**323**	*e*P	**P**	**02 54 21.2**	**-0.4**
SUW				*e**PP	**pP**	**02 54 27.7**	**-0.8**
SUW				pmax	pmax		
	comp=Z,126nm,1.1s						
SUW	**Suwalki**	**75.53**	**323**	*e*P	**P**	**02 54 21.3**	**-0.4**
SUW				*e*pP	**pP**	**02 54 27.4**	**-1.1**
SUW	**Suwalki**	**75.53**	**323**	*e*P	**P**	**02 54 21.2**	**-0.4**
	comp=Z,126nm,1.1s						
SUW				*e*pP	**pP**	**02 54 27.7**	**-0.8**
VRI	**Vrincioaia**	**76.20**	**314**	⇑P	**P**	**02 54 27.2**	**+1.5**
VRI	**Vrincioaia**	**76.20**	**314**	⇑*i*P	**P**	**02 54 27.1**	**+1.4**
VRI	**Vrincioaia**	**76.20**	**314**	⇑*i*P	**P**	**02 54 27.1**	**+1.4**
PLOR	**Plostina**	**76.26**	**314**	⇑P	**P**	**02 54 26.5**	**+0.5**
PLOR	**Plostina**	**76.26**	**314**	⇑*i*P	**P**	**02 54 26.5**	**+0.5**
PLOR	**Plostina**	**76.26**	**314**	⇑*i*P	**P**	**02 54 26.5**	**+0.5**
BUR08	**Bucovina Ar. S**	**76.57**	**316**	*e*P	**P**	**02 54 27.9**	**+0.1**
BUR08				*e*pP	**pP**	**02 54 34.2**	**-0.6**
BURAR	**Bucovina Array**	**76.57**	**316**	⇓P	**P**	**02 54 28.4**	**+0.6**
BURAR	**Bucovina Array**	**76.57**	**316**	⇓*i*P	**P**	**02 54 28.4**	**+0.6**
MLR	**Muntele Rosu**	**76.85**	**314**	⇓P	**P**	**02 54 30.5**	**+1.0**
MLR	**Muntele Rosu**	**76.85**	**314**	⇓*i*P	**P**	**02 54 30.5**	**+1.0**
DOPR	**Dopca**	**77.04**	**315**	⇓*i*P	**P**	**02 54 31.1**	**+0.7**
KWP	**Kalwaria Pacla**	**77.39**	**319**	*e*P	**P**	**02 54 32.7**	**+0.4**
KWP				*e**PP	**pP**	**02 54 38.4**	**-0.8**
KWP				pmax	pmax		
	comp=Z,75nm,1.3s						
KWP	**Kalwaria Pacla**	**77.39**	**319**	*e*P	**P**	**02 54 32.6**	**+0.4**
KWP	**Kalwaria Pacla**	**77.39**	**319**	⇑*i*P	**P**	**02 54 33.1**	**+0.8**
KWP	**Kalwaria Pacla**	**77.39**	**319**	*e*P	**P**	**02 54 32.7**	**+0.4**
	comp=Z,75nm,1.3s						
KWP				*e*pP	**pP**	**02 54 38.4**	**-0.8**
VOIR		**77.46**	**314**	⇓P	**P**	**02 54 33.1**	**+0.3**
VOIR		**77.46**	**314**	⇓*i*P	**P**	**02 54 33.1**	**+0.3**
JMB	**Yambol**	**77.49**	**311**	⇓P	**P**	**02 54 33.7**	**+0.8**
JMB	**Yambol**	**77.49**	**311**	⇓*i*P	**P**	**02 54 33.7**	**+0.8**
BEL	**Belsk**	**77.68**	**321**	*e*P	**P**	**02 54 34.4**	**+0.6**
BEL				*e**PP	**pP**	**02 54 40.8**	**+0.1**
BEL	**Belsk**	**77.68**	**321**	*e*P	**P**	**02 54 34.4**	**+0.6**
BEL				*e*pP	**pP**	**02 54 40.8**	**+0.1**
ARR	**Arges**	**77.75**	**314**	⇓*i*P	**P**	**02 54 35.5**	**+1.0**
HUMR	**Humele**	**77.83**	**313**	⇓*i*P	**P**	**02 54 35.0**	**+0.2**
KOLS	**Kolonicke sedl**	**77.92**	**318**	*e*P	**P**	**02 54 35.4**	**+0.2**
KOLS	**Kolonicke sedl**	**77.92**	**318**	*e*P	**P**	**02 54 35.4**	**+0.2**
CJR	**Cluj-Napoca**	**77.93**	**316**	⇓P	**P**	**02 54 36.6**	**+1.2**
CJR	**Cluj-Napoca**	**77.93**	**316**	⇓*i*P	**P**	**02 54 36.6**	**+1.2**
UZH	**Uzhgorod**	**78.02**	**318**	*e*P	**P**	**02 54 35.7**	**-0.1**
UZH				*i*		02 54 41.5	
UZH				*i*		02 54 50.3	
LOT	**Lotru**	**78.29**	**315**	⇓*i*P	**P**	**02 54 38.2**	**+0.7**
STHS	**Stebnicka Huta**	**78.36**	**319**	*e*P	**P**	**02 54 38.0**	**+0.3**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
STHS	**Stebnicka Huta**	**78.36**	**319**	*e*P	**P**	**02 54 37.9**	**+0.3**
STHS				*e*pP	**pP**	**02 54 44.6**	**0.0**
DIM	**Dimitrovgrad**	**78.36**	**311**	*e*P	**P**	**02 54 37.7**	**-0.1**
CRVS	**Cervenica-Dubn**	**78.42**	**318**	*e*P	**P**	**02 54 39.2**	**+1.2**
CRVS				*e*		02 54 45.0	
CRVS	**Cervenica-Dubn**	**78.42**	**318**	*e*P	**P**	**02 54 39.2**	**+1.2**
CRVS				*e*pP	**pP**	**02 54 45.0**	**0.0**
ALN	**Alexandroupoli**	**78.43**	**310**	*e*P	**P**	**02 54 37.5**	**-0.7**
DRGR		**78.46**	**316**	⇑P	**P**	**02 54 39.0**	**+0.6**
DRGR		**78.46**	**316**	⇑*i*P	**P**	**02 54 39.0**	**+0.6**
NB2	**NORSAR Subarra**	**78.48**	**332**	P	**P**	**02 54 37.4**	**-0.8**
	comp=Z,19nm,0.7s,baz=62,slow=5.6						
NB2	**NORSAR Subarra**	**78.48**	**332**	P	**P**	**02 54 37.4**	**-0.8**
	baz=62,slow=5.6						
NOA	**NORSAR Array B**	**78.48**	**332**	P	**P**	**02 54 37.4**	**-0.8**
	comp=Z,18nm,0.8s,baz=65,slow=4.9,SNR=57						
NAO01	**NORSAR Array S**	**78.72**	**332**	*e*P	**P**	**02 54 38.7**	**-0.7**
	comp=Z,13nm,0.9s						
NAO01				*e*pP	**pP**	**02 54 45.1**	**-1.2**
OJC	**Ojcow**	**78.89**	**320**	⇑*i*P	**P**	**02 54 40.8**	**+0.2**
OJC				*i*		02 54 47.3	
OJC	**Ojcow**	**78.89**	**320**	*i* P	**P**	**02 54 40.8**	**+0.2**
OJC				*i* PcP	**pP**	**02 54 47.3**	**-0.2**
NIE	**Niedzica**	**78.91**	**319**	⇑*i*P	**P**	**02 54 41.5**	**+0.8**
NIE				*i*		02 54 48.0	
NIE	**Niedzica**	**78.91**	**319**	*i* P	**P**	**02 54 41.5**	**+0.8**
NIE				*i* PcP	**pP**	**02 54 48.0**	**+0.3**
GZR	**Gura Zlata**	**78.96**	**315**	⇓P	**P**	**02 54 41.7**	**+0.6**
GZR	**Gura Zlata**	**78.96**	**315**	⇓*i*P	**P**	**02 54 41.7**	**+0.6**
PGB	**Panagyurishte**	**79.12**	**312**	*e*P	**P**	**02 54 42.7**	**+0.7**
KECS	**Kecovo**	**79.18**	**318**	*e*P	**P**	**02 54 43.0**	**+0.8**
KECS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KECS	**Kecovo**	**79.18**	**318**	*e*P	**P**	**02 54 43.0**	**+0.8**
KECS				*e*pP	**pP**	**02 54 49.0**	**-0.2**
KAVA	**Kavala**	**79.47**	**310**	*e*P	**P**	**02 54 45.0**	**+1.1**
BZS	**Buzias**	**79.62**	**315**	⇑P	**P**	**02 54 44.5**	**-0.1**
BZS	**Buzias**	**79.62**	**315**	⇑*i*P	**P**	**02 54 44.5**	**-0.1**
VTS	**Vitosha**	**79.75**	**312**	⇑P	**P**	**02 54 45.4**	**-0.2**
VTS	**Vitosha**	**79.75**	**312**	*e*P	**P**	**02 54 45.8**	**+0.2**
VTS	**Vitosha**	**79.75**	**312**	⇑*i*P	**P**	**02 54 45.4**	**-0.2**
VTS	**Vitosha**	**79.75**	**312**	⇑*i*P	**P**	**02 54 45.4**	**-0.2**
PSZ	**Piszkesteto**	**79.78**	**318**	*e*P	**P**	**02 54 45.7**	**+0.2**
PSZ				*e**PP	**pP**	**02 54 52.2**	**-0.3**
PSZ				pmax	pmax		
	comp=Z,28nm,1.4s						
PSZ	**Piszkesteto**	**79.78**	**318**	*e*P	**P**	**02 54 45.7**	**+0.2**
	comp=Z,28nm,1.4s						
PSZ				*e*pP	**pP**	**02 54 52.2**	**-0.3**
PSZ	**Piszkesteto**	**79.78**	**318**	⇑*e*P	**P**	**02 54 45.9**	**+0.4**
MMB	**Musomiste**	**79.79**	**311**	⇑P	**P**	**02 54 45.9**	**+0.2**
MMB	**Musomiste**	**79.79**	**311**	*e*P	**P**	**02 54 45.8**	**+0.1**
MMB	**Musomiste**	**79.79**	**311**	⇑*i*P	**P**	**02 54 45.9**	**+0.2**
NVR	**Nevrokopi**	**79.79**	**311**	*e*P	**P**	**02 54 45.5**	**-0.2**
OKC	**Ostrava-Krasne**	**80.02**	**320**	*e*P	**P**	**02 54 47.4**	**+0.7**
OKC				*e**PP	**pP**	**02 54 53.8**	**+0.1**
OKC				MLR	MLR		
	comp=Z,400nm,16.8s						
OKC	**Ostrava-Krasne**	**80.02**	**320**	*e*P	**P**	**02 54 47.4**	**+0.7**
OKC				*e*pP	**pP**	**02 54 53.8**	**+0.1**
OKC				AMS	AMS	03 32 40.0	
	comp=Z,400nm,16.8s						
SRS	**Serrai**	**80.06**	**311**	*e*P	**P**	**02 54 46.5**	**-0.7**
KKB	**Krupnik**	**80.12**	**311**	*e*P	**P**	**02 54 47.2**	**-0.3**
VYHS	**Vyhne**	**80.18**	**319**	*e*P	**P**	**02 54 48.3**	**+0.7**
VYHS				pmax	pmax		
	comp=Z,15nm,1.1s						
VYHS	**Vyhne**	**80.18**	**319**	*e*P	**P**	**02 54 48.3**	**+0.7**
VYHS				*e*pP	**PcP**	**02 54 55.0**	**+0.1**
SOH	**Sokhos**	**80.34**	**310**	*e*P	**P**	**02 54 47.5**	**-1.2**
MORC	**Moravsky Berou**	**80.40**	**320**	*e*P	**P**	**02 54 49.3**	**+0.4**
MORC				*e**PP	**pP**	**02 54 55.7**	**-0.1**
MORC				pmax	pmax		
	comp=Z,19nm,1.2s						
MORC	**Moravsky Berou**	**80.40**	**320**	*e*P	**P**	**02 54 49.3**	**+0.4**
	comp=Z,19nm,1.2s						
MORC				*e*pP	**pP**	**02 54 55.7**	**-0.1**
PLG	**Polygyros**	**80.46**	**310**	*e*P	**P**	**02 54 49.0**	**-0.3**
PAIG	**Paliouri**	**80.47**	**309**	*e*P	P	02 54 55.5	+6.2
BUD	**Budapest**	**80.49**	**318**	⇑*e*P	**P**	**02 54 49.9**	**+0.6**
KNT	**Kendrikon**	**80.53**	**311**	*e*P	**P**	**02 54 49.0**	**-0.7**
HORT	**Hortiatis**	**80.61**	**310**	*e*P	**P**	**02 54 49.5**	**-0.7**
KSP	**Ksiaz**	**80.66**	**322**	⇑*e*P	**P**	**02 54 50.6**	**+0.4**
KSP				*e**PP	**PcP**	**02 54 56.7**	**-0.2**
KSP	**Ksiaz**	**80.66**	**322**	*e*P	**P**	**02 54 50.5**	**+0.4**
KSP				*e*pP	**pP**	**02 54 57.3**	**+0.2**
THE	**Thessaloniki**	**80.69**	**310**	*e*P	**P**	**02 54 49.5**	**-1.0**
VAY	**Valandovo**	**80.69**	**311**	*i* P	**P**	**02 54 50.3**	**-0.2**
KRLC	**Kraliky**	**80.72**	**321**	*e*P	**P**	**02 54 51.3**	**+0.8**
KRLC				*e**PP	**PcP**	**02 54 57.1**	**-0.1**
KRLC	**Kraliky**	**80.72**	**321**	*e*P	**P**	**02 54 51.3**	**+0.8**
KRLC				*e*pP	**PcP**	**02 54 57.1**	**-0.1**
DPC	**Dobruska-Polom**	**80.86**	**321**	*e*P	**P**	**02 54 52.0**	**+0.7**
DPC				*e**PP	**PcP**	**02 54 57.2**	**-0.7**
DPC	**Dobruska-Polom**	**80.86**	**321**	*e*P	**P**	**02 54 52.0**	**+0.7**
DPC				*e*pP	**PcP**	**02 54 57.2**	**-0.7**
DPC				AMS	AMS	03 23 30.0	
PKSG		**80.92**	**318**	⇑*e*P	**P**	**02 54 51.8**	**+0.2**
UPC	**Upice**	**80.97**	**321**	*e*P	**P**	**02 54 52.3**	**+0.5**
UPC				*e**PP	**pP**	**02 54 58.9**	**+0.1**
UPC	**Upice**	**80.97**	**321**	*e*P	**P**	**02 54 52.3**	**+0.5**
UPC				*e*pP	**pP**	**02 54 58.9**	**+0.1**
CSKK	**Csˆ‡kako**	**81.01**	**318**	⇑*e*P	**P**	**02 54 52.1**	**0.0**
SMOL	**Smolenice**	**81.02**	**319**	*e*P	**P**	**02 54 53.4**	**+1.3**
SMOL				*e*		02 54 59.8	
SMOL	**Smolenice**	**81.02**	**319**	*e*P	**P**	**02 54 53.3**	**+1.2**
SMOL				*e*pP	**pP**	**02 54 59.8**	**+0.7**
PKST	**Tˆ's**	**81.19**	**318**	⇑*e*P	**P**	**02 54 53.0**	**-0.1**
SKO	**Skopje**	**81.20**	**312**	*i* P	**P**	**02 54 53.5**	**+0.3**
LIT	**Litokhoron**	**81.24**	**310**	*e*P	P	02 54 58.5	+5.0
PKSM	**Moragy**	**81.27**	**317**	⇑P	**P**	**02 54 54.0**	**+0.5**
PKSM	**Moragy**	**81.27**	**317**	⇑*i*P	**P**	**02 54 54.0**	**+0.5**
PKSM	**Moragy**	**81.27**	**317**	⇑*e*P	**P**	**02 54 53.5**	**0.0**
PKS9	**Tamasi**	**81.33**	**317**	⇓*e*P	**P**	**02 54 54.2**	**+0.4**
LKR	**Lokris**	**81.45**	**308**	*e*P	P	02 54 59.0	+4.4
KZN	**Kozani**	**81.66**	**310**	*e*P	**P**	**02 54 58.5**	**+2.7**
FNA	**Florina**	**81.73**	**311**	*e*P	**P**	**02 54 54.0**	**-2.1**
AGG	**Agios Georgios**	**81.78**	**309**	*e*P	**P**	**02 54 59.0**	**+2.6**
THL	**Klokotos Trika**	**81.79**	**310**	*e*P	**P**	**02 54 58.5**	**+2.2**
TREC	**Trest**	**81.82**	**320**	*e*P	**P**	**02 54 57.1**	**+0.7**
TREC				*e**PP	**pP**	**02 55 03.3**	**0.0**
TREC				MLR	MLR		
	comp=Z,600nm,19.5s						
TREC	**Trest**	**81.82**	**320**	*e*P	**P**	**02 54 57.1**	**+0.7**
TREC				*e*pP	**pP**	**02 55 03.3**	**0.0**
TREC				AMS	AMS	03 23 10.0	
	comp=Z,600nm,19.5s						
MAKR	**Makrakomi, Fth**	**81.93**	**309**	*e*P	**P**	**02 54 59.0**	**+1.8**
BRG	**Berggiesshubel**	**81.97**	**322**	*e*P	**P**	**02 54 57.3**	**+0.2**
	comp=Z,7.2nm,0.9s						
BRG				*i*		02 55 04.0	
	comp=Z,43nm,2.0s						
BRG							
	comp=Z,697nm,24.0s						
BRG							
	comp=N,407nm,22.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BRG							
	comp=E,373nm,22.8s						
BRG	Berggiesshubel	81.97	322	eP	P	02 54 57.3	+0.2
BRG				i		02 55 04.0	
BRG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,43nm,2.0s						
BRG				MLR	MLR		
	comp=Z,697nm,24.0s						
BRG				MLR	MLR		
	comp=N,407nm,22.8s						
BRG				MLR	MLR		
	comp=E,373nm,22.8s						
PRU	Pruhonice	82.04	321	eP	P	02 54 57.7	+0.2
PRU				e*PP	pP	02 55 04.0	-0.5
PRU				MLR	MLR		
	comp=Z,500nm,21.8s						
PRU	Pruhonice	82.04	321	eP	P	02 54 57.7	+0.2
PRU				epP	pP	02 55 04.0	-0.5
PRU				AMS	AMS	03 23 00.0	
	comp=Z,500nm,21.8s						
PRA	Prague	82.07	321	P	P	02 54 58.0	+0.4
NEST	Nestorio	82.11	311	eP	P	02 54 59.0	+0.8
KALE	Kalithea	82.18	308	eP	P	02 54 59.0	+0.5
CONA	Conrad Observa	82.22	319	⇑iP	P	02 54 59.2	+0.7
	comp=Z,11nm,1.3s						
CLL	Collm	82.28	323	iP	P	02 54 58.1	-0.6
CLL				i		02 55 05.1	
CLL				pmax	pmax		
	comp=Z,22nm,1.5s						
CLL	Collm	82.28	323	iP	P	02 54 58.1	-0.6
	comp=Z,22nm,1.5s						
CLL				ipP	pP	02 55 05.1	-0.6
	comp=Z,17nm,0.9s						
CLL				e(sP)	sP	02 55 09.0	+0.8
KLV	Kalavryta, Ach	82.31	308	eP	P	02 54 59.5	+0.3
LAKA	Lakka	82.35	308	eP	P	02 54 59.5	+0.1
DRO	Drossia	82.67	308	eP	P	02 55 01.0	0.0
PDO	Prodromos	82.78	309	eP	P	02 55 01.0	-0.6
SUMG	Summit	82.80	354	eP	P	02 55 01.7	+0.2
SUMG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SUMG	Summit	82.80	354	iP	P	02 55 08.3	+6.8
	comp=Z,5.1nm,0.7s						
SUMG	Summit	82.80	354	eP	P	02 55 01.7	+0.2
	comp=Z,6.6nm,0.8s						
ITM	Ithomi	82.83	307	eP	P	02 55 01.5	-0.4
KHC	Kasperske Hory	83.00	321	eP	P	02 55 02.8	+0.2
KHC				e*PP	pP	02 55 09.2	-0.3
KHC				pmax	pmax		
	comp=Z,23nm,1.4s						
KHC	Kasperske Hory	83.00	321	eP	P	02 55 03.2	+0.6
KHC				epP	pP	02 55 09.3	-0.3
KHC				AMS	AMS	03 24 20.0	
	comp=Z,600nm,17.4s						
KHC	Kasperske Hory	83.00	321	eP	P	02 55 02.8	+0.2
	comp=Z,23nm,1.4s						
KHC				epP	pP	02 55 09.2	-0.3
GERES	GERESS Array B	83.06	321	P	P	02 55 02.8	-0.2
	comp=Z,6.4nm,0.9s,baz=64,slow=4.5,SNR=27						
YKW3	Yellowknife Ar	83.20	23	eP	P	02 55 01.9	-1.3
	comp=Z,0.1nm,0.8s						
YKA	Yellowknife Ar	83.25	23	P	P	02 55 02.6	-0.9
	comp=Z,4.9nm,0.8s,baz=313,slow=5.0,SNR=91						
YKA				PKKPbc	PKKPbc	03 13 20.8	-4.1
	comp=Z,0.1nm,0.5s,baz=134,slow=2.5,SNR=6.2						
PERS	Pernice	83.26	318	iP	P	02 55 03.9	-0.1
PERS				e		02 55 10.4	
DOBS	Dobrina	83.27	318	iP	P	02 55 04.2	+0.2
SOKA	Soboth	83.29	318	⇑iP	P	02 55 04.1	0.0
	comp=Z,12nm,1.1s						
BOJS	Bojanci	83.70	317	iP	P	02 55 06.6	+0.4
BOJS				i		02 55 12.2	
VISS	Visnje	83.82	318	eP	P	02 55 07.0	+0.2
VISS				i		02 55 13.8	
CEY	Cerknica	84.10	318	iP	P	02 55 08.3	0.0
JAVS	Javornik	84.25	318	iP	P	02 55 08.8	-0.4
JAVS				i		02 55 15.4	
ABTA	Abfaltersbach	84.78	319	⇓iP	P	02 55 11.0	-0.7
	comp=Z,21nm,1.4s						
KMBO	Kilima Mbogo	84.89	267	ceP	P	02 55 14.8	+1.7
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMBO	Kilima Mbogo	84.89	267	P	P	02 55 14.2	+1.2
	comp=Z,3.8nm,0.9s,baz=55,slow=6.3,SNR=12						
KMBO	Kilima Mbogo	84.89	267	eP	P	02 55 13.7	+0.7
	comp=Z,6.9nm,1.1s						
MOTA	Moosalm	85.32	320	⇑iP	P	02 55 13.9	-0.7
	comp=Z,6.8nm,0.9s						
TIP	Timpagrande	85.63	311	eP	P	02 55 16.3	+0.1
	comp=Z,12nm,1.0s						
STU	Stuttgart	85.68	322	eP	P	02 55 16.3	+0.1
STU	Stuttgart	85.68	322	eP	P	02 55 16.2	+0.1
FETA	Feichten	85.70	320	⇓iP	P	02 55 16.0	-0.4
	comp=Z,11nm,1.1s						
DAVOX	Davos/Dischmat	86.33	320	P	P	02 55 19.7	0.0
	comp=Z,5.9nm,0.9s,baz=350,slow=15,SNR=6.4						
AQU	L'Aquila	86.38	315	eP	P	02 55 20.4	+0.6
AQU				pmax	pmax		
	comp=Z,39nm,1.0s						
AQU	L'Aquila	86.38	315	eP	P	02 55 20.4	+0.6
	comp=Z,39nm,1.0s						
MEM	Membach	86.43	325	P	P	02 55 20.0	+0.2
	comp=Z,9.2nm,1.3s						
MEM				AP	pP	02 55 26.3	-0.5
CEL	Celeste	86.65	310	eP	P	02 55 21.6	+0.4
	comp=Z,48nm,1.0s						
CEL				epP	pP	02 55 28.1	-0.1
CDF	Champ du Feu	86.95	322	eP	P	02 55 22.3	-0.2
CDF	Champ du Feu	86.95	322	eP	P	02 55 22.3	-0.2
CDF	Champ du Feu	86.95	322	eP	P	02 55 22.3	-0.2
GIVF	Givet	87.34	325	eP	P	02 55 24.1	-0.1
	comp=Z,39nm,1.0s						
GIVF	Givet	87.34	325	eP	P	02 55 24.1	-0.1
GIVF				pmax	pmax		
	comp=Z,39nm,1.0s						
GIVF	Givet	87.34	325	eP	P	02 55 24.1	-0.1
	comp=Z,39nm,1.0s						
HINF	Hinteralfeld	87.51	322	eP	P	02 55 24.9	-0.3
HINF	Hinteralfeld	87.51	322	eP	P	02 55 24.9	-0.3
HINF	Hinteralfeld	87.51	322	eP	P	02 55 24.9	-0.3
BAIF	Baives	87.69	325	eP	P	02 55 25.7	-0.2
	comp=Z,30nm,1.1s						
BAIF	Baives	87.69	325	eP	P	02 55 25.7	-0.2
BAIF				pmax	pmax		
	comp=Z,31nm,1.1s						
BAIF	Baives	87.69	325	eP	P	02 55 25.7	-0.2
	comp=Z,30nm,1.1s						
HAU	Haudompre	87.69	322	eP	P	02 55 25.3	-0.7
	comp=Z,6.5nm,0.7s						
HAU	Haudompre	87.69	322	eP	P	02 55 25.3	-0.7
HAU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HAU	Haudompre	87.69	322	eP	P	02 55 25.3	-0.7
	comp=Z,6.5nm,0.7s						
PAGF	Fort de Pagny	87.73	323	eP	P	02 55 26.4	+0.2
	comp=Z,5.5nm,0.9s						
PAGF	Fort de Pagny	87.73	323	eP	P	02 55 26.4	+0.2
	comp=Z,5.5nm,0.9s						
MEZF	Maizieres J'vi	88.13	323	eP	P	02 55 28.2	+0.2
MEZF	Maizieres J'vi	88.13	323	eP	P	02 55 28.2	+0.2
SFTF	Sexfontaines	88.31	323	eP	P	02 55 28.5	-0.4
SFTF	Sexfontaines	88.31	323	eP	P	02 55 28.5	-0.4
CABF	La Chapelle	88.62	321	eP	P	02 55 30.6	+0.1
	comp=Z,63nm,1.5s						
CABF	La Chapelle	88.62	321	eP	P	02 55 30.6	+0.1
CABF				pmax	pmax		
	comp=Z,63nm,1.5s						
CABF	La Chapelle	88.62	321	eP	P	02 55 30.6	+0.1
	comp=Z,63nm,1.5s						
LPG	La Plagne	88.85	320	eP	P	02 55 31.9	0.0
	comp=Z,40nm,0.8s						
LPG	La Plagne	88.85	320	eP	P	02 55 31.9	0.0
LPG				pmax	pmax		
	comp=Z,40nm,0.8s						
LPG	La Plagne	88.85	320	eP	P	02 55 31.9	0.0
	comp=Z,40nm,0.8s						
LPL	La Plagne	88.85	320	eP	P	02 55 31.7	-0.1
	comp=Z,25nm,0.7s						
LPL	La Plagne	88.85	320	eP	P	02 55 31.7	-0.1
LPL				pmax	pmax		
	comp=Z,25nm,0.7s						
LPL	La Plagne	88.85	320	eP	P	02 55 31.7	-0.1
	comp=Z,25nm,0.7s						
PGF	Pioggiola	89.08	317	eP	P	02 55 32.7	-0.1
	comp=Z,102nm,1.0s						
PGF	Pioggiola	89.08	317	eP	P	02 55 32.7	-0.1
PGF				pmax	pmax		
	comp=Z,102nm,1.0s						
PGF	Pioggiola	89.08	317	eP	P	02 55 32.7	-0.1
	comp=Z,102nm,1.0s						
BNI	Bardonecchia	89.14	320	eP	P	02 55 32.9	-0.2
BNI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BNI	Bardonecchia	89.14	320	eP	P	02 55 32.9	-0.2
	comp=Z,8.7nm,0.9s						
MBDF	Montbardon	89.27	320	eP	P	02 55 33.6	-0.1
MBDF	Montbardon	89.27	320	eP	P	02 55 33.6	-0.1
MBDF	Montbardon	89.27	320	eP	P	02 55 33.6	-0.1
SBF	Sospel	89.34	319	eP	P	02 55 33.3	-0.6
	comp=Z,60nm,0.9s						
SBF	Sospel	89.34	319	eP	P	02 55 33.3	-0.6
SBF				pmax	pmax		
	comp=Z,60nm,0.9s						
SBF	Sospel	89.34	319	eP	P	02 55 33.3	-0.6
	comp=Z,60nm,0.9s						
LOR	Lormes	89.50	323	eP	P	02 55 33.8	-0.7
	comp=Z,43nm,1.1s						
LOR	Lormes	89.50	323	eP	P	02 55 33.8	-0.7
LOR				pmax	pmax		
	comp=Z,43nm,1.1s						
LOR	Lormes	89.50	323	eP	P	02 55 33.8	-0.7
	comp=Z,43nm,1.1s						
ORIF	Oris-en-Rattie	89.69	320	eP	P	02 55 35.3	-0.3
	comp=Z,30nm,1.1s						
ORIF	Oris-en-Rattie	89.69	320	eP	P	02 55 35.3	-0.3
ORIF				pmax	pmax		
	comp=Z,31nm,1.1s						
ORIF	Oris-en-Rattie	89.69	320	eP	P	02 55 35.3	-0.3
	comp=Z,30nm,1.1s						
SSF	Saint Saulge	89.81	323	eP	P	02 55 35.6	-0.4
	comp=Z,20nm,1.0s						
SSF	Saint Saulge	89.81	323	eP	P	02 55 35.6	-0.4
SSF				pmax	pmax		
	comp=Z,20nm,1.0s						
SSF	Saint Saulge	89.81	323	eP	P	02 55 35.6	-0.4
	comp=Z,20nm,1.0s						
SMF	Signal de Mont	89.87	322	eP	P	02 55 35.9	-0.4
	comp=Z,36nm,0.8s						
SMF	Signal de Mont	89.87	322	eP	P	02 55 35.9	-0.4
SMF				pmax	pmax		
	comp=Z,36nm,0.8s						
SMF	Signal de Mont	89.87	322	eP	P	02 55 35.9	-0.4
	comp=Z,36nm,0.8s						
FRF	La Foret Royal	89.98	319	eP	P	02 55 36.5	-0.4
	comp=Z,62nm,1.2s						
FRF	La Foret Royal	89.98	319	eP	P	02 55 36.5	-0.4
FRF				pmax	pmax		
	comp=Z,63nm,1.2s						
FRF	La Foret Royal	89.98	319	eP	P	02 55 36.5	-0.4
	comp=Z,62nm,1.2s						
AVF	Avril sur Loir	90.06	323	eP	P	02 55 36.7	-0.4
	comp=Z,35nm,0.8s						
AVF	Avril sur Loir	90.06	323	eP	P	02 55 36.7	-0.4
AVF				pmax	pmax		
	comp=Z,35nm,0.8s						
AVF	Avril sur Loir	90.06	323	eP	P	02 55 36.7	-0.4
	comp=Z,35nm,0.8s						
HYF	Humbligny	90.17	323	eP	P	02 55 37.9	+0.2
HYF	Humbligny	90.17	323	eP	P	02 55 37.9	+0.2
LMR	La Mourre	90.19	318	eP	P	02 55 37.7	-0.1
	comp=Z,90nm,1.3s						
LMR	La Mourre	90.19	318	eP	P	02 55 37.7	-0.1
LMR				pmax	pmax		
	comp=Z,90nm,1.3s						
LMR	La Mourre	90.19	318	eP	P	02 55 37.7	-0.1
	comp=Z,90nm,1.3s						
SMRF	Simiane la Rot	90.40	319	eP	P	02 55 39.7	+0.9
	comp=Z,61nm,1.2s						
SMRF	Simiane la Rot	90.40	319	eP	P	02 55 39.7	+0.9
	comp=Z,61nm,1.2s						
VIVF	Saint-Julien-l	90.43	320	eP	P	02 55 38.6	-0.4
	comp=Z,17nm,0.8s						
VIVF	Saint-Julien-l	90.43	320	eP	P	02 55 38.6	-0.4
VIVF				pmax	pmax		
	comp=Z,17nm,0.8s						
VIVF	Saint-Julien-l	90.43	320	eP	P	02 55 38.6	-0.4
	comp=Z,17nm,0.8s						
BGF	Bois d'Agland	90.47	323	eP	P	02 55 38.8	-0.3
BGF	Bois d'Agland	90.47	323	eP	P	02 55 38.8	-0.3
BGF	Bois d'Agland	90.47	323	eP	P	02 55 38.8	-0.3
I03D	Drain, OR	90.49	41	P	P	02 55 37.3	-1.8
	baz=90						
G05D	Wamic, OR	90.80	39	P	P	02 55 41.1	+0.4
	baz=91						
TCF	Toulx Ste Croi	90.99	323	eP	P	02 55 41.4	-0.1
	comp=Z,22nm,0.9s						
TCF	Toulx Ste Croi	90.99	323	eP	P	02 55 41.4	-0.1
TCF				pmax	pmax		
	comp=Z,22nm,0.9s						
TCF	Toulx Ste Croi	90.99	323	eP	P	02 55 41.4	-0.1
	comp=Z,22nm,0.9s						
NEW	Newport	91.26	35	eP	P	02 55 42.8	0.0
NEW				pmax	pmax		
	comp=Z,11nm,1.1s						
NEW	Newport	91.26	35	eP	P	02 55 42.8	0.0
	comp=Z,11nm,1.1s						
NEW	Newport	91.26	35	P	P	02 55 41.9	-0.8
	baz=91						
CAF	Calviac	91.89	322	eP	P	02 55 46.2	+0.5
	comp=Z,50nm,1.3s						
CAF	Calviac	91.89	322	eP	P	02 55 46.2	+0.5
CAF				pmax	pmax		
	comp=Z,50nm,1.3s						
CAF	Calviac	91.89	322	eP	P	02 55 46.2	+0.5
	comp=Z,50nm,1.3s						
RJF	Les Rejaudoux	91.97	322	eP	P	02 55 46.5	+0.4
	comp=Z,63nm,0.8s						
RJF	Les Rejaudoux	91.97	322	eP	P	02 55 46.5	+0.4
RJF				pmax	pmax		
	comp=Z,63nm,0.8s						
RJF	Les Rejaudoux	91.97	322	eP	P	02 55 46.5	+0.4
	comp=Z,63nm,0.8s						
J05D	Fort Rock, OR	91.99	40	P	P	02 55 46.3	-0.1
	baz=92						
MFF	Saint Martin d	92.09	324	eP	P	02 55 46.2	-0.4
MFF	Saint Martin d	92.09	324	eP	P	02 55 46.2	-0.4
MFF	Saint Martin d	92.09	324	eP	P	02 55 46.2	-0.4
KEST	Kesra	92.45	311	P	P	02 55 48.2	-0.4
	comp=Z,3.6nm,0.9s,baz=293,slow=8.8,SNR=4.9						
ROSF	Rostrenen	92.61	327	eP	P	02 55 49.0	+0.1
	comp=Z,32nm,0.9s						
ROSF	Rostrenen	92.61	327	eP	P	02 55 49.0	+0.1
ROSF				pmax	pmax		
	comp=Z,32nm,0.9s						
ROSF	Rostrenen	92.61	327	eP	P	02 55 49.0	+0.1
	comp=Z,32nm,0.9s						
LFF	La Frestale	92.63	322	eP	P	02 55 49.3	+0.2
	comp=Z,61nm,1.2s						
LFF	La Frestale	92.63	322	eP	P	02 55 49.3	+0.2
LFF				pmax	pmax		
	comp=Z,61nm,1.2s						
LFF	La Frestale	92.63	322	eP	P	02 55 49.3	+0.2
	comp=Z,61nm,1.2s						
FCC	Fort Churchill	92.64	18	eP	P	02 55 47.9	-0.9
FCC	Fort Churchill	92.64	18	eP	P	02 55 47.9	-0.9
	comp=Z,0.2nm,1.1s						
JTMT	Jette	93.06	34	eP	P	02 55 50.9	-0.4
	comp=Z,4.9nm,1.2s						
FFC	Flin Flon	93.41	23	eP	P	02 55 51.4	-1.1
FFC	Flin Flon	93.41	23	eP	P	02 55 51.4	-1.1
SLMT	Seeley Lake	93.79	34	eP	P	02 55 54.5	-0.1
	comp=Z,8.5nm,1.2s						
MSO	Missoula	93.83	34	P	P	02 55 54.7	-0.1
	baz=94						
WVOR	Wild Horse Val	94.03	40	eP	P	02 55 55.6	-0.2
WVOR				pmax	pmax		
	comp=Z,11nm,1.3s						
WVOR	Wild Horse Val	94.03	40	eP	P	02 55 55.6	-0.2
	comp=Z,10nm,1.3s						
EGMT	Eagleton	95.11	32	P	P	02 55 59.4	-1.2
	baz=95						
B19A	Brinkman Farms	95.19	31	P	P	02 55 58.5	-2.4
	baz=95						
A20A	Cobblestone Ra	95.36	30	P	P	02 56 00.2	-1.4
	baz=95						
C19A	Slack Wire Ran	95.65	31	P	P	02 56 02.3	-0.7
	baz=95						
HLID	Hailey	95.72	37	eP	P	02 56 03.8	+0.2
	comp=Z,2.6nm,0.9s						
HLID	Hailey	95.72	37	P	P	02 56 03.0	-0.6
	baz=96						
D19A	Cripps Ranch,	96.13	32	P	P	02 56 04.3	-0.9
	baz=96						
C20A	Veseth Ranch,	96.16	31	P	P	02 56 04.1	-1.2
	baz=96						
PPT	Papeete	96.28	106	LR	LR	03 31 08.4	
	comp=Z,74nm,19.6s,baz=292,slow=30						
PPT2	Papeete2	96.29	106	eLR	LR	03 27 26.6	
	comp=Z,168nm,23.0s						
NVAR	Mina Array Bea	96.66	43	P	P	02 56 08.2	+0.2
	comp=Z,1.0nm,0.8s,baz=292,slow=5.5,SNR=7.3						
E19A	Rath Farm, Rou	96.68	32	P	P	02 56 06.2	-1.6
	baz=96						
LSZ	Lusaka	98.70	257	eP	P	02 56 16.1	-1.3
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LSZ	Lusaka	98.70	257	P	P	02 56 15.5	-1.9
	comp=Z,0.5nm,0.4s,baz=65,slow=7.6,SNR=6.5						
LSZ	Lusaka	98.70	257	eP	P	02 56 16.1	-1.3
	comp=Z,2.1nm,0.8s						
DUG	Dugway	98.83	39	eP	Pdif	02 56 17.6	-0.1
DUG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DUG	Dugway	98.83	39	eP	Pdif	02 56 17.6	0.0
	comp=Z,1.0nm,0.7s						
PDAR	Pinedale Array	98.88	35	LR	LR	03 41 55.3	
	comp=Z,91nm,19.4s,baz=336,slow=36						
TOA0	Torodi Ar. Sit	110.35	295	ePKP	PKiKP	03 01 10.1	-0.2
TORD	Torodi Ar. Bea	110.35	295	PKiKP	PKiKP	03 01 08.7	-1.6
	comp=Z,0.5nm,0.7s,baz=47,slow=2.0,SNR=5.2						
TXAR	Lajitas Array	111.75	42	PKiKP	PKiKP	03 01 11.1	-1.6
	comp=Z,0.3nm,0.6s,baz=325,slow=1.1,SNR=4.2						
WCI	Wyandotte Cave	113.06	23	ePKIKP	PKiKP	03 01 14.9	0.0
WCI	Wyandotte Cave	113.06	23	ePKP	PKiKP	03 01 14.9	0.0
DBIC	Dimbokro	119.23	293	ePKIKP	PKPdf	03 01 27.1	-0.2
DBIC	Dimbokro	119.23	293	ePKPdf	PKPdf	03 01 27.1	-0.2
VNA2	Neumayer--Watz	124.60	198	PKiKP	PKPdf	03 01 35.2	-0.7
	baz=16,slow=3.4						
VNA2	Neumayer--Watz	124.60	198	pPKPdf	pPKPdf	03 01 41.7	-1.4
	baz=16,slow=3.4						
SDV	Santo Domingo	145.45	21	ePKPbc	PKPbc	03 02 15.6	-0.8
PCRV	Puerto La Cruz	145.68	10	PKPbc	PKPdf	03 02 15.0	-1.7
	comp=Z,8.1nm,0.6s,baz=333,slow=2.3,SNR=4.2						
ROSC	El Rosal	147.69	30	PKPbc	PKPdf	03 02 21.0	+0.5
	comp=Z,4.0nm,0.4s,baz=270,slow=2.0,SNR=4.0						
OTAV	Otavalo	149.38	41	ePKPdf	PKPdf	03 02 23.4	+0.1
OTAV				ePKPbc	PKPbc	03 02 27.7	-0.1
OTAV				ePKPab	PKPab	03 02 33.3	+1.0
PTGA	Pitinga	156.96	3	PKP	PKPdf	03 02 33.0	-0.7
	comp=Z,4.5nm,0.9s,baz=149,slow=2.4,SNR=5.2						
PLCA	Paso Flores	160.53	152	ePKIKP	PKPdf	03 02 35.9	-1.4
PLCA				e		03 03 18.0	
PLCA	Paso Flores	160.53	152	ePKPdf	PKPdf	03 02 35.9	-1.4
PLCA				ePKPab	PKPab	03 03 18.0	-0.5
SAML	Samuel	164.58	16	ePKPdf	PKPdf	03 02 41.0	-0.9
TRQA	Tornquist	165.62	170	ePKPdf	PKPdf	03 02 41.2	-0.9
TRQA				ePKPab	PKPab	03 03 39.5	-1.3
LCO	Las Campanas	168.21	118	ePKPdf	PKPdf	03 02 44.4	-0.3
LPAZ	La Paz	168.46	51	ePKIKP	PKPdf	03 02 45.9	+0.3
LPAZ	La Paz	168.46	51	PKP	PKPdf	03 02 45.6	0.0
	comp=Z,4.7nm,1.0s,baz=353,slow=3.2,SNR=8.9						
LPAZ	La Paz	168.46	51	ePKPdf	PKPdf	03 02 45.9	+0.3
LPAZ				ePKPab	PKPab	03 03 55.2	+0.5
CFAA	Coronel Fontan	168.67	135	PKP	PKPdf	03 02 43.9	-0.7
	comp=Z,0.4nm,1.0s,baz=301,slow=5.9,SNR=5.8						
LVC	Limon Verde	170.65	84	ePKPdf	PKPdf	03 02 47.2	+0.9
SIV	San Ignacio	171.87	15	PKP	PKPdf	03 02 45.9	-0.9
	comp=Z,5.6nm,1.0s,baz=356,slow=2.6,SNR=7.2						

JSN 12 02:51:21.8±0.9, 17.°70N×76.°64W, h2km±15km, MD4.1, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YHJ	Yallahs	0.23	36	i P	Pg	02 51 26.6	+0.2
HOJ	Hope	0.32	340	i P	Pg	02 51 29.0	+1.0
GWJ	Greenwich	0.38	347	i P	Pg	02 51 28.9	-0.4
STH	Stony Hill	0.41	336	i P	Pg	02 51 29.0	-0.7
STH				i S	Sg	02 51 35.0	0.0
PCJ	Portland Cotta	0.50	274	i P	Pg	02 51 31.1	-0.3
CVJ	Coleyville	1.00	301	i P	Pg	02 51 39.7	-1.5
MCJ	Malvern	1.02	283	i P	Pg	02 51 40.4	-1.2
MBJ	Montego Bay	1.36	301	i P	Pn	02 51 45.7	-2.2
MBJ				i S	Sg	02 52 04.0	-1.7

ISCJB **12** *02:52:43.4±0.4, 50.°31N±0.°04×18.°76E±0.°03, h0km, Error ellipse: s-maj=5.2km s-min=2.2km az=11.9*
CSEM **12** *02:52:43.8±0.3, 50.°34N×18.°77E, h2km, ML2.5/6, Error ellipse: s-maj=8.6km s-min=3.0km az=3.0*
VIE **12** *02:52:45.3±1.0, 49.°72N×19.°03E, h0km, mb1.9/2, ML2.2/3, Error ellipse: s-maj=5.6km s-min=5.1km az=120.0 57 km ESE of Ostrava Suspected Mining induced.*
PRU **12** *02:52:45.3, 50.°28N×18.°76E, h0km*
ISC 12 02:52:44.8±0.8, 50.°28N±0.°03×18.°79E±0.°02, h0km, n37, σ1.§14/64, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHZP	Chorzow	0.13	84	ePg	Pg	02 52 46.6	-0.7
CHZP				eSg	Sg	02 52 48.7	-0.2
OKC	Ostrava-Krasne	0.60	224	ePG	Pg	02 52 57.4	+1.0
OKC				eSG	Sg	02 53 05.7	+1.5
	14nm,0.5s						
OKC	Ostrava-Krasne	0.60	224	Pg	Pg	02 52 57.4	+1.0
OKC				Sg	Sg	02 53 05.7	+1.5
	14nm,0.5s						
OJC	Ojcow	0.65	95	ePg	Pg	02 52 56.1	-1.1
OJC				eSg	Sg	02 53 04.7	-0.9
OJC	Ojcow	0.65	95	ePg	Pg	02 52 56.1	-1.1
OJC				eSg	Sg	02 53 04.7	-0.9
MORC	Moravsky Berou	0.95	239	ePg	Pg	02 53 03.1	+0.1
MORC				eSg	Sb	02 53 16.7	-0.6
NIE	Niedzica	1.31	131	ePg	Pg	02 53 09.2	-0.6
NIE				eSg	Sg	02 53 26.8	0.0
NIE	Niedzica	1.31	131	ePg	Pg	02 53 09.2	-0.6
NIE				eSg	Sg	02 53 26.8	0.0
KRLC	Kraliky	1.31	262	ePG	Pg	02 53 08.5	-1.4
KRLC				eSG	Sg	02 53 26.2	-0.6
KRLC	Kraliky	1.31	262	Pg	Pg	02 53 08.5	-1.4
KRLC				Sg	Sg	02 53 26.2	-0.6
DPC	Dobruska-Polom	1.58	274	ePG	Pn	02 53 13.4	-0.8
DPC				eSG	Sn	02 53 34.9	-0.5
DPC	Dobruska-Polom	1.58	274	Pg	Pn	02 53 13.4	-0.8
DPC				Sg	Sn	02 53 34.9	-0.5
KSP	Ksiaz	1.69	291	ePn	Pn	02 53 16.0	+0.4
KSP				ePg	Pg	02 53 17.5	+0.3
KSP				eSn	Sn	02 53 36.7	-1.3
KSP				eSg	Sb	02 53 38.5	-0.1
VRAC	Vranov	1.72	237	ePn	Pn	02 53 16.2	+0.1
VRAC				eSg	Sg	02 53 40.1	0.0
VYHS	Vyhne	1.79	179	ePN	Pn	02 53 16.5	-0.4
VYHS				eSN	Sn	02 53 40.1	-0.2
VYHS	Vyhne	1.79	179	ePn	Pn	02 53 16.5	-0.4
VYHS				eSn	Sn	02 53 40.1	-0.2
UPC	Upice	1.79	278	eSG	Sn	02 53 41.0	+0.5
	3.1nm,0.3s						
UPC	Upice	1.79	278	Sg	Sn	02 53 41.0	+0.5
	3.1nm,0.3s						
STHS	Stebnicka Huta	1.81	118	ePN	Pn	02 53 18.3	+1.1
STHS				eSN	Sb	02 53 43.3	+1.4
STHS	Stebnicka Huta	1.81	118	ePn	Pn	02 53 18.3	+1.1
STHS				eSn	Sb	02 53 43.3	+1.4
KECS	Kecovo	2.11	148	ePN	Pn	02 53 20.3	-1.1
KECS				eSN	Sn	02 53 46.5	-1.8
KECS	Kecovo	2.11	148	ePn	Pn	02 53 20.3	-1.1
KECS				eSn	Sn	02 53 46.5	-1.8
CRVS	Cervenica-Dubn	2.22	127	ePN	Pb	02 53 26.1	+0.4
CRVS				eSN	Sn	02 53 50.8	-0.1
CRVS	Cervenica-Dubn	2.22	127	ePn	Pb	02 53 26.1	+0.4
CRVS				eSn	Sn	02 53 50.8	-0.1
TREC	Trest	2.36	247	eSG	Sb	02 53 58.6	+0.8
	6.7nm,0.5s						
TREC	Trest	2.36	247	Sg	Sb	02 53 58.6	+0.8
	6.7nm,0.5s						
KOLS	Kolonicke sedl	2.63	119	e	Pg	02 53 36.4	+1.1
KOLS	Kolonicke sedl	2.63	119	eSN	Sn	02 54 02.4	+1.2
KOLS	Kolonicke sedl	2.63	119	eSn	Sn	02 54 02.4	+1.2
PRU	Pruhonice	2.75	266	eSG	Sb	02 54 10.6	+1.5
	7.5nm,0.9s						
PRU	Pruhonice	2.75	266	Sg	Sb	02 54 10.6	+1.5
	7.5nm,0.9s						

BRG Berggiesshubel 3.15 283 SG Sg 02 54 27.0 +1.1
3.4nm,0.5s
KHC Kasperske Hory 3.57 253 ePN Pn 02 53 40.5 -1.0
KHC ePG Pb 02 53 49.5 +0.6
KHC eSG Sg 02 54 37.0 -2.6
3.6nm,0.4s
KHC Kasperske Hory 3.57 253 Pn Pn 02 53 40.5 -1.0
KHC Sg Sg 02 54 37.0 -2.6
3.6nm,0.4s
CLL Collm 3.81 288 eSg Sg 02 54 50.0 +2.7
MOA Molln 3.84 232 ⇑iSg Sg 02 54 46.1 -2.1
2.3nm,0.4s
MOA Molln 3.84 232 Sg Sg 02 54 46.1 -2.1
2.3nm,0.4s

ISCJB 12 03:02:02.3±0.6, 0°.6N±0°.2×27°.5W±0°.1, h10km, mb4.1/19, MS3.7/1, Error ellipse: s-maj=27.8km s-min=9.5km az=151.0
IDC 12 03:02:03.1±0.9, 0°.74N×27°.51W, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.8/38, mbtmp3.9/12, ML3.8/1, MS3.7/1, Ms1 3.9/1, ms1mx3.1/35, Error ellipse: s-maj=36.9km s-min=18.3km az=150.0
NEIC 12 03:02:04.4±0.5, 0°.58N×27°.44W, h10km, mb4.6/8, Error ellipse: s-maj=20.2km s-min=7.6km az=151.0
ISC 12 03:02:04.4±0.8, 0°.6N±0°.2×27°.5W±0°.1, h10km, n33, σ0§93/27, mb4.1/19, Central Mid-Atlantic Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RCBR Riachuelo 10.57 233 Pn Pn 03 04 35.6 -0.6
0.8nm,0.3s,baz=41,slow=17,SNR=6.3
RCBR Sn Sn 03 06 24.1 -11
0.2nm,0.3s,baz=126,slow=19,SNR=2.5
H10N3 ASCENSION HYDR15.41 123 T T 03 21 56.9
baz=303,slow=74,SNR=14
H10N2 ASCENSION HYDR15.42 123 T T 03 21 58.7
baz=303,slow=74,SNR=15
H10N1 ASCENSION HYDR15.43 123 T T 03 22 07.4
baz=303,slow=74,SNR=17
H10S3 ASCENSION HYDR15.90 127 T T 03 22 39.6
baz=306,slow=74,SNR=12
H10S1 ASCENSION HYDR15.91 127 T T 03 22 37.0
baz=306,slow=74,SNR=13
H10S2 ASCENSION HYDR15.92 127 T T 03 22 45.2
baz=306,slow=74,SNR=7.5
DBIC Dimbokro 23.34 75 P P 03 07 12.4 -0.8
5.8nm,1.0s,baz=208,slow=8.9,SNR=3.7
TOA0 Torodi Ar. Sit 31.46 65 eP P 03 08 27.1 +0.6
TORD Torodi Ar. Bea 31.46 65 P P 03 08 26.7 +0.1
1.4nm,0.8s,baz=257,slow=8.5,SNR=7.7
SAML Samuel 36.82 254 eP P 03 09 13.1 0.0
4.7nm,1.4s
TAM Tamanrasset 38.92 53 eP P 03 09 31.6 +0.7
LPAZ La Paz 43.49 245 P P 03 10 10.2 +1.1
1.7nm,0.9s,baz=80,slow=6.5,SNR=4.8
LPAZ LR LR 03 27 56.6
comp=Z,98nm,19.1s,baz=41,slow=36
LPAZ La Paz 43.49 245 eP P 03 10 09.5 +0.4
1.7nm,0.9s
ESDC Sonseca Array 44.41 26 P P 03 10 15.4 -0.1
0.9nm,0.8s,baz=230,slow=8.9,SNR=6.1
AQU L'Aquila 55.42 36 eP P 03 11 39.1 -0.1
23nm,1.2s
TIP Timpagrande 55.70 41 eP P 03 11 41.2 -0.1
26nm,1.6s
JTS JuntasAbangare 57.94 282 eP P 03 11 56.9 -0.7
4.1nm,0.8s
GERES GERESS Array B 59.66 30 P P 03 12 08.8 -0.2
1.0nm,0.7s,baz=221,slow=5.2,SNR=11
PSZ Piszkesteto 62.39 34 eP P 03 12 27.0 -0.6
5.0nm,0.8s
NAO01 NORSAR Array S 66.85 19 eP P 03 12 57.2 +0.8
2.3nm,0.7s
NOA NORSAR Array B 67.10 19 P P 03 12 58.1 +0.1
0.5nm,0.7s,baz=222,slow=6.6,SNR=3.1
BRTR Keskin Array B 67.71 47 P P 03 13 02.2 -0.3
1.1nm,0.8s,baz=240,slow=5.4,SNR=4.5
AK02 Malin Array Si 69.04 35 eP P 03 13 09.9 -0.4
AK01 Malin Array Si 69.06 35 eP P 03 13 09.7 -0.8
AKASG Malin Array Be 69.07 35 P P 03 13 10.5 0.0
4.8nm,0.8s,baz=242,slow=6.2,SNR=16
AKBB Malin Array Si 69.07 35 eP P 03 13 10.3 -0.2
FINES FINESS Array B 72.86 24 P P 03 13 32.9 -0.5
1.4nm,0.8s,baz=234,slow=4.7,SNR=3.8
TXAR Lajitas Array 77.68 300 P P 03 14 01.9 -0.1
0.6nm,1.0s,baz=102,slow=7.5,SNR=3.7
PDAR Pinedale Array 83.78 313 P P 03 14 37.2 +2.7
0.6nm,1.1s,baz=82,slow=6.6,SNR=2.5
HWUT Hardware Ranch 85.18 312 eP P 03 14 43.2 +1.7
5.0nm,1.2s
YKA Yellowknife Ar 88.14 332 P P 03 14 53.2 -2.1
0.1nm,0.6s,baz=102,slow=5.8,SNR=3.4
ASAR Alice Springs 150.81 143 PKPbc PKPbc 03 21 58.9 +0.7
0.8nm,0.8s,baz=206,slow=2.4,SNR=10

IDC 12 03:08:32.0±1.9, 4°.51N×123°.29E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/24, mbtmp3.4/3, Error ellipse: s-maj=220.7km s-min=26.0km az=63.0, Celebes Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 26.62 156 P P 03 14 12.7 +0.2
0.3nm,0.3s,baz=335,slow=10.0,SNR=7.2
ASAR Alice Springs 29.86 160 P P 03 14 41.2 -0.2
0.2nm,0.3s,baz=336,slow=8.1,SNR=4.5
MKAR Makanchi Array 54.99 327 P P 03 18 05.1 -0.1
0.2nm,0.3s,baz=120,slow=7.8,SNR=7.6

MEX 12 03:18:01.6±0.4, 16°.12N×97°.94W, h10km, MD3.6, Oaxaca

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PNIG Pinotepa 0.33 327 eP Pg 03 18 07.8 -0.4
PNIG eS Sg 03 18 12.3 -0.3
VHO Vista Hermosa 1.50 50 iP Pn 03 18 24.7 -4.1
VHO iS Sn 03 18 43.6 -5.0
HUIG Huatulco 1.80 101 iP Pn 03 18 28.7 -4.0
HUIG iS Sn 03 18 51.3 -4.2
CMIG Matias Romero 3.09 71 iP Pn 03 18 46.9 -3.5
CMIG iS Sn 03 19 22.9 -4.5

NEIC 12 03:22:47.7, 56°.22N×151°.74W, h10km, mb4.8/74, ML4.4(AEIC), After AEIC.
IDC 12 03:22:49.7±0.6, 56°.59N×152°.27W, h0km, mb4.5/34, mb1 4.6/37, mb1mx4.6/40, mbtmp4.5/37, ML4.0/3, MS3.8/11, Ms1 3.8/11, ms1mx3.5/51, Error ellipse: s-maj=17.3km s-min=9.9km az=12.0
ISCJB 12 03:22:50.2±0.1, 56°.67N±0°.02×152°.19W±0°.03, h10km, mb4.7/161, MS3.9/12, Error ellipse: s-maj=2.9km s-min=1.7km az=44.2
MOS 12 03:22:50.2±0.8, 56°.66N×152°.31W, h11km, mb5.0/91, Error ellipse: s-maj=9.5km s-min=3.7km az=89.5
BJI 12 03:22:51.2, 56°.92N×152°.92W, h10km, mB5.2/13, mb4.8/30, Ms4.8/7, Ms7 4.4/7
ISC 12 03:22:52.3±0.6, 56°.53N±0°.05×152°.19W±0°.03, h19km±2km, h19km:pP-P, n795, σ1§28/810, mb4.8/167, MS3.9/12, 185C-151D, Kodiak Island region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OHAK Old Harbor 0.92 320 P Pb 03 23 09.0 -0.5
OHAK S Sn 03 23 26.4 +3.6
SII Sitkinak Islan 1.10 273 P Pn 03 23 10.9 -1.7
KDAK Kodiak Island 1.28 351 P Pn 03 23 14.2 -0.8
KDAK Kodiak Island 1.28 351 P Pn 03 23 14.2 -0.8
KABR Katmai Barrier 2.20 318 P Pn 03 23 28.3 +0.5
KAWH Katmai 2.33 324 P Pn 03 23 30.8 +1.2
KAKN Katmai Knife C 2.36 320 P Pn 03 23 30.5 +0.6
KCE Katmai Mt Cerb 2.36 318 P Pn 03 23 30.9 +0.9
KVTA Katmai Vly 10 2.50 319 P Pn 03 23 33.4 +1.5
PLK3 Peulik 3 2.51 299 P Pn 03 23 32.8 +0.8
PLK4 Peulik 4 2.53 298 P Pn 03 23 32.8 +0.5
KAHC Katmai Hardscr 2.61 326 P Pn 03 23 34.5 +1.0
AUI Augustine Isla 2.89 347 P Pn 03 23 38.2 +1.0
MCNL McNeil River 2.90 338 P Pn 03 23 38.4 +1.1
AUH Augustine H 2.92 347 P Pn 03 23 38.9 +1.2
HOM Homer 3.15 5 P Pn 03 23 39.8 -1.0
HOM S Sn 03 24 20.5 +2.7
OPT Oil Point 3.18 350 P Pn 03 23 41.6 +0.4
BRLK Bradley Lake 3.32 12 P Pn 03 23 41.8 -1.3
CHGN Chignik 3.46 269 P Pn 03 23 43.7 -1.3
ILS Iliamna Low So 3.47 353 P Pn 03 23 45.4 +0.2
ILW Iliamna West 3.58 352 P Pn 03 23 47.1 +0.3
SEW Seward 3.87 21 P Pn 03 23 48.4 -2.2
RSO Redoubt South 3.96 356 ePn Pn 03 23 51.9 -0.2
RDWB Redoubt West 3.99 355 P Pn 03 23 52.3 -0.1
RDN Redoubt North 4.01 356 P Pn 03 23 52.8 +0.2
NCT North Crescent 4.07 355 P Pn 03 23 53.6 +0.1
DFR Drift River 4.08 357 P Pn 03 23 53.6 0.0
SLKM Skilak Lake 4.12 14 P Pn 03 23 53.0 -1.1
SLKM Skilak Lake 4.12 14 P Pn 03 23 53.0 -1.1
SPU Mount Spurr 4.67 1 ePn Pn 03 24 01.8 +0.1
CKL Chakachamna La 4.68 359 P Pn 03 24 01.9 0.0
SPBG Spurr Blockage 4.75 359 P Pn 03 24 02.6 -0.2
RC01 Rabbit Creek A 4.75 15 P Pn 03 24 01.3 -1.4
RC01 S Sn 03 24 57.8 +0.6
BGL Barrier Glacie 4.75 359 P Pn 03 24 02.8 -0.1
FIB Fire Island 4.77 12 P Pn 03 24 02.0 -0.9
FIB Fire Island 4.77 12 P Pn 03 24 02.0 -0.9
SPCG Spurr Capps Gl 4.78 1 P Pn 03 24 03.0 -0.2
SPCG S Sn 03 24 59.5 +1.5
PWL Port Wells 4.79 23 P Pn 03 24 01.5 -1.7
CGLM Capps Glacier 4.80 1 P Pn 03 24 03.7 +0.2
SDPT Sand Point 4.80 259 P Pn 03 24 00.9 -2.6
HIN Hinchinbrook I 4.90 35 P Pn 03 24 02.0 -2.8
SVW2 Sparrevohn 4.91 340 P Pn 03 24 04.8 -0.1
STLK Strandline Lak 4.99 2 P Pn 03 24 05.0 -0.2
SUA Susitna One 5.01 8 P Pn 03 24 05.0 -1.4
GLI Glacier Island 5.11 29 P Pn 03 24 05.0 -2.0
EYAK Cordova Ski Ar 5.26 37 P Pn 03 24 06.9 -2.8
EYAK S Sn 03 25 06.7 -3.0
PMR Palmer 5.32 16 P Pn 03 24 08.9 -1.6
PMR Palmer 5.32 16 P Pn 03 24 08.9 -1.6
JPK Jack Peak 5.39 30 P Pn 03 24 09.9 -1.6
SGAM Sherman Glacie 5.41 40 P Pn 03 24 08.9 -2.9
SKT Skwentna 5.48 3 P Pn 03 24 11.8 -1.0
RAGM Ragged Mountai 5.53 42 P Pn 03 24 10.2 -3.2
RAGM S Sn 03 25 11.3 -5.1
VLZ Valdez 5.53 31 P Pn 03 24 11.9 -1.5
PS4A Pavlof South-4 5.56 262 P Pn 03 24 12.5 -1.4
HAG Hague Volcano 5.59 262 P Pn 03 24 13.2 -1.1
HAG Hague Volcano 5.59 262 P Pn 03 24 13.2 -1.1
DOL Dolgoi Island 5.62 260 P Pn 03 24 12.1 -2.7
GOAT Goat Mountain 5.64 41 P Pn 03 24 12.1 -2.8
GOAT S Sn 03 25 16.4 -2.7
DIV Divide 5.69 33 P Pn 03 24 13.6 -2.1
DIV S Sn 03 25 15.5 -4.9
DT1 Dutton Round H 5.86 260 P Pn 03 24 16.5 -1.5
SCM Sheep Creek Mo 5.88 23 P Pn 03 24 16.7 -1.6
SCM Sheep Creek Mo 5.88 23 P Pn 03 24 16.7 -1.6
DRIA Deer Island 5.90 259 P Pn 03 24 16.4 -2.1
KLU Klutina 5.94 30 P Pn 03 24 16.9 -2.2
BMRM Bremner River 5.95 38 P Pn 03 24 16.8 -2.5
PS12 TAPS Pump St12 6.15 33 P Pn 03 24 20.2 -1.8
PPLA Purkeypile 6.39 0 P Pn 03 24 24.8 -0.5
GLB Gilahina Butte 6.56 38 P Pn 03 24 24.7 -2.9
FALS False Pass 6.56 260 P Pn 03 24 26.1 -1.5
TT01 Tatalina 6.68 345 P Pn 03 24 29.0 -0.3
HARP HAARP 6.90 28 P Pn 03 24 30.8 -1.4
CAST Castle Rocks 6.92 0 ePn Pn 03 24 33.7 +1.3
SSLW Shishaldin Wes 6.98 260 P Pn 03 24 30.8 -2.5
DHY Denali Highway 7.00 18 P Pn 03 24 33.0 -0.8
TRF Thorofare Moun 7.01 7 P Pn 03 24 32.7 -1.2
KTH Kantishna Hill 7.08 5 P Pn 03 24 33.9 -0.8
RND Reindeer 7.10 12 P Pn 03 24 34.4 -0.7
RND Reindeer 7.10 12 P Pn 03 24 34.4 -0.7
PAX Paxson 7.30 25 P Pn 03 24 36.4 -1.4
PAX Paxson 7.30 25 P Pn 03 24 36.4 -1.4
WESN West Dahl Nort 7.30 260 P Pn 03 24 34.8 -2.9
WESE West Dahl East 7.33 259 P Pn 03 24 36.2 -2.1
MCK McKinley 7.41 11 P Pn 03 24 37.5 -1.7
MCK McKinley 7.41 11 P Pn 03 24 37.5 -1.7
MENT Mentasta 7.72 30 ePn Pn 03 24 43.3 -0.2
BWN Browne 7.79 9 P Pn 03 24 43.4 -1.0
AKUT Akutan 8.11 258 ePn Pn 03 24 47.5 -1.2
AKUT eSn Sn 03 26 19.0 -0.7
DOT Dot Lake 8.21 26 ePn Pn 03 24 51.1 +0.9
WRH Wood River Hil 8.22 13 P Pn 03 24 48.1 -2.2
BCA3 Beaver Creek A 8.39 34 P Pn 03 24 47.3 -5.4
CCB Clear Creek Bu 8.43 13 P Pn 03 24 51.2 -1.9
MLY Manley 8.56 4 P Pn 03 24 52.9 -2.1
COLA College 8.64 12 diP Pn 03 24 56.3 +0.3
COLA College 8.64 12 P Pn 03 24 53.6 -2.3
ILAR Eielson Array 8.67 15 P Pn 03 24 54.6 -1.9
ILAR 03 26 28.7
ILAR pmax pmax
comp=Z,8.0nm,0.3s
ILAR smax smax
comp=N,2.0nm,0.3s
ILAR MLR MLR
comp=Z,15nm,28.6s
ILAR Eielson Array 8.67 15 Pn Pn 03 24 54.5 -1.9
comp=Z,7.8nm,0.3s,baz=203,slow=13,SNR=335
ILAR Sn Sn 03 26 28.7 -4.8
comp=Z,1.5nm,0.3s,baz=204,slow=22,SNR=5.2
ILAR LR LR 03 28 42.8
comp=Z,607nm,21.0s,baz=210,slow=41
ILB Eielson Array 8.67 15 P Pn 03 24 53.9 -2.6
IL1 Eielson Array 8.67 15 P Pn 03 24 53.8 -2.6
MDM Murphy Dome 8.68 11 P Pn 03 24 54.3 -2.3
HYT Haines Junctio 8.77 55 ePn Pn 03 24 58.4 +0.4
HYT eSn Sn 03 26 36.6 +0.3
IM04 Indian Mountai 9.51 356 ePn Pn 03 25 06.5 -1.5
DAWY Dawson 9.86 35 ePn Pn 03 25 11.9 -0.8
EGAK Eagle 9.87 29 ePn Pn 03 25 12.6 -0.4
COLD Coldfoot 10.78 4 ePn Pn 03 25 23.7 -1.6
WRAK Wrangell Islan 10.98 82 ePn Pn 03 25 36.1 +8.1
DLBC Dease Lake 12.07 72 Pn Pn 03 25 43.9 +0.8
comp=Z,0.7nm,0.3s,baz=254,slow=12,SNR=9.8
DLBC Sn Sn 03 27 52.0 -4.9
comp=Z,0.3nm,0.3s,baz=195,slow=19,SNR=2.4
GAMB Gambell 12.09 315 ePn Pn 03 25 41.6 -1.6
INK Inuvik 14.55 28 Pn Pn 03 26 16.2 -0.4
comp=Z,0.3nm,0.3s,baz=264,slow=16,SNR=29
INK LR LR 03 32 32.5
comp=Z,472nm,19.7s,baz=222,slow=40
INK Inuvik 14.55 28 ePn Pn 03 26 16.3 -0.4
comp=Z,34nm,1.0s
BBB Bella Bella 14.66 97 LR LR 03 30 10.1
comp=Z,215nm,21.5s,baz=279,slow=30
YKW3 Yellowknife Ar 19.75 57 eP P 03 27 20.1 -0.5
comp=Z,0.9nm,1.4s
YKA Yellowknife Ar 19.76 57 P P 03 27 20.9 +0.3
comp=Z,0.5nm,0.3s,baz=268,slow=10,SNR=71
YKA PcP PcP 03 31 38.0 -0.1
comp=Z,0.1nm,0.3s,baz=275,slow=1.5,SNR=10
FX1 Attu Island--F 20.21 274 P P 03 27 25.5 -0.2
FX1 pmax pmax
comp=Z,7.0nm,0.4s
FX1 Attu Island--F 20.21 274 P P 03 27 25.5 -0.2
comp=Z,6.9nm,0.4s,baz=291,slow=6.7,SNR=9.3
FX1 Attu Island--F 20.21 274 eP P 03 27 24.3 -1.3
LTY Liberty 21.38 102 eP P 03 27 40.1 +1.7
comp=Z,24nm,1.2s
BILL Bilibino 21.98 318 iP P 03 27 43.3 -1.3
BILL i 03 28 09.0
BILL i 03 31 42.6
BILL iS S 03 31 45.7 -0.3
BILL iSS SnSn 03 32 12.7 +1.0
BILL pmax pmax
comp=Z,32nm,1.3s
BILL MLR MLR
comp=Z,295nm,12.0s
BILL Bilibino 21.98 318 eP P 03 27 44.3 -0.3
comp=Z,25nm,0.8s
H04A Detroit Lake 22.23 109 eP P 03 27 49.0 +1.4
comp=Z,40nm,1.1s
E07A Sunnyside 22.25 103 eP P 03 27 49.0 +1.3
comp=Z,13nm,0.8s
G05D Wamic, OR 22.31 107 ⇑P P 03 27 49.1 +0.7
baz=22
C09A Chrisman Ranch 22.36 99 eP P 03 27 50.1 +1.2
comp=Z,12nm,0.9s
EDM Edmonton 22.39 82 eP P 03 27 49.4 +0.3
EDM Edmonton 22.39 82 eP P 03 27 49.4 +0.3
D08A Wollman Farm, 22.45 101 eP P 03 27 50.5 +0.7
HAWA Hanford 22.53 103 eP P 03 27 59.4 +8.8
NEW Newport 22.73 96 P P 03 27 52.9 +0.1
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW Newport 22.73 96 P P 03 27 52.9 +0.1
comp=Z,8.3nm,1.0s,baz=305,slow=11,SNR=14
NEW Newport 22.73 96 eP P 03 27 54.2 +1.4
comp=Z,21nm,1.3s
NEW Newport 22.73 96 ⇓P P 03 27 53.0 +0.2
baz=22,SNR=6.4
I04A Tendick Farm, 22.73 111 ⇑P P 03 27 53.1 +0.2
baz=22
I05D Terrebonne, OR 22.91 109 ⇓P P 03 27 55.4 +0.6
baz=22
E09A Wood Farm, Sta 23.20 101 eP P 03 27 58.6 +0.9
comp=Z,27nm,1.2s
J04D Umpqua Nationa 23.27 112 ⇑P P 03 27 60.0 +1.3
baz=23
G08A Pilot Rock 23.54 104 eP P 03 28 08.2 +7.0
J05D Fort Rock, OR 23.69 111 ⇓P P 03 28 04.5 +1.8
baz=23
F10A Beach Ranch, E 24.04 101 eP P 03 28 06.8 +0.9
comp=Z,121nm,2.5s
I07A Izee 24.05 107 eP P 03 28 07.9 +1.9
comp=Z,9.5nm,0.9s
WALA Waterton Lakes 24.06 92 eP P 03 28 08.0 +1.9
comp=Z,5.9nm,3.0s
YBH Yreka Blue Hor 24.07 115 eP P 03 28 08.8 +2.6
YBH pmax pmax
comp=Z,30nm,1.4s
YBH Yreka Blue Hor 24.07 115 eP P 03 28 08.8 +2.6
comp=Z,30nm,1.4s
M02C Callahan 24.25 116 ⇑P P 03 28 09.8 +2.0
baz=24
BSMT Bassoo Peak 24.25 95 eP P 03 28 09.4 +1.4
M04C Macdoel 24.47 114 ⇓P P 03 28 11.8 +1.9
baz=24
JTMT Jette 24.59 95 eP P 03 28 12.0 +1.0
N02D Trinity Center 24.64 117 ⇑P P 03 28 13.4 +2.0
baz=24
SWMT Swartz Lake 24.88 95 eP P 03 28 15.1 +1.5
WDC Whiskeytown Da 25.02 117 eP P 03 28 17.0 +2.3
WDC pmax pmax
comp=Z,15nm,1.1s
WDC Whiskeytown Da 25.02 117 eP P 03 28 17.0 +2.3
comp=Z,15nm,1.1s
MSO Missoula 25.31 96 eP P 03 28 19.1 +1.6
comp=Z,11nm,1.3s
MSO Missoula 25.31 96 ⇓P P 03 28 19.0 +1.6
baz=25
WVOR Wild Horse Val 25.65 109 eP P 03 28 22.3 +1.7
WVOR pmax pmax
comp=Z,22nm,1.0s
WVOR Wild Horse Val 25.65 109 eP P 03 28 22.3 +1.7
comp=Z,22nm,1.0s
MFID Camas Ranch 26.46 104 eP P 03 28 29.4 +1.4
comp=Z,9.0nm,1.0s
HRY Holter Researc 26.55 94 eP P 03 28 29.5 +0.8
comp=Z,3.2nm,0.7s
LRM Limekiln Ridge 26.75 97 eP P 03 28 32.9 +2.3
comp=Z,73nm,1.2s
EGMT Eagleton 26.94 90 eP P 03 28 33.3 +1.1
comp=Z,99nm,2.5s
EGMT Eagleton 26.94 90 ⇓P P 03 28 32.9 +0.7
baz=27
A19A Klindworth Far 27.00 88 ⇑P P 03 28 33.9 +1.3
baz=27
HLID Hailey 27.13 102 eP P 03 28 35.0 +1.0
comp=Z,7.4nm,1.1s
HLID Hailey 27.13 102 ⇑P P 03 28 34.3 +0.3
baz=27,SNR=5.1
B19A Brinkman Farms 27.14 89 ⇓P P 03 28 34.4 +0.4
baz=27,SNR=7.9
MCMT McKenzie Canyo 27.15 99 eP P 03 28 34.8 +0.5
comp=Z,0.8nm,0.9s
A20A Cobblestone Ra 27.47 87 ⇓P P 03 28 37.3 +0.4
baz=27,SNR=6.0
C19A Slack Wire Ran 27.49 90 ⇓P P 03 28 38.0 +0.9
baz=27,SNR=6.9
B20A Solberg Farm, 27.66 88 ⇑P P 03 28 39.7 +1.0
baz=27
SEY Seymchan 27.86 306 P P 03 28 39.2 -1.0
SEY pmax pmax
comp=Z,5.0nm,0.7s
SEY Seymchan 27.86 306 P P 03 28 39.1 -1.0
comp=Z,4.6nm,0.7s,baz=94,slow=7.9,SNR=20
D19A Cripps Ranch, 27.91 91 ⇓P P 03 28 41.6 +0.7
baz=28
PET Petropavlovsk 28.08 284 iP P 03 28 42.8 +0.7
PET pmax pmax
comp=Z,38nm,2.5s
C20A Veseth Ranch, 28.08 89 ⇑P P 03 28 43.5 +1.1
baz=28
RES Resolute Bay 28.11 28 P P 03 28 42.0 -0.2
RES pmax pmax
comp=Z,2.0nm,0.8s
RES MLR MLR
comp=Z,356nm,19.4s
RES Resolute Bay 28.11 28 P P 03 28 42.0 -0.2
comp=Z,1.6nm,0.8s,baz=268,slow=7.8,SNR=6.8
RES LR LR 03 41 44.1
comp=Z,356nm,19.4s,baz=218,slow=40
YMR Madison River 28.29 97 eP P 03 28 46.9 +2.5
comp=Z,36nm,1.7s
D20A Manuel Ranch, 28.37 91 ⇓P P 03 28 46.2 +1.2
baz=28
E19A Rath Farm, Rou 28.38 92 ⇓P P 03 28 46.7 +1.6
baz=28
PETK Petropavlovsk- 28.55 285 P P 03 28 46.0 -0.4
PETK pmax pmax
comp=Z,4.0nm,0.7s
PETK MLR MLR
comp=Z,15nm,28.6s
PETK Petropavlovsk- 28.55 285 P P 03 28 46.0 -0.4
comp=Z,4.3nm,0.7s,baz=90,slow=9.8,SNR=6.1
PETK LR LR 03 40 26.4
comp=Z,145nm,19.9s,baz=74,slow=37
ELK Elko 28.64 108 P P 03 28 48.9 +1.3
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 28.64 108 P P 03 28 48.9 +1.3
comp=Z,2.4nm,0.8s,baz=2.3,slow=2.0,SNR=12
ELK Elko 28.64 108 eP P 03 28 49.7 +2.1
comp=Z,6.7nm,1.1s
H17A Grant Village 28.68 97 ⇓P P 03 28 49.6 +1.7
baz=28
E20A Meyer Farm, Mu 28.72 91 ⇓P P 03 28 48.9 +0.8
baz=28,SNR=5.8
NVAR Mina Array Bea 28.77 115 P P 03 28 50.5 +1.8
comp=Z,4.7nm,0.8s,baz=302,slow=9.0,SNR=25
NVAR PcP PcP 03 31 58.9 +0.6
comp=Z,0.7nm,0.8s,baz=0.0,slow=0.2,SNR=2.4
NVAR ScP ScP 03 35 39.1 +0.8
comp=Z,1.0nm,0.8s,baz=308,slow=2.2,SNR=6.6
FLWY Flagg Ranch 28.81 98 eP P 03 28 51.3 +2.2
comp=Z,47nm,2.0s
I17A Pilgrim Ck. 28.98 98 ⇓P P 03 28 51.7 +1.1
baz=29
H18A Shoshone NF, C 29.00 96 ⇑P P 03 28 52.0 +1.2
baz=29
D21A La Casta Ranch 29.02 90 ⇓P P 03 28 52.4 +1.7
baz=29
C22A Vida 29.24 88 ⇑P P 03 28 54.0 +1.4
baz=29
E21A Keefer Ranch, 29.28 91 ⇓P P 03 28 54.3 +1.2
baz=29
B23A Brockton 29.33 86 ⇓P P 03 28 54.7 +1.3
baz=29
H19A Powell 29.38 95 ⇑P P 03 28 55.6 +1.6
baz=29
G20A Bridger 29.46 94 ⇓P P 03 28 54.6 -0.1
baz=29
MTUM Tungsten Hills 29.47 116 eP P 03 28 57.6 +2.6
TPH Tonopah 29.59 114 eP P 03 28 58.0 +2.0
TPH pmax pmax
comp=Z,54nm,2.5s
TPH Tonopah 29.59 114 eP P 03 28 58.0 +2.0
comp=Z,54nm,2.5s
C23A Lambert 29.59 87 ⇑P P 03 28 56.9 +1.1
baz=29
I19A Meeteetse 29.78 96 ⇓P P 03 28 59.0 +1.4
baz=29
D23A Lindsay 29.95 88 ⇑P P 03 29 00.6 +1.7
baz=30
E22A Miles City 29.97 90 ⇓P P 03 29 00.8 +1.7
baz=30
HWUT Hardware Ranch 30.00 102 eP P 03 29 00.6 +1.0
comp=Z,3.2nm,1.0s
PTRM Twissleman Ran 30.02 120 eP P 03 29 02.0 +2.4
C24A Savage 30.17 87 ⇓P P 03 29 02.3 +1.4
baz=30,SNR=7.4
F22A Rosebud 30.20 91 ⇓P P 03 29 02.6 +1.4
baz=30

R11A Troy Canyon, C 30.22 111 eP P 03 29 02.8 +1.3
comp=Z,6.6nm,0.9s
R11A Troy Canyon, C 30.22 111 ⇑P P 03 29 02.8 +1.3
baz=30,SNR=13
J19A Crowheart 30.25 97 ⇓P P 03 29 02.9 +1.1
baz=30
PDAR Pinedale Array 30.30 99 P P 03 29 02.9 +0.5
comp=Z,2.1nm,0.8s,baz=315,slow=5.0,SNR=15
I20A Worland 30.31 96 ⇓P P 03 29 03.6 +1.3
baz=30
DUG Dugway 30.32 106 ⇑P P 03 29 03.9 +1.5
baz=30
FCC Fort Churchill 30.34 61 eP P 03 29 02.6 +0.4
FCC Fort Churchill 30.34 61 eP P 03 29 02.6 +0.4
comp=Z,0.2nm,1.1s
GRAC Grapevine Rang 30.35 115 ⇑P P 03 29 04.4 +1.9
baz=30,SNR=6.6
SMMC Simmler 30.40 121 ⇓P P 03 29 04.6 +1.6
baz=30
VES Vestal, Richgr 30.41 119 ⇑P P 03 29 04.7 +1.7
baz=30
D24A Glendive 30.47 87 ⇑P P 03 29 05.2 +1.7
baz=30
F23A Volborg 30.70 90 ⇑P P 03 29 07.3 +1.7
baz=30
A26A Wade Farm, Ken 30.71 83 ⇑P P 03 29 06.8 +1.2
baz=30
J20A Shoshoni 30.72 96 ⇑P P 03 29 07.5 +1.6
baz=30,SNR=5.8
DAC Darwin (Calif) 30.80 116 eP P 03 29 08.9 +2.2
DAC pmax pmax
comp=Z,10.0nm,1.1s
DAC Darwin (Calif) 30.80 116 eP P 03 29 08.9 +2.2
comp=Z,10nm,1.1s
ISA Isabella 30.85 118 eP P 03 29 08.7 +1.7
ISA pmax pmax
comp=Z,9.0nm,1.2s
ISA Isabella 30.85 118 eP P 03 29 08.7 +1.7
comp=Z,8.7nm,1.2s
ISA Isabella 30.85 118 ⇓P P 03 29 08.5 +1.4
baz=30
I21A Big Trails, Te 30.86 95 ⇑P P 03 29 08.0 +0.8
baz=30
FURC Furnace Creek, 31.02 115 ⇓P P 03 29 10.6 +2.3
baz=31
G23A Biddle 31.03 91 ⇑P P 03 29 10.5 +1.9
baz=31
J21A Lysite 31.08 96 ⇓P P 03 29 10.2 +1.1
baz=31
ARVC Arvin 31.11 119 ⇓P P 03 29 10.6 +1.4
baz=31
F24A Ekalaka 31.16 89 ⇑P P 03 29 11.1 +1.4
baz=31
C26A Wahner Farm, P 31.29 85 ⇑P P 03 29 12.4 +1.6
baz=31
G24A Alzada 31.49 90 ⇓P P 03 29 13.9 +1.3
baz=31
J22A Midwest 31.57 95 ⇑P P 03 29 14.9 +1.5
baz=31
K21A Alcova 31.66 97 ⇓P P 03 29 15.3 +1.1
baz=31
A28A Rude Farm, Bot 31.68 81 ⇓P P 03 29 15.6 +1.4
baz=31
EDW2 Edwards Air Fo 31.72 118 ⇑P P 03 29 15.9 +1.3
baz=31
SHOC Shoshone 31.75 115 ⇑P P 03 29 16.4 +1.5
baz=31
ARUT Antelope Range 31.76 110 eP P 03 29 16.4 +1.3
ARUT pmax pmax
comp=Z,73nm,0.8s
ARUT Antelope Range 31.76 110 eP P 03 29 16.4 +1.3
comp=Z,73nm,0.8s
H24A Dirks Ranch, A 31.78 91 ⇑P P 03 29 15.9 +0.7
baz=31
MVU Marysvale 31.87 107 eP P 03 29 18.5 +2.4
comp=Z,5.7nm,1.0s
E26A Carlson Angus 31.88 87 ⇑P P 03 29 17.2 +1.2
baz=32
B28A Dugan Ranch, T 31.89 82 ⇓P P 03 29 17.2 +1.3
baz=32
GSC Goldstone 31.96 117 eP P 03 29 18.8 +2.0
GSC pmax pmax
comp=Z,8.0nm,1.1s
GSC Goldstone 31.96 117 eP P 03 29 18.8 +2.0
comp=Z,7.5nm,1.1s
GSC Goldstone 31.96 117 ⇓P P 03 29 18.4 +1.5
baz=32
CCUT Cedar City 31.98 110 eP P 03 29 19.1 +1.9
comp=Z,72nm,2.9s
G25A Newell 32.13 90 ⇑P P 03 29 19.2 +1.0
baz=32
F26A Lodgepole 32.14 88 ⇑P P 03 29 19.9 +1.7
baz=32
TUQ Turquoise Moun 32.30 115 ⇑P P 03 29 21.9 +2.1
baz=32
SRU San Rafael 32.33 105 eP P 03 29 22.3 +2.2
SRU pmax pmax
comp=Z,11nm,1.0s
SRU San Rafael 32.33 105 eP P 03 29 22.3 +2.2
comp=Z,11nm,1.0s
N20A Spence Gulch, 32.33 100 ⇑P P 03 29 21.3 +1.2
baz=32,SNR=7.4
H25A Fruitdale 32.39 91 ⇑P P 03 29 21.9 +1.4
baz=32
BFSC Mount Baldy Ra 32.40 119 ⇓P P 03 29 22.5 +1.9
baz=32
B29A Wagenman Farm, 32.43 82 ⇑P P 03 29 22.4 +1.7
baz=32
K23A Bowen Ranch, D 32.47 95 ⇑P P 03 29 22.8 +1.5
baz=32
L22A Ellis Ranch, M 32.51 97 ⇑P P 03 29 23.0 +1.3
baz=32
G26A Maurine 32.52 89 ⇑P P 03 29 23.0 +1.4
baz=32
HEC Hector,Ludlow 32.57 116 ⇓P P 03 29 23.7 +1.5
baz=32
A30A Hoffart Farm, 32.74 80 ⇓P P 03 29 24.3 +0.9
baz=32,SNR=5.9
O20A White River Ci 32.83 101 eP P 03 29 25.6 +1.1
comp=Z,170nm,2.8s
O20A White River Ci 32.83 101 ⇑P P 03 29 25.5 +0.9
baz=32,SNR=6.2
G27A Dupree 32.84 88 ⇑P P 03 29 25.4 +1.0
baz=32
M22A Cedar Creek Ra 32.85 98 ⇓P P 03 29 25.6 +0.9
baz=32
L23A Garrett 32.86 96 ⇓P P 03 29 25.8 +1.0
baz=32,SNR=9.7
GMRC Granite Mounta 32.95 116 ⇑P P 03 29 26.9 +1.4
baz=32
LDFC Landfair 32.99 115 eP P 03 29 27.6 +1.7
comp=Z,14nm,0.9s
B30A Myrvik Farm, E 33.00 81 ⇑P P 03 29 26.9 +1.2
baz=33,SNR=5.9
I26A New Underwood 33.17 91 ⇑P P 03 29 28.3 +1.0
baz=33
H27A Howes 33.22 89 ⇓P P 03 29 27.9 +0.2
baz=33
M23A Laramie 33.28 97 ⇓P P 03 29 30.0 +1.5
baz=33
ULM Lac du Bonnet 33.33 76 P P 03 29 29.4 +0.9
ULM pmax pmax
comp=Z,5.0nm,1.0s
ULM MLR MLR
comp=Z,162nm,18.0s
ULM Lac du Bonnet 33.33 76 P P 03 29 29.4 +0.9
comp=Z,4.8nm,1.0s,baz=299,slow=11,SNR=5.8
ULM LR LR 03 44 07.5
comp=Z,162nm,18.0s,baz=325,slow=38
ULM Lac du Bonnet 33.33 76 eP P 03 29 31.1 +2.6
N22A Wattenberg Ran 33.34 98 ⇓P P 03 29 30.4 +1.3
baz=33
C30A Mose, Pekin 33.35 82 ⇑P P 03 29 30.3 +1.5
baz=33
E29A Napoleon 33.38 85 ⇑P P 03 29 30.6 +1.6
baz=33
U15A North Rim 33.38 110 ⇓P P 03 29 31.0 +1.5
baz=33
BELC Belle Mtn. Jos 33.40 117 ⇑P P 03 29 31.2 +1.7
baz=33
PFO Pinyon Flat Ob 33.49 118 ⇓P P 03 29 31.8 +1.6
baz=33
D30A Buchanan 33.55 83 ⇑P P 03 29 31.7 +1.2
baz=33
W13A Hualapai Mount 33.59 113 ⇓P P 03 29 32.8 +1.6
baz=33
I27A Quinn 33.60 90 ⇓P P 03 29 32.5 +1.5
baz=33
IRM Iron Mountain 33.69 116 ⇑P P 03 29 33.8 +1.9
baz=33,SNR=15
O22A Kremmling 33.73 99 ⇑P P 03 29 33.6 +1.0
baz=33
H28A Mission Ridge 33.78 88 ⇑P P 03 29 34.0 +1.4
baz=33
BC3 Big Chuckawall 33.95 117 ⇑P P 03 29 35.6 +1.4
baz=34
P22A Eagle 34.02 100 ⇓P P 03 29 35.8 +0.9
baz=34
O23A Lake Granby, G 34.04 99 ⇓P P 03 29 36.3 +1.1
baz=34,SNR=5.9
PDMCI Parker Dam,Lak 34.09 114 ⇓P P 03 29 36.4 +1.1
baz=34
MONP Monument Peak 34.09 119 ⇑P P 03 29 37.3 +1.7
baz=34,SNR=6.1
I28A Midland 34.13 89 ⇑P P 03 29 36.9 +1.3
baz=34
BAR Barrett 34.14 119 eP P 03 29 37.4 +1.6
comp=Z,59nm,1.2s
H29A Onida 34.26 88 ⇑P P 03 29 38.1 +1.4
baz=34
Y12C Blythe 34.33 115 ⇑P P 03 29 39.3 +1.9
baz=34,SNR=7.4
SWSC Sam W. Stewart 34.35 118 ⇑P P 03 29 39.1 +1.5
baz=34
AGMN Agassiz Nation 34.43 79 eP P 03 29 39.2 +1.1
comp=Z,10nm,1.0s
AGMN Agassiz Nation 34.43 79 ⇑P P 03 29 39.4 +1.3
baz=34
G30A Faulkton 34.54 86 ⇓P P 03 29 40.3 +1.2
baz=34,SNR=7.7
WUAZ Wupatki 34.56 110 eP P 03 29 41.5 +2.0
WUAZ Wupatki 34.56 110 ⇓P P 03 29 40.9 +1.4
baz=34,SNR=5.1
TIXI Tiksi 34.59 327 d iP P 03 29 39.3 +0.1
TIXI pmax pmax
comp=Z,8.0nm,1.3s
TIXI MLR MLR
comp=Z,142nm,12.0s
TIXI Tiksi 34.59 327 eP P 03 29 34.9 -4.3
comp=Z,5.8nm,0.9s
I29A Vivian Onida 34.59 89 ⇓P P 03 29 41.2 +1.5
baz=34
P23A Jefferson 34.67 100 ⇑P P 03 29 42.6 +1.9
baz=34
GLA Glamis 34.74 117 ⇑P P 03 29 42.6 +1.6
baz=34
MVCO Mesa Verde 34.80 105 ⇑P P 03 29 42.7 +1.0
baz=34
Y14A Wickenburg 34.95 114 ⇓P P 03 29 44.2 +1.4
baz=34,SNR=6.2
J29A Okreek 34.98 90 ⇓P P 03 29 44.0 +1.0
baz=35
BRSD Miller 35.07 87 eP P 03 29 45.1 +1.4
comp=Z,19nm,0.9s
BRSD Miller 35.07 87 ⇑P P 03 29 44.8 +1.0
baz=35
X16A Lo Mia Camp, P 35.38 111 ⇓P P 03 29 48.4 +1.7
baz=35,SNR=12
Z14A Wintersburg 35.44 114 ⇓P P 03 29 48.4 +1.5
baz=35
N27A Anderson Farm, 35.49 95 ⇑P P 03 29 48.9 +1.4
baz=35
P25A Willow Gulch B 35.49 98 ⇓P P 03 29 49.0 +1.4
baz=35
J30A Dallas 35.49 89 ⇑P P 03 29 48.3 +0.9
baz=35,SNR=5.8
113A Mohawk Valley, 35.50 116 ⇓P P 03 29 49.0 +1.5
baz=35,SNR=6.6
K30A Basset 35.85 90 ⇑P P 03 29 51.8 +1.4
baz=36
Q25A Bedland, Calha 35.87 99 ⇑P P 03 29 52.5 +1.6
baz=36
R24A Sanders Place, 35.89 100 ⇑P P 03 29 52.6 +1.5
baz=36
P26A Davis Ranch, A 35.91 97 ⇓P P 03 29 52.6 +1.4
baz=36
X18A Snowflake 36.06 109 ⇓P P 03 29 54.4 +1.8
baz=36
N28A Pribbeno Ranch 36.12 94 ⇑P P 03 29 54.4 +1.5
baz=36
S24A Houchin Ranch, 36.26 101 ⇑P P 03 29 56.0 +1.7
baz=36
Q26A Hugo 36.26 98 ⇓P P 03 29 56.0 +1.8
baz=36
U22A Llaves 36.30 104 ⇑P P 03 29 56.0 +1.4
baz=36
P27A Ficken Ranch, 36.34 96 ⇑P P 03 29 56.4 +1.6
baz=36
R25A Fountain Ranch 36.40 100 ⇓P P 03 29 56.9 +1.6
baz=36
T24B San Luis 36.59 102 ⇓P P 03 29 59.2 +2.0
baz=36
V22A San Miguel Ran 36.62 105 ⇓P P 03 29 59.2 +1.9
baz=36
214A Organ Pipe Nat 36.63 115 ⇑P P 03 29 59.4 +2.2
baz=36
S25A Robets Cordova 36.67 100 ⇑P P 03 29 59.1 +1.4
baz=36
KSCO Kaye Shedlock' 36.69 97 eP P 03 29 59.9 +2.1
comp=Z,13nm,0.9s
KSCO Kaye Shedlock' 36.69 97 ⇓P P 03 29 59.5 +1.7
baz=36
U23A El Rito 36.70 104 ⇑P P 03 29 59.7 +1.8
baz=36,SNR=6.0
R26A Arlington 36.75 99 ⇑P P 03 30 00.0 +1.7
baz=36
ECSD EROS Data Cent 36.82 86 eP P 03 29 59.5 +0.8
comp=Z,135nm,2.6s
ECSD EROS Data Cent 36.82 86 ⇑P P 03 29 59.4 +0.6
baz=36
EYMN Ely 37.01 77 eP P 03 30 01.2 +1.0
comp=Z,26nm,1.4s
T25A Trinidad 37.06 101 ⇓P P 03 30 02.8 +1.8
baz=37
Q28A Sharon Springs 37.09 96 ⇓P P 03 30 02.4 +1.3
baz=37
R27A Eads 37.11 98 ⇑P P 03 30 02.9 +1.5
baz=37,SNR=5.8
V23A Ortiz Mt. (NFS 37.14 104 ⇑P P 03 30 03.8 +2.1
baz=37
S26A Kim 37.22 99 ⇑P P 03 30 03.9 +1.6
baz=37
T26A Comanche Natio 37.48 100 ⇓P P 03 30 06.3 +1.7
baz=37
BGNE Belgrade 37.51 90 ⇓P P 03 30 06.4 +1.9
baz=37
W23A Werner Place, 37.59 105 ⇑P P 03 30 07.4 +1.8
baz=37
U25A Circle Dot Ran 37.61 102 ⇓P P 03 30 07.5 +1.8
baz=37
R28A Tribune 37.62 97 ⇓P P 03 30 07.3 +1.6
baz=37
P30A Selden 37.63 94 ⇓P P 03 30 07.5 +1.8
baz=37
V24A Rampart Ranch, 37.64 103 ⇑P P 03 30 07.6 +1.6
baz=37
V25A Rancho No Teng 37.91 103 ⇓P P 03 30 10.2 +1.9
baz=38
W24A Lazy 6 Ranch, 37.95 104 ⇓P P 03 30 10.5 +1.9
baz=38
SPMN St. Paul 37.97 81 eP P 03 30 10.1 +1.7
SPMN St. Paul 37.97 81 ⇑P P 03 30 09.9 +1.6
baz=38
U26A Atchley Ranch, 37.97 101 ⇑P P 03 30 10.0 +1.3
baz=38,SNR=8.8
X23A Hourglass Bar 38.01 105 ⇑P P 03 30 10.9 +1.8
baz=38
YAK Yakutsk 38.01 311 eP P 03 30 06.8 -1.7
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK Yakutsk 38.01 311 eP P 03 30 07.7 -0.9
comp=N,46nm,0.8s
T27A Campo 38.04 99 ⇓P P 03 30 10.6 +1.4
baz=38
S28A Manter 38.11 98 ⇓P P 03 30 11.0 +1.3
baz=38,SNR=5.5
T28A Walsh 38.33 99 ⇓P P 03 30 13.2 +1.5
baz=38
V26A Tequesquite Ra 38.39 102 ⇑P P 03 30 13.6 +1.4
baz=38,SNR=16
W25A X Bar L Ranch, 38.46 103 ⇓P P 03 30 14.4 +1.6
baz=38
Q31A Ellis 38.48 94 ⇑P P 03 30 14.4 +1.6
baz=38
R30A Dighton 38.50 96 ⇓P P 03 30 14.5 +1.4
baz=38
Y23A Lovelace Mesa, 38.58 106 ⇑P P 03 30 15.3 +1.4
baz=38
Z22A Elephant Butte 38.62 108 ⇓P P 03 30 15.5 +1.4
baz=38
T29A Hugoton 38.75 98 ⇓P P 03 30 16.3 +1.2
baz=38
X25A Clemmons Ranch 38.87 104 ⇓P P 03 30 17.8 +1.5
baz=38
Y24A Capitan 38.91 105 ⇓P P 03 30 17.8 +1.1
baz=38
W26A Owens Ranch, T 38.93 102 ⇓P P 03 30 18.2 +1.5
baz=38
V27A Dan Oppiter Fa 38.94 101 ⇑P P 03 30 18.0 +1.3
baz=38
Q32A Meitler Ranch, 38.95 93 ⇑P P 03 30 17.5 +0.7
baz=39
R32A Long Quarter, 39.27 94 ⇓P P 03 30 20.4 +1.0
baz=39
V28A Channing 39.27 100 ⇓P P 03 30 20.9 +1.3
baz=39
X26A CR and CF Fran 39.31 103 ⇑P P 03 30 21.4 +1.5
baz=39
Y25A Mesa, Roswell 39.31 105 ⇑P P 03 30 21.0 +1.0
baz=39,SNR=7.6
Q33A Connelly Farm, 39.35 93 ⇑P P 03 30 21.3 +1.2
baz=39
Z24A Sheeppen Canyo 39.41 106 ⇓P P 03 30 21.9 +1.1
baz=39
U30A WK&E Inc. Balk 39.56 98 ⇓P P 03 30 23.0 +1.1
baz=39
X27A F and S Farms, 39.62 102 ⇑P P 03 30 23.7 +1.1
baz=39
W28A Vega 39.65 101 ⇓P P 03 30 23.9 +1.2
baz=39
T31A Randall Ranch, 39.69 96 ⇓P P 03 30 24.1 +1.2
baz=39
R33A Olander Ranch, 39.75 94 ⇑P P 03 30 24.4 +1.0
baz=39
YSS Yuzh-Sakhalins 39.95 285 iP P 03 30 25.9 +0.9
YSS pmax pmax
comp=Z,13nm,1.2s
U31A Nine Bar Ranch 40.12 97 ⇑P P 03 30 27.7 +1.2
baz=40
YUK Yuzh-Kuril'sk 40.13 279 c iP P 03 30 26.1 -0.3
YUK iS S 03 36 33.9 +2.3
YUK eSS SS 03 39 22.3 -6.8
YUK pmax pmax
comp=E,400nm,1.8s
YUK pmax pmax
comp=Z,487nm,1.8s
YUK pmax pmax
comp=N,164nm,0.9s
Y27A Causey 40.17 103 ⇓P P 03 30 28.3 +1.3
baz=40,SNR=8.7
Z26A Caprock 40.19 105 ⇑P P 03 30 28.2 +0.9
baz=40
X28A Dimmitt 40.21 102 ⇑P P 03 30 28.2 +0.8
baz=40
AMTX Amarillo 40.22 101 eP P 03 30 28.9 +1.5
comp=N,77nm,2.5s
AMTX Amarillo 40.22 101 ⇑P P 03 30 28.2 +0.8
baz=40
125A Gardner Draw, 40.30 106 ⇓P P 03 30 29.4 +1.2
baz=40
MSTX Muleshoe 40.31 103 eP P 03 30 29.6 +1.3
comp=N,110nm,2.5s
MSTX Muleshoe 40.31 103 ⇑P P 03 30 29.9 +1.7
baz=40
X29A Tulia 40.53 101 ⇓P P 03 30 31.5 +1.4
baz=40
V31A Spring Creek L 40.56 98 ⇓P P 03 30 31.8 +1.6
baz=40
Z27A Tatum 40.57 104 ⇓P P 03 30 31.6 +1.2
baz=40
225A Deer Hill, Car 40.64 107 ⇑P P 03 30 32.4 +1.4
baz=40
Y28A McKinney Farm, 40.64 102 ⇓P P 03 30 32.0 +1.1
baz=40
JFWS Jewell Farm 40.87 82 eP P 03 30 33.3 +0.7
JFWS pmax pmax
comp=Z,171nm,2.4s
JFWS Jewell Farm 40.87 82 eP P 03 30 33.3 +0.7
comp=Z,171nm,2.4s
W31A Holland Ranch, 40.94 99 ⇑P P 03 30 34.6 +1.2
baz=40
X30A Coker Ranch, T 40.98 100 ⇓P P 03 30 34.8 +1.1
baz=41
Y29A Porterfield Fa 40.99 102 ⇓P P 03 30 34.9 +1.1
baz=41,SNR=11
226B Tecolote Peak, 41.02 106 ⇑P P 03 30 35.5 +1.5
baz=41
U33A Lingo Farm, Me 41.03 96 ⇑P P 03 30 35.4 +1.4
baz=41
X31A McDonald Ranch 41.33 99 ⇓P P 03 30 38.1 +1.5
baz=41
W32A Sentinel 41.37 98 ⇑P P 03 30 38.1 +1.3
baz=41
V33A Lossen Ranch, 41.38 97 ⇓P P 03 30 38.2 +1.3
baz=41
Y30A Stafford Cattl 41.40 101 ⇓P P 03 30 38.1 +1.0
baz=41
Z29A Hungry Hill Ra 41.43 102 ⇓P P 03 30 38.6 +1.2
baz=41
128A Castleberry Fa 41.49 104 ⇑P P 03 30 39.2 +1.2
baz=41
326A Caldwell Ranch 41.71 106 ⇓P P 03 30 41.5 +1.7
baz=41
Z30A Sanderson Ranc 41.72 102 ⇓P P 03 30 40.8 +1.0
baz=41
228A UT Block 9, Go 41.83 104 ⇑P P 03 30 41.7 +1.0
baz=41
ASAJ Asahikawa 41.86 281 P P 03 30 40.9 +0.2
ASAJ pmax pmax
comp=Z,13nm,1.0s
ASAJ MLR MLR
comp=Z,15nm,28.6s
ASAJ Asahikawa 41.86 281 P P 03 30 40.9 +0.2
comp=Z,13nm,0.9s,baz=69,slow=16,SNR=5.4
ASAJ LR LR 03 47 51.9
comp=Z,136nm,21.6s,baz=312,slow=36
X32A Elmer 41.87 99 ⇓P P 03 30 42.1 +1.2
baz=42
Y32A R-V Farms, Ver 42.10 99 ⇑P P 03 30 43.3 +0.5
baz=42
Z31A Sharp Cattle R 42.23 101 ⇓P P 03 30 44.1 +0.2
baz=42
427A Hayter Ranch, 42.38 106 ⇓P P 03 30 46.0 +0.8
baz=42
X34A Smith Ranch, M 42.53 97 ⇓P P 03 30 47.1 +0.8
baz=42
Y33A Hilltop Ranch, 42.54 99 ⇓P P 03 30 47.4 +1.1
baz=42
131A Roby 42.59 102 ⇓P P 03 30 47.6 +0.8
baz=42
Z32A Haskell 42.60 100 ⇓P P 03 30 47.7 +0.8
baz=42
329A Wagon Wheel Ra 42.64 104 ⇑P P 03 30 48.3 +1.0
baz=42
TUL1 Tulsa 42.69 94 ⇓P P 03 30 48.6 +1.0
baz=42
230A Sterling City 42.80 103 ⇑P P 03 30 49.6 +1.0
baz=42
428A Kincaid Ranch, 42.86 106 ⇓P P 03 30 50.5 +1.4
baz=42,SNR=6.5
Z33A Whitaker Ranch 43.01 100 ⇓P P 03 30 51.1 +0.9
baz=43
ABTX Abilene, Hawle 43.03 101 ⇑P P 03 30 51.1 +0.7
baz=43
Y34A Reagan Ranch, 43.05 98 ⇓P P 03 30 51.7 +1.2
baz=43
330A Mertzon 43.14 104 ⇑P P 03 30 52.2 +0.9
baz=43
231A Bronte 43.19 102 ⇑P P 03 30 52.3 +0.6
baz=43
429A Davenport Ranc 43.36 105 ⇓P P 03 30 54.0 +0.9
baz=43
SUMG Summit 43.40 24 ⇑iP P 03 30 53.9 +0.5
SUMG pmax pmax
comp=Z,8.0nm,1.0s
SUMG Summit 43.40 24 ⇑iP P 03 30 53.9 +0.5
comp=Z,7.9nm,1.0s
SUMG Summit 43.40 24 eP P 03 30 53.8 +0.4
comp=Z,16nm,1.1s
Z34A Collier Ranch, 43.41 99 ⇓P P 03 30 54.6 +1.2

baz=43
TXAR Lajitas Array 43.43 108 P P 03 30 55.1 +1.3
comp=Z,3.6nm,0.9s,baz=315,slow=5.9,SNR=27
TXAR PcP PcP 03 32 41.7 -0.1
comp=Z,0.2nm,0.6s,baz=222,slow=1.2,SNR=3.2
TXAR LR LR 03 47 55.7
comp=Z,139nm,19.9s,baz=0.0,slow=35
133A Hamilton Ranch 43.44 100 ⇓P P 03 30 54.6 +0.9
529A Stev Forest Ra 43.58 106 ⇑P P 03 30 55.9 +1.1
baz=43
430A Baggett Ranch, 43.59 104 ⇑P P 03 30 55.7 +0.8
baz=43
232A Coleman 43.59 102 ⇓P P 03 30 55.6 +0.7
baz=43
331A San Angelo 43.62 103 ⇑P P 03 30 56.0 +0.8
baz=43
DAG Danmarks Havn 43.77 14⇑iP P 03 30 55.6 -0.2
DAG pmax pmax
comp=Z,11nm,0.9s
DAG Danmarks Havn 43.77 14⇑iP P 03 30 55.6 -0.2
comp=Z,13nm,0.9s
SFJD Kangerlussuaq 43.80 34 P P 03 30 56.7 +0.6
SFJD pmax pmax
comp=Z,5.0nm,0.7s
SFJD Kangerlussuaq 43.80 34 iP P 03 30 57.0 +0.9
comp=Z,8.6nm,0.9s
SFJD Kangerlussuaq 43.80 34 P P 03 30 56.7 +0.6
comp=Z,4.9nm,0.7s,baz=336,slow=13,SNR=3.5
Z35A Perchaven, San 43.80 98 ⇑P P 03 30 57.6 +1.1
baz=43
233A Rising Star 43.90 101 ⇑P P 03 30 58.1 +0.7
baz=44
134A White-Moore Ra 43.92 100 ⇓P P 03 30 58.3 +0.7
baz=44
431A Sonora 44.01 104 ⇑P P 03 30 59.1 +0.8
baz=44
530A J-C Ranch, Com 44.03 105 ⇓P P 03 30 59.4 +1.0
baz=44
KLR Kul'dur 44.26 294 eP P 03 30 55.8 -4.3
KLR pmax pmax
comp=E,28nm,0.9s
KLR pmax pmax
comp=Z,44nm,0.9s
SFIN Scholer Farm 44.32 83 ⇓P P 03 31 01.2 +0.6
baz=44
234A Clairette 44.33 100 ⇓P P 03 31 01.5 +0.7
baz=44
333A Richland Sprin 44.38 102 ⇓P P 03 31 02.3 +1.0
baz=44
531A Rocksprings 44.44 104 ⇑P P 03 31 02.9 +1.1
baz=44
JCT Junction City 44.60 103 eP P 03 31 03.6 +0.6
JCT pmax pmax
comp=Z,11nm,0.9s
JCT Junction City 44.60 103 eP P 03 31 03.6 +0.6
comp=Z,11nm,0.9s
JCT Junction City 44.60 103 ⇑P P 03 31 03.7 +0.7
baz=44,SNR=6.3
433A Art 44.77 102 ⇑P P 03 31 05.2 +0.8
baz=44
334A Lometa 44.78 101 ⇓P P 03 31 05.2 +0.7
baz=44
MIAR Mount Ida 44.92 94 eP P 03 31 06.4 +0.9
MIAR pmax pmax
comp=Z,15nm,1.3s
MIAR Mount Ida 44.92 94 eP P 03 31 06.4 +0.9
comp=Z,15nm,1.3s
631A Perdido Creek 45.02 105 ⇓P P 03 31 06.5 +0.1
baz=45,SNR=6.8
434A Burnet 45.17 101 ⇓P P 03 31 08.4 +0.8
baz=45
SCHQ Schefferville 45.18 54 P P 03 31 07.3 -0.1
comp=Z,3.3nm,0.5s,baz=331,slow=8.2,SNR=16
SCHQ LR LR 03 51 25.4
comp=Z,192nm,20.0s,baz=338,slow=38
632A Uvalde 45.37 104 ⇑P P 03 31 09.9 +0.8
baz=45
435B Jarrell 45.56 101 ⇑P P 03 31 12.0 +1.4
baz=45
534A Blanco 45.67 102 ⇓P P 03 31 12.4 +0.9
baz=45
832A Faith Ranch, C 46.23 105 ⇓P P 03 31 16.2 +0.3
baz=46
733A Divot King Ran 46.25 104 ⇓P P 03 31 16.6 +0.6
baz=46
USRK Ussuriysk Arra 47.47 289 P P 03 31 24.5 -1.0
comp=Z,1.9nm,0.7s,baz=61,slow=9.0,SNR=3.8
H11N2 WAKE ISLAND Hy 47.63 237 T T 04 22 39.7
baz=31,slow=76,SNR=5.4
H11N3 WAKE ISLAND Hy 47.64 237 T T 04 22 33.8
baz=31,slow=76,SNR=5.2
H11N1 WAKE ISLAND Hy 47.65 237 T T 04 22 40.9
baz=31,slow=76,SNR=11
H11S1 WAKE ISLAND Hy 48.79 236 T T 04 24 05.8
baz=29,slow=77,SNR=8.3
H11S2 WAKE ISLAND Hy 48.80 236 T T 04 24 04.3
baz=29,slow=77,SNR=9.2
H11S3 WAKE ISLAND Hy 48.80 236 T T 04 24 05.5
baz=29,slow=77,SNR=8.1
MJAR Matsushiro Arr 49.53 277 P P 03 31 41.4 0.0
MJAR pmax pmax
comp=Z,5.0nm,1.0s
MJAR Matsushiro Arr 49.53 277 P P 03 31 41.4 0.0
comp=Z,4.9nm,1.0s,baz=32,slow=6.5,SNR=4.1
MAJO Matsushiro 49.53 277 eP P 03 31 41.6 +0.2
MAJO pmax pmax
comp=Z,14nm,1.0s
MAJO Matsushiro 49.53 277 eP P 03 31 41.6 +0.2
comp=Z,14nm,1.0s
CN2 Changchun 51.13 293 ⇑P P 03 31 53.4 0.0
CN2 epP pP 03 31 59.5 -0.1
CN2 eS S 03 39 05.7 -4.4
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
KEV Kevo 54.02 0 eP P 03 32 13.8 -0.6
KEV pmax pmax
comp=Z,8.0nm,0.6s
KEV Kevo 54.02 0 ep P 03 32 13.8 -0.6
comp=Z,7.9nm,0.6s
ARCES ARCESS Array B 54.23 1 P P 03 32 15.6 -0.4
ARCES pmax pmax
comp=Z,5.0nm,0.5s
ARCES ARCESS Array B 54.23 1 P P 03 32 15.6 -0.4
comp=Z,4.7nm,0.5s,baz=4.2,slow=7.7,SNR=40
ARE0 ARCESS Array S 54.23 1 eP P 03 32 15.7 -0.3
KSRS Korea Array 54.44 286 P P 03 32 18.3 +0.4
KSRS pmax pmax
comp=Z,4.0nm,0.9s
KSRS Korea Array 54.44 286 P P 03 32 18.3 +0.4
comp=Z,4.1nm,0.9s,baz=45,slow=7.0,SNR=6.0
KSAR Wonju Array Be 54.47 286 P P 03 32 18.3 +0.2
KSAR Wonju Array Be 54.47 286 P P 03 32 18.3 +0.2
TLY Talaya 55.46 313 eP P 03 32 26.2 +1.0
TLY pmax pmax
comp=Z,9.0nm,1.0s
ZAK Zakamensk 56.60 312 eP P 03 32 33.1 -0.3
ZAK pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 56.92 308c iP P 03 32 36.1 +0.3
ULN pmax pmax
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 56.92 308 eP P 03 32 36.2 +0.4
comp=Z,8.0nm,0.8s
SONM Songino Array 57.23 308 P P 03 32 38.9 +1.0
SONM pmax pmax
comp=Z,18nm,0.8s
SONM Songino Array 57.23 308 P P 03 32 38.9 +1.0
comp=Z,18nm,0.8s,baz=48,slow=6.7,SNR=146
NVS Novosibirsk 60.19 327 eP P 03 32 57.2 -1.0
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,7.0nm,0.9s
NVS pmax pmax
comp=Z,15nm,0.9s
ZAA0 Zalesovo Array 60.45 325 eP P 03 33 00.1 0.0
ZALV Zalesovo Beam 60.45 325 P P 03 33 00.5 +0.4
ZALV pmax pmax
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 60.45 325 P P 03 33 00.5 +0.4
comp=Z,16nm,0.8s,baz=29,slow=6.8,SNR=58
JOF Joensuu 60.86 358 eP P 03 33 02.4 -0.3
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 60.86 358 ep P 03 33 02.4 -0.3
comp=Z,3.9nm,0.6s
PRGR Permogore 61.35 350 eP P 03 33 05.9 -0.1
PRGR pmax pmax
comp=Z,68nm,1.2s
KAF Kangasniemi 61.69 1 eP P 03 33 07.5 -0.8
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF Kangasniemi 61.69 1 ep P 03 33 07.5 -0.8
comp=Z,6.4nm,0.5s
SOKR Solikamsk 61.95 344c iP P 03 33 10.0 -0.1
SOKR pmax pmax
comp=Z,20nm,1.0s
NB2 NORSAR Subarra 62.05 9 P P 03 33 10.7 -0.1
comp=Z,14nm,1.1s,baz=349,slow=6.9
NOA NORSAR Array B 62.05 9 P P 03 33 11.1 +0.2
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA NORSAR Array B 62.05 9 P P 03 33 11.1 +0.2
comp=Z,5.8nm,0.8s,baz=350,slow=6.7,SNR=22
NAO01 NORSAR Array S 62.21 9 eP P 03 33 11.7 -0.1
comp=Z,4.9nm,0.7s
FIA1 FINESS Array S 62.36 1 eP P 03 33 12.9 +0.1
FINES FINESS Array B 62.36 1 P P 03 33 13.1 +0.3
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES MLR MLR
comp=Z,63nm,19.8s
FINES FINESS Array B 62.36 1 P P 03 33 13.1 +0.3
comp=Z,7.8nm,0.7s,baz=359,slow=7.8,SNR=46
FINES LR LR 04 01 27.2
comp=Z,63nm,19.8s,baz=88,slow=37
KLMR Klimovskoe 62.60 354 eP P 03 33 13.7 -0.7
KLMR pmax pmax
comp=Z,17nm,0.9s
HFS Hagfors 63.15 8 P P 03 33 18.1 0.0
HFS pmax pmax
comp=Z,8.0nm,0.5s
HFS Hagfors 63.15 8 P P 03 33 18.1 0.0
comp=Z,7.9nm,0.5s,baz=2.6,slow=6.3,SNR=75
SVE Sverdlovsk 63.93 341 eP P 03 33 24.1 +0.7
SVE pmax pmax
comp=Z,18nm,0.9s
ARU Arti 64.68 342c iP P 03 33 28.0 -0.3
ARU 03 35 46.7
ARU S S 03 42 07.8 +0.9
ARU pmax pmax
comp=Z,19nm,1.2s
ARU Arti 64.68 342 eP P 03 33 27.8 -0.4
comp=Z,13nm,0.9s
KURK Kurchatov 65.17 327 eP P 03 33 31.1 -0.4
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 65.17 327 eP P 03 33 31.1 -0.4
comp=Z,4.0nm,0.9s
BRVK Borovoye 65.35 333 eP P 03 33 32.4 -0.3
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 65.35 333 eP P 03 33 32.4 -0.3
comp=Z,12nm,0.8s
VSU Vasula 65.36 1c iP P 03 33 33.1 +0.5
EKA Eskdalemuir Ar 65.69 19 P P 03 33 35.3 +0.5
EKA pmax pmax
comp=Z,1.0nm,0.7s
EKA Eskdalemuir Ar 65.69 19 P P 03 33 35.3 +0.5
comp=Z,1.0nm,0.7s,baz=332,slow=5.4,SNR=4.0
ESK Eskdalemuir 65.70 19 eP P 03 33 35.6 +0.8
ESK pmax pmax
comp=Z,8.0nm,0.8s
ESK Eskdalemuir 65.70 19 eP P 03 33 35.6 +0.8
comp=Z,8.0nm,0.8s
GTA Gaotai 66.81 307 eP P 03 33 42.5 +0.1
GTA pP pP 03 33 48.7 0.0
GTA sP sP 03 33 52.2 +1.1
GTA pmax pmax
comp=Z,8.0nm,1.0s
XAN Xi'an 66.87 297 P P 03 33 42.6 -0.2
XAN pP pP 03 33 54.8 +5.7
XAN pmax pmax
comp=Z,2.0nm,1.4s
MK31 Makanchi Array 67.44 323 iP P 03 33 45.8 -0.3
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 67.44 323 eP P 03 33 45.9 -0.3
MKAR Makanchi Array 67.44 323 P P 03 33 46.2 0.0
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 67.44 323 P P 03 33 46.1 0.0
comp=Z,7.2nm,0.7s,baz=44,slow=6.7,SNR=84
LZH Lanzhou 67.67 302 ⇓P P 03 33 48.7 +0.7
LZH pP pP 03 33 52.5 -1.8
LZH sP sP 03 33 55.7 -0.9
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.3s
OBN Obninsk 68.49 355⇓iP P 03 33 52.9 +0.4
OBN pmax pmax
comp=Z,12nm,0.7s
OBN MLR MLR
comp=Z,58nm,17.0s
SUW Suwalki 69.75 3 eP P 03 33 59.5 -1.0
SUW pmax pmax
comp=Z,31nm,0.9s
SUW Suwalki 69.75 3 eP P 03 34 00.3 -0.1
SUW Suwalki 69.75 3 eP P 03 33 59.5 -1.0
comp=Z,31nm,0.9s
GKP Gorka Klasztor 70.22 7 eP P 03 33 56.4 -6.9
GKP Gorka Klasztor 70.22 7 eP P 03 33 56.4 -6.9
AKTO Aktyubinsk 70.50 340 P P 03 34 04.9 -0.2
AKTO pmax pmax
comp=Z,7.0nm,0.7s
CLZ Clausthal 71.04 11 eP P 03 34 10.1 +1.7
comp=Z,18nm,1.1s
AB31 Akbulak array 71.25 338 iP P 03 34 09.5 -0.1
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 71.25 338 eP P 03 34 09.4 -0.3
comp=Z,7.8nm,0.8s
CLL Collm 71.83 10 iP P 03 34 13.7 +0.6
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 71.83 10 iP P 03 34 13.7 +0.6
comp=Z,6.0nm,0.9s
CLL LmV 04 12 00.0
comp=Z,100nm,18.8s
BAIF Baives 71.99 16⇑iP P 03 34 15.1 +1.0
BAIF Baives 71.99 16⇑iP P 03 34 15.1 +1.0
BAIF Baives 71.99 16⇑iP P 03 34 15.1 +1.0
GIVF Givet 72.04 15 eP P 03 34 15.2 +0.8
GIVF Givet 72.04 15 eP P 03 34 15.2 +0.8
GIVF Givet 72.04 15 eP P 03 34 15.2 +0.8
VRHR Novokhopersk 72.14 351 eP P 03 34 12.9 -2.0
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,4.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 72.21 353 eP P 03 34 14.4 -1.0
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=E,7.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 72.35 9 ePKP P 03 34 17.1 +0.8
comp=Z,8.1nm,1.0s
BRG e 03 34 22.6
comp=Z,18nm,1.6s
BRG e 03 34 33.5
comp=Z,11nm,1.4s
BRG Berggiesshubel 72.35 9 eP P 03 34 17.0 +0.8
BRG e 03 34 22.6
BRG e 03 34 33.5
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG pmax pmax
comp=Z,18nm,1.6s
BRG pmax pmax
comp=Z,11nm,1.4s
BRG Berggiesshubel 72.35 9 eP P 03 34 17.4 +1.2
comp=Z,8.0nm,1.0s
MOX Moxa 72.35 11 eP P 03 34 17.2 +0.9
comp=Z,16nm,1.2s
TNS Taunus Mts 72.41 13 eP P 03 34 17.3 +0.6
comp=Z,10.0nm,0.9s
VORD Divnogorie 72.45 352 eP P 03 34 15.4 -1.4
VORD pmax pmax
comp=N,9.0nm,0.8s
VORD pmax pmax
comp=E,8.0nm,0.8s
VORD pmax pmax
comp=Z,9.0nm,0.8s
KSP Ksiaz 72.57 8 eP P 03 34 18.4 +0.9
KSP Ksiaz 72.57 8 eP P 03 34 18.5 +0.9
GRR Gorron 72.75 20 eP P 03 34 19.4 +0.7
comp=Z,42nm,1.1s
GRR Gorron 72.75 20 eP P 03 34 19.4 +0.7
GRR pmax pmax
comp=Z,42nm,1.0s
GRR Gorron 72.75 20 eP P 03 34 19.4 +0.7
comp=Z,42nm,1.0s
UPC Upice 72.88 8 eP P 03 34 20.2 +0.8
UPC Upice 72.88 8 eP P 03 34 20.2 +0.8
TKM2 Tokmak 2 73.06 325 eP P 03 34 20.9 0.0
TKM2 pmax pmax
comp=Z,9.0nm,0.9s
TKM2 Tokmak 2 73.06 325 eP P 03 34 20.9 0.0
comp=Z,9.4nm,0.9s
DPC Dobruska-Polom 73.06 8 eP P 03 34 21.9 +1.3
DPC e*PP pP 03 34 26.8 -0.1
DPC Dobruska-Polom 73.06 8 eP P 03 34 21.9 +1.3
DPC ex x 03 34 26.8
AKASG Malin Array Be 73.13 359 P P 03 34 20.5 -0.3
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 73.13 359 P P 03 34 20.5 -0.3
comp=Z,4.6nm,0.5s,baz=1.5,slow=5.9,SNR=26
AKBB Malin Array Si 73.13 359 eP P 03 34 20.6 -0.2
AKBB Malin Array Si 73.13 359 eP P 03 34 20.6 -0.2
KIEV Kiev 73.14 359 eP P 03 34 20.6 -0.3
KIEV pmax pmax
comp=Z,16nm,1.0s
KIEV Kiev 73.14 359 eP P 03 34 20.6 -0.3
comp=Z,16nm,1.0s
AK01 Malin Array Si 73.14 359 eP P 03 34 20.5 -0.4
AK02 Malin Array Si 73.17 359 eP P 03 34 20.8 -0.3
PRU Pruhonice 73.28 9 eP P 03 34 22.9 +1.1
PRU e*PP pP 03 34 27.6 -0.5
PRU Pruhonice 73.28 9 eP P 03 34 22.9 +1.1
PRU ex x 03 34 27.6
KRLC Kraliky 73.37 7 eP P 03 34 23.3 +0.9
KRLC e*PP pP 03 34 27.9 -0.8
KRLC Kraliky 73.37 7 eP P 03 34 23.3 +0.9
KRLC ex x 03 34 27.9
MEZF Maizieres J'vi 73.63 16⇑iP P 03 34 25.7 +1.8
MEZF Maizieres J'vi 73.63 16⇑iP P 03 34 25.7 +1.8
AAK Ala-Archa 73.67 326 eP P 03 34 24.0 -0.4
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 73.67 326 eP P 03 34 24.0 -0.4
comp=Z,5.5nm,0.8s
PAGF Fort de Pagny 73.68 15⇑iP P 03 34 25.4 +1.2
PAGF Fort de Pagny 73.68 15⇑iP P 03 34 25.4 +1.2
OKC Ostrava-Krasne 73.70 6 eP P 03 34 24.8 +0.6
OKC e*PP pP 03 34 30.9 +0.3
OKC Ostrava-Krasne 73.70 6 eP P 03 34 24.8 +0.6
OKC ex x 03 34 30.9
MORC Moravsky Berou 73.72 7 eP P 03 34 24.8 +0.3
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 73.72 7⇓iP P 03 34 25.6 +1.2
MORC Moravsky Berou 73.72 7 eP P 03 34 24.8 +0.3
comp=Z,3.4nm,0.8s
PPT Papeete 73.84 177 LR LR 04 01 45.0
comp=Z,65nm,19.2s,baz=304,slow=32
EKS2 Erkin-Say 73.86 326 eP P 03 34 26.0 +0.5
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 73.86 326 eP P 03 34 26.0 +0.5
comp=Z,3.2nm,0.8s
SFTF Sexfontaines 73.92 16 eP P 03 34 26.4 +0.8
comp=Z,52nm,1.4s
SFTF Sexfontaines 73.92 16 eP P 03 34 26.4 +0.8
comp=Z,52nm,1.4s
WET Wettzell 73.97 10 eP P 03 34 26.3 +0.4
comp=Z,8.0nm,1.1s
LVV L'vov 73.97 3 eP P 03 34 25.7 -0.1
LVV e 03 34 32.7
LVV e 03 34 49.3
CDF Champ du Feu 74.04 14⇑iP P 03 34 27.2 +0.8
comp=Z,24nm,1.1s
CDF Champ du Feu 74.04 14⇑iP P 03 34 27.2 +0.8
CDF pmax pmax
comp=Z,24nm,1.1s
CDF Champ du Feu 74.04 14⇑iP P 03 34 27.2 +0.8
comp=Z,24nm,1.1s
KHC Kasperske Hory 74.05 10 eP P 03 34 27.2 +0.9
KHC pmax pmax
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 74.05 10 eP P 03 34 27.7 +1.4
KHC ex x 03 34 32.4
KHC Kasperske Hory 74.05 10 eP P 03 34 27.2 +0.9
comp=Z,3.2nm,0.8s
TREC Trest 74.05 8 eP P 03 34 27.1 +0.8
TREC e*PP pP 03 34 32.9 +0.2
TREC Trest 74.05 8 eP P 03 34 27.1 +0.8
TREC ex x 03 34 32.9
VRAC Vranov 74.12 8 P P 03 34 27.4 +0.7
VRAC pmax pmax
comp=Z,4.0nm,0.5s
VRAC Vranov 74.12 8⇓iP P 03 34 27.9 +1.2
VRAC Vranov 74.12 8 P P 03 34 27.4 +0.7
comp=Z,4.0nm,0.5s,baz=353,slow=6.2,SNR=7.8
KWP Kalwaria Pacla 74.12 3 eP P 03 34 27.9 +1.2
KWP Kalwaria Pacla 74.12 3 eP P 03 34 27.8 +1.1
KWP Kalwaria Pacla 74.12 3⇓iP P 03 34 27.3 +0.6
ECH Echery 74.21 14 eP P 03 34 27.7 +0.4
ECH pmax pmax
comp=Z,6.0nm,0.8s
ECH Echery 74.21 14 eP P 03 34 27.7 +0.4
comp=Z,6.4nm,0.8s
BFO Black Forest 74.25 13ceP P 03 34 29.1 +1.5
STHS Stebnicka Huta 74.28 4 eP P 03 34 29.2 +1.5
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 74.28 4 eP P 03 34 29.2 +1.5
HAU Haudompre 74.31 15⇑iP P 03 34 28.7 +0.8
comp=Z,11nm,0.8s
HAU eR
comp=Z,105nm,19.2s
HAU Haudompre 74.31 15⇑iP P 03 34 28.7 +0.8
HAU pmax pmax
comp=Z,11nm,0.8s
HAU Haudompre 74.31 15⇑iP P 03 34 28.7 +0.8
comp=Z,11nm,0.8s
GEC2 GERESS Array S 74.34 10 eP P 03 34 29.2 +1.1
comp=Z,6.0nm,1.1s
GERES GERESS Array B 74.34 10 P P 03 34 28.9 +0.8
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 74.34 10 P P 03 34 28.9 +0.8
comp=Z,3.1nm,0.7s,baz=354,slow=4.9,SNR=27
HINF Hinteralfeld 74.56 14⇑iP P 03 34 30.0 +0.6
comp=Z,13nm,1.0s
HINF Hinteralfeld 74.56 14⇑iP P 03 34 30.0 +0.6
HINF pmax pmax
comp=Z,13nm,1.0s
HINF Hinteralfeld 74.56 14⇑iP P 03 34 30.0 +0.6
comp=Z,13nm,1.0s
MFF Saint Martin d 74.61 20 eP P 03 34 30.4 +0.8
comp=Z,30nm,1.0s
MFF Saint Martin d 74.61 20 eP P 03 34 30.4 +0.8
MFF pmax pmax
comp=Z,30nm,1.0s
MFF Saint Martin d 74.61 20 eP P 03 34 30.4 +0.8
comp=Z,30nm,1.0s
LOR Lormes 74.65 17⇑iP P 03 34 30.7 +0.8
comp=Z,17nm,0.8s
LOR eR
comp=Z,161nm,18.8s
LOR Lormes 74.65 17⇑iP P 03 34 30.7 +0.8
LOR pmax pmax
comp=Z,17nm,0.8s

LOR Lormes 74.65 17⇑iP P 03 34 30.7 +0.8
comp=Z,17nm,0.8s
SSF Saint Saulge 74.80 17⇑iP P 03 34 31.6 +0.9
comp=Z,33nm,1.0s
SSF Saint Saulge 74.80 17⇑iP P 03 34 31.6 +0.9
SSF pmax pmax
comp=Z,33nm,1.0s
SSF Saint Saulge 74.80 17⇑iP P 03 34 31.6 +0.9
comp=Z,33nm,1.0s
CRVS Cervenica-Dubn 74.81 4 eP P 03 34 30.6 -0.1
CRVS Cervenica-Dubn 74.81 4 eP P 03 34 30.6 -0.1
KOLS Kolonicke sedl 74.81 4 eP P 03 34 31.8 +1.1
KOLS pmax pmax
comp=Z,10.0nm,1.3s
KOLS Kolonicke sedl 74.81 4 eP P 03 34 31.8 +1.1
AVF Avril sur Loir 75.03 17⇑iP P 03 34 32.6 +0.6
comp=Z,12nm,0.6s
AVF Avril sur Loir 75.03 17⇑iP P 03 34 32.6 +0.6
AVF pmax pmax
comp=Z,12nm,0.6s
AVF Avril sur Loir 75.03 17⇑iP P 03 34 32.6 +0.6
comp=Z,12nm,0.6s
VYHS Vyhne 75.08 6 eP P 03 34 33.3 +0.9
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 75.08 6 eP P 03 34 33.2 +0.9
UZH Uzhgorod 75.11 4⇑iP P 03 34 33.3 +0.9
UZH i 03 34 38.7
BGF Bois d'Agland 75.18 18 eP P 03 34 33.5 +0.6
comp=Z,17nm,0.8s
BGF Bois d'Agland 75.18 18 eP P 03 34 33.5 +0.6
BGF pmax pmax
comp=Z,17nm,0.8s
BGF Bois d'Agland 75.18 18 eP P 03 34 33.5 +0.6
comp=Z,17nm,0.8s
KECS Kecovo 75.18 5 eP P 03 34 33.9 +1.0
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 75.18 5 eP P 03 34 33.9 +1.0
SMF Signal de Mont 75.25 17 eP P 03 34 33.3 -0.1
comp=Z,16nm,1.0s
SMF Signal de Mont 75.25 17 eP P 03 34 33.3 -0.1
SMF pmax pmax
comp=Z,16nm,1.0s
SMF Signal de Mont 75.25 17 eP P 03 34 33.3 -0.1
comp=Z,16nm,1.0s
TCF Toulx Ste Croi 75.33 18⇑iP P 03 34 34.4 +0.6
comp=Z,31nm,1.2s
TCF Toulx Ste Croi 75.33 18⇑iP P 03 34 34.4 +0.6
TCF pmax pmax
comp=Z,31nm,1.2s
TCF Toulx Ste Croi 75.33 18⇑iP P 03 34 34.4 +0.6
comp=Z,31nm,1.2s
RJOB Jochberg 75.35 10 eP P 03 34 34.9 +1.0
comp=Z,9.0nm,0.9s
CONA Conrad Observa 75.44 8⇑ipP P 03 34 35.6 +1.2
comp=Z,7.4nm,1.0s
TRPA Tarpa 75.62 4⇑iP P 03 34 36.6 +1.2
CABF La Chapelle 75.63 15⇑iP P 03 34 36.6 +1.0
comp=Z,42nm,1.1s
CABF La Chapelle 75.63 15⇑iP P 03 34 36.6 +1.0
CABF pmax pmax
comp=Z,42nm,1.1s
CABF La Chapelle 75.63 15⇑iP P 03 34 36.6 +1.0
comp=Z,42nm,1.1s
PSZ Piszkesteto 75.71 5 eP P 03 34 36.2 +0.1
PSZ pmax pmax
comp=Z,5.0nm,0.9s
PSZ Piszkesteto 75.71 5 eP P 03 34 36.1 +0.1
comp=Z,5.0nm,0.9s
FETA Feichten 75.83 12⇑ipP P 03 34 38.0 +1.2
comp=Z,7.2nm,1.1s
DAVOX Davos/Dischmat 75.97 13 P P 03 34 38.8 +1.1
DAVOX pmax pmax
comp=Z,4.0nm,0.9s
DAVOX Davos/Dischmat 75.97 13 P P 03 34 38.8 +1.1
comp=Z,3.6nm,0.9s,baz=358,slow=11,SNR=4.4
KSH Kashi 76.01 324 eP P 03 34 41.5 +3.5
KSH esP sP 03 34 51.8 +5.1
KSH ePP PP 03 37 35.4 +7.5
KSH eS S 03 44 24.2 +4.2
KSH SKS SKSac 03 44 47.3 -0.3
KSH SS SS 03 49 20.0 +8.4
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH LR LR
comp=Z,48nm,4.1s
KSH LR LR
comp=Z,47nm,4.1s
KSH LR LR
comp=Z,47nm,5.8s
KBA Koelnbreinsper 76.06 10⇑ipP P 03 34 39.5 +1.3
comp=Z,7.5nm,0.8s
RJF Les Rejaudoux 76.16 19 eP P 03 34 39.1 +0.5
comp=Z,28nm,1.1s
RJF eR
comp=Z,228nm,19.5s
RJF Les Rejaudoux 76.16 19 eP P 03 34 39.1 +0.5
RJF pmax pmax
comp=Z,28nm,1.1s
RJF Les Rejaudoux 76.16 19 eP P 03 34 39.1 +0.5
comp=Z,28nm,1.0s
BUR08 Bucovina Ar. S 76.17 2 eP P 03 34 38.7 0.0
BURAR Bucovina Array 76.20 2⇓P P 03 34 39.6 +0.7
BURAR Bucovina Array 76.20 2⇓iP P 03 34 39.6 +0.7
LFF La Frestale 76.37 19 eP P 03 34 40.6 +0.9
comp=Z,40nm,1.1s
LFF La Frestale 76.37 19 eP P 03 34 40.6 +0.9
LFF pmax pmax
comp=Z,40nm,1.1s
LFF La Frestale 76.37 19 eP P 03 34 40.6 +0.9
comp=Z,40nm,1.1s
SOKA Soboth 76.61 9⇓ipP P 03 34 42.4 +1.2
comp=Z,6.7nm,0.8s
CAF Calviac 76.63 18 eP P 03 34 41.9 +0.7
CAF Calviac 76.63 18 eP P 03 34 41.9 +0.7
CAF Calviac 76.63 18 eP P 03 34 41.9 +0.7
PERS Pernice 76.66 9 eP P 03 34 42.5 +1.1
OBKA Obir 76.73 9⇑ipP P 03 34 42.7 +0.8
comp=Z,20nm,1.1s
LPL La Plagne 76.80 15 eP P 03 34 43.1 +0.7
LPL La Plagne 76.80 15 eP P 03 34 43.1 +0.7
LPL La Plagne 76.80 15 eP P 03 34 43.1 +0.7
DRGR 76.96 4⇓P P 03 34 43.7 +0.6
DRGR 76.96 4⇓iP P 03 34 43.7 +0.6
VIVF Saint-Julien-l 77.13 17⇑iP P 03 34 45.0 +0.9
comp=Z,20nm,1.0s
VIVF Saint-Julien-l 77.13 17⇑iP P 03 34 45.0 +0.9
VIVF pmax pmax
comp=Z,20nm,1.0s
VIVF Saint-Julien-l 77.13 17⇑iP P 03 34 45.0 +0.9
comp=Z,20nm,1.0s
KMI Kunming 77.24 296 P P 03 34 45.9 +0.7
KMI pmax pmax
comp=Z,4.0nm,1.5s
BNI Bardonecchia 77.24 15 eP P 03 34 45.2 +0.3
BNI pmax pmax
comp=Z,8.0nm,0.9s
BNI Bardonecchia 77.24 15 eP P 03 34 45.1 +0.3
comp=Z,7.6nm,0.9s
JAVS Javornik 77.30 10 iP P 03 34 45.1 +0.1
PKSM Moragy 77.34 7⇓P P 03 34 44.5 -0.7
PKSM Moragy 77.34 7⇓iP P 03 34 44.5 -0.7
VISS Visnje 77.46 9 iP P 03 34 51.1 +5.3
BOJS Bojanci 77.79 9 iP P 03 34 48.2 +0.5
BZS Buzias 78.09 4⇑P P 03 34 50.2 +0.8
BZS Buzias 78.09 4⇑iP P 03 34 50.2 +0.8
ETSF Etsaut 78.09 21 eP P 03 34 50.9 +1.4
comp=Z,26nm,0.9s
ETSF Etsaut 78.09 21 eP P 03 34 50.9 +1.4
ETSF pmax pmax
comp=Z,26nm,0.9s
ETSF Etsaut 78.09 21 eP P 03 34 50.9 +1.4
comp=Z,26nm,0.9s
MTLF Montolieu 78.19 19 eP P 03 34 50.7 +0.7
comp=Z,11nm,0.8s
MTLF Montolieu 78.19 19 eP P 03 34 50.7 +0.7
MTLF pmax pmax
comp=Z,11nm,0.8s
MTLF Montolieu 78.19 19 eP P 03 34 50.7 +0.7
comp=Z,11nm,0.8s
MLR Muntele Rosu 78.34 1⇑P P 03 34 49.9 -1.0
MLR Muntele Rosu 78.34 1⇑iP P 03 34 49.9 -1.0
GZR Gura Zlata 78.36 4⇓P P 03 34 51.9 +0.9
GZR Gura Zlata 78.36 4⇓iP P 03 34 51.9 +0.9
ARR Arges 78.44 2⇓iP P 03 34 52.7 +1.3
CFR Carcaliu 78.66 360⇑P P 03 34 53.0 +0.5
CFR Carcaliu 78.66 360⇑iP P 03 34 53.0 +0.5
FRF La Foret Royal 78.70 16 eP P 03 34 53.5 +0.7
FRF La Foret Royal 78.70 16 eP P 03 34 53.5 +0.7
FRF La Foret Royal 78.70 16 eP P 03 34 53.5 +0.7
LSA Lhasa 78.81 308 P P 03 34 51.6 -2.6
LSA Lhasa 78.81 308 eP P 03 34 55.2 +1.0
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 78.81 308 eP P 03 34 55.2 +1.0
comp=Z,5.7nm,0.8s
LMR La Mourre 78.90 16 eP P 03 34 54.8 +0.9
LMR La Mourre 78.90 16 eP P 03 34 54.8 +0.9
LMR La Mourre 78.90 16 eP P 03 34 54.8 +0.9
KIV Kislovodsk 79.11 349 d iP P 03 34 56.2 +1.1
KIV i 03 35 01.9
KIV pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 79.11 349 eP P 03 34 55.5 +0.3
comp=Z,11nm,0.7s
KBZ Khabaz 79.31 349 P P 03 34 57.0 +0.9
KBZ pmax pmax
comp=Z,7.0nm,0.8s
KBZ Khabaz 79.31 349 P P 03 34 57.0 +0.9
comp=Z,7.1nm,0.8s,baz=358,slow=4.4,SNR=9.1
TIRR Tirgusor 79.38 360⇑P P 03 34 56.6 +0.1
TIRR Tirgusor 79.38 360⇑iP P 03 34 56.6 +0.1
ZEI Tsey 80.12 348 eP P 03 35 00.6 -0.2
ZEI pmax pmax
comp=Z,7.0nm,1.0s
ESDC Sonseca Array 80.46 24 P P 03 35 03.5 +1.0
comp=Z,3.9nm,0.7s,baz=343,slow=5.7,SNR=19
OTAV Otavalo 80.88 104 eP P 03 35 06.5 +1.0
comp=Z,3.0nm,0.8s
VTS Vitosha 81.17 3⇑P P 03 35 06.3 -0.1
VTS Vitosha 81.17 3⇑iP P 03 35 06.3 -0.1
MMB Musomiste 82.19 3⇓P P 03 35 13.0 +1.4
MMB Musomiste 82.19 3⇓iP P 03 35 13.0 +1.4
TAPN Taplejung 82.34 309 eP P 03 35 13.6 +0.6
comp=Z,29nm,0.9s
TAPN Taplejung 82.34 309 eP P 03 35 13.6 +0.6
GNI Garni 82.63 347 eP P 03 35 14.2 +0.1
GNI pmax pmax
comp=Z,9.0nm,0.9s
GNI Garni 82.63 347 eP P 03 35 14.2 +0.1
comp=Z,8.8nm,0.9s
GUN Gumba 82.63 311 eP P 03 35 15.1 +0.6
comp=Z,28nm,0.8s
GUN Gumba 82.63 311 eP P 03 35 15.1 +0.6
JIRN Jiri 82.72 310 eP P 03 35 15.7 +0.7
comp=Z,59nm,1.0s
JIRN Jiri 82.72 310 eP P 03 35 15.7 +0.7
KBL Kabul 82.77 327 eP P 03 35 14.0 -1.0
KBL Kabul 82.77 327 eP P 03 35 14.0 -1.0
ODAN Odare 82.91 309 eP P 03 35 16.3 +0.5
ODAN Odare 82.91 309 eP P 03 35 16.3 +0.5
KKN Kakani 82.99 311 eP P 03 35 16.4 +0.4
KKN Kakani 82.99 311 eP P 03 35 16.4 +0.4
KKN Kakani 82.99 311 eP P 03 35 16.4 +0.4
GKN Gorkha 83.06 312 eP P 03 35 17.0 +0.5
comp=Z,28nm,1.0s
GKN Gorkha 83.06 312 eP P 03 35 17.0 +0.5
DANN Dangsing 83.12 313 eP P 03 35 17.8 +0.8
comp=Z,61nm,0.8s
DANN Dangsing 83.12 313 eP P 03 35 17.8 +0.8
PKI Pulchoki 83.12 311 eP P 03 35 17.3 +0.2
PKI Pulchoki 83.12 311 eP P 03 35 17.3 +0.2
PKI Pulchoki 83.12 311 eP P 03 35 17.3 +0.2
PKIN Phulchoki 83.12 311 eP P 03 35 17.1 +0.1
comp=Z,15nm,0.8s
RAMN Ramite 83.17 310 eP P 03 35 17.4 +0.2
comp=Z,52nm,0.8s
RAMN Ramite 83.17 310 eP P 03 35 17.4 +0.2
DMN Daman 83.22 311 eP P 03 35 18.2 +0.7
comp=Z,27nm,0.9s
DMN Daman 83.22 311 eP P 03 35 18.2 +0.7
KOLN Koldanda 83.70 312 eP P 03 35 20.2 +0.3
comp=Z,21nm,0.9s
KOLN Koldanda 83.70 312 eP P 03 35 20.2 +0.3
BR131 Keskin Array S 83.99 355 eP P 03 35 21.4 +0.4
comp=Z,4.9nm,0.9s
BRTR Keskin Array B 83.99 355 P P 03 35 21.6 +0.5
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 83.99 355 P P 03 35 21.6 +0.5
comp=Z,4.2nm,0.8s,baz=20,slow=2.5,SNR=18
CMAR Chiang Mai Arr 84.73 296 P P 03 35 24.9 0.0
CMAR pmax pmax
comp=Z,3.0nm,0.5s
CMAR Chiang Mai Arr 84.73 296 P P 03 35 24.9 0.0
comp=Z,3.1nm,0.5s,baz=7.8,slow=5.7,SNR=14
KEST Kesra 86.77 15 P P 03 35 35.9 +1.0
comp=Z,1.1nm,0.7s,baz=258,slow=9.5,SNR=4.6
MDT Midelt 86.84 27 P P 03 35 36.3 +0.9
comp=Z,2.6nm,0.9s,baz=331,slow=5.5,SNR=4.2
COEN Coen 88.23 241 eP P 03 35 41.3 -0.6
CSS Prodhromos 88.75 355 eP P 03 35 45.1 +0.8
comp=Z,18nm,1.6s
IPM Ipoh 95.45 286 eP P 03 36 14.9 -0.7
ASCN Ascension 121.40 51 ePKPdf PKPdf 03 41 45.8 +1.6
LBTB Lobatse 148.48 4 ePKP2 PKPbc 03 42 37.6 +0.3
LBTB Lobatse 148.48 4 ePKPbc PKPbc 03 42 37.5 +0.3
BOSA Boshof 152.04 5 PKIKP PKPbc 03 42 45.6 -0.2
BOSA pmax pmax
comp=Z,2.0nm,0.5s
BOSA Boshof 152.04 5 PKPbc PKPbc 03 42 45.6 -0.2
comp=Z,2.0nm,0.5s,baz=319,slow=1.8,SNR=6.3
BOSA Boshof 152.04 5 ePKPbc PKPbc 03 42 45.5 -0.4

NNC 12 03:30:57.4±4.8,37°.80N×71°.95E,h0km,mb3.6,mpv3.2, 2C-2D,Error ellipse: s-maj=37.3km s-min=29.1km az=171.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.20	21	⇑P	Pn	03 32 17.1	+0.4
	3.4nm,0.5s						
AAK				⇓S	Sn	03 33 19.3	+1.7
	14nm,0.6s						
KK31	Karatay Array	5.41	349	P	Pn	03 32 19.4	+0.1
	0.4nm,0.3s,baz=161,slow=12,SNR=22						
KK31				S	Sn	03 33 23.1	+0.8
	2.2nm,0.2s,baz=170,slow=22,SNR=20						
TKM2	Tokmak 2	5.82	27	⇑P	Pn	03 32 24.5	-0.8
	2.1nm,0.8s						
TKM2				⇓S	Sn	03 33 33.4	+0.5
	3.5nm,0.8s						

KRSC 12 03:40:26.1±1.5,49°.53N×157°.03E,h50km±23km,ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.30	333	iP	Pn	03 40 47.8	0.0
SKR				iS	Sn	03 41 03.7	-0.4
PAU	Pauzhetka	1.95	356	iP	Pn	03 40 59.3	+2.6
PAU				eS	Sn	03 41 23.3	+3.4
MIPR	Malaya Ipel'ka	2.76	356	eP	Pn	03 41 09.8	+2.0
MIPR				eS	Sn	03 41 43.5	+3.6
ASAK	Asacha	2.91	11	eP	Pn	03 41 13.8	+3.8
ASAK				eS	Sn	03 41 47.5	+3.7
MTVR	Mutnovka	3.05	13	eP	Pn	03 41 15.7	+3.7
MTVR				eS	Sn	03 41 51.9	+4.6
RUS	Russkaya	3.06	17	eP	Pn	03 41 15.4	+3.5
RUS				eS	Sn	03 41 51.9	+4.7
APC	Apacha	3.40	1	eP	Pn	03 41 20.2	+3.6
APC				eS	Sn	03 41 59.9	+4.2
UGLR	Uglovaya	3.85	16	eP	Pn	03 41 27.0	+4.0
UGLR				eS	Sn	03 42 11.8	+4.7
AVH	Avacha	3.89	15	eP	Pn	03 41 27.4	+3.9
AVH				eS	Sn	03 42 12.4	+4.5
KOK	Koryaka	3.90	14	eP	Pn	03 41 27.9	+4.3
SMAR	Somma	3.90	16	eP	Pn	03 41 27.8	+4.0
KRER	Koryakskii	3.93	15	eP	Pn	03 41 27.6	+3.4
KRX	Arik	3.97	14	eP	Pn	03 41 28.4	+3.8
KRX				eS	Sn	03 42 13.9	+3.9
GNL	Ganaly	4.21	7	eP	Pn	03 41 31.2	+3.3
KBTR	Krutoberegovo	7.55	25	P	Pn	03 42 17.8	+4.4
BKI	Bering	7.89	40	eS	Sn	03 43 47.2	+1.4

JMA 12 03:56:37.8±0.1,24°.20N×122°.80E,h58km±2km,M3.2
ISCJB 12 03:56:38.2±0.4,24°.19N±0°.03×122°.82E±0°.02,h50km±8km, Error ellipse: s-maj=5.9km s-min=2.9km az=178.7
TAP 12 03:56:38.2,24°.22N×122°.80E,h58km±1km,ML3.7,C
ISC 12 03:56:38.6±1.3,24°.19N±0°.04×122°.83E±0°.03,h50km±11km, n45,σ1§14/81,6C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.28	23	P	Pn	03 56 47.6	+0.1
JYNG				S	Sn	03 56 54.5	+0.6
YOJ	Yonaguni jima	0.32	32	P	Pn	03 56 48.0	+0.1
YOJ				S	Sn	03 56 54.8	+0.3
IRIF	Iriomote-Funau	0.84	80	P	Pn	03 56 53.9	-0.2
IRIF				S	Sn	03 57 05.6	+0.1
HATJ	Hateruma jima	0.91	98	P	Pn	03 56 55.2	+0.2
HATJ				S	Sn	03 57 08.0	+0.9
TWC	Suao	0.98	295	⇑iP	Pn	03 56 55.7	-0.4
	baz=304						
TWC				S	Sn	03 57 08.4	-0.5
	baz=304						
ENA	Nanau	1.02	284	eP	Pn	03 56 55.9	-0.7
	baz=282						
ENA				eS	Sn	03 57 09.6	-0.2
	baz=282						
JKRS	Kuro-shima	1.08	87	P	Pn	03 56 57.5	+0.1
JKRS				S	Sn	03 57 11.8	+0.5
TWB1	Santiao Chiao	1.11	317	eP	Pn	03 56 57.2	-0.7
	baz=326						
TWB1				eS	Sn	03 57 10.6	-1.5
	baz=326						
TWD	Chiawan	1.13	265	eP	Pn	03 56 57.1	-1.0
	baz=252						
TWD				eS	Sn	03 57 11.3	-1.1
	baz=252						
HWA	Hwalien	1.14	259	eP	Pn	03 56 57.5	-0.6
	baz=257						
TWE	Neicheng	1.18	297	P	Pn	03 56 59.1	+0.3
	baz=302						
TWE				S	Sn	03 57 13.8	0.0
	baz=302						
JIJ	Ishigaki jima	1.21	82	P	Pn	03 56 58.6	-0.6
JIJ				S	Sn	03 57 13.6	-1.0
ENTT	Nioudou	1.23	292	⇑iP	Pn	03 56 59.9	+0.5
	baz=280						
ENTT				eS	Sn	03 57 15.5	+0.5
	baz=280						
NWF	Wu-fen Shan	1.29	313	iP	Pn	03 57 00.1	-0.3
	baz=312						
NWF				S	Sn	03 57 15.4	-1.2
	baz=312						
ESL	Shilin	1.33	254	eP	Pn	03 56 59.5	-1.2
	baz=251						
ESL				eS	Sn	03 57 15.3	-2.0
	baz=251						
NNS	Nan Shan	1.35	281	⇑P	Pn	03 57 00.9	-0.2
	baz=270						
NNS				eS	Sn	03 57 17.6	-0.5
	baz=270						
JISG	Ishigakijimahi	1.41	73	P	Pn	03 57 01.2	-0.7
JISG				S	Sn	03 57 18.3	-1.0
NSK	Sanguang	1.42	290	⇑iP	Pn	03 57 02.4	+0.3
	baz=278						
NSK				eS	Sn	03 57 19.4	-0.4
	baz=278						
WHF	Hehuan Shan	1.43	268	⇑P	Pn	03 57 01.8	-0.7
	baz=256						
WHF				S	Sn	03 57 19.5	-0.8
	baz=256						
EHY	Hungye	1.54	244	eP	Pn	03 57 02.8	-0.8
	baz=252						
EHY				eS	Sn	03 57 20.4	-2.0
	baz=252						
TWS1	Kuangyinshan	1.57	306	eP	Pn	03 57 03.8	-0.3
	baz=305						
TWF1	Yuli	1.63	240	eP	Pn	03 57 04.3	-0.6
	baz=236						
TWF1				eS	Sn	03 57 23.2	-1.6
	baz=236						
NCU	National Centr	1.68	298	eP	Pn	03 57 05.9	+0.3
	baz=309						
NSTT	Nanjuang	1.72	285	P	Pn	03 57 06.9	+0.7
	baz=276						
NSTT				eS	Sn	03 57 27.6	+0.6
	baz=276						
CHKT	Chengkung	1.73	231	eP	Pn	03 57 04.7	-1.5
	baz=220						
CHKT				eS	Sn	03 57 24.4	-2.6
	baz=220						
JTJ	Tarama	1.77	75	P	Pn	03 57 06.4	-0.4
SMLT	Sun Moon Lake	1.79	261	P	Pn	03 57 07.3	+0.2
	baz=258						
SMLT				eS	Sn	03 57 27.6	-1.1
	baz=258						
TYC	Yuchr	1.82	261	eP	Pn	03 57 07.6	+0.1
	baz=259						
TYC				eS	Sn	03 57 29.8	+0.4
	baz=259						
YUS	Yu-Shan	1.85	248	⇑iP	Pn	03 57 08.4	0.0
	baz=245						
YUS				eS	Sn	03 57 28.6	-2.3
	baz=245						
TWQ1	Liyutan	1.88	275	eP	Pn	03 57 09.2	+0.9
	baz=273						
TWQ1				eS	Sn	03 57 31.7	+0.8
	baz=273						
ELDTW	Lidau	1.94	239	eP	Pn	03 57 08.3	-0.8
	baz=236						
ELDTW				eS	Sn	03 57 30.0	-2.4
	baz=236						
TCU	Taichung	1.96	269	eP	Pn	03 57 10.6	+1.2
	baz=281						
ALS	Alishan	1.97	250	eP	Pn	03 57 10.3	+0.5
	baz=247						
ALS				eS	Sn	03 57 33.1	-0.4
	baz=247						
WNT	Mingjian	1.98	261	eP	Pn	03 57 11.1	+1.3
	baz=259						
CHN5	Tsauling	2.05	254	P	Pn	03 57 11.6	+0.8
	baz=251						
CHN5				eS	Sn	03 57 36.3	+1.1
	baz=251						
TWG	Pinlang	2.11	230	eP	Pn	03 57 10.5	-1.0
	baz=237						
TWG				eS	Sn	03 57 34.6	-1.9
	baz=237						
WGK	Gukeng	2.13	257	eP	Pn	03 57 13.0	+1.3
	baz=255						
CHN4	Tsaushan	2.21	248	eP	Pn	03 57 14.4	+1.5
	baz=245						
CHN4				S	Sn	03 57 40.5	+1.6
	baz=245						
WTP	Ta-pu	2.23	246	P	Pn	03 57 14.1	+0.9
	baz=243						
WTP				S	Sn	03 57 41.1	+1.5
	baz=243						
CHY	Chiayi	2.31	253	eP	Pn	03 57 16.6	+2.5
	baz=251						
CHN1	Nanshi	2.33	245	eP	Pn	03 57 15.9	+1.4
	baz=242						
CHN1				eS	Sn	03 57 43.5	+1.5
	baz=242						
TWK	Hsinying	2.33	247	eP	Pn	03 57 15.9	+1.3
	baz=244						
TWK				eS	Sn	03 57 43.0	+1.0
	baz=244						
SGST	Jiashian	2.33	242	eP	Pn	03 57 15.2	+0.7
	baz=239						
SGST				eS	Sn	03 57 43.8	+1.7
	baz=239						
SSD	Sandimen	2.48	235	eP	Pn	03 57 18.1	+1.6
	baz=225						
SSD				eS	Sn	03 57 47.5	+2.0
	baz=225						
SCZT	Fangliau	2.72	229	eP	Pn	03 57 22.1	+2.3
	baz=221						

IDC 12 04:19:35.2±0.8,14°.96S×173°.61W,h0km,mb3.9/10, mb1 4.1/10,mb1mx3.9/35,mbtmp3.9/10,Error ellipse: s-maj=46.3km s-min=17.6km az=137.0
NEIC 12 04:19:36.8±0.5,14°.94S×173°.64W,h10km,mb4.4/4,Error ellipse: s-maj=24.7km s-min=9.2km az=140.0
ISCJB 12 04:19:38.2±0.7,14°.95±0°.2×173°.7W±0°.2,h30km,mb3.9/13, Error ellipse: s-maj=32.7km s-min=12.4km az=139.7
ISC 12 04:19:39.8±0.8,15°.0S±0°.2×173°.7W±0°.2,h30km,n21,

σ0s75/20,mb4.0/13,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.10	60	Pn	Pn	04 20 02.8	-10
	31nm,0.3s,baz=148,slow=1.8,SNR=20						
AFI				Sn	Sn	04 20 20.2	-18
	166nm,0.3s,baz=356,slow=19,SNR=14						
URZ	Urewera	24.61	198	P	P	04 24 58.0	+0.6
	2.7nm,0.3s,baz=23,slow=13,SNR=5.2						
CTAO	Charters Tower	38.51	256	eP	P	04 26 58.7	-1.1
	1.8nm,0.6s						
STKA	Stephens Creek	44.05	239	P	P	04 27 45.0	-0.1
	0.8nm,0.6s,baz=52,slow=7.2,SNR=5.0						
WRAB	Tennant Creek	49.70	256	eP	P	04 28 30.9	+1.4
	4.2nm,1.2s						
WRA	Warramunga Arr	49.71	256	P	P	04 28 28.8	-0.8
	0.4nm,0.5s,baz=92,slow=7.1,SNR=15						
AS31	Alice Springs	50.02	252	eP	P	04 28 31.7	-0.2
ASAR	Alice Springs	50.02	252	P	P	04 28 31.6	-0.2
	1.2nm,0.6s,baz=89,slow=8.5,SNR=18						
NVAR	Mina Array Bea	74.17	42	P	P	04 31 13.3	-0.6
	0.4nm,0.8s,baz=264,slow=4.1,SNR=3.2						
TXAR	Lajitas Array	80.57	56	P	P	04 31 49.5	-0.4
	0.8nm,1.0s,baz=228,slow=6.7,SNR=3.6						
COLA	College	81.98	11	eP	P	04 31 56.8	+0.4
	6.4nm,0.9s						
ILAR	Eielson Array	82.06	11	P	P	04 31 57.2	+0.4
	0.5nm,0.6s,baz=210,slow=5.5,SNR=12						
PDAR	Pinedale Array	82.10	42	P	P	04 31 56.7	-1.1
	0.4nm,0.8s,baz=210,slow=5.2,SNR=3.4						
INK	Inuvik	87.90	14	P	P	04 32 26.9	+0.9
	1.7nm,1.0s,baz=223,slow=5.9,SNR=4.5						
INK	Inuvik	87.90	14	eP	P	04 32 26.3	+0.3
	2.6nm,1.0s						
YKA	Yellowknife Ar	89.79	23	P	P	04 32 35.2	+0.1
	0.8nm,0.9s,baz=238,slow=4.5,SNR=12						
TKM2	Tokmak 2	115.19	311	ePKPdf	PKPdf	04 38 19.6	+0.9
BUR08	Bucovina Ar. S	143.85	338	ePKPdf	PKPdf	04 39 12.0	-0.3
MORC	Moravsky Berou	144.09	348	ePKPdf	PKPdf	04 39 12.9	+0.3
BRTR	Keskin Array B	145.66	321	PKPbc	PKPab	04 39 17.4	+1.0
	1.1nm,0.8s,baz=84,slow=2.6,SNR=5.9						
GERES	GERESS Array B	145.67	351	PKPbc	PKPab	04 39 16.1	0.0
	0.6nm,0.8s,baz=31,slow=8.0,SNR=4.1						

IDC 12 04:31:18.4±55.0,**17°43S×179°08E,h0km,mb3.8**/3, **mb1 4.0**/3,**mb1mx3.6**/30,**mbtmp3.8**/3,**Error ellipse: s-maj=980.4km s-min=153.1km az=77.0,Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.78	240	P	P	04 38 28.4	+0.3
	0.7nm,0.6s,baz=96,slow=8.0,SNR=3.3						
WRA	Warramunga Arr	42.37	259	P	P	04 39 14.6	-0.3
	0.3nm,0.5s,baz=95,slow=7.6,SNR=10.0						
ASAR	Alice Springs	42.62	254	P	P	04 39 16.6	-0.3
	1.7nm,0.5s,baz=86,slow=8.8,SNR=16						

ISCJB 12 04:31:33.5±0.7,72°67N±0°04×5°1E±0°2,h10km,mb3.1/4, MS3.1/10,Error ellipse: s-maj=10.1km s-min=5.5km az=3.2
IDC 12 04:31:33.8±1.0,72°61N×4°52E,h0km,mb3.3/4,mb1 3.6/9, mb1mx3.3/47,mbtmp3.5/9,ML3.2/5,MS3.2/15,Ms1 3.2/15, ms1mx3.0/37,Error ellipse: s-maj=25.7km s-min=14.9km az=63.0
NAO 12 04:31:33.6±3.7,72°59N×4°46E,ML3.5
CSEM 12 04:31:34.0±0.4,72°67N×4°86E,h2km,ML2.4,Error ellipse: s-maj=12.6km s-min=4.7km az=91.0
BER 12 04:31:36.1±1.6,72°64N×3°85E,h10km,MD2.6,ML2.4, ML3.5(NAO)
ISC 12 04:31:35.4±0.9,**72°65N**±0°06×**4°93E**±0°09,**h10km,n59, σ0s84**/52,**mb3.3**/4,**MS3.1**/10,**Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRO	Tromso	5.45	117	eP	Pn	04 32 57.2	+0.7
TRO				IAML		04 34 04.1	
	comp=Z,6.7nm,0.5s						
TRO	Tromso	5.45	117	eP	Pn	04 32 57.2	+0.7
	SNR=49						
STEI	Steigen	5.88	139	eP	Pn	04 33 04.9	+2.5
SPA0	Spitsbergen Ar	6.25	22	Pn	Pn	04 33 06.7	-0.8
	baz=215,slow=16						
SPA0	Spitsbergen Ar	6.25	22	Pn	Pn	04 33 06.7	-0.8
	baz=215,slow=16						
SPA0	Spitsbergen Ar	6.25	22	Pn	Pn	04 33 06.7	-0.8
	baz=215,slow=16						
SPA0	Spitsbergen Ar	6.25	22	eP	Pn	04 33 06.9	-0.6
SPA0	Spitsbergen Ar	6.25	22	Pn	Pn	04 33 06.7	-0.8
	baz=215,slow=14,SNR=0.9						
SPA0	Spitsbergen Ar	6.25	22	eP	Pn	04 33 06.9	-0.6
	SNR=47						
SPITS	Spitsbergen Ar	6.25	22	Pn	Pn	04 33 06.5	-1.0
	baz=203,slow=17,SNR=19						
SPITS				Sn	Sn	04 34 20.4	+1.6
	baz=208,slow=28,SNR=1.5						
SPITS				LR	LR	04 34 57.2	
	comp=Z,61nm,20.6s,baz=210,slow=32						
HOPEN	Hopen	6.58	45	eP	Pn	04 33 12.4	+0.4
HOPEN				eS	Sn	04 34 27.4	+0.6
HOPEN	Hopen	6.58	45	eP	Pn	04 33 12.4	+0.4
	SNR=47						
HOPEN				eS	Sn	04 34 27.4	+0.6
	SNR=47						
KONS	Konsvik	6.80	151	eP	Pn	04 33 15.5	+0.4
KONS				IAML		04 34 31.9	
	comp=Z,7.3nm,0.5s						
STOK	Stokkvaagen	6.94	152	eP	Pn	04 33 17.5	+0.5
STOK				IAML		04 34 40.0	
	comp=N,2.5nm,0.3s						
FLOS	Flostrand	6.99	151	eP	Pn	04 33 18.8	+1.1
FLOS				IAML		04 34 36.8	
	comp=Z,9.6nm,0.6s						
MOR8	Moi Rana	7.31	148	eP	Pn	04 33 23.1	+1.0
MOR8				IAML		04 34 44.4	
	comp=Z,6.1nm,0.5s						
MOR8	Moi Rana	7.31	148	eP	Pn	04 33 23.0	+1.0
	SNR=47						
ARA0	ARCESS Array S	7.36	105	Pn	Pn	04 33 23.4	+0.8
	baz=308,slow=12						
ARA0	ARCESS Array S	7.36	105	Pn	Pn	04 33 23.4	+0.8
	baz=308,slow=12						
ARA0	ARCESS Array S	7.36	105	Pn	Pn	04 33 23.4	+0.8
	baz=308,slow=12						
ARA0	ARCESS Array S	7.36	105	Pn	Pn	04 33 23.4	+0.8
	baz=308,slow=12						
ARA0	ARCESS Array S	7.36	105	Pn	Pn	04 33 23.5	+0.8
	baz=308,slow=12,SNR=50						
ARCES	ARCESS Array B	7.36	105	Pn	Pn	04 33 23.2	+0.5
	comp=Z,0.6nm,0.3s,baz=314,slow=12,SNR=33						
ARCES				Sn	Sn	04 34 43.8	-2.2
	baz=312,slow=23,SNR=1.6						
ARCES				LR	LR	04 36 17.2	
	comp=Z,114nm,19.1s,baz=334,slow=38						
KEV	Kevo	7.67	101	ep	Pn	04 33 26.3	-0.7
	comp=Z,0.5nm,0.3s						
KEV	Kevo	7.67	101	eP	Pn	04 33 26.3	-0.7
	comp=Z,0.5nm,0.3s						
NB2	NORSAR Subarra	11.91	165	Pn	Pn	04 34 25.1	0.0
NB2	NORSAR Subarra	11.91	165	Pn	Pn	04 34 25.1	0.0
NB2	NORSAR Subarra	11.91	165	Pn	Pn	04 34 25.1	0.0
NB2	NORSAR Subarra	11.91	165	Pn	Pn	04 34 25.1	0.0
NB2	NORSAR Subarra	11.91	165	Pn	Pn	04 34 25.1	0.0
	SNR=50						
NOA	NORSAR Array B	11.91	165	Pn	Pn	04 34 24.9	-0.2
	comp=Z,0.2nm,0.3s,baz=351,slow=13,SNR=4.1						
NOA				LR	LR	04 38 37.6	
	comp=Z,62nm,18.9s,baz=355,slow=36						
HFS	Hagfors	13.03	160	Pn	Pn	04 34 40.5	+0.3
	baz=355,slow=12						
HFS	Hagfors	13.03	160	Pn	Pn	04 34 40.5	+0.3
	baz=355,slow=12						
HFS	Hagfors	13.03	160	Pn	Pn	04 34 40.5	+0.3
	baz=355,slow=12						
HFS	Hagfors	13.03	160	Pn	Pn	04 34 40.5	+0.3
	baz=355,slow=12						
HFS	Hagfors	13.03	160	Pn	Pn	04 34 40.5	+0.3
	comp=Z,0.4nm,0.3s,baz=0.0,slow=13,SNR=17						
HFS				LR	LR	04 39 12.9	
	comp=Z,122nm,18.7s,baz=58,slow=35						
KAF	Kangasniemi	13.28	132	ep	Pn	04 34 46.9	+3.3
	comp=Z,1.5nm,0.5s						
JOF	Joensuu	13.79	121	ep	Pn	04 34 49.5	-1.1
	comp=Z,3.6nm,0.6s						
JOF	Joensuu	13.79	121	eP	Pn	04 34 49.5	-1.1
	comp=Z,3.6nm,0.6s						
FIA0	FINESS Array S	13.82	133	Pn	Pn	04 34 51.3	+0.3
	baz=336,slow=12						
FIA0	FINESS Array S	13.82	133	Pn	Pn	04 34 51.3	+0.3
	baz=336,slow=12						
FIA0	FINESS Array S	13.82	133	Pn	Pn	04 34 51.3	+0.3
	baz=336,slow=12						
FIA0	FINESS Array S	13.82	133	Pn	Pn	04 34 51.3	+0.3
	baz=336,slow=12						
FIA0	FINESS Array S	13.82	133	Pn	Pn	04 34 51.3	+0.3
	baz=336,slow=11,SNR=50						
FINES	FINESS Array B	13.82	133	Pn	Pn	04 34 51.5	+0.5
	comp=Z,0.2nm,0.3s,baz=339,slow=10,SNR=7.6						
FINES				LR	LR	04 39 53.4	
	comp=Z,146nm,18.4s,baz=274,slow=36						
OBN	Obninsk	21.95	126	LR	LR	04 44 46.3	
	comp=Z,108nm,18.8s,baz=92,slow=36						
VRAC	Vranov	24.00	161	LR	LR	04 46 24.5	
	comp=Z,42nm,18.1s,baz=319,slow=37						
GERES	GERESS Array B	24.21	166	P	P	04 36 53.0	+1.1
	comp=Z,0.9nm,0.8s,baz=7.7,slow=11,SNR=6.5						
AKASG	Malin Array Be	24.48	141	LR	LR	04 46 17.1	
	comp=Z,102nm,20.4s,baz=100,slow=36						
RES	Resolute Bay	25.04	322	LR	LR	04 46 34.2	
	comp=Z,56nm,19.9s,baz=116,slow=36						
MLR	Muntele Rosu	28.95	149	LR	LR	04 49 26.4	
	comp=Z,18nm,19.0s,baz=54,slow=37						
AKTO	Aktyubinsk	31.94	105	LR	LR	04 49 53.4	
	comp=Z,42nm,19.1s,slow=34						
ZALV	Zalesovo Beam	36.82	76	LR	LR	04 57 24.7	
	comp=Z,35nm,18.2s,baz=80,slow=42						
GNI	Garni	37.88	127	LR	LR	04 53 07.3	
	comp=Z,35nm,20.4s,baz=306,slow=34						
YKA	Yellowknife Ar	39.09	320	P	P	04 39 00.6	-1.4
	comp=Z,0.1nm,0.7s,baz=19,slow=8.7,SNR=4.0						
ILAR	Eielson Array	41.54	342	P	P	04 39 22.6	+0.3
	comp=Z,0.4nm,0.7s,baz=4.3,slow=5.9,SNR=6.5						
MKAR	Makanchi Array	42.42	84	LR	LR	05 01 30.7	
	comp=Z,14nm,18.6s,baz=278,slow=42						
ULM	Lac du Bonnet	45.95	299	LR	LR	04 59 58.6	
	comp=Z,88nm,18.5s,baz=314,slow=37						
TORD	Torodi Ar. Bea	59.51	184	P	P	04 41 38.6	+0.2
	comp=Z,0.4nm,0.7s,baz=354,slow=6.0,SNR=4.3						

IDC 12 04:33:01.9±5.2,**25°83S×175°82W,h0km,mb3.9**/3, **mb1 4.1**/3,**mb1mx3.7**/23,**mbtmp3.9**/3,**Error ellipse: s-maj=238.2km s-min=56.4km az=157.0,South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	35.30	271	P	P	04 39 58.7	-0.2
	1.6nm,0.4s,baz=82,slow=12,SNR=5.4						
ASAR	Alice Springs	45.49	261	P	P	04 41 24.4	+1.1
	0.4nm,0.4s,baz=88,slow=6.9,SNR=7.5						
WRA	Warramunga Arr	46.08	267	P	P	04 41 26.9	-1.1
	0.6nm,0.5s,baz=108,slow=8.2,SNR=11						
AKASG	Malin Array Be	148.61	329	PKPbc	PKPbc	04 52 49.9	-0.7
	0.4nm,0.5s,baz=44,slow=3.7,SNR=5.1						

DJA 12 04:37:15.7±1.1,**9°S**±9°×**11°7E**±°,**h23km**±13km,**M3.6**/11, **MLv3.6**/11,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	2.09	113	P	Pn	04 37 49.7	+0.3
IGBI	Denpasar	2.27	270	P	Pn	04 37 51.0	-0.8
IGBI				S	Sn	04 38 20.2	+1.2
SRBI	Singaraja	2.32	288	P	Pn	04 37 53.5	+0.9
JAGI	Jajag, Banyuwa	3.27	276	P	Pn	04 38 05.4	-0.2
JAGI				S	Sn	04 38 46.1	+2.2
BLJI	Banyuglugur	3.96	286	P	Pn	04 38 13.8	-1.2
GMJI	Gumukmas	3.99	278	P	Pn	04 38 16.0	+0.5
BKSI	Bulukumba	4.39	38	P	Pn	04 38 20.9	0.0

IDC 12 04:41:39.1±5.3,**54°36S×158°12E,h0km,mb3.8**/3, **mb1 3.9**/3,**mb1mx3.8**/14,**mbtmp3.8**/3,**Error ellipse: s-maj=281.7km s-min=25.9km az=70.0,Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	35.61	320	P	P	04 48 38.9	+0.6
	1.1nm,0.8s,baz=158,slow=8.2,SNR=9.3						
QSPA	South Pole Qui	35.75	180	P	P	04 48 39.4	0.0
	3.0nm,1.1s,baz=258,slow=6.2,SNR=3.5						
H01W1	Cape Leeuwin H	36.10	284	T	T	05 27 20.9	
	baz=135,slow=76,SNR=1274						
H01W2	Cape Leeuwin H	36.11	284	T	T	05 27 22.0	
	baz=135,slow=76,SNR=1129						
H01W3	Cape Leeuwin H	36.12	284	T	T	05 27 22.7	
	baz=135,slow=76,SNR=1382						
WRA	Warramunga Arr	38.85	323	P	P	04 49 05.0	-0.9
	0.5nm,0.8s,baz=156,slow=7.1,SNR=4.9						
H03N3	Juan Fernandez	79.70	135	T	T	06 21 37.7	
	baz=205,slow=74,SNR=295						
H03N2	Juan Fernandez	79.71	135	T	T	06 21 41.8	
	baz=205,slow=74,SNR=255						
H03N1	Juan Fernandez	79.72	135	T	T	06 21 35.0	
	baz=205,slow=74,SNR=288						
H08S2	Diego Garcia H	81.29	269	T	T	06 23 55.5	
	baz=143,slow=76,SNR=327						
H08S1	Diego Garcia H	81.30	269	T	T	06 23 55.9	
	baz=143,slow=76,SNR=50						
H08S3	Diego Garcia H	81.31	269	T	T	06 23 57.0	
	baz=143,slow=76,SNR=270						
H08N1	Diego Garcia H	83.20	269	T	T	06 26 17.4	
	baz=132,slow=76,SNR=580						
H08N3	Diego Garcia H	83.22	269	T	T	06 26 22.8	
	baz=132,slow=76,SNR=232						
H08N2	Diego Garcia H	83.23	269	T	T	06 26 19.1	
	baz=132,slow=76,SNR=662						
TORD	Torodi Ar. Bea	134.90	213	PKP	PKPdf	05 00 59.4	-0.6
	0.2nm,0.6s,baz=132,slow=2.0,SNR=3.0						

ISCJB 12 05:02:46.6±0.9,17°3S±0°4×178°5W±0°2,h500km,mb3.7/9, Error ellipse: s-maj=65.1km s-min=11.9km az=155.7
IDC 12 05:02:48.3±1.5,17°69S×178°12W,h524km±17km,mb3.3/9, mb1 3.6/10,mb1mx3.3/34,mbtmp4.2/10,Error ellipse: s-maj=65.7km s-min=10.7km az=151.0
ISC 12 05:02:46.9±1.1,**17°4S**±0°5×**178°3W**±0°2,**h500km,n14, σ1s43**/18,**mb3.5**/9,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.21	62	P	P	05 04 36.1	+0.7
	6.3nm,0.3s,baz=247,slow=3.6,SNR=5.7						
AFI				S	S	05 06 05.0	+0.8
	2.3nm,0.3s,baz=233,slow=20,SNR=2.6						
CTA	Charters Tower	33.60	260	P	P	05 08 47.8	+2.4
	3.8nm,0.5s,baz=104,slow=10,SNR=4.8						
STKA	Stephens Creek	38.93	241	P	P	05 09 29.4	+0.1
	2.8nm,0.5s,baz=95,slow=8.9,SNR=9.9						
WRA	Warramunga Arr	44.80	259	P	P	05 10 16.4	+0.6
	1.8nm,0.5s,baz=97,slow=6.9,SNR=39						
WRA				PcP	PcP	05 11 45.9	-1.5
	0.4nm,0.6s,baz=103,slow=2.8,SNR=3.6						
ASAR	Alice Springs	45.00	254	P	P	05 10 18.1	+0.6
	11nm,0.5s,baz=88,slow=8.8,SNR=102						
ASAR				PcP	PcP	05 11 46.9	-1.2
	0.5nm,0.4s,baz=98,slow=3.7,SNR=4.7						
ASAR				S	S	05 16 17.7	-1.5
	0.1nm,0.3s,baz=85,slow=15,SNR=5.6						
NVAR	Mina Array Bea	79.03	44	P	P	05 13 59.2	+0.1
	0.7nm,0.6s,baz=225,slow=9.4,SNR=7.7						
ILAR	Eielson Array	85.40	13	P	P	05 14 30.6	0.0
	0.3nm,0.4s,baz=221,slow=5.4,SNR=17						
TXAR	Lajitas Array	85.67	58	P	P	05 14 32.6	-0.2
	0.9nm,0.8s,baz=216,slow=6.2,SNR=11						
PDAR	Pinedale Array	86.95	43	P	P	05 14 37.8	-1.0
	0.5nm,0.7s,baz=236,slow=3.9,SNR=4.5						
YKA	Yellowknife Ar	93.86	25	P	P	05 15 09.4	-0.5
	0.2nm,0.6s,baz=244,slow=4.4,SNR=5.5						
MKAR	Makanchi Array	108.86	314	PKiKP	PKiKP	05 20 16.3	-2.7
	0.2nm,0.5s,baz=26,slow=0.5,SNR=6.4						
ARCES	ARCESS Array B	125.86	350	PKP	PKPdf	05 20 49.6	-1.3
	4.6nm,1.1s,baz=48,slow=1.3,SNR=4.9						
BRTR	Keskin Array B	144.50	315	PKP	PKPdf	05 21 26.2	-0.2
	1.5nm,0.8s,baz=126,slow=3.2,SNR=7.5						
GERES	GERESS Array B	147.17	345	PKPbc	PKPdf	05 21 33.2	+2.6
	0.8nm,0.5s,baz=26,slow=3.5,SNR=10						

IDC 12 05:04:12.9±4.8,10°40S×113°44E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.4/36,mbtmp3.6/4,MS3.9/1,Ms1 3.9/1, ms1mx2.8/25,Error ellipse: s-maj=266.5km s-min=23.3km az=46.0
ISCJB 12 05:04:19.6±0.8,10°17S±0°06×113°73E±0°04,h60km±12km, mb3.6/4,Error ellipse: s-maj=9.8km s-min=6.6km az=9.2
DJA 12 05:04:21.1±0.5,10°S±5°×11°4E±°,h13km,M4.3/21, mb4.5/4,mB5.2/4,MLv4.0/21,Mw(mB)4.7/4
ISC 12 05:04:20.0±1.2,**10°19S**±0°07×**113°79E**±0°06,**h45km**±19km, **n28,σ1s18**/31,**mb3.5**/4,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.75	12	P	Pn	05 04 48.0	0.0
JAGI	Jajag, Banyuwa	1.75	12	P	Pn	05 04 47.7	-0.3
	baz=1.5,SNR=81						
JAGI				S	Sn	05 05 08.0	-1.1
	baz=1.5,SNR=5.5						
IGBI	Denpasar	1.92	45	P	Pn	05 04 49.8	-0.4
GMJI	Gumukmas	1.94	350	P	Pn	05 04 50.9	+0.4
GMJI				S	Sn	05 05 12.2	-1.5
DNP	Denpasar	2.06	43	P	Pn	05 04 52.8	+0.6
ABJI	Asem Bagus	2.42	11	P	Pn	05 04 58.7	+1.5
BLJI	Banyuglugur	2.44	356	P	Pn	05 04 58.3	+0.9
SRBI	Singaraja	2.52	34	P	Pn	05 04 59.2	+0.6
PWJI	Pagerwojo	2.91	318	P	Pn	05 05 04.6	+0.7
KMMI	Kalianget	3.13	3	P	Pn	05 05 08.5	+1.6
PCJI	Pacitan	3.25	307	P	Pn	05 05 09.1	+0.5
PCJI				S	Sn	05 05 44.6	-1.5
NGJI	Ngawi	3.63	321	P	Pn	05 05 17.7	+4.0
WOJI	Wonogiri, Jawa	3.67	309	P	Pn	05 05 15.6	+1.3
WOJI				S	Sn	05 05 57.4	+1.0
UGM	Wanagama	3.94	305	P	Pn	05 05 19.6	+1.6
UGM				S	Sn	05 06 01.3	-1.8
UGM	Wanagama	3.94	305	P	Pn	05 05 19.1	+1.1
	baz=4.1,SNR=31						
KPJI	Karang Pucung	5.58	300	P	Pn	05 05 43.5	+3.0
	26nm,0.7s,2µm0.1nm						
CMJI	Cimerak	5.79	294	P	Pn	05 05 43.8	+0.4
	27nm,1.1s,1µm0.2nm						
CNJI	Cibinong	7.18	293	P	Pn	05 06 03.8	+1.3
	36nm,1.4s,2µm0.2nm						
XMIS	Christmas Isla	8.01	267	P	Pn	05 06 13.2	-0.7
	baz=8.3,SNR=4.5						
XMIS				S	Sn	05 07 32.9	-10
	baz=8.3,SNR=5.6						
CGJI	Cibinong	8.76	293	P	Pn	05 06 24.8	+0.6
MNAI	Manna	12.20	298	P	Pn	05 07 11.1	-0.3
	baz=12,SNR=4.1						
GIRL	Giralia	12.39	178	P	Pn	05 07 13.6	-0.1
	baz=13,SNR=4.2						
MEEK	Meekatharra	16.98	165	P	P	05 08 15.5	-0.3
	baz=17,SNR=4.5						
WRA	Warramunga Arr	22.06	118	P	P	05 09 12.2	+0.9
	0.8nm,0.5s,baz=290,slow=12,SNR=5.6						
ASAR	Alice Springs	23.41	127	P	P	05 09 25.0	-0.2
	0.6nm,0.6s,baz=309,slow=9.7,SNR=5.1						
SONM	Songino Array	58.14	354	LR	LR	05 39 48.8	
	comp=Z,93nm,19.4s,baz=191,slow=37						
MKAR	Makanchi Array	63.32	336	P	P	05 14 43.2	-1.3
	0.2nm,0.4s,baz=146,slow=7.2,SNR=6.7						
ZALV	Zalesovo Beam	68.45	342	P	P	05 15 17.9	+0.7
	0.7nm,0.3s,baz=151,slow=6.6,SNR=2.5						

IDC 12 06:23:13.4±2.5,**6°67S×127°68E,h0km,mb3.4**/1, **mb1 3.6**/3,**mb1mx3.4**/31,**mbtmp3.4**/3,**ML3.6**/2,**Error ellipse: s-maj=311.0km s-min=30.7km az=65.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.69	155	Pn	Pn	06 26 43.3	+0.5
	0.2nm,0.3s,baz=332,slow=12,SNR=8.3						
WRA				Sn	Sn	06 29 14.6	-12
	0.5nm,0.3s,baz=330,slow=23,SNR=7.1						
ASAR	Alice Springs	17.93	161	P	Pn	06 27 24.0	-0.4
	0.3nm,0.3s,baz=341,slow=11,SNR=23						
ASAR				S	Sn	06 30 34.7	-10
	0.1nm,0.3s,baz=348,slow=26,SNR=2.8						
MKAR	Makanchi Array	66.70	328	P	P	06 34 06.4	0.0
	0.3nm,0.5s,baz=117,slow=7.5,SNR=6.8						

IDC 12 06:31:32.9±2.5,8°01N×103°60W,h0km,mb3.7/7, mb1 4.1/7,mb1mx3.9/33,mbtmp3.7/7,MS3.8/17, Ms1 3.8/17,ms1mx3.7/29,Error ellipse: s-maj=109.1km s-min=25.8km az=57.0
ISCJB 12 06:31:36.5±2.0,8°1N±0°3×103°5W±0°5,h33km,mb3.7/7, MS3.8/13,Error ellipse: s-maj=85.9km s-min=19.8km az=147.8
ISC 12 06:31:38.9±2.4,**8°2N**±0°4×**103°4W**±0°6,**h35km,n27, σ0s86**/7,**mb3.7**/7,**MS3.8**/13,**Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H06E1	SOCORRO T-PHAS	12.86	326	T	T	06 47 42.4	
	SNR=21						
APG	El Apazote	14.35	61	LR	LR	06 39 03.5	
	comp=Z,626nm,21.5s,baz=262,slow=31						
LPIG	La Paz	17.20	338	LR	LR	06 40 35.6	
	comp=Z,320nm,20.7s,baz=160,slow=32						
JTS	JuntasAbangare	18.30	82	LR	LR	06 40 41.3	
	comp=Z,206nm,20.7s,baz=260,slow=30						
TEIG	Tepich	18.90	49	LR	LR	06 42 03.9	
	comp=Z,383nm,20.9s,baz=121,slow=33						
TXAR	Lajitas Array	21.07	359	P	P	06 36 20.7	+0.4
	1.9nm,1.1s,baz=183,slow=8.7,SNR=7.7						
TXAR				LR	LR	06 43 50.7	
	comp=Z,345nm,18.4s,baz=0.0,slow=35						
ANMO	Albuquerque	26.82	354	LR	LR	06 46 21.9	
	comp=Z,108nm,20.6s,baz=177,slow=33						
ATAH	Atahualpa	29.16	121	LR	LR	06 46 52.2	
	comp=Z,247nm,20.7s,baz=296,slow=31						
NVAR	Mina Array Bea	33.02	338	P	P	06 38 12.2	+1.1
	0.3nm,0.6s,baz=148,slow=7.8,SNR=2.9						
NVAR				LR	LR	06 49 14.2	
	comp=Z,156nm,21.1s,baz=208,slow=32						
PDAR	Pinedale Array	34.90	352	P	P	06 38 27.9	+0.5
	1.2nm,1.0s,baz=159,slow=7.7,SNR=5.2						
ULM	Lac du Bonnet	42.42	7	LR	LR	06 56 37.2	
	comp=Z,148nm,18.4s,baz=216,slow=35						
LPAZ	La Paz	42.50	125	P	P	06 39 32.1	+0.2
	1.5nm,0.9s,baz=324,slow=9.3,SNR=5.2						
LPAZ				LR	LR	06 55 25.1	
	comp=Z,70nm,19.6s,baz=309,slow=34						
RKT	Rikitea	43.84	224	eLR	LR	06 51 40.6	
	292nm,28.2s						
RKT	Rikitea	43.84	224	eT	T	07 26 42.7	
	6.7nm,0.3s						
H03N2	Juan Fernandez	47.44	152	T	T	07 31 03.6	
	baz=328,slow=75,SNR=62						
H03N1	Juan Fernandez	47.45	152	T	T	07 31 03.1	
	baz=328,slow=75,SNR=73						
H03N3	Juan Fernandez	47.45	152	T	T	07 31 03.2	
	baz=328,slow=75,SNR=61						
PPT	Papeete	52.31	240	LR	LR	06 58 29.9	
	comp=Z,78nm,18.0s,baz=102,slow=31						
PPT2	Papeete2	52.32	240	eLR	LR	06 55 35.9	
	173nm,25.5s						
YKA	Yellowknife Ar	54.86	354	P	P	06 41 04.7	-0.7
	0.3nm,0.6s,baz=163,slow=7.2,SNR=7.6						
SCHQ	Schefferville	54.89	25	LR	LR	07 04 22.5	
	comp=Z,108nm,21.6s,baz=320,slow=36						
PLCA	Paso Flores	57.27	151	LR	LR	07 01 10.0	
	comp=Z,67nm,20.5s,baz=154,slow=31						
INK	Inuvik	63.32	348	P	P	06 42 03.3	-0.6
	2.9nm,1.1s,baz=163,slow=6.9,SNR=4.5						
ILAR	Eielson Array	64.22	341	P	P	06 42 09.3	-0.6
	1.4nm,0.8s,baz=154,slow=4.0,SNR=18						
ILAR				LR	LR	07 09 45.7	
	comp=Z,77nm,18.3s,baz=154,slow=36						
SPITS	Spitsbergen Ar	87.90	10	LR	LR	07 24 10.8	
	comp=Z,46nm,19.1s,baz=330,slow=36						
NOA	NORSAR Array B	94.44	26	LR	LR	07 25 30.6	
	comp=Z,28nm,21.2s,baz=270,slow=34						
ARCES	ARCESS Array B	94.97	16	LR	LR	07 27 11.3	
	comp=Z,63nm,21.6s,baz=344,slow=35						

IDC 12 06:38:47.9±1.3,**4°16S×152°92E,h0km,mb3.4**/3, **mb1 3.7**/3,**mb1mx3.4**/28,**mbtmp3.4**/3,**Error ellipse: s-maj=88.7km s-min=28.0km az=129.0,New Britain**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res
WRA	Warramunga Arr	23.95	228	P	P	06 44 04.7	+0.5
	0.5nm,0.4s,baz=53,slow=9.8,SNR=13						
ASAR	Alice Springs	26.70	222	P	P	06 44 28.6	-0.5
	0.4nm,0.7s,baz=57,slow=9.4,SNR=4.7						
ILAR	Eielson Array	81.53	22	P	P	06 51 07.0	-0.1
	0.4nm,0.8s,baz=244,slow=4.2,SNR=5.7						
TORD	Torodi Ar. Bea	150.21	289	PKPbc	PKPbc	06 58 41.4	-0.6
	0.3nm,0.3s,baz=90,slow=1.9,SNR=4.7						
BDFB	Brasilia	151.43	134	PKPbc	PKPbc	06 58 45.0	0.0
	0.8nm,0.4s,baz=224,slow=6.0,SNR=3.3						

IDC 12 06:38:54.1±0.9, 52.53N×168.06W, h0km, mb3.8/16, mb1 4.0/17, mb1mx3.8/48, mbtmp3.8/17, ML3.7/1, MS3.6/3, Ms1 3.6/3, ms1mx2.9/47, Error ellipse: s-maj=22.5km s-min=16.4km az=177.0

ISCJB 12 06:38:56.2±0.6, 52.30N±0.05×167.81W±0.07, h31km, mb3.8/17, MS3.8/2, Error ellipse: s-maj=7.7km s-min=5.8km az=145.7

NEIC 12 06:38:56.9, 52.41N×167.77W, h11km, ML3.4(AEIC), After AEIC.

ISC 12 06:38:58.7±0.8, 52.47N±0.08×167.82W±0.05, h31km, n44, σ1.20/41, mb3.7/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.81	309	P	Pn	06 39 13.3	-0.6
NIKH				S	Sb	06 39 26.5	+1.7
OKFG	Magazine Ridge	0.94	357	P	Pn	06 39 15.6	-0.2
OKFG				S	Sb	06 39 31.7	+3.0
MREP	Makushin Rep't	1.49	25	P	Pn	06 39 23.8	+0.4
MSW	Makushin Switc	1.57	23	P	Pn	06 39 24.5	0.0
MSW				S	Sb	06 39 45.5	-1.2
MCIR	Makushin Cirqu	1.58	20	P	Pn	06 39 25.4	+0.7
UNV	Unalaska Valle	1.59	29	P	Pn	06 39 24.4	-0.2
ZRO	Akutan Zero	1.96	34	P	Pn	06 39 30.7	+0.9
AKRB	Akutan Reef Bi	1.97	32	P	Pn	06 39 30.6	+0.8
AKRB				S	Sb	06 39 56.6	-1.3
AHB	Akutan Harbor	2.04	35	P	Pn	06 39 30.5	-0.4
AKUT	Akutan	2.07	36	ePn	Pn	06 39 32.2	+0.9
AKSA	Akutan Strait	2.10	37	P	Pn	06 39 31.5	-0.1
WESN	West Dahl Nort	2.85	41	P	Pn	06 39 42.7	+0.6
SSLN	Shishaldin Nor	3.27	43	P	Pn	06 39 49.0	+1.2
DTNA	Dutton South F	4.25	49	P	Pn	06 40 02.0	+0.7
SPIA	Saint Paul Isl	4.92	344	P	Pn	06 40 12.1	+1.7
SDPT	Sand Point	5.21	53	P	Pn	06 40 15.3	+0.9
ADK	Adak	5.49	267	P	Pn	06 40 19.2	+1.1
ILAR	Eielson Array	16.34	33	Pn	Pn	06 42 44.5	-1.0
	0.1nm,0.3s,baz=240,slow=9.6,SNR=10.0						
ILAR				LR	LR	06 49 08.9	
	comp=Z,107nm,21.2s,baz=213,slow=38						
PETK	Petropavlovsk-	20.75	286	P	P	06 43 35.1	-1.5
	2.9nm,0.6s,baz=97,slow=12,SNR=3.8						
INK	Inuvik	22.74	33	P	P	06 43 55.7	-2.1
	2.6nm,0.7s,baz=220,slow=10,SNR=10						
SEY	Seymchan	23.30	312	P	P	06 44 03.5	0.0
	0.9nm,0.3s,baz=94,slow=7.0,SNR=5.3						
YKA	Yellowknife Ar	29.46	49	P	P	06 45 00.6	+1.3
	0.1nm,0.4s,baz=274,slow=8.2,SNR=8.4						
NVAR	Mina Array Bea	36.72	92	P	P	06 46 05.6	+2.6
	0.3nm,0.6s,baz=300,slow=9.0,SNR=2.8						
H11N2	WAKE ISLAND Hy	38.14	221	T	T	07 27 20.7	
	baz=26,slow=76,SNR=7.0						
H11N3	WAKE ISLAND Hy	38.14	221	T	T	07 27 24.0	
	baz=26,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	38.16	221	T	T	07 27 24.9	
	baz=26,slow=76,SNR=7.8						
H11S1	WAKE ISLAND Hy	39.32	220	T	T	07 29 11.5	
	baz=24,slow=74						
H11S2	WAKE ISLAND Hy	39.33	220	T	T	07 29 03.4	
	baz=24,slow=74						
H11S3	WAKE ISLAND Hy	39.34	220	T	T	07 28 54.0	
	baz=24						
PDAR	Pinedale Array	39.45	80	P	P	06 46 27.0	+0.9
	0.4nm,0.8s,baz=284,slow=3.6,SNR=3.5						
TXAR	Lajitas Array	51.80	90	P	P	06 48 03.9	+0.3
	0.4nm,0.7s,baz=309,slow=4.4,SNR=4.0						
ARCES	ARCESS Array B	57.92	355	P	P	06 48 45.5	-1.7
	3.0nm,1.0s,baz=15,slow=7.5,SNR=4.0						
JOF	Joensuu	63.97	350	ep	P	06 49 26.2	-2.1
	2.7nm,0.6s						
MKAR	Makanchi Array	64.42	314	P	P	06 49 31.1	-0.5
	0.4nm,0.7s,baz=32,slow=6.2,SNR=3.9						
KAF	Kangasniemi	65.21	353	ep	P	06 49 35.2	-1.2
	5.7nm,0.5s						
FINES	FINESS Array B	65.89	353	P	P	06 49 40.2	-0.6
	4.0nm,0.6s,baz=18,slow=6.8,SNR=18						
NB2	NORSAR Subarra	66.84	1	P	P	06 49 46.4	-0.6
	comp=Z,0.7nm,0.6s,baz=355,slow=6.2						
NOA	NORSAR Array B	66.84	1	P	P	06 49 46.7	-0.3
	comp=Z,1.4nm,0.7s,baz=0.0,slow=6.3,SNR=6.1						
HNR	Honiara	67.56	215	LR	LR	07 19 49.8	
	comp=Z,61nm,18.3s,baz=348,slow=36						
AKASG	Malin Array Be	76.20	349	P	P	06 50 42.9	-0.6
	comp=Z,3.3nm,0.6s,baz=15,slow=5.9,SNR=9.4						
GERES	GERESS Array B	79.05	359	P	P	06 51 00.2	+0.7
	comp=Z,0.7nm,0.8s,baz=354,slow=4.2,SNR=4.3						
GERES				LR	LR	07 25 56.4	
	comp=Z,35nm,21.3s,baz=319,slow=36						
BRTR	Keskin Array B	86.30	344	P	P	06 51 38.3	+0.8
	comp=Z,1.0nm,0.9s,baz=38,slow=6.3,SNR=3.6						
WRA	Warramunga Arr	87.82	233	P	P	06 51 44.4	-0.3
	comp=Z,0.2nm,0.6s,baz=34,slow=6.3,SNR=3.3						
ASAR	Alice Springs	91.19	231	P	P	06 51 59.4	-1.1
	comp=Z,0.1nm,0.3s,baz=26,slow=4.5,SNR=3.0						

MAN 12 06:42:40, 9.62N×126.06E, h36km, mb4.4, ML3.2, MS3.1, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.59	286	⇓eP	Pn	06 42 52.6	+0.7
SCPH				eS	Sn	06 43 03.6	+3.3
BUTP	Butuan	0.78	214	eP	Pn	06 42 54.1	-0.3
BUTP				eS	Sn	06 43 07.2	+2.3
MSLP	Maasin	1.29	294	eP	Pn	06 43 02.9	+1.5
CGP	Cagayan de Oro	1.77	230	⇓iP	Pn	06 43 08.9	+0.7
CGP				iS	Sn	06 43 30.7	+1.2
PLP	Palo	1.87	325	⇓eP	Pn	06 43 11.4	+1.9
PLP				eS	Sn	06 43 32.9	+1.0
BUKP	Musuan	1.99	210	eP	Pn	06 43 13.8	+2.6
PAGZ	Pagadian	3.18	237	eP	Pn	06 43 29.6	+2.2

CSEM 12 06:46:22.2, 38.14N×15.15E, h7km, ML2.9/10, After ROM

ROM 12 06:46:22.2±0.1, 38.14N×15.15E, h7km±1km, Ml2.9/10, Error ellipse: s-maj=1.6km s-min=1.4km az=147.0, Sicily

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MILZ	Milazzo	0.15	25	Pg	Pg	06 46 25.9	+0.6
MILZ				Sg	Sg	06 46 28.7	+1.3
MILZ	Milazzo	0.15	25	Pg	Pg	06 46 25.9	+0.6
MILZ				Sg	Sg	06 46 28.7	+1.3
MMME	Mongiuffi-Meli	0.22	158	Pg	Pg	06 46 27.1	+0.4
MMME				Sg	Sg	06 46 30.9	+1.2
	3µm,0.6s						
MMME	Mongiuffi-Meli	0.22	158	Pg	Pg	06 46 27.1	+0.4
MMME				Sg	Sg	06 46 30.9	+1.2
	3µm,0.6s						
MSRU	Castanea	0.31	66	Pg	Pg	06 46 29.0	+0.7
MSRU				Sg	Sb	06 46 34.1	-1.2
	3µm,0.6s						
MSRU	Castanea	0.31	66	Pg	Pg	06 46 29.0	+0.7
MSRU				Sg	Sb	06 46 34.1	-1.2
	3µm,0.6s						
LLI	Lipari	0.35	332	Pg	Pb	06 46 31.1	+0.4
LLI	Lipari	0.35	332	Pg	Pb	06 46 31.1	+0.4
MTTG	Motta San Giov	0.45	107	Pg	Pg	06 46 31.3	+0.3
MTTG				Sg	Sb	06 46 39.2	-0.2
	1µm,0.5s						
MTTG	Motta San Giov	0.45	107	Pg	Pg	06 46 31.3	+0.3
MTTG				Sg	Sb	06 46 39.2	-0.2
	1µm,0.5s						
CEL	Celeste	0.60	78	Pg	Pg	06 46 34.2	+0.4
CEL				Sg	Sb	06 46 43.3	-0.4
	426nm,0.4s						
CEL	Celeste	0.60	78	Pg	Pg	06 46 34.2	+0.4
CEL				Sg	Sb	06 46 43.3	-0.4
	426nm,0.4s						
GALF	Gagliano Caste	0.63	228	Pg	Pb	06 46 35.4	-0.2
GALF	Gagliano Caste	0.63	228	Pg	Pb	06 46 35.4	-0.2
SOI	Samo	0.71	95	Pg	Pg	06 46 35.7	-0.3
SOI				Sg	Sb	06 46 47.2	+0.2
	240nm,0.4s						
SOI	Samo	0.71	95	Pg	Pg	06 46 35.7	-0.3
SOI				Sg	Sb	06 46 47.2	+0.2
	240nm,0.4s						
IACL	Alicudi	0.74	303	Pg	Pg	06 46 36.1	-0.4
	1µm,0.4s						
IACL	Alicudi	0.74	303	Pg	Pg	06 46 36.1	-0.4
	1µm,0.4s						
PLLN	Pollina	0.81	260	Pg	Pg	06 46 37.5	-0.4
PLLN				Sg	Sb	06 46 49.7	-0.2
	177nm,0.2s						
PLLN	Pollina	0.81	260	Pg	Pg	06 46 37.5	-0.4
PLLN				Sg	Sb	06 46 49.7	-0.2
	177nm,0.2s						
HCRL	Carlentini	0.86	186	Pg	Pg	06 46 39.0	+0.3
HCRL	Carlentini	0.86	186	Pg	Pg	06 46 39.0	+0.3
AGST	Augusta-Monte	0.88	176	Pg	Pb	06 46 39.7	-0.1
AGST	Augusta-Monte	0.88	176	Pg	Pb	06 46 39.7	-0.1
CSLB	Castelbuono	0.89	257	Pg	Pg	06 46 38.6	-0.7
	103nm,0.2s						
CSLB	Castelbuono	0.89	257	Pg	Pg	06 46 38.6	-0.7
	103nm,0.2s						
GIB	Gibilmanna	0.90	261	Pg	Pg	06 46 39.0	-0.7
	423nm,0.4s						
GIB	Gibilmanna	0.90	261	Pg	Pg	06 46 39.0	-0.7
	423nm,0.5s						
RESU	Resuttano	1.00	241	Pg	Pb	06 46 42.2	+0.3
	304nm,0.8s						
RESU	Resuttano	1.00	241	Pg	Pb	06 46 42.2	+0.3
	304nm,0.8s						
HVZN	Vizzini	1.02	200	Pg	Pg	06 46 41.9	0.0
	311nm,0.4s						
HVZN	Vizzini	1.02	200	Pg	Pg	06 46 41.9	0.0
	311nm,0.4s						
ALJA	Alia	1.17	251	Pg	Pg	06 46 44.5	-0.3
	125nm,0.5s						
ALJA	Alia	1.17	251	Pg	Pg	06 46 44.5	-0.3
	125nm,0.5s						

CSEM 12 06:48:44.2±0.1, 45.79N×14.20E, h10km, ML3.1/21, Error ellipse: s-maj=2.0km s-min=1.2km az=18.0

ROM 12 06:48:44.2±0.8, 45.74N×14.18E, h9km, Ml2.5/7, Error ellipse: s-maj=9.0km s-min=5.5km az=126.0

VIE 12 06:48:44.3±0.1, 45.82N×14.19E, h8km±2km, mb2.1/8, ML2.6/8, Error ellipse: s-maj=1.2km s-min=0.8km az=2.0 24 km SSE of Idrija

LJU 12 06:48:43.9, 45.78N×14.22E, h15km, ML2.3, 25C-30D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CEY	Cerknica	0.15	106	⇑iPg	Pb	06 48 48.2	-0.3
CEY				iSg	Sb	06 48 51.4	-0.2
	comp=Z,193nm,0.1s						
CEY	Cerknica	0.15	106	⇑iPg	Pg	06 48 48.2	+0.3
CEY				iSg	Sb	06 48 51.4	-0.2
	comp=Z,193nm,0.1s						
JAVS	Javornik	0.16	316	⇑iPg	Pg	06 48 48.2	+0.1
JAVS				iSg	Sg	06 48 51.1	+0.3
	comp=Z,556nm,0.1s						
JAVS	Javornik	0.16	316	⇑iPg	Pg	06 48 48.2	+0.1
JAVS				iSg	Sg	06 48 51.1	+0.3
	comp=Z,556nm,0.1s						
SKDS	Skadanscina	0.27	212	⇓iPg	Pg	06 48 49.7	-0.1
SKDS				iSg	Sg	06 48 54.2	+0.4
	comp=Z,193nm,0.1s						
SKDS	Skadanscina	0.27	212	⇓iPg	Pg	06 48 49.7	-0.1
SKDS				iSg	Sg	06 48 54.2	+0.3
	comp=Z,193nm,0.1s						
KNDS	Knezji Dol	0.28	156	⇑iPg	Pg	06 48 49.9	0.0
KNDS				iSg	Sg	06 48 54.6	+0.6
KNDS	Knezji Dol	0.28	156	⇑iPg	Pg	06 48 49.9	0.0
KNDS				iSg	Sg	06 48 54.6	+0.5
CRNS	Crni Vrh	0.30	6	⇓iPg	Pg	06 48 50.7	+0.3
CRNS				iSg	Sb	06 48 55.4	-0.6
	comp=Z,47nm,0.1s						
TRI	Trieste	0.33	258	⇑ePg	Pg	06 48 50.5	-0.1
TRI				eSg	Sg	06 48 55.5	+0.2
TRI	Trieste	0.33	258	Pg	Pg	06 48 50.5	-0.2
TRI				Sg	Sg	06 48 55.6	+0.3
	comp=Z,341nm,0.1s						
TRI	Trieste	0.33	258	eP	Pg	06 48 50.5	-0.2
TRI				eSg	Sg	06 48 55.5	+0.2
LJU	Ljubljana	0.34	39	⇓iPg	Pb	06 48 51.9	+0.1
LJU				eSg	Sb	06 48 56.8	-0.2
	comp=Z,113nm,0.1s						
LJU	Ljubljana	0.34	39	⇓iPg	Pb	06 48 51.9	+0.2
LJU				eSg	Sb	06 48 57.4	+0.4
	comp=Z,113nm,0.1s						
VOJS	Vojsko	0.34	317	⇑iPg	Pg	06 48 51.2	0.0
VOJS				iSg	Sg	06 48 56.6	+0.5
VOJS	Vojsko	0.34	317	⇑iPg	Pg	06 48 51.2	+0.1
VOJS				iSg	Sg	06 48 56.6	+0.5
VISS	Visnje	0.43	87	⇑iPg	Pb	06 48 53.1	-0.2
VISS				iSg	Sb	06 48 59.1	+0.5
	comp=Z,135nm,0.1s						
VISS	Visnje	0.43	87	⇑iPg	Pb	06 48 53.1	-0.2
VISS				iSg	Sg	06 48 59.1	+0.5
	comp=Z,135nm,0.1s						
VNDS	Vrh nad Dolski	0.47	46	⇓iPg	Pg	06 48 54.0	+0.1
VNDS				iSg	Sb	06 49 00.2	-0.5
	comp=Z,71nm,0.2s						
SABO	M.te Sabotino	0.48	295	⇑ePg	Pg	06 48 53.1	-0.4
SABO				eSg	Sg	06 48 59.9	0.0
SABO	M.te Sabotino	0.48	295	eP	Pg	06 48 53.1	-0.4
SABO				eSg	Sg	06 48 59.9	-0.1
GBRS	Gornja Briga	0.48	121	iPg	Pg	06 48 53.7	+0.1
GBRS				iSg	Sb	06 49 01.4	+0.2
	comp=Z,63nm,0.1s						
MOZS	Mozjanca	0.54	17	⇓iPg	Pb	06 48 55.4	+0.2
MOZS				iSg	Sb	06 49 03.5	+0.8
	comp=Z,50nm,0.1s						
MOZS	Mozjanca	0.54	17	⇓iPg	Pb	06 48 55.4	+0.3
MOZS				iSg	Sb	06 49 03.5	+0.7
	comp=Z,50nm,0.1s						
GORS	Gorjuse	0.56	344	iPg	Pg	06 48 55.2	+0.1
GORS				iSg	Sb	06 49 04.1	+0.6
	comp=Z,36nm,0.1s						
GORS	Gorjuse	0.56	344	iPg	Pg	06 48 55.2	+0.1
GORS				iSg	Sb	06 49 04.1	+0.6
	comp=Z,36nm,0.1s						
CADS	Cadrg	0.56	323	⇑iPg	Pg	06 48 54.6	-0.4
CADS				iSg	Sb	06 49 03.4	0.0
	comp=Z,48nm,0.1s						
CADS	Cadrg	0.56	323	⇑iPg	Pg	06 48 54.6	-0.5
CADS				iSg	Sb	06 49 03.4	0.0
	comp=Z,48nm,0.1s						
DRE	Drenchia	0.56	315	⇑ePg	Pg	06 48 54.6	-0.5
DRE				eSg	Sb	06 49 03.2	-0.2
DRE	Drenchia	0.56	315	eP	Pg	06 48 54.6	-0.5
DRE				eSg	Sb	06 49 03.2	-0.3
PDKS	Podkum	0.61	62	iPg	Pb	06 48 56.8	+0.4
PDKS				iSg	Sb	06 49 05.4	+0.5
	comp=Z,90nm,0.2s						
PDKS	Podkum	0.61	62	iPg	Pb	06 48 56.8	+0.4
PDKS				iSg	Sb	06 49 05.4	+0.5
	comp=Z,90nm,0.2s						
ROBS	Robic	0.68	313	iPg	Pg	06 48 56.7	-0.5
ROBS				iSg	Sb	06 49 07.2	+0.5
ROBS	Robic	0.68	313	iPg	Pg	06 48 56.7	-0.5
ROBS				iSg	Sb	06 49 07.2	+0.5
COLI	Coloredo	0.69	301	⇓ePg	Pg	06 48 57.1	-0.2
COLI				eSg	Sb	06 49 07.4	+0.5
COLI	Coloredo	0.69	301	eP	Pg	06 48 57.1	-0.2
COLI				eSg	Sb	06 49 07.4	+0.5
OBKA	Obir	0.77	17	ePg	Pb	06 48 59.0	0.0
	SNR=22						
OBKA				⇑iSg	Sg	06 49 09.1	-0.1
	comp=Z,50nm,0.2s						
OBKA	Obir	0.77	17	Pg	Pg	06 48 59.0	0.0
	SNR=22						
OBKA				Sg	Sg	06 49 09.1	-0.1
	comp=Z,50nm,0.2s						
BOJS	Bojanci	0.78	110	iPg	Pg	06 48 59.0	0.0
BOJS				iSg	Sb	06 49 10.3	+0.8
	comp=Z,16nm,0.1s						
BOJS	Bojanci	0.78	110	iPg	Pg	06 48 59.0	0.0
BOJS				iSg	Sb	06 49 10.3	+0.8
	comp=Z,16nm,0.1s						
LEGS	Legarje	0.79	77	⇓iPg	Pb	06 48 59.7	+0.4
LEGS				iSg	Sb	06 49 09.9	+0.1
LEGS	Legarje	0.79	77	⇓iPg	Pb	06 48 59.7	+0.4
LEGS				iSg	Sb	06 49 09.9	+0.1
VINO	Villanova	0.81	306	⇓ePg	Pb	06 48 59.1	-0.6
VINO				eSg	Sb	06 49 11.1	+0.6
VINO	Villanova	0.81	306	Pg	Pb	06 48 59.1	-0.6
VINO				Sg	Sb	06 49 11.2	+0.7
	comp=Z,56nm,0.2s						
VINO	Villanova	0.81	306	eP	Pg	06 48 59.1	-0.6
VINO				eSg	Sb	06 49 11.1	+0.6
BAD	Bernadia	0.82	304	⇓ePg	Pg	06 48 59.4	-0.5
BAD				eSg	Sn	06 49 12.0	-0.9
BAD	Bernadia	0.82	304	eP	Pg	06 48 59.4	-0.5
BAD				eSg	Sn	06 49 12.0	-0.9
LSR	Lussari	0.85	326	⇓ePg	Pb	06 48 60.0	-0.6
LSR				eSg	Sn	06 49 13.6	-0.3
LSR	Lussari	0.85	326	eP	Pb	06 49 00.0	-0.6
LSR				eSg	Sn	06 49 13.6	-0.3
CRES	Cresnjev	0.87	87	⇓iPg	Pg	06 49 01.1	+0.3
CRES				iSg	Sb	06 49 12.1	-0.1
	comp=Z,97nm,0.3s						
CRES	Cresnjev	0.87	87	⇓iPg	Pg	06 49 01.1	+0.3
CRES				iSg	Sb	06 49 12.1	-0.1
	comp=Z,97nm,0.3s						
CESS	Cesta pri Krsk	0.89	77	iPg	Pn	06 49 02.1	+0.2
CESS				iSg	Sg	06 49 13.1	+0.2
CESS	Cesta pri Krsk	0.89	77	iPg	Pn	06 49 02.1	+0.2
CESS				iSg	Sg	06 49 13.1	+0.2
GEPF	Gemona	0.90	304	Pg	Pb	06 49 01.0	-0.2
	comp=Z,31nm,0.2s						
GEPF	Gemona	0.90	304	Pg	Pb	06 49 01.0	-0.2
	comp=Z,31nm,0.2s						
ACOM	Acomizza, Ital	0.91	328	ePg	Pb	06 49 01.1	-0.6
ACOM	Acomizza, Ital	0.91	328	Pg	Pb	06 49 01.2	-0.5
ACOM	Acomizza, Ital	0.91	328	Pg	Pb	06 49 01.2	-0.5
MYKA	Terra Mystica	0.94	335	⇓ePg	Pb	06 49 01.6	-0.4
	SNR=6.4						
MYKA				⇓eSg	Sb	06 49 14.2	-0.2
	comp=Z,36nm,0.2s,SNR=20						
MYKA	Terra Mystica	0.94	335	Pg	Pb	06 49 01.6	-0.4
	SNR=6.4						
MYKA				Sg	Sb	06 49 14.2	-0.2
	comp=Z,36nm,0.2s,SNR=20						
DOBS	Dobrina	0.95	67	⇓iPg	Pg	06 49 02.4	+0.1
DOBS				iSg	Sg	06 49 15.1	+0.4
	comp=Z,24nm,0.1s						
DOBS	Dobrina	0.95	67	⇓iPg	Pg	06 49 02.4	+0.1
DOBS				iSg	Sg	06 49 15.1	+0.3
	comp=Z,24nm,0.1s						
MPRI	Monte Prat	0.97	299	ePg	Pb	06 49 02.5	-0.1
MPRI	Monte Prat	0.97	299	ePg	Pb	06 49 02.5	-0.1
GCIS	Gornji Cirnik	0.99	84	iPg	Pn	06 49 03.6	+0.3
GCIS				iSg	Sn	06 49 16.6	-0.4
	comp=Z,31nm,0.1s						
GCIS	Gornji Cirnik	0.99	84	iPg	Pn	06 49 03.6	+0.3
GCIS				iSg	Sg	06 49 16.5	+0.5
	comp=Z,31nm,0.1s						
GOLS	Golise	1.01	76	⇓iPg	Pn	06 49 03.7	+0.1
GOLS				iSg	Sn	06 49 17.6	+0.1
	comp=Z,57nm,0.2s						
GOLS	Golise	1.01	76	⇓iPg	Pn	06 49 03.7	+0.1
GOLS				iSg	Sn	06 49 17.6	+0.1
	comp=Z,57nm,0.2s						
FUSE	Fusea	1.06	307	⇑ePg	Pb	06 49 03.7	-0.3
FUSE	Fusea	1.06	307	⇑ePg	Pb	06 49 03.7	-0.3
PERS	Pernice	1.06	36	iPg	Pn	06 49 04.2	+0.1
PERS				iSg	Sb	06 49 17.9	+0.1
	comp=Z,13nm,0.1s						
PERS	Pernice	1.06	36	iPg	Pn	06 49 04.2	-0.1
PERS				iSg	Sb	06 49 17.9	+0.1
	comp=Z,13nm,0.1s						
SOKA	Soboth	1.06	32	⇓ePg	Pn	06 49 04.4	+0.1
	SNR=8.0						
SOKA				⇑iSg	Sg	06 49 18.7	+0.2
	comp=Z,3.2nm,0.1s						
SOKA	Soboth	1.06	32	Pg	Pn	06 49 04.4	0.0
	SNR=8.0						
SOKA				Sg	Sg	06 49 18.7	+0.1
	comp=Z,3.2nm,0.1s						
BISS	Bistriski jare	1.07	36	iPg	Pg	06 49 04.7	0.0
BISS	Bistriski jare	1.07	36	iPg	Pg	06 49 04.7	0.0
ZOU	Zoufplan	1.16	312	ePg	Pb	06 49 05.8	-0.1
ZOU	Zoufplan	1.16	312	⇓ePg	Pb	06 49 05.9	-0.1
ZOU	Zoufplan	1.16	312	ePg	Pb	06 49 05.8	-0.1
MLNI	Malnisio	1.18	289	⇑ePg	Pb	06 49 07.0	+0.1
MLNI				eSg	Sg	06 49 23.2	+0.9
MLNI	Malnisio	1.18	289	eP	Pb	06 49 06.9	+0.1
MLNI				eSg	Sg	06 49 23.2	+0.9
POLC	Polcenigo	1.23	282	Pg	Pg	06 49 07.9	+0.4
	comp=Z,180nm,0.3s						
POLC	Polcenigo	1.23	282	Pg	Pg	06 49 07.9	+0.4
	comp=Z,180nm,0.3s						
CAE	Caneva	1.27	281	⇑ePg	Pg	06 49 08.1	-0.3
CAE				eSg	Sg	06 49 25.7	+0.7
CAE	Caneva	1.27	281	eP	Pg	06 49 08.1	-0.3
CAE				eSg	Sg	06 49 25.7	+0.7
NVLJ	Novalja	1.30	159	ePg	Pg	06 49 09.1	+0.2
NVLJ				Sg	Sg	06 49 27.3	+1.4
NVLJ	Novalja	1.30	159	ePg	Pg	06 49 09.1	+0.2
NVLJ				Sg	Sg	06 49 27.3	+1.4
CSMI	Casera Mimoias	1.31	304	⇑ePg	Pg	06 49 09.4	0.0
CSMI				eSg	Sg	06 49 28.4	+1.7
CSMI	Casera Mimoias	1.31	304	eP	Pg	06 49 09.4	0.0
CSMI				eSg	Sg	06 49 28.4	+1.7
CIMO	Cimolais	1.35	294	⇑ePg	Pb	06 49 08.9	-0.1
CIMO				eSg	Sg	06 49 27.8	+0.3
CIMO	Cimolais	1.35	294	eP	Pb	06 49 08.9	0.0
CIMO				eSg	Sg	06 49 27.8	+0.3
KBA	Koelnbreinsper	1.43	335	⇓iPg	Pg	06 49 11.3	-0.4
KBA				⇓eSg	Sg	06 49 30.4	-0.2
	comp=Z,25nm,0.4s,SNR=8.7						
KBA	Koelnbreinsper	1.43	335	Pg	Pg	06 49 11.3	-0.4
KBA				Sg	Sg	06 49 30.4	-0.2
	comp=Z,25nm,0.4s,SNR=8.7						
ABTA	Abfaltersbach	1.53	310	⇑ePg	Pg	06 49 13.0	-0.4
	SNR=7.9						
ABTA				⇓eSg	Sg	06 49 34.2	+0.7
	comp=Z,9.0nm,0.2s,SNR=5.6						
ABTA	Abfaltersbach	1.53	310	Pg	Pg	06 49 13.0	-0.5
	SNR=7.9						
ABTA				Sg	Sg	06 49 34.2	+0.7
	comp=Z,9.0nm,0.2s,SNR=5.6						
UDBI	Udbina	1.66	138	ePn	Pg	06 49 15.2	-0.7
UDBI				Sn	Sg	06 49 36.9	-0.8
UDBI	Udbina	1.66	138	ePn	Pg	06 49 15.2	-0.8
UDBI				Sn	Sg	06 49 36.8	-0.8
CGRP	Cima Grappa	1.69	274	ePg	Pn	06 49 13.9	+0.7
CGRP				eSg	Sb	06 49 37.6	+1.2
CGRP	Cima Grappa	1.69	274	eP	Pn	06 49 13.9	+0.7
CGRP				eSg	Sb	06 49 37.6	+1.3
RISI	Rein	1.89	309	Pg	Pb	06 49 18.2	-0.1
	comp=Z,76nm,0.4s						
RISI	Rein	1.89	309	Pg	Pb	06 49 18.2	-0.1
	comp=Z,76nm,0.4s						
PANI	Panarotta	2.05	279	ePn	Pn	06 49 19.2	+1.1
PANI	Panarotta	2.05	279	ePn	Pn	06 49 19.2	+1.1
DDS	Dosso del Somm	2.12	274	⇓ePn	Pn	06 49 19.7	+0.6
DDS	Dosso del Somm	2.12	274	⇓ePn	Pn	06 49 19.7	+0.6
ABSI	Aberstueckl	2.22	296	Pg	Pn	06 49 22.0	+1.5
	comp=Z,39nm,0.5s						
ABSI	Aberstueckl	2.22	296	Pg	Pn	06 49 22.0	+1.5
	comp=Z,39nm,0.5s						
FETA	Feichten	2.71	298	⇑iPn	Pn	06 49 27.9	+0.7
FETA				⇓iPg	Pg	06 49 35.1	-1.1
FETA	Feichten	2.71	298	Pn	Pn	06 49 27.9	+0.7

IDC 12 07:02:09.1±2.8, 54.51N×86.19E, h0km, mb1 2.8/2, mb1mx2.7/37, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=21.5km s-min=12.3km az=51.0

NNC 12 07:02:12.7±3.8, 54.08N×86.43E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=30.4km s-min=25.9km az=9.0

ISC 12 07:02:14.3±4.9, 54.3N±0.2×86.4E±0.2, h35km, n7, σ0.63/8, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.03	248	i		07 08 30.0	
	baz=52,slow=348,SNR=14						
ZALV	Zalesovo Beam	1.03	248	Pg	Pn	07 02 26.8	-5.4
	0.8nm,0.3s,baz=56,slow=17,SNR=10						

ZALV				Lg	Lg	07 02 42.4	
	4.4nm,0.3s,baz=51,slow=28,SNR=26						
ZALV				Rg	Rg	07 02 54.0	
	43nm,1.1s,baz=60,slow=33,SNR=11						
KURK	Kurchatov	5.99	236	⇑Pn	Pn	07 03 40.2	-0.2
	1.0nm,1.1s						
KURK				⇑Lg	Lg	07 05 19.9	
	3.6nm,1.0s						
KURBB	Kurchatov Arra	6.09	236	⇓Pn	Pn	07 03 41.4	-0.4
	1.5nm,0.7s						
KURBB				⇓Sn	Sn	07 04 51.1	+0.8
	3.5nm,0.8s						
KURBB				⇓Lg	Lg	07 05 22.7	
	13nm,1.3s						
KURBB	Kurchatov Arra	6.09	236	Pn	Pn	07 03 41.6	-0.3
	0.2nm,0.3s,baz=50,slow=14,SNR=13						
KURBB				Lg	Lg	07 05 23.0	
	0.1nm,0.3s,baz=57,slow=34,SNR=5.0						
MKAR	Makanchi Array	8.00	201	Pn	Pn	07 04 08.6	+0.5
	0.1nm,0.3s,baz=19,slow=13,SNR=7.2						
MKAR				Sn	Sn	07 05 37.2	0.0
	0.2nm,0.3s,baz=19,slow=25,SNR=11						
MKAR				Lg	Lg	07 06 28.4	
	0.1nm,0.3s,baz=15,slow=31,SNR=8.8						
MK09	Makanchi Array	8.02	201	⇑Pn	Pn	07 04 08.5	+0.2
	1.2nm,1.1s,baz=23,slow=12						
MK09				⇓Sn	Sn	07 05 36.9	-0.9
	2.1nm,1.1s,baz=20,slow=26						
MK09				⇓Lg	Lg	07 06 20.1	
	4.5nm,1.1s,baz=30,slow=27						

IDC 12 07:16:31.8±15.0,12°.61N×57°.75E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.3/56,mbtmp3.5/4,MS3.3/1,Ms1 3.2/1, ms1mx2.5/37,Error ellipse: s-maj=523.3km s-min=34.0km az=81.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	22.96	144	T	T	07 45 13.3	
	baz=326,slow=76,SNR=41						
H08N3	Diego Garcia H	22.97	144	T	T	07 45 14.1	
	baz=326,slow=76,SNR=31						
H08N1	Diego Garcia H	22.98	144	T	T	07 45 16.2	
	baz=326,slow=76,SNR=46						
KBZ	Khabaz	33.55	340	LR	LR	07 39 07.6	
	comp=Z,50nm,19.1s,baz=342,slow=40						
MKAR	Makanchi Array	39.85	26	P	P	07 24 07.0	-0.1
	0.2nm,0.7s,baz=211,slow=9.0,SNR=4.4						
KURBB	Kurchatov Arra	41.53	20	P	P	07 24 20.7	-0.2
	0.1nm,0.2s,baz=216,slow=8.2,SNR=2.6						
H01W3	Cape Leeuwin H	71.29	134	T	T	08 45 29.3	
	baz=302,slow=75,SNR=5.3						
H01W2	Cape Leeuwin H	71.29	134	T	T	08 45 31.0	
	baz=302,slow=75,SNR=7.2						
H01W1	Cape Leeuwin H	71.30	134	T	T	08 45 34.7	
	baz=302,slow=75,SNR=5.1						
WRA	Warramunga Arr	81.98	112	P	P	07 28 54.2	0.0
	0.4nm,0.7s,baz=290,slow=4.5,SNR=4.7						
ASAR	Alice Springs	82.67	116	P	P	07 28 57.9	+0.1
	0.5nm,0.6s,baz=293,slow=5.1,SNR=6.6						

IDC 12 07:21:55.0±3.4,22°.45N×143°.62E,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.4/51,mbtmp3.6/6,ML4.1/1,Error ellipse: s-maj=147.5km s-min=20.3km az=76.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JCJ	Chichijima	4.81	345	Pn	Pn	07 23 10.0	+1.3
	7.9nm,0.3s,baz=300,slow=14,SNR=4.7						
JCJ				Sn	Sn	07 24 01.3	-3.8
	37nm,0.3s,baz=72,slow=23,SNR=14						
WRA	Warramunga Arr	43.10	193	P	P	07 29 57.9	+0.8
	0.3nm,0.3s,baz=13,slow=8.3,SNR=12						
ASAR	Alice Springs	46.80	192	P	P	07 30 26.6	+0.1
	0.3nm,0.5s,baz=13,slow=9.0,SNR=5.1						
STKA	Stephens Creek	54.05	182	P	P	07 31 19.9	-1.4
	1.2nm,0.6s,baz=354,slow=9.3,SNR=4.4						
MKAR	Makanchi Array	54.49	312	P	P	07 31 24.0	-0.5
	0.2nm,0.6s,baz=96,slow=7.4,SNR=4.4						
KURBB	Kurchatov Arra	57.26	317	P	P	07 31 44.0	-0.2
	0.3nm,0.5s,baz=91,slow=7.9,SNR=6.6						

IDC 12 07:23:24.1±1.6,40°.68N×20°.05E,h0km,mb3.4/9, mb1 3.5/14,mb1mx3.5/32,mbtmp3.4/14,ML2.9/5,Error ellipse: s-maj=28.9km s-min=18.1km az=28.0
ATH 12 07:23:28.9,41°.51N×20°.29E,h13km±1km,MD3.7/33
BEO 12 07:23:30.5±0.7,41°.23N×20°.27E,h8km±3km,ML3.1/1
ISCJB 12 07:23:30.7±0.4,41°.39N±0°.01×20°.33E±0°.02,h6km±3km, mb3.4/7,Error ellipse: s-maj=2.8km s-min=1.8km az=144.4
CSEM 12 07:23:31.1±0.1,41°.39N×20°.32E,h2km,ML3.5,Error ellipse: s-maj=3.3km s-min=1.9km az=58.0
SKO 12 07:23:31.3,41°.38N×20°.40E,h8km,M3.2,ML3.6
PDG 12 07:23:31.3±0.6,41°.40N×20°.35E,h14km,MD3.6/2, ML3.5/10,Error ellipse: s-maj=0.6km s-min=1.0km az=0.0
THE 12 07:23:32.0,41°.39N×20°.43E,h3km,ML3.5/6,Error ellipse: s-maj=0.7km s-min=0.4km az=307.0
TIR 12 07:23:36.5,41°.39N×20°.23E,h8km,ML3.7
SOF 12 07:23:36.6,41°.56N×20°.83E,h8km,MD3.1
ISC 12 07:23:31.9±0.9,41°.39N±0°.01×20°.33E±0°.01,h15km±6km, n261,σ1§21/342,mb3.6/7,23C-20D,Albania

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PHP	Peshkopia	0.31	16	i PG	Pg	07 23 38.2	-0.2
PHP				i SG	Sb	07 23 44.3	+0.2
PHP	Peshkopia	0.31	16	P	Pg	07 23 38.2	-0.2
PHP				S	Sg	07 23 42.0	-0.9
PHP	Peshkopia	0.31	16	i Pg	Pg	07 23 38.2	-0.2
PHP				i Sg	Sb	07 23 44.3	+0.2
PUK	Puka	0.73	334	i PG	Pg	07 23 45.6	-0.6
PUK				i SG	Sg	07 23 54.3	-1.6
PUK	Puka	0.73	334	i Pg	Pg	07 23 45.6	-0.6
PUK				i Sg	Sg	07 23 54.3	-1.6
KBN	Korca	0.84	155	i PN	Pg	07 24 00.9	+1.8
KBN	Korca	0.84	155	P	Pg	07 23 47.4	-0.7
KBN				S	Sb	07 23 59.2	0.0
KBN	Korca	0.84	155	P	Pg	07 23 47.4	-0.7
KBN				S	Sb	07 23 59.2	0.0
FNA	Florina	0.99	127	P	Pb	07 23 49.7	-1.1
FNA				S	Sb	07 24 03.5	-0.2
FNA	Florina	0.99	127	ePN	Pb	07 23 50.0	-0.8
FNA				eSB	Sn	07 24 04.7	-0.4
FNA	Florina	0.99	127	P	Pb	07 23 49.7	-1.1
FNA	Florina	0.99	127	ePn	Pb	07 23 50.0	-0.8
FNA				S	Sb	07 24 03.5	-0.2
FNA				eSb	Sn	07 24 04.7	-0.4
ULC	Ulcinj	1.00	306	⇑iPg	Pb	07 23 48.8	-2.1
ULC				eSg	Sn	07 24 05.2	0.0
ULC	Ulcinj	1.00	306	⇑iPg	Pb	07 23 48.8	-2.1
ULC				eSg	Sn	07 24 05.2	0.0
BCI	Bajram Curri	1.00	349	i PN	Sn	07 24 05.6	+0.4
SKO	Skopje	1.02	54	P	Pb	07 23 50.6	-0.6
SKO				S	Sb	07 24 05.7	0.0
SKO	Skopje	1.02	54	ePg	Pb	07 23 50.2	-1.0
SKO	Skopje	1.02	54	i Pg	Pb	07 23 50.5	-0.6
SKO				i Sg	Sn	07 24 06.3	+0.6
SKO				eLg	Lg	07 24 09.1	
	comp=N,1µm,0.6s						
SKO				eLg	Lg	07 24 09.7	
	comp=E,1µm,0.8s						
SKO	Skopje	1.02	54	P	Pb	07 23 50.6	-0.6
SKO				S	Sb	07 24 05.7	0.0
SKO				i Sg	Sn	07 24 06.3	+0.6
SKO				eLg	Lg	07 24 09.6	
	comp=E,1µm,0.8s						
VLO	Vlora	1.11	215	P	Pg	07 23 53.2	-0.1
VLO				S	Sn	07 24 10.6	+2.7
VLO	Vlora	1.11	215	P	Pg	07 23 53.2	-0.1
VLO				S	Sn	07 24 10.6	+2.7
NEST	Nestorio	1.11	150	P	Pb	07 23 52.0	-0.9
NEST				S	Sg	07 24 07.9	0.0
NEST	Nestorio	1.11	150	ePB	Pb	07 23 52.2	-0.7
NEST				eSB	Sn	07 24 09.0	+0.9
NEST	Nestorio	1.11	150	ePb	Pb	07 23 52.2	-0.7
NEST				S	Sg	07 24 07.9	0.0
NEST				eSb	Sn	07 24 09.0	+0.9
DRME	Dracevica, Mon	1.17	313	⇑iPg	Pn	07 23 52.1	-1.6
DRME				eSg	Sg	07 24 11.5	+1.7
DRME	Dracevica, Mon	1.17	313	⇑iPg	Pn	07 23 52.1	-1.6
DRME				eSg	Sg	07 24 11.5	+1.7
PDG	Podgorica	1.32	323	⇑iPg	Pn	07 23 55.0	-0.6
PDG				eSg	Sg	07 24 16.5	+2.2
PDG	Podgorica	1.32	323	⇓iPg	Pn	07 23 55.1	-0.6
PDG				eSg	Sg	07 24 16.5	+2.2
TTG	Podgorica	1.32	323	⇓iPg	Pn	07 23 55.1	-0.6
TTG				eSg	Sg	07 24 16.6	+2.2
BUM	Brajici-Budva	1.41	311	⇑iPg	Pn	07 23 56.3	-0.8
BUM				eSg	Sg	07 24 19.2	+1.8
BUM	Brajici-Budva	1.41	311	⇑iPg	Pn	07 23 56.3	-0.8
BUM				eSg	Sg	07 24 19.2	+1.8
BEY	Berane	1.52	348	ePg	Pb	07 23 59.4	-0.4
BEY				eSg	Sg	07 24 21.5	+0.6
IVA	Berane	1.52	348	ePg	Pb	07 23 59.4	-0.4
IVA				eSg	Sg	07 24 21.5	+0.6
SRN	Sarande	1.52	190	i PN	Sn	07 24 21.9	+3.9
SRN	Sarande	1.52	190	P	Pb	07 23 59.9	+0.1
SRN				S	Sg	07 24 21.0	0.0
SRN	Sarande	1.52	190	P	Pb	07 23 59.9	+0.1
SRN				S	Sg	07 24 21.0	0.0
KZN	Kozani	1.54	134	P	Pn	07 23 59.0	+0.2
KZN				S	Sb	07 24 19.8	+0.5
KZN	Kozani	1.54	134	ePB	Pb	07 24 00.0	-0.1
KZN				eSB	Sg	07 24 22.4	+1.0
KZN	Kozani	1.54	134	P	Pn	07 23 59.0	+0.2
KZN	Kozani	1.54	134	ePb	Pb	07 24 00.0	-0.1
KZN				S	Sb	07 24 19.8	+0.5
KZN				eSb	Sg	07 24 22.4	+1.0
VAY	Valandovo	1.69	91	P	Pn	07 24 00.1	-0.7
VAY				S	Sn	07 24 22.4	+0.2
VAY	Valandovo	1.69	91	ePg	Pb	07 24 01.9	-0.7
VAY				eSg	Sg	07 24 27.6	+1.3
VAY	Valandovo	1.69	91	P	Pn	07 24 01.2	+0.4
VAY				Sg	Sg	07 24 26.1	-0.1
VAY	Valandovo	1.69	91	i Pn	Pn	07 24 01.6	+0.7
VAY				i Pg	Pb	07 24 02.8	+0.1
VAY				i Sg	Sg	07 24 26.2	-0.1
VAY				eLg	Lg	07 24 28.8	
	comp=N,483nm,0.7s						
VAY				eLg	Lg	07 24 29.7	
	comp=E,613nm,0.6s						
VAY	Valandovo	1.69	91	P	Pn	07 24 01.2	+0.4
VAY	Valandovo	1.69	91	i Pn	Pn	07 24 01.5	+0.7
VAY	Valandovo	1.69	91	ePg	Pb	07 24 01.9	-0.7
VAY				S	Sn	07 24 22.4	+0.2
VAY				Sg	Sg	07 24 26.1	-0.1
VAY				eLg	Lg	07 24 29.7	
	comp=E,613nm,0.6s						
KEK	Kerkira	1.72	194	P	Pb	07 24 02.6	-0.5
KEK				S	Sg	07 24 25.9	-1.3
KEK	Kerkira	1.72	194	ePN	Pb	07 24 02.6	-0.5
KEK				eSN	Sg	07 24 26.0	-1.3
KEK	Kerkira	1.72	194	P	Pb	07 24 02.6	-0.5
KEK				S	Sg	07 24 25.9	-1.3
NKME	Niksic	1.72	324	⇓iPn	Pn	07 24 01.8	+0.5
NKME				eSn	Sg	07 24 26.3	-1.0
NKME	Niksic	1.72	324	⇓iPn	Pn	07 24 01.8	+0.5
NKME				eSn	Sg	07 24 26.3	-1.0
HCY	Herceg Novi	1.73	308	⇓iPn	Pn	07 24 01.3	-0.1
HCY				eSn	Sg	07 24 26.8	-0.9
HCY	Herceg Novi	1.73	308	⇓iPn	Pn	07 24 01.3	-0.1
HCY				eSn	Sg	07 24 26.8	-0.9
NKY	Niksic	1.74	326	ePn	Pn	07 24 02.3	+0.7
NKY				eSn	Sb	07 24 26.6	+1.3
NKY	Niksic	1.74	326	ePn	Pn	07 24 02.3	+0.7
NKY				eSn	Sb	07 24 26.6	+1.3
JAN	Janina	1.77	167	P	Pn	07 24 02.7	+0.7
JAN				S	Sb	07 24 26.8	+0.7
JAN	Janina	1.77	167	ePG	Pb	07 24 03.8	-0.3
JAN				eSN	Sg	07 24 28.7	-0.2
JAN	Janina	1.77	167	P	Pn	07 24 02.7	+0.7
JAN	Janina	1.77	167	ePg	Pb	07 24 03.8	-0.3
JAN				S	Sb	07 24 26.8	+0.7
BARS	Barje	1.81	37	⇑iPn	Pn	07 24 03.0	+0.5
BARS				eSn	Sg	07 24 30.1	0.0
BARS	Barje	1.81	37	⇑iPn	Pn	07 24 03.0	+0.5
IGT	Igoumenitsa	1.85	180	ePN	Pb	07 24 04.4	-1.0
IGT				eSN	Sb	07 24 29.4	+1.1
IGT	Igoumenitsa	1.85	180	ePn	Pb	07 24 04.4	-1.0
SJES	Sjenica	1.89	352	⇑iPn	Pb	07 24 06.7	+0.5
SJES				eSg	Sg	07 24 34.6	+1.8
SJES	Sjenica	1.89	352	⇑iPn	Pb	07 24 06.7	+0.5
SELS	Selova	1.93	17	ePn	Pb	07 24 06.8	+0.1
KNT	Kendrikon	1.95	96	P	Pn	07 24 04.1	-0.3
KNT				S	Sn	07 24 29.5	+0.9
KNT	Kendrikon	1.95	96	ePN	Pn	07 24 04.5	+0.1
KNT	Kendrikon	1.95	96	P	Pn	07 24 04.1	-0.3
KNT	Kendrikon	1.95	96	ePn	Pn	07 24 04.5	+0.1
KNT				S	Sn	07 24 29.5	+0.9
TREB	Trebinje	1.99	313	ePn	Pn	07 24 04.9	0.0
TREB				eSg	Sg	07 24 38.6	+2.8
TREB	Trebinje	1.99	313	ePn	Pn	07 24 04.9	0.0
PLE	Pljevlja	2.06	341	⇓iPn	Pn	07 24 06.6	+0.5
PLE				eSn	Sb	07 24 34.3	-0.3
PLE	Pljevlja	2.06	341	⇓iPn	Pn	07 24 06.6	+0.5
PLE				eSn	Sb	07 24 34.3	-0.3
LIT	Litokhoron	2.08	127	P	Pn	07 24 06.6	+0.3
LIT	Litokhoron	2.08	127	ePN	Pn	07 24 07.2	+0.9
LIT	Litokhoron	2.08	127	P	Pn	07 24 06.6	+0.3
LIT	Litokhoron	2.08	127	ePn	Pn	07 24 07.2	+0.9
UPM	Unac-Piva	2.10	330	⇑iPn	Pn	07 24 07.4	+0.7
UPM				eSn	Sb	07 24 35.1	-0.7
UPM	Unac-Piva	2.10	330	⇑iPn	Pn	07 24 07.4	+0.7
UPM				eSn	Sb	07 24 35.1	-0.7
KKB	Krupnik	2.12	76	i P	Pn	07 24 07.6	+0.8
KKB				S	Sn	07 24 30.3	-2.6
KKB	Krupnik	2.12	76	i P	Pn	07 24 07.6	+0.8
KKB				S	Sn	07 24 30.3	-2.6
THE	Thessaloniki	2.13	110	P	Pn	07 24 06.6	-0.3
THE	Thessaloniki	2.13	110	ePB	Pn	07 24 06.5	-0.3
THE	Thessaloniki	2.13	110	P	Pn	07 24 06.6	-0.3
IVAS	Ivanjica	2.19	357	ePn	Pn	07 24 09.6	+1.7
IVAS	Ivanjica	2.19	357	ePn	Pn	07 24 09.6	+1.7
THL	Klokotos Trika	2.23	144	ePN	Pb	07 24 10.0	-1.8
THL	Klokotos Trika	2.23	144	ePn	Pb	07 24 10.0	-1.8
HORT	Hortiatis	2.24	110	P	Pn	07 24 08.2	-0.3
HORT	Hortiatis	2.24	110	ePB	Pn	07 24 08.2	-0.3
HORT	Hortiatis	2.24	110	P	Pn	07 24 08.2	-0.3
PE1	Pezze di Greco	2.27	256	ePn	Pn	07 24 07.0	-1.8
SOH	Sokhos	2.35	103	P	Pn	07 24 09.9	-0.1
SOH	Sokhos	2.35	103	ePN	Pn	07 24 10.4	+0.4
SOH	Sokhos	2.35	103	P	Pn	07 24 09.9	-0.1
SOH	Sokhos	2.35	103	ePn	Pn	07 24 10.4	+0.4
STON	Ston	2.46	308	ePn	Pn	07 24 12.1	+0.8
STON				Sn	Sn	07 24 42.6	+1.6
STON	Ston	2.46	308	ePn	Pn	07 24 11.5	+0.2
STON				eSg	Sg	07 24 50.0	-0.8
STON	Ston	2.46	308	ePn	Pn	07 24 11.5	+0.2
STON				Sn	Sn	07 24 42.6	+1.6
TAR1	Taranto	2.46	251	Sn	Sb	07 24 47.5	+1.6
VTS	Vitosha	2.46	60	P	Pn	07 24 11.9	+0.3
VTS	Vitosha	2.46	60	⇓iPn	Pn	07 24 12.3	+0.7
VTS	Vitosha	2.46	60	P	Pn	07 24 12.5	+0.9
VTS				Sg	Sg	07 24 52.6	+1.6
VTS	Vitosha	2.46	60	⇓iP	Pn	07 24 12.2	+0.7
VTS	Vitosha	2.46	60	S	Sb	07 24 47.8	+1.7
VTS	Vitosha	2.46	60	P	Pn	07 24 11.9	+0.3
VTS	Vitosha	2.46	60	⇓iPn	Pn	07 24 12.3	+0.7
SRS	Serrai	2.48	95	ePB	Pn	07 24 11.6	-0.1
SRS	Serrai	2.48	95	ePb	Pn	07 24 11.6	-0.1
GRUS	Gruza	2.52	6	ePn	Pb	07 24 14.6	-2.2
GRUS	Gruza	2.52	6	ePn	Pb	07 24 14.6	-2.2
ZAPS	Zavoj	2.55	41	ePn	Pb	07 24 15.6	-1.7
ZAPS	Zavoj	2.55	41	ePn	Pb	07 24 15.6	-1.7
MMB	Musomiste	2.56	84	i P	Pb	07 24 17.1	-0.4
MMB				S	Sg	07 24 52.6	-1.6
MMB	Musomiste	2.56	84	⇓iP	Pn	07 24 13.5	+0.6
MMB	Musomiste	2.56	84	S	Sn	07 24 44.1	+0.3
MMB	Musomiste	2.56	84	⇓iP	Pn	07 24 13.5	+0.6
PLG	Polygyros	2.57	112	P	Pn	07 24 13.4	+0.4
PLG	Polygyros	2.57	112	ePB	Pn	07 24 13.5	+0.4
PLG	Polygyros	2.57	112	P	Pn	07 24 13.4	+0.4
BBLS	Lazići	2.57	345	ePn	Pn	07 24 14.7	+1.7
BBLS	Lazići	2.57	345	ePn	Pn	07 24 14.7	+1.7
LKD2	Lefkada island	2.60	174	P	Pn	07 24 13.8	+0.3
LKD2	Lefkada island	2.60	174	ePN	Pn	07 24 13.9	+0.4
LKD2	Lefkada island	2.60	174	ePn	Pn	07 24 13.9	+0.4
NVR	Nevrokopi	2.66	90	P	Pn	07 24 14.0	-0.2
NVR	Nevrokopi	2.66	90	ePB	Pn	07 24 14.9	+0.7
NVR	Nevrokopi	2.66	90	P	Pn	07 24 14.0	-0.2
NVR	Nevrokopi	2.66	90	ePb	Pn	07 24 14.9	+0.7
EVR	Evrytania	2.71	155	ePB	Pn	07 24 16.8	+1.8
EVR	Evrytania	2.71	155	ePb	Pn	07 24 16.8	+1.8
BOLS	Boljevac	2.72	26	ePn	Pn	07 24 17.4	+2.4
BOLS	Boljevac	2.72	26	ePn	Pn	07 24 17.4	+2.4
DIVS	Divibare	2.72	355	P	Pn	07 24 16.0	+0.9
DIVS	Divibare	2.72	355	ePn	Pn	07 24 16.1	+0.9
DIVS	Divibare	2.72	355	P	Pn	07 24 16.0	+0.9
MAKR	Makrakomi, Fth	2.74	149	ePB	Pn	07 24 17.2	+1.8
MAKR	Makrakomi, Fth	2.74	149	ePb	Pn	07 24 17.2	+1.8
AGG	Agios Georgios	2.81	146	ePB	Pn	07 24 18.1	+1.8
AGG	Agios Georgios	2.81	146	ePb	Pn	07 24 18.1	+1.8
TRUS	Trudelj	2.84	1	ePn	Pn	07 24 16.9	+0.3
TRUS	Trudelj	2.84	1	ePn	Pn	07 24 16.9	+0.3
PDO	Prodromos	2.86	166	P	Pn	07 24 17.6	+0.7
PDO	Prodromos	2.86	166	ePN	Pn	07 24 17.8	+0.9
PDO	Prodromos	2.86	166	ePn	Pn	07 24 17.8	+0.9
PAIG	Paliouri	2.94	119	P	Pn	07 24 18.1	+0.1
PAIG	Paliouri	2.94	119	ePN	Pn	07 24 19.3	+1.3
PAIG	Paliouri	2.94	119	P	Pn	07 24 18.1	+0.1
PAIG	Paliouri	2.94	119	ePn	Pn	07 24 19.3	+1.3
OUR	Ouranopolis	2.96	110	P	Pn	07 24 18.4	+0.1
OUR	Ouranopolis	2.96	110	ePN	Pn	07 24 19.3	+1.0
OUR	Ouranopolis	2.96	110	P	Pn	07 24 18.4	+0.1
OUR	Ouranopolis	2.96	110	ePn	Pn	07 24 19.3	+1.0
XOR	Xorichti	2.98	132	ePN	Pn	07 24 19.5	+0.9
XOR	Xorichti	2.98	132	ePn	Pn	07 24 19.5	+0.9
NEO	Neokhori	3.03	132	ePN	Pn	07 24 21.0	+1.6
NEO	Neokhori	3.03	132	ePn	Pn	07 24 21.0	+1.6
AXAR	Agios Charalam	3.17	145	ePN	Pn	07 24 22.8	+1.6
AXAR	Agios Charalam	3.17	145	ePn	Pn	07 24 22.8	+1.6
KAVA	Kavala	3.18	96	ePN	Pn	07 24 21.4	0.0
KAVA	Kavala	3.18	96	ePn	Pn	07 24 21.4	0.0
EFP	Efpalio	3.19	157	ePN	Pn	07 24 23.3	+1.8
EFP	Efpalio	3.19	157	ePn	Pn	07 24 23.3	+1.8
MPEP	Malo Peshtene	3.20	51	i P	Pg	07 24 32.2	-1.1
MPEP				Sg	Sg	07 25 19.0	+4.2
VLS	Valsamata	3.21	176	ePN	Pn	07 24 21.2	-0.6
VLS	Valsamata	3.21	176	ePn	Pn	07 24 21.2	-0.6
TEKS	Tekeris	3.22	350	i Pn	Pn	07 24 23.4	+1.5
TEKS	Tekeris	3.22	350	i Pn	Pn	07 24 23.4	+1.5
SKIA	Skiathos	3.27	132	ePN	Pn	07 24 23.9	+1.4
SKIA	Skiathos	3.27	132	ePn	Pn	07 24 23.9	+1.4
KALE	Kalithea	3.30	154	ePN	Pn	07 24 25.0	+2.0
KALE	Kalithea	3.30	154	ePn	Pn	07 24 25.0	+2.0
SMIA	Simia	3.34	138	ePN	Pn	07 24 24.8	+1.3
SMIA	Simia	3.34	138	ePn	Pn	07 24 24.8	+1.3
LAKA	Lakka	3.39	157	ePN	Pn	07 24 26.1	+1.9
LAKA	Lakka	3.39	157	ePn	Pn	07 24 26.1	+1.9
LKR	Lokris	3.42	142	ePN	Pn	07 24 26.1	+1.5
LKR	Lokris	3.42	142	ePn	Pn	07 24 26.1	+1.5
DSF	Desfina	3.42	150	ePN	Pn	07 24 26.0	+1.3
DSF	Desfina	3.42	150	ePn	Pn	07 24 26.0	+1.3
RLS	Riolos of Patr	3.44	165	ePN	Pn	07 24 26.5	+1.6
RLS	Riolos of Patr	3.44	165	ePn	Pn	07 24 26.5	+1.6
DRO	Drossia	3.59	162	ePN	Pn	07 24 28.2	+1.2
DRO	Drossia	3.59	162	ePn	Pn	07 24 28.2	+1.2
KLV	Kalavryta, Ach	3.62	157	ePN	Pn	07 24 29.6	+2.1
KLV	Kalavryta, Ach	3.62	157	ePn	Pn	07 24 29.6	+2.1
MRKA	Markates	3.66	136	ePN	Pn	07 24 30.1	+2.1
MRKA	Markates	3.66	136	ePn	Pn	07 24 30.1	+2.1
GUR	Goura	3.78	155	ePN	Pn	07 24 31.5	+1.8
GUR	Goura	3.78	155	ePn	Pn	07 24 31.5	+1.8
FGSL	Fruska Gora	3.79	354	⇓iPn	Pn	07 24 31.0	+1.3
FRGS	Fruska Gora	3.79	354	⇓iPn	Pn	07 24 31.0	+1.3
BZS	Buzias	4.33	12	ePn	Pn	07 24 37.0	-0.2
BZS	Buzias	4.33	12	⇑iP	Pn	07 24 38.0	+0.8
BZS	Buzias	4.33	12	S	Sn	07 25 28.9	+1.5
BZS	Buzias	4.33	12	ePn	Pn	07 24 37.0	-0.2
BZS	Buzias	4.33	12	⇑iP	Pn	07 24 38.0	+0.8
BZS				S	Sn	07 25 28.9	+1.5
ALN	Alexandroupoli	4.34	95	ePN	Pn	07 24 37.7	+0.4
ALN	Alexandroupoli	4.34	95	ePn	Pn	07 24 37.7	+0.4
ITM	Ithomi	4.38	163	ePN	Pn	07 24 39.1	+1.3
ITM	Ithomi	4.38	163	ePn	Pn	07 24 39.1	+1.3
GZR	Gura Zlata	4.39	23	ePn	Pn	07 24 38.6	+0.6
GZR	Gura Zlata	4.39	23	⇑iP	Pn	07 24 39.5	+1.5
GZR	Gura Zlata	4.39	23	ePn	Pn	07 24 38.6	+0.6
GZR	Gura Zlata	4.39	23	⇑iP	Pn	07 24 39.5	+1.5
DID	Didima	4.48	149	ePN	Pn	07 24 40.7	+1.5
DID	Didima	4.48	149	ePn	Pn	07 24 40.7	+1.5
UDBI	Udbina	4.59	315	ePn	Pn	07 24 41.8	+0.9
UDBI				Sn	Sn	07 25 34.2	+0.3
UDBI	Udbina	4.59	315	ePn	Pn	07 24 41.7	+0.9
UDBI				Sn	Sn	07 25 34.2	+0.3
PYL	PYLOS	4.62	166	ePN	Pn	07 24 41.5	+0.4
PYL	PYLOS	4.62	166	ePn	Pn	07 24 41.5	+0.4
PKSM	Moragy	4.98	346	⇑iP	Pn	07 24 48.9	+2.9
PKSM	Moragy	4.98	346	e	Pn	07 24 48.4	+2.4
PKSM				e		07 25 44.5	
PKSM	Moragy	4.98	346	ePn	Pn	07 24 48.4	+2.4
PKSM	Moragy	4.98	346	⇑iP	Pn	07 24 48.9	+2.9
PKSM				eSn	Sn	07 25 44.5	+1.2
ARR	Arges	5.07	37	⇓iP	Pn	07 24 48.0	+0.7
ARR	Arges	5.07	37	⇓iP	Pn	07 24 48.0	+0.7
VLI	Veliai	5.08	156	ePN	Pn	07 24 49.6	+2.1
VLI	Veliai	5.08	156	ePn	Pn	07 24 49.6	+2.1
NVLJ	Novalja	5.11	310	i Pn	Pn	07 24 46.7	-1.1
NVLJ				Sn	Sn	07 25 44.0	-2.5
NVLJ	Novalja	5.11	310	i Pn	Pn	07 24 46.7	-1.1
NVLJ				Sn	Sn	07 25 44.0	-2.5
VOIR		5.31	39	⇑iP	Pn	07 24 51.9	+1.2
VOIR		5.31	39	⇑iP	Pn	07 24 51.9	+1.2
KYTH	Kithira	5.52	157	ePN	Pn	07 24 55.5	+2.0
KYTH	Kithira	5.52	157	ePn	Pn	07 24 55.5	+2.0
BOJS	Bojanci	5.53	320	i Pn	Pn	07 24 54.2	+0.6
BOJS				eSn	Sn	07 25 57.4	+0.5
BOJS	Bojanci	5.53	320	Pn	Pn	07 24 54.2	+0.6
BOJS				eSn	Sn	07 25 57.4	+0.5
DRGR		5.67	17	⇑iP	Pn	07 24 58.7	+3.1
GBRS	Gornja Briga	5.77	318	i Pn	Pn	07 24 58.0	+1.0
MLR	Muntele Rosu	5.79	43	⇓iP	Pn	07 24 59.3	+2.0
MLR	Muntele Rosu	5.79	43	Pn	Pn	07 25 01.2	+3.9
	comp=E,0.1nm,0.3s,baz=127,slow=20,SNR=2.8						
MLR				Sn	Sn	07 26 11.8	+8.3
	comp=E,0.0nm,0.3s,baz=120,slow=20,SNR=2.9						
MLR	Muntele Rosu	5.79	43	⇓iP	Pn	07 24 59.3	+2.0
VISS	Visnje	5.95	320	ePn	Pn	07 24 59.6	+0.2
VISS				eSn	Sn	07 26 08.4	+1.2
VISS	Visnje	5.95	320	ePn	Pn	07 24 59.6	+0.2
VISS				eSn	Sn	07 26 08.4	+1.2
JAVS	Javornik	6.40	317	ePn	Pn	07 25 05.0	-0.7
JAVS				eSn	Sn	07 26 16.7	-1.7
JAVS	Javornik	6.40	317	ePn	Pn	07 25 05.0	-0.7
JAVS				eSn	Sn	07 26 16.7	-1.7
PERS	Pernice	6.45	326	i Pn	Pn	07 25 06.7	+0.3
PERS	Pernice	6.45	326	i Pn	Pn	07 25 06.7	+0.3
SOKA	Soboth	6.52	326	⇑iPn	Pn	07 25 07.6	+0.3
SOKA	Soboth	6.52	326	Pn	Pn	07 25 07.6	+0.3
PSZ	Piszkesteto	6.54	357	⇓iP	Pn	07 25 10.8	+3.2
IDI	Anoyia	7.06	148	Pn	Pn	07 25 00.6	-14
	comp=E,0.3nm,0.3s,baz=22,slow=16,SNR=2.1						
IDI				Sn	Sn	07 26 33.3	-1.5
	comp=E,0.8nm,0.3s,baz=351,slow=19,SNR=3.6						
VYHS	Vyhne	7.19	352	e	Pn	07 25 24.0	+7.6
VYHS	Vyhne	7.19	352	eSN	Sn	07 26 37.2	-0.5
VYHS	Vyhne	7.19	352	eSn	Sn	07 26 37.2	-0.5
CRVS	Cervenica-Dubn	7.56	6	ePN	Pn	07 25 22.8	+1.3
CRVS	Cervenica-Dubn	7.56	6	ePn	Pn	07 25 22.8	+1.3
GERES	GERESS Array B	8.80	330	Pn	Pn	07 25 39.4	+0.7
	comp=E,0.1nm,0.3s,baz=161,slow=13,SNR=3.7						
DAVOX	Davos/Dischmat	9.25	309	Pn	Pn	07 25 43.8	-1.0
	comp=E,0.3nm,0.3s,baz=139,slow=20,SNR=2.9						
HFS	Hagfors	19.22	350	P	Pn	07 27 58.3	+2.2
	comp=E,0.1nm,0.3s,baz=165,slow=12,SNR=4.5						
FINES	FINESS Array B	20.39	8	P	Pn	07 28 10.1	+0.2
	comp=E,1.1nm,0.7s,baz=164,slow=16,SNR=2.9						
NOA	NORSAR Array B	20.45	347	P	Pn	07 28 10.4	-0.4
	comp=E,0.8nm,0.7s,baz=165,slow=10,SNR=3.3						
ARCES	ARCESS Array B	28.34	4	P	P	07 29 26.2	+1.4
	comp=E,1.3nm,0.8s,baz=169,slow=10.0,SNR=2.5						
KURBB	Kurchatov Arra	40.51	56	P	P	07 31 09.4	-0.6
	comp=E,1.2nm,1.0s,baz=290,slow=10.0,SNR=6.2						
ZALV	Zalesovo Beam	43.71	51	P	P	07 31 35.9	-0.2
	comp=E,0.8nm,0.5s,baz=265,slow=12,SNR=4.0						
MKAR	Makanchi Array	43.82	61	P	P	07 31 36.1	-0.9
	comp=E,0.4nm,0.7s,baz=292,slow=7.7,SNR=4.6						
SONM	Songino Array	58.57	52	P	P	07 33 26.6	-1.3
	comp=E,0.5nm,0.8s,baz=268,slow=5.3,SNR=4.8						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**70.33**	**340**	P	**P**	**07 34 42.9**	**-1.5**
	comp=E,0.5nm,1.1s,baz=71,slow=6.0,SNR=3.4						
ILAR	**Eielson Array**	**73.71**	**354**	P	**P**	**07 35 03.3**	**-1.3**
	comp=E,0.1nm,0.8s,baz=352,slow=5.5,SNR=2.6						

IDC 12 07:23:34.4±13.0**, 14°.75S×165°.92E, h0km, mb3.6**/3**, mb1 3.8**/4**, mb1mx3.5**/38**, mbtmp3.7**/4**, ML4.0**/1**, Error ellipse: s-maj=235.2km s-min=37.1km az=57.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.30**	**176**	Pn	Pn	07 25 22.8	+0.3
	2.4nm,0.3s,baz=329,slow=22,SNR=24						
DZM				Sn	Sn	07 26 44.5	-1.7
	2.1nm,0.3s,baz=334,slow=21,SNR=4.0						
STKA	**Stephens Creek**	**28.00**	**228**	P	P	07 29 27.3	+0.2
	0.9nm,0.5s,baz=54,slow=10,SNR=4.8						
WRA	**Warramunga Arr**	**30.55**	**256**	P	P	07 29 49.6	-0.3
	0.3nm,0.9s,baz=85,slow=8.9,SNR=2.8						
ASAR	**Alice Springs**	**31.45**	**249**	P	P	07 29 58.0	+0.2
	0.6nm,0.8s,baz=78,slow=8.6,SNR=5.8						

IDC 12 07:26:53.0±13.0**, 15°.96S×165°.88E, h0km, mb4.2**/3**, mb1 4.4**/4**, mb1mx3.8**/33**, mbtmp4.2**/4**, ML4.3**/1**, Error ellipse: s-maj=222.8km s-min=35.2km az=57.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.10**	**175**	Pn	Pn	07 28 25.4	+0.8
	7.6nm,0.3s,baz=157,slow=14,SNR=20						
DZM				Sn	Sn	07 29 34.3	-1.0
	0.2nm,0.3s,baz=148,slow=19,SNR=3.1						
STKA	**Stephens Creek**	**27.18**	**230**	P	P	07 32 37.7	-0.7
	1.8nm,0.6s,baz=62,slow=7.9,SNR=7.0						
WRA	**Warramunga Arr**	**30.24**	**258**	P	P	07 33 05.8	0.0
	1.2nm,0.7s,baz=86,slow=8.7,SNR=16						
ASAR	**Alice Springs**	**31.00**	**251**	P	P	07 33 12.9	+0.4
	3.9nm,0.6s,baz=79,slow=8.5,SNR=49						

*ISCJB **12** 07:46:08.0±0.4, 18°.82N±0°.05×81°.39W±0°.04, h14km, mb3.6/10, MS3.2/3, Error ellipse: s-maj=8.2km s-min=4.5km az=25.3*

*IDC **12** 07:46:09.7±1.3, 18°.91N×81°.50W, h0km, mb3.6/6, mb1 4.0/10, mb1mx3.7/49, mbtmp3.8/10, ML4.0/4, MS3.2/6, Ms1 3.2/6, ms1mx2.9/38, Error ellipse: s-maj=33.6km s-min=23.7km az=130.0*

*NEIC **12** 07:46:09.6±0.5, 18°.83N×81°.39W, h10km, mb3.8/6, Error ellipse: s-maj=9.8km s-min=7.7km az=49.0*

NEIC Felt on Grand Cayman.

*JSN **12** 07:46:11.3±2.5, 19°.29N×81°.40W, h52km±999km, MD4.7*

ISC 12 07:46:09.3±0.6**, 18°.74N**±0°.07×**81°.44W**±0°.05**, h14**km**, n39, σ1s80**/39**, mb3.7**/10**, MS3.2**/3**, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**3.41**	**95**	*i* P	**Pn**	**07 47 01.4**	**-0.8**
MBJ				*i* S	**Sn**	**07 47 37.8**	**-4.5**
MCJ	**Malvern**	**3.65**	**102**	*i* P	**Pn**	**07 47 06.0**	**+0.5**
CVJ	**Coleyville**	**3.74**	**97**	*i* P	**Pn**	**07 47 06.8**	**0.0**
MTDJ	**Mount Denham**	**3.74**	**97**	*e*Pn	**Pn**	**07 47 06.5**	**-0.3**
MTDJ				*e*Sn	**Sn**	**07 47 47.6**	**-3.0**
PCJ	**Portland Cotta**	**4.19**	**103**	*i* P	**Pn**	**07 47 13.2**	**+0.4**
STH	**Stony Hill**	**4.44**	**98**	*i* P	**Pn**	**07 47 16.5**	**+0.2**
STH				*i* S	**Sn**	**07 48 06.6**	**-1.3**
HOJ	**Hope**	**4.51**	**99**	*i* P	**Pn**	**07 47 16.7**	**-0.6**
GWJ	**Greenwich**	**4.52**	**98**	*i* P	**Pn**	**07 47 17.7**	**+0.2**
YHJ	**Yallahs**	**4.77**	**99**	*i* P	**Pn**	**07 47 21.5**	**+0.6**
GTBY	**Guantanamo Bay**	**6.09**	**78**	*e*Pn	**Pn**	**07 47 39.5**	**+0.5**
TEIG	**Tepich**	**6.62**	**284**	Pn	**Pn**	**07 47 46.5**	**+0.3**
	17nm,0.3s,baz=78,slow=3.8,SNR=97						
TEIG				Sn	**Sn**	**07 48 57.1**	**-4.4**
	9.2nm,0.3s,baz=192,slow=22,SNR=15						
TEIG				LR	LR	07 49 44.9	
	comp=Z,86nm,21.6s,baz=245,slow=33						
TEIG	**Tepich**	**6.62**	**284**	*e*Pn	**Pn**	**07 47 46.3**	**+0.1**
TEIG				*e*Sn	**Sn**	**07 48 56.8**	**-4.8**
JTS	**JuntasAbangare**	**9.06**	**203**	Pn	Pn	07 48 24.1	+4.4
	1.0nm,0.3s,baz=358,slow=12,SNR=10						
JTS				LR	LR	07 51 20.0	
	comp=Z,108nm,18.9s,baz=70,slow=34						
JTS	**JuntasAbangare**	**9.06**	**203**	*e*P	Pn	07 48 23.7	+4.0
APG	**El Apazote**	**9.40**	**248**	Pn	**Pn**	**07 48 25.2**	**+0.5**
	0.3nm,0.3s,baz=209,slow=23,SNR=4.8						
APG				Sn	**Sn**	**07 50 08.0**	**-2.4**
	0.2nm,0.3s,baz=41,slow=20,SNR=3.3						
SDDR	**Presa de Saban**	**9.61**	**87**	*e*Pn	**Pn**	**07 48 27.8**	**+0.4**
TIGA	**Tifton**	**12.80**	**352**	Pn	**Pn**	**07 49 10.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**13.62**	**91**	Pn	Pn	07 49 17.7	-4.5
SDV	**Santo Domingo**	**14.34**	**132**	*e*Pn	**Pn**	**07 49 31.6**	**-0.6**
	16nm,0.7s						
GOGA	**Godfrey**	**14.73**	**353**	*e*Pn	**Pn**	**07 49 36.3**	**-1.0**
	3.3nm,0.5s						
GOGA				*e*Sn	Sn	07 52 09.1	-11
LRAL	**Lakeview Retre**	**15.09**	**342**	Pn	**Pn**	**07 49 39.6**	**-2.6**
	2.7nm,0.4s						
LRAL				*e*Sn	Sn	07 52 16.3	-13
TKL	**Tuckaleechee C**	**16.98**	**353**	Pn	**Pn**	**07 50 06.0**	**-0.5**
	0.7nm,0.3s,baz=193,slow=10,SNR=8.0						
TKL				LR	LR	07 56 13.0	
	comp=Z,112nm,19.1s,baz=270,slow=36						
TKL	**Tuckaleechee C**	**16.98**	**353**	*e*Pn	**Pn**	**07 50 05.6**	**-1.0**
OTAV	**Otavalo**	**18.61**	**171**	P	**Pn**	**07 50 28.1**	**+0.9**
	2.6nm,0.9s						
MIAR	**Mount Ida**	**19.09**	**328**	P	**Pn**	**07 50 33.5**	**+1.0**
	3.2nm,0.7s						
TXAR	**Lajitas Array**	**22.84**	**302**	P	**P**	**07 51 14.4**	**+2.1**
	0.3nm,0.6s,baz=114,slow=9.7,SNR=4.3						
MNTX	**Cornudas Mount**	**25.15**	**306**	P	**P**	**07 51 34.5**	**+0.3**
	0.1nm,0.5s						
JFWS	**Jewell Farm**	**25.23**	**345**	*e*P	**P**	**07 51 32.8**	**-2.0**
	4.8nm,0.7s						
ECSD	**EROS Data Cent**	**28.00**	**336**	*e*P	**P**	**07 51 58.9**	**-0.9**
	0.9nm,0.6s						
PTGA	**Pitinga**	**28.62**	**130**	LR	LR	08 04 55.7	
	comp=Z,32nm,20.1s,baz=310,slow=39						
SAML	**Samuel**	**32.88**	**145**	P	**P**	**07 52 43.3**	**+0.2**
	1.1nm,1.0s						
ULM	**Lac du Bonnet**	**33.49**	**343**	LR	LR	08 05 52.6	
	comp=Z,106nm,18.6s,baz=328,slow=36						
LPAZ	**La Paz**	**37.19**	**159**	LR	LR	08 11 15.7	
	comp=Z,37nm,18.2s,baz=359,slow=40						
YKA	**Yellowknife Ar**	**49.38**	**340**	P	**P**	**07 54 59.1**	**+0.9**
	0.1nm,0.3s,baz=129,slow=7.9,SNR=4.8						
RES	**Resolute Bay**	**56.45**	**356**	P	**P**	**07 55 51.7**	**+1.6**
	0.9nm,0.9s,baz=192,slow=9.3,SNR=2.7						
ILAR	**Eielson Array**	**62.79**	**334**	P	**P**	**07 56 35.2**	**+1.1**
	0.3nm,0.9s,baz=124,slow=4.6,SNR=4.3						
ARCES	**ARCESS Array B**	**78.36**	**20**	P	**P**	**07 58 10.8**	**+1.8**
	4.9nm,1.0s,baz=275,slow=4.2,SNR=3.7						
FINES	**FINESS Array B**	**81.78**	**28**	P	**P**	**07 58 29.5**	**+2.0**
	2.0nm,1.0s,baz=290,slow=4.5,SNR=2.6						
ASAR	**Alice Springs**	**146.74**	**255**	PKPbc	**PKPab**	**08 05 54.3**	**+1.4**
	0.3nm,0.5s,baz=106,slow=3.6,SNR=3.3						

*ISCJB **12** 07:50:45.8±1.2, 33°.92N±0°.09×25°.3E±0°.2, h17km, mb3.4/2, Error ellipse: s-maj=18.4km s-min=13.4km az=170.9*

*IDC **12** 07:50:45.4±1.6, 34°.04N×25°.29E, h0km, mb3.6/2, mb1 3.5/5, mb1mx3.3/42, mbtmp3.4/5, ML3.6/3, Error ellipse: s-maj=29.2km s-min=21.5km az=106.0*

ISC 12 07:50:47.8±1.3**, 34°.05N**±0°.10×**25°.1E**±0°.1**, h17**km**, n6, σ1s46**/7**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**1.25**	**351**	Pn	**Pn**	**07 51 09.9**	**-0.7**
	4.4nm,0.3s,baz=153,slow=8.7,SNR=24						
IDI				Sn	**Sg**	**07 51 29.9**	**+1.6**
	25nm,0.3s,baz=319,slow=14,SNR=15						
BRTR	**Keskin Array B**	**8.86**	**48**	Pn	**Pn**	**07 52 56.3**	**+1.1**
	0.1nm,0.3s,baz=233,slow=13,SNR=3.7						
AKASG	**Malin Array Be**	**16.91**	**9**	Pn	**P**	**07 54 44.6**	**-0.8**
	0.5nm,0.3s,baz=203,slow=11,SNR=6.9						
GERES	**GERESS Array B**	**17.05**	**334**	P	**P**	**07 54 46.5**	**-0.6**
	0.1nm,0.3s,baz=147,slow=13,SNR=3.3						
TORD	**Torodi Ar. Bea**	**29.76**	**231**	P	**P**	**07 56 54.8**	**+1.2**
	0.4nm,0.7s,baz=32,slow=8.5,SNR=3.8						
MKAR	**Makanchi Array**	**44.42**	**56**	P	**P**	**07 58 56.3**	**-1.4**
	0.7nm,0.6s,baz=278,slow=6.6,SNR=7.7						

*IDC **12** 07:51:07.0±1.6, 34°.34N×25°.35E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/42, mbtmp3.4/6, ML3.5/3, Error ellipse: s-maj=43.5km s-min=24.2km az=134.0*

*ISCJB **12** 07:51:08.9±1.2, 34°.1N±0°.1×25°.5E±0°.1, h30km, mb3.4/3, Error ellipse: s-maj=17.5km s-min=14.2km az=157.1*

ISC 12 07:51:11.2±1.2**, 34°.2N**±0°.1×**25°.4E**±0°.1**, h30**km**, n7, σ1s34**/7**, mb3.3**/3**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**1.14**	**339**	Sn	**Sb**	**07 51 48.0**	**+1.2**
	34nm,0.3s,baz=320,slow=15,SNR=6.3						
BRTR	**Keskin Array B**	**8.58**	**48**	Pn	**Pn**	**07 53 14.7**	**+1.2**
	0.1nm,0.3s,baz=236,slow=13,SNR=3.8						
AKASG	**Malin Array Be**	**16.70**	**8**	Pn	**Pn**	**07 55 01.8**	**-1.0**
	0.4nm,0.3s,baz=202,slow=11,SNR=5.2						
GERES	**GERESS Array B**	**17.00**	**333**	Pn	**Pn**	**07 55 06.2**	**-0.6**
	0.1nm,0.3s,baz=144,slow=11,SNR=3.3						
TORD	**Torodi Ar. Bea**	**30.05**	**231**	P	**P**	**07 57 18.8**	**+1.0**
	0.3nm,0.6s,baz=27,slow=9.7,SNR=2.7						
MKAR	**Makanchi Array**	**44.13**	**56**	P	**P**	**07 59 16.6**	**-0.4**
	0.9nm,0.5s,baz=278,slow=6.1,SNR=5.3						
YKA	**Yellowknife Ar**	**78.39**	**342**	P	**P**	**08 03 07.2**	**-1.3**
	0.2nm,0.8s,baz=31,slow=5.5,SNR=3.0						

*ISCJB **12** 07:52:55.5±0.3, 19°.02N±0°.04×145°.46E±0°.08, h214km, mb4.1/35, Error ellipse: s-maj=10.4km s-min=5.3km az=170.9*

*NEIC **12** 07:52:58.0±1.1, 18°.99N×145°.56E, h226km±10km, mb4.5/15, Error ellipse: s-maj=10.9km s-min=6.1km az=90.0*

*IDC **12** 07:52:57.3±0.7, 19°.03N×145°.58E, h222km±6km, mb3.8/20, mb1 4.0/22, mb1mx3.8/42, mbtmp4.4/22, Error ellipse: s-maj=15.1km s-min=7.3km az=85.0*

ISC 12 07:52:56.7±0.4**, 19°.08N**±0°.05×**145°.6E**±0°.1**, h214**km**, n52, σ1s24**/65**, mb4.2**/35**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.51**	**187**	*e*Pn	**Pn**	**07 54 19.1**	**+1.1**
GUMO				*e*Sn	**S**	**07 55 23.2**	**+1.1**
CBIJ	**Chichi jima**	**8.56**	**339**	P	**Pn**	**07 54 57.4**	**+0.2**
CBIJ				S	**S**	**07 56 30.0**	**-3.7**
JCJ	**Chichijima**	**8.56**	**339**	P	**Pn**	**07 54 57.4**	**+0.2**
	45nm,0.3s,baz=220,slow=23,SNR=13						
JCJ				S	**S**	**07 56 30.0**	**-3.7**
	28nm,0.3s,baz=297,slow=22,SNR=7.2						
JOW	**Kunigami**	**17.69**	**299**	P	**Pn**	**07 56 51.7**	**+1.3**
	baz=92,slow=17						
JOW	**Kunigami**	**17.69**	**299**	*e*P	**Pn**	**07 56 51.3**	**+0.9**
	10nm,0.4s						
MJAR	**Matsushiro Arr**	**18.56**	**341**	P	**P**	**07 56 58.5**	**+0.8**
	1.7nm,0.3s,baz=170,slow=11,SNR=12						
MJAR				S	**S**	**08 00 18.0**	**+0.1**
	0.6nm,0.3s,baz=174,slow=16,SNR=4.1						
MAJO	**Matsushiro**	**18.56**	**341**	*e*P	**Pn**	**07 57 00.2**	**-0.3**
	8.1nm,0.5s						
MAT	**Matsushiro**	**18.56**	**341**	P	**Pn**	**07 56 59.5**	**-1.1**
MAT				S	**S**	**08 00 18.9**	**+1.0**
SSLB	**Suanglung**	**23.38**	**286**	*e*P	**P**	**07 57 47.1**	**+0.7**
	8.1nm,0.4s						
KSRS	**Korea Array**	**23.94**	**324**	P	**P**	**07 57 52.0**	**+0.6**
	2.6nm,0.8s,baz=155,slow=9.1,SNR=6.3						
KSAR	**Wonju Array Be**	**23.95**	**323**	P	**P**	**07 57 52.0**	**+0.5**
PMG	**Port Moresby**	**28.35**	**177**	P	**P**	**07 58 29.4**	**-1.7**
	4.6nm,0.4s,baz=258,slow=14,SNR=4.1						
COEN	**Coen**	**32.92**	**184**	*e*P	**P**	**07 59 09.8**	**-1.3**
	44nm,0.5s						
PETK	**Petropavlovsk-**	**35.24**	**13**	P	**P**	**07 59 31.4**	**+0.7**
	1.6nm,0.7s,baz=169,slow=8.1,SNR=4.3						
WRAB	**Tennant Creek**	**40.31**	**196**	*e*P	**P**	**08 00 12.9**	**-0.5**
	21nm,0.6s						
WRA	**Warramunga Arr**	**40.32**	**196**	P	**P**	**08 00 13.2**	**-0.4**
	16nm,0.6s,baz=20,slow=9.0,SNR=105						
WRA				PcP	**PcP**	**08 02 11.8**	**-1.0**
	1.7nm,0.5s,baz=2.0,slow=3.2,SNR=5.4						
AS31	**Alice Springs**	**43.99**	**195**	*e*P	**P**	**08 00 42.4**	**-0.7**
ASAR	**Alice Springs**	**43.99**	**195**	P	**P**	**08 00 42.5**	**-0.6**
	4.2nm,0.5s,baz=13,slow=7.6,SNR=84						
ASAR				PcP	**PcP**	**08 02 24.3**	**-0.6**
	1.3nm,0.7s,baz=28,slow=3.5,SNR=5.6						
CMAR	**Chiang Mai Arr**	**44.05**	**277**	P	**P**	**08 00 45.5**	**+1.8**
	1.0nm,0.3s,baz=63,slow=6.1,SNR=5.7						
SEY	**Seymchan**	**44.06**	**4**	P	**P**	**08 00 45.2**	**+2.0**
	1.1nm,0.4s,baz=143,slow=10,SNR=3.7						
DZM	**Mont Dzumac**	**45.71**	**153**	P	**P**	**08 00 56.8**	**0.0**
	14nm,0.5s,baz=330,slow=4.8,SNR=18						
DZM	**Mont Dzumac**	**45.71**	**153**	*e*P	**P**	**08 00 56.2**	**-0.6**
	6.1nm,0.4s						
MBWA	**Marble Bar**	**47.33**	**214**	*e*P	**P**	**08 01 09.8**	**+0.6**
	6.6nm,0.4s						
BILL	**Bilibino**	**50.66**	**10**	*e*P	**P**	**08 01 35.5**	**+1.6**
	27nm,1.5s						
STKA	**Stephens Creek**	**50.81**	**184**	P	**P**	**08 01 34.0**	**-1.4**
	2.4nm,0.5s,baz=359,slow=7.7,SNR=22						
STKA	**Stephens Creek**	**50.81**	**184**	*e*P	**P**	**08 01 33.7**	**-1.8**
	0.4nm,0.5s						
FORT	**Forrest**	**52.36**	**199**	*e*P	**P**	**08 01 46.2**	**-0.7**
	24nm,0.7s						
ZALV	**Zalesovo Beam**	**57.64**	**322**	P	**P**	**08 02 24.8**	**+0.4**
	0.5nm,0.3s,baz=101,slow=7.5,SNR=2.6						
ZALV				pP	**PcP**	**08 03 14.2**	**-0.8**
	1.0nm,0.5s,baz=91,slow=8.9,SNR=2.6						
MKAR	**Makanchi Array**	**58.11**	**314**	P	**P**	**08 02 28.0**	**+0.1**
	0.5nm,0.4s,baz=89,slow=8.5,SNR=8.5						
MKAR				pP	**PcP**	**08 03 17.8**	**+0.6**
	0.8nm,0.7s,baz=87,slow=9.6,SNR=3.5						
NWAO	**Narrogin (SRO)**	**58.38**	**208**	P	**P**	**08 02 29.1**	**-0.8**
	7.4nm,0.6s,baz=59,slow=6.2,SNR=6.9						
ILAR	**Eielson Array**	**63.35**	**26**	P	**P**	**08 03 01.5**	**-1.4**
	2.8nm,0.7s,baz=257,slow=4.6,SNR=45						
AKTO	**Aktyubinsk**	**74.00**	**318**	P	**P**	**08 04 08.8**	**-0.1**
	0.4nm,0.4s,baz=70,slow=9.9,SNR=3.9						
YKA	**Yellowknife Ar**	**77.70**	**28**	P	**P**	**08 04 30.0**	**+0.5**
	2.3nm,0.6s,baz=290,slow=5.4,SNR=36						
YKA				pP	**pP**	**08 05 22.2**	**+1.6**
	0.7nm,0.6s,baz=287,slow=5.3,SNR=3.6						
NEW	**Newport**	**80.71**	**42**	*e*P	**P**	**08 04 46.9**	**+0.7**
	7.1nm,1.0s						
KEV	**Kevo**	**81.53**	**342**	*e*p	**P**	**08 04 49.1**	**-0.9**
	2.5nm,0.6s						
CMB	**Columbia Colle**	**81.56**	**53**	*e*P	**P**	**08 04 51.8**	**+0.9**
	8.9nm,1.0s						
ARCES	**ARCESS Array B**	**82.09**	**342**	P	**P**	**08 04 52.8**	**-0.1**
	0.8nm,0.4s,baz=82,slow=7.3,SNR=20						
ARCES				pP	**pP**	**08 05 47.1**	**+2.5**
	2.2nm,0.7s,baz=62,slow=8.4,SNR=2.5						
NVAR	**Mina Array Bea**	**83.00**	**52**	P	**P**	**08 04 59.8**	**+1.3**
	6.8nm,0.7s,baz=266,slow=6.1,SNR=58						
JOF	**Joensuu**	**83.62**	**335**	*e*p	**P**	**08 04 59.3**	**-1.6**
	1.6nm,0.4s						
TPH	**Tonopah**	**83.92**	**52**	*e*P	**P**	**08 05 03.9**	**+0.7**
	4.0nm,0.8s						
MCMT	**McKenzie Canyo**	**84.65**	**44**	*e*P	**P**	**08 05 07.4**	**+0.6**
	0.8nm,0.7s						
QLMT	**Earthquake Lak**	**85.58**	**44**	*e*P	**P**	**08 05 12.6**	**+1.3**
	0.5nm,0.7s						
DUG	**Dugway**	**86.38**	**49**	*e*P	**P**	**08 05 15.8**	**+0.5**
	3.7nm,0.8s						
FINES	**FINESS Array B**	**86.49**	**335**	P	**P**	**08 05 13.2**	**-2.0**
	1.3nm,0.3s,baz=76,slow=3.6,SNR=23						
FINES				pP	**pP**	**08 06 08.6**	**+1.2**
	2.1nm,0.8s,baz=150,slow=4.2,SNR=2.9						
ARUT	**Antelope Range**	**86.82**	**51**	*e*P	**P**	**08 05 18.8**	**+1.3**
	48nm,0.7s						
PDAR	**Pinedale Array**	**87.64**	**45**	P	**P**	**08 05 21.6**	**+0.2**
	0.5nm,0.4s,baz=200,slow=1.2,SNR=14						
PV10	**Paradox Valley**	**89.79**	**49**	*e*P	**P**	**08 05 32.0**	**+0.4**
PV04	**Paradox Valley**	**89.88**	**49**	*e*P	**P**	**08 05 32.9**	**+1.0**
PV01	**Paradox Valley**	**90.22**	**49**	*e*P	**P**	**08 05 34.1**	**+0.5**
HFS	**Hagfors**	**91.98**	**338**	P	**P**	**08 05 39.0**	**-1.9**
	0.6nm,0.4s,baz=81,slow=8.9,SNR=4.3						
LPAZ	**La Paz**	**147.80**	**90**	*e*PKPbc	**PKPbc**	**08 12 17.9**	**0.0**
SAML	**Samuel**	**150.38**	**74**	*e*PKPdf	**PKPdf**	**08 12 17.6**	**-0.7**
SAML				*e*PKPbc	**PKPbc**	**08 12 23.4**	**-0.3**

*IDC **12** 07:57:46.8±0.8, 7°.20S×154°.91E, h0km, mb4.4/12, mb1 4.6/13, mb1mx4.4/31, mbtmp4.4/13, ML3.1/1, Error ellipse: s-maj=28.0km s-min=16.9km az=126.0*

*NEIC **12** 07:57:49.0±0.5, 7°.15S×154°.90E, h10km, mb4.7/11, Error ellipse: s-maj=18.9km s-min=10.6km az=137.0*

*BJI **12** 07:57:50.1, 6°.45S×155°.18E, h14km, mB5.1/14, mb4.8/26, Ms5.0/3, Ms7 4.7/2*

*MOS **12** 07:57:51.0±1.3, 6°.99S×154°.69E, h29km, mb4.6/16, Error ellipse: s-maj=15.7km s-min=13.7km az=136.8*

*ISCJB **12** 07:57:52.2±0.4, 7°.14S±0°.07×154°.77E±0°.07, h41km, mb4.5/29, Error ellipse: s-maj=12.0km s-min=6.7km az=43.9*

ISC 12 07:57:53.2±0.6**, 7°.13S**±0°.09×**154°.88E**±0°.09**, h41**km**, n71, σ1s21**/81**, mb4.6**/29**, 4C-4D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.96**	**253**	P	**Pn**	**07 59 45.8**	**-0.7**
PMG						08 01 16.3	
PMG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PMG				smax	smax		
	comp=N,2.0nm,0.3s						
PMG	**Port Moresby**	**7.96**	**253**	Pn	**Pn**	**07 59 45.8**	**-0.7**
	comp=N,1.5nm,0.3s,baz=72,slow=9.6,SNR=5.5						
PMG				Sn	**Sn**	**08 01 16.3**	**+0.9**
	comp=N,2.0nm,0.3s,baz=254,slow=18,SNR=4.6						
PMG	**Port Moresby**	**7.96**	**253**	*e*Pn	**Pn**	**07 59 47.6**	**+1.1**
PMG				Sn	**Sn**	**08 01 16.3**	**+0.9**
CTA	**Charters Tower**	**15.36**	**212**	Pn	**P**	**08 01 31.8**	**+0.4**
	comp=N,0.3nm,0.3s,baz=49,slow=11,SNR=6.1						
CTAO	**Charters Tower**	**15.36**	**212**	*e*P	**P**	**08 01 31.7**	**+0.4**
	comp=N,13nm,1.0s						
QIS	**Mount Isa**	**19.92**	**226**	P	**P**	**08 02 21.2**	**-0.5**
	baz=18,SNR=11						
RMQ	**Roma**	**20.11**	**196**	P	Pn	08 02 25.0	-0.8
	baz=19,SNR=16						
QLP	**Quilpie**	**21.84**	**206**	P	**P**	**08 02 42.3**	**+0.1**
	baz=20,SNR=9.2						
WRAB	**Tennant Creek**	**23.63**	**235**⇑	*e*P	**P**	**08 02 59.6**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,36nm,1.3s						
WRAB	**Tennant Creek**	**23.63**	**235**	*e*P	**P**	**08 03 00.4**	**-0.5**
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**23.64**	**235**	P	**P**	**08 02 59.3**	**-1.7**
WRA				pmax	pmax		
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**23.64**	**235**	P	**P**	**08 02 59.2**	**-1.7**
	comp=Z,14nm,1.1s,baz=60,slow=9.6,SNR=16						
MTN	**Manton Dam**	**24.05**	**254**	P	**P**	**08 03 04.6**	**-0.2**
	baz=22,SNR=4.6						
CMSA	**Cobar Meteorol**	**25.75**	**198**	P	**P**	**08 03 20.5**	**+0.4**
	baz=24,SNR=14						
ASAR	**Alice Springs**	**26.00**	**228**	P	**P**	**08 03 21.6**	**-0.9**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**26.00**	**228**	P	**P**	**08 03 21.6**	**-0.9**
	comp=Z,2.2nm,0.7s,baz=61,slow=9.0,SNR=12						
STKA	**Stephens Creek**	**27.56**	**205**	P	**P**	**08 03 34.8**	**-1.6**
STKA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
STKA	**Stephens Creek**	**27.56**	**205**	P	**P**	**08 03 34.8**	**-1.6**
	comp=Z,5.1nm,0.6s,baz=33,slow=15,SNR=9.4						
STKA	**Stephens Creek**	**27.56**	**205**	*e*P	**P**	**08 03 37.9**	**+1.4**
	comp=Z,27nm,2.9s						
STKA	**Stephens Creek**	**27.56**	**205**	P	**P**	**08 03 38.1**	**+1.7**
	baz=26,SNR=8.8						
WRKA	**Warakurna**	**31.02**	**232**	P	P	08 04 01.6	-5.8
	baz=29,SNR=5.2						
KSRS	**Korea Array**	**51.00**	**332**	P	**P**	**08 06 49.8**	**-1.3**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSRS	**Korea Array**	**51.00**	**332**	P	**P**	**08 06 49.8**	**-1.3**
	comp=Z,2.7nm,0.9s,baz=145,slow=9.4,SNR=5.5						
KSAR	**Wonju Array Be**	**51.01**	**332**	P	**P**	**08 06 49.8**	**-1.4**
KLR	**Kul'dur**	**59.66**	**343**	*e*P	P	08 07 45.8	-7.5
XAN	**Xi'an**	**59.72**	**316**	P	**P**	**08 07 54.1**	**0.0**
XAN				pP	**pP**	**08 08 04.0**	**-2.0**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,21nm,5.3s						
PETK	**Petropavlovsk-**	**60.05**	**2**	P	**P**	**08 07 55.7**	**-0.2**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PETK	**Petropavlovsk-**	**60.05**	**2**	P	**P**	**08 07 55.6**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=193,slow=6.1,SNR=4.1						
CMAR	**Chiang Mai Arr**	**60.73**	**296**	P	**P**	**08 08 02.7**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**60.73**	**296**	P	**P**	**08 08 02.7**	**+1.5**
	comp=Z,5.9nm,0.7s,baz=108,slow=4.8,SNR=20						
FX1	**Attu Island--F**	**61.77**	**12**	*e*P	**P**	**08 08 07.8**	**+0.2**
LZH	**Lanzhou**	**64.33**	**316**	⇓P	**P**	**08 08 26.7**	**+1.6**
LZH				pP	**pP**	**08 08 36.4**	**-0.8**
LZH				sP	**sP**	**08 08 39.7**	**-2.2**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.5s						
GTA	**Gaotai**	**68.76**	**317**	P	**P**	**08 08 54.7**	**+1.4**
GTA				pP	**pP**	**08 09 04.5**	**-1.0**
GTA				sP	**sP**	**08 09 09.0**	**-1.2**
GTA				pmax	pmax		
	comp=Z,11nm,0.9s						
ULN	**Ulaanbaatar**	**69.05**	**328**⇓	*i*P	**P**	**08 08 55.6**	**+0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**69.05**	**328**	*e*P	**P**	**08 08 55.8**	**+0.8**
	comp=Z,3.2nm,0.8s						
SONM	**Songino Array**	**69.39**	**327**	P	**P**	**08 08 57.5**	**+0.5**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**69.39**	**327**	P	**P**	**08 08 57.5**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=136,slow=6.6,SNR=20						
LSA	**Lhasa**	**71.25**	**305**	*e*P	**P**	**08 09 10.5**	**+1.3**
	comp=Z,5.7nm,0.7s						
ZAK	**Zakamensk**	**72.55**	**328**⇑	*i*P	**P**	**08 09 15.8**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL	**Bilibino**	**75.42**	**4***c*	*i*P	**P**	**08 09 32.3**	**-0.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BILL	**Bilibino**	**75.42**	**4**	*e*P	**P**	**08 09 32.2**	**-0.2**
	comp=Z,7.6nm,0.8s						
WMQ	**Urumqi**	**78.84**	**317**	*e*P	**P**	**08 09 53.0**	**+0.8**
WMQ				pP	**PcP**	**08 09 57.2**	**-3.7**
WMQ				sP	sP	08 10 00.0	-9.3
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.0s						
COLA	**College**	**83.25**	**21**⇓	*e*P	**P**	**08 10 13.9**	**-1.2**
COLA				pmax	pmax		
	comp=Z,42nm,1.7s						
COLA	**College**	**83.25**	**21**	*e*P	**P**	**08 10 14.6**	**-0.5**
	comp=Z,99nm,2.6s						
MK31	**Makanchi Array**	**83.43**	**319**	*e*P	**P**	**08 10 17.0**	**+0.5**
MKAR	**Makanchi Array**	**83.43**	**319**	P	**P**	**08 10 16.6**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MKAR	**Makanchi Array**	**83.43**	**319**	P	**P**	**08 10 16.6**	**+0.1**
	comp=Z,5.7nm,0.9s,baz=103,slow=5.5,SNR=43						
ILAR	**Eielson Array**	**83.54**	**22**	P	**P**	**08 10 15.7**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**83.54**	**22**	P	**P**	**08 10 15.7**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=228,slow=5.4,SNR=7.9						
ZALV	**Zalesovo Beam**	**84.22**	**326**	P	**P**	**08 10 19.9**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**84.22**	**326**	P	**P**	**08 10 19.9**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=131,slow=4.5,SNR=3.9						
HYT	**Haines Junctio**	**85.55**	**27**	*e*P	**P**	**08 10 29.7**	**+2.6**
EGAK	**Eagle**	**85.69**	**23**	*e*P	**P**	**08 10 28.3**	**+0.9**
	comp=Z,4.2nm,0.7s						
KSH	**Kashi**	**86.01**	**310**	*e*P	**P**	**08 10 31.7**	**+1.9**
KSH				*e*sP	sP	08 10 38.7	-8.2
KSH				SKS	**SKSac**	**08 20 52.3**	**-0.5**
KSH				S	**S**	**08 21 02.2**	**+1.1**
KSH				SS	**SS**	**08 26 40.6**	**+0.6**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KSH				LR	LR		
	comp=Z,54nm,6.2s						
KSH				LR	LR		
	comp=Z,93nm,5.5s						
KSH				LR	LR		
	comp=Z,100nm,6.1s						

DAWY Dawson 86.07 24 eP P 08 10 31.9 +2.5
AAK Ala-Archa 87.76 313⇑eP P 08 10 39.5 +1.2
AAK pmax pmax
comp=Z,4.0nm,0.9s
MWC Mount Wilson 91.55 56 eP P 08 10 57.1 +0.8
comp=Z,5.7nm,0.9s
NVAR Mina Array Bea 91.90 52 P P 08 10 59.2 +1.4
comp=Z,2.8nm,1.1s,baz=262,slow=6.3,SNR=8.8
DAC Darwin (Calif) 92.18 54 eP P 08 11 00.7 +1.5
comp=Z,4.2nm,1.0s
BRVK Borovoye 92.40 323⇓eP P 08 10 59.4 -0.1
BRVK pmax pmax
comp=Z,6.0nm,2.5s
TPH Tonopah 92.70 52 eP P 08 11 02.8 +1.3
comp=Z,3.0nm,1.1s
YKA Yellowknife Ar 96.51 28 P P 08 11 18.5 +0.4
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 96.51 28 P P 08 11 18.5 +0.4
comp=Z,2.6nm,0.8s,baz=267,slow=4.6,SNR=34
ARU Arti 99.39 326 P Pdif 08 11 31.3 +0.1
ARU 08 15 35.7
ARU S SKSac 08 22 07.2 +0.9
ARU SS SS 08 29 50.1 -0.4
OBN Obninsk 111.80 327 iPKIKP PKiKP 08 16 20.5 -3.0
OBN pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 125.87 331 ePKIKP PKPdf 08 16 52.0 +1.3
CLL e 08 17 06.0
CLL pmax pmax
comp=Z,23nm,2.1s
GERES GERESS Array B 127.11 329 PKP PKPdf 08 16 53.1 -0.2
comp=Z,0.3nm,0.4s,baz=328,slow=1.7,SNR=4.7
PTGA Pitinga 144.37 101 ePKPdf PKPbc 08 17 24.6 0.0
BDFB Brasilia 147.97 135 PKIKP PKPbc 08 17 34.6 -0.7
BDFB pmax pmax
comp=Z,3.0nm,0.7s
BDFB Brasilia 147.97 135 PKPbc PKPbc 08 17 34.6 -0.7
comp=Z,3.1nm,0.7s,baz=169,slow=4.8,SNR=3.4
TORD Torodi Ar. Bea 152.95 285 PKPbc PKPbc 08 17 47.2 0.0
comp=Z,3.1nm,0.8s,baz=52,slow=2.1,SNR=14
TORD PKPab PKPab 08 17 57.1 -1.4
comp=Z,2.0nm,0.7s,baz=60,slow=2.6,SNR=6.8

IDC 12 08:01:07.4±0.8, 7°.17S×154°.91E, h0km, mb4.5/15, mb1 4.6/16, mb1mx4.5/32, mbtmp4.4/16, MS3.9/12, Ms1 3.9/12, ms1mx3.7/23, Error ellipse: s-maj=27.5km s-min=15.6km az=132.0
BJI 12 08:01:08.0, 7°.20S×154°.90E, h20km, mB5.1/12, mb4.8/28, Ms7 4.5/1
NEIC 12 08:01:09.4±0.3, 7°.08S×154°.75E, h10km, mb4.7/10, Error ellipse: s-maj=11.8km s-min=7.5km az=112.0
ISCJB 12 08:01:11.5±0.3, 7°.13S±0°.05×154°.90E±0°.05, h33km, mb4.5/34, MS3.9/11, Error ellipse: s-maj=8.1km s-min=5.7km az=37.2
MOS 12 08:01:13.0±1.1, 7°.05S×154°.80E, h44km, mb4.7/20, Error ellipse: s-maj=12.2km s-min=9.4km az=66.4
ISC 12 08:01:13.6±0.7, 7°.14S±0°.07×154°.92E±0°.08, h41km±5km, h41km:pP-P, n114, σ1°32/118, mb4.5/33, MS3.9/11, 3C-3D, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 5.47 115 LR LR 08 04 37.3
comp=Z,1μm,18.8s,baz=284,slow=38
PMG Port Moresby 8.00 253 eP Pn 08 03 08.2 +0.8
PMG 08 04 38.2
PMG Port Moresby 8.00 253 Pn Pn 08 03 05.6 -1.7
baz=63,slow=7.2,SNR=2.3
PMG Sn Sn 08 04 38.2 +1.6
1.1nm,0.3s,baz=95,slow=16,SNR=9.4
PMG Port Moresby 8.00 253 ePn Pn 08 03 08.2 +0.8
PMG Sn Sn 08 04 38.2 +1.6
PMG Port Moresby 8.00 253 S Sn 08 04 40.6 +4.0
baz=7.8,SNR=5.0
COEN Coen 13.38 239 ePn Pn 08 04 18.3 -2.7
72nm,1.1s
COEN Coen 13.38 239 P P 08 04 30.5 +0.8
baz=13,SNR=4.4
MTSU Mount Surprise 15.03 222 P P 08 04 49.3 +1.1
baz=15,SNR=6.0
CTA Charters Tower 15.37 212 Pn P 08 04 50.5 -1.4
0.1nm,0.3s,baz=53,slow=12,SNR=7.0
CTAO Charters Tower 15.37 212 eP P 08 04 50.3 -1.5
CTAO pmax pmax
comp=Z,21nm,1.1s
CTAO Charters Tower 15.37 212 eP P 08 04 50.3 -1.5
comp=Z,21nm,1.1s
EIDS Eidsvold 18.49 191 eP Pn 08 05 27.2 +0.4
comp=Z,39nm,1.7s
DZM Mont Dzumac 18.55 144 P Pn 08 05 29.6 +2.1
comp=Z,0.1nm,0.3s,baz=350,slow=17,SNR=2.8
RMQ Roma 20.11 196 P Pn 08 05 45.4 -0.7
baz=20,SNR=21
QLP Quilpie 21.84 206 P P 08 06 02.8 +0.1
baz=22,SNR=13
KDU Kakadu 22.77 254 P P 08 06 13.2 +0.5
baz=23,SNR=4.1
ARMA Armidale 23.36 187 eP P 08 06 18.4 -0.2
comp=Z,42nm,1.5s
WRAB Tennant Creek 23.66 235 diP P 08 06 19.7 -1.8
WRAB pmax pmax
comp=Z,44nm,1.0s
WRAB Tennant Creek 23.66 235 eP P 08 06 19.4 -2.1
WRA Warramunga Arr 23.67 235 P P 08 06 19.9 -1.7
WRA pmax pmax
comp=Z,16nm,1.0s
WRA MLR MLR
comp=Z,310nm,20.7s
WRA Warramunga Arr 23.67 235 P P 08 06 19.9 -1.7
comp=Z,16nm,1.0s,baz=60,slow=9.7,SNR=16
WRA LR LR 08 15 00.2
comp=Z,310nm,20.7s,baz=65,slow=35
CMSA Cobar Meteorol 25.75 198 P P 08 06 41.1 +0.6
baz=26,SNR=17
ASAR Alice Springs 26.02 229 P P 08 06 42.0 -1.1
ASAR pmax pmax
comp=Z,5.0nm,0.9s
ASAR MLR MLR
comp=Z,351nm,20.5s
ASAR Alice Springs 26.02 229 P P 08 06 42.0 -1.1
comp=Z,4.5nm,0.9s,baz=59,slow=9.4,SNR=12
ASAR LR LR 08 15 44.9
comp=Z,351nm,20.5s,baz=80,slow=34
STKA Stephens Creek 27.57 205 P P 08 06 56.0 -0.9
STKA pmax pmax
comp=Z,10.0nm,0.9s
STKA MLR MLR
comp=Z,16nm,28.6s
STKA Stephens Creek 27.57 205 P P 08 06 56.0 -0.9
comp=Z,10nm,0.9s,baz=22,slow=12,SNR=14
STKA LR LR 08 17 35.0
comp=Z,319nm,20.0s,baz=21,slow=36
STKA Stephens Creek 27.57 205 eP P 08 06 55.6 -1.3
STKA Stephens Creek 27.57 205 P P 08 06 56.1 -0.9
baz=28,SNR=17
WRKA Warakurna 31.05 232 P P 08 07 26.5 -1.4
baz=31,SNR=3.7
FORT Forrest 34.43 223 eP P 08 07 55.5 -1.8
comp=Z,29nm,1.1s
MBWA Marble Bar 36.74 244 eP P 08 08 15.6 -1.7
comp=Z,12nm,1.1s
KSRS Korea Array 51.03 332 P P 08 10 11.1 -0.6
KSRS pmax pmax
comp=Z,4.0nm,0.9s
KSRS Korea Array 51.03 332 P P 08 10 11.1 -0.6
comp=Z,3.7nm,0.9s,baz=152,slow=8.4,SNR=5.8
KSAR Wonju Array Be 51.04 332 P P 08 10 11.1 -0.7
KSAR Wonju Array Be 51.04 332 P P 08 10 11.1 -0.7
PPT Papeete 55.03 106 LR LR 08 32 33.5
comp=Z,43nm,18.1s,baz=250,slow=34
PSI Prapat 56.74 278 LR LR 08 38 03.1
comp=Z,65nm,19.6s,slow=39
XAN Xi'an 59.76 316 P P 08 11 14.2 -0.5
XAN pP pP 08 11 25.4 -1.3
XAN sP sP 08 11 31.0 -0.5
XAN pmax pmax
comp=Z,2.0nm,0.9s
KMI Kunming 60.03 304 P P 08 11 19.0 +2.0
KMI pmax pmax
comp=Z,11nm,0.9s
PETK Petropavlovsk- 60.07 2 P P 08 11 15.8 -0.5
comp=Z,2.5nm,0.8s,baz=165,slow=6.0,SNR=3.5
PETK LR LR 08 32 44.7
comp=Z,32nm,21.9s,baz=166,slow=32
CMAR Chiang Mai Arr 60.78 296 P P 08 11 23.3 +1.4
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR MLR MLR
comp=Z,15nm,28.6s
CMAR Chiang Mai Arr 60.78 296 P P 08 11 23.2 +1.4
comp=Z,5.7nm,0.9s,baz=111,slow=5.4,SNR=17
CMAR LR LR 08 38 04.1
comp=Z,20nm,18.7s,baz=170,slow=36
HIA Hailar 64.02 335 eP P 08 11 42.6 -0.4
LZH Lanzhou 64.37 316 eP P 08 11 47.4 +1.7
LZH pP pP 08 11 56.7 -1.1
LZH sP sP 08 12 00.6 -2.0
LZH pmax pmax
comp=Z,30nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.6s
GTA Gaotai 68.80 317 eP P 08 12 15.3 +1.4
GTA pP pP 08 12 20.8 -5.3
GTA sP sP 08 12 24.2 -6.6
GTA pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 69.09 328⇓iP P 08 12 16.2 +0.6
ULN i*PP pP 08 12 29.7 +1.9
ULN pmax pmax
comp=Z,16nm,2.5s
ULN Ulaanbaatar 69.09 328 eP P 08 12 15.6 0.0
comp=Z,2.2nm,0.6s
SONM Songino Array 69.42 327 P P 08 12 18.2 +0.6
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 69.42 327 P P 08 12 18.2 +0.6
comp=Z,2.6nm,0.9s,baz=132,slow=6.4,SNR=19
SEY Seymchan 69.90 359 eP P 08 12 20.5 +0.5
VNDA Vanda 70.44 178 LR LR 08 37 22.8
comp=Z,84nm,19.6s,baz=262,slow=31
LSA Lhasa 71.29 305 P P 08 12 29.6 -0.2
LSA Lhasa 71.29 305 eP P 08 12 29.8 0.0
LSA pmax pmax
comp=Z,3.0nm,0.7s
LSA Lhasa 71.29 305 eP P 08 12 29.8 0.0
comp=Z,3.1nm,0.7s
YAK Yakutsk 71.69 348 eP P 08 12 30.7 -0.2
YAK pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 72.58 328⇑iP P 08 12 36.5 -0.2
ZAK e 08 12 59.5
ZAK pmax pmax
comp=Z,4.0nm,1.1s
TLY Talaya 73.15 330 eP P 08 12 40.3 +0.4
TLY pmax pmax
comp=Z,9.0nm,2.5s
TAPN Taplejung 73.41 301 eP P 08 12 43.6 +1.3
comp=Z,32nm,1.1s
TAPN Taplejung 73.41 301 eP P 08 12 43.6 +1.3
ODAN Odare 73.54 301 eP P 08 12 44.3 +1.3
comp=Z,39nm,0.9s
ODAN Odare 73.54 301 eP P 08 12 44.3 +1.3
JIRN Jiri 74.79 301 eP P 08 12 51.8 +1.3
comp=Z,12nm,0.7s
JIRN Jiri 74.79 301 eP P 08 12 51.8 +1.3
GUN Gumba 75.13 301 eP P 08 12 53.5 +1.1
comp=Z,34nm,0.9s
GUN Gumba 75.13 301 eP P 08 12 53.5 +1.1
PKI Pulchoki 75.43 301 eP P 08 12 54.9 +0.8
PKI Pulchoki 75.43 301 eP P 08 12 54.9 +0.8
PKI Pulchoki 75.43 301 eP P 08 12 54.9 +0.8
BILL Bilibino 75.44 4 ciP P 08 12 52.8 0.0
BILL i 08 13 04.6
BILL i 08 13 11.6
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 75.44 4 eP P 08 12 52.7 -0.2
comp=Z,8.5nm,0.8s
PKIN Phulchoki 75.44 301 eP P 08 12 54.9 +0.8
KKN Kakani 75.60 301 eP P 08 12 55.9 +0.9
KKN Kakani 75.60 301 eP P 08 12 55.9 +0.9
KKN Kakani 75.60 301 eP P 08 12 55.9 +0.9
DMN Daman 75.70 301 eP P 08 12 56.6 +1.0
comp=Z,36nm,1.0s
DMN Daman 75.70 301 eP P 08 12 56.6 +1.0
GKN Gorkha 76.21 301 eP P 08 12 59.2 +0.9
comp=Z,26nm,0.9s
GKN Gorkha 76.21 301 eP P 08 12 59.2 +0.9
KOLN Koldanda 77.03 301 eP P 08 13 04.5 +1.5
comp=Z,16nm,0.8s
KOLN Koldanda 77.03 301 eP P 08 13 04.5 +1.5
DANN Dangsing 77.05 301 eP P 08 13 04.1 +0.9
DANN Dangsing 77.05 301 eP P 08 13 04.1 +0.9
PYUN Piuthan 77.64 301 eP P 08 13 06.8 +0.4
PYUN Piuthan 77.64 301 eP P 08 13 06.8 +0.4
WMQ Urumqi 78.88 317 eP P 08 13 13.7 +0.9
WMQ pP PcP 08 13 17.9 -3.5
WMQ sP sP 08 13 20.7 -9.2
WMQ pmax pmax
comp=Z,6.0nm,1.2s
WMQ pmax pmax
comp=Z,59nm,6.0s
TIXI Tiksi 80.49 352⇑eP P 08 13 22.5 +1.7
TIXI pmax pmax
comp=Z,8.0nm,2.8s
QSPA South Pole Qui 82.83 180 eP P 08 13 35.2 +1.6
comp=Z,57nm,1.9s
COLA College 83.25 21 diP P 08 13 34.8 -0.6
COLA pmax pmax
comp=Z,41nm,1.0s
COLA College 83.25 21 eP P 08 13 34.1 -1.4
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 83.46 319 eP P 08 13 37.6 +0.6
MK31 Makanchi Array 83.46 319 eP P 08 13 37.6 +0.6
MKAR Makanchi Array 83.46 319 P P 08 13 37.4 +0.3
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR Makanchi Array 83.46 319 P P 08 13 37.4 +0.3
comp=Z,6.5nm,0.9s,baz=104,slow=5.1,SNR=24
ILAR Eielson Array 83.54 22 P P 08 13 36.2 -0.8
comp=Z,1.6nm,0.8s,baz=250,slow=5.0,SNR=23
ILAR LR LR 08 49 24.8
comp=Z,88nm,18.3s,baz=237,slow=35
MAW Mawson 84.23 203 LR LR 08 48 08.8
comp=Z,186nm,18.1s,baz=268,slow=34
ZALV Zalesovo Beam 84.26 326 P P 08 13 39.3 -1.6
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 84.26 326 P P 08 13 39.3 -1.6
comp=Z,1.4nm,0.6s,baz=102,slow=6.2,SNR=6.4
KSH Kashi 86.05 310 eP P 08 13 52.7 +2.3
KSH SKS S 08 24 16.7 -5.2
KSH S ScS 08 24 30.4 -0.4
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH pmax pmax
comp=Z,94nm,4.8s
KSH LR LR
comp=Z,57nm,5.7s
INK Inuvik 89.89 21 P P 08 14 07.8 0.0
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 89.89 21 P P 08 14 07.8 0.0
comp=Z,1.5nm,0.6s,baz=261,slow=4.6,SNR=14
NVAR Mina Array Bea 91.87 52 P P 08 14 19.3 +1.2
comp=Z,1.8nm,0.8s,baz=249,slow=7.7,SNR=11
PFO Pinyon Flat Ob 92.77 57 P P 08 14 23.3 +1.1
PFO pmax pmax
comp=Z,1.0nm,0.7s
PFO Pinyon Flat Ob 92.77 57 P P 08 14 23.3 +1.1
comp=Z,1.3nm,0.7s,baz=326,slow=6.8,SNR=3.4
YKA Yellowknife Ar 96.50 28 P P 08 14 38.7 +0.3
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 96.50 28 P P 08 14 38.7 +0.3
comp=Z,3.1nm,0.9s,baz=268,slow=4.6,SNR=31
PDAR Pinedale Array 98.86 48 P Pdif 08 14 50.0 +0.1
comp=Z,0.5nm,0.9s,baz=270,slow=1.5,SNR=3.5
PDAR LR LR 08 56 48.1
comp=Z,108nm,18.0s,baz=286,slow=34
KOLS Kolonicke sedl 122.42 325 ePKIKP PKPdf 08 20 05.0 +0.4
KOLS Kolonicke sedl 122.42 325 ePKP PKPdf 08 20 05.0 +0.4
CRVS Cervenica-Dubn 122.90 325 ePKIKP PKPdf 08 20 05.1 -0.4
CRVS Cervenica-Dubn 122.90 325 ePKP PKPdf 08 20 05.1 -0.4
CLL Collm 125.91 331 ePKIKP PKPdf 08 20 10.0 -1.1
CLL e 08 20 18.0
CLL Collm 125.91 331 ePKPdf PKPdf 08 20 10.0 -1.1
CLL e 08 20 18.0
GERES GERESS Array B 127.14 329 PKP PKPdf 08 20 14.5 +0.8
comp=Z,0.2nm,0.4s,baz=90,slow=0.5,SNR=4.6
TORD Torodi Ar. Bea 152.99 285 PKPbc PKPbc 08 21 07.7 0.0
comp=Z,2.0nm,0.8s,baz=65,slow=2.0,SNR=10
TORD PKPab PKPab 08 21 17.2 -1.8
comp=Z,1.0nm,0.5s,baz=45,slow=2.2,SNR=5.4

IDC 12 08:08:52.9±1.4, 7°.04S×154°.80E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, Error ellipse: s-maj=57.8km s-min=22.0km az=119.0
ISCJB 12 08:08:57.3±1.2, 7°.1S±0°.2×154°.8E±0°.3, h41km, mb3.6/7, Error ellipse: s-maj=50.6km s-min=18.4km az=29.0
ISC 12 08:08:58.9±1.4, 7°.1S±0°.2×154°.8E±0°.4, h41km, n7, σ0°99/7, mb3.6/7, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.58 235 P P 08 14 05.5 -0.6
1.9nm,0.9s,baz=61,slow=9.2,SNR=7.5
ASAR Alice Springs 25.95 228 P P 08 14 27.7 -0.1
0.7nm,0.8s,baz=62,slow=8.8,SNR=7.6
STKA Stephens Creek 27.57 205 P P 08 14 42.4 +0.2
2.4nm,0.9s,baz=359,slow=9.4,SNR=4.7
SONM Songino Array 69.28 327 P P 08 20 01.3 -0.7
0.4nm,0.5s,baz=135,slow=5.9,SNR=4.0
MKAR Makanchi Array 83.31 319 P P 08 21 22.8 +1.2
0.9nm,0.8s,baz=104,slow=5.1,SNR=8.5
ILAR Eielson Array 83.53 22 P P 08 21 21.2 -1.0
0.3nm,0.7s,baz=246,slow=5.2,SNR=7.7
YKA Yellowknife Ar 96.51 28 P P 08 22 24.5 +0.7
0.5nm,0.8s,baz=262,slow=5.0,SNR=8.4

PRU 12 08:19:16.8, 50°.12N×18°.71E, h0km, Poland

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OKC Ostrava-Krasne 0.46 232 eSG Sg 08 19 32.4 +0.8
OJC Ojcow 0.71 81 ePg Pg 08 19 29.8 -0.6
OJC eSg Sg 08 19 38.8 -0.8
DPC Dobruska-Polom 1.55 279 ePG Pn 08 19 45.3 -0.4
DPC eSG Sn 08 20 06.5 -0.1
VYHS Vyhne 1.63 177 eSN Sn 08 20 05.1 -3.4
STHS Stebnicka Huta 1.79 112 ePN Pn 08 19 49.6 +0.6
STHS eSN Sn 08 20 12.1 -0.3

WEL 12 08:27:30.2±0.4, 38°.86S×179°.60E, h33km, ML3.6/4, 1C, Error ellipse: s-maj=3.4km s-min=2.3km az=90.0, Off east coast of North Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CNGZ Carnagh Statio 1.15 288 PN Pn 08 27 50.1 +0.1
PUZ Puketiti 1.31 306 PN Pn 08 27 51.4 -0.9
PUZ SN Sn 08 28 08.0 -0.7
PUZ AML AML 08 28 12.0
PRGZ Paritu Road 1.34 267 PN Pn 08 27 51.7 -0.9
PRGZ SN Sn 08 28 08.0 -1.4
MHGZ Mahia Peninsul 1.35 257 PN Pn 08 27 52.2 -0.6
RIGZ Rimuhau 1.45 275 PN Pn 08 27 53.6 -0.5
RIGZ SN Sn 08 28 11.1 -0.9
KNZ Kokohu 1.51 263 PN Pn 08 27 54.3 -0.6
MXZ Matakaoa Point 1.65 321 PN Pn 08 27 56.3 -0.4
MXZ AML AML 08 28 17.9
MXZ AML AML 08 28 17.9
MXZ AML AML 08 28 18.6
MXZ AML AML 08 28 18.7
MWZ Matawai 1.71 287 PN Pn 08 27 56.9 -0.8
MWZ AML AML 08 28 18.2
MWZ AML AML 08 28 18.3
MWZ AML AML 08 28 21.0
SNGZ Shannon Statio 1.77 272 PN Pn 08 27 58.4 -0.1
HAZ Te Kaha 1.80 307 ⇑PN Pn 08 27 58.5 -0.5
WHHZ Waihua 1.86 262 PN Pn 08 27 59.8 +0.1
RAHZ Arahi 1.96 267 PN Pn 08 28 01.1 -0.1
URZ Urewera 2.04 286 PN Pn 08 28 02.3 +0.1
URZ SN Sn 08 28 27.0 +0.4
URZ AML AML 08 28 27.7
NMHZ Naumai 2.19 263 PN Pn 08 28 04.1 -0.3
MCHZ McNeill Hill 2.33 255 PN Pn 08 28 05.4 -0.9
PXZ Pawanui 2.42 240 PN Pn 08 28 05.7 -1.7
BKZ Black Stump Fm 2.44 262 PN Pn 08 28 07.3 -0.5
RRRZ Republican Roa 2.47 281 PN Pn 08 28 08.1 -0.1
OPRZ Ohinepanea 2.60 292 PN Pn 08 28 09.2 -0.7
BHHZ Black Hill Sta 2.82 256 PN Pn 08 28 12.3 -0.7
ANWZ Angora Road 2.90 235 PN Pn 08 28 11.9 -2.1
TSZ Takapari Road 3.06 246 PN Pn 08 28 14.8 -1.5
BFZ Birch Farm 3.16 234 PN Pn 08 28 15.1 -2.5
MRZ Mangatainoka R 3.58 239 PN Pn 08 28 21.3 -2.1
CTZ Chatham Island 5.64 151 PN Pn 08 28 52.5 +0.8

THR 12 08:29:17.1±0.5, 30°.52N×49°.90E, h42km±6km, ML4.2
IDC 12 08:29:18.6±1.7, 31°.03N×50°.00E, h0km, mb3.8/14, mb1 3.9/16, mb1mx3.8/38, mbtmp3.8/16, ML3.7/2, MS3.3/3, Ms1 3.3/3, ms1mx2.8/40, Error ellipse: s-maj=40.0km s-min=16.9km az=169.0
CSEM 12 08:29:20.0±1.0, 30°.92N×50°.04E, h10km, mb4.4/7, Ms4.9, Error ellipse: s-maj=6.1km s-min=4.2km az=55.0
ISCJB 12 08:29:20.5±0.2, 30°.82N±0°.02×50°.05E±0°.04, h30km, mb4.0/21, MS3.5/2, Error ellipse: s-maj=4.5km s-min=3.2km az=157.8
TEH 12 08:29:22.8, 30°.99N×50°.11E, h15km, ML3.9
NEIC 12 08:29:22.2, 30°.98N×50°.06E, h12km, mb4.4/5, ML4.2(THR), MN3.9(TEH), After TEH.
OMAN 12 08:29:53.5±99.0, 29°.35N×52°.08E, h131km±2km, Error ellipse: s-maj=249.5km s-min=43.7km az=316.0
ISC 12 08:29:22.2±0.5, 30°.89N±0°.04×50°.14E±0°.04, h30km, n149, σ1°31/153, mb3.9/21, 11C-9D, Northern and central Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SHGR Shooshtar-Gavs 1.67 317 ePg Pn 08 29 50.1 +0.7
SHGR eSg Sb 08 30 14.4 +1.5
SHGR Shooshtar-Gavs 1.67 317 ePg Pn 08 29 50.1 +0.7
SHGR eSg Sb 08 30 14.4 +1.5
3μm,1.4s
SHGR Shooshtar-Gavs 1.67 317 ePg Pn 08 29 50.1 +0.7
SHGR eSg Sb 08 30 14.4 +1.5
SHGR AML AML 08 30 22.0
comp=E,2μm,0.8s
SHGR AML AML 08 30 22.3
comp=N,3μm,1.4s
IPIR Pirpir 1.90 19 ePn Pn 08 29 53.7 +0.9
IPIR eSg Sb 08 30 19.7 -0.1
IPIR e 08 30 21.2
comp=Z,13μm,0.3s
IPIR Pirpir 1.90 19 Pn Pn 08 29 53.7 +0.9
IPIR Sg Sb 08 30 19.7 -0.1
IPIR Pirpir 1.90 19 ePn Pn 08 29 53.7 +0.9
IPIR eSg Sb 08 30 19.7 -0.1
IGAR Gharneh 2.21 47 ePn Pn 08 29 58.6 +1.5
IGAR e 08 30 36.3
comp=E,463nm,0.3s
IGAR Gharneh 2.21 47 ePn Pn 08 29 58.6 +1.5
IKLH Kolahrood 2.71 26 ePn Pn 08 30 05.0 +1.1
IKLH e 08 30 59.9
comp=Z,5μm,0.4s
IKLH Kolahrood 2.71 26 Pn Pn 08 30 05.1 +1.2
IKLH Kolahrood 2.71 26 ePn Pn 08 30 05.0 +1.1
IPAR Pars 2.72 112 e 08 30 43.6
comp=Z,5μm,0.4s
IPAR ePn Pn 08 30 06.8 +2.7
IZEF Zefreh 2.73 42 e 08 30 22.2
comp=Z,2μm,0.2s
IZEF ePn Pn 08 30 05.7 +1.5
KHMZ Khomeyn 2.84 357 ePn Pn 08 30 06.7 +1.0
KHMZ Khomeyn 2.84 357 ePn Pn 08 30 06.7 +1.0
NASN Na'in 2.96 49 ePn Pn 08 30 09.1 +1.6
NASN Na'in 2.96 49 ePn Pn 08 30 09.1 +1.6
NASN Na'in 2.96 49 ePn Pn 08 30 09.1 +1.6
ISRV Sarvestan 2.98 120 ePn Pn 08 30 10.7 +3.0
ISRV e 08 31 07.2
comp=Z,5μm,0.2s
ISRV Sarvestan 2.98 120 Pn Pn 08 30 11.0 +3.3
ISRV Sarvestan 2.98 120 ePn Pn 08 30 10.7 +3.0
IKMR Kamar-syah 3.02 331 ePn Pn 08 30 07.3 -0.6
IKMR Kamar-syah 3.02 331 ePn Pn 08 30 07.3 -0.6

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ISAD	Sadrabad	3.20	70	ePn	Pn	08 30 12.7	+2.1
ISAD				e		08 30 53.8	
	comp=Z,6μm,0.3s						
ISAD	Sadrabad	3.20	70	Pn	Pn	08 30 12.8	+2.1
ISAD	Sadrabad	3.20	70	ePn	Pn	08 30 12.7	+2.1
IKFM	Kafar-mosalman	3.27	324	ePn	Pn	08 30 11.8	+0.4
IKFM	Kafar-mosalman	3.27	324	ePn	Pn	08 30 11.7	+0.4
KFJS		3.31	216	P	Pn	08 30 14.0	+2.1
KFJS		3.31	216	P	Pn	08 30 14.0	+2.1
IDOB	Doab	3.33	331	ePn	Pn	08 30 12.0	-0.3
IDOB	Doab	3.33	331	ePn	Pn	08 30 12.1	-0.3
ASAO	Ashtian	3.65	358	ePn	Pn	08 30 17.7	+0.9
ASAO	Ashtian	3.65	358	ePn	Pn	08 30 17.7	+0.9
ASAO	Ashtian	3.65	358	ePn	Pn	08 30 17.7	+0.9
IMEH	Mehriz	3.86	81	ePn	Pn	08 30 22.1	+2.3
IMEH				e		08 31 21.1	
	comp=Z,1μm,0.3s						
IMEH	Mehriz	3.86	81	Pn	Pn	08 30 22.2	+2.4
IMEH	Mehriz	3.86	81	ePn	Pn	08 30 22.1	+2.3
ICHK	Chekchek	3.88	69	ePn	Pn	08 30 21.4	+1.4
ICHK				e		08 31 10.3	
	comp=Z,2μm,0.3s						
ICHK	Chekchek	3.88	69	Pn	Pn	08 30 21.4	+1.4
ICHK	Chekchek	3.88	69	ePn	Pn	08 30 21.4	+1.4
IKOM	Komasi	3.96	327	ePn	Pn	08 30 21.9	+0.9
IKOM				e		08 30 38.9	
	comp=N,7μm,0.2s						
IKOM	Komasi	3.96	327	ePn	Pn	08 30 21.9	+0.9
IBZA	Bozab	4.05	332	ePn	Pn	08 30 22.4	-0.1
IBZA				e		08 31 43.3	
	comp=Z,2μm,0.4s						
IBZA	Bozab	4.05	332	Pn	Pn	08 30 22.3	-0.1
IBZA	Bozab	4.05	332	ePn	Pn	08 30 22.4	-0.1
IBAF	Bafgh	4.70	80	ePn	Pn	08 30 32.5	+1.3
IBAF				e		08 30 53.4	
	comp=Z,624nm,0.3s						
IBAF	Bafgh	4.70	80	Pn	Pn	08 30 32.5	+1.3
IBAF	Bafgh	4.70	80	ePn	Pn	08 30 32.5	+1.3
SNGE	Sanandaj	4.80	331	ePn	Pn	08 30 32.2	-0.4
SNGE	Sanandaj	4.80	331	ePn	Pn	08 30 32.2	-0.4
	comp=Z,89nm,0.7s						
SNGE	Sanandaj	4.80	331	ePn	Pn	08 30 32.2	-0.4
SNGE				AML	AML	08 31 00.7	
	comp=E,89nm,0.7s						
BOQSS		5.05	188	P	Pn	08 30 38.0	+2.2
BOQSS		5.05	188	P	Pn	08 30 38.1	+2.2
SLWS		6.09	176	P	Pn	08 30 52.0	+1.9
SLWS				S	Sn	08 32 01.0	+2.3
SLWS		6.09	176	P	Pn	08 30 51.7	+1.6
BTHS		6.85	175	P	Pn	08 31 01.0	+0.5
BTHS				S	Sn	08 32 19.0	+1.5
BTHS		6.85	175	S	Sn	08 32 18.8	+1.3
BTHS		6.85	175	P	Pn	08 31 01.1	+0.5
BANOM	Banah	7.34	131	⇑P	Pn	08 31 07.6	+0.2
	SNR=13						
BANOM	Banah	7.34	131	P	Pn	08 31 07.6	+0.2
	SNR=13						
NAZ	Nazwa, Dubai	7.64	139	P	Pn	08 31 12.4	+1.0
	SNR=9.2						
NAZ	Nazwa, Dubai	7.64	139	⇑iP	Pn	08 31 12.4	+1.0
	SNR=9.2						
ASUD	Al Ashush, Dub	7.75	142	P	Pn	08 31 14.4	+1.5
	SNR=10						
ASUD	Al Ashush, Dub	7.75	142	⇑iP	Pn	08 31 14.4	+1.5
	SNR=10						
FAQ	Al Faqa, Dubai	7.79	140	P	Pn	08 31 14.5	+0.9
	SNR=6.3						
FAQ	Al Faqa, Dubai	7.79	140	⇓iP	Pn	08 31 14.5	+0.9
	SNR=6.3						
HATD	Hatta, Dubai	8.04	137	P	Pn	08 31 17.7	+0.8
	SNR=14						
HATD	Hatta, Dubai	8.04	137	iP	Pn	08 31 17.7	+0.8
	SNR=14						
ASHO	Ashiyiah	8.10	138	⇓P	Pn	08 31 18.1	+0.2
ASHO				⇑S	Sn	08 32 45.9	-2.6
ASHO	Ashiyiah	8.10	138	P	Pn	08 31 18.0	+0.2
ASHO				S	Sn	08 32 45.9	-2.6
RAYN	Ar Rayn	8.42	210	ePn	Pn	08 31 21.0	-1.2
	comp=E,54nm,0.8s						
RAYN				eSn	Sn	08 32 56.6	+0.3
RAYN	Ar Rayn	8.42	210	ePn	Pn	08 31 21.0	-1.2
	comp=E,54nm,0.8s						
RAYN				eSn	Sn	08 32 56.6	+0.3
ARQ	Araqi	9.43	141	⇓P	Pn	08 31 36.0	0.0
ARQ	Araqi	9.43	141	P	Pn	08 31 36.0	0.0
HOQ	Hoqain	9.68	137	⇑P	Pn	08 31 39.5	+0.1
HOQ	Hoqain	9.68	137	P	Pn	08 31 39.5	+0.1
GNI	Garni	10.23	336	LR	LR	08 36 24.1	
	comp=E,67nm,19.6s,baz=90,slow=42						
SMDO	Samad	10.51	136	⇓P	Pn	08 31 50.4	-0.5
SMDO	Samad	10.51	136	P	Pn	08 31 50.4	-0.5
JMDO	Jabal Madar	11.07	138	⇓P	Pn	08 31 59.3	+0.7
JMDO	Jabal Madar	11.07	138	P	Pn	08 31 59.3	+0.7
ASF	Jabal al Asfar	11.38	280	Pn	Pn	08 32 00.6	-2.1
	comp=E,0.9nm,0.3s,baz=36,slow=15,SNR=5.6						
ASF				Sn	Sn	08 33 58.9	-10
	comp=E,0.2nm,0.3s,baz=131,slow=20,SNR=2.8						
ASF				Lg	Lg	08 35 21.3	
	comp=E,0.3nm,0.3s,baz=234,slow=19,SNR=1.9						
WBK	Wadi Bani Khal	11.41	134	P	Pn	08 32 01.7	-1.4
	SNR=7.5						
WBK	Wadi Bani Khal	11.41	134	P	Pn	08 32 01.7	-1.4
	SNR=7.5						
BRTR	Keskin Array B	16.08	308	Pn	Pn	08 33 06.8	+0.6
	comp=E,0.2nm,0.3s,baz=124,slow=13,SNR=8.4						
ABKAR	Akbulak array	19.79	19	eP	P	08 33 50.1	+0.3
	comp=E,1.2nm,0.6s						
ABKAR	Akbulak array	19.79	19	eP	P	08 33 50.1	+0.3
	comp=E,1.2nm,0.6s						
KKAR	Karatay Array	20.27	47	eP	Pn	08 33 58.0	+0.7
	comp=E,0.9nm,0.4s						
KKAR	Karatay Array	20.27	47	eP	Pn	08 33 58.0	+0.7
	comp=E,0.9nm,0.4s						
IDI	Anoyia	21.59	288	P	P	08 34 09.9	+0.3
	comp=E,5.3nm,0.6s,baz=85,slow=11,SNR=2.8						
AAK	Ala-Archa	22.67	52	LR	LR	08 43 31.1	
	comp=E,50nm,20.3s,baz=221,slow=38						
VOIR		24.37	314	⇑iP	P	08 34 38.6	+1.0
VOIR		24.37	314	⇑iP	P	08 34 38.6	+1.0
ARR	Arges	24.59	313	⇓iP	P	08 34 40.1	+0.4
ARR	Arges	24.59	313	⇓iP	P	08 34 40.1	+0.4
AK02	Malin Array Si	25.17	328	eP	P	08 34 43.6	-1.1
AK02	Malin Array Si	25.17	328	eP	P	08 34 43.6	-1.1
AKASG	Malin Array Be	25.19	328	P	P	08 34 43.5	-1.4
	comp=E,0.9nm,0.3s,baz=118,slow=6.9,SNR=8.4						
BURAR	Bucovina Array	25.36	318	⇓iP	P	08 34 47.2	+0.6
BURAR	Bucovina Array	25.36	318	⇓iP	P	08 34 47.2	+0.6
GZR	Gura Zlata	25.78	312	⇑iP	P	08 34 49.6	-0.8
GZR	Gura Zlata	25.78	312	⇑iP	P	08 34 49.6	-0.8
BVAR	Borovoye Array	26.58	28	P	P	08 34 57.6	+0.2
	comp=E,1.5nm,0.7s,baz=213,slow=5.1,SNR=7.0						
KOLS	Kolonicke sedl	27.73	319	eP	P	08 35 13.8	+6.0
CRVS	Cervenica-Dubn	28.18	318	eP	P	08 35 13.6	+1.8
CRVS	Cervenica-Dubn	28.18	318	eP	P	08 35 13.6	+1.8
KURBB	Kurchatov Arra	28.89	39	P	P	08 35 19.1	+1.0
	comp=E,0.3nm,0.6s,baz=240,slow=9.7,SNR=5.1						
KURK	Kurchatov	28.99	39	P	P	08 35 19.1	+0.1
KURK	Kurchatov	28.99	39	P	P	08 35 19.1	+0.1
MKAR	Makanchi Array	29.39	48	P	P	08 35 23.3	+0.6
	comp=E,0.3nm,0.5s,baz=235,slow=10.0,SNR=5.5						
VYHS	Vyhne	29.54	315	eP	P	08 35 27.9	+3.9
GERES	GERESS Array B	32.82	314	P	P	08 35 51.6	-1.4
	comp=E,0.2nm,0.3s,baz=96,slow=8.0,SNR=2.3						
ZALV	Zalesovo Beam	33.91	37	P	P	08 36 03.5	+1.3
	comp=E,0.9nm,0.6s,baz=262,slow=10.0,SNR=4.1						
FETA	Feichten	34.21	309	⇑iP	P	08 36 04.5	-0.7
	comp=E,0.9nm,0.4s						
FETA	Feichten	34.21	309	P	P	08 36 04.5	-0.7
	comp=E,0.9nm,0.4s						
JOF	Joensuu	34.25	345	ep	P	08 36 02.9	-2.2
	comp=E,2.1nm,0.6s						
JOF	Joensuu	34.25	345	eP	P	08 36 02.9	-2.2
	comp=E,2.1nm,0.6s						
FINES	FINESS Array B	34.39	340	P	P	08 36 04.7	-1.6
	comp=E,1.2nm,0.4s,baz=151,slow=9.4,SNR=16						
DAVA	Damuels	34.84	310	⇑iP	P	08 36 09.7	-0.9
	comp=E,4.0nm,0.4s						
DAVA	Damuels	34.84	310	P	P	08 36 09.7	-0.9
	comp=E,4.0nm,0.4s						
KAF	Kangasniemi	34.86	341	ep	P	08 36 08.1	-2.2
	comp=E,0.7nm,0.4s						
KAF	Kangasniemi	34.86	341	eP	P	08 36 08.1	-2.2
	comp=E,0.7nm,0.4s						
SBF	Sospel	35.94	303	eP	P	08 36 20.3	+0.3
	comp=E,36nm,0.8s						
SBF	Sospel	35.94	303	eP	P	08 36 20.3	+0.3
	comp=E,36nm,0.8s						
SBF	Sospel	35.94	303	eP	P	08 36 20.3	+0.3
	comp=E,36nm,0.8s						
MBDF	Montbardon	36.51	305	eP	P	08 36 24.8	-0.2
MBDF	Montbardon	36.51	305	eP	P	08 36 24.8	-0.2
MBDF	Montbardon	36.51	305	eP	P	08 36 24.8	-0.2
LPG	La Plagne	36.63	306	eP	P	08 36 27.6	+1.5
LPG	La Plagne	36.63	306	eP	P	08 36 27.6	+1.5
LPG	La Plagne	36.63	306	eP	P	08 36 27.6	+1.5
CABF	La Chapelle	37.25	308	eP	P	08 36 29.5	-1.7
	comp=E,23nm,0.9s						
CABF	La Chapelle	37.25	308	eP	P	08 36 29.5	-1.7
	comp=E,23nm,0.9s						
CABF	La Chapelle	37.25	308	eP	P	08 36 29.5	-1.7
	comp=E,23nm,0.9s						
SMF	Signal de Mont	38.79	307	eP	P	08 36 46.5	+2.4
	comp=E,9.7nm,0.6s						
SMF	Signal de Mont	38.79	307	eP	P	08 36 46.5	+2.4
	comp=E,9.7nm,0.6s						
SSF	Saint Saulge	39.07	308	eP	P	08 36 47.2	+0.8
SSF	Saint Saulge	39.07	308	eP	P	08 36 47.2	+0.8
SSF	Saint Saulge	39.07	308	eP	P	08 36 47.2	+0.8
NB2	NORSAR Subarra	39.49	331	P	P	08 36 47.9	-1.8
	comp=Z,1.8nm,0.9s,baz=122,slow=8.6						
NB2	NORSAR Subarra	39.49	331	P	P	08 36 47.9	-1.8
	comp=Z,1.8nm,0.9s,baz=122,slow=8.4,SNR=4.4						
NOA	NORSAR Array B	39.49	331	P	P	08 36 50.9	+1.2
	comp=Z,1.2nm,0.8s,baz=122,slow=8.5,SNR=4.4						
ARCES	ARCESS Array B	41.15	347	P	P	08 37 02.9	-0.4
	comp=Z,3.8nm,1.1s,baz=147,slow=9.1,SNR=3.1						
SONM	Songino Array	45.63	52	P	P	08 37 41.4	+1.5
	comp=Z,0.2nm,0.6s,baz=270,slow=8.2,SNR=2.6						
TORD	Torodi Ar. Bea	47.86	259	P	P	08 37 57.6	0.0
	comp=Z,1.0nm,0.6s,baz=54,slow=8.3,SNR=7.7						
LBTB	Lobatse	60.35	206	LR	LR	09 06 04.7	
	comp=Z,101nm,19.9s,baz=110,slow=36						
ILAR	Eielson Array	83.72	7	P	P	08 41 47.8	0.0
	comp=Z,0.6nm,0.7s,baz=317,slow=4.4,SNR=11						
YKA	Yellowknife Ar	86.14	353	P	P	08 41 59.6	-0.4
	comp=Z,0.5nm,0.8s,baz=10,slow=5.3,SNR=11						

ISCJB 12 08:56:02.0±0.7, 12°.30S±0°.08×41°.44E±0°.08, h10km, mb4.0/6, MS3.6/3, Error ellipse: s-maj=14.4km s-min=7.8km az=138.4
IDC 12 08:56:03.1±1.0, 12°.25S×41°.39E, h0km, mb3.8/5, mb1 4.2/8, mb1mx3.7/46, mbtmp4.1/8, ML4.5/3, MS3.6/3, Ms1 3.6/3, ms1mx2.9/40, Error ellipse: s-maj=30.8km s-min=21.9km az=1.0
NEIC 12 08:56:04.1±0.7, 12°.15S×41°.43E, h10km, mb4.1/4, Error ellipse: s-maj=15.4km s-min=12.3km az=224.0
ISC 12 08:56:04.4±0.7, 12°.34S±0°.08×41°.32E±0°.08, h10km, n21, σ1°.75/19, mb3.9/6, MS3.6/3, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
OPO	Ambohidratompo	8.39	138	Pn	Pn	08 58 06.0	-0.4
	19nm,0.3s,baz=299,slow=13,SNR=92						
OPO				Sn	Sn	08 59 33.4	-7.9
	4.6nm,0.3s,baz=209,slow=19,SNR=4.2						
ABPO	Ambohimpanom	8.74	140	ePn	Pn	08 58 10.9	-0.3
	22nm,0.6s						
ABPO				eSn	Sn	08 59 48.1	-1.9
KMBO	Kilima Mbogo	11.85	340	Pn	Pn	08 58 49.3	-4.5
	0.5nm,0.3s,baz=165,slow=14,SNR=10						
KMBO				Sn	Sn	09 00 52.0	-14
	0.4nm,0.3s,baz=221,slow=19,SNR=3.3						
KMBO	Kilima Mbogo	11.85	340	ePn	Pn	08 58 49.8	-3.9
	2.8nm,0.6s						
KMBO				eSn	Sn	09 01 05.6	-0.7
LSZ	Lusaka	13.09	256	Pn	Pn	08 59 09.8	-0.8
	1.1nm,0.3s,baz=69,slow=15,SNR=8.1						
LSZ				Sn	Sn	09 01 28.8	-7.6
	2.7nm,0.3s,baz=336,slow=12,SNR=6.2						
LSZ				Lg	Lg	09 02 51.5	
	0.8nm,0.3s,baz=132,slow=13,SNR=4.5						
LSZ	Lusaka	13.09	256	ePn	Pn	08 59 10.6	-0.1
	7.0nm,0.6s						
LSZ				eSn	Sn	09 01 32.7	-3.8
LSZ				Lg	Lg	09 02 51.5	
LBTB	Lobatse	19.49	227	P	Pn	09 00 33.1	0.0
	0.3nm,0.3s,baz=53,slow=11,SNR=5.6						
LBTB				Lg	Lg	09 06 10.8	
	0.1nm,0.3s,baz=322,slow=19,SNR=2.7						
LBTB	Lobatse	19.49	227	eP	Pn	09 00 33.7	+0.6
	4.5nm,0.8s						
LBTB				Lg	Lg	09 06 10.8	
BOSA	Boshof	22.06	220	P	P	09 01 01.4	+1.6
	6.2nm,0.7s,baz=51,slow=11,SNR=9.3						
BOSA	Boshof	22.06	220	eP	P	09 01 03.0	+3.2
	33nm,1.6s						
TSUM	Tsumeb	23.82	250	P	P	09 01 19.2	+1.2
	1.9nm,0.6s,baz=49,slow=14,SNR=4.3						
TSUM	Tsumeb	23.82	250	eP	P	09 01 20.4	+2.3
	3.5nm,0.9s						
TORD	Torodi Ar. Bea	46.75	301	P	P	09 04 35.7	+1.4
	0.5nm,0.7s,baz=130,slow=8.2,SNR=3.4						
DBIC	Dimbokro	49.64	290	LR	LR	09 24 40.8	
	comp=Z,51nm,18.6s,baz=103,slow=35						
ABKAR	Akbulak array	63.49	14	eP	P	09 06 34.2	-0.4
	1.8nm,0.8s						
AKTO	Aktyubinsk	64.19	12	LR	LR	09 37 21.0	
	comp=Z,42nm,18.8s,baz=136,slow=39						
GERES	GERESS Array B	65.63	340	LR	LR	09 39 55.6	
	comp=Z,38nm,18.4s,baz=10.0,slow=40						
ASAR	Alice Springs	87.46	114	P	P	09 08 54.0	+1.1
	0.4nm,0.6s,baz=275,slow=4.3,SNR=10						
WRA	Warramunga Arr	88.65	110	P	P	09 08 58.9	+0.3
	0.6nm,0.8s,baz=266,slow=2.8,SNR=7.1						
YKA	Yellowknife Ar	127.03	346	PKP	PKPdf	09 15 06.1	-2.4
	0.1nm,0.4s,baz=28,slow=2.8,SNR=3.8						
NVAR	Mina Array Bea	148.31	329	PKPbc	PKPbc	09 15 50.9	-0.7
	1.7nm,1.0s,baz=134,slow=1.1,SNR=5.2						

IDC 12 09:02:14.2±2.5, 53°.59N×87°.76E, h0km, mb1 3.3/3, mb1mx3.1/50, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=23.2km s-min=12.6km az=62.0
NNC 12 09:02:19.7±2.6, 53°.33N×87°.30E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=20.4km s-min=16.3km az=18.0
ISC 12 09:02:18.8±3.8, 53°.7N±0°.1×87°.6E±0°.2, h35km, n8, σ0°.92/12, 4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.65	280	i		09 12 40.0	
	baz=98,slow=347,SNR=9.1						
ZALV	Zalesovo Beam	1.65	280	Pg	Pn	09 02 45.9	+0.7
	4.0nm,0.3s,baz=103,slow=14,SNR=39						
ZALV				Lg	Lg	09 03 10.8	
	13nm,0.3s,baz=101,slow=25,SNR=27						
KURK	Kurchatov	6.25	245	⇓Pn	Pn	09 03 49.0	+0.6
	1.0nm,0.7s						
KURK				⇓Sn	Sn	09 04 58.6	+0.1
	1.7nm,0.9s						
KURK				⇑Lg	Lg	09 05 31.3	
	6.5nm,1.0s						
KURBB	Kurchatov Arra	6.35	245	⇑Pn	Pn	09 03 50.6	+0.8
	3.9nm,0.5s						
KURBB				⇑Sn	Sn	09 05 01.8	+0.9
	5.0nm,0.6s						
KURBB				⇓Lg	Lg	09 05 33.2	
	9.0nm,0.8s						
KURBB	Kurchatov Arra	6.35	245	Pn	Pn	09 03 50.5	+0.8
	0.9nm,0.3s,baz=62,slow=14,SNR=16						
KURBB				Lg	Lg	09 05 36.9	
	0.2nm,0.3s,baz=61,slow=30,SNR=4.3						
MK31	Makanchi Array	7.68	208	⇓Pn	Pn	09 04 07.9	-0.2
	0.9nm,0.7s,baz=28,slow=13,SNR=27						
MK31				⇑Sn	Sn	09 05 32.0	-1.7
	1.4nm,0.8s,baz=38,slow=28,SNR=4.3						
MK31				⇓Lg	Lg	09 06 11.5	
	3.4nm,0.7s,baz=38,slow=30,SNR=6.3						
MKAR	Makanchi Array	7.68	208	Pn	Pn	09 04 08.0	-0.1
	0.5nm,0.3s,baz=31,slow=14,SNR=33						
MKAR				Sn	Sn	09 05 34.4	+0.6
	0.2nm,0.3s,baz=31,slow=29,SNR=7.8						
MKAR				Lg	Lg	09 06 13.4	
	0.2nm,0.3s,baz=46,slow=31,SNR=8.4						
BVAR	Borovoye Array	10.30	273	Pn	Pn	09 04 43.1	-0.7
	0.2nm,0.3s,baz=67,slow=15,SNR=2.4						
BVAR				Sn	Sn	09 06 37.0	-0.9
	0.4nm,0.3s,baz=78,slow=23,SNR=5.8						

IDC 12 09:02:54.2±66.0, 14°.14S×178°.53W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=1220.0km s-min=183.8km az=74.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.45	237	P	P	09 10 34.5	-0.1
	0.7nm,0.6s,baz=78,slow=9.3,SNR=3.0						
WRA	Warramunga Arr	45.32	256	P	P	09 11 14.2	-0.2
	0.2nm,0.4s,baz=82,slow=6.1,SNR=4.0						
ASAR	Alice Springs	45.81	251	P	P	09 11 18.1	-0.1
	1.5nm,0.4s,baz=83,slow=8.6,SNR=39						

IDC 12 09:06:45.0±2.9, 53°.60N×87°.69E, h0km, mb1 3.3/2, mb1mx3.0/50, mbtmp3.3/2, ML3.2/2, 1C-2D, Error ellipse: s-maj=26.9km s-min=14.1km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.74	283	i		09 17 08.5	
	baz=99,slow=350						
ZALV	Zalesovo Beam	1.74	283	Pg	Pn	09 07 16.4	-0.1
	5.4nm,0.3s,baz=103,slow=13,SNR=54						
ZALV				Lg	Lg	09 07 39.7	
	5.6nm,0.3s,baz=101,slow=30,SNR=14						
KURBB	Kurchatov Arra	6.38	246	Pn	Pn	09 08 21.1	+0.9
	0.5nm,0.3s,baz=61,slow=14,SNR=15						
MK31	Makanchi Array	7.64	209	⇓Pn	Pn	09 08 37.9	+0.3
	0.3nm,0.6s,baz=28,slow=12,SNR=32						
MK31				⇑Sn	Sn	09 10 02.3	-2.6
	0.8nm,0.8s,baz=310,slow=11,SNR=5.3						
MK31				⇓Lg	Lg	09 10 41.8	
	2.1nm,0.8s,baz=33,slow=29,SNR=4.0						
MKAR	Makanchi Array	7.64	209	Pn	Pn	09 08 38.5	+0.9
	0.3nm,0.3s,baz=26,slow=13,SNR=22						
MKAR				Sn	Sn	09 10 05.0	+0.1
	0.1nm,0.3s,baz=27,slow=27,SNR=5.2						
MKAR				Lg	Lg	09 10 46.1	
	0.1nm,0.3s,baz=32,slow=33,SNR=5.4						

IDC 12 09:12:39.3±3.2, 54°.49N×87°.23E, h0km, mb1 3.1/2, mb1mx2.9/42, mbtmp3.1/2, ML3.1/2, Error ellipse: s-maj=28.3km s-min=19.8km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.52	250	i		09 20 01.0	
	baz=67,slow=349,SNR=10						
ZALV	Zalesovo Beam	1.52	250	Pg	Pn	09 13 05.3	-2.5
	2.9nm,0.3s,baz=70,slow=12,SNR=21						
ZALV				Lg	Lg	09 13 27.8	
	2.3nm,0.3s,baz=68,slow=27,SNR=6.3						
ZALV				Rg	Rg	09 13 36.2	
	3.0nm,0.4s,baz=65,slow=31,SNR=7.5						
KURBB	Kurchatov Arra	6.57	237	Pn	Pn	09 14 18.2	+1.1
	0.7nm,0.3s,baz=54,slow=13,SNR=12						
KURBB				Lg	Lg	09 16 08.6	
	0.1nm,0.3s,baz=56,slow=34,SNR=4.6						
MKAR	Makanchi Array	8.32	204	Pn	Pn	09 14 42.0	+0.7
	0.2nm,0.3s,baz=23,slow=13,SNR=5.9						

IDC 12 09:13:25.6±1.9, 2°.90S×129°.10E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/35, mbtmp3.8/4, ML3.6/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/30, Error ellipse: s-maj=160.7km s-min=24.1km az=70.0
DJA 12 09:13:26.7±0.5, 2°S±6°×13°0E±°, h10km, M3.6/8, MLv3.6/8
ISCJB 12 09:13:27.8±0.8, 2°.5S±0°.1×129°.72E±0°.09, h33km, mb3.8/3, MS3.9/1, Error ellipse: s-maj=16.1km s-min=11.5km az=152.7
ISC 12 09:13:29.3±1.1, 2°.58S±0°.08×129°.72E±0°.06, h35km, n13, σ2°.44/10, mb3.9/3, Seram

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSAI	Masohi	1.10	226	P	Pn	09 13 48.9	+0.7
BNDI	Bandanaira	1.94	175	P	Pn	09 14 04.1	+4.3
SWI	Sorong	2.30	42	P	Pn	09 14 01.8	-2.9
FAKI	Fak Fak	2.55	98	P	Pn	09 14 10.9	+2.7
NLAI	Namlea	2.70	256	P	Pn	09 14 09.8	-0.5
LBMI	Labuha	2.94	311	P	Pn	09 14 16.6	+3.0
SANI	Sanana	3.77	278	P	Pn	09 14 23.2	-1.8
WRA	Warramunga Arr	17.83	166	P	Pn	09 17 31.9	-3.0
	0.2nm,0.3s,baz=346,slow=12,SNR=12						
PMG	Port Moresby	18.61	112	LR	LR	09 27 09.6	
	comp=Z,63nm,19.0s,baz=49,slow=43						
ASAR	Alice Springs	21.35	169	P	P	09 18 13.5	-0.2
	3.8nm,0.6s,baz=346,slow=9.8,SNR=45						
MKAR	Makanchi Array	64.42	326	P	P	09 24 03.3	+1.2
	0.6nm,0.7s,baz=120,slow=8.3,SNR=8.5						
ZALV	Zalesovo Beam	67.53	333	P	P	09 24 23.4	+1.5
	0.9nm,0.8s,baz=131,slow=5.9,SNR=4.2						
KMBO	Kilima Mbogo	92.42	269	LR	LR	10 08 06.2	
	comp=Z,43nm,18.7s,baz=86,slow=36						

WEL 12 09:19:26.2±0.4, 39°.80S×173°.97E, h212km±3km, ML3.5/6, 6C-9D, Error ellipse: s-maj=2.5km s-min=1.4km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LREZ	Lake Rotokare	0.48	45	⇑PN	Pn	09 19 55.0	+0.3
KHEZ	Kahui Hut	0.51	4	PN	Pn	09 19 54.8	-0.1
NWEZ	Newall Road	0.53	352	PN	Pn	09 19 54.9	0.0
WAZ	Wanganui	0.79	87	PN	Pn	09 19 56.8	+0.9
VRZ	Vera Road	0.91	42	⇓PN	Pn	09 19 56.1	-0.5
VRZ				SN	S	09 20 19.6	-0.6
DUWZ	D'Urville Isla	1.00	182	PN	Pn	09 19 57.4	+0.2
DUWZ				SN	S	09 20 20.7	-0.7
KIW	Kapiti Island	1.28	146	PN	Pn	09 19 59.2	0.0
KIW				SN	S	09 20 23.4	-1.3
KIW				AML	AML	09 20 26.0	
WNVZ	Wahianoa	1.35	70	PN	Pn	09 19 59.9	-0.1
COVZ	Chateau Observ	1.36	64	PN	Pn	09 19 59.5	-0.4
WPVZ	Whakapapa	1.36	64	PN	Pn	09 19 59.8	-0.2
OGWZ	Otaki Gorge	1.37	138	PN	Pn	09 20 00.1	+0.3
OGWZ				SN	S	09 20 24.8	-1.0
TCW	Tory Channel	1.43	171	PN	Pn	09 20 00.7	+0.4
TCW				SN	S	09 20 26.0	-0.8
TCW				AML	AML	09 20 27.2	
WTVZ	West Tongariro	1.43	62	⇓PN	Pn	09 20 00.3	-0.3
MOVZ	Moawhango	1.44	75	⇓PN	Pn	09 20 00.0	-0.5
MOVZ				SN	S	09 20 24.8	-2.1
HIZ	Hauiti	1.46	29	⇓PN	Pn	09 19 59.7	-1.0
KRVZ	Karewarewa	1.48	62	⇑PN	Pn	09 20 00.7	-0.2
NNZ	Nelson	1.48	197	⇓PN	Pn	09 20 00.6	-0.1
NNZ				SN	S	09 20 26.0	-1.6
QRZ	Quartz Range	1.50	227	PN	Pn	09 20 00.2	-0.7
POWZ	Post Office Ro	1.50	114	PN	Pn	09 20 01.0	+0.1
POWZ				SN	S	09 20 26.7	-1.1
MRZ	Mangatainoka R	1.50	125	PN	Pn	09 20 00.8	-0.1
MRZ				AML	AML	09 20 28.9	
CAW	Cannon Point	1.55	148	PN	Pn	09 20 01.2	-0.2
CAW				AML	AML	09 20 29.4	
CAW				AML	AML	09 20 29.9	
TSZ	Takapari Road	1.56	100	⇓PN	Pn	09 20 01.5	0.0
TUWZ	Tuamarina	1.62	181	PN	Pn	09 20 02.1	+0.2
TUWZ				AML	AML	09 20 29.0	
TUWZ				AML	AML	09 20 30.8	
BHHZ	Black Hill Sta	1.65	80	PN	Pn	09 20 01.6	-0.8
PRWZ	Pori Road	1.71	117	PN	Pn	09 20 03.2	+0.4
PNHZ	Pukenui	1.72	94	PN	Pn	09 20 03.0	0.0
DVHZ	Dannevirke	1.76	107	PN	Pn	09 20 03.1	-0.2
MTW	Mount Morrison	1.79	140	PN	Pn	09 20 03.2	-0.3
MTW				AML	AML	09 20 32.6	
MTW				AML	AML	09 20 33.4	
KRHZ	Kereru	1.86	86	PN	Pn	09 20 04.2	-0.1
BFZ	Birch Farm	1.95	117	⇑PN	Pn	09 20 05.0	-0.1
TMWZ	Te Maipa	1.96	132	PN	Pn	09 20 05.0	-0.3
ANWZ	Angora Road	2.03	110	PN	Pn	09 20 06.2	+0.3
BKZ	Black Stump Fm	2.06	73	⇓PN	Pn	09 20 05.5	-0.7
PRHZ	Porangahau	2.10	104	PN	Pn	09 20 06.8	+0.2
THZ	Tophouse	2.12	202	⇑PN	Pn	09 20 06.3	-0.5
MCHZ	McNeill Hill	2.14	81	⇓PN	Pn	09 20 07.4	+0.4
PXZ	Pawanui	2.24	97	⇓PN	Pn	09 20 08.0	+0.1
KAHZ	Kahuranaki	2.24	91	PN	Pn	09 20 08.3	+0.2

NMHZ Naumai 2.31 73 PN Pn 09 20 09.1 +0.2
KHZ Kahutara 2.63 187 PN Pn 09 20 11.4 -0.8
WHHZ Waihua 2.63 75 PN Pn 09 20 12.2 -0.2
SNGZ Shannon Statio 2.81 70 PN Pn 09 20 13.9 -0.4
URZ Urewera 2.89 59 ⇑PN Pn 09 20 13.3 -2.0
KNZ Kokohu 2.98 76 ⇑PN Pn 09 20 15.4 -0.7
MHGZ Mahia Peninsul 3.12 79 PN Pn 09 20 17.5 -0.3
MWZ Matawai 3.14 63 PN Pn 09 20 16.3 -1.8
HAZ Te Kaha 3.62 57 PN Pn 09 20 21.0 -2.8

DJA 12 09:35:38.8±1.0, 8°S±4°×12°2E±°, h10km, M3.7/5, MLv3.7/5, Flores region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
WSI Waingapu 2.06 228 P Pn 09 36 14.0 +0.5
BSSI Bau Bau, Buton 2.52 328 P Pn 09 36 19.8 -0.1
BSSI S Sg 09 37 02.1 +2.1
WBSI Waikabubak, Su 2.77 241 P Pn 09 36 22.6 -0.8
BKSI Bulukumba 3.41 330 P Pn 09 36 30.7 -1.4
BKSI S Sn 09 37 15.0 +2.4

MOS 12 09:39:49.6±0.8, 53°39N×108°53E, h8km, mb4.4/1, Error ellipse: s-maj=15.3km s-min=9.8km az=55.3
BYKL 12 09:39:50.5±0.3, 53°37N×108°48E, h10km±5km
ISC 12 09:39:50.4±1.0, 53°38N±0°02×108°48E±0°02, h9km±8km, n42, σ1°64/84, 16C-8D, Lake Baykal region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
MXMB Maximikha 0.20 127 ⇓iPg Pg 09 39 54.6 +0.2
582nm,0.6s
MXMB ⇑iPg Pg 09 39 54.6 +0.2
2μm,0.6s
MXMB ⇑iPg Pg 09 39 54.6 +0.2
5μm,0.6s
MXMB eSg Sg 09 39 57.9 +0.7
MXMB Pmax
7μm,0.4s
MXMB Smax
5μm,0.6s
OGRR Ongureny 0.59 297 ⇑iPG Pg 09 40 02.0 +0.2
OGRR e 09 40 10.4
OGRR pmax pmax
comp=Z,444nm,0.2s
OGRR smax smax
comp=E,2μm,0.5s
OGRR Ongureny 0.59 297 ⇑iPg Pg 09 40 01.9 +0.2
OGRR i Sg Sb 09 40 10.5 -0.8
OGRR Pmax
comp=E,446nm,0.2s
OGRR Smax
comp=E,2μm,0.2s
SYVR Suvo 0.95 72 ePG Pg 09 40 07.7 -0.8
SYVR e 09 40 20.3
SYVR pmax pmax
comp=Z,120nm,0.4s
SYVR smax smax
comp=E,716nm,0.3s
SYVR Suvo 0.95 72 ⇑iPg Pg 09 40 07.8 -0.8
comp=E,4.0nm,0.3s
SYVR ⇑iPg Pg 09 40 07.8 -0.8
comp=E,9.0nm,0.3s
SYVR ⇑iPg Pg 09 40 07.8 -0.8
comp=E,14nm,0.3s
SYVR ePb Pn 09 40 09.7 -0.2
SYVR eSg Sg 09 40 20.8 -0.1
SYVR eSb Sn 09 40 25.0 +1.4
SYVR max
comp=E,118nm,0.4s
SYVR Smax
comp=E,707nm,0.4s
TRG Tyrgan 1.43 245 ePG Pn 09 40 16.1 -0.4
TRG e 09 40 35.7
TRG pmax pmax
comp=Z,631nm,0.2s
TRG smax smax
comp=N,819nm,0.2s
TRG Tyrgan 1.43 245 ⇓iPg Pn 09 40 16.1 -0.4
TRG i Pb Pg 09 40 17.4 -0.3
TRG eSg Sg 09 40 35.7 -0.6
TRG max
comp=N,627nm,0.5s
TRG Smax
comp=N,813nm,0.4s
KAB Kabansk 1.74 220 ePN Pg 09 40 22.7 -0.9
KAB Kabansk 1.74 220 ⇑iPg Pg 09 40 22.7 -0.9
KAB eSg Sg 09 40 46.2 +0.1
KAB Pmax
comp=N,351nm,0.5s
KAB Smax
comp=N,2μm,0.7s
HRMR Khuramsha 1.99 209 i Pn Pb 09 40 25.0 -1.7
HRMR ⇑iPg Pg 09 40 26.6 -1.8
HRMR eSg Sg 09 40 53.6 -0.6
HRMR e 09 40 55.6
HRMR Pmax
comp=N,446nm,0.6s
HRMR Smax
comp=N,3μm,0.4s
YLYR Ulyunkhan 2.18 45 ePN Pn 09 40 27.7 +0.9
YLYR e 09 40 29.4
YLYR e 09 40 58.5
YLYR pmax pmax
comp=Z,110nm,0.9s
YLYR smax smax
comp=N,631nm,0.6s
YLYR Ulyunkhan 2.18 45 ⇓iPn Pn 09 40 27.6 +0.8
comp=N,20nm,0.3s
YLYR ⇓iPn Pn 09 40 27.6 +0.8
comp=N,27nm,0.3s
YLYR ⇓iPn Pn 09 40 27.6 +0.8
comp=N,34nm,0.3s
YLYR i Pg Pb 09 40 29.1 -0.8
YLYR e 09 40 31.6
YLYR eSg Sg 09 40 58.6 -1.6
YLYR max
comp=N,110nm,0.9s
YLYR Smax
comp=N,629nm,0.6s
NIZ Nizh Angarsk 2.48 14 ePN Pn 09 40 31.7 +0.8
NIZ e 09 40 35.3
NIZ eS Sn 09 41 01.5 +0.2
NIZ e 09 41 07.4
NIZ pmax pmax
comp=Z,34nm,0.4s
NIZ smax smax
comp=N,281nm,0.6s
NIZ Nizh Angarsk 2.48 14 ePg Pb 09 40 35.3 +0.3
NIZ e 09 41 03.7
NIZ eSg Sb 09 41 07.3 +1.7
NIZ Pmax
comp=N,33nm,0.4s
NIZ Smax
comp=N,281nm,0.6s
LSTR Listvyanka 2.69 237 ePN Pn 09 40 34.5 +0.7
LSTR e 09 40 39.6
LSTR e 09 41 13.3
LSTR pmax pmax
comp=Z,39nm,0.6s
LSTR smax smax
comp=N,214nm,1.2s
LSTR Listvyanka 2.69 237 ⇓iPn Pn 09 40 34.3 +0.5
LSTR ePg Pb 09 40 37.8 -0.9
LSTR e 09 40 46.3
LSTR eSn Sn 09 41 08.3 +1.8
LSTR i Sg Sb 09 41 13.3 +1.5
LSTR max
comp=N,40nm,0.6s
LSTR Smax
comp=N,211nm,1.4s
IRK Irkutsk 2.80 248 ePg Pb 09 40 40.3 -0.2
IRK eSg Sb 09 41 16.5 +1.7
IRK Pmax
comp=N,139nm,0.2s
IRK Smax
comp=N,733nm,0.4s
KMO Kumora 2.97 31 ePN Pn 09 40 37.3 -0.3
KMO e 09 40 43.3
KMO eS Sn 09 41 13.7 +0.4
KMO e 09 41 22.5
KMO pmax pmax
comp=Z,87nm,0.4s
KMO smax smax
comp=N,346nm,0.9s
KMO Kumora 2.97 31 ePn Pn 09 40 38.6 +1.0
KMO ⇓iPg Pb 09 40 43.6 +0.2
KMO e 09 40 47.8
KMO eSg Sg 09 41 23.2 -2.4
KMO Pmax
comp=N,86nm,0.5s
KMO Smax
comp=N,347nm,0.9s
YOA Uoyan 3.34 33 eSg Sg 09 41 35.9 -1.5
YOA Smax
comp=N,948nm,1.1s
CIT Chita 3.37 112 ePN Pn 09 40 44.3 +1.0
CIT e 09 40 51.2
CIT e 09 41 35.0
CIT pmax pmax
comp=Z,101nm,0.1s
CIT smax smax
comp=N,437nm,0.7s
CIT Chita 3.37 112 eSg Sg 09 41 35.4 -3.2
CIT e 09 41 38.2
CIT max
comp=N,435nm,0.7s
TLY Talaya 3.41 242 ePN Pn 09 40 44.4 +0.7
TLY e 09 40 51.8
TLY e 09 41 35.5
TLY pmax pmax
comp=Z,9.0nm,0.5s
TLY Talaya 3.41 242 ⇑iPn Pn 09 40 44.3 +0.6
TLY ePg Pb 09 40 50.7 -0.2
TLY e 09 40 54.4
TLY e 09 41 26.5
TLY eSg Sb 09 41 35.1 +2.6
TLY max
comp=Z,34nm,0.7s
TLY Smax
comp=Z,140nm,1.1s
ARS Arshan 3.97 251 ePN Pn 09 40 53.0 +1.6
ARS e 09 41 00.9
ARS e 09 41 50.6
ARS pmax pmax
comp=Z,54nm,0.4s
ARS smax smax
comp=E,649nm,0.6s
ARS Arshan 3.97 251 ePn Pn 09 40 53.3 +1.9
ARS ePg Pb 09 41 00.5 0.0
ARS eSg Sb 09 41 51.4 +2.8
ARS Pmax
comp=E,54nm,0.6s
ARS Smax
comp=E,647nm,0.9s
SVKR Severomuysk 4.02 45 ePg Pb 09 41 03.6 +2.2
SVKR e 09 41 05.1
SVKR i Sg Sg 09 41 56.7 -2.7
SVKR max
comp=E,61nm,0.6s
SVKR Smax
comp=E,480nm,0.6s
ZAK Zakamensk 4.40 229 ⇑iPn Pn 09 40 58.4 +0.9
ZAK ⇑iPg Pb 09 41 09.2 +1.3
ZAK eSg Sg 09 42 07.9 -3.8
ZAK e 09 42 10.4
ZAK Pmax
comp=E,24nm,0.9s
ZAK max
comp=E,67nm,0.9s
KPC Khapcheranga 4.41 145 ePN Pn 09 40 57.1 -0.5
KPC e 09 41 09.1
KPC eS Sn 09 41 47.6 -1.5
KPC e 09 42 05.6
KPC pmax pmax
comp=Z,33nm,0.5s
KPC smax smax
comp=E,275nm,1.3s
KPC Khapcheranga 4.41 145 ⇑iPn Pn 09 40 57.0 -0.5
KPC ePg Pb 09 41 09.0 +0.9
KPC eSn Sn 09 41 46.9 -2.2
KPC eSg Sb 09 42 05.2 +3.8
KPC Pmax
comp=E,15nm,0.4s
KPC Smax
comp=E,275nm,1.0s
MOY Mondy 4.88 252 ePN Pn 09 41 02.4 -1.7
MOY e 09 41 15.2
MOY eS Sn 09 41 58.5 -2.2
MOY e 09 42 18.6
MOY pmax pmax
comp=Z,33nm,0.8s
MOY smax smax
comp=N,303nm,1.7s
MOY Mondy 4.88 252 ⇑iPn Pn 09 41 07.1 +3.0
MOY ⇑iPg Pb 09 41 15.5 -0.6
MOY e 09 42 02.8
MOY eSg Sb 09 42 18.5 +3.6
MOY e 09 42 31.0
MOY Pmax
comp=N,33nm,0.8s
MOY max
comp=N,305nm,1.8s
NLYR Nelyaty 5.20 50 ePN Pb 09 41 22.8 +1.4
NLYR e 09 42 31.7
NLYR pmax pmax
comp=Z,23nm,0.8s
NLYR smax smax
comp=N,262nm,1.1s
NLYR Nelyaty 5.20 50 ⇑iPn Pn 09 41 05.9 -2.4
NLYR ePg Pb 09 41 23.9 +2.5
NLYR eSn Sn 09 42 08.9 +0.5
NLYR eSg Sg 09 42 32.1 -5.1
NLYR e 09 42 42.9
NLYR Pmax
comp=N,19nm,0.7s
NLYR max
comp=N,262nm,1.1s
ORL Orlik 5.31 264 ePN Pn 09 41 11.8 +1.9
ORL e 09 41 26.4
ORL e 09 42 32.3
ORL pmax pmax
comp=Z,26nm,0.6s
ORL smax smax
comp=N,191nm,1.1s
ORL Orlik 5.31 264 ⇓iPn Pn 09 41 11.8 +1.9
ORL ePg Pb 09 41 26.0 +2.7
ORL i 09 42 13.1
ORL eSg Sg 09 42 34.5 -6.2
ORL e 09 42 47.5
ORL Pmax
comp=N,26nm,1.1s
ORL Smax
comp=N,190nm,1.1s
BOD Bodaibo 5.44 33 ePN Pb 09 41 26.6 +1.2
BOD eS Sn 09 42 11.6 -2.6
BOD e 09 42 38.2
BOD pmax pmax
comp=Z,9.0nm,0.7s
BOD smax smax
comp=N,83nm,1.4s
BOD Bodaibo 5.44 33 eSg Sg 09 42 38.3 -6.5
BOD Smax
comp=N,83nm,2.0s
CRS Chara 6.63 54 ePG Pb 09 41 50.2 +4.5
CRS e 09 43 16.7
CRS pmax pmax
comp=Z,34nm,1.6s
CRS smax smax
comp=E,119nm,1.6s
CRS Chara 6.63 54 ePg Pb 09 41 49.9 +4.2
CRS e 09 42 03.7
CRS e 09 42 56.3
CRS i Sg Sg 09 43 16.5 -6.4
CRS e 09 43 27.9
CRS Smax
comp=E,118nm,1.7s
TUP Tupik 6.86 77 ePN Pn 09 41 32.8 +1.7
TUP e 09 41 54.1
TUP eS Sn 09 42 48.4 -0.9
TUP e 09 43 21.7
TUP pmax pmax
comp=Z,7.0nm,0.5s
TUP smax smax
comp=N,222nm,0.9s
TUP Tupik 6.86 77 e Pb 09 41 40.7 -9.0
TUP ePg Pg 09 41 54.1 -7.5
TUP eSg Sg 09 43 24.0 -6.4
TUP Pmax
comp=N,3.0nm,0.7s
TUP Smax
comp=N,256nm,1.6s

IDC 12 09:41:35.3±5.6, 4°61S×153°06E, h108km±48km, mb3.3/4, mb1 3.6/5, mb1mx3.3/28, mbtmp3.7/5, MS3.5/1, Ms1 3.4/1, ms1mx2.7/15, Error ellipse: s-maj=58.7km s-min=30.6km az=124.0, New Ireland region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
PMG Port Moresby 7.54 231 P Pn 09 43 22.0 -0.7
0.6nm,0.3s,baz=22,slow=15,SNR=5.5
PMG S Sn 09 44 48.8 +2.1
0.2nm,0.3s,baz=233,slow=20,SNR=1.7
WRA Warramunga Arr 23.76 229 P P 09 46 36.5 -1.5
2.0nm,1.0s,baz=50,slow=9.6,SNR=7.3
ASAR Alice Springs 26.46 222 P P 09 47 03.0 +0.5
0.2nm,0.5s,baz=52,slow=8.9,SNR=3.1
STKA Stephens Creek 29.18 200 LR LR 10 00 33.1
comp=Z,77nm,18.4s,baz=38,slow=39
CMAR Chiang Mai Arr 58.03 295 P P 09 51 18.4 +0.9
0.7nm,0.3s,baz=101,slow=5.9,SNR=4.1
ILAR Eielson Array 81.89 22 P P 09 53 42.4 -0.1
0.6nm,0.9s,baz=239,slow=5.5,SNR=8.3

IDC 12 09:54:15.6±3.2, 5°78S×150°28E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/26, mbtmp3.3/3, ML2.0/1, Error ellipse: s-maj=130.6km s-min=35.6km az=120.0, New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
PMG Port Moresby 4.75 220 Pn Pn 09 55 30.7 +2.1
0.5nm,0.3s,baz=96,slow=9.2,SNR=2.6
PMG Sn Sn 09 56 23.2 -1.3
1.1nm,0.3s,baz=294,slow=20,SNR=2.9
WRA Warramunga Arr 20.94 226 P P 09 59 00.4 +0.1
1.8nm,0.9s,baz=52,slow=11,SNR=8.2
ASAR Alice Springs 23.77 220 P P 09 59 29.4 -0.6
0.2nm,0.4s,baz=54,slow=9.2,SNR=8.7
TORD Torodi Ar. Bea 148.19 286 PKPbc PKPbc 10 14 04.0 -0.7
0.3nm,0.6s,baz=70,slow=3.7,SNR=3.6

IDC 12 10:01:36.7±3.9, 51°57N×36°32E, h0km, mb1 3.6/4, mb1mx3.2/27, mbtmp3.5/4, ML3.1/4, Error ellipse: s-maj=48.8km s-min=15.8km az=128.0, Baltic States - Belarus - Northwestern Russia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
OBN Obninsk 3.56 2 Pn Pn 10 02 34.0 +0.9
5.4nm,0.3s,baz=156,slow=20,SNR=3.4
OBN Lg Lg 10 03 27.2
4.9nm,0.3s,baz=356,slow=22,SNR=7.0
AKASG Malin Array Be 4.55 262 Pn Pn 10 02 44.8 -1.9
0.5nm,0.3s,baz=79,slow=15,SNR=4.5
AKASG Sn Sb 10 03 48.8 -3.9
0.7nm,0.3s,baz=75,slow=27,SNR=3.0
AKASG Lg Lg 10 04 03.2
0.6nm,0.3s,baz=75,slow=27,SNR=4.7
FINES FINESS Array B 11.39 334 Pn Pn 10 04 15.2 -5.2
0.1nm,0.3s,baz=142,slow=14,SNR=6.2
HFS Hagfors 15.26 313 Pn Pn 10 05 12.5 -0.7
0.1nm,0.3s,baz=129,slow=11,SNR=2.8
NOA NORSAR Array B 16.75 314 Pn Pn 10 05 24.6 -7.8
0.2nm,0.3s,baz=105,slow=14,SNR=4.3

JMA 12 10:08:03.6±0.2, 36°26N×142°42E, h74km, M2.6
IDC 12 10:08:31.7±2.6, 35°20N×138°01E, h108km±38km, mb3.0/4, mb1 3.1/4, mb1mx2.9/27, mbtmp3.3/4, Error ellipse: s-maj=74.8km s-min=24.9km az=59.0
ISC 12 10:08:02.8±1.9, 36°27N±0°07×142°4E±0°1, h15km, n16, σ0°60/20, mb3.4/4, Off east coast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
CHOJ Chosi 1.39 246 P Pn 10 08 27.5 -0.1
JHO Hitachi 1.53 283 P Pn 10 08 29.2 -0.4
JHO S Sn 10 08 48.9 -0.3
ONAJ Iwakimizuishiy 1.54 303 P Pn 10 08 29.5 -0.3
ONAJ eS Sn 10 08 48.7 -0.9
JFK Kawauchi 1.65 312 eS Sn 10 08 51.8 -0.5
BSO1 Boso 1 2.00 216 P Pn 10 08 35.5 0.0
JMM Marumori 2.05 321 P Pn 10 08 36.4 -0.4
JFT Otama 2.08 307 P Pn 10 08 38.3 +1.1
JFT eS Sn 10 09 03.9 +1.1
JAG Ashikaga 2.40 275 P Pn 10 08 41.9 +0.4
JAG eS Sn 10 09 10.2 -0.4
JRY Ryogami san 2.86 266 P Pn 10 08 48.1 +0.2
JOD2 Odawara 2 2.89 251 P Pn 10 08 48.8 +0.5
MJAR Matsushiro Arr 3.40 276 P Pn 10 08 56.3 +0.9
1.0nm,0.3s,baz=189,slow=12,SNR=8.3
MAT Matsushiro 3.41 276 P Pn 10 08 55.9 +0.5
MAT eS Sn 10 09 35.1 -0.5
SONM Songino Array 28.88 305 P P 10 14 00.5 -0.4
0.3nm,0.7s,baz=97,slow=8.8,SNR=3.4
MKAR Makanchi Array 45.21 303 P P 10 16 19.4 +0.2
0.3nm,0.6s,baz=81,slow=9.9,SNR=4.8
KURBB Kurchatov Arra 47.11 309 P P 10 16 34.5 +0.5
0.3nm,0.8s,baz=89,slow=7.7,SNR=3.2
WRA Warramunga Arr 56.43 189 P P 10 17 51.5 +7.7
0.4nm,0.6s,baz=4.2,slow=7.6,SNR=6.2

ISCJB 12 10:16:03.5±5.2, 22°9S±0°8×112°6W±0°7, h10km, mb3.9/6, Error ellipse: s-maj=144.2km s-min=30.2km az=38.4
IDC 12 10:16:03.9±1.0, 22°87S×112°44W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.1/16, mbtmp4.0/6, Error ellipse: s-maj=35.3km s-min=31.9km az=22.0
ISC 12 10:16:05.4±1.0, 22°9S±0°3×112°4W±0°2, h10km, n22, σ0°86/20, mb4.1/6, Easter Island region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
H03N2 Juan Fernandez 31.21 117 T T 10 55 08.7
baz=282,slow=74,SNR=46
H03N3 Juan Fernandez 31.22 117 T T 10 55 09.5
baz=282,slow=74,SNR=78
H03N1 Juan Fernandez 31.23 117 T T 10 55 10.0
baz=282,slow=74,SNR=37
LPAZ La Paz 42.11 89 P P 10 23 59.4 +0.6
2.8nm,0.9s,baz=230,slow=4.8,SNR=8.6
TXAR Lajitas Array 52.59 10 P P 10 25 20.7 +1.1
0.5nm,1.0s,baz=174,slow=13,SNR=3.7
NVAR Mina Array Bea 61.24 355 P P 10 26 22.3 +1.4
2.3nm,0.8s,baz=184,slow=9.7,SNR=16
PDAR Pinedale Array 65.37 2 P P 10 26 47.2 -1.0
0.7nm,0.6s,baz=176,slow=7.4,SNR=6.9
ULM Lac du Bonnet 74.27 11 P P 10 27 41.5 -1.0
1.7nm,0.7s,baz=190,slow=5.1,SNR=3.3
YKA Yellowknife Ar 85.10 359 P P 10 28 40.8 -0.2
1.4nm,1.1s,baz=174,slow=4.7,SNR=12
H11S2 WAKE ISLAND Hy 89.04 290 T T 12 07 40.0
baz=117,slow=73,SNR=8.1
H11S1 WAKE ISLAND Hy 89.05 290 T T 12 07 40.9
baz=117,slow=73,SNR=7.7
H11S3 WAKE ISLAND Hy 89.06 290 T T 12 07 41.4
baz=117,slow=73,SNR=5.8
AKASG Malin Array Be 139.31 37 PKP PKPdf 10 35 31.5 -1.1
0.2nm,0.4s,baz=280,slow=2.5,SNR=3.8
SONM Songino Array 140.34 319 PKP PKPdf 10 35 36.3 +1.5
0.3nm,0.9s,baz=132,slow=2.1,SNR=2.9
ZALV Zalesovo Beam 146.36 342 PKPbc PKPdf 10 35 45.3 +0.3
1.0nm,0.6s,baz=27,slow=4.7,SNR=4.9
BRTR Keskin Array B 146.70 52 PKPbc PKPbc 10 35 47.9 -0.1
1.4nm,0.7s,baz=263,slow=1.6,SNR=7.4
BVAR Borovoye Array 149.83 357 PKPbc PKPbc 10 35 55.0 -0.6
0.7nm,0.6s,baz=354,slow=1.5,SNR=5.5
CMAR Chiang Mai Arr 150.37 267 PKPbc PKPbc 10 35 58.0 +0.2
1.0nm,0.4s,baz=0.0,slow=0.6,SNR=6.2
CMAR PKPab PKPab 10 36 04.8 +0.5
1.1nm,0.3s,baz=26,slow=0.7,SNR=7.4
KBZ Khabaz 150.90 39 PKPbc PKPbc 10 35 58.7 +0.4
3.0nm,0.7s,baz=215,slow=7.7,SNR=6.5
KBZ PKPab PKPab 10 36 05.4 -0.2
5.9nm,0.9s,baz=161,slow=1.7,SNR=5.1
KURBB Kurchatov Arra 151.02 346 PKPbc PKPbc 10 35 57.6 -0.8
0.9nm,0.7s,baz=21,slow=2.1,SNR=6.4
KURBB PKPab PKPab 10 36 05.0 -0.8

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res
	1.2nm,1.0s,baz=12,slow=3.6,SNR=4.3						
AKTO	Aktyubinsk	151.50	13	PKPbc	PKPbc	10 35 58.5	-1.1
	0.4nm,0.4s,baz=289,slow=7.2,SNR=4.0						
MKAR	Makanchi Array	153.36	337	PKPbc	PKPbc	10 36 03.3	-0.6
	0.6nm,0.7s,baz=48,slow=1.8,SNR=5.5						
MKAR				PKPab	PKPab	10 36 15.8	-0.1
	0.5nm,0.8s,baz=46,slow=3.5,SNR=4.4						

IDC 12 10:16:50.8±2.7, 53.91N×86.58E, h0km, mb1 2.6/2, mb1mx2.6/31, mbtmp2.6/2, ML2.6/2, Error ellipse: s-maj=23.2km s-min=13.7km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.04	273	i		10 23 00.1	
	baz=90,slow=349,SNR=2.3						
ZALV	Zalesovo Beam	1.04	273	Pg	Pg	10 17 09.7	-1.1
	0.4nm,0.3s,baz=93,slow=15,SNR=5.0						
ZALV				Lg	Lg	10 17 25.6	
	0.6nm,0.3s,baz=95,slow=31,SNR=6.9						
KURBB	Kurchatov Arra	5.94	240	Pn	Pn	10 18 20.7	+0.8
	0.2nm,0.3s,baz=57,slow=14,SNR=2.9						
MKAR	Makanchi Array	7.64	203	Pn	Pn	10 18 44.2	+1.0
	0.1nm,0.3s,baz=23,slow=14,SNR=5.4						

MEX 12 10:20:28.3±0.8, 18.09N×103.31W, h7km±5km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MMIG	Aquila	0.20	351	eP	Pg	10 20 31.5	-0.9
MMIG				i S	Sg	10 20 35.4	+0.2
R15V		1.25	330	eP	Pn	10 20 48.3	-4.0
R15V				i S	Sb	10 21 04.3	-4.5
EZ5V		1.41	349	eP	Pn	10 20 51.6	-3.2
EZ5V				i S	Sb	10 21 08.3	-5.6
ZIIG	Zihuatanejo	1.82	105	i P	Pn	10 20 57.2	-2.9
ZIIG				i S	Sn	10 21 18.3	-5.2
ARIG	Puente Sto Nin	2.83	86	i P	Pn	10 21 11.4	-2.6
ARIG				i S	Sn	10 21 44.1	-4.2

IDC 12 10:22:19.7±1.1, 49.54N×28.54W, h0km, mb3.4/8, mb1 3.6/8, mb1mx3.5/33, mbtmp3.4/8, MS3.2/5, Ms1 3.3/5, ms1mx2.9/28, Error ellipse: s-maj=39.5km s-min=23.1km az=13.0
ISCJB 12 10:22:20.3±0.9, 49.5N±0.2×28.5W±0.2, h17km, mb3.4/8, MS3.2/5, Error ellipse: s-maj=30.4km s-min=17.8km az=18.0
ISC 12 10:22:22.3±1.0, 49.5N±0.2×28.5W±0.1, h17km, n13, σ1§10/11, mb3.4/8, MS3.2/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VRAC	Vranov	29.02	73	LR	LR	10 39 13.2	
	comp=Z,50nm,18.1s,baz=278,slow=35						
AKASG	Malin Array Be	36.24	65	P	P	10 29 22.8	-1.2
	0.4nm,0.6s,baz=296,slow=8.1,SNR=2.9						
MLR	Muntele Rosu	36.34	75	LR	LR	10 44 00.8	
	comp=Z,9.3nm,18.1s,baz=314,slow=36						
TORD	Torodi Ar. Bea	43.95	135	P	P	10 30 28.2	-0.2
	0.4nm,0.7s,baz=334,slow=7.8,SNR=3.1						
BRTR	Keskin Array B	44.15	78	LR	LR	10 49 43.1	
	comp=Z,18nm,18.5s,baz=287,slow=37						
YKA	Yellowknife Ar	46.17	320	P	P	10 30 45.8	+0.3
	0.3nm,0.9s,baz=58,slow=7.3,SNR=2.5						
YKA				PcP	PcP	10 32 21.2	+0.2
	0.1nm,0.6s,baz=66,slow=4.2,SNR=4.6						
DBIC	Dimbokro	47.13	147	LR	LR	10 50 25.3	
	comp=Z,50nm,18.1s,baz=87,slow=36						
PDAR	Pinedale Array	53.98	296	P	P	10 31 45.5	+0.2
	0.7nm,1.0s,baz=54,slow=4.6,SNR=4.0						
ILAR	Eielson Array	56.44	333	P	P	10 32 00.5	-1.9
	0.2nm,0.8s,baz=38,slow=6.2,SNR=3.0						
TXAR	Lajitas Array	58.96	280	P	P	10 32 20.8	0.0
	0.2nm,0.7s,baz=73,slow=6.7,SNR=3.7						
TXAR				LR	LR	10 56 31.4	
	comp=Z,65nm,18.9s,baz=0.0,slow=35						
MKAR	Makanchi Array	66.91	44	P	P	10 33 13.8	+0.4
	0.3nm,0.8s,baz=329,slow=4.5,SNR=4.4						
SONM	Songino Array	75.48	30	P	P	10 34 07.3	+2.0
	0.4nm,0.8s,baz=310,slow=4.9,SNR=3.1						
ASAR	Alice Springs	150.73	34	PKPbc	PKPbc	10 42 13.8	+0.3
	0.5nm,0.7s,baz=342,slow=2.0,SNR=9.8						
ASAR				PKPab	PKPab	10 42 20.4	0.0
	0.9nm,0.7s,baz=338,slow=1.7,SNR=8.5						

KRSC 12 10:38:36.6±1.6, 49.59N×154.22E, h223km±13km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.64	47	eP	Pn	10 39 13.6	+0.2
SKR				eS	S	10 39 43.6	+1.4
PAU	Pauzhetka	2.50	40	eS	S	10 39 57.5	+0.3
MIPR	Malaya Ipel'ka	3.13	30	eP	Pn	10 39 29.4	+0.5
MIPR				eS	S	10 40 08.9	-1.0
ASAK	Asacha	3.63	38	eP	Pn	10 39 36.4	+1.6
APC	Apacha	3.81	28	eP	Pn	10 39 37.0	+0.2
MTVR	Mutnovka	3.82	39	eP	Pn	10 39 38.9	+1.7
MTVR				eS	S	10 40 25.2	+0.3
RUS	Russkaya	3.93	42	eP	Pn	10 39 39.3	+1.1
RUS				eS	S	10 40 26.7	0.0
PET	Petropavlovsk	4.42	37	eP	Pn	10 39 46.3	+2.1
PET				eS	S	10 40 38.2	+0.6
KOK	Koryaka	4.62	35	eP	Pn	10 39 48.7	+1.9
UGLR	Uglovaya	4.63	37	eP	Pn	10 39 49.6	+2.7
AVH	Avacha	4.64	36	eP	Pn	10 39 49.4	+2.4
SMAR	Somma	4.66	36	eP	Pn	10 39 49.7	+2.2
KRER	Koryakskii	4.67	36	eP	Pn	10 39 50.1	+2.5
KRX	Arik	4.68	35	eP	Pn	10 39 50.0	+2.4
SDLR	Sedlovina	4.70	37	eP	Pn	10 39 49.9	+2.0
GNL	Ganaly	4.72	28	eP	Pn	10 39 49.0	+1.0
KBTR	Krutoberegovo	8.42	35	eP	Pn	10 40 35.8	+0.9
BKI	Bering	9.11	47	eP	Pn	10 40 45.2	+1.3

ISCJB 12 11:00:30.0±0.7, 59.28N±0.03×27.2E±0.1, h0km, Error ellipse: s-maj=7.8km s-min=4.9km az=2.8
NAO 12 11:00:31.3±1.0, 59.29N×27.09E, ML2.5
CSEM 12 11:00:31.6±0.6, 59.33N×27.07E, h1km, ML2.5, Error ellipse: s-maj=15.0km s-min=9.8km az=99.0, Mining explosion.
HEL 12 11:00:32.3±0.1, 59.30N×27.13E, h0km, ML1.8, Explosion
BER 12 11:00:32.3±2.0, 59.31N×27.16E, h0km, ML2.5(NAO), Suspected explosion
IDC 12 11:00:34.7±1.2, 59.46N×27.01E, h0km, mb1 3.2/5, mb1mx3.0/29, mbtmp3.1/5, ML2.7/5, Error ellipse: s-maj=12.1km s-min=8.8km az=97.0
ISC 12 11:00:31.1±0.8, 59.31N±0.03×26.94E±0.04, h0km, n48, σ1§69/70, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VSU	Vasula	0.86	187	Pg	Pg	11 00 47.8	+0.3
VSU				Lg	Lg	11 00 59.3	
VSU	Vasula	0.86	187	Pg	Pg	11 00 47.8	+0.3
VSU				Lg	Lg	11 00 59.3	
VSU	Vasula	0.86	187	Pg	Pg	11 00 47.8	+0.3
VSU				Lg	Lg	11 00 59.3	
VSU	Vasula	0.86	187	Pg	Pg	11 00 47.8	+0.3
VSU				Lg	Lg	11 00 59.3	
VSU	Vasula	0.86	187	Pg	Pg	11 00 47.8	+0.3
VSU				Lg	Lg	11 00 59.3	
	SNR=90						
VJF	Virojoki	1.27	14	eP	Pg	11 00 54.8	-0.6
VJF				eS	Sg	11 01 11.4	-0.5
VJF				MSG		11 01 12.1	
	comp=Z,10nm,0.1s						
VJF	Virojoki	1.27	14	P	Pg	11 00 54.8	-0.6
PVF	Pernaja	1.35	337	eP	Pn	11 00 57.4	+0.2
PVF				MSG	Sn	11 01 15.7	-0.1
	comp=Z,4.0nm,0.2s						
PVF				eS	Sn	11 01 15.7	-0.1
PVF	Pernaja	1.35	337	P	Pn	11 00 57.4	+0.2
MEF	Metsahovi	1.57	306	ePG	Pg	11 01 02.4	+1.1
MEF				eSN	Sg	11 01 24.4	+2.7
MEF				MSG		11 01 24.4	
	comp=Z,8.9nm,0.2s						
MEF	Metsahovi	1.57	306	Pg	Pg	11 01 02.3	+1.1
MEF				Sn	Sg	11 01 24.3	+2.7
FIA0	FINESS Array S	2.18	349	Pn	Pn	11 01 09.8	+1.2
	baz=164,slow=18						
FIA0				Pg	Pb	11 01 11.2	-0.2
	baz=160,slow=18						
FIA0				Lg	Lg	11 01 40.9	
	baz=163,slow=28						
FIA0				Rg	Rg	11 01 53.0	
	baz=165,slow=37						
FIA0	FINESS Array S	2.18	349	Pn	Pn	11 01 09.8	+1.2
	baz=164,slow=18						
FIA0				Pg	Pb	11 01 11.2	-0.2
	baz=160,slow=18						
FIA0				Lg	Lg	11 01 40.9	
	baz=163,slow=28						
FIA0				Rg	Rg	11 01 53.0	
	baz=165,slow=37						
FIA0	FINESS Array S	2.18	349	Pn	Pn	11 01 09.8	+1.2
	baz=164,slow=18						
FIA0				Pg	Pb	11 01 11.2	-0.2
	baz=160,slow=18						
FIA0				Lg	Lg	11 01 40.9	
	baz=163,slow=28						
FIA0				Rg	Rg	11 01 53.0	
	baz=165,slow=37						
FIA0	FINESS Array S	2.18	349	Pn	Pn	11 01 09.8	+1.2
	baz=164,slow=18						
FIA0				Pg	Pb	11 01 11.2	-0.2
	baz=160,slow=18						
FIA0				Lg	Lg	11 01 40.9	
	baz=163,slow=28						
FIA0				Rg	Rg	11 01 53.0	
	baz=165,slow=37						
FIA0	FINESS Array S	2.18	349	eP	Pn	11 01 09.5	+0.9
FIA0				ePB	Pb	11 01 11.0	-0.4
FIA0				eS	Sb	11 01 37.8	-1.2
FIA0				eSB	Sg	11 01 38.9	-2.3
FIA0				eSG	Sn	11 01 40.9	+4.5
FIA0				MSG		11 01 41.3	
	comp=Z,5.6nm,0.3s						
FIA0	FINESS Array S	2.18	349	P	Pn	11 01 09.5	+0.9
FIA0	FINESS Array S	2.18	349	Pn	Pn	11 01 09.8	+1.2
	SNR=4.3						
FIA0	FINESS Array S	2.18	349	Pg	Pb	11 01 11.2	-0.2
FIA0				S	Sb	11 01 37.8	-1.2
FIA0				Sb	Sg	11 01 38.8	-2.3
FIA0				Sg	Sn	11 01 40.8	+4.5
FINES	FINESS Array B	2.18	349	Pn	Pn	11 01 09.8	+1.2
	comp=Z,1.4nm,0.3s,baz=164,slow=16,SNR=39						
FINES				Pg	Pb	11 01 11.3	-0.2
	comp=Z,1.4nm,0.3s,baz=164,slow=18,SNR=42						
FINES				Lg	Lg	11 01 39.0	
	comp=Z,1.7nm,0.3s,baz=169,slow=25,SNR=4.0						
FINES				Rg	Rg	11 01 53.4	
	comp=Z,54nm,1.0s,baz=166,slow=32,SNR=20						
KAF	Kangasniemi	2.83	354	eP	Pn	11 01 19.4	+1.8
KAF				ePB	Pb	11 01 21.7	-0.8
KAF				MSG	Sn	11 01 53.8	+1.6
	comp=Z,2.6nm,0.3s						
KAF				eS	Sn	11 01 53.8	+1.6
KAF	Kangasniemi	2.83	354	P	Pn	11 01 19.3	+1.8
KEF	Keuruu	3.04	341	eP	Pn	11 01 23.0	+2.6
KEF				ePB	Pb	11 01 25.5	-0.6
KEF				eSB	Sb	11 02 05.1	+1.5
KEF	Keuruu	3.04	341	P	Pn	11 01 23.0	+2.6
RAF	Rauma	3.10	306	eP	Pb	11 01 24.9	-2.3
RAF	Rauma	3.10	306	P	Pb	11 01 24.8	-2.3
SUF	Sumiainen	3.44	354	eP	Pn	11 01 27.9	+1.9
SUF	Sumiainen	3.44	354	P	Pn	11 01 27.8	+1.9
JOF	Joensuu	4.20	29	eP	Pn	11 01 36.9	+0.7
JOF				eS	Sn	11 02 24.6	-1.3
JOF				MSG		11 02 25.8	
	comp=Z,1.9nm,0.3s						
JOF	Joensuu	4.20	29	P	Pn	11 01 36.9	+0.7
JOF				S	Sn	11 02 24.6	-1.3
VAF	Ylistaro	4.28	333	eSG	Sg	11 02 46.5	-1.8
VAF				MSG		11 02 46.5	
	comp=Z,2.3nm,0.3s						
HFS	Hagfors	6.75	283	Sn	Sn	11 03 27.2	-1.6
	baz=114,slow=28						
HFS				Lg	Lg	11 04 02.9	
	baz=97,slow=37						
HFS	Hagfors	6.75	283	Sn	Sn	11 03 27.2	-1.6
	baz=114,slow=28						
HFS				Lg	Lg	11 04 02.9	
	baz=97,slow=37						
HFS	Hagfors	6.75	283	Sn	Sn	11 03 27.2	-1.6
	baz=114,slow=28						
HFS				Lg	Lg	11 04 02.9	
	baz=97,slow=37						
HFS	Hagfors	6.75	283	Sn	Sn	11 03 27.2	-1.6
	baz=114,slow=28						
HFS				Lg	Lg	11 04 02.9	
	baz=97,slow=37						
HFS	Hagfors	6.75	283	Pn	Pn	11 02 12.4	+1.1
	comp=Z,0.1nm,0.3s,baz=94,slow=16,SNR=4.2						
HFS				Sn	Sn	11 03 27.2	-1.6
	comp=Z,0.3nm,0.3s,baz=124,slow=23,SNR=4.4						
HFS				Lg	Lg	11 04 02.0	
	comp=Z,1.0nm,0.3s,baz=94,slow=32,SNR=8.7						
NB2	NORSAR Subarra	8.03	289	Lg	Lg	11 04 42.9	
	baz=106,slow=28						
NB2	NORSAR Subarra	8.03	289	Lg	Lg	11 04 42.9	
	baz=106,slow=28						
NB2	NORSAR Subarra	8.03	289	Lg	Lg	11 04 42.9	
	baz=106,slow=28						
NB2	NORSAR Subarra	8.03	289	Lg	Lg	11 04 42.9	
	baz=106,slow=28						
NOA	NORSAR Array B	8.03	289	Pn	Pn	11 02 30.1	+1.2
	comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=3.3						
NOA				Sn	Sn	11 03 56.2	-4.1
	comp=Z,0.2nm,0.3s,baz=98,slow=18,SNR=2.8						
NOA				Lg	Lg	11 04 42.9	
	comp=Z,0.6nm,0.3s,baz=94,slow=15,SNR=7.4						
AKASG	Malin Array Be	8.73	170	Pn	Pn	11 02 38.8	+0.3
	comp=Z,0.7nm,0.3s,baz=356,slow=13,SNR=3.5						
AKASG				Pg	Pg	11 03 07.0	-11
	comp=Z,0.2nm,0.3s,baz=349,slow=17,SNR=4.4						
AKASG				Lg	Lg	11 04 57.7	
	comp=Z,0.4nm,0.3s,baz=351,slow=30,SNR=3.7						
ARA0	ARCESS Array S	10.28	357	Pn	Pn	11 02 57.6	-2.1
	baz=169,slow=16						
ARA0				Sn	Sn	11 04 46.6	-8.9
	baz=174,slow=22						
ARA0	ARCESS Array S	10.28	357	Pn	Pn	11 02 57.6	-2.1
	baz=169,slow=16						
ARA0				Sn	Sn	11 04 46.6	-8.9
	baz=174,slow=22						
ARA0	ARCESS Array S	10.28	357	Pn	Pn	11 02 57.6	-2.1
	baz=169,slow=16						
ARA0				Sn	Sn	11 04 46.6	-8.9
	baz=174,slow=22						
ARA0	ARCESS Array S	10.28	357	Pn	Pn	11 02 57.6	-2.1
	baz=169,slow=16						
ARA0				Sn	Sn	11 04 46.6	-8.9
	baz=174,slow=22						
ARA0	ARCESS Array S	10.28	357	Pn	Pn	11 02 57.6	-2.1
	SNR=7.9						
ARCES	ARCESS Array B	10.28	357	Pn	Pn	11 02 58.6	-1.2
	comp=Z,0.2nm,0.3s,baz=171,slow=14,SNR=10						
ARCES				Sn	Sn	11 04 47.9	-7.6
	comp=Z,0.2nm,0.3s,baz=172,slow=23,SNR=4.9						
ARCES				Lg	Lg	11 05 47.1	
	comp=Z,0.4nm,0.3s,baz=168,slow=31,SNR=5.7						

IDC 12 11:01:18.3±2.8, 54.18N×87.19E, h0km, mb1 3.2/2, mb1mx3.0/30, mbtmp3.2/2, ML3.3/2, Error ellipse: s-maj=24.9km s-min=16.1km az=65.0
NNC 12 11:01:19.0±6.8, 54.03N×87.25E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=54.7km s-min=41.8km az=7.0
ISC 12 11:01:19.7±4.5, 54.4N±0.2×87.3E±0.2, h35km, n7, σ0§80/10, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.51	254	i		11 09 30.0	
	baz=80,slow=350,SNR=18						
ZALV	Zalesovo Beam	1.51	254	Pg	Pn	11 01 43.4	-0.8
	14nm,0.3s,baz=81,slow=16,SNR=59						
ZALV				Lg	Lg	11 02 03.5	
	3.9nm,0.3s,baz=84,slow=28,SNR=9.4						
KURK	Kurchatov	6.43	239	⇓Pn	Pn	11 02 52.2	+0.4
	1.8nm,1.1s						
KURK				⇑Sn	Sn	11 04 04.4	+0.5
	0.7nm,0.7s						
KURK				⇓Lg	Lg	11 04 37.1	
	4.0nm,1.2s						
KURBB	Kurchatov Arra	6.53	238	⇑Pn	Pn	11 02 53.3	+0.1
	1.8nm,0.3s						
KURBB				⇑Sn	Sn	11 04 06.6	+0.2
	2.6nm,0.5s						
KURBB				⇑Lg	Lg	11 04 41.6	
	4.4nm,0.7s						
KURBB	Kurchatov Arra	6.53	238	Pn	Pn	11 02 54.1	+0.9
	1.0nm,0.3s,baz=54,slow=14,SNR=21						
KURBB				Lg	Lg	11 04 40.3	
	0.1nm,0.3s,baz=55,slow=31,SNR=4.3						
MK31	Makanchi Array	8.24	205	⇑Pn	Pn	11 03 16.9	+0.2
	0.6nm,0.7s,baz=28,slow=13,SNR=6.8						
MK31				⇑Sn	Sn	11 04 48.3	-0.1
	0.2nm,0.3s,baz=81,slow=37,SNR=4.2						
MK31				⇑Lg	Lg	11 05 29.9	
	2.6nm,0.9s,baz=27,slow=30,SNR=3.8						
MKAR	Makanchi Array	8.24	205	Pn	Pn	11 03 17.2	+0.6
	0.3nm,0.3s,baz=27,slow=13,SNR=5.6						
MKAR				Sn	Sn	11 04 47.0	-1.4
	0.2nm,0.3s,baz=23,slow=27,SNR=3.8						
MKAR				Lg	Lg	11 05 34.8	
	0.1nm,0.3s,baz=18,slow=28,SNR=5.2						

IDC 12 11:02:31.3±1.2, 7.24S×155.12E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.9/19, mbtmp3.9/10, ML2.8/1, MS3.4/1, Ms1 3.3/1, ms1mx2.6/31, Error ellipse: s-maj=42.2km s-min=20.3km az=122.0
ISCJB 12 11:02:36.7±0.9, 7.2S±0.1×154.8E±0.1, h41km, mb3.7/9, MS3.2/1, Error ellipse: s-maj=24.7km s-min=10.9km az=146.8
ISC 12 11:02:37.8±1.1, 7.3S±0.2×155.0E±0.2, h41km, n12, σ1§40/14, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	8.02	254	Pn	Pn	11 04 33.3	+1.4
	0.7nm,0.3s,baz=34,slow=11,SNR=4.8						
PMG				Sn	Sn	11 05 59.6	-1.8
	0.5nm,0.3s,baz=108,slow=17,SNR=3.1						
WRA	Warramunga Arr	23.65	236	P	P	11 07 44.1	-1.7
	1.5nm,0.8s,baz=58,slow=9.6,SNR=8.3						
ASAR	Alice Springs	25.99	229	P	P	11 08 06.0	-1.0
	0.4nm,0.6s,baz=62,slow=9.2,SNR=8.8						
STKA	Stephens Creek	27.50	205	P	P	11 08 21.9	+1.4
	1.6nm,0.6s,baz=31,slow=12,SNR=7.3						
STKA				LR	LR	11 18 46.9	
	comp=Z,70nm,19.5s,baz=26,slow=35						
CMAR	Chiang Mai Arr	60.87	296	P	P	11 12 49.1	+2.3
	0.9nm,0.6s,baz=113,slow=4.3,SNR=4.8						
SONM	Songino Array	69.53	327	P	P	11 13 42.8	+0.3
	0.3nm,0.5s,baz=151,slow=5.1,SNR=4.7						
MKAR	Makanchi Array	83.58	319	P	P	11 15 01.8	-0.1
	1.2nm,0.7s,baz=97,slow=5.7,SNR=12						
ILAR	Eielson Array	83.62	21	P	P	11 15 00.4	-1.3
	0.6nm,0.8s,baz=228,slow=4.9,SNR=8.9						
ZALV	Zalesovo Beam	84.37	326	P	P	11 15 04.5	-1.2
	0.4nm,0.4s,baz=103,slow=4.6,SNR=2.7						
YKA	Yellowknife Ar	96.57	28	P	P	11 16 03.4	+0.4
	0.4nm,0.6s,baz=266,slow=4.5,SNR=7.6						
MDT	Midelt	148.27	326	PKPbc	PKPbc	11 22 20.5	+0.1
	0.5nm,0.3s,baz=248,slow=6.0,SNR=3.5						
TORD	Torodi Ar. Bea	153.07	285	PKPbc	PKPbc	11 22 31.8	-0.3
	0.2nm,0.4s,baz=55,slow=2.7,SNR=3.6						
TORD				PKPab	PKPab	11 22 42.3	-1.3
	0.8nm,0.8s,baz=87,slow=2.2,SNR=3.8						

IDC 12 11:09:04.4±1.8, 5.96S×150.08E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/30, Error ellipse: s-maj=72.8km s-min=19.9km az=118.0
ISCJB 12 11:09:11.1±0.7, 5.87S±0.08×149.6E±0.1, h58km, mb3.8/4, Error ellipse: s-maj=17.2km s-min=7.6km az=30.2
ISC 12 11:09:13.0±0.8, 5.85S±0.08×149.5E±0.1, h58km, n14, σ1§28/16, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RABL	Rabaul	3.09	58	P	Pn	11 09 58.9	-0.5
	baz=3.1,SNR=24						
PMG	Port Moresby	4.25	214	Pn	Pn	11 10 15.3	0.0
	24nm,0.3s,baz=29,slow=12,SNR=71						
PMG				Sn	Sn	11 11 02.4	-1.1
	23nm,0.3s,baz=59,slow=19,SNR=7.7						
PMG				LR	LR	11 11 54.4	
	comp=Z,187nm,20.6s,baz=358,slow=38						
PMG	Port Moresby	4.25	214	P	Pn	11 10 15.4	+0.2
	baz=4.3,SNR=24						
PMG				S	Sn	11 11 02.6	-1.0
	baz=4.3,SNR=7.6						
MANU	Manus Island	4.36	330	P	Pn	11 10 15.2	-1.6
	baz=4.4,SNR=11						
COEN	Coen	10.20	217	P	Pn	11 11 36.4	-0.4
	baz=10,SNR=12						
KDU	Kakadu	18.15	247	P	Pn	11 13 21.7	+0.5
	baz=18,SNR=5.6						
KDU				S	Sn	11 16 27.4	-16
	baz=18,SNR=3.6						
WRA	Warramunga Arr	20.36	225	P	P	11 13 45.2	+0.3
	2.2nm,0.6s,baz=51,slow=11,SNR=19						
RMQ	Roma	20.53	182	P	P	11 13 46.6	-0.2
	baz=21,SNR=12						
KNRA	Kununurra	22.60	243	P	P	11 14 10.5	+1.4
	baz=23,SNR=6.4						
ASAR	Alice Springs	23.24	219	P	P	11 14 16.2	+0.7
	1.4nm,0.6s,baz=49,slow=9.3,SNR=28						
MEEK	Meekatharra	36.00	232	P	P	11 16 08.5	-0.2
	baz=36,SNR=8.2						
PETK	Petropavlovsk-	59.14	6	P	P	11 19 07.8	+0.2
	3.2nm,1.0s,baz=156,slow=6.9,SNR=12						
SONM	Songino Array	65.53	330	P	P	11 19 53.1	+2.5
	0.3nm,0.5s,baz=146,slow=4.8,SNR=5.4						
ILAR	Eielson Array	84.36	23	P	P	11 21 36.0	-2.6
	0.4nm,0.7s,baz=251,slow=5.1,SNR=7.0						

TIF 12 11:11:51.8, 42.56N×43.51E, h17km±1km
IDC 12 11:11:51.8±0.8, 42.56N×43.31E, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.3/27, mbtmp3.4/6, ML3.1/2, MS2.3/1, Ms1 2.3/1, ms1mx2.1/29, Error ellipse: s-maj=13.2km s-min=8.1km az=78.0
AZER 12 11:11:53.0±8.3, 42.64N×43.72E, h2km, Error ellipse: s-maj=6.5km s-min=4.9km az=333.0
MOS 12 11:11:53.3±1.3, 42.54N×43.45E, h12km, mb4.2/1, Error ellipse: s-maj=10.7km s-min=5.6km az=69.1
CSEM 12 11:11:54.6±0.2, 42.59N×43.49E, h20km, mb4.2, Error ellipse: s-maj=5.1km s-min=3.8km az=123.0
DDA 12 11:11:56.0, 42.55N×43.21E, h11km, MD3.3
ISC 12 11:11:53.2±0.8, 42.54N±0.02×43.48E±0.02, h10km±5km, n101, σ1§24/153, mb3.3/3, 15C-18D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ONI	Oni	0.06	338	P	Pg	11 11 55.2	-0.1
ONI	Oni	0.06	338	S	Sg	11 11 57.1	+0.2
DIGR	Digorskoe uzhe	0.37	11	⇓i PG	Pg	11 12 00.3	-0.3
DIGR				i S	Sg	11 12 06.2	+0.7
DIGR	Digorskoe uzhe	0.37	11	i Pg	Pg	11 12 00.3	-0.3
DIGR				i Sg	Sg	11 12 06.2	+0.7
ZEI	Tsey	0.40	51	⇓i PG	Pg	11 12 00.8	-0.3
ZEI				i S	Sg	11 12 06.9	+0.5
LACR	Lac	0.67	64	⇓i PG	Pg	11 12 05.7	-0.4
LACR				i S	Sg	11 12 15.3	+0.4
LACR	Lac	0.67	64	i Pg	Pg	11 12 05.7	-0.4
LACR				i Sg	Sg	11 12 15.3	+0.4
KORR	Kora	0.70	38	⇑i PG	Pb	11 12 06.9	-0.6
KORR				eS	Sb	11 12 17.1	-0.1
KORR	Kora	0.70	38	i Pg	Pb	11 12 06.9	-0.6
KORR				eSg	Sb	11 12 17.1	-0.1
LSNR	Lesken	0.78	19	⇓i PG	Pn	11 12 08.4	+0.1
LSNR				i S	Sb	11 12 19.7	0.0
LSNR	Lesken	0.78	19	i Pg	Pn	11 12 08.4	+0.1
LSNR				i Sg	Sb	11 12 19.7	0.0
ARNR	Ardon	0.87	42	⇑i PG	Pn	11 12 10.8	-0.8
ARNR				eS	Sn	11 12 23.3	-1.1
ARNR	Ardon	0.87	42	i Pg	Pn	11 12 10.8	-0.8
ARNR				eSg	Sn	11 12 23.3	-1.1
NEY	Neytrino	0.91	322	⇑ePG	Pg	11 12 09.7	-0.9

NEY eS Sg 11 12 21.9 -0.5
NEY Neytrino 0.91 322 ePg Pg 11 12 09.7 -0.9
NEY eSg Sg 11 12 21.9 -0.5
STDR Stavd-Durt 0.94 27⇑iPG Pn 11 12 12.2 -0.2
STDR eS Sn 11 12 25.6 -0.3
STDR Stavd-Durt 0.94 27 iPg Pn 11 12 12.2 -0.2
VLKR Vladikavkaz 1.02 59⇓iPG Pb 11 12 12.9 0.0
VLKR eS Sn 11 12 27.2 -0.8
VLKR Vladikavkaz 1.02 59 iPg Pb 11 12 12.9 0.0
VLKR eSg Sn 11 12 27.2 -0.8
CHVG Ch'k'valeri 1.05 280 P Pg 11 12 12.7 -0.7
CHVG Ch'k'valeri 1.05 280 P Pg 11 12 12.6 -0.7
CHVG S Sb 11 12 27.2 0.0
SNJR Sundja 1.11 61 ePG Pb 11 12 14.3 -0.3
SNJR eS Sn 11 12 29.8 -0.5
SNJR Sundja 1.11 61 ePg Pb 11 12 14.3 -0.3
SNJR eSg Sn 11 12 29.8 -0.5
AKH Akhalkalaki 1.12 180 P Pb 11 12 13.5 -1.4
AKH Akhalkalaki 1.12 180 P Pb 11 12 13.5 -1.4
AKH S Sb 11 12 29.0 -0.6
BTKR Batakoyurt 1.14 43⇑iPG Pn 11 12 16.9 +1.6
BTKR eS Sn 11 12 33.0 +2.0
BTKR Batakoyurt 1.14 43 iPg Pn 11 12 16.9 +1.6
TBLG Delisi 1.23 130 P Pn 11 12 15.8 -0.7
TBLG Delisi 1.23 130 P Pn 11 12 15.8 -0.7
TBLG S Sn 11 12 33.0 -0.2
KBZ Khabaz 1.27 340 Pg Pn 11 12 16.5 -0.4
16nm,0.3s,baz=170,slow=4.6,SNR=219
KBZ Lg Lg 11 12 33.1
29nm,0.3s,baz=100,slow=19,SNR=19
KZR Kazreti 1.35 149 P Pn 11 12 17.0 -1.1
KZR Kazreti 1.35 149 P Pn 11 12 17.0 -1.1
KZR S Sb 11 12 33.8 -2.1
PRTR Priterechnaya 1.35 25 ePG Pg 11 12 19.8 +0.8
PRTR eS Sg 11 12 38.6 +2.1
PRTR Priterechnaya 1.35 25 ePg Pg 11 12 19.8 +0.8
TRKR Terskaya 1.50 37⇑iPG Pg 11 12 22.4 +0.5
TRKR eS Sg 11 12 43.0 +1.7
TRKR Terskaya 1.50 37 iPg Pg 11 12 22.4 +0.5
PYA Pyatigorsk 1.53 348⇑ePG Pb 11 12 21.6 0.0
PYA eS Sg 11 12 42.8 +0.5
PYA Pyatigorsk 1.53 348 ePg Pb 11 12 21.6 0.0
PYA eSg Sg 11 12 42.8 +0.5
KIV Kislovodsk 1.53 338c iPG Pb 11 12 21.4 -0.4
KIV iS Sg 11 12 42.1 -0.4
KIV pmax pmax
comp=Z,41nm,0.4s
KIV smax smax
comp=Z,214nm,0.8s
KIV Kislovodsk 1.53 338 iPg Pb 11 12 21.4 -0.4
comp=Z,41nm,0.4s
KIV iSg Sg 11 12 42.1 -0.4
comp=Z,214nm,0.8s
DGRG David-gareji 1.78 127 P Pb 11 12 26.0 +0.1
DGRG David-gareji 1.78 127 P Pb 11 12 26.0 +0.1
ARTV Artvin 1.78 221 iP Pn 11 12 24.4 +0.2
ARTV iS Sn 11 12 47.3 +0.3
ARTV Artvin 1.78 221 iP Pn 11 12 24.4 +0.2
ARTV iS Sn 11 12 47.3 +0.3
DBOC Borcka 1.80 229 iP Pn 11 12 24.1 -0.3
DBOC iS Sb 11 12 48.2 -0.8
DBOC Borcka 1.80 229 iP Pn 11 12 24.1 -0.3
DBOC iS Sb 11 12 48.2 -0.8
GRO Groznyy 1.84 64⇓iPN Pg 11 12 27.9 -0.5
GRO eS Sg 11 12 52.2 -0.1
DAGI Agillar 1.87 219 iP Pn 11 12 26.1 +0.7
DAGI iS Sb 11 12 51.0 0.0
KARS Kars 1.93 189 eP Pb 11 12 29.2 +0.7
KARS Kars 1.93 189 eP Pb 11 12 29.2 +0.7
DBAD Bademkaya 2.02 222 iP Pn 11 12 27.9 +0.5
DBAD iS Sb 11 12 55.0 -0.3
DBAD Bademkaya 2.02 222 iP Pn 11 12 27.9 +0.5
DBAD iS Sb 11 12 55.0 -0.3
QZX Qazax, Azerbai 2.04 136 ⇓Pg Pn 11 12 28.5 +0.9
QZX ⇑Sg Sb 11 12 56.8 +0.9
QZX Qazax, Azerbai 2.04 136 Pg Pn 11 12 28.5 +0.9
QZX Sg Sb 11 12 56.8 +0.9
DDEM Demirkent 2.09 219 iP Pn 11 12 29.3 +0.9
DDEM iS Sb 11 12 57.7 +0.3
DDEM Demirkent 2.09 219 iP Pn 11 12 29.3 +0.9
DDEM iS Sb 11 12 57.7 +0.3
DIGO Kars 2.12 182 iP Pn 11 12 29.3 +0.4
DIGO iS Sb 11 12 58.8 +0.5
DIGO Kars 2.12 182 iP Pn 11 12 29.3 +0.4
DIGO iS Sb 11 12 58.8 +0.5
ZKTA Zakatala 2.50 110 ⇓Pg Pb 11 12 36.1 -2.1
ZKTA ⇓Sg Sb 11 13 08.6 -0.5
GNI Garni 2.57 158 Pn Pb 11 12 38.4 -1.0
GNI Sn Sb 11 13 13.1 +2.0
GNI LR LR 11 13 56.2
comp=Z,67nm,21.9s,baz=298,slow=47
HOMI Horasan 2.76 206 eP Pb 11 12 41.9 -0.8
HOMI iS Sb 11 13 21.9 +0.1
GANJ Ganja 2.85 131 ⇑Pg Pb 11 12 41.8 -2.3
GANJ ⇓Sg Sb 11 13 18.2 -0.8
GANJ Ganja 2.85 131 Pg Pb 11 12 41.8 -2.3
GANJ Sg Sb 11 13 18.2 -0.8
AGRB Hanur-Agry 2.98 187 eP Pg 11 12 50.7 +0.4
ERZM Erzurum 3.08 212 iP Pn 11 12 44.8 +2.7
ERZM Erzurum 3.08 212 iP Pn 11 12 44.8 +2.7
SEKA Sheki 3.08 114 ⇓Pg Pn 11 12 43.2 +1.3
SEKA ⇑Sg Sb 11 13 25.4 -0.2
SEKA Sheki 3.08 114 Pg Pn 11 12 43.2 +1.3
SEKA Sg Sb 11 13 25.4 -0.2
EZM Erzurum 3.08 212 eP Pn 11 12 43.5 +1.4
MNGR Mingechevir, A 3.22 122 ⇓Pn Pn 11 12 46.5 +2.7
MNGR ⇓Sn Sb 11 13 28.1 -1.7
MNGR Mingechevir, A 3.22 122 Pn Pn 11 12 46.5 +2.7
BAYT Ayd−ntepe-Bay 3.30 231 eP Pn 11 12 47.0 +1.9
BAYT Ayd−ntepe-Bay 3.30 231 eP Pn 11 12 47.0 +1.9
EKAR Karacoban 3.45 199 iP Sb 11 13 28.6 +0.4
BRDA Brd 3.59 128 ⇓Sn Sb 11 13 37.6 -2.8
GUMT Gumushane 3.65 237 eP Pn 11 12 43.6 -6.3
NAX Nakhchivan 3.69 155 ⇓Sn Sb 11 13 41.8 -1.5
VRTB Varto-Mus 3.71 205 eP Pb 11 12 57.9 -0.9
QUBA Quba, Azerbaij 3.92 106 ⇓Pn Pn 11 12 56.1 +2.6
QUBA ⇓Sn Sb 11 13 44.7 -5.2
QUBA Quba, Azerbaij 3.92 106 Pn Pn 11 12 56.1 +2.6
IML Ismayilli 3.93 115 ⇑Sn Sn 11 13 43.5 +3.7
KELT Kelkit 3.98 235 iP Pn 11 12 55.8 +1.4
KELT iS Sn 11 13 40.8 -0.4
KELT Kelkit 3.98 235 iP Pn 11 12 55.8 +1.4
KELT iS Sn 11 13 40.8 -0.4
PQL Pirkuli 4.21 113 ⇓Pn Pn 11 13 00.3 +2.8
PQL Pirkuli 4.21 113 Pn Pn 11 13 00.3 +2.8
PTK Pertek 4.79 222 eP Pb 11 13 13.8 -3.5
BRTR Keskin Array B 7.94 253 P Pn 11 13 50.0 +1.2
BRTR Keskin Array B 7.94 253 Pn Pn 11 13 50.0 +1.2
comp=Z,0.2nm,0.3s,baz=60,slow=9.5,SNR=4.7
BRTR Keskin Array B 7.94 253 P Pn 11 13 50.0 +1.2
AKTK Aktyubinsk 12.74 47 P Pn 11 14 53.1 -1.2
AKTO Aktyubinsk 12.74 47 ⇑Pn Pn 11 14 53.0 -1.3
comp=Z,4.2nm,1.2s
AKTO ⇑Sn Sn 11 17 08.3 -7.9
comp=Z,4.3nm,1.4s
AKTO Aktyubinsk 12.74 47 Pn Pn 11 14 53.0 -1.3
comp=Z,0.2nm,0.3s,baz=246,slow=11,SNR=9.8
AKTO Sn Sn 11 17 07.9 -8.2
comp=Z,0.0nm,0.3s,baz=29,slow=18,SNR=3.1
AKTO Aktyubinsk 12.74 47 Pn Pn 11 14 53.0 -1.3
comp=Z,4.2nm,1.2s
AB31 Akbulak array 13.28 54 Pn Pn 11 14 59.9 -1.7
comp=Z,0.7nm,0.5s,baz=242,slow=10,SNR=15
AB31 ⇑Sn Sn 11 17 20.7 -8.5
comp=Z,1.7nm,0.8s,baz=250,slow=26,SNR=4.6
AB31 Akbulak array 13.28 54 Pn Pn 11 14 59.9 -1.7
comp=Z,0.7nm,0.5s,SNR=15
BVAR Borovoye Array 20.78 50 P P 11 16 35.0 +0.8
BVAR Borovoye Array 20.78 50 P P 11 16 35.0 +0.8
comp=Z,2.0nm,0.8s,baz=246,slow=7.3,SNR=9.1
BVAR Borovoye Array 20.78 50 P P 11 16 35.0 +0.8
MKAR Makanchi Array 27.73 68 P P 11 17 43.0 +1.3
comp=Z,0.4nm,0.7s,baz=270,slow=8.4,SNR=3.9
TORD Torodi Ar. Bea 46.44 244 P P 11 20 19.3 -1.0
comp=Z,0.3nm,0.8s,baz=39,slow=8.3,SNR=3.2
YKA Yellowknife Ar 73.85 350 P P 11 23 26.3 -1.2
comp=Z,0.2nm,0.8s,baz=13,slow=6.1,SNR=3.6

TIR **12** *11:13:44.4,41.°35N×20.°33E,h17km,ML3.4*
IDC **12** *11:13:45.4±1.8,41.°28N×20.°16E,h0km,mb3.3/5,mb1 3.5/9,mb1mx3.4/30,mbtmp3.4/9,ML3.4/4,Error ellipse: s-maj=33.3km s-min=19.1km az=34.0*
ATH **12** *11:13:46.2,41.°50N×20.°28E,h15km±1km,MD3.6/33*
CSEM **12** *11:13:48.3±0.1,41.°39N×20.°30E,h5km,ML3.3,Error ellipse: s-maj=3.2km s-min=1.7km az=59.0*
BEO **12** *11:13:48.9±0.6,41.°33N×20.°32E,h10km±3km,ML3.2/1*
PDG **12** *11:13:48.7±0.7,41.°44N×20.°30E,h17km±1km,MD3.6/3,ML3.6/11,Error ellipse: s-maj=0.7km s-min=1.1km az=0.0*
ISCJB **12** *11:13:49.2±0.3,41.°38N±0.°01×20.°31E±0.°03,h22km±3km,mb3.4/4,Error ellipse: s-maj=3.7km s-min=1.8km az=149.0*
SKO **12** *11:13:49.5,41.°35N×20.°47E,h15km,M3.3,ML3.7*
THE **12** *11:13:49.1,41.°39N×20.°41E,h8km,ML3.3/6,Error ellipse: s-maj=0.9km s-min=0.5km az=77.0*
SOF **12** *11:13:51.5,41.°37N×20.°69E,h8km,MD3.4*
ISC 12 11:13:48.7±0.9,**41.°38N**±0.°01×**20.°30E**±0.°02,**h15**km±6km,
n253,σ1.^{s}15/352,**mb3.5**/4,**17C-31D,Albania**

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

PHP Peshkopia 0.33 19 iPG Pg 11 13 55.4 0.0
PHP iSG Sb 11 14 01.8 +0.4
PHP Peshkopia 0.33 19 P Pg 11 13 55.3 -0.2
PHP S Sg 11 13 59.8 -0.3
PHP Peshkopia 0.33 19 P Pg 11 13 55.3 -0.2
PHP S Sg 11 13 59.8 -0.3
PHP iSg Sb 11 14 01.8 +0.4
PUK Puka 0.73 335 iPG Pg 11 14 02.2 -0.7
PUK iSG Sb 11 14 14.3 +1.2
PUK Puka 0.73 335 iPg Pg 11 14 02.2 -0.7
PUK iSg Sb 11 14 14.3 +1.2
KBN Korca 0.84 154 P Pg 11 14 04.3 -0.6
KBN S Sg 11 14 16.1 +0.1
KBN Korca 0.84 154 P Pg 11 14 04.3 -0.6
KBN S Sg 11 14 16.1 +0.1
PRZK Prizren 0.90 22 P Pb 11 14 05.9 -0.2
ULC Ulcinj 0.98 307⇓iPg Pb 11 14 05.6 -1.9
ULC eSg Sg 11 14 21.3 +0.7
ULC Ulcinj 0.98 307 P Pb 11 14 05.7 -1.8
ULC eSg Sg 11 14 21.3 +0.7
ULC S Sn 11 14 22.2 +0.5
BCI Bajram Curri 1.00 350 iPG Pb 11 14 08.0 +0.2
BCI iSG Sn 11 14 25.2 +3.0
BCI Bajram Curri 1.00 350 iPg Pb 11 14 08.0 +0.2
BCI iSg Sn 11 14 25.2 +3.0
FNA Florina 1.01 126 P Pb 11 14 06.8 -1.0
FNA S Sg 11 14 21.6 +0.3
FNA Florina 1.01 126 ePN Pb 11 14 06.9 -0.9
FNA eSN Sn 11 14 22.3 0.0
FNA Florina 1.01 126 P Pb 11 14 06.8 -1.0
FNA S Sg 11 14 21.6 +0.3
FNA eSn Sn 11 14 22.3 0.0
SKO Skopje 1.04 55 P Pb 11 14 08.1 -0.3
SKO S Sg 11 14 22.7 +0.3
SKO Skopje 1.04 55 ePg Pb 11 14 07.3 -1.1
SKO eSg Sn 11 14 23.0 -0.1
SKO Skopje 1.04 55 iPg Pb 11 14 08.4 0.0
SKO iSg Sn 11 14 23.3 +0.3
SKO eLg Lg 11 14 23.6
comp=E,2μm,0.8s
SKO eLg Lg 11 14 26.1
comp=N,2μm,0.4s
SKO Skopje 1.04 55 P Pb 11 14 08.1 -0.3
SKO S Sg 11 14 22.7 +0.3
SKO iSg Sn 11 14 23.3 +0.3
SKO eLg Lg 11 14 23.6
comp=N,2μm,0.8s
ZATK Zatriq 1.10 13 P Pb 11 14 09.6 +0.2
NEST Nestorio 1.12 149 P Pb 11 14 09.2 -0.5
NEST S Sn 11 14 25.6 +0.6
NEST Nestorio 1.12 149 ePN Pb 11 14 09.3 -0.5
NEST eSN Sn 11 14 25.4 +0.4
NEST Nestorio 1.12 149 P Pb 11 14 09.2 -0.5
NEST eSn Sn 11 14 25.4 +0.4
DRME Dracevica, Mon 1.16 314⇓iPg Pn 11 14 09.3 -1.1
DRME eSg Sg 11 14 27.0 +0.7
DRME Dracevica, Mon 1.16 314⇓iPg Pn 11 14 09.3 -1.1
DRME eSg Sg 11 14 27.0 +0.7
PVY Plav 1.24 348⇓iPg Pn 11 14 11.1 -0.6
PVY eSg Sg 11 14 29.5 +0.6
PVY Plav 1.24 348⇓iPg Pn 11 14 11.1 -0.6
PVY eSg Sg 11 14 29.5 +0.6
PEJK Peje 1.27 359 P Pg 11 14 12.9 -0.2
PEJK S Sg 11 14 33.2 +3.6
PDG Podgorica 1.31 324 P Pn 11 14 12.2 -0.3
PDG S Sg 11 14 32.2 +1.2
PDG Podgorica 1.31 324⇑iPg Pn 11 14 12.1 -0.4
PDG eSg Sg 11 14 32.4 +1.4
PDG Podgorica 1.31 324⇑iPn Pn 11 14 11.8 -0.7
PDG Podgorica 1.31 324 P Pn 11 14 12.2 -0.3
PDG eSg Sg 11 14 31.8 +0.8
PDG S Sg 11 14 32.2 +1.2
TTG Podgorica 1.31 324⇑iPg Pn 11 14 11.8 -0.7
TTG eSg Sg 11 14 31.8 +0.8
BUM Brajici-Budva 1.40 312⇑iPg Pn 11 14 13.0 -0.8
BUM eSg Sg 11 14 33.5 -0.3
BUM Brajici-Budva 1.40 312⇑iPg Pn 11 14 13.0 -0.8
BUM eSg Sg 11 14 33.5 -0.3
SRN Sarande 1.51 189 iPN Pg 11 14 18.7 +0.9
SRN iSN Sg 11 14 39.3 +1.9
SRN Sarande 1.51 189 P Pb 11 14 16.6 +0.2
SRN Sarande 1.51 189 P Pb 11 14 16.6 +0.2
SRN Sarande 1.51 189 iPn Pg 11 14 18.7 +0.9
SRN iSn Sg 11 14 39.3 +1.9
BEY Berane 1.52 349 ePg Pn 11 14 15.6 +0.1
BEY Berane 1.52 349 P Pg 11 14 18.3 +0.3
BEY eSg Sb 11 14 36.5 +0.6
IVA Berane 1.52 349 ePg Pn 11 14 15.6 +0.1
IVA eSg Sb 11 14 36.5 +0.6
KZN Kozani 1.54 133 P Pn 11 14 15.9 +0.1
KZN S Sn 11 14 36.1 +0.5
KZN Kozani 1.54 133 ePN Pn 11 14 16.5 +0.7
KZN eSN Sg 11 14 38.8 +0.3
KZN Kozani 1.54 133 P Pn 11 14 15.9 +0.1
KZN Kozani 1.54 133 ePn Pn 11 14 16.5 +0.7
KZN S Sn 11 14 36.1 +0.5
KZN eSn Sg 11 14 38.8 +0.3
SMRK Smrekonice 1.57 17 P Pb 11 14 17.0 -0.4
SMRK S Sg 11 14 39.0 -0.2
KEK Kerkira 1.71 193 P Pn 11 14 18.7 +0.8
KEK S Sb 11 14 42.2 +1.2
KEK Kerkira 1.71 193 ePN Pb 11 14 19.5 -0.2
KEK eSN Sg 11 14 43.0 -0.6
KEK Kerkira 1.71 193 P Pn 11 14 18.7 +0.8
KEK Kerkira 1.71 193 ePn Pb 11 14 19.5 -0.2
KEK S Sb 11 14 42.2 +1.2
KEK eSn Sg 11 14 43.0 -0.6
VAY Valandovo 1.71 91 P Pn 11 14 17.1 -0.8
VAY S Sn 11 14 39.2 -0.3
VAY Valandovo 1.71 91 ePn Pn 11 14 17.6 -0.3
VAY eSg Sg 11 14 43.9 +0.2
VAY Valandovo 1.71 91 P Pn 11 14 17.9 0.0
VAY Sg Sg 11 14 43.3 -0.4
VAY Valandovo 1.71 91 iPn Pb 11 14 19.2 -0.6
VAY iSn Sb 11 14 42.3 +1.1
VAY eLg Lg 11 14 45.8
comp=N,466nm,0.7s
VAY eLg Lg 11 14 46.0
comp=E,598nm,0.5s
VAY Valandovo 1.71 91 P Pn 11 14 17.9 0.0
VAY Valandovo 1.71 91 iPn Pb 11 14 19.2 -0.6
VAY S Sn 11 14 39.2 -0.3
VAY iSn Sb 11 14 42.2 +1.1
VAY Sg Sg 11 14 43.3 -0.4
VAY eLg Lg 11 14 45.7
comp=E,466nm,0.7s
NKME Niksic 1.71 325⇓iPn Pn 11 14 18.4 +0.3
NKME eSn Sb 11 14 41.5 +0.2
NKME Niksic 1.71 325⇓iPn Pn 11 14 18.4 +0.3
NKME eSn Sb 11 14 41.5 +0.2
HCY Herceg Novi 1.72 309⇓iPn Pn 11 14 18.5 +0.4
HCY eSn Sb 11 14 41.6 +0.1
HCY Herceg Novi 1.72 309⇓iPn Pn 11 14 18.5 +0.4
HCY eSn Sb 11 14 41.6 +0.1
NKY Niksic 1.73 326⇓iPn Pn 11 14 19.3 +0.9
NKY eSn Sb 11 14 41.8 -0.2
NKY Niksic 1.73 326⇓iPn Pn 11 14 19.3 +0.9
NKY eSn Sb 11 14 41.8 -0.2
JAN Janina 1.77 166 ePn Pb 11 14 20.7 -0.1
JAN Janina 1.77 166 ePn Pb 11 14 20.7 -0.1
BARS Barje 1.83 38⇑iPg Pg 11 14 23.3 -0.5
BARS eSg Sg 11 14 46.7 -0.8
IGT Igoumenitsa 1.84 179 ePN Pn 11 14 20.6 +0.8
IGT eSN Sb 11 14 45.9 +0.9
IGT Igoumenitsa 1.84 179 ePn Pn 11 14 20.6 +0.8
IGT eSn Sb 11 14 45.9 +0.9
SJES Sjenica 1.90 353⇑iPg Pb 11 14 24.0 +0.9
SJES eSg Sg 11 14 50.6 +0.8
SELS Selova 1.94 18 ePn Pn 11 14 21.0 -0.1
SELS eSg Sg 11 14 51.2 +0.1
KNT Kendrikon 1.97 95 P Pn 11 14 21.3 -0.2
KNT S Sn 11 14 46.0 0.0
KNT Kendrikon 1.97 95 ePN Pn 11 14 21.6 +0.1
KNT Kendrikon 1.97 95 P Pn 11 14 21.3 -0.2
KNT Kendrikon 1.97 95 ePn Pn 11 14 21.6 +0.1
KNT S Sn 11 14 46.0 0.0
TREB Trebinje 1.98 313 ePn Pn 11 14 22.2 +0.6
TREB eSg Sg 11 14 53.4 +1.2
PLE Pljevlja 2.07 341⇑iPn Pn 11 14 23.6 +0.6
PLE eSn Sn 11 14 50.1 +1.6
PLE Pljevlja 2.07 341⇑iPn Pn 11 14 23.6 +0.6
PLE eSn Sn 11 14 50.1 +1.6
LIT Litokhoron 2.10 127 P Pn 11 14 22.9 -0.4
LIT Litokhoron 2.10 127 ePN Pn 11 14 24.6 +1.3
LIT Litokhoron 2.10 127 P Pn 11 14 22.9 -0.4
LIT Litokhoron 2.10 127 ePn Pn 11 14 24.6 +1.3
UPM Unac-Piva 2.10 331⇑iPn Pn 11 14 23.8 +0.3
UPM eSn Sn 11 14 50.6 +1.2
UPM Unac-Piva 2.10 331⇑iPn Pn 11 14 23.8 +0.3
UPM Unac-Piva 2.10 331 P Pb 11 14 26.1 -0.5
UPM eSn Sn 11 14 50.6 +1.2
KKB Krupnik 2.14 76 P Pn 11 14 24.9 +1.0
KKB Sg Sg 11 14 56.7 -0.9
KKB Krupnik 2.14 76 P Pn 11 14 24.9 +1.0
THE Thessaloniki 2.15 109 ePB Pn 11 14 23.7 -0.3
THE Thessaloniki 2.15 109 ePb Pn 11 14 23.7 -0.3
IVAS Ivanjica 2.20 357 ePn Pb 11 14 27.1 -1.1
THL Klokotos Trika 2.23 144 P Pn 11 14 25.0 -0.1
THL S Sn 11 14 53.2 +0.8
THL Klokotos Trika 2.23 144 ePN Pn 11 14 27.0 +1.9
THL eSN Sb 11 14 56.7 +0.5
THL Klokotos Trika 2.23 144 P Pn 11 14 25.0 -0.1
THL Klokotos Trika 2.23 144 ePn Pn 11 14 27.0 +1.9
THL S Sn 11 14 53.2 +0.8
THL eSn Sb 11 14 56.7 +0.5
HORT Hortiatis 2.26 109 P Pn 11 14 25.1 -0.5
HORT Hortiatis 2.26 109 ePB Pn 11 14 25.3 -0.3
HORT Hortiatis 2.26 109 P Pn 11 14 25.1 -0.5
DSL Palaion Diasel 2.32 165 P Pn 11 14 27.1 +0.7
DSL Palaion Diasel 2.32 165 P Pn 11 14 27.1 +0.7
SOH Sokhos 2.37 103 P Pn 11 14 26.9 -0.2
SOH Sokhos 2.37 103 ePB Pn 11 14 27.3 +0.2
SOH Sokhos 2.37 103 P Pn 11 14 26.9 -0.2
SOH Sokhos 2.37 103 ePb Pn 11 14 27.3 +0.2
STON Ston 2.44 309 ePn Pn 11 14 28.4 +0.3
STON Sn Sn 11 15 00.0 +2.4
STON Ston 2.44 309 ePn Pn 11 14 28.7 +0.7
STON eSg Sg 11 15 07.5 +0.3
STON Ston 2.44 309 ePn Pn 11 14 28.3 +0.3
STON Sn Sn 11 15 00.0 +2.4
VTS Vitosha 2.48 60 P Pn 11 14 28.9 +0.1
VTS Vitosha 2.48 60⇓iPn Pn 11 14 29.5 +0.8
VTS Vitosha 2.48 60 iP Pn 11 14 29.6 +0.8
VTS Sg Sg 11 15 10.4 +1.9
VTS Vitosha 2.48 60⇑iP Pn 11 14 29.8 +1.0
VTS Vitosha 2.48 60 S Sb 11 15 05.4 +1.8
VTS Vitosha 2.48 60 P Pn 11 14 28.9 +0.1
SRS Serrai 2.50 95 P Pn 11 14 28.6 -0.2
SRS Serrai 2.50 95 ePN Pn 11 14 28.6 -0.2
SRS Serrai 2.50 95 P Pn 11 14 28.6 -0.2
GRUS Gruza 2.53 7⇓iPn Pb 11 14 32.0 -1.8
ZAPS Zavoj 2.57 42 ePn Pn 11 14 29.2 -0.6
BBLS Lazići 2.57 345 ePn Pn 11 14 32.1 +2.2
MMB Musomiste 2.58 84 iP Pn 11 14 30.5 +0.5
MMB Sg Sg 11 15 14.3 +2.6
MMB Musomiste 2.58 84⇓iP Pn 11 14 30.5 +0.5
MMB Musomiste 2.58 84 S Sb 11 15 05.8 -0.5
MMB Musomiste 2.58 84 iP Pn 11 14 30.5 +0.5
PLG Polygyros 2.59 112 P Pn 11 14 30.3 +0.3
PLG Polygyros 2.59 112 ePN Pn 11 14 30.4 +0.4
PLG Polygyros 2.59 112 ePn Pn 11 14 30.4 +0.4
LKD2 Lefkada island 2.60 174 P Pn 11 14 30.8 +0.6
LKD2 Lefkada island 2.60 174 ePN Pn 11 14 30.8 +0.6
LKD2 Lefkada island 2.60 174 P Pn 11 14 30.8 +0.6
NVR Nevrokopi 2.68 89 ePB Pn 11 14 32.1 +0.8
NVR Nevrokopi 2.68 89 ePb Pn 11 14 32.1 +0.8
EVR Evrytania 2.71 154 ePB Pb 11 14 34.8 -2.2
EVR Evrytania 2.71 154 ePb Pb 11 14 34.8 -2.2
DIVS Divibare 2.73 355 P Pn 11 14 32.6 +0.5
DIVS S Sn 11 15 06.9 +2.0
DIVS Divibare 2.73 355 ePn Pn 11 14 34.2 +2.1
DIVS Divibare 2.73 355 P Pn 11 14 32.6 +0.5
DIVS S Sn 11 15 06.9 +2.0
BOLS Boljevac 2.74 26⇑iPn Pn 11 14 33.6 +1.5
MAKR Makrakomi, Fth 2.75 149 P Pn 11 14 32.9 +0.7
MAKR Makrakomi, Fth 2.75 149 ePB Pn 11 14 34.6 +2.4
MAKR Makrakomi, Fth 2.75 149 P Pn 11 14 32.9 +0.7
MAKR Makrakomi, Fth 2.75 149 ePb Pn 11 14 34.6 +2.4
AGG Agios Georgios 2.82 146 P Pn 11 14 33.9 +0.7
AGG Agios Georgios 2.82 146 ePN Pn 11 14 34.9 +1.7
AGG Agios Georgios 2.82 146 P Pn 11 14 33.9 +0.7
AGG Agios Georgios 2.82 146 ePn Pn 11 14 34.9 +1.7
TRUS Trudelj 2.85 2 ePn Pn 11 14 35.0 +1.4
PDO Prodromos 2.86 166 P Pn 11 14 34.4 +0.7
PDO Prodromos 2.86 166 ePN Pn 11 14 34.9 +1.2
PDO Prodromos 2.86 166 P Pn 11 14 34.4 +0.7
PDO Prodromos 2.86 166 ePn Pn 11 14 34.9 +1.2
PAIG Paliouri 2.95 118 P Pn 11 14 34.8 -0.2
PAIG Paliouri 2.95 118 ePN Pn 11 14 35.8 +0.8
PAIG Paliouri 2.95 118 P Pn 11 14 34.8 -0.2
PAIG Paliouri 2.95 118 ePn Pn 11 14 35.8 +0.8
SVIS Svilajnac 2.96 13 ePn Pn 11 14 37.8 +2.6
OUR Ouranopolis 2.98 109 P Pn 11 14 35.5 +0.1
OUR Ouranopolis 2.98 109 ePN Pn 11 14 35.5 +0.1
OUR Ouranopolis 2.98 109 P Pn 11 14 35.5 +0.1
XOR Xorichti 2.98 131 ePN Pn 11 14 36.4 +0.9
XOR Xorichti 2.98 131 ePn Pn 11 14 36.4 +0.9
NEO Neokhori 3.04 132 ePN Pn 11 14 37.8 +1.5
NEO Neokhori 3.04 132 ePn Pn 11 14 37.8 +1.5
AXAR Agios Charalam 3.17 144 ePB Pn 11 14 40.5 +2.4
AXAR Agios Charalam 3.17 144 ePb Pn 11 14 40.5 +2.4
EFP Efpalio 3.19 157 ePB Pn 11 14 41.3 +2.9
EFP Efpalio 3.19 157 ePb Pn 11 14 41.3 +2.9
KAVA Kavala 3.20 95 P Pn 11 14 38.8 +0.3
KAVA Kavala 3.20 95 ePN Pn 11 14 38.7 +0.3
KAVA Kavala 3.20 95 P Pn 11 14 38.8 +0.3
VLS Valsamata 3.20 176 ePN Pn 11 14 38.4 -0.1
VLS Valsamata 3.20 176 ePn Pn 11 14 38.4 -0.1
MPEP Malo Peshtene 3.23 51 P Pn 11 14 41.5 +2.7
MPEP Malo Peshtene 3.23 51 P Pn 11 14 41.5 +2.7
SKIA Skiathos 3.28 131 ePN Pn 11 14 40.4 +0.9
SKIA Skiathos 3.28 131 ePn Pn 11 14 40.4 +0.9
KALE Kalithea 3.30 154 ePN Pn 11 14 42.4 +2.5
KALE Kalithea 3.30 154 ePn Pn 11 14 42.4 +2.5
SMIA Simia 3.35 137 ePN Pn 11 14 41.5 +1.0
SMIA Simia 3.35 137 ePn Pn 11 14 41.5 +1.0
LAKA Lakka 3.39 157 ePN Pn 11 14 43.3 +2.2
LAKA Lakka 3.39 157 ePn Pn 11 14 43.3 +2.2
DSF Desfina 3.42 149 ePN Pn 11 14 43.3 +1.8
DSF Desfina 3.42 149 ePn Pn 11 14 43.3 +1.8
LKR Lokris 3.42 142 ePN Pn 11 14 43.0 +1.5
LKR Lokris 3.42 142 ePn Pn 11 14 43.0 +1.5
RLS Riolos of Patr 3.44 164 ePN Pn 11 14 42.9 +1.2
RLS Riolos of Patr 3.44 164 ePn Pn 11 14 42.9 +1.2
DRO Drossia 3.59 162 ePN Pn 11 14 45.4 +1.6
DRO Drossia 3.59 162 ePn Pn 11 14 45.4 +1.6
KLV Kalavryta, Ach 3.62 156 ePN Pn 11 14 46.5 +2.2
KLV Kalavryta, Ach 3.62 156 ePn Pn 11 14 46.5 +2.2
MRKA Markates 3.67 136 ePN Pn 11 14 47.2 +2.2
MRKA Markates 3.67 136 ePn Pn 11 14 47.2 +2.2
GUR Goura 3.78 155 ePN Pn 11 14 48.5 +2.0
GUR Goura 3.78 155 ePn Pn 11 14 48.5 +2.0
FRGS Fruska Gora 3.80 355⇓iPn Pn 11 14 48.2 +1.5
FRGS eSn Sn 11 15 32.2 +1.1
SRE Strehaia 3.91 32⇓iP Pn 11 14 49.7 +1.4
SRE Strehaia 3.91 32⇓iP Pn 11 14 49.7 +1.4
LTK Loutraki 3.93 148 ePN Pn 11 14 49.9 +1.4
LTK Loutraki 3.93 148 ePn Pn 11 14 49.9 +1.4

BZS Buzias 4.34 12 ePn Pn 11 14 55.6 +1.4
BZS Buzias 4.34 12⇓iP Pn 11 14 55.3 +1.1
BZS Buzias 4.34 12⇓iP Pn 11 14 55.3 +1.1
ITM Ithomi 4.38 163 ePN Pn 11 14 55.8 +1.1
ITM Ithomi 4.38 163 ePn Pn 11 14 55.8 +1.1
GZR Gura Zlata 4.40 23 ePn Pn 11 14 55.6 +0.6
GZR Gura Zlata 4.40 23⇓iP Pn 11 14 55.6 +0.6
GZR Gura Zlata 4.40 23⇓iP Pn 11 14 55.6 +0.6
DID Didima 4.48 149 ePN Pn 11 14 57.2 +1.1
DID Didima 4.48 149 ePn Pn 11 14 57.2 +1.1
UDBI Udbina 4.58 315 ePn Pn 11 14 59.2 +1.7
UDBI Sn Sn 11 15 52.0 +1.5
UDBI Udbina 4.58 315 ePn Pn 11 14 59.2 +1.7
UDBI Sn Sn 11 15 52.0 +1.5
LOT Lotru 4.79 31⇓iP Pn 11 15 01.8 +1.4
LOT Lotru 4.79 31⇓iP Pn 11 15 01.8 +1.4
PKSM Moragy 4.98 347⇓iP Pn 11 15 01.5 -1.4
PKSM Moragy 4.98 347⇓iP Pn 11 15 01.5 -1.4
ARR Arges 5.09 37⇓iP Pn 11 15 05.7 +1.3
ARR Arges 5.09 37⇓iP Pn 11 15 05.7 +1.3
NVLJ Novalja 5.10 310 ePn Pn 11 15 04.4 -0.1
NVLJ Sn Sn 11 16 02.2 -0.9
NVLJ Novalja 5.10 310 ePn Pn 11 15 04.4 -0.1
NVLJ Sn Sn 11 16 02.2 -0.9
BOJS Bojanci 5.52 320 i Pn Pn 11 15 11.3 +0.9
BOJS eSn Sn 11 16 13.0 -0.6
BOJS Bojanci 5.52 320 i Pn Pn 11 15 11.3 +0.9
BOJS eSn Sn 11 16 13.0 -0.6
VISS Visnje 5.94 320 i Pn Pn 11 15 17.2 +1.1
VISS eSn Sn 11 16 24.5 +0.6
VISS Visnje 5.94 320 i Pn Pn 11 15 17.2 +1.1
VISS eSn Sn 11 16 24.5 +0.6
JAVS Javornik 6.39 317 i Pn Pn 11 15 22.5 +0.1
JAVS i Sn Sn 11 16 34.0 -1.1
JAVS Javornik 6.39 317 i Pn Pn 11 15 22.5 +0.1
JAVS i Sn Sn 11 16 34.0 -1.1
PERS Pernice 6.45 326 i Pn Pn 11 15 24.3 +1.2
PERS i Sn Sn 11 16 34.0 -2.5
PERS Pernice 6.45 326 i Pn Pn 11 15 24.3 +1.2
VRI Vrincioaia 6.47 44⇓iP Pn 11 15 25.4 +2.0
VRI Vrincioaia 6.47 44⇓iP Pn 11 15 25.4 +2.0
PSZ Piszkesteto 6.55 358⇑iP Pn 11 15 25.7 +1.2
PSZ Piszkesteto 6.55 358⇑iP Pn 11 15 25.7 +1.2
VOJS Vojsko 6.58 317 i Pn Pn 11 15 25.3 +0.4
VOJS Vojsko 6.58 317 Pn Pn 11 15 25.3 +0.4
IDI Anoyia 7.07 148 Pn Pn 11 15 31.9 +0.3
comp=E,0.6nm,0.3s,baz=267,slow=17,SNR=5.7
IDI Sn Sn 11 16 45.1 -6.7
comp=E,0.4nm,0.3s,baz=350,slow=17,SNR=3.9
BURAR Bucovina Array 7.16 28⇓iP Pn 11 15 35.1 +2.2
BURAR Bucovina Array 7.16 28⇓iP Pn 11 15 35.1 +2.2
VYHS Vyhne 7.19 352 ePN Pn 11 15 33.3 0.0
VYHS eSN Sn 11 16 44.8 -10
VYHS Vyhne 7.19 352 ePn Pn 11 15 33.3 0.0
CRVS Cervenica-Dubn 7.57 6 eSN Pn 11 15 41.0 +2.5
KOLS Kolonicke sedl 7.68 10 eP Pn 11 15 43.5 +3.5
KOLS Kolonicke sedl 7.68 10 ePN Pn 11 15 43.5 +3.5
KOLS eSN Sn 11 17 02.1 -4.7
KOLS Kolonicke sedl 7.68 10 eP Pn 11 15 43.5 +3.5
ABTA Abfaltersbach 7.76 316⇑iPn Pn 11 15 40.0 -1.1
ABTA ⇑iSn Sn 11 17 08.0 -0.8
STHS Stebnicka Huta 8.07 4 eP Pn 11 15 46.2 +0.9
STHS Stebnicka Huta 8.07 4 ePN Pn 11 15 46.2 +0.9
STHS Stebnicka Huta 8.07 4 eP Pn 11 15 46.2 +0.9
GERES GERESS Array B 8.80 330 Pn Pn 11 15 55.9 +0.5
comp=E,0.1nm,0.3s,baz=154,slow=14,SNR=4.1
DAVOX Davos/Dischmat 9.24 309 Pn Pn 11 16 00.3 -1.2
comp=E,0.6nm,0.3s,baz=131,slow=16,SNR=4.2
DAVOX Sn Sn 11 17 44.9 -0.4
comp=E,0.1nm,0.3s,baz=162,slow=20,SNR=3.1
AKASG Malin Array Be 11.19 31 Pn Pn 11 16 28.1 +0.1
comp=E,0.2nm,0.3s,baz=218,slow=13,SNR=4.5
NOA NORSAR Array B 20.46 347 P P 11 18 24.5 -1.0
comp=E,0.5nm,0.9s,baz=153,slow=10.0,SNR=2.8
ZALV Zalesovo Beam 43.74 51 P P 11 21 52.8 -0.3
comp=E,0.8nm,0.5s,baz=270,slow=9.9,SNR=3.4
MKAR Makanchi Array 43.84 61 P P 11 21 53.5 -0.6
comp=E,0.3nm,0.4s,baz=273,slow=8.3,SNR=4.3
SONM Songino Array 58.59 52 P P 11 23 44.5 -0.4
comp=E,0.5nm,0.9s,baz=281,slow=10,SNR=5.1
YKA Yellowknife Ar 70.33 340 P P 11 25 00.0 -1.2
comp=E,0.2nm,0.8s,baz=44,slow=5.4,SNR=3.6

MOS **12** *11:20:37.5±1.0, 29.77N×42.76W, h10km, mb5.2/64, MS4.2/6, Error ellipse: s-maj=7.4km s-min=4.4km az=50.0*
BJI **12** *11:20:37.0, 29.70N×42.80W, h10km, mB5.5/6, mb5.0/4, Ms5.5/5, Ms7 5.4/4*
IDC **12** *11:20:37.4±0.4, 29.74N×42.79W, h0km, mb4.5/41, mb1 4.6/41, mb1mx4.6/47, mbtmp4.5/41, MS4.0/27, Ms1 4.0/27, ms1mx3.9/40, Error ellipse: s-maj=13.1km s-min=9.9km az=161.0*
ISCJB **12** *11:20:37.6±0.2, 29.78N±0.04×42.77W±0.02, h10km, mb4.9/200, MS4.1/35, Error ellipse: s-maj=6.0km s-min=2.2km az=173.0*
NEIC **12** *11:20:39.3±0.1, 29.74N×42.75W, h10km, mb5.1/112, Error ellipse: s-maj=4.7km s-min=2.4km az=172.0*
GCMT **12** *11:20:39.3±0.3, 29.78N×42.82W, h12km, MW4.9/81, Moment Tensor Solution. s23,c24; s81,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.82±.09; $M_{\theta\theta}$0.93±.09; $M_{\phi\phi}$1.88±.08; $M_{r\theta}$-0.75±.39; $M_{r\phi}$1.59±.07; $M_{\theta\phi}$-1.01±.29; Best double couple: $M_0$3.20000×10^{16} NP1:ϕ_s37.00000°, δ57.00000°, λ-90.00000°. NP2: ϕ_s217.00000°, δ33.00000°, λ-90.00000°. Principal axes: T 3.3230, Plg12.0000°, Azm127.0000°; N -0.2520, Plg0.0000°, Azm37.0000°; P -3.0770, Plg78.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 12 11:20:39.5±0.6, 29.72N±0.06×42.82W±0.05, h12km±3km, n774, σ0.98/777, mb5.0/200, MS4.1/35, 206C-201D,
Northern Mid-Atlantic Ridge

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

H05N1 Guadeloupe/Mar 21.40 235 T T 11 47 25.3
SMRT St. Maarten 21.82 242 eP P 11 25 34.7 +2.9
154nm,2.1s
DRLN Deer Lake 22.49 334 eP P 11 25 40.0 +1.3
192nm,1.4s
H05S1 Guadeloupe/Mar 22.54 231 T T 11 48 52.8
SNR=7.3
SACV Santiago Islan 23.00 125 P P 11 25 45.2 +0.8
37nm,0.9s
SJG San Juan 24.20 247 P P 11 25 57.0 +0.9
SJG San Juan 24.20 247 P P 11 25 57.0 +0.9
17nm,0.3s,baz=92,slow=5.3,SNR=4.8
SJG LR LR 11 33 24.4
comp=Z,239nm,21.9s,baz=90,slow=32
CELP Cerrillos 24.57 247 eP P 11 26 00.3 +0.9
BBTS Babate 28.49 116 LR LR 11 35 12.7
comp=Z,694nm,20.6s,baz=327,slow=31
BINY Binghamton 29.41 304 eP P 11 26 43.9 +1.1
24nm,1.0s
SDMD Soldier's Deli 29.49 298 eP P 11 26 44.1 +0.6
7.9nm,0.5s
CBN Corbin 29.75 296 eP P 11 26 46.7 +0.9
SCHQ Schefferville 30.45 332 P P 11 26 51.0 -0.9
6.9nm,1.1s,baz=136,slow=15,SNR=2.9
SCHQ LR LR 11 37 44.1
comp=Z,378nm,21.6s,baz=121,slow=34
SSPA Standing Stone 30.48 300 eP P 11 26 53.7 +1.5
26nm,1.1s
SADO Sadowa 32.28 308 LR LR 11 37 54.8
comp=Z,582nm,21.6s,baz=174,slow=32
ERPA Erie 32.30 303 eP P 11 27 08.9 +0.6
40nm,1.1s
ALLY Allegheny Colle 32.33 302 eP P 11 27 09.7 +1.1
34nm,0.9s
ESDC Sonseca Array 33.23 62 P P 11 27 15.1 -1.5
2.5nm,0.8s,baz=268,slow=8.5,SNR=7.1
ESDC LR LR 11 37 32.8
comp=Z,202nm,20.6s,baz=270,slow=31
SDV Santo Domingo 33.28 237 eP P 11 27 19.1 +1.8
53nm,1.2s
ACSO Alum Creek Sta 34.28 299 eP P 11 27 26.1 +0.5
30nm,1.0s
PTGA Pitinga 34.42 211 eP P 11 27 27.6 +0.6
23nm,0.8s
TZTN Tazewell 34.58 292 eP P 11 27 29.1 +0.8
33nm,1.3s

GOGA Godfrey 34.67 287 eP P 11 27 30.7 +1.6
GOGA pmax pmax
comp=Z,35nm,1.4s
GOGA Godfrey 34.67 287 eP P 11 27 30.6 +1.6
comp=Z,34nm,1.4s
TIGA Tifton 35.00 283 ⇑P P 11 27 32.8 +0.9
baz=35
ETSF Etsaut 36.14 57 eP P 11 27 41.0 -0.7
ETSF Etsaut 36.14 57 eP P 11 27 41.0 -0.7
ETSF Etsaut 36.14 57 eP P 11 27 41.0 -0.7
MFF Saint Martin d 37.04 51 eP P 11 27 46.6 -2.6
comp=Z,81nm,1.3s
MFF Saint Martin d 37.04 51 eP P 11 27 46.6 -2.6
MFF pmax pmax
comp=Z,81nm,1.3s
MFF Saint Martin d 37.04 51 eP P 11 27 46.6 -2.6
comp=Z,81nm,1.3s
LFF La Frestale 37.35 54 eP P 11 27 51.0 -0.9
LFF La Frestale 37.35 54 eP P 11 27 51.0 -0.9
LFF La Frestale 37.35 54 eP P 11 27 51.0 -0.9
SFIN Scholer Farm 37.43 299 eP P 11 27 53.2 +0.6
comp=Z,31nm,0.9s
SFIN Scholer Farm 37.43 299 ⇓P P 11 27 53.0 +0.4
baz=37
FRB Frobisher Bay 37.79 342 P P 11 27 54.9 -0.4
comp=Z,8.5nm,1.1s,baz=143,slow=7.3,SNR=6.6
RJF Les Rejaudoux 37.95 53 eP P 11 27 56.0 -1.0
RJF eR
comp=Z,400nm,18.5s
RJF Les Rejaudoux 37.95 53 eP P 11 27 56.0 -1.0
RJF Les Rejaudoux 37.95 53 eP P 11 27 56.0 -1.0
EKA Eskdalemuir Ar 38.05 36 P P 11 27 57.4 -0.3
comp=Z,3.7nm,0.9s,baz=243,slow=7.1,SNR=5.3
OLIL Olney 38.18 296 eP P 11 28 00.1 +1.2
comp=Z,46nm,1.2s
TCF Toulx Ste Croi 38.58 52 eP P 11 27 59.7 -2.6
comp=Z,34nm,1.1s
TCF Toulx Ste Croi 38.58 52 eP P 11 27 59.7 -2.6
TCF pmax pmax
comp=Z,34nm,1.1s
TCF Toulx Ste Croi 38.58 52 eP P 11 27 59.7 -2.6
comp=Z,34nm,1.1s
ROSC El Rosal 38.69 236 LR LR 11 44 58.2
comp=Z,98nm,18.9s,baz=18,slow=38
SIUC Southern Illin 39.08 294 eP P 11 28 07.8 +1.3
AVF Avril sur Loir 39.44 51 eP P 11 28 08.5 -0.9
comp=Z,41nm,1.5s
AVF Avril sur Loir 39.44 51 eP P 11 28 08.5 -0.9
AVF pmax pmax
comp=Z,41nm,1.5s
AVF Avril sur Loir 39.44 51 eP P 11 28 08.5 -0.9
comp=Z,41nm,1.5s
LASF Ste Croix 39.46 56 eP P 11 28 09.2 -0.5
LASF Ste Croix 39.46 56 eP P 11 28 09.2 -0.5
OXF Oxford 39.48 289 eP P 11 28 10.6 +0.7
OXF pmax pmax
comp=Z,41nm,1.1s
OXF Oxford 39.48 289 eP P 11 28 10.6 +0.7
comp=Z,41nm,1.1s
SSF Saint Saulge 39.59 51 eP P 11 28 09.4 -1.3
comp=Z,85nm,1.6s
SSF Saint Saulge 39.59 51 eP P 11 28 09.4 -1.3
SSF pmax pmax
comp=Z,85nm,1.6s
SSF Saint Saulge 39.59 51 eP P 11 28 09.4 -1.3
comp=Z,85nm,1.6s
SMF Signal de Mont 39.75 52 eP P 11 28 10.3 -1.8
comp=Z,57nm,1.3s
SMF Signal de Mont 39.75 52 eP P 11 28 10.3 -1.8
SMF pmax pmax
comp=Z,57nm,1.3s
SMF Signal de Mont 39.75 52 eP P 11 28 10.3 -1.8
comp=Z,57nm,1.3s
LOR Lormes 39.86 51 eP P 11 28 12.0 -0.9
comp=Z,48nm,1.3s
LOR eR
comp=Z,158nm,18.8s
LOR Lormes 39.86 51 eP P 11 28 12.0 -0.9
LOR pmax pmax
comp=Z,48nm,1.3s
LOR Lormes 39.86 51 eP P 11 28 12.0 -0.9
comp=Z,48nm,1.3s
JFWS Jewell Farm 39.92 303 eP P 11 28 14.0 +0.6
JFWS pmax pmax
comp=Z,16nm,0.8s
JFWS Jewell Farm 39.92 303 eP P 11 28 14.0 +0.6
comp=Z,16nm,0.8s
PBMO Poplar Bluff 40.10 293 eP P 11 28 15.8 +0.7
comp=Z,31nm,1.2s
BAIF Baives 40.60 46 eP P 11 28 18.2 -0.8
comp=Z,48nm,1.4s
BAIF Baives 40.60 46 eP P 11 28 18.2 -0.8
BAIF pmax pmax
comp=Z,48nm,1.4s
BAIF Baives 40.60 46 eP P 11 28 18.2 -0.8
comp=Z,48nm,1.4s
VBMS Vicksburg 40.71 286 eP P 11 28 22.0 +1.9
comp=Z,44nm,0.8s
SFTF Sexfontaines 40.79 49 eP P 11 28 19.3 -1.4
comp=Z,55nm,1.1s
SFTF Sexfontaines 40.79 49 eP P 11 28 19.3 -1.4
comp=Z,55nm,1.0s
DOU Dourbes 40.85 46 P P 11 28 22.5 +1.4
comp=Z,9.3nm,2.1s
MEZF Maizieres J'vi 40.85 49 eP P 11 28 20.5 -0.6
comp=Z,50nm,0.9s
MEZF Maizieres J'vi 40.85 49 eP P 11 28 20.5 -0.6
comp=Z,50nm,0.9s
ORIF Oris-en-Rattie 40.98 54 eP P 11 28 21.2 -1.1
ORIF eR
comp=Z,263nm,19.0s
ORIF Oris-en-Rattie 40.98 54 eP P 11 28 21.2 -1.1
ORIF Oris-en-Rattie 40.98 54 eP P 11 28 21.2 -1.1
GIVF Givet 41.00 47 eP P 11 28 23.2 +0.9
GIVF Givet 41.00 47 eP P 11 28 23.2 +0.9
GIVF Givet 41.00 47 eP P 11 28 23.2 +0.9
CABF La Chapelle 41.28 52 eP P 11 28 24.0 -0.8
comp=Z,74nm,1.4s
CABF La Chapelle 41.28 52 eP P 11 28 24.0 -0.8
CABF pmax pmax
comp=Z,74nm,1.4s
CABF La Chapelle 41.28 52 eP P 11 28 24.0 -0.8
comp=Z,74nm,1.4s
EYMN Ely 41.30 310 eP P 11 28 24.7 -0.1
comp=Z,14nm,1.0s
PAGF Fort de Pagny 41.30 49 eP P 11 28 23.9 -0.9
PAGF Fort de Pagny 41.30 49 eP P 11 28 23.9 -0.9
BCLA Clavier 41.36 46 P P 11 28 24.9 -0.3
comp=Z,15nm,2.1s
FRF La Foret Royal 41.44 57 eP P 11 28 24.9 -1.1
comp=Z,39nm,1.0s
FRF La Foret Royal 41.44 57 eP P 11 28 24.9 -1.1
FRF pmax pmax
comp=Z,39nm,1.0s
FRF La Foret Royal 41.44 57 eP P 11 28 24.9 -1.1
comp=Z,39nm,1.0s
BNI Bardonecchia 41.55 54 eP P 11 28 29.9 +2.9
comp=Z,41nm,1.5s
MBDF Montbardon 41.59 55 eP P 11 28 27.4 -0.1
comp=Z,61nm,1.3s
MBDF Montbardon 41.59 55 eP P 11 28 27.4 -0.1
MBDF pmax pmax
comp=Z,61nm,1.3s
MBDF Montbardon 41.59 55 eP P 11 28 27.4 -0.1
comp=Z,61nm,1.3s
HAU Haudompre 41.63 50 eP P 11 28 26.3 -1.3
comp=Z,33nm,1.1s
HAU eR
comp=Z,164nm,19.8s
HAU Haudompre 41.63 50 eP P 11 28 26.3 -1.3
HAU pmax pmax
comp=Z,33nm,1.1s
HAU Haudompre 41.63 50 eP P 11 28 26.3 -1.3
comp=Z,33nm,1.1s
LPG La Plagne 41.64 54 eP P 11 28 27.1 -0.9
comp=Z,96nm,1.8s
LPG La Plagne 41.64 54 eP P 11 28 27.1 -0.9
LPG pmax pmax
comp=Z,96nm,1.8s
LPG La Plagne 41.64 54 eP P 11 28 27.1 -0.9
comp=Z,96nm,1.8s
WLF Walferdange 41.76 47 eP P 11 28 33.8 +5.2
comp=Z,203nm,3.1s
UALR University of 41.85 290 eP P 11 28 30.2 +0.7
SPMN St. Paul 41.90 306 eP P 11 28 30.0 +0.2
comp=Z,27nm,1.0s

SPMN St. Paul 41.90 306 ⇓P P 11 28 29.8 0.0
baz=42,SNR=6.8
SCIA State Center 42.08 301 eP P 11 28 32.0 +0.7
comp=Z,46nm,0.9s
SENIN Lac Senin/Sane 42.09 52 eP P 11 28 31.5 -0.1
CDF Champ du Feu 42.30 49 eP P 11 28 32.1 -1.0
comp=Z,15nm,0.8s
CDF Champ du Feu 42.30 49 eP P 11 28 32.1 -1.0
CDF pmax pmax
comp=Z,15nm,0.8s
CDF Champ du Feu 42.30 49 eP P 11 28 32.1 -1.0
comp=Z,15nm,0.8s
DBIC Dimbokro 42.43 115 LR LR 11 43 59.0
comp=Z,598nm,18.9s,baz=273,slow=33
MIAR Mount Ida 42.88 290 eP P 11 28 39.4 +1.5
MIAR pmax pmax
comp=Z,98nm,2.1s
MIAR Mount Ida 42.88 290 eP P 11 28 39.4 +1.5
comp=Z,98nm,2.1s
SUMG Summit 42.98 2 eP P 11 28 38.3 -0.3
SUMG pmax pmax
comp=Z,40nm,1.5s
SUMG Summit 42.98 2 i P P 11 28 38.2 -0.3
comp=Z,8.6nm,0.8s
SUMG Summit 42.98 2 eP P 11 28 38.3 -0.3
comp=Z,40nm,1.5s
BFO Black Forest 42.99 50 eP P 11 28 37.7 -0.9
BFO pmax pmax
comp=Z,47nm,1.6s
BFO Black Forest 42.99 50 eP P 11 28 37.6 -1.0
comp=Z,21nm,1.2s
BFO Black Forest 42.99 50 eP P 11 28 37.7 -1.0
comp=Z,47nm,1.6s
SAML Samuel 43.15 210 eP P 11 28 40.0 -0.2
TNS Taunus Mts 43.31 47 eP P 11 28 40.9 -0.3
comp=Z,29nm,1.6s
TUE Stuetta 43.51 52 eP P 11 28 42.5 -0.6
comp=Z,52nm,1.7s
TAM Tamanrasset 43.65 87 eP P 11 28 44.6 +0.1
TAM pmax pmax
comp=Z,11nm,1.0s
TAM Tamanrasset 43.65 87 eP P 11 28 44.6 +0.1
comp=Z,12nm,1.0s
JTS JuntasAbangare 43.74 253⇑eP P 11 28 44.9 -0.2
JTS pmax pmax
comp=Z,16nm,1.0s
KEST Kesra 43.87 68 P P 11 28 45.0 -1.0
comp=Z,1.8nm,0.7s,baz=203,slow=4.1,SNR=6.1
KEST LR LR 11 43 53.8
comp=Z,64nm,18.9s,baz=251,slow=32
DAVOX Davos/Dischmat 43.90 52 P P 11 28 45.7 -0.5
comp=Z,3.3nm,0.7s,baz=280,slow=6.1,SNR=3.1
DAVOX LR LR 11 43 34.4
comp=Z,183nm,20.1s,baz=262,slow=31
DAVA Damuels 43.93 51⇑iP P 11 28 45.9 -0.6
comp=Z,20nm,1.2s
AGMN Agassiz Nation 44.24 310 eP P 11 28 49.0 +0.3
comp=Z,21nm,1.0s
AGMN Agassiz Nation 44.24 310 ⇑P P 11 28 49.0 +0.3
baz=44,SNR=14
TOA0 Torodi Ar. Sit 44.30 102 eP P 11 28 47.9 -1.7
TORD Torodi Ar. Bea 44.30 102 P P 11 28 47.9 -1.6
comp=Z,14nm,0.9s,baz=301,slow=8.3,SNR=41
TORD LR LR 11 46 31.0
comp=Z,247nm,18.5s,baz=250,slow=35
ULM Lac du Bonnet 44.45 313 P P 11 28 49.6 -0.7
comp=Z,9.2nm,0.9s,baz=94,slow=7.9,SNR=14
ULM PcP PcP 11 30 31.7 -2.1
comp=Z,2.5nm,0.7s,baz=180,slow=5.4,SNR=3.2
ULM LR LR 11 45 46.0
comp=Z,246nm,20.4s,baz=67,slow=34
FETA Feichten 44.49 52⇓iP P 11 28 50.7 -0.3
comp=Z,18nm,1.5s
TUL1 Tulsa 44.50 292 eP P 11 28 51.0 +0.1
comp=Z,39nm,0.9s
TUL1 Tulsa 44.50 292 ⇓P P 11 28 50.9 +0.1
baz=44,SNR=7.0
RETA Reutte 44.55 51⇑iP P 11 28 50.5 -0.7
comp=Z,26nm,1.7s
ECSD EROS Data Cent 44.58 304 eP P 11 28 51.6 +0.1
comp=Z,40nm,1.8s
ECSD EROS Data Cent 44.58 304 ⇑P P 11 28 51.4 -0.1
baz=44,SNR=6.8
NRDL Niedersach Rie 44.69 44 eP P 11 28 50.5 -1.6
comp=Z,19nm,1.0s
KSU1 Kansas State U 44.79 297 eP P 11 28 52.9 -0.3
comp=Z,28nm,0.8s
KSU1 Kansas State U 44.79 297 ⇓P P 11 28 53.0 -0.2
baz=45,SNR=7.8
OTAV Otavalo 44.84 236 eP P 11 28 54.9 +0.5
comp=Z,30nm,1.2s
GRF Grafenberg Arr 45.03 48 eP P 11 28 52.6 -2.3
comp=Z,61nm,1.9s
BSEG Bad Segeberg 45.06 42 eP P 11 28 54.9 -0.2
comp=Z,44nm,0.9s
FCC Fort Churchill 45.20 325 eP P 11 28 56.1 0.0
FCC pmax pmax
comp=Z,2.0nm,1.3s
FCC Fort Churchill 45.20 325 eP P 11 28 56.1 0.0
comp=Z,1.7nm,1.3s
BDFB Brasilia 45.37 187 P P 11 28 58.1 +0.1
comp=Z,6.2nm,0.7s,baz=170,slow=25,SNR=7.2
BDFB LR LR 11 45 18.4
comp=Z,146nm,20.1s,baz=355,slow=33
MOX Moxa 45.38 47 eP P 11 28 56.9 -0.8
comp=Z,12nm,1.2s
JMIC Jan Mayen 45.45 15 LR LR 11 43 11.7
comp=Z,99nm,20.3s,baz=263,slow=30
KULLO Kullorsuaq 45.52 355 i P P 11 28 58.1 -0.3
KULLO pmax pmax
comp=Z,11nm,0.8s
KULLO Kullorsuaq 45.52 355 i P P 11 28 58.1 -0.3
comp=Z,11nm,0.8s
ABTA Abfaltersbach 45.70 52⇑iP P 11 28 59.1 -1.3
comp=Z,22nm,1.1s
Q33A Connelly Farm, 45.75 297 ⇓P P 11 29 00.8 0.0
baz=46
BGNE Belgrade 45.79 300 eP P 11 29 01.5 +0.3
comp=Z,36nm,0.6s
BGNE Belgrade 45.79 300 ⇓P P 11 29 01.0 -0.1
baz=46
U34A Anderson Ranch 45.82 293 eP P 11 29 01.9 +0.5
comp=Z,15nm,0.6s
U34A Anderson Ranch 45.82 293 ⇓P P 11 29 01.8 +0.4
baz=46,SNR=6.3
NKC Novy Kostel 45.87 47 eP P 11 29 02.7 +1.1
NKC Novy Kostel 45.87 47 eP P 11 29 02.7 +1.1
B30A Myrvik Farm, E 45.89 310 ⇑P P 11 29 01.9 +0.1
baz=46,SNR=32
V34A Guthrie 45.89 293 ⇑P P 11 29 02.4 +0.4
baz=46
A30A Hoffart Farm, 45.90 311 ⇑P P 11 29 02.0 +0.1
baz=46,SNR=14
R33A Olander Ranch, 45.94 296 ⇑P P 11 29 02.1 -0.3
baz=46,SNR=7.0
N32A Stulken Farm, 45.95 299 ⇓P P 11 29 02.5 +0.1
baz=46
C30A Mose, Pekin 45.96 309 ⇓P P 11 29 02.4 0.0
baz=46
O32A Brockman Farm, 45.97 299 ⇓P P 11 29 02.6 0.0
baz=46,SNR=5.7
KONO Kongsberg 46.03 34 eP P 11 29 05.1 +2.4
KONO pmax pmax
comp=Z,37nm,1.3s
KONO Kongsberg 46.03 34 eP P 11 29 05.1 +2.4
comp=Z,37nm,1.3s
S33A Kaszmaul Farm, 46.04 295 ⇑P P 11 29 03.1 0.0
baz=46
Z35A Perchaven, San 46.10 289 ⇑P P 11 29 04.7 +1.0
baz=46,SNR=5.1
D30A Buchanan 46.13 308 ⇑P P 11 29 03.7 0.0
baz=46,SNR=8.8
W34A Bridge Creek, 46.19 292 eP P 11 29 05.2 +0.8
comp=Z,18nm,0.7s
W34A Bridge Creek, 46.19 292 ⇑P P 11 29 04.9 +0.5
baz=46,SNR=6.6
H10N2 ASCENSION HYDR 46.22 139 T T 12 18 07.8
baz=325,slow=75,SNR=175
E30A Jud 46.22 307 ⇓P P 11 29 04.6 +0.1
baz=46,SNR=16
H10N3 ASCENSION HYDR 46.22 139 T T 12 18 05.2
baz=325,slow=75,SNR=208
H10N1 ASCENSION HYDR 46.24 139 T T 12 18 06.5
baz=325,slow=75,SNR=211
436A Wall Ranch, Ga 46.25 286 ⇓P P 11 29 05.2 +0.3
baz=46
BRSD Miller 46.26 305 eP P 11 29 04.5 -0.2
BRSD Miller 46.26 305 ⇓P P 11 29 04.5 -0.2

baz=46
L31A Butterfield Fa 46.26 301 ⇓P P 11 29 05.5 +0.6
baz=46,SNR=34
P32A Huiting Farm, 46.28 298 ⇓P P 11 29 04.9 -0.2
baz=46,SNR=9.5
U33A Lingo Farm, Me 46.28 293 ⇑P P 11 29 05.1 0.0
baz=46
F30A Leola 46.30 307 ⇓P P 11 29 05.2 +0.1
baz=46,SNR=13
T33A Patterson Ranc 46.30 294 ⇓P P 11 29 05.2 0.0
baz=46
Q32A Meitler Ranch, 46.31 297 ⇓P P 11 29 05.0 -0.3
baz=46,SNR=9.8
CLL Collm 46.31 46 iP P 11 29 03.7 -1.4
CLL e 11 29 09.0
CLL eS S 11 35 55.0 +3.1
CLL pmax pmax
comp=Z,20nm,1.7s
CLL MLR MLR
comp=Z,200nm,21.2s
CLL Collm 46.31 46 eP P 11 29 02.8 -2.3
comp=Z,20nm,1.7s
CLL Collm 46.31 46 iP P 11 29 03.7 -1.4
comp=Z,20nm,1.7s
CLL esP sP 11 29 09.0 -1.3
CLL eS S 11 35 55.0 +3.1
CLL e 11 38 36.0
CLL eSSSS 11 40 30.0
CLL Lm MLR 11 44 00.0
comp=N,100nm,20.2s
CLL Lm MLR 11 44 00.0
comp=E,200nm,21.1s
CLL Lm MLR 11 44 00.0
comp=Z,200nm,21.2s
X34A Smith Ranch, M 46.35 291 ⇓P P 11 29 06.2 +0.6
baz=46,SNR=13
G30A Faulkton 46.38 306 ⇑P P 11 29 05.6 -0.1
baz=46,SNR=14
135A Vickery Place, 46.38 288 ⇑P P 11 29 06.4 +0.5
baz=46
Y34A Reagan Ranch, 46.40 290 ⇑P P 11 29 06.0 0.0
baz=46
AQU L'Aquila 46.41 58 eP P 11 29 07.7 +1.7
AQU pmax pmax
comp=Z,21nm,0.8s
AQU L'Aquila 46.41 58 eP P 11 29 07.7 +1.7
comp=Z,21nm,0.8s
M31A Lambtecht Ranc 46.42 300 ⇑P P 11 29 05.9 -0.2
baz=46
R32A Long Quarter, 46.49 296 ⇑P P 11 29 06.8 +0.1
baz=46,SNR=6.3
V33A Lossen Ranch, 46.51 293 ⇓P P 11 29 06.6 -0.3
baz=46
A29A Manning Farm, 46.52 311 ⇑P P 11 29 06.5 -0.2
baz=46,SNR=9.6
KHC Kasperske Hory 46.52 49 eP P 11 29 06.4 -0.4
KHC pmax pmax
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 46.52 49 eP P 11 29 07.6 +0.8
KHC Kasperske Hory 46.52 49 eP P 11 29 06.4 -0.4
comp=Z,6.4nm,1.0s
WHTX Lake Whitney 46.54 287 eP P 11 29 08.2 +1.0
comp=Z,20nm,1.0s
WHTX Lake Whitney 46.54 287 ⇓P P 11 29 07.9 +0.8
baz=46
B29A Wagenman Farm, 46.58 310 ⇑P P 11 29 06.9 -0.3
baz=46,SNR=8.4
GEC2 GERESS Array S 46.59 49 eP P 11 29 06.2 -1.2
comp=Z,16nm,1.6s
GERES GERESS Array B 46.59 49 P P 11 29 06.4 -1.0
comp=Z,1.7nm,0.8s,baz=267,slow=7.4,SNR=9.4
GERES LR LR 11 45 38.4
comp=Z,114nm,19.1s,baz=222,slow=32
Z34A Collier Ranch, 46.64 289 ⇑P P 11 29 08.9 +1.0
baz=47,SNR=17
536A Bastrop 46.64 285 ⇑P P 11 29 08.0 +0.1
baz=47
335A Moody 46.67 286 ⇓P P 11 29 08.6 +0.4
baz=47
J30A Dallas 46.68 303 ⇓P P 11 29 07.8 -0.4
baz=47,SNR=11
D29A Pettibone, Tap 46.70 308 ⇓P P 11 29 08.0 -0.2
baz=47,SNR=6.4
E29A Napoleon 46.73 308 ⇓P P 11 29 08.2 -0.3
baz=47,SNR=7.3
S32A Newby Ranch, P 46.76 295 ⇓P P 11 29 08.9 +0.1
baz=47,SNR=6.3
W33A Caddo, Fort Co 46.77 292 ⇑P P 11 29 09.0 +0.1
baz=47
636A Smothers Creek 46.78 284 ⇓P P 11 29 09.6 +0.6
baz=47
O31A Woolen Ranch, 46.78 299 ⇑P P 11 29 08.7 -0.3
baz=47
K30A Basset 46.81 302 ⇓P P 11 29 09.3 +0.2
baz=47,SNR=13
T32A Huddler Ranch, 46.82 295 ⇑P P 11 29 08.9 -0.4
baz=47
F29A Eureka 46.86 307 ⇓P P 11 29 09.1 -0.4
baz=47
BRG Berggiesshubel 46.87 47 eP P 11 29 10.3 +0.9
comp=Z,14nm,1.5s
BRG
comp=Z,433nm,16.7s
BRG
comp=N,124nm,18.1s
BRG
comp=E,351nm,18.1s
BRG Berggiesshubel 46.87 47 eP P 11 29 10.3 +0.9
BRG pmax pmax
comp=Z,14nm,1.5s
BRG MLR MLR
comp=Z,433nm,16.7s
BRG MLR MLR
comp=N,124nm,18.1s
BRG MLR MLR
comp=E,351nm,18.1s
P31A Stockton 46.89 298 ⇓P P 11 29 09.6 -0.2
baz=47,SNR=16
X33A Lawton 46.90 291 ⇓P P 11 29 09.6 -0.4
baz=47
RGN Rugen 46.90 41 eP P 11 29 08.2 -1.4
comp=E,155nm,0.9s
435B Jarrell 46.91 286 ⇓P P 11 29 10.1 0.0
baz=47
MOA Molln 46.93 51⇑iP P 11 29 06.9 -3.1
comp=E,19nm,1.6s
L30A Spencer Herefo 46.93 301 ⇑P P 11 29 10.1 -0.1
baz=47
G29A Hoven 46.93 306 ⇑P P 11 29 09.7 -0.4
baz=47,SNR=7.8
134A White-Moore Ra 46.93 288 ⇓P P 11 29 10.7 +0.5
baz=47,SNR=9.9
Q31A Ellis 46.96 297 ⇑P P 11 29 09.7 -0.7
baz=47,SNR=7.3
NAO01 NORSAR Array S 46.98 33 eP P 11 29 10.2 0.0
comp=E,3.4nm,0.8s
U32A Winter Ranch, 47.00 294 ⇑P P 11 29 10.8 +0.1
baz=47,SNR=5.7
H10S1 ASCENSION HYDR47.04 140 T T 12 19 07.4
baz=326,slow=75,SNR=450
H10S3 ASCENSION HYDR47.04 140 T T 12 19 07.6
baz=326,slow=75,SNR=408
H10S2 ASCENSION HYDR47.06 140 T T 12 19 08.8
baz=326,slow=75,SNR=322
M30A Dale-Ortello V 47.08 301 ⇑P P 11 29 11.0 -0.3
baz=47
535A Dale 47.08 285 ⇓P P 11 29 11.4 +0.1
baz=47
Y33A Hilltop Ranch, 47.10 290 ⇓P P 11 29 11.5 0.0
baz=47
234A Clairette 47.10 288 ⇑P P 11 29 11.5 0.0
baz=47,SNR=9.8
V32A Arapaho 47.14 293 ⇓P P 11 29 12.1 +0.3
baz=47,SNR=5.8
R31A Burdett 47.15 296 ⇓P P 11 29 11.8 -0.1
baz=47,SNR=7.8
H29A Onida 47.15 305 ⇓P P 11 29 11.4 -0.4
baz=47,SNR=7.7
PRU Pruhonice 47.19 48 eP P 11 29 12.3 +0.3
PRU e 11 29 19.4
PRU MLR MLR
comp=Z,300nm,16.8s
PRU Pruhonice 47.19 48 eP P 11 29 12.3 +0.3
PRU ex x 11 29 19.4
PRU AMS AMS 11 47 00.0
comp=Z,300nm,16.8s
NB2 NORSAR Subarra 47.19 32 P P 11 29 12.9 +1.0
comp=Z,29nm,1.4s,baz=252,slow=7.9

NOA NORSAR Array B 47.19 32 P P 11 29 13.2 +1.3
comp=Z,7.5nm,1.1s,baz=254,slow=7.9,SNR=6.3
NOA LR LR 11 45 35.9
comp=Z,35nm,20.1s,baz=250,slow=32
A28A Rude Farm, Bot 47.20 311 ⇓P P 11 29 11.7 -0.4
baz=47
S31A Mullinville 47.20 295 ⇓P P 11 29 11.9 -0.4
baz=47,SNR=5.8
I29A Vivian Onida 47.24 304 ⇓P P 11 29 12.2 -0.3
baz=47
B28A Dugan Ranch, T 47.24 310 ⇑P P 11 29 12.2 -0.2
baz=47,SNR=9.4
C28A Hausauer Farms 47.25 309 ⇑P P 11 29 12.6 +0.1
baz=47,SNR=8.3
J29A Okreek 47.29 303 ⇓P P 11 29 12.6 -0.3
baz=47,SNR=7.7
N30A Hueftle Ranch, 47.31 300 ⇑P P 11 29 13.4 +0.3
baz=47
K29A Lazy Trails An 47.32 302 ⇓P P 11 29 13.2 0.0
baz=47,SNR=7.0
334A Lometa 47.33 287 ⇓P P 11 29 13.7 +0.4
baz=47,SNR=12
O30A MW Ranch, Wils 47.34 299 ⇓P P 11 29 13.0 -0.3
baz=47,SNR=9.4
Z33A Whitaker Ranch 47.35 289 ⇑P P 11 29 14.6 +1.1
baz=47,SNR=13
D28A Regan 47.37 308 ⇓P P 11 29 13.4 0.0
baz=47
W32A Sentinel 47.40 292 ⇓P P 11 29 14.1 +0.2
baz=47
635A Leesville 47.41 284 ⇑P P 11 29 14.3 +0.3
baz=47
T31A Randall Ranch, 47.43 295 ⇓P P 11 29 14.4 +0.3
baz=47,SNR=5.4
E28A Huff 47.45 308 ⇑P P 11 29 14.0 -0.1
baz=47,SNR=8.0
434A Burnet 47.48 286 ⇑P P 11 29 14.6 +0.1
baz=48,SNR=8.5
F28A McLaughlin 47.54 307 ⇑P P 11 29 14.1 -0.7
baz=48
P30A Selden 47.55 298 ⇓P P 11 29 14.9 -0.1
baz=48,SNR=9.4
X32A Elmer 47.56 291 ⇑P P 11 29 16.1 +1.0
baz=48,SNR=22
735A Kenedy 47.57 283 ⇓P P 11 29 15.6 +0.3
baz=48
133A Hamilton Ranch 47.62 288 ⇑P P 11 29 16.3 +0.7
baz=48,SNR=11
G28A Parade 47.64 306 ⇓P P 11 29 15.4 -0.2
baz=48,SNR=14
M29A Burnside Ranch 47.70 301 ⇓P P 11 29 16.3 +0.1
baz=48
N29A Votaw Ranch, W 47.71 300 ⇓P P 11 29 16.6 +0.4
baz=48,SNR=8.3
H28A Mission Ridge 47.73 305 ⇑P P 11 29 16.1 -0.2
baz=48,SNR=7.3
233A Rising Star 47.73 288 ⇑P P 11 29 16.6 +0.1
baz=48,SNR=6.6
R30A Dighton 47.73 296 ⇓P P 11 29 16.7 +0.3
baz=48,SNR=19
835A Beeville 47.74 283 ⇑P P 11 29 17.1 +0.6
baz=48
Y32A R-V Farms, Ver 47.77 290 ⇓P P 11 29 17.3 +0.6
baz=48,SNR=19
V31A Spring Creek L 47.77 293 ⇓P P 11 29 17.4 +0.7
baz=48,SNR=6.8
ARSA Arzberg 47.77 52⇑iP P 11 29 14.5 -2.0
comp=Z,30nm,1.8s
534A Blanco 47.84 285 ⇓P P 11 29 17.3 0.0
baz=48,SNR=6.3
B27A Peters Farms, 47.84 310 ⇑P P 11 29 17.7 +0.6
baz=48
I28A Midland 47.87 304 ⇑P P 11 29 17.4 +0.1
baz=48
Z32A Haskell 47.93 290 ⇓P P 11 29 18.6 +0.6
baz=48,SNR=7.7
J28A Allard Ranch, 47.95 303 ⇑P P 11 29 18.2 +0.2
baz=48,SNR=14
W31A Holland Ranch, 47.95 292 ⇓P P 11 29 18.1 -0.1
baz=48
333A Richland Sprin 47.96 287 ⇓P P 11 29 18.5 +0.2
baz=48,SNR=14
S30A Montezuma 47.97 295 ⇑P P 11 29 18.4 +0.1
baz=48
C27A Sayler Ranch, 48.00 309 ⇓P P 11 29 18.3 0.0
baz=48
CONA Conrad Observa 48.00 51 P P 11 29 11.4 -7.1
comp=Z,10nm,1.2s
D27A Center 48.02 308 ⇑P P 11 29 18.6 +0.1
baz=48
E27A Carson 48.05 307 ⇓P P 11 29 18.9 +0.1
baz=48,SNR=7.0
P29A Atwood 48.07 298 ⇓P P 11 29 19.2 +0.1
baz=48,SNR=11
X31A McDonald Ranch 48.08 291 ⇓P P 11 29 19.5 +0.3
baz=48,SNR=6.4
K28A Ten Mile Ranch 48.09 302 ⇓P P 11 29 18.8 -0.4
baz=48
T30A Plains 48.11 295 ⇑P P 11 29 19.5 +0.1
baz=48
HFS Hagfors 48.15 34 P P 11 29 19.2 0.0
comp=Z,12nm,1.1s,baz=260,slow=7.2,SNR=6.1
UPC Upice 48.16 47 eP P 11 29 19.3 -0.2
UPC Upice 48.16 47 eP P 11 29 19.3 -0.2
433A Art 48.18 286 ⇓P P 11 29 20.2 +0.2
baz=48,SNR=14
Q29A Oakley 48.20 297 ⇓P P 11 29 20.1 0.0
baz=48
M28A Bar X Bar Ranc 48.21 301 ⇓P P 11 29 19.9 -0.3
baz=48
ABTX Abilene, Hawle 48.21 289 eP P 11 29 20.7 +0.5
comp=Z,19nm,0.9s
ABTX Abilene, Hawle 48.21 289 ⇓P P 11 29 20.8 +0.6
baz=48,SNR=15
G27A Dupree 48.34 306 ⇓P P 11 29 21.0 -0.1
baz=48,SNR=13
DPC Dobruska-Polom 48.35 47 eP P 11 29 20.9 -0.2
DPC Dobruska-Polom 48.35 47 eP P 11 29 20.6 -0.4
DPC AMS AMS 11 47 50.0
DPC Dobruska-Polom 48.35 47 eP P 11 29 20.9 -0.2
A26A Wade Farm, Ken 48.37 311 ⇓P P 11 29 21.0 -0.1
baz=48,SNR=7.8
232A Coleman 48.38 288 ⇑P P 11 29 22.1 +0.6
baz=48,SNR=20
R29A Marienthal 48.38 297 ⇑P P 11 29 21.6 +0.1
baz=48,SNR=7.5
F27A Lemmon 48.39 307 ⇓P P 11 29 21.2 -0.2
baz=48,SNR=11
834A Tilden 48.40 283 ⇓P P 11 29 21.7 +0.1
baz=48
C26A Wahner Farm, P 48.40 309 ⇑P P 11 29 21.3 -0.2
baz=48,SNR=7.1
N28A Pribbeno Ranch 48.41 300 ⇓P P 11 29 21.3 -0.4
baz=48
Y31A Rekieta Farm, 48.44 291 ⇓P P 11 29 22.3 +0.3
baz=48,SNR=8.6
V30A Spur Ranch, Mi 48.45 293 ⇑P P 11 29 22.0 0.0
baz=48
Z31A Sharp Cattle R 48.48 290 ⇑P P 11 29 22.6 +0.3
baz=48,SNR=16
H27A Howes 48.48 305 ⇓P P 11 29 21.7 -0.4
baz=48,SNR=8.5
S29A Ulysses 48.48 296 ⇑P P 11 29 22.2 -0.1
baz=48
DAG Danmarks Havn 48.49 7 iP P 11 29 20.9 -0.7
DAG pmax pmax
comp=Z,7.0nm,1.0s
DAG Danmarks Havn 48.49 7 iP P 11 29 20.9 -0.7
comp=Z,7.2nm,1.0s
I27A Quinn 48.50 304 ⇓P P 11 29 21.9 -0.3
baz=48,SNR=9.6
VRAC Vranov 48.50 49 P P 11 29 20.0 -2.1
comp=Z,2.8nm,0.7s,baz=296,slow=6.0,SNR=5.3
934A Benavides 48.52 282 ⇓P P 11 29 23.1 +0.6
baz=48
J27A Elkhorn Farm, 48.52 303 ⇑P P 11 29 22.2 -0.3
baz=48
332A Millersview 48.57 287 ⇓P P 11 29 22.8 -0.2
baz=49,SNR=7.2
633A Saathoff Ranch 48.57 284 ⇑P P 11 29 23.4 +0.4
baz=49,SNR=8.5
O28A Krutsinger Ran 48.65 299 ⇑P P 11 29 23.4 -0.1
baz=49,SNR=12
FFC Flin Flon 48.66 318 P P 11 29 23.5 +0.2
comp=Z,87nm,0.8s,SNR=5.8
FFC Flin Flon 48.66 318 eP P 11 29 23.2 -0.1
FFC pmax pmax
comp=Z,10.0nm,0.7s

FFC Flin Flon 48.66 318 eP P 11 29 23.2 -0.1
comp=Z,9.6nm,0.7s
E26A Carlson Angus 48.67 307 ⇑P P 11 29 23.1 -0.4
baz=49,SNR=8.0
T29A Hugoton 48.70 295 ⇑P P 11 29 23.9 0.0
baz=49
P28A Saint Francis 48.71 298 ⇓P P 11 29 24.3 +0.3
baz=49,SNR=9.7
432A Menard 48.74 286 ⇑P P 11 29 24.1 -0.2
baz=49,SNR=5.4
034A Hebbronville 48.81 281 ⇓P P 11 29 24.9 +0.1
baz=49
131A Roby 48.82 289 ⇑P P 11 29 25.4 +0.6
baz=49,SNR=18
G26A Maurine 48.82 306 ⇑P P 11 29 24.1 -0.6
baz=49,SNR=9.5
Q28A Sharon Springs 48.83 298 ⇑P P 11 29 25.2 +0.2
baz=49,SNR=8.0
F26A Lodgepole 48.84 307 ⇑P P 11 29 24.3 -0.6
baz=49,SNR=11
JCT Junction City 48.84 286 eP P 11 29 25.2 +0.1
JCT pmax pmax
comp=Z,26nm,1.0s
JCT Junction City 48.84 286 eP P 11 29 25.2 +0.1
comp=Z,26nm,1.0s
JCT Junction City 48.84 286 ⇓P P 11 29 25.4 +0.3
baz=49,SNR=10
X30A Coker Ranch, T 48.84 291 ⇓P P 11 29 25.7 +0.7
baz=49,SNR=22
R28A Tribune 48.92 297 ⇓P P 11 29 26.0 +0.3
baz=49,SNR=23
231A Bronte 48.92 288 ⇑P P 11 29 26.0 +0.3
baz=49,SNR=18
M27A Reverse DX Ran 48.96 301 ⇓P P 11 29 26.0 +0.1
baz=49,SNR=5.9
Y30A Stafford Cattl 48.98 291 ⇓P P 11 29 26.1 0.0
baz=49
H26A Fairpoint 48.98 305 ⇓P P 11 29 25.8 -0.2
baz=49
632A Uvalde 49.07 285 ⇓P P 11 29 27.3 +0.5
baz=49,SNR=7.6
A25A Svangstu Ranch 49.07 311 ⇑P P 11 29 26.6 0.0
baz=49
I26A New Underwood 49.08 304 ⇑P P 11 29 26.4 -0.4
baz=49,SNR=7.7
S28A Manter 49.10 296 ⇓P P 11 29 27.1 +0.1
baz=49
MORC Moravsky Berou 49.12 48 eP P 11 29 26.7 -0.3
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 49.12 48 eP P 11 29 26.7 -0.3
comp=Z,2.8nm,0.8s
N27A Anderson Farm, 49.15 300 ⇓P P 11 29 28.1 +0.7
baz=49,SNR=20
933A Laredo 49.16 282 ⇓P P 11 29 27.5 0.0
baz=49
331A San Angelo 49.16 287 ⇓P P 11 29 27.6 +0.1
baz=49
O27A Beecher Island 49.18 299 ⇑P P 11 29 27.2 -0.4
baz=49
C25A Freed Ranch, W 49.18 309 ⇓P P 11 29 27.9 +0.4
baz=49,SNR=8.1
D25A Fairfield 49.24 308 ⇑P P 11 29 27.7 -0.2
baz=49
Z30A Sanderson Ranc 49.29 290 ⇑P P 11 29 28.8 +0.3
baz=49,SNR=12
J26A Sides Ranch, S 49.29 303 ⇑P P 11 29 28.4 0.0
baz=49
130A Snyder 49.31 289 ⇓P P 11 29 28.8 +0.2
baz=49,SNR=7.0
E25A Miller Ranch, 49.32 307 ⇓P P 11 29 28.2 -0.3
baz=49
W29A Amraillo 49.34 292 ⇑P P 11 29 29.2 +0.3
baz=49
P27A Ficken Ranch, 49.34 298 ⇑P P 11 29 29.1 +0.2
baz=49,SNR=7.7
T28A Walsh 49.35 295 ⇑P P 11 29 29.3 +0.3
baz=49,SNR=23
G25A Newell 49.40 306 ⇓P P 11 29 28.8 -0.4
baz=49
AMTX Amarillo 49.41 292 eP P 11 29 30.1 +0.6
comp=Z,14nm,0.8s
AMTX Amarillo 49.41 292 ⇓P P 11 29 30.0 +0.6
baz=49
K26A Motz Farm, Whi 49.42 302 ⇑P P 11 29 29.2 -0.3
baz=49
732A Laxson Ranch, 49.44 284 ⇓P P 11 29 29.4 -0.2
baz=49,SNR=5.1
KSCO Kaye Shedlock' 49.45 298 eP P 11 29 30.3 +0.5
KSCO Kaye Shedlock' 49.45 298 ⇑P P 11 29 29.9 +0.2
baz=49
431A Sonora 49.46 286 ⇑P P 11 29 29.9 +0.1
baz=49
X29A Tulia 49.51 292 ⇓P P 11 29 30.5 +0.2
baz=50,SNR=10
M26A McRoberts Ranc 49.53 301 ⇓P P 11 29 30.5 +0.2
baz=50
531A Rocksprings 49.54 286 ⇓P P 11 29 30.7 +0.2
baz=50,SNR=8.3
832A Faith Ranch, C 49.56 283 ⇑P P 11 29 30.5 -0.1
baz=50
U28A Mallet 49.56 294 ⇓P P 11 29 30.9 +0.3
baz=50,SNR=6.1
H25A Fruitdale 49.57 305 ⇑P P 11 29 30.4 -0.1
baz=50
230A Sterling City 49.59 288 ⇓P P 11 29 31.2 +0.4
baz=50,SNR=9.5
Y29A Porterfield Fa 49.61 291 ⇑P P 11 29 31.3 +0.4
baz=50,SNR=8.4
A24A Westby 49.66 311 ⇑P P 11 29 31.2 +0.1
baz=50
N26A Koester Ranch, 49.66 300 ⇓P P 11 29 31.4 +0.1
baz=50
V28A Channing 49.68 293 ⇑P P 11 29 31.6 +0.1
baz=50
R27A Eads 49.70 297 ⇓P P 11 29 32.0 +0.4
baz=50,SNR=19
330A Mertzon 49.76 288 ⇓P P 11 29 32.5 +0.4
baz=50,SNR=14
631A Perdido Creek 49.76 285 ⇑P P 11 29 32.0 -0.1
baz=50
Z29A Hungry Hill Ra 49.77 290 ⇑P P 11 29 32.4 +0.2
baz=50,SNR=12
DGMT Dagmar 49.80 310 ⇑P P 11 29 32.2 +0.1
baz=50
O26A Horse Wrangler 49.81 299 ⇑P P 11 29 33.0 +0.5
baz=50,SNR=11
J25A Sunshine Ranch 49.81 303 ⇑P P 11 29 32.6 +0.2
baz=50
T27A Campo 49.84 295 ⇑P P 11 29 32.6 -0.1
baz=50
S27A Las Animas 49.87 296 ⇓P P 11 29 33.1 +0.1
baz=50
X28A Dimmitt 49.90 292 ⇓P P 11 29 33.3 +0.1
baz=50
RSSD Black Hills 49.92 304 eP P 11 29 33.1 -0.3
RSSD Black Hills 49.92 304 eP P 11 29 33.0 -0.3
P26A Davis Ranch, A 49.93 298 ⇓P P 11 29 33.7 +0.2
baz=50,SNR=9.7
D24A Glendive 49.93 308 ⇓P P 11 29 33.2 0.0
baz=50,SNR=8.3
K25A Mack Ranch, Ha 49.94 302 ⇓P P 11 29 33.7 +0.3
baz=50,SNR=6.0
E24A Baker 49.94 308 ⇑P P 11 29 33.2 -0.1
baz=50
PKSM Moragy 49.95 53 ⇓P P 11 29 25.1 -8.1
PKSM Moragy 49.95 53⇓iP P 11 29 25.1 -8.1
430A Baggett Ranch, 49.96 287 ⇑P P 11 29 34.0 +0.3
baz=50,SNR=7.8
C24A Savage 49.98 309 ⇓P P 11 29 33.8 +0.3
baz=50,SNR=8.2
VYHS Vyhne 49.98 50 eP P 11 29 32.7 -0.8
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS Vyhne 49.98 50 eP P 11 29 32.7 -0.8
U27A Thompson Grove 50.03 294 ⇓P P 11 29 34.0 -0.2
baz=50
129A Stewart Farms, 50.04 289 ⇑P P 11 29 34.6 +0.4
baz=50,SNR=9.8
Y28A McKinney Farm, 50.07 291 ⇓P P 11 29 34.3 -0.2
baz=50
F24A Ekalaka 50.08 307 ⇑P P 11 29 33.9 -0.5
baz=50
229A Bryant Ranch, 50.15 288 ⇓P P 11 29 35.1 0.0
baz=50
Q26A Hugo 50.15 298 ⇑P P 11 29 35.9 +0.7
baz=50,SNR=11
R26A Arlington 50.20 297 ⇓P P 11 29 36.2 +0.8

baz=50,SNR=16
530A J-C Ranch, Com 50.21 286 ⇑P P 11 29 35.5 -0.1
baz=50,SNR=12
M25A Palm-Egli Farm 50.21 301 ⇓P P 11 29 35.4 -0.1
baz=50
H24A Dirks Ranch, A 50.24 305 ⇑P P 11 29 34.9 -0.7
baz=50
Z28A Tucker Farm, M 50.32 290 ⇑P P 11 29 36.8 +0.5
baz=50,SNR=11
B23A Brockton 50.33 310 ⇓P P 11 29 36.8 +0.7
baz=50,SNR=9.3
S26A Kim 50.33 296 ⇑P P 11 29 37.0 +0.5
baz=50,SNR=6.1
329A Wagon Wheel Ra 50.41 288 ⇓P P 11 29 37.3 +0.3
baz=50
O25A Wiggins 50.44 299 ⇑P P 11 29 37.9 +0.6
baz=50,SNR=6.8
J24A Dixon Ranch, L 50.45 303 ⇑P P 11 29 37.5 +0.3
baz=50
C23A Lambert 50.48 309 ⇑P P 11 29 37.8 +0.4
baz=50,SNR=9.6
MSTX Muleshoe 50.48 291 eP P 11 29 37.5 -0.1
comp=Z,26nm,1.1s
MSTX Muleshoe 50.48 291 ⇓P P 11 29 38.3 +0.7
baz=50,SNR=11
W27A Bowe Ranch, En 50.49 293 ⇓P P 11 29 37.8 +0.2
baz=50
T26A Comanche Natio 50.50 295 ⇓P P 11 29 38.8 +0.9
baz=50,SNR=16
D23A Lindsay 50.53 308 ⇓P P 11 29 38.0 +0.3
baz=50,SNR=13
128A Castleberry Fa 50.55 289 ⇑P P 11 29 38.7 +0.6
baz=50,SNR=8.5
429A Davenport Ranc 50.55 287 ⇓P P 11 29 38.0 -0.1
baz=50,SNR=5.6
P25A Willow Gulch B 50.56 298 ⇑P P 11 29 39.2 +1.0
baz=50,SNR=18
X27A F and S Farms, 50.60 292 ⇑P P 11 29 38.2 -0.3
baz=51
Q25A Bedland, Calha 50.72 298 ⇑P P 11 29 39.4 -0.1
baz=51
228A UT Block 9, Go 50.76 289 ⇑P P 11 29 40.1 +0.4
baz=51
F23A Volborg 50.76 307 ⇑P P 11 29 39.3 -0.3
baz=51
U26A Atchley Ranch, 50.77 294 ⇑P P 11 29 40.0 +0.2
baz=51,SNR=7.4
M24A Cheyenne 50.78 301 ⇓P P 11 29 40.3 +0.4
baz=51,SNR=13
L24A Wheatland 50.79 302 ⇓P P 11 29 40.1 +0.3
baz=51,SNR=7.0
Y27A Causey 50.82 291 ⇑P P 11 29 40.7 +0.5
baz=51,SNR=20
R25A Fountain Ranch 50.87 297 ⇓P P 11 29 40.9 +0.4
baz=51,SNR=6.1
N24A Carr 50.91 300 ⇓P P 11 29 41.0 +0.1
baz=51
V26A Tequesquite Ra 50.92 294 ⇑P P 11 29 41.3 +0.4
baz=51,SNR=17
A22A Carney Farms, 50.92 311 ⇑P P 11 29 40.3 -0.3
baz=51
529A Stev Forest Ra 50.95 286 ⇓P P 11 29 40.8 -0.3
baz=51
C22A Vida 50.95 309 ⇓P P 11 29 41.3 +0.4
baz=51,SNR=11
Z27A Tatum 50.99 290 ⇑P P 11 29 41.8 +0.3
baz=51,SNR=9.6
W26A Owens Ranch, T 51.04 293 ⇑P P 11 29 41.7 -0.2
baz=51
S25A Robets Cordova 51.08 296 ⇓P P 11 29 43.1 +0.9
baz=51,SNR=11
328A Wristen Ranch, 51.12 288 ⇓P P 11 29 42.3 -0.1
baz=51
T25A Trinidad 51.15 296 ⇓P P 11 29 43.6 +0.8
baz=51,SNR=10
O24A Longmont 51.16 299 ⇑P P 11 29 42.3 -0.4
baz=51
428A Kincaid Ranch, 51.18 287 ⇑P P 11 29 43.4 +0.5
baz=51,SNR=6.3
D22A Cohagen 51.19 308 ⇓P P 11 29 42.9 +0.1
baz=51,SNR=7.4
X26A CR and CF Fran 51.20 292 ⇑P P 11 29 43.2 +0.1
baz=51
K23A Bowen Ranch, D 51.21 303 ⇓P P 11 29 42.9 -0.1
baz=51
LAO LASA Array 51.25 308 eP P 11 29 43.3 +0.1
PHWY Pilot Hill 51.28 301 eP P 11 29 44.1 +0.3
U25A Circle Dot Ran 51.29 295 ⇑P P 11 29 44.5 +0.7
baz=51,SNR=11
L23A Garrett 51.35 302 ⇑P P 11 29 44.2 0.0
baz=51,SNR=12
F22A Rosebud 51.35 307 ⇓P P 11 29 43.9 0.0
baz=51
227A Bennet, Jal 51.36 289 ⇑P P 11 29 45.2 +1.0
baz=51,SNR=6.1
Q24A Divide 51.40 298 ⇑P P 11 29 45.5 +0.8
baz=51,SNR=17
M23A Laramie 51.45 301 ⇓P P 11 29 44.6 -0.4
baz=51
R24A Sanders Place, 51.50 297 ⇑P P 11 29 46.7 +1.4
baz=52,SNR=13
H22A Clearmont 51.53 305 ⇑P P 11 29 45.5 +0.2
baz=52,SNR=8.3
STHS Stebnicka Huta 51.54 49 eP P 11 29 45.9 +0.7
STHS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 51.54 49 eP P 11 29 45.9 +0.7
V25A Rancho No Teng 51.57 294 ⇓P P 11 29 45.5 -0.4
baz=52
W25A X Bar L Ranch, 51.57 293 ⇓P P 11 29 45.9 0.0
baz=52
ISCO Idaho Springs 51.62 299 eP P 11 29 47.5 +1.1
ISCO Idaho Springs 51.62 299 eP P 11 29 47.5 +1.1
ISCO Idaho Springs 51.62 299 ⇑P P 11 29 45.9 -0.5
baz=52
Z26A Caprock 51.62 291 ⇑P P 11 29 46.4 +0.2
baz=52,SNR=9.1
B21A Ellsworth Farm 51.67 310 ⇑P P 11 29 46.5 +0.2
baz=52
S24A Houchin Ranch, 51.69 296 ⇑P P 11 29 47.0 +0.2
baz=52
N23A Red Feather La 51.70 300 ⇓P P 11 29 46.8 0.0
baz=52
I22A 9 Mile Ranch, 51.70 304 ⇓P P 11 29 46.7 0.0
baz=52
CRVS Cervenica-Dubn 51.71 49 eP P 11 29 46.6 +0.1
CRVS pmax pmax
comp=Z,8.0nm,1.2s
CRVS Cervenica-Dubn 51.71 49 eP P 11 29 46.6 +0.1
427A Hayter Ranch, 51.74 287 ⇓P P 11 29 47.1 0.0
baz=52
D21A La Casta Ranch 51.75 308 ⇑P P 11 29 47.2 +0.2
baz=52,SNR=9.4
J22A Midwest 51.75 304 ⇑P P 11 29 47.2 +0.1
baz=52,SNR=13
C21A Desert Coulee 51.77 309 ⇑P P 11 29 46.9 -0.1
baz=52
O23A Lake Granby, G 51.78 300 ⇓P P 11 29 49.0 +1.4
baz=52,SNR=9.0
126A Clayton Basin, 51.80 290 ⇑P P 11 29 47.9 +0.3
baz=52,SNR=5.3
LPAZ La Paz 51.85 211 P P 11 29 48.5 0.0
comp=Z,15nm,0.9s,baz=21,slow=6.8,SNR=35
E21A Keefer Ranch, 51.85 308 ⇑P P 11 29 47.8 +0.1
baz=52
P23A Jefferson 51.86 299 ⇑P P 11 29 49.1 +0.9
baz=52,SNR=8.0
RES Resolute Bay 51.86 345 eP P 11 29 47.0 -0.2
RES 11 30 59.9
RES Resolute Bay 51.86 345 P P 11 29 46.7 -0.5
comp=Z,7.4nm,1.1s,baz=117,slow=7.1,SNR=15
RES PcP PcP 11 30 59.9 0.0
comp=Z,2.6nm,0.9s,baz=169,slow=7.7,SNR=3.0
RES Resolute Bay 51.86 345 eP P 11 29 47.0 -0.2
RES PcP PcP 11 30 59.9 0.0
K22A Casper 51.88 303 eP P 11 29 47.4 -0.7
comp=Z,16nm,1.0s
K22A Casper 51.88 303 ⇑P P 11 29 48.1 0.0
baz=52
SDCO Great Sand Dun 51.89 296 eP P 11 29 49.5 +1.1
comp=Z,8.2nm,1.0s
L22A Ellis Ranch, M 51.90 302 ⇑P P 11 29 48.7 +0.4
baz=52
T24B San Luis 51.93 296 ⇑P P 11 29 50.5 +1.8
baz=52,SNR=8.2
H21A Big Horn, Sher 52.02 305 ⇑P P 11 29 49.0 0.0
baz=52,SNR=7.4
Y25A Mesa, Roswell 52.05 292 ⇓P P 11 29 49.9 +0.5
baz=52,SNR=6.3
226B Tecolote Peak, 52.06 289 ⇑P P 11 29 50.1 +0.6
baz=52,SNR=9.0
R23A Moffat 52.06 297 ⇑P P 11 29 51.1 +1.4
baz=52,SNR=14
BZS Buzias 52.06 53 ⇑P P 11 29 48.3 -0.9
BZS Buzias 52.06 53⇑iP P 11 29 46.4 -2.8
N22A Wattenberg Ran 52.10 300 ⇑P P 11 29 50.5 +0.7
baz=52,SNR=9.1
326A Caldwell Ranch 52.10 288 ⇓P P 11 29 50.5 +0.7
baz=52
M22A Cedar Creek Ra 52.11 301 ⇑P P 11 29 50.9 +1.0
baz=52,SNR=12
V24A Rampart Ranch, 52.11 294 ⇑P P 11 29 50.4 +0.4
baz=52
Z25A Roswell 52.22 291 ⇑P P 11 29 52.0 +1.3
baz=52,SNR=7.3
KOLS Kolonicke sedl 52.24 49 eP P 11 29 49.3 -1.2
KOLS pmax pmax
comp=Z,25nm,2.1s
KOLS Kolonicke sedl 52.24 49 eP P 11 29 49.3 -1.2
A20A Cobblestone Ra 52.25 311 ⇓P P 11 29 50.8 +0.2
baz=52
O22A Kremmling 52.27 300 ⇑P P 11 29 52.0 +0.8
baz=52,SNR=15
UZH Uzhgorod 52.27 50 eP P 11 29 50.8 +0.1
UZH i 11 29 58.4
S23A Nye Farm, Mont 52.29 297 ⇓P P 11 29 52.6 +1.3
baz=52,SNR=6.8
I21A Big Trails, Te 52.29 304 ⇑P P 11 29 50.7 -0.4
baz=52,SNR=12
125A Gardner Draw, 52.32 290 ⇑P P 11 29 52.0 +0.5
baz=52,SNR=10
W24A Lazy 6 Ranch, 52.33 293 ⇑P P 11 29 52.0 +0.4
baz=52,SNR=7.5
B20A Solberg Farm, 52.34 310 ⇑P P 11 29 51.5 +0.2
baz=52
TXAR Lajitas Array 52.38 286 P P 11 29 52.0 +0.1
comp=Z,4.4nm,0.8s,baz=98,slow=9.0,SNR=46
TXAR PcP PcP 11 31 02.5 -0.3
comp=Z,2.1nm,0.9s,baz=79,slow=4.7,SNR=4.7
TXAR LR LR 11 52 13.8
comp=Z,94nm,18.1s,baz=0.0,slow=36
C20A Veseth Ranch, 52.39 309 ⇓P P 11 29 51.7 +0.1
baz=52,SNR=11
K21A Alcova 52.41 303 ⇓P P 11 29 52.0 -0.1
baz=52,SNR=11
T23A Casias Ranch, 52.45 296 ⇑P P 11 29 53.8 +1.3
baz=52,SNR=7.5
J21A Lysite 52.46 304 ⇑P P 11 29 52.5 0.0
baz=52,SNR=11
TRPA Tarpa 52.47 50⇓iP P 11 29 51.6 -0.5
KWP Kalwaria Pacla 52.48 48 ⇓P P 11 29 52.6 +0.4
KWP Kalwaria Pacla 52.48 48⇓iP P 11 29 52.6 +0.4
KWP Kalwaria Pacla 52.48 48 eP P 11 29 52.3 +0.1
P22A Eagle 52.52 299 ⇑P P 11 29 53.1 +0.1
baz=52
D20A Manuel Ranch, 52.53 309 ⇓P P 11 29 52.9 +0.2
baz=52,SNR=9.0
E20A Meyer Farm, Mu 52.58 308 ⇓P P 11 29 53.2 +0.1
baz=52,SNR=11
225A Deer Hill, Car 52.59 289 ⇑P P 11 29 54.1 +0.6
baz=53,SNR=7.9
Y24A Capitan 52.65 292 ⇑P P 11 29 54.3 +0.3
baz=53
DRGR 52.70 52 ⇑P P 11 29 54.2 +0.2
DRGR 52.70 52⇑iP P 11 29 54.2 +0.2
H20A Greybull 52.71 305 ⇑P P 11 29 54.3 +0.2
baz=53,SNR=12
U23A El Rito 52.72 295 ⇑P P 11 29 55.6 +1.1
baz=53,SNR=8.9
Z24A Sheeppen Canyo 52.73 291 ⇓P P 11 29 55.8 +1.2
baz=53,SNR=8.4
G20A Bridger 52.77 306 ⇑P P 11 29 54.3 -0.4
baz=53
A19A Klindworth Far 52.78 311 ⇓P P 11 29 55.2 +0.6
baz=53,SNR=7.5
V23A Ortiz Mt. (NFS 52.83 294 ⇑P P 11 29 56.7 +1.4
baz=53,SNR=5.8
NNA Nana 52.87 223 eP P 11 29 54.4 -1.1
NNA pmax pmax
comp=Z,9.0nm,0.8s
NNA Nana 52.87 223 eP P 11 29 54.4 -1.1
comp=Z,9.2nm,0.8s
GZR Gura Zlata 52.90 54 ⇑P P 11 29 51.5 -4.0
GZR Gura Zlata 52.90 54⇑iP P 11 29 51.5 -4.0
J20A Shoshoni 52.92 304 ⇓P P 11 29 56.0 +0.2
baz=53,SNR=16
S22A 4UR Ranch, Cre 52.92 297 ⇑P P 11 29 56.8 +0.8
baz=53,SNR=11
W23A Werner Place, 52.94 293 ⇓P P 11 29 56.7 +0.6
baz=53,SNR=5.1
D19A Cripps Ranch, 53.03 309 ⇑P P 11 29 56.6 +0.2
baz=53,SNR=12
E19A Rath Farm, Rou 53.03 308 ⇑P P 11 29 56.7 +0.2
baz=53,SNR=9.8
C19A Slack Wire Ran 53.09 309 ⇑P P 11 29 57.3 +0.5
baz=53
X23A Hourglass Bar 53.10 293 ⇓P P 11 29 58.2 +0.9
baz=53,SNR=18
Y23A Lovelace Mesa, 53.15 292 ⇑P P 11 29 58.1 +0.4
baz=53
F19A Roth Farm, Mol 53.21 307 ⇓P P 11 29 58.1 +0.3
baz=53,SNR=12
U22A Llaves 53.23 295 ⇑P P 11 29 59.2 +1.0
baz=53,SNR=6.4
V22A San Miguel Ran 53.37 295 ⇑P P 11 30 00.5 +1.2
baz=53,SNR=7.9
H19A Powell 53.39 306 ⇓P P 11 29 59.7 +0.5
baz=53,SNR=9.0
N20A Spence Gulch, 53.44 301 ⇓P P 11 30 00.5 +0.7
baz=53,SNR=9.8
I19A Meeteetse 53.48 305 ⇑P P 11 30 00.1 +0.1
baz=53,SNR=11
LPM Los Pinos Moun 53.52 293 eP P 11 30 01.7 +1.3
comp=Z,19nm,1.2s
EGMT Eagleton 53.53 310 eP P 11 30 00.3 +0.2
comp=Z,52nm,1.2s
EGMT Eagleton 53.53 310 ⇑P P 11 30 00.2 +0.1
baz=54,SNR=12
O20A White River Ci 53.55 300 eP P 11 30 01.1 +0.6
comp=Z,28nm,1.2s
O20A White River Ci 53.55 300 ⇑P P 11 30 00.6 0.0
baz=54,SNR=8.4
LOT Lotru 53.59 53⇑iP P 11 29 59.7 -0.9
VTS Vitosha 53.59 57 ⇓P P 11 30 00.1 -0.6
VTS Vitosha 53.59 57⇓iP P 11 30 00.1 -0.6
J19A Crowheart 53.63 304 ⇑P P 11 30 01.0 -0.1
baz=54,SNR=13
LENM Lemitar 53.83 292 eP P 11 30 04.2 +1.6
comp=Z,15nm,1.0s
H18A Shoshone NF, C 53.87 306 ⇑P P 11 30 02.7 -0.1
baz=54
Z22A Elephant Butte 54.05 291 ⇓P P 11 30 04.8 +0.6
baz=54,SNR=8.0
PDAR Pinedale Array 54.08 303 P P 11 30 04.0 -0.3
comp=Z,19nm,0.9s,baz=85,slow=7.5,SNR=83
PDAR LR LR 11 51 54.2
comp=Z,629nm,19.3s,baz=102,slow=35
BW06 Boulder Array 54.08 303 eP P 11 30 04.0 -0.3
comp=Z,64nm,1.2s
MMB Musomiste 54.14 58 ⇓P P 11 30 04.3 -0.3
MMB Musomiste 54.14 58⇓iP P 11 30 04.3 -0.3
PV01 Paradox Valley 54.19 298 eP P 11 30 06.2 +0.9
comp=Z,1μm,1.2s
ARR Arges 54.20 53⇓iP P 11 30 04.9 -0.1
BUR08 Bucovina Ar. S 54.30 51 eP P 11 30 06.1 +0.3
BURAR Bucovina Array 54.32 51 ⇑P P 11 30 06.3 +0.4
BURAR Bucovina Array 54.32 51⇑iP P 11 30 06.3 +0.4
MVCO Mesa Verde 54.33 296 eP P 11 30 07.7 +1.3
comp=Z,14nm,1.0s
MVCO Mesa Verde 54.33 296 ⇑P P 11 30 06.8 +0.5
baz=54,SNR=9.8
FINES FINESS Array B 54.34 33 P P 11 30 05.1 -0.5
comp=Z,9.1nm,0.9s,baz=235,slow=4.9,SNR=14
FINES LR LR 11 49 41.4
comp=Z,69nm,19.2s,baz=270,slow=32
FIA1 FINESS Array S 54.34 33 eP P 11 30 07.4 +1.8
KAF Kangasniemi 54.48 33 eP P 11 30 05.5 -1.1
KAF pmax pmax
comp=Z,7.0nm,0.9s
KAF Kangasniemi 54.48 33 ep P 11 30 05.5 -1.1
comp=Z,6.5nm,0.9s
VOIR 54.48 53 ⇑P P 11 30 06.8 -0.3
VOIR 54.48 53⇑iP P 11 30 06.8 -0.3
PV10 Paradox Valley 54.50 298 eP P 11 30 08.7 +1.1
comp=Z,154nm,1.1s
H17A Grant Village 54.55 305 eP P 11 30 08.9 +1.0
comp=Z,16nm,1.1s
H17A Grant Village 54.55 305 ⇓P P 11 30 08.4 +0.6
baz=54
VSU Vasula 54.60 37⇑eP P 11 30 07.8 +0.2
VSU pmax pmax
comp=Z,100nm,1.7s
I17A Pilgrim Ck. 54.63 305 ⇑P P 11 30 08.7 +0.4
baz=55,SNR=10.0
121A Cookes Peak, D 54.90 291 ⇑P P 11 30 11.2 +0.7
baz=55
ARCES ARCESS Array B 54.92 24 P P 11 30 08.6 -1.2
comp=Z,1.2nm,0.6s,baz=264,slow=6.1,SNR=5.5
ARCES LR LR 11 47 21.8
comp=Z,72nm,21.9s,baz=333,slow=29
QLMT Earthquake Lak 55.09 306 eP P 11 30 13.1 +1.4
comp=Z,1.2nm,1.0s
HRY Holter Researc 55.09 308 eP P 11 30 11.7 +0.2
comp=Z,13nm,1.1s
MLR Muntele Rosu 55.10 53 ⇑P P 11 30 10.9 -0.7
MLR Muntele Rosu 55.10 53⇓iP P 11 30 10.6 -1.0
MLR Muntele Rosu 55.10 53 P P 11 30 10.6 -1.0
comp=Z,1.4nm,0.9s,baz=258,slow=7.1,SNR=6.1
MNK Minsk 55.34 42⇑eP P 11 30 12.0 -1.0
MNK pmax pmax
comp=Z,110nm,1.2s
EDM Edmonton 55.36 316 eP P 11 30 12.8 -0.4
EDM Edmonton 55.36 316 eP P 11 30 12.8 -0.4
MICGM Minsk 55.37 42⇑eP P 11 30 12.0 -1.2
KEV Kevo 55.47 23 eP P 11 30 18.8 +5.1
KEV pmax pmax
comp=Z,6.0nm,0.7s
KEV Kevo 55.47 23 ep P 11 30 18.8 +5.1
comp=Z,6.0nm,0.7s
SRU San Rafael 55.48 299 eP P 11 30 14.6 0.0
SRU pmax pmax
comp=Z,45nm,1.1s
SRU San Rafael 55.48 299 eP P 11 30 14.6 0.0
comp=Z,45nm,1.1s
YKA Yellowknife Ar 55.73 328 P P 11 30 14.7 -0.9
comp=Z,5.8nm,0.9s,baz=88,slow=7.2,SNR=72
YKA PcP PcP 11 31 14.0 -0.8
comp=Z,1.8nm,0.9s,baz=91,slow=4.8,SNR=8.3
TCUT Toone Canyon 55.73 302 eP P 11 30 16.5 +0.1
comp=Z,24nm,1.0s
YKW3 Yellowknife Ar 55.73 328 eP P 11 30 15.1 -0.6
comp=Z,0.2nm,1.1s
HWUT Hardware Ranch 55.75 302 eP P 11 30 15.8 -0.7
comp=Z,28nm,1.1s
DAU Daniels Canyon 55.76 301 eP P 11 30 17.2 +0.5
DAU pmax pmax
comp=Z,16nm,1.0s
DAU Daniels Canyon 55.76 301 eP P 11 30 17.2 +0.5
comp=Z,16nm,1.0s
W18A Petrified Fore 55.80 294 ⇓P P 11 30 17.7 +0.8
baz=56
JLU Jordanelle 55.87 301 eP P 11 30 17.4 +0.1
comp=Z,29nm,1.1s
TMUT Trail Mountain 55.96 299 eP P 11 30 18.9 +0.7
comp=Z,34nm,1.3s
CTU Camp Tracy 56.07 301 eP P 11 30 18.8 0.0
comp=Z,15nm,1.1s
MCMT McKenzie Canyo 56.08 306 eP P 11 30 20.0 +1.1
comp=Z,5.7nm,1.5s
X18A Snowflake 56.12 294 ⇑P P 11 30 19.9 +0.7
baz=56
WALA Waterton Lakes 56.16 311 eP P 11 30 16.0 -3.2
comp=Z,1.8nm,1.7s
IDI Anoyia 56.39 65 P P 11 30 20.7 -0.2
comp=Z,10nm,0.9s,baz=36,slow=7.4,SNR=3.6
SWMT Swartz Lake 56.44 310 eP P 11 30 20.8 -0.4
comp=Z,11nm,1.1s
319A Douglas 56.45 290 ⇑P P 11 30 22.1 +0.6
baz=56
NLU North Lily Min 56.47 300 eP P 11 30 22.2 +0.5
comp=Z,40nm,1.3s
MSO Missoula 56.51 309 ⇑P P 11 30 21.8 +0.1
baz=56
KIEV Kiev 56.54 46 eP P 11 30 20.7 -1.0
KIEV pmax pmax
comp=Z,40nm,1.6s
KIEV Kiev 56.54 46 eP P 11 30 20.6 -1.0
comp=Z,40nm,1.6s
AK01 Malin Array Si 56.55 46 eP P 11 30 22.4 +0.7
AK02 Malin Array Si 56.55 47 eP P 11 30 20.4 -1.3
AKASG Malin Array Be 56.55 46 P P 11 30 20.4 -1.4
comp=Z,4.0nm,0.7s,baz=276,slow=6.3,SNR=26
AKASG LR LR 11 52 59.3
comp=Z,210nm,18.4s,baz=270,slow=34
AKBB Malin Array Si 56.55 46 eP P 11 30 21.2 -0.6
AKBB Malin Array Si 56.55 46 eP P 11 30 21.2 -0.6
JOF Joensuu 56.81 32 eP P 11 30 21.5 -1.9
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 56.81 32 ep P 11 30 21.5 -1.9
comp=Z,5.1nm,0.6s
MVU Marysvale 56.90 299 eP P 11 30 25.6 +0.8
comp=Z,20nm,1.1s
BSMT Bassoo Peak 56.91 310 eP P 11 30 24.4 -0.2
comp=Z,6.2nm,1.0s
DUG Dugway 56.97 301 eP P 11 30 25.0 -0.1
DUG pmax pmax
comp=Z,28nm,1.1s
DUG Dugway 56.97 301 eP P 11 30 25.0 -0.1
comp=Z,28nm,1.1s
DUG Dugway 56.97 301 ⇑P P 11 30 25.9 +0.8
baz=57,SNR=21
WUAZ Wupatki 56.99 295 eP P 11 30 26.5 +1.1
comp=Z,24nm,1.3s
WUAZ Wupatki 56.99 295 ⇓P P 11 30 26.3 +0.9
baz=57,SNR=14
X16A Lo Mia Camp, P 57.34 294 ⇓P P 11 30 28.8 +0.9
baz=57,SNR=8.8
HLID Hailey 57.43 305 eP P 11 30 28.3 0.0
comp=Z,12nm,1.4s
HLID Hailey 57.43 305 ⇓P P 11 30 28.6 +0.3
baz=57
CPUP Villa Florida 57.44 195 P P 11 30 27.4 -0.8
comp=Z,0.6nm,0.4s,baz=320,slow=7.9,SNR=2.6
U15A North Rim 57.48 296 ⇓P P 11 30 29.8 +0.9
baz=57,SNR=9.8
APA Apatity 57.66 26 eP P 11 30 31.0 +1.7
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,400nm,15.0s
LVC Limon Verde 57.77 209 eP P 11 30 30.9 0.0
ARUT Antelope Range 58.02 298 eP P 11 30 33.5 +0.9
ARUT pmax pmax
comp=Z,302nm,1.1s
ARUT Antelope Range 58.02 298 eP P 11 30 33.5 +0.9
comp=Z,302nm,1.1s
LVZ Lovozero 58.13 26 eP P 11 30 32.0 -0.7
LVZ pmax pmax
comp=Z,60nm,1.5s
LVZ Lovozero 58.13 26 eP P 11 30 32.0 -0.7
comp=Z,60nm,1.5s
NEW Newport 58.38 311 eP P 11 30 34.8 0.0
NEW Newport 58.38 311 P P 11 30 34.4 -0.4
comp=Z,8.8nm,1.0s,baz=86,slow=7.0,SNR=15
NEW Newport 58.38 311 eP P 11 30 34.8 0.0
NEW Newport 58.38 311 ⇑P P 11 30 35.1 +0.3
baz=58
MFID Camas Ranch 58.46 305 eP P 11 30 35.9 +0.4
comp=Z,25nm,1.1s
Y14A Wickenburg 58.72 294 ⇓P P 11 30 38.1 +0.7
baz=59,SNR=9.9
W13A Hualapai Mount 59.08 295 ⇓P P 11 30 40.8 +0.7
baz=59,SNR=7.4
214A Organ Pipe Nat 59.15 292 eP P 11 30 41.2 +0.8
comp=Z,14nm,1.3s
214A Organ Pipe Nat 59.15 292 ⇑P P 11 30 41.4 +1.0
baz=59,SNR=5.9
R11A Troy Canyon, C 59.51 299 eP P 11 30 43.4 +0.5
comp=Z,15nm,1.3s
R11A Troy Canyon, C 59.51 299 ⇓P P 11 30 43.2 +0.2
baz=59,SNR=11
PDMCI Parker Dam,Lak 59.51 294 ⇓P P 11 30 43.2 +0.4
baz=60
113A Mohawk Valley, 59.67 293 ⇓P P 11 30 44.6 +0.7
baz=60
TMCR Tamitsa 59.74 30 eP P 11 30 44.7 +0.9
TMCR e 11 31 30.6
TMCR e 11 32 56.4
TMCR pmax pmax
comp=Z,20nm,1.3s
Y12C Blythe 59.98 294 ⇓P P 11 30 46.8 +0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=60						
LDFC	**Landfair**	**60.05**	**296**	*e*P	**P**	**11 30 48.0**	**+1.4**
	comp=Z,12nm,1.1s						
OBN	**Obninsk**	**60.28**	**41**	*i* P	**P**	**11 30 48.2**	**+0.5**
OBN				*i*		11 31 35.3	
OBN				pmax	pmax		
	comp=Z,60nm,1.7s						
OBN				MLR	MLR		
	comp=Z,68nm,15.0s						
OBN	**Obninsk**	**60.28**	**41**	P	**P**	**11 30 47.7**	**0.0**
	comp=Z,8.7nm,0.3s,baz=238,slow=8.1,SNR=8.3						
IRM	**Iron Mountain**	**60.35**	**295**	⇓P	**P**	**11 30 49.3**	**+0.7**
	baz=60,SNR=5.4						
GLA	**Glamis**	**60.43**	**293**	*e*P	**P**	**11 30 50.3**	**+1.1**
GLA				pmax	pmax		
	comp=Z,19nm,1.3s						
GLA	**Glamis**	**60.43**	**293**	*e*P	**P**	**11 30 50.3**	**+1.1**
	comp=Z,19nm,1.3s						
GLA	**Glamis**	**60.43**	**293**	⇓P	**P**	**11 30 49.7**	**+0.4**
	baz=60						
GMRC	**Granite Mounta**	**60.57**	**295**	⇓P	**P**	**11 30 50.4**	**+0.2**
	baz=60,SNR=7.5						
TUQ	**Turquoise Moun**	**60.58**	**296**	⇑P	**P**	**11 30 50.5**	**+0.2**
	baz=60						
WVOR	**Wild Horse Val**	**60.70**	**305**	*e*P	**P**	**11 30 51.2**	**+0.2**
WVOR				pmax	pmax		
	comp=Z,11nm,1.0s						
WVOR	**Wild Horse Val**	**60.70**	**305**	*e*P	**P**	**11 30 51.2**	**+0.2**
	comp=Z,12nm,1.0s						
SHOC	**Shoshone**	**60.72**	**297**	⇓P	**P**	**11 30 50.9**	**-0.2**
	baz=61						
BC3	**Big Chuckawall**	**60.75**	**294**	⇓P	**P**	**11 30 51.3**	**-0.1**
	baz=61						
TPH	**Tonopah**	**60.82**	**299**	*e*P	**P**	**11 30 52.5**	**+0.5**
TPH				pmax	pmax		
	comp=Z,18nm,1.2s						
TPH	**Tonopah**	**60.82**	**299**	*e*P	**P**	**11 30 52.5**	**+0.5**
	comp=Z,18nm,1.2s						
KLMR	**Klimovskoe**	**60.87**	**34**	*e*P	**P**	**11 30 50.3**	**-1.3**
KLMR				pmax	pmax		
	comp=Z,44nm,1.3s						
FURC	**Furnace Creek,**	**61.01**	**298**	⇓P	**P**	**11 30 52.9**	**-0.1**
	baz=61						
BELC	**Belle Mtn. Jos**	**61.07**	**295**	⇑P	**P**	**11 30 53.9**	**+0.2**
	baz=61						
SWSC	**Sam W. Stewart**	**61.24**	**293**	⇓P	**P**	**11 30 55.4**	**+0.8**
	baz=61						
GSC	**Goldstone**	**61.31**	**296**	⇑P	**P**	**11 30 55.7**	**+0.5**
	baz=61						
NV11	**Mina Array Sit**	**61.43**	**300**	*e*P	**P**	**11 30 56.0**	**-0.1**
NVAR	**Mina Array Bea**	**61.54**	**300**	P	**P**	**11 30 56.7**	**-0.2**
	comp=Z,5.5nm,0.9s,baz=72,slow=5.7,SNR=30						
NVAR				LR	LR	11 56 19.3	
	comp=Z,263nm,20.1s,baz=290,slow=35						
PFO	**Pinyon Flat Ob**	**61.56**	**294**	⇓P	**P**	**11 30 57.3**	**+0.3**
	baz=62						
DAC	**Darwin (Calif)**	**61.63**	**298**	*e*P	**P**	**11 30 58.6**	**+1.1**
DAC				pmax	pmax		
	comp=Z,14nm,1.1s						
DAC	**Darwin (Calif)**	**61.63**	**298**	*e*P	**P**	**11 30 58.6**	**+1.1**
	comp=Z,14nm,1.1s						
BBRC	**Big Bear Solar**	**61.72**	**295**	⇑P	**P**	**11 30 59.0**	**+0.8**
	baz=62						
MONP	**Monument Peak**	**61.76**	**294**	⇓P	**P**	**11 30 58.9**	**+0.5**
	baz=62						
BRTR	**Keskin Array B**	**61.90**	**58**	P	**P**	**11 30 58.6**	**-0.6**
	comp=Z,4.8nm,0.8s,baz=276,slow=4.5,SNR=22						
BRTR				LR	LR	11 56 15.4	
	comp=Z,66nm,20.2s,baz=283,slow=35						
I05D	**Terrebonne, OR**	**62.11**	**307**	⇑P	**P**	**11 31 00.9**	**+0.5**
	baz=62						
BFSC	**Mount Baldy Ra**	**62.31**	**295**	⇓P	**P**	**11 31 02.8**	**+0.8**
	baz=62						
EDW2	**Edwards Air Fo**	**62.36**	**296**	⇓P	**P**	**11 31 03.2**	**+0.9**
	baz=62,SNR=5.2						
WAKR	**Walker**	**62.37**	**301**	*e*P	**P**	**11 31 04.2**	**+1.8**
	comp=Z,11nm,1.1s						
ISA	**Isabella**	**62.49**	**297**	*e*P	**P**	**11 31 04.8**	**+1.6**
ISA				pmax	pmax		
	comp=Z,13nm,1.2s						
ISA	**Isabella**	**62.49**	**297**	*e*P	**P**	**11 31 04.8**	**+1.6**
	comp=Z,13nm,1.2s						
ISA	**Isabella**	**62.49**	**297**	⇑P	**P**	**11 31 04.3**	**+1.1**
	baz=62,SNR=6.8						
VSR	**Storozhevoye**	**62.63**	**45**	⇓*i*P	**P**	**11 31 04.0**	**+0.3**
VSR				pmax	pmax		
	comp=Z,22nm,1.0s						
VORD	**Divnogorie**	**62.77**	**45**	*e*P	**P**	**11 31 04.0**	**-0.6**
VORD				pmax	pmax		
	comp=N,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
RCTC	**Rector, Farmer**	**62.88**	**298**	⇓P	**P**	**11 31 06.0**	**+0.4**
	baz=63						
INK	**Inuvik**	**63.00**	**335**	P	**P**	**11 31 05.7**	**-0.1**
	comp=Z,18nm,0.9s,baz=67,slow=8.6,SNR=51						
PRGR	**Permogore**	**63.60**	**32**	*e*P	**P**	**11 31 08.8**	**-1.1**
VRHR	**Novokhopersk**	**64.16**	**44**	*e*P	**P**	**11 31 12.7**	**-1.1**
VRHR				pmax	pmax		
	comp=N,20nm,1.0s						
VRHR				pmax	pmax		
	comp=E,40nm,1.0s						
VRHR				pmax	pmax		
	comp=Z,20nm,1.0s						
EIL	**Elat**	**66.22**	**68**	P	**P**	**11 31 27.5**	**0.0**
	comp=Z,7.3nm,0.8s,baz=330,slow=2.3,SNR=11						
DAWY	**Dawson**	**66.47**	**332**	*e*P	**P**	**11 31 28.4**	**-0.2**
ASF	**Jabal al Asfar**	**66.86**	**65**	P	**P**	**11 31 31.5**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=270,slow=18,SNR=3.8						
KIV	**Kislovodsk**	**67.02**	**51**	*c i* P	**P**	**11 31 33.5**	**+0.9**
KIV				*i*		11 32 01.4	
KIV				pmax	pmax		
	comp=Z,40nm,1.7s						
KBZ	**Khabaz**	**67.24**	**52**	P	**P**	**11 31 34.7**	**+0.9**
	comp=Z,6.1nm,1.0s,baz=239,slow=13,SNR=5.8						
ZEI	**Tsey**	**68.26**	**52**	*e*P	**P**	**11 31 39.5**	**-1.0**
ZEI				pmax	pmax		
	comp=Z,15nm,1.0s						
ILAR	**Eielson Array**	**69.20**	**334**	P	**P**	**11 31 46.1**	**+0.3**
	comp=Z,6.6nm,1.0s,baz=64,slow=4.2,SNR=38						
ILAR				LR	LR	12 01 45.1	
	comp=Z,356nm,19.2s,baz=100,slow=36						
COLA	**College**	**69.53**	**334**	⇑*i*P	**P**	**11 31 48.4**	**+0.7**
COLA				pmax	pmax		
	comp=Z,59nm,1.0s						
COLA	**College**	**69.53**	**334**	*e*P	**P**	**11 31 48.4**	**+0.7**
	comp=Z,26nm,1.2s						
GNI	**Garni**	**69.81**	**55**	*e*P	**P**	**11 31 51.4**	**+1.2**
GNI				pmax	pmax		
	comp=Z,72nm,1.5s						
GNI	**Garni**	**69.81**	**55**	*e*P	**P**	**11 31 51.4**	**+1.2**
	comp=Z,72nm,1.5s						
KTH	**Kantishna Hill**	**71.34**	**333**	*e*P	**P**	**11 31 59.5**	**+0.6**
	comp=Z,32nm,1.1s						
PMR	**Palmer**	**71.56**	**331**	*e*P	**P**	**11 32 00.1**	**-0.1**
PMR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PMR	**Palmer**	**71.56**	**331**	*e*P	**P**	**11 32 00.1**	**-0.1**
	comp=Z,7.6nm,0.8s						
H09W1	**TRISTAN DA CUN**	**72.35**	**155**	T	T	12 51 07.4	
	SNR=8.4						
SVE	**Sverdlovsk**	**72.50**	**34**	*e*P	**P**	**11 32 07.6**	**+1.7**
SVE				pmax	pmax		
	comp=Z,30nm,1.4s						
AKTO	**Aktyubinsk**	**74.06**	**41**	P	**P**	**11 32 15.2**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=316,slow=6.3,SNR=11						
PLCA	**Paso Flores**	**74.66**	**202**	P	**P**	**11 32 19.1**	**+0.3**
	comp=Z,8.3nm,1.1s,baz=26,slow=8.0,SNR=10						
ABKAR	**Akbulak array**	**75.72**	**41**	*e*P	**P**	**11 32 26.5**	**+1.6**
	comp=Z,2.1nm,0.8s						
TSUM	**Tsumeb**	**75.83**	**122**	LR	LR	12 03 26.1	
	comp=Z,42nm,18.4s,baz=326,slow=34						
TIXI	**Tiksi**	**78.74**	**3**	⇑*i*P	**P**	**11 32 42.0**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TIXI	**Tiksi**	**78.74**	**3**	*e*P	**P**	**11 32 41.9**	**+0.5**
	comp=Z,27nm,1.4s						
TIXI				*e*PcP	**PcP**	**11 32 48.8**	**-1.5**
BRVK	**Borovoye**	**79.21**	**34**	*d i*P	**P**	**11 32 45.0**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,13nm,1.7s						
BRVK	**Borovoye**	**79.21**	**34**	*e*P	**P**	**11 32 44.6**	**+0.3**
	comp=Z,26nm,1.5s						
BVAR	**Borovoye Array**	**79.28**	**34**	P	**P**	**11 32 45.1**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=294,slow=4.7,SNR=8.9						
BILL	**Bilibino**	**80.15**	**349**	*c i*P	**P**	**11 32 48.7**	**-0.5**
BILL				*i*		11 32 55.9	
BILL				pmax	pmax		
	comp=Z,13nm,1.0s						
BILL				MLR	MLR		
	comp=Z,119nm,18.0s						
BILL	**Bilibino**	**80.15**	**349**	*e*P	**P**	**11 32 49.3**	**+0.1**
	comp=Z,31nm,1.4s						
LSZ	**Lusaka**	**81.72**	**113**	*e*P	**P**	**11 32 59.2**	**+0.7**
LSZ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
LSZ	**Lusaka**	**81.72**	**113**	*e*P	**P**	**11 32 59.2**	**+0.7**
	comp=Z,8.9nm,1.2s						
KMBO	**Kilima Mbogo**	**81.94**	**96**	*i* P	**P**	**11 33 02.7**	**+2.8**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KMBO	**Kilima Mbogo**	**81.94**	**96**	P	**P**	**11 33 00.8**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=286,slow=7.5,SNR=3.7						
KMBO				LR	LR	12 09 39.6	
	comp=Z,342nm,18.2s,baz=280,slow=36						
NVS	**Novosibirsk**	**83.91**	**28**	*e*P	**P**	**11 33 09.9**	**+0.8**
KURK	**Kurchatov**	**84.71**	**33**	P	**P**	**11 33 13.4**	**+0.1**
KURK	**Kurchatov**	**84.71**	**33**	P	**P**	**11 33 13.4**	**+0.1**
KURBB	**Kurchatov Arra**	**84.72**	**33**	P	**P**	**11 33 13.4**	**0.0**
	comp=Z,3.5nm,0.9s,baz=306,slow=5.8,SNR=6.3						
ZALV	**Zalesovo Beam**	**85.19**	**28**	P	**P**	**11 33 16.3**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=298,slow=6.4,SNR=5.1						
KKAR	**Karatay Array**	**85.21**	**42**	*e*P	**P**	**11 33 16.6**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KKAR	**Karatay Array**	**85.21**	**42**	*e*P	**P**	**11 33 16.6**	**+0.6**
	comp=Z,4.5nm,1.0s						
UOSS	**Wadi Hilu**	**85.24**	**64**	P	**P**	**11 33 18.5**	**+2.0**
	comp=Z,82nm,0.7s,SNR=5.1						
LBTB	**Lobatse**	**85.25**	**122**	LR	LR	12 03 46.3	
	comp=Z,147nm,19.9s,baz=295,slow=30						
SEY	**Seymchan**	**86.87**	**353**	*e*P	**P**	**11 33 23.7**	**-0.1**
FRU	**Bishkek**	**87.75**	**41**	*e*P	**P**	**11 33 30.0**	**+1.5**
FRU				*e*		11 33 36.0	
AAK	**Ala-Archa**	**87.81**	**41**	⇓*e*P	**P**	**11 33 29.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,11nm,1.7s						
AAK	**Ala-Archa**	**87.81**	**41**	P	**P**	**11 33 29.1**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=3.8,slow=5.6,SNR=3.8						
TKM2	**Tokmak 2**	**88.25**	**40**	*e*P	**P**	**11 33 32.1**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,11nm,1.6s						
TKM2	**Tokmak 2**	**88.25**	**40**	*e*P	**P**	**11 33 32.1**	**+1.0**
	comp=Z,11nm,1.6s						
YAK	**Yakutsk**	**88.37**	**4**	*e*P	**P**	**11 33 31.0**	**0.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
KSH	**Kashi**	**90.66**	**43**	*e*P	P	11 33 45.6	+3.2
KSH				*e*sP	sP	11 33 47.0	-0.8
KSH				*e*PP	**PP**	**11 37 16.8**	**-0.1**
KSH				SKS	**SKSac**	**11 44 14.9**	**+0.7**
KSH				*e*S	**S**	**11 44 19.0**	**+0.6**
KSH				SS	**SS**	**11 50 42.9**	**+4.1**
KSH				pmax	pmax		
	comp=E,31nm,2.0s						
KSH				LR	LR		
	comp=E,110nm,5.8s						
KSH				LR	LR		
	comp=E,77nm,4.7s						
KSH				LR	LR		
	comp=E,140nm,6.7s						
FX1	**Attu Island--F**	**91.96**	**339**	LR	LR	12 17 38.0	
	comp=E,83nm,19.1s,baz=64,slow=37						
WMQ	**Urumqi**	**93.94**	**33**	*e*P	**P**	**11 33 57.2**	**-0.2**
WMQ				pP	**pP**	**11 34 02.0**	**+0.6**
WMQ				sP	**sP**	**11 34 04.2**	**+1.4**
WMQ				PP	**PP**	**11 37 45.9**	**+3.5**
WMQ				SKS	**SKSac**	**11 44 29.9**	**-2.4**
WMQ				S	**S**	**11 45 03.7**	**-3.8**
WMQ				sS	**sS**	**11 45 11.9**	**-2.2**
WMQ				SS	**SS**	**11 51 26.9**	**+1.5**
WMQ				pmax	pmax		
	comp=E,8.0nm,1.2s						
WMQ				pmax	pmax		
	comp=E,110nm,4.6s						
WMQ				LR	LR		
	comp=E,73nm,21.2s						
WMQ				LR	LR		
	comp=E,85nm,20.8s						
MSEY	**Mahe Island**	**99.50**	**90**	*i* P	**Pdif**	**11 34 22.6**	**-0.4**
HHC	**Hu-ho-hao-te**	**105.88**	**20**	Pdif	**Pdif**	**11 34 46.0**	**-5.1**
HHC				S	**Sdif**	**11 46 38.3**	**-10**
HHC				AMB	AMB		
	comp=E,140nm,10.8s						
HHC				LR	LR		
	comp=E,360nm,12.3s						
HHC				LR	LR		
	comp=E,350nm,16.3s						
HHC				LR	LR		
	comp=E,440nm,11.1s						
CD2	**Chengdu**	**111.83**	**31**	PKP	**PKiKP**	**11 39 13.6**	**-1.3**
CD2				PP	**PP**	**11 39 59.2**	**+2.8**
CD2				PKS	**PKSdf**	**11 42 49.1**	**-2.6**
CD2				SKS	**SKSdf**	**11 46 23.5**	**-3.6**
CD2				SKKS	SKKSac	11 46 51.9	-8.4
CD2				SS	**SS**	**11 55 30.4**	**-1.8**
CD2				AMB	AMB		
	comp=E,280nm,6.5s						
CD2				LR	LR		
	comp=E,480nm,5.3s						
CD2				LR	LR		
	comp=E,470nm,8.3s						
CRZF	**Crozet Islands**	**113.91**	**131**	SS	SS	11 55 44.0	-18
CRZF				R		12 15 00.0	
KMI	**Kunming**	**116.24**	**35**	PKP	**PKPdf**	**11 39 20.1**	**-3.6**
GYA	**Guiyang**	**116.95**	**31**	Pdif	**Pdif**	**11 35 40.8**	**+0.2**
GYA				PKP	**PKPdf**	**11 39 24.0**	**-0.9**
GYA				PP	**PP**	**11 40 36.4**	**+3.6**
GYA				AMB	AMB		
	comp=E,120nm,7.8s						
CMAR	**Chiang Mai Arr**	**119.56**	**42**	PKP	**PKPdf**	**11 39 29.4**	**-0.5**
	comp=E,0.5nm,0.5s,baz=280,slow=4.3,SNR=4.3						
URZ	**Urewera**	**146.03**	**245**	PKPbc	**PKPbc**	**11 40 19.3**	**0.0**
	comp=E,14nm,0.9s,baz=221,slow=6.6,SNR=5.0						
DZM	**Mont Dzumac**	**152.65**	**279**	PKPbc	**PKPbc**	**11 40 37.2**	**+0.4**
	comp=E,21nm,1.1s,baz=72,slow=13,SNR=5.2						
JAY	**Jayapura**	**152.74**	**352**	PKPab	**PKPab**	**11 40 45.0**	**-2.6**
	baz=315,slow=1.4						
WRA	**Warramunga Arr**	**169.93**	**15**	PKP	**PKPdf**	**11 40 46.8**	**-1.0**
	comp=E,1.3nm,1.1s,baz=334,slow=1.4,SNR=3.6						
WRA				PKPab	**PKPab**	**11 42 01.8**	**-0.4**
	comp=E,0.6nm,0.8s,baz=351,slow=5.3,SNR=3.9						
WRA				PP	**PP**	**11 45 49.2**	**-1.8**
	comp=E,0.4nm,0.8s,baz=352,slow=5.1,SNR=3.3						
ASAR	**Alice Springs**	**173.30**	**27**	PKP	**PKPdf**	**11 40 48.1**	**-1.2**
	comp=E,1.3nm,0.9s,baz=210,slow=0.3,SNR=10						
ASAR				PKPab	**PKPab**	**11 42 17.3**	**+0.1**
	comp=E,0.9nm,1.0s,baz=336,slow=4.3,SNR=3.6						
ASAR				PP	**PP**	**11 46 07.8**	**-0.2**
	comp=E,1.6nm,1.1s,baz=340,slow=4.8,SNR=4.6						
STKA	**Stephens Creek**	**175.63**	**239**	PKP	**PKPdf**	**11 40 48.9**	**-0.9**
	comp=E,1.6nm,0.8s,baz=354,slow=4.6,SNR=3.9						

ISC 12 12:00:40.3±1.3,**48.87N**±0.06×**20.95E**±0.04,**h10**km±11km,
n5,σ0.40/10,**Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRVS	**Cervenica-Dubn**	**0.34**	**85**	*e*PG	**Pg**	**12 00 46.8**	**-0.3**
CRVS				*e*SG	**Sg**	**12 00 51.7**	**+0.1**
STHS	**Stebnicka Huta**	**0.58**	**19**	*e*PG	**Pg**	**12 00 51.8**	**+0.2**
STHS				*e*SG	**Sb**	**12 01 00.6**	**-0.3**
NIE	**Niedzica**	**0.69**	**323**	*e*Pg	**Pn**	**12 00 56.5**	**+0.3**
NIE				*e*Sg	**Sg**	**12 01 02.4**	**-0.3**
KOLS	**Kolonicke sedl**	**0.88**	**85**	*e*PG	**Pg**	**12 00 57.6**	**+0.4**
KOLS				*e*SG	**Sn**	**12 01 11.3**	**-0.2**
VYHS	**Vyhne**	**1.45**	**256**	*e*PG	**Pg**	**12 01 08.4**	**+0.2**
VYHS				*e*SG	**Sb**	**12 01 25.4**	**-0.5**

NEIC ***12*** *12:03:38.8±0.3, 33.62S×68.79W, h148km±2km, mb5.6/152, MW5.8, MW5.8, MW5.8, MD5.6(SJA), Error ellipse: s-maj=4.5km s-min=3.2km az=79.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^17 Nm; Mrr-1.28; Mθθ4.04; Mφφ-2.76; Mrθ1.21; Mθφ-2.57; Mφr-4.22; Best double couple: M0 6.20000×10^17 NP1:φs330.00000°, δ81.00000°, λ-46.00000°. NP2:φs69.00000°, δ45.00000°, λ-167.00000°. Principal axes: T 5.9600, Plg22.0000°, Azm27.0000°; N 0.4900, Plg43.0000°, Azm141.0000°; P -6.4500, Plg37.0000°, Azm278.0000°;*

NEIC Felt [IV] at Mendoza and [III] at San Juan. Also felt at Alta Gracia, La Rioja, San Rafael and Santa Rosa. Felt [IV] at Los Andes, San Antonio, Santiago, Valparaiso, Villa Alemana, Vina del Mar and Zapallar; [III] at Algarrobo, Cabildo, Canela, Coquimbo, Curico, Illapel, La Serena, Rancagua and Salamanca; [II] at Concepcion, Freirina, San Fernando, Talca and Vallenar, Chile. Also felt at Buin, Calera, Colina, Copiapo, La Ligua, Ovalle and San Bernardo.

SJA ***12*** *12:03:38.2±0.8, 33.65S×68.94W, h184km±6km, ML5.9, MW4.9, Fault plane solution: NP1:φs117.10000°, δ37.90000°, λ-120.00000°.*

GCMT ***12*** *12:03:38.8±0.1, 33.63S×69.02W, h174km, MW5.8/126, Moment Tensor Solution. s119,c235; s126,c344; Duration: 2.0s Moment tensor: Scale 10^17 Nm; Mrr-2.40±.05; Mθθ5.73±.06; Mφφ-3.33±.07; Mrθ0.01±.04; Mθφ-2.93±.06; Mφr-3.98±.05; Best double couple: M0 7.00600×10^17 NP1:φs325.00000°, δ70.00000°, λ-35.00000°. NP2:φs69.00000°, δ57.00000°, λ-156.00000°. Principal axes: T 6.7600, Plg8.0000°, Azm19.0000°; N 0.4920, Plg50.0000°, Azm119.0000°; P -7.2520, Plg39.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

GUC ***12*** *12:03:39.2±0.4, 33.64S×69.48W, h209km±5km, ML6.2*

ISCJB ***12*** *12:03:39.4±0.2, 33.60S±0.02×68.85W±0.03, h163km±1km, mb5.5/206, Error ellipse: s-maj=4.0km s-min=3.5km az=11.9*

BJI ***12*** *12:03:39.9, 33.60S×68.60W, h155km, mB5.4/36*

MOS ***12*** *12:03:39.6±1.0, 33.58S×68.92W, h160km, mb5.5/42, Error ellipse: s-maj=10.6km s-min=6.3km az=97.6*

NEIC ***12*** *12:03:40.0±0.0, 33.49S×68.56W, h144km Best double couple: NP1:φs331.00000°, δ75.00000°, λ-33.00000°. NP2:φs71.00000°, δ56.00000°, λ-161.00000°. Principal axes: T 5.8500, Plg11.0000°, Azm25.0000°; N -0.6500, Plg52.0000°, Azm131.0000°; P -5.2000, Plg34.0000°, Azm286.0000°;*

IDC ***12*** *12:03:41.7±0.5, 33.57S×68.77W, h172km±4km, mb5.3/31, mb1 5.3/34, mb1mx5.3/34, mbtmp5.8/34, MS4.4/5, Ms1 4.4/5, ms1mx4.1/18 Error ellipse: s-maj=10.9km s-min=6.9km az=86.0*

NEIC ***12*** *12:03:56.2±0.0, 33.54S×68.27W, h113km, Moment Tensor Solution. s128 Moment tensor: Scale 10^17 Nm; Mrr-3.75; Mθθ5.00; Mφφ-1.24; Mrθ0.50; Mθφ-1.89; Mφr-3.70; Best double couple: M0 6.10000×10^17 NP1:φs318.00000°, δ64.00000°, λ-50.00000°. NP2:φs76.00000°, δ46.00000°, λ-141.00000°. Principal axes: T 5.8000, Plg10.0000°, Azm20.0000°; N 0.6600, Plg34.0000°, Azm117.0000°; P -6.4500, Plg53.0000°, Azm276.0000°;*

ISC 12 12:03:41.3±0.3,**33.60S**±0.03×**68.90W**±0.04,**h170**km±2km,
h169km**:pP-P,n1198,**σ1.23/1295,**mb5.5**/207,**297C-239D,**
Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**0.52**	**6**	⇓*i*P	**Pn**	**12 04 04.1**	**-1.1**
ARCO	**CERRO ARCO**	**0.76**	**358**	*i* P	**Pn**	**12 04 05.3**	**-1.2**
ARCO				*i* S	**Sn**	**12 04 26.1**	**+0.2**
ARCO				IAML		12 04 35.8	
	comp=Z,28μm,0.6s						
ASAL	**Salagasta**	**1.01**	**3**	*i* P	**Pn**	**12 04 07.2**	**-1.0**
FCH	**Farellones**	**1.20**	**283**	⇑*e*P	Pn	12 04 19.2	+9.3
FCH				*e*S	Sn	12 04 45.3	+13
FCH	**Farellones**	**1.20**	**283**	P	Pn	12 04 19.2	+9.3
LACH	**Col Las Americ**	**1.38**	**276**	*e*P	**Pn**	**12 04 09.6**	**-1.7**
LACH				*e*S	**Sn**	**12 04 33.0**	**-1.3**
LACH	**Col Las Americ**	**1.38**	**276**	*e*P	**Pn**	**12 04 09.6**	**-1.7**
LACH				*e*S	**Sn**	**12 04 33.0**	**-1.3**
CLCH	**Cerro Calan**	**1.39**	**278**	⇑*e*P	**Pn**	**12 04 10.1**	**-1.3**
CLCH				*e*S	**Sn**	**12 04 34.3**	**-0.2**
CLCH				AML	AML	12 04 37.6	
	comp=E,109μm,0.3s						
CLCH	**Cerro Calan**	**1.39**	**278**	⇑*e*P	**Pn**	**12 04 10.1**	**-1.3**
CLCH				S	**Sn**	**12 04 34.3**	**-0.2**
AUSP	**Uspallata**	**1.44**	**343**	*i* P	**Pn**	**12 04 11.3**	**-0.8**
ANTU	**Antumapu**	**1.45**	**271**	⇓*e*P	**Pn**	**12 04 10.1**	**-1.8**
ANTU				*i* S	**Sn**	**12 04 33.4**	**-2.2**
ANTU				AML	AML	12 04 36.0	
	comp=E,135μm,0.3s						
ANTU	**Antumapu**	**1.45**	**271**	⇓*e*P	**Pn**	**12 04 10.1**	**-1.8**
ANTU				*i* S	**Sn**	**12 04 33.4**	**-2.2**
SAN	**Santiago**	**1.48**	**275**	⇓*i*P	**Pn**	**12 04 10.3**	**-2.0**
SAN				*i* S	**Sn**	**12 04 33.8**	**-2.3**
SAN	**Santiago**	**1.48**	**275**	⇓*i*P	**Pn**	**12 04 10.3**	**-2.0**
SAN				*i* S	**Sn**	**12 04 33.8**	**-2.3**
SAN	**Santiago**	**1.48**	**275**	⇓*i*P	**Pn**	**12 04 10.3**	**-2.0**
SAN				*i* S	**Sn**	**12 04 33.8**	**-2.3**
CACH	**El Canelo**	**1.51**	**250**	*e*P	**Pn**	**12 04 10.6**	**-2.0**
CACH	**El Canelo**	**1.51**	**250**	*e*P	**Pn**	**12 04 10.6**	**-2.0**
PEL	**Peldehue**	**1.57**	**286**	⇓*i*P	**Pn**	**12 04 11.3**	**-1.8**
PEL				*i* S	**Sn**	**12 04 35.6**	**-2.0**
PEL	**Peldehue**	**1.57**	**286**	⇓*i*P	**Pn**	**12 04 11.2**	**-1.8**
PEL				*i* S	**Sn**	**12 04 35.6**	**-2.0**
PEL				AML	AML	12 04 38.1	
	comp=E,461μm,0.4s						
PEL	**Peldehue**	**1.57**	**286**	⇓*i*P	**Pn**	**12 04 11.2**	**-1.8**
PEL				*i* S	**Sn**	**12 04 35.6**	**-2.0**
JACH	**Jahuel**	**1.69**	**302**	*e*P	Pn	12 04 10.3	-4.2
JACH				*i* S	**Sn**	**12 04 34.5**	**-5.6**
JACH	**Jahuel**	**1.69**	**302**	P	Pn	12 04 10.3	-4.2
JACH				S	**Sn**	**12 04 34.5**	**-5.6**
TACH	**Talagante**	**1.71**	**268**	⇓*i*P	**Pn**	**12 04 11.7**	**-2.7**
TACH	**Talagante**	**1.71**	**268**	⇓*i*P	**Pn**	**12 04 11.7**	**-2.7**
RTCV	**Cerro Valdivia**	**1.76**	**10**	*i* P	**Pn**	**12 04 14.1**	**-1.1**
RTLS	**Leoncito**	**1.83**	**349**	*i* P	**Pn**	**12 04 15.3**	**-0.8**
ROCH	**El Roble**	**1.88**	**289**	⇑*e*P	**Pn**	**12 04 14.2**	**-2.4**
ROCH				*e*S	**Sn**	**12 04 41.0**	**-2.8**
ROCH				AML	AML	12 04 44.0	
	comp=N,220μm,0.5s						
ROCH	**El Roble**	**1.88**	**289**	⇑*e*P	**Pn**	**12 04 14.2**	**-2.4**
ROCH				*e*S	**Sn**	**12 04 41.0**	**-2.8**
ACAN	**Cantantal**	**1.95**	**48**	*i* P	**Pn**	**12 04 16.5**	**-0.7**
CFAA	**Coronel Fontan**	**2.07**	**16**	P	**Pn**	**12 04 17.1**	**-1.3**
	comp=N,458nm,0.3s,baz=197,slow=11,SNR=4810						
CFAA				S	**Sn**	**12 04 46.6**	**-0.6**
	comp=N,3μm,0.3s,baz=326,slow=16,SNR=92						
CFAA	**Coronel Fontan**	**2.07**	**16**	*i* P	**Pn**	**12 04 17.4**	**-1.1**
CFAA				*i* S	**Sn**	**12 04 46.3**	**-0.9**
SJA	**San Juan**	**2.09**	**8**	*i* P	**Pn**	**12 04 18.4**	**-0.3**
SJA				*i* S	**Sn**	**12 04 47.4**	**-0.3**
SJA				IAML		12 04 48.5	
	comp=Z,48μm,0.5s						
LNV	**Longovilo**	**2.12**	**260**	⇑*i*P	Pn	12 04 15.5	-3.5
LNV	**Longovilo**	**2.12**	**260**	⇑*i*P	Pn	12 04 15.5	-3.5
RTLL	**Cerro Villicun**	**2.29**	**9**	*i* P	**Pn**	**12 04 19.8**	**-1.3**
AMOG	**MOGNA**	**2.68**	**7**	*i* P	**Pn**	**12 04 24.8**	**-0.9**
CMCH	**Combarbala**	**3.01**	**323**	*e*P	**Pn**	**12 04 27.8**	**-1.8**
CMCH				*i* S	**Sn**	**12 05 04.5**	**-2.7**
CMCH	**Combarbala**	**3.01**	**323**	*e*P	**Pn**	**12 04 27.8**	**-1.8**
CMCH				*i* S	**Sn**	**12 05 04.5**	**-2.7**
AVFE	**Valle Fertil**	**3.18**	**23**	*i* P	**Pn**	**12 04 30.4**	**-1.3**
AVFE				*i* S	**Sn**	**12 05 09.7**	**-1.3**
AVFE				IAML		12 05 12.2	
	comp=Z,89μm,0.6s						
CTCH	**Constitucion**	**3.38**	**238**	*e*P	Pn	12 04 29.9	-4.2
CTCH	**Constitucion**	**3.38**	**238**	P	Pn	12 04 29.9	-4.2
CANA	**Caviahue**	**4.63**	**202**	*i* P	**Pn**	**12 04 48.0**	**-2.2**
LCO	**Las Campanas**	**4.83**	**341**	⇑*e*P	**Pn**	**12 04 50.9**	**-2.2**
LCO	**Las Campanas**	**4.83**	**341**	P	**Pn**	**12 04 50.9**	**-2.2**
CDCH	**Caldera**	**6.72**	**345**	*e*P	**Pn**	**12 05 15.4**	**-2.3**
CDCH	**Caldera**	**6.72**	**345**	P	**Pn**	**12 05 15.4**	**-2.3**
TRQA	**Tornquist**	**7.16**	**130**	*e*Pn	**Pn**	**12 05 20.6**	**-2.9**
	comp=Z,2μm,1.2s						
PLCA	**Paso Flores**	**7.24**	**190**	*e*P	**Pn**	**12 05 22.1**	**-2.5**
PLCA				*e*		12 06 47.0	
PLCA				pmax	pmax		
	comp=Z,665nm,0.8s						
PLCA	**Paso Flores**	**7.24**	**190**	P	**Pn**	**12 05 22.3**	**-2.3**
	comp=Z,30nm,0.3s,baz=8.9,slow=12,SNR=291						

PLCA Paso Flores 7.24 190 ePn Pn 12 05 22.1 -2.5
comp=Z,665nm,0.8s
PLCA eSn Sn 12 06 47.0 +1.0
H03N1 Juan Fernandez 8.37 268 P Pn 12 05 37.6 -1.6
baz=88,slow=12,SNR=8370
H03N1 S Sn 12 07 01.7 -11
H03N3 Juan Fernandez 8.38 268 P Pn 12 05 37.5 -1.8
baz=88,slow=12,SNR=7414
H03N3 S Sn 12 07 01.9 -11
H03N2 Juan Fernandez 8.38 268 P Pn 12 05 37.8 -1.6
baz=88,slow=12,SNR=7670
H03N2 S Sn 12 07 01.9 -11
PB10 Plate Boundary 10.16 351⇑eP Pn 12 05 58.8 -4.3
CEN1 Los Morros 10.24 353⇓eP Pn 12 05 56.6 -7.7
CEN1 Los Morros 10.24 353 P Pn 12 05 56.6 -7.7
PB06 Plate Boundary 10.87 357⇑eP Pn 12 06 08.9 -3.7
PB06 Plate Boundary 10.87 357 P Pn 12 06 08.9 -3.7
LVC Limon Verde 10.95 360 ePn Pn 12 06 10.6 -3.1
LVC eSn Sn 12 08 12.5 -2.8
PB04 Plate Boundary 11.30 357 eP Pn 12 06 13.4 -4.7
PB04 Plate Boundary 11.30 357 P Pn 12 06 13.4 -4.7
PB07 Plate Boundary 11.86 356⇑eP Pn 12 06 21.1 -4.4
PB07 Plate Boundary 11.86 356 P Pn 12 06 21.1 -4.4
COYC Coyhaique 12.21 191⇑eP Pn 12 06 24.8 -4.7
COYC Coyhaique 12.21 191 P Pn 12 06 24.8 -4.7
CPUP Villa Florida 12.36 57 eP Pn 12 06 26.3 -5.4
CPUP e 12 08 37.3
CPUP pmax pmax
comp=Z,1.0nm,0.8s
CPUP Villa Florida 12.36 57 P Pn 12 06 27.2 -4.5
comp=Z,11nm,0.3s,baz=211,slow=11,SNR=29
CPUP LR LR 12 11 26.9
comp=Z,4μm,19.1s,baz=224,slow=38
CPUP Villa Florida 12.36 57 ePn Pn 12 06 26.3 -5.4
comp=Z,1.0nm,0.8s
CPUP eSn Sn 12 08 37.3 -12
PB01 Plate Boundary 12.52 357 eP Pn 12 06 29.6 -4.2
PB01 Plate Boundary 12.52 357 P Pn 12 06 29.6 -4.2
PATCX Punta Patache 12.78 355⇑eP Pn 12 06 32.0 -5.1
HMBC Humberstone 13.30 356⇑eP Pn 12 06 40.3 -3.5
HMBC Humberstone 13.30 356 P Pn 12 06 40.3 -3.5
CHRN Cochrane 13.84 191 eP Pn 12 06 47.3 -3.0
CHRN Cochrane 13.84 191 P Pn 12 06 47.3 -3.0
PSGC Pisagua 13.99 355⇑eP Pn 12 06 48.1 -4.4
PSGC Pisagua 13.99 355 P Pn 12 06 48.1 -4.4
ARE Arequipa 17.23 352⇑iP Pn 12 07 32.8 +0.6
ARE Arequipa 17.23 352⇑iP Pn 12 07 32.8 +0.6
LPAZ La Paz 17.25 2 eP Pn 12 07 32.8 0.0
LPAZ eS S 12 10 43.4 +0.2
LPAZ pmax pmax
comp=Z,10μm,1.9s
LPAZ La Paz 17.25 2 P Pn 12 07 33.0 +0.1
comp=Z,129nm,0.3s,baz=168,slow=6.9,SNR=1109
LPAZ La Paz 17.25 2 ePn Pn 12 07 32.8 0.0
comp=Z,12μm,1.9s
LPAZ eS S 12 10 43.4 +0.2
SIV San Ignacio 18.90 24 P P 12 07 48.7 -0.4
comp=Z,37nm,0.3s,baz=217,slow=11,SNR=704
USHA Ushuaia 21.23 179 P P 12 08 12.9 -0.8
comp=Z,578nm,0.9s,baz=326,slow=4.1,SNR=90
BB16B Bebedouro 21.91 60⇑iP P 12 08 19.3 -1.9
BB16B i 12 08 26.9
BB16B i 12 08 33.7
BB16B i 12 12 13.6
BB16B i 12 12 22.1
BB16B i 12 13 05.5
BB16B i 12 15 01.1
NNA Nana 22.71 339 eP P 12 08 28.7 -0.1
NNA e 12 12 16.6
NNA pmax pmax
comp=Z,1μm,2.0s
NNA Nana 22.71 339 P P 12 08 29.1 +0.3
comp=Z,76nm,0.6s,baz=180,slow=11,SNR=37
NNA Nana 22.71 339 eP P 12 08 28.7 -0.1
comp=Z,1μm,2.0s
NNA ePcP PcP 12 12 16.6 +1.4
SAML Samuel 25.09 13 eP P 12 08 49.5 -0.9
comp=Z,373nm,0.8s
BDFB Brasilia 25.99 52 P P 12 08 57.3 -1.3
BDFB pmax pmax
comp=Z,362nm,0.9s
BDFB Brasilia 25.99 52 P P 12 08 57.3 -1.3
comp=Z,362nm,0.9s,baz=217,slow=8.5,SNR=251
ATAH Atahualpa 27.77 339 P P 12 09 16.6 +1.8
comp=Z,14nm,0.5s,baz=151,slow=8.1,SNR=15
PMSA Palmer Station 31.34 176 P P 12 09 46.4 +1.0
comp=Z,43nm,0.9s,baz=12,slow=11,SNR=5.9
PMSA Palmer Station 31.34 176 P P 12 09 45.8 +0.5
comp=Z,131nm,1.3s
PTGA Pitinga 33.76 16 P P 12 10 05.9 -1.0
comp=Z,724nm,0.7s,baz=202,slow=10,SNR=955
PTGA Pitinga 33.76 16 eP P 12 10 05.8 -1.1
comp=Z,832nm,0.9s
OTAV Otavalo 34.84 343 eP P 12 10 18.4 +1.7
comp=Z,80nm,1.0s
OTAV eScP ScP 12 16 17.3 +1.8
PAYG Puerto Ayora 38.42 324 eP P 12 10 48.4 +1.9
comp=Z,369nm,1.0s
PAYG ePcP PcP 12 12 57.2 +0.8
PAYG eScP S 12 16 29.5 +0.6
ROSC El Rosal 38.59 351 P P 12 10 50.1 +1.7
comp=Z,80nm,0.6s,baz=176,slow=2.9,SNR=33
ROSC El Rosal 38.59 351 eP P 12 10 50.1 +1.7
ROSC ePcP PcP 12 12 56.9 -0.5
RCBR Riachuelo 41.23 55 eP P 12 11 09.7 -0.1
comp=Z,218nm,1.3s
SDV Santo Domingo 42.28 357 eP P 12 11 17.1 -1.3
comp=Z,234nm,0.8s
SDV eScP ScP 12 16 44.6 +1.0
PCRV Puerto La Cruz 43.72 6 P P 12 11 29.7 -0.1
comp=Z,276nm,0.6s,baz=185,slow=7.0,SNR=89
BCIP Isla Barro Col 43.78 344 eP P 12 11 31.6 +1.3
comp=Z,157nm,0.8s
TPP Pointe-a-Pierr 44.24 11 e P 12 11 36.3 +2.4
TBH Brigand Hill 44.47 11 e P 12 11 37.5 +1.8
TRN Trinidad (W) 44.58 11 e P 12 11 36.5 -0.1
BOT Bacolet 45.19 11 e P 12 11 42.4 +1.0
TPR Prospect 45.20 11 e P 12 11 42.5 +1.0
GRGR Grenville 46.00 10 eP P 12 11 46.7 -1.0
comp=Z,927nm,1.0s
GRW Mount Saint Ca 46.02 10 e P 12 11 48.0 -0.1
JTS JuntasAbangare 46.25 338 P P 12 11 50.9 +1.2
JTS pmax pmax
comp=Z,28nm,0.7s
JTS JuntasAbangare 46.25 338 P P 12 11 50.9 +1.2
comp=Z,28nm,0.7s,baz=161,slow=4.5,SNR=25
JTS JuntasAbangare 46.25 338 eP P 12 11 50.9 +1.2
comp=Z,211nm,1.7s
JTS ePn P 12 11 51.3 +1.6
JTS eScP ScP 12 17 00.3 +0.6
FCV Fort Charlotte 47.06 10 e P 12 11 54.4 -1.6
BHS Barnard House 47.22 10 e P 12 11 55.1 -2.1
SVV Soufriere Volc 47.23 10 e P 12 11 56.0 -1.3
SSV Crater Summit 47.24 10 e P 12 11 57.4 0.0
SLB Belfond 47.75 10 e P 12 12 01.4 0.0
BIM Bigot 48.43 10 eP P 12 12 06.2 -0.3
FDF Fort de France 48.63 10 eP P 12 12 06.8 -1.3
FDF pmax pmax
comp=Z,655nm,0.8s
FDF Fort de France 48.63 10 eP P 12 12 06.9 -1.1
FDF Fort de France 48.63 10 eP P 12 12 06.8 -1.3
comp=Z,655nm,0.8s
FDF eScP ScP 12 17 12.6 +3.0
VNA3 Neumayer Olymp 48.75 158 P P 12 12 08.4 0.0
VNA1 Neumayer--Stat 49.02 157 P P 12 12 10.8 +0.4
BBL Barber's Block 49.36 9 eP P 12 12 11.6 -2.0
VNA2 Neumayer--Watz 49.37 158 P P 12 12 12.3 -0.8
baz=287,slow=8.4
TBG Guadaloupe-3 49.66 9 eP P 12 12 13.9 -1.9
SSG Sans Toucher 49.89 9 eP P 12 12 13.9 -3.8
DEG La Desirade 50.19 10 eP P 12 12 17.7 -2.2
SEG Port Louis 50.22 9 eP P 12 12 18.2 -1.8
SNAA Sanae 50.97 158 P P 12 12 25.1 0.0
SNAA Sanae 50.97 158 eP P 12 12 24.9 -0.2
SNAA Sanae 50.97 158 diP P 12 12 24.3 -0.9
SNAA pmax pmax
comp=Z,298nm,1.6s
SNAA Sanae 50.97 158 eP P 12 12 24.3 -0.9
comp=Z,119nm,0.8s
CDVI St. Croix 51.22 5 P P 12 12 27.3 -0.2
comp=Z,366nm,0.8s
SABA Saba 51.22 7 eP P 12 12 26.9 -0.6
ICM Isla Caja Muer 51.26 3 eS S 12 19 27.9 -5.4
CRPR Cabo Rojo, PR 51.35 2 eP P 12 12 25.0 -3.4

comp=Z,401nm,0.6s
OBIP Obispado Ponce 51.40 3 eS S 12 19 29.9 -5.5
OBIP Obispado Ponce 51.40 3 eP P 12 12 28.8 0.0
comp=Z,165nm,0.5s
CPD Cerro la Pandu 51.43 4 eS S 12 19 33.8 -2.0
CELP Cerrillos 51.43 3 eS S 12 19 29.4 -6.4
CELP Cerrillos 51.43 3 eP P 12 12 29.2 +0.2
SJG San Juan 51.49 3 P P 12 12 28.9 -0.6
SJG pmax pmax
comp=Z,196nm,0.6s
SJG San Juan 51.49 3 P P 12 12 28.9 -0.6
comp=Z,196nm,0.6s,baz=270,slow=1.1,SNR=11
HUMP Col San Antoni 51.53 4 eS S 12 19 36.3 -0.9
LRS Lares 51.64 2 eP P 12 12 30.8 +0.1
SMRT St. Maarten 51.66 7 eP P 12 12 28.9 -1.8
CBYP Canovanas 51.66 4 eS S 12 19 38.2 -0.9
CBYP Canovanas 51.66 4 eP P 12 12 29.7 -1.2
comp=Z,242nm,0.8s
APG El Apazote 52.53 333 P P 12 12 34.5 -3.0
comp=Z,86nm,0.7s,baz=158,slow=5.7,SNR=119
PTCN Pitcairn Islan 53.36 262 eP P 12 12 44.3 +0.9
comp=Z,785nm,1.0s
PCIG 54.24 331 P P 12 12 48.4 -1.4
H10S3 ASCENSION HYDR55.45 77 P P 12 12 59.3 +1.0
baz=260,slow=9.4,SNR=5.5
H10S2 ASCENSION HYDR55.46 77 P P 12 12 57.4 -1.0
baz=260,slow=9.4,SNR=5.5
H10S1 ASCENSION HYDR55.47 77 P P 12 12 58.5 +0.1
baz=260,slow=9.4,SNR=7.6
HUIG Huatulco 55.54 328 P P 12 13 00.3 +1.3
NVL N'lazarevskaya 55.65 157⇓iP P 12 12 59.6 +0.5
NVL e 12 15 05.2
NVL iS S 12 20 22.8 -8.7
NVL pmax pmax
comp=Z,77nm,0.9s
CMIG Matias Romero 56.18 330 P P 12 13 03.6 +0.1
TEIG Tepich 56.63 338 P P 12 13 06.8 +0.2
comp=Z,337nm,0.7s,baz=129,slow=1.9,SNR=23
QSPA South Pole Qui 56.64 180 eP P 12 13 05.9 -0.5
comp=Z,126nm,0.8s
QSPA eScP ScP 12 17 44.3 +0.3
VHO Vista Hermosa 56.96 328 P P 12 13 10.2 +0.9
PNIG Pinotepa 57.00 326 P P 12 13 09.0 -0.4
PNIG S pP 12 13 55.1 +6.6
RKT Rikitea 58.22 262⇓iP P 12 13 18.7 +0.7
comp=Z,50nm,0.9s
SACV Santiago Islan 64.78 49 eP P 12 14 01.2 -0.7
comp=Z,122nm,0.9s
VNDA Vanda 64.99 191 P P 12 14 03.3 +0.8
VNDA pmax pmax
comp=Z,21nm,0.9s
VNDA Vanda 64.99 191 P P 12 14 03.3 +0.8
comp=Z,21nm,0.9s,baz=121,slow=5.6,SNR=16
SYO Syowa Base 65.26 158⇑iP P 12 14 02.7 -1.6
BBSR BB Station 65.74 4 eP P 12 14 08.0 +0.3
comp=Z,193nm,1.3s
035Z Hargill 65.85 331 ⇑P P 12 14 10.1 +1.6
baz=66,SNR=6.3
BRAL Brewton 66.52 343 eP P 12 14 13.9 +1.2
comp=Z,216nm,1.0s
034A Hebbronville 66.63 331 ⇓P P 12 14 15.2 +1.7
baz=67,SNR=46
934A Benavides 67.05 332 ⇓P P 12 14 17.7 +1.6
baz=67,SNR=11
NHSC New Hope 67.20 350 eP P 12 14 16.5 -0.5
comp=Z,395nm,1.2s
933A Laredo 67.36 331 ⇑P P 12 14 19.5 +1.4
baz=68,SNR=63
835A Beeville 67.39 332 ⇓P P 12 14 20.3 +2.0
baz=68,SNR=16
834A Tilden 67.53 332 ⇑P P 12 14 20.5 +1.4
baz=68,SNR=103
834A ⇑S S 12 23 05.2 +3.3
baz=68
735A Kenedy 67.89 333 ⇑P P 12 14 22.7 +1.3
baz=68,SNR=84
833A Chaparral WMA, 68.04 331 ⇑P P 12 14 23.3 +0.9
baz=68,SNR=107
HKT Hockley 68.15 335 eP P 12 14 24.0 +1.1
HKT Hockley 68.15 335 eP P 12 14 24.0 +1.1
636A Smothers Creek 68.17 334 ⇑P P 12 14 23.8 +0.7
baz=68,SNR=34
734A La Parita Cree 68.17 332 ⇓P P 12 14 24.1 +1.0
baz=68,SNR=50
832A Faith Ranch, C 68.24 331 ⇓P P 12 14 24.3 +0.7
baz=69,SNR=201
538A Harpers Horsep 68.28 335 ⇑P P 12 14 25.0 +1.2
baz=69
733A Divot King Ran 68.35 331 ⇑P P 12 14 24.8 +0.5
baz=69,SNR=26
635A Leesville 68.35 333 ⇓P P 12 14 24.7 +0.4
baz=69,SNR=29
LRAL Lakeview Retre 68.44 344 eP P 12 14 24.3 -0.4
comp=Z,44nm,0.6s
634A China Grove, S 68.57 333 ⇑P P 12 14 25.9 +0.3
baz=69,SNR=9.2
VBMS Vicksburg 68.57 340 eP P 12 14 26.4 +0.9
comp=Z,281nm,0.8s
732A Laxson Ranch, 68.63 331 ⇑P P 12 14 26.8 +0.8
baz=69,SNR=233
536A Bastrop 68.71 334 ⇑P P 12 14 27.5 +1.0
baz=69
535A Dale 68.85 334 ⇓P P 12 14 27.7 +0.3
baz=69,SNR=35
633A Saathoff Ranch 68.96 332 ⇓P P 12 14 28.7 +0.7
baz=69,SNR=40
CNNC Cliffs of the 69.00 352 eP P 12 14 28.7 +0.6
comp=Z,272nm,0.8s
534A Blanco 69.19 333 ⇑P P 12 14 29.6 0.0
baz=70,SNR=34
436A Wall Ranch, Ga 69.24 334 ⇓P P 12 14 30.4 +0.7
baz=70,SNR=7.3
632A Uvalde 69.24 331 ⇓P P 12 14 30.7 +0.9
baz=70,SNR=158
KMSC Kings Mountain 69.37 349 eP P 12 14 31.1 +0.7
KMSC Kings Mountain 69.37 349 ⇓P P 12 14 30.8 +0.4
baz=70
533A Kerrville 69.45 332 ⇑P P 12 14 31.6 +0.5
baz=70,SNR=109
631A Perdido Creek 69.48 331 ⇓P P 12 14 31.4 +0.1
baz=70,SNR=62
435B Jarrell 69.54 334 ⇑P P 12 14 32.1 +0.5
baz=70,SNR=13
LPIG La Paz 69.62 320 P P 12 14 32.7 +0.6
comp=Z,113nm,0.9s,baz=174,slow=0.3,SNR=12
434A Burnet 69.82 333 ⇓P P 12 14 33.6 +0.3
baz=70,SNR=102
335A Moody 69.93 334 ⇓P P 12 14 34.2 +0.2
baz=70,SNR=28
TBI Tubuai 69.95 255⇓iP P 12 14 35.6 +1.2
comp=Z,425nm,0.9s
433A Art 70.08 333 ⇑P P 12 14 35.1 +0.2
baz=70,SNR=166
JCT Junction City 70.11 332 eP P 12 14 35.0 -0.1
JCT pmax pmax
comp=Z,169nm,0.8s
JCT Junction City 70.11 332 eP P 12 14 35.0 -0.1
comp=Z,169nm,0.8s
JCT Junction City 70.11 332 ⇓P P 12 14 35.6 +0.4
baz=70,SNR=100
531A Rocksprings 70.13 331 ⇑P P 12 14 35.9 +0.7
baz=70,SNR=121
CPCT Cooper Cave 70.23 346 eP P 12 14 36.6 +0.9
334A Lometa 70.27 334 ⇑P P 12 14 36.3 +0.3
baz=71,SNR=156
TKL Tuckaleechee C 70.29 347 P P 12 14 35.3 -0.8
TKL pmax pmax
comp=Z,75nm,0.9s
TKL Tuckaleechee C 70.29 347 P P 12 14 35.3 -0.8
comp=Z,75nm,0.8s,baz=170,slow=8.4,SNR=10
SWET Sewanee 70.30 345 eP P 12 14 35.8 -0.4
comp=Z,178nm,0.7s
OXF Oxford 70.44 342 eP P 12 14 37.4 +0.5
OXF pmax pmax
comp=Z,237nm,0.7s
OXF Oxford 70.44 342 eP P 12 14 37.4 +0.5
comp=Z,237nm,0.7s
530A J-C Ranch, Com 70.44 330 ⇑P P 12 14 38.0 +0.9
baz=71,SNR=109
432A Menard 70.46 332 ⇓P P 12 14 37.4 +0.1
baz=71,SNR=85
333A Richland Sprin 70.55 333 ⇓P P 12 14 37.9 +0.2
baz=71,SNR=90
WHTX Lake Whitney 70.58 334 eP P 12 14 38.2 +0.3
comp=Z,80nm,0.6s
WHTX Lake Whitney 70.58 334 ⇑P P 12 14 37.8 -0.1
baz=71,SNR=9.7

431A Sonora 70.61 331 ⇓P P 12 14 38.5 +0.4
baz=71,SNR=106
TXAR Lajitas Array 70.72 328 P P 12 14 38.6 -0.4
comp=Z,36nm,0.7s,baz=149,slow=7.4,SNR=403
TXAR PKPKPKP P'P'df 12 42 34.9 +0.7
comp=Z,0.6nm,1.0s,baz=292,slow=4.8,SNR=3.9
TXAR P4KPbc 12 51 21.1
comp=Z,0.5nm,0.9s,baz=152,slow=5.5,SNR=6.1
529A Stev Forest Ra 70.78 330 ⇓P P 12 14 39.8 +0.5
baz=71,SNR=223
234A Clairette 70.84 334 ⇓P P 12 14 39.5 0.0
baz=71,SNR=52
332A Millersview 70.89 332 ⇑P P 12 14 40.0 +0.1
baz=71,SNR=83
430A Baggett Ranch, 70.96 331 ⇓P P 12 14 40.6 +0.3
baz=71,SNR=237
135A Vickery Place, 71.08 335 ⇓P P 12 14 40.9 0.0
baz=72,SNR=15
429A Davenport Ranc 71.08 330 ⇑P P 12 14 41.5 +0.5
baz=71,SNR=215
331A San Angelo 71.09 332 ⇑P P 12 14 41.0 0.0
baz=72,SNR=117
CER Ceres 71.12 118 eP P 12 14 38.3 -3.2
CER AMB AMB 12 15 01.6
comp=Z,90nm,4.0s
CER Ceres 71.12 118 P P 12 14 38.3 -3.2
comp=Z,90nm,4.0s
233A Rising Star 71.14 333 ⇑P P 12 14 41.3 0.0
baz=72,SNR=128
VWCC Virginia Weste 71.24 351 eP P 12 14 41.5 -0.2
232A Coleman 71.30 333 ⇑P P 12 14 42.4 +0.1
baz=72,SNR=144
134A White-Moore Ra 71.33 334 ⇑P P 12 14 42.3 -0.1
baz=72,SNR=13
KOMG Komaggas 71.45 114 eP P 12 14 43.3 -0.1
KOMG AMB AMB 12 14 45.9
comp=Z,40nm,2.0s
KOMG Komaggas 71.45 114 P P 12 14 43.3 -0.1
comp=Z,40nm,2.0s
330A Mertzon 71.48 331 ⇑P P 12 14 43.3 -0.1
baz=72,SNR=93
MEH Mehetia 71.50 261⇓iP P 12 14 45.1 +1.2
comp=Z,67nm,1.0s
428A Kincaid Ranch, 71.50 330 ⇓P P 12 14 44.0 +0.4
baz=72,SNR=56
231A Bronte 71.60 332 ⇑P P 12 14 43.9 -0.2
baz=72,SNR=244
133A Hamilton Ranch 71.67 334 ⇑P P 12 14 44.5 +0.1
baz=72,SNR=54
Z35A Perchaven, San 71.72 335 ⇑P P 12 14 44.8 +0.1
baz=72,SNR=9.7
HBAR Harrisburg 71.75 341 eP P 12 14 45.5 +0.7
329A Wagon Wheel Ra 71.87 331 ⇑P P 12 14 46.0 +0.2
baz=72,SNR=203
230A Sterling City 71.88 331 ⇑P P 12 14 45.4 -0.3
baz=72,SNR=46
427A Hayter Ranch, 71.91 329 ⇑P P 12 14 46.5 +0.4
baz=72,SNR=60
ABTX Abilene, Hawle 71.96 333 ⇑P P 12 14 46.2 +0.1
baz=72,SNR=92
GNAR Gosnell 71.97 342 eP P 12 14 46.3 +0.2
comp=Z,4μm,1.3s
Z34A Collier Ranch, 71.99 335 ⇑P P 12 14 46.4 +0.1
baz=72,SNR=37
328A Wristen Ranch, 72.12 330 ⇓P P 12 14 47.4 +0.2
baz=72,SNR=170
LIC Lamto 72.17 70 eP P 12 14 47.5 -0.4
comp=Z,546nm,1.1s
Z33A Whitaker Ranch 72.22 334 ⇑P P 12 14 47.8 0.0
baz=73,SNR=112
229A Bryant Ranch, 72.22 331 ⇑P P 12 14 47.8 0.0
baz=73,SNR=32
131A Roby 72.29 332 ⇓P P 12 14 48.3 +0.2
baz=73,SNR=111
PVMO Portageville 72.31 342 eP P 12 14 48.6 +0.5
comp=Z,694nm,1.0s
327A Balmorhea Ranc 72.40 329 ⇑P P 12 14 49.5 +0.6
baz=73,SNR=7.7
TIC Toumodi 72.44 69 eP P 12 14 49.1 -0.4
comp=Z,335nm,1.1s
130A Snyder 72.44 332 ⇓P P 12 14 49.0 -0.1
baz=73,SNR=181
Y34A Reagan Ranch, 72.47 335 ⇓P P 12 14 48.8 -0.4
baz=73,SNR=18
VAH Vaihoa 72.47 263⇓iP P 12 14 50.7 +1.1
comp=Z,224nm,1.3s
KIC Kosan Boka 72.48 70 eP P 12 14 49.4 -0.3
comp=Z,731nm,1.1s
Z32A Haskell 72.50 333 ⇑P P 12 14 49.5 +0.1
baz=73,SNR=67
TVO Taravao 72.52 260⇓iP P 12 14 51.4 +1.4
comp=Z,87nm,1.1s
326A Caldwell Ranch 72.56 329 ⇓P P 12 14 50.4 +0.5
baz=73,SNR=29
DBIC Dimbokro 72.58 69 eP P 12 14 50.1 -0.2
DBIC Dimbokro 72.58 69 eP P 12 14 50.1 -0.2
DBIC pmax pmax
comp=Z,256nm,0.9s
DBIC Dimbokro 72.58 69 P P 12 14 50.1 -0.2
comp=Z,205nm,0.9s,baz=208,slow=6.6,SNR=95
DBIC Dimbokro 72.58 69 eP P 12 14 50.1 -0.2
comp=Z,256nm,0.9s
228A UT Block 9, Go 72.68 330 ⇑P P 12 14 50.6 +0.1
baz=73,SNR=108
TIAR Tiarei 72.71 260⇓iP P 12 14 52.3 +1.2
comp=Z,55nm,1.0s
SUR Sutherland 72.71 118 eP P 12 14 51.4 +0.3
comp=Z,30nm,1.0s
Z31A Sharp Cattle R 72.76 333 ⇑P P 12 14 51.1 +0.1
baz=73,SNR=240
MAW Mawson 72.80 163 P P 12 14 51.5 +0.8
comp=Z,45nm,0.9s,baz=188,slow=15,SNR=5.1
MAW LR LR 12 45 19.5
comp=Z,342nm,21.4s,baz=220,slow=34
PMOR Pomariorio Ree 72.81 263⇓iP P 12 14 52.6 +1.0
comp=Z,184nm,1.1s
Y33A Hilltop Ranch, 72.82 334 ⇑P P 12 14 51.2 0.0
baz=73,SNR=46
129A Stewart Farms, 72.83 331 ⇑P P 12 14 51.3 -0.1
baz=73,SNR=52
PAE Paea 72.85 260⇓iP P 12 14 53.1 +1.2
comp=Z,61nm,1.0s
227A Bennet, Jal 72.88 330 ⇓P P 12 14 52.4 +0.7
baz=73,SNR=144
PPT2 Papeete2 72.88 260⇓iP P 12 14 53.7 +1.5
comp=Z,323nm,1.0s
PPT Papeete 72.89 260 P P 12 14 53.7 +1.6
PPT pmax pmax
comp=Z,329nm,0.9s
PPT Papeete 72.89 260 P P 12 14 53.7 +1.6
comp=Z,329nm,0.9s,baz=111,slow=1.1,SNR=23
128A Castleberry Fa 73.07 331 ⇓P P 12 14 53.0 +0.2
baz=73,SNR=117
X34A Smith Ranch, M 73.07 335 ⇑P P 12 14 53.0 +0.2
baz=74,SNR=40
Y32A R-V Farms, Ver 73.11 334 ⇓P P 12 14 52.9 0.0
baz=74,SNR=89
Z30A Sanderson Ranc 73.11 332 ⇓P P 12 14 52.7 -0.3
baz=74,SNR=136
X33A Lawton 73.25 335 ⇑P P 12 14 53.9 +0.1
baz=74,SNR=47
226B Tecolote Peak, 73.30 329 ⇓P P 12 14 55.0 +0.8
baz=74,SNR=68
USIN University of 73.31 345 eP P 12 14 52.9 -1.1
comp=Z,119nm,0.8s
Z29A Hungry Hill Ra 73.32 332 ⇓P P 12 14 54.0 -0.2
baz=74,SNR=155
Y31A Rekieta Farm, 73.38 333 ⇑P P 12 14 54.7 +0.2
baz=74,SNR=30
X32A Elmer 73.43 334 ⇓P P 12 14 54.8 0.0
baz=74,SNR=24
127A Arkansas Junct 73.48 330 ⇑P P 12 14 55.5 +0.3
baz=74,SNR=28
MNTX Cornudas Mount 73.50 328 eP P 12 14 53.5 -1.8
comp=Z,58nm,0.7s
Y30A Stafford Cattl 73.55 333 ⇑P P 12 14 55.4 -0.2
baz=74,SNR=24
225A Deer Hill, Car 73.61 329 ⇑P P 12 14 56.1 0.0
baz=74,SNR=40
Z28A Tucker Farm, M 73.61 331 ⇓P P 12 14 55.7 -0.3
baz=74,SNR=54
W34A Bridge Creek, 73.63 336 eP P 12 14 55.7 -0.2
comp=Z,92nm,0.7s
W34A Bridge Creek, 73.63 336 ⇑P P 12 14 55.8 -0.2
baz=74,SNR=8.9
126A Clayton Basin, 73.73 330 ⇑P P 12 14 57.1 +0.4
baz=74,SNR=96
W33A Caddo, Fort Co 73.79 335 ⇓P P 12 14 57.4 +0.4

baz=74,SNR=53
Y29A Porterfield Fa 73.83 332 ⇓P P 12 14 57.3 +0.1
baz=74,SNR=102
X31A McDonald Ranch 73.87 334 ⇓P P 12 14 57.4 0.0
baz=74,SNR=118
Z27A Tatum 73.97 331 ⇑P P 12 14 58.0 -0.2
baz=74,SNR=57
125A Gardner Draw, 74.01 329 ⇑P P 12 14 58.1 -0.3
baz=74,SNR=102
X30A Coker Ranch, T 74.04 333 ⇑P P 12 14 58.4 -0.1
baz=74,SNR=99
W32A Sentinel 74.04 334 ⇓P P 12 14 58.5 +0.1
baz=74,SNR=170
V34A Guthrie 74.08 336 eP P 12 14 59.1 +0.6
comp=Z,92nm,0.6s
V34A Guthrie 74.08 336 ⇓P P 12 14 58.4 -0.2
baz=74
BRNJ Basking Ridge 74.10 356 eP P 12 15 00.1 +1.5
comp=Z,119nm,1.0s
Y28A McKinney Farm, 74.10 332 ⇑P P 12 14 58.5 -0.3
baz=74,SNR=23
BLO Bloomington 74.23 346 eP P 12 14 58.8 -0.5
BLO pmax pmax
comp=Z,99nm,0.8s
BLO Bloomington 74.23 346 eP P 12 14 58.8 -0.5
comp=Z,99nm,0.8s
Z26A Caprock 74.25 330 ⇑P P 12 15 00.1 +0.3
baz=75,SNR=194
V33A Lossen Ranch, 74.33 336 ⇑P P 12 15 00.2 +0.2
baz=75,SNR=23
W31A Holland Ranch, 74.35 334 ⇑P P 12 15 00.0 -0.2
baz=75,SNR=30
X29A Tulia 74.36 332 ⇑P P 12 15 00.4 +0.1
baz=75,SNR=54
MSTX Muleshoe 74.36 331 ⇑P P 12 15 00.3 -0.1
baz=75,SNR=104
Y27A Causey 74.45 331 ⇓P P 12 15 00.6 -0.2
baz=75,SNR=47
V32A Arapaho 74.51 335 ⇓P P 12 15 01.5 +0.4
baz=75,SNR=25
SLM Saint Louis 74.56 343 eP P 12 15 00.8 -0.4
SLM Saint Louis 74.56 343 eP P 12 15 00.8 -0.4
Z25A Roswell 74.57 329 ⇓P P 12 15 01.5 -0.1
baz=75,SNR=48
W30A Crocket Farms 74.58 333 ⇑P P 12 15 01.7 +0.2
baz=75
ACSO Alum Creek Sta 74.61 349 eP P 12 15 01.1 -0.4
comp=Z,120nm,0.7s
X28A Dimmitt 74.62 332 ⇓P P 12 15 01.9 +0.1
baz=75,SNR=28
U34A Anderson Ranch 74.64 336 eP P 12 15 02.1 +0.3
comp=Z,152nm,0.7s
U34A Anderson Ranch 74.64 336 ⇑P P 12 15 01.7 0.0
baz=75,SNR=6.9
WIN Windhoek 74.69 107 eP P 12 15 02.6 -0.2
WIN AMB AMB 12 15 04.3
comp=Z,9.8nm,1.1s
WIN Windhoek 74.69 107 P P 12 15 02.6 -0.2
WIN pmax pmax
comp=Z,10.0nm,1.1s
WIN Windhoek 74.69 107 P P 12 15 02.6 -0.2
comp=Z,9.8nm,1.1s
AMTX Amarillo 74.74 333 eP P 12 15 02.2 -0.3
comp=Z,129nm,0.8s
AMTX Amarillo 74.74 333 ⇑P P 12 15 02.8 +0.3
baz=75
Y26A Elida 74.75 330 ⇓P P 12 15 02.8 +0.1
baz=75,SNR=30
U33A Lingo Farm, Me 74.83 336 ⇓P P 12 15 02.5 -0.3
baz=75,SNR=13
V31A Spring Creek L 74.84 334 ⇓P P 12 15 03.9 +0.9
baz=75,SNR=57
Z24A Sheeppen Canyo 74.89 329 ⇑P P 12 15 04.1 +0.5
baz=75,SNR=242
W29A Amraillo 74.93 333 ⇓P P 12 15 03.7 +0.1
baz=75,SNR=63
319A Douglas 75.03 325 ⇓P P 12 15 05.6 +1.3
baz=75,SNR=77
U32A Winter Ranch, 75.08 335 ⇑P P 12 15 04.6 +0.3
baz=76,SNR=50
X27A F and S Farms, 75.09 331 ⇓P P 12 15 04.7 +0.2
baz=76,SNR=18
Y25A Mesa, Roswell 75.11 330 ⇓P P 12 15 04.5 -0.2
baz=76,SNR=23
V30A Spur Ranch, Mi 75.14 334 ⇓P P 12 15 05.7 +1.0
baz=76,SNR=28
W28A Vega 75.27 332 ⇓P P 12 15 05.8 +0.3
baz=76,SNR=17
121A Cookes Peak, D 75.29 327 eP P 12 15 06.3 +0.5
comp=Z,101nm,0.9s
121A Cookes Peak, D 75.29 327 ⇑P P 12 15 07.1 +1.2
baz=76,SNR=68
X26A CR and CF Fran 75.29 331 ⇓P P 12 15 06.3 +0.6
baz=76,SNR=168
U31A Nine Bar Ranch 75.38 335 ⇑P P 12 15 06.7 +0.6
baz=76,SNR=7.0
Y24A Capitan 75.43 329 ⇓P P 12 15 07.0 +0.4
baz=76,SNR=42
W27A Bowe Ranch, En 75.44 332 ⇑P P 12 15 06.8 +0.3
baz=76,SNR=121
T33A Patterson Ranc 75.46 336 ⇑P P 12 15 06.9 +0.5
baz=76,SNR=19
Z22A Elephant Butte 75.53 328 ⇓P P 12 15 08.4 +1.2
baz=76,SNR=61
V29A Stinnett 75.55 333 ⇓P P 12 15 07.4 +0.3
baz=76
X25A Clemmons Ranch 75.62 330 ⇑P P 12 15 07.8 +0.1
baz=76,SNR=16
Y23A Lovelace Mesa, 75.70 329 ⇑P P 12 15 09.3 +1.2
baz=76,SNR=65
V28A Channing 75.71 333 ⇓P P 12 15 08.6 +0.5
baz=76,SNR=29
W26A Owens Ranch, T 75.74 331 ⇑P P 12 15 08.9 +0.7
baz=76,SNR=71
HRV Adam Dziewonsk 75.78 358 eP P 12 15 08.5 +0.4
HRV pmax pmax
comp=Z,104nm,0.9s
HRV Adam Dziewonsk 75.78 358 eP P 12 15 08.5 +0.4
comp=Z,104nm,0.9s
T32A Huddler Ranch, 75.78 336 ⇓P P 12 15 08.8 +0.5
baz=76,SNR=22
U30A WK&E Inc. Balk 75.81 334 ⇓P P 12 15 09.0 +0.5
baz=76,SNR=20
S33A Kaszmaul Farm, 75.84 337 ⇑P P 12 15 08.8 +0.2
baz=76,SNR=6.2
V27A Dan Oppiter Fa 75.95 332 ⇑P P 12 15 10.0 +0.6
baz=76,SNR=36
T31A Randall Ranch, 75.97 335 ⇑P P 12 15 09.7 +0.3
baz=76,SNR=23
U29A Oasis Ranch, S 75.97 334 ⇑P P 12 15 09.9 +0.5
baz=76,SNR=7.6
TRY Troy 76.09 356 eP P 12 15 11.3 +1.5
comp=Z,174nm,1.0s
W25A X Bar L Ranch, 76.13 331 ⇓P P 12 15 10.7 +0.2
baz=76,SNR=105
Y22D IRIS PASSCAL I 76.20 328 ⇓P P 12 15 12.2 +1.3
baz=77,SNR=7.7
T30A Plains 76.23 334 ⇑P P 12 15 11.2 +0.3
baz=77,SNR=27
S32A Newby Ranch, P 76.25 336 ⇓P P 12 15 11.3 +0.4
baz=77,SNR=11
U28A Mallet 76.26 333 ⇓P P 12 15 11.4 +0.2
baz=77,SNR=37
LPM Los Pinos Moun 76.28 329 eP P 12 15 10.9 -0.5
LENM Lemitar 76.30 328 eP P 12 15 12.4 +0.9
X23A Hourglass Bar 76.31 329 ⇓P P 12 15 12.7 +1.1
baz=77,SNR=115
V26A Tequesquite Ra 76.36 331 ⇓P P 12 15 11.9 +0.2
baz=77,SNR=77
S31A Mullinville 76.37 335 ⇓P P 12 15 12.0 +0.4
baz=77,SNR=56
GRM Grahamstown 76.39 121 eP P 12 15 11.4 -0.7
GRM AMB AMB 12 15 37.0
comp=Z,94nm,5.2s
GRM Grahamstown 76.39 121 P P 12 15 11.4 -0.7
GRM pmax pmax
comp=Z,94nm,5.2s
GRM Grahamstown 76.39 121 P P 12 15 11.4 -0.7
comp=Z,94nm,5.2s
R33A Olander Ranch, 76.48 337 ⇓P P 12 15 12.4 +0.1
baz=77,SNR=9.8
W24A Lazy 6 Ranch, 76.52 330 ⇑P P 12 15 13.4 +0.6
baz=77,SNR=181
U27A Thompson Grove 76.53 332 ⇑P P 12 15 13.2 +0.5
baz=77,SNR=40
LAZ Ladron 76.57 328 eP P 12 15 13.6 +0.6
comp=Z,39nm,0.8s
T29A Hugoton 76.60 334 ⇑P P 12 15 13.3 +0.3

baz=77,SNR=33
S30A Montezuma 76.73 335 ⇓P P 12 15 14.1 +0.4
baz=77,SNR=29
V25A Rancho No Teng 76.73 331 ⇓P P 12 15 14.4 +0.5
baz=77,SNR=244
ANMO Albuquerque 76.74 329 eP P 12 15 13.9 -0.1
ANMO pmax pmax
comp=Z,79nm,0.8s
ANMO Albuquerque 76.74 329 eP P 12 15 13.9 -0.1
comp=Z,79nm,0.8s
KSU1 Kansas State U 76.77 338 eP P 12 15 14.3 +0.5
comp=Z,105nm,0.7s
KSU1 Kansas State U 76.77 338 ⇓P P 12 15 13.4 -0.4
baz=77,SNR=8.6
TSUM Tsumeb 76.79 104 eP P 12 15 14.2 -0.5
W23A Werner Place, 76.79 329 ⇓P P 12 15 15.5 +1.2
baz=77,SNR=163
R32A Long Quarter, 76.83 336 ⇓P P 12 15 14.4 +0.3
baz=77,SNR=28
U26A Atchley Ranch, 76.87 332 ⇑P P 12 15 15.1 +0.4
baz=77,SNR=94
T28A Walsh 76.87 333 ⇑P P 12 15 14.7 +0.2
baz=77,SNR=81
V24A Rampart Ranch, 76.91 330 ⇓P P 12 15 15.3 +0.4
baz=77,SNR=80
S29A Ulysses 76.95 334 ⇓P P 12 15 15.5 +0.6
baz=77,SNR=67
R31A Burdett 76.98 336 ⇑P P 12 15 15.3 +0.2
baz=77,SNR=32
T27A Campo 77.05 333 ⇓P P 12 15 15.9 +0.3
baz=77,SNR=50
HVD Gariep Dam 77.06 118 eP P 12 15 15.8 -0.3
HVD AMB AMB 12 15 23.9
comp=Z,51nm,2.2s
HVD Gariep Dam 77.06 118 P P 12 15 15.8 -0.3
HVD pmax pmax
comp=Z,51nm,2.2s
HVD Gariep Dam 77.06 118 P P 12 15 15.8 -0.3
comp=Z,51nm,2.2s
U25A Circle Dot Ran 77.14 331 ⇑P P 12 15 16.8 +0.6
baz=78,SNR=154
S28A Manter 77.21 334 ⇑P P 12 15 16.5 +0.1
baz=78,SNR=68
214A Organ Pipe Nat 77.24 323 eP P 12 15 16.9 +0.3
comp=Z,78nm,0.8s
214A Organ Pipe Nat 77.24 323 ⇓P P 12 15 17.9 +1.3
baz=78,SNR=88
R30A Dighton 77.24 335 ⇑P P 12 15 16.9 +0.3
baz=78,SNR=37
Q32A Meitler Ranch, 77.29 337 ⇑P P 12 15 17.0 +0.3
baz=78,SNR=24
V23A Ortiz Mt. (NFS 77.30 330 ⇑P P 12 15 18.4 +1.2
baz=78,SNR=30
P33A Williams Farm, 77.41 338 ⇓P P 12 15 17.5 +0.1
baz=78
T26A Comanche Natio 77.49 332 ⇓P P 12 15 18.8 +0.7
baz=78,SNR=60
U24A Moreno Valley 77.50 331 ⇑P P 12 15 19.6 +1.3
baz=78,SNR=26
LBNH Lisbon 77.52 358 eP P 12 15 18.9 +1.0
LBNH pmax pmax
comp=Z,139nm,0.8s
LBNH Lisbon 77.52 358 eP P 12 15 18.9 +1.0
comp=Z,138nm,0.8s
Q31A Ellis 77.58 336 ⇑P P 12 15 18.9 +0.5
baz=78,SNR=37
DRV Dumont d'Urvil 77.63 191 S S 12 24 42.0 -14
DRV SS SS 12 30 08.0 +10
DRV L L 12 35 00.0
DRV R 12 40 00.0
S27A Las Animas 77.67 333 ⇑P P 12 15 19.4 +0.4
baz=78,SNR=13
R29A Marienthal 77.67 335 ⇓P P 12 15 19.3 +0.4
baz=78,SNR=32
V22A San Miguel Ran 77.75 329 ⇓P P 12 15 21.3 +1.6
baz=78,SNR=268
T25A Trinidad 77.78 332 ⇑P P 12 15 20.8 +1.1
baz=78,SNR=175
WVL Waterville 77.80 359 eP P 12 15 20.9 +1.5
U23A El Rito 77.81 330 ⇓P P 12 15 21.3 +1.4
baz=78,SNR=110
S26A Kim 77.83 333 ⇓P P 12 15 20.8 +0.9
baz=78,SNR=84
Q30A Quinter 77.84 336 ⇑P P 12 15 20.4 +0.5
baz=78,SNR=83
R28A Tribune 77.84 334 ⇓P P 12 15 20.2 +0.3
baz=78,SNR=66
P32A Huiting Farm, 77.88 337 ⇓P P 12 15 20.1 +0.2
baz=78,SNR=6.5
BOSA Boshof 77.92 116 eP P 12 15 19.0 -1.8
BOSA AMB AMB 12 15 27.3
comp=Z,37nm,1.5s
BOSA Boshof 77.92 116 P P 12 15 20.2 -0.6
BOSA *PP pP 12 16 02.9 +0.7
BOSA pmax pmax
comp=Z,22nm,0.7s
BOSA pmax pmax
comp=Z,37nm,0.7s
BOSA Boshof 77.92 116 P P 12 15 20.1 -0.6
comp=Z,22nm,0.7s,baz=242,slow=3.7,SNR=34
BOSA pP pP 12 16 02.9 +0.7
comp=Z,36nm,0.7s,baz=242,slow=3.8,SNR=7.6
BOSA LR LR 12 46 27.4
comp=Z,177nm,21.5s,baz=243,slow=33
X18A Snowflake 77.95 326 ⇓P P 12 15 21.8 +1.1
baz=78,SNR=56
Q29A Oakley 78.03 335 ⇑P P 12 15 21.1 +0.2
baz=78,SNR=54
P31A Stockton 78.04 336 ⇓P P 12 15 21.4 +0.5
baz=78,SNR=66
T24B San Luis 78.10 331 ⇓P P 12 15 23.0 +1.3
baz=78,SNR=99
U22A Llaves 78.12 330 ⇓P P 12 15 23.1 +1.5
baz=78,SNR=72
R27A Eads 78.16 333 ⇑P P 12 15 22.0 +0.3
baz=78,SNR=68
S25A Robets Cordova 78.24 332 ⇓P P 12 15 23.0 +0.8
baz=79,SNR=50
W18A Petrified Fore 78.34 327 eP P 12 15 23.6 +0.8
comp=Z,73nm,0.8s
W18A Petrified Fore 78.34 327 ⇑P P 12 15 23.6 +0.8
baz=79,SNR=9.2
T23A Casias Ranch, 78.34 330 ⇑P P 12 15 23.9 +1.0
baz=79,SNR=66
O32A Brockman Farm, 78.35 337 ⇑P P 12 15 22.7 +0.1
baz=79,SNR=6.8
P30A Selden 78.36 336 ⇓P P 12 15 23.0 +0.3
baz=79,SNR=18
113A Mohawk Valley, 78.37 323 ⇓P P 12 15 23.7 +0.9
baz=79,SNR=28
SCIA State Center 78.39 342 eP P 12 15 22.4 -0.3
comp=Z,50nm,0.7s
R26A Arlington 78.41 333 ⇑P P 12 15 23.6 +0.5
baz=79,SNR=50
Z14A Wintersburg 78.43 324 ⇑P P 12 15 24.0 +0.8
baz=79,SNR=5.7
Q28A Sharon Springs 78.48 334 ⇑P P 12 15 24.1 +0.7
baz=79,SNR=52
S24A Houchin Ranch, 78.53 331 ⇑P P 12 15 25.2 +1.2
baz=79,SNR=154
SADO Sadowa 78.56 353 P P 12 15 23.4 -0.1
comp=Z,97nm,0.9s,baz=210,slow=1.7,SNR=17
X16A Lo Mia Camp, P 78.56 325 ⇑P P 12 15 25.2 +1.2
baz=79,SNR=157
O31A Woolen Ranch, 78.59 337 ⇑P P 12 15 24.3 +0.4
baz=79,SNR=32
R25A Fountain Ranch 78.60 332 ⇑P P 12 15 24.5 +0.4
baz=79,SNR=14
P29A Atwood 78.64 335 ⇑P P 12 15 25.1 +0.8
baz=79,SNR=90
SWZ Schweizer 78.73 115 eP P 12 15 23.6 -1.7
SWZ AMB AMB 12 15 42.2
comp=Z,47nm,2.3s
SWZ Schweizer 78.73 115 P P 12 15 23.6 -1.7
comp=Z,47nm,2.3s
KSCO Kaye Shedlock' 78.73 334 eP P 12 15 25.5 +0.6
comp=Z,108nm,1.1s
KSCO Kaye Shedlock' 78.73 334 ⇓P P 12 15 25.6 +0.8
baz=79,SNR=24
SDCO Great Sand Dun 78.74 331 eP P 12 15 25.0 -0.1
comp=Z,51nm,0.8s
N32A Stulken Farm, 78.81 338 ⇑P P 12 15 25.2 +0.1
baz=79,SNR=12
O30A MW Ranch, Wils 78.86 336 ⇑P P 12 15 26.0 +0.6
baz=79,SNR=32
S23A Nye Farm, Mont 78.90 331 ⇓P P 12 15 26.8 +0.9
baz=79,SNR=26
P28A Saint Francis 78.91 335 ⇓P P 12 15 26.6 +0.8

baz=79,SNR=51
Y14A Wickenburg 78.92 324 ⇑P P 12 15 26.8 +0.9
baz=79,SNR=54
Q26A Hugo 78.98 333 ⇑P P 12 15 27.2 +1.0
baz=79,SNR=26
R24A Sanders Place, 79.00 332 ⇓P P 12 15 27.7 +1.3
baz=79,SNR=127
O29A 4D Ranch, Culb 79.06 336 ⇓P P 12 15 27.1 +0.6
baz=80,SNR=21
N31A Bailey Ranch, 79.08 337 ⇑P P 12 15 27.0 +0.4
baz=80,SNR=16
GLA Glamis 79.13 322 eP P 12 15 27.6 +0.6
GLA pmax pmax
comp=Z,44nm,0.6s
GLA Glamis 79.13 322 eP P 12 15 27.6 +0.6
comp=Z,44nm,0.6s
GLA Glamis 79.13 322 ⇑P P 12 15 28.2 +1.1
baz=80,SNR=25
RUDU RUNDU 79.19 104 eP P 12 15 27.9 0.0
RUDU AMB AMB 12 15 29.8
comp=Z,94nm,1.1s
RUDU RUNDU 79.19 104 P P 12 15 27.9 0.0
comp=Z,94nm,1.1s
P27A Ficken Ranch, 79.19 334 ⇑P P 12 15 28.0 +0.7
baz=80,SNR=32
R23A Moffat 79.25 331 ⇓P P 12 15 28.7 +0.8
baz=80,SNR=78
Q25A Bedland, Calha 79.25 333 ⇓P P 12 15 28.4 +0.6
baz=80,SNR=32
S22A 4UR Ranch, Cre 79.28 330 ⇑P P 12 15 28.9 +0.9
baz=80,SNR=104
BGNE Belgrade 79.35 338 ⇑P P 12 15 28.0 0.0
baz=80,SNR=17
O28A Krutsinger Ran 79.41 335 ⇓P P 12 15 29.2 +0.8
baz=80,SNR=28
WUAZ Wupatki 79.42 326 eP P 12 15 29.1 +0.4
comp=Z,49nm,0.7s
WUAZ Wupatki 79.42 326 ⇑P P 12 15 29.8 +1.1
baz=80,SNR=64
N30A Hueftle Ranch, 79.43 336 ⇑P P 12 15 29.1 +0.7
baz=80
P26A Davis Ranch, A 79.48 334 ⇓P P 12 15 29.7 +0.8
baz=80,SNR=24
MVCO Mesa Verde 79.53 329 eP P 12 15 29.1 -0.2
comp=Z,48nm,0.8s
MVCO Mesa Verde 79.53 329 ⇓P P 12 15 30.2 +0.9
baz=80,SNR=51
Y12C Blythe 79.53 323 ⇑P P 12 15 30.4 +1.3
baz=80,SNR=49
SWSC Sam W. Stewart 79.55 321 ⇓P P 12 15 30.3 +1.0
baz=80,SNR=20
M31A Lambtecht Ranc 79.56 337 ⇓P P 12 15 29.7 +0.6
baz=80,SNR=22
N29A Votaw Ranch, W 79.63 336 ⇓P P 12 15 30.2 +0.7
baz=80,SNR=32
Q24A Divide 79.65 332 ⇓P P 12 15 30.8 +0.7
baz=80,SNR=144
O27A Beecher Island 79.71 334 ⇑P P 12 15 31.1 +1.0
baz=80,SNR=68
P25A Willow Gulch B 79.74 333 ⇑P P 12 15 31.6 +1.3
baz=80,SNR=103
PDMCI Parker Dam,Lak 79.78 323 ⇓P P 12 15 31.4 +0.9
baz=80,SNR=7.4
N28A Pribbeno Ranch 79.82 335 ⇑P P 12 15 31.3 +0.7
baz=80,SNR=32
MONP Monument Peak 79.83 321 ⇑P P 12 15 32.3 +1.3
baz=80,SNR=39
SEK Senekal 79.84 117 eP P 12 15 26.4 -5.0
SEK AMB AMB 12 15 34.5
comp=Z,41nm,3.5s
SEK Senekal 79.84 117 P P 12 15 26.4 -5.0
comp=Z,41nm,3.5s
BC3 Big Chuckawall 79.93 322 ⇑P P 12 15 32.4 +1.0
baz=80,SNR=85
M30A Dale-Ortello V 80.02 337 ⇑P P 12 15 32.2 +0.6
baz=80,SNR=32
P24A Kohler Place, 80.03 332 ⇑P P 12 15 32.9 +1.0
baz=80,SNR=17
O26A Horse Wrangler 80.06 334 ⇓P P 12 15 33.1 +1.1
baz=80,SNR=41
LBTB Lobatse 80.08 113 eP P 12 15 31.9 -0.7
LBTB AMB AMB 12 15 37.8
comp=Z,50nm,6.6s
LBTB Lobatse 80.08 113 eP P 12 15 31.7 -0.9
LBTB pmax pmax
comp=Z,143nm,1.5s
LBTB Lobatse 80.08 113 eP P 12 15 31.7 -0.9
comp=Z,143nm,1.5s
IRM Iron Mountain 80.17 323 ⇓P P 12 15 33.7 +1.1
baz=80,SNR=65
109C Camp Elliot, M 80.20 320 ⇑P P 12 15 33.7 +1.0
baz=80
M29A Burnside Ranch 80.21 336 ⇓P P 12 15 33.4 +0.7
baz=81,SNR=14
OGNE Ogallala 80.22 335 eP P 12 15 33.2 +0.4
comp=Z,88nm,0.8s
OGNE Ogallala 80.22 335 ⇓P P 12 15 33.5 +0.7
baz=81,SNR=30
O25A Wiggins 80.25 333 ⇓P P 12 15 34.3 +1.3
baz=81,SNR=49
L31A Butterfield Fa 80.26 338 ⇓P P 12 15 33.5 +0.6
baz=81,SNR=11
P23A Jefferson 80.27 332 ⇑P P 12 15 34.5 +1.1
baz=81,SNR=13
N27A Anderson Farm, 80.28 335 ⇓P P 12 15 34.0 +0.9
baz=81,SNR=66
W13A Hualapai Mount 80.29 324 ⇑P P 12 15 34.6 +1.1
baz=81,SNR=58
PV01 Paradox Valley 80.34 329 eP P 12 15 34.0 +0.3
comp=Z,4μm,0.9s
L30A Spencer Herefo 80.34 337 ⇓P P 12 15 34.0 +0.7
baz=81,SNR=27
M28A Bar X Bar Ranc 80.39 336 ⇑P P 12 15 34.7 +1.0
baz=81,SNR=36
PFO Pinyon Flat Ob 80.41 321 P P 12 15 35.1 +1.1
PFO pmax pmax
comp=Z,87nm,0.8s
PFO Pinyon Flat Ob 80.41 321 P P 12 15 35.1 +1.1
comp=Z,87nm,0.8s,baz=123,slow=4.4,SNR=150
PFO Pinyon Flat Ob 80.41 321 eP P 12 15 34.7 +0.7
comp=Z,71nm,0.7s
PFO Pinyon Flat Ob 80.41 321 ⇑P P 12 15 35.6 +1.6
baz=81,SNR=93
CASY Casey 80.44 180 eP P 12 15 34.3 +0.7
comp=Z,92nm,1.1s
BELC Belle Mtn. Jos 80.48 322 ⇓P P 12 15 35.7 +1.3
baz=81,SNR=48
N26A Koester Ranch, 80.55 334 ⇑P P 12 15 35.5 +1.0
baz=81,SNR=22
ISCO Idaho Springs 80.55 332 eP P 12 15 34.5 -0.3
ISCO pmax pmax
comp=Z,49nm,0.8s
ISCO Idaho Springs 80.55 332 eP P 12 15 34.5 -0.3
comp=Z,49nm,0.8s
ISCO Idaho Springs 80.55 332 ⇑P P 12 15 35.7 +0.8
baz=81,SNR=46
U15A North Rim 80.59 326 ⇑P P 12 15 36.3 +1.2
baz=81,SNR=79
O24A Longmont 80.62 333 ⇑P P 12 15 35.8 +0.8
baz=81,SNR=15
L29A Maesberg Ranch 80.69 337 ⇓P P 12 15 35.4 +0.2
baz=81,SNR=18
PV04 Paradox Valley 80.70 329 eP P 12 15 36.0 +0.5
MURC Murrieta 80.80 321 ⇑P P 12 15 37.2 +1.2
baz=81,SNR=39
P22A Eagle 80.83 331 ⇓P P 12 15 37.2 +1.0
baz=81,SNR=25
N25A Grover 80.85 334 ⇓P P 12 15 37.1 +0.9
baz=81,SNR=7.6
M27A Reverse DX Ran 80.86 335 ⇑P P 12 15 37.1 +0.9
baz=81,SNR=57
LDFC Landfair 80.88 323 eP P 12 15 37.3 +0.9
comp=Z,78nm,0.8s
GMRC Granite Mounta 80.92 323 ⇓P P 12 15 38.1 +1.4
baz=81,SNR=89
K30A Basset 80.96 338 ⇑P P 12 15 37.3 +0.7
baz=81,SNR=54
L28A Connealy Angus 80.99 336 ⇑P P 12 15 37.8 +0.9
baz=81,SNR=9.5
ECSD EROS Data Cent 81.02 340 eP P 12 15 36.2 -0.7
comp=Z,158nm,0.9s
ECSD EROS Data Cent 81.02 340 ⇑P P 12 15 36.7 -0.1
baz=81,SNR=11
O23A Lake Granby, G 81.02 332 ⇓P P 12 15 38.4 +1.1
baz=81,SNR=90
SCI San Clemente I 81.04 320 ⇑P P 12 15 38.4 +1.2
baz=81
M26A McRoberts Ranc 81.08 335 ⇑P P 12 15 38.2 +0.9

baz=82
N24A Carr 81.16 333 ⇑P P 12 15 39.1 +1.2
baz=82,SNR=28
BBRC Big Bear Solar 81.16 321 ⇓P P 12 15 39.7 +1.6
baz=82,SNR=16
O22A Kremmling 81.23 332 ⇓P P 12 15 39.1 +0.7
baz=82,SNR=49
K29A Lazy Trails An 81.26 337 ⇓P P 12 15 38.7 +0.5
baz=82,SNR=50
CIS Catalina Islan 81.29 320 ⇑P P 12 15 39.7 +1.1
baz=82,SNR=6.7
HEC Hector,Ludlow 81.30 322 ⇑P P 12 15 40.1 +1.4
baz=82,SNR=74
L27A T5 Ranch, Ells 81.33 335 ⇑P P 12 15 39.7 +1.1
baz=82,SNR=10
ERPM east rand prop 81.37 116 eP P 12 15 39.8 +0.3
ERPM AMB AMB 12 15 58.8
comp=Z,24nm,3.0s
ERPM east rand prop 81.37 116 P P 12 15 39.8 +0.3
comp=Z,24nm,3.0s
M25A Palm-Egli Farm 81.38 334 ⇑P P 12 15 40.0 +1.0
baz=82,SNR=28
SPMN St. Paul 81.40 343 eP P 12 15 37.9 -0.9
comp=Z,45nm,0.8s
FMP Fort Macarthur 81.46 320 ⇓P P 12 15 40.8 +1.4
baz=82
BFSC Mount Baldy Ra 81.53 321 ⇑P P 12 15 40.9 +1.0
baz=82,SNR=46
L26A Underwood Farm 81.56 335 ⇑P P 12 15 40.8 +0.9
baz=82,SNR=11
K28A Ten Mile Ranch 81.57 336 ⇑P P 12 15 41.0 +1.2
baz=82,SNR=78
TUQ Turquoise Moun 81.57 323 ⇑P P 12 15 41.3 +1.2
baz=82,SNR=50
N23A Red Feather La 81.62 333 ⇓P P 12 15 41.4 +1.0
baz=82,SNR=34
TOA0 Torodi Ar. Sit 81.62 68 eP P 12 15 40.2 -0.5
TORD Torodi Ar. Bea 81.62 68 P P 12 15 40.4 -0.3
comp=Z,120nm,0.9s,baz=251,slow=4.5,SNR=367
TORD pP pP 12 16 21.6 -0.8
comp=Z,49nm,1.0s,baz=247,slow=4.9,SNR=4.2
TORD PKKPbc PKKPbc 12 34 12.0 +0.7
comp=Z,2.8nm,0.8s,baz=28,slow=2.5,SNR=11
TORD PKPPKP P'P'df 12 42 17.4 +0.3
comp=Z,1.3nm,1.0s,baz=72,slow=2.5,SNR=3.3
RRX Edison Barstow 81.68 322 ⇑P P 12 15 42.0 +1.4
baz=82,SNR=6.9
M24A Cheyenne 81.69 334 ⇓P P 12 15 41.7 +1.1
baz=82,SNR=42
MWC Mount Wilson 81.73 321 eP P 12 15 40.9 -0.1
MWC pmax pmax
comp=Z,66nm,0.8s
MWC Mount Wilson 81.73 321 eP P 12 15 40.9 -0.1
comp=Z,66nm,0.8s
SLR Silverton 81.73 115 eP P 12 15 40.5 -0.9
SLR AMB AMB 12 15 50.3
comp=Z,30nm,1.1s
SLR Silverton 81.73 115 P P 12 15 40.5 -0.9
SLR pmax pmax
comp=Z,30nm,1.1s
SLR Silverton 81.73 115 P P 12 15 40.5 -0.9
comp=Z,30nm,1.1s
N22A Wattenberg Ran 81.74 332 ⇓P P 12 15 42.1 +1.1
baz=82,SNR=53
PASC Pasadena Art C 81.76 321 eP P 12 15 42.0 +1.0
comp=Z,33nm,0.8s
J29A Okreek 81.84 337 ⇓P P 12 15 41.5 +0.3
baz=82,SNR=74
O20A White River Ci 81.89 331 eP P 12 15 41.8 +0.1
comp=Z,28nm,0.7s
O20A White River Ci 81.89 331 ⇓P P 12 15 42.3 +0.6
baz=82,SNR=29
DECC Green Verdugo 81.89 321 ⇓P P 12 15 42.9 +1.2
baz=82
GSC Goldstone 81.91 322 eP P 12 15 42.3 +0.5
GSC pmax pmax
comp=Z,45nm,0.8s
GSC Goldstone 81.91 322 eP P 12 15 42.3 +0.5
comp=Z,46nm,0.8s
GSC Goldstone 81.91 322 ⇑P P 12 15 43.1 +1.2
baz=82,SNR=42
L25A Engebretsen Ra 81.97 334 ⇓P P 12 15 43.2 +1.1
baz=82,SNR=57
SRU San Rafael 81.99 329 eP P 12 15 42.0 -0.3
SRU pmax pmax
comp=Z,69nm,0.7s
SRU San Rafael 81.99 329 eP P 12 15 42.0 -0.3
comp=Z,69nm,0.7s
CCUT Cedar City 82.00 326 eP P 12 15 43.4 +0.9
comp=Z,72nm,0.8s
M23A Laramie 82.03 333 ⇓P P 12 15 43.1 +0.6
baz=82,SNR=11
SHPR Sheep Range 82.03 324 eP P 12 15 42.7 +0.1
comp=Z,60nm,0.8s
PMOZ Porto Moniz, M 82.04 42 eP P 12 15 44.3 +1.7
comp=Z,186nm,1.3s
SHOC Shoshone 82.11 323 ⇑P P 12 15 43.6 +0.8
baz=82,SNR=13
PMAR Madeira 82.13 42 eP P 12 15 44.2 +1.1
comp=Z,263nm,1.1s
J28A Allard Ranch, 82.16 337 ⇑P P 12 15 43.5 +0.6
baz=82,SNR=23
K26A Motz Farm, Whi 82.17 335 ⇑P P 12 15 43.8 +0.8
baz=83,SNR=14
EDW2 Edwards Air Fo 82.20 321 ⇑P P 12 15 44.0 +0.6
baz=82,SNR=52
L24A Wheatland 82.23 334 ⇓P P 12 15 44.3 +0.9
baz=83,SNR=19
ARUT Antelope Range 82.23 326 eP P 12 15 44.3 +0.8
ARUT pmax pmax
comp=Z,1µm,0.8s
ARUT Antelope Range 82.23 326 eP P 12 15 44.3 +0.8
comp=Z,1µm,0.8s
MVU Marysvale 82.25 327 eP P 12 15 43.9 +0.2
comp=Z,51nm,0.9s
J27A Elkhorn Farm, 82.26 336 ⇓P P 12 15 44.6 +1.1
baz=83,SNR=62
M22A Cedar Creek Ra 82.31 332 ⇓P P 12 15 44.7 +0.8
baz=83,SNR=23
K25A Mack Ranch, Ha 82.34 335 ⇓P P 12 15 45.0 +1.1
baz=83,SNR=22
BRSD Miller 82.35 339 ⇓P P 12 15 43.6 -0.2
baz=83,SNR=31
OSI Osito Adit 82.38 321 eP P 12 15 45.3 +1.1
comp=Z,66nm,0.8s
OSI Osito Adit 82.38 321 ⇓P P 12 15 45.1 +0.9
baz=83,SNR=5.9
I29A Vivian Onida 82.39 338 ⇓P P 12 15 43.9 -0.1
baz=83,SNR=25
BSC Santa Cruz Isl 82.40 320 ⇑P P 12 15 45.3 +1.0
baz=83,SNR=6.0
TMUT Trail Mountain 82.45 328 eP P 12 15 45.2 +0.4
comp=Z,40nm,0.8s
N20A Spence Gulch, 82.48 331 ⇑P P 12 15 45.3 +0.5
baz=83,SNR=27
L23A Garrett 82.58 333 ⇑P P 12 15 45.7 +0.4
baz=83,SNR=19
I28A Midland 82.65 337 ⇓P P 12 15 45.7 +0.3
baz=83,SNR=62
J26A Sides Ranch, S 82.68 336 ⇑P P 12 15 46.7 +1.0
baz=83,SNR=79
K24A Anderson Ranch 82.78 334 ⇑P P 12 15 47.2 +1.0
baz=83,SNR=12
SBC Santa Barbara 82.78 320 ⇓P P 12 15 47.3 +1.1
baz=83
L22A Ellis Ranch, M 82.78 333 ⇑P P 12 15 47.4 +1.1
baz=83,SNR=13
ARVC Arvin 82.83 321 ⇑P P 12 15 47.7 +1.2
baz=83,SNR=6.1
FURC Furnace Creek, 82.85 323 ⇑P P 12 15 47.7 +1.2
baz=83,SNR=32
H29A Onida 82.91 338 ⇑P P 12 15 46.6 -0.1
baz=83,SNR=35
J25A Sunshine Ranch 83.00 335 ⇓P P 12 15 48.1 +0.8
baz=83,SNR=32
I27A Quinn 83.00 337 ⇓P P 12 15 47.6 +0.4
baz=83,SNR=61
ISA Isabella 83.05 321 eP P 12 15 48.7 +1.0
ISA pmax pmax
comp=Z,59nm,0.8s
ISA Isabella 83.05 321 eP P 12 15 48.7 +1.0
comp=Z,58nm,0.8s
ISA Isabella 83.05 321 ⇑P P 12 15 49.1 +1.3
baz=83,SNR=73
DAC Darwin (Calif) 83.07 322 eP P 12 15 48.3 +0.3
DAC pmax pmax
comp=Z,95nm,0.8s
DAC Darwin (Calif) 83.07 322 eP P 12 15 48.3 +0.3
comp=Z,95nm,0.8s
K23A Bowen Ranch, D 83.10 334 ⇑P P 12 15 48.5 +0.6
baz=84,SNR=54
H28A Mission Ridge 83.20 338 ⇑P P 12 15 48.4 +0.2
baz=84,SNR=73
MPU Maple Canyon 83.22 328 eP P 12 15 48.8 +0.1
comp=Z,44nm,0.8s
I26A New Underwood 83.24 336 ⇓P P 12 15 48.8 +0.3
baz=84,SNR=40
J24A Dixon Ranch, L 83.25 335 ⇑P P 12 15 49.5 +0.9
baz=84,SNR=60
G29A Hoven 83.33 338 ⇑P P 12 15 48.6 -0.2
baz=84,SNR=23
K22A Casper 83.35 333 eP P 12 15 49.1 -0.1
comp=Z,63nm,0.8s
K22A Casper 83.35 333 ⇑P P 12 15 49.7 +0.5
baz=84,SNR=43
NLU North Lily Min 83.37 328 eP P 12 15 49.9 +0.5
comp=Z,48nm,1.3s
DAU Daniels Canyon 83.39 329 eP P 12 15 50.1 +0.5
DAU pmax pmax
comp=Z,38nm,0.8s
DAU Daniels Canyon 83.39 329 eP P 12 15 50.1 +0.5
comp=Z,38nm,0.8s
VES Vestal, Richgr 83.51 321 ⇑P P 12 15 50.9 +1.0
baz=84,SNR=59
H27A Howes 83.51 337 ⇑P P 12 15 49.9 +0.1
baz=84,SNR=129
GRAC Grapevine Rang 83.52 323 ⇓P P 12 15 51.3 +1.2
baz=84
G28A Parade 83.53 338 ⇑P P 12 15 50.1 +0.2
baz=84,SNR=57
SMMC Simmler 83.59 320 ⇑P P 12 15 52.0 +1.5
baz=84,SNR=17
K21A Alcova 83.61 333 ⇑P P 12 15 51.1 +0.5
baz=84,SNR=87
JLU Jordanelle 83.63 329 eP P 12 15 50.6 -0.1
comp=Z,43nm,0.7s
J23A Dilts Ranch, B 83.64 334 ⇑P P 12 15 51.1 +0.5
baz=84
F30A Leola 83.64 339 ⇑P P 12 15 50.4 0.0
baz=84,SNR=40
EYMN Ely 83.67 345 eP P 12 15 50.4 -0.1
EYMN epP pP 12 16 34.1 +1.6
R11A Troy Canyon, C 83.70 325 eP P 12 15 51.0 -0.1
comp=Z,55nm,0.8s
R11A epP pP 12 16 36.7 +3.7
R11A Troy Canyon, C 83.70 325 ⇓P P 12 15 52.3 +1.2
baz=84
I24A Kuemmerle Ranc 83.70 335 ⇓P P 12 15 51.4 +0.5
baz=84,SNR=33
RSSD Black Hills 83.72 335 eP P 12 15 50.6 -0.5
RSSD pmax pmax
comp=Z,67nm,0.8s
RSSD Black Hills 83.72 335 eP P 12 15 50.6 -0.5
comp=Z,67nm,0.8s
RSSD epP pP 12 16 36.7 +3.7
H26A Fairpoint 83.72 336 ⇑P P 12 15 50.8 -0.1
baz=84,SNR=18
CTU Camp Tracy 83.83 329 eP P 12 15 51.6 -0.1
comp=Z,42nm,0.8s
F29A Eureka 83.88 339 ⇓P P 12 15 51.5 -0.1
baz=84,SNR=55
DUG Dugway 83.89 328 eP P 12 15 51.9 -0.1
DUG pmax pmax
comp=Z,38nm,0.7s
DUG Dugway 83.89 328 eP P 12 15 51.9 -0.1
comp=Z,38nm,0.7s
DUG Dugway 83.89 328 ⇑P P 12 15 52.6 +0.6
baz=84,SNR=58
RCTC Rector, Farmer 83.95 321 ⇓P P 12 15 52.1 0.0
baz=84,SNR=11
J22A Midwest 83.99 333 ⇑P P 12 15 52.3 -0.1
baz=84,SNR=39
TIN Tinemaha 84.00 322 ⇓P P 12 15 53.7 +1.1
baz=84,SNR=21
H25A Fruitdale 84.01 336 ⇑P P 12 15 52.8 +0.4
baz=84,SNR=56
TCUT Toone Canyon 84.03 329 eP P 12 15 52.6 -0.2
comp=Z,82nm,0.8s
TCUT epP pP 12 16 39.3 +4.5
G27A Dupree 84.12 337 ⇓P P 12 15 52.9 0.0
baz=84,SNR=64
F28A McLaughlin 84.19 338 ⇑P P 12 15 53.4 +0.2
baz=85,SNR=52
E30A Jud 84.21 340 ⇓P P 12 15 53.1 -0.2
baz=85,SNR=41
G26A Maurine 84.27 337 ⇑P P 12 15 53.5 -0.1
baz=85,SNR=75
TPH Tonopah 84.28 324 eP P 12 15 54.2 +0.1
TPH pmax pmax
comp=Z,76nm,1.0s
TPH Tonopah 84.28 324 eP P 12 15 54.2 +0.1
comp=Z,76nm,1.0s
J21A Lysite 84.29 333 ⇓P P 12 15 54.2 +0.2
baz=85,SNR=17
I22A 9 Mile Ranch, 84.40 334 ⇑P P 12 15 54.6 +0.1
baz=85,SNR=54
H24A Dirks Ranch, A 84.45 335 ⇓P P 12 15 54.7 +0.1
baz=85,SNR=54
G25A Newell 84.45 336 ⇓P P 12 15 54.8 +0.2
baz=85,SNR=168
E29A Napoleon 84.48 339 ⇓P P 12 15 54.5 -0.2
baz=85,SNR=26
HWUT Hardware Ranch 84.50 329 eP P 12 15 54.4 -0.7
comp=Z,133nm,0.8s
J20A Shoshoni 84.55 332 ⇓P P 12 15 55.9 +0.7
baz=85,SNR=71
BGU Big Grassy Mou 84.58 328 eP P 12 15 55.5 +0.1
comp=Z,7.6nm,0.7s
BGU epP pP 12 16 40.9 +3.4
H23A Clabaugh Cattl 84.58 335 ⇓P P 12 15 55.1 -0.2
baz=85
F27A Lemmon 84.59 337 ⇑P P 12 15 55.2 0.0
baz=85,SNR=143
PDAR Pinedale Array 84.63 331 P P 12 15 55.5 -0.3
comp=Z,36nm,0.8s,baz=134,slow=5.0,SNR=161
PDAR PKKP PKKPbc 12 34 04.3 -2.0
comp=Z,1.2nm,0.8s,baz=120,slow=1.3,SNR=9.7
BW06 Boulder Array 84.63 331 eP P 12 15 56.8 +1.1
comp=Z,35nm,0.9s
I21A Big Trails, Te 84.63 333 ⇑P P 12 15 55.6 0.0
baz=85,SNR=40
SPUT South Promonto 84.64 329 eP P 12 15 55.8 0.0
comp=Z,74nm,0.8s
D30A Buchanan 84.72 340 ⇑P P 12 15 55.9 +0.1
baz=85,SNR=40
F26A Lodgepole 84.78 337 ⇓P P 12 15 56.3 +0.1
baz=85,SNR=50
E28A Huff 84.81 339 ⇓P P 12 15 56.5 +0.2
baz=85,SNR=62
J19A Crowheart 84.85 332 ⇑P P 12 15 56.9 +0.2
baz=85,SNR=83
G24A Alzada 84.91 336 ⇑P P 12 15 56.9 0.0
baz=85,SNR=57
D29A Pettibone, Tap 84.91 339 ⇓P P 12 15 56.8 0.0
baz=85,SNR=36
ODZ Otahua Downs 84.92 218 eP P 12 15 57.8 +0.6
comp=Z,80nm,1.0s
ODZ epP pP 12 16 43.4 +4.3
MSNA Messina 84.93 113 eP P 12 15 57.2 -0.5
MSNA AMB AMB 12 15 59.9
comp=Z,33nm,1.7s
MSNA Messina 84.93 113 P P 12 15 57.2 -0.5
comp=Z,33nm,1.7s
E27A Carson 84.94 338 ⇓P P 12 15 57.1 +0.1
baz=85,SNR=43
H22A Clearmont 84.95 334 ⇑P P 12 15 57.1 -0.1
baz=85,SNR=18
NV11 Mina Array Sit 85.02 323 eP P 12 15 58.4 +0.7
AGMN Agassiz Nation 85.03 342 eP P 12 15 57.4 +0.1
AGMN epP pP 12 16 42.0 +2.6
AGMN Agassiz Nation 85.03 342 ⇓P P 12 15 57.1 -0.2
baz=85,SNR=46
NVAR Mina Array Bea 85.09 323 P P 12 15 58.2 +0.1
comp=Z,39nm,0.8s,baz=151,slow=5.2,SNR=258
NVAR PKKPbc PKKPbc 12 34 04.1 -0.8
comp=Z,1.2nm,0.7s,baz=300,slow=2.0,SNR=7.3
NVAR LR LR 12 50 03.5
comp=Z,146nm,20.4s,baz=229,slow=33
F25A Bowman 85.11 337 ⇓P P 12 15 58.1 +0.2
baz=86,SNR=33
G23A Biddle 85.14 335 ⇑P P 12 15 57.9 -0.1
baz=86,SNR=53
HVU Hansel Valley 85.16 329 eP P 12 15 57.7 -0.6
HVU pmax pmax
comp=Z,130nm,0.7s
HVU Hansel Valley 85.16 329 eP P 12 15 57.7 -0.6
comp=Z,130nm,0.7s
KHZ Kahutara 85.17 221 eP P 12 15 58.7 +0.3
comp=Z,98nm,0.9s
C30A Mose, Pekin 85.18 340 ⇓P P 12 15 58.3 +0.2
baz=86,SNR=60
H21A Big Horn, Sher 85.24 334 ⇓P P 12 15 58.4 -0.2
baz=86,SNR=37
AHID Auburn Hatcher 85.26 330 eP P 12 15 58.1 -0.8
comp=Z,65nm,0.8s
E26A Carlson Angus 85.27 337 ⇓P P 12 15 58.5 -0.1
baz=86,SNR=34
MOPA Mopani 85.31 115 eP P 12 15 58.7 -0.8
MOPA AMB AMB 12 16 05.9
comp=Z,26nm,2.9s
MOPA Mopani 85.31 115 P P 12 15 58.7 -0.8
comp=Z,26nm,2.9s
D28A Regan 85.32 339 ⇓P P 12 15 59.1 +0.2
baz=86,SNR=40
F24A Ekalaka 85.37 336 ⇑P P 12 15 59.1 0.0
baz=86,SNR=34
SAO San Andreas Ge 85.45 320 eP P 12 16 00.6 +0.9
SAO pmax pmax
comp=Z,40nm,1.3s
SAO San Andreas Ge 85.45 320 eP P 12 16 00.6 +0.9
comp=Z,40nm,1.3s
G22A Birney 85.47 334 ⇓P P 12 15 59.5 -0.2
baz=86,SNR=40
H20A Greybull 85.47 333 ⇑P P 12 15 59.6 -0.1
baz=86,SNR=116
I19A Meeteetse 85.47 332 ⇓P P 12 16 00.2 +0.3
baz=86,SNR=38
D27A Center 85.54 338 ⇓P P 12 16 00.0 +0.1
baz=86,SNR=22
F23A Volborg 85.59 335 ⇑P P 12 16 00.1 -0.1
baz=86,SNR=75
E25A Miller Ranch, 85.59 337 ⇑P P 12 16 00.7 +0.4
baz=86,SNR=34
RPZ Rata Peaks 85.62 219 eP P 12 16 01.8 +1.0
comp=Z,192nm,1.0s
RPZ epP pP 12 16 47.0 +4.3
WAKR Walker 85.72 323 eP P 12 16 01.9 +0.6
comp=Z,49nm,1.0s
C28A Hausauer Farms 85.74 339 ⇑P P 12 16 01.1 +0.2
baz=86,SNR=21
D26A Manning 85.75 338 ⇓P P 12 16 01.4 +0.4
baz=86,SNR=54
G21A Lodge Grass 85.81 334 ⇑P P 12 16 01.5 +0.1
baz=86,SNR=56
B30A Myrvik Farm, E 85.82 341 ⇑P P 12 16 01.2 0.0
baz=86,SNR=142
URZ Urewera 85.84 226 P P 12 16 02.8 +1.0
comp=Z,26nm,1.0s,baz=357,slow=4.9,SNR=9.0
URZ Urewera 85.84 226 eP P 12 16 02.9 +1.1
CMB Columbia Colle 85.85 322 eP P 12 16 02.1 +0.4
CMB pmax pmax
comp=Z,14nm,0.9s
CMB Columbia Colle 85.85 322 eP P 12 16 02.1 +0.4
comp=Z,14nm,0.9s
F22A Rosebud 85.94 335 ⇓P P 12 16 02.1 +0.1
baz=86,SNR=60
E24A Baker 85.95 336 ⇑P P 12 16 02.5 +0.5
baz=86,SNR=34
I17A Pilgrim Ck. 86.00 331 ⇑P P 12 16 03.3 +0.8
baz=86,SNR=115
H19A Powell 86.01 333 ⇓P P 12 16 02.6 +0.2
baz=86,SNR=59
C27A Sayler Ranch, 86.07 339 ⇓P P 12 16 03.0 +0.5
baz=86,SNR=48
B29A Wagenman Farm, 86.12 340 ⇓P P 12 16 02.7 0.0
baz=86,SNR=30
BMN Battle Mountai 86.12 325 eP P 12 16 02.8 -0.3
BMN pmax pmax
comp=Z,14nm,0.9s
BMN Battle Mountai 86.12 325 eP P 12 16 02.8 -0.3
comp=Z,14nm,0.9s
D25A Fairfield 86.14 337 ⇓P P 12 16 03.6 +0.7
baz=86,SNR=55
G20A Bridger 86.18 333 ⇓P P 12 16 03.1 -0.2
baz=87,SNR=138
A30A Hoffart Farm, 86.26 341 ⇑P P 12 16 03.2 -0.1
baz=87,SNR=52
H18A Shoshone NF, C 86.27 332 ⇓P P 12 16 04.0 +0.1
baz=87,SNR=218
F21A Absaloka Mine, 86.29 334 ⇓P P 12 16 03.9 +0.2
baz=87,SNR=31
C26A Wahner Farm, P 86.35 338 ⇓P P 12 16 04.3 +0.4
baz=87,SNR=31
B28A Dugan Ranch, T 86.39 340 ⇑P P 12 16 04.2 +0.2
baz=87,SNR=44
H17A Grant Village 86.40 331 eP P 12 16 05.1 +0.6
comp=Z,28nm,0.7s
H17A Grant Village 86.40 331 ⇑P P 12 16 05.3 +0.8
baz=87,SNR=34
E22A Miles City 86.40 335 ⇓P P 12 16 03.9 -0.3
baz=87,SNR=64
D24A Glendive 86.44 337 ⇑P P 12 16 05.0 +0.6
baz=87,SNR=59
RLMT Red Lodge 86.49 333 eP P 12 16 04.5 -0.4
comp=Z,55nm,0.6s
A29A Manning Farm, 86.50 341 ⇓P P 12 16 04.2 -0.3
baz=87,SNR=70
YFT Old Faithful 86.55 331 eP P 12 16 07.0 +1.8
comp=Z,63nm,0.7s
SAC San Andreas 86.58 320 eP P 12 16 06.5 +1.3
SAC pmax pmax
comp=Z,90nm,0.8s
SAC San Andreas 86.58 320 eP P 12 16 06.5 +1.3
comp=Z,90nm,0.8s
B27A Peters Farms, 86.61 339 ⇑P P 12 16 05.4 +0.3
baz=87,SNR=7.0
C25A Freed Ranch, W 86.62 338 ⇓P P 12 16 05.7 +0.5
baz=87,SNR=40
F20A Billings 86.65 334 ⇓P P 12 16 05.4 -0.1
baz=87,SNR=31
YNR Norris Junctio 86.71 332 eP P 12 16 07.0 +1.1
comp=Z,16nm,0.8s
LAO LASA Array 86.71 335 eP P 12 16 05.0 -0.7
comp=Z,118nm,0.8s
A28A Rude Farm, Bot 86.78 340 ⇑P P 12 16 05.9 0.0
baz=87,SNR=19
YMR Madison River 86.78 331 eP P 12 16 06.7 +0.3
comp=Z,137nm,0.7s
YMR epP pP 12 16 52.9 +4.4
D23A Lindsay 86.78 336 ⇓P P 12 16 06.7 +0.7
baz=87,SNR=132
C24A Savage 86.83 337 ⇑P P 12 16 06.9 +0.6
baz=87,SNR=118
ULM Lac du Bonnet 86.84 343 P P 12 16 05.2 -0.9
comp=Z,61nm,0.8s,baz=161,slow=4.4,SNR=89
ULM PKKPbc PKKPbc 12 33 58.5 -2.6
comp=Z,3.2nm,0.6s,baz=349,slow=2.8,SNR=7.4
ULM LR LR 12 55 58.7
comp=Z,158nm,20.4s,baz=142,slow=36
B26A Jensen Ranch, 86.88 338 ⇓P P 12 16 06.7 +0.3
baz=87,SNR=16
E21A Keefer Ranch, 86.89 335 ⇑P P 12 16 06.9 +0.3
baz=87,SNR=67
F19A Roth Farm, Mol 86.99 333 ⇓P P 12 16 07.0 -0.1
baz=87,SNR=81
B25A Knox Farm, Ray 87.08 338 ⇓P P 12 16 08.2 +0.8
baz=88,SNR=55
D22A Cohagen 87.10 336 ⇓P P 12 16 08.1 +0.5
baz=88,SNR=83
QLMT Earthquake Lak 87.10 331 eP P 12 16 08.7 +0.9
comp=Z,6.4nm,1.0s
QLMT epP pP 12 16 54.8 +4.7
E20A Meyer Farm, Mu 87.24 334 ⇓P P 12 16 08.7 +0.5
baz=88,SNR=329
A26A Wade Farm, Ken 87.29 339 ⇓P P 12 16 08.6 +0.2
baz=88,SNR=31
D21A La Casta Ranch 87.31 335 ⇑P P 12 16 08.9 +0.3
baz=88,SNR=96
HLID Hailey 87.31 329 eP P 12 16 08.6 -0.2
comp=Z,48nm,0.9s
HLID epP pP 12 16 55.1 +4.0
HLID Hailey 87.31 329 ⇑P P 12 16 09.6 +0.8
baz=88,SNR=80
C23A Lambert 87.32 336 ⇑P P 12 16 09.1 +0.5
baz=88,SNR=114
LSZ Lusaka 87.43 107 eP P 12 16 10.9 +0.8
LSZ pmax pmax
comp=Z,53nm,1.4s
LSZ Lusaka 87.43 107 eP P 12 16 10.8 +0.8
comp=Z,53nm,1.4s
E19A Rath Farm, Rou 87.44 334 ⇓P P 12 16 09.4 +0.2
baz=88,SNR=237
C22A Vida 87.51 336 ⇓P P 12 16 09.7 +0.2
baz=88,SNR=53

DGMT Dagmar 87.58 337 eP P 12 16 09.7 -0.1
comp=Z,318nm,0.8s
DGMT epP pP 12 16 10.4 +0.7
DGMT Dagmar 87.58 337 ⇑P P 12 16 10.4 +0.7
baz=88,SNR=95
A25A Svangstu Ranch 87.65 338 ⇓P P 12 16 10.7 +0.6
baz=88,SNR=34
MCMT McKenzie Canyo 87.68 330 P P 12 16 11.0 +0.4
D20A Manuel Ranch, 87.74 334 ⇑P P 12 16 10.7 +0.1
baz=88,SNR=205
MFID Camas Ranch 87.82 328 eP P 12 16 11.0 -0.1
comp=Z,39nm,0.8s
B23A Brockton 87.84 337 ⇓P P 12 16 11.3 +0.3
baz=88,SNR=27
A24A Westby 87.92 338 ⇓P P 12 16 11.9 +0.5
baz=88,SNR=39
C21A Desert Coulee 88.00 335 ⇓P P 12 16 11.9 +0.1
baz=88,SNR=86
B22A Reddig Ranch S 88.03 336 ⇓P P 12 16 12.3 +0.4
baz=88,SNR=124
D19A Cripps Ranch, 88.07 334 ⇓P P 12 16 12.2 0.0
baz=88,SNR=72
SCHQ Schefferville 88.09 1 P P 12 16 11.4 -0.6
comp=Z,28nm,0.5s,baz=200,slow=7.5,SNR=86
SCHQ Schefferville 88.09 1 eP P 12 16 11.3 -0.6
comp=Z,52nm,0.9s
C20A Veseth Ranch, 88.22 335 ⇑P P 12 16 12.7 -0.2
baz=89,SNR=64
A23A Redstone 88.23 337 ⇑P P 12 16 12.9 +0.1
baz=89,SNR=20
LRM Limekiln Ridge 88.33 331 eP P 12 16 13.7 0.0
comp=Z,400nm,0.9s
WVOR Wild Horse Val 88.34 326 eP P 12 16 14.1 +0.4
WVOR pmax pmax
comp=Z,32nm,0.9s
WVOR Wild Horse Val 88.34 326 eP P 12 16 14.1 +0.4
comp=Z,32nm,0.9s
WVOR epP pP 12 17 00.6 +4.5
B21A Ellsworth Farm 88.48 336 ⇓P P 12 16 14.3 +0.3
baz=89,SNR=46
A22A Carney Farms, 88.60 337 ⇓P P 12 16 14.9 +0.3
baz=89,SNR=158
C19A Slack Wire Ran 88.61 334 ⇓P P 12 16 14.7 -0.1
baz=89
MOD Modoc 88.73 324 eP P 12 16 16.6 +1.0
comp=Z,18nm,0.7s
MOD epP pP 12 17 02.9 +4.9
KCPM Cahto Peak 88.74 321 eP P 12 16 17.6 +2.0
comp=Z,34nm,0.7s
HRY Holter Researc 88.81 332 eP P 12 16 16.2 +0.5
comp=Z,16nm,0.8s
B20A Solberg Farm, 88.84 335 ⇓P P 12 16 15.7 0.0
baz=89,SNR=34
WDC Whiskeytown Da 88.86 322 eP P 12 16 15.5 -0.5
WDC pmax pmax
comp=Z,15nm,0.9s
WDC Whiskeytown Da 88.86 322 eP P 12 16 15.5 -0.5
comp=Z,15nm,0.9s
EGMT Eagleton 89.11 334 eP P 12 16 16.9 -0.1
comp=Z,30nm,0.7s
EGMT Eagleton 89.11 334 ⇓P P 12 16 16.8 -0.2
baz=90,SNR=23
B19A Brinkman Farms 89.18 335 ⇑P P 12 16 17.4 0.0
baz=90,SNR=32
A20A Cobblestone Ra 89.18 335 ⇓P P 12 16 17.3 -0.1
baz=90,SNR=90
N02D Trinity Center 89.24 322 ⇑P P 12 16 17.4 -0.4
baz=90
M04C Macdoel 89.40 323 ⇓P P 12 16 18.8 +0.1
baz=90
A19A Klindworth Far 89.51 335 ⇓P P 12 16 18.8 -0.1
baz=90,SNR=52
MDT Midelt 89.55 49 P P 12 16 20.5 +1.0
comp=Z,10.0nm,0.7s,baz=238,slow=3.8,SNR=24
MDT pP pP 12 17 03.0 +1.0
comp=Z,19nm,1.0s,baz=231,slow=7.8,SNR=5.8
M02C Callahan 89.62 323 ⇑P P 12 16 19.8 +0.2
baz=90
KHMM Horse Mountain 89.69 322 eP P 12 16 21.7 +1.6
comp=Z,21nm,0.8s
MSO Missoula 89.75 331 ⇑P P 12 16 20.3 +0.2
baz=90
PAF Port-aux-Franc 89.76 155 S S 12 27 00.0 +2.6
PAF R 12 39 00.0
YBH Yreka Blue Hor 89.80 323 P P 12 16 20.2 -0.3
YBH pmax pmax
comp=Z,10.0nm,0.6s
YBH Yreka Blue Hor 89.80 323 P P 12 16 20.2 -0.3
comp=Z,9.5nm,0.6s,baz=51,slow=4.8,SNR=11
PFVI Vila Bisbo 89.90 44 eSKS S 12 27 07.3 +8.6
OUZ Omahuta 89.96 227 eP P 12 16 22.4 +0.9
comp=Z,74nm,1.5s
MORF Marmelete 90.12 44 eP P 12 16 23.0 +1.0
comp=Z,109nm,2.2s
MORF Marmelete 90.12 44 eSKS SKSac 12 26 43.0 +6.2
PTEO Sao Teotonio 90.25 44 eP P 12 16 23.4 +0.9
comp=Z,100nm,2.8s
TAM Tamanrasset 90.30 63 eP P 12 16 24.3 +0.9
TAM pmax pmax
comp=Z,19nm,1.1s
TAM Tamanrasset 90.30 63 eP P 12 16 24.2 +0.9
comp=Z,19nm,1.1s
SWMT Swartz Lake 90.32 331 eP P 12 16 23.0 +0.2
comp=Z,18nm,0.8s
PBDV Barranco-do-Ve 90.50 44 eP P 12 16 25.2 +1.5
comp=Z,146nm,1.7s
PBDV Barranco-do-Ve 90.50 44 eSKS SKSac 12 26 46.8 +7.9
YBMT Yellow Bay 90.61 332 eP P 12 16 27.8 +3.7
JTMT Jette 90.62 331 eP P 12 16 24.6 +0.4
comp=Z,19nm,0.7s
PCVE Castro Verde 90.70 44 eP P 12 16 25.6 +1.0
comp=Z,47nm,1.6s
PVAQ Vaqueiros 90.73 44 eP P 12 16 26.3 +1.5
comp=Z,76nm,1.4s
PVAQ Vaqueiros 90.73 44 eSKS SKSac 12 26 34.4 -5.8
MESJ Messejana 90.74 44 eP P 12 16 25.0 +0.2
MESJ AMb AMB 12 16 31.6
comp=Z,61nm,1.4s
MESJ Messejana 90.74 44 eP P 12 16 26.6 +1.8
MESJ Messejana 90.74 44 eP P 12 16 25.0 +0.2
MESJ pmax pmax
comp=Z,61nm,1.4s
PNCL Nicolau / Gran 90.75 43 eP P 12 16 25.8 +1.0
comp=Z,40nm,1.2s
BLMT Blacktail Moun 90.87 331 eP P 12 16 25.9 +0.5
comp=Z,42nm,0.8s
BSMT Bassoo Peak 90.91 331 P P 12 16 25.6 0.0
I05D Terrebonne, OR 91.07 325 ⇑P P 12 16 27.0 +0.8
baz=91
PBEJ Beja 91.07 44 eP P 12 16 27.2 +0.9
comp=Z,69nm,1.5s
I04A Tendick Farm, 91.17 324 ⇓P P 12 16 26.8 0.0
baz=92
EVOP Sao Brissos 91.26 43⇑iP P 12 16 27.6 +0.4
EVOP e*PP pP 12 17 10.2 +0.5
EVOP pmax pmax
comp=Z,19nm,0.7s
EVOP Sao Brissos 91.26 43⇑iP P 12 16 27.6 +0.4
comp=Z,19nm,0.7s
EVOP epP pP 12 17 10.2 +0.5
EVO Evora 91.33 43⇑iP P 12 16 27.6 +0.1
comp=Z,19nm,0.7s
EVO epP pP 12 17 10.2 +0.2
EVO eR
comp=Z,462nm,19.8s
EVO Evora 91.33 43 eP P 12 16 28.3 +0.8
comp=Z,30nm,1.4s
WALA Waterton Lakes 91.53 332 eP P 12 16 28.0 -0.4
comp=Z,2.3nm,0.8s
I03D Drain, OR 91.56 324 ⇑P P 12 16 28.5 0.0
baz=92
PMTG Montargil 91.58 43 eP P 12 16 27.4 -1.2
comp=Z,59nm,1.7s
PBAR Barrancos 91.65 44 eP P 12 16 29.7 +0.7
comp=Z,85nm,1.4s
VGB Gordon Butte 91.69 326 P P 12 16 30.2 +1.1
VGB Gordon Butte 91.69 326 P P 12 16 30.2 +1.1
G05D Wamic, OR 91.73 326 ⇑P P 12 16 30.2 +1.0
baz=92
HAWA Hanford 91.79 328 eP P 12 16 29.9 +0.5
comp=Z,27nm,0.8s
PESTR Estremoz 91.80 43 eP P 12 16 30.3 +0.6
comp=Z,34nm,1.7s
PESTR Estremoz 91.80 43 eSKS SKSac 12 26 49.0 +2.8
PTOM Tomar 91.85 42 eP P 12 16 30.9 +1.0
comp=Z,52nm,1.7s
TDH Tom, Dick, Har 91.99 326 P P 12 16 31.4 +0.8

PCAS Casmilo, Conde 92.10 42 eSKS SKSac 12 26 53.3 +5.5
OD2 Odessa Site #2 92.19 329 P P 12 16 30.9 -0.4
NEW Newport 92.19 330 P P 12 16 30.7 -0.7
NEW pmax pmax
comp=Z,12nm,0.8s
NEW Newport 92.19 330 P P 12 16 30.7 -0.7
comp=Z,12nm,0.8s,baz=126,slow=4.8,SNR=35
NEW Newport 92.19 330 eP P 12 16 30.9 -0.4
NEW Newport 92.19 330 ⇑P P 12 16 31.0 -0.4
baz=93
FHE Frenchman Hill 92.20 328 P P 12 16 32.0 +0.7
PMRV Marv??o 92.29 43 eP P 12 16 32.1 +0.1
comp=Z,34nm,1.5s
PMRV Marv??o 92.29 43 eSKS SKSac 12 26 50.5 +1.5
DPW Davenport 92.34 329 P P 12 16 32.4 +0.4
DPW Davenport 92.34 329 P P 12 16 32.4 +0.4
FFC Flin Flon 92.47 342 eP P 12 16 32.2 -0.2
FFC pmax pmax
comp=Z,16nm,0.8s
FFC Flin Flon 92.47 342 eP P 12 16 32.2 -0.2
comp=Z,16nm,0.8s
PCBR Castelo Branco 92.53 43 eP P 12 16 32.8 -0.2
comp=Z,56nm,1.5s
EBG Ellensburg 92.64 327 P P 12 16 34.5 +1.0
SAW Saint Andrews 92.73 329 P P 12 16 33.9 +0.1
MTE Manteigas 92.87 42 eP P 12 16 34.9 +0.2
comp=Z,43nm,2.3s
MTE Manteigas 92.87 42 eSKS SKSac 12 26 47.0 -5.2
WTV Waterville 92.97 328 P P 12 16 34.6 -0.4
LON Longmire 93.09 327 P P 12 16 35.5 0.0
LON Longmire 93.09 327 P P 12 16 35.5 0.0
PVRL Vila Real 93.37 41 eP P 12 16 37.1 +0.2
comp=Z,38nm,1.1s
PCAB Cabril 93.49 41 eP P 12 16 38.0 +0.5
comp=Z,78nm,1.6s
MVO Moncorvo 93.67 42 eP P 12 16 38.2 -0.2
comp=Z,52nm,1.7s
MVO Moncorvo 93.67 42 eSKS SKSac 12 26 59.6 +3.0
PAB San Pablo 94.13 44 eP P 12 16 41.0 +0.5
PAB pmax pmax
comp=Z,29nm,1.2s
PAB San Pablo 94.13 44 eP P 12 16 41.0 +0.5
comp=Z,29nm,1.2s
PBRG Braganca 94.26 42 eP P 12 16 41.7 +0.7
comp=Z,34nm,1.5s
FCC Fort Churchill 94.39 347 eP P 12 16 40.3 -0.7
FCC pmax pmax
comp=Z,2.0nm,0.8s
FCC Fort Churchill 94.39 347 eP P 12 16 40.3 -0.7
comp=Z,1.5nm,0.8s
ESDC Sonseca Array 94.44 45 P P 12 16 42.1 +0.2
comp=Z,16nm,1.0s,baz=248,slow=4.6,SNR=26
ESDC pP pP 12 17 25.0 +0.6
comp=Z,10nm,1.0s,baz=240,slow=4.2,SNR=5.1
EDM Edmonton 94.70 335 eP P 12 16 40.9 -1.8
EDM Edmonton 94.70 335 eP P 12 16 40.9 -1.8
SJPF Ste Jean 98.22 43⇑iP Pdif 12 17 00.1 +1.2
comp=Z,42nm,1.0s
SJPF Ste Jean 98.22 43⇑iP Pdif 12 17 00.1 +1.2
SJPF pmax pmax
comp=Z,42nm,1.0s
SJPF Ste Jean 98.22 43⇑iP Pdif 12 17 00.1 +1.2
comp=Z,42nm,1.0s
ETSF Etsaut 98.46 44⇑iP Pdif 12 17 01.3 +1.2
comp=Z,22nm,1.0s
ETSF Etsaut 98.46 44⇑iP Pdif 12 17 01.3 +1.2
ETSF pmax pmax
comp=Z,22nm,1.0s
ETSF Etsaut 98.46 44⇑iP Pdif 12 17 01.3 +1.2
comp=Z,22nm,1.0s
EPF Esparros 99.06 44⇑iP Pdif 12 17 03.6 +0.9
EPF Esparros 99.06 44⇑iP Pdif 12 17 03.6 +0.9
EPF Esparros 99.06 44⇑iP Pdif 12 17 03.6 +0.9
QUIF Quistinic 100.18 39⇑iP Pdif 12 17 07.7 +0.2
QUIF Quistinic 100.18 39⇑iP Pdif 12 17 07.7 +0.2
QUIF Quistinic 100.18 39⇑iP Pdif 12 17 07.7 +0.2
MTLF Montolieu 100.35 45 eP Pdif 12 17 09.0 +0.7
comp=Z,33nm,1.2s
MTLF Montolieu 100.35 45 eP Pdif 12 17 09.0 +0.7
MTLF pmax pmax
comp=Z,33nm,1.2s
MTLF Montolieu 100.35 45 eP Pdif 12 17 09.0 +0.7
comp=Z,33nm,1.2s
ROSF Rostrenen 100.39 38 eP Pdif 12 17 08.6 +0.2
ROSF Rostrenen 100.39 38 eP Pdif 12 17 08.6 +0.2
ROSF Rostrenen 100.39 38 eP Pdif 12 17 08.6 +0.2
LFF La Frestale 100.46 43⇑iP Pdif 12 17 09.6 +0.8
comp=Z,39nm,0.8s
LFF La Frestale 100.46 43⇑iP Pdif 12 17 09.6 +0.8
LFF pmax pmax
comp=Z,39nm,0.8s
LFF La Frestale 100.46 43⇑iP Pdif 12 17 09.6 +0.8
comp=Z,39nm,0.8s
MFF Saint Martin d 100.97 41⇑iP Pdif 12 17 11.7 +0.7
comp=Z,90nm,1.3s
MFF Saint Martin d 100.97 41⇑iP Pdif 12 17 11.7 +0.7
MFF pmax pmax
comp=Z,91nm,1.3s
MFF Saint Martin d 100.97 41⇑iP Pdif 12 17 11.7 +0.7
comp=Z,90nm,1.3s
RJF Les Rejaudoux 101.11 43 eP Pdif 12 17 13.5 +1.8
RJF eR
comp=Z,397nm,21.0s
RJF Les Rejaudoux 101.11 43 eP Pdif 12 17 13.5 +1.8
RJF Les Rejaudoux 101.11 43 eP Pdif 12 17 13.5 +1.8
CAF Calviac 101.20 43⇑iP Pdif 12 17 13.0 +0.9
CAF Calviac 101.20 43⇑iP Pdif 12 17 13.0 +0.9
CAF Calviac 101.20 43⇑iP Pdif 12 17 13.0 +0.9
GRR Gorron 101.69 39⇑iP Pdif 12 17 14.2 +0.1
comp=Z,22nm,0.9s
GRR Gorron 101.69 39⇑iP Pdif 12 17 14.2 +0.1
GRR pmax pmax
comp=Z,22nm,0.9s
GRR Gorron 101.69 39⇑iP Pdif 12 17 14.2 +0.1
comp=Z,22nm,0.9s
LASF Ste Croix 101.74 45 eP Pdif 12 17 15.6 +1.1
LASF Ste Croix 101.74 45 eP Pdif 12 17 15.6 +1.1
TCF Toulx Ste Croi 102.09 42⇑iP Pdif 12 17 16.6 +0.5
comp=Z,21nm,1.1s
TCF epP 12 17 58.8
TCF Toulx Ste Croi 102.09 42⇑iP Pdif 12 17 16.6 +0.5
TCF pmax pmax
comp=Z,21nm,1.1s
TCF Toulx Ste Croi 102.09 42⇑iP Pdif 12 17 16.6 +0.5
comp=Z,21nm,1.1s
TCF epP 12 17 58.8
FLN La Foliniere 102.11 39 eP Pdif 12 17 16.2 +0.2
comp=Z,56nm,1.2s
FLN eR
comp=Z,322nm,21.5s
FLN La Foliniere 102.11 39 eP Pdif 12 17 16.2 +0.2
FLN pmax pmax
comp=Z,56nm,1.2s
FLN La Foliniere 102.11 39 eP Pdif 12 17 16.2 +0.2
comp=Z,56nm,1.2s
LDF La Druitiere 102.20 39⇑iP Pdif 12 17 16.6 +0.2
comp=Z,21nm,1.0s
LDF La Druitiere 102.20 39⇑iP Pdif 12 17 16.6 +0.2
LDF pmax pmax
comp=Z,21nm,1.0s
LDF La Druitiere 102.20 39⇑iP Pdif 12 17 16.6 +0.2
comp=Z,21nm,1.0s
YKA Yellowknife Ar 102.55 340 P Pdif 12 17 17.5 -0.1
YKA 12 21 30.2
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 102.55 340 P Pdif 12 17 17.5 -0.1
comp=Z,5.9nm,0.8s,baz=140,slow=4.4,SNR=102
YKA PP PP 12 21 30.2 -3.2
comp=Z,2.0nm,0.8s,baz=131,slow=7.6,SNR=5.1
YKA PKKPbc PKKPbc 12 33 16.4 -2.7
comp=Z,0.3nm,0.6s,baz=322,slow=3.2,SNR=7.5
BGF Bois d'Agland 102.61 42⇑iP Pdif 12 17 19.1 +0.8
comp=Z,57nm,1.3s
BGF Bois d'Agland 102.61 42⇑iP Pdif 12 17 19.1 +0.8
BGF pmax pmax
comp=Z,57nm,1.3s
BGF Bois d'Agland 102.61 42⇑iP Pdif 12 17 19.1 +0.8
comp=Z,57nm,1.3s
YKW3 Yellowknife Ar 102.61 340 ePdif Pdif 12 17 17.7 -0.2
comp=Z,0.1nm,0.8s
VIVF Saint-Julien-l 102.67 44⇑iP Pdif 12 17 19.8 +1.1
comp=Z,56nm,1.3s

VIVF Saint-Julien-l 102.67 44⇑iP Pdif 12 17 19.8 +1.1
VIVF pmax pmax
comp=Z,56nm,1.3s
VIVF Saint-Julien-l 102.67 44⇑iP Pdif 12 17 19.8 +1.1
comp=Z,56nm,1.3s
AVF Avril sur Loir 103.02 42⇑iP Pdif 12 17 20.9 +0.8
AVF Avril sur Loir 103.02 42⇑iP Pdif 12 17 20.9 +0.8
AVF Avril sur Loir 103.02 42⇑iP Pdif 12 17 20.9 +0.8
SMF Signal de Mont 103.22 43⇑iP Pdif 12 17 21.9 +0.9
comp=Z,43nm,1.3s
SMF epP 12 18 04.2
SMF Signal de Mont 103.22 43⇑iP Pdif 12 17 21.9 +0.9
SMF pmax pmax
comp=Z,43nm,1.3s
SMF Signal de Mont 103.22 43⇑iP Pdif 12 17 21.9 +0.9
comp=Z,43nm,1.3s
SMF epP 12 18 04.2
SSF Saint Saulge 103.27 42⇑iP Pdif 12 17 21.6 +0.4
comp=Z,52nm,1.3s
SSF epP 12 18 04.0
SSF Saint Saulge 103.27 42⇑iP Pdif 12 17 21.6 +0.4
SSF pmax pmax
comp=Z,52nm,1.3s
SSF Saint Saulge 103.27 42⇑iP Pdif 12 17 21.6 +0.4
comp=Z,52nm,1.3s
SSF epP 12 18 04.0
CABF La Chapelle 104.47 43⇑iP Pdif 12 17 27.8 +1.1
comp=Z,16nm,0.9s
CABF epP 12 18 10.3
CABF La Chapelle 104.47 43⇑iP Pdif 12 17 27.8 +1.1
CABF pmax pmax
comp=Z,16nm,0.9s
CABF La Chapelle 104.47 43⇑iP Pdif 12 17 27.8 +1.1
comp=Z,16nm,0.9s
CABF epP 12 18 10.3
EKA Eskdalemuir Ar 104.84 33 P Pdif 12 17 28.1 +0.1
EKA pmax pmax
comp=Z,9.0nm,1.0s
EKA Eskdalemuir Ar 104.84 33 Pdiff Pdif 12 17 28.1 +0.1
comp=Z,9.1nm,1.0s,baz=226,slow=4.5,SNR=8.5
HINF Hinteralfeld 105.57 43 eP Pdif 12 17 31.9 +0.4
HINF Hinteralfeld 105.57 43 eP Pdif 12 17 31.9 +0.4
HINF Hinteralfeld 105.57 43 eP Pdif 12 17 31.9 +0.4
CDF Champ du Feu 106.13 42 eP Pdif 12 17 34.8 +0.7
CDF epP 12 18 17.0
CDF Champ du Feu 106.13 42 eP Pdif 12 17 34.8 +0.7
CDF Champ du Feu 106.13 42 eP Pdif 12 17 34.8 +0.7
CDF epP 12 18 17.0
DAVOX Davos/Dischmat 106.77 45 PKKPbc PKKPbc 12 33 04.8 -1.1
comp=Z,4.8nm,0.8s,baz=343,slow=1.3,SNR=6.4
GERES GERESS Array B 110.03 44 PKiKP PKiKP 12 21 52.8 +0.6
comp=Z,2.5nm,0.8s,baz=224,slow=2.7,SNR=3.7
GERES PKKPbc PKKPbc 12 32 55.0 -0.5
comp=Z,2.2nm,0.8s,baz=72,slow=2.1,SNR=11
GERES PKKPab PKKPab 12 33 06.3 +2.2
comp=Z,4.1nm,0.8s,baz=57,slow=4.9,SNR=17
CLL Collm 110.79 42 ePKIKP PKiKP 12 21 54.0 +0.6
CLL e 12 28 20.0
CLL e 12 32 53.0
CLL Collm 110.79 42 ePKiKP PKiKP 12 21 54.0 +0.6
CLL ePP PP 12 22 30.0 -4.0
CLL eSKSac SKSac 12 28 20.0 +3.0
CLL eSKKSac SKKSac 12 29 25.0 +6.3
CLL e 12 31 11.0
CLL eSP SP 12 31 48.0 +1.8
CLL ePS PS 12 32 14.0 +7.6
CLL ePKKPbc PKKPbc 12 32 53.0 0.0
CLL ePKKPab PKKPab 12 33 03.0 +2.5
CLL ePPS PPS 12 33 13.0
CLL eSS SS 12 37 49.0 -2.0
CLL esSS 12 38 53.0
CLL eSSS SSS 12 42 00.0
CLL esSSS 12 43 09.0
PRU Pruhonice 111.05 43 eSKS SKSac 12 28 18.0 -0.1
PRU eXS 12 31 09.6
PRU ex x 12 37 37.6
VRAC Vranov 111.93 45 PKKPab PKKPab 12 32 58.8 +3.1
comp=Z,7.6nm,0.8s,baz=97,slow=4.5,SNR=4.5
INK Inuvik 112.23 339 P Pdif 12 18 00.6 0.0
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 112.23 339 Pdiff Pdif 12 18 00.6 0.0
comp=Z,2.4nm,0.9s,baz=113,slow=4.0,SNR=8.3
NOA NORSAR Array B 114.29 32 PKiKP PKPdf 12 21 59.9 0.0
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA NORSAR Array B 114.29 32 PKP PKPdf 12 21 59.9 0.0
comp=Z,1.7nm,0.8s,baz=248,slow=2.0,SNR=3.1
NOA PKKPab PKKPab 12 32 46.5 +1.8
comp=Z,5.1nm,0.7s,baz=67,slow=4.5,SNR=20
HFS Hagfors 115.02 33 PKIKP PKPdf 12 22 00.8 -0.4
HFS 12 32 41.9
HFS pmax pmax
comp=Z,2.0nm,0.6s
HFS pmax pmax
comp=Z,4.0nm,0.8s
HFS pmax pmax
comp=Z,8.0nm,0.6s
HFS Hagfors 115.02 33 PKP PKPdf 12 22 00.8 -0.4
comp=Z,2.3nm,0.6s,baz=174,slow=5.4,SNR=5.9
HFS PKKPbc PKKPbc 12 32 36.8 -2.2
comp=Z,3.6nm,0.8s,baz=90,slow=7.2,SNR=4.1
HFS PKKPab PKKPab 12 32 41.9 +0.5
comp=Z,7.6nm,0.6s,baz=108,slow=4.7,SNR=24
ILAR Eielson Array 115.04 332 P Pdif 12 18 12.9 -0.3
ILAR 12 22 01.1
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR pmax pmax
comp=Z,5.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 115.04 332 Pdiff Pdif 12 18 12.9 -0.3
comp=Z,0.7nm,0.8s,baz=160,slow=4.1,SNR=10
ILAR PKP PKPdf 12 22 01.1 -0.1
comp=Z,4.8nm,0.8s,baz=181,slow=1.1,SNR=11
ILAR PKKPbc PKKPbc 12 32 36.9 -2.2
comp=Z,0.5nm,0.7s,baz=307,slow=3.9,SNR=5.8
COLA College 115.46 332⇓iPKIKP PKPdf 12 22 02.0 +0.1
KWP Kalwaria Pacla 115.70 46 ePKIKP PKPdf 12 22 04.9 +2.0
KWP Kalwaria Pacla 115.70 46 ePKPdf PKPdf 12 22 04.9 +2.0
CTA Charters Tower 116.96 217 PKIKP PKPdf 12 22 05.7 -0.7
CTA pmax pmax
comp=Z,7.0nm,1.0s
CTA Charters Tower 116.96 217 PKP PKPdf 12 22 05.7 -0.7
comp=Z,6.5nm,1.0s,baz=297,slow=2.2,SNR=4.8
SUW Suwalki 117.55 42 ePKIKP PKPdf 12 22 06.0 -0.3
SUW Suwalki 117.55 42 ePKPdf PKPdf 12 22 06.0 -0.3
IM04 Indian Mountai 118.17 332 ePKPdf PKPdf 12 22 07.9 +0.7
ASAR Alice Springs 119.05 204 PKP PKPdf 12 22 08.2 -2.1
comp=Z,9.3nm,0.8s,baz=139,slow=1.8,SNR=58
ASAR PP PP 12 23 30.8 -0.2
comp=Z,1.8nm,0.8s,baz=149,slow=3.8,SNR=4.1
ASAR SKP 12 25 28.1
comp=Z,3.4nm,0.9s,baz=160,slow=2.7,SNR=4.6
ASAR PKKPbc PKKPbc 12 32 24.2 0.0
comp=Z,7.8nm,1.1s,baz=343,slow=3.1,SNR=4.2
AS31 Alice Springs 119.05 204 ePKPdf PKPdf 12 22 09.5 -0.9
BRTR Keskin Array B 119.36 60 PKP PKPdf 12 22 09.9 -0.6
comp=Z,4.2nm,0.9s,baz=176,slow=1.3,SNR=16
BRTR PP PP 12 23 31.1 -3.6
comp=Z,3.6nm,1.0s,baz=225,slow=4.2,SNR=4.2
BRTR SKP 12 25 29.3
comp=Z,2.1nm,0.8s,baz=208,slow=3.0,SNR=3.7
BRTR PKKPab PKKPab 12 32 23.9 0.0
comp=Z,1.3nm,0.7s,baz=116,slow=5.6,SNR=7.2
KIEV Kiev 119.99 47diPKIKP PKPdf 12 22 10.9 -0.2
KIEV Kiev 119.99 47 ePKPdf PKPdf 12 22 11.4 +0.3
AKASG Malin Array Be 120.00 47 PKIKP PKPdf 12 22 10.8 -0.3
AKASG 12 23 35.0
AKASG pmax pmax
comp=Z,12nm,0.8s
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG pmax pmax
comp=N,4.0nm,0.8s
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 120.00 47 PKP PKPdf 12 22 10.8 -0.3
comp=Z,12nm,0.8s,baz=265,slow=2.7,SNR=22
AKASG PP PP 12 23 35.0 -3.6
comp=Z,5.5nm,0.9s,baz=254,slow=6.3,SNR=5.9
AKASG SKP 12 25 29.6

comp=Z,3.5nm,0.8s,baz=262,slow=2.4,SNR=4.3
AKASG PKKPbc PKKPbc 12 32 20.7 -0.2
comp=Z,6.1nm,0.8s,baz=57,slow=4.0,SNR=25
AKBB Malin Array Si 120.00 47 ePKIKP PKPdf 12 22 11.3 +0.2
AKBB Malin Array Si 120.00 47 ePKPdf PKPdf 12 22 11.3 +0.2
VSU Vasula 120.77 38 d iPKIKP PKPdf 12 22 12.7 +0.4
FINES FINESS Array B 121.19 34 PKIKP PKPdf 12 22 12.7 -0.3
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 121.19 34 PKP PKPdf 12 22 12.7 -0.3
comp=Z,5.2nm,0.8s,baz=154,slow=3.5,SNR=5.9
FINES PKKPbc PKKPab 12 32 14.5 0.0
comp=Z,2.1nm,0.5s,baz=98,slow=3.8,SNR=16
KAF Kangasniemi 121.45 33 ep PKKPbc 12 32 14.3 -1.5
comp=Z,1.4nm,0.4s
SPITS Spitsbergen Ar 121.65 14 PKKPbc PKKPbc 12 32 12.4 -3.0
comp=Z,6.3nm,0.9s,baz=84,slow=7.6,SNR=5.5
WRA Warramunga Arr 122.33 206 PKIKP PKPdf 12 22 14.9 -1.8
WRA pmax pmax
comp=Z,26nm,0.8s
WRA pmax pmax
comp=N,4.0nm,0.7s
WRA Warramunga Arr 122.33 206 PKP PKPdf 12 22 14.9 -1.8
comp=N,26nm,0.8s,baz=167,slow=1.7,SNR=146
WRA SKP 12 25 34.7
comp=N,3.9nm,0.7s,baz=159,slow=1.6,SNR=5.1
WRAB Tennant Creek 122.33 206 ePKIKP PKPdf 12 22 15.0 -1.7
WRAB Tennant Creek 122.33 206 ePKPdf PKPdf 12 22 15.0 -1.7
RAYN Ar Rayn 122.35 82 ePKPdf PKPdf 12 22 16.9 +0.4
ARCES ARCESS Array B 122.56 25 PKIKP PKPdf 12 22 15.6 +0.1
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES pmax pmax
comp=Z,8.0nm,0.9s
ARCES ARCESS Array B 122.56 25 PKP PKPdf 12 22 15.6 +0.1
comp=Z,7.0nm,0.9s,baz=245,slow=3.7,SNR=5.3
ARCES PKKPbc PKKPab 12 32 09.4 +1.0
comp=Z,8.4nm,0.9s,baz=77,slow=4.1,SNR=7.2
ANN Anapa 123.63 55 iPKIKP PKPdf 12 22 19.2 +0.9
ANN pmax pmax
comp=Z,103nm,1.0s
JOF Joensuu 123.88 33 ep PKKPbc 12 32 03.7 -2.7
comp=Z,2.4nm,0.6s
MBWA Marble Bar 124.93 190 ePKPdf PKPdf 12 22 21.1 -0.5
GAMB Gambell 125.15 328 ePKPdf PKPdf 12 22 21.2 +0.6
PMG Port Moresby 125.19 225 PKIKP PKPdf 12 22 22.8 +0.5
PMG pmax pmax
comp=Z,29nm,0.9s
PMG Port Moresby 125.19 225 PKP PKPdf 12 22 22.8 +0.5
comp=Z,29nm,0.9s,baz=207,slow=1.4,SNR=20
APA Apatity 125.23 27 iPKIKP PKPdf 12 22 21.0 +0.3
APA pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 125.36 43 iPKIKP PKPdf 12 22 21.3 +0.1
OBN pmax pmax
comp=Z,59nm,1.4s
LVZ Lovozero 125.72 27⇑iPKIKP PKPdf 12 22 21.8 +0.1
LVZ Lovozero 125.72 27 ePKPdf PKPdf 12 22 21.7 +0.1
VSR Storozhevoye 126.23 48 ePKIKP PKPdf 12 22 22.7 -0.4
KBZ Khabaz 127.16 58 PKIKP PKPdf 12 22 25.8 +0.8
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 127.16 58 PKP PKPdf 12 22 25.8 +0.8
comp=Z,8.0nm,0.9s,baz=156,slow=4.3,SNR=7.2
KLMR Klimovskoe 127.54 36 ePKIKP PKPdf 12 22 24.9 -0.4
KLMR pmax pmax
comp=Z,81nm,1.3s
ZEI Tsey 127.65 59 iPKIKP PKPdf 12 22 26.0 -0.4
ZEI pmax pmax
comp=Z,7.0nm,1.0s
PRGR Permogore 130.50 35 ePKIKP PKPdf 12 22 31.1 +0.3
PRGR pmax pmax
comp=Z,102nm,1.3s
ASUD Al Ashush, Dub 130.96 85⇑iPKPdf PKPdf 12 22 34.1 +1.2
SNR=5.2
FAQ Al Faqa, Dubai 131.22 85⇑iPKPdf PKPdf 12 22 33.3 -0.1
SNR=5.6
HATD Hatta, Dubai 131.70 85⇑iPKPdf PKPdf 12 22 34.6 +0.3
SNR=12
BILL Bilibino 133.61 335 iPKIKP PKPdf 12 22 37.2 +0.6
BILL pmax pmax
comp=Z,22nm,1.1s
IGBI Denpasar 137.64 186 P SKPdf 12 26 04.0 -0.7
ARU Arti 137.73 41 iPKIKP PKPdf 12 22 45.0 +0.4
ARU SS SS 12 43 30.6 +1.3
DNP Denpasar 137.78 186 P SKPdf 12 26 08.0 +3.0
JAGI Jajag, Banyuwa 138.06 185 P SKPdf 12 26 04.4 -1.1
JAGI Jajag, Banyuwa 138.06 185 ePKPdf PKPdf 12 22 46.1 -0.5
AKTO Aktyubinsk 138.07 50 PKHKP PKPpre 12 22 36.7
AKTO 12 22 45.6
AKTO pmax pmax
comp=Z,2.0nm,0.8s
AKTO pmax pmax
comp=Z,11nm,0.9s
AKTO pmax pmax
comp=N,20nm,1.0s
AKTO Aktyubinsk 138.07 50 PKhKP PKPpre 12 22 36.7
comp=N,2.4nm,0.8s,baz=286,slow=3.4,SNR=9.8
AKTO PKP PKPdf 12 22 45.6 +0.2
comp=N,11nm,0.9s,baz=288,slow=2.3,SNR=18
AKTO SKP 12 26 04.2
comp=N,20nm,1.0s,baz=271,slow=1.7,SNR=12
SRBI Singaraja 138.36 186 P SKPdf 12 26 05.4 -0.6
FAKI Fak Fak 138.55 213 ePKPdf PKPdf 12 22 47.9 +0.4
ABJI Asem Bagus 138.72 185 P SKPbc 12 26 08.0 +1.3
SVE Sverdlovsk 138.78 40 ePKIKP PKPdf 12 22 47.9 +1.4
SVE pmax pmax
comp=Z,26nm,1.2s
BLJI Banyuglugur 138.81 184 P SKPbc 12 26 07.5 +0.6
AB31 Akbulak array 139.38 52 PKHKP PKPpre 12 22 37.9
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 139.38 52 ePKPdf PKPdf 12 22 49.3 +1.5
KMMI Kalianget 139.48 184 P SKPbc 12 26 09.8 +1.0
BKSI Bulukumba 140.36 194 P SKPbc 12 26 11.1 0.0
comp=Z,0.2nmcomp=Z,650nmcomp=Z,56nm,0.7s
KAPI Kappang 140.73 194 ePKPdf PKPdf 12 22 51.7 +0.2
PET Petropavlovsk 141.19 315 ePKHKP PKPpre 12 22 46.1
PET Petropavlovsk 141.19 315 ePKPdf PKPpre 12 22 46.1
PEA0B Petropavlovsk- 141.74 315 ePKPdf PKPpre 12 22 47.2
PETK Petropavlovsk- 141.74 315 PKHKP PKPpre 12 22 46.2
PETK pmax pmax
comp=Z,24nm,0.9s
PETK Petropavlovsk- 141.74 315 PKhKP PKPpre 12 22 46.2
comp=Z,24nm,0.9s,baz=100,slow=7.7,SNR=25
BHJ Bhuj 142.33 95 eP PKPdf 12 22 53.8 -0.2
BHJ AMS AMS 12 48 32.4
comp=Z,190nm,4.7s
KAD Karad 143.16 107 eP PKPbc 12 22 54.2 +1.1
GUMO Guam 143.44 245 ePKIKP PKPab 12 22 53.1 +0.4
GUMO Guam 143.44 245 ePKPdf PKPab 12 22 53.1 +0.4
POO Poona 143.54 105 ex PKPab 12 22 52.8 -0.3
POO AMS AMS 12 49 10.9
comp=Z,182nm,7.2s
LUWI Luwuk 143.83 200 ePKPdf PKPbc 12 22 56.0 +0.9
PCI Palu 144.71 195 P SKPdf 12 26 15.5 -1.3
BRVK Borovoye 145.12 44 PKP2 PKPbc 12 22 57.4 -0.5
BRVK pmax pmax
comp=Z,170nm,1.0s
BRVK Borovoye 145.12 44 ePKPbc PKPbc 12 22 57.9 0.0
BVA0 Borovoye Array 145.19 44 iPKIKP PKPdf 12 22 57.6 -0.5
BVA0 pmax pmax
comp=Z,305nm,1.7s
KBL Kabul 145.33 76 ePKIKP PKPbc 12 22 58.3 -0.9
KBL Kabul 145.33 76 ePKPbc PKPbc 12 22 58.3 -0.9
GSI Gunungsitoli 145.46 156 ePKPbc PKPbc 12 23 00.1 0.0
BKNI Bangkinang 145.58 162 ePKPbc PKPbc 12 23 00.1 +0.2
VOSK Vostochnaya 145.63 44 PKIKP PKPdf 12 22 58.8 0.0
VOSK pmax pmax
comp=Z,434nm,1.4s
TOLI Toli-Toli 146.44 198 ePKPbc PKPbc 12 23 02.5 -0.5
HYB Hyderabad 146.67 111 iPKP PKPdf 12 23 02.0 +0.3
HYB epPKP pPKPdf 12 23 46.5 +0.3
HYB e 12 27 06.0
HYB Hyderabad 146.67 111 eP PKPdf 12 23 00.8 -0.9
HYB AMS AMS 12 51 03.5
comp=Z,98nm,9.4s
KK31 Karatay Array 147.06 61 iPKIKP PKPdf 12 23 02.5 +0.9
KK31 pmax pmax
comp=Z,84nm,1.0s
KKAR Karatay Array 147.06 61 ePKP2 PKPbc 12 23 03.1 -0.8
KKAR Karatay Array 147.06 61 ePKPbc PKPbc 12 23 03.1 -0.8
KKAR ePKPab PKPab 12 23 05.7 -0.3

AJM Ajmer 147.77 93 eP PKPbc 12 23 07.0 +0.6
KSM Kuching 148.03 178 ePKPdf PKPdf 12 23 03.7 -0.3
KSM ePKPbc PKPbc 12 23 07.5 +0.2
KSM ePKPab PKPab 12 23 11.8 +1.4
BHPL Bhopal 148.75 100 eP PKPdf 12 23 04.2 -0.8
BHPL AMS AMS 12 47 50.7
comp=Z,91nm,5.5s
CMBY CAMPBELL BAY 149.12 145 eP PKPdf 12 23 03.9 -1.9
YAK Yakutsk 149.18 343 ePKIKP PKPdf 12 23 03.1 -1.3
YAK e 12 23 10.8
YAK pmax pmax
comp=Z,271nm,1.0s
YAK pmax pmax
comp=E,21nm,1.3s
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=Z,167nm,4.1s
YAK pmax pmax
comp=N,59nm,3.0s
YAK pmax pmax
comp=E,99nm,3.3s
YAK Yakutsk 149.18 343 ePKPdf PKPdf 12 23 04.3 -0.1
YAK ePKPbc PKPbc 12 23 09.1 +0.3
YAK ePKPab PKPab 12 23 14.7 +0.9
AML Almayashu 149.46 63 P PKPdf 12 23 06.5 +0.4
SNR=19
EKS2 Erkin-Say 149.48 62 P PKPdf 12 23 06.4 +0.7
SNR=23
EKS2 Erkin-Say 149.48 62 ePKHKP PKPdf 12 23 06.2 +0.5
EKS2 e 12 23 15.8
EKS2 Erkin-Say 149.48 62 ePKPdf PKPdf 12 23 06.2 +0.5
EKS2 ePKPbc PKiKP 12 23 11.5 +0.1
EKS2 ePKPab PKPab 12 23 15.8 -0.1
IPM Ipoh 149.54 160 ePKPdf PKPdf 12 23 06.5 0.0
IPM ePKPbc PKPbc 12 23 10.9 -0.3
KUR Kuril'sk 149.57 303 c iPKHKP PKPpre 12 23 05.5
KUR i 12 26 45.1
KUR iSSS SSS 12 51 31.7
USP Ospenovka 149.95 60 P PKPdf 12 23 06.8 +0.5
SNR=17
AAK Ala-Archa 150.01 62 P PKPdf 12 23 07.2 +0.6
SNR=21
AAK Ala-Archa 150.01 62 ePKIKP PKPdf 12 23 06.7 +0.1
AAK e 12 23 18.8
AAK Ala-Archa 150.01 62 ePKPdf PKPdf 12 23 06.7 +0.1
AAK ePKPbc PKPbc 12 23 12.1 +0.4
AAK ePKPab PKPab 12 23 18.8 +0.7
UCH Uchtor 150.06 63 P PKPdf 12 23 08.3 +1.2
SNR=31
FRU Bishkek 150.08 61 ePKIKP PKPdf 12 23 08.0 +1.5
FRU i 12 23 52.0
FRU pmax pmax
comp=Z,200nm,1.8s
CHMS Chumysh 150.16 61 P PKPbc 12 23 12.1 +0.2
SNR=28
KULM Kulim 150.20 159 ePKPbc PKPbc 12 23 11.6 -1.1
KBK Karagaybulak 150.34 62 P PKPdf 12 23 09.1 +2.0
SNR=9.6
VIS Vishakhapatnam 150.51 116 iP PKPdf 12 23 06.5 -1.3
VIS AMB AMB 12 23 14.5
comp=Z,34nm,2.5s
VIS ix x 12 23 50.7
VIS AMS AMS 12 50 10.5
comp=Z,40nm,7.6s
KZA Kyzart 150.62 63 P PKPdf 12 23 09.5 +1.7
SNR=9.6
NDI New Delhi 150.66 90 ex PKPdf 12 23 09.5 +1.7
BHK Bhakra 150.74 85 ex PKPbc 12 23 14.0 +0.4
KURK Kurchatov 150.78 44 ePKIKP PKPdf 12 23 07.4 +0.1
KURK e 12 23 21.3
KURK Kurchatov 150.78 44 ePKPdf PKPdf 12 23 07.3 +0.1
KURK ePKPbc PKiKP 12 23 13.4 -0.2
KURK ePKPab PKPab 12 23 21.3 +0.6
TKM2 Tokmak 2 150.79 61 P PKPdf 12 23 09.4 +1.6
SNR=20
TKM2 Tokmak 2 150.79 61 ePKIKP PKPdf 12 23 07.9 +0.1
TKM2 e 12 23 21.3
TKM2 Tokmak 2 150.79 61 ePKPdf PKPdf 12 23 07.9 +0.1
TKM2 ePKPbc PKPbc 12 23 13.4 -0.2
TKM2 ePKPab PKPab 12 23 21.3 -0.1
DHRM DHARAMSHALA 150.83 83 eP3 12 23 09.1
DHRM AMS AMS 12 51 03.0
comp=Z,91nm,7.2s
NVS Novosibirsk 151.18 34 ePKIKP PKPdf 12 23 07.6 -0.1
NVS e 12 23 23.0
NVS pmax pmax
comp=Z,224nm,1.0s
YUK Yuzh-Kuril'sk 151.18 301 iPKIKP PKPdf 12 23 08.1 0.0
YUK i 12 26 58.5
YUK iPPP PPP 12 30 21.0
YUK iSS SS 12 46 07.8 +4.1
YUK iSSS SSS 12 51 54.8
KSH Kashi 151.29 68 PKPbc PKPdf 12 23 09.1 +0.5
KSH eSKS SKSdf 12 29 57.6 -2.6
KSH eSKKS SKKSac 12 33 26.3 -2.8
KSH AMB AMB
comp=Z,67nm,4.3s
KSH LR LR
comp=Z,67nm,7.4s
KSH LR LR
comp=Z,120nm,4.7s
KSH LR LR
comp=Z,88nm,5.7s
SMLA Simla 151.30 86 eP PKPdf 12 23 07.7 -1.0
SMLA AMS AMS 12 48 35.7
comp=Z,66nm,7.2s
ULHL Ulahol 151.34 62 P PKPbc 12 23 15.1 +0.2
SNR=6.9
AAA Alma-Ata 151.72 60 ePKIKP PKPdf 12 23 11.1 +2.1
AAA pmax pmax
comp=Z,700nm,2.9s
PKDT Phuket 151.82 152 P PKPbc 12 23 16.8 +0.3
comp=Z,118nm,0.9s
DDI Dehra Dun 151.84 88 eP PKPdf 12 23 08.4 -1.3
DDI AMS AMS 12 50 28.9
comp=Z,119nm,5.6s
PBA Port Blair 152.44 138 eP PKPdf 12 23 09.9 -0.9
PBA AMS AMS 12 51 21.7
comp=Z,84nm,8.2s
ZAA0 Zalesovo Array 152.45 34 ePKPdf PKPdf 12 23 09.5 -0.1
ZAA0 ePKPbc PKiKP 12 23 17.0 +0.1
ZAA0 ePKPab PKPab 12 23 25.9 -1.7
ZALV Zalesovo Beam 152.45 34 PKIKP PKPdf 12 23 10.0 +0.3
ZALV 12 23 25.9
ZALV pmax pmax
comp=Z,15nm,0.9s
ZALV pmax pmax
comp=Z,93nm,0.8s
ZALV pmax pmax
comp=Z,31nm,0.7s
ZALV pmax pmax
comp=Z,18nm,0.5s
ZALV Zalesovo Beam 152.45 34 PKP PKPdf 12 23 10.0 +0.3
comp=Z,15nm,0.9s,baz=270,slow=3.0,SNR=26
ZALV PKPbc PKiKP 12 23 17.3 +0.4
comp=Z,93nm,0.8s,baz=298,slow=3.1,SNR=68
ZALV PKPab PKPab 12 23 25.9 -1.8
comp=Z,31nm,0.7s,baz=304,slow=2.8,SNR=8.8
ZALV pPKPbc pPKPbc 12 24 02.5 +1.4
comp=Z,18nm,0.5s,baz=305,slow=3.1,SNR=2.7
JCJ Chichijima 152.47 265 PKP PKPdf 12 23 11.0 +0.4
comp=Z,71nm,0.6s,baz=332,slow=18,SNR=3.3
CBIJ Chichi jima 152.47 265 PKP PKPdf 12 23 11.0 +0.4
YSS Yuzh-Sakhalins 152.62 309 ePKIKP PKPdf 12 23 09.2 -0.9
YSS e 12 46 25.0
YSS pmax pmax
comp=Z,120nm,0.8s
YSS Yuzh-Sakhalins 152.62 309 ePKPdf PKPdf 12 23 10.6 +0.5
YSS ePKPbc PKiKP 12 23 17.4 0.0
YSS ePKPab PKPab 12 23 30.1 +1.5
SURT Suratani 152.98 152 P PKPbc 12 23 19.3 +0.2
comp=Z,12nm,1.0s,comp=Z,318nm
ASAJ Asahikawa 153.47 303 ePKPdf PKPdf 12 23 11.1 -0.4
ASAJ ePKPbc PKiKP 12 23 19.7 +0.3
ASAJ ePKPab PKPab 12 23 33.6 +1.3
DGPR DIGLIPUR 153.78 137 eP PKPdf 12 23 12.5 -0.3
comp=Z,34nm,1.7s
DGPR AMS AMS 12 50 56.3
comp=Z,78nm,4.1s
MK31 Makanchi Array 154.51 50 ePKIKP PKPdf 12 23 12.6 -0.3
MK31 e 12 23 37.1
MK31 Makanchi Array 154.51 50 ePKPdf PKPdf 12 23 12.6 -0.3
MK31 ePKPbc PKPbc 12 23 21.4 -0.1

MK31 ePKPab PKPab 12 23 37.1 +0.3
MKAR Makanchi Array 154.51 50 PKIKP PKPdf 12 23 12.4 -0.5
MKAR 12 23 36.7
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR pmax pmax
comp=Z,14nm,0.7s
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR Makanchi Array 154.51 50 PKP PKPdf 12 23 12.4 -0.5
comp=Z,7.3nm,0.8s,baz=304,slow=0.9,SNR=60
MKAR PKPab PKPab 12 23 36.7 0.0
comp=Z,14nm,0.7s,baz=297,slow=3.0,SNR=30
MKAR pPKPab pPKPab 12 24 18.4 -1.2
comp=Z,10nm,0.7s,baz=317,slow=2.3,SNR=3.1
CLNS Chul'man 154.91 342 ePKIKP PKPdf 12 23 12.3 -0.9
CLNS pmax pmax
comp=Z,7.0nm,0.9s
PYUN Piuthan 155.29 95 eP PKPdf 12 23 14.6 -0.2
comp=Z,114nm,1.1s
PYUN Piuthan 155.29 95 eP PKPdf 12 23 14.6 -0.2
KOLN Koldanda 155.68 96 eP PKPdf 12 23 14.9 -0.5
comp=Z,39nm,1.1s
KOLN Koldanda 155.68 96 eP PKPdf 12 23 14.9 -0.5
BOK Bokaro 155.87 107 eP PKPdf 12 23 14.0 -1.5
BOK AMS AMS 12 49 10.0
comp=Z,469nm,16.6s
DANN Dangsing 156.01 95 eP PKPdf 12 23 15.8 -0.1
comp=Z,78nm,1.0s
DANN Dangsing 156.01 95 eP PKPdf 12 23 15.8 -0.1
GKN Gorkha 156.62 97 eP PKPdf 12 23 16.4 -0.1
comp=Z,61nm,1.1s
GKN Gorkha 156.62 97 eP PKPdf 12 23 16.4 -0.1
DMN Daman 156.87 98 eP PKPdf 12 23 16.9 -0.1
DMN Daman 156.87 98 eP PKPdf 12 23 16.9 -0.1
KKN Kakani 157.08 98 eP PKPdf 12 23 16.8 -0.4
comp=Z,29nm,1.0s
KKN Kakani 157.08 98 ePKIKP PKPdf 12 23 16.8 -0.4
KKN Kakani 157.08 98 eP PKPdf 12 23 16.8 -0.4
PKIN Phulchoki 157.10 98 eP PKPdf 12 23 17.4 +0.1
PKI Pulchoki 157.11 98 eP PKPdf 12 23 16.9 -0.5
comp=Z,40nm,1.2s
PKI Pulchoki 157.11 98 ePKIKP PKPdf 12 23 17.4 0.0
PKI Pulchoki 157.11 98 eP PKPdf 12 23 17.4 0.0
GUN Gumba 157.62 98 eP PKPdf 12 23 18.0 0.0
comp=Z,49nm,1.1s
GUN Gumba 157.62 98 eP PKPdf 12 23 18.0 0.0
MJAR Matsushiro Arr 157.65 285 PKP2 PKPab 12 23 50.5 -0.1
MJAR pmax pmax
comp=Z,20nm,0.8s
MJAR Matsushiro Arr 157.65 285 PKPab PKPab 12 23 50.5 -0.1
comp=Z,20nm,0.8s,baz=75,slow=3.3,SNR=17
JIRN Jiri 157.78 99 eP PKPdf 12 23 17.0 -1.3
comp=Z,40nm,0.8s
JIRN Jiri 157.78 99 eP PKPdf 12 23 17.0 -1.3
RAMN Ramite 157.85 101 eP PKPdf 12 23 18.3 +0.1
comp=Z,47nm,0.9s
RAMN Ramite 157.85 101 eP PKPdf 12 23 18.3 +0.1
KHLT Khaolaem Dam 158.11 146 P PKPdf 12 23 22.1 +3.6
KLR Kul'dur 158.12 322 ePKIKP PKPdf 12 23 14.2 -3.3
ODAN Odare 158.46 102 eP PKPdf 12 23 19.6 +0.7
ODAN Odare 158.46 102 eP PKPdf 12 23 19.6 +0.7
TAPN Taplejung 158.92 101 eP PKPdf 12 23 19.6 +0.1
comp=Z,26nm,1.0s
TAPN Taplejung 158.92 101 eP PKPdf 12 23 19.6 +0.1
WMQ Urumqi 159.14 54 PKP PKPdf 12 23 18.3 -0.7
WMQ pPKP pPKPdf 12 24 00.9 -2.8
WMQ sPKP 12 24 18.1
WMQ PKS PKSdf 12 26 50.6 -1.9
WMQ PP PP 12 27 39.5 +0.8
WMQ SKS SKSdf 12 30 06.0 -2.5
WMQ SKKS SKKSac 12 34 09.5 -1.2
WMQ SS SS 12 47 26.5 -3.1
WMQ AMB AMB
comp=Z,44nm,12.4s
WMQ LR LR
comp=Z,350nm,28.2s
WMQ LR LR
comp=Z,290nm,29.8s
WMQ LR LR
comp=Z,310nm,29.8s
USRK Ussuriysk Arra 160.66 309 PKP PKPdf 12 23 19.6 -0.9
comp=Z,5.7nm,0.8s,baz=282,slow=2.2,SNR=9.6
USRK PKPab PKPab 12 24 03.4 0.0
comp=Z,11nm,0.7s,baz=69,slow=4.2,SNR=12
IRK Irkutsk 160.72 13 ePKIKP PKPdf 12 23 20.4 0.0
IRK e 12 24 00.6
IRK pmax pmax
comp=Z,20nm,1.7s
SUKH Sukhothai 160.93 144 P PKPdf 12 23 22.8 +1.2
comp=Z,3.9nm,0.9s
TLY Talaya 161.13 14 iPKIKP PKPdf 12 23 21.5 +0.6
TLY e 12 24 06.5
TLY pmax pmax
comp=Z,61nm,1.3s
TLY Talaya 161.13 14 ePKPdf PKPdf 12 23 21.0 +0.1
CMAR Chiang Mai Arr 161.40 141 PKIKP PKPdf 12 23 22.1 -0.1
CMAR 12 24 07.2
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CMAR pmax pmax
comp=Z,4.0nm,1.0s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 161.40 141 PKP PKPdf 12 23 22.1 -0.1
comp=Z,8.5nm,0.9s,baz=245,slow=2.8,SNR=47
CMAR PKPab PKPab 12 24 07.2 0.0
comp=Z,4.3nm,1.5s,baz=232,slow=4.5,SNR=7.9
CMAR pPKPab pPKPab 12 24 49.7 -0.1
comp=Z,0.8nm,0.3s,baz=223,slow=5.0,SNR=4.4
SHL Shillong 161.48 111 eP PKPdf 12 23 22.4 +0.1
SHL AMS AMS 12 50 17.6
comp=Z,636nm,22.9s
CHTO Chiang Mai 161.70 141 ePKIKP PKPdf 12 23 22.6 +0.2
CHTO Chiang Mai 161.70 141 P PKPdf 12 23 22.9 +0.5
comp=Z,62nm,1.4s
CHTO Chiang Mai 161.70 141 ePKPdf PKPdf 12 23 22.6 +0.2
CMMT Chiang Mai 161.70 141 P PKPdf 12 23 22.8 +0.3
comp=Z,18nm,1.4s
LAMP Lampang 161.81 143 P PKPdf 12 23 23.7 +1.1
comp=Z,6.2nm,0.9s
MDJ Mudanjiang 161.97 313 ePKPdf PKPdf 12 23 20.9 -1.0
ZAK Zakamensk 162.27 17 ePKIKP PKPdf 12 23 22.1 -0.1
ZAK e 12 24 06.1
ZAK pmax pmax
comp=Z,7.0nm,1.1s
LSA Lhasa 162.57 97 PKP PKPdf 12 23 23.4 -0.2
LSA Lhasa 162.57 97 ePKIKP PKPdf 12 23 24.7 +1.1
LSA Lhasa 162.57 97 ePKPdf PKPdf 12 23 24.7 +1.1
CMAI Chiengmai2 162.66 139 P PKPdf 12 23 24.8 +1.2
comp=Z,12nm,1.1s
JNU Nakatsue 163.47 274 PKPab PKPab 12 24 15.9 -0.2
comp=Z,45nm,0.9s,baz=111,slow=5.3,SNR=13
SONM Songino Array 165.34 13 PKIKP PKPdf 12 23 25.2 0.0
SONM 12 24 24.5
SONM 12 28 11.0
SONM pmax pmax
comp=Z,6.0nm,1.0s
SONM pmax pmax
comp=Z,13nm,0.9s
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM pmax pmax
comp=Z,8.0nm,1.1s
SONM Songino Array 165.34 13 PKP PKPdf 12 23 25.2 0.0
comp=Z,6.3nm,1.0s,baz=161,slow=0.5,SNR=42
SONM PKPab PKPab 12 24 24.5 +0.7
comp=Z,13nm,0.9s,baz=327,slow=3.1,SNR=17
SONM pPKPab pPKPab 12 25 04.9 -1.6
comp=Z,4.4nm,0.8s,baz=330,slow=3.9,SNR=2.8
SONM PP PP 12 28 11.0 +0.4
comp=Z,7.9nm,1.1s,baz=323,slow=2.9,SNR=6.4
ULN Ulaanbaatar 165.43 11 ePKIKP PKPdf 12 23 25.2 -0.1
ULN e 12 24 25.0
ULN Ulaanbaatar 165.43 11 ePKPdf PKPdf 12 23 25.2 -0.1
ULN ePKPab PKPab 12 24 24.9 +0.7
QIZ Qiongzhong 165.44 175 PKP PKPdf 12 23 26.4 +0.5
QIZ pPKP pPKPdf 12 24 04.7 -6.0
QIZ sPKP 12 24 19.1
QIZ PP PP 12 28 13.9 +3.1
QIZ SS SS 12 48 40.0 +7.5
QIZ LR LR
comp=Z,420nm,3.0s
KSRS Korea Array 165.78 290 PKIKP PKPdf 12 23 25.0 -0.6
KSRS 12 24 26.7

KSRS pmax pmax
comp=Z,4.0nm,0.9s
KSRS pmax pmax
comp=Z,31nm,0.9s
KSRS Korea Array 165.78 290 PKP PKPdf 12 23 24.9 -0.6
comp=Z,3.9nm,0.9s,baz=32,slow=0.6,SNR=8.9
KSRS PKPab PKPab 12 24 26.7 +0.6
comp=Z,31nm,0.9s,baz=92,slow=4.4,SNR=32
KSAR Wonju Array Be 165.81 290 PKIKP PKPdf 12 23 25.0 -0.7
KSAR 12 24 26.7
KSAR Wonju Array Be 165.81 290 PKP PKPdf 12 23 24.9 -0.7
KSAR PKPab PKPab 12 24 26.7 +0.5
SLVN Son La 166.22 151 ePKPdf PKPdf 12 23 27.6 +1.0
SLVN ePKPab PKPab 12 24 28.4 +0.1
KMI Kunming 168.84 137 PKP PKPdf 12 23 28.6 +0.1
KMI pPKP pPKPdf 12 24 08.0 -5.4
KMI sPKP 12 24 22.7
KMI PP PP 12 28 32.0 +2.7
KMI SS SS 12 49 10.0 +1.3
KMI AMB AMB
comp=Z,130nm,3.6s
KMI LR LR
comp=Z,210nm,34.4s
GTA Gaotai 169.23 54 ePKP PKPdf 12 23 28.5 +0.3
GTA pPKP pPKPdf 12 24 11.5 -1.6
GTA sPKP 12 24 28.0
GTA PP PP 12 28 32.1 +0.6
GTA SKS SKSdf 12 30 13.8 -2.2
GTA SKKS SKKSac 12 35 00.7 -1.3
GTA SS SS 12 49 09.1 -3.9
GTA AMB AMB
comp=Z,170nm,5.7s
GTA LR LR
comp=Z,240nm,18.3s
GTA LR LR
comp=Z,230nm,16.9s
GTA LR LR
comp=Z,280nm,20.7s
GYA Guiyang 171.91 150 iPKP PKPdf 12 23 30.3 +0.2
GYA pPKP pPKPdf 12 24 09.6 -5.3
GYA sPKP 12 24 24.0
GYA PKPab PKPab 12 24 52.8 -0.6
GYA PKS PKSdf 12 27 01.0 -1.6
GYA PP PP 12 28 46.9 +2.9
GYA SKKS 12 35 18.0
GYA SS SS 12 49 39.2 +1.3
GYA AMB AMB
comp=Z,190nm,8.5s
GYA LR LR
comp=Z,320nm,24.5s
GYA LR LR
comp=Z,180nm,25.0s
GYA LR LR
comp=Z,260nm,25.3s
BJI Beijing 172.40 329 PKP PKPdf 12 23 29.4 -0.2
BJI SS SS 12 49 44.6 +2.1
BJI AMB AMB
comp=Z,420nm,6.8s
BJT Baijiatuau 172.42 329 ePKIKP PKPdf 12 23 30.0 +0.3
BJT e 12 24 54.7
BJT Baijiatuau 172.42 329 ePKPdf PKPdf 12 23 30.0 +0.3
BJT ePKPab PKPab 12 24 54.7 -0.6
HHC Hu-ho-hao-te 172.76 357 ePKP PKPdf 12 23 30.4 +0.4
HHC sPKP 12 24 29.2
HHC SKKS 12 35 16.7
HHC AMB AMB
comp=Z,300nm,5.0s
CD2 Chengdu 173.22 111 PKP PKPdf 12 23 30.9 +0.5
CD2 pPKP pPKPdf 12 24 09.9 -5.3
CD2 sPKP 12 24 25.1
CD2 PKS PKSdf 12 27 01.7 -1.0
CD2 AMB AMB
comp=Z,460nm,8.2s
LZH Lanzhou 173.54 65 ePKP PKPdf 12 23 31.7 +1.2
LZH pPKP pPKPdf 12 24 14.7 -0.7
LZH sPKP 12 24 30.4
LZH PKPab PKPab 12 25 01.8 +1.0
LZH PKS PKSdf 12 27 02.2 -0.7
LZH PP PP 12 28 55.0 +1.8
LZH SKKS 12 35 23.3
LZH SS SS 12 49 52.2 -3.7
LZH AMB AMB
comp=Z,180nm,7.0s
XAN Xi'an 178.13 76 PKP PKPdf 12 23 31.2 -0.3
XAN pPKP pPKPdf 12 24 14.8 -1.6
XAN PP PP 12 29 15.8 +0.7
XAN SKKS 12 35 42.6
XAN AMB AMB
comp=Z,200nm,12.2s
XAN LR LR
comp=Z,210nm,23.5s
XAN LR LR
comp=Z,190nm,32.7s
XAN LR LR
comp=Z,130nm,44.9s

*BJI **12** 12:09:13.0, 19.80°N 74.40°W, h10km, mB5.8/11, Ms5.6/10, Ms7 5.1/10*
*MOS **12** 12:09:13.5±0.9, 19.84°N 74.49°W, h12km, mb5.3/54, MS4.4/11, Error ellipse: s-maj=8.1km s-min=4.8km az=71.8*
*IDC **12** 12:09:13.4±0.5, 19.90°N 74.47°W, h0km, mb4.7/21, mb1 4.9/27, mb1mx4.7/50, mbtmp4.8/27, ML4.4/6, MS4.4/8, Ms1 4.4/8, ms1mx3.8/40, Error ellipse: s-maj=16.0km s-min=13.3km az=80.0*
*NEIC **12** 12:09:14.9±0.2, 19.86°N 74.38°W, h10km, mb5.3/77, MS4.6/132, Error ellipse: s-maj=4.0km s-min=2.5km az=36.0*
NEIC Felt [III] at Guantanamo and [II] at Bayamo. Also felt at Amancio, Baracoa, Puerto Padre and Santiago de Cuba. Felt at Constant Spring, Jamaica.
*ISCJB **12** 12:09:16.4±0.1, 19.83°N±0.02 74.35°W±0.02, h33km, mb5.1/131, MS4.6/143, Error ellipse: s-maj=3.1km s-min=2.1km az=25.8*
*JSN **12** 12:09:21.2±2.4, 19.55°N 74.63°W, h159km±202km, MD5.4*
ISC 12 12:09:18.3±0.3, 19.85°N±0.03 74.45°W±0.03, h35km, n522, σ1.40/465, mb5.2/134, MS4.6/143, 21C-17D, Cuba region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GTBY Guantanamo Bay 0.63 278 ePg Pn 12 09 28.4 -2.4
GTBY eSg Sn 12 09 37.6 -2.0
PAPH Port-au-Prince 2.42 123 iP Pn 12 09 53.8 -1.6
YHJ Yallahs 2.75 225 eP Pn 12 10 02.5 +2.6
GWJ Greenwich 2.79 231 eP Pn 12 10 01.6 +1.1
STH Stony Hill 2.85 232 eP Pn 12 10 00.5 -0.8
STH iS Sn 12 10 32.9 -1.5
STH iS Sn 12 10 33.0 -1.3
HOJ Hope 2.85 230 eP Pn 12 10 03.2 +2.0
SDDR Presa de Saban 3.10 106 ePn Pn 12 10 02.6 -2.1
SDDR eSn Sn 12 10 37.4 -3.3
PCJ Portland Cotta 3.31 231 eP Pn 12 10 08.0 +0.3
CVJ Coleyville 3.34 242 eP Pn 12 10 08.1 0.0
MTDJ Mount Denham 3.34 242 ePn Pn 12 10 06.5 -1.6
MTDJ eSn Sn 12 10 43.3 -3.2
GRTK Grand Turk 3.52 61 ePn Pn 12 10 08.2 -2.2
GRTK eSn Sn 12 10 48.5 -2.4
MBJ Montego Bay 3.54 247 eP Pn 12 10 12.5 +1.7
MBJ iS Sn 12 10 49.5 -1.9
MCJ Malvern 3.62 239 eP Pn 12 10 12.2 +0.4
SMN1 Samana, DR 4.92 97 ePn Pn 12 10 27.3 -2.5
SMN1 eSn Sn 12 11 23.4 -2.2
PCDR Punta Cana, DR 5.88 102 ePn Pn 12 10 41.6 -1.3
PCDR eSn Sn 12 11 46.6 -2.5
AGPR Aguadilla, PR 7.07 100 ePn Pn 12 10 56.1 -3.1
264nm,0.7s
AGPR eSn Sn 12 12 16.8 -1.6
LSP Las Mesas 7.16 102 ePn Pn 12 10 58.9 -1.7
LSP eSn Sn 12 12 21.5 +0.8
CRPR Cabo Rojo, PR 7.18 104 ePn Pn 12 10 56.4 -4.4
6.5nm,0.8s
CRPR eSn Sn 12 12 18.2 -3.0
LRS Lares 7.35 101 ePn Pn 12 11 02.2 -1.0
LRS eSn Sn 12 12 21.8 -3.7
AOPR Arecibo Observ 7.42 100 ePn Pn 12 11 02.5 -1.7
OBIP Obispado Ponce 7.63 102 ePn Pn 12 11 04.9 -2.1
129nm,0.7s
CELP Cerrillos 7.65 102 ePn Pn 12 11 05.0 -2.2
ICMP Isla Caja de M 7.75 103 ePn Pn 12 11 07.7 -0.9
ICMP eSn Sn 12 12 27.6 -7.6
SJG San Juan 8.04 101 Pn Pn 12 11 10.1 -2.5
0.3nm,0.3s,baz=270,slow=8.3,SNR=18
CBYP Canovanas 8.27 99 ePn Pn 12 11 11.7 -4.1
98nm,0.8s
CBYP Pn Sn 12 12 47.0 -1.1
HUMP Col San Antoni 8.31 100 ePn Pn 12 11 13.5 -2.8
CDVI St. Croix 9.40 101 ePn Pn 12 11 30.1 -1.1
CDVI eSn Sn 12 13 13.4 -2.4
SABA Saba 10.84 100 ePn Pn 12 11 47.3 -3.7
SMRT St. Maarten 10.91 98 ePn Pn 12 11 46.2 -5.7
SEUS St. Eustatius 11.11 100 ePn Pn 12 11 50.5 -4.2
SDV Santo Domingo 11.50 161 ePn Pn 12 12 00.3 +0.1
SDV eSn Sn 12 14 05.2 -2.5
ANWB Willy Bob 12.19 98 ePn Pn 12 12 04.8 -4.6
357nm,0.8s
ANWB eSn Sn 12 14 21.2 -2.9
MLG Mont-d'or 12.69 105 eP Pn 12 12 14.2 -2.2
TAG Tarade 12.74 105 eP Pn 12 12 16.0 -1.1
LKG Breislack 12.74 105 eP Pn 12 12 15.8 -1.4
ECG Echelle 12.75 105 eP Pn 12 12 15.8 -1.5
PHG Guadaloupe-2 12.77 105 eP Pn 12 12 14.6 -2.9
DOG Dongo Capester 12.78 105 eP Pn 12 12 15.2 -2.4
TEIG Tepich 13.01 274 Pn Pn 12 12 20.6 0.0
3.1nm,0.3s,baz=91,slow=2.4,SNR=23
TEIG Sn Sn 12 14 36.9 -7.3
baz=266,slow=13,SNR=2.1
TEIG LR LR 12 17 02.6
comp=Z,1µm,19.0s,baz=112,slow=36
TEIG Tepich 13.01 274 Pn Pn 12 12 20.6 0.0
TEIG ePn P 12 12 22.6 -8.0
TEIG Sn Sn 12 14 36.9 -7.3
PCRV Puerto La Cruz 13.49 134 Pn Pn 12 12 26.7 -0.6
6.2nm,0.3s,baz=257,slow=2.3,SNR=3.5
JTS JuntasAbangare 13.89 228‖eP Pn 12 12 31.2 -1.6
JTS pmax pmax
comp=Z,103nm,1.3s
JTS JuntasAbangare 13.89 228 Pn Pn 12 12 32.0 -0.8
comp=Z,2.8nm,0.3s,baz=201,slow=8.6,SNR=4.3
JTS JuntasAbangare 13.89 228 ePn Pn 12 12 31.6 -1.2
JTS Pn Pn 12 12 32.0 -0.8
RGRS Roger Stewart 13.99 340 ePn Pn 12 12 32.9 -1.1
RGRS eSn Sn 12 15 01.6 -6.3
CSU Charleston Sou 14.02 340 ePn Pn 12 12 32.7 -1.7
CSU eSn Sn 12 15 13.8 +5.0
NHSC New Hope 14.16 340 ePn Pn 12 12 35.6 -0.8
comp=Z,85nm,0.9s
NHSC eSn Sn 12 15 09.9 -2.4
TIGA Tifton 14.18 326 ePn Pn 12 12 34.3 -2.2
ROSC El Rosal 14.90 180 Pn Pn 12 12 47.6 +0.8
comp=Z,3.3nm,0.3s,baz=106,slow=20,SNR=2.4
ROSC Sn Sn 12 15 35.3 +4.4
comp=Z,2.4nm,0.3s,baz=94,slow=19,SNR=3.0
ROSC El Rosal 14.90 180 ePn Pn 12 12 47.5 +0.7
ROSC Pn Pn 12 12 47.6 +0.8
ROSC Sn Sn 12 15 35.4 +4.4
BBSR BB Station 15.23 33 ePn Pn 12 12 47.2 -3.5
TRN Trinidad (W) 15.54 124 e P 12 12 56.3 -2.5
CNNC Cliffs of the 15.63 349 ePn Pn 12 12 52.8 -3.2
comp=Z,142nm,1.3s
TPP Pointe-a-Pierr 15.71 125 e P 12 13 01.1 +0.4
GOGA Godfrey 15.72 331 eP Pn 12 12 52.5 -4.6
GOGA e 12 15 51.7
GOGA pmax pmax
comp=Z,33nm,1.0s
GOGA Godfrey 15.72 331 ePn Pn 12 12 52.5 -4.6
comp=Z,33nm,1.0s
GOGA eSn Sn 12 15 51.7 +1.4
BBGH Gun Hill 15.75 113 ePn Pn 12 12 58.4 +0.8
BRAL Brewton 15.90 317 ePn Pn 12 12 59.5 0.0
comp=Z,118nm,0.8s
APG El Apazote 16.02 255 Pn P 12 13 03.4 -1.0
comp=Z,0.7nm,0.3s,baz=88,slow=10,SNR=3.8
KMSC Kings Mountain 16.41 340 ePn Pn 12 13 02.7 -3.2
comp=Z,54nm,0.9s
LRAL Lakeview Retre 17.27 322 ePn Pn 12 13 14.9 -1.8
comp=Z,56nm,1.1s
LRAL eSn Sn 12 16 24.8 -2.9
TKL Tuckaleechee C 17.77 334 P Pn 12 13 20.6 -2.3
TKL 12 16 37.5
TKL Tuckaleechee C 17.77 334 P Pn 12 13 20.6 -2.3
comp=Z,0.7nm,0.3s,baz=154,slow=16,SNR=19
TKL Tuckaleechee C 17.77 334 P Pn 12 13 20.6 -2.3
TKL ePn P 12 13 21.4 -2.0
TKL Sn Sn 12 16 37.5 -2.4
CPCT Cooper Cave 17.91 332 eP Pn 12 13 24.3 -0.2
CPCT eS S 12 16 51.1 +2.4
VWCC Virginia Weste 18.00 346 ePn Pn 12 13 24.0 -1.7
JSRW J. Sargeant Re 18.04 351 ePn Pn 12 13 24.6 -1.5
BLA Blacksburg 18.07 344 eP Pn 12 13 26.0 -0.7
BLA e 12 16 38.5
BLA pmax pmax
comp=Z,82nm,0.7s
BLA Blacksburg 18.07 344 ePn Pn 12 13 25.9 -0.7
comp=Z,82nm,0.7s
BLA eSn Sn 12 16 38.5 -8.8
PCIG 18.34 260 S P 12 13 32.5 +2.7
SWET Sewanee 18.37 329 eP P 12 13 30.0 -0.1
comp=Z,62nm,0.8s
SWET eS S 12 17 00.3 +2.2
TZTN Tazewell 18.45 336 ePn P 12 13 30.1 -0.9
comp=Z,56nm,0.9s
CBN Corbin 18.47 353 eP P 12 13 29.2 -1.8
comp=Z,183nm,0.8s
CMIG Matias Romero 19.58 265 S P 12 13 42.9 -0.5
SDMD Soldier's Deli 19.61 354 eP Pn 12 13 44.4 -0.7
comp=Z,59nm,0.8s
OXF Oxford 19.73 321 eP P 12 13 45.3 +0.4
OXF pmax pmax
comp=Z,251nm,0.8s
OXF Oxford 19.73 321 eP P 12 13 45.3 +0.4
comp=Z,252nm,0.8s
OTAV Otavalo 19.88 192 eP P 12 13 46.6 -0.5
comp=Z,5.1nm,0.7s
OTAV eS S 12 17 26.3 -3.1
MVL Millersville 20.15 356 ePn Pn 12 13 51.8 +0.3
comp=Z,42nm,0.9s
MVL LR LR
comp=Z,2µm,20.8s
BRNJ Basking Ridge 20.77 360 eP P 12 13 56.2 +0.1
comp=Z,372nm,1.5s
CPNY Central Park 20.88 1 eP P 12 13 58.3 +0.9
comp=Z,203nm,0.9s
CPNY LR LR
comp=Z,2µm,18.4s
SSPA Standing Stone 20.93 353 eP Pn 12 13 59.2 -1.4
comp=Z,135nm,1.3s
SSPA eS S 12 17 46.2 -3.0
SSPA LR LR
comp=Z,801nm,20.0s
WCI Wyandotte Cave 21.01 333 eP P 12 13 59.4 +0.6
WCI pmax pmax
comp=Z,171nm,1.5s
WCI MLR MLR
comp=Z,2µm,18.2s
WCI Wyandotte Cave 21.01 333 eP P 12 13 59.4 +0.6
comp=Z,171nm,1.5s
WCI LR LR
comp=Z,2µm,18.2s
PAL Palisades 21.10 1 eP P 12 14 01.4 +1.7
PAL pmax pmax
comp=Z,155nm,1.0s
PAL Palisades 21.10 1 ePn P 12 14 01.4 +1.7
comp=Z,155nm,1.0s
GNAR Gosnell 21.10 323 eP P 12 14 01.5 +1.7
comp=Z,1µm,1.2s
ODNJ Ogdensburg 21.17 360 eP P 12 14 00.8 +0.3
comp=Z,366nm,2.0s
ODNJ LR LR
comp=Z,1µm,18.9s
HBAR Harrisburg 21.19 321 eP P 12 14 00.7 0.0
HBAR eS S 12 17 52.1 -2.3
PVMO Portageville 21.25 324 PFAKE 12 14 10.0 +8.7
PVMO LR LR
comp=Z,2µm,20.4s
USIN University of 21.40 330 eP P 12 14 03.3 +0.3
comp=Z,102nm,0.8s
YLE Yale 21.44 3 eP P 12 14 07.9 +4.5
comp=Z,371nm,0.9s
PARMO Parma 21.46 325 eP P 12 14 04.5 +1.0
ACSO Alum Creek Sta 21.60 342 eP P 12 14 06.0 +0.9
comp=Z,143nm,0.8s
ACSO eS S 12 18 03.5 +1.0
ACSO LR LR
comp=Z,600nm,18.5s
KSPA Keystone Colle 21.67 357 eP P 12 14 06.8 +0.9
comp=Z,72nm,1.1s
NATX Nacogdoches 21.68 307 eP P 12 14 07.3 +1.3
comp=Z,231nm,0.8s
UALR University of 21.72 317 eP P 12 14 07.3 +0.9
comp=Z,79nm,0.9s
UALR LR LR
comp=Z,2µm,18.4s
HKT Hockley 21.82 302 eP P 12 14 06.3 -1.2
HKT pmax pmax
comp=Z,72nm,1.1s
HKT MLR MLR
comp=Z,701nm,19.9s
HKT Hockley 21.82 302 eP P 12 14 06.3 -1.2
comp=Z,72nm,1.1s
HKT LR LR
comp=Z,701nm,19.9s
BLO Bloomington 21.90 334 eP P 12 14 08.9 +0.6
BLO pmax pmax
comp=Z,138nm,1.1s
BLO MLR MLR
comp=Z,1µm,18.7s
BLO Bloomington 21.90 334 eP P 12 14 08.9 +0.6
comp=Z,138nm,1.1s
BLO LR LR
comp=Z,1µm,18.7s
PBMO Poplar Bluff 21.91 324 eP P 12 14 08.8 +0.2
comp=Z,160nm,0.8s
PBMO LR LR
comp=Z,3µm,21.4s
SIUC Southern Illin 21.96 327 eP P 12 14 09.7 +0.6
comp=Z,92nm,0.8s
SIUC LR LR
comp=Z,998nm,20.2s
BRYW Bryant College 22.14 6 PFAKE 12 14 20.0 +9.1
BRYW LR LR
comp=Z,2µm,21.8s
OLIL Olney 22.22 331 eP P 12 14 12.6 +0.8
comp=Z,113nm,1.0s
OLIL LR LR
comp=Z,599nm,21.2s
ALLY Alegheny Colle 22.27 349 eP P 12 14 13.7 +1.4
comp=Z,378nm,1.6s
ALLY LR LR
comp=Z,1µm,21.1s
BINY Binghamton 22.32 357 eP P 12 14 13.8 +0.9
comp=Z,54nm,0.9s
MIAR Mount Ida 22.39 315 eP P 12 14 14.3 +0.6
MIAR pmax pmax
comp=Z,83nm,1.1s
MIAR MLR MLR
comp=Z,2µm,18.7s
MIAR Mount Ida 22.39 315 eP P 12 14 14.3 +0.6
comp=Z,84nm,1.1s
MIAR LR LR
comp=Z,2µm,18.7s
KVTX Kingsville 22.77 294 eP P 12 14 16.4 -1.3
comp=Z,452nm,0.7s
TRY Troy 22.83 1 eP P 12 14 18.3 +0.2
comp=Z,174nm,1.0s
TRY LR LR
comp=Z,1µm,18.2s
MMNY Mt. Morris Dam 23.00 353 eP P 12 14 20.1 +0.1
comp=Z,245nm,1.0s
SFIN Scholer Farm 23.16 335 eP P 12 14 22.1 +0.5
comp=Z,94nm,1.0s
SFIN LR LR
comp=Z,2µm,19.0s
ACCN Adirondack Com 23.48 1 eP P 12 14 25.6 +0.9
comp=Z,117nm,1.3s
ACCN LR LR
comp=Z,700nm,18.8s
AAM Ann Arbor 23.70 343 eP P 12 14 27.4 +0.5
AAM pmax pmax
comp=Z,58nm,0.8s
AAM MLR MLR
comp=Z,600nm,18.0s
AAM Ann Arbor 23.70 343 eP P 12 14 27.4 +0.5
comp=Z,58nm,0.8s
AAM LR LR
comp=Z,600nm,18.0s
WHTX Lake Whitney 23.91 305 eP P 12 14 31.2 +2.3
comp=Z,94nm,0.8s
WHTX LR LR
comp=Z,500nm,18.0s
MDV Middlebury 24.11 2 eP P 12 14 32.0 +1.4
LBNH Lisbon 24.42 4 eP P 12 14 34.6 +1.1
LBNH pmax pmax
comp=Z,190nm,0.9s
LBNH Lisbon 24.42 4 eP P 12 14 34.6 +1.1
comp=Z,190nm,0.9s
PTN Potsdam (NY) 24.66 359 eP P 12 14 35.9 +0.3
PTN pmax pmax
comp=Z,132nm,1.0s
PTN MLR MLR
comp=Z,1µm,20.6s
PTN Potsdam (NY) 24.66 359 eP P 12 14 35.9 +0.3
comp=Z,132nm,1.0s
PTN LR LR
comp=Z,1µm,20.6s
TUL1 Tulsa 24.66 315 eP P 12 14 36.7 +0.9
comp=Z,80nm,0.8s
TUL1 LR LR
comp=Z,1µm,18.9s
LONY Lake Ozonia 24.70 360 eP P 12 14 37.0 +0.9
comp=Z,96nm,1.1s
PTGA Pitinga 24.89 144 P P 12 14 40.0 +2.0
comp=Z,48nm,0.9s,baz=307,slow=11,SNR=4.7
PTGA Pitinga 24.89 144 P P 12 14 40.0 +2.0
PTGA LR LR
comp=Z,1µm,19.5s
WVL Waterville 24.97 8 PFAKE 12 14 50.0 +12
WVL LR LR
comp=Z,1µm,20.9s
SADO Sadowa 25.16 352 P P 12 14 39.7 -0.5
comp=Z,20nm,0.6s,baz=211,slow=3.6,SNR=23
JCT Junction City 25.22 300 PFAKE 12 14 50.0 +9.0
JCT LR LR
comp=Z,500nm,20.4s
PAYG Puerto Ayora 25.63 219 eP P 12 14 42.7 -2.1
PAYG LR LR
comp=Z,2µm,20.0s
W34A Bridge Creek, 25.66 312 eP P 12 14 46.9 +2.1
comp=Z,112nm,0.9s
W34A LR LR
comp=Z,500nm,19.1s
PKME Peaks-Kenny Pk 25.71 8 PFAKE 12 15 00.0 +15
PKME LR LR
comp=Z,2µm,20.9s
V34A Guthrie 25.79 313 eP P 12 14 47.2 +1.2
comp=Z,108nm,0.8s
V34A LR LR
comp=Z,900nm,18.0s
ABTX Abilene, Hawle 25.86 305 eP P 12 14 45.7 -1.1
comp=Z,142nm,0.8s
U34A Anderson Ranch 26.12 314 eP P 12 14 50.5 +1.4
comp=Z,168nm,0.8s
U34A LR LR
comp=Z,2µm,18.4s
JFWS Jewell Farm 26.57 333 eP P 12 14 53.2 +0.2
JFWS pmax pmax
comp=Z,126nm,1.1s
JFWS MLR MLR
comp=Z,2µm,19.0s
JFWS Jewell Farm 26.57 333 eP P 12 14 53.2 +0.2
comp=Z,126nm,1.1s
JFWS LR LR
comp=Z,2µm,19.0s
KSU1 Kansas State U 27.09 320 eP P 12 14 58.3 +0.6
comp=Z,116nm,0.8s
KSU1 LR LR
comp=Z,2µm,19.6s
AMTX Amarillo 28.33 308 PFAKE 12 15 20.0 +11
AMTX LR LR
comp=Z,401nm,19.1s
BGNE Belgrade 29.46 322 eP P 12 15 19.5 +0.7
comp=Z,205nm,0.9s
BGNE LR LR
comp=Z,800nm,18.9s
MNTX Cornudas Mount 30.15 299 PFAKE 12 15 40.0 +15
MNTX LR LR
comp=Z,400nm,21.3s
ECSD EROS Data Cent 30.19 327 eP P 12 15 24.6 -0.6
comp=Z,163nm,0.8s
ECSD LR LR
comp=Z,2µm,19.0s
SAML Samuel 30.69 158 eP P 12 15 30.7 +0.8

SAML LR LR
comp=Z,1µm,19.0s
KSCO Kaye Shedlock' 30.91 314 PFAKE 12 15 40.0 +8.1
KSCO LR LR
comp=Z,2µm,18.9s
EYMN Ely 31.25 338 eP P 12 15 34.4 -0.2
comp=Z,70nm,1.0s
NNA Nana 31.72 184 eP P 12 15 37.8 -1.2
NNA pmax pmax
comp=Z,38nm,0.9s
NNA MLR MLR
comp=Z,500nm,18.6s
NNA Nana 31.72 184 eP P 12 15 37.8 -1.2
comp=Z,38nm,0.9s
NNA LR LR
comp=Z,500nm,18.6s
BRSD Miller 31.90 326 eP P 12 15 40.3 -0.1
comp=Z,108nm,0.8s
BRSD LR LR
comp=Z,800nm,18.8s
AGMN Agassiz Nation 33.24 334 eP P 12 15 52.7 +0.7
comp=Z,40nm,0.7s
AGMN LR LR
comp=Z,1µm,19.3s
ISCO Idaho Springs 33.31 313 PFAKE 12 16 10.0 +17
ISCO LR LR
comp=Z,413nm,19.0s
PHWY Pilot Hill 33.93 316 PFAKE 12 16 10.0 +11
PHWY LR LR
comp=Z,2µm,18.5s
SMCO Snowmass 33.98 312 PFAKE 12 16 10.0 +11
SMCO LR LR
comp=Z,2µm,18.2s
MVCO Mesa Verde 34.32 308 PFAKE 12 16 10.0 +8.1
MVCO LR LR
comp=Z,400nm,18.1s
W18A Petrified Fore 34.60 303 PFAKE 12 16 20.0 +16
W18A LR LR
comp=Z,400nm,18.9s
RWWY Rawlins 35.27 315 PFAKE 12 16 20.0 +10
RWWY LR LR
comp=Z,1µm,19.4s
SCHQ Schefferville 35.41 8 LR LR 12 29 03.0
comp=Z,673nm,21.9s,baz=228,slow=34
WUAZ Wupatki 36.00 303 PFAKE 12 16 30.0 +14
WUAZ LR LR
comp=Z,400nm,18.0s
LPAZ La Paz 36.44 170 P P 12 16 21.7 +1.1
LPAZ e 12 16 21.9
LPAZ La Paz 36.44 170 P P 12 16 21.7 +1.1
comp=Z,17nm,0.8s,baz=251,slow=1.4,SNR=4.3
LPAZ LR LR 12 33 26.7
comp=Z,427nm,18.3s,baz=356,slow=40
LPAZ La Paz 36.44 170 P P 12 16 21.7 +1.1
LPAZ eP P 12 16 21.9 +1.3
TMUT Trail Mountain 37.06 310 PFAKE 12 16 40.0 +15
TMUT LR LR
comp=Z,1µm,21.6s
BW06 Boulder Array 37.31 316 PFAKE 12 16 40.0 +13
BW06 LR LR
comp=Z,1µm,20.0s
PDAR Pinedale Array 37.31 316 LR LR 12 33 10.1
comp=Z,1µm,18.3s,baz=142,slow=39
MVU Marysvale 37.53 308 PFAKE 12 16 40.0 +11
MVU LR LR
comp=Z,900nm,18.0s
KNB Kanab 37.54 305 PFAKE 12 16 40.0 +11
KNB LR LR
comp=Z,400nm,18.0s
JLU Jordanelle 37.71 311 PFAKE 12 16 40.0 +9.1
JLU LR LR
comp=Z,1µm,18.6s
TCUT Toone Canyon 37.88 312 PFAKE 12 16 40.0 +7.7
TCUT LR LR
comp=Z,1µm,18.3s
NLU North Lily Min 37.92 310 PFAKE 12 16 40.0 +7.4
NLU LR LR
comp=Z,500nm,21.2s
CTU Camp Tracy 37.95 311 PFAKE 12 16 40.0 +7.2
CTU LR LR
comp=Z,2µm,19.8s
CCUT Cedar City 38.10 306 PFAKE 12 16 50.0 +16
CCUT LR LR
comp=Z,600nm,18.4s
HWUT Hardware Ranch 38.17 313 PFAKE 12 16 50.0 +15
HWUT LR LR
comp=Z,800nm,21.4s
RLMT Red Lodge 38.24 319 PFAKE 12 16 50.0 +15
RLMT LR LR
comp=Z,1µm,19.5s
GLA Glamis 38.24 298 PFAKE 12 16 50.0 +15
GLA LR LR
comp=Z,400nm,20.0s
AHID Auburn Hatcher 38.33 315 PFAKE 12 16 50.0 +14
AHID LR LR
comp=Z,2µm,18.7s
LOHW Long Hollow 38.37 316 PFAKE 12 16 50.0 +14
LOHW LR LR
comp=Z,1µm,18.3s
SNOW Snow King Moun 38.41 316 PFAKE 12 16 50.0 +13
SNOW LR LR
comp=Z,1µm,18.9s
REDW Red Top Meadow 38.42 316 PFAKE 12 16 50.0 +13
REDW LR LR
comp=Z,1µm,20.4s
MOOW Moose Ponds 38.53 316 PFAKE 12 16 50.0 +12
MOOW LR LR
comp=Z,1µm,18.8s
DUG Dugway 38.53 310 PFAKE 12 16 50.0 +12
DUG LR LR
comp=Z,300nm,20.3s
TPAW Teton Pass 38.55 316 PFAKE 12 16 50.0 +12
TPAW LR LR
comp=Z,2µm,21.9s
FLWY Flagg Ranch 38.65 317 PFAKE 12 16 50.0 +11
FLWY LR LR
comp=Z,1µm,20.1s
SPUT South Promonto 38.67 312 PFAKE 12 16 50.0 +11
SPUT LR LR
comp=Z,1µm,18.9s
H17A Grant Village 38.71 317 PFAKE 12 16 50.0 +11
H17A LR LR
comp=Z,2µm,18.6s
IMW Indian Meadow 38.72 317 PFAKE 12 16 50.0 +11
IMW LR LR
comp=Z,600nm,18.5s
LDFC Landfair 38.86 302 PFAKE 12 16 50.0 +10
LDFC LR LR
comp=Z,300nm,18.8s
YNR Norris Junctio 38.92 318 PFAKE 12 16 50.0 +9.0
YNR LR LR
comp=Z,1µm,21.9s
BGU Big Grassy Mou 38.94 311 PFAKE 12 16 50.0 +8.9
BGU LR LR
comp=Z,900nm,21.2s
HVU Hansel Valley 39.08 313 PFAKE 12 16 50.0 +7.8
HVU LR LR
comp=Z,2µm,19.0s
YMR Madison River 39.08 318 PFAKE 12 16 50.0 +7.7
YMR LR LR
comp=Z,1µm,19.4s
BOZ Bozeman (W) 39.95 319 PFAKE 12 17 00.0 +11
BOZ LR LR
comp=Z,1µm,18.4s
R11A Troy Canyon, C 40.01 306 PFAKE 12 17 00.0 +10
R11A LR LR
comp=Z,300nm,21.6s
EGMT Eagleton 40.02 323 PFAKE 12 17 00.0 +10
EGMT LR LR
comp=Z,900nm,18.0s
GSC Goldstone 40.26 301 PFAKE 12 17 00.0 +7.9
GSC LR LR
comp=Z,800nm,19.2s
DLMT Dillon 40.43 318 PFAKE 12 17 10.0 +17
DLMT LR LR
comp=Z,600nm,20.2s
ELK Elko 40.46 310 PFAKE 12 17 10.0 +16
ELK LR LR
comp=Z,900nm,18.1s
HLID Hailey 40.87 314 PFAKE 12 17 10.0 +13
HLID LR LR
comp=Z,1µm,18.0s
DAC Darwin (Calif) 41.08 303 PFAKE 12 17 10.0 +11
DAC LR LR
comp=Z,400nm,20.8s
MWC Mount Wilson 41.09 300 PFAKE 12 17 10.0 +11
MWC LR LR
comp=Z,500nm,18.2s
PASC Pasadena Art C 41.19 299 PFAKE 12 17 10.0 +10
PASC LR LR
comp=Z,300nm,18.3s
TPH Tonopah 41.19 306 PFAKE 12 17 10.0 +10
TPH LR LR
comp=Z,1µm,18.0s
FCC Fort Churchill 41.41 345 eP P 12 17 00.2 -0.8
FCC Fort Churchill 41.41 345 eP P 12 17 00.2 -0.8
comp=Z,0.3nm,0.6s
ISA Isabella 41.67 302 PFAKE 12 17 20.0 +16
ISA LR LR
comp=Z,300nm,19.4s
MFID Camas Ranch 41.77 314 PFAKE 12 17 20.0 +16
MFID LR LR
comp=Z,900nm,18.0s
BMN Battle Mountai 41.80 309 PFAKE 12 17 20.0 +15
BMN LR LR
comp=Z,600nm,19.4s
MSO Missoula 41.92 319 PFAKE 12 17 20.0 +14
MSO LR LR
comp=Z,1µm,20.5s
NVAR Mina Array Bea 42.10 306 P P 12 17 07.5 +0.2
comp=Z,2.5nm,0.8s,baz=111,slow=5.1,SNR=4.1
LVC Limon Verde 42.54 172 eP P 12 17 11.5 +0.5
comp=Z,13nm,0.7s
LVC LR LR
comp=Z,700nm,21.9s
BLMT Blacktail Moun 42.70 321 eP P 12 17 11.6 -0.5
WALA Waterton Lakes 42.93 322 eP P 12 17 14.2 +0.4
BMO Blue Mountains 43.28 315 PFAKE 12 17 30.0 +13
BMO LR LR
comp=Z,1µm,20.0s
WVOR Wild Horse Val 43.40 311 PFAKE 12 17 30.0 +12
WVOR LR LR
comp=Z,900nm,18.8s
CMB Columbia Colle 43.62 305 PFAKE 12 17 30.0 +11
CMB LR LR
comp=Z,400nm,19.1s
F10A Beach Ranch, E 43.64 317 PFAKE 12 17 30.0 +10
F10A LR LR
comp=Z,1µm,19.7s
BDFB Brasilia 43.80 142 LR LR 12 35 58.3
comp=Z,471nm,21.9s,baz=313,slow=37
MOD Modoc 44.44 310 PFAKE 12 17 40.0 +14
MOD LR LR
comp=Z,1µm,18.0s
NEW Newport 44.48 320 eP P 12 17 27.0 +0.8
NEW MLR MLR
comp=Z,700nm,19.1s
NEW Newport 44.48 320 eP P 12 17 27.0 +0.8
NEW LR LR
comp=Z,700nm,19.1s
I07A Izee 44.51 313 PFAKE 12 17 40.0 +13
I07A LR LR
comp=Z,400nm,19.8s
G08A Pilot Rock 44.53 315 PFAKE 12 17 40.0 +13
G08A LR LR
comp=Z,1µm,19.5s
EDM Edmonton 44.76 328 eP P 12 17 28.6 +0.3
EDM Edmonton 44.76 328 eP P 12 17 28.6 +0.3
HAWA Hanford 45.29 316 PFAKE 12 17 40.0 +7.4
HAWA LR LR
comp=Z,1µm,20.8s
G06A Carlson Farm, 45.63 314 PFAKE 12 17 50.0 +15
G06A LR LR
comp=Z,1µm,19.3s
RCBR Riachuelo 45.70 120 eP P 12 17 37.9 +1.7
RCBR LR LR
comp=Z,2µm,19.9s
YBH Yreka Blue Hor 46.15 309 PFAKE 12 17 50.0 +10
YBH LR LR
comp=Z,900nm,18.2s
LON Longmire 46.89 316 PFAKE 12 18 00.0 +15
LON LR LR
comp=Z,800nm,21.5s
E03A Lebam 47.98 315 PFAKE 12 18 10.0 +16
E03A LR LR
comp=Z,1µm,18.0s
LCO Las Campanas 48.70 176 eP P 12 18 00.9 +1.2
comp=Z,68nm,1.4s
CPUP Villa Florida 48.81 159 LR LR 12 39 41.6
comp=Z,514nm,19.9s,baz=318,slow=37
YKA Yellowknife Ar 50.73 337 P P 12 18 14.4 0.0
comp=Z,7.0nm,0.7s,baz=129,slow=8.2,SNR=41
DLBC Dease Lake 55.47 328 eP P 12 18 51.0 +1.5
RES Resolute Bay 55.96 354 eP P 12 18 52.6 0.0
RES pmax pmax
comp=Z,13nm,0.8s
RES Resolute Bay 55.96 354 eP P 12 18 52.6 0.0
comp=Z,13nm,0.8s
SUMG Summit 56.55 12 eP P 12 18 58.0 +0.7
SUMG pmax pmax
comp=Z,47nm,1.1s
SUMG Summit 56.55 12⇓iP P 12 18 57.8 +0.5
comp=Z,25nm,1.0s
SUMG Summit 56.55 12 eP P 12 18 58.0 +0.7
comp=Z,47nm,1.1s
PLCA Paso Flores 60.37 177 P P 12 19 24.8 +0.8
PLCA e 12 19 25.3
PLCA Paso Flores 60.37 177 P P 12 19 24.8 +0.8
comp=Z,13nm,1.0s,baz=354,slow=8.1,SNR=8.0
PLCA Paso Flores 60.37 177 P P 12 19 24.8 +0.8
PLCA eP P 12 19 25.3 +1.3
INK Inuvik 60.45 338 P P 12 19 24.0 -0.1
INK Inuvik 60.45 338 P P 12 19 23.9 -0.1
comp=Z,2.7nm,0.6s,baz=112,slow=8.2,SNR=15
KPL Plockton 62.08 35 eP P 12 19 35.3 0.0
KPL AMB AMB 12 19 40.1
comp=Z,33nm,3.7s
HTL Hartland 62.27 42 eP P 12 19 37.0 +0.4
HTL AMB AMB 12 19 41.5
comp=Z,55nm,2.5s
KAC Achnashellach 62.29 35 eP P 12 19 36.3 -0.4
GAL1 Galloway 62.36 38 eP P 12 19 37.4 +0.1
PGBU Glenifferbraes 62.57 37 eP P 12 19 38.8 +0.2
PGBU AMB AMB 12 19 43.8
comp=Z,59nm,3.7s
EAB Aberfoyle 62.69 36 eP P 12 19 39.4 +0.1
ESDC Sonseca Array 62.79 55 P P 12 19 41.1 +0.7
comp=Z,0.6nm,0.4s,baz=278,slow=7.1,SNR=4.6
ALE Alert 62.91 2 P P 12 19 40.7 +0.2
comp=Z,78nm,0.7s,SNR=6.6
QUIF Quistinic 63.07 46 eP P 12 19 42.6 +0.6
comp=Z,22nm,0.8s
QUIF Quistinic 63.07 46 eP P 12 19 42.6 +0.6
QUIF pmax pmax
comp=Z,22nm,0.8s
QUIF Quistinic 63.07 46 eP P 12 19 42.6 +0.6
comp=Z,22nm,0.8s
MENT Mentasta 63.10 331 eP P 12 19 43.4 +1.3
MCH1 Michaelchurch 63.23 41 eP P 12 19 42.8 -0.3
MCH1 AMB AMB 12 19 44.1
comp=Z,21nm,1.1s
DAG Danmarks Havn 63.24 12 iP P 12 19 42.0 -0.7
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 63.24 12 iP P 12 19 42.0 -0.7
comp=Z,5.6nm,0.9s
ESK Eskdalemuir 63.26 37 eP P 12 19 42.2 -1.0
ESK Eskdalemuir 63.26 37 eP P 12 19 43.4 +0.2
ESK pmax pmax
comp=Z,12nm,0.8s
ESK MLR MLR
comp=Z,340nm,21.0s
ESK Eskdalemuir 63.26 37 eP P 12 19 43.4 +0.2
comp=Z,12nm,0.8s
ESK LR LR
comp=Z,340nm,21.0s
KESW Keswick, Cumbr 63.27 38 eP P 12 19 43.6 +0.3
KESW AMB AMB 12 19 48.2
comp=Z,48nm,3.2s
EKA Eskdalemuir Ar 63.29 37 P P 12 19 43.5 +0.2
comp=Z,8.4nm,0.7s,baz=273,slow=5.6,SNR=29
HLM1 Long Mynd 63.32 40 eP P 12 19 43.7 +0.1
MONM Monmouth 63.34 41 eP P 12 19 43.7 -0.1
MONM AMB AMB 12 19 44.6
comp=Z,39nm,2.7s
MCD Coleburn Disti 63.40 35 eP P 12 19 43.3 -0.7
PAX Paxson 63.89 331 eP P 12 19 48.6 +1.2
PAX pmax pmax
comp=Z,102nm,2.4s
PAX Paxson 63.89 331 eP P 12 19 48.6 +1.2
comp=Z,102nm,2.4s
KBI1 Birley Grange 64.16 40 eP P 12 19 48.7 -0.4
GRR Gorron 64.61 45 eP P 12 19 52.6 +0.4
comp=Z,28nm,0.9s
GRR Gorron 64.61 45 eP P 12 19 52.6 +0.4
GRR pmax pmax
comp=Z,28nm,0.9s
GRR Gorron 64.61 45 eP P 12 19 52.6 +0.4
comp=Z,28nm,0.9s
SJPF Ste Jean 64.61 51 eP P 12 19 53.2 +0.9
comp=Z,13nm,0.8s
SJPF Ste Jean 64.61 51 eP P 12 19 53.2 +0.9
SJPF pmax pmax
comp=Z,13nm,0.8s
SJPF Ste Jean 64.61 51 eP P 12 19 53.2 +0.9
comp=Z,13nm,0.8s
ILAR Eielson Array 64.75 333 P P 12 19 52.8 -0.1
comp=Z,1.9nm,0.7s,baz=121,slow=3.6,SNR=18
FLN La Foliniere 64.84 45 eP P 12 19 54.3 +0.6
comp=Z,19nm,0.6s
FLN eR
comp=Z,438nm,22.8s
FLN La Foliniere 64.84 45 eP P 12 19 54.3 +0.6
FLN pmax pmax
comp=Z,19nm,0.6s
FLN La Foliniere 64.84 45 eP P 12 19 54.3 +0.6
comp=Z,19nm,0.6s
LDF La Druitiere 65.09 45 eP P 12 19 55.8 +0.5
comp=Z,23nm,0.6s
LDF La Druitiere 65.09 45 eP P 12 19 55.8 +0.5
LDF pmax pmax
comp=Z,23nm,0.6s
LDF La Druitiere 65.09 45 eP P 12 19 55.8 +0.5
comp=Z,23nm,0.6s
ETSF Etsaut 65.11 51 eP P 12 19 56.4 +0.7
comp=Z,4.0nm,0.5s
ETSF Etsaut 65.11 51 eP P 12 19 56.4 +0.7
ETSF pmax pmax
comp=Z,4.0nm,0.5s
ETSF Etsaut 65.11 51 eP P 12 19 56.4 +0.7
comp=Z,4.0nm,0.5s
MFF Saint Martin d 65.16 47 eP P 12 19 56.4 +0.6
comp=Z,18nm,0.8s
MFF Saint Martin d 65.16 47 eP P 12 19 56.4 +0.6
MFF pmax pmax
comp=Z,18nm,0.8s
MFF Saint Martin d 65.16 47 eP P 12 19 56.4 +0.6
comp=Z,18nm,0.8s
COLA College 65.17 333⇓eP P 12 19 54.4 -1.1
COLA pmax pmax
comp=Z,65nm,2.5s
COLA College 65.17 333 PFAKE 12 20 10.0 +14
COLA LR LR
comp=Z,681nm,19.0s
EPF Esparros 65.76 51 eP P 12 20 00.7 +0.9
EPF Esparros 65.76 51 eP P 12 20 00.7 +0.9
EPF Esparros 65.76 51 eP P 12 20 00.7 +0.9
LFF La Frestale 65.89 49 eP P 12 20 01.0 +0.4
comp=Z,22nm,0.7s
LFF La Frestale 65.89 49 eP P 12 20 01.0 +0.4
LFF pmax pmax
comp=Z,22nm,0.7s
LFF La Frestale 65.89 49 eP P 12 20 01.0 +0.4
comp=Z,22nm,0.7s
TRF Thorofare Moun 66.11 332 eP P 12 20 02.8 +0.9
comp=Z,64nm,1.8s
COLD Coldfoot 66.36 336 eP P 12 20 04.4 +1.2
comp=Z,127nm,2.8s
KTH Kantishna Hill 66.40 332 eP P 12 20 04.4 +0.8
comp=Z,16nm,0.9s
RJF Les Rejaudoux 66.41 48 eP P 12 20 04.2 +0.3
comp=Z,21nm,1.0s
RJF eR
comp=Z,423nm,20.8s
RJF Les Rejaudoux 66.41 48 eP P 12 20 04.2 +0.3
RJF pmax pmax
comp=Z,21nm,1.0s
RJF Les Rejaudoux 66.41 48 eP P 12 20 04.2 +0.3
comp=Z,21nm,1.0s
TCF Toulx Ste Croi 66.81 47 eP P 12 20 06.6 +0.1
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 66.81 47 eP P 12 20 06.6 +0.1
TCF pmax pmax
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 66.81 47 eP P 12 20 06.6 +0.1
comp=Z,18nm,0.9s
CAF Calviac 66.83 49 eP P 12 20 07.0 +0.4
comp=Z,30nm,1.0s
CAF Calviac 66.83 49 eP P 12 20 07.0 +0.4
CAF pmax pmax
comp=Z,30nm,1.0s
CAF Calviac 66.83 49 eP P 12 20 07.0 +0.4
comp=Z,30nm,1.0s
HYF Humbligny 67.02 46 eP P 12 20 08.2 +0.4
HYF Humbligny 67.02 46 eP P 12 20 08.2 +0.4
MTLF Montolieu 67.09 50 eP P 12 20 08.8 +0.5
MTLF Montolieu 67.09 50 eP P 12 20 08.8 +0.5
BGF Bois d'Agland 67.22 47 eP P 12 20 09.1 0.0
comp=Z,20nm,0.7s
BGF Bois d'Agland 67.22 47 eP P 12 20 09.1 0.0
BGF pmax pmax
comp=Z,20nm,0.7s
BGF Bois d'Agland 67.22 47 eP P 12 20 09.1 0.0
comp=Z,20nm,0.7s
AVF Avril sur Loir 67.55 47 eP P 12 20 11.1 0.0
comp=Z,15nm,1.1s
AVF Avril sur Loir 67.55 47 eP P 12 20 11.1 0.0
AVF pmax pmax
comp=Z,15nm,1.1s
AVF Avril sur Loir 67.55 47 eP P 12 20 11.1 0.0
comp=Z,15nm,1.1s
SSF Saint Saulge 67.63 46 eP P 12 20 11.6 0.0
comp=Z,9.8nm,0.8s
SSF Saint Saulge 67.63 46 eP P 12 20 11.6 0.0
SSF pmax pmax
comp=Z,10.0nm,0.8s
SSF Saint Saulge 67.63 46 eP P 12 20 11.6 0.0
comp=Z,9.8nm,0.8s
IM04 Indian Mountai 67.72 334 eP P 12 20 12.3 +0.4
BAIF Baives 67.83 43 eP P 12 20 13.4 +0.6
BAIF Baives 67.83 43 eP P 12 20 13.4 +0.6
BAIF Baives 67.83 43 eP P 12 20 13.4 +0.6
LOR Lormes 67.85 46 eP P 12 20 13.0 0.0
comp=Z,20nm,0.8s
LOR eR
comp=Z,541nm,21.0s
LOR Lormes 67.85 46 eP P 12 20 13.0 0.0
LOR pmax pmax
comp=Z,20nm,0.8s
LOR Lormes 67.85 46 eP P 12 20 13.0 0.0
comp=Z,20nm,0.8s
SMF Signal de Mont 67.90 47 eP P 12 20 13.3 -0.1
comp=Z,24nm,0.9s
SMF Signal de Mont 67.90 47 eP P 12 20 13.3 -0.1
SMF pmax pmax
comp=Z,24nm,0.9s
SMF Signal de Mont 67.90 47 eP P 12 20 13.3 -0.1
comp=Z,24nm,0.9s
DOU Dourbes 68.07 43 P P 12 20 14.6 +0.2
comp=Z,13nm,1.9s
GIVF Givet 68.22 43 eP P 12 20 15.6 +0.3
comp=Z,22nm,0.8s
GIVF Givet 68.22 43 eP P 12 20 15.6 +0.3
GIVF pmax pmax
comp=Z,22nm,0.8s
GIVF Givet 68.22 43 eP P 12 20 15.6 +0.3
comp=Z,22nm,0.8s
BCLA Clavier 68.50 43 P P 12 20 17.2 +0.2
MEZF Maizieres J'vi 68.52 45 eP P 12 20 17.7 +0.5
comp=Z,26nm,0.6s
MEZF Maizieres J'vi 68.52 45 eP P 12 20 17.7 +0.5
comp=Z,26nm,0.6s
SFTF Sexfontaines 68.55 45 eP P 12 20 17.6 +0.2
comp=Z,20nm,0.7s
SFTF Sexfontaines 68.55 45 eP P 12 20 17.6 +0.2
comp=Z,20nm,0.7s
SVW2 Sparrevohn 68.57 329 eP P 12 20 17.3 +0.1
comp=Z,39nm,1.4s
VIVF Saint-Julien-l 68.68 49 eP P 12 20 19.3 +1.0
comp=Z,12nm,0.8s
VIVF Saint-Julien-l 68.68 49 eP P 12 20 19.3 +1.0
VIVF pmax pmax
comp=Z,12nm,0.8s
VIVF Saint-Julien-l 68.68 49 eP P 12 20 19.3 +1.0
comp=Z,12nm,0.8s
MEM Membach 68.92 42 P P 12 20 20.5 +0.9

PAGF Fort de Pagny 68.96 45 eP P 12 20 20.4 +0.4
comp=Z,3.4nm,0.4s
PAGF Fort de Pagny 68.96 45 eP P 12 20 20.4 +0.4
comp=Z,3.4nm,0.4s
SMRF Simiane la Rot 69.43 49 eP P 12 20 23.3 +0.3
SMRF Simiane la Rot 69.43 49 eP P 12 20 23.3 +0.3
CABF La Chapelle 69.44 47 eP P 12 20 23.2 +0.1
CABF La Chapelle 69.44 47 eP P 12 20 23.2 +0.1
CABF La Chapelle 69.44 47 eP P 12 20 23.2 +0.1
HAU Haudompre 69.44 45 eP P 12 20 23.0 0.0
comp=Z,12nm,0.8s
HAU eR
comp=Z,530nm,23.0s
HAU Haudompre 69.44 45 eP P 12 20 23.0 0.0
HAU pmax pmax
comp=Z,12nm,0.8s
HAU Haudompre 69.44 45 eP P 12 20 23.0 0.0
comp=Z,12nm,0.8s
HINF Hinteralfeld 69.80 45 eP P 12 20 25.0 -0.2
HINF Hinteralfeld 69.80 45 eP P 12 20 25.0 -0.2
HINF Hinteralfeld 69.80 45 eP P 12 20 25.0 -0.2
ECH Echery 69.95 45 eP P 12 20 26.5 +0.4
ECH pmax pmax
comp=Z,8.0nm,1.0s
ECH MLR MLR
comp=Z,394nm,20.0s
ECH Echery 69.95 45 eP P 12 20 26.5 +0.4
comp=Z,8.0nm,1.0s
ECH LR LR
comp=Z,394nm,20.0s
KBS Kingsbay 69.97 12 PFAKE 12 20 40.0 +14
KBS LR LR
comp=Z,501nm,19.0s
CDF Champ du Feu 70.00 45 eP P 12 20 26.7 +0.2
comp=Z,7.0nm,0.7s
CDF Champ du Feu 70.00 45 eP P 12 20 26.7 +0.2
CDF pmax pmax
comp=Z,7.0nm,0.7s
CDF Champ du Feu 70.00 45 eP P 12 20 26.7 +0.2
comp=Z,7.0nm,0.7s
LPL La Plagne 70.03 48 eP P 12 20 27.7 +0.8
LPL La Plagne 70.03 48 eP P 12 20 27.7 +0.8
LPL La Plagne 70.03 48 eP P 12 20 27.7 +0.8
LPG La Plagne 70.05 48 eP P 12 20 27.8 +0.7
LPG La Plagne 70.05 48 eP P 12 20 27.8 +0.7
LPG La Plagne 70.05 48 eP P 12 20 27.8 +0.7
BNI Bardonecchia 70.06 48 PFAKE 12 20 40.0 +13
BNI LR LR
comp=Z,499nm,22.0s
MBDF Montbardon 70.18 48 eP P 12 20 28.2 +0.5
comp=Z,12nm,0.8s
MBDF Montbardon 70.18 48 eP P 12 20 28.2 +0.5
MBDF pmax pmax
comp=Z,12nm,0.8s
MBDF Montbardon 70.18 48 eP P 12 20 28.2 +0.5
comp=Z,12nm,0.8s
FRF La Foret Royal 70.26 50 eP P 12 20 28.3 +0.2
FRF La Foret Royal 70.26 50 eP P 12 20 28.3 +0.2
FRF La Foret Royal 70.26 50 eP P 12 20 28.3 +0.2
SENIN Lac Senin/Sane 70.30 47 eP P 12 20 28.5 0.0
BFO Black Forest 70.71 45 PFAKE 12 20 40.0 +9.2
BFO LR LR
comp=Z,431nm,19.0s
NB2 NORSAR Subarra 70.76 31 P P 12 20 31.6 +0.8
comp=Z,9.5nm,0.7s,baz=278,slow=6.5
NOA NORSAR Array B 70.76 31 P P 12 20 32.0 +1.1
NOA NORSAR Array B 70.76 31 P P 12 20 31.9 +1.1
comp=Z,8.7nm,0.8s,baz=277,slow=6.2,SNR=18
TUE Stuetta 71.69 46 eP P 12 20 40.2 +3.3
comp=Z,644nm,0.5s
DAVOX Davos/Dischmat 71.99 46 P P 12 20 39.5 +0.8
comp=Z,3.5nm,0.7s,baz=196,slow=18,SNR=4.5
HFS Hagfors 72.09 32 P P 12 20 39.5 +0.7
comp=Z,3.4nm,0.9s,baz=204,slow=3.2,SNR=4.3
PGF Pioggiola 72.14 50 eP P 12 20 39.6 0.0
PGF Pioggiola 72.14 50 eP P 12 20 39.6 0.0
PGF Pioggiola 72.14 50 eP P 12 20 39.6 0.0
FUORN Ofenpass-Fuorn 72.28 46 eP P 12 20 42.0 +1.4
comp=Z,19nm,1.1s
RETA Reutte 72.46 45⇓i/pP P 12 20 42.2 +0.8
comp=Z,11nm,0.9s
FETA Feichten 72.53 46⇓i/P P 12 20 42.5 +0.6
comp=Z,8.1nm,0.8s
MOTA Moosalm 72.72 45⇓i/P P 12 20 43.6 +0.7
comp=Z,5.9nm,0.8s
TORD Torodi Ar. Bea 72.79 82 P P 12 20 43.5 -0.3
comp=Z,1.8nm,0.8s,baz=268,slow=5.2,SNR=2.7
CLL Collm 73.20 41 eP P 12 20 46.0 +0.4
CLL Collm 73.20 41 eP P 12 20 46.0 +0.4
KEST Kesra 73.80 57 P P 12 20 50.6 +1.1
comp=Z,6.1nm,0.8s,baz=274,slow=3.6,SNR=8.1
KEST Kesra 73.80 57 P P 12 20 50.6 +1.1
KEST eP P 12 20 50.9 +1.4
BRG Berggiesshubel 73.87 41 eP P 12 20 50.5 +1.0
comp=Z,13nm,1.3s
BRG e 12 22 32.5
comp=Z,24nm,1.8s
BRG Berggiesshubel 73.87 41 eP P 12 20 50.5 +1.0
BRG pmax pmax
comp=Z,13nm,1.3s
BRG pmax pmax
comp=Z,24nm,1.8s
KHC Kasperske Hory 73.99 43 eP P 12 20 51.3 +0.9
KHC pmax pmax
comp=Z,7.0nm,1.0s
KHC Kasperske Hory 73.99 43 eP P 12 20 51.2 +0.9
KHC Kasperske Hory 73.99 43 eP P 12 20 51.3 +0.9
comp=Z,7.4nm,1.0s
GEC2 GERESS Array S 74.13 43 eP P 12 20 52.3 +1.1
GEC2 GERESS Array S 74.13 43 eP P 12 20 52.2 +1.1
GERES GERESS Array B 74.13 43 P P 12 20 52.0 +0.8
comp=Z,2.9nm,0.7s,baz=284,slow=4.8,SNR=19
PRU Pruhonice 74.43 42 eP P 12 20 53.6 +0.8
PRU Pruhonice 74.43 42 eP P 12 20 53.6 +0.8
MOA Molln 74.71 44⇑i/P P 12 20 55.3 +0.7
comp=Z,8.0nm,0.7s
ARCES ARCESS Array B 75.01 21 P P 12 20 56.2 +0.5
comp=Z,8.6nm,0.6s,baz=289,slow=3.7,SNR=30
UPC Upice 75.23 41 eP P 12 20 58.6 +1.2
UPC Upice 75.23 41 eP P 12 20 58.6 +1.2
KSP Ksiaz 75.33 41 eP P 12 20 58.8 +1.0
AQU L'Aquila 75.36 50 PFAKE 12 21 10.0 +12
AQU LR LR
comp=Z,491nm,20.0s
KEV Kevo 75.44 21 eP P 12 20 58.0 -0.3
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV Kevo 75.44 21 ep P 12 20 58.0 -0.3
comp=Z,5.3nm,0.7s
KEV Kevo 75.44 21 PFAKE 12 21 10.0 +12
KEV LR LR
comp=Z,298nm,19.0s
DPC Dobruska-Polom 75.46 41 eP P 12 21 00.0 +1.2
DPC e 12 31 27.3
DPC Dobruska-Polom 75.46 41 eP P 12 21 00.0 +1.2
DPC Dobruska-Polom 75.46 41 eP P 12 21 00.1 +1.3
SOKA Soboth 75.48 45⇑i/P P 12 20 59.4 +0.4
comp=Z,14nm,1.2s
GAMB Gambell 75.55 333 eP P 12 21 00.1 +1.2
comp=Z,7.8nm,1.0s
CONA Conrad Observa 75.74 44⇑i/pP P 12 21 01.4 +0.9
comp=Z,7.7nm,0.9s
VRAC Vranov 75.88 42 P P 12 21 01.0 -0.2
comp=Z,4.5nm,0.6s,baz=261,slow=4.0,SNR=5.9
OKC Ostrava-Krasne 76.73 42 eP P 12 21 07.0 +1.0
OKC Ostrava-Krasne 76.73 42 eP P 12 21 07.0 +1.0
VYHS Vyhne 77.52 43 eP P 12 21 11.6 +1.1
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 77.52 43 eP P 12 21 11.6 +1.1
KAF Kangasniemi 77.57 28 eP P 12 21 10.0 -0.4
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 77.57 28 ep P 12 21 10.0 -0.4
comp=Z,4.5nm,0.7s
FINES FINESS Array B 77.68 29 P P 12 21 12.1 +1.0
comp=Z,12nm,0.7s,baz=267,slow=3.4,SNR=33
CUC Castrocucco 77.72 52 PFAKE 12 21 20.0 +8.2
CUC LR LR
comp=Z,289nm,22.0s
CEL Celeste 78.25 54 PFAKE 12 21 30.0 +15
CEL LR LR
comp=Z,463nm,20.0s
PSZ Piszkesteto 78.36 43 eP P 12 21 15.9 +0.7
PSZ pmax pmax
comp=Z,16nm,1.1s
PSZ Piszkesteto 78.36 43 eP P 12 21 15.9 +0.7
comp=Z,16nm,1.1s
LVZ Lovozero 78.71 21⇓eP P 12 21 17.0 -0.3
LVZ pmax pmax
comp=Z,29nm,1.3s
STHS Stebnicka Huta 78.78 41 eP P 12 21 17.8 +0.4
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 78.78 41 eP P 12 21 17.8 +0.4
VSU Vasula 78.98 32⇓i/P P 12 21 18.1 -0.2
VSU pmax pmax
comp=Z,94nm,1.0s
CRVS Cervenica-Dubn 79.07 42 eP P 12 21 20.5 +1.5
CRVS Cervenica-Dubn 79.07 42 eP P 12 21 20.5 +1.5
CRVS e 12 32 46.8
JOF Joensuu 79.45 27 eP P 12 21 20.1 -0.7
JOF pmax pmax
comp=Z,13nm,0.7s
JOF Joensuu 79.45 27 ep P 12 21 20.1 -0.7
comp=Z,13nm,0.7s
KOLS Kolonicke sedl 79.57 42 eP P 12 21 21.6 -0.2
KOLS pmax pmax
comp=Z,85nm,3.0s
KOLS Kolonicke sedl 79.57 42 eP P 12 21 21.6 -0.2
UZH Uzhgorod 79.67 42 eP P 12 21 23.8 +1.5
UZH e 12 21 29.4
BZS Buzias 80.18 45⇑P P 12 21 26.6 +1.5
BZS Buzias 80.18 45⇑i/P P 12 21 26.6 +1.5
NACGM Naroch 80.23 35 e P 12 21 23.0 -2.2
LVV L'vov 80.37 41 eP P 12 21 33.7 +7.6
DRGR 80.53 44⇑P P 12 21 28.7 +1.7
DRGR 80.53 44⇑i/P P 12 21 28.7 +1.7
GZR Gura Zlata 81.02 45⇑P P 12 21 31.2 +1.5
GZR Gura Zlata 81.02 45⇑i/P P 12 21 31.2 +1.5
TMCR Tamitsa 81.63 24 eP P 12 21 32.9 +0.5
TMCR e 12 24 38.5
TMCR pmax pmax
comp=Z,43nm,0.8s
BURAR Bucovina Array 81.86 42⇓P P 12 21 35.6 +1.4
BURAR Bucovina Array 81.86 42⇓i/P P 12 21 35.6 +1.4
BILL Bilibino 81.98 341 eP P 12 21 34.0 -0.3
BILL pmax pmax
comp=Z,19nm,1.3s
BILL Bilibino 81.98 341 eP P 12 21 35.1 +0.9
comp=Z,12nm,0.9s
BILL LR LR
comp=Z,276nm,20.0s
ARR Arges 82.26 45⇑i/P P 12 21 37.7 +1.4
VOIR 82.51 44⇑P P 12 21 39.0 +1.4
VOIR 82.51 44⇑i/P P 12 21 39.0 +1.4
DOPR Dopca 82.55 44⇓i/P P 12 21 39.2 +1.5
MLR Muntele Rosu 83.08 44⇓P P 12 21 42.4 +1.8
MLR Muntele Rosu 83.08 44⇓i/P P 12 21 42.4 +1.8
KIEV Kiev 83.16 38 eP P 12 21 40.6 -0.1
KIEV pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 83.16 38 eP P 12 21 40.6 -0.1
comp=Z,4.4nm,0.6s
AK01 Malin Array Si 83.16 38 eP P 12 21 41.0 +0.3
AKASG Malin Array Be 83.17 38 P P 12 21 41.0 +0.3
comp=Z,4.7nm,0.6s,baz=287,slow=4.2,SNR=16
AK02 Malin Array Si 83.17 39 eP P 12 21 40.9 +0.2
PLOR Plostina 83.41 44⇓P P 12 21 45.3 +3.1
PLOR Plostina 83.41 44⇓i/P P 12 21 45.3 +3.1
VRI Vrincioaia 83.46 44⇑P P 12 21 44.6 +2.2
VRI Vrincioaia 83.46 44⇑i/P P 12 21 44.6 +2.2
KLMR Klimovskoe 83.85 27 eP P 12 21 44.6 +0.6
KLMR pmax pmax
comp=Z,55nm,1.4s
JMB Yambol 84.62 47⇑P P 12 21 49.9 +1.5
JMB Yambol 84.62 47⇑i/P P 12 21 49.9 +1.5
CFR Carcaliu 84.63 44⇑P P 12 21 48.5 +0.2
CFR Carcaliu 84.63 44⇑i/P P 12 21 48.5 +0.2
TIRR Tirgusor 85.09 44⇑P P 12 21 51.8 +1.1
TIRR Tirgusor 85.09 44⇑i/P P 12 21 51.8 +1.1
OBN Obninsk 85.28 33 eP P 12 21 51.6 +0.2
OBN i 12 21 55.2
OBN pmax pmax
comp=Z,70nm,1.7s
OBN Obninsk 85.28 33 P P 12 21 51.5 +0.1
comp=Z,21nm,0.5s,baz=193,slow=4.2,SNR=8.8
PRGR Permogore 85.92 24 eP P 12 21 51.1 -3.3
PRGR pmax pmax
comp=Z,110nm,1.9s
TIXI Tiksi 87.35 353⇓i/P P 12 22 01.1 -0.1
TIXI pmax pmax
comp=Z,13nm,1.7s
TIXI Tiksi 87.35 353 eP P 12 22 01.2 -0.1
comp=Z,9.9nm,0.8s
VSR Storozhevoye 88.55 35⇑eP P 12 22 05.7 -1.7
VSR pmax pmax
comp=Z,17nm,1.0s
ISP Isparta 89.22 50 PFAKE 12 22 20.0 +9.0
ISP LR LR
comp=Z,259nm,20.0s
SEY Seymchan 89.69 341 eP P 12 22 13.4 +0.9
ANTO Ankara 89.96 47 PFAKE 12 22 30.0 +16
ANTO LR LR
comp=Z,317nm,21.0s
ARU Arti 94.36 24d i/P P 12 22 34.1 -0.1
ARU 12 26 21.9
ARU S SKSac 12 33 09.2 +2.5
ARU pmax pmax
comp=Z,14nm,1.7s
ARU Arti 94.36 24 eP P 12 22 33.8 -0.4
comp=Z,24nm,0.9s
ARU LR LR
comp=Z,228nm,21.0s
KBZ Khabaz 94.64 40 LR LR 13 01 38.9
comp=Z,137nm,21.9s,baz=284,slow=33
SKR Severo-Kuril's 96.89 330 eP P 12 22 45.6 -0.3
SKR pmax pmax
comp=E,50nm,0.8s
SKR pmax pmax
comp=Z,70nm,0.8s
GNI Garni 97.77 42 PFAKE 12 23 00.0 +10
GNI LR LR
comp=Z,196nm,22.0s
AKTO Aktyubinsk 98.45 28 LR LR 13 02 40.6
comp=Z,102nm,21.8s,baz=303,slow=33
BRVK Borovoye 101.23 21 PFAKE 12 23 20.0 +15
BRVK LR LR
comp=Z,350nm,21.0s
ERM Erimo 109.31 331 PFAKE 12 28 00.0
ERM LR LR
comp=Z,293nm,22.0s
EKS2 Erkin-Say 111.25 25 PFAKE 12 28 00.0
EKS2 LR LR
comp=Z,270nm,20.0s
AAK Ala-Archa 111.55 24 PFAKE 12 28 00.0
AAK LR LR
comp=Z,212nm,22.0s
MDJ Mudanjiang 112.20 342 Pdif Pdif 12 23 53.1 -1.1
MDJ PP PP 12 28 33.1 -1.0
MDJ PKS PKSdf 12 31 24.9 -2.1
MDJ SKS SKSdf 12 35 01.4 +1.5
MDJ AMB AMB
comp=Z,87nm,3.8s
MDJ LR LR
comp=Z,56nm,7.7s
MDJ LR LR
comp=Z,260nm,12.4s
MDJ LR LR
comp=Z,230nm,13.0s
WMQ Urumqi 114.56 14 ePKP PKPdf 12 27 54.4 -0.6
WMQ LR LR
comp=Z,280nm,25.8s
WMQ LR LR
comp=Z,210nm,26.4s
WMQ LR LR
comp=Z,280nm,26.8s
KSH Kashi 114.80 25 ePKP PKPdf 12 27 57.3 +1.6
KSH ePP PP 12 28 59.2 +6.3
KSH ePKS PKSdf 12 31 33.5 +1.0
KSH eSKS SKSdf 12 35 08.6 +3.1
KSH eSKKS SKKSac 12 35 51.5 -1.7
KSH eSS SS 12 44 50.2 +5.6
KSH AMB AMB
comp=Z,100nm,3.1s
KSH LR LR
comp=Z,92nm,5.9s
KSH LR LR
comp=Z,94nm,5.2s
KSH LR LR
comp=Z,230nm,6.8s
HHC Hu-ho-hao-te 119.36 355 ePKP PKPdf 12 27 59.7 -4.7
HHC PP PP 12 29 27.2 +2.9
HHC SKS SKSdf 12 35 07.6 -6.5
HHC AMB AMB
comp=Z,510nm,5.5s
HHC LR LR
comp=Z,520nm,14.9s
HHC LR LR
comp=Z,380nm,13.7s
HHC LR LR
comp=Z,460nm,20.6s
BJI Beijing 119.61 351 PKP PKPdf 12 28 04.3 -0.4
INCN Inchon 119.62 341 PFAKE 12 28 20.0 +15
INCN LR LR
comp=Z,353nm,22.0s
LZH Lanzhou 124.35 2 ePKP PKPdf 12 28 16.1 +1.9
ABPO Ambohimpanom 125.23 100 PFAKE 12 28 30.0 +14
ABPO LR LR
comp=Z,175nm,19.0s
CD2 Chengdu 129.51 2 PKP PKPdf 12 28 22.9 -1.1
CD2 PP PP 12 30 35.8 +3.5
CD2 PKS PKSdf 12 31 58.0 -2.7
CD2 SKS SKSdf 12 35 31.9 -1.5
CD2 SKKS SKKSac 12 37 25.7 -2.7
CD2 SS SS 12 47 53.1 +1.8
CD2 AMB AMB
comp=Z,220nm,5.9s
CD2 LR LR
comp=Z,340nm,7.1s
CD2 LR LR
comp=Z,320nm,13.1s
CASY Casey 133.47 183 PFAKE 12 28 40.0 +10
CASY LR LR
comp=Z,259nm,20.0s
GYA Guiyang 133.96 359 ePdif Pdif 12 25 29.8 -1.8
GYA PKP PKPdf 12 28 32.0 -0.7
GYA PP PP 12 31 04.2 +3.1
GYA AMB AMB
comp=Z,130nm,7.9s
KMI Kunming 135.22 4 PKP PKPdf 12 28 34.9 -0.3
CHTO Chiang Mai 141.04 10 PFAKE 12 29 00.0 +14
CHTO LR LR
comp=Z,210nm,22.0s
CTAO Charters Tower 141.81 262 PFAKE 12 29 00.0 +13
CTAO LR LR
comp=Z,185nm,19.0s
COEN Coen 143.59 273 ePKPdf PKPbc 12 28 48.6 +0.9
STKA Stephens Creek 145.58 242 PKPbc PKPab 12 28 53.9 0.0
comp=Z,8.8nm,0.6s,baz=110,slow=6.8,SNR=29
BBOO Buckleboo 149.88 238 ePKPdf PKPbc 12 29 01.1 +0.7
BBOO ePKPbc PKPbc 12 29 04.8 -0.4
BBOO ePKPab PKPab 12 29 10.5 -0.3
WRAB Tennant Creek 152.94 265 ePKIKP PKPbc 12 29 12.5 -0.2
WRAB Tennant Creek 152.94 265 ePKPbc PKPbc 12 29 12.5 -0.2
WRA Warramunga Arr 152.95 265 PKP PKPdf 12 29 06.0 +0.5
comp=Z,3.0nm,1.1s,baz=74,slow=1.1,SNR=6.4
WRA PKPbc PKiKP 12 29 12.5 -0.4
comp=Z,11nm,0.8s,baz=86,slow=2.6,SNR=46
AS31 Alice Springs 153.42 257 ePKPbc PKPbc 12 29 12.9 -0.7
ASAR Alice Springs 153.42 257 PKPbc PKPbc 12 29 13.2 -0.4
comp=Z,3.5nm,0.5s,baz=78,slow=2.3,SNR=40
KAPI Kappang 159.79 315 PFAKE 12 29 30.0 +16
KAPI LR LR
comp=Z,167nm,20.0s

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*CSEM **12** 12:19:47.9, 42°07N×13°51E, h9km, MD1.8/4, After ROM*
ROM 12 12:19:47.9±0.0, **42°07N×13°51E, h9**km, **Md1.8**/4, **Ml2.0**/1, **Error ellipse: s-maj=0.5km s-min=0.3km az=113.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTQR	Pietraquaria	0.09	242	Pg	Pg	12 19 50.7	+0.3
PTQR				Sg	Sg	12 19 52.7	+0.5
PTQR	Pietraquaria	0.09	242	Pg	Pg	12 19 50.7	+0.3
PTQR				Sg	Sg	12 19 52.7	+0.5
FAGN	Fagnano	0.21	15	Pg	Pg	12 19 52.8	+0.5
FAGN				Sg	Sg	12 19 56.6	+1.3
	231nm,0.4s						
FAGN	Fagnano	0.21	15	Pg	Pg	12 19 52.8	+0.5
FAGN				Sg	Sg	12 19 56.6	+1.3
	231nm,0.4s						
VVLD	Villa Vallelon	0.21	157	Pg	Pg	12 19 53.1	+0.7
VVLD				Sg	Sg	12 19 56.7	+1.2
VVLD	Villa Vallelon	0.21	157	Pg	Pg	12 19 53.1	+0.7
VVLD				Sg	Sg	12 19 56.7	+1.2
GUAR	Guarcino	0.31	209	Pg	Pg	12 19 54.8	+0.6
GUAR				Sg	Sb	12 20 00.1	-0.8
GUAR	Guarcino	0.31	209	Pg	Pg	12 19 54.8	+0.6
GUAR				Sg	Sb	12 20 00.1	-0.8

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*MOS **12** 12:25:45.2±1.2, 3°31S×128°01E, h60km, mb4.5/10, Error ellipse: s-maj=17.1km s-min=9.0km az=113.0*
*ISCJB **12** 12:25:47.7±0.3, 3°27S±0°03×127°98E±0°03, h84km±4km, mb4.2/24, Error ellipse: s-maj=5.3km s-min=4.1km az=24.5*
*NEIC **12** 12:25:49.0±0.9, 3°33S×128°00E, h79km±9km, mb4.7/6, Error ellipse: s-maj=9.4km s-min=6.6km az=65.0*
*IDC **12** 12:25:48.5±2.2, 3°41S×128°02E, h75km±19km, mb4.0/14, mb1 4.1/14, mb1mx3.9/34, mbtmp4.3/14, Error ellipse: s-maj=26.3km s-min=8.8km az=77.0*
*DJA **12** 12:25:50.0±0.3, 3°S±3°×12°8E±°, h32km±4km, M4.8/25, mb5.1/22, mB5.3/14, MLv5.0/25, Mw(mB)4.7/14*
ISC 12 12:25:49.1±0.7, **3°34S**±0°04×**127°99E**±0°04, **h80**km±6km, **n101, σ1.24**/110, **mb4.1**/24, **1C-2D, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.89	276	P	Pn	12 26 04.9	-2.0
NLAI				S	Sn	12 26 20.5	+0.4
MSAI	Masohi	0.94	91	P	Pn	12 26 08.5	+1.0
MSAI				S	Sn	12 26 21.4	+0.2
BNDI	Bandanaira	2.25	122	P	Pn	12 26 26.5	+2.2
BNDI				S	Sn	12 26 58.3	+7.1
SANI	Sanana	2.37	303	P	Pn	12 26 22.2	-3.8
SANI				S	Sn	12 26 46.8	-7.5
LBMI	Labuha	2.73	350	P	Pn	12 26 28.3	-2.5
SWI	Sorong	4.09	53	P	Pn	12 26 48.6	-0.7
TNTI	Ternate	4.13	351	P	Pn	12 26 47.6	-2.3
TNTI	Ternate	4.13	351	ePn	Pn	12 26 48.9	-1.0
TNTI				eSn	Sn	12 27 40.2	+3.2
FAKI	Fak Fak	4.28	85	P	Pn	12 26 51.9	0.0
FAKI	Fak Fak	4.28	85	ePn	Pn	12 26 51.8	-0.1
FAKI				eSn	Sn	12 27 39.7	-0.9
FAKI	Fak Fak	4.28	85	P	Pn	12 26 52.6	+0.8
	baz=4.2,SNR=123						
FAKI				S	Sn	12 27 38.3	-2.3
	baz=4.2,SNR=6.7						
KMSI	Cibinong	5.58	314	P	Pn	12 27 08.7	-1.0
	256nm,1.0s,5.2nm						
LUWI	Luwuk	5.69	294	P	Pn	12 27 10.1	-1.0
	255nm,0.9s,3µm1.4nm						
LUWI	Luwuk	5.69	294	P	Pn	12 27 10.4	-0.8
	baz=5.6,SNR=5.0						
KMPI	Kaimana, Papua	5.72	93	P	Pn	12 27 11.7	+0.2
	265nm,0.7s,4µm1.4nm						
RKPI	Ransiki, Papua	6.45	74	P	Pn	12 27 21.5	0.0
	323nm,0.7s,6µm2.0nm						
APSI	Ampana	6.78	291	P	Pn	12 27 25.3	-0.7
	234nm,0.9s,4µm1.5nm						
MRSI	Marisa	7.13	302	P	Pn	12 27 33.9	+3.0
	66nm,0.5s,2µm0.7nm						
SOEI	Soe	7.37	210	P	Pn	12 27 40.4	+6.2
	92nm,0.8s,0.3nm						
SOEI	Soe	7.37	210	P	Pn	12 27 40.8	+6.6
	baz=7.7,SNR=7.6						
BNSI	Bone	7.93	262	P	Pn	12 27 46.4	+4.6
	48nm,0.6s,0.2nm						
BSSI	Bau Bau, Buton	7.97	249	P	Pn	12 27 49.3	+6.9
	101nm,0.8s,3µm0.3nm						
TTSI	Tana Toraja	8.16	272	P	Pn	12 27 46.0	+1.1
	69nm,0.5s,1µm0.3nm						
SPSI	Sidrap Palu	8.22	265	P	Pn	12 27 47.3	+1.5
	111nm,0.9s,1µm0.4nm						
SRPI	Serui, Papua	8.37	80	P	Pn	12 27 48.1	+0.3
	218nm,0.8s						
KAPI	Kappang	8.38	258	ePn	Pn	12 27 48.5	+0.6
	156nm,0.4s						
KAPI				eSn	Sn	12 29 20.6	-0.4

BAKI	Biak	8.39	75	P	Pn	12 27 48.3	+0.3
	200nm,0.9s						
MTN	Manton Dam	9.95	162	P	Pn	12 28 11.4	+2.1
	baz=10,SNR=24						
KDU	Kakadu	10.29	155	P	Pn	12 28 15.9	+1.9
	baz=11,SNR=50						
KNRA	Kununurra	12.29	176	P	Pn	12 28 41.3	+0.2
	baz=13,SNR=12						
WRAB	Tennant Creek	17.62	160	eP	P	12 29 49.5	0.0
WRAB				e		12 33 03.9	
WRAB	Tennant Creek	17.62	160	ePn	P	12 29 49.5	0.0
WRAB				eSn	Sn	12 33 03.9	-1.8
WRA	Warramunga Arr	17.63	160	P	P	12 29 48.6	-0.9
	9.7nm,0.3s,baz=343,slow=12,SNR=68						
WRA				S	Sn	12 33 03.9	-1.9
	0.4nm,0.3s,baz=336,slow=22,SNR=4.7						
WRA				ScP	ScP	12 37 53.4	+0.3
	0.0nm,0.3s,baz=324,slow=2.3,SNR=3.0						
UGM	Wanagama	17.96	255	P	P	12 29 53.5	+0.2
	baz=18,SNR=4.9						
COEN	Coen	18.34	126	eP	Pn	12 29 58.6	+0.3
	83nm,0.6s						
COEN	Coen	18.34	126	P	Pn	12 29 58.4	+0.1
	baz=19,SNR=28						
COEN				S	S	12 33 14.5	-7.8
	baz=19,SNR=4.8						
KPJI	Karang Pucung	19.38	257	P	Pn	12 30 11.2	+0.5
	55nm,0.6s						
MBWA	Marble Bar	19.45	204	eP	P	12 30 09.0	-0.5
	25nm,0.4s						
PMG	Port Moresby	19.98	108	eP	P	12 30 13.6	-1.7
PMG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PMG	Port Moresby	19.98	108	eP	P	12 30 13.6	-1.7
	comp=Z,3.5nm,0.5s						
CISI	Cisompet, Garu	20.51	257	P	Pn	12 30 23.8	-0.2
CISI	Cisompet, Garu	20.51	257	P	P	12 30 22.0	+0.9
	baz=21,SNR=3.3						
QIS	Mount Isa	20.52	147	P	P	12 30 22.0	+0.8
	baz=21,SNR=30						
AS31	Alice Springs	21.00	165	eP	P	12 30 26.9	+0.5
ASAR	Alice Springs	21.00	165	P	P	12 30 26.9	+0.6
ASAR				S	S	12 34 14.5	-1.5
ASAR						12 34 31.0	
ASAR				pmax	pmax		
	comp=Z,32nm,0.3s						
ASAR				smax	smax		
	comp=N,5.0nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.7s						
ASAR	Alice Springs	21.00	165	P	P	12 30 26.9	+0.6
	comp=N,32nm,0.3s,baz=343,slow=12,SNR=333						
ASAR				S	S	12 34 14.5	-1.5
	comp=N,4.7nm,0.8s,baz=345,slow=19,SNR=9.8						
ASAR				PcP	PcP	12 34 30.9	+0.1
	comp=N,2.4nm,0.5s,baz=358,slow=2.0,SNR=5.6						
ASAR				ScP	ScP	12 38 01.1	+0.3
	comp=N,0.8nm,0.7s,baz=348,slow=2.5,SNR=5.6						
WRKA	Warakurna	21.58	179	P	P	12 30 33.0	+0.6
	baz=22,SNR=42						
MTSU	Mount Surprise	21.73	134	P	P	12 30 37.0	+2.9
	baz=22,SNR=9.7						
CTAO	Charters Tower	24.39	134	eP	P	12 30 59.9	-0.2
CTAO	Charters Tower	24.39	134	eP	P	12 30 59.9	-0.2
MEEK	Meekatharra	24.85	200	P	P	12 31 02.8	-1.5
	baz=25,SNR=55						
FORT	Forrest	27.30	180	P	P	12 31 26.9	+0.5
	baz=28,SNR=6.6						
KLBR	Kellerberrin	29.71	198	P	P	12 31 46.6	-1.2
	baz=30,SNR=14						
BBOO	Buckleboo	30.28	166	P	P	12 31 52.7	-0.1
	baz=31,SNR=22						
NWAO	Narrogin (SRO)	31.11	198	P	P	12 31 59.1	-1.1
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NWAO	Narrogin (SRO)	31.11	198	P	P	12 31 59.1	-1.1
	comp=Z,7.5nm,0.5s,baz=18,slow=7.9,SNR=15						
STKA	Stephens Creek	31.14	157	P	P	12 32 00.5	+0.1
STKA				pmax	pmax		
	comp=Z,13nm,0.8s						
STKA	Stephens Creek	31.14	157	P	P	12 32 00.5	+0.1
	comp=Z,13nm,0.8s,baz=341,slow=7.9,SNR=23						
STKA	Stephens Creek	31.14	157	eP	P	12 32 00.8	+0.3
STKA	Stephens Creek	31.14	157	P	P	12 32 00.7	+0.3
	baz=32,SNR=16						
HTT	Hallett	31.64	162	P	P	12 32 05.2	+0.4
	baz=32,SNR=16						
HNR	Honiara	32.32	102	eP	P	12 32 09.5	-1.5
HNR	Honiara	32.32	102	eP	P	12 32 09.5	-1.5
	comp=Z,0.5nm,0.6s						
CMSA	Cobar Meteorol	32.63	151	P	P	12 32 15.1	+1.6
	baz=33,SNR=27						
RKGY	Rocky Gully	32.76	197	P	P	12 32 15.1	+0.5
	baz=33,SNR=5.7						
ARPS	Mount Arapiles	35.63	161	P	P	12 32 40.4	+1.0
	baz=36,SNR=26						
MAJO	Matsushiro	40.80	13	⇑eP	P	12 33 22.0	-0.8
MAJO				pmax	pmax		
	comp=Z,26nm,0.6s						
MJAR	Matsushiro Arr	40.80	13	P	P	12 33 22.3	-0.5
MJAR				pmax	pmax		
	comp=Z,11nm,1.1s						
MJAR	Matsushiro Arr	40.80	13	P	P	12 33 22.3	-0.5
	comp=Z,11nm,1.1s,baz=190,slow=9.8,SNR=12						
USRK	Ussuriysk Arra	47.46	4	P	P	12 34 16.5	+0.6
	comp=Z,1.3nm,0.6s,baz=170,slow=9.5,SNR=3.0						
ASAJ	Asahikawa	49.03	14	P	P	12 34 29.3	+1.4
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ASAJ	Asahikawa	49.03	14	P	P	12 34 29.3	+1.4
	comp=Z,5.4nm,0.8s,baz=296,slow=18,SNR=4.2						
MSVF	Nonsavu	51.08	110	eP	P	12 34 45.1	+1.1
MSVF				pmax	pmax		
	comp=Z,16nm,0.5s						
MSVF	Nonsavu	51.08	110	eP	P	12 34 45.1	+1.1
	comp=Z,16nm,0.5s						
PETK	Petropavlovsk-	61.54	20	P	P	12 35 58.6	+0.9
PETK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PETK	Petropavlovsk-	61.54	20	P	P	12 35 58.6	+0.9
	comp=Z,1.2nm,0.8s,baz=211,slow=0.8,SNR=3.5						
MK31	Makanchi Array	64.08	327	eP	P	12 36 14.5	-0.3
MK31	Makanchi Array	64.08	327	eP	P	12 36 14.5	-0.3
MKAR	Makanchi Array	64.08	327	P	P	12 36 15.1	+0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	64.08	327	P	P	12 36 15.1	+0.3
	comp=Z,0.9nm,0.5s,baz=115,slow=8.3,SNR=18						
ZALV	Zalesovo Beam	67.43	334	P	P	12 36 35.6	-0.6
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	Zalesovo Beam	67.43	334	P	P	12 36 35.6	-0.6
	comp=Z,0.5nm,0.3s,baz=44,slow=6.4,SNR=3.7						
KURBB	Kurchatov Arra	68.36	329	P	P	12 36 41.6	-0.5
	comp=Z,0.8nm,0.4s,baz=131,slow=5.5,SNR=6.3						
KURK	Kurchatov	68.37	329	P	P	12 36 41.6	-0.5
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	Kurchatov	68.37	329	eP	P	12 36 41.6	-0.5
BVAR	Borovoye Array	73.92	328	P	P	12 37 15.2	-0.4
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	73.92	328	P	P	12 37 15.2	-0.4
	comp=Z,0.6nm,0.5s,baz=145,slow=5.3,SNR=4.2						
BRVK	Borovoye	73.99	328	⇓eP	P	12 37 15.9	-0.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BILL	Bilibino	76.04	14	iP	P	12 37 27.6	+0.1
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ABKAR	Akbulak array	78.41	322	eP	P	12 37 39.8	-1.4
	comp=Z,0.2nm,0.4s						
AKTO	Aktyubinsk	79.97	322	P	P	12 37 51.9	+2.2
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	Aktyubinsk	79.97	322	P	P	12 37 51.9	+2.2
	comp=Z,1.1nm,0.5s,baz=106,slow=11,SNR=5.8						
ARU	Arti	81.56	328	d iP	P	12 37 58.1	+0.1
ARU						12 41 03.8	
ARU				S	S	12 48 07.4	+4.0
ARU				SS	SS	12 53 22.7	+0.7
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PPT	Papeete	81.80	107	P	P	12 37 58.1	-2.0
PPT				pmax	pmax		
	comp=Z,40nm,0.7s						
PPT	Papeete	81.80	107	P	P	12 37 58.1	-2.0
	comp=Z,40nm,0.7s,baz=88,slow=18,SNR=3.0						
QSPA	South Pole Qui	86.62	180	eP	P	12 38 23.2	-0.5
	comp=Z,8.5nm,1.3s						
ILAR	Eielson Array	90.91	25	P	P	12 38 43.4	-0.4
	comp=Z,0.2nm,0.4s,baz=248,slow=4.5,SNR=7.1						
ARCES	ARCESS Array B	97.47	340	P	P	12 39 12.6	-1.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	ARCESS Array B	97.47	340	P	P	12 39 12.6	-1.2
	comp=Z,2.2nm,0.9s,baz=90,slow=4.6,SNR=3.5						
TXAR	Lajitas Array	124.68	56	PKP	PKPdf	12 44 41.6	+1.2
	comp=Z,0.2nm,0.5s,baz=177,slow=1.0,SNR=4.4						
TORD	Torodi Ar. Bea	126.06	284	PKP	PKPdf	12 44 43.6	+0.3
	comp=Z,0.5nm,0.6s,baz=78,slow=1.7,SNR=6.1						

MEX 12 12:44:14.7±1.1, 16°.90N×95°.25W, h110km±10km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.40	62	eP	Pn	12 44 29.1	-2.0
CMIG				iS	Sn	12 44 41.3	-1.9
HUIG	Huatulco	1.40	216	eP	Pn	12 44 38.2	-2.1
HUIG				iS	Sn	12 44 58.3	-1.5
VHO	Vista Hermosa	1.43	277	eP	Pn	12 44 40.6	-0.4
VHO				iS	Sn	12 45 00.0	-0.9
PCIG		2.29	121	iP	Pn	12 44 50.8	-0.6
PCIG				eS	Sn	12 45 18.4	-1.1
PNIG	Pinotepa	2.80	260	eP	Pn	12 44 56.4	-1.8
PNIG				iS	Sn	12 45 29.2	-2.4

*IDC **12** 12:55:32.1±8.8, 21°.78S×178°.73W, h486km±87km, mb3.4/4, mb1 3.6/5, mb1mx3.1/30, mbtmp4.3/5, Error ellipse: s-maj=63.5km s-min=31.6km az=36.0*

ISC 12 12:55:34.0±1.1, 21°.8S±0°.2×179°.0W±0°.2, h500km, n12, σ1s.62/13, mb3.9/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	16.70	191	P	P	12 59 01.2	-0.5
	1.0nm,0.3s,baz=353,slow=16,SNR=11						
URZ				S	S	13 01 42.9	-9.4
	0.4nm,0.3s,baz=72,slow=3.2,SNR=4.6						
STKA	Stephens Creek	36.34	246	P	P	13 01 57.0	+1.9
	2.1nm,0.5s,baz=93,slow=10,SNR=9.4						
ASAR	Alice Springs	43.28	258	P	P	13 02 52.2	+1.1
	4.5nm,0.8s,baz=99,slow=8.1,SNR=64						
ASAR				PcP	PcP	13 04 28.9	-0.4
	0.8nm,0.6s,baz=110,slow=3.8,SNR=7.1						
ASAR				S	S	13 08 35.0	-7.0
	0.3nm,0.8s,baz=96,slow=14,SNR=7.2						
WRA	Warramunga Arr	43.47	264	P	P	13 02 53.3	+0.7
	2.7nm,0.6s,baz=93,slow=8.0,SNR=42						
WRA				S	S	13 08 41.2	-3.5
	0.5nm,0.9s,baz=99,slow=12,SNR=3.4						
CMAR	Chiang Mai Arr	89.65	290	P	P	13 07 40.3	+1.7
	1.3nm,0.8s,baz=143,slow=3.5,SNR=7.8						
BVAR	Borovoye Array	119.47	319	PKP	PKPdf	13 13 25.2	-0.9
	0.4nm,0.3s,baz=121,slow=1.9,SNR=5.8						
FINES	FINESS Array B	136.77	343	PKP	PKPdf	13 13 59.5	+0.9
	0.9nm,0.8s,baz=111,slow=3.6,SNR=3.0						
HFS	Hagfors	140.69	350	PKhKP	PKPpre	13 13 59.6	
	2.0nm,0.8s,baz=67,slow=3.7,SNR=4.6						
AKASG	Malin Array Be	143.69	329	PKP	PKPdf	13 14 09.7	-1.8
	0.1nm,0.3s,baz=36,slow=5.0,SNR=6.9						
BRTR	Keskin Array B	146.99	310	PKPbc	PKPbc	13 14 19.9	-0.6
	0.9nm,0.7s,baz=122,slow=3.2,SNR=5.0						
GERES	GERESS Array B	151.20	342	PKPbc	PKPbc	13 14 29.8	-0.6
	0.3nm,0.4s,baz=0.8,slow=6.9,SNR=3.0						
TORD	Torodi Ar. Bea	171.33	185	PKPab	PKPab	13 16 08.4	-0.6
	0.4nm,0.7s,baz=159,slow=2.9,SNR=3.4						

*MOS **12** 13:35:08.5±1.2, 34°.41N×24°.41E, h22km, mb4.1/10, Error ellipse: s-maj=15.5km s-min=7.2km az=71.1*

*HLW **12** 13:35:08.5, 35°.02N×24°.25E, h33km±35km, Md4.2*

*ISCJB **12** 13:35:10.4±0.4, 34°.47N±0°.03×24°.36E±0°.03, h36km±4km, mb3.9/20, MS3.5/1, Error ellipse: s-maj=5.3km s-min=3.5km az=30.6*

*THE **12** 13:35:11.9, 34°.73N×24°.15E, h3km±1km, ML3.6/2, Error ellipse: s-maj=2.4km s-min=1.4km az=176.0*

*IDC **12** 13:35:12.7±2.8, 34°.59N×24°.44E, h36km±22km, mb3.7/13, mb1 3.9/19, mb1mx3.7/40, mbtmp3.9/19, ML3.9/6, MS3.5/1, Ms1 3.5/1, ms1mx2.5/51, Error ellipse: s-maj=17.6km s-min=16.8km az=167.0*

*ATH **12** 13:35:13.1, 34°.78N×24°.26E, h31km±1km, MD3.9/40, ML3.6*

*CSEM **12** 13:35:13.7±0.6, 34°.75N×24°.32E, h20km, MD3.9, Error ellipse: s-maj=15.4km s-min=4.7km az=14.0*

ISC 12 13:35:12.2±1.0, 34°.59N±0°.05×24°.29E±0°.03, h32km±7km, n220, σ1s.34/240, mb3.9/20, 3C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.30	326	ePB	Pb	13 35 19.3	-0.6
GVD	Gavdhos	0.30	326	ePb	Pb	13 35 19.3	-0.6
SIVA	Sivas	0.60	45	P	Pb	13 35 24.2	-0.2
SIVA				S	Sn	13 35 33.5	+0.2
SIVA	Sivas	0.60	45	ePN	Pb	13 35 24.3	-0.2
SIVA				eSN	Sb	13 35 31.8	-1.0
SIVA	Sivas	0.60	45	ePn	Pb	13 35 24.3	-0.2
SIVA				eSn	Sb	13 35 31.8	-1.0
SIVA				S	Sn	13 35 33.5	+0.2
VAM	Vamos	0.82	355	P	Pn	13 35 25.1	-2.5
VAM	Vamos	0.82	355	ePN	Pn	13 35 25.5	-2.1
VAM				eSN	Sn	13 35 36.5	-2.1
VAM	Vamos	0.82	355	P	Pn	13 35 25.1	-2.5
VAM	Vamos	0.82	355	ePn	Pn	13 35 25.5	-2.1
VAM				eSn	Sn	13 35 36.5	-2.1
IDI	Anoyia	0.85	35	Pn	Pn	13 35 27.4	-0.7
	177nm,0.3s,baz=243,slow=11,SNR=165						
IDI				Sn	Sn	13 35 39.4	-0.2
	259nm,0.3s,baz=319,slow=22,SNR=10						
IDI				LR	LR	13 36 03.7	
	comp=Z,389nm,19.0s,baz=264,slow=64						
LAST	Lasithi	1.13	59	P	Pb	13 35 33.3	0.0
LAST				S	Sb	13 35 50.0	+2.3
LAST	Lasithi	1.13	59	ePN	Pb	13 35 33.1	-0.2
LAST	Lasithi	1.13	59	ePn	Pb	13 35 33.1	-0.2
LAST				S	Sb	13 35 50.0	+2.3
NPS	Neapolis	1.28	58	P	Pb	13 35 36.2	+0.5
NPS	Neapolis	1.28	58	ePN	Pb	13 35 36.3	+0.5
NPS				eSN	Sb	13 35 51.8	0.0
NPS	Neapolis	1.28	58	P	Pb	13 35 36.2	+0.5
NPS				eSn	Sb	13 35 51.8	0.0
ANKY	Antikythira Is	1.51	328	ePN	Pb	13 35 39.6	-0.1
ANKY	Antikythira Is	1.51	328	ePn	Pb	13 35 39.6	-0.1
ZKR	Zakros	1.67	71	P	Pb	13 35 41.7	-0.6
ZKR	Zakros	1.67	71	eP	Pb	13 35 43.0	+0.7
ZKR	Zakros	1.67	71	ePN	Pb	13 35 41.7	-0.6
ZKR	Zakros	1.67	71	ePn	Pb	13 35 41.7	-0.6
KYTH	Kithira	1.97	329	ePB	Pn	13 35 44.3	+0.8
KYTH	Kithira	1.97	329	ePb	Pn	13 35 44.3	+0.8
SANT	Santorini	2.02	28	P	Pn	13 35 44.8	+0.7
SANT				S	Sn	13 36 10.9	+2.7
SANT	Santorini	2.02	28	eP	Pn	13 35 43.6	-0.5
SANT	Santorini	2.02	28	ePN	Pn	13 35 44.9	+0.8
SANT	Santorini	2.02	28	ePn	Pn	13 35 44.9	+0.8
SANT				S	Sn	13 36 10.9	+2.7
VLI	Veliai	2.39	333	ePB	Pn	13 35 51.2	+2.0
VLI	Veliai	2.39	333	ePb	Pn	13 35 51.2	+2.0
KARP	Karpathos	2.54	67	P	Pn	13 35 54.2	+2.9
KARP	Karpathos	2.54	67	ePN	Pn	13 35 53.8	+2.5
KARP				eSN	Sn	13 36 23.2	+2.0
KARP	Karpathos	2.54	67	ePn	Pn	13 35 53.8	+2.5
KARP	Karpathos	2.54	67	P	Pn	13 35 54.2	+2.9
KARP				eSn	Sn	13 36 23.2	+2.0
APE	Apeiranthos	2.67	22	P	Pn	13 35 53.7	+0.6
APE				S	Sn	13 36 26.2	+1.8
APE	Apeiranthos	2.67	22	eP	Pn	13 35 52.0	-1.1
APE	Apeiranthos	2.67	22	c iP	Pn	13 35 53.8	+0.6
APE	Apeiranthos	2.67	22	ePN	Pn	13 35 53.9	+0.8
APE	Apeiranthos	2.67	22	ePn	Pn	13 35 53.9	+0.8
DID	Didima	3.03	344	ePN	Pn	13 35 58.6	+0.5
DID	Didima	3.03	344	ePn	Pn	13 35 58.6	+0.5
PYL	PYLOS	3.10	319	ePN	Pn	13 35 58.8	-0.1
PYL	PYLOS	3.10	319	ePn	Pn	13 35 58.8	-0.1
SLUM		3.19	166	P	Pn	13 36 01.3	+1.2
	baz=166						
SLUM		3.19	166	P	Pn	13 36 01.3	+1.2
ITM	Ithomi	3.22	324	ePN	Pn	13 36 01.3	+0.7
ITM	Ithomi	3.22	324	ePn	Pn	13 36 01.3	+0.7
NAIG	Nisos Aigina	3.23	349	ePN	Pn	13 36 00.9	+0.2
NAIG	Nisos Aigina	3.23	349	ePn	Pn	13 36 00.9	+0.2
ATH	Athens Observa	3.41	352	ePN	Pn	13 36 02.6	-0.6
ATH	Athens Observa	3.41	352	ePn	Pn	13 36 02.6	-0.6
PTL	Penteli	3.47	354	ePN	Pn	13 36 04.8	+0.7
PTL	Penteli	3.47	354	ePn	Pn	13 36 04.8	+0.7
BODT	Bodrum	3.48	44	eP	Pn	13 36 03.6	-0.6
BODT	Bodrum	3.48	44	eP	Pn	13 36 03.6	-0.6
ARG	Arkhangelos	3.53	62	ePN	Pn	13 36 06.4	+1.6
ARG	Arkhangelos	3.53	62	ePn	Pn	13 36 06.4	+1.6
LTK	Loutraki	3.59	343	ePN	Pn	13 36 06.2	+0.5
LTK	Loutraki	3.59	343	ePn	Pn	13 36 06.2	+0.5
AMT	Artemida-Makis	3.60	325	ePN	Pn	13 36 07.3	+1.4
AMT	Artemida-Makis	3.60	325	ePn	Pn	13 36 07.3	+1.4
SMG	Samos	3.73	33	ePN	Pn	13 36 08.8	+1.1
SMG	Samos	3.73	33	ePn	Pn	13 36 08.8	+1.1
KLV	Kalavryta, Ach	3.85	334	ePN	Pn	13 36 11.6	+2.2
KLV	Kalavryta, Ach	3.85	334	ePn	Pn	13 36 11.6	+2.2
DRO	Drossia	3.95	329	ePN	Pn	13 36 11.4	+0.7
DRO	Drossia	3.95	329	ePn	Pn	13 36 11.4	+0.7
CHOS	Chios island	4.05	20	ePN	Pn	13 36 12.8	+0.8
CHOS	Chios island	4.05	20	ePn	Pn	13 36 12.8	+0.8
DSF	Desfina	4.07	340	ePN	Pn	13 36 13.4	+1.1
DSF	Desfina	4.07	340	ePn	Pn	13 36 13.4	+1.1
LAKA	Lakka	4.09	334	ePN	Pn	13 36 13.4	+0.8
LAKA	Lakka	4.09	334	ePn	Pn	13 36 13.4	+0.8
YER	Yerkesik	4.12	51	eP	Pn	13 36 13.4	+0.4
YER	Yerkesik	4.12	51	eP	Pn	13 36 13.4	+0.4
RLS	Riolos of Patr	4.14	327	ePN	Pn	13 36 13.9	+0.6
RLS	Riolos of Patr	4.14	327	ePn	Pn	13 36 13.9	+0.6
MRKA	Markates	4.15	352	ePN	Pn	13 36 14.2	+0.8
MRKA	Markates	4.15	352	ePn	Pn	13 36 14.2	+0.8
KALE	Kalithea	4.17	336	ePN	Pn	13 36 15.2	+1.5
KALE	Kalithea	4.17	336	ePn	Pn	13 36 15.2	+1.5
LKR	Lokris	4.18	346	ePN	Pn	13 36 13.5	-0.3
LKR	Lokris	4.18	346	ePn	Pn	13 36 13.5	-0.3
DALY	Dalyan (Mu¨la	4.19	57	eP	Pn	13 36 14.8	+0.9
DALY	Dalyan (Mu¨la	4.19	57	eP	Pn	13 36 14.8	+0.9
EFP	Efpalio	4.28	334	ePN	Pn	13 36 17.8	+2.6
EFP	Efpalio	4.28	334	ePn	Pn	13 36 17.8	+2.6
SMIA	Simia	4.37	349	ePN	Pn	13 36 18.2	+1.8
SMIA	Simia	4.37	349	ePn	Pn	13 36 18.2	+1.8
AXAR	Agios Charalam	4.37	343	ePN	Pn	13 36 18.2	+1.8
AXAR	Agios Charalam	4.37	343	ePn	Pn	13 36 18.2	+1.8
BLCB	Balcova	4.39	30	eP	Pn	13 36 16.6	0.0
BLCB	Balcova	4.39	30	eP	Pn	13 36 16.6	0.0
FETY	Fethiye	4.41	61	eP	Pn	13 36 17.3	+0.4
FETY	Fethiye	4.41	61	eP	Pn	13 36 17.3	+0.4
SKIA	Skiathos	4.62	352	ePN	Pn	13 36 21.1	+1.3
SKIA	Skiathos	4.62	352	ePn	Pn	13 36 21.1	+1.3
AKAS	Kas	4.64	68	iP	Pn	13 36 20.1	-0.1
AKAS				iS	Sn	13 37 10.7	-2.4
AKAS	Kas	4.64	68	iP	Pn	13 36 20.1	-0.1
AKAS				iS	Sn	13 37 10.7	-2.4
VLS	Valsamata	4.66	321	ePN	Pn	13 36 22.6	+2.2
VLS	Valsamata	4.66	321	ePn	Pn	13 36 22.6	+2.2
AGG	Agios Georgios	4.70	341	ePN	Pn	13 36 21.0	+0.1
AGG	Agios Georgios	4.70	341	ePn	Pn	13 36 21.0	+0.1
PDO	Prodromos	4.72	329	ePN	Pn	13 36 23.9	+2.7
PDO	Prodromos	4.72	329	ePn	Pn	13 36 23.9	+2.7
MAKR	Makrakomi, Fth	4.74	339	ePN	Pn	13 36 23.8	+2.2
MAKR	Makrakomi, Fth	4.74	339	ePn	Pn	13 36 23.8	+2.2
EVR	Evrytania	4.76	336	ePN	Pn	13 36 23.8	+2.0
EVR	Evrytania	4.76	336	ePn	Pn	13 36 23.8	+2.0
NEO	Neokhori	4.78	350	ePN	Pn	13 36 22.9	+0.8
NEO	Neokhori	4.78	350	ePn	Pn	13 36 22.9	+0.8
XOR	Xorichti	4.85	350	ePN	Pn	13 36 23.6	+0.6
XOR	Xorichti	4.85	350	ePn	Pn	13 36 23.6	+0.6
GOLH	Golhisar	5.03	57	iP	Pn	13 36 26.9	+1.4
GOLH				iS	Sn	13 37 21.5	-1.1
GOLH	Golhisar	5.03	57	iP	Pn	13 36 26.9	+1.4
GOLH				iS	Sn	13 37 21.5	-1.1
ELL	Elmali	5.05	63	eP	Pn	13 36 27.2	+1.2
ELL	Elmali	5.05	63	eP	Pn	13 36 27.2	+1.2
LKD2	Lefkada island	5.11	326	ePN	Pn	13 36 29.3	+2.7
LKD2	Lefkada island	5.11	326	ePn	Pn	13 36 29.3	+2.7
DSL	Palaion Diasel	5.21	331	ePN	Pn	13 36 28.4	+0.4
DSL	Palaion Diasel	5.21	331	ePn	Pn	13 36 28.4	+0.4
KULA	Kula-Manisa	5.26	41	eP	Pn	13 36 29.3	+0.5
KULA	Kula-Manisa	5.26	41	eP	Pn	13 36 29.3	+0.5
THL	Klokotos Trika	5.29	341	ePN	Pn	13 36 30.8	+1.8
THL	Klokotos Trika	5.29	341	ePn	Pn	13 36 30.8	+1.8
KORT	Korkueli	5.48	62	iP	Pn	13 36 33.3	+1.5
KORT				iS	Sn	13 37 33.4	-0.4
KHL	Karahalli	5.63	47	eP	Pn	13 36 34.2	+0.5
BCK	Bucak	5.85	59	eP	Pn	13 36 38.1	+1.2
GDZ	Gediz	6.12	41	iP	Pn	13 36 41.9	+1.3
TVSB	Tavsanli	6.37	39	eP	Pn	13 36 45.5	+1.4
SHUT	Suhut-Afyon	6.40	50	eP	Pn	13 36 44.4	0.0
ALT	Altintas	6.45	45	eP	Pn	13 36 46.9	+1.8
GAZI	Gazipasa	6.75	74	iP	Pn	13 36 47.9	-1.3
GAZI				iS	Sn	13 37 57.7	-7.3
ERMK	Ermenek	7.31	71	iP	Pn	13 36 57.9	+0.9
ERMK				iS	Sn	13 38 16.0	-3.1
KIZT	Kizilcal	7.45	53	eP	Pn	13 36 59.2	+0.4
SVRH	Sivrihisar-ESK	7.54	48	eP	Pn	13 37 01.3	+1.2
KOT	Kottamia	7.89	124	P	Pn	13 37 04.1	-0.8
	baz=126						
KOT	Kottamia	7.89	124	P	Pn	13 37 04.1	-0.8
HSAF	As Saff	7.91	127	P	Pn	13 37 04.8	-0.2
	baz=129						
HSAF	As Saff	7.91	127	P	Pn	13 37 04.8	-0.2
GLL	Jalalah	8.03	126	P	Pn	13 37 06.2	-0.6
	baz=128						
GLL	Jalalah	8.03	126	P	Pn	13 37 06.2	-0.6
HFRF	Wahat Farafira	8.18	154	P	Pn	13 37 08.6	-0.2
	baz=155						
HFRF	Wahat Farafira	8.18	154	P	Pn	13 37 08.6	-0.2
AMAG	Maghara	8.49	115	P	Pn	13 37 10.9	-2.1
	baz=117						
AMAG	Maghara	8.49	115	P	Pn	13 37 10.9	-2.1
SUZ		8.65	121	P	Pn	13 37 13.9	-1.2
	baz=123						
SUZ		8.65	121	P	Pn	13 37 13.9	-1.2
RSH		8.73	112	P	Pn	13 37 14.7	-1.6
	baz=114						
RSH		8.73	112	P	Pn	13 37 14.7	-1.6
ZAF		8.79	125	P	Pn	13 37 15.9	-1.2
	baz=126						
ZAF		8.79	125	P	Pn	13 37 15.9	-1.2
ZNM		8.95	123	P	Pn	13 37 18.2	-1.1
	baz=125						
ZNM		8.95	123	P	Pn	13 37 18.2	-1.1
BRTR	Keskin Array B	9.05	53	Pn	Pn	13 37 21.6	+0.8
	0.3nm,0.3s,baz=226,slow=13,SNR=14						
MMAI	Mount Meron Ar	9.38	97	Pn	Pn	13 37 23.4	-1.9
	6.1nm,0.3s,baz=281,slow=11,SNR=17						
MMAI				Sn	Sn	13 39 03.0	-6.7
	4.9nm,0.3s,baz=301,slow=20,SNR=3.0						
HNKL	Nakhl	9.43	117	P	Pn	13 37 23.9	-2.0
	baz=119						
HNKL	Nakhl	9.43	117	P	Pn	13 37 23.9	-2.0
STON	Ston	9.74	330	ePn	Pn	13 37 26.5	-3.5
STON				Sn	Sn	13 39 06.4	-12
HKAT	Jabal Katrina	10.25	124	P	Pn	13 37 36.1	-1.2
	baz=125						
HKAT	Jabal Katrina	10.25	124	P	Pn	13 37 36.1	-1.2
EIL	Elat	10.28	116	Pn	Pn	13 37 36.1	-1.4
	2.4nm,0.3s,baz=216,slow=4.7,SNR=20						
EIL				Sn	Sn	13 39 25.8	-5.9
	2.8nm,0.3s,baz=340,slow=16,SNR=5.9						
CRVS	Cervenica-Dubn	14.45	352	eP	Pn	13 38 37.4	+2.9
CRVS	Cervenica-Dubn	14.45	352	ePN	Pn	13 38 37.4	+2.9
CRVS	Cervenica-Dubn	14.45	352	ePn	Pn	13 38 37.4	+2.9
STHS	Stebnicka Huta	14.98	352	eP	Pn	13 38 39.1	-2.6
STHS	Stebnicka Huta	14.98	352	ePN	Pn	13 38 39.1	-2.6
GERES	GERESS Array B	16.27	334	Pn	P	13 39 01.1	0.0
	0.1nm,0.3s,baz=144,slow=13,SNR=6.8						
KIEV	Kiev	16.49	11	ceP	P	13 39 02.8	-0.6
KIEV	Kiev	16.49	11	eP	P	13 39 02.8	-0.6
AKASG	Malin Array Be	16.50	11	P	Pn	13 39 01.8	+0.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	Malin Array Be	16.50	11	Pn	Pn	13 39 01.8	+0.7
	comp=Z,2.4nm,0.3s,baz=200,slow=10,SNR=8.1						
KBZ	Khabaz	17.04	52	Pn	Pn	13 39 07.6	-0.4

comp=Z,0.2nm,0.3s,baz=241,slow=8.1,SNR=6.6
ESDC Sonseca Array 23.04 291 P P 13 40 15.6 +0.7
comp=Z,0.2nm,0.3s,baz=84,slow=9.4,SNR=1.6
HFS Hagfors 26.48 348 P P 13 40 45.8 -0.5
HFS pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 26.48 348 P P 13 40 45.8 -0.5
comp=Z,1.4nm,0.5s,baz=160,slow=11,SNR=8.2
FINES FINESS Array B 26.89 2 P P 13 40 48.9 -1.1
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 26.89 2 P P 13 40 48.9 -1.1
comp=Z,0.8nm,0.6s,baz=181,slow=8.9,SNR=1.8
NB2 NORSAR Subarra 27.77 346 P P 13 40 57.0 -1.0
comp=Z,0.5nm,0.6s,baz=156,slow=9.3
NOA NORSAR Array B 27.77 346 P P 13 40 56.9 -1.0
comp=Z,0.3nm,0.5s,baz=182,slow=19,SNR=6.9
AKTO Aktyubinsk 29.16 47 P P 13 41 09.1 -1.3
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 29.16 47 P P 13 41 09.1 -1.3
comp=Z,1.6nm,0.6s,baz=252,slow=10,SNR=7.2
TORD Torodi Ar. Bea 29.58 229 P P 13 41 15.7 +1.3
comp=Z,1.6nm,0.5s,baz=30,slow=8.9,SNR=13
AB31 Akbulak array 29.98 50 eP P 13 41 16.6 -1.1
LVZ Lovozero 33.88 7⇑eP P 13 41 54.7 +3.0
LVZ pmax pmax
comp=Z,56nm,2.5s
ARCES ARCESS Array B 35.00 1 P P 13 42 03.0 +1.6
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES MLR MLR
comp=Z,15nm,28.6s
ARCES ARCESS Array B 35.00 1 P P 13 42 03.0 +1.6
comp=Z,0.6nm,0.5s,baz=190,slow=10,SNR=7.7
ARCES LR LR 13 57 32.1
comp=Z,79nm,19.5s,baz=72,slow=38
ARCES ARCESS Array B 35.00 1 P P 13 42 03.0 +1.6
comp=Z,15nm,28.6s
KK31 Karatay Array 36.60 62 iP P 13 42 15.2 -0.2
KK31 pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 37.20 46⇓eP P 13 42 20.4 +0.1
BRVK pmax pmax
comp=Z,5.0nm,1.8s
AAK Ala-Archa 39.55 63 iP P 13 42 41.1 +0.6
AAK Ala-Archa 39.55 63 iP P 13 42 41.1 +0.6
KURK Kurchatov 42.09 50 P P 13 42 59.1 -2.0
KURK pmax pmax
comp=Z,4.0nm,1.8s
MK31 Makanchi Array 44.68 56 iP P 13 43 21.8 -0.3
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MKAR Makanchi Array 44.68 56 P P 13 43 21.8 -0.3
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 44.68 56 P P 13 43 21.8 -0.3
comp=Z,8.1nm,0.7s,baz=281,slow=6.3,SNR=103
NVS Novosibirsk 44.99 44 eP P 13 43 24.1 -0.3
NVS pmax pmax
comp=Z,7.0nm,0.7s
NVS pmax pmax
comp=N,1.0nm,0.6s
NVS pmax pmax
comp=E,3.0nm,0.6s
ZALV Zalesovo Beam 45.91 46 P P 13 43 30.6 -1.1
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 45.91 46 P P 13 43 30.6 -1.1
comp=Z,3.8nm,0.5s,baz=265,slow=9.3,SNR=15
PYUN Piuthan 49.95 80 eP P 13 44 03.4 -0.2
DANN Dangsing 50.48 80 eP P 13 44 07.6 -0.1
comp=Z,22nm,0.7s
GKN Gorkha 51.33 80 eP P 13 44 13.2 -0.7
DMN Daman 51.86 80 eP P 13 44 17.4 -0.6
comp=Z,15nm,0.7s
KKN Kakani 51.93 80 eP P 13 44 18.0 -0.5
comp=Z,6.7nm,0.5s
PKIN Phulchoki 52.11 80 eP P 13 44 19.1 -0.8
comp=Z,8.3nm,0.8s
PKI Pulchoki 52.13 80 eP P 13 44 19.1 -1.0
comp=Z,12nm,0.8s
GUN Gumba 52.37 79 eP P 13 44 21.2 -0.7
JIRN Jiri 52.72 80 eP P 13 44 23.7 -0.8
ODAN Odare 54.02 80 eP P 13 44 31.3 -2.7
TAPN Taplejung 54.08 79 eP P 13 44 33.7 -0.7
ZAK Zakamensk 57.66 48 eP P 13 44 59.7 +0.2
ZAK pmax pmax
comp=Z,1.0nm,1.0s
ULN Ulaanbaatar 60.80 50 iP P 13 45 20.8 -0.6
CMAR Chiang Mai Arr 67.35 83 P P 13 46 03.7 -0.9
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 67.35 83 P P 13 46 03.7 -0.9
comp=Z,0.9nm,0.8s,baz=305,slow=7.5,SNR=6.1
INK Inuvik 76.08 352 P P 13 46 55.7 -0.5
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 76.08 352 P P 13 46 55.7 -0.5
comp=Z,0.5nm,0.8s,baz=326,slow=3.6,SNR=2.2
YKA Yellowknife Ar 77.77 342 P P 13 47 06.0 +0.2
YKA Yellowknife Ar 77.77 342 P P 13 47 06.0 +0.2
comp=Z,0.1nm,0.4s,baz=32,slow=5.3,SNR=2.5
ILAR Eielson Array 80.72 356 P P 13 47 23.3 +1.3
comp=Z,0.4nm,0.8s,baz=335,slow=4.0,SNR=3.6
ASAR Alice Springs 118.65 100 PKP PKPdf 13 53 56.3 -1.1
comp=Z,0.2nm,0.7s,baz=316,slow=1.3,SNR=2.3

ISCJB 12 13:41:32.5±0.3, 41°.01S±0°.02×175°.03E±0°.04, h88km±3km, mb4.2/5, Error ellipse: s-maj=5.7km s-min=2.8km az=35.0
IDC 12 13:41:33.8±1.8, 39°.85S×174°.19E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/24, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=62.0km s-min=23.7km az=165.0
WEL 12 13:41:35.8±0.1, 40°.92S×174°.96E, h62km±1km, ML5.0/22, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0
WEL Felt from Hawke''s Bay to Marlborough, maximum reported intensity MM 5.
NEIC 12 13:41:35.7, 40°.92S×174°.96E, h62km, mb4.6/3, ML5.0(WEL), After WEL.
NEIC Felt [IV] in the Wellington area. Felt widely in the southern part of the North Island and in the Picton area of the South Island.
ISC 12 13:41:33.8±0.8, 40°.97S±0°.03×175°.00E±0°.03, h77km±5km, n227, σ1s.00/230, mb4.2/5, 25C-23D, Cook Strait

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KIW Kapiti Island 0.13 328 ⇓PN Pn 13 41 44.7 -0.4
KIW SN Sn 13 41 51.4 -1.9
KIW AML AML 13 41 51.8
KIW Kapiti Island 0.13 328 Pn Pn 13 41 44.7 -0.4
KIW Sn Sn 13 41 51.4 -1.9
CAW Cannon Point 0.15 159 ⇑PN Pn 13 41 45.3 +0.2
CAW SN Sn 13 41 52.1 -1.4
CAW AML AML 13 41 53.4
CAW Cannon Point 0.15 159 Pn Pn 13 41 45.3 +0.2
CAW Sn Sn 13 41 52.1 -1.4
OGWZ Otaki Gorge 0.20 41 ⇓PN Pn 13 41 45.2 -0.1
OGWZ SN Sn 13 41 52.1 -1.6
OGWZ Otaki Gorge 0.20 41 Pn Pn 13 41 45.2 -0.1
OGWZ Sn Sn 13 41 52.1 -1.6
WEL Wellington 0.36 209 PN Pn 13 41 46.4 +0.3
WEL Wellington 0.36 209 Pn Pn 13 41 46.5 +0.3
HOWZ Holdsworth Sta 0.40 80 PN Pn 13 41 46.9 +0.4
SNZO South Karori 0.41 213 PN Pn 13 41 46.8 +0.3
SNZO AML AML 13 41 55.9
SNZO AML AML 13 41 56.0
SNZO South Karori 0.41 213 Pn Pn 13 41 46.8 +0.3
SNZO eSn Sn 13 41 54.9 -1.0
MTW Mount Morrison 0.43 117 ⇑PN Pn 13 41 47.5 +0.8
MTW AML AML 13 41 56.6
MTW AML AML 13 41 57.2
MTW Mount Morrison 0.43 117 Pn Pn 13 41 47.5 +0.8
BHW Baring Head 0.45 192 PN Pn 13 41 47.4 +0.6
BHW AML AML 13 41 57.3
BHW AML AML 13 41 57.7
BHW Baring Head 0.45 192 Pn Pn 13 41 47.4 +0.6
MSWZ Moikau Station 0.48 157 ⇑PN Pn 13 41 48.2 +1.0
MSWZ AML AML 13 41 58.4
MSWZ AML AML 13 41 58.7
MSWZ Moikau Station 0.48 157 Pn Pn 13 41 48.2 +1.0
PAWZ Paruwai Farm 0.53 142 ⇑PN Pn 13 41 48.7 +1.1
PAWZ AML AML 13 41 58.7
PAWZ AML AML 13 41 58.7
PAWZ Paruwai Farm 0.53 142 Pn Pn 13 41 48.7 +1.1
MRZ Mangatainoka R 0.54 55 PN Pn 13 41 47.7 +0.1
MRZ AML AML 13 41 58.2
MRZ AML AML 13 41 58.2
MRZ Mangatainoka R 0.54 55 Pn Pn 13 41 47.0 -0.6
TCW Tory Channel 0.60 246 ⇓PN Pn 13 41 48.2 0.0
TCW AML AML 13 41 58.6
TCW AML AML 13 41 58.8
TCW Tory Channel 0.60 246 Pn Pn 13 41 48.2 0.0
PLWZ Palliser 0.63 162 ⇑PN Pn 13 41 49.6 +1.0
PLWZ Palliser 0.63 162 Pn Pn 13 41 49.6 +1.0
TRWZ Traveller 0.68 130 ⇑PN Pn 13 41 50.3 +1.3
TRWZ AML AML 13 42 01.7
TRWZ AML AML 13 42 02.7
TRWZ Traveller 0.68 130 Pn Pn 13 41 50.3 +1.3
TMWZ Te Maipa 0.69 102 ⇓PN Pn 13 41 50.3 +1.2
TMWZ Te Maipa 0.69 102 Pn Pn 13 41 50.3 +1.2
TIWZ Tintock 0.70 74 ⇓PN Pn 13 41 50.0 +0.7
TIWZ AML AML 13 42 01.0
TIWZ AML AML 13 42 01.5
TIWZ Tintock 0.70 74 Pn Pn 13 41 50.0 +0.7
POWZ Post Office Ro 0.82 46 ⇓PN Pn 13 41 50.7 +0.1
POWZ Post Office Ro 0.82 46 Pn Pn 13 41 50.7 +0.1
DUWZ D'Urville Isla 0.83 281 ⇓PN Pn 13 41 50.5 -0.2
DUWZ D'Urville Isla 0.83 281 Pn Pn 13 41 50.5 -0.2
PRWZ Pori Road 0.85 61 ⇓PN Pn 13 41 51.5 +0.7
CPWZ Castlepoint 0.91 87 ⇓PN Pn 13 41 53.1 +1.5
TUWZ Tuamarina 0.92 240 ⇓PN Pn 13 41 51.9 +0.2
TUWZ AML AML 13 42 04.6
TUWZ AML AML 13 42 05.0
TUWZ Tuamarina 0.92 240 Pn Pn 13 41 51.9 +0.2
CMWZ Cape Campbell 0.98 217 PN Pn 13 41 53.8 +1.4
CMWZ AML AML 13 42 11.1
CMWZ AML AML 13 42 15.5
CMWZ Cape Campbell 0.98 217 Pn Pn 13 41 53.8 +1.4
BFZ Birch Farm 0.99 74 PN Pn 13 41 53.1 +0.5
BFZ Birch Farm 0.99 74 Pn Pn 13 41 52.8 +0.2
DVHZ Dannevirke 1.11 53 ⇓PN Pn 13 41 54.2 +0.2
DVHZ Dannevirke 1.11 53 Pn Pn 13 41 54.2 +0.2
BSWZ Blackbirch Sta 1.13 228 ⇓PN Pn 13 41 54.8 +0.6
BSWZ AML AML 13 42 11.0
BSWZ AML AML 13 42 11.8
BSWZ Blackbirch Sta 1.13 228 Pn Pn 13 41 54.8 +0.6
TSZ Takapari Road 1.17 39 PN Pn 13 41 54.9 +0.1
TSZ AML AML 13 42 10.8
TSZ AML AML 13 42 11.1
TSZ Takapari Road 1.17 39 Pn Pn 13 41 54.6 -0.2
WAZ Wanganui 1.21 360 PN Pn 13 41 56.3 +1.0
WAZ Wanganui 1.21 360 Pn Pn 13 41 56.0 +0.7
ANWZ Angora Road 1.23 66 PN Pn 13 41 55.9 +0.3
NNZ Nelson 1.25 258 PN Pn 13 41 55.9 +0.2
NNZ Nelson 1.25 258 Pn Pn 13 41 55.6 -0.1
PNHZ Pukenui 1.40 41 ⇓PN Pn 13 41 57.7 0.0
PNHZ Pukenui 1.40 41 Pn Pn 13 41 57.7 0.0
WPHZ Waipukurau 1.42 51 ⇓PN Pn 13 41 58.1 +0.1
WPHZ Waipukurau 1.42 51 Pn Pn 13 41 58.1 +0.1
LREZ Lake Rotokare 1.57 343 ⇑PN Pn 13 42 01.0 +1.0
MTVZ Mangateitei 1.62 13 ⇑PN Pn 13 42 01.3 +0.6
MTVZ Mangateitei 1.62 13 Pn Pn 13 42 01.3 +0.6
MOVZ Moawhango 1.66 21 ⇑PN Pn 13 42 01.3 +0.1
MOVZ Moawhango 1.66 21 Pn Pn 13 42 01.3 +0.1
BHHZ Black Hill Sta 1.69 29 PN Pn 13 42 01.6 +0.1
BHHZ Black Hill Sta 1.69 29 Pn Pn 13 42 01.6 +0.1
KRHZ Kereru 1.69 39 ⇓PN Pn 13 42 01.3 -0.2
PKVZ Pokaka 1.70 9 PN Pn 13 42 02.1 +0.5
PKVZ Pokaka 1.70 9 Pn Pn 13 42 02.1 +0.5
PXZ Pawanui 1.70 57 PN Pn 13 42 01.2 -0.4
PXZ AML AML 13 42 24.1
PXZ AML AML 13 42 24.1
PXZ AML AML 13 42 25.1
PXZ AML AML 13 42 25.2
PXZ Pawanui 1.70 57 Pn Pn 13 42 01.2 -0.4
WNVZ Wahianoa 1.70 16 PN Pn 13 42 02.4 +0.6
WNVZ Wahianoa 1.70 16 Pn Pn 13 42 02.4 +0.6
TRVZ Turoa 1.72 14 PN Pn 13 42 02.6 +0.5
RAEZ Rainy Point 1.74 344 PN Pn 13 42 03.9 +1.7
RAEZ Rainy Point 1.74 344 Pn Pn 13 42 03.9 +1.7
WHVZ Whangaehu Hut 1.74 15 PN Pn 13 42 02.7 +0.3
DRZ Dome Shelter 1.75 15 PN Pn 13 42 03.1 +0.6
DRZ Dome Shelter 1.75 15 Pn Pn 13 42 03.1 +0.6
FWVZ Far West T-bar 1.76 14 PN Pn 13 42 02.9 +0.3
FWVZ Far West T-bar 1.76 14 Pn Pn 13 42 03.0 +0.3
THZ Tophouse 1.77 243 PN Pn 13 42 02.4 -0.2
THZ Tophouse 1.77 243 Pn Pn 13 42 02.4 -0.2
TUVZ Tukino 1.77 17 ⇑PN Pn 13 42 03.4 +0.7
TUVZ Tukino 1.77 17 Pn Pn 13 42 03.4 +0.7
NMEZ Namu Road 1.77 331 ⇑PN Pn 13 42 03.5 +0.9
WPVZ Whakapapa 1.81 14 PN Pn 13 42 03.8 +0.6
WPVZ Whakapapa 1.81 14 Pn Pn 13 42 03.8 +0.6
KHZ Kahutara 1.81 217 PN Pn 13 42 03.7 +0.6
KHZ AML AML 13 42 24.9
KHZ AML AML 13 42 26.4
KHZ Kahutara 1.81 217 ePn Pn 13 42 03.9 +0.8
KHZ eSn Sn 13 42 24.6 -0.7
COVZ Chateau Observ 1.82 13 PN Pn 13 42 03.6 +0.3
NEZ North Egmont 1.83 338 PN Pn 13 42 04.4 +1.0
NEZ North Egmont 1.83 338 Pn Pn 13 42 03.6 +0.2
KHEZ Kahui Hut 1.83 335 PN Pn 13 42 04.5 +1.0
NGZ Ngauruhoe 1.85 15 PN Pn 13 42 04.4 +0.7
NGZ Ngauruhoe 1.85 15 Pn Pn 13 42 04.4 +0.7
VRZ Vera Road 1.85 354 PN Pn 13 42 04.4 +0.8
VRZ Vera Road 1.85 354 Pn Pn 13 42 04.0 +0.4
KAHZ Kahuranaki 1.85 51 ⇓PN Pn 13 42 03.6 -0.1
KAHZ Kahuranaki 1.85 51 Pn Pn 13 42 03.6 -0.1
OTVZ Oturere 1.87 16 ⇑PN Pn 13 42 04.8 +0.7
OTVZ Oturere 1.87 16 Pn Pn 13 42 04.8 +0.7
QRZ Quartz Range 1.88 274 PN Pn 13 42 03.7 -0.3
QRZ Quartz Range 1.88 274 Pn Pn 13 42 03.5 -0.5
DREZ Durham Road 1.88 341 ⇑PN Pn 13 42 05.3 +1.3
DREZ Durham Road 1.88 341 Pn Pn 13 42 05.3 +1.3
NWEZ Newall Road 1.90 332 ⇑PN Pn 13 42 05.2 +0.9
NWEZ Newall Road 1.90 332 Pn Pn 13 42 05.2 +0.9
WTVZ West Tongariro 1.91 14 ⇑PN Pn 13 42 05.1 +0.6
WTVZ West Tongariro 1.91 14 Pn Pn 13 42 05.1 +0.6
TWVZ Taurewa 1.92 10 PN Pn 13 42 05.1 +0.4
TWVZ Taurewa 1.92 10 Pn Pn 13 42 05.1 +0.4
PKE Pukeiti 1.93 336 PN Pn 13 42 05.6 +0.8
PKE Pukeiti 1.93 336 Pn Pn 13 42 05.6 +0.8
KRVZ Karewarewa 1.94 15 ⇑PN Pn 13 42 05.5 +0.7
KRVZ Karewarewa 1.94 15 Pn Pn 13 42 05.5 +0.7
MHEZ Mangahewa 1.96 344 ⇑PN Pn 13 42 06.6 +1.6
MHEZ Mangahewa 1.96 344 Pn Pn 13 42 06.6 +1.6
MCHZ McNeill Hill 2.00 41 ⇓PN Pn 13 42 05.5 -0.1
MCHZ McNeill Hill 2.00 41 Pn Pn 13 42 05.5 -0.1
CKHZ Cape Kidnapper 2.06 51 PN Pn 13 42 05.9 -0.5
CKHZ Cape Kidnapper 2.06 51 Pn Pn 13 42 05.9 -0.5
KATZ Kakaramea 2.06 15 PN Pn 13 42 07.1 +0.6
KATZ Kakaramea 2.06 15 Pn Pn 13 42 07.1 +0.6
RITZ Rihia Road 2.10 19 PN Pn 13 42 07.3 +0.4
RITZ Rihia Road 2.10 19 Pn Pn 13 42 07.3 +0.4
BKZ Black Stump Fm 2.13 33 ⇓PN Pn 13 42 07.1 -0.4
BKZ AML AML 13 42 34.0
BKZ AML AML 13 42 36.5
BKZ Black Stump Fm 2.13 33 Pn Pn 13 42 07.1 -0.4
RATZ Rangitukua 2.18 16 PN Pn 13 42 08.2 +0.1
RATZ Rangitukua 2.18 16 Pn Pn 13 42 08.2 +0.1
HATZ Hinemaiaia 2.24 22 PN Pn 13 42 08.4 -0.4
HATZ Hinemaiaia 2.24 22 Pn Pn 13 42 08.4 -0.4
WATZ Wairara 2.33 14 ⇑PN Pn 13 42 10.1 +0.1
WATZ Wairara 2.33 14 Pn Pn 13 42 10.1 +0.1
NMHZ Naumai 2.33 37 ⇓PN Pn 13 42 09.7 -0.3
NMHZ Naumai 2.33 37 Pn Pn 13 42 09.8 -0.3
WHTZ Whakaora 2.41 18 PN Pn 13 42 11.4 +0.2
WHTZ Whakaora 2.41 18 Pn Pn 13 42 11.5 +0.3
HIZ Hauiti 2.45 357 PN Pn 13 42 12.3 +0.6
HIZ Hauiti 2.45 357 Pn Pn 13 42 12.3 +0.6
DSZ Denniston Nort 2.53 251 PN Pn 13 42 12.4 -0.4
DSZ Denniston Nort 2.53 251 Pn Pn 13 42 12.3 -0.4
WHHZ Waihua 2.55 43 PN Pn 13 42 12.3 -0.7
RAHZ Arahi 2.60 39 PN Pn 13 42 12.8 -1.0
RAHZ Arahi 2.60 39 Pn Pn 13 42 12.8 -1.0
ALRZ Allen Road 2.62 24 PN Pn 13 42 13.2 -0.7
ALRZ Allen Road 2.62 24 Pn Pn 13 42 13.2 -0.7
TLZ Tolley Road 2.67 9 PN Pn 13 42 14.4 -0.3
PRRZ Plateau Road 2.69 24 ⇓PN Pn 13 42 14.3 -0.7
PRRZ Plateau Road 2.69 24 Pn Pn 13 42 14.3 -0.7
LTZ Lake Taylor 2.73 227 PN Pn 13 42 15.3 -0.1
LTZ Lake Taylor 2.73 227 Pn Pn 13 42 14.7 -0.7
KNZ Kokohu 2.83 47 ⇓PN Pn 13 42 15.2 -1.5
KNZ Kokohu 2.83 47 Pn Pn 13 42 15.2 -1.5
SNGZ Shannon Statio 2.83 40 ⇑PN Pn 13 42 15.6 -1.3
RRRZ Republican Roa 2.87 25 ⇑PN Pn 13 42 16.5 -0.9
RRRZ Republican Roa 2.87 25 Pn Pn 13 42 16.5 -0.9
MHGZ Mahia Peninsul 2.88 52 ⇑PN Pn 13 42 16.5 -0.9
MHGZ Mahia Peninsul 2.88 52 Pn Pn 13 42 16.5 -0.9
TARZ Mount Tarawera 2.97 24 PN Pn 13 42 18.3 -0.5
TARZ Mount Tarawera 2.97 24 Pn Pn 13 42 18.3 -0.5
PRGZ Paritu Road 3.02 48 PN Pn 13 42 17.9 -1.4
PRGZ Paritu Road 3.02 48 Pn Pn 13 42 17.9 -1.4
RAGZ Rawiri 3.09 38 PN Pn 13 42 18.9 -1.5
RIGZ Rimuhau 3.10 44 PN Pn 13 42 19.0 -1.5
CRLZ Canterbury Las 3.15 213 PN Pn 13 42 20.3 -0.8
CRLZ Canterbury Las 3.15 213 Pn Pn 13 42 20.3 -0.8
URZ Urewera 3.16 32 ⇑PN Pn 13 42 19.5 -1.8
URZ AML AML 13 42 57.4
URZ AML AML 13 43 03.4
URZ Urewera 3.16 32 Pn Pn 13 42 19.5 -1.8
19nm,0.3s,baz=256,slow=5.3,SNR=130
URZ Sn Sn 13 42 54.6 -3.2
96nm,0.3s,baz=108,slow=21,SNR=9.5
OXZ Oxford 3.22 222 PN Pn 13 42 21.0 -1.1
MQZ McQueen's Vall 3.24 212 ⇓PN Pn 13 42 21.2 -1.1
MQZ McQueen's Vall 3.24 212 Pn Pn 13 42 21.2 -1.1
TOZ Tahuroa Road 3.26 7 PN Pn 13 42 22.4 -0.2
TOZ Tahuroa Road 3.26 7 Pn Pn 13 42 22.4 -0.2
MWZ Matawai 3.27 37 PN Pn 13 42 21.0 -1.9
MWZ AML AML 13 42 59.7
MWZ AML AML 13 42 59.7
MWZ AML AML 13 42 59.9
MWZ AML AML 13 42 59.9
MWZ Matawai 3.27 37 Pn Pn 13 42 21.0 -1.9
OPRZ Ohinepanea 3.34 22 PN Pn 13 42 22.6 -1.1
OPRZ Ohinepanea 3.34 22 Pn Pn 13 42 22.6 -1.1
WVZ Waitaha Valley 3.81 235 PN Pn 13 42 29.3 -0.7
WVZ Waitaha Valley 3.81 235 Pn Pn 13 42 29.3 -0.7
PUZ Puketiti 3.84 42 PN Pn 13 42 28.1 -2.4
PUZ AML AML 13 43 13.6
PUZ AML AML 13 43 14.0
PUZ Puketiti 3.84 42 Pn Pn 13 42 28.1 -2.4
MKAZ Moumakai 3.85 2 PN Pn 13 42 31.0 +0.3
MKAZ Moumakai 3.85 2 Pn Pn 13 42 30.8 +0.1
HAZ Te Kaha 3.87 35 PN Pn 13 42 28.3 -2.5
KBAZ Karaka Road Bo 3.87 359 ⇓PN Pn 13 42 31.6 +0.8
RPZ Rata Peaks 4.01 225 PN Pn 13 42 31.5 -1.3
RPZ Rata Peaks 4.01 225 ePn Pn 13 42 30.5 -2.3
RPZ eSn Sn 13 43 15.6 -3.0
WTAZ Waiatarua 4.04 355 PN Pn 13 42 34.3 +1.0
WTAZ Waiatarua 4.04 355 Pn Pn 13 42 34.3 +1.0
HBAZ Herne Bay Bore 4.12 357 PN Pn 13 42 35.0 +0.7
RVAZ Riverhead Bore 4.20 355 PN Pn 13 42 35.9 +0.5
KUZ Kuaotunu 4.25 8 PN Pn 13 42 35.6 -0.6
KUZ Kuaotunu 4.25 8 Pn Pn 13 42 35.6 -0.6
MXZ Matakaoa Point 4.26 38 PN Pn 13 42 34.5 -1.8
MXZ AML AML 13 43 26.0
MXZ AML AML 13 43 26.0
MXZ AML AML 13 43 26.8
MXZ AML AML 13 43 27.6
MXZ Matakaoa Point 4.26 38 Pn Pn 13 42 34.5 -1.8
ABAZ Army Bay 4.36 358 PN Pn 13 42 38.4 +0.8
FOZ Fox Glacier 4.72 235 ⇑PN Pn 13 42 39.6 -2.8
FOZ Fox Glacier 4.72 235 Pn Pn 13 42 39.6 -2.8
LBZ Lake Benmore 4.92 224 ⇑PN Pn 13 42 44.2 -1.0
LBZ Lake Benmore 4.92 224 Pn Pn 13 42 44.2 -1.0
WCZ Waipu Caves 5.05 354 PN Pn 13 42 47.4 +0.5
WCZ Waipu Caves 5.05 354 Pn Pn 13 42 47.4 +0.5
ODZ Otahua Downs 5.17 217 PN Pn 13 42 47.3 -1.3
ODZ Otahua Downs 5.17 217 ePn Pn 13 42 47.8 -0.8
ODZ eSn Sn 13 43 43.1 -3.9
JCZ Jackson Bay 5.56 234 PN Pn 13 42 52.1 -1.9
OUZ Omahuta 5.84 349 PN Pn 13 42 58.3 +0.4
OUZ Omahuta 5.84 349 ePn Pn 13 42 58.3 +0.4
43nm,0.6s
OUZ eSn Sn 13 44 02.7 -0.7
WKZ Wanaka 5.84 227 PN Pn 13 42 54.8 -3.1
WKZ Wanaka 5.84 227 Pn Pn 13 42 54.8 -3.1
EAZ Earnscleugh 5.96 222 PN Pn 13 42 58.1 -1.2
EAZ Earnscleugh 5.96 222 Pn Pn 13 42 58.1 -1.2
CTZ Chatham Island 6.80 117 PN Pn 13 43 11.4 +0.6
CTZ Chatham Island 6.80 117 Pn Pn 13 43 11.4 +0.6
SYZ Scrubby Hill 7.00 215 ⇑PN Pn 13 43 13.6 +0.2
SYZ Scrubby Hill 7.00 215 Pn Pn 13 43 13.7 +0.2
MILA Mila 20.43 273 P Pn 13 46 16.6 +9.0
baz=20,SNR=5.0
NIUE Niue 25.35 35 P P 13 47 01.8 +8.2
baz=26,SNR=10
CTAO Charters Tower 32.11 302 eP P 13 47 51.4 -2.4
13nm,1.5s
AS31 Alice Springs 38.38 284 eP P 13 48 48.4 +0.8
ASAR Alice Springs 38.38 284 P P 13 48 49.3 +1.7
0.5nm,0.4s,baz=126,slow=7.3,SNR=38
COEN Coen 38.63 305 eP P 13 48 43.6 -6.0
22nm,1.0s
WRAB Tennant Creek 40.37 289 eP P 13 49 05.8 +1.7
2.8nm,0.9s
WRA Warramunga Arr 40.37 289 P P 13 49 05.7 +1.6
0.6nm,0.5s,baz=126,slow=8.4,SNR=16
WRKA Warakurna 41.76 278 P P 13 49 16.1 +0.5
baz=41,SNR=5.6
MEEK Meekatharra 48.20 269 P P 13 50 07.5 +0.8
baz=48,SNR=3.5
PMBI Palembang 73.20 281 P P 13 52 56.1 -0.5
baz=73,SNR=4.3
TORD Torodi Ar. Bea 151.67 194 PKPbc PKPab 14 01 32.6 +4.1
0.4nm,0.4s,baz=142,slow=2.3,SNR=4.6

IDC 12 13:44:38.0±68.0, 20°.90S×179°.23E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/31, mbtmp3.7/3, Error ellipse: s-maj=1222.0km s-min=156.8km az=82.0, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 35.28 244 P P 13 51 34.6 -0.1
0.6nm,0.5s,baz=89,slow=10,SNR=3.8
ASAR Alice Springs 41.90 257 P P 13 52 30.4 -0.1
1.0nm,0.8s,baz=94,slow=8.7,SNR=10.0
WRA Warramunga Arr 41.98 263 P P 13 52 30.9 -0.3
0.7nm,0.7s,baz=97,slow=8.4,SNR=11

ISCJB 12 14:02:44.5±0.7, 7°.50S±0°.09×125°.60E±0°.10, h10km, mb3.8/5, Error ellipse: s-maj=16.9km s-min=7.3km az=138.7
IDC 12 14:02:45.1±1.1, 7°.50S×125°.49E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.7/39, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=120.6km s-min=21.5km az=61.0
ISC 12 14:02:46.9±0.9, 7°.5S±0°.1×125°.5E±0°.1, h10km, n16, σ1s.76/14, mb4.0/5, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SOEI Soe 2.54 209 P Pn 14 03 27.9 -0.4
baz=1.8,SNR=70
MTN Manton Dam 7.66 134 P Pn 14 04 42.4 +3.8
baz=7.2,SNR=24
MTN S Sn 14 06 05.6 +0.2
baz=7.2,SNR=9.5
KDU Kakadu 8.56 127 P Pn 14 04 55.0 +4.0
baz=8.1,SNR=4.2
KDU S Sn 14 06 27.5 -0.3
baz=8.1,SNR=3.4
KNRA Kununurra 8.71 159 P Pn 14 04 53.6 +0.6
baz=8.0,SNR=14
KNRA S Sn 14 06 17.7 -14
baz=8.0,SNR=4.5
WRA Warramunga Arr 15.03 146 Pn Pn 14 06 16.1 -3.4
0.3nm,0.3s,baz=323,slow=14,SNR=17
WRA Sn Sn 14 08 55.2 -11
0.7nm,0.3s,baz=321,slow=26,SNR=10.0
WRKA Warakurna 17.62 172 P Pn 14 06 50.3 -2.4
baz=17,SNR=4.3
ASAR Alice Springs 17.96 154 P Pn 14 06 55.7 -1.3
0.2nm,0.3s,baz=320,slow=11,SNR=23
ASAR S Sn 14 10 03.9 -14
0.2nm,0.3s,baz=312,slow=19,SNR=6.9
COEN Coen 18.49 112 P Pn 14 07 07.1 +3.7
baz=18,SNR=4.2
QIS Mount Isa 18.82 135 P Pn 14 07 10.5 +3.0
baz=18,SNR=4.7

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTSU	Mount Surprise	21.13	122	P	P	14 07 35.6	+3.4
	baz=21,SNR=4.7						
STKA	Stephens Creek	28.50	150	P	P	14 08 43.2	+0.7
	1.1nm,0.4s,baz=317,slow=9.7,SNR=5.5						
HTT	Hallett	28.62	156	P	P	14 08 45.2	+1.6
	baz=28,SNR=4.5						
CMAR	Chiang Mai Arr	36.79	315	P	P	14 09 55.0	-0.2
	0.6nm,0.4s,baz=143,slow=8.6,SNR=5.5						
SONM	Songino Array	57.65	345	P	P	14 12 37.9	+0.5
	0.4nm,0.6s,baz=152,slow=6.5,SNR=3.4						
MKAR	Makanchi Array	66.30	329	P	P	14 13 35.3	-0.2
	1.2nm,0.7s,baz=128,slow=6.8,SNR=14						
ZALV	Zalesovo Beam	70.15	336	P	P	14 13 58.2	-1.3
	1.2nm,0.6s,baz=117,slow=5.6,SNR=7.4						

ISCJB 12 14:28:45.8±0.7, 25°.63S±0°.06×179°.9E±0°.1, h493km, mb3.9/7, Error ellipse: s-maj=12.5km s-min=7.7km az=176.3

IDC 12 14:28:48.1±3.7, 25°.67S×179°.83E, h508km±42km, mb3.5/7, mb1 3.9/9, mb1mx3.4/38, mbtmp4.5/9, Error ellipse: s-maj=39.6km s-min=22.3km az=163.0

ISC 12 14:28:46.5±0.8, 25°.78S±0°.08×180°.0E±0°.1, h493km, n41, σ1°.21/43, mb3.7/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAZ	Te Kaha	12.09	188	PN	P	14 31 26.6	+0.8
URZ	Urewera	12.68	190	P	P	14 31 33.0	+0.9
	8.1nm,0.3s,baz=323,slow=1.9,SNR=50						
URZ				S	S	14 33 45.7	-3.0
	0.6nm,0.3s,baz=106,slow=13,SNR=1.9						
URZ	Urewera	12.68	190	PN	P	14 31 33.0	+0.9
URZ				SN	S	14 33 49.7	+1.0
DZM	Mont Dzumac	12.91	284	P	P	14 31 35.5	+0.5
	0.8nm,0.3s,baz=98,slow=15,SNR=13						
WEL	Wellington	16.06	194	SN	S	14 34 51.6	-2.1
QRZ	Quartz Range	16.24	201	PN	P	14 32 11.2	+1.6
THZ	Tophouse	16.98	198	PN	P	14 32 17.5	0.0
THZ				SN	S	14 35 09.5	-0.9
LHI	Lord Howe Isla	19.21	248	P	P	14 32 41.1	+2.7
	baz=19,SNR=5.1						
ARMA	Armidale	25.40	253	P	P	14 33 35.6	+1.5
	baz=25,SNR=9.5						
EIDS	Eidsvold	26.05	265	P	P	14 33 40.3	+0.5
	baz=25,SNR=15						
MGCD	Mangrove Creek	26.14	247	P	P	14 33 42.4	+1.9
	baz=26,SNR=8.2						
RMQ	Roma	28.00	262	P	P	14 33 58.5	+1.5
	baz=27,SNR=6.8						
MILA	Mila	28.49	239	P	P	14 34 03.0	+1.8
	baz=28,SNR=8.6						
CMSA	Cobar Meteorol	30.55	251	P	P	14 34 19.4	+0.4
	baz=30,SNR=28						
QLP	Quilpie	32.02	261	P	P	14 34 31.6	-0.2
	baz=31,SNR=13						
MTSU	Mount Surprise	33.86	276	P	P	14 34 47.5	0.0
	baz=33,SNR=11						
STKA	Stephens Creek	34.04	251	P	P	14 34 49.3	+0.4
	5.3nm,0.5s,baz=95,slow=10,SNR=40						
STKA	Stephens Creek	34.04	251	P	P	14 34 49.3	+0.4
	baz=34,SNR=33						
HTT	Hallett	36.32	248	P	P	14 35 08.0	+0.1
	baz=36,SNR=14						
COEN	Coen	36.43	282	P	P	14 35 09.0	0.0
	baz=36,SNR=10						
QIS	Mount Isa	37.38	269	P	P	14 35 16.2	-0.6
	baz=37,SNR=4.9						
BBOO	Buckleboo	38.72	249	P	P	14 35 27.0	-0.6
	baz=38,SNR=12						
ASAR	Alice Springs	41.74	263	P	P	14 35 51.5	-0.5
	4.6nm,0.3s,baz=92,slow=7.6,SNR=127						
ASAR				ScP	ScP	14 40 42.1	+1.9
	0.6nm,0.8s,baz=110,slow=5.0,SNR=4.4						
WRA	Warramunga Arr	42.29	268	P	P	14 35 55.2	-1.2
	5.5nm,0.3s,baz=100,slow=6.1,SNR=254						
FORT	Forrest	45.66	251	P	P	14 36 21.5	-0.9
	baz=45,SNR=10						
WRKA	Warakurna	46.44	259	P	P	14 36 27.5	-0.9
	baz=46,SNR=14						
KDU	Kakadu	46.47	277	P	P	14 36 27.3	-1.4
	baz=46,SNR=8.8						
MTN	Manton Dam	47.60	276	P	P	14 36 37.1	-0.3
	baz=47,SNR=4.0						
KNRA	Kununurra	48.69	271	P	P	14 36 44.9	-0.5
	baz=48,SNR=31						
KLBR	Kellerberrin	54.26	248	P	P	14 37 25.2	-0.5
	baz=54,SNR=5.9						
MEEK	Meekatharra	54.58	255	P	P	14 37 26.7	-1.3
	baz=54,SNR=3.7						
BLDU	Ballidu	55.33	249	P	P	14 37 32.4	-0.9
	baz=55,SNR=13						
MORW	Morawa	56.23	251	P	P	14 37 38.9	-0.7
	baz=56,SNR=7.0						
PETK	Petropavlovsk-	80.91	347	P	P	14 40 08.0	-0.5
	1.3nm,0.6s,baz=128,slow=8.8,SNR=7.5						
NVAR	Mina Array Bea	86.11	44	P	P	14 40 35.7	+0.7
	1.2nm,0.7s,baz=221,slow=8.6,SNR=11						
TXAR	Lajitas Array	91.44	58	P	P	14 41 01.1	+1.2
	0.4nm,0.5s,baz=232,slow=6.2,SNR=5.6						
ILAR	Eielson Array	93.85	14	P	P	14 41 08.6	-1.4
	0.3nm,0.7s,baz=220,slow=6.1,SNR=6.7						
BVAR	Borovoye Array	121.82	318	PKP	PKPdf	14 46 43.2	-0.6
	0.3nm,0.5s,baz=146,slow=1.0,SNR=3.7						
NB2	NORSAR Subarra	143.92	351	PKP	PKPbc	14 47 22.9	-1.0
	comp=Z,2.2nm,0.6s,baz=18,slow=3.2						
NOA	NORSAR Array B	143.92	351	PKP	PKPbc	14 47 23.2	-0.7
	comp=Z,2.8nm,0.7s,baz=21,slow=3.8,SNR=14						
AKASG	Malin Array Be	146.52	326	PKPbc	PKPbc	14 47 30.9	-0.9
	comp=Z,0.4nm,0.3s,baz=45,slow=3.9,SNR=4.2						

GUC 12 14:33:27.2±0.7, 31°.36S×69°.37W, h150km, ML3.3

ISCJB 12 14:33:28.4±0.8, 31°.33S±0°.05×69°.18W±0°.05, h117km±7km, Error ellipse: s-maj=8.6km s-min=5.3km az=143.4

SJA 12 14:33:28.5±1.0, 31°.35S×69°.17W, h111km±4km, MD3.8, ML3.2

ISC 12 14:33:29.4±1.6, 31°.35S±0°.05×69°.19W±0°.05, h111km±10km, n18, σ0°.73/33, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTLS	Leoncito	0.46	192	*i* P	Pn	14 33 46.4	-0.1
RTLS				*i* S	Sn	14 33 59.6	+0.3
SJA	San Juan	0.56	109	*i* P	Pn	14 33 46.9	0.0
SJA				*i* S	Sn	14 34 00.1	+0.1
SJA				AML	AML	14 34 02.8	
	comp=Z,444nm,0.1s						
RTLL	Cerro Villicun	0.61	88	*i* P	Pn	14 33 46.6	-0.6
RTLL				*i* S	Sn	14 34 00.1	-0.5
AMOG	MOGNA	0.72	56	*i* P	Pn	14 33 48.1	0.0
AMOG				*i* S	Sn	14 34 02.0	-0.2
RTCV	Cerro Valdivia	0.75	133	*i* P	Pn	14 33 48.3	-0.1
RTCV				*i* S	Sn	14 34 03.0	+0.4
CFAA	Coronel Fontan	0.85	108	*i* P	Pn	14 33 49.0	-0.2
CFAA				*i* S	Sn	14 34 04.0	-0.2
AUSP	Uspallata	0.89	191	*i* P	Pn	14 33 49.9	0.0
AUSP				*i* S	Sn	14 34 05.8	+0.4
ARCO	CERRO ARCO	1.50	172	*i* P	Pn	14 33 56.8	+0.3
ARCO				*i* S	Sn	14 34 18.1	+1.0
ARCO				AML	AML	14 34 20.2	
	comp=Z,620nm,0.7s						
CMCH	Combarbala	1.56	276	*e*P	Pn	14 33 56.5	-0.6
CMCH				*e*S	Sn	14 34 18.4	+0.2
AVFE	Valle Fertil	1.64	66	*i* P	Pn	14 33 57.6	-0.3
AVFE				AML	AML	14 34 20.6	
	comp=Z,99nm,0.4s						
AAGR	Agrelo	1.76	170	*i* P	Pn	14 33 59.3	-0.2
ACAN	Cantantal	1.94	119	*i* P	Pn	14 34 01.5	-0.1
ACAN				*i* S	Sn	14 34 25.6	-0.6
AGUA	GUANDACOL	1.95	18	*i* P	Pn	14 34 02.5	+0.6
AGUA				*i* P	Pn	14 34 02.5	+0.6
FCH	Farellones	2.19	205	*e*P	Pn	14 34 04.3	-0.7
FCH				*e*S	Sn	14 34 35.2	+2.9
FCH				AML	AML	14 34 38.9	
	comp=N,107nm,0.2s						
PEL	Peldehue	2.20	215	*e*P	Pn	14 34 03.8	-1.1
PEL				*e*S	Sn	14 34 32.5	+0.3
ROCH	El Roble	2.24	223	*e*P	Pn	14 34 04.9	-0.8
ROCH				*i* S	Sn	14 34 33.1	-0.4
ROCH				AML	AML	14 34 39.1	
	comp=N,129nm,0.4s						
CLCH	Cerro Calan	2.34	209	*e*P	Pn	14 34 06.2	-0.7
CLCH				*e*S	Sn	14 34 35.8	+0.2
CLCH				AML	AML	14 34 37.7	
	comp=E,222nm,0.6s						
APLL	PUNTA DE LOS L	2.47	68	*i* P	Pn	14 34 08.3	-0.3

ISCJB 12 14:44:03.6±0.7, 24°.68S±0°.10×175°.7W±0°.2, h19km, mb4.2/11, MS3.6/4, Error ellipse: s-maj=22.7km s-min=10.6km az=28.6

IDC 12 14:44:03.6±0.9, 24°.05S×175°.83W, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.1/27, mbtmp4.1/11, ML3.6/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/26, Error ellipse: s-maj=35.6km s-min=19.5km az=153.0

ISC 12 14:44:05.7±0.7, 24°.55S±0°.1×175°.7W±0°.2, h19km, n22, σ1°.71/19, mb4.2/11, MS3.6/4, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	14.98	202	Pn	P	14 47 42.0	+0.2
	0.2nm,0.3s,baz=343,slow=19,SNR=1.8						
URZ				Sn	Sn	14 50 18.9	-3.0
	0.3nm,0.3s,baz=171,slow=14,SNR=1.7						
URZ				LR	LR	14 51 57.4	
	comp=Z,92nm,21.3s,baz=4.5,slow=31						
RAR	Rarotonga	15.06	81	Pn	Pn	14 47 30.4	-7.2
	4.9nm,0.3s,baz=271,slow=6.1,SNR=6.2						
DZM	Mont Dzumac	16.58	275	LR	LR	14 53 21.6	
	comp=Z,216nm,18.6s,baz=29,slow=34						
PPT	Papeete	25.33	79	LR	LR	14 58 41.9	
	comp=Z,72nm,18.7s,baz=232,slow=35						
STKA	Stephens Creek	38.14	249	P	P	14 51 25.9	+2.0
	0.9nm,0.8s,baz=111,slow=8.8,SNR=2.9						
STKA				LR	LR	15 06 12.7	
	comp=Z,133nm,18.2s,baz=32,slow=35						
PMG	Port Moresby	38.41	287	P	P	14 51 25.1	-1.2
	11nm,0.8s,baz=100,slow=6.6,SNR=7.8						
ASAR	Alice Springs	45.79	260	P	P	14 52 27.4	+0.8
	2.2nm,0.9s,baz=97,slow=8.1,SNR=15						
ASAR				LR	LR	15 11 25.8	
	comp=Z,126nm,18.0s,baz=104,slow=36						
WRA	Warramunga Arr	46.26	265	P	P	14 52 29.5	-0.8
	0.7nm,0.5s,baz=102,slow=8.5,SNR=21						
MJAR	Matsushiro Arr	74.69	323	LR	LR	15 29 52.6	
	comp=Z,18nm,18.1s,baz=110,slow=37						
PETK	Petropavlovsk-	80.70	344	P	P	14 56 15.6	-1.6
	3.8nm,0.8s,baz=116,slow=10,SNR=4.8						
NVAR	Mina Array Bea	82.55	42	P	P	14 56 27.6	-0.1
	2.1nm,1.0s,baz=224,slow=8.8,SNR=9.1						
USRK	Ussuriysk Arra	83.47	325	P	P	14 56 32.3	+0.4
	2.4nm,0.7s,baz=122,slow=3.9,SNR=4.5						
TXAR	Lajitas Array	87.48	56	P	P	14 56 52.6	+0.1
	1.2nm,1.1s,baz=206,slow=8.3,SNR=7.5						
PDAR	Pinedale Array	90.47	42	P	P	14 57 05.7	-0.7
	0.5nm,0.8s,baz=207,slow=2.7,SNR=3.8						
ILAR	Eielson Array	91.78	12	P	P	14 57 10.4	-1.3
	0.8nm,0.8s,baz=218,slow=6.1,SNR=12						
CMAR	Chiang Mai Arr	93.43	289	P	P	14 57 22.6	+2.3
	2.6nm,0.8s,baz=134,slow=3.7,SNR=21						
AKASG	Malin Array Be	147.55	330	PKPbc	PKPdf	15 03 47.5	+1.7
	2.6nm,0.7s,baz=40,slow=4.2,SNR=12						
BRTR	Keskin Array B	151.06	309	PKPbc	PKPbc	15 03 57.2	-0.6
	1.6nm,0.8s,baz=90,slow=2.7,SNR=8.6						
CLL	Collm	152.44	348	*e*PKP	PKPbc	15 04 00.0	-0.4
CLL				*e*		15 04 12.0	
BRG	Berggiesshubel	152.67	347	*i* P	PKPbc	15 04 01.5	+0.6
	4.8nm,0.8s						
BRG				*e*		15 04 13.3	
	3.1nm,0.7s						
GERES	GERESS Array B	154.63	345	PKPab	PKPab	15 04 17.4	-2.6
	0.8nm,0.8s,baz=66,slow=1.6,SNR=3.9						
TORD	Torodi Ar. Bea	168.41	167	PKPab	PKPab	15 05 23.9	+3.2
	1.0nm,0.7s,baz=187,slow=4.0,SNR=4.7						

IDC 12 14:49:02.4±9.8, 59°.11S×149°.04E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/21, mbtmp3.8/2, Error ellipse: s-maj=432.3km s-min=64.3km az=89.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	33.31	301	T	T	15 31 04.0	
	baz=146,slow=76,SNR=7.4						
H01W2	Cape Leeuwin H	33.31	301	T	T	15 31 04.9	
	baz=146,slow=76,SNR=9.1						
H01W3	Cape Leeuwin H	33.33	301	T	T	15 31 11.5	
	baz=146,slow=76,SNR=7.4						
ASAR	Alice Springs	37.00	337	P	P	14 56 13.7	+0.1
	0.9nm,0.8s,baz=171,slow=8.6,SNR=9.0						
WRA	Warramunga Arr	40.54	338	P	P	14 56 42.7	-0.5
	2.1nm,1.0s,baz=165,slow=7.0,SNR=9.2						
AKASG	Malin Array Be	145.51	283	PKPbc	PKPdf	15 08 40.6	-0.6
	0.1nm,0.2s,baz=128,slow=2.1,SNR=4.5						

JMA 12 14:55:17.8±0.2, 27°.71N×140°.74E, h464km, M3.6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.42	115	S	S	14 57 04.7	-0.1
JHHJ	Haha-jima-NKT	1.67	130	P	P	14 56 18.4	+0.4
JHHJ				S	S	14 57 05.7	-1.1
JHCJ	Hachijojimakas	5.41	352	P	P	14 56 47.6	+0.9
JHJ2	Mitsune	5.44	352	S	S	14 57 55.6	-4.3
BSO3	Boso 3	7.07	358	S	S	14 58 25.2	-4.4
JIE	Ise	7.50	334	S	S	14 58 37.9	-0.6
JRY	Ryogami san	8.43	350	P	P	14 57 19.7	+1.8
JAG	Ashikaga	8.76	353	P	P	14 57 22.6	+1.2
JHO	Hitachi	8.88	359	P	P	14 57 24.8	+2.2
JHO				*e*S	S	14 59 00.3	-5.0

IDC 12 14:59:57.7±4.2, 20°.16S×67°.77E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/31, mbtmp3.6/5, MS3.2/2, Ms1 3.3/2, ms1mx2.9/31, Error ellipse: s-maj=123.7km s-min=32.1km az=58.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	13.25	21	T	T	15 16 45.0	
	baz=200,slow=76,SNR=81						
H08S2	Diego Carcia H	13.25	21	T	T	15 16 42.7	
	baz=200,slow=76,SNR=8.7						
H08S3	Diego Garcia H	13.27	21	T	T	15 16 48.2	
	baz=200,slow=76,SNR=7.8						
H08N3	Diego Garcia H	14.08	13	T	T	15 18 01.3	
	baz=223,slow=79,SNR=13						
H08N1	Diego Carcia H	14.09	13	T	T	15 17 59.6	
	baz=223,slow=79,SNR=10						
H08N2	Diego Garcia H	14.10	13	T	T	15 18 00.3	
	baz=223,slow=79,SNR=13						
H01W2	Cape Leeuwin H	43.28	120	T	T	15 53 55.9	
	baz=277						
H01W3	Cape Leeuwin H	43.28	120	T	T	15 53 56.0	
	baz=277						
H01W1	Cape Leeuwin H	43.30	120	T	T	15 53 56.6	
	baz=277						
CMAR	Chiang Mai Arr	49.06	41	P	P	15 08 46.7	-0.2
	0.8nm,0.9s,baz=241,slow=9.2,SNR=6.3						
CMAR				LR	LR	15 25 43.1	
	comp=Z,22nm,20.6s,baz=155,slow=32						
ASAR	Alice Springs	60.97	106	P	P	15 10 12.8	-0.4
	0.5nm,0.8s,baz=266,slow=5.8,SNR=8.2						
WRA	Warramunga Arr	62.12	102	P	P	15 10 21.3	+0.3
	0.8nm,1.0s,baz=260,slow=5.3,SNR=4.4						
BRTR	Keskin Array B	67.56	332	LR	LR	15 40 28.2	
	comp=Z,19nm,18.3s,baz=356,slow=36						
MKAR	Makanchi Array	67.92	11	P	P	15 10 58.0	0.0
	0.4nm,0.8s,baz=212,slow=6.7,SNR=4.3						
ZALV	Zalesovo Beam	75.25	10	P	P	15 11 42.2	+0.1
	0.3nm,0.4s,baz=187,slow=5.3,SNR=3.3						

FUNV 12 15:17:01.0, 8°.93N×71°.10W, h6km, MW3.5, 2C-1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIGV	El Vigia	0.28	251	⇑*i*P	Pg	15 17 06.2	-0.3
VIGV				*e*S	Sg	15 17 10.3	+0.1
SOCV	Socops	0.69	159	⇓*i*P	Pg	15 17 13.5	-0.8
SOCV				*e*S	Sg	15 17 23.0	-0.3
CURV	Curarigua	1.56	46	*e*P	Pn	15 17 28.6	-0.8
CAPV	Capacho	1.60	229	*e*P	Pn	15 17 29.8	-0.5
CAPV				*e*S	Sn	15 17 51.4	0.0
SANV	Sanarito	1.65	70	*e*P	Pn	15 17 30.9	+0.2
SANV				*e*S	Sn	15 17 50.9	-1.4
VIRV	Villa del Rosa	2.02	321	⇑*i*P	Pn	15 17 35.5	-0.3
DABV	Dabajuro	2.03	13	*e*P	Pn	15 17 34.8	-1.0
DABV				*e*S	Sn	15 17 59.9	-1.7
SIQV	Siquisique	2.13	37	*e*P	Pn	15 17 36.2	-1.1
SIQV				*e*S	Sn	15 18 02.6	-1.5
ELOV	Elorza	2.50	140	*e*P	Pn	15 17 41.5	-0.8
ELOV				*e*S	Sn	15 18 11.5	-1.6
MAPV	Macapo	2.76	71	*e*P	Pn	15 17 45.6	-0.2
BAUV	El Baul	3.02	90	*e*P	Pn	15 17 48.7	-0.8
BAUV				*e*S	Sn	15 18 23.4	-2.7
MONV	Montecano	3.20	20	*e*P	Pn	15 17 50.2	-1.8
TURV	Turiamo	3.55	65	*e*P	Pn	15 17 56.4	-0.4
BIRV	Birongo	5.00	72	*e*P	Pn	15 18 16.1	-0.7
CUPV	Cœpira	5.36	78	*e*P	Pn	15 18 20.5	-1.2

KRSC 12 15:19:44.1±1.7, 50°.03N×156°.24E, h60km±21km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.66	353	*e*P	Pn	15 19 58.3	+0.5
SKR				*e*S	Sn	15 20 09.2	+1.4
PAU	Pauzhetka	1.48	14	*e*P	Pn	15 20 09.8	+1.3
PAU				*e*S	Sn	15 20 29.6	+2.7
MIPR	Malaya Ipel'ka	2.27	8	*e*P	Pn	15 20 20.6	+1.4
MIPR				*e*S	Sn	15 20 48.0	+1.9
ASAK	Asacha	2.58	23	*e*P	Pn	15 20 26.0	+2.6
ASAK				*e*S	Sn	15 20 56.6	+2.9
MTVR	Mutnovka	2.74	26	*e*P	Pn	15 20 28.3	+2.5
MTVR				*e*S	Sn	15 21 01.2	+3.3
RUS	Russkaya	2.80	30	*e*P	Pn	15 20 27.4	+1.1
RUS				*e*S	Sn	15 21 00.1	+1.3
APC	Apacha	2.96	11	*e*P	Pn	15 20 30.5	+2.0
APC				*e*S	Sn	15 21 04.9	+2.2
PET	Petropavlovsk	3.35	26	*e*P	Pn	15 20 36.2	+2.3
PET				*e*S	Sn	15 21 15.8	+3.3
UGLR	Uglovaya	3.57	26	P	Pn	15 20 40.5	+3.5
UGLR				*e*S	Sn	15 21 21.0	+3.0
KOK	Koryaka	3.59	24	*e*P	Pn	15 20 41.3	+4.0
KOK				*e*S	Sn	15 21 22.4	+3.9
AVH	Avacha	3.59	25	P	Pn	15 20 41.6	+4.3
AVH				*e*S	Sn	15 21 23.9	+5.3
SMAR	Somma	3.61	25	P	Pn	15 20 41.5	+3.8
KRER	Koryakskii	3.63	24	P	Pn	15 20 41.6	+3.6
KRER				S	Sn	15 21 24.2	+4.4
SDLR	Sedlovina	3.65	26	P	Pn	15 20 40.8	+2.7
SDLR				*e*S	Sn	15 21 23.9	+4.0
KRX	Arik	3.65	23	*e*P	Pn	15 20 41.6	+3.3
KRX				S	Sn	15 21 23.7	+3.5
GNL	Ganaly	3.82	15	P	Pn	15 20 43.6	+3.1
TUMR	Tumrok	5.77	23	P	Pn	15 21 12.1	+4.9

IDC 12 16:00:39.0±2.0, 0°.70N×126°.76E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/25, mbtmp3.3/3, Error ellipse: s-maj=172.8km s-min=24.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.82	160	P	P	16 05 32.3	-0.7
	0.7nm,0.8s,baz=339,slow=11,SNR=8.3						
ASAR	Alice Springs	25.20	164	P	P	16 06 07.0	+0.5
	0.3nm,0.7s,baz=345,slow=11,SNR=9.6						
MKAR	Makanchi Array	60.06	326	P	P	16 10 47.8	-0.1
	0.3nm,0.4s,baz=120,slow=6.5,SNR=10						

IDC 12 16:04:36.9±4.2, 5°.04S×102°.86E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/28, mbtmp3.5/6, MS2.9/1, Ms1 2.9/1, ms1mx2.5/23, Error ellipse: s-maj=175.2km s-min=20.6km az=55.0

ISCJB 12 16:04:43.1±0.9, 5°.14S±0°.07×102°.94E±0°.06, h59km, mb3.5/6, Error ellipse: s-maj=11.1km s-min=6.9km az=34.8

DJA 12 16:04:46.6±0.7, 5°S±5°×10°3E±°, h38km±13km, M4.0/6, MLv4.0/6

ISC 12 16:04:44.8±1.2, 5°.09S±0°.09×103°.01E±0°.09, h59km, n14, σ0°.97/17, mb3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNAI	Manna	0.73	356	P	Pn	16 05 00.4	+1.1
MNAI				S	Sn	16 05 10.7	+0.8
LWLI	Liwa	1.05	86	P	Pn	16 05 04.3	+0.8
LWLI				S	Sn	16 05 17.9	+0.5
MDSI	Maura Dua	1.31	63	P	Pn	16 05 07.1	+0.2
MDSI				S	Sn	16 05 22.8	-0.7
LHSI	Lahat	1.36	22	P	Pn	16 05 08.9	+1.4
KASI	Kota Agung	1.54	106	P	Pn	16 05 11.3	+1.3
KASI				S	Sn	16 05 28.5	-0.5
KLSI		1.76	77	S	Sn	16 05 34.4	+0.1
CGJI	Cibinong	3.07	120	P	Pn	16 05 31.4	+0.6
PSI	Prapat	8.84	332	LR	LR	16 10 23.8	
	comp=Z,70nm,19.3s,baz=211,slow=40						
CMAR	Chiang Mai Arr	23.74	350	P	P	16 09 49.9	-1.9
	0.6nm,0.6s,baz=181,slow=9.1,SNR=6.4						
WRA	Warramunga Arr	33.87	119	P	P	16 11 22.6	+0.5
	0.4nm,0.6s,baz=303,slow=9.0,SNR=6.2						
ASAR	Alice Springs	35.02	125	P	P	16 11 32.9	+0.8
	0.3nm,0.4s,baz=295,slow=7.9,SNR=13						
SONM	Songino Array	52.78	3	P	P	16 13 54.0	-0.1
	0.4nm,0.7s,baz=184,slow=8.7,SNR=3.6						
MKAR	Makanchi Array	54.82	343	P	P	16 14 08.4	-0.4
	0.4nm,0.8s,baz=143,slow=8.5,SNR=5.1						
ZALV	Zalesovo Beam	60.77	348	P	P	16 14 49.3	-1.1
	0.5nm,0.4s,baz=156,slow=4.6,SNR=2.6						

KNET 12 16:31:25.4±0.4, 43°.02N×75°.28E, h18km±2km, ml2.6, Error ellipse: s-maj=3.4km s-min=1.8km az=17.0

NNC 12 16:31:25.1±0.4, 43°.09N×75°.25E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=3.3km s-min=1.0km az=178.0

KRNET 12 16:31:25.9±0.1, 43°.03N×75°.29E, h15km, mb3.3

ISC 12 16:31:25.9±0.9, 43°.03N±0°.03×75°.28E±0°.02, h15km±8km, n32, σ0°.49/56, 34C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TKM2	Tokmak 2	0.26	115	⇑P	Pg	16 31 31.3	-0.2
	24nm,0.3s						
TKM2				⇑S	Sg	16 31 35.5	0.0
	469nm,0.2s						
TKM2	Tokmak 2	0.26	115	⇑P	Pg	16 31 31.5	-0.1
	198nm,0.1s,SNR=9732						
TKM2				⇓S	Sg	16 31 35.8	+0.3
	8μm,0.1s						
TKM2	Tokmak 2	0.26	115	⇑*i*P	Pg	16 31 31.4	-0.2
	baz=116						
TKM2				⇑*i*S	Sg	16 31 35.6	+0.1
	baz=116						
CHMS	Chumysh	0.39	266	⇑P	Pb	16 31 34.0	-0.5
	113nm,0.1s,SNR=376						
CHMS				⇑S	Sb	16 31 39.6	-0.7
	1μm,0.2s						
CHMS	Chumysh	0.39	266	⇑*i*P	Pb	16 31 33.7	-0.1
	baz=266						
CHMS				⇑*i*S	Sb	16 31 39.4	-0.9
	baz=266						
KBK	Karagaybulak	0.45	213	⇓P	Pb	16 31 35.5	-0.1
	136nm,0.1s,SNR=32						
KBK				⇑S	Sb	16 31 41.9	-0.2
	445nm,0.2s						
KBK	Karagaybulak	0.45	213	⇑*i*P	Pb	16 31 35.3	-0.2
	baz=214						
KBK				⇑*i*S	Sb	16 31 41.6	-0.5
	baz=214						
FRU	Bishkek	0.53	248	*e*P	Pb	16 31 37.0	+0.2
	baz=248						
FRU				*e*S	Sb	16 31 44.5	+0.3
	baz=248						
USP	Ospenovka	0.62	293	⇓P	Pg	16 31 37.6	-0.4
	57nm,0.1s,SNR=303						
USP				⇑S	Sb	16 31 46.4	-0.5
	207nm,0.1s						
USP	Ospenovka	0.62	293	⇑*i*P	Pg	16 31 37.5	-0.6
	baz=293						
USP				⇑*i*S	Sg	16 31 46.2	-0.1
	baz=293						
AAK	Ala-Archa	0.70	236	⇑P	Pb	16 31 39.5	-0.3
	6.2nm,0.2s						
AAK				⇑S	Sb	16 31 49.3	-0.1

153nm,0.5s
AAK Ala-Archa 0.70 236 ⇓P Pb 16 31 39.6 -0.3
30nm,0.2s,SNR=21
AAK ⇓S Sg 16 31 49.0 +0.1
86nm,0.2s
AAK Ala-Archa 0.70 236 ⇑iP Pg 16 31 39.4 -0.2
baz=236
AAK ⇑iS Sg 16 31 48.8 -0.1
baz=236
BOOM Boomskoye usch 0.73 138 eP Pg 16 31 39.8 -0.3
baz=139
BOOM eS Sb 16 31 50.0 -0.1
baz=139
KZA Kyzart 0.95 181 ⇓P Pg 16 31 44.6 +0.2
174nm,0.2s,SNR=105
KZA ⇓S Sg 16 31 57.7 +0.8
106nm,0.2s
KZA Kyzart 0.95 181 ⇑iP Pg 16 31 44.4 0.0
baz=182
KZA ⇑iS Sg 16 31 57.5 +0.6
baz=182
UCH Uchtor 0.98 215 P Pb 16 31 44.7 -0.2
21nm,0.2s,SNR=86
UCH ⇑S Sb 16 31 58.1 +0.3
68nm,0.2s
UCH Uchtor 0.98 215 ⇑iP Pb 16 31 44.5 -0.3
baz=216
UCH ⇑iS Sb 16 31 57.8 0.0
baz=216
ULHL Ulahol 1.06 138 P Pb 16 31 45.5 -0.5
30nm,0.1s,SNR=296
ULHL Ulahol 1.06 138 ⇑iP Pb 16 31 45.3 -0.7
baz=138
ULHL ⇑iS Sb 16 31 59.2 -0.5
baz=138
EKS Erkin-Say 1.16 252 iP Pg 16 31 47.6 -0.6
baz=252
EKS2 Erkin-Say 1.17 252 ⇑P Pg 16 31 48.1 -0.3
19nm,0.1s,SNR=97
EKS2 ⇓S Sg 16 32 04.3 +0.7
35nm,0.1s
EKS2 Erkin-Say 1.17 252 ⇑iP Pg 16 31 47.8 -0.6
baz=252
EKS2 ⇑iS Sg 16 32 04.0 +0.4
baz=252
KNDC Almaty 1.25 81 ⇑P Pn 16 31 47.7 -1.2
KNDC ⇑S Sg 16 32 06.1 -0.1
ARLS Aral 1.37 212 ⇓iP Pb 16 31 51.3 +0.1
baz=212
ARLS ⇓iS Sb 16 32 08.9 +0.4
baz=212
AML Almayashu 1.48 233 ⇓P Pb 16 31 53.5 +0.3
11nm,0.2s,SNR=39
AML Almayashu 1.48 233 ⇑iP Pb 16 31 53.3 +0.1
baz=233
AML ⇑iS Sg 16 32 13.0 -0.6
baz=233
ANVS Anan'yevo 1.77 97 iP Pb 16 31 58.6 +0.5
baz=97
KK31 Karatay Array 3.50 273 ⇓Pg Pb 16 32 28.7 +1.3
7.8nm,0.7s,baz=89,slow=16,SNR=40
KK31 ⇓Lg Lg 16 33 14.0
9.6nm,0.4s,baz=87,slow=27
MK31 Makanchi Array 6.24 50 Pn Pn 16 32 58.1 +0.8
0.1nm,0.3s,baz=230,slow=12,SNR=16
MK31 ⇑Lg Lg 16 34 41.6
1.8nm,0.5s
KURBB Kurchatov Arra 7.92 15 ⇓Pn Pn 16 33 20.6 +0.3
1.6nm,0.8s
KURBB ⇓Lg Lg 16 35 31.3
14nm,0.7s
KURK Kurchatov 8.02 15 ⇓Pn Pn 16 33 22.8 +1.1
2.3nm,1.5s
KURK ⇓Lg Lg 16 35 35.9
5.8nm,0.9s

ISCJB 12 16:32:37.3±0.6, 37.°83N±0.°04×72.°59E±0.°10, h119km, mb3.7/5, Error ellipse: s-maj=11.5km s-min=5.0km az=160.5
IDC 12 16:32:40.3±9.2, 38.°04N×72.°27E, h105km±58km, mb3.5/5, mb1 3.5/9, mb1mx3.1/39, mbtmp3.9/9, Error ellipse: s-maj=77.8km s-min=36.4km az=166.0
NNC 12 16:32:43.4±6.5, 38.°35N×71.°91E, h144km±109km, mb3.0, mpv3.5, Error ellipse: s-maj=61.1km s-min=33.1km az=11.0
ISC 12 16:32:37.9±0.9, 37.°81N±0.°07×72.°5E±0.°1, h119km, n24, σ1§47/26, mb3.9/5, 10C-4D, Tajikistan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AAK Ala-Archa 5.05 17 P Pn 16 33 52.2 +0.5
4.5nm,0.5s
AAK ⇑S Sn 16 34 47.8 -1.1
30nm,0.7s
AAK Ala-Archa 5.05 17 P Pn 16 33 53.0 +1.4
2.3nm,0.3s,baz=151,slow=10,SNR=3.1
AAK S Sn 16 34 47.9 -1.1
4.1nm,0.3s,baz=323,slow=19,SNR=10
KK31 Karatay Array 5.50 345 ⇑P Pn 16 33 56.2 -1.3
3.0nm,0.3s,baz=163,slow=11
KK31 ⇑S Sn 16 34 52.0 -7.7
6.0nm,0.2s,baz=174,slow=23
TKM2 Tokmak 2 5.62 24 ⇓P Pn 16 34 00.9 +1.6
3.8nm,0.8s
TKM2 ⇑S Sn 16 35 01.7 -1.2
12nm,1.0s
DLH Dalhousie 5.97 151 ePG Px 16 34 57.0
DLH eSG Sn 16 35 11.0 -0.3
DANN Dangsing 13.33 132 eP Pn 16 35 40.3 -2.4
DANN eS Sn 16 38 01.6 -8.1
GKN Gorkha 14.11 130 eP Pn 16 35 51.7 -0.9
AB31 Akbulak array 14.60 326 ⇑P Pn 16 35 54.7 -3.9
2.6nm,0.7s
AB31 ⇑S Sn 16 38 23.2 -17
9.4nm,0.8s
PKIN Phulchoki 14.88 130 eP Pn 16 36 01.4 -1.1
PKI Pulchoki 14.89 130 eP Pn 16 36 01.9 -0.8
GUN Gumba 14.94 127 eP Pn 16 36 05.6 -0.3
VOSK Vostochnaya 14.95 356 ⇑Pn P 16 36 03.8 -1.7
3.1nm,0.8s
VOSK ⇑Sn Px 16 36 44.6
4.1nm,0.9s
BVA0 Borovoye Array 15.29 355 Pn P 16 36 08.8 -0.4
3.6nm,0.5s,baz=171,slow=11,SNR=21
BVA0 ⇑Sn Px 16 36 57.2
5.0nm,1.0s,baz=168,slow=20,SNR=6.5
BVAR Borovoye Array 15.29 355 P Pn 16 36 05.4 -1.7
1.5nm,0.3s,baz=171,slow=10,SNR=7.3
JIRN Jiri 15.31 127 eP Pn 16 36 09.6 +1.6
BRVK Borovoye 15.33 355 ⇓Pn P 16 36 08.2 -1.4
10nm,0.9s
BRVK ⇓Sn Px 16 36 59.4
7.9nm,1.1s
AKTO Aktyubinsk 16.32 325 ⇑P Pn 16 36 18.7 -1.2
5.4nm,1.2s
AKTO ⇑S Sn 16 39 06.3 -15
7.5nm,1.4s
AKTO Aktyubinsk 16.32 325 P Pn 16 36 18.5 -1.4
0.5nm,0.3s,baz=128,slow=11,SNR=9.6
AKTO S Sn 16 39 06.0 -15
0.2nm,0.3s,baz=6.0,slow=16,SNR=2.7
ZALV Zalesovo Beam 18.23 24 P Pn 16 36 42.9 0.0
0.4nm,0.3s,baz=220,slow=11,SNR=12
FINES FINESS Array B 37.09 325 P P 16 39 37.6 +1.3
2.0nm,0.9s,baz=128,slow=9.4,SNR=9.0
ARCES ARCESS Array B 40.41 337 P P 16 40 05.4 +1.6
1.9nm,0.8s,baz=93,slow=6.1,SNR=5.9
HFS Hagfors 42.80 321 P P 16 40 25.1 +1.7
1.8nm,0.6s,baz=96,slow=9.1,SNR=10.0
NOA NORSAR Array B 44.08 322 P P 16 40 35.2 +1.5
0.4nm,0.5s,baz=107,slow=7.2,SNR=3.7
YKA Yellowknife Ar 79.88 3 P P 16 44 35.7 +2.8
0.2nm,0.4s,baz=354,slow=5.0,SNR=6.5

IDC 12 16:54:10.7±3.1, 58.°00S×25.°51W, h0km, mb3.9/2, mb1 4.0/2, mb1mx3.7/18, mbtmp3.9/2, Error ellipse: s-maj=116.6km s-min=56.9km az=173.0, South Sandwich Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H10S2 ASCENSION HYDR 49.64 14 T T 17 56 50.4
baz=188,slow=75,SNR=3.8
H10S3 ASCENSION HYDR 49.64 14 T T 17 56 45.8
baz=188,slow=75,SNR=3.7
H10S1 ASCENSION HYDR 49.66 14 T T 17 56 50.1
baz=188,slow=75,SNR=3.8
LPAZ La Paz 52.25 305 P P 17 03 24.1 -0.2
1.0nm,0.5s,baz=164,slow=4.8,SNR=5.6
TORD Torodi Ar. Bea 74.33 28 P P 17 05 49.9 0.0
0.8nm,1.1s,baz=194,slow=6.5,SNR=2.0
YKA Yellowknife Ar 138.22 316 PKP PKPdf 17 13 36.0 -0.1
0.2nm,0.3s,baz=131,slow=2.0,SNR=5.3
ILAR Eielson Array 152.08 309 PKPbc PKPbc 17 14 06.0 -0.2
0.6nm,0.7s,baz=136,slow=2.7,SNR=10

SJA 12 17:15:41.9±0.7, 31.°98S×71.°35W, h2km±4km, MD3.5, ML2.7
GUC 12 17:15:41.4±0.5, 31.°98S×71.°50W, h15km±5km, ML3.0
ISC 12 17:15:37.5±2.1, 31.°92S±0.°05×71.°65W±0.°08, h12km±12km, n14, σ0§86/24, 2C, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMCH Combarbala 0.93 37 ⇑eP Pn 17 15 58.0 +1.6
CMCH eS Sn 17 16 10.2 +0.4
CMCH AML AML 17 16 11.6
comp=E,939nm,0.7s
ROCH El Roble 1.18 153 ⇑eP Pg 17 16 00.6 +0.4
ROCH eS Sb 17 16 15.4 +0.1
ROCH AML AML 17 16 18.5
comp=E,559nm,0.5s
PEL Peldehue 1.47 146 eP Pb 17 16 04.8 0.0
PEL eS Sn 17 16 22.6 -0.4
PEL AML AML 17 16 23.8
comp=E,635nm,0.3s
AUSP Uspallata 1.95 100 iP Pg 17 16 14.6 -0.3
AUSP iS Sb 17 16 38.9 +1.5
RTLS Leoncito 2.01 87 iP Pg 17 16 16.2 +0.2
RTLS iS Sg 17 16 42.0 -0.1
LNV Longovilo 2.04 174 eP Pn 17 16 11.5 -0.1
LNV iS Sn 17 16 36.8 -0.2
CHCH Chadas Angostu 2.17 158 eP Pb 17 16 16.3 -0.6
ASAL Salagasta 2.48 106 iP Pb 17 16 22.4 +0.3
ASAL iS Sb 17 16 52.3 -0.2
AAGR Agrelo 2.65 117 iP Pb 17 16 25.2 +0.2
AAGR iS Sb 17 16 56.9 -0.7
RTLL Cerro Villicun 2.77 79 iP Pb 17 16 27.0 0.0
RTLL iS Sb 17 17 00.0 -0.9
AMOG MOGNA 2.87 71 iP Pb 17 16 28.8 +0.1
AMOG iP Pb 17 16 28.8 +0.1
CFAA Coronel Fontan 2.92 85 iP Pb 17 16 29.0 -0.6
CFAA iS Sb 17 17 03.4 -1.9
AGUA GUANDACOL 3.65 49 iP Pb 17 16 40.1 -1.8
AVFE Valle Fertil 3.81 72 iP Pb 17 16 41.2 -3.4
AVFE AML AML 17 17 35.6
comp=Z,14nm,0.5s

IDC 12 17:16:42.3±1.7, 0.°74N×20.°98W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.5/27, mbtmp4.0/3, ML4.2/1, MS3.3/5, Ms1 3.3/5, ms1mx3.0/30, Error ellipse: s-maj=98.1km s-min=34.1km az=141.0
ISC 12 17:16:42.7±1.2, 0.°3N±0.°5×20.°8W±0.°3, h10km, n15, σ0§74/5, MS3.2/5, Central Mid-Atlantic Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H10N2 ASCENSION HYDR 10.21 142 T T 17 28 56.8
baz=318,slow=74,SNR=123
H10N3 ASCENSION HYDR 10.21 142 T T 17 28 55.2
baz=318,slow=74,SNR=84
H10N1 ASCENSION HYDR 10.23 142 T T 17 28 50.7
baz=318,slow=74,SNR=147
H10S1 ASCENSION HYDR 11.01 146 T T 17 29 50.1
baz=323,slow=74,SNR=98
H10S3 ASCENSION HYDR 11.01 146 T T 17 29 52.7
baz=323,slow=74,SNR=55
H10S2 ASCENSION HYDR 11.03 146 T T 17 29 54.4
baz=323,slow=74,SNR=73
RCBR Riachuelo 16.23 248 Pn Pn 17 20 31.0 -0.2
0.8nm,0.3s,baz=84,slow=14,SNR=5.8
RCBR Sn Sn 17 23 16.1 -15
1.3nm,0.3s,baz=166,slow=22,SNR=10
TORD Torodi Ar. Bea 25.72 59 P P 17 22 12.8 -0.7
2.0nm,1.0s,baz=239,slow=9.9,SNR=7.1
TORD LR LR 17 32 33.8
comp=Z,48nm,18.2s,baz=250,slow=37
BDFB Brasilia 31.17 238 LR LR 17 34 31.7
comp=Z,116nm,18.8s,baz=67,slow=34
CPUP Villa Florida 44.01 230 LR LR 17 42 21.8
comp=Z,44nm,19.1s,baz=50,slow=35
KEST Kesra 45.08 35 LR LR 17 45 51.5
comp=Z,29nm,18.4s,baz=216,slow=39
BRTR Keskin Array B 63.17 45 P P 17 27 11.8 +0.5
0.7nm,0.9s,baz=276,slow=3.6,SNR=3.9
NOA NORSAR Array B 65.38 16 LR LR 17 56 15.5
comp=Z,15nm,18.1s,baz=85,slow=36
ASAR Alice Springs 146.18 135 PKPbc PKPab 17 36 25.5 +0.5
1.3nm,0.8s,baz=221,slow=3.5,SNR=11
WRA Warramunga Arr 146.78 130 PKPbc PKPab 17 36 35.0 -0.2
0.2nm,0.8s,baz=238,slow=2.6,SNR=1.5

IDC 12 17:31:14.1±3.5, 1.°98S×101.°12E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/35, mbtmp4.0/6, Error ellipse: s-maj=202.9km s-min=19.4km az=53.0
NEIC 12 17:31:18.6±0.8, 2.°14S×100.°94E, h35km, mb4.5/3, Error ellipse: s-maj=34.8km s-min=9.5km az=59.0
ISCJB 12 17:31:19.9±1.1, 2.°1S±0.°1×101.°0E±0.°2, h62km, mb4.2/9, Error ellipse: s-maj=37.4km s-min=11.6km az=153.2
ISC 12 17:31:22.1±1.2, 1.°9S±0.°2×101.°2E±0.°3, h62km, n15, σ0§70/11, mb4.3/9, Southern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BKNI Bangkinang 2.25 357 eP Pn 17 31 56.1 -0.9
KULM Kulim 7.19 356 ePn Pn 17 33 09.5 +4.8
QIZ Qiongzhong 22.51 22 P P 17 36 17.8 +1.0
128nm,1.4s
H08S2 Diego Garcia H 29.12 258 T T 18 06 31.0
baz=82,slow=75,SNR=6.4
H08S3 Diego Garcia H 29.12 258 T T 18 06 31.4
baz=82,slow=75,SNR=5.0
H08S1 Diego Garcia H 29.14 258 T T 18 06 31.5
baz=82,slow=75,SNR=6.0
WRA Warramunga Arr 37.03 121 P P 17 38 25.9 -0.4
0.3nm,0.3s,baz=308,slow=9.7,SNR=19
WRAB Tennant Creek 37.03 121 eP P 17 38 25.9 -0.4
8.0nm,1.4s
ASAR Alice Springs 38.36 127 P P 17 38 37.4 -0.2
1.0nm,0.6s,baz=302,slow=7.9,SNR=30
STKA Stephens Creek 48.33 132 P P 17 39 58.0 +0.2
1.1nm,0.7s,baz=323,slow=15,SNR=1.9
MKAR Makanchi Array 51.28 343 P P 17 40 20.7 +0.8
1.8nm,0.6s,baz=150,slow=7.7,SNR=7.2
ZALV Zalesovo Beam 57.32 349 P P 17 41 03.8 +0.2
1.0nm,0.3s,baz=174,slow=6.0,SNR=10.0
ABKAR Akbulak array 62.14 331 eP P 17 41 36.3 -0.5
0.5nm,0.4s
ARCES ARCESS Array B 86.81 340 P P 17 44 00.1 +0.6
2.7nm,0.8s,baz=98,slow=4.6,SNR=1.5
TXAR Lajitas Array 143.93 39 PKP PKPdf 17 50 50.7 -0.7
0.5nm,0.6s,baz=225,slow=0.7,SNR=4.9

IDC 12 17:34:57.4±1.9, 3.°54N×126.°51E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/37, mbtmp3.6/3, MS3.8/1, Ms1 3.8/1, ms1mx2.6/35, Error ellipse: s-maj=149.0km s-min=24.9km az=65.0, Talaud Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 24.57 162 P P 17 40 19.4 +0.2
2.5nm,0.6s,baz=342,slow=10,SNR=22
ASAR Alice Springs 27.98 165 P P 17 40 49.8 -0.3
0.2nm,0.4s,baz=340,slow=7.2,SNR=6.2
MKAR Makanchi Array 57.59 325 P P 17 44 49.0 -0.1
0.2nm,0.3s,baz=113,slow=6.8,SNR=9.5
MKAR LR LR 18 12 41.1
comp=Z,74nm,18.6s,baz=46,slow=39

IDC 12 17:45:42.7±1.2, 50.°81N×98.°29E, h0km, mb3.8/7, mb1 3.7/12, mb1mx3.5/39, mbtmp3.6/12, ML3.1/5, MS3.3/6, Ms1 3.3/6, ms1mx2.9/43, Error ellipse: s-maj=25.5km s-min=16.6km az=7.0
MOS 12 17:45:43.4±1.5, 50.°67N×97.°95E, h12km, mb4.1/10, Error ellipse: s-maj=8.6km s-min=8.0km az=18.9
ISCJB 12 17:45:44.5±0.3, 50.°88N±0.°04×97.°87E±0.°04, h10km, mb3.9/11, MS3.4/4, Error ellipse: s-maj=6.2km s-min=3.9km az=177.2
NEIC 12 17:45:44.5±0.4, 50.°77N×98.°03E, h10km, mb4.0/6, Error ellipse: s-maj=9.5km s-min=5.7km az=187.0
ASRS 12 17:45:45.7±1.2, 50.°97N×97.°88E, h15km, Ms3.7/7
BJI 12 17:45:52.4, 50.°32N×97.°73E, h10km, mB4.5/6, mb3.7/9, ML4.5/2, Ms4.3/6, Ms7 3.8/5
ISC 12 17:45:45.3±0.5, 50.°76N±0.°05×98.°14E±0.°03, h10km, n91, σ2§00/92, mb3.9/11, MS3.2/4, 6C-3D, Tuva-Buryatia-Mongolia border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MOY Mondy 2.01 62 ePN Pb 17 46 22.2 +0.2
MOY e 17 46 50.3
MOY pmax pmax
comp=Z,1μm,0.4s
MOY smax smax
comp=N,5μm,0.6s
ORL Orlik 2.06 30 ⇓iPN Pb 17 46 22.1 -0.7
ORL e 17 46 50.9
ORL pmax pmax
comp=Z,1μm,1.2s
ORL smax smax
comp=E,3μm,1.1s
ZAK Zakamensk 3.30 95 ePN Pn 17 46 38.9 +1.8
ZAK e 17 46 45.0
ZAK eS Sg 17 47 29.7 -1.6
ZAK pmax pmax
comp=Z,356nm,1.0s
ZAK smax smax
comp=N,1μm,0.7s
TLY Talaya 3.58 73 ePN Pn 17 46 43.0 +2.1
TLY e 17 46 49.5
TLY e 17 47 38.1
TLY pmax pmax
comp=Z,46nm,0.4s
TLY Talaya 3.58 73 ePn Pn 17 46 41.9 +1.0
IRK Irkutsk 4.11 66 ePN Pb 17 46 59.0 +1.3
IRK e 17 47 54.7
IRK pmax pmax
comp=Z,208nm,0.7s
IRK smax smax
comp=N,4μm,0.8s
LSTR Listvyanka 4.34 73 ePN Pb 17 47 04.8 +3.2
LSTR e 17 48 01.7
LSTR pmax pmax
comp=Z,42nm,0.7s
LSTR smax smax
comp=N,749nm,1.0s
CERR Cheremushki 4.67 299 ePN Pb 17 47 06.2 -0.9
CERR i 17 48 04.0
CERR Cheremushki 4.67 299 ePg Pb 17 47 06.2 -0.9
CERR iSg Sb 17 48 04.0 +0.7
TRG Tyrgan 5.48 65 ePN Pg 17 47 26.6 -3.5
KRAR Krasnoyarsk 6.13 331 ⇑eP Pn 17 47 16.6 +0.9
SONM Songino Array 6.15 115 LR LR 17 49 55.6
comp=N,133nm,20.1s,baz=57,slow=42
OGRR Ongureny 6.49 60 ePN Pn 17 47 23.0 +2.2
OGRR e 17 47 43.1
OGRR e 17 49 06.1
OGRR pmax pmax
comp=Z,88nm,1.1s
OGRR smax smax
comp=E,1μm,1.5s
ULN Ulaanbaatar 6.51 113 ePN Pn 17 47 21.0 -0.2
ULN e 17 49 00.6
ULN pmax pmax
comp=Z,53nm,0.6s
ULN Ulaanbaatar 6.51 113 ePn Pn 17 47 21.0 -0.2
comp=Z,52nm,0.6s
ULN ePb Pb 17 47 39.3 +0.6
ULN eSg Sb 17 49 00.6 +4.0
TASR Tashtagol 6.67 291 ePN Pn 17 47 23.4 +0.1
TASR e 17 47 40.5
TASR e 17 49 06.0
TASR Tashtagol 6.67 291 ePn Pn 17 47 23.4 +0.1
TASR ePg Pb 17 47 40.5 -0.8
TASR eSg Sb 17 49 06.0 +5.0
AKAR Aktash 6.72 270 ePN Pn 17 47 23.2 -0.8
AKAR e 17 47 45.2
AKAR e 17 48 38.1
AKAR Aktash 6.72 270 ePn Pn 17 47 23.2 -0.8
AKAR ePg Pb 17 47 45.2 +3.1
AKAR eSn Sn 17 48 38.1 -2.5
AKAR eSg Sb 17 49 08.7 +6.3
ARTR Artybash 6.89 283 eSg Sb 17 49 12.1 +4.9
ELT Yel'tsovka 7.75 293 eP Pn 17 47 37.0 -1.1
ELT e 17 49 01.6
ELT Yel'tsovka 7.75 293 ePn Pn 17 47 37.0 -1.1
ELT ePg Pb 17 48 01.1 +1.4
ELT eSn Sn 17 49 01.6 -4.3
ELT eSg Sb 17 49 40.1 +8.0
UKR Ust'-Kan 8.46 276 ePg Pb 17 48 15.1 +3.4
UKR eSg Sg 17 50 05.3 -12
NIZ Nizh Angarsk 8.48 49 eP Pn 17 47 51.6 +3.6
NIZ pmax pmax
comp=Z,17nm,0.7s
ZALV Zalesovo Beam 8.75 297 Pn Pn 17 47 51.1 -0.6
comp=Z,0.2nm,0.3s,baz=106,slow=11,SNR=5.1
ZALV Sn Sn 17 49 30.9 +0.6
comp=Z,0.6nm,0.3s,baz=108,slow=28,SNR=1.9
ZALV Lg Lg 17 50 13.6
comp=Z,4.8nm,0.3s,baz=115,slow=25,SNR=7.6
ZALV LR LR 17 51 08.0
comp=Z,111nm,18.7s,baz=72,slow=37
YLYR Ulyunkhan 8.90 57 eP Pn 17 47 57.8 +4.0
YLYR eS Sn 17 49 33.1 -0.9
NVS Novosibirsk 9.90 300 eP Pn 17 48 09.5 +2.0
NVS Novosibirsk 9.90 300 ePg Pn 17 48 42.5 +35
NVS eSg Sn 17 50 44.8 +46
WMQ Urumqi 9.92 230 eP Pn 17 48 15.3 +7.5
WMQ smax smax
comp=Z,64nm,1.0s
WMQ smax smax
comp=Z,79nm,0.8s
MKAR Makanchi Array 11.18 255 Pn Pn 17 48 24.1 -1.0
comp=Z,0.1nm,0.3s,baz=68,slow=18,SNR=2.0
MKAR Sn Sn 17 50 30.6 +0.5
comp=Z,0.4nm,0.3s,baz=68,slow=16,SNR=5.2
MKAR Lg Lg 17 51 32.7
comp=Z,0.7nm,0.3s,baz=71,slow=23,SNR=3.5
MK07 Makanchi Array 11.18 255 ⇑Lg Lg 17 51 34.1
comp=Z,33nm,0.8s,baz=61,slow=27
MK09 Makanchi Array 11.20 255 ⇓Pn Pn 17 48 24.3 -0.9
comp=Z,1.2nm,0.8s,baz=59,slow=12
MK09 ⇑Pg 17 49 04.3
comp=Z,3.6nm,0.8s
GTA Gaotai 11.41 173 eP Pn 17 48 33.8 +5.4
GTA pP 17 48 37.0
GTA sP 17 48 40.2
GTA S Sn 17 50 28.3 -7.7
GTA SS SnSn 17 50 45.4 -2.3
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA pmax pmax
comp=Z,48nm,5.2s
GTA LR LR
comp=Z,250nm,6.4s
GTA LR LR
comp=Z,1μm,9.7s
GTA LR LR
comp=Z,340nm,10.0s
KURK Kurchatov 12.36 277 P Pn 17 48 37.5 -3.7
KURK Kurchatov 12.36 277 Pn Pn 17 48 37.5 -3.7
KURK Lg Lg 17 52 14.4
KURBB Kurchatov Arra 12.43 277 Pn Pn 17 48 42.4 +0.2
comp=Z,0.3nm,0.3s,baz=82,slow=14,SNR=1.6
KURBB Lg Lg 17 52 14.4
comp=Z,0.4nm,0.3s,baz=77,slow=33,SNR=4.9
BJT Baijiatuau 16.56 123 P Pn 17 49 35.6 -1.9
BJT Baijiatuau 16.56 123 P Pn 17 49 35.6 -1.9
BVAR Borovoye Array 17.23 288 Pn Pn 17 49 44.5 -1.3
comp=Z,0.2nm,0.3s,baz=88,slow=11,SNR=5.1
TKM2 Tokmak 2 17.25 252 eP Pn 17 49 44.8 -1.6
TKM2 pmax pmax
comp=Z,13nm,1.5s
TKM2 Tokmak 2 17.25 252 ePn Pn 17 49 44.8 -1.6
comp=Z,13nm,1.5s
BRVK Borovoye 17.29 288 ⇑eP Pn 17 49 45.4 -1.2

BRVK pmax pmax
comp=Z,4.0nm,1.3s
BRVK Borovoye 17.29 288 ePn Pn 17 49 44.1 -2.4
comp=Z,2.7nm,0.6s
AAK Ala-Archa 18.08 252⇑eP Pn 17 49 55.7 -0.9
AAK pmax pmax
comp=Z,7.0nm,1.7s
AAK Ala-Archa 18.08 252 Pn Pn 17 49 55.1 -1.4
comp=Z,0.1nm,0.3s,baz=55,slow=10,SNR=1.9
AAK Lg Lg 17 55 09.4
comp=Z,0.1nm,0.3s,baz=316,slow=20,SNR=2.1
EKS2 Erkin-Say 18.50 253 P P 17 50 00.2 -1.4
EKS2 Erkin-Say 18.50 253 eP P 17 50 00.2 -1.4
YAK Yakutsk 20.55 45 eP P 17 50 23.7 +0.1
YAK pmax pmax
comp=Z,6.0nm,0.7s
YAK Yakutsk 20.55 45 eP P 17 50 23.7 +0.1
comp=Z,6.2nm,0.7s
LSA Lhasa 21.68 197 eP P 17 50 37.9 +1.3
LSA pmax pmax
comp=Z,5.0nm,0.8s
LSA Lhasa 21.68 197 eP P 17 50 37.9 +1.3
comp=Z,4.6nm,0.8s
SVE Sverdlovsk 22.74 300 eP P 17 50 49.9 +2.7
SVE pmax pmax
comp=Z,11nm,0.9s
ARU Arti 23.90 299 d iP P 17 50 59.8 +0.9
ARU 17 51 28.7
ARU S S 17 55 19.2 +4.4
ARU SS SnSn 17 55 57.7 +3.9
ARU pmax pmax
comp=Z,6.0nm,1.2s
ARU Arti 23.90 299 P P 17 50 57.4 -1.4
comp=Z,5.0nm,0.8s
ABKAR Akbulak array 24.41 281 P P 17 51 01.3 -2.4
GUN Gumba 24.65 207 eP P 17 51 09.7 +3.4
GUN Gumba 24.65 207 eP P 17 51 09.7 +3.4
TAPN Taplejung 24.69 203 eP P 17 51 08.1 +1.4
comp=Z,8.5nm,0.7s
TAPN Taplejung 24.69 203 eP P 17 51 08.1 +1.4
JIRN Jiri 24.80 206 eP P 17 51 09.7 +2.0
comp=Z,12nm,0.8s
JIRN Jiri 24.80 206 eP P 17 51 09.7 +2.0
GKN Gorkha 24.93 209 eP P 17 51 12.3 +3.6
GKN Gorkha 24.93 209 eP P 17 51 12.3 +3.6
TIXI Tiksi 25.10 22⇑eP P 17 51 09.8 +0.2
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 25.10 22 P P 17 51 09.2 -0.4
comp=Z,6.4nm,0.7s
PKIN Phulchoki 25.10 207 eP P 17 51 13.4 +3.1
PKI Pulchoki 25.10 207 eP P 17 51 13.4 +3.0
PKI Pulchoki 25.10 207 eP P 17 51 13.4 +3.0
PKI Pulchoki 25.10 207 eP P 17 51 13.4 +3.0
AKTO Aktyubinsk 25.25 285 P P 17 51 10.1 -1.2
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 25.25 285 P P 17 51 10.1 -1.2
comp=Z,1.8nm,0.7s,baz=88,slow=13,SNR=5.5
RAMN Ramite 25.36 205 eP P 17 51 12.2 -0.4
RAMN Ramite 25.36 205 eP P 17 51 12.2 -0.4
KOLN Koldanda 25.48 211 eP P 17 51 17.0 +3.3
KOLN Koldanda 25.48 211 eP P 17 51 17.0 +3.3
MJAR Matsushiro Arr 31.86 101 LR LR 18 04 35.0
comp=Z,29nm,18.3s,baz=220,slow=36
CMAR Chiang Mai Arr 32.24 179 LR LR 18 05 58.5
comp=Z,49nm,20.4s,baz=23,slow=38
ARCES ARCESS Array B 37.83 327 P P 17 53 00.8 -0.7
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 37.83 327 P P 17 53 00.8 -0.7
comp=Z,3.9nm,1.0s,baz=78,slow=9.5,SNR=1.7
FINES FINESS Array B 39.52 314 P P 17 53 14.5 -1.2
FINES pmax pmax
comp=Z,2.0nm,1.0s
FINES FINESS Array B 39.52 314 P P 17 53 14.5 -1.2
comp=Z,2.2nm,1.0s,baz=79,slow=9.9,SNR=2.1
BRTR Keskin Array B 45.36 282 P P 17 54 02.9 -0.8
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BRTR Keskin Array B 45.36 282 P P 17 54 02.9 -0.8
comp=Z,0.9nm,1.0s,baz=60,slow=6.8,SNR=2.8
NB2 NORSAR Subarra 46.26 318 P P 17 54 08.9 -1.4
comp=Z,1.6nm,0.9s,baz=61,slow=7.9
NOA NORSAR Array B 46.26 318 P P 17 54 09.0 -1.3
comp=Z,0.3nm,0.5s,baz=60,slow=7.2,SNR=1.2
NOA LR LR 18 15 41.8
comp=Z,21nm,18.0s,baz=35,slow=39
STHS Stebnicka Huta 47.23 300 eP P 17 54 16.7 -1.4
STHS Stebnicka Huta 47.23 300 eP P 17 54 16.7 -1.4
PMG Port Moresby 73.41 129 LR LR 18 30 44.9
comp=Z,92nm,19.8s,baz=15,slow=37
WRA Warramunga Arr 77.28 145 P P 17 57 38.7 -0.9
comp=Z,0.4nm,0.6s,baz=345,slow=6.4,SNR=3.3
ASAR Alice Springs 80.55 147 P P 17 57 57.3 -0.3
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 80.55 147 P P 17 57 57.2 -0.3
comp=Z,0.5nm,0.9s,baz=353,slow=6.6,SNR=3.5

ISCJB 12 17:46:40.4±0.9,31.°23S±0.°06×179.°6E±0.°2,h451km, mb3.8/5,Error ellipse: s-maj=20.4km s-min=7.6km az=178.5
IDC 12 17:46:42.4±2.3,31.°19S×179.°63E,h465km±26km,mb3.4/5, mb1 3.7/7,mb1mx3.3/31,mbtmp4.6/7,Error ellipse: s-maj=22.0km s-min=19.7km az=41.0
ISC 12 17:46:41.3±1.1,31.°26S±0.°08×179.°7E±0.°2,h451km,n24, σ1.°16/30,mb3.8/5,Kermadec Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
MXZ Matakaoa Point 6.39 190 PN P 17 48 18.4 -1.1
HAZ Te Kaha 6.66 193 PN P 17 48 21.7 -0.6
HAZ SN S 17 49 45.3 +0.3
MWZ Matawai 7.27 193 PN P 17 48 29.2 +0.4
MWZ SN S 17 49 56.7 -0.3
URZ Urewera 7.29 196 P P 17 48 30.2 +1.2
52nm,0.3s,baz=308,slow=2.3,SNR=214
URZ S S 17 49 57.9 +0.7
3.2nm,0.3s,baz=91,slow=22,SNR=2.3
URZ Urewera 7.29 196 SN S 17 49 57.8 +0.5
CNGZ Carnagh Statio 7.31 189 PN P 17 48 29.1 0.0
SNGZ Shannon Statio 7.74 194 PN P 17 48 34.1 +0.3
KNZ Kokohu 7.91 191 PN P 17 48 36.5 +0.9
KNZ SN S 17 50 09.1 -0.3
WHHZ Waihua 8.05 194 PN P 17 48 38.6 +1.5
WHHZ SN S 17 50 12.4 +0.2
NMHZ Naumai 8.16 196 PN P 17 48 38.8 +0.5
BKZ Black Stump Fm 8.30 197 PN P 17 48 38.9 -1.0
MCHZ McNeill Hill 8.52 196 PN P 17 48 42.1 0.0
BHHZ Black Hill Sta 8.72 199 PN P 17 48 43.3 -1.1
KRHZ Kereru 8.78 197 PN P 17 48 43.9 -1.2
PXZ Pawanui 9.04 194 PN P 17 48 46.6 -1.3
PXZ SN S 17 50 29.1 -2.6
AFI Afiamalu 18.98 26 P P 17 50 34.7 +1.2
1.9nm,0.3s,baz=176,slow=17,SNR=4.5
CTA Charters Tower 31.97 282 P P 17 52 29.4 +0.6
3.6nm,0.5s,baz=100,slow=10,SNR=14
STKA Stephens Creek 32.32 259 P P 17 52 33.4 +1.7
1.6nm,0.5s,baz=100,slow=12,SNR=8.2
ASAR Alice Springs 41.05 269 P P 17 53 43.8 -0.5
1.4nm,0.4s,baz=106,slow=7.3,SNR=108
WRA Warramunga Arr 42.12 274 P P 17 53 52.0 -0.8
3.4nm,0.3s,baz=111,slow=8.1,SNR=148
QSPA South Pole Qui 58.85 180 P P 17 55 56.7 +1.6
1.9nm,0.9s,baz=7.6,slow=15,SNR=7.3
FINES FINESS Array B 145.22 338 PKPbc PKPdf 18 05 24.1 -1.7
1.0nm,0.4s,baz=70,slow=2.8,SNR=12
AKASG Malin Array Be 150.71 320 PKPbc PKPbc 18 05 39.2 -2.0
0.2nm,0.4s,baz=63,slow=0.5,SNR=1.3
BRTR Keskin Array B 151.20 296 PKPab PKPab 18 05 51.6 -1.2
0.7nm,0.7s,baz=88,slow=4.2,SNR=3.6

YARS 12 18:46:27.0±0.5,57.°87N±0.°02×122.°01E±0.°04,h10km, MSV1.4,Southeastern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
KHN Khani 1.53 233 eP Pn 18 46 54.3 -0.2
KHN eS Sn 18 47 11.5 -3.0
KHN Sm 18 47 11.5
comp=N,13nm,0.4s
CLNS Chul'man 1.88 122 eS Sb 18 47 25.6 +0.7
CLNS Sm 18 47 25.6
comp=N,9.0nm,0.4s
ALDR Aldan 1.94 66 eS Sb 18 47 27.9 +1.0
ALDR Sm 18 47 27.9
comp=N,3.0nm,0.5s
IENR Iengra 2.27 135 eS Sb 18 47 36.0 -0.3
IENR Sm 18 47 36.0
comp=N,4.0nm,0.4s
TBGR Tabaga 5.52 41 eS Sg 18 49 17.2 -6.8
TBGR Sm 18 49 17.2
comp=N,2.0nm,0.7s
YAK Yakutsk 5.68 39 eS Sg 18 49 22.0 -7.1
YAK Sm 18 49 22.0
comp=N,2.0nm,0.7s

IDC 12 19:43:34.8±9.4,7.°32S×128.°73E,h109km±95km,mb3.5/5, mb1 3.7/7,mb1mx3.5/35,mbtmp4.0/7,ML4.4/2,Error ellipse: s-maj=65.0km s-min=32.6km az=66.0
ISCJB 12 19:43:37.5±0.6,7.°44S±0.°04×128.°75E±0.°08,h151km, mb3.6/5,Error ellipse: s-maj=11.0km s-min=6.0km az=171.6
ISC 12 19:43:39.3±0.7,7.°56S±0.°06×128.°65E±0.°09,h151km,n17, σ2.°50/22,mb3.6/5,Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
SOEI Soe 4.85 243 P Pn 19 44 53.1 +2.2
baz=5.0,SNR=32
MTN Manton Dam 5.80 155 P Pn 19 45 05.4 +2.0
baz=5.8,SNR=149
MTN S Sn 19 46 08.6 -0.5
baz=5.8,SNR=11
FAKI Fak Fak 5.84 38 P Pn 19 45 05.7 +1.8
baz=5.8,SNR=16
FAKI S Sn 19 46 06.2 -3.8
baz=5.8,SNR=4.7
KDU Kakadu 6.34 144 P Pn 19 45 12.7 +2.1
baz=6.3,SNR=440
KDU S Sn 19 46 20.4 -1.7
baz=6.3,SNR=6.3
KNRA Kununurra 8.07 179 P Pn 19 45 34.2 +0.5
baz=8.1,SNR=48
KNRA S Sn 19 46 59.9 -3.8
baz=8.1,SNR=8.1
WRA Warramunga Arr 13.49 156 P Pn 19 46 43.6 -1.3
1.9nm,0.3s,baz=342,slow=13,SNR=74
WRA S Sn 19 49 07.5 -6.9
2.5nm,0.3s,baz=327,slow=23,SNR=9.5
COEN Coen 15.62 115 P P 19 47 14.7 +2.2
baz=16,SNR=12
QIS Mount Isa 16.72 142 P Pn 19 47 26.6 +1.8
baz=17,SNR=7.0
ASAR Alice Springs 16.80 163 P Pn 19 47 26.6 +0.8
1.5nm,0.3s,baz=334,slow=10,SNR=124
ASAR S S 19 50 26.8 -5.7
0.5nm,0.3s,baz=346,slow=26,SNR=5.9
WRKA Warakurna 17.39 181 P Pn 19 47 33.6 +0.7
baz=18,SNR=45
MTSU Mount Surprise 18.53 126 P Pn 19 47 50.4 +4.0
baz=18,SNR=3.9
STKA Stephens Creek 27.04 155 P P 19 49 08.6 +1.0
0.7nm,0.4s,baz=335,slow=7.7,SNR=5.9
STKA Stephens Creek 27.04 155 P P 19 49 08.9 +1.4
baz=27,SNR=4.1
SONM Songino Array 58.55 343 P P 19 53 19.4 -0.7
0.4nm,0.7s,baz=160,slow=6.1,SNR=3.3
PETK Petropavlovsk- 65.27 19 P P 19 54 03.0 -1.7
1.2nm,0.6s,baz=181,slow=7.3,SNR=5.0
MKAR Makanchi Array 67.96 328 P P 19 54 21.1 -0.9
1.1nm,0.6s,baz=125,slow=7.8,SNR=34
ZALV Zalesovo Beam 71.49 334 P P 19 54 41.7 -1.6
0.4nm,0.3s,baz=159,slow=5.7,SNR=4.7

IDC 12 19:48:12.0±0.9,38.°37N×21.°95E,h0km,mb3.8/11, mb1 3.8/16,mb1mx3.7/45,mbtmp3.6/16,ML3.3/5,MS2.9/4, Ms1 3.0/4,ms1mx2.5/59,Error ellipse: s-maj=16.4km s-min=13.6km az=62.0
CSEM 12 19:48:13.4±0.1,38.°37N×21.°91E,h2km,ML3.6,Error ellipse: s-maj=2.6km s-min=2.3km az=52.0
ISCJB 12 19:48:13.2±0.2,38.°40N±0.°01×21.°89E±0.°02,h11km±1km, mb3.8/13,MS2.7/1,Error ellipse: s-maj=2.1km s-min=1.9km az=150.3
ATH 12 19:48:13.5,38.°39N×21.°92E,h15km±1km,MD3.0/23, ML3.4
THE 12 19:48:13.6,38.°40N×21.°89E,h1km,ML3.6/11,Error ellipse: s-maj=0.8km s-min=0.3km az=302.0
SOF 12 19:48:16.9,38.°57N×22.°15E,h2km,MD3.4
NEIC 12 19:48:17.1±0.7,38.°36N×21.°96E,h39km±9km,mb4.2/7, Error ellipse: s-maj=11.2km s-min=6.3km az=202.0
ISC 12 19:48:13.4±0.7,38.°39N±0.°01×21.°90E±0.°01,h7km±4km, n270,σ1.°25/338,mb3.8/13,14C-12D,Greece

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
EFP Efpalio 0.03 10 P Pg 19 48 14.8 -0.1
EFP S Sg 19 48 15.2 -0.7
EFP Efpalio 0.03 10 ePB Pg 19 48 15.0 +0.1
EFP Efpalio 0.03 10 P Pg 19 48 14.8 -0.1
EFP S Sg 19 48 15.2 -0.7
UPR University Cam 0.14 219 P Pg 19 48 16.6 +0.2
UPR S Sg 19 48 19.1 +0.7
LAKA Lakka 0.17 158 P Pg 19 48 17.2 +0.4
LAKA Lakka 0.17 158 ePB Pg 19 48 17.2 +0.4
LAKA Lakka 0.17 158 P Pg 19 48 17.2 +0.4
KALE Kalithea 0.19 91 P Pg 19 48 17.6 +0.3
KALE S Sg 19 48 20.6 +0.7
KALE Kalithea 0.19 91 ePB Pg 19 48 17.7 +0.4
KALE eSB Sg 19 48 21.3 +1.4
KALE Kalithea 0.19 91 P Pg 19 48 17.5 +0.3
KALE S Sg 19 48 20.0 +0.1
KALE eSb Sg 19 48 21.3 +1.4
PVO Paravola 0.37 307 P Pg 19 48 20.5 -0.1
PVO Paravola 0.37 307 P Pg 19 48 20.5 -0.1
PVO S Sg 19 48 26.0 +0.5
KLV Kalavryta, Ach 0.40 150 P Pg 19 48 21.2 -0.1
KLV Kalavryta, Ach 0.40 150 P Pg 19 48 21.2 -0.1
KLV S Sg 19 48 27.6 +1.1
DRO Drossia 0.47 199 P Pg 19 48 22.4 0.0
DRO S Sg 19 48 29.2 +0.7
DRO Drossia 0.47 199 ePB Pg 19 48 22.6 +0.2
DRO eSB Sb 19 48 30.1 -1.0
DRO Drossia 0.47 199 ePb Pg 19 48 22.6 +0.2
DRO S Sg 19 48 29.1 +0.6
DRO eSb Sb 19 48 30.1 -1.0
RLS Riolos of Patr 0.48 226 P Pg 19 48 22.8 +0.1
RLS Riolos of Patr 0.48 226 ePB Pg 19 48 22.9 +0.2
RLS eSB Sg 19 48 30.3 +1.4
RLS Riolos of Patr 0.48 226 ePb Pg 19 48 22.9 +0.2
RLS S Sg 19 48 29.7 +0.8
RLS eSb Sg 19 48 30.3 +1.4
DSF Desfina 0.49 88 P Pg 19 48 22.4 -0.6
DSF S Sg 19 48 30.4 +1.0
DSF Desfina 0.49 88 ePB Pg 19 48 22.4 -0.6
DSF eSB Sg 19 48 30.5 +1.0
DSF Desfina 0.49 88 P Pg 19 48 22.4 -0.6
DSF S Sg 19 48 30.4 +1.0
EVR Evrytania 0.53 352 P Pg 19 48 23.4 -0.3
EVR Evrytania 0.53 352 ePN Pg 19 48 23.3 -0.4
EVR eSN Sg 19 48 32.5 +1.9
EVR Evrytania 0.53 352 P Pg 19 48 23.4 -0.3
EVR S Sg 19 48 31.0 +0.4
EVR eSn Sg 19 48 32.5 +1.9
GUR Goura 0.57 142 P Pg 19 48 24.1 -0.5
GUR S Sg 19 48 33.2 +1.1
GUR Goura 0.57 142 ePN Pg 19 48 23.9 -0.7
GUR eSN Sg 19 48 33.0 +0.9
GUR Goura 0.57 142 P Pg 19 48 24.1 -0.5
GUR S Sg 19 48 32.7 +0.6
GUR eSn Sg 19 48 33.0 +0.9
PDO Prodromos 0.60 290 P Pg 19 48 24.0 -1.0
PDO Prodromos 0.60 290 ePB Pg 19 48 25.1 +0.1
PDO eSN Sg 19 48 34.4 +1.6
PDO Prodromos 0.60 290 P Pg 19 48 24.0 -1.0
PDO Prodromos 0.60 290 ePb Pg 19 48 25.1 +0.1
PDO S Sg 19 48 33.3 +0.5
PDO eSn Sg 19 48 34.4 +1.6
MAKR Makrakomi, Fth 0.65 16 P Pg 19 48 26.0 0.0
MAKR S Sg 19 48 35.0 +0.7
MAKR Makrakomi, Fth 0.65 16 ePN Pg 19 48 25.9 0.0
MAKR eSN Sg 19 48 35.1 +0.7
MAKR Makrakomi, Fth 0.65 16 P Pg 19 48 25.9 0.0
MAKR S Sg 19 48 35.0 +0.7
AXAR Agios Charalam 0.70 58 P Pg 19 48 26.4 -0.6
AXAR S Sb 19 48 37.2 -0.7
AXAR Agios Charalam 0.70 58 ePB Pg 19 48 26.3 -0.7
AXAR Agios Charalam 0.70 58 P Pg 19 48 26.4 -0.6
AXAR S Sb 19 48 37.2 -0.7
AGG Agios Georgios 0.71 28 P Pg 19 48 26.6 -0.6
AGG Agios Georgios 0.71 28 ePN Pg 19 48 27.3 +0.1
AGG eSN Sg 19 48 37.5 +1.0
AGG Agios Georgios 0.71 28 P Pg 19 48 26.6 -0.6
AGG Agios Georgios 0.71 28 ePn Pg 19 48 27.3 +0.1
AGG eSn Sg 19 48 37.5 +1.0
AMT Artemida-Makis 0.87 190 P Pg 19 48 30.2 0.0
AMT Artemida-Makis 0.87 190 ePN Pg 19 48 30.3 0.0
AMT Artemida-Makis 0.87 190 P Pg 19 48 30.2 0.0
AMT S Sb 19 48 44.0 +1.2
LKR Lokris 0.90 73 P Pg 19 48 30.2 -0.5
LKR S Sb 19 48 44.0 +0.4
LKR Lokris 0.90 73 ePB Pg 19 48 30.0 -0.7
LKR Lokris 0.90 73 P Pg 19 48 30.2 -0.5
LKR S Sb 19 48 44.0 +0.4
KFL Anninata 0.92 252 P Pg 19 48 30.8 -0.3
KFL Anninata 0.92 252 P Pg 19 48 30.8 -0.3
LTK Loutraki 0.92 113 P Pg 19 48 31.1 0.0
LTK Loutraki 0.92 113 ePN Pg 19 48 31.4 +0.3
LTK Loutraki 0.92 113 P Pg 19 48 31.1 0.0
LTK Loutraki 0.92 113 ePn Pg 19 48 31.4 +0.3
DSL Palaion Diasel 0.97 320 ePB Pg 19 48 31.7 -0.4
DSL Palaion Diasel 0.97 320 ePb Pg 19 48 31.7 -0.4
LKD2 Lefkada island 1.05 292 P Pg 19 48 33.0 -0.6
LKD2 Lefkada island 1.05 292 ePB Pg 19 48 33.0 -0.6
LKD2 eSN Sn 19 48 49.5 0.0
LKD2 Lefkada island 1.05 292 P Pg 19 48 33.0 -0.6
LKD2 eSn Sn 19 48 49.5 0.0
VLS Valsamata 1.05 259 ePB Pg 19 48 32.4 -1.2
VLS eSN Sn 19 48 49.7 +0.1
VLS Valsamata 1.05 259 ePb Pg 19 48 32.4 -1.2
VLS eSn Sn 19 48 49.7 +0.1
VLX Vlachokerasia 1.09 159 P Pg 19 48 33.6 -0.8
VLX S Sn 19 48 50.1 -0.5
VLX Vlachokerasia 1.09 159 ePN Pg 19 48 33.5 -0.8
VLX Vlachokerasia 1.09 159 P Pg 19 48 33.6 -0.8
VLX S Sn 19 48 50.1 -0.5
SMIA Simia 1.14 64 P Pg 19 48 34.6 -0.6
SMIA Simia 1.14 64 ePN Pg 19 48 35.1 -0.1
SMIA Simia 1.14 64 P Pg 19 48 34.6 -0.6
SMIA Simia 1.14 64 ePn Pg 19 48 35.1 -0.1
THL Klokotos Trika 1.17 4 P Pg 19 48 35.4 -0.6
THL S Sn 19 48 52.5 -0.1
THL Klokotos Trika 1.17 4 ePN Pg 19 48 35.3 -0.7
THL eSN Sn 19 48 52.4 -0.1
THL Klokotos Trika 1.17 4 P Pg 19 48 35.4 -0.6
THL eSn Sn 19 48 52.4 -0.1
ITM Ithomi 1.21 179 P Pb 19 48 35.9 -0.8
ITM Ithomi 1.21 179 ePN Pb 19 48 35.7 -1.0
ITM Ithomi 1.21 179 P Pb 19 48 35.9 -0.8
FYTO Fytoko, Volos 1.30 38 P Pb 19 48 38.4 +0.2
FYTO Fytoko, Volos 1.30 38 P Pb 19 48 38.4 +0.2
SFD Strofades 1.34 212 ePN Pn 19 48 38.8 +0.3
SFD Strofades 1.34 212 ePn Pn 19 48 38.8 +0.3
MRKA Markates 1.36 76 P Pn 19 48 38.5 -0.4
MRKA Markates 1.36 76 ePN Pn 19 48 38.5 -0.4
MRKA Markates 1.36 76 P Pn 19 48 38.5 -0.4
NEO Neokhori 1.38 48 P Pn 19 48 38.9 -0.2
NEO Neokhori 1.38 48 ePN Pn 19 48 38.9 -0.2
NEO Neokhori 1.38 48 P Pn 19 48 38.9 -0.2
DID Didima 1.38 130 P Pn 19 48 39.2 +0.1
DID S Sg 19 48 59.0 +1.2
DID Didima 1.38 130 ePN Pn 19 48 39.0 -0.1
DID eSN Sg 19 48 58.8 +1.0
DID Didima 1.38 130 P Pn 19 48 39.2 +0.1
DID eSn Sg 19 48 58.8 +1.0
XOR Xorichti 1.40 46 P Pn 19 48 39.5 +0.1
XOR S Sg 19 48 59.6 +1.1
XOR Xorichti 1.40 46 ePN Pb 19 48 40.0 +0.1
XOR Xorichti 1.40 46 P Pn 19 48 39.5 +0.1
XOR Xorichti 1.40 46 ePn Pb 19 48 40.0 +0.1
XOR S Sg 19 48 59.6 +1.1
SKIA Skiathos 1.45 57 P Pn 19 48 39.8 -0.3
SKIA Skiathos 1.45 57 ePN Pg 19 48 41.4 +0.2
SKIA Skiathos 1.45 57 P Pn 19 48 39.8 -0.3
SKIA Skiathos 1.45 57 ePn Pg 19 48 41.4 +0.2
ATH Athens Observa 1.49 106 P Pn 19 48 41.0 +0.3
ATH Athens Observa 1.49 106 ePN Pn 19 48 40.5 -0.2
ATH Athens Observa 1.49 106 ePn Pn 19 48 40.5 -0.2
ATH Athens Observa 1.49 106 P Pn 19 48 41.0 +0.3
ERET Eretria 1.50 88 P Pn 19 48 41.2 +0.4
ERET Eretria 1.50 88 P Pn 19 48 41.2 +0.4
PYL PYLOS 1.50 185 P Pn 19 48 40.6 -0.2
PYL PYLOS 1.50 185 ePN Pn 19 48 41.2 +0.4
PYL PYLOS 1.50 185 P Pn 19 48 40.6 -0.2
PYL PYLOS 1.50 185 ePn Pn 19 48 41.2 +0.4
JAN Janina 1.50 327 ePN Pn 19 48 42.6 +0.3
JAN Janina 1.50 327 ePn Pn 19 48 42.6 +0.3
ATHU Athens Univers 1.55 105 P Pn 19 48 41.4 0.0
ATHU Athens Univers 1.55 105 P Pn 19 48 41.4 0.0
PTL Penteli 1.59 102 P Pn 19 48 42.1 +0.1
PTL Penteli 1.59 102 P Pn 19 48 42.1 +0.1
IGT Igoumenitsa 1.67 313 ePN Pb 19 48 45.4 +0.9
IGT Igoumenitsa 1.67 313 ePn Pb 19 48 45.4 +0.9
AOS Alonnisos 1.73 63 P Pn 19 48 44.2 +0.2
AOS Alonnisos 1.73 63 ePN Pn 19 48 44.8 +0.8
AOS Alonnisos 1.73 63 P Pn 19 48 44.2 +0.2
AOS Alonnisos 1.73 63 ePn Pn 19 48 44.8 +0.8
LIT Litokhoron 1.77 15 P Pn 19 48 45.0 +0.6
LIT Litokhoron 1.77 15 ePN Pn 19 48 45.1 +0.6
LIT eSN Sb 19 49 08.7 +0.2
LIT Litokhoron 1.77 15 ePn Pn 19 48 45.1 +0.6
LIT eSn Sb 19 49 08.7 +0.2
VLI Veliai 1.86 153 P Pn 19 48 46.8 +1.0
VLI Veliai 1.86 153 P Pn 19 48 46.8 +1.0
KZN Kozani 1.91 357 ePN Pb 19 48 48.1 -0.6
KZN eSN Sb 19 49 13.1 +0.3
KZN Kozani 1.91 357 ePn Pb 19 48 48.1 -0.6
KZN eSn Sb 19 49 13.1 +0.3
KEK Kerkira 2.10 310 ePN Pn 19 48 50.8 +1.8
KEK Kerkira 2.10 310 ePn Pn 19 48 50.8 +1.8
KYTH Kithira 2.30 156 ePN Pb 19 48 54.3 -0.9
KYTH Kithira 2.30 156 ePn Pb 19 48 54.3 -0.9
PLG Polygyros 2.31 31 P Pn 19 48 52.1 +0.1
PLG Polygyros 2.31 31 ePB Pn 19 48 52.1 +0.1
PLG Polygyros 2.31 31 P Pn 19 48 52.1 +0.1
THE Thessaloniki 2.38 20 ePB Pn 19 48 53.1 +0.2
THE Thessaloniki 2.38 20 ePb Pn 19 48 53.1 +0.2
FNA Florina 2.42 351 ePN Pn 19 48 55.4 +1.9
FNA Florina 2.42 351 ePn Pn 19 48 55.4 +1.9
KNT Kendrikon 2.87 15 P Pn 19 49 00.3 +0.7
KNT Kendrikon 2.87 15 P Pn 19 49 00.3 +0.7
VAY Valandovo 2.97 10 P Pb 19 49 04.5 -2.2
VAY S Sn 19 49 37.8 +1.0
VAY Valandovo 2.97 10 i Pn Pb 19 49 04.4 -2.2
VAY i Sg Sn 19 49 38.5 +1.6
VAY Valandovo 2.97 10 i Pn Pb 19 49 04.4 -2.2
VAY S Sn 19 49 37.8 +1.0
APE Apeiranthos 3.17 114⇓iP Pn 19 49 03.5 -0.5
APE Apeiranthos 3.17 114 S Sn 19 49 40.5 -1.3
APE Apeiranthos 3.17 114⇓iP Pn 19 49 03.5 -0.5
NVR Nevrokopi 3.32 26 P Pn 19 49 06.8 +1.0
NVR Nevrokopi 3.32 26 P Pn 19 49 06.8 +1.0
MMB Musomiste 3.49 23 S Sn 19 49 48.0 -1.7
MMB P Pn 19 49 09.2 +1.1
MMB Musomiste 3.49 23⇑iP Pn 19 49 08.7 +0.6
MMB Musomiste 3.49 23 S Sn 19 49 49.5 -0.2
MMB Musomiste 3.49 23 P Pn 19 49 09.2 +1.1
MMB S Sn 19 49 48.0 -1.7
KKB Krupnik 3.59 14 P Pn 19 49 12.2 +2.7
KKB S Sn 19 49 52.3 +0.2
KKB Krupnik 3.59 14 P Pn 19 49 12.2 +2.7
KKB S Sn 19 49 52.3 +0.2
SKO Skopje 3.59 355 i Pn Pb 19 49 13.9 -3.4
SKO Skopje 3.59 355 i Pn Pb 19 49 13.8 -3.4
IDI Anoyia 3.92 141 Pn Pn 19 49 13.2 -0.9
1.9nm,0.3s,baz=313,slow=6.0,SNR=12
IDI Sn Sn 19 50 01.4 +1.0
2.8nm,0.3s,baz=284,slow=19,SNR=2.9
RZN Rozhen 3.94 32 P Pn 19 49 17.3 +2.8
RZN Rozhen 3.94 32 P Pn 19 49 17.3 +2.8

GVD Gavdhos 3.96 153 ePn Pb 19 49 20.0 -3.6
GVD Gavdhos 3.96 153 ePn Pb 19 49 20.0 -3.6
TIP Timpagrande 4.09 283 ePn Pn 19 49 16.9 +0.4
TIP eSn Sn 19 50 04.3 -0.3
TIP Timpagrande 4.09 283 ePn Pn 19 49 16.9 +0.4
TIP eSn Sn 19 50 04.3 -0.3
PE1 Pezze di Greco 4.21 306 ePn Pn 19 49 19.4 +1.3
VTS Vitosha 4.31 13 i P Pn 19 49 21.5 +1.9
VTS S Sn 19 50 09.0 -1.1
VTS Vitosha 4.31 13⇑iP Pn 19 49 21.8 +2.2
VTS Vitosha 4.31 13 S Sn 19 50 12.1 +2.0
VTS Vitosha 4.31 13 i P Pn 19 49 21.5 +1.9
VTS S Sn 19 50 09.0 -1.1
BARS Barje 4.42 359 ePn Pn 19 49 22.7 +1.8
BAI Bari 4.72 307 ePn Pn 19 49 26.2 +1.1
CDT Castel del Mon 5.10 304 ePn Pn 19 49 30.7 +0.4
MPEP Malo Peshtene 5.15 15 P Pn 19 49 34.0 +3.1
MPEP Malo Peshtene 5.15 15 P Pn 19 49 34.0 +3.1
IVAS Ivanjica 5.34 346 ePn Pn 19 49 35.0 +1.3
STON Ston 5.50 326 ePn Pn 19 49 35.6 -0.1
STON Sn Sn 19 50 33.8 -5.3
STON Ston 5.50 326 ePn Pn 19 49 35.6 -0.1
GRUS Gruza 5.56 351⇓iPn Pn 19 49 39.6 +3.0
MS1 Monte Sant'Ang 5.64 308 ePn Pn 19 49 37.5 -0.3
BBLS Lazići 5.78 342⇑iPn Pn 19 49 41.5 +1.8
DIVS Divibare 5.88 346 ePn Pn 19 49 42.4 +1.4
TRUS Trudelj 5.93 350⇓ePn Pn 19 49 43.0 +1.3
TEKS Tekeris 6.40 345 i Pn Pn 19 49 49.1 +0.9
ISP Isparta 6.82 92 Pn Pn 19 49 55.5 +1.5
ISP Isparta 6.82 92 Pn Pn 19 49 55.5 +1.5
GZR Gura Zlata 7.03 5⇓iP Pn 19 49 59.5 +2.8
GZR Gura Zlata 7.03 5⇓iP Pn 19 49 59.5 +2.8
BZS Buzias 7.22 358⇑iP Pn 19 50 02.1 +2.7
BZS Buzias 7.22 358⇑iP Pn 19 50 02.1 +2.7
ARR Arges 7.26 15⇓iP Pn 19 50 01.0 +1.0
ARR Arges 7.26 15⇓iP Pn 19 50 01.0 +1.0
VOIR 7.42 17⇑iP Pn 19 50 03.5 +1.3
VOIR 7.42 17⇑iP Pn 19 50 03.5 +1.3
AQU L'Aquila 7.60 304 ePn Pn 19 50 05.6 +1.0
48nm,1.2s
AQU eSn Sn 19 51 33.4 +2.4
AQU L'Aquila 7.60 304 ePn Pn 19 50 05.6 +1.0
48nm,1.2s
AQU eSn Sn 19 51 33.4 +2.4
UDBI Udbina 7.67 325 ePn Pn 19 50 06.8 +1.2
UDBI Sn Sn 19 51 27.6 -5.0
UDBI Udbina 7.67 325 ePn Pn 19 50 06.7 +1.2
MLR Muntele Rosu 7.71 22⇑iP Pn 19 50 08.2 +2.1
MLR Muntele Rosu 7.71 22 Pn Pn 19 50 07.6 +1.5
0.1nm,0.3s,baz=248,slow=10,SNR=4.4
MLR Sn Sn 19 51 35.8 +2.1
baz=114,slow=19,SNR=1.4
MLR LR LR 19 53 22.7
comp=Z,22nm,18.9s,baz=289,slow=40
MLR Muntele Rosu 7.71 22⇑iP Pn 19 50 08.2 +2.1
MLR Sn Sn 19 51 35.8 +2.1
NVLJ Novalja 8.11 322 ePn Pn 19 50 11.8 +0.3
NVLJ Sn Sn 19 51 39.4 -4.1
NVLJ Novalja 8.11 322 ePn Pn 19 50 11.8 +0.3
PKSM Moragy 8.18 344⇓iP Pn 19 50 13.0 +0.5
PKSM Moragy 8.18 344⇓iP Pn 19 50 13.0 +0.5
PLOR Plostina 8.24 24⇑iP Pn 19 50 14.2 +0.8
PLOR Plostina 8.24 24⇑iP Pn 19 50 14.2 +0.8
VRI Vrincioaia 8.28 24⇑iP Pn 19 50 16.4 +2.4
VRI Vrincioaia 8.28 24⇑iP Pn 19 50 16.4 +2.4
BOJS Bojanci 8.66 327 i Pn Pn 19 50 20.9 +1.8
BOJS eSn Sn 19 51 55.0 -1.9
BOJS Bojanci 8.66 327 i Pn Pn 19 50 20.9 +1.8
BRTR Keskin Array B 9.23 78 Pn Pn 19 50 27.0 -0.1
0.2nm,0.3s,baz=267,slow=12,SNR=6.4
JAVS Javornik 9.48 325 i Pn Pn 19 50 31.8 +1.3
JAVS i Sn Sn 19 52 17.2 -0.1
JAVS Javornik 9.48 325 i Pn Pn 19 50 31.8 +1.3
JAVS i Sn Sn 19 52 17.2 -0.1
PSZ Piszkesteto 9.63 352⇓iP Pn 19 50 33.0 +0.5
PSZ Piszkesteto 9.63 352 ePn Pn 19 50 32.2 -0.3
8.2nm,0.8s
PSZ Piszkesteto 9.63 352 ePn Pn 19 50 32.2 -0.3
8.2nm,0.8s
PSZ Piszkesteto 9.63 352⇓iP Pn 19 50 33.0 +0.5
PERS Pernice 9.63 331 i Pn Pn 19 50 35.1 +2.6
PERS i Sn Sn 19 52 18.0 -3.0
PERS Pernice 9.63 331 i Pn Pn 19 50 35.2 +2.6
VYHS Vyhne 10.34 349 ePN Pn 19 50 46.9 +4.8
VYHS eSN Sn 19 52 35.6 -2.6
CRVS Cervenica-Dubn 10.51 358 e Pn 19 50 53.4 +8.9
KOLS Kolonicke sedl 10.54 1 e Pn 19 50 52.7 +7.8
MOA Molln 10.97 332⇑iPn Pn 19 50 53.7 +3.0
MOA Molln 10.97 332 Pn Pn 19 50 53.7 +3.0
VRAC Vranov 11.56 342 LR LR 19 57 06.6
comp=Z,118nm,18.7s,baz=174,slow=46
GERES GERESS Array B 12.01 333 Pn Pn 19 51 07.5 +2.4
0.1nm,0.3s,baz=157,slow=13,SNR=3.8
GERES Sn Sn 19 53 20.1 +0.9
0.2nm,0.3s,baz=155,slow=26,SNR=4.9
GERES LR LR 19 56 40.4
comp=Z,166nm,18.6s,baz=144,slow=42
MMAI Mount Meron Ar 12.21 112 Pn Pn 19 51 06.8 -1.1
0.2nm,0.3s,baz=308,slow=16,SNR=2.4
MBDF Montbardon 12.97 304 eP Pn 19 51 18.3 +0.1
MBDF Montbardon 12.97 304 eP Pn 19 51 18.3 +0.1
MBDF Montbardon 12.97 304 eP Pn 19 51 18.3 +0.1
LPG La Plagne 13.31 307 eP Pn 19 51 26.7 +3.7
15nm,1.1s
LPG La Plagne 13.31 307 eP Pn 19 51 26.7 +3.7
15nm,1.1s
LPL La Plagne 13.33 307 eP Pn 19 51 26.2 +3.0
LPL La Plagne 13.33 307 eP Pn 19 51 26.2 +3.0
LPL La Plagne 13.33 307 eP Pn 19 51 26.2 +3.0
STU Stuttgart 13.85 323 Pn Pn 19 51 27.0 -3.1
CLL Collm 14.36 337 ePP P 19 51 46.0 +1.9
CLL LmV 19 57 30.0
comp=Z,100nm,20.5s
HINF Hinteralfeld 14.45 315 eP Pn 19 51 37.4 -1.0
comp=Z,7.1nm,0.8s
HINF Hinteralfeld 14.45 315 eP Pn 19 51 37.4 -1.0
comp=Z,7.1nm,0.8s
HAU Haudompre 14.84 315 eP Pn 19 51 40.4 -3.2
HAU Haudompre 14.84 315 eP Pn 19 51 40.4 -3.2
SUW Suwalki 15.65 3 ePn P 19 51 57.0 -1.5
comp=Z,22nm,0.8s
SUW Suwalki 15.65 3 ePn P 19 51 57.0 -1.5
comp=Z,22nm,0.8s
WLF Walferdange 15.94 320 Pn Pn 19 51 59.7 +1.6
WLF Walferdange 15.94 320 Pn Pn 19 51 59.7 +1.6
AVF Avril sur Loir 16.00 308 eP P 19 52 03.6 +1.2
comp=Z,15nm,1.1s
AVF Avril sur Loir 16.00 308 eP P 19 52 03.6 +1.2
comp=Z,15nm,1.1s
AVF Avril sur Loir 16.00 308 eP P 19 52 03.6 +1.2
comp=Z,15nm,1.1s
SSF Saint Saulge 16.02 309 eP Pn 19 52 01.3 +2.1
comp=Z,43nm,1.5s
SSF Saint Saulge 16.02 309 eP Pn 19 52 01.3 +2.1
comp=Z,43nm,1.5s
SSF Saint Saulge 16.02 309 eP Pn 19 52 01.3 +2.1
comp=Z,43nm,1.5s
LDF La Druitiere 18.89 310 eP Pn 19 52 35.5 +0.6
comp=Z,17nm,1.0s
LDF La Druitiere 18.89 310 eP Pn 19 52 35.5 +0.6
comp=Z,17nm,1.0s
LDF La Druitiere 18.89 310 eP Pn 19 52 35.5 +0.6
comp=Z,17nm,1.0s
ESDC Sonseca Array 20.11 282 P P 19 52 48.4 +0.5
comp=Z,1.7nm,0.7s,baz=75,slow=11,SNR=7.6
HFS Hagfors 22.37 349 P P 19 53 11.3 -0.7
comp=Z,1.5nm,0.4s,baz=141,slow=9.6,SNR=7.0
FINES FINESS Array B 23.22 5 P P 19 53 19.5 -1.3
comp=Z,2.0nm,0.8s,baz=187,slow=9.6,SNR=5.2
NB2 NORSAR Subarra 23.64 347 P P 19 53 23.8 -1.2
comp=Z,1.9nm,0.7s,baz=154,slow=10
NB2 NORSAR Subarra 23.64 347 P P 19 53 23.8 -1.2
comp=Z,1.9nm,0.7s,SNR=7.6
NOA NORSAR Array B 23.64 347 P P 19 53 24.0 -1.0
comp=Z,1.7nm,0.8s,baz=156,slow=12,SNR=6.1
NOA LR LR 20 02 54.9
comp=Z,22nm,18.7s,baz=270,slow=37
EKA Eskdalemuir Ar 23.89 323 P P 19 53 26.2 -1.3
comp=Z,2.7nm,0.7s,baz=116,slow=9.5,SNR=8.2
ESK Eskdalemuir 23.90 323 P P 19 53 25.9 -1.7
TORD Torodi Ar. Bea 30.89 221 P P 19 54 31.3 +0.6
comp=Z,0.6nm,0.5s,baz=131,slow=8.8,SNR=9.3
ARCES ARCESS Array B 31.26 2 P P 19 54 33.1 -0.3

comp=Z,6.7nm,1.2s,baz=188,slow=12,SNR=4.3
BRVK Borovoye 36.09 50 eP P 19 55 15.8 +0.2
comp=Z,3.4nm,1.2s
BRVK Borovoye 36.09 50 eP P 19 55 15.8 +0.2
comp=Z,3.4nm,1.2s
KKAR Karatay Array 36.72 67 P P 19 55 17.9 -3.2
comp=Z,1.0nm,0.6s
EKS2 Erkin-Say 39.16 67 P P 19 55 41.0 -0.9
comp=Z,2.7nm,0.8s
EKS2 Erkin-Say 39.16 67 P P 19 55 41.0 -0.9
comp=Z,2.7nm,0.8s
MKAR Makanchi Array 44.26 59 P P 19 56 23.3 -0.2
comp=Z,1.3nm,0.6s,baz=277,slow=7.6,SNR=22
ZALV Zalesovo Beam 44.74 48 P P 19 56 26.7 -0.5
comp=Z,0.7nm,0.4s,baz=276,slow=6.7,SNR=7.2
SONM Songino Array 59.48 51 P P 19 58 16.7 -0.4
comp=Z,0.4nm,0.7s,baz=294,slow=8.0,SNR=5.2
YKA Yellowknife Ar 73.55 341 P P 19 59 46.2 -0.4
comp=Z,0.2nm,0.7s,baz=33,slow=5.9,SNR=5.1

IDC 12 19:56:28.8±2.1, 0.80N×126.87E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/28, mbtmp3.4/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/16, Error ellipse: s-maj=173.1km s-min=25.5km az=66.0, Northern Molucca Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 21.87 161 P P 20 01 23.3 -0.1
0.9nm,0.7s,baz=340,slow=11,SNR=6.4
ASAR Alice Springs 25.26 165 P P 20 01 57.0 +0.1
0.5nm,0.5s,baz=345,slow=12,SNR=7.3
CTA Charters Tower 28.13 139 LR LR 20 15 44.2
comp=Z,283nm,19.0s,baz=117,slow=41
MKAR Makanchi Array 60.04 326 P P 20 06 37.6 -0.1
0.2nm,0.5s,baz=123,slow=7.7,SNR=7.4

IDC 12 20:10:58.2±2.1, 6.35S×120.56E, h0km, mb2.8/2, mb1 3.2/3, mb1mx3.1/23, mbtmp3.0/3, ML3.1/1, Error ellipse: s-maj=223.3km s-min=27.5km az=55.0, Flores Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 19.01 137 P P 20 15 21.8 -0.1
0.1nm,0.3s,baz=314,slow=11,SNR=5.6
ASAR Alice Springs 21.47 145 P P 20 15 47.8 -0.8
0.2nm,0.7s,baz=340,slow=15,SNR=3.0
MKAR Makanchi Array 62.85 331 P P 20 21 26.4 +0.4
0.1nm,0.5s,baz=141,slow=7.8,SNR=4.1

ISCJB 12 20:21:12.7±0.4, 6.95S±0.03×130.14E±0.05, h104km, mb3.8/5, Error ellipse: s-maj=6.7km s-min=4.1km az=171.3
IDC 12 20:21:14.2±6.7, 6.81S×130.16E, h110km±64km, mb3.6/5, mb1 3.8/7, mb1mx3.5/29, mbtmp4.0/7, Error ellipse: s-maj=84.6km s-min=23.4km az=63.0
DJA 12 20:21:17.3±0.4, 7.S±4×13.0E±, h10km, M4.5/7, mb4.9/3, mB5.8/1, MLv4.3/7, Mw(mB)5.4/1
ISC 12 20:21:13.6±0.6, 7.02S±0.05×130.06E±0.06, h104km, n25, σ2§72/30, mb3.7/5, Tanimbar Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SAUI Saumlaki 1.56 128 P Pn 20 21 49.7 +8.9
SAUI S Sn 20 22 14.6 +13
BNDI Bandanaira 2.48 356 P Pn 20 21 56.7 +4.1
MSAI Masohi 3.82 343 P Pn 20 22 08.6 -1.8
MSAI S Sn 20 22 52.4 -2.0
FAKI Fak Fak 4.62 28 P Pn 20 22 21.8 +0.6
FAKI Fak Fak 4.62 28 P Pn 20 22 22.9 +1.7
baz=4.6,SNR=32
FAKI S Sn 20 23 13.0 -0.8
baz=4.6,SNR=20
MTN Manton Dam 5.88 170 P Pn 20 22 44.3 +5.9
baz=6.0,SNR=105
MTN S Sn 20 23 47.3 +2.8
baz=6.0,SNR=16
KDU Kakadu 6.12 157 P Pn 20 22 47.0 +5.6
baz=6.2,SNR=118
KDU S Sn 20 23 47.4 -2.7
baz=6.2,SNR=8.6
SWI Sorong 6.23 11 P Pn 20 22 44.3 +1.2
SOEI Soe 6.34 244 P Pn 20 22 48.7 +4.0
66nm,0.8s,0.5nm
SOEI Soe 6.34 244 P Pn 20 22 49.2 +4.5
baz=6.3,SNR=15
SOEI S Sn 20 23 59.3 +3.4
baz=6.3,SNR=4.9
LBMI Labuha 6.83 338 P Pn 20 22 51.1 -0.2
KNRA Kununurra 8.70 188 P Pn 20 23 19.6 +3.0
baz=8.8,SNR=68
KNRA S Sn 20 24 51.1 -1.9
baz=8.8,SNR=7.9
WSI Waingapu 10.01 254 S Sn 20 25 22.8 -2.2
baz=10.0,SNR=8.4
WRA Warramunga Arr 13.50 163 P Pn 20 24 21.9 +0.9
1.3nm,0.3s,baz=337,slow=12,SNR=89
WRA S Sn 20 26 46.0 -3.8
2.0nm,0.3s,baz=334,slow=23,SNR=10
COEN Coen 14.62 119 P P 20 24 41.9 +3.0
baz=15,SNR=5.7
COEN S Sn 20 27 13.9 -2.9
baz=15,SNR=3.8
JAGI Jajag, Banyuwa 15.83 264 P P 20 24 53.7 +1.3
baz=16,SNR=4.1
QIS Mount Isa 16.33 146 P P 20 25 00.9 +3.0
baz=16,SNR=5.9
QIS S Sn 20 27 53.8 -4.3
baz=16,SNR=4.2
ASAR Alice Springs 16.96 168 P P 20 25 07.0 +2.1
1.1nm,0.3s,baz=346,slow=15,SNR=47
ASAR S Sn 20 28 08.1 -5.1
0.5nm,0.3s,baz=349,slow=26,SNR=8.9
WRKA Warakurna 18.00 185 P Pn 20 25 19.4 +2.2
baz=18,SNR=30
WRKA S S 20 28 31.6 -5.9
baz=18,SNR=5.9
STKA Stephens Creek 26.98 158 P P 20 26 48.1 +2.5
1.4nm,0.5s,baz=334,slow=13,SNR=3.1
CMAR Chiang Mai Arr 39.79 310 P P 20 28 36.5 -0.2
1.0nm,0.8s,baz=137,slow=7.2,SNR=9.5
SONM Songino Array 58.48 342 P P 20 30 58.1 -0.7
0.1nm,0.3s,baz=162,slow=6.1,SNR=2.9
MKAR Makanchi Array 68.27 327 P P 20 32 02.8 -0.6
4.6nm,0.5s,baz=114,slow=8.6,SNR=103
ZALV Zalesovo Beam 71.62 334 P P 20 32 21.9 -1.8
1.0nm,0.7s,baz=102,slow=6.2,SNR=6.0
TORD Torodi Ar. Bea 128.87 281 PKP PKPdf 20 40 09.2 -0.9
0.4nm,0.6s,baz=103,slow=1.6,SNR=2.7

IDC 12 20:27:38.7±1.7, 16.19N×98.77W, h0km, mb3.5/4, mb1 3.9/8, mb1mx3.7/39, mbtmp3.7/8, ML3.7/4, Error ellipse: s-maj=49.6km s-min=19.4km az=45.0
ISCJB 12 20:27:41.8±1.2, 16.33N±0.05×98.83W±0.04, h33km±9km, mb3.3/4, Error ellipse: s-maj=8.4km s-min=5.0km az=30.8
MEX 12 20:27:43.3±0.3, 16.32N×98.85W, h12km±4km, MD4.1
ISC 12 20:27:42.6±1.6, 16.34N±0.06×98.78W±0.06, h29km±12km, n24, σ1§47/32, mb3.3/4, Near coast of Guerrero

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PNIG Pinotepa 0.63 85 i P Pb 20 27 54.8 -0.3
PNIG i S Sb 20 28 04.2 +0.5
ACX Acapulco 1.16 297 eP Pn 20 27 55.7 -7.3
ACX eS Sn 20 28 10.7 -7.2
TLIG Tlapa 1.23 10 eP Pn 20 28 03.1 -1.0
TLIG i S Sn 20 28 18.7 -1.5
MEIG Mezcala 1.77 333 eP Pn 20 28 10.3 -1.1
MEIG eS Sn 20 28 30.9 -2.1
VHO Vista Hermosa 2.09 69 eP Pn 20 28 16.4 +0.5
VHO i S Sn 20 28 42.0 +0.8
OXX Oaxaca 2.10 69 eP Pb 20 28 18.6 -1.7
OXX i S Sb 20 28 48.4 +2.3
PLIG Platanillo 2.15 341 eP Pn 20 28 16.3 -0.4
PLIG eS Sn 20 28 41.7 -0.8
ARIG Puente Sto Nin 2.44 322 eP Pn 20 28 20.4 -0.3
ARIG i S Sn 20 28 48.3 -1.3
TPIG Tehuac#an 2.47 33 eP Pn 20 28 21.4 +0.3
TPIG i S Sn 20 28 51.6 +1.1
HUIG Huatulco 2.63 102 eP Pn 20 28 23.9 +0.7

HUIG eS Sn 20 28 54.7 +0.4
PPM Popocatepetl 2.71 3 eP Pn 20 28 24.8 0.0
PPM eS Sn 20 28 56.5 -0.5
ZIIG Zihuatanejo 2.86 296 eP Pn 20 28 25.9 -0.4
ZIIG eS Sn 20 28 58.2 -1.6
UNM Universidad Na 2.99 353 eP Pn 20 28 28.5 +0.1
UNM i S Sn 20 29 03.4 -0.2
APG El Apazote 8.12 98 Pn Pn 20 29 36.9 -2.0
1.8nm,0.3s,baz=282,slow=12,SNR=16
APG Sn Sn 20 31 05.0 -4.9
0.8nm,0.3s,baz=311,slow=20,SNR=3.1
TEIG Tepich 10.70 67 Pn Pn 20 30 14.8 +0.8
0.9nm,0.3s,baz=272,slow=14,SNR=2.1
TXAR Lajitas Array 13.69 342 Pn P 20 30 59.3 -4.1
0.1nm,0.3s,baz=156,slow=16,SNR=3.1
JTS JuntasAbangare 14.74 112 Pn Pn 20 31 09.5 +0.2
0.2nm,0.3s,baz=315,slow=17,SNR=1.7
NVAR Mina Array Bea 27.89 326 P P 20 33 32.3 +1.9
0.5nm,0.9s,baz=137,slow=11,SNR=2.8
PDAR Pinedale Array 27.90 343 P P 20 33 32.1 +1.7
0.5nm,1.0s,baz=148,slow=11,SNR=2.5
LPAZ La Paz 44.33 136 P P 20 35 50.5 -0.8
0.5nm,0.3s,baz=326,slow=7.3,SNR=3.8
YKA Yellowknife Ar 47.42 350 P P 20 36 14.9 +0.6
0.2nm,0.6s,baz=159,slow=7.3,SNR=3.5
H03N2 Juan Fernandez 53.01 159 T T 21 34 05.1
baz=336,slow=75,SNR=113
H03N1 Juan Fernandez 53.02 159 T T 21 34 05.7
baz=336,slow=75,SNR=153
H03N3 Juan Fernandez 53.02 159 T T 21 33 59.1
baz=336,slow=75,SNR=82

ISCJB 12 20:36:16.3±1.1, 20.4S±0.3×177.8W±0.2, h500km, mb3.8/11, Error ellipse: s-maj=43.1km s-min=12.5km az=153.5
IDC 12 20:36:16.7±4.8, 20.46S×177.64W, h501km±51km, mb3.5/11, mb1 3.7/12, mb1mx3.5/36, mbtmp4.3/12, Error ellipse: s-maj=37.9km s-min=21.1km az=147.0
ISC 12 20:36:16.5±1.2, 20.5S±0.3×177.7W±0.2, h500km, n17, σ1§21/18, mb3.8/11, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 8.64 42 P P 20 38 15.2 -4.6
10nm,0.3s,baz=225,slow=8.6,SNR=3.4
AFI S S 20 39 48.5 -12
7.6nm,0.3s,baz=199,slow=23,SNR=5.1
DZM Mont Dzumac 14.87 261 P P 20 39 26.8 +1.3
0.4nm,0.3s,baz=84,slow=19,SNR=4.5
STKA Stephens Creek 38.05 244 P P 20 42 51.7 0.0
2.2nm,0.6s,baz=91,slow=12,SNR=8.9
ASAR Alice Springs 44.80 257 P P 20 43 46.2 +0.7
11nm,0.5s,baz=96,slow=7.5,SNR=272
ASAR PcP pP 20 45 17.5 -0.9
0.5nm,0.5s,baz=107,slow=3.2,SNR=3.3
ASAR S S 20 49 44.5 -1.5
2.0nm,0.9s,baz=94,slow=16,SNR=15
WRA Warramunga Arr 44.88 262 P P 20 43 46.2 +0.1
5.7nm,0.6s,baz=96,slow=7.6,SNR=223
WRA S S 20 49 45.3 -2.0
0.7nm,1.0s,baz=96,slow=13,SNR=3.0
MJAR Matsushiro Arr 70.36 323 P P 20 46 39.4 -0.2
3.4nm,0.6s,baz=147,slow=5.9,SNR=11
USRK Ussuriysk Arra 79.10 326 P P 20 47 30.1 +1.6
3.1nm,0.8s,baz=100,slow=7.5,SNR=6.4
NVAR Mina Array Bea 80.81 43 P P 20 47 38.6 +0.6
0.7nm,0.5s,baz=211,slow=8.3,SNR=5.1
SEY Seymchan 86.42 347 P P 20 48 04.3 -0.7
1.5nm,0.6s,baz=244,slow=23,SNR=7.0
TXAR Lajitas Array 86.81 57 P P 20 48 08.3 +0.6
0.5nm,0.7s,baz=242,slow=3.8,SNR=5.0
ILAR Eielson Array 88.23 13 P P 20 48 11.9 -1.6
0.5nm,0.6s,baz=220,slow=5.7,SNR=8.4
PDAR Pinedale Array 88.75 43 P P 20 48 16.5 -0.2
0.8nm,0.9s,baz=197,slow=2.8,SNR=2.7
CMAR Chiang Mai Arr 90.37 289 P P 20 48 26.4 +1.9
0.6nm,0.3s,baz=128,slow=4.0,SNR=9.7
MKAR Makanchi Array 111.39 313 PKiKP PKiKP 20 53 52.0 -1.4
0.3nm,0.6s,baz=94,slow=0.8,SNR=5.3
AKASG Malin Array Be 143.13 331 PKhKP PKPpre 20 54 48.9
2.5nm,0.6s,baz=40,slow=4.2,SNR=13
BRTR Keskin Array B 147.03 313 PKPbc PKPbc 20 55 02.2 -1.0
0.8nm,0.6s,baz=132,slow=5.8,SNR=5.2
GERES GERESS Array B 150.25 345 PKPbc PKPbc 20 55 10.3 -0.5
0.9nm,0.8s,baz=46,slow=3.9,SNR=7.9

DDA 12 20:59:53.8, 34.07N×24.62E, h25km, MD3.8
MOS 12 21:00:02.3±1.2, 34.86N×24.72E, h35km, mb4.4/23, Error ellipse: s-maj=6.2km s-min=4.5km az=97.4
CSEM 12 21:00:02.2±0.1, 34.70N×24.82E, h20km, mb4.3/24, Ms2.8, Error ellipse: s-maj=4.6km s-min=3.0km az=32.0
IDC 12 21:00:04.0±1.3, 34.83N×24.89E, h35km±8km, mb3.9/24, mb1 3.9/32, mb1mx3.9/54, mbtmp4.0/32, ML3.9/9, MS3.0/6, Ms1 3.0/6, ms1mx2.7/37, Error ellipse: s-maj=14.5km s-min=11.2km az=175.0
NEIC 12 21:00:04.3±0.5, 34.79N×24.81E, h42km±4km, mb4.2/19, Error ellipse: s-maj=6.4km s-min=3.4km az=191.0
ATH 12 21:00:04.2, 34.89N×24.75E, h31km±1km, MD3.7/34, ML3.8
ISK 12 21:00:05.8, 35.10N×25.04E, h19km, ML3.7
HLW 12 21:00:06.2, 34.78N×25.11E, h31km±35km, Md3.7, Ml3.6
THE 12 21:00:06.1, 34.91N×24.80E, h18km±1km, ML4.0/6, Error ellipse: s-maj=2.5km s-min=1.2km az=189.0
ISC 12 21:00:02.3±0.7, 34.73N±0.02×24.84E±0.02, h27km±5km, n553, σ1§51/546, mb4.1/41, 8C-7D, Crete

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SIVA Sivas 0.29 355 P Pb 21 00 10.5 +1.1
SIVA S Sb 21 00 12.8 -1.4
SIVA Sivas 0.29 355 PG Pn 21 00 10.7 -0.1
SIVA eSG Sb 21 00 15.6 +1.4
SIVA Sivas 0.29 355 Pg Pn 21 00 10.7 -0.1
SIVA Sg Sn 21 00 15.7 -0.6
SIVA Sivas 0.29 355 P Pb 21 00 10.5 +1.1
SIVA S Sb 21 00 12.8 -1.4
SIVA eSg Sb 21 00 15.6 +1.4
IDI Anoyia 0.56 4 Pg Pb 21 00 14.3 +0.6
2μm,0.3s,baz=165,slow=12,SNR=5672
IDI Lg Lg 21 00 22.2
3μm,0.3s,baz=221,slow=20,SNR=128
IDI LR LR 21 00 42.5
comp=Z,1μm,21.0s,baz=94,slow=85
GVD Gavdhos 0.63 280 P Pn 21 00 16.8 +1.3
GVD Gavdhos 0.63 280 ePN Pn 21 00 16.8 +1.3
GVD Gavdhos 0.63 280 ePb Pn 21 00 16.5 +1.0
GVD Gavdhos 0.63 280 ePb Pn 21 00 16.5 +1.0
GVD Gavdhos 0.63 280 P Pn 21 00 16.8 +1.3
LAST Lasithi 0.68 50 P Pb 21 00 17.0 +1.3
LAST Lasithi 0.68 50 ePN Pb 21 00 17.2 +1.5
LAST eSN Sn 21 00 27.0 +1.0
LAST Lasithi 0.68 50 ePn Pb 21 00 17.2 +1.5
LAST eSn Sn 21 00 27.0 +1.0
NPS Neapolis 0.83 50 P Pb 21 00 19.5 +1.4
NPS Neapolis 0.83 50 ePN Pb 21 00 19.8 +1.7
NPS eSN Sb 21 00 31.8 +2.9
NPS Neapolis 0.83 50 P Pb 21 00 19.5 +1.4
NPS Neapolis 0.83 50 ePn Pb 21 00 19.8 +1.7
NPS eSn Sb 21 00 31.8 +2.9
VAM Vamos 0.86 322 P Pn 21 00 17.2 -1.4
VAM S Sn 21 00 29.4 -1.0
VAM Vamos 0.86 322 ePN Pn 21 00 17.3 -1.4
VAM eSN Sn 21 00 29.1 -1.3
VAM Vamos 0.86 322 P Pn 21 00 17.2 -1.4
VAM eSn Sn 21 00 29.1 -1.3
ZKR Zakros 1.20 71 P Pb 21 00 26.8 +2.5
ZKR Zakros 1.20 71 ePG Pb 21 00 25.6 +1.3
ZKR Zakros 1.20 71 ePN Pb 21 00 26.9 +2.6
ZKR eSN Sb 21 00 43.4 +4.0
ZKR Zakros 1.20 71 Pg Pb 21 00 25.6 +1.3
ZKR Zakros 1.20 71 ePg Pb 21 00 25.6 +1.3
ZKR Zakros 1.20 71 ePn Pb 21 00 26.9 +2.6
ZKR eSn Sb 21 00 43.4 +4.0
ANKY Antikythira Is 1.70 313 P Pn 21 00 33.4 +0.5
ANKY S Sn 21 00 51.5 +0.5
ANKY Antikythira Is 1.70 313 ePB Pn 21 00 30.6 +0.4
ANKY Antikythira Is 1.70 313 ePb Pn 21 00 30.6 +0.4
ANKY Antikythira Is 1.70 313 P Pb 21 00 33.4 +0.5
ANKY S Sn 21 00 51.5 +0.5
SANT Santorini 1.72 17 P Pn 21 00 32.1 +1.6

SANT Santorini 1.72 17 ePN Pn 21 00 31.1 +0.6
SANT Santorini 1.72 17 ePN Pn 21 00 32.1 +1.6
SANT Santorini 1.72 17 ePN Pn 21 00 31.5 +1.0
SANT eSn Sn 21 00 45.1 -6.5
SANT Santorini 1.72 17 ePN Pn 21 00 31.5 +1.0
SANT Santorini 1.72 17 P Pn 21 00 32.1 +1.6
KARP Karpathos 2.07 66 P Pb 21 00 38.9 -0.3
KARP S Sb 21 01 03.8 -0.7
KARP Karpathos 2.07 66 ePN Pb 21 00 39.1 -0.1
KARP Karpathos 2.07 66 P Pb 21 00 38.9 -0.3
KARP S Sb 21 01 03.8 -0.7
KYTH Kithira 2.14 317 P Pn 21 00 38.5 +2.2
KYTH Kithira 2.14 317 ePB Pb 21 00 38.8 -1.6
KYTH Kithira 2.14 317 P Pn 21 00 38.5 +2.2
KYTH Kithira 2.14 317 ePb Pb 21 00 38.8 -1.6
APE Apeiranthos 2.40 13 P Pn 21 00 40.8 +0.8
APE S Sn 21 01 08.1 -0.4
APE Apeiranthos 2.40 13 ePN Pn 21 00 40.0 +0.1
APE Apeiranthos 2.40 13 P Pn 21 00 40.0 +0.1
APE Apeiranthos 2.40 13 ePN Pn 21 00 40.7 +0.8
APE Apeiranthos 2.40 13 S Sb 21 01 14.6 +0.5
APE Apeiranthos 2.40 13 Pn Pn 21 00 40.0 +0.1
APE Apeiranthos 2.40 13 P Pn 21 00 40.8 +0.8
APE S Sn 21 01 08.1 -0.4
VLI Veliai 2.52 323 P Pn 21 00 42.8 +1.3
VLI S Sn 21 01 11.3 0.0
VLI Veliai 2.52 323 ePB Pn 21 00 43.5 +2.0
VLI Veliai 2.52 323 P Pn 21 00 42.8 +1.3
VLI Veliai 2.52 323 ePb Pn 21 00 43.5 +2.0
VLI S Sn 21 01 11.3 0.0
DID Didima 3.06 335 P Pn 21 00 50.0 +1.0
DID S Sn 21 01 24.4 -0.4
DID Didima 3.06 335 ePN Pn 21 00 50.0 +1.0
DID Didima 3.06 335 P Pn 21 00 50.0 +1.0
DID S Sn 21 01 24.4 -0.4
ARG Arkhangelos 3.06 60 ePN Pn 21 00 52.0 +3.0
ARG Arkhangelos 3.06 60 ePn Pn 21 00 52.0 +3.0
BODT Bodrum 3.07 40 ePN Pn 21 00 49.5 +0.3
BODT Bodrum 3.07 40 Pn Pn 21 00 49.5 +0.3
BODT Bodrum 3.07 40 ePn Pn 21 00 49.5 +0.3
BDRM Kayabasi 3.15 41 iP Pn 21 00 53.3 +3.1
BDRM Kayabasi 3.15 41 iP Pn 21 00 53.3 +3.1
SLUM 3.24 174 P Pn 21 00 54.1 +2.7
baz=178
SLUM S Sn 21 01 30.7 +1.6
baz=178
SLUM 3.24 174 P Pn 21 00 54.1 +2.7
SLUM S Sn 21 01 30.7 +1.6
VLX Vlachokerasia 3.31 324 ePN Pn 21 00 53.7 +1.3
VLX Vlachokerasia 3.31 324 ePn Pn 21 00 53.7 +1.3
PYL PYLOS 3.32 312 ePN Pn 21 00 54.6 +2.1
PYL PYLOS 3.32 312 ePn Pn 21 00 54.6 +2.1
ATH Athens Observa 3.36 345 ePN Pn 21 00 54.0 +0.9
ATH Athens Observa 3.36 345 ePn Pn 21 00 54.0 +0.9
SMG Samos 3.38 28 P Pn 21 00 55.4 +2.0
SMG Samos 3.38 28 ePN Pn 21 00 56.5 +3.1
SMG Samos 3.38 28 P Pn 21 00 55.4 +2.0
SMG Samos 3.38 28 ePn Pn 21 00 56.5 +3.1
ITM Ithomi 3.40 317 ePN Pn 21 00 55.2 +1.5
ITM Ithomi 3.40 317 ePn Pn 21 00 55.2 +1.5
PTL Penteli 3.41 347 P Pn 21 00 55.4 +1.7
PTL Penteli 3.41 347 ePN Pn 21 00 55.2 +1.5
PTL Penteli 3.41 347 ePn Pn 21 00 55.2 +1.5
LTK Loutraki 3.62 336 P Pn 21 00 57.9 +1.2
LTK Loutraki 3.62 336 P Pn 21 00 57.9 +1.2
YER Yerkesik 3.68 48 ePN Pn 21 00 58.4 +0.8
YER Yerkesik 3.68 48 P Pn 21 00 58.4 +0.8
YER Yerkesik 3.68 48 Pn Pn 21 00 58.4 +0.8
YER Yerkesik 3.68 48 ePn Pn 21 00 58.4 +0.8
DALY Dalyan (Mu¯la 3.74 55 ePN Pn 21 00 59.2 +1.0
DALY Dalyan (Mu¯la 3.74 55 ePn Pn 21 00 59.2 +1.0
AMT Artemida-Makis 3.78 319 ePN Pn 21 01 01.7 +2.9
AMT Artemida-Makis 3.78 319 ePn Pn 21 01 01.7 +2.9
CHOS Chios island 3.78 15 P Pn 21 01 00.6 +1.7
CHOS S Sn 21 01 43.0 +0.4
CHOS Chios island 3.78 15 ePN Pn 21 00 59.1 +0.2
CHOS Chios island 3.78 15 ePN Pn 21 01 00.7 +1.8
CHOS Chios island 3.78 15 Pn Pn 21 00 59.1 +0.2
CHOS Chios island 3.78 15 P Pn 21 01 00.6 +1.7
CHOS S Sn 21 01 43.0 +0.4
GUR Goura 3.79 329 ePN Pn 21 01 00.4 +1.4
GUR Goura 3.79 329 ePn Pn 21 01 00.4 +1.4
FETY Fethiye 3.94 60 ePN Pn 21 01 02.7 +1.6
FETY Fethiye 3.94 60 Pn Pn 21 01 02.7 +1.6
FETY Fethiye 3.94 60 ePn Pn 21 01 02.7 +1.6
KLV Kalavryta, Ach 3.96 328 ePN Pn 21 01 02.5 +1.2
KLV Kalavryta, Ach 3.96 328 ePn Pn 21 01 02.5 +1.2
AYDB Zeytinkoy-Aydi 4.05 37 ePN Pn 21 01 03.5 +0.9
AYDB Zeytinkoy-Aydi 4.05 37 ePn Pn 21 01 03.5 +0.9
BLCB Balcova 4.06 25 ePN Pn 21 01 02.7 +0.1
BLCB Balcova 4.06 25 Pn Pn 21 01 02.7 +0.1
BLCB Balcova 4.06 25 ePn Pn 21 01 02.7 +0.1
DRO Drossia 4.09 323 ePN Pn 21 01 06.1 +3.0
DRO Drossia 4.09 323 ePn Pn 21 01 06.1 +3.0
DSF Desfina 4.12 334 ePN Pn 21 01 04.7 +1.1
DSF Desfina 4.12 334 ePn Pn 21 01 04.7 +1.1
AKAS Kas 4.17 68 iP Pn 21 01 05.6 +1.3
AKAS Kas 4.17 68 iP Pn 21 01 05.6 +1.3
AKAS iS Sn 21 01 46.2 -6.0
LKR Lokris 4.19 340 ePN Pn 21 01 05.6 +1.2
LKR Lokris 4.19 340 ePn Pn 21 01 05.6 +1.2
LAKA Lakka 4.20 327 ePN Pn 21 01 05.8 +1.2
LAKA Lakka 4.20 327 ePn Pn 21 01 05.8 +1.2
KALE Kalithea 4.25 330 ePN Pn 21 01 07.2 +1.8
KALE Kalithea 4.25 330 ePn Pn 21 01 07.2 +1.8
RLS Riolos of Patr 4.30 322 ePN Pn 21 01 07.4 +1.5
RLS Riolos of Patr 4.30 322 ePn Pn 21 01 07.4 +1.5
SMIA Simia 4.35 343 ePN Pn 21 01 09.0 +2.4
SMIA Simia 4.35 343 ePn Pn 21 01 09.0 +2.4
EFP Efpalio 4.38 328 ePN Pn 21 01 09.1 +2.0
EFP Efpalio 4.38 328 ePn Pn 21 01 09.1 +2.0
AXAR Agios Charalam 4.40 337 ePN Pn 21 01 09.1 +1.8
AXAR Agios Charalam 4.40 337 ePn Pn 21 01 09.1 +1.8
AOS Alonnisos 4.50 350 ePN Pn 21 01 11.6 +2.9
AOS Alonnisos 4.50 350 ePn Pn 21 01 11.6 +2.9
SIGR SIGRI 4.55 10 ePN Pn 21 01 08.6 -0.8
SIGR SIGRI 4.55 10 Pn Pn 21 01 08.6 -0.8
SIGR SIGRI 4.55 10 ePn Pn 21 01 08.6 -0.8
SKIA Skiathos 4.57 346 ePN Pn 21 01 10.9 +1.3
SKIA Skiathos 4.57 346 ePn Pn 21 01 10.9 +1.3
GOLH Golhisar 4.57 55 iP Pn 21 01 12.3 +2.4
GOLH Golhisar 4.57 55 iP Pn 21 01 12.3 +2.4
GOLH iS Sn 21 01 52.3 -10
ELL Elmali 4.59 62 ePN Pn 21 01 12.1 +2.0
ELL Elmali 4.59 62 P Pn 21 01 12.1 +2.0
ELL Elmali 4.59 62 Pn Pn 21 01 12.1 +2.0
ELL Elmali 4.59 62 ePn Pn 21 01 12.1 +2.0
PRK Paraskevi 4.65 14 P Pn 21 01 12.7 +1.9
PRK Paraskevi 4.65 14 ePN Pn 21 01 12.4 +1.6
PRK Paraskevi 4.65 14 ePn Pn 21 01 12.4 +1.6
PRK Paraskevi 4.65 14 P Pn 21 01 12.7 +1.9
AGG Agios Georgios 4.74 336 ePN Pn 21 01 14.6 +2.6
AGG Agios Georgios 4.74 336 ePn Pn 21 01 14.6 +2.6
NEO Neokhori 4.75 345 ePN Pn 21 01 13.6 +1.4
NEO Neokhori 4.75 345 ePn Pn 21 01 13.6 +1.4
AKS Akhisar 4.78 29 ePN Pn 21 01 13.2 +0.6
AKS Akhisar 4.78 29 Pn Pn 21 01 13.2 +0.6
AKS Akhisar 4.78 29 ePn Pn 21 01 13.2 +0.6
MAKR Makrakomi, Fth 4.80 334 ePN Pn 21 01 15.1 +2.3
MAKR Makrakomi, Fth 4.80 334 ePn Pn 21 01 15.1 +2.3
XOR Xorichti 4.81 345 P Pn 21 01 14.2 +1.1
XOR Xorichti 4.81 345 ePN Pn 21 01 15.0 +1.9
XOR Xorichti 4.81 345 P Pn 21 01 14.2 +1.1
XOR Xorichti 4.81 345 ePn Pn 21 01 15.0 +1.9
EVR Evrytania 4.84 331 ePN Pn 21 01 16.2 +2.7
EVR Evrytania 4.84 331 ePn Pn 21 01 16.2 +2.7
PDO Prodromos 4.86 324 ePN Pn 21 01 16.6 +3.0
PDO Prodromos 4.86 324 ePn Pn 21 01 16.6 +3.0
VLS Valsamata 4.86 316 ePN Pn 21 01 16.1 +2.4
VLS Valsamata 4.86 316 ePn Pn 21 01 16.1 +2.4
KULA Kula-Manisa 4.87 38 ePN Pn 21 01 15.2 +1.3
KULA Kula-Manisa 4.87 38 Pn Pn 21 01 15.2 +1.3
KULA Kula-Manisa 4.87 38 ePn Pn 21 01 15.2 +1.3
KORT Korkueli 5.02 62 iP Pn 21 01 17.9 +2.0
KORT iS Sn 21 02 14.1 +1.0
KORT Korkueli 5.02 62 iP Pn 21 01 17.9 +2.0
KORT iS Sn 21 02 14.1 +1.0
ANTB Antalya 5.20 64 ePN Pn 21 01 20.2 +1.9
ANTB Antalya 5.20 64 ePn Pn 21 01 20.2 +1.9

KHL Karahalli 5.21 45 ePN Pn 21 01 20.2 +1.7
KHL Karahalli 5.21 45 Pn Pn 21 01 20.2 +1.7
KHL Karahalli 5.21 45 ePn Pn 21 01 20.2 +1.7
EZN Ezine 5.22 13 ePN Pn 21 01 19.8 +1.2
EZN Ezine 5.22 13 P Pn 21 01 19.8 +1.2
EZN Ezine 5.22 13 Pn Pn 21 01 19.8 +1.2
EZN Ezine 5.22 13 ePn Pn 21 01 19.8 +1.2
PAIG Paliouri 5.27 350 ePN Pn 21 01 22.1 +2.8
PAIG Paliouri 5.27 350 ePn Pn 21 01 22.1 +2.8
THL Klokotos Trika 5.33 336 ePN Pn 21 01 23.4 +3.3
THL Klokotos Trika 5.33 336 ePn Pn 21 01 23.4 +3.3
BCK Bucak 5.39 58 ePN Pn 21 01 22.9 +1.9
BCK Bucak 5.39 58 P Pn 21 01 23.0 +1.9
BCK Bucak 5.39 58 Pn Pn 21 01 22.9 +1.9
BCK Bucak 5.39 58 ePn Pn 21 01 23.0 +1.9
SWA2 5.49 174 P Pn 21 01 24.8 +2.4
baz=176
SWA2 S Sn 21 02 24.4 -0.2
baz=176
SWA2 5.49 174 P Pn 21 01 24.8 +2.4
SWA2 S Sn 21 02 24.4 -0.2
ISP Isparta 5.53 54 eP Pn 21 01 23.5 +0.5
ISP pmax pmax
comp=Z,11nm,0.6s
ISP Isparta 5.53 54⇑iP Pn 21 01 30.1 +7.1
ISP Isparta 5.53 54 ePn Pn 21 01 23.5 +0.5
comp=Z,11nm,0.6s
ISP Isparta 5.53 54 eP Pn 21 01 23.5 +0.5
comp=Z,11nm,0.6s
LIT Litokhoron 5.68 341 ePN Pn 21 01 27.8 +2.8
LIT Litokhoron 5.68 341 ePn Pn 21 01 27.8 +2.8
PLG Polygyros 5.75 349 ePN Pn 21 01 28.1 +2.2
PLG Polygyros 5.75 349 ePn Pn 21 01 28.1 +2.2
GELI Tayfur-Gelibol 5.81 12 ePN Pn 21 01 28.0 +1.3
GELI Tayfur-Gelibol 5.81 12 Pn Pn 21 01 28.0 +1.3
GELI Tayfur-Gelibol 5.81 12 ePn Pn 21 01 28.0 +1.3
JAN Janina 5.86 328 ePN Pn 21 01 29.5 +2.0
JAN Janina 5.86 328 ePn Pn 21 01 29.5 +2.0
SHUT Suhut-Afyon 5.97 49 ePN Pn 21 01 30.7 +1.7
SHUT Suhut-Afyon 5.97 49 Pn Pn 21 01 30.7 +1.7
SHUT Suhut-Afyon 5.97 49 ePn Pn 21 01 30.7 +1.7
KRBG Karabiga-Canak 5.98 18 ePN Pn 21 01 29.6 +0.5
KRBG Karabiga-Canak 5.98 18 Pn Pn 21 01 29.6 +0.5
KRBG Karabiga-Canak 5.98 18 ePn Pn 21 01 29.6 +0.5
TVSB Tavsanli 5.99 37 ePN Pn 21 01 30.4 +1.1
TVSB Tavsanli 5.99 37 ePn Pn 21 01 30.4 +1.1
IGT Igoumenitsa 6.00 324 ePN Pn 21 01 31.7 +2.4
IGT Igoumenitsa 6.00 324 ePn Pn 21 01 31.7 +2.4
ALT Altintas 6.04 43 ePN Pn 21 01 31.5 +1.5
ALT Altintas 6.04 43 Pn Pn 21 01 31.5 +1.5
ALT Altintas 6.04 43 ePn Pn 21 01 31.5 +1.5
KZN Kozani 6.08 337 ePN Pn 21 01 32.0 +1.5
KZN Kozani 6.08 337 ePn Pn 21 01 32.0 +1.5
SOH Sokhos 6.20 349 ePN Pn 21 01 34.9 +2.8
SOH Sokhos 6.20 349 ePn Pn 21 01 34.9 +2.8
GAZI Gazipasa 6.28 74 iP Pn 21 01 33.1 -0.1
GAZI Gazipasa 6.28 74 iP Pn 21 01 33.1 -0.1
GAZI iS Sn 21 02 36.6 -7.5
NEST Nestorio 6.43 333 ePN Pn 21 01 38.3 +3.0
NEST Nestorio 6.43 333 ePn Pn 21 01 38.3 +3.0
SRS Serrai 6.46 352 ePN Pn 21 01 38.7 +3.1
SRS Serrai 6.46 352 ePn Pn 21 01 38.7 +3.1
KNT Kendrikon 6.61 347 ePN Pn 21 01 39.7 +2.1
KNT Kendrikon 6.61 347 ePn Pn 21 01 39.7 +2.1
NVR Nevrokopi 6.66 354 ePN Pn 21 01 40.0 +1.6
NVR Nevrokopi 6.66 354 ePn Pn 21 01 40.0 +1.6
GEMT Gemlik 6.66 30 ePN Pn 21 01 38.9 +0.5
GEMT Gemlik 6.66 30 Pn Pn 21 01 38.9 +0.5
GEMT Gemlik 6.66 30 ePn Pn 21 01 38.9 +0.5
ERMK Ermenek 6.84 71 iP Pn 21 01 42.7 +1.6
ERMK Ermenek 6.84 71 iP Pn 21 01 42.7 +1.6
ERMK iS Sn 21 02 54.3 -3.8
KONT Konya--Tatoy 6.87 60 ePN Pn 21 01 44.0 +2.7
KONT Konya--Tatoy 6.87 60 Pn Pn 21 01 44.0 +2.7
KONT Konya--Tatoy 6.87 60 ePn Pn 21 01 44.0 +2.7
MMB Musomiste 6.91 353 P Pn 21 01 46.4 +4.6
MMB Musomiste 6.91 353⇓iP Pn 21 01 46.2 +4.4
RZN Rozhen 6.95 359 P Pn 21 01 49.2 +6.7
LADK Ladik-KONYA 6.98 58 ePN Pn 21 01 45.2 +2.2
LADK Ladik-KONYA 6.98 58 Pn Pn 21 01 45.2 +2.2
LADK Ladik-KONYA 6.98 58 ePn Pn 21 01 45.2 +2.2
CSS Prodhromos 6.98 86 ePn Pn 21 01 42.9 0.0
comp=Z,2.7nm,0.5s
CSS eSn Sn 21 03 00.4 -1.0
CSS Prodhromos 6.98 86 ePn Pn 21 01 42.9 0.0
comp=Z,2.7nm,0.5s
CSS eSn Sn 21 03 00.4 -1.0
KIZT Kizilcal 7.00 52 ePN Pn 21 01 45.4 +2.2
KIZT Kizilcal 7.00 52 Pn Pn 21 01 45.4 +2.2
KIZT Kizilcal 7.00 52 ePn Pn 21 01 45.4 +2.2
HMYD Mayadein 7.04 133 P Pn 21 01 43.8 +0.1
baz=134
HMYD Mayadein 7.04 133 P Pn 21 01 43.8 +0.1
KKB Krupnik 7.26 350 P Pn 21 01 51.4 +4.7
AWBH 7.27 150 P Pn 21 01 48.1 +1.4
baz=152
AWBH 7.27 150 P Pn 21 01 48.2 +1.4
KOT Kottamia 7.61 127 P Pn 21 01 52.4 +0.9
baz=128
KOT AMP 21 03 00.0
comp=N,50µm,0.5s,logA/T=5.0,baz=128
KOT Kottamia 7.61 127 P Pn 21 01 52.4 +0.9
HSAF As Saff 7.63 130 P Pn 21 01 52.5 +0.7
baz=131
HSAF As Saff 7.63 130 P Pn 21 01 52.5 +0.7
JMB Yambol 7.85 9⇓iP Pn 21 01 59.5 +4.8
TIP Timpagrande 7.85 307 ePn Pn 21 01 55.9 +1.1
TIP Timpagrande 7.85 307 ePn Pn 21 01 55.9 +1.1
VTS Vitosha 7.96 351 iP Pn 21 02 02.5 +6.2
VTS Vitosha 7.96 351⇑iP Pn 21 02 01.5 +5.2
CEL Celeste 8.02 299 ePn Pn 21 01 58.3 +1.2
CEL Celeste 8.02 299 ePn Pn 21 01 58.3 +1.2
HFRF Wahat Farafira 8.12 158 P Pn 21 01 60.0 +1.5
baz=159
HFRF Wahat Farafira 8.12 158 P Pn 21 02 00.0 +1.5
AMAG Maghara 8.14 118 P Pn 21 01 58.4 -0.4
baz=118
AMAG Maghara 8.14 118 P Pn 21 01 58.4 -0.4
ANTO Ankara 8.15 49 eP Pn 21 01 58.6 -0.3
ANTO Ankara 8.15 49 ePn Pn 21 01 58.6 -0.3
ANTO Ankara 8.15 49 eP Pn 21 01 58.6 -0.3
SUZ 8.34 124 P Pn 21 02 02.1 +0.7
baz=124
SUZ 8.34 124 P Pn 21 02 02.1 +0.7
RSH 8.36 114 P Pn 21 02 01.6 -0.2
baz=115
RSH 8.36 114 P Pn 21 02 01.6 -0.2
ZAF 8.50 128 P Pn 21 02 04.1 +0.4
baz=128
ZAF 8.50 128 P Pn 21 02 04.1 +0.4
BRTR Keskin Array B 8.61 52 Pn Pn 21 02 06.1 +0.8
comp=N,0.2nm,0.3s,baz=227,slow=14,SNR=11
BRTR Sn Sn 21 03 36.9 -4.6
baz=236,slow=15,SNR=1.6
CUC Castrocucco 8.90 309 ePn Pn 21 02 09.8 +0.6
CUC Castrocucco 8.90 309 ePn Pn 21 02 09.8 +0.6
MMAI Mount Meron Ar 8.95 98 Pn Pn 21 02 09.3 -0.6
comp=N,2.9nm,0.3s,baz=296,slow=11,SNR=27
MMAI Sn Sn 21 03 48.5 -1.3
comp=N,4.0nm,0.3s,baz=295,slow=24,SNR=5.7
MMAI LR LR 21 07 21.7
comp=N,47nm,20.9s,baz=15,slow=49
HNKL Nakhl 9.09 119 P Pn 21 02 11.9 +0.1
baz=120
HNKL Nakhl 9.09 119 P Pn 21 02 11.9 +0.1
ASUT 9.30 140 P Pn 21 02 16.2 +1.5
baz=141
ASUT 9.30 140 P Pn 21 02 16.2 +1.5
MSAB Monastry St. A 9.63 13⇓iP Pn 21 02 24.0 +4.9
STON Ston 9.86 328 ePn Pn 21 02 18.4 -3.8
STON Sn Sn 21 03 60.0 -12
TR2 9.86 127 P Pn 21 02 22.5 +0.1
baz=128
TR2 9.86 127 P Pn 21 02 22.5 +0.1
EIL Elat 9.94 118 Pn Pn 21 02 23.7 +0.3
comp=N,2.0nm,0.3s,baz=0.0,slow=9.1,SNR=34
EIL Sn Sn 21 04 11.2 -2.8
comp=N,2.1nm,0.3s,baz=72,slow=17,SNR=5.6
HKAT Jabal Katrina 9.95 126 P Pn 21 02 23.4 -0.4
baz=127
HKAT Jabal Katrina 9.95 126 P Pn 21 02 23.4 -0.4
TIRR Tirgusor 10.10 15⇑iP Pn 21 02 31.3 +5.8

TR1 10.27 128 P Pn 21 02 28.5 +0.5
baz=129
TR1 10.27 128 P Pn 21 02 28.5 +0.5
ASF Jabal al Asfar 10.39 101 Pn Pn 21 02 29.0 -0.7
comp=N,0.4nm,0.3s,baz=256,slow=11,SNR=4.6
ASF Sn Sn 21 04 24.0 -1.2
comp=N,0.2nm,0.3s,baz=311,slow=20,SNR=2.0
HHRG Al Ghardaqah 10.58 133 P Pn 21 02 33.6 +1.4
baz=133
HHRG Al Ghardaqah 10.58 133 P Pn 21 02 33.6 +1.4
ARR Arges 10.63 359⇑iP Pn 21 02 36.0 +3.1
VOIR 10.70 1⇓iP Pn 21 02 37.7 +3.9
LOT Lotru 10.74 356⇓iP Pn 21 02 39.6 +5.2
GZR Gura Zlata 10.77 352⇑iP Pn 21 02 39.5 +4.7
MLR Muntele Rosu 10.78 4 P Pn 21 02 35.6 +0.6
MLR MLR MLR
comp=Z,14nm,28.6s
MLR Muntele Rosu 10.78 4⇑iP Pn 21 02 40.0 +5.0
MLR Muntele Rosu 10.78 4 Pn Pn 21 02 35.6 +0.6
comp=Z,0.0nm,0.3s,baz=180,slow=10,SNR=1.9
MLR LR LR 21 06 59.4
comp=Z,27nm,21.6s,baz=171,slow=39
MLR Muntele Rosu 10.78 4 P Pn 21 02 35.6 +0.6
comp=Z,14nm,28.6s
PLOR Plostina 11.20 7⇓iP Pn 21 02 46.5 +5.9
VRI Vrincioaia 11.22 7⇓iP Pn 21 02 46.8 +5.9
DRGR 12.16 353⇑iP Pn 21 02 58.6 +4.8
NVLJ Novalja 12.46 325 iPn Pn 21 02 55.4 -2.4
NVLJ Sn Sn 21 05 02.5 -13
BOJS Bojanci 13.02 329 iPn Pn 21 03 05.3 -0.1
BOJS iSn Sn 21 05 19.9 -9.3
VISS Visnje 13.43 328 iPn Pn 21 03 09.6 -1.4
VISS iSn Sn 21 05 27.9 -12
JAVS Javornik 13.84 327 iPn Pn 21 03 15.1 -1.6
JAVS eSn Sn 21 05 38.0 -12
KOLS Kolonicke sedl 14.32 353 eP P 21 03 29.2 -0.9
KOLS Kolonicke sedl 14.32 353 eP P 21 03 29.2 -0.9
KOLS Kolonicke sedl 14.32 353 eP P 21 03 29.2 -0.9
CRVS Cervenica-Dubn 14.38 351 eP Pn 21 03 26.0 +1.9
CRVS Cervenica-Dubn 14.38 351 ePN Pn 21 03 26.0 +1.9
CRVS Cervenica-Dubn 14.38 351 ePn Pn 21 03 26.0 +1.9
VYHS Vyhne 14.46 344 eP P 21 03 30.7 -0.9
VYHS Vyhne 14.46 344 eP P 21 03 30.7 -0.9
VYHS Vyhne 14.46 344 eP P 21 03 30.7 -0.9
PGF Pioggiola 14.62 307 eP Pn 21 03 20.7 -6.8
PGF Pioggiola 14.62 307 eP Pn 21 03 20.7 -6.8
PGF Pioggiola 14.62 307 eP Pn 21 03 20.7 -6.8
LVV L'vov 15.09 358 eP Pn 21 03 32.7 -0.9
VRAC Vranov 15.79 340 Pn P 21 03 44.9 -1.5
comp=Z,0.3nm,0.3s,baz=165,slow=8.8,SNR=3.4
FETA Feichten 16.24 323⇑iPn P 21 03 53.3 +1.8
SBF Sospel 16.25 309 eP Pn 21 03 43.2 -5.5
SBF Sospel 16.25 309 eP Pn 21 03 43.2 -5.5
SBF Sospel 16.25 309 eP Pn 21 03 43.2 -5.5
KIEV Kiev 16.27 10 eP P 21 03 50.4 -1.2
KIEV pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 16.27 10 eP P 21 03 50.4 -1.2
comp=Z,14nm,0.8s
KIEV Kiev 16.27 10 eP P 21 03 50.4 -1.2
comp=Z,14nm,0.8s
AKASG Malin Array Be 16.28 10 P Pn 21 03 48.2 -0.8
AKASG pmax pmax
comp=Z,4.0nm,0.3s
AKASG Malin Array Be 16.28 10 Pn Pn 21 03 48.1 -0.8
comp=Z,3.5nm,0.3s,baz=200,slow=11,SNR=17
GERES GERESS Array B 16.34 333 P Pn 21 03 51.3 +1.4
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES MLR MLR
comp=Z,57nm,18.7s
GERES GERESS Array B 16.34 333 Pn Pn 21 03 51.3 +1.4
comp=Z,0.5nm,0.3s,baz=146,slow=11,SNR=24
GERES LR LR 21 12 04.2
comp=Z,57nm,18.7s,baz=216,slow=44
KRLC Kraliky 16.44 341 eP P 21 03 54.8 +1.2
KRLC Kraliky 16.44 341 eP P 21 03 54.8 +1.2
KRLC ex x 21 03 59.8
KRLC Kraliky 16.44 341 eP P 21 03 54.8 +1.2
TUE Stuetta 16.58 320 ePn P 21 03 55.1 -0.2
comp=Z,15nm,1.3s
TUE Stuetta 16.58 320 ePn P 21 03 55.1 -0.2
comp=Z,15nm,1.3s
KBZ Khabaz 16.60 52 P P 21 03 55.9 +0.6
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ Khabaz 16.60 52 Pn P 21 03 55.9 +0.6
comp=Z,0.7nm,0.3s,baz=243,slow=12,SNR=35
KHC Kasperske Hory 16.63 333 eP P 21 03 57.0 +1.3
KHC Kasperske Hory 16.63 333 eP P 21 03 57.0 +1.3
KHC Kasperske Hory 16.63 333 eP P 21 03 57.0 +1.3
GNI Garni 16.70 65 eP Pn 21 03 55.6 +1.1
GNI pmax pmax
comp=Z,6.0nm,0.6s
GNI Garni 16.70 65 LR LR 21 10 55.1
comp=Z,32nm,19.3s,baz=274,slow=39
GNI Garni 16.70 65 ePn Pn 21 03 55.5 +1.1
comp=Z,5.5nm,0.6s
GNI Garni 16.70 65 ePn Pn 21 03 55.5 +1.1
comp=Z,5.5nm,0.6s
DPC Dobruska-Polom 16.81 341 eP P 21 04 02.1 +4.4
DPC Dobruska-Polom 16.81 341 eP P 21 04 02.1 +4.4
DPC ex x 21 04 12.0
ZEI Tsey 16.88 56 eP P 21 03 58.3 -0.4
ZEI pmax pmax
comp=Z,6.0nm,0.5s
PRU Pruhonice 17.02 337 eP P 21 04 04.7 +4.8
PRU Pruhonice 17.02 337 eP P 21 04 04.7 +4.8
MBDF Montbardon 17.08 311 eP Pn 21 03 55.0 -4.3
comp=Z,14nm,0.9s
MBDF Montbardon 17.08 311 eP Pn 21 03 55.0 -4.3
MBDF pmax pmax
comp=Z,14nm,0.9s
MBDF Montbardon 17.08 311 eP Pn 21 03 55.0 -4.3
comp=Z,14nm,0.9s
LPG La Plagne 17.49 313 eP Pn 21 04 03.0 -1.5
LPG La Plagne 17.49 313 eP Pn 21 04 03.0 -1.5
LPG La Plagne 17.49 313 eP Pn 21 04 03.0 -1.5
LPL La Plagne 17.51 313 eP Pn 21 04 03.1 -1.6
LPL La Plagne 17.51 313 eP Pn 21 04 03.1 -1.6
LPL La Plagne 17.51 313 eP Pn 21 04 03.1 -1.6
ORIF Oris-en-Rattie 17.73 311 eP Pn 21 04 03.2 -4.1
ORIF eR
comp=Z,77nm,19.5s
ORIF Oris-en-Rattie 17.73 311 eP Pn 21 04 03.2 -4.1
ORIF Oris-en-Rattie 17.73 311 eP Pn 21 04 03.2 -4.1
CABF La Chapelle 18.48 316 eP P 21 04 14.1 -2.1
CABF La Chapelle 18.48 316 eP P 21 04 14.1 -2.1
CABF La Chapelle 18.48 316 eP P 21 04 14.1 -2.1
CLL Collm 18.66 336 eP Pn 21 04 19.0 +0.6
HINF Hinteralfeld 18.75 320 eP P 21 04 17.3 -1.8
HINF Hinteralfeld 18.75 320 eP P 21 04 17.3 -1.8
HINF Hinteralfeld 18.75 320 eP P 21 04 17.3 -1.8
HINF Hinteralfeld 18.75 320 eP P 21 04 17.3 -1.8
CDF Champ du Feu 18.90 322 eP Pn 21 04 21.3 -0.3
comp=Z,14nm,1.1s
CDF Champ du Feu 18.90 322 eP Pn 21 04 21.3 -0.3
CDF pmax pmax
comp=Z,14nm,1.1s
CDF Champ du Feu 18.90 322 eP Pn 21 04 21.3 -0.3
comp=Z,14nm,1.1s
CDF Champ du Feu 18.90 322 eP Pn 21 04 21.3 -0.3
comp=Z,7.1nm,1.1s
HAU Haudompre 19.14 319 eP P 21 04 22.7 -0.6
comp=Z,16nm,1.0s
HAU eR
comp=Z,91nm,17.5s
HAU Haudompre 19.14 319 eP P 21 04 22.7 -0.6
HAU pmax pmax
comp=Z,16nm,1.0s
HAU Haudompre 19.14 319 eP P 21 04 22.7 -0.6
comp=Z,16nm,1.0s
HAU Haudompre 19.14 319 eP P 21 04 22.7 -0.6
comp=Z,7.9nm,1.0s
SUW Suwalki 19.32 357 eP P 21 04 23.7 -1.5
SUW pmax pmax
comp=Z,17nm,0.4s
SUW Suwalki 19.32 357 eP P 21 04 23.6 -1.5
comp=Z,17nm,0.4s
SUW Suwalki 19.32 357 eP P 21 04 23.7 -1.5
comp=Z,17nm,0.4s
SMF Signal de Mont 19.81 313 eP P 21 04 27.0 -3.7
SMF Signal de Mont 19.81 313 eP P 21 04 27.0 -3.7
SMF Signal de Mont 19.81 313 eP P 21 04 27.0 -3.7

SFTF Sexfontaines 19.96 318 eP P 21 04 32.2 -0.1
comp=Z,20nm,0.9s
SFTF Sexfontaines 19.96 318 eP P 21 04 32.2 -0.1
comp=Z,20nm,0.9s
SFTF Sexfontaines 19.96 318 eP P 21 04 32.2 -0.1
comp=Z,10nm,0.9s
LOR Lormes 20.12 315 eP P 21 04 33.8 -0.2
comp=Z,4.8nm,0.5s
LOR eR
comp=Z,67nm,17.5s
LOR Lormes 20.12 315 eP P 21 04 33.8 -0.2
LOR pmax pmax
comp=Z,5.0nm,0.4s
LOR Lormes 20.12 315 eP P 21 04 33.8 -0.2
comp=Z,4.8nm,0.4s
LOR Lormes 20.12 315 eP P 21 04 33.8 -0.2
comp=Z,2.4nm,0.5s
MEZF Maizieres J'vi 20.13 319 eP P 21 04 34.4 +0.3
MEZF Maizieres J'vi 20.13 319 eP P 21 04 34.4 +0.3
MEZF Maizieres J'vi 20.13 319 eP P 21 04 34.4 +0.3
AVF Avril sur Loir 20.18 313 eP P 21 04 34.3 -0.4
AVF Avril sur Loir 20.18 313 eP P 21 04 34.3 -0.4
AVF Avril sur Loir 20.18 313 eP P 21 04 34.3 -0.4
AVF Avril sur Loir 20.18 313 eP P 21 04 34.3 -0.4
CAF Calviac 20.18 307 eP P 21 04 34.7 -0.1
CAF Calviac 20.18 307 eP P 21 04 34.7 -0.1
CAF Calviac 20.18 307 eP P 21 04 34.7 -0.1
CAF Calviac 20.18 307 eP P 21 04 34.7 -0.1
SSF Saint Saulge 20.22 314 eP P 21 04 35.1 0.0
SSF Saint Saulge 20.22 314 eP P 21 04 35.1 0.0
SSF Saint Saulge 20.22 314 eP P 21 04 35.1 0.0
SSF Saint Saulge 20.22 314 eP P 21 04 35.1 0.0
BGF Bois d'Agland 20.38 312 eP P 21 04 36.8 0.0
comp=Z,15nm,0.9s
BGF Bois d'Agland 20.38 312 eP P 21 04 36.8 0.0
BGF pmax pmax
comp=Z,15nm,0.9s
BGF Bois d'Agland 20.38 312 eP P 21 04 36.8 0.0
comp=Z,15nm,0.9s
BGF Bois d'Agland 20.38 312 eP P 21 04 36.8 0.0
comp=Z,7.7nm,0.9s
TCF Toulx Ste Croi 20.65 311 eP P 21 04 39.2 -0.6
TCF Toulx Ste Croi 20.65 311 eP P 21 04 39.2 -0.6
TCF Toulx Ste Croi 20.65 311 eP P 21 04 39.2 -0.6
TCF Toulx Ste Croi 20.65 311 eP P 21 04 39.2 -0.6
TAM Tamanrasset 20.65 240 eP Pn 21 04 43.5 +0.9
TAM pmax pmax
comp=Z,2.0nm,0.6s
TAM Tamanrasset 20.65 240 eP Pn 21 04 43.5 +0.9
comp=Z,2.2nm,0.6s
RJF Les Rejaudoux 20.68 308 eP P 21 04 39.5 -0.7
RJF eR
comp=Z,70nm,20.8s
RJF Les Rejaudoux 20.68 308 eP P 21 04 39.5 -0.7
RJF Les Rejaudoux 20.68 308 eP P 21 04 39.5 -0.7
RJF Les Rejaudoux 20.68 308 eP P 21 04 39.5 -0.7
EPF Esparros 20.75 301 eP P 21 04 39.6 -1.3
comp=Z,45nm,1.4s
EPF Esparros 20.75 301 eP P 21 04 39.6 -1.3
EPF pmax pmax
comp=Z,45nm,1.4s
EPF Esparros 20.75 301 eP P 21 04 39.6 -1.3
comp=Z,45nm,1.4s
EPF Esparros 20.75 301 eP P 21 04 39.6 -1.3
comp=Z,22nm,1.4s
MEM Membach 20.97 325 P P 21 04 44.0 +0.8
comp=Z,7.2nm,1.1s
RAYN Ar Rayn 21.18 116 eP P 21 04 48.5 +2.7
comp=Z,9.2nm,1.0s
RAYN Ar Rayn 21.18 116 eP P 21 04 48.5 +2.7
comp=Z,9.2nm,1.0s
GIVF Givet 21.22 322 eP P 21 04 45.7 -0.2
GIVF Givet 21.22 322 eP P 21 04 45.7 -0.2
GIVF Givet 21.22 322 eP P 21 04 45.7 -0.2
GIVF Givet 21.22 322 eP P 21 04 45.7 -0.2
DOU Dourbes 21.33 322 P P 21 04 47.4 +0.4
ETSF Etsaut 21.35 300 eP P 21 04 47.0 -0.5
comp=Z,66nm,1.5s
ETSF Etsaut 21.35 300 eP P 21 04 47.0 -0.5
ETSF pmax pmax
comp=Z,66nm,1.5s
ETSF Etsaut 21.35 300 eP P 21 04 47.0 -0.5
comp=Z,66nm,1.5s
ETSF Etsaut 21.35 300 eP P 21 04 47.0 -0.5
comp=Z,33nm,1.5s
BAIF Baives 21.50 322 eP P 21 04 47.1 -1.8
comp=Z,17nm,0.7s
BAIF Baives 21.50 322 eP P 21 04 47.1 -1.8
BAIF pmax pmax
comp=Z,17nm,0.7s
BAIF Baives 21.50 322 eP P 21 04 47.1 -1.8
comp=Z,17nm,0.7s
BAIF Baives 21.50 322 eP P 21 04 47.1 -1.8
comp=Z,8.6nm,0.7s
SJPF Ste Jean 21.88 300 eP P 21 04 53.2 +0.2
comp=Z,15nm,1.0s
SJPF Ste Jean 21.88 300 eP P 21 04 53.2 +0.2
SJPF pmax pmax
comp=Z,15nm,1.0s
SJPF Ste Jean 21.88 300 eP P 21 04 53.2 +0.2
comp=Z,15nm,1.0s
SJPF Ste Jean 21.88 300 eP P 21 04 53.2 +0.2
comp=Z,7.6nm,1.0s
OBN Obninsk 21.95 18 P P 21 04 52.8 -0.9
comp=Z,11nm,0.5s,baz=114,slow=18,SNR=4.5
MFF Saint Martin d 22.26 310 eP P 21 04 55.7 -1.4
MFF Saint Martin d 22.26 310 eP P 21 04 55.7 -1.4
MFF Saint Martin d 22.26 310 eP P 21 04 55.7 -1.4
MFF Saint Martin d 22.26 310 eP P 21 04 55.7 -1.4
LDF La Druitiere 23.10 314 eP P 21 05 05.3 -0.6
LDF La Druitiere 23.10 314 eP P 21 05 05.3 -0.6
LDF La Druitiere 23.10 314 eP P 21 05 05.3 -0.6
LDF La Druitiere 23.10 314 eP P 21 05 05.3 -0.6
FLN La Foliniere 23.39 315 eP P 21 05 07.1 -1.7
FLN eR
comp=Z,82nm,20.2s
FLN La Foliniere 23.39 315 eP P 21 05 07.1 -1.7
FLN La Foliniere 23.39 315 eP P 21 05 07.1 -1.7
FLN La Foliniere 23.39 315 eP P 21 05 07.1 -1.7
ESDC Sonseca Array 23.42 291 P P 21 05 09.5 +0.2
comp=Z,1.9nm,0.9s,baz=79,slow=9.4,SNR=8.2
GRR Gorron 23.45 313 eP P 21 05 08.0 -1.3
GRR Gorron 23.45 313 eP P 21 05 08.0 -1.3
GRR Gorron 23.45 313 eP P 21 05 08.0 -1.3
GRR Gorron 23.45 313 eP P 21 05 08.0 -1.3
MDT Midelt 24.52 274 P P 21 05 20.9 +1.2
comp=Z,1.1nm,0.5s,baz=78,slow=6.9,SNR=3.4
HFS Hagfors 26.44 347 P P 21 05 35.9 -0.8
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS Hagfors 26.44 347 P P 21 05 35.9 -0.8
comp=Z,1.0nm,0.3s,baz=149,slow=9.7,SNR=13
FINES FINESS Array B 26.75 1 P P 21 05 36.8 -2.6
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES MLR MLR
comp=Z,70nm,20.8s
FINES FINESS Array B 26.75 1 P P 21 05 36.8 -2.6
comp=Z,0.6nm,0.4s,baz=170,slow=12,SNR=9.1
FINES LR LR 21 16 04.8
comp=Z,70nm,20.8s,baz=89,slow=36
KONO Kongsberg 26.86 343 eP P 21 05 42.5 +2.0
KONO pmax pmax
comp=Z,5.0nm,0.9s
KONO Kongsberg 26.86 343 eP P 21 05 42.5 +2.0
comp=Z,5.0nm,0.9s
KONO Kongsberg 26.86 343 eP P 21 05 42.5 +2.0
comp=Z,5.0nm,0.9s
KAF Kangasniemi 27.42 1 eP P 21 05 45.2 -0.3
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 27.42 1 ep P 21 05 45.2 -0.3
comp=Z,1.9nm,0.5s
KAF Kangasniemi 27.42 1 eP P 21 05 45.2 -0.3
comp=Z,2.0nm,0.5s
NOA NORSAR Array B 27.75 346 P P 21 05 47.4 -1.1
comp=Z,0.2nm,0.3s,baz=147,slow=8.6,SNR=7.3
EKA Eskdalemuir Ar 28.25 325 P P 21 05 52.3 -0.6
EKA pmax pmax
comp=Z,1.0nm,0.3s
EKA Eskdalemuir Ar 28.25 325 P P 21 05 52.3 -0.6
comp=Z,0.5nm,0.3s,baz=124,slow=8.1,SNR=5.7
JOF Joensuu 28.50 6 eP P 21 05 52.2 -2.9
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 28.50 6 ep P 21 05 52.2 -2.9
comp=Z,1.1nm,0.4s
AKTK Aktyubinsk 28.74 47 P P 21 05 56.1 -1.3
comp=Z,2.0nm,0.5s
AKTO Aktyubinsk 28.74 47 P P 21 05 56.1 -1.3
AKTO pmax pmax
comp=Z,2.0nm,0.5s
AKTO Aktyubinsk 28.74 47 P P 21 05 56.0 -1.3
comp=Z,2.4nm,0.5s,baz=250,slow=7.0,SNR=3.9
ABKAR Akbulak array 29.55 50 eP P 21 06 03.7 -0.9
comp=Z,0.7nm,0.4s
ABKAR Akbulak array 29.55 50 eP P 21 06 03.7 -0.9
comp=Z,0.7nm,0.4s
TOA0 Torodi Ar. Sit 30.01 230 eP P 21 06 10.2 +1.3
TOA0 Torodi Ar. Sit 30.01 230 eP P 21 06 10.2 +1.3
TORD Torodi Ar. Bea 30.01 230 P P 21 06 10.7 +1.7
comp=Z,3.9nm,0.5s,baz=34,slow=8.6,SNR=89
ARCES ARCESS Array B 34.86 0 P P 21 06 48.8 -2.1
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES MLR MLR
comp=Z,62nm,19.0s
ARCES ARCESS Array B 34.86 0 P P 21 06 48.8 -2.1
comp=Z,1.8nm,0.7s,baz=185,slow=9.8,SNR=15
ARCES LR LR 21 21 11.3
comp=Z,62nm,19.0s,baz=306,slow=36
KKAR Karatay Array 36.13 63 eP P 21 06 59.5 -2.7
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 36.13 63 eP P 21 06 59.5 -2.7
comp=Z,0.8nm,0.5s
BVAR Borovoye Array 36.84 46 P P 21 07 08.0 0.0
comp=Z,0.2nm,0.4s,baz=262,slow=10.0,SNR=2.9
AAK Ala-Archa 39.09 63 P P 21 07 27.8 +0.5
AAK pmax pmax
comp=Z,1.0nm,0.4s
AAK Ala-Archa 39.09 63 P P 21 07 27.8 +0.5
comp=Z,0.6nm,0.4s,baz=253,slow=14,SNR=5.9
DBIC Dimbokro 39.09 231 P P 21 07 28.8 +1.4
DBIC pmax pmax
comp=Z,4.0nm,0.5s
DBIC Dimbokro 39.09 231 P P 21 07 28.8 +1.4
comp=Z,3.9nm,0.5s,baz=9.4,slow=7.6,SNR=9.5
KURBB Kurchatov Arra 41.60 51 P P 21 07 47.5 -0.3
comp=Z,0.6nm,0.4s,baz=271,slow=8.3,SNR=14
KURK Kurchatov 41.66 50 P P 21 07 47.5 -0.7
KURK pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 41.66 50 P P 21 07 47.5 -0.7
KURK Kurchatov 41.66 50 P P 21 07 47.5 -0.7
comp=Z,1.0nm,0.4s
SPITS Spitsbergen Ar 43.71 357 P P 21 08 04.7 +0.1
SPITS pmax pmax
comp=Z,7.0nm,1.0s
SPITS Spitsbergen Ar 43.71 357 P P 21 08 04.7 +0.1
comp=Z,7.1nm,1.0s,baz=171,slow=10,SNR=4.2
MKAR Makanchi Array 44.23 56 P P 21 08 09.4 +0.2
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 44.23 56 P P 21 08 09.3 +0.2
comp=Z,3.3nm,0.5s,baz=269,slow=7.8,SNR=88
NVS Novosibirsk 44.58 45 eP P 21 08 12.0 +0.2
NVS pmax pmax
comp=Z,4.0nm,0.8s
NVS Novosibirsk 44.58 45 eP P 21 08 12.0 +0.2
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 45.49 46 P P 21 08 18.3 -0.8
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 45.49 46 P P 21 08 18.3 -0.8
comp=Z,2.3nm,0.4s,baz=273,slow=8.1,SNR=14
DANN Dangsing 50.01 80 eP P 21 08 55.0 +0.1
comp=Z,12nm,0.5s
DANN Dangsing 50.01 80 eP P 21 08 55.0 +0.1
comp=Z,12nm,0.5s
DANN Dangsing 50.01 80 eP P 21 08 55.0 +0.1
comp=Z,12nm,0.5s
GKN Gorkha 50.86 80 eP P 21 09 01.2 +0.1
comp=Z,5.0nm,0.5s
GKN Gorkha 50.86 80 eP P 21 09 01.2 +0.1
comp=Z,5.0nm,0.5s
GKN Gorkha 50.86 80 eP P 21 09 01.2 +0.1
comp=Z,5.0nm,0.5s
DMN Daman 51.39 80 eP P 21 09 05.5 +0.2
comp=Z,7.7nm,0.7s
DMN Daman 51.39 80 eP P 21 09 05.5 +0.2
comp=Z,7.7nm,0.7s
DMN Daman 51.39 80 eP P 21 09 05.5 +0.2
comp=Z,7.7nm,0.7s
KKN Kakani 51.46 80 eP P 21 09 06.6 +0.9
KKN Kakani 51.46 80 eP P 21 09 06.6 +0.9
KKN Kakani 51.46 80 eP P 21 09 06.6 +0.9
KKN Kakani 51.46 80 eP P 21 09 06.6 +0.9
PKIN Phulchoki 51.64 80 eP P 21 09 06.8 -0.3
PKI Pulchoki 51.66 80 eP P 21 09 07.7 +0.4
PKI Pulchoki 51.66 80 eP P 21 09 07.7 +0.4
PKI Pulchoki 51.66 80 eP P 21 09 07.7 +0.4
PKI Pulchoki 51.66 80 eP P 21 09 07.7 +0.4
GUN Gumba 51.90 80 eP P 21 09 10.0 +0.8
GUN Gumba 51.90 80 eP P 21 09 10.0 +0.8
GUN Gumba 51.90 80 eP P 21 09 10.0 +0.8
JIRN Jiri 52.25 80 eP P 21 09 12.0 +0.2
comp=Z,3.7nm,0.5s
JIRN Jiri 52.25 80 eP P 21 09 12.0 +0.2
comp=Z,3.7nm,0.5s
JIRN Jiri 52.25 80 eP P 21 09 12.0 +0.2
comp=Z,3.7nm,0.5s
SONM Songino Array 59.96 50 P P 21 10 07.0 +0.7
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 59.96 50 P P 21 10 07.0 +0.7
comp=Z,0.8nm,0.5s,baz=283,slow=7.0,SNR=14
SCHQ Schefferville 63.35 320 P P 21 10 29.2 +0.3
comp=Z,6.7nm,0.9s,baz=71,slow=7.9,SNR=12
CMAR Chiang Mai Arr 66.88 83 P P 21 10 52.6 +0.2
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 66.88 83 P P 21 10 52.6 +0.2
comp=Z,0.6nm,0.3s,baz=298,slow=8.1,SNR=4.2
INK Inuvik 76.01 352 P P 21 11 46.4 -0.2
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 76.01 352 P P 21 11 46.4 -0.2
comp=Z,0.9nm,0.5s,baz=33,slow=4.6,SNR=8.2
USRK Ussuriysk Arra 77.33 45 P P 21 11 55.2 +0.7
comp=Z,1.4nm,0.5s,baz=180,slow=26,SNR=4.4
YKA Yellowknife Ar 77.78 342 P P 21 11 56.9 +0.2
comp=Z,0.4nm,0.5s,baz=32,slow=5.3,SNR=9.3
KSAR Wonju Array Be 78.73 52 P P 21 12 03.7 +1.3
KSAR Wonju Array Be 78.73 52 P P 21 12 03.7 +1.3
KSAR Wonju Array Be 78.73 52 P P 21 12 03.7 +1.3
KSRS Korea Array 78.75 52 P P 21 12 03.7 +1.2
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS Korea Array 78.75 52 P P 21 12 03.7 +1.2
comp=Z,0.7nm,0.5s,baz=312,slow=5.1,SNR=4.6
ILAR Eielson Array 80.62 356 P P 21 12 12.8 +0.7
comp=Z,0.3nm,0.5s,baz=338,slow=4.2,SNR=7.4
WRA Warramunga Arr 116.80 97 PKP PKPdf 21 18 44.6 -0.1
comp=Z,0.1nm,0.5s,baz=319,slow=1.5,SNR=3.1

ISCJB 12 21:16:17.6±0.7,24°.92N±0°.09×96°.77E±0°.06,h10km, mb3.4/7,Error ellipse: s-maj=12.8km s-min=7.1km az=18.5
IDC 12 21:16:17.8±1.0,24°.96N×96°.78E,h0km,mb3.6/7, mb1 3.7/8,mb1mx3.4/42,mbtmp3.6/8,ML3.8/1,Error ellipse: s-maj=53.6km s-min=14.5km az=65.0
BJI 12 21:16:21.6,24°.91N×96°.66E,h12km,mb3.8/3,ML3.5/4
ISC 12 21:16:19.7±0.9,24°.9N±0°.1×96°.63E±0°.08,h10km,n11, σ1°.07/11,mb3.6/7,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	4.35	280	eP	Sn	21 18 26.6	+10
SHL				eS	Sg	21 19 06.6	+27
KMI	Kunming	5.55	86	Pg	Pg	21 18 07.5	+1.4
KMI				Sg	Sg	21 19 17.2	-0.8
KMI				smax	smax		
	comp=N,19nm,0.8s						
KMI				smax	smax		
	comp=E,17nm,0.9s						
KMI				LR	LR		
	comp=N,190nm,5.9s						
KMI				LR	LR		
	comp=E,240nm,4.3s						
CMAR	Chiang Mai Arr	6.77	161	Pn	Pn	21 17 59.8	+0.6
	comp=E,0.5nm,0.3s,baz=336,slow=13,SNR=11						
CMAR				Pg	Pb	21 18 24.2	+6.8
	comp=E,0.5nm,0.3s,baz=337,slow=18,SNR=14						
CMAR				Lg	Lg	21 19 54.0	
	baz=343,slow=30,SNR=3.1						
LSA	Lhasa	6.82	316	Pn	Pn	21 18 01.3	+1.0
SONM	Songino Array	24.16	16	P	P	21 21 35.5	-0.6
	comp=E,0.2nm,0.7s,baz=194,slow=10,SNR=2.5						
MKAR	Makanchi Array	24.66	336	P	P	21 21 40.5	-0.2
	comp=E,2.1nm,0.8s,baz=140,slow=8.1,SNR=26						
AAK	Ala-Archa	25.39	320	P	P	21 21 47.7	+0.2
	comp=E,0.9nm,0.7s,baz=130,slow=7.9,SNR=3.2						
KURBB	Kurchatov Arra	29.23	336	P	P	21 22 20.4	-1.2
	comp=E,0.3nm,0.4s,baz=146,slow=8.9,SNR=3.6						
ZALV	Zalesovo Beam	30.32	346	P	P	21 22 31.2	-0.1
	comp=E,0.8nm,0.6s,baz=155,slow=7.2,SNR=5.5						
WRA	Warramunga Arr	57.73	137	P	P	21 26 09.3	-1.7
	comp=E,0.6nm,1.0s,baz=328,slow=7.6,SNR=2.6						
ASAR	Alice Springs	60.31	140	P	P	21 26 28.4	-0.5
	comp=E,0.2nm,0.8s,baz=324,slow=9.2,SNR=2.9						

IDC 12 21:31:04.7±1.3,21°.78S×68°.93E,h0km,mb3.7/9, mb1 3.8/9,mb1mx3.7/26,mbtmp3.7/9,MS3.4/1,Ms1 3.6/1, ms1mx2.8/24,Error ellipse: s-maj=42.8km s-min=24.1km az=27.0
ISCJB 12 21:31:05.8±1.2,21°.8S±0°.3×69°.0E±0°.2,h19km,mb3.6/9, MS3.4/1,Error ellipse: s-maj=39.6km s-min=21.9km az=27.5
ISC 12 21:31:07.8±1.5,21°.8S±0°.3×68°.9E±0°.2,h19km,n12, σ0°.43/9,mb3.8/9,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	14.47	14	T	T	21 49 11.4	
	baz=194						
H08S2	Diego Garcia H	14.48	14	T	T	21 49 13.6	
	baz=194,slow=74						
H08S3	Diego Garcia H	14.49	14	T	T	21 49 12.9	
	baz=194,slow=74						
CMAR	Chiang Mai Arr	49.62	39	P	P	21 39 58.5	+0.2
	0.7nm,0.9s,baz=224,slow=8.2,SNR=6.0						
CMAR				LR	LR	21 58 45.2	
	comp=Z,38nm,19.4s,baz=198,slow=34						
ASAR	Alice Springs	59.47	105	P	P	21 41 09.8	-0.2
	1.1nm,1.0s,baz=269,slow=6.0,SNR=6.3						
WRA	Warramunga Arr	60.72	101	P	P	21 41 18.6	0.0
	1.1nm,1.0s,baz=262,slow=6.8,SNR=5.8						
MKAR	Makanchi Array	69.32	10	P	P	21 42 13.0	-0.9
	1.1nm,0.9s,baz=194,slow=3.0,SNR=10						
BRTR	Keskin Array B	69.51	332	P	P	21 42 15.2	-0.1
	0.7nm,0.9s,baz=140,slow=7.5,SNR=4.3						
TORD	Torodi Ar. Bea	74.53	291	P	P	21 42 45.8	0.0
	0.4nm,0.9s,baz=96,slow=4.1,SNR=3.1						
ZALV	Zalesovo Beam	76.66	10	P	P	21 42 57.6	+0.5
	0.4nm,0.3s,baz=225,slow=3.9,SNR=4.7						
SONM	Songino Array	77.04	25	P	P	21 42 59.7	+0.1
	0.4nm,0.9s,baz=205,slow=6.4,SNR=3.6						
AKASG	Malin Array Be	80.23	336	P	P	21 43 17.1	+0.3
	0.1nm,0.3s,baz=114,slow=4.5,SNR=3.0						

IDC 12 21:31:43.5±1.3,21°.85S×68°.93E,h0km,mb3.7/8, mb1 3.9/8,mb1mx3.7/26,mbtmp3.7/8,Error ellipse: s-maj=45.1km s-min=24.0km az=27.0
ISCJB 12 21:31:44.5±1.2,21°.9S±0°.3×69°.0E±0°.2,h19km,mb3.7/8, Error ellipse: s-maj=41.6km s-min=22.3km az=27.6
ISC 12 21:31:46.6±1.5,21°.9S±0°.3×68°.9E±0°.2,h19km,n11, σ0°.58/8,mb3.9/8,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	14.55	14	T	T	21 49 48.1	
	baz=194						
H08S2	Diego Garcia H	14.55	14	T	T	21 49 49.0	
	baz=194						
H08S3	Diego Garcia H	14.57	14	T	T	21 49 48.6	
	baz=194						
CMAR	Chiang Mai Arr	49.68	39	P	P	21 40 38.0	+0.4
	0.8nm,0.9s,baz=241,slow=7.7,SNR=5.5						
ASAR	Alice Springs	59.45	105	P	P	21 41 49.2	+0.6
	0.9nm,0.7s,baz=264,slow=5.4,SNR=7.0						
WRA	Warramunga Arr	60.70	101	P	P	21 41 56.5	-0.7
	1.1nm,0.9s,baz=260,slow=6.6,SNR=5.8						
MKAR	Makanchi Array	69.40	10	P	P	21 42 52.4	-0.7
	1.1nm,0.8s,baz=204,slow=2.5,SNR=8.8						
BRTR	Keskin Array B	69.58	332	P	P	21 42 54.8	+0.3
	0.7nm,0.9s,baz=150,slow=6.5,SNR=3.9						
TORD	Torodi Ar. Bea	74.56	291	P	P	21 43 24.7	0.0
	0.5nm,0.8s,baz=101,slow=5.9,SNR=2.9						
ZALV	Zalesovo Beam	76.74	10	P	P	21 43 36.2	-0.2
	0.8nm,0.6s,baz=212,slow=5.1,SNR=4.9						
AKASG	Malin Array Be	80.29	336	P	P	21 43 56.1	0.0
	0.1nm,0.3s,baz=146,slow=4.5,SNR=3.1						

CASC 12 21:41:38.3±2.1,13°.63N×91°.42W,h15km±20km,MD3.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.72	343	eP	Pg	21 41 52.3	0.0
IXG	Ixpaco	1.08	60	eP	Pb	21 41 56.9	-2.1
NBG	Las Nubes	1.41	47	eP	Pb	21 42 04.4	-0.3
NBG				eS	Sb	21 42 23.2	+0.5
RBDL	Robledal	1.75	74	eP	Pn	21 42 07.8	-0.5

IDC 12 22:36:26.1±5.3,5°.64S×148°.56E,h120km±45km,mb2.6/2, mb1 2.8/4,mb1mx2.7/25,mbtmp3.1/4,Error ellipse: s-maj=116.9km s-min=39.4km az=107.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.99	200	P	Pn	22 37 27.5	+2.0
	2.2nm,0.3s,baz=17,slow=11,SNR=5.2						
PMG				S	Sn	22 38 11.0	-0.5
	4.3nm,0.3s,baz=18,slow=20,SNR=9.1						
WRA	Warramunga Arr	19.83	223	P	P	22 40 48.2	+0.7
	0.1nm,0.3s,baz=48,slow=9.2,SNR=5.4						
ASAR	Alice Springs	22.81	217	P	P	22 41 19.4	+0.5
	0.3nm,0.7s,baz=52,slow=9.2,SNR=3.2						
MKAR	Makanchi Array	78.22	320	P	P	22 48 11.7	-0.8
	0.1nm,0.4s,baz=96,slow=7.9,SNR=4.4						
TORD	Torodi Ar. Bea	146.50	285	PKPbc	PKPbc	22 55 53.8	-0.7
	0.2nm,0.4s,baz=80,slow=2.9,SNR=6.3						

IDC 12 22:56:26.9±1.7,21°.67S×69°.00E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/25,mbtmp3.5/4,Error ellipse: s-maj=69.8km s-min=32.3km az=29.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	14.34	14	T	T	23 14 29.4	
	baz=194,slow=76,SNR=4.8						
H08S2	Diego Garcia H	14.34	14	T	T	23 14 30.6	
	baz=194,slow=76,SNR=9.8						
H08S3	Diego Garcia H	14.36	14	T	T	23 14 30.0	
	baz=194,slow=76,SNR=8.8						
ASAR	Alice Springs	59.46	105	P	P	23 06 31.6	-0.4
	0.4nm,0.7s,baz=262,slow=6.1,SNR=5.0						
WRA	Warramunga Arr	60.69	101	P	P	23 06 41.0	+0.4
	0.6nm,0.8s,baz=255,slow=6.5,SNR=3.8						
MKAR	Makanchi Array	69.19	10	P	P	23 07 35.2	-0.1
	0.4nm,0.7s,baz=191,slow=5.9,SNR=5.7						
TORD	Torodi Ar. Bea	74.53	291	P	P	23 08 08.2	+0.1
	0.2nm,0.6s,baz=100,slow=5.3,SNR=2.8						

MOS 12 23:08:06.1±0.9,6°.01S×147°.55E,h52km,mb4.5/7,Error ellipse: s-maj=20.0km s-min=8.4km az=84.2
IDC 12 23:08:07.9±2.4,6°.06S×147°.86E,h62km±21km,mb4.1/16, mb1 4.3/19,mb1mx4.3/22,mbtmp4.4/19,MS3.5/9, Ms1 3.5/9,ms1mx3.3/25,Error ellipse: s-maj=23.2km s-min=11.8km az=80.0
NEIC 12 23:08:07.7±1.3,6°.04S×147°.74E,h61km±11km,mb5.0/20, Error ellipse: s-maj=9.4km s-min=6.2km az=52.0
BJI 12 23:08:07.8,6°.10S×147°.70E,h68km,mB5.1/13,mb4.7/20, Ms4.8/7,Ms7 4.5/6
ISCJB 12 23:08:08.0±0.3,6°.10S±0°.03×147°.82E±0°.05,h77km,

mb4.6/46, Error ellipse: s-maj=7.0km s-min=4.1km az=3.8
*DJA **12** 23:08:23.1±1.3, 7°S±10°×14°8E±1°3, h104km±8km, M4.8/11, mb4.6/11, mB5.2/2, MLv4.8/3, Mw(mB)4.7/2*
ISC 12 23:08:10.1±0.4, 6°19S±0°04×147°74E±0°07, h77km, n104, σ1§61/124, mb4.8/45, 9C-12D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.24	190	eP	Pn	23 08 58.6	-0.1
PMG				e		23 09 36.8	
PMG	Port Moresby	3.24	190	P	Pn	23 08 59.0	+0.3
	76nm,0.3s,baz=31,slow=9.5,SNR=70						
PMG				S	Sn	23 09 35.9	-0.3
	173nm,0.3s,baz=17,slow=16,SNR=9.0						
PMG				LR	LR	23 10 42.9	
	comp=Z,1µm,19.0s,baz=19,slow=46						
PMG	Port Moresby	3.24	190	ePn	Pn	23 08 58.6	-0.1
PMG				eSn	Sn	23 09 36.8	+0.5
PMG	Port Moresby	3.24	190	⇑P	Pn	23 08 58.5	-0.3
	baz=3.2,SNR=37						
COEN	Coen	8.93	210	ePn	Pn	23 10 15.8	-0.5
COEN				eSn	Sn	23 11 51.4	-3.9
COEN	Coen	8.93	210	⇑P	Pn	23 10 16.9	+0.6
	baz=8.9,SNR=41						
MTSU	Mount Surprise	12.33	195	⇓P	Pn	23 11 03.5	+0.8
	baz=12,SNR=22						
HNR	Honiara	12.52	106	LR	LR	23 15 10.8	
	comp=Z,175nm,20.2s,baz=332,slow=34						
CTA	Charters Tower	13.89	186	P	Pn	23 11 24.5	+1.0
	0.5nm,0.3s,baz=13,slow=12,SNR=4.4						
CTA	Charters Tower	13.89	186	⇓P	Pn	23 11 25.4	+1.9
	baz=14						
CTAO	Charters Tower	13.89	186	eP	Pn	23 11 24.5	+1.0
CTAO	Charters Tower	13.89	186	ePn	Pn	23 11 24.5	+1.0
FAKI	Fak Fak	15.78	281	ePn	Pn	23 11 44.8	-3.1
	32nm,1.1s						
QIS	Mount Isa	16.31	208	⇑P	P	23 11 55.8	-0.4
	baz=16,SNR=23						
KDU	Kakadu	16.38	246	⇑P	Pn	23 11 55.2	-0.2
	baz=16,SNR=27						
SAUI	Saumlaki	16.41	263	P	P	23 12 04.2	+6.9
	152nm,0.7s						
SAUI	Saumlaki	16.41	263	ePn	Pn	23 11 51.6	-4.2
	105nm,0.6s						
MTN	Manton Dam	17.65	247	P	Pn	23 12 12.2	+1.2
	baz=18,SNR=20						
WRAB	Tennant Creek	18.86	222	eP	P	23 12 24.4	+0.2
WRAB				eS	S	23 15 53.3	-1.3
WRAB				pmax	pmax		
	comp=Z,26nm,0.6s						
WRAB	Tennant Creek	18.86	222	eP	P	23 12 24.4	+0.2
	comp=Z,26nm,0.6s						
WRAB				eS	S	23 15 53.3	-1.3
WRA	Warramunga Arr	18.88	222	P	P	23 12 24.8	+0.3
	comp=Z,5.4nm,0.3s,baz=50,slow=10,SNR=196						
WRA				S	S	23 15 53.8	-1.2
	comp=Z,0.2nm,0.3s,baz=43,slow=21,SNR=14						
WRA				PcP	PcP	23 16 49.0	+0.7
	baz=36,slow=2.1,SNR=5.4						
WRA				LR	LR	23 20 38.3	
	comp=Z,198nm,19.7s,baz=50,slow=39						
EIDS	Eidsvold	19.34	171	eP	P	23 12 29.0	-0.3
	comp=Z,131nm,1.4s						
EIDS	Eidsvold	19.34	171	⇓P	P	23 12 30.6	-0.5
	baz=19,SNR=16						
RMQ	Roma	20.20	177	P	Pn	23 12 40.5	-0.8
	baz=20,SNR=9.9						
QLP	Quilpie	20.55	189	P	P	23 12 43.7	+1.2
	baz=21,SNR=112						
NLAI	Namlea	20.77	277	P	Pn	23 12 53.2	+5.0
	comp=Z,27nm,0.5s,comp=Z,1µm						
KNRA	Kununurra	20.86	242	P	P	23 12 46.2	+0.3
	baz=21,SNR=44						
ASAR	Alice Springs	21.88	216	P	P	23 12 57.9	+1.0
	comp=Z,15nm,0.5s,baz=50,slow=9.0,SNR=229						
ASAR				S	S	23 16 55.5	+0.9
	comp=Z,12nm,0.8s,baz=33,slow=23,SNR=16						
ASAR				ScP	ScP	23 20 26.4	+1.9
	comp=Z,1.5nm,0.8s,baz=46,slow=2.7,SNR=4.9						
ASAR				LR	LR	23 21 43.0	
	comp=Z,158nm,21.6s,baz=54,slow=37						
SANI	Sanana	22.08	280	P	P	23 13 07.7	+8.7
	comp=Z,35nm,0.9s						
SOEI	Soe	23.51	260	eP	P	23 13 13.8	+0.2
	comp=Z,38nm,0.7s						
SOEI	Soe	23.51	260	⇓P	P	23 13 15.1	+1.5
	baz=24						
DZM	Mont Dzumac	24.00	133	P	P	23 13 16.7	-1.2
	comp=Z,55nm,1.0s,baz=319,slow=7.4,SNR=30						
ARMA	Armidale	24.37	172	eP	P	23 13 21.3	+0.1
	comp=Z,85nm,1.4s						
ARMA	Armidale	24.37	172	P	P	23 13 21.6	+0.4
	baz=24,SNR=12						
CMSA	Cobar Meteorol	25.29	184	P	P	23 13 30.4	+1.1
	baz=25,SNR=11						
MMRI	Maumere	25.40	263	eP	P	23 13 28.4	-2.3
	comp=Z,79nm,1.2s						
LUWI	Luwuk	25.43	281	eP	P	23 13 30.9	+0.1
	comp=Z,55nm,0.8s						
STKA	Stephens Creek	26.19	192	P	P	23 13 38.1	+0.5
	comp=Z,13nm,0.5s,baz=1.5,slow=8.6,SNR=44						
STKA				LR	LR	23 25 29.9	
	comp=Z,138nm,18.9s,baz=17,slow=40						
STKA	Stephens Creek	26.19	192	P	P	23 13 38.0	+0.5
	baz=26,SNR=15						
WRKA	Warakurna	26.42	223	⇓P	P	23 13 40.3	+0.5
	baz=26,SNR=58						
WRKA				S	S	23 18 09.6	+1.7
	baz=26,SNR=7.0						
MGCD	Mangrove Creek	27.06	174	⇑P	P	23 13 45.6	+0.2
	baz=27,SNR=4.7						
KAPI	Kappang	27.88	271	eP	P	23 13 52.4	-0.5
	comp=Z,19nm,0.4s						
YNG	Young	27.97	179	⇓P	P	23 13 54.2	+0.6
	baz=28,SNR=7.4						
HTT	Hallett	28.31	196	⇑P	P	23 13 56.9	+0.3
	baz=28,SNR=17						
BBOO	Buckleboo	28.63	201	eP	P	23 13 59.5	+0.2
	comp=Z,53nm,0.8s						
BBOO	Buckleboo	28.63	201	P	P	23 14 00.0	+0.6
	baz=29,SNR=9.0						
CAN	Canberra	29.01	178	⇓P	P	23 14 02.6	-0.2
	baz=29						
CNB	Canberra Magne	29.02	177	⇑P	P	23 14 03.3	+0.4
	baz=29						
FORT	Forrest	30.65	215	eP	P	23 14 17.6	+0.3
	comp=Z,23nm,0.9s						
FORT	Forrest	30.65	215	⇓P	P	23 14 18.1	+0.8
	baz=31						
ARPS	Mount Arapiles	30.91	189	⇑P	P	23 14 22.0	+2.6
	baz=31						
MBWA	Marble Bar	30.93	239	eP	P	23 14 20.4	+0.5
	comp=Z,42nm,1.6s						
JAGI	Jajag, Banyuwa	33.38	264	eP	P	23 14 40.6	-0.9
	comp=Z,9.9nm,0.7s						
MEEK	Meekatharra	34.39	230	⇓P	P	23 14 50.9	+0.8
	baz=34,SNR=16						
UGM	Wanagama	36.96	265	eP	P	23 15 12.6	+0.3
	comp=Z,242nm,1.9s						
OUZ	Omahuta	37.43	144	eP	P	23 15 16.5	+0.6
	comp=Z,22nm,0.9s						
MORW	Morawa	37.59	229	P	P	23 15 20.1	+2.6
	baz=38,SNR=5.5						
KLBR	Kellerberrin	37.74	224	P	P	23 15 19.6	+0.9
	baz=38,SNR=6.2						
BLDU	Ballidu	37.93	226	P	P	23 15 22.2	+2.0
	baz=38,SNR=8.0						
CISI	Cisompet, Garu	39.65	266	eP	P	23 15 34.3	-0.6
	comp=Z,65nm,1.0s						
URZ	Urewera	41.57	144	P	P	23 15 49.9	-0.4
	comp=Z,9.0nm,0.9s,baz=337,slow=15,SNR=3.6						
URZ	Urewera	41.57	144	eP	P	23 15 50.0	-0.3
	comp=Z,28nm,1.2s						
JNU	Nakatsue	42.25	339	P	P	23 15 54.3	-1.7
	comp=Z,9.0nm,0.9s,baz=168,slow=9.3,SNR=3.5						
RPZ	Rata Peaks	42.62	155	eP	P	23 15 59.7	+0.9
	comp=Z,620nm,2.3s						
MJAR	Matsushiro Arr	43.44	349	P	P	23 16 04.5	-1.0
	comp=Z,9.8nm,0.9s,baz=177,slow=9.1,SNR=13						
MJAR				LR	LR	23 34 24.8	
	comp=Z,24nm,18.1s,baz=165,slow=36						
MAJO	Matsushiro	43.44	349	⇓eP	P	23 16 03.9	-1.6
MAJO				pmax	pmax		
	comp=Z,74nm,1.1s						
MAT	Matsushiro	43.44	349	P	P	23 16 04.2	-1.3
NJ2	Nanjing	46.95	326	eP	P	23 16 32.7	-0.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSRS	Korea Array	47.20	338	P	P	23 16 34.3	-0.8
	comp=Z,3.3nm,1.0s,baz=155,slow=9.6,SNR=4.6						
KSRS				LR	LR	23 35 03.2	
	comp=Z,41nm,21.0s,baz=170,slow=34						
KSAR	Wonju Array Be	47.20	338	P	P	23 16 34.3	-0.9
KSAR	Wonju Array Be	47.20	338	P	P	23 16 34.3	-0.9
ASAJ	Asahikawa	50.29	355	LR	LR	23 34 40.0	
	comp=Z,45nm,22.0s,slow=32						
GYA	Guiyang	51.36	311	eP	P	23 17 08.9	+1.6
GYA				pP	pP	23 17 25.8	-0.8
GYA				sP	sP	23 17 35.2	-0.1
GYA				PP	PP	23 19 07.0	+1.8
GYA				ScP	ScP	23 22 10.6	-0.4
GYA				S	S	23 24 20.3	-1.0
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=Z,540nm,18.8s						
GYA				LR	LR		
	comp=Z,480nm,19.2s						
GYA				LR	LR		
	comp=Z,520nm,18.5s						
USRK	Ussuriysk Arra	52.13	346	P	P	23 17 11.9	-0.6
	comp=Z,1.6nm,0.6s,baz=184,slow=8.1,SNR=4.2						
KMI	Kunming	53.70	307	P	P	23 17 24.9	+0.2
KMI				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CD2	Chengdu	55.94	314	P	P	23 17 41.7	+1.1
CD2				pP	pP	23 17 59.4	-0.7
CD2				sP	sP	23 18 07.3	-1.4
CD2				PP	PP	23 19 48.7	+2.5
CD2				S	S	23 25 22.9	0.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CD2				pmax	pmax		
	comp=Z,150nm,6.1s						
CD2				LR	LR		
	comp=Z,220nm,8.3s						
CD2				LR	LR		
	comp=Z,190nm,7.1s						
KLR	Kul'dur	56.93	348	eP	P	23 17 41.2	-6.0
LZH	Lanzhou	58.84	319	eP	P	23 18 04.3	+3.3
LZH				pP	pP	23 18 20.3	-0.4
LZH				sP	sP	23 18 28.5	-0.8
LZH				PP	PP	23 20 17.1	+5.1
LZH				eS	S	23 26 05.1	+4.1
LZH				sS	sS	23 26 33.0	-1.5
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,4.5s						
LZH				LR	LR		
	comp=Z,250nm,15.2s						
LZH				LR	LR		
	comp=Z,250nm,14.3s						
LZH				LR	LR		
	comp=Z,380nm,16.5s						
PETK	Petropavlovsk-	59.68	7	P	P	23 18 05.5	-0.8
	comp=Z,5.3nm,0.7s,baz=163,slow=5.7,SNR=5.5						
PETK				LR	LR	23 40 28.9	
	comp=Z,18nm,21.1s,baz=134,slow=33						
PET	Petropavlovsk	59.72	8	eP	P	23 18 06.0	-0.5
PET				pmax	pmax		
	comp=Z,19nm,1.7s						
GTA	Gaotai	63.36	320	eP	P	23 18 31.7	+0.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ULN	Ulaanbaatar	64.63	331	⇑iP	P	23 18 39.0	-0.8
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
ULN	Ulaanbaatar	64.63	331	eP	P	23 18 38.3	-1.5
	comp=Z,3.5nm,0.9s						
SONM	Songino Array	64.93	331	P	P	23 18 40.9	-0.8
	comp=Z,1.0nm,0.6s,baz=152,slow=5.5,SNR=7.3						
ZAK	Zakamensk	68.16	331	eP	P	23 19 01.2	-1.0
ZAK				e		23 19 17.8	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
TLY	Talaya	68.86	332	eP	P	23 19 06.8	+0.4
TLY				pmax	pmax		
	comp=Z,4.0nm,2.5s						
VNDA	Vanda	71.68	177	P	P	23 19 23.7	+0.5
	comp=Z,2.1nm,0.9s,baz=342,slow=8.7,SNR=6.1						
WMQ	Urumqi	73.42	319	P	P	23 19 33.9	-0.3
WMQ				pP	PcP	23 19 50.5	+0.5
WMQ				sP	sP	23 19 57.4	-5.6
WMQ				S	S	23 28 56.5	-1.1
WMQ				ScS	SKKSac	23 29 33.9	-0.1
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.8s						
WMQ				pmax	pmax		
	comp=Z,100nm,6.0s						
WMQ				LR	LR		
	comp=Z,30nm,19.6s						
WMQ				LR	LR		
	comp=Z,30nm,21.6s						
WMQ				LR	LR		
	comp=Z,35nm,18.6s						
BILL	Bilibino	75.21	7	eP	P	23 19 44.4	+0.4
BILL				pmax	pmax		
	comp=Z,10.0nm,2.5s						
MKAR	Makanchi Array	78.11	320	P	P	23 19 59.5	-1.4
	comp=Z,1.3nm,0.8s,baz=98,slow=8.1,SNR=15						
TIXI	Tiksi	78.68	354	⇑eP	P	23 20 04.2	+0.8
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
ZALV	Zalesovo Beam	79.57	328	P	P	23 20 07.3	-1.3
	comp=Z,0.7nm,0.4s,baz=100,slow=6.9,SNR=5.9						
KSH	Kashi	80.05	312	eP	P	23 20 12.6	+0.9
KSH				epP	pP	23 20 30.0	-2.4
KSH				ePP	PP	23 23 18.6	+3.8
KSH				eS	S	23 30 08.8	-1.4
KSH				eSKS	SKSac	23 30 17.7	-4.9
KSH				pmax	pmax		
	comp=Z,140nm,4.9s						
KSH				LR	LR		
	comp=Z,49nm,3.9s						
KSH				LR	LR		
	comp=Z,92nm,4.4s						
QSPA	South Pole Qui	83.78	180	eP	P	23 20 30.6	-0.1
	comp=Z,17nm,0.9s						
ILAR	Eielson Array	85.37	23	P	P	23 20 35.4	-3.2
	comp=Z,1.2nm,0.8s,baz=248,slow=4.8,SNR=9.5						
BRVK	Borovoye	87.43	324	⇓eP	P	23 20 48.0	-0.9
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
NVAR	Mina Array Bea	96.91	52	P	P	23 21 33.2	-0.3
	comp=Z,0.3nm,0.6s,baz=258,slow=7.0,SNR=3.0						
YKA	Yellowknife Ar	99.00	28	P	Pdif	23 21 39.8	-2.1
	comp=Z,0.1nm,0.5s,baz=277,slow=4.8,SNR=2.8						
CRVS	Cervenica-Dubn	117.95	323	eP	Pdif	23 23 13.7	+7.1
CRVS	Cervenica-Dubn	117.95	323	e	Pdif	23 23 13.7	+7.1
PLCA	Paso Flores	121.56	146	PKP	PKPdf	23 26 54.1	-1.3
	comp=Z,1.9nm,0.7s,baz=60,slow=0.6,SNR=6.3						
LPAZ	La Paz	138.06	123	PKP	PKPdf	23 27 28.4	+0.5
	comp=Z,2.3nm,0.7s,baz=285,slow=3.8,SNR=8.2						
TORD	Torodi Ar. Bea	145.85	284	PKPbc	PKPdf	23 27 40.6	-0.4
	comp=Z,1.0nm,0.5s,baz=62,slow=3.6,SNR=21						
BDFB	Brasilia	153.28	144	PKP	PKPdf	23 27 53.2	+0.2
	comp=Z,3.0nm,0.8s,baz=142,slow=12,SNR=5.4						
BDFB				PKPbc	PKPbc	23 28 00.2	-0.2
	comp=Z,10nm,0.7s,baz=196,slow=2.8,SNR=16						
BDFB				PKPab	PKPab	23 28 11.8	-0.6
	comp=Z,5.4nm,0.8s,baz=108,slow=3.0,SNR=5.4						

*SKO **12** 23:29:48.5, 41°33N×20°02E, h8km, M2.3, ML2.7*
*PDG **12** 23:29:51.8±0.2, 41°32N×20°24E, h9km, ML2.7/9, Error ellipse: s-maj=0.5km s-min=0.5km az=90.0*
*ATH **12** 23:29:51.4, 41°41N×20°23E, h8km±4km, MD3.3/7*
*TIR **12** 23:29:52.8±2.1, 41°33N×20°25E, h29km±14km, ML3.4*
*CSEM **12** 23:29:52.8±0.2, 41°37N×20°29E, h2km, ML3.4, Error ellipse: s-maj=4.8km s-min=9.1km az=59.0*
*BEO **12** 23:29:53.4±0.5, 41°35N×20°34E, h0km, ML2.3/1*
*THE **12** 23:29:53.0, 41°44N×20°41E, h15km±2km, ML2.6/3, Error ellipse: s-maj=2.9km s-min=0.8km az=35.0*
ISC 12 23:29:52.6±1.0, 41°36N±0°02×20°26E±0°02, h6km±9km, n93, σ1§16/152, 8C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.35	23	i PG	Pg	23 29 59.3	-0.1
PHP				i SG	Sg	23 30 05.6	+1.6
PHP	Peshkopia	0.35	23	i Pg	Pg	23 29 59.3	-0.1
	SNR=132						
PHP				i Sg	Sg	23 30 05.6	+1.6
	SNR=132						
PUK	Puka	0.73	338	i PG	Pg	23 30 06.3	-0.4
PUK				i SG	Sb	23 30 18.6	+0.3
PUK	Puka	0.73	338	i Pg	Pg	23 30 06.3	-0.4
	SNR=102						
PUK				i Sg	Sb	23 30 18.5	+0.3
	SNR=102						
KBN	Korca	0.84	151	i PG	Pg	23 30 08.7	+0.1
KBN				i SG	Sn	23 30 22.4	-1.3
KBN	Korca	0.84	151	P	Pg	23 30 08.8	+0.1
KBN	Korca	0.84	151	i Pg	Pg	23 30 08.7	+0.1
	SNR=100						
ULC	Ulcinj	0.97	309	⇓iPg	Pg	23 30 09.4	-1.8
ULC				eSg	Sb	23 30 25.4	+0.5
ULC	Ulcinj	0.97	309	⇓iPg	Pg	23 30 09.4	-1.8
ULC				eSg	Sb	23 30 25.4	+0.5
BCI	Bajram Curri	1.01	352	i PG	Pb	23 30 13.0	+0.4
BCI				i SG	Sb	23 30 27.1	+0.9
BCI	Bajram Curri	1.01	352	i Pg	Pb	23 30 13.0	+0.4
	SNR=98						
BCI				i Sg	Sb	23 30 27.1	+0.9
	SNR=98						
FNA	Florina	1.02	124	P	Pg	23 30 11.1	-1.1
FNA				S	Sg	23 30 25.9	+0.5
FNA	Florina	1.02	124	ePG	Pg	23 30 11.1	-1.1
FNA				eSB	Sb	23 30 26.5	+0.1
FNA	Florina	1.02	124	P	Pg	23 30 11.1	-1.1
FNA				S	Sg	23 30 25.9	+0.5
FNA				eSb	Sb	23 30 26.5	+0.1
VLO	Vlora	1.06	213	i PG	Pn	23 30 15.6	+1.6
VLO				i SG	Sn	23 30 33.4	+4.3
VLO	Vlora	1.06	213	i Pg	Pn	23 30 15.6	+1.6
	SNR=96						
SKO	Skopje	1.07	55	P	Pg	23 30 11.4	-1.8
SKO	Skopje	1.07	55	ePg	Pg	23 30 12.2	-1.0
SKO				eSg	Sg	23 30 26.8	-0.3
SKO	Skopje	1.07	55	i Pg	Pg	23 30 12.7	-0.5
SKO				i Sg	Sg	23 30 27.2	+0.1
SKO				eLg	Lg	23 30 28.8	
	comp=E,127nm,0.6s						
SKO				eLg	Lg	23 30 30.1	
	comp=N,205nm,0.4s						
SKO	Skopje	1.07	55	P	Pg	23 30 11.4	-1.8
SKO	Skopje	1.07	55	i Pg	Pg	23 30 12.7	-0.5
SKO				eSg	Sg	23 30 26.8	-0.3
SKO				eLg	Lg	23 30 30.1	
	comp=N,205nm,0.4s						
NEST	Nestorio	1.12	147	P	Pg	23 30 13.6	-0.5
NEST				S	Sg	23 30 29.0	+0.5
NEST	Nestorio	1.12	147	ePB	Pb	23 30 13.5	-0.5
NEST				eSB	Sb	23 30 29.8	+0.5
NEST	Nestorio	1.12	147	P	Pg	23 30 13.6	-0.5
NEST				S	Sg	23 30 29.0	+0.5
DRME	Dracevica, Mon	1.15	316	⇑iPg	Pg	23 30 13.2	-1.5
DRME				eSg	Sn	23 30 32.0	+0.6
PVY	Plav	1.25	350	⇓iPg	Pn	23 30 15.5	-1.3
PVY				eSg	Sn	23 30 35.6	+1.6
PDG	Podgorica	1.30	325	P	Pn	23 30 16.1	-1.3
PDG	Podgorica	1.30	325	ePg	Pn	23 30 16.5	-0.9
PDG				eSg	Sn	23 30 37.3	+2.2
PDG	Podgorica	1.30	325	P	Pn	23 30 16.1	-1.3
PDG	Podgorica	1.30	325	ePg	Pn	23 30 16.5	-0.9
PDG				eSg	Sn	23 30 37.3	+2.2
TTG	Podgorica	1.30	325	⇑iPg	Pn	23 30 16.1	-1.3
TTG				eSg	Sn	23 30 37.6	+2.5
BUM	Brajici-Budva	1.39	313	⇓iPg	Pn	23 30 17.9	-0.7
BUM				eSg	Sn	23 30 40.0	+2.8
BUM	Brajici-Budva	1.39	313	⇓iPg	Pn	23 30 17.9	-0.7
BUM				eSg	Sn	23 30 40.0	+2.8
BEY	Berane	1.53	350	⇓iPg	Pn	23 30 20.9	+0.3
BEY				eSg	Sn	23 30 43.6	+1.7
IVA	Berane	1.53	350	⇓iPg	Pn	23 30 20.9	+0.3
IVA				eSg	Sg	23 30 43.6	+1.7
KEK	Kerkira	1.68	192	P	Pn	23 30 22.8	+0.2
KEK				S	Sg	23 30 45.9	-0.8
KEK	Kerkira	1.68	192	ePN	Pn	23 30 24.4	-0.5
KEK	Kerkira	1.68	192	P	Pn	23 30 22.8	+0.2
KEK	Kerkira	1.68	192	ePn	Pg	23 30 24.4	-0.5
KEK				S	Sg	23 30 45.9	-0.8
HCY	Herceg Novi	1.71	310	⇓iPn	Pn	23 30 22.9	0.0
HCY				eSn	Sg	23 30 47.7	+0.3
HCY	Herceg Novi	1.71	310	⇓iPn	Pn	23 30 22.9	0.0
HCY				eSn	Sg	23 30 47.7	+0.3
NKME	Niksic	1.71	326	⇑iPn	Pn	23 30 23.5	+0.5
NKME				eSn	Sg	23 30 47.8	+0.3
NKME	Niksic	1.71	326	⇑iPn	Pn	23 30 23.5	+0.5
NKME				eSn	Sg	23 30 47.8	+0.3
NKY	Niksic	1.73	327	⇑iPn	Pn	23 30 23.8	+0.5
NKY				eSn	Sg	23 30 48.5	+0.3
NKY	Niksic	1.73	327	⇑iPn	Pn	23 30 23.8	+0.5
NKY				eSn	Sg	23 30 48.5	+0.3
VAY	Valandovo	1.74	91	ePn	Pn	23 30 23.6	+0.3
VAY				eSg	Sb	23 30 46.9	-0.1
VAY	Valandovo	1.74	91	i Pn	Pn	23 30 24.0	+0.7
VAY				i Sg	Sb	23 30 47.4	+0.3
VAY				eLg	Lg	23 30 49.9	
	comp=N,46nm,0.8s						
VAY				eLg	Lg	23 30 50.2	
	comp=E,46nm,0.5s						
VAY	Valandovo	1.74	91	ePn	Pn	23 30 23.6	+0.3
VAY				eSg	Sb	23 30 46.9	-0.1
VAY				eLg	Lg	23 30 50.2	
	comp=E,46nm,0.5s						
JAN	Janina	1.76	165	ePN	Pb	23 30 24.9	-0.4
JAN	Janina	1.76	165	ePn	Pb	23 30 24.9	-0.4
IGT	Igoumenitsa	1.83	178	ePN	Pn	23 30 25.3	+0.7
IGT	Igoumenitsa	1.83	178	ePn	Pn	23 30 25.3	+0.7
BARS	Barje	1.86	38	ePn	Pb	23 30 26.6	-0.4
BARS				eSg	Sb	23 30 51.2	+0.7
SJES	Sjenica	1.91	354	ePn	Pb	23 30 28.4	+0.5
SJES				eSg	Sb	23 30 54.5	+0.5
SJES	Sjenica	1.91	354	ePn	Pb	23 30 28.4	+0.5
SJES				eSg	Sb	23 30 54.5	+0.5
TREB	Trebinje	1.96	314	ePn	Pb	23 30 29.1	+0.3
TREB				eSg	Sb	23 30 57.8	+2.1
TREB	Trebinje	1.96	314	ePn	Pb	23 30 29.1	+0.3
TREB				eSg	Sb	23 30 57.8	+2.1
KNT	Kendrikon	2.00	95	ePN	Pb	23 30 28.4	-0.9
KNT	Kendrikon	2.00	95	ePn	Pb	23 30 28.4	-0.9
PLE	Pljevlja	2.07	342	⇑iPn	Pn	23 30 28.4	+0.4
PLE				eSn	Sb	23 30 56.6	-0.1
PLE	Pljevlja	2.07	342	⇑iPn	Pn	23 30 28.4	+0.4
PLE				eSn	Sb	23 30 56.6	-0.1
LIT	Litokhoron	2.11	126	ePN	Pn	23 30 29.6	+1.1
LIT	Litokhoron	2.11	126	ePn	Pn	23 30 29.6	+1.1
IVAS	Ivanjica	2.21	358	ePn	Pn	23 30 30.7	+0.8
IVAS				eSg	Sg	23 31 03.4	-0.3
IVAS	Ivanjica	2.21	358	ePn	Pn	23 30 30.7	+0.8
IVAS				eSg	Sg	23 31 03.4	-0.3
THL	Klokotos Trika	2.24	143	ePN	Pn	23 30 31.2	+1.0
THL	Klokotos Trika	2.24	143	ePn	Pn	23 30 31.2	+1.0
STON	Ston	2.43	309	ePn	Pn	23 30 31.7	-1.1
STON				Sn	Sn	23 31 03.3	+0.5
STON	Ston	2.43	309	ePn	Pn	23 30 31.7	-1.1
STON				Sn	Sn	23 31 03.3	+0.5
VTS	Vitosha	2.52	60	ePn	Pn	23 30 33.5	-0.7
VTS	Vitosha	2.52	60	ePn	Pn	23 30 33.5	-0.7
SRS	Serrai	2.52	94	ePN	Pn	23 30 35.7	+1.6
SRS	Serrai	2.52	94	ePn	Pn	23 30 35.7	+1.6
GRUS	Gruza	2.55	7	ePn	Pn	23 30 35.5	+1.0
GRUS	Gruza	2.55	7	ePn	Pn	23 30 35.5	+1.0
BBLS	Lazići	2.58	346	ePn	Pb	23 30 37.7	-1.6
BBLS				eSn	Sb	23 31 11.0	-0.3
BBLS	Lazići	2.58	346	ePn	Pb	23 30 37.7	-1.6
BBLS				eSn	Sb	23 31 11.0	-0.3
ZAPS	Zavoj	2.60	42	eSn	Sb	23 31 09.8	-2.0
DIVS	Divibare	2.74	356	ePn	Pn	23 30 38.2	+1.0
DIVS				eSn	Sn	23 31 12.2	+1.5
DIVS	Divibare	2.74	356	ePn	Pn	23 30 38.2	+1.0
DIVS				eSn	Sn	23 31 12.2	+1.5
AGG	Agios Georgios	2.82	145	ePN	Pn	23 30 40.3	+2.0
AGG	Agios Georgios	2.82	145	ePn	Pn	23 30 40.3	+2.0
TEKS	Tekeris	3.23	351	ePn	Pn	23 30 44.8	+0.9
TEKS	Tekeris	3.23	351	ePn	Pn	23 30 44.8	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BZS	Buzias	4.37	13	ePn	Pn	23 30 59.9	+0.5
BZS	Buzias	4.37	13	ePn	Pn	23 30 59.9	+0.5
UDBI	Udbina	4.57	315	ePn	Pn	23 31 02.1	-0.3
UDBI				Sn	Sn	23 31 53.7	-2.1
UDBI	Udbina	4.57	315	ePn	Pn	23 31 02.0	-0.3
UDBI				Sn	Sn	23 31 53.7	-2.1
NVLJ	Novalja	5.09	311	iPn	Pn	23 31 08.0	-1.3
NVLJ				Sn	Sn	23 32 06.0	-2.4
NVLJ	Novalja	5.09	311	iPn	Pn	23 31 08.0	-1.3
NVLJ				Sn	Sn	23 32 05.9	-2.4
CRVS	Cervenica-Dubn	7.59	6	ePN	Pn	23 31 41.1	-2.6
STHS	Stebnicka Huta	8.09	5	ePN	Pn	23 31 49.2	-1.3
STHS	Stebnicka Huta	8.09	5	ePn	Pn	23 31 49.3	-1.3

IDC 12 23:30:48.1±0.7, 10°.73N×139°.28E, h0km, mb3.9/12, mb1 4.1/12, mb1mx4.0/24, mbtmp3.9/12, MS3.1/1, Ms1 3.3/1, ms1mx2.5/31, Error ellipse: s-maj=30.4km s-min=17.3km az=83.0

ISCJB 12 23:30:51.3±0.6, 10°.66N±0°.10×139°.2E±0°.2, h33km, mb3.9/12, MS3.0/1, Error ellipse: s-maj=26.5km s-min=14.0km az=174.0

ISC 12 23:30:53.3±0.7, 10°.7N±0°.1×139°.2E±0°.2, h35km, n18, σ1s.02/14, mb4.0/12, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	27.64	71	T	T	00 05 39.9	
	baz=258,slow=73,SNR=14						
H11S1	WAKE ISLAND Hy	27.65	71	T	T	00 05 42.8	
	baz=258,slow=73,SNR=6.0						
H11S2	WAKE ISLAND Hy	27.66	71	T	T	00 05 37.6	
	baz=258,slow=73,SNR=13						
H11N1	WAKE ISLAND Hy	28.11	68	T	T	00 06 12.4	
	baz=257,slow=75,SNR=10						
H11N2	WAKE ISLAND Hy	28.12	68	T	T	00 06 15.0	
	baz=257,slow=75,SNR=3.5						
H11N3	WAKE ISLAND Hy	28.13	68	T	T	00 06 16.2	
	baz=257,slow=75,SNR=12						
WRA	Warramunga Arr	30.84	189	P	P	23 37 05.7	-0.6
	0.5nm,0.8s,baz=16,slow=9.9,SNR=3.3						
WRA				PcP	PcP	23 40 03.9	+0.9
	0.5nm,0.9s,baz=359,slow=3.1,SNR=3.6						
ASAR	Alice Springs	34.56	189	P	P	23 37 38.7	-0.2
	0.8nm,0.7s,baz=16,slow=12,SNR=14						
ASAR				PcP	PcP	23 40 14.3	+1.1
	0.5nm,0.8s,baz=8.5,slow=1.5,SNR=5.4						
CMAR	Chiang Mai Arr	39.68	286	P	P	23 38 23.4	+1.0
	0.9nm,0.4s,baz=92,slow=6.7,SNR=8.6						
CMAR				LR	LR	23 52 56.2	
	comp=Z,27nm,22.0s,baz=140,slow=33						
STKA	Stephens Creek	42.40	177	P	P	23 38 44.2	-0.3
	1.9nm,0.7s,baz=31,slow=7.5,SNR=4.3						
SONM	Songino Array	46.15	330	P	P	23 39 14.2	-0.5
	0.6nm,1.0s,baz=154,slow=7.9,SNR=4.8						
MKAR	Makanchi Array	59.84	318	P	P	23 40 56.3	+0.9
	2.1nm,0.9s,baz=98,slow=8.7,SNR=17						
ZALV	Zalesovo Beam	60.86	327	P	P	23 41 01.1	-1.1
	0.5nm,0.5s,baz=109,slow=8.0,SNR=3.7						
ILAR	Eielson Array	73.52	25	P	P	23 42 22.4	+0.1
	0.8nm,0.7s,baz=252,slow=5.6,SNR=7.8						
YKA	Yellowknife Ar	87.91	27	P	P	23 43 40.6	+1.4
	0.6nm,0.7s,baz=291,slow=5.2,SNR=10						
ARCES	ARCESS Array B	88.07	341	P	P	23 43 38.9	-1.0
	3.8nm,0.9s,baz=82,slow=7.4,SNR=3.2						
FINES	FINESS Array B	91.37	334	P	P	23 43 53.7	-1.7
	0.7nm,0.7s,baz=99,slow=6.2,SNR=3.4						
NVAR	Mina Array Bea	93.00	50	P	P	23 44 03.8	0.0
	0.4nm,0.5s,baz=242,slow=4.9,SNR=4.0						

ISCJB 12 23:33:32.7±0.8, 21°.0S±0°.2×178°.8W±0°.2, h579km, mb3.7/8, Error ellipse: s-maj=25.5km s-min=14.9km az=142.4

IDC 12 23:33:34.6±4.3, 21°.04S×178°.68W, h594km±53km, mb3.2/8, mb1 3.6/9, mb1mx3.3/19, mbtmp4.2/9, Error ellipse: s-maj=34.8km s-min=21.1km az=166.0

ISC 12 23:33:33.4±0.8, 21°.0S±0°.2×178°.7W±0°.2, h579km, n15, σ1s.06/15, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.58	191	P	P	23 37 05.5	-0.5
	2.9nm,0.3s,baz=286,slow=3.6,SNR=10						
ASAR	Alice Springs	43.73	257	P	P	23 40 49.6	+1.0
	1.8nm,0.7s,baz=88,slow=8.4,SNR=21						
ASAR				PcP	PcP	23 42 23.0	+0.5
	0.8nm,0.7s,baz=103,slow=3.8,SNR=6.7						
ASAR				S	S	23 46 36.8	-1.1
	0.8nm,0.9s,baz=92,slow=16,SNR=6.2						
WRA	Warramunga Arr	43.85	263	P	P	23 40 49.8	+0.2
	0.7nm,0.3s,baz=97,slow=7.1,SNR=83						
PETK	Petropavlovsk-	76.56	346	P	P	23 44 24.5	-0.1
	2.7nm,0.7s,baz=163,slow=10,SNR=4.1						
NVAR	Mina Array Bea	81.86	44	P	P	23 44 53.7	+0.5
	1.2nm,0.6s,baz=225,slow=8.4,SNR=9.4						
TXAR	Lajitas Array	87.90	58	P	P	23 45 23.6	+1.1
	1.1nm,0.8s,baz=218,slow=5.9,SNR=9.4						
ILAR	Eielson Array	88.94	13	P	P	23 45 25.3	-1.1
	0.9nm,0.8s,baz=221,slow=5.4,SNR=7.8						
CMAR	Chiang Mai Arr	89.62	290	P	P	23 45 32.4	+1.7
	1.1nm,0.8s,baz=116,slow=3.1,SNR=8.8						
YKA	Yellowknife Ar	97.24	25	P	Pdif	23 46 04.2	-0.1
	0.2nm,0.7s,baz=253,slow=6.3,SNR=4.2						
ARCES	ARCESS Array B	129.27	349	PKP	PKPdf	23 51 35.1	-0.8
	2.3nm,0.9s,baz=351,slow=2.0,SNR=6.2						
JMIC	Jan Mayen	129.66	4	PKP	PKPdf	23 51 34.7	-1.8
	57nm,0.5s,baz=315,slow=19,SNR=2.9						
FINES	FINESS Array B	136.04	343	PKP	PKPdf	23 51 49.2	+0.5
	0.4nm,0.5s,baz=117,slow=2.1,SNR=4.2						
AKASG	Malin Array Be	143.09	330	PKP	PKPab	23 51 58.9	-0.8
	2.8nm,0.4s,baz=42,slow=4.2,SNR=30						
BRTR	Keskin Array B	146.64	311	PKPbc	PKPbc	23 52 10.8	-0.4
	1.3nm,0.7s,baz=135,slow=5.1,SNR=8.4						
GERES	GERESS Array B	150.47	343	PKPbc	PKPbc	23 52 19.3	-1.0
	0.9nm,0.7s,baz=31,slow=3.1,SNR=9.8						

MEX 12 23:40:47.5±0.7, 16°.95N×94°.64W, h131km±8km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.27	301	iP	Pn	23 41 04.7	-1.0
CMIG				iS	Sn	23 41 17.1	-2.4
HUIG	Huatulco	1.83	230	iP	Pn	23 41 17.8	-1.8
HUIG				eS	Sn	23 41 42.8	-1.3
PCIG		1.84	132	iP	Pn	23 41 18.6	-1.1
PCIG				iS	Sn	23 41 42.2	-2.1
VHO	Vista Hermosa	2.00	274	eP	Pn	23 41 21.2	-0.6
VHO				eS	Sn	23 41 46.2	-2.0
PNIG	Pinotepa	3.38	261	eP	Pn	23 41 37.1	-2.1
PNIG				iS	Sn	23 42 16.6	-2.6

IDC 12 23:43:15.8±4.0, 15°.22S×173°.14W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/30, mbtmp3.9/2, Error ellipse: s-maj=213.6km s-min=24.7km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.86	46	Pn	Pn	23 43 47.3	-1.7
	16nm,0.3s,baz=225,slow=13,SNR=3.3						
AFI				Sn	Sn	23 44 05.0	-8.3
	71nm,0.3s,baz=247,slow=23,SNR=8.3						
WRA	Warramunga Arr	50.12	257	P	P	23 52 12.6	-0.7
	0.6nm,0.5s,baz=90,slow=6.7,SNR=18						
ASAR	Alice Springs	50.40	252	P	P	23 52 14.7	-0.7
	1.4nm,0.6s,baz=84,slow=8.6,SNR=19						
GERES	GERESS Array B	146.00	352	PKPbc	PKPbc	00 02 57.8	+0.1
	0.8nm,1.0s,baz=355,slow=2.4,SNR=4.0						
BRTR	Keskin Array B	146.18	321	PKPbc	PKPab	00 02 59.3	+0.1
	0.5nm,0.5s,baz=48,slow=2.1,SNR=8.4						

IDC 12 23:48:23.4±0.7, 29°.78N×42°.77W, h0km, mb4.0/18, mb1 4.2/18, mb1mx4.0/30, mbtmp4.0/18, MS3.5/11, Ms1 3.5/11, ms1mx3.2/42, Error ellipse: s-maj=20.3km s-min=16.4km az=170.0

ISCJB 12 23:48:24.4±0.6, 29°.8N±0°.1×42°.8W±0°.1, h18km, mb4.0/18, MS3.5/11, Error ellipse: s-maj=15.9km s-min=13.2km az=161.6

NEIC 12 23:48:24.9±0.4, 29°.79N×42°.78W, h10km, mb4.7/1, Error ellipse: s-maj=11.0km s-min=9.2km az=163.0

ISC 12 23:48:26.1±0.7, 29°.8N±0°.1×42°.8W±0°.1, h18km, n34, σ0s.58/20, mb4.0/18, MS3.6/11, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBTS	Babate	28.49	116	LR	LR	00 02 56.6	
	comp=Z,153nm,18.7s,baz=357,slow=31						
SCHQ	Schefferville	30.40	332	LR	LR	00 05 41.2	
	comp=Z,67nm,19.4s,baz=43,slow=34						
ROSC	El Rosal	38.76	236	LR	LR	00 10 25.8	
	comp=Z,67nm,20.9s,baz=27,slow=34						
DBIC	Dimbokro	42.43	115	LR	LR	00 11 53.6	
	comp=Z,130nm,18.5s,baz=262,slow=33						
TORD	Torodi Ar. Bea	44.28	102	P	P	23 56 34.0	-1.1
	1.8nm,0.9s,baz=300,slow=8.0,SNR=8.0						
TORD				LR	LR	00 13 39.3	
	comp=Z,63nm,18.5s,baz=155,slow=34						
ULM	Lac du Bonnet	44.42	313	P	P	23 56 34.7	-1.1
	2.2nm,0.9s,baz=116,slow=8.5,SNR=3.1						
BDFB	Brasilia	45.45	187	P	P	23 56 44.5	+0.2
	1.9nm,0.7s,baz=345,slow=20,SNR=3.4						
APG	El Apazote	46.15	262	LR	LR	00 13 12.0	
	comp=Z,96nm,20.9s,baz=109,slow=32						
H10N2	ASCENSION HYDR	46.26	139	T	T	00 46 09.8	
	baz=325,slow=75,SNR=238						
H10N3	ASCENSION HYDR	46.26	139	T	T	00 46 10.0	
	baz=325,slow=75,SNR=160						
H10N1	ASCENSION HYDR	46.27	139	T	T	00 46 11.2	
	baz=325,slow=75,SNR=230						
GERES	GERESS Array B	46.51	49	P	P	23 56 52.8	+0.3
	0.4nm,0.6s,baz=248,slow=7.1,SNR=5.0						
H10S1	ASCENSION HYDR	47.08	140	T	T	00 47 08.4	
	baz=326,slow=75,SNR=82						
H10S3	ASCENSION HYDR	47.08	141	T	T	00 47 13.1	
	baz=326,slow=75,SNR=83						
H10S2	ASCENSION HYDR	47.09	140	T	T	00 47 09.2	
	baz=326,slow=75,SNR=77						
NOA	NORSAR Array B	47.12	33	P	P	23 56 57.1	+0.2
	1.8nm,1.1s,baz=250,slow=8.2,SNR=3.1						
LPAZ	La Paz	51.93	211	P	P	23 57 35.0	+0.2
	2.7nm,0.8s,baz=2.8,slow=6.8,SNR=7.9						
TXAR	Lajitas Array	52.39	286	P	P	23 57 37.7	+0.1
	0.3nm,0.6s,baz=124,slow=11,SNR=4.5						
PDAR	Pinedale Array	54.06	303	P	P	23 57 50.5	+0.6
	1.9nm,0.7s,baz=86,slow=7.8,SNR=16						
FINES	FINESS Array B	54.26	34	P	P	23 57 51.5	+0.8
	4.2nm,0.9s,baz=270,slow=4.8,SNR=6.7						
ARCES	ARCESS Array B	54.84	24	P	P	23 57 54.8	0.0
	4.1nm,0.8s,baz=294,slow=6.5,SNR=5.2						
YKA	Yellowknife Ar	55.68	328	P	P	23 58 00.9	-0.1
	1.1nm,1.0s,baz=86,slow=7.5,SNR=9.6						
YKA				PcP	PcP	23 58 59.6	-0.6
	0.2nm,0.6s,baz=89,slow=5.1,SNR=4.0						
AKASG	Malin Array Be	56.48	47	P	P	23 58 06.2	-0.6
	0.3nm,0.4s,baz=274,slow=6.6,SNR=7.6						
CPUP	Villa Florida	57.52	195	LR	LR	00 21 06.2	
	comp=Z,40nm,18.3s,baz=35,slow=34						
NVAR	Mina Array Bea	61.53	300	P	P	23 58 42.8	+0.4
	0.3nm,0.6s,baz=69,slow=6.0,SNR=1.7						
BRTR	Keskin Array B	61.83	58	P	P	23 58 45.0	+0.6
	2.1nm,1.0s,baz=254,slow=5.8,SNR=8.1						
BRTR				LR	LR	00 25 11.3	
	comp=Z,21nm,18.3s,baz=292,slow=36						
INK	Inuvik	62.95	335	P	P	23 58 51.5	+0.3
	2.8nm,0.8s,baz=69,slow=10.0,SNR=9.6						
INK	Inuvik	62.95	335	eP	P	23 58 50.5	-0.6
	5.3nm,1.0s						
CFAA	Coronel Fontan	65.67	204	LR	LR	00 27 43.2	
	comp=Z,5.4nm,18.8s,baz=16,slow=36						
ILAR	Eielson Array	69.15	334	P	P	23 59 31.4	+0.3
	1.0nm,0.9s,baz=57,slow=4.3,SNR=7.8						
KMBO	Kilima Mbogo	81.91	96	LR	LR	00 37 32.1	
	comp=Z,79nm,18.0s,baz=94,slow=36						
ZALV	Zalesovo Beam	85.11	28	P	P	00 01 00.8	0.0
	1.0nm,0.6s,baz=300,slow=6.5,SNR=6.6						
LBTB	Lobatse	85.26	122	LR	LR	00 33 03.7	
	comp=Z,26nm,21.2s,baz=252,slow=31						
MKAR	Makanchi Array	89.08	34	P	P	00 01 20.9	+0.5
	0.8nm,0.9s,baz=306,slow=4.1,SNR=6.4						

KRSC 12 23:50:16.5±1.6, 52°.63N×160°.59E, h40km±16km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.58	324	eP	Pn	23 50 28.4	0.0
SPN				eS	Sn	23 50 35.5	-1.3
UGLR	Uglovaya	1.22	299	eP	Pn	23 50 40.2	+3.0
PET	Petropavlovsk	1.24	290	eP	Pn	23 50 37.7	+0.4
PET				eS	Sn	23 50 52.7	-0.1
SMAR	Somma	1.26	301	eP	Pn	23 50 39.3	+1.5
RUS	Russkaya	1.28	262	eP	Pn	23 50 38.9	+1.0
RUS				eS	Sn	23 50 54.3	+0.5
AVH	Avacha	1.29	300	eP	Pn	23 50 39.3	+1.2
AVH				eS	Sn	23 50 55.3	+1.0
KRER	Koryakskii	1.30	302	eP	Pn	23 50 40.2	+1.7
KRER				eS	Sn	23 50 58.0	+3.1
KOK	Koryaka	1.36	300	eP	Pn	23 50 40.3	+1.2
KOK				eS	Sn	23 50 58.2	+2.3
KRX	Arik	1.38	303	eP	Pn	23 50 40.6	+1.1
KRX				eS	Sn	23 50 59.0	+2.3
MTVR	Mutnovka	1.48	265	eP	Pn	23 50 42.4	+1.6
MTVR				eS	Sn	23 51 00.1	+1.1
KII	Karymskiy	1.57	335	eP	Pn	23 50 44.2	+2.2
KII				eS	Sn	23 51 02.9	+1.8
ASAK	Asacha	1.66	263	eP	Pn	23 50 45.8	+2.6
ASAK				eS	Sn	23 51 06.5	+3.1
GNL	Ganaly	1.92	305	eP	Pn	23 50 49.0	+2.2
GNL				eS	Sn	23 51 12.8	+3.0
MKZ	Mys Kozlova	2.05	19	eP	Pn	23 50 51.0	+2.6
MKZ				eS	Sn	23 51 16.2	+3.5
APC	Apacha	2.10	280	eP	Pn	23 50 52.2	+3.0
APC				eS	Sn	23 51 16.5	+2.4
KZV	Kizimen	2.50	356	eP	Pn	23 50 58.9	+4.1
PAU	Pauzhetka	2.60	245	eP	Pn	23 50 58.9	+2.9
PAU				eS	Sn	23 51 30.7	+4.3
TUMR	Tumrok	2.67	355	eP	Pn	23 51 01.0	+3.8
TUMR				eS	Sn	23 51 32.2	+3.8
ESO	Esso	3.49	342	eP	Pn	23 51 11.7	+3.5
KBTR	Krutoberegovo	3.82	19	eP	Pn	23 51 17.9	+5.2
KBTR				eS	Sn	23 52 00.7	+4.4
BKI	Bering	4.10	49	eS	Sn	23 52 04.8	+1.6

IDC 13 00:00:08.9±14.0, 16°.15N×145°.98E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.4/3, Error ellipse: s-maj=417.8km s-min=48.2km az=177.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	60.43	315	P	P	00 10 20.3	-0.1
	0.2nm,0.4s,baz=90,slow=8.5,SNR=12						
ILAR	Eielson Array	65.81	26	P	P	00 10 55.8	0.0
	0.2nm,0.5s,baz=257,slow=5.9,SNR=4.8						
YKA	Yellowknife Ar	80.11	28	P	P	00 12 20.6	+0.1
	0.1nm,0.4s,baz=278,slow=5.8,SNR=4.0						

ISCJB 13 00:03:44.0±0.8, 30°.0N±0°.2×42°.7W±0°.2, h14km, mb3.7/9, MS3.5/2, Error ellipse: s-maj=23.4km s-min=19.3km az=4.3

IDC 13 00:03:43.6±1.1, 29°.98N×42°.71W, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.6/30, mbtmp3.7/9, MS3.5/2, Ms1 3.5/2, ms1mx2.8/45, Error ellipse: s-maj=31.8km s-min=24.9km az=8.0

ISC 13 00:03:45.7±0.9, 30°.0N±0°.2×42°.7W±0°.2, h14km, n17, σ1s.26/9, mb3.8/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	43.92	253	LR	LR	00 30 22.0	
	comp=Z,36nm,18.8s,baz=47,slow=36						
TORD	Torodi Ar. Bea	44.25	102	P	P	00 11 53.4	-1.7
	0.6nm,0.8s,baz=305,slow=5.1,SNR=3.1						
H10N2	ASCENSION HYDR	46.35	140	T	T	01 01 27.1	
	baz=325,slow=75,SNR=60						
H10N3	ASCENSION HYDR	46.35	140	T	T	01 01 27.3	
	baz=325,slow=75,SNR=58						
H10N1	ASCENSION HYDR	46.37	140	T	T	01 01 28.6	
	baz=325,slow=75,SNR=77						
H10S1	ASCENSION HYDR	47.18	141	T	T	01 02 25.5	
	baz=326,slow=75,SNR=46						
H10S3	ASCENSION HYDR	47.18	141	T	T	01 02 30.4	
	baz=326,slow=75,SNR=38						
H10S2	ASCENSION HYDR	47.19	141	T	T	01 02 28.9	
	baz=326,slow=75,SNR=35						
ATAH	Atahualpa	50.36	229	LR	LR	00 33 23.4	
	comp=Z,62nm,20.7s,baz=19,slow=35						
LPAZ	La Paz	52.13	211	P	P	00 12 57.5	+1.0
	0.8nm,0.6s,baz=16,slow=8.3,SNR=2.3						
PDAR	Pinedale Array	54.02	303	P	P	00 13 09.1	-0.7
	0.9nm,0.7s,baz=82,slow=6.6,SNR=4.7						
FINES	FINESS Array B	54.06	34	P	P	00 13 10.8	+1.3
	1.1nm,0.7s,baz=235,slow=6.6,SNR=2.6						
YKA	Yellowknife Ar	55.56	328	P	P	00 13 18.9	-1.5
	0.2nm,0.7s,baz=81,slow=8.2,SNR=3.0						
AKASG	Malin Array Be	56.30	47	P	P	00 13 25.8	-0.1
	0.2nm,0.4s,baz=270,slow=6.9,SNR=4.3						
BRTR	Keskin Array B	61.67	58	P	P	00 14 04.3	+0.8
	1.9nm,1.1s,baz=329,slow=6.0,SNR=3.8						
INK	Inuvik	62.81	335	P	P	00 14 11.0	+0.6
	1.3nm,0.8s,baz=70,slow=6.1,SNR=5.3						
ILAR	Eielson Array	69.02	334	P	P	00 14 51.3	+0.8
	0.5nm,0.9s,baz=90,slow=3.6,SNR=4.0						

ISCJB 13 00:16:59.9±0.6, 29°.8N±0°.1×42°.7W±0°.1, h14km, mb3.8/15, MS3.4/5, Error ellipse: s-maj=17.1km s-min=14.6km az=153.5

IDC 13 00:16:59.6±0.8, 29°.77N×42°.71W, h0km, mb3.8/15, mb1 4.0/15, mb1mx3.9/32, mbtmp3.8/15, MS3.5/5, Ms1 3.5/5, ms1mx3.1/41, Error ellipse: s-maj=22.0km s-min=18.7km az=165.0

NEIC 13 00:17:01.1±0.4, 29°.78N×42°.72W, h10km, mb4.5/1, Error ellipse: s-maj=11.1km s-min=9.5km az=153.0

ISC 13 00:17:01.7±0.7, 29°.8N±0°.1×42°.7W±0°.1, h14km, n28, σ0s.40/16, mb3.9/15, MS3.4/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H05N1	Guadeloupe/Mar	21.50	236	T	T	00 44 15.6	
	SNR=4.2						
SADO	Sadowa	32.32	308	LR	LR	00 34 06.2	
	comp=Z,102nm,19.7s,baz=174,slow=32						
MDT	Midelt	32.59	75	LR	LR	00 34 08.1	
	comp=Z,66nm,20.1s,slow=32						
PTGA	Pitinga	34.51	212	P	P	00 23 49.9	+0.2
	2.9nm,0.8s,baz=13,slow=14,SNR=4.3						
PTGA				LR	LR	00 37 11.8	
	comp=Z,59nm,18.4s,baz=25,slow=35						
TKL	Tuckaleechee C	34.85	291	LR	LR	00 36 17.9	
	comp=Z,56nm,19.3s,baz=78,slow=33						
DAVOX	Davos/Dischmat	43.80	52	LR	LR	00 39 39.3	
	comp=Z,51nm,19.9s,baz=242,slow=31						
TORD	Torodi Ar. Bea	44.23	102	P	P	00 25 10.6	-0.2
	1.0nm,0.8s,baz=309,slow=7.7,SNR=5.3						
H10N2	ASCENSION HYDR	46.20	140	T	T	01 14 47.9	
	baz=325,slow=75,SNR=50						
H10N3	ASCENSION HYDR	46.20	140	T	T	01 14 45.7	
	baz=325,slow=75,SNR=37						
H10N1	ASCENSION HYDR	46.22	140	T	T	01 14 45.7	
	baz=325,slow=75,SNR=48						
H10S1	ASCENSION HYDR	47.03	141	T	T	01 15 42.2	
	baz=326,slow=75,SNR=34						
H10S3	ASCENSION HYDR	47.03	141	T	T	01 15 42.0	
	baz=326,slow=75,SNR=26						
H10S2	ASCENSION HYDR	47.04	141	T	T	01 15 45.3	
	baz=326,slow=75,SNR=30						
RES	Resolute Bay	51.83	345	P	P	00 26 08.4	-0.5
	0.9nm,0.9s,baz=207,slow=6.8,SNR=3.5						
LPAZ	La Paz	51.94	212	P	P	00 26 10.9	-0.2
	1.3nm,0.8s,baz=344,slow=7.4,SNR=4.9						
TXAR	Lajitas Array	52.45	286	P	P	00 26 14.4	+0.1
	0.4nm,0.8s,baz=91,slow=8.1,SNR=4.5						
PDAR	Pinedale Array	54.12	303	P	P	00 26 26.9	+0.3
	1.7nm,0.8s,baz=84,slow=8.3,SNR=12						
FINES	FINESS Array B	54.24	34	P	P	00 26 27.5	+0.7
	2.3nm,0.9s,baz=267,slow=7.0,SNR=4.8						
YKA	Yellowknife Ar	55.73	328	P	P	00 26 37.5	-0.1
	0.5nm,0.8s,baz=89,slow=7.1,SNR=9.9						
AKASG	Malin Array Be	56.45	47	P	P	00 26 42.7	-0.2
	0.2nm,0.4s,baz=279,slow=6.0,SNR=6.1						
NVAR	Mina Array Bea	61.59	300	P	P	00 27 19.0	-0.1
	0.4nm,0.6s,baz=87,slow=4.6,SNR=3.8						
BRTR	Keskin Array B	61.80	58	P	P	00 27 20.9	+0.5
	0.8nm,0.8s,baz=297,slow=5.4,SNR=5.0						
INK	Inuvik	62.99	335	P	P	00 27 28.0	+0.3
	2.2nm,0.8s,baz=72,slow=7.4,SNR=9.5						
INK	Inuvik	62.99	335	eP	P	00 27 27.1	-0.5
	2.9nm,0.9s						
ILAR	Eielson Array	69.20	334	P	P	00 28 08.0	+0.4
	1.1nm,1.1s,baz=62,slow=4.4,SNR=6.5						
H09W1	TRISTAN DA CUN	72.36	155	T	T	01 48 21.3	
	SNR=3.7						
ZALV	Zalesovo Beam	85.11	28	P	P	00 29 36.8	-0.3
	0.6nm,0.7s,baz=316,slow=6.2,SNR=3.8						
MKAR	Makanchi Array	89.07	34	P	P	00 29 56.0	-0.6
	0.4nm,0.9s,baz=304,slow=6.6,SNR=3.7						

IDC 13 00:22:35.9±1.0, 29°.65N×42°.84W, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/31, mbtmp3.7/9, Error ellipse: s-maj=30.7km s-min=24.0km az=13.0

ISCJB 13 00:22:36.4±0.8, 29°.7N±0°.2×42°.9W±0°.2, h14km, mb3.8/9, Error ellipse: s-maj=23.8km s-min=20.2km az=3.3

ISC 13 00:22:38.0±0.9, 29°.6N±0°.2×42°.8W±0°.2, h14km, n15, σ0s.30/9, mb3.9/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	44.30	102	P	P	00 30 47.8	0.0
	0.7nm,0.9s,baz=300,slow=6.4,SNR=3.1						
H10N2	ASCENSION HYDR	46.17	139	T	T	01 20 28.2	
	baz=325,slow=75,SNR=34						
H10N3	ASCENSION HYDR	46.17	139	T	T	01 20 23.2	
	baz=325,slow=75,SNR=24						
H10N1	ASCENSION HYDR	46.19	139	T	T	01 20 34.8	
	baz=325,slow=75,SNR=35						
H10S1	ASCENSION HYDR	46.99	140	T	T	01 21 18.1	
	baz=326,slow=75,SNR=21						
H10S3	ASCENSION HYDR	46.99	140	T	T	01 21 28.4	
	baz=326,slow=75,SNR=17						
H10S2	ASCENSION HYDR	47.00	140	T	T	01 21 19.3	
	baz=326,slow=75,SNR=22						
LPAZ	La Paz	51.77	211	P	P	00 31 46.0	-0.1
	0.7nm,0.6s,baz=34,slow=10.0,SNR=3.7						
PDAR	Pinedale Array	54.11	303	P	P	00 32 03.3	+0.5
	1.0nm,0.8s,baz=80,slow=7.8,SNR=7.5						
FINES	FINESS Array B	54.41	33	P	P	00 32 04.4	0.0
	2.9nm,1.1s,baz=232,slow=6.3,SNR=5.1						
YKA	Yellowknife Ar	55.79	328	P	P	00 32 13.9	-0.4
	0.4nm,0.9s,baz=90,slow=7.3,SNR=4.4						
BRTR	Keskin Array B	61.96	58	P	P	00 32 57.7	-0.1
	0.9nm,1.0s,baz=276,slow=2.4,SNR=3.8						
INK	Inuvik	63.07	335	P	P	00 33 04.3	-0.1
	1.2nm,0.8s,baz=73,slow=7.4,SNR=4.9						
KURBB	Kurchatov Arra	84.81	33	P	P	00 35 12.2	+0.2
	0.3nm,0.4s,baz=311,slow=5.7,SNR=5.7						
MKAR	Makanchi Array	89.24	34	P	P	00 35 33.9	+0.2
	0.4nm,0.9s,baz=347,slow=5.0,SNR=3.7						

ISCJB 13 00:23:02.1±1.6, 41°.4S±0°.2×85°.0E±0°.4, h10km, mb3.9/5, MS3.5/5, Error ellipse: s-maj=39.7km s-min=26.4km az=22.1

IDC 13 00:23:02.6±1.9, 41°.50S×85°.04E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.9/5, MS3.5/5, Ms1 3.5/5, ms1mx3.3/22, Error ellipse: s-maj=47.8km s-min=32.7km az=109.0

ISC 13 00:23:04.2±1.8, 41°.5S±0°.2×85°.0E±0°.3, h10km, n14, σ0s.40/5, mb4.1/5, MS3.6/5, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	23.72	83	T	T	00 52 40.1	
	baz=245,slow=74,SNR=35						
H01W3	Cape Leeuwin H	23.73	83	T	T	00 52 41.0	
	baz=245,slow=74,SNR=43						
H01W1	Cape Leeuwin H	23.74	83	T	T	00 52 41.4	
	baz=245,slow=74,SNR=49						
NWAO	Narrogin (SRO)	26.91	82	LR	LR	00 35 53.4	
	comp=Z,22nm,20.9s,baz=212,slow=29						
MAW	Mawson	28.79	197	LR	LR	00 37 59.9	
	comp=Z,141nm,18.3s,baz=18,slow=31						
H08S2	Diego Garcia H	35.52	338	T	T	01 07 37.1	
	baz=164,slow=76,SNR=24						
H08S1	Diego Carcia H	35.53	338	T	T	01 07 36.5	

baz=164,slow=76,SNR=18
H08S3 Diego Garcia H 35.54 338 T T 01 07 37.1
baz=164,slow=76,SNR=19
ASAR Alice Springs 44.23 82 P P 00 31 13.5 -0.2
0.8nm,0.7s,baz=230,slow=7.8,SNR=10
ASAR LR LR 00 47 27.9
comp=Z,95nm,19.8s,baz=242,slow=33
STKA Stephens Creek 45.64 97 P P 00 31 25.2 +0.4
1.3nm,0.6s,baz=262,slow=7.1,SNR=5.1
WRA Warramunga Arr 46.79 78 P P 00 31 33.7 -0.4
1.4nm,0.8s,baz=235,slow=8.6,SNR=7.2
VNDA Vanda 47.02 163 LR LR 00 48 23.9
comp=Z,127nm,21.5s,baz=253,slow=32
QSPA South Pole Qui 48.64 180 P P 00 31 47.9 -0.1
1.0nm,0.6s,baz=322,slow=12,SNR=5.4
CMAR Chiang Mai Arr 61.04 15 P P 00 33 18.1 +0.1
0.5nm,0.4s,baz=209,slow=7.2,SNR=4.9
CMAR LR LR 00 55 42.7
comp=Z,29nm,19.8s,baz=290,slow=32

*IDC **13** 00:30:06.7±0.6,29.78N×42.78W,h0km,mb4.0/18, mb1 4.1/18,mb1mx4.0/33,mbtmp4.0/18,MS3.7/8, Ms1 3.6/8,ms1mx3.3/34,Error ellipse: s-maj=20.0km s-min=16.4km az=134.0*
*ISCJB **13** 00:30:07.8±0.5,29.75N±0.09×42.8W±0.1,h18km, mb4.1/21,MS3.6/8,Error ellipse: s-maj=15.1km s-min=11.2km az=38.9*
*NEIC **13** 00:30:08.2±0.3,29.76N×42.76W,h10km,mb4.3/2,Error ellipse: s-maj=10.9km s-min=8.0km az=127.0*
ISC 13 00:30:09.4±0.6,**29.8N**±0.1×**42.8W**±0.1,**h18km,n34,** σ0.64/24,**mb4.1**/21,**MS3.6**/8,**Northern Mid-Atlantic Ridge**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PCRV Puerto La Cruz 28.23 231 LR LR 00 46 03.6
comp=Z,138nm,18.0s,baz=10.0,slow=34
SCHQ Schefferville 30.43 332 LR LR 00 46 49.7
comp=Z,88nm,20.5s,baz=92,slow=33
PTGA Pitinga 34.48 211 P P 00 36 56.9 +0.4
5.0nm,1.0s,baz=34,slow=7.9,SNR=5.5
DBIC Dimbokro 42.40 115 LR LR 00 53 38.5
comp=Z,148nm,21.3s,baz=270,slow=33
SAML Samuel 43.22 210 eP P 00 38 09.3 -0.3
2.7nm,0.9s
TORD Torodi Ar. Bea 44.26 102 P P 00 38 17.9 -0.2
2.5nm,1.1s,baz=310,slow=7.3,SNR=7.5
TORD LR LR 00 56 09.5
comp=Z,87nm,18.7s,baz=290,slow=35
BDFB Brasilia 45.42 187 P P 00 38 27.8 +0.4
1.6nm,0.6s,baz=346,slow=8.3,SNR=4.0
BDFB LR LR 00 54 50.6
comp=Z,75nm,21.0s,baz=350,slow=33
H10N2 ASCENSION HYDR46.22 139 T T 01 27 48.9
baz=325,slow=75,SNR=159
H10N3 ASCENSION HYDR46.23 139 T T 01 27 49.2
baz=325,slow=75,SNR=160
H10N1 ASCENSION HYDR46.24 139 T T 01 27 48.8
baz=325,slow=75,SNR=216
GERES GERESS Array B 46.52 49 P P 00 38 35.2 -0.6
0.6nm,0.9s,baz=275,slow=14,SNR=3.6
GERES LR LR 00 55 05.9
comp=Z,42nm,18.3s,baz=224,slow=32
H10S1 ASCENSION HYDR47.05 140 T T 01 28 37.7
baz=326,slow=75,SNR=113
H10S3 ASCENSION HYDR47.05 141 T T 01 28 37.9
baz=326,slow=75,SNR=94
H10S2 ASCENSION HYDR47.06 140 T T 01 28 39.0
baz=326,slow=75,SNR=103
NOA NORSAR Array B 47.13 32 P P 00 38 40.8 +0.5
2.1nm,1.1s,baz=254,slow=8.1,SNR=2.7
LPAZ La Paz 51.91 212 P P 00 39 17.8 -0.1
2.2nm,0.9s,baz=31,slow=8.4,SNR=6.6
PDAR Pinedale Array 54.09 303 P P 00 39 34.0 +0.7
1.7nm,0.9s,baz=80,slow=7.4,SNR=7.7
FINES FINESS Array B 54.27 34 P P 00 39 34.5 +0.4
5.1nm,1.0s,baz=264,slow=7.7,SNR=6.2
YKA Yellowknife Ar 55.72 328 P P 00 39 44.0 -0.4
0.8nm,0.9s,baz=90,slow=7.1,SNR=7.2
YKA PcP PcP 00 40 43.3 -0.4
0.4nm,1.0s,baz=97,slow=5.1,SNR=3.1
AKASG Malin Array Be 56.48 46 P P 00 39 50.0 -0.2
1.1nm,0.7s,baz=273,slow=6.3,SNR=6.8
AKASG LR LR 01 02 25.1
comp=Z,48nm,19.1s,baz=285,slow=34
DUG Dugway 56.99 301 eP P 00 39 54.6 +0.4
10nm,1.3s
NEW Newport 58.39 311 P P 00 40 07.5 +3.7
5.4nm,1.0s,baz=72,slow=7.2,SNR=5.8
NVAR Mina Array Bea 61.55 300 P P 00 40 26.2 +0.3
0.8nm,0.9s,baz=73,slow=7.2,SNR=3.7
NVAR LR LR 01 08 17.7
comp=Z,85nm,18.1s,baz=291,slow=37
BRTR Keskin Array B 61.83 58 P P 00 40 27.9 +0.2
2.5nm,1.0s,baz=278,slow=4.7,SNR=9.1
INK Inuvik 62.98 335 P P 00 40 34.0 -0.6
3.3nm,0.9s,baz=73,slow=8.0,SNR=9.3
INK Inuvik 62.98 335 P P 00 40 33.8 -0.8
ILAR Eielson Array 69.18 334 P P 00 41 14.7 +0.2
0.9nm,1.0s,baz=71,slow=4.4,SNR=4.6
H09W1 TRISTAN DA CUN 72.38 155 T T 02 01 48.8
SNR=3.8
BVAR Borovoye Array 79.22 34 P P 00 42 13.8 +0.6
0.9nm,0.8s,baz=308,slow=5.3,SNR=3.9
KURK Kurchatov 84.64 33 P P 00 42 42.5 +0.7
KURBB Kurchatov Arra 84.66 33 P P 00 42 42.5 +0.6
1.2nm,0.8s,baz=313,slow=5.3,SNR=6.2
ZALV Zalesovo Beam 85.13 28 P P 00 42 45.4 +1.2
1.1nm,0.7s,baz=298,slow=6.1,SNR=3.7
MKAR Makanchi Array 89.10 34 P P 00 43 04.1 +0.4
0.8nm,1.0s,baz=336,slow=6.8,SNR=3.5
ASAR Alice Springs 173.24 27 PKP PKPdf 00 50 16.6 -1.6
0.6nm,0.9s,baz=346,slow=1.1,SNR=4.0

*ISCJB **13** 00:31:25.4±1.1,8.54N±0.03×92.07E±0.04,h18km±8km, mb4.4/53,MS3.8/10,Error ellipse: s-maj=6.8km s-min=4.4km az=138.3*
*NEIC **13** 00:31:28.5±1.6,8.59N×92.07E,h27km±11km,mb4.6/16, Error ellipse: s-maj=7.1km s-min=4.5km az=51.0*
*IDC **13** 00:31:28.9±0.5,8.62N×92.12E,h29km±2km,mb3.9/23, mb1 4.0/25,mb1mx4.0/34,mbtmp4.1/25,ML4.0/2,MS3.4/4, Ms1 3.4/4,ms1mx3.0/34,Error ellipse: s-maj=19.5km s-min=10.0km az=54.0*
*BJI **13** 00:31:30.1,8.71N×92.44E,h22km,mB4.6/17,mb4.4/38, Ms4.3/20,Ms7 4.0/16*
*DJA **13** 00:31:31.9±1.3,9°N±4°×9°2E±1°5,h10km,M4.9/12, mB5.5/6,mb4.7/12,MLv5.0/1,Mw(mB)5.0/6*
ISC 13 00:31:29.0±0.4,**8.55N**±0.04×**92.07E**±0.05,**h30**km±2km, **h30km:pP-P,n121,**σ1.76/160,**mb4.5**/53,**MS3.7**/10,**1C, Nicobar Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CMBY CAMPBELL BAY 2.40 130 eP Pn 00 32 07.0 +0.8
CMBY eS Sn 00 32 34.4 -0.2
CMBY AML AML 00 32 45.1
comp=N,4μm,1.0s
CMBY AML AML 00 32 47.6
comp=E,4μm,0.2s
PBA Port Blair 3.16 12 eP Pn 00 32 15.1 -1.6
PBA eS Sn 00 32 48.4 -5.0
DGPR DIGLIPUR 4.67 10 eP Pn 00 32 37.0 -0.7
DGPR ex x 00 33 15.9
LHMI Lhok Sumawe 5.86 124 P Pb 00 33 03.4 -7.2
comp=E,322nm,0.9s,comp=E,3μmcomp=E,0.9nm
LHMI Lhok Sumawe 5.86 124 ePn Pn 00 32 55.0 +1.1
LHMI Lhok Sumawe 5.86 124 P Pn 00 32 55.7 +1.8
baz=5.4,SNR=4.5
PSI Prapat 8.90 130 Pn Pn 00 33 36.0 +0.2
comp=E,0.5nm,0.3s,baz=322,slow=12,SNR=6.9
PSI Sn Sn 00 35 13.4 -1.8
comp=E,1.3nm,0.3s,baz=183,slow=17,SNR=2.7
GSI Gunungsitoli 9.05 142 ePn Pn 00 33 37.3 -0.4
GSI eSn Sn 00 35 15.4 -3.4
KULM Kulim 9.12 110 ePn Pn 00 33 39.0 +0.3
KULM eSn Sn 00 35 16.7 -3.6
IPM Ipoh 9.78 114 ePn Pn 00 33 46.6 -1.1
IPM eSn Sn 00 35 31.6 -4.9
PALK Pallekele 11.33 264 ePn Pn 00 34 09.1 +0.1
PALK eSn Sn 00 36 04.8 -10
CMAR Chiang Mai Arr 11.90 33 Pn Pn 00 34 15.9 -0.9
comp=E,0.8nm,0.3s,baz=229,slow=15,SNR=20
CMAR LR LR 00 39 11.7
comp=E,284nm,21.0s,baz=208,slow=39
CHTO Chiang Mai 12.19 32 ePn Pn 00 34 19.8 -1.0
MDRS Chennai 12.45 292 eP3 Pn 00 34 22.2 -2.1
VIS Vishakhapatnam 12.46 318 iP Pn 00 34 22.4 -2.1
VIS ix x 00 36 24.6
VIS ex x 00 36 29.3
comp=E,86nm,0.3s
VIS ex x 00 36 30.8
comp=N,157nm,0.4s
MASI Maura Aman, Be 15.42 138 P P 00 35 11.6 +2.7
comp=N,104nm,0.9s,comp=N,2μm
HYB Hyderabad 15.84 305 iP Pn 00 35 08.5 -1.5
HYB e 00 35 13.0
HYB eS Sn 00 37 51.0 -14
HYB e 00 38 11.0
HYB Hyderabad 15.84 305 eP Pn 00 35 08.5 -1.5
HYB e 00 35 13.0
HYB eS Sn 00 37 51.0 -14
HYB e 00 38 11.0
BOK Bokaro 16.27 339 eP Pn 00 35 13.5 -2.1
BOK ex x 00 37 53.1
MNAI Manna 16.80 139 ePn P 00 35 26.3 +2.0
comp=N,86nm,0.8s
MNAI eS S 00 38 40.2 +1.9
MNAI Manna 16.80 139 P P 00 35 26.7 +2.4
baz=16,SNR=4.5
MNAI S S 00 38 40.8 +2.5
baz=16,SNR=5.3
SHL Shillong 16.92 359 eP Pn 00 35 24.3 +0.4
SHL ex x 00 38 19.0
SLVN Son La 17.08 41 ePn Pn 00 35 24.9 -0.9
comp=N,51nm,1.4s
MDSI Maura Dua 17.71 137 P P 00 35 34.7 +0.4
comp=N,17nm,0.9s
LWLI Liwa 18.02 138 P P 00 35 42.8 +5.0
comp=N,66nm,0.7s
KASI Kota Agung 18.68 138 P Pn 00 35 51.6 +6.1
RAMN Ramite 19.02 345 eP Pn 00 35 51.9 +2.2
comp=N,44nm,0.4s
GOA Goa 19.12 293 eP Pn 00 35 51.8 +1.0
GOA ex x 00 39 03.0
TAPN Taplejung 19.15 348 eP Pn 00 35 51.0 -0.3
comp=N,31nm,0.5s
KMI Kunming 19.37 30 P Pn 00 35 53.6 -0.3
KMI pP pP 00 36 00.8 +0.1
KMI sP sP 00 36 05.1 +0.6
KMI PP PnPn 00 36 14.3 +6.8
KMI S S 00 39 25.6 -4.7
KMI sS sS 00 39 37.9 -5.4
KMI SS SnSn 00 39 50.2 +5.1
KMI pmax pmax
comp=N,9.0nm,0.7s
KMI LR LR
comp=N,240nm,13.7s
KMI LR LR
comp=N,200nm,11.9s
KAD Karad 19.47 298 eP Pn 00 35 55.3 +0.3
KAD ex x 00 39 13.9
JIRN Jiri 19.80 344 eP P 00 35 58.3 +0.7
comp=N,42nm,0.6s
PKI Pulchoki 19.94 342 eP Pn 00 36 00.5 -0.3
comp=N,67nm,0.7s
PKIN Phulchoki 19.95 342 eP Pn 00 36 00.8 -0.1
comp=N,59nm,0.6s
DMN Daman 20.07 342 eP Pn 00 36 02.3 0.0
comp=N,72nm,0.7s
GUN Gumba 20.12 344 eP P 00 36 01.4 +0.3
comp=N,60nm,0.6s
QIZ Qiongzhong 20.14 57 P P 00 36 01.5 +0.6
QIZ sP sP 00 36 13.5 +0.7
QIZ pmax pmax
comp=N,17nm,1.5s
QIZ LR LR
comp=N,260nm,3.9s
QIZ Qiongzhong 20.14 57 eP P 00 36 00.0 -0.9
comp=N,233nm,2.0s
KKN Kakani 20.18 342 eP Pn 00 36 02.8 -0.8
comp=N,37nm,0.6s
BHPL Bhopal 20.26 318 eP P 00 36 02.3 0.0
BHPL ex x 00 39 33.0
POO Poona 20.28 301 eP P 00 36 01.2 -1.3
GKN Gorkha 20.58 341 eP P 00 36 06.4 +0.6
comp=N,41nm,0.3s
KOLN Koldanda 20.72 338 eP Pn 00 36 09.7 -0.2
comp=N,54nm,0.7s
SBUM Sibu 20.95 106 eP P 00 36 09.7 0.0
comp=N,15nm,0.8s
LSA Lhasa 21.06 358 eP P 00 36 11.4 +0.2
comp=N,32nm,1.0s
DANN Dangsing 21.20 339 eP P 00 36 13.0 +0.4
comp=N,65nm,0.8s
GYA Guiyang 22.56 36 ⇑iP P 00 36 26.3 -0.8
GYA pP pP 00 36 36.4 +1.2
GYA PP PnPn 00 36 56.0 +4.9
GYA PcP PcP 00 40 21.2 +1.1
GYA S S 00 40 28.9 -4.0
GYA pmax pmax
comp=N,20nm,0.8s
GYA pmax pmax
comp=N,120nm,4.8s
GYA LR LR
comp=N,440nm,17.5s
GYA LR LR
comp=N,380nm,18.0s
GYA LR LR
comp=N,450nm,17.4s
XMIS Christmas Isla 23.24 144 eP P 00 36 36.9 +2.8
comp=N,402nm,1.2s
XMIS Christmas Isla 23.24 144 P P 00 36 43.6 +9.5
baz=23,SNR=3.5
CD2 Chengdu 24.78 25 P P 00 36 46.6 -1.8
CD2 pP pP 00 36 56.0 -1.1
CD2 sP sP 00 37 00.0 -0.7
CD2 PP PnPn 00 37 23.7 +2.4
CD2 S S 00 41 04.3 -4.8
CD2 sS sS 00 41 19.6 -3.7
CD2 SS SnSn 00 42 02.5 +5.1
CD2 pmax pmax
comp=N,20nm,0.8s
CD2 pmax pmax
comp=N,240nm,5.5s
CD2 LR LR
comp=N,420nm,8.3s
CD2 LR LR
comp=N,220nm,11.3s
H08S3 Diego Garcia H 25.28 231 T T 01 03 15.3
baz=51,slow=75,SNR=559
H08S2 Diego Garcia H 25.29 231 T T 01 03 15.9
baz=51,slow=75,SNR=522
H08S1 Diego Garcia H 25.30 231 T T 01 03 14.7
baz=51,slow=75,SNR=416
H08N1 Diego Garcia H 25.68 235 T T 01 04 01.1
baz=58
H08N2 Diego Garcia H 25.68 236 T T 01 03 60.0
baz=58
H08N3 Diego Garcia H 25.70 236 T T 01 03 57.8
baz=58
SMLA Simla 26.41 330 eP P 00 37 03.1 -0.1
SMLA ex x 00 42 04.0
DHRM DHARAMSHALA 27.75 330 eP P 00 37 14.1 -1.4
LZH Lanzhou 29.44 20 eP P 00 37 37.1 +6.7
LZH pmax pmax
comp=N,14nm,1.0s
LZH pmax pmax
comp=N,110nm,4.7s
LZH LR LR
comp=N,320nm,14.2s
LZH LR LR
comp=N,130nm,17.1s
LZH LR LR
comp=N,300nm,18.1s
XAN Xi'an 29.74 29 P P 00 37 37.6 +4.7
XAN pP pP 00 37 46.3 +4.7
XAN sP sP 00 37 50.4 +5.1
XAN pmax pmax
comp=N,3.0nm,0.7s
XAN pmax pmax
comp=N,25nm,5.3s
XAN LR LR
comp=N,170nm,19.5s
XAN LR LR
comp=N,41nm,16.4s
GTA Gaotai 31.50 12 eP P 00 37 49.3 +0.8
GTA pmax pmax
comp=N,2.0nm,0.9s
KSH Kashi 34.04 337 eP P 00 38 19.4 +8.7
KSH esP sP 00 38 33.6 +11
KSH ePP PP 00 39 33.4 +5.3
KSH eS S 00 43 46.3 +12
KSH ePcS PcS 00 44 47.7 +13
KSH eSS SnSn 00 45 14.4 -29
KSH pmax pmax
comp=Z,4.0nm,0.9s
KSH pmax pmax
comp=Z,11nm,1.8s
KSH LR LR
comp=N,84nm,5.0s
KSH LR LR
comp=E,150nm,4.9s
KSH LR LR
comp=Z,84nm,5.3s
NJ2 Nanjing 34.13 43 eP P 00 38 12.0 +0.6
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
WMQ Urumqi 35.34 355 eP P 00 38 22.8 +1.0
WMQ pP pP 00 38 32.5 +1.9
WMQ sP sP 00 38 36.4 +2.1
WMQ PP PP 00 39 42.5 +0.1
WMQ PcP PcP 00 40 53.1 +1.4
WMQ S S 00 43 53.8 -0.5
WMQ sS sS 00 44 07.9 -0.9
WMQ ScS ScS 00 48 38.5 -1.3
WMQ pmax pmax
comp=Z,8.0nm,1.2s
WMQ LR LR
comp=Z,70nm,23.4s
WMQ LR LR
comp=Z,150nm,24.4s
HHC Hu-ho-hao-te 36.53 25 eP P 00 38 33.6 +1.5
HHC pP pP 00 38 43.4 +2.4
HHC sP sP 00 38 47.2 +2.6
HHC PP PP 00 39 58.8 +3.2
HHC S S 00 44 13.5 +0.8
HHC sS sS 00 44 29.8 +2.5
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,140nm,7.5s
HHC LR LR
comp=Z,180nm,13.1s
HHC LR LR
comp=Z,300nm,13.6s
HHC LR LR
comp=Z,210nm,14.8s
AAK Ala-Archa 37.30 338 P P 00 38 39.0 +0.4
comp=Z,1.1nm,0.7s,baz=180,slow=9.3,SNR=5.7
AAK Ala-Archa 37.30 338 eP P 00 38 39.2 +0.5
comp=Z,8.6nm,1.0s
EKS2 Erkin-Say 37.59 338 eP P 00 38 42.1 +1.1
comp=Z,7.6nm,0.8s
BJI Beijing 38.03 31 P P 00 38 45.7 +1.1
BJI S S 00 44 35.9 +0.7
BJI pmax pmax
comp=Z,7.0nm,0.8s
BJI LR LR
comp=Z,210nm,14.3s
BJI LR LR
comp=Z,190nm,18.8s
BJI LR LR
comp=Z,130nm,25.0s
MKAR Makanchi Array 39.01 349 P P 00 38 52.5 -0.4
comp=Z,2.4nm,0.7s,baz=160,slow=7.6,SNR=34
MKAR pP pP 00 39 00.1 -1.7
comp=Z,5.5nm,0.6s,baz=167,slow=7.7,SNR=25
MKAR PcP PcP 00 41 02.6 -0.2
comp=Z,0.5nm,0.6s,baz=172,slow=2.9,SNR=2.1
KKAR Karatay Array 39.26 335 eP P 00 38 55.0 0.0
SONM Songino Array 40.99 15 P P 00 39 09.1 -0.4
comp=Z,0.5nm,0.4s,baz=198,slow=9.3,SNR=8.4
SONM PcP PcP 00 41 09.4 +0.2
comp=Z,1.1nm,0.8s,baz=214,slow=3.6,SNR=4.6
SONM pPcP 00 41 18.1
comp=Z,1.5nm,0.8s,baz=202,slow=2.7,SNR=3.9
ULN Ulaanbaatar 41.19 15 eP P 00 39 11.8 +0.7
comp=Z,3.6nm,0.8s
KSAR Wonju Array Be 43.30 43 P P 00 39 26.6 -1.6
KSRS Korea Array 43.33 43 P P 00 39 26.6 -1.9
comp=Z,1.0nm,0.6s,baz=236,slow=8.6,SNR=4.6
JNU Nakatsue 43.36 50 P P 00 39 28.7 -0.2
comp=Z,7.1nm,0.7s,baz=267,slow=7.2,SNR=3.5
KURBB Kurchatov Arra 43.42 347 P P 00 39 28.6 -0.4
comp=Z,1.1nm,0.6s,baz=169,slow=7.1,SNR=15
KURBB pP pP 00 39 36.7 -1.3
comp=Z,4.3nm,0.7s,baz=170,slow=7.2,SNR=12
KURBB PcP PcP 00 41 17.2 +0.2
comp=Z,0.8nm,0.7s,baz=185,slow=3.3,SNR=4.7
KURK Kurchatov 43.49 348 eP P 00 39 28.3 -1.2
comp=Z,10nm,1.2s
KURK pP pP 00 39 36.7 -1.8
KURK PcP PcP 00 41 17.1 -0.1
CN2 Changchun 45.58 34 eP P 00 39 48.8 +2.4
ZALV Zalesovo Beam 45.65 354 P P 00 39 45.9 -0.8
comp=Z,0.7nm,0.3s,baz=182,slow=8.9,SNR=9.2
ZALV pP pP 00 39 54.3 -1.4
comp=Z,1.9nm,0.4s,baz=179,slow=10,SNR=8.7
ZALV LR LR 01 02 45.9
comp=Z,39nm,18.8s,baz=248,slow=41
RAYN Ar Rayn 46.94 294 eP P 00 39 57.5 +0.1
comp=Z,5.3nm,0.8s
VOSK Vostochnaya 47.27 343 eP P 00 39 59.3 -0.2
comp=Z,5.5nm,0.8s
NWAO Narrogin (SRO) 47.71 151 P P 00 40 04.1 +0.9
comp=Z,9.3nm,0.9s,baz=321,slow=6.5,SNR=4.0
BVAR Borovoye Array 47.71 342 P P 00 40 02.2 -0.7
comp=Z,0.7nm,0.8s,baz=156,slow=7.8,SNR=6.3
BVAR pP pP 00 40 10.3 -1.7
comp=Z,2.9nm,0.8s,baz=146,slow=9.5,SNR=9.8
BVAR PcP PcP 00 41 32.0 0.0
comp=Z,0.5nm,0.7s,baz=151,slow=3.3,SNR=2.1
BRVK Borovoye 47.77 342 eP P 00 40 02.7 -0.7
comp=Z,5.1nm,1.0s
WRKA Warakurna 48.58 134 P P 00 40 10.0 -0.1
baz=48,SNR=4.8
ABKAR Akbulak array 48.67 332 eP P 00 40 10.2 -0.2
MJAR Matsushiro Arr 50.25 49 P P 00 40 22.8 +0.1
comp=Z,8.8nm,1.0s,baz=209,slow=6.5,SNR=4.8
MJAR LR LR 01 05 33.7
comp=Z,38nm,19.2s,baz=55,slow=41
WRA Warramunga Arr 50.33 125 P P 00 40 22.6 -0.9
comp=Z,1.7nm,0.7s,baz=306,slow=8.4,SNR=26
WRA pP pP 00 40 31.5 -1.1
comp=Z,2.0nm,0.4s,baz=304,slow=8.6,SNR=9.9
WRA PcP PcP 00 41 42.1 +0.1
comp=Z,0.8nm,0.8s,baz=314,slow=2.6,SNR=2.8
WRAB Tennant Creek 50.33 125 eP P 00 40 22.4 -1.1
comp=Z,39nm,2.1s
ASAR Alice Springs 51.93 129 P P 00 40 34.6 -0.9
comp=Z,1.7nm,0.8s,baz=308,slow=8.0,SNR=18
ASAR pP pP 00 40 43.5 -1.1
comp=Z,2.3nm,0.7s,baz=305,slow=7.8,SNR=9.4
ASAR PcP PcP 00 41 48.2 +0.3
comp=Z,0.9nm,0.5s,baz=303,slow=3.8,SNR=4.4
FORT Forrest 52.16 140 eP P 00 40 37.1 +0.1
comp=Z,23nm,1.1s
ARU Arti 54.48 338 eP P 00 40 52.9 -0.8
comp=Z,5.8nm,0.8s
COEN Coen 55.43 113 eP P 00 40 59.7 -1.6
comp=Z,50nm,1.3s
BBOO Buckleboo 58.70 137 eP P 00 41 23.7 -0.4
comp=Z,255nm,1.9s
BRTR Keskin Array B 60.44 311 P P 00 41 35.2 -1.0
comp=Z,1.2nm,0.7s,baz=123,slow=7.4,SNR=7.3
STKA Stephens Creek 62.06 133 P P 00 41 47.1 0.0
comp=Z,2.8nm,0.8s,baz=298,slow=7.7,SNR=6.8
STKA LR LR 01 14 08.8
comp=Z,20nm,18.7s,baz=358,slow=41
STKA Stephens Creek 62.06 133 P P 00 41 47.8 +0.7
baz=62,SNR=4.2
AKASG Malin Array Be 66.36 322 P P 00 42 14.0 -1.0
comp=Z,0.2nm,0.4s,baz=87,slow=5.1,SNR=3.3
FINES FINESS Array B 71.16 332 P P 00 42 43.6 -1.1
comp=Z,2.3nm,1.1s,baz=57,slow=7.0,SNR=4.4
GERES GERESS Array B 75.96 318 P P 00 43 13.2 -0.2
comp=Z,1.1nm,0.7s,baz=90,slow=5.3,SNR=11
GERES pP pP 00 43 23.6 +0.8
comp=Z,2.3nm,0.7s,baz=90,slow=5.2,SNR=13
CLL Collm 76.54 321 epP pP 00 43 24.0 -1.9
NB2 NORSAR Subarra 78.14 331 P PcP 00 43 36.1 +1.4
comp=Z,1.6nm,0.7s,baz=91,slow=5.1
NOA NORSAR Array B 78.14 331 P P 00 43 23.2 -2.1
comp=Z,0.5nm,0.7s,baz=94,slow=5.7,SNR=2.7

KEST	Kesra	79.17	305	P	P	00 43 30.9	-0.7
	comp=Z,1.3nm,0.8s,baz=80,slow=11,SNR=2.4						
LPG	La Plagne	80.69	315	eP	P	00 43 38.9	-0.9
	comp=Z,16nm,1.0s						
LPL	La Plagne	80.70	315	eP	P	00 43 38.9	-0.9
	comp=Z,11nm,0.7s						
HAU	Haudompre	80.85	317	eP	P	00 43 37.9	-2.4
	comp=Z,8.7nm,0.7s						
SFTF	Sexfontaines	81.72	318	eP	P	00 43 45.4	+0.6
	comp=Z,24nm,1.0s						
LOR	Lormes	82.58	317	eP	P	00 43 49.8	+0.4
	comp=Z,15nm,1.1s						
SMF	Signal de Mont	82.64	316	eP	P	00 43 49.7	0.0
	comp=Z,13nm,1.1s						
TORD	Torodi Ar. Bea	88.45	283	P	P	00 44 19.6	+0.4
	comp=Z,1.4nm,0.8s,baz=87,slow=4.5,SNR=9.0						
ESDC	Sonseca Array	89.21	310	P	P	00 44 22.7	+0.3
	comp=Z,0.7nm,0.8s,baz=58,slow=4.4,SNR=3.8						
ESDC				pP	pP	00 44 33.5	+1.4
	comp=Z,0.6nm,0.5s,baz=68,slow=3.8,SNR=5.0						
ILAR	Eielson Array	94.88	22	P	P	00 44 50.3	+2.2
	comp=Z,0.3nm,0.8s,baz=298,slow=4.5,SNR=2.7						
RES	Resolute Bay	96.81	2	P	P	00 44 56.9	+0.3
	comp=Z,1.4nm,0.9s,baz=316,slow=3.0,SNR=4.2						
RES				pP	pP	00 45 05.8	-0.4
	comp=Z,2.9nm,0.8s,baz=6.6,slow=2.6,SNR=8.1						
INK	Inuvik	96.90	16	P	P	00 44 56.8	-0.3
	comp=Z,0.9nm,0.8s,baz=337,slow=4.3,SNR=3.7						
INK				pP	pP	00 45 07.2	+0.4
	comp=Z,0.8nm,0.7s,baz=35,slow=0.5,SNR=2.6						
PDAR	Pinedale Array	125.25	19	PKP	PKPdf	00 50 26.9	-0.6
	comp=Z,0.6nm,0.7s,baz=166,slow=0.6,SNR=6.5						
PDAR				pPKP	pPKPdf	00 50 36.5	-0.9
	comp=Z,0.6nm,0.6s,baz=73,slow=5.1,SNR=4.3						
NVAR	Mina Array Bea	125.36	29	PKP	PKPdf	00 50 28.9	+1.0
	comp=Z,1.0nm,0.7s,baz=298,slow=1.9,SNR=8.6						
NVAR				pPKP	pPKPdf	00 50 38.6	+0.9
	comp=Z,0.8nm,0.7s,baz=296,slow=2.3,SNR=4.8						
TXAR	Lajitas Array	139.40	21	PKP	PKPdf	00 50 54.7	+0.4
	comp=Z,0.3nm,0.5s,baz=126,slow=1.2,SNR=6.2						
TXAR				pPKP	pPKPdf	00 51 05.0	+0.7
	comp=Z,0.5nm,0.6s,baz=245,slow=0.8,SNR=6.5						
PLCA	Paso Flores	144.42	203	PKP	PKPbc	00 51 02.0	+0.7
	comp=Z,2.9nm,0.9s,baz=198,slow=0.5,SNR=4.1						
CPUP	Villa Florida	146.01	235	PKPbc	PKPdf	00 51 06.2	+0.3
	comp=Z,0.4nm,0.3s,baz=217,slow=4.7,SNR=3.3						

IDC 13 00:38:11.1±1.7, 43.99N×128.30W, h0km, mb3.5/4, mb1 3.8/9, mb1mx3.6/32, mbtmp3.6/9, ML3.5/5, MS3.6/12, Ms1 3.6/12, ms1mx3.4/31, Error ellipse: s-maj=31.2km s-min=18.9km az=46.0

BJI 13 00:38:16.7, 43.24N×128.14W, h17km, mB5.0/1, mb4.7/3

ISCJB 13 00:38:18.1±0.6, 43.96N±0.03×127.68W±0.07, h10km, mb4.3/9, MS3.7/7, Error ellipse: s-maj=7.0km s-min=3.6km az=4.9

NEIC 13 00:38:19.3±1.6, 43.97N×127.68W, h10km, mb4.4/13, Error ellipse: s-maj=20.4km s-min=6.0km az=90.0

ISC 13 00:38:19.7±0.7, 44.06N±0.08×127.71W±0.07, h10km, n342, σ1.09/321, mb4.4/9, MS3.4/7, 107C-130D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	2.73	115	ePn	Pn	00 38 59.8	-3.8
KBO	Bosley Butte	3.15	125	ePn	Pn	00 39 09.7	+0.3
I03D	Drain, OR	3.17	95	⇓P	Pn	00 39 09.2	-0.5
	baz=3.1						
COR	Corvallis	3.21	79	ePn	Pn	00 39 08.9	-1.2
F03A	Seaside	3.49	56	ePn	Pn	00 39 13.4	-0.6
HUMO	Hull Mountain	3.76	111	ePn	Pn	00 39 15.7	-2.0
HUMO				eSg	Sn	00 40 05.2	+3.1
I04A	Tendick Farm,	3.84	92	⇑P	Pn	00 39 17.7	-1.1
	baz=3.8						
E03A	Lebam	3.84	48	ePn	Pn	00 39 18.5	-0.2
BBOR	Butler Butte	3.84	106	ePn	Pn	00 39 17.9	-1.1
H04A	Detroit Lake	4.01	79	ePn	Pn	00 39 20.7	-0.5
J04D	Umpqua Nationa	4.15	99	⇓P	Pn	00 39 21.4	-1.8
	baz=4.1						
F04A	Amboy	4.19	62	ePn	Pn	00 39 23.9	+0.2
NLWA	Neilton Lookou	4.28	38	ePn	Pn	00 39 25.1	+0.2
YBH	Yreka Blue Hor	4.35	121	Pn	Pn	00 39 23.0	-2.9
	0.3nm,0.3s,baz=309,slow=16,SNR=4.2						
YBH	Yreka Blue Hor	4.35	121	ePn	Pn	00 39 23.9	-2.0
K04D	Chiloquin, OR	4.58	106	⇑P	Pn	00 39 27.4	-1.7
	baz=4.5						
I05D	Terrebonne, OR	4.59	84	⇑P	Pn	00 39 28.2	-1.0
	baz=4.6						
G05D	Wamic, OR	4.71	73	⇓P	Pn	00 39 30.2	-0.6
	baz=4.7						
J05D	Fort Rock, OR	4.76	97	⇓P	Pn	00 39 31.2	-0.4
	baz=4.7						
KMRM	Mail Ridge	4.85	141	ePn	Pn	00 39 33.9	+1.1
LON	Longmire	4.95	55	ePn	Pn	00 39 34.0	-0.1
D05A	Enumclaw	5.09	50	ePn	Pn	00 39 36.7	+0.8
K05A	Summer Lake	5.14	103	ePn	Pn	00 39 36.8	-0.1
WDC	Whiskeytown Da	5.17	130	ePn	Pn	00 39 37.2	+0.1
G06A	Carlson Farm,	5.18	74	ePn	Pn	00 39 38.5	+1.2
PGC	Sidney	5.45	31	ePn	Pn	00 39 43.0	+2.1
LTY	Liberty	5.88	55	ePn	Pn	00 39 47.1	+0.3
I07A	Izee	5.91	87	ePn	Pn	00 39 48.4	+1.0
E07A	Sunnyside	6.08	63	ePn	Pn	00 39 52.7	+3.1
B06A	Marblemount	6.20	42	ePn	Pn	00 39 57.2	+6.0
HAWA	Hanford	6.23	65	ePn	Pn	00 39 52.1	+0.5
A05A	Maple Falls	6.28	36	ePn	Pn	00 39 56.9	+4.6
G08A	Pilot Rock	6.36	76	ePn	Pn	00 39 52.9	-0.7
WVOR	Wild Horse Val	6.82	101	ePn	Pn	00 39 59.0	-0.9
D08A	Wollman Farm,	6.86	61	ePn	Pn	00 40 01.1	+0.8
C09A	Chrisman Ranch	7.57	57	ePn	Pn	00 40 09.7	-0.2
CMB	Columbia Colle	8.18	135	ePn	Pn	00 40 16.8	-1.6
WAKR	Walker	8.34	129	ePn	Pn	00 40 20.0	-0.8
NEW	Newport	8.46	57	Pn	Pn	00 40 21.4	-1.0
	0.2nm,0.3s,baz=252,slow=13,SNR=3.6						
NEW				LR	LR	00 43 38.3	
	comp=Z,240nm,21.8s,baz=245,slow=37						
BMN	Battle Mountai	8.58	111	ePn	Pn	00 40 21.7	-2.4
NVAR	Mina Array Bea	9.04	125	Pn	Pn	00 40 29.4	-1.0
	0.1nm,0.3s,baz=303,slow=12,SNR=11						
NVAR				LR	LR	00 43 58.8	
	comp=Z,336nm,20.8s,baz=74,slow=37						
HLID	Hailey	9.63	88	ePn	Pn	00 40 35.4	-3.0
HLID	Hailey	9.63	88	⇓P	Pn	00 40 36.8	-1.7
	baz=9.6						
ELK	Elko	9.80	105	LR	LR	00 44 56.7	
	comp=Z,318nm,21.5s,baz=0.0,slow=40						
ELK	Elko	9.80	105	ePn	Pn	00 40 41.0	+0.1
MCMT	McKenzie Canyo	10.66	81	ePn	Pn	00 40 51.9	-0.7
R11A	Troy Canyon, C	10.77	118	⇓P	Pn	00 40 52.5	-1.5
	baz=11						
ISA	Isabella	10.98	137	ePn	Pn	00 40 55.5	-1.3
ISA	Isabella	10.98	137	⇓P	Pn	00 40 55.9	-1.0
	baz=11						
HVU	Hansel Valley	11.19	97	ePn	Pn	00 40 57.3	-2.5
FURC	Furnace Creek,	11.23	129	⇑P	Pn	00 40 58.7	-1.5
	baz=11						
ARVC	Arvin	11.24	140	⇓P	Pn	00 40 59.0	-1.4
	baz=11						
BGU	Big Grassy Mou	11.28	101	ePn	Pn	00 40 58.0	-3.1
SBC	Santa Barbara	11.43	145	⇑P	Pn	00 41 01.5	-1.4
	baz=11						
DUG	Dugway	11.72	104	ePn	Pn	00 41 04.7	-2.2
DUG	Dugway	11.72	104	⇓P	Pn	00 41 06.0	-0.9
	baz=12						
EDW2	Edwards Air Fo	11.84	137	⇑P	Pn	00 41 07.0	-1.7
	baz=12						
HWUT	Hardware Ranch	12.11	96	ePn	Pn	00 41 10.9	-1.4
YFT	Old Faithful	12.11	82	ePn	Pn	00 41 13.9	+1.5
GSC	Goldstone	12.12	133	ePn	Pn	00 41 11.6	-0.9
GSC	Goldstone	12.12	133	⇑P	Pn	00 41 11.6	-0.9
	baz=12						
TPAW	Teton Pass	12.13	87	ePn	Pn	00 41 13.7	+0.9
SHPR	Sheep Range	12.19	124	ePn	Pn	00 41 12.0	-1.5
SNOW	Snow King Moun	12.28	87	ePn	Pn	00 41 16.2	+1.5
I17A	Pilgrim Ck.	12.35	85	⇓P	Pn	00 41 14.4	-1.2
	baz=12						
ARUT	Antelope Range	12.47	115	ePn	Pn	00 41 13.7	-3.7
TUQ	Turquoise Moun	12.50	130	⇑P	Pn	00 41 16.3	-1.4
	baz=12,SNR=8.5						
DAU	Daniels Canyon	12.73	101	ePn	Pn	00 41 18.8	-2.1
HEC	Hector,Ludlow	12.73	133	⇑P	Pn	00 41 19.8	-1.0
	baz=13,SNR=7.4						
MVU	Marysvale	12.90	110	ePn	Pn	00 41 23.8	+0.5
EGMT	Eagleton	13.08	66	⇑P	Pn	00 41 24.8	-0.8
	baz=13						
GMRC	Granite Mounta	13.13	131	⇑P	Pn	00 41 25.0	-1.2
	baz=13						
LDFC	Landfair	13.21	128	ePn	Pn	00 41 24.6	-2.9
PDAR	Pinedale Array	13.26	89	Pn	Pn	00 41 29.8	+1.6
	0.1nm,0.3s,baz=279,slow=12,SNR=5.4						
PDAR				LR	LR	00 47 02.1	
	comp=Z,266nm,19.0s,baz=284,slow=39						
F19A	Roth Farm, Mol	13.41	76	⇑P	Pn	00 41 28.9	-1.2
	baz=13						
H19A	Powell	13.41	81	⇓P	Pn	00 41 28.4	-1.8
	baz=13						
I19A	Meeteetse	13.47	84	⇑P	Pn	00 41 29.4	-1.5
	baz=13,SNR=8.1						
C19A	Slack Wire Ran	13.50	68	⇑P	Pn	00 41 31.2	0.0
	baz=14						
J19A	Crowheart	13.53	87	⇑P	Pn	00 41 31.1	-0.8
	baz=14						
BELC	Belle Mtn. Jos	13.54	134	⇑P	Pn	00 41 30.2	-1.8
	baz=14						
E19A	Rath Farm, Rou	13.54	73	⇑P	Pn	00 41 30.9	-0.9
	baz=14						
PFO	Pinyon Flat Ob	13.62	136	LR	LR	00 46 23.3	
	comp=Z,182nm,19.3s,baz=355,slow=36						
IRM	Iron Mountain	13.87	131	⇑P	Pn	00 41 35.7	-0.7
	baz=14						
W13A	Hualapai Mount	13.90	125	⇓P	Pn	00 41 36.1	-0.8
	baz=14						
BC3	Big Chuckawall	14.10	133	⇓P	Pn	00 41 38.7	-0.8
	baz=14						
H20A	Greybull	14.13	81	⇑P	Pn	00 41 39.9	-0.1
	baz=14						
C20A	Veseth Ranch,	14.20	68	⇓P	Pn	00 41 39.5	-1.2
	baz=14						
J20A	Shoshoni	14.22	86	⇓P	Pn	00 41 39.3	-1.8
	baz=14						
MONP	Monument Peak	14.22	138	⇑P	Pn	00 41 39.3	-2.0
	baz=14						
B20A	Solberg Farm,	14.30	65	⇑P	Pn	00 41 41.4	-0.8
	baz=14						
PDMCI	Parker Dam,Lak	14.33	128	⇑P	Pn	00 41 40.9	-1.6
	baz=14						
A20A	Cobblestone Ra	14.45	64	⇓P	Pn	00 41 43.4	-0.8
	baz=14						
SWSC	Sam W. Stewart	14.48	136	⇓P	Pn	00 41 43.0	-1.7
	baz=14						
Y12C	Blythe	14.52	131	⇑P	Pn	00 41 43.5	-1.6
	baz=14						
J21A	Lysite	14.68	86	⇑P	Pn	00 41 46.3	-1.2
	baz=15						
N20A	Spence Gulch,	14.71	96	⇑P	Pn	00 41 47.1	-0.9
	baz=15,SNR=8.9						
E21A	Keefer Ranch,	14.73	73	⇑P	Pn	00 41 46.9	-1.1
	baz=15						
H21A	Big Horn, Sher	14.80	81	⇓P	Pn	00 41 47.3	-1.8
	baz=15						
C21A	Desert Coulee	14.82	68	⇓P	Pn	00 41 47.9	-1.4
	baz=15						
GLA	Glamis	14.89	133	ePn	Pn	00 41 48.0	-2.3
GLA	Glamis	14.89	133	⇑P	Pn	00 41 48.7	-1.6
	baz=15						
K21A	Alcova	14.95	88	⇓P	Pn	00 41 49.7	-1.6
	baz=15						
O20A	White River Ci	14.97	98	ePn	Pn	00 41 50.1	-1.4
O20A	White River Ci	14.97	98	⇓P	Pn	00 41 50.2	-1.2
	baz=15						
PV09	Paradox Valley	15.02	105	ePn	Pn	00 41 50.2	-2.0
PV10	Paradox Valley	15.14	106	ePn	Pn	00 41 54.5	+0.7
WUAZ	Wupatki	15.16	119	ePn	Pn	00 41 54.6	+0.6
	20nm,1.1s						
WUAZ	Wupatki	15.16	119	⇑P	Pn	00 41 53.0	-1.1
	baz=15,SNR=8.1						
PV04	Paradox Valley	15.23	105	ePn	Pn	00 41 55.7	+0.8
Y14A	Wickenburg	15.24	127	⇓P	Pn	00 41 54.2	-0.7
	baz=15						
PV05	Paradox Valley	15.24	107	ePn	Pn	00 41 55.1	0.0
I22A	9 Mile Ranch,	15.28	83	⇓P	Pn	00 41 54.2	-1.3
	baz=15						
H22A	Clearmont	15.29	81	⇑P	Pn	00 41 55.3	-0.3
	baz=15						
K22A	Casper	15.47	88	⇑P	Pn	00 41 57.7	-0.4
	baz=15						
E22A	Miles City	15.50	74	⇓P	Pn	00 41 58.5	+0.2
	baz=16						
PV01	Paradox Valley	15.58	106	ePn	Pn	00 41 58.3	-1.3
B22A	Reddig Ranch S	15.61	67	⇓P	Pn	00 41 59.7	0.0
	baz=16						
C22A	Vida	15.62	69	⇓P	Pn	00 42 00.1	+0.2
	baz=16						
113A	Mohawk Valley,	15.68	131	⇓P	Pn	00 42 00.6	0.0
	baz=16						
L22A	Ellis Ranch, M	15.68	90	⇑P	Pn	00 42 00.8	-0.1
	baz=16						
Z14A	Wintersburg	15.69	128	⇓P	Pn	00 42 00.8	+0.1
	baz=16						
M22A	Cedar Creek Ra	15.74	92	⇑P	Pn	00 42 01.3	-0.3
	baz=16						
A22A	Carney Farms,	15.77	64	⇓P	Pn	00 42 02.5	+0.7
	baz=16						
X16A	Lo Mia Camp, P	15.84	122	⇓P	Pn	00 42 03.0	+0.1
	baz=16,SNR=8.5						
F23A	Volborg	15.89	76	⇑P	Pn	00 42 04.2	+0.8
	baz=16						
G23A	Biddle	15.93	78	⇓P	Pn	00 42 04.4	+0.6
	baz=16						
H23A	Clabaugh Cattl	15.97	80	⇓P	Pn	00 42 05.0	+0.5
	baz=16						
N22A	Wattenberg Ran	16.02	94	⇓P	Pn	00 42 04.9	-0.4
	baz=16,SNR=6.3						
D23A	Lindsay	16.04	71	⇓P	Pn	00 42 05.5	+0.2
	baz=16						
MVCO	Mesa Verde	16.09	109	ePn	Pn	00 42 05.1	-1.1
	17nm,1.2s						
MVCO	Mesa Verde	16.09	109	⇓P	Pn	00 42 05.8	-0.4
	baz=16						
C23A	Lambert	16.10	69	⇓P	Pn	00 42 06.1	+0.1
	baz=16						
O22A	Kremmling	16.17	97	⇑P	Pn	00 42 07.0	-0.3
	baz=16						
L23A	Garrett	16.19	89	⇓P	Pn	00 42 06.7	-0.7
	baz=16						
P22A	Eagle	16.23	99	⇓P	Pn	00 42 07.1	-0.8
	baz=16						
N23A	Red Feather La	16.36	94	⇑P	Pn	00 42 09.5	-0.1
	baz=16,SNR=5.9						
W18A	Petrified Fore	16.46	117	ePn	Pn	00 42 09.8	-1.0
	26nm,1.1s						
W18A	Petrified Fore	16.46	117	⇓P	Pn	00 42 10.8	0.0
	baz=16						
H24A	Dirks Ranch, A	16.56	80	⇓P	Pn	00 42 12.3	+0.3
	baz=16,SNR=5.4						
C24A	Savage	16.59	70	⇓P	P	00 42 14.1	-0.7
	baz=16						
G24A	Alzada	16.60	77	⇓P	Pn	00 42 13.4	+0.8
	baz=16						
O23A	Lake Granby, G	16.61	96	⇑P	Pn	00 42 13.5	+0.7
	baz=16						
E24A	Baker	16.64	73	⇓P	P	00 42 14.9	-0.5
	baz=17						
J24A	Dixon Ranch, L	16.68	84	⇑P	P	00 42 15.5	-0.4
	baz=17						
K24A	Anderson Ranch	16.69	87	⇓P	P	00 42 15.4	-0.7
	baz=17						
X18A	Snowflake	16.69	119	⇑P	P	00 42 15.6	-0.5
	baz=17						
214A	Organ Pipe Nat	16.82	131	⇓P	Pn	00 42 14.7	-0.6
	baz=17						
DGMT	Dagmar	16.82	67	⇓P	Pn	00 42 16.1	+0.8
	baz=17						
ISCO	Idaho Springs	16.97	97	ePn	Pn	00 42 16.8	-0.6
	5.4nm,0.9s						
ISCO	Idaho Springs	16.97	97	⇑P	P	00 42 19.0	-0.4
	baz=17						
P23A	Jefferson	16.97	98	⇓P	P	00 42 18.7	-0.8
	baz=17						
S22A	4UR Ranch, Cre	16.98	105	⇓P	P	00 42 18.6	-0.8
	baz=17						
RSSD	Black Hills	17.00	82	ePn	Pn	00 42 16.7	-0.9
	98nm,2.6s						
N24A	Carr	17.14	93	⇑P	Pn	00 42 19.7	+0.3
	baz=17						
I25A	Rochford	17.23	82	⇓P	P	00 42 21.6	-0.5
	baz=17						
J25A	Sunshine Ranch	17.29	84	⇓P	Pn	00 42 21.8	+0.7
	baz=17						
G25A	Newell	17.32	78	⇓P	Pn	00 42 22.2	+0.7
	baz=17						
R23A	Moffat	17.48	102	⇓P	P	00 42 24.5	-0.5
	baz=17						
A25A	Svangstu Ranch	17.59	65	⇑P	P	00 42 27.2	+1.4
	baz=18						
Q24A	Divide	17.63	99	⇓P	P	00 42 26.4	-0.2
	baz=18						
U22A	Llaves	17.65	109	⇓P	P	00 42 27.0	+0.2
	baz=18,SNR=23						
F26A	Lodgepole	17.80	75	⇓P	P	00 42 29.2	+1.0
	baz=18						
H26A	Fairpoint	17.83	79	⇓P	P	00 42 30.3	+1.7
	baz=18						
I26A	New Underwood	17.85	81	⇑P	P	00 42 29.9	+1.1
	baz=18						
V22A	San Miguel Ran	17.86	110	⇓P	P	00 42 29.8	+0.7
	baz=18,SNR=13						
T23A	Casias Ranch,	17.88	106	⇑P	P	00 42 30.3	+1.0
	baz=18						
G26A	Maurine	17.89	77	⇑P	P	00 42 30.7	+1.5
	baz=18						
SDCO	Great Sand Dun	17.91	103	ePn	Pn	00 42 29.2	+0.1
	22nm,1.4s						
E26A	Carlson Angus	17.91	73	⇓P	P	00 42 31.1	+1.7
	baz=18						
D26A	Manning	17.93	72	⇓P	P	00 42 30.9	+1.3
	baz=18						
O25A	Wiggins	17.93	95	⇑P	P	00 42 30.6	+0.8
	baz=18						
R24A	Sanders Place,	17.97	101	⇓P	P	00 42 31.6	+1.3
	baz=18						
P25A	Willow Gulch B	18.11	96	⇑P	P	00 42 32.7	+0.9
	baz=18						
U23A	El Rito	18.13	108	⇓P	P	00 42 33.0	+0.9
	baz=18,SNR=7.1						
S24A	Houchin Ranch,	18.16	103	⇓P	P	00 42 33.1	+0.6
	baz=18						
C26A	Wahner Farm, P	18.18	69	⇑P	P	00 42 33.8	+1.4
	baz=18						
M26A	McRoberts Ranc	18.21	90	⇓P	P	00 42 33.9	+1.1
	baz=18						
F27A	Lemmon	18.25	75	⇓P	P	00 42 34.6	+1.5
	baz=18						
Q25A	Bedland, Calha	18.29	98	⇓P	P	00 42 34.1	+0.2
	baz=18						
T24B	San Luis	18.32	105	⇑P	P	00 42 34.4	+0.2
	baz=18						
H27A	Howes	18.32	79	⇑P	P	00 42 34.2	+0.3
	baz=18						
I27A	Quinn	18.42	81	⇓P	Pn	00 42 35.2	+0.1
	baz=18						
V23A	Ortiz Mt. (NFS	18.45	109	⇑P	P	00 42 35.4	-0.2
	baz=18,SNR=15						
LAZ	Ladron	18.59	114	eP	P	00 42 36.3	-0.8
R25A	Fountain Ranch	18.59	100	⇑P	Pn	00 42 38.4	+1.2
	baz=18						
J27A	Elkhorn Farm,	18.60	84	⇑P	Pn	00 42 37.7	+0.4
	baz=18						
P26A	Davis Ranch, A	18.69	96	⇓P	P	00 42 37.8	-0.3
	baz=19						
S25A	Robets Cordova	18.70	102	⇑P	Pn	00 42 38.5	-0.1
	baz=19,SNR=6.5						
ANMO	Albuquerque	18.71	112	P	P	00 42 36.9	-1.6
	0.1nm,0.3s,baz=314,slow=10,SNR=6.8						
ANMO				LR	LR	00 50 35.2	
	comp=Z,321nm,19.3s,baz=352,slow=39						
ANMO	Albuquerque	18.71	112	eP	P	00 42 37.3	-1.2
	113nm,2.8s						
LENM	Lemitar	18.84	115	eP	P	00 42 38.3	-1.5
T25A	Trinidad	18.96	103	⇑P	P	00 42 41.5	+0.2
	baz=19,SNR=9.4						
LPM	Los Pinos Moun	18.97	114	eP	P	00 42 40.8	-0.6
BNM	Barren Site	19.07	114	eP	P	00 42 42.3	-0.2
V24A	Rampart Ranch,	19.08	108	⇑P	Pn	00 42 44.0	+0.7
	baz=19,SNR=13						
J28A	Allard Ranch,	19.12	83	⇑P	P	00 42 43.0	+0.3
	baz=19						
R26A	Arlington	19.12	99	⇓P	P	00 42 42.5	-0.3
	baz=19,SNR=7.5						
W24A	Lazy 6 Ranch,	19.27	110	⇓P	P	00 42 44.9	+0.3
	baz=19,SNR=14						
U25A	Circle Dot Ran	19.33	105	⇓P	Pn	00 42 46.0	-0.3
	baz=19,SNR=22						
121A	Cookes Peak, D	19.36	120	eP	P	00 42 45.5	-0.2
	12nm,1.1s						
121A	Cookes Peak, D	19.36	120	⇑P	P	00 42 45.6	0.0
	baz=19,SNR=5.9						
B28A	Dugan Ranch, T	19.37	67	⇓P	Pn	00 42 46.1	-0.3
	baz=19						
S26A	Kim	19.40	101	⇓P	P	00 42 45.9	0.0
	baz=19						
KSCO	Kaye Shedlock'	19.41	96	eP	Pn	00 42 46.8	-0.4
	34nm,1.3s						
Z22A	Elephant Butte	19.41	117	⇑P	P	00 42 46.4	+0.3
	baz=19,SNR=7.9						
V25A	Rancho No Teng	19.47	107	⇓P	Pn	00 42 47.6	-0.4
	baz=19,SNR=24						
T26A	Comanche Natio	19.52	102	⇓P	P	00 42 47.4	+0.1
	baz=19,SNR=12						
Y23A	Lovelace Mesa,	19.58	114	⇑P	P	00 42 48.2	+0.1
	baz=20,SNR=8.4						
R27A	Eads	19.59	99	⇓P	P	00 42 48.2	+0.2
	baz=20,SNR=6.4						
O28A	Krutsinger Ran	19.61	93	⇑P	Pn	00 42 49.5	-0.1
	baz=20						
H29A	Onida	19.64	79	⇓P	Pn	00 42 49.7	-0.1
	baz=20						
I29A	Vivian Onida	19.67	81	⇓P	Pn	00 42 49.7	-0.4
	baz=20						
FFC	Flin Flon	19.74	48	eP	P	00 42 49.0	-0.4
	72nm,2.3s						
S27A	Las Animas	19.77	100	⇑P	P	00 42 50.6	+0.6
	baz=20,SNR=8.8						
U26A	Atchley Ranch,	19.79	105	⇓P	Pn	00 42 51.4	-0.4
	baz=20,SNR=13						
E29A	Napoleon	19.86	73	⇑P	P	00 42 50.9	+0.2
	baz=20						
D29A	Pettibone, Tap	19.87	71	⇓P	P	00 42 51.1	+0.2
	baz=20						
W25A	X Bar L Ranch,	19.91	108	⇑P	P	00 42 52.1	+0.5
	baz=20,SNR=9.5						
L29A	Maesberg Ranch	19.97	86	⇓P	P	00 42 52.1	+0.1
	baz=20						
YKA	Yellowknife Ar	19.98	18	P	P	00 42 48.2	-3.7
	0.9nm,0.8s,baz=206,slow=10,SNR=9.6						
Y24A	Capitan	20.00	113	⇑P	P	00 42 53.0	+0.5
	baz=20						
V26A	Tequesquite Ra	20.07	106	P	P	00 42 53.9	+0.6
	baz=20,SNR=35						
X25A	Clemmons Ranch	20.16	110	⇓P	P	00 42 55.1	+0.8
	baz=20,SNR=8.7						
T27A	Campo	20.19	102	⇓P	P	00 42 54.9	+0.4
	baz=20						
R28A	Tribune	20.27	97	⇑P	P	00 42 55.7	+0.3
	baz=20,SNR=6.7						
G30A	Faulkton	20.33	77	⇓P	Pn	00 42 57.6	-0.3
	baz=20						
J30A	Dallas	20.38	82	⇑P	Pn	00 42 57.8	-0.8
	baz=20						
Z24A	Sheeppen Canyo	20.41	114	⇓P	P	00 42 57.5	+0.5
	baz=20						
U27A	Thompson Grove	20.42	103	P	P	00 42 57.6	+0.5
	baz=20,SNR=8.4						
W26A	Owens Ranch, T	20.46	108	P	P	00 42 58.5	+1.0
	baz=20,SNR=8.3						
Y25A	Mesa, Roswell	20.50	112	⇓P	P	00 42 58.1	+0.2
	baz=20						
S28A	Manter	20.53	99	⇑P	Pn	00 42 59.4	-1.0
	baz=20						
T28A	Walsh	20.59	101	P	P	00 42 59.5	+0.7
	baz=20,SNR=13						
Q29A	Oakley	20.64	95	⇑P	P	00 43 00.0	+0.7
	baz=21						
R29A	Marienthal	20.71	97	⇑P	P	00 43 00.9	+0.8
	baz=21						
B30A	Myrvik Farm, E	20.72	67	⇓P	P	00 42 59.6	-0.5
	baz=21						
X26A	CR and CF Fran	20.73	109	⇑P	P	00 43 00.4	0.0
	baz=21,SNR=5.3						
A30A	Hoffart Farm,	20.75	66	⇓P	P	00 43 00.0	-0.4
	baz=21						
U28A	Mallet	20.86	103	⇓P	P	00 43 01.5	-0.4
	baz=21,SNR=5.8						
Z25A	Roswell	20.86	113	⇑P	P	00 43 01.4	-0.5
	baz=21						
W27A	Bowe Ranch, En	20.96	107	⇓P	P	00 43 02.9	0.0
	baz=21						
S29A	Ulysses	21.07	99	⇓P	P	00 43 04.4	+0.3
	baz=21						
Y26A	Elida	21.08	111	⇓P	P	00 43 04.2	0.0
	baz=21						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
L31A	Butterfield Fa	21.12	85	⇑P	P	00 43 04.9	+0.4
	baz=21						
Q30A	Quinter	21.15	94	⇓P	P	00 43 04.8	-0.1
	baz=21						
T29A	Hugoton	21.15	100	⇑P	P	00 43 04.8	-0.1
	baz=21						
X27A	F and S Farms,	21.16	108	⇑P	P	00 43 05.2	+0.1
	baz=21						
V28A	Channing	21.18	104	⇑P	P	00 43 04.8	-0.5
	baz=21						
M31A	Lambtecht Ranc	21.25	87	⇓P	P	00 43 05.7	-0.1
	baz=21						
125A	Gardner Draw,	21.29	115	⇓P	P	00 43 06.5	0.0
	baz=21						
Z26A	Caprock	21.36	112	⇓P	P	00 43 07.4	+0.2
	baz=21,SNR=6.3						
R30A	Dighton	21.39	96	⇑P	P	00 43 07.2	-0.3
	baz=21						
N31A	Bailey Ranch,	21.42	89	⇓P	P	00 43 08.0	+0.3
	baz=21						
MNTX	Cornudas Mount	21.44	118	eP	P	00 43 06.2	-1.8
	54nm,2.8s						
W28A	Vega	21.45	105	⇑P	P	00 43 07.8	-0.3
	baz=21						
S30A	Montezuma	21.53	98	⇑P	P	00 43 08.7	-0.2
	baz=21						
Y27A	Causey	21.55	110	⇓P	P	00 43 08.6	-0.6
	baz=22						
V29A	Stinnett	21.61	103	⇑P	P	00 43 09.7	-0.1
	baz=22						
Q31A	Ellis	21.73	94	⇑P	P	00 43 10.1	-1.0
	baz=22						
MSTX	Muleshoe	21.77	109	⇑P	P	00 43 10.7	-0.9
	baz=22						
Z27A	Tatum	21.85	111	⇑P	P	00 43 12.2	-0.3
	baz=22,SNR=8.1						
U30A	WK&E Inc. Balk	21.90	101	⇓P	P	00 43 12.6	-0.3
	baz=22						
N32A	Stulken Farm,	21.91	88	⇑P	P	00 43 13.4	+0.4
	baz=22						
R31A	Burdett	21.92	96	⇓P	P	00 43 13.3	+0.2
	baz=22						
226B	Tecolote Peak,	21.98	115	⇑P	P	00 43 13.2	-0.6
	baz=22						
AMTX	Amarillo	22.01	106	eP	P	00 43 13.1	-1.0
	16nm,0.9s						
AMTX	Amarillo	22.01	106	⇓P	P	00 43 13.6	-0.6
	baz=22						
127A	Arkansas Junct	22.14	113	⇓P	P	00 43 15.2	-0.3
	baz=22						
Y28A	McKinney Farm,	22.16	109	⇓P	P	00 43 15.3	-0.4
	baz=22						
X29A	Tulia	22.23	107	⇑P	P	00 43 15.9	-0.7
	baz=22						
T31A	Randall Ranch,	22.33	98	⇓P	P	00 43 17.1	-0.5
	baz=22						
Q32A	Meitler Ranch,	22.34	93	⇓P	P	00 43 17.1	-0.6
	baz=22						
ECSD	EROS Data Cent	22.35	80	eP	P	00 43 15.8	-1.9
	13nm,1.1s						
ECSD	EROS Data Cent	22.35	80	⇑P	P	00 43 17.4	-0.2
	baz=22,SNR=6.1						
AGMN	Agassiz Nation	22.36	68	⇑P	P	00 43 17.8	+0.1
	baz=22						
ULM	Lac du Bonnet	22.40	63	P	P	00 43 16.1	-2.0
	2.6nm,0.9s,baz=285,slow=13,SNR=3.0						
Z28A	Tucker Farm, M	22.42	110	⇓P	P	00 43 18.0	-0.6
	baz=22						
326A	Caldwell Ranch	22.59	116	⇑P	P	00 43 19.9	-0.5
	baz=22						
128A	Castleberry Fa	22.75	112	⇑P	P	00 43 21.4	-0.7
	baz=23						
P33A	Williams Farm,	22.80	91	⇓P	P	00 43 22.0	-0.5
	baz=23						
X30A	Coker Ranch, T	22.81	106	⇑P	P	00 43 21.2	-1.4
	baz=23						
T32A	Huddler Ranch,	22.83	98	⇑P	P	00 43 22.1	-0.8
	baz=23						
Z29A	Hungry Hill Ra	22.90	109	⇑P	P	00 43 22.6	-1.1
	baz=23						
R33A	Olander Ranch,	23.02	94	⇓P	P	00 43 25.0	+0.1
	baz=23						
W31A	Holland Ranch,	23.07	103	⇑P	P	00 43 24.6	-0.7
	baz=23						
328A	Wristen Ranch,	23.31	114	⇓P	P	00 43 27.5	-0.3
	baz=23						
X31A	McDonald Ranch	23.33	104	⇑P	P	00 43 27.1	-0.9
	baz=23						
ILAR	Eielson Array	23.37	339	LR	LR	00 50 40.9	
	comp=Z,117nm,18.8s,baz=124,slow=32						
V32A	Arapaho	23.43	101	⇑P	P	00 43 28.1	-0.9
	baz=23						
Y31A	Rekieta Farm,	23.50	106	⇓P	P	00 43 28.7	-0.9
	baz=23						
W32A	Sentinel	23.59	102	⇑P	P	00 43 30.1	-0.5
	baz=24						
U33A	Lingo Farm, Me	23.75	99	⇑P	P	00 43 31.4	-0.7
	baz=24						
329A	Wagon Wheel Ra	23.79	113	⇓P	P	00 43 31.8	-0.8
	baz=24						
V33A	Lossen Ranch,	23.92	100	⇓P	P	00 43 33.1	-0.6
	baz=24						
X32A	Elmer	23.93	104	⇓P	P	00 43 33.2	-0.6
	baz=24,SNR=5.0						
Z31A	Sharp Cattle R	23.94	107	⇓P	P	00 43 33.4	-0.5
	baz=24						
Y32A	R-V Farms, Ver	24.04	105	⇓P	P	00 43 34.2	-0.7
	baz=24						
230A	Sterling City	24.12	111	⇓P	P	00 43 34.3	-1.3
	baz=24						
W33A	Caddo, Fort Co	24.12	102	⇑P	P	00 43 34.8	-0.8
	baz=24						
TXAR	Lajitas Array	24.12	119	P	P	00 43 32.6	-3.2
	0.7nm,0.8s,baz=300,slow=8.2,SNR=5.1						
TXAR				LR	LR	00 53 54.7	
	comp=Z,163nm,18.4s,baz=0.0,slow=39						
131A	Roby	24.14	109	⇓P	P	00 43 34.7	-1.1
	baz=24						
U34A	Anderson Ranch	24.16	98	⇓P	P	00 43 35.0	-0.9
	baz=24						
330A	Mertzon	24.38	112	⇑P	P	00 43 36.9	-1.2
	baz=24						
429A	Davenport Ranc	24.40	115	⇓P	P	00 43 37.2	-1.1
	baz=24						
Z32A	Haskell	24.40	106	⇓P	P	00 43 37.3	-0.9
	baz=24,SNR=5.5						
X33A	Lawton	24.41	103	⇑P	P	00 43 37.5	-0.8
	baz=24						
V34A	Guthrie	24.46	99	⇓P	P	00 43 37.7	-1.0
	baz=24						
LPIG	La Paz	24.48	139	LR	LR	00 52 03.2	
	comp=Z,90nm,20.6s,baz=332,slow=34						
529A	Stev Forest Ra	24.51	116	⇑P	P	00 43 37.9	-1.4
	baz=24						
Y33A	Hilltop Ranch,	24.61	104	⇓P	P	00 43 39.5	-0.5
	baz=24						
X34A	Smith Ranch, M	24.85	102	⇑P	P	00 43 41.9	-0.3
	baz=25						
331A	San Angelo	24.94	111	⇑P	P	00 43 43.0	-0.1
	baz=25						
530A	J-C Ranch, Com	25.07	115	⇑P	P	00 43 44.5	+0.2
	baz=25						
133A	Hamilton Ranch	25.19	107	⇓P	P	00 43 45.5	+0.2
	baz=25						
431A	Sonora	25.21	113	⇓P	P	00 43 45.8	+0.3
	baz=25						
Y34A	Reagan Ranch,	25.24	103	⇑P	P	00 43 46.3	+0.5
	baz=25						
332A	Millersview	25.35	110	⇓P	P	00 43 47.1	+0.3
	baz=25						
Z34A	Collier Ranch,	25.45	105	⇓P	P	00 43 46.9	-0.8
	baz=25						
233A	Rising Star	25.54	108	⇑P	P	00 43 47.9	-0.7
	baz=26						
531A	Rocksprings	25.58	114	⇓P	P	00 43 47.7	-1.2
	baz=26						
134A	White-Moore Ra	25.79	106	⇑P	P	00 43 51.2	+0.4
	baz=26						
JCT	Junction City	25.87	112	⇓P	P	00 43 50.4	-1.2
	baz=26						
433A	Art	26.18	111	⇑P	P	00 43 52.6	-1.7
	baz=26						
334A	Lometa	26.40	109	⇓P	P	00 43 56.7	+0.4
	baz=26						
WHTX	Lake Whitney	26.55	107	⇓P	P	00 43 58.3	+0.6
	baz=26						
FX1	Attu Island--F	39.15	305	LR	LR	00 57 28.9	
	comp=Z,40nm,20.8s,baz=92,slow=30						
PETK	Petropavlovsk-	48.06	309	LR	LR	01 03 15.3	
	comp=Z,34nm,21.4s,baz=64,slow=32						
H11N3	WAKE ISLAND Hy	58.98	268	T	T	01 51 22.6	
	baz=52,slow=75,SNR=87						
H11N2	WAKE ISLAND Hy	58.98	268	T	T	01 51 15.6	
	baz=52,slow=75,SNR=55						
H11N1	WAKE ISLAND Hy	58.99	268	T	T	01 51 13.2	
	baz=52,slow=75,SNR=56						
H11S1	WAKE ISLAND Hy	59.91	267	T	T	01 52 23.2	
	baz=49,slow=75,SNR=11						
H11S2	WAKE ISLAND Hy	59.92	267	T	T	01 52 24.7	
	baz=49,slow=75,SNR=11						
H11S3	WAKE ISLAND Hy	59.93	267	T	T	01 52 27.5	
	baz=49,slow=75,SNR=10						
PCRV	Puerto La Cruz	63.70	102	LR	LR	01 19 13.6	
	comp=Z,250nm,20.4s,slow=38						
CN2	Changchun	70.93	313	eP	P	00 49 37.0	0.0
SONM	Songino Array	76.86	326	P	P	00 50 03.3	-8.5
	0.9nm,1.0s,baz=67,slow=5.0,SNR=6.2						
HHC	Hu-ho-hao-te	80.09	319	eP	P	00 50 24.2	-5.6
HHC				sP	sP	00 50 30.0	-4.3
HHC				PP	PP	00 53 27.0	-4.1
HHC	Hu-ho-hao-te	80.09	319	S	S	01 00 25.6	-8.6
HHC	Hu-ho-hao-te	80.09	319	SS	SS	01 05 38.1	-5.2
HHC				pmax	pmax		
	comp=Z,28nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,7.8s						
HHC				LR	LR		
	comp=N,190nm,15.5s						
HHC				LR	LR		
	comp=E,290nm,16.0s						
HHC				LR	LR		
	comp=Z,280nm,16.0s						
WMQ	Urumqi	86.97	335	eP	P	00 51 06.9	+1.9
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,60nm,5.2s						
LZH	Lanzhou	87.52	321	eP	P	00 51 05.6	-2.3
LZH				pP	pP	00 51 13.5	+2.3
LZH				sP	sP	00 51 16.0	+3.6
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
CD2	Chengdu	91.82	318	P	P	00 51 28.5	+0.5

IDC 13 00:52:24.6±1.6, 0°.90N×118°.34E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/24, mbtmp3.4/5, MS3.8/1, Ms1 3.8/1, ms1mx2.7/18, Error ellipse: s-maj=182.1km s-min=21.9km az=62.0, Borneo

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.98	144	P	P	00 57 59.4	+0.1
	1.0nm,1.1s,baz=331,slow=9.7,SNR=5.5						
ASAR	Alice Springs	28.73	149	P	P	00 58 23.7	-0.2
	0.3nm,0.7s,baz=331,slow=7.4,SNR=3.3						
JCJ	Chichijima	34.68	39	LR	LR	01 12 54.0	
	comp=Z,148nm,20.1s,baz=138,slow=36						
SONM	Songino Array	47.89	349	P	P	01 01 05.9	+1.4
	0.2nm,0.7s,baz=166,slow=5.8,SNR=2.8						
MKAR	Makanchi Array	55.48	331	P	P	01 01 59.8	-1.5
	0.4nm,0.8s,baz=133,slow=6.4,SNR=4.8						
ZALV	Zalesovo Beam	59.65	338	P	P	01 02 30.7	+0.2
	0.3nm,0.6s,baz=126,slow=7.3,SNR=2.4						

IDC 13 01:00:55.6±0.5, 29°.82N×42°.76W, h0km, mb4.3/23, mb1 4.5/23, mb1mx4.3/33, mbtmp4.3/23, MS5.1/1, Ms1 5.0/1, ms1mx4.1/12, Error ellipse: s-maj=15.9km s-min=12.9km az=138.0

MOS 13 01:00:55.9±1.1, 29°.88N×42°.78W, h10km, mb4.9/63, MS4.5/8, Error ellipse: s-maj=10.1km s-min=5.0km az=51.5

ISCJB 13 01:00:56.9±0.2, 29°.85N±0°.05×42°.80W±0°.02, h18km, mb4.7/105, MS4.6/10, Error ellipse: s-maj=7.0km s-min=2.8km az=173.3

NEIC 13 01:00:57.6±0.2, 29°.84N×42°.75W, h10km, mb4.8/66, Error ellipse: s-maj=5.7km s-min=3.4km az=167.0

GCMT 13 01:00:57.6±0.2, 29°.84N×42°.79W, h12km, MW5.2/97, Moment Tensor Solution. s32,c40; s97,c169; Duration: 1.0 Moment tensor: Scale 10^{17}Nm; Mrr-0.79±.02; Mθθ0.17±.02; Mφφ0.62±.01; Mrθ-0.06±.07; Mrφ0.22±.01; Mθφ-0.06±.05; Best double couple: M0 0.75700×10^{17} NP1: φs24.00000°, δ48.00000°, λ-87.00000°. NP2: φs200.00000°, δ42.00000°, λ-93.00000°. Principal axes: T 0.7190, Plg3.0000°, Azm112.0000°; N 0.0770, Plg2.0000°, Azm202.0000°; P -0.7960, Plg86.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 13 01:00:59.0±0.3, 29°.80N±0°.07×42°.83W±0°.06, h18km, n535, σ0.90/536, mb4.8/105, MS4.6/10, 146C-142D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
H05S1	Guadeloupe/Mar	22.59	231	T	T	01 29 04.7	
	SNR=12						
SDV	Santo Domingo	33.32	237	eP	P	01 07 38.3	+2.1
	32nm,1.3s						
ACSO	Alum Creek Sta	34.23	299	eP	P	01 07 45.0	+1.3
	43nm,1.4s						
PTGA	Pitinga	34.49	211	P	P	01 07 45.9	-0.2
	6.3nm,0.7s,baz=27,slow=12,SNR=10						
PTGA	Pitinga	34.49	211	eP	P	01 07 46.2	+0.1
	7.2nm,0.8s						
EPF	Esparros	36.77	57	eP	P	01 08 03.8	-1.8
EPF	Esparros	36.77	57	eP	P	01 08 03.8	-1.8
EPF	Esparros	36.77	57	eP	P	01 08 03.8	-1.8
MFF	Saint Martin d	36.99	51	eP	P	01 08 06.0	-1.3
	28nm,1.1s						
MFF	Saint Martin d	36.99	51	eP	P	01 08 06.0	-1.3
MFF				pmax	pmax		
	comp=Z,28nm,1.1s						
MFF	Saint Martin d	36.99	51	eP	P	01 08 06.0	-1.3
	comp=Z,28nm,1.1s						
FLN	La Foliniere	37.27	47	eP	P	01 08 08.7	-0.9
	comp=Z,58nm,1.3s						
FLN	La Foliniere	37.27	47	eP	P	01 08 08.7	-0.9
FLN				pmax	pmax		
	comp=Z,58nm,1.3s						
FLN	La Foliniere	37.27	47	eP	P	01 08 08.7	-0.9
	comp=Z,58nm,1.3s						
LFF	La Frestale	37.31	54	eP	P	01 08 09.3	-0.7
	comp=Z,23nm,0.9s						
LFF	La Frestale	37.31	54	eP	P	01 08 09.3	-0.7
LFF				pmax	pmax		
	comp=Z,23nm,0.9s						
LFF	La Frestale	37.31	54	eP	P	01 08 09.3	-0.7
	comp=Z,23nm,0.9s						
SFIN	Scholer Farm	37.38	299	eP	P	01 08 11.8	+1.1
SFIN	Scholer Farm	37.38	299	⇓P	P	01 08 10.0	-0.7
	baz=37						
LDF	La Druitiere	37.46	48	eP	P	01 08 10.1	-1.1
	comp=Z,40nm,1.1s						
LDF	La Druitiere	37.46	48	eP	P	01 08 10.1	-1.1
LDF				pmax	pmax		
	comp=Z,40nm,1.1s						
LDF	La Druitiere	37.46	48	eP	P	01 08 10.1	-1.1
	comp=Z,40nm,1.1s						
RJF	Les Rejaudoux	37.91	53	eP	P	01 08 14.3	-0.8
RJF	Les Rejaudoux	37.91	53	eP	P	01 08 14.3	-0.8
RJF	Les Rejaudoux	37.91	53	eP	P	01 08 14.3	-0.8
ESK	Eskdalemuir	37.96	36	eP	P	01 08 14.5	-0.9
ESK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ESK	Eskdalemuir	37.96	36	eP	P	01 08 14.5	-0.9
	comp=Z,7.7nm,0.9s						
EKA	Eskdalemuir Ar	37.99	36	P	P	01 08 14.8	-0.9
EKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EKA	Eskdalemuir Ar	37.99	36	P	P	01 08 14.8	-0.9
	comp=Z,2.4nm,0.8s,baz=245,slow=7.8,SNR=5.9						
CAF	Calviac	38.24	54	eP	P	01 08 16.1	-1.9
CAF	Calviac	38.24	54	eP	P	01 08 16.1	-1.9
CAF	Calviac	38.24	54	eP	P	01 08 16.1	-1.9
TCF	Toulx Ste Croi	38.54	52	eP	P	01 08 18.5	-2.0
TCF	Toulx Ste Croi	38.54	52	eP	P	01 08 18.5	-2.0
TCF	Toulx Ste Croi	38.54	52	eP	P	01 08 18.5	-2.0
BGF	Bois d'Agland	39.02	52	eP	P	01 08 22.9	-1.5
BGF	Bois d'Agland	39.02	52	eP	P	01 08 22.9	-1.5
BGF	Bois d'Agland	39.02	52	eP	P	01 08 22.9	-1.5
SSF	Saint Saulge	39.54	51	eP	P	01 08 27.4	-1.4
SSF	Saint Saulge	39.54	51	eP	P	01 08 27.4	-1.4
SSF	Saint Saulge	39.54	51	eP	P	01 08 27.4	-1.4
SMF	Signal de Mont	39.71	52	eP	P	01 08 29.5	-0.7
	comp=Z,9.7nm,0.7s						
SMF	Signal de Mont	39.71	52	eP	P	01 08 29.5	-0.7
SMF				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SMF	Signal de Mont	39.71	52	eP	P	01 08 29.5	-0.7
	comp=Z,9.7nm,0.7s						
LOR	Lormes	39.81	51	eP	P	01 08 30.4	-0.7
	comp=Z,21nm,1.1s						
LOR	Lormes	39.81	51	eP	P	01 08 30.4	-0.7
LOR				pmax	pmax		
	comp=Z,21nm,1.1s						
LOR	Lormes	39.81	51	eP	P	01 08 30.4	-0.7
	comp=Z,21nm,1.1s						
PBMO	Poplar Bluff	40.06	293	eP	P	01 08 34.2	+1.0
	comp=Z,19nm,1.3s						
BAIF	Baives	40.55	47	eP	P	01 08 36.7	-0.4
	comp=Z,38nm,1.4s						
BAIF	Baives	40.55	47	eP	P	01 08 36.7	-0.4
BAIF				pmax	pmax		
	comp=Z,38nm,1.4s						
BAIF	Baives	40.55	47	eP	P	01 08 36.7	-0.4
	comp=Z,38nm,1.4s						
SFTF	Sexfontaines	40.75	49	eP	P	01 08 38.2	-0.6
	comp=Z,22nm,1.0s						
SFTF	Sexfontaines	40.75	49	eP	P	01 08 38.2	-0.6
	comp=Z,22nm,1.0s						
MEZF	Maizieres J'vi	40.80	49	eP	P	01 08 38.6	-0.6
	comp=Z,30nm,0.9s						
MEZF	Maizieres J'vi	40.80	49	eP	P	01 08 38.6	-0.6
	comp=Z,30nm,0.9s						
CABF	La Chapelle	41.24	52	eP	P	01 08 41.5	-1.5
	comp=Z,25nm,1.0s						
CABF	La Chapelle	41.24	52	eP	P	01 08 41.5	-1.5
CABF				pmax	pmax		
	comp=Z,25nm,1.0s						
CABF	La Chapelle	41.24	52	eP	P	01 08 41.5	-1.5
	comp=Z,25nm,1.0s						
PAGF	Fort de Pagny	41.25	49	eP	P	01 08 42.0	-0.9
	comp=Z,6.6nm,1.1s						
PAGF	Fort de Pagny	41.25	49	eP	P	01 08 42.0	-0.9
	comp=Z,6.6nm,1.1s						
BNI	Bardonecchia	41.51	54	eP	P	01 08 44.6	-0.6
BNI				pmax	pmax		
	comp=Z,13nm,1.2s						
BNI	Bardonecchia	41.51	54	eP	P	01 08 44.6	-0.6
	comp=Z,13nm,1.2s						
MBDF	Montbardon	41.55	55	eP	P	01 08 45.8	+0.2
MBDF	Montbardon	41.55	55	eP	P	01 08 45.8	+0.2
MBDF	Montbardon	41.55	55	eP	P	01 08 45.8	+0.2
HAU	Haudompre	41.59	50	eP	P	01 08 44.2	-1.5
	comp=Z,11nm,0.8s						
HAU	Haudompre	41.59	50	eP	P	01 08 44.2	-1.5
HAU				pmax	pmax		
	comp=Z,11nm,0.8s						
HAU	Haudompre	41.59	50	eP	P	01 08 44.2	-1.5
	comp=Z,11nm,0.8s						
WLF	Walferdange	41.71	47	eP	P	01 08 47.1	+0.4
WLF				pmax	pmax		
	comp=Z,37nm,1.4s						
WLF	Walferdange	41.71	47	eP	P	01 08 47.1	+0.4
	comp=Z,37nm,1.4s						
SPMN	St. Paul	41.85	306	eP	P	01 08 48.8	+1.0
SPMN	St. Paul	41.85	306	⇑P	P	01 08 47.5	-0.4
	baz=42						
SCIA	State Center	42.03	301	eP	P	01 08 49.5	+0.1
	comp=Z,36nm,1.3s						
CDF	Champ du Feu	42.26	49	eP	P	01 08 50.2	-1.1
CDF	Champ du Feu	42.26	49	eP	P	01 08 50.2	-1.1
CDF	Champ du Feu	42.26	49	eP	P	01 08 50.2	-1.1
DBIC	Dimbokro	42.47	115	LR	LR	01 25 22.1	
	comp=Z,2µm,20.2s,baz=275,slow=35						
SUMG	Summit	42.89	2	eP	P	01 08 56.2	-0.3
SUMG				pmax	pmax		
	comp=Z,17nm,1.1s						
SUMG	Summit	42.89	2	iP	P	01 08 55.8	-0.7
	comp=Z,8.6nm,1.0s						
SUMG	Summit	42.89	2	eP	P	01 08 56.2	-0.3
	comp=Z,17nm,1.1s						
BFO	Black Forest	42.94	50	eP	P	01 08 55.9	-0.9
BFO				pmax	pmax		
	comp=Z,11nm,1.3s						
BFO	Black Forest	42.94	50	eP	P	01 08 55.9	-0.9
	comp=Z,11nm,1.3s						
SAML	Samuel	43.22	210	eP	P	01 08 58.7	-0.6
STU	Stuttgart	43.56	49	eP	P	01 09 01.4	-0.3
STU				pmax	pmax		
	comp=Z,12nm,0.8s						
STU	Stuttgart	43.56	49	eP	P	01 09 01.4	-0.3
	comp=Z,12nm,0.8s						
TAM	Tamanrasset	43.66	87	eP	P	01 09 03.1	+0.1
TAM				pmax	pmax		
	comp=Z,10.0nm,1.6s						
TAM	Tamanrasset	43.66	87	eP	P	01 09 03.1	+0.1
	comp=Z,10nm,1.6s						
JTS	JuntasAbangare	43.76	253	eP	P	01 09 04.7	+0.9
JTS				pmax	pmax		
	comp=Z,12nm,1.3s						
JTS	JuntasAbangare	43.76	253	eP	P	01 09 04.7	+0.9
	comp=Z,12nm,1.3s						
AGMN	Agassiz Nation	44.18	310	eP	P	01 09 07.2	+0.5
	comp=Z,73nm,1.9s						
AGMN	Agassiz Nation	44.18	310	⇑P	P	01 09 06.9	+0.2
	baz=44						
TORD	Torodi Ar. Bea	44.33	102	P	P	01 09 06.2	-2.0
	comp=Z,9.8nm,1.1s,baz=303,slow=7.9,SNR=18						
ULM	Lac du Bonnet	44.39	313	P	P	01 09 07.2	-1.1
ULM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULM	Lac du Bonnet	44.39	313	P	P	01 09 07.2	-1.1
	comp=Z,3.9nm,0.9s,baz=76,slow=6.9,SNR=5.3						
TUL1	Tulsa	44.46	292	⇓P	P	01 09 09.0	-0.1
	baz=44						
ECSD	EROS Data Cent	44.53	303	eP	P	01 09 09.5	0.0
ECSD	EROS Data Cent	44.53	303	⇓P	P	01 09 09.0	-0.6
	baz=44						
KSU1	Kansas State U	44.74	297	eP	P	01 09 11.7	+0.3
	comp=Z,174nm,2.5s						
KSU1	Kansas State U	44.74	297	⇑P	P	01 09 11.0	-0.3
	baz=45						
OTAV	Otavalo	44.88	236	eP	P	01 09 13.8	+0.7
	comp=Z,16nm,1.3s						
FCC	Fort Churchill	45.13	325	eP	P	01 09 14.0	0.0
FCC				pmax	pmax		
	comp=Z,1.0nm,1.4s						
FCC	Fort Churchill	45.13	325	eP	P	01 09 14.0	0.0
	comp=Z,1.1nm,1.4s						
BDFB	Brasilia	45.45	187	P	P	01 09 17.0	-0.2
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BDFB	Brasilia	45.45	187	P	P	01 09 17.0	-0.2
	comp=Z,4.0nm,0.6s,baz=349,slow=6.9,SNR=9.2						
Q33A	Connelly Farm,	45.70	297	⇑P	P	01 09 18.8	-0.2
	baz=46						
BGNE	Belgrade	45.74	300	⇑P	P	01 09 19.1	-0.2
	baz=46						
NKC	Novy Kostel	45.81	47	eP	P	01 09 18.8	-0.9
NKC				MLR	MLR		
	comp=Z,700nm,17.8s						
NKC	Novy Kostel	45.81	47	eP	P	01 09 18.8	-0.9
NKC				AMS	AMS	01 26 50.0	
	comp=Z,700nm,17.8s						
B30A	Myrvik Farm, E	45.83	310	⇑P	P	01 09 20.0	+0.2
	baz=46,SNR=7.8						
A30A	Hoffart Farm,	45.84	311	⇑P	P	01 09 19.9	0.0
	baz=46						
V34A	Guthrie	45.85	292	⇓P	P	01 09 19.8	-0.4
	baz=46						
R33A	Olander Ranch,	45.89	296	⇑P	P	01 09 20.2	-0.3
	baz=46						
Z35A	Perchaven, San	46.07	289	⇓P	P	01 09 21.8	-0.1
	baz=46						
D30A	Buchanan	46.07	308	⇑P	P	01 09 21.6	-0.2
	baz=46						
W34A	Bridge Creek,	46.15	292	⇑P	P	01 09 22.2	-0.4
	baz=46						
E30A	Jud	46.16	307	⇑P	P	01 09 22.5	0.0
	baz=46						
L31A	Butterfield Fa	46.21	301	⇑P	P	01 09 23.0	+0.1
	baz=46,SNR=9.2						
P32A	Huiting Farm,	46.23	298	⇑P	P	01 09 22.1	-1.0
	baz=46						
F30A	Leola	46.24	306	⇑P	P	01 09 23.0	-0.2

baz=46
U33A Lingo Farm, Me 46.24 293 ⇓P P 01 09 22.4 -0.9
T33A Patterson Ranc 46.25 294 ⇑P P 01 09 23.0 -0.3
baz=46
CLL Collm 46.26 46 eS S 01 16 19.0 +10
CLL eSSS SSS 01 20 30.0
Q32A Meitler Ranch, 46.27 297 ⇓P P 01 09 21.9 -1.6
baz=46
H10N2 ASCENSION HYDR46.29 139 T T 01 58 35.1
baz=325,slow=75,SNR=884
H10N3 ASCENSION HYDR46.29 139 T T 01 58 35.1
baz=325,slow=75,SNR=460
H10N1 ASCENSION HYDR46.31 139 T T 01 58 35.1
baz=325,slow=75,SNR=928
X34A Smith Ranch, M 46.31 291 ⇑P P 01 09 22.9 -1.0
baz=46
G30A Faulkton 46.33 305 ⇓P P 01 09 23.1 -0.7
baz=46
AQU L'Aquila 46.37 58 eP P 01 09 24.3 +0.1
AQU pmax pmax
comp=Z,37nm,1.2s
AQU L'Aquila 46.37 58 eP P 01 09 24.3 +0.1
comp=Z,37nm,1.2s
ASCN Ascension 46.45 139 eP P 01 09 26.3 +1.3
R32A Long Quarter, 46.45 296 ⇓P P 01 09 24.5 -0.3
baz=46
A29A Manning Farm, 46.45 311 ⇓P P 01 09 23.5 -1.2
baz=46
KHC Kasperske Hory 46.47 49 eP P 01 09 23.5 -1.4
KHC MLR MLR
comp=Z,400nm,19.5s
KHC Kasperske Hory 46.47 49 eP P 01 09 23.5 -1.4
KHC AMS AMS 01 30 10.0
comp=Z,400nm,19.5s
V33A Lossen Ranch, 46.47 293 ⇑P P 01 09 24.6 -0.5
baz=46
WHTX Lake Whitney 46.50 287 ⇓P P 01 09 25.1 -0.3
baz=46
B29A Wagenman Farm, 46.51 310 ⇓P P 01 09 25.1 -0.1
baz=46
GERES GERESS Array B 46.54 49 P P 01 09 24.4 -1.1
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 46.54 49 P P 01 09 24.4 -1.1
comp=Z,1.0nm,0.7s,baz=261,slow=7.7,SNR=11
Z34A Collier Ranch, 46.60 289 ⇑P P 01 09 25.1 -1.1
baz=47
J30A Dallas 46.63 303 ⇑P P 01 09 26.0 -0.2
baz=47
D29A Pettibone, Tap 46.64 308 ⇓P P 01 09 25.8 -0.5
baz=47
E29A Napoleon 46.67 307 ⇓P P 01 09 26.2 -0.3
baz=47
S32A Newby Ranch, P 46.72 295 ⇑P P 01 09 26.7 -0.3
baz=47
W33A Caddo, Fort Co 46.73 292 ⇓P P 01 09 26.8 -0.3
baz=47
O31A Woolen Ranch, 46.73 299 ⇓P P 01 09 26.5 -0.6
baz=47
636A Smothers Creek 46.75 284 ⇑P P 01 09 27.0 -0.3
baz=47
K30A Basset 46.75 302 ⇓P P 01 09 26.9 -0.4
baz=47
P31A Stockton 46.84 298 ⇑P P 01 09 27.5 -0.4
baz=47
X33A Lawton 46.86 291 ⇑P P 01 09 26.9 -1.2
baz=47
L30A Spencer Herefo 46.88 301 ⇑P P 01 09 27.0 -1.3
baz=47
134A White-Moore Ra 46.90 288 ⇓P P 01 09 28.3 -0.2
baz=47
234A Clairette 47.07 287 ⇑P P 01 09 28.7 -1.1
baz=47
H29A Onida 47.10 305 ⇓P P 01 09 29.9 +0.1
baz=47
V32A Arapaho 47.10 293 ⇑P P 01 09 28.9 -1.1
baz=47
R31A Burdett 47.10 296 ⇓P P 01 09 28.8 -1.2
baz=47
H10S1 ASCENSION HYDR47.11 140 T T 01 59 27.0
baz=326,slow=75,SNR=931
H10S3 ASCENSION HYDR47.11 140 T T 01 59 27.1
baz=326,slow=75,SNR=442
H10S2 ASCENSION HYDR47.13 140 T T 01 59 28.2
baz=326,slow=75,SNR=610
NB2 NORSAR Subarra 47.13 33 P P 01 09 29.9 0.0
comp=Z,54nm,1.7s,baz=254,slow=7.9
NB2 NORSAR Subarra 47.13 33 P P 01 09 29.9 0.0
baz=254,slow=7.9
NOA NORSAR Array B 47.13 33 P P 01 09 29.6 -0.3
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 47.13 33 P P 01 09 29.6 -0.3
comp=Z,2.0nm,0.7s,baz=254,slow=7.9,SNR=9.5
A28A Rude Farm, Bot 47.13 311 ⇑P P 01 09 29.6 -0.5
baz=47
PRU Pruhonice 47.14 48 eP P 01 09 29.8 -0.3
PRU eS S 01 16 24.4 +2.8
PRU MLR MLR
comp=Z,700nm,19.5s
PRU Pruhonice 47.14 48 eP P 01 09 29.8 -0.3
PRU eS S 01 16 24.4 +2.8
PRU AMS AMS 01 26 30.0
comp=Z,700nm,19.5s
S31A Mullinville 47.16 295 ⇓P P 01 09 29.8 -0.6
baz=47
B28A Dugan Ranch, T 47.18 310 ⇑P P 01 09 30.4 0.0
baz=47
C28A Hausauer Farms 47.19 309 ⇑P P 01 09 30.5 0.0
baz=47
J29A Okreek 47.23 303 ⇓P P 01 09 30.5 -0.5
baz=47
K29A Lazy Trails An 47.27 302 ⇑P P 01 09 31.3 +0.1
baz=47
O30A MW Ranch, Wils 47.29 299 ⇑P P 01 09 31.3 -0.2
baz=47
334A Lometa 47.30 287 ⇓P P 01 09 31.6 0.0
baz=47
Z33A Whitaker Ranch 47.32 289 ⇑P P 01 09 31.5 -0.2
baz=47
W32A Sentinel 47.36 292 ⇓P P 01 09 31.5 -0.5
baz=47
T31A Randall Ranch, 47.38 295 ⇑P P 01 09 32.3 +0.1
baz=47
434A Burnet 47.45 286 ⇑P P 01 09 32.7 -0.1
baz=47
P30A Selden 47.51 298 ⇑P P 01 09 32.8 -0.3
baz=47,SNR=5.5
X32A Elmer 47.52 291 ⇓P P 01 09 33.5 +0.2
baz=48,SNR=6.7
Q30A Quinter 47.55 297 ⇓P P 01 09 33.6 +0.1
baz=48
133A Hamilton Ranch 47.58 288 ⇓P P 01 09 33.0 -0.8
baz=48
G28A Parade 47.58 305 ⇓P P 01 09 33.7 +0.1
baz=48
H28A Mission Ridge 47.67 305 ⇓P P 01 09 34.0 -0.3
baz=48
R30A Dighton 47.69 296 ⇓P P 01 09 34.5 -0.1
baz=48,SNR=6.6
V31A Spring Creek L 47.73 293 ⇓P P 01 09 34.7 -0.2
baz=48
Y32A R-V Farms, Ver 47.73 290 ⇓P P 01 09 34.1 -0.8
baz=48
534A Blanco 47.81 285 ⇓P P 01 09 34.7 -0.9
baz=48
I28A Midland 47.81 304 ⇓P P 01 09 34.8 -0.7
baz=48
J28A Allard Ranch, 47.89 303 ⇑P P 01 09 35.6 -0.5
baz=48
Z32A Haskell 47.90 289 ⇓P P 01 09 36.3 +0.1
baz=48
W31A Holland Ranch, 47.91 292 ⇑P P 01 09 36.2 -0.2
baz=48
333A Richland Sprin 47.92 287 ⇑P P 01 09 35.5 -1.0
baz=48
S30A Montezuma 47.92 295 ⇑P P 01 09 36.0 -0.4
baz=48
C27A Sayler Ranch, 47.94 309 ⇓P P 01 09 35.8 -0.5
baz=48
P29A Atwood 48.02 298 ⇓P P 01 09 36.9 -0.3
baz=48
X31A McDonald Ranch 48.04 291 ⇓P P 01 09 37.5 +0.1
baz=48
UPC Upice 48.11 47 eP P 01 09 37.0 -0.6
UPC Upice 48.11 47 eP P 01 09 37.0 -0.6
433A Art 48.15 286 ⇓P P 01 09 37.8 -0.4
baz=48,SNR=7.9
Q29A Oakley 48.15 297 ⇓P P 01 09 38.1 -0.1
baz=48
M28A Bar X Bar Ranc 48.16 301 ⇓P P 01 09 38.1 -0.2
baz=48
ABTX Abilene, Hawle 48.18 289 ⇑P P 01 09 38.6 +0.1
baz=48
L28A Connealy Angus 48.21 301 ⇑P P 01 09 38.5 -0.1
baz=48
G27A Dupree 48.29 306 ⇑P P 01 09 39.2 +0.1
baz=48
DPC Dobruska-Polom 48.30 47 eP P 01 09 38.4 -0.8
DPC eS S 01 16 44.8 +6.6
DPC Dobruska-Polom 48.30 47 eP P 01 09 38.4 -0.8
DPC eS S 01 16 44.8 +6.6
DPC AMS AMS 01 27 10.0
A26A Wade Farm, Ken 48.30 311 ⇑P P 01 09 39.3 +0.2
baz=48
F27A Lemmon 48.33 307 ⇑P P 01 09 39.0 -0.4
baz=48
C26A Wahner Farm, P 48.34 309 ⇑P P 01 09 39.0 -0.4
baz=48
232A Coleman 48.34 288 ⇑P P 01 09 38.5 -1.2
baz=48
Y31A Rekieta Farm, 48.40 291 ⇑P P 01 09 40.1 0.0
baz=48
DAG Danmarks Havn 48.41 7 iP P 01 09 39.1 -0.4
DAG pmax pmax
comp=Z,4.0nm,1.0s
DAG Danmarks Havn 48.41 7 iP P 01 09 39.1 -0.4
comp=Z,3.5nm,1.0s
H27A Howes 48.43 305 ⇑P P 01 09 40.2 -0.1
baz=48
B26A Jensen Ranch, 48.43 310 ⇓P P 01 09 39.4 -0.7
baz=48
Z31A Sharp Cattle R 48.44 290 ⇓P P 01 09 40.4 0.0
baz=48
S29A Ulysses 48.44 295 ⇑P P 01 09 40.1 -0.4
baz=48
I27A Quinn 48.44 304 ⇓P P 01 09 39.3 -1.0
baz=48
J27A Elkhorn Farm, 48.47 303 ⇑P P 01 09 40.4 -0.2
baz=48
332A Millersview 48.54 287 ⇓P P 01 09 41.2 -0.1
baz=48
633A Saathoff Ranch 48.54 284 ⇓P P 01 09 41.0 -0.3
baz=48
D26A Manning 48.58 308 ⇓P P 01 09 41.0 -0.4
baz=48
KRLC Kraliky 48.59 48 eP P 01 09 40.3 -1.1
KRLC Kraliky 48.59 48 eP P 01 09 40.3 -1.1
FFC Flin Flon 48.59 318 eP P 01 09 41.1 -0.2
FFC pmax pmax
comp=Z,5.0nm,0.7s
FFC Flin Flon 48.59 318 eP P 01 09 41.1 -0.2
comp=Z,4.7nm,0.7s
O28A Krutsinger Ran 48.60 299 ⇓P P 01 09 41.5 -0.1
baz=48
E26A Carlson Angus 48.62 307 ⇓P P 01 09 41.7 0.0
baz=48
432A Menard 48.70 286 ⇑P P 01 09 42.7 +0.2
baz=49
OGNE Ogallala 48.70 300 ⇓P P 01 09 42.0 -0.5
baz=49
G26A Maurine 48.76 306 ⇑P P 01 09 42.6 -0.2
baz=49
131A Roby 48.78 289 ⇓P P 01 09 42.0 -1.1
baz=49
F26A Lodgepole 48.78 307 ⇑P P 01 09 42.9 -0.1
baz=49
Q28A Sharon Springs 48.78 297 ⇑P P 01 09 42.5 -0.6
baz=49
X30A Coker Ranch, T 48.80 291 ⇑P P 01 09 43.1 -0.1
baz=49,SNR=6.9
JCT Junction City 48.81 286 eP P 01 09 43.3 0.0
JCT pmax pmax
comp=Z,23nm,1.4s
JCT Junction City 48.81 286 eP P 01 09 43.3 0.0
comp=Z,23nm,1.4s
JCT Junction City 48.81 286 ⇓P P 01 09 42.9 -0.4
baz=49
R28A Tribune 48.87 297 ⇓P P 01 09 43.2 -0.5
baz=49,SNR=7.2
231A Bronte 48.89 288 ⇑P P 01 09 44.0 0.0
baz=49
M27A Reverse DX Ran 48.91 301 ⇑P P 01 09 43.2 -0.8
baz=49
I26A New Underwood 49.03 304 ⇑P P 01 09 44.4 -0.5
baz=49
632A Uvalde 49.04 285 ⇑P P 01 09 45.0 -0.1
baz=49
B25A Knox Farm, Ray 49.05 310 ⇑P P 01 09 45.0 0.0
baz=49
S28A Manter 49.06 296 ⇑P P 01 09 44.7 -0.5
baz=49
MORC Moravsky Berou 49.08 48 eP P 01 09 45.5 +0.4
MORC pmax pmax
comp=Z,8.0nm,1.4s
MORC Moravsky Berou 49.08 48 eP P 01 09 45.5 +0.4
comp=Z,7.8nm,1.4s
N27A Anderson Farm, 49.10 300 ⇓P P 01 09 45.1 -0.4
baz=49
331A San Angelo 49.13 287 ⇑P P 01 09 45.7 -0.1
baz=49
O27A Beecher Island 49.13 299 ⇑P P 01 09 45.4 -0.4
baz=49
D25A Fairfield 49.18 308 ⇑P P 01 09 45.8 -0.2
baz=49
J26A Sides Ranch, S 49.24 303 ⇑P P 01 09 46.4 -0.1
baz=49
Z30A Sanderson Ranc 49.25 290 ⇑P P 01 09 45.7 -1.0
baz=49
130A Snyder 49.27 289 ⇓P P 01 09 46.6 -0.3
baz=49
T28A Walsh 49.30 295 ⇑P P 01 09 47.1 0.0
baz=49,SNR=6.6
G25A Newell 49.34 306 ⇓P P 01 09 47.4 +0.2
baz=49
AMTX Amarillo 49.37 292 ⇓P P 01 09 47.2 -0.4
baz=49
K26A Motz Farm, Whi 49.37 302 ⇑P P 01 09 47.6 0.0
baz=49
431A Sonora 49.43 286 ⇑P P 01 09 47.8 -0.3
baz=49
OKC Ostrava-Krasne 49.47 48 eS S 01 16 47.7 -6.8
OKC AMS AMS 01 29 10.0
comp=Z,500nm,22.4s
X29A Tulia 49.47 291 ⇑P P 01 09 48.4 -0.1
baz=49
531A Rocksprings 49.51 286 ⇓P P 01 09 48.9 +0.2
baz=50
Y29A Porterfield Fa 49.57 291 ⇑P P 01 09 49.0 -0.2
baz=50
R27A Eads 49.65 297 ⇑P P 01 09 49.8 +0.1
baz=50
I25A Rochford 49.66 304 ⇓P P 01 09 49.1 -0.7
baz=50
330A Mertzon 49.72 287 ⇓P P 01 09 50.1 -0.2
baz=50
Z29A Hungry Hill Ra 49.73 290 ⇑P P 01 09 50.0 -0.4
baz=50
631A Perdido Creek 49.73 285 ⇓P P 01 09 50.3 -0.1
baz=50
O26A Horse Wrangler 49.76 299 ⇑P P 01 09 49.8 -0.8
baz=50
J25A Sunshine Ranch 49.76 303 ⇓P P 01 09 49.5 -1.0
baz=50
S27A Las Animas 49.83 296 ⇓P P 01 09 51.2 0.0
baz=50
P26A Davis Ranch, A 49.88 298 ⇓P P 01 09 51.8 +0.3
baz=50
C24A Savage 49.92 309 ⇓P P 01 09 51.8 +0.2
baz=50,SNR=5.5
430A Baggett Ranch, 49.93 287 ⇓P P 01 09 52.0 +0.1
baz=50
U27A Thompson Grove 49.99 294 ⇑P P 01 09 52.4 0.0
baz=50
F24A Ekalaka 50.02 307 ⇓P P 01 09 52.0 -0.4
baz=50
Q26A Hugo 50.11 298 ⇓P P 01 09 52.8 -0.5
baz=50
R26A Arlington 50.15 297 ⇓P P 01 09 53.3 -0.2
baz=50,SNR=5.4
530A J-C Ranch, Com 50.18 286 ⇑P P 01 09 54.3 +0.5
baz=50
H24A Dirks Ranch, A 50.18 305 ⇓P P 01 09 53.4 -0.3
baz=50
B23A Brockton 50.27 310 ⇑P P 01 09 53.6 -0.6
baz=50
Z28A Tucker Farm, M 50.28 290 ⇓P P 01 09 54.6 0.0
baz=50
S26A Kim 50.28 296 ⇓P P 01 09 54.8 +0.2
baz=50
329A Wagon Wheel Ra 50.37 288 ⇓P P 01 09 55.6 +0.3
baz=50
O25A Wiggins 50.39 299 ⇑P P 01 09 55.6 +0.2
baz=50
J24A Dixon Ranch, L 50.39 303 ⇓P P 01 09 55.2 -0.1
baz=50
C23A Lambert 50.42 309 ⇑P P 01 09 55.3 -0.1
baz=50
MSTX Muleshoe 50.44 291 ⇓P P 01 09 56.2 +0.3
baz=50
W27A Bowe Ranch, En 50.45 293 ⇓P P 01 09 56.1 +0.3
baz=50
T26A Comanche Natio 50.46 295 ⇓P P 01 09 55.2 -0.9
baz=50,SNR=7.7
D23A Lindsay 50.47 308 ⇓P P 01 09 55.6 -0.2
baz=50
128A Castleberry Fa 50.51 289 ⇓P P 01 09 56.5 +0.2
baz=50
P25A Willow Gulch B 50.51 298 ⇓P P 01 09 55.9 -0.5
baz=50,SNR=6.5
429A Davenport Ranc 50.52 287 ⇓P P 01 09 56.5 +0.1
baz=50
PSZ Piszkesteto 50.67 51 eP P 01 09 55.9 -1.4
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PSZ Piszkesteto 50.67 51 eP P 01 09 55.9 -1.4
comp=Z,3.3nm,0.8s
Q25A Bedland, Calha 50.67 298 ⇓P P 01 09 57.0 -0.6
baz=51
F23A Volborg 50.70 307 ⇑P P 01 09 57.9 +0.3
baz=51
228A UT Block 9, Go 50.72 289 ⇑P P 01 09 58.1 +0.1
baz=51
U26A Atchley Ranch, 50.72 294 ⇑P P 01 09 57.9 -0.2
baz=51
M24A Cheyenne 50.73 301 ⇓P P 01 09 58.1 +0.1
baz=51,SNR=6.0
G23A Biddle 50.73 306 ⇓P P 01 09 57.6 -0.2
baz=51
L24A Wheatland 50.74 302 ⇓P P 01 09 58.1 +0.1
baz=51
Y27A Causey 50.78 291 ⇓P P 01 09 58.7 +0.3
baz=51,SNR=7.8
R25A Fountain Ranch 50.83 297 ⇑P P 01 09 58.6 -0.1
baz=51
A22A Carney Farms, 50.86 311 ⇑P P 01 09 58.5 -0.2
baz=51
N24A Carr 50.86 300 ⇓P P 01 09 59.1 +0.2
baz=51
V26A Tequesquite Ra 50.87 294 ⇓P P 01 09 59.4 +0.3
baz=51,SNR=7.3
C22A Vida 50.90 309 ⇓P P 01 09 59.4 +0.4
baz=51
Z27A Tatum 50.95 290 ⇓P P 01 09 59.3 -0.3
baz=51
E22A Miles City 51.02 307 ⇑P P 01 10 00.2 +0.2
baz=51
S25A Robets Cordova 51.03 296 ⇑P P 01 10 00.6 +0.2
baz=51
328A Wristen Ranch, 51.08 288 ⇓P P 01 10 00.2 -0.4
baz=51
T25A Trinidad 51.11 295 ⇑P P 01 10 00.6 -0.4
baz=51
D22A Cohagen 51.13 308 ⇑P P 01 10 01.1 +0.3
baz=51
X26A CR and CF Fran 51.15 292 ⇑P P 01 10 01.1 -0.1
baz=51
U25A Circle Dot Ran 51.25 295 ⇑P P 01 10 01.6 -0.3
baz=51,SNR=7.0
L23A Garrett 51.30 302 ⇑P P 01 10 02.3 0.0
baz=51,SNR=6.5
227A Bennet, Jal 51.32 289 ⇑P P 01 10 02.9 +0.5
baz=51
Q24A Divide 51.35 298 ⇓P P 01 10 03.0 +0.1
baz=51,SNR=6.4
M23A Laramie 51.40 301 ⇓P P 01 10 03.1 0.0
baz=51
R24A Sanders Place, 51.45 297 ⇑P P 01 10 03.6 +0.1
baz=51,SNR=6.1
H22A Clearmont 51.47 305 ⇓P P 01 10 03.5 +0.1
baz=51
STHS Stebnicka Huta 51.49 49 eP P 01 10 04.4 +1.0
STHS pmax pmax
comp=Z,7.0nm,1.5s
STHS Stebnicka Huta 51.49 49 eP P 01 10 04.4 +1.0
V25A Rancho No Teng 51.53 294 ⇓P P 01 10 04.0 0.0
baz=52
W25A X Bar L Ranch, 51.53 293 ⇑P P 01 10 04.1 0.0
baz=52
ISCO Idaho Springs 51.57 299 ⇑P P 01 10 04.3 -0.2
baz=52
Z26A Caprock 51.58 291 ⇓P P 01 10 04.5 +0.1
baz=52
B21A Ellsworth Farm 51.61 310 ⇓P P 01 10 03.9 -0.5
baz=52
I22A 9 Mile Ranch, 51.64 304 ⇑P P 01 10 04.4 -0.3
baz=52
N23A Red Feather La 51.65 300 ⇓P P 01 10 04.9 -0.1
baz=52
CRVS Cervenica-Dubn 51.66 49 eP P 01 10 06.0 +1.4
CRVS Cervenica-Dubn 51.66 49 eP P 01 10 06.0 +1.4
D21A La Casta Ranch 51.69 308 ⇑P P 01 10 04.5 -0.4
baz=52
J22A Midwest 51.70 304 ⇓P P 01 10 04.8 -0.4
baz=52,SNR=6.4
C21A Desert Coulee 51.71 309 ⇑P P 01 10 05.0 0.0
baz=52
O23A Lake Granby, G 51.73 300 ⇑P P 01 10 05.4 -0.3
baz=52
126A Clayton Basin, 51.77 290 ⇓P P 01 10 05.9 +0.2
baz=52
RES Resolute Bay 51.78 345 eP P 01 10 05.0 -0.1
RES pmax pmax
comp=Z,10.0nm,1.3s
RES Resolute Bay 51.78 345 P P 01 10 04.6 -0.5
comp=Z,2.8nm,1.1s,baz=123,slow=6.9,SNR=4.8
RES Resolute Bay 51.78 345 eP P 01 10 05.0 -0.1
comp=Z,10nm,1.3s
E21A Keefer Ranch, 51.79 308 ⇑P P 01 10 05.8 +0.1
baz=52
P23A Jefferson 51.81 299 ⇑P P 01 10 05.6 -0.8
baz=52
K22A Casper 51.83 303 ⇓P P 01 10 06.3 +0.1
baz=52
L22A Ellis Ranch, M 51.85 302 ⇓P P 01 10 06.4 0.0
baz=52
T24B San Luis 51.88 296 ⇑P P 01 10 05.8 -1.0
baz=52
F21A Absaloka Mine, 51.89 307 ⇓P P 01 10 06.5 0.0
baz=52
LPAZ La Paz 51.91 211 P P 01 10 07.2 -0.3
LPAZ pmax pmax
comp=Z,14nm,1.2s
LPAZ La Paz 51.91 211 P P 01 10 07.2 -0.3
comp=Z,14nm,1.2s,baz=24,slow=5.9,SNR=10
H21A Big Horn, Sher 51.96 305 ⇑P P 01 10 06.3 -0.8
baz=52
Y25A Mesa, Roswell 52.01 292 ⇑P P 01 10 07.8 +0.1
baz=52
R23A Moffat 52.01 297 ⇑P P 01 10 07.2 -0.6
baz=52,SNR=8.4
226B Tecolote Peak, 52.02 289 ⇑P P 01 10 07.2 -0.5
baz=52
N22A Wattenberg Ran 52.05 300 ⇓P P 01 10 07.3 -0.6
baz=52
M22A Cedar Creek Ra 52.06 301 ⇓P P 01 10 07.6 -0.4
baz=52
Z25A Roswell 52.18 291 ⇓P P 01 10 08.7 -0.2
baz=52,SNR=6.0
A20A Cobblestone Ra 52.19 311 ⇑P P 01 10 08.4 -0.2
baz=52
KOLS Kolonicke sedl 52.19 49 eP P 01 10 10.0 +1.4
KOLS pmax pmax
comp=Z,10.0nm,1.7s
KOLS Kolonicke sedl 52.19 49 eP P 01 10 10.0 +1.4
O22A Kremmling 52.22 300 ⇑P P 01 10 09.1 -0.2
baz=52,SNR=6.8
UZH Uzhgorod 52.23 50 ⇓iP P 01 10 06.3 -2.5
UZH i 01 10 09.0
UZH i 01 10 14.5
UZH eS S 01 17 26.1 -6.6
UZH e 01 17 38.0
I21A Big Trails, Te 52.23 304 ⇓P P 01 10 09.1 -0.1

baz=52,SNR=6.5
125A Gardner Draw, 52.28 290 ⇓P P 01 10 09.1 -0.6
baz=52
W24A Lazy 6 Ranch, 52.29 293 ⇑P P 01 10 09.7 -0.1
baz=52
TXAR Lajitas Array 52.35 286 P P 01 10 09.9 -0.2
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 52.35 286 P P 01 10 09.9 -0.2
comp=Z,1.0nm,0.9s,baz=102,slow=8.4,SNR=9.1
K21A Alcova 52.36 303 ⇓P P 01 10 10.3 +0.1
baz=52
T23A Casias Ranch, 52.40 296 ⇑P P 01 10 10.7 0.0
baz=52
D20A Manuel Ranch, 52.47 308 ⇑P P 01 10 10.1 -0.7
baz=52,SNR=8.5
P22A Eagle 52.48 299 ⇑P P 01 10 10.9 -0.3
baz=52,SNR=5.1
E20A Meyer Farm, Mu 52.52 308 ⇑P P 01 10 11.1 0.0
baz=52
225A Deer Hill, Car 52.56 289 ⇓P P 01 10 11.4 -0.4
baz=52
F20A Billings 52.61 307 ⇓P P 01 10 12.0 +0.2
baz=52
Y24A Capitan 52.61 292 ⇓P P 01 10 11.0 -1.2
baz=52
H20A Greybull 52.66 305 ⇓P P 01 10 12.4 +0.1
baz=53
U23A El Rito 52.67 295 ⇑P P 01 10 12.2 -0.4
baz=53
Z24A Sheeppen Canyo 52.69 291 ⇓P P 01 10 12.8 0.0
baz=53
G20A Bridger 52.72 306 ⇓P P 01 10 12.7 -0.1
baz=53
A19A Klindworth Far 52.72 311 ⇓P P 01 10 12.5 -0.1
baz=53
V23A Ortiz Mt. (NFS 52.79 294 ⇑P P 01 10 12.7 -0.8
baz=53
I20A Worland 52.82 305 ⇓P P 01 10 13.6 +0.1
baz=53
J20A Shoshoni 52.87 304 ⇑P P 01 10 13.6 -0.2
baz=53,SNR=6.6
S22A 4UR Ranch, Cre 52.88 297 ⇑P P 01 10 13.7 -0.5
baz=53
B19A Brinkman Farms 52.89 310 ⇓P P 01 10 13.8 0.0
baz=53
D19A Cripps Ranch, 52.97 309 ⇑P P 01 10 14.5 0.0
baz=53,SNR=7.6
E19A Rath Farm, Rou 52.98 308 ⇑P P 01 10 14.7 +0.2
baz=53
C19A Slack Wire Ran 53.03 309 ⇓P P 01 10 15.2 +0.3
baz=53,SNR=6.7
Y23A Lovelace Mesa, 53.11 292 ⇓P P 01 10 15.9 +0.1
baz=53
F19A Roth Farm, Mol 53.15 307 ⇑P P 01 10 15.5 -0.4
baz=53,SNR=8.0
ANMO Albuquerque 53.19 293⇑eP P 01 10 17.8 +1.4
ANMO pmax pmax
comp=Z,52nm,1.7s
V22A San Miguel Ran 53.33 294 ⇑P P 01 10 17.7 +0.2
baz=53
H19A Powell 53.33 306 ⇓P P 01 10 17.0 -0.2
baz=53
N20A Spence Gulch, 53.39 301 ⇑P P 01 10 17.6 -0.3
baz=53,SNR=7.7
I19A Meeteetse 53.42 305 ⇓P P 01 10 18.0 0.0
baz=53,SNR=5.7
EGMT Eagleton 53.47 310 ⇑P P 01 10 18.0 -0.1
baz=53,SNR=6.5
LPM Los Pinos Moun 53.48 292 eP P 01 10 19.4 +0.9
comp=Z,13nm,1.3s
O20A White River Ci 53.50 300 ⇑P P 01 10 18.6 -0.1
baz=53
J19A Crowheart 53.58 304 ⇓P P 01 10 18.9 -0.3
baz=54,SNR=6.8
LENM Lemitar 53.79 292 eP P 01 10 22.0 +1.2
comp=Z,5.3nm,0.8s
H18A Shoshone NF, C 53.81 306 ⇓P P 01 10 20.2 -0.7
baz=54
Z22A Elephant Butte 54.01 291 ⇓P P 01 10 22.0 -0.4
baz=54
PDAR Pinedale Array 54.02 303 P P 01 10 21.9 -0.5
comp=Z,7.3nm,1.0s,baz=88,slow=8.2,SNR=30
BW06 Boulder Array 54.02 303 eP P 01 10 22.2 -0.3
comp=Z,40nm,1.4s
FINES FINESS Array B 54.27 34 P P 01 10 22.7 -1.0
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 54.27 34 P P 01 10 22.7 -1.0
comp=Z,5.3nm,0.7s,baz=255,slow=5.5,SNR=17
MVCO Mesa Verde 54.29 296 ⇑P P 01 10 24.3 -0.2
baz=54
KAF Kangasniemi 54.41 33 eP P 01 10 24.1 -0.6
KAF pmax pmax
comp=Z,12nm,0.8s
KAF Kangasniemi 54.41 33 ep P 01 10 24.1 -0.6
comp=Z,12nm,0.8s
H17A Grant Village 54.50 305 ⇓P P 01 10 25.5 -0.4
baz=54
VSU Vasula 54.54 37ceP P 01 10 25.2 -0.4
VSU pmax pmax
comp=Z,167nm,2.5s
I17A Pilgrim Ck. 54.57 305 ⇓P P 01 10 26.3 -0.1
baz=54
ARCES ARCESS Array B 54.85 24 P P 01 10 27.1 -0.7
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 54.85 24 P P 01 10 27.1 -0.7
comp=Z,3.2nm,0.7s,baz=267,slow=7.1,SNR=9.0
121A Cookes Peak, D 54.87 291 ⇓P P 01 10 28.7 0.0
baz=55
MNK Minsk 55.28 42⇑eP P 01 10 29.0 -2.1
MNK e 01 12 30.0
MICGM Minsk 55.31 42⇑eP P 01 10 29.0 -2.3
SRU San Rafael 55.43 299 eP P 01 10 32.9 +0.2
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael 55.43 299 eP P 01 10 32.9 +0.2
comp=Z,8.4nm,0.8s
YKA Yellowknife Ar 55.65 328 P P 01 10 32.9 -0.8
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 55.65 328 P P 01 10 32.9 -0.8
comp=Z,1.6nm,0.9s,baz=88,slow=7.5,SNR=18
HWUT Hardware Ranch 55.70 302 eP P 01 10 35.3 +0.7
comp=Z,16nm,1.2s
JLU Jordanelle 55.81 301 eP P 01 10 35.3 -0.2
comp=Z,30nm,1.5s
MCMT McKenzie Canyo 56.03 306 eP P 01 10 37.5 +0.6
comp=Z,7.3nm,1.8s
SLMT Seeley Lake 56.08 309 eP P 01 10 35.9 -1.3
comp=Z,25nm,1.6s
SWMT Swartz Lake 56.38 310 eP P 01 10 38.6 -0.6
comp=Z,10nm,1.4s
319A Douglas 56.41 290 ⇑P P 01 10 40.1 +0.4
baz=56
MSO Missoula 56.45 309 ⇓P P 01 10 38.9 -0.8
baz=56
KIEV Kiev 56.49 47⇓eP P 01 10 39.5 -0.3
AKASG Malin Array Be 56.50 47 P P 01 10 38.3 -1.6
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 56.50 47 P P 01 10 38.3 -1.6
comp=Z,3.1nm,0.8s,baz=275,slow=6.3,SNR=14
JOF Joensuu 56.75 32 eP P 01 10 41.3 -0.1
JOF pmax pmax
comp=Z,9.0nm,0.9s
JOF Joensuu 56.75 32 ep P 01 10 41.3 -0.1
comp=Z,8.9nm,0.9s
DUG Dugway 56.92 301 eP P 01 10 43.6 +0.3
DUG pmax pmax
comp=Z,13nm,1.1s
DUG Dugway 56.92 301 eP P 01 10 43.6 +0.3
comp=Z,13nm,1.1s
DUG Dugway 56.92 301 ⇑P P 01 10 42.7 -0.6
baz=57,SNR=9.7
WUAZ Wupatki 56.95 295 ⇑P P 01 10 42.6 -1.0
baz=57,SNR=5.8
X16A Lo Mia Camp, P 57.30 294 ⇑P P 01 10 45.8 -0.2
baz=57
HLID Hailey 57.37 305 ⇓P P 01 10 45.0 -1.4
baz=57
U15A North Rim 57.43 296 ⇑P P 01 10 46.6 -0.5
baz=57,SNR=6.1
LVC Limon Verde 57.84 209 eP P 01 10 49.7 -0.2
comp=Z,29nm,1.5s
ARUT Antelope Range 57.97 298 eP P 01 10 50.9 +0.2
ARUT pmax pmax
comp=Z,150nm,1.1s
ARUT Antelope Range 57.97 298 eP P 01 10 50.9 +0.2
comp=Z,150nm,1.1s
NEW Newport 58.32 311 ⇓P P 01 10 52.6 -0.3
baz=58
W13A Hualapai Mount 59.04 295 ⇓P P 01 10 57.1 -1.1
baz=59
214A Organ Pipe Nat 59.11 291 ⇓P P 01 10 58.3 -0.3
baz=59
R11A Troy Canyon, C 59.46 299 ⇓P P 01 11 00.8 -0.3
baz=59,SNR=6.4
113A Mohawk Valley, 59.63 293 ⇑P P 01 11 02.3 +0.2
baz=60
OBN Obninsk 60.23 41⇑eP P 01 11 07.0 +1.2
OBN pmax pmax
comp=Z,30nm,1.7s
OBN Obninsk 60.23 41 eP P 01 11 06.3 +0.5
comp=Z,85nm,1.6s
IRM Iron Mountain 60.31 295 ⇓P P 01 11 06.9 +0.1
baz=60
GMRC Granite Mounta 60.52 295 ⇓P P 01 11 08.1 -0.3
baz=60
TUQ Turquoise Moun 60.54 296 ⇑P P 01 11 08.0 -0.5
baz=60
BC3 Big Chuckawall 60.70 294 ⇑P P 01 11 09.8 +0.1
baz=61
MOS Moscow 60.70 40 eP P 01 11 06.6 -2.5
MOS pmax pmax
comp=Z,58nm,1.6s
KLMR Klimovskoe 60.80 34 eP P 01 11 07.5 -2.1
KLMR pmax pmax
comp=Z,44nm,1.6s
GRAC Grapevine Rang 61.19 298 ⇓P P 01 11 13.0 +0.1
baz=61
GSC Goldstone 61.27 296 ⇑P P 01 11 13.5 +0.1
baz=61
NVAR Mina Array Bea 61.49 300 P P 01 11 14.9 -0.1
comp=Z,1.6nm,1.0s,baz=90,slow=5.4,SNR=9.8
BR131 Keskin Array S 61.86 58 eP P 01 11 16.6 -0.8
comp=Z,3.8nm,0.9s
BRTR Keskin Array B 61.86 58 P P 01 11 16.7 -0.8
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 61.86 58 P P 01 11 16.6 -0.8
comp=Z,3.6nm,0.9s,baz=272,slow=4.9,SNR=18
MOD Modoc 61.98 304 eP P 01 11 18.7 +0.5
comp=Z,4.7nm,0.3s
EDW2 Edwards Air Fo 62.32 296 ⇑P P 01 11 19.8 -0.6
baz=62
ISA Isabella 62.45 297 ⇑P P 01 11 20.1 -1.2
baz=62
VSR Storozhevoye 62.58 45⇑eP P 01 11 22.1 +0.3
VSR pmax pmax
comp=Z,45nm,2.5s
VORD Divnogorie 62.72 45 eP P 01 11 20.2 -2.5
VORD pmax pmax
comp=Z,9.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,6.0nm,1.0s
INK Inuvik 62.92 335 P P 01 11 23.5 -0.3
INK pmax pmax
comp=Z,6.0nm,0.9s
INK Inuvik 62.92 335 P P 01 11 23.5 -0.3
comp=Z,5.5nm,0.9s,baz=67,slow=8.5,SNR=11
INK Inuvik 62.92 335 eP P 01 11 23.3 -0.5
comp=Z,11nm,1.0s
CSS Prodhromos 63.08 63 eP P 01 11 23.1 -2.4
comp=Z,5.2nm,1.3s
CMB Columbia Colle 63.17 300 eP P 01 11 24.6 -1.5
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB Columbia Colle 63.17 300 eP P 01 11 24.6 -1.5
comp=Z,6.7nm,1.0s
PRGR Permogore 63.54 32 P P 01 11 26.0 -2.0
VRHR Novokhopersk 64.10 44 eP P 01 11 30.9 -1.0
VRHR pmax pmax
comp=N,7.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
DAWY Dawson 66.39 332 eP P 01 11 45.9 -0.8
KIV Kislovodsk 66.98 51ceP P 01 11 50.2 -0.6
KIV pmax pmax
comp=Z,16nm,1.7s
KIV MLR MLR
comp=Z,129nm,19.0s
KBZ Khabaz 67.20 52 P P 01 11 52.6 +0.6
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 67.20 52 P P 01 11 52.6 +0.6
comp=Z,3.4nm,1.0s,baz=307,slow=9.2,SNR=4.0
ZEI Tsey 68.21 52 eP P 01 11 57.4 -1.3
ZEI pmax pmax
comp=Z,15nm,1.5s
ILAR Eielson Array 69.12 334 P P 01 12 03.9 +0.1
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR Eielson Array 69.12 334 P P 01 12 03.9 +0.1
comp=Z,2.6nm,1.0s,baz=66,slow=4.3,SNR=16
COLA College 69.45 334⇓eP P 01 12 06.8 +1.1
COLA pmax pmax
comp=Z,70nm,1.7s
COLA College 69.45 334 eP P 01 12 06.1 +0.4
comp=Z,12nm,1.1s
GNI Garni 69.77 55ceP P 01 12 10.4 +2.0
GNI pmax pmax
comp=Z,50nm,1.7s
GNI Garni 69.77 55 eP P 01 12 08.5 +0.1
comp=Z,38nm,1.3s
MCK McKinley 70.39 333 eP P 01 12 11.2 -0.4
MCK pmax pmax
comp=Z,14nm,1.4s
MCK McKinley 70.39 333 eP P 01 12 11.2 -0.4
comp=Z,14nm,1.4s
ARU Arti 71.59 35diP P 01 12 17.9 -1.1
ARU 01 14 53.4
ARU S S 01 21 38.6 +1.4
ARU SS SS 01 26 14.6 +2.8
ARU pmax pmax
comp=Z,18nm,1.7s
ARU MLR MLR
comp=Z,265nm,18.0s
ARU Arti 71.59 35 eP P 01 12 19.1 +0.2
comp=Z,27nm,1.6s
H09W1 TRISTAN DA CUN 72.43 155 T T 02 30 36.3
SNR=8.1
SVE Sverdlovsk 72.44 34 eP P 01 12 24.5 +0.5
SVE pmax pmax
comp=Z,27nm,1.6s
PLCA Paso Flores 74.74 201 P P 01 12 37.7 0.0
PLCA pmax pmax
comp=Z,4.0nm,0.9s
PLCA Paso Flores 74.74 201 P P 01 12 37.7 0.0
comp=Z,4.0nm,0.9s,baz=13,slow=6.6,SNR=3.3
ABKAR Akbulak array 75.66 41 eP P 01 12 42.7 -0.3
comp=Z,2.7nm,0.8s
TSUM Tsumeb 75.89 122 eP P 01 12 44.0 -0.9
comp=Z,2.1nm,0.8s
TNA Tin City 76.01 339 eP P 01 12 45.1 +0.4
comp=Z,7.8nm,1.1s
TIXI Tiksi 78.66 3⇑eP P 01 13 00.2 +0.8
TIXI pmax pmax
comp=Z,12nm,1.3s
TIXI Tiksi 78.66 3 eP P 01 12 58.5 -0.9
comp=Z,18nm,1.4s
BRVK Borovoye 79.14 34⇑eP P 01 13 02.7 +0.2
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK Borovoye 79.14 34 eP P 01 13 02.5 0.0
comp=Z,18nm,1.5s
BILL Bilibino 80.06 349ceP P 01 13 07.6 +0.4
BILL pmax pmax
comp=Z,19nm,1.7s
BILL MLR MLR
comp=Z,313nm,23.0s
BILL Bilibino 80.06 349 eP P 01 13 07.3 +0.2
comp=Z,31nm,1.6s
LSZ Lusaka 81.76 113 eP P 01 13 19.0 +1.8
LSZ pmax pmax
comp=Z,9.0nm,1.4s
LSZ Lusaka 81.76 113 eP P 01 13 19.0 +1.8
comp=Z,8.6nm,1.4s
NVS Novosibirsk 83.83 28 eP P 01 13 27.0 -0.2
NVS pmax pmax
comp=Z,17nm,1.7s
KURK Kurchatov 84.64 33 eP P 01 13 30.7 -0.7
KURK pmax pmax
comp=Z,4.0nm,1.2s
KURK Kurchatov 84.64 33 eP P 01 13 30.7 -0.7
comp=Z,3.9nm,1.2s
ZALV Zalesovo Beam 85.12 28 P P 01 13 33.3 -0.5
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 85.12 28 P P 01 13 33.3 -0.5
comp=Z,1.6nm,0.6s,baz=299,slow=5.9,SNR=12
SEY Seymchan 86.79 353 eP P 01 13 42.3 +0.5
EKS2 Erkin-Say 87.32 41 eP P 01 13 45.5 +0.5
EKS2 pmax pmax
comp=Z,6.0nm,1.3s
EKS2 Erkin-Say 87.32 41 eP P 01 13 45.5 +0.5
comp=Z,5.6nm,1.3s
AAK Ala-Archa 87.75 41 eP P 01 13 47.5 +0.3
AAK pmax pmax
comp=Z,5.0nm,1.2s
AAK Ala-Archa 87.75 41 eP P 01 13 47.5 +0.3
comp=Z,4.7nm,1.2s
TKM2 Tokmak 2 88.19 40 eP P 01 13 51.1 +1.8
TKM2 pmax pmax
comp=Z,5.0nm,1.3s
TKM2 Tokmak 2 88.19 40 eP P 01 13 51.0 +1.8
comp=Z,4.9nm,1.3s
YAK Yakutsk 88.29 4 eP P 01 13 50.7 +1.6
YAK pmax pmax
comp=Z,23nm,1.7s
MKAR Makanchi Array 89.10 34 P P 01 13 52.1 -1.2
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 89.10 34 P P 01 13 52.1 -1.2
comp=Z,1.1nm,0.9s,baz=308,slow=3.4,SNR=10
KSH Kashi 90.61 43 eP P 01 14 03.9 +3.3
KSH epP pP 01 14 08.5 +1.9
KSH ePP PP 01 17 40.6 +5.6
KSH SKS SKSac 01 24 32.6 +1.0
KSH eS S 01 24 56.4 +0.7
KSH eSS SS 01 31 00.1 +4.2
KSH LR LR
comp=Z,74nm,4.4s
KSH LR LR
comp=Z,56nm,3.5s
KSH LR LR
comp=Z,180nm,5.5s
TLY Talaya 93.68 20 eP P 01 14 14.1 -0.3
TLY pmax pmax
comp=Z,7.0nm,2.2s
TLY MLR MLR
comp=Z,116nm,16.0s
WMQ Urumqi 93.88 33 eP P 01 14 15.8 +0.3
WMQ pP pP 01 14 20.6 -1.0
WMQ sP sP 01 14 22.8 -0.9
WMQ PP PP 01 18 04.5 +4.1
WMQ SKS SKSac 01 24 48.5 -1.1
WMQ S S 01 25 22.3 -2.4
WMQ sS sS 01 25 30.5 -4.2
WMQ SS SS 01 31 45.5 +3.2
WMQ pmax pmax
comp=Z,8.0nm,1.6s
WMQ LR LR
comp=Z,180nm,23.0s
WMQ LR LR
comp=Z,190nm,21.4s
WMQ LR LR
comp=Z,210nm,23.4s
RKT Rikitea 102.88 251 eLR LR 01 48 44.7
comp=Z,419nm,40.8s
HHC Hu-ho-hao-te 105.81 20 Pdif Pdif 01 15 05.6 -3.6
HHC LR LR
comp=Z,270nm,17.3s
HHC LR LR
comp=Z,300nm,18.7s
HHC LR LR
comp=Z,230nm,18.5s
CD2 Chengdu 111.77 31 PKP PKiKP 01 19 32.4 -0.8
PPT2 Papeete2 112.79 262 eLR LR 01 53 17.3
comp=Z,308nm,24.2s
KMI Kunming 116.17 35 PKP PKPdf 01 19 39.8 -2.2
WHN Wuhan 116.18 22 PKP PKPdf 01 19 43.7 +2.2
GYA Guiyang 116.88 31 ePdif Pdif 01 15 56.8 -1.9
GYA PKP PKPdf 01 19 41.6 -1.6
GYA PP PP 01 20 53.0 +2.2
GYA AMB AMB
comp=Z,110nm,7.6s
DZM Mont Dzumac 152.62 279 eLR LR 02 11 42.4
comp=Z,564nm,29.8s
WRA Warramunga Arr 169.85 15 PP PP 01 26 06.9 -2.3
comp=Z,1.1nm,1.1s,baz=346,slow=4.2,SNR=4.7
ASAR Alice Springs 173.23 26 PKIKP PKPdf 01 21 08.7 +1.0
ASAR 01 26 24.7
ASAR pmax pmax
comp=Z,1.0nm,1.0s
ASAR pmax pmax
comp=Z,3.0nm,1.2s
ASAR Alice Springs 173.23 26 PKP PKPdf 01 21 08.7 +1.0
comp=Z,1.0nm,1.0s,baz=41,slow=1.7,SNR=5.0
ASAR PP PP 01 26 24.7 -1.5
comp=Z,2.7nm,1.2s,baz=348,slow=3.9,SNR=6.5

IDC 13 01:01:54.4±1.6, 29.97N×42.20W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.8/29, mbtmp4.0/5, MS4.1/1, Ms1 4.1/1, ms1mx3.9/10, Error ellipse: s-maj=56.8km s-min=24.9km az=14.0, Northern Mid-Atlantic Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TORD Torodi Ar. Bea 43.82 103 P P 01 10 02.2 -0.3
1.8nm,0.9s,baz=310,slow=9.0,SNR=2.3
GERES GERESS Array B 46.01 49 LR LR 01 27 41.5
comp=Z,206nm,19.1s,baz=243,slow=34
TXAR Lajitas Array 52.83 286 P P 01 11 12.1 0.0
1.4nm,0.9s,baz=80,slow=5.6,SNR=4.5
FINES FINESS Array B 53.83 34 P P 01 11 18.9 +0.2
1.3nm,0.8s,baz=256,slow=5.6,SNR=2.7
PDAR Pinedale Array 54.39 303 P P 01 11 23.4 -0.1
6.6nm,1.1s,baz=84,slow=8.4,SNR=2.4
YKA Yellowknife Ar 55.81 328 P P 01 11 32.7 -0.4
0.8nm,0.8s,baz=88,slow=7.6,SNR=4.7

IDC 13 01:02:53.9±0.6, 29.99N×42.86W, h0km, mb4.2/25, mb1 4.4/25, mb1mx4.2/46, mbtmp4.2/25, Error ellipse: s-maj=17.0km s-min=13.9km az=145.0
MOS 13 01:02:55.8±1.7, 29.98N×42.77W, h10km, mb5.0/52, Error ellipse: s-maj=10.1km s-min=5.5km az=53.7
ISCJB 13 01:02:56.6±0.3, 29.88N±0.06×42.60W±0.04, h14km, mb4.7/99, MS4.8/4, Error ellipse: s-maj=9.2km s-min=5.1km az=162.4
NEIC 13 01:02:57.5±0.3, 29.89N×42.59W, h10km, mb4.9/61, Error ellipse: s-maj=10.4km s-min=6.0km az=163.0
GCMT 13 01:02:57.5±0.2, 29.68N×42.82W, h12km, MW5.2/107, Moment Tensor Solution. s36,c38; s107,c176; Duration: 1.0 Moment tensor: Scale 10^17Nm; Mrr-0.75±.02; Mθθ0.10±.02; Mφφ0.64±.02; Mrθ-0.58±.07; Mrφ0.20±.01; Mθφ0.03±.05; Best double couple: M0.89800×10^17 NP1:φs47.00000°, δ59.00000°, λ-59.00000°. NP2:φs178.00000°, δ43.00000°, λ-130.00000°. Principal axes: T 0.7390, Plg8.0000°, Azm115.0000°; N 0.3180, Plg26.0000°, Azm209.0000°; P -1.0570, Plg62.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
ISC 13 01:02:58.2±0.4, 29.90N±0.07×42.69W±0.07, h14km, n230, σ1.51/228, mb4.8/99, MS4.8/4, 9C-3D, Northern Mid-Atlantic Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H05S1 Guadeloupe/Mar 22.75 231 T T 01 30 59.3
SNR=4.6
BBGH Gun Hill 22.85 227 eP P 01 08 02.4 +1.2
469nm,1.3s
BINY Binghamton 29.40 304 eP P 01 09 00.7 -0.4
55nm,1.6s
PTGA Pitinga 34.63 212 P P 01 09 43.3 -3.9
4.4nm,0.7s,baz=3.8,slow=9.2,SNR=4.3
ROSF Rostrenen 35.21 47 eP P 01 09 51.4 -0.5
179nm,1.6s
ROSF Rostrenen 35.21 47 eP P 01 09 51.4 -0.5

ROSF pmax pmax
comp=Z,179nm,1.6s
ROSF Rostrenen 35.21 47 eP P 01 09 51.4 -0.5
comp=Z,179nm,1.6s
MFF Saint Martin d 36.84 51 eP P 01 10 05.3 -0.5
comp=Z,47nm,1.3s
MFF Saint Martin d 36.84 51 eP P 01 10 05.3 -0.5
MFF pmax pmax
comp=Z,47nm,1.3s
MFF Saint Martin d 36.84 51 eP P 01 10 05.3 -0.5
comp=Z,47nm,1.3s
FLN La Foliniere 37.11 47 eP P 01 10 07.0 -1.1
FLN La Foliniere 37.11 47 eP P 01 10 07.0 -1.1
FLN La Foliniere 37.11 47 eP P 01 10 07.0 -1.1
LFF La Frestale 37.15 54 eP P 01 10 07.5 -1.0
comp=Z,22nm,1.0s
LFF La Frestale 37.15 54 eP P 01 10 07.5 -1.0
LFF pmax pmax
comp=Z,22nm,1.0s
LFF La Frestale 37.15 54 eP P 01 10 07.5 -1.0
comp=Z,22nm,1.0s
LDF La Druitiere 37.30 48 eP P 01 10 09.6 -0.2
comp=Z,70nm,1.4s
LDF La Druitiere 37.30 48 eP P 01 10 09.6 -0.2
LDF pmax pmax
comp=Z,70nm,1.4s
LDF La Druitiere 37.30 48 eP P 01 10 09.6 -0.2
comp=Z,70nm,1.4s
FRB Frobisher Bay 37.65 341 P P 01 10 08.6 -3.9
FRB pmax pmax
comp=Z,4.0nm,0.9s
FRB Frobisher Bay 37.65 341 P P 01 10 08.6 -3.9
comp=Z,3.6nm,0.9s,baz=127,slow=10,SNR=2.8
ESK Eskdalemuir 37.81 36 eP P 01 10 14.0 0.0
ESK pmax pmax
comp=Z,58nm,1.7s
ESK Eskdalemuir 37.81 36 eP P 01 10 14.0 0.0
comp=Z,58nm,1.7s
EKA Eskdalemuir Ar 37.84 36 P **P 01 10 11.6 -2.7**
EKA pmax pmax
comp=Z,2.0nm,0.8s
EKA Eskdalemuir Ar 37.84 36 P **P 01 10 11.6 -2.7**
comp=Z,2.3nm,0.8s,baz=243,slow=6.2,SNR=3.2
TCF Toulx Ste Croi 38.38 52 eP P 01 10 17.8 -1.2
comp=Z,45nm,1.4s
TCF Toulx Ste Croi 38.38 52 eP P 01 10 17.8 -1.2
TCF pmax pmax
comp=Z,45nm,1.4s
TCF Toulx Ste Croi 38.38 52 eP P 01 10 17.8 -1.2
comp=Z,45nm,1.4s
BGF Bois d'Agland 38.86 52 eP P 01 10 22.3 -0.7
BGF Bois d'Agland 38.86 52 eP P 01 10 22.3 -0.7
BGF Bois d'Agland 38.86 52 eP P 01 10 22.3 -0.7
AVF Avril sur Loir 39.24 51 eP P 01 10 25.5 -0.6
AVF Avril sur Loir 39.24 51 eP P 01 10 25.5 -0.6
AVF Avril sur Loir 39.24 51 eP P 01 10 25.5 -0.6
LASF Ste Croix 39.26 56 eP P 01 10 25.7 -0.7
comp=Z,59nm,1.3s
LASF Ste Croix 39.26 56 eP P 01 10 25.7 -0.7
comp=Z,59nm,1.3s
SSF Saint Saulge 39.38 51 eP P 01 10 26.7 -0.6
SSF Saint Saulge 39.38 51 eP P 01 10 26.7 -0.6
SSF Saint Saulge 39.38 51 eP P 01 10 26.7 -0.6
SMF Signal de Mont 39.55 52 eP P 01 10 27.7 -1.0
comp=Z,43nm,1.3s
SMF Signal de Mont 39.55 52 eP P 01 10 27.7 -1.0
SMF pmax pmax
comp=Z,43nm,1.3s
SMF Signal de Mont 39.55 52 eP P 01 10 27.7 -1.0
comp=Z,43nm,1.3s
LOR Lormes 39.66 51 eP P 01 10 29.7 +0.1
comp=Z,44nm,1.4s
LOR Lormes 39.66 51 eP P 01 10 29.7 +0.1
LOR pmax pmax
comp=Z,44nm,1.4s
LOR Lormes 39.66 51 eP P 01 10 29.7 +0.1
comp=Z,44nm,1.4s
BCIP Isla Barro Col 40.37 247 eP P 01 10 36.9 +1.1
comp=Z,19nm,1.1s
BAIF Baives 40.39 47 eP P 01 10 35.5 -0.1
comp=Z,20nm,1.1s
BAIF Baives 40.39 47 eP P 01 10 35.5 -0.1
BAIF pmax pmax
comp=Z,20nm,1.1s
BAIF Baives 40.39 47 eP P 01 10 35.5 -0.1
comp=Z,20nm,1.1s
SFTF Sexfontaines 40.59 50 eP P 01 10 36.9 -0.4
SFTF Sexfontaines 40.59 50 eP P 01 10 36.9 -0.4
MEZF Maizieres J'vi 40.65 49 eP P 01 10 36.7 -1.1
comp=Z,57nm,1.2s
MEZF Maizieres J'vi 40.65 49 eP P 01 10 36.7 -1.1
comp=Z,57nm,1.2s
CABF La Chapelle 41.08 52 eP P 01 10 41.4 -0.1
CABF La Chapelle 41.08 52 eP P 01 10 41.4 -0.1
CABF La Chapelle 41.08 52 eP P 01 10 41.4 -0.1
PAGF Fort de Pagny 41.10 49 eP P 01 10 41.7 +0.2
PAGF Fort de Pagny 41.10 49 eP P 01 10 41.7 +0.2
MBDF Montbardon 41.40 55 eP P 01 10 45.0 +0.8
MBDF Montbardon 41.40 55 eP P 01 10 45.0 +0.8
MBDF Montbardon 41.40 55 eP P 01 10 45.0 +0.8
LPL La Plagne 41.42 54 eP P 01 10 43.6 -0.9
LPL La Plagne 41.42 54 eP P 01 10 43.6 -0.9
LPL La Plagne 41.42 54 eP P 01 10 43.6 -0.9
HAU Haudompre 41.43 50 eP P 01 10 43.2 -1.1
comp=Z,33nm,1.3s
HAU Haudompre 41.43 50 eP P 01 10 43.2 -1.1
HAU pmax pmax
comp=Z,33nm,1.3s
HAU Haudompre 41.43 50 eP P 01 10 43.2 -1.1
comp=Z,33nm,1.3s
LPG La Plagne 41.44 54 eP P 01 10 44.8 +0.1
comp=Z,16nm,1.1s
LPG La Plagne 41.44 54 eP P 01 10 44.8 +0.1
LPG pmax pmax
comp=Z,16nm,1.1s
LPG La Plagne 41.44 54 eP P 01 10 44.8 +0.1
comp=Z,16nm,1.1s
SCIA State Center 42.09 301 eP P 01 10 50.9 +1.2
comp=Z,23nm,0.9s
CDF Champ du Feu 42.10 50 eP P 01 10 48.9 -0.9
comp=Z,17nm,1.0s
CDF Champ du Feu 42.10 50 eP P 01 10 48.9 -0.9
CDF pmax pmax
comp=Z,17nm,1.0s
CDF Champ du Feu 42.10 50 eP P 01 10 48.9 -0.9
comp=Z,17nm,1.0s
SUMG Summit 42.79 2 eP P 01 10 56.2 +0.7
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG Summit 42.79 2 iP P 01 10 56.2 +0.7
comp=Z,14nm,1.0s
SUMG Summit 42.79 2 eP P 01 10 56.1 +0.7
comp=Z,14nm,0.9s
SAML Samuel 43.37 210 eP P 01 10 58.7 -1.6
comp=Z,76nm,2.3s
TAM Tamanrasset 43.53 88 eP P 01 11 03.1 +1.2
TAM pmax pmax
comp=Z,118nm,2.5s
TAM Tamanrasset 43.53 88 eP P 01 11 03.1 +1.2
comp=Z,118nm,2.5s
JTS JuntasAbangare 43.91 253 eP P 01 11 06.8 +2.0
JTS pmax pmax
comp=Z,4.0nm,0.9s
JTS JuntasAbangare 43.91 253 eP P 01 11 06.8 +2.0
comp=Z,4.4nm,0.9s
TORD Torodi Ar. Bea 44.23 102 P P 01 11 06.4 -0.9
comp=Z,3.9nm,0.8s,baz=301,slow=7.5,SNR=5.1
ULM Lac du Bonnet 44.41 313 P P 01 11 04.9 -3.5
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM Lac du Bonnet 44.41 313 P P 01 11 04.9 -3.5
comp=Z,1.8nm,0.7s,baz=94,slow=8.9,SNR=2.0
OTAV Otavalo 45.04 236 eP P 01 11 14.2 -0.1
comp=Z,23nm,1.5s
FCC Fort Churchill 45.12 325 eP P 01 11 13.5 -0.3
FCC Fort Churchill 45.12 325 eP P 01 11 13.5 -0.3
comp=Z,0.4nm,0.9s
BDFB Brasilia 45.57 187 P **P 01 11 16.6 -1.4**
BDFB pmax pmax
comp=Z,3.0nm,0.7s
BDFB Brasilia 45.57 187 P **P 01 11 16.6 -1.4**
comp=Z,3.4nm,0.7s,baz=356,slow=7.6,SNR=4.0
NKC Novy Kostel 45.66 47 eP P 01 11 17.2 -1.1
CLL Collm 46.11 46 eP P 01 11 22.0 +0.2
CLL e 01 11 27.0
CLL eS S 01 18 15.0 +8.0
CLL Collm 46.11 46 eP P 01 11 22.0 +0.2
CLL esP sP 01 11 27.0 -0.9
CLL ePP PP 01 13 06.0 -3.8
CLL eS S 01 18 15.0 +8.0
AQU L'Aquila 46.21 58 eP P 01 11 24.2 +1.3
AQU pmax pmax
comp=Z,43nm,1.2s
AQU L'Aquila 46.21 58 eP P 01 11 24.2 +1.3
comp=Z,43nm,1.2s
H10N2 ASCENSION HYDR46.28 140 T T 02 00 32.3
baz=325,slow=75,SNR=8.4
H10N3 ASCENSION HYDR46.29 140 T T 02 00 30.6
baz=325,slow=75,SNR=7.0
H10N1 ASCENSION HYDR46.30 140 T T 02 00 32.3
baz=325,slow=75,SNR=8.4
KHC Kasperske Hory 46.31 49 eP P 01 11 18.5 -5.0
GERES GERESS Array B 46.38 49 P **P 01 11 21.7 -2.4**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 46.38 49 P **P 01 11 21.7 -2.4**
comp=Z,0.9nm,0.7s,baz=260,slow=7.7,SNR=4.1
NB2 NORSAR Subarra 46.98 33 P **P 01 11 27.6 -1.0**
comp=Z,5.4nm,1.2s,baz=264,slow=9.3
NOA NORSAR Array B 46.98 33 P **P 01 11 26.3 -2.3**
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA NORSAR Array B 46.98 33 P **P 01 11 26.3 -2.3**
comp=Z,2.7nm,1.0s,baz=254,slow=7.9,SNR=3.7
PRU Pruhonice 46.98 48 eP P 01 11 27.4 -1.3
PRU eS **S 01 18 21.6 +2.0**
H10S1 ASCENSION HYDR47.11 141 T T 02 01 29.5
baz=326,slow=75,SNR=6.9
H10S3 ASCENSION HYDR47.11 141 T T 02 01 30.5
baz=326,slow=75,SNR=6.1
H10S2 ASCENSION HYDR47.12 141 T T 02 01 30.8
baz=326,slow=75,SNR=7.8
UPC Upice 47.95 47 eP P 01 11 38.3 +2.0
DPC Dobruska-Polom 48.14 48 eP P 01 11 39.7 +1.9
DPC eS **S 01 18 41.8 +5.6**
DAG Danmarks Havn 48.30 7 iP P 01 11 39.5 +1.0
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 48.30 7 iP P 01 11 39.5 +1.0
comp=Z,6.1nm,0.9s
FFC Flin Flon 48.60 318 eP P 01 11 41.3 +0.1
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 48.60 318 eP P 01 11 41.2 +0.1
comp=Z,6.3nm,0.9s
MORC Moravsky Berou 48.92 48 eP P 01 11 44.8 +1.0
MORC pmax pmax
comp=Z,7.0nm,1.3s
MORC Moravsky Berou 48.92 48 eP P 01 11 44.8 +1.0
comp=Z,7.2nm,1.3s
TIP Timpagrande 49.07 62 eP P 01 11 46.7 +1.6
comp=Z,28nm,1.4s
PSZ Piszkesteto 50.51 51 eP P 01 11 56.9 +1.0
PSZ pmax pmax
comp=Z,4.0nm,1.0s
PSZ Piszkesteto 50.51 51 eP P 01 11 56.9 +1.0
comp=Z,4.2nm,1.0s
STHS Stebnicka Huta 51.33 49 eP P 01 12 04.9 +2.8
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 51.33 49 eP P 01 12 04.9 +2.8
CRVS Cervenica-Dubn 51.50 49 eP P 01 12 05.7 +2.4
CRVS Cervenica-Dubn 51.50 49 eP P 01 12 05.7 +2.4
RES Resolute Bay 51.72 344 eP P 01 12 05.9 +1.4
RES pmax pmax
comp=Z,13nm,1.2s
RES Resolute Bay 51.72 344 P **P 01 12 05.2 +0.7**
comp=Z,7.1nm,1.0s,baz=119,slow=7.7,SNR=3.6
RES Resolute Bay 51.72 344 eP P 01 12 05.9 +1.4
comp=Z,13nm,1.2s
LPAZ La Paz 52.06 212 P **P 01 12 07.5 -1.0**
LPAZ pmax pmax
comp=Z,8.0nm,1.0s
LPAZ La Paz 52.06 212 P **P 01 12 07.5 -1.0**
comp=Z,7.5nm,0.9s,baz=30,slow=8.6,SNR=3.5
UZH Uzhgorod 52.07 50⇑iP P 01 12 08.0 +0.5
UZH i 01 12 11.7
TXAR Lajitas Array 52.44 286 P P 01 12 07.1 -3.6
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 52.44 286 P P 01 12 07.1 -3.6
comp=Z,0.8nm,0.8s,baz=92,slow=8.1,SNR=3.5
NNA Nana 53.08 223 eP P 01 12 21.4 +6.0
NNA Nana 53.08 223 eP P 01 12 21.4 +6.0
ANMO Albuquerque 53.26 293 eP P 01 12 18.4 +1.6
ANMO pmax pmax
comp=Z,31nm,2.0s
ANMO Albuquerque 53.26 293 eP P 01 12 18.4 +1.6
comp=Z,31nm,2.0s
EGMT Eagleton 53.50 310 eP P 01 12 20.1 +1.8
comp=Z,36nm,1.3s
LPM Los Pinos Moun 53.56 292 eP P 01 12 19.9 +0.9
comp=Z,2.8nm,0.7s
PDAR Pinedale Array 54.07 303 P P 01 12 18.9 -3.8
comp=Z,4.8nm,0.8s,baz=90,slow=7.2,SNR=6.0
BW06 Boulder Array 54.07 303 eP P 01 12 20.0 -2.8
FINES FINESS Array B 54.12 34 P **P 01 12 20.4 -2.0**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 54.12 34 P **P 01 12 20.4 -2.0**
comp=Z,4.3nm,0.8s,baz=265,slow=8.2,SNR=5.7
MVCO Mesa Verde 54.36 296 eP P 01 12 26.6 +1.8
comp=Z,19nm,1.3s
VSU Vasula 54.38 37⇑eP P 01 12 22.8 -1.6
VSU pmax pmax
comp=Z,67nm,1.7s
ARCES ARCESS Array B 54.71 24 P **P 01 12 24.1 -2.5**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 54.71 24 P **P 01 12 24.1 -2.5**
comp=Z,6.2nm,0.9s,baz=277,slow=7.2,SNR=6.3
IMW Indian Meadow 54.88 305 eP P 01 12 29.9 +1.2
comp=Z,22nm,1.4s
SRU San Rafael 55.49 299 eP P 01 12 32.6 -0.4
SRU pmax pmax
comp=Z,14nm,0.9s
SRU San Rafael 55.49 299 eP P 01 12 32.6 -0.4
comp=Z,14nm,0.9s
YKA Yellowknife Ar 55.64 328 P **P 01 12 30.9 -2.5**
YKA 01 13 29.9
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 55.64 328 P **P 01 12 30.9 -2.5**
comp=Z,1.3nm,0.9s,baz=89,slow=7.5,SNR=4.4
YKA PcP **PcP 01 13 29.9 -2.9**
comp=Z,0.5nm,0.8s,baz=89,slow=4.8,SNR=3.4
JLU Jordanelle 55.87 301 eP P 01 12 36.4 +0.6
comp=Z,9.5nm,1.0s
KIEV Kiev 56.33 47⇑eP P 01 12 38.8 +0.2
AKASG Malin Array Be 56.34 47 P **P 01 12 36.3 -2.3**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 56.34 47 P **P 01 12 36.3 -2.3**
comp=Z,2.5nm,0.7s,baz=274,slow=6.4,SNR=6.6
NLU North Lily Min 56.48 300 eP P 01 12 42.1 +2.1
comp=Z,15nm,1.1s
MVU Marysvale 56.92 299 eP P 01 12 45.7 +2.5
comp=Z,12nm,1.2s
BGU Big Grassy Mou 56.97 302 eP P 01 12 45.1 +1.6
comp=Z,31nm,2.2s
DUG Dugway 56.98 301 eP P 01 12 41.3 -2.2
DUG pmax pmax
comp=Z,23nm,1.3s
DUG Dugway 56.98 301 eP P 01 12 41.3 -2.2
comp=Z,23nm,1.3s
WUAZ Wupatki 57.02 295 eP P 01 12 46.6 +2.6
comp=Z,40nm,1.9s
NEW Newport 58.35 311 eP P 01 12 54.0 +1.0
NEW pmax pmax
comp=Z,17nm,1.1s
NEW Newport 58.35 311 eP P 01 12 54.0 +1.0
comp=Z,17nm,1.1s
OBN Obninsk 60.07 41⇓eP P 01 13 07.1 +2.5
OBN pmax pmax
comp=Z,38nm,1.7s
KLMR Klimovskoe 60.65 34 eP P 01 13 06.0 -2.5
KLMR pmax pmax
comp=Z,28nm,1.6s
NVAR Mina Array Bea 61.55 300 P P 01 13 11.6 -3.7
comp=Z,1.6nm,0.9s,baz=71,slow=6.8,SNR=3.5
BRTR Keskin Array B 61.70 58 P **P 01 13 14.0 -2.2**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 61.70 58 P **P 01 13 14.0 -2.2**
comp=Z,4.1nm,0.9s,baz=282,slow=6.2,SNR=7.8
VSR Storozhevoye 62.42 45⇑eP P 01 13 21.8 +1.2
VSR pmax pmax
comp=Z,19nm,1.3s
VORD Divnogorie 62.56 45 eP P 01 13 21.0 -0.5
VORD pmax pmax
comp=Z,10.0nm,1.4s
VORD pmax pmax
comp=N,5.0nm,1.2s
VORD pmax pmax
comp=E,10.0nm,1.4s
INK Inuvik 62.89 335 eP P 01 13 23.2 -0.2
INK pmax pmax
comp=Z,21nm,1.1s
INK Inuvik 62.89 335 P **P 01 13 20.3 -3.1**
comp=Z,6.0nm,1.0s,baz=67,slow=6.7,SNR=2.9
INK Inuvik 62.89 335 eP P 01 13 23.1 -0.2
comp=Z,22nm,1.1s
CMB Columbia Colle 63.23 300 eP P 01 13 26.2 -0.1
CMB pmax pmax
comp=Z,23nm,1.6s
CMB Columbia Colle 63.23 300 eP P 01 13 26.2 -0.1
comp=Z,23nm,1.6s
PRGR Permogore 63.39 32 P **P 01 13 26.2 -0.7**
VRHR Novokhopersk 63.95 44 eP P 01 13 29.0 -1.7
VRHR pmax pmax
comp=Z,10.0nm,1.1s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,1.1s
KIV Kislovodsk 66.82 52 eP P 01 13 50.5 +0.9
KIV pmax pmax
comp=Z,11nm,1.3s
KIV Kislovodsk 66.82 52 eP P 01 13 50.0 +0.4
comp=Z,22nm,1.3s
KBZ Khabaz 67.04 52 P **P 01 13 50.7 -0.2**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 67.04 52 P **P 01 13 50.6 -0.2**
comp=Z,4.2nm,1.0s,baz=286,slow=7.4,SNR=2.7
ZEI Tsey 68.06 52 eP P 01 13 56.2 -1.4
ZEI pmax pmax
comp=Z,9.0nm,1.2s
ILAR Eielson Array 69.09 334 P **P 01 14 01.1 -2.4**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 69.09 334 P **P 01 14 01.1 -2.4**
comp=Z,1.5nm,0.8s,baz=54,slow=5.1,SNR=6.1
COLA College 69.42 334⇑eP P 01 14 06.5 +1.0
COLA pmax pmax
comp=Z,49nm,1.2s
COLA College 69.42 334 eP P 01 14 06.4 +1.0
comp=Z,11nm,1.0s
GNI Garni 69.61 55⇓eP P 01 14 10.6 +3.3
GNI pmax pmax
comp=Z,40nm,1.7s
GNI Garni 69.61 55 eP P 01 14 08.4 +1.1
comp=Z,82nm,1.8s
MCK McKinley 70.36 333 eP P 01 14 12.3 +1.0
MCK pmax pmax
comp=Z,38nm,1.7s
MCK McKinley 70.36 333 eP P 01 14 12.3 +1.0
comp=Z,38nm,1.7s
ARU Arti 71.44 35c iP P 01 14 18.3 +0.4
ARU 01 16 58.4
ARU S **S 01 23 36.6 +0.8**
ARU SS **SS 01 28 07.3 -2.4**
ARU pmax pmax
comp=Z,19nm,1.7s
ARU Arti 71.44 35 eP P 01 14 18.6 +0.7
comp=Z,15nm,1.3s
H09N1 TRISTAN DA CUN 72.45 155 T T 02 33 24.8
SNR=18
PLCA Paso Flores 74.87 202 P **P 01 14 37.0 -1.4**
PLCA pmax pmax
comp=Z,1.0nm,0.3s
PLCA Paso Flores 74.87 202 P **P 01 14 37.0 -1.4**
comp=Z,1.3nm,0.3s,baz=18,slow=8.8,SNR=3.3
ABKAR Akbulak array 75.51 41 eP P 01 14 39.8 -2.2
comp=Z,2.1nm,0.8s
TSUM Tsumeb 75.83 122 eP P 01 14 42.4 -2.0
comp=Z,13nm,1.4s
TNA Tin City 75.96 339 eP P 01 14 45.0 +0.8
comp=Z,4.3nm,0.9s
TIXI Tiksi 78.56 3⇑eP P 01 15 01.3 +2.6
TIXI pmax pmax
comp=Z,24nm,2.5s
TIXI Tiksi 78.56 3 eP P 01 14 58.0 -0.7
comp=Z,13nm,1.1s
BRVK Borovoye 78.99 34⇓eP P 01 15 04.4 +2.9
BRVK pmax pmax
comp=Z,16nm,2.5s
BRVK Borovoye 78.99 34 eP P 01 15 02.9 +1.3
comp=Z,5.2nm,1.0s
BVAR Borovoye Array 79.07 34 P **P 01 15 00.4 -1.5**
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 79.07 34 P **P 01 15 00.4 -1.5**
comp=Z,1.1nm,0.6s,baz=298,slow=4.6,SNR=3.5
BILL Bilibino 79.99 349⇑eP P 01 15 08.2 +1.5
BILL pmax pmax
comp=Z,28nm,2.5s
BILL Bilibino 79.99 349 eP P 01 15 07.2 +0.5
comp=Z,16nm,1.4s
LSZ Lusaka 81.68 113 eP P 01 15 18.4 +1.7
LSZ pmax pmax
comp=Z,10.0nm,1.3s
LSZ Lusaka 81.68 113 eP P 01 15 18.4 +1.7
comp=Z,9.8nm,1.3s
KMBO Kilima Mbogo 81.84 96 eP P 01 15 19.2 +1.4
KMBO pmax pmax
comp=Z,4.0nm,1.1s
KMBO Kilima Mbogo 81.84 96 eP P 01 15 19.2 +1.4
comp=Z,3.6nm,1.1s
NVS Novosibirsk 83.69 28 eP P 01 15 26.5 +0.1
NVS pmax pmax
comp=Z,33nm,2.3s
KURK Kurchatov 84.49 33 eP P 01 15 29.2 -1.3
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 84.49 33 eP P 01 15 29.2 -1.3
comp=Z,3.1nm,1.0s
KURBB Kurchatov Arra 84.51 33 P **P 01 15 29.0 -1.6**
comp=Z,2.6nm,1.0s,baz=311,slow=5.0,SNR=6.0
ZALV Zalesovo Beam 84.98 28 P **P 01 15 31.5 -1.4**
ZALV pmax pmax
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 84.98 28 P **P 01 15 31.5 -1.4**
comp=Z,1.8nm,0.9s,baz=319,slow=6.5,SNR=5.0
EKS2 Erkin-Say 87.17 41 eP P 01 15 44.1 -0.1
EKS2 pmax pmax
comp=Z,3.0nm,1.0s
EKS2 Erkin-Say 87.17 41 eP P 01 15 44.1 -0.1
comp=Z,3.1nm,1.0s
AAK Ala-Archa 87.59 41⇑eP P 01 15 48.8 +2.5
AAK pmax pmax
comp=Z,15nm,2.5s
AAK Ala-Archa 87.59 41 eP P 01 15 47.7 +1.4
comp=Z,6.4nm,1.4s
TKM2 Tokmak 2 88.03 40 eP P 01 15 50.1 +1.6
TKM2 pmax pmax
comp=Z,7.0nm,1.3s
TKM2 Tokmak 2 88.03 40 eP P 01 15 50.1 +1.6
comp=Z,6.8nm,1.3s
MKAR Makanchi Array 88.95 34 P **P 01 15 50.5 -1.9**
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MKAR Makanchi Array 88.95 34 P **P 01 15 50.5 -1.9**
comp=Z,1.1nm,1.0s,baz=333,slow=4.1,SNR=5.0
KSH Kashi 90.45 43 eP P 01 16 02.4 +2.7
KSH esP **sP 01 16 07.4 +1.3**
KSH ePP PP 01 19 40.6 +7.0
KSH eSKS **SKSac 01 26 30.8 -0.3**
KSH eS **S 01 26 53.1 -1.5**
KSH SS **SS 01 32 53.7 -0.2**
KSH pmax pmax
comp=Z,4.0nm,1.1s
KSH LR LR
comp=Z,34nm,4.8s
KSH LR LR
comp=Z,89nm,5.4s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KSH				LR	LR		
	comp=Z,430nm,22.0s						
TLY	**Talaya**	**93.54**	**20**	*e*P	**P**	**01 16 15.1**	**+1.4**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.5s						
WMQ	**Urumqi**	**93.73**	**34**	*e*P	**P**	**01 16 16.0**	**+1.3**
WMQ				pP	**pP**	**01 16 20.8**	**+1.4**
WMQ				sP	**sP**	**01 16 23.0**	**+1.9**
WMQ				SKS	**SKSac**	**01 26 48.2**	**-1.0**
WMQ				S	**S**	**01 27 20.5**	**-3.2**
WMQ				SS	**SS**	**01 33 41.0**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.6s						
WMQ				LR	LR		
	comp=Z,340nm,21.2s						
WMQ				LR	LR		
	comp=Z,240nm,22.2s						
WMQ				LR	LR		
	comp=Z,380nm,22.0s						
HHC	**Hu-ho-hao-te**	**105.67**	**20**	Pdif	**Pdif**	**01 17 05.4**	**-3.1**
HHC				LR	LR		
	comp=Z,340nm,19.7s						
HHC				LR	LR		
	comp=Z,300nm,19.7s						
HHC				LR	LR		
	comp=Z,230nm,18.8s						
CD2	**Chengdu**	**111.62**	**31**	PKP	**PKiKP**	**01 21 33.6**	**+0.8**
KMI	**Kunming**	**116.02**	**35**	PKP	**PKPdf**	**01 21 42.1**	**+0.5**
KMI					sPKP	01 21 46.8	
KMI				PP	**PP**	**01 22 48.0**	**+3.1**
KMI				LR	LR		
	comp=Z,160nm,29.1s						
GYA	**Guiyang**	**116.74**	**31**	*e*Pdif	**Pdif**	**01 17 57.8**	**-0.2**
GYA				PKP	**PKPdf**	**01 21 42.6**	**-0.2**
GYA				PP	**PP**	**01 22 52.0**	**+2.4**

ISCJB ***13*** *01:24:10.8±0.9, 29°.6N±0°.2×42°.7W±0°.2, h10km, mb3.8/7, Error ellipse: s-maj=24.5km s-min=20.9km az=8.2*
IDC ***13*** *01:24:11.1±1.0, 29°.52N×42°.74W, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/34, mbtmp3.7/7, Error ellipse: s-maj=28.3km s-min=23.9km az=7.0*
ISC 13 01:24:12.6±1.0, 29°.5N±0°.2×42°.7W±0°.2, h10km, n13, σ1s16/7, mb3.9/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TORD	**Torodi Ar. Bea**	**44.18**	**102**	P	**P**	**01 32 22.4**	**+0.4**
	0.8nm,1.1s,baz=308,slow=7.1,SNR=2.9						
H10N2	**ASCENSION HYDR**	**46.02**	**139**	T	T	02 21 39.6	
	baz=325						
H10N3	**ASCENSION HYDR**	**46.02**	**139**	T	T	02 21 40.2	
	baz=325						
H10N1	**ASCENSION HYDR**	**46.03**	**139**	T	T	02 21 39.6	
	baz=325						
H10S1	**ASCENSION HYDR**	**46.84**	**140**	T	T	02 22 41.8	
	baz=326						
H10S3	**ASCENSION HYDR**	**46.84**	**140**	T	T	02 22 43.5	
	baz=326						
H10S2	**ASCENSION HYDR**	**46.85**	**140**	T	T	02 22 42.9	
	baz=326						
LPAZ	**La Paz**	**51.71**	**212**	P	**P**	**01 33 20.8**	**-0.1**
	0.9nm,0.6s,baz=357,slow=7.1,SNR=4.1						
PDAR	**Pinedale Array**	**54.25**	**303**	P	**P**	**01 33 38.7**	**-0.4**
	0.6nm,0.8s,baz=88,slow=8.2,SNR=4.7						
FINES	**FINESS Array B**	**54.47**	**33**	P	**P**	**01 33 39.8**	**-0.2**
	2.9nm,1.0s,baz=359,slow=6.0,SNR=3.3						
YKA	**Yellowknife Ar**	**55.94**	**328**	P	**P**	**01 33 52.5**	**+1.8**
	0.6nm,1.0s,baz=90,slow=7.3,SNR=6.1						
BRTR	**Keskin Array B**	**61.94**	**58**	P	**P**	**01 34 32.6**	**-0.3**
	0.7nm,0.8s,baz=258,slow=6.6,SNR=4.5						
INK	**Inuvik**	**63.22**	**335**	P	**P**	**01 34 39.4**	**-1.3**
	1.4nm,1.0s,baz=58,slow=5.4,SNR=4.3						

IDC ***13*** *01:52:22.8±2.2, 37°.44N×142°.28E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.3/27, mbtmp3.5/5, ML3.0/2, MS2.1/1, Ms1 2.1/1, ms1mx2.0/28, Error ellipse: s-maj=42.5km s-min=33.0km az=51.0*
JMA ***13*** *01:52:28.3±0.1, 37°.47N×141°.85E, h35km±3km, M3.5*
ISC 13 01:52:27.0±2.2, 37°.50N±0°.07×141°.86E±0°.10, h11km±10km, n22, σ0s92/25, mb3.5/3, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JFK	**Kawauchi**	**0.79**	**260**	⇓P	**Pg**	**01 52 43.0**	**+0.7**
JFK				S	**Sg**	**01 52 52.9**	**+0.2**
JMM	**Marumori**	**0.92**	**294**	⇓P	**Pb**	**01 52 45.2**	**+0.3**
JMM				S	**Sb**	**01 52 57.1**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.93**	**245**	⇓P	**Pg**	**01 52 44.6**	**-0.4**
ONAJ				S	**Sg**	**01 52 56.1**	**-1.0**
JIO	**Ouri**	**1.03**	**337**	P	**Pb**	**01 52 46.9**	**0.0**
JIO				S	**Sb**	**01 52 59.7**	**-0.7**
JFT	**Otama**	**1.21**	**271**	⇓P	**Pn**	**01 52 49.9**	**0.0**
JFT				*e*S	**Sb**	**01 53 05.1**	**-0.4**
JOU	**Okura**	**1.27**	**313**	P	**Pb**	**01 52 51.3**	**+0.2**
JOU				*e*S	**Sb**	**01 53 07.4**	**-0.1**
JMK	**Ichinoseki**	**1.53**	**341**	P	**Pn**	**01 52 54.8**	**+0.5**
JMK				*e*S	**Sn**	**01 53 13.5**	**-0.7**
JYS	**Shirataka**	**1.59**	**297**	*e*P	**Pn**	**01 53 15.9**	**+0.3**
JFY	**Yanaizu**	**1.71**	**267**	P	**Pn**	**01 52 57.1**	**+0.3**
JFY				S	**Sn**	**01 53 17.8**	**-1.0**
JYK	**Kaneyama**	**1.84**	**321**	P	**Pn**	**01 52 59.4**	**+0.9**
JYK				*e*S	**Sn**	**01 53 21.3**	**-0.5**
MJAR	**Matsushiro Arr**	**3.07**	**253**	Pn	**Pn**	**01 53 15.8**	**+0.3**
	2.1nm,0.3s,baz=79,slow=15,SNR=16						
MJAR				Sn	**Sb**	**01 53 57.3**	**-1.9**
	1.9nm,0.3s,baz=124,slow=14,SNR=5.9						
MJAR				LR	LR	01 54 32.8	
	comp=Z,28nm,21.7s,baz=40,slow=39						
MAT	**Matsushiro**	**3.07**	**253**	P	**Pn**	**01 53 16.6**	**+1.1**
MAT				*e*S	**Sn**	**01 53 54.9**	**+2.6**
KSRS	**Korea Array**	**11.07**	**274**	Pn	Pn	01 55 09.7	+4.4
	0.1nm,0.3s,baz=86,slow=14,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.09**	**122**	T	T	02 27 46.7	
	baz=317,slow=76,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**28.10**	**122**	T	T	02 27 46.0	
	baz=317,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.11**	**122**	T	T	02 27 46.4	
	baz=317,slow=76,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**28.82**	**124**	T	T	02 28 41.2	
	baz=320,slow=76,SNR=7.9						
H11S3	**WAKE ISLAND Hy**	**28.83**	**124**	T	T	02 28 42.1	
	baz=320,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**28.84**	**124**	T	T	02 28 43.2	
	baz=320,slow=76,SNR=7.1						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**02 00 36.0**	**+0.2**
	0.2nm,0.5s,baz=81,slow=9.2,SNR=3.4						
KURBB	**Kurchatov Arra**	**45.99**	**308**	P	**P**	**02 00 49.4**	**-0.7**
	0.6nm,0.4s,baz=82,slow=7.9,SNR=6.3						
WRA	**Warramunga Arr**	**57.58**	**188**	P	P	02 02 14.4	-2.5
	0.6nm,1.1s,baz=7.0,slow=7.5,SNR=4.6						

NEIC 13 01:56:27.7, 54°.79N×156°.82W, h42km, ML3.5(AEIC), After AEIC., South of Alaska

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CHGN	**Chignik**	**1.77**	**330**	P	Pn	01 56 55.3	-0.5
SDPT	**Sand Point**	**2.17**	**286**	P	Pn	01 57 01.0	-0.4
SDPT				S	Sn	01 57 26.3	-0.7
PLK4	**Peulik 4**	**2.86**	**5**	P	Pn	01 57 11.7	+0.8
PS4A	**Pavlof South-4**	**2.95**	**283**	P	Pn	01 57 11.3	-0.7
PS4A				S	Sn	01 57 45.5	-0.6
HAG	**Hague Volcano**	**2.97**	**282**	P	Pn	01 57 12.1	-0.3
HAG				S	Sn	01 57 47.0	+0.2
OHAK	**Old Harbor**	**3.15**	**38**	P	Pn	01 57 13.8	-0.9
DTNA	**Dutton South F**	**3.15**	**279**	P	Pn	01 57 14.3	-0.5
DTNA				S	Sn	01 57 49.5	-1.6
DT1	**Dutton Round H**	**3.16**	**278**	P	Pn	01 57 14.4	-0.5
KABR	**Katmai Barrier**	**3.51**	**16**	P	Pn	01 57 19.5	-0.3
KDAK	**Kodiak Island**	**3.82**	**36**	P	Pn	01 57 23.0	-0.9
KDAK				S	Sn	01 58 08.5	+0.9
SSLN	**Shishaldin Nor**	**4.15**	**273**	P	Pn	01 57 28.9	+0.3
SSLW	**Shishaldin Wes**	**4.23**	**273**	P	Pn	01 57 29.7	0.0
WESN	**West Dahl Nort**	**4.51**	**270**	P	Pn	01 57 33.6	+0.1
WESE	**West Dahl East**	**4.52**	**269**	P	Pn	01 57 34.0	+0.2
WESE				S	Sn	01 58 24.1	-1.0
AKSA	**Akutan Strait**	**5.22**	**266**	P	Pn	01 57 43.1	0.0
AKSA				S	Sn	01 58 40.1	-1.9
UNV	**Unalaska Valle**	**5.74**	**265**	P	Pn	01 57 49.4	-0.9
UNV				S	Sn	01 58 54.3	-0.6
MTBL	**Makushin Table**	**5.82**	**266**	P	Pn	01 57 51.0	-0.5
MREP	**Makushin Rep't**	**5.89**	**264**	P	Pn	01 57 52.4	-0.1

IDC 13 02:06:56.1±35.0, 22°.43S×67°.91E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/25, mbtmp3.5/3, Error ellipse: s-maj=1159.0km s-min=43.8km az=54.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ASAR	**Alice Springs**	**60.23**	**105**	P	P	02 17 06.5	0.0
	0.1nm,0.5s,baz=253,slow=6.4,SNR=4.2						
WRA	**Warramunga Arr**	**61.53**	**101**	P	P	02 17 15.3	-0.1
	0.5nm,0.9s,baz=256,slow=9.5,SNR=3.1						
MKAR	**Makanchi Array**	**70.11**	**10**	P	P	02 18 10.1	0.0
	0.4nm,0.8s,baz=190,slow=6.7,SNR=5.0						

JMA 13 02:11:34.5, 28°.51N×128°.95E, h16km±1km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JAMN	**Amaminishikomi**	**0.33**	**143**	P	Pg	02 11 41.4	0.0
JAMN				S	Sg	02 11 46.1	0.0
JAM	**Amami Oshima**	**0.58**	**100**	P	Pg	02 11 45.9	-0.2
JAM				*e*S	Sg	02 11 53.5	-0.4
JTAJ	**Takarajima**	**0.68**	**19**	P	Pg	02 11 47.4	-0.4
JTAJ				*e*S	Sg	02 11 56.3	-0.5
JTK	**Tokunoshima**	**0.72**	**180**	P	Pg	02 11 48.1	-0.5
JTK				*e*S	Sg	02 11 57.7	-0.5
JOKE	**Okinoerabujima**	**1.19**	**196**	P	Pn	02 11 56.2	-0.4
JOKE				*e*S	Sb	02 12 11.7	-0.3
JNN	**Nakanoshima**	**1.55**	**31**	P	Pn	02 12 01.5	0.0
JNN				*e*S	Sn	02 12 21.0	-0.4
JIH	**Iheya**	**1.71**	**211**	P	Pn	02 12 04.0	+0.4
JIH				S	Sn	02 12 23.8	-1.3
JOW	**Kunigami**	**1.78**	**200**	P	Pn	02 12 04.9	+0.3
JOW				*e*S	Sn	02 12 26.1	-0.7
JYAK	**Yakushimahirau**	**2.19**	**38**	P	Pn	02 12 10.4	+0.1
JYAK				*e*S	Sn	02 12 35.7	-1.5
JTN	**Tanegashima 3**	**2.77**	**39**	P	Pn	02 12 18.7	+0.4
JTN				*e*S	Sn	02 12 50.5	-1.0
JKE	**Kume jima 2**	**2.90**	**222**	P	Pn	02 12 21.3	+1.2
JKE				*e*S	Sn	02 12 55.7	+1.0

IDC 13 02:23:05.9±9.7, 16°.43S×179°.69W, h474km±112km, mb2.9/5, mb1 3.3/5, mb1mx3.0/19, mbtmp3.7/5, Error ellipse: s-maj=136.6km s-min=34.2km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ASAR	**Alice Springs**	**44.04**	**253**	P	P	02 30 30.7	-0.2
	0.3nm,0.4s,baz=85,slow=8.3,SNR=10						
NVAR	**Mina Array Bea**	**79.22**	**45**	P	P	02 34 21.9	+0.4
	0.3nm,0.6s,baz=230,slow=7.0,SNR=3.4						
ILAR	**Eielson Array**	**84.73**	**13**	P	P	02 34 48.4	-0.3
	0.4nm,0.7s,baz=224,slow=5.2,SNR=15						
PDAR	**Pinedale Array**	**87.13**	**44**	P	P	02 35 01.0	-0.1
	0.4nm,0.5s,baz=225,slow=3.6,SNR=3.9						
YKA	**Yellowknife Ar**	**93.51**	**25**	P	P	02 35 29.6	-0.3
	0.2nm,0.5s,baz=240,slow=4.3,SNR=6.4						
ARCES	**ARCESS Array B**	**124.65**	**350**	PKP	PKPdf	02 41 09.4	-0.9
	3.0nm,0.8s,baz=8.5,slow=1.8,SNR=5.5						
GERES	**GERESS Array B**	**145.87**	**344**	PKPbc	PKPbc	02 41 51.5	-0.3
	0.2nm,0.4s,baz=15,slow=4.1,SNR=2.9						

MEX 13 02:23:54.9±0.5, 18°.39N×100°.28W, h56km±4km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ARIG	**Puente Sto Nin**	**0.12**	**212**	*i* P	Pn	02 24 02.0	-1.6
ARIG				*i* S	Sn	02 24 08.0	-1.7
PLIG	**Platanillo**	**0.74**	**89**	*i* P	Pn	02 24 07.8	-1.7
PLIG				*i* S	Sn	02 24 18.1	-2.0
MEIG	**Mezcala**	**0.78**	**126**	*i* P	Pn	02 24 08.6	-1.4
MEIG				*i* S	Sn	02 24 19.4	-1.7
MAVM	**Malinalco, Edo**	**0.94**	**52**	*e*P	Pn	02 24 10.3	-1.9
MAVM				*i* S	Sn	02 24 22.8	-2.2
TOVM	**TOLUCA**	**1.06**	**32**	*e*P	Pn	02 24 12.5	-1.5
TOVM				*i* S	Sn	02 24 26.1	-2.1
YAIG	**Yautepec**	**1.24**	**67**	*e*P	Pn	02 24 14.3	-1.9
YAIG				*i* S	Sn	02 24 29.9	-2.3
MZVM		**1.27**	**51**	*e*P	Pn	02 24 15.8	-0.7
MZVM				*e*S	Sn	02 24 31.3	-1.3
CAIG	**El Cayaco**	**1.33**	**180**	*e*P	Pn	02 24 15.8	-1.4
CAIG				*e*S	Sn	02 24 31.3	-2.7
ZIIG	**Zihuatanejo**	**1.37**	**236**	*e*P	Pn	02 24 16.4	-1.3
ZIIG				*e*S	Sn	02 24 33.3	-1.6
AZVM	**Cuida Lopez Ma**	**1.52**	**38**	*i* P	Pn	02 24 18.0	-2.2
AZVM				*i* S	Sn	02 24 37.3	-1.9
TLIG	**Tlapa**	**1.82**	**116**	*e*P	Pn	02 24 23.4	-0.7
TLIG				*e*S	Sn	02 24 44.3	-1.9

PRU 13 02:29:13.3, 50°.38N×18°.82E, h0km, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CHZP	**Chorzow**	**0.14**	**129**	*e*Pg	Pg	02 29 15.5	-0.5
CHZP				*e*Sg	Sg	02 29 16.9	-1.0
OJC	**Ojcow**	**0.65**	**104**	*e*Pg	Pg	02 29 26.5	+0.7
OJC				*e*Sg	Sg	02 29 33.9	-0.3
OKC	**Ostrava-Krasne**	**0.69**	**219**	*e*SG	Sg	02 29 36.0	+0.3
	3.7nm,0.6s						
KRLC	**Kraliky**	**1.34**	**258**	*e*SG	Sg	02 29 56.7	0.0
DPC	**Dobruska-Polom**	**1.60**	**270**	*e*PG	Pn	02 29 42.6	-0.3
DPC				*e*SG	Sb	02 30 04.5	-0.1

MEX 13 02:30:07.1±0.3, 15°.91N×96°.89W, h16km±283km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PANG	**Puerto Angel**	**0.47**	**121**	*e*P	Pg	02 30 15.1	-1.4
PANG				*e*S	Sg	02 30 21.3	-1.5
HUIG	**Huatulco**	**0.76**	**100**	*e*P	Pb	02 30 19.4	-2.6
HUIG				*i* S	Sb	02 30 28.7	-3.4
VHO	**Vista Hermosa**	**1.17**	**7**	*e*P	Pn	02 30 25.3	-3.8
VHO				*i* S	Sb	02 30 39.4	-4.8
OXX	**Oaxaca**	**1.18**	**8**	*e*P	Pn	02 30 21.5	-7.7
OXX				*e*S	Sb	02 30 36.0	-8.6
PNIG	**Pinotepa**	**1.28**	**292**	*e*P	Pn	02 30 26.9	-3.5
PNIG				*e*S	Sb	02 30 42.0	-5.3
CMIG	**Matias Romero**	**2.25**	**58**	*e*P	Pn	02 30 40.2	-3.6
CMIG				*e*S	Sn	02 31 07.3	-3.9
TLIG	**Tlapa**	**2.30**	**316**	*e*P	Pn	02 30 41.9	-2.6
TLIG				*e*S	Sn	02 31 08.7	-3.9
PCIG		**3.54**	**93**	*i* P	Pn	02 30 58.2	-3.1

BJI ***13*** *02:34:26.5, 21°.74S×174°.27W, h11km, mB6.5/69, mb6.1/66, Ms6.3/87, Ms7 6.0/78*
ISCJB ***13*** *02:34:27.8±0.1, 21°.95S±0°.03×174°.79W±0°.02, h10km, mb5.9/306, MS6.2/242, Error ellipse: s-maj=4.8km s-min=2.3km az=155.2*
IDC ***13*** *02:34:27.1±0.3, 21°.97S×174°.77W, h0km, mb5.5/38, mb1 5.5/39, mb1mx5.5/39, mbtmp5.4/39, ML4.2/2, MS6.0/25, Ms1 6.0/25, ms1mx5.9/32, Error ellipse: s-maj=11.1km s-min=9.5km az=128.0*
NEIC ***13*** *02:34:28.9±0.1, 21°.90S×174°.77W, h11km, mb6.0/191, ME6.5, MS6.2/163, MW5.9, MW6.1, MW6.1, Error ellipse: s-maj=4.9km s-min=2.9km az=141.0, Moment Tensor Solution. s69 Moment tensor: Scale 10^18 Nm; Mrr1.05; Mθθ-0.40; Mφφ-0.64; Mrθ0.25; Mθφ-1.07; Mφr0.68; Best double couple: M0 1.60000×10^18 NP1:φs243.00000°, δ35.00000°, λ123.00000°. NP2:φs25.00000°, δ61.00000°, λ69.00000°. Principal axes: T 1.3000, Plg67.0000°, Azm255.0000°; N 0.4700, Plg18.0000°, Azm35.0000°; P -1.7600, Plg13.0000°, Azm130.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt at Nuku'alofa.
NEIC ***13*** *02:34:28.0±0.0, 21°.88S×174°.78W, h15km Best double couple: NP1:φs9.00000°, δ68.00000°, λ71.00000°. NP2: φs232.00000°, δ28.00000°, λ129.00000°. Principal axes: T 1.4700, Plg61.0000°, Azm250.0000°; N 0.1800, Plg17.0000°, Azm16.0000°; P -1.6500, Plg21.0000°, Azm113.0000°;*
GCMT ***13*** *02:34:28.9±0.1, 22°.19S×174°.06W, h20km, MW6.0/129, Moment Tensor Solution. s118,c259; s129,c403; Duration: 2s5 Moment tensor: Scale 10^18 Nm; Mrr0.81±.01; Mθθ-0.20±.01; Mφφ-0.61±.01; Mrθ0.46±.02; Mθφ-0.50±.01; Mφr0.96±.02; Best double couple: M0 1.38500×10^18 NP1:φs27.00000°, δ70.00000°, λ85.00000°. NP2:φs222.00000°, δ20.00000°, λ104.00000°. Principal axes: T 1.3260, Plg64.0000°, Azm289.0000°; N 0.1190, Plg5.0000°, Azm29.0000°; P -1.4440, Plg25.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***13*** *02:34:33.4±1.0, 21°.31S×174°.79W, h33km, mb6.1/64, MS6.1/68 Error ellipse: s-maj=10.5km s-min=7.6km az=85.3*
NEIC ***13*** *02:34:47.5±0.0, 21°.91S×174°.23W, h10km, Moment Tensor Solution. s141 Moment tensor: Scale 10^17 Nm; Mrr6.30; Mθθ-1.38; Mφφ-4.92; Mrθ3.80; Mθφ-3.60; Mφr2.81; Best double couple: M0 8.20000×10^17 NP1:φs198.00000°, δ30.00000°, λ66.00000°. NP2:φs45.00000°, δ63.00000°, λ103.00000°. Principal axes: T 8.0000, Plg69.0000°, Azm341.0000°; N 0.5000, Plg11.0000°, Azm218.0000°; P -8.5000, Plg16.0000°, Azm125.0000°;*
ISC 13 02:34:29.4±0.3, 21°.96S±0°.04×174°.75W±0°.04, h16km±1km, h16km:pP-P, n1718, σ1s47/1767, mb6.0/304, MS6.2/250, 284C-247D, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RAO	**Raoul Island**	**7.81**	**201**	Pn	**Pn**	**02 36 21.0**	**-1.2**
	471nm,0.3s,baz=45,slow=11,SNR=14						
RAO				Sn	**Sn**	**02 37 46.3**	**-4.0**
	293nm,0.3s,baz=287,slow=19,SNR=12						
RAO	**Raoul Island**	**7.81**	**201**	*e*Pn	**Pn**	**02 36 20.9**	**-1.4**
	1µm,0.3s						
RAO				*e*Sn	**Sn**	**02 37 46.4**	**-3.9**
MSVF	**Nonsavu**	**7.97**	**301**	Pn	Pn	02 36 32.9	+8.3
	11µm,1.0s						
MSVF	**Nonsavu**	**7.97**	**301**	*e*Pn	Pn	02 36 32.1	+7.5
AFI	**Afiamalu**	**8.49**	**20**	*e*P	Pn	02 36 25.0	-6.8
AFI				*e*		02 37 56.1	
AFI				pmax	pmax		
	comp=Z,1µm,1.1s						
AFI	**Afiamalu**	**8.49**	**20**	Pn	Pn	02 36 25.2	-6.5
	comp=Z,59nm,0.3s,baz=207,slow=11,SNR=15						
AFI				Sn	Sn	02 37 54.3	-13
	comp=Z,68nm,0.3s,baz=171,slow=20,SNR=4.0						
AFI				LR	LR	02 39 41.5	
	comp=Z,73µm,19.0s,baz=195,slow=37						
AFI	**Afiamalu**	**8.49**	**20**	*e*Pn	Pn	02 36 25.0	-6.8
	comp=Z,1µm,1.1s						
AFI				*e*Sn	Sn	02 37 56.1	-11
RAR	**Rarotonga**	**13.96**	**90**	Pn	Pn	02 37 36.4	-10
	comp=Z,46nm,0.3s,baz=270,slow=8.0,SNR=46						
RAR				Sn	Sn	02 39 54.4	-27
	comp=Z,6.9nm,0.3s,baz=90,slow=16,SNR=4.4						
RAR				LR	LR	02 42 58.9	
	comp=Z,57µm,18.2s,baz=270,slow=37						
OUZ	**Omahuta**	**16.70**	**215**	*e*Pn	**P**	**02 38 24.5**	**-0.3**
	comp=Z,1µm,2.3s						
DZM	**Mont Dzumac**	**17.44**	**266**	*e*P	**P**	**02 38 35.8**	**+2.5**
	comp=Z,649nm,1.2s						
DZM				*e*LQ	LQ	02 41 58.8	
	comp=Z,15µm,27.1s						
DZM				*e*LR	LR	02 42 45.2	
	comp=Z,74µm,21.5s						
DZM	**Mont Dzumac**	**17.44**	**266**	P	**Pn**	**02 38 31.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=106,slow=15,SNR=2.2						
DZM				S	S	02 42 02.0	+7.8
	baz=143,slow=20,SNR=1.9						
DZM	**Mont Dzumac**	**17.44**	**266**	*e*Pn	**P**	**02 38 34.2**	**+0.9**
	comp=Z,342nm,1.2s						
DZM				S	S	02 42 02.0	+7.8
URZ	**Urewera**	**17.70**	**202**	P	**Pn**	**02 38 35.0**	**-0.1**
	comp=Z,4.8nm,0.3s,baz=26,slow=5.0,SNR=23						
URZ				S	Sn	02 41 35.5	-16
	comp=Z,1.4nm,0.3s,baz=287,slow=19,SNR=6.4						
URZ				LR	LR	02 44 25.5	
	comp=Z,49µm,18.1s,baz=4.5,slow=34						
URZ	**Urewera**	**17.70**	**202**	*e*P	**P**	**02 38 36.7**	**+0.7**
	comp=Z,182nm,1.1s						
URZ				S	Sn	02 41 35.5	-16
BKZ	**Black Stump Fm**	**18.72**	**202**	*e*Pn	**Pn**	**02 38 49.6**	**+1.9**
	comp=Z,86nm,0.9s						
BFZ	**Birch Farm**	**20.17**	**200**	*e*P	Pn	02 39 05.7	+0.7
	comp=Z,572nm,1.1s						
SNZO	**South Karori**	**21.25**	**202**	*e*P	**P**	**02 39 15.7**	**+1.0**
	comp=Z,183nm,1.0s						
SNZO				LR	LR		
	comp=Z,40µm,20.0s						
KHZ	**Kahutara**	**22.64**	**203**	*e*P	**P**	**02 39 29.9**	**+0.3**
	comp=Z,206nm,1.0s						
TBI	**Tubuai**	**23.38**	**98**	*e*P	**P**	**02 39 33.2**	**-4.2**
	comp=Z,670nm,1.5s						
PAE	**Paea**	**24.05**	**84**	*e*P	P	02 39 39.0	-5.0
	comp=Z,44nm,1.0s						
PAE	**Paea**	**24.05**	**84**	*e*T	T	03 04 00.4	
	comp=Z,41nm,0.3s						
PPT2	**Papeete2**	**24.08**	**84**	*e*P	**P**	**02 39 39.6**	**-4.7**
	comp=Z,484nm,1.3s						
PPT2				*e*S	S	02 43 49.5	-12
	comp=Z,7µm,24.0s						
PPT2				*e*LQ	LQ	02 44 22.5	
	comp=Z,31µm,22.5s						
PPT2				*e*LR	LR	02 45 28.0	
	comp=Z,39µm,21.5s,baz=255						
PPT2	**Papeete2**	**24.08**	**84**	*e*T	T	03 04 02.9	
	comp=Z,35nm,0.4s						
PPT	**Papeete**	**24.08**	**84**	P	**P**	**02 39 41.4**	**-2.9**
	comp=Z,218nm,0.8s,baz=314,slow=2.6,SNR=11						
PPT				LR	LR	02 47 30.5	
	comp=Z,34µm,19.1s,baz=262,slow=32						
TIAR	**Tiarei**	**24.30**	**84**	*e*P	P	02 39 41.4	-4.9
	comp=Z,156nm,1.2s						
TIAR	**Tiarei**	**24.30**	**84**	*e*T	T	03 04 18.9	
	comp=Z,9.2nm,0.4s						
TVO	**Taravao**	**24.33**	**85**	*e*P	**P**	**02 39 42.3**	**-4.3**
	comp=Z,218nm,0.8s						
TVO	**Taravao**	**24.33**	**85**	*e*T	T	03 04 21.3	
	comp=Z,11nm,0.4s						
RPZ	**Rata Peaks**	**24.69**	**205**	*e*P	**P**	**02 39 48.6**	**-1.0**
	comp=Z,1µm,2.1s						
LHI	**Lord Howe Isla**	**25.20**	**242**	P	**P**	**02 39 56.8**	**+2.5**
	baz=25,SNR=4.2						
MEH	**Mehetia**	**25.40**	**86**	*e*P	**P**	**02 39 52.6**	**-3.7**
	comp=Z,207nm,1.4s						
MEH	**Mehetia**	**25.40**	**86**	*e*T	T	03 05 41.9	
	comp=Z,45nm,0.3s						
ODZ	**Otahua Downs**	**25.97**	**204**	*e*P	**P**	**02 40 01.4**	**+0.3**
	comp=Z,147nm,1.1s						
TARA	**Tarawa**	**26.11**	**331**	PFAKE		02 40 10.0	+7.4
TARA				LR	LR		
	comp=Z,61µm,19.0s						
PMOR	**Pomariorio Ree**	**26.37**	**79**	*e*P	**P**	**02 40 01.3**	**-3.7**
	comp=Z,397nm,1.5s						
VAH	**Vaihoa**	**26.54**	**80**	*e*P	**P**	**02 40 02.9**	**-3.7**
	comp=Z,218nm,1.4s						
HNR	**Honiara**	**27.30**	**293**	LR	LR	02 49 03.9	
	comp=Z,27µm,21.9s,baz=142,slow=32						
WHZ	**Wether Hill Ro**	**27.74**	**206**	*e*P	**P**	**02 40 17.2**	**+0.1**
	comp=Z,290nm,1.0s						
DCZ	**Deep Cove**	**27.75**	**208**	*e*P	**P**	**02 40 17.8**	**+0.7**
XMAS	**Kiritimati**	**29.24**	**37**	PFAKE		02 40 40.0	+9.3
XMAS				LR	LR		
	comp=Z,56µm,19.0s						
ARMA	**Armidale**	**31.23**	**247**	*e*P	**P**	**02 40 49.9**	**+1.5**
	comp=Z,37nm,0.8s						
ARMA	**Armidale**	**31.23**	**247**	P	**P**	**02 40 49.5**	**+1.1**
	baz=31,SNR=13						
EIDS	**Eidsvold**	**31.43**	**257**	*e*P	**P**	**02 40 50.4**	**+0.3**
EIDS	**Eidsvold**	**31.43**	**257**	P	**P**	**02 40 50.5**	**+0.5**
	baz=32,SNR=10						
MGCD	**Mangrove Creek**	**32.13**	**242**	P	**P**	**02 40 57.6**	**+1.4**
	baz=32,SNR=11						
RMQ	**Roma**	**33.51**	**255**	P	**P**	**02 41 09.5**	**+1.2**
	baz=34,SNR=44						
CNB	**Canberra Magne**	**34.00**	**239**	P	**P**	**02 41 14.1**	**+1.6**
	baz=34,SNR=10.0						

CAN Canberra 34.29 239 eP P 02 41 17.1 +2.1
CAN pmax pmax
comp=Z,103nm,1.3s
CAN MLR MLR
comp=Z,43µm,19.0s
CAN Canberra 34.29 239 eP P 02 41 17.1 +2.1
comp=Z,103nm,1.3s
CAN LR LR
comp=Z,43µm,19.0s
YNG Young 34.56 241 P P 02 41 18.6 +1.2
baz=35,SNR=6.8
MILA Mila 34.60 236 P P 02 41 19.0 +1.3
baz=35,SNR=8.5
TAOE Nuku Hiva Isla 35.71 74 eT T 03 18 35.2
comp=Z,169nm,0.3s
CTA Charters Tower 36.38 266 P P 02 41 32.0 -1.1
comp=Z,36nm,0.7s,baz=94,slow=10,SNR=41
CTA S S 02 47 04.8 -9.3
comp=Z,1.7nm,0.7s,baz=72,slow=19,SNR=1.9
CTA LR LR 02 54 34.4
comp=Z,13µm,18.6s,baz=103,slow=33
CTAO Charters Tower 36.38 266 eP P 02 41 33.2 +0.1
CTAO eS S 02 47 09.2 -4.9
CTAO pmax pmax
comp=Z,77nm,0.8s
CTAO MLR MLR
comp=Z,11µm,19.0s
CTAO Charters Tower 36.38 266 eP P 02 41 33.2 +0.1
comp=Z,77nm,0.8s
CTAO eS S 02 47 09.2 -4.9
CTAO LR LR
comp=Z,11µm,19.0s
CMSA Cobar Meteorol 36.42 246 ⇓P P 02 41 33.2 -0.2
baz=37,SNR=11
RKT Rikitea 36.68 100 eP P 02 41 32.6 -3.1
comp=Z,51nm,1.1s
RKT eS S 02 47 12.0 -6.6
comp=Z,3µm,25.0s
RKT eLQ LQ 02 49 47.6
comp=Z,5µm,24.5s
RKT eLR LR 02 51 17.6
comp=Z,27µm,27.2s,baz=264
RKT Rikitea 36.68 100 eT T 03 19 47.8
comp=Z,9.4nm,0.3s
QLP Quilpie 37.56 255 P P 02 41 42.9 -0.2
baz=38,SNR=57
MOO Moorlands 37.72 228 P P 02 41 46.3 +2.0
baz=38,SNR=9.7
TAU Tasmania Unive 37.80 227 eP P 02 41 45.7 +0.8
TAU pmax pmax
comp=Z,152nm,1.4s
TAU MLR MLR
comp=Z,24µm,19.0s
TAU Tasmania Unive 37.80 227 eP P 02 41 45.7 +0.8
comp=Z,152nm,1.4s
TAU LR LR
comp=Z,24µm,19.0s
MTSU Mount Surprise 38.56 268 P P 02 41 52.8 +1.1
baz=39,SNR=18
PMG Port Moresby 38.62 283 eP P 02 41 51.7 -0.4
PMG S S 02 47 45.5 -2.6
PMG pmax pmax
comp=Z,161nm,1.0s
PMG MLR MLR
comp=Z,60µm,19.0s
PMG Port Moresby 38.62 283 P P 02 41 51.3 -0.9
comp=Z,66nm,0.9s,baz=92,slow=8.3,SNR=40
PMG S S 02 47 45.5 -2.6
comp=Z,3.8nm,0.3s,baz=144,slow=18,SNR=5.7
PMG Port Moresby 38.62 283 eP P 02 41 51.7 -0.4
comp=Z,161nm,1.0s
PMG S S 02 47 45.5 -2.6
PMG LR LR
comp=Z,60µm,19.0s
PMG Port Moresby 38.62 283 P P 02 41 52.9 +0.8
baz=39,SNR=5.7
STKA Stephens Creek 39.93 246 P P 02 42 02.5 -0.5
comp=Z,24nm,0.9s,baz=88,slow=10.0,SNR=29
STKA PcP PcP 02 44 09.2 +0.9
comp=Z,17nm,0.8s,baz=60,slow=4.8,SNR=3.7
STKA S S 02 47 57.2 -10
comp=Z,2.4nm,0.9s,baz=230,slow=17,SNR=2.2
STKA LR LR 02 58 09.7
comp=Z,48µm,18.4s,baz=77,slow=36
STKA Stephens Creek 39.93 246 P P 02 42 03.1 +0.2
baz=40,SNR=26
ARPS Mount Arapiles 40.26 239 P P 02 42 05.9 +0.3
baz=40,SNR=16
COEN Coen 40.70 274 eP P 02 42 09.2 -0.3
comp=Z,2µm,1.6s
COEN eS S 02 48 06.4 -13
COEN Coen 40.70 274 P P 02 42 09.8 +0.3
baz=41,SNR=36
PTCN Pitcairn Islan 40.93 103 PFAKE 02 42 20.0 +8.7
PTCN LR LR
comp=Z,26µm,21.0s
HTT Hallett 42.27 244 P P 02 42 21.7 -0.6
baz=42,SNR=22
QIS Mount Isa 42.44 263 P P 02 42 23.4 -0.4
baz=43,SNR=10
BBOO Buckleboo 44.65 245 eP P 02 42 39.5 -1.9
BBOO eS S 02 49 08.1 -9.1
BBOO Buckleboo 44.65 245 ⇑P P 02 42 40.5 -0.9
baz=45,SNR=10
WAKE Wake Island 44.84 335 eP P 02 42 43.3 +0.4
comp=Z,685nm,1.1s
WAKE LR LR
comp=Z,43µm,20.0s
POHA Pohakuloa 45.52 26 eP P 02 42 49.2 +0.6
comp=Z,892nm,1.6s
POHA LR LR
comp=Z,14µm,20.0s
KIP Kipapa 46.10 22 eP P 02 42 53.1 +0.2
KIP pmax pmax
comp=Z,750nm,1.4s
KIP MLR MLR
comp=Z,10µm,19.0s
KIP Kipapa 46.10 22 eP P 02 42 53.1 +0.2
comp=Z,750nm,1.4s
KIP LR LR
comp=Z,10µm,19.0s
AS17 Alice Springs 47.07 258 ⇑P P 02 43 00.6 0.0
baz=47
ASAR Alice Springs 47.15 258 P P 02 43 00.5 -0.8
comp=Z,68nm,0.9s,baz=92,slow=7.7,SNR=303
ASAR PcP PcP 02 44 33.9 +0.9
comp=Z,33nm,0.9s,baz=101,slow=4.3,SNR=7.2
ASAR S S 02 49 48.0 -5.5
comp=Z,1.4nm,0.7s,baz=91,slow=15,SNR=3.9
ASAR LR LR 03 03 08.8
comp=Z,60µm,18.1s,baz=90,slow=36
ASAR PKPKP P'P'df 03 14 19.8 -3.3
comp=Z,0.4nm,0.8s,baz=302,slow=1.7,SNR=3.5
JAY Jayapura 47.37 288 P P 02 43 03.4 +0.2
comp=Z,96nm,0.3s,baz=315,slow=20,SNR=6.5
JAY S S 02 49 55.0 -1.7
comp=Z,63nm,0.3s,baz=252,slow=1.1,SNR=3.4
WRAB Tennant Creek 47.40 263 eP P 02 43 01.4 -1.9
WRAB eS S 02 49 52.6 -4.5
WRAB pmax pmax
comp=Z,104nm,1.0s
WRAB MLR MLR
comp=Z,30µm,19.0s
WRAB Tennant Creek 47.40 263 eP P 02 43 01.4 -1.9
comp=Z,104nm,1.0s
WRAB eS S 02 49 52.6 -4.5
WRAB LR LR
comp=Z,30µm,19.0s
WRA Warramunga Arr 47.41 263 P P 02 43 01.7 -1.7
comp=Z,51nm,1.2s,baz=96,slow=8.5,SNR=252
WRA PcP PcP 02 44 34.5 +0.6
comp=Z,28nm,0.8s,baz=96,slow=3.8,SNR=7.6
WRA S S 02 49 51.9 -5.3
comp=Z,4.4nm,1.0s,baz=102,slow=15,SNR=7.4
WRA LR LR 03 02 57.0
comp=Z,35µm,18.2s,baz=105,slow=36
MIDW Midway 49.94 357 PFAKE 02 43 30.0 +7.6
MIDW LR LR
comp=Z,17µm,19.0s
KDU Kakadu 51.01 271 P P 02 43 31.1 +0.1
baz=51,SNR=19
FORT Forrest 51.52 248 eP P 02 43 33.8 -0.7
comp=Z,195nm,0.6s
FORT Forrest 51.52 248 P P 02 43 34.5 -0.1
baz=52,SNR=14
WRKA Warakurna 52.00 255 ⇓P P 02 43 37.8 -0.5
baz=52,SNR=199

DRV Dumont d'Urvil 53.03 201 P P 02 43 25.0 -20
DRV S S 02 50 44.0 -30
DRV L L 02 56 00.0
DRV R R 03 00 00.0
GUMO Guam 53.07 308 eP P 02 43 45.6 -0.6
GUMO pmax pmax
comp=Z,559nm,1.4s
GUMO MLR MLR
comp=Z,11µm,19.0s
GUMO Guam 53.07 308 eP P 02 43 45.6 -0.6
comp=Z,559nm,1.4s
GUMO LR LR
comp=Z,11µm,19.0s
KNRA Kununurra 53.59 266 P P 02 43 49.6 -0.5
baz=54,SNR=45
FAKI Fak Fak 54.77 282 eP P 02 43 58.2 -0.6
comp=Z,191nm,1.3s
FAKI Fak Fak 54.77 282 P P 02 43 59.4 +0.7
baz=55,SNR=9.5
SBA Scott Base 56.65 185 eP P 02 44 13.2 +1.9
SBA pmax pmax
comp=Z,1µm,2.0s
SBA MLR MLR
comp=Z,9µm,19.0s
SBA Scott Base 56.65 185 eP P 02 44 13.2 +1.9
comp=Z,1µm,2.0s
SBA LR LR
comp=Z,9µm,19.0s
VNDA Vanda 56.76 186 P P 02 44 12.0 -0.1
comp=Z,22nm,0.9s,baz=5.2,slow=7.1,SNR=19
VNDA S S 02 52 07.0 +3.1
comp=Z,2.4nm,1.2s,baz=336,slow=10.0,SNR=1.8
PALU Palau 57.65 295 P P 02 44 20.8 +1.6
baz=58,SNR=10.0
NLAI Namlea 59.34 280 P P 02 44 31.7 +0.6
comp=Z,156nm,1.9s,comp=Z,5µm
SOEI Soe 59.57 271 eP P 02 44 34.0 +1.2
comp=Z,475nm,1.0s
SOEI eS S 02 52 43.1 +0.5
SOEI Soe 59.57 271 P P 02 44 34.8 +1.9
baz=60,SNR=6.9
LBMI Labuha 60.03 283 P P 02 44 37.3 +1.4
comp=Z,192nm,1.4s,comp=Z,5µm
KLBR Kellerberrin 60.20 245 P P 02 44 37.3 +0.5
baz=60,SNR=40
MEEK Meekatharra 60.31 251 P P 02 44 37.5 -0.2
baz=60,SNR=17
RKGY Rocky Gully 60.42 242 P P 02 44 40.1 +1.8
baz=60,SNR=16
MBWA Marble Bar 60.49 257 eP P 02 44 38.2 -0.8
comp=Z,100nm,0.9s
MBWA LR LR
comp=Z,18µm,19.0s
TNTI Ternate 60.75 284 P P 02 44 42.3 +1.5
comp=Z,697nm,1.2s,comp=Z,9µm
TNTI Ternate 60.75 284 eP P 02 44 41.5 +0.7
comp=Z,592nm,1.2s
SANI Sanana 60.83 280 P P 02 44 41.5 +0.2
comp=Z,145nm,1.8s,comp=Z,5µm
BLDU Balldu 61.24 246 P P 02 44 43.7 -0.2
baz=61,SNR=46
MMRI Maumere 61.83 272 P P 02 44 49.0 +0.9
comp=Z,378nm,1.7s,comp=Z,8µm
MMRI Maumere 61.83 272 eP P 02 44 47.8 -0.3
comp=Z,259nm,1.2s
MORW Morawa 62.08 248 P P 02 44 49.9 +0.3
baz=62,SNR=22
KMSI Cibinong 63.73 282 P P 02 45 06.0 +5.2
comp=Z,400nm,1.4s
CASY Casey 63.96 206 eP P 02 45 02.2 +0.8
comp=Z,216nm,1.4s
CASY LR LR
comp=Z,10µm,19.0s
WBSI Waikabubak, Su 64.13 270 P P 02 45 04.6 +1.1
comp=Z,244nm,0.9s,comp=Z,4µm
LUWI Luwuk 64.17 280 P P 02 45 05.7 +2.0
comp=Z,233nm,1.4s,comp=Z,5µmcomp=Z,21µm
LUWI Luwuk 64.17 280 eP P 02 45 04.6 +0.9
comp=Z,491nm,1.4s
LUWI Luwuk 64.17 280 P P 02 45 05.3 +1.6
baz=64,SNR=3.4
BKSI Bulukumba 64.97 274 P P 02 45 09.1 +0.2
comp=Z,65nm,1.9s,comp=Z,2µmcomp=Z,16µm
GIRL Giralia 65.08 254 P P 02 45 11.0 +1.5
baz=65,SNR=12
DAV Davao City (W) 65.17 289 PFAKE 02 45 20.0 +10
DAV LR LR
comp=Z,11µm,20.0s
APSI Ampana 65.25 280 P P 02 45 13.0 +2.3
comp=Z,173nm,1.9s,comp=Z,5µm
BNSI Bone 65.33 275 P P 02 45 11.7 +0.5
comp=Z,124nm,1.4s,comp=Z,3µm
KAPI Kappang 65.43 275 eP P 02 45 11.1 -0.7
comp=Z,543nm,1.4s
KAPI LR LR
comp=Z,9µm,19.0s
MRSI Marisa 65.55 281 P P 02 45 13.2 +0.6
comp=Z,140nm,0.7s,comp=Z,3µm
SPSI Sidrap Palu 65.80 276 P P 02 45 14.1 -0.2
comp=Z,58nm,1.1s,comp=Z,2µm
TTSI Tana Toraja 66.10 277 P P 02 45 17.1 +0.9
comp=Z,47nm,2.1s,comp=Z,2µmcomp=Z,8µm
QSPA South Pole Qui 68.12 180 P P 02 45 29.3 +0.9
comp=Z,81nm,0.9s,baz=46,slow=2.2,SNR=83
IGBI Denpasar 68.35 269 P P 02 45 31.4 +0.9
comp=Z,320nm,1.3s,comp=Z,5µm
SRBI Singaraja 68.54 270 P P 02 45 32.2 +0.5
comp=Z,214nm,1.1s,comp=Z,5µm
KBKI Kotabaru 69.38 275 P P 02 45 38.6 +1.7
comp=Z,146nm,1.6s,comp=Z,3µm
JAGI Jajag, Banyuwa 69.39 269 P P 02 45 36.7 -0.3
comp=Z,189nm,1.2s,comp=Z,4µm
JAGI Jajag, Banyuwa 69.39 269 eP P 02 45 36.0 -1.1
comp=Z,234nm,1.1s
JAGI eS S 02 54 39.6 -4.2
JAGI Jajag, Banyuwa 69.39 269 P P 02 45 37.2 +0.1
baz=70,SNR=8.3
ABJI Asem Bagus 69.55 270 P P 02 45 38.9 +0.9
comp=Z,150nm,1.8s,comp=Z,6µm
RCP Roxas 69.75 292⇓eP P 02 45 39.7 +0.5
KMMI Kalianget 70.06 270 P P 02 45 42.7 +1.6
comp=Z,168nm,0.8s,comp=Z,6µmcomp=Z,23µm
GMJI Gumukmas 70.12 269 P P 02 45 41.7 +0.2
comp=Z,115nm,1.0s,comp=Z,4µm
BLJI Banyuglugur 70.16 269 P P 02 45 42.5 +0.8
comp=Z,166nm,1.7s,comp=Z,5µm
BBKI Banjar Baru 70.55 274 P P 02 45 46.0 +1.9
comp=Z,372nm,1.4s,comp=Z,6µm
GRJI Gresik 71.49 270 P P 02 45 51.6 +1.8
comp=Z,264nm,0.9s,comp=Z,2µm
PWJI Pagerwojo 71.73 269 P P 02 45 51.8 +0.6
comp=Z,154nm,1.2s,comp=Z,4µm
SDKM Sandakan 72.00 284 ⇓P P 02 45 53.8 +0.9
TBJI Tambak Boyo 72.11 270 P P 02 45 55.6 +2.1
comp=Z,245nm,1.9s,comp=Z,9µm
NGJI Ngawi 72.27 269 P P 02 45 57.6 +3.1
comp=Z,217nm,1.1s,comp=Z,7µm
TGY Tagaytay City 72.51 294 P P 02 45 57.2 +1.3
comp=Z,77nm,0.3s,baz=121,slow=4.6,SNR=7.8
WOJI Wonogiri, Jawa 72.61 268 P P 02 45 57.8 +1.3
comp=Z,291nm,0.8s,comp=Z,6µm
UGM Wanagama 72.95 268 P P 02 45 59.6 +1.0
comp=Z,164nm,1.3s,comp=Z,6µm
UGM Wanagama 72.95 268 P P 02 45 58.7 0.0
baz=73,SNR=13
KKM Kota Kinabalu 73.05 284 eP P 02 45 59.5 +0.3
comp=Z,152nm,1.3s
KKM LR LR
comp=Z,4µm,20.0s
KKM Kota Kinabalu 73.05 284 P P 02 45 59.9 +0.7
baz=73,SNR=11
KKM Kota Kinabalu 73.05 284 ⇓P P 02 46 00.1 +0.9
MJAR Matsushiro Arr 73.19 322 P P 02 45 59.8 +0.3
comp=Z,52nm,0.7s,baz=155,slow=5.9,SNR=84
MJAR S SKiKP 02 55 30.6 -0.5
comp=Z,6.5nm,1.2s,baz=187,slow=9.5,SNR=1.8
MJAR LR LR 03 13 48.0
comp=Z,3µm,20.8s,baz=105,slow=32
MAJO Matsushiro 73.19 322 eP P 02 46 00.1 +0.6
MAJO pmax pmax
comp=Z,95nm,0.8s
MAJO MLR MLR
comp=Z,4µm,20.0s
MAJO Matsushiro 73.19 322 eP P 02 46 00.1 +0.6
comp=Z,96nm,0.8s
MAJO LR LR
comp=Z,4µm,20.0s
MAT Matsushiro 73.19 322 P P 02 45 58.9 -0.6

MAT S SKiKP 02 55 29.4 -1.7
SMRI Semarang 73.33 269 P P 02 46 05.5 +4.6
comp=Z,276nm,1.2s,comp=Z,7µm
SMRI Semarang 73.33 269 eP P 02 46 02.0 +1.2
JOW Kunigami 73.43 309 P P 02 46 01.6 +0.6
comp=Z,11nm,1.1s,baz=161,slow=4.4,SNR=5.7
JOW Kunigami 73.43 309 eP P 02 46 02.7 +1.6
comp=Z,129nm,1.5s
ADK Adak 73.54 359 eP P 02 46 00.1 -1.0
ADK pmax pmax
comp=Z,684nm,1.4s
ADK MLR MLR
comp=Z,8µm,21.0s
ADK Adak 73.54 359 eP P 02 46 00.1 -1.0
comp=Z,684nm,1.4s
ADK LR LR
comp=Z,8µm,21.0s
PBKI Pangkalan Bun 73.76 274 P P 02 46 07.9 +4.5
comp=Z,315nm,1.2s,comp=Z,6µm
KPJI Karang Pucung 74.63 268 P P 02 46 09.4 +1.0
comp=Z,293nm,1.1s,comp=Z,4µm
BTM Bintulu 74.73 280 ⇑P P 02 46 11.2 +2.1
CMJI Cimerak 74.92 268 P P 02 46 10.6 +0.5
comp=Z,132nm,1.3s,comp=Z,4µm
YUK Yuzh-Kuril'sk 74.93 332 i S S 02 55 43.0 -3.1
YUK pmax pmax
comp=Z,861nm,1.7s
YUK pmax pmax
comp=N,833nm,1.8s
YUK pmax pmax
comp=E,437nm,1.7s
YUK pmax pmax
comp=Z,5µm,4.3s
STKI Sintang 74.99 276 P P 02 46 12.8 +2.3
comp=Z,117nm,1.4s
SMY Shemya 75.00 353 eP P 02 46 09.9 +0.3
SMY pmax pmax
comp=Z,828nm,1.3s
SMY Shemya 75.00 353 eP P 02 46 09.8 +0.3
comp=Z,828nm,1.3s
KUR Kuril'sk 75.04 334c iP P 02 46 11.0 +1.0
KUR i PPP PPP 02 50 43.0
KUR pmax pmax
comp=Z,712nm,1.9s
KUR pmax pmax
comp=N,102nm,0.9s
KUR pmax pmax
comp=E,162nm,0.9s
KUR pmax pmax
comp=Z,4µm,3.3s
SBUM Sibu 75.23 279 ⇑P P 02 46 13.5 +1.7
FX1 Attu Island--F 75.26 352 P P 02 46 11.5 +0.4
comp=Z,76nm,0.9s,baz=151,slow=6.1,SNR=8.9
FX1 LR LR 03 17 38.0
comp=Z,7µm,18.1s,baz=178,slow=34
JNU Nakatsue 75.42 315 P P 02 46 13.4 +0.8
comp=Z,39nm,0.9s,baz=93,slow=5.8,SNR=10.0
JNU Nakatsue 75.42 315 eP P 02 46 12.9 +0.3
comp=Z,18nm,0.9s
JCJI Jatiwangi 75.55 269 P P 02 46 15.5 +1.8
comp=Z,320nm,1.5s,comp=Z,10µm
CISI Cisompet, Garu 75.59 268 P P 02 46 15.0 +0.9
comp=Z,277nm,1.3s,comp=Z,12µm
CISI Cisompet, Garu 75.59 268 eP P 02 46 13.8 -0.3
comp=Z,245nm,1.1s
UNV Unalaska Valle 75.82 5 eP P 02 46 13.9 -0.4
comp=Z,207nm,1.2s
LEM Lembang 76.03 268 P P 02 46 18.8 +2.1
comp=Z,460nm,1.1s,comp=Z,10µm
LEM Lembang 76.03 268 P P 02 46 18.4 +1.8
baz=76,SNR=5.1
CNJI Cibinong 76.31 268 P P 02 46 19.0 +0.9
comp=Z,212nm,1.2s,comp=Z,5µm
BSC Santa Cruz Isl 76.46 45 ⇓P P 02 46 19.6 +1.1
baz=77
ASAJ Asahikawa 76.47 330 P P 02 46 19.1 +0.8
comp=Z,100nm,0.9s,baz=184,slow=6.5,SNR=29
ASAJ S S 02 56 09.0 +5.8
comp=Z,3.4nm,0.7s,baz=142,slow=19,SNR=2.1
ASAJ Asahikawa 76.47 330 eP P 02 46 19.5 +1.3
comp=Z,188nm,1.4s
ASAJ S S 02 56 09.0 +5.8
SCI San Clemente I 76.55 46 ⇑P P 02 46 20.1 +1.2
baz=77
XMI Christmas Isla 76.56 264 P P 02 46 21.6 +2.1
baz=77,SNR=3.7
XMIS Christmas Isla 76.58 264 eP P 02 46 20.3 +0.6
comp=Z,539nm,1.1s
XMIS Christmas Isla 76.58 264 P P 02 46 21.3 +1.7
baz=77,SNR=6.9
KSM Kuching 76.61 277 eP P 02 46 20.8 +1.0
comp=Z,160nm,0.9s
KSM LR LR
comp=Z,7µm,19.0s
KSM Kuching 76.61 277 P P 02 46 20.5 +0.8
baz=77,SNR=21
KSM Kuching 76.61 277 ⇑P P 02 46 22.3 +2.6
SBC Santa Barbara 76.68 44 ⇓P P 02 46 21.2 +1.5
baz=77
TWG Pinlang 76.72 301 eP P 02 46 17.4 -2.8
comp=Z,139nm,0.8s
SKR Severo-Kuril's 76.76 341⇑iP P 02 46 15.0 -4.7
SKR e 02 46 24.0
SKR e 02 46 29.4
SKR eS S 02 56 04.0 -1.9
SKR e 02 56 26.0
SKR ePS PnS 02 56 46.0 +0.6
SKR eSS SS 03 00 54.0 -8.7
SKR pmax pmax
comp=Z,70nm,0.7s
SKR pmax pmax
comp=N,2µm,4.0s
SKR pmax pmax
comp=E,3µm,4.0s
SKR pmax pmax
comp=Z,5µm,4.0s
SKR smax smax
comp=N,9µm,12.0s
SKR smax smax
comp=E,5µm,12.0s
SKR MLR MLR
comp=N,14µm,18.0s
SKR MLR MLR
comp=E,9µm,18.0s
SKR MLR MLR
comp=Z,9µm,18.0s
YULB Yu-li 76.83 302 eP P 02 46 18.5 -2.3
comp=Z,61nm,1.2s
CIS Catalina Islan 76.90 46 ⇑P P 02 46 22.1 +1.1
baz=77
SKJI Sukabumi 76.95 268 P P 02 46 23.9 +2.2
comp=Z,255nm,1.3s,comp=Z,7µm
NACB Ninganchiao 77.00 303 eP P 02 46 21.9 +0.2
comp=Z,206nm,1.1s
SMMC Simmler 77.04 43 ⇓P P 02 46 23.1 +1.4
baz=77
SAO San Andreas Ge 77.06 41 eP P 02 46 22.6 +0.8
SAO pmax pmax
comp=Z,101nm,1.0s
SAO San Andreas Ge 77.06 41 eP P 02 46 22.6 +0.8
comp=Z,101nm,1.0s
FMP Fort Macarthur 77.16 45 ⇑P P 02 46 23.6 +1.2
baz=77
SSLB Suanglung 77.30 302 eP P 02 46 21.9 -1.5
comp=Z,59nm,1.0s
TPUB Ta-pu 77.31 302 eP P 02 46 21.7 -1.8
comp=Z,156nm,0.9s
YHNB Yeheng 77.43 303 eP P 02 46 24.3 +0.1
comp=Z,114nm,1.0s
YHNB LR LR
comp=Z,7µm,19.0s
OSI Osito Adit 77.43 44 ⇓P P 02 46 25.1 +1.2
baz=78
109C Camp Elliot, M 77.46 47 ⇑P P 02 46 25.2 +1.1
baz=78
DECC Green Verdugo 77.46 45 ⇓P P 02 46 25.3 +1.2
baz=78
TPI Tanjungpandan 77.47 272 P P 02 46 26.9 +2.3
comp=Z,98nm,1.2s,comp=Z,5µmcomp=Z,19µm
TATO Taipei 77.50 304 eP P 02 46 25.0 +0.6
comp=Z,423nm,1.5s
TATO LR LR
comp=Z,11µm,20.0s
PASC Pasadena Art C 77.51 45 eP P 02 46 25.0 +0.6
comp=Z,177nm,1.7s
HOPS Hopland 77.55 39 eP P 02 46 26.0 +1.5
comp=Z,98nm,1.2s

LPIG La Paz 77.58 58 P P 02 46 25.9 +0.9
comp=Z,21nm,0.3s,baz=162,slow=3.2,SNR=2.8
MWC Mount Wilson 77.63 45 eP P 02 46 26.0 +0.7
MWC pmax pmax
comp=Z,256nm,1.8s
MWC Mount Wilson 77.63 45 eP P 02 46 26.0 +0.7
comp=Z,256nm,1.8s
BAR Barrett 77.63 47 eP P 02 46 25.3 +0.2
comp=Z,568nm,1.6s
SBJI Serang 77.66 268 P P 02 46 31.6 +5.9
comp=Z,298nm,1.1s
ARVC Arvin 77.68 44 ⇑P P 02 46 26.6 +1.3
baz=78
MURC Murrieta 77.82 46 ⇓P P 02 46 27.3 +1.1
baz=78,SNR=16
CGJI Cibinong 77.89 268 P P 02 46 27.6 +0.6
comp=Z,243nm,0.8s,comp=Z,6μm
BFSC Mount Baldy Ra 77.90 45 ⇑P P 02 46 27.5 +0.8
baz=78,SNR=18
MONP Monument Peak 77.93 47 ⇑P P 02 46 27.8 +0.8
baz=78,SNR=15
SDPT Sand Point 77.95 8 eP P 02 46 25.8 -0.5
comp=Z,172nm,1.0s
VES Vestal, Richgr 77.95 43 ⇑P P 02 46 28.0 +1.2
baz=78
EDW2 Edwards Air Fo 78.07 45 ⇓P P 02 46 28.8 +1.3
baz=78,SNR=25
RCTC Rector, Farmer 78.15 43 ⇑P P 02 46 28.9 +1.1
baz=78
PET Petropavlovsk 78.16 344c iP P 02 46 27.3 -0.2
PET e 02 46 40.0
PET e 02 49 30.3
PET iS S 02 56 19.6 -1.5
PET ePS PnS 02 57 00.1 -3.1
PET ePPS PPS 02 57 14.9
PET pmax pmax
comp=Z,135nm,1.0s
PET pmax pmax
comp=Z,3μm,11.5s
PET pmax pmax
comp=Z,4μm,15.4s
PET pmax pmax
comp=Z,1μm,18.3s
PET MLR MLR
comp=Z,9μm,19.0s
PET Petropavlovsk 78.16 344 eP P 02 46 27.1 -0.4
comp=Z,102nm,0.9s
PET LR LR
comp=Z,9μm,19.0s
ISA Isabella 78.23 44 eP P 02 46 29.5 +1.0
ISA pmax pmax
comp=Z,120nm,1.3s
ISA Isabella 78.23 44 eP P 02 46 29.4 +1.0
comp=Z,120nm,1.3s
ISA Isabella 78.23 44 ⇑P P 02 46 29.8 +1.3
baz=78,SNR=28
PFO Pinyon Flat Ob 78.33 46 P P 02 46 29.1 0.0
comp=Z,240nm,1.3s,SNR=10
PFO Pinyon Flat Ob 78.33 46 eP P 02 46 28.3 -0.8
PFO S S 02 56 29.7 +5.6
PFO pmax pmax
comp=Z,202nm,1.8s
PFO MLR MLR
comp=Z,10μm,19.0s
PFO Pinyon Flat Ob 78.33 46 P P 02 46 29.8 +0.7
comp=Z,20nm,1.1s,baz=236,slow=8.2,SNR=13
PFO S S 02 56 29.7 +5.6
comp=Z,0.9nm,0.7s,baz=151,slow=10,SNR=2.2
PFO Pinyon Flat Ob 78.33 46 eP P 02 46 28.3 -0.8
comp=Z,202nm,1.8s
PFO S S 02 56 29.7 +5.6
PFO LR LR
comp=Z,10μm,19.0s
PFO Pinyon Flat Ob 78.33 46 ⇓P P 02 46 30.1 +1.0
baz=78,SNR=19
SWSC Sam W. Stewart 78.38 47 ⇑P P 02 46 30.3 +1.0
baz=78
BBRC Big Bear Solar 78.40 46 ⇓P P 02 46 30.5 +0.9
baz=79
PETK Petropavlovsk- 78.48 343 P P 02 46 29.4 +0.1
comp=Z,184nm,0.8s,baz=135,slow=8.4,SNR=114
PETK S S 02 56 24.4 -0.2
comp=Z,1.5nm,0.8s,baz=273,slow=16,SNR=3.0
PETK LR LR 03 16 06.3
comp=Z,4μm,20.3s,baz=156,slow=32
CMB Columbia Colle 78.52 41 eP P 02 46 29.0 -1.0
CMB pmax pmax
comp=Z,91nm,1.1s
CMB Columbia Colle 78.52 41 eP P 02 46 28.9 -1.0
comp=Z,91nm,1.1s
YSS Yuzh-Sakhalins 78.57 332α iP P 02 46 30.7 +0.8
YSS i *PP pP 02 46 33.7 -1.6
YSS e 02 49 26.0
YSS ePPP PPP 02 51 21.0
YSS iS S 02 56 27.0 +1.2
YSS ePS PnS 02 57 02.0 -6.6
YSS pmax pmax
comp=N,520nm,2.0s
YSS pmax pmax
comp=E,520nm,2.0s
YSS pmax pmax
comp=Z,1μm,2.0s
YSS pmax pmax
comp=N,1μm,4.0s
YSS pmax pmax
comp=Z,4μm,4.0s
YSS smax smax
comp=N,7μm,14.0s
YSS smax smax
comp=E,3μm,12.0s
YSS Yuzh-Sakhalins 78.57 332 eP P 02 46 30.7 +0.8
comp=E,239nm,1.0s
YSS LR LR
comp=Z,4μm,20.0s
RRX Edison Barstow 78.72 45 ⇑P P 02 46 32.2 +1.2
baz=79
PMSA Palmer Station 78.74 156 P P 02 46 29.9 -0.8
comp=Z,15nm,0.9s,baz=201,slow=8.6,SNR=3.4
PMSA S S 02 56 27.6 +0.2
comp=Z,12nm,0.8s,baz=194,slow=17,SNR=6.0
PMSA Palmer Station 78.74 156 eP P 02 46 31.7 +1.0
comp=Z,103nm,1.3s
PMSA S S 02 56 27.6 +0.2
PMSA LR LR
comp=Z,7μm,20.0s
BELC Belle Mtn. Jos 78.86 46 ⇑P P 02 46 32.9 +0.9
baz=79,SNR=23
WDC Whiskeytown Da 78.91 38 eP P 02 46 32.6 +0.6
WDC pmax pmax
comp=Z,131nm,1.3s
WDC Whiskeytown Da 78.91 38 eP P 02 46 32.6 +0.6
comp=Z,131nm,1.3s
CWC Cottonwood Cre 78.96 43 ⇑P P 02 46 33.8 +1.2
baz=79
BC3 Big Chuckawall 79.03 47 ⇑P P 02 46 33.9 +1.0
baz=79,SNR=43
N02D Trinity Center 79.08 37 ⇑P P 02 46 34.5 +1.5
baz=79
GSC Goldstone 79.10 45 eP P 02 46 33.1 -0.2
GSC pmax pmax
comp=Z,150nm,1.6s
GSC Goldstone 79.10 45 eP P 02 46 33.1 -0.2
comp=Z,150nm,1.6s
GSC Goldstone 79.10 45 ⇑P P 02 46 34.3 +1.1
baz=79,SNR=16
GLA Glamis 79.11 48 eP P 02 46 33.4 +0.1
GLA pmax pmax
comp=Z,156nm,1.5s
GLA Glamis 79.11 48 eP P 02 46 33.4 +0.1
comp=Z,156nm,1.5s
GLA Glamis 79.11 48 ⇑P P 02 46 34.4 +1.1
baz=79,SNR=10
HEC Hector,Ludlow 79.13 46 ⇓P P 02 46 34.4 +1.0
baz=79,SNR=21
CHGN Chignik 79.17 9 eP P 02 46 32.1 -0.8
TIN Tinemaha 79.25 43 ⇓P P 02 46 35.4 +1.4
baz=79
M02C Callahan 79.27 37 ⇓P P 02 46 35.6 +1.5
baz=80
KLI Kotabumi 79.30 269 P P 02 46 40.6 +5.9
comp=Z,110nm,1.0s
L02D Cave Junction, 79.37 36 ⇓P P 02 46 36.3 +1.8
baz=80
KASI Kota Agung 79.39 268 P P 02 46 35.7 +0.5
comp=Z,179nm,0.9s,comp=Z,5μm
WAKR Walker 79.40 41 eP P 02 46 34.9 -0.1
comp=Z,194nm,1.2s

IRM Iron Mountain 79.53 47 ⇑P P 02 46 36.6 +1.0
baz=80,SNR=31
GMRC Granite Mounta 79.55 46 ⇓P P 02 46 36.6 +0.8
baz=80,SNR=23
YBH Yreka Blue Hor 79.58 37 eP P 02 46 35.9 +0.2
YBH S S 02 56 39.7 +2.7
YBH pmax pmax
comp=Z,72nm,1.0s
YBH Yreka Blue Hor 79.58 37 P P 02 46 36.1 +0.4
comp=Z,27nm,0.8s,baz=169,slow=6.9,SNR=38
YBH S S 02 56 39.7 +2.7
comp=Z,2.1nm,0.9s,baz=157,slow=15,SNR=2.1
YBH Yreka Blue Hor 79.58 37 eP P 02 46 35.9 +0.2
comp=Z,72nm,1.0s
YBH S S 02 56 39.7 +2.7
KSDGY Daegwallycong 79.67 318 P P 02 46 36.0 -0.2
SNR=7.1
113A Mohawk Valley, 79.68 48 ⇑P P 02 46 37.3 +1.0
baz=80
TJN Taejon 79.70 316 eP P 02 46 37.1 +0.8
Y12C Blythe 79.72 47 ⇓P P 02 46 37.6 +1.1
baz=80,SNR=16
QZH Quanzhou 79.74 302⇑iP P 02 46 37.6 +0.8
QZH S S 02 56 40.5 +1.3
QZH pmax pmax
comp=Z,180nm,0.9s
QZH pmax pmax
comp=Z,6μm,6.3s
QZH LR LR
comp=Z,6μm,16.6s
QZH LR LR
comp=Z,8μm,16.6s
QZH LR LR
comp=Z,13μm,16.8s
GRAC Grapevine Rang 79.75 43 ⇓P P 02 46 38.0 +1.3
baz=80
TUQ Turquoise Moun 79.76 45 ⇑P P 02 46 37.8 +0.9
baz=80,SNR=28
FURC Furnace Creek, 79.76 44 ⇓P P 02 46 37.9 +1.3
baz=80
SHOC Shoshone 79.80 45 ⇑P P 02 46 38.1 +1.2
baz=80
KSWJU Wonju 79.88 317 P P 02 46 39.7 +2.3
SNR=5.6
214A Organ Pipe Nat 79.90 50 eP P 02 46 37.7 +0.1
comp=Z,548nm,2.3s
214A Organ Pipe Nat 79.90 50 ⇑P P 02 46 38.7 +1.1
baz=80
LWLI Liwa 79.98 269 P P 02 46 40.3 +1.7
comp=Z,237nm,0.8s,comp=Z,10μm
KSRS Korea Array 79.99 317 P P 02 46 38.8 +0.9
comp=Z,38nm,0.8s,baz=136,slow=5.7,SNR=60
KSRS S S 02 56 49.6 +8.3
comp=Z,0.5nm,0.4s,baz=73,slow=33,SNR=3.8
KSRS LR LR 03 19 56.0
comp=Z,5μm,18.8s,baz=132,slow=34
KSAR Wonju Array Be 80.01 317 P P 02 46 38.8 +0.8
KSAR S S 02 56 49.6 +8.1
KSAR Wonju Array Be 80.01 317 P P 02 46 38.8 +0.8
KSAR S S 02 56 49.6 +8.1
HUMO Hull Mountain 80.03 36 eP P 02 46 37.5 -0.6
comp=Z,111nm,1.2s
NVAR Mina Array Bea 80.05 42 P P 02 46 38.8 +0.3
comp=Z,21nm,0.8s,baz=223,slow=6.6,SNR=80
NVAR S S 02 56 46.8 +4.5
comp=Z,0.5nm,0.9s,baz=253,slow=5.6,SNR=3.5
NVAR PKPPKP P'P'df 03 13 26.2 +2.2
comp=Z,1.2nm,1.1s,baz=81,slow=6.5,SNR=4.6
NVAR LR LR 03 15 34.8
comp=Z,14μm,19.2s,baz=127,slow=31
MDSI Maura Dua 80.06 269 P P 02 46 38.8 -0.1
comp=Z,154nm,2.2s,comp=Z,5μm
LDFC Landfair 80.09 46 eP P 02 46 39.0 +0.4
comp=Z,126nm,1.2s
M04C Macdoel 80.10 37 ⇓P P 02 46 39.9 +1.3
baz=80
KSSKC Sokcho 80.13 318 P P 02 46 41.7 +3.1
SNR=5.5
KSCHC Chuncheon 80.26 317 P P 02 46 42.8 +3.4
SNR=5.2
PDMCI Parker Dam,Lak 80.29 47 ⇓P P 02 46 40.8 +1.2
baz=80,SNR=15
KSSWO Suwon 80.49 317 P P 02 46 43.3 +2.7
SNR=7.1
TPH Tonopah 80.50 42 eP P 02 46 40.9 -0.1
TPH pmax pmax
comp=Z,91nm,1.2s
TPH Tonopah 80.50 42 eP P 02 46 40.9 -0.1
comp=Z,91nm,1.2s
I03D Drain, OR 80.55 35 ⇓P P 02 46 42.2 +1.5
baz=81
Z14A Wintersburg 80.58 48 ⇑P P 02 46 42.4 +1.1
baz=81,SNR=16
KSCWO Cheorwon 80.63 317 P P 02 46 44.6 +3.3
SNR=7.5
K04D Chiloquin, OR 80.70 37 ⇓P P 02 46 43.3 +1.5
baz=81
KSDDC Dongducheon 80.81 317 P P 02 46 45.5 +3.2
SNR=7.7
INCN Inchon 80.83 317 eP P 02 46 44.5 +2.0
comp=Z,220nm,1.5s
INCN LR LR
comp=Z,5μm,19.0s
Y14A Wickenburg 80.86 48 ⇓P P 02 46 43.8 +1.0
baz=81,SNR=18
SHPR Sheep Range 80.89 45 eP P 02 46 43.1 +0.1
comp=Z,258nm,1.8s
LHSI Lahat 80.91 270 P P 02 46 45.1 +1.7
comp=Z,193nm,2.4s,comp=Z,6μm
J04D Umpqua Nationa 80.92 36 ⇓P P 02 46 44.6 +1.5
baz=81
W13A Hualapai Mount 80.92 46 ⇑P P 02 46 44.2 +0.9
baz=81
SSE Sheshan 80.95 309 P P 02 46 44.4 +1.2
SSE pP pP 02 46 47.7 -0.9
SSE S S 02 56 54.2 +2.6
SSE sS sS 02 56 59.7 -0.9
SSE pmax pmax
comp=Z,40nm,1.1s
SSE pmax pmax
comp=Z,3μm,8.9s
SSE LR LR
comp=Z,2μm,17.9s
SSE LR LR
comp=Z,2μm,17.9s
SSE LR LR
comp=Z,4μm,19.8s
YNCB YEONCHEON 80.98 317 P P 02 46 46.6 +3.4
SNR=5.7
KSMUS Musan 80.99 317 P P 02 46 46.0 +2.8
SNR=7.8
MOD Modoc 81.05 38 eP P 02 46 43.2 -0.5
comp=Z,68nm,1.0s
KSGAH Ganghwa 81.08 317 P P 02 46 46.7 +3.0
SNR=5.5
I04A Tendick Farm, 81.12 35 ⇓P P 02 46 45.3 +1.4
baz=81
COR Corvallis 81.18 34 eP P 02 46 44.6 +0.5
COR pmax pmax
comp=Z,261nm,1.6s
COR Corvallis 81.18 34 eP P 02 46 44.6 +0.5
comp=Z,261nm,1.6s
MAW Mawson 81.21 199 P P 02 46 44.7 +0.6
comp=Z,60nm,0.9s,baz=112,slow=6.2,SNR=7.4
MAW S S 02 56 52.9 -0.4
comp=Z,19nm,1.1s,baz=251,slow=18,SNR=3.3
MAW LR LR 03 21 30.4
comp=Z,17μm,18.5s,baz=107,slow=35
VLA Vladivostok 81.23 324⇑iP P 02 46 45.3 +0.9
VLA 02 46 52.0
VLA 02 49 50.1
VLA eS S 02 56 55.4 +1.4
VLA pmax pmax
comp=Z,154nm,1.4s
VLA MLR MLR
comp=E,60μm,22.0s
MNAI Manna 81.24 269 P P 02 46 47.9 +2.7
comp=E,379nm,2.8s,comp=E,13μm
MNAI Manna 81.24 269 eP P 02 46 45.3 0.0
comp=E,610nm,1.4s
MNAI Manna 81.24 269 P P 02 46 46.8 +1.5
baz=81,SNR=4.3
J05D Fort Rock, OR 81.42 36 ⇓P P 02 46 47.1 +1.4
baz=82
KDAK Kodiak Island 81.57 12 PFAKE 02 47 00.0 +14
KDAK LR LR
comp=Z,10μm,20.0s

JMBI JAMBI 81.60 272 P P 02 46 51.0 +3.9
G03D McMinnville, O 81.62 34 ⇑P P 02 46 48.0 +1.5
baz=82
R11A Troy Canyon, C 81.70 43 eP P 02 46 46.5 -0.7
comp=Z,324nm,2.3s
R11A Troy Canyon, C 81.70 43 ⇑P P 02 46 48.1 +0.8
baz=82
TPRI Tanjung Pinang 81.73 274 P P 02 46 51.1 +3.3
USRK Ussuriysk Arra 81.88 324 P P 02 46 49.7 +1.8
comp=Z,72nm,1.0s,baz=108,slow=4.2,SNR=138
USRK S S 02 57 01.0 +0.3
comp=Z,0.5nm,0.6s,baz=139,slow=23,SNR=2.2
USRK LR LR 03 19 33.1
comp=Z,13μm,19.9s,baz=124,slow=33
BMN Battle Mountai 81.94 41 eP P 02 46 48.9 +0.5
BMN pmax pmax
comp=Z,599nm,2.3s
BMN Battle Mountai 81.94 41 eP P 02 46 48.9 +0.5
comp=Z,600nm,2.3s
CHRN Cochrane 81.96 138 eP P 02 46 48.7 +0.3
HKC Hong Kong Obse 82.03 298⇑iP P 02 46 52.0 +2.9
I05D Terrebonne, OR 82.06 36 ⇑P P 02 46 50.3 +1.4
baz=82
319A Douglas 82.12 52 ⇓P P 02 46 50.4 +0.8
baz=82
X16A Lo Mia Camp, P 82.21 48 ⇑P P 02 46 50.9 +0.9
baz=82,SNR=37
WVOR Wild Horse Val 82.34 38 eP P 02 46 51.1 +0.6
WVOR pmax pmax
comp=Z,110nm,1.1s
WVOR MLR MLR
comp=Z,18μm,20.0s
WVOR Wild Horse Val 82.34 38 eP P 02 46 51.1 +0.6
comp=Z,110nm,1.1s
WVOR LR LR
comp=Z,18μm,20.0s
F04D Rainier, OR 82.35 33 ⇑P P 02 46 51.9 +1.7
baz=82
KSBAR Backryungdo 82.35 316 P P 02 46 53.5 +3.1
SNR=7.1
MASI Maura Aman, Be 82.35 270 P P 02 46 52.6 +1.5
comp=Z,1μm,1.0s,comp=Z,12μmcomp=Z,976μm
DLV T Lat 82.44 286 eP P 02 46 52.4 +0.7
comp=Z,83nm,0.9s
CCUT Cedar City 82.66 45 eP P 02 46 52.6 +0.1
comp=Z,259nm,1.8s
G05D Wamic, OR 82.67 35 ⇑P P 02 46 53.5 +1.5
baz=83
U15A North Rim 82.74 46 ⇓P P 02 46 53.7 +0.8
baz=83,SNR=28
ARUT Antelope Range 82.75 44 eP P 02 46 53.7 +0.9
ARUT pmax pmax
comp=Z,909nm,1.1s
ARUT Antelope Range 82.75 44 eP P 02 46 53.7 +0.9
comp=Z,909nm,1.1s
FL2 Flat Top 2 82.76 34 P P 02 46 53.8 +1.2
NLWA Neilton Lookou 82.81 32 eP P 02 46 52.2 -0.4
comp=Z,174nm,1.4s
NLWA LR LR
comp=Z,12μm,19.0s
H03N2 Juan Fernandez 82.81 123 T T 04 18 51.1
baz=253,slow=79,SNR=49
H03N3 Juan Fernandez 82.81 123 T T 04 18 51.3
baz=253,slow=79,SNR=132
H03N1 Juan Fernandez 82.83 123 T T 04 18 50.4
baz=253,slow=79,SNR=143
HSR South Ridge 82.83 34 P P 02 46 55.1 +2.1
WUAZ Wupatki 82.86 47 eP P 02 46 54.3 +0.9
comp=Z,348nm,2.0s
WUAZ LR LR
comp=Z,10μm,19.0s
WUAZ Wupatki 82.86 47 ⇓P P 02 46 54.7 +1.3
baz=83,SNR=23
TDL Tradedollar La 82.93 34 P P 02 46 54.2 +0.7
COYC Coyhaique 83.02 136⇓eP P 02 46 53.9 -0.1
KOSW Kosmos 83.02 34 P P 02 46 54.7 +0.9
GZH Guangzhou 83.07 298 P P 02 46 56.6 +2.1
GZH S S 02 57 21.1 +7.3
GZH pmax pmax
comp=Z,7μm,4.4s
GZH LR LR
comp=Z,4μm,20.2s
GZH LR LR
comp=Z,8μm,18.7s
NJ2 Nanjing 83.14 308 eP P 02 46 55.2 +0.5
NJ2 pP PcP 02 46 58.1 -1.2
NJ2 sP sP 02 47 00.1 -2.0
NJ2 S SKKSac 02 57 18.5 -1.9
NJ2 sS sS 02 57 22.5 -0.6
NJ2 pmax pmax
comp=Z,240nm,1.2s
NJ2 pmax pmax
comp=Z,4μm,8.7s
NJ2 LR LR
comp=Z,3μm,20.0s
NJ2 LR LR
comp=Z,4μm,24.5s
NJ2 LR LR
comp=Z,4μm,23.4s
OSD Olympics--Snow 83.19 32 P P 02 46 56.9 +2.0
RGRI Rengat 83.29 272 P P 02 46 59.7 +3.7
X18A Snowflake 83.31 49 ⇓P P 02 46 57.0 +1.3
baz=84,SNR=18
ELK Elko 83.33 41 P P 02 46 55.8 0.0
comp=Z,10nm,0.8s,baz=172,slow=2.2,SNR=40
LON Longmire 83.41 34 eP P 02 46 55.8 -0.1
LON pmax pmax
comp=Z,68nm,1.2s
LON Longmire 83.41 34 eP P 02 46 55.8 -0.1
comp=Z,68nm,1.2s
MDJ Mudanjiang 83.46 324 P P 02 46 58.1 +2.0
MDJ pP pP 02 47 01.9 +0.4
MDJ sP sP 02 47 03.5 0.0
MDJ PP PP 02 50 10.1 +1.4
MDJ S SKKSac 02 57 21.8 -0.5
MDJ pmax pmax
comp=Z,220nm,1.0s
MDJ pmax pmax
comp=Z,5μm,9.8s
MDJ LR LR
comp=Z,4μm,24.1s
MDJ LR LR
comp=Z,5μm,17.5s
MDJ LR LR
comp=Z,9μm,20.5s
MDJ Mudanjiang 83.46 324 eP P 02 46 57.3 +1.2
comp=Z,252nm,1.2s
MDJ LR LR
comp=Z,10μm,20.0s
W18A Petrified Fore 83.77 48 eP P 02 46 58.7 +0.6
comp=Z,403nm,2.0s
W18A Petrified Fore 83.77 48 ⇓P P 02 46 59.0 +0.8
baz=84
121A Cookes Peak, D 83.81 51 eP P 02 46 58.4 0.0
comp=Z,233nm,1.8s
121A Cookes Peak, D 83.81 51 ⇑P P 02 46 59.6 +1.2
baz=84
PGC Sidney 83.88 31 eP P 02 46 58.6 +0.6
comp=Z,18nm,1.5s
NAC Naches 83.91 34 P P 02 46 59.8 +1.4
SDSI Sungai Dareh 83.92 271 P P 02 47 00.4 +1.2
comp=Z,183nm,0.8s,comp=Z,12μm
MVU Marysvale 83.95 44 eP P 02 46 59.9 +0.8
comp=Z,66nm,1.1s
RSO Redoubt South 84.05 11 eP P 02 46 57.7 -1.2
comp=Z,232nm,1.1s
COCO West Island 84.08 259 P P 02 47 02.6 +2.6
comp=Z,2μm,1.1s,SNR=8.6
COCO West Island 84.08 259 eP P 02 46 59.9 -0.1
COCO pmax pmax
comp=Z,467nm,1.3s
COCO MLR MLR
comp=Z,12μm,19.0s
COCO West Island 84.08 259 eP P 02 46 59.9 -0.1
comp=Z,467nm,1.3s
COCO LR LR
comp=Z,12μm,19.0s
QIZ Qiongzhong 84.21 293 P P 02 47 00.9 +0.4
QIZ pP PcP 02 47 04.6 +0.3
QIZ S S 02 57 27.1 +1.6
QIZ pmax pmax
comp=Z,36nm,1.8s
QIZ pmax pmax
comp=Z,3μm,10.1s
QIZ LR LR
comp=Z,2μm,18.2s
QIZ LR LR

comp=Z,3µm,17.5s
QIZ Qiongzhong 84.21 293 PFAKE 02 47 10.0 +9.5
QIZ LR LR
comp=Z,4µm,20.0s
BBB Bella Bella 84.29 27 P P 02 47 00.0 -0.1
comp=Z,39nm,1.0s,baz=203,slow=6.9,SNR=4.4
SEW Seward 84.33 12 eP P 02 46 59.3 -0.8
comp=Z,304nm,1.4s
HAWA Hanford 84.36 35 eP P 02 47 00.1 -0.5
comp=Z,241nm,1.5s
HAWA LR LR
comp=Z,26µm,19.0s
DUG Dugway 84.52 43 eP P 02 47 01.8 0.0
DUG pmax pmax
comp=Z,51nm,1.4s
DUG MLR MLR
comp=Z,11µm,19.0s
DUG Dugway 84.52 43 eP P 02 47 01.8 0.0
comp=Z,51nm,1.4s
DUG LR LR
comp=Z,11µm,19.0s
DUG Dugway 84.52 43 ⇑P P 02 47 03.0 +1.2
baz=85
MFID Camas Ranch 84.57 39 eP P 02 47 01.1 -0.8
comp=Z,73nm,1.1s
BMO Blue Mountains 84.61 37 eP P 02 47 01.4 -0.7
comp=Z,94nm,1.4s
BMO ePP PP 02 50 17.6 -0.5
BMO LR LR
comp=Z,16µm,20.0s
PAYG Puerto Ayora 84.61 89 PFAKE 02 47 10.0 +7.3
PAYG LR LR
comp=Z,10µm,19.0s
ETW Entiat 84.73 34 P P 02 47 02.9 +0.2
BKNI Bangkinang 84.75 272 P P 02 47 05.3 +1.9
BKNI Bangkinang 84.75 272 eP P 02 47 04.7 +1.3
comp=Z,928nm,1.5s
Z22A Elephant Butte 84.77 51 ⇑P P 02 47 04.2 +1.0
baz=85,SNR=27
BGU Big Grassy Mou 84.80 42 eP P 02 47 03.0 -0.2
comp=Z,105nm,2.2s
NLU North Lily Min 84.85 43 eP P 02 47 02.8 -0.8
comp=Z,213nm,2.1s
DL2 Dalian 84.87 315 P P 02 47 04.3 +0.9
DL2 S S 02 57 27.6 -3.6
DL2 pmax pmax
comp=Z,210nm,1.4s
DL2 pmax pmax
comp=Z,3µm,7.6s
DL2 LR LR
comp=Z,2µm,17.3s
DL2 LR LR
comp=Z,2µm,17.7s
DL2 LR LR
comp=Z,3µm,18.3s
TMUT Trail Mountain 85.04 44 eP P 02 47 05.3 +0.6
comp=Z,145nm,1.1s
MNTX Cornudas Mount 85.16 53 eP P 02 47 04.8 -0.3
comp=Z,502nm,2.4s
MNTX LR LR
comp=Z,8µm,19.0s
MPU Maple Canyon 85.17 43 eP P 02 47 05.3 +0.2
comp=Z,129nm,1.5s
RC01 Rabbit Creek A 85.19 12 eP P 02 47 04.7 +0.2
comp=Z,395nm,1.5s
Y22D IRIS PASSCAL I 85.21 50 ⇓P P 02 47 06.5 +1.0
baz=85
LENM Lemitar 85.22 50 eP P 02 47 06.6 +1.0
comp=Z,86nm,1.4s
LAZ Ladron 85.22 50 eP P 02 47 06.5 +1.0
comp=Z,183nm,1.9s
SNY Shenyang 85.28 319 ⇑P P 02 47 06.2 +0.9
SNY SKS SKSac 02 57 29.6 0.0
SNY S S 02 57 36.0 +0.9
SNY pmax pmax
comp=Z,33nm,1.2s
SNY pmax pmax
comp=Z,4µm,6.7s
SNY LR LR
comp=Z,3µm,16.9s
SNY LR LR
comp=Z,4µm,17.3s
SNY LR LR
comp=Z,5µm,17.3s
FRIM Kepong 85.29 275 ⇑P P 02 47 08.1 +2.0
CN2 Changchun 85.31 321 ⇑/P P 02 47 06.5 +1.0
CN2 esP sP 02 47 14.0 +1.1
CN2 eS SKSac 02 57 28.3 -1.4
CN2 LR LR
comp=Z,5µm,18.0s
CN2 LR LR
comp=Z,2µm,18.0s
CN2 LR LR
comp=Z,4µm,18.0s
TXAR Lajitas Array 85.32 56 P P 02 47 06.3 +0.3
comp=Z,15nm,1.1s,baz=215,slow=5.9,SNR=35
TXAR S S 02 57 31.9 -4.4
comp=Z,0.2nm,0.8s,baz=167,slow=8.2,SNR=3.2
TXAR PKKPbc PKKPbc 03 05 12.9 +1.2
comp=Z,0.4nm,0.9s,baz=64,slow=2.1,SNR=3.0
TXAR LR LR 03 18 52.6
comp=Z,9µm,19.4s,baz=0.0,slow=31
KLR Kul'dur 85.34 328 ⇓/P P 02 47 02.4 -3.1
KLR e 02 50 17.5
KLR eS S 02 57 38.0 +2.6
KLR e 02 59 00.0
KLR pmax pmax
comp=Z,1µm,3.0s
KLR pmax pmax
comp=N,2µm,10.5s
KLR pmax pmax
comp=Z,9µm,10.5s
KLR smax smax
comp=N,4µm,11.5s
KLR smax smax
comp=E,3µm,11.5s
KLR MLR MLR
comp=E,5µm,19.5s
SPUT South Promonto 85.38 42 eP P 02 47 06.5 +0.4
comp=E,90nm,1.5s
SRU San Rafael 85.38 45 eP P 02 47 06.2 0.0
SRU pmax pmax
comp=Z,105nm,1.3s
SRU San Rafael 85.38 45 eP P 02 47 06.2 0.0
comp=Z,105nm,1.3s
OD2 Odessa Site #2 85.44 34 P P 02 47 07.2 +1.2
HVU Hansel Valley 85.44 41 eP P 02 47 05.4 -1.0
HVU e 02 50 24.5
HVU pmax pmax
comp=Z,92nm,1.4s
HVU Hansel Valley 85.44 41 eP P 02 47 05.4 -1.0
comp=Z,92nm,1.4s
HVU ePP PP 02 50 24.5 -0.6
CTU Camp Tracy 85.47 43 eP P 02 47 06.7 +0.1
comp=Z,85nm,1.3s
GAMB Gambell 85.48 1 eP P 02 47 06.4 +0.6
comp=Z,125nm,0.8s
GAMB ePP PP 02 50 15.7 -8.9
HLID Hailey 85.49 39 eP P 02 47 06.7 +0.1
comp=Z,52nm,1.2s
HLID ePP PP 02 50 18.7 -6.7
HLID LR LR
comp=Z,6µm,20.0s
HLID Hailey 85.49 39 ⇓P P 02 47 07.8 +1.2
baz=86
LPM Los Pinos Moun 85.54 50 eP P 02 47 07.9 +0.8
comp=Z,119nm,1.5s
JLU Jordanelle 85.61 43 eP P 02 47 07.1 -0.3
comp=Z,90nm,1.6s
DAU Daniels Canyon 85.63 43 eP P 02 47 08.0 +0.5
DAU pmax pmax
comp=Z,159nm,1.7s
DAU Daniels Canyon 85.63 43 eP P 02 47 08.0 +0.5
comp=Z,159nm,1.7s
MVCO Mesa Verde 85.72 47 eP P 02 47 08.3 +0.3
comp=Z,129nm,1.7s
MVCO LR LR
comp=Z,11µm,19.0s
MVCO Mesa Verde 85.72 47 ⇑P P 02 47 09.0 +0.9
baz=86
WHN Wuhan 85.75 305 ⇑/P P 02 47 09.2 +1.3
WHN pmax pmax
comp=Z,790nm,1.6s
WHN LR LR
comp=Z,9µm,15.6s
WHN LR LR
comp=Z,4µm,14.1s
WHN LR LR
comp=Z,10µm,16.6s
Y23A Lovelace Mesa, 85.76 51 ⇓P P 02 47 09.2 +1.0
baz=86,SNR=20
PMR Palmer 85.77 12 eP P 02 47 07.1 -0.2
PMR pmax pmax
comp=Z,456nm,1.6s
PMR Palmer 85.77 12 eP P 02 47 07.1 -0.2
comp=Z,456nm,1.6s
225A Deer Hill, Car 85.77 53 ⇓P P 02 47 09.2 +0.9
baz=86,SNR=20
WRAK Wrangell Islan 85.88 22 PFAKE 02 47 20.0 +12
WRAK LR LR
comp=Z,6µm,19.0s
TCUT Toone Canyon 85.92 43 eP P 02 47 09.2 +0.3
comp=Z,168nm,1.3s
SYO Syowa Base 85.95 192 ⇓eP P 02 47 07.4 -0.9
Z24A Sheeppen Canyo 85.97 52 ⇑P P 02 47 10.2 +0.9
baz=86,SNR=21
ANMO Albuquerque 85.98 50 eP P 02 47 09.3 0.0
ANMO pmax pmax
comp=Z,78nm,1.0s
ANMO MLR MLR
comp=Z,17µm,19.0s
ANMO Albuquerque 85.98 50 P P 02 47 09.8 +0.6
comp=Z,20nm,1.0s,baz=225,slow=5.2,SNR=48
ANMO Albuquerque 85.98 50 eP P 02 47 09.3 0.0
comp=Z,78nm,1.0s
ANMO LR LR
comp=Z,17µm,19.0s
X23A Hourglass Bar 85.99 50 ⇓P P 02 47 10.2 +0.9
baz=86,SNR=23
326A Caldwell Ranch 86.02 54 ⇓P P 02 47 10.0 +0.5
baz=86,SNR=7.2
DIV Divide 86.04 14 eP P 02 47 08.4 -0.4
comp=Z,242nm,1.2s
PV04 Paradox Valley 86.07 46 eP P 02 47 10.1 +0.5
PV04 ePP PP 02 50 29.9 -0.4
PLCA Paso Flores 86.07 132 P P 02 47 10.3 +0.6
comp=Z,48nm,1.3s,baz=236,slow=6.3,SNR=14
PLCA S S 02 57 36.5 -7.1
comp=Z,1.5nm,1.0s,baz=198,slow=20,SNR=1.5
PLCA LR LR 03 20 17.0
comp=Z,13µm,18.0s,baz=249,slow=32
HWUT Hardware Ranch 86.09 42 eP P 02 47 08.8 -0.9
comp=Z,24nm,1.0s
HWUT LR LR
comp=Z,18µm,19.0s
V22A San Miguel Ran 86.15 49 ⇓P P 02 47 10.8 +0.6
baz=86,SNR=16
BMRM Bremner River 86.15 14 eP P 02 47 09.3 0.0
comp=Z,496nm,1.5s
PV01 Paradox Valley 86.16 46 eP P 02 47 10.4 +0.3
comp=Z,12µm,1.9s
GDL2 Guadalupe Moun 86.16 53 eP P 02 47 11.5 +1.4
comp=Z,58nm,1.2s
125A Gardner Draw, 86.16 53 ⇑P P 02 47 10.8 +0.6
baz=86,SNR=22
Y24A Capitan 86.21 51 ⇑P P 02 47 10.9 +0.5
baz=86,SNR=35
226B Tecolote Peak, 86.25 53 ⇑P P 02 47 11.4 +0.9
baz=86
MNSI Mandailing Nat 86.27 272 P P 02 47 10.6 -0.4
comp=Z,345nm,0.8s,comp=Z,5µm
W23A Werner Place, 86.31 50 ⇑P P 02 47 11.7 +0.8
baz=86,SNR=12
IPM Ipoh 86.31 276 eP P 02 47 11.8 +0.6
comp=Z,420nm,1.1s
327A Balmorhea Ranc 86.41 54 ⇑P P 02 47 12.3 +1.0
baz=87
Z25A Roswell 86.42 52 ⇑P P 02 47 12.5 +1.1
baz=87,SNR=20
U22A Llaves 86.42 49 ⇑P P 02 47 12.6 +1.1
baz=87
PPLA Purkeypile 86.43 10 eP P 02 47 10.4 -0.4
comp=Z,180nm,1.6s
SNAA Sanae 86.45 177 P P 02 47 11.1 +0.2
SNAA Sanae 86.45 177 eP P 02 47 10.7 -0.2
SNAA pmax pmax
comp=Z,724nm,2.1s
SNAA Sanae 86.45 177 eP P 02 47 10.7 -0.2
comp=Z,724nm,2.1s
UBPT Khong Chiam 86.47 288 P P 02 47 14.2 +2.4
comp=Z,424nm,0.9s,comp=Z,5µm
VNA3 Neumayer Olymp 86.47 175 P P 02 47 10.9 0.0
TIA Tai'an 86.50 311 ⇑P P 02 47 12.5 +0.9
TIA S S 02 57 37.9 -9.5
TIA pmax pmax
comp=Z,260nm,1.5s
TIA pmax pmax
comp=Z,6µm,5.0s
TIA LR LR
comp=Z,3µm,16.1s
TIA LR LR
comp=Z,2µm,17.3s
TIA LR LR
comp=Z,2µm,17.2s
V23A Ortiz Mt. (NFS 86.58 49 ⇓P P 02 47 12.9 +0.7
baz=87,SNR=19
126A Clayton Basin, 86.62 53 ⇓P P 02 47 13.5 +1.1
baz=87
Y25A Mesa, Roswell 86.75 52 ⇑P P 02 47 14.0 +1.0
baz=87,SNR=26
529A Stev Forest Ra 86.80 56 ⇓P P 02 47 14.2 +0.9
baz=87,SNR=15
NEW Newport 86.82 34 eP P 02 47 12.3 -0.6
NEW S S 02 57 44.5 -5.6
NEW pmax pmax
comp=Z,212nm,2.3s
NEW MLR MLR
comp=Z,25µm,19.0s
NEW Newport 86.82 34 P P 02 47 12.6 -0.3
comp=Z,2.9nm,0.7s,baz=238,slow=4.3,SNR=8.9
NEW S S 02 57 44.5 -5.6
comp=Z,0.4nm,0.5s,baz=246,slow=20,SNR=2.0
NEW Newport 86.82 34 eP P 02 47 12.3 -0.6
comp=Z,212nm,2.3s
NEW S S 02 57 44.5 -5.6
NEW LR LR
comp=Z,25µm,19.0s
NEW Newport 86.82 34 ⇑P P 02 47 14.2 +1.3
baz=87
W24A Lazy 6 Ranch, 86.86 50 ⇑P P 02 47 14.4 +0.8
baz=87,SNR=18
U23A El Rito 86.86 49 ⇑P P 02 47 14.7 +1.0
baz=87
227A Bennet, Jal 86.87 54 ⇓P P 02 47 14.4 +0.8
baz=87
328A Wristen Ranch, 86.94 55 ⇓P P 02 47 14.6 +0.7
baz=87,SNR=14
VNA2 Neumayer--Watz 86.95 176 P P 02 47 14.1 +0.8
Z26A Caprock 86.95 52 ⇓P P 02 47 15.0 +1.0
baz=87,SNR=25
KULM Kulim 86.96 277 eP P 02 47 15.0 +0.7
comp=Z,350nm,1.3s
KULM LR LR
comp=Z,7µm,19.0s
AHID Auburn Hatcher 87.02 41 eP P 02 47 15.5 +1.2
comp=Z,183nm,1.8s
AHID LR LR
comp=Z,13µm,19.0s
X25A Clemmons Ranch 87.06 51 ⇑P P 02 47 15.6 +1.1
baz=87,SNR=14
127A Arkansas Junct 87.13 53 ⇓P P 02 47 15.7 +0.8
baz=87
S22A 4UR Ranch, Cre 87.14 47 ⇑P P 02 47 15.9 +0.9
baz=87
MCMT McKenzie Canyo 87.14 39 eP P 02 47 15.4 +0.6
comp=Z,17nm,1.3s
VNA1 Neumayer--Stat 87.16 176 P P 02 47 14.9 +0.7
V24A Rampart Ranch, 87.21 50 ⇑P P 02 47 16.3 +0.9
baz=87
KTH Kantishna Hill 87.26 10 eP P 02 47 13.8 -0.9
comp=Z,915nm,2.0s
TRF Thorofare Moun 87.27 11 eP P 02 47 14.2 -0.7
comp=Z,736nm,1.6s
429A Davenport Ranc 87.28 56 ⇓P P 02 47 16.5 +0.9
baz=87,SNR=50
T23A Casias Ranch, 87.32 48 ⇑P P 02 47 17.0 +1.1
baz=88
Y26A Elida 87.38 52 ⇑P P 02 47 17.0 +1.0
baz=88,SNR=11
TNA Tin City 87.39 3 eP P 02 47 15.2 +0.1
comp=Z,152nm,1.5s
TNA ePP PP 02 50 38.1 -2.0
NVL N'lazarevskaya 87.42 182 deP P 02 47 18.2 +2.7
NVL e 02 57 52.7
NVL eSSS SSS 03 07 24.3
NVL pmax pmax
comp=Z,17nm,0.9s
NVL MLR MLR
comp=Z,12µm,16.0s
O20A White River Ci 87.42 45 eP P 02 47 15.2 -1.0
comp=Z,16nm,0.8s
O20A White River Ci 87.42 45 ⇑P P 02 47 16.9 +0.7
baz=88
228A UT Block 9, Go 87.44 54 ⇓P P 02 47 16.8 +0.4
baz=88
530A J-C Ranch, Com 87.49 56 ⇓P P 02 47 17.0 +0.4
baz=88,SNR=19
Z27A Tatum 87.54 53 ⇑P P 02 47 17.5 +0.7
baz=88
W25A X Bar L Ranch, 87.54 50 ⇑P P 02 47 17.1 +0.3
baz=88,SNR=19
U24A Moreno Valley 87.54 49 ⇓P P 02 47 17.1 +0.1
baz=88
329A Wagon Wheel Ra 87.61 55 ⇑P P 02 47 17.9 +0.7
baz=88,SNR=22
PSI Prapat 87.63 274 P P 02 47 17.7 0.0
baz=88,SNR=98
MSO Missoula 87.67 37 ⇓P P 02 47 17.8 +0.7
baz=88
X26A CR and CF Fran 87.69 51 ⇑P P 02 47 18.3 +0.7
baz=88
832A Faith Ranch, C 87.72 58 ⇑P P 02 47 17.8 +0.1
baz=88,SNR=23
V25A Rancho No Teng 87.73 50 ⇓P P 02 47 18.6 +0.8
baz=88
PAX Paxson 87.75 13 eP P 02 47 17.3 +0.2
PAX pmax pmax
comp=Z,320nm,1.8s
PAX Paxson 87.75 13 eP P 02 47 17.3 +0.2
comp=Z,320nm,1.8s
631A Perdido Creek 87.75 57 ⇑P P 02 47 18.1 +0.3
baz=88,SNR=35
128A Castleberry Fa 87.75 54 ⇓P P 02 47 18.5 +0.6
baz=88,SNR=21
MCK McKinley 87.77 11 eP P 02 47 17.5 +0.4
MCK pmax pmax
comp=Z,1µm,1.9s
MCK McKinley 87.77 11 eP P 02 47 17.5 +0.4
comp=Z,1µm,1.9s
N20A Spence Gulch, 87.77 44 ⇓P P 02 47 18.9 +1.0
baz=88
T24B San Luis 87.79 49 ⇓P P 02 47 18.7 +0.5
baz=88
BSMT Bassoo Peak 87.81 36 eP P 02 47 18.0 +0.1
comp=Z,22nm,1.1s
BSMT ePP PP 02 50 40.6 -3.5
HYT Haines Junctio 87.82 17 eP P 02 47 19.5 +2.0
Y27A Causey 87.84 52 ⇓P P 02 47 18.6 +0.3
baz=88,SNR=17
430A Baggett Ranch, 87.86 56 ⇓P P 02 47 19.0 +0.6
baz=88,SNR=5.4
732A Laxson Ranch, 87.92 58 ⇓P P 02 47 18.8 +0.2
baz=88,SNR=21
LRM Limekiln Ridge 87.94 38 eP P 02 47 18.9 +0.3
comp=Z,1µm,2.2s
LRM ePP PP 02 50 41.8 -3.5
229A Bryant Ranch, 87.96 54 ⇓P P 02 47 19.5 +0.7
baz=88
QLMT Earthquake Lak 87.97 40 eP P 02 47 19.5 +0.8
comp=Z,6.8nm,1.4s
BW06 Boulder Array 87.98 42 eP P 02 47 18.1 -0.8
comp=Z,31nm,1.3s
BW06 LR LR
comp=Z,9µm,20.0s
PDAR Pinedale Array 87.98 42 P P 02 47 18.2 -0.7
comp=Z,9.5nm,0.8s,baz=198,slow=2.6,SNR=62
PDAR S S 02 58 00.3 -1.5
comp=Z,0.2nm,0.7s,baz=227,slow=21,SNR=2.0
PDAR PKKP PKKPdf 03 05 00.1 -1.1
comp=Z,0.6nm,0.8s,baz=97,slow=4.6,SNR=2.6
W26A Owens Ranch, T 87.98 51 ⇓P P 02 47 19.7 +0.8
baz=88
I17A Pilgrim Ck. 87.98 41 ⇑P P 02 47 19.4 +0.5
baz=88
933A Laredo 87.98 59 ⇓P P 02 47 19.4 +0.4
baz=88,SNR=12
JTMT Jette 88.02 36 eP P 02 47 18.8 0.0
comp=Z,31nm,1.6s
SWMT Swartz Lake 88.04 36 eP P 02 47 19.0 +0.1
comp=Z,14nm,1.4s
R23A Moffat 88.04 47 ⇓P P 02 47 19.8 +0.5
baz=88
SDCO Great Sand Dun 88.05 48 eP P 02 47 18.8 -0.6
comp=Z,22nm,1.3s
SDCO LR LR
comp=Z,8µm,19.0s
MENT Mentasta 88.09 14 eP P 02 47 18.8 +0.1
CHMT Chamberlain Mo 88.11 37 eP P 02 47 18.8 -0.6
comp=Z,40nm,1.5s
531A Rocksprings 88.11 56 ⇑P P 02 47 19.8 +0.2
baz=88,SNR=35
YFT Old Faithful 88.11 40 eP P 02 47 20.1 +0.6
comp=Z,80nm,1.7s
P22A Eagle 88.12 46 ⇓P P 02 47 20.0 +0.4
baz=88
BLMT Blacktail Moun 88.14 36 eP P 02 47 19.6 +0.2
comp=Z,29nm,1.4s
Z28A Tucker Farm, M 88.14 53 ⇑P P 02 47 20.0 +0.3
baz=88,SNR=11
U25A Circle Dot Ran 88.15 49 ⇓P P 02 47 20.3 +0.5
baz=88
YMR Madison River 88.16 40 eP P 02 47 20.2 +0.6
comp=Z,278nm,2.0s
SLMT Seeley Lake 88.16 37 eP P 02 47 20.0 +0.4
comp=Z,56nm,1.6s
MSTX Muleshoe 88.17 52 eP P 02 47 19.8 -0.1
comp=Z,409nm,1.8s
MSTX Muleshoe 88.17 52 ⇑P P 02 47 20.6 +0.7
baz=88,SNR=17
330A Mertzon 88.19 55 ⇓P P 02 47 20.4 +0.5
baz=88
S24A Houchin Ranch, 88.19 48 ⇓P P 02 47 20.9 +0.8
baz=88
833A Chaparral WMA, 88.20 59 ⇑P P 02 47 20.5 +0.6
baz=88,SNR=13
034A Hebbronville 88.22 60 ⇓P P 02 47 20.9 +0.8
baz=88,SNR=16
129A Stewart Farms, 88.22 54 ⇓P P 02 47 20.8 +0.7
baz=88,SNR=5.6
DLBC Dease Lake 88.24 22 P P 02 47 18.9 -0.6
comp=Z,10nm,0.8s,baz=220,slow=5.1,SNR=24
DLBC S S 02 58 03.3 0.0
comp=Z,0.5nm,0.5s,baz=184,slow=19,SNR=1.5
DLBC LR LR 03 22 48.3
comp=Z,4µm,18.1s,baz=214,slow=33
DLBC Dease Lake 88.24 22 eP P 02 47 20.3 +0.8
DLBC S S 02 58 03.3 0.0
H17A Grant Village 88.24 40 eP P 02 47 21.7 +1.6
comp=Z,66nm,1.7s
H17A Grant Village 88.24 40 ⇑P P 02 47 21.2 +1.1
baz=88
YBMT Yellow Bay 88.24 36 eP P 02 47 19.4 -0.5
comp=Z,14nm,1.2s
X27A F and S Farms, 88.25 52 ⇑P P 02 47 21.3 +1.0
baz=88
CHBT CHBT 88.27 284 P P 02 47 22.9 +2.3
comp=Z,208nm,2.4s,comp=Z,6µm
431A Sonora 88.30 56 ⇑P P 02 47 20.9 +0.5
baz=88
V26A Tequesquite Ra 88.30 50 ⇑P P 02 47 20.9 +0.5
baz=88
BOZ Bozeman (W) 88.31 39 eP P 02 47 19.9 -0.4
BOZ pmax pmax
comp=Z,115nm,1.8s
BOZ MLR MLR
comp=Z,14µm,19.0s
BOZ Bozeman (W) 88.31 39 eP P 02 47 19.9 -0.4
comp=Z,115nm,1.8s
BOZ LR LR
comp=Z,14µm,19.0s
GSI Gunungsitoli 88.32 272 eP P 02 47 22.2 +1.3
YNR Norris Junctio 88.35 40 eP P 02 47 20.0 -0.7
comp=Z,41nm,1.4s
632A Uvalde 88.41 57 ⇓P P 02 47 21.6 +0.6
baz=88,SNR=24
LKWY Lake 88.44 40 PFAKE 02 47 30.0 +8.9
LKWY LR LR
comp=Z,20µm,19.0s
733A Divot King Ran 88.45 58 ⇑P P 02 47 21.8 +0.6
baz=89
230A Sterling City 88.45 55 ⇓P P 02 47 21.4 +0.3
baz=89,SNR=12

035Z Hargill 88.46 61 ⇑P P 02 47 22.0 +0.8
baz=89
W27A Bowe Ranch, En 88.47 51 ⇑P P 02 47 22.2 +1.0
baz=89
SEY Seymchan 88.50 346 P P 02 47 20.1 -0.4
comp=Z,81nm,1.0s,baz=144,slow=5.5,SNR=100
T25A Trinidad 88.50 49 ⇓P P 02 47 22.3 +0.8
baz=89
Y28A McKinney Farm, 88.53 53 ⇓P P 02 47 22.1 +0.6
baz=89
O22A Kremmling 88.55 45 ⇓P P 02 47 22.7 +0.9
baz=89
R24A Sanders Place, 88.56 48 ⇓P P 02 47 22.5 +0.9
baz=89
J19A Croweheart 88.56 42 ⇓P P 02 47 22.4 +0.8
baz=89
934A Benavides 88.58 60 ⇑P P 02 47 22.4 +0.6
baz=89
U26A Atchley Ranch, 88.62 50 ⇑P P 02 47 22.5 +0.5
baz=89
P23A Jefferson 88.62 46 ⇑P P 02 47 22.4 +0.2
baz=89
Z29A Hungry Hill Ra 88.63 53 ⇑P P 02 47 22.7 +0.7
baz=89,SNR=5.8
035A Encino 88.63 60 ⇑P P 02 47 22.2 +0.2
baz=89
DOT Dot Lake 88.65 13 eP P 02 47 21.6 +0.4
comp=Z,210nm,1.4s
331A San Angelo 88.71 56 ⇓P P 02 47 23.2 +0.8
baz=89
S25A Robets Cordova 88.74 48 ⇓P P 02 47 23.8 +1.2
baz=89
834A Tilden 88.78 59 ⇑P P 02 47 23.3 +0.6
baz=89
HRY Holter Researc 88.79 38 eP P 02 47 22.5 0.0
comp=Z,59nm,1.6s
JCT Junction City 88.83 56 eP P 02 47 23.5 +0.6
JCT pmax pmax
comp=Z,361nm,2.2s
JCT MLR MLR
comp=Z,12µm,19.0s
JCT Junction City 88.83 56 eP P 02 47 23.5 +0.6
comp=Z,360nm,2.2s
JCT LR LR
comp=Z,12µm,19.0s
JCT Junction City 88.83 56 ⇓P P 02 47 23.6 +0.6
baz=89
X28A Dimmitt 88.85 52 ⇑P P 02 47 24.0 +1.0
baz=89
633A Saathoff Ranch 88.87 58 ⇑P P 02 47 23.7 +0.6
baz=89,SNR=17
130A Snyder 88.88 54 ⇑P P 02 47 24.2 +1.1
baz=89
Q24A Divide 88.89 47 ⇑P P 02 47 24.2 +0.8
baz=89
Y29A Porterfield Fa 88.93 53 ⇑P P 02 47 24.0 +0.6
baz=89,SNR=12
N22A Wattenberg Ran 88.93 45 ⇑P P 02 47 24.1 +0.6
baz=89
H18A Shoshone NF, C 88.94 40 ⇓P P 02 47 24.5 +1.2
baz=89
KCSI Kotacane, Aceh 88.96 274 P P 02 47 25.2 +1.3
comp=Z,206nm,1.6s,comp=Z,5µm
V27A Dan Oppiter Fa 88.96 51 ⇓P P 02 47 24.5 +1.0
baz=89
ISCO Idaho Springs 88.99 46 eP P 02 47 24.4 +0.6
ISCO pmax pmax
comp=Z,11nm,1.1s
ISCO MLR MLR
comp=Z,7µm,19.0s
ISCO Idaho Springs 88.99 46 eP P 02 47 24.4 +0.6
comp=Z,11nm,1.1s
ISCO LR LR
comp=Z,7µm,19.0s
ISCO Idaho Springs 88.99 46 ⇑P P 02 47 24.7 +0.9
baz=89
O23A Lake Granby, G 88.99 46 ⇑P P 02 47 24.4 +0.6
baz=89
WALA Waterton Lakes 88.99 35 eP P 02 47 23.0 -0.4
comp=Z,3.1nm,1.3s
I19A Meeteetse 89.00 41 ⇑P P 02 47 24.6 +0.9
baz=89
COLA College 89.01 11 eP P 02 47 21.4 -1.4
COLA pmax pmax
comp=Z,576nm,1.7s
COLA MLR MLR
comp=Z,6µm,21.0s
COLA College 89.01 11 eP P 02 47 21.4 -1.4
comp=Z,576nm,1.7s
COLA LR LR
comp=Z,6µm,21.0s
432A Menard 89.01 56 ⇓P P 02 47 24.6 +0.8
baz=89
BJT Baijiatuau 89.06 314 eP P 02 47 23.9 +0.2
BJT pmax pmax
comp=Z,346nm,1.4s
BJT MLR MLR
comp=Z,5µm,19.0s
BJT Baijiatuau 89.06 314 eP P 02 47 23.9 +0.2
comp=Z,346nm,1.4s
BJT LR LR
comp=Z,5µm,19.0s
BJI Beijing 89.06 314 P P 02 47 24.8 +1.1
BJI PP PP 02 50 54.6 +0.5
BJI SKS SKSac 02 57 53.8 +1.0
BJI S ScS 02 58 16.4 -0.3
BJI SS SS 03 04 10.9 +5.2
BJI pmax pmax
comp=Z,170nm,2.2s
BJI pmax pmax
comp=Z,5µm,4.2s
BJI LR LR
comp=Z,4µm,20.1s
BJI LR LR
comp=Z,2µm,17.6s
BJI LR LR
comp=Z,3µm,18.8s
KVTX Kingsville 89.06 60 PFAKE 02 47 40.0 +16
KVTX LR LR
comp=Z,5µm,19.0s
Z30A Sanderson Ranc 89.07 53 ⇓P P 02 47 24.8 +0.7
baz=89,SNR=12
231A Bronte 89.08 55 ⇓P P 02 47 24.9 +0.8
baz=89,SNR=14
R25A Fountain Ranch 89.08 48 ⇑P P 02 47 24.9 +0.8
baz=89
ILAR Eielson Array 89.09 12 P P 02 47 23.1 -0.1
comp=Z,27nm,1.0s,baz=225,slow=6.3,SNR=95
ILAR S S 02 58 03.2 -7.8
comp=Z,0.3nm,0.6s,baz=232,slow=2.2,SNR=3.7
ILAR LR LR 03 25 43.2
comp=Z,4µm,18.1s,baz=217,slow=34
T26A Comanche Natio 89.09 49 ⇑P P 02 47 25.1 +0.8
baz=89
IM04 Indian Mountai 89.10 8 eP P 02 47 22.9 -0.4
M22A Cedar Creek Ra 89.14 44 ⇓P P 02 47 25.3 +0.9
baz=89
X29A Tulia 89.18 52 ⇑P P 02 47 25.2 +0.6
baz=89
J20A Shoshoni 89.20 42 ⇓P P 02 47 25.4 +0.9
baz=89
533A Kerrville 89.24 57 ⇑P P 02 47 25.5 +0.6
baz=89
CLCH Cerro Calan 89.26 126 iP P 02 47 25.5 +0.4
332A Millersview 89.27 56 ⇑P P 02 47 25.8 +0.8
baz=89,SNR=9.3
U27A Thompson Grove 89.28 50 ⇑P P 02 47 25.7 +0.6
baz=89
N23A Red Feather La 89.31 45 ⇓P P 02 47 26.0 +0.7
baz=90
H19A Powell 89.34 41 ⇑P P 02 47 26.3 +1.2
baz=90
131A Roby 89.35 54 ⇑P P 02 47 26.3 +1.0
baz=90
K21A Alcova 89.35 43 ⇓P P 02 47 26.5 +1.1
baz=90
ENH Enshi 89.36 303 eP P 02 47 27.3 +1.8
comp=Z,340nm,1.5s
ENH LR LR
comp=Z,5µm,20.0s
AMTX Amarillo 89.39 52 eP P 02 47 26.2 +0.6
comp=Z,330nm,2.1s
AMTX Amarillo 89.39 52 ⇓P P 02 47 26.5 +1.0
baz=90
S26A Kim 89.39 49 ⇓P P 02 47 26.6 +1.0
baz=90
V28A Channing 89.40 51 ⇑P P 02 47 26.3 +0.7
baz=90

TPTI 89.41 274 P P 02 47 27.9 +1.9
comp=Z,109nm,1.9s,comp=Z,12µm
RLMT Red Lodge 89.42 40 PFAKE 02 47 40.0 +14
RLMT LR LR
comp=Z,10µm,19.0s
835A Beeville 89.43 59 ⇑P P 02 47 26.5 +0.8
baz=90
FCH Farellones 89.47 126 eP P 02 47 28.2 +1.8
Q25A Bedland, Calha 89.48 47 ⇑P P 02 47 26.9 +0.9
baz=90
I20A Worland 89.49 42 ⇓P P 02 47 26.5 +0.6
baz=90
433A Art 89.50 57 ⇓P P 02 47 26.7 +0.7
baz=90,SNR=13
O24A Longmont 89.51 46 ⇑P P 02 47 26.5 +0.5
baz=90
Y30A Stafford Cattl 89.51 53 ⇑P P 02 47 26.7 +0.6
baz=90
W29A Amraillo 89.53 52 ⇑P P 02 47 26.7 +0.5
baz=90
GCMT Greycliff 89.54 39 eP P 02 47 24.2 -1.8
comp=Z,21nm,1.4s
232A Coleman 89.57 55 ⇑P P 02 47 27.2 +0.8
baz=90
L22A Ellis Ranch, M 89.57 44 ⇑P P 02 47 27.1 +0.7
baz=90
J21A Lysite 89.60 42 ⇓P P 02 47 27.3 +0.9
baz=90
PATY Pattaya 89.66 284 P P 02 47 30.4 +3.3
comp=Z,104nm,0.9s,comp=Z,2µm
T27A Campo 89.66 50 ⇓P P 02 47 27.5 +0.7
baz=90
534A Blanco 89.66 57 ⇑P P 02 47 27.2 +0.4
baz=90,SNR=16
735A Kenedy 89.69 59 ⇑P P 02 47 27.3 +0.4
baz=90
U28A Mallet 89.69 50 ⇓P P 02 47 27.4 +0.5
baz=90
R26A Arlington 89.73 48 ⇑P P 02 47 27.7 +0.6
baz=90
M23A Laramie 89.75 45 ⇑P P 02 47 27.9 +0.7
baz=90
X30A Coker Ranch, T 89.79 53 ⇑P P 02 47 27.9 +0.5
baz=90
AIS Amsterdam Isla 89.80 229 P P 02 47 11.0 -16
AIS PP PP 02 50 49.0 -10
AIS S S 02 58 03.0 -16
AIS L L 03 11 00.0
AIS R 03 17 00.0
P25A Willow Gulch B 89.82 47 ⇑P P 02 47 28.4 +0.9
baz=90
K22A Casper 89.82 43 eP P 02 47 27.6 +0.2
comp=Z,75nm,1.6s
K22A Casper 89.82 43 ⇓P P 02 47 28.1 +0.7
baz=90
S27A Las Animas 89.82 49 ⇑P P 02 47 28.1 +0.5
baz=90
Z31A Sharp Cattle R 89.82 54 ⇓P P 02 47 28.3 +0.7
baz=90,SNR=14
333A Richland Sprin 89.83 56 ⇓P P 02 47 28.2 +0.7
baz=90,SNR=12
H20A Greybull 89.85 41 ⇑P P 02 47 28.3 +0.8
baz=90
SNSI Sinabang, Aceh 89.89 273 P P 02 47 31.8 +3.6
ABTX Abilene, Hawle 89.89 55 eP P 02 47 26.8 -1.1
comp=Z,160nm,1.6s
ABTX Abilene, Hawle 89.89 55 ⇑P P 02 47 28.5 +0.6
baz=90
I21A Big Trails, Te 89.93 42 ⇑P P 02 47 28.8 +0.9
baz=90
635A Leesville 89.94 58 ⇓P P 02 47 28.9 +0.8
baz=90
V29A Stinnett 89.96 51 ⇑P P 02 47 28.7 +0.5
baz=90
Q26A Hugo 89.98 48 ⇑P P 02 47 29.1 +0.8
baz=90
N24A Carr 89.98 45 ⇑P P 02 47 29.1 +0.8
baz=90
GYA Guiyang 90.00 299 ⇑iP P 02 47 29.9 +1.3
GYA PP PP 02 51 05.2 +3.2
GYA SKS SKSac 02 58 02.7 +3.4
GYA SS SS 03 04 23.0 +2.9
GYA pmax pmax
comp=Z,120nm,1.0s
GYA pmax pmax
comp=Z,2µm,10.2s
GYA LR LR
comp=Z,6µm,20.8s
GYA LR LR
comp=Z,4µm,21.6s
GYA LR LR
comp=Z,5µm,20.4s
F19A Roth Farm, Mol 90.00 40 ⇓P P 02 47 29.4 +1.2
baz=90
Y31A Rekieta Farm, 90.02 53 ⇑P P 02 47 29.3 +0.8
baz=90
SURT Suratani 90.04 280 P P 02 47 32.1 +3.2
comp=Z,122nm,1.9s,comp=Z,2µm
PKDT Phuket 90.07 278 P P 02 47 32.6 +3.6
comp=Z,230nm,1.3s
L23A Garrett 90.08 44 ⇓P P 02 47 29.3 +0.5
baz=90
G20A Bridger 90.10 40 ⇓P P 02 47 29.4 +0.8
baz=90
T28A Walsh 90.11 50 ⇑P P 02 47 29.5 +0.6
baz=90
434A Burnet 90.16 57 ⇓P P 02 47 29.7 +0.5
baz=90,SNR=22
R27A Eads 90.17 48 ⇑P P 02 47 29.7 +0.6
baz=90
233A Rising Star 90.19 55 ⇓P P 02 47 30.0 +0.7
baz=90
J22A Midwest 90.24 43 ⇑P P 02 47 30.1 +0.7
baz=90
SLVN Son La 90.24 293 eP P 02 47 31.1 +1.4
comp=Z,344nm,1.8s
EGAK Eagle 90.26 14 eP P 02 47 28.5 -0.2
comp=Z,253nm,1.4s
EGAK LR LR
comp=Z,14µm,19.0s
Z32A Haskell 90.32 54 ⇑P P 02 47 30.6 +0.7
baz=90,SNR=15
M24A Cheyenne 90.33 45 ⇓P P 02 47 30.8 +0.9
baz=90
LHMI Lhok Sumawe 90.36 275 eP P 02 47 31.8 +1.4
comp=Z,317nm,0.9s
P26A Davis Ranch, A 90.40 47 ⇓P P 02 47 31.1 +0.9
baz=91
334A Lometa 90.41 56 ⇓P P 02 47 31.1 +0.8
baz=90,SNR=21
E19A Rath Farm, Rou 90.42 39 ⇓P P 02 47 31.5 +1.4
baz=91
133A Hamilton Ranch 90.44 55 ⇑P P 02 47 31.2 +0.8
baz=91
F20A Billings 90.44 40 ⇓P P 02 47 31.5 +1.2
baz=91
K23A Bowen Ranch, D 90.45 43 ⇓P P 02 47 31.6 +1.2
baz=91
I22A 9 Mile Ranch, 90.48 42 ⇑P P 02 47 31.4 +1.0
baz=91
S28A Manter 90.48 49 ⇓P P 02 47 31.6 +1.0
baz=91
H21A Big Horn, Sher 90.51 41 ⇓P P 02 47 31.6 +1.0
baz=91
TIY Taiyuan 90.51 311 P P 02 47 32.3 +1.6
TIY sP sP 02 47 39.4 +1.3
TIY SKS SKSac 02 58 04.3 +2.7
TIY S ScS 02 58 31.7 +2.6
TIY pmax pmax
comp=Z,570nm,1.8s
TIY pmax pmax
comp=Z,3µm,7.7s
TIY LR LR
comp=Z,700nm,17.7s
TIY LR LR
comp=Z,2µm,18.6s
TIY LR LR
comp=Z,5µm,18.1s
V30A Spur Ranch, Mi 90.51 51 ⇓P P 02 47 31.6 +0.9
baz=91
X31A McDonald Ranch 90.53 53 ⇓P P 02 47 31.6 +0.8
baz=91
636A Smothers Creek 90.55 58 ⇓P P 02 47 31.7 +0.8
baz=91,SNR=5.4
KSCO Kaye Shedlock' 90.63 48 eP P 02 47 31.1 -0.2
comp=Z,71nm,1.3s
KSCO Kaye Shedlock' 90.63 48 ⇓P P 02 47 32.1 +0.8
baz=91

Y32A R-V Farms, Ver 90.65 53 ⇑P P 02 47 32.2 +0.9
baz=91
EGMT Eagleton 90.69 37 eP P 02 47 31.5 +0.2
comp=Z,141nm,1.7s
EGMT LR LR
comp=Z,18µm,19.0s
EGMT Eagleton 90.69 37 ⇓P P 02 47 32.3 +1.0
baz=91
T29A Hugoton 90.71 50 ⇓P P 02 47 32.6 +1.0
baz=91
G21A Lodge Grass 90.71 41 ⇑P P 02 47 32.3 +0.8
baz=91
D19A Cripps Ranch, 90.73 39 ⇑P P 02 47 32.7 +1.2
baz=91
234A Clairette 90.77 56 ⇑P P 02 47 32.6 +0.7
baz=91
COLD Coldfoot 90.78 9 eP P 02 47 31.0 -0.1
comp=Z,122nm,1.5s
COLD ePP PP 02 51 06.0 -1.2
536A Bastrop 90.79 58 ⇓P P 02 47 32.8 +0.7
baz=91
W31A Holland Ranch, 90.80 52 ⇓P P 02 47 32.9 +0.8
baz=91
BILL Bilibino 90.81 353c iP P 02 47 31.3 0.0
BILL e 02 47 44.6
BILL e 02 51 04.7
BILL i 02 58 04.2
BILL eSS SS 03 04 27.5 -2.5
BILL pmax pmax
comp=Z,18nm,0.8s
BILL MLR MLR
comp=Z,9µm,19.0s
BILL Bilibino 90.81 353 eP P 02 47 30.7 -0.5
comp=Z,192nm,1.7s
BILL LR LR
comp=Z,10µm,20.0s
M25A Palm-Egli Farm 90.82 45 ⇑P P 02 47 33.2 +1.0
baz=91
E20A Meyer Farm, Mu 90.82 39 ⇓P P 02 47 33.0 +1.1
baz=91
Z33A Whitaker Ranch 90.85 54 ⇓P P 02 47 32.8 +0.5
baz=91
U30A WK&E Inc. Balk 90.89 51 ⇓P P 02 47 33.2 +0.7
baz=91
R28A Tribune 90.89 49 ⇑P P 02 47 33.1 +0.7
baz=91
H22A Clearmont 90.91 42 ⇓P P 02 47 33.3 +0.9
baz=91
P27A Ficken Ranch, 90.92 47 ⇑P P 02 47 33.2 +0.6
baz=91
C19A Slack Wire Ran 90.94 38 ⇑P P 02 47 33.7 +1.3
baz=91
PBKT Sadao Pong 90.95 287 P P 02 47 35.7 +2.7
comp=Z,365nm,1.5s,comp=Z,5µm
K24A Anderson Ranch 90.95 44 ⇑P P 02 47 33.7 +1.0
baz=91
X32A Elmer 90.95 53 ⇓P P 02 47 33.5 +0.7
baz=91
335A Moody 91.01 57 ⇑P P 02 47 33.7 +0.6
baz=91
LCO Las Campanas 91.04 122 eP P 02 47 34.5 +0.7
comp=Z,620nm,1.9s
LCO LR LR
comp=Z,11µm,19.0s
S29A Ulysses 91.05 50 ⇑P P 02 47 33.9 +0.7
baz=91
134A White-Moore Ra 91.06 55 ⇓P P 02 47 33.9 +0.6
baz=91
F21A Absaloka Mine, 91.07 40 ⇑P P 02 47 34.2 +1.1
baz=91
N26A Koester Ranch, 91.08 46 ⇑P P 02 47 34.0 +0.7
baz=91
D20A Manuel Ranch, 91.13 39 ⇓P P 02 47 34.3 +1.0
baz=91
V31A Spring Creek L 91.14 52 ⇓P P 02 47 34.3 +0.7
baz=91
Q28A Sharon Springs 91.21 48 ⇓P P 02 47 34.9 +0.9
baz=91
T30A Plains 91.21 50 ⇑P P 02 47 34.9 +1.0
baz=91
L25A Engebretsen Ra 91.23 45 ⇑P P 02 47 34.9 +0.9
baz=91
Y33A Hilltop Ranch, 91.26 54 ⇑P P 02 47 35.0 +0.8
baz=91
G22A Birney 91.27 41 ⇑P P 02 47 34.9 +0.9
baz=91
O27A Beecher Island 91.28 47 ⇓P P 02 47 35.3 +1.0
baz=91
W32A Sentinel 91.29 53 ⇑P P 02 47 35.6 +1.3
baz=91
436A Wall Ranch, Ga 91.29 57 ⇑P P 02 47 35.0 +0.6
baz=91
WHTX Lake Whitney 91.29 56 eP P 02 47 34.3 0.0
comp=Z,119nm,1.6s
WHTX Lake Whitney 91.29 56 ⇑P P 02 47 35.1 +0.7
baz=91
J24A Dixon Ranch, L 91.35 43 ⇑P P 02 47 36.2 +1.7
baz=92
537A Green Hill Far 91.38 58 ⇓P P 02 47 35.6 +0.8
baz=92
B19A Brinkman Farms 91.38 37 ⇑P P 02 47 35.8 +1.3
baz=92
U31A Nine Bar Ranch 91.39 51 ⇓P P 02 47 35.4 +0.6
baz=92
R29A Marienthal 91.40 49 ⇓P P 02 47 35.7 +0.9
baz=92
XAN Xi'an 91.42 306 P P 02 47 36.5 +1.5
XAN pP pP 02 47 43.1 +2.6
XAN sP sP 02 47 46.4 +4.0
XAN SKS SKSac 02 58 08.1 +1.1
XAN S ScS 02 58 38.9 +2.1
XAN pmax pmax
comp=Z,110nm,0.9s
XAN pmax pmax
comp=Z,770nm,7.0s
XAN LR LR
comp=Z,2µm,19.3s
XAN LR LR
comp=Z,850nm,19.3s
XAN LR LR
comp=Z,1µm,19.3s
M26A McRoberts Ranc 91.44 46 ⇓P P 02 47 36.1 +1.1
baz=92
E21A Keefer Ranch, 91.47 40 ⇑P P 02 47 36.1 +1.2
baz=92
P28A Saint Francis 91.49 48 ⇑P P 02 47 36.2 +1.0
baz=92
S30A Montezuma 91.52 50 ⇑P P 02 47 36.6 +1.2
baz=92
C20A Veseth Ranch, 91.53 38 ⇓P P 02 47 36.5 +1.4
baz=92
135A Vickery Place, 91.56 56 ⇓P P 02 47 36.6 +1.0
baz=92
F22A Rosebud 91.57 41 ⇑P P 02 47 36.8 +1.4
baz=92
X33A Lawton 91.59 53 ⇑P P 02 47 36.7 +1.0
baz=92
I24A Kuemmerle Ranc 91.63 43 ⇑P P 02 47 37.0 +1.2
baz=92
HIA Hailar 91.65 323 eP P 02 47 36.2 +0.6
HIA pmax pmax
comp=Z,103nm,1.5s
HIA MLR MLR
comp=Z,14µm,20.0s
HIA Hailar 91.65 323 eP P 02 47 36.2 +0.6
comp=Z,103nm,1.5s
HIA LR LR
comp=Z,14µm,20.0s
V32A Arapaho 91.70 52 ⇑P P 02 47 37.1 +0.9
baz=92
HKT Hockley 91.71 58 eP P 02 47 36.7 +0.5
HKT pmax pmax
comp=Z,77nm,1.5s
HKT Hockley 91.71 58 eP P 02 47 36.7 +0.5
comp=Z,77nm,1.5s
EDM Edmonton 91.71 32 eP P 02 47 35.3 -0.5
EDM Edmonton 91.71 32 eP P 02 47 35.3 -0.5
Q29A Oakley 91.72 49 ⇑P P 02 47 37.4 +1.2
baz=92
O28A Krutsinger Ran 91.73 47 ⇑P P 02 47 37.5 +1.1
baz=92
A19A Klindworth Far 91.75 37 ⇑P P 02 47 37.6 +1.5
baz=92
L26A Underwood Farm 91.75 45 ⇑P P 02 47 37.7 +1.3
baz=92
SRDT SRDT 91.76 285 P P 02 47 40.2 +3.3
comp=Z,524nm,2.0s,comp=Z,15µm
UTTA Uttaradit 91.76 288 P P 02 47 39.8 +3.0

comp=Z,57nm,1.1s,comp=Z,478nm
D21A La Casta Ranch 91.78 39 ⇑P P 02 47 37.8 +1.4
baz=92
G23A Biddle 91.81 41 ⇓P P 02 47 37.9 +1.4
baz=92
T31A Randall Ranch, 91.84 51 ⇓P P 02 47 37.8 +1.0
baz=92
W33A Caddo, Fort Co 91.87 53 ⇓P P 02 47 38.1 +1.1
baz=92
Y34A Reagan Ranch, 91.89 54 ⇑P P 02 47 37.9 +0.8
baz=92
B20A Solberg Farm, 91.90 38 ⇓P P 02 47 38.3 +1.5
baz=92
OGNE Ogallala 91.94 46 PFAKE 02 47 50.0 +13
OGNE LR LR
comp=Z,11μm,19.0s
R30A Dighton 91.94 49 ⇓P P 02 47 38.3 +1.0
baz=92
K26A Motz Farm, Whi 92.00 44 ⇓P P 02 47 38.7 +1.2
baz=92
Z35A Perchaven, San 92.01 55 ⇓P P 02 47 38.8 +1.2
baz=92
U32A Winter Ranch, 92.01 52 ⇑P P 02 47 38.6 +0.9
baz=92
LAO LASA Array 92.05 40 eP P 02 47 38.4 +0.8
comp=Z,143nm,1.4s
LAO LR LR
comp=Z,5μm,20.0s
F23A Volborg 92.06 41 ⇑P P 02 47 39.0 +1.3
baz=92
P29A Atwood 92.07 48 ⇓P P 02 47 39.0 +1.1
baz=92
E22A Miles City 92.08 40 ⇓P P 02 47 39.3 +1.5
baz=92
538A Harpers Horsep 92.09 58 ⇓P P 02 47 39.0 +1.0
baz=92
H24A Dirks Ranch, A 92.11 42 ⇑P P 02 47 39.3 +1.3
baz=92
C21A Desert Coulee 92.11 39 ⇑P P 02 47 39.2 +1.4
baz=92
RSSD Black Hills 92.13 43 eP P 02 47 38.4 +0.2
RSSD pmax pmax
comp=Z,44nm,1.4s
RSSD Black Hills 92.13 43 eP P 02 47 38.4 +0.2
comp=Z,44nm,1.4s
N28A Pribbeno Ranch 92.15 47 ⇑P P 02 47 39.4 +1.2
baz=92
A20A Cobblestone Ra 92.18 37 ⇓P P 02 47 39.5 +1.4
baz=92
S31A Mullinville 92.21 50 ⇓P P 02 47 39.5 +1.0
baz=92
I25A Rochford 92.27 43 ⇑P P 02 47 40.0 +1.2
baz=92
Q30A Quinter 92.29 49 ⇓P P 02 47 40.0 +1.1
baz=92
V33A Lossen Ranch, 92.30 52 ⇓P P 02 47 40.1 +1.2
baz=92
D22A Cohagen 92.30 39 ⇑P P 02 47 40.0 +1.3
baz=92
J26A Sides Ranch, S 92.35 44 ⇑P P 02 47 40.2 +1.1
baz=92
O29A 4D Ranch, Culb 92.40 48 ⇑P P 02 47 40.5 +1.1
baz=92
KHLT Khaolaem Dam 92.41 285 P P 02 47 43.0 +3.2
comp=Z,74nm,1.9s,comp=Z,1μm
T32A Huddler Ranch, 92.42 51 ⇓P P 02 47 40.5 +1.0
baz=93
W34A Bridge Creek, 92.42 53 eP P 02 47 40.3 +0.8
comp=Z,79nm,1.3s
W34A Bridge Creek, 92.42 53 ⇑P P 02 47 40.6 +1.1
baz=93
B21A Ellsworth Farm 92.47 38 ⇓P P 02 47 40.8 +1.4
baz=93
R31A Burdett 92.47 50 ⇓P P 02 47 40.8 +1.1
baz=93
G24A Alzada 92.47 42 ⇑P P 02 47 40.7 +1.1
baz=93
SUKH Sukhothai 92.48 288 P P 02 47 42.4 +2.3
comp=Z,83nm,0.8s,comp=Z,725nm
P30A Selden 92.52 48 ⇓P P 02 47 41.1 +1.1
baz=93
HHC Hu-ho-hao-te 92.54 313 eP P 02 47 40.7 +0.6
HHC sP sP 02 47 46.8 -0.7
HHC SKS SKSac 02 58 16.6 +3.5
HHC S S 02 58 43.5 -0.3
HHC SS SS 03 04 57.2 +0.9
HHC pmax pmax
comp=Z,200nm,1.5s
HHC pmax pmax
comp=Z,5μm,6.7s
HHC LR LR
comp=Z,5μm,17.3s
HHC LR LR
comp=Z,5μm,18.5s
HHC LR LR
comp=Z,7μm,18.5s
K27A Flueckinger Fa 92.61 45 ⇑P P 02 47 41.5 +1.2
baz=93
S32A Newby Ranch, P 92.63 50 ⇓P P 02 47 41.4 +0.9
baz=93
H25A Fruitdale 92.64 43 ⇓P P 02 47 41.4 +1.0
baz=93
U33A Lingo Farm, Me 92.68 52 ⇓P P 02 47 41.9 +1.2
baz=93
F24A Ekalaka 92.70 41 ⇑P P 02 47 41.9 +1.2
baz=93
KMI Kunming 92.71 296 P P 02 47 43.4 +2.1
KMI pP pP 02 47 46.1 -0.7
KMI sP sP 02 47 47.3 -1.5
KMI PP PP 02 51 24.2 +0.6
KMI SKS SKSac 02 58 15.1 +0.1
KMI S S 02 58 45.9 -0.3
KMI SS SS 03 05 04.3 +4.9
KMI pmax pmax
comp=Z,220nm,1.3s
KMI AMB AMB
comp=Z,1μm,6.3s
KMI LR LR
comp=Z,4μm,18.7s
KMI LR LR
comp=Z,4μm,18.7s
KMI LR LR
comp=Z,7μm,18.7s
NNA Nana 92.77 104 PFAKE 02 47 50.0 +8.3
NNA LR LR
comp=Z,10μm,20.0s
C22A Vida 92.78 39 ⇑P P 02 47 42.3 +1.4
baz=93
N29A Votaw Ranch, W 92.83 47 ⇓P P 02 47 42.4 +1.0
baz=93
I26A New Underwood 92.83 43 ⇑P P 02 47 42.3 +1.0
baz=93
T33A Patterson Ranc 92.86 51 ⇑P P 02 47 42.7 +1.2
baz=93
LAMP Lampang 92.87 289 P P 02 47 44.3 +2.4
comp=Z,121nm,0.8s,comp=Z,935nm
Q31A Ellis 92.88 49 ⇑P P 02 47 42.6 +1.0
baz=93
D23A Lindsay 92.89 40 ⇓P P 02 47 42.9 +1.4
baz=93
O30A MW Ranch, Wils 92.93 48 ⇓P P 02 47 43.0 +1.2
baz=93
B22A Reddig Ranch S 92.99 39 ⇑P P 02 47 43.2 +1.3
baz=93
J27A Elkhorn Farm, 93.02 44 ⇑P P 02 47 43.1 +0.9
baz=93
G25A Newell 93.03 42 ⇓P P 02 47 43.6 +1.4
baz=93
M29A Burnside Ranch 93.07 46 ⇓P P 02 47 43.5 +1.1
baz=93
R32A Long Quarter, 93.11 50 ⇑P P 02 47 43.7 +1.1
baz=93
U34A Anderson Ranch 93.11 52 ⇓P P 02 47 44.0 +1.3
baz=93
P31A Stockton 93.11 49 ⇑P P 02 47 43.7 +1.1
baz=93
E24A Baker 93.13 41 ⇓P P 02 47 43.9 +1.3
baz=93
H26A Fairpoint 93.16 43 ⇓P P 02 47 44.1 +1.3
baz=93
N30A Hueftle Ranch, 93.18 47 ⇑P P 02 47 43.9 +1.0
baz=93
TRQA Tornquist 93.18 133 PFAKE 02 47 50.0 +6.8
TRQA LR LR
comp=Z,8μm,19.0s
K28A Ten Mile Ranch 93.19 45 ⇓P P 02 47 44.0 +1.0
baz=93
C23A Lambert 93.21 39 ⇓P P 02 47 44.3 +1.4
baz=93
CLNS Chul'man 93.33 331 eP P 02 47 43.1 -0.1
CLNS e*PP pP 02 47 53.8 +5.1
CLNS e 02 51 24.9
CLNS ePPP PPP 02 53 23.7
CLNS eS SKSac 02 58 13.9 -2.7
CLNS eSS SS 03 04 55.2 -12
CLNS pmax pmax
comp=Z,26nm,0.9s
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=Z,3.0nm,0.9s
CLNS pmax pmax
comp=N,3.0nm,0.7s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS smax smax
comp=N,1μm,12.8s
CLNS smax smax
comp=E,1μm,12.5s
CLNS MLR MLR
comp=Z,4μm,16.0s
CLNS MLR MLR
comp=N,7μm,16.0s
CLNS MLR MLR
comp=E,4μm,18.0s
F25A Bowman 93.35 41 ⇑P P 02 47 44.8 +1.2
baz=94
NATX Nacogdoches 93.36 57 PFAKE 02 48 00.0 +16
NATX LR LR
comp=Z,18μm,19.0s
I27A Quinn 93.36 44 ⇓P P 02 47 44.9 +1.1
baz=94
A22A Carney Farms, 93.38 38 ⇑P P 02 47 45.0 +1.4
baz=94
D24A Glendive 93.39 40 ⇑P P 02 47 45.1 +1.3
baz=94
O31A Woolen Ranch, 93.42 48 ⇑P P 02 47 45.3 +1.3
baz=94
CMAR Chiang Mai Arr 93.45 288 P P 02 47 46.4 +1.8
comp=Z,102nm,0.9s,baz=118,slow=2.7,SNR=263
CMAR LR LR 03 28 00.4
comp=Z,3μm,19.8s,baz=139,slow=34
Q32A Meitler Ranch, 93.46 49 ⇓P P 02 47 45.4 +1.2
baz=94
BTO Baotou 93.48 312 eP P 02 47 42.0 -2.4
L29A Maesberg Ranch 93.48 46 ⇓P P 02 47 45.5 +1.2
baz=94
C24A Savage 93.53 40 ⇓P P 02 47 45.7 +1.3
baz=94
R33A Olander Ranch, 93.57 50 ⇓P P 02 47 45.8 +1.0
baz=94
CMMT Chiang Mai 93.58 289 P P 02 47 47.2 +2.0
comp=Z,285nm,1.7s,comp=Z,4μm
CHTO Chiang Mai 93.58 289 eP P 02 47 46.5 +1.3
CHTO pmax pmax
comp=Z,119nm,0.8s
CHTO MLR MLR
comp=Z,4μm,19.0s
CHTO Chiang Mai 93.58 289 P P 02 47 47.3 +2.1
comp=Z,988nm,1.7s,comp=Z,16μm
CHTO Chiang Mai 93.58 289 eP P 02 47 46.5 +1.3
comp=Z,119nm,0.8s
CHTO LR LR
comp=Z,4μm,19.0s
G26A Maurine 93.58 42 ⇓P P 02 47 45.8 +1.1
baz=94
J28A Allard Ranch, 93.59 44 ⇑P P 02 47 46.0 +1.2
baz=94
JTS JuntasAbangare 93.60 80 P P 02 47 45.9 +0.5
comp=Z,121nm,1.5s,SNR=5.2
JTS JuntasAbangare 93.60 80 eP P 02 47 45.0 -0.4
JTS pmax pmax
comp=Z,38nm,1.0s
JTS MLR MLR
comp=Z,3μm,19.0s
JTS JuntasAbangare 93.60 80 eP P 02 47 45.0 -0.4
comp=Z,38nm,1.0s
JTS LR LR
comp=Z,3μm,19.0s
H27A Howes 93.61 43 ⇓P P 02 47 46.0 +1.2
baz=94
B23A Brockton 93.65 39 ⇓P P 02 47 46.2 +1.3
baz=94
E25A Miller Ranch, 93.65 41 ⇓P P 02 47 46.3 +1.3
baz=94
P32A Huiting Farm, 93.70 49 ⇑P P 02 47 46.7 +1.3
baz=94
F26A Lodgepole 93.80 42 ⇓P P 02 47 47.0 +1.3
baz=94
I28A Midland 93.90 44 ⇓P P 02 47 47.4 +1.3
baz=94
K29A Lazy Trails An 93.90 45 ⇓P P 02 47 47.4 +1.2
baz=94
CMAI Chiengmai2 93.91 290 P P 02 47 49.3 +2.4
comp=Z,168nm,1.5s,comp=Z,3μm
L30A Spencer Herefo 93.94 46 ⇓P P 02 47 47.8 +1.4
baz=94
A23A Redstone 93.96 38 ⇓P P 02 47 47.7 +1.4
baz=94
Q33A Connelly Farm, 93.97 50 ⇑P P 02 47 47.8 +1.2
baz=94
D25A Fairfield 94.01 40 ⇑P P 02 47 48.0 +1.4
baz=94
G27A Dupree 94.04 42 ⇓P P 02 47 48.0 +1.2
baz=94
DGMT Dagmar 94.12 39 eP P 02 47 46.4 -0.6
comp=Z,149nm,1.1s
DGMT LR LR
comp=Z,13μm,19.0s
DGMT Dagmar 94.12 39 ⇑P P 02 47 48.6 +1.5
baz=94
CD2 Chengdu 94.12 302 P P 02 47 48.8 +1.3
CD2 pP pP 02 47 53.6 +0.6
CD2 sP sP 02 47 55.8 +0.9
CD2 PP PP 02 51 38.3 +3.9
CD2 SKS SKSac 02 58 22.4 +0.3
CD2 S S 02 58 57.1 -1.0
CD2 sS sS 02 59 04.7 -2.5
CD2 SS SS 03 05 21.8 +2.6
CD2 pmax pmax
comp=Z,70nm,1.2s
CD2 pmax pmax
comp=Z,3μm,11.3s
CD2 LR LR
comp=Z,6μm,19.0s
CD2 LR LR
comp=Z,5μm,17.1s
TUL1 Tulsa 94.17 53 ⇓P P 02 47 48.8 +1.2
baz=94
M31A Lambtecht Ranc 94.18 47 ⇓P P 02 47 48.7 +1.1
baz=94
J29A Okreek 94.18 45 ⇑P P 02 47 48.5 +1.0
baz=94
O32A Brockman Farm, 94.20 48 ⇑P P 02 47 48.7 +1.1
baz=94
F27A Lemmon 94.21 42 ⇓P P 02 47 48.9 +1.4
baz=94
E26A Carlson Angus 94.21 41 ⇑P P 02 47 48.9 +1.3
baz=94
P33A Williams Farm, 94.25 49 ⇓P P 02 47 48.9 +1.0
baz=94
TEIG Tepich 94.25 70 PFAKE 02 48 00.0 +12
TEIG LR LR
comp=Z,6μm,20.0s
H28A Mission Ridge 94.30 43 ⇑P P 02 47 49.3 +1.3
baz=94
C25A Freed Ranch, W 94.31 40 ⇓P P 02 47 49.3 +1.3
baz=94
K30A Basset 94.33 46 ⇑P P 02 47 49.4 +1.3
baz=94
A24A Westby 94.45 39 ⇑P P 02 47 49.9 +1.3
baz=95
I29A Vivian Onida 94.47 44 ⇑P P 02 47 50.1 +1.3
baz=95
D26A Manning 94.49 41 ⇑P P 02 47 50.1 +1.3
baz=95
G28A Parade 94.54 43 ⇑P P 02 47 50.4 +1.3
baz=95
YAK Yakutsk 94.61 337c iP P 02 47 48.5 -0.4
YAK e*PP pP 02 47 55.5 +1.1
YAK e 02 51 32.8
YAK ePPP PPP 02 53 39.5
YAK eS SKSac 02 58 22.0 -1.1
YAK e 02 58 58.9
YAK eSS SS 03 05 20.2 -4.4
YAK eSSS SSS 03 09 06.0
YAK pmax pmax
comp=Z,43nm,1.1s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=Z,432nm,3.2s
YAK pmax pmax
comp=N,168nm,3.2s
YAK pmax pmax
comp=E,183nm,4.1s
YAK smax smax
comp=N,1μm,6.5s
YAK smax smax
comp=E,417nm,4.7s
YAK MLR MLR
comp=N,3μm,16.0s
YAK MLR MLR
comp=Z,4μm,18.0s
YAK MLR MLR
comp=N,3μm,17.0s
YAK Yakutsk 94.61 337 eP P 02 47 48.8 -0.1
comp=N,22nm,0.5s
YAK LR LR
comp=Z,3μm,20.0s
L31A Butterfield Fa 94.63 46 ⇑P P 02 47 50.5 +1.0
baz=95
B25A Knox Farm, Ray 94.63 39 ⇑P P 02 47 50.8 +1.4
baz=95
J30A Dallas 94.69 45 ⇓P P 02 47 51.0 +1.2
baz=95
E27A Carson 94.75 42 ⇑P P 02 47 51.2 +1.2
baz=95
BGNE Belgrade 94.77 47 eP P 02 47 51.4 +1.2
comp=Z,122nm,1.4s
BGNE Belgrade 94.77 47 ⇓P P 02 47 51.3 +1.1
baz=95
H29A Onida 94.79 44 ⇓P P 02 47 51.4 +1.1
baz=95
KSU1 Kansas State U 94.88 50 PFAKE 02 48 00.0 +9.2
KSU1 LR LR
comp=Z,17μm,19.0s
KSU1 Kansas State U 94.88 50 ⇑P P 02 47 51.7 +0.9
baz=95
INK Inuvik 94.91 14 eP P 02 47 49.8 -0.3
INK e 02 51 34.1
INK pmax pmax
comp=Z,114nm,1.5s
INK Inuvik 94.91 14 P P 02 47 50.2 +0.1
comp=Z,9.0nm,0.8s,baz=222,slow=5.5,SNR=29
INK LR LR 03 28 51.4
comp=Z,8μm,18.1s,baz=214,slow=34
INK Inuvik 94.91 14 eP P 02 47 49.8 -0.3
comp=Z,114nm,1.5s
INK ePP PP 02 51 34.1 -5.4
F28A McLaughlin 94.96 42 ⇑P P 02 47 52.3 +1.3
baz=95
A25A Svangstu Ranch 94.97 39 ⇑P P 02 47 52.4 +1.5
baz=95
C26A Wahner Farm, P 95.06 40 ⇓P P 02 47 52.7 +1.3
baz=95
D27A Center 95.08 41 ⇓P P 02 47 52.8 +1.3
baz=95
G29A Hoven 95.22 43 ⇑P P 02 47 53.3 +1.1
baz=95
B26A Jensen Ranch, 95.23 40 ⇑P P 02 47 53.4 +1.3
baz=95
LVC Limon Verde 95.28 117 eP P 02 47 54.9 +1.5
comp=Z,264nm,1.8s
LVC LR LR
comp=Z,10μm,19.0s
MIAR Mount Ida 95.30 55 PFAKE 02 48 00.0 +7.2
MIAR LR LR
comp=Z,12μm,20.0s
E28A Huff 95.35 42 ⇓P P 02 47 53.9 +1.2
baz=96
C27A Sayler Ranch, 95.36 41 ⇓P P 02 47 54.0 +1.2
baz=96
BRSD Miller 95.52 44 eP P 02 47 54.3 +0.8
comp=Z,65nm,1.2s
BRSD Miller 95.52 44 ⇓P P 02 47 54.7 +1.2
baz=96
F29A Eureka 95.56 43 ⇓P P 02 47 54.8 +1.0
baz=96
A26A Wade Farm, Ken 95.58 39 ⇓P P 02 47 55.0 +1.2
baz=96
G30A Faulkton 95.69 44 ⇑P P 02 47 55.5 +1.2
baz=96
B27A Peters Farms, 95.82 40 ⇓P P 02 47 56.1 +1.3
baz=96
OTAV Otavalo 95.94 92 eP P 02 47 57.3 +0.5
OTAV LR LR
comp=Z,5μm,22.0s
E29A Napoleon 96.00 42 ⇓P P 02 47 57.2 +1.5
baz=96
HOPE Hope Point 96.03 157 PFAKE 02 48 10.0 +14
HOPE LR LR
comp=Z,6μm,21.0s
LZH Lanzhou 96.06 306 ⇑P P 02 47 58.4 +2.0
LZH pP pP 02 48 03.0 +1.1
LZH sP sP 02 48 05.2 +1.4
LZH SKS SKSac 02 58 34.1 +1.6
LZH S S 02 59 09.1 -5.9
LZH sS sS 02 59 24.0 -0.1
LZH SS SS 03 05 48.0 +1.2
LZH pmax pmax
comp=Z,80nm,1.0s
LZH pmax pmax
comp=Z,330nm,4.0s
LZH LR LR
comp=Z,3μm,18.7s
LZH LR LR
comp=Z,3μm,15.9s
LZH LR LR
comp=Z,4μm,19.2s
D29A Pettibone, Tap 96.24 42 ⇑P P 02 47 57.9 +1.1
baz=96
B28A Dugan Ranch, T 96.38 40 ⇓P P 02 47 58.5 +1.1
baz=96
E30A Jud 96.43 42 ⇓P P 02 47 58.8 +1.1
baz=97
CIT Chita 96.44 324 eP P 02 47 58.3 +0.7
CIT e 02 48 06.0
CIT e 02 48 11.2
CIT pmax pmax
comp=Z,226nm,3.5s
YKA Yellowknife Ar 96.58 24 P P 02 47 57.6 -0.3
comp=Z,10nm,0.7s,baz=238,slow=4.5,SNR=152
YKA PP PP 02 51 51.7 -0.9
comp=Z,1.6nm,1.0s,baz=243,slow=6.9,SNR=3.6
YKA PKiKP PKiKP 02 52 36.7 +1.7
comp=Z,0.7nm,0.8s,baz=251,slow=1.5,SNR=2.5
YKA PKKPbc PKKPbc 03 04 41.3 -2.8
comp=Z,1.3nm,0.8s,baz=38,slow=2.7,SNR=17
A28A Rude Farm, Bot 96.63 40 ⇓P P 02 47 59.8 +1.2
baz=97
ECSD EROS Data Cent 96.76 46 eP P 02 47 58.9 -0.4
comp=Z,64nm,1.2s
ECSD LR LR
comp=Z,12μm,19.0s
ECSD EROS Data Cent 96.76 46 ⇓P P 02 48 00.3 +1.1
baz=97
D30A Buchanan 96.78 42 ⇓P P 02 48 00.4 +1.2
baz=97
B29A Wagenman Farm, 96.99 40 ⇓P P 02 48 01.2 +1.1
baz=97
C30A Mose, Pekin 97.20 41 ⇓P Pdif 02 48 02.3 +1.1
baz=97
A29A Manning Farm, 97.26 40 ⇑P Pdif 02 48 02.4 +1.0
baz=97
B30A Myrvik Farm, E 97.60 41 ⇑P Pdif 02 48 04.1 +1.2
baz=98
A30A Hoffart Farm, 97.82 40 ⇓P Pdif 02 48 04.9 +0.9
baz=98
BCIP Isla Barro Col 97.90 83 PFAKE 02 48 20.0 +15
BCIP LR LR
comp=Z,3μm,19.0s
FFC Flin Flon 98.24 34 eP P 02 48 05.0 -0.6
FFC pmax pmax
comp=Z,228nm,2.6s
FFC MLR MLR
comp=Z,13μm,20.0s
FFC Flin Flon 98.24 34 eP P 02 48 05.0 -0.6

comp=Z,228nm,2.6s
FFC LR LR
comp=Z,13μm,20.0s
SCIA State Center 98.36 48 PFAKE 02 48 20.0 +14
SCIA LR LR
comp=Z,10μm,20.0s
ULN Ulaanbaatar 98.45 318 *e*P **P 02 48 06.7 -0.2**
ULN pmax pmax
comp=Z,58nm,1.5s
ULN MLR MLR
comp=Z,4μm,19.0s
ULN Ulaanbaatar 98.45 318 *e*P **P 02 48 06.7 -0.2**
comp=Z,58nm,1.5s
ULN LR LR
comp=Z,4μm,19.0s
LPAZ La Paz 98.71 111 P Pdif 02 48 10.3 +0.8
comp=Z,2.5nm,1.1s,baz=284,slow=3.3,SNR=6.8
LPAZ PP **PP 02 52 08.4 -1.9**
comp=Z,1.6nm,0.9s,baz=238,slow=8.8,SNR=4.8
LPAZ PKKPbc **PKKPbc 03 04 36.5 -0.7**
comp=Z,2.0nm,0.7s,baz=40,slow=4.8,SNR=8.2
LPAZ LR LR 03 26 13.2
comp=Z,13μm,18.1s,baz=254,slow=32
SONM Songino Array 98.84 318 P Pdif 02 48 09.5 +0.8
comp=Z,4.2nm,1.0s,baz=126,slow=4.0,SNR=30
SONM PP **PP 02 52 08.9 -1.7**
comp=Z,2.7nm,1.1s,baz=123,slow=7.3,SNR=3.8
SONM LR LR 03 27 48.0
comp=Z,3μm,21.7s,baz=113,slow=32
AGMN Agassiz Nation 99.05 42 PFAKE 02 48 20.0 +11
AGMN LR LR
comp=Z,5μm,19.0s
AGMN Agassiz Nation 99.05 42 ⇓P **Pdif 02 48 10.3 +0.9**
baz=99
BRAL Brewton 99.12 60 PFAKE 02 48 20.0 +10
BRAL LR LR
comp=Z,7μm,19.0s
ULM Lac du Bonnet 99.79 40 P **Pdif 02 48 11.8 -0.8**
comp=Z,3.3nm,0.8s,baz=229,slow=3.4,SNR=5.0
ULM LR LR 03 29 31.8
comp=Z,14μm,19.1s,baz=250,slow=33
CRZF Crozet Islands 99.94 211 Pdif Pdif 02 48 00.0 -14
CRZF PP PP 02 52 04.0 -14
CRZF SKKS S 02 59 35.0 -12
CRZF SS **SS 03 06 34.0 -4.7**
CRZF L L 03 16 00.0
CRZF R R 03 21 00.0
GTA Gaotai 100.24 308 P **Pdif 02 48 17.1 +2.0**
GTA pP pP 02 48 21.2 +0.6
GTA sP sP 02 48 24.5 +1.9
GTA SKS **SKSac 02 58 54.1 +0.6**
GTA S **Sdif 02 59 48.3 -2.0**
GTA sS **sS 02 59 56.1 -3.3**
GTA SS **SS 03 06 48.0 +2.6**
GTA pmax pmax
comp=Z,28nm,1.8s
GTA pmax pmax
comp=Z,850nm,6.2s
GTA LR LR
comp=Z,2μm,18.0s
GTA LR LR
comp=Z,5μm,19.0s
GTA LR LR
comp=Z,7μm,18.5s
JFWS Jewell Farm 100.77 48 PFAKE 02 48 30.0 +13
JFWS LR LR
comp=Z,8μm,20.0s
TIXI Tiksi 100.94 344 *e*P **Pdif 02 48 17.7 +0.5**
TIXI pmax pmax
comp=Z,19nm,2.5s
TIXI Tiksi 100.94 344 *e*Pdif **Pdif 02 48 17.6 +0.4**
comp=Z,5.8nm,0.3s
TIXI LR LR
comp=Z,7μm,19.0s
EYMN Ely 101.65 43 PFAKE 02 48 30.0 +9.0
EYMN LR LR
comp=Z,12μm,19.0s
ZAK Zakamensk 101.68 320⇑*i*P **Pdif 02 48 21.9 +0.7**
ZAK pmax pmax
comp=Z,9.0nm,1.6s
TLY Talaya 101.92 321 *e*P **Pdif 02 48 23.4 +1.3**
TLY *e*S Sdif 02 59 51.3 -12
TLY *e*PS PS 03 01 25.5 -13
TLY *e*SS **SS 03 07 08.0 +0.1**
TLY pmax pmax
comp=Z,13nm,1.9s
TLY MLR MLR
comp=Z,7μm,20.0s
TLY Talaya 101.92 321 *e*Pdif **Pdif 02 48 23.2 +1.2**
comp=Z,5.2nm,1.0s
TLY LR LR
comp=Z,7μm,20.0s
GOGA Godfrey 102.78 59 PFAKE 02 48 40.0 +14
GOGA LR LR
comp=Z,12μm,19.0s
MTDJ Mount Denham 103.09 75 PFAKE 02 48 40.0 +12
MTDJ LR LR
comp=Z,3μm,19.0s
FCC Fort Churchill 103.81 32 *e*P **Pdif 02 48 30.9 +0.6**
FCC Fort Churchill 103.81 32 *e*Pdif **Pdif 02 48 30.9 +0.6**
LSA Lhasa 103.94 297 *e*P **Pdif 02 48 32.5 +0.3**
LSA MLR MLR
comp=Z,3μm,22.0s
LSA Lhasa 103.94 297 *e*Pdif **Pdif 02 48 32.5 +0.3**
LSA LR LR
comp=Z,3μm,22.0s
ACSO Alum Creek Sta 105.14 52 PFAKE 02 53 00.0
ACSO LR LR
comp=Z,13μm,19.0s
AAM Ann Arbor 105.22 50 PFAKE 02 53 00.0
AAM LR LR
comp=Z,18μm,19.0s
GTBY Guantanamo Bay 105.80 75 PFAKE 02 53 00.0
GTBY LR LR
comp=Z,2μm,19.0s
TAPN Taplejung 106.15 293 *e*P **Pdif 02 48 41.6 -0.3**
comp=Z,23nm,1.1s
TAPN Taplejung 106.15 293 *e*P **PKiKP 02 52 54.9 +1.1**
comp=Z,449nm,2.3s
TAPN Taplejung 106.15 293 *e*P **Pdif 02 48 41.6 -0.3**
comp=Z,23nm,1.1s
TAPN *e*P **PKiKP 02 52 54.9 +1.1**
SAML Samuel 106.25 107 PFAKE 02 53 10.0
SAML LR LR
comp=Z,6μm,19.0s
BLA Blacksburg 106.25 56 PFAKE 02 53 10.0
BLA LR LR
comp=Z,6μm,19.0s
ODAN Odare 106.28 293 *e*P **PKiKP 02 52 55.2 +1.2**
comp=Z,56nm,1.0s
ODAN Odare 106.28 293 *e*P **PKiKP 02 52 55.2 +1.2**
SDV Santo Domingo 106.31 87 PFAKE 02 53 10.0
SDV LR LR
comp=Z,6μm,20.0s
RAMN Ramite 106.99 293 *e*P **PKiKP 02 52 55.5 +0.2**
comp=Z,33nm,0.9s
RAMN Ramite 106.99 293 *e*P **PKiKP 02 52 55.5 +0.2**
JIRN Jiri 107.53 293 *e*P **PKiKP 02 52 56.3 -0.1**
comp=Z,22nm,0.7s
JIRN Jiri 107.53 293 *e*P **PKiKP 02 52 56.3 -0.1**
CNNC Cliffs of the 107.72 59 PFAKE 02 53 10.0
CNNC LR LR
comp=Z,5μm,19.0s
ERPA Erie 107.80 51 PFAKE 02 53 10.0
ERPA LR LR
comp=Z,17μm,19.0s
GUN Gumba 107.87 293 *e*P **Pdif 02 48 51.0 +1.5**
GUN Gumba 107.87 293 *e*P **PKiKP 02 52 57.5 +0.5**
comp=Z,38nm,0.9s
GUN Gumba 107.87 293 *e*P **Pdif 02 48 51.0 +1.5**
GUN *e*P **PKiKP 02 52 57.5 +0.5**
DGAR Diego Garcia 108.00 254 PFAKE 02 53 10.0
DGAR LR LR
comp=Z,9μm,19.0s
PKI Pulchoki 108.18 293 *e*P **PKiKP 02 52 57.9 +0.3**
comp=Z,36nm,0.9s
PKI Pulchoki 108.18 293 *e*P **PKiKP 02 52 57.9 +0.3**
PKIN Phulchoki 108.19 293 *e*P **Pdif 02 48 51.6 +0.7**
comp=Z,4.7nm,0.4s
KKN Kakani 108.35 293 *e*P **PKiKP 02 52 58.2 +0.5**
KKN Kakani 108.35 293 *e*P **PKiKP 02 52 58.2 +0.5**
DMN Daman 108.45 293 *e*P **Pdif 02 48 54.0 +2.0**
comp=Z,33nm,0.9s
DMN Daman 108.45 293 *e*P **PKiKP 02 52 58.4 +0.4**
DMN Daman 108.45 293 *e*P **Pdif 02 48 54.0 +2.0**
comp=Z,33nm,0.9s

DMN *e*P **PKiKP 02 52 58.4 +0.4**
CBN Corbin 108.84 56 PFAKE 02 53 10.0
CBN LR LR
comp=Z,8μm,20.0s
SDDR Presa de Saban 108.95 77 PFAKE 02 53 10.0
SDDR LR LR
comp=Z,4μm,19.0s
GKN Gorkha 108.95 293 *e*P **Pdif 02 48 55.7 +1.6**
GKN Gorkha 108.95 293 *e*P **PKiKP 02 52 58.1 -0.7**
GKN Gorkha 108.95 293 *e*P **Pdif 02 48 55.7 +1.6**
GKN *e*P **PKiKP 02 52 58.1 -0.7**
KOLN Koldanda 109.78 293 *e*P **Pdif 02 48 59.6 +1.7**
comp=Z,21nm,0.8s
KOLN Koldanda 109.78 293 *e*P **PKiKP 02 52 59.9 -0.5**
comp=Z,22nm,0.8s
KOLN Koldanda 109.78 293 *e*P **Pdif 02 48 59.6 +1.7**
KOLN *e*P **PKiKP 02 52 59.9 -0.5**
DANN Dangsing 109.79 293 *e*P **Pdif 02 48 59.8 +1.8**
comp=Z,28nm,1.2s
DANN Dangsing 109.79 293 *e*P **PKiKP 02 53 00.2 -0.3**
comp=Z,56nm,0.8s
DANN Dangsing 109.79 293 *e*P **Pdif 02 48 59.8 +1.8**
DANN *e*P **PKiKP 02 53 00.2 -0.3**
GRTK Grand Turk 109.82 74 PFAKE 02 53 10.0
GRTK LR LR
comp=Z,3μm,20.0s
WMQ Urumqi 110.17 310 PKP **PKiKP 02 52 59.6 -0.9**
WMQ PP **PP 02 53 38.3 +3.5**
WMQ PKS **PKSdf 02 56 35.1 -1.9**
WMQ SKS **SKSdf 03 00 10.7 -1.3**
WMQ SS **SS 03 09 01.5 +0.6**
WMQ LR LR
comp=Z,1μm,21.0s
WMQ LR LR
comp=Z,3μm,24.0s
WMQ LR LR
comp=Z,4μm,23.6s
BINY Binghamton 110.73 52 PFAKE 02 53 10.0
BINY LR LR
comp=Z,15μm,19.0s
HYB Hyderabad 111.42 281 *i* Pdiff **Pdif 02 49 08.0 +2.9**
HYB *e*PP **PP 02 53 44.0 -0.3**
HYB *e*SKS **SKSac 02 59 46.0 +1.8**
HYB *e*SKKS **SKKSac 03 00 44.0 -2.6**
HYB *e* 03 03 16.0
HYB *e*SPP SPP 03 04 20.0
NGP Nagpur 112.03 285 *e*P x 02 53 15.6
NGP *ex* **PP 02 53 49.2 +0.6**
comp=Z,15nm,1.4s
NGP *e*S **SKSac 02 59 48.2 +1.8**
LONY Lake Ozonia 112.17 49 PFAKE 02 53 20.0
LONY LR LR
comp=Z,11μm,19.0s
NCB Newcomb 112.31 50 PFAKE 02 53 20.0
NCB LR LR
comp=Z,17μm,19.0s
PTGA Pitinga 112.61 100 PFAKE 02 53 20.0
PTGA LR LR
comp=Z,8μm,19.0s
ZALV Zalesovo Beam 113.53 321 Pdiff **Pdif 02 49 14.6 +1.0**
comp=Z,0.3nm,0.5s,baz=90,slow=5.8,SNR=3.3
ZALV PKiKP **PKiKP 02 53 05.7 -0.7**
comp=Z,8.1nm,0.7s,baz=67,slow=1.1,SNR=31
LBNH Lisbon 113.99 50 PFAKE 02 53 20.0
LBNH LR LR
comp=Z,18μm,19.0s
MK31 Makanchi Array 114.40 313 *i* PKiKP PKPdf 02 53 07.8 -0.6
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 114.40 313 Pdiff **Pdif 02 49 19.3 +1.6**
comp=Z,0.7nm,0.7s,baz=86,slow=4.6,SNR=6.0
MKAR PKiKP PKPdf 02 53 07.7 -0.7
comp=Z,5.7nm,0.7s,baz=75,slow=1.5,SNR=28
MKAR PKKPbc **PKKPbc 03 03 48.5 -0.2**
comp=Z,0.2nm,0.5s,baz=267,slow=2.6,SNR=2.6
NVS Novosibirsk 114.52 322 *e*PKiKP PKPdf 02 53 08.5 +0.2
NVS *e* 02 54 01.6
NVS *e* 02 59 57.6
RER Riviere de l'E 114.69 232 PFAKE 02 53 20.0 +10
RER LR LR
comp=Z,4μm,19.0s
GRGR Grenville 115.71 87 PFAKE 02 53 20.0 +8.2
GRGR LR LR
comp=Z,2μm,19.0s
BDFB Brasilia 115.81 121 PKKPbc PKKPbc 03 03 43.4 +0.1
comp=Z,7.2nm,0.9s,baz=90,slow=5.3,SNR=7.7
PKME Peaks-Kenny Pk 115.97 49 PFAKE 02 53 20.0 +8.6
PKME LR LR
comp=Z,10μm,19.0s
FDF Fort de France 116.97 84 PFAKE 02 53 30.0 +16
FDF LR LR
comp=Z,3μm,19.0s
KURK Kurchatov 117.12 317 *e*PKiKP **PKPdf 02 53 12.3 -1.1**
KURK MLR MLR
comp=Z,2μm,19.0s
KURK Kurchatov 117.12 317 *e*PKPdf **PKPdf 02 53 12.3 -1.1**
KURK LR LR
comp=Z,2μm,19.0s
ANWB Willy Bob 117.23 81 PFAKE 02 53 30.0 +15
ANWB LR LR
comp=Z,2μm,19.0s
AJM Ajmer 117.24 289 *e*P **PKPdf 02 53 15.0 +0.5**
BBSR BB Station 117.87 64 PFAKE 02 53 30.0 +15
BBSR LR LR
comp=Z,4μm,20.0s
BBGH Gun Hill 117.97 86 PFAKE 02 53 30.0 +14
BBGH LR LR
comp=Z,6μm,21.0s
KSH Kashi 118.20 304 *e*PKP **PKPdf 02 53 16.8 +0.7**
KSH *e*PKS **PKSdf 02 56 52.0 -0.8**
KSH SKKS 03 01 32.9
KSH *e*SS SS 03 10 55.5 +8.3
KSH AMB AMB
comp=Z,1μm,8.0s
KSH LR LR
comp=Z,1μm,15.9s
KSH LR LR
comp=Z,3μm,16.4s
KSH LR LR
comp=Z,4μm,17.9s
TKM2 Tokmak 2 118.79 308 P **PKPdf 02 53 16.9 -0.3**
SNR=17
TKM2 Tokmak 2 118.79 308 *e*PKiKP **PKPdf 02 53 16.3 -0.9**
TKM2 MLR MLR
comp=Z,3μm,19.0s
TKM2 Tokmak 2 118.79 308 *e*PKPdf **PKPdf 02 53 16.3 -0.9**
TKM2 LR LR
comp=Z,3μm,19.0s
KZA Kyzart 118.98 307 P **PKPdf 02 53 17.5 -0.3**
SNR=12
TRIS Tristan da Cun 119.00 164 PFAKE 02 53 30.0 +12
TRIS LR LR
comp=Z,4μm,19.0s
KBK Karagaybulak 119.25 308 P **PKPdf 02 53 17.3 -0.8**
SNR=13
CHMS Chumysh 119.41 308 P **PKPdf 02 53 18.6 +0.4**
SNR=12
FRU Bishkek 119.50 308 *e*PKiKP **PKPdf 02 53 18.0 -0.3**
FRU pmax pmax
comp=Z,60nm,2.0s
UCH Uchtor 119.54 307 P **PKPdf 02 53 20.2 +1.2**
SNR=19
AAK Ala-Archa 119.58 307 P **PKPdf 02 53 19.3 +0.6**
SNR=9.1
AAK Ala-Archa 119.58 307 *e*PKiKP **PKPdf 02 53 18.3 -0.4**
AAK MLR MLR
comp=Z,4μm,19.0s
AAK Ala-Archa 119.58 307 *e*PKPdf **PKPdf 02 53 18.3 -0.4**
AAK LR LR
comp=Z,4μm,19.0s
USP Ospenovka 119.61 308 P **PKPdf 02 53 17.9 -0.6**
SNR=15
EKS2 Erkin-Say 120.11 307 P **PKPdf 02 53 21.2 +1.6**
SNR=13
EKS2 Erkin-Say 120.11 307 *e*PKiKP **PKPdf 02 53 19.7 +0.1**
EKS2 MLR MLR
comp=Z,4μm,19.0s
EKS2 Erkin-Say 120.11 307 *e*PKPdf **PKPdf 02 53 19.7 +0.1**
EKS2 LR LR
comp=Z,4μm,19.0s
AML Almayashu 120.14 307 P **PKPdf 02 53 20.4 +0.3**
SNR=21
VOSK Vostochnaya 121.81 319 PKiKP **PKPdf 02 53 21.9 -0.5**
VOSK pmax pmax
comp=Z,58nm,1.5s

BVA0 Borovoye Array 122.14 320 *i* PKiKP **PKPdf 02 53 21.6 -1.4**
BVA0 pmax pmax
comp=Z,61nm,1.1s
ABPO Ambohimpanom 122.17 228 PFAKE 02 53 40.0 +16
ABPO LR LR
comp=Z,5μm,19.0s
BRVK Borovoye 122.20 320 PKiKP **PKPdf 02 53 22.5 -0.6**
BRVK pmax pmax
comp=Z,45nm,0.9s
BRVK Borovoye 122.20 320 *e*PKPdf **PKPdf 02 53 22.7 -0.5**
BRVK LR LR
comp=Z,5μm,20.0s
KK31 Karatay Array 122.52 308 PKiKP **PKPdf 02 53 23.8 -0.3**
KK31 pmax pmax
comp=Z,34nm,1.0s
KKAR Karatay Array 122.52 308 *e*PKiKP **PKPdf 02 53 22.9 -1.2**
KKAR Karatay Array 122.52 308 *e*PKPdf **PKPdf 02 53 22.9 -1.2**
KBS Kingsbay 122.89 358 *e*PP PP 02 55 00.7 -1.7
KBS IAMs_20 IAMs_20 03 48 27.8
comp=Z,3μm,16.7s
KBS Kingsbay 122.89 358 PFAKE 02 53 40.0 +16
KBS LR LR
comp=Z,3μm,19.0s
SFJD Kangerlussuaq 123.13 23 PFAKE 02 53 40.0 +16
SFJD LR LR
comp=Z,7μm,19.0s
SPA0 Spitsbergen Ar 123.47 357 *e*P **PKPdf 02 53 25.5 +0.5**
SPA0 *e*PP **PP 02 55 04.8 -1.6**
SPA0 *e*SS SS 03 11 54.8 +2.8
SUMG Summit 123.82 15 *e*PKiKP **PKPdf 02 53 26.5 +0.2**
SUMG Summit 123.82 15 *e*PKPdf **PKPdf 02 53 26.5 +0.2**
DAG Danmarks Havn 123.86 6 *i* P **PP 02 55 06.0 -3.0**
comp=Z,6.8nm,1.0s
comp=Z,4μm,18.0s
SUR Sutherland 123.96 196 *e*PKPdf **PKPdf 02 53 28.3 +0.7**
SUR LR LR
comp=Z,8μm,19.0s
MSEY Mahe Island 124.18 248 PFAKE 02 53 40.0 +12
MSEY LR LR
comp=Z,6μm,20.0s
HOPEN Hopen 124.50 354 *e*P **PKPdf 02 53 29.6 +2.6**
HOPEN *e*PP **PP 02 55 11.7 -1.6**
HOPEN *e*SS SS 03 12 06.8 +1.8
HSPB Hornsund (broa 124.67 357 *e*P **PKPdf 02 53 28.7 +1.5**
HSPB *e*PP **PP 02 55 11.3 -3.1**
BOSA Boshof 126.15 202 PKP **PKPdf 02 53 32.6 +0.8**
comp=Z,16nm,1.0s,baz=144,slow=3.2,SNR=12
SVE Sverdlovsk 126.90 326 *i* PKiKP **PKPdf 02 53 32.2 +0.2**
SVE *e*PPP PPP 02 58 14.5
SVE *e* 03 05 26.6
SVE *e* 03 05 28.7
SVE pmax pmax
comp=Z,52nm,1.0s
SVE MLR MLR
comp=Z,11μm,20.0s
SVE MLR MLR
comp=E,9μm,20.0s
ARU Arti 128.11 326 PKiKP **PKPdf 02 53 35.1 +0.8**
ARU PPP PPP 02 58 18.7
ARU SKS **SKSdf 03 00 40.3 -4.9**
ARU PS **PS 03 05 40.0 -5.0**
ARU SS SS 03 12 42.5 -8.7
ARU Arti 128.11 326 *e*PKPdf **PKPdf 02 53 35.0 +0.6**
ARU LR LR
comp=Z,11μm,20.0s
ABKAR Akbulak array 129.22 316 *e*PKPdf **PKPdf 02 53 36.5 -0.1**
AKTO Aktyubinsk 130.16 318 PKiKP **PKPdf 02 53 39.0 +0.5**
AKTO pmax pmax
comp=Z,27nm,1.0s
JMIC Jan Mayen 130.30 6 *e*PP PP 02 55 47.7 -3.8
JMIC *e*SS SS 03 13 23.4 +6.5
KEV Kevo 130.44 350 PFAKE 02 53 50.0 +12
KEV LR LR
comp=Z,5μm,19.0s
LVZ Lovozero 130.55 346 PFAKE 02 53 50.0 +11
LVZ LR LR
comp=Z,5μm,20.0s
ARCES ARCESS Array B 130.87 351 PKP **PKPdf 02 53 39.4 +0.1**
comp=Z,20nm,0.7s,baz=29,slow=2.1,SNR=30
ARE0 ARCESS Array S 130.87 351 *e*P **PKPdf 02 53 40.6 +1.4**
APA Apatity 131.10 346 *i* PKiKP **PKPdf 02 53 41.5 +1.8**
APA *i* 02 55 54.0
APA *i* SS SS 03 13 29.0 +2.0
APA pmax pmax
comp=Z,29nm,1.2s
RCBR Riachuelo 131.15 120 *e*PKPdf **PKPdf 02 53 42.3 +0.8**
RCBR LR LR
comp=Z,9μm,19.0s
TRO Tromso 131.60 354 *e*P **PKPdf 02 53 42.5 +2.0**
TRO *e*PP **PP 02 55 59.8 -0.1**
TRO *e*SS SS 03 13 35.2 +2.3
TRO IAMs_20 IAMs_20 03 57 42.8
comp=Z,3μm,18.2s
PRGR Permogore 131.63 336 *e*PKiKP **PKPdf 02 53 40.7 -0.1**
PRGR *e* 02 55 56.6
PRGR pmax pmax
comp=Z,111nm,1.5s
HATD Hatta, Dubai 133.42 284⇑*i*P **PKPdf 02 53 45.4 0.0**
SNR=14
BORG Borgarnes 133.78 15 PFAKE 02 54 00.0 +15
BORG LR LR
comp=Z,4μm,19.0s
NAZ Nazwa, Dubai 133.87 284⇓*i*P **PKPdf 02 53 45.5 -0.7**
SNR=8.1
FAQ Al Faqa, Dubai 133.90 284 *i* P **PKPdf 02 53 47.6 +1.3**
SNR=11
ASUD Al Ashush, Dub 134.12 284 ⇓P **PKPdf 02 53 47.0 +0.3**
KLMR Klimovskoe 134.40 337*c i*PKiKP **PKPdf 02 53 45.7 -0.4**
KLMR pmax pmax
comp=Z,31nm,0.9s
JOF Joensuu 135.41 343 *e*PKHKP PKPpre 02 53 38.8
JOF pmax pmax
comp=Z,32nm,1.0s
JOF Joensuu 135.41 343 *e*p PKPpre 02 53 38.8
comp=Z,32nm,1.0s
LSZ Lusaka 136.70 213 *e*PKHKP PKPpre 02 53 45.4
LSZ *e* 02 53 52.8
LSZ MLR MLR
comp=Z,4μm,19.0s
LSZ Lusaka 136.70 213 *e*PKPpre PKPpre 02 53 45.4
LSZ *e*PKPdf **PKPdf 02 53 52.8 +0.9**
LSZ LR LR
comp=Z,4μm,19.0s
NSS Namsos 137.21 356 *e*P **PKPdf 02 53 51.4 +0.2**
NSS *e*PP **PP 02 56 39.4 +4.0**
NSS IAMs_20 IAMs_20 04 03 27.3
comp=Z,4μm,19.1s
KAF Kangasniemi 137.34 346 *e*PKHKP PKPpre 02 53 44.5
KAF pmax pmax
comp=Z,14nm,0.8s
KAF Kangasniemi 137.34 346 *e*p PKPpre 02 53 44.5
comp=Z,14nm,0.8s
TSUM Tsumeb 137.35 197 *e*PKPdf **PKPdf 02 53 53.3 +0.1**
TSUM *e*PP **PP 02 56 39.2 +2.6**
TSUM LR LR
comp=Z,7μm,19.0s
FINES FINESS Array B 137.98 345 PKhKP PKPpre 02 53 45.0
comp=Z,2.7nm,0.6s,baz=46,slow=4.0,SNR=8.1
TBLU Trondheim 138.59 357 *e*PP PP 02 56 44.1 +0.1
MOS Moscow 138.59 333 *e*PKiKP **PKPdf 02 53 52.8 -1.2**
MOS *i* 02 56 42.0
MOS *e*SS SS 03 14 47.9 -10
MOS pmax pmax
comp=Z,61nm,1.2s
MOS pmax pmax
comp=Z,1μm,5.5s
MOS MLR MLR
comp=Z,4μm,21.0s
MOS MLR MLR
comp=N,2μm,20.0s
MOS MLR MLR
comp=E,4μm,20.0s
MAK Makhachkala 139.18 311 *e*PKHKP PKPpre 02 53 48.2
MAK *e* 03 01 04.4
MAK pmax pmax
comp=Z,607nm,1.6s
MOL Molde 139.38 358 *e*P **PKPdf 02 53 58.8 +3.5**
MOL *e*PP **PP 02 56 48.5 -0.3**
VRHR Novokhopersk 139.45 325 *e*PKiKP **PKPdf 02 53 51.6 -4.1**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,5.0nm,0.8s
VRHR pmax pmax

comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,230nm,3.5s
VRHR pmax pmax
comp=E,110nm,3.5s
VRHR pmax pmax
comp=Z,430nm,3.5s
OBN Obninsk 139.45 333 ePKHKP PKPpre 02 53 49.2
OBN i 02 56 46.1
OBN e 03 00 58.9
OBN eSS SS 03 15 06.1 -1.5
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN MLR MLR
comp=Z,6µm,21.0s
OBN Obninsk 139.45 333 ePKPpre PKPpre 02 53 48.7
OBN ePKPdf **PKPdf 02 53 55.5 -0.1**
OBN ePP PP 02 56 42.4 -7.3
OBN LR LR
comp=Z,6µm,20.0s
FOO Floro 140.38 0 eP **PKPdf 02 53 52.7 -4.4**
VSR Storozhevoye 140.67 326 ePKIKP **PKPdf 02 53 55.4 -2.6**
VSR e 02 56 55.0
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,40nm,1.1s
VSR pmax pmax
comp=N,180nm,2.5s
VSR pmax pmax
comp=E,120nm,2.5s
VSR pmax pmax
comp=Z,350nm,2.5s
VSR MLR MLR
comp=N,950nm,19.0s
VSR MLR MLR
comp=E,3µm,19.0s
VSR MLR MLR
comp=Z,4µm,19.0s
NB2 NORSAR Subarra140.72 355 PKPdf PKPpre 02 53 50.7
comp=Z,17nm,1.1s,baz=6.6,slow=1.8
NB2 NORSAR Subarra140.72 355 PKPdf PKPpre 02 53 50.7
baz=6.6,slow=1.8
NOA NORSAR Array B 140.72 355 PKhKP PKPpre 02 53 50.9
comp=Z,4.1nm,0.8s,baz=16,slow=4.5,SNR=14
NOA PP **PP 02 56 57.2 -0.1**
comp=Z,1.1nm,0.8s,baz=18,slow=6.0,SNR=3.7
VORD Divnogorie 140.75 326 ePKIKP **PKPdf 02 53 54.7 -3.4**
VORD e 02 56 53.6
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,90nm,2.2s
VORD pmax pmax
comp=E,100nm,2.2s
VORD pmax pmax
comp=Z,210nm,2.2s
VORD MLR MLR
comp=N,2µm,24.0s
VORD MLR MLR
comp=E,4µm,24.0s
VORD MLR MLR
comp=Z,5µm,24.0s
SHEL Horse Pasture 140.81 163 PFAKE 02 54 10.0 +11
SHEL LR LR
comp=Z,9µm,19.0s
HYA Hoyanger 140.81 359 eP **PKPdf 02 53 58.2 +0.3**
HYA e 02 56 42.9
SUE Sulen 140.93 0 eP PKPpre 02 53 53.0
SUE IAMs_20 IAMs_20 04 04 42.5
comp=Z,5µm,18.9s
NC602 NORSAR Array S 141.00 355 eP PKPpre 02 53 51.8
NC602 eSS SS 03 15 27.3 +2.2
DGRG David-gareji 141.15 309 P **PKPdf 02 53 54.3 -4.9**
KMBO Kilima Mbogo 141.24 238 PKHKP PKPpre 02 53 55.1
KMBO MLR MLR
comp=Z,6µm,19.0s
KMBO Kilima Mbogo 141.24 238 PKhKP PKPpre 02 53 55.1
comp=Z,10nm,0.8s,baz=69,slow=3.7,SNR=25
KMBO Kilima Mbogo 141.24 238 PKPpre PKPpre 02 53 55.1
KMBO ePKPdf **PKPdf 02 53 55.6 -4.9**
KMBO ePP **PP 02 57 00.4 -1.7**
KMBO eSKPab **SKPab 02 57 51.6 +1.1**
KMBO LR LR
comp=Z,6µm,19.0s
HFS Hagfors 141.39 353 PKhKP PKPpre 02 53 50.6
comp=Z,6.2nm,0.8s,baz=83,slow=12,SNR=5.5
TBLG Delisi 141.51 310 P PKPpre 02 53 55.4
LRW Lerwick 141.58 5 AMS AMS 03 56 51.3
comp=Z,4µm,18.8s
BER Bergen 141.60 360 eP PKPpre 02 53 54.8
BER ePP **PP 02 57 02.3 -0.2**
BER e 03 15 26.5
BER IAMs_20 IAMs_20 04 07 16.6
comp=Z,5µm,17.5s
ZEI Tsey 141.75 312 ePKHKP PKPpre 02 53 56.2
ZEI pmax pmax
comp=Z,51nm,1.9s
OSL Oslo 141.85 356 eP PKPpre 02 53 55.3
OSL eSS SS 03 15 38.9 +4.0
GNI Garni 141.99 308 ePKIKP **PKPdf 02 53 58.3 -2.6**
GNI e 02 57 03.8
GNI MLR MLR
comp=Z,3µm,19.0s
GNI Garni 141.99 308 ePKPpre PKPpre 02 53 58.3
GNI ePKPdf **PKPdf 02 54 01.4 +0.5**
GNI ePP **PP 02 57 03.8 -2.6**
GNI LR LR
comp=Z,3µm,19.0s
ODD1 Odda 142.06 359 eP PKPpre 02 53 56.3
ODD1 ePP **PP 02 57 06.2 +0.8**
KBZ Khabaz 142.08 314 PKhKP PKPpre 02 53 57.4
comp=Z,6.1nm,1.0s,baz=65,slow=4.6,SNR=4.7
ONI Oni 142.12 312 P **PKPdf 02 53 57.7 -3.3**
KIV Kislovodsk 142.13 314c iPKHKP PKPpre 02 53 54.4
KIV eSS SS 03 15 36.1 -4.3
KIV pmax pmax
comp=Z,16nm,1.0s
KIV Kislovodsk 142.13 314 ePKPpre PKPpre 02 53 50.9
KIV ePKPdf **PKPdf 02 53 58.8 -2.2**
KIV LR LR
comp=Z,7µm,19.0s
DAMY Dhamar 142.19 266 ePKPdf **PKPdf 02 54 00.1 -2.0**
KONO Kongsberg 142.21 356 ePKHKP PKPpre 02 53 56.3
KONO MLR MLR
comp=Z,4µm,19.0s
KONO Kongsberg 142.21 356 eP PKPpre 02 53 56.1
KONO ePP **PP 02 57 04.8 -1.4**
KONO eSS SS 03 15 45.2 +6.1
KONO IAMs_20 IAMs_20 04 07 33.9
comp=Z,5µm,18.2s
KONO Kongsberg 142.21 356 ePKPpre PKPpre 02 53 56.3
KONO LR LR
comp=Z,4µm,19.0s
AKH Akhalkalaki 142.50 310 P PKPpre 02 53 55.7
KMY Karmoy 142.78 360 eP PKPpre 02 53 57.8
KMY IAmb IAmb 02 54 09.2
comp=Z,33nm,1.0s
DIGO Kars 142.90 309 iP PKPpre 02 53 58.7
BIGH Upper Bighouse 142.91 8 AMS AMS 04 04 19.7
comp=Z,12µm,17.2s
RAYN Ar Rayn 142.92 280 ePKPpre PKPpre 02 53 59.8
RAYN ePKPdf **PKPdf 02 54 04.3 +1.4**
DYDN Diyadin 142.93 307 iP **PKPdf 02 53 58.7 -4.1**
ISAL Salakas 143.00 340 eP **PKPdf 02 53 59.7 -2.2**
ISAL AMB AMB 02 54 24.4
comp=Z,18nm,1.3s
IDID Didziasalis 143.01 340⇓eP PKPbc 02 53 59.9 +1.1
IDID AMB AMB 02 54 22.9
comp=Z,32nm,1.3s
CHVG Ch'k'valeri 143.02 313 P PKPbc 02 54 00.7 +1.4
IIGN Ignalina 143.15 340 eP PKPbc 02 53 59.7 +0.5
IIGN AMB AMB 02 54 23.0
comp=Z,21nm,1.0s
MICGM Minsk 143.29 338⇑iPKP PKPab 02 53 56.0 -2.4
MNK Minsk 143.31 338c iPKHKP PKPpre 02 53 56.0
MNK e 02 57 08.0
MNK e 03 01 12.0
MNK eSS SS 03 15 50.0 -2.3
MNK pmax pmax
comp=Z,4µm,4.0s
MNK MLR MLR
comp=Z,14µm,18.0s
MNK MLR MLR
comp=N,6µm,18.0s
MNK MLR MLR
comp=Z,8µm,18.0s
NACGM Naroch 143.34 339 ePKP PKPab 02 53 55.0 -3.6
MVH1 Achvaich 143.42 8 eP PKPab 02 53 58.9 +0.1
TVAN Van 143.43 306 iP PKPab 02 53 59.5 -0.3
HAKT HAKKARI 143.45 304 iP PKPab 02 53 58.5 -1.5
TUTA Tutak 143.62 307 iP PKPab 02 54 00.3 -0.2
SNART Snartemo 143.63 358 eP PKPbc 02 54 01.1 +0.7
SNART IAmb IAmb 02 54 09.3
comp=Z,188nm,2.0s
SNART eSS SS 03 15 57.5 +2.1
HOMB Homborsund 143.65 357 eP PKPab 02 53 58.4 -1.3
KAC Achnashellach 143.67 10 eP PKPbc 02 54 00.3 -0.3
ARTV Artvin 143.69 310 iP PKPbc 02 54 00.3 -0.3
DAGI Agillar 143.73 310 iP PKPab 02 53 59.4 -1.4
GEVA Gevas 143.75 305 iP PKPab 02 54 00.3 -0.7
KPL Plockton 143.77 10 eP PKPbc 02 54 01.0 +0.2
KPL AMS AMS 04 02 26.1
comp=Z,5µm,17.6s
DBOC Borcka 143.81 311 iP PKPab 02 54 00.2 -0.8
MDO Dochfour 143.87 9 eP PKPab 02 53 60.0 -0.6
MCD Coleburn Disti 143.88 8 eP PKPab 02 53 60.0 -0.6
DBAD Bademkaya 143.91 310 iP PKPab 02 54 00.7 -0.7
KSB Sheil Bridge 143.93 10 eP PKPab 02 53 59.6 -1.2
EKAR Karacoban 144.22 307 iP PKPbc 02 54 03.5 +0.3
SOC Sochi 144.25 315c iPKIKP **PKPab 02 54 02.5 +0.1**
SOC e 02 57 19.9
SOC ePPP PPP 03 00 28.0
SOC pmax pmax
comp=Z,72nm,0.9s
SOC pmax pmax
comp=Z,40nm,0.7s
TATV Tatvan 144.29 306 iP **PKPab 02 54 03.2 +0.1**
SIRN S¨–rnak 144.46 304 iP **PKPab 02 54 03.3 -0.3**
ERZM Erzurum 144.53 309 iP PKPbc 02 54 04.7 +0.6
ASCN Ascension 144.62 145 ePKPdf **PKPdf 02 54 05.6 -0.6**
ASCN LR LR
comp=Z,5µm,19.0s
DRUM Mains of Drumt 144.62 7 eP **PKPab 02 53 58.3 -5.1**
DRUM AMS AMS 04 03 35.5
comp=Z,4µm,17.5s
BNGL BINGOL 144.99 307 iP PKPbc 02 54 05.2 -0.4
EAB Aberfoyle 145.08 9 eP **PKPbc 02 54 03.9 -1.1**
ANN Anapa 145.12 318c iPKIKP **PKPab 02 54 05.6 0.0**
ANN pmax pmax
comp=Z,762nm,1.4s
SUW Suwalki 145.22 341 ePKIKP **PKPbc 02 54 05.5 -0.1**
SUW Suwalki 145.22 341 ePKP **PKPbc 02 54 05.2 -0.4**
SUW Suwalki 145.22 341 ePKPbc **PKPbc 02 54 05.5 -0.1**
MACK Trabzon 145.29 311 iP **PKPbc 02 54 05.9 -0.4**
FURI Furi 145.35 253 P **PKPdf 02 54 09.3 +1.5**
FURI S **PP 02 57 26.9 -0.5**
PGBU Glenifferbraes 145.42 10 eP **PKPbc 02 54 02.6 -3.6**
PGBU AMS AMS 03 58 49.0
comp=Z,4µm,19.7s
MUD Monsted U'grnd 145.42 356⇑iPKIKP **PKPbc 02 54 05.9 -0.2**
MUD pmax pmax
comp=Z,130nm,1.0s
MUD MLR MLR
comp=Z,4µm,18.0s
MUD Monsted U'grnd 145.42 356⇑iP **PKPbc 02 54 05.9 -0.2**
comp=Z,131nm,0.9s
comp=Z,4µm,17.0s
ESY Stoneypath 145.58 8 eP **PKPdf 02 54 05.4 -1.1**
EBL Broad Law 145.67 8 eP **PKPdf 02 54 05.8 -0.9**
AKASG Malin Array Be 145.72 333 PKPbc **PKPdf 02 54 06.7 -0.2**
comp=Z,23nm,0.5s,baz=39,slow=3.8,SNR=203
KIEV Kiev 145.73 333 ePKP2 **PKPdf 02 54 06.6 -0.3**
KIEV MLR MLR
comp=Z,5µm,20.0s
KIEV Kiev 145.73 333 ePKPbc **PKPdf 02 54 06.5 -0.3**
KIEV LR LR
comp=Z,5µm,20.0s
MARD Mardin 145.76 305 iP **PKPdf 02 54 07.2 -0.4**
EUZM Uzumlu 145.80 309 iP **PKPdf 02 54 07.5 0.0**
COP Copenhagen 145.89 353⇑iPKIKP **PKPbc 02 54 07.4 -0.2**
COP pmax pmax
comp=Z,40nm,0.9s
COP MLR MLR
comp=Z,3µm,16.0s
COP Copenhagen 145.89 353⇑iP **PKPbc 02 54 07.4 -0.2**
comp=Z,40nm,0.9s
comp=Z,3µm,16.0s
KELT Kelkit 145.96 310 iP **PKPdf 02 54 07.7 -0.2**
EKA Eskdalemuir Ar 146.08 9 PKPbc **PKPbc 02 54 07.8 -0.4**
comp=Z,26nm,0.8s,baz=338,slow=3.3,SNR=27
DIYA Diyarbakir 146.08 306 iP **PKPdf 02 54 08.0 -0.1**
ESK Eskdalemuir 146.09 9 eP **PKPdf 02 54 06.0 -1.4**
ESK AMS AMS 03 59 04.6
comp=Z,5µm,18.7s
ESK Eskdalemuir 146.09 9 ePKIKP **PKPbc 02 54 08.4 +0.2**
ESK MLR MLR
comp=Z,5µm,19.0s
ESK Eskdalemuir 146.09 9 ePKPbc **PKPbc 02 54 08.4 +0.2**
ESK eSKPdf **SKPdf 02 57 39.8 -1.2**
ESK eSKPbc **SKPbc 02 57 46.8 0.0**
ESK LR LR
comp=Z,5µm,19.0s
BSD Bornholm Skovb 146.10 350⇑iPKP2 **PKPdf 02 54 07.5 +0.1**
BSD pmax pmax
comp=Z,100nm,1.0s
BSD MLR MLR
comp=Z,5µm,18.0s
BSD Bornholm Skovb 146.10 350⇑iP **PKPdf 02 54 07.5 +0.1**
comp=Z,100nm,1.0s
comp=Z,5µm,17.0s
LLD Lille Linde 146.26 353 ePKP2 **PKPab 02 54 09.5 0.0**
LLD pmax pmax
comp=Z,120nm,0.9s
LLD Lille Linde 146.26 353 iP **PKPab 02 54 09.5 0.0**
comp=Z,116nm,0.8s
LLD i 02 54 30.9
GAL1 Galloway 146.29 10 eP **PKPdf 02 54 06.8 -0.9**
GAL1 AMS AMS 04 00 55.7
comp=Z,5µm,19.2s
GRSN GIRESUNGRSN 146.34 312 iP **PKPbc 02 54 09.6 0.0**
HCB Kahramanmara¨ 146.42 305 iP **PKPab 02 54 11.8 +1.0**
XAL Allendale 146.66 8 eP **PKPbc 02 54 09.8 -0.2**
SUSE Susehri 146.68 311 iP **PKPdf 02 54 09.0 -0.1**
KESW Keswick, Cumbr 146.81 9 eP **PKPbc 02 54 10.2 -0.2**
KESW AMS AMS 04 02 02.8
comp=Z,6µm,18.3s
KEMA Kemaliye 146.83 309 iP **PKPdf 02 54 09.7 +0.4**
SIM Simferopol' 147.04 321 iPKP2 **PKPbc 02 54 10.9 -0.5**
SIM e 02 57 38.0
SIM pmax pmax
comp=Z,2µm,19.0s
GKP Gorka Klasztor 147.42 347 ePKIKP **PKPdf 02 54 10.4 +0.7**
GKP eSS SS 03 16 37.3 -1.5
GKP Gorka Klasztor 147.42 347 ePKP **PKPdf 02 54 10.4 +0.7**
GKP eSS SS 03 16 37.2 -1.6
DSB Dublin 147.52 13 ePKPbc **PKPbc 02 54 12.5 +0.1**
ATAB Bozova 147.60 306 iP **PKPdf 02 54 09.2 -1.3**
HPK Haverah Park 147.62 8 eP **PKPdf 02 54 09.4 -0.6**
HPK AMS AMS 03 59 55.1
comp=Z,5µm,18.8s
VAL Valentia 147.75 18 eP **PKPbc 02 54 12.9 -0.2**
WME Myndd Eilian 147.77 11 eP **PKPdf 02 54 10.3 0.0**
BEL Belsk 147.83 342 ePKIKP **PKPdf 02 54 11.1 +0.7**
BEL Belsk 147.83 342 ePKP **PKPdf 02 54 11.1 +0.7**
TOKA Tokat 147.83 312 iP **PKPdf 02 54 09.9 -0.9**
BSEG Bad Segeberg 147.84 354 ePKPdf **PKPdf 02 54 11.6 +1.3**
WLF1 Llynfaes 147.86 11 eP **PKPdf 02 54 09.8 -0.6**
WLF1 AMS AMS 04 02 53.0
comp=Z,7µm,19.0s
WPM1 Penmaenmawr 147.97 10 eP **PKPbc 02 54 12.8 -0.9**
LHO Holmfirth 148.00 8 eP **PKPbc 02 54 13.6 -0.1**
HAVZ Havza 148.02 314 iP **PKPdf 02 54 11.4 +0.2**
YRE Yr Eifl 148.15 11 eP **PKPdf 02 54 12.3 +1.5**
GZT Gaziantep 148.18 306 iP **PKPdf 02 54 12.1 +0.4**
KBI1 Birley Grange 148.32 8 eP **PKPdf 02 54 11.9 +0.7**
STNC Stoke 148.39 9 eP **PKPdf 02 54 11.6 +0.3**
STNC AMS AMS 04 05 24.9
comp=Z,7µm,18.0s
BOYT Boyabat 148.40 315 iP **PKPbc 02 54 15.4 +0.2**
FOEL Foel Wylfa 148.45 11 eP **PKPdf 02 54 11.1 -0.3**
LVV L'vov 148.48 336 ePKIKP **PKPdf 02 54 12.0 +0.4**
LVV e 02 57 39.3
KIS Kishinev 148.58 328 ePKHKP **PKPdf 02 54 11.0 -0.8**
KIS i 02 54 16.0
KIS e 02 57 44.0
KIS ePPP PPP 03 01 12.0
KIS pmax pmax
comp=Z,2µm,3.0s
KIS pmax pmax
comp=Z,5µm,8.0s
KIS pmax pmax
comp=Z,6µm,12.0s
KIS Kishinev 148.58 328 ePKP **PKPdf 02 54 11.0 -0.8**
comp=Z,2µm,3.0s
KIS eSKP 02 57 44.0
KIS Kishinev 148.58 328 ePP **SKPbc 02 57 52.0 -0.6**
KIS Kishinev 148.58 328 ePPP SKSdf 03 01 12.0 -7.4
KIS Kishinev 148.58 328 ePKKP **PKKPdf 03 03 10.0 +4.0**
KIS eSKKS **SKKSac 03 04 40.0 +4.2**
KIS eSKSP 03 07 58.0
KIS Kishinev 148.58 328 ePS 03 08 20.0
KUZU Kuzuini 148.75 305 iP **PKPdf 02 54 12.0 -0.5**
RUE Ruedersdorf 148.82 350 ePKPdf **PKPdf 02 54 12.8 +0.8**
RUE ePKPbc **PKPbc 02 54 16.3 +0.4**
CTKT Corum 148.85 313 iP **PKPbc 02 54 18.0 +1.4**
HLM1 Long Mynd 148.85 10 eP **PKPdf 02 54 11.6 -0.5**
ANDN Andirin 149.01 307 iP **PKPdf 02 54 11.0 -2.0**
LPW Lampeter 149.04 11 eP **PKPdf 02 54 10.6 -1.8**
LPW AMS AMS 04 02 54.2
comp=Z,6µm,18.5s
IAS Iasi 149.04 330⇓PKP2 **PKPbc 02 54 18.4 +1.8**
IAS Iasi 149.04 330⇓iP **PKPbc 02 54 18.4 +1.8**
KWP Kalwaria Pacla 149.12 338 ePKIKP **PKPdf 02 54 13.1 +0.5**
KWP e 02 54 18.3
KWP e 02 54 22.6
KWP MLR MLR
comp=Z,6µm,20.0s
KWP Kalwaria Pacla 149.12 338 ePKP **PKPdf 02 54 12.7 +0.1**
KWP Kalwaria Pacla 149.12 338⇓iP **PKPdf 02 54 14.1 +1.5**
KWP Kalwaria Pacla 149.12 338 ePKPdf **PKPdf 02 54 13.1 +0.5**
KWP ePKPbc **PKiKP 02 54 18.3 +0.3**
KWP ePKPab **PKPab 02 54 22.6 +1.5**
KWP LR LR
comp=Z,6µm,20.0s
LEOM Leova 149.23 328⇓PKIKP **PKPdf 02 54 14.2 +1.4**
LEOM Leova 149.23 328⇓iP **PKPdf 02 54 14.1 +1.3**
NRDL Niedersach Rie 149.28 354 ePKPdf **PKPbc 02 54 18.1 +1.1**
MCH1 Michaelchurch 149.34 10 eP **PKPdf 02 54 12.5 -0.3**
MCH1 AMS AMS 04 06 35.8
comp=Z,7µm,17.0s
MONM Monmouth 149.52 10 eP **PKPdf 02 54 10.1 -3.0**
MONM AMS AMS 04 01 17.9
comp=Z,6µm,19.9s
OJC Ojcow 149.55 341 ePKPdf **PKPdf 02 54 12.1 -1.2**
OJC ePKPbc **PKPbc 02 54 17.5 -0.3**
OJC ePP **PP 02 57 47.8 -2.2**
OJC eSS SS 03 17 11.4 +8.4
OJC L L 04 06 08.0
comp=Z,9µm,18.8s
AVNT Avonos 149.62 310 iP **PKPbc 02 54 19.3 +0.7**
STRD Stroud 149.68 9 eP **PKPdf 02 54 12.6 -0.8**
STRD AMS AMS 04 03 32.3
comp=Z,6µm,16.7s
BURAR Bucovina Array 149.78 333⇑iP **PKPdf 02 54 15.3 +1.4**
STHS Stebnicka Huta 149.80 339 ePKP **PKPdf 02 54 15.2 +1.5**
STHS 02 54 20.9
ELDT Eldivan 149.83 314 iP **PKPbc 02 54 18.3 -0.7**
TLCR 149.83 326⇑iP **PKPbc 02 54 16.5 -2.1**
KOLS Kolonicke sedl 149.86 337 ePKP **PKPdf 02 54 15.2 +1.4**
KOLS e 02 54 20.6
KOLS e 02 54 28.0
KSP Ksiaz 149.90 346 ePKIKP **PKPdf 02 54 14.0 +0.1**
KSP e 02 54 20.3
KSP eSS SS 03 17 06.0 -0.7
KSP Ksiaz 149.90 346 ePKP **PKPdf 02 54 13.9 +0.1**
KSP eSS SS 03 17 02.1 -4.6
CLZ Clausthal 149.90 354 ePKPdf **PKPdf 02 54 15.5 +1.7**
GIUM Giurgiulesti 149.94 327⇑iP **PKPdf 02 54 15.1 +1.1**
TESR Tescani 149.97 330⇓iP **PKPdf 02 54 15.8 +1.7**
BATH Bath 149.98 9 AMS AMS 04 04 26.8
comp=Z,6µm,18.7s
SWN1 Swindon 149.99 9 eP **PKPdf 02 54 12.8 -1.1**
SWN1 AMS AMS 04 03 59.8
comp=Z,7µm,16.5s
WTSB Winterswijk 150.02 358 ePKP **PKPdf 02 54 14.2 +0.3**
comp=Z,136nm,0.9s
FKH Fakeheh 150.03 301 eP **PKPdf 02 54 15.2 +0.5**
BRTR Keskin Array B 150.05 313 PKP **PKPdf 02 54 15.3 +0.7**
comp=Z,6.4nm,0.7s,baz=128,slow=2.0,SNR=20
BRTR PKPbc **PKPbc 02 54 20.0 +0.4**
comp=Z,66nm,0.8s,baz=133,slow=2.6,SNR=157
CLL Collm 150.08 350 ePKHKP **PKPdf 02 54 15.0 +0.9**
CLL i 02 54 24.8
CLL pmax pmax
comp=Z,126nm,1.0s
CLL pmax pmax
comp=Z,376nm,1.8s
CLL MLR MLR
comp=Z,6µm,19.0s
CLL Collm 150.08 350 ePKPdf **PKPdf 02 54 15.2 +1.1**
CLL Collm 150.08 350 ePKPdf **PKPdf 02 54 15.0 +0.9**
CLL iPKPbc **PKiKP 02 54 20.0 +0.1**
comp=Z,126nm,1.0s
CLL ePKPlp 02 54 21.0
comp=Z,2µm,25.9s
CLL i pPKPbc **pPKPbc 02 54 22.7 -2.0**
CLL i PKPab **PKPab 02 54 24.8 -0.1**
comp=Z,376nm,1.8s
CLL i pPKPab **pPKPab 02 54 28.5 -1.9**
CLL i 02 54 33.6
CLL ePP PP 02 58 02.0 +9.2
CLL ePPP PPP 03 01 10.0
CLL eSKSdf **SKSdf 03 01 20.0 -1.2**
CLL eSKKSac **SKKSac 03 04 45.0 +1.2**
CLL ePSKS 03 08 11.0
CLL e 03 11 13.0
CLL eSS **SS 03 17 06.0 -2.6**
CLL eSSS SSS 03 22 55.0
CLL eSSSS 03 26 42.0
CLL e 03 27 54.0
CLL Lm MLR 04 05 00.0
comp=N,4µm,18.3s
CLL Lm MLR 04 05 00.0
comp=E,3µm,20.2s
CLL Lm MLR 04 05 00.0
comp=Z,6µm,19.0s
NIE Niedzica 150.10 340 ePKP2 **PKPbc 02 54 19.5 +0.3**
NIE e 02 57 51.9
NIE Niedzica 150.10 340 ePKPdf **PKPdf 02 54 14.7 +0.5**
NIE ePKPbc **PKPbc 02 54 19.5 +0.3**
NIE ePP **PP 02 57 51.9 -1.3**
NIE eSS SS 03 17 19.1 +10
NIE L L 04 05 32.0
comp=Z,5µm,18.8s
UZH Uzhgorod 150.11 337 ePKIKP **PKPdf 02 54 14.5 +0.3**
UZH i 02 54 20.5
UZH i 02 54 23.5
UZH e 03 01 10.0
RAC Raciborz 150.13 343 ePKHKP **PKPdf 02 54 15.0 +0.8**
CRVS Cervenica-Dubn 150.17 338 ePKP **PKPdf 02 54 15.3 +1.0**
CRVS e 02 54 21.1
CFR Carcaliu 150.19 326⇓iP **PKPdf 02 54 16.0 +1.6**
WOL Wolverton 150.26 8 eP **PKPdf 02 54 14.2 -0.1**
WOL AMS AMS 04 04 38.5
comp=Z,7µm,18.5s
UPC Upice 150.28 346 ePKPDF **PKPdf 02 54 16.5 +2.1**
UPC ⇑ePKP **PKiKP 02 54 21.8 +1.4**
BRG Berggiesshubel 150.34 349 iPKP **PKPdf 02 54 14.9 +0.4**
comp=Z,204nm,2.4s
BRG i 02 54 21.5
comp=Z,95nm,0.9s
BRG e 02 54 28.9
comp=Z,285nm,1.4s
BRG SKKS 03 04 44.0
BRG e 03 04 48.0
BRG SS **SS 03 17 06.0 -5.6**
comp=Z,6µm,18.0s
comp=N,5µm,17.5s
comp=E,4µm,17.5s
BRG Berggiesshubel 150.34 349 iPKIKP **PKPdf 02 54 14.9 +0.4**
BRG i 02 54 21.5
BRG e 02 54 28.9
BRG SS SS 03 17 06.0 -5.6
BRG pmax pmax

	comp=Z,204nm,2.4s						
BRG				pmax	pmax		
	comp=Z,95nm,0.9s						
BRG				pmax	pmax		
	comp=Z,285nm,1.4s						
BRG				pmax	pmax		
	comp=Z,48nm,1.6s						
BRG				MLR	MLR		
	comp=Z,6µm,18.0s						
BRG				MLR	MLR		
	comp=N,5µm,17.5s						
BRG				MLR	MLR		
	comp=E,4µm,17.5s						
BRG	Berggiesshubel	150.34	349	ePKPdf	PKPdf	02 54 15.7	+1.2
DPC	Dobruska-Polom	150.35	346	ePKPDF	PKPdf	02 54 15.8	+1.2
DPC				⇑ePKP	PKiKP	02 54 21.2	+0.6
DPC				ePP	PP	02 57 50.7	-3.8
DPC				eSKKS		03 04 50.4	
DPC				ex	x	03 08 08.5	
DPC				eSS	SS	03 17 11.0	-0.9
DPC				AMS	AMS	04 10 10.0	
OKC	Ostrava-Krasne	150.37	343	ePKPDF	PKPdf	02 54 16.2	+1.6
OKC				⇑ePKP	PKiKP	02 54 21.8	+1.2
OKC				ePP	PP	02 57 53.7	-0.9
OKC				eSS	SS	03 17 17.8	+5.8
OKC				AMS	AMS	04 09 50.0	
	comp=E,5µm,19.0s						
HWQ	Hawqa	150.39	301	eP	PKPdf	02 54 13.3	-1.9
VRI	Vrincioaia	150.40	329	⇓iP	PKPdf	02 54 16.4	+1.6
TRPA	Tarpa	150.43	336	⇑iP	PKPdf	02 54 16.0	+1.3
TRPA	Tarpa	150.43	336	ePKPdf	PKPdf	02 54 15.3	+0.6
BMR	Baia Mare	150.44	335	⇑iP	PKPbc	02 54 17.7	-2.3
PLOR	Plostina	150.45	329	⇓iP	PKPbc	02 54 20.4	+0.2
BBAL	Bala	150.49	313	iP	PKPdf	02 54 13.7	-1.6
KRLC	Kraliky	150.50	345	ePKPDF	PKPdf	02 54 16.0	+1.2
KRLC				⇑ePKP	PKiKP	02 54 22.1	+1.2
TIRR	Tirgusor	150.53	325	ePKIKP	PKPdf	02 54 15.5	+0.5
TIRR				e		02 54 21.1	
TIRR				e		02 54 27.0	
TIRR	Tirgusor	150.53	325	⇓iP	PKPdf	02 54 16.2	+1.2
TIRR	Tirgusor	150.53	325	ePKPdf	PKPdf	02 54 15.5	+0.5
TIRR				ePKPbc	PKiKP	02 54 21.1	0.0
TIRR				ePKPab	PKPab	02 54 27.0	+0.1
ANTO	Ankara	150.55	314	ePKIKP	PKPdf	02 54 15.5	+0.2
ANTO				e		02 54 21.4	
ANTO				e		02 54 27.2	
ANTO				MLR	MLR		
	comp=Z,3µm,20.0s						
ANTO	Ankara	150.55	314	⇑iP	PKPdf	02 54 16.1	+0.8
ANTO	Ankara	150.55	314	ePKPdf	PKPdf	02 54 15.5	+0.2
ANTO				ePKPbc	PKiKP	02 54 21.4	0.0
ANTO				ePKPab	PKPab	02 54 27.2	-0.2
ANTO				LR	LR		
	comp=Z,3µm,20.0s						
BCAM	Yenicaga	150.56	316	iP	PKPdf	02 54 14.5	-0.8
MORC	Moravsky Berou	150.58	344	⇑iP	PKPdf	02 54 14.9	-0.1
MORC	Moravsky Berou	150.58	344	ePKPdf	PKPdf	02 54 16.1	+1.1
MORC				ePKPbc	PKiKP	02 54 21.9	+0.9
MORC				ePKPab	PKPab	02 54 27.1	0.0
HARR	Harsova	150.63	326	⇑PKIKP	PKPdf	02 54 14.2	-0.9
HARR	Harsova	150.63	326	⇑iP	PKPdf	02 54 14.2	-0.9
GRER		150.63	328	⇓iP	PKPbc	02 54 21.6	+1.0
DYA	Yadsworthy	150.67	12	AMS	AMS	04 00 27.8	
	comp=Z,4µm,18.8s						
ELSH	Elham, Standar	150.69	5	eP	PKPdf	02 54 15.0	0.0
ELSH				AMS	AMS	04 02 15.9	
	comp=Z,7µm,19.2s						
RCY	Rachaya	150.69	300	eP	PKPdf	02 54 15.8	+0.1
BHL	Bhannes	150.73	301	eP	PKPdf	02 54 14.2	-1.5
HMNX	Herstmonceux	150.89	6	AMS	AMS	04 05 11.3	
	comp=Z,8µm,19.0s						
MOX	Moxa	150.93	352	ePKPdf	PKPdf	02 54 16.8	+1.4
DOPR	Dopca	150.96	330	⇑iP	PKPdf	02 54 17.2	+1.5
AMRR	Amara	150.99	326	⇑iP	PKPbc	02 54 22.0	+0.6
PRA	Prague	151.02	348	⇑PKPDF	PKPdf	02 54 17.0	+1.4
PRA				⇑PKP	PKiKP	02 54 23.0	+1.1
ISR	Istrita	151.03	328	⇑iP	PKPbc	02 54 22.5	+0.9
TANN	Tannenbergstha	151.03	350	ePKPdf	PKPdf	02 54 16.9	+1.2
MLR	Muntele Rosu	151.05	329	⇑iP	PKPdf	02 54 17.7	+1.7
MLR	Muntele Rosu	151.05	329	PKP	PKPdf	02 54 16.7	+0.8
	comp=Z,1.0nm,0.8s,baz=88,slow=2.1,SNR=4.6						
MLR				PKPbc	PKiKP	02 54 22.3	-0.1
	comp=Z,16nm,0.9s,baz=35,slow=4.3,SNR=37						
KIZK	Mersin	151.06	306	iP	PKPdf	02 54 14.5	-1.5
PRU	Pruhonice	151.08	348	ePKIKP	PKPdf	02 54 17.1	+1.4
PRU				e		02 54 22.7	
PRU				MLR	MLR		
	comp=Z,5µm,19.6s						
PRU	Pruhonice	151.08	348	ePKPDF	PKPdf	02 54 17.1	+1.4
PRU				⇑ePKP	PKiKP	02 54 22.7	+0.7
PRU				eSKP		02 57 46.3	
PRU				eSKKS		03 04 56.7	
PRU				ex	x	03 07 54.6	
PRU				eSS	SS	03 17 22.8	+3.1
PRU				AMS	AMS	04 05 30.0	
	comp=Z,5µm,19.6s						
MSAB	Monastry St. A	151.09	325	⇓iP	PKPdf	02 54 18.1	+2.2
CJR	Cluj-Napoca	151.17	333	⇑PKIKP	PKPdf	02 54 17.7	+1.7
CJR	Cluj-Napoca	151.17	333	⇑iP	PKPdf	02 54 17.7	+1.7
PSN	Preselentsi	151.17	324	⇓PKIKP	PKPbc	02 54 19.2	-2.7
PSN	Preselentsi	151.17	324	⇓iP	PKPbc	02 54 19.2	-2.7
UCC	Uccle	151.20	1	PKP	PKPdf	02 54 16.4	+0.6
BEBN	Eben Emael	151.21	359	PKP	PKPdf	02 54 16.2	+0.4
NKC	Novy Kostel	151.21	350	ePP	PP	02 57 56.6	-2.8
NKC				eSKKS		03 04 57.8	
NKC				eSS	SS	03 17 29.8	+8.6
NKC				AMS	AMS	04 09 20.0	
	comp=Z,3µm,18.9s						
HGN	Heimansgroeve	151.24	359	ePKP	PKPdf	02 54 15.5	-0.4
	comp=Z,148nm,1.2s						
VRAC	Vranov	151.25	344	⇓iP	PKPdf	02 54 18.4	+2.4
VRAC	Vranov	151.25	344	PKP	PKPdf	02 54 16.1	+0.1
	comp=Z,2.4nm,0.8s,baz=309,slow=3.1,SNR=6.9						
VRAC				PKPbc	PKPbc	02 54 22.0	0.0
	comp=Z,33nm,1.2s,baz=10,slow=2.4,SNR=21						
SECR		151.33	328	⇑iP	PKPdf	02 54 18.4	+2.2
NAQL	Naqoura	151.35	299	eP	PKPbc	02 54 23.2	+0.5
BTAS	Taskesti	151.37	316	iP	PKPdf	02 54 14.4	-2.1
MEM	Membach	151.40	359	PKP	PKPdf	02 54 17.3	+1.1
MEM				PKPbc	PKiKP	02 54 22.7	0.0
DRGR		151.47	334	⇓PKIKP	PKPdf	02 54 17.0	+0.5
DRGR		151.47	334	⇓iP	PKPdf	02 54 17.0	+0.5
SNF	Seneffe	151.49	1	PKP	PKPdf	02 54 17.6	+1.4
SNF				PKPbc	PKiKP	02 54 23.0	+0.2
SULR		151.49	328	⇓iP	PKPbc	02 54 20.0	-2.6
VOIR		151.51	330	⇑PKIKP	PKPdf	02 54 18.5	+1.9
VOIR		151.51	330	⇑iP	PKPdf	02 54 18.5	+1.9
TREC	Trest	151.53	346	ePKIKP	PKPdf	02 54 17.8	+1.4
TREC				e		02 57 59.5	
TREC				eSS	SS	03 17 22.8	-2.1
TREC				MLR	MLR		
	comp=Z,5µm,17.7s						
TREC	Trest	151.53	346	ePKPDF	PKPdf	02 54 17.8	+1.4
TREC				ePP	PP	02 57 59.5	-1.8
TREC				eSKKS		03 04 56.9	
TREC				eSS	SS	03 17 22.8	-2.1
TREC				AMS	AMS	04 10 50.0	
	comp=Z,5µm,17.7s						
PSZ	Piszkesteto	151.55	339	ePKIKP	PKPdf	02 54 17.6	+1.0
PSZ				e		02 54 24.2	
PSZ				e		02 54 32.7	
PSZ				MLR	MLR		
	comp=Z,6µm,19.0s						
PSZ	Piszkesteto	151.55	339	⇓iP	PKPdf	02 54 19.0	+2.4
PSZ	Piszkesteto	151.55	339	ePKPdf	PKPdf	02 54 17.6	+1.0
PSZ				ePKPbc	PKiKP	02 54 24.2	+1.0
PSZ				ePKPab	PKPab	02 54 32.7	+1.5
PSZ				LR	LR		
	comp=Z,6µm,19.0s						
PSZ	Piszkesteto	151.55	339	ePKPdf	PKPdf	02 54 16.8	+0.2
BCLA	Clavier	151.59	360	PKPbc	PKPbc	02 54 24.1	+1.5
BCLA				PKPab	PKPab	02 54 32.6	+1.5
KDHN	Kadinhani	151.66	312	iP	PKPdf	02 54 15.3	-1.8
ARR	Arges	151.76	330	⇓iP	PKPdf	02 54 19.0	+2.0
AYK	Aydincik	151.79	306	iP	PKPdf	02 54 12.3	-4.9
SACV	Santiago Islan	151.79	99	PFAKE		02 54 30.0	-3.1
SACV				LR	LR		
	comp=Z,4µm,19.0s						
ERMK	Ermenek	151.91	308	iP	PKPdf	02 54 16.7	-0.9
GIVF	Givet	151.91	1	ePKIKP	PKPdf	02 54 18.2	+1.3
GIVF	Givet	151.91	1	ePKIKP	PKPdf	02 54 18.2	+1.3
GIVF	Givet	151.91	1	ePKPdf	PKPdf	02 54 18.2	+1.3

DOU	Dourbes	151.91	1	PKPbc	PKPbc	02 54 24.0	+0.6
DOU				PKPab	PKPab	02 54 30.7	-1.8
BAIF	Baives	151.94	1	ePKIKP	PKPdf	02 54 18.3	+1.3
BAIF	Baives	151.94	1	ePKIKP	PKPdf	02 54 18.3	+1.3
BAIF	Baives	151.94	1	ePKPdf	PKPdf	02 54 18.3	+1.3
SEYT	Eskypehyr	152.03	315	iP	PKPbc	02 54 23.4	-0.8
KHC	Kasperske Hory	152.08	348	ePKIKP	PKPdf	02 54 18.4	+1.1
KHC				e		02 54 25.0	
KHC				e		02 58 02.4	
KHC				eSS	SS	03 17 26.9	-4.0
KHC				MLR	MLR		
	comp=Z,6µm,19.5s						
KHC	Kasperske Hory	152.08	348	ePKPDF	PKPdf	02 54 18.4	+1.1
KHC				⇑ePKP	PKiKP	02 54 25.0	+0.8
KHC				ex	x	02 54 43.5	
KHC				ePP	PP	02 58 02.4	-2.0
KHC				eSKKS		03 05 02.5	
KHC				ex	x	03 08 24.1	
KHC				eSS	SS	03 17 26.9	-4.0
KHC				AMS	AMS	04 05 50.0	
	comp=Z,6µm,19.5s						
KHC	Kasperske Hory	152.08	348	ePKPdf	PKPdf	02 54 17.5	+0.2
KHC				ePKPbc	PKiKP	02 54 25.1	+0.8
LOT	Lotru	152.09	331	⇑iP	PKPdf	02 54 19.1	+1.6
BORA	Eskisehir	152.10	316	iP	PKPdf	02 54 17.1	-0.5
JSA	Saint Aubin	152.19	10	eP	PKPdf	02 54 16.7	-0.6
JSA				AMS	AMS	04 04 57.2	
	comp=Z,7µm,18.3s						
WET	Wettzell	152.20	349	ePKPdf	PKPdf	02 54 14.5	-2.9
BUD	Budapest	152.21	340	ePKPdf	PKPdf	02 54 18.0	+0.6
CSS	Prodhromos	152.22	304	P	PKPbc	02 54 24.9	+0.3
CSS	Prodhromos	152.22	304	P	PKPdf	02 54 15.5	-2.4
CSS	Prodhromos	152.22	304	ePKPdf	PKPdf	02 54 18.4	+0.5
CSS				ePKPbc	PKiKP	02 54 25.1	+0.1
CSS				ePKPab	PKPab	02 54 35.5	+1.0
CSS				LR	LR		
	comp=Z,886nm,20.0s						
HUMR	Humele	152.23	329	⇓iP	PKPdf	02 54 19.4	+1.8
MAMC	Mammari	152.23	304	P	PKPbc	02 54 25.7	+1.1
ISK	Istanbul-Kandi	152.31	319	P	PKPdf	02 54 16.8	-1.0
ISK	Istanbul-Kandi	152.31	319	PKIKP	PKPdf	02 54 16.8	-1.0
ISK	Istanbul-Kandi	152.31	319	P	PKPdf	02 54 16.8	-1.0
GEC2	GERESS Array S	152.33	348	ePKPdf	PKPdf	02 54 17.3	-0.4
GERES	GERESS Array B	152.33	348	PKP	PKPdf	02 54 18.5	+0.8
	comp=Z,5.2nm,1.0s,baz=50,slow=1.5,SNR=20						
GERES				PKPbc	PKiKP	02 54 24.8	0.0
	comp=Z,18nm,0.8s,baz=29,slow=2.2,SNR=58						
WLF	Walferdange	152.34	359	PKP	PKPdf	02 54 19.6	+2.1
WLF				PKPbc	PKiKP	02 54 26.0	+1.3
WLF	Walferdange	152.34	359	ePKIKP	PKPdf	02 54 17.5	-0.1
WLF				e		02 54 25.1	
WLF				e		02 54 34.2	
WLF				MLR	MLR		
	comp=Z,11µm,19.0s						
WLF	Walferdange	152.34	359	ePKPdf	PKPdf	02 54 17.5	-0.1
WLF				ePKPbc	PKiKP	02 54 25.1	+0.5
WLF				ePKPab	PKPab	02 54 34.2	-0.1
WLF				LR	LR		
	comp=Z,11µm,19.0s						
PKSG		152.50	340	e	PKPdf	02 54 18.0	+0.1
GAZI	Gazipasa	152.51	307	iP	PKPdf	02 54 15.1	-3.2
GZR	Gura Zlata	152.56	333	⇑PKIKP	PKPdf	02 54 20.0	+1.9
GZR	Gura Zlata	152.56	333	⇑iP	PKPdf	02 54 20.0	+1.9
SZAC	Souni-Zanaja	152.64	304	P	PKPbc	02 54 26.8	+1.2
ELBA	Catalca	152.64	320	iP	PKPdf	02 54 17.6	-0.7
ALFC	Alevga	152.71	305	P	PKPbc	02 54 26.4	+0.7
CONA	Conrad Observa	152.72	344	⇓iPKPdf	PKPdf	02 54 19.2	+0.9
	comp=Z,69nm,1.6s,SNR=5.8						
ALT	Altintas	152.76	314	P	PKPdf	02 54 17.4	-1.3
ALT	Altintas	152.76	314	P	PKPdf	02 54 17.4	-1.3
ROSF	Rostrenen	152.81	12	ePKIKP	PKPdf	02 54 19.2	+0.9
ROSF	Rostrenen	152.81	12	ePKIKP	PKPdf	02 54 19.2	+0.9
ROSF	Rostrenen	152.81	12	ePKPdf	PKPdf	02 54 19.2	+0.9
JMB	Yambol	152.86	324	P	PKPdf	02 54 17.0	-1.6
JMB	Yambol	152.86	324	PKIKP	PKPdf	02 54 17.0	-1.6
JMB	Yambol	152.86	324	⇓iP	PKPdf	02 54 18.6	0.0
JMB	Yambol	152.86	324	P	PKPdf	02 54 17.0	-1.6
FLN	La Foliniere	152.86	8	ePKIKP	PKPdf	02 54 19.6	+1.2
FLN				eR			
	comp=Z,10µm,18.5s						
FLN	La Foliniere	152.86	8	ePKIKP	PKPdf	02 54 19.6	+1.2
FLN	La Foliniere	152.86	8	ePKPdf	PKPdf	02 54 19.6	+1.2
LANF	Langenberg	152.96	356	PKP	PKPdf	02 54 18.9	+0.4
AKMC	Akamas	152.97	305	P	PKPbc	02 54 26.7	+0.4
PVL	Pavlikeni	153.00	326	iP	PKPdf	02 54 18.7	0.0
PPCY	Paphos	153.00	304	P	PKPbc	02 54 27.0	+0.7
SGMF	Saint Gilles	153.02	12	ePKIKP	PKPdf	02 54 19.7	+1.1
SGMF	Saint Gilles	153.02	12	ePKIKP	PKPdf	02 54 19.7	+1.1
SGMF	Saint Gilles	153.02	12	ePKPdf	PKPdf	02 54 19.7	+1.1
STU	Stuttgart	153.06	354	ePKIKP	PKPdf	02 54 19.5	+0.8
STU				e		02 54 26.0	
STU	Stuttgart	153.06	354	ePKPdf	PKPdf	02 54 19.5	+0.8
STU				ePKPbc	PKPbc	02 54 26.0	0.0
STU				ePKPab	PKPab	02 54 38.1	+0.8
LDF	La Druitiere	153.07	8	ePKIKP	PKPdf	02 54 19.6	+0.9
LDF	La Druitiere	153.07	8	ePKIKP	PKPdf	02 54 19.6	+0.9
LDF	La Druitiere	153.07	8	ePKPdf	PKPdf	02 54 19.6	+0.9
ISP	Isparta	153.10	312	P	PKPdf	02 54 17.7	-1.5
ISP	Isparta	153.10	312	PKIKP	PKPdf	02 54 17.7	-1.5
ISP				MLR	MLR		
	comp=Z,4µm,19.0s						
ISP	Isparta	153.10	312	P	PKPdf	02 54 17.7	-1.5
ISP				LR	LR		
	comp=Z,4µm,19.0s						
GDZ	Gediz	153.16	315	iP	PKPdf	02 54 18.0	-1.3
MOA	Molln	153.16	346	⇓iPKPdf	PKPdf	02 54 19.2	+0.3
	comp=Z,58nm,1.4s						
EDRB	Edirne	153.18	323	P	PKPdf	02 54 16.8	-2.3
EDRB	Edirne	153.18	323	P	PKPdf	02 54 16.8	-2.3
PKS9	Tamasi	153.25	340	e	PKPab	02 54 38.9	+0.7
BANR	Banloc	153.25	335	⇓iP	PKPbc	02 54 23.6	-2.9
STR	Strasbourg	153.35	356	PKP	PKPdf	02 54 20.6	+1.5
ARSA	Arzberg	153.43	344	⇑iPKPdf	PKPdf	02 54 20.5	+1.2
	comp=Z,20nm,1.4s						
PAGF	Fort de Pagny	153.46	359	ePKIKP	PKPdf	02 54 20.8	+1.5
	comp=Z,9.0nm,1.0s						
PAGF	Fort de Pagny	153.46	359	ePKIKP	PKPdf	02 54 20.8	+1.5
PKSM	Moragy	153.46	339	⇑PKIKP	PKPdf	02 54 18.5	-0.8
PKSM	Moragy	153.46	339	⇑iP	PKPdf	02 54 18.5	-0.8
PKSM	Moragy	153.46	339	ePKPdf	PKPdf	02 54 18.7	-0.6
MEZF	Maizieres J'vi	153.51	0	ePKIKP	PKPdf	02 54 20.8	+1.5
	comp=Z,51nm,1.0s						
MEZF	Maizieres J'vi	153.51	0	ePKPdf	PKPdf	02 54 20.8	+1.5
CDF	Champ du Feu	153.55	357	ePKIKP	PKPdf	02 54 20.2	+0.7
CDF	Champ du Feu	153.55	357	ePKIKP	PKPdf	02 54 20.2	+0.7
CDF	Champ du Feu	153.55	357	ePKPdf	PKPdf	02 54 20.2	+0.7
BFO	Black Forest	153.57	355	ePKIKP	PKPdf	02 54 20.2	+0.7
BFO				e		02 54 27.7	
BFO				e		02 54 39.8	
BFO				MLR	MLR		
	comp=Z,4µm,19.0s						
BFO	Black Forest	153.57	355	ePKPdf	PKPdf	02 54 20.2	+0.7
BFO				ePKPbc	PKiKP	02 54 27.7	+0.5
BFO				ePKPab	PKPab	02 54 39.8	+0.2
BFO				LR	LR		
	comp=Z,4µm,19.0s						
KORT	Korkueli	153.60	310	iP	PKPdf	02 54 16.5	-3.5
ECH	Echery	153.75	357	ePKIKP	PKPdf	02 54 20.3	+0.6
ECH				e		02 54 28.1	
ECH				e		02 54 39.4	
ECH				e		02 58 13.3	
ECH				MLR	MLR		
	comp=Z,6µm,19.0s						
ECH	Echery	153.75	357	ePKPdf	PKPdf	02 54 20.3	+0.6
ECH				ePKPbc	PKiKP	02 54 28.1	+0.5
ECH				ePKPab	PKPab	02 54 39.4	-0.9
ECH				ePP	PP	02 58 13.2	-0.5
ECH				LR	LR		
	comp=Z,6µm,19.0s						
THEF	They Montfort	153.78	359	PKP	PKPdf	02 54 19.1	-0.7
SFTF	Sexfontaines	153.81	0	ePKIKP	PKPdf	02 54 21.1	+1.3
	comp=Z,83nm,1.2s						
SFTF	Sexfontaines	153.81	0	ePKPdf	PKPdf	02 54 21.1	+1.3
BEHE	Becsehely	153.81	342	ePKPdf	PKPdf	02 54 20.0	+0.2
KOGS	Kog	153.98	342	ePKPdf	PKPdf	02 54 19.6	-0.5
KOGS				ePKPbc	PKiKP	02 54 28.1	0.0
HAU	Haudompre	153.99	358	ePKIKP	PKPdf	02 54 21.1	+1.0
HAU				eR			
	comp=Z,8µm,19.8s						
HAU	Haudompre	153.99	358	ePKIKP	PKPdf	02 54 21.1	+1.0
HAU	Haudompre	153.99	358	ePKPdf	PKPdf	02 54 21.1	+1.0
KDZ	Kurdzhali	154.05	324	⇓iP	PKPbc	02 54 28.0	-0.4

PGB	Panagyurishte	154.08	327	iP	PKPdf	02 54 19.5	-0.9
SOKA	Soboth	154.09	344	⇑iPKPdf	PKPdf	02 54 20.8	+0.5
	comp=Z,45nm,1.1s,SNR=5.7						
KBA	Koelnbreinsper	154.09	347	⇑iPKPdf	PKPdf	02 54 21.4	+0.9
	comp=Z,35nm,0.9s						
PERS	Pernice	154.11	344	ePKPdf	PKPdf	02 54 20.0	-0.3
PERS				ePKPbc	PKPbc	02 54 28.3	-0.1
PERS				ePP	PP	02 58 13.9	-2.0
PERS				eSS	SS	03 17 55.2	+2.0
MOF	Molkenrain	154.12	357	PKP	PKPdf	02 54 20.1	-0.2
PLD	Plovdiv	154.12	325	P	PKPdf	02 54 19.4	-1.0
PLD	Plovdiv	154.12	325	PKIKP	PKPdf	02 54 19.4	-1.0
PLD	Plovdiv	154.12	325	P	PKPdf	02 54 19.5	-1.0
PLD	Plovdiv	154.12	325	P	PKPdf	02 54 19.4	-1.0
HINF	Hinteralfeld	154.16	358	ePKIKP	PKPdf	02 54 21.3	+0.9
HINF	Hinteralfeld	154.16	358	ePKIKP	PKPdf	02 54 21.3	+0.9
HINF	Hinteralfeld	154.16	358	ePKPdf	PKPdf	02 54 21.3	+0.9
ALN	Alexandroupoli	154.20	322	P	PKPdf	02 54 19.7	-0.8
ALN	Alexandroupoli	154.20	322	PKIKP	PKPdf	02 54 19.7	-0.8
ALN	Alexandroupoli	154.20	322	ePN	PKPab	02 54 45.5	+3.0
ALN	Alexandroupoli	154.20	322	P	PKPdf	02 54 19.7	-0.8
MOTA	Moosalm	154.23	351	⇑iPKPdf	PKPdf	02 54 20.0	-0.6
	comp=Z,22nm,0.9s,SNR=6.8						
AKHS	Akhisar	154.35	316	iP	PKPdf	02 54 17.3	-3.6
RZN	Rozhen	154.40	325	iP	PKPdf	02 54 17.8	-3.3
DAVA	Damuels	154.45	353	⇑iPKPdf	PKPdf	02 54 22.4	+1.5
	comp=Z,36nm,1.2s						
AKAS	Kas	154.49	309	iP	PKPdf	02 54 18.4	-2.9
VTS	Vitosha	154.53	328	P	PKPdf	02 54 20.1	-1.1
VTS	Vitosha	154.53	328	PKIKP	PKPdf	02 54 20.1	-1.1
VTS	Vitosha	154.53	328	iP	PKPdf	02 54 20.0	-1.1
VTS	Vitosha	154.53	328	⇑iP	PKPdf	02 54 22.1	+0.9
VTS	Vitosha	154.53	328	P	PKPdf	02 54 20.1	-1.1
ABTA	Abfaltersbach	154.57	348	⇓iPKPdf	PKPdf	02 54 21.0	0.0
	comp=Z,27nm,0.9s,SNR=7.5						
FETA	Feichten	154.60	351	⇑iPKPdf	PKPdf	02 54 21.3	+0.2
	comp=Z,46nm,1.5s,SNR=7.5						
HYF	Humbligny	154.66	4	ePKIKP	PKPdf	02 54 22.4	+1.4
HYF	Humbligny	154.66	4	ePKPdf	PKPdf	02 54 22.4	+1.4
GCIS	Gornji Cirnik	154.69	343	ePKPdf	PKPdf	02 54 21.2	+0.2
LOR	Lormes	154.72	2	ePKIKP	PKPdf	02 54 22.4	+1.3
	comp=Z,32nm,1.0s						
LOR				eR			
	comp=Z,11µm,18.5s						
LOR	Lormes	154.72	2	ePKIKP	PKPdf	02 54 22.4	+1.3
LOR	Lormes	154.72	2	ePKPdf	PKPdf	02 54 22.4	+1.3
DIVS	Divibare	154.77	335	P	PKPdf	02 54 19.9	-1.5
SMTH	Samothraki Isl	154.77	322	ePN	PKPab	02 54 47.0	+2.0
LJU	Ljubljana	154.81	345	ePKPdf	PKPdf	02 54 21.0	-0.3
LJU				ePKPbc	PKPbc	02 54 29.5	-0.3
LJU				iPKPab	PKPab	02 54 44.5	-0.4
LJU				ePP	PP	02 58 17.7	-2.1
LJU				eSS	SS	03 17 59.9	-0.9
SSF	Saint Saulge	154.91	3	ePKIKP	PKPdf	02 54 22.6	+1.2
SSF	Saint Saulge	154.91	3	ePKIKP	PKPdf	02 54 22.6	+1.2
SSF	Saint Saulge	154.91	3	ePKPdf	PKPdf	02 54 22.6	+1.2
DAVOX	Davos/Dischmat	154.95	352	PKP	PKPdf	02 54 22.2	+0.5
	comp=Z,11nm,0.8s,baz=90,slow=2.6,SNR=13						
DAVOX				PKPbc	PKiKP	02 54 30.7	+0.3
	comp=Z,12nm,0.7s,baz=297,slow=4.5,SNR=14						
DAVOX				PKPab	PKPab	02 54 46.2	+0.6
	comp=Z,22nm,0.7s,baz=27,slow=4.5,SNR=12						
KAVA	Kavala	154.99	324	ePN	PKPbc	02 54 31.0	+0.6
MMB	Musomiste	155.00	326	⇓PKIKP	PKPdf	02 54 22.3	+0.6
MMB	Musomiste	155.00	326	iP	PKPdf	02 54 20.5	-1.2
MMB	Musomiste	155.00	326	⇓iP	PKPdf	02 54 22.3	+0.6
MFF	Saint Martin d	155.02	9	ePKIKP	PKPdf	02 54 22.5	+1.0
MFF	Saint Martin d	155.02	9	ePKIKP	PKPdf	02 54 22.5	+1.0
MFF	Saint Martin d	155.02	9	ePKPdf	PKPdf	02 54 22.5	+1.0
NVR	Nevrokopi	155.10	325	P	PKPdf	02 54 19.8	-2.0
NVR	Nevrokopi	155.10	325	ePB	PKPab	02 54 47.0	+0.7
NVR	Nevrokopi	155.10	325	P	PKPdf	02 54 19.8	-2.0
PRK	Paraskevi	155.11	319	ePB	PKPab	02 54 49.0	+2.6
KKB	Krupnik	155.13	327	iP	PKPdf	02 54 20.0	-1.8
AVF	Avril sur Loir	155.18	3	ePKIKP	PKPdf	02 54 22.6	+0.9
	comp=Z,28nm,1.2s						
AVF	Avril sur Loir	155.18	3	ePKIKP	PKPdf	02 54 22.6	+0.9
AVF	Avril sur Loir	155.18	3	ePKPdf	PKPdf	02 54 22.6	+0.9
TUE	Stuetta	155.31	353	ePKPdf	PKPdf	02 54 23.0	+0.8
TUE				ePKPbc	PKPbc	02 54 31.3	
TUE				ePKPab	PKPab	02 54 47.4	+0.1
TUE				LR	LR		
	comp=Z,6µm,19.0s						
SMF	Signal de Mont	155.34	2	ePKIKP	PKPdf	02 54 23.0	+1.0
SMF	Signal de Mont	155.34	2	ePKIKP	PKPdf	02 54 23.0	+1.0
SMF	Signal de Mont	155.34	2	ePKPdf	PKPdf	02 54 23.0	+1.0
BGF	Bois d'Agland	155.38	4	ePKIKP	PKPdf	02 54 23.0	+1.0
BGF	Bois d'Agland	155.38	4	ePKIKP	PKPdf	02 54 23.0	+1.0
BGF	Bois d'Agland	155.38	4	ePKPdf	PKPdf	02 54 23.0	+1.0
SIGR	SIGRI	155.38	319	ePN	PKPab	02 54 50.0	+2.4
CABF	La Chapelle	155.39	359	ePKIKP	PKPdf	02 54 23.9	+1.8
	comp=Z,34nm,0.9s						
CABF	La Chapelle	155.39	359	ePKIKP	PKPdf	02 54 23.9	+1.8
CABF	La Chapelle	155.39	359	ePKPdf	PKPdf	02 54 23.9	+1.8
SKDS	Skadanscina	155.40	345	ePKPdf	PKPdf	02 54 21.8	-0.3
SKDS				ePP	PP	02 58 21.0	-2.1
SRS	Serrai	155.41	325	P	PKPdf	02 54 17.3	-4.9
SRS	Serrai	155.41	325	PKIKP	PKPdf	02 54 17.3	-4.9
SRS	Serrai	155.41	325	ePB	PKPab	02 54 49.0	+1.4
SRS	Serrai	155.41	325	P	PKPdf	02 54 17.3	-4.9
TCF	Toulx Ste Croi	155.60	5	ePKIKP	PKPdf	02 54 23.3	+0.9
TCF	Toulx Ste Croi	155.60	5	ePKIKP	PKPdf	02 54 23.3	+0.9
TCF	Toulx Ste Croi	155.60	5	ePKPdf	PKPdf	02 54 23.3	+0.9
SMG	Samos	155.65	315	ePB	PKPab	02 54 50.5	+1.7
KNT	Kendrikon	155.74	326	ePB	PKPab	02 54 44.0	-5.0
OUR	Ouranopolis	155.74	323	ePN	PKPdf	02 54 33.0	+10
CHOS	Chios island	155.76	317	ePB	PKPdf	02 54 31.5	+8.6
VAY	Valandovo	155.79	327	iPKP	PKPdf	02 54 32.7	+10
SKO	Skopje	155.85	329	P	PKPdf	02 54 21.4	-1.4
SKO	Skopje	155.85	329	PKIKP	PKPdf	02 54 21.4	-1.4
SKO	Skopje	155.85	329	iPKP	PKPdf	02 54 23.1	+0.3
SKO	Skopje	155.85	329	P	PKPdf	02 54 21.4	-1.4
AGO	Saint Agoulin	155.90	4	PKP	PKPdf	02 54 21.8	-1.0
PLDF	La Plantade	156.01	3	PKP	PKPdf	02 54 22.4	-0.6
PLG	Polygyros	156.01	324	ePB	PKPab	02 54 52.0	+1.7
HORT	Hortiatis	156.04	325	ePN	PKPdf	02 54 23.0	-0.2
PAIG	Paliouri	156.19	323	ePN	PKPab	02 54 51.0	0.0
PYM	Petit Puy Mans	156.19	4	PKP	PKPdf	02 54 24.2	+1.0
RSL	Roselend	156.30	358	PKP	PKPdf	02 54 23.8	+0.3
LPL	La Plagne	156.47	357	ePKIKP	PKPdf	02 54 25.3	+1.5
LPL	La Plagne	156.47	357	ePKIKP	PKPdf	02 54 25.3	+1.5
LPL	La Plagne	156.47	357	ePKPdf	PKPdf	02 54 25.3	+1.5
LPG	La Plagne	156.48	357	ePKPdf	PKPdf	02 54 25.4	+1.5
LPG	La Plagne	156.48	357	ePKIKP	PKPdf	02 54 25.4	+1.5
LPG	La Plagne	156.48	357	ePKPdf	PKPdf	02 54 25.4	+1.5
RJF	Les Rejaudoux	156.51	7	ePKIKP	PKPdf	02 54 24.7	+1.1
RJF				eR			
	comp=Z,8µm,20.8s						
RJF	Les Rejaudoux	156.51	7	ePKIKP	PKPdf	02 54 24.7	+1.1
RJF	Les Rejaudoux	156.51	7	ePKPdf	PKPdf	02 54 24.7	+1.1
KARP	Karpathos	156.56	310	ePB	PKPab	02 54 53.0	+0.1
AOS	Alonnisos	156.59	321	ePN	PKPab	02 54 47.0	-5.7
LBL	Lubilhac	156.72	4	PKP	PKPdf	02 54 23.2	-0.7
SSB	Saint Sauveur	156.73	1	ePKIKP	PKPdf	02 54 25.0	+1.1
SSB				e		02 58 25.5	
SSB				MLR	MLR		
	comp=Z,3µm,19.0s						
SSB	Saint Sauveur	156.73	1	ePKPdf	PKPdf	02 54 25.0	+1.1
SSB				ePKPab	PKPab	02 54 53.3	+0.1
SSB				ePP	PP	02 58 25.4	-4.9
SSB				LR	LR		
	comp=Z,3µm,19.0s						
LFF	La Frestale	156.78	8	ePKIKP	PKPdf	02 54 25.1	+1.2
	comp=Z,16nm,0.9s						
LFF	La Frestale	156.78	8	ePKIKP	PKPdf	02 54 25.1	+1.2
LFF	La Frestale	156.78	8	ePKPdf	PKPdf	02 54 25.1	+1.2
FNA	Florina	156.79	328	P	PKPdf	02 54 21.4	-2.7
FNA	Florina	156.79	328	PKIKP	PKPdf	02 54 21.4	-2.7
FNA	Florina	156.79	328	ePN	PKPdf	02 54 25.0	+0.9
FNA	Florina	156.79	328	P	PKPdf	02 54 21.4	-2.7
SKIA	Skiathos	156.83	322	ePN	PKPab	02 54 56.0	+2.2
XOR	Xorichti	156.85	323	ePN	PKPab	02 54 55.5	+1.6
APE	Apeiranthos	156.87	315	ePB	PKPab	02 54 54.0	-0.1
NEO	Neokhori	156.87	322	ePN	PKPab	02 54 55.5	+1.5
BNI	Bardonecchia	156.93	357	ePKPdf	PKPdf	02 54 25.5	+1.2
BNI				e		02 58 30.6	
BNI				MLR	MLR		
	comp=Z,8µm,19.0s						
BNI	Bardonecchia	156.93	357	ePKPdf	PKPdf	02 54 25.5	+1.2
BNI				ePKPab	PKPab	02 54 55.5	+1.4
BNI				ePP	PP	02 58 30.6	-1.0

BNI LR LR
comp=Z,8µm,19.0s
CAF Calviac 156.94 6 ePKIKP PKPdf 02 54 25.6 +1.4
CAF Calviac 156.94 6 ePKIKP PKPdf 02 54 25.6 +1.4
CAF Calviac 156.94 6 ePKPdf PKPdf 02 54 25.6 +1.4
KZN Kozani 156.94 326 P PKPdf 02 54 23.3 -1.1
KZN Kozani 156.94 326 PKIKP PKPdf 02 54 23.3 -1.1
KZN Kozani 156.94 326 ePB PKPab 02 55 08.0 +14
KZN Kozani 156.94 326 P PKPdf 02 54 23.3 -1.1
MRKA Markates 157.06 321 ePN PKPab 02 54 56.0 +1.1
ORIF Oris-en-Rattie 157.09 359 ePKIKP PKPdf 02 54 25.9 +1.5
ORIF eR
comp=Z,6µm,18.8s
ORIF Oris-en-Rattie 157.09 359 ePKIKP PKPdf 02 54 25.9 +1.5
ORIF Oris-en-Rattie 157.09 359 ePKPdf PKPdf 02 54 25.9 +1.5
VIVF Saint-Julien-l 157.15 1 ePKIKP PKPdf 02 54 26.0 +1.6
VIVF Saint-Julien-l 157.15 1 ePKIKP PKPdf 02 54 26.0 +1.6
VIVF Saint-Julien-l 157.15 1 ePKPdf PKPdf 02 54 26.0 +1.6
SMIA Simia 157.17 322 ePN PKPab 02 54 57.0 +1.7
KBN Korca 157.20 328 P PKPdf 02 54 24.8 +0.1
KBN Korca 157.20 328 PKIKP PKPdf 02 54 24.8 +0.1
KBN Korca 157.20 328 P PKPdf 02 54 24.8 +0.1
NEST Nestorio 157.23 328 ePN PKPab 02 54 25.5 +0.7
MBDF Montbardon 157.25 357 ePKIKP PKPdf 02 54 26.0 +1.3
comp=Z,23nm,0.9s
MBDF Montbardon 157.25 357 ePKIKP PKPdf 02 54 26.0 +1.3
MBDF Montbardon 157.25 357 ePKPdf PKPdf 02 54 26.0 +1.3
SANT Santorini 157.31 314 ePB PKPab 02 54 56.0 0.0
SANT Santorini 157.31 314 PFAKE 02 54 40.0 +15
SANT LR LR
comp=Z,3µm,19.0s
PTL Penteli 157.33 319 ePN PKPab 02 54 57.0 +1.0
PCAB Cabril 157.36 27 ePKPdf PKPdf 02 54 27.0 +2.2
PMOZ Porto Moniz, M 157.37 57 eLR LR 03 56 45.8
comp=Z,4µm,18.0s
LKR Lokris 157.44 322 ePN PKPab 02 54 58.0 +1.5
ZKR Zakros 157.45 310 ePB PKPab 02 54 59.0 +2.4
VLC Villacollemand 157.45 350 PFAKE 02 54 40.0 +15
VLC LR LR
comp=Z,6µm,19.0s
AXAR Agios Charalam 157.56 322 ePN PKPab 02 54 58.0 +1.0
MAKR Makrakomi, Fth 157.69 323 ePN PKPab 02 54 58.0 +0.5
POLO Lamas de Olo 157.73 27 ePKPdf PKPdf 02 54 26.4 +1.0
POLO Lamas de Olo 157.73 27 ePKPab PKPab 02 54 58.9 +1.2
POLO Lamas de Olo 157.73 27 SS SS 03 18 42.2 +9.2
PBRG Braganca 157.79 24 ePKPab PKPab 02 54 58.6 +0.7
PBRG Braganca 157.79 24 eSS SS 03 18 50.2 +17
NPS Neapolis 157.80 311 ePN PKPab 02 55 01.0 +2.8
PVRL Vila Real 157.85 27 ePKPdf PKPdf 02 54 27.4 +2.0
PVRL Vila Real 157.85 27 ePKPab PKPab 02 54 57.2 -0.9
DSF Desfina 157.88 322 ePN PKPab 02 54 57.5 -0.9
LASF Ste Croix 157.91 3 ePKIKP PKPdf 02 54 27.0 +1.6
LASF Ste Croix 157.91 3 ePKPdf PKPdf 02 54 27.0 +1.6
EVR Evrytania 157.93 324 ePN PKPab 02 54 59.0 +0.3
TOUF Mont Tournerai 157.94 356 PKP PKPdf 02 54 26.3 +0.6
LAST Lasithi 157.94 311 ePN PKPab 02 55 01.0 +2.1
AUTN L'Aution 157.94 356 PKP PKPdf 02 54 25.7 0.0
SAOF Saorge 157.94 356 PKP PKPdf 02 54 25.1 -0.4
SMRF Simiane la Rot 158.04 359 ePKIKP PKPdf 02 54 27.5 +1.9
SMRF Simiane la Rot 158.04 359 ePKPdf PKPdf 02 54 27.5 +1.9
DID Didima 158.06 319 ePN PKPab 02 54 58.0 -1.2
MVIF Mont Vial 158.06 356 PKP PKPdf 02 54 24.2 -1.5
KALE Kalithea 158.11 322 ePN PKPab 02 55 00.5 +1.1
REVF Revere 158.20 356 PKP PKPdf 02 54 22.6 -3.2
EFP Efpalio 158.22 323 ePN PKPab 02 55 01.0 +1.2
SJPF Ste Jean 158.22 13 ePKIKP PKPdf 02 54 26.5 +0.7
comp=Z,53nm,1.2s
SJPF Ste Jean 158.22 13 ePKIKP PKPdf 02 54 26.5 +0.7
SJPF Ste Jean 158.22 13 ePKPdf PKPdf 02 54 26.5 +0.7
MVO Moncorvo 158.22 26 ePKPdf PKPdf 02 54 27.9 +2.0
MVO Moncorvo 158.22 26 ePKPab PKPab 02 55 01.5 +1.7
MVO Moncorvo 158.22 26 eSS SS 03 18 43.7 +5.7
MVO Moncorvo 158.22 26 eLR LR 03 55 01.8
comp=Z,8µm,18.0s
PVIS Viseu 158.24 28 ePKPdf PKPdf 02 54 27.0 +1.1
IDI Anoyia 158.29 312 PKP PKPdf 02 54 26.6 +0.4
comp=Z,37nm,1.1s,baz=94,slow=3.3,SNR=4.4
IDI PKPab PKPab 02 55 00.3 0.0
comp=Z,14nm,0.9s,baz=124,slow=3.6,SNR=6.9
GUR Goura 158.31 321 ePN PKPab 02 55 02.0 +1.6
KLV Kalavryta, Ach 158.34 322 ePN PKPab 02 55 01.5 +1.0
REYF Montagne du Re 158.43 11 PKP PKPdf 02 54 25.6 -0.5
SIVA Sivas 158.49 311 ePB PKPab 02 55 03.5 +2.4
LEPF PUYLOUBIER 158.49 359 PKP PKPdf 02 54 25.5 -0.6
PDO Prodromos 158.50 324 ePN PKPab 02 55 03.0 +2.0
MTLF Montolieu 158.52 6 ePKIKP PKPdf 02 54 27.4 +1.3
MTLF Montolieu 158.52 6 ePKIKP PKPdf 02 54 27.4 +1.3
MTLF Montolieu 158.52 6 ePKPdf PKPdf 02 54 27.4 +1.3
AQU L'Aquila 158.54 343 ePKIKP PKPdf 02 54 26.9 +0.6
AQU e 02 55 02.0
AQU MLR MLR
comp=Z,5µm,20.0s
AQU L'Aquila 158.54 343 ePKPdf PKPdf 02 54 26.9 +0.6
AQU ePKPab PKPab 02 55 02.0 +0.9
AQU LR LR
comp=Z,5µm,20.0s
ETSF Etsaut 158.56 12 ePKIKP PKPdf 02 54 28.2 +1.9
ETSF Etsaut 158.56 12 ePKIKP PKPdf 02 54 28.2 +1.9
ETSF Etsaut 158.56 12 ePKPdf PKPdf 02 54 28.2 +1.9
EPF Esparros 158.59 10 ePKIKP PKPdf 02 54 27.8 +1.5
EPF Esparros 158.59 10 ePKIKP PKPdf 02 54 27.8 +1.5
EPF Esparros 158.59 10 ePKPdf PKPdf 02 54 27.8 +1.5
MTE Manteigas 158.65 28 ePKPdf PKPdf 02 54 28.2 +1.7
MTE Manteigas 158.65 28 eSS SS 03 18 49.5 +6.8
MTE Manteigas 158.65 28 eLR LR 03 56 11.9
comp=Z,9µm,18.0s
MTE Manteigas 158.65 28 PFAKE 02 54 40.0 +14
MTE LR LR
comp=Z,8µm,19.0s
VLX Vlachokerasia 158.66 320 ePN PKPab 02 55 03.0 +1.1
VAM Vamos 158.69 313 ePB PKPab 02 55 02.5 +0.5
VLI Veliai 158.74 318 ePN PKPab 02 55 02.5 +0.4
PTOM Tomar 158.89 30 ePKPdf PKPdf 02 54 28.7 +2.0
PTOM Tomar 158.89 30 ePKPab PKPab 02 55 03.3 +0.7
KYTH Kithira 158.95 317 ePB PKPab 02 55 04.5 +1.4
AMT Artemida-Makis 158.95 321 ePN PKPab 02 55 04.5 +1.4
PMAFR Mafra 158.98 33 eSS SS 03 19 05.7 +19
ANKY Antikythira Is 159.03 315 ePB PKPab 02 54 57.5 -5.9
ITM Ithomi 159.06 320 ePN PKPab 02 55 05.5 +2.0
GVD Gavdhos 159.08 312 ePKPdf PKPdf 02 54 28.7 +1.7
GVD ePKPab PKPab 02 55 02.9 -0.9
VLS Valsamata 159.13 324 ePN PKPab 02 55 05.5 +1.7
LIS Lisbon 159.23 33 eP PKPdf 02 54 28.5 +1.4
LIS AMS AMS 04 01 00.4
comp=Z,8µm,20.2s
LIS Lisbon 159.23 33 ePKIKP PKPdf 02 54 28.4 +1.4
PYL PYLOS 159.36 320 ePN PKPab 02 55 06.0 +1.2
PMRV Marv??o 159.51 29 ePKPdf PKPdf 02 54 29.4 +2.0
PMRV Marv??o 159.51 29 ePKPab PKPab 02 55 18.6 +13
PMRV Marv??o 159.51 29 eSS SS 03 18 56.8 +5.0
PMRV Marv??o 159.51 29 eLR LR 03 55 25.3
comp=Z,7µm,18.0s
PESTR Estremoz 159.87 30 eSS SS 03 19 03.0 +7.3
EVOP Sao Brissos 159.88 32 ePKIKP PKPdf 02 54 29.0 +1.2
EVOP Sao Brissos 159.88 32 ePKPdf PKPdf 02 54 29.0 +1.2
CUC Castrocucco 159.89 336 PFAKE 02 54 40.0 +12
CUC LR LR
comp=Z,4µm,19.0s
EVO Evora 159.93 32 ePKIKP PKPdf 02 54 29.0 +1.1
comp=Z,77nm,1.2s
EVO eR
comp=Z,8µm,18.0s
EVO Evora 159.93 32 ePKPdf PKPdf 02 54 28.7 +0.8
TIP Timpagrande 160.21 333 ePKPdf PKPdf 02 54 29.0 +0.7
TIP ePKPab PKPab 02 55 08.3 -0.1
TIP LR LR
comp=Z,3µm,20.0s
MESJ Messejana 160.37 33 eP PKPdf 02 54 29.2 +0.7
MESJ AMS AMS 04 01 52.7
comp=Z,6µm,18.4s
MESJ Messejana 160.37 33 ePKPdf PKPdf 02 54 30.2 +1.8
MESJ Messejana 160.37 33 ePKIKP PKPdf 02 54 29.1 +0.7
MORF Marmelete 160.54 35 eP PKPdf 02 54 29.9 +1.2
MORF AMS AMS 04 04 52.4
comp=Z,10µm,19.1s
MORF Marmelete 160.54 35 ePKPdf PKPdf 02 54 30.4 +1.7
MORF Marmelete 160.54 35 eSS SS 03 19 16.6 +13
MORF Marmelete 160.54 35 ePKIKP PKPdf 02 54 29.9 +1.2
PAB San Pablo 160.65 23 ePKIKP PKPdf 02 54 27.0 -1.8
PAB MLR MLR
comp=Z,8µm,19.0s
PAB San Pablo 160.65 23 ePKPdf PKPdf 02 54 27.0 -1.8
PAB ePKPab PKPab 02 55 11.1 +0.7
PAB LR LR
comp=Z,8µm,19.0s
ESDC Sonseca Array 160.67 22 PKP PKPdf 02 54 29.1 +0.3
comp=Z,0.5nm,0.2s,baz=340,slow=2.7,SNR=7.2
ESDC PKPab PKPab 02 55 10.4 -0.1
comp=Z,6.4nm,0.7s,baz=327,slow=4.0,SNR=14
PBAR Barrancos 160.68 30 ePKPdf PKPdf 02 54 31.0 +2.2
PBAR Barrancos 160.68 30 eSS SS 03 19 11.7 +7.5
PVAQ Vaqueiros 160.96 33 eSS SS 03 19 23.7 +16
PVAQ Vaqueiros 160.96 33 eLR LR 03 59 17.6
comp=Z,6µm,18.0s
PBDV Barranco-do-Ve 160.97 34 ePKPdf PKPdf 02 54 30.9 +1.8
PBDV Barranco-do-Ve 160.97 34 eSS SS 03 19 20.1 +13
CEL Celeste 161.34 333 PFAKE 02 54 40.0 +10
CEL LR LR
comp=Z,8µm,19.0s
LIC Lamto 161.47 146⇑iPKIKP PKPdf 02 54 29.8 -0.5
comp=Z,32nm,0.9s
LIC Lamto 161.47 146 ePKP1 PKPdf 02 54 29.8 -0.5
comp=Z,211nm,2.2s
LIC Lamto 161.47 146⇑iPKPdf PKPdf 02 54 29.8 -0.5
KIC Kosan Boka 161.74 147 ePKP1 PKPdf 02 54 30.2 -0.4
comp=Z,586nm,2.4s
TIC Toumodi 161.83 145 ePKP1 PKPdf 02 54 30.9 +0.2
comp=Z,240nm,2.0s
DBIC Dimbokro 161.94 146 PKP PKPdf 02 54 30.6 -0.2
comp=Z,11nm,0.8s,baz=193,slow=1.3,SNR=9.0
DBIC PKPab PKPab 02 55 18.2 +1.6
comp=Z,8.6nm,0.8s,baz=221,slow=4.3,SNR=4.3
VSL Villasalto 162.16 350 PFAKE 02 54 40.0 +10
VSL LR LR
comp=Z,5µm,19.0s
WDD Wield Dalam 163.95 332 PFAKE 02 54 40.0 +7.9
WDD LR LR
comp=Z,7µm,20.0s
RTC Rabat Centre 163.96 39 PFAKE 02 54 40.0 +7.9
RTC LR LR
comp=Z,5µm,20.0s
KEST Kesra 165.81 346 PKP PKPdf 02 54 33.7 -0.1
comp=Z,3.1nm,0.8s,baz=351,slow=4.5,SNR=5.4
KEST PKPab PKPab 02 55 32.9 -0.2
comp=Z,2.5nm,0.9s,baz=351,slow=1.7,SNR=5.2
MDT Midelt 166.09 37 PKP PKPdf 02 54 35.6 +1.4
comp=Z,7.1nm,1.0s,baz=5.6,slow=0.3,SNR=5.6
MDT PKPab PKPab 02 55 35.0 +0.5
comp=Z,6.8nm,0.9s,baz=0.3,slow=5.9,SNR=3.7
TORD Torodi Ar. Bea 170.61 158 PKP PKPdf 02 54 36.2 -1.3
comp=Z,8.9nm,0.8s,baz=307,slow=0.3,SNR=46
TORD PKPab PKPab 02 55 54.9 +0.2
comp=Z,11nm,0.9s,baz=222,slow=3.1,SNR=5.8
TORD PP PP 02 59 45.0 +1.3
comp=Z,12nm,1.2s,baz=208,slow=2.4,SNR=7.9
TAM Tamanrasset 179.13 343 ePKIKP PKPdf 02 54 40.6 +0.5
TAM e 03 00 25.9
TAM MLR MLR
comp=Z,8µm,19.0s
TAM Tamanrasset 179.13 343 ePKPdf PKPdf 02 54 40.6 +0.5
TAM ePP PP 03 00 25.9 +1.0
TAM LR LR
comp=Z,8µm,19.0s

MAN 13 02:36:26,9°.33N×125°.64E, h22km, mb4.2, ML3.1, MS2.8, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.36	183	eP	Pb	02 36 34.0	+0.2
BUTP				eS	Sb	02 36 40.3	+1.3
SCPH	Surigao	0.47	341⇑	eP	Pn	02 36 37.2	-0.2
SCPH				eS	Sn	02 36 46.6	+1.5
CGP	Cagayan de Oro	1.28	227⇑	eP	Pn	02 36 48.7	+0.1
CGP				iS	Sb	02 37 05.8	+0.4
BUKP	Musuan	1.55	202	eP	Pb	02 36 54.2	0.0
BUKP				eS	Sn	02 37 08.7	-3.2

OTT 13 02:47:04.1±0.6, 78°.88N×93°.28W, h18km, ML3.9/6, 195km southwest from Eureka, Nu Sverdrup Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	Eureka	1.73	44	PN	Pn	02 47 34.0	+0.6
EUNU				SG	Sb	02 47 57.3	+0.6
EUNU				Trac		02 48 12.2	
	comp=Z,152nm,0.7s						
RES	Resolute Bay	4.23	186	PN	Pn	02 48 06.8	-0.7
RES				SN	Sn	02 48 55.1	-1.3
RES				Trac		02 49 00.5	
	comp=Z,14nm,0.2s						
KULLO	Kullorsuaq	9.18	99	iP	Pn	02 49 16.8	+1.5
KULLO				iS	Sn	02 50 53.2	-4.7
GIFN	Gifford Fjord,	9.43	155	PN	Pn	02 49 17.9	-0.9
GIFN				SN	Sn	02 50 57.1	-7.0
GIFN				Trac		02 51 08.2	
	comp=Z,9.5nm,0.3s						
ILON	Igloolik, Nuna	10.02	156	PN	Pn	02 49 25.6	-1.3
ILON				SN	Sn	02 51 12.5	-6.2
ILON				Trac		02 51 15.3	
	comp=Z,2.8nm,0.2s						
STLN	Stellar Camp,	11.63	179	PN	Pn	02 49 46.0	-2.9
STLN				SN	Sn	02 51 50.3	-7.8
STLN				Trac		02 51 50.5	
	comp=Z,6.4nm,0.6s						
QILN	Qililugaq Expl	12.44	167	PN	Pn	02 49 58.4	-1.6
QILN				SN	Sn	02 52 07.7	-10
QILN				Trac		02 52 12.8	
	comp=Z,3.8nm,0.6s						
WAGN	Wager Bay	13.12	173	SN	Sn	02 52 23.8	-10
NUNN	Nunuq Camp, NU	13.75	176	PN	Pn	02 50 16.9	-1.0
NUNN				SN	Sn	02 52 41.7	-8.1
SUMG	Summit	14.28	87	iP	Pn	02 50 24.1	-1.5
SUMG				eS	Sn	02 52 58.2	-5.4
DAG	Danmarks Havn	14.88	60	iP	Pn	02 50 33.1	-0.1
DAG				iS	Sn	02 53 08.8	-8.4
INK	Inuvik	15.04	248	PN	Pn	02 50 26.3	-9.0
INK				SN	Sn	02 53 03.9	-17
CTLN	Castor Lake	15.95	218	PN	Pn	02 50 41.9	-5.4
CTLN				SN	Sn	02 53 27.1	-16
COKN	Cook Lake	16.35	205	PN	Pn	02 50 43.0	-9.4
COKN				SN	Sn	02 53 35.5	-18
GALN	Gameti Lake	16.41	219	PN	Pn	02 50 47.2	-5.9
GALN				SN	Sn	02 53 37.0	-17
SNLN	Sandy Lake, NW	16.69	203	PN	Pn	02 50 49.6	-7.1
SNLN				SN	Sn	02 53 45.1	-16
YKW3	Yellowknife Ar	17.61	214	PN	Pn	02 51 05.2	-2.9
YKW3				SN	Sn	02 54 05.1	-18
YKW3				Trac		02 54 13.6	
	comp=Z,1.7nm,0.6s						

IGIL 13 02:52:49.1, 36°.55N×4°.77W, h15km, ML1.9
ISCJB 13 02:52:50.7±0.5, 36°.74N±0°.03×4°.83W±0°.02, h45km±6km, Error ellipse: s-maj=5.7km s-min=2.6km az=174.6
INMG 13 02:52:51.6±1.3, 36°.61N×4°.78W, h40km±5km, ML2.1, Error ellipse: s-maj=2.4km s-min=2.2km az=173.0
CSEM 13 02:52:51.4±0.2, 36°.69N×4°.81W, h30km, mb4.0, Error ellipse: s-maj=4.9km s-min=3.0km az=176.0
SFS 13 02:52:51.0, 36°.53N×4°.73W, h42km, ML3.2
MDD 13 02:52:51.0±0.5, 36°.55N×4°.76W, h42km±3km, mb4.0/12, Error ellipse: s-maj=6.4km s-min=3.4km az=177.0, PRXIMO
ISC 13 02:52:49.5±1.2, 36°.57N±0°.04×4°.78W±0°.02, h48km±7km, n121, σ1s.51/216, 1C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	Mijas	0.01	112	⇓P	Pn	02 52 57.4	+0.5
	22nm,0.1s,SNR=18						
EMIJ				S	Sn	02 53 02.2	0.0
	50nm,0.1s,SNR=15						
EMIJ	Mijas	0.01	112	P	Pn	02 52 57.4	+0.5
	22nm,0.1s,SNR=18						
EMIJ				S	Sn	02 53 02.2	0.0
	50nm,0.1s,SNR=15						
EMAL	Malaga-Limoner	0.34	55	eP	Pn	02 52 59.2	+0.3
EMAL				iS	Sn	02 53 05.3	-0.2
LIJA	Lijar	0.61	304	P	Pn	02 53 16.5	+14
LIJA	Lijar	0.61	304	P	Pn	02 53 16.5	+14
ECEU	Ceuta	0.82	216	P	Pn	02 53 05.3	+0.5
	6.3nm,0.1s,SNR=4.0						
ECEU				S	Sn	02 53 13.5	-2.5
	8.8nm,0.1s,SNR=4.0						
ECEU	Ceuta	0.82	216	P	Pn	02 53 05.3	+0.5
	6.3nm,0.1s,SNR=4.0						
ECEU				S	Sn	02 53 13.5	-2.5
	8.8nm,0.1s,SNR=4.0						
ESPR	Espera	0.92	290	P	Pn	02 53 05.6	-0.4
	0.5nm,0.2s,SNR=6.2						
ESPR				S	Sn	02 53 15.3	-2.9
	1.2nm,0.1s,SNR=6.6						
EGUA	Guajares	1.01	74	P	Pn	02 53 06.7	-0.7
	4.8nm,0.2s,SNR=7.9						
EGUA				S	Sn	02 53 17.4	-3.1
	5.8nm,0.2s,SNR=7.9						
ELUQ	Luque	1.07	22	P	Pn	02 53 09.5	+1.3
	12nm,0.2s,SNR=7.9						
ELUQ				S	Sn	02 53 22.4	+0.3
	22nm,0.2s,SNR=7.9						
ELUQ	Luque	1.07	22	P	Pn	02 53 09.5	+1.3
	12nm,0.2s,SNR=7.9						
ELUQ				S	Sn	02 53 22.4	+0.3
	22nm,0.2s,SNR=7.9						
SELV	Sierra Elvira	1.08	51	P	Pn	02 53 10.1	+1.8
	0.5nm,0.1s,SNR=7.9						
SELV				S	Sn	02 53 22.8	+0.7
	1.1nm,0.1s,SNR=7.9						
SELV	Sierra Elvira	1.08	51	P	Pn	02 53 10.1	+1.8
	0.5nm,0.1s,SNR=7.9						
SELV				S	Sn	02 53 22.8	+0.7
	1.1nm,0.1s,SNR=7.9						
ECOG	Cogollos-Vega	1.20	54	P	Pn	02 53 10.3	+0.2
	1.0nm,0.1s,SNR=7.9						
ECOG				S	Sn	02 53 24.6	-0.7
	3.2nm,0.1s,SNR=15						
EQUE	Quentar	1.25	59	S	Sn	02 53 27.5	+1.1
	9.8nm,0.3s,SNR=7.9						
EQUE	Quentar	1.25	59	S	Sn	02 53 27.5	+1.1
	9.8nm,0.3s,SNR=7.9						
EBER	Berja	1.55	77	P	Pn	02 53 16.1	+1.2
	1.0nm,0.1s,SNR=20						
EBER				S	Sn	02 53 34.7	+0.7
	2.9nm,0.1s,SNR=9.1						
ECAB	El Cabril	1.59	341	P	Pn	02 53 16.3	+1.0
	2.5nm,0.1s,SNR=15						
ECAB				S	Sn	02 53 34.1	-0.5
	4.3nm,0.1s,SNR=6.1						
ECAB	El Cabril	1.59	341	P	Pn	02 53 16.3	+1.0
	2.5nm,0.1s,SNR=15						
ECAB				S	Sn	02 53 34.1	-0.5
	4.3nm,0.1s,SNR=6.1						
GORA	Gorafe	1.66	56	P	Pn	02 53 16.3	0.0
	6.0nm,0.1s,SNR=7.9						
EBAN	Banos Encina	1.78	26	P	Pn	02 53 19.5	+1.7
	0.1nm,0.1s,SNR=6.9						
EBAN				S	Sn	02 53 39.5	+0.2
	4.2nm,0.1s,SNR=7.9						
EBAN	Banos Encina	1.78	26	P	Pn	02 53 19.5	+1.7
	0.1nm,0.1s,SNR=6.9						
EBAN				S	Sn	02 53 39.5	+0.2
	4.2nm,0.1s,SNR=7.9						
EQES	Quesada	1.84	47	P	Pn	02 53 19.7	+0.9
	0.4nm,0.1s,SNR=10						
EQES				S	Sn	02 53 40.8	-0.1
	2.1nm,0.1s,SNR=7.9						
EQES	Quesada	1.84	47	P	Pn	02 53 19.7	+0.9
	0.4nm,0.1s,SNR=10						
EQES				S	Sn	02 53 40.8	-0.1
	2.1nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	1.93	309	⇓P	Pn	02 53 20.9	+1.0
	1.7nm,0.1s,SNR=18						
EMIN				S	Sn	02 53 42.1	-0.8
	1.8nm,0.1s,SNR=7.1						
EMIN	Mina Concepcio	1.93	309	P	Pn	02 53 20.9	+1.0
	1.7nm,0.1s,SNR=18						
EMIN				S	Sn	02 53 42.1	-0.8
	1.8nm,0.1s,SNR=7.1						
ENIJ	Nijar	2.10	78	S	Sn	02 53 46.5	-0.7
	2.9nm,0.2s,SNR=7.9						
EHUE	Huescar	2.15	54	P	Pn	02 53 23.8	+0.9
	0.3nm,0.1s,SNR=7.9						
EHUE				S	Sn	02 53 49.5	+1.1
	1.2nm,0.3s,SNR=7.9						
EHUE	Huescar	2.15	54	P	Pn	02 53 23.8	+0.9
	0.3nm,0.1s,SNR=7.9						
EHUE				S	Sn	02 53 49.5	+1.1
	1.2nm,0.3s,SNR=7.9						
EGRO	El Granado	2.37	295	P	Pn	02 53 27.1	+1.2
	1.3nm,0.1s,SNR=7.9						
EGRO				S	Sn	02 53 53.1	-0.6
	4.5nm,0.1s,SNR=11						
EGRO	El Granado	2.37	295	P	Pn	02 53 27.1	+1.2
	1.3nm,0.1s,SNR=7.9						
EGRO				S	Sn	02 53 53.1	-0.6
	4.5nm,0.1s,SNR=11						
PBAR	Barrancos	2.41	312	eP	Pn	02 53 27.4	+0.9
PBAR				eS	Sn	02 53 54.5	-0.3
PBAR	Barrancos	2.41	312	P	Pn	02 53 27.4	+0.9
PBAR				S	Sn	02 53 54.5	-0.3
PBAR	Barrancos	2.41	312	P	Pn	02 53 27.4	+0.9
PBAR				S	Sn	02 53 54.5	-0.3
PVAQ	Vaqueiros	2.50	290	eP	Pn	02 53 28.9	+1.3
PVAQ				eS	Sn	02 53 56.6	-0.3
PVAQ				A	A	02 53 58.7	
	5.8nm,0.1s						
PVAQ	Vaqueiros	2.50	290	P	Pn	02 53 28.9	+1.3
PVAQ				S	Sn	02 53 56.6	-0.3
	5.8nm,0.1s						
PVAQ	Vaqueiros	2.50	290	P	Pn	02 53 28.9	+1.3
PVAQ				eS	Sn	02 53 56.6	-0.3
	5.8nm,0.1s						
PBDV	Barranco-do-Ve	2.62	286	eP	Pn	02 53 30.9	+1.6
PBDV				eS	Sn	02 54 00.1	+0.3
PBDV				A	A	02 54 06.0	
	5.2nm,0.9s						
PBDV	Barranco-do-Ve	2.62	286	P	Pn	02 53 30.9	+1.6
PBDV				S	Sn	02 54 00.1	+0.3
	5.2nm,0.9s						
PBDV	Barranco-do-Ve	2.62	286	P	Pn	02 53 30.9	+1.6
PBDV				eS	Sn	02 54 00.1	+0.3
	5.2nm,0.9s						
EVIA	Vianos	2.75	40	P	Pn	02 53 32.0	+0.8
	1.8nm,0.1s,SNR=7.9						
EVIA				S	Sn	02 54 01.9	-1.3
	1.9nm,0.2s,SNR=7.9						
EVIA	Vianos	2.75	40	P	Pn	02 53 32.0	+0.8
	1.8nm,0.1s,SNR=7.9						
EVIA				S	Sn	02 54 01.9	-1.3
	1.9nm,0.2s,SNR=7.9						
EBAD	Badajoz	2.81	322	⇓P	Pn	02 53 33.0	+1.0
	3.2nm,0.1s,SNR=18						
EBAD				S	Sn	02 54 04.2	-0.5
	2.2nm,0.0s,SNR=7.8						
EBAD	Badajoz	2.81	322	P	Pn	02 53 33.0	+1.0
	3.2nm,0.1s,SNR=18						
EBAD				S	Sn	02 54 04.2	-0.5
	2.2nm,0.0s,SNR=7.8						
PCVE	Castro Verde	2.81	293	eP	Pn	02 53 34.2	+2.2
PCVE				eS	Sn	02 54 05.2	+0.5
PCVE				A	A	02 54 07.9	
	2.4nm,0.5s						
PCVE	Castro Verde	2.81	293	P	Pn	02 53 34.2	+2.2
PCVE				S	Sn	02 54 05.2	+0.5
	2.4nm,0.5s						
PCVE	Castro Verde	2.81	293	P	Pn	02 53 34.2	+2.2
PCVE				eS	Sn	02 54 05.2	+0.5
	2.4nm,0.5s						
PBEJ	Beja	2.86	302	eP	Pn	02 53 34.4	+1.8
PBEJ				eS	Sn	02 54 06.4	+0.6
PBEJ	Beja	2.86	302	P	Pn	02 53 34.4	+1.8
PBEJ				S	Sn	02 54 06.4	+0.6
PBEJ	Beja	2.86	302	P	Pn	02 53 34.4	+1.8
PBEJ				S	Sn	02 54 06.4	+0.6
MESJ	Messejana	3.03	296	eP	Pn	02 53 35.0	+0.1
MESJ				eS	Sn	02 54 08.5	-1.4
MESJ				AML	AML	02 54 11.1	
	comp=N,4.3nm,0.3s						
MESJ	Messejana	3.03	296	P	Pn	02 53 36.8	+1.9
MESJ				eS	Sn	02 54 08.3	-1.6
MESJ	Messejana	3.03	296	P	Pn	02 53 35.0	+0.1
MESJ				S	Sn	02 54 08.5	-1.4
	comp=N,4.3nm,0.3s						
MESJ	Messejana	3.03	296	eP	Pn	02 53 36.8	+1.9
MESJ				S	Sn	02 54 08.5	-1.4
	comp=N,4.3nm,0.3s						
ESDC	Sonseca Array	3.17	11	P	Pn	02 53 37.9	+1.0
	comp=N,2.0nm,0.2s,baz=188,slow=12,SNR=18						
ESDC				S	Sn	02 54 11.8	-1.7

	comp=N,1.2nm,0.1s,baz=182,slow=23,SNR=11						
ESDC	**Sonseca Array**	**3.17**	**11**	P	**Pn**	**02 53 37.9**	**+1.0**
	comp=N,2.0nm,0.2s,SNR=18						
ESDC				S	**Sn**	**02 54 11.8**	**-1.7**
	comp=N,1.2nm,0.1s,SNR=11						
MORF	**Marmelete**	**3.19**	**285**	eS	**Sn**	**02 54 14.1**	**+0.1**
MORF	**Marmelete**	**3.19**	**285**	eS	**Sn**	**02 54 14.1**	**+0.1**
PESTR	**Estremoz**	**3.20**	**317**	eS	**Sn**	**02 54 13.6**	**-0.6**
PESTR	**Estremoz**	**3.20**	**317**	eS	**Sn**	**02 54 13.6**	**-0.6**
EVO	**Evora**	**3.23**	**308**	eP	**Pn**	**02 53 39.4**	**+1.7**
EVO				eS	**Sn**	**02 54 14.8**	**-0.2**
EVO				A	A	02 54 36.0	
	comp=N,4.3nm,0.7s						
EVO	**Evora**	**3.23**	**308**	P	**Pn**	**02 53 39.4**	**+1.7**
EVO				S	**Sn**	**02 54 14.8**	**-0.2**
	comp=N,4.3nm,0.7s						
EVO	**Evora**	**3.23**	**308**	P	**Pn**	**02 53 39.4**	**+1.7**
EVO				eS	**Sn**	**02 54 14.8**	**-0.2**
	comp=N,4.3nm,0.7s						
PFVI	**Vila Bisbo**	**3.29**	**281**	eP	**Pn**	**02 53 41.7**	**+3.1**
PFVI				eS	**Sn**	**02 54 15.2**	**-1.3**
PFVI				A	A	02 54 23.1	
	comp=N,11nm,1.1s						
PFVI	**Vila Bisbo**	**3.29**	**281**	P	**Pn**	**02 53 41.0**	**+2.4**
	comp=N,0.6nm,0.1s,SNR=4.0						
PFVI				S	**Sn**	**02 54 14.7**	**-1.8**
	comp=N,9.8nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.29**	**281**	P	**Pn**	**02 53 41.0**	**+2.4**
	comp=N,0.6nm,0.1s,SNR=4.0						
PFVI				eS	**Sn**	**02 54 15.2**	**-1.3**
	comp=N,11nm,1.1s						
ETOB	**Tobarra**	**3.30**	**50**	⇑P	**Pn**	**02 53 39.1**	**+0.4**
	comp=N,1.9nm,0.1s,SNR=18						
ETOB				S	**Sn**	**02 54 14.3**	**-2.4**
	comp=N,0.7nm,0.2s,SNR=5.0						
ETOB	**Tobarra**	**3.30**	**50**	P	**Pn**	**02 53 39.1**	**+0.4**
	comp=N,1.9nm,0.1s,SNR=18						
PTEO	**Sao Teotonio**	**3.30**	**288**	eS	**Sn**	**02 54 17.3**	**+0.6**
PTEO				A	A	02 54 22.6	
	comp=N,5.6nm,0.9s						
PTEO	**Sao Teotonio**	**3.30**	**288**	S	**Sn**	**02 54 17.3**	**+0.6**
	comp=N,2.8nm,0.9s						
PTEO	**Sao Teotonio**	**3.30**	**288**	eS	**Sn**	**02 54 17.3**	**+0.6**
	comp=N,5.6nm,0.9s						
PNCL	**Nicolau / Gran**	**3.36**	**298**	eP	**Pn**	**02 53 41.1**	**+1.6**
PNCL				eS	**Sn**	**02 54 17.7**	**-0.5**
PNCL				A	A	02 54 31.4	
	comp=N,5.0nm,0.9s						
PNCL	**Nicolau / Gran**	**3.36**	**298**	eP	**Pn**	**02 53 41.1**	**+1.6**
PNCL				eS	**Sn**	**02 54 17.7**	**-0.5**
	comp=N,5.0nm,0.9s						
PMRV	**Marv??o**	**3.52**	**325**	eP	**Pn**	**02 53 42.9**	**+1.1**
PMRV				eS	**Sn**	**02 54 20.2**	**-2.0**
PMRV				A	A	02 54 46.2	
	comp=N,4.2nm,0.8s						
PMRV	**Marv??o**	**3.52**	**325**	P	**Pn**	**02 53 42.9**	**+1.1**
PMRV				S	**Sn**	**02 54 20.2**	**-2.0**
	comp=N,4.2nm,0.8s						
PMRV	**Marv??o**	**3.52**	**325**	P	**Pn**	**02 53 42.9**	**+1.1**
PMRV				eS	**Sn**	**02 54 20.2**	**-2.0**
	comp=N,4.2nm,0.8s						
EPLA	**Plasencia**	**3.64**	**344**	P	**Pn**	**02 53 45.2**	**+1.9**
	comp=N,2.6nm,0.1s,SNR=10						
EPLA				S	**Sn**	**02 54 22.6**	**-2.4**
	comp=N,0.5nm,0.1s,SNR=5.0						
EPLA	**Plasencia**	**3.64**	**344**	P	**Pn**	**02 53 45.2**	**+1.9**
	comp=N,2.6nm,0.1s,SNR=10						
EPLA				S	**Sn**	**02 54 22.6**	**-2.4**
	comp=N,0.5nm,0.1s,SNR=5.0						
PMTG	**Montargil**	**3.70**	**314**	eP	**Pn**	**02 53 45.3**	**+1.2**
PMTG				eS	**Sn**	**02 54 25.6**	**-0.9**
PMTG				A	A	02 55 06.2	
	comp=N,3.8nm,0.7s						
PMTG	**Montargil**	**3.70**	**314**	eP	**Pn**	**02 53 45.3**	**+1.2**
PMTG				eS	**Sn**	**02 54 25.6**	**-0.9**
	comp=N,3.8nm,0.7s						
PCBR	**Castelo Branco**	**3.90**	**328**	eP	**Pn**	**02 53 48.7**	**+1.8**
PCBR				eS	**Sn**	**02 54 29.1**	**-2.2**
PCBR	**Castelo Branco**	**3.90**	**328**	P	**Pn**	**02 53 48.7**	**+1.8**
PCBR				S	**Sn**	**02 54 29.1**	**-2.2**
PCBR	**Castelo Branco**	**3.90**	**328**	P	**Pn**	**02 53 48.7**	**+1.8**
PCBR				S	**Sn**	**02 54 29.1**	**-2.2**
GUD	**Guadarrama**	**4.10**	**7**	P	**Pn**	**02 53 50.9**	**+1.1**
	comp=N,1.7nm,0.1s,SNR=16						
GUD				S	**Sn**	**02 54 34.3**	**-2.2**
	comp=N,0.6nm,0.1s,SNR=7.7						
GUD	**Guadarrama**	**4.10**	**7**	P	**Pn**	**02 53 50.9**	**+1.1**
	comp=N,1.7nm,0.1s,SNR=16						
GUD				S	**Sn**	**02 54 34.3**	**-2.2**
	comp=N,0.6nm,0.1s,SNR=7.7						
PTOM	**Tomar**	**4.18**	**318**	eP	**Pn**	**02 53 52.5**	**+1.8**
PTOM				eS	**Sn**	**02 54 37.1**	**-1.2**
PTOM	**Tomar**	**4.18**	**318**	P	**Pn**	**02 53 52.5**	**+1.8**
PTOM				S	**Sn**	**02 54 37.1**	**-1.2**
PTOM	**Tomar**	**4.18**	**318**	P	**Pn**	**02 53 52.5**	**+1.8**
PTOM				S	**Sn**	**02 54 37.1**	**-1.2**
PMAFR	**Mafra**	**4.29**	**305**	eS	**Sn**	**02 54 39.9**	**-1.2**
PMAFR	**Mafra**	**4.29**	**305**	S	**Sn**	**02 54 39.0**	**-2.1**
	comp=N,3.9nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**4.29**	**305**	eS	**Sn**	**02 54 39.9**	**-1.2**
MTE	**Manteigas**	**4.40**	**331**	eP	**Pn**	**02 53 55.6**	**+1.8**
MTE				eS	**Sn**	**02 54 42.4**	**-1.4**
MTE	**Manteigas**	**4.40**	**331**	P	**Pn**	**02 53 55.6**	**+1.8**
MTE				S	**Sn**	**02 54 42.4**	**-1.4**
MTE	**Manteigas**	**4.40**	**331**	P	**Pn**	**02 53 55.6**	**+1.8**
MTE				S	**Sn**	**02 54 42.4**	**-1.4**
ETOR	**Torete**	**4.75**	**26**	P	**Pn**	**02 53 59.4**	**+0.7**
	comp=N,3.9nm,0.1s,SNR=7.9						
ETOR				S	**Sn**	**02 54 49.6**	**-2.8**
	comp=N,2.2nm,0.1s,SNR=5.0						
ETOR	**Torete**	**4.75**	**26**	P	**Pn**	**02 53 59.4**	**+0.7**
	comp=N,3.9nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**4.81**	**330**	eP	**Pn**	**02 54 00.9**	**+1.5**
PVIS				eS	**Sn**	**02 54 52.5**	**-1.3**
PVIS	**Viseu**	**4.81**	**330**	P	**Pn**	**02 54 00.9**	**+1.5**
PVIS				S	**Sn**	**02 54 52.5**	**-1.3**
PVIS	**Viseu**	**4.81**	**330**	P	**Pn**	**02 54 00.9**	**+1.5**
PVIS				S	**Sn**	**02 54 52.5**	**-1.3**
MVO	**Moncorvo**	**4.92**	**340**	eP	**Pn**	**02 54 02.5**	**+1.6**
MVO				eS	**Sn**	**02 54 54.2**	**-2.3**
MVO	**Moncorvo**	**4.92**	**340**	P	**Pn**	**02 54 02.5**	**+1.6**
	comp=N,7.9nm,0.1s,SNR=38						
MVO				S	**Sn**	**02 54 54.2**	**-2.3**
	comp=N,0.4nm,0.3s,SNR=9.0						
MVO	**Moncorvo**	**4.92**	**340**	P	**Pn**	**02 54 02.5**	**+1.6**
	comp=N,7.9nm,0.1s,SNR=38						
MVO				S	**Sn**	**02 54 54.2**	**-2.3**
	comp=N,0.4nm,0.3s,SNR=9.0						
PVRL	**Vila Real**	**5.23**	**335**	eP	**Pn**	**02 54 06.9**	**+1.7**
PVRL				eS	**Sn**	**02 55 02.0**	**-2.2**
PVRL	**Vila Real**	**5.23**	**335**	P	**Pn**	**02 54 06.9**	**+1.7**
PVRL				S	**Sn**	**02 55 02.0**	**-2.2**
PVRL	**Vila Real**	**5.23**	**335**	P	**Pn**	**02 54 06.9**	**+1.7**
PVRL				S	**Sn**	**02 55 02.0**	**-2.2**
POLO	**Lamas de Olo**	**5.34**	**335**	eP	**Pn**	**02 54 08.6**	**+1.8**
POLO				eS	**Sn**	**02 55 04.4**	**-2.7**
POLO	**Lamas de Olo**	**5.34**	**335**	eP	**Pn**	**02 54 08.6**	**+1.8**
POLO				eS	**Sn**	**02 55 04.4**	**-2.7**
PBRG	**Braganca**	**5.45**	**344**	eP	**Pn**	**02 54 09.8**	**+1.6**
PBRG				eS	**Sn**	**02 55 08.3**	**-1.3**
PBRG	**Braganca**	**5.45**	**344**	P	**Pn**	**02 54 09.8**	**+1.6**
PBRG				S	**Sn**	**02 55 08.3**	**-1.3**
PBRG	**Braganca**	**5.45**	**344**	P	**Pn**	**02 54 09.8**	**+1.6**
PBRG				S	**Sn**	**02 55 08.3**	**-1.3**
ECAL	**Calabor**	**5.58**	**345**	P	**Pn**	**02 54 11.8**	**+1.8**
	comp=N,1.1nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**02 55 10.0**	**-2.8**
	comp=N,1.9nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**5.58**	**345**	P	**Pn**	**02 54 11.8**	**+1.8**
	comp=N,1.1nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**02 55 10.0**	**-2.8**
	comp=N,1.9nm,0.3s,SNR=7.9						
PCAB	**Cabril**	**5.72**	**335**	eP	**Pn**	**02 54 13.7**	**+1.8**
PCAB				eS	**Sn**	**02 55 13.3**	**-3.0**
PCAB	**Cabril**	**5.72**	**335**	P	**Pn**	**02 54 13.7**	**+1.8**
PCAB				S	**Sn**	**02 55 13.3**	**-3.0**
PCAB	**Cabril**	**5.72**	**335**	P	**Pn**	**02 54 13.7**	**+1.8**
PCAB				S	**Sn**	**02 55 13.3**	**-3.0**
ELOB	**Lobios**	**5.87**	**335**	S	**Sn**	**02 55 16.9**	**-3.2**
	comp=N,1.1nm,0.2s,SNR=4.0						
ELOB	**Lobios**	**5.87**	**335**	S	**Sn**	**02 55 16.9**	**-3.2**
	comp=N,1.1nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**6.74**	**357**	P	**Pn**	**02 54 26.8**	**+1.0**
	comp=N,0.0nm,0.0s,SNR=7.9						
EARI	**Arriondas**	**6.74**	**357**	P	**Pn**	**02 54 26.8**	**+1.0**
	SNR=7.9						
IELO	**Elcoad**	**6.84**	**22**	P	**Pn**	**02 54 27.5**	**+0.3**
	comp=N,0.6nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**6.84**	**22**	P	**Pn**	**02 54 27.5**	**+0.3**
	comp=N,0.6nm,0.2s,SNR=7.9						

IDC 13 02:55:11.3±7.4, **6.06S**×**148.75E**, **h75km**±60km, **mb3.1**/1, **mb1 3.7**/3, **mb1mx3.2**/18, **mbtmp3.8**/3, **ML3.6**/2, **Error ellipse: s-maj=116.4km s-min=51.6km az=117.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.68**	**205**	P	Pn	02 56 06.3	+0.4
	10nm,0.3s,baz=35,slow=8.6,SNR=14						
PMG				S	Sn	02 56 48.6	+0.5
	12nm,0.3s,baz=42,slow=18,SNR=8.8						
WRA	**Warramunga Arr**	**19.66**	**224**	P	P	02 59 34.6	+0.2
	0.5nm,0.3s,baz=50,slow=11,SNR=28						
ASAR	**Alice Springs**	**22.60**	**218**	P	P	03 00 06.2	+0.2
	0.7nm,0.6s,baz=51,slow=9.4,SNR=14						
TORD	**Torodi Ar. Bea**	**146.79**	**285**	PKPbc	PKPdf	03 14 45.0	+0.8
	0.2nm,0.4s,baz=59,slow=3.2,SNR=7.9						

*ISCJB **13** 03:18:02.4±0.6, 57.22N±0.05×154.95W±0.06, h87km±4km, mb3.6/4, Error ellipse: s-maj=8.8km s-min=5.2km az=173.1*

*NEIC **13** 03:18:05.0, 57.22N×154.98W, h65km, ML3.3(AEIC), After AEIC.*

*IDC **13** 03:18:05.3±5.9, 57.62N×155.36W, h72km±44km, mb3.3/5, mb1 3.5/7, mb1mx3.2/29, mbtmp3.6/7, ML3.8/2, Error ellipse: s-maj=53.9km s-min=27.4km az=162.0*

ISC 13 03:18:03.6±1.0, **57.23N**±0.06×**154.97W**±0.04, **h78km**±8km, **n62**, **σ1.03**/70, **mb3.6**/4, **Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.84**	**304**	P	**Pn**	**03 18 20.8**	**+0.2**
PLK3				S	**Sn**	**03 18 32.9**	**-0.3**
PLK4	**Peulik 4**	**0.85**	**299**	P	**Pn**	**03 18 20.8**	**0.0**
PLK4				S	**Sn**	**03 18 33.5**	**-0.1**
KABR	**Katmai Barrier**	**0.90**	**360**	P	**Pn**	**03 18 21.2**	**-0.2**
OHAK	**Old Harbor**	**0.91**	**90**	P	**Pn**	**03 18 21.6**	**+0.2**
OHAK				S	**Sn**	**03 18 34.9**	**+0.2**
KCE	**Katmai Mt Cerb**	**1.02**	**354**	P	**Pn**	**03 18 23.2**	**+0.5**
KCE				S	**Sn**	**03 18 37.8**	**+0.7**
KAKN	**Katmai Knife C**	**1.07**	**357**	P	**Pn**	**03 18 23.8**	**+0.4**
KAKN				S	**Sn**	**03 18 38.3**	**+0.1**
PLWL	**Peulik Whale M**	**1.10**	**318**	P	**Pn**	**03 18 23.5**	**-0.2**
PLWL				S	**Sn**	**03 18 37.9**	**-0.7**
KVTA	**Katmai Vly 10**	**1.17**	**352**	P	**Pn**	**03 18 24.5**	**0.0**
KELA	**Mount Kelaz**	**1.28**	**341**	P	**Pn**	**03 18 25.8**	**-0.2**
KDAK	**Kodiak Island**	**1.40**	**66**	P	**Pn**	**03 18 27.8**	**+0.4**
KDAK				S	**Sn**	**03 18 45.3**	**-0.1**
KAPH	**Katmai Pasha**	**1.41**	**13**	P	**Pn**	**03 18 28.2**	**+0.5**
KAHC	**Katmai Hardscr**	**1.42**	**359**	P	**Pn**	**03 18 28.0**	**+0.2**
MCNL	**McNeil River**	**1.99**	**9**	P	**Pn**	**03 18 35.8**	**+0.6**
CHGN	**Chignik**	**2.11**	**245**	P	**Pn**	**03 18 36.8**	**-0.1**
AUH	**Augustine H**	**2.28**	**20**	P	**Pn**	**03 18 40.8**	**+1.6**
OPT	**Oil Point**	**2.59**	**20**	P	**Pn**	**03 18 44.8**	**+1.5**
ILW	**Iliamna West**	**2.99**	**18**	P	**Pn**	**03 18 49.9**	**+1.1**
HOM	**Homer**	**3.00**	**34**	P	**Pn**	**03 18 50.1**	**+1.4**
BRLK	**Bradley Lake**	**3.32**	**38**	P	**Pn**	**03 18 53.5**	**+0.3**
RSO	**Redoubt South**	**3.44**	**19**	ePn	**Pn**	**03 18 56.1**	**+1.2**
NCT	**North Crescent**	**3.50**	**17**	P	**Pn**	**03 18 57.2**	**+1.5**
DFR	**Drift River**	**3.57**	**18**	P	**Pn**	**03 18 58.6**	**+1.9**
SVW2	**Sparrevohn**	**3.89**	**356**	P	**Pn**	**03 19 01.3**	**+0.5**
SEW	**Seward**	**4.07**	**43**	P	**Pn**	**03 19 03.0**	**-0.4**
SLKM	**Skilak Lake**	**4.11**	**35**	P	**Pn**	**03 19 03.9**	**+0.1**
CKL	**Chakachamna La**	**4.20**	**18**	P	**Pn**	**03 19 06.5**	**+1.3**
SPBG	**Spurr Blockage**	**4.25**	**17**	P	**Pn**	**03 19 07.4**	**+1.5**
DOL	**Dolgoi Island**	**4.38**	**244**	P	**Pn**	**03 19 08.4**	**+0.8**
STLK	**Strandline Lak**	**4.57**	**19**	P	**Pn**	**03 19 11.3**	**+1.1**
FIB	**Fire Island**	**4.65**	**30**	P	**Pn**	**03 19 12.9**	**+1.7**
RC01	**Rabbit Creek A**	**4.71**	**33**	P	**Pn**	**03 19 12.9**	**+0.8**
SUA	**Susitna One**	**4.76**	**25**	P	**Pn**	**03 19 13.6**	**+0.7**
PWL	**Port Wells**	**5.00**	**40**	P	**Pn**	**03 19 15.8**	**-0.1**
SKT	**Skwentna**	**5.07**	**19**	P	**Pn**	**03 19 17.8**	**+0.9**
PMR	**Palmer**	**5.29**	**32**	ePn	**Pn**	**03 19 19.4**	**-0.5**
	10nm,0.7s						
HIN	**Hinchinbrook I**	**5.42**	**51**	P	**Pn**	**03 19 22.0**	**+0.2**
GLI	**Glacier Island**	**5.46**	**45**	P	**Pn**	**03 19 21.1**	**-1.2**
TT01	**Tatalina**	**5.72**	**355**	P	**Pn**	**03 19 26.9**	**+1.2**
JPK	**Jack Peak**	**5.76**	**45**	P	**Pn**	**03 19 26.3**	**-0.2**
EYAK	**Cordova Ski Ar**	**5.82**	**51**	P	**Pn**	**03 19 27.1**	**0.0**
PPLA	**Purkeypile**	**5.85**	**13**	P	**Pn**	**03 19 29.4**	**+1.7**
VLZ	**Valdez**	**5.91**	**45**	P	**Pn**	**03 19 28.9**	**+0.5**
SGAM	**Sherman Glacie**	**6.03**	**53**	P	**Pn**	**03 19 30.5**	**+0.5**
SCM	**Sheep Creek Mo**	**6.03**	**37**	P	**Pn**	**03 19 30.3**	**+0.2**
DIV	**Divide**	**6.13**	**47**	P	**Pn**	**03 19 31.6**	**+0.1**
RAGM	**Ragged Mountai**	**6.21**	**55**	P	**Pn**	**03 19 32.7**	**+0.1**
KLU	**Klutina**	**6.29**	**43**	P	**Pn**	**03 19 33.9**	**+0.2**
BMRM	**Bremner River**	**6.52**	**51**	P	**Pn**	**03 19 36.9**	**+0.2**
PS12	**TAPS Pump St12**	**6.58**	**46**	P	**Pn**	**03 19 37.1**	**-0.5**
KTH	**Kantishna Hill**	**6.65**	**16**	P	**Pn**	**03 19 38.8**	**+0.3**
PS11	**TAPS Pump St11**	**6.83**	**41**	P	**Pn**	**03 19 42.5**	**+1.5**
RND	**Reindeer**	**6.89**	**24**	P	**Pn**	**03 19 41.8**	**-0.1**
GLB	**Gilahina Butte**	**7.09**	**49**	P	**Pn**	**03 19 44.8**	**+0.2**
MCK	**McKinley**	**7.17**	**22**	ePn	**Pn**	**03 19 46.2**	**+0.7**
	3.9nm,0.5s						
PAX	**Paxson**	**7.45**	**36**	P	**Pn**	**03 19 49.3**	**-0.2**
ILAR	**Eielson Array**	**8.51**	**24**	P	**Pn**	**03 20 02.5**	**-1.3**
	0.7nm,0.3s,baz=216,slow=14,SNR=39						
ILAR				S	**Sn**	**03 21 33.1**	**-5.1**
	0.5nm,0.3s,baz=223,slow=29,SNR=7.0						
INK	**Inuvik**	**14.71**	**32**	P	**Pn**	**03 21 26.9**	**-0.2**
	0.2nm,0.3s,baz=230,slow=15,SNR=6.5						
YKA	**Yellowknife Ar**	**20.66**	**58**	P	Pn	03 22 38.8	-0.8
	0.2nm,0.5s,baz=271,slow=11,SNR=2.9						
YKA				PcP	**PcP**	**03 26 44.9**	**+1.5**
	0.1nm,0.5s,baz=281,slow=2.0,SNR=3.9						
PETK	**Petropavlovsk-**	**26.91**	**282**	P	**P**	**03 23 36.4**	**-0.6**
	0.9nm,0.4s,baz=76,slow=12,SNR=6.2						
FINES	**FINESS Array B**	**61.66**	**359**	P	**P**	**03 28 12.8**	**+0.3**
	1.5nm,0.9s,baz=20,slow=8.1,SNR=3.5						
MKAR	**Makanchi Array**	**65.94**	**321**	P	**P**	**03 28 40.8**	**-0.1**
	0.3nm,0.5s,baz=16,slow=5.4,SNR=4.4						
AKASG	**Malin Array Be**	**72.38**	**357**	P	**P**	**03 29 20.3**	**-0.3**
	0.2nm,0.3s,baz=355,slow=5.5,SNR=3.3						

*IDC **13** 03:18:51.1±0.8, 3.17N×96.26E, h0km, mb4.0/13, mb1 4.1/14, mb1mx4.0/27, mbtmp4.0/14, ML3.0/1, Error ellipse: s-maj=36.9km s-min=14.2km az=48.0*

*ISCJB **13** 03:18:54.3±0.4, 3.12N±0.07×96.18E±0.05, h33km, mb4.2/22, Error ellipse: s-maj=10.6km s-min=6.0km az=23.6*

*DJA **13** 03:18:57.8±0.6, 3°N±4°×9°6E±°, h10km, M3.8/10, MLv3.8/10*

*NEIC **13** 03:19:03.0±0.7, 3.34N×96.54E, h92km±6km, mb4.3/10, Error ellipse: s-maj=10.0km s-min=5.1km az=56.0*

ISC 13 03:18:56.4±0.5, **3.20N**±0.04×**96.30E**±0.06, **h33km**, **n44**, **σ0.99**/42, **mb4.2**/22, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.79**	**178**	P	**Pb**	**03 19 12.5**	**+0.7**
TPTI		**0.88**	**86**	P	**Pn**	**03 19 10.6**	**-1.8**
KCSI	**Kotacane, Aceh**	**1.50**	**78**	P	**Pn**	**03 19 21.7**	**+0.7**
KCSI				S	**Sb**	**03 19 42.1**	**-0.3**
LHMI	**Lhok Sumawe**	**2.11**	**18**	P	**Pb**	**03 19 34.4**	**+0.3**
LHMI	**Lhok Sumawe**	**2.11**	**18**	ePn	**Pb**	**03 19 34.6**	**+0.5**
GSI	**Gunungsitoli**	**2.28**	**146**	P	**Pn**	**03 19 31.8**	**+0.1**
GSI	**Gunungsitoli**	**2.28**	**146**	ePn	**Pb**	**03 19 39.0**	**+2.1**
TSI	**Tuntungan**	**2.28**	**82**	P	**Pb**	**03 19 37.4**	**+0.5**
PSI	**Prapat**	**2.65**	**99**	Pn	**Pn**	**03 19 37.7**	**+0.7**
	2.8nm,0.3s,baz=346,slow=9.8,SNR=17						
MNSI	**Mandailing Nat**	**4.06**	**126**	P	**Pn**	**03 19 56.4**	**+0.2**
KULM	**Kulim**	**4.81**	**64**	ePn	**Pn**	**03 20 09.7**	**+3.2**
IPM	**Ipoh**	**4.88**	**75**	ePn	**Pn**	**03 20 10.4**	**+2.8**
KKM	**Kota Kinabalu**	**20.05**	**81**	eP	**P**	**03 23 26.0**	**-1.1**
	9.1nm,0.5s						
H08S2	**Diego Garcia H**	**26.09**	**246**	T	T	03 50 47.5	
	baz=67,slow=75,SNR=5.8						
H08S3	**Diego Garcia H**	**26.09**	**246**	T	T	03 50 48.4	
	baz=67,slow=75,SNR=4.7						
H08S1	**Diego Garcia H**	**26.10**	**246**	T	T	03 50 45.5	
	baz=67,slow=75,SNR=4.4						
H01W3	**Cape Leeuwin H**	**41.43**	**158**	T	T	04 10 03.7	
	baz=333,slow=75,SNR=5.7						
H01W2	**Cape Leeuwin H**	**41.44**	**158**	T	T	04 10 13.1	
	baz=333,slow=75,SNR=5.9						
H01W1	**Cape Leeuwin H**	**41.44**	**158**	T	T	04 10 04.1	
	baz=333,slow=75,SNR=5.5						
TKM2	**Tokmak 2**	**43.64**	**338**	eP	**P**	**03 26 58.5**	**+0.4**
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**43.86**	**123**	P	**P**	**03 26 59.5**	**-0.5**
	3.6nm,0.6s,baz=300,slow=9.3,SNR=28						
WRA				PcP	**PcP**	**03 28 45.2**	**-0.9**
	0.3nm,0.5s,baz=311,slow=2.1,SNR=4.7						
WRAB	**Tennant Creek**	**43.87**	**123**	eP	**P**	**03 26 59.0**	**-1.0**
	3.9nm,0.6s						
MKAR	**Makanchi Array**	**45.10**	**346**	P	**P**	**03 27 09.2**	**-0.3**
	2.4nm,0.4s,baz=158,slow=8.7,SNR=77						
SONM	**Songino Array**	**45.31**	**10**	P	**P**	**03 27 10.8**	**-0.5**
	0.8nm,0.5s,baz=192,slow=9.1,SNR=14						
SONM				PcP	**PcP**	**03 28 50.5**	**-0.2**
	0.3nm,0.4s,baz=192,slow=3.8,SNR=4.1						
ASAR	**Alice Springs**	**45.32**	**128**	P	**P**	**03 27 11.2**	**-0.4**
	1.5nm,0.7s,baz=300,slow=7.9,SNR=20						
ASAR				PcP	**PcP**	**03 28 50.7**	**-0.4**
	0.4nm,0.7s,baz=313,slow=4.1,SNR=4.2						
FORT	**Forrest**	**45.38**	**140**	eP	**P**	**03 27 11.8**	**-0.1**
	15nm,0.9s						
COEN	**Coen**	**49.51**	**111**	eP	**P**	**03 27 43.7**	**-0.6**
KURBB	**Kurchatov Arra**	**49.58**	**345**	P	**P**	**03 27 44.5**	**+0.2**
	1.1nm,0.5s,baz=162,slow=7.0,SNR=16						
KURK	**Kurchatov**	**49.64**	**345**	eP	**P**	**03 27 44.5**	**-0.2**
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**51.45**	**351**	P	**P**	**03 27 58.2**	**-0.1**
	1.6nm,0.4s,baz=175,slow=7.4,SNR=10						
BRVK	**Borovoye**	**54.14**	**341**	eP	**P**	**03 28 17.7**	**-0.5**
	1.9nm,0.7s						
ABKAR	**Akbulak array**	**55.34**	**332**	eP	**P**	**03 28 26.8**	**-0.1**
STKA	**Stephens Creek**	**55.36**	**133**	P	**P**	**03 28 26.9**	**-0.6**
	1.5nm,0.7s,baz=270,slow=6.1,SNR=3.8						
ARU	**Arti**	**61.00**	**337**	eP	**P**	**03 29 05.5**	**-1.0**
	3.1nm,0.5s						
CSS	**Prodhromos**	**66.15**	**307**	eP	**P**	**03 29 42.1**	**+1.1**
	2.9nm,1.0s						
BRTR	**Keskin Array B**	**67.11**	**312**	P	**P**	**03 29 47.3**	**+0.1**
	0.2nm,0.3s,baz=131,slow=7.2,SNR=8.6						
AKASG	**Malin Array Be**	**73.13**	**322**	P	**P**	**03 30 23.3**	**-0.4**
	0.6nm,0.5s,baz=94,slow=5.0,SNR=4.9						
KIEV	**Kiev**	**73.14**	**322**	eP	**P**	**03 30 23.4**	**-0.3**
	1.8nm,0.3s						
FINES	**FINESS Array B**	**77.82**	**332**	P	**P**	**03 30 50.0**	**-0.3**
	2.6nm,0.9s,baz=100,slow=7.3,SNR=3.3						
PSZ	**Piszkesteto**	**78.53**	**318**	eP	**P**	**03 30 55.2**	**+0.6**
	2.9nm,0.7s						
ARCES	**ARCESS Array B**	**80.36**	**340**	P	**P**	**03 31 03.6**	**-0.4**
	2.3nm,0.9s,baz=87,slow=7.4,SNR=5.9						
GERES	**GERESS Array B**	**82.73**	**319**	P	**P**	**03 31 17.2**	**+0.1**
	0.4nm,0.6s,baz=94,slow=5.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**93.76**	**283**	P	**P**	**03 32 11.9**	**+1.0**
	0.9nm,1.1s,baz=88,slow=5.8,SNR=3.8						
NVAR	**Mina Array Bea**	**127.67**	**34**	PKP	**PKPdf**	**03 37 59.9**	**+0.7**
	0.2nm,0.5s,baz=252,slow=1.8,SNR=2.4						

IDC 13 03:35:56.7±11.0, **20.82S**×**178.77W**, **h548km**±107km, **mb2.8**/4, **mb1 3.0**/4, **mb1mx2.8**/24, **mbtmp3.7**/4, **Error ellipse: s-maj=124.7km s-min=46.5km az=134.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.00**	**244**	P	P	03 42 19.6	-0.6
	0.5nm,0.4s,baz=92,slow=9.2,SNR=4.6						
ASAR	**Alice Springs**	**43.74**	**257**	P	P	03 43 14.4	+0.3
	1.7nm,0.5s,baz=96,slow=7.9,SNR=41						
ASAR				PcP	PcP	03 44 48.1	-0.7
	0.4nm,0.7s,baz=104,slow=4.4,SNR=5.1						
WRA	**Warramunga Arr**	**43.84**	**263**	P	P	03 43 14.6	-0.3
	0.4nm,0.3s,baz=96,slow=7.4,SNR=45						
ILAR	**Eielson Array**	**88.79**	**13**	P	P	03 47 51.8	0.0
	0.2nm,0.9s,baz=232,slow=4.3,SNR=2.9						
BRTR	**Keskin Array B**	**146.52**	**311**	PKPbc	PKPbc	03 54 36.5	-0.7
	0.4nm,0.8s,baz=112,slow=3.4,SNR=3.3						

*BJI **13** 03:43:52.3, 60.30N×60.00E, h10km, mB4.8/4, mb4.5/27, Ms4.9/7, Ms7 4.8/8*

*ISCJB **13** 03:43:53.6±1.1, 60.13N±0.03×60.12E±0.04, h6km±7km, mb4.4/85, MS4.9/4, Error ellipse: s-maj=5.0km s-min=3.1km az=20.7*

*CSEM **13** 03:43:54.1±0.1, 60.26N×60.17E, h2km, mb4.5/47, Error ellipse: s-maj=6.5km s-min=3.6km az=30.0*

*MOS **13** 03:43:54.2±1.1, 60.13N×60.00E, h10km, mb4.7/44, MS4.5/4, Error ellipse: s-maj=6.5km s-min=5.3km az=103.0*

*NEIC **13** 03:43:55.9±0.2, 60.21N×60.02E, h10km, mb4.7/48, Error ellipse: s-maj=5.5km s-min=3.5km az=208.0*

NEIC Felt [II] at Ivdel'. Also felt at Karpinsk, Krasnotur'insk, Serov and Severoural'sk.

*IDC **13** 03:43:55.0±0.4, 60.23N×59.99E, h0km, mb4.1/27, mb1 4.3/38, mb1mx4.3/44, mbtmp4.2/38, ML4.2/11, Error ellipse: s-maj=9.7km s-min=7.0km az=26.0*

*NNC **13** 03:44:04.0±2.1, 59.54N×60.94E, h8km±17km, mb4.5, mpv4.7, Error ellipse: s-maj=19.4km s-min=11.2km az=156.0*

ISC 13 03:43:56.0±0.5, **60.19N**±0.04×**60.00E**±0.04, **h14km**±2km, **h13km:pP-P**, **n464**, **σ1.52**/479, **mb4.5**/83, **MS4.8**/4, **50C-22D, Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVE	**Sverdlovsk**	**3.39**	**174**	eP	**Pn**	**03 44 50.6**	**+2.2**
SVE				eS	**Sn**	**03 45 30.9**	**+2.5**
SVE				pmax	pmax		
	comp=Z,57nm,0.6s						
SVE	**Sverdlovsk**	**3.39**	**174**	P	**Pn**	**03 44 49.7**	**+1.3**
SVE	**Sverdlovsk**	**3.39**	**174**	eP	**Pn**	**03 44 50.6**	**+2.2**
	comp=Z,57nm,0.6s						
SVE				eS	**Sn**	**03 45 30.9**	**+2.5**
ARU	**Arti**	**3.85**	**192**	P	**Pn**	**03 44 55.1**	**+0.4**
ARU				S	**Sn**	**03 45 44.4**	**+4.7**
ARU	**Arti**	**3.85**	**192**	ePn	**Pn**	**03 44 55.7**	**+0.9**
ARU				eSn	**Sn**	**03 45 39.9**	**+0.2**
ARU				eSg	**Sg**	**03 46 00.6**	**+1.1**
ARU	**Arti**	**3.85**	**192**	ePn	**Pn**	**03 44 55.7**	**+0.9**
ARU				eSn	**Sn**	**03 45 39.9**	**+0.2**
ARU				S	**Sn**	**03 45 44.4**	**+4.7**
PRGR	**Permogore**	**7.16**	**288**	⇑iP	**Pn**	**03 45 40.3**	**+0.2**
PRGR				e		03 46 58.9	
PRGR				pmax	pmax		
	comp=Z,86nm,0.8s						
PRGR				smax	smax		
	comp=N,481nm,0.7s						
PRGR				smax	smax		
	comp=E,998nm,0.9s						
PRGR	**Permogore**	**7.16**	**288**	iP	**Pn**	**03 45 40.3**	**+0.2**
	comp=E,86nm,0.8s						
BRVK	**Borovoye**	**9.11**	**137**	⇓Pn	**Pn**	**03 46 06.5**	**-0.5**
	comp=E,23nm,0.7s						
BRVK				⇓Sn	Sn	03 47 42.1	-7.1
	comp=E,99nm,0.8s						
BRVK				⇑Lg	Lg	03 48 25.9	
	comp=E,76nm,0.7s						
BRVK	**Borovoye**	**9.11**	**137**	eP	**Pn**	**03 46 06.8**	**-0.2**
BRVK				e		03 47 42.7	
BRVK	**Borovoye**	**9.11**	**137**	ePn	**Pn**	**03 46 06.8**	**-0.2**
BRVK				eSn	Sn	03 47 42.7	-6.5
BRVK	**Borovoye**	**9.11**	**137**	Pn	**Pn**	**03 46 06.5**	**-0.5**
	comp=E,23nm,0.7s						
BRVK				Sn	Sn	03 47 42.1	-7.1
	comp=E,99nm,0.8s						
BRVK				Lg	Lg	03 48 25.9	
	comp=E,76nm,0.7s						
BVA0	**Borovoye Array**	**9.18**	**137**	⇑Pn	**Pn**	**03 46 07.6**	**-0.3**
	comp=E,20nm,0.5s,baz=326,slow=13,SNR=206						
BVA0				⇑Sn	Sn	03 47 41.5	-9.3
	comp=E,87nm,0.8s,baz=325,slow=23,SNR=9.2						
BVA0				⇑Lg	Lg	03 48 29.3	
	comp=E,51nm,0.9s,baz=329,slow=24,SNR=9.0						
BVA0	**Borovoye Array**	**9.18**	**137**	iP	**Pn**	**03 46 07.5**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,38nm,0.5s						
BVA0	**Borovoye Array**	**9.18**	**137**	Pn	**Pn**	**03 46 07.6**	**-0.3**
	comp=E,20nm,0.5s,SNR=206						
BVAR	**Borovoye Array**	**9.18**	**137**	P	**Pn**	**03 46 07.8**	**0.0**

BVAR 03 47 44.2
BVAR pmax pmax
comp=Z,9.0nm,0.3s
BVAR smax smax
comp=N,6.0nm,0.3s
BVAR Borovoye Array 9.18 137 Pn **Pn 03 46 07.8 0.0**
comp=N,8.6nm,0.3s,baz=326,slow=15,SNR=158
BVAR Sn Sn 03 47 44.2 -6.6
comp=N,6.2nm,0.3s,baz=334,slow=23,SNR=12
VOSK Vostochnaya 9.63 136 ⇑Pn **Pn 03 46 13.1 -0.9**
comp=N,10nm,0.5s
VOSK ⇓Sn Sn 03 47 54.5 -7.4
comp=N,40nm,0.7s
AKTO Aktyubinsk 9.84 187 ⇑Pn **Pn 03 46 17.5 +0.5**
comp=N,10nm,0.7s
AKTO ⇓Sn **Sn 03 48 04.1 -3.0**
comp=N,25nm,0.7s
AKTO ⇑Lg Lg 03 48 58.2
comp=N,45nm,0.7s
AKTO Aktyubinsk 9.84 187 P **Pn 03 46 16.9 -0.1**
AKTO 03 48 07.0
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO smax smax
comp=N,2.0nm,0.3s
AKTO Aktyubinsk 9.84 187 Pn **Pn 03 46 16.9 -0.1**
comp=N,1.3nm,0.3s,baz=346,slow=10,SNR=21
AKTO Sn **Sn 03 48 07.0 -0.1**
comp=N,2.4nm,0.3s,baz=186,slow=20,SNR=7.2
AKTO Aktyubinsk 9.84 187 Pn **Pn 03 46 17.5 +0.5**
comp=N,10nm,0.7s
AKTO Sn **Sn 03 48 04.1 -3.0**
comp=N,25nm,0.7s
AKTO Lg Lg 03 48 58.2
comp=N,45nm,0.7s
KLMR Klimovskoe 10.11 283 *e*P **Pn 03 46 19.1 -1.5**
KLMR *e* 03 48 08.6
KLMR pmax pmax
comp=Z,45nm,1.0s
AB31 Akbulak array 10.96 180 Pn **Pn 03 46 32.0 -0.2**
comp=Z,9.8nm,0.6s,baz=8.0,slow=11,SNR=171
AB31 ⇓Sn **Sn 03 48 29.7 -4.8**
comp=Z,6.4nm,0.6s,baz=14,slow=24,SNR=5.6
AB31 ⇓Lg Lg 03 49 30.5
comp=Z,35nm,0.6s,baz=7.8,slow=27,SNR=5.3
AB31 Akbulak array 10.96 180 *e*P **Pn 03 46 32.0 -0.2**
AB31 03 48 34.3
AB31 pmax pmax
comp=Z,13nm,0.5s
AB31 smax smax
comp=N,4.0nm,0.4s
AB31 Akbulak array 10.96 180 Pn **Pn 03 46 32.0 -0.2**
comp=N,9.8nm,0.6s,SNR=171
ABKAR Akbulak array 10.96 180 *e*Pn **Pn 03 46 31.4 -0.8**
ABKAR *e*Sn **Sn 03 48 34.7 +0.3**
TMCR Tamitsa 10.98 301 *e*P **Pn 03 46 30.5 -2.0**
TMCR *e* 03 48 33.3
TMCR pmax pmax
comp=Z,20nm,0.7s
MOS Moscow 12.66 259 *e*P P 03 47 14.0 +7.2
MOS pmax pmax
comp=Z,55nm,1.1s
LVZ Lovozero 13.42 316⇑*e*P **Pn 03 47 03.4 -2.4**
LVZ pmax pmax
comp=Z,37nm,0.7s
LVZ Lovozero 13.42 316 *e*Pn **Pn 03 47 03.5 -2.3**
OBN Obninsk 13.50 258*ce*P **Pn 03 47 05.4 -1.4**
OBN pmax pmax
comp=Z,14nm,0.5s
OBN MLR MLR
comp=Z,2µm,19.0s
OBN Obninsk 13.50 258 Pn Pn 03 47 03.6 -3.2
comp=Z,3.0nm,0.3s,baz=92,slow=12,SNR=3.3
OBN Sn Sn 03 49 28.5 -7.9
comp=Z,0.9nm,0.3s,baz=201,slow=24,SNR=7.8
NVS Novosibirsk 13.55 103 *e*P **Pn 03 47 06.4 -1.1**
NVS *e* 03 49 31.8
NVS pmax pmax
comp=Z,20nm,1.0s
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,13nm,0.8s
APA Apatity 13.75 314⇑*i*P **Pn 03 47 11.9 +1.7**
APA *i* S **Sn 03 49 40.0 -2.4**
APA MLR MLR
comp=Z,3µm,18.0s
APA Apatity 13.75 314 *i* P **Pn 03 47 11.9 +1.7**
comp=Z,3µm,18.0s
VRHR Novokhopersk 13.76 237 *e*P Pn 03 47 04.2 -6.2
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s
JOF Joensuu 13.88 294 *e*P Pn 03 47 08.8 -3.3
JOF pmax pmax
comp=Z,4.0nm,0.4s
JOF Joensuu 13.88 294 *e*p Pn 03 47 08.8 -3.3
comp=Z,4.4nm,0.4s
KURK Kurchatov 14.15 124 ⇑Pn **Pn 03 47 12.6 -3.1**
comp=Z,7.0nm,0.6s
KURK ⇑Sn Sn 03 49 41.6 -11
comp=Z,20nm,1.1s
KURK Kurchatov 14.15 124 P **Pn 03 47 13.3 -2.4**
KURK 03 49 46.9
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 14.15 124 *e*Pn **Pn 03 47 12.7 -3.1**
KURK *e*Sn Sn 03 49 38.5 -14
KURK Kurchatov 14.15 124 Pn **Pn 03 47 12.6 -3.1**
comp=Z,7.0nm,0.6s
KURBB Kurchatov Arra 14.18 124 ⇑Pn Pn 03 47 12.9 -3.3
comp=Z,12nm,0.7s
KURBB Kurchatov Arra 14.18 124 Pn **Pn 03 47 13.3 -2.9**
comp=Z,0.7nm,0.3s,baz=325,slow=12,SNR=83
KURBB Sn Sn 03 49 46.9 -6.3
comp=Z,0.4nm,0.3s,baz=310,slow=24,SNR=6.5
KURBB Kurchatov Arra 14.18 124 Pn Pn 03 47 12.9 -3.3
comp=Z,12nm,0.7s
VOR Voronezh 14.35 243 P **Pn 03 47 17.0 -1.5**
VOR pmax pmax
comp=Z,250nm,1.0s
VSR Storozhevoye 14.73 242 *e*P Pn 03 47 19.2 -4.5
VSR pmax pmax
comp=N,30nm,0.6s
VSR pmax pmax
comp=E,30nm,0.6s
VSR pmax pmax
comp=Z,50nm,0.6s
PUL Pulkovo 14.81 281⇑*e*P **Pn 03 47 22.0 -2.7**
PUL pmax pmax
comp=Z,58nm,0.5s
ZALV Zalesovo Beam 14.81 104 P **Pn 03 47 23.8 -1.0**
ZALV 03 50 10.3
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV smax smax
comp=N,3.0nm,0.3s
ZALV Zalesovo Beam 14.81 104 Pn **Pn 03 47 23.8 -1.0**
comp=N,0.7nm,0.3s,baz=311,slow=14,SNR=11
ZALV Sn **Sn 03 50 10.3 +1.8**
comp=N,2.7nm,0.3s,baz=289,slow=19,SNR=20
VORD Divnogorie 14.85 241 *e*P Pn 03 47 19.6 -5.7
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,20nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
KAF Kangasniemi 16.27 291 *e*P **Pn 03 47 40.4 -3.3**
KAF pmax pmax
comp=Z,19nm,0.6s
KAF Kangasniemi 16.27 291 *e*p **Pn 03 47 40.4 -3.3**
comp=Z,19nm,0.6s
FINES FINESS Array B 16.48 289 Pn **Pn 03 47 42.4 -4.2**
comp=Z,1.1nm,0.3s,baz=95,slow=13,SNR=48
FINES Sn Sn 03 50 35.5 -14
comp=Z,0.7nm,0.3s,baz=72,slow=24,SNR=7.9
KEV Kevo 16.68 319 *e*P **Pn 03 47 44.9 -4.0**
KEV pmax pmax
comp=Z,16nm,0.7s
KEV Kevo 16.68 319 *e*p **Pn 03 47 44.9 -4.0**
comp=Z,16nm,0.7s
VSU Vasula 16.96 279*c i*P **Pn 03 47 50.5 -2.0**
VSU pmax pmax
comp=Z,58nm,0.6s
ARCES ARCESS Array B 17.11 317 Pn **Pn 03 47 50.3 -4.2**
comp=Z,1.0nm,0.3s,baz=97,slow=10,SNR=26
ARCES Sn Sn 03 50 52.0 -12
comp=Z,0.6nm,0.3s,baz=108,slow=27,SNR=7.9
MICGM Minsk 18.11 266 *e*P Pn 03 48 02.0 -4.9
MNK Minsk 18.14 266 *e*P Pn 03 48 02.0 -5.2
GOF Gofitskoye 18.23 221 *e*P **Pn 03 48 07.9 -0.5**
GOF pmax pmax
comp=Z,34nm,0.7s
KK31 Karatay Array 18.27 155 ⇓Pn **Pn 03 48 06.5 -2.4**
comp=Z,1.0nm,0.5s,baz=351,slow=15,SNR=18
KK31 ⇑Sn Sn 03 51 20.8 -12
comp=Z,2.0nm,0.6s
KK31 Karatay Array 18.27 155 *e*P **Pn 03 48 06.4 -2.4**
KK31 03 51 20.0
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KK31 smax smax
comp=N,4.0nm,0.7s
KK31 Karatay Array 18.27 155 Pn **Pn 03 48 06.5 -2.4**
comp=N,1.0nm,0.5s,SNR=18
MK31 Makanchi Array 18.73 126 Pn **P 03 48 13.4 -0.8**
comp=N,6.1nm,0.6s,baz=324,slow=9.2,SNR=115
MK31 ⇓Sn Sn 03 51 34.8 -8.8
comp=N,9.4nm,0.9s,baz=330,slow=24,SNR=10.0
MK31 Makanchi Array 18.73 126 *e*P **P 03 48 13.3 -0.8**
MK31 *e* 03 51 36.0
MK31 pmax pmax
comp=Z,7.0nm,0.5s
MK31 smax smax
comp=N,1.0nm,0.3s
MK31 Makanchi Array 18.73 126 *e*P **P 03 48 13.3 -0.8**
comp=N,7.0nm,0.5s
MKAR Makanchi Array 18.73 126 P **P 03 48 13.4 -0.7**
MKAR S **Sn 03 51 37.9 -5.7**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 18.73 126 P **P 03 48 13.4 -0.7**
comp=Z,0.8nm,0.3s,baz=322,slow=10,SNR=56
MKAR S **Sn 03 51 37.9 -5.7**
comp=Z,0.2nm,0.3s,baz=323,slow=26,SNR=9.5
USP Ospenovka 19.10 146 P **Pn 03 48 21.6 +2.5**
SNR=9.6
USP Ospenovka 19.10 146 *i* P **Pn 03 48 21.5 +2.5**
KIV Kislovodsk 19.33 221*ce*P **P 03 48 20.3 -0.4**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 19.33 221 *e*P **P 03 48 19.7 -1.0**
comp=Z,13nm,0.6s
KBZ Khabaz 19.46 220 P **P 03 48 22.2 +0.2**
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ Khabaz 19.46 220 P **P 03 48 22.2 +0.2**
comp=Z,1.1nm,0.3s,baz=352,slow=3.7,SNR=31
EKS2 Erkin-Say 19.47 148 P **Pn 03 48 24.0 +0.5**
SNR=11
EKS2 Erkin-Say 19.47 148 *i* P **Pn 03 48 24.0 +0.5**
EKS2 Erkin-Say 19.47 148 *e*P **Pn 03 48 23.4 -0.1**
EKS2 Erkin-Say 19.47 148 *i* P **Pn 03 48 24.0 +0.5**
AAK Ala-Archa 19.69 147 ⇑Pn **P 03 48 24.4 -0.3**
comp=Z,3.0nm,0.5s
AAK ⇑Sn S 03 51 58.1 -8.2
comp=Z,5.6nm,0.8s
AAK Ala-Archa 19.69 147 P **Pn 03 48 26.6 +0.5**
SNR=5.7
AAK Ala-Archa 19.69 147 P **Pn 03 48 26.2 0.0**
AAK 03 52 00.6
AAK pmax pmax
comp=Z,3.0nm,0.5s
AAK smax smax
comp=N,6.0nm,0.8s
AAK Ala-Archa 19.69 147 P **Pn 03 48 26.6 +0.5**
comp=N,1.2nm,0.3s,baz=176,slow=3.3,SNR=13
AAK Ala-Archa 19.69 147 *e*P **Pn 03 48 25.8 -0.3**
comp=N,4.5nm,0.6s
AAK Ala-Archa 19.69 147 Pn **P 03 48 24.4 -0.3**
comp=N,3.0nm,0.5s
AAK Ala-Archa 19.69 147 P **Pn 03 48 26.2 0.0**
comp=N,3.0nm,0.5s
AKASG Malin Array Be 19.69 255 P **P 03 48 24.6 0.0**
AKASG S S 03 51 53.4 -13
AKASG pmax pmax
comp=Z,4.0nm,0.3s
AKASG Malin Array Be 19.69 255 P **P 03 48 24.6 0.0**
comp=Z,3.6nm,0.3s,baz=45,slow=10,SNR=104
AKASG S S 03 51 53.4 -13
comp=Z,0.3nm,0.3s,baz=40,slow=22,SNR=7.2
KIEV Kiev 19.71 255 *e*P **P 03 48 24.6 -0.1**
KIEV pmax pmax
comp=Z,17nm,0.6s
KIEV Kiev 19.71 255 *e*P **P 03 48 24.6 -0.1**
comp=Z,17nm,0.6s
KIEV Kiev 19.71 255 *e*P **P 03 48 24.6 -0.1**
comp=Z,17nm,0.6s
TKM2 Tokmak 2 19.73 144 P **Pn 03 48 28.8 +2.1**
SNR=6.9
TKM2 Tokmak 2 19.73 144 *e*P **P 03 48 25.6 +0.3**
TKM2 pmax pmax
comp=Z,3.0nm,0.5s
TKM2 Tokmak 2 19.73 144 *e*P **P 03 48 25.6 +0.3**
comp=Z,2.9nm,0.5s
TKM2 *e*Pn **pP 03 48 27.9 -1.4**
TKM2 Tokmak 2 19.73 144 *e*P **P 03 48 25.6 +0.3**
comp=Z,3.0nm,0.5s
AML Almayashu 19.94 149 P **Pn 03 48 30.9 +1.5**
SNR=6.8
ZEI Tsey 20.00 217 *e*P **P 03 48 27.1 -1.1**
ZEI pmax pmax
comp=Z,11nm,0.5s
UCH Uchtor 20.07 147 P Pn 03 48 31.6 +0.5
SNR=5.7
UCH Uchtor 20.07 147 *i* P Pn 03 48 31.5 +0.4
UCH Uchtor 20.07 147 *i* P Pn 03 48 31.5 +0.4
KZA Kyzart 20.41 146 P Pn 03 48 36.4 +1.3
SNR=5.6
KZA Kyzart 20.41 146 *i* P Pn 03 48 36.3 +1.2
SUW Suwalki 20.72 269 *e*P **P 03 48 35.2 -0.4**
SUW *e* 03 52 45.7
SUW Suwalki 20.72 269 *e*P **P 03 48 35.2 -0.4**
SUW *e*PcP **PcP 03 52 45.7 +1.1**
SUW Suwalki 20.72 269 *e*P **P 03 48 34.8 -0.9**
comp=Z,30nm,0.8s
SUW Suwalki 20.72 269 *e*P **P 03 48 35.2 -0.4**
GNI Garni 22.21 212*c i*P **P 03 48 54.3 +2.3**
GNI pmax pmax
comp=Z,25nm,1.7s
GNI Garni 22.21 212 P **P 03 48 54.2 +2.3**
comp=Z,8.9nm,0.7s,baz=331,slow=4.6,SNR=14
GNI Garni 22.21 212 *e*P **P 03 48 54.2 +2.3**
comp=Z,22nm,0.9s
GNI Garni 22.21 212 *i* P **P 03 48 54.3 +2.3**
comp=Z,25nm,1.7s
HFS Hagfors 22.68 290 P **P 03 48 56.0 -0.6**
HFS S **S 03 52 59.7 -4.4**
HFS pmax pmax
comp=Z,8.0nm,0.6s
HFS smax smax
comp=N,16nm,1.0s
HFS Hagfors 22.68 290 P **P 03 48 56.0 -0.6**
comp=N,8.4nm,0.6s,baz=80,slow=11,SNR=14
HFS S **S 03 52 59.7 -4.4**
comp=N,16nm,1.0s,baz=73,slow=25,SNR=6.5
HFS Hagfors 22.68 290 P **P 03 48 56.0 -0.6**
comp=N,8.0nm,0.6s
SPITS Spitsbergen Ar 22.75 338 P **P 03 48 57.1 -0.2**
SPITS pmax pmax
comp=Z,8.0nm,0.9s
SPITS Spitsbergen Ar 22.75 338 P **P 03 48 57.1 -0.2**
comp=Z,7.7nm,0.9s,baz=108,slow=13,SNR=6.7
LVV L'vov 22.80 259 *e*P **P 03 48 57.7 -0.3**
LVV *i* S **S 03 53 00.0 -6.4**
LVV L'vov 22.80 259 *e*P **P 03 48 57.7 -0.3**
KSH Kashi 22.99 147 *e*P P 03 49 09.4 +9.2
KSH *e*sP sP 03 49 18.8 +13
KSH *e*PP PnPn 03 49 40.6 +16
KSH S Sn 03 53 21.4 -5.0
KSH PcS PcS 03 56 43.0 +14
BEL Belsk 23.14 266 *e*P **P 03 49 01.2 -0.3**
BEL Belsk 23.14 266 *e*P **P 03 49 01.2 -0.3**
BEL Belsk 23.14 266 *e*P **P 03 49 01.2 -0.3**
WMQ Urumqi 23.38 122 *e*P **P 03 49 03.3 -0.7**
WMQ pP **pP 03 49 07.4 -0.7**
WMQ sP **sP 03 49 10.3 +0.4**
WMQ pmax pmax
comp=Z,10.0nm,0.6s
WMQ pmax pmax
comp=Z,170nm,4.4s
NB2 NORSAR Subarra 23.52 293 P **P 03 49 05.0 -0.3**
comp=Z,3.5nm,0.6s,baz=70,slow=9.3
NB2 NORSAR Subarra 23.52 293 P **P 03 49 05.0 -0.3**
comp=Z,3.5nm,0.6s,SNR=0.1
NOA NORSAR Array B 23.52 293 P **P 03 49 05.4 +0.1**
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA NORSAR Array B 23.52 293 P **P 03 49 05.3 +0.1**
comp=Z,5.0nm,0.7s,baz=71,slow=9.5,SNR=30
KWP Kalwaria Pacla 23.57 260 *e*P **P 03 49 06.0 +0.1**
KWP pmax pmax
comp=Z,12nm,0.7s
KWP Kalwaria Pacla 23.57 260 *e*P **P 03 49 06.6 +0.8**
KWP Kalwaria Pacla 23.57 260⇓*i*P **P 03 49 06.2 +0.4**
KWP Kalwaria Pacla 23.57 260 *e*P **P 03 49 06.0 +0.1**
comp=Z,12nm,0.7s
KWP Kalwaria Pacla 23.57 260 *e*P **P 03 49 06.0 +0.1**
comp=Z,12nm,0.7s
BURAR Bucovina Array 23.72 254⇑*i*P **P 03 49 08.9 +1.5**
BURAR Bucovina Array 23.72 254⇑*i*P **P 03 49 08.9 +1.5**
TESR Tescani 23.84 250⇓*i*P **P 03 49 10.2 +1.8**
TESR Tescani 23.84 250⇓*i*P **P 03 49 10.2 +1.8**
GKP Gorka Klasztor 24.09 272 *e*P **P 03 49 11.9 +1.2**
GKP Gorka Klasztor 24.09 272 *e*P **P 03 49 11.8 +1.1**
GKP Gorka Klasztor 24.09 272 *e*P **P 03 49 11.9 +1.2**
CFR Carcaliu 24.15 246⇑*i*P **P 03 49 12.9 +1.6**
CFR Carcaliu 24.15 246⇑*i*P **P 03 49 12.9 +1.6**
KOLS Kolonicke sedl 24.25 259 *e*P **P 03 49 13.5 +1.3**
KOLS Kolonicke sedl 24.25 259 *e*P **P 03 49 13.5 +1.3**
KOLS Kolonicke sedl 24.25 259 *e*P **P 03 49 13.5 +1.3**
BSD Bornholm Skovb 24.26 278 *i* P **P 03 49 13.1 +0.8**
BSD Bornholm Skovb 24.26 278 *i* P **P 03 49 13.1 +0.8**
BSD Bornholm Skovb 24.26 278 *i* P **P 03 49 13.1 +0.8**
VRI Vrincioaia 24.28 249⇑*i*P **P 03 49 14.4 +1.8**
VRI Vrincioaia 24.28 249⇑*i*P **P 03 49 14.4 +1.8**
PLOR Plostina 24.32 249⇓*i*P **P 03 49 15.1 +2.1**
PLOR Plostina 24.32 249⇓*i*P **P 03 49 15.1 +2.1**
STHS Stebnicka Huta 24.43 261 *e*P **P 03 49 14.6 +0.6**
STHS Stebnicka Huta 24.43 261 *e*P **P 03 49 14.6 +0.6**
STHS Stebnicka Huta 24.43 261 *e*P **P 03 49 14.6 +0.6**
UZH Uzhgorod 24.44 259 *e*P **P 03 49 14.0 0.0**
UZH *i* 03 49 18.0
UZH *i* 03 49 21.0
UZH *i* 03 49 45.0
UZH *e*S **S 03 53 31.8 -1.4**
UZH *i* 03 53 37.0
UZH Uzhgorod 24.44 259 *e*P **P 03 49 14.0 0.0**
BMR Baia Mare 24.51 256⇑*i*P **P 03 49 14.6 0.0**
BMR Baia Mare 24.51 256⇑*i*P **P 03 49 14.6 0.0**
TIRR Tirgusor 24.58 244⇓*i*P **P 03 49 17.3 +2.1**
TIRR Tirgusor 24.58 244⇓*i*P **P 03 49 17.3 +2.1**
OJC Ojcow 24.63 264 *e*P **P 03 49 16.0 +0.3**
OJC Ojcow 24.63 264 *e*P **P 03 49 16.0 +0.3**
OJC Ojcow 24.63 264 *e*P **P 03 49 16.0 +0.3**
TRPA Tarpa 24.66 258⇑*i*P **P 03 49 17.9 +1.9**
TRPA Tarpa 24.66 258⇑*i*P **P 03 49 17.9 +1.9**
CRVS Cervenica-Dubn 24.67 260 *e*P **P 03 49 17.0 +0.9**
CRVS Cervenica-Dubn 24.67 260 *e*P **P 03 49 17.0 +0.9**
CRVS Cervenica-Dubn 24.67 260 *e*P **P 03 49 17.0 +0.9**
NIE Niedzica 24.89 262 *e*P **P 03 49 19.5 +1.4**
NIE Niedzica 24.89 262 *e*P **P 03 49 19.5 +1.4**
NIE Niedzica 24.89 262 *e*P **P 03 49 19.5 +1.4**
MLR Muntele Rosu 24.92 249⇑*i*P **P 03 49 21.9 +3.4**
MLR Muntele Rosu 24.92 249 P **P 03 49 20.9 +2.4**
comp=Z,0.7nm,0.7s,baz=333,slow=18,SNR=3.2
MLR Muntele Rosu 24.92 249⇑*i*P **P 03 49 21.9 +3.4**
ISR Istrita 24.93 248⇑*i*P **P 03 49 20.8 +2.3**
ISR Istrita 24.93 248⇑*i*P **P 03 49 20.8 +2.3**
MSAB Monastry St. A 25.13 245⇓*i*P **P 03 49 22.3 +2.1**
MSAB Monastry St. A 25.13 245⇓*i*P **P 03 49 22.3 +2.1**
VOIR 25.38 250⇑*i*P **P 03 49 24.9 +2.3**
VOIR 25.38 250⇑*i*P **P 03 49 24.9 +2.3**
TLY Talaya 25.45 90 *e*P **P 03 49 25.4 +2.3**
TLY pmax pmax
comp=Z,3.0nm,0.6s
DRGR 25.51 255⇑*i*P **P 03 49 25.5 +1.7**
DRGR 25.51 255⇑*i*P **P 03 49 25.5 +1.7**
ARR Arges 25.63 251⇑*i*P **P 03 49 27.8 +2.9**
ARR Arges 25.63 251⇑*i*P **P 03 49 27.8 +2.9**
OKC Ostrava-Krasne 25.70 265 *e*P **P 03 49 27.5 +2.2**
OKC *e* 03 49 35.5
OKC Ostrava-Krasne 25.70 265 *e*P **P 03 49 27.5 +2.2**
OKC *e*pP pP 03 49 35.5 +5.9
OKC *e*x x 03 49 37.1
OKC Ostrava-Krasne 25.70 265 P **P 03 49 27.5 +2.2**
KSP Ksiaz 25.99 269 *e*P **P 03 49 29.0 +1.0**
KSP Ksiaz 25.99 269 *e*P **P 03 49 29.4 +1.4**
KSP Ksiaz 25.99 269 *e*P **P 03 49 29.0 +1.0**
MORC Moravsky Berou 26.04 266 *e*P **P 03 49 29.2 +0.7**
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 26.04 266⇓*i*P **P 03 49 30.2 +1.7**
MORC Moravsky Berou 26.04 266 *e*P **P 03 49 29.2 +0.7**
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 26.04 266⇓*i*P **P 03 49 30.2 +1.7**
ZAK Zakamensk 26.06 93 *e*P **P 03 49 29.7 +0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.1s
PSZ Piszkesteto 26.10 260 *e*P **P 03 49 31.1 +2.0**
PSZ pmax pmax
comp=Z,13nm,1.0s
PSZ Piszkesteto 26.10 260⇑*i*P **P 03 49 30.9 +1.8**
PSZ Piszkesteto 26.10 260 *e*P **P 03 49 31.1 +2.0**
comp=Z,14nm,1.0s
PSZ Piszkesteto 26.10 260 *e*P **P 03 49 31.1 +2.0**
comp=Z,14nm,1.0s
KRLC Kraliky 26.23 267 *e*P **P 03 49 31.1 +0.9**
KRLC Kraliky 26.23 267 *e*P **P 03 49 31.1 +0.9**
KRLC Kraliky 26.23 267 P **P 03 49 31.1 +0.9**
BRTR Keskin Array B 26.28 231 P **P 03 49 32.8 +1.9**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 26.28 231 P **P 03 49 32.8 +1.9**
comp=Z,4.5nm,0.8s,baz=47,slow=5.4,SNR=21
DPC Dobruska-Polom 26.28 268 *e*P **P 03 49 32.0 +1.3**
DPC *e* 03 49 40.6
DPC Dobruska-Polom 26.28 268 *e*P **P 03 49 32.0 +1.3**
DPC *e*pP pP 03 49 40.6 +5.7
DPC Dobruska-Polom 26.28 268 *e*P **P 03 49 32.4 +1.7**
DPC Dobruska-Polom 26.28 268 *e*P **P 03 49 32.4 +1.7**
UPC Upice 26.34 268 *e*P **P 03 49 32.8 +1.6**
UPC Upice 26.34 268 *e*P **P 03 49 32.8 +1.6**
UPC Upice 26.34 268 P **P 03 49 32.8 +1.6**
GZR Gura Zlata 26.49 253⇑*i*P **P 03 49 34.8 +2.1**
GZR Gura Zlata 26.49 253⇑*i*P **P 03 49 34.8 +2.1**
VRAC Vranov 26.81 266 P **P 03 49 36.6 +1.1**
VRAC pmax pmax
comp=Z,5.0nm,0.7s
VRAC Vranov 26.81 266 P **P 03 49 36.6 +1.1**
comp=Z,4.7nm,0.7s,baz=63,slow=10,SNR=5.5
BZS Buzias 26.89 255⇑*i*P **P 03 49 37.3 +1.2**
BZS Buzias 26.89 255⇑*i*P **P 03 49 37.3 +1.2**
BRG Berggiesshubel 27.14 271 *i* P **P 03 49 39.5 +1.1**
comp=Z,8.6nm,0.8s
BRG *e* 03 50 18.2
comp=Z,6.6nm,0.9s
BRG Berggiesshubel 27.14 271 *i* P **P 03 49 39.5 +1.1**
BRG pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 27.35 272⇓*i*P **P 03 49 41.1 +0.9**
CLL *i* 03 49 44.3
CLL pmax pmax
comp=Z,15nm,0.8s
CLL Collm 27.35 272⇓*i*P **P 03 49 41.1 +0.9**
comp=Z,15nm,0.8s
CLL *i* pP **pP 03 49 44.3 -0.2**
CLL *e*sP **sP 03 49 46.0 -0.2**
CLL *e* 03 50 11.0
CLL *e* 03 54 44.0
TREC Trest 27.37 267 *e*P **P 03 49 41.9 +1.4**
TREC Trest 27.37 267 *e*P **P 03 49 41.9 +1.4**
TREC Trest 27.37 267 P **P 03 49 41.9 +1.4**
PRU Pruhonice 27.40 269 *e*P **P 03 49 42.1 +1.4**
PRU Pruhonice 27.40 269 *e*P **P 03 49 42.1 +1.4**
PRU *e*x x 03 49 57.6
PRU Pruhonice 27.40 269 P **P 03 49 42.1 +1.4**
NKC Novy Kostel 28.29 271 *e*P **P 03 49 50.6 +1.9**
NKC Novy Kostel 28.29 271 *e*P **P 03 49 50.6 +1.9**
NKC Novy Kostel 28.29 271 P **P 03 49 50.6 +1.9**

KHC Kasperske Hory 28.43 268 eP P 03 49 51.1 +1.1
KHC Kasperske Hory 28.43 268 eP P 03 49 51.1 +1.1
KHC Kasperske Hory 28.43 268 P P 03 49 51.1 +1.1
TIXI Tiksi 28.52 38⇓eP P 03 49 51.3 +0.9
TIXI pmax pmax
comp=Z,6.0nm,2.5s
TIXI MLR MLR
comp=Z,2μm,17.0s
GERES GERESS Array B 28.56 268 P P 03 49 52.5 +1.3
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 28.56 268 P P 03 49 52.5 +1.3
comp=Z,2.8nm,0.7s,baz=48,slow=9.3,SNR=34
MOA Molln 28.94 266⇑i/pP P 03 49 56.5 +2.0
comp=Z,4.0nm,0.7s
MOA Molln 28.94 266 P P 03 49 56.5 +2.0
comp=Z,4.0nm,0.7s
SONM Songino Array 29.27 94 P P 03 49 59.5 +1.9
SONM 03 53 02.5
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 29.27 94 P P 03 49 59.5 +1.9
comp=Z,0.7nm,0.8s,baz=293,slow=11,SNR=8.4
SONM PcP PcP 03 53 02.5 -1.4
comp=Z,0.4nm,0.5s,baz=343,slow=3.0,SNR=3.6
ULN Ulaanbaatar 29.58 93 eP P 03 49 58.4 -1.9
ULN pmax pmax
comp=Z,2.0nm,0.7s
ULN Ulaanbaatar 29.58 93 eP P 03 49 58.4 -1.9
comp=Z,1.7nm,0.7s
ULN Ulaanbaatar 29.58 93 eP P 03 49 58.4 -1.9
comp=Z,1.6nm,0.7s
KBA Koelnbreinsper 29.92 265⇑i/pP pP 03 50 06.4 -1.2
comp=Z,11nm,0.7s
KBA Koelnbreinsper 29.92 265 P pP 03 50 06.4 -1.2
comp=Z,11nm,0.7s
CSS Prodhromos 30.59 226 eP P 03 50 09.8 +0.6
comp=Z,5.4nm,1.2s
CSS Prodhromos 30.59 226 eP P 03 50 09.8 +0.6
comp=Z,5.4nm,1.2s
STU Stuttgart 30.86 271 eP P 03 50 09.7 -1.7
STU pmax pmax
comp=Z,12nm,0.8s
STU Stuttgart 30.86 271 eP P 03 50 09.7 -1.7
comp=Z,12nm,0.8s
FETA Feichten 31.26 268⇑i/pP P 03 50 17.4 +2.2
comp=Z,6.6nm,1.0s
FETA Feichten 31.26 268 P P 03 50 17.4 +2.2
comp=Z,6.6nm,1.0s
BFO Black Forest 31.58 271 i P P 03 50 20.3 +2.5
MMAI Mount Meron Ar 31.63 222 P P 03 50 20.0 +1.6
comp=Z,1.0nm,0.5s,baz=36,slow=10,SNR=6.3
MMAI Mount Meron Ar 31.63 222 P P 03 50 20.0 +1.6
WLF Walferdange 31.79 275 eP P 03 50 17.0 -2.7
WLF pmax pmax
comp=Z,5.0nm,0.8s
WLF Walferdange 31.79 275 eP P 03 50 17.0 -2.7
comp=Z,5.3nm,0.8s
CDF Champ du Feu 32.05 272 eP P 03 50 22.9 +0.9
comp=Z,8.6nm,0.8s
CDF Champ du Feu 32.05 272 eP P 03 50 22.9 +0.9
CDF pmax pmax
comp=Z,9.0nm,0.8s
CDF Champ du Feu 32.05 272 eP P 03 50 22.9 +0.9
comp=Z,8.6nm,0.8s
CDF Champ du Feu 32.05 272 eP P 03 50 22.9 +0.9
comp=Z,4.3nm,0.8s
YAK Yakutsk 32.25 56 eP P 03 50 24.2 +0.7
YAK pmax pmax
comp=Z,9.0nm,0.7s
TUE Stuetta 32.33 268 eP P 03 50 26.3 +1.7
comp=Z,7.5nm,0.6s
TUE Stuetta 32.33 268 eP P 03 50 26.3 +1.7
comp=Z,7.5nm,0.6s
HINF Hinteralfeld 32.66 272 eP P 03 50 27.6 +0.3
HINF Hinteralfeld 32.66 272 eP P 03 50 27.6 +0.3
HINF Hinteralfeld 32.66 272 eP P 03 50 27.6 +0.3
HINF Hinteralfeld 32.66 272 eP P 03 50 27.6 +0.3
PAGF Fort de Pagny 32.73 274 eP P 03 50 29.1 +1.2
comp=Z,2.9nm,0.8s
PAGF Fort de Pagny 32.73 274 eP P 03 50 29.1 +1.2
comp=Z,2.9nm,0.8s
PAGF Fort de Pagny 32.73 274 eP P 03 50 29.1 +1.2
comp=Z,1.5nm,0.8s
HAU Haudompre 32.78 273 eP P 03 50 29.2 +0.8
HAU Haudompre 32.78 273 eP P 03 50 29.2 +0.8
HAU Haudompre 32.78 273 eP P 03 50 29.2 +0.8
HAU Haudompre 32.78 273 eP P 03 50 29.2 +0.8
EKA Eskdalemuir Ar 32.88 290 P P 03 50 29.1 0.0
EKA pmax pmax
comp=Z,2.0nm,0.7s
EKA Eskdalemuir Ar 32.88 290 P P 03 50 29.1 0.0
comp=Z,2.1nm,0.7s,baz=53,slow=8.3,SNR=7.1
ESK Eskdalemuir 32.91 290 eP P 03 50 28.4 -1.0
ESK pmax pmax
comp=Z,43nm,1.6s
ESK Eskdalemuir 32.91 290 eP P 03 50 28.4 -1.0
comp=Z,43nm,1.6s
ESK Eskdalemuir 32.91 290 eP P 03 50 28.4 -1.0
comp=Z,43nm,1.6s
MEZF Maizieres J'vi 33.10 274 eP P 03 50 32.5 +1.4
MEZF Maizieres J'vi 33.10 274 eP P 03 50 32.5 +1.4
MEZF Maizieres J'vi 33.10 274 eP P 03 50 32.5 +1.4
AQU L'Aquila 33.29 259 eP P 03 50 34.3 +1.4
AQU pmax pmax
comp=Z,30nm,1.1s
AQU L'Aquila 33.29 259 eP P 03 50 34.3 +1.4
comp=Z,30nm,1.1s
AQU L'Aquila 33.29 259 eP P 03 50 34.3 +1.4
comp=Z,30nm,1.1s
SFTF Sexfontaines 33.30 274 eP P 03 50 34.1 +1.2
comp=Z,30nm,1.1s
SFTF Sexfontaines 33.30 274 eP P 03 50 34.1 +1.2
comp=Z,30nm,1.0s
SFTF Sexfontaines 33.30 274 eP P 03 50 34.1 +1.2
comp=Z,15nm,1.1s
IDI Anoyia 33.64 238 P P 03 50 35.4 -0.6
comp=Z,6.8nm,0.8s,baz=62,slow=6.7,SNR=5.5
CABF La Chapelle 33.86 271 eP P 03 50 38.6 +0.7
comp=Z,29nm,1.3s
CABF La Chapelle 33.86 271 eP P 03 50 38.6 +0.7
CABF pmax pmax
comp=Z,29nm,1.3s
CABF La Chapelle 33.86 271 eP P 03 50 38.6 +0.7
comp=Z,29nm,1.3s
CABF La Chapelle 33.86 271 eP P 03 50 38.6 +0.7
comp=Z,14nm,1.3s
TIP Timpagrande 34.12 252 eP P 03 50 40.4 +0.3
comp=Z,9.7nm,0.9s
TIP Timpagrande 34.12 252 eP P 03 50 40.4 +0.3
comp=Z,9.6nm,0.9s
LPL La Plagne 34.30 269 eP P 03 50 43.1 +1.2
comp=Z,19nm,0.7s
LPL La Plagne 34.30 269 eP P 03 50 43.1 +1.2
LPL pmax pmax
comp=Z,19nm,0.7s
LPL La Plagne 34.30 269 eP P 03 50 43.1 +1.2
comp=Z,19nm,0.7s
LPL La Plagne 34.30 269 eP P 03 50 43.1 +1.2
comp=Z,9.6nm,0.7s
LPG La Plagne 34.31 269 eP P 03 50 43.1 +1.1
comp=Z,20nm,0.8s
LPG La Plagne 34.31 269 eP P 03 50 43.1 +1.1
LPG pmax pmax
comp=Z,20nm,0.8s
LPG La Plagne 34.31 269 eP P 03 50 43.1 +1.1
comp=Z,20nm,0.8s
LPG La Plagne 34.31 269 eP P 03 50 43.1 +1.1
comp=Z,9.9nm,0.8s
LOR Lormes 34.52 274 eP P 03 50 44.0 +0.5
LOR Lormes 34.52 274 eP P 03 50 44.0 +0.5
LOR Lormes 34.52 274 eP P 03 50 44.0 +0.5
LOR Lormes 34.52 274 eP P 03 50 44.0 +0.5
BNI Bardonecchia 34.66 269 eP P 03 50 46.4 +1.6
BNI pmax pmax
comp=Z,19nm,0.6s
BNI Bardonecchia 34.66 269 eP P 03 50 46.4 +1.6
comp=Z,19nm,0.6s
BNI Bardonecchia 34.66 269 eP P 03 50 46.4 +1.6
comp=Z,19nm,0.6s
SSF Saint Saulge 34.84 274 eP P 03 50 46.4 +0.2
comp=Z,12nm,0.9s
SSF Saint Saulge 34.84 274 eP P 03 50 46.4 +0.2
SSF pmax pmax
comp=Z,12nm,0.9s
SSF Saint Saulge 34.84 274 eP P 03 50 46.4 +0.2
comp=Z,12nm,0.9s
SSF Saint Saulge 34.84 274 eP P 03 50 46.4 +0.2
comp=Z,5.8nm,0.9s
MBDF Montbardon 34.84 268 eP P 03 50 47.1 +0.6
comp=Z,21nm,0.6s
MBDF Montbardon 34.84 268 eP P 03 50 47.1 +0.6
MBDF pmax pmax
comp=Z,21nm,0.6s
MBDF Montbardon 34.84 268 eP P 03 50 47.1 +0.6
comp=Z,21nm,0.6s
MBDF Montbardon 34.84 268 eP P 03 50 47.1 +0.6
comp=Z,10nm,0.6s
EIL Elat 34.86 220 P P 03 50 48.1 +1.6
comp=Z,5.3nm,0.9s,baz=346,slow=12,SNR=5.4
SMF Signal de Mont 34.96 273 eP P 03 50 47.7 +0.4
SMF Signal de Mont 34.96 273 eP P 03 50 47.7 +0.4
SMF Signal de Mont 34.96 273 eP P 03 50 47.7 +0.4
SMF Signal de Mont 34.96 273 eP P 03 50 47.7 +0.4
AVF Avril sur Loir 35.10 274 eP P 03 50 49.6 +1.1
comp=Z,10nm,1.1s
AVF Avril sur Loir 35.10 274 eP P 03 50 49.6 +1.1
AVF pmax pmax
comp=Z,11nm,1.1s
AVF Avril sur Loir 35.10 274 eP P 03 50 49.6 +1.1
comp=Z,10nm,1.1s
AVF Avril sur Loir 35.10 274 eP P 03 50 49.6 +1.1
comp=Z,5.2nm,1.1s
SBF Sospel 35.13 266 eP P 03 50 49.1 +0.2
comp=Z,25nm,0.8s
SBF Sospel 35.13 266 eP P 03 50 49.1 +0.2
SBF pmax pmax
comp=Z,25nm,0.8s
SBF Sospel 35.13 266 eP P 03 50 49.1 +0.2
comp=Z,25nm,0.8s
SBF Sospel 35.13 266 eP P 03 50 49.1 +0.2
comp=Z,13nm,0.8s
ORIF Oris-en-Rattie 35.15 269 eP P 03 50 49.9 +0.9
comp=Z,20nm,0.8s
ORIF Oris-en-Rattie 35.15 269 eP P 03 50 49.9 +0.9
ORIF pmax pmax
comp=Z,20nm,0.8s
ORIF Oris-en-Rattie 35.15 269 eP P 03 50 49.9 +0.9
comp=Z,20nm,0.8s
ORIF Oris-en-Rattie 35.15 269 eP P 03 50 49.9 +0.9
comp=Z,9.8nm,0.8s
PGF Pioggiola 35.32 263 eP P 03 50 51.3 +0.8
PGF Pioggiola 35.32 263 eP P 03 50 51.3 +0.8
PGF Pioggiola 35.32 263 eP P 03 50 51.3 +0.8
PGF Pioggiola 35.32 263 eP P 03 50 51.3 +0.8
BGF Bois d'Agland 35.52 274 eP P 03 50 52.6 +0.5
comp=Z,30nm,1.1s
BGF Bois d'Agland 35.52 274 eP P 03 50 52.6 +0.5
BGF pmax pmax
comp=Z,30nm,1.1s
BGF Bois d'Agland 35.52 274 eP P 03 50 52.6 +0.5
comp=Z,30nm,1.1s
BGF Bois d'Agland 35.52 274 eP P 03 50 52.6 +0.5
comp=Z,15nm,1.1s
LDF La Druitiere 35.61 279 eP P 03 50 53.6 +0.8
comp=Z,5.5nm,0.8s
LDF La Druitiere 35.61 279 eP P 03 50 53.6 +0.8
LDF pmax pmax
comp=Z,6.0nm,0.8s
LDF La Druitiere 35.61 279 eP P 03 50 53.6 +0.8
comp=Z,5.5nm,0.8s
LDF La Druitiere 35.61 279 eP P 03 50 53.6 +0.8
comp=Z,2.8nm,0.8s
FLN La Foliniere 35.67 279 eP P 03 50 53.7 +0.4
comp=Z,27nm,0.9s
FLN La Foliniere 35.67 279 eP P 03 50 53.7 +0.4
FLN pmax pmax
comp=Z,27nm,0.9s
FLN La Foliniere 35.67 279 eP P 03 50 53.7 +0.4
comp=Z,27nm,0.9s
FLN La Foliniere 35.67 279 eP P 03 50 53.7 +0.4
comp=Z,14nm,0.9s
FRF La Foret Royal 35.74 267 eP P 03 50 54.3 +0.3
comp=Z,20nm,0.7s
FRF La Foret Royal 35.74 267 eP P 03 50 54.3 +0.3
FRF pmax pmax
comp=Z,20nm,0.7s
FRF La Foret Royal 35.74 267 eP P 03 50 54.3 +0.3
comp=Z,20nm,0.7s
FRF La Foret Royal 35.74 267 eP P 03 50 54.3 +0.3
comp=Z,10nm,0.7s
VIVF Saint-Julien-l 35.80 270 eP P 03 50 55.3 +0.8
comp=Z,9.1nm,0.7s
VIVF Saint-Julien-l 35.80 270 eP P 03 50 55.3 +0.8
VIVF pmax pmax
comp=Z,9.0nm,0.7s
VIVF Saint-Julien-l 35.80 270 eP P 03 50 55.3 +0.8
comp=Z,9.1nm,0.7s
VIVF Saint-Julien-l 35.80 270 eP P 03 50 55.3 +0.8
comp=Z,4.6nm,0.7s
LMR La Mourre 35.98 267 eP P 03 50 56.5 +0.5
LMR La Mourre 35.98 267 eP P 03 50 56.5 +0.5
LMR La Mourre 35.98 267 eP P 03 50 56.5 +0.5
LMR La Mourre 35.98 267 eP P 03 50 56.5 +0.5
SMRF Simiane la Rot 35.98 268 eP P 03 50 57.2 +1.1
comp=Z,35nm,0.7s
SMRF Simiane la Rot 35.98 268 eP P 03 50 57.2 +1.1
comp=Z,35nm,0.7s
SMRF Simiane la Rot 35.98 268 eP P 03 50 57.2 +1.1
comp=Z,18nm,0.7s
TCF Toulx Ste Croi 36.02 274 eP P 03 50 57.0 +0.6
comp=Z,11nm,0.9s
TCF Toulx Ste Croi 36.02 274 eP P 03 50 57.0 +0.6
TCF pmax pmax
comp=Z,11nm,0.9s
TCF Toulx Ste Croi 36.02 274 eP P 03 50 57.0 +0.6
comp=Z,11nm,0.9s
TCF Toulx Ste Croi 36.02 274 eP P 03 50 57.0 +0.6
comp=Z,5.3nm,0.9s
GRR Gorron 36.11 279 eP P 03 50 57.4 +0.3
comp=Z,15nm,0.9s
GRR Gorron 36.11 279 eP P 03 50 57.4 +0.3
GRR pmax pmax
comp=Z,15nm,0.9s
GRR Gorron 36.11 279 eP P 03 50 57.4 +0.3
comp=Z,15nm,0.9s
GRR Gorron 36.11 279 eP P 03 50 57.4 +0.3
comp=Z,7.3nm,0.9s
LASF Ste Croix 36.77 270 eP P 03 51 03.8 +1.0
LASF Ste Croix 36.77 270 eP P 03 51 03.8 +1.0
LASF Ste Croix 36.77 270 eP P 03 51 03.8 +1.0
HHC Hu-ho-hao-te 36.87 98 eP P 03 51 02.8 -1.0
HHC sP sP 03 51 09.1 -0.7
HHC PP PP 03 52 28.0 +0.4
HHC S S 03 56 44.5 -3.3
HHC SS SnSn 03 59 13.4 -6.1
HHC ScS ScS 04 01 15.8 -2.6
HHC pmax pmax
comp=Z,14nm,0.7s
HHC LR LR
comp=Z,2μm,17.3s
HHC LR LR
comp=Z,1μm,16.0s
HHC LR LR
comp=Z,2μm,18.5s
LZH Lanzhou 36.88 111 eP P 03 51 02.8 -1.2
LZH pP pP 03 51 07.1 -1.2
LZH sP sP 03 51 10.0 -0.1
LZH pmax pmax
comp=Z,13nm,1.0s
LZH LR LR
comp=Z,840nm,10.8s
LZH LR LR
comp=Z,790nm,13.2s
LZH LR LR
comp=Z,1μm,17.4s
MFF Saint Martin d 36.98 276 eP P 03 51 04.6 +0.1
MFF Saint Martin d 36.98 276 eP P 03 51 04.6 +0.1
MFF Saint Martin d 36.98 276 eP P 03 51 04.6 +0.1
MFF Saint Martin d 36.98 276 eP P 03 51 04.6 +0.1
SGMF Saint Gilles 37.04 280 eP P 03 51 05.1 +0.1
comp=Z,12nm,0.8s
SGMF Saint Gilles 37.04 280 eP P 03 51 05.1 +0.1
SGMF pmax pmax
comp=Z,13nm,0.8s
SGMF Saint Gilles 37.04 280 eP P 03 51 05.1 +0.1
comp=Z,12nm,0.8s
SGMF Saint Gilles 37.04 280 eP P 03 51 05.1 +0.1
comp=Z,6.2nm,0.8s
CAF Calviac 37.05 272 eP P 03 51 05.5 +0.3
CAF Calviac 37.05 272 eP P 03 51 05.5 +0.3
CAF Calviac 37.05 272 eP P 03 51 05.5 +0.3
CAF Calviac 37.05 272 eP P 03 51 05.5 +0.3
RJF Les Rejaudoux 37.06 273 eP P 03 51 05.9 +0.7
RJF Les Rejaudoux 37.06 273 eP P 03 51 05.9 +0.7
RJF Les Rejaudoux 37.06 273 eP P 03 51 05.9 +0.7
RJF Les Rejaudoux 37.06 273 eP P 03 51 05.9 +0.7
ROSF Rostrenen 37.33 281 eP P 03 51 07.7 +0.2
ROSF Rostrenen 37.33 281 eP P 03 51 07.7 +0.2
ROSF Rostrenen 37.33 281 eP P 03 51 07.7 +0.2
ROSF Rostrenen 37.33 281 eP P 03 51 07.7 +0.2
QUIF Quistinic 37.56 280 eP P 03 51 09.8 +0.3
comp=Z,36nm,0.9s
QUIF Quistinic 37.56 280 eP P 03 51 09.8 +0.3
QUIF pmax pmax
comp=Z,37nm,0.9s
QUIF Quistinic 37.56 280 eP P 03 51 09.8 +0.3
comp=Z,36nm,0.9s
QUIF Quistinic 37.56 280 eP P 03 51 09.8 +0.3
comp=Z,18nm,0.9s
MTLF Montolieu 38.12 270 eP P 03 51 15.2 +1.0
comp=Z,13nm,1.1s
MTLF Montolieu 38.12 270 eP P 03 51 15.2 +1.0
MTLF pmax pmax
comp=Z,13nm,1.1s
MTLF Montolieu 38.12 270 eP P 03 51 15.2 +1.0
comp=Z,13nm,1.1s
MTLF Montolieu 38.12 270 eP P 03 51 15.2 +1.0
comp=Z,6.5nm,1.1s
EPF Esparros 39.28 272 eP P 03 51 24.4 +0.4
comp=Z,12nm,0.7s
EPF Esparros 39.28 272 eP P 03 51 24.4 +0.4
EPF pmax pmax
comp=Z,12nm,0.7s
EPF Esparros 39.28 272 eP P 03 51 24.4 +0.4
comp=Z,12nm,0.7s
EPF Esparros 39.28 272 eP P 03 51 24.4 +0.4
comp=Z,5.9nm,0.7s
BJI Beijing 39.77 94 P P 03 51 21.1 -7.0
BJI pmax pmax
comp=Z,7.0nm,0.4s
ETSF Etsaut 39.83 272 eP P 03 51 29.7 +1.1
comp=Z,8.4nm,0.9s
ETSF Etsaut 39.83 272 eP P 03 51 29.7 +1.1
ETSF pmax pmax
comp=Z,8.0nm,0.9s
ETSF Etsaut 39.83 272 eP P 03 51 29.7 +1.1
comp=Z,8.4nm,0.9s
ETSF Etsaut 39.83 272 eP P 03 51 29.7 +1.1
comp=Z,4.2nm,0.9s
KEST Kesra 40.42 256 P P 03 51 34.2 +0.7
comp=Z,1.5nm,0.8s,baz=301,slow=3.8,SNR=5.1
CD2 Chengdu 41.15 115 P P 03 51 39.3 -0.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
BILL Bilibino 41.41 33⇑i/P P 03 51 42.3 +1.0
BILL pmax pmax
comp=Z,5.0nm,1.3s
BILL MLR MLR
comp=Z,1μm,16.0s
CN2 Changchun 41.60 83 eP P 03 51 41.0 -2.1
ESDC Sonseca Array 43.94 272 P P 03 52 02.8 +0.5
comp=Z,1.8nm,0.6s,baz=39,slow=8.3,SNR=15
USRK Ussuriysk Arra 44.52 77 P P 03 52 07.2 +0.5
comp=Z,1.7nm,0.6s,baz=347,slow=5.7,SNR=4.4
KMI Kunming 45.70 121 P P 03 52 18.3 +1.7
KMI pmax pmax
comp=Z,7.0nm,1.4s
GYA Guiyang 46.27 116 eP P 03 52 21.3 +0.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
NJ2 Nanjing 47.40 99 eP P 03 52 28.3 -1.2
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KSAR Wonju Array Be 47.61 87 P P 03 52 32.9 +1.7
KSAR Wonju Array Be 47.61 87 P P 03 52 32.9 +1.7
KSAR Wonju Array Be 47.61 87 P P 03 52 32.9 +1.7
KSRS Korea Array 47.62 87 P P 03 52 32.9 +1.7
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS Korea Array 47.62 87 P P 03 52 32.9 +1.7
comp=Z,2.0nm,0.7s,baz=328,slow=7.5,SNR=6.9
CHTO Chiang Mai 49.78 129 eP P 03 52 48.7 +0.7
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 49.78 129 eP P 03 52 48.7 +0.7
comp=Z,4.1nm,0.7s
CHTO Chiang Mai 49.78 129 eP P 03 52 48.7 +0.7
comp=Z,4.1nm,0.7s
CMAR Chiang Mai Arr 50.10 129 P P 03 52 50.9 +0.5
CMAR 03 54 11.5
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 50.10 129 P P 03 52 50.9 +0.5
comp=Z,0.8nm,0.3s,baz=322,slow=9.1,SNR=4.7
CMAR PcP PcP 03 54 11.5 +1.6
comp=Z,1.2nm,0.5s,baz=300,slow=4.2,SNR=5.8
INK Inuvik 51.42 6 P P 03 53 01.1 +1.3
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 51.42 6 P P 03 53 01.1 +1.3
comp=Z,2.0nm,0.9s,baz=14,slow=11,SNR=7.3
INK Inuvik 51.42 6 eP P 03 53 00.7 +0.9
comp=Z,2.3nm,0.9s
INK Inuvik 51.42 6 eP P 03 53 00.7 +0.9
comp=Z,2.3nm,0.9s
TAM Tamanrasset 53.02 250 eP P 03 53 14.3 +1.9
TAM pmax pmax
comp=Z,3.0nm,1.2s
TAM Tamanrasset 53.02 250 eP P 03 53 14.3 +1.9
comp=Z,3.1nm,1.2s
TAM Tamanrasset 53.02 250 eP P 03 53 14.3 +1.9
comp=Z,3.1nm,1.2s
ILAR Eielson Array 53.73 14 P P 03 53 19.6 +2.7
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 53.73 14 P P 03 53 19.6 +2.7
comp=Z,1.2nm,0.8s,baz=339,slow=7.5,SNR=16
YKA Yellowknife Ar 57.57 357 P P 03 53 45.3 +0.8
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 57.57 357 P P 03 53 45.3 +0.8
comp=Z,2.6nm,0.7s,baz=1.0,slow=7.4,SNR=85
TORD Torodi Ar. Bea 63.16 248 P P 03 54 24.1 +0.8
comp=Z,3.4nm,0.9s,baz=18,slow=6.8,SNR=18
KMBO Kilima Mbogo 63.66 206 P P 03 54 28.5 +1.7
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 63.66 206 P P 03 54 28.5 +1.7
comp=Z,1.0nm,0.5s,baz=46,slow=13,SNR=3.8
KMBO Kilima Mbogo 63.66 206 eP P 03 54 27.3 +0.5
comp=Z,2.2nm,1.0s
KMBO Kilima Mbogo 63.66 206 eP P 03 54 27.3 +0.5
comp=Z,2.2nm,1.0s
IPM Ipoh 63.70 133 eP P 03 54 27.4 +0.4
comp=Z,5.1nm,0.5s
IPM Ipoh 63.70 133 eP P 03 54 27.4 +0.4
comp=Z,5.1nm,0.5s
DBIC Dimbokro 71.89 251 P P 03 55 19.6 +1.1
DBIC pmax pmax
comp=Z,11nm,1.2s
DBIC Dimbokro 71.89 251 P P 03 55 19.6 +1.1
comp=Z,11nm,1.2s,baz=301,slow=4.7,SNR=3.5
LIC Lamto 72.36 251 eP P 03 55 21.8 +0.5
comp=Z,6.6nm,0.7s
LIC Lamto 72.36 251 eP P 03 55 21.8 +0.5
comp=Z,6.6nm,0.7s
LIC Lamto 72.36 251 eP P 03 55 21.8 +0.5
comp=Z,3.3nm,0.7s
PDAR Pinedale Array 77.04 352 P P 03 55 49.6 +1.1
comp=Z,1.1nm,0.7s,baz=46,slow=2.6,SNR=9.3
TXAR Lajitas Array 89.80 346 P P 03 56 56.2 +2.1
comp=Z,0.3nm,0.8s,baz=315,slow=0.7,SNR=4.5
WRA Warramunga Arr 99.60 113 P Pdif 03 57 38.3 -0.4
comp=Z,0.4nm,0.8s,baz=328,slow=3.6,SNR=3.3
ASAR Alice Springs 102.64 115 P Pdif 03 57 52.3 +0.2
comp=Z,0.3nm,0.6s,baz=329,slow=3.4,SNR=2.8
QSPA South Pole Qui 150.02 180 PKPbc PKPbc 04 03 45.4 +1.0
comp=Z,3.6nm,0.8s,baz=272,slow=1.6,SNR=22

*ISCJB **13** 03:55:21.8±0.7, 10.°7S±0.°1×161.°4E±0.°1, h61km, mb3.6/8, Error ellipse: s-maj=19.1km s-min=9.8km az=139.3*
*IDC **13** 03:55:22.7±2.8, 10.°61S×161.°43E, h54km±23km, mb3.5/8, mb1 3.7/9, mb1mx3.6/21, mbtmp3.8/9, ML4.0/1, Error ellipse: s-maj=25.4km s-min=16.9km az=65.0*
ISC 13 03:55:23.2±0.8, 10.°6S±0.°1×161.°4E±0.°1, h61km, n10,

σ1º08/11,mb3.6/8,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	1.84	310	P	Pn	03 55 51.5	-1.0
	72nm,0.3s,baz=146,slow=4.4,SNR=11						
HNR				S	Sn	03 56 15.4	+0.5
	236nm,0.3s,baz=144,slow=15,SNR=6.0						
DZM	Mont Dzumac	12.38	158	P	Pn	03 58 16.1	-0.7
	0.8nm,0.3s,baz=11,slow=6.7,SNR=13						
DZM				S	Sn	04 00 23.6	-10
	0.2nm,0.3s,baz=87,slow=17,SNR=2.1						
WRA	Warramunga Arr	27.65	247	P	P	04 01 06.5	+1.0
	0.5nm,0.5s,baz=76,slow=9.0,SNR=6.4						
ASAR	Alice Springs	29.22	240	P	P	04 01 19.1	-0.4
	0.5nm,0.8s,baz=66,slow=9.9,SNR=5.1						
SONM	Songino Array	75.83	325	P	P	04 07 04.1	+1.0
	1.0nm,0.6s,baz=142,slow=6.3,SNR=8.2						
QSPA	South Pole Qui	79.38	180	P	P	04 07 23.4	+0.9
	1.2nm,0.7s,baz=358,slow=12,SNR=5.1						
ILAR	Eielson Array	84.52	20	P	P	04 07 48.8	-0.5
	0.1nm,0.6s,baz=247,slow=5.2,SNR=6.9						
NVAR	Mina Array Bea	89.05	51	P	P	04 08 13.7	+1.5
	0.3nm,0.7s,baz=245,slow=3.8,SNR=3.2						
MKAR	Makanchi Array	90.30	318	P	P	04 08 17.3	-0.3
	0.3nm,0.4s,baz=88,slow=6.7,SNR=10						
YKA	Yellowknife Ar	96.57	28	P	P	04 08 44.5	-1.4
	0.1nm,0.5s,baz=263,slow=4.7,SNR=4.6						

IDC 13 04:25:01.0±6.6,15°.71S×72°.76W,h168km±39km,mb2.9/2, mb1 3.0/3,mb1mx2.8/31,mbtmp3.3/3,Error ellipse: s-maj=167.0km s-min=42.6km az=20.0,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	4.49	98	P	Pn	04 26 08.3	-0.5
	0.8nm,0.3s,baz=286,slow=8.5,SNR=20						
LPAZ				S	Sn	04 27 02.1	+0.3
	0.1nm,0.3s,baz=294,slow=10.0,SNR=2.4						
H03N1	Juan Fernandez	18.51	196	T	T	04 47 51.5	
	baz=17,slow=75,SNR=7.4						
H03N2	Juan Fernandez	18.51	196	T	T	04 47 51.9	
	baz=17,slow=75,SNR=6.5						
H03N3	Juan Fernandez	18.53	196	T	T	04 47 52.8	
	baz=17,slow=75,SNR=8.0						
TORD	Torodi Ar. Bea	79.01	73	P	P	04 36 46.9	0.0
	0.6nm,1.1s,baz=269,slow=3.8,SNR=3.4						
YKA	Yellowknife Ar	84.56	342	P	P	04 37 14.9	+0.1
	0.1nm,0.7s,baz=136,slow=4.5,SNR=3.9						

BJI 13 04:30:42.4,29°.04N×42°.26W,h10km,mB5.5/3,mb4.9/3, Ms5.2/3,Ms7 5.1/4

MOS 13 04:30:43.6±1.0,29°.79N×42°.81W,h10km,mb4.9/65,Error ellipse: s-maj=8.9km s-min=5.3km az=50.8

IDC 13 04:30:43.7±0.5,29°.82N×42°.79W,h0km,mb4.4/29, mb1 4.5/29,mb1mx4.4/36,mbtmp4.4/29,MS4.8/4, Ms1 4.8/4,ms1mx4.1/51,Error ellipse: s-maj=14.3km s-min=12.8km az=161.0

ISCJB 13 04:30:44.2±0.2,29°.79N±0°.04×42°.80W±0°.02,h14km, mb4.7/118,MS4.9/7,Error ellipse: s-maj=6.3km s-min=2.7km az=174.0

NEIC 13 04:30:45.4±0.2,29°.77N×42°.74W,h10km,mb4.8/81,Error ellipse: s-maj=5.6km s-min=3.3km az=167.0

ISC 13 04:30:45.7±0.3,29°.79N±0°.06×42°.72W±0°.06,h14km,n613, σ0º89/617,mb4.7/117,MS4.9/7,157C-174D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H05S1	Guadeloupe/Mar	22.66	231	T	T	04 58 59.4	
	SNR=4.3						
BBGH	Gun Hill	22.75	227	eP	P	04 35 47.6	-0.1
	582nm,1.4s						
SCHQ	Schefferville	30.43	332	P	P	04 36 56.0	-1.5
	3.9nm,0.8s,baz=139,slow=11,SNR=2.9						
SDV	Santo Domingo	33.40	237	eP	P	04 37 25.7	+1.5
	18nm,1.0s						
ACSO	Alum Creek Sta	34.33	299	eP	P	04 37 34.0	+2.1
	83nm,1.9s						
PTGA	Pitinga	34.53	212	eP	P	04 37 34.1	+0.3
	12nm,0.8s						
TIGA	Tifton	35.07	283	⇑P	P	04 37 38.7	+0.3
	baz=35						
ETSF	Etsaut	36.02	57	eP	P	04 37 47.8	+1.3
ETSF	Etsaut	36.02	57	eP	P	04 37 47.8	+1.3
ETSF	Etsaut	36.02	57	eP	P	04 37 47.8	+1.3
GRR	Gorron	36.87	48	eP	P	04 37 55.1	+1.5
GRR	Gorron	36.87	48	eP	P	04 37 55.1	+1.5
GRR	Gorron	36.87	48	eP	P	04 37 55.1	+1.5
MFF	Saint Martin d	36.92	51	eP	P	04 37 54.4	+0.3
	24nm,1.0s						
MFF	Saint Martin d	36.92	51	eP	P	04 37 54.4	+0.3
MFF				pmax	pmax		
	comp=Z,24nm,1.0s						
MFF	Saint Martin d	36.92	51	eP	P	04 37 54.4	+0.3
	comp=Z,24nm,1.0s						
LFF	La Frestale	37.24	54	eP	P	04 37 56.8	0.0
	comp=Z,32nm,1.0s						
LFF	La Frestale	37.24	54	eP	P	04 37 56.8	0.0
LFF				pmax	pmax		
	comp=Z,32nm,1.0s						
LFF	La Frestale	37.24	54	eP	P	04 37 56.8	0.0
	comp=Z,32nm,1.0s						
LDF	La Druitiere	37.39	48	eP	P	04 37 58.5	+0.5
	comp=Z,33nm,1.2s						
LDF	La Druitiere	37.39	48	eP	P	04 37 58.5	+0.5
LDF				pmax	pmax		
	comp=Z,33nm,1.2s						
LDF	La Druitiere	37.39	48	eP	P	04 37 58.5	+0.5
	comp=Z,33nm,1.2s						
SFIN	Scholer Farm	37.48	299	⇓P	P	04 37 59.5	+0.6
	baz=37						
FRB	Frobisher Bay	37.75	342	P	P	04 38 00.4	-0.4
FRB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FRB	Frobisher Bay	37.75	342	P	P	04 38 00.4	-0.4
	comp=Z,1.7nm,0.6s,baz=150,slow=9.5,SNR=7.1						
RJF	Les Rejaudoux	37.84	53	eP	P	04 38 03.4	+1.5
RJF	Les Rejaudoux	37.84	53	eP	P	04 38 03.4	+1.5
RJF	Les Rejaudoux	37.84	53	eP	P	04 38 03.4	+1.5
ESK	Eskdalemuir	37.91	36	eP	P	04 38 02.2	-0.1
ESK				pmax	pmax		
	comp=Z,46nm,1.6s						
ESK	Eskdalemuir	37.91	36	eP	P	04 38 02.2	-0.1
	comp=Z,46nm,1.6s						
EKA	Eskdalemuir Ar	37.94	36	LR	LR	04 48 42.0	
	comp=Z,687nm,20.1s,baz=210,slow=28						
MTLF	Montlieu	38.09	57	eP	P	04 38 05.8	+1.8
MTLF	Montlieu	38.09	57	eP	P	04 38 05.8	+1.8
MTLF	Montlieu	38.09	57	eP	P	04 38 05.8	+1.8
TCF	Toulx Ste Croi	38.47	52	eP	P	04 38 07.2	0.0
	comp=Z,15nm,1.0s						
TCF	Toulx Ste Croi	38.47	52	eP	P	04 38 07.2	0.0
TCF				pmax	pmax		
	comp=Z,15nm,1.0s						
TCF	Toulx Ste Croi	38.47	52	eP	P	04 38 07.2	0.0
	comp=Z,15nm,1.0s						
BGF	Bois d'Agland	38.95	52	eP	P	04 38 13.1	+1.9
BGF	Bois d'Agland	38.95	52	eP	P	04 38 13.1	+1.9
BGF	Bois d'Agland	38.95	52	eP	P	04 38 13.1	+1.9
AVF	Avril sur Loir	39.33	51	eP	P	04 38 15.0	+0.7
	comp=Z,17nm,1.2s						
AVF	Avril sur Loir	39.33	51	eP	P	04 38 15.0	+0.7
AVF				pmax	pmax		
	comp=Z,17nm,1.2s						
AVF	Avril sur Loir	39.33	51	eP	P	04 38 15.0	+0.7
	comp=Z,17nm,1.2s						
LASF	Ste Croix	39.34	56	eP	P	04 38 15.9	+1.3
	comp=Z,30nm,1.1s						
LASF	Ste Croix	39.34	56	eP	P	04 38 15.9	+1.3
	comp=Z,30nm,1.1s						
SSF	Saint Saulge	39.47	51	eP	P	04 38 16.2	+0.6
	comp=Z,21nm,1.1s						
SSF	Saint Saulge	39.47	51	eP	P	04 38 16.2	+0.6
SSF				pmax	pmax		
	comp=Z,21nm,1.1s						
SSF	Saint Saulge	39.47	51	eP	P	04 38 16.2	+0.6
	comp=Z,21nm,1.1s						
SMF	Signal de Mont	39.64	52	eP	P	04 38 17.8	+0.8
	comp=Z,14nm,0.9s						
SMF	Signal de Mont	39.64	52	eP	P	04 38 17.8	+0.8
SMF				pmax	pmax		
	comp=Z,15nm,0.9s						
SMF	Signal de Mont	39.64	52	eP	P	04 38 17.8	+0.8
	comp=Z,14nm,0.9s						
LOR	Lormes	39.74	51	eP	P	04 38 18.6	+0.7
	comp=Z,16nm,1.0s						
LOR	Lormes	39.74	51	eP	P	04 38 18.6	+0.7
LOR				pmax	pmax		
	comp=Z,16nm,1.0s						
LOR	Lormes	39.74	51	eP	P	04 38 18.6	+0.7
	comp=Z,16nm,1.0s						
BAIF	Baives	40.48	46	eP	P	04 38 25.7	+1.8
	comp=Z,11nm,1.0s						
BAIF	Baives	40.48	46	eP	P	04 38 25.7	+1.8
BAIF				pmax	pmax		
	comp=Z,11nm,1.0s						
BAIF	Baives	40.48	46	eP	P	04 38 25.7	+1.8
	comp=Z,11nm,1.0s						
SMRF	Simiane la Rot	40.57	56	eP	P	04 38 26.3	+1.5
SMRF	Simiane la Rot	40.57	56	eP	P	04 38 26.3	+1.5
SFTF	Sexfontaines	40.68	49	eP	P	04 38 26.2	+0.6
	comp=Z,24nm,1.0s						
SFTF	Sexfontaines	40.68	49	eP	P	04 38 26.2	+0.6
	comp=Z,24nm,1.0s						
MEZF	Maizieres J'vi	40.73	49	eP	P	04 38 26.7	+0.7
	comp=Z,20nm,0.8s						
MEZF	Maizieres J'vi	40.73	49	eP	P	04 38 26.7	+0.7
	comp=Z,20nm,0.8s						
ORIF	Oris-en-Rattie	40.86	55	eP	P	04 38 29.3	+2.1
ORIF	Oris-en-Rattie	40.86	55	eP	P	04 38 29.3	+2.1
ORIF	Oris-en-Rattie	40.86	55	eP	P	04 38 29.3	+2.1
GIVF	Givet	40.88	47	eP	P	04 38 29.0	+1.8
GIVF	Givet	40.88	47	eP	P	04 38 29.0	+1.8
GIVF	Givet	40.88	47	eP	P	04 38 29.0	+1.8
CABF	La Chapelle	41.17	52	eP	P	04 38 31.0	+1.3
	comp=Z,17nm,1.0s						
CABF	La Chapelle	41.17	52	eP	P	04 38 31.0	+1.3
CABF				pmax	pmax		
	comp=Z,17nm,1.0s						
CABF	La Chapelle	41.17	52	eP	P	04 38 31.0	+1.3
	comp=Z,17nm,1.0s						
PAGF	Fort de Pagny	41.19	49	eP	P	04 38 30.9	+1.2
PAGF	Fort de Pagny	41.19	49	eP	P	04 38 30.9	+1.2
LMR	La Mourre	41.21	57	eP	P	04 38 33.0	+3.0
LMR	La Mourre	41.21	57	eP	P	04 38 33.0	+3.0
LMR	La Mourre	41.21	57	eP	P	04 38 33.0	+3.0
FRF	La Foret Royal	41.32	57	eP	P	04 38 30.5	-0.4
	comp=Z,77nm,1.3s						
FRF	La Foret Royal	41.32	57	eP	P	04 38 30.5	-0.4
FRF				pmax	pmax		
	comp=Z,77nm,1.3s						
FRF	La Foret Royal	41.32	57	eP	P	04 38 30.5	-0.4
	comp=Z,77nm,1.3s						
BNI	Bardonecchia	41.43	54	eP	P	04 38 32.9	+0.9
BNI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BNI	Bardonecchia	41.43	54	eP	P	04 38 32.9	+0.9
	comp=Z,10nm,1.1s						
MBDF	Montbardon	41.48	55	eP	P	04 38 34.2	+1.8
	comp=Z,22nm,1.1s						
MBDF	Montbardon	41.48	55	eP	P	04 38 34.2	+1.8
MBDF				pmax	pmax		
	comp=Z,22nm,1.1s						
MBDF	Montbardon	41.48	55	eP	P	04 38 34.2	+1.8
	comp=Z,22nm,1.1s						
LPL	La Plagne	41.51	54	eP	P	04 38 34.4	+1.7
LPL	La Plagne	41.51	54	eP	P	04 38 34.4	+1.7
LPL	La Plagne	41.51	54	eP	P	04 38 34.4	+1.7
HAU	Haudompre	41.52	50	eP	P	04 38 32.2	-0.3
	comp=Z,16nm,0.9s						
HAU	Haudompre	41.52	50	eP	P	04 38 32.2	-0.3
HAU				pmax	pmax		
	comp=Z,17nm,0.9s						
HAU	Haudompre	41.52	50	eP	P	04 38 32.2	-0.3
	comp=Z,16nm,0.9s						
LPG	La Plagne	41.52	54	eP	P	04 38 33.9	+1.0
	comp=Z,8.0nm,0.9s						
LPG	La Plagne	41.52	54	eP	P	04 38 33.9	+1.0
LPG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LPG	La Plagne	41.52	54	eP	P	04 38 33.9	+1.0
	comp=Z,8.0nm,0.9s						
WLF	Walferdange	41.64	47	eP	P	04 38 31.5	-2.0
WLF				pmax	pmax		
	comp=Z,29nm,1.4s						
WLF	Walferdange	41.64	47	eP	P	04 38 31.5	-2.0
	comp=Z,29nm,1.4s						
HINF	Hinteralfeld	41.83	50	eP	P	04 38 37.6	+2.5
HINF	Hinteralfeld	41.83	50	eP	P	04 38 37.6	+2.5
HINF	Hinteralfeld	41.83	50	eP	P	04 38 37.6	+2.5
SBF	Sospel	41.91	56	eP	P	04 38 37.4	+1.6
	comp=Z,41nm,1.0s						
SBF	Sospel	41.91	56	eP	P	04 38 37.4	+1.6
SBF				pmax	pmax		
	comp=Z,41nm,1.0s						
SBF	Sospel	41.91	56	eP	P	04 38 37.4	+1.6
	comp=Z,41nm,1.0s						
UALR	University of	41.91	290	eP	P	04 38 36.6	+0.8
	comp=Z,20nm,0.9s						
SPMN	St. Paul	41.94	306	eP	P	04 38 37.3	+1.3
	comp=Z,38nm,1.6s						
SPMN	St. Paul	41.94	306	⇓P	P	04 38 36.1	+0.2
	baz=42						
SCIA	State Center	42.12	301	eP	P	04 38 38.5	+1.0
	comp=Z,19nm,0.8s						
DBIC	Dimbokro	42.37	115	P	P	04 38 40.1	+0.3
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DBIC	Dimbokro	42.37	115	P	P	04 38 40.1	+0.3
	comp=Z,1.4nm,0.5s,baz=121,slow=13,SNR=3.7						
SUMG	Summit	42.90	2	iP	P	04 38 44.3	+0.4
SUMG				pmax	pmax		
	comp=Z,14nm,0.9s						
SUMG	Summit	42.90	2	iP	P	04 38 44.3	+0.4
	comp=Z,14nm,0.9s						
SUMG	Summit	42.90	2	eP	P	04 38 43.6	-0.3
	comp=Z,14nm,0.8s						
PGF	Pioggiola	43.03	58	eP	P	04 38 45.6	+0.6
PGF	Pioggiola	43.03	58	eP	P	04 38 45.6	+0.6
PGF	Pioggiola	43.03	58	eP	P	04 38 45.6	+0.6
SAML	Samuel	43.26	210	eP	P	04 38 46.8	-0.2
	comp=Z,8.3nm,0.9s						
TAM	Tamanrasset	43.56	87	eP	P	04 38 49.5	-0.1
TAM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TAM	Tamanrasset	43.56	87	eP	P	04 38 49.5	-0.1
	comp=Z,2.7nm,0.9s						
JTS	JuntasAbangare	43.85	253	eP	P	04 38 52.6	+0.8
JTS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
JTS	JuntasAbangare	43.85	253	eP	P	04 38 52.6	+0.8
	comp=Z,5.2nm,1.0s						
TORD	Torodi Ar. Bea	44.22	102	P	P	04 38 54.8	0.0
	comp=Z,2.7nm,0.9s,baz=310,slow=8.9,SNR=17						
AGMN	Agassiz Nation	44.27	310	eP	P	04 38 55.5	+0.8
AGMN	Agassiz Nation	44.27	310	⇓P	P	04 38 55.3	+0.6
	baz=44						
ULM	Lac du Bonnet	44.47	313	P	P	04 38 56.2	-0.2
ULM				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ULM	Lac du Bonnet	44.47	313	P	P	04 38 56.2	-0.2
	comp=Z,4.9nm,0.9s,baz=81,slow=5.6,SNR=6.4						
TUL1	Tulsa	44.55	292	eP	P	04 38 57.3	+0.1
	comp=Z,19nm,0.8s						
TUL1	Tulsa	44.55	292	⇑P	P	04 38 57.5	+0.2
	baz=44						
ECSD	EROS Data Cent	44.62	304	eP	P	04 38 57.6	0.0
	comp=Z,80nm,2.2s						
ECSD	EROS Data Cent	44.62	304	⇓P	P	04 38 58.0	+0.4
	baz=44						
KSU1	Kansas State U	44.84	297	eP	P	04 38 59.5	+0.1
	comp=Z,21nm,0.9s						
KSU1	Kansas State U	44.84	297	⇓P	P	04 38 59.7	+0.2
	baz=45						
OTAV	Otavalo	44.96	236	eP	P	04 39 01.4	+0.2
	comp=Z,16nm,1.4s						
FCC	Fort Churchill	45.20	325	eP	P	04 39 03.1	+1.1
FCC				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FCC	Fort Churchill	45.20	325	eP	P	04 39 03.0	+1.1
	comp=Z,0.7nm,0.9s						
BDFB	Brasilia	45.45	187	P	P	04 39 05.0	+0.4
BDFB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BDFB	Brasilia	45.45	187	P	P	04 39 05.0	+0.4
	comp=Z,6.4nm,0.8s,baz=355,slow=8.6,SNR=13						
Q33A	Connelly Farm,	45.80	297	⇓P	P	04 39 06.9	-0.2
	baz=46						
BGNE	Belgrade	45.84	300	eP	P	04 39 07.6	+0.2
	comp=Z,26nm,0.8s						
BGNE	Belgrade	45.84	300	⇑P	P	04 39 07.2	-0.2
	baz=46						
U34A	Anderson Ranch	45.88	293	⇑P	P	04 39 07.9	+0.2
	baz=46						
B30A	Myrvik Farm, E	45.92	310	⇑P	P	04 39 08.2	+0.3
	baz=46,SNR=17						
A30A	Hoffart Farm,	45.93	311	⇑P	P	04 39 08.4	+0.4
	baz=46						
V34A	Guthrie	45.95	293	⇑P	P	04 39 08.7	+0.4
	baz=46						
C30A	Mose, Pekin	45.98	309	⇓P	P	04 39 08.3	-0.1
	baz=46,SNR=5.0						
R33A	Olander Ranch,	45.99	296	⇑P	P	04 39 08.5	-0.2
	baz=46						
D30A	Buchanan	46.16	308	⇓P	P	04 39 10.3	+0.5
	baz=46						
Z35A	Perchaven, San	46.17	289	⇓P	P	04 39 09.9	-0.2
	baz=46						
CLL	Collm	46.20	46	eP	P	04 39 10.0	0.0
CLL	Collm	46.20	46	eP	P	04 39 10.0	0.0
CLL				e		04 39 16.0	
H10N2	ASCENSION HYDR	46.21	140	T	T	05 28 13.1	
	baz=325,slow=75,SNR=460						
H10N3	ASCENSION HYDR	46.22	140	T	T	05 28 13.3	
	baz=325,slow=75,SNR=449						
H10N1	ASCENSION HYDR	46.23	140	T	T	05 28 14.5	
	baz=325,slow=75,SNR=608						
E30A	Jud	46.25	307	⇑P	P	04 39 10.8	+0.2
	baz=46						
W34A	Bridge Creek,	46.25	292	⇑P	P	04 39 11.0	+0.3
	baz=46						
AQU	L'Aquila	46.29	58	eP	P	04 39 11.1	+0.1
AQU				pmax	pmax		
	comp=Z,20nm,1.0s						
AQU	L'Aquila	46.29	58	eP	P	04 39 11.1	+0.1
	comp=Z,20nm,1.0s						
BRSD	Miller	46.29	305	⇓P	P	04 39 11.2	+0.2
	baz=46						
L31A	Butterfield Fa	46.30	301	⇑P	P	04 39 10.8	-0.3
	baz=46,SNR=14						
436A	Wall Ranch, Ga	46.32	285	⇓P	P	04 39 10.9	-0.4
	baz=46						
F30A	Leola	46.33	306	⇓P	P	04 39 11.4	+0.3
	baz=46						
P32A	Huiting Farm,	46.33	298	⇓P	P	04 39 11.5	+0.2
	baz=46						
U33A	Lingo Farm, Me	46.34	293	⇓P	P	04 39 11.6	+0.2
	baz=46						
T33A	Patterson Ranc	46.35	294	⇓P	P	04 39 11.5	0.0
	baz=46						
Q32A	Meitler Ranch,	46.36	297	⇑P	P	04 39 11.4	-0.2
	baz=46						
ASCN	Ascension	46.37	139	eP	P	04 39 12.2	+0.5
X34A	Smith Ranch, M	46.41	291	⇓P	P	04 39 12.0	+0.1
	baz=46						
G30A	Faulkton	46.41	305	⇓P	P	04 39 11.6	-0.3
	baz=46						
135A	Vickery Place,	46.45	288	⇓P	P	04 39 11.6	-0.7
	baz=46						
Y34A	Reagan Ranch,	46.46	290	⇓P	P	04 39 12.3	-0.1
	baz=46						
M31A	Lambtecht Ranc	46.46	300	⇓P	P	04 39 10.9	-1.4
	baz=46						
GERES	GERESS Array B	46.47	49	P	P	04 39 12.7	+0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	46.47	49	P	P	04 39 12.7	+0.3
	comp=Z,0.6nm,0.5s,baz=258,slow=6.7,SNR=7.8						
A29A	Manning Farm,	46.54	311	⇓P	P	04 39 12.9	+0.1
	baz=46,SNR=5.3						
R32A	Long Quarter,	46.54	296	⇑P	P	04 39 13.0	0.0
	baz=46						
V33A	Lossen Ranch,	46.57	293	⇓P	P	04 39 12.9	-0.3
	baz=46						
B29A	Wagenman Farm,	46.60	310	⇓P	P	04 39 13.2	-0.1
	baz=46						
WHTX	Lake Whitney	46.60	287	⇑P	P	04 39 13.6	+0.1
	baz=46						
Z34A	Collier Ranch,	46.70	289	⇓P	P	04 39 14.7	+0.4
	baz=47						
J30A	Dallas	46.72	303	⇓P	P	04 39 14.3	-0.1
	baz=47						
D29A	Pettibone, Tap	46.73	308	⇑P	P	04 39 14.7	+0.4
	baz=47						
E29A	Napoleon	46.76	307	⇑P	P	04 39 14.5	0.0
	baz=47						
S32A	Newby Ranch, P	46.81	295	⇑P	P	04 39 15.3	+0.2
	baz=47						
W33A	Caddo, Fort Co	46.83	292	⇑P	P	04 39 15.3	0.0
	baz=47						
O31A	Woolen Ranch,	46.83	299	⇓P	P	04 39 15.1	-0.1
	baz=47						
K30A	Basset	46.84	302	⇑P	P	04 39 15.2	-0.1
	baz=47						
636A	Smothers Creek	46.85	284	⇓P	P	04 39 15.5	0.0
	baz=47						
P31A	Stockton	46.94	298	⇓P	P	04 39 16.1	0.0
	baz=47						
X33A	Lawton	46.96	291	⇓P	P	04 39 15.8	-0.5
	baz=47						
G29A	Hoven	46.97	306	⇓P	P	04 39 15.7	-0.5
	baz=47						
L30A	Spencer Herefo	46.97	301	⇑P	P	04 39 16.1	-0.2
	baz=47						
134A	White-Moore Ra	47.00	288	⇑P	P	04 39 16.4	-0.2
	baz=47						
Q31A	Ellis	47.01	297	⇓P	P	04 39 16.2	-0.5
	baz=47						
H10S1	ASCENSION HYDR	47.04	141	T	T	05 29 15.3	
	baz=326,slow=75,SNR=310						
H10S3	ASCENSION HYDR	47.04	141	T	T	05 29 14.9	
	baz=326,slow=75,SNR=208						
H10S2	ASCENSION HYDR	47.05	141	T	T	05 29 16.0	
	baz=326,slow=75,SNR=269						
U32A	Winter Ranch,	47.05	294	⇑P	P	04 39 16.9	-0.1
	baz=47						
NB2	NORSAR Subarra	47.09	32	P	P	04 39 17.3	+0.4
	comp=Z,1.7nm,0.8s,baz=254,slow=8.6						
NOA	NORSAR Array B	47.09	32	P	P	04 39 17.9	+1.0
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NOA	NORSAR Array B	47.09	32	P	P	04 39 17.9	+1.0
	comp=Z,4.1nm,0.9s,baz=254,slow=7.9,SNR=8.6						
M30A	Dale-Ortello V	47.12	301	⇑P	P	04 39 17.7	+0.2
	baz=47						
535A	Dale	47.15	285	⇑P	P	04 39 17.8	0.0
	baz=47						
234A	Clairette	47.17	287	⇓P	P	04 39 17.8	-0.1
	baz=47						
H29A	Onida	47.19	305	⇓P	P	04 39 18.2	+0.3
	baz=47						
V32A	Arapaho	47.20	293	⇓P	P	04 39 18.6	+0.4
	baz=47						
R31A	Burdett	47.20	296	⇑P	P	04 39 18.3	+0.1
	baz=47						
A28A	Rude Farm, Bot	47.22	311	⇓P	P	04 39 18.1	0.0
	baz=47						
S31A	Mullinville	47.25	295	⇑P	P	04 39 18.8	+0.2
	baz=47						
B28A	Dugan Ranch, T	47.27	310	⇓P	P	04 39 18.2	-0.2
	baz=47						
C28A	Hausauer Farms	47.27	309	⇓P	P	04 39 19.1	+0.5
	baz=47						
I29A	Vivian Onida	47.28	304	⇓P	P	04 39 19.1	+0.5
	baz=47						
J29A	Okreek	47.32	303	⇓P	P	04 39 19.0	-0.1
	baz=47						
N30A	Hueftle Ranch,	47.35	300	⇑P	P	04 39 19.4	+0.1
	baz=47						
K29A	Lazy Trails An	47.36	302	⇓P	P	04 39 18.9	-0.4
	baz=47						
O30A	MW Ranch, Wils	47.38	299	⇓P	P	04 39 19.3	-0.2
	baz=47						
D28A	Regan	47.39	308	⇓P	P	04 39 19.6	+0.1
	baz=47						
Z33A	Whitaker Ranch	47.42	289	⇑P	P	04 39 19.9	0.0
	baz=47						
W32A	Sentinel	47.46	292	⇓P	P	04 39 19.9	-0.3
	baz=47						
635A	Leesville	47.48	284	⇑P	P	04 39 20.8	+0.5
	baz=47						
E28A	Huff	47.48	307	⇓P	P	04 39 20.1	-0.1
	baz=47						
T31A	Randall Ranch,	47.48	295	⇓P	P	04 39 20.1	-0.2
	baz=47						

L29A Maesberg Ranch 47.53 301 ⇑P P 04 39 20.8 +0.1
baz=47
434A Burnet 47.55 286 ⇓P P 04 39 21.2 +0.3
baz=47
F28A McLaughlin 47.57 306 ⇓P P 04 39 20.1 -0.7
baz=48
P30A Selden 47.60 298 ⇓P P 04 39 21.5 +0.2
baz=48
936A North Padre Is 47.61 281 ⇑P P 04 39 21.2 -0.2
baz=48
X32A Elmer 47.62 291 ⇓P P 04 39 21.8 +0.4
baz=48
735A Kenedy 47.65 283 ⇓P P 04 39 21.5 -0.1
baz=48
Q30A Quinter 47.65 297 ⇑P P 04 39 21.6 -0.1
baz=48
G28A Parade 47.67 305 ⇓P P 04 39 21.9 +0.2
baz=48
133A Hamilton Ranch 47.68 288 ⇑P P 04 39 22.3 +0.4
baz=48
M29A Burnside Ranch 47.74 301 ⇑P P 04 39 22.6 +0.2
baz=48
N29A Votaw Ranch, W 47.75 300 ⇑P P 04 39 22.2 -0.2
baz=48
H28A Mission Ridge 47.76 305 ⇓P P 04 39 22.0 -0.4
baz=48
R30A Dighton 47.78 296 ⇑P P 04 39 23.1 +0.4
baz=48,SNR=9.7
233A Rising Star 47.80 288 ⇑P P 04 39 23.1 +0.3
baz=48
V31A Spring Creek L 47.83 293 ⇓P P 04 39 22.9 -0.2
baz=48
Y32A R-V Farms, Ver 47.83 290 ⇑P P 04 39 23.1 +0.1
baz=48,SNR=5.4
A27A Ledoux Ranch, 47.86 311 ⇓P P 04 39 23.2 +0.1
baz=48
I28A Midland 47.90 304 ⇑P P 04 39 23.6 +0.1
baz=48
534A Blanco 47.91 285 ⇓P P 04 39 24.1 +0.3
baz=48
O29A 4D Ranch, Culb 47.95 299 ⇓P P 04 39 24.3 +0.3
baz=48
634A China Grove, S 47.97 284 ⇑P P 04 39 23.8 -0.4
baz=48
J28A Allard Ranch, 47.98 303 ⇓P P 04 39 24.5 +0.3
baz=48,SNR=5.2
Z32A Haskell 48.00 290 ⇑P P 04 39 24.7 +0.3
baz=48
W31A Holland Ranch, 48.01 292 ⇓P P 04 39 24.4 -0.1
baz=48
S30A Montezuma 48.02 295 ⇓P P 04 39 24.4 -0.1
baz=48
C27A Sayler Ranch, 48.03 309 ⇓P P 04 39 24.9 +0.5
baz=48
D27A Center 48.05 308 ⇑P P 04 39 24.7 +0.1
baz=48
P29A Atwood 48.12 298 ⇑P P 04 39 25.3 0.0
baz=48
K28A Ten Mile Ranch 48.13 302 ⇓P P 04 39 25.4 +0.1
baz=48
X31A McDonald Ranch 48.14 291 ⇑P P 04 39 25.4 -0.1
baz=48
T30A Plains 48.16 295 ⇓P P 04 39 25.6 0.0
baz=48
Q29A Oakley 48.25 297 ⇓P P 04 39 26.1 -0.1
baz=48
433A Art 48.25 286 ⇑P P 04 39 26.1 -0.3
baz=48
M28A Bar X Bar Ranc 48.25 301 ⇑P P 04 39 26.5 +0.2
baz=48
ABTX Abilene, Hawle 48.28 289 ⇓P P 04 39 26.5 0.0
baz=48
734A La Parita Cree 48.28 283 ⇑P P 04 39 26.7 +0.1
baz=48
U30A WK&E Inc. Balk 48.34 294 ⇑P P 04 39 27.1 0.0
baz=48
G27A Dupree 48.38 306 ⇓P P 04 39 26.9 -0.2
baz=48,SNR=6.0
A26A Wade Farm, Ken 48.39 311 ⇑P P 04 39 27.3 +0.1
baz=48
DAG Danmarks Havn 48.41 7 iP P 04 39 27.9 +1.0
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 48.41 7 iP P 04 39 27.9 +1.0
comp=Z,5.0nm,0.9s
F27A Lemmon 48.42 307 ⇓P P 04 39 27.5 0.0
baz=48
C26A Wahner Farm, P 48.42 309 ⇓P P 04 39 27.5 0.0
baz=48
035A Encino 48.43 281 ⇑P P 04 39 27.8 +0.1
baz=48
R29A Marienthal 48.43 297 ⇑P P 04 39 27.6 -0.2
baz=48,SNR=8.5
232A Coleman 48.44 288 ⇑P P 04 39 27.6 -0.3
baz=48
N28A Pribbeno Ranch 48.45 300 ⇑P P 04 39 28.0 +0.1
baz=48
834A Tilden 48.47 283 ⇓P P 04 39 27.4 -0.7
baz=48
Y31A Rekieta Farm, 48.50 291 ⇑P P 04 39 28.1 -0.2
baz=48
H27A Howes 48.52 305 ⇓P P 04 39 28.1 -0.2
baz=48
W30A Crocket Farms 48.52 292 ⇓P P 04 39 27.6 -0.9
baz=48
I27A Quinn 48.53 304 ⇑P P 04 39 27.5 -0.9
baz=48
S29A Ulysses 48.54 296 ⇓P P 04 39 28.2 -0.4
baz=48
035Z Hargill 48.54 280 ⇓P P 04 39 28.2 -0.4
baz=48
Z31A Sharp Cattle R 48.54 290 ⇑P P 04 39 28.2 -0.4
baz=48,SNR=8.6
J27A Elkhorn Farm, 48.56 303 ⇓P P 04 39 28.1 -0.6
baz=48
934A Benavides 48.59 282 ⇑P P 04 39 28.3 -0.7
baz=48
332A Millersview 48.64 287 ⇓P P 04 39 28.3 -1.1
baz=48
633A Saathoff Ranch 48.64 284 ⇓P P 04 39 28.6 -0.8
baz=48
D26A Manning 48.67 308 ⇓P P 04 39 28.3 -1.1
baz=49
FFC Flin Flon 48.67 318 eP P 04 39 29.1 -0.2
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 48.67 318 eP P 04 39 29.1 -0.2
comp=Z,11nm,0.9s
O28A Krutsinger Ran 48.70 299 ⇓P P 04 39 28.7 -1.1
baz=49
E26A Carlson Angus 48.70 307 ⇑P P 04 39 28.5 -1.2
baz=49
P28A Saint Francis 48.75 298 ⇑P P 04 39 30.4 +0.1
baz=49
OGNE Ogallala 48.80 300 ⇑P P 04 39 30.2 -0.3
baz=49
432A Menard 48.80 286 ⇑P P 04 39 30.8 +0.1
baz=49
G26A Maurine 48.85 306 ⇓P P 04 39 30.8 0.0
baz=49
F26A Lodgepole 48.87 307 ⇑P P 04 39 31.1 +0.1
baz=49
131A Roby 48.88 289 ⇓P P 04 39 31.4 +0.1
baz=49,SNR=11
Q28A Sharon Springs 48.88 298 ⇓P P 04 39 31.3 +0.1
baz=49
X30A Coker Ranch, T 48.90 291 ⇑P P 04 39 31.4 0.0
baz=49
JCT Junction City 48.91 286 eP P 04 39 31.0 -0.5
JCT pmax pmax
comp=Z,19nm,1.1s
JCT Junction City 48.91 286 eP P 04 39 31.0 -0.5
comp=Z,19nm,1.1s
JCT Junction City 48.91 286 ⇑P P 04 39 31.6 +0.1
baz=49
R28A Tribune 48.97 297 ⇓P P 04 39 31.6 -0.3
baz=49,SNR=12
231A Bronte 48.99 288 ⇓P P 04 39 32.3 +0.3
baz=49
MORC Moravsky Berou 49.01 48 eP P 04 39 30.1 -1.9
MORC pmax pmax
comp=Z,1.0nm,0.6s
MORC Moravsky Berou 49.01 48 eP P 04 39 30.1 -1.9
comp=Z,1.5nm,0.6s
I26A New Underwood 49.12 304 ⇓P P 04 39 32.9 0.0
baz=49
B25A Knox Farm, Ray 49.13 310 ⇓P P 04 39 33.0 0.0
baz=49
632A Uvalde 49.14 285 ⇑P P 04 39 33.3 0.0
baz=49
S28A Manter 49.15 296 ⇑P P 04 39 33.4 +0.1
baz=49
N27A Anderson Farm, 49.19 300 ⇑P P 04 39 33.7 +0.1
baz=49
C25A Freed Ranch, W 49.21 309 ⇓P P 04 39 33.5 -0.1
baz=49
933A Laredo 49.23 282 ⇑P P 04 39 34.0 0.0
baz=49
D25A Fairfield 49.27 308 ⇑P P 04 39 34.1 0.0
baz=49
J26A Sides Ranch, S 49.33 303 ⇓P P 04 39 34.4 -0.2
baz=49
Z30A Sanderson Ranc 49.35 290 ⇑P P 04 39 35.1 +0.3
baz=49
130A Snyder 49.37 289 ⇓P P 04 39 34.8 -0.2
baz=49
W29A Amraillo 49.39 292 ⇓P P 04 39 34.9 -0.3
baz=49
T28A Walsh 49.40 295 ⇓P P 04 39 35.0 -0.3
baz=49
G25A Newell 49.43 306 ⇑P P 04 39 34.3 -1.0
baz=49
L26A Underwood Farm 49.46 302 ⇓P P 04 39 35.3 -0.3
baz=49
K26A Motz Farm, Whi 49.46 302 ⇓P P 04 39 35.4 -0.2
baz=49
AMTX Amarillo 49.47 292 ⇑P P 04 39 34.8 -1.0
baz=49
732A Laxson Ranch, 49.51 284 ⇓P P 04 39 35.9 -0.1
baz=49
X29A Tulia 49.57 291 ⇓P P 04 39 35.7 -0.9
baz=50
H25A Fruitdale 49.60 305 ⇑P P 04 39 36.7 +0.1
baz=50
531A Rocksprings 49.61 286 ⇑P P 04 39 37.0 +0.1
baz=50
U28A Mallet 49.62 294 ⇑P P 04 39 35.9 -1.0
baz=50
230A Sterling City 49.66 288 ⇓P P 04 39 37.2 0.0
baz=50
Y29A Porterfield Fa 49.67 291 ⇑P P 04 39 37.0 -0.3
baz=50
A24A Westby 49.68 311 ⇑P P 04 39 37.4 +0.3
baz=50
R27A Eads 49.74 297 ⇑P P 04 39 36.7 -1.1
baz=50,SNR=5.4
I25A Rochford 49.74 304 ⇓P P 04 39 36.7 -1.1
baz=50
DGMT Dagmar 49.82 310 ⇑P P 04 39 38.4 +0.2
baz=50
330A Mertzon 49.82 287 ⇓P P 04 39 38.5 0.0
baz=50
Z29A Hungry Hill Ra 49.83 290 ⇓P P 04 39 38.5 0.0
baz=50
631A Perdido Creek 49.83 285 ⇓P P 04 39 38.4 -0.1
baz=50
O26A Horse Wrangler 49.85 299 ⇑P P 04 39 38.3 -0.3
baz=50
S27A Las Animas 49.92 296 ⇓P P 04 39 38.8 -0.5
baz=50
D24A Glendive 49.96 308 ⇓P P 04 39 39.2 0.0
baz=50
P26A Davis Ranch, A 49.97 298 ⇓P P 04 39 38.7 -1.0
baz=50
C24A Savage 50.01 309 ⇓P P 04 39 39.5 -0.1
baz=50,SNR=5.3
430A Baggett Ranch, 50.03 287 ⇓P P 04 39 39.3 -0.8
baz=50
U27A Thompson Grove 50.09 294 ⇓P P 04 39 40.4 -0.1
baz=50
L25A Engebretsen Ra 50.10 302 ⇑P P 04 39 39.8 -0.8
baz=50
129A Stewart Farms, 50.10 289 ⇓P P 04 39 39.9 -0.7
baz=50
F24A Ekalaka 50.11 307 ⇓P P 04 39 40.1 -0.4
baz=50
G24A Alzada 50.13 306 ⇑P P 04 39 40.2 -0.4
baz=50
Y28A McKinney Farm, 50.13 291 ⇑P P 04 39 40.0 -0.8
baz=50
Q26A Hugo 50.20 298 ⇑P P 04 39 41.0 -0.3
baz=50
V27A Dan Oppiter Fa 50.22 293 ⇑P P 04 39 40.5 -1.0
baz=50
R26A Arlington 50.25 297 ⇑P P 04 39 41.1 -0.6
baz=50,SNR=5.0
M25A Palm-Egli Farm 50.25 301 ⇑P P 04 39 41.3 -0.4
baz=50
A23A Redstone 50.26 311 ⇓P P 04 39 41.5 0.0
baz=50
H24A Dirks Ranch, A 50.27 305 ⇑P P 04 39 40.8 -0.9
baz=50
530A J-C Ranch, Com 50.28 286 ⇑P P 04 39 42.1 +0.2
baz=50
B23A Brockton 50.35 310 ⇑P P 04 39 42.2 0.0
baz=50
Z28A Tucker Farm, M 50.38 290 ⇓P P 04 39 42.6 -0.1
baz=50
S26A Kim 50.38 296 ⇑P P 04 39 42.7 -0.1
baz=50
329A Wagon Wheel Ra 50.47 288 ⇑P P 04 39 43.3 -0.1
baz=50
O25A Wiggins 50.48 299 ⇓P P 04 39 43.4 -0.1
baz=50
C23A Lambert 50.51 309 ⇓P P 04 39 43.4 0.0
baz=50,SNR=5.5
MSTX Muleshoe 50.54 291 ⇓P P 04 39 43.5 -0.4
baz=50
W27A Bowe Ranch, En 50.54 293 ⇓P P 04 39 44.1 +0.1
baz=50
D23A Lindsay 50.55 308 ⇓P P 04 39 42.9 -0.9
baz=50
T26A Comanche Natio 50.55 295 ⇓P P 04 39 44.1 0.0
baz=50,SNR=5.3
PSZ Piszkesteto 50.60 51 eP P 04 39 41.2 -2.9
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PSZ Piszkesteto 50.60 51 eP P 04 39 41.2 -2.9
comp=Z,2.9nm,0.8s
P25A Willow Gulch B 50.61 298 ⇑P P 04 39 44.5 +0.1
baz=50,SNR=10
128A Castleberry Fa 50.61 289 ⇓P P 04 39 44.1 -0.4
baz=50
429A Davenport Ranc 50.62 287 ⇑P P 04 39 44.5 0.0
baz=50
U26A Atchley Ranch, 50.82 294 ⇑P P 04 39 45.0 -1.1
baz=51
M24A Cheyenne 50.82 301 ⇓P P 04 39 45.6 -0.5
baz=51,SNR=5.9
L24A Wheatland 50.83 302 ⇓P P 04 39 45.9 -0.1
baz=51
Y27A Causey 50.88 291 ⇓P P 04 39 46.1 -0.4
baz=51
R25A Fountain Ranch 50.92 297 ⇓P P 04 39 45.7 -1.1
baz=51
A22A Carney Farms, 50.94 311 ⇑P P 04 39 46.4 -0.2
baz=51
N24A Carr 50.95 300 ⇑P P 04 39 46.5 -0.5
baz=51
V26A Tequesquite Ra 50.97 294 ⇓P P 04 39 47.3 +0.1
baz=51,SNR=9.9
C22A Vida 50.98 309 ⇓P P 04 39 47.0 0.0
baz=51,SNR=5.1
Z27A Tatum 51.05 290 ⇑P P 04 39 47.6 -0.2
baz=51
E22A Miles City 51.11 308 ⇑P P 04 39 48.1 +0.1
baz=51
S25A Robets Cordova 51.13 296 ⇑P P 04 39 47.8 -0.6
baz=51
328A Wristen Ranch, 51.18 288 ⇓P P 04 39 47.9 -0.8
baz=51
T25A Trinidad 51.20 295 ⇑P P 04 39 48.6 -0.4
baz=51
D22A Cohagen 51.22 308 ⇑P P 04 39 48.7 -0.1
baz=51
K23A Bowen Ranch, D 51.25 303 ⇓P P 04 39 49.2 0.0
baz=51
U25A Circle Dot Ran 51.34 295 ⇓P P 04 39 50.0 -0.1
baz=51
L23A Garrett 51.39 302 ⇓P P 04 39 49.9 -0.5
baz=51
227A Bennet, Jal 51.42 289 ⇓P P 04 39 50.7 +0.1
baz=51
Q24A Divide 51.45 298 ⇑P P 04 39 50.7 -0.2
baz=51
H22A Clearmont 51.56 305 ⇑P P 04 39 51.4 -0.1
baz=51
Z26A Caprock 51.68 291 ⇑P P 04 39 52.1 -0.5
baz=52
I22A 9 Mile Ranch, 51.73 304 ⇓P P 04 39 52.8 0.0
baz=52
S24A Houchin Ranch, 51.74 296 ⇑P P 04 39 53.0 -0.1
baz=52
N23A Red Feather La 51.74 300 ⇑P P 04 39 53.1 0.0
baz=52
D21A La Casta Ranch 51.78 308 ⇓P P 04 39 53.1 +0.1
baz=52
J22A Midwest 51.79 304 ⇓P P 04 39 53.0 -0.3
baz=52,SNR=6.2
C21A Desert Coulee 51.79 309 ⇓P P 04 39 52.7 -0.3
baz=52
RES Resolute Bay 51.82 345 eP P 04 39 52.8 +0.1
RES 04 41 05.7
RES pmax pmax
comp=Z,9.0nm,1.3s
RES Resolute Bay 51.82 345 P P 04 39 52.6 -0.1
comp=Z,1.7nm,0.9s,baz=125,slow=3.7,SNR=5.7
RES PcP PcP 04 41 05.7 +0.1
comp=Z,1.0nm,0.7s,baz=111,slow=2.2,SNR=5.1
RES LR LR 04 59 45.8
comp=Z,1µm,18.0s,baz=86,slow=34
RES Resolute Bay 51.82 345 eP P 04 39 52.8 +0.1
comp=Z,9.4nm,1.3s
RES PcP PcP 04 41 05.7 +0.1
O23A Lake Granby, G 51.83 300 ⇓P P 04 39 53.3 -0.5
baz=52,SNR=5.5
126A Clayton Basin, 51.86 290 ⇓P P 04 39 53.6 -0.3
baz=52
P23A Jefferson 51.91 299 ⇓P P 04 39 53.7 -0.7
baz=52
K22A Casper 51.92 303 ⇑P P 04 39 54.1 -0.2
baz=52
L22A Ellis Ranch, M 51.94 302 ⇓P P 04 39 54.5 0.0
baz=52
LPAZ La Paz 51.96 212 P P 04 39 55.0 -0.2
LPAZ pmax pmax
comp=Z,7.0nm,0.9s
LPAZ La Paz 51.96 212 P P 04 39 55.0 -0.2
comp=Z,7.2nm,0.8s,baz=14,slow=4.6,SNR=21
F21A Absaloka Mine, 51.98 307 ⇓P P 04 39 54.4 -0.2
baz=52
H21A Big Horn, Sher 52.05 305 ⇓P P 04 39 55.0 -0.1
baz=52
Y25A Mesa, Roswell 52.11 292 ⇑P P 04 39 55.5 -0.2
baz=52
R23A Moffat 52.11 297 ⇑P P 04 39 55.5 -0.4
baz=52,SNR=5.5
226B Tecolote Peak, 52.12 289 ⇓P P 04 39 55.7 -0.1
baz=52
N22A Wattenberg Ran 52.14 300 ⇑P P 04 39 55.7 -0.3
baz=52
M22A Cedar Creek Ra 52.15 301 ⇑P P 04 39 55.9 -0.1
baz=52
326A Caldwell Ranch 52.17 288 ⇓P P 04 39 56.3 +0.2
baz=52
V24A Rampart Ranch, 52.17 294 ⇓P P 04 39 56.2 0.0
baz=52
A20A Cobblestone Ra 52.27 311 ⇑P P 04 39 56.9 +0.2
baz=52
Z25A Roswell 52.28 291 ⇓P P 04 39 57.1 +0.1
baz=52
O22A Kremmling 52.31 300 ⇑P P 04 39 56.1 -1.3
baz=52
I21A Big Trails, Te 52.33 304 ⇑P P 04 39 57.4 +0.2
baz=52
S23A Nye Farm, Mont 52.34 296 ⇓P P 04 39 57.6 +0.1
baz=52
B20A Solberg Farm, 52.37 310 ⇓P P 04 39 57.7 +0.3
baz=52
125A Gardner Draw, 52.38 290 ⇑P P 04 39 57.4 -0.4
baz=52
W24A Lazy 6 Ranch, 52.39 293 ⇓P P 04 39 57.8 -0.1
baz=52
C20A Veseth Ranch, 52.41 309 ⇓P P 04 39 56.8 -0.8
baz=52
TXAR Lajitas Array 52.45 286 P P 04 39 57.6 -0.7
TXAR 04 41 08.6
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 52.45 286 P P 04 39 57.6 -0.7
comp=Z,1.2nm,0.8s,baz=99,slow=8.3,SNR=15
TXAR PcP PcP 04 41 08.6 -0.3
comp=Z,0.6nm,0.8s,baz=64,slow=2.9,SNR=3.6
K21A Alcova 52.45 303 ⇑P P 04 39 58.0 -0.2
baz=52
J21A Lysite 52.50 304 ⇓P P 04 39 58.6 +0.1
baz=52
T23A Casias Ranch, 52.50 296 ⇑P P 04 39 58.6 -0.1
baz=52
D20A Manuel Ranch, 52.55 308 ⇑P P 04 39 59.0 +0.2
baz=52
P22A Eagle 52.57 299 ⇓P P 04 39 57.9 -1.3
baz=52
E20A Meyer Farm, Mu 52.61 308 ⇑P P 04 39 59.5 +0.3
baz=52
225A Deer Hill, Car 52.66 289 ⇑P P 04 39 58.9 -1.0
baz=52
Y24A Capitan 52.71 292 ⇓P P 04 40 00.2 -0.1
baz=53
H20A Greybull 52.74 305 ⇓P P 04 40 00.2 -0.1
baz=53,SNR=6.2
U23A El Rito 52.77 295 ⇓P P 04 40 00.6 -0.1
baz=53
Z24A Sheeppen Canyo 52.79 291 ⇑P P 04 40 01.0 +0.1
baz=53
A19A Klindworth Far 52.81 311 ⇑P P 04 40 00.9 +0.3
baz=53
G20A Bridger 52.81 306 ⇓P P 04 40 00.6 -0.2
baz=53
V23A Ortiz Mt. (NFS 52.89 294 ⇑P P 04 40 01.6 0.0
baz=53
I20A Worland 52.91 305 ⇓P P 04 40 01.4 -0.1
baz=53
J20A Shoshoni 52.96 304 ⇑P P 04 40 01.9 0.0
baz=53,SNR=5.9
S22A 4UR Ranch, Cre 52.97 297 ⇑P P 04 40 02.0 -0.3
baz=53
B19A Brinkman Farms 52.98 310 ⇑P P 04 40 01.6 -0.3
baz=53
NNA Nana 52.98 223 eP P 04 40 00.5 -1.7
NNA pmax pmax
comp=Z,10.0nm,0.8s
NNA Nana 52.98 223 eP P 04 40 00.5 -1.7
comp=Z,9.6nm,0.8s
W23A Werner Place, 52.99 293 ⇑P P 04 40 02.2 -0.1
baz=53
D19A Cripps Ranch, 53.05 309 ⇑P P 04 40 02.5 0.0
baz=53
E19A Rath Farm, Rou 53.06 308 ⇑P P 04 40 02.6 0.0
baz=53
C19A Slack Wire Ran 53.11 309 ⇓P P 04 40 02.9 0.0
baz=53
X23A Hourglass Bar 53.16 293 ⇓P P 04 40 03.2 -0.4
baz=53
Y23A Lovelace Mesa, 53.20 292 ⇑P P 04 40 03.5 -0.4
baz=53
F19A Roth Farm, Mol 53.24 307 ⇓P P 04 40 03.7 -0.2
baz=53,SNR=6.3
U22A Llaves 53.28 295 ⇑P P 04 40 04.0 -0.5
baz=53
ANMO Albuquerque 53.29 293 eP P 04 40 05.9 +1.4
ANMO pmax pmax
comp=Z,41nm,2.1s
ANMO Albuquerque 53.29 293 eP P 04 40 05.9 +1.4
comp=Z,41nm,2.1s
H19A Powell 53.42 306 ⇑P P 04 40 04.1 -1.1
baz=53
V22A San Miguel Ran 53.42 294 ⇑P P 04 40 05.6 0.0
baz=53
N20A Spence Gulch, 53.49 301 ⇓P P 04 40 04.7 -1.3
baz=53
EGMT Eagleton 53.56 310 eP P 04 40 06.4 +0.3
comp=Z,40nm,1.3s
EGMT Eagleton 53.56 310 ⇑P P 04 40 05.8 -0.4
baz=53
LPM Los Pinos Moun 53.58 292 eP P 04 40 07.5 +0.8
comp=Z,11nm,1.1s
O20A White River Ci 53.60 300 ⇑P P 04 40 06.8 +0.1
baz=54
J19A Crowheart 53.67 304 ⇑P P 04 40 06.7 -0.5
baz=54,SNR=5.6
H18A Shoshone NF, C 53.90 306 ⇑P P 04 40 08.5 -0.4

baz=54,SNR=5.6
LAZ Ladron 53.96 293 eP P 04 40 09.5 0.0
comp=Z,6.1nm,1.4s
Z22A Elephant Butte 54.11 291 ⇑P P 04 40 10.2 -0.3
baz=54
BW06 Boulder Array 54.11 303 eP P 04 40 10.1 -0.4
comp=Z,25nm,0.9s
PDAR Pinedale Array 54.11 303 P P 04 40 10.4 -0.1
comp=Z,6.0nm,0.7s,baz=86,slow=7.5,SNR=29
FINES FINESS Array B 54.23 34 P P 04 40 10.9 +0.2
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 54.23 34 P P 04 40 10.9 +0.2
comp=Z,9.3nm,0.8s,baz=247,slow=5.9,SNR=30
KAF Kangasniemi 54.37 33 eP P 04 40 12.3 +0.6
KAF Kangasniemi 54.37 33 ep P 04 40 12.3 +0.6
MVCO Mesa Verde 54.38 296 eP P 04 40 13.1 +0.5
comp=Z,9.4nm,1.0s
MVCO Mesa Verde 54.38 296 ⇑P P 04 40 11.4 -1.1
baz=54
VSU Vasula 54.49 37 eP P 04 40 12.1 -0.5
VSU pmax pmax
comp=Z,37nm,0.9s
H17A Grant Village 54.59 305 ⇑P P 04 40 12.5 -1.4
baz=54
I17A Pilgrim Ck. 54.66 305 ⇑P P 04 40 14.1 -0.4
baz=54
YMR Madison River 54.82 306 eP P 04 40 17.8 +2.2
comp=Z,30nm,1.3s
ARCES ARCESS Array B 54.82 24 P P 04 40 15.0 +0.1
ARCES pmax pmax
comp=Z,7.0nm,0.8s
ARCES ARCESS Array B 54.82 24 P P 04 40 15.0 +0.1
comp=Z,7.1nm,0.8s,baz=263,slow=6.0,SNR=11
IMW Indian Meadow 54.92 305 eP P 04 40 17.0 +0.5
comp=Z,15nm,0.9s
121A Cookes Peak, D 54.96 291 ⇓P P 04 40 15.4 -1.4
baz=55
HRY Holter Researc 55.12 308 eP P 04 40 16.6 -0.9
QLMT Earthquake Lak 55.12 306 eP P 04 40 19.1 +1.4
comp=Z,0.3nm,0.4s
BOZ Bozeman (W) 55.13 307 eP P 04 40 15.8 -2.0
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ Bozeman (W) 55.13 307 eP P 04 40 15.8 -2.0
comp=Z,5.2nm,0.8s
AHID Auburn Hatcher 55.23 304 eP P 04 40 19.4 +0.8
comp=Z,8.5nm,0.8s
EDM Edmonton 55.37 316 eP P 04 40 18.4 -0.8
EDM Edmonton 55.37 316 eP P 04 40 18.4 -0.8
SRU San Rafael 55.53 299 eP P 04 40 21.4 +0.6
SRU pmax pmax
comp=Z,19nm,0.8s
SRU San Rafael 55.53 299 eP P 04 40 21.4 +0.6
comp=Z,19nm,0.8s
YKA Yellowknife Ar 55.72 328 P P 04 40 20.9 -0.6
YKA 04 41 20.3
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 55.72 328 P P 04 40 20.9 -0.6
comp=Z,2.0nm,0.9s,baz=87,slow=7.3,SNR=32
YKA PcP PcP 04 41 20.3 -0.3
comp=Z,0.9nm,0.7s,baz=92,slow=4.8,SNR=13
DAU Daniels Canyon 55.80 301 eP P 04 40 23.0 +0.1
DAU pmax pmax
comp=Z,7.0nm,0.8s
DAU Daniels Canyon 55.80 301 eP P 04 40 23.0 +0.1
comp=Z,6.8nm,0.8s
JLU Jordanelle 55.91 301 eP P 04 40 23.1 -0.4
comp=Z,20nm,1.1s
X18A Snowflake 56.18 294 ⇓P P 04 40 24.2 -1.3
baz=56
APE Apeiranthos 56.33 63 eP P 04 40 26.4 0.0
APE pmax pmax
comp=Z,58nm,1.2s
KIEV Kiev 56.43 47 eP P 04 40 25.4 -1.3
KIEV pmax pmax
comp=Z,4.0nm,0.9s
KIEV Kiev 56.43 47 eP P 04 40 25.4 -1.3
comp=Z,3.8nm,0.9s
AKASG Malin Array Be 56.44 47 P P 04 40 26.3 -0.5
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 56.44 47 P P 04 40 26.3 -0.5
comp=Z,1.9nm,0.6s,baz=274,slow=6.4,SNR=8.8
SWMT Swartz Lake 56.46 310 eP P 04 40 26.5 -0.7
319A Douglas 56.51 290 ⇓P P 04 40 26.5 -1.3
baz=56
NLU North Lily Min 56.51 300 eP P 04 40 29.1 +1.2
comp=Z,16nm,1.0s
MSO Missoula 56.53 309 ⇓P P 04 40 26.5 -1.2
baz=56
HVU Hansel Valley 56.64 303 eP P 04 40 28.9 +0.3
HVU pmax pmax
comp=Z,7.0nm,0.9s
HVU Hansel Valley 56.64 303 eP P 04 40 28.9 +0.3
comp=Z,6.7nm,0.9s
JOF Joensuu 56.70 32 eP P 04 40 29.5 +1.0
JOF Joensuu 56.70 32 ep P 04 40 29.5 +1.0
BSMT Bassoo Peak 56.93 310 eP P 04 40 30.4 -0.3
comp=Z,3.9nm,1.0s
MVU Marysvale 56.95 299 eP P 04 40 32.6 +1.6
comp=Z,11nm,1.0s
BGU Big Grassy Mou 57.01 302 eP P 04 40 31.9 +0.6
comp=Z,3.9nm,1.0s
DUG Dugway 57.01 301 eP P 04 40 32.0 +0.7
DUG pmax pmax
comp=Z,12nm,0.9s
DUG Dugway 57.01 301 eP P 04 40 32.0 +0.7
comp=Z,12nm,0.9s
DUG Dugway 57.01 301 ⇑P P 04 40 30.6 -0.7
baz=57
WUAZ Wupatki 57.05 295 eP P 04 40 33.1 +1.5
comp=Z,8.5nm,0.9s
WUAZ Wupatki 57.05 295 ⇑P P 04 40 30.1 -1.5
baz=57
X16A Lo Mia Camp, P 57.39 294 ⇑P P 04 40 32.6 -1.5
baz=57
HLID Hailey 57.46 305 ⇑P P 04 40 33.3 -1.1
baz=57
U15A North Rim 57.53 296 ⇑P P 04 40 33.7 -1.5
baz=57
LVC Limon Verde 57.88 209 eP P 04 40 36.8 -0.7
comp=Z,7.1nm,0.9s
ARUT Antelope Range 58.06 298 eP P 04 40 39.4 +0.6
ARUT pmax pmax
comp=Z,70nm,0.8s
ARUT Antelope Range 58.06 298 eP P 04 40 39.4 +0.6
comp=Z,70nm,0.8s
NEW Newport 58.41 311 ⇑P P 04 40 40.5 -0.3
baz=58
MFID Camas Ranch 58.50 305 eP P 04 40 41.7 +0.1
comp=Z,14nm,1.0s
Y14A Wickenburg 58.77 294 ⇓P P 04 40 43.1 -0.5
baz=59
Z14A Wintersburg 58.89 293 ⇓P P 04 40 44.2 -0.2
baz=59
W13A Hualapai Mount 59.13 295 ⇓P P 04 40 45.7 -0.6
baz=59
R11A Troy Canyon, C 59.55 299 ⇓P P 04 40 48.7 -0.4
baz=59,SNR=6.6
113A Mohawk Valley, 59.73 293 ⇑P P 04 40 49.7 -0.4
baz=60
Y12C Blythe 60.03 294 ⇑P P 04 40 52.0 -0.2
baz=60
OBN Obninsk 60.17 41c iP P 04 40 52.7 -0.1
OBN pmax pmax
comp=Z,21nm,1.3s
OBN Obninsk 60.17 41 P P 04 40 52.7 -0.1
comp=Z,9.3nm,0.5s,baz=227,slow=23,SNR=3.1
IRM Iron Mountain 60.41 295 ⇑P P 04 40 53.7 -1.2
baz=60
GLA Glamis 60.49 293 ⇓P P 04 40 55.4 0.0
baz=60
GMRC Granite Mounta 60.62 295 ⇑P P 04 40 56.0 -0.4
baz=60
TUQ Turquoise Moun 60.63 296 ⇑P P 04 40 55.5 -1.0
baz=60
KLMR Klimovskoe 60.76 34 eP P 04 40 56.0 -0.7
KLMR pmax pmax
comp=Z,24nm,1.3s
BC3 Big Chuckawall 60.80 294 ⇓P P 04 40 56.1 -1.6
baz=61
GSC Goldstone 61.36 296 ⇓P P 04 41 00.8 -0.6
baz=61

NVAR Mina Array Bea 61.58 300 P P 04 41 02.5 -0.5
comp=Z,1.2nm,0.7s,baz=75,slow=6.6,SNR=8.8
PFO Pinyon Flat Ob 61.61 294 LR LR 05 06 12.8
comp=Z,751nm,18.7s,baz=64,slow=35
PFO Pinyon Flat Ob 61.61 294 ⇓P P 04 41 02.0 -1.2
baz=62
BRTR Keskin Array B 61.78 58 P P 04 41 04.7 +0.4
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 61.78 58 P P 04 41 04.7 +0.4
comp=Z,4.0nm,0.9s,baz=273,slow=4.8,SNR=18
MONP Monument Peak 61.81 294 ⇓P P 04 41 03.9 -0.8
baz=62
G05D Wamic, OR 61.89 308 ⇓P P 04 41 03.1 -1.6
baz=62
I05D Terrebonne, OR 62.14 307 ⇑P P 04 41 04.8 -1.7
baz=62
J05D Fort Rock, OR 62.35 306 ⇓P P 04 41 06.7 -1.3
baz=62
EDW2 Edwards Air Fo 62.41 296 ⇓P P 04 41 07.3 -1.1
baz=62
VSR Storozhevoye 62.52 45 eP P 04 41 07.7 -1.1
VSR pmax pmax
comp=Z,10.0nm,0.9s
ISA Isabella 62.54 297 ⇓P P 04 41 07.9 -1.5
baz=62
INK Inuvik 62.98 335 eP P 04 41 11.5 0.0
INK pmax pmax
comp=Z,19nm,1.0s
INK Inuvik 62.98 335 eP P 04 41 11.5 0.0
comp=Z,19nm,1.0s
CSS Prodhromos 62.99 63 eP P 04 41 11.4 -0.9
PRGR Permogore 63.49 32 P P 04 41 11.2 -3.9
LCO Las Campanas 64.29 207 eP P 04 41 20.8 -0.2
comp=Z,21nm,1.2s
BBB Bella Bella 64.38 317 LR LR 05 10 17.0
comp=Z,654nm,18.7s,baz=60,slow=37
KIV Kislovodsk 66.91 51 eP P 04 41 38.6 +0.9
KIV pmax pmax
comp=Z,18nm,1.4s
KIV Kislovodsk 66.91 51 eP P 04 41 37.9 +0.2
comp=Z,28nm,1.3s
KBZ Khabaz 67.13 52 P P 04 41 40.2 +1.3
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 67.13 52 P P 04 41 40.2 +1.3
comp=Z,5.3nm,1.0s,baz=1.5,slow=3.5,SNR=4.0
ILAR Eielson Array 69.18 334 P P 04 41 52.1 +0.6
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR Eielson Array 69.18 334 P P 04 41 52.1 +0.6
comp=Z,2.8nm,1.0s,baz=65,slow=4.1,SNR=22
COLA College 69.51 334 eP P 04 41 54.1 +0.6
COLA pmax pmax
comp=Z,21nm,1.0s
COLA College 69.51 334 eP P 04 41 53.9 +0.5
comp=Z,8.9nm,1.0s
GNI Garni 69.69 55d iP P 04 41 56.5 +1.1
GNI pmax pmax
comp=Z,17nm,1.3s
GNI Garni 69.69 55 P P 04 41 56.3 +1.0
comp=Z,8.4nm,0.9s,baz=252,slow=2.3,SNR=4.8
GNI Garni 69.69 55 eP P 04 41 56.4 +1.1
comp=Z,16nm,1.2s
MCK McKinley 70.45 333 eP P 04 41 59.6 +0.3
MCK pmax pmax
comp=Z,7.0nm,1.0s
MCK McKinley 70.45 333 eP P 04 41 59.6 +0.3
comp=Z,6.6nm,1.0s
ARU Arti 71.54 35d iP P 04 42 05.8 -0.3
ARU S S 04 51 26.3 +1.8
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU Arti 71.54 35 eP P 04 42 06.5 +0.4
comp=Z,2.2nm,0.4s
AKTO Aktyubinsk 73.95 41 P P 04 42 21.5 +1.0
AKTO pmax pmax
comp=Z,5.0nm,0.8s
AKTO Aktyubinsk 73.95 41 P P 04 42 21.4 +1.0
comp=Z,4.8nm,0.8s,baz=298,slow=6.6,SNR=13
PLCA Paso Flores 74.76 202 P P 04 42 26.3 +1.1
PLCA pmax pmax
comp=Z,4.0nm,0.9s
PLCA Paso Flores 74.76 202 P P 04 42 26.3 +1.1
comp=Z,3.7nm,0.8s,baz=256,slow=3.6,SNR=6.0
ABKAR Akbulak array 75.60 41 eP P 04 42 30.8 +0.7
TIXI Tiksi 78.67 3 ⇑iP P 04 42 48.0 +1.1
TIXI pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 79.10 34 eP P 04 42 49.7 +0.1
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 79.10 34 eP P 04 42 49.7 +0.1
comp=Z,13nm,1.2s
BVAR Borovoye Array 79.17 34 P P 04 42 51.0 +1.0
BVAR pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 79.17 34 P P 04 42 51.0 +1.0
comp=Z,3.8nm,0.8s,baz=336,slow=3.3,SNR=9.3
BILL Bilibino 80.10 349c iP P 04 42 54.7 0.0
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL Bilibino 80.10 349 eP P 04 42 54.6 -0.1
comp=Z,7.3nm,1.0s
KMBO Kilima Mbogo 81.85 96 eP P 04 43 04.2 -1.1
KMBO pmax pmax
comp=Z,5.0nm,1.4s
KMBO Kilima Mbogo 81.85 96 eP P 04 43 04.2 -1.1
comp=Z,5.4nm,1.4s
NVS Novosibirsk 83.80 28 eP P 04 43 14.2 -0.2
KURK Kurchatov 84.60 33 P P 04 43 19.0 +0.4
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 84.60 33 eP P 04 43 19.0 +0.4
comp=Z,6.6nm,1.1s
KURBB Kurchatov Arra 84.61 33 P P 04 43 19.0 +0.3
comp=Z,4.1nm,0.8s,baz=315,slow=5.5,SNR=9.0
ZALV Zalesovo Beam 85.09 28 P P 04 43 21.2 +0.2
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 85.09 28 P P 04 43 21.2 +0.2
comp=Z,2.7nm,0.7s,baz=284,slow=6.0,SNR=9.7
EKS2 Erkin-Say 87.27 41 eP P 04 43 31.7 -0.5
EKS2 pmax pmax
comp=Z,3.0nm,1.1s
EKS2 Erkin-Say 87.27 41 eP P 04 43 31.7 -0.5
comp=Z,3.5nm,1.1s
AAK Ala-Archa 87.69 41 eP P 04 43 34.0 -0.3
AAK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 87.69 41 eP P 04 43 34.0 -0.3
comp=Z,3.0nm,1.0s
TKM2 Tokmak 2 88.13 40 eP P 04 43 36.3 -0.2
TKM2 pmax pmax
comp=Z,4.0nm,1.1s
TKM2 Tokmak 2 88.13 40 eP P 04 43 36.2 -0.2
comp=Z,4.1nm,1.1s
MKAR Makanchi Array 89.05 34 P P 04 43 40.3 -0.2
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 89.05 34 P P 04 43 40.3 -0.2
comp=Z,2.1nm,0.9s,baz=308,slow=4.8,SNR=6.5
KSH Kashi 90.55 43 eP P 04 43 48.3 +0.6
KSH esP sP 04 43 55.0 +0.9
KSH ePP PP 04 47 24.8 +2.9
KSH SKS SKSac 04 54 14.0 -5.1
KSH S S 04 54 38.9 -4.1
KSH pmax pmax
comp=Z,130nm,5.2s
KSH LR LR
comp=Z,33nm,4.2s
KSH LR LR
comp=Z,130nm,8.0s
KSH LR LR
comp=Z,310nm,8.6s
WMQ Urumqi 93.83 34 P P 04 44 02.8 +0.1
WMQ pP pP 04 44 07.6 +0.2
WMQ sP sP 04 44 09.8 +0.7
WMQ pmax pmax
comp=Z,8.0nm,1.6s
WMQ pmax pmax
comp=Z,220nm,5.0s
WMQ LR LR
comp=Z,280nm,18.0s
WMQ LR LR
comp=Z,350nm,17.4s

WMQ LR LR
comp=Z,380nm,18.0s
SONM Songino Array 97.89 20 P Pdif 04 44 22.3 +1.1
comp=Z,0.4nm,0.9s,baz=316,slow=6.0,SNR=3.3
HHC Hu-ho-hao-te 105.78 20 Pdif Pdif 04 44 52.6 -3.9
HHC LR LR
comp=Z,480nm,17.3s
HHC LR LR
comp=Z,470nm,16.0s
HHC LR LR
comp=Z,940nm,16.0s
CD2 Chengdu 111.73 31 PKP PKiKP 04 49 19.4 -1.1
NJ2 Nanjing 116.06 17 ePKP PKPdf 04 49 28.1 -0.6
KMI Kunming 116.13 35 PKP PKPdf 04 49 27.8 -1.5
KMI PP PP 04 50 35.9 +2.8
KMI LR LR
comp=Z,370nm,17.9s
GYA Guiyang 116.84 31 ePdif Pdif 04 45 43.8 -2.2
GYA PKP PKPdf 04 49 28.9 -1.6
GYA PP PP 04 50 40.0 +2.1
GYA AMB AMB
comp=Z,110nm,7.6s
VNDA Vanda 130.88 187 PKIKP PKPdf 04 49 55.8 +0.2
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 130.88 187 PKP PKPdf 04 49 55.8 +0.2
comp=Z,2.3nm,0.8s,baz=118,slow=5.4,SNR=3.3
WRA Warramunga Arr 169.84 16 PKIKP PKPdf 04 50 53.5 -0.1
WRA 04 52 07.2
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 169.84 16 PKP PKPdf 04 50 53.5 -0.1
comp=Z,0.2nm,0.3s,baz=62,slow=2.0,SNR=7.2
WRA PKPab PKPab 04 52 07.2 -0.5
comp=Z,1.3nm,0.9s,baz=353,slow=4.9,SNR=6.8
ASAR Alice Springs 173.19 27 PKIKP PKPdf 04 50 54.4 -0.8
ASAR 04 52 23.0
ASAR pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 173.19 27 PKP PKPdf 04 50 54.4 -0.8
comp=Z,1.4nm,1.0s,baz=350,slow=0.5,SNR=10
ASAR PKPab PKPab 04 52 22.9 +0.3
comp=Z,0.4nm,0.7s,baz=349,slow=4.7,SNR=4.2

*IDC **13** 04:35:43.3±1.4, 40.°99N×72.°54E, h0km, mb3.5/6, mb1 3.6/11, mb1mx3.5/32, mbtmp3.5/11, ML3.4/5, Error ellipse: s-maj=26.3km s-min=12.3km az=150.0*
*KRNET **13** 04:35:44.3±0.1, 41.°10N×72.°62E, h3km, mb4.1*
*ISCJB **13** 04:35:46.2±0.6, 41.°02N±0.°03×72.°45E±0.°04, h18km±7km, mb3.4/6, Error ellipse: s-maj=6.1km s-min=4.6km az=143.1*
*NNC **13** 04:35:46.6±2.0, 41.°08N×72.°41E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=20.2km s-min=8.3km az=174.0*
ISC 13 04:35:47.1±1.2, 41.°05N±0.°03×72.°55E±0.°03, h23km±10km, n44, σ1♀95/55, mb3.3/6, 17C-9D, Kyrgyzstan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OHH Osh 0.56 162 ⇓iP Pb 04 35 56.2 -2.1
baz=168
OHH ⇓eS Sb 04 36 04.4 -1.5
baz=168
ARK Arkit 0.87 329 eP Pn 04 36 01.0 -3.1
baz=325
ARK eS Sn 04 36 12.8 -3.3
baz=325
TRKS Terek-Say 1.17 295 i P Pn 04 36 06.4 -1.8
baz=289
TRKS eS Sn 04 36 22.4 -1.1
baz=289
SFK Sufi-Kurgan 1.27 145 i P Pn 04 36 09.0 -0.6
baz=148
SFK eS Sb 04 36 26.4 0.0
baz=148
AML Almayashu 1.38 38 P Pn 04 36 10.5 -0.8
SNR=149
AML Almayashu 1.38 38 ⇑iP Pn 04 36 10.3 -1.0
baz=38
AML ⇑iS Sn 04 36 28.1 -0.9
baz=38
ARLS Aral 1.56 58 ⇓iP Pn 04 36 13.5 -0.1
baz=59
ARLS ⇓iS Sn 04 36 33.4 +0.3
baz=59
BTK Batken 1.66 234 eP Pn 04 36 18.0 +1.0
baz=233
BTK eS Sb 04 36 42.0 +4.6
baz=233
DRK Karamyk 1.68 200 eP Pb 04 36 18.2 +0.8
baz=201
DRK eS Sb 04 36 42.2 +4.0
baz=201
EKS2 Erkin-Say 1.85 29 P Pn 04 36 19.0 +1.4
SNR=72
EKS2 Erkin-Say 1.85 29 ⇑iP Pn 04 36 18.9 +1.4
baz=29
EKS2 ⇑iS Sb 04 36 43.0 0.0
baz=29
EKS Erkin-Say 1.86 29 i P Pb 04 36 19.4 -1.0
baz=29
EKS eS Sb 04 36 44.8 +1.5
baz=29
UCH Uchtor 1.88 51 P Pn 04 36 19.4 +1.2
SNR=426
UCH Uchtor 1.88 51 ⇑iP Pn 04 36 19.6 +1.3
baz=51
UCH ⇑iS Sb 04 36 45.9 +1.6
baz=51
AAK Ala-Archa 2.14 42 ⇑Pn Pb 04 36 24.2 -1.1
78nm,0.6s
AAK ⇑Sn Sb 04 36 53.1 +1.5
472nm,0.6s
AAK Ala-Archa 2.14 42 P Pb 04 36 24.2 -1.1
SNR=151
AAK Ala-Archa 2.14 42 Pn Pb 04 36 24.2 -1.1
45nm,0.3s,baz=176,slow=3.5,SNR=219
AAK Lg Lg 04 36 52.8
58nm,0.3s,baz=342,slow=20,SNR=36
KZA Kyzart 2.27 62 P Pb 04 36 26.2 -1.4
SNR=280
KBK Karagaybulak 2.40 47 P Pb 04 36 28.4 -1.4
SNR=68
CHMS Chumysh 2.54 39 P Pn 04 36 29.5 +2.5
SNR=54
KK31 Karatay Array 2.55 324 ⇑Pn Pn 04 36 29.2 +2.1
15nm,0.4s,baz=135,slow=11,SNR=360
KK31 ⇑Lg Lg 04 37 04.5
20nm,0.3s,baz=140,slow=29,SNR=9.4
USP Ospenovka 2.64 33 P Pn 04 36 30.8 +2.4
SNR=59
TKM2 Tokmak 2 2.94 50 ⇑Pn Pn 04 36 35.2 +2.6
41nm,0.5s
TKM2 ⇑Sn Sb 04 37 16.1 +1.7
175nm,0.7s
TKM2 Tokmak 2 2.94 50 P Pn 04 36 35.4 +2.8
SNR=94
ULHL Ulahol 3.01 65 P Pn 04 36 36.1 +2.5
SNR=13
KSH Kashi 3.03 119 Pn Pn 04 36 35.0 +1.2
KSH Sn Sn 04 37 05.3 -4.2
KSH smax smax
comp=N,85nm,0.3s
KSH smax smax
comp=E,68nm,0.4s
KNDC Almaty 3.93 55 ⇓Pg Pb 04 37 00.6 +4.9
KNDC Lg Lg 04 37 52.4
MK31 Makanchi Array 9.07 48 Pn Pn 04 37 57.7 +1.2
comp=E,0.8nm,0.5s,baz=228,slow=14,SNR=24
MKAR Makanchi Array 9.07 48 Pn Pn 04 37 57.5 +0.9
comp=E,0.5nm,0.3s,baz=229,slow=14,SNR=25
MKAR Lg Lg 04 40 32.3
comp=E,0.3nm,0.3s,baz=238,slow=27,SNR=3.8
KURBB Kurchatov Arra 10.43 21 ⇑Pn Pn 04 38 14.7 -0.6
comp=E,2.6nm,0.8s
KURBB ⇑Lg Lg 04 41 16.3
comp=E,18nm,0.7s
KURBB Kurchatov Arra 10.43 21 Pn Pn 04 38 13.8 -1.4
comp=E,0.3nm,0.3s,baz=214,slow=12,SNR=10
KURBB Sn Sn 04 40 15.6 +4.3
comp=E,0.1nm,0.3s,baz=219,slow=16,SNR=4.2
KURBB Lg Lg 04 41 15.3
comp=E,0.4nm,0.3s,baz=210,slow=29,SNR=8.8
KURK Kurchatov 10.54 22 ⇓Pn Pn 04 38 20.5 +3.8
comp=E,1.7nm,1.2s
KURK ⇓Lg Lg 04 41 21.6

comp=E,9.5nm,1.0s
VOSK Vostochnaya 11.72 355 ⇓Lg Lg 04 41 54.2
comp=E,27nm,1.4s
BVA0 Borovoye Array 12.07 354 ⇑Pn Pn 04 38 39.7 +2.2
comp=E,2.2nm,1.1s,baz=151,slow=13,SNR=4.0
BVA0 ⇑Lg Lg 04 42 08.0
comp=E,10nm,1.4s,baz=159,slow=29,SNR=3.9
BVAR Borovoye Array 12.07 354 Pn Pn 04 38 36.1 -1.4
comp=E,0.1nm,0.3s,baz=159,slow=13,SNR=3.2
BVAR Lg Lg 04 42 10.9
comp=E,0.3nm,0.3s,baz=160,slow=30,SNR=4.6
AB31 Akbulak array 12.09 317 ⇑Pn Pn 04 38 36.2 -1.7
comp=E,0.8nm,0.6s,baz=128,slow=12,SNR=7.7
BRVK Borovoye 12.11 353 ⇓Lg Lg 04 42 09.4
comp=E,25nm,1.3s
ZALV Zalesovo Beam 15.30 28 Pn Pn 04 39 22.8 +1.3
comp=E,0.3nm,0.3s,baz=220,slow=12,SNR=12
SONM Songino Array 24.95 63 P P 04 41 10.4 +1.6
comp=E,0.4nm,0.7s,baz=251,slow=9.0,SNR=4.4
FINES FINESS Array B 34.51 322 P P 04 42 33.4 +0.2
comp=E,1.5nm,0.8s,baz=101,slow=12,SNR=2.9
ARCES ARCESS Array B 37.47 335 P P 04 42 58.6 +0.1
comp=E,2.2nm,0.8s,baz=108,slow=8.6,SNR=3.0
GERES GERESS Array B 41.45 301 P P 04 43 32.6 +0.6
comp=E,0.2nm,0.4s,baz=59,slow=9.5,SNR=3.3
TORD Torodi Ar. Bea 67.08 268 P P 04 46 37.6 -1.3
comp=E,0.3nm,0.8s,baz=56,slow=5.1,SNR=4.1
YKA Yellowknife Ar 76.64 3 P P 04 47 34.9 -0.6
comp=E,0.1nm,0.5s,baz=350,slow=6.0,SNR=4.4

ISCJB 13 04:42:04.8±0.7, 18.34N±0.10×145.4E±0.1, h500km, mb3.6/17, Error ellipse: s-maj=16.5km s-min=12.7km az=5.7
IDC 13 04:42:05.7±1.8, 18.36N×145.41E, h494km±19km, mb3.2/17, mb1 3.4/20, mb1mx3.3/30, mbtmp4.1/20, Error ellipse: s-maj=16.1km s-min=11.6km az=112.0
ISC 13 04:42:06.0±0.8, 18.3N±0.1×145.4E±0.1, h500km, n22, σ0.82/24, mb3.6/17, Mariana Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JCJ Chichijima 9.21 342 P P 04 44 15.9 +1.1
13nm,0.3s,baz=87,slow=19,SNR=3.8
JOW Kunigami 17.92 301 P P 04 45 45.2 -0.4
baz=128,slow=11
MJAR Matsushiro Arr 19.21 342 P P 04 45 56.1 -1.2
0.6nm,0.3s,baz=170,slow=11,SNR=7.4
KSRS Korea Array 24.44 325 P P 04 46 44.2 -0.2
1.6nm,0.7s,baz=148,slow=9.2,SNR=5.5
USRK Ussuriysk Arra 28.14 339 P P 04 47 15.9 -1.0
1.0nm,0.5s,baz=148,slow=9.5,SNR=4.8
PETK Petropavlovsk- 36.00 13 P P 04 48 23.5 -0.4
1.7nm,0.7s,baz=193,slow=6.1,SNR=4.1
WRA Warramunga Arr 39.56 196 P P 04 48 53.1 -0.4
0.3nm,0.3s,baz=20,slow=8.4,SNR=5.4
WRA ScP ScP 04 53 49.8 +0.1
1.1nm,0.7s,baz=13,slow=4.5,SNR=10
ASAR Alice Springs 43.23 195 P P 04 49 22.2 -0.4
0.3nm,0.4s,baz=15,slow=6.7,SNR=10
ASAR ScP ScP 04 54 04.0 -0.3
0.4nm,0.7s,baz=18,slow=3.2,SNR=3.6
SONM Songino Array 43.25 322 P P 04 49 23.3 +0.7
0.3nm,0.5s,baz=137,slow=6.1,SNR=4.5
CMAR Chiang Mai Arr 43.99 278 P P 04 49 29.6 +1.0
7.1nm,0.7s,baz=74,slow=7.0,SNR=23
SEY Seymchan 44.81 5 P P 04 49 34.7 +0.4
2.0nm,0.8s,baz=166,slow=7.3,SNR=5.2
ZALV Zalesovo Beam 58.13 323 P P 04 51 10.5 -0.5
0.6nm,0.3s,baz=118,slow=6.7,SNR=4.2
MKAR Makanchi Array 58.51 314 P P 04 51 14.4 +0.6
0.3nm,0.3s,baz=89,slow=8.4,SNR=23
ILAR Eielson Array 64.09 26 P P 04 51 48.9 -1.2
1.9nm,0.6s,baz=247,slow=6.1,SNR=65
INK Inuvik 69.81 23 P P 04 52 25.2 -0.1
2.2nm,0.7s,baz=313,slow=4.1,SNR=8.4
DLBC Dease Lake 71.75 33 P P 04 52 38.4 +1.4
2.3nm,0.6s,baz=275,slow=4.7,SNR=9.9
YKA Yellowknife Ar 78.44 28 P P 04 53 14.2 -0.1
1.4nm,0.6s,baz=289,slow=5.2,SNR=19
ARCES ARCESS Array B 82.75 342 P P 04 53 36.1 -0.5
6.5nm,0.9s,baz=60,slow=7.2,SNR=10.0
NVAR Mina Array Bea 83.58 52 P P 04 53 42.5 +0.8
3.4nm,0.6s,baz=266,slow=6.0,SNR=32
FINES FINESS Array B 87.09 335 P P 04 53 56.4 -1.5
0.7nm,0.5s,baz=100,slow=4.5,SNR=5.4
TORD Torodi Ar. Bea 132.46 309 PKP PKPdf 05 00 23.6 -0.5
0.3nm,0.6s,baz=70,slow=0.6,SNR=10
LPAZ La Paz 147.95 92 PKPbc PKPbc 05 00 57.1 +0.9
2.2nm,0.5s,baz=297,slow=2.3,SNR=9.7

ISCJB 13 04:42:25.1±0.4, 3.73S±0.05×68.96E±0.07, h10km, mb4.2/27, MS4.5/1, Error ellipse: s-maj=12.0km s-min=3.8km az=147.4
IDC 13 04:42:25.6±0.9, 3.66S×68.86E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/29, mbtmp4.0/13, MS4.6/1, Ms1 4.6/1, ms1mx3.3/37, Error ellipse: s-maj=29.6km s-min=18.5km az=33.0
NEIC 13 04:42:27.2±0.3, 3.66S×68.92E, h10km, mb4.4/16, Error ellipse: s-maj=8.7km s-min=6.6km az=35.0
ISC 13 04:42:26.9±0.5, 3.72S±0.08×68.93E±0.09, h10km, n43, σ0.82/50, mb4.3/27, Chagos Archipelago region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H08N2 Diego Garcia H 3.31 142 Pn Pn 04 43 19.1 +0.6
H08N2 Sn Sn 04 43 56.6 -1.4
H08N2 T T 04 46 44.3
baz=322,slow=74,SNR=2218
H08N3 Diego Garcia H 3.32 142 Pn Pn 04 43 19.3 +0.6
H08N3 Sn Sn 04 43 57.4 -0.7
H08N3 T T 04 46 45.0
baz=322,slow=74,SNR=3021
H08N1 Diego Garcia H 3.33 142 Pn Pn 04 43 19.3 +0.5
H08N1 Sn Sn 04 43 56.5 -1.9
H08N1 T T 04 46 49.3
baz=322,slow=74,SNR=2342
DGAR Diego Garcia 5.08 136 ePn Pn 04 43 42.6 -0.5
H08S3 Diego Garcia H 5.25 138 Pn Pn 04 43 46.0 +0.6
H08S3 Sn Sn 04 44 44.6 -1.3
H08S3 T T 04 49 19.5
baz=308
H08S1 Diego Garcia H 5.26 138 Pn Pn 04 43 45.7 +0.3
H08S1 Sn Sn 04 44 44.7 -1.4
H08S1 T T 04 49 15.3
baz=308
H08S2 Diego Garcia H 5.27 138 Pn Pn 04 43 46.2 +0.6
H08S2 Sn Sn 04 44 45.5 -0.8
H08S2 T T 04 49 20.9
baz=308
PALK Pallekele 16.04 47 eP Pn 04 46 12.2 -0.6
16nm,0.8s
PSI Prapat 30.67 78 LR LR 04 59 54.7
comp=Z,982nm,18.3s,baz=275,slow=34
KULM Kulim 32.92 74 eP P 04 49 02.1 +0.2
15nm,1.1s
IPM Ipoh 33.08 76 eP P 04 49 02.3 -1.0
5.4nm,0.8s
CMAR Chiang Mai Arr 36.87 52 P P 04 49 37.3 +1.4
2.0nm,0.7s,baz=240,slow=11,SNR=9.8
CHTO Chiang Mai 37.07 52 eP P 04 49 38.1 +0.5
5.2nm,0.9s
EKS2 Erkin-Say 46.37 5 eP P 04 50 54.9 +1.3
5.2nm,1.2s
AAK Ala-Archa 46.41 6 P P 04 50 54.4 +0.5
0.6nm,0.4s,baz=207,slow=21,SNR=3.6
AAK Ala-Archa 46.41 6 eP P 04 50 54.3 +0.4
9.1nm,1.5s
TKM2 Tokmak 2 46.81 7 eP P 04 50 57.2 0.0
3.9nm,1.1s
CSS Prodhromos 50.97 322 eP P 04 51 28.5 -0.5
1.6nm,0.7s
ENH Enshi 51.42 46 eP P 04 51 32.3 -0.1
MKAR Makanchi Array 51.66 12 P P 04 51 33.1 -0.9
0.5nm,0.9s,baz=194,slow=8.8,SNR=5.0
MKAR PcP PcP 04 52 47.3 -0.2
0.6nm,0.8s,baz=213,slow=3.8,SNR=4.3
MBWA Marble Bar 52.28 114 eP P 04 51 40.4 +1.4
8.7nm,1.0s
TSUM Tsumeb 52.41 249 eP P 04 51 40.1 0.0
4.3nm,1.0s
KBZ Khabaz 52.72 336 P P 04 51 42.2 +0.3
5.9nm,1.0s,baz=150,slow=3.4,SNR=4.5
ABKAR Akbulak array 53.33 353 eP P 04 51 45.6 -0.7
2.2nm,0.8s
BRTR Keskin Array B 54.04 327 P P 04 51 51.0 -0.9
1.2nm,1.0s,baz=143,slow=12,SNR=6.8
KURK Kurchatov 54.85 8 eP P 04 51 56.5 -0.8
1.1nm,0.9s
ZALV Zalesovo Beam 58.98 11 P P 04 52 25.6 -1.0
2.5nm,0.8s,baz=208,slow=5.9,SNR=7.5
SONM Songino Array 60.91 28 P P 04 52 40.9 +0.7
3.4nm,0.8s,baz=212,slow=7.8,SNR=23
ULN Ulaanbaatar 61.25 28 eP P 04 52 42.3 -0.1
2.0nm,0.8s
FORT Forrest 61.74 123 eP P 04 52 47.2 +1.3
26nm,1.4s
ASAR Alice Springs 65.62 114 P P 04 53 12.5 +0.7
1.1nm,0.8s,baz=281,slow=6.2,SNR=10
WRA Warramunga Arr 65.64 110 P P 04 53 12.8 +0.9
2.1nm,0.7s,baz=284,slow=6.3,SNR=15
WRAB Tennant Creek 65.64 110 eP P 04 53 13.0 +1.0
3.5nm,0.7s
TORD Torodi Ar. Bea 68.80 286 P P 04 53 32.8 +0.7
0.7nm,1.1s,baz=101,slow=37,SNR=2.8
DAVOX Davos/Dischmat 72.19 322 P P 04 53 52.0 -0.4
2.1nm,0.7s,baz=122,slow=17
WLF Walferdange 75.66 323 eP P 04 54 11.6 -0.8
18nm,1.3s
HFS Hagfors 76.76 335 P P 04 54 17.9 -0.5
2.4nm,0.9s,baz=131,slow=15,SNR=3.0
ESDC Sonseca Array 79.31 311 P P 04 54 33.9 +0.8
0.3nm,0.5s,baz=96,slow=4.3,SNR=6.7
YKA Yellowknife Ar 121.30 2 PKP PKPdf 05 01 19.6 -0.4
0.5nm,0.9s,baz=343,slow=2.7,SNR=6.5
NVAR Mina Array Bea 144.82 10 PKP PKPdf 05 02 05.5 +0.5
0.8nm,0.8s,baz=338,slow=2.4,SNR=4.7
OTAV Otavalo 147.22 265 ePKPbc PKPab 05 02 13.7 -0.4
JTS JuntasAbangare 153.28 286 ePKPbc PKPbc 05 02 26.8 +0.3
TXAR Lajitas Array 153.57 345 PKPbc PKPbc 05 02 26.4 -0.4
0.6nm,0.9s,baz=45,slow=3.7,SNR=4.9
TXAR PKPab PKPab 05 02 38.3 -0.7
1.1nm,1.0s,baz=37,slow=3.1,SNR=6.5

IDC 13 05:00:51.8±1.5, 8.76S×110.15E, h0km, mb3.6/8, mb1 3.6/8, mb1mx3.5/42, mbtmp3.6/8, Error ellipse: s-maj=85.3km s-min=19.3km az=49.0
ISCJB 13 05:00:56.2±0.8, 9.11S±0.07×110.08E±0.06, h33km, mb3.5/8, Error ellipse: s-maj=10.6km s-min=8.1km az=15.0
DJA 13 05:00:57.2±0.5, 9.S±4.×11.0E±., h10km, M3.9/12, MLv3.9/12
ISC 13 05:00:57.2±1.0, 8.93S±0.10×110.11E±0.05, h35km, n19, σ1.68/19, mb3.7/8, Jawa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
UGM Wanagama 1.09 22 P Pn 05 01 17.2 +1.1
UGM S Sn 05 01 31.8 +1.8
WOJI Wonogiri, Jawa 1.35 36 P Pn 05 01 20.8 +1.2
SMRI Semarang 1.90 10 P Pn 05 01 30.8 +3.6
PWJI Pagerwojo 1.90 62 P Pn 05 01 28.8 +1.6
PWJI S Sn 05 01 47.2 -2.7
KPJI Karang Pucung 1.98 324 P Pn 05 01 30.9 +2.7
NGJI Ngawi 2.05 41 P Pn 05 01 34.0 +4.8
CISI Cisompet, Garu 2.65 301 P Pn 05 01 38.7 +1.1
LEM Lembang 3.24 310 P Pn 05 01 49.8 +4.1
GMJI Gumukmas 3.36 79 P Pn 05 01 49.6 +2.4
CNJI Cibinong 3.37 298 P Pn 05 01 48.9 +1.6
JAGI Jajag, Banyuwa 4.02 84 P Pn 05 01 58.8 +2.5
WRA Warramunga Arr 25.85 118 P P 05 06 25.7 0.0
0.3nm,0.3s,baz=292,slow=10,SNR=6.3
ASAR Alice Springs 27.06 126 P P 05 06 37.0 +0.3
0.1nm,0.5s,baz=303,slow=9.1,SNR=4.0
ASAR PcP PcP 05 09 57.7 +0.3
0.1nm,0.4s,baz=312,slow=1.7,SNR=4.2
SONM Songino Array 56.61 357 P P 05 10 35.6 -1.1
0.1nm,0.5s,baz=168,slow=7.4,SNR=2.4
MKAR Makanchi Array 60.77 338 P P 05 11 04.5 -1.1
0.3nm,0.5s,baz=146,slow=7.7,SNR=9.5
KURBB Kurchatov Arra 65.34 338 P P 05 11 34.9 -0.9
0.4nm,0.5s,baz=156,slow=5.7,SNR=5.3
ZALV Zalesovo Beam 66.20 344 P P 05 11 39.9 -1.3
0.4nm,0.3s,baz=133,slow=6.3,SNR=3.2
BVAR Borovoye Array 70.36 336 P P 05 12 06.4 -1.0
0.5nm,0.5s,baz=138,slow=7.2,SNR=4.2
BRTR Keskin Array B 85.41 311 P P 05 13 31.3 -0.2
0.5nm,0.7s,baz=94,slow=3.7,SNR=3.6

IDC 13 05:01:27.1±3.3, 19.32S×174.43W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/39, mbtmp4.2/5, ML5.1/1, Error ellipse: s-maj=162.2km s-min=38.7km az=2.0, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAR Rarotonga 13.88 100 Pn Pn 05 04 45.1 -0.1
9.1nm,0.3s,baz=270,slow=20,SNR=8.1
CTA Charters Tower 36.97 262 P P 05 08 38.7 +0.4
1.4nm,0.4s,baz=97,slow=8.1,SNR=3.0
STKA Stephens Creek 41.32 243 P P 05 09 15.2 +0.5
1.8nm,0.7s,baz=90,slow=11,SNR=4.0
ASAR Alice Springs 48.06 255 P P 05 10 08.2 -0.5
1.0nm,0.5s,baz=94,slow=7.6,SNR=23
WRA Warramunga Arr 48.10 260 P P 05 10 08.3 -0.7
0.5nm,0.5s,baz=97,slow=8.5,SNR=7.6

IDC 13 05:03:04.3±2.4, 34.84N×5.64W, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.5/57, mbtmp3.7/8, ML3.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/39, Error ellipse: s-maj=61.6km s-min=12.4km az=83.0
ISCJB 13 05:03:06.0±0.2, 34.90N±0.01×5.79W±0.02, h10km, mb3.8/5, MS3.5/1, Error ellipse: s-maj=2.6km s-min=1.9km az=164.5
SFS 13 05:03:06.0, 34.70N×5.80W, h0km, ML2.8
LDG 13 05:03:07.1±0.4, 34.86N×5.65W, h10km, Ml3.1/5, Error ellipse: s-maj=8.9km s-min=7.1km az=166.0
CSEM 13 05:03:07.7±0.1, 34.87N×5.78W, h10km, ML3.5/8, Error ellipse: s-maj=3.0km s-min=2.4km az=80.0
MDD 13 05:03:07.8±0.3, 34.85N×5.78W, h0km, mbLg2.8/42, Error ellipse: s-maj=4.4km s-min=3.1km az=81.0, PRXIMO
INMG 13 05:03:08.6±1.2, 34.92N×5.80W, h0km, ML3.0, Error ellipse: s-maj=2.7km s-min=1.9km az=111.0
CNRM 13 05:03:08.3, 34.87N×5.65W, h2km, MD3.7
IGIL 13 05:03:08.1, 34.77N×5.84W, h0km, ML3.2
ISC 13 05:03:06.7±0.6, 34.84N±0.02×5.75W±0.02, h10km, n191, σ1.59/341, mb4.0/5, 4C-1D, Morocco

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TGT Taghat 0.95 143 P Pg 05 03 26.0 +0.9
TGT S Sg 05 03 38.0 +0.5
TGT Taghat 0.95 143 i P Pg 05 03 26.0 +0.9
TGT S Sg 05 03 38.0 +0.5
ECEU Ceuta 1.10 16 P Pg 05 03 29.5 +1.6
35nm,0.5s,SNR=23
ECEU S Sn 05 03 45.8 +2.3
71nm,0.4s
ECEU Ceuta 1.10 16 P Pg 05 03 29.5 +1.6
35nm,0.5s,SNR=23
RTC Rabat Centre 1.25 228 P Pg 05 03 32.0 +1.4
RTC S Sn 05 03 50.0 +3.0
RTC Rabat Centre 1.25 228 i P Pg 05 03 32.0 +1.4
RTC i S Sn 05 03 50.0 +3.0
MIF Mishlifen 1.49 163 P Pn 05 03 34.5 +0.8
MIF S Sn 05 03 54.0 +0.7
MIF Mishlifen 1.49 163 i P Pn 05 03 34.5 +0.8
MIF i S Sn 05 03 54.0 +0.7
CNIL Conil 1.55 351 P Pb 05 03 37.0 +1.5
CNIL S Sg 05 04 09.0 +12
CNIL Conil 1.55 351 P Pb 05 03 37.0 +1.5
TOU Touzarine 1.65 85 P Pn 05 03 36.0 +0.2
TOU S Sn 05 03 55.0 -2.1
TOU Touzarine 1.65 85 i P Pn 05 03 36.0 +0.2
TOU i S Sn 05 03 55.0 -2.1
REAL Reales 1.70 15 P Pg 05 03 42.0 +2.6
REAL Reales 1.70 15 P Pg 05 03 42.0 +2.6
EMIJ Mijas 1.90 24 P Pn 05 03 39.7 +0.5
11nm,0.4s,SNR=9.5
EMIJ S Sn 05 04 03.7 +0.5
18nm,0.3s
EMIJ Mijas 1.90 24 P Pn 05 03 39.7 +0.5
11nm,0.4s,SNR=9.5
EMIJ S Sn 05 04 03.7 +0.5
18nm,0.3s
ESPR Espera 2.03 358 P Pn 05 03 42.0 +1.0
12nm,0.3s,SNR=28
ESPR S Sn 05 04 07.9 +1.5
48nm,0.4s
ESPR Espera 2.03 358 P Pn 05 03 42.0 +1.0
12nm,0.3s,SNR=28
ESPR S Sn 05 04 07.9 +1.5
48nm,0.4s
LIJA Lijar 2.09 8 P Pn 05 03 43.2 +1.4
LIJA S Sg 05 04 21.2 +7.5
LIJA Lijar 2.09 8 P Pn 05 03 43.2 +1.4
MDT Midelt 2.22 155 Pn Pn 05 03 43.3 -0.5
8.3nm,0.3s,baz=6.8,slow=13,SNR=192
MDT Sn Sn 05 04 09.4 -1.9
29nm,0.3s,baz=14,slow=12,SNR=10.0
MDT Lg Lg 05 04 14.0
64nm,0.3s,baz=284,slow=13,SNR=16
KIB El Ksiba 2.27 186 P Pn 05 03 45.0 +0.7
KIB S Sn 05 04 12.0 -0.3
KIB El Ksiba 2.27 186 i P Pn 05 03 45.0 +0.7
KIB i S Sn 05 04 12.0 -0.3
ZAI Zaio 2.47 86 P Pn 05 03 47.0 -0.1
ZAI S Sn 05 04 16.0 -1.4
ZAI Zaio 2.47 86 eP Pn 05 03 47.0 -0.1
ZAI eS Sn 05 04 16.0 -1.4
EGUA Guajares 2.67 41 P Pn 05 03 49.1 -0.7
5.2nm,0.4s,SNR=7.9
EGUA S Sn 05 04 17.7 -4.5
10nm,0.3s,SNR=7.9
EGUA Guajares 2.67 41 P Pn 05 03 49.1 -0.7
5.2nm,0.4s,SNR=7.9
EGUA S Sn 05 04 17.7 -4.5
10nm,0.3s,SNR=7.9
TZC Tazercounte 2.75 193 P Pn 05 03 54.0 +3.0
TZC S Sn 05 04 26.0 +1.6
TZC Tazercounte 2.75 193 eP Pn 05 03 54.0 +3.0
TZC i S Sn 05 04 26.0 +1.6
SELV Sierra Elvira 2.91 34 P Pn 05 03 54.5 +1.5
8.8nm,0.5s,SNR=7.9
SELV S Sn 05 04 30.5 +2.5
22nm,0.6s,SNR=7.9
SELV Sierra Elvira 2.91 34 P Pn 05 03 54.5 +1.5
8.8nm,0.5s,SNR=7.9
SELV S Sn 05 04 30.5 +2.5
22nm,0.6s,SNR=7.9
ELUQ Luque 2.97 23 P Pn 05 03 55.1 +1.1
0.8nm,0.2s,SNR=7.9
ELUQ S Sn 05 04 31.3 +1.6
3.1nm,0.2s,SNR=7.9
ELUQ Luque 2.97 23 P Pn 05 03 55.1 +1.1
0.8nm,0.2s,SNR=7.9
ELUQ S Sn 05 04 31.3 +1.6
3.1nm,0.2s,SNR=7.9
PBDV Barranco-do-Ve 2.98 324 ePn Pn 05 03 54.6 +0.5
PBDV eSn Sn 05 04 28.9 -1.1
PBDV A A 05 04 35.4
33nm,0.3s
PBDV Barranco-do-Ve 2.98 324 P Pn 05 03 54.6 +0.5
PBDV S Sn 05 04 28.9 -1.1
33nm,0.3s
PBDV Barranco-do-Ve 2.98 324 P Pn 05 03 54.6 +0.5
PBDV S Sn 05 04 28.9 -1.1
33nm,0.3s
ECOG Cogollos-Vega 3.01 35 P Pn 05 03 57.4 +2.8
2.7nm,0.2s,SNR=4.5
ECOG S Sn 05 04 32.7 +1.9
SNR=7.9
ECOG Cogollos-Vega 3.01 35 P Pn 05 03 57.4 +2.8
2.7nm,0.2s,SNR=4.5
ECOG S Sn 05 04 32.7 +1.9
SNR=7.9
EQUE Quentar 3.02 38 P Pn 05 03 56.8 +2.2
0.6nm,0.1s,SNR=5.2
EQUE S Sn 05 04 32.0 +1.1
1.1nm,0.1s
EQUE Quentar 3.02 38 P Pn 05 03 56.8 +2.2
0.6nm,0.1s,SNR=5.2
EQUE S Sn 05 04 32.0 +1.1
1.1nm,0.1s
PVAQ Vaqueiros 3.02 329 ePn Pn 05 03 55.1 +0.6
PVAQ eSn Sn 05 04 30.0 -0.8
PVAQ A A 05 04 31.6
78nm,0.5s
PVAQ Vaqueiros 3.02 329 ⇑P Pn 05 03 55.1 +0.6
PVAQ S Sn 05 04 30.0 -0.8
78nm,0.5s
PVAQ Vaqueiros 3.02 329 P Pn 05 03 55.1 +0.6
PVAQ S Sn 05 04 30.0 -0.8
78nm,0.5s
EMIN Mina Concepcio 3.02 346 ⇑P Pn 05 03 54.8 +0.2
4.8nm,0.2s,SNR=18
EMIN S Sn 05 04 29.1 -1.7
7.4nm,0.3s
EMIN Mina Concepcio 3.02 346 P Pn 05 03 54.8 +0.2
4.8nm,0.2s,SNR=18
EMIN S Sn 05 04 29.1 -1.7
7.4nm,0.3s
ZFT Errachidia 3.03 157 P Pn 05 03 56.0 +1.1
ZFT S Sn 05 04 32.0 +0.7
ZFT Errachidia 3.03 157 i P Pn 05 03 56.0 +1.1
ZFT i S Sn 05 04 32.0 +0.7
EGRO El Granado 3.04 333 ⇑P Pn 05 03 55.4 +0.6
31nm,0.3s,SNR=18
EGRO S Sn 05 04 30.1 -1.1
57nm,0.2s
EGRO El Granado 3.04 333 P Pn 05 03 55.4 +0.6
31nm,0.3s,SNR=18
EGRO S Sn 05 04 30.1 -1.1
57nm,0.2s
EBER Berja 3.10 48 P Pn 05 03 55.7 -0.2
20nm,0.6s,SNR=19
EBER S Sn 05 04 33.8 +0.7
28nm,0.5s
EBER Berja 3.10 48 P Pn 05 03 55.7 -0.2
20nm,0.6s,SNR=19
EBER S Sn 05 04 33.8 +0.7
28nm,0.5s
ECAB El Cabril 3.25 5 P Pn 05 03 57.7 0.0
0.7nm,0.2s,SNR=19
ECAB S Sn 05 04 35.2 -1.2
12nm,0.4s,SNR=7.5
ECAB El Cabril 3.25 5 P Pn 05 03 57.7 0.0
0.7nm,0.2s,SNR=19
ECAB S Sn 05 04 35.2 -1.2
12nm,0.4s,SNR=7.5
PCVE Castro Verde 3.35 327 ePn Pn 05 03 59.8 +0.7
PCVE eSn Sn 05 04 38.3 -0.6
PCVE A A 05 04 40.4
54nm,0.6s
PCVE Castro Verde 3.35 327 ⇓Pn Pn 05 03 59.8 +0.7
PCVE Sn Sn 05 04 38.3 -0.6
54nm,0.6s
PCVE Castro Verde 3.35 327 Pn Pn 05 03 59.8 +0.7
PCVE Sn Sn 05 04 38.3 -0.6
54nm,0.6s
PFVI Vila Bisbo 3.39 313 ePn Pn 05 04 00.6 +1.0
PFVI eSn Sn 05 04 39.2 -0.7
PFVI A A 05 04 44.9
19nm,0.6s
PFVI Vila Bisbo 3.39 313 P Pn 05 04 00.7 +1.0
6.2nm,0.2s,SNR=17
PFVI S Sn 05 04 37.7 -2.2
14nm,0.2s,SNR=7.9
PFVI Vila Bisbo 3.39 313 ePn Pn 05 04 00.6 +1.0
PFVI S Sn 05 04 37.7 -2.2
14nm,0.2s,SNR=7.9
PFVI eSn Sn 05 04 39.2 -0.7
19nm,0.6s
MORF Marmelete 3.41 317 eP Pn 05 04 00.2 +0.3
MORF eS Sn 05 04 39.5 -0.9
MORF AML AML 05 04 41.3
comp=N,40nm,0.5s
MORF Marmelete 3.41 317 ePn Pn 05 04 00.4 +0.5
MORF eSn Sn 05 04 39.9 -0.5
MORF A A 05 04 45.2
comp=N,12nm,0.8s
MORF Marmelete 3.41 317 P Pn 05 04 00.2 +0.3
MORF S Sn 05 04 39.5 -0.9
comp=N,40nm,0.5s
MORF Marmelete 3.41 317 ePn Pn 05 04 00.4 +0.5
MORF S Sn 05 04 39.5 -0.9
comp=N,40nm,0.5s
MORF eSn Sn 05 04 39.9 -0.5
comp=N,12nm,0.8s

GORA Gorafe 3.43 39 P Pn 05 04 02.1 +1.8
comp=N,0.1nm,0.1s,SNR=7.9
GORA S Sn 05 04 42.2 +1.1
comp=N,6.9nm,0.4s,SNR=7.9
GORA Gorafe 3.43 39 P Pn 05 04 02.1 +1.8
comp=N,0.1nm,0.1s,SNR=7.9
GORA S Sn 05 04 42.2 +1.1
comp=N,6.9nm,0.4s,SNR=7.9
PBAR Barrancos 3.49 343 ePn Pn 05 04 01.4 +0.3
PBAR eSn Sn 05 04 41.5 -0.9
PBAR A A 05 04 42.4
comp=N,43nm,0.5s
PBAR Barrancos 3.49 343 P Pn 05 04 01.4 +0.3
PBAR S Sn 05 04 41.5 -0.9
comp=N,43nm,0.5s
PBAR Barrancos 3.49 343 P Pn 05 04 01.4 +0.3
PBAR S Sn 05 04 41.5 -0.9
comp=N,43nm,0.5s
ENIJ Nijar 3.58 52 P Pn 05 04 03.4 +1.1
comp=N,2.0nm,0.2s,SNR=7.9
ENIJ S Sn 05 04 44.2 -0.5
comp=N,5.2nm,0.4s,SNR=7.9
ENIJ Nijar 3.58 52 P Pn 05 04 03.4 +1.1
comp=N,2.0nm,0.2s,SNR=7.9
ENIJ S Sn 05 04 44.2 -0.5
comp=N,5.2nm,0.4s,SNR=7.9
MESJ Messejana 3.60 327 eP Pn 05 04 03.2 +0.6
MESJ eS Sn 05 04 44.2 -0.9
MESJ AML AML 05 04 46.0
comp=N,98nm,0.4s
MESJ Messejana 3.60 327 ePn Pn 05 04 03.2 +0.6
MESJ eSn Sn 05 04 44.8 -0.3
MESJ Messejana 3.60 327 P Pn 05 04 03.2 +0.6
MESJ S Sn 05 04 44.2 -0.9
comp=N,98nm,0.4s
MESJ Messejana 3.60 327 P Pn 05 04 03.2 +0.6
MESJ S Sn 05 04 44.2 -0.9
comp=N,98nm,0.4s
MESJ eSn Sn 05 04 44.8 -0.3
PBEJ Beja 3.61 332 ePn Pn 05 04 03.1 +0.4
PBEJ eSn Sn 05 04 44.2 -1.3
PBEJ A A 05 04 48.2
comp=N,17nm,0.4s
PBEJ Beja 3.61 332 P Pn 05 04 03.1 +0.4
PBEJ S Sn 05 04 44.2 -1.3
comp=N,8.6nm,0.4s
PBEJ Beja 3.61 332 P Pn 05 04 03.1 +0.4
PBEJ S Sn 05 04 44.2 -1.3
comp=N,8.6nm,0.4s
PTEO Sao Teotonio 3.62 319 ePn Pn 05 04 03.3 +0.5
PTEO eSn Sn 05 04 45.1 -0.5
PTEO A A 05 04 48.1
comp=N,27nm,0.3s
PTEO Sao Teotonio 3.62 319 P Pn 05 04 03.3 +0.5
PTEO S Sn 05 04 45.1 -0.5
comp=N,13nm,0.3s
PTEO Sao Teotonio 3.62 319 P Pn 05 04 03.3 +0.5
PTEO S Sn 05 04 45.1 -0.5
comp=N,13nm,0.3s
EQES Quesada 3.67 35 P Pn 05 04 05.0 +1.4
comp=N,0.8nm,0.1s,SNR=22
EQES S Sn 05 04 49.0 +2.0
comp=N,6.3nm,0.3s
EQES Quesada 3.67 35 P Pn 05 04 05.0 +1.4
comp=N,0.8nm,0.1s,SNR=22
EQES S Sn 05 04 49.0 +2.0
comp=N,6.3nm,0.3s
EBAN Banos Encina 3.68 25 P Pn 05 04 04.9 +1.2
comp=N,7.1nm,0.2s,SNR=6.0
EBAN S Sn 05 04 48.0 +0.8
comp=N,6.0nm,0.2s
EBAN Banos Encina 3.68 25 P Pn 05 04 04.9 +1.2
comp=N,7.1nm,0.2s,SNR=6.0
EBAN S Sn 05 04 48.0 +0.8
comp=N,6.0nm,0.2s
EHUE Huescar 3.92 40 P Pn 05 04 09.2 +2.2
comp=N,0.3nm,0.2s,SNR=7.9
EHUE S Sn 05 04 55.0 +1.9
comp=N,1.6nm,0.2s,SNR=7.9
EHUE Huescar 3.92 40 P Pn 05 04 09.2 +2.2
comp=N,0.3nm,0.2s,SNR=7.9
EHUE S Sn 05 04 55.0 +1.9
comp=N,1.6nm,0.2s,SNR=7.9
PNCL Nicolau / Gran 3.96 326 ePn Pn 05 04 08.3 +0.8
PNCL eSn Sn 05 04 53.3 -0.8
PNCL A A 05 04 54.7
comp=N,19nm,0.5s
PNCL Nicolau / Gran 3.96 326 ePn Pn 05 04 08.3 +0.8
PNCL eSn Sn 05 04 53.3 -0.8
comp=N,19nm,0.5s
OUK Oukaimeden 4.03 207 P Pn 05 04 10.0 +1.2
OUK S Sn 05 04 58.0 +1.8
OUK Oukaimeden 4.03 207 iP Pn 05 04 10.0 +1.2
OUK iS Sn 05 04 58.0 +1.8
EBAD Badajoz 4.04 346 P Pn 05 04 09.0 +0.4
comp=N,0.7nm,0.3s,SNR=53
EBAD S Sn 05 04 54.8 -1.2
comp=N,16nm,0.2s,SNR=9.7
EBAD Badajoz 4.04 346 P Pn 05 04 09.0 +0.4
comp=N,0.7nm,0.3s,SNR=53
EBAD S Sn 05 04 54.8 -1.2
comp=N,16nm,0.2s,SNR=9.7
EVO Evora 4.11 334 ePn Pn 05 04 10.4 +0.8
EVO eSn Sn 05 04 54.6 -3.2
comp=N,58nm,0.3s
EVO Evora 4.11 334 ePn Pn 05 04 10.2 +0.6
EVO eSn Sn 05 04 56.0 -1.8
EVO A A 05 04 58.4
comp=N,26nm,0.5s
EVO Evora 4.11 334 ⇑P Pn 05 04 10.2 +0.6
EVO S Sn 05 04 56.0 -1.8
comp=N,26nm,0.5s
EVO Evora 4.11 334 P Pn 05 04 10.2 +0.6
EVO S Sn 05 04 56.0 -1.8
comp=N,26nm,0.5s
CIA Chichaoua 4.12 219 P Pn 05 04 12.0 +2.2
CIA S Sn 05 04 59.0 +0.9
CIA Chichaoua 4.12 219 iP Pn 05 04 12.0 +2.2
CIA iS Sn 05 04 59.0 +0.9
EVOP Sao Brissos 4.15 333 ePn Pn 05 04 10.4 +0.3
EVOP eSn Sn 05 04 54.6 -4.1
comp=N,29nm,0.3s
MOE Montemor 4.23 331 ePn Pn 05 04 12.1 +0.9
MOE eSn Sn 05 05 00.1 -0.6
MOE Montemor 4.23 331 P Pn 05 04 12.1 +0.9
MOE S Sn 05 05 00.1 -0.6
MOE Montemor 4.23 331 P Pn 05 04 12.1 +0.9
MOE S Sn 05 05 00.1 -0.6
PESTR Estremoz 4.29 340 ePn Pn 05 04 12.5 +0.5
PESTR eSn Sn 05 05 00.5 -1.6
PESTR Estremoz 4.29 340 ePn Pn 05 04 12.5 +0.5
PESTR eSn Sn 05 05 00.5 -1.6
EVIA Vianos 4.61 34 P Pn 05 04 17.2 +0.7
comp=N,1.8nm,0.2s,SNR=7.4
EVIA S Sn 05 05 08.9 -1.2
comp=N,18nm,0.3s
EVIA Vianos 4.61 34 P Pn 05 04 17.2 +0.7
comp=N,1.8nm,0.2s,SNR=7.4
EVIA S Sn 05 05 08.9 -1.2
comp=N,18nm,0.3s
PMTG Montargil 4.67 336 ePn Pn 05 04 17.6 +0.4
PMTG eSn Sn 05 05 10.5 -0.9
PMTG A A 05 05 12.1
comp=N,18nm,0.5s
PMTG Montargil 4.67 336 ePn Pn 05 04 17.6 +0.4
PMTG eSn Sn 05 05 10.5 -0.9
comp=N,18nm,0.5s
EMUR La Murta 4.72 49 P Pn 05 04 19.4 +1.4
comp=N,0.4nm,0.2s,SNR=6.5
EMUR La Murta 4.72 49 P Pn 05 04 19.4 +1.4
comp=N,0.4nm,0.2s,SNR=6.5
PMRV Marv??o 4.77 345 ePn Pn 05 04 19.2 +0.6
PMRV eSn Sn 05 05 12.2 -1.8
PMRV A A 05 05 13.7
comp=N,18nm,0.8s
PMRV Marv??o 4.77 345 P Pn 05 04 19.2 +0.6
PMRV S Sn 05 05 12.2 -1.8
comp=N,18nm,0.8s
PMRV Marv??o 4.77 345 P Pn 05 04 19.2 +0.6
PMRV S Sn 05 05 12.2 -1.8
comp=N,18nm,0.8s
PMAFR Mafra 4.99 326 ePn Pn 05 04 22.7 +1.0
PMAFR eSn Sn 05 05 18.4 -1.1
PMAFR A A 05 05 26.5
comp=N,20nm,0.5s
PMAFR Mafra 4.99 326 P Pn 05 04 22.8 +1.1
comp=N,2.4nm,0.1s,SNR=7.9
PMAFR S Sn 05 05 17.2 -2.3
comp=N,6.5nm,0.2s,SNR=7.9
PMAFR Mafra 4.99 326 eP Pn 05 04 22.7 +1.0
PMAFR S Sn 05 05 17.2 -2.3
comp=N,6.5nm,0.2s,SNR=7.9
PMAFR eSn Sn 05 05 18.4 -1.1
comp=N,20nm,0.5s
ESDC Sonseca Array 5.04 16 P Pn 05 04 22.4 +0.1
comp=N,0.8nm,0.3s,baz=198,slow=13,SNR=19
ESDC S Sn 05 05 17.4 -3.2
comp=N,1.0nm,0.3s,baz=200,slow=23,SNR=5.5
ESDC Sonseca Array 5.04 16 Pn Pn 05 04 22.2 -0.2
comp=N,1.4nm,0.3s,baz=196,slow=12,SNR=26
ESDC Sn Sn 05 05 18.9 -1.8
comp=N,1.9nm,0.3s,baz=199,slow=23,SNR=8.1
ESDC Sonseca Array 5.04 16 P Pn 05 04 22.4 +0.1
comp=N,0.8nm,0.3s,SNR=19
ESDC S Sn 05 05 17.4 -3.2
comp=N,1.0nm,0.3s,SNR=5.5
ETOB Tobarra 5.08 40 P Pn 05 04 23.9 +0.9
comp=N,1.8nm,0.4s,SNR=9.8
ETOB S Sn 05 05 21.7 -0.1
comp=N,2.5nm,0.3s,SNR=7.9
ETOB Tobarra 5.08 40 P Pn 05 04 23.9 +0.9
comp=N,1.8nm,0.4s,SNR=9.8
ETOB S Sn 05 05 21.7 -0.1
comp=N,2.5nm,0.3s,SNR=7.9
PCBR Castelo Branco 5.18 345 ePn Pn 05 04 24.9 +0.6
PCBR eSn Sn 05 05 20.9 -3.2
PCBR A A 05 05 23.1
comp=N,12nm,0.3s
PCBR Castelo Branco 5.18 345 P Pn 05 04 24.9 +0.6
PCBR S Sn 05 05 20.9 -3.2
comp=N,6.2nm,0.3s
PCBR Castelo Branco 5.18 345 P Pn 05 04 24.9 +0.6
PCBR S Sn 05 05 20.9 -3.2
comp=N,6.2nm,0.3s
PTOM Tomar 5.22 337 ePn Pn 05 04 25.4 +0.5
PTOM eSn Sn 05 05 23.4 -1.8
PTOM A A 05 05 24.6
comp=N,17nm,0.4s
PTOM Tomar 5.22 337 P Pn 05 04 25.4 +0.5
PTOM S Sn 05 05 23.4 -1.8
comp=N,8.7nm,0.4s
PTOM Tomar 5.22 337 P Pn 05 04 25.4 +0.5
PTOM S Sn 05 05 23.4 -1.8
comp=N,8.7nm,0.4s
EPLA Plasencia 5.23 357 P Pn 05 04 25.8 +0.9
comp=N,1.7nm,0.1s,SNR=7.9
EPLA S Sn 05 05 22.8 -2.5
comp=N,4.3nm,0.2s,SNR=8.0
EPLA Plasencia 5.23 357 P Pn 05 04 25.8 +0.9
comp=N,1.7nm,0.1s,SNR=7.9
EPLA S Sn 05 05 22.8 -2.5
comp=N,4.3nm,0.2s,SNR=8.0
PCAS Casmilo, Conde 5.65 338 ePn Pn 05 04 31.3 +0.6
PCAS eSn Sn 05 05 33.5 -2.1
PCAS Casmilo, Conde 5.65 338 ePn Pn 05 04 31.3 +0.6
PCAS eSn Sn 05 05 33.5 -2.1
MTE Manteigas 5.74 346 ePn Pn 05 04 32.5 +0.6
MTE eSn Sn 05 05 34.7 -3.1
MTE A A 05 05 36.7
comp=N,16nm,0.5s
MTE Manteigas 5.74 346 P Pn 05 04 32.5 +0.6
MTE S Sn 05 05 34.7 -3.1
comp=N,7.8nm,0.5s
MTE Manteigas 5.74 346 P Pn 05 04 32.5 +0.6
MTE S Sn 05 05 34.7 -3.1
comp=N,7.8nm,0.5s
GUD Guadarrama 5.94 12 P Pn 05 04 35.2 +0.5
comp=N,1.0nm,0.3s,SNR=11
GUD S Sn 05 05 37.2 -5.7
comp=N,0.4nm,0.3s,SNR=7.9
GUD Guadarrama 5.94 12 P Pn 05 04 35.2 +0.5
comp=N,1.0nm,0.3s,SNR=11
PVIS Viseu 6.11 345 ePn Pn 05 04 37.7 +0.6
PVIS eSn Sn 05 05 44.4 -2.7
PVIS A A 05 06 01.8
comp=N,8.3nm,0.6s
PVIS Viseu 6.11 345 P Pn 05 04 37.7 +0.6
PVIS S Sn 05 05 44.4 -2.7
comp=N,4.2nm,0.6s
PVIS Viseu 6.11 345 P Pn 05 04 37.7 +0.6
PVIS S Sn 05 05 44.4 -2.7
comp=N,4.2nm,0.6s
MVO Moncorvo 6.40 351 ePn Pn 05 04 41.9 +0.8
MVO eSn Sn 05 05 52.0 -2.2
MVO A A 05 06 02.9
comp=N,9.1nm,0.6s
MVO Moncorvo 6.40 351 P Pn 05 04 41.7 +0.6
comp=N,4.9nm,0.2s,SNR=12
MVO S Sn 05 05 51.7 -2.5
comp=N,8.9nm,0.3s,SNR=7.9
MVO Moncorvo 6.40 351 P Pn 05 04 41.7 +0.6
comp=N,4.9nm,0.2s,SNR=12
MVO S Sn 05 05 51.7 -2.5
comp=N,8.9nm,0.3s,SNR=7.9
MVO eSn Sn 05 05 52.0 -2.2
comp=N,9.1nm,0.6s
PVRL Vila Real 6.62 347 ePn Pn 05 04 44.5 +0.5
PVRL eSn Sn 05 05 57.0 -2.5
PVRL A A 05 05 58.8
comp=N,9.8nm,0.3s
PVRL Vila Real 6.62 347 P Pn 05 04 44.5 +0.5
PVRL S Sn 05 05 57.0 -2.5
comp=N,4.9nm,0.3s
PVRL Vila Real 6.62 347 P Pn 05 04 44.5 +0.5
PVRL S Sn 05 05 57.0 -2.5
comp=N,4.9nm,0.3s
ETOR Torete 6.65 25 P Pn 05 04 44.3 -0.3
comp=N,6.2nm,0.3s,SNR=11
ETOR S Sn 05 05 56.8 -3.6
comp=N,4.8nm,0.2s,SNR=7.9
ETOR Torete 6.65 25 P Pn 05 04 44.3 -0.3
comp=N,6.2nm,0.3s,SNR=11
ETOR S Sn 05 05 56.8 -3.6
comp=N,4.8nm,0.2s,SNR=7.9
POLO Lamas de Olo 6.72 347 ePn Pn 05 04 46.4 +0.8
POLO eSn Sn 05 05 59.6 -2.7
POLO A A 05 06 01.6
comp=N,3.9nm,0.5s
POLO Lamas de Olo 6.72 347 ePn Pn 05 04 46.4 +0.8
POLO eSn Sn 05 05 59.6 -2.7
comp=N,3.9nm,0.5s
EMOS Mosqueruela 6.93 36 P Pn 05 04 48.7 +0.3
comp=N,6.1nm,0.8s,SNR=7.9
EMOS S Sn 05 06 03.7 -3.7
comp=N,2.1nm,0.6s,SNR=7.9
EMOS Mosqueruela 6.93 36 P Pn 05 04 48.7 +0.3
comp=N,6.1nm,0.8s,SNR=7.9
EMOS S Sn 05 06 03.7 -3.7
comp=N,2.1nm,0.6s,SNR=7.9
PBRG Braganca 7.00 354 ePn Pn 05 04 49.9 +0.6
PBRG eSn Sn 05 06 04.5 -4.5
PBRG A A 05 06 10.2
comp=N,4.0nm,0.9s
PBRG Braganca 7.00 354 P Pn 05 04 49.9 +0.6
PBRG S Sn 05 06 04.5 -4.5
comp=N,2.0nm,0.9s
PBRG Braganca 7.00 354 P Pn 05 04 49.9 +0.6
ECAL Calabor 7.14 354 P Pn 05 04 51.8 +0.6
comp=N,6.2nm,0.3s,SNR=7.9
ECAL S Sn 05 06 08.9 -3.5
comp=N,4.0nm,0.5s,SNR=5.7
ECAL Calabor 7.14 354 P Pn 05 04 51.8 +0.6
comp=N,6.2nm,0.3s,SNR=7.9
ECAL S Sn 05 06 08.9 -3.5
comp=N,4.0nm,0.5s,SNR=5.7
ELOB Lobios 7.25 346 P Pn 05 04 52.7 -0.1
comp=N,4.3nm,0.3s,SNR=7.9
ELOB S Sn 05 06 11.6 -3.6
comp=N,13nm,0.5s,SNR=5.0
ELOB Lobios 7.25 346 P Pn 05 04 52.7 -0.1
comp=N,4.3nm,0.3s,SNR=7.9
ELOB S Sn 05 06 11.6 -3.6
comp=N,13nm,0.5s,SNR=5.0
EARI Arriondas 8.46 3 P Pn 05 05 10.7 +1.3
comp=N,0.1nm,0.3s,SNR=7.9
EARI S Sn 05 06 40.5 -4.4
comp=N,38nm,1.0s,SNR=7.9
EARI Arriondas 8.46 3 P Pn 05 05 10.7 +1.3
comp=N,0.1nm,0.3s,SNR=7.9
ELAN Lanestosa 8.58 11 P Pn 05 05 11.8 +1.0
comp=N,0.2nm,0.3s,SNR=7.9
ELAN S Sn 05 06 44.3 -3.3
comp=N,0.8nm,0.2s,SNR=7.9
ELAN Lanestosa 8.58 11 P Pn 05 05 11.8 +1.0
comp=N,0.2nm,0.3s,SNR=7.9
ELAN S Sn 05 06 44.3 -3.3
comp=N,0.8nm,0.2s,SNR=7.9
IEPA Eparoz 8.67 22 P Pn 05 05 13.5 +1.3
comp=N,3.8nm,0.4s,SNR=7.9
IEPA Eparoz 8.67 22 P Pn 05 05 13.5 +1.3
comp=N,3.8nm,0.4s,SNR=7.9
IELO Elcoad 8.74 22 P Pn 05 05 14.6 +1.5
comp=N,0.8nm,0.3s,SNR=7.9
IELO Elcoad 8.74 22 P Pn 05 05 14.6 +1.5
comp=N,0.8nm,0.3s,SNR=7.9
ELIZ Elizondo 8.94 20 P Pn 05 05 16.7 +0.8
comp=N,0.6nm,0.4s,SNR=7.9
ELIZ Elizondo 8.94 20 P Pn 05 05 16.7 +0.8
comp=N,0.6nm,0.4s,SNR=7.9
SJPF Ste Jean 8.98 22 ePn Pn 05 05 16.7 +0.2
SJPF eSn Sn 05 06 48.4 -9.4
comp=N,1.0nm,0.4s
SJPF Ste Jean 8.98 22 P Pn 05 05 16.7 +0.2
SJPF S Sn 05 06 48.4 -9.4
comp=N,0.5nm,0.4s
SJPF Ste Jean 8.98 22 P Pn 05 05 16.7 +0.2
EALK Alkurruntz 9.00 20 P Pn 05 05 18.4 +1.8
comp=N,2.3nm,0.4s,SNR=7.9
EALK S Sn 05 06 54.8 -3.2
comp=N,1.4nm,0.4s,SNR=7.9
EALK Alkurruntz 9.00 20 P Pn 05 05 18.4 +1.8
comp=N,2.3nm,0.4s,SNR=7.9
EALK S Sn 05 06 54.8 -3.2
comp=N,1.4nm,0.4s,SNR=7.9
ETSF Etsaut 9.01 25 ePn Pn 05 05 16.7 -0.2
ETSF eSn Sn 05 06 49.2 -9.3
comp=N,0.4nm,0.2s
ETSF Etsaut 9.01 25 P Pn 05 05 16.7 -0.2
ETSF S Sn 05 06 49.2 -9.3
comp=N,0.2nm,0.2s
ETSF Etsaut 9.01 25 P Pn 05 05 16.7 -0.2
ATE Arette 9.13 24 P Pn 05 05 19.9 +1.4
comp=N,11nm,1.0s,SNR=7.9
ATE S Sn 05 06 57.1 -4.1
comp=N,0.3nm,0.3s,SNR=7.9
ATE Arette 9.13 24 P Pn 05 05 19.9 +1.4
comp=N,11nm,1.0s,SNR=7.9
ATE S Sn 05 06 57.1 -4.1
comp=N,0.3nm,0.3s,SNR=7.9
CFUE Fuerteventura 9.30 231 S Sn 05 06 58.1 -7.6
comp=N,0.8nm,0.2s,SNR=7.9
EPF Esparros 9.46 28 ePn Pn 05 05 21.4 -1.6
EPF eSn Sn 05 06 59.7 -10
comp=N,0.5nm,0.3s
EPF Esparros 9.46 28 P Pn 05 05 21.4 -1.6
EPF S Sn 05 06 59.7 -10
comp=N,0.2nm,0.3s
EPF Esparros 9.46 28 ePn Pn 05 05 21.4 -1.6
MTLF Montolieu 10.51 34 ePn Pn 05 05 34.4 -2.9
MTLF eSn Sn 05 07 24.6 -10
comp=N,0.4nm,0.3s
MTLF Montolieu 10.51 34 P Pn 05 05 34.4 -2.9
MTLF S Sn 05 07 24.6 -10
comp=N,0.2nm,0.3s
GERES GERESS Array B 20.07 40 P P 05 07 38.3 -1.9
comp=N,0.5nm,0.3s,baz=224,slow=11,SNR=8.4
TORD Torodi Ar. Bea 22.62 161 P P 05 08 06.5 -1.2
comp=N,0.8nm,0.9s,baz=339,slow=12,SNR=13
HFS Hagfors 28.30 21 P P 05 08 58.9 -1.2
comp=N,1.8nm,0.7s,baz=177,slow=10,SNR=5.1
FINES FINESS Array B 33.44 27 P P 05 09 43.8 -1.6
comp=N,1.7nm,0.8s,baz=217,slow=6.0,SNR=4.5
OBN Obninsk 35.43 42 LR LR 05 23 56.2
comp=N,84nm,20.0s,baz=98,slow=35
KURBB Kurchatov Arra 60.62 47 P P 05 13 16.4 -1.1
comp=N,0.7nm,0.5s,baz=292,slow=7.1,SNR=9.1
MKAR Makanchi Array 64.38 50 P P 05 13 41.1 -1.6
comp=N,1.0nm,0.8s,baz=283,slow=5.7,SNR=10

IDC 13 05:05:14.9±2.6, 54°.06N×86°.54E, h0km, mb1 2.8/2, mb1mx2.7/2, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=22.3km s-min=13.0km az=61.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.02 264 i 05 11 17.0
baz=83,slow=356,SNR=2.7
ZALV Zalesovo Beam 1.02 264 Pg Pg 05 05 33.0 -1.6
0.7nm,0.3s,baz=84,slow=16,SNR=10
ZALV Lg Lg 05 05 49.6
1.3nm,0.3s,baz=84,slow=30,SNR=8.8
KURBB Kurchatov Arra 6.00 238 Pn Pn 05 06 45.4 +0.6
0.2nm,0.3s,baz=54,slow=13,SNR=16
MKAR Makanchi Array 7.76 202 Pn Pn 05 07 10.4 +1.3
0.1nm,0.3s,baz=25,slow=14,SNR=7.3

MAN 13 05:07:46, 8°.39N×124°.96E, h29km, mb4.3, ML3.1, MS2.9, Mindanao

ISCJB 13 05:12:19.7±0.5, 33°.87N±0°.07×137°.22E±0°.07, h349km±3km, mb3.2/13, Error ellipse: s-maj=11.8km s-min=8.1km az=157.2
JMA 13 05:12:19.7±0.3, 33°.90N×137°.23E, h352km±3km, M3.4
IDC 13 05:12:20.1±1.0, 33°.85N×137°.20E, h338km±9km, mb3.0/13, mb1 3.2/16, mb1mx3.1/32, mbtmp3.7/16, Error ellipse: s-maj=14.2km s-min=13.1km az=99.0
ISC 13 05:12:20.7±0.8, 33°.89N±0°.08×137°.19E±0°.06, h342km±6km, n34, σ0°.85/41, mb3.3/13, Near south coast of eastern Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TTO2 TONANKAI O.B.S 0.20 222 P Pn 05 13 04.4 +1.1
TTO1 TONANKAI O.B.S 0.43 232 P Pn 05 13 04.4 +0.8
JIE Ise 0.64 322 P Pn 05 13 04.9 +0.6
JIE S S 05 13 39.3 0.0
JWZ Kozaga 1.28 254 P Pn 05 13 06.9 0.0
JWY Kouya 1.37 284 P Pn 05 13 07.8 +0.4
JYN Shimob 1.96 34 P Pn 05 13 12.5 +1.5
JWT Wachi 2.03 314 P Pn 05 13 11.6 +0.2
JWT S S 05 13 50.5 -1.6
JOD2 Odawara 2 2.08 48 P Pn 05 13 12.3 +0.5
JOD2 S S 05 13 54.5 +1.6
JAI Aioi 2.28 268 P Pn 05 13 13.4 0.0
JKG Kaga 2.48 344 P Pn 05 13 15.3 +0.4
JRY Ryogami san 2.55 33 P Pn 05 13 16.1 +0.6
JRY S S 05 13 59.8 +0.3
JMN Monobe 2.76 268 P Pn 05 13 17.6 +0.2
MAT Matsushiro 2.78 17 P Pn 05 13 17.2 -0.2
MAT S S 05 14 02.1 -0.9
MAT Matsushiro 2.78 17 P Pn 05 13 17.5 +0.1
MAT S S 05 14 02.2 -0.8
MJAR Matsushiro Arr 2.78 17 P Pn 05 13 17.4 0.0
1.7nm,0.3s,baz=190,slow=9.6,SNR=18
MJAR S S 05 14 02.1 -0.9
0.3nm,0.3s,baz=192,slow=17,SNR=4.2
JAG Ashikaga 3.14 36 P Pn 05 13 19.4 -1.2
BSO1 Boso 1 3.23 75 P Pn 05 13 19.2 -1.7
BSO1 S S 05 14 07.6 -1.9
JHS Saijyo 3.54 289 P Pn 05 13 25.0 +0.4
JCJ Chichijima 8.02 146 S S 05 15 38.9 -9.4
9.3nm,0.3s,baz=294,slow=18,SNR=2.9
KSRS Korea Array 8.34 298 P Pn 05 14 19.5 +0.9
0.5nm,0.3s,baz=111,slow=12,SNR=20
USRK Ussuriysk Arra 11.06 340 P Pn 05 14 51.6 +0.5
0.3nm,0.3s,baz=162,slow=9.2,SNR=9.2
SONM Songino Array 26.93 310 P P 05 17 32.5 +0.8
1.6nm,0.8s,baz=124,slow=9.9,SNR=13
CMAR Chiang Mai Arr 37.37 256 P P 05 19 01.6 -0.3
0.7nm,0.5s,baz=44,slow=6.8,SNR=3.9
MKAR Makanchi Array 42.95 304 P P 05 19 47.0 -0.1
1.0nm,0.5s,baz=86,slow=9.7,SNR=31
KURBB Kurchatov Arra 45.30 310 P P 05 20 04.6 -0.7
0.8nm,0.5s,baz=89,slow=6.7,SNR=13
BVAR Borovoye Array 50.19 314 P P 05 20 42.3 -0.2
0.3nm,0.3s,baz=102,slow=8.2,SNR=5.3
WRA Warramunga Arr 53.60 183 P P 05 21 06.5 -1.2
0.6nm,0.3s,baz=359,slow=7.6,SNR=12
ILAR Eielson Array 53.97 31 P P 05 21 09.7 -0.2
0.5nm,0.9s,baz=251,slow=5.3,SNR=7.6
ASAR Alice Springs 57.32 184 P P 05 21 34.1 +0.2

	0.3nm,0.4s,baz=20,slow=11,SNR=6.0						
INK	**Inuvik**	**58.73**	**26**	P	**P**	**05 21 42.8**	**-0.2**
	0.7nm,0.6s,baz=309,slow=5.9,SNR=8.6						
YKA	**Yellowknife Ar**	**68.23**	**28**	P	**P**	**05 22 45.1**	**+0.3**
	0.1nm,0.4s,baz=300,slow=5.7,SNR=4.5						
FINES	**FINESS Array B**	**69.96**	**332**	P	**P**	**05 22 54.8**	**-0.5**
	0.6nm,0.4s,baz=67,slow=6.4,SNR=8.8						
NVAR	**Mina Array Bea**	**79.64**	**51**	P	**P**	**05 23 52.2**	**+1.1**
	0.4nm,0.7s,baz=270,slow=6.3,SNR=3.0						
TXAR	**Lajitas Array**	**94.77**	**50**	P	**P**	**05 25 04.8**	**+0.5**
	0.2nm,0.6s,baz=316,slow=5.2,SNR=3.9						

*NNC **13** 05:21:48.9±5.7, 55°.57N×86°.57E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=63.3km s-min=55.2km az=131.0*
*IDC **13** 05:21:52.0±2.7, 55°.49N×86°.24E, h0km, mb1 2.9/3, mb1mx2.8/32, mbtmp2.9/3, ML2.8/3, Error ellipse: s-maj=25.5km s-min=17.2km az=64.0*
ISC 13 05:21:51.5±31.0, **56°N**±2°×**8°7E**±°, **h35**km, **n8**, σ**1°07**/7, **3C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.03**	**210**	*i*		05 33 00.0	
	baz=26,slow=343,SNR=10						
ZALV	**Zalesovo Beam**	**2.03**	**210**	Pg	**Pn**	**05 22 22.3**	**-0.8**
	3.0nm,0.3s,baz=25,slow=18,SNR=32						
ZALV				Lg	Lg	05 22 48.5	
	2.5nm,0.3s,baz=26,slow=28,SNR=8.9						
KURK	**Kurchatov**	**6.90**	**227**	⇑Pn	**Pn**	**05 23 30.0**	**0.0**
	1.8nm,1.4s						
KURBB	**Kurchatov Arra**	**7.01**	**227**	⇓Pn	**Pn**	**05 23 30.9**	**-0.6**
	3.6nm,1.4s						
KURBB				⇑Lg	Lg	05 25 30.0	
	5.6nm,1.1s						
KURBB	**Kurchatov Arra**	**7.01**	**227**	Pn	**Pn**	**05 23 30.9**	**-0.6**
	0.2nm,0.3s,baz=44,slow=14,SNR=8.3						
KURBB				Lg	Lg	05 25 26.2	
	0.1nm,0.3s,baz=43,slow=31,SNR=5.9						
MK31	**Makanchi Array**	**9.32**	**198**	⇓Pn	**Pn**	**05 24 03.5**	**+0.3**
	0.1nm,0.2s,baz=22,slow=13,SNR=5.2						
MK31				⇑Lg	Lg	05 26 38.3	
	3.2nm,1.1s,baz=27,slow=30,SNR=4.6						
MKAR	**Makanchi Array**	**9.32**	**198**	Pn	**Pn**	**05 24 04.4**	**+1.2**
	0.1nm,0.3s,baz=19,slow=14,SNR=5.8						
MKAR				Lg	Lg	05 26 41.7	
	0.0nm,0.3s,baz=15,slow=39,SNR=7.7						
BVAR	**Borovoye Array**	**9.80**	**261**	Pn	**Pn**	**05 24 11.1**	**+1.2**
	0.1nm,0.3s,baz=70,slow=14,SNR=3.5						

*DDA **13** 05:48:56.9, 36°.17N×29°.22E, h7km, MD3.2*
*ISCJB **13** 05:48:57.2±0.6, 36°.06N±0°.03×29°.53E±0°.03, h31km±6km, Error ellipse: s-maj=4.3km s-min=3.7km az=9.8*
*CSEM **13** 05:48:57.7±0.1, 36°.14N×29°.54E, h20km, MD3.2, Error ellipse: s-maj=4.4km s-min=3.7km az=24.0*
*ATH **13** 05:48:58.2, 36°.18N×29°.41E, h32km±3km, MD3.4/7*
*HLW **13** 05:49:00.3, 35°.94N×29°.54E, h10km±9km, Ml3.1*
*ISK **13** 05:49:02.4, 36°.72N×29°.44E, h12km, MD3.2*
*NIC **13** 05:49:02.8, 36°.43N×30°.16E, h50km, ML3.5*
ISC 13 05:48:58.3±0.9, **36°.15N**±0°.03×**29°.54E**±0°.02, **h32**km±7km, **n94**, σ**1°18**/116, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.10**	**31**	*i* P	**Pn**	**05 49 03.9**	**+0.1**
AKAS				*i* S	**Sb**	**05 49 08.5**	**+0.4**
AKAS	**Kas**	**0.10**	**31**	*i* P	**Pn**	**05 49 03.9**	**+0.1**
AKAS				*i* S	**Sb**	**05 49 08.5**	**+0.4**
FETY	**Fethiye**	**0.61**	**323**	PG	**Pb**	**05 49 09.0**	**-1.7**
FETY	**Fethiye**	**0.61**	**323**	*i* Pg	**Pb**	**05 49 09.0**	**-1.7**
ELL	**Elmali**	**0.67**	**26**	*e*PG	**Pn**	**05 49 10.9**	**-0.7**
ELL	**Elmali**	**0.67**	**26**	*e*Pg	**Pn**	**05 49 10.9**	**-0.7**
DALY	**Dalyan (Mu˘la**	**0.98**	**313**	*e*PG	**Pn**	**05 49 15.6**	**-0.1**
DALY	**Dalyan (Mu˘la**	**0.98**	**313**	*e*Pg	**Pn**	**05 49 15.6**	**-0.1**
KORT	**Korkueli**	**1.07**	**37**	*i* P	**Pb**	**05 49 18.4**	**0.0**
KORT				*i* S	**Sb**	**05 49 35.1**	**+2.9**
KORT	**Korkueli**	**1.07**	**37**	*i* P	**Pb**	**05 49 18.4**	**0.0**
KORT				*i* S	**Sb**	**05 49 35.1**	**+2.9**
GOLH	**Golhisar**	**1.09**	**1**	*i* P	**Pb**	**05 49 18.5**	**-0.2**
GOLH				*i* S	**Sb**	**05 49 33.7**	**+1.1**
GOLH	**Golhisar**	**1.09**	**1**	*i* P	**Pb**	**05 49 18.5**	**-0.2**
GOLH				*i* S	**Sb**	**05 49 33.7**	**+1.1**
ARG	**Arkhangelos**	**1.15**	**274**	*e*PN	**Pn**	**05 49 18.0**	**0.0**
ARG				*e*SN	**Sn**	**05 49 32.4**	**-0.2**
ARG	**Arkhangelos**	**1.15**	**274**	*e*Pn	**Pn**	**05 49 18.0**	**0.0**
ARG				*e*Sn	**Sn**	**05 49 32.4**	**-0.2**
ANTB	**Antalya**	**1.17**	**50**	*e*PG	**Pb**	**05 49 21.1**	**+1.1**
ANTB	**Antalya**	**1.17**	**50**	*e*Pg	**Pb**	**05 49 21.1**	**+1.1**
YER	**Yerkesik**	**1.41**	**315**	*e*PG	**Pn**	**05 49 22.2**	**+0.4**
YER	**Yerkesik**	**1.41**	**315**	*e*Pg	**Pn**	**05 49 22.2**	**+0.4**
BCK	**Bucak**	**1.56**	**32**	*e*PN	**Pn**	**05 49 25.3**	**+1.5**
BCK	**Bucak**	**1.56**	**32**	*e*Pn	**Pn**	**05 49 25.3**	**+1.5**
ISP	**Isparta**	**1.85**	**25**	*e*PN	**Pn**	**05 49 28.8**	**+1.0**
ISP	**Isparta**	**1.85**	**25**	*e*Pn	**Pn**	**05 49 28.8**	**+1.0**
BDRM	**Kayabasi**	**1.92**	**299**	*i* P	**Pn**	**05 49 29.4**	**+0.7**
BDRM				*i* S	**Sn**	**05 49 51.3**	**-0.5**
BDRM	**Kayabasi**	**1.92**	**299**	*i* P	**Pn**	**05 49 29.4**	**+0.7**
BDRM				*i* S	**Sn**	**05 49 51.3**	**-0.5**
BODT	**Bodrum**	**2.02**	**298**	*e*PN	**Pb**	**05 49 33.1**	**-1.1**
KARP	**Karpathos**	**2.02**	**254**	*e*PB	**Pn**	**05 49 31.4**	**+1.3**
KARP	**Karpathos**	**2.02**	**254**	*e*Pb	**Pn**	**05 49 31.4**	**+1.3**
KHL	**Karahalli**	**2.17**	**360**	*e*PN	**Pn**	**05 49 31.5**	**-0.7**
KHL	**Karahalli**	**2.17**	**360**	*e*Pn	**Pn**	**05 49 31.5**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**2.23**	**324**	*e*PN	**Pn**	**05 49 32.7**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.23**	**324**	*e*Pn	**Pn**	**05 49 32.7**	**-0.4**
GAZI	**Gazipasa**	**2.25**	**87**	*i* P	**Pn**	**05 49 33.3**	**+0.1**
GAZI				*i* S	**Sn**	**05 49 59.1**	**-0.7**
GAZI	**Gazipasa**	**2.25**	**87**	*i* P	**Pn**	**05 49 33.3**	**+0.1**
GAZI				*i* S	**Sn**	**05 49 59.1**	**-0.7**
KULA	**Kula-Manisa**	**2.47**	**344**	*e*PN	**Pn**	**05 49 35.8**	**-0.5**
KULA	**Kula-Manisa**	**2.47**	**344**	*e*Pn	**Pn**	**05 49 35.8**	**-0.5**
AKMC	**Akamas**	**2.53**	**115**	P	**Pn**	**05 49 37.9**	**+0.8**
	baz=309						
AKMC	**Akamas**	**2.53**	**115**	P	**Pn**	**05 49 37.9**	**+0.8**
SHUT	**Suhut-Afyon**	**2.53**	**18**	*e*PN	**Pn**	**05 49 37.8**	**+0.5**
SHUT	**Suhut-Afyon**	**2.53**	**18**	*e*Pn	**Pn**	**05 49 37.8**	**+0.5**
PPCY	**Paphos**	**2.61**	**118**	P	**Pn**	**05 49 39.9**	**+1.7**
	baz=311						
PPCY	**Paphos**	**2.61**	**118**	P	**Pn**	**05 49 39.9**	**+1.7**
SMG	**Samos**	**2.67**	**307**	*e*PN	**Pn**	**05 49 39.4**	**+0.4**
SMG				*e*SN	**Sn**	**05 50 10.3**	**0.0**
SMG	**Samos**	**2.67**	**307**	*e*Pn	**Pn**	**05 49 39.4**	**+0.4**
SMG				*e*Sn	**Sn**	**05 50 10.3**	**0.0**
ALFC	**Alevga**	**2.68**	**111**	P	**Pn**	**05 49 39.6**	**+0.4**
	baz=303						
ALFC				S	**Sn**	**05 50 07.3**	**-3.2**
ALFC	**Alevga**	**2.68**	**111**	P	**Pn**	**05 49 39.6**	**+0.4**
ALFC				S	**Sn**	**05 50 07.3**	**-3.2**
ZKR	**Zakros**	**2.90**	**250**	*e*PN	Pb	05 49 52.3	+3.0
ZKR	**Zakros**	**2.90**	**250**	*e*PN	**Pn**	**05 49 43.2**	**+1.1**
ZKR				*e*SN	**Sn**	**05 50 16.0**	**+0.2**
ZKR	**Zakros**	**2.90**	**250**	*e*Pn	**Pn**	**05 49 43.2**	**+1.1**
ZKR				*e*Sn	**Sn**	**05 50 16.0**	**+0.2**
ALT	**Altintas**	**2.94**	**9**	*e*PN	**Pn**	**05 49 42.8**	**0.0**
ALT	**Altintas**	**2.94**	**9**	*e*Pn	**Pn**	**05 49 42.8**	**0.0**
BLCB	**Balcova**	**3.00**	**319**	*e*PN	**Pn**	**05 49 44.4**	**+0.9**
BLCB	**Balcova**	**3.00**	**319**	*e*Pn	**Pn**	**05 49 44.4**	**+0.9**
AKS	**Akhisar**	**3.06**	**334**	*e*PN	**Pn**	**05 49 44.4**	**+0.1**
AKS	**Akhisar**	**3.06**	**334**	*e*Pn	**Pn**	**05 49 44.4**	**+0.1**
SZAC	**Souni-Zanaja**	**3.06**	**116**	P	**Pn**	**05 49 44.8**	**+0.4**
	baz=307						
SZAC				S	**Sn**	**05 50 19.1**	**-0.8**
SZAC	**Souni-Zanaja**	**3.06**	**116**	P	**Pn**	**05 49 44.8**	**+0.4**
SZAC				S	**Sn**	**05 50 19.1**	**-0.8**
TVSB	**Tavsanli**	**3.30**	**359**	*e*PN	**Pn**	**05 49 47.1**	**-0.7**
TVSB	**Tavsanli**	**3.30**	**359**	*e*Pn	**Pn**	**05 49 47.1**	**-0.7**
CSS	**Prodhromos**	**3.31**	**110**	P	**Pn**	**05 49 48.8**	**+1.0**
	baz=300						
CSS	**Prodhromos**	**3.31**	**110**	P	**Pn**	**05 49 48.8**	**+1.0**
NPS	**Neapolis**	**3.32**	**256**	*e*PN	**Pn**	**05 49 48.8**	**+0.9**
NPS				*e*SN	**Sn**	**05 50 25.3**	**-0.9**
NPS	**Neapolis**	**3.32**	**256**	*e*Pn	**Pn**	**05 49 48.8**	**+0.9**
NPS				*e*Sn	**Sn**	**05 50 25.3**	**-0.9**
APE	**Apeiranthos**	**3.36**	**287**	*e*PN	Pn	05 49 52.1	+3.7
APE	**Apeiranthos**	**3.36**	**287**	*e*PN	**Pn**	**05 49 49.8**	**+1.3**
APE	**Apeiranthos**	**3.36**	**287**	*e*Pn	**Pn**	**05 49 49.8**	**+1.3**
LAST	**Lasithi**	**3.45**	**255**	*e*PN	**Pn**	**05 49 50.8**	**+1.0**
LAST				*e*SN	**Sn**	**05 50 28.9**	**-0.7**
LAST	**Lasithi**	**3.45**	**255**	*e*Pn	**Pn**	**05 49 50.8**	**+1.0**
LAST				*e*Sn	**Sn**	**05 50 28.9**	**-0.7**
CHOS	**Chios island**	**3.57**	**310**	*e*PN	**Pn**	**05 49 53.8**	**+2.4**
CHOS	**Chios island**	**3.57**	**310**	*e*Pn	**Pn**	**05 49 53.8**	**+2.4**
BALB	**Balikesir**	**3.73**	**340**	*e*PN	**Pn**	**05 49 53.3**	**-0.2**
BALB	**Balikesir**	**3.73**	**340**	*e*Pn	**Pn**	**05 49 53.3**	**-0.2**
SIVA	**Sivas**	**4.02**	**255**	*e*PN	**Pn**	**05 49 59.7**	**+2.2**
SIVA	**Sivas**	**4.02**	**255**	*e*Pn	**Pn**	**05 49 59.7**	**+2.2**
VAM	**Vamos**	**4.41**	**262**	*e*PN	**Pn**	**05 50 05.3**	**+2.4**
VAM	**Vamos**	**4.41**	**262**	*e*Pn	**Pn**	**05 50 05.3**	**+2.4**
ANKY	**Antikythira Is**	**5.07**	**269**	*e*PN	**Pn**	**05 50 13.6**	**+1.7**
ANKY	**Antikythira Is**	**5.07**	**269**	*e*Pn	**Pn**	**05 50 13.6**	**+1.7**
KYTH	**Kithira**	**5.26**	**273**	*e*PN	**Pn**	**05 50 16.2**	**+1.6**
KYTH	**Kithira**	**5.26**	**273**	*e*Pn	**Pn**	**05 50 16.2**	**+1.6**
VLI	**Veliai**	**5.36**	**278**	*e*PN	**Pn**	**05 50 17.4**	**+1.5**
VLI	**Veliai**	**5.36**	**278**	*e*Pn	**Pn**	**05 50 17.4**	**+1.5**
HMAT	**Matruh**	**5.43**	**203**	AMP		05 51 00.0	
	comp=E,30µm,1.0s,logA/T=4.5,baz=204						
RSH		**6.24**	**145**	P	**Pn**	**05 50 28.2**	**+0.1**
	baz=143						
RSH		**6.24**	**145**	P	**Pn**	**05 50 28.2**	**+0.1**
AMAG	**Maghara**	**6.29**	**150**	P	**Pn**	**05 50 28.8**	**0.0**
	baz=148						
AMAG	**Maghara**	**6.29**	**150**	P	**Pn**	**05 50 28.8**	**0.0**
KOT	**Kottamia**	**6.49**	**162**	P	**Pn**	**05 50 31.5**	**-0.1**
	baz=161						
KOT				S	**Sn**	**05 51 40.5**	**-4.0**
	baz=161						
KOT	**Kottamia**	**6.49**	**162**	P	**Pn**	**05 50 31.5**	**-0.1**
GLL	**Jalalah**	**6.80**	**164**	P	**Pn**	**05 50 35.5**	**-0.3**
	baz=163						
GLL	**Jalalah**	**6.80**	**164**	P	**Pn**	**05 50 35.5**	**-0.3**
HKAT	**Jabal Katrina**	**8.48**	**152**	P	**Pn**	**05 50 59.0**	**0.0**
	baz=151						
HKAT	**Jabal Katrina**	**8.48**	**152**	P	**Pn**	**05 50 59.0**	**0.0**
HFRF	**Wahat Farafira**	**9.03**	**187**	P	**Pn**	**05 51 06.1**	**-0.3**
	baz=188						
HFRF	**Wahat Farafira**	**9.03**	**187**	P	**Pn**	**05 51 06.1**	**-0.3**

*IDC **13** 05:52:22.2±1.8, 7°.03S×130°.47E, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.7/26, mbtmp4.0/4, ML4.2/2, Error ellipse: s-maj=120.7km s-min=26.4km az=67.0*
*ISCJB **13** 05:52:27.1±0.8, 7°.15S±0°.06×130°.52E±0°.09, h35km, mb3.7/2, Error ellipse: s-maj=12.8km s-min=8.9km az=177.0*
ISC 13 05:52:29.3±0.9, **7°.21S**±0°.06×**130°.71E**±0°.09, **h35**km, **n14**, σ**2°69**/17, **Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.54**	**20**	P	**Pn**	**05 53 36.4**	**+0.9**
	baz=4.5,SNR=22						
FAKI				S	**Sn**	**05 54 24.0**	**-3.1**
	baz=4.5,SNR=31						
MTN	**Manton Dam**	**5.61**	**176**	P	Pn	05 53 54.5	+4.1
	baz=5.8,SNR=35						
MTN				S	**Sn**	**05 54 57.2**	**+3.6**
	baz=5.8,SNR=8.2						
KDU	**Kakadu**	**5.71**	**162**	P	Pn	05 53 55.9	+4.1
	baz=5.9,SNR=106						
KNRA	**Kununurra**	**8.62**	**193**	P	**Pn**	**05 54 34.1**	**+2.4**
	baz=8.8,SNR=24						
KNRA				S	**Sn**	**05 56 05.1**	**-2.7**
	baz=8.8,SNR=16						
WSI	**Waingapu**	**10.58**	**256**	P	**Pn**	**05 54 57.5**	**-1.0**
	baz=10,SNR=3.7						
WRA	**Warramunga Arr**	**13.14**	**165**	Pn	**Pn**	**05 55 33.0**	**-0.6**
	1.4nm,0.3s,baz=348,slow=13,SNR=37						
WRA				Sn	**Sn**	**05 57 54.1**	**-4.4**
	2.4nm,0.3s,baz=339,slow=20,SNR=12						
COEN	**Coen**	**13.96**	**120**	P	**Pn**	**05 55 47.5**	**+2.6**
	baz=14,SNR=15						
COEN				S	**Sn**	**05 58 16.0**	**-2.8**
	baz=14,SNR=6.0						
QIS	**Mount Isa**	**15.82**	**148**	P	**Pn**	**05 56 10.1**	**+0.5**
	baz=16,SNR=5.9						
ASAR	**Alice Springs**	**16.64**	**170**	Pn	**Pn**	**05 56 19.4**	**-0.6**
	0.9nm,0.3s,baz=341,slow=9.3,SNR=49						
ASAR				Sn	**Sn**	**05 59 19.4**	**-4.6**
	0.6nm,0.3s,baz=353,slow=24,SNR=7.6						
MTSU	**Mount Surprise**	**17.14**	**131**	P	**P**	**05 56 28.2**	**+0.5**
	baz=17,SNR=12						
WRKA	**Warakurna**	**17.87**	**187**	P	**Pn**	**05 56 36.0**	**+0.7**
	baz=18,SNR=7.3						
WRKA				S	Sn	05 59 42.4	-11
	baz=18,SNR=5.1						
QLP	**Quilpie**	**23.17**	**148**	P	**P**	**05 57 35.7**	**+2.8**
	baz=23,SNR=4.0						
STKA	**Stephens Creek**	**26.56**	**159**	P	**P**	**05 58 04.7**	**+0.5**
	2.3nm,0.5s,baz=345,slow=8.9,SNR=6.6						
MKAR	**Makanchi Array**	**68.79**	**327**	P	P	06 03 26.5	-3.5
	0.5nm,0.8s,baz=119,slow=8.1,SNR=5.2						

*ISCJB **13** 06:04:05.0±0.3, 10°.65N±0°.03×62°.49W±0°.02, h91km±4km, mb3.5/5, Error ellipse: s-maj=5.5km s-min=2.8km az=142.5*
*IDC **13** 06:04:05.8±6.8, 10°.45N×62°.87W, h96km±79km, mb3.4/5, mb1 3.5/5, mb1mx3.2/44, mbtmp3.7/5, Error ellipse: s-maj=73.4km s-min=29.0km az=33.0*
*NEIC **13** 06:04:07.4, 10°.59N×62°.42W, h80km, MD4.0(TRN), MW4.3(CAR), After CAR.*
*FUNV **13** 06:04:07.4, 10°.60N×62°.43W, h79km, MW3.6*
*TRN **13** 06:04:08.7, 10°.70N×62°.37W, h67km, MD4.0*
ISC 13 06:04:05.5±0.7, **10°.63N**±0°.03×**62°.49W**±0°.03, **h88**km±6km, **n75**, σ**1°55**/125, **mb3.5**/5, **5C-2D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.26**	**86**	⇑*i*P	**Pn**	**06 04 19.3**	**+0.9**
GUIV				*e*S	**Sn**	**06 04 27.3**	**-0.7**
GUIV	**Guiria**	**0.26**	**86**	*e*P	**Pn**	**06 04 19.3**	**+0.9**
GUIV				*e*S	**Sn**	**06 04 27.3**	**-0.7**
GUNV	**Guanoco**	**0.65**	**224**	⇑*i*P	**Pn**	**06 04 23.3**	**+2.0**
GUNV				*e*S	**Sn**	**06 04 33.6**	**+0.6**
GUNV	**Guanoco**	**0.65**	**224**	*e*P	**Pn**	**06 04 23.3**	**+2.0**
GUNV				*e*S	**Sn**	**06 04 33.6**	**+0.6**
TCE	**Chacachacare**	**0.72**	**84**	*e*P	**Pn**	**06 04 22.6**	**+0.6**
TCE				*e*S	**Sn**	**06 04 33.4**	**-1.0**
TCE	**Chacachacare**	**0.72**	**84**	*e*P	**Pn**	**06 04 22.6**	**+0.6**
TCE				*e*S	**Sn**	**06 04 33.4**	**-1.0**
CRUV	**Carupano**	**0.74**	**274**	⇑*i*P	**Pn**	**06 04 23.3**	**+1.1**
CRUV				*e*S	**Sn**	**06 04 34.5**	**-0.1**
CRUV	**Carupano**	**0.74**	**274**	*e*P	**Pn**	**06 04 23.3**	**+1.1**
CRUV				*e*S	**Sn**	**06 04 34.5**	**-0.1**
TPP	**Pointe-a-Pierr**	**1.06**	**107**	*e*P	**Pn**	**06 04 26.5**	**+0.7**
TPP	**Pointe-a-Pierr**	**1.06**	**107**	*e*P	**Pn**	**06 04 26.5**	**+0.7**
TRN	**Trinidad (W)**	**1.06**	**89**	⇓*e*P	**Pn**	**06 04 26.3**	**+0.5**
TRN				*e*S	**Sn**	**06 04 39.3**	**-1.6**
TRN	**Trinidad (W)**	**1.06**	**89**	*e*P	**Pn**	**06 04 26.3**	**+0.5**
TRN				*e*S	**Sn**	**06 04 39.3**	**-1.6**
TBH	**Brigand Hill**	**1.40**	**96**	*e*P	**Pn**	**06 04 30.6**	**+0.7**
TBH				*e*S	**Sn**	**06 04 47.5**	**-0.8**
TBH	**Brigand Hill**	**1.40**	**96**	*e*P	**Pn**	**06 04 30.6**	**+0.7**
TBH				*e*S	**Sn**	**06 04 47.5**	**-0.8**
GRGR	**Grenville**	**1.70**	**29**	*i* Pn	**Pn**	**06 04 35.0**	**+1.2**
GRGR				*e*Sn	**Sn**	**06 04 56.0**	**+0.8**
GRW	**Mount Saint Ca**	**1.72**	**28**	*e*P	**Pn**	**06 04 34.5**	**+0.4**
GRW				*e*S	**Sn**	**06 04 54.2**	**-1.6**
GRW	**Mount Saint Ca**	**1.72**	**28**	*e*P	**Pn**	**06 04 34.5**	**+0.4**
GRW				*e*S	**Sn**	**06 04 54.2**	**-1.6**
TPR	**Prospect**	**1.77**	**72**	*e*P	**Pn**	**06 04 35.6**	**+1.0**
TPR				*e*S	**Sn**	**06 04 56.2**	**-0.5**
TPR	**Prospect**	**1.77**	**72**	*e*P	**Pn**	**06 04 35.6**	**+1.0**
TPR				*e*S	**Sn**	**06 04 56.2**	**-0.5**
ORIV	**Oritupano**	**1.80**	**211**	⇑*i*P	**Pn**	**06 04 36.8**	**+1.9**
ORIV				*e*S	**Sn**	**06 04 57.5**	**+0.1**
ORIV	**Oritupano**	**1.80**	**211**	*e*P	**Pn**	**06 04 36.7**	**+1.7**
ORIV				*e*S	**Sn**	**06 04 57.5**	**+0.1**
BOT	**Bacolet**	**1.82**	**73**	*e*P	**Pn**	**06 04 36.1**	**+0.9**
BOT	**Bacolet**	**1.82**	**73**	*e*P	**Pn**	**06 04 36.1**	**+0.9**
TOSP	**Speyside**	**2.03**	**71**	*e*P	**Pn**	**06 04 39.0**	**+1.1**
TOSP				*e*S	**Sn**	**06 05 01.5**	**-1.3**
PCRV	**Puerto La Cruz**	**2.16**	**258**	⇑*e*P	**Pn**	**06 04 41.2**	**+1.4**
PCRV				*e*S	**Sn**	**06 05 05.9**	**-0.2**
PCRV	**Puerto La Cruz**	**2.16**	**258**	*e*P	**Pn**	**06 04 41.4**	**+1.5**
PCRV				*e*S	**Sn**	**06 05 05.9**	**-0.2**
FCV	**Fort Charlotte**	**2.79**	**26**	*e*P	**Pn**	**06 04 49.3**	**+1.1**
FCV				*e*S	**Sn**	**06 05 20.4**	**-0.7**
FCV	**Fort Charlotte**	**2.79**	**26**	*e*P	**Pn**	**06 04 49.3**	**+1.1**
FCV				*e*S	**Sn**	**06 05 20.4**	**-0.7**
SVB	**Belmont**	**2.89**	**25**	*e*P	**Pn**	**06 04 51.1**	**+1.5**
SVB				*e*S	**Sn**	**06 05 21.8**	**-1.7**
SVB	**Belmont**	**2.89**	**25**	*e*P	**Pn**	**06 04 51.1**	**+1.5**
SVB				*e*S	**Sn**	**06 05 21.8**	**-1.7**
SVV	**Soufriere Volc**	**2.95**	**25**	*e*P	**Pn**	**06 04 51.5**	**+1.2**
SVV				*e*S	**Sn**	**06 05 24.4**	**-0.4**
SVV	**Soufriere Volc**	**2.95**	**25**	*e*P	**Pn**	**06 04 51.5**	**+1.2**
SVV				*e*S	**Sn**	**06 05 24.4**	**-0.4**
SSV	**Crater Summit**	**2.97**	**25**	*e*P	**Pn**	**06 04 51.8**	**+1.2**
SSV				*e*S	**Sn**	**06 05 25.0**	**-0.4**
SSV	**Crater Summit**	**2.97**	**25**	*e*P	**Pn**	**06 04 51.8**	**+1.2**
SSV				*e*S	**Sn**	**06 05 25.0**	**-0.4**
BHS	**Barnard House**	**2.97**	**26**	*e*P	**Pn**	**06 04 52.7**	**+2.2**
BHS				*e*S	**Sn**	**06 05 24.1**	**-1.2**
BHS	**Barnard House**	**2.97**	**26**	*e*P	**Pn**	**06 04 50.8**	**+0.3**
BHS				*e*S	**Sn**	**06 05 24.1**	**-1.2**
CUPV	**Cœpira**	**3.30**	**260**	*e*P	**Pn**	**06 04 56.8**	**+1.7**
CUPV				*e*S	**Sn**	**06 05 33.9**	**+0.5**
CUPV	**Cœpira**	**3.30**	**260**	*e*P	**Pn**	**06 04 56.8**	**+1.7**
CUPV				*e*S	**Sn**	**06 05 33.9**	**+0.5**
MCLT	**Moule a Chique**	**3.42**	**26**	*e*P	**Pn**	**06 04 58.1**	**+1.5**
MCLT				*e*S	**Sn**	**06 05 35.0**	**-1.1**
MCLT	**Moule a Chique**	**3.42**	**26**	*e*P	**Pn**	**06 04 58.1**	**+1.5**
SLB	**Belfond**	**3.48**	**24**	*e*P	**Pn**	**06 04 58.8**	**+1.2**
SLB				*e*S	**Sn**	**06 05 36.0**	**-1.7**
SLB	**Belfond**	**3.48**	**24**	*e*P	**Pn**	**06 04 58.8**	**+1.2**
SLB				*e*S	**Sn**	**06 05 36.0**	**-1.7**
BIRV	**Birongo**	**3.72**	**268**	*e*P	**Pn**	**06 05 02.6**	**+1.9**
BIRV				*e*S	**Sn**	**06 05 42.9**	**-0.7**
BIRV	**Birongo**	**3.72**	**268**	*e*P	**Pn**	**06 05 02.6**	**+1.9**
BIRV				*e*S	**Sn**	**06 05 42.9**	**-0.7**
MERV	**Las Mercedes**	**4.00**	**250**	*e*P	**Pn**	**06 05 05.2**	**+0.7**
MERV				*e*S	**Sn**	**06 05 48.9**	**-1.3**
MERV	**Las Mercedes**	**4.00**	**250**	*e*P	**Pn**	**06 05 05.2**	**+0.7**
MERV				*e*S	**Sn**	**06 05 48.9**	**-1.3**
H05S1	**Guadeloupe/Mar**	**4.10**	**23**	P	**Pn**	**06 05 08.4**	**+2.5**
H05S1				S	**Sn**	**06 05 50.7**	**-2.1**
	SNR=37						
BIM	**Bigot**	**4.11**	**20**	*e*P	**Pn**	**06 05 09.2**	**+3.2**
BIM				*e*S	**Sn**	**06 05 51.7**	**-1.2**
TRMF	**Trois Ilets**	**4.13**	**20**	*e*P	**Pn**	**06 05 08.4**	**+2.1**
ZAM	**Aeronautique**	**4.17**	**20**	*e*P	**Pn**	**06 05 09.4**	**+2.5**
LPMF	**Morne Lapointe**	**4.19**	**21**	*e*P	**Pn**	**06 05 10.0**	**+2.9**
MVM	**Montagne Vaucl**	**4.20**	**22**	*e*P	**Pn**	**06 05 09.7**	**+2.4**
FDF	**Fort de France**	**4.28**	**18**	⇓*i*P	**Pn**	**06 05 11.6**	**+3.1**
FDF				*e*S	**Sn**	**06 05 54.9**	**-2.4**
FDF	**Fort de France**	**4.28**	**18**	*e*Pn	**Pn**	**06 05 09.4**	**+0.9**
FDF				*e*Sn	**Sn**	**06 05 55.2**	**-2.1**
BVM	**Bellevue**	**4.31**	**19**	*e*P	**Pn**	**06 05 11.9**	**+3.0**
LUEV	**Luepa**	**4.86**	**168**	*e*P	**Pn**	**06 05 15.9**	**-0.5**
LUEV	**Luepa**	**4.86**	**168**	*e*P	**Pn**	**06 05 15.4**	**-1.0**
TBG	**Guadaloupe-3**	**5.26**	**9**	*e*P	**Sn**	**06 06 16.5**	**-4.4**
TURV	**Turiamo**	**5.27**	**269**	*e*P	**Pn**	**06 05 23.0**	**+1.2**
TURV				*e*S	**Sn**	**06 06 18.7**	**-2.5**
TURV	**Turiamo**	**5.27**	**269**	*e*P	**Pn**	**06 05 23.0**	**+1.2**
TURV				*e*S	**Sn**	**06 06 18.7**	**-2.5**
PHG	**Guadaloupe-2**	**5.42**	**9**	*e*P	**Sn**	**06 06 21.1**	**-3.9**
BAUV	**El Baul**	**5.73**	**253**	*e*P	**Pn**	**06 05 28.1**	**+0.1**
BAUV				*e*S	**Sn**	**06 06 29.2**	**-3.2**
BAUV	**El Baul**	**5.73**	**253**	*e*P	**Pn**	**06 05 28.1**	**+0.1**
BAUV				*e*S	**Sn**	**06 06 29.2**	**-3.2**
SANV	**Sanarito**	**7.03**	**261**	*e*P	**Pn**	**06 05 47.3**	**+1.3**
CURV	**Curarigua**	**7.38**	**266**	*e*P	**Pn**	**06 05 51.7**	**+1.0**
MONV	**Montecano**	**7.46**	**281**	*e*P	**Pn**	**06 05 51.7**	**0.0**
SDV	**Santo Domingo**	**8.21**	**259**	*e*Pn	**Pn**	**06 06 02.1**	**0.0**
SDV				*e*Sn	**Sn**	**06 07 29.7**	**-3.8**
SOCV	**Socops**	**8.58**	**255**	*e*P	**Pn**	**06 06 05.8**	**-1.2**
PTGA	**Pitinga**	**11.56**	**167**	P	**Pn**	**06 06 46.7**	**-0.9**
	baz=354,slow=19						
PTGA				S	Sn	06 08 48.0	-6.8
	3.2nm,0.3s,baz=264,slow=11,SNR=8.9						
PTGA	**Pitinga**	**11.56**	**167**	*e*Pn	**Pn**	**06 06 45.7**	**-1.9**
SCHQ	**Schefferville**	**44.23**	**356**	P	**P**	**06 12 06.5**	**+0.6**
	2.1nm,0.8s,baz=185,slow=12,SNR=4.0						
TORD	**Torodi Ar. Bea**	**62.71**	**81**	P	**P**	**06 14 23.7**	**+1.9**
	0.2nm,0.4s,baz=286,slow=6.6,SNR=6.5						
YKA	**Yellowknife Ar**	**63.73**	**336**	P	**P**	**06 14 26.7**	**-1.0**
	0.2nm,0.4s,baz=110,slow=7.3,SNR=11						
ILAR	**Eielson Array**	**78.07**	**334**	P	**P**	**06 15 54.0**	**-0.6**
	0.3nm,0.6s,baz=82,slow=4.3,SNR=5.8						
FINES	**FINESS Array B**	**80.06**	**29**	P	**P**	**06 16 06.6**	**+1.2**
	1.1nm,0.8s,baz=268,slow=5.4,SNR=3.5						

WEL 13 06:07:24.2±0.1, **45°.37S**×**167°.02E**, **h63**km±1km, **ML3.6**/15, **12C-2D, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.14**	**140**	⇑PN	Pn	06 07 33.6	-0.2
DCZ				SN	Sn	06 07 40.5	-0.1
DCZ				AML	AML	06 07 41.0	
DCZ				AML	AML	06 07 41.0	
DCZ				AML	AML	06 07 41.1	
MLZ	**Mavora Lakes**	**0.81**	**89**	⇑PN	Pn	06 07 39.2	-0.9
MLZ				SN	Sn	06 07 50.8	-0.9
MLZ				AML	AML	06 07 52.1	
WHZ	**Wether Hill Ro**	**0.84**	**129**	⇑PN	Pn	06 07 40.2	-0.1
WHZ				SN	Sn	06 07 52.5	+0.3
WHZ				AML	AML	06 07 53.0	
MSZ	**Milford Sound**	**0.95**	**43**	⇑PN	Pn	06 07 41.6	-0.1
MSZ				SN	Sn	06 07 54.3	-0.3
MSZ				AML	AML	06 07 55.2	
MSZ				AML	AML	06 07 55.3	
MSZ				AML	AML	06 07 55.9	
WKZ	**Wanaka**	**1.51**	**70**	⇑PN	Pn	06 07 49.0	-0.2
WKZ				SN	Sn	06 08 07.5	-0.5
WKZ				AML	AML	06 08 08.7	
WKZ				AML	AML	06 08 08.9	
APZ	**The Paps**	**1.61**	**156**	PN	Pn	06 07 50.5	0.0
APZ				AML	AML	06 08 10.7	
APZ				AML	AML	06 08 12.6	
EAZ	**Earnscleugh**	**1.62**	**86**	⇑PN	Pn	06 07 50.3	-0.2
EAZ				AML	AML	06 08 09.5	
EAZ				AML	AML	06 08 09.6	
EAZ				AML	AML	06 08 09.6	
EAZ				AML	AML	06 08 09.7	
JCZ	**Jackson Bay**	**1.79**	**44**	⇑PN	Pn	06 07 51.9	-1.1
JCZ				AML	AML	06 08 19.8	
JCZ				AML	AML	06 08 21.8	
SYZ	**Scrubby Hill**	**1.89**	**129**	⇓PN	Pn	06 07 53.7	-0.4
SYZ				AML	AML	06 08 16.5	
SYZ				SN	Sn	06 08 16.5	-0.3
SYZ				AML	AML	06 08 17.4	
SYZ				AML	AML	06 08 19.4	
LBZ	**Lake Benmore**	**2.45**	**68**	⇑PN	Pn	06 08 00.2	-1.7
LBZ				AML	AML	06 08 42.6	
LBZ				AML	AML	06 09 44.4	
HHSZ	**Highcliff Hill**	**2.56**	**103**	⇑PN	Pn	06 08 02.9	-0.4
ODZ	**Otahua Downs**	**2.58**	**84**	⇓PN	Pn	06 08 02.2	-1.4
ODZ				SN	Sn	06 08 29.6	-4.2
FOZ	**Fox Glacier**	**2.63**	**48**	⇑PN	Pn	06 08 03.3	-0.9
FOZ				AML	AML	06 08 55.8	
RPZ	**Rata Peaks**	**3.32**	**62**	AML	AML	06 08 08.5	
RPZ				PN	Pn	06 08 11.1	-2.7
RPZ				AML	AML	06 09 13.3	
WVZ	**Waitaha Valley**	**3.52**	**51**	PN	Pn	06 08 13.9	-2.4
WVZ				AML	AML	06 09 53.5	
OXZ	**Oxford**	**4.14**	**62**	PN	Pn	06 08 21.3	-3.6
MQZ	**McQueen's Vall**	**4.35**	**70**	⇑PN	Pn	06 08 24.7	-3.1
LTZ	**Lake Taylor**	**4.58**	**57**	PN	Pn	06 08 27.4	-3.5
LTZ				AML	AML	06 09 44.9	
DSZ	**Denniston Nort**	**5.02**	**46**	⇑PN	Pn	06 08 34.4	-2.6
THZ	**Tophouse**	**5.59**	**52**	AML	AML	06 10 11.8	
QRZ	**Quartz Range**	**6.07**	**44**	PN	Pn	06 08 49.0	-2.3

*ISCJB **13** 06:10:13.4±0.3, 38°.94N±0°.03×17°.86E±0°.03, h10km, mb3.4/5, Error ellipse: s-maj=4.7km s-min=3.0km az=18.5*
*IDC **13** 06:10:13.5±2.1, 39°.03N×17°.94E, h0km, mb3.4/5, mb1 3.5/9, mb1mx3.4/39, mbtmp3.4/9, ML3.7/4, Error ellipse: s-maj=43.1km s-min=20.8km az=34.0*
*ROM **13** 06:10:14.3±0.3, 38°.81N×17°.91E, h22km±4km, Ml3.0/9, Error ellipse: s-maj=3.9km s-min=2.0km az=121.0*
*CSEM **13** 06:10:15.1±0.3, 38°.88N×17°.84E, h20km, ML3.0, Error ellipse: s-maj=7.6km s-min=3.9km az=135.0*
ISC 13 06:10:14.0±0.7, **38°.92N**±0°.04×**17°.81E**±0°.03, **h10**km, **n92**, σ**0°93**/98, **mb3.4**/5, **1C-3D, Southern Italy**

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

TIP Timpagrande 0.86 288 Pn Pn 06 10 32.5 +0.2
139nm,1.0s
TIP Timpagrande 0.86 288 Pn Pn 06 10 32.5 +0.2
139nm,1.0s
SERS Sersale 0.89 278 Pn Pb 06 10 32.5 +0.9
152nm,0.7s
SERS Sersale 0.89 278 Pn Pb 06 10 32.5 +0.9
152nm,0.7s
PIPA Pietrapaola 0.96 307 Pn Pn 06 10 34.0 +0.4
412nm,0.5s
PIPA Pietrapaola 0.96 307 Pn Pn 06 10 34.0 +0.4
412nm,0.5s
GRI Girifalco 1.09 266 Pn Pb 06 10 35.5 +0.5
GRI Sn Sn 06 10 51.8 +1.2
107nm,0.5s
GRI Girifalco 1.09 266 Pn Pb 06 10 35.5 +0.5
GRI Sn Sn 06 10 51.8 +1.2
107nm,0.5s
SCTE Santa Cesarea 1.26 23 Pn Pg 06 10 38.5 +0.2
SCTE Sn Sn 06 10 56.2 +1.5
SCTE Santa Cesarea 1.26 23 Pn Pg 06 10 38.5 +0.2
SCTE Sn Sn 06 10 56.2 +1.5
ORI Oriolo Calabro 1.56 318 Pn Pb 06 10 43.1 +0.1
236nm,0.4s
ORI Oriolo Calabro 1.56 318 Pn Pb 06 10 43.1 +0.1
236nm,0.4s
CEL Celeste 1.64 247 Pn Pn 06 10 43.1 +0.1
1μm,2.7s
CEL Celeste 1.64 247 Pn Pn 06 10 43.1 +0.1
1μm,2.7s
TAR1 Taranto 1.66 346 ePn Pn 06 10 43.9 +0.7
MESG Mesagne 1.67 1 Pn Pn 06 10 44.0 +0.6
282nm,0.6s
MESG Mesagne 1.67 1 Pn Pn 06 10 44.0 +0.6
282nm,0.6s
MPAZ Palizzi 1.71 236 Pn Pn 06 10 43.5 -0.5
MPAZ Palizzi 1.71 236 Pn Pn 06 10 43.5 -0.5
KEK Kerkira 1.73 62 ePN Pn 06 10 43.5 -0.7
KEK Kerkira 1.73 62 Pn Pn 06 10 43.9 -0.3
KEK Kerkira 1.73 62 Pn Pn 06 10 43.9 -0.3
LTRZ Laterza 1.85 336 Pn Pn 06 10 46.7 +0.8
376μm,29.0s
LTRZ Laterza 1.85 336 Pn Pn 06 10 46.7 +0.8
376μm,29.0s
MTTG Motta San Giov 1.90 242 Pn Pn 06 10 46.1 -0.4
2μm,3.5s
MTTG Motta San Giov 1.90 242 Pn Pn 06 10 46.1 -0.4
2μm,3.5s
PE1 Pezze di Greco 1.91 351 ePn Pn 06 10 47.3 +0.7
SIRI Monte Sirino - 1.97 311 Pn Pn 06 10 49.2 +1.7
SIRI Monte Sirino - 1.97 311 Pn Pn 06 10 49.2 +1.7
IGT Igoumenitsa 2.05 72 ePN Pn 06 10 48.5 -0.1
LKD2 Lefkada island 2.22 92 ePB Pg 06 10 57.0 +0.3
VLS Valsamata 2.30 108 ePN Pn 06 10 50.5 -1.5
CDT Castel del Mon 2.47 332 ePn Pn 06 10 55.2 +0.9
JAN Janina 2.47 72 ePN Pn 06 10 55.0 +0.6
PDO Prodromos 2.65 96 ePN Pn 06 10 57.0 +0.1
NEST Nestorio 2.91 58 ePN Pn 06 11 02.0 +1.5
RLS Riolos of Patr 2.99 105 ePN Pn 06 11 01.0 -0.5
EVR Evrytania 3.12 89 ePN Pn 06 11 04.0 +0.7
DRO Drossia 3.21 106 ePN Pn 06 11 06.0 +1.5
EFP Efpalio 3.24 97 ePN Pn 06 11 05.0 +0.1
FNA Florina 3.32 55 ePN Pn 06 11 07.0 +1.0
LAKA Lakka 3.33 100 ePN Pn 06 11 07.0 +0.8
KZN Kozani 3.36 64 ePN Pn 06 11 08.0 +1.4
MAKR Makrakomi, Fth 3.37 87 ePN Pn 06 11 08.0 +1.3
KALE Kalithea 3.43 97 ePN Pn 06 11 05.5 -2.1
KLV Kalavryta, Ach 3.51 103 ePN Pn 06 11 08.5 -0.2
AGG Agios Georgios 3.52 87 ePN Pn 06 11 10.0 +1.2
GUR Goura 3.69 104 ePB Pb 06 11 15.5 -3.8
DSF Desfina 3.72 96 ePN Pn 06 11 11.5 -0.1
AXAR Agios Charalam 3.79 91 ePN Pn 06 11 05.0 -7.5
LIT Litokhoron 3.81 70 ePN Pn 06 11 13.5 +0.8
STON Ston 3.95 359 ePn Pn 06 11 14.9 +0.2
STON Sn Sn 06 11 59.8 -1.3
STON Ston 3.95 359 ePn Pn 06 11 14.9 +0.2
STON Sn Sn 06 11 59.8 -1.3
LKR Lokris 4.06 92 ePB Pb 06 11 22.0 -3.6
LTK Loutraki 4.14 101 ePN Pn 06 11 20.0 +2.7
NEO Neokhori 4.23 83 ePN Pn 06 11 19.0 +0.5
DID Didima 4.50 107 ePN Pn 06 11 22.0 -0.2
KNT Kendrikon 4.50 58 ePN Pn 06 11 22.0 -0.3
PLG Polygyros 4.58 70 ePN Pn 06 11 23.0 -0.5
VLI Veliai 4.61 117 ePN Pn 06 11 24.0 +0.2
SJES Sjenica 4.64 20 ePn Pn 06 11 29.1 +4.9
PAIG Paliouri 4.65 76 ePN Pn 06 11 24.0 -0.3
SOH Sokhos 4.67 64 ePN Pn 06 11 25.0 +0.4
KYTH Kithira 4.91 121 ePN Pn 06 11 28.0 +0.1
BARS Barje 4.94 37 ePn Pn 06 11 28.5 +0.2
SRS Serrai 4.95 62 ePN Pn 06 11 30.0 +1.5
OUR Ouranopolis 4.97 71 ePN Pn 06 11 29.0 +0.3
IVAS Ivanjica 4.98 20 ePn Pn 06 11 29.0 +0.1
BBLS Lazići 5.09 13 ePn Pn 06 11 30.7 +0.3
NVR Nevrokopi 5.23 60 ePN Pn 06 11 33.0 +0.6
UDBI Udbina 5.81 345 ePn Pn 06 11 42.0 +1.7
UDBI Sn Sn 06 12 46.3 -0.8
UDBI Udbina 5.81 345 ePn Pn 06 11 42.0 +1.7
UDBI Sn Sn 06 12 46.3 -0.8
NVLJ Novalja 6.06 340 ePn Pn 06 11 43.1 -0.5
NVLJ Sn Sn 06 12 50.6 -2.4
NVLJ Novalja 6.06 340 ePn Pn 06 11 43.0 -0.6
NVLJ Sn Sn 06 12 50.5 -2.4
IDI Anoyia 6.71 120 Pn Pn 06 11 53.1 +0.4
1.6nm,0.3s,baz=281,slow=10,SNR=7.4
IDI Sn Sn 06 13 02.4 -6.9
0.4nm,0.3s,baz=144,slow=19,SNR=2.0
OBKA Obir 7.96 343 ⇓iPn Pn 06 12 10.9 +1.1
OBKA Obir 7.96 343 Pn Pn 06 12 10.9 +1.1
SOKA Soboth 8.02 346 ⇑iPn Pn 06 12 11.0 +0.3
SOKA Soboth 8.02 346 Pn Pn 06 12 11.0 +0.3
ARSA Arzberg 8.50 349 ⇓iPn Pn 06 12 17.0 -0.2
ARSA Arzberg 8.50 349 Pn Pn 06 12 17.0 -0.2
MOA Molln 9.29 345 ⇓iPn Pn 06 12 27.7 -0.4
MOA Molln 9.29 345 Pn Pn 06 12 27.7 -0.4
GERES GERESS Array B 10.36 345 Pn Pn 06 12 43.2 +0.5
0.1nm,0.3s,baz=166,slow=13,SNR=3.5
BRTR Keskin Array B 12.29 81 Pn Pn 06 13 11.0 +1.9
0.1nm,0.3s,baz=263,slow=13,SNR=3.6
ESDC Sonseca Array 16.87 279 Pn P 06 14 12.7 +0.3
0.4nm,0.3s,baz=76,slow=12,SNR=9.5
HFS Hagfors 21.40 354 P P 06 15 01.8 +0.2
0.9nm,0.6s,baz=178,slow=9.8,SNR=6.9
NB2 NORSAR Subarra 22.53 352 P P 06 15 12.9 -0.9
comp=Z,1.1nm,0.8s,baz=165,slow=12
NOA NORSAR Array B 22.53 352 P P 06 15 13.6 -0.2
comp=Z,0.4nm,0.6s,baz=165,slow=9.6,SNR=3.0
MKAR Makanchi Array 46.72 58 P P 06 18 42.6 -0.5
comp=Z,0.2nm,0.3s,baz=286,slow=7.4,SNR=15
ZALV Zalesovo Beam 46.78 48 P P 06 18 43.2 -0.2
comp=Z,0.6nm,0.3s,baz=292,slow=7.4,SNR=4.2
YKA Yellowknife Ar 71.95 339 P P 06 21 37.6 +0.4
comp=Z,0.1nm,0.6s,baz=35,slow=5.4,SNR=4.6

IDC **13** *06:21:08.7±0.7, 39.39N×76.81E, h0km, mb3.9/17, mb1 4.0/22, mb1mx3.9/46, mbtmp3.8/22, ML3.2/6, MS3.6/11, Ms1 3.6/11, ms1mx3.4/35, Error ellipse: s-maj=15.8km s-min=11.9km az=49.0*
BJI **13** *06:21:10.2, 39.44N×76.84E, h5km, mB4.2/4, mb4.2/17, ML4.4/9, Ms4.1/7, Ms7 3.7/9*
MOS **13** *06:21:11.8±1.1, 39.20N×76.87E, h33km, mb4.2/17, Error ellipse: s-maj=11.0km s-min=4.5km az=111.9*
ISCJB **13** *06:21:11.3±0.2, 39.37N±0.02×77.09E±0.04, h25km, mb4.0/29, MS3.6/9, Error ellipse: s-maj=4.2km s-min=2.7km az=164.7*
NEIC **13** *06:21:13.8±0.3, 39.27N×76.86E, h35km, mb4.4/10, Error ellipse: s-maj=9.9km s-min=4.1km az=54.0*
NNC **13** *06:21:14.2±1.7, 39.62N×76.84E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=14.5km s-min=12.9km az=131.0*
ISC 13 06:21:12.9±0.4, 39.36N±0.04×77.06E±0.04, h25km, n181, σ1§61/190, mb4.0/29, MS3.6/9, 13C-15D, Southern Xinjiang

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSH Kashi 0.86 281 i Pg Pn 06 21 31.8 +2.3
KSH Sg Sn 06 21 43.9 +2.6
KSH smax smax
comp=N,15μm,0.7s
KSH smax smax
comp=E,16μm,0.8s

ULHL Ulahol 2.95 348 P Pn 06 22 00.8 +2.3
SNR=35
ULHL Ulahol 2.95 348 i PN Pn 06 22 00.7 +2.3
KZA Kyzart 3.05 334 P Pn 06 22 00.8 +0.9
SNR=298
KZA Kyzart 3.05 334 i PN Pn 06 22 00.7 +0.9
UCH Uchtor 3.46 327 P Pn 06 22 06.1 +0.6
SNR=52
UCH Uchtor 3.46 327 i PN Pn 06 22 06.1 +0.6
KBK Karagaybulak 3.66 335 P Pn 06 22 09.7 +1.6
SNR=15
KBK Karagaybulak 3.66 335 i PN Pn 06 22 09.7 +1.6
TKM2 Tokmak 2 3.73 343 ⇓Pn Pn 06 22 10.9 +1.8
253nm,1.1s
TKM2 ⇑Lg Lg 06 23 03.8
944nm,1.1s
TKM2 Tokmak 2 3.73 343 P Pn 06 22 10.9 +1.8
SNR=83
TKM2 Tokmak 2 3.73 343 i PN Pn 06 22 10.9 +1.8
TKM2 Tokmak 2 3.73 343 ePn Pn 06 22 10.9 +1.8
TKM2 eSn Sb 06 23 05.2 +2.3
AML Almayashu 3.77 318 P Pn 06 22 10.2 +0.4
SNR=39
AML Almayashu 3.77 318 i PN Pn 06 22 10.2 +0.4
AAK Ala-Archa 3.81 330 ⇑Pn Pn 06 22 11.0 +1.0
13nm,0.6s
AAK ⇑Pg Pb 06 22 16.3 -3.1
95nm,0.5s
AAK ⇑Lg Lg 06 23 05.4
942nm,0.6s
AAK Ala-Archa 3.81 330 P Pn 06 22 11.2 +1.2
SNR=25
AAK Ala-Archa 3.81 330 PN Pn 06 22 11.3 +1.2
AAK 06 23 05.4
AAK Ala-Archa 3.81 330 Pn Pn 06 22 10.3 +0.3
3.5nm,0.3s,baz=134,slow=7.6,SNR=59
AAK Pg Pb 06 22 17.6 -1.8
26nm,0.3s,baz=131,slow=11,SNR=62
AAK Lg Lg 06 23 05.8
66nm,0.3s,baz=19,slow=19,SNR=17
AAK Ala-Archa 3.81 330 ePn Pn 06 22 11.1 +1.0
AAK Lg Lg 06 23 05.8
KNDC Almaty 3.86 359 ⇓Pg Pb 06 22 18.8 -1.5
KNDC ⇓Lg Lg 06 23 08.4
2μm,1.3s
AAA Alma-Ata 3.91 359 ePN Pb 06 22 21.9 +0.7
AAA eS Sb 06 23 10.0 +1.9
AAA pmax pmax
comp=Z,444nm,0.8s
AAA smax smax
comp=E,2μm,1.2s
FRU Bishkek 3.93 333 ePN Pn 06 22 13.0 +1.3
FRU i S Sb 06 23 06.0 -2.7
FRU pmax pmax
comp=Z,370nm,1.7s
FRU smax smax
comp=E,2μm,1.6s
CHMS Chumysh 4.03 335 P Pn 06 22 14.3 +1.2
SNR=26
CHMS Chumysh 4.03 335 i PN Pn 06 22 14.3 +1.2
EKS2 Erkin-Say 4.13 324 P Pn 06 22 16.1 +1.6
SNR=13
EKS2 Erkin-Say 4.13 324 i PN Pn 06 22 16.1 +1.6
EKS2 Erkin-Say 4.13 324 ePn Pn 06 22 16.1 +1.6
EKS2 eSn Sb 06 23 15.0 +0.5
USP Ospenovka 4.36 335 P Pn 06 22 18.9 +1.4
SNR=13
USP Ospenovka 4.36 335 i PN Pn 06 22 18.9 +1.4
KK31 Karatay Array 6.19 309 ⇑Pn Pn 06 22 41.7 -1.1
comp=E,2.5nm,0.4s,baz=128,slow=12,SNR=51
KK31 ⇓Pg Pb 06 23 00.8 +0.8
comp=E,27nm,0.6s,baz=130,slow=13,SNR=28
KK31 ⇑Lg Lg 06 24 21.6
comp=E,237nm,1.1s,baz=129,slow=28,SNR=5.0
KK31 Karatay Array 6.19 309 ePN Pn 06 22 42.5 -0.2
KK31 pmax pmax
comp=Z,2.0nm,0.2s
KKAR Karatay Array 6.19 309 ePN Pn 06 22 43.1 +0.4
KKAR e 06 24 20.3
KKAR Karatay Array 6.19 309 ePn Pn 06 22 43.1 +0.4
KKAR eSn Sb 06 24 20.3 +6.6
CHCP Chirah Chowk 6.46 209 ⇑P Pn 06 22 50.6 +4.2
DLH Dalhousie 6.86 188 eP Pn 06 22 56.0 +3.9
DLH eS Sn 06 24 11.0 +1.6
CEP Cherat 6.90 218 ⇑P Pn 06 22 55.4 +2.8
CEP S Sn 06 24 14.0 +3.6
DHRM DHARAMSHALA 7.12 185 eP Pn 06 22 59.3 +3.7
DHRM eS Sn 06 24 17.6 +1.7
DHRM AML AML 06 24 25.8
comp=N,667nm,0.6s
DHRM AML AML 06 24 26.7
comp=E,1μm,0.6s
PONG Pong 7.44 187 eP Pn 06 23 05.5 +5.6
SDNR Sundarnagar 7.84 181 eP Pn 06 23 10.0 +4.6
SDNR eS Sn 06 24 33.0 -0.3
BHK Bhakra 7.94 184 eP Pn 06 23 10.5 +3.8
SMLA Simla 8.21 179 eP Pn 06 23 13.7 +3.3
SMLA ex Sn 06 24 40.6 -1.7
SMLA AML AML 06 25 40.0
comp=N,126nm,0.8s
SMLA AML AML 06 25 41.8
comp=E,126nm,0.8s
SARP Sargodha 8.23 207 P Pn 06 23 12.0 +1.3
MK31 Makanchi Array 8.36 26 Pn Pn 06 23 13.9 +1.5
comp=E,14nm,0.8s,baz=202,slow=14,SNR=34
MK31 ⇓Lg Lg 06 25 33.0
comp=E,28nm,0.8s
MK31 Makanchi Array 8.36 26 P Pn 06 23 13.9 +1.5
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MK31 pmax pmax
comp=N,36nm,1.0s
MKAR Makanchi Array 8.36 26 eP Pn 06 23 15.7 +3.2
MKAR Makanchi Array 8.36 26 Pn Pn 06 23 13.0 +0.6
comp=N,0.2nm,0.3s,baz=214,slow=16,SNR=13
MKAR Lg Lg 06 25 30.1
comp=N,0.8nm,0.3s,baz=220,slow=19,SNR=3.7
MKAR LR LR 06 26 10.2
comp=N,57nm,20.6s,baz=206,slow=36
MKAR Makanchi Array 8.36 26 ePn Pn 06 23 15.7 +3.2
MKAR Lg Lg 06 25 30.1
DDI Dehra Dun 9.05 175 eP Pn 06 23 24.3 +2.3
DDI eS Sn 06 25 00.9 -2.2
DDI AML AML 06 25 20.9
comp=N,303nm,0.7s
DDI AML AML 06 25 24.4
comp=E,289nm,0.3s
WMQ Urumqi 9.13 57 P Pn 06 23 24.9 +1.8
WMQ S Sn 06 25 04.9 -0.1
NDI New Delhi 10.65 179 eP Pn 06 23 47.5 +3.7
NDI ex Sn 06 25 42.0 -0.2
KURBB Kurchatov Arra 11.31 5 ⇑Pn Pn 06 23 54.2 +1.4
comp=E,3.6nm,0.7s
KURBB ⇑Lg Lg 06 27 05.8
comp=E,150nm,1.1s
KURBB Kurchatov Arra 11.31 5 Pn Pn 06 23 49.6 -3.2
comp=E,0.1nm,0.3s,baz=191,slow=12,SNR=16
KURBB Lg Lg 06 27 02.7
comp=E,0.4nm,0.3s,baz=188,slow=25,SNR=6.5
KURK Kurchatov 11.41 5 ⇑Pn Pn 06 23 52.1 -2.1
comp=E,2.9nm,0.8s
KURK ⇑Lg Lg 06 27 08.0
comp=E,58nm,1.0s
KURK Kurchatov 11.41 5 eP Pn 06 23 52.7 -1.5
KURK Kurchatov 11.41 5 ePn Pn 06 23 52.7 -1.5
KURK Lg Lg 06 27 02.7
PYUN Piuthan 12.26 155 eP Pn 06 24 05.3 -0.8
comp=E,107nm,0.4s
PYUN Piuthan 12.26 155 eP Pn 06 24 05.3 -0.8
comp=E,107nm,0.4s
DANN Dangsing 12.30 151 eP Pn 06 24 06.2 -0.6
comp=E,28nm,0.4s
DANN Dangsing 12.30 151 eP Pn 06 24 06.2 -0.6
comp=E,28nm,0.4s
KOLN Koldanda 12.77 153 eP Pn 06 24 12.4 -0.7
comp=E,19nm,0.5s
KOLN Koldanda 12.77 153 eP Pn 06 24 12.4 -0.7
comp=E,19nm,0.5s
GKN Gorkha 12.96 149 eP Pn 06 24 14.8 -0.7
comp=E,31nm,0.4s
GKN Gorkha 12.96 149 eP Pn 06 24 14.8 -0.7
comp=E,31nm,0.4s
AJM Ajmer 13.00 190 ex Pn 06 24 19.0 +2.9
AJM ex Sn 06 26 36.0 -3.9
KKN Kakani 13.41 147 eP Pn 06 24 21.6 -0.2

comp=E,19nm,0.5s
KKN Kakani 13.41 147 eP Pn 06 24 21.6 -0.2
KKN pmax pmax
comp=Z,19nm,0.5s
KKN Kakani 13.41 147 eP Pn 06 24 21.6 -0.2
comp=Z,19nm,0.5s
DMN Daman 13.49 148 eP Pn 06 24 23.4 +0.4
DMN Daman 13.49 148 eP Pn 06 24 23.4 +0.4
GUN Gumba 13.56 145 eP Pn 06 24 24.4 +0.4
comp=Z,28nm,0.6s
GUN Gumba 13.56 145 eP Pn 06 24 24.4 +0.4
comp=Z,28nm,0.6s
PKIN Phulchoki 13.64 147 eP Pn 06 24 24.7 -0.3
comp=Z,40nm,0.6s
PKI Pulchoki 13.65 147 eP Pn 06 24 24.8 -0.4
comp=Z,24nm,0.5s
PKI Pulchoki 13.65 147 eP Pn 06 24 24.8 -0.4
PKI pmax pmax
comp=Z,24nm,0.5s
PKI Pulchoki 13.65 147 eP Pn 06 24 24.8 -0.4
comp=Z,24nm,0.5s
JIRN Jiri 13.92 144 eP Pn 06 24 28.3 -0.6
comp=Z,28nm,0.4s
JIRN Jiri 13.92 144 eP Pn 06 24 28.3 -0.6
comp=Z,28nm,0.4s
VOSK Vostochnaya 14.01 345 ⇓Pn Pn 06 24 27.6 -2.1
comp=Z,7.9nm,1.2s
VOSK ⇓Lg Lg 06 28 29.4
comp=Z,84nm,1.2s
BVA0 Borovoye Array 14.42 344 ⇓Pn Pn 06 24 36.7 +1.4
comp=Z,16nm,1.4s,baz=152,slow=13,SNR=11
BVA0 ⇑Lg Lg 06 28 42.3
comp=Z,66nm,1.2s,baz=154,slow=25,SNR=3.6
BVA0 Borovoye Array 14.42 344 i P Pn 06 24 37.8 +2.5
BVA0 pmax pmax
comp=Z,16nm,1.5s
BVA0 pmax pmax
comp=N,76nm,1.4s
BVAR Borovoye Array 14.42 344 Pn Pn 06 24 31.5 -3.8
comp=N,0.1nm,0.3s,baz=149,slow=12,SNR=8.9
BVAR Lg Lg 06 28 40.3
comp=N,0.4nm,0.3s,baz=151,slow=22,SNR=7.0
BVAR LR LR 06 30 21.6
comp=N,238nm,20.7s,baz=160,slow=39
BRVK Borovoye 14.47 343 eP Pn 06 24 38.1 +2.1
BRVK Borovoye 14.47 343 ePn Pn 06 24 38.1 +2.1
RAMN Ramite 14.71 144 eP Pn 06 24 39.5 -0.1
comp=N,32nm,0.6s
RAMN Ramite 14.71 144 eP Pn 06 24 39.5 -0.1
comp=N,32nm,0.6s
TAPN Taplejung 14.90 140 eP Pn 06 24 42.5 +0.3
comp=N,14nm,0.6s
TAPN Taplejung 14.90 140 eP Pn 06 24 42.5 +0.3
comp=N,14nm,0.6s
LSA Lhasa 15.07 125 eP P 06 24 48.4 -1.4
LSA pmax pmax
comp=Z,13nm,1.1s
LSA Lhasa 15.07 125 eP P 06 24 48.4 -1.4
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 15.52 17 Pn Pn 06 24 48.7 -1.2
comp=Z,0.4nm,0.3s,baz=207,slow=9.7,SNR=18
ZALV LR LR 06 30 45.5
comp=Z,90nm,19.9s,baz=244,slow=37
AB31 Akbulak array 15.72 315 ⇓Pn Pn 06 24 53.1 +0.7
comp=Z,3.8nm,0.7s,baz=123,slow=13,SNR=40
AB31 ⇓Lg Lg 06 29 23.7
comp=Z,9.5nm,0.8s
AB31 Akbulak array 15.72 315 i P Pn 06 24 53.0 +0.5
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 15.72 315 eP Pn 06 24 52.8 +0.3
comp=Z,3.6nm,0.6s
NVS Novosibirsk 16.04 13 eP Pn 06 24 56.3 -0.3
BHPL Bhopal 16.07 179 eP P 06 24 59.1 -1.3
BHPL ex x 06 27 43.9
AKTO Aktyubinsk 17.40 316 ⇓Pn Pn 06 25 11.8 -2.1
comp=Z,26nm,1.8s
AKTO ⇓Lg Lg 06 30 18.8
comp=Z,34nm,1.4s
AKTO Aktyubinsk 17.40 316 P Pn 06 25 11.7 -2.1
AKTO pmax pmax
comp=Z,13nm,1.0s
AKTO Aktyubinsk 17.40 316 P Pn 06 25 10.5 -3.3
comp=Z,0.3nm,0.3s,baz=117,slow=16,SNR=13
AKTO LR LR 06 32 20.7
comp=Z,243nm,19.5s,baz=130,slow=39
GTA Gaotai 17.59 83 eP P 06 25 17.1 -0.1
GTA pP pP 06 25 21.3 -2.7
GTA sP sP 06 25 24.3 -3.0
GTA S Sn 06 28 29.0 -2.5
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA LR LR
comp=Z,380nm,10.4s
GTA LR LR
comp=Z,190nm,11.4s
GTA LR LR
comp=Z,170nm,13.8s
SHL Shillong 18.55 133 eP Pn 06 25 29.5 +1.2
POO Poona 20.94 189 ex P 06 25 53.0 -0.9
ARU Arti 20.99 331 d iP P 06 25 54.1 -0.1
ARU 06 26 12.7
ARU S Sn 06 29 51.5 -1.7
ARU SS SnSn 06 30 11.9 +3.8
ARU pmax pmax
comp=Z,7.0nm,1.2s
ARU MLR MLR
comp=Z,123nm,12.0s
ARU Arti 20.99 331 eP P 06 25 54.4 +0.2
comp=Z,8.7nm,1.0s
LZH Lanzhou 21.41 90 eP P 06 26 01.8 +2.8
LZH pP pP 06 26 07.0 +1.1
LZH sP sP 06 26 08.4 -0.7
LZH pmax pmax
comp=Z,14nm,1.0s
ZAK Zakamensk 21.49 51 ⇓iP P 06 26 02.0 +2.3
ZAK pmax pmax
comp=Z,4.0nm,1.5s
HYB Hyderabad 21.90 176 eP P 06 26 06.5 +2.3
HYB Hyderabad 21.90 176 eP P 06 26 06.5 +2.3
KAD Karad 22.11 187 eP P 06 26 08.6 +2.1
MAK Makhachkala 22.49 289 eP P 06 26 18.0 +7.7
SONM Songino Array 22.77 59 P P 06 26 15.7 +2.3
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM MLR MLR
comp=Z,120nm,20.7s
SONM Songino Array 22.77 59 P P 06 26 15.7 +2.3
comp=Z,2.0nm,1.0s,baz=268,slow=9.1,SNR=11
SONM LR LR 06 35 44.4
comp=Z,120nm,20.6s,baz=312,slow=38
ULN Ulaanbaatar 23.21 59 eP P 06 26 22.5 +4.5
ULN pmax pmax
comp=Z,17nm,1.5s
ULN Ulaanbaatar 23.21 59 eP P 06 26 22.5 +4.5
comp=Z,17nm,1.5s
GNI Garni 24.79 282 P P 06 26 30.5 -2.4
GNI pmax pmax
comp=Z,4.0nm,0.5s
GNI Garni 24.79 282 P P 06 26 30.5 -2.4
comp=Z,3.6nm,0.5s,baz=163,slow=19,SNR=2.3
GNI Garni 24.79 282 eP P 06 26 35.0 +2.1
comp=Z,3.2nm,0.5s
KBZ Khabaz 25.83 291 LR LR 06 38 21.7
comp=Z,152nm,19.1s,baz=82,slow=40
KIV Kislovodsk 25.97 291 eP P 06 26 44.6 +1.1
KIV e 06 27 24.3
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,97nm,15.0s
NEY Neytrino 25.98 290 eP P 06 26 46.1 +2.4
CMAR Chiang Mai Arr 28.16 131 P P 06 27 04.4 +1.1
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 28.16 131 P P 06 27 04.4 +1.1
comp=Z,1.7nm,0.3s,baz=332,slow=5.1,SNR=5.6
VSR Storozhevoye 28.86 307 eP P 06 27 10.4 +1.3
VSR pmax pmax
comp=Z,18nm,1.0s
BRTR Keskin Array B 33.24 285 P P 06 27 47.3 -0.9
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 33.24 285 P P 06 27 47.2 -0.9
comp=Z,2.2nm,0.9s,baz=85,slow=7.4,SNR=10
AKASG Malin Array Be 35.08 305 P P 06 28 01.8 -1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKASG				MLR	MLR		
	comp=Z,15nm,28.6s						
AKASG	**Malin Array Be**	**35.08**	**305**	P	**P**	**06 28 01.8**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=77,slow=8.0,SNR=3.7						
AKASG				LR	LR	06 43 47.3	
	comp=Z,119nm,18.9s,baz=95,slow=39						
MLR	**Muntele Rosu**	**37.70**	**296**	P	**P**	**06 28 24.2**	**-2.1**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MLR	**Muntele Rosu**	**37.70**	**296**	P	**P**	**06 28 24.2**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=104,slow=14,SNR=3.7						
FINES	**FINESS Array B**	**37.96**	**323**	P	**P**	**06 28 25.8**	**-2.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,15nm,28.6s						
FINES	**FINESS Array B**	**37.96**	**323**	P	**P**	**06 28 25.8**	**-2.4**
	comp=Z,1.1nm,0.6s,baz=116,slow=8.7,SNR=6.6						
FINES				LR	LR	06 44 50.6	
	comp=Z,206nm,18.4s,baz=90,slow=38						
KSRS	**Korea Array**	**39.48**	**76**	LR	LR	06 47 13.5	
	comp=Z,140nm,18.1s,baz=290,slow=40						
ARCES	**ARCESS Array B**	**40.47**	**335**	P	**P**	**06 28 47.9**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,109nm,18.3s						
ARCES	**ARCESS Array B**	**40.47**	**335**	P	**P**	**06 28 47.9**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=80,slow=8.7,SNR=4.0						
ARCES				LR	LR	06 46 46.7	
	comp=Z,109nm,18.3s,baz=103,slow=38						
TIXI	**Tiksi**	**41.33**	**22**	⇓iP	**P**	**06 28 55.8**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NB2	**NORSAR Subarra**	**45.08**	**321**	P	**P**	**06 29 24.7**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=88,slow=7.9						
NOA	**NORSAR Array B**	**45.08**	**321**	P	**P**	**06 29 24.4**	**-2.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**45.08**	**321**	P	**P**	**06 29 24.4**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=90,slow=8.0,SNR=3.9						
GERES	**GERESS Array B**	**45.27**	**304**	P	**P**	**06 29 26.4**	**-1.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES				MLR	MLR		
	comp=Z,73nm,19.8s						
GERES	**GERESS Array B**	**45.27**	**304**	P	**P**	**06 29 26.4**	**-1.9**
	comp=Z,1.0nm,0.7s,baz=64,slow=9.1,SNR=11						
GERES				LR	LR	06 49 30.9	
	comp=Z,73nm,19.8s,baz=90,slow=38						
LPG	**La Plagne**	**50.75**	**301**	eP	**P**	**06 30 10.4**	**-0.6**
	comp=Z,4.7nm,0.7s						
LPG	**La Plagne**	**50.75**	**301**	eP	**P**	**06 30 10.4**	**-0.6**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPG	**La Plagne**	**50.75**	**301**	eP	**P**	**06 30 10.4**	**-0.6**
	comp=Z,4.7nm,0.7s						
LPL	**La Plagne**	**50.76**	**301**	eP	**P**	**06 30 10.3**	**-0.6**
	comp=Z,18nm,1.0s						
LPL	**La Plagne**	**50.76**	**301**	eP	**P**	**06 30 10.3**	**-0.6**
LPL				pmax	pmax		
	comp=Z,18nm,1.0s						
LPL	**La Plagne**	**50.76**	**301**	eP	**P**	**06 30 10.3**	**-0.6**
	comp=Z,18nm,1.0s						
MBDF	**Montbardon**	**51.00**	**300**	eP	**P**	**06 30 11.5**	**-1.2**
MBDF	**Montbardon**	**51.00**	**300**	eP	**P**	**06 30 11.5**	**-1.2**
MBDF	**Montbardon**	**51.00**	**300**	eP	**P**	**06 30 11.5**	**-1.2**
VIVF	**Saint-Julien-l**	**52.35**	**301**	eP	**P**	**06 30 21.6**	**-1.0**
	comp=Z,6.6nm,0.8s						
VIVF	**Saint-Julien-l**	**52.35**	**301**	eP	**P**	**06 30 21.6**	**-1.0**
VIVF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VIVF	**Saint-Julien-l**	**52.35**	**301**	eP	**P**	**06 30 21.6**	**-1.0**
	comp=Z,6.6nm,0.8s						
AVF	**Avril sur Loir**	**52.53**	**304**	eP	**P**	**06 30 22.6**	**-1.3**
	comp=Z,7.5nm,0.8s						
AVF	**Avril sur Loir**	**52.53**	**304**	eP	**P**	**06 30 22.6**	**-1.3**
AVF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AVF	**Avril sur Loir**	**52.53**	**304**	eP	**P**	**06 30 22.6**	**-1.3**
	comp=Z,7.5nm,0.8s						
LASF	**Ste Croix**	**53.18**	**300**	eP	**P**	**06 30 28.0**	**-0.8**
LASF	**Ste Croix**	**53.18**	**300**	eP	**P**	**06 30 28.0**	**-0.8**
BILL	**Bilibino**	**53.90**	**28**	eP	**P**	**06 30 35.4**	**+1.8**
BILL				e		06 31 40.9	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.3s						
MTLF	**Montolieu**	**54.56**	**300**	eP	**P**	**06 30 38.0**	**-0.8**
	comp=Z,5.8nm,0.7s						
MTLF	**Montolieu**	**54.56**	**300**	eP	**P**	**06 30 38.0**	**-0.8**
MTLF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MTLF	**Montolieu**	**54.56**	**300**	eP	**P**	**06 30 38.0**	**-0.8**
	comp=Z,5.8nm,0.7s						
LFF	**La Frestale**	**54.91**	**303**	eP	**P**	**06 30 40.5**	**-0.8**
LFF	**La Frestale**	**54.91**	**303**	eP	**P**	**06 30 40.5**	**-0.8**
LFF	**La Frestale**	**54.91**	**303**	eP	**P**	**06 30 40.5**	**-0.8**
EPF	**Esparros**	**55.94**	**301**	eP	**P**	**06 30 48.3**	**-0.6**
EPF	**Esparros**	**55.94**	**301**	eP	**P**	**06 30 48.3**	**-0.6**
EPF	**Esparros**	**55.94**	**301**	eP	**P**	**06 30 48.3**	**-0.6**
ETSF	**Etsaut**	**56.60**	**301**	eP	**P**	**06 30 52.8**	**-0.8**
ETSF	**Etsaut**	**56.60**	**301**	eP	**P**	**06 30 52.8**	**-0.8**
ETSF	**Etsaut**	**56.60**	**301**	eP	**P**	**06 30 52.8**	**-0.8**
ESDC	**Sonseca Array**	**60.33**	**299**	P	**P**	**06 31 17.6**	**-2.0**
	comp=Z,0.6nm,0.5s,baz=58,slow=6.5,SNR=5.1						
INK	**Inuvik**	**70.23**	**12**	P	**P**	**06 32 23.2**	**0.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**70.23**	**12**	P	**P**	**06 32 23.2**	**0.0**
	comp=Z,1.2nm,0.9s,baz=326,slow=6.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**70.52**	**271**	P	**P**	**06 32 24.1**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=51,slow=5.1,SNR=9.1						
ILAR	**Eielson Array**	**70.64**	**18**	P	**P**	**06 32 25.1**	**-0.7**
	comp=Z,0.3nm,1.0s,baz=309,slow=5.0,SNR=5.3						
YKA	**Yellowknife Ar**	**78.06**	**6**	P	**P**	**06 33 08.5**	**-0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**78.06**	**6**	P	**P**	**06 33 08.5**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=345,slow=5.6,SNR=22						
WRA	**Warramunga Arr**	**79.62**	**126**	P	**P**	**06 33 19.4**	**+1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**79.62**	**126**	P	**P**	**06 33 19.4**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=328,slow=5.5,SNR=5.3						
ASAR	**Alice Springs**	**82.14**	**129**	P	**P**	**06 33 32.2**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**82.14**	**129**	P	**P**	**06 33 32.2**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=324,slow=5.6,SNR=8.3						

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*KRNET **13** 06:46:04.4±0.1, 39.04N×77.07E, h21km, mb4.1*
*NNC **13** 06:46:10.0±1.1, 39.53N×76.56E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=13.5km s-min=8.9km az=61.0*
ISC 13 06:46:08.1±3.1**, 39.3N**±0.1×**76.9E**±0.1**, h10km, n26, σ1§95**/33**, 18C-5D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.70**	**286**	eP	**Pn**	**06 46 51.8**	**+0.1**
	baz=291						
SFK				eS	**Sn**	**06 47 26.6**	**+2.1**
	baz=291						
ULHL	**Ulahol**	**2.98**	**351**	P	Pn	06 46 57.3	+1.7
	SNR=6.2						
ULHL	**Ulahol**	**2.98**	**351**	⇑iP	**Pn**	**06 46 56.3**	**+0.7**
	baz=349						
ULHL				⇑iS	Sn	06 47 34.6	+3.1
	baz=349						
KZA	**Kyzart**	**3.04**	**337**	P	Pn	06 46 58.4	+1.8
	SNR=25						
KZA	**Kyzart**	**3.04**	**337**	⇑iP	**Pn**	**06 46 58.2**	**+1.7**
	baz=336						
KZA				⇑iS	Sn	06 47 37.0	+3.8
	baz=336						
ARLS	**Aral**	**3.21**	**324**	iP	**Pn**	**06 47 01.2**	**+2.5**
	baz=324						
BOOM	**Boomskoye usch**	**3.26**	**348**	eP	**Pn**	**06 47 00.0**	**+0.5**
	baz=346						
BOOM				eS	Sn	06 47 43.2	+4.7
	baz=346						
UCH	**Uchtor**	**3.43**	**329**	P	**Pb**	**06 47 07.2**	**-1.9**
	SNR=6.4						
KBK	**Karagaybulak**	**3.66**	**337**	P	**Pb**	**06 47 09.9**	**-2.9**
	SNR=8.1						
KBK	**Karagaybulak**	**3.66**	**337**	eP	**Pn**	**06 47 02.0**	**-2.8**
	baz=16						
KBK				eS	**Sn**	**06 47 47.2**	**-0.9**
	baz=16						
KBK	**Karagaybulak**	**3.66**	**337**	⇑iP	**Pn**	**06 47 06.4**	**+1.6**
	baz=337						
KBK				⇑iS	**Sb**	**06 47 56.1**	**-1.2**
	baz=337						
AML	**Almayashu**	**3.72**	**321**	P	Pn	06 47 09.3	+3.4
	SNR=11						
AML	**Almayashu**	**3.72**	**321**	⇑iP	**Pn**	**06 47 04.4**	**-1.5**
	baz=321						
AML				⇑iS	**Sb**	**06 47 58.1**	**-1.2**
	baz=321						
TKM2	**Tokmak 2**	**3.74**	**346**	⇑Pn	**Pn**	**06 47 05.2**	**-0.8**
	7.6nm,0.5s						
TKM2				⇑Lg	Lg	06 48 00.7	
	37nm,0.5s						
TKM2	**Tokmak 2**	**3.74**	**346**	P	**Pn**	**06 47 05.7**	**-0.4**
	SNR=10						
TKM2	**Tokmak 2**	**3.74**	**346**	⇑iP	**Pn**	**06 47 05.7**	**-0.4**
	baz=344						
TKM2				⇑iS	**Sb**	**06 47 59.0**	**-0.9**
	baz=344						
AAK	**Ala-Archa**	**3.79**	**332**	⇓Pn	**Pn**	**06 47 05.8**	**-0.8**
	5.3nm,0.9s						
AAK				⇓Pg	**Pb**	**06 47 12.8**	**-2.3**
	17nm,0.6s						
AAK				⇓Lg	Lg	06 48 00.5	
	118nm,1.0s						
AAK	**Ala-Archa**	**3.79**	**332**	P	**Pb**	**06 47 12.9**	**-2.1**
	SNR=6.6						
AAK	**Ala-Archa**	**3.79**	**332**	⇓iP	Pn	06 47 11.1	+4.5
	baz=332						
AAK				⇓iS	**Sb**	**06 48 00.0**	**-1.0**
	baz=332						
CHMS	**Chumysh**	**4.03**	**337**	P	Pb	06 47 15.0	-4.1
	SNR=6.7						
CHMS	**Chumysh**	**4.03**	**337**	⇑iP	**Pn**	**06 47 08.6**	**-1.2**
	baz=337						
CHMS				⇑iS	**Sb**	**06 48 07.2**	**-0.7**
	baz=337						
EKS2	**Erkin-Say**	**4.09**	**326**	P	Pn	06 47 15.7	+4.9
	SNR=6.1						
EKS2	**Erkin-Say**	**4.09**	**326**	⇑iP	**Pn**	**06 47 10.6**	**-0.2**
	baz=326						
EKS2				⇑iS	**Sb**	**06 48 08.5**	**-1.4**
	baz=326						
USP	**Ospenovka**	**4.35**	**337**	P	**Sb**	**06 48 17.6**	**+0.6**
	SNR=5.7						
KK31	**Karatay Array**	**6.12**	**310**	⇑Pg	**Pb**	**06 47 55.5**	**+0.7**
	0.5nm,0.3s,baz=125,slow=18,SNR=5.2						
KK31				⇑Lg	Lg	06 49 13.8	
	5.8nm,0.5s,baz=124,slow=27,SNR=5.7						
CEP	**Cherat**	**6.77**	**218**	P	Pn	06 47 50.3	+2.7

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*ISCJB **13** 07:06:18.8±0.6, 39.40N±0.03×38.41E±0.04, h10km±5km, Error ellipse: s-maj=5.7km s-min=5.3km az=19.1*
*DDA **13** 07:06:18.4, 39.43N×38.56E, h5km, MD3.3*
*CSEM **13** 07:06:18.3±0.2, 39.42N×38.39E, h2km, MD3.5, Error ellipse: s-maj=6.2km s-min=5.1km az=165.0*
*ISK **13** 07:06:18.0, 39.40N×38.40E, h8km, MD3.5*
ISC 13 07:06:19.1±0.8**, 39.45N**±0.02×**38.45E**±0.03**, h14**km±4km**, n50, σ1§40**/63**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.09**	**90**	ePG	**Pb**	**07 06 22.9**	**+0.6**
ILIC				eSG	**Sb**	**07 06 25.2**	**+0.8**
ILIC	**ilic-Erzincan**	**0.09**	**90**	ePg	**Pb**	**07 06 22.9**	**+0.6**
ILIC				eSg	**Sb**	**07 06 25.3**	**+0.8**
KEMA	**Kemaliye**	**0.18**	**170**	iP	**Pg**	**07 06 21.4**	**-2.1**
KEMA				iS	**Sg**	**07 06 24.9**	**-1.6**
KEMA	**Kemaliye**	**0.18**	**170**	iP	**Pg**	**07 06 21.4**	**-2.1**
KEMA				iS	**Sg**	**07 06 24.9**	**-1.6**
SUSE	**Susehri**	**0.78**	**346**	iP	**Pg**	**07 06 34.3**	**0.0**
SUSE				iS	**Sn**	**07 06 48.2**	**+0.9**
SUSE	**Susehri**	**0.78**	**346**	iP	**Pg**	**07 06 34.3**	**0.0**
SUSE				iS	**Sn**	**07 06 48.2**	**+0.9**
PTK	**Pertek**	**0.92**	**127**	ePG	**Pb**	**07 06 35.4**	**-1.5**
PTK				eSG	**Sg**	**07 06 49.0**	**0.0**
PTK	**Pertek**	**0.92**	**127**	ePg	**Pb**	**07 06 35.4**	**-1.5**
PTK				eSg	**Sg**	**07 06 49.0**	**0.0**
KELT	**Kelkit**	**0.93**	**41**	iP	**Pb**	**07 06 36.4**	**-0.7**
KELT				iS	**Sg**	**07 06 46.0**	**-3.4**
KELT	**Kelkit**	**0.93**	**41**	iP	**Pb**	**07 06 36.4**	**-0.7**
KELT				iS	**Sg**	**07 06 46.0**	**-3.4**
ERZN	**Erzincan**	**0.99**	**82**	ePG	**Pb**	**07 06 38.1**	**0.0**
DARE	**Darende-Malaty**	**1.16**	**221**	ePN	**Pn**	**07 06 39.4**	**-1.5**
DARE	**Darende-Malaty**	**1.16**	**221**	ePn	**Pn**	**07 06 39.4**	**-1.5**
SVSK	**Karacayir**	**1.21**	**293**	ePN	**Pn**	**07 06 41.2**	**-0.4**
SVSK	**Karacayir**	**1.21**	**293**	ePn	**Pn**	**07 06 41.2**	**-0.4**
GUMT	**Gumushane**	**1.28**	**38**	ePN	**Pn**	**07 06 42.8**	**+0.2**
GUMT	**Gumushane**	**1.28**	**38**	ePn	**Pn**	**07 06 42.8**	**+0.2**
RSDY	**Resadiye-TOKAT**	**1.28**	**318**	ePN	**Pb**	**07 06 42.9**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.28**	**318**	ePn	**Pb**	**07 06 42.9**	**0.0**
BAYT	**Ayd¯–ntepe-Bay**	**1.60**	**54**	ePN	**Pb**	**07 06 48.2**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.60**	**54**	ePn	**Pb**	**07 06 48.2**	**-0.3**
BINT	**Bingol**	**1.69**	**109**	ePN	**Pn**	**07 06 50.3**	**+0.4**
BNGB	**Bing¨¶l**	**1.79**	**104**	ePN	**Pn**	**07 06 50.3**	**+0.7**
KTUT	**Trabzon**	**1.83**	**33**	ePN	**Pb**	**07 06 51.5**	**-0.8**
KTUT	**Trabzon**	**1.83**	**33**	ePn	**Pb**	**07 06 51.5**	**-0.8**
DYBB	**Diyarbakir**	**2.00**	**138**	ePN	**Pn**	**07 06 52.5**	**+0.1**
URFA	**Urfa**	**2.03**	**172**	ePN	**Pn**	**07 06 53.0**	**+0.2**
URFA	**Urfa**	**2.03**	**172**	ePn	**Pn**	**07 06 53.0**	**+0.2**
DIY	**Diyarbakir**	**2.08**	**138**	ePn	Pn	07 06 52.5	-1.1
BNN	**Bunyan**	**2.11**	**254**	ePN	**Pn**	**07 06 53.9**	**-0.2**
BNN	**Bunyan**	**2.11**	**254**	ePn	**Pn**	**07 06 53.9**	**-0.2**
EZM	**Erzurum**	**2.29**	**78**	ePN	**Pn**	**07 06 58.6**	**+2.0**
KMRS	**Kahramanmaras**	**2.29**	**213**	ePN	**Pn**	**07 06 56.9**	**+0.4**
KMRS	**Kahramanmaras**	**2.29**	**213**	ePn	**Pn**	**07 06 56.9**	**+0.4**
HCB	**Kahramanmara¯**	**2.40**	**151**	iP	**Pn**	**07 07 00.1**	**+2.2**
HCB				iS	**Sg**	**07 07 38.7**	**+2.6**
YOZ	**Yozgat**	**2.43**	**275**	ePN	**Pn**	**07 06 58.8**	**+0.4**
YOZ	**Yozgat**	**2.43**	**275**	ePn	**Pn**	**07 06 58.8**	**+0.4**
ANDN	**Andirin**	**2.50**	**222**	iP	**Pn**	**07 07 01.1**	**+1.8**
ANDN	**Andirin**	**2.50**	**222**	iP	**Pn**	**07 07 01.1**	**+1.8**
ANDN				iS	**Sg**	**07 07 43.5**	**+4.2**
SVAN	**Silvan-Diyarba**	**2.51**	**120**	ePN	**Pn**	**07 07 00.3**	**+0.9**
MAZI	**Mazidag**	**2.53**	**141**	ePN	**Pn**	**07 07 00.8**	**+1.0**
MAZI	**Mazidag**	**2.53**	**141**	ePn	**Pn**	**07 07 00.8**	**+1.0**
KOZT	**Kozan**	**2.85**	**227**	ePN	**Pn**	**07 07 04.7**	**+0.6**
KOZT	**Kozan**	**2.85**	**227**	ePn	**Pn**	**07 07 04.7**	**+0.6**
DBAD	**Bademkaya**	**2.93**	**57**	iP	**Pn**	**07 07 07.2**	**+1.8**
DBAD	**Bademkaya**	**2.93**	**57**	iP	**Pn**	**07 07 07.2**	**+1.8**
DBAD				iS	**Sg**	**07 07 52.3**	**-1.0**
CORM	**Corum**	**3.03**	**285**	ePN	**Pn**	**07 07 07.4**	**+0.7**
CORM	**Corum**	**3.03**	**285**	ePn	**Pn**	**07 07 07.4**	**+0.7**
AGRB	**Hanur-Agry**	**3.51**	**87**	ePN	**Pn**	**07 07 15.4**	**+2.0**
AGRB	**Hanur-Agry**	**3.51**	**87**	ePn	**Pn**	**07 07 15.4**	**+2.0**

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*NNC **13** 07:17:04.7±4.7, 53.56N×86.88E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=37.4km s-min=33.0km az=16.0*
*IDC **13** 07:17:04.7±2.2, 54.10N×86.33E, h0km, mb1 3.3/2, mb1mx3.0/51, mbtmp3.3/2, ML3.3/2, Error ellipse: s-maj=18.1km s-min=10.8km az=61.0*
ISC 13 07:17:10.5±5.0**, 53.9N**±0.2×**86.4E**±0.2**, h35km, n7, σ2§27**/7**, 2C-6D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**272**	i		07 23 00.1	
	baz=80,slow=359,SNR=0.8						
ZALV	**Zalesovo Beam**	**0.96**	**272**	Pg	Pn	07 17 21.2	-6.2
	1.9nm,0.3s,baz=78,slow=16,SNR=27						
ZALV				Lg	Lg	07 17 34.7	
	2.6nm,0.3s,baz=78,slow=29,SNR=17						
KURK	**Kurchatov**	**5.77**	**239**	⇑Pn	**Pn**	**07 18 33.1**	**-0.4**
	2.3nm,1.3s						
KURK				⇓Lg	Lg	07 20 10.4	
	2.2nm,0.9s						
KURBB	**Kurchatov Arra**	**5.88**	**239**	⇓Pn	**Pn**	**07 18 34.7**	**-0.2**
	2.5nm,0.5s						
KURBB				⇓Sn	**Sn**	**07 19 41.8**	**+0.8**
	2.1nm,0.6s						
KURBB				⇓Lg	Lg	07 20 15.4	
	7.7nm,0.8s						
KURBB	**Kurchatov Arra**	**5.88**	**239**	Pn	**Pn**	**07 18 34.8**	**-0.2**
	0.8nm,0.3s,baz=54,slow=13,SNR=27						
KURBB				Lg	Lg	07 20 12.3	
	0.1nm,0.3s,baz=54,slow=28,SNR=6.0						
MKAR	**Makanchi Array**	**7.62**	**202**	Pn	**Pn**	**07 18 59.5**	**+0.6**
	0.4nm,0.3s,baz=24,slow=14,SNR=19						
MKAR				Sn	**Sn**	**07 20 26.6**	**+2.6**
	0.1nm,0.3s,baz=17,slow=21,SNR=7.1						
MKAR				Lg	Lg	07 21 09.2	
	0.0nm,0.3s,baz=30,slow=32,SNR=5.1						
MK02	**Makanchi Array**	**7.64**	**202**	⇑Pn	Pn	07 18 52.2	-7.0
	1.5nm,0.9s,baz=24,slow=13						
MK02				⇓Sn	**Sn**	**07 20 20.9**	**-3.6**
	1.4nm,0.8s,baz=26,slow=30						
MK02				⇓Lg	Lg	07 21 02.4	
	2.8nm,0.9s,baz=32,slow=35						

IDC 13 07:17:27.5±2.7**, 54.13N**×**86.43E, h0km, mb1 3.0**/2**, mb1mx2.9**/52**, mbtmp3.0**/2**, ML3.0**/2**, Error ellipse: s-maj=22.2km s-min=13.2km az=58.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**260**	i		07 23 22.2	
	baz=79,slow=366						
ZALV	**Zalesovo Beam**	**0.96**	**260**	Pg	Pg	07 17 45.1	-0.9
	1.9nm,0.3s,baz=77,slow=17,SNR=30						
ZALV				Lg	Lg	07 17 59.6	
	2.4nm,0.3s,baz=79,slow=27,SNR=6.8						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	07 18 58.3	+1.2
	0.4nm,0.3s,baz=54,slow=13,SNR=5.3						
MKAR	**Makanchi Array**	**7.80**	**201**	Pn	Pn	07 19 23.0	+0.8
	0.2nm,0.3s,baz=20,slow=14,SNR=6.3						

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*IDC **13** 07:31:42.8±2.5, 2.41S×130.93E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.5/34, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=209.1km s-min=26.5km az=72.0*
*ISCJB **13** 07:31:49.5±0.7, 2.76S±0.07×129.81E±0.05, h33km, mb3.7/2, Error ellipse: s-maj=10.0km s-min=6.8km az=166.2*
*DJA **13** 07:31:50.1±0.4, 3°S±4°×13°0E±°, h98km±13km, M3.7/9, MLv3.7/9*
ISC 13 07:31:49.0±1.3**, 2.63S**±0.09×**130.0E**±0.1**, h35km, n10, σ1§65**/10**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.27**	**236**	P	**Pn**	**07 32 10.8**	**+0.5**
MSAI				S	**Sn**	**07 32 28.0**	**+1.8**
BNDI	**Bandanaira**	**1.88**	**182**	P	**Pn**	**07 32 20.1**	**+1.4**
SWI	**Sorong**	**2.17**	**36**	P	Pn	07 32 27.5	+4.8
SWI				S	Sn	07 32 56.7	+8.3
FAKI	**Fak Fak**	**2.28**	**97**	P	Pn	07 32 27.6	+3.4
FAKI				S	Sn	07 32 55.8	+4.7
NLAI	**Namlea**	**2.94**	**258**	P	**Pn**	**07 32 32.6**	**-0.7**
LBMI	**Labuha**	**3.18**	**309**	P	**Pn**	**07 32 37.3**	**+0.7**
SANI	**Sanana**	**4.04**	**278**	P	**Pn**	**07 32 47.3**	**-1.1**
WRA	**Warramunga Arr**	**17.72**	**166**	P	**Pn**	**07 35 50.3**	**-2.9**
	0.3nm,0.3s,baz=350,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**21.25**	**170**	P	**P**	**07 36 31.5**	**-0.8**
	6.3nm,0.7s,baz=351,slow=11,SNR=66						
ASAR				PcP	**PcP**	**07 40 36.5**	**-0.2**
	0.2nm,0.5s,baz=350,slow=2.1,SNR=4.7						
MKAR	**Makanchi Array**	**64.61**	**326**	P	**P**	**07 42 24.6**	**+1.5**
	0.2nm,0.6s,baz=120,slow=7.7,SNR=3.4						

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*IDC **13** 08:27:57.6±0.8, 15.43S×173.26W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.2/33, mbtmp4.2/10, MS4.1/19, Ms1 4.1/19, ms1mx4.0/30, Error ellipse: s-maj=41.5km s-min=17.6km az=135.0*
*ISCJB **13** 08:28:00.6±0.6, 15.25S±0.1×173.4W±0.2, h29km, mb4.3/17, MS4.2/19, Error ellipse: s-maj=27.3km s-min=11.2km az=41.2*
*GCMT **13** 08:28:02.9±0.3, 15.11S×172.77W, h22km±1km, MW5.0/67, Moment Tensor Solution. s25,c28; s67,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.49±.16; $M_{\theta\theta}$1.68±.15; $M_{\phi\phi}$-2.17±.13; $M_{r\theta}$0.14±.20; $M_{r\phi}$-2.74±.10; $M_{\theta\phi}$0.55±.20; Best double couple: $M_0$3.38900×10^{16} NP1:ϕ_s162.00000°, δ87.00000°, λ-7.00000°. NP2: ϕ_s253.00000°, δ83.00000°, λ-177.00000°. Principal axes: T 3.1100, Plg3.0000°, Azm208.0000°; N 0.5600, Plg82.0000°, Azm319.0000°; P -3.6670, Plg8.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 08:28:02.9±0.6, 15.30S×173.27W, h35km, mb4.6/8 Error ellipse: s-maj=27.8km s-min=11.6km az=128.0*
ISC 13 08:28:02.3±0.8**, 15.45S**±0.2×**173.2W**±0.2**, h29km, n51, σ1§30**/22**, mb4.3**/17**, MS4.1**/19**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.03**	**44**	Pn	Pn	08 28 23.5	-11
	132nm,0.3s,baz=177,slow=2.9,SNR=41						
AFI				Sn	Sn	08 28 40.1	-19
	341nm,0.3s,baz=71,slow=20,SNR=21						
AFI	**Afiamalu**	**2.03**	**44**	ePn	Pn	08 28 23.4	-11
AFI				eSn	Sn	08 28 39.3	-20
MSVF	**Nonsavu**	**8.69**	**253**	ePn	Pn	08 30 11.8	+5.6
	114nm,1.3s						
DZM	**Mont Dzumac**	**20.36**	**248**	eP	Pn	08 32 42.4	+3.4
	111nm,1.4s						
DZM				eLR	LR	08 37 48.9	
	1μm,24.8s						
DZM	**Mont Dzumac**	**20.36**	**248**	P	Pn	08 32 40.9	+1.9
	17nm,0.9s,baz=85,slow=19,SNR=4.3						
DZM				LR	LR	08 39 36.3	
	comp=Z,532nm,19.4s,baz=38,slow=34						
PAE	**Paea**	**22.78**	**99**	eT	T	08 55 54.2	
	3.4nm,0.3s						
PPT2	**Papeete2**	**22.78**	**99**	eLQ	LQ	08 37 19.0	
	2μm,30.5s						
PPT2				eLR	LR	08 38 18.2	
	975nm,27.2s						
PPT2	**Papeete2**	**22.78**	**99**	eT	T	08 55 55.5	
	4.4nm,0.4s						
OUZ	**Omahuta**	**23.02**	**209**	eP	**P**	**08 33 07.0**	**+2.0**
	13nm,1.0s						
TVO	**Taravao**	**23.09**	**99**	eT	T	08 56 18.8	
	2.1nm,0.4s						
TBI	**Tubuai**	**23.75**	**113**	eT	T	08 57 23.6	
	9.1nm,0.3s						
URZ	**Urewera**	**24.33**	**199**	P	**P**	**08 33 17.2**	**-0.3**
	11nm,0.8s,baz=333,slow=3.7,SNR=12						
URZ	**Urewera**	**24.33**	**199**	eP	**P**	**08 33 18.6**	**+1.0**
	17nm,1.2s						
ARMA	**Armidale**	**35.50**	**239**	eP	**P**	**08 34 56.5**	**-0.2**
	2.6nm,0.8s						
RKT	**Rikitea**	**36.84**	**108**	eLR	LR	08 44 51.4	
	669nm,30.8s						
RKT	**Rikitea**	**36.84**	**108**	eT	T	09 13 38.3	
	4.0nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**39.04**	**329**	T	T	09 17 04.8	
	baz=151,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**39.05**	**329**	T	T	09 17 21.0	
	baz=151,slow=76,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**39.06**	**329**	T	T	09 16 59.9	
	baz=151,slow=76,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	09 18 11.2	
	baz=152,slow=77,SNR=21						
H11N1	**WAKE ISLAND Hy**	**39.99**	**330**	T	T	09 18 05.4	
	baz=152,slow=77,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	09 18 08.5	
	baz=152,slow=77,SNR=24						
COEN	**Coen**	**42.15**	**266**	eP	**P**	**08 35 54.3**	**+1.6**
	117nm,1.7s						
STKA	**Stephens Creek**	**44.19**	**240**	P	**P**	**08 36 07.6**	**-1.3**
	4.0nm,0.8s,baz=77,slow=8.5,SNR=7.8						
STKA				LR	LR	08 52 22.4	
	comp=Z,211nm,20.2s,baz=47,slow=33						
WRAB	**Tennant Creek**	**50.00**	**257**	eP	**P**	**08 36 53.1**	**-1.4**
	6.4nm,1.2s						
WRA	**Warramunga Arr**	**50.01**	**257**	P	**P**	**08 36 53.1**	**-1.5**
	1.4nm,0.4s,baz=91,slow=6.9,SNR=28						
WRA				LR	LR	08 58 06.1	
	comp=Z,263nm,18.3s,baz=90,slow=36						
ASAR	**Alice Springs**	**50.28**	**252**	P	**P**	**08 36 55.2**	**-1.3**
	5.6nm,0.5s,baz=89,slow=7.8,SNR=92						
ASAR				LR	LR	08 56 40.6	
	comp=Z,583nm,20.2s,baz=95,slow=34						
FORT	**Forrest**	**55.58**	**243**	eP	**P**	**08 37 34.0**	**-1.5**
	16nm,1.2s						
FX1	**Attu Island--F**	**69.00**	**351**	LR	LR	09 03 38.2	
	comp=Z,88nm,19.8s,baz=177,slow=31						
MJAR	**Matsushiro Arr**	**69.04**	**320**	LR	LR	09 03 17.6	

comp=Z,119nm,21.9s,baz=140,slow=31
PETK Petropavlovsk- 72.67 342 P P 08 39 28.5 +1.4
2.8nm,0.8s,baz=142,slow=12,SNR=3.6
PETK LR LR 09 08 49.8
comp=Z,32nm,19.2s,baz=133,slow=34
YBH Yreka Blue Hor 73.48 37 LR LR 09 02 33.7
comp=Z,275nm,21.2s,baz=220,slow=28
NVAR Mina Array Bea 74.20 42 P P 08 39 38.1 +1.4
1.1nm,0.8s,baz=227,slow=8.6,SNR=6.6
NVAR LR LR 09 05 16.0
comp=Z,317nm,19.9s,baz=126,slow=30
KSRS Korea Array 76.27 315 LR LR 09 09 46.7
comp=Z,55nm,19.6s,baz=125,slow=33
USRK Ussuriysk Arra 77.47 323 LR LR 09 07 19.9
comp=Z,113nm,21.9s,baz=125,slow=30
TXAR Lajitas Array 80.46 56 P P 08 40 10.9 -1.0
1.0nm,1.1s,baz=243,slow=5.5,SNR=5.7
TXAR LR LR 09 09 17.0
comp=Z,167nm,19.4s,baz=0.0,slow=31
MCK McKinley 81.08 11 eP P 08 40 12.8 -1.5
4.0nm,0.9s
COLA College 82.32 11 eP P 08 40 19.4 -1.4
13nm,1.3s
ILAR Eielson Array 82.40 11 P P 08 40 20.8 -0.4
1.0nm,0.8s,baz=222,slow=4.7,SNR=8.7
ILAR LR LR 09 08 28.7
comp=Z,85nm,21.0s,baz=161,slow=30
MAW Mawson 87.86 199 LR LR 09 17 59.3
comp=Z,163nm,18.8s,baz=102,slow=34
INK Inuvik 88.21 14 P P 08 40 49.1 -1.0
1.1nm,0.9s,baz=202,slow=4.0,SNR=3.6
PLCA Paso Flores 89.39 132 LR LR 09 13 14.7
comp=Z,71nm,20.4s,baz=282,slow=30
YKA Yellowknife Ar 90.02 23 P P 08 40 58.1 -0.7
1.0nm,0.9s,baz=238,slow=4.3,SNR=12
CMAR Chiang Mai Arr 92.77 288 LR LR 09 16 50.4
comp=Z,42nm,21.1s,baz=144,slow=32
ULM Lac du Bonnet 93.81 39 LR LR 09 18 12.5
comp=Z,256nm,18.3s,baz=252,slow=32
SONM Songino Array 94.95 318 LR LR 09 23 23.3
comp=Z,44nm,18.5s,baz=108,slow=35
ROSC El Rosal 99.83 88 LR LR 09 19 01.0
comp=Z,81nm,18.5s,baz=282,slow=31
KMBO Kilima Mbogo 145.69 244 PKPbc PKPdf 08 47 39.3 -0.1
2.3nm,0.8s,baz=198,slow=1.3,SNR=5.2
KHC Kasperske Hory 145.89 352 ePKP PKPdf 08 47 38.5 +0.1
KHC esPKP 08 47 54.5
GERES GERESS Array B 146.15 352 PKPbc PKPdf 08 47 39.7 +0.8
2.1nm,0.9s,baz=22,slow=4.3,SNR=8.5
BRTR Keskin Array B 146.25 321 PKPbc PKPdf 08 47 41.3 +1.9
5.6nm,1.0s,baz=114,slow=1.5,SNR=11

IDC 13 08:31:20.8±3.7, 55.61N×86.08E, h0km, mb1 2.7/1, mb1mx2.7/39, mbtmp2.7/1, ML2.7/1, Error ellipse: s-maj=29.2km s-min=27.8km az=180.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.82	204	i		08 42 50.0	
	baz=23,slow=343,SNR=16						
ZALV	Zalesovo Beam	1.82	204	Pn	Pn	08 31 51.8	-1.6
	3.7nm,0.3s,baz=22,slow=16,SNR=40						
ZALV				Lg	Lg	08 32 18.8	
	2.8nm,0.3s,baz=24,slow=29,SNR=17						
MKAR	Makanchi Array	9.14	197	Pn	Pn	08 33 34.3	+0.3
	0.1nm,0.3s,baz=20,slow=14,SNR=3.5						
MKAR				Lg	Lg	08 36 10.2	
	0.1nm,0.3s,baz=28,slow=34,SNR=2.9						

IDC 13 08:32:20.4±1.6, 20.46S×174.58W, h0km, mb4.3/8, mb1 4.5/8, mb1mx4.0/36, mbtmp4.2/8, Error ellipse: s-maj=70.1km s-min=22.3km az=147.0
ISCJB 13 08:32:26.8±1.7, 20.5S±0.4×174.7W±0.3, h56km, mb4.2/8, Error ellipse: s-maj=68.3km s-min=20.1km az=144.6
ISC 13 08:32:27.9±1.7, 20.4S±0.4×174.7W±0.3, h56km, n16, σ1§23/12, mb4.1/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	17.70	261	eLR	LR	08 40 44.8	
	249nm,24.4s						
PPT2	Papeete2	23.87	87	eLR	LR	08 43 01.2	
	262nm,25.0s						
RKT	Rikitea	36.87	102	eLR	LR	08 48 50.0	
	177nm,27.5s						
STKA	Stephens Creek	40.64	245	P	P	08 40 02.9	+0.1
	1.6nm,0.8s,baz=61,slow=10,SNR=2.8						
ASAR	Alice Springs	47.58	256	P	P	08 40 58.5	0.0
	1.8nm,0.8s,baz=88,slow=8.3,SNR=15						
WRA	Warramunga Arr	47.71	261	P	P	08 40 59.5	+0.1
	1.4nm,0.8s,baz=96,slow=7.7,SNR=12						
MJAR	Matsushiro Arr	72.06	322	P	P	08 43 46.1	-0.1
	10nm,1.1s,baz=164,slow=5.7,SNR=7.9						
NVAR	Mina Array Bea	78.86	42	P	P	08 44 26.1	+0.7
	2.2nm,0.9s,baz=223,slow=9.2,SNR=9.7						
SEY	Seymchan	87.06	346	P	P	08 45 08.6	+1.7
	2.2nm,0.9s,baz=148,slow=9.1,SNR=4.7						
CMAR	Chiang Mai Arr	93.06	288	P	P	08 45 38.6	+2.5
	1.9nm,0.3s,baz=112,slow=2.3,SNR=8.4						
YKA	Yellowknife Ar	95.17	24	P	P	08 45 44.2	-0.5
	0.2nm,0.8s,baz=247,slow=5.2,SNR=4.1						
AKASG	Malin Array Be	144.41	334	PKP	PKPdf	08 51 57.4	-0.3
	1.2nm,0.7s,baz=41,slow=4.2,SNR=19						
CLL	Collm	148.61	351	ePKP	PKPab	08 52 10.0	-2.1
	comp=Z,6.0nm,1.0s						
CLL				e		08 52 20.0	
	comp=Z,4.0nm,0.8s						
BRG	Berggiesshubel	148.88	349	eP	PKPab	08 52 10.9	-2.2
	comp=Z,3.9nm,0.9s						
BRTR	Keskin Array B	149.07	315	PKPbc	PKPbc	08 52 09.8	-0.4
	comp=Z,1.6nm,0.8s,baz=113,slow=3.7,SNR=7.5						
GERES	GERESS Array B	150.88	349	PKPbc	PKPbc	08 52 14.8	+0.6
	comp=Z,1.2nm,0.7s,baz=29,slow=3.0,SNR=9.9						

IDC 13 08:36:11.3±0.7, 15.31S×173.40W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.0/36, mbtmp4.1/11, MS3.7/2, Ms1 3.7/2, ms1mx3.1/33, Error ellipse: s-maj=41.3km s-min=17.1km az=141.0
ISCJB 13 08:36:15.8±0.6, 15.3S±0.2×173.5W±0.2, h42km, mb4.1/12, MS4.3/1, Error ellipse: s-maj=31.5km s-min=13.5km az=141.2
NEIC 13 08:36:16.9±0.5, 15.28S×173.44W, h35km, mb4.6/3, Error ellipse: s-maj=30.6km s-min=13.0km az=141.0
ISC 13 08:36:17.3±0.7, 15.3S±0.2×173.5W±0.2, h42km, n26, σ1§45/19, mb4.0/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.13	50	Pn	Pn	08 36 36.8	-14
	157nm,0.3s,baz=76,slow=0.9,SNR=47						
AFI				Sn	Sn	08 36 52.4	-23
	806nm,0.3s,baz=57,slow=21,SNR=35						
AFI	Afiamalu	2.13	50	ePn	Pn	08 36 36.6	-14
RAR	Rarotonga	14.26	116	LR	LR	08 43 46.0	
	comp=Z,100nm,21.5s,baz=314,slow=32						
DZM	Mont Dzumac	20.19	248	eP	Pn	08 40 57.2	+6.4
	58nm,1.2s						
DZM				eLR	LR	08 45 45.3	
	307nm,26.3s						
PPT2	Papeete2	23.01	99	eLR	LR	08 46 32.8	
	363nm,24.2s						
URZ	Urewera	24.34	198	P	P	08 41 31.0	-0.2
	10nm,0.7s,baz=356,slow=3.9,SNR=7.5						
URZ	Urewera	24.34	198	eP	P	08 41 31.9	+0.8
	12nm,0.6s						
RKT	Rikitea	37.07	108	eLR	LR	08 52 49.1	
	487nm,34.2s						
STKA	Stephens Creek	44.04	240	P	P	08 44 20.8	-0.4
	1.8nm,0.7s,baz=280,slow=2.9,SNR=5.6						
WRAB	Tennant Creek	49.81	257	eP	P	08 45 07.6	+1.2
	4.0nm,1.2s						
WRA	Warramunga Arr	49.82	257	P	P	08 45 06.0	-0.5
	1.2nm,0.8s,baz=93,slow=7.5,SNR=16						
ASAR	Alice Springs	50.09	252	P	P	08 45 08.8	+0.2
	3.0nm,0.7s,baz=89,slow=8.0,SNR=33						
NVAR	Mina Array Bea	74.29	42	P	P	08 47 51.6	+1.0
	1.2nm,0.9s,baz=223,slow=8.6,SNR=6.1						
TXAR	Lajitas Array	80.60	56	P	P	08 48 25.7	-0.3
	0.4nm,0.9s,baz=223,slow=8.6,SNR=3.6						
ANMO	Albuquerque	80.78	50	P	P	08 48 25.4	-1.5
	0.6nm,0.7s,baz=183,slow=3.5,SNR=4.1						
ILAR	Eielson Array	82.36	11	P	P	08 48 32.8	-1.6
	0.8nm,1.0s,baz=228,slow=5.7,SNR=7.2						
INK	Inuvik	88.19	14	P	P	08 49 03.5	+0.2
	1.2nm,1.0s,baz=145,slow=0.7,SNR=3.4						
INK	Inuvik	88.19	14	eP	P	08 49 03.5	+0.2
	8.0nm,1.4s						
YKA	Yellowknife Ar	90.03	23	P	P	08 49 13.8	+1.8
	0.9nm,0.9s,baz=237,slow=4.5,SNR=15						
JTS	JuntasAbangare	91.24	80	P	P	08 49 19.2	+0.3
	5.2nm,1.1s,baz=331,slow=13,SNR=2.7						
ATAH	Atahualpa	92.98	98	LR	LR	09 24 08.8	
	comp=Z,96nm,18.3s,baz=269,slow=31						
KMBO	Kilima Mbogo	145.53	244	PKPbc	PKPab	08 55 53.2	+0.5
	0.9nm,0.2s,baz=47,slow=19,SNR=2.1						
KHC	Kasperske Hory	145.78	352	ePKP	PKPdf	08 55 47.0	-4.4
KHC				ex	x	08 55 56.5	
KHC				esPKP		08 56 10.0	
KHC	Kasperske Hory	145.78	352	ePKPdf	PKPab	08 55 53.7	+1.4
GERES	GERESS Array B	146.04	352	PKPbc	PKPab	08 55 53.9	+0.5
	1.1nm,0.8s,baz=28,slow=3.8,SNR=7.7						
BRTR	Keskin Array B	146.05	321	PKPbc	PKPab	08 55 54.2	+0.5
	3.7nm,0.9s,baz=122,slow=1.6,SNR=6.4						

PDG 13 08:42:50.8±0.4, 43.33N×17.43E, h6km, ML3.2/11, Error ellipse: s-maj=0.6km s-min=1.0km az=0.0
CSEM 13 08:42:51.8±0.2, 43.34N×17.49E, h2km, ML3.2, Ms3.2, Error ellipse: s-maj=5.9km s-min=2.7km az=42.0
BEO 13 08:42:51.7±0.5, 43.30N×17.36E, h12km±3km, ML3.0/1
VIE 13 08:42:52.5±0.5, 43.40N×17.74E, h10km, mb3.0/7, ML3.0/6, Ms3.2/1, Error ellipse: s-maj=3.8km s-min=3.6km az=179.0 72 km SW of Sarajevo
PRU 13 08:42:53.6, 43.34N×17.51E, h6km
ISC 13 08:42:51.7±1.2, 43.33N±0.02×17.49E±0.02, h2km±10km, n93, σ1§34/151, 35C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.48	162	i Pg	Pg	08 43 00.1	-0.9
STON				Sg	Sb	08 43 09.0	-1.4
STON	Ston	0.48	162	i Pg	Pg	08 43 00.1	-0.9
STON				Sg	Sb	08 43 09.0	-1.4
BRY	Bratogost	0.88	119	ePg	Pg	08 43 07.4	-1.2
BRY	Bratogost	0.88	119	ePg	Pg	08 43 07.4	-1.2
TREB	Trebinje	0.88	134	ePg	Pg	08 43 07.4	-1.2
TREB				eSg	Sb	08 43 22.1	+0.2
TREB	Trebinje	0.88	134	ePg	Pg	08 43 07.4	-1.2
TREB				eSg	Sb	08 43 22.1	+0.2
UPM	Unac-Piva	1.04	97	⇓iPg	Pg	08 43 10.6	-1.1
UPM				eSg	Sn	08 43 28.4	-0.3
UPM	Unac-Piva	1.04	97	⇓iPg	Pg	08 43 10.6	-1.1
UPM				eSg	Sn	08 43 28.4	-0.3
HCY	Herceg Novi	1.15	140	⇑iPg	Pg	08 43 12.3	-1.4
HCY				eSg	Sn	08 43 31.3	+0.2
NKME	Niksic	1.21	117	⇑iPg	Pg	08 43 13.6	-1.3
NKME				eSg	Sn	08 43 33.3	+0.6
NKME	Niksic	1.21	117	⇑iPg	Pg	08 43 13.6	-1.3
NKME				eSg	Sn	08 43 33.3	+0.6
NKY	Niksic	1.22	115	⇑iPg	Pg	08 43 13.7	-1.3
NKY				eSg	Sn	08 43 34.2	+1.3
PLE	Pljevlja	1.38	89	⇓iPg	Pn	08 43 17.9	-0.2
PLE				eSg	Sg	08 43 39.8	+3.6
PLE	Pljevlja	1.38	89	⇓iPg	Pn	08 43 17.9	-0.2
BLY	Banja Luka	1.43	351	ePg	Pn	08 43 17.4	-1.3
BLY				eSg	Sg	08 43 40.4	+2.6
BLY	Banja Luka	1.43	351	ePg	Pn	08 43 17.4	-1.3
BLY				eSg	Sg	08 43 40.4	+2.6
BUM	Brajici-Budva	1.46	135	⇑iPg	Pn	08 43 18.1	-1.0
BUM				eSg	Sg	08 43 41.4	+2.9
BBLS	Lazići	1.49	68	ePg	Pn	08 43 19.1	-0.4
BBLS				eSg	Sg	08 43 41.0	+1.5
BBLS	Lazići	1.49	68	ePg	Pn	08 43 19.1	-0.4
BBLS				eSg	Sg	08 43 41.0	+1.5
PDG	Podgorica	1.58	124	ePg	Pn	08 43 20.4	-0.3
PDG				eSg	Sg	08 43 45.4	+3.0
PDG	Podgorica	1.58	124	ePg	Pn	08 43 20.4	-0.3
PDG	Podgorica	1.58	124	⇑iPn	Pb	08 43 21.0	-0.6
PDG				eSg	Sg	08 43 45.4	+3.0
TTG	Podgorica	1.58	124	⇑iPn	Pb	08 43 21.0	-0.6
TTG				eSn	Sg	08 43 45.5	+3.0
DRME	Dracevica, Mon	1.69	132	⇑iPn	Pn	08 43 22.4	+0.1
DRME				eSn	Sg	08 43 47.4	+1.4
DRME	Dracevica, Mon	1.69	132	⇑iPn	Pn	08 43 22.4	+0.1
UDBI	Udbina	1.73	314	i Pn	Pn	08 43 22.3	-0.6
UDBI				Sg	Sg	08 43 48.0	+0.7
UDBI	Udbina	1.73	314	i Pn	Pn	08 43 22.2	-0.6
UDBI				Sg	Sg	08 43 47.9	+0.7
SJES	Sjenica	1.81	91	⇑iPn	Pn	08 43 24.2	+0.2
SJES				eSg	Sg	08 43 52.7	+2.8
BEY	Berane	1.82	104	ePn	Pn	08 43 24.3	+0.2
BEY				eSn	Sg	08 43 50.5	+0.4
IVA	Berane	1.82	104	ePn	Pn	08 43 24.3	+0.2
IVA				eSn	Sg	08 43 50.5	+0.4
ULC	Ulcinj	1.88	136	⇑iPn	Pn	08 43 25.1	+0.2
ULC				eSn	Sg	08 43 52.1	0.0
ULC	Ulcinj	1.88	136	⇑iPn	Pn	08 43 25.1	+0.2
ULC				eSn	Sg	08 43 52.1	0.0
TEKS	Tekeris	1.91	50	i Pn	Pn	08 43 25.9	+0.6
TEKS				eSg	Sg	08 43 55.8	+2.7
TEKS	Tekeris	1.91	50	i Pn	Pn	08 43 25.9	+0.6
TEKS				eSg	Sg	08 43 55.8	+2.7
IVAS	Ivanjica	1.95	82	i Pn	Pn	08 43 26.9	-1.1
IVAS				eSg	Sg	08 43 56.9	+2.5
IVAS	Ivanjica	1.95	82	i Pn	Pb	08 43 26.9	-1.1
IVAS				eSg	Sg	08 43 56.9	+2.5
PVY	Plav	1.95	111	⇓iPn	Pn	08 43 26.4	+0.4
PVY				eSn	Sg	08 43 54.4	-0.1
PVY	Plav	1.95	111	⇓iPn	Pn	08 43 26.4	+0.4
PVY				eSn	Sg	08 43 54.4	-0.1
DIVS	Divibare	1.97	66	ePn	Pn	08 43 25.8	-0.3
DIVS				eSg	Sg	08 43 58.9	+4.0
DIVS	Divibare	1.97	66	ePn	Pn	08 43 25.8	-0.3
DIVS				eSg	Sg	08 43 58.9	+4.0
NVLJ	Novalja	2.26	304	i Pn	Pn	08 43 29.6	-0.5
NVLJ				Sg	Sb	08 44 02.3	+0.7
NVLJ	Novalja	2.26	304	i Pn	Pn	08 43 29.5	-0.5
NVLJ				Sg	Sb	08 44 02.2	+0.7
TRUS	Trudelj	2.29	66	ePn	Pn	08 43 29.3	-1.2
TRUS	Trudelj	2.29	66	ePn	Pn	08 43 29.3	-1.2
GRUS	Gruza	2.41	76	ePn	Pn	08 43 32.0	-0.1
GRUS	Gruza	2.41	76	ePn	Pn	08 43 32.0	-0.1
FGSL	Fruska Gora	2.47	42	⇑iPn	Pn	08 43 32.0	-1.0
FGSL				eSn	Sn	08 44 04.3	+0.5
FRGS	Fruska Gora	2.47	42	⇑iPn	Pn	08 43 32.0	-1.0
FRGS				eSn	Sn	08 44 04.3	+0.5
SELS	Selova	2.65	91	ePn	Pn	08 43 35.7	+0.2
SELS				eSg	Sg	08 44 18.3	+1.4
SELS	Selova	2.65	91	ePn	Pn	08 43 35.7	+0.2
SELS				eSg	Sg	08 44 18.3	+1.4
CRES	Cresnjev	2.89	330	i Pn	Pn	08 43 39.4	+0.7
CRES	Cresnjev	2.89	330	i Pn	Pn	08 43 39.4	+0.7
PKSM	Moragy	2.99	15	ePn	Pn	08 43 39.3	-0.9
PKSM	Moragy	2.99	15	⇓iP	Pn	08 43 39.5	-0.7
PKSM	Moragy	2.99	15	⇑e	Pn	08 43 39.4	-0.7
PKSM				e		08 44 27.9	
PKSM	Moragy	2.99	15	⇑eP	Pn	08 43 39.4	-0.7
BARS	Barje	3.21	98	ePn	Pn	08 43 44.4	+1.3
BARS	Barje	3.21	98	ePn	Pn	08 43 44.4	+1.3
PKS9	Tamasi	3.30	9	⇓e	Pn	08 43 44.4	0.0
PKS9	Tamasi	3.30	9	⇓eP	Pn	08 43 44.4	0.0
BANR	Banloc	3.32	51	⇑iP	Pg	08 43 59.5	+4.1
PERS	Pernice	3.71	334	i Pn	Pn	08 43 50.4	+0.3
PERS	Pernice	3.71	334	i Pn	Pn	08 43 50.3	+0.3
BZS	Buzias	3.73	51	ePn	Pn	08 43 49.3	-1.0
BZS	Buzias	3.73	51	⇑iP	Pg	08 44 01.4	-1.8
BZS	Buzias	3.73	51	ePn	Pn	08 43 49.3	-1.0
ZAPS	Zavoj	3.75	89	ePn	Pn	08 43 52.1	+1.5
SOKA	Soboth	3.77	333	⇑iPn	Pn	08 43 51.2	+0.2
	SNR=72						
SOKA				⇑iSn	Sn	08 44 36.8	+0.8
SOKA	Soboth	3.77	333	Pn	Pn	08 43 51.2	+0.2
	SNR=72						
SOKA				Sn	Sn	08 44 36.8	+0.8
OBKA	Obir	3.80	328	⇑iPn	Pn	08 43 51.7	+0.3
OBKA				⇑iSn	Sn	08 44 38.2	+1.5
OBKA				⇓iSg	Sg	08 44 60.0	+6.1
	76nm,0.7s						
OBKA	Obir	3.80	328	Pn	Pn	08 43 51.7	+0.3
OBKA				Sn	Sn	08 44 38.2	+1.5
PKSG		4.11	9	⇑e	Pn	08 43 55.2	-0.3
PKSG				e		08 44 45.8	
PKSG		4.11	9	⇑eP	Pn	08 43 55.2	-0.3
PKSG				eSn	Sn	08 44 45.8	+1.7
ARSA	Arzberg	4.16	341	ePn	Pn	08 43 56.6	+0.4
ARSA	Arzberg	4.16	341	⇑iPn	Pn	08 43 56.0	-0.2
ARSA				⇑iSn	Sn	08 44 45.6	+0.2
ARSA	Arzberg	4.16	341	Pn	Pn	08 43 56.0	-0.2
ARSA				Sn	Sn	08 44 45.6	+0.2
GZR	Gura Zlata	4.31	60	⇓iP	Pn	08 43 57.8	-0.6
GZR	Gura Zlata	4.31	60	⇓iP	Pn	08 43 57.8	-0.6
CONA	Conrad Observa	4.74	347	⇑iPn	Pn	08 44 03.7	-0.5
CONA				⇑iSn	Sn	08 44 58.4	-1.3
CONA	Conrad Observa	4.74	347	Pn	Pn	08 44 03.7	-0.5
CONA				Sn	Sn	08 44 58.4	-1.3
ABTA	Abfaltersbach	4.91	316	⇓iPn	Pn	08 44 06.8	+0.2
	SNR=6.7						
ABTA				⇑iSn	Sn	08 45 05.5	+1.5
ABTA	Abfaltersbach	4.91	316	Pn	Pn	08 44 06.8	+0.2
	SNR=6.7						
ABTA				Sn	Sn	08 45 05.5	+1.5
MOA	Molln	5.05	335	⇑iPn	Pn	08 44 09.3	+0.8
	SNR=36						
MOA				⇑iSn	Sn	08 45 08.5	+1.1
MOA	Molln	5.05	335	Pn	Pn	08 44 09.3	+0.8
	SNR=36						
MOA				Sn	Sn	08 45 08.5	+1.1
WATA	Walderalm	5.78	316	⇑iPn	Pn	08 44 20.1	+1.5
WATA				⇑iSn	Sn	08 45 27.8	+2.3
WATA	Walderalm	5.78	316	Pn	Pn	08 44 20.1	+1.5
MOTA	Moosalm	6.03	314	⇑iPn	Pn	08 44 22.5	+0.5
	SNR=8.4						
MOTA	Moosalm	6.03	314	Pn	Pn	08 44 22.5	+0.5
	SNR=8.4						
FETA	Feichten	6.04	310	⇓iPn	Pn	08 44 22.7	+0.6
	SNR=5.3						
FETA				⇑iSn	Sn	08 45 34.1	+2.2
FETA	Feichten	6.04	310	Pn	Pn	08 44 22.7	+0.6
	SNR=5.3						
KHC	Kasperske Hory	6.40	336	ePN	Pn	08 44 28.5	+1.5
KHC				ePG	Pg	08 44 51.5	-2.8
KHC				eSN	Sn	08 45 39.2	-1.5
KHC				ex	x	08 45 54.5	
KHC	Kasperske Hory	6.40	336	Pn	Pn	08 44 28.5	+1.5
KHC				Sn	Sn	08 45 39.2	-1.5
DPC	Dobruska-Polom	7.07	354	eSN	Sn	08 45 53.5	-3.5

IDC 13 08:44:17.9±1.4, 35.55N×26.60E, h0km, mb3.7/4, mb1 3.6/5, mb1mx3.4/39, mbtmp3.6/5, ML3.0/1, Error ellipse: s-maj=194.3km s-min=23.2km az=142.0
DDA 13 08:44:17.2, 35.33N×26.61E, h8km, ML3.5
ISK 13 08:44:19.8, 35.62N×26.78E, h7km, ML3.5
ATH 13 08:44:20.4, 35.51N×26.62E, h27km±1km, MD3.4/11
ISCJB 13 08:44:20.9±0.5, 35.44N±0.04×26.69E±0.03, h30km±4km, mb3.6/4, Error ellipse: s-maj=6.8km s-min=3.1km az=154.8
CSEM 13 08:44:21.0±0.2, 35.51N×26.63E, h15km, ML3.5, Error ellipse: s-maj=6.2km s-min=3.2km az=155.0
THE 13 08:44:21.1, 35.46N×26.65E, h5km±3km, ML3.5/2, Error ellipse: s-maj=4.0km s-min=0.8km az=157.0
ISC 13 08:44:20.6±1.0, 35.52N±0.03×26.65E±0.02, h16km±8km, n91, σ1§00/121, mb3.7/4, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.42	87	P	Pb	08 44 30.2	+0.5
KARP				S	Sb	08 44 35.9	+0.1
KARP	Karpathos	0.42	87	ePB	Pb	08 44 30.3	+0.5
KARP				eSB	Sb	08 44 36.7	+0.9
KARP	Karpathos	0.42	87	P	Pb	08 44 30.2	+0.5
KARP				S	Sb	08 44 35.9	+0.1
KARP				eSb	Sb	08 44 36.7	+0.9
ZKR	Zakros	0.54	221	P	Pg	08 44 30.7	-0.6
ZKR				S	Sg	08 44 38.3	-0.2
ZKR	Zakros	0.54	221	ePN	Pg	08 44 31.1	-0.2
ZKR				eSN	Sg	08 44 38.8	+0.3
ZKR	Zakros	0.54	221	P	Pg	08 44 30.7	-0.6
ZKR	Zakros	0.54	221	ePn	Pg	08 44 31.1	-0.2
ZKR				S	Sg	08 44 38.3	-0.2
NPS	Neapolis	0.88	253	P	Pn	08 44 38.1	-0.3
NPS				S	Sb	08 44 49.1	0.0
NPS	Neapolis	0.88	253	ePN	Pb	08 44 37.0	-0.5
NPS				eSN	Sb	08 44 48.8	-0.3
NPS	Neapolis	0.88	253	ePn	Pb	08 44 37.0	-0.5
NPS	Neapolis	0.88	253	P	Pn	08 44 38.1	-0.3
NPS				eSn	Sb	08 44 48.8	-0.3
NPS				S	Sb	08 44 49.1	0.0
LAST	Lasithi	1.02	250	P	Pb	08 44 40.1	+0.2
LAST				S	Sb	08 44 54.5	+0.2
LAST	Lasithi	1.02	250	ePN	Pg	08 44 40.3	-0.1
LAST				eSN	Sb	08 44 53.0	-0.1
LAST	Lasithi	1.02	250	P	Pb	08 44 40.1	+0.2
LAST				eSn	Sb	08 44 53.0	-0.1
LAST				S	Sb	08 44 54.5	+0.2
SANT	Santorini	1.28	312	P	Pn	08 44 44.0	+0.1
SANT	Santorini	1.28	312	ePN	Pb	08 44 45.1	-0.2
SANT	Santorini	1.28	312	ePN	Pb	08 44 44.6	+0.2
SANT	Santorini	1.28	312	P	Pn	08 44 44.0	+0.1
SANT	Santorini	1.28	312	ePn	Pb	08 44 44.6	+0.2
ARG	Arkhangelos	1.39	60	P	Pb	08 44 46.5	+0.3
ARG				S	Sb	08 45 04.5	+0.9
ARG	Arkhangelos	1.39	60	ePN	Pb	08 44 46.4	+0.3
ARG	Arkhangelos	1.39	60	ePn	Pb	08 44 46.4	+0.3
ARG				S	Sb	08 45 04.5	+0.9
SIVA	Sivas	1.58	252	P	Pb	08 44 49.0	-0.5
SIVA	Sivas	1.58	252	ePN	Pn	08 44 51.1	0.0
SIVA	Sivas	1.58	252	ePN	Pb	08 44 49.2	-0.3
SIVA				eSN	Sb	08 45 08.4	+0.3
SIVA	Sivas	1.58	252	P	Pb	08 44 49.0	-0.5
SIVA				eSn	Sb	08 45 08.4	+0.3
BODT	Bodrum	1.63	19	ePN	Pn	08 44 48.3	-0.3
BODT	Bodrum	1.63	19	ePn	Pn	08 44 48.3	-0.3
APE	Apeiranthos	1.79	330	P	Pn	08 44 51.4	+0.6
APE				S	Sn	08 45 12.9	-0.3
APE	Apeiranthos	1.79	330	ePN	Pn	08 44 51.2	+0.4
APE				eSN	Sb	08 45 14.8	-0.3
APE	Apeiranthos	1.79	330	⇑iP	Pn	08 44 51.3	+0.5
APE	Apeiranthos	1.79	330	P	Pn	08 44 51.4	+0.6
APE				S	Sn	08 45 12.9	-0.3
APE				eSn	Sb	08 45 14.8	-0.3
VAM	Vamos	2.00	267	ePN	Pn	08 44 55.0	+1.3
VAM	Vamos	2.00	267	ePn	Pn	08 44 55.0	+1.3
DALY	Dalyan (Mu¨la	2.08	51	ePN	Pn	08 44 53.9	-0.8
DALY	Dalyan (Mu¨la	2.08	51	ePn	Pn	08 44 53.9	-0.8
YER	Yerkesik	2.08	39	ePN	Pn	08 44 54.3	-0.6
YER	Yerkesik	2.08	39	ePn	Pn	08 44 54.3	-0.6
SMG	Samos	2.19	4	P	Pn	08 44 57.1	+0.8
SMG				S	Sb	08 45 26.3	-0.3
SMG	Samos	2.19	4	P	Pn	08 44 57.1	+0.8
SMG				S	Sb	08 45 26.3	-0.3
GVD	Gavdhos	2.20	253	ePN	Pn	08 44 56.4	-0.1
GVD	Gavdhos	2.20	253	ePn	Pn	08 44 56.4	-0.1
FETY	Fethiye	2.27	60	ePN	Pn	08 44 56.9	-0.5
FETY	Fethiye	2.27	60	ePn	Pn	08 44 56.9	-0.5
AKAS	Kas	2.51	73	i P	Pn	08 45 02.9	+2.1
AKAS				i S	Sb	08 45 34.7	-1.3
AKAS	Kas	2.51	73	i P	Pn	08 45 02.9	+2.1
AKAS				i S	Sb	08 45 34.7	-1.3
AYDB	Zeytinkoy-Aydi	2.62	22	ePN	Pn	08 45 01.9	-0.4
AYDB	Zeytinkoy-Aydi	2.62	22	ePn	Pn	08 45 01.9	-0.4
ANKY	Antikythira Is	2.74	278	ePN	Pn	08 45 04.8	+0.9
ANKY	Antikythira Is	2.74	278	ePn	Pn	08 45 04.8	+0.9
BLCB	Balcova	2.87	6	ePN	Pn	08 45 05.8	+0.1
BLCB	Balcova	2.87	6	ePn	Pn	08 45 05.8	+0.1
CHOS	Chios island	2.90	351	ePN	Pn	08 45 07.0	+0.9
CHOS	Chios island	2.90	351	ePn	Pn	08 45 07.0	+0.9
GOLH	Golhisar	2.91	53	i P	Pn	08 45 09.4	+3.1
GOLH	Golhisar	2.91	53	i P	Pn	08 45 09.4	+3.1
GOLH				i S	Sb	08 45 49.1	+1.6
ELL	Elmali	2.91	64	ePN	Pn	08 45 05.7	-0.7
ELL	Elmali	2.91	64	ePn	Pn	08 45 05.7	-0.7
KYTH	Kithira	3.02	286	P	Pn	08 45 08.6	+0.8
KYTH	Kithira	3.02	286	ePN	Pn	08 45 08.6	+0.8
KYTH	Kithira	3.02	286	P	Pn	08 45 08.6	+0.8
VLI	Veliai	3.23	293	ePN	Pn	08 45 11.4	+0.8
VLI	Veliai	3.23	293	ePn	Pn	08 45 11.4	+0.8
MANT	Manisa	3.33	27	i P	Pn	08 45 14.3	+2.0
KORT	Korkuteli	3.34	63	i P	Pn	08 45 15.9	+3.7
KORT				i S	Sb	08 45 57.3	-2.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KORT	Korkueli	3.34	63	i P	Pn	08 45 15.9	+3.7
KORT				i S	Sb	08 45 57.3	-2.6
AKHS	Akhisar	3.48	15	i P	Pn	08 45 16.6	+2.6
AKHS	Akhisar	3.48	15	i P	Pn	08 45 16.6	+2.6
KHL	Karahalli	3.62	39	ePN	Pn	08 45 15.8	-0.2
KHL	Karahalli	3.62	39	ePn	Pn	08 45 15.9	-0.2
BCK	Bucak	3.72	58	ePN	Pn	08 45 17.2	-0.2
BCK	Bucak	3.72	58	ePn	Pn	08 45 17.2	-0.2
BALB	Balikesir	4.22	13	ePN	Pn	08 45 25.7	+1.4
BALB	Balikesir	4.22	13	ePn	Pn	08 45 25.7	+1.4
EZN	Ezine	4.30	357	ePN	Pn	08 45 26.5	+1.2
EZN	Ezine	4.30	357	ePn	Pn	08 45 26.5	+1.2
TVSB	Tavsanli	4.51	29	ePN	Pn	08 45 29.2	+0.8
TVSB	Tavsanli	4.51	29	ePn	Pn	08 45 29.2	+0.8
GAZI	Gazipasa	4.66	80	i P	Pn	08 45 31.1	+0.8
GAZI				i S	Sn	08 46 22.7	-1.3
GAZI	Gazipasa	4.66	80	i P	Pn	08 45 31.1	+0.8
GAZI				i S	Sn	08 46 22.7	-1.3
KONT	Konya--Tatoy	5.19	61	ePN	Pn	08 45 38.2	+0.6
KONT	Konya--Tatoy	5.19	61	ePn	Pn	08 45 38.2	+0.6
KDHN	Kadinhani	5.30	54	i P	Pn	08 45 40.9	+1.7
KDHN	Kadinhani	5.30	54	i P	Pn	08 45 40.9	+1.7
CSS	Prodhromos	5.50	94	ePN	Pn	08 45 43.1	+1.3
CSS	Prodhromos	5.50	94	ePn	Pn	08 45 43.1	+1.3
BRTR	Keskin Array B	6.96	51	Pn	Pn	08 46 04.3	+2.4
	0.3nm,0.3s,baz=230,slow=18,SNR=6.3						
TORD	Torodi Ar. Bea	31.66	232	P	P	08 50 43.0	-0.2
	0.4nm,0.5s,baz=30,slow=9.2,SNR=6.6						
MKAR	Makanchi Array	42.56	57	P	P	08 52 16.0	+0.4
	1.4nm,0.5s,baz=280,slow=7.3,SNR=15						
ZALV	Zalesovo Beam	43.88	46	P	P	08 52 25.0	-1.0
	0.5nm,0.3s,baz=269,slow=8.2,SNR=2.2						
SONM	Songino Array	58.31	51	P	P	08 54 14.4	-0.4
	0.3nm,0.8s,baz=291,slow=4.5,SNR=2.4						

IDC 13 08:49:00.7±2.7,54°.28N×86°.09E,h0km,mb1 3.4/1, mb1mx2.9/41,mbtmp3.4/1,ML3.4/1,2C-1D,Error ellipse: s-maj=19.8km s-min=11.3km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.81	247	i		08 54 04.0	
	baz=67,slow=352,SNR=1.6						
ZALV	Zalesovo Beam	0.81	247	Pg	Pg	08 49 15.4	-0.9
	1.1nm,0.3s,baz=61,slow=18,SNR=15						
ZALV				Lg	Lg	08 49 28.4	
	5.2nm,0.3s,baz=67,slow=28,SNR=35						
KURK	Kurchatov	5.79	235	⇓Pn	Pb	08 50 36.0	-6.4
	0.7nm,0.6s						
KURK				⇑Lg	Lg	08 52 02.1	
	3.3nm,1.2s						
MKAR	Makanchi Array	7.87	199	Pn	Pn	08 50 57.6	+1.3
	0.5nm,0.3s,baz=23,slow=14,SNR=35						
MKAR				Lg	Lg	08 53 09.5	
	baz=25,slow=28,SNR=3.9						
MK02	Makanchi Array	7.89	199	⇑Pn	Pn	08 50 57.7	+1.1
	0.8nm,0.5s,baz=25,slow=14						

IDC 13 09:10:17.1±2.7,54°.25N×87°.53E,h0km,mb1 3.0/3, mb1mx2.9/51,mbtmp3.0/3,ML2.8/3,Error ellipse: s-maj=23.7km s-min=15.5km az=64.0
NNC 13 09:10:24.8±6.4,54°.07N×86°.87E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=52.9km s-min=42.8km az=175.0
ISC 13 09:10:20.0±4.5,54°.4N±0°.2×87°.5E±0°.2,h35km,n8, σ1s70/10,3C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.63	255	i		09 20 00.0	
	baz=77,slow=345,SNR=3.5						
ZALV	Zalesovo Beam	1.63	255	Pg	Pn	09 10 44.8	-1.3
	2.0nm,0.3s,baz=77,slow=16,SNR=32						
ZALV				Lg	Lg	09 11 08.8	
	3.0nm,0.3s,baz=76,slow=25,SNR=14						
KURK	Kurchatov	6.54	239	⇑Pn	Pn	09 11 54.7	+1.2
	0.9nm,0.6s						
KURK				⇓Sn	Sn	09 13 04.0	-2.8
	0.9nm,0.9s						
KURK				⇓Lg	Lg	09 13 41.0	
	2.3nm,1.1s						
KURBB	Kurchatov Arra	6.64	239	⇑Pn	Pn	09 11 55.7	+0.8
	1.8nm,0.6s						
KURBB				⇓Sn	Sn	09 13 11.9	+2.5
	2.0nm,0.5s						
KURBB				⇓Lg	Lg	09 13 43.3	
	6.0nm,0.8s						
KURBB	Kurchatov Arra	6.64	239	Pn	Pn	09 11 54.8	-0.2
	0.4nm,0.3s,baz=56,slow=14,SNR=8.9						
KURBB				Lg	Lg	09 13 47.3	
	0.1nm,0.3s,baz=49,slow=30,SNR=3.7						
MK31	Makanchi Array	8.29	206	Pn	Pn	09 12 23.1	+5.4
	0.3nm,0.6s,baz=28,slow=15,SNR=5.8						
MK31				⇓Sn	Sn	09 13 49.2	-0.7
	0.7nm,0.8s						
MK31				⇑Lg	Lg	09 14 31.7	
	1.5nm,0.8s						
MKAR	Makanchi Array	8.29	206	Pn	Pn	09 12 17.9	+0.2
	0.1nm,0.3s,baz=24,slow=12,SNR=5.6						
MKAR				Sn	Sn	09 13 50.2	+0.3
	0.1nm,0.3s,baz=27,slow=27,SNR=3.9						
MKAR				Lg	Lg	09 14 35.5	
	0.0nm,0.3s,baz=33,slow=29,SNR=4.2						
BVAR	Borovoye Array	10.23	269	Pn	Pn	09 12 45.3	+1.1
	0.1nm,0.3s,baz=79,slow=7.8,SNR=3.3						

JMA 13 09:11:58.8±0.2,38°.14N×143°.40E,h37km,M3.2
IDC 13 09:12:05.6±2.7,38°.63N×142°.22E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.2/49,mbtmp3.4/4,ML2.6/1,Error ellipse: s-maj=68.9km s-min=30.5km az=68.0
ISC 13 09:12:02.2±2.2,38°.27N±0°.08×143°.1E±0°.1,h23km,n13, σ1s42/18,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.36	307	P	Pb	09 12 26.3	-0.6
JIO	Ouri	1.36	278	P	Pb	09 12 26.3	-0.6
JMK	Ichinoseki	1.60	296	P	Pb	09 12 30.0	-1.0
JOM	Ohasama	1.83	312	P	Pb	09 12 33.4	-1.6
JOM				eS	Sb	09 12 57.5	0.0
JMM	Marumori	1.84	258	P	Pn	09 12 32.2	-0.1
JMM				eS	Sb	09 12 56.6	-1.0
JYK	Kaneyama	2.21	288	P	Pb	09 12 39.0	-2.5
JYK				eS	Sb	09 13 09.0	+0.5
JFT	Otama	2.28	252	P	Pb	09 12 39.1	+0.6
JFT				eS	Sb	09 13 09.3	-1.2
JAG	Ashikaga	3.42	238	P	Pn	09 12 52.8	-1.2
JAG				eS	Sn	09 13 34.2	+0.4
MJAR	Matsushiro Arr	4.23	247	Pn	Pn	09 13 05.0	-0.2
	0.4nm,0.3s,baz=60,slow=15,SNR=5.7						
MAT	Matsushiro	4.23	247	P	Pn	09 13 05.7	+0.4
MAT				eS	Sn	09 13 57.4	+3.4
MKAR	Makanchi Array	44.58	301	P	P	09 20 14.1	+1.7
	0.2nm,0.7s,baz=83,slow=12,SNR=4.0						
KURBB	Kurchatov Arra	46.28	307	P	P	09 20 25.6	-0.2
	0.4nm,0.7s,baz=81,slow=8.3,SNR=4.6						
WRA	Warramunga Arr	58.48	190	P	P	09 22 05.3	+8.9
	0.2nm,0.3s,baz=11,slow=7.3,SNR=7.9						

IDC 13 09:18:13.2±1.3,6°.41N×77°.96W,h0km,mb3.4/3,mb1 3.6/4, mb1mx3.4/33,mbtmp3.4/4,ML2.4/1,MS2.8/1,Ms1 2.8/1, ms1mx2.5/23,Error ellipse: s-maj=54.6km s-min=29.1km az=35.0
ISC 13 09:18:18.3±1.3,6°.4N±0°.3×78°.0W±0°.2,h35km,n7,σ0s75/6, mb3.4/3,South of Panama

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	3.96	112	Pn	Pn	09 19 17.5	+0.4
	5.5nm,0.3s,baz=269,slow=20,SNR=6.8						
JTS	JuntasAbangare	7.89	300	LR	LR	09 22 28.4	
	comp=Z,64nm,20.7s,baz=68,slow=32						
YKA	Yellowknife Ar	62.10	342	P	P	09 28 36.2	+0.8
	0.7nm,0.8s,baz=122,slow=8.4,SNR=17						
ILAR	Eielson Array	75.35	336	P	P	09 29 57.6	-0.3
	0.3nm,0.7s,baz=113,slow=3.9,SNR=4.4						
TORD	Torodi Ar. Bea	78.60	78	P	P	09 30 16.3	-0.9
	0.2nm,0.5s,baz=279,slow=5.4,SNR=2.9						
ASAR	Alice Springs	144.82	237	PKP	PKPdf	09 37 52.5	-0.1
	0.8nm,0.9s,baz=122,slow=3.3,SNR=8.1						
WRA	Warramunga Arr	145.81	244	PKPbc	PKPbc	09 37 54.9	+0.1
	0.7nm,0.8s,baz=97,slow=3.4,SNR=5.9						

IDC 13 09:21:15.6±1.5,7°.04S×128°.47E,h0km,mb3.5/3, mb1 3.9/5,mb1mx3.6/34,mbtmp3.7/5,ML4.1/2,Error ellipse: s-maj=112.3km s-min=28.3km az=68.0
ISC 13 09:21:21.0±1.1,7°.3S±0°.1×128°.1E±0°.2,h35km,n9,σ1s66/9, mb3.5/3,Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTN	Manton Dam	6.29	152	P	Pn	09 22 57.3	+6.0
	baz=5.3,SNR=34						
MTN				S	Sn	09 24 03.3	+1.4
	baz=5.3,SNR=7.7						
KDU	Kakadu	6.89	141	P	Pn	09 23 04.8	+5.2
	baz=5.8,SNR=96						
KDU				S	Sn	09 24 15.1	-1.9
	baz=5.8,SNR=7.6						
KNRA	Kununurra	8.36	175	P	Pn	09 23 25.7	+5.9
	baz=7.7,SNR=22						
KNRA				S	Sn	09 24 50.8	-2.2
	baz=7.7,SNR=4.9						
WRA	Warramunga Arr	13.97	155	Pn	Pn	09 24 36.7	+0.1
	0.9nm,0.3s,baz=336,slow=11,SNR=23						
WRA				Sn	Sn	09 26 59.8	-11
	1.6nm,0.3s,baz=326,slow=22,SNR=9.0						
ASAR	Alice Springs	17.22	162	P	Pn	09 25 18.9	0.0
	0.5nm,0.3s,baz=343,slow=11,SNR=45						
ASAR				Sn	Sn	09 28 19.1	-10
	0.4nm,0.3s,baz=324,slow=14,SNR=7.8						
WRKA	Warakurna	17.64	179	P	P	09 25 27.2	+2.2
	baz=17,SNR=7.1						
WRKA				S	Sn	09 28 30.0	-10
	baz=17,SNR=5.2						
SONM	Songino Array	58.14	343	P	P	09 31 11.4	+0.1
	0.3nm,0.7s,baz=167,slow=8.3,SNR=4.6						
MKAR	Makanchi Array	67.44	328	P	P	09 32 13.2	0.0
	0.2nm,0.5s,baz=127,slow=7.3,SNR=10						
KURBB	Kurchatov Arra	71.77	329	P	P	09 32 38.6	-1.1
	0.4nm,0.5s,baz=125,slow=5.2,SNR=6.2						

JMA 13 09:21:46.1±0.3,44°.00N×148°.17E,h0km,M3.5
SKHL 13 09:21:48.2±0.6,44°.42N×148°.30E,h30km±1km,mb4.6/2
ISC 13 09:21:44.5±3.5,44°.33N±0°.09×148°.4E±0°.2,h10km,n10, σ1s34/16,Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.97	339	eP	Pg	09 22 03.1	-0.1
KUR				AMB	AMB	09 22 03.6	
	250nm,0.4s						
KUR				AMB	AMB	09 22 03.6	
	230nm,0.4s						
KUR				AMB	AMB	09 22 03.6	
	620nm,0.4s						
KUR				eS	Sg	09 22 14.5	-1.4
KUR				A	A	09 22 15.8	
	250nm,0.4s						
SHO	Shikotan	1.19	248	eP	Pn	09 22 07.3	+0.1
SHO				eS	Sb	09 22 21.1	-1.5
SHO				A	A	09 22 23.1	
	1µm,0.8s						
YUK	Yuzh-Kuril'sk	1.82	262	eP	Pn	09 22 17.3	+1.5
YUK				AMB	AMB	09 22 18.9	
	20nm,0.1s						
YUK				AMB	AMB	09 22 18.9	
	30nm,0.1s						
YUK				AMB	AMB	09 22 18.9	
	50nm,0.1s						
YUK				eS	Sn	09 22 39.4	+0.5
YUK				A	A	09 22 49.3	
	150nm,0.2s						
YUK				A	A	09 22 49.3	
	40nm,0.2s						
NEM2	Nemuro 2	2.12	244	P	Pn	09 22 20.1	+0.2
NEM2				eS	Sn	09 22 44.6	-1.7
JRA	Rausu	2.36	262	P	Pn	09 22 24.9	+1.7
JNK	Nakash	2.73	256	P	Pn	09 22 29.5	+1.2
JNK				eS	Sn	09 23 00.5	-0.9
JAK	Akkeshi	2.97	245	P	Pn	09 22 32.3	+0.7
JAK				eS	Sn	09 23 05.8	-1.5
JAR	Ashorobuto	3.48	254	P	Pn	09 22 40.7	+2.1
JAR				eS	Sn	09 23 20.9	+1.1
JCH	Churui	4.02	247	eS	Sn	09 23 32.7	-0.4
JKB	Kayabe	5.89	248	eS	Sn	09 24 17.7	-1.5

IDC 13 09:26:05.1±2.1,7°.90S×119°.53E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.4/35,mbtmp3.6/5,ML3.8/1,Error ellipse: s-maj=224.3km s-min=21.1km az=55.0,Flores Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.69	131	P	Pn	09 30 26.1	+0.7
	0.3nm,0.3s,baz=303,slow=13,SNR=6.0						
ASAR	Alice Springs	20.88	140	P	P	09 30 49.9	+0.9
	0.3nm,0.3s,baz=327,slow=14,SNR=4.6						
STKA	Stephens Creek	31.48	142	P	P	09 32 27.4	-1.4
	0.9nm,0.5s,baz=320,slow=7.9,SNR=3.5						
MKAR	Makanchi Array	63.73	332	P	P	09 36 39.5	+0.8
	0.3nm,0.6s,baz=142,slow=7.3,SNR=5.3						
ZALV	Zalesovo Beam	68.21	339	P	P	09 37 06.6	-0.6
	0.5nm,0.5s,baz=134,slow=8.3,SNR=2.7						

IDC 13 09:41:21.3±9.5,15°.26S×173°.31W,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.5/27,mbtmp3.5/3,Error ellipse: s-maj=419.1km s-min=38.1km az=139.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.00	48	Pn	Pn	09 41 47.0	-9.4
	20nm,0.3s,baz=197,slow=3.3,SNR=8.6						
AFI				Sn	Sn	09 42 04.0	-18
	31nm,0.3s,baz=229,slow=24,SNR=11						
WRA	Warramunga Arr	49.96	257	P	P	09 50 17.6	0.0
	0.4nm,0.9s,baz=91,slow=7.2,SNR=6.9						
ASAR	Alice Springs	50.23	252	P	P	09 50 19.4	-0.3
	0.8nm,0.7s,baz=89,slow=7.7,SNR=12						
ILAR	Eielson Array	82.29	11	P	P	09 53 44.3	0.0
	0.2nm,0.7s,baz=223,slow=4.9,SNR=4.3						

DDA 13 10:00:03.2,36°.21N×37°.27E,h6km,MD2.5,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUZU	Kuzuini	0.58	345	i P	Pg	10 00 14.9	+0.4
KUZU				i S	Sg	10 00 23.2	+1.0

DDA 13 10:00:04.4,36°.24N×37°.26E,h7km,MD2.6,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUZU	Kuzuini	0.56	344	i P	Pg	10 00 15.5	+0.2
KUZU				i S	Sb	10 00 24.6	-0.2

IDC 13 10:34:36.9±50.0,18°.58S×178°.26W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/19,mbtmp3.8/3,Error ellipse: s-maj=917.1km s-min=167.3km az=80.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.44	242	P	P	10 42 01.1	+0.5
	1.0nm,0.6s,baz=86,slow=14,SNR=3.3						
WRA	Warramunga Arr	44.66	260	P	P	10 42 52.6	+0.8
	0.2nm,0.6s,baz=97,slow=7.8,SNR=6.3						
ASAR	Alice Springs	44.75	255	P	P	10 42 51.2	-1.3
	2.6nm,0.7s,baz=88,slow=8.3,SNR=40						

DJA 13 10:37:44.9±0.6,1°N±4°×12°2E±°,h10km,M3.7/5,MLv3.7/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.64	184	P	Pg	10 37 55.7	-1.6
MRSI				S	Sb	10 38 07.3	+0.1
GTOI	Gorontalo	1.14	115	P	Pb	10 37 55.5	-11
APSI	Ampana	2.04	189	P	Pn	10 38 19.6	+0.2
KMSI	Cibinong	2.07	105	P	Pn	10 38 19.2	-0.6
KMSI				S	Sb	10 38 47.6	-0.9
LUWI	Luwuk	2.29	160	P	Pn	10 38 20.0	-2.7
LUWI				S	Sb	10 38 53.2	-1.5

KRNET 13 11:12:38.7±0.1,40°.88N×74°.86E,h3km,mb3.5
NNC 13 11:12:39.4±1.6,40°.73N×74°.72E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=12.0km s-min=10.0km az=148.0
ISC 13 11:12:38.9±1.5,40°.87N±0°.05×74°.93E±0°.04,h9km±12km, n30,σ0s94/42,20C-6D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARLS	Aral	1.09	335	⇓i P	Pb	11 12 59.1	-0.9
	baz=337						
KZA	Kyzart	1.23	11	P	Pn	11 13 03.0	+0.3
	SNR=100						
KZA	Kyzart	1.23	11	⇑i P	Pn	11 13 02.8	+0.2
	baz=14						
KZA				⇑i S	Sn	11 13 19.8	+0.2
	baz=14						
SFK	Sufi-Kurgan	1.39	232	eP	Pn	11 13 03.6	-1.1
	baz=231						
SFK				eS	Sb	11 13 22.2	-0.9
	baz=231						
UCH	Uchtor	1.39	347	P	Pg	11 13 05.5	-0.1
	SNR=59						
UCH	Uchtor	1.39	347	⇑i P	Pg	11 13 05.5	-0.1
	baz=349						
UCH				⇑i S	Sn	11 13 26.0	+2.4
	baz=349						
ARSB	Arslanbob	1.54	288	eP	Pg	11 13 09.8	+1.4
	baz=288						
ARSB				eS	Sg	11 13 29.2	+0.8
	baz=288						
AML	Almayashu	1.56	324	P	Pg	11 13 08.7	-0.2
	SNR=44						
AML	Almayashu	1.56	324	⇑i P	Pg	11 13 08.5	-0.4
	baz=325						
AML				⇑i S	Sg	11 13 28.8	-0.4
	baz=325						
OHH	Osh	1.67	259	eP	Pg	11 13 12.0	+1.1
	baz=258						
OHH				eS	Sg	11 13 33.8	+1.3
	baz=258						
ULHL	Ulahol	1.69	35	P	Pg	11 13 11.4	+0.1
	SNR=64						
ULHL	Ulahol	1.69	35	⇑i P	Pg	11 13 11.2	-0.1
	baz=37						
ULHL				⇑i S	Sg	11 13 33.9	+0.7
	baz=37						
KBK	Karagaybulak	1.78	0	P	Pg	11 13 13.2	+0.1
	SNR=49						
KBK	Karagaybulak	1.78	0	⇑i P	Pg	11 13 12.9	-0.2
	baz=2.0						
KBK				⇑i S	Sg	11 13 36.8	+0.6
	baz=2.0						
BOOM	Boomskoye usch	1.78	25	eP	Pg	11 13 13.0	-0.1
	baz=26						
BOOM				eS	Sg	11 13 37.0	+0.7
	baz=26						
AAK	Ala-Archa	1.79	350	⇑Pn	Pg	11 13 12.8	-0.4
	26nm,0.5s						
AAK				⇓Sn	Sg	11 13 39.8	+3.4
	116nm,0.8s						
AAK	Ala-Archa	1.79	350	P	Pg	11 13 13.0	-0.2
	SNR=76						
AAK	Ala-Archa	1.79	350	⇑i P	Pg	11 13 12.8	-0.4
	baz=351						
AAK				⇑i S	Sg	11 13 36.6	+0.2
	baz=351						
FRU	Bishkek	1.97	353	eP	Pg	11 13 16.0	-0.7
	baz=355						
EKS2	Erkin-Say	1.98	335	P	Pg	11 13 16.4	-0.6
	SNR=33						
EKS2	Erkin-Say	1.98	335	⇑i P	Pg	11 13 16.2	-0.7
	baz=336						
EKS2				⇑i S	Sg	11 13 42.6	-0.1
	baz=336						
EKS	Erkin-Say	1.99	335	i P	Pg	11 13 16.5	-0.5
	baz=336						
TKM2	Tokmak 2	2.10	13	⇓Pn	Pg	11 13 18.8	-0.4
	16nm,0.3s						
TKM2				⇓Sn	Sg	11 13 48.0	+1.4
	149nm,0.7s						
TKM2	Tokmak 2	2.10	13	P	Pg	11 13 18.9	-0.4
	SNR=118						
TKM2	Tokmak 2	2.10	13	⇑i P	Pg	11 13 18.6	-0.7
	baz=15						
TKM2				⇑i S	Sg	11 13 46.5	-0.1
	baz=15						
CHMS	Chumysh	2.13	356	P	Pg	11 13 19.2	-0.4
	SNR=35						
CHMS	Chumysh	2.13	356	⇑i P	Pg	11 13 19.0	-0.7
	baz=358						
CHMS				⇑i S	Sg	11 13 47.0	-0.3
	baz=358						
USP	Ospenovka	2.41	353	P	Pg	11 13 23.6	-1.6
	SNR=73						
KK31	Karatay Array	3.98	306	⇑Pg	Pg	11 13 51.3	-3.8
	0.8nm,0.2s,baz=130,slow=12,SNR=26						
KK31				Lg	Lg	11 14 42.9	
	9.1nm,0.4s,baz=127,slow=29,SNR=14						
MK31	Makanchi Array	7.96	40	⇓Pn	Pn	11 14 41.0	+6.3
	0.6nm,0.6s,baz=221,slow=14,SNR=7.8						
MK31				⇓Lg	Lg	11 16 59.3	
	2.9nm,0.9s,baz=228,slow=27,SNR=4.0						

IDC 13 11:19:12.9±5.8,61°.56S×155°.75E,h0km,mb3.7/2, mb1 4.1/3,mb1mx3.9/23,mbtmp3.9/3,ML4.2/1,MS3.7/8, Ms1 3.7/8,ms1mx3.6/14,Error ellipse: s-maj=351.5km s-min=39.6km az=75.0,Balleny Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	16.16	175	Pn	Pn	11 23 00.8	-0.1
	0.8nm,0.3s,baz=355,slow=12,SNR=13						
VNDA				LR	LR	11 28 49.0	
	comp=Z,445nm,19.2s,baz=356,slow=36						
URZ	Urewera	26.83	39	LR	LR	11 34 00.8	
	comp=Z,78nm,21.1s,baz=206,slow=33						
QSPA	South Pole Qui	28.53	180	LR	LR	11 36 06.4	
	comp=Z,204nm,21.9s,baz=9.5,slow=36						
MAW	Mawson	36.70	220	LR	LR	11 40 20.0	
	comp=Z,263nm,20.3s,baz=112,slow=34						
H01W1	Cape Leeuwin H	37.42	296	T	T	12 05 33.1	
	baz=147,slow=75,SNR=69						
H01W2	Cape Leeuwin H	37.42	296	T	T	12 05 33.7	
	baz=147,slow=75,SNR=78						
H01W3	Cape Leeuwin H	37.43	296	T	T	12 05 34.4	
	baz=147,slow=75,SNR=76						
DZM	Mont Dzumac	40.15	15	LR	LR	11 39 57.2	
	comp=Z,136nm,20.2s,baz=188,slow=31						
ASAR	Alice Springs	40.73	328	P	P	11 26 55.0	-0.1
	0.8nm,0.8s,baz=167,slow=9.4,SNR=8.9						
ASAR				LR	LR	11 41 28.6	
	comp=Z,69nm,19.1s,baz=170,slow=33						
WRA	Warramunga Arr	44.20	330	P	P	11 27 23.4	-0.1
	0.8nm,0.6s,baz=163,slow=7.4,SNR=13						
PLCA	Paso Flores	71.37	145	LR	LR	11 56 33.8	
	comp=Z,36nm,19.9s,baz=105,slow=31						
CMAR	Chiang Mai Arr	91.58	307	LR	LR	12 13 22.1	
	comp=Z,26nm,18.2s,baz=120,slow=36						

IDC 13 11:25:48.2±4.8,7°.85S×147°.43E,h96km±46km,mb2.8/1, mb1 3.1/2,mb1mx2.8/19,mbtmp3.3/2,Error ellipse: s-maj=93.0km s-min=44.5km az=123.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	1.57	190	P	Pn	11 26 15.7	+0.6
	7.5nm,0.3s,baz=29,slow=9.4,SNR=48						
PMG				S	Sn	11 26 35.6	+0.1
	15nm,0.3s,baz=319,slow=20,SNR=8.0						
WRA	Warramunga Arr	17.47	225	P	P	11 29 45.4	-0.4
	0.1nm,0.3s,baz=51,slow=11,SNR=6.6						
ASAR	Alice Springs	20.38	218	P	P	11 30 17.4	-0.2
	0.6nm,0.6s,baz=53,slow=9.3,SNR=20						
TORD	Torodi Ar. Bea	145.92	282	PKPbc	PKPdf	11 45 16.7	-0.2
	0.3nm,0.9s,baz=90,slow=4.3,SNR=2.6						

IDC 13 11:40:37.4±1.8,61.02S×41.36W,h0km,mb4.2/1, mb1 4.2/1,mb1mx3.7/16,mbtmp4.2/1,Error ellipse: s-maj=106.9km s-min=67.3km az=172.0,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res
TORD	Torodi Ar. Bea	81.42	42	P	P	11 52 55.9	0.0
	1.5nm,0.8s,baz=192,slow=6.1,SNR=9.2						
YKA	Yellowknife Ar	135.10	321	PKP	PKPdf	11 59 55.9	-0.9
	0.1nm,0.6s,baz=141,slow=1.7,SNR=3.9						
MKAR	Makanchi Array	145.08	88	PKPbc	PKPbc	12 00 14.7	-0.4
	1.0nm,0.9s,baz=234,slow=5.0,SNR=7.6						
ILAR	Eielson Array	147.67	309	PKPbc	PKPbc	12 00 21.6	-0.5
	0.4nm,0.7s,baz=141,slow=2.1,SNR=7.9						
ZALV	Zalesovo Beam	150.97	80	PKPbc	PKPbc	12 00 29.9	-0.7
	0.4nm,0.5s,baz=273,slow=5.1,SNR=3.0						

ISCJB 13 11:44:33.7±0.7,37.30N±0.04×27.56E±0.05,h12km,Error ellipse: s-maj=6.8km s-min=5.3km az=141.6
CSEM 13 11:44:33.9±0.1,37.31N×27.53E,h10km,MD2.7,Error ellipse: s-maj=2.8km s-min=2.7km az=116.0
ISK 13 11:44:33.4,37.30N×27.54E,h10km,MD2.7
ISC 13 11:44:34.1±1.0,37.30N±0.04×27.54E±0.04,h12km,n14, σ0§16/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.25	198	iP	Pg	11 44 39.1	-0.2
BDRM				iS	Sg	11 44 42.8	0.0
BDRM	Kayabasi	0.25	198	iP	Pg	11 44 39.1	-0.2
BDRM				iS	Sg	11 44 42.8	0.0
BODT	Bodrum	0.30	217	PG	Pg	11 44 40.2	0.0
BODT				SG	Sg	11 44 44.5	+0.2
BODT	Bodrum	0.30	217	iPg	Pg	11 44 40.3	0.0
BODT				iSg	Sg	11 44 44.6	+0.2
YER	Yerkesik	0.62	106	ePG	Pg	11 44 46.0	-0.1
YER				eSG	Sg	11 44 54.3	+0.1
YER	Yerkesik	0.62	106	ePg	Pg	11 44 46.0	-0.1
YER				eSg	Sg	11 44 54.3	+0.1
AYDB	Zeytinkoy-Aydi	0.70	23	ePG	Pg	11 44 47.7	0.0
AYDB	Zeytinkoy-Aydi	0.70	23	ePg	Pg	11 44 47.7	0.0
DALY	Dalyan (Mu˘la	1.01	118	ePG	Pg	11 44 53.6	+0.1
DALY	Dalyan (Mu˘la	1.01	118	ePg	Pg	11 44 53.7	+0.1
BLCB	Balcova	1.15	340	ePN	Pb	11 44 55.6	-0.3
BLCB	Balcova	1.15	340	ePn	Pb	11 44 55.6	-0.3
CHOS	Chios island	1.60	313	ePN	Pn	11 45 02.4	+0.2
CHOS	Chios island	1.60	313	ePn	Pn	11 45 02.4	+0.2

CSEM 13 11:49:57.6±0.6,37.07N×34.98E,h20km,MD2.9,Error ellipse: s-maj=27.0km s-min=12.9km az=176.0
DDA 13 11:49:47.9,37.57N×35.38E,h7km,MD2.9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GULE	Gulek	0.56	240	iS	Sb	11 50 08.8	+0.2
GULE	Gulek	0.56	240	iP	Pg	11 49 58.1	-0.8
GULE				iS	Sb	11 50 08.8	+0.2
ANDN	Andirin	0.77	89	iP	Pg	11 50 01.9	-0.9
ANDN				iS	Sn	11 50 16.0	-1.3
KIZK	Mersin	1.47	223	iP	Pg	11 50 16.6	+0.6
KIZK	Mersin	1.47	223	iP	Pg	11 50 16.6	+0.5
KIZK				iS	Sg	11 50 36.8	+1.7
GZT	Gaziantep	1.75	96	iP	Pg	11 50 26.3	+4.5
GZT				iS	Sg	11 50 49.0	+4.4

ISCJB 13 11:51:23.5±0.4,36.31N±0.03×26.64E±0.03,h118km±5km, Error ellipse: s-maj=5.0km s-min=4.4km az=0.0
ISK 13 11:51:24.9,36.42N×26.62E,h28km,ML2.9
CSEM 13 11:51:24.3±0.3,36.31N×26.64E,h112km±3km,ML2.9, Error ellipse: s-maj=5.7km s-min=4.5km az=154.0
ATH 13 11:51:25.8,36.40N×26.53E,h39km±4km,MD3.4/12
THE 13 11:51:26.4,36.36N×26.59E,h110km±4km,ML3.3/3,Error ellipse: s-maj=4.8km s-min=1.0km az=109.0
DDA 13 11:51:26.8,36.10N×27.21E,h8km,MD3.0
HLW 13 11:51:28.5,36.01N×26.89E,h47km±35km,Md3.8,Ml3.2
ISC 13 11:51:24.5±1.1,36.35N±0.03×26.62E±0.03,h103km±10km, n104,σ1§22/124,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BODT	Bodrum	0.90	38	ePG	Pn	11 51 41.9	-2.3
KARP	Karpathos	0.92	151	P	Pn	11 51 45.4	+1.0
KARP				S	Sn	11 52 00.4	+1.1
KARP	Karpathos	0.92	151	ePN	Pn	11 51 45.6	+1.2
KARP	Karpathos	0.92	151	P	Pn	11 51 45.4	+1.0
KARP				S	Sn	11 52 00.4	+1.1
SANT	Santorini	0.94	271	ePG	Pn	11 51 40.4	-4.1
BDRM	Kayabasi	0.97	43	iP	Pn	11 51 45.9	+1.0
BDRM	Kayabasi	0.97	43	iP	Pn	11 51 45.9	+1.0
APE	Apeiranthos	1.13	310	P	Pn	11 51 47.6	+1.0
APE				S	Sn	11 52 03.8	+0.5
APE	Apeiranthos	1.13	310	ePN	Pn	11 51 45.1	-1.5
APE	Apeiranthos	1.13	310	P	Pn	11 51 47.0	+0.4
APE	Apeiranthos	1.13	310	ePn	Pn	11 51 45.1	-1.5
APE				S	Sn	11 52 03.8	+0.5
APE	Apeiranthos	1.13	310	ePn	Pn	11 51 47.0	+0.4
APE	Apeiranthos	1.13	310	P	Pn	11 51 47.6	+1.0
ARG	Arkhangelos	1.23	96	P	Pn	11 51 48.9	+1.3
ARG				S	Sn	11 52 05.7	+0.5
ARG	Arkhangelos	1.23	96	ePB	Pn	11 51 48.9	+1.3
ARG				eSN	Sn	11 52 06.1	+0.9
ARG	Arkhangelos	1.23	96	P	Pn	11 51 48.9	+1.3
ARG				S	Sn	11 52 05.7	+0.5
ARG				eSn	Sn	11 52 06.1	+0.9
ZKR	Zakros	1.28	195	P	Pn	11 51 49.7	+1.4
ZKR				S	Sn	11 52 07.6	+1.3
ZKR	Zakros	1.28	195	ePN	Pn	11 51 48.6	+0.3
ZKR	Zakros	1.28	195	P	Pn	11 51 49.7	+1.4
ZKR				eSN	Sn	11 52 06.3	0.0
ZKR	Zakros	1.28	195	ePn	Pn	11 51 48.6	+0.3
ZKR	Zakros	1.28	195	P	Pn	11 51 49.7	+1.4
ZKR				eSn	Sn	11 52 06.3	0.0
ZKR				S	Sn	11 52 07.6	+1.3
NPS	Neapolis	1.36	217	P	Pn	11 51 50.0	+0.7
NPS				S	Sn	11 52 08.2	+0.1
NPS	Neapolis	1.36	217	ePB	Pn	11 51 50.0	+0.7
NPS				eSN	Sn	11 52 07.1	-1.0
NPS	Neapolis	1.36	217	eSn	Sn	11 52 07.1	-1.0
NPS				S	Sn	11 52 08.2	+0.1
NPS	Neapolis	1.36	217	P	Pn	11 51 50.0	+0.7
SMG	Samos	1.36	7	P	Pn	11 51 49.8	+0.5
SMG				S	Sn	11 52 09.2	+1.1
SMG	Samos	1.36	7	ePN	Pn	11 51 50.1	+0.8
SMG	Samos	1.36	7	P	Pn	11 51 49.8	+0.5
SMG	Samos	1.36	7	ePn	Pn	11 51 50.1	+0.8
SMG				S	Sn	11 52 09.2	+1.1
LAST	Lasithi	1.51	218	P	Pn	11 51 51.7	+0.6
LAST				S	Sn	11 52 11.4	+0.1
LAST	Lasithi	1.51	218	ePN	Pn	11 51 51.7	+0.6
LAST				eSN	Sn	11 52 11.8	+0.5
LAST	Lasithi	1.51	218	S	Sn	11 52 11.4	+0.1
LAST	Lasithi	1.51	218	P	Pn	11 51 51.7	+0.6
YER	Yerkesik	1.55	59	ePN	Pn	11 51 50.6	-1.0
YER	Yerkesik	1.55	59	ePn	Pn	11 51 50.6	-1.0
DALY	Dalyan (Mu˘la	1.70	74	ePN	Pn	11 51 52.9	-0.5
DALY	Dalyan (Mu˘la	1.70	74	ePn	Pn	11 51 52.9	-0.5
SIVA	Sivas	1.99	228	P	Pn	11 51 58.5	+1.5
SIVA				S	Sn	11 52 22.5	+0.7
SIVA	Sivas	1.99	228	ePN	Pn	11 51 58.3	+1.3
SIVA	Sivas	1.99	228	ePN	Pn	11 51 58.1	+1.1
SIVA				eSN	Sn	11 52 22.6	+0.7
SIVA	Sivas	1.99	228	ePn	Pn	11 51 58.3	+1.3
SIVA				S	Sn	11 52 22.5	+0.7
SIVA	Sivas	1.99	228	ePn	Pn	11 51 58.1	+1.1
SIVA	Sivas	1.99	228	P	Pn	11 51 58.5	+1.5
FETY	Fethiye	2.01	81	ePN	Pn	11 51 57.6	+0.3
FETY	Fethiye	2.01	81	ePn	Pn	11 51 57.6	+0.3
CHOS	Chios island	2.08	348	ePN	Pn	11 51 59.0	+0.7
CHOS	Chios island	2.08	348	ePn	Pn	11 51 59.0	+0.7
VAM	Vamos	2.18	245	P	Pn	11 51 59.7	+0.2
VAM	Vamos	2.18	245	ePN	Pn	11 52 00.6	+1.1
VAM	Vamos	2.18	245	P	Pn	11 51 59.7	+0.2
VAM	Vamos	2.18	245	ePn	Pn	11 52 00.6	+1.1
AKAS	Kas	2.42	92	iP	Pn	11 52 03.6	+0.9
AKAS	Kas	2.42	92	iP	Pn	11 52 03.6	+0.9
GOLH	Golhisar	2.52	69	iP	Pn	11 52 05.5	+1.5
GOLH	Golhisar	2.52	69	iP	Pn	11 52 05.5	+1.5
GVD	Gavdhos	2.56	235	P	Pn	11 52 06.0	+1.6
GVD	Gavdhos	2.56	235	ePN	Pn	11 52 06.2	+1.8
GVD	Gavdhos	2.56	235	ePN	Pn	11 52 05.7	+1.3
GVD	Gavdhos	2.56	235	ePn	Pn	11 52 06.2	+1.8
GVD	Gavdhos	2.56	235	ePn	Pn	11 52 05.7	+1.3
GVD	Gavdhos	2.56	235	P	Pn	11 52 06.0	+1.6
ELL	Elmali	2.68	81	ePN	Pn	11 52 07.2	+1.1
ELL	Elmali	2.68	81	ePn	Pn	11 52 07.2	+1.1
KYTH	Kithira	2.89	270	P	Pn	11 52 09.0	+0.1
KYTH	Kithira	2.89	270	ePN	Pn	11 52 09.7	+0.8
KYTH	Kithira	2.89	270	P	Pn	11 52 09.0	+0.1
KYTH	Kithira	2.89	270	ePn	Pn	11 52 09.7	+0.8
DID	Didima	2.94	294	P	Pn	11 52 10.5	+0.9
DID				S	Sn	11 52 44.0	-0.3
DID	Didima	2.94	294	ePN	Pn	11 52 10.2	+0.6
DID	Didima	2.94	294	ePn	Pn	11 52 10.2	+0.6
DID	Didima	2.94	294	P	Pn	11 52 10.5	+0.9
KORT	Korkueli	3.07	77	iP	Pn	11 52 13.0	+1.7
KORT	Korkueli	3.07	77	iP	Pn	11 52 13.0	+1.7
LTK	Loutraki	3.36	301	ePN	Pn	11 52 16.5	+1.4
LTK	Loutraki	3.36	301	ePn	Pn	11 52 16.5	+1.4
KLV	Kalavryta, Ach	3.95	297	ePN	Pn	11 52 24.2	+1.2
KLV	Kalavryta, Ach	3.95	297	ePn	Pn	11 52 24.2	+1.2
LAKA	Lakka	4.15	298	ePN	Pn	11 52 27.2	+1.5
LAKA	Lakka	4.15	298	ePn	Pn	11 52 27.2	+1.5
DRO	Drossia	4.23	294	ePN	Pn	11 52 29.0	+2.2
DRO	Drossia	4.23	294	ePn	Pn	11 52 29.0	+2.2
GAZI	Gazipasa	4.60	90	iP	Pn	11 52 31.1	-0.8
GAZI	Gazipasa	4.60	90	iP	Pn	11 52 31.1	-0.8
PDO	Prodromos	4.87	299	ePN	Pn	11 52 37.8	+2.4
PDO	Prodromos	4.87	299	ePn	Pn	11 52 37.8	+2.4
SLUM		4.99	194	P	Pn	11 52 36.5	-0.6
	baz=198						
SLUM		4.99	194	P	Pn	11 52 36.5	-0.6
ERMK	Ermenek	5.08	85	iP	Pn	11 52 40.3	+1.8
ERMK	Ermenek	5.08	85	iP	Pn	11 52 40.3	+1.8
HMAT	Matruh	5.26	176	AMP		11 53 00.0	
	comp=E,50µm,0.2s,logA/T=5.4,baz=177						
SWA2		7.16	188	P	Pn	11 53 05.2	-1.3
	baz=191						
SWA2				S	Sn	11 54 19.4	-6.9
	baz=191						
SWA2		7.16	188	P	Pn	11 53 05.2	-1.3
GLL	Jalalah	8.00	146	P	Pn	11 53 16.3	-1.7
	baz=146						
GLL	Jalalah	8.00	146	P	Pn	11 53 16.3	-1.7
RSH		8.00	130	P	Pn	11 53 15.8	-2.1
	baz=129						
RSH		8.00	130	P	Pn	11 53 15.8	-2.1
SUZ		8.33	140	P	Pn	11 53 21.4	-1.0
	baz=139						
SUZ		8.33	140	P	Pn	11 53 21.4	-1.0
HNKL	Nakhl	8.89	134	P	Pn	11 53 28.1	-2.1
	baz=133						
HNKL	Nakhl	8.89	134	P	Pn	11 53 28.1	-2.1
HFRF	Wahat Farafira	9.29	171	P	Pn	11 53 33.9	-1.6
	baz=171						
HFRF				S	Sn	11 55 09.4	-8.8
	baz=171						
HFRF	Wahat Farafira	9.29	171	P	Pn	11 53 33.9	-1.6
HKAT	Jabal Katrina	9.99	139	P	Pn	11 53 43.2	-1.9
	baz=139						
HKAT	Jabal Katrina	9.99	139	P	Pn	11 53 43.2	-1.9

MEX 13 11:51:56.7±0.3,15.66N×96.37W,h31km±3km,MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PANG	Puerto Angel	0.10	273	eP	Pb	11 52 00.8	-1.3
PANG				iS	Sb	11 52 04.3	-1.6
HUIG	Huatulco	0.27	67	eP	Pb	11 52 02.6	-1.3
HUIG				eS	Sb	11 52 07.1	-1.7
VHO	Vista Hermosa	1.45	346	eP	Pn	11 52 19.2	-1.9
VHO				eS	Sn	11 52 36.3	-2.9
PNIG	Pinotepa	1.84	294	eP	Pn	11 52 24.3	-2.0
PNIG				iS	Sn	11 52 46.0	-2.5
CMIG	Matias Romero	2.01	45	eP	Pn	11 52 27.2	-1.4
CMIG				iS	Sn	11 52 50.1	-2.7

NEIC 13 12:03:50.7,46.24S×165.34E,h36km,ML4.9(WEL),After WEL.
ISCJB 13 12:03:55.6±1.1,45.98S±0.05×166.01E±0.07,h28km±7km, Error ellipse: s-maj=9.2km s-min=8.3km az=11.0
WEL 13 12:03:57.7±0.7,46.09S×166.21E,h12km,ML4.7/15,Error ellipse: s-maj=7.5km s-min=2.8km az=90.0
ISC 13 12:03:56.5±2.7,46.10S±0.06×165.98E±0.08,h31km±21km, n46,σ1§27/58,1C-1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	1.03	53	P*	Pn	12 04 13.2	-1.7
DCZ				S*	Sn	12 04 25.6	-2.6
DCZ				AML	AML	12 04 26.8	
DCZ				AML	AML	12 04 26.8	
DCZ				AML	AML	12 04 34.3	
DCZ	Deep Cove	1.03	53	Pn	Pn	12 04 13.2	-1.7
DCZ				Sn	Sn	12 04 25.6	-2.6
WHZ	Wether Hill Ro	1.39	82	P*	Pn	12 04 19.2	-0.6
WHZ				S*	Sn	12 04 36.6	-0.4
WHZ				AML	AML	12 04 39.3	
WHZ	Wether Hill Ro	1.39	82	ePn	Pn	12 04 19.5	-0.3
WHZ				Sn	Sn	12 04 36.6	-0.4
APZ	The Paps	1.57	118	PN	Pn	12 04 22.1	-0.2
APZ				SN	Sn	12 04 41.3	-0.3
APZ				AML	AML	12 04 44.2	
APZ	The Paps	1.57	118	Pn	Pn	12 04 22.1	-0.2
APZ				Sn	Sn	12 04 39.3	-2.3
MLZ	Mavora Lakes	1.71	65	PN	Pn	12 04 24.3	0.0
MLZ				AML	AML	12 04 52.4	
MLZ				AML	AML	12 04 53.1	
MLZ	Mavora Lakes	1.71	65	Pn	Pn	12 04 24.4	+0.1
MSZ	Milford Sound	1.98	44	⇑PN	Pn	12 04 28.2	+0.2
MSZ				AML	AML	12 05 02.0	
MSZ				AML	AML	12 05 02.0	
MSZ				AML	AML	12 05 04.0	
MSZ				AML	AML	12 05 04.0	
MSZ	Milford Sound	1.98	44	Pn	Pn	12 04 28.2	+0.2
SYZ	Scrubby Hill	2.23	102	PN	Pn	12 04 32.0	+0.7
SYZ				AML	AML	12 05 00.8	
SYZ				AML	AML	12 05 00.8	
SYZ				AML	AML	12 05 03.9	
SYZ				AML	AML	12 05 03.9	
SYZ	Scrubby Hill	2.23	102	Pn	Pn	12 04 32.0	+0.7
WKZ	Wanaka	2.49	60	PN	Pn	12 04 36.7	+1.8
WKZ				SN	Sb	12 05 10.6	-0.1
WKZ				AML	AML	12 05 10.9	
WKZ				AML	AML	12 05 16.3	
WKZ				AML	AML	12 05 16.3	
WKZ	Wanaka	2.49	60	Pn	Pn	12 04 36.9	+2.0
WKZ				Sn	Sb	12 05 10.6	-0.1
EAZ	Earnscleugh	2.49	71	PN	Pn	12 04 36.0	+1.1
EAZ				AML	AML	12 05 10.6	
EAZ				AML	AML	12 05 10.6	
EAZ				AML	AML	12 05 15.1	
EAZ				AML	AML	12 05 15.1	
EAZ	Earnscleugh	2.49	71	Pn	Pn	12 04 36.3	+1.4
JCZ	Jackson Bay	2.83	45	PN	Pn	12 04 40.8	+1.2
JCZ				AML	AML	12 05 28.1	
JCZ				AML	AML	12 05 29.7	
JCZ	Jackson Bay	2.83	45	Pn	Pn	12 04 40.8	+1.2
HHSZ	Highcliff Hill	3.22	88	PN	Pn	12 04 45.8	+0.7
LBZ	Lake Benmore	3.43	61	PN	Pn	12 04 48.0	+0.1
LBZ				AML	AML	12 05 33.9	
LBZ				AML	AML	12 05 55.4	
LBZ	Lake Benmore	3.43	61	Pn	Pn	12 04 48.0	+0.1
ODZ	Otahua Downs	3.44	74	PN	Pn	12 04 47.6	-0.4
ODZ	Otahua Downs	3.44	74	ePn	Pn	12 04 47.7	-0.3
ODZ				eSn	Sn	12 05 32.2	+4.5
FOZ	Fox Glacier	3.66	47	PN	Pn	12 04 52.7	+1.7
FOZ				AML	AML	12 05 56.4	
FOZ				AML	AML	12 06 05.3	
FOZ	Fox Glacier	3.66	47	Pn	Pn	12 04 52.7	+1.7
RPZ	Rata Peaks	4.32	58	PN	Pn	12 04 59.5	-0.6
RPZ				AML	AML	12 05 52.7	
RPZ				AML	AML	12 06 28.1	
RPZ	Rata Peaks	4.32	58	Pn	Pn	12 04 59.5	-0.6
RPZ				eSn	Sn	12 05 51.1	+1.6
WVZ	Waitaha Valley	4.55	50	PN	Pn	12 05 03.2	0.0
WVZ				AML	AML	12 06 15.8	
WVZ	Waitaha Valley	4.55	50	Pn	Pn	12 05 03.2	0.0
OXZ	Oxford	5.13	59	⇓PN	Pn	12 05 09.8	-1.4
LTZ	Lake Taylor	5.59	56	PN	Pn	12 05 16.5	-1.1
LTZ				AML	AML	12 06 26.8	
LTZ				AML	AML	12 06 39.8	
LTZ	Lake Taylor	5.59	56	Pn	Pn	12 05 14.0	-3.6
DSZ	Denniston Nort	6.05	46	PN	Pn	12 05 24.1	+0.2
DSZ	Denniston Nort	6.05	46	Pn	Pn	12 05 24.1	+0.2
KHZ	Kahutara	6.56	59	ePn	Pn	12 05 30.4	-0.4
KHZ				eSn	Sn	12 06 45.7	+1.2
THZ	Tophouse	6.62	51	PN	Pn	12 05 33.7	+2.0
THZ				AML	AML	12 06 55.6	
THZ				AML	AML	12 07 02.5	
THZ	Tophouse	6.62	51	Pn	Pn	12 05 31.2	-0.5
QRZ	Quartz Range	7.10	44	PN	Pn	12 05 38.5	+0.1
QRZ	Quartz Range	7.10	44	Pn	Pn	12 05 38.0	-0.4
NNZ	Nelson	7.25	50	PN	Pn	12 05 41.9	+1.6
SNZO	South Karori	7.93	56	ePn	Pn	12 05 51.2	+1.6
SNZO				eSn	Sn	12 07 17.7	-0.5
URZ	Urewera	11.37	50	Pn	Pn	12 06 37.9	+1.1
WCZ	Waipu Caves	11.95	35	PN	Pn	12 06 44.5	-0.2
WCZ	Waipu Caves	11.95	35	Pn	Pn	12 06 44.5	-0.2
OUZ	Omahuta	12.30	31	ePn	Pn	12 06 48.5	-1.0
OUZ				eSn	Sn	12 09 05.0	-0.6
MILA	Mila	15.48	300	P	Pn	12 07 33.1	+0.5
	baz=15,SNR=11						

CSEM 13 12:07:19.0±0.3,34.44N×36.65E,h5km,ML1.8,Error ellipse: s-maj=6.1km s-min=5.6km az=111.0
NSSC 13 12:07:17.4±4.4,34.52N×36.63E,h0km±17km,ML1.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FKH	Fakeheh	0.33	214	eP	Pg	12 07 24.4	+0.5
FKH	Fakeheh	0.33	214	eP	Pg	12 07 24.4	+0.5
RABH	Abou Rabah	0.48	100	iP	Pb	12 07 28.3	-0.5
RABH				eS	Sg	12 07 33.6	+0.5
RABH				AML	AML	12 07 36.4	
	comp=E,44nm,0.3s						
RABH				AML	AML	12 07 37.6	
	comp=Z,56nm,0.3s						
RABH				AML	AML	12 07 40.9	
	comp=N,38nm,0.3s						
RABH	Abou Rabah	0.48	100	eP	Pb	12 07 28.7	-0.1
RABH				eS	Sg	12 07 34.7	+1.7
RABH				AML	AML	12 07 36.4	
	comp=E,44nm,0.3s						
RABH				AML	AML	12 07 40.9	
	comp=N,38nm,0.3s						
RABH	Abou Rabah	0.48	100	iP	Pb	12 07 28.3	-0.5
	SNR=91						
RABH				eS	Sg	12 07 33.6	+0.6
	comp=N,38nm,0.3s,SNR=59						
MARH	Ras Al Marh	0.51	194	iP	Pg	12 07 27.0	-0.6
MARH				AML	AML	12 07 37.0	
	comp=N,50nm,0.4s						
MARH				AML	AML	12 07 40.7	
	comp=Z,120nm,0.6s						
MARH				AML	AML	12 07 43.1	
	comp=E,96nm,0.7s						
MARH	Ras Al Marh	0.51	194	iP	Pg	12 07 27.0	-0.6
	SNR=93						
HWQ	Hawqa	0.62	247	eP	Pb	12 07 31.6	+0.4
HWQ	Hawqa	0.62	247	eP	Pb	12 07 31.6	+0.3
ROOS	tl_alroos	0.65	123	eP	Pg	12 07 30.5	+0.6
ROOS	tl_alroos	0.65	123	eP	Pb	12 07 31.6	-0.1
ROOS				eS	Sb	12 07 41.1	-0.2
ROOS	tl_alroos	0.65	123	eP	Pg	12 07 30.5	+0.6
	SNR=75						
TOTH	TOTAH	1.17	188	eP	Pg	12 07 39.7	-0.2
TOTH	TOTAH	1.17	188	eP	Pg	12 07 39.7	-0.2
	SNR=57						
BRBR	Barbar	1.24	207	iP	Pn	12 07 42.9	+0.6
BRBR				eS	Sg	12 07 58.3	+0.4
BRBR				AML	AML	12 08 08.7	
	comp=N,14nm,0.3s						
BRBR				AML	AML	12 08 09.4	
	comp=Z,16nm,0.4s						
BRBR				AML	AML	12 08 09.5	
	comp=E,12nm,0.4s						
BRBR	Barbar	1.24	207	eP	Pn	12 07 42.4	0.0
BRBR				AML	AML	12 08 08.7	
	comp=N,14nm,0.3s						
BRBR				AML	AML	12 08 09.4	
	comp=Z,16nm,0.4s						
BRBR				AML	AML	12 08 09.5	
	comp=E,12nm,0.4s						
BRBR	Barbar	1.24	207	iP	Pn	12 07 42.9	+0.6
	SNR=57						
BRBR				eS	Sg	12 07 58.3	+0.4
	comp=E,12nm,0.4s,SNR=49						
ARNB	Al Arnab	1.44	338	eP	Pb	12 07 45.3	0.0
ARNB				iSg	Sn	12 08 07.7	+3.1
	comp=N,569nm,5.9s						
ARNB				AML	AML	12 08 08.3	
	comp=E,34nm,0.4s						
ARNB				AML	AML	12 08 12.6	
	comp=Z,20nm,0.3s						
ARNB	Al Arnab	1.44	338	eP	Pn	12 07 40.4	-4.5
ARNB				AML	AML	12 08 12.5	
	comp=N,45nm,0.3s						
ARNB				AML	AML	12 08 12.6	
	comp=Z,20nm,0.3s						
ARNB	Al Arnab	1.44	338	eP	Pb	12 07 45.3	0.0
	SNR=57						
ARNB				iSg	Sn	12 08 07.7	+3.0
	comp=Z,20nm,0.3s,SNR=90						
BTCH	Batrach	1.52	355	iP	Pg	12 07 49.4	+2.7
BTCH				AML	AML	12 08 16.3	
	comp=Z,40nm,0.3s						
BTCH				AML	AML	12 08 16.7	
	comp=N,28nm,0.4s						
BTCH				AML	AML	12 08 21.2	
	comp=E,15nm,0.5s						
BTCH	Batrach	1.52	355	eP	Pn	12 07 41.0	-5.0
BTCH				AML	AML	12 08 16.3	
	comp=Z,40nm,0.3s						
BTCH				AML	AML	12 08 16.6	
	comp=N,28nm,0.4s						
BTCH				AML	AML	12 08 21.2	
	comp=E,15nm,0.5s						
BTCH	Batrach	1.52	355	iP	Pg	12 07 49.4	+2.7
	SNR=57						
ZALF	Zalf	1.70	160	iP	Pn	12 07 47.9	-0.5
ZALF				eS	Sn	12 08 09.8	-1.0
ZALF	Zalf	1.70	160	eP	Pn	12 07 48.0	-0.3
ZALF				eS	Sn	12 08 09.8	-1.1
ZALF				AML	AML	12 08 11.7	
	comp=N,10nm,0.7s						
ZALF				AML	AML	12 08 14.5	
	comp=Z,6.8nm,0.4s						
ZALF	Zalf	1.70	160	iP	Pn	12 07 47.9	-0.5
	SNR=45						
ZALF				eS	Sn	12 08 09.8	-1.0
	SNR=40						
SALA	Sala	1.81	177	iP	Pn	12 07 50.2	+0.2
SALA				AML	AML	12 08 14.8	
	comp=Z,25nm,0.5s						
SALA				AML	AML	12 08 15.7	
	comp=N,12nm,0.3s						
SALA	Sala	1.81	177	eP	Pn	12 07 50.0	0.0
SALA				AML	AML	12 08 14.9	
	comp=Z,25nm,0.5s						
SALA				AML	AML	12 08 15.7	
	comp=N,12nm,0.3s						
SALA				AML	AML	12 08 19.2	
	comp=E,1.3nm,0.3s						
SALA	Sala	1.81	177	iP	Pn	12 07 50.2	+0.1
	SNR=45						

VIE 13 12:29:17.7±0.2,45.54N×11.14E,h10km,mb1.9/7,ML2.6/9, Error ellipse: s-maj=1.6km s-min=0.6km az=14.0 59 km S of Trento
ISCJB 13 12:29:18.7±0.4,45.59N±0.02×11.15E±0.02,h10km±2km, Error ellipse: s-maj=3.8km s-min=2.9km az=179.9
CSEM 13 12:29:19.1±0.1,45.60N×11.13E,h10km,ML2.6,Error ellipse: s-maj=2.6km s-min=2.0km az=173.0
ROM 13 12:29:19.0±0.2,45.56N×11.15E,h8km±2km,Md2.5/18,

Ml2.2/14,Error ellipse: s-maj=2.9km s-min=1.9km az=35.0

ISC 13 12:29:19.5±0.8,**45.59N**±0.02×**11.15E**±0.02,**h9**km±4km,
n74,σ**0.58**/115,**17C-14D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARN	**Marana (Italy)**	**0.06**	**43**	⇑ i Pg	**Pg**	**12 29 21.6**	**0.0**
MARN				i Sg	**Sg**	**12 29 23.2**	**+0.1**
MARN	**Marana (Italy)**	**0.06**	**43**	⇑ i Pg	**Pg**	**12 29 21.6**	**0.0**
MARN				i Sg	**Sg**	**12 29 23.2**	**+0.1**
ROVR	**Rover¨¤ Verone**	**0.08**	**317**	Pg	**Pg**	**12 29 21.8**	**-0.1**
ROVR				Sg	**Sg**	**12 29 23.6**	**0.0**
	3μm,0.1s						
ROVR	**Rover¨¤ Verone**	**0.08**	**317**	Pg	**Pg**	**12 29 21.8**	**-0.1**
ROVR				Sg	**Sg**	**12 29 23.6**	**0.0**
	3μm,0.1s						
BALD	**Monte Baldo**	**0.25**	**292**	⇓ePg	**Pg**	**12 29 24.6**	**0.0**
BALD				eSg	**Sg**	**12 29 28.2**	**+0.1**
BALD	**Monte Baldo**	**0.25**	**292**	⇓ePg	**Pg**	**12 29 24.6**	**0.0**
BALD				eSg	**Sg**	**12 29 28.2**	**+0.1**
DDS	**Dosso del Somm**	**0.29**	**6**	Sg	**Sg**	**12 29 29.5**	**+0.2**
DDS	**Dosso del Somm**	**0.29**	**6**	Sg	**Sg**	**12 29 29.5**	**+0.2**
MAGA	**Magasa**	**0.41**	**297**	Pg	**Pg**	**12 29 27.2**	**-0.3**
MAGA				Sg	**Sg**	**12 29 33.9**	**+1.0**
	368nm,0.2s						
MAGA	**Magasa**	**0.41**	**297**	Pg	**Pg**	**12 29 27.2**	**-0.3**
MAGA				Sg	**Sg**	**12 29 33.9**	**+1.0**
	368nm,0.2s						
TEOL	**Teolo**	**0.43**	**122**	⇓ i Pg	**Pg**	**12 29 27.7**	**-0.3**
TEOL				i Sg	**Sg**	**12 29 33.6**	**-0.1**
TEOL	**Teolo**	**0.43**	**122**	Pg	**Pg**	**12 29 27.7**	**-0.3**
TEOL				Sg	**Sg**	**12 29 33.9**	**+0.2**
	187nm,0.3s						
TEOL	**Teolo**	**0.43**	**122**	⇓ i Pg	**Pg**	**12 29 27.7**	**-0.3**
TEOL				i Sg	**Sg**	**12 29 33.6**	**-0.1**
PANI	**Panarotta**	**0.47**	**14**	⇑ePg	**Pg**	**12 29 28.7**	**0.0**
PANI	**Panarotta**	**0.47**	**14**	⇑ePg	**Pg**	**12 29 28.7**	**0.0**
CGRP	**Cima Grappa**	**0.54**	**57**	⇑ i Pg	**Pg**	**12 29 29.8**	**-0.1**
CGRP				i Sg	**Sg**	**12 29 37.9**	**+0.7**
CGRP	**Cima Grappa**	**0.54**	**57**	Pg	**Pg**	**12 29 29.9**	**-0.1**
CGRP				Sg	**Sg**	**12 29 37.9**	**+0.7**
	41nm,0.4s						
CGRP	**Cima Grappa**	**0.54**	**57**	Pg	**Pg**	**12 29 29.9**	**-0.1**
CGRP				i Sg	**Sg**	**12 29 37.9**	**+0.7**
MABI	**Malga Bissina**	**0.64**	**317**	Pg	**Pg**	**12 29 31.3**	**-0.6**
MABI				Sg	**Sb**	**12 29 43.0**	**+0.9**
	26nm,0.1s						
MABI	**Malga Bissina**	**0.64**	**317**	Pg	**Pg**	**12 29 31.3**	**-0.6**
MABI				Sg	**Sb**	**12 29 43.0**	**+0.9**
	26nm,0.1s						
NOVE	**Novellara**	**0.85**	**201**	Pg	**Pb**	**12 29 36.1**	**-0.2**
NOVE	**Novellara**	**0.85**	**201**	Pg	**Pb**	**12 29 36.1**	**-0.2**
KOSI	**Kohlern**	**0.89**	**10**	Pg	**Pg**	**12 29 36.2**	**-0.4**
KOSI				Sg	**Sg**	**12 29 48.5**	**+0.4**
	28nm,0.3s						
KOSI	**Kohlern**	**0.89**	**10**	Pg	**Pg**	**12 29 36.2**	**-0.4**
KOSI				eSg	**Sg**	**12 29 48.5**	**+0.4**
APPI	**Appiano**	**0.89**	**4**	Pg	**Pg**	**12 29 36.3**	**-0.3**
APPI				Sg	**Sb**	**12 29 49.5**	**+0.4**
	84nm,0.3s						
APPI	**Appiano**	**0.89**	**4**	Pg	**Pg**	**12 29 36.3**	**-0.3**
APPI				Sg	**Sb**	**12 29 49.5**	**+0.4**
	84nm,0.3s						
AGOR	**Agordo**	**0.94**	**42**	⇑ePg	**Pg**	**12 29 37.4**	**-0.1**
AGOR	**Agordo**	**0.94**	**42**	Pg	**Pg**	**12 29 37.4**	**-0.1**
AGOR				Sg	**Sg**	**12 29 49.7**	**+0.1**
	41nm,0.4s						
CAE	**Caneva**	**0.99**	**65**	ePg	**Pg**	**12 29 38.1**	**-0.5**
CAE				eSg	**Sn**	**12 29 53.5**	**-0.3**
CAE	**Caneva**	**0.99**	**65**	ePg	**Pg**	**12 29 38.1**	**-0.5**
CAE				eSg	**Sn**	**12 29 53.5**	**-0.3**
MDI	**Monti di Nese**	**1.02**	**281**	Pg	**Pg**	**12 29 38.8**	**-0.4**
MDI	**Monti di Nese**	**1.02**	**281**	Pg	**Pg**	**12 29 38.8**	**-0.4**
BRMO	**Bormio**	**1.04**	**329**	Pg	**Pg**	**12 29 38.5**	**-0.9**
	18nm,0.2s						
BRMO	**Bormio**	**1.04**	**329**	Pg	**Pg**	**12 29 38.5**	**-0.9**
	18nm,0.2s						
POLC	**Polcenigo**	**1.04**	**65**	Pg	**Pb**	**12 29 39.9**	**-0.3**
POLC	**Polcenigo**	**1.04**	**65**	ePg	**Pb**	**12 29 39.8**	**+0.2**
MOSI	**Grossmontoni**	**1.11**	**338**	Pg	**Pb**	**12 29 40.7**	**-0.2**
MOSI				Sg	**Sb**	**12 29 56.2**	**+0.7**
	40nm,0.8s						
MOSI	**Grossmontoni**	**1.11**	**338**	⇑ePg	**Pb**	**12 29 40.4**	**-0.5**
MOSI				eSg	**Sb**	**12 29 56.1**	**+0.6**
BERNI	**Berninapass**	**1.14**	**317**	Pg	**Pb**	**12 29 41.3**	**-0.1**
BERNI	**Berninapass**	**1.14**	**317**	Pg	**Pb**	**12 29 41.3**	**-0.1**
ABSI	**Aberstueckl**	**1.14**	**6**	Pg	**Pb**	**12 29 41.6**	**+0.1**
ABSI				Sg	**Sb**	**12 29 56.5**	**0.0**
	60nm,0.4s						
ABSI	**Aberstueckl**	**1.14**	**6**	⇑ePg	**Pb**	**12 29 41.1**	**-0.4**
ABSI				eSg	**Sb**	**12 29 56.5**	**0.0**
CIMO	**Cimolais**	**1.15**	**51**	⇓ePg	**Pb**	**12 29 40.4**	**-1.2**
CIMO	**Cimolais**	**1.15**	**51**	⇓ePg	**Pb**	**12 29 40.3**	**-1.2**
MLNI	**Malnisio**	**1.17**	**61**	⇓ePg	**Pb**	**12 29 41.6**	**-0.1**
MLNI				eSg	**Sn**	**12 29 59.0**	**+1.0**
MLNI	**Malnisio**	**1.17**	**61**	⇓ePg	**Pb**	**12 29 41.7**	**-0.1**
MLNI				eSg	**Sn**	**12 29 59.0**	**+1.0**
FUORN	**Ofenpass-Fuorn**	**1.20**	**329**	Pg	**Pn**	**12 29 41.9**	**-0.7**
FUORN				Sg	**Sb**	**12 29 58.4**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**1.20**	**329**	Pg	**Pn**	**12 29 41.9**	**-0.7**
FUORN				Sg	**Sb**	**12 29 58.4**	**+0.2**
ROSI	**Rosskopf**	**1.35**	**8**	⇑ePg	**Pn**	**12 29 44.8**	**+0.2**
ROSI	**Rosskopf**	**1.35**	**8**	⇑ePg	**Pn**	**12 29 44.8**	**+0.2**
FETA	**Feichten**	**1.46**	**349**	⇓ i Pn	**Pn**	**12 29 45.0**	**-1.1**
FETA				⇑ i Pg	**Pb**	**12 29 46.9**	**0.0**
FETA				⇑eSn	**Sb**	**12 30 05.9**	**+0.3**
	SNR=7.4						
FETA	**Feichten**	**1.46**	**349**	Pn	**Pn**	**12 29 45.0**	**-1.1**
ABTA	**Abfaltersbach**	**1.50**	**39**	⇑ i Pn	**Pn**	**12 29 45.6**	**-1.0**
ABTA				ePg	**Pb**	**12 29 47.5**	**0.0**
	SNR=24						
ABTA				⇑ i Sn	**Sn**	**12 30 06.5**	**+0.3**
ABTA				⇑ i Sg	**Sg**	**12 30 09.1**	**+1.6**
	4.8nm,0.2s						
ABTA	**Abfaltersbach**	**1.50**	**39**	Pn	**Pn**	**12 29 45.6**	**-1.0**
RISI	**Rein**	**1.50**	**25**	Pg	**Pb**	**12 29 47.9**	**+0.3**
RISI				Sg	**Sg**	**12 30 08.1**	**+0.3**
	67nm,0.2s						
RISI	**Rein**	**1.50**	**25**	Pg	**Pb**	**12 29 47.9**	**+0.3**
RISI				Sg	**Sg**	**12 30 08.1**	**+0.3**
	67nm,0.2s						
TUE	**Stuetta**	**1.53**	**306**	Pg	**Pb**	**12 29 48.1**	**0.0**
	9.0nm,0.3s						
TUE	**Stuetta**	**1.53**	**306**	Pg	**Pb**	**12 29 48.1**	**0.0**
	9.0nm,0.3s						
ZOU	**Zoufplan**	**1.60**	**52**	ePg	**Pn**	**12 29 48.6**	**+0.6**
VINO	**Villanova**	**1.63**	**65**	⇑ePg	**Pn**	**12 29 47.9**	**-0.4**
VINO	**Villanova**	**1.63**	**65**	⇑ePg	**Pn**	**12 29 47.9**	**-0.4**
SC2M	**Scurtabo**	**1.65**	**225**	P	**Pn**	**12 29 48.7**	**+0.1**
MOTA	**Moosalm**	**1.75**	**359**	⇓ i Pn	**Pn**	**12 29 49.1**	**-1.1**
MOTA				⇓ i Pg	**Pb**	**12 29 52.4**	**+0.5**
MOTA				⇓ i Sn	**Sn**	**12 30 13.3**	**+0.6**
MOTA	**Moosalm**	**1.75**	**359**	Pn	**Pn**	**12 29 49.1**	**-1.1**
SABO	**M.te Sabotino**	**1.76**	**76**	ePn	**Pn**	**12 29 50.2**	**+0.1**
SABO	**M.te Sabotino**	**1.76**	**76**	ePn	**Pn**	**12 29 50.2**	**+0.1**
ACOM	**Acomizza, Ital**	**1.91**	**59**	ePn	**Pb**	**12 29 53.6**	**-0.9**
ACOM	**Acomizza, Ital**	**1.91**	**59**	ePn	**Pb**	**12 29 53.6**	**-0.9**
VOJS	**Vojsko**	**1.96**	**76**	i Pn	**Pn**	**12 29 52.4**	**-0.6**
VOJS	**Vojsko**	**1.96**	**76**	i Pn	**Pn**	**12 29 52.4**	**-0.6**
PCP	**Piancastagn**	**2.12**	**241**	P	**Pn**	**12 29 55.3**	**+0.2**
KBA	**Koelnbreinsper**	**2.13**	**45**	⇓ i Pn	**Pn**	**12 29 54.0**	**-1.3**
KBA				⇓ i Pg	**Pb**	**12 29 59.1**	**+0.9**
KBA	**Koelnbreinsper**	**2.13**	**45**	Pn	**Pn**	**12 29 54.0**	**-1.3**
TRAV	**Traversella**	**2.39**	**269**	P	**Pn**	**12 29 57.8**	**-1.0**

IDC 13 12:38:51.7±2.2,**4.22N**×**126.82E**,**h0**km,**mb3.5**/3,
mb1 3.7/3,**mb1mx3.3**/28,**mbtmp3.5**/3,**Error ellipse:
s-maj=173.2km s-min=27.2km az=66.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.12**	**163**	P	P	12 44 18.8	+0.2
	1.4nm,0.7s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.57**	**166**	P	P	12 44 49.4	-0.2
	0.2nm,0.5s,baz=347,slow=5.0,SNR=5.0						
MKAR	**Makanchi Array**	**57.20**	**325**	P	P	12 48 40.7	0.0
	0.4nm,0.8s,baz=121,slow=7.9,SNR=4.4						

*MOS **13** 12:49:53.5±1.0,5.97S×154.46E,h30km,mb4.8/31,Error ellipse: s-maj=11.2km s-min=8.8km az=80.1*

*BJI **13** 12:49:53.5,5.84S×154.88E,h35km,mB5.1/31,mb4.9/48, Ms4.8/29,Ms7 4.5/31*

*ISCJB **13** 12:49:54.7±0.2,6.08S±0.03×154.43E±0.03,h33km, mb4.8/71,MS4.3/19,Error ellipse: s-maj=5.4km s-min=4.0km az=44.8*

*NEIC **13** 12:49:55.9±0.2,6.03S×154.47E,h35km,mb4.9/25,Error ellipse: s-maj=7.2km s-min=5.4km az=101.0*

*GCMT **13** 12:49:55.9±0.2,6.34S×154.28E,h35km,MW5.1/62, Moment Tensor Solution. s62,c74; s60,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.34±.18; $M_{\theta\theta}$-2.01±.12; $M_{\phi\phi}$-2.34±.13; $M_{r\theta}$0.64±.18; $M_{\theta\phi}$2.39±.09; $M_{\phi r}$-1.49±.19; Best double couple: $M_0$4.74400×10^{16} NP1:ϕ_s144.00000°,δ55.00000°,λ98.00000°. NP2: ϕ_s310.00000°,δ36.00000°,λ79.00000°. Principal axes: T 4.6600, Plg78.0000°, Azm84.0000°; N 0.1570, Plg7.0000°, Azm319.0000°; P -4.8270, Plg10.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **13** 12:49:57.1±1.8,6.04S×154.43E,h45km±16km,mb4.3/17, mb1 4.5/19,mb1mx4.4/22,mbtmp4.5/19,ML4.3/3,MS4.0/12, Ms1 4.1/12,ms1mx3.9/23 Error ellipse: s-maj=14.4km s-min=11.3km az=101.0*

*DJA **13** 12:50:02.7±1.0,7°S±9°×15°4E±1°1,h10km,M5.6/10, mb4.8/10,mB6.0/1,MLv6.0/1,Mw(mB)5.6/1*

ISC 13 12:49:55.8±0.4,**6.08S**±0.05×**154.52E**±0.05,**h34**km±1km,
n220,σ**1.31**/255,**mb4.8**/71,**MS4.3**/20,**11C-12D,
Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.00**	**308**	⇓P	Pb	12 50 44.8	-3.9
	baz=3.1,SNR=34						
HNR	**Honiara**	**6.33**	**122**	LR	LR	12 53 56.1	
	comp=Z,2μm,21.1s,baz=282,slow=37						
PMG	**Port Moresby**	**8.01**	**245**	P	**Pn**	**12 51 49.1**	**-0.7**
PMG				S	**Sn**	**12 53 21.1**	**+1.8**
PMG				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PMG				smax	smax		
	comp=N,22nm,0.3s						
PMG				MLR	MLR		
	comp=Z,2μm,20.9s						
PMG	**Port Moresby**	**8.01**	**245**	P	**Pn**	**12 51 49.1**	**-0.7**
	comp=Z,8.1nm,0.3s,baz=84,slow=6.1,SNR=35						
PMG				S	**Sn**	**12 53 21.1**	**+1.8**
	comp=Z,22nm,0.3s,baz=33,slow=17,SNR=11						
PMG				LR	LR	12 54 47.9	
	comp=Z,2μm,20.9s,baz=60,slow=37						
PMG	**Port Moresby**	**8.01**	**245**	P	**Pn**	**12 51 49.1**	**-0.7**
PMG				eSn	**Sn**	**12 53 18.6**	**-0.8**
PMG				S	**Sn**	**12 53 21.1**	**+1.8**
PMG	**Port Moresby**	**8.01**	**245**	⇑P	**Pn**	**12 51 51.1**	**+1.2**
	baz=8.0,SNR=300						
PATS	**Pohnpei**	**13.37**	**16**	⇑P	**Pn**	**12 53 06.2**	**+2.9**
	baz=14						
COEN	**Coen**	**13.64**	**234**	ePn	**Pn**	**12 53 05.7**	**-1.3**
JAY	**Jayapura**	**14.22**	**284**	LR	LR	12 59 00.3	
	comp=Z,883nm,19.2s,baz=92,slow=38						
MTSU	**Mount Surprise**	**15.58**	**219**	P	**Pn**	**12 53 34.0**	**+0.9**
	baz=16,SNR=5.6						
CTA	**Charters Tower**	**16.08**	**209**	P	**Pn**	**12 53 38.6**	**-0.8**
CTA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CTA				MLR	MLR		
	comp=Z,16nm,28.6s						
CTA	**Charters Tower**	**16.08**	**209**	P	**Pn**	**12 53 38.6**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=25,slow=15,SNR=9.3						
CTA				LR	LR	12 59 39.8	
	comp=Z,510nm,18.4s,baz=30,slow=36						
CTA	**Charters Tower**	**16.08**	**209**	⇓P	**Pn**	**12 53 40.1**	**+0.7**
	baz=16						
CTAO	**Charters Tower**	**16.08**	**209**	eP	**Pn**	**12 53 39.6**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,67nm,1.0s						
CTAO	**Charters Tower**	**16.08**	**209**	ePn	**Pn**	**12 53 39.6**	**+0.1**
	comp=Z,66nm,1.0s						
EIDS	**Eidsvold**	**19.46**	**189**	eP	**Pn**	**12 54 20.7**	**-0.4**
	comp=Z,85nm,1.5s						
EIDS	**Eidsvold**	**19.46**	**189**	P	**Pn**	**12 54 20.7**	**-0.4**
	baz=20,SNR=9.8						
DZM	**Mont Dzumac**	**19.64**	**145**	P	**Pn**	**12 54 23.6**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=291,slow=9.4,SNR=20						
DZM				LR	LR	12 59 27.5	
	comp=Z,65nm,21.8s,baz=0.5,slow=29						
QIS	**Mount Isa**	**20.41**	**224**	⇓P	**P**	**12 54 30.6**	**+0.4**
	baz=20,SNR=20						
RMQ	**Roma**	**21.03**	**195**	P	**P**	**12 54 38.3**	**+1.6**
	baz=21,SNR=21						
FAKI	**Fak Fak**	**22.42**	**277**	eP	**P**	**12 54 51.0**	**-0.9**
	comp=Z,33nm,0.9s						
KDU	**Kakadu**	**22.71**	**252**	⇓P	**P**	**12 54 54.3**	**-0.6**
	baz=23,SNR=6.4						
WRAB	**Tennant Creek**	**23.96**	**233**	P	**P**	**12 55 06.0**	**-1.2**
	comp=Z,181nm,0.7s,SNR=16						
WRAB	**Tennant Creek**	**23.96**	**233**	eP	**P**	**12 55 06.9**	**-0.3**
WRAB				e		12 58 49.1	
WRAB				pmax	pmax		
	comp=Z,62nm,0.9s						
WRAB	**Tennant Creek**	**23.96**	**233**	eP	**P**	**12 55 06.9**	**-0.3**
	comp=Z,62nm,0.9s						
WRAB				ePcP	**PcP**	**12 58 49.1**	**0.0**
WRA	**Warramunga Arr**	**23.97**	**233**	P	**P**	**12 55 06.6**	**-0.7**
WRA						12 58 49.2	
WRA				S	**S**	**12 59 19.2**	**-2.9**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WRA				smax	smax		
	comp=N,3.0nm,1.1s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.9s						
WRA	**Warramunga Arr**	**23.97**	**233**	P	**P**	**12 55 06.5**	**-0.7**
	comp=N,6.8nm,0.7s,baz=58,slow=9.7,SNR=39						
WRA				PcP	**PcP**	**12 58 49.2**	**0.0**
	comp=N,6.5nm,0.6s,baz=60,slow=2.4,SNR=19						
WRA				S	**S**	**12 59 19.1**	**-2.9**
	comp=N,3.1nm,1.1s,baz=58,slow=16,SNR=3.3						
WRA				ScP	**ScP**	**13 02 24.4**	**-0.9**
	comp=N,0.9nm,0.9s,baz=63,slow=3.5,SNR=4.5						
ARMA	**Armidale**	**24.37**	**186**	eP	**P**	**12 55 10.8**	**-0.2**
	comp=N,202nm,2.1s						
ARMA	**Armidale**	**24.37**	**186**	⇑P	**P**	**12 55 11.5**	**+0.6**
	baz=24,SNR=10						
ASAR	**Alice Springs**	**26.44**	**226**	P	**P**	**12 55 29.1**	**-0.7**
ASAR						12 58 54.8	
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
ASAR	**Alice Springs**	**26.44**	**226**	P	**P**	**12 55 29.1**	**-0.7**
	comp=N,3.2nm,0.6s,baz=57,slow=9.1,SNR=55						
ASAR				PcP	**PcP**	**12 58 54.8**	**0.0**
	comp=N,8.7nm,0.8s,baz=59,slow=2.5,SNR=16						
ASAR				ScP	**ScP**	**13 02 31.9**	**-0.3**
	comp=N,0.5nm,0.6s,baz=52,slow=3.0,SNR=4.9						
CMSA	**Cobar Meteorol**	**26.65**	**197**	⇓P	**P**	**12 55 32.8**	**+1.3**
	baz=27,SNR=6.7						
KNRA	**Kununurra**	**27.00**	**247**	⇓P	**P**	**12 55 35.2**	**+0.3**
	baz=27,SNR=8.3						
H11S3	**WAKE ISLAND Hy**	**27.20**	**26**	T	T	13 23 41.8	
	baz=206,slow=79,SNR=10						
H11S2	**WAKE ISLAND Hy**	**27.21**	**26**	T	T	13 23 43.3	
	baz=206,slow=79,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.22**	**26**	T	T	13 23 41.2	
	baz=206,slow=79,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.37**	**25**	T	T	13 25 40.5	
	baz=214						
STKA	**Stephens Creek**	**28.37**	**204**	P	**P**	**12 55 47.6**	**+0.6**
STKA						12 58 58.7	
STKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
STKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
STKA				MLR	MLR		
	comp=Z,16nm,28.6s						
STKA	**Stephens Creek**	**28.37**	**204**	P	**P**	**12 55 47.6**	**+0.6**
	comp=Z,4.4nm,0.7s,baz=37,slow=12,SNR=7.2						
STKA				PcP	**PcP**	**12 58 58.7**	**-0.4**
	comp=Z,5.3nm,0.8s,baz=24,slow=2.4,SNR=3.9						
STKA				LR	LR	13 07 00.6	
	comp=Z,564nm,19.9s,baz=8.7,slow=36						
STKA	**Stephens Creek**	**28.37**	**204**	⇑P	**P**	**12 55 47.5**	**+0.6**
	baz=28,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**28.38**	**25**	T	T	13 25 37.1	
	baz=214						
H11N2	**WAKE ISLAND Hy**	**28.39**	**25**	T	T	13 25 37.5	
	baz=214						
HTT	**Hallett**	**30.84**	**206**	⇓P	**P**	**12 56 08.9**	**0.0**
	baz=31,SNR=4.4						
BBOO	**Buckleboo**	**31.67**	**211**	eP	**P**	**12 56 15.7**	**-0.4**
	comp=Z,115nm,0.5s						
BBOO				ePcP	**PcP**	**12 59 07.5**	**-0.1**
KAPI	**Kappang**	**34.62**	**270**	eP	**P**	**12 56 41.3**	**-0.8**
	comp=Z,28nm,0.7s						
FORT	**Forrest**	**34.94**	**222**	P	**P**	**12 56 46.7**	**+2.0**
	comp=Z,47nm,0.5s						
MBWA	**Marble Bar**	**36.87**	**243**	P	**P**	**12 57 01.4**	**+0.1**
	comp=Z,9.4nm,0.7s						
URZ	**Urewera**	**38.03**	**151**	P	**P**	**12 57 11.8**	**+0.9**
	comp=Z,8.6nm,0.5s,baz=310,slow=4.5,SNR=12						
URZ	**Urewera**	**38.03**	**151**	eP	**P**	**12 57 11.9**	**+0.9**
	comp=Z,9.5nm,0.6s						
URZ				ePP	**PP**	**12 58 38.1**	**-0.1**
BKZ	**Black Stump Fm**	**38.46**	**152**	eP	**P**	**12 57 17.2**	**+2.7**
	comp=Z,18nm,0.5s						
MEEK	**Meekatharra**	**39.84**	**235**	⇓P	**P**	**12 57 26.2**	**-0.1**
	baz=40,SNR=9.6						
JAGI	**Jajag, Banyuwa**	**40.10**	**264**	eP	**P**	**12 57 26.4**	**-2.2**
	comp=Z,23nm,0.8s						
KLBR	**Kellerberrin**	**42.72**	**229**	⇓P	**P**	**12 57 49.1**	**-0.8**
	baz=43						
MORW	**Morawa**	**42.92**	**233**	⇑P	**P**	**12 57 51.2**	**-0.4**
	baz=43,SNR=3.3						
BLDU	**Ballidu**	**43.06**	**231**	⇓P	**P**	**12 57 53.0**	**+0.3**
	baz=43						
YULB	**Yu-li**	**43.71**	**313**	eP	**P**	**12 57 58.4**	**+0.4**
	comp=Z,19nm,0.7s						
NACB	**Ninganchiao**	**43.98**	**314**	eP	**P**	**12 58 00.7**	**+0.6**
	comp=Z,36nm,0.8s						
TPUB	**Ta-pu**	**44.14**	**313**	eP	**P**	**12 58 01.2**	**-0.3**
	comp=Z,31nm,0.8s						
SSLB	**Suanglung**	**44.20**	**313**	eP	**P**	**12 58 02.5**	**+0.6**
KSM	**Kuching**	**44.78**	**278**	eP	**P**	**12 58 06.5**	**-0.2**
	comp=Z,24nm,1.0s						
KSM	**Kuching**	**44.78**	**278**	⇓P	**P**	**12 58 07.4**	**+0.7**
	baz=45						
JNU	**Nakatsue**	**44.98**	**332**	P	**P**	**12 58 08.2**	**+0.2**
	comp=Z,9.8nm,0.6s,baz=163,slow=5.0,SNR=5.2						
MJAR	**Matsushiro Arr**	**45.07**	**341**	P	**P**	**12 58 06.7**	**-1.9**
MJAR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MJAR				MLR	MLR		
	comp=Z,16nm,28.6s						
MJAR	**Matsushiro Arr**	**45.07**	**341**	P	**P**	**12 58 06.7**	**-1.9**
	comp=Z,9.9nm,1.1s,baz=167,slow=8.1,SNR=5.5						
MJAR				LR	LR	13 17 37.3	
	comp=Z,55nm,18.1s,baz=195,slow=37						
MAT	**Matsushiro**	**45.07**	**341**	P	**P**	**12 58 07.8**	**-0.8**
XMI	**Christmas Isla**	**48.48**	**261**	⇑P	**P**	**12 58 36.3**	**+0.6**
	baz=48						
XMIS	**Christmas Isla**	**48.52**	**261**	⇓P	**P**	**12 58 36.1**	**+0.1**
	baz=48						
DLV	**T Lat**	**49.16**	**291**	eP	**P**	**12 58 42.1**	**+1.1**
KSRS	**Korea Array**	**49.91**	**332**	P	**P**	**12 58 45.1**	**-1.1**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KSRS	**Korea Array**	**49.91**	**332**	P	**P**	**12 58 45.1**	**-1.1**
	comp=Z,4.8nm,0.9s,baz=148,slow=7.7,SNR=11						
KSAR	**Wonju Array Be**	**49.92**	**332**	P	**P**	**12 58 45.1**	**-1.2**
KSAR	**Wonju Array Be**	**49.92**	**332**	P	**P**	**12 58 45.1**	**-1.2**
INCN	**Inchon**	**50.54**	**331**	eP	**P**	**12 58 51.5**	**+0.5**
QIZ	**Qiongzhong**	**50.59**	**301**	P	**P**	**12 58 52.8**	**+1.1**
QIZ				sP	**sP**	**12 59 05.8**	**-0.2**
QIZ				S	**S**	**13 06 04.8**	**+0.5**
QIZ				pmax	pmax		
	comp=Z,120nm,2.5s						
QIZ				LR	LR		
	comp=Z,380nm,19.6s						
NJ2	**Nanjing**	**50.91**	**320**	eP	P	12 58 56.9	+3.0
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WHN	**Wuhan**	**52.96**	**316**	P	**P**	**12 59 10.4**	**+1.3**
WHN				S	S	13 06 29.5	-7.0
WHN				pmax	pmax		
	comp=Z,24nm,0.6s						
WHN				LR	LR		
	comp=Z,590nm,21.0s						
YSS	**Yuzh-Sakhalins**	**53.82**	**350**	eP	P	12 59 18.8	+3.6
USRK	**Ussuriysk Arra**	**54.01**	**340**	P	**P**	**12 59 16.0**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=177,slow=9.9,SNR=6.6						
GYA	**Guiyang**	**56.53**	**307**	P	**P**	**12 59 38.0**	**+2.7**
GYA				pP	**pP**	**12 59 47.8**	**+2.1**
GYA				PP	**PP**	**13 01 45.8**	**+4.4**
GYA				ScP	**ScP**	**13 04 29.3**	**+0.5**
GYA				S	**S**	**13 07 25.0**	**+0.1**
GYA				sS	**sS**	**13 07 42.4**	**+0.4**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=Z,540nm,19.8s						
GYA				LR	LR		
	comp=Z,480nm,20.6s						
GYA				LR	LR		
	comp=Z,510nm,18.4s						
SLVN	**Son La**	**56.62**	**300**	eP	**P**	**12 59 36.7**	**+0.8**
	comp=Z,18nm,1.5s						
GSI	**Gunungsitoli**	**57.33**	**275**	eP	**P**	**12 59 39.4**	**-1.6**
	comp=Z,12nm,0.8s						
GSI	**Gunungsitoli**	**57.33**	**275**	⇑P	**P**	**12 59 39.7**	**-1.3**
	baz=57						
PBKT	**Sadao Pong**	**57.54**	**294**	P	**P**	**12 59 44.8**	**+2.4**
	comp=Z,18nm,1.6s						
BJI	**Beijing**	**57.90**	**326**	P	**P**	**12 59 43.8**	**-0.7**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BJI				LR	LR		
	comp=Z,160nm,12.1s						
BJI				LR	LR		
	comp=Z,230nm,20.3s						
BJI				LR	LR		
	comp=Z,90nm,32.8s						
UTTA	**Uttaradit**	**58.29**	**295**	P	**P**	**12 59 49.4**	**+1.7**
	comp=Z,5.8nm,0.9s,comp=Z,96nm						
KLR	**Kul'dur**	**58.55**	**343**	eP	P	12 59 44.7	-4.3
XAN	**Xi'an**	**58.72**	**316**	P	**P**	**12 59 50.4**	**-0.1**
XAN				pP	**pP**	**12 59 58.9**	**-2.0**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN				LR	LR		
	comp=Z,110nm,20.5s						
XAN				LR	LR		
	comp=Z,73nm,19.3s						
PETK	**Petropavlovsk-**	**59.02**	**2**	LR	LR	13 21 36.0	
	comp=Z,134nm,21.5s,baz=194,slow=32						
SUKH	**Sukhothai**	**59.04**	**294**	P	**P**	**12 59 55.6**	**+2.7**
	comp=Z,5.3nm,0.8s						
KMI	**Kunming**	**59.12**	**304**	⇑P	**P**	**12 59 55.1**	**+1.5**
KMI				pP	**pP**	**13 00 03.6**	**-0.5**
KMI				S	**S**	**13 07 59.8**	**+0.7**
KMI				sS	**sS**	**13 08 16.0**	**-0.2**
KMI				pmax	pmax		
	comp=Z,29nm,1.0s						
KMI				LR	LR		
	comp=Z,210nm,14.2s						
KMI				LR	LR		
	comp=Z,200nm,15.7s						
KMI				LR	LR		
	comp=Z,210nm,21.8s						
LAMP	**Lampang**	**59.37**	**296**	P	**P**	**12 59 57.8**	**+2.6**
	comp=Z,6.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**59.97**	**295**	P	**P**	**13 00 00.5**	**+1.2**
	comp=Z,2.6nm,0.6s,baz=123,slow=5.5,SNR=23						
CMAR				LR	LR	13 24 34.4	
	comp=Z,64nm,21.8s,baz=115,slow=35						
CMMT	**Chiang Mai**	**60.08**	**296**	P	**P**	**13 00 01.6**	**+1.5**
	comp=Z,12nm,2.2s						
CHTO	**Chiang Mai**	**60.08**	**296**	eP	**P**	**13 00 00.6**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CHTO	**Chiang Mai**	**60.08**	**296**	P	**P**	**13 00 01.6**	**+1.5**
	comp=Z,42nm,2.2s						
CHTO	**Chiang Mai**	**60.08**	**296**	eP	**P**	**13 00 00.6**	**+0.5**
	comp=Z,9.1nm,1.0s						
CD2	**Chengdu**	**60.87**	**310**	P	**P**	**13 00 05.9**	**+0.6**
CD2				pP	**pP**	**13 00 16.5**	**+0.7**
CD2				sP	**sP**	**13 00 20.6**	**+0.8**

CD2 PP PP 13 02 22.3 +2.5
CD2 S S 13 08 19.5 -1.5
CD2 sS sS 13 08 37.1 -1.2
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 LR LR
comp=Z,270nm,5.9s
CD2 LR LR
comp=Z,260nm,11.9s
HHC Hu-ho-hao-te 61.08 324 eP P 13 00 09.9 +3.3
HHC pP pP 13 00 20.3 +3.2
HHC sP sP 13 00 23.9 +2.8
HHC S S 13 08 25.6 +2.1
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,160nm,4.7s
HHC LR LR
comp=Z,280nm,16.0s
HHC LR LR
comp=Z,680nm,16.0s
HHC LR LR
comp=Z,240nm,16.0s
LZH Lanzhou 63.34 315 ⇑P P 13 00 23.4 +1.5
LZH pP pP 13 00 33.1 +0.7
LZH sP sP 13 00 37.8 +1.4
LZH eS S 13 08 56.1 +3.8
LZH sS sS 13 09 08.1 -1.5
LZH SS SS 13 12 57.0 -2.5
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,160nm,5.2s
LZH LR LR
comp=Z,130nm,14.7s
LZH LR LR
comp=Z,150nm,15.9s
LZH LR LR
comp=Z,250nm,16.2s
GTA Gaotai 67.75 317 eP P 13 00 51.4 +1.0
GTA pP pP 13 00 58.8 -2.2
GTA sP sP 13 01 02.8 -2.2
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,110nm,6.2s
GTA LR LR
comp=Z,240nm,15.4s
GTA LR LR
comp=Z,160nm,12.3s
GTA LR LR
comp=Z,190nm,15.4s
ULN Ulaanbaatar 67.98 328 eP P 13 00 52.3 +0.6
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 67.98 328 eP P 13 00 52.3 +0.6
comp=Z,7.1nm,0.8s
SONM Songino Array 68.31 327 P P 13 00 54.0 +0.3
SONM Songino Array 68.31 327 P P 13 00 54.0 +0.3
comp=Z,3μm,0.3s,baz=134,slow=6.2,SNR=25
SHL Shillong 68.43 300 ⇑iP P 13 00 55.0 0.0
SEY Seymchan 68.83 359 eP P 13 00 54.3 -2.1
LSA Lhasa 70.37 304 P P 13 01 08.3 +1.1
YAK Yakutsk 70.57 348 eP P 13 01 06.3 -0.8
YAK pmax pmax
comp=Z,11nm,1.0s
ZAK Zakamensk 71.47 328 eP P 13 01 12.8 -0.2
ZAK pmax pmax
comp=Z,7.0nm,1.1s
VNDA Vanda 71.51 178 P P 13 01 13.9 +1.2
VNDA pmax pmax
comp=Z,12nm,1.1s
VNDA Vanda 71.51 178 P P 13 01 13.9 +1.2
comp=Z,12nm,1.1s,baz=47,slow=7.2,SNR=3.6
TLY Talaya 72.04 329 eP P 13 01 17.2 +0.9
TLY pmax pmax
comp=Z,8.0nm,1.3s
TLY MLR MLR
comp=Z,83nm,17.0s
TAPN Taplejung 72.53 301 eP P 13 01 20.7 +0.6
comp=Z,46nm,0.7s
TAPN Taplejung 72.53 301 eP P 13 01 20.7 +0.6
ODAN Odare 72.66 300 eP P 13 01 21.4 +0.5
comp=Z,157nm,0.9s
ODAN Odare 72.66 300 eP P 13 01 21.4 +0.5
RAMN Ramite 73.37 300 eP P 13 01 25.2 +0.2
comp=Z,30nm,0.5s
RAMN Ramite 73.37 300 eP P 13 01 25.2 +0.2
MOY Mondy 73.39 328 eP P 13 01 25.1 +0.6
JIRN Jiri 73.91 301 eP P 13 01 28.8 +0.4
comp=Z,57nm,0.8s
JIRN Jiri 73.91 301 eP P 13 01 28.8 +0.4
GUN Gumba 74.24 301 eP P 13 01 30.8 +0.5
comp=Z,127nm,0.8s
GUN Gumba 74.24 301 eP P 13 01 30.8 +0.5
BILL Bilibino 74.41 5 eP P 13 01 28.1 -1.8
BILL e 13 01 39.1
BILL e 13 04 13.9
BILL pmax pmax
comp=Z,4.0nm,1.3s
BILL MLR MLR
comp=Z,112nm,21.0s
BILL Bilibino 74.41 5 eP P 13 01 28.4 -1.5
comp=Z,5.3nm,0.6s
PKI Pulchoki 74.56 301 eP P 13 01 32.2 +0.1
comp=Z,94nm,1.1s
PKI Pulchoki 74.56 301 eP P 13 01 32.6 +0.5
PKI Pulchoki 74.56 301 eP P 13 01 32.6 +0.5
PKIN Phulchoki 74.57 301 eP P 13 01 32.6 +0.5
KKN Kakani 74.72 301 eP P 13 01 33.1 +0.2
comp=Z,52nm,0.7s
KKN Kakani 74.72 301 eP P 13 01 33.1 +0.2
KKN Kakani 74.72 301 eP P 13 01 33.1 +0.2
DMN Daman 74.82 301 eP P 13 01 34.1 +0.5
comp=Z,240nm,1.0s
DMN Daman 74.82 301 eP P 13 01 34.1 +0.5
GKN Gorkha 75.33 301 eP P 13 01 36.5 +0.2
comp=Z,182nm,1.1s
GKN Gorkha 75.33 301 eP P 13 01 36.5 +0.2
KOLN Koldanda 76.16 300 eP P 13 01 41.1 0.0
comp=Z,117nm,0.8s
KOLN Koldanda 76.16 300 eP P 13 01 41.1 0.0
DANN Dangsing 76.17 301 eP P 13 01 41.1 -0.2
comp=Z,71nm,0.7s
DANN Dangsing 76.17 301 eP P 13 01 41.1 -0.2
WMQ Urumqi 77.84 317 P P 13 01 51.6 +1.5
WMQ pP pP 13 02 02.0 +1.2
WMQ sP sP 13 02 05.9 +1.1
WMQ PP PP 13 04 49.3 +3.2
WMQ S S 13 11 40.5 -0.2
WMQ sS sS 13 11 56.8 -1.7
WMQ ScS ScS 13 12 04.6 -2.3
WMQ pmax pmax
comp=Z,9.0nm,0.8s
WMQ pmax pmax
comp=Z,130nm,4.6s
WMQ LR LR
comp=Z,63nm,18.4s
WMQ LR LR
comp=Z,73nm,21.2s
WMQ LR LR
comp=Z,100nm,21.6s
HYB Hyderabad 78.53 289 iP P 13 01 53.0 -1.4
TIXI Tiksi 79.39 352 eP P 13 01 56.4 -1.5
TIXI pmax pmax
comp=Z,3.0nm,1.3s
KTH Kantishna Hill 80.55 22 eP P 13 02 03.5 -0.9
comp=Z,7.4nm,0.8s
MCK McKinley 81.39 22 eP P 13 02 08.5 -0.3
MCK pmax pmax
comp=Z,11nm,0.8s
MCK McKinley 81.39 22 eP P 13 02 08.5 -0.3
comp=Z,11nm,0.8s
COLA College 82.40 21 eP P 13 02 12.7 -1.4
COLA pmax pmax
comp=Z,6.0nm,0.6s
COLA College 82.40 21 eP P 13 02 12.7 -1.4
comp=Z,6.2nm,0.6s
MKAR Makanchi Array 82.41 319 P P 13 02 14.3 -0.3
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 82.41 319 P P 13 02 14.3 -0.3
comp=Z,1.8nm,0.7s,baz=92,slow=8.1,SNR=27
KAD Karad 82.63 288 eP P 13 02 15.6 -0.8
ILAR Eielson Array 82.70 22 P P 13 02 14.2 -1.4
comp=Z,2.6nm,0.7s,baz=262,slow=5.0,SNR=15
ILAR PKKPbc PKKPdf 13 20 38.5 +4.4
comp=Z,0.1nm,0.5s,baz=353,slow=2.2,SNR=5.0
ILAR LR LR 13 37 32.3
comp=Z,304nm,18.8s,baz=241,slow=34
POO Poona 83.12 289 ⇑iP P 13 02 16.0 -3.0
comp=Z,40nm,1.0s
ZALV Zalesovo Beam 83.16 326 P P 13 02 17.0 -1.3
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 83.16 326 P P 13 02 17.0 -1.3
comp=Z,1.1nm,0.4s,baz=117,slow=5.2,SNR=7.4
DOT Dot Lake 83.21 23 eP P 13 02 18.4 0.0
comp=Z,5.1nm,0.7s
QSPA South Pole Qui 83.89 180 P P 13 02 21.8 -0.3
comp=Z,12nm,0.6s,baz=315,slow=2.0,SNR=19
QSPA South Pole Qui 83.89 180 eP P 13 02 21.9 -0.1
NVS Novosibirsk 84.33 327 iP P 13 02 22.8 -1.5
NVS pmax pmax
comp=Z,19nm,2.8s
NVS pmax pmax
comp=N,11nm,3.1s
NVS pmax pmax
comp=E,23nm,3.1s
HYT Haines Junctio 84.78 27 eP P 13 02 27.9 +1.3
EGAK Eagle 84.86 23 eP P 13 02 27.0 +0.3
comp=E,11nm,1.0s
MAW Mawson 85.06 203 LR LR 13 36 08.3
comp=E,156nm,20.4s,baz=103,slow=33
KSH Kashi 85.06 310 eP P 13 02 30.3 +1.8
KSH esP sP 13 02 45.6 +2.3
KSH ePP PP 13 05 51.1 +5.1
KSH SKS SKSac 13 12 46.0 -5.0
KSH S S 13 12 53.3 -2.5
KSH SS SS 13 18 31.4 +1.5
KSH pmax pmax
comp=E,4.0nm,0.8s
KSH LR LR
comp=E,110nm,4.7s
KSH LR LR
comp=E,73nm,5.6s
KSH LR LR
comp=E,170nm,5.6s
KURK Kurchatov 85.82 322 eP P 13 02 30.1 -1.7
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 85.82 322 eP P 13 02 30.1 -1.7
comp=Z,3.6nm,1.0s
TKM2 Tokmak 2 86.05 314 eP P 13 02 33.4 -0.1
TKM2 pmax pmax
comp=Z,64nm,2.0s
TKM2 Tokmak 2 86.05 314 eP P 13 02 33.4 -0.1
comp=Z,64nm,2.0s
AAK Ala-Archa 86.78 313 eP P 13 02 36.5 -0.5
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 86.78 313 eP P 13 02 36.5 -0.5
comp=Z,5.2nm,1.0s
EKS2 Erkin-Say 87.31 313 eP P 13 02 38.4 -1.1
EKS2 pmax pmax
comp=Z,4.0nm,1.0s
EKS2 Erkin-Say 87.31 313 eP P 13 02 38.4 -1.1
comp=Z,4.4nm,1.0s
KKAR Karatay Array 89.75 313 eP P 13 02 50.2 -0.7
KKAR pmax pmax
comp=Z,1.0nm,0.7s
KKAR Karatay Array 89.75 313 eP P 13 02 50.2 -0.7
comp=Z,1.3nm,0.7s
CIS Catalina Islan 90.87 57 P P 13 02 57.3 +0.9
baz=91
ISA Isabella 91.07 54 P P 13 02 57.5 +0.2
baz=91
BRVK Borovoye 91.35 323 eP P 13 02 56.4 -1.7
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 91.35 323 eP P 13 02 56.4 -1.7
comp=Z,3.7nm,1.0s
EDW2 Edwards Air Fo 91.38 55 P P 13 02 59.1 +0.4
baz=91
NVAR Mina Array Bea 91.52 52 P P 13 03 00.9 +1.3
comp=Z,4.8nm,0.9s,baz=254,slow=7.0,SNR=23
NVAR LR LR 13 40 13.1
comp=Z,164nm,18.5s,baz=62,slow=33
BFSC Mount Baldy Ra 91.58 56 P P 13 02 59.8 +0.1
baz=92
MURC Murrieta 91.89 57 P P 13 03 02.1 +1.0
baz=92
109C Camp Elliot, M 91.89 57 P P 13 03 01.8 +0.7
baz=92
GSC Goldstone 92.39 55 P P 13 03 04.3 +0.9
baz=92
FURC Furnace Creek, 92.46 54 P P 13 03 04.7 +1.1
baz=92
MONP Monument Peak 92.47 57 P P 13 03 05.5 +1.5
baz=92
PFO Pinyon Flat Ob 92.51 57 P P 13 03 05.5 +1.4
baz=93
SHOC Shoshone 92.87 54 P P 13 03 06.4 +0.9
baz=93
BELC Belle Mtn. Jos 92.92 56 P P 13 03 07.0 +1.0
baz=93
SWSC Sam W. Stewart 93.00 57 P P 13 03 07.5 +1.3
baz=93
TUQ Turquoise Moun 93.12 55 P P 13 03 08.0 +1.1
baz=93
GMRC Granite Mounta 93.27 56 P P 13 03 08.6 +1.0
baz=93
BC3 Big Chuckawall 93.34 57 P P 13 03 08.7 +0.8
baz=93
IRM Iron Mountain 93.64 56 P P 13 03 10.6 +1.4
baz=94
R11A Troy Canyon, C 93.64 52 P P 13 03 10.6 +1.3
baz=94
GLA Glamis 93.82 57 P P 13 03 11.9 +1.8
baz=94
PDMCI Parker Dam,Lak 94.48 56 P P 13 03 14.6 +1.6
baz=94
W13A Hualapai Mount 94.75 55 P P 13 03 15.6 +1.1
baz=95
HLID Hailey 94.91 47 P P 13 03 15.5 +0.5
baz=95
YKA Yellowknife Ar 95.75 28 P P 13 03 16.9 -1.2
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 95.75 28 P P 13 03 16.9 -1.2
comp=Z,0.9nm,1.0s,baz=269,slow=5.1,SNR=8.5
YKA PKKPbc PKKPbc 13 20 06.7 -3.8
comp=Z,0.6nm,0.7s,baz=86,slow=2.9,SNR=12
U15A North Rim 96.13 54 P P 13 03 22.7 +1.8
baz=96
PDAR Pinedale Array 98.43 48 P P 13 03 30.6 -0.4
comp=Z,0.6nm,0.7s,baz=240,slow=3.0,SNR=6.9
H19A Powell 98.85 46 P Pdif 13 03 33.5 +0.7
baz=99
A20A Cobblestone Ra 99.51 42 P Pdif 13 03 35.7 +0.2
baz=100
BOSA Boshof 120.22 232 PKIKP PKPdf 13 08 43.3 -0.9
BOSA pmax pmax
comp=Z,3.0nm,0.6s
BOSA Boshof 120.22 232 PKP PKPdf 13 08 43.3 -0.9
comp=Z,3.4nm,0.6s,baz=48,slow=1.6,SNR=7.8
LBTB Lobatse 121.51 236 PKIKP PKPdf 13 08 46.5 -0.3
LBTB pmax pmax
comp=Z,1.0nm,0.4s
LBTB Lobatse 121.51 236 PKP PKPdf 13 08 46.5 -0.3
comp=Z,1.4nm,0.4s,baz=151,slow=3.3,SNR=6.2
LSZ Lusaka 122.76 248 PKIKP PKPdf 13 08 49.7 +0.3
LSZ pmax pmax
comp=Z,1.0nm,0.5s
LSZ Lusaka 122.76 248 PKP PKPdf 13 08 49.7 +0.3
comp=Z,1.0nm,0.5s,baz=48,slow=8.9,SNR=3.9
GERES GERESS Array B 126.03 329 PKP PKPdf 13 08 53.5 -1.2
comp=Z,0.4nm,0.7s,baz=34,slow=0.5,SNR=3.8
TSUM Tsumeb 130.71 238 PKP PKPdf 13 09 04.1 -0.4
comp=Z,3.0nm,0.8s,baz=116,slow=3.2,SNR=4.7
LPAZ La Paz 132.31 118 PKIKP PKPdf 13 09 08.2 0.0
LPAZ pmax pmax
comp=Z,4.0nm,1.2s
LPAZ La Paz 132.31 118 PKP PKPdf 13 09 08.2 0.0
comp=Z,3.9nm,1.2s,baz=211,slow=5.9,SNR=5.8
PTGA Pitinga 144.91 100 PKPbc PKPab 13 09 29.2 -0.5
comp=Z,35nm,0.7s,baz=248,slow=4.7,SNR=9.7
BDFB Brasilia 148.95 134 PKP2 PKPbc 13 09 40.4 -1.0
BDFB pmax pmax
comp=Z,4.0nm,0.6s
BDFB Brasilia 148.95 134 PKPbc PKPbc 13 09 40.4 -1.0
comp=Z,4.2nm,0.6s,baz=169,slow=6.8,SNR=4.7
TORD Torodi Ar. Bea 152.32 287 PKPbc PKPbc 13 09 47.9 -1.4
comp=Z,5.9nm,0.7s,baz=104,slow=1.5,SNR=45
TORD PKPab PKPab 13 09 58.6 -0.7
comp=Z,16nm,0.8s,baz=61,slow=2.9,SNR=30
DBIC Dimbokro 159.50 273 PKP2 PKPab 13 10 29.5 -0.6
DBIC pmax pmax
comp=Z,7.0nm,0.9s
DBIC Dimbokro 159.50 273 PKPab PKPab 13 10 29.4 -0.6
comp=Z,7.2nm,0.9s,baz=71,slow=3.8,SNR=6.1

ISCJB 13 13:09:30.7±1.8, 22.°9S±0.°2×68.°1W±0.°2, h101km, mb3.5/2, Error ellipse: s-maj=30.4km s-min=16.9km az=144.1
IDC 13 13:09:31.3±1.1, 22.°88S×68.°33W, h108km±8km, mb3.4/2, mb1 3.5/4, mb1mx3.2/28, mbtmp3.7/4, Error ellipse: s-maj=39.9km s-min=25.1km az=133.0
ISC 13 13:09:29.5±1.3, 23.°1S±0.°2×68.°1W±0.°2, h101km, n11, σ1°31/9, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	6.74	0	P	Pn	13 11 07.5	+1.0
	0.1nm,0.3s,baz=185,slow=6.3,SNR=3.7						
SIV	San Ignacio	9.69	45	P	Pn	13 11 48.0	+2.0
	1.3nm,0.3s,baz=265,slow=9.8,SNR=16						
SIV				S	Sn	13 13 31.1	-1.9
	0.3nm,0.3s,baz=301,slow=19,SNR=2.4						
H03N1	Juan Fernandez	14.03	220	T	T	13 25 01.4	
	baz=43						
H03N2	Juan Fernandez	14.04	220	T	T	13 25 03.2	
	baz=43						
H03N3	Juan Fernandez	14.04	220	T	T	13 25 06.1	
	baz=43						
TORD	Torodi Ar. Bea	77.22	70	P	P	13 21 15.7	+2.8
	0.2nm,0.3s,baz=258,slow=5.1,SNR=5.0						
TORD				pP	pP	13 21 42.0	+3.2
	0.7nm,0.8s,baz=256,slow=4.9,SNR=3.4						
YKA	Yellowknife Ar	92.89	340	P	P	13 22 30.1	-0.4
	0.3nm,0.7s,baz=135,slow=4.6,SNR=6.7						
YKA				pP	pP	13 22 57.4	+0.3
	0.2nm,0.8s,baz=136,slow=4.7,SNR=2.9						
ASAR	Alice Springs	128.85	206	PKP	PKPdf	13 28 26.1	+0.2
	0.2nm,0.7s,baz=144,slow=1.7,SNR=3.6						
WRA	Warramunga Arr	131.96	209	PKP	PKPdf	13 28 31.8	-0.1
	0.1nm,0.5s,baz=160,slow=1.9,SNR=4.1						
ZALV	Zalesovo Beam	143.04	27	PKP	PKPdf	13 28 50.3	-0.8
	0.2nm,0.3s,baz=336,slow=3.2,SNR=2.5						
MKAR	Makanchi Array	146.45	38	PKPbc	PKPab	13 28 59.2	-0.7
	0.6nm,0.8s,baz=314,slow=3.6,SNR=5.7						
MKAR				pPKPbc	pPKPbc	13 29 28.7	+2.5
	0.4nm,0.8s,baz=306,slow=5.2,SNR=3.1						

IDC 13 13:15:41.9±1.3, 23.°83S×175.°27W, h0km, mb3.7/5, mb1 4.1/6, mb1mx3.8/27, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=69.4km s-min=26.0km az=150.0
ISC 13 13:15:44.8±1.0, 24.°2S±0.°3×175.°2W±0.°3, h24km, n8, σ0°65/8, mb3.8/5, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	15.50	203	Pn	P	13 19 25.7	-0.3
	0.2nm,0.3s,baz=347,slow=14,SNR=2.2						
URZ				Sn	Sn	13 22 02.5	-10
	0.2nm,0.3s,baz=24,slow=20,SNR=3.4						
ASAR	Alice Springs	46.35	260	P	P	13 24 10.3	+1.0
	0.3nm,0.5s,baz=98,slow=7.5,SNR=3.9						
WRA	Warramunga Arr	46.80	265	P	P	13 24 12.2	-0.6
	0.7nm,0.8s,baz=104,slow=8.3,SNR=6.1						
NVAR	Mina Array Bea	81.95	42	P	P	13 28 03.3	+0.4
	0.6nm,0.7s,baz=237,slow=9.6,SNR=4.3						
TXAR	Lajitas Array	86.87	56	P	P	13 28 27.9	+0.1
	0.6nm,0.9s,baz=215,slow=6.2,SNR=4.0						
ILAR	Eielson Array	91.34	12	P	P	13 28 47.4	-0.5
	0.4nm,0.8s,baz=227,slow=6.2,SNR=4.5						
MKAR	Makanchi Array	115.62	312	PKP	PKPdf	13 34 25.1	+0.3
	0.2nm,0.8s,baz=77,slow=1.9,SNR=2.8						
AKASG	Malin Array Be	147.50	331	PKPbc	PKPbc	13 35 26.3	-0.3
	1.0nm,0.6s,baz=42,slow=3.8,SNR=6.8						

IDC 13 13:34:28.6±5.8, 20.°45S×177.°41W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/28, mbtmp4.0/3, Error ellipse: s-maj=171.9km s-min=92.5km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.31	244	P	P	13 41 51.2	+0.1
	0.8nm,0.4s,baz=80,slow=12,SNR=6.7						
ASAR	Alice Springs	45.07	257	P	P	13 42 46.3	-0.4
	1.7nm,0.5s,baz=100,slow=8.1,SNR=29						
WRA	Warramunga Arr	45.16	262	P	P	13 42 47.4	-0.1
	1.1nm,0.5s,baz=97,slow=8.4,SNR=28						
AKASG	Malin Array Be	143.23	332	PKP	PKPdf	13 54 04.0	-0.6
	0.5nm,0.4s,baz=41,slow=4.1,SNR=4.4						

IDC 13 13:41:45.2±0.7, 2.°66N×118.°20E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/23, mbtmp3.9/10, Error ellipse: s-maj=51.4km s-min=15.8km az=60.0
ISCJB 13 13:41:48.7±0.6, 2.°59N±0.°09×118.°2E±0.°1, h33km, mb3.9/11, Error ellipse: s-maj=20.3km s-min=9.6km az=151.3
KLM 13 13:42:07.1, 4.°05N×118.°13E, h10km, mb2.9, ML2.9
ISC 13 13:41:50.6±0.7, 2.°6N±0.°1×118.°1E±0.°2, h35km, n21, σ0°65/24, mb4.0/11, 1C-2D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	Tawau	1.69	352	⇑P	Pn	13 42 16.8	-0.9
MYLDM	Lahad Datu	2.59	9	⇓P	Pn	13 42 30.7	+0.7
KKM	Kota Kinabalu	3.90	331	⇓P	Pn	13 42 47.7	-0.5
CMAR	Chiang Mai Arr	24.51	311	P	P	13 47 07.7	+0.8
	1.3nm,0.7s,baz=133,slow=8.1,SNR=15						
WRA	Warramunga Arr	27.50	145	P	P	13 47 32.9	-1.0
	0.5nm,0.7s,baz=331,slow=9.8,SNR=5.7						
WRA				PcP	PcP	13 50 51.1	-0.8
	0.2nm,0.6s,baz=319,slow=2.1,SNR=3.5						
ASAR	Alice Springs	30.31	150	P	P	13 47 59.2	+0.3
	0.3nm,0.6s,baz=334,slow=8.3,SNR=5.7						
ASAR				PcP	PcP	13 50 58.9	0.0
	0.2nm,0.7s,baz=325,slow=2.4,SNR=4.8						
TAPN	Taplejung	38.09	313	eP	P	13 49 07.3	+0.7
	16nm,1.1s						
RAMN	Ramite	38.68	312	eP	P	13 49 12.5	+1.0
GUN	Gumba	39.74	312	eP	P	13 49 20.9	+0.4
DMN	Daman	40.16	311	eP	P	13 49 24.4	+0.6
	12nm,0.9s						
GKN	Gorkha	40.72	312	eP	P	13 49 28.8	+0.4
STKA	Stephens Creek	40.91	149	P	P	13 49 29.9	+0.3
	1.2nm,0.8s,baz=329,slow=12,SNR=3.8						
KOLN	Koldanda	41.38	311	eP	P	13 49 34.4	+0.6
	14nm,0.7s						
DANN	Dangsing	41.56	311	eP	P	13 49 35.8	+0.4
	14nm,0.8s						
SONM	Songino Array	46.18	349	P	P	13 50 11.9	-0.2
	0.5nm,0.7s,baz=158,slow=8.4,SNR=5.6						
MKAR	Makanchi Array	53.89	330	P	P	13 51 10.8	+0.4
	1.3nm,0.5s,baz=134,slow=9.8,SNR=43						
MKAR				PcP	PcP	13 52 14.8	-0.9
	0.2nm,0.5s,baz=147,slow=2.9,SNR=3.5						
ZALV	Zalesovo Beam	57.99	338	P	P	13 51 39.0	-0.6
	1.5nm,0.6s,baz=127,slow=6.0,SNR=9.0						
PETK	Petropavlovsk-	59.99	26	P	P	13 51 53.4	-0.1
	2.4nm,0.9s,baz=194,slow=5.5,SNR=3.1						
BRTR	Keskin Array B	84.09	309	P	P	13 54 18.5	+0.2
	0.7nm,0.6s,baz=123,slow=6.2,SNR=4.2						
ARCES	ARCESS Array B	88.49	339	P	P	13 54 38.2	-0.9
	3.8nm,0.8s,baz=34,slow=4.5,SNR=5.9						
FINES	FINESS Array B	88.70	331	P	P	13 54 40.8	+0.6
	1.3nm,1.0s,baz=104,slow=4.4,SNR=3.1						

IDC 13 14:18:23.5±2.1, 2.°10N×127.°52E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/29, mbtmp3.3/3, Error ellipse: s-maj=149.8km s-min=25.2km az=67.0
ISCJB 13 14:18:32.5±1.4, 2.°02N±0.°09×126.°3E±0.°1, h47km, mb3.2/3, Error ellipse: s-maj=19.1km s-min=11.0km az=155.4
DJA 13 14:18:35.1±1.1, 2.°N±7.°×12.°7E±1.°5, h93km±27km, M3.4/4, MLv3.4/4
ISC 13 14:18:33.0±1.5, 2.°1N±0.°1×126.°5E±0.°1, h47km, n6, σ2°52/8,

mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.56	146	P	Pn	14 18 59.9	+1.6
TNTI				S	Sn	14 19 19.0	+1.7
LBMI	Labuha	2.87	159	P	Pn	14 19 16.3	0.0
LBMI				S	Sn	14 19 49.6	0.0
SANI	Sanana	4.12	187	P	Pn	14 19 35.7	+2.3
SANI				S	Sn	14 20 20.0	-0.3
WRA	Warramunga Arr	23.19	161	P	P	14 23 28.5	-7.4
	0.6nm,0.4s,baz=343,slow=12,SNR=12						
ASAR	Alice Springs	26.57	165	P	P	14 24 02.4	-4.5
	0.1nm,0.3s,baz=346,slow=12,SNR=6.0						
MKAR	Makanchi Array	58.78	326	P	P	14 28 27.3	+0.8
	0.2nm,0.5s,baz=116,slow=7.7,SNR=6.9						

IDC 13 14:23:31.2±1.4, 6.°11S×152.°30E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.8/18, mbtmp3.8/9, ML2.8/1, Error ellipse: s-maj=51.9km s-min=18.0km az=119.0
ISCJB 13 14:23:35.1±1.0, 6.°15±0.°2×152.°3E±0.°2, h38km, mb3.7/8, Error ellipse: s-maj=31.5km s-min=10.2km az=40.6
ISC 13 14:23:36.6±1.3, 6.°2S±0.°2×152.°4E±0.°2, h38km, n10, σ0.°77/11, mb3.8/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.06	238	Pn	Pn	14 25 03.0	-0.8
	1.5nm,0.3s,baz=65,slow=6.2,SNR=9.8						
PMG				Sn	Sn	14 26 12.7	+0.7
	1.5nm,0.3s,baz=68,slow=19,SNR=3.0						
WRA	Warramunga Arr	22.21	230	P	P	14 28 30.7	+0.6
	1.0nm,0.6s,baz=56,slow=10,SNR=15						
ASAR	Alice Springs	24.85	224	P	P	14 28 54.9	-0.9
	1.4nm,0.5s,baz=57,slow=9.4,SNR=35						
STKA	Stephens Creek	27.48	200	P	P	14 29 20.0	+0.6
	1.8nm,0.9s,baz=18,slow=9.4,SNR=3.0						
PETK	Petropavlovsk-	59.23	4	P	P	14 33 33.9	0.0
	6.7nm,1.2s,baz=138,slow=9.1,SNR=4.6						
SONM	Songino Array	67.24	328	P	P	14 34 27.9	+0.6
	0.3nm,0.6s,baz=145,slow=5.3,SNR=3.1						
MKAR	Makanchi Array	81.06	319	P	P	14 35 48.0	+0.1
	0.3nm,0.8s,baz=112,slow=7.0,SNR=4.5						
ZALV	Zalesovo Beam	82.04	327	P	P	14 35 51.8	-1.0
	1.2nm,0.6s,baz=126,slow=6.4,SNR=6.4						
ILAR	Eielson Array	83.59	22	P	P	14 36 01.1	+0.5
	0.5nm,0.6s,baz=249,slow=5.5,SNR=18						
TORD	Torodi Ar. Bea	150.27	286	PKPbc	PKPbc	14 43 24.1	-0.7
	0.8nm,0.9s,baz=46,slow=1.7,SNR=3.8						

IDC 13 14:30:05.8±1.7, 1.°49S×119.°77E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=404.9km s-min=26.0km az=58.0
DJA 13 14:30:09.4±1.0, 1°S±6°×12°0E±°, h61km±26km, M3.8/8, MLv3.8/8
ISC 13 14:30:07.1±4.2, 1.°0S±0.°2×119.°9E±0.°3, h28km, n10, σ2.°10/8, mb3.2/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.74	86	P	Pn	14 30 34.3	-1.1
TTSI	Tana Toraja	2.01	183	P	Pb	14 30 45.3	+2.3
TTSI				S	Sb	14 31 13.7	+6.1
MRSI	Marisa	2.52	54	P	Pn	14 30 41.0	-5.2
LUWI	Luwuk	2.85	90	P	Pn	14 30 52.9	+2.1
SPSI	Sidrap Palu	2.92	183	P	Pb	14 30 57.2	-1.4
BNSI	Bone	3.36	177	P	Pb	14 31 03.1	-2.9
BNSI				S	Sb	14 31 47.3	+0.9
BKSI	Bulukumba	4.27	177	P	Pb	14 31 15.5	-6.1
WRA	Warramunga Arr	23.51	144	P	P	14 35 14.9	-0.1
	0.8nm,0.9s,baz=322,slow=11,SNR=4.2						
ASAR	Alice Springs	26.28	150	P	P	14 35 40.2	-0.2
	0.2nm,0.6s,baz=323,slow=9.6,SNR=5.8						
MKAR	Makanchi Array	57.92	330	P	P	14 40 02.0	+5.2
	0.5nm,0.7s,baz=133,slow=7.8,SNR=6.5						

ISCJB 13 14:30:58.6±0.7, 39.°33N±0.°04×38.°40E±0.°05, h10km±4km, Error ellipse: s-maj=8.2km s-min=6.3km az=140.8
DDA 13 14:30:58.1, 39.°39N×38.°39E, h7km, MD2.9
CSEM 13 14:30:58.5±0.3, 39.°35N×38.°37E, h5km, MD3.0, Error ellipse: s-maj=9.7km s-min=6.3km az=149.0
ISK 13 14:30:58.3, 39.°32N×38.°42E, h11km, MD3.0
ISC 13 14:30:58.6±0.9, 39.°36N±0.°03×38.°42E±0.°03, h10km±6km, n23, σ0.°64/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	Kemaliye	0.11	148	iP	Pg	14 31 00.7	-0.8
KEMA				iS	Sg	14 31 04.0	+0.5
KEMA	Kemaliye	0.11	148	iP	Pg	14 31 00.7	-0.8
KEMA				iS	Sg	14 31 04.0	+0.5
ILIC	ilic-Erzincan	0.15	52	ePG	Pb	14 31 03.1	-0.5
ILIC				eSG	Sg	14 31 05.4	+0.8
ILIC	ilic-Erzincan	0.15	52	ePg	Pb	14 31 03.1	-0.5
ILIC				eSg	Sg	14 31 05.4	+0.8
EZC	Erzincan	0.82	61	ePG	Pn	14 31 17.3	+0.9
PTK	Pertek	0.89	121	ePG	Pg	14 31 15.1	-0.7
PTK				eSG	Sb	14 31 28.4	+0.1
PTK	Pertek	0.89	121	ePg	Pg	14 31 15.1	-0.7
PTK				eSg	Sb	14 31 28.4	+0.1
KELT	Kelkit	1.02	39	iP	Pg	14 31 17.0	-1.2
KELT				iS	Sb	14 31 32.2	+0.2
KELT	Kelkit	1.02	39	iP	Pg	14 31 17.1	-1.2
KELT				iS	Sb	14 31 32.2	+0.2
ERZN	Erzincan	1.03	77	ePG	Pg	14 31 17.3	-1.3
DARE	Darende-Malaty	1.07	223	ePG	Pb	14 31 18.9	-0.4
DARE	Darende-Malaty	1.07	223	ePg	Pb	14 31 18.9	-0.4
SVSK	Karacayir	1.23	297	ePN	Pb	14 31 22.1	+0.2
SVSK	Karacayir	1.23	297	ePn	Pb	14 31 22.1	+0.2
GUMT	Gumushane	1.37	36	ePN	Pb	14 31 24.5	+0.1
GUMT	Gumushane	1.37	36	ePn	Pb	14 31 24.5	+0.1
BAYT	Aydˉ–ntepe-Bay	1.68	52	ePN	Pn	14 31 28.7	+0.5
BAYT				eSN	Sb	14 31 51.0	0.0
BAYT	Aydˉ–ntepe-Bay	1.68	52	ePn	Pn	14 31 28.7	+0.5
BAYT				eSn	Sb	14 31 51.0	0.0
BINT	Bingol	1.68	106	ePN	Pb	14 31 30.0	+0.3
BNGB	Bing¶l	1.79	101	ePN	Pn	14 31 30.0	+0.3
BNN	Bunyan	2.06	257	ePN	Pn	14 31 33.9	+0.5
BNN	Bunyan	2.06	257	ePn	Pn	14 31 33.9	+0.5
EZM	Erzurum	2.34	76	ePN	Pn	14 31 37.8	+0.5

IDC 13 14:37:15.2±0.7, 24.°01S×175.°86W, h0km, mb4.3/12, mb1 4.5/14, mb1mx4.3/24, mbtmp4.3/14, ML3.5/2, MS3.9/15, Ms1 3.9/15, ms1mx3.7/33, Error ellipse: s-maj=24.4km s-min=17.9km az=159.0
ISCJB 13 14:37:18.6±0.5, 24.°06S±0.°09×176.°02W±0.°09, h31km, mb4.3/13, MS4.0/12, Error ellipse: s-maj=13.1km s-min=11.7km az=40.6
NEIC 13 14:37:20.1±0.5, 24.°12S×175.°90W, h35km, mb4.8/3, Error ellipse: s-maj=12.3km s-min=11.0km az=158.0
ISC 13 14:37:20.0±0.6, 24.°1S±0.°1×175.°9W±0.°1, h31km, n51, σ0.°98/36, mb4.3/13, MS4.0/12, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.43	199	LR	LR	14 40 35.1	
	comp=Z,435nm,18.4s,baz=140,slow=36						
MSVF	Nonsavu	8.48	317	ePn	Pn	14 39 20.8	0.0
	149nm,1.5s						
RAR	Rarotonga	15.18	82	Pn	Pn	14 40 40.4	-12
	3.6nm,0.3s,baz=270,slow=7.4,SNR=4.1						
RAR				LR	LR	14 48 13.5	
	comp=Z,538nm,18.1s,baz=264,slow=44						
URZ	Urewera	15.31	201	Pn	Pn	14 40 52.4	-1.5
	0.3nm,0.3s,baz=18,slow=3.2,SNR=3.4						
URZ				Sn	Sn	14 43 31.9	-11
	0.2nm,0.3s,baz=62,slow=18,SNR=2.1						
URZ	Urewera	15.31	201	ePn	Pn	14 40 53.1	-0.8
URZ				Sn	Sn	14 43 31.9	-11
DZM	Mont Dzumac	16.35	274	eLR	LR	14 44 58.5	
	728nm,22.8s						
DZM	Mont Dzumac	16.35	274	Pn	Pn	14 41 06.3	-1.1
	0.1nm,0.3s,baz=232,slow=19,SNR=2.4						
DZM				LR	LR	14 45 13.0	
	comp=Z,222nm,18.6s,baz=76,slow=29						
PPT2	Papeete2	25.44	80	eLR	LR	14 48 45.3	
	583nm,25.5s						
PPT	Papeete	25.44	80	LR	LR	14 51 41.8	
	comp=Z,206nm,18.2s,baz=238,slow=34						
HNR	Honiara	27.25	298	LR	LR	14 52 30.4	
	comp=Z,268nm,19.1s,baz=152,slow=34						
CTA	Charters Towers	35.20	269	P	P	14 44 12.9	+1.3
	4.2nm,0.4s,baz=97,slow=11,SNR=12						
CTAO	Charters Towers	35.20	269	eP	P	14 44 12.4	+0.9
RKT	Rikitea	37.44	97	eLR	LR	14 54 34.2	
	303nm,24.2s						
PMG	Port Moresby	38.11	286	P	P	14 44 36.4	+0.1
	8.5nm,0.8s,baz=95,slow=6.0,SNR=7.4						
PMG	Port Moresby	38.11	286	eP	P	14 44 35.5	-0.8
	15nm,0.9s						
STKA	Stephens Creek	38.11	249	P	P	14 44 36.4	+0.1
	1.5nm,0.7s,baz=90,slow=13,SNR=2.2						
STKA				LR	LR	14 59 08.9	
	comp=Z,308nm,18.0s,baz=37,slow=34						
ASAR	Alice Springs	45.67	260	P	P	14 45 38.2	0.0
	2.4nm,0.9s,baz=89,slow=6.9,SNR=20						
ASAR				LR	LR	15 04 47.9	
	comp=Z,417nm,18.2s,baz=101,slow=36						
WRAB	Tennant Creek	46.10	265	eP	P	14 45 40.3	-1.2
	1.8nm,0.7s						
WRA	Warramunga Arr	46.11	265	P	P	14 45 40.5	-1.1
	1.5nm,0.5s,baz=96,slow=8.2,SNR=16						
NWAO	Narrogin (SRO)	58.54	245	LR	LR	15 11 36.0	
	comp=Z,110nm,18.1s,slow=35						
KAPI	Kappang	64.55	276	P	P	14 47 54.3	-0.3
QSPA	South Pole Qui	65.98	180	P	P	14 48 04.3	+1.1
	6.1nm,0.9s,baz=32,slow=1.7,SNR=23						
QSPA	South Pole Qui	65.98	180	eP	P	14 48 03.2	0.0
	60nm,2.0s						
MJAR	Matsushiro Arr	74.23	323	P	P	14 48 54.9	+0.9
	14nm,1.2s,baz=116,slow=8.3,SNR=3.7						
MJAR				LR	LR	15 20 04.5	
	comp=Z,53nm,19.3s,baz=135,slow=35						
FX1	Attu Island--F	77.25	353	LR	LR	15 20 16.3	
	comp=Z,127nm,18.4s,baz=162,slow=34						
PETK	Petropavlovsk-	80.24	344	LR	LR	15 17 59.2	
	comp=Z,71nm,20.1s,baz=143,slow=30						
KSRS	Korea Array	80.84	318	LR	LR	15 19 45.3	
	comp=Z,59nm,19.7s,baz=123,slow=32						
NVAR	Mina Array Bea	82.36	42	P	P	14 49 39.2	+0.1
	0.8nm,0.7s,baz=224,slow=7.1,SNR=8.5						
H03N2	Juan Fernandez	82.55	123	T	T	16 20 53.6	
	baz=249						
H03N3	Juan Fernandez	82.55	123	T	T	16 20 52.5	
	baz=249						
H03N1	Juan Fernandez	82.56	123	T	T	16 20 52.5	
	baz=249						
SNAA	Sanae	84.36	178	P	P	14 49 49.6	+0.8
SNAA	Sanae	84.36	178	eP	P	14 49 47.9	-1.0
VNA3	Neumayer Olymp	84.43	176	P	P	14 49 49.7	+0.6
VNA2	Neumayer--Watz	84.89	176	P	P	14 49 52.4	+1.0
	baz=199,slow=4.0						
VNA1	Neumayer--Stat	85.11	176	P	P	14 49 53.3	+0.9
PLCA	Paso Flores	85.42	133	LR	LR	15 21 12.2	
	comp=Z,41nm,20.0s,baz=119,slow=31						
TXAR	Lajitas Array	87.41	56	P	P	14 50 04.0	-0.6
	2.1nm,1.1s,baz=233,slow=6.0,SNR=9.1						
PDAR	Pinedale Array	90.28	42	P	P	14 50 17.4	-0.7
	0.4nm,0.5s,baz=233,slow=5.5,SNR=2.8						
ILAR	Eielson Array	91.40	12	P	P	14 50 20.9	-1.4
	1.4nm,1.1s,baz=218,slow=5.3,SNR=6.4						
CMAR	Chiang Mai Arr	93.11	289	P	P	14 50 33.1	+1.8
	2.8nm,1.0s,baz=124,slow=3.4,SNR=17						
TEIG	Tepich	95.99	71	LR	LR	15 25 30.0	
	comp=Z,79nm,20.8s,baz=280,slow=30						
SONM	Songino Array	99.71	318	LR	LR	15 32 33.4	
	comp=Z,38nm,18.9s,baz=100,slow=33						
MKAR	Makanchi Array	115.04	312	PKP	PKPdf	14 55 59.8	+2.0
	0.2nm,0.7s,baz=90,slow=1.4,SNR=2.6						
FINES	FINESS Array B	139.75	344	PKP	PKPdf	14 56 44.1	-0.1
	2.3nm,1.0s,baz=86,slow=4.3,SNR=2.6						
AKASG	Malin Array Be	147.08	330	PKPbc	PKPdf	14 56 58.1	+0.7
	1.0nm,0.5s,baz=40,slow=3.3,SNR=10.0						
BRTR	Keskin Array B	150.64	309	PKPbc	PKPbc	14 57 08.3	-0.9
	1.2nm,0.8s,baz=87,slow=3.2,SNR=5.4						
CLL	Collm	151.98	348	ePKPbc	PKPbc	14 57 11.0	-0.7
CLL				ePKPab	PKPab	14 57 22.0	+1.0
BRG	Berggiesshubel	152.20	347	eP	PKPbc	14 57 12.6	+0.3
	5.8nm,1.3s						
BRG				e		14 57 23.9	
	2.9nm,0.7s						
GERES	GERESS Array B	154.16	345	PKPab	PKPab	14 57 29.3	-1.2
	0.3nm,0.6s,baz=22,slow=3.7,SNR=2.8						
TORD	Torodi Ar. Bea	168.87	168	PKP	PKPdf	14 57 23.4	-1.3
	1.6nm,1.1s,baz=153,slow=0.3,SNR=4.9						
TORD				PKPab	PKPab	14 58 35.9	+0.7
	0.8nm,1.0s,baz=174,slow=3.2,SNR=4.3						

IDC 13 14:58:38.8±6.5, 20.°48S×175.°20W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/21, mbtmp3.7/4, Error ellipse: s-maj=269.1km s-min=40.6km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Towers	36.11	264	P	P	15 05 44.0	+1.3
	1.6nm,0.3s,baz=105,slow=13,SNR=3.4						
ASAR	Alice Springs	47.08	256	P	P	15 07 11.7	-1.1
	0.4nm,0.7s,baz=91,slow=7.8,SNR=9.3						
WRA	Warramunga Arr	47.20	261	P	P	15 07 13.3	-0.4
	0.3nm,0.2s,baz=96,slow=8.3,SNR=19						
ILAR	Eielson Array	87.74	12	P	P	15 11 29.1	+0.1
	0.2nm,0.9s,baz=213,slow=6.5,SNR=3.0						

IDC 13 15:04:13.0±1.4, 6.°67S×129.°19E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/25, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=80.5km s-min=29.3km az=69.0
ISCJB 13 15:04:15.5±0.8, 6.°49S±0.°06×129.°7E±0.°1, h33km, mb3.5/3, Error ellipse: s-maj=18.6km s-min=7.9km az=1.5
ISC 13 15:04:17.7±1.1, 6.°46S±0.°07×129.°8E±0.°2, h35km, n11, σ1.°94/11, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	4.28	35	P	Pn	15 05 19.7	-0.8
	baz=4.2,SNR=19						
MTN	Manton Dam	6.47	168	P	Pn	15 05 53.5	+2.9
	baz=6.5,SNR=6.5						
KDU	Kakadu	6.72	157	P	Pn	15 05 55.6	+1.6
	baz=6.7,SNR=34						
KNRA	Kununurra	9.21	186	P	Pn	15 06 29.3	+1.1
	baz=9.3,SNR=12						
KNRA				S	Sn	15 08 09.8	-0.9
	baz=9.3,SNR=3.5						
WRA	Warramunga Arr	14.10	162	Pn	Pn	15 07 32.1	-3.0
	0.3nm,0.3s,baz=343,slow=13,SNR=15						
WRA				Sn	Sn	15 10 03.8	-6.7
	0.6nm,0.3s,baz=339,slow=21,SNR=11						
COEN	Coen	15.11	121	P	Pn	15 07 49.2	+0.4
	baz=15,SNR=6.1						
ASAR	Alice Springs	17.55	167	P	Pn	15 08 19.8	0.0
	0.3nm,0.3s,baz=344,slow=10,SNR=19						
ASAR				S	Sn	15 11 30.4	-4.0
	0.2nm,0.3s,baz=353,slow=26,SNR=5.9						
WRKA	Warakurna	18.52	184	P	Pn	15 08 31.9	+0.2
	baz=19,SNR=5.7						
MKAR	Makanchi Array	67.67	327	P	P	15 15 11.4	0.0
	0.2nm,0.5s,baz=111,slow=7.1,SNR=5.0						
ZALV	Zalesovo Beam	71.02	334	P	P	15 15 31.5	-0.3
	0.3nm,0.4s,baz=120,slow=8.5,SNR=2.7						
ILAR	Eielson Array	92.95	25	P	P	15 17 30.4	+3.4
	0.2nm,0.7s,baz=260,slow=5.4,SNR=3.2						

IDC 13 15:05:36.5±6.9, 15.°33S×173.°24W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/21, mbtmp3.8/4, Error ellipse: s-maj=345.3km s-min=28.4km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.00	45	Pn	Pn	15 06 06.0	-5.6
	53nm,0.3s,baz=297,slow=18,SNR=7.5						
AFI				Sn	Sn	15 06 24.8	-13
	142nm,0.3s,baz=199,slow=22,SNR=8.7						
H11S2	WAKE ISLAND Hy	38.98	329	T	T	15 53 37.8	
	baz=148,slow=74,SNR=5.4						
H11S3	WAKE ISLAND Hy	39.00	329	T	T	15 53 38.3	
	baz=148,SNR=6.4						
H11S1	WAKE ISLAND Hy	39.00	329	T	T	15 53 38.3	
	baz=148,slow=74,SNR=5.4						
H11N3	WAKE ISLAND Hy	39.93	330	T	T	15 55 45.4	
	baz=153						
H11N1	WAKE ISLAND Hy	39.93	330	T	T	15 55 45.3	
	baz=153						
H11N2	WAKE ISLAND Hy	39.95	330	T	T	15 55 45.6	
	baz=153						
WRA	Warramunga Arr	50.02	257	P	P	15 14 32.6	-0.6
	0.5nm,0.5s,baz=91,slow=7.0,SNR=13						
ASAR	Alice Springs	50.28	252	P	P	15 14 35.3	+0.1
	1.2nm,0.5s,baz=90,slow=7.8,SNR=19						
ILAR	Eielson Array	82.35	11	P	P	15 17 59.7	-0.2
	0.3nm,0.6s,baz=232,slow=7.0,SNR=6.0						
YKA	Yellowknife Ar	89.97	23	P	P	15 18 36.8	-0.6
	0.4nm,0.9s,baz=234,slow=4.6,SNR=5.2						
GERES	GERESS Array B	146.09	352	PKPbc	PKPdf	15 25 18.3	+0.4
	0.4nm,0.6s,baz=46,slow=2.8,SNR=3.3						
BRTR	Keskin Array B	146.20	321	PKPbc	PKPbc	15 25 19.4	0.0
	0.6nm,0.6s,baz=105,slow=1.9,SNR=4.6						

BUL 13 15:20:26.7±12.0, 11.°02S×33.°02E, h0km±782km, MD3.9
ISCJB 13 15:20:46.9±0.3, 10.°04S±0.°04×33.°81E±0.°05, h10km, mb4.0/16, MS3.7/7, Error ellipse: s-maj=8.1km s-min=4.3km az=23.9
IDC 13 15:20:47.6±0.6, 10.°02S×33.°85E, h0km, mb4.1/15, mb1 4.3/18, mb1mx4.1/45, mbtmp4.1/18, ML3.6/3, MS3.7/10, Ms1 3.7/10, ms1mx3.7/35, Error ellipse: s-maj=19.6km s-min=13.8km az=120.0
NEIC 13 15:20:48.8±0.4, 10.°04S×33.°84E, h10km, mb4.6/3, Error ellipse: s-maj=13.0km s-min=5.8km az=111.0
PRE 13 15:20:51.8±5.0, 10.°00S×31.°87E, h5km, ML6.7
ISC 13 15:20:48.5±0.5, 10.°12S±0.°04×33.°83E±0.°08, h10km, n50, σ2.°27/63, mb4.1/16, MS3.5/7, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DODT	Dodoma, Tanzan	4.34	26	iPn	Pn	15 21 50.5	-4.2
DODT				Sn	Sb	15 22 57.5	+0.1
TET	Tete	6.00	182	eP	Sn	15 23 18.9	-7.3
TET				e		15 23 19.2	
	baz=315,slow=18						
TET				eS	Sg	15 24 02.7	+1.5
TET				AML	AML	15 24 17.6	
	comp=Z,5µm,0.4s						
LSZ	Lusaka	7.53	226	Pn	Pn	15 22 41.6	+3.1
	comp=Z,18nm,0.3s,baz=49,slow=11,SNR=135						
LSZ				Sn	Sn	15 24 04.1	+0.1
	comp=Z,91nm,0.3s,baz=344,slow=14,SNR=8.7						
LSZ				Lg	Lg	15 24 48.3	
	comp=Z,64nm,0.3s,baz=336,slow=10.0,SNR=8.0						
LSZ				LR	LR	15 25 48.7	
	comp=Z,436nm,18.2s,baz=333,slow=40						
LSZ	Lusaka	7.53	226	ePn	Pn	15 22 40.7	+2.2
	comp=Z,120nm,0.4s						
LSZ				eSn	Sn	15 24 04.8	+0.8
LSZ				Lg	Lg	15 24 48.3	
MAUS	Longido	7.86	21	iPn	Pn	15 22 41.5	-1.6
MAUS				iS	Sb	15 24 31.0	-7.9
KMBO	Kilima Mbogo	9.56	21	Pn	Pn	15 23 04.0	-2.4
	comp=Z,5.4nm,0.3s,baz=194,slow=14,SNR=54						
KMBO				Sn	Sn	15 24 45.1	-9.0
	comp=Z,4.7nm,0.3s,baz=114,slow=22,SNR=9.1						
KMBO				Lg	Lg	15 25 35.9	
	comp=Z,4.4nm,0.3s,baz=297,slow=18,SNR=10						
KMBO	Kilima Mbogo	9.56	21	ePn	Pn	15 23 03.6	-2.9
	comp=Z,23nm,0.6s						
KMBO				eSn	Sn	15 24 52.1	-2.0
KMBO				Lg	Lg	15 25 35.9	
MSNA	Messina	12.70	196	eP	Pn	15 23 51.0	+1.8
MSNA				eS	Sn	15 26 07.4	-3.5
MSNA				AML	AML	15 27 40.1	
	comp=Z,224nm,0.6s						
MSNA	Messina	12.70	196	P	Pn	15 23 51.3	+2.0
MSNA				S	Sn	15 26 07.3	-3.5
MOPA	Mopani	13.53	190	eP	Pn	15 24 03.6	+3.1
MOPA				eS	Sn	15 26 26.9	-4.2
MOPA				AML	AML	15 28 02.5	
	comp=Z,643nm,0.6s						
MOPA	Mopani	13.53	190	P	Pn	15 24 01.9	+1.3
MOPA				S	Sn	15 26 29.8	-1.3
OPO	Ambohidratompo	15.42	125	Pn	Pn	15 24 26.7	+0.3
	comp=Z,1.1nm,0.3s,baz=268,slow=21,SNR=3.9						
OPO				Sn	Sn	15 27 18.7	+1.2
	comp=Z,1.4nm,0.3s,baz=307,slow=5.1,SNR=3.4						
SLR	Silverton	16.40	198	P	Pn	15 24 39.5	+0.4
SLR				S	Sn	15 27 35.6	-5.7
LBTB	Lobatse	16.76	207	Pn	Pn	15 24 42.4	-1.2
	comp=Z,7.8nm,0.3s,baz=39,slow=14,SNR=54						
LBTB				Sn	Sn	15 27 44.0	-5.8
	comp=Z,3.8nm,0.3s,baz=320,slow=10,SNR=5.1						
LBTB				Lg	Lg	15 29 36.3	
	comp=Z,3.5nm,0.3s,baz=336,slow=20,SNR=4.3						
LBTB				LR	LR	15 31 25.5	
	comp=Z,165nm,21.4s,baz=30,slow=38						
ERPM	east rand prop	16.98	197	P	Pn	15 24 46.0	-0.5
ERPM				S	Sn	15 27 43.5	-12
KLOF	Kloof	17.19	199	P	P	15 24 51.1	+0.5
KLOF				S	Sn	15 27 54.1	-6.3
BFSD	Buffelsfontein	17.94	201	P	P	15 25 00.1	+1.2
BFSD				S	Sn	15 28 18.9	+0.3
MOAB	Moab Khotsong	18.05	201	P	Pn	15 24 59.5	-0.1
MOAB				S	Sn	15 28 19.0	-2.2
TSUM	Tsumeb	18.12	238	P	Pn	15 25 00.2	-0.4
	comp=Z,2.2nm,0.3s,baz=43,slow=13,SNR=30						
TSUM				S	Sn	15 28 12.5	-11
	comp=Z,0.9nm,0.3s,baz=27,slow=11,SNR=3.3						
TSUM				Lg	Lg	15 30 22.1	
	comp=Z,0.9nm,0.3s,baz=115,slow=14,SNR=3.8						
TSUM				LR	LR	15 32 16.4	
	comp=Z,288nm,18.7s,baz=45,slow=38						
SWZ	Schweizer	18.77	204	eP	P	15 25 06.7	-1.4
SWZ	Schweizer	18.77	204	P	Pn	15 25 08.8	+0.2
SWZ				S	S	15 28 46.2	+4.2
SEK	Senekal	19.03	197	eP	Pn	15 25 11.4	-0.3
SEK				eS	Sn	15 28 37.5	-7.4
SEK				AML	AML	15 30 55.4	
	comp=Z,103nm,0.7s						
SEK	Senekal	19.03	197	P	Pn	15 25 14.0	+2.4
SEK				S	Sn	15 28 36.6	-8.3
BOSA	Boshof	20.09	202	P	P	15 25 22.7	+0.3
	comp=Z,16nm,0.7s,baz=25,slow=11,SNR=27						
BOSA				S	S	15 29 02.4	-5.9
	comp=Z,9.8nm,0.7s,baz=318,slow=16,SNR=2.8						
BOSA				Lg	Lg	15 31 14.8	
	comp=Z,45nm,0.8s,baz=124,slow=22,SNR=4.5						
BOSA				LR	LR	15 33 17.2	
	comp=Z,183nm,20.3s,baz=28,slow=37						
KSD	Kokstad	20.73	191	P	Pn	15 25 33.1	+1.3
KSD				S	S	15 29 19.2	-1.9
HVD	Gariep Dam	21.81	200	P	P	15 25 44.2	+3.0
HVD				S	Sn	15 29 49.5	-2.6
SUR	Sutherland	25.21	207	P	P	15 26 17.0	+2.3
	comp=Z,4.9nm,0.6s,baz=29,slow=11,SNR=7.3						
SUR				Lg	Lg	15 33 56.0	
	comp=Z,38nm,1.1s,baz=145,slow=16,SNR=3.2						
SUR				LR	LR	15 36 21.6	
	comp=Z,142nm,18.6s,baz=12,slow=37						
SUR	Sutherland	25.21	207	eP	P	15 26 15.6	+0.9
	comp=Z,9.5nm,0.7s						
SUR				Lg	Lg	15 33 56.0	
TORD	Torodi Ar. Bea	39.40	305	P	P	15 28 18.7	-0.1
	comp=Z,1.0nm,0.7s,baz=113,slow=7.4,SNR=8.1						
DBIC	Dimbokro	41.99	292	LR	LR	15 44 24.0	
	comp=Z,78nm,21.6s,baz=108,slow=34						
BRTR	Keskin Array B	49.59	360	P	P	15 29 40.8	+0.8
	comp=Z,1.4nm,0.7s,baz=170,slow=9.6,SNR=8.5						
BZS	Buzias	56.56	350	S	S	15 38 24.1	+1.3
ESDC	Sonseca Array	60.69	327	P	P	15 31 01.6	+1.4
	comp=Z,0.3nm,0.5s,baz=123,slow=9.4,SNR=3.8						
AKASG	Malin Array Be	60.70	357	P	P	15 30 59.2	-0.7
	comp=Z,0.6nm,0.5s,baz=205,slow=6.1,SNR=11						
GERES	GERESS Array B	61.33	345	P	P	15 31 05.0	+0.5
	comp=Z,0.7nm,0.8s,baz=210,slow=4.3,SNR=6.2						
KKAR	Karatay Array	62.64	30	eP	P	15 31 12.3	-0.9
	comp=Z,1.3nm,0.7s						
BVAR	Borovoye Array	70.20	22	P	P	15 32 01.4	-0.1
	comp=Z,0.9nm,0.6s,baz=205,slow=6.2,SNR=5.8						
CMAR	Chiang Mai Arr	70.22	66	P	P	15 32 03.7	+1.5
	comp=Z,1.1nm,0.6s,baz=260,slow=7.5,SNR=13						
CMAR				LR	LR	16 02 48.8	
	comp=Z,18nm,18.3s,baz=285,slow=36						
CHTO	Chiang Mai	70.33	66	eP	P	15 32 02.6	-0.3
	comp=Z,6.9nm,1.3s						
MKAR	Makanchi Array	71.22	33	P	P	15 32 07.9	+0.1
	comp=Z,2.3nm,0.7s,baz=251,slow=3.7,SNR=28						
MKAR				LR	LR	16 06 21.4	
	comp=Z,39nm,18.2s,baz=13,slow=38						
KURBB	Kurchatov Arra	71.86	28	P	P	15 32 11.8	+0.3
	comp=Z,2.1nm,0.8s,baz=231,slow=6.7,SNR=20						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	71.97	28	P	P	15 32 11.8	-0.3
ZALV	Zalesovo Beam	76.96	28	P	P	15 32 40.3	-0.9
	comp=Z,0.4nm,0.4s,baz=270,slow=5.8,SNR=3.4						
SONM	Songino Array	85.99	40	P	P	15 33 30.0	+0.7
	comp=Z,0.7nm,0.8s,baz=241,slow=5.0,SNR=8.0						
ASAR	Alice Springs	95.06	115	P	P	15 34 13.9	+1.5
	comp=Z,1.5nm,0.6s,baz=259,slow=4.5,SNR=40						
ASAR				LR	LR	16 13 16.5	
	comp=Z,58nm,18.8s,baz=252,slow=33						
WRA	Warramunga Arr	96.30	111	P	P	15 34 18.6	+0.5
	comp=Z,0.8nm,0.8s,baz=255,slow=3.1,SNR=6.7						
LPAZ	La Paz	98.48	252	LR	LR	16 17 38.9	
	comp=Z,48nm,18.8s,baz=91,slow=35						
YKA	Yellowknife Ar	122.96	343	PKP	PKPdf	15 39 43.6	-1.2
	comp=Z,0.1nm,0.7s,baz=64,slow=1.4,SNR=3.6						
ILAR	Eielson Array	125.42	0	PKP	PKPdf	15 39 49.7	+0.2
	comp=Z,0.8nm,1.1s,baz=345,slow=1.6,SNR=4.6						
NVAR	Mina Array Bea	142.35	323	PKP	PKPdf	15 40 23.0	+0.8
	comp=Z,0.3nm,0.3s,baz=92,slow=2.7,SNR=4.4						

TAP 13 15:30:19.0, 25°.22N×122°.32E, h271km±1km, ML3.6, D
ISCJB 13 15:30:20.6±0.9, 25°.2N±0°.1×122°.18E±0°.04, h254km±6km, Error ellipse: s-maj=21.2km s-min=6.1km az=174.9
JMA 13 15:30:20.9±0.2, 25°.23N×122°.12E, h249km±2km, M3.1
ISC 13 15:30:21.5±3.0, 25°.2N±0°.1×122°.19E±0°.06, h249km±17km, n30, σ0°.83/47, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.26	225	eP	Pn	15 30 53.8	+0.1
	baz=222						
TWB1				eS	S	15 31 20.3	+1.3
	baz=222						
NWF	Wu-fen Shan	0.39	252	eP	Pn	15 30 53.6	-0.5
	baz=252						
NWF				eS	S	15 31 20.8	+1.2
	baz=252						
TWA	Mucha	0.59	249	eP	Pn	15 30 54.4	-0.2
	baz=253						
TWC	Suao	0.66	208	eP	Pn	15 30 54.8	0.0
	baz=212						
TWC				eS	S	15 31 20.2	-0.8
	baz=212						
TWE	Neicheng	0.67	225	eP	Pn	15 30 54.6	-0.3
	baz=229						
TWE				eS	S	15 31 21.9	+0.9
	baz=229						
ENTT	Nioudou	0.79	226	eP	Pn	15 30 54.8	-0.6
	baz=237						
ENTT				eS	S	15 31 22.2	+0.2
	baz=237						
ENA	Nanau	0.86	208	eP	Pn	15 30 55.5	-0.3
	baz=205						
ENA				eS	S	15 31 23.7	+1.0
	baz=205						
NSK	Sanguang	0.91	236	eP	Pn	15 30 55.0	-1.0
	baz=242						
NSK				eS	S	15 31 22.0	-1.2
	baz=242						
NNS	Nan Shan	1.05	225	eP	Pn	15 30 55.5	-1.4
	baz=218						
NNS				eS	S	15 31 25.1	+0.4
	baz=218						
NSTT	Nanjuang	1.21	243	eP	Pn	15 30 57.6	-0.1
	baz=244						
NSTT				eS	S	15 31 26.6	+0.4
	baz=244						
TWD	Chiawan	1.23	206	eP	Pn	15 30 56.1	-1.8
	baz=205						
TWT	Tachien	1.31	225	eP	Pn	15 30 59.3	+0.6
	baz=225						
TWT				eS	S	15 31 26.8	-1.0
	baz=225						
WHF	Hehuan Shan	1.34	219	eP	Pn	15 30 58.7	-0.4
	baz=217						
WHF				eS	S	15 31 30.2	+1.6
	baz=217						
ESL	Shilin	1.53	207	eP	Pn	15 30 58.8	-1.2
	baz=213						
TWQ1	Liyutan	1.54	237	eP	Pn	15 30 59.3	-0.8
	baz=239						
IRIF	Iriomote-Funau	1.64	121	P	Pn	15 31 01.0	+0.2
IRIF				S	S	15 31 31.9	+0.1
SMLT	Sun Moon Lake	1.75	222	eP	Pn	15 31 02.0	+0.1
	baz=220						
TYC	Yuchr	1.76	224	eP	Pn	15 31 01.8	0.0
	baz=232						
JKRS	Kuro-shima	1.91	119	P	Pn	15 31 03.8	+0.7
JKRS				S	S	15 31 36.3	+0.5
JIJ	Ishigaki jima	1.96	114	P	Pn	15 31 03.6	+0.1
JIJ				S	S	15 31 36.0	-0.6
TWF1	Yuli	2.00	204	eP	Pn	15 31 03.6	-0.5
	baz=208						
JISG	Ishigakijimahi	2.02	107	P	Pn	15 31 04.0	-0.1
JISG				S	S	15 31 37.6	0.0
ALS	Alishan	2.10	217	eP	Pn	15 31 05.3	+0.2
	baz=225						
CHN5	Tsauling	2.10	221	P	Pn	15 31 05.3	+0.3
	baz=218						
ELDTW	Lidau	2.26	208	eP	Pn	15 31 06.9	+0.4
	baz=208						
JTJ	Tarama	2.35	103	P	Pn	15 31 07.5	+0.3
JTJ				S	S	15 31 43.5	+0.3
JIRB	Irabujima	2.73	97	P	Pn	15 31 11.1	0.0
JIRB				eS	S	15 31 47.6	-2.6
JIKM	Ikemajima	2.79	95	P	Pn	15 31 12.1	+0.4
JMJ	Miyako jima 2	2.84	97	P	Pn	15 31 12.7	+0.4
JOGS	Gusukube	2.95	98	P	Pn	15 31 13.9	+0.5

IDC 13 15:31:16.1±1.3, 13°.53N×92°.82E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/7, ML3.6/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/32, Error ellipse: s-maj=44.3km s-min=19.8km az=62.0
ISCJB 13 15:31:18.6±0.9, 13°.7N±0°.1×92°.96E±0°.08, h29km, mb3.5/6, MS3.5/2, Error ellipse: s-maj=15.9km s-min=11.0km az=159.4
ISC 13 15:31:20.7±1.2, 13°.6N±0°.1×92°.9E±0°.1, h29km, n13, σ0°.72/9, mb3.7/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.53	50	Pn	Pn	15 33 08.9	+0.4
	0.3nm,0.3s,baz=241,slow=15,SNR=8.1						
CMAR				Sn	Sn	15 34 31.8	-1.2
	0.2nm,0.3s,baz=239,slow=28,SNR=7.8						
VIS	Vishakhapatnam	10.09	295	i P	Pn	15 33 43.0	-0.7
VIS				i S	Sn	15 35 22.4	-14
VIS				i S	Sn	15 35 24.2	-12
VIS				ex	x	15 35 25.4	
	comp=N,13nm,0.2s						
VIS				ex	x	15 35 25.8	
	comp=E,12nm,0.3s						
H08S3	Diego Garcia H	29.28	225	T	T	16 07 35.0	
	baz=40						
H08S2	Diego Garcia H	29.29	225	T	T	16 07 31.6	
	baz=40						
H08S1	Diego Carcia H	29.30	225	T	T	16 07 30.4	
	baz=40						
MKAR	Makanchi Array	34.25	347	P	P	15 38 04.4	+0.3
	comp=E,0.7nm,0.8s,baz=170,slow=8.3,SNR=6.2						
SONM	Songino Array	35.91	16	P	P	15 38 19.3	+0.8
	comp=E,0.3nm,0.6s,baz=193,slow=5.6,SNR=3.6						
ZALV	Zalesovo Beam	40.73	353	P	P	15 38 59.1	+0.3
	comp=E,0.9nm,0.6s,baz=188,slow=9.6,SNR=5.0						
USRK	Ussuriysk Arra	45.13	40	LR	LR	16 01 34.8	
	comp=E,50nm,18.9s,baz=230,slow=40						
ASAJ	Asahikawa	52.01	44	LR	LR	16 03 01.8	
	comp=E,53nm,19.2s,baz=36						
WRA	Warramunga Arr	52.67	128	P	P	15 40 32.5	-0.3
	comp=E,0.6nm,0.5s,baz=301,slow=10.0,SNR=17						
ASAR	Alice Springs	54.59	132	P	P	15 40 46.8	-0.1
	comp=E,0.4nm,0.5s,baz=307,slow=6.6,SNR=16						
GERES	GERESS Array B	72.79	317	P	P	15 42 46.7	+0.1
	comp=E,0.1nm,0.5s,baz=111,slow=7.3,SNR=4.2						

CSEM 13 15:35:51.0±0.3, 40°.20N×22°.80E, h20km, MD2.7, Error ellipse: s-maj=11.2km s-min=5.9km az=110.0
ATH 13 15:35:50.3, 40°.21N×22°.81E, h24km±4km, MD2.7/7, 4C-6D, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIT	Litokhoron	0.27	246	ePB	Pb	15 35 57.7	+0.9
LIT				eSB	Sb	15 36 01.4	+0.1
LIT	Litokhoron	0.27	246	ePb	Pb	15 35 57.7	+0.9
LIT				eSb	Sb	15 36 01.4	+0.1
HORT	Hortiatis	0.45	30	ePB	Pb	15 36 00.5	+0.8
HORT				eSB	Sb	15 36 05.9	-0.2
HORT	Hortiatis	0.45	30	ePb	Pb	15 36 00.5	+0.8
HORT				eSb	Sb	15 36 05.9	-0.2
THL	Klokotos Trika	0.89	224	ePB	Pb	15 36 07.0	-0.1
THL	Klokotos Trika	0.89	224	ePb	Pb	15 36 07.0	-0.1
XOR	Xorichti	0.89	161	ePN	Pn	15 36 08.1	+0.7
XOR				eSN	Sn	15 36 20.1	+0.5
XOR	Xorichti	0.89	161	ePn	Pn	15 36 08.1	+0.7
XOR				eSn	Sn	15 36 20.1	+0.5
NEO	Neokhori	0.96	160	ePB	Pb	15 36 08.1	-0.2
NEO				eSN	Sn	15 36 22.2	+1.0
NEO	Neokhori	0.96	160	ePb	Pb	15 36 08.1	-0.2
NEO				eSn	Sn	15 36 22.2	+1.0
AGG	Agios Georgios	1.24	197	ePN	Pb	15 36 13.4	+0.3
AGG	Agios Georgios	1.24	197	ePn	Pb	15 36 13.4	+0.3
MAKR	Makrakomi, Fth	1.30	204	ePN	Pb	15 36 14.1	-0.1
MAKR	Makrakomi, Fth	1.30	204	ePn	Pb	15 36 14.1	-0.1
VTS	Vitosha	2.40	7	S	Sn	15 36 58.7	+1.6
ALN	Alexandroupoli	2.56	73	P	Pb	15 36 33.2	-2.3
ALN				S	Sn	15 36 51.8	-8.8
ALN	Alexandroupoli	2.56	73	P	Pb	15 36 33.2	-2.3
GZR	Gura Zlata	5.18	360	S	Sn	15 38 05.2	-0.3
GZR	Gura Zlata	5.18	360	S	Sn	15 38 05.2	-0.3
ARR	Arges	5.33	14	⇓iP	Pn	15 37 11.4	+3.0
ARR	Arges	5.33	14	⇓iP	Pn	15 37 11.4	+3.0
BZS	Buzias	5.47	351	⇑iP	Pb	15 37 23.8	-1.4
BZS	Buzias	5.47	351	⇑iP	Pb	15 37 23.8	-1.4
VOIR		5.48	17	⇓iP	Pn	15 37 11.1	+0.6
VOIR		5.48	17	⇓iP	Pn	15 37 11.1	+0.6
MLR	Muntele Rosu	5.76	23	⇓iP	Pn	15 37 13.4	-1.0
MLR	Muntele Rosu	5.76	23	⇓iP	Pn	15 37 13.4	-1.0
DOPR	Dopca	6.06	17	⇑iP	Pn	15 37 20.4	+2.0
DOPR	Dopca	6.06	17	⇑iP	Pn	15 37 20.4	+2.0

CSEM 13 15:36:12.0±0.3, 41°.99N×24°.81E, h2km, ML2.4, Error ellipse: s-maj=7.8km s-min=6.2km az=144.0
BEO 13 15:36:12.4±1.2, 42°.18N×25°.00E, h0km, ML2.4/5
THE 13 15:36:07.5, 42°.11N×25°.22E, h1km±3km, ML2.8/5, 10C-3D, Error ellipse: s-maj=3.7km s-min=1.2km az=12.0, Bulgaria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLD	Plovdiv	0.39	270	P	Pg	15 36 14.3	-0.6
PLD				S	Sg	15 36 19.4	-0.6
PLD	Plovdiv	0.39	270	eSg	Sg	15 36 19.5	-0.5
PLD	Plovdiv	0.39	270	P	Pg	15 36 14.3	-0.6
PLD				S	Sg	15 36 19.4	-0.6
KDZ	Kurdzhali	0.48	162	⇑iP	Pg	15 36 17.1	+0.4
KDZ				S	Sg	15 36 23.8	+0.9
KDZ	Kurdzhali	0.48	162	⇑iP	Pg	15 36 17.1	+0.4
JMB	Yambol	1.07	70	P	Pg	15 36 26.4	-1.7
JMB	Yambol	1.07	70	⇑iP	Pn	15 36 37.1	+7.4
JMB	Yambol	1.07	70	⇑iP	Pn	15 36 37.1	+7.4
EDRB	Edirne	1.16	102	P	Pg	15 36 29.3	-0.5
KAVA	Kavala	1.23	206	P	Pg	15 36 30.7	-0.4
KAVA				S	Sb	15 36 47.8	-0.1
KAVA	Kavala	1.23	206	P	Pg	15 36 30.7	-0.4
KAVA				S	Sb	15 36 47.8	-0.1
MMB	Musomiste	1.23	246	⇓iP	Pg	15 36 30.8	-0.4
MMB	Musomiste	1.23	246	S	Sb	15 36 48.2	+0.2
MMB	Musomiste	1.23	246	⇓iP	Pg	15 36 30.8	-0.4
NVR	Nevrokopi	1.27	234	P	Pg	15 36 31.9	0.0
NVR				S	Sb	15 36 48.9	-0.2
NVR	Nevrokopi	1.27	234	P	Pg	15 36 31.9	0.0
VTS	Vitosha	1.57	289	P	Pn	15 36 36.7	0.0
VTS	Vitosha	1.57	289	ePg	Pn	15 36 36.6	-0.1
VTS				eSg	Sn	15 36 56.7	-1.2
VTS	Vitosha	1.57	289	⇓iP	Pb	15 36 37.2	-0.4
VTS	Vitosha	1.57	289	P	Pn	15 36 36.7	0.0
VTS				eSg	Sn	15 36 56.7	-1.2
SRS	Serrai	1.57	232	P	Pn	15 36 36.0	-0.6
SRS				S	Sb	15 36 57.8	0.0
SRS	Serrai	1.57	232	P	Pn	15 36 36.0	-0.6
SOH	Sokhos	1.90	228	P	Pn	15 36 40.6	-0.6
SOH				S	Sn	15 37 05.7	-0.1
SOH	Sokhos	1.90	228	P	Pn	15 36 40.6	-0.6
SOH				S	Sn	15 37 05.7	-0.1
KNT	Kendrikon	1.98	242	P	Pn	15 36 41.3	-0.9
KNT	Kendrikon	1.98	242	P	Pn	15 36 41.3	-0.9
VAY	Valandovo	2.13	249	eSg	Sg	15 37 16.7	+0.6
VAY	Valandovo	2.13	249	ePn	Pn	15 36 49.1	+0.7
ZAPS	Zavoj	2.24	302	ePg	Pg	15 36 50.0	-0.5
ZAPS				eSg	Sg	15 37 18.4	-1.2
BARS	Barje	2.62	287	ePn	Pb	15 36 53.4	-1.9
BARS				eSg	Sb	15 37 29.6	+1.6
MSAB	Monastry St. A	2.75	43	⇑iP	Pg	15 37 02.4	+2.2
MSAB	Monastry St. A	2.75	43	⇑iP	Pg	15 37 02.4	+2.2
TLB	Topalu	3.22	39	⇑iP	Pg	15 37 08.7	-0.5
TLB	Topalu	3.22	39	S	Sg	15 37 49.5	-1.5
TLB	Topalu	3.22	39	⇑iP	Pg	15 37 08.7	-0.5
TLB				S	Sg	15 37 49.5	-1.5
TIRR	Tirgusor	3.31	44	S	Sg	15 37 53.3	-0.5
TIRR	Tirgusor	3.31	44	S	Sg	15 37 53.3	-0.5
VOIR		3.33	358	S	Sg	15 37 56.0	+1.2
MLR	Muntele Rosu	3.42	9	S	Sg	15 38 01.6	+3.7
GZR	Gura Zlata	3.73	332	⇑iP	Pb	15 37 15.5	+1.2
GZR	Gura Zlata	3.73	332	⇑iP	Pb	15 37 15.5	+1.2
GRUS	Gruza	3.76	300	ePn	Pn	15 37 08.8	+2.2
GRUS				eSg	Sg	15 38 05.5	-2.7
GRUS	Gruza	3.76	300	ePn	Pn	15 37 08.8	+2.2
GRUS				eSg	Sg	15 38 05.5	-2.7

KRSC 13 15:42:52.2±2.1, 49°.84N×157°.02E, h17km±35km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.02	326	eP	Pb	15 43 10.1	-1.3
SKR				eS	Sb	15 43 23.0	-1.5
PAU	Pauzhetka	1.63	355	eP	Pb	15 43 21.4	-0.4
PAU				eS	Sb	15 43 42.6	+0.5
MIPR	Malaya Ipel'ka	2.44	356	eP	Pn	15 43 32.4	+1.1
MTVR	Mutnovka	2.75	15	S	Sb	15 44 12.9	-1.6
RUS	Russkaya	2.76	19	eP	Pn	15 43 36.7	+1.1
RUS				eS	Sn	15 44 11.4	+2.9
PET	Petropavlovsk	3.35	17	eS	Sn	15 44 26.4	+3.4
UGLR	Uglovaya	3.56	18	eP	Pn	15 43 50.2	+3.5
AVH	Avacha	3.59	17	eP	Pn	15 43 51.1	+3.9
KOK	Koryaka	3.60	16	eP	Pn	15 43 50.7	+3.4
SMAR	Somma	3.60	17	eP	Pb	15 43 52.1	-3.6
KRER	Koryakskii	3.63	17	eP	Pn	15 43 51.5	+3.6
SDLR	Sedlovina	3.63	18	eP	Pn	15 43 50.2	+2.4
KRX	Arik	3.67	15	eP	Pn	15 43 51.7	+3.4
GNL	Ganaly	3.90	8	P	Pb	15 43 57.1	-3.6

WEL 13 15:44:11.8±0.2, 36°.99S×176°.65E, h220km±2km, ML3.7/16, 5C-2D, Error ellipse: s-maj=3.0km s-min=2.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.18	131	PN	Pn	15 44 44.9	+0.2
HAZ				SN	S	15 45 10.3	-0.1
URZ	Urewera	1.32	164	⇑PN	Pn	15 44 45.8	+0.1
MXZ	Matakaoa Point	1.44	114	PN	Pn	15 44 47.2	+0.5
MXZ				SN	S	15 45 14.1	+0.3
MWZ	Matawai	1.51	153	⇓PN	Pn	15 44 47.4	+0.1
RAGZ	Rawiri	1.62	158	PN	Pn	15 44 48.5	+0.2
PUZ	Puketiti	1.67	131	⇑PN	Pn	15 44 48.6	-0.1
PUZ				SN	S	15 45 16.4	-1.1
SNGZ	Shannon Statio	1.87	163	PN	Pn	15 44 50.7	+0.1
SNGZ				SN	S	15 45 20.5	-0.3
RIGZ	Rimuhau	1.93	153	PN	Pn	15 44 51.3	+0.2
CNGZ	Carnagh Statio	1.94	141	PN	Pn	15 44 51.6	+0.5
RAHZ	Arahi	1.95	170	PN	Pn	15 44 51.5	+0.2
NMHZ	Naumai	2.11	177	PN	Pn	15 44 53.4	+0.5
WHHZ	Waihua	2.13	168	PN	Pn	15 44 53.0	-0.1
BKZ	Black Stump Fm	2.18	183	⇑PN	Pn	15 44 53.0	-0.6
BKZ				SN	S	15 45 25.2	-1.0
KNZ	Kokohu	2.18	159	⇑PN	Pn	15 44 52.9	-0.6
MHGZ	Mahia Peninsul	2.38	156	PN	Pn	15 44 54.9	-0.6
WPVZ	Whakapapa	2.38	201	PN	Pn	15 44 56.1	+0.4
TUVZ	Tukino	2.41	199	PN	Pn	15 44 56.3	+0.2
MCHZ	McNeill Hill	2.45	179	PN	Pn	15 44 56.2	-0.2
WNVZ	Wahianoa	2.48	199	PN	Pn	15 44 57.0	+0.1
MOVZ	Moawhango	2.52	196	⇓PN	Pn	15 44 56.6	-0.5
BHHZ	Black Hill Sta	2.54	190	PN	Pn	15 44 56.6	-0.8
MTVZ	Mangateitei	2.57	201	PN	Pn	15 44 57.8	+0.1
KRHZ	Kereru	2.66	185	PN	Pn	15 44 57.6	-1.0
CKHZ	Cape Kidnapper	2.69	173	PN	Pn	15 44 57.9	-1.0
KAHZ	Kahuranaki	2.81	176	PN	Pn	15 44 59.3	-0.9
PNHZ	Pukenui	2.94	187	PN	Pn	15 45 00.3	-1.5
PXZ	Pawanui	3.04	177	PN	Pn	15 45 01.1	-1.8
WAZ	Wanganui	3.06	205	PN	Pn	15 45 02.5	-0.6
WPHZ	Waipukurau	3.08	183	PN	Pn	15 45 01.5	-1.8
TSZ	Takapari Road	3.11	190	PN	Pn	15 45 02.1	-1.6
PRHZ	Porangahau	3.27	180	PN	Pn	15 45 03.5	-2.0
DVHZ	Dannevirke	3.33	186	PN	Pn	15 45 04.2	-2.0
POWZ	Post Office Ro	3.47	191	PN	Pn	15 45 05.9	-2.0
ANWZ	Angora Road	3.47	182	PN	Pn	15 45 05.9	-1.9
BFZ	Birch Farm	3.70	185	PN	Pn	15 45 08.2	-2.4
MRZ	Mangatainoka R	3.76	193	PN	Pn	15 45 08.6	-2.7
TIWZ	Tintock	3.83	189	PN	Pn	15 45 09.8	-2.4
OGWZ	Otaki Gorge	3.99	196	PN	Pn	15 45 11.4	-2.7
HOWZ	Holdsworth Sta	4.00	192	PN	Pn	15 45 11.2	-3.1
KIW	Kapiti Island	4.10	199	PN	Pn	15 45 12.5	-2.9
TMWZ	Te Maipa	4.15	188	PN	Pn	15 45 13.1	-3.1
MTW	Mount Morrison	4.26	192	PN	Pn	15 45 13.5	-3.9
CAW	Cannon Point	4.29	196	PN	Pn	15 45 14.4	-3.4
MSWZ	Moikau Station	4.55	193	PN	Pn	15 45 17.2	-3.8
SNZO	South Karori	4.57	199	⇑PN	Pn	15 45 17.6	-3.5
PLWZ	Palliser	4.70	193	PN	Pn	15 45 18.9	-4.0
TUWZ	Tuamarina	4.91	205	PN	Pn	15 45 21.7	-3.7
NNZ	Nelson	4.93	210	PN	Pn	15 45 22.3	-3.4
QRZ	Quartz Range	5.00	219	PN	Pn	15 45 23.1	-3.5
THZ	Tophouse	5.58	210	PN	Pn	15 45 30.9	-3.1
KHZ	Kahutara	5.93	203	PN	Pn	15 45 34.6	-3.7
LTZ	Lake Tyndall	6.69	209	PN	Pn	15 45 43.5	-4.7
OXZ	Oxford	7.25	208	PN	Pn	15 45 49.8	-5.4
MQZ	McQueen's Vall	7.37	203	PN	Pn	15 45 51.4	-5.4

IDC 13 15:55:11.7±1.1, 4°.34N×127°.61E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.6/37, mbtmp3.8/8, Error ellipse: s-maj=82.5km s-min=15.7km az=65.0
MAN 13 15:55:35, 5°.00N×126°.20E, h66km, mb4.9, ML3.8, MS3.9
ISC 13 15:55:19.3±0.9, 3°.8N±0°.1×126°.6E±0°.2, h45km, n12, σ1°.32/11, mb3.7/8, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	2.77	324	⇓iP	Pn	15 56 01.4	0.0
MATI	Mati	3.11	354	eP	Pn	15 56 06.7	+0.7
MATI				eS	Sn	15 56 30.2	-12
BUKP	Musuan	4.30	339	eP	Pn	15 56 24.1	+1.8
PAGZ	Pagadian	5.11	322	eP	Pn	15 56 35.2	+1.9
WRA	Warramunga Arr	24.82	162	P	P	16 00 37.0	-0.5
	1.5nm,0.6s,baz=343,slow=10,SNR=18						
ASAR	Alice Springs	28.24	166	P	P	16 01 08.3	0.0
	0.2nm,0.5s,baz=346,slow=7.8,SNR=9.0						
CMAR	Chiang Mai Arr	30.70	300	P	P	16 01 35.6	+5.4
	0.6nm,0.8s,baz=113,slow=6.7,SNR=5.5						
STKA	Stephens Creek	38.27	159	P	P	16 02 36.3	+0.9
	2.8nm,0.6s,baz=0.3,slow=8.1,SNR=6.4						
SONM	Songino Array	47.16	342	P	P	16 03 46.6	-0.8
	0.4nm,0.6s,baz=155,slow=8.8,SNR=5.8						
MKAR	Makanchi Array	57.39	325	P	P	16 05 01.6	-1.7
	0.7nm,0.5s,baz=118,slow=6.1,SNR=31						
KURBB	Kurchatov Arra	61.58	327	P	P	16 05 30.7	-1.3
	0.5nm,0.2s,baz=125,slow=6.3,SNR=7.2						
BVAR	Borovoye Array	67.16	327	P	P	16 06 09.0	+0.5
	0.5nm,0.8s,baz=133,slow=10.0,SNR=3.3						

ISCJB 13 16:07:00.3±0.6, 27°.17N±0°.05×139°.9E±0°.1, h443km, mb2.9/4, Error ellipse: s-maj=13.9km s-min=6.3km az=166.1
IDC 13 16:07:01.1±0.9, 27°.20N×140°.27E, h447km±28km, mb2.7/4, mb1 3.0/5, mb1mx2.5/38, mbtmp3.6/5, Error ellipse: s-maj=87.8km s-min=15.6km az=79.0
JMA 13 16:07:02.5±0.1, 27°.45N×140°.90E, h471km, M3.7
ISC 13 16:07:01.3±0.9, 27°.21N±0°.08×140°.1E±0°.2, h443km, n20, σ1°.71/26, mb2.9/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.87	93	P	P	16 08 01.4	+1.0
CBIJ				eS	S	16 08 49.2	+0.8
JCJ	Chichijima	1.87	93	P	P	16 08 01.8	+1.4
	6.5nm,0.3s,baz=267,slow=23,SNR=10						
JCJ				S	S	16 08 47.3	-1.1
	8.5nm,0.3s,baz=288,slow=19,SNR=4.3						
JHHJ	Haha-jima-NKT	1.95	107	P	P	16 08 02.9	+2.0
JHHJ				eS	S	16 08 50.1	+0.9
BSO1	Boso 1	7.45	6	P	P	16 08 51.5	+1.5
BSO1				eS	S	16 10 20.8	+1.5
BSO3	Boso 3	7.57	3	eS	S	16 10 23.5	+1.4
JKN2	Miekihoku	7.73	336	P	P	16 08 58.9	+5.3
JOD2	Odawara 2	8.07	354	P	P	16 08 59.0	+1.7
JNY	Yasuok	8.34	347	P	P	16 09 02.6	+2.4
JHU	Hanno	8.64	356	P	P	16 09 03.7	+0.3
JRY	Ryogami san	8.83	354	P	P	16 09 06.4	+0.8
JYT	Yasato	8.99	1	P	P	16 09 07.7	+0.5
JYT				eS	S	16 10 48.6	-2.2
JAG	Ashikaga	9.20	357	P	P	16 09 09.6	+0.1
JAG				eS	S	16 10 50.5	-4.6
JHO	Hitachi	9.38	2	P	P	16 09 12.7	+1.2
JHO				eS	S	16 10 56.0	-2.7
MJAR	Matsushiro Arr	9.44	351	P	P	16 09 12.5	+0.4
	0.6nm,0.3s,baz=174,slow=11,SNR=11						
JFK	Kawauchi	10.14	4	P	P	16 09 21.6	+1.7
JMK	Ichinoseki	11.74	4	P	P	16 09 39.0	+1.8
WRA	Warramunga Arr	47.21	187	P	P	16 14 52.3	-0.4
	0.2nm,0.4s,baz=5.9,slow=7.6,SNR=8.6						
ASAR	Alice Springs	50.94	187	P	P	16 15 19.8	-0.7
	0.3nm,0.8s,baz=0.8,slow=5.1,SNR=8.7						
KURBB	Kurchatov Arra	51.63	314	P	P	16 15 25.5	+0.4
	0.2nm,0.4s,baz=91,slow=8.1,SNR=5.5						
FINES	FINESS Array B	77.01	333	P	P	16 18 06.6	-0.3
	0.7nm,0.4s,baz=68,slow=5.1,SNR=8.5						

IDC 13 16:14:36.0±1.7, 7°.75S×147°.37E, h113km±25km, mb3.1/3, mb1 3.2/4, mb1mx3.0/21, mbtmp3.4/4, Error ellipse: s-maj=67.9km s-min=17.0km az=110.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	1.66	187	P	Pn	16 15 06.8	+1.9
	baz=352,slow=7.1						
PMG				S	Sn	16 15 26.8	-0.2
	50nm,0.3s,baz=311,slow=20,SNR=41						
WRA	Warramunga Arr	17.50	225	P	Pn	16 18 33.6	+0.5
	0.2nm,0.3s,baz=51,slow=11,SNR=5.2						
ASAR	Alice Springs	20.43	218	P	P	16 19 04.5	+0.1
	0.6nm,0.6s,baz=52,slow=9.0,SNR=20						
ASAR				S	S	16 22 48.0	+0.8
	0.6nm,0.9s,baz=38,slow=23,SNR=4.8						
CMAR	Chiang Mai Arr	54.40	299	P	P	16 23 51.6	-0.1
	0.5nm,0.6s,baz=117,slow=5.4,SNR=4.4						
MKAR	Makanchi Array	79.07	321	P	P	16 26 27.4	-0.5
	0.2nm,0.4s,baz=97,slow=8.6,SNR=8.6						
TORD	Torodi Ar. Bea	145.84	282	PKPbc	PKPdf	16 34 02.6	+0.1
	0.6nm,0.5s,baz=79,slow=3.4,SNR=6.9						

ISCJB 13 16:34:37.6±0.4, 32°.75N±0°.02×115°.97W±0°.03, h10km±4km, Error ellipse: s-maj=4.6km s-min=3.7km az=139.7
ECX 13 16:34:39.4±0.6, 32°.73N×116°.01W, h5km, MD3.4, ML3.5
NEIC 13 16:34:39.0, 32°.71N×116°.01W, h6km, ML3.4(PAS), After PAS.
NEIC Felt at Calexico, El Centro and Lakeside. Also felt at Mexicali, Baja California.
ISC 13 16:34:38.2±0.9, 32°.70N±0°.03×116°.00W±0°.03, h15km±7km, n17, σ0°.83/27, 2C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YUH	Yuha Desert	0.08	130	eP	Pg	16 34 41.2	0.0
CRR	Carrizo Plain	0.19	7	⇓eP	Pg	16 34 42.6	-0.1
SGL	Mount Signal	0.23	102	⇑eP	Pg	16 34 43.8	+0.3
MONP	Monument Peak	0.40	298	⇑eP	Pg	16 34 46.5	+0.1

BAR Barrett 0.57 268 ePg Pg 16 34 49.4 -0.1
BAR eSg Sg 16 34 57.0 -0.1
CPBX Cerro Prieto 0.65 116 eP Pb 16 34 51.4 +0.1
CPBX eS Sb 16 35 00.9 +0.8
CPBX ⇓e 16 35 08.2
comp=N,10µm,0.6s
RDX Rancho Dawling 0.77 177 eP Pg 16 34 52.8 -0.5
RDX eS Sg 16 35 04.0 +0.5
RDX e 16 35 06.0
comp=N,923nm,0.3s
PFO Pinyon Flat Ob 0.98 337 ePg Pb 16 34 56.1 -1.0
PFO eSg Sb 16 35 08.7 -1.3
GLA Glamis 1.04 70 ePg Pb 16 34 56.6 -1.5
GLA eSg Sb 16 35 11.0 -0.6
PBX Punta Banda 1.14 213 eP Pn 16 34 59.5 -0.2
ECNX Esteban Cantu 1.16 206 eP Pn 16 34 59.7 -0.3
ZAX El Zacaton 1.21 191⇓iP Pn 16 35 00.8 +0.1
MWC Mount Wilson 2.30 312 ePn Pn 16 35 17.8 +2.0
MWC eSn Sn 16 35 45.6 +1.7
LDFC Landfair 2.48 17 ePg Pg 16 35 25.8 -0.1
LDFC eSg Sg 16 35 58.4 +0.3
GSC Goldstone 2.68 346 ePn Pn 16 35 20.9 -0.1
GSC eSn Sn 16 35 53.0 -0.3
214A Organ Pipe Nat 2.80 105 ePn Pn 16 35 22.7 +0.2
214A eSg Sg 16 36 08.6 +0.5
ISA Isabella 3.60 326 ePn Pn 16 35 34.9 +1.3
ISA eSn Sn 16 36 16.1 +0.2

BJI 13 16:37:30.2, 39˚.34N×72˚.29E, h7km, mB4.5/10, mb4.3/25, ML4.4/5, Ms4.1/8, Ms7 3.8/9
IDC 13 16:37:31.9±0.6, 39˚.28N×72˚.76E, h0km, mb4.0/19, mb1 4.2/25, mb1mx4.0/46, mbtmp4.0/25, ML3.8/6, MS3.5/16, Ms1 3.5/16, ms1mx3.4/36, Error ellipse: s-maj=12.7km s-min=10.6km az=144.0
KRNET 13 16:37:32.5±0.1, 39˚.51N×72˚.88E, h3km, mb5.0
NEIC 13 16:37:33.1±4.7, 39˚.31N×72˚.69E, h6km±30km, mb4.7/9, Error ellipse: s-maj=13.2km s-min=8.0km az=191.0
ISCJB 13 16:37:34.9±0.5, 39˚.18N±0˚.02×72˚.70E±0˚.03, h33km±5km, mb4.2/45, MS3.5/16, Error ellipse: s-maj=4.8km s-min=3.5km az=135.9
MOS 13 16:37:35.4±1.1, 39˚.23N×72˚.61E, h33km, mb4.5/32, Error ellipse: s-maj=8.1km s-min=4.7km az=83.3
NNC 13 16:37:44.8±5.6, 40˚.19N×72˚.43E, h12km±25km, mb4.7, mpv4.5, Error ellipse: s-maj=32.7km s-min=12.6km az=13.0
ISC 13 16:37:34.5±0.7, 39˚.19N±0˚.04×72˚.55E±0˚.03, h18km±2km, n202, σ1.80/193, mb4.3/46, MS3.5/16, 14C-24D, Kyrgyzstan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DRK Karamyk 0.65 297 iP Pn 16 37 49.0 0.0
baz=269
DRK eS Sn 16 38 00.3 +1.3
baz=269
SFK Sufi-Kurgan 1.10 42 iP Pb 16 37 46.4 -8.8
baz=43
SFK eS Sb 16 37 55.7 -14
baz=43
OHH Osh 1.34 8⇓iP Pn 16 37 53.0 -5.4
baz=356
OHH ⇓eS Sb 16 38 07.2 -8.9
baz=356
BTK Batken 1.59 304⇓iP Pg 16 38 04.5 -0.6
baz=290
BTK ⇓eS Sg 16 38 26.8 +0.9
baz=290
TRKS Terek-Say 2.57 336⇓iP Pn 16 38 14.4 -1.0
baz=327
TRKS ⇓eS Sn 16 38 45.0 -1.3
baz=327
ARK Arkit 2.64 350 eP Pn 16 38 15.0 -1.3
baz=343
ARK eS Sn 16 38 46.2 -1.8
baz=343
KSH Kashi 2.68 82 Pn Pn 16 38 14.3 -2.4
KSH Sn Sn 16 38 44.4 -4.4
KSH smax smax
comp=N,4µm,0.7s
KSH smax smax
comp=E,2µm,0.6s
AML Almayashu 3.06 16 P Pn 16 38 23.3 +0.9
SNR=640
AML Almayashu 3.06 16 iPN Pn 16 38 23.3 +0.9
UCH Uchtor 3.38 26 P Pn 16 38 27.1 +0.3
SNR=108
UCH Uchtor 3.38 26 iPN Pn 16 38 27.0 +0.3
KZA Kyzart 3.54 35 P Pn 16 38 29.5 +0.6
SNR=67
KZA Kyzart 3.54 35 iPN Pn 16 38 29.5 +0.6
EKS2 Erkin-Say 3.59 15 P Pn 16 38 30.5 +1.2
SNR=73
EKS2 Erkin-Say 3.59 15 iPN Pn 16 38 30.5 +1.2
EKS2 Erkin-Say 3.59 15 ePn Pn 16 38 29.6 +0.2
AAK Ala-Archa 3.74 23 ⇓Pn Pn 16 38 32.0 +0.5
188nm,0.7s
AAK ⇓Lg Lg 16 39 16.8
1µm,0.8s
AAK Ala-Archa 3.74 23 P Pn 16 38 32.6 +1.2
SNR=246
AAK Ala-Archa 3.74 23 PN Pn 16 38 31.9 +0.5
AAK 16 39 16.8
AAK pmax pmax
comp=Z,188µm,0.7s
AAK pmax pmax
comp=N,1µm,1.0s
AAK Ala-Archa 3.74 23 Pn Pn 16 38 31.8 +0.4
comp=N,33nm,0.3s,baz=176,slow=6.3,SNR=604
AAK Sn Sn 16 39 16.2 +1.1
comp=N,22nm,0.3s,baz=338,slow=19,SNR=10.0
AAK LR LR 16 40 08.2
comp=N,605nm,18.6s,baz=200,slow=43
KBK Karagaybulak 3.91 27 P Pn 16 38 34.6 +0.8
SNR=95
KBK Karagaybulak 3.91 27 iPN Pn 16 38 34.6 +0.8
FRU Bishkek 3.96 23⇓iPN Pn 16 38 35.0 +0.7
FRU iS Sn 16 39 25.0 +4.6
FRU pmax pmax
comp=Z,440nm,1.6s
FRU smax smax
comp=E,1µm,1.6s
ULHL Ulahol 4.15 41 P Pn 16 38 37.9 +0.8
SNR=16
ULHL Ulahol 4.15 41 iPN Pn 16 38 37.8 +0.8
CHMS Chumysh 4.15 23 P Pn 16 38 37.6 +0.6
SNR=175
CHMS Chumysh 4.15 23 iPN Pn 16 38 37.6 +0.6
KK31 Karatay Array 4.20 339 ⇓Pn Pn 16 38 38.5 +0.9
comp=E,39nm,0.3s,baz=156,slow=11,SNR=952
KK31 ⇑Lg Lg 16 39 26.3
comp=E,106nm,0.5s,baz=153,slow=26,SNR=3.7
KK31 Karatay Array 4.20 339 ePN Pn 16 38 38.7 +1.1
KK31 pmax pmax
comp=Z,30nm,0.2s
KK31 pmax pmax
comp=N,112nm,0.3s
KKAR Karatay Array 4.20 339 ePN Pn 16 38 38.6 +1.0
KKAR Karatay Array 4.20 339 ePn Pn 16 38 38.6 +1.0
USP Ospenovka 4.33 19 P Pn 16 38 40.0 +0.5
SNR=44
USP Ospenovka 4.33 19 iPN Pn 16 38 39.9 +0.5
TKM2 Tokmak 2 4.38 31 ⇓Pn Pn 16 38 40.7 +0.4
comp=N,166nm,1.1s
TKM2 ⇓Lg Lg 16 39 43.1
comp=N,478nm,0.9s
TKM2 Tokmak 2 4.38 31 P Pn 16 38 40.7 +0.4
SNR=45
TKM2 Tokmak 2 4.38 31 iPN Pn 16 38 40.7 +0.4
TKM2 Tokmak 2 4.38 31 ePn Pn 16 38 40.5 +0.2
KNDC Almaty 5.22 38 ⇑Pn Pn 16 38 52.9 +1.2
KNDC ⇑Pg Pb 16 39 05.8 +0.6
KNDC ⇓Lg Lg 16 40 11.1
AAA Alma-Ata 5.26 38 ePN Pb 16 39 05.0 -0.8
AAA eS Sb 16 40 09.6 +1.0
AAA pmax pmax
comp=Z,316nm,0.8s
AAA smax smax
comp=N,1µm,0.7s
CEP Cherat 5.38 186 ⇓P Pb 16 39 02.7 -5.3
CEP S Sb 16 40 11.0 -1.3
CHCP Chirah Chowk 5.55 174 ⇓P Pb 16 39 05.0 -5.8
DLH Dalhousie 7.19 156 eP9 Pn 16 39 28.0 +9.1
DLH eS Sn 16 40 51.0 +11
SARP Sargodha 7.25 179 P Pn 16 39 27.4 +7.9
DHRM DHARAMSHALA 7.57 155 eP Pn 16 39 28.8 +4.8
DHRM eS Sn 16 40 53.8 +4.3
SMLA Simla 8.88 153 eP Pn 16 39 46.3 +4.4
SMLA eS Sn 16 41 23.6 +2.0
DDI Dehra Dun 9.94 151 ex Pn 16 39 56.0 -0.4
DDI AMB AMB 16 39 56.3
comp=Z,22nm,0.2s
DDI eS Sn 16 41 47.0 -0.4
MK31 Makanchi Array 10.42 40 ⇑Pn Pn 16 40 04.0 +1.1
comp=Z,4.3nm,0.7s
MK31 ⇓Lg Lg 16 42 52.9
comp=Z,41nm,1.1s,baz=241,slow=29,SNR=3.9
MK31 Makanchi Array 10.42 40 P Pn 16 40 04.6 +1.7
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MK31 pmax pmax
comp=N,95nm,1.5s
MKAR Makanchi Array 10.42 40 Pn Pn 16 40 01.6 -1.3
comp=N,0.5nm,0.3s,baz=220,slow=14,SNR=28
MKAR Lg Lg 16 42 46.6
comp=N,0.5nm,0.3s,baz=243,slow=21,SNR=3.9
NDI New Delhi 11.17 158 eP Pn 16 40 20.0 +6.8
NDI ex x 16 42 24.0
KURBB Kurchatov Arra 12.19 18 ⇓Pn Pn 16 40 22.7 -4.3
comp=N,6.6nm,0.8s
KURBB ⇓Lg Lg 16 43 44.5
comp=N,103nm,0.9s
KURBB Kurchatov Arra 12.19 18 Pn Pn 16 40 23.6 -3.5
comp=N,0.4nm,0.3s,baz=208,slow=13,SNR=17
KURBB Sn Sn 16 42 45.9 +3.6
comp=N,0.2nm,0.3s,baz=196,slow=26,SNR=2.9
KURBB Lg Lg 16 43 47.7
comp=N,0.5nm,0.3s,baz=208,slow=31,SNR=6.6
WMQ Urumqi 12.26 63 P Pn 16 40 26.9 -1.2
WMQ pP P 16 40 30.3 -10
WMQ sP 16 40 33.3
WMQ PP PnPn 16 40 36.8 +1.0
WMQ S Sn 16 42 45.0 +0.7
WMQ SS SnSn 16 42 59.4 +3.2
WMQ PcS PcS 16 49 41.8 -2.4
WMQ ScS ScS 16 53 14.1 -3.9
WMQ pmax pmax
comp=N,15nm,0.8s
WMQ LR LR
comp=N,400nm,7.0s
WMQ LR LR
comp=N,400nm,5.0s
WMQ LR LR
comp=N,200nm,13.4s
KURK Kurchatov 12.29 18 ⇑Pn Pn 16 40 23.3 -5.2
comp=N,5.3nm,1.2s
KURK ⇑Lg Lg 16 43 47.9
comp=N,119nm,1.3s
KURK Kurchatov 12.29 18 P Pn 16 40 23.6 -4.9
KURK 16 42 45.9
KURK Kurchatov 12.29 18 Pn Pn 16 40 23.6 -4.9
KURK Sn Sn 16 42 45.9 +0.9
KURK Lg Lg 16 43 47.7
AB31 Akbulak array 13.51 322 ⇓Pn Pn 16 40 42.4 -2.6
comp=N,5.9nm,0.5s,baz=126,slow=12,SNR=201
AB31 ⇑Sn Sn 16 43 04.4 -10
comp=N,15nm,0.8s,baz=129,slow=24,SNR=8.0
AB31 Akbulak array 13.51 322 iP Pn 16 40 42.8 -2.2
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 13.51 322 ePn Pn 16 40 42.5 -2.5
comp=Z,7.2nm,0.4s
VOSK Vostochnaya 13.58 356 ⇑Pn Pn 16 40 42.0 -4.1
comp=Z,10.0nm,0.9s
VOSK ⇓Lg Lg 16 44 25.7
comp=Z,76nm,1.1s
BVA0 Borovoye Array 13.92 355 ⇑Pn Pn 16 40 46.8 -3.8
comp=Z,8.7nm,0.5s,baz=164,slow=12,SNR=44
BVA0 ⇑Lg Lg 16 44 36.0
comp=Z,66nm,1.3s
BVA0 Borovoye Array 13.92 355 iP Pn 16 40 47.2 -3.5
BVA0 pmax pmax
comp=Z,9.0nm,0.5s
BVAR Borovoye Array 13.92 355 P Pn 16 40 47.4 -3.3
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR MLR MLR
comp=Z,15nm,28.6s
BVAR Borovoye Array 13.92 355 Pn Pn 16 40 47.4 -3.3
comp=Z,1.0nm,0.3s,baz=165,slow=12,SNR=36
BVAR Lg Lg 16 44 45.9
comp=Z,0.2nm,0.3s,baz=149,slow=28,SNR=2.8
BVAR LR LR 16 46 24.1
comp=Z,244nm,20.9s,baz=188,slow=38
BRVK Borovoye 13.96 354 ⇓Pn Pn 16 40 47.6 -3.6
comp=Z,32nm,0.8s
BRVK ⇓Lg Lg 16 44 37.3
comp=Z,108nm,1.1s
BRVK Borovoye 13.96 354 eP Pn 16 40 47.6 -3.6
BRVK pmax pmax
comp=Z,25nm,0.9s
BRVK Borovoye 13.96 354 ePn Pn 16 40 47.5 -3.6
comp=Z,25nm,0.9s
DANN Dangsing 14.26 136 eP Pn 16 40 54.1 -1.7
comp=Z,38nm,0.7s
DANN Dangsing 14.26 136 eP Pn 16 40 54.1 -1.7
KOLN Koldanda 14.64 138 eP Pn 16 40 58.9 -2.0
comp=Z,20nm,0.5s
KOLN Koldanda 14.64 138 eP Pn 16 40 58.9 -2.0
GKN Gorkha 15.02 134 eP Pn 16 41 04.0 -1.9
comp=Z,31nm,0.4s
AKTO Aktyubinsk 15.22 322 ⇑Pn Pn 16 41 06.0 -2.4
comp=Z,35nm,0.8s
AKTO ⇑Sn Sn 16 43 46.9 -10
comp=Z,22nm,1.1s
AKTO Aktyubinsk 15.22 322 P Pn 16 41 06.0 -2.4
AKTO pmax pmax
comp=Z,35nm,0.8s
AKTO Aktyubinsk 15.22 322 Pn Pn 16 41 06.7 -1.7
comp=Z,0.4nm,0.3s,baz=136,slow=12,SNR=17
AKTO Sn Sn 16 43 46.2 -10
comp=Z,0.3nm,0.3s,baz=11,slow=16,SNR=3.2
AKTO LR LR 16 47 52.5
comp=Z,98nm,21.9s,baz=140,slow=41
KKN Kakani 15.54 133 eP Pn 16 41 09.9 -2.9
comp=Z,23nm,0.6s
KKN Kakani 15.54 133 eP Pn 16 41 09.9 -2.9
KKN Kakani 15.54 133 eP Pn 16 41 09.9 -2.9
DMN Daman 15.58 134 eP Pn 16 41 10.4 -3.0
comp=Z,20nm,0.6s
DMN Daman 15.58 134 eP Pn 16 41 10.4 -3.0
PKIN Phulchoki 15.77 133 eP Pn 16 41 13.5 -2.4
comp=Z,14nm,0.4s
PKI Pulchoki 15.78 133 eP Pn 16 41 12.6 -3.5
comp=Z,30nm,0.7s
GUN Gumba 15.79 131 eP Pn 16 41 12.8 -3.4
comp=Z,8.8nm,0.4s
JIRN Jiri 16.16 131 eP Pn 16 41 17.2 -3.8
comp=Z,27nm,0.5s
JIRN Jiri 16.16 131 eP Pn 16 41 17.2 -3.8
BHPL Bhopal 16.43 164 eP P 16 41 30.1 +3.3
BHPL AMB AMB 16 41 35.1
comp=Z,10nm,0.3s
BHPL ex x 16 44 14.9
RAMN Ramite 16.93 132 eP Pn 16 41 27.4 -3.3
comp=Z,33nm,0.8s
RAMN Ramite 16.93 132 eP Pn 16 41 27.4 -3.3
ZALV Zalesovo Beam 16.96 26 P Pn 16 41 28.7 -2.0
ZALV 16 44 44.6
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV MLR MLR
comp=Z,192nm,18.6s
ZALV Zalesovo Beam 16.96 26 Pn Pn 16 41 28.6 -2.0
comp=Z,0.8nm,0.3s,baz=232,slow=8.7,SNR=29
ZALV Sn S 16 44 44.6 -3.9
comp=Z,0.1nm,0.3s,baz=213,slow=21,SNR=3.8
ZALV LR LR 16 48 13.0
comp=Z,192nm,18.6s,baz=241,slow=38
NVS Novosibirsk 17.24 21⇓iP Pn 16 41 30.6 -3.4
TAPN Taplejung 17.30 129 eP Pn 16 41 32.6 -2.7
comp=Z,23nm,0.8s
TAPN Taplejung 17.30 129 eP Pn 16 41 32.6 -2.7
ODAN Odare 17.47 130 eP Pn 16 41 34.5 -2.8
comp=Z,28nm,0.8s
ODAN Odare 17.47 130 eP Pn 16 41 34.5 -2.8
LSA Lhasa 18.00 116 eP Pn 16 41 43.5 -0.7
LSA pmax pmax
comp=Z,4.0nm,0.7s
LSA Lhasa 18.00 116 ePn Pn 16 41 43.5 -0.7
comp=Z,4.4nm,0.7s
BOK Bokaro 19.07 140 eP Pn 16 41 59.6 +2.9
BOK AMB AMB 16 42 03.0
comp=Z,19nm,0.7s
SVE Sverdlovsk 19.31 340 eP P 16 41 58.3 0.0
SVE pmax pmax
comp=Z,13nm,1.0s
ARU Arti 19.57 336d iP P 16 42 01.1 -0.1
ARU S S 16 45 32.6 -8.7
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 19.57 336 eP P 16 41 59.8 -1.4
comp=Z,20nm,1.0s
DGRG David-gareji 20.81 285 P Pn 16 42 16.9 -0.4
GTA Gaotai 21.08 81 eP P 16 42 18.8 +1.0
GTA pP pP 16 42 23.3 +0.3
GTA sP sP 16 42 25.9 +0.6
GTA pmax pmax
comp=Z,12nm,0.8s
SHL Shillong 21.18 124 eP3 P 16 42 16.7 -2.3
GNI Garni 21.40 281 eP P 16 42 22.9 +1.6
GNI pmax pmax
comp=Z,39nm,1.3s
GNI Garni 21.40 281 P P 16 42 24.3 +3.0
comp=Z,3.8nm,0.6s,baz=6.7,slow=13,SNR=3.5
GNI Garni 21.40 281 eP P 16 42 22.9 +1.6
comp=Z,39nm,1.3s
ZEI Tsey 21.87 289 eP P 16 42 32.8 +6.4
ZEI pmax pmax
comp=Z,5.0nm,0.6s
ONI Oni 22.21 288 P P 16 42 33.3 +3.5
KBZ Khabaz 22.62 291 P P 16 42 36.5 +2.4
KBZ pmax pmax
comp=Z,1.0nm,0.6s
KBZ Khabaz 22.62 291 P P 16 42 36.5 +2.4
comp=Z,1.0nm,0.6s,baz=162,slow=13,SNR=3.6
NEY Neytrino 22.74 290 eP P 16 42 38.6 +3.0
NEY pmax pmax
comp=Z,1.0nm,0.9s
KIV Kislovodsk 22.77 292 eP P 16 42 40.0 +4.1
KIV pmax pmax
comp=Z,14nm,1.3s
KIV MLR MLR
comp=Z,84nm,16.0s
KIV Kislovodsk 22.77 292 eP P 16 42 36.5 +0.6
comp=Z,17nm,0.8s
MOY Mondy 23.37 48 eP P 16 42 42.7 +0.7
ZAK Zakamensk 24.34 53 eP P 16 42 49.9 -1.3
ZAK pmax pmax
comp=Z,4.0nm,0.9s
VRHR Novokhopersk 24.66 309 eP P 16 43 02.7 +8.8
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
LZH Lanzhou 24.91 87 eP P 16 42 57.0 +0.4
LZH pP pP 16 43 01.9 -0.2
LZH sP sP 16 43 04.0 -0.4
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,75nm,4.3s
LZH LR LR
comp=Z,240nm,13.2s
LZH LR LR
comp=Z,160nm,14.2s
LZH LR LR
comp=Z,250nm,16.2s
TLY Talaya 24.93 50 eP P 16 42 57.9 +1.5
TLY pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 25.85 59 P P 16 43 04.8 -0.2
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM MLR MLR
comp=Z,233nm,19.0s
SONM Songino Array 25.85 59 P P 16 43 04.8 -0.2
comp=Z,2.4nm,0.7s,baz=268,slow=9.6,SNR=16
SONM LR LR 16 54 10.3
comp=Z,233nm,19.0s,baz=248,slow=39
VORD Divnogorie 26.04 308 eP P 16 43 11.7 +5.3
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,3.0nm,0.8s
VORD pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 26.30 59 iP P 16 43 10.2 +1.2
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 26.30 59 eP P 16 43 07.1 -1.9
comp=Z,2.6nm,0.6s
RAYN Ar Rayn 27.74 244 eP P 16 43 24.1 +2.0
comp=Z,25nm,1.4s
OBN Obninsk 28.79 316 eP P 16 43 31.0 0.0
OBN pmax pmax
comp=Z,8.0nm,1.5s
OBN MLR MLR
comp=Z,78nm,20.0s
KLMR Klimovskoe 29.80 328 eP P 16 43 38.7 -1.3
KLMR pmax pmax
comp=Z,24nm,2.0s
BRTR Keskin Array B 29.89 284 P P 16 43 44.0 +2.9
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR MLR MLR
comp=Z,15nm,28.6s
BRTR Keskin Array B 29.89 284 P P 16 43 44.0 +2.9
comp=Z,1.2nm,0.7s,baz=81,slow=8.9,SNR=3.3
BRTR LR LR 16 58 34.3
comp=Z,26nm,18.8s,baz=91,slow=42
CMAR Chiang Mai Arr 30.82 125 P P 16 43 49.2 -0.1
comp=Z,0.4nm,0.3s,baz=312,slow=8.9,SNR=9.4
AKASG Malin Array Be 32.30 305 P P 16 44 02.8 +0.7
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,15nm,28.6s
AKASG Malin Array Be 32.30 305 P P 16 44 02.8 +0.7
comp=Z,0.5nm,0.4s,baz=80,slow=7.3,SNR=8.5
AKASG LR LR 16 59 30.8
comp=Z,47nm,18.6s,baz=45,slow=41
JOF Joensuu 34.20 328 eP P 16 44 18.8 +0.3
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 34.20 328 ep P 16 44 18.8 +0.3
comp=Z,3.2nm,0.7s
VSU Vasula 34.91 319 eP P 16 44 22.7 -1.9
VSU pmax pmax
comp=Z,17nm,0.9s
FINES FINESS Array B 35.99 324 P P 16 44 34.6 +0.7
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES MLR MLR
comp=Z,15nm,28.6s
FINES FINESS Array B 35.99 324 P P 16 44 34.6 +0.7
comp=Z,2.0nm,0.4s,baz=113,slow=9.3,SNR=20
FINES LR LR 17 00 08.2
comp=Z,92nm,18.2s,baz=90,slow=38
KOLS Kolonicke sedl 36.81 302 eP P 16 44 42.6 +1.5
KOLS Kolonicke sedl 36.81 302 eP P 16 44 42.6 +1.5
VYHS Vyhne 39.12 302 eP P 16 44 59.1 -1.5
VYHS Vyhne 39.12 302 eP P 16 44 59.1 -1.5
ARCES ARCESS Array B 39.16 336 P P 16 45 00.3 -0.4
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES MLR MLR
comp=Z,16nm,28.6s
ARCES ARCESS Array B 39.16 336 P P 16 45 00.3 -0.4
comp=Z,2.2nm,0.5s,baz=111,slow=8.6,SNR=19
ARCES LR LR 17 01 42.8
comp=Z,114nm,20.7s,baz=105,slow=37
YAK Yakutsk 41.08 37 eP P 16 45 12.6 -4.0
YAK pmax pmax
comp=Z,7.0nm,0.8s
BRG Berggiesshubel 41.98 306 eP P 16 45 25.9 +1.7
comp=Z,5.7nm,1.3s
BRG e 16 45 34.1
comp=Z,3.5nm,0.9s
BRG Berggiesshubel 41.98 306 eP P 16 45 25.9 +1.7
BRG e 16 45 34.1
BRG pmax pmax

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,6.0nm,1.3s						
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GERES	GERESS Array B	42.43	303	P	P	16 45 30.2	+2.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES				MLR	MLR		
	comp=Z,59nm,19.6s						
GERES	GERESS Array B	42.43	303	P	P	16 45 30.2	+2.1
	comp=Z,1.3nm,0.7s,baz=60,slow=8.0,SNR=17						
GERES				LR	LR	17 04 03.4	
	comp=Z,59nm,19.6s,baz=90,slow=37						
KHC	Kasperske Hory	42.47	304	eP	P	16 45 22.0	-6.3
KHC	Kasperske Hory	42.47	304	eP	P	16 45 22.0	-6.3
CLL	Collm	42.51	307	iP	P	16 45 29.5	+1.0
CLL				i		16 45 38.1	
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CLL	Collm	42.51	307	iP	P	16 45 29.5	+1.0
	comp=Z,5.0nm,0.9s						
CLL				i		16 45 38.1	
CLL				LmH		17 02 00.0	
	comp=N,200nm,21.4s						
CLL				LmH		17 02 00.0	
	comp=E,100nm,20.5s						
CLL				LmV		17 04 00.0	
	comp=Z,100nm,20.7s						
TIXI	Tiksi	42.82	23	ceP	P	16 45 29.0	-1.8
TIXI				pmax	pmax		
	comp=Z,48nm,2.5s						
KSRS	Korea Array	42.90	74	LR	LR	17 05 04.7	
	comp=Z,59nm,19.4s,baz=312,slow=39						
NB2	NORSAR Subarra	43.01	321	P	P	16 45 32.0	-0.5
	comp=Z,3.6nm,0.9s,baz=93,slow=8.6						
NOA	NORSAR Array B	43.01	321	P	P	16 45 32.4	-0.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,15nm,28.6s						
NOA	NORSAR Array B	43.01	321	P	P	16 45 32.4	-0.1
	comp=Z,1.9nm,0.7s,baz=92,slow=7.9,SNR=8.1						
NOA				LR	LR	17 04 18.1	
	comp=Z,56nm,18.4s,baz=75,slow=37						
USRK	Ussuriysk Arra	43.83	63	LR	LR	17 05 00.5	
	comp=Z,82nm,20.2s,baz=313,slow=38						
DAVOX	Davos/Dischmat	45.38	301	P	P	16 45 52.1	+0.2
DAVOX				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DAVOX	Davos/Dischmat	45.38	301	P	P	16 45 52.1	+0.2
	comp=Z,2.4nm,0.6s,baz=48,slow=14,SNR=4.6						
LPG	La Plagne	47.82	300	eP	P	16 46 13.2	+2.1
	comp=Z,11nm,0.9s						
LPG	La Plagne	47.82	300	eP	P	16 46 13.2	+2.1
LPG				pmax	pmax		
	comp=Z,11nm,0.9s						
LPG	La Plagne	47.82	300	eP	P	16 46 13.2	+2.1
	comp=Z,11nm,0.9s						
LPL	La Plagne	47.83	300	eP	P	16 46 12.7	+1.6
LPL	La Plagne	47.83	300	eP	P	16 46 12.7	+1.6
LPL	La Plagne	47.83	300	eP	P	16 46 12.7	+1.6
MBDF	Montbardon	48.04	299	eP	P	16 46 14.4	+1.8
	comp=Z,10nm,0.7s						
MBDF	Montbardon	48.04	299	eP	P	16 46 14.4	+1.8
MBDF				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MBDF	Montbardon	48.04	299	eP	P	16 46 14.4	+1.8
	comp=Z,10nm,0.7s						
VIVF	Saint-Julien-l	49.42	300	eP	P	16 46 24.7	+1.6
VIVF	Saint-Julien-l	49.42	300	eP	P	16 46 24.7	+1.6
VIVF	Saint-Julien-l	49.42	300	eP	P	16 46 24.7	+1.6
AVF	Avril sur Loir	49.69	303	eP	P	16 46 25.5	+0.4
	comp=Z,10nm,0.9s						
AVF	Avril sur Loir	49.69	303	eP	P	16 46 25.5	+0.4
AVF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AVF	Avril sur Loir	49.69	303	eP	P	16 46 25.5	+0.4
	comp=Z,10nm,0.9s						
BGF	Bois d'Agland	50.09	302	eP	P	16 46 30.0	+1.8
BGF	Bois d'Agland	50.09	302	eP	P	16 46 30.0	+1.8
BGF	Bois d'Agland	50.09	302	eP	P	16 46 30.0	+1.8
YSS	Yuzh-Sakhalins	50.30	57	eP	P	16 46 31.6	+1.9
MJAR	Matsushiro Arr	50.88	71	LR	LR	17 07 57.8	
	comp=Z,35nm,18.4s,baz=115,slow=36						
DAG	Danmarks Havn	52.51	343	iP	P	16 46 46.0	+0.2
DAG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DAG	Danmarks Havn	52.51	343	iP	P	16 46 46.0	+0.2
	comp=Z,4.0nm,0.9s						
BILL	Bilibino	55.66	27	⇑iP	P	16 47 08.8	-0.1
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,121nm,18.0s						
ESDC	Sonseca Array	57.31	297	P	P	16 47 20.8	-0.4
	comp=Z,0.2nm,0.4s,baz=64,slow=8.8,SNR=2.8						
PET	Petropavlovsk	57.76	45	eP	P	16 47 24.6	+0.5
PET				pmax	pmax		
	comp=Z,15nm,1.8s						
SUMG	Summit	58.92	341	iP	P	16 47 33.3	+0.9
SUMG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SUMG	Summit	58.92	341	iP	P	16 47 33.3	+0.9
	comp=Z,4.5nm,1.0s						
TORD	Torodi Ar. Bea	67.01	268	P	P	16 48 27.2	+0.7
	comp=Z,1.9nm,0.7s,baz=48,slow=5.7,SNR=16						
INK	Inuvik	71.05	10	P	P	16 48 50.7	-0.1
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	Inuvik	71.05	10	P	P	16 48 50.7	-0.1
	comp=Z,4.4nm,0.8s,baz=360,slow=6.2,SNR=16						
COLA	College	71.55	17	eP	P	16 48 53.4	-0.5
COLA				pmax	pmax		
	comp=Z,24nm,1.3s						
ILAR	Eielson Array	71.86	17	P	P	16 48 54.8	-1.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	71.86	17	P	P	16 48 54.8	-1.0
	comp=Z,1.4nm,0.8s,baz=333,slow=5.9,SNR=17						
YKA	Yellowknife Ar	78.50	3	P	P	16 49 33.4	-0.6
	comp=Z,0.1nm,0.3s,baz=350,slow=5.3,SNR=4.0						
SCHQ	Schefferville	80.09	338	LR	LR	17 27 33.5	
	comp=Z,39nm,19.0s,baz=44,slow=38						
BOSA	Boshof	80.58	221	P	P	16 49 46.6	+0.7
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BOSA	Boshof	80.58	221	P	P	16 49 46.6	+0.7
	comp=Z,3.4nm,0.9s,baz=322,slow=12,SNR=2.8						
WRA	Warramunga Arr	82.40	123	P	P	16 49 55.4	-0.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	82.40	123	P	P	16 49 55.4	-0.2
	comp=Z,0.7nm,0.6s,baz=326,slow=5.0,SNR=10						
ASAR	Alice Springs	84.82	126	P	P	16 50 08.2	+0.3
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ASAR	Alice Springs	84.82	126	P	P	16 50 08.2	+0.3
	comp=Z,1.3nm,1.1s,baz=321,slow=4.8,SNR=7.0						
STKA	Stephens Creek	95.41	127	LR	LR	17 37 52.2	
	comp=Z,32nm,20.8s,baz=205,slow=38						

MAN 13 16:38:13,9.30N×125.48E,h5km,mb4.8,ML3.7,MS3.7, 1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.36	158	eP	Pg	16 38 20.4	+0.5
BUTP				eS	Sb	16 38 29.0	+1.2
SCPH	Surigao	0.47	1	⇓eP	Pb	16 38 23.3	-0.5
MSLP	Maasin	1.03	323	eP	Pb	16 38 33.3	0.0
MSLP				eS	Sb	16 38 48.0	+0.8
CGP	Cagayan de Oro	1.15	223	⇑eP	Pg	16 38 35.1	0.0
CGP				iS	Sn	16 38 52.4	+0.5
BUKP	Musuan	1.48	196	eP	Pb	16 38 40.8	-0.2
BUKP				eS	Sb	16 39 00.2	0.0
PLP	Palo	1.92	345	⇓eP	Pn	16 38 47.0	+0.7
PLP				eS	Sn	16 39 11.6	+0.7
PAGZ	Pagadian	2.53	235	eP	Pn	16 38 56.3	+1.5

IDC 13 16:50:13.3±1.4,22.75S×112.28W,h0km,mb3.7/4, mb1 4.1/4,mb1mx3.9/23,mbtmp3.7/4,Error ellipse: s-maj=50.6km s-min=39.2km az=34.0

ISC 13 16:50:14.9±1.6,22.8S±0.4×112.3W±0.3,h10km,n11, σ0.39/8,mb3.7/4,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	41.99	89	P	P	16 58 07.2	0.0
	0.6nm,0.6s,baz=260,slow=8.3,SNR=3.8						
NVAR	Mina Array Bea	61.12	355	P	P	17 00 29.9	+0.2
	0.9nm,0.6s,baz=179,slow=9.3,SNR=5.0						
PDAR	Pinedale Array	65.24	2	P	P	17 00 56.8	0.0
	0.4nm,0.6s,baz=182,slow=3.2,SNR=3.7						
YKA	Yellowknife Ar	84.97	359	P	P	17 02 49.7	-0.2
	0.3nm,0.8s,baz=172,slow=4.8,SNR=5.7						
H11S2	WAKE ISLAND Hy	89.11	290	T	T	18 42 28.9	
	baz=118,slow=73,SNR=9.1						
H11S1	WAKE ISLAND Hy	89.12	290	T	T	18 42 26.5	
	baz=118,slow=73,SNR=9.2						
H11S3	WAKE ISLAND Hy	89.13	290	T	T	18 42 27.5	
	baz=118,slow=73,SNR=6.4						
ZALV	Zalesovo Beam	146.28	342	PKPbc	PKPdf	17 09 53.8	-0.6
	0.8nm,0.5s,baz=11,slow=1.5,SNR=4.8						
BRTR	Keskin Array B	146.56	52	PKPbc	PKPdf	17 09 56.1	+0.6
	0.8nm,0.8s,baz=318,slow=1.9,SNR=3.6						
CMAR	Chiang Mai Arr	150.50	267	PKPbc	PKPbc	17 10 07.8	+0.1
	1.0nm,0.8s,baz=92,slow=0.4,SNR=9.8						
MKAR	Makanchi Array	153.29	337	PKPbc	PKPbc	17 10 13.2	-0.1
	0.3nm,0.9s,baz=52,slow=4.2,SNR=2.7						

WEL 13 16:54:44.5±0.5,38.14S×175.84E,h180km±4km,ML3.7/20, 8C-3D,Error ellipse: s-maj=3.2km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.99	199	PN	Pn	16 55 12.5	+0.3
URZ	Urewera	1.01	97	⇓PN	Pn	16 55 12.1	-0.1
URZ				SN	Sn	16 55 32.1	-1.4
WPVZ	Whakapapa	1.09	192	PN	Pn	16 55 13.0	+0.1
TUVZ	Tukino	1.14	187	PN	Pn	16 55 13.4	0.0
BKZ	Black Stump Fm	1.15	154	PN	Pn	16 55 13.1	-0.2
BKZ				SN	Sn	16 55 33.3	-2.5
BKZ				AML	AML	16 55 35.3	
TRVZ	Turoa	1.19	191	PN	Pn	16 55 13.8	0.0
WNVZ	Wahianoa	1.21	189	⇑PN	Pn	16 55 13.9	-0.1
PKVZ	Pokaka	1.22	198	PN	Pn	16 55 13.9	0.0
NMHZ	Naumai	1.22	142	PN	Pn	16 55 14.6	+0.7
NMHZ				SN	Sn	16 55 36.4	-0.5
RAHZ	Arahi	1.25	129	PN	Pn	16 55 14.5	+0.3
RAHZ				SN	Sn	16 55 36.5	-0.7
MOVZ	Moawhango	1.27	183	⇑PN	Pn	16 55 13.8	-0.5
MOVZ				SN	Sn	16 55 34.6	-3.1
MTVZ	Mangateitei	1.28	193	PN	Pn	16 55 14.3	-0.2
RAGZ	Rawiri	1.29	107	⇑PN	Pn	16 55 14.8	+0.2
VRZ	Vera Road	1.30	220	PN	Pn	16 55 15.1	+0.5
SNGZ	Shannon Statio	1.34	119	⇓PN	Pn	16 55 15.2	+0.3
MWZ	Matawai	1.34	99	⇓PN	Pn	16 55 15.0	0.0
MWZ				AML	AML	16 55 38.7	
MWZ				AML	AML	16 55 39.0	
BHHZ	Black Hill Sta	1.36	173	PN	Pn	16 55 14.5	-0.6
WHHZ	Waihua	1.44	131	PN	Pn	16 55 16.0	+0.2
MCHZ	McNeill Hill	1.47	153	PN	Pn	16 55 16.5	+0.5
KRHZ	Kereru	1.56	165	PN	Pn	16 55 16.5	-0.5
HAZ	Te Kaha	1.58	77	⇑PN	Pn	16 55 16.9	-0.2
RIGZ	Rimuhau	1.61	111	PN	Pn	16 55 17.6	+0.1
KNZ	Kokohu	1.69	122	PN	Pn	16 55 17.9	-0.2
WAZ	Wanganui	1.75	202	PN	Pn	16 55 18.3	-0.5
PRGZ	Paritu Road	1.79	117	PN	Pn	16 55 19.0	-0.2
PNHZ	Pukenui	1.80	171	PN	Pn	16 55 18.4	-1.0
CKHZ	Cape Kidnapper	1.80	148	PN	Pn	16 55 19.3	0.0
KAHZ	Kahuranaki	1.84	154	PN	Pn	16 55 19.6	-0.3
PUZ	Puketiti	1.91	89	PN	Pn	16 55 20.4	-0.2
PUZ				SN	Sn	16 55 46.4	-2.1
MHGZ	Mahia Peninsul	1.91	123	PN	Pn	16 55 20.5	0.0
TSZ	Takapari Road	1.92	177	⇑PN	Pn	16 55 19.6	-1.1
WPHZ	Waipukurau	1.98	167	PN	Pn	16 55 20.3	-1.0
MXZ	Matakaoa Point	2.03	74	PN	Pn	16 55 22.2	+0.4
PXZ	Pawanui	2.05	158	⇑PN	Pn	16 55 21.1	-0.9
DVHZ	Dannevirke	2.18	173	PN	Pn	16 55 21.8	-1.6
PRHZ	Porangahau	2.22	164	PN	Pn	16 55 22.7	-1.2
POWZ	Post Office Ro	2.26	181	PN	Pn	16 55 22.6	-1.7
ANWZ	Angora Road	2.37	168	PN	Pn	16 55 24.2	-1.4
PRWZ	Pori Road	2.42	178	PN	Pn	16 55 24.6	-1.6
MRZ	Mangatainoka R	2.53	185	⇑PN	Pn	16 55 25.3	-2.2
MRZ				AML	AML	16 55 58.6	
BFZ	Birch Farm	2.56	173	PN	Pn	16 55 25.7	-2.1
TIWZ	Tintock	2.64	179	PN	Pn	16 55 26.6	-2.1
OGWZ	Otaki Gorge	2.73	191	PN	Pn	16 55 27.6	-2.2
HOWZ	Holdsworth Sta	2.77	185	PN	Pn	16 55 27.7	-2.6
CPWZ	Castlepoint	2.79	174	PN	Pn	16 55 28.6	-1.8
KIW	Kapiti Island	2.82	195	⇑PN	Pn	16 55 28.3	-2.6
TMWZ	Te Maipa	2.97	179	PN	Pn	16 55 30.1	-2.6
CAW	Cannon Point	3.03	191	PN	Pn	16 55 30.7	-2.7
MTW	Mount Morrison	3.03	185	PN	Pn	16 55 30.4	-3.0
PAWZ	Paruwai Farm	3.26	186	PN	Pn	16 55 32.9	-3.3
TRWZ	Traveller	3.26	182	PN	Pn	16 55 33.1	-3.1
SNZO	South Karori	3.29	195	PN	Pn	16 55 33.3	-3.2
MSWZ	Moikau Station	3.31	188	PN	Pn	16 55 33.5	-3.3
BHW	Baring Head	3.35	193	PN	Pn	16 55 34.1	-3.3
PLWZ	Palliser	3.46	187	PN	Pn	16 55 35.1	-3.7
TUWZ	Tuamarina	3.60	203	PN	Pn	16 55 37.1	-3.4
NNZ	Nelson	3.62	211	PN	Pn	16 55 37.3	-3.3
QRZ	Quartz Range	3.71	223	PN	Pn	16 55 38.3	-3.5
BSWZ	Blackbirch Sta	3.88	202	PN	Pn	16 55 40.6	-3.3
THZ	Tophouse	4.27	211	PN	Pn	16 55 45.7	-3.3
KHZ	Kahutara	4.62	202	PN	Pn	16 55 50.0	-3.5
DSZ	Denniston Nort	4.76	219	PN	Pn	16 55 52.2	-3.0
OXZ	Oxford	5.93	208	PN	Pn	16 56 05.2	-5.3
MQZ	McQueen's Vall	6.07	202	PN	Pn	16 56 06.7	-5.5
ODZ	Otahua Downs	7.92	208	PN	Pn	16 56 32.2	-4.5

IDC 13 16:56:31.7±21.0,21.57S×179.34W,h649km±231km, mb3.1/4,mb1 3.3/4,mb1mx2.9/23,mbtmp4.2/4,Error ellipse: s-maj=149.1km s-min=32.3km az=83.0

ISC 13 16:56:27.2±2.0,21.6S±0.3×179.2W±0.3,h600km,n7, σ0.64/6,mb3.8/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.36	245	P	P	17 02 41.7	-0.6
	2.1nm,0.7s,baz=58,slow=6.9,SNR=4.6						
ASAR	Alice Springs	43.24	258	P	P	17 03 37.8	+0.5
	2.4nm,0.8s,baz=99,slow=8.0,SNR=35						
WRA	Warramunga Arr	43.40	263	P	P	17 03 38.9	+0.3
	1.9nm,0.7s,baz=96,slow=7.4,SNR=20						
MJAR	Matsushiro Arr	70.45	325	P	P	17 06 42.6	+0.2
	0.9nm,0.9s,baz=120,slow=7.2,SNR=3.2						
AKASG	Malin Array Be	143.42	330	PKP	PKPab	17 14 51.9	-0.9
	0.5nm,0.5s,baz=40,slow=3.5,SNR=5.7						
GERES	GERESS Array B	150.93	342	PKPbc	PKPbc	17 15 12.5	-0.6
	0.7nm,0.8s,baz=11,slow=2.7,SNR=5.3						
TORD	Torodi Ar. Bea	171.57	186	PKPab	PKPab	17 16 54.5	+0.4
	0.4nm,0.9s,baz=187,slow=5.0,SNR=2.4						

IDC 13 17:04:23.7±1.8,15.12S×174.59W,h0km,mb4.0/8, mb1 4.3/8,mb1mx3.9/35,mbtmp4.0/8,Error ellipse: s-maj=80.1km s-min=21.2km az=141.0

ISC 13 17:04:28.6±1.6,15.3S±0.4×174.5W±0.4,h35km,n10, σ1.09/10,mb4.0/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.18	240	P	P	17 12 26.4	+0.2
	0.7nm,0.5s,baz=84,slow=9.2,SNR=5.3						
WRA	Warramunga Arr	48.83	257	P	P	17 13 10.9	-0.1
	0.7nm,0.3s,baz=89,slow=7.7,SNR=24						
ASAR	Alice Springs	49.13	252	P	P	17 13 13.9	+0.6
	9.2nm,0.5s,baz=90,slow=7.6,SNR=301						
PETK	Petropavlovsk-	72.19	343	P	P	17 15 49.9	+0.2
	2.2nm,0.7s,baz=132,slow=8.2,SNR=5.4						
ILAR	Eielson Array	82.53	12	P	P	17 16 47.7	+0.4
	0.6nm,0.4s,baz=213,slow=5.3,SNR=36						
PDAR	Pinedale Array	82.89	42	P	P	17 16 51.5	+1.5
	0.9nm,0.6s,baz=215,slow=4.1,SNR=7.1						
YKA	Yellowknife Ar	90.41	24	P	P	17 17 24.9	-1.0
	0.1nm,0.7s,baz=255,slow=7.3,SNR=3.0						
CMAR	Chiang Mai Arr	91.56	289	P	P	17 17 32.6	+0.2
	0.4nm,0.7s,baz=85,slow=1.1,SNR=4.5						
BRTR	Keskin Array B	145.38	320	PKPbc	PKPdf	17 24 01.5	-1.9
	0.6nm,0.8s,baz=130,slow=2.3,SNR=3.0						
GERES	GERESS Array B	145.85	350	PKPbc	PKPdf	17 24 02.8	-0.9
	0.3nm,0.4s,baz=1.9,slow=4.0,SNR=5.0						

IDC 13 17:07:35.6±6.2,28.24S×178.00W,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.5/33,mbtmp3.4/2,Error ellipse: s-maj=271.6km s-min=97.5km az=163.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.26	265	P	P	17 15 38.7	-0.5
	0.3nm,0.6s,baz=104,slow=7.0,SNR=3.9						
WRA	Warramunga Arr	44.05	270	P	P	17 15 45.6	+0.1
	0.4nm,0.5s,baz=110,slow=7.6,SNR=6.0						
FINES	FINESS Array B	143.11	341	PKP	PKPdf	17 27 10.8	-0.1
	0.6nm,0.4s,baz=77,slow=3.6,SNR=8.5						

NNC 13 17:09:54.4±3.7,37.03N×71.60E,h14km±111km,mb3.5, mpv3.3,2C-2D,Error ellipse: s-maj=107.1km s-min=13.6km az=3.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	6.03	21	⇓P	Pn	17 11 22.8	-0.5
	2.8nm,0.6s						
AAK				⇑S	Sn	17 12 33.1	+0.8
	6.9nm,0.9s						
KK31	Karatay Array	6.13	353	P	Pn	17 11 24.5	0.0
	0.6nm,0.4s,baz=189,slow=14,SNR=38						
KK31				⇑S	Sn	17 12 35.4	+1.0
	1.3nm,0.5s						
TKM2	Tokmak 2	6.64	26	⇓P	Pn	17 11 32.1	+0.3
	1.6nm,0.6s						
AB31	Akbulak array	14.87	329	P	Pn	17 13 24.0	-0.1
	0.2nm,0.3s,baz=143,slow=13,SNR=9.6						

ISCJB 13 17:13:10.4±0.5,2.74N±0.03×128.68E±0.04,h230km±4km, mb4.2/65,Error ellipse: s-maj=7.0km s-min=4.4km az=156.8

IDC 13 17:13:11.9±1.5,2.71N×128.59E,h228km±13km,mb3.8/20, mb1 4.0/20,mb1mx3.8/34,mbtmp4.4/20,Error ellipse: s-maj=16.3km s-min=7.3km az=78.0

NEIC 13 17:13:11.5±0.6,2.75N×128.63E,h226km±6km,mb4.5/26, Error ellipse: s-maj=8.3km s-min=5.1km az=66.0

BJI 13 17:13:11.2,2.80N×128.54E,h219km,mB4.6/18,mb4.4/31

KLM 13 17:13:13.1,3.07N×128.67E,h229km,mb4.6,MS5.8

DJA 13 17:13:15.5±0.4,3°N±4°×12°8E±°,h188km±5km,M4.2/17, mB4.7/8,mb4.5/17,MLv4.5/10,Mw(mB)3.9/8

MOS 13 17:13:15.9±1.1,2.72N×128.58E,h287km,mb4.3/32,Error ellipse: s-maj=12.9km s-min=6.8km az=109.8

ISC 13 17:13:12.6±0.4,2.69N±0.04×128.56E±0.05,h234km±3km, n183,σ1.27/220,mb4.3/64,1C-5D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.25	212	P	Pn	17 13 55.2	-0.9
TNTI	Ternate	2.25	212	ePn	Pn	17 13 55.3	-0.8
TNTI				eS	S	17 14 29.3	-0.9
SGSI	Sangihe	3.18	288	S	S	17 14 44.7	-3.5
LBMI	Labuha	3.47	198	P	Pn	17 14 09.6	+0.1
LBMI				S	S	17 14 53.7	-0.6
SWI	Sorong	4.45	143	P	Pn	17 14 21.9	+0.8
KMSI	Cibinong	5.03	245	P	Pn	17 14 27.6	-0.7
KMSI				S	S	17 15 26.7	-1.7
DAV	Davao City (W)	5.27	326	ePn	Pn	17 14 27.9	-3.3
SANI	Sanana	5.36	209	P	Pn	17 14 30.3	-2.1
	146nm,0.7s,5μm0.9nm						
SANI				S	S	17 15 27.6	-8.3
	146nm,0.7s,5μm0.9nm						
GTOI	Gorontalo	5.91	250	P	Pn	17 14 39.8	+0.5
	158nm,0.6s,1μm						
MSAI	Masohi	6.01	176	P	Pn	17 14 43.4	+2.9
	34nm,1.0s,309nm0.1nm						
NLAI	Namlea	6.07	194	P	Pn	17 14 41.5	+0.2
	42nm,0.7s,1μm						
NLAI				S	S	17 15 50.0	-2.0
	42nm,0.7s,1μm						
FAKI	Fak Fak	6.68	146	P	Pn	17 14 49.8	+0.7
	122nm,0.8s,1μm						
FAKI	Fak Fak	6.68	146	ePn	Pn	17 14 49.3	+0.2
	71nm,0.8s						
FAKI	Fak Fak	6.68	146	P	Pn	17 14 49.8	+0.7
	baz=6.5,SNR=11						
LUWI	Luwuk	6.87	237	P	Pn	17 14 52.0	+0.6
	baz=6.7,SNR=7.4						
LUWI				S	S	17 16 06.6	-3.9
	baz=6.7,SNR=7.3						
MRSI	Marisa	6.97	252	P	Pn	17 14 54.1	+1.4
	47nm,0.7s,0.3nm						
APSI	Ampana	7.78	243	P	Pn	17 15 07.1	+4.0
	73nm,0.6s,843nm0.5nm						
TSM	Tawau	10.78	279	⇓P	Pn	17 15 42.3	+1.0
SPSI	Sidrap Palu	10.99	233	P	Pn	17 15 46.3	+2.3
	15nm,0.8s						
BKSI	Bulukumba	11.59	227	P	P	17 15 57.0	+1.4
	22nm,0.6s						
SDKM	Sandakan	11.70	285	⇓P	Pn	17 15 53.9	+0.9
GENI	Genyem	12.74	114	P	P	17 16 10.6	+2.2
	105nm,1.1s						
KKM	Kota Kinabalu	12.75	286	ePn	Pn	17 16 05.9	-0.2
SOEI	Soe	13.08	199	Pn	P	17 16 11.0	+0.8
JAY	Jayapura	13.20	113	P	P	17 16 15.5	+1.9
JAY				pmax	pmax		
	comp=Z,427nm,0.3s						
JAY	Jayapura	13.20	113	P	P	17 16 15.5	+1.9
	comp=Z,427nm,0.3s,baz=38,slow=0.0,SNR=4.4						
MTN	Manton Dam	15.64	171	P	P	17 16 39.6	-1.0
	baz=16,SNR=25						
KDU	Kakadu	15.76	166	P	P	17 16 41.7	-0.2
	baz=16,SNR=14						
SBUM	Sibu	16.32	270	⇓P	Pn	17 16 50.2	+0.9
STKI	Sintang	17.27	262	P	Pn	17 17 01.2	+0.7
	comp=Z,42nm,0.9s						
JAGI	Jajag, Banyuwa	18.14	232	P	P	17 17 10.3	-0.5
	baz=18,SNR=3.5						
KNRA	Kununurra	18.25	179	P	P	17 17 09.2	+0.1
	baz=18,SNR=33						
KSM	Kuching	18.28	267	eP	P	17 17 10.4	+1.0
	comp=Z,73nm,1.3s						
KSM	Kuching	18.28	267	P	Pn	17 17 11.5	-0.9
	baz=18,SNR=7.2						
KSM	Kuching	18.28	267	⇓P	P	17 17 10.9	+1.5
PWJI	Pagerwojo	19.81	237	P	Pn	17 17 33.0	+2.5
UGM	Wanagama	20.84	240	S	S	17 21 13.3	-1.9
	baz=21,SNR=17						
PMG	Port Moresby	22.09	123	P	P	17 17 47.1	-1.9
PMG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PMG	Port Moresby	22.09	123	P	P	17 17 47.1	-1.9
	comp=Z,6.0nm,0.9s						
NACB	Ninganchiao	22.39	343	eP	P	17 17 50.9	-0.8
	comp=Z,18nm,1.0s						
YHNB	Yeheng	22.92	343	eP	P	17 17 55.8	-0.8
	comp=Z,90nm,1.4s						
WRAB	Tennant Creek	23.19	166	eP	P	17 17 58.6	-0.3
WRAB				eS	S	17 21 52.9	-0.2
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.4s						
WRAB	Tennant Creek	23.19	166	eP	P	17 17 58.6	-0.3
	comp=Z,5.5nm,0.4s						
WRAB				eS	S	17 21 52.9	-0.2
WRA	Warramunga Arr	23.20	166	P	P	17 17 58.5	-0.5
WRA				S	S	17 21 57.3	+4.1
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WRA				smax	smax		
	comp=N,1.0nm,0.8s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.5s						
WRA	Warramunga Arr	23.20	166	P	P	17 17 58.5	-0.5
	comp=N,2.0nm,0.3s,baz=337,slow=10,SNR=97						
WRA				S	S	17 21 57.3	+4.1
	comp=N,1.0nm,0.8s,baz=336,slow=16,SNR=4.7						
WRA				ScP	ScP	17 24 55.5	-0.3
	comp=N,0.5nm,0.5s,baz=342,slow=3.0,SNR=4.7						
QIS	Mount Isa	25.52	155	P	P	17 18 19.7	-0.3
	baz=25,SNR=4.5						
ASAR	Alice Springs	26.71	169	P	P	17 18 30.4	-0.3
ASAR						17 21 47.8	
ASAR				S	S	17 22 47.7	-1.1
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASAR				smax	smax		

comp=N,1.0nm,0.8s
ASAR pmax pmax
comp=N,1.0nm,0.7s
ASAR Alice Springs 26.71 169 P P 17 18 30.4 -0.3
comp=N,2.1nm,0.3s,baz=350,slow=7.3,SNR=117
ASAR PcP PcP 17 21 47.8 -0.1
comp=N,2.4nm,0.4s,baz=351,slow=2.2,SNR=19
ASAR S S 17 22 47.6 -1.1
comp=N,1.2nm,0.8s,baz=353,slow=20,SNR=6.0
ASAR ScP ScP 17 25 05.8 0.0
comp=N,0.8nm,0.7s,baz=344,slow=2.9,SNR=5.8
WRKA Warakurna 27.56 181 P P 17 18 38.2 -0.1
baz=27,SNR=21
KULM Kulim 27.95 276 eP P 17 18 41.8 -0.1
comp=N,20nm,1.2s
CTAO Charters Tower 28.53 143 eP P 17 18 51.2 +4.3
CTAO pmax pmax
comp=Z,9.0nm,1.0s
CTAO Charters Tower 28.53 143 eP P 17 18 51.2 +4.3
comp=Z,8.7nm,1.0s
PSI Prapat 29.60 271 P P 17 18 56.5 0.0
PSI pmax pmax
comp=Z,6.0nm,0.8s
PSI Prapat 29.60 271 P P 17 18 56.5 0.0
comp=Z,6.2nm,0.8s,baz=135,slow=2.9,SNR=5.3
PBKT Sadao Pong 30.43 299 P P 17 19 05.1 +1.5
comp=Z,12nm,1.2s
NJ2 Nanjing 30.60 344 eP P 17 19 05.3 +0.4
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
MEEK Meekatharra 30.70 198 P P 17 19 05.7 -0.2
baz=31,SNR=5.2
UTTA Uttaradit 31.28 300 P P 17 19 12.5 +1.5
comp=Z,2.9nm,0.7s
GYA Guiyang 31.62 320 eP P 17 19 16.3 +2.2
GYA pP pP 17 20 02.6 +1.6
GYA sP sP 17 20 29.8 +1.8
GYA PP PP 17 20 31.3 +0.6
GYA S S 17 24 07.0 +1.2
GYA ScP ScP 17 25 22.3 +0.8
GYA ScS ScS 17 29 18.6 -1.6
GYA pmax pmax
comp=Z,10.0nm,0.7s
UMPA Umpang Tak 32.16 297 P P 17 19 23.3 +4.5
comp=Z,66nm,0.5s
LAMP Lampang 32.40 301 P P 17 19 22.9 +2.0
comp=Z,4.6nm,0.8s
ENH Enshi 32.85 329 P P 17 19 21.9 -2.7
CMAR Chiang Mai Arr 32.97 300 P P 17 19 27.2 +1.4
CMAR 17 22 05.3
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CMAR pmax pmax
comp=Z,1.0nm,0.9s
CMAR pmax pmax
comp=N,1.0nm,0.9s
CMAR Chiang Mai Arr 32.97 300 P P 17 19 27.1 +1.4
comp=N,6.9nm,0.8s,baz=119,slow=7.3,SNR=64
CMAR PcP PcP 17 22 05.3 +1.1
comp=N,0.6nm,0.8s,baz=132,slow=1.3,SNR=4.6
CMAR ScP ScP 17 25 26.6 +0.4
comp=N,0.9nm,0.9s,baz=140,slow=2.2,SNR=6.4
CMMT Chiang Mai 33.11 301 P P 17 19 28.0 +1.0
comp=N,23nm,0.8s
CHTO Chiang Mai 33.12 301 eP P 17 19 27.9 +0.8
CHTO pmax pmax
comp=Z,19nm,1.1s
CHTO Chiang Mai 33.12 301 P P 17 19 28.1 +1.0
comp=Z,78nm,0.8s
CHTO Chiang Mai 33.12 301 eP P 17 19 27.9 +0.8
comp=Z,19nm,1.1s
FORT Forrest 33.29 181 P P 17 19 28.2 -0.1
baz=33,SNR=9.7
KMI Kunming 33.40 314 P P 17 19 31.6 +1.9
KMI pmax pmax
comp=Z,6.0nm,1.6s
TJN Taejon 33.54 358 eP P 17 19 28.8 -1.6
KSAR Wonju Array Be 34.59 359 P P 17 19 38.9 -0.5
KSAR Wonju Array Be 34.59 359 P P 17 19 38.9 -0.5
KSRS Korea Array 34.60 359 P P 17 19 38.9 -0.6
KSRS pmax pmax
comp=Z,1.0nm,0.4s
KSRS Korea Array 34.60 359 P P 17 19 38.9 -0.6
comp=Z,1.2nm,0.4s,baz=176,slow=9.8,SNR=17
MAJO Matsushiro 34.84 14 eP P 17 19 40.3 -1.4
MAJO pmax pmax
comp=Z,46nm,0.8s
MAJO Matsushiro 34.84 14 eP P 17 19 39.4 -2.3
comp=Z,12nm,0.8s
MAT Matsushiro 34.84 14 P P 17 19 39.6 -2.1
MJAR Matsushiro Arr 34.84 14 P P 17 19 40.2 -1.5
MJAR 17 22 09.1
MJAR pmax pmax
comp=Z,9.0nm,0.9s
MJAR Matsushiro Arr 34.84 14 P P 17 19 40.2 -1.5
comp=Z,8.8nm,0.9s,baz=194,slow=9.8,SNR=21
MJAR PcP PcP 17 22 09.1 -0.2
comp=Z,0.4nm,0.5s,baz=185,slow=3.8,SNR=4.3
BLDU Ballidu 34.99 198 P P 17 19 42.7 -0.3
baz=35,SNR=9.4
KLBR Kellerberrin 35.61 196 P P 17 19 48.0 -0.2
baz=36,SNR=7.4
BBOO Buckleboo 36.02 169 P P 17 19 51.6 -0.1
baz=36,SNR=32
XAN Xi'an 36.17 332 P P 17 19 53.0 0.0
XAN pmax pmax
comp=Z,1.0nm,0.6s
STKA Stephens Creek 36.54 161 P P 17 19 55.7 -0.4
STKA pmax pmax
comp=Z,6.0nm,0.3s
STKA Stephens Creek 36.54 161 P P 17 19 55.7 -0.4
comp=Z,6.1nm,0.3s,baz=344,slow=9.3,SNR=83
STKA Stephens Creek 36.54 161 P P 17 19 55.8 -0.4
baz=36,SNR=66
CD2 Chengdu 36.56 323 P P 17 19 56.6 +0.2
CD2 pP pP 17 20 44.3 +0.1
CD2 sP sP 17 20 59.8 +0.7
CD2 PP PnPn 17 21 29.6 +1.5
CD2 S S 17 25 22.4 +1.0
CD2 sS sS 17 26 46.0 -0.6
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,240nm,4.5s
HTT Hallett 37.24 166 P P 17 20 02.5 +0.5
baz=37,SNR=4.6
RKGY Rocky Gully 38.67 195 P P 17 20 15.2 +1.3
baz=39,SNR=5.5
BJT Baijiatuau 38.82 345 eP P 17 20 14.1 -0.9
BJT pmax pmax
comp=Z,5.0nm,0.5s
BJT Baijiatuau 38.82 345 eP P 17 20 14.1 -0.9
comp=Z,4.5nm,0.5s
BJI Beijing 38.84 345 P P 17 20 14.6 -0.6
BJI pmax pmax
comp=Z,9.0nm,0.6s
LZH Lanzhou 40.33 328 ⇑P P 17 20 29.3 +1.6
LZH pP pP 17 21 17.5 +1.1
LZH sP sP 17 21 41.0 -1.9
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,75nm,4.3s
HHC Hu-ho-hao-te 40.97 340 eP P 17 20 35.9 +3.1
HHC pP pP 17 21 23.3 +1.7
HHC sP sP 17 21 48.3 +0.2
HHC PP PnPn 17 22 16.9 -2.6
HHC S S 17 26 32.3 +5.2
HHC sS sS 17 27 55.3 +1.7
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,110nm,7.4s
HHC LR LR
comp=Z,190nm,12.3s
HHC LR LR
comp=Z,340nm,12.3s
HHC LR LR
comp=Z,200nm,13.6s
CN2 Changchun 41.03 357 eP P 17 20 36.3 +3.2
USRK Ussuriysk Arra 41.45 4 P P 17 20 36.2 -0.3
comp=Z,3.3nm,0.7s,baz=188,slow=8.6,SNR=7.1
ASAJ Asahikawa 43.09 15 P P 17 20 50.3 +0.6
ASAJ pmax pmax
comp=Z,2.0nm,0.4s
ASAJ Asahikawa 43.09 15 P P 17 20 50.3 +0.6
comp=Z,2.4nm,0.4s,baz=237,slow=7.7,SNR=17
LSA Lhasa 44.49 311 eP P 17 21 02.9 +1.2
LSA pmax pmax
comp=Z,4.0nm,0.4s
LSA Lhasa 44.49 311 eP P 17 21 02.9 +1.2
comp=Z,3.8nm,0.4s
GTA Gaotai 44.93 328 eP P 17 21 05.4 +0.8
GTA pP pP 17 21 53.0 -1.2
GTA pmax pmax
comp=Z,6.0nm,0.8s
YSS Yuzh-Sakhalins 45.78 14 eP P 17 21 11.4 +0.5
YSS Yuzh-Sakhalins 45.78 14 P P 17 21 10.4 -0.5
comp=Z,26nm,1.4s
TAPN Taplejung 46.10 306 eP P 17 21 14.0 -0.1
comp=Z,9.4nm,0.6s
TAPN Taplejung 46.10 306 eP P 17 21 14.0 -0.1
ODAN Odare 46.15 305 eP P 17 21 15.2 +0.7
comp=Z,23nm,0.6s
ODAN Odare 46.15 305 eP P 17 21 15.2 +0.7
RAMN Ramite 46.84 305 eP P 17 21 20.4 +0.6
comp=Z,31nm,0.4s
JIRN Jiri 47.45 306 eP P 17 21 25.2 +0.5
JIRN Jiri 47.45 306 eP P 17 21 25.2 +0.5
GUN Gumba 47.81 306 eP P 17 21 27.8 +0.4
comp=Z,20nm,0.4s
PKI Pulchoki 48.05 305 eP P 17 21 29.2 -0.1
comp=Z,4.9nm,0.3s
PKIN Phulchoki 48.07 305 eP P 17 21 29.1 -0.2
comp=Z,5.1nm,0.3s
KKN Kakani 48.24 306 eP P 17 21 30.8 +0.2
comp=Z,6.1nm,0.4s
DMN Daman 48.32 305 eP P 17 21 31.8 +0.6
comp=Z,8.1nm,0.6s
DMN Daman 48.32 305 eP P 17 21 31.8 +0.6
ULN Ulaanbaatar 48.68 341 eP P 17 21 33.4 -0.1
ULN pmax pmax
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 48.68 341 eP P 17 21 33.4 -0.1
comp=Z,1.3nm,0.8s
GKN Gorkha 48.85 305 eP P 17 21 35.1 0.0
comp=Z,3.7nm,0.3s
SONM Songino Array 48.87 340 P P 17 21 35.1 +0.2
SONM 17 22 55.8
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 48.87 340 P P 17 21 35.1 +0.2
comp=Z,0.8nm,0.6s,baz=153,slow=7.7,SNR=12
SONM PcP PcP 17 22 55.8 +0.2
comp=Z,0.6nm,0.7s,baz=148,slow=3.7,SNR=3.6
KOLN Koldanda 49.61 305 eP P 17 21 41.3 +0.4
comp=Z,26nm,0.6s
KOLN Koldanda 49.61 305 eP P 17 21 41.3 +0.4
DANN Dangsing 49.70 305 eP P 17 21 42.1 +0.4
comp=Z,28nm,0.5s
DANN Dangsing 49.70 305 eP P 17 21 42.1 +0.4
WMQ Urumqi 54.62 324 eP P 17 22 19.3 +2.0
WMQ pP pP 17 23 09.1 +0.2
WMQ sP sP 17 23 33.8 -0.9
WMQ PP PP 17 24 26.3 +3.9
WMQ S S 17 29 39.8 +1.2
WMQ pmax pmax
comp=Z,7.0nm,1.4s
WMQ pmax pmax
comp=Z,170nm,4.6s
WMQ LR LR
comp=Z,25nm,15.4s
WMQ LR LR
comp=Z,30nm,17.6s
WMQ LR LR
comp=Z,23nm,16.4s
PETK Petropavlovsk- 55.72 21 P P 17 22 25.4 +0.5
PETK pmax pmax
comp=Z,9.0nm,0.9s
PETK Petropavlovsk- 55.72 21 P P 17 22 25.4 +0.5
comp=Z,9.0nm,0.9s,baz=189,slow=5.0,SNR=19
PET Petropavlovsk 56.00 21 eP P 17 22 25.3 -1.5
PET pmax pmax
comp=Z,43nm,2.6s
YAK Yakutsk 59.20 1 eP P 17 22 47.8 -1.1
YAK pmax pmax
comp=Z,14nm,0.9s
YAK Yakutsk 59.20 1 eP P 17 22 48.2 -0.7
comp=Z,22nm,0.6s
MK31 Makanchi Array 59.45 325 eP P 17 22 50.6 -0.4
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 59.45 325 P P 17 22 50.9 -0.1
MKAR 17 23 36.2
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=N,1.0nm,0.8s
MKAR Makanchi Array 59.45 325 P P 17 22 50.9 -0.1
comp=N,2.4nm,0.5s,baz=117,slow=8.3,SNR=92
MKAR PcP PcP 17 23 36.2 +0.1
comp=N,1.1nm,0.7s,baz=127,slow=6.0,SNR=6.4
MKAR ScP ScP 17 27 14.1 -0.3
comp=N,0.7nm,0.8s,baz=117,slow=4.5,SNR=5.0
KSH Kashi 60.06 315 eP P 17 23 00.4 +5.0
URZ Urewera 60.54 137 eP P 17 22 57.5 -1.0
comp=N,24nm,1.2s
TKM2 Tokmak 2 61.73 318 eP P 17 23 06.5 -0.2
TKM2 pmax pmax
comp=Z,1.0nm,0.4s
TKM2 Tokmak 2 61.73 318 eP P 17 23 06.5 -0.2
comp=Z,1.4nm,0.4s
ZALV Zalesovo Beam 62.34 333 P P 17 23 09.2 -1.0
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 62.34 333 P P 17 23 09.2 -1.0
comp=Z,0.9nm,0.3s,baz=135,slow=6.6,SNR=6.5
AAK Ala-Archa 62.35 318 P P 17 23 09.2 -1.6
AAK pmax pmax
comp=Z,13nm,1.7s
AAK Ala-Archa 62.35 318 P P 17 23 09.2 -1.6
comp=Z,13nm,1.7s
SEY Seymchan 62.65 12 eP P 17 23 11.0 -1.0
EKS2 Erkin-Say 62.84 317 P P 17 23 14.2 +0.3
EKS2 pmax pmax
comp=Z,1.0nm,0.5s
EKS2 Erkin-Say 62.84 317 P P 17 23 14.2 +0.3
comp=Z,1.3nm,0.5s
KURBB Kurchatov Arra 63.59 327 P P 17 23 18.1 -0.4
comp=Z,3.3nm,0.4s,baz=127,slow=6.1,SNR=97
KURBB pP pP 17 24 04.0 -7.8
comp=Z,0.5nm,0.5s,baz=127,slow=5.8,SNR=2.3
KURK Kurchatov 63.59 327 P P 17 23 18.2 -0.3
KURK pmax pmax
comp=Z,3.0nm,0.4s
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 63.59 327 eP P 17 23 18.0 -0.5
comp=Z,3.1nm,0.6s
KURK e 17 24 02.8
KURK pP pP 17 24 04.0 -7.7
KK31 Karatay Array 65.23 317 eP P 17 23 27.2 -2.1
TIXI Tiksi 68.86 0 eP P 17 23 50.5 -1.0
TIXI pmax pmax
comp=Z,3.0nm,1.3s
TIXI Tiksi 68.86 0 eP P 17 23 50.5 -1.0
comp=Z,4.1nm,0.4s
BVA0 Borovoye Array 69.18 327 i P P 17 23 53.6 -0.3
BVA0 pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 69.18 327 P P 17 23 53.2 -0.7
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 69.18 327 P P 17 23 53.2 -0.7
comp=Z,1.0nm,0.4s,baz=115,slow=6.7,SNR=9.9
BRVK Borovoye 69.25 327 eP P 17 23 53.8 -0.5
BRVK pmax pmax
comp=Z,2.0nm,1.1s
BRVK Borovoye 69.25 327 eP P 17 23 53.2 -1.1
comp=Z,2.5nm,0.5s
BILL Bilibino 70.10 14 eP P 17 23 58.2 -0.9
BILL pmax pmax
comp=Z,2.0nm,1.3s
BILL Bilibino 70.10 14 eP P 17 23 58.6 -0.5
comp=Z,4.2nm,1.2s
AB31 Akbulak array 74.10 321 i P P 17 24 22.2 -1.0
ABKAR Akbulak array 74.10 321 eP P 17 24 21.9 -1.3
VNDA Vanda 82.18 173 P P 17 25 06.6 -0.3
VNDA pmax pmax
comp=Z,9.0nm,1.1s
VNDA Vanda 82.18 173 P P 17 25 06.6 -0.3
comp=Z,9.2nm,1.1s,baz=312,slow=6.4,SNR=2.8
PMR Palmer 83.98 28 eP P 17 25 16.0 -0.4
PMR pmax pmax
comp=Z,12nm,0.8s
PMR Palmer 83.98 28 eP P 17 25 16.0 -0.4
comp=Z,12nm,0.8s
COLD Coldfoot 84.14 23 eP P 17 25 17.9 +0.8
comp=Z,3.9nm,0.6s
MCK McKinley 84.28 26 eP P 17 25 17.5 -0.5
MCK pmax pmax
comp=Z,21nm,1.6s
MCK McKinley 84.28 26 eP P 17 25 17.4 -0.5
comp=Z,21nm,1.6s
KIV Kislovodsk 85.17 314 eP P 17 25 23.5 +0.6
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 85.17 314 P P 17 25 21.8 -1.1
ILAR Eielson Array 85.25 25 P P 17 25 21.2 -1.5
ILAR pmax pmax
comp=Z,1.0nm,0.5s
ILAR Eielson Array 85.25 25 P P 17 25 21.2 -1.5
comp=Z,0.5nm,0.5s,baz=249,slow=5.7,SNR=15
OBN Obninsk 88.95 325 ⇓iP P 17 25 38.1 -2.5
OBN pmax pmax
comp=Z,4.0nm,1.3s
ARCES ARCESS Array B 92.05 340 P P 17 25 53.5 -1.2
ARCES pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 92.05 340 P P 17 25 53.5 -1.2
comp=Z,1.1nm,0.3s,baz=84,slow=5.7,SNR=25
QSPA South Pole Qui 92.60 180 eP P 17 25 57.4 -0.1
comp=Z,5.7nm,0.8s
FINES FINESS Array B 93.60 332 P P 17 26 00.4 -1.6
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 93.60 332 P P 17 26 00.3 -1.6
comp=Z,0.6nm,0.4s,baz=77,slow=5.3,SNR=7.4
YKA Yellowknife Ar 99.68 25 P Pdif 17 26 29.3 -0.1
comp=Z,0.3nm,0.6s,baz=294,slow=4.3,SNR=5.6
YKA PKiKP PKiKP 17 30 56.0 -0.8
comp=Z,0.1nm,0.3s,baz=279,slow=1.4,SNR=4.6
TXAR Lajitas Array 120.77 53 PKP PKPdf 17 31 38.1 +0.5
comp=Z,0.3nm,0.6s,baz=354,slow=2.5,SNR=5.8
TORD Torodi Ar. Bea 124.97 288 PKP PKPdf 17 31 45.2 -0.7
comp=Z,0.6nm,0.3s,baz=69,slow=1.7,SNR=13
PLCA Paso Flores 138.38 158 PKIKP PKPdf 17 32 10.1 -0.6
PLCA pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 138.38 158 PKP PKPdf 17 32 10.1 -0.6
comp=Z,2.1nm,0.7s,baz=231,slow=2.7,SNR=5.8

DDA 13 17:15:31.9, 39.35N×40.90E, h7km, MD3.0
ISK 13 17:15:31.5, 39.34N×40.88E, h9km, MD2.8
CSEM 13 17:15:32.3±0.3, 39.35N×40.90E, h10km, MD2.8, Error ellipse: s-maj=8.8km s-min=5.5km az=12.0
ISC 13 17:15:32.5±1.0, 39.34N±0.03×40.89E±0.02, h12km±9km, n34, σ0.57/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	Bing¨¶Il	0.38	206	PG	Pg	17 15 39.4	-0.8
BNGB				eSG	Sg	17 15 45.3	0.0
VRTB	Varto-Mus	0.47	112	ePG	Pg	17 15 41.7	-0.1
VRTB				eSG	Sg	17 15 48.6	+0.6
VRTB	Varto-Mus	0.47	112	ePg	Pg	17 15 41.7	-0.1
VRTB				eSg	Sg	17 15 48.6	+0.6
EZM	Erzurum	0.67	32	ePG	Pg	17 15 45.0	-0.6
ERZM	Erzurum	0.67	33	i P	Pg	17 15 45.0	-0.6
ERZM	Erzurum	0.67	33	i P	Pg	17 15 45.0	-0.6
EKAR	Karacoban	0.91	95	i P	Pg	17 15 49.7	-0.4
EKAR				i S	Sn	17 16 04.9	+0.4
EKAR	Karacoban	0.91	95	i P	Pg	17 15 49.7	-0.4
EKAR				i S	Sn	17 16 04.9	+0.4
ERZN	Erzincan	0.94	286	ePG	Pg	17 15 49.7	-0.9
EUZM	Uzumlu	1.00	292	i P	Pg	17 15 51.1	-0.6
EUZM				i S	Sn	17 16 06.1	-0.4
EUZM	Uzumlu	1.00	292	i P	Pg	17 15 51.1	-0.6
EUZM				i S	Sn	17 16 06.1	-0.4
HOMI	Horasan	1.05	48	i P	Pg	17 15 51.6	-1.2
HOMI				i S	Sb	17 16 06.3	-0.3
BAYT	Ayd¨–ntepe-Bay	1.20	331	ePN	Pn	17 15 55.2	-0.4
BAYT	Ayd¨–ntepe-Bay	1.20	331	ePn	Pn	17 15 55.2	-0.4
SVAN	Silvan-Diyarba	1.21	169	ePN	Pb	17 15 54.8	-0.5
PTK	Pertek	1.25	250	ePN	Pn	17 15 55.6	-0.4
PTK	Pertek	1.25	250	ePn	Pn	17 15 55.6	-0.4
BEST	Besiri	1.47	168	i P	Pb	17 15 59.9	+0.1
BEST				i S	Sg	17 16 20.4	+0.5
TUTA	Tutak	1.49	87	i P	Pn	17 15 59.5	+0.2
TUTA				i S	Sg	17 16 20.8	+0.4
TUTA	Tutak	1.49	87	i P	Pn	17 15 59.5	+0.2
TUTA				i S	Sg	17 16 20.8	+0.4
KELT	Kelkit	1.50	303	i P	Pg	17 16 01.4	+0.1
KELT				i S	Sg	17 16 22.5	+1.7
KELT	Kelkit	1.50	303	i P	Pg	17 16 01.4	+0.1
KELT				i S	Sg	17 16 22.5	+1.7
GUMT	Gumushane	1.56	316	ePN	Pn	17 15 59.8	-0.4
GUMT	Gumushane	1.56	316	ePn	Pn	17 15 59.8	-0.4
AGRB	Hanur-Agry	1.64	81	ePN	Pn	17 16 01.4	0.0
AGRB	Hanur-Agry	1.64	81	ePn	Pn	17 16 01.4	0.0
ILIC	ilic-Erzincan	1.81	274	ePN	Pn	17 16 03.7	+0.2
ILIC	ilic-Erzincan	1.81	274	ePn	Pn	17 16 03.7	+0.2
KEMA	Kemaliye	1.86	269	i P	Pb	17 16 06.6	+0.1
KEMA	Kemaliye	1.86	269	i P	Pb	17 16 06.6	+0.1
MAZI	Mazidag	1.91	191	ePN	Pn	17 16 05.2	+0.3
MAZI	Mazidag	1.91	191	ePn	Pn	17 16 05.3	+0.3
SIRT	Sirnak	2.20	146	ePN	Pn	17 16 09.1	+0.2
SIRT	Sirnak	2.20	146	ePn	Pn	17 16 09.1	+0.2

ISCJB 13 17:15:55.7±0.3, 29.37S±0.02×71.01W±0.05, h76km±4km, mb3.9/7, Error ellipse: s-maj=7.1km s-min=3.8km az=3.2
GUC 13 17:15:55.8±0.5, 29.38S×70.96W, h82km±5km, ML5.0
NEIC 13 17:15:55.8, 29.38S×70.96W, h82km, mb4.1/2, After GUC. NEIC Felt [II] at Coquimbo and La Serena.
SJA 13 17:15:57.6±3.3, 29.36S×70.75W, h66km±20km, ML4.2, MW3.9
IDC 13 17:15:57.0±0.6, 29.41S×70.94W, h68km±4km, mb3.8/6, mb1 4.1/11, mb1mx3.7/30, mbtmp3.9/11, MS3.3/4, Ms1 3.2/4, ms1mx3.1/18, Error ellipse: s-maj=24.4km s-min=10.8km az=55.0
ISC 13 17:15:56.7±0.6, 29.36S±0.03×70.97W±0.05, h70km±4km, n71, σ1.42/94, mb4.1/6, 3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.42	34	ePn	Pn	17 16 08.5	-0.6
LCO				eSn	Sn	17 16 17.7	-0.5
LCO	Las Campanas	0.42	34	i P	Pn	17 16 09.3	+0.2
LCO				eS	Sn	17 16 18.2	0.0
VACH	Vallenar	0.81	13⇓	eP	Pn	17 16 12.8	-0.1
VACH				eS	Sn	17 16 25.3	+0.5
VACH				AML	AML	17 16 26.1	
	comp=E,104µm,0.1s						
VACH	Vallenar	0.81	13⇓	eP	Pn	17 16 12.8	-0.1
VACH				eS	Sn	17 16 25.3	+0.5
CMCH	Combarbala	1.81	181	eP	Pn	17 16 25.4	-0.4
CMCH				eS	Sn	17 16 47.3	-0.6
CMCH				AML	AML	17 16 50.4	
	comp=N,13µm,0.5s						
CMCH	Combarbala	1.81	181	eP	Pn	17 16 25.4	-0.4
CMCH				eS	Sn	17 16 47.3	-0.6
CPCH	Copiapo	2.07	15	eP	Pn	17 16 29.3	0.0
CPCH				eS	Sn	17 16 53.9	-0.2
CPCH				AML	AML	17 17 01.9	
	comp=N,12µm,0.1s						
CPCH	Copiapo	2.07	15	eP	Pn	17 16 29.3	0.0
CPCH				eS	Sn	17 16 53.9	-0.2
AGUA	GUANDACOL	2.17	94	i P	Pn	17 16 33.1	+2.4
CDCH	Caldera	2.29	3	eP	Pn	17 16 31.9	-0.4
CDCH				eS	Sn	17 16 58.9	-0.5
CDCH	Caldera	2.29	3	eP	Pn	17 16 31.9	-0.4
CDCH				eS	Sn	17 16 58.9	-0.5
AMOG	MOGNA	2.66	127	i P9	Pn	17 16 38.7	+1.3
AMOG				eS	Sn	17 17 03.9	-4.6
RTLS	Leoncito	2.83	150	i P	Pn	17 16 42.5	+2.8
RTLL	Cerro Villicun	2.91	133	i P	Pn	17 16 42.0	+1.2
AUSP	Uspallata	3.16	155	i P	Pn	17 16 46.9	+2.6

CFAA Coronel Fontan 3.25 134 P Pn 17 16 46.2 +0.9
comp=N,6.5nm,0.3s,baz=306,slow=10.0,SNR=204
CFAA S Sn 17 17 23.1 +0.3
comp=N,5.4nm,0.3s,baz=88,slow=20,SNR=4.4
CFAA Coronel Fontan 3.25 134 iP Pn 17 16 46.2 +0.9
CFAA iP Pn 17 16 46.2 +0.9
CFAA eS Sn 17 17 23.0 +0.1
RTCV Cerro Valdivia 3.25 141 iP Pn 17 16 46.9 +1.5
AVFE Valle Fertil 3.31 114 iP Pn 17 16 46.8 +0.6
JACH Jahuel 3.33 174 eP Pn 17 16 47.0 +0.6
JACH Jahuel 3.33 174 P Pn 17 16 47.0 +0.6
ACLC CERRO LA CRUZ 3.51 92 iP Pn 17 16 49.3 +0.3
ACLC eS4 Sn 17 17 32.6 +3.2
ROCH El Roble 3.60 181 eP Pn 17 16 50.1 -0.2
ROCH AML AML 17 17 48.5
comp=E,1μm,0.3s
ROCH El Roble 3.60 181 eP Pn 17 16 50.1 -0.2
IHA Instituto Hidr 3.70 189 eP Pn 17 16 50.7 -0.6
IHA Instituto Hidr 3.70 189 eP Pn 17 16 50.7 -0.6
ASAL Salagasta 3.71 151 iP Pn 17 16 53.6 +2.0
PEL Peldehue 3.78 176 eP Pn 17 16 52.0 -0.6
PEL eS Sn 17 17 34.9 -0.9
PEL Peldehue 3.78 176 eP Pn 17 16 52.0 -0.6
PEL eS Sn 17 17 34.9 -0.9
ARCO CERRO ARCO 3.88 154 iP Pn 17 16 56.0 +1.9
ARCO AML AML 17 17 53.1
comp=Z,803nm,0.5s
APLL PUNTA DE LOS L 3.99 106 iP Pn 17 16 55.9 +0.4
FCH Farellones 4.00 172 eP Pn 17 17 06.4 +10
FCH eS Sn 17 17 47.3 +5.7
CLCH Cerro Calan 4.04 175 eP Pn 17 16 56.7 +0.5
ACHE Chepes 4.14 117 iP Pn 17 16 57.7 +0.1
AAGR Agrelo 4.14 154 iP Pn 17 16 59.4 +1.9
TACH Talagante 4.28 180 eP Pn 17 16 59.8 +0.4
TACH Talagante 4.28 180 P Pn 17 16 59.8 +0.4
ACAN Cantantal 4.36 133 iP Pn 17 17 01.1 +0.6
LMEL Las Melosas 4.52 172 eP Pn 17 17 04.3 +1.5
LMEL Las Melosas 4.52 172 P Pn 17 17 04.3 +1.5
LNV Longovilo 4.59 185 eP Pn 17 17 03.2 -0.5
LNV Longovilo 4.59 185 eP Pn 17 17 03.2 -0.5
CYA Choya 4.62 80 iP Pn 17 17 04.0 -0.1
CYA eS Sn 17 17 54.0 -2.5
CYA AML AML 17 18 02.1
comp=Z,446nm,0.7s
AHML Horco Molle 5.60 64 iP Pn 17 17 18.6 +1.1
AHML AML AML 17 18 29.1
comp=Z,31nm,0.6s
TCA Tanti 5.85 111 iP9 Pn 17 17 19.5 -1.4
TCA eS Sn 17 18 24.1 -2.5
TCA AML AML 17 18 31.9
comp=Z,56nm,0.7s
H03N1 Juan Fernandez 7.91 237 P Pn 17 17 49.5 +0.8
baz=61,slow=14,SNR=151
H03N1 S Sn 17 19 10.1 -6.5
H03N1 T T 17 25 43.8
baz=61,slow=74,SNR=668
H03N2 Juan Fernandez 7.93 237 P Pn 17 17 49.7 +0.8
baz=61,slow=14,SNR=134
H03N2 S Sn 17 19 10.7 -6.2
H03N2 T T 17 25 41.6
baz=61,slow=74,SNR=680
H03N3 Juan Fernandez 7.93 237 P Pn 17 17 49.5 +0.5
baz=61,slow=14,SNR=94
H03N3 S Sn 17 19 10.6 -6.5
H03N3 T T 17 25 45.1
baz=61,slow=74,SNR=775
PLCA Paso Flores 11.35 178 P Pn 17 18 34.5 -1.5
comp=Z,0.1nm,0.3s,baz=0.0,slow=6.1,SNR=2.9
PLCA LR LR 17 23 50.9
comp=Z,37nm,19.3s,baz=96,slow=42
TRQA Tornquist 11.45 142 ePn Pn 17 18 35.3 -2.0
comp=Z,9.9nm,0.5s
TRQA eSn Sn 17 20 33.4 -10
CPUP Villa Florida 12.44 79 P Pn 17 18 50.0 -0.9
comp=Z,0.6nm,0.3s,baz=251,slow=14,SNR=3.9
CPUP LR LR 17 24 24.0
comp=Z,36nm,21.5s,baz=231,slow=41
LPAZ La Paz 13.27 12 P Pn 17 19 04.9 +2.2
comp=Z,0.1nm,0.3s,baz=154,slow=5.1,SNR=2.4
SIV San Ignacio 16.13 37 P Pn 17 19 39.4 +0.2
comp=Z,0.2nm,0.3s,baz=232,slow=12,SNR=7.7
SAML Samuel 21.58 21 eP P 17 20 41.0 +0.2
comp=Z,2.5nm,0.7s
BB16B Bebedouro 21.86 73⇓iP P 17 20 39.1 -4.7
BB16B i 17 20 42.9
BB16B i 17 20 47.2
BB16B i 17 20 57.0
BB16B i 17 21 04.9
BB16B i 17 21 13.8
SDV Santo Domingo 38.03 1 P P 17 23 06.8 -1.7
BBGH Gun Hill 43.67 16 P P 17 23 49.6 -5.1
SNAA Sanae 55.55 159 P P 17 25 24.8 +0.3
comp=Z,0.9nm,0.6s,baz=278,slow=12,SNR=7.9
SNAA pP pP 17 25 42.0 -0.4
comp=Z,1.7nm,1.1s,baz=290,slow=15,SNR=2.1
SNAA Sanae 55.55 159 eP P 17 25 24.7 +0.2
comp=Z,2.9nm,0.6s
SNAA pP pP 17 25 42.0 -0.4
SNAA e 17 25 42.2
TXAR Lajitas Array 66.19 329 P P 17 26 38.9 +1.7
comp=Z,0.5nm,0.7s,baz=145,slow=4.6,SNR=3.6
TXAR pP pP 17 26 57.1 +1.5
comp=Z,1.0nm,0.8s,baz=140,slow=6.5,SNR=4.5
SUR Sutherland 76.29 119 LR LR 17 59 07.2
comp=Z,55nm,19.1s,baz=116,slow=34
PDAR Pinedale Array 80.07 332 pP pP 17 28 18.2 +0.4
comp=Z,0.7nm,0.5s,baz=131,slow=7.9,SNR=3.6
BOSA Boshof 81.42 118 P P 17 28 06.5 -0.1
comp=Z,2.7nm,0.7s,baz=277,slow=5.4,SNR=5.8
BOSA pP pP 17 28 24.9 -0.6
comp=Z,0.8nm,0.5s,baz=218,slow=4.9,SNR=1.5
TORD Torodi Ar. Bea 81.77 70 P P 17 28 08.1 -0.2
comp=Z,1.4nm,0.6s,baz=283,slow=5.9,SNR=9.6
TORD pP pP 17 28 26.6 -0.7
comp=Z,1.3nm,0.8s,baz=257,slow=5.0,SNR=4.4
ULM Lac du Bonnet 82.28 344 P P 17 28 11.1 +0.9
comp=Z,1.9nm,0.6s,baz=108,slow=6.4,SNR=4.7
ULM pP pP 17 28 29.3 +0.2
comp=Z,2.3nm,0.8s,baz=166,slow=7.3,SNR=2.6
ULM LR LR 18 07 51.1
comp=Z,74nm,18.0s,baz=324,slow=38
YKA Yellowknife Ar 97.97 341 P Pdif 17 29 24.5 0.0
comp=Z,0.3nm,0.9s,baz=138,slow=4.5,SNR=5.4
YKA pP pP 17 29 43.3 -0.4
comp=Z,0.2nm,0.8s,baz=140,slow=4.5,SNR=4.2
ASAR Alice Springs 122.10 207 PKP PKPdf 17 34 43.5 -0.4
comp=Z,0.2nm,0.6s,baz=128,slow=1.7,SNR=6.3
WRA Warramunga Arr 125.24 210 PKP PKPdf 17 34 49.9 -0.2
comp=Z,0.4nm,0.5s,baz=167,slow=1.7,SNR=7.9
ZALV Zalesovo Beam 149.78 29 PKPbc PKPbc 17 35 39.0 +0.8
comp=Z,6.2nm,0.6s,baz=306,slow=3.4,SNR=28
ZALV pPKPbc pPKPbc 17 35 58.4 +0.3
comp=Z,4.7nm,0.6s,baz=300,slow=3.3,SNR=8.9
MKAR Makanchi Array 152.88 43 PKPbc PKPbc 17 35 46.0 +0.3
comp=Z,1.0nm,0.7s,baz=332,slow=2.2,SNR=13
MKAR PKPab PKPab 17 35 57.6 +0.6
comp=Z,0.6nm,0.7s,baz=308,slow=3.5,SNR=5.0
MKAR pPKPbc pPKPbc 17 36 05.4 -0.2
comp=Z,0.8nm,0.7s,baz=319,slow=2.1,SNR=5.3
SONM Songino Array 161.44 6 pPKPab pPKPab 17 36 54.1 +0.9
comp=Z,0.4nm,0.8s,baz=319,slow=5.9,SNR=3.3

BJI 13 17:37:52.0, 66.30N×174.80W, h10km, mB5.0/33, mb4.6/45, Ms4.9/26, Ms7 4.6/25
ISCJB 13 17:37:53.5±0.2, 66.28N±0.04×174.76W±0.05, h11km, mb4.7/119, MS4.1/30, Error ellipse: s-maj=5.2km s-min=2.9km az=9.9
MOS 13 17:37:53.2±0.8, 66.29N×174.77W, h10km, mb4.9/64, MS3.9/12, Error ellipse: s-maj=11.9km s-min=5.0km az=96.1
IDC 13 17:37:53.6±0.5, 66.28N×174.90W, h0km, mb4.4/30, mb1 4.5/33, mb1mx4.4/44, mbtmp4.4/33, ML3.4/3, MS3.7/19, Ms1 3.7/19, ms1mx3.6/38, Error ellipse: s-maj=15.2km s-min=10.0km az=179.0
NEIC 13 17:37:55.0±1.9, 66.29N×174.81W, h9km±12km, mb4.9/30, Error ellipse: s-maj=5.8km s-min=3.6km az=181.0
ISC 13 17:37:55.8±0.4, 66.31N±0.05×174.78W±0.03, h14km±1km, h13km:pP-P, n331, σ1§11/365, mb4.8/119, MS4.0/30, 6C-6D, Near north coast of eastern Siberia
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC

GAMB Gambell 2.86 151 ePn Pn 17 38 38.2 -2.7
GAMB ePg Pb 17 38 46.4 -0.2
GAMB eSg Sb 17 39 22.9 +1.5
TNA Tin City 2.91 102 ePn Pn 17 38 39.5 -2.0
TNA ePg Pb 17 38 48.5 +1.2
TNA eSg Sb 17 39 24.0 +1.3
BILL Bilibino 7.56 292 eP Pn 17 39 44.8 -0.6
BILL e 17 41 11.3
BILL Bilibino 7.56 292 ePn Pn 17 39 44.8 -0.6
34nm,0.7s
BILL eSn Sn 17 41 11.3 +0.5
BILL eSg Sg 17 41 50.8 -7.2
COLD Coldfoot 9.73 73 ePn Pn 17 40 13.8 -1.3
8.6nm,0.8s
PPLA Purkeypile 10.26 99 ePn Pn 17 40 22.2 -0.3
6.1nm,0.5s
KTH Kantishna Hill 10.46 94 ePn Pn 17 40 24.8 -0.4
18nm,1.3s
TRF Thorofare Moun 10.76 94 ePn Pn 17 40 29.1 -0.3
7.9nm,0.2s
MCK McKinley 11.19 91 eP Pn 17 40 34.3 -0.8
MCK pmax pmax
comp=Z,179nm,0.6s
MCK McKinley 11.19 91 ePn Pn 17 40 34.3 -0.8
comp=Z,179nm,0.6s
COLA College 11.19 85 eP Pn 17 40 34.8 -0.3
COLA College 11.19 85 ePn Pn 17 40 34.6 -0.4
comp=Z,5.5nm,0.6s
RSO Redoubt South 11.44 110 ePn Pn 17 40 40.2 +1.5
comp=Z,63nm,0.8s
ILAR Eielson Array 11.62 85 P Pn 17 40 40.5 -0.4
ILAR 17 42 47.4
ILAR pmax pmax
comp=Z,1.0nm,0.3s
ILAR Eielson Array 11.62 85 P Pn 17 40 40.5 -0.4
comp=Z,1.0nm,0.3s,baz=287,slow=14,SNR=115
ILAR Sn Sn 17 42 47.4 -2.8
comp=Z,0.3nm,0.3s,baz=285,slow=21,SNR=4.9
PMR Palmer 12.16 101 P Pn 17 40 46.4 -2.0
PMR Palmer 12.16 101 Pn Pn 17 40 46.4 -2.0
RC01 Rabbit Creek A 12.21 104 ePn Pn 17 40 46.5 -2.6
comp=Z,8.6nm,0.4s
PAX Paxson 12.93 91 eP Pn 17 40 59.8 +0.9
PAX pmax pmax
comp=Z,16nm,1.3s
PAX Paxson 12.93 91 ePn Pn 17 40 59.8 +0.9
comp=Z,16nm,1.3s
AKUT Akutan 12.99 156 ePn Pn 17 41 01.6 +1.9
UNV Unalaska Valle 13.15 158 Pn Pn 17 41 02.3 +0.5
KDAK Kodiak Island 13.39 119 P P 17 41 09.8 -4.8
KDAK pmax pmax
comp=Z,36nm,1.1s
KDAK Kodiak Island 13.39 119 Pn P 17 41 09.8 -4.8
comp=Z,36nm,1.1s
MENT Mentasta 13.65 90 Pn Pn 17 41 09.7 +1.0
EGAK Eagle 13.91 81 ePn Pn 17 41 12.5 +0.3
comp=Z,14nm,0.7s
SEY Seymchan 14.37 272 Pn Pn 17 41 19.7 +1.2
comp=Z,0.1nm,0.3s,baz=72,slow=11,SNR=13
FX1 Attu Island--F 14.74 210 LR LR 17 47 13.8
comp=Z,250nm,18.1s,baz=32,slow=38
INK Inuvik 15.82 64 Pn Pn 17 41 34.6 -3.2
comp=Z,0.2nm,0.3s,baz=319,slow=11,SNR=12
INK LR LR 17 49 17.4
comp=Z,96nm,20.5s,baz=266,slow=43
INK Inuvik 15.82 64 ePn Pn 17 41 34.6 -3.2
comp=Z,29nm,0.8s
HYT Haines Junctio 17.26 91 ePn Pn 17 41 56.3 0.0
PET Petropavlovsk 18.69 237 eP P 17 42 13.1 -0.1
PET Petropavlovsk 18.69 237 ePn P 17 42 13.1 -0.1
PETK Petropavlovsk- 18.95 239 P Pn 17 42 16.6 -0.2
comp=Z,0.3nm,0.3s,baz=68,slow=7.3,SNR=10
PETK LR LR 17 50 02.3
comp=Z,132nm,18.5s,baz=43,slow=39
TIXI Tiksi 20.19 310 diP P 17 42 29.9 +0.4
TIXI pmax pmax
comp=Z,57nm,1.3s
TIXI Tiksi 20.19 310 eP P 17 42 29.6 +0.1
comp=Z,137nm,1.6s
DLBC Dease Lake 21.73 90 P P 17 42 47.6 +1.2
comp=Z,9.0nm,0.9s,baz=277,slow=16,SNR=7.6
DLBC LR LR 17 51 51.8
comp=Z,398nm,18.3s,baz=90,slow=38
DLBC Dease Lake 21.73 90 eP P 17 42 47.4 +1.0
YAK Yakutsk 23.87 286 eP P 17 43 07.2 -1.1
YAK ePPP PPP 17 43 43.8
YAK e 17 46 49.8
YAK eS S 17 47 24.5 +1.0
YAK e*SS sS 17 47 30.3 -0.1
YAK eSSS SSS 17 48 12.2
YAK e 17 54 12.0
YAK pmax pmax
comp=Z,10.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.6s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK smax smax
comp=E,72nm,3.8s
YAK smax smax
comp=N,71nm,4.7s
YAK MLR MLR
comp=Z,636nm,11.0s
YAK MLR MLR
comp=E,474nm,12.0s
YAK Yakutsk 23.87 286 ePn P 17 43 07.3 -1.0
comp=E,23nm,0.8s
YKA Yellowknife Ar 25.38 70 P P 17 43 22.5 +0.4
YKA 17 46 53.4
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 25.38 70 P P 17 43 22.5 +0.4
comp=Z,2.1nm,0.8s,baz=302,slow=9.0,SNR=40
YKA PcP PcP 17 46 53.4 -0.4
comp=Z,0.4nm,0.7s,baz=303,slow=2.3,SNR=4.3
RES Resolute Bay 25.75 37 P P 17 43 25.6 +0.3
RES pmax pmax
comp=Z,11nm,1.1s
RES MLR MLR
comp=Z,97nm,19.2s
RES Resolute Bay 25.75 37 P P 17 43 25.6 +0.3
comp=Z,10nm,1.1s,baz=309,slow=12,SNR=13
RES LR LR 17 55 54.7
comp=Z,97nm,19.2s,baz=278,slow=42
BBB Bella Bella 26.93 99 LR LR 17 53 48.4
comp=Z,239nm,19.1s,baz=280,slow=35
CLNS Chul'man 29.06 281 eP P 17 43 50.6 -4.6
CLNS pmax pmax
comp=Z,4.0nm,0.9s
CLNS pmax pmax
comp=N,10.0nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS MLR MLR
comp=Z,351nm,14.0s
CLNS MLR MLR
comp=E,292nm,11.0s
CLNS MLR MLR
comp=N,269nm,10.0s
YSS Yuzh-Sakhalins 29.48 250 eP P 17 43 58.3 -0.6
YSS MLR MLR
comp=Z,400nm,14.0s
YSS MLR MLR
comp=N,300nm,13.0s
YSS Yuzh-Sakhalins 29.48 250 eP P 17 43 58.2 -0.6
comp=N,30nm,1.0s
KLR Kul'dur 31.96 264 eP P 17 44 15.2 -5.6
KLR MLR MLR
comp=Z,1μm,12.0s
EDM Edmonton 32.10 84 P P 17 44 22.3 +0.2
EDM Edmonton 32.10 84 P P 17 44 22.3 +0.2
ERM Erimo 33.54 245 eP P 17 44 30.8 -3.9
ERM pmax pmax
comp=Z,29nm,1.1s
ERM Erimo 33.54 245 eP P 17 44 30.8 -3.9
comp=Z,29nm,1.1s
KULLO Kullorsuaq 33.76 25⇓iP P 17 44 37.2 +0.9
KULLO pmax pmax
comp=Z,48nm,0.8s
KULLO Kullorsuaq 33.76 25⇓iP P 17 44 37.2 +0.9
comp=Z,48nm,0.7s
WALA Waterton Lakes 35.08 89 P P 17 44 50.0 +1.8
comp=Z,0.1nm,1.0s
FFC Flin Flon 35.47 73 eP P 17 44 50.6 -0.7
FFC pmax pmax
comp=Z,6.0nm,0.9s

FFC Flin Flon 35.47 73 eP P 17 44 50.6 -0.7
comp=Z,5.9nm,0.9s
JTMT Jette 35.97 91 eP P 17 44 56.1 +0.2
DAG Danmarks Havn 36.38 9 iP P 17 44 59.1 +0.3
DAG pmax pmax
comp=Z,7.0nm,0.7s
DAG Danmarks Havn 36.38 9 iP P 17 44 59.1 +0.3
comp=Z,10nm,0.7s
MDJ Mudanjiang 36.56 262 P P 17 44 59.5 -1.2
MDJ pP pP 17 45 02.4 -2.6
MDJ sP sP 17 45 03.8 -2.9
MDJ S S 17 50 42.6 +0.1
MDJ ScS ScS 17 55 14.1 -1.8
MDJ pmax pmax
comp=Z,4.0nm,1.1s
MDJ pmax pmax
comp=Z,96nm,4.6s
MDJ LR LR
comp=Z,250nm,14.8s
MDJ LR LR
comp=Z,150nm,12.8s
MDJ LR LR
comp=Z,250nm,14.8s
VLA Vladivostok 36.90 258⇑eP P 17 45 03.5 -0.1
VLA S S 17 50 50.2 +2.6
VLA pmax pmax
comp=Z,10.0nm,1.2s
YBH Yreka Blue Hor 37.58 105 P P 17 45 10.5 +1.0
YBH pmax pmax
comp=Z,2.0nm,0.7s
YBH Yreka Blue Hor 37.58 105 P P 17 45 10.5 +1.0
comp=Z,1.6nm,0.7s,baz=0.0,slow=4.0,SNR=2.9
SUMG Summit 38.35 20 iP P 17 45 17.1 +1.1
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 38.35 20 iP P 17 45 17.1 +1.1
comp=Z,8.2nm,0.8s
SUMG Summit 38.35 20 eP P 17 45 16.2 +0.2
comp=Z,29nm,1.4s
CN2 Changchun 38.90 265 eP P 17 45 20.0 -0.5
HLID Hailey 39.34 95 eP P 17 45 25.4 +1.0
comp=Z,6.7nm,1.0s
YMR Madison River 39.82 90 eP P 17 45 32.3 +3.9
comp=Z,8.4nm,1.2s
MAJO Matsushiro 40.17 246 P P 17 45 29.5 -1.7
MAJO Matsushiro 40.17 246 P P 17 45 29.4 -1.7
MJAR Matsushiro Arr 40.17 246 P P 17 45 30.4 -0.7
MJAR 17 47 34.9
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR MLR MLR
comp=Z,93nm,19.0s
MJAR Matsushiro Arr 40.17 246 P P 17 45 30.4 -0.7
comp=Z,3.4nm,0.8s,baz=27,slow=6.1,SNR=17
MJAR PcP PcP 17 47 34.9 -0.2
comp=Z,0.7nm,0.6s,baz=338,slow=0.8,SNR=4.4
MJAR LR LR 18 03 17.8
comp=Z,93nm,19.0s,baz=35,slow=38
IRK Irkutsk 40.49 291 eP P 17 45 32.9 -0.8
IRK pmax pmax
comp=Z,31nm,1.6s
TLY Talaya 41.18 291 eP P 17 45 39.9 +0.6
TLY eS S 17 51 47.5 -4.4
TLY pmax pmax
comp=Z,2.0nm,0.7s
TLY MLR MLR
comp=Z,306nm,14.0s
SFJD Kangerlussuaq 41.24 30 P P 17 45 40.3 +0.7
SFJD pmax pmax
comp=Z,10.0nm,0.9s
SFJD Kangerlussuaq 41.24 30 P P 17 45 40.3 +0.7
comp=Z,10nm,0.8s,baz=310,slow=4.3,SNR=4.6
ULM Lac du Bonnet 41.30 73 P P 17 45 39.4 -0.9
ULM 17 47 37.7
ULM pmax pmax
comp=Z,2.0nm,0.6s
ULM Lac du Bonnet 41.30 73 P P 17 45 39.4 -0.9
comp=Z,2.0nm,0.6s,baz=322,slow=12,SNR=4.9
ULM PcP PcP 17 47 37.7 -0.8
comp=Z,1.8nm,0.7s,baz=252,slow=3.6,SNR=2.8
PDAR Pinedale Array 41.96 91 P P 17 45 46.9 +0.8
comp=Z,2.5nm,0.9s,baz=327,slow=2.5,SNR=11
NVAR Mina Array Bea 42.14 103 P P 17 45 49.0 +1.3
comp=Z,3.8nm,0.9s,baz=314,slow=8.2,SNR=15
MOY Mondy 42.18 293 eP P 17 45 47.5 -0.2
ZAK Zakamensk 42.36 290 eP P 17 45 47.6 -1.5
ZAK pmax pmax
comp=Z,3.0nm,1.4s
DUG Dugway 42.82 96 eP P 17 45 53.1 +0.1
DUG pmax pmax
comp=Z,22nm,1.6s
DUG Dugway 42.82 96 eP P 17 45 53.1 +0.1
comp=Z,22nm,1.6s
TPH Tonopah 42.88 102 eP P 17 45 54.4 +0.8
TPH pmax pmax
comp=Z,4.0nm,1.1s
TPH Tonopah 42.88 102 eP P 17 45 54.4 +0.8
comp=Z,3.5nm,1.1s
ULN Ulaanbaatar 42.94 285 diP P 17 45 54.3 +0.4
ULN pmax pmax
comp=Z,6.0nm,1.3s
ULN Ulaanbaatar 42.94 285 eP P 17 45 54.0 +0.1
comp=Z,2.7nm,0.9s
RSSD Black Hills 43.06 85 P P 17 45 58.1 +3.1
RSSD pmax pmax
comp=Z,1.0nm,0.6s
RSSD Black Hills 43.06 85 P P 17 45 58.1 +3.1
comp=Z,1.4nm,0.6s
SONM Songino Array 43.22 285 P P 17 45 57.3 +1.1
SONM 17 47 45.0
SONM pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 43.22 285 P P 17 45 57.3 +1.1
comp=Z,4.5nm,1.1s,baz=38,slow=7.3,SNR=27
SONM PcP PcP 17 47 45.0 -0.1
comp=Z,0.8nm,0.7s,baz=5.1,slow=1.6,SNR=5.0
KSRS Korea Array 43.31 257 P P 17 45 56.6 -0.2
KSRS pmax pmax
comp=Z,3.0nm,0.9s
KSRS MLR MLR
comp=Z,99nm,18.5s
KSRS Korea Array 43.31 257 P P 17 45 56.5 -0.2
comp=Z,3.1nm,0.9s,baz=22,slow=8.9,SNR=8.4
KSRS LR LR 18 04 23.7
comp=Z,99nm,18.5s,baz=32,slow=37
KSAR Wonju Array Be 43.34 258 P P 17 45 56.6 -0.4
KSAR Wonju Array Be 43.34 258 P P 17 45 56.5 -0.4
ARCES ARCESS Array B 43.70 350 P P 17 45 58.9 -0.6
ARCES 17 47 45.7
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES MLR MLR
comp=Z,184nm,18.8s
ARCES ARCESS Array B 43.70 350 P P 17 45 58.9 -0.6
comp=Z,3.4nm,0.9s,baz=34,slow=12,SNR=5.2
ARCES PcP PcP 17 47 45.6 -0.6
comp=Z,3.7nm,0.8s,baz=14,slow=5.5,SNR=3.6
ARCES LR LR 18 03 50.2
comp=Z,184nm,18.8s,baz=342,slow=36
ISA Isabella 44.48 105 P P 17 46 06.2 -0.1
ISA pmax pmax
comp=Z,5.0nm,1.0s
ISA Isabella 44.48 105 P P 17 46 06.2 -0.1
comp=Z,5.4nm,1.0s
NVS Novosibirsk 45.76 308⇑iP P 17 46 15.6 -0.6
NVS pmax pmax
comp=Z,36nm,2.2s
NVS pmax pmax
comp=N,11nm,2.0s
NVS pmax pmax
comp=E,10.0nm,1.8s
BJI Beijing 45.81 271 P P 17 46 15.5 -1.2
BJI pmax pmax
comp=E,8.0nm,1.2s
BJI pmax pmax
comp=E,94nm,4.9s
BJI LR LR
comp=E,250nm,11.0s
BJI LR LR
comp=E,360nm,15.2s
PV10 Paradox Valley 45.89 94 P P 17 46 18.6 +0.9
JNU Nakatsue 45.96 252 LR LR 18 06 48.9
comp=E,59nm,18.6s,slow=38
ZALV Zalesovo Beam 45.99 306 P P 17 46 18.0 0.0

ZALV 17 47 54.0
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 45.99 306 P P 17 46 18.0 0.0
comp=Z,4.4nm,0.5s,baz=38,slow=6.9,SNR=24
ZALV PcP PcP 17 47 54.0 -0.3
comp=Z,1.1nm,0.5s,baz=46,slow=1.9,SNR=2.8
PV01 Paradox Valley 46.29 93 eP P 17 46 21.4 +0.5
comp=Z,779nm,1.2s
HHC Hu-ho-hao-te 46.98 275 eP P 17 46 26.3 +0.2
HHC sP sP 17 46 32.1 0.0
HHC PP PP 17 48 16.1 -0.2
HHC S S 17 53 15.8 -1.0
HHC ScS ScS 17 56 18.0 -1.7
HHC SS SS 17 56 34.3 -8.8
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,230nm,5.1s
HHC LR LR
comp=Z,290nm,14.8s
HHC LR LR
comp=Z,570nm,14.3s
HHC LR LR
comp=Z,180nm,14.8s
JCJ Chichijima 47.34 236 LR LR 18 11 58.9
comp=Z,21nm,18.0s,baz=276,slow=43
SCHQ Schefferville 47.62 48 P P 17 46 30.1 -0.7
comp=Z,5.4nm,0.8s,baz=290,slow=7.4,SNR=3.9
SCHQ LR LR 18 08 42.5
comp=Z,179nm,18.5s,baz=297,slow=39
PRGR Permogore 48.94 336 P P 17 46 40.1 -0.7
PRGR pmax pmax
comp=Z,52nm,1.5s
JOF Joensuu 49.66 345 eP P 17 46 46.7 +0.4
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 49.66 345 ep P 17 46 46.7 +0.4
comp=Z,2.8nm,0.6s
ANMO Albuquerque 49.89 94 eP P 17 46 48.3 -0.4
ANMO pmax pmax
comp=Z,22nm,1.7s
ANMO Albuquerque 49.89 94 P P 17 46 46.2 -2.4
KLMR Klimovskoe 50.63 339 eP P 17 46 53.3 -0.4
KLMR pmax pmax
comp=Z,64nm,1.5s
KURK Kurchatov 50.75 308 P P 17 46 55.5 +0.8
KURK pmax pmax
comp=Z,6.0nm,0.5s
KURK Kurchatov 50.75 308 eP P 17 46 54.0 -0.6
comp=Z,14nm,1.1s
KURBB Kurchatov Arra 50.86 308 P P 17 46 55.5 -0.1
comp=Z,5.8nm,0.5s,baz=31,slow=7.5,SNR=52
KAF Kangasniemi 50.94 347 eP P 17 46 57.0 +1.0
KAF pmax pmax
comp=Z,6.0nm,0.7s
KAF Kangasniemi 50.94 347 ep P 17 46 57.0 +1.0
comp=Z,5.5nm,0.7s
ARU Arti 51.20 325 diP P 17 46 57.9 -0.1
ARU 17 48 49.8
ARU S S 17 54 17.9 +2.5
ARU SS SS 17 57 47.8 -2.1
ARU pmax pmax
comp=Z,17nm,1.2s
ARU Arti 51.20 325 eP P 17 46 56.7 -1.3
comp=Z,7.6nm,0.8s
BVA0 Borovoye Array 51.21 315 iP P 17 46 56.4 -1.7
BVA0 pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 51.21 315 eP P 17 46 57.6 -0.5
BRVK pmax pmax
comp=Z,23nm,1.7s
BRVK Borovoye 51.21 315 eP P 17 46 57.6 -0.5
comp=Z,6.6nm,0.6s
FINES FINESS Array B 51.62 347 P P 17 47 01.1 0.0
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES MLR MLR
comp=Z,120nm,21.8s
FINES FINESS Array B 51.62 347 P P 17 47 01.1 0.0
comp=Z,2.1nm,0.5s,baz=22,slow=6.9,SNR=27
FINES LR LR 18 08 53.7
comp=Z,120nm,21.8s,baz=30,slow=36
NJ2 Nanjing 51.64 263 eP P 17 47 01.1 -0.5
NJ2 pmax pmax
comp=Z,10.0nm,1.1s
NB2 NORSAR Subarra 52.88 356 P P 17 47 10.9 +0.5
comp=Z,15nm,1.1s,baz=1.3,slow=7.4
NOA NORSAR Array B 52.88 356 P P 17 47 11.0 +0.5
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA MLR MLR
comp=Z,71nm,18.2s
NOA NORSAR Array B 52.88 356 P P 17 47 10.9 +0.5
comp=Z,3.9nm,0.7s,baz=1.1,slow=7.3,SNR=27
NOA LR LR 18 10 18.2
comp=Z,71nm,18.2s,baz=10.0,slow=37
GTA Gaotai 52.88 284 eP P 17 47 11.5 +0.6
GTA pP pP 17 47 16.1 +0.8
GTA sP sP 17 47 19.1 +2.1
GTA pmax pmax
comp=Z,10.0nm,1.3s
MK31 Makanchi Array 52.95 303 iP P 17 47 10.8 -0.4
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 52.95 303 P P 17 47 10.7 -0.5
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 52.95 303 P P 17 47 10.7 -0.5
comp=Z,2.8nm,0.6s,baz=53,slow=6.6,SNR=46
WMQ Urumqi 53.64 297 P P 17 47 17.1 +0.7
WMQ pP pP 17 47 21.6 +0.8
WMQ sP sP 17 47 24.1 +1.6
WMQ PcP PcP 17 48 23.5 +0.9
WMQ PP PP 17 49 19.4 +2.7
WMQ PcS PcS 17 52 21.1 -0.6
WMQ S S 17 54 48.5 -0.8
WMQ sS sS 17 54 56.1 -0.4
WMQ ScS ScS 17 57 02.8 -2.2
WMQ SS SS 17 58 28.3 -0.8
WMQ pmax pmax
comp=Z,10.0nm,1.4s
WMQ pmax pmax
comp=Z,170nm,4.4s
WMQ LR LR
comp=Z,110nm,19.4s
WMQ LR LR
comp=Z,110nm,21.4s
WMQ LR LR
comp=Z,100nm,20.8s
LZH Lanzhou 54.16 279 ⇑P P 17 47 20.6 +0.2
LZH pP pP 17 47 25.0 +0.2
LZH sP sP 17 47 27.1 +0.6
LZH pmax pmax
comp=Z,17nm,1.1s
LZH pmax pmax
comp=Z,78nm,5.0s
LZH LR LR
comp=Z,290nm,12.3s
LZH LR LR
comp=Z,740nm,18.8s
LZH LR LR
comp=Z,340nm,12.5s
VSU Vasula 54.50 346 eP P 17 47 22.4 +0.1
VSU pmax pmax
comp=Z,35nm,1.3s
TXAR Lajitas Array 55.94 94 P P 17 47 33.9 +0.7
TXAR pmax pmax
comp=Z,3.0nm,0.9s
TXAR MLR MLR
comp=Z,98nm,18.6s
TXAR Lajitas Array 55.94 94 P P 17 47 33.9 +0.7
comp=Z,2.8nm,0.9s,baz=335,slow=5.5,SNR=15
TXAR LR LR 18 11 41.6
comp=Z,98nm,18.6s,baz=0.0,slow=36
JCT Junction City 56.49 90 eP P 17 47 37.1 0.0
JCT pmax pmax
comp=Z,16nm,1.0s
JCT Junction City 56.49 90 eP P 17 47 37.0 0.0
comp=Z,16nm,1.0s
OBN Obninsk 56.60 339 eP P 17 47 37.4 0.0
OBN e 17 48 32.6
OBN pmax pmax
comp=Z,22nm,1.7s
OBN MLR MLR
comp=Z,163nm,18.0s
AB31 Akbulak array 57.44 321 P P 17 47 43.1 -0.4
AB31 pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 57.44 321 eP P 17 47 42.9 -0.6
comp=Z,4.9nm,0.6s
MICGM Minsk 58.29 345 e P 17 47 48.0 -1.4
MNK Minsk 58.30 345 eP P 17 47 48.0 -1.4
TKM2 Tokmak 2 58.60 306 P P 17 47 52.1 +0.1
SNR=7.8
TKM2 Tokmak 2 58.60 306 eP P 17 47 52.7 +0.7
TKM2 pmax pmax
comp=Z,16nm,1.1s
TKM2 Tokmak 2 58.60 306 eP P 17 47 52.7 +0.7
comp=Z,16nm,1.1s
USP Ospenovka 58.65 307 P P 17 47 53.1 +1.0
SNR=7.3
USP Ospenovka 58.65 307 iP P 17 47 53.1 +1.0
CD2 Chengdu 58.73 276 P P 17 47 51.8 -1.0
CD2 pP pP 17 47 56.3 -1.0
CD2 sP sP 17 47 58.8 -0.1
CD2 PP PP 17 50 03.0 +0.6
CD2 S S 17 55 54.0 -3.0
CD2 SS SS 17 59 48.1 -1.4
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,100nm,6.2s
CD2 LR LR
comp=Z,340nm,8.3s
CD2 LR LR
comp=Z,360nm,14.3s
CHMS Chumysh 58.81 307 P P 17 47 54.5 +1.3
SNR=11
CHMS Chumysh 58.81 307 iP P 17 47 54.5 +1.3
KBK Karagaybulak 59.05 306 P P 17 47 56.5 +1.4
SNR=18
AAK Ala-Archa 59.22 307 P P 17 47 57.5 +1.3
SNR=12
AAK Ala-Archa 59.22 307 eP P 17 47 57.0 +0.7
AAK pmax pmax
comp=Z,34nm,1.3s
AAK Ala-Archa 59.22 307 eP P 17 47 57.0 +0.7
comp=Z,34nm,1.3s
SUW Suwalki 59.23 348 eP P 17 47 54.9 -1.0
SUW pmax pmax
comp=Z,14nm,0.5s
SUW Suwalki 59.23 348 eP P 17 47 55.7 -0.2
SUW Suwalki 59.23 348 eP P 17 47 54.9 -1.0
comp=Z,14nm,0.5s
EKS2 Erkin-Say 59.42 307 P P 17 47 58.7 +1.1
SNR=6.7
EKS2 Erkin-Say 59.42 307 eP P 17 47 58.6 +1.0
EKS2 pmax pmax
comp=Z,26nm,1.3s
EKS2 Erkin-Say 59.42 307 eP P 17 47 58.6 +1.0
comp=Z,26nm,1.3s
UCH Uchtor 59.58 306 P P 17 48 00.4 +1.3
SNR=5.5
UCH Uchtor 59.58 306 iP P 17 48 00.4 +1.3
AML Almayashu 59.93 307 P P 17 48 02.6 +1.2
SNR=10
AML Almayashu 59.93 307 iP P 17 48 02.6 +1.2
VSR Storozhevoye 59.97 336 diP P 17 48 00.0 -1.1
VSR pmax pmax
comp=Z,25nm,1.3s
KK31 Karatay Array 60.06 310 eP P 17 48 02.1 +0.3
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 60.06 310 eP P 17 48 02.1 +0.3
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 60.06 310 eP P 17 48 02.1 +0.3
comp=Z,4.4nm,0.6s
GYA Guiyang 61.50 271 eP P 17 48 13.3 +1.4
GYA PP PP 17 50 29.8 +2.8
GYA ScP ScP 17 52 54.3 -0.3
GYA S S 17 56 32.0 -0.8
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.2s
KSH Kashi 61.53 304 eP P 17 48 16.0 +4.0
KSH epP pP 17 48 19.4 +2.9
KSH esP sP 17 48 22.5 +4.3
KSH ePP PP 17 50 36.8 +10
KSH PcS PcS 17 52 57.5 +0.7
KSH S S 17 56 36.8 +3.8
KSH SS SS 18 00 39.3 +6.1
KSH pmax pmax
comp=Z,23nm,1.6s
KSH LR LR
comp=Z,94nm,4.5s
KSH LR LR
comp=Z,120nm,5.7s
KSH LR LR
comp=Z,170nm,6.8s
IBBN Ibbenburen 61.69 358 eP P 17 48 17.5 +4.8
comp=Z,38nm,1.5s
AKASG Malin Array Be 61.88 343 P P 17 48 13.7 -0.4
comp=Z,7.9nm,0.6s,baz=14,slow=6.5,SNR=55
AKASG LR LR 18 19 34.6
comp=Z,83nm,18.7s,baz=255,slow=40
KIEV Kiev 61.89 343 eP P 17 48 13.7 -0.4
KIEV Kiev 61.89 343 eP P 17 48 13.7 -0.4
comp=Z,20nm,1.3s
CLZ Clausthal 62.11 356 eP P 17 48 20.8 +5.2
comp=Z,30nm,1.4s
CLL Collm 62.56 355 iP P 17 48 19.1 +0.5
CLL i 17 48 22.5
CLL Collm 62.56 355 iP P 17 48 19.1 +0.5
CLL ipP pP 17 48 22.5 -0.5
comp=Z,23nm,1.6s
CLL e(sP) SKiKP 17 58 24.0 -17
CLL eSS SS 18 01 06.0 +18
KSP Ksiaz 62.87 352 eP P 17 48 21.4 +0.7
KSP Ksiaz 62.87 352 eP P 17 48 21.6 +0.9
BRG Berggiesshubel 62.95 354 eP P 17 48 21.9 +0.7
comp=Z,36nm,2.0s
BRG e 17 48 38.9
comp=Z,16nm,1.8s
BRG Berggiesshubel 62.95 354 eP P 17 48 21.9 +0.7
BRG pmax pmax
comp=Z,36nm,2.0s
UPC Upice 63.22 352 eP P 17 48 25.0 +2.0
UPC Upice 63.22 352 eP P 17 48 25.0 +2.0
LVV L'vov 63.31 346 eP P 17 48 24.0 +0.4
DPC Dobruska-Polom 63.36 352 eP P 17 48 24.9 +0.9
DPC Dobruska-Polom 63.36 352 eP P 17 48 24.9 +0.9
KRLC Kraliky 63.61 352 eP P 17 48 26.7 +1.1
KRLC e 17 48 30.2
KRLC Kraliky 63.61 352 eP P 17 48 26.7 +1.1
KRLC epP pP 17 48 30.2 +0.1
KWP Kalwaria Pacla 63.61 347 eP P 17 48 26.3 +0.7
KWP pmax pmax
comp=Z,33nm,1.3s
KWP Kalwaria Pacla 63.61 347 eP P 17 48 26.7 +1.1
KWP Kalwaria Pacla 63.61 347 ⇑iP P 17 48 26.9 +1.3
KWP Kalwaria Pacla 63.61 347 eP P 17 48 26.3 +0.7
comp=Z,33nm,1.3s
NKC Novy Kostel 63.65 355 eP P 17 48 28.1 +2.2
NKC e 17 48 31.2
NKC Novy Kostel 63.65 355 eP P 17 48 28.1 +2.2
NKC epP pP 17 48 31.2 +0.8
OKC Ostrava-Krasne 63.76 351 eP P 17 48 28.0 +1.4
OKC e 17 48 31.4
OKC Ostrava-Krasne 63.76 351 eP P 17 48 28.0 +1.4
OKC epP pP 17 48 31.4 +0.4
PRU Pruhonice 63.81 353 eP P 17 48 27.8 +0.9
PRU e 17 48 31.5
PRU Pruhonice 63.81 353 eP P 17 48 27.8 +0.9
PRU epP pP 17 48 31.5 +0.1
MORC Moravsky Berou 63.86 351 eP P 17 48 26.7 -0.6
MORC pmax pmax
comp=Z,24nm,1.6s
MORC Moravsky Berou 63.86 351 ⇑iP P 17 48 28.1 +0.8
MORC Moravsky Berou 63.86 351 eP P 17 48 26.7 -0.6
comp=Z,24nm,1.6s
STHS Stebnicka Huta 63.95 348 eP P 17 48 29.5 +1.6
STHS pmax pmax
comp=Z,11nm,1.5s
STHS Stebnicka Huta 63.95 348 eP P 17 48 29.5 +1.6
GRA2 Grafenberg Arr 64.27 356 eP P 17 48 35.2 +5.2
comp=Z,37nm,1.5s
KMI Kunming 64.27 274 P P 17 48 32.3 +1.8
KMI pP pP 17 48 34.1 -0.9
KMI PP PP 17 50 54.5 +2.9
KMI S S 17 57 06.8 -1.0
KMI SS SS 18 01 17.3 +0.5
KMI pmax pmax
comp=Z,4.0nm,1.9s
KMI pmax pmax
comp=Z,100nm,4.8s
KMI LR LR
comp=Z,220nm,10.4s
KMI LR LR
comp=Z,310nm,13.0s
KMI LR LR
comp=Z,210nm,18.3s
KOLS Kolonicke sedl 64.34 348 eP P 17 48 29.7 -0.8
KOLS pmax pmax
comp=Z,40nm,2.1s
KOLS Kolonicke sedl 64.34 348 e P 17 48 29.7 -0.8
CRVS Cervenica-Dubn 64.44 348 eP P 17 48 32.4 +1.3
CRVS pmax pmax
comp=Z,11nm,1.3s
CRVS Cervenica-Dubn 64.44 348 eP P 17 48 32.4 +1.3
GRB4 Grafenberg Arr 64.45 355 eP P 17 48 36.1 +5.0
comp=Z,28nm,1.3s
GRB3 Grafenberg Arr 64.56 355 eP P 17 48 37.0 +5.1
comp=Z,22nm,1.2s
GRB2 Grafenberg Arr 64.64 355 eP P 17 48 37.3 +4.9
comp=Z,22nm,1.3s
UZH Uzhgorod 64.64 348 eP P 17 48 23.4 -9.0
KHC Kasperske Hory 64.71 354 eP P 17 48 32.7 -0.2
KHC pmax pmax
comp=Z,21nm,1.5s
KHC Kasperske Hory 64.71 354 eP P 17 48 35.3 +2.4
KHC epP pP 17 48 37.7 +0.3
KHC Kasperske Hory 64.71 354 eP P 17 48 32.7 -0.2
comp=Z,21nm,1.5s
LSA Lhasa 64.79 286 eP P 17 48 34.9 +0.7
LSA pmax pmax
comp=Z,19nm,1.4s
LSA Lhasa 64.79 286 eP P 17 48 34.9 +0.7
comp=Z,19nm,1.4s
GRB5 Grafenberg Arr 64.80 355 eP P 17 48 38.3 +4.8
comp=Z,14nm,1.3s
GRC4 Grafenberg Arr 64.83 355 eP P 17 48 38.5 +4.9
comp=Z,16nm,1.3s
GRC1 Grafenberg Arr 64.92 355 eP P 17 48 39.0 +4.8
comp=Z,23nm,1.5s
GERES GERESS Array B 64.99 354 P P 17 48 35.7 +0.9
comp=Z,1.7nm,0.8s,baz=18,slow=4.9,SNR=16
GERES LR LR 18 16 33.9
comp=Z,42nm,19.6s,baz=12,slow=36
GRC3 Grafenberg Arr 65.03 355 eP P 17 48 39.7 +4.8
comp=Z,18nm,1.4s
VYHS Vyhne 65.05 350 eP P 17 48 36.1 +1.0
VYHS pmax pmax
comp=Z,6.0nm,1.2s
VYHS Vyhne 65.05 350 eP P 17 48 36.1 +1.0
GRC2 Grafenberg Arr 65.06 356 eP P 17 48 39.8 +4.7
comp=Z,22nm,1.4s
FLN La Foliniere 65.17 4 eP P 17 48 36.2 +0.4
comp=Z,16nm,0.8s
FLN eR
comp=Z,113nm,17.8s
FLN La Foliniere 65.17 4 eP P 17 48 36.2 +0.4
FLN pmax pmax
comp=Z,16nm,0.8s
FLN La Foliniere 65.17 4 eP P 17 48 36.2 +0.4
comp=Z,16nm,0.8s
GOF Gofitskoye 65.22 331 eP P 17 48 36.3 +0.1
ROSF Rostrenen 65.50 6 eP P 17 48 38.1 +0.2
comp=Z,23nm,1.0s
ROSF Rostrenen 65.50 6 eP P 17 48 38.1 +0.2
ROSF pmax pmax
comp=Z,23nm,1.0s
ROSF Rostrenen 65.50 6 eP P 17 48 38.1 +0.2
comp=Z,23nm,1.0s
GRR Gorron 65.54 4 eP P 17 48 38.7 +0.5
comp=Z,19nm,0.7s
GRR Gorron 65.54 4 eP P 17 48 38.7 +0.5
GRR pmax pmax
comp=Z,19nm,0.7s
GRR Gorron 65.54 4 eP P 17 48 38.7 +0.5
comp=Z,19nm,0.7s
PSZ Piszkesteto 65.55 349 eP P 17 48 38.5 +0.1
PSZ pmax pmax
comp=Z,22nm,1.5s
PSZ Piszkesteto 65.55 349 eP P 17 48 38.5 +0.1
comp=Z,22nm,1.5s
CDF Champ du Feu 65.60 358 eP P 17 48 39.0 +0.3
CDF Champ du Feu 65.60 358 eP P 17 48 39.0 +0.3
CDF Champ du Feu 65.60 358 eP P 17 48 39.0 +0.3
KIV Kislovodsk 66.35 331 eP P 17 48 44.3 +0.7
KIV e 17 49 16.8
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,68nm,16.0s
KIV Kislovodsk 66.35 331 eP P 17 48 43.7 0.0
KBZ Khabaz 66.53 331 P P 17 48 45.5 +0.9
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 66.53 331 P P 17 48 45.5 +0.9
comp=Z,4.7nm,0.8s,baz=28,slow=2.8,SNR=16
LOR Lormes 66.75 1 eP P 17 48 46.1 +0.1
comp=Z,3.8nm,0.6s
LOR eR
comp=Z,117nm,17.0s
LOR Lormes 66.75 1 eP P 17 48 46.1 +0.1
LOR pmax pmax
comp=Z,4.0nm,0.6s
LOR Lormes 66.75 1 eP P 17 48 46.1 +0.1
comp=Z,3.8nm,0.6s
SSF Saint Saulge 66.95 1 eP P 17 48 47.4 +0.1
SSF Saint Saulge 66.95 1 eP P 17 48 47.4 +0.1
SSF Saint Saulge 66.95 1 eP P 17 48 47.4 +0.1
AVF Avril sur Loir 67.22 1 eP P 17 48 49.0 0.0
comp=Z,9.4nm,0.9s
AVF Avril sur Loir 67.22 1 eP P 17 48 49.0 0.0
AVF pmax pmax
comp=Z,9.0nm,0.9s
AVF Avril sur Loir 67.22 1 eP P 17 48 49.0 0.0
comp=Z,9.4nm,0.9s
ZEI Tsey 67.23 330 eP P 17 48 48.1 -1.3
ZEI pmax pmax
comp=Z,18nm,1.2s
SMF Signal de Mont 67.37 1 eP P 17 48 49.9 -0.1
comp=Z,5.9nm,0.7s
SMF Signal de Mont 67.37 1 eP P 17 48 49.9 -0.1
SMF pmax pmax
comp=Z,6.0nm,0.7s
SMF Signal de Mont 67.37 1 eP P 17 48 49.9 -0.1
comp=Z,5.9nm,0.7s
CABF La Chapelle 67.41 359 eP P 17 48 50.6 +0.3
comp=Z,9.3nm,0.8s
CABF La Chapelle 67.41 359 eP P 17 48 50.6 +0.3
CABF pmax pmax
comp=Z,9.0nm,0.8s
CABF La Chapelle 67.41 359 eP P 17 48 50.6 +0.3
comp=Z,9.3nm,0.8s
BGF Bois d'Agland 67.45 2 eP P 17 48 50.4 -0.1
comp=Z,7.6nm,0.6s
BGF Bois d'Agland 67.45 2 eP P 17 48 50.4 -0.1
BGF pmax pmax
comp=Z,8.0nm,0.6s
BGF Bois d'Agland 67.45 2 eP P 17 48 50.4 -0.1
comp=Z,7.6nm,0.6s
VOIR 67.54 345 ⇑iP P 17 48 51.9 +0.7
TCF Toulx Ste Croi 67.71 2 eP P 17 48 52.1 0.0
TCF Toulx Ste Croi 67.71 2 eP P 17 48 52.1 0.0
TCF Toulx Ste Croi 67.71 2 eP P 17 48 52.1 0.0
TAPN Taplejung 68.22 288 eP P 17 48 55.8 -0.1
TAPN Taplejung 68.22 288 eP P 17 48 55.8 -0.1
GUN Gumba 68.41 290 eP P 17 48 57.3 +0.1
GUN Gumba 68.41 290 eP P 17 48 57.3 +0.1
LPG La Plagne 68.52 359 eP P 17 48 57.4 -0.2
LPG La Plagne 68.52 359 eP P 17 48 57.4 -0.2
LPG La Plagne 68.52 359 eP P 17 48 57.4 -0.2
JIRN Jiri 68.52 290 eP P 17 48 57.4 -0.5
JIRN Jiri 68.52 290 eP P 17 48 57.4 -0.5
KKN Kakani 68.75 291 eP P 17 48 59.5 +0.3
KKN Kakani 68.75 291 eP P 17 48 59.5 +0.3
KKN Kakani 68.75 291 eP P 17 48 59.5 +0.3
ODAN Odare 68.78 288 eP P 17 48 59.2 -0.2
comp=Z,24nm,1.1s
ODAN Odare 68.78 288 eP P 17 48 59.2 -0.2

GKN	Gorkha	68.80	291	eP	P	17 48 59.6	+0.2
	comp=Z,54nm,1.4s						
GKN	Gorkha	68.80	291	eP	P	17 48 59.6	+0.2
DANN	Dangsing	68.82	292	eP	P	17 49 00.1	+0.4
	comp=Z,41nm,1.1s						
DANN	Dangsing	68.82	292	eP	P	17 49 00.1	+0.4
PKIN	Phulchoki	68.90	290	eP	P	17 49 00.1	0.0
PKI	Pulchoki	68.90	290	eP	P	17 49 00.1	-0.1
PKI	Pulchoki	68.90	290	eP	P	17 49 00.1	-0.1
PKI	Pulchoki	68.90	290	eP	P	17 49 00.1	-0.1
PKI	Pulchoki	68.90	290	eP	P	17 49 00.1	-0.1
DMN	Daman	68.98	291	eP	P	17 49 00.8	+0.2
	comp=Z,17nm,1.1s						
DMN	Daman	68.98	291	eP	P	17 49 00.8	+0.2
RAMN	Ramite	69.00	289	eP	P	17 49 00.8	0.0
	comp=Z,21nm,0.9s						
RAMN	Ramite	69.00	289	eP	P	17 49 00.8	0.0
CAF	Calviac	69.07	2	eP	P	17 49 00.9	+0.2
	comp=Z,22nm,1.2s						
CAF	Calviac	69.07	2	eP	P	17 49 00.9	+0.2
CAF				pmax	pmax		
	comp=Z,22nm,1.2s						
CAF	Calviac	69.07	2	eP	P	17 49 00.9	+0.2
	comp=Z,22nm,1.2s						
MBDF	Montbardon	69.29	359	eP	P	17 49 03.0	+0.8
	comp=Z,12nm,0.9s						
MBDF	Montbardon	69.29	359	eP	P	17 49 03.0	+0.8
MBDF				pmax	pmax		
	comp=Z,13nm,0.9s						
MBDF	Montbardon	69.29	359	eP	P	17 49 03.0	+0.8
	comp=Z,12nm,0.9s						
KOLN	Koldanda	69.40	292	eP	P	17 49 03.5	+0.3
	comp=Z,23nm,1.2s						
KOLN	Koldanda	69.40	292	eP	P	17 49 03.5	+0.3
GNI	Garni	69.60	329	eP	P	17 49 05.8	+1.6
GNI				pmax	pmax		
	comp=Z,13nm,1.3s						
GNI	Garni	69.60	329	P	P	17 49 05.4	+1.2
	comp=Z,2.8nm,0.5s,baz=27,slow=16,SNR=3.7						
CMAR	Chiang Mai Arr	71.78	274	P	P	17 49 17.1	-0.4
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR	Chiang Mai Arr	71.78	274	P	P	17 49 17.1	-0.4
	comp=Z,2.8nm,0.8s,baz=358,slow=5.9,SNR=28						
BRTR	Keskin Array B	72.05	337	P	P	17 49 19.4	+0.3
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,49nm,18.1s						
BRTR	Keskin Array B	72.05	337	P	P	17 49 19.4	+0.3
	comp=Z,3.8nm,0.7s,baz=25,slow=3.4,SNR=21						
BRTR				LR	LR	18 26 02.4	
	comp=Z,49nm,18.1s,baz=64,slow=40						
ESDC	Sonseca Array	74.11	7	P	P	17 49 31.3	+0.1
	comp=Z,2.0nm,0.6s,baz=356,slow=6.2,SNR=18						
ASF	Jabal al Asfar	78.86	333	P	P	17 49 58.4	+0.2
ASF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASF	Jabal al Asfar	78.86	333	P	P	17 49 58.4	+0.2
	comp=Z,1.6nm,0.6s,baz=25,slow=5.7,SNR=3.9						
PMG	Port Moresby	80.48	218	eP	P	17 50 08.8	+1.9
PMG				pmax	pmax		
	comp=Z,9.0nm,1.3s						
PMG	Port Moresby	80.48	218	eP	P	17 50 06.3	-0.7
	comp=Z,6.9nm,0.8s						
RAYN	Ar Rayn	85.40	323	eP	P	17 50 26.7	-5.9
PPT	Papeete	85.74	156	LR	LR	18 22 08.7	
	comp=Z,155nm,19.8s,baz=157,slow=31						
PSI	Prapat	85.96	268	P	P	17 50 34.4	-1.1
PSI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
PSI	Prapat	85.96	268	P	P	17 50 34.4	-1.1
	comp=Z,4.4nm,0.6s,baz=141,slow=4.2,SNR=5.8						
WRA	Warramunga Arr	94.03	227	P	P	17 51 12.0	-1.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	94.03	227	P	P	17 51 12.0	-1.1
	comp=Z,1.3nm,0.8s,baz=26,slow=5.6,SNR=9.4						
ASAR	Alice Springs	97.68	226	P	P	17 51 28.2	-1.4
	comp=Z,0.4nm,0.8s,baz=18,slow=4.8,SNR=4.3						
VNDA	Vanda	144.31	189	PKIKP	PKPab	17 57 27.1	-0.2
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNDA	Vanda	144.31	189	PKP	PKPab	17 57 27.1	-0.2
	comp=Z,3.8nm,0.9s,baz=31,slow=6.8,SNR=5.2						

BJI **13** *17:46:33.5, 9.°23N×57.°20E, h10km, mB4.9/14, mb4.5/34, Ms4.8/14, Ms7 4.3/15*
MOS **13** *17:46:40.1±1.5, 9.°71N×57.°89E, h10km, mb4.5/32, Error ellipse: s-maj=10.7km s-min=6.8km az=67.4*
IDC **13** *17:46:40.6±0.5, 9.°63N×58.°00E, h0km, mb4.2/22, mb1 4.2/22, mb1mx4.1/36, mbtmp4.2/22, MS3.8/11, Ms1 3.8/11, ms1mx3.5/26, Error ellipse: s-maj=16.4km s-min=12.5km az=134.0*
ISCJB **13** *17:46:41.5±0.3, 9.°67N±0.°04×57.°92E±0.°04, h17km, mb4.4/62, MS4.0/21, Error ellipse: s-maj=6.4km s-min=5.8km az=158.0*
NEIC **13** *17:46:42.2±0.3, 9.°71N×57.°88E, h10km, mb4.6/27, Error ellipse: s-maj=10.3km s-min=7.1km az=138.0*
CSEM **13** *17:46:42.5±0.2, 9.°69N×57.°91E, h10km, mb4.4/43, Error ellipse: s-maj=9.6km s-min=8.1km az=111.0*
ISC 13 17:46:43.0±0.4, 9.°70N±0.°06×57.°95E±0.°06, h17km, n223, σ1§42/234, mb4.5/62, MS3.9/21, 2C-2D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAYN	Ar Rayn	18.18	321	ePn	Pn	17 50 52.9	-2.0
	8.0nm,0.8s						
ISRV	Sarvestan	20.10	348	eP	P	17 51 17.2	+0.9
ISRV	Sarvestan	20.10	348	eP	P	17 51 17.2	+0.9
H08N2	Diego Garcia H	20.55	140	T	T	18 12 19.8	
	baz=320,slow=76,SNR=111						
IPAR	Pars	20.56	348	eP	P	17 51 21.7	+0.4
IPAR	Pars	20.56	348	eP	P	17 51 21.7	+0.4
H08N3	Diego Garcia H	20.56	140	T	T	18 12 26.0	
	baz=320,slow=76,SNR=129						
H08N1	Diego Garcia H	20.57	140	T	T	18 12 21.4	
	baz=320,slow=76,SNR=152						
HYB	Hyderabad	21.43	67	eP	P	17 51 32.0	+1.4
HYB	Hyderabad	21.43	67	iP	P	17 51 32.0	+1.4
HYB	Hyderabad	21.43	67	eP	P	17 51 32.0	+1.4
HYB	Hyderabad	21.43	67	eP	P	17 51 32.0	+1.4
IMEH	Mehriz	21.81	352	eP	P	17 51 33.7	-1.0
IMEH	Mehriz	21.81	352	eP	P	17 51 33.7	-1.0
IBAF	Bafgh	21.90	355	eP	P	17 51 34.9	-0.7
IBAF	Bafgh	21.90	355	eP	P	17 51 34.8	-0.7
ISAD	Sadrabad	22.46	350	eP	P	17 51 43.5	+1.8
ISAD	Sadrabad	22.46	350	eP	P	17 51 43.5	+1.8
IKOO	Kooshah	22.64	2	eP	P	17 51 45.8	+2.2
IKOO	Kooshah	22.64	2	eP	P	17 51 45.8	+2.2
ICHK	Chekchek	22.67	352	eP	P	17 51 44.0	0.0
ICHK	Chekchek	22.67	352	eP	P	17 51 44.0	0.0
KMBO	Kilima Mbogo	23.25	244	P	P	17 51 49.9	-0.2
KMBO				pmax	pmax		
	comp=Z,18nm,1.0s						
KMBO				MLR	MLR		
	comp=Z,211nm,18.4s						
KMBO	Kilima Mbogo	23.25	244	P	P	17 51 49.9	-0.2
	comp=Z,18nm,1.0s,baz=49,slow=11,SNR=22						
KMBO				LR	LR	18 01 38.3	
	comp=Z,211nm,18.4s,baz=92,slow=39						
KMBO	Kilima Mbogo	23.25	244	eP	P	17 51 49.9	-0.2
	comp=Z,31nm,1.2s						
IZEF	Zefreh	23.66	348	eP	P	17 51 52.8	-1.2
IZEF	Zefreh	23.66	348	eP	P	17 51 52.8	-1.2
IPIR	Pirpir	23.79	345	eP	P	17 51 54.3	-1.0
IPIR	Pirpir	23.79	345	eP	P	17 51 54.3	-1.0
IKLH	Kolahrood	24.23	347	eP	P	17 51 59.7	+0.3
IKLH	Kolahrood	24.23	347	eP	P	17 51 59.7	+0.3
IANJ	Anjilo	25.91	352	eP	P	17 52 15.9	+1.3
IANJ	Anjilo	25.91	352	eP	P	17 52 15.9	+1.3
ILAS	Lasjerd	25.97	351	eP	P	17 52 15.4	+0.3
ILAS	Lasjerd	25.97	351	eP	P	17 52 15.4	+0.3
IFIR	Firoozkooh	26.25	350	eP	P	17 52 19.5	+1.8
IFIR	Firoozkooh	26.25	350	eP	P	17 52 19.5	+1.8
IDMV	Damavand	26.32	349	eP	P	17 52 20.0	+1.6
IDMV	Damavand	26.32	349	eP	P	17 52 20.0	+1.6
IMYA	Miami	26.59	4	eP	P	17 52 22.9	+2.2
IMYA	Miami	26.59	4	eP	P	17 52 22.9	+2.2
IRAZ	Razeghan	26.61	345	eP	P	17 52 22.7	+1.8
IRAZ	Razeghan	26.61	345	eP	P	17 52 22.7	+1.8
IGHG	Ghaleghazi	26.64	339	eP	P	17 52 30.2	+9.0
IPAY	Payeh	26.65	2	eP	P	17 52 22.7	+1.5
IPAY	Payeh	26.65	2	eP	P	17 52 22.7	+1.5
IKRD	Kardeh	26.96	1	eP	P	17 52 25.9	+1.9
IKRD	Kardeh	26.96	1	eP	P	17 52 26.0	+1.9
IDHR	Dehrash	27.04	339	eP	P	17 52 25.0	+0.2
IDHR	Dehrash	27.04	339	eP	P	17 52 25.0	+0.2
EIL	Elat	29.28	316	LR	LR	18 03 58.9	
	comp=Z,126nm,19.0s,baz=97,slow=35						
OPO	Ambohidratompo	30.03	201	P	P	17 52 53.1	+1.6
	comp=Z,9.3nm,1.1s,baz=351,slow=8.3,SNR=4.2						
KOLN	Koldanda	30.11	50	eP	P	17 52 54.0	+1.8
KOLN	Koldanda	30.11	50	eP	P	17 52 54.0	+1.8
KOLN	Koldanda	30.11	50	eP	P	17 52 54.0	+1.8
ABPO	Ambohimpanom	30.43	200	eP	P	17 52 56.1	+1.0
ABPO				pmax	pmax		
	comp=Z,24nm,1.4s						
ABPO	Ambohimpanom	30.43	200	eP	P	17 52 56.0	+1.0
	comp=Z,24nm,1.4s						
ABPO	Ambohimpanom	30.43	200	eP	P	17 52 56.0	+1.0
	comp=Z,24nm,1.4s						
DMN	Daman	31.17	51	eP	P	17 53 03.7	+2.0
DMN	Daman	31.17	51	eP	P	17 53 03.7	+2.0
DMN	Daman	31.17	51	eP	P	17 53 03.7	+2.0
PKIN	Phulchoki	31.38	52	eP	P	17 53 05.0	+1.5
PKI	Pulchoki	31.39	52	eP	P	17 53 05.5	+1.8
PKI	Pulchoki	31.39	52	eP	P	17 53 05.5	+1.8
PKI	Pulchoki	31.39	52	eP	P	17 53 05.5	+1.8
PKI	Pulchoki	31.39	52	eP	P	17 53 05.5	+1.8
KKN	Kakani	31.39	51	eP	P	17 53 05.4	+1.8
KKN	Kakani	31.39	51	eP	P	17 53 05.4	+1.8
KKN	Kakani	31.39	51	eP	P	17 53 05.4	+1.8
KKN	Kakani	31.39	51	eP	P	17 53 05.4	+1.8
GUN	Gumba	31.92	52	eP	P	17 53 10.2	+1.9
	comp=Z,18nm,0.9s						
GUN	Gumba	31.92	52	eP	P	17 53 10.2	+1.9
	comp=Z,18nm,0.9s						
GUN	Gumba	31.92	52	eP	P	17 53 10.2	+1.9
	comp=Z,18nm,0.9s						
JIRN	Jiri	32.04	52	eP	P	17 53 10.7	+1.3
	comp=Z,11nm,0.8s						
JIRN	Jiri	32.04	52	eP	P	17 53 10.7	+1.3
	comp=Z,11nm,0.8s						
JIRN	Jiri	32.04	52	eP	P	17 53 10.7	+1.3
	comp=Z,11nm,0.8s						
GNI	Garni	32.52	341	P	P	17 53 15.8	+2.5
GNI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GNI	Garni	32.52	341	P	P	17 53 15.8	+2.5
	comp=Z,2.9nm,0.6s,baz=174,slow=19,SNR=3.0						
GNI	Garni	32.52	341	P	P	17 53 15.7	+2.4
	comp=Z,6.0nm,0.9s						
GNI	Garni	32.52	341	P	P	17 53 15.7	+2.5
	comp=Z,6.0nm,0.9s						
TAPN	Taplejung	33.09	54	eP	P	17 53 20.3	+1.7
	comp=Z,26nm,1.3s						
TAPN	Taplejung	33.09	54	eP	P	17 53 20.3	+1.7
	comp=Z,26nm,1.3s						
TAPN	Taplejung	33.09	54	eP	P	17 53 20.3	+1.7
	comp=Z,26nm,1.3s						
KSH	Kashi	33.77	26	eP	P	17 53 20.5	-3.6
KSH				epP	pP	17 53 24.4	-5.0
KSH				esP	sP	17 53 26.4	-5.1
KSH				ePP	PnPn	17 54 29.3	-7.3
KSH				eS	S	17 58 37.3	-10
KSH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,73nm,5.2s						
KSH				LR	LR		
	comp=Z,130nm,5.5s						
KSH				LR	LR		
	comp=Z,100nm,6.6s						
KSH				LR	LR		
	comp=Z,120nm,7.2s						
KKAR	Karatay Array	35.04	16	eP	P	17 53 36.7	+1.8
KKAR	Karatay Array	35.04	16	eP	P	17 53 36.7	+1.8
KKAR	Karatay Array	35.04	16	eP	P	17 53 36.7	+1.8
EKS2	Erkin-Say	35.64	20	eP	P	17 53 43.3	+3.0
EKS2				pmax	pmax		
	comp=Z,14nm,1.2s						
EKS2	Erkin-Say	35.64	20	eP	P	17 53 43.3	+3.0
	comp=Z,14nm,1.2s						
EKS2	Erkin-Say	35.64	20	eP	P	17 53 43.3	+3.0
	comp=Z,14nm,1.2s						
AAK	Ala-Archa	35.87	21	eP	P	17 53 44.3	+2.0
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	Ala-Archa	35.87	21	eP	P	17 53 44.3	+2.0
	comp=Z,3.5nm,0.8s						
AAK	Ala-Archa	35.87	21	eP	P	17 53 44.3	+2.0
	comp=Z,4.0nm,0.8s						
TKM2	Tokmak 2	36.51	22	P	P	17 53 42.2	-5.6
TKM2				pmax	pmax		
	comp=Z,17nm,1.6s						
TKM2	Tokmak 2	36.51	22	P	P	17 53 42.2	-5.6
	comp=Z,17nm,1.6s						
KIV	Kislovodsk	36.61	341	eP	P	17 53 45.6	-2.9
KIV				pmax	pmax		
	comp=Z,11nm,1.4s						
KIV				MLR	MLR		
	comp=Z,90nm,17.0s						
LSA	Lhasa	36.84	53	eP	P	17 53 51.6	+0.5
LSA				pmax	pmax		
	comp=Z,46nm,2.5s						
LSA	Lhasa	36.84	53	eP	P	17 53 51.6	+0.5
	comp=Z,46nm,2.5s						
LSA	Lhasa	36.84	53	eP	P	17 53 51.6	+0.5
	comp=Z,46nm,2.5s						
BRTR	Keskin Array B	36.92	328	P	P	17 53 52.4	+1.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	Keskin Array B	36.92	328	P	P	17 53 52.4	+1.1
	comp=Z,1.6nm,0.8s,baz=150,slow=5.5,SNR=6.9						
LSZ	Lusaka	38.54	230	P	P	17 54 05.7	+0.5
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LSZ	Lusaka	38.54	230	P	P	17 54 05.7	+0.5
	comp=Z,3.9nm,0.9s,baz=54,slow=13,SNR=7.0						
LSZ	Lusaka	38.54	230	eP	P	17 54 05.4	+0.2
	comp=Z,9.7nm,1.3s						
LSZ	Lusaka	38.54	230	eP	P	17 54 05.4	+0.2
	comp=Z,9.6nm,1.3s						
ABKAR	Akbulak array	39.47	2	eP	P	17 54 13.6	+1.2
	comp=Z,13nm,0.9s						
ABKAR				e		17 54 25.4	
ABKAR	Akbulak array	39.47	2	eP	P	17 54 13.6	+1.2
	comp=Z,13nm,0.9s						
AKTK	Aktyubinsk	40.61	0	eP	P	17 54 23.1	+1.2
	comp=Z,7.0nm,0.7s						
AKTO	Aktyubinsk	40.61	0	P	P	17 54 23.1	+1.2
AKTO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AKTO	Aktyubinsk	40.61	0	P	P	17 54 23.1	+1.2
	comp=Z,7.3nm,0.7s,baz=179,slow=9.2,SNR=30						
CMAR	Chiang Mai Arr	40.62	73	P	P	17 54 24.0	+1.5
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR				MLR	MLR		
	comp=Z,64nm,19.1s						
CMAR	Chiang Mai Arr	40.62	73	P	P	17 54 23.9	+1.5
	comp=Z,3.0nm,1.0s,baz=261,slow=8.3,SNR=22						
CMAR				LR	LR	18 10 47.0	
	comp=Z,64nm,19.1s,baz=245,slow=36						
CMAR	Chiang Mai Arr	40.62	73	P	P	17 54 24.0	+1.5
	comp=Z,64nm,19.1s						
CHTO	Chiang Mai	40.66	72	eP	P	17 54 23.6	+0.8
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.3s						
CHTO	Chiang Mai	40.66	72	eP	P	17 54 23.6	+0.8
	comp=Z,9.0nm,1.3s						
CHTO	Chiang Mai	40.66	72	eP	P	17 54 23.6	+0.8
	comp=Z,9.0nm,1.3s						
MKAR	Makanchi Array	42.37	25	P	P	17 54 37.1	+0.6
MKAR						17 56 29.7	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	42.37	25	P	P	17 54 37.0	+0.6
	comp=Z,0.9nm,0.7s,baz=213,slow=8.9,SNR=8.7						
MKAR				PcP	PcP	17 56 29.6	0.0
	comp=Z,0.4nm,0.7s,baz=224,slow=2.7,SNR=3.0						
WMQ	Urumqi	42.69	32	eP	P	17 54 39.0	-0.1
WMQ				pP	pP	17 54 43.5	-0.9
WMQ				sP	sP	17 54 46.0	-0.5
WMQ				PP	PP	17 56 20.8	+2.6
WMQ				PcP	PcP	17 56 30.8	0.0
WMQ				PcS	PcS	18 00 22.1	-0.8
WMQ				S	S	18 01 01.8	-0.1
WMQ				pmax	pmax		
	comp=Z,8.0nm,2.0s						
WMQ				pmax	pmax		
	comp=Z,150nm,4.0s						
WMQ				LR	LR		
	comp=Z,130nm,18.6s						
WMQ				LR	LR		
	comp=Z,86nm,15.0s						
WMQ				LR	LR		
	comp=Z,220nm,19.0s						
VSR	Storozhevoye	44.18	343	eP	P	17 54 49.1	-1.8
VSR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
VSR	Storozhevoye	44.18	343	eP	P	17 54 49.1	-1.8
	comp=Z,9.0nm,1.0s						
KURK	Kurchatov	44.31	19	eP	P	17 54 52.6	+0.7
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURK	Kurchatov	44.31	19	eP	P	17 54 52.6	+0.7
	comp=Z,2.1nm,1.0s						
KURK	Kurchatov	44.31	19	eP	P	17 54 52.6	+0.7
	comp=Z,2.0nm,1.0s						
BVAR	Borovoye Array	44.36	11	P	P	17 54 52.9	+0.6
BVAR						17 56 32.2	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	Borovoye Array	44.36	11	P	P	17 54 52.9	+0.6
	comp=Z,1.8nm,0.7s,baz=190,slow=7.5,SNR=8.1						
BVAR				PP	PP	17 56 32.2	-3.8
	comp=Z,1.0nm,0.8s,baz=171,slow=10,SNR=3.8						
BRVK	Borovoye	44.37	11	P	P	17 54 52.3	-0.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	Borovoye	44.37	11	P	P	17 54 52.2	-0.2
	comp=Z,2.7nm,0.6s						
BRVK	Borovoye	44.37	11	P	P	17 54 52.3	-0.2
	comp=Z,3.0nm,0.6s						
KMI	Kunming	45.17	64	P	P	17 54 59.5	-0.1
KMI				S	S	18 01 39.4	+0.4
KMI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KMI				LR	LR		
	comp=Z,170nm,12.3s						
KMI				LR	LR		
	comp=Z,150nm,11.0s						
KMI				LR	LR		
	comp=Z,180nm,12.6s						
TESR	Tescani	45.35	330	⇑iP	P	17 55 00.1	-0.2
VOIR		45.44	328	⇑iP	P	17 55 00.9	-0.3
ARU	Arti	46.62	0	d iP	P	17 55 10.4	+0.2
ARU						17 56 57.3	
ARU				S	S	18 02 03.3	+4.9
ARU				pmax	pmax		
	comp=Z,17nm,1.7s						
ARU	Arti	46.62	0	eP	P	17 55 09.7	-0.5
	comp=Z,9.5nm,1.0s						
ARU	Arti	46.62	0	iP	P	17 55 10.4	+0.2
	comp=Z,17nm,1.7s						
LBTB	Lobatse	46.75	222	P	P	17 55 11.5	-0.2
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LBTB	Lobatse	46.75	222	P	P	17 55 11.5	-0.2
	comp=Z,2.2nm,0.8s,baz=52,slow=6.4,SNR=4.4						
AKASG	Malin Array Be	47.24	335	P	P	17 55 14.7	-0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	Malin Array Be	47.24	335	P	P	17 55 14.7	-0.4
	comp=Z,0.9nm,0.8s,baz=149,slow=6.4,SNR=5.3						
CD2	Chengdu	47.45	57	P	P	17 55 16.5	-0.7
CD2				pP	pP	17 55 21.0	-1.5
CD2				sP	sP	17 55 23.5	-1.1
CD2				PP	PP	17 57 07.3	-1.3
CD2				S	S	18 02 10.3	-0.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				LR	LR		
	comp=Z,310nm,7.1s						
CD2				LR	LR		
	comp=Z,260nm,9.5s						
GTA	Gaotai	47.57	44	eP	P	17 55 18.5	+0.4
GTA				pP	pP	17 55 22.9	-0.6
GTA				sP	sP	17 55 26.1	+0.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	Obninsk	48.36	344	eP	P	17 55 23.2	-0.5
OBN				pmax	pmax		
	comp=Z,7.0nm,1.5s						
OBN				MLR	MLR		
	comp=Z,157nm,17.0s						
OBN	Obninsk	48.36	344	eP	P	17 55 23.2	-0.5
	comp=Z,157nm,17.0s						
TSUM	Tsumeb	49.07	234	eP	P	17 55 30.8	+0.9
	comp=Z,4.0nm,0.8s						
TSUM	Tsumeb	49.07	234	eP	P	17 55 30.8	+0.9
	comp=Z,4.0nm,0.8s						
ZALV	Zalesovo Beam	49.09	21	P	P	17 55 29.4	0.0
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZALV	Zalesovo Beam	49.09	21	P	P	17 55 29.4	0.0
	comp=Z,4.7nm,0.8s,baz=225,slow=7.5,SNR=19						
LZH	Lanzhou	49.16	50	eP	P	17 55 30.8	+0.4
LZH				pP	pP	17 55 35.5	-0.3
LZH				sP	sP	17 55 37.0	-0.9
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				pmax	pmax		
	comp=Z,68nm,4.3s						
LZH				LR	LR		
	comp=Z,320nm,15.0s						
LZH				LR	LR		
	comp=Z,210nm,14.4s						
LZH				LR	LR		
	comp=Z,230nm,16.6s						
KOLS	Kolonicke sedl	49.16	329	eP	P	17 55 31.3	+1.3
KOLS	Kolonicke sedl	49.16	329	eP	P	17 55 31.3	+1.3
KOLS	Kolonicke sedl	49.16	329	eP	P	17 55 31.3	+1.3
NVS	Novosibirsk	49.29	19	⇓iP	P	17 55 30.0	-0.9
NVS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
NVS				pmax	pmax		
	comp=N,5.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,9.0nm,2.0s						
NVS	Novosibirsk	49.29	19	iP	P	17 55 30.0	-0.9
	comp=E,5.0nm,1.3s						
BOSA	Boshof	49.48	219	P	P	17 55 32.9	0.0
BOSA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BOSA				MLR	MLR		
	comp=Z,16nm,28.6s						
BOSA	Boshof	49.48	219	P	P	17 55 32.9	0.0
	comp=Z,3.8nm,1.0s,baz=65,slow=8.9,SNR=3.6						
BOSA				LR	LR	18 15 38.6	
	comp=Z,160nm,19.1s,baz=46,slow=35						
BOSA	Boshof	49.48	219	P	P	17 55 32.9	0.0
	comp=Z,16nm,28.6s						
VYHS	Vyhne	50.67	327	eP	P	17 55 41.4	-0.1
VYHS	Vyhne	50.67	327	eP	P	17 55 41.4	-0.1
VYHS	Vyhne	50.67	327	eP	P	17 55 41.4	-0.1
QIZ	Qiongzhong	50.96	73	P	P	17 55 43.6	-0.6
QIZ				sP	sP	17 55 47.9	-3.7
QIZ				S	S	18 03 01.9	+1.2
QIZ				pmax	pmax		
	comp=Z,16nm,2.3s						
ENH	Enshi	52.09	59	eP	P	17 55 55.8	+3.3
MORC	Moravsky Berou	52.11	328	P	P	17 55 49.4	-2.9
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MORC	Moravsky Berou	52.11	328	P	P	17 55 49.4	-2.9
	comp=Z,2.8nm,0.9s						
XAN	Xi'an	52.50	54	P	P	17 55 55.3	-0.2
XAN				pP	pP	17 56 01.4	+0.5
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
XAN				LR	LR		
	comp=Z,350nm,11.6s						
XAN				LR	LR		
	comp=Z,69nm,8.7s						
XAN				LR	LR		
	comp=Z,100nm,11.1s						
KLMR	Klimovskoe	52.86	349	eP	P	17 55 55.5	-2.1
KLMR				pmax	pmax		
	comp=Z,24nm,1.6s						
KLMR	Klimovskoe	52.86	349	eP	P	17 55 55.5	-2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
	comp=Z,24nm,1.6s						
TORD	**Torodi Ar. Bea**	**55.16**	**279**	P	**P**	**17 56 16.2**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=93,slow=2.9,SNR=9.8						
TORD				LR	LR	18 19 44.2	
	comp=Z,72nm,18.0s,baz=335,slow=36						
SONM	**Songino Array**	**55.65**	**38**	P	**P**	**17 56 18.8**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,75nm,21.3s						
SONM	**Songino Array**	**55.65**	**38**	P	**P**	**17 56 18.8**	**+0.5**
	comp=Z,0.8nm,1.0s,baz=238,slow=7.4,SNR=7.4						
SONM				LR	LR	18 18 37.6	
	comp=Z,75nm,21.2s,baz=304,slow=34						
ULN	**Ulaanbaatar**	**56.06**	**38**	P	**P**	**17 56 19.7**	**-1.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**56.06**	**38**	P	**P**	**17 56 19.7**	**-1.6**
	comp=Z,1.7nm,1.0s						
ULN	**Ulaanbaatar**	**56.06**	**38**	P	**P**	**17 56 19.7**	**-1.6**
	comp=Z,2.0nm,1.0s						
WHN	**Wuhan**	**56.27**	**60**	P	**P**	**17 56 23.0**	**+0.1**
WHN				S	**S**	**18 04 09.9**	**-2.5**
WHN				LR	LR		
	comp=Z,340nm,21.0s						
HHC	**Hu-ho-hao-te**	**56.45**	**47**	*e*P	**P**	**17 56 25.0**	**+0.8**
HHC				sP	**sP**	**17 56 31.3**	**-0.4**
HHC				PP	**PP**	**17 58 32.5**	**+2.6**
HHC				S	**S**	**18 04 15.0**	**+0.3**
HHC				ScS	**ScS**	**18 06 10.3**	**-2.8**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,6.4s						
HHC				LR	LR		
	comp=Z,330nm,16.0s						
HHC				LR	LR		
	comp=Z,730nm,17.3s						
HHC				LR	LR		
	comp=Z,340nm,17.3s						
FINES	**FINESS Array B**	**56.70**	**342**	P	**P**	**17 56 24.9**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**56.70**	**342**	P	**P**	**17 56 24.9**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=148,slow=11,SNR=6.3						
BJT	**Baijiatuau**	**59.60**	**49**	P	**P**	**17 56 44.0**	**-2.2**
BJT	**Baijiatuau**	**59.60**	**49**	P	**P**	**17 56 44.0**	**-2.2**
BJI	**Beijing**	**59.61**	**49**	P	**P**	**17 56 46.4**	**+0.2**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BJI				LR	LR		
	comp=Z,190nm,13.8s						
BJI				LR	LR		
	comp=Z,180nm,14.1s						
BJI				LR	LR		
	comp=Z,130nm,28.4s						
CIT	**Chita**	**61.59**	**35**	*e*P	P	17 57 18.1	+19
NOA	**NORSAR Array B**	**61.64**	**336**	LR	LR	18 26 12.3	
	comp=Z,37nm,18.2s,baz=40,slow=38						
YHNB	**Yeheng**	**61.92**	**67**	P	P	17 57 07.8	+5.5
DBIC	**Dimbokro**	**62.17**	**272**	P	**P**	**17 57 03.8**	**-0.3**
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,16nm,28.6s						
DBIC	**Dimbokro**	**62.17**	**272**	P	**P**	**17 57 03.8**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=56,slow=3.8,SNR=4.0						
DBIC				LR	LR	18 23 27.1	
	comp=Z,79nm,18.8s,baz=73,slow=36						
DBIC	**Dimbokro**	**62.17**	**272**	P	**P**	**17 57 03.8**	**-0.3**
	comp=Z,16nm,28.6s						
ESDC	**Sonseca Array**	**62.31**	**310**	P	**P**	**17 57 05.1**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=92,slow=6.6,SNR=7.5						
CN2	**Changchun**	**67.13**	**47**	*e*P	**P**	**17 57 37.0**	**+1.0**
MBWA	**Marble Bar**	**67.97**	**117**	P	P	17 57 47.7	+6.1
	comp=Z,7.0nm,0.7s						
KSAR	**Wonju Array Be**	**68.25**	**54**	P	**P**	**17 57 42.3**	**-0.8**
KSAR	**Wonju Array Be**	**68.25**	**54**	P	**P**	**17 57 42.3**	**-0.8**
KSAR	**Wonju Array Be**	**68.25**	**54**	P	**P**	**17 57 42.3**	**-0.8**
KSRS	**Korea Array**	**68.28**	**54**	P	**P**	**17 57 42.3**	**-1.0**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,69nm,18.2s						
KSRS	**Korea Array**	**68.28**	**54**	P	**P**	**17 57 42.3**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=267,slow=8.5,SNR=8.5						
KSRS				LR	LR	18 29 35.3	
	comp=Z,69nm,18.2s,baz=276,slow=38						
MDJ	**Mudanjiang**	**70.19**	**46**	P	**P**	**17 57 55.3**	**+0.3**
	comp=Z,12nm,1.2s						
MDJ	**Mudanjiang**	**70.19**	**46**	P	**P**	**17 57 55.3**	**+0.3**
	comp=Z,12nm,1.2s						
USRK	**Ussuriysk Arra**	**71.86**	**47**	LR	LR	18 30 28.8	
	comp=Z,79nm,20.6s,baz=259,slow=37						
KLR	**Kul'dur**	**72.14**	**41**	*e*P	P	17 58 02.6	-4.2
YAK	**Yakutsk**	**72.94**	**28**	*e*P	**P**	**17 58 09.7**	**-1.6**
YAK				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK	**Yakutsk**	**72.94**	**28**	*e*P	**P**	**17 58 10.6**	**-0.7**
	comp=Z,12nm,0.8s						
YAK	**Yakutsk**	**72.94**	**28**	*e*P	**P**	**17 58 10.6**	**-0.7**
	comp=Z,12nm,0.8s						
TIXI	**Tiksi**	**74.88**	**18**	*e*P	**P**	**17 58 21.6**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	**Tiksi**	**74.88**	**18**	*e*P	**P**	**17 58 21.7**	**-0.7**
	comp=Z,2.4nm,0.8s						
TIXI	**Tiksi**	**74.88**	**18**	*e*P	**P**	**17 58 21.7**	**-0.7**
	comp=Z,2.4nm,0.8s						
MAJO	**Matsushiro**	**76.49**	**55**	P	**P**	**17 58 31.6**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,11nm,1.3s						
MAJO	**Matsushiro**	**76.49**	**55**	P	**P**	**17 58 31.6**	**-0.8**
	comp=Z,11nm,1.3s						
MAJO	**Matsushiro**	**76.49**	**55**	P	**P**	**17 58 31.6**	**-0.8**
	comp=Z,11nm,1.3s						
MJAR	**Matsushiro Arr**	**76.49**	**55**	P	**P**	**17 58 35.1**	**+2.7**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,16nm,28.6s						
MJAR	**Matsushiro Arr**	**76.49**	**55**	P	**P**	**17 58 35.1**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=268,slow=6.1,SNR=3.3						
MJAR				LR	LR	18 33 39.2	
	comp=Z,63nm,20.1s,baz=95,slow=37						
MJAR	**Matsushiro Arr**	**76.49**	**55**	P	**P**	**17 58 35.1**	**+2.7**
	comp=Z,16nm,28.6s						
WRA	**Warramunga Arr**	**80.70**	**112**	P	**P**	**17 58 54.4**	**-1.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**80.70**	**112**	P	**P**	**17 58 54.4**	**-1.5**
	comp=Z,2.0nm,1.0s,baz=296,slow=4.0,SNR=6.7						
WRAB	**Tennant Creek**	**80.71**	**112**	*e*P	**P**	**17 58 55.6**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,17nm,1.0s						
WRAB	**Tennant Creek**	**80.71**	**112**	*e*P	**P**	**17 58 55.1**	**-0.9**
	comp=Z,8.8nm,1.1s						
WRAB	**Tennant Creek**	**80.71**	**112**	*e*P	**P**	**17 58 55.6**	**-0.4**
	comp=Z,17nm,1.0s						
ASAR	**Alice Springs**	**81.22**	**116**	P	**P**	**17 58 57.7**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**81.22**	**116**	P	**P**	**17 58 57.6**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=285,slow=5.0,SNR=20						
CASY	**Casey**	**84.88**	**161**	P	**P**	**17 59 16.5**	**0.0**
	comp=Z,85nm,1.4s						
CASY	**Casey**	**84.88**	**161**	P	**P**	**17 59 16.5**	**0.0**
	comp=Z,85nm,1.4s						
BILL	**Bilibino**	**87.79**	**21**	*e*P	**P**	**17 59 30.7**	**-0.3**
BILL				*e*		17 59 38.9	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,58nm,16.0s						
BILL	**Bilibino**	**87.79**	**21**	*e*P	**P**	**17 59 30.5**	**-0.5**
	comp=Z,2.1nm,0.9s						
BILL	**Bilibino**	**87.79**	**21**	*e*P	**P**	**17 59 30.7**	**-0.3**
	comp=Z,3.0nm,1.3s						
PDAR	**Pinedale Array**	**126.55**	**349**	PKP	**PKPdf**	**18 05 46.1**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=90,slow=5.9,SNR=4.2						
NVAR	**Mina Array Bea**	**132.00**	**356**	PKP	**PKPdf**	**18 05 57.8**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=316,slow=5.0,SNR=2.7						

IDC 13 18:05:56.2±1.3,26°.06N×141°.43E,h193km±19km,mb3.1/6, mb1 3.3/6,mb1mx3.0/31,mbtmp3.7/6,Error ellipse: s-maj=61.8km s-min=20.7km az=80.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
JCJ	**Chichijima**	**1.23**	**33**	P	Pn	18 06 28.1	+1.0
	75nm,0.3s,baz=269,slow=20,SNR=23						
JCJ				S	Sn	18 06 51.0	-0.1
	69nm,0.3s,baz=258,slow=23,SNR=20						
SONM	**Songino Array**	**35.00**	**318**	P	P	18 12 29.6	-0.7
	0.2nm,0.5s,baz=123,slow=7.9,SNR=4.2						
WRA	**Warramunga Arr**	**46.24**	**189**	P	P	18 14 02.0	-0.3
	0.3nm,0.4s,baz=11,slow=8.7,SNR=7.3						
MKAR	**Makanchi Array**	**50.62**	**310**	P	P	18 14 35.6	+0.2
	0.2nm,0.5s,baz=99,slow=8.5,SNR=3.8						
JOF	**Joensuu**	**75.70**	**334**	*e*p	P	18 17 20.1	+0.1
	0.7nm,0.4s						
FINES	**FINESS Array B**	**78.57**	**334**	P	P	18 17 36.3	+0.3
	1.4nm,0.4s,baz=81,slow=5.1,SNR=31						
AKASG	**Malin Array Be**	**83.05**	**324**	P	P	18 17 59.5	-0.4
	0.5nm,0.5s,baz=51,slow=5.2,SNR=6.0						
NOA	**NORSAR Array B**	**84.31**	**338**	P	P	18 18 05.9	-0.3
	0.6nm,0.7s,baz=47,slow=4.6,SNR=3.4						

MEX 13 18:36:06.3±0.3,14°.83N×92°.72W,h87km±4km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
THIG		**0.45**	**80**	*e*P	Pn	18 36 19.0	-1.3
THIG				*i* S	Sn	18 36 29.2	-1.6
PCIG		**0.99**	**331**	*e*P	Pn	18 36 24.5	-1.2
PCIG				*e*S	Sn	18 36 38.5	-1.8
CCIG	**Comitan**	**1.55**	**21**	*e*P	Pn	18 36 31.6	-1.2
CCIG				*e*S	Sn	18 36 51.3	-1.7
CMIG	**Matias Romero**	**3.06**	**318**	*e*P	Pn	18 36 52.2	-0.5
CMIG				*e*S	Sn	18 37 27.7	-0.7
HUIG	**Huatulco**	**3.40**	**286**	*e*P	Pn	18 36 55.9	-1.3
HUIG				*i* S	Sn	18 37 35.6	-0.8

IDC 13 18:43:35.0±54.0,13°.76S×173°.79W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.7/26,mbtmp4.2/3,Error ellipse: s-maj=1033.0km s-min=176.8km az=76.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
STKA	**Stephens Creek**	**44.55**	**238**	P	P	18 51 48.8	-0.1
	2.6nm,0.7s,baz=81,slow=8.7,SNR=11						
WRA	**Warramunga Arr**	**49.87**	**255**	P	P	18 52 29.8	-0.8
	0.3nm,0.5s,baz=89,slow=6.8,SNR=12						
ASAR	**Alice Springs**	**50.27**	**251**	P	P	18 52 34.0	+0.4
	10nm,0.7s,baz=87,slow=8.2,SNR=340						

ISCJB 13 18:46:28.0±0.5,27°.13S±0°.05×177°.42W±0°.10,h100km, mb4.1/14,Error ellipse: s-maj=13.0km s-min=7.0km az=17.4

NEIC 13 18:46:30.5±0.4,27°.24S×177°.35W,mb4.5/7,Error ellipse: s-maj=13.4km s-min=10.0km az=133.0

IDC 13 18:46:30.9±0.7,27°.24S×177°.43W,h114km±6km,mb3.8/9, mb1 4.1/11,mb1mx4.0/24,mbtmp4.2/11,Error ellipse: s-maj=20.0km s-min=10.6km az=109.0

ISC 13 18:46:29.8±0.6,27°.20S±0°.07×177°.3W±0°.1,h100km,n27, σ1s49/29,mb4.2/14,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
RAO	**Raoul Island**	**2.11**	**194**	P	**Pn**	**18 47 02.8**	**-0.9**
	360nm,0.3s,baz=281,slow=24,SNR=7.1						
RAO				S	**Sn**	**18 47 30.9**	**+1.2**
	244nm,0.3s,baz=84,slow=19,SNR=4.3						
URZ	**Urewera**	**11.97**	**202**	P	**Pn**	**18 49 16.7**	**-0.4**
	0.4nm,0.3s,baz=252,slow=3.2,SNR=3.0						
URZ				S	**Sn**	**18 51 28.5**	**-0.1**
	1.2nm,0.3s,baz=135,slow=17,SNR=5.1						
DZM	**Mont Dzumac**	**15.61**	**286**	P	P	18 50 09.1	+2.7
	28nm,0.8s						
RAR	**Rarotonga**	**17.09**	**73**	P	**Pn**	**18 50 21.6**	**-0.8**
	40nm,0.9s						
EIDS	**Eidsvold**	**28.34**	**266**	*e*P	**P**	**18 52 14.3**	**-0.1**
	4.4nm,0.8s						
CTAO	**Charters Tower**	**34.01**	**274**	P	P	18 52 59.4	-4.9
	16nm,1.4s						
STKA	**Stephens Creek**	**35.88**	**252**	P	**P**	**18 53 19.7**	**-0.6**
	1.5nm,1.0s,baz=124,slow=11,SNR=2.2						
PMG	**Port Moresby**	**37.89**	**291**	P	P	18 53 29.4	-7.9
ASAR	**Alice Springs**	**43.96**	**263**	P	**P**	**18 54 26.4**	**-0.8**
	1.8nm,0.8s,baz=116,slow=8.0,SNR=9.5						
ASAR				pP	**pP**	**18 54 52.6**	**+2.0**
	2.1nm,0.8s,baz=78,slow=6.1,SNR=3.0						
WRAB	**Tennant Creek**	**44.66**	**269**	*e*P	**P**	**18 54 31.4**	**-1.3**
	6.0nm,0.8s						
WRA	**Warramunga Arr**	**44.66**	**269**	P	**P**	**18 54 31.6**	**-1.2**
	4.3nm,0.6s,baz=106,slow=7.6,SNR=33						
QSPA	**South Pole Qui**	**62.90**	**180**	*e*P	**P**	**18 56 45.4**	**+0.2**
	3.7nm,0.8s						
KSM	**Kuching**	**75.04**	**280**	P	P	18 57 55.4	-5.6
	20nm,1.1s						
MJAR	**Matsushiro Arr**	**75.97**	**324**	P	**P**	**18 58 03.8**	**-2.0**
	1.8nm,0.8s,baz=163,slow=6.6,SNR=7.5						
YSS	**Yuzh-Sakhalins**	**82.14**	**334**	*e*P	**P**	**18 58 38.9**	**-0.2**
KSRS	**Korea Array**	**82.31**	**319**	P	**P**	**18 58 39.6**	**-0.6**
	2.7nm,0.6s,baz=130,slow=5.9,SNR=20						
KSAR	**Wonju Array Be**	**82.33**	**319**	P	**P**	**18 58 39.6**	**-0.7**
NVAR	**Mina Array Bea**	**85.50**	**42**	P	**P**	**18 58 56.6**	**-0.1**
	0.6nm,0.7s,baz=224,slow=8.5,SNR=3.9						
NVAR				pP	**pP**	**18 59 26.8**	**+3.9**
	0.9nm,0.7s,baz=225,slow=7.8,SNR=4.5						
TXAR	**Lajitas Array**	**90.17**	**57**	P	**P**	**18 59 19.5**	**+0.4**
	0.4nm,0.8s,baz=215,slow=6.2,SNR=2.8						
CMAR	**Chiang Mai Arr**	**92.91**	**289**	P	**P**	**18 59 32.5**	**+0.5**
	1.1nm,0.8s,baz=140,slow=4.0,SNR=8.5						
PDAR	**Pinedale Array**	**93.41**	**43**	P	**P**	**18 59 33.1**	**-1.0**
	0.5nm,0.8s,baz=185,slow=4.5,SNR=4.0						
PDAR				pP	**pP**	**19 00 02.2**	**+1.8**
	0.6nm,0.9s,baz=222,slow=2.0,SNR=3.3						
ARCES	**ARCESS Array B**	**135.59**	**349**	PKP	**PKPdf**	**19 05 37.4**	**-0.1**
	4.0nm,1.0s,baz=31,slow=2.1,SNR=3.3						
FINES	**FINESS Array B**	**142.33**	**342**	PKhKP	PKPpre	19 05 43.5	
	2.0nm,1.0s,baz=44,slow=5.8,SNR=4.1						
NOA	**NORSAR Array B**	**145.68**	**353**	PKPbc	**PKPdf**	**19 05 54.7**	**-1.2**
	1.5nm,0.8s,baz=15,slow=2.7,SNR=5.9						
NOA				pPKPbc	pPKPbc	19 06 26.8	+3.2
	0.9nm,0.8s,baz=23,slow=3.9,SNR=2.6						
AKASG	**Malin Array Be**	**149.04**	**326**	PKPbc	**PKPdf**	**19 06 04.2**	**+2.5**
	0.7nm,0.6s,baz=42,slow=3.7,SNR=6.7						
BRTR	**Keskin Array B**	**151.45**	**304**	PKPbc	**PKPbc**	**19 06 10.7**	**-1.6**
	0.8nm,0.8s,baz=156,slow=5.0,SNR=4.4						
BRTR				PKPab	**PKPab**	**19 06 19.1**	**-1.9**
	2.6nm,0.6s,baz=116,slow=3.7,SNR=11						
TORD	**Torodi Ar. Bea**	**165.99**	**176**	PKPab	**PKPab**	**19 07 24.9**	**+0.9**
	0.4nm,0.6s,baz=194,slow=3.7,SNR=5.1						

IDC 13 18:54:11.9±1.5,6°.59S×150°.71E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.5/27,mbtmp3.6/5,ML2.6/1,Error ellipse: s-maj=74.8km s-min=25.3km az=124.0

ISCJB 13 18:54:15.8±1.3,6°.6S±0°.3×150°.5E±0°.3,h33km,mb3.4/3, Error ellipse: s-maj=56.9km s-min=14.0km az=137.6

ISC 13 18:54:17.2±1.4,6°.6S±0°.3×150°.5E±0°.4,h33km,n6,σ0s57/7, mb3.6/3,New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
PMG	**Port Moresby**	**4.36**	**230**	Pn	**Pn**	**18 55 21.6**	**+0.5**
	2.1nm,0.3s,baz=0.0,slow=0.0,SNR=14						
PMG				Sn	**Sn**	**18 56 10.3**	**-0.5**
	4.2nm,0.3s,baz=120,slow=20,SNR=9.6						
WRA	**Warramunga Arr**	**20.57**	**228**	P	**P**	**18 58 53.1**	**-0.4**
	1.6nm,0.8s,baz=54,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**23.32**	**222**	P	**P**	**18 59 23.4**	**+0.7**
	0.5nm,0.5s,baz=57,slow=8.7,SNR=13						
STKA	**Stephens Creek**	**26.50**	**197**	P	**P**	**18 59 51.4**	**-0.3**
	1.3nm,0.8s,baz=354,slow=10,SNR=3.0						
ILAR	**Eielson Array**	**84.66**	**22**	P	**P**	**19 06 47.2**	**-0.2**
	0.5nm,0.9s,baz=254,slow=4.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**148.64**	**284**	PKPbc	**PKPbc**	**19 14 02.1**	**0.0**
	0.4nm,0.7s,baz=90,slow=2.9,SNR=6.4						

ISCJB 13 19:07:34.2±0.2,43°.73N±0°.01×105°.32W±0°.02,h0km,Error ellipse: s-maj=1.8km s-min=1.8km az=152.9

NEIC 13 19:07:35.1±0.3,43°.77N×105°.26W,h0km,ML3.4,Error ellipse: s-maj=4.6km s-min=4.0km az=115.0,Suspected Mining explosion.

NEIC 60 km [40 miles] SSE of Gillette.

IDC 13 19:07:35.5±1.6,43°.80N×105°.55W,h0km,mb1 3.7/4, mb1mx3.4/30,mbtmp3.4/4,ML3.3/4,Error ellipse: s-maj=42.4km s-min=8.6km az=148.0

ISC 13 19:07:35.0±0.7,43°.74N±0°.02×105°.30W±0°.02,h0km,n124, σ0s72/143,49C-36D,Wyoming

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
I23A	**Meade Ranch, G**	**0.25**	**332**	P	**Pg**	**19 07 40.8**	**+1.0**
	baz=0.2,SNR=484						
J23A	**Dilts Ranch, B**	**0.38**	**209**	P	**Pg**	**19 07 43.1**	**+0.8**
	baz=0.4,SNR=170						
I24A	**Kuemmerle Ranc**	**0.50**	**76**	P	**Pg**	**19 07 44.9**	**+0.2**
	baz=0.5,SNR=229						
I24A				⇓S	**Sg**	**19 07 52.0**	**+0.8**
	baz=0.5						
J24A	**Dixon Ranch, L**	**0.62**	**131**	⇓P	**Pg**	**19 07 46.6**	**-0.3**
	baz=0.6,SNR=62						
J24A				⇑S	**Sg**	**19 07 55.3**	**+0.5**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.83**	**355**	⇑P	**Pg**	**19 07 50.7**	**-0.2**
	baz=0.8,SNR=61						
H23A				⇓S	**Sb**	**19 08 03.2**	**-0.9**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.87**	**281**	⇑P	**Pg**	**19 07 52.0**	**+0.2**
	baz=0.9,SNR=927						
J22A	**Midwest**	**0.92**	**250**	⇑P	**Pg**	**19 07 52.3**	**-0.3**
	baz=1.0,SNR=150						
J22A				⇑S	**Sg**	**19 08 04.5**	**0.0**
	baz=1.0						
RSSD	**Black Hills**	**0.99**	**67**	*e*Pg	**Pg**	**19 07 53.4**	**-0.6**
K23A	**Bowen Ranch, D**	**1.01**	**194**	⇑P	**Pg**	**19 07 53.9**	**-0.5**
	baz=1.0,SNR=10						
K23A				⇑S	**Sg**	**19 08 07.6**	**0.0**
	baz=1.0						
K24A	**Anderson Ranch**	**1.08**	**161**	⇑P	**Pg**	**19 07 55.2**	**-0.5**
	baz=1.1,SNR=181						
K24A				⇑S	**Sg**	**19 08 09.9**	**+0.3**
	baz=1.1						
H22A	**Clearmont**	**1.14**	**319**	⇓P	**Pg**	**19 07 56.9**	**-0.1**
	baz=1.1,SNR=211						
H22A				⇑S	**Sb**	**19 08 12.8**	**-0.4**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.14**	**28**	⇑P	**Pg**	**19 07 56.1**	**-0.8**
	baz=1.1						
H24A				⇑S	**Sb**	**19 08 13.4**	**+0.3**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.14**	**107**	⇓P	**Pg**	**19 07 56.6**	**-0.3**
	baz=1.1,SNR=327						
J25A				⇑S	**Sg**	**19 08 12.2**	**+0.4**
	baz=1.1						
I25A	**Rochford**	**1.17**	**76**	P	**Pg**	**19 07 56.6**	**-0.8**
	baz=1.1,SNR=333						
I25A				⇑S	**Sb**	**19 08 13.8**	**-0.2**
	baz=1.1						
K22A	**Casper**	**1.41**	**220**	*e*Pn	**Pn**	**19 08 00.9**	**-1.2**
K22A	**Casper**	**1.41**	**220**	⇓P	**Pn**	**19 08 01.1**	**-1.0**
	baz=1.4,SNR=236						
K22A				⇓S	**Sb**	**19 08 20.9**	**0.0**
	baz=1.4						
I21A	**Big Trails, Te**	**1.45**	**274**	⇑P	**Pn**	**19 08 01.4**	**-1.2**
	baz=1.5,SNR=463						
I21A				⇑S	**Sn**	**19 08 22.0**	**-0.3**
	baz=1.5						
G23A	**Biddle**	**1.46**	**357**	⇑P	**Pn**	**19 08 02.0**	**-0.8**
	baz=1.4,SNR=234						
H25A	**Fruitdale**	**1.51**	**54**	⇑P	**Pn**	**19 08 03.2**	**-0.2**
	baz=1.5,SNR=85						
H25A				⇑S	**Sn**	**19 08 24.9**	**+1.1**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.54**	**306**	⇓P	**Pn**	**19 08 03.7**	**-0.2**
	baz=1.5,SNR=94						
H21A				⇓S	**Sn**	**19 08 25.0**	**+0.4**
	baz=1.5						
K25A	**Mack Ranch, Ha**	**1.54**	**137**	⇓P	**Pn**	**19 08 03.4**	**-0.4**
	baz=1.5,SNR=107						
K25A				⇓S	**Sn**	**19 08 24.5**	**-0.1**
	baz=1.5						
J21A	**Lysite**	**1.61**	**257**	⇑P	**Pn**	**19 08 04.1**	**-0.8**
	baz=1.6,SNR=70						
J21A				⇓S	**Sb**	**19 08 26.4**	**-0.3**
	baz=1.6						
G22A	**Birney**	**1.64**	**335**	⇑Pb	**Pb**	**19 08 05.8**	**-0.4**
	baz=1.6,SNR=78						
G22A				⇑S	**Sg**	**19 08 27.8**	**+0.1**
	baz=1.6						
L23A	**Garrett**	**1.65**	**190**	⇓Pb	**Pn**	**19 08 05.4**	**-0.1**
	baz=1.7,SNR=428						
L23A				⇓Sb	**Sb**	**19 08 28.3**	**+0.4**
	baz=1.7						
J26A	**Sides Ranch, S**	**1.67**	**104**	⇑Pb	**Pn**	**19 08 05.9**	**+0.3**
	baz=1.6,SNR=84						
J26A				⇓S	**Sn**	**19 08 28.3**	**+0.4**
	baz=1.6						
G24A	**Alzada**	**1.71**	**21**	⇓Pb	**Pn**	**19 08 06.6**	**+0.4**
	baz=1.7,SNR=109						
G24A				⇓S	**Sb**	**19 08 29.7**	**+0.3**
	baz=1.7						
L24A	**Wheatland**	**1.72**	**171**	⇓Pb	**Pn**	**19 08 06.5**	**+0.2**
	baz=1.7						
L24A				⇑S	**Sn**	**19 08 29.0**	**0.0**
	baz=1.7						
I26A	**New Underwood**	**1.79**	**80**	⇑Pb	**Pn**	**19 08 07.9**	**+0.7**
	baz=1.7,SNR=27						
K21A	**Alcova**	**1.81**	**233**	Pb	**Pn**	**19 08 08.0**	**+0.4**
	baz=1.8,SNR=338						
L25A	**Engebretsen Ra**	**1.86**	**148**	⇓Pb	**Pn**	**19 08 09.3**	**+1.0**
	baz=1.9						
K26A	**Motz Farm, Whi**	**1.87**	**123**	⇑Pb	**Pn**	**19 08 09.1**	**+0.8**
	baz=1.9,SNR=76						
L22A	**Ellis Ranch, M**	**1.90**	**206**	⇓Pb	**Pn**	**19 08 09.7**	**+0.9**
	baz=1.9,SNR=34						
F23A	**Volborg**	**1.98**	**358**	P	**Pn**	**19 08 09.9**	**0.0**
	baz=2.0,SNR=93						
G25A	**Newell**	**1.98**	**42**	⇓Pb	**Pb**	**19 08 11.4**	**-0.6**
	baz=1.9,SNR=35						
G21A	**Lodge Grass**	**2.02**	**318**	⇑Pb	**Pb**	**19 08 11.1**	**+0.6**
	baz=2.0,SNR=92						
H26A	**Fairpoint**	**2.02**	**63**	Pb	**Pb**	**19 08 12.8**	**+0.1**
	baz=2.0						
I20A	**Worland**	**2.06**	**277**	⇓Pb	**Pn**	**19 08 11.9**	**+0.9**
	baz=2.1,SNR=394						
J20A	**Shoshoni**	**2.06**	**260**	Pb	**Pb**	**19 08 13.2**	**-0.2**
	baz=2.1						
H20A	**Greybull**	**2.08**	**292**	⇓Pb	**Pb**	**19 08 12.9**	**-0.9**
	baz=2.1,SNR=161						
F22A	**Rosebud**	**2.15**	**342**	⇑P	**Pn**	**19 08 12.0**	**-0.2**
	baz=2.1,SNR=102						
F24A	**Ekalaka**	**2.19**	**16**	⇑Pb	**Pb**	**19 08 14.6**	**-1.0**
	baz=2.2,SNR=43						
M23A	**Laramie**	**2.29**	**188**	Pb	**Pb**	**19 08 16.1**	**-1.3**
	baz=2.3						
M24A	**Cheyenne**	**2.30**	**171**	Pb	**Pb**	**19 08 17.3**	**-0.1**
	baz=2.3						
L26A	**Underwood Farm**	**2.36**	**135**	Pb	**Pb**	**19 08 17.8**	**-0.7**
	baz=2.4						
I27A	**Quinn**	**2.37**	**81**	Pb	**Pb**	**19 08 17.8**	**-0.8**
	baz=2.3						
J27A	**Elkhorn Farm,**	**2.44**	**100**	Pb	**Pb**	**19 08 18.8**	**-1.1**
	baz=2.4						
F21A	**Absaloka Mine,**	**2.46**	**329**	⇑P	**Pn**	**19 08 16.3**	**-0.1**
	baz=2.4,SNR=17						
K27A	**Flueckinger Fa**	**2.47**	**114**	⇓Pb	**Pb**	**19 08 18.9**	**-1.4**
	baz=2.4,SNR=77						
G20A	**Bridger**	**2.56**	**306**	⇑P	**Pn**	**19 08 17.7**	**-0.2**
	baz=2.6,SNR=333						
E22A	**Miles City**	**2.74**	**351**	⇑P	**Pn**	**19 08 20.0**	**-0.3**
	baz=2.7,SNR=47						
F20A	**Billings**	**2.89**	**316**	⇑P	**Pn**	**19 08 22.2**	**-0.3**
	baz=2.9,SNR=60						
E24A	**Baker**	**2.91**	**14**	⇑P	**Pn**	**19 08 23.2**	**+0.6**
	baz=2.9,SNR=34						
LAO	**LASA Array**	**3.02**	**348**	*e*Pn	**Pn**	**19 08 23.6**	**-0.6**
E21A	**Keefer Ranch,**	**3.07**	**336**	⇓P	**Pn**	**19 08 24.6**	**-0.2**
	baz=3.1						
RLMT	**Red Lodge**	**3.16**	**297**	*e*Pn	**Pn**	**19 08 25.5**	**-0.7**
BW06	**Boulder Array**	**3.26**	**254**	*e*Pn	**Pn**	**19 08 25.8**	**-1.8**
PDAR	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**19 08 28.6**	**+1.0**
	3.5nm,0.3s,baz=73,slow=16,SNR=64						
PDAR				Lg	Lg	19 09 12.5	
	14nm,0.3s,baz=72,slow=33,SNR=11						
H18A	**Shoshone NF, C**	**3.27**	**288**	⇓P	**Pn**	**19 08 27.6**	**-0.2**
	baz=3.3,SNR=56						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
F19A	Roth Farm, Mol	3.35	310	⇑P	Pn	19 08 29.0	+0.3
	baz=3.3,SNR=94						
E20A	Meyer Farm, Mu	3.41	325	⇑P	Pn	19 08 29.6	0.0
	baz=3.4,SNR=9.5						
D23A	Lindsay	3.44	1	⇓P	Pn	19 08 30.4	+0.5
	baz=3.4,SNR=48						
D24A	Glendive	3.44	11	⇑P	Pn	19 08 29.8	-0.1
	baz=3.4,SNR=11						
D22A	Cohagen	3.47	350	⇓P	Pn	19 08 30.4	+0.1
	baz=3.4						
D21A	La Casta Ranch	3.53	341	⇑P	Pn	19 08 31.2	0.0
	baz=3.5						
E19A	Rath Farm, Rou	3.67	319	⇑P	Pn	19 08 32.9	-0.3
	baz=3.7,SNR=12						
D25A	Fairfield	3.69	22	⇓P	Pn	19 08 34.2	+0.9
	baz=3.6,SNR=9.1						
OGNE	Ogallala	3.70	138	ePn	Pn	19 08 34.1	+0.6
GCMT	Greycliff	3.73	305	ePn	Pn	19 08 34.1	+0.2
C24A	Savage	3.84	9	⇑P	Pn	19 08 35.6	+0.2
	baz=3.8,SNR=20						
H17A	Grant Village	3.86	282	ePn	Pn	19 08 36.4	+0.5
D20A	Manuel Ranch,	3.90	330	⇓P	Pn	19 08 36.0	-0.3
	baz=3.9,SNR=73						
ISCO	Idaho Springs	3.94	184	ePn	Pn	19 08 38.5	+1.4
YNR	Norris Junctio	3.99	286	Pn	Pn	19 08 38.3	+0.6
C22A	Vida	4.03	354	⇑P	Pn	19 08 39.0	+1.0
	baz=4.0,SNR=42						
YFT	Old Faithful	4.05	282	ePn	Pn	19 08 38.9	+0.4
C23A	Lambert	4.07	1	⇑P	Pn	19 08 39.4	+0.9
	baz=4.0,SNR=37						
YMR	Madison River	4.18	285	ePn	Pn	19 08 40.0	-0.3
O20A	White River Ci	4.22	212	ePn	Pn	19 08 41.1	+0.4
C25A	Freed Ranch, W	4.22	19	⇑P	Pn	19 08 41.3	+0.7
	baz=4.2,SNR=19						
AHID	Auburn Hatcher	4.35	259	ePn	Pn	19 08 44.5	+2.0
O28A	Krutsinger Ran	4.47	143	⇓P	Pn	19 08 43.7	-0.4
	baz=4.5						
QLMT	Earthquake Lak	4.54	286	ePn	Pn	19 08 45.8	+0.6
P27A	Ficken Ranch,	4.65	153	⇑P	Pn	19 08 47.1	+0.4
	baz=4.7,SNR=16						
DGMT	Dagmar	4.79	9	ePn	Pn	19 08 48.9	+0.4
DGMT	Dagmar	4.79	9	⇓P	Pn	19 08 49.1	+0.6
	baz=4.8,SNR=10						
Q25A	Bedland, Calha	4.88	170	⇑P	Pn	19 08 49.1	-0.8
	baz=4.9						
BOZ	Bozeman (W)	4.90	295	ePn	Pn	19 08 49.5	-0.5
HWUT	Hardware Ranch	5.09	247	ePn	Pn	19 08 53.0	+0.3
	11nm,0.5s						
TCUT	Toone Canyon	5.22	242	ePn	Pn	19 08 54.7	+0.1
	32nm,0.6s						
A23A	Redstone	5.23	3	⇓P	Pn	19 08 54.4	-0.1
	baz=5.2,SNR=9.7						
A24A	Westby	5.26	9	⇓P	Pn	19 08 55.5	+0.6
	baz=5.2,SNR=5.5						
EGMT	Eagleton	5.29	326	ePn	Pn	19 08 55.1	-0.3
	25nm,0.6s						
EGMT	Eagleton	5.29	326	⇑P	Pn	19 08 55.8	+0.4
	baz=5.3,SNR=14						
HRY	Holter Researc	5.49	305	ePn	Pn	19 08 58.6	+0.5
	13nm,0.3s						
MCMT	McKenzie Canyo	5.53	284	Pn	Pn	19 08 59.8	+1.0
	4.3nm,0.6s						
DAU	Daniels Canyon	5.54	235	ePn	Pn	19 08 59.3	+0.3
	10nm,0.5s						
JLU	Jordanelle	5.54	238	ePn	Pn	19 08 58.5	-0.5
	9.3nm,0.6s						
R26A	Arlington	5.61	165	⇓P	Pn	19 08 59.9	+0.1
	baz=5.6,SNR=11						
CTU	Camp Tracy	5.67	240	ePn	Pn	19 08 60.0	-0.8
	7.6nm,0.4s						
A19A	Klindworth Far	5.71	337	⇑P	Pn	19 09 01.0	-0.1
	baz=5.7,SNR=7.2						
SPUT	South Promonto	5.81	248	ePn	Pn	19 09 03.5	+0.9
	5.9nm,0.4s						
HVU	Hansel Valley	5.84	253	ePn	Pn	19 09 02.1	-0.9
	14nm,0.8s						
PV04	Paradox Valley	6.00	208	ePn	Pn	19 09 06.2	+1.1
R28A	Tribune	6.00	153	⇓P	Pn	19 09 04.7	-0.5
	baz=6.0,SNR=15						
SRU	San Rafael	6.07	222	ePn	Pn	19 09 06.0	-0.2
	12nm,0.4s						
PV01	Paradox Valley	6.12	205	ePn	Pn	19 09 07.7	+0.8
	396nm,0.5s						
TMUT	Trail Mountain	6.27	227	ePn	Pn	19 09 10.2	+1.1
	8.9nm,0.4s						
ECSD	EROS Data Cent	6.29	87	ePn	Pn	19 09 07.3	-1.8
	6.6nm,0.3s						
ECSD	EROS Data Cent	6.29	87	⇑P	Pn	19 09 09.5	+0.4
	baz=6.2,SNR=7.3						
BGU	Big Grassy Mou	6.38	247	ePn	Pn	19 09 11.8	+1.4
	0.9nm,0.3s						
CHMT	Chamberlain Mo	6.44	302	ePn	Pn	19 09 11.9	+0.6
	2.4nm,0.4s						
DUG	Dugway	6.62	240	ePn	Pn	19 09 12.5	-1.2
	3.8nm,0.4s						
S28A	Manter	6.66	156	⇑P	Pn	19 09 13.8	-0.5
	baz=6.7						
SLMT	Seeley Lake	6.74	304	ePn	Pn	19 09 14.9	-0.5
	4.1nm,0.6s						
MVCO	Mesa Verde	6.96	202	ePn	Pn	19 09 19.9	+1.4
	3.8nm,0.4s						
SWMT	Swartz Lake	7.17	305	ePn	Pn	19 09 20.9	-0.3
	4.0nm,0.6s						
YBMT	Yellow Bay	7.35	307	ePn	Pn	19 09 24.7	+1.0
	4.2nm,0.3s						
MVU	Marysvale	7.39	227	ePn	Pn	19 09 25.1	+0.8
	7.1nm,1.0s						
JTMT	Jette	7.45	306	ePn	Pn	19 09 25.9	+0.8
	2.8nm,0.6s						
AGMN	Agassiz Nation	7.99	52	ePn	Pn	19 09 24.1	-8.3
	12nm,0.5s						
I10CA	LAC DU BONNET	9.05	41	i		20 05 40.0	
	baz=221,slow=336,SNR=1.6						
ULM	Lac du Bonnet	9.15	41	Pn	Pn	19 09 47.4	-0.9
	1.2nm,0.3s,baz=227,slow=12,SNR=11						
ULM				Pg		19 10 17.8	
	0.8nm,0.3s,baz=221,slow=15,SNR=3.0						
ULM				Lg	Lg	19 12 22.6	
	0.7nm,0.3s,baz=307,slow=20,SNR=2.9						
NVAR	Mina Array Bea	11.15	246	Pn	Pn	19 10 18.3	+2.4
	0.2nm,0.3s,baz=49,slow=11,SNR=3.6						
YKA	Yellowknife Ar	19.56	347	P	P	19 12 03.0	-1.0
	0.1nm,0.3s,baz=162,slow=13,SNR=5.9						

IDC 13 19:08:30.9±50.0,15.°58S×175.°21W,h0km,mb4.3/3, mb1 4.5/3,mb1mx3.7/34,mbtmp4.3/3,Error ellipse: s-maj=953.7km s-min=165.8km az=78.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
STKA	Stephens Creek	42.44	240	P	P	19 16 28.0	+0.3
	1.2nm,0.5s,baz=69,slow=6.7,SNR=6.4						
WRA	Warramunga Arr	48.11	257	P	P	19 17 12.5	-0.4
	1.0nm,0.4s,baz=94,slow=7.2,SNR=31						
ASAR	Alice Springs	48.40	252	P	P	19 17 14.8	-0.3
	7.4nm,0.5s,baz=90,slow=7.7,SNR=308						

IDC 13 19:21:04.1±4.3,5.°42S×101.°65E,h0km,mb3.3/4, mb1 3.4/4,mb1mx3.2/39,mbtmp3.3/4,Error ellipse: s-maj=168.8km s-min=24.6km az=55.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
H08S2	Diego Garcia H	29.04	264	T	T	19 58 00.0	
	baz=87,slow=75,SNR=19						
H08S3	Diego Garcia H	29.05	264	T	T	19 57 52.7	
	baz=87,slow=75,SNR=19						
H08S1	Diego Garcia H	29.06	264	T	T	19 57 52.0	
	baz=87,slow=75,SNR=14						
H08N1	Diego Garcia H	30.48	267	T	T	19 59 22.5	
	baz=216,slow=75,SNR=3.9						
H08N2	Diego Garcia H	30.50	267	T	T	19 59 09.3	
	baz=216,slow=75,SNR=5.5						
H08N3	Diego Garcia H	30.50	267	T	T	19 59 14.9	
	baz=216,slow=75,SNR=6.2						
WRA	Warramunga Arr	34.91	117	P	P	19 27 57.5	-0.4
	0.4nm,0.7s,baz=288,slow=11,SNR=3.1						
ASAR	Alice Springs	35.96	124	P	P	19 28 07.2	+0.3
	0.2nm,0.5s,baz=295,slow=8.0,SNR=6.0						
SONM	Songino Array	53.19	4	P	P	19 30 24.2	-0.1
	0.2nm,0.6s,baz=200,slow=7.7,SNR=3.2						
MKAR	Makanchi Array	54.75	344	P	P	19 30 35.3	-0.2
	0.1nm,0.4s,baz=159,slow=8.3,SNR=4.3						

ISCJB 13 19:27:26.7±0.7,4.°5S±0.°1×80.°0W±0.°2,h33km,mb3.9/8, MS2.8/2,Error ellipse: s-maj=24.6km s-min=11.2km az=148.1

IDC 13 19:27:31.9±0.9,4.°62S×79.°97W,h69km±7km,mb3.6/9, mb1 3.8/11,mb1mx3.5/39,mbtmp3.9/11,MS3.0/3, Ms1 3.0/3,ms1mx2.8/28,Error ellipse: s-maj=29.0km s-min=14.7km az=52.0

ISC 13 19:27:28.2±0.7,4.°5S±0.°1×80.°1W±0.°2,h35km,n19, σ1.°89/19,mb3.8/8,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ATAH	Atahualpa	3.11	147	P	Pn	19 28 20.4	+5.1
	33nm,0.3s,baz=24,slow=5.9,SNR=125						
ATAH				S	Sn	19 28 56.1	+4.7
	63nm,0.3s,baz=336,slow=22,SNR=6.1						
NNA	Nana	8.10	157	P	Pn	19 29 25.1	+1.7
	7.9nm,0.3s,baz=320,slow=12,SNR=9.4						
NNA				S	Sn	19 30 50.1	-3.7
	4.5nm,0.3s,baz=257,slow=18,SNR=3.7						
ROSC	El Rosal	10.96	32	LR	LR	19 35 33.4	
	comp=Z,55nm,18.0s,baz=34,slow=44						
LPAZ	La Paz	16.59	136	P	Pn	19 31 19.2	+0.4
	0.1nm,0.3s,baz=320,slow=7.9,SNR=2.6						
PTGA	Pitinga	20.47	80	P	P	19 32 03.3	0.0
	1.0nm,0.4s,baz=285,slow=18,SNR=3.1						
SIV	San Ignacio	21.91	123	P	P	19 32 17.5	-1.2
	1.9nm,0.7s,baz=281,slow=5.2,SNR=2.2						
SIV				LR	LR	19 41 38.5	
	comp=Z,69nm,21.4s,baz=113,slow=39						
TEIG	Tepich	25.87	342	LR	LR	19 42 57.6	
	comp=Z,20nm,21.2s,baz=122,slow=36						
USHA	Ushuaia	51.05	171	P	P	19 36 25.7	-1.2
	5.1nm,0.7s,baz=311,slow=11,SNR=2.5						
PDAR	Pinedale Array	54.10	333	P	P	19 36 51.2	+1.2
	0.3nm,0.5s,baz=125,slow=7.8,SNR=2.7						
NVAR	Mina Array Bea	55.46	324	P	P	19 37 02.5	+2.6
	0.4nm,0.6s,baz=140,slow=4.4,SNR=3.1						
ULM	Lac du Bonnet	56.23	348	P	P	19 37 05.4	+0.6
	2.1nm,0.4s,baz=162,slow=7.5,SNR=5.2						
YKA	Yellowknife Ar	71.81	344	P	P	19 38 47.0	0.0
	0.4nm,0.6s,baz=138,slow=6.1,SNR=8.5						
YKA				pP	PcP	19 39 04.7	-1.0
	0.2nm,0.6s,baz=146,slow=5.9,SNR=2.2						
DBIC	Dimbokro	75.94	82	P	P	19 39 11.7	-0.5
	0.8nm,0.4s,baz=261,slow=8.1,SNR=3.4						
TORD	Torodi Ar. Bea	83.07	76	P	P	19 39 50.2	-0.8
	0.6nm,0.5s,baz=288,slow=5.7,SNR=15						
TORD				pP	pP	19 40 09.9	+7.8
	0.3nm,0.4s,baz=276,slow=5.8,SNR=2.7						
ZALV	Zalesovo Beam	129.21	11	PKP	PKPdf	19 46 31.7	-1.1
	0.4nm,0.4s,baz=321,slow=3.7,SNR=2.9						
KURBB	Kurchatov Arra	130.68	18	PKP	PKPdf	19 46 34.3	-1.3
	0.3nm,0.6s,baz=326,slow=2.3,SNR=5.0						
KURBB				pPKP	pPKPdf	19 46 55.4	+8.3
	0.3nm,0.6s,baz=314,slow=2.5,SNR=2.7						
MKAR	Makanchi Array	135.22	17	PKP	PKPdf	19 46 43.1	-1.3
	0.3nm,0.8s,baz=323,slow=2.2,SNR=3.6						
MKAR				pPKP	pPKPdf	19 47 04.0	+8.2
	0.2nm,0.6s,baz=328,slow=4.3,SNR=2.4						
ASAR	Alice Springs	136.58	228	PKP	PKPdf	19 46 47.2	-0.4
	0.5nm,0.8s,baz=117,slow=2.3,SNR=4.3						
WRA	Warramunga Arr	138.31	233	PKP	PKPdf	19 46 51.1	+0.2
	0.7nm,0.8s,baz=120,slow=2.0,SNR=5.5						

IDC 13 19:30:49.4±0.6,6.°27S×105.°00E,h0km,mb4.1/18, mb1 4.2/18,mb1mx4.1/41,mbtmp4.1/18,MS3.2/5, Ms1 3.2/5,ms1mx2.9/37,Error ellipse: s-maj=23.1km s-min=12.9km az=56.0

ISCJB 13 19:30:53.4±0.3,6.°70S±0.°03×104.°71E±0.°03,h49km, mb4.2/21,MS3.2/5,Error ellipse: s-maj=5.8km s-min=3.1km az=44.3

NEIC 13 19:30:54.6±0.9,6.°40S×104.°96E,h39km±9km,mb4.6/7, Error ellipse: s-maj=12.8km s-min=7.4km az=223.0

DJA 13 19:30:55.0±0.4,7.°S±3.°×10.°5E±.°,h10km,M4.9/28, mb5.2/18,mB5.4/15,MLv4.8/28,Mw(mB)4.8/15

ISC 13 19:30:55.8±0.4,6.°67S±0.°04×104.°84E±0.°05,h49km,n125, σ1.°79/119,mb4.2/21,MS3.1/5,Sunda Strait

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
CGJI	Cibinong	0.85	86	P	Pn	19 31 10.6	-0.9
KASI	Kota Agung	1.19	343	P	Pn	19 31 16.0	-0.1
KASI				S	Sn	19 31 32.3	+1.2
BLSI	Bandar Lampung	1.35	17	P	Pn	19 31 17.4	-1.0
SBJI	Serang	1.39	67	P	Pn	19 31 17.7	-1.2
SKJI	Sukabumi	1.74	101	P	Pn	19 31 23.8	+0.2
KLI	Kotabumi	1.79	1	P	Pn	19 31 24.5	+0.1
LWLI	Liwa	1.81	335	P	Pn	19 31 25.8	+1.0
LWLI				S	Sn	19 31 48.8	+2.1
TNG	Tangerang	1.86	75	P	Pn	19 31 24.7	-0.6
TNG				P	Pn	19 31 24.7	-0.6
MDSI	Maura Dua	2.27	343	P	Pn	19 31 31.6	+0.8
CNJI	Cibinong	2.36	106	P	Pn	19 31 31.7	-0.4
CNJI				S	Sn	19 31 59.4	-0.5
LEM	Lembang	2.76	93	P	Pn	19 31 39.1	+1.3
LEM	Lembang	2.76	93	P	Pn	19 31 39.5	+1.7
	baz=2.8,SNR=104						
MNAI	Manna	2.96	321	P	Pn	19 31 40.9	+0.5
MNAI	Manna	2.96	321	ePn	Pn	19 31 40.5	+0.1
MNAI	Manna	2.96	321	P	Pn	19 31 41.9	+1.5
	baz=3.0,SNR=26						
CISI	Cisompet, Garu	3.08	107	P	Pn	19 31 42.1	0.0
CISI	Cisompet, Garu	3.08	107	ePn	Pn	19 31 41.5	-0.5
CISI				eSn	Sn	19 32 16.0	-1.8
CISI	Cisompet, Garu	3.08	107	P	Pn	19 31 42.1	0.0
	baz=3.1,SNR=230						
CISI				S	Sn	19 32 19.8	+2.1
	baz=3.1,SNR=5.6						
LHSI	Lahat	3.11	335	P	Pn	19 31 44.8	+2.3
JCJI	Jatiwangi	3.41	87	P	Pn	19 31 46.8	+0.2
PMBI	Palembang	3.72	359	P	Pn	19 31 52.2	+1.4
CMJI	Cimerak	3.75	107	P	Pn	19 31 50.9	-0.3
XMI	Christmas Isla	3.85	167	P	Pn	19 31 50.8	-1.8
	baz=3.8,SNR=84						
XMI				S	Sn	19 32 37.2	+0.6
	baz=3.8,SNR=5.8						
XMIS	Christmas Isla	3.87	168	ePn	Pn	19 31 50.4	-2.5
XMIS				eSn	Sn	19 32 31.5	-5.7
XMIS	Christmas Isla	3.87	168	P	Pn	19 31 50.9	-2.0
	baz=3.8,SNR=273						
XMIS				S	Sn	19 32 33.3	-3.9
	baz=3.8,SNR=8.5						
KPJI	Karang Pucung	4.11	99	P	Pn	19 31 58.1	+1.9
MASI	Maura Aman, Be	4.36	323	P	Pn	19 32 02.1	+2.5
TPI	Tanjungpandan	4.79	36	P	Pn	19 32 05.1	-0.4
JMBI	JAMBI	5.14	347	P	Pn	19 32 12.3	+2.0
	247nm,0.7s,2μm0.9nm						
SMRI	Semarang	5.57	94	P	Pn	19 32 26.2	+10
SMRI	Semarang	5.57	94	Pn	Pn	19 32 10.0	-6.3
	136nm,0.9s						
SMRI	Semarang	5.57	94	P	Pn	19 32 22.2	+5.9
	baz=5.6,SNR=3.2						
UGM	Wanagama	5.77	103	P	Pn	19 32 20.3	+1.3
	218nm,0.7s,0.9nm						
UGM	Wanagama	5.77	103	P	Pn	19 32 20.3	+1.3
	baz=5.8,SNR=65						
UWJI	Ujung Watu	6.07	88	P	Pn	19 32 25.2	+2.1
	115nm,0.8s,1μm0.5nm						
WOJI	Wonogiri, Jawa	6.15	101	P	Pn	19 32 27.6	+3.5
	62nm,0.7s,4μm0.5nm						
NGJI	Ngawi	6.61	96	P	Pn	19 32 34.8	+4.3
	129nm,1.0s						
PWJI	Pagerwojo	7.04	101	P	Pn	19 32 39.0	+2.7
	108nm,0.7s,2μm						
GRJI	Gresik	7.59	92	P	Pn	19 32 47.6	+3.7
	101nm,0.7s,851nm						
BTDF	Bukit Timah Da	8.05	352	P	Pn	19 32 53.3	+3.1
	baz=8.2,SNR=8.0						
GMJI	Gumukmas	8.68	101	P	Pn	19 33 02.9	+4.0
	39nm,1.0s,1μm						
BLJI	Banyuglugur	8.75	98	P	Pn	19 33 05.2	+5.3
	142nm,0.5s,2μm						
ABJI	Asem Bagus	9.39	97	P	Pn	19 33 13.0	+4.4
	409nm,0.7s,3μm						
JAGI	Jajag, Banyuwa	9.40	102	P	Pn	19 33 11.1	+2.3
	144nm,0.9s,3μm						
JAGI	Jajag, Banyuwa	9.40	102	ePn	Pn	19 33 09.8	+1.0
	187nm,0.9s						
JAGI				eSn	Sn	19 34 48.8	-4.4
JAGI	Jajag, Banyuwa	9.40	102	P	Pn	19 33 10.0	+1.2
	baz=9.4,SNR=93						
JAGI				S	Sn	19 34 51.8	-1.4
	baz=9.4,SNR=6.3						
STKI	Sintang	9.41	45	P	Pn	19 33 11.4	+2.5
COCO	West Island	9.62	235	ePn	Pn	19 33 14.7	+3.0
	73nm,0.4s						
COCO				eSn	Sn	19 34 46.9	-11
KSM	Kuching	9.76	34	P	Pn	19 33 14.2	+0.6
SRBI	Singaraja	10.38	98	P	Pn	19 33 24.6	+2.4
	103nm,0.8s,2μm						
IGBI	Denpasar	10.43	102	P	Pn	19 33 23.8	+0.9
	67nm,0.8s,2μm						
DNP	Denpasar	10.47	102	P	Pn	19 33 26.1	+2.7
	244nm,0.7s						
GSI	Gunungsitoli	10.74	317	ePn	Pn	19 33 23.7	-3.4
	56nm,0.5s						
GSI				eSn	Sn	19 35 10.8	-15
KULM	Kulim	12.59	341	Pn	Pn	19 33 48.0	-4.5
WSI	Waingapu	15.59	102	P	Pn	19 34 31.3	-1.2
	baz=16,SNR=8.6						
KKM	Kota Kinabalu	16.98	42	P	Pn	19 34 51.0	+0.9
MMRI	Maumere	17.35	98	ePn	Pn	19 34 52.8	-1.9
	68nm,0.6s						
MMRI				eSn	Sn	19 38 08.6	+1.5
GIRL	Giralia	18.28	151	P	Pn	19 35 07.8	+1.8
	baz=18,SNR=7.7						
SOEI	Soe	19.47	100	ePn	P	19 35 18.5	-0.5
	51nm,0.6s						
SOEI	Soe	19.47	100	P	P	19 35 18.7	-0.2
	baz=20,SNR=30						
SOEI				S	S	19 38 46.4	-10
	baz=20,SNR=6.4						
MBWA	Marble Bar	20.38	136	eP	P	19 35 28.7	+0.1
	16nm,0.7s						
MBWA				eS	S	19 38 57.4	-17
MEEK	Meekatharra	23.80	148	P	P	19 36 06.3	+2.0
	baz=24,SNR=5.1						
MEEK				S	Sn	19 40 34.7	-7.3
	baz=24,SNR=4.8						
MORW	Morawa	24.66	156	P	P	19 36 16.5	+4.3
	baz=25,SNR=4.1						
KNRA	Kununurra	25.09	113	P	P	19 36 15.8	-0.4
	baz=25,SNR=15						
CMAR	Chiang Mai Arr	25.64	347	P	P	19 36 18.1	-2.9
	0.3nm,0.5s,baz=185,slow=8.5,SNR=3.5						
CMAR				LR	LR	19 48 35.4	
	comp=Z,35nm,19.4s,baz=174,slow=42						
CHTO	Chiang Mai	25.98	347	eP	P	19 36 20.8	-3.4
MTN	Manton Dam	26.61	105	P	P	19 36 29.4	-0.6
	baz=27,SNR=28						
KDU	Kakadu	27.87	104	P	P	19 36 40.1	-1.2
	baz=28,SNR=12						
WRKA	Warakurna	28.94	132	P	P	19 36 51.6	+0.9
	baz=29,SNR=18						
H01W3	Cape Leeuwin H	29.36	164	T	T	20 07 26.7	
	baz=344,slow=76,SNR=50						
H01W1	Cape Leeuwin H	29.37	164	T	T	20 07 27.3	
	baz=344,slow=76,SNR=34						
H01W2	Cape Leeuwin H	29.37	164	T	T	20 07 31.2	
	baz=344,slow=76,SNR=47						
WRA	Warramunga Arr	31.52	118	P	P	19 37 13.8	+0.2
	3.7nm,0.3s,baz=302,slow=9.0,SNR=71						
WRA				PcP	PcP	19 40 06.2	+0.5
	0.9nm,0.6s,baz=300,slow=2.1,SNR=4.6						
WRAB	Tennant Creek	31.53	118	eP	P	19 37 13.3	-0.3
	7.6nm,0.7s						
H08S2	Diego Garcia H	32.11	266	T	T	20 11 28.5	
	baz=90,slow=76,SNR=54						
H08S3	Diego Garcia H	32.12	266	T	T	20 11 06.0	
	baz=90,slow=76,SNR=52						
H08S1	Diego Garcia H	32.12	266	T	T	20 11 06.8	
	baz=90,slow=76,SNR=45						
ASAR	Alice Springs	32.63	124	P	P	19 37 24.2	+0.8
	4.7nm,0.7s,baz=296,slow=7.9,SNR=54						
ASAR				PcP	PcP	19 40 09.7	+1.0
	0.8nm,0.4s,baz=313,slow=1.9,SNR=5.2						
ASAR				S	S	19 42 34.0	-2.1
	0.6nm,1.0s,baz=288,slow=16,SNR=4.6						
ASAR				LR	LR	19 51 48.7	
	comp=Z,42nm,19.3s,baz=266,slow=38						
H08N1	Diego Carcia H	33.61	269	T	T	20 13 28.9	
	baz=147,slow=74,SNR=13						
H08N2	Diego Garcia H	33.62	269	T	T	20 13 39.5	
	baz=147,slow=74,SNR=11						
H08N3	Diego Garcia H	33.63	269	T	T	20 13 27.0	
	baz=147,slow=74,SNR=12						
QIS	Mount Isa	36.40	116	P	P	19 37 56.2	+0.3
	baz=36,SNR=8.5						
ODAN	Odare	37.37	334	eP	P	19 38 02.0	-2.3
	5.0nm,0.5s						
ODAN	Odare	37.37	334	eP	P	19 38 02.0	-2.3
TAPN	Taplejung	37.66	335	eP	P	19 38 05.8	-1.0
	4.8nm,0.3s						
RAMN	Ramite	37.80	333	eP	P	19 38 06.6	-1.4
	4.9nm,0.3s						
COEN	Coen	38.36	104	P	P	19 38 11.9	-0.7
	baz=38,SNR=7.9						
LSA	Lhasa	38.48	341	eP	P	19 38 11.9	-2.0
JIRN	Jiri	38.60	333	eP	P	19 38 13.0	-1.8
	7.0nm,0.3s						
PKI	Pulchoki	38.88	332	eP	P	19 38 15.3	-1.8
	2.9nm,0.3s						
PKIN	Phulchoki	38.89	332	eP	P	19 38 15.2	-1.9
	2.2nm,0.3s						
GUN	Gumba	38.95	333	eP	P	19 38 15.9	-1.8
	8.4nm,0.3s						
BBOO	Buckleboo	38.96	136	P	P	19 38 18.5	+1.1
	baz=39,SNR=6.5						
DMN	Daman	39.05	332	eP	P	19 38 16.6	-1.9
	3.5nm,0.3s						
KKN	Kakani	39.13	332	eP	P	19 38 17.2	-1.8
	2.3nm,0.2s						
GKN	Gorkha	39.61	331	eP	P	19 38 21.3	-1.7
	8.9nm,0.2s						
KOLN	Koldanda	39.92	330	eP	P	19 38 24.4	-1.2
	5.4nm,0.2s						
MTSU	Mount Surprise	40.11	110	P	P	19 38 27.8	+0.6
	baz=40,SNR=11						
DANN	Dangsing	40.32	331	eP	P	19 38 27.5	-1.5
	13nm,0.4s						
HTT	Hallett	41.30	135	P	P	19 38 38.7	+1.9
	baz=41,SNR=4.5						
PMG	Port Moresby	41.97	97	P	P	19 38 40.9	-1.7
	10nm,0.7s,baz=271,slow=8.3,SNR=9.7						
PMG	Port Moresby	41.97	97	eP	P	19 38 40.7	-1.8
	10nm,0.8s						
PMG	Port Moresby	41.97	97	P	P	19 38 42.4	-0.1
	baz=42,SNR=3.5						
STKA	Stephens Creek	42.46	131	P	P	19 38 47.9	+1.6
	7.6nm,0.4s,baz=309,slow=7.4,SNR=67						
STKA				PcP	PcP	19 40 39.4	+0.8
	1.1nm,0.6s,baz=332,slow=9.4,SNR=2.1						
STKA				LR	LR	20 00 17.4	
	comp=Z,53nm,18.1s,baz=220,slow=42						
STKA	Stephens Creek	42.46	131	P	P	19 38 47.9	+1.6
	baz=42,SNR=56						
CMSA	Cobar Meteorol	45.45	128	P	P	19 39 12.3	+2.1
	baz=45,SNR=9.5						
MJAR	Matsushiro Arr	53.15	34	P	P	19 40 05.5	-3.4
	6.1nm,1.2s,baz=278,slow=6.2,SNR=9.7						
SONM	Songino Array	54.28	1	P	P	19 40 14.7	-2.5
	0.3nm,0.5s,baz=150,slow=6.0,SNR=4.9						
SONM				PcP	PcP	19 41 21.8	+1.0
	0.3nm,0.4s,baz=181,slow=4.5,SNR=6.9						
USRK	Ussuriysk Arra	56.25	23	P	P	19 40 30.0	-1.2
	1.8nm,0.5s,baz=201,slow=2.5,SNR=4.8						
MKAR	Makanchi Array	56.87	342	P	P	19 40 33.2	-2.4
	0.6nm,0.5s,baz=152,slow=7.9,SNR=24						
KURBB	Kurchatov Arra	61.43	341	P	P	19 41 04.9	-2.1
	0.2nm,0.4s,baz=153,slow=6.3,SNR=3.1						
KURK	Kurchatov	61.48	341	P	P	19 41 04.9	-2.5
ZALV	Zalesovo Beam	62.70	347	P	P	19 41 12.8	-2.7
	0.8nm,0.5s,baz=160,slow=5.8,SNR=5.2						
BVAR	Borovoye Array	66.24	338	P	P	19 41 36.6	-2.1
	0.4nm,0.3s,baz=134,slow=8.5,SNR=4.5						
ABKAR	Akbulak array	68.04	330	eP	P	19 41 48.8	-1.4
	2.8nm,0.5s						
AKTO	Aktyubinsk	69.76	330	P	P	19 41 59.0	-1.8
	0.6nm,0.3s,baz=157,slow=7.7,SNR=3.1						
LSZ	Lusaka	75.43	256	P	P	19 42 36.7	+1.2
	1.4nm,0.7s						
BOSA	Boshof	77.71	242	P	P	19 42 50.7	+2.6
	1.1nm,0.7s,baz=122,slow=9.5,SNR=2.9						
BRTR	Keskin Array B	80.01	312	P	P	19 43 00.2	-0.3
	1.4nm,0.7s,baz=136,slow=7.3,SNR=7.4						
BRTR				LR	LR	20 20 43.1	
	comp=Z,14nm,18.3s,baz=174,slow=38						
QSPA	South Pole Qui	83.32	180	P	P	19 43 19.5	+2.1
	1.2nm,0.5s,baz=110,slow=1.7,SNR=14						

MLR	Muntele Rosu	86.98	316	LR	LR	20 28 44.5	
	comp=Z,6.6nm,18.2s,baz=228,slow=40						
FINES	FINESS Array B	90.47	332	P	P	19 43 52.1	+0.1
	0.6nm,0.5s,baz=108,slow=6.2,SNR=7.2						
ARCES	ARCESS Array B	92.48	340	P	P	19 44 02.4	+1.2
	3.4nm,0.9s,baz=81,slow=9.1,SNR=4.2						
TXAR	Lajitas Array	144.93	46	PKP	PKPab	19 50 27.9	+0.3
	0.8nm,0.7s,baz=282,slow=0.9,SNR=8.8						
BDFB	Brasilia	145.15	230	PKPbc	PKPdf	19 50 31.4	+2.3
	1.4nm,0.5s,baz=72,slow=3.2,SNR=3.2						

*IDC **13** 19:47:11.7±1.2, 0.81N×125.25E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/30, mbtmp3.6/4, Error ellipse: s-maj=141.2km s-min=20.3km az=68.0*
*ISCJB **13** 19:47:14.8±0.9, 1.3N±0.1×126.47E±0.07, h39km, mb3.6/4, Error ellipse: s-maj=16.3km s-min=9.5km az=10.9*
*DJA **13** 19:47:15.0±1.2, 1°N±9°×12°6E±°, h27km±20km, M3.6/4, MLv3.6/4*
ISC 13 19:47:16.4±1.1, 1.3N±0.1×126.47E±0.07, h39km, n7, σ1.06/8, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.02	119	P	Pn	19 47 33.7	-0.5
LBMI	Labuha	2.15	151	P	Pn	19 47 49.9	+0.1
KMSI	Cibinong	2.58	255	P	Pn	19 47 55.2	-0.5
KMSI				S	Sn	19 48 26.2	+0.3
WRA	Warramunga Arr	22.44	160	P	P	19 52 11.3	-0.9
	2.6nm,0.6s,baz=335,slow=11,SNR=42						
ASAR	Alice Springs	25.81	164	P	P	19 52 45.3	+1.1
	0.6nm,0.4s,baz=346,slow=9.9,SNR=13						
SONM	Songino Array	49.55	342	P	P	19 56 04.9	+1.3
	0.3nm,1.0s,baz=157,slow=7.8,SNR=2.6						
MKAR	Makanchi Array	59.44	326	P	P	19 57 14.2	-1.1
	0.5nm,0.6s,baz=122,slow=7.7,SNR=8.3						

*IDC **13** 19:53:57.4±3.2, 9.77S×116.85E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.1/33, mbtmp3.0/3, ML3.1/1, Error ellipse: s-maj=225.0km s-min=26.2km az=48.0*
*ISCJB **13** 19:53:59.8±0.6, 8.95S±0.10×117.48E±0.04, h35km, mb3.2/2, Error ellipse: s-maj=13.8km s-min=5.1km az=6.1*
*DJA **13** 19:53:59.9±0.8, 9°S±7°×11°7E±°, h15km±6km, M4.0/19, mb4.3/3, mB4.6/1, MLv3.9/19, Mw(mB)3.8/1*
ISC 13 19:54:02.0±1.1, 8.9S±0.1×117.45E±0.05, h35km, n17, σ1.42/20, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	Denpasar	2.23	275	P	Pn	19 54 36.6	+0.1
DNP				S	Sn	19 55 06.5	+3.7
IGBI	Denpasar	2.28	272	P	Pn	19 54 35.6	-1.6
IGBI				S	Sn	19 55 04.8	+0.7
SRBI	Singaraja	2.35	290	P	Pn	19 54 36.9	-1.3
SRBI				S	Sn	19 55 06.1	+0.2
WSI	Waingapu	2.91	106	P	Pn	19 54 46.8	+0.9
JAGI	Jajag, Banyuwa	3.29	277	P	Pn	19 54 49.7	-1.4
JAGI				S	Sn	19 55 30.6	+1.5
ABJI	Asem Bagus	3.37	289	P	Pn	19 54 51.5	-0.6
KMMI	Kalianget	3.91	298	P	Pn	19 54 59.5	-0.1
BLJI	Banyuglugur	3.98	286	P	Pn	19 55 01.2	+0.6
GMJI	Gumukmas	4.01	278	P	Pn	19 55 00.3	-0.7
BKSI	Bulukumba	4.42	37	P	Pn	19 55 05.5	-1.2
MMRI	Maumere	4.74	87	P	Pn	19 55 10.4	-0.6
BNSI	Bone	5.18	31	P	Pn	19 55 19.0	+1.9
	11nm,0.7s,0.1nm						
GRJI	Gresik	5.30	291	P	Pn	19 55 18.4	-0.4
	51nm,0.6s,596nm0.2nm						
PWJI	Pagerwojo	5.65	278	P	Pn	19 55 24.0	+4.4
WRA	Warramunga Arr	19.68	126	P	P	19 58 26.8	-1.5
	0.1nm,0.3s,baz=301,slow=13,SNR=3.0						
ASAR	Alice Springs	21.53	135	P	P	19 58 47.5	-0.9
	0.5nm,0.5s,baz=307,slow=8.7,SNR=14						
MKAR	Makanchi Array	63.67	334	P	P	20 04 34.0	+4.2
	0.2nm,0.7s,baz=148,slow=8.5,SNR=2.6						

IDC 13 19:54:24.6±7.0, 1.69S×15.05W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.4/30, mbtmp3.9/3, ML3.7/1, MS3.2/3, Ms1 3.1/3, ms1mx2.7/36, Error ellipse: s-maj=152.6km s-min=39.4km az=104.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	6.12	175	T	T	20 02 36.6	
	baz=349,slow=73,SNR=61						
H10N3	ASCENSION HYDR	6.13	175	T	T	20 02 40.1	
	baz=349,slow=73,SNR=93						
H10N1	ASCENSION HYDR	6.14	175	T	T	20 02 37.0	
	baz=349,slow=73,SNR=67						
H10S1	ASCENSION HYDR	7.21	177	T	T	20 03 56.3	
	baz=352,slow=74,SNR=24						
H10S3	ASCENSION HYDR	7.22	177	T	T	20 03 58.5	
	baz=352,slow=74,SNR=37						
H10S2	ASCENSION HYDR	7.23	177	T	T	20 04 02.4	
	baz=352,slow=74,SNR=21						
DBIC	Dimbokro	13.13	51	Pn	Pn	19 57 31.1	-1.4
	0.4nm,0.3s,baz=227,slow=16,SNR=10.0						
DBIC				LR	LR	20 01 41.5	
	comp=Z,54nm,20.0s,baz=140,slow=33						
TORD	Torodi Ar. Bea	22.21	48	P	P	19 59 23.4	+0.6
	1.4nm,0.8s,baz=238,slow=11,SNR=9.9						
TORD				LR	LR	20 06 19.9	
	comp=Z,69nm,21.3s,baz=85,slow=32						
BOSA	Boshof	46.83	129	P	P	20 02 56.6	-0.1
	2.3nm,0.6s,baz=288,slow=6.4,SNR=6.5						
GERES	GERESS Array B	56.16	22	LR	LR	20 30 42.7	
	comp=Z,29nm,18.3s,baz=299,slow=39						
ASAR	Alice Springs	140.67	132	PKP	PKPdf	20 13 56.1	-1.1
	0.3nm,0.7s,baz=219,slow=2.4,SNR=2.5						

*IDC **13** 20:01:44.0±7.2, 12.93S×166.66E, h153km±74km, mb3.4/6, mb1 3.5/7, mb1mx3.3/34, mbtmp3.8/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/17, Error ellipse: s-maj=55.9km s-min=31.5km az=149.0*
ISC 13 20:01:43.5±1.4, 12.91S±0.10×166.7E±0.3, h150km, n10, σ1.04/10, mb3.7/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.12	181	P	Pn	20 03 53.0	+1.0
	0.3nm,0.3s,baz=108,slow=20,SNR=15						
DZM				S	Sn	20 05 31.9	-1.3
	0.4nm,0.3s,baz=135,slow=19,SNR=5.7						
RAO	Raoul Island	21.66	141	LR	LR	20 13 16.7	
	comp=Z,168nm,18.8s,baz=132,slow=32						
STKA	Stephens Creek	29.78	227	P	P	20 07 37.0	+0.9
	2.4nm,0.8s,baz=44,slow=9.5,SNR=7.1						
WRA	Warramunga Arr	31.76	253	P	P	20 07 52.9	-0.9
	0.7nm,0.7s,baz=86,slow=9.3,SNR=7.1						
ASAR	Alice Springs	32.83	246	P	P	20 08 02.4	-0.8
	1.0nm,0.6s,baz=69,slow=9.5,SNR=22						
CMAR	Chiang Mai Arr	73.69	294	P	P	20 13 02.6	+1.2
	0.4nm,0.6s,baz=127,slow=5.7,SNR=4.0						
SONM	Songino Array	80.70	324	P	P	20 13 39.7	-0.4
	0.1nm,0.3s,baz=119,slow=5.4,SNR=3.7						
MKAR	Makanchi Array	95.50	317	P	P	20 14 51.0	-0.4
	0.2nm,0.5s,baz=79,slow=6.3,SNR=5.7						
ARCES	ARCESS Array B	118.36	345	PKP	PKPdf	20 20 11.6	-1.0
	7.1nm,1.0s,baz=86,slow=1.7,SNR=5.2						
ESDC	Sonseca Array	152.09	344	PKPab	PKPab	20 21 31.6	+0.2
	0.2nm,0.5s,baz=358,slow=3.8,SNR=3.1						

*DJA **13** 20:01:44.5±1.8, 5°N±13°×9°3E±1°1, h10km, M4.1/5, mb3.9/3, mB5.0/1, MLv4.2/5, Mw(mB)4.3/1*
*IDC **13** 20:01:50.6±1.8, 4.80N×94.03E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.5/48, mbtmp3.7/8, ML3.6/2, MS2.7/2, Ms1 2.8/2, ms1mx2.6/34, Error ellipse: s-maj=65.0km s-min=18.9km az=57.0*
*ISCJB **13** 20:01:54.0±1.0, 4.9N±0.1×94.1E±0.1, h34km, mb3.8/6, Error ellipse: s-maj=22.1km s-min=8.9km az=144.5*
ISC 13 20:01:55.7±1.0, 4.83N±0.09×94.12E±0.10, h34km, n17, σ1.20/16, mb3.9/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	2.85	82	P	Pn	20 02 38.6	-0.1
LHMI				S	Sb	20 03 21.0	+0.7
SNSI	Sinabang, Aceh	3.26	137	P	Pn	20 02 45.4	+0.1
TPTI		3.43	117	P	Pn	20 02 46.6	-0.1
KCSI	Kotacane, Aceh	3.87	109	P	Pn	20 02 54.7	+1.9
GSI	Gunungsitoli	4.91	135	P	Pn	20 03 08.1	+0.9
	29nm,1.4s,0.1nm						
GSI				S	Sn	20 04 00.3	-2.6
	29nm,1.4s,0.1nm						
PSI	Prapat	5.20	113	Pn	Pn	20 03 12.1	+0.9
	1.7nm,0.3s,baz=333,slow=18,SNR=6.2						
PSI				LR	LR	20 05 30.5	
	comp=Z,112nm,19.9s,baz=258,slow=41						
MNSI	Mandailing Nat	6.76	126	S	Pn	20 03 33.8	+1.2
CMAR	Chiang Mai Arr	14.35	19	Pn	Pn	20 05 16.8	+0.3
	0.1nm,0.3s,baz=205,slow=14,SNR=3.4						
CMAR				LR	LR	20 11 09.2	
	comp=Z,17nm,18.9s,baz=85,slow=39						
H08S2	Diego Garcia H	24.88	240	T	T	20 33 15.4	
	baz=60,slow=75,SNR=32						
H08S3	Diego Garcia H	24.88	240	T	T	20 33 05.9	
	baz=60,slow=75,SNR=30						
H08S1	Diego Garcia H	24.90	240	T	T	20 33 22.8	
	baz=60,slow=75,SNR=22						
MKAR	Makanchi Array	43.04	348	P	P	20 09 53.3	+1.2
	0.5nm,0.7s,baz=162,slow=8.0,SNR=9.7						
SONM	Songino Array	44.13	12	P	P	20 09 59.6	-1.4
	0.3nm,0.6s,baz=182,slow=10.0,SNR=5.5						
WRA	Warramunga Arr	46.57	123	P	P	20 10 20.9	+0.3
	2.1nm,0.5s,baz=302,slow=9.1,SNR=14						
ASAR	Alice Springs	48.03	128	P	P	20 10 32.3	+0.3
	0.6nm,0.5s,baz=298,slow=8.0,SNR=14						
ZALV	Zalesovo Beam	49.56	353	P	P	20 10 43.3	+0.1
	0.8nm,0.5s,baz=174,slow=5.4,SNR=4.3						
FINES	FINESS Array B	75.39	333	P	P	20 13 35.1	-0.5
	1.1nm,0.9s,baz=121,slow=7.4,SNR=3.5						

*NIED **13** 20:04:00, 38.90N×142.50E, h32km, Mw3.4 Best double couple: $M_0$1.38000×10^14 NP1:ϕ_s227.00000°, δ45.00000°, λ44.00000°. NP2:ϕ_s102.00000°, δ60.00000°, λ126.00000°.*
JMA 13 20:04:51.6±0.1, 38.91N×142.51E, h38km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.68	285	P	Pn	20 05 04.9	+0.2
OFUJ				S	Sn	20 05 14.2	+0.1
MIYJ	Miyakonagasawa	0.85	321	P	Pn	20 05 07.2	+0.1
MIYJ				S	Sn	20 05 18.2	-0.3
JMK	Ichinoseki	1.01	273	P	Pn	20 05 09.7	+0.5
JMK				S	Sn	20 05 22.6	+0.5
JIO	Ouri	1.02	244	P	Pn	20 05 09.3	0.0
JIO				S	Sn	20 05 21.7	-0.6
JOM	Ohasama	1.10	301	P	Pn	20 05 11.1	+0.6
JOM				S	Sn	20 05 25.2	+0.8
JTH	Tanohata	1.14	334	P	Pn	20 05 11.3	+0.2
JRG	Rokugo	1.54	289	P	Pn	20 05 17.5	+1.0
JRG				S	Sn	20 05 36.6	+1.4
JOU	Okura	1.54	250	P	Pn	20 05 17.3	+0.7
JOU				S	Sn	20 05 36.6	+1.2
JANG	Nango	1.65	333	P	Pn	20 05 18.3	+0.2
JYK	Kaneyama	1.68	271	P	Pn	20 05 19.5	+1.1
JMM	Marumori	1.71	233	P	Pn	20 05 18.9	+0.1
JMM				eS	Sn	20 05 39.0	-0.3
MAT	Matsushiro	4.15	237	P	Pn	20 05 55.8	+3.4
MAT				eS	Sn	20 06 44.6	+4.9

MAN 13 20:07:46, 8.38N×124.93E, h26km, mb4.3, ML3.1, MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	0.24	288	eP	Pn	20 07 54.2	+0.2
CGP				iS	Sb	20 07 57.9	+1.3
BUKP	Musuan	0.51	165	eP	Pn	20 07 58.1	+0.3
BUKP				eS	Sn	20 08 05.7	-0.1
PAGZ	Pagadian	1.62	251	eP	Pb	20 08 14.9	-0.3
PAGZ				eS	Sn	20 08 33.9	+1.0

IDC 13 20:22:22.2±29.0, 4.30N×123.76E, h569km±267km, mb3.0/6, mb1 3.0/6, mb1mx2.6/41, mbtmp3.9/6, Error ellipse: s-maj=185.7km s-min=119.8km az=169.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	45.87	344	P	P	20 29 54.1	-0.2
	0.2nm,0.6s,baz=161,slow=9.4,SNR=3.1						
MKAR	Makanchi Array	55.42	326	P	P	20 31 03.6	0.0
	1.0nm,0.3s,baz=118,slow=7.2,SNR=57						
MKAR				PcP	PcP	20 31 55.5	+0.3
	0.4nm,0.6s,baz=131,slow=4.5,SNR=5.9						
ZALV	Zalesovo Beam	58.76	334	P	P	20 31 26.2	+0.1
	0.2nm,0.3s,baz=142,slow=7.3,SNR=3.1						
KURBB	Kurchatov Arra	59.68	328	P	P	20 31 32.0	-0.3
	0.8nm,0.5s,baz=128,slow=6.2,SNR=12						
AKTO	Aktyubinsk	71.38	322	P	P	20 32 45.4	0.0
	0.7nm,0.3s,baz=121,slow=5.9,SNR=2.8						
FINES	FINESS Array B	89.92	332	P	P	20 34 20.4	-0.6
	1.0nm,0.7s,baz=22,slow=6.8,SNR=4.7						
TORD	Torodi Ar. Bea	119.93	288	PKP	PKPdf	20 40 09.3	-0.3
	0.2nm,0.4s,baz=80,slow=1.7,SNR=5.9						

*IDC **13** 20:23:49.1±3.9, 6.81S×129.76E, h107km±35km, mb4.1/13, mb1 4.3/15, mb1mx4.1/30, mbtmp4.5/15, MS3.2/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=25.2km s-min=13.5km az=66.0*
*NEIC **13** 20:23:49.9±1.2, 6.88S×129.62E, h120km±12km, mb4.6/28, Error ellipse: s-maj=11.1km s-min=7.7km az=70.0*
*KLM **13** 20:23:50.6, 7.22S×129.34E, h82km, mb4.7, MS5.8*
*ISCJB **13** 20:23:51.4±0.2, 6.95S±0.02×129.69E±0.03, h150km, mb4.3/39, Error ellipse: s-maj=4.8km s-min=2.9km az=153.9*
*DJA **13** 20:23:54.0±0.3, 7°S±2°×13°0E±°, h193km±6km, M4.6/19, mB5.2/9, mb4.6/19, MLv4.8/12, Mw(mB)4.5/9*
*BJI **13** 20:23:54.1, 6.84S×129.71E, h178km, mB4.8/3, mb4.3/14*
ISC 13 20:23:51.9±0.3, 6.98S±0.04×129.81E±0.04, h150km, n132, σ1.89/136, mb4.4/38, 6C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.78	124	P	Pn	20 24 29.6	+5.1
SAUI				S	Sn	20 24 57.9	+8.4
BNDI	Bandanaira	2.44	2	P	Pn	20 24 34.7	+2.3
MSAI	Masohi	3.72	346	P	Pn	20 24 50.6	+2.1
NLAI	Namlea	4.59	324	P	Pn	20 25 01.8	+1.8
FAKI	Fak Fak	4.71	31	P	Pn	20 25 02.2	+0.7
FAKI				S	Sn	20 25 53.5	-2.3
FAKI	Fak Fak	4.71	31	ePn	Pn	20 25 02.0	+0.5
FAKI				eSn	Sn	20 25 49.4	-6.4
FAKI	Fak Fak	4.71	31	P	Pn	20 25 01.7	+0.2
	baz=4.8,SNR=64						
FAKI				S	Sn	20 25 54.1	-1.7
	baz=4.8,SNR=10						
MTN	Manton Dam	5.97	168	P	Pn	20 25 20.5	+2.2
	baz=6.2,SNR=232						
MTN				S	Sn	20 26 25.6	-0.2
	baz=6.2,SNR=9.0						
SOEI	Soe	6.14	243	P	Pn	20 25 21.7	+1.1
	118nm,0.7s,2μm1.5nm						
SOEI	Soe	6.14	243	ePn	Pn	20 25 21.3	+0.7
	101nm,0.6s						
SOEI				eSn	Sn	20 26 16.6	-14
SOEI	Soe	6.14	243	P	Pn	20 25 21.3	+0.7
	baz=6.0,SNR=22						
SANI	Sanana	6.21	322	P	Pn	20 25 22.7	+1.3
	86nm,1.2s,986nm0.3nm						
SWI	Sorong	6.25	13	P	Pn	20 25 22.1	+0.1
	42nm,0.9s,3μm1.0nm						
SWI				S	Sn	20 26 27.0	-5.4
	42nm,0.9s,3μm1.0nm						
KDU	Kakadu	6.25	155	P	Pn	20 25 24.4	+2.5
	baz=6.5,SNR=631						
KDU				S	Sn	20 26 34.1	+1.7
	baz=6.5,SNR=7.2						
LBMI	Labuha	6.71	340	P	Pn	20 25 29.9	+1.8
	172nm,1.0s,2μm0.7nm						
MMRI	Maumere	7.68	257	P	Pn	20 25 31.7	-9.4
MMRI	Maumere	7.68	257	ePn	Pn	20 25 31.1	-10
	41nm,0.6s						
MMRI				eSn	Sn	20 27 04.8	-2.1
KNRA	Kununurra	8.70	187	P	Pn	20 25 55.2	+0.4
	baz=8.9,SNR=405						
KNRA				S	Sn	20 27 26.3	-5.2
	baz=8.9,SNR=18						
WSI	Waingapu	9.79	254	P	Pn	20 25 55.4	-14
	baz=9.6,SNR=4.6						
WSI				S	Sn	20 27 53.5	-4.2
	baz=9.6,SNR=3.3						
MRSI	Marisa	10.80	313	P	Pn	20 26 24.9	+2.4
	34nm,0.9s						
JAY	Jayapura	11.72	68	P	P	20 26 38.8	-3.1
	baz=12,SNR=3.3						
FITZ	Fitzroy Crossi	11.78	200	ePn	Pn	20 26 33.9	-1.5
	22nm,0.7s						
FITZ				eSn	Sn	20 28 33.1	-13
FITZ	Fitzroy Crossi	11.78	200	P	Pn	20 26 33.8	-1.5
	baz=12,SNR=79						
WRAB	Tennant Creek	13.61	162	ePn	Pn	20 26 58.6	-0.3
	50nm,0.9s						
WRAB				eSn	Sn	20 29 16.3	-13
WRA	Warramunga Arr	13.61	162	P	Pn	20 26 58.4	-0.6
	6.4nm,0.3s,baz=334,slow=14,SNR=100						
WRA				S	Sn	20 29 24.1	-5.8
	8.0nm,0.3s,baz=333,slow=22,SNR=8.1						
COEN	Coen	14.85	119	eP	P	20 27 17.3	+0.7
	190nm,0.9s						
COEN				eSn	Sn	20 29 49.1	-11
COEN	Coen	14.85	119	P	P	20 27 17.6	+1.0
	baz=15,SNR=41						
COEN				S	Sn	20 29 55.3	-4.3
	baz=15,SNR=4.7						
BBKI	Banjar Baru	15.31	282	P	P	20 27 24.0	+2.3
	152nm,0.9s						
MTKI	Muara Teweh, K	16.04	291	P	P	20 27 34.4	+4.6
	105nm,0.8s						
BLJI	Banyuglugur	16.10	266	P	P	20 27 31.0	+0.6
	39nm,0.6s						
QIS	Mount Isa	16.50	146	P	Pn	20 27 37.9	+3.1
	baz=17,SNR=25						
QIS				S	S	20 30 34.3	-3.9
	baz=17,SNR=3.1						
AS31	Alice Springs	17.05	167	eP	Pn	20 27 43.3	+1.8
AS31				eSn	S	20 30 45.5	-5.5
ASAR	Alice Springs	17.05	167	P	Pn	20 27 43.2	+1.7
	3.7nm,0.3s,baz=345,slow=9.1,SNR=258						
ASAR				S	S	20 30 46.3	-4.8
	1.0nm,0.3s,baz=352,slow=24,SNR=5.4						
ASAR				LR	LR	20 35 03.2	
	comp=Z,94nm,21.5s,baz=346,slow=39						
MBWA	Marble Bar	17.14	214	ePn	Pn	20 27 43.2	+0.6
	13nm,0.7s						
MBWA				eSn	S	20 30 40.0	-13
PMG	Port Moresby	17.34	99	ePn	P	20 27 43.4	-0.7
SDKM	Sandakan	17.77	315	⇑P	Pn	20 27 51.2	+1.0
PWJI	Pagerwojo	17.89	266	P	P	20 27 49.4	-0.7
	18nm,1.5s						
MTSU	Mount Surprise	17.96	129	P	Pn	20 27 56.6	+4.2
	baz=18,SNR=28						
MTSU				S	S	20 31 10.0	+0.6
	baz=18,SNR=4.6						
WRKA	Warakurna	18.01	184	P	Pn	20 27 54.9	+2.0
	baz=18,SNR=36						
PBKI	Pangkalan Bun	18.57	282	P	Pn	20 28 00.2	+0.6
	182nm,1.0s,8μm						
KKM	Kota Kinabalu	18.75	313	eP	P	20 27 57.6	-2.0
KKM	Kota Kinabalu	18.75	313	⇑P	Pn	20 28 01.8	0.0
KDM	Kudat	18.93	317	⇑P	Pn	20 28 02.8	-0.9
UGM	Wanagama	19.15	266	S	S	20 31 31.3	-1.9
	baz=19,SNR=3.6						
BTM	Bintulu	19.52	301	⇑P	Pn	20 28 08.6	-2.1
STKI	Sintang	19.58	290	P	Pn	20 28 12.4	+0.9
	16nm,1.1s,2μm						
SBUM	Sibu	19.90	297	⇑P	P	20 28 12.4	+0.4
CTAO	Charters Tower	20.59	131	eP	Pn	20 28 24.1	+0.7
	13nm,1.0s						
KPJI	Karang Pucung	20.72	268	P	P	20 28 19.0	-1.8
	24nm,0.9s,1μm						
KSM	Kuching	21.20	293	eP	P	20 28 21.1	-4.7
	14nm,0.8s						
KSM	Kuching	21.20	293	⇑P	P	20 28 25.7	-0.2
CISI	Cisompet, Garu	21.83	267	P	P	20 28 31.3	-1.3
	79nm,0.7s						
CISI	Cisompet, Garu	21.83	267	eP	P	20 28 29.6	-3.1
	54nm,0.6s						
LEM	Lembang	22.04	269	P	P	20 28 33.8	-1.1
	27nm,0.7s						
MEEK	Meekatharra	22.27	207	P	P	20 28 38.6	+1.8
	baz=22,SNR=3.7						
MEEK				S	S	20 32 49.5	+18
	baz=22,SNR=3.3						
CNJI	Cibinong	22.51	268	P	P	20 28 37.4	-1.9
FORT	Forrest	23.73	184	eP	P	20 28 53.3	+2.9
	22nm,0.6s						
QLP	Quilpie	23.84	147	P	P	20 28 56.3	+4.9
	baz=24,SNR=5.7						
MORW	Morawa	25.53	209	P	P	20 29 11.3	+4.6
	baz=26,SNR=5.6						
BBOO	Buckleboo	26.35	168	P	P	20 29 19.1	+5.0
	baz=27,SNR=4.8						
KLBR	Kellerberrin	26.95	203	P	P	20 29 21.9	+2.4
	baz=27,SNR=6.0						
STKA	Stephens Creek	27.10	158	P	P	20 29 23.9	+3.1
	4.0nm,0.7s,baz=3.7,slow=10,SNR=6.5						
STKA	Stephens Creek	27.10	158	P	P	20 29 24.6	+3.8
	baz=27,SNR=4.0						
MNSI	Mandailing Nat	31.14	283	P	P	20 29 58.4	+1.6
KULM	Kulim	31.55	292	eP	P	20 29 57.7	-2.7
	18nm,1.2s						
NACB	Ninganchiao	31.99	346	P	P	20 30 01.2	-2.8
	29nm,1.2s						
PSI	Prapat	32.33	286	P	P	20 30 07.8	+0.5
	13nm,0.7s,baz=96,slow=8.1,SNR=13						
UTTA	Uttaradit	37.93	311	P	P	20 30 55.1	+0.1
	6.1nm,0.8s						
LAMP	Lampang	39.09	311	P	P	20 31 05.7	+0.9
	4.7nm,0.8s						
CMAR	Chiang Mai Arr	39.58	310	P	P	20 31 09.0	+0.2
	7.1nm,0.8s,baz=138,slow=7.4,SNR=56						
CMAR				PcP	PcP	20 33 14.8	+1.6
	0.9nm,0.6s,baz=163,slow=3.6,SNR=4.6						
CMMT	Chiang Mai	39.79	311	P	P	20 31 10.5	0.0
CHTO	Chiang Mai	39.79	311	eP	P	20 31 10.5	-0.1
	14nm,0.9s						
MJAR	Matsushiro Arr	44.00	10	P	P	20 31 44.3	-0.2
	2.9nm,0.9s,baz=190,slow=11,SNR=9.1						
MAJO	Matsushiro	44.00	10	eP	P	20 31 41.9	-2.6
	9.1nm,1.0s						
KSAR	Wonju Array Be	44.23	358	P	P	20 31 47.3	+1.1
KSRS	Korea Array	44.24	358	P	P	20 31 47.3	+1.0
	0.8nm,0.7s,baz=179,slow=11,SNR=4.9						
XAN	Xi'an	45.34	335	P	P	20 31 54.4	-0.8
XAN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BJT	Baijiatuau	48.43	346	eP	P	20 32 18.8	-0.3
	8.9nm,0.7s						
LZH	Lanzhou	49.30	332	eP	P	20 32 26.9	+1.0
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
USRK	Ussuriysk Arra	50.98	2	P	P	20 32 39.0	+0.8
	2.7nm,0.6s,baz=186,slow=6.9,SNR=7.7						
LSA	Lhasa	52.06	316	P	P	20 32 47.4	+0.4
	3.3nm,0.6s						
ODAN	Odare	53.10	311	P	P	20 32 54.3	-0.2
	10nm,0.5s						
ODAN	Odare	53.10	311	eP	P	20 32 54.3	-0.2
TAPN	Taplejung	53.13	312	eP	P	20 32 54.5	-0.3
	10nm,0.5s						
TAPN	Taplejung	53.13	312	eP	P	20 32 54.5	-0.3
RAMN	Ramite	53.74	311	eP	P	20 32 59.4	+0.2
	24nm,0.5s						
RAMN	Ramite	53.74	311	eP	P	20 32 59.4	+0.2
GTA	Gaotai	53.87	331	eP	P	20 33 00.6	+0.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
JIRN	Jiri	54.43	311	eP	P	20 33 04.0	-0.4
JIRN	Jiri	54.43	311	eP	P	20 33 04.0	-0.4
GUN	Gumba	54.80	311	eP	P	20 33 06.8	-0.2
	25nm,0.6s						
GUN	Gumba	54.80	311	eP	P	20 33 06.8	-0.2
PKI	Pulchoki	54.97	311	eP	P	20 33 07.4	-0.8
	7.5nm,0.5s						
PKI	Pulchoki	54.97	311	eP	P	20 33 07.6	-0.6
PKIN	Phulchoki	54.98	311	eP	P	20 33 07.6	-0.6
KKN	Kakani	55.18	311	eP	P	20 33 09.2	-0.4
KKN	Kakani	55.18	311	eP	P	20 33 09.2	-0.4
DMN	Daman	55.22	311	eP	P	20 33 09.3	-0.6
DMN	Daman	55.22	311	eP	P	20 33 09.3	-0.6
GKN	Gorkha	55.78	311	eP	P	20 33 13.5	-0.3
	16nm,0.5s						
GKN	Gorkha	55.78	311	eP	P	20 33 13.5	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KOLN	Koldanda	56.45	310	eP	P	20 33 18.5	-0.1
	14nm,0.6s						
KOLN	Koldanda	56.45	310	eP	P	20 33 18.5	-0.1
DANN	Dangsing	56.62	311	eP	P	20 33 19.1	-0.8
	18nm,0.9s						
DANN	Dangsing	56.62	311	eP	P	20 33 19.1	-0.8
ULN	Ulaanbaatar	58.19	342	eP	P	20 33 31.6	+1.2
	4.2nm,0.8s						
SONM	Songino Array	58.36	342	P	P	20 33 32.4	+0.9
	1.9nm,1.0s,baz=155,slow=7.1,SNR=16						
MKAR	Makanchi Array	68.11	327	P	P	20 34 36.4	+0.7
	4.7nm,0.5s,baz=112,slow=8.3,SNR=160						
YAK	Yakutsk	68.81	360	eP	P	20 34 40.3	+0.8
	17nm,0.8s						
TKM2	Tokmak 2	69.85	321	eP	P	20 34 47.6	+0.9
	4.3nm,0.6s						
AAK	Ala-Archa	70.41	320	P	P	20 34 51.5	+1.5
	2.7nm,0.6s,baz=139,slow=6.4,SNR=14						
AAK	Ala-Archa	70.41	320	eP	P	20 34 51.2	+1.1
	2.6nm,0.6s						
EKS2	Erkin-Say	70.88	320	eP	P	20 34 54.1	+1.2
	4.4nm,0.6s						
ZALV	Zalesovo Beam	71.48	334	P	P	20 34 56.4	+0.3
	3.3nm,0.6s,baz=108,slow=4.8,SNR=23						
KURK	Kurchatov	72.40	329	eP	P	20 35 02.1	+0.5
	7.0nm,1.1s						
KKAR	Karatay Array	73.20	319	eP	P	20 35 05.5	-1.0
	4.3nm,0.8s						
BRVK	Borovoye	78.02	328	eP	P	20 35 34.1	+0.4
	5.5nm,0.9s						
ABKAR	Akbulak array	82.38	322	eP	P	20 35 57.3	+0.2
	3.3nm,0.6s						
QSPA	South Pole Qui	83.00	180	eP	P	20 36 02.2	+2.0
	10nm,1.3s						
AKTO	Aktyubinsk	83.94	322	P	P	20 36 05.8	+0.7
	2.6nm,0.6s,baz=98,slow=5.1,SNR=7.6						
ARU	Arti	85.59	328	eP	P	20 36 12.6	-0.6
	6.9nm,0.8s						
RAYN	Ar Rayn	87.57	294	eP	P	20 36 24.1	+0.5
	10nm,0.9s						
GNI	Garni	90.70	310	eP	P	20 36 37.0	-1.2
ILAR	Eielson Array	93.41	25	P	P	20 36 50.0	+0.2
	0.7nm,0.7s,baz=263,slow=4.7,SNR=11						
SNAA	Sanae	95.64	194	P	P	20 36 59.9	-0.2
BRTR	Keskin Array B	99.16	309	P	Pdif	20 37 16.3	-0.4
	0.7nm,0.8s,baz=118,slow=8.3,SNR=3.4						
GERES	GERESS Array B	112.29	320	PKiKP	PKiKP	20 42 11.4	+1.3
	0.5nm,0.6s,baz=50,slow=2.1,SNR=6.8						
PDAR	Pinedale Array	117.01	45	PKP	PKPdf	20 42 22.1	+2.5
	0.6nm,0.7s,baz=219,slow=1.4,SNR=5.3						
TXAR	Lajitas Array	125.08	59	PKP	PKPdf	20 42 36.6	+1.4
	0.6nm,0.8s,baz=256,slow=3.6,SNR=4.7						
TORD	Torodi Ar. Bea	128.62	281	PKP	PKPdf	20 42 43.6	+1.3
	1.2nm,0.7s,baz=79,slow=1.7,SNR=7.6						
CPUP	Villa Florida	146.17	168	PKPbc	PKPab	20 43 18.2	+2.1
	4.5nm,0.7s,baz=180,slow=4.1,SNR=7.2						
LPAZ	La Paz	150.85	143	PKPbc	PKPbc	20 43 26.4	-2.1
	0.8nm,0.8s,baz=77,slow=3.8,SNR=4.2						
LPAZ				PKPbc	PKiKP	20 43 31.8	+2.7
	1.5nm,0.4s,baz=317,slow=1.5,SNR=11						

*CSEM **13** 20:32:19.9±0.3, 31°.65N×7°.53W, h5km, ML3.6/12, Error ellipse: s-maj=7.8km s-min=4.7km az=122.0*
*CNRM **13** 20:32:19.9, 31°.35N×7°.32W, h3km, MD3.5*
*INMG **13** 20:32:20.9±2.3, 31°.69N×7°.20W, h0km, MD2.7, ML2.8, Error ellipse: s-maj=23.2km s-min=8.3km az=85.0*
ISC 13 20:32:19.3±1.4, 31°.66N±0°.06×7°.55W±0°.06, h6km±13km, n44, σ1°56/86, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUK	Oukaimeden	0.53	211	i P	Pg	20 32 29.0	-0.4
OUK				i S	Sg	20 32 35.0	-1.3
TZC	Tazercounte	1.02	61	i P	Pg	20 32 39.0	0.0
TZC				i S	Sb	20 32 54.0	+0.7
CIA	Chichaoua	1.04	265	i P	Pn	20 32 42.0	+1.6
CIA				i S	Sn	20 32 58.0	+2.8
KIB	El Ksiba	1.57	54	i P	Pn	20 32 47.0	-0.8
KIB				i S	Sg	20 33 10.0	+0.1
AFS	Agadir Fac de	2.08	234	i P	Pn	20 32 55.0	+0.3
AFS				i S	Sn	20 33 20.0	-0.9
MIF	Mishlifen	2.62	48	eP	Pn	20 33 04.0	+1.6
MIF				eS	Sn	20 33 35.0	+0.3
PFVI	Vila Bisbo	5.56	349	ePn	Pn	20 33 44.0	+1.4
PFVI				eSn	Sn	20 34 47.1	+0.3
PFVI				A	A	20 34 52.2	
	5.7nm,0.2s						
PFVI	Vila Bisbo	5.56	349	ePn	Pn	20 33 44.0	+1.4
PFVI				eSn	Sn	20 34 47.1	+0.3
	5.7nm,0.2s						
PBDV	Barranco-do-Ve	5.58	357	ePn	Pn	20 33 43.2	+0.4
PBDV				eSn	Sn	20 34 46.7	-0.6
PBDV				A	A	20 34 55.1	
	4.0nm,0.3s						
PBDV	Barranco-do-Ve	5.58	357	ePn	Pn	20 33 43.2	+0.4
PBDV				eSn	Sn	20 34 46.7	-0.6
	4.0nm,0.3s						
MORF	Marmelete	5.71	351	ePn	Pn	20 33 45.9	+1.3
MORF				eSn	Sn	20 34 50.2	-0.3
MORF				A	A	20 34 54.3	
	10nm,0.3s						
MORF	Marmelete	5.71	351	ePn	Pn	20 33 45.9	+1.3
MORF				eSn	Sn	20 34 50.2	-0.3
	10nm,0.3s						
PVAQ	Vaqueiros	5.73	359	ePn	Pn	20 33 46.1	+1.2
PVAQ				eSn	Sn	20 34 49.2	-1.8
PVAQ				A	A	20 34 53.9	
	5.2nm,0.2s						
PVAQ	Vaqueiros	5.73	359	ePn	Pn	20 33 46.1	+1.2
PVAQ				eSn	Sn	20 34 49.2	-1.8
	5.2nm,0.2s						
PTEO	Sao Teotonio	5.95	351	ePn	Pn	20 33 49.7	+1.8
PTEO				eSn	Sn	20 34 55.0	-1.4
PTEO				A	A	20 35 02.1	
	5.2nm,0.3s						
PTEO	Sao Teotonio	5.95	351	ePn	Pn	20 33 49.7	+1.8
PTEO				eSn	Sn	20 34 55.0	-1.4
	5.2nm,0.3s						
PCVE	Castro Verde	5.97	356	ePn	Pn	20 33 49.8	+1.6
PCVE				eSn	Sn	20 34 55.3	-1.6
PCVE	Castro Verde	5.97	356	ePn	Pn	20 33 49.8	+1.6
PCVE				eSn	Sn	20 34 55.3	-1.6
MESJ	Messejana	6.19	355	ePn	Pn	20 33 52.7	+1.5
MESJ				eSn	Sn	20 35 01.7	-0.6
MESJ				A	A	20 35 05.2	
	6.8nm,0.5s						
MESJ	Messejana	6.19	355	ePn	Pn	20 33 52.7	+1.5
MESJ				eSn	Sn	20 35 01.7	-0.6
	6.8nm,0.5s						
PBEJ	Beja	6.36	358	ePn	Pn	20 33 55.3	+1.8
PBEJ				eSn	Sn	20 35 05.3	-1.1
PBEJ				A	A	20 35 11.8	
	5.1nm,0.5s						
PBEJ	Beja	6.36	358	ePn	Pn	20 33 55.3	+1.8
PBEJ				eSn	Sn	20 35 05.3	-1.1
	5.1nm,0.5s						
PNCL	Nicolau / Gran	6.49	353	ePn	Pn	20 33 56.8	+1.5
PNCL				eSn	Sn	20 35 09.4	-0.2
PNCL				A	A	20 35 14.2	
	4.5nm,0.4s						
PNCL	Nicolau / Gran	6.49	353	ePn	Pn	20 33 56.8	+1.5
PNCL				eSn	Sn	20 35 09.4	-0.2
	4.5nm,0.4s						
PBAR	Barrancos	6.51	4	ePn	Pn	20 33 56.7	+1.1
PBAR				eSn	Sn	20 35 07.9	-2.4
PBAR				A	A	20 35 14.3	
	10nm,0.3s						
PBAR	Barrancos	6.51	4	ePn	Pn	20 33 56.7	+1.1
PBAR				eSn	Sn	20 35 07.9	-2.4
	10nm,0.3s						
EVO	Evora	6.87	357	ePn	Pn	20 34 01.7	+1.2
EVO				eSn	Sn	20 35 18.3	-0.7
EVO				A	A	20 35 21.4	
	14nm,0.4s						
EVO	Evora	6.87	357	ePn	Pn	20 34 01.7	+1.2
EVO				eSn	Sn	20 35 18.3	-0.7
	14nm,0.4s						
PESTR	Estremoz	7.19	360	ePn	Pn	20 34 06.1	+1.1
PESTR				eSn	Sn	20 35 25.4	-1.6
PESTR				A	A	20 35 31.2	
	2.0nm,0.6s						
PESTR	Estremoz	7.19	360	ePn	Pn	20 34 06.1	+1.1
PESTR				eSn	Sn	20 35 25.4	-1.6
	2.0nm,0.6s						
PMTG	Montargil	7.41	356	ePn	Pn	20 34 09.3	+1.3
PMTG				eSn	Sn	20 35 28.4	-4.0
PMTG				A	A	20 35 36.3	
	2.7nm,0.3s						
PMTG	Montargil	7.41	356	ePn	Pn	20 34 09.3	+1.3
PMTG				eSn	Sn	20 35 28.4	-4.0
	2.7nm,0.3s						
PMAFR	Mafra	7.42	349	ePn	Pn	20 34 10.3	+2.3
PMAFR				eSn	Sn	20 35 32.6	+0.1
PMAFR				A	A	20 35 39.0	
	13nm,0.6s						
PMAFR	Mafra	7.42	349	ePn	Pn	20 34 10.3	+2.3
PMAFR				eSn	Sn	20 35 32.6	+0.1
	13nm,0.6s						
PMRV	Marv??o	7.75	1	ePn	Pn	20 34 13.6	+0.9
PMRV				eSn	Sn	20 35 38.3	-2.5
PMRV				A	A	20 35 45.1	
	2.0nm,0.6s						
PMRV	Marv??o	7.75	1	ePn	Pn	20 34 13.6	+0.9
PMRV				eSn	Sn	20 35 38.3	-2.5
	2.0nm,0.6s						
PTOM	Tomar	7.97	355	ePn	Pn	20 34 17.6	+1.9
PTOM				eSn	Sn	20 35 44.4	-1.8
PTOM				A	A	20 35 50.6	
	3.3nm,0.5s						
PTOM	Tomar	7.97	355	ePn	Pn	20 34 17.6	+1.9
PTOM				eSn	Sn	20 35 44.4	-1.8
	3.3nm,0.5s						
MVO	Moncorvo	9.50	2	ePn	Pn	20 34 37.9	+1.3
MVO				eSn	Sn	20 36 21.3	-2.4
MVO				A	A	20 36 40.0	
	2.6nm,1.0s						
MVO	Moncorvo	9.50	2	ePn	Pn	20 34 37.9	+1.3
MVO				eSn	Sn	20 36 21.3	-2.4
	2.6nm,1.0s						
POLO	Lamas de Olo	9.70	359	ePn	Pn	20 34 40.8	+1.4
POLO				eSn	Sn	20 36 27.2	-1.5
POLO	Lamas de Olo	9.70	359	ePn	Pn	20 34 40.8	+1.4
POLO				eSn	Sn	20 36 27.2	-1.5
PBRG	Braganca	10.15	3	ePn	Pn	20 34 46.8	+1.3
PBRG	Braganca	10.15	3	ePn	Pn	20 34 46.8	+1.3

MEX 13 20:33:32.7±0.7, 16°.78N×94°.84W, h109km±6km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.31	352	i P	Pn	20 33 47.3	-1.0
CMIG				i S	Sn	20 33 58.1	-2.0
TUIG	Tuzandepetl	1.31	18	eP	Pn	20 33 55.9	-1.3
TUIG				i S	Sn	20 34 14.0	-1.7
HUIG	Huatulco	1.58	231	eP	Pn	20 33 58.6	-1.8
HUIG				i S	Sn	20 34 20.4	-1.1
VHO	Vista Hermosa	1.83	279	eP	Pn	20 34 03.2	-0.6
VHO				i S	Sn	20 34 25.5	-2.0
PCIG		1.89	124	eP	Pn	20 34 05.5	+1.3
PCIG				eS	Sn	20 34 29.5	+1.2
CCIG	Comitan	2.64	100	eP	Pn	20 34 13.7	-0.5
CCIG				eS	Sn	20 34 44.1	-1.9
TPIG	Tehuac#an	2.90	304	i P	Pn	20 34 16.8	-0.9
TPIG				i S	Sn	20 34 50.4	-1.8
PNIG	Pinotepa	3.18	263	i P	Pn	20 34 18.7	-2.3
PNIG				i S	Sn	20 34 55.0	-2.5
TLIG	Tlapa	3.65	283	eP	Pn	20 34 26.7	-0.8
TLIG				i S	Sn	20 35 08.1	-1.7

IDC 13 20:40:53.8±4.7, 6°.56S×155°.97E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/25, mbtmp3.8/5, Error ellipse: s-maj=126.6km s-min=29.6km az=107.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.86	236	P	P	20 46 18.9	+0.6
	1.3nm,0.4s,baz=62,slow=9.1,SNR=19						
H11S3	WAKE ISLAND Hy	27.05	23	T	T	21 15 15.5	
	baz=203,slow=77,SNR=16						
H11S2	WAKE ISLAND Hy	27.05	23	T	T	21 15 15.6	
	baz=203,slow=77,SNR=14						
H11S1	WAKE ISLAND Hy	27.07	23	T	T	21 15 12.0	
	baz=203,slow=77,SNR=5.9						
ASAR	Alice Springs	27.18	229	P	P	20 46 38.9	-0.5
	1.2nm,0.3s,baz=59,slow=9.3,SNR=18						
CMAR	Chiang Mai Arr	61.48	295	P	P	20 51 12.6	-0.2
	0.5nm,0.9s,baz=119,slow=5.4,SNR=4.4						
SONM	Songino Array	69.50	327	P	P	20 52 05.2	+0.8
	0.5nm,0.7s,baz=126,slow=5.1,SNR=5.9						
MKAR	Makanchi Array	83.72	318	P	P	20 53 23.9	-0.9
	0.4nm,0.7s,baz=104,slow=5.4,SNR=7.8						

*JMA **13** 21:06:25.8±0.2, 43°.28N×147°.29E, h38km, M3.2*
*SKHL **13** 21:06:26.1±0.6, 43°.35N×147°.46E, h30km±1km, mb4.6/3*
ISC 13 21:06:25.0±2.4, 43°.29N±0°.10×147°.4E±0°.1, h45km, n14, σ0°92/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.73	323	eP	Pn	21 06 39.2	+0.3
SHO				AMB	AMB	21 06 39.6	
	359nm,0.3s						
SHO				eS	Sn	21 06 48.8	-0.2
SHO				A	A	21 06 49.7	
	413nm,0.2s						
NEM2	Nemuro 2	1.24	274	P	Pn	21 06 45.7	-0.2
NEM2				eS	Sn	21 07 00.3	-1.1
YUK	Yuzh-Kuril'sk	1.36	304	eP	Pn	21 06 47.4	-0.2
YUK				AMB	AMB	21 06 47.6	
	20nm,0.2s						
YUK				AMB	AMB	21 06 47.6	
	60nm,0.2s						
YUK				AMB	AMB	21 06 47.6	
	150nm,0.2s						
YUK				eS	Sn	21 07 03.9	-0.6
YUK				A	A	21 07 06.0	
	520nm,0.2s						
YUK				A	A	21 07 06.0	
	410nm,0.2s						
JRA	Rausu	1.80	292	P	Pn	21 06 53.8	+0.2
JRA				eS	Sn	21 07 14.7	-0.5
KUR	Kuril'sk	1.97	9	eP	Pn	21 06 56.1	+0.3
KUR				AMB	AMB	21 07 02.9	
	30nm,0.2s						
KUR				AMB	AMB	21 07 02.9	
	80nm,0.2s						
KUR				AMB	AMB	21 07 02.9	
	140nm,0.2s						
KUR				eS	Sn	21 07 18.4	-0.8
KUR				A	A	21 07 22.1	
	120nm,0.2s						
KUR				A	A	21 07 22.1	
	100nm,0.2s						
JNK	Nakash	2.00	279	P	Pn	21 06 56.4	+0.1
JNK				eS	Sn	21 07 19.1	-1.1
JAK	Akkeshi	2.03	263	eS	Sn	21 07 20.0	-0.8
JTKR	Abashiri--Toko	2.65	286	P	Pn	21 07 06.5	+1.3
JTKR				eS	Sn	21 07 36.9	+0.8
JOB	Onbets	2.67	263	P	Pn	21 07 06.1	+0.6
JOB				eS	Sn	21 07 35.4	-1.1
JAR	Ashorobuto	2.68	271	eS	Sn	21 07 36.3	-0.5
JCH	Churui	3.07	259	P	Pn	21 07 11.6	+0.6
JCH				eS	Sn	21 07 44.9	-1.5
JKK2	Kamakawa 2	3.46	281	P	Pn	21 07 18.5	+2.2
JFR	Furan	3.54	270	eS	Sn	21 07 57.8	-0.3
JNBK	Urakawa-nobuka	3.59	255	P	Pn	21 07 19.0	+0.8

WEL 13 21:13:13.4±0.5, 38°.67S×175°.56E, h162km±3km, ML3.5/13, 1D, Error ellipse: s-maj=4.0km s-min=3.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTVZ	Mangateitei	0.72	185	PN	Pn	21 13 37.5	+0.2
MOVZ	Moawhango	0.76	168	PN	Pn	21 13 37.5	-0.1
MOVZ				SN	Sn	21 13 55.6	-0.8
BKZ	Black Stump Fm	0.88	125	PN	Pn	21 13 38.7	+0.2
BKZ				SN	Sn	21 13 57.9	+0.1
BHHZ	Black Hill Sta	0.91	154	PN	Pn	21 13 38.6	-0.1
BHHZ				SN	Sn	21 13 57.3	-0.9
NMHZ	Naumai	1.07	114	PN	Pn	21 13 41.1	+1.2
KRHZ	Kereru	1.16	147	PN	Pn	21 13 41.0	+0.3
WAZ	Wanganui	1.17	202	PN	Pn	21 13 40.6	-0.1
MCHZ	McNeill Hill	1.18	131	PN	Pn	21 13 41.9	+1.0
URZ	Urewera	1.29	72	PN	Pn	21 13 41.2	-0.6
URZ				SN	Sn	21 14 02.6	-1.0
PNHZ	Pukenui	1.34	158	PN	Pn	21 13 42.2	-0.1
TSZ	Takapari Road	1.43	167	PN	Pn	21 13 42.8	-0.3
KAHZ	Kahuranaki	1.52	138	PN	Pn	21 13 44.5	+0.4
CKHZ	Cape Kidnapper	1.54	130	PN	Pn	21 13 44.7	+0.4
WPHZ	Waipukurau	1.56	154	PN	Pn	21 13 44.2	-0.2
MWZ	Matawai	1.58	78	PN	Pn	21 13 44.6	-0.1
KNZ	Kokohu	1.69	103	PN	Pn	21 13 45.9	+0.1
DVHZ	Dannevirke	1.70	164	PN	Pn	21 13 45.2	-0.8
PXZ	Pawanui	1.70	144	PN	Pn	21 13 45.7	-0.1
PXZ				SN	Sn	21 14 09.8	-1.2
RIGZ	Rimuhau	1.73	92	PN	Pn	21 13 46.3	0.0
POWZ	Post Office Ro	1.73	175	PN	Pn	21 13 45.3	-1.0
PRHZ	Porangahau	1.80	153	PN	Pn	21 13 46.6	-0.4
PRWZ	Pori Road	1.91	170	PN	Pn	21 13 47.5	-0.7
ANWZ	Angora Road	1.93	159	PN	Pn	21 13 47.8	-0.5
ANWZ				SN	Sn	21 14 13.7	-1.8
HAZ	Te Kaha	1.98	63 ⇓	PN	Pn	21 13 47.7	-1.2
MRZ	Mangatainoka R	1.99	179	PN	Pn	21 13 47.8	-1.4
BFZ	Birch Farm	2.08	165	PN	Pn	21 13 49.0	-1.1
OGWZ	Otaki Gorge	2.17	188	PN	Pn	21 13 49.5	-1.6
HOWZ	Holdsworth Sta	2.23	181	PN	Pn	21 13 50.0	-1.9
KIW	Kapiti Island	2.25	193	PN	Pn	21 13 50.0	-2.0
CPWZ	Castlepoint	2.29	168	PN	Pn	21 13 51.6	-1.0
TMWZ	Te Maipa	2.45	174	PN	Pn	21 13 52.6	-1.9
CAW	Cannon Point	2.47	189	PN	Pn	21 13 52.4	-2.3
MTW	Mount Morrison	2.49	181	PN	Pn	21 13 52.6	-2.3
TRWZ	Traveller	2.73	178	PN	Pn	21 13 55.4	-2.4
MSWZ	Moikau Station	2.75	185	PN	Pn	21 13 55.6	-2.5
PLWZ	Palliser	2.91	184	PN	Pn	21 13 57.2	-2.9
TUWZ	Tuamarina	3.02	204	PN	Pn	21 13 58.3	-3.2
NNZ	Nelson	3.05	213	PN	Pn	21 13 58.2	-3.5
QRZ	Quartz Range	3.18	226	PN	Pn	21 13 59.2	-4.2
THZ	Tophouse	3.70	212	PN	Pn	21 14 06.0	-4.1
KHZ	Kahutara	4.05	202	PN	Pn	21 14 11.0	-3.5
OXZ	Oxford	5.36	209	PN	Pn	21 14 26.1	-5.6
MQZ	McQueen's Vall	5.49	203	PN	Pn	21 14 27.6	-5.7

*ISCJB **13** 21:39:05.1±0.5, 33°.88N±0°.05×117°.21W±0°.04, h12km, mb3.9/4, MS4.8/1, Error ellipse: s-maj=7.3km s-min=4.1km az=31.7*
*IDC **13** 21:39:06.2±1.6, 33°.99N×117°.11W, h0km, mb3.6/3, mb1 3.9/8, mb1mx3.7/32, mbtmp3.6/8, ML3.8/5, MS3.2/1, Ms1 3.1/1, ms1mx2.7/23, Error ellipse: s-maj=26.4km s-min=6.5km az=55.0*
*NEIC **13** 21:39:06.6, 34°.01N×117°.18W, h8km, ML4.1(PAS), After PAS.*
NEIC Felt [IV] at Loma Linda and San Bernardino; [III] at Adelanto, Calimesa, Colton, Corona, Grand Terrace, Highland, March Air Reserve Base, Menifee, Mentone, Mira Loma, Moreno Valley, Murrieta, Perris, Redlands, Riverside, Sun City and Yucaipa. Felt from Apple Valley to Chula Vista and from Indio to Santa Monica.
ISC 13 21:39:06.2±0.7, 33°.79N±0°.06×117°.29W±0°.05, h12km, n49, σ1°37/46, mb3.7/4, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	Pinyon Flat Ob	0.72	104	Pg	Pg	21 39 19.8	-0.3
	679nm,0.3s,baz=296,slow=16,SNR=7162						
PFO				Lg	Lg	21 39 28.9	
	baz=210,slow=20						
PFO	Pinyon Flat Ob	0.72	104	ePg	Pg	21 39 19.6	-0.6
PFO				eSg	Sg	21 39 27.8	-1.8
MWC	Mount Wilson	0.77	304	ePg	Pg	21 39 20.0	-1.2
PASC	Pasadena Art C	0.84	297	ePg	Pg	21 39 21.6	-0.8
BAR	Barrett	1.22	155	ePn	Pg	21 39 29.9	+0.2
GSC	Goldstone	1.56	15	ePn	Pn	21 39 30.6	-3.3
ISA	Isabella	2.11	333	ePn	Pn	21 39 39.4	-2.0
GLA	Glamis	2.19	109	ePn	Pn	21 39 41.6	-0.8
LDFC	Landfair	2.21	54	ePn	Pn	21 39 39.5	-3.3
PTRM	Twissleman Ran	3.04	309	ePb	Pb	21 40 00.7	+0.4
SHPR	Sheep Range	3.22	32	ePn	Pn	21 39 54.4	-2.4
MTUM	Tungsten Hills	3.71	344	ePn	Pn	21 40 02.8	-0.6
TPH	Tonopah	4.28	1	ePn	Pn	21 40 09.9	-1.4
SAO	San Andreas Ge	4.51	312	ePn	Pn	21 40 14.0	-0.4
NVAR	Mina Array Bea	4.70	350	Pn	Pn	21 40 16.4	-0.8
	1.9nm,0.3s,baz=173,slow=16,SNR=31						
NVAR				Lg	Lg	21 41 29.1	
	1.3nm,0.3s,baz=174,slow=25,SNR=2.2						
R11A	Troy Canyon, C	4.75	16	ePn	Pn	21 40 16.0	-1.9
CMB	Columbia Colle	4.93	330	ePn	Pn	21 40 19.4	-0.7
CCUT	Cedar City	4.93	39	ePn	Pn	21 40 18.9	-1.4
WAKR	Walker	5.02	340	ePn	Pn	21 40 21.4	-0.1
WUAZ	Wupatki	5.17	69	ePn	Pn	21 40 22.8	-0.8
MVU	Marysvale	6.25	40	ePn	Pn	21 40 37.3	-1.1
W18A	Petrified Fore	6.38	76	ePn	Pn	21 40 40.1	-0.1
OHCM	Honcut	6.48	330	ePn	Pn	21 40 45.4	+3.9
OHCM				eSg	Sb	21 42 24.7	+8.4
BMN	Battle Mountai	6.63	0	ePn	Pn	21 40 42.8	-0.8
BMN				ePg	Pg	21 41 14.8	+1.6
ELK	Elko	7.13	13	Pn	Pn	21 40 49.9	-0.7
	2.3nm,0.3s,baz=182,slow=9.7,SNR=45						
ELK				Lg	Lg	21 42 41.1	
	0.8nm,0.3s,baz=27,slow=2.3,SNR=3.7						
ELK	Elko	7.13	13	ePn	Pn	21 40 49.3	-1.3
ELK				Lg	Lg	21 42 41.1	
DUG	Dugway	7.33	28	ePn	Pn	21 40 51.6	-1.5
TMUT	Trail Mountain	7.36	40	ePb	Pb	21 41 18.8	+4.7
SRU	San Rafael	7.61	44	ePn	Pn	21 40 57.6	+0.6
121A	Cookes Peak, D	8.07	96	ePn	Pn	21 41 03.1	-0.2
	14nm,0.7s						
CTU	Camp Tracy	8.18	31	ePn	Pn	21 41 06.5	+1.6
PV04	Paradox Valley	8.19	54	ePn	Pn	21 41 04.7	-0.4
HVU	Hansel Valley	8.74	23	ePn	Pn	21 41 12.5	-0.1
MFID	Camas Ranch	9.68	6	ePn	Pn	21 41 29.2	+3.8
PDAR	Pinedale Array	10.82	32	Pn	Pn	21 41 42.4	+1.2
	0.1nm,0.3s,baz=234,slow=13,SNR=14						
TPAW	Teton Pass	10.88	25	ePn	Pn	21 41 44.5	+2.6
LOHW	Long Hollow	11.11	26	ePn	Pn	21 41 47.6	+2.6
MOOW	Moose Ponds	11.18	25	ePn	Pn	21 41 48.5	+2.5
TXAR	Lajitas Array	12.44	107	Pn	Pn	21 42 03.8	+0.6
	0.2nm,0.3s,baz=293,slow=13,SNR=6.4						
TXAR				LR	LR	21 46 32.2	
	comp=Z,99nm,19.8s,baz=0.0,slow=36						
NEW	Newport	14.46	0	Pn	Pn	21 42 31.5	+0.8
	0.1nm,0.3s,baz=175,slow=15,SNR=4.1						
ULM	Lac du Bonnet	22.76	37	P	P	21 44 06.8	-1.4
	2.3nm,0.7s,baz=210,slow=10,SNR=4.9						
YKA	Yellowknife Ar	28.77	3	P	P	21 45 03.0	-0.5
	0.2nm,0.5s,baz=178,slow=9.2,SNR=8.8						
ILAR	Eielson Array	35.86	339	P	P	21 46 06.3	+0.8
	0.6nm,0.7s,baz=155,slow=8.4,SNR=9.0						
CN2	Changchun	83.94	320	eP	P	21 51 35.1	-1.1
HHC	Hu-ho-hao-te	93.16	325	eP	P	21 52 21.0	+0.5
HHC				PP	PP	21 56 05.8	+2.9
HHC	Hu-ho-hao-te	93.16	325	SKS	SKSac	22 02 54.8	+0.1
HHC	Hu-ho-hao-te	93.16	325	S	S	22 03 24.6	-2.7
HHC	Hu-ho-hao-te	93.16	325	SS	SS	22 09 41.5	+0.7
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,6.2s						
HHC				LR	LR		
	comp=N,260nm,17.3s						
HHC				LR	LR		
	comp=E,210nm,16.9s						
HHC				LR	LR		
	comp=Z,190nm,16.0s						
WMQ	Urumqi	99.47	342	eP	Pdif	21 52 48.8	-0.2

*IDC **13** 22:03:11.5±2.5, 8°.92S×121°.04E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, ML3.7/2, MS3.6/1, Ms1 3.6/1, ms1mx2.6/13, Error ellipse: s-maj=265.3km s-min=28.5km az=53.0*
*DJA **13** 22:03:28.3±0.4, 9°S±6°×12°2E±°, h10km, M3.6/4, MLv3.6/4*
ISC 13 22:03:14.5±1.1, 8°.9S±0°.1×121°.04E±0°.06, h10km, n12, σ1°39/12, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.09	222	P	Sn	22 03 51.8	+0.7
WSI				S	Sb	22 04 09.7	+20
WSI	Waingapu	1.09	222	P	Sn	22 03 51.9	+0.8
	baz=1.2,SNR=4.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
SOEI	Soe	3.30	106	P	Pb	22 04 13.3	-0.1
SOEI				S	Sn	22 04 47.7	+1.8
SOEI	Soe	3.30	106	P	Pb	22 04 13.1	-0.3
	baz=2.8,SNR=18						
KNRA	Kununurra	10.14	133	P	Pn	22 05 41.0	+0.8
	baz=9.4,SNR=4.9						
KNRA				S	Sn	22 07 24.2	-10
	baz=9.4,SNR=7.2						
MTN	Manton Dam	10.67	113	P	Pn	22 05 48.5	+0.9
	baz=10.0,SNR=13						
MTN				S	Sn	22 07 34.5	-13
	baz=10.0,SNR=6.4						
LEM	Lembang	13.45	278	P	P	22 06 36.5	+1.3
	baz=14,SNR=4.7						
WRA	Warramunga Arr	16.93	132	Pn	Pn	22 07 10.2	-1.6
	0.2nm,0.3s,baz=305,slow=13,SNR=16						
WRA				Sn	Sn	22 10 04.0	-16
	0.2nm,0.3s,baz=303,slow=23,SNR=7.7						
WRKA	Warakurna	17.51	158	P	P	22 07 19.3	-0.8
	baz=17,SNR=3.4						
ASAR	Alice Springs	19.19	142	P	P	22 07 36.4	-2.3
	0.2nm,0.3s,baz=327,slow=14,SNR=21						
ASAR				S	Sn	22 10 59.0	-16
	0.1nm,0.3s,baz=314,slow=23,SNR=3.2						
CTA	Charters Tower	26.80	117	LR	LR	22 20 47.4	
	comp=Z,138nm,22.0s,baz=60,slow=39						
MKAR	Makanchi Array	65.27	332	P	P	22 13 55.5	-1.0
	0.1nm,0.5s,baz=143,slow=7.8,SNR=6.6						

ATH **13** *22:15:00.7,40°.24N×19°.60E,h3km±1km,MD3.6/26*
THE **13** *22:15:05.7,40°.12N×20°.09E,h0km±3km,ML2.8/5,Error ellipse: s-maj=3.0km s-min=0.8km az=334.0*
CSEM **13** *22:15:06.2±0.2,40°.11N×20°.01E,h2km,ML2.8,Error ellipse: s-maj=6.1km s-min=4.3km az=75.0*
TIR **13** *22:15:07.4±39.0,39°.97N×20°.01E,h0km±138km,ML2.8*
ISC 13 22:15:05.0±1.1,**40°.15N**±0°.02×**19°.96E**±0°.02,**h4**km±9km, **n119**,σ1°**62**/188,**Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRN	Sarande	0.27	174	i PG	Pg	22 15 10.1	-0.2
SRN				i SG	Sg	22 15 14.4	+0.7
SRN	Sarande	0.27	174	P	Pg	22 15 10.1	-0.2
SRN				S	Sg	22 15 14.5	+0.7
SRN	Sarande	0.27	174	P	Pg	22 15 10.1	-0.2
SRN				S	Sg	22 15 14.5	+0.7
KEK	Kerkira	0.46	196	P	Pg	22 15 13.4	-0.3
KEK				S	Sg	22 15 21.1	+1.4
KEK	Kerkira	0.46	196	ePG	Pg	22 15 13.4	-0.3
KEK				eSG	Sg	22 15 19.9	+0.2
KEK	Kerkira	0.46	196	P	Pg	22 15 13.4	-0.3
KEK				eSg	Sg	22 15 19.9	+0.2
KEK				S	Sg	22 15 21.1	+1.4
VLO	Vlora	0.48	312	i PG	Pn	22 15 16.9	-1.6
VLO				i SG	Sb	22 15 27.4	+4.0
VLO	Vlora	0.48	312	P	Pn	22 15 16.7	-1.9
VLO				S	Sb	22 15 25.4	+2.0
VLO	Vlora	0.48	312	P	Pn	22 15 16.7	-1.9
VLO	Vlora	0.48	312	i Pg	Pn	22 15 17.0	-1.6
	SNR=90						
VLO				S	Sb	22 15 25.4	+2.0
IGT	Igoumenitsa	0.68	155	i PG	Pg	22 15 17.4	-0.6
IGT				i SG	Sb	22 15 29.6	+0.3
IGT	Igoumenitsa	0.68	155	P	Pg	22 15 17.1	-1.0
IGT				S	Sg	22 15 27.2	+0.3
IGT	Igoumenitsa	0.68	155	ePG	Pg	22 15 17.5	-0.6
IGT				eSG	Sb	22 15 30.0	+0.8
IGT	Igoumenitsa	0.68	155	P	Pg	22 15 17.1	-1.0
IGT	Igoumenitsa	0.68	155	ePg	Pg	22 15 17.5	-0.6
IGT				S	Sg	22 15 27.2	+0.3
IGT				eSg	Sb	22 15 30.0	+0.8
KBN	Korca	0.79	53	i PG	Pg	22 15 20.3	+0.2
KBN				i SG	Sn	22 15 34.5	-0.7
KBN	Korca	0.79	53	P	Pg	22 15 19.2	-0.9
KBN	Korca	0.79	53	P	Pg	22 15 19.2	-0.9
JAN	Janina	0.84	126	P	Pg	22 15 19.6	-1.6
JAN				S	Sg	22 15 31.0	-1.1
JAN	Janina	0.84	126	ePB	Pg	22 15 21.7	+0.5
JAN				eSB	Sn	22 15 36.9	+0.3
JAN	Janina	0.84	126	P	Pg	22 15 19.6	-1.6
JAN	Janina	0.84	126	ePb	Pg	22 15 21.7	+0.5
JAN				S	Sg	22 15 31.0	-1.1
JAN				eSb	Sn	22 15 36.9	+0.3
NEST	Nestorio	0.87	72	P	Pg	22 15 19.8	-1.9
NEST				S	Sg	22 15 31.8	-1.3
NEST	Nestorio	0.87	72	ePB	Pg	22 15 21.1	-0.6
NEST				eSB	Sn	22 15 37.7	+0.3
NEST	Nestorio	0.87	72	P	Pg	22 15 19.8	-1.9
NEST	Nestorio	0.87	72	ePb	Pg	22 15 21.1	-0.6
NEST				S	Sg	22 15 31.8	-1.3
NEST				eSb	Sn	22 15 37.7	+0.3
FNA	Florina	1.25	59	P	Pn	22 15 28.0	-1.3
FNA				S	Sn	22 15 45.9	-0.8
FNA	Florina	1.25	59	ePB	Pb	22 15 28.6	-0.6
FNA				eSB	Sn	22 15 48.7	+2.0
FNA	Florina	1.25	59	P	Pn	22 15 28.0	-1.3
FNA	Florina	1.25	59	ePb	Pb	22 15 28.6	-0.6
FNA				S	Sn	22 15 45.9	-0.8
FNA				eSb	Sn	22 15 48.7	+2.0
DSL	Palaion Diasel	1.34	139	P	Pn	22 15 30.1	-0.5
DSL				S	Sb	22 15 47.3	-1.0
DSL	Palaion Diasel	1.34	139	ePG	Pn	22 15 30.2	-0.4
DSL				eSB	Sg	22 15 52.2	+4.1
DSL	Palaion Diasel	1.34	139	P	Pn	22 15 30.1	-0.5
DSL				S	Sb	22 15 47.3	-1.0
DSL				eSb	Sg	22 15 52.2	+4.1
KZN	Kozani	1.39	83	P	Pg	22 15 32.3	+0.6
KZN				S	Sg	22 15 51.2	+1.4
KZN	Kozani	1.39	83	ePB	Pg	22 15 32.3	+0.6
KZN				eSB	Sg	22 15 54.5	+4.7
KZN	Kozani	1.39	83	P	Pg	22 15 32.3	+0.6
KZN				S	Sg	22 15 51.2	+1.4
KZN				eSb	Sg	22 15 54.5	+4.7
LKD2	Lefkada island	1.46	158	P	Pb	22 15 32.2	-0.6
LKD2				S	Sg	22 15 52.4	+0.4
LKD2	Lefkada island	1.46	158	ePB	Pb	22 15 32.4	-0.4
LKD2				eSB	Sg	22 15 55.4	+3.4
LKD2	Lefkada island	1.46	158	P	Pb	22 15 32.2	-0.6
LKD2				S	Sg	22 15 52.4	+0.4
LKD2				eSb	Sg	22 15 55.4	+3.4
PHP	Peshkopia	1.57	13	i PN	Pn	22 15 29.1	-4.7
PHP	Peshkopia	1.57	13	P	Pg	22 15 35.0	-0.2
PHP	Peshkopia	1.57	13	P	Pg	22 15 35.0	-0.2
THL	Klokotos Trika	1.69	110	P	Pn	22 15 35.1	-0.1
THL	Klokotos Trika	1.69	110	ePN	Pg	22 15 37.1	-0.2
THL				eSG	Sg	22 16 03.5	+4.4
THL	Klokotos Trika	1.69	110	P	Pn	22 15 35.1	-0.1
THL	Klokotos Trika	1.69	110	ePn	Pg	22 15 37.1	-0.2
THL				eSg	Sg	22 16 03.5	+4.4
PDO	Prodromos	1.82	148	ePG	Pb	22 15 39.0	+0.2
PDO				eSG	Sg	22 16 05.9	+2.5
PDO	Prodromos	1.82	148	ePg	Pb	22 15 39.0	+0.2
PDO				eSg	Sg	22 16 05.9	+2.5
EVR	Evrytania	1.89	130	ePN	Pb	22 15 40.1	0.0
EVR				eSN	Sg	22 16 08.1	+2.5
EVR	Evrytania	1.89	130	ePn	Pb	22 15 40.1	0.0
EVR				eSn	Sg	22 16 08.1	+2.5
LIT	Litokhoron	1.94	91	ePN	Pb	22 15 40.6	-0.3
LIT				eSN	Sg	22 16 09.8	+2.5
LIT	Litokhoron	1.94	91	ePn	Pb	22 15 40.6	-0.3
LIT				eSn	Sg	22 16 09.8	+2.5
MAKR	Makrakomi, Fth	2.03	123	ePN	Pb	22 15 42.3	-0.1
MAKR				eSN	Sg	22 16 11.4	+1.3
MAKR	Makrakomi, Fth	2.03	123	ePn	Pb	22 15 42.3	-0.1
MAKR				eSn	Sg	22 16 11.4	+1.3
VLS	Valsamata	2.03	166	P	Pn	22 15 39.3	-0.7
VLS	Valsamata	2.03	166	ePB	Pn	22 15 39.8	-0.2
VLS				eSG	Sg	22 16 10.2	0.0
VLS	Valsamata	2.03	166	P	Pn	22 15 39.3	-0.7
VLS	Valsamata	2.03	166	ePb	Pn	22 15 39.8	-0.2
SKO	Skopje	2.13	31	ePn	Pg	22 15 45.7	-0.2
SKO	Skopje	2.13	31	ePn	Pg	22 15 45.7	-0.2
AGG	Agios Georgios	2.15	121	ePN	Pb	22 15 44.4	-0.1
AGG				eSN	Sg	22 16 14.9	+0.8
AGG	Agios Georgios	2.15	121	ePn	Pb	22 15 44.4	-0.1
AGG				eSn	Sg	22 16 14.9	+0.8
EFP	Efpalio	2.29	138	ePN	Pb	22 15 45.0	-1.9
EFP				eSN	Sg	22 16 17.7	-0.8
EFP	Efpalio	2.29	138	ePn	Pb	22 15 45.0	-1.9
EFP				eSn	Sg	22 16 17.7	-0.8
VAY	Valandovo	2.30	59	ePn	Pb	22 15 46.4	-0.7
VAY	Valandovo	2.30	59	ePn	Pb	22 15 46.3	-0.7
THE	Thessaloniki	2.34	77	ePB	Pb	22 15 45.5	-2.3
THE				eSN	Sg	22 16 19.0	-1.3
THE	Thessaloniki	2.34	77	ePb	Pb	22 15 45.5	-2.3
THE				eSn	Sg	22 16 19.0	-1.3
RLS	Riolos of Patr	2.40	150	ePB	Pn	22 15 45.8	+0.8
RLS	Riolos of Patr	2.40	150	ePb	Pn	22 15 45.8	+0.8
HORT	Hortiatis	2.44	78	ePN	Pn	22 15 46.2	+0.5
HORT				eSB	Sb	22 16 20.6	+0.7
HORT	Hortiatis	2.44	78	ePn	Pn	22 15 46.2	+0.5
HORT				eSb	Sb	22 16 20.6	+0.7
KALE	Kalithea	2.44	135	ePN	Pb	22 15 47.9	-1.6
KALE				eSN	Sb	22 16 21.7	+1.8
KALE	Kalithea	2.44	135	ePn	Pb	22 15 47.9	-1.6
KNT	Kendrikon	2.45	65	ePB	Pn	22 15 46.7	+0.9
KNT	Kendrikon	2.45	65	ePb	Pn	22 15 46.7	+0.9
LAKA	Lakka	2.47	140	ePN	Pn	22 15 47.0	+0.9
LAKA	Lakka	2.47	140	ePn	Pn	22 15 47.0	+0.9
AXAR	Agios Charalam	2.50	123	ePB	Pb	22 15 49.0	-1.6
AXAR	Agios Charalam	2.50	123	ePb	Pb	22 15 49.0	-1.6
DRO	Drossia	2.58	148	ePN	Pn	22 15 48.2	+0.6
DRO	Drossia	2.58	148	ePn	Pn	22 15 48.2	+0.6
XOR	Xorichti	2.61	106	ePB	Pb	22 15 51.2	-1.2
XOR	Xorichti	2.61	106	ePb	Pb	22 15 51.2	-1.2
DSF	Desfina	2.64	130	ePB	Pb	22 15 50.7	-2.2
DSF	Desfina	2.64	130	ePb	Pb	22 15 50.7	-2.2
NEO	Neokhori	2.65	107	ePN	Pb	22 15 50.7	-2.4
NEO	Neokhori	2.65	107	ePn	Pb	22 15 50.7	-2.4
PLG	Polygyros	2.67	84	ePN	Pn	22 15 50.5	+1.6
PLG				eSN	Sb	22 16 26.7	0.0
PLG	Polygyros	2.67	84	ePn	Pn	22 15 50.5	+1.6
PLG				eSn	Sb	22 16 26.7	0.0
KLV	Kalavryta, Ach	2.71	140	ePN	Pn	22 15 50.9	+1.5
KLV	Kalavryta, Ach	2.71	140	ePn	Pn	22 15 50.9	+1.5
LKR	Lokris	2.79	122	ePN	Pb	22 15 52.9	-2.5
LKR	Lokris	2.79	122	ePn	Pb	22 15 52.9	-2.5
GUR	Goura	2.89	139	ePN	Pn	22 15 52.6	+0.7
GUR	Goura	2.89	139	ePn	Pn	22 15 52.6	+0.7
AMT	Artemida-Makis	2.95	152	ePN	Pn	22 15 53.6	+0.9
AMT				eSN	Sb	22 16 31.9	-2.7
AMT	Artemida-Makis	2.95	152	ePn	Pn	22 15 53.6	+0.9
AMT				eSn	Sb	22 16 31.9	-2.7
MRKA	Markates	3.16	116	ePN	Pb	22 15 58.5	-3.2
MRKA	Markates	3.16	116	ePn	Pb	22 15 58.5	-3.2
NVR	Nevrokopi	3.20	67	ePN	Pn	22 15 58.1	+2.0
NVR				eSN	Sb	22 16 39.4	-2.3
NVR	Nevrokopi	3.20	67	ePn	Pn	22 15 58.1	+2.0
NVR				eSn	Sb	22 16 39.4	-2.3
STON	Ston	3.21	329	ePn	Pn	22 15 56.0	-0.1
STON				Sn	Sn	22 16 35.7	+1.0
STON	Ston	3.21	329	ePn	Pn	22 15 56.0	-0.1
STON				Sn	Sn	22 16 35.7	+1.0
ITM	Ithomi	3.34	152	ePN	Pn	22 15 59.1	+1.1
ITM	Ithomi	3.34	152	ePn	Pn	22 15 59.1	+1.1
VLX	Vlachokerasia	3.36	145	ePN	Pn	22 16 00.0	+1.6
VLX	Vlachokerasia	3.36	145	ePn	Pn	22 16 00.0	+1.6
DID	Didima	3.68	135	ePN	Pn	22 16 04.2	+1.5
DID				eSN	Sb	22 16 51.2	-4.3
DID	Didima	3.68	135	ePn	Pn	22 16 04.2	+1.5
DID				eSn	Sb	22 16 51.2	-4.3
BBLS	Lazići	3.73	354	ePn	Pb	22 16 08.7	-2.9
GRUS	Gruza	3.78	8	ePn	Pb	22 16 08.3	-3.9
TRUS	Trudelj	4.08	4	ePn	Pn	22 16 09.2	+1.0
KYTH	Kithira	4.56	147	ePN	Pn	22 16 16.1	+1.3
KYTH	Kithira	4.56	147	ePn	Pn	22 16 16.1	+1.3
UDBI	Udbina	5.37	326	Sn	Sn	22 17 28.7	+0.6
UDBI	Udbina	5.37	326	Sn	Sn	22 17 28.7	+0.6
NVLJ	Novalja	5.80	321	ePn	Pn	22 16 32.2	+0.4
NVLJ				Sn	Sn	22 17 37.1	-1.6
NVLJ	Novalja	5.80	321	ePn	Pn	22 16 32.2	+0.4
NVLJ				Sn	Sn	22 17 37.1	-1.6

IGIL **13** *22:16:55.8,38°.32N×3°.19W,h2km,ML2.5*
CSEM **13** *22:16:55.4±0.1,38°.36N×3°.29W,h8km,ML3.5/36,Error ellipse: s-maj=1.9km s-min=1.6km az=142.0*
LDG **13** *22:16:56.7±0.1,38°.31N×3°.20W,h2km,Ml3.1/6,Error ellipse: s-maj=1.6km s-min=1.1km az=126.0*
MDD **13** *22:16:56.9±0.2,38°.32N×3°.19W,h11km,mbLg3.1/55, Error ellipse: s-maj=2.2km s-min=1.8km az=146.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
INMG **13** *22:16:57.2±1.6,38°.32N×3°.19W,h19km±2km,ML3.0,Error ellipse: s-maj=1.7km s-min=1.3km az=79.0*
SFS **13** *22:16:57.0,38°.31N×3°.18W,h10km,ML3.1*
ISC 13 22:16:54.7±0.6,**38°.36N**±0°.02×**3°.22W**±0°.02,**h14**km±3km, **n192**,σ1°**36**/329,**6C-7D,Spain**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EBAN	Banos Encina	0.48	247	⇓Pg	Pb	22 17 06.3	+1.3
	99nm,0.1s,SNR=18						
EBAN				Lg	Lg	22 17 13.1	
	133nm,0.1s,SNR=7.9						
EQES	Quesada	0.57	168	⇓Pg	Pg	22 17 06.9	+1.0
	99nm,0.3s,SNR=18						
EQES				Lg	Lg	22 17 14.0	
	63nm,0.1s,SNR=13						
EQES	Quesada	0.57	168	Pg	Pg	22 17 06.9	+1.0
	99nm,0.3s,SNR=18						
EQES				Lg	Lg	22 17 14.0	
	63nm,0.1s,SNR=13						
EVIA	Vianos	0.63	63	⇑Pg	Pg	22 17 08.3	+1.2
	212nm,0.2s,SNR=18						
EVIA				Lg	Lg	22 17 16.6	
	360nm,0.2s,SNR=7.9						
EVIA	Vianos	0.63	63	Pg	Pg	22 17 08.3	+1.2
	212nm,0.2s,SNR=18						
EVIA				Lg	Lg	22 17 16.6	
	360nm,0.2s,SNR=7.9						
EHUE	Huescar	0.74	137	⇓Pg	Pb	22 17 09.6	+0.3
	28nm,0.2s,SNR=18						
EHUE				Lg	Lg	22 17 18.9	
	191nm,0.1s,SNR=7.9						
EHUE	Huescar	0.74	137	Pg	Pb	22 17 09.6	+0.3
	28nm,0.2s,SNR=18						
EHUE				Lg	Lg	22 17 18.9	
	191nm,0.1s,SNR=7.9						
GORA	Gorafe	0.89	171	⇓Pg	Pb	22 17 12.9	+1.0
	139nm,0.1s,SNR=18						
GORA				Lg	Lg	22 17 24.2	
	261nm,0.1s,SNR=7.9						
GORA	Gorafe	0.89	171	Pg	Pb	22 17 12.9	+1.0
	139nm,0.1s,SNR=18						
GORA				Lg	Lg	22 17 24.2	
	261nm,0.1s,SNR=7.9						
ECOG	Cogollos-Vega	1.11	194	⇓Pg	Pn	22 17 16.8	+0.9
	48nm,0.1s,SNR=18						
ECOG				Lg	Lg	22 17 31.2	
	234nm,0.1s,SNR=36						
ECOG	Cogollos-Vega	1.11	194	Pg	Pn	22 17 16.8	+0.9
	48nm,0.1s,SNR=18						
ECOG				Lg	Lg	22 17 31.2	
	234nm,0.1s,SNR=36						
ELUQ	Luque	1.15	226	⇑Pg	Pg	22 17 18.0	+1.2
	39nm,0.2s,SNR=18						
ELUQ				Lg	Lg	22 17 33.4	
	193nm,0.1s,SNR=7.9						
ELUQ	Luque	1.15	226	Pg	Pg	22 17 18.0	+1.2
	39nm,0.2s,SNR=18						
ELUQ				Lg	Lg	22 17 33.4	
	193nm,0.1s,SNR=7.9						
EQUE	Quentar	1.17	189	Pg	Pn	22 17 17.5	+0.9
	34nm,0.1s,SNR=65						
EQUE				Lg	Lg	22 17 33.0	
	436nm,0.4s,SNR=7.9						
EQUE	Quentar	1.17	189	Pg	Pn	22 17 17.5	+0.9
	34nm,0.1s,SNR=65						
EQUE				Lg	Lg	22 17 33.0	
	436nm,0.4s,SNR=7.9						
SELV	Sierra Elvira	1.19	200	⇓Pg	Pb	22 17 18.3	+1.3
	18nm,0.2s,SNR=18						
SELV				Lg	Lg	22 17 34.1	
	190nm,0.5s,SNR=7.9						
SELV	Sierra Elvira	1.19	200	Pg	Pb	22 17 18.3	+1.3
	18nm,0.2s,SNR=18						
SELV				Lg	Lg	22 17 34.1	
	190nm,0.5s,SNR=7.9						
ETOB	Tobarra	1.34	77	⇑Pg	Pn	22 17 19.8	+0.7
	18nm,0.2s,SNR=18						
ETOB				Lg	Lg	22 17 38.0	
	103nm,0.3s,SNR=7.9						
ESDC	Sonseca Array	1.44	336	Pg	Pg	22 17 23.9	+1.6
	45nm,0.2s,baz=156,slow=16,SNR=202						
ESDC				Lg	Lg	22 17 42.9	
	124nm,0.3s,baz=155,slow=30,SNR=50						
ESDC	Sonseca Array	1.44	336	Pg	Pg	22 17 23.9	+1.6
	45nm,0.2s,SNR=202						
ESDC				Lg	Lg	22 17 42.9	
	124nm,0.3s,SNR=50						
EBER	Berja	1.48	170	Pg	Pb	22 17 23.1	+1.0
	20nm,0.1s,SNR=217						
EBER				Lg	Lg	22 17 43.2	
	93nm,0.3s,SNR=6.1						
EBER	Berja	1.48	170	Pg	Pb	22 17 23.1	+1.0
	20nm,0.1s,SNR=217						
EBER				Lg	Lg	22 17 43.2	
	93nm,0.3s,SNR=6.1						
EGUA	Guajares	1.55	190	Pg	Pb	22 17 24.2	+1.1
	22nm,0.2s,SNR=7.9						
EGUA				Lg	Lg	22 17 45.8	
	55nm,0.3s,SNR=7.9						
EGUA	Guajares	1.55	190	Pg	Pb	22 17 24.2	+1.1
	22nm,0.2s,SNR=7.9						
EGUA				Lg	Lg	22 17 45.8	
	55nm,0.3s,SNR=7.9						
ENIJ	Nijar	1.60	150	Pg	Pb	22 17 25.2	+1.1
	48nm,0.2s,SNR=7.9						
ENIJ				Lg	Lg	22 17 45.6	
	88nm,0.3s,SNR=7.9						
ENIJ	Nijar	1.60	150	Pg	Pb	22 17 25.2	+1.1
	48nm,0.2s,SNR=7.9						
ENIJ				Lg	Lg	22 17 45.6	
	88nm,0.3s,SNR=7.9						
EMUR	La Murta	1.65	108	⇑Pn	Pn	22 17 24.1	+0.9
	1.3nm,0.1s,SNR=18						
EMUR				Lg	Lg	22 17 46.2	
	111nm,0.4s,SNR=14						
EMUR	La Murta	1.65	108	Pn	Pn	22 17 24.1	+0.9
	1.3nm,0.1s,SNR=18						
EMUR				Lg	Lg	22 17 46.2	
	111nm,0.4s,SNR=14						
ECAB	El Cabril	1.75	261	Pn	Pn	22 17 25.9	+1.2
	8.8nm,0.1s,SNR=98						
ECAB				Pg	Pg	22 17 29.1	+0.7
	16nm,0.1s,SNR=7.9						
ECAB				Sn	Sn	22 17 47.8	+1.0
	25nm,0.3s,SNR=6.7						
ECAB				Lg	Lg	22 17 53.2	
	69nm,0.1s,SNR=7.9						
ECAB	El Cabril	1.75	261	Pn	Pn	22 17 25.9	+1.2
	8.8nm,0.1s,SNR=98						
EMAL	Malaga-Limoner	1.86	211	i P	Pg	22 17 31.2	+0.8
EMAL				eS	Sn	22 17 48.5	-0.9
CART	Cartagena	1.92	113	Pg	Pb	22 17 29.9	+0.5
CART				Sn	Sn	22 17 50.3	-0.4
CART	Cartagena	1.92	113	eP	Pb	22 17 29.9	+0.5
CART				eS	Sn	22 17 50.3	-0.4
EMIJ	Mijas	2.18	215	Pn	Pn	22 17 32.6	+2.1
	0.3nm,0.1s,SNR=7.9						
EMIJ				Pg	Pg	22 17 36.5	0.0
	0.6nm,0.1s,SNR=7.9						
EMIJ				Sn	Sn	22 17 57.9	+0.7
	4.9nm,0.1s,SNR=7.9						
EMIJ				Lg	Lg	22 18 05.6	
	63nm,0.3s,SNR=7.9						
EMIJ	Mijas	2.18	215	Pn	Pn	22 17 32.6	+2.1
	0.3nm,0.1s,SNR=7.9						
LIJA	Lijar	2.26	231	Pg	Pg	22 17 38.8	+0.7
LIJA				Lg	Lg	22 18 09.0	
LIJA	Lijar	2.26	231	Pg	Pg	22 17 38.8	+0.7
LIJA				Lg	Lg	22 18 09.0	
EBEN	Beniarda	2.38	81	Pn	Pn	22 17 34.0	+0.8
	1.4nm,0.1s,SNR=18						
EBEN				Pg	Pg	22 17 40.1	-0.2
	1.2nm,0.1s,SNR=7.9						
EBEN				Sn	Sn	22 18 02.6	+0.4
	2.5nm,0.1s,SNR=7.9						
EBEN				Lg	Lg	22 18 12.6	
	23nm,0.3s,SNR=5.0						
EBEN	Beniarda	2.38	81	Pn	Pn	22 17 34.0	+0.8
	1.4nm,0.1s,SNR=18						
EBEN				Lg	Lg	22 18 12.6	
	23nm,0.3s,SNR=5.0						
GUD	Guadarrama	2.39	343	Pn	Pn	22 17 34.7	+1.1
	0.1nm,0.1s,SNR=6.6						
GUD				Pg	Pg	22 17 40.3	-0.3
	22nm,0.1s,SNR=7.9						
GUD				Lg	Lg	22 18 11.8	
	30nm,0.3s,SNR=7.9						
GUD	Guadarrama	2.39	343	Pn	Pn	22 17 34.7	+1.1
	0.1nm,0.1s,SNR=6.6						
ESPR	Espera	2.57	235	Pn	Pn	22 17 37.7	+1.9
	0.8nm,0.1s,SNR=7.9						
ESPR				Pg	Pg	22 17 43.9	0.0
	1.2nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	22 18 07.4	+0.6
	6.3nm,0.2s,SNR=7.9						
ESPR				Lg	Lg	22 18 18.6	
	44nm,0.3s,SNR=7.9						
ESPR	Espera	2.57	235	Pn	Pn	22 17 37.7	+1.9
	0.8nm,0.1s,SNR=7.9						
ETOR	Torete	2.62	20	⇓Pn	Pn	22 17 38.0	+1.4
	9.1nm,0.3s,SNR=18						
ETOR				Pg	Pg	22 17 46.1	+1.2
	93nm,0.2s,SNR=7.9						
ETOR				Sn	Sn	22 18 09.0	+0.8
	137nm,0.2s,SNR=8.0						
ETOR				Lg	Lg	22 18 19.7	
	275nm,0.2s,SNR=14						
ETOR	Torete	2.62	20	Pn	Pn	22 17 38.0	+1.4
	9.1nm,0.3s,SNR=18						
ETOR	Torete	2.62	20	Pg	Pg	22 17 46.1	+1.2
	93nm,0.2s,SNR=7.9						
ETOR				Sn	Sn	22 18 09.0	+0.8
	137nm,0.2s,SNR=8.0						
ETOR				Lg	Lg	22 18 19.7	
	275nm,0.2s,SNR=14						
EMIN	Mina Concepcio	2.79	259	Pn	Pn	22 17 39.9	+1.0
	2.2nm,0.5s,SNR=72						
EMIN				Pg	Pg	22 17 48.0	-0.1
	3.4nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	22 18 12.5	+0.2
	3.8nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	22 18 23.2	
	34nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	2.79	259	Pn	Pn	22 17 39.9	+1.0
	2.2nm,0.5s,SNR=72						
EMIN	Mina Concepcio	2.79	259	Pg	Pg	22 17 48.0	-0.1
	3.4nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	22 18 12.5	+0.2
	3.8nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	22 18 23.2	
	34nm,0.3s,SNR=7.9						
EPLA	Plasencia	2.80	308	Pn	Pn	22 17 40.7	+1.6
	1.6nm,0.6s,SNR=8.0						
EPLA				Pg	Pg	22 17 50.0	+1.6
	2.4nm,0.1s,SNR=7.9						
EPLA				Sn	Sn	22 18 13.4	+0.8
	8.4nm,0.3s,SNR=5.6						
EPLA				Lg	Lg	22 18 24.0	
	92nm,0.4s,SNR=12						
EPLA	Plasencia	2.80	308	Pn	Pn	22 17 40.7	+1.6
	1.6nm,0.6s,SNR=8.0						
EPLA	Plasencia	2.80	308	Pg	Pg	22 17 50.0	+1.6
	2.4nm,0.1s,SNR=7.9						
EPLA				Sn	Sn	22 18 13.4	+0.8
	8.4nm,0.3s,SNR=5.6						
EPLA				Lg	Lg	22 18 24.0	
	92nm,0.4s,SNR=12						
EMOS	Mosqueruela	2.92	46	Pn	Pn	22 17 43.0	+2.1
	0.3nm,0.1s,SNR=7.9						
EMOS				Pg	Pg	22 17 51.7	+1.0
	5.8nm,0.4s,SNR=7.9						
EMOS				Sn	Sn	22 18 16.7	+0.8
	SNR=7.9						
EMOS				Lg	Lg	22 18 28.3	
	28nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	2.92	46	Pn	Pn	22 17 43.0	+2.1
	0.3nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.00	279	⇑Pn	Pn	22 17 42.8	+1.1
	2.9nm,0.4s,SNR=18						
EBAD				Pg	Pg	22 17 52.7	+0.5
	14nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	22 18 18.5	+1.1
	13nm,0.1s,SNR=7.9						
EBAD				Lg	Lg	22 18 30.9	
	74nm,0.2s,SNR=7.9						
EBAD	Badajoz	3.00	279	Pn	Pn	22 17 42.8	+1.1
	2.9nm,0.4s,SNR=18						

PBAR Barrancos 3.01 268 ePn Pn 22 17 43.1 +1.2
PBAR eSn Sn 22 18 18.3 +0.5
PBAR eSg Sg 22 18 31.5 +0.1
PBAR A A 22 18 38.6
59nm,0.4s
PBAR Barrancos 3.01 268 Pn Pn 22 17 43.1 +1.2
PBAR Sn Sn 22 18 18.3 +0.5
PBAR Lg Lg 22 18 31.5
59nm,0.4s
PBAR Barrancos 3.01 268 Pn Pn 22 17 43.1 +1.2
PBAR Sn Sn 22 18 18.3 +0.5
PBAR eSg Sg 22 18 31.5 +0.1
59nm,0.4s
PMRV Marv??o 3.42 289 ePn Pn 22 17 49.0 +1.4
PMRV Marv??o 3.42 289 ePg Pg 22 18 01.0 +0.7
PMRV eSn Sn 22 18 28.5 +0.5
PMRV eSg Sg 22 18 42.2 -2.5
PMRV A A 22 18 46.7
38nm,0.3s
PMRV Marv??o 3.42 289 Pn Pn 22 17 49.0 +1.4
PMRV Pg Pg 22 18 01.0 +0.7
PMRV Sn Sn 22 18 28.5 +0.5
PMRV Lg Lg 22 18 42.2
38nm,0.3s
PMRV Marv??o 3.42 289 Pn Pn 22 17 49.0 +1.4
PMRV Marv??o 3.42 289 Pg Pg 22 18 01.0 +0.7
PMRV Sn Sn 22 18 28.5 +0.5
PMRV eSg Sg 22 18 42.2 -2.5
38nm,0.3s
PESTR Estremoz 3.46 280 ePn Pn 22 17 49.1 +1.0
PESTR Estremoz 3.46 280 ePg Pg 22 18 00.1 -0.9
PESTR eSn Sn 22 18 30.1 +1.2
PESTR eSg Sg 22 18 45.0 -0.8
PESTR A A 22 18 55.6
36nm,0.6s
PESTR Estremoz 3.46 280 ePn Pn 22 17 49.1 +1.0
PESTR Estremoz 3.46 280 ePg Pg 22 18 00.1 -0.9
PESTR eSn Sn 22 18 30.1 +1.2
PESTR eSg Sg 22 18 45.0 -0.8
36nm,0.6s
EGRO El Granado 3.47 258 ⇑Pn Pn 22 17 49.0 +0.8
3.5nm,0.6s,SNR=18
EGRO Sn Sn 22 18 28.7 -0.3
8.1nm,0.1s,SNR=4.9
EGRO Lg Lg 22 18 46.0
25nm,0.4s,SNR=5.0
EGRO El Granado 3.47 258 Pn Pn 22 17 49.0 +0.8
3.5nm,0.6s,SNR=18
EGRO Sn Sn 22 18 28.7 -0.3
8.1nm,0.1s,SNR=4.9
EGRO Lg Lg 22 18 46.0
25nm,0.4s,SNR=5.0
PCBR Castelo Branco 3.63 295 ePn Pn 22 17 52.0 +1.6
PCBR eSn Sn 22 18 32.6 -0.3
PCBR eSg Sg 22 18 50.8 -0.4
PCBR A A 22 18 57.1
44nm,0.7s
PCBR Castelo Branco 3.63 295 Pn Pn 22 17 52.0 +1.6
PCBR Sn Sn 22 18 32.6 -0.3
PCBR Lg Lg 22 18 50.8
22nm,0.7s
PCBR Castelo Branco 3.63 295 Pn Pn 22 17 52.0 +1.6
PCBR Sn Sn 22 18 32.6 -0.3
PCBR eSg Sg 22 18 50.8 -0.4
44nm,0.7s
EIBI Ibiza 3.63 78 Pn Pn 22 17 50.6 +0.1
0.9nm,0.1s,SNR=7.9
EIBI Sn Sn 22 18 30.8 -2.3
3.1nm,0.1s,SNR=7.9
PBEJ Beja 3.67 266 ePn Pn 22 17 52.3 +1.2
PBEJ eSn Sn 22 18 33.6 -0.6
PBEJ A A 22 19 01.0
12nm,0.7s
PBEJ Beja 3.67 266 Pn Pn 22 17 52.3 +1.2
PBEJ Sn Sn 22 18 33.6 -0.6
6.1nm,0.7s
PBEJ Beja 3.67 266 Pn Pn 22 17 52.3 +1.2
PBEJ eSn Sn 22 18 33.6 -0.6
12nm,0.7s
PVAQ Vaqueiros 3.68 256 ePn Pn 22 17 52.0 +0.8
PVAQ eSn Sn 22 18 33.9 -0.4
PVAQ A A 22 18 55.4
16nm,0.5s
PVAQ Vaqueiros 3.68 256 Pn Pn 22 17 52.0 +0.8
PVAQ Sn Sn 22 18 33.9 -0.4
16nm,0.5s
PVAQ Vaqueiros 3.68 256 Pn Pn 22 17 52.0 +0.8
PVAQ eSn Sn 22 18 33.9 -0.4
16nm,0.5s
EVO Evora 3.77 274 ePn Pn 22 17 54.9 +2.6
EVO Evora 3.77 274 ePg Pg 22 18 07.0 +0.1
EVO eSn Sn 22 18 38.1 +1.7
EVO eSg Sg 22 18 56.8 +1.2
42nm,0.2s
EVO Evora 3.77 274 ePn Pn 22 17 52.9 +0.6
EVO eSn Sn 22 18 36.4 0.0
EVO eSg Sg 22 18 53.6 -2.0
EVO A A 22 19 04.3
32nm,0.1s
EVO Evora 3.77 274 Pn Pn 22 17 52.9 +0.6
EVO Sn Sn 22 18 36.4 0.0
EVO Lg Lg 22 18 53.6
32nm,0.1s
EVO Evora 3.77 274 Pn Pn 22 17 52.9 +0.6
EVO Sn Sn 22 18 36.4 0.0
EVO eSg Sg 22 18 53.6 -2.0
32nm,0.1s
ERTA Horta de San J 3.77 45 Pn Pn 22 17 55.2 +2.7
0.3nm,0.1s,SNR=7.9
ERTA Pg Pg 22 18 06.2 -0.8
0.5nm,0.1s,SNR=7.9
ERTA Lg Lg 22 18 53.7
12nm,0.2s,SNR=7.9
ERTA Horta de San J 3.77 45 Pn Pn 22 17 55.2 +2.7
0.3nm,0.1s,SNR=7.9
ERTA Lg Lg 22 18 53.7
12nm,0.2s,SNR=7.9
EVOP Sao Brissos 3.85 274 ePn Pn 22 17 54.9 +1.4
EVOP Sao Brissos 3.85 274 ePg Pg 22 18 07.0 -1.5
EVOP eSn Sn 22 18 38.1 -0.4
EVOP eSg Sg 22 18 56.8 -1.6
21nm,0.2s
PCVE Castro Verde 3.88 261 ePn Pn 22 17 54.8 +1.0
PCVE eSn Sn 22 18 38.5 -0.6
PCVE A A 22 19 07.9
17nm,0.7s
PCVE Castro Verde 3.88 261 Pn Pn 22 17 54.8 +1.0
PCVE Sn Sn 22 18 38.5 -0.6
17nm,0.7s
PCVE Castro Verde 3.88 261 Pn Pn 22 17 54.8 +1.0
PCVE eSn Sn 22 18 38.5 -0.6
17nm,0.7s
PBDV Barranco-do-Ve 3.89 255 ePn Pn 22 17 55.1 +1.0
PBDV eSn Sn 22 18 39.0 -0.6
PBDV eSg Sg 22 18 58.8 -0.9
PBDV A A 22 19 12.9
11nm,0.4s
PBDV Barranco-do-Ve 3.89 255 Pn Pn 22 17 55.1 +1.0
PBDV Sn Sn 22 18 39.0 -0.6
PBDV Lg Lg 22 18 58.8
11nm,0.4s
PBDV Barranco-do-Ve 3.89 255 Pn Pn 22 17 55.1 +1.0
PBDV Sn Sn 22 18 39.0 -0.6
PBDV eSg Sg 22 18 58.8 -0.9
11nm,0.4s
MTE Manteigas 3.92 303 eSg Sg 22 18 58.6 -2.0
MTE A A 22 19 09.2
39nm,0.5s
MTE Manteigas 3.92 303 Lg Lg 22 18 58.6
19nm,0.5s
MTE Manteigas 3.92 303 eSg Sg 22 18 58.6 -2.0
39nm,0.5s
MESJ Messejana 3.98 264 eP Pn 22 17 56.2 +1.1
MESJ eS Sn 22 18 40.7 -0.9
MESJ AML AML 22 18 40.9
comp=E,6.5nm,0.1s
MESJ Messejana 3.98 264 ePn Pn 22 17 56.3 +1.1
MESJ eSn Sn 22 18 40.7 -0.9
MESJ A A 22 19 13.7
comp=E,13nm,0.4s
MESJ Messejana 3.98 264 Pn Pn 22 17 56.3 +1.1
MESJ Sn Sn 22 18 40.7 -0.9
comp=E,13nm,0.4s
MESJ Messejana 3.98 264 Pn Pn 22 17 56.3 +1.1
MESJ eSn Sn 22 18 40.7 -0.9
comp=E,13nm,0.4s
PMTG Montargil 3.98 282 ePn Pn 22 17 55.6 +0.4
PMTG eSn Sn 22 18 40.9 -0.7
PMTG eSg Sg 22 19 00.6 -1.8
PMTG A A 22 19 05.9
comp=E,38nm,0.4s
PMTG Montargil 3.98 282 ePn Pn 22 17 55.6 +0.4
PMTG eSn Sn 22 18 40.9 -0.7
PMTG eSg Sg 22 19 00.6 -1.8
comp=E,38nm,0.4s
MVO Moncorvo 4.06 315 ePn Pn 22 17 58.4 +2.0
MVO eSn Sn 22 18 41.9 -1.8
MVO eSg Sg 22 19 03.8 -1.2
MVO A A 22 19 11.8
comp=E,39nm,0.9s
MVO Moncorvo 4.06 315 Pn Pn 22 17 59.2 +2.8
comp=E,1.0nm,0.1s,SNR=7.9
MVO Sn Sn 22 18 41.8 -1.8
comp=E,3.8nm,0.1s,SNR=7.9
MVO Lg Lg 22 19 04.8
comp=E,56nm,0.6s,SNR=7.9
MVO Moncorvo 4.06 315 ePn Pn 22 17 58.4 +2.0
MVO eSn Sn 22 18 41.9 -1.8
MVO eSg Sg 22 19 03.8 -1.2
comp=E,39nm,0.9s
MVO Lg Lg 22 19 04.8
comp=E,56nm,0.6s,SNR=7.9
PNCL Nicolau / Gran 4.19 268 ePn Pn 22 17 59.3 +1.2
PNCL Nicolau / Gran 4.19 268 ePg Pg 22 18 14.8 -0.1
PNCL eSn Sn 22 18 46.1 -0.7
PNCL A A 22 19 18.3
comp=E,15nm,0.5s
PNCL Nicolau / Gran 4.19 268 ePn Pn 22 17 59.3 +1.2
PNCL Nicolau / Gran 4.19 268 ePg Pg 22 18 14.8 -0.1
PNCL eSn Sn 22 18 46.1 -0.7
comp=E,15nm,0.5s
PTOM Tomar 4.23 289 ePn Pn 22 18 00.5 +1.8
PTOM eSn Sn 22 18 48.5 +0.6
PTOM eSg Sg 22 19 08.7 -2.0
PTOM A A 22 19 16.5
comp=E,35nm,0.9s
PTOM Tomar 4.23 289 Pn Pn 22 18 00.5 +1.8
PTOM Sn Sn 22 18 48.5 +0.6
PTOM Lg Lg 22 19 08.7
comp=E,18nm,0.9s
PTOM Tomar 4.23 289 Pn Pn 22 18 00.5 +1.8
PTOM Sn Sn 22 18 48.5 +0.6
PTOM eSg Sg 22 19 08.7 -2.0
comp=E,35nm,0.9s
PVIS Viseu 4.31 305 ePn Pn 22 18 01.4 +1.5
PVIS eSn Sn 22 18 50.1 +0.2
PVIS A A 22 19 24.0
comp=E,15nm,0.7s
PVIS Viseu 4.31 305 Pn Pn 22 18 01.4 +1.5
PVIS Sn Sn 22 18 50.1 +0.2
comp=E,7.7nm,0.7s
PVIS Viseu 4.31 305 Pn Pn 22 18 01.4 +1.5
PVIS eSn Sn 22 18 50.1 +0.2
comp=E,15nm,0.7s
PBRG Braganca 4.37 323 ePn Pn 22 18 02.1 +1.4
PBRG eSn Sn 22 18 51.5 0.0
PBRG eSg Sg 22 19 13.0 -2.1
PBRG A A 22 19 18.7
comp=E,21nm,0.8s
PBRG Braganca 4.37 323 Pn Pn 22 18 02.1 +1.4
PBRG Sn Sn 22 18 51.5 0.0
PBRG Lg Lg 22 19 13.0
comp=E,11nm,0.8s
PBRG Braganca 4.37 323 Pn Pn 22 18 02.1 +1.4
PBRG Sn Sn 22 18 51.5 0.0
PBRG eSg Sg 22 19 13.0 -2.1
comp=E,21nm,0.8s
MORF Marmelete 4.42 258 eP Pn 22 18 02.5 +1.0
MORF eS Sn 22 18 50.5 -2.2
MORF AML AML 22 18 53.6
comp=E,13nm,0.3s
MORF Marmelete 4.42 258 ePn Pn 22 18 02.6 +1.2
MORF eSn Sn 22 18 52.2 -0.5
MORF A A 22 19 18.3
comp=E,8.4nm,0.4s
MORF Marmelete 4.42 258 Pn Pn 22 18 02.6 +1.2
MORF Sn Sn 22 18 52.2 -0.5
comp=E,8.4nm,0.4s
MORF Marmelete 4.42 258 Pn Pn 22 18 02.6 +1.2
MORF eSn Sn 22 18 52.2 -0.5
comp=E,8.4nm,0.4s
PTEO Sao Teotonio 4.42 261 ePn Pn 22 18 02.2 +0.8
PTEO eSn Sn 22 18 52.4 -0.2
PTEO A A 22 19 25.3
comp=E,12nm,0.8s
PTEO Sao Teotonio 4.42 261 Pn Pn 22 18 02.2 +0.8
PTEO Sn Sn 22 18 52.4 -0.2
comp=E,6.2nm,0.8s
PTEO Sao Teotonio 4.42 261 Pn Pn 22 18 02.2 +0.8
PTEO eSn Sn 22 18 52.4 -0.2
comp=E,12nm,0.8s
PCAS Casmilo, Conde 4.43 294 ePn Pn 22 18 03.5 +2.0
PCAS eSn Sn 22 18 52.6 -0.3
PCAS A A 22 19 26.1
comp=E,25nm,0.6s
PCAS Casmilo, Conde 4.43 294 ePn Pn 22 18 03.5 +2.0
PCAS eSn Sn 22 18 52.6 -0.3
comp=E,25nm,0.6s
EPOB Poblet 4.46 47 Pn Pn 22 18 03.3 +1.4
comp=E,0.7nm,0.1s,SNR=7.9
EPOB Lg Lg 22 19 14.2
comp=E,8.1nm,0.5s,SNR=7.9
EPOB Poblet 4.46 47 Pn Pn 22 18 03.3 +1.4
comp=E,0.7nm,0.1s,SNR=7.9
EPOB Lg Lg 22 19 14.2
comp=E,8.1nm,0.5s,SNR=7.9
ECAL Calabor 4.48 324 Sn Sn 22 18 51.6 -2.4
SNR=7.9
ECAL Lg Lg 22 19 18.7
comp=E,33nm,0.4s,SNR=7.9
PVRL Vila Real 4.52 311 eSn Sn 22 18 54.3 -0.8
PVRL A A 22 19 24.7
comp=E,22nm,0.6s
PVRL Vila Real 4.52 311 Sn Sn 22 18 54.3 -0.8
comp=E,11nm,0.6s
PVRL Vila Real 4.52 311 eSn Sn 22 18 54.3 -0.8
comp=E,22nm,0.6s
EARA Aranguren 4.58 15 Lg Lg 22 19 22.4
comp=E,14nm,0.3s,SNR=7.9
EARA Aranguren 4.58 15 Lg Lg 22 19 22.4
comp=E,14nm,0.3s,SNR=7.9
IUNC Unciti 4.58 16 Pn Pn 22 18 07.0 +3.4
comp=E,0.8nm,0.1s,SNR=7.9
IUNC Pg Pg 22 18 22.2 -0.3
SNR=7.9
IUNC Lg Lg 22 19 23.1
comp=E,25nm,0.4s,SNR=7.9
IUNC Unciti 4.58 16 Pn Pn 22 18 07.0 +3.4
comp=E,0.8nm,0.1s,SNR=7.9
PFVI Vila Bisbo 4.61 256 ePn Pn 22 18 04.6 +0.7
PFVI eSn Sn 22 18 56.0 -1.2
PFVI A A 22 19 16.4
comp=E,8.2nm,0.7s
PFVI Vila Bisbo 4.61 256 Pn Pn 22 18 04.6 +0.7
comp=E,2.3nm,0.1s,SNR=17
PFVI Sn Sn 22 18 55.8 -1.4
comp=E,2.5nm,0.1s,SNR=7.9
PFVI Vila Bisbo 4.61 256 Pn Pn 22 18 04.6 +0.7
comp=E,2.3nm,0.1s,SNR=17
PFVI eSn Sn 22 18 56.0 -1.2
comp=E,8.2nm,0.7s
POLO Lamas de Olo 4.63 312 ePn Pn 22 18 06.9 +2.6
POLO eSn Sn 22 18 57.5 -0.4
POLO eSg Sg 22 19 21.7 -1.7
POLO A A 22 19 34.8
comp=E,7.3nm,0.9s
POLO Lamas de Olo 4.63 312 ePn Pn 22 18 06.9 +2.6
POLO eSn Sn 22 18 57.5 -0.4
POLO eSg Sg 22 19 21.7 -1.7
comp=E,7.3nm,0.9s
IEPA Eparoz 4.66 18 Pn Pn 22 18 07.7 +3.0
comp=E,0.1nm,0.0s,SNR=7.9
IEPA Pg Pg 22 18 24.3 +0.3
comp=E,0.6nm,0.1s,SNR=7.9
IEPA Lg Lg 22 19 25.1
comp=E,31nm,0.5s,SNR=7.9
IEPA Eparoz 4.66 18 Pn Pn 22 18 07.7 +3.0
comp=E,0.1nm,0.0s,SNR=7.9
IELO Elcoad 4.73 18 Pn Pn 22 18 07.7 +2.1
comp=E,1.3nm,0.2s,SNR=7.9
IELO Pg Pg 22 18 26.3 +1.1
comp=E,1.8nm,0.2s,SNR=7.9
IELO Lg Lg 22 19 26.6
comp=E,6.0nm,0.3s,SNR=7.9
IELO Elcoad 4.73 18 Pn Pn 22 18 07.7 +2.1
comp=E,1.3nm,0.2s,SNR=7.9
IUSE Utxeti 4.76 15 Pn Pn 22 18 08.7 +2.7
comp=E,0.3nm,0.1s,SNR=7.9
IUSE Pg Pg 22 18 27.1 +1.4
comp=E,0.3nm,0.1s,SNR=7.9
IUSE Lg Lg 22 19 28.6
comp=E,14nm,0.6s,SNR=7.9
IUSE Utxeti 4.76 15 Pn Pn 22 18 08.7 +2.7
comp=E,0.3nm,0.1s,SNR=7.9
PMAFR Mafra 4.78 279 ePn Pn 22 18 06.8 +0.5
PMAFR eSn Sn 22 19 01.1 -0.4
PMAFR A A 22 19 38.4
comp=E,26nm,0.9s
PMAFR Mafra 4.78 279 Pn Pn 22 18 07.0 +0.7
comp=E,1.4nm,0.1s,SNR=7.9
PMAFR Pg Pg 22 18 24.3 -2.0
comp=E,0.8nm,0.1s,SNR=7.9
PMAFR Sn Sn 22 19 00.7 -0.8
comp=E,3.7nm,0.1s,SNR=7.9
PMAFR Lg Lg 22 19 29.6
comp=E,31nm,0.2s,SNR=7.9
PMAFR Mafra 4.78 279 Pn Pn 22 18 07.0 +0.7
comp=E,1.4nm,0.1s,SNR=7.9
PMAFR Mafra 4.78 279 Pg Pg 22 18 24.3 -2.0
comp=E,0.8nm,0.1s,SNR=7.9
PMAFR eSn Sn 22 19 01.1 -0.4
comp=E,26nm,0.9s
PMAFR Lg Lg 22 19 29.6
comp=E,31nm,0.2s,SNR=7.9
ELAN Lanestosa 4.87 358 Pn Pn 22 18 10.3 +2.8
comp=E,0.2nm,0.1s,SNR=5.8
ELAN Pg Pg 22 18 27.5 -0.4
comp=E,0.3nm,0.1s,SNR=7.9
ELAN Sn Sn 22 19 03.8 +0.3
comp=E,0.4nm,0.1s,SNR=7.9
ELAN Lg Lg 22 19 32.2
comp=E,3.4nm,0.2s,SNR=7.9
ELAN Lanestosa 4.87 358 Pn Pn 22 18 10.3 +2.8
comp=E,0.2nm,0.1s,SNR=5.8
ETSF Etsaut 4.97 23 ePn Pn 22 18 11.5 +2.6
ETSF eSn Sn 22 19 05.4 -0.7
ETSF eSg Sg 22 19 33.6 -0.5
comp=E,7.4nm,0.4s
ETSF Etsaut 4.97 23 Pn Pn 22 18 11.5 +2.6
ETSF Sn Sn 22 19 05.4 -0.7
ETSF Lg Lg 22 19 33.6
comp=E,3.7nm,0.4s
ETSF Etsaut 4.97 23 Pn Pn 22 18 11.5 +2.6
ETSF eSn Sn 22 19 05.4 -0.7
ETSF eSg Sg 22 19 33.6 -0.5
comp=E,3.7nm,0.4s
ELIZ Elizondo 4.97 14 Pn Pn 22 18 12.2 +3.4
comp=E,0.6nm,0.1s,SNR=7.9
ELIZ Pg Pg 22 18 29.7 -0.2
comp=E,0.3nm,0.1s,SNR=7.9
ELIZ Sn Sn 22 19 05.9 -0.1
comp=E,1.5nm,0.1s,SNR=7.9
ELIZ Lg Lg 22 19 34.9
comp=E,5.0nm,0.2s,SNR=7.9
ELIZ Elizondo 4.97 14 Pn Pn 22 18 12.2 +3.4
comp=E,0.6nm,0.1s,SNR=7.9
PCAB Cabril 4.98 314 ePn Pn 22 18 08.8 -0.2
PCAB A A 22 19 38.1
comp=E,17nm,0.6s
PCAB Cabril 4.98 314 Pn Pn 22 18 08.8 -0.2
PCAB Cabril 4.98 314 ePn Pn 22 18 08.8 -0.2
comp=E,17nm,0.6s
EALK Alkurruntz 5.03 14 Pn Pn 22 18 12.0 +2.4
comp=E,0.3nm,0.1s,SNR=7.9
EALK Pg Pg 22 18 29.6 -1.3
comp=E,0.3nm,0.1s,SNR=7.9
EALK Sn Sn 22 19 08.1 +0.7
comp=E,1.6nm,0.2s,SNR=7.9
EALK Lg Lg 22 19 36.9
comp=E,52nm,0.9s,SNR=7.9
EALK Alkurruntz 5.03 14 Pn Pn 22 18 12.0 +2.4
comp=E,0.3nm,0.1s,SNR=7.9
EALK Sn Sn 22 19 08.1 +0.7
comp=E,1.6nm,0.2s,SNR=7.9
EALK Lg Lg 22 19 36.9
comp=E,52nm,0.9s,SNR=7.9
EMIR Miracle 5.08 44 Pn Pn 22 18 12.4 +1.9
comp=E,0.4nm,0.1s,SNR=7.9
EMIR Lg Lg 22 19 36.4
comp=E,29nm,0.7s,SNR=7.9
EMIR Miracle 5.08 44 Pn Pn 22 18 12.4 +1.9
comp=E,0.4nm,0.1s,SNR=7.9
EMIR Lg Lg 22 19 36.4
comp=E,29nm,0.7s,SNR=7.9
ATE Arette 5.09 21 Pn Pn 22 18 13.5 +2.9
comp=E,0.4nm,0.1s,SNR=7.9
ATE Pg Pg 22 18 29.6 -2.7
comp=E,0.3nm,0.1s,SNR=7.9
ATE Sn Sn 22 19 08.8 -0.4
comp=E,0.8nm,0.1s,SNR=7.9
ATE Lg Lg 22 19 38.3
comp=E,7.2nm,0.5s,SNR=7.9
ATE Arette 5.09 21 Pn Pn 22 18 13.5 +2.9
comp=E,0.4nm,0.1s,SNR=7.9
ATE Lg Lg 22 19 38.3
comp=E,7.2nm,0.5s,SNR=7.9
ELOB Lobios 5.10 315 Pn Pn 22 18 13.2 +2.4
comp=E,0.2nm,0.1s,SNR=7.9
ELOB Sn Sn 22 19 08.4 -1.1
comp=E,2.3nm,0.1s,SNR=7.9
ELOB Lg Lg 22 19 36.7
comp=E,14nm,0.4s,SNR=7.9
ELOB Lobios 5.10 315 Pn Pn 22 18 13.2 +2.4
comp=E,0.2nm,0.1s,SNR=7.9
ELOB Sn Sn 22 19 08.4 -1.1
comp=E,2.3nm,0.1s,SNR=7.9
ELOB Lg Lg 22 19 36.7
comp=E,14nm,0.4s,SNR=7.9
EARI Arriondas 5.16 344 Pn Pn 22 18 14.5 +3.0
comp=E,0.1nm,0.2s,SNR=7.9
EARI Pg Pg 22 18 33.1 -0.4
comp=E,0.2nm,0.2s,SNR=7.9
EARI Sn Sn 22 19 09.3 -1.6
comp=E,0.2nm,0.1s,SNR=7.9
EARI Lg Lg 22 19 39.8
comp=E,7.3nm,0.5s,SNR=7.9
EARI Arriondas 5.16 344 Pn Pn 22 18 14.5 +3.0
comp=E,0.1nm,0.2s,SNR=7.9
CSOR Sort 5.21 38 Pn Pn 22 18 15.5 +3.2
comp=E,0.1nm,0.1s,SNR=7.9
CSOR Sn Sn 22 19 11.1 -1.1
comp=E,1.4nm,0.2s,SNR=7.9
CSOR Lg Lg 22 19 40.2
comp=E,9.4nm,0.4s,SNR=7.9
CSOR Sort 5.21 38 Pn Pn 22 18 15.5 +3.2
comp=E,0.1nm,0.1s,SNR=7.9
CSOR Lg Lg 22 19 40.2
comp=E,9.4nm,0.4s,SNR=7.9
EPF Esparros 5.39 29 ePn Pn 22 18 17.3 +2.6
EPF eSn Sn 22 19 16.0 -0.6
EPF eSg Sg 22 19 46.8 -1.0
comp=E,13nm,0.6s
EPF Esparros 5.39 29 Pn Pn 22 18 17.3 +2.6
EPF Sn Sn 22 19 16.0 -0.6
EPF Lg Lg 22 19 46.8
comp=E,6.6nm,0.6s
EPF Esparros 5.39 29 Pn Pn 22 18 17.3 +2.6
EPF Lg Lg 22 19 46.8
comp=E,6.6nm,0.6s
CFON Fontmartina 5.51 50 Lg Lg 22 19 50.6
comp=E,4.8nm,0.3s,SNR=7.9
CFON Fontmartina 5.51 50 Lg Lg 22 19 50.6
comp=E,4.8nm,0.3s,SNR=7.9
EPON Pontenova 5.79 330 Lg Lg 22 20 00.0
comp=E,5.0nm,0.3s,SNR=7.9
EPON Pontenova 5.79 330 Lg Lg 22 20 00.0
comp=E,5.0nm,0.3s,SNR=7.9
MTLF Montolieu 6.46 38 ePn Pn 22 18 31.1 +1.8
MTLF eSn Sn 22 19 41.0 -1.8
MTLF eSg Sg 22 20 19.8 -2.2
comp=E,1.4nm,0.3s
MTLF Montolieu 6.46 38 Pn Pn 22 18 31.1 +1.8
MTLF Sn Sn 22 19 41.0 -1.8
MTLF Lg Lg 22 20 19.8
comp=E,0.7nm,0.3s
MTLF Montolieu 6.46 38 Pn Pn 22 18 31.1 +1.8

MTLF Lg Lg 22 20 19.8
comp=E,0.7nm,0.3s
LFF La Frestale 7.21 23 *e*Pn **Pn 22 18 41.3 +1.7**
LFF *e*Sn **Sn 22 19 59.2 -2.0**
comp=E,0.9nm,0.3s
LFF La Frestale 7.21 23 Pn **Pn 22 18 41.3 +1.7**
LFF Sn **Sn 22 19 59.2 -2.0**
comp=E,0.4nm,0.3s
LFF La Frestale 7.21 23 Pn **Pn 22 18 41.3 +1.7**
CAF Calviac 7.66 29 *e*Pn **Pn 22 18 47.2 +1.4**
CAF *e*Sn **Sn 22 20 10.0 -2.4**
comp=E,0.7nm,0.2s
CAF Calviac 7.66 29 Pn **Pn 22 18 47.2 +1.4**
CAF Sn **Sn 22 20 10.0 -2.4**
comp=E,0.3nm,0.2s
CAF Calviac 7.66 29 Pn **Pn 22 18 47.2 +1.4**

IDC 13 22:18:58.0±2.0, 3°.65N×125°.33E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/27, mbtmp3.5/3, MS2.8/2, Ms1 2.8/2, ms1mx2.5/24, Error ellipse: s-maj=192.0km s-min=25.2km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**23.23**	**7**	LR	LR	22 35 45.4	
	comp=Z,7.4nm,18.0s,baz=275,slow=43						
WRA	**Warramunga Arr**	**25.06**	**160**	P	P	22 24 22.7	-1.6
	0.9nm,0.5s,baz=337,slow=11,SNR=13						
ASAR	**Alice Springs**	**28.40**	**163**	P	P	22 24 56.4	+1.9
	0.3nm,0.6s,baz=348,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**56.83**	**326**	P	P	22 28 44.5	0.0
	0.3nm,0.5s,baz=121,slow=8.0,SNR=8.7						
ZALV	**Zalesovo Beam**	**60.04**	**334**	LR	LR	22 55 26.9	
	comp=Z,26nm,18.7s,baz=74,slow=36						

*NIED **13** 22:33:00, 43°.80N×142°.20E, h195km, Mw4.5 Best double couple: M₀5.86000×10¹⁵ NP1:φs126.00000°, δ54.00000°, λ-152.00000°. NP2:φs18.00000°, δ67.00000°, λ-39.00000°.*
*BJI **13** 22:33:41.5, 43°.88N×142°.68E, h175km, mB4.8/32, mb4.6/53*
*ISCJB **13** 22:33:46.8±0.1, 43°.86N±0°.02×142°.12E±0°.03, h191km±1km, mb4.7/156, Error ellipse: s-maj=4.1km s-min=2.8km az=145.5*
*MOS **13** 22:33:46.4±0.8, 43°.93N×142°.03E, h185km, mb4.9/70, Error ellipse: s-maj=7.3km s-min=4.3km az=109.8*
*JMA **13** 22:33:47.4±0.1, 43°.83N×142°.17E, h190km±1km, M4.4*
JMA Felt I J1.
*IDC **13** 22:33:47.5±0.4, 43°.91N×142°.09E, h182km±2km, mb4.1/25, mb1 4.2/31, mb1mx4.2/34, mbtmp4.6/31, MS2.9/1, Ms1 2.9/1, ms1mx2.4/33, Error ellipse: s-maj=12.1km s-min=8.1km az=148.0*
*NEIC **13** 22:33:47.3±0.3, 43°.84N×142°.08E, h184km±3km, mb4.8/78, MW4.4(NIED), Error ellipse: s-maj=5.5km s-min=3.5km az=148.0*
NEIC Recorded [1 JMA] in Aomori, Honshu.
*SZGRF **13** 22:33:48.7, 44°.08N×142°.11E, h33km, mb5.3, Hokkaido, Japan, region*

ISC 13 22:33:47.5±0.3, 43°.87N±0°.03×142°.10E±0°.03, h186km±2km, h186km:pP-P, n474, σ1ˢ.01/555, mb4.8/157, 27C-28D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHR	**Hokuryu**	**0.30**	**246**	⇓P	**Pn**	**22 34 13.3**	**+1.0**
JHR				*e*S	**Sn**	**22 34 33.5**	**+2.1**
JAB	**Ashibetsu**	**0.37**	**166**	P	**Pn**	**22 34 13.2**	**+0.6**
JAB				*e*S	**Sn**	**22 34 33.3**	**+1.5**
ASAJ	**Asahikawa**	**0.44**	**55**	PN	**Pn**	**22 34 13.0**	**+0.3**
ASAJ				S	**Sn**	**22 34 32.4**	**+0.1**
ASAJ				smax	smax		
	comp=N,25nm,0.3s						
ASAJ	**Asahikawa**	**0.44**	**55**	⇓P	**Pn**	**22 34 13.1**	**+0.3**
ASAJ				*e*S	**Sn**	**22 34 32.3**	**+0.1**
ASAJ	**Asahikawa**	**0.44**	**55**	P	**Pn**	**22 34 13.0**	**+0.3**
	baz=264,slow=11						
ASAJ				S	**Sn**	**22 34 32.4**	**+0.1**
	comp=N,25nm,0.3s,baz=48,slow=18,SNR=14						
ASAJ	**Asahikawa**	**0.44**	**55**	*e*Pn	**Pn**	**22 34 13.0**	**+0.3**
ASAJ				*e*Sn	**Sn**	**22 34 31.4**	**-0.9**
JKK2	**Kamakawa 2**	**0.47**	**89**	⇓P	**Pn**	**22 34 13.4**	**+0.5**
JKK2				*e*S	**Sn**	**22 34 33.0**	**+0.6**
JSS	**Shosan**	**0.56**	**342**	P	**Pn**	**22 34 14.2**	**+1.0**
JSS				*e*S	**Sn**	**22 34 34.2**	**+1.0**
JYG	**Yagishiri**	**0.74**	**320**	P	**Pn**	**22 34 15.0**	**+0.9**
JYG				*e*S	**Sn**	**22 34 35.6**	**+0.9**
JFR	**Furan**	**0.79**	**153**	⇓P	**Pn**	**22 34 14.5**	**0.0**
JEW	**Eniwo**	**1.13**	**205**	⇓P	**Pn**	**22 34 17.6**	**+0.8**
JEW				*e*S	**Sn**	**22 34 40.3**	**+0.9**
JSE	**Soyaes**	**1.15**	**18**	⇓P	**Pn**	**22 34 17.5**	**+0.7**
JSE				*e*S	**Sn**	**22 34 39.7**	**0.0**
JSK	**Shakotan**	**1.28**	**247**	⇑P	**Pn**	**22 34 18.8**	**+0.8**
JSK				*e*S	**Sn**	**22 34 42.2**	**+0.6**
JTKR	**Abashiri--Toko**	**1.31**	**85**	⇓P	**Pn**	**22 34 18.9**	**+0.7**
JTKR				*e*S	**Sn**	**22 34 43.1**	**+1.1**
JAR	**Ashorobuto**	**1.34**	**115**	⇓P	**Pn**	**22 34 19.0**	**+0.5**
JAR				*e*S	**Sn**	**22 34 43.6**	**+1.1**
JWK2	**Keihoku**	**1.46**	**354**	⇓P	**Pn**	**22 34 20.5**	**+1.0**
JWK2				*e*S	**Sn**	**22 34 45.6**	**+1.1**
JCH	**Churui**	**1.56**	**143**	P	**Pn**	**22 34 19.5**	**-1.0**
JCH				*e*S	**Sn**	**22 34 43.9**	**-2.1**
JNBK	**Urakawa-nobuka**	**1.66**	**163**	P	**Pn**	**22 34 21.4**	**-0.1**
JNBK				*e*S	**Sn**	**22 34 48.3**	**+0.5**
ERM	**Erimo**	**2.01**	**157**	*e*PN	**Pn**	**22 34 24.5**	**-0.5**
ERM				*e*		22 34 54.0	
ERM	**Erimo**	**2.01**	**157**	*e*Pn	**Pn**	**22 34 24.5**	**-0.5**
ERM				*e*Sn	**Sn**	**22 34 54.0**	**-0.2**
JAK	**Akkeshi**	**2.08**	**114**	P	**Pn**	**22 34 24.8**	**-1.0**
JAK				*e*S	**Sn**	**22 34 53.8**	**-1.8**
JKB	**Kayabe**	**2.13**	**202**	P	**Pn**	**22 34 26.3**	**0.0**
JKB				*e*S	**Sn**	**22 34 54.9**	**-1.6**
JRA	**Rausu**	**2.19**	**87**	P	**Pn**	**22 34 27.6**	**+0.7**
JRA				*e*S	**Sn**	**22 34 59.3**	**+1.7**
JOT	**Ohata**	**2.60**	**198**	P	**Pn**	**22 34 31.3**	**-0.4**
JOT				*e*S	**Sn**	**22 35 03.9**	**-2.2**
JOSM	**Okushiri--Mats**	**2.62**	**228**	P	**Pn**	**22 34 32.3**	**+0.4**
JOSM				*e*S	**Sn**	**22 35 06.7**	**+0.2**
NEM2	**Nemuro 2**	**2.69**	**99**	P	**Pn**	**22 34 31.4**	**-1.3**
NEM2				*e*S	**Sn**	**22 35 04.8**	**-3.2**
YUK	**Yuzh-Kuril'sk**	**2.72**	**85**	*c i*PN	**Pn**	**22 34 33.6**	**+0.6**
YUK				*i* S	**Sn**	**22 35 09.8**	**+1.2**
YUK				pmax	pmax		
	comp=Z,513nm,0.5s						
YUK				pmax	pmax		
	comp=N,30nm,0.6s						
YUK				pmax	pmax		
	comp=E,75nm,0.6s						
YUK				smax	smax		
	comp=N,513nm,0.9s						
YUK				smax	smax		
	comp=E,744nm,0.9s						
YUK				smax	smax		
	comp=N,9μm,2.0s						
YUK				smax	smax		
	comp=E,3μm,2.0s						
YSS	**Yuzh-Sakhalins**	**3.12**	**8**	*κ i*PN	**Pn**	**22 34 38.4**	**+0.6**
YSS				*i* S	**Sn**	**22 35 17.0**	**-0.2**
YSS				pmax	pmax		
	comp=Z,400nm,1.0s						
YSS				pmax	pmax		
	comp=N,290nm,0.5s						
YSS				pmax	pmax		
	comp=Z,290nm,0.5s						
YSS				smax	smax		
	comp=E,1μm,2.0s						
YSS				smax	smax		
	comp=N,1μm,0.9s						
YSS				smax	smax		
	comp=E,910nm,0.9s						
YSS	**Yuzh-Sakhalins**	**3.12**	**8**	*e*Pn	**Pn**	**22 34 38.1**	**+0.4**
YSS				*e*Sn	**Sn**	**22 35 16.8**	**-0.5**
KUR	**Kuril'sk**	**4.34**	**70**	*c i*PN	**Pn**	**22 34 53.9**	**+0.9**
KUR				*i* S	**Sn**	**22 35 45.6**	**+1.1**
KUR				pmax	pmax		
	comp=N,35nm,0.8s						
KUR				pmax	pmax		
	comp=E,58nm,0.8s						
KUR				pmax	pmax		
	comp=Z,243nm,0.8s						
KUR				smax	smax		
	comp=N,73nm,0.6s						
KUR				smax	smax		
	comp=E,53nm,0.6s						
UGL	**Uglegorsk**	**5.21**	**360**	*e*PN	**Pn**	**22 35 03.4**	**-0.7**
UGL				*e*S	**Sn**	**22 36 03.7**	**-0.9**
USRK	**Ussuriysk Arra**	**7.29**	**276**	P	**Pn**	**22 35 32.4**	**+1.1**
	comp=E,2.4nm,0.3s,baz=86,slow=14,SNR=127						
VLA	**Vladivostok**	**7.46**	**268**	⇑*i*PN	**Pn**	**22 35 34.3**	**+0.7**
VLA				S	**Sn**	**22 37 00.4**	**+2.7**
MAJO	**Matsushiro**	**7.90**	**203**	*e*PN	**Pn**	**22 35 38.0**	**-1.4**
MAJO	**Matsushiro**	**7.90**	**203**	*e*Pn	**Pn**	**22 35 38.0**	**-1.4**
MJAR	**Matsushiro Arr**	**7.90**	**203**	PN	**Pn**	**22 35 38.9**	**-0.5**
MJAR				S	**Sn**	**22 37 07.4**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**7.90**	**203**	P	**Pn**	**22 35 38.9**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=14,slow=13,SNR=30						
MJAR				S	**Sn**	**22 37 07.3**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=14,slow=11,SNR=7.3						
KLR	**Kul'dur**	**8.92**	**311**	*e*PN	Pn	22 35 49.2	-3.4
KLR				pmax	pmax		
	comp=E,80nm,1.0s						
KLR				pmax	pmax		
	comp=Z,68nm,1.0s						
MDJ	**Mudanjiang**	**9.01**	**279**	P	**Pn**	**22 35 55.3**	**+1.4**
MDJ				S	**Sn**	**22 37 38.1**	**+3.6**
MDJ				smax	smax		
	comp=Z,10.0nm,1.1s						
MDJ				smax	smax		
	comp=Z,12nm,1.5s						
MDJ	**Mudanjiang**	**9.01**	**279**	*e*Pn	**Pn**	**22 35 54.9**	**+1.0**
JHJ2	**Mitsune**	**10.88**	**190**	*e*Pn	**Pn**	**22 36 15.8**	**-2.5**
JHJ2				*e*Sn	Sn	22 38 12.3	-7.2
CN2	**Changchun**	**12.03**	**275**	⇑P	**Pn**	**22 36 32.8**	**-0.1**
CN2				*e*sP		22 37 22.5	
CN2				*e*S	**Sn**	**22 38 45.1**	**-1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KSRS	**Korea Array**	**12.52**	**244**	PN	**Pn**	**22 36 39.6**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,49nm,18.1s						
KSRS	**Korea Array**	**12.52**	**244**	P	**Pn**	**22 36 39.6**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=57,slow=12,SNR=58						
KSRS				LR	LR	22 41 18.3	
	comp=Z,49nm,18.1s,baz=10,slow=36						
KSAR	**Wonju Array Be**	**12.55**	**244**	PN	**Pn**	**22 36 39.6**	**0.0**
KSAR	**Wonju Array Be**	**12.55**	**244**	P	**Pn**	**22 36 39.6**	**0.0**
PETK	**Petropavlovsk-**	**13.85**	**43**	P	**Pn**	**22 36 56.0**	**+0.2**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**13.85**	**43**	P	**Pn**	**22 36 56.0**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=214,slow=11,SNR=17						
JNU	**Nakatsue**	**13.85**	**223**	P	**Pn**	**22 36 55.5**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=53,slow=15,SNR=12						
PET	**Petropavlovsk**	**14.28**	**44**	*e*P	**Pn**	**22 37 00.5**	**-0.6**
PET				*e*S	Sn	22 39 33.2	-6.9
PET				pmax	pmax		
	comp=Z,17nm,0.7s						
PET				smax	smax		
	comp=N,16nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,12.0s						
PET	**Petropavlovsk**	**14.28**	**44**	*e*Pn	**Pn**	**22 37 01.0**	**-0.1**
HIA	**Hailar**	**16.27**	**297**	*e*P	**P**	**22 37 23.6**	**-1.5**
HIA				pmax	pmax		
	comp=Z,21nm,0.6s						
HIA	**Hailar**	**16.27**	**297**	*e*P	**P**	**22 37 23.6**	**-1.5**
	comp=Z,21nm,0.6s						
CLNS	**Chul'man**	**16.93**	**326**	*e*P	**P**	**22 37 32.6**	**+0.3**
CLNS				pmax	pmax		
	comp=Z,13nm,0.8s						
CLNS				pmax	pmax		
	comp=N,28nm,0.9s						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
YAK	**Yakutsk**	**19.61**	**342**	*d i*P	**P**	**22 37 58.6**	**-2.6**
YAK				*e*S	**S**	**22 41 26.5**	**-5.5**
YAK				pmax	pmax		
	comp=Z,38nm,0.9s						
YAK				pmax	pmax		
	comp=N,13nm,0.8s						
YAK				smax	smax		
	comp=E,59nm,3.0s						
YAK				smax	smax		
	comp=N,144nm,5.1s						
YAK	**Yakutsk**	**19.61**	**342**	*e*P	**P**	**22 37 59.1**	**-2.1**
	comp=N,38nm,0.7s						
BJI	**Beijing**	**19.62**	**268**	P	**P**	**22 38 03.6**	**+2.0**
BJI				pP	**pP**	**22 38 32.3**	**-0.5**
BJI				S	S	22 41 40.4	+7.6
BJI				pmax	pmax		
	comp=N,9.0nm,1.0s						
BJT	**Baijiatuau**	**19.64**	**268**	*e*P	**P**	**22 38 01.6**	**-0.2**
BJT				pmax	pmax		
	comp=Z,11nm,0.5s						
BJT	**Baijiatuau**	**19.64**	**268**	*e*P	**P**	**22 38 01.6**	**-0.2**
	comp=Z,11nm,0.5s						
SEY	**Seymchan**	**20.01**	**14**	P	**P**	**22 38 04.8**	**-0.7**
SEY				pmax	pmax		
	comp=Z,7.0nm,0.3s						
SEY	**Seymchan**	**20.01**	**14**	P	**P**	**22 38 04.8**	**-0.7**
	comp=Z,7.0nm,0.3s,baz=191,slow=8.7,SNR=153						
NJ2	**Nanjing**	**21.71**	**245**	*e*P	**P**	**22 38 25.1**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
FX1	**Attu Island--F**	**22.37**	**55**	P	**P**	**22 38 30.9**	**+0.9**
FX1				pmax	pmax		
	comp=Z,8.0nm,0.5s						
FX1	**Attu Island--F**	**22.37**	**55**	P	**P**	**22 38 30.9**	**+0.9**
	comp=Z,7.7nm,0.5s,baz=174,slow=1.7,SNR=5.2						
HHC	**Hu-ho-hao-te**	**22.70**	**273**	*e*P	**P**	**22 38 33.3**	**0.0**
HHC				pP	**pP**	**22 39 07.0**	**+0.3**
HHC				PP	**PnPn**	**22 39 11.1**	**+1.0**
HHC				sP	**sP**	**22 39 29.3**	**-0.7**
HHC				S	**S**	**22 42 24.3**	**-3.1**
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,4.8s						
HHC				LR	LR		
	comp=Z,230nm,13.6s						
HHC				LR	LR		
	comp=Z,310nm,14.8s						
HHC				LR	LR		
	comp=Z,200nm,14.8s						
ULN	**Ulaanbaatar**	**24.59**	**292**	*e*P	**P**	**22 38 50.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,16nm,0.7s						
ULN	**Ulaanbaatar**	**24.59**	**292**	*e*P	**P**	**22 38 50.9**	**+0.4**
	comp=Z,16nm,0.7s						
SONM	**Songino Array**	**25.04**	**292**	P	**P**	**22 38 55.4**	**+1.0**
	comp=Z,24nm,0.7s,baz=85,slow=8.8,SNR=268						
SONM				ScP	**ScP**	**22 45 44.0**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=136,slow=4.6,SNR=2.8						
WHN	**Wuhan**	**25.65**	**248**	P	**P**	**22 39 01.8**	**+1.9**
TLY	**Talaya**	**26.74**	**301**	*e*P	**P**	**22 39 09.6**	**+0.1**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TLY	**Talaya**	**26.74**	**301**	*e*P	**P**	**22 39 08.9**	**-0.7**
	comp=Z,8.7nm,0.9s						
ZAK	**Zakamensk**	**26.97**	**298**	*e*P	**P**	**22 39 12.2**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,18nm,1.1s						
BILL	**Bilibino**	**27.37**	**20**	*e*P	**P**	**22 39 14.7**	**-0.2**
BILL				*e*		22 42 30.2	
BILL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
XAN	**Xi'an**	**27.44**	**260**	P	**P**	**22 39 17.1**	**+1.1**
XAN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MOY	**Mondy**	**28.39**	**301**	*e*P	**P**	**22 39 25.1**	**+0.8**
TIXI	**Tiksi**	**28.60**	**351**	*e*P	**P**	**22 39 22.9**	**-2.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TIXI	**Tiksi**	**28.60**	**351**	*e*P	**P**	**22 39 23.5**	**-2.2**
	comp=Z,2.9nm,0.8s						
LZH	**Lanzhou**	**30.11**	**268**	⇑P	**P**	**22 39 41.0**	**+1.3**
LZH				pP	**pP**	**22 40 18.5**	**+0.5**
LZH				sP	**sP**	**22 40 40.8**	**+1.3**
LZH				S	S	22 44 31.0	+6.3
LZH				sS	**sS**	**22 45 31.1**	**-1.5**
LZH				pmax	pmax		
	comp=Z,26nm,1.3s						
LZH				pmax	pmax		
	comp=Z,91nm,4.3s						
GTA	**Gaotai**	**31.66**	**277**	*e*P	**P**	**22 39 54.5**	**+1.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**31.76**	**131**	T	T	23 11 54.7	
	baz=330,slow=77,SNR=22						
H11N1	**WAKE ISLAND Hy**	**31.77**	**131**	T	T	23 11 55.7	
	baz=330,slow=77,SNR=27						
H11N3	**WAKE ISLAND Hy**	**31.78**	**131**	T	T	23 12 09.0	
	baz=330,slow=77,SNR=27						
H11S1	**WAKE ISLAND Hy**	**32.66**	**133**	T	T	23 12 57.4	
	baz=332,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**32.66**	**133**	T	T	23 13 02.5	
	baz=332,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**32.67**	**133**	T	T	23 13 09.2	
	baz=332,slow=76,SNR=16						
CD2	**Chengdu**	**32.80**	**260**	P	**P**	**22 40 03.6**	**+0.5**
CD2				pP	**pP**	**22 40 41.8**	**+0.1**
CD2				sP	**sP**	**22 41 02.5**	**-0.6**
CD2				PP	**PnPn**	**22 41 20.1**	**+0.8**
CD2				S	**S**	**22 45 05.5**	**-0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,270nm,5.1s						
GYA	**Guiyang**	**33.45**	**251**	P	**P**	**22 40 10.3**	**+1.4**
GYA				pP	**pP**	**22 40 49.8**	**+2.2**
GYA				sP	**sP**	**22 41 11.3**	**+2.4**
GYA				PP	**PP**	**22 41 29.6**	**+1.1**
GYA				S	**S**	**22 45 17.0**	**+0.4**
GYA				ScP	**ScP**	**22 46 12.5**	**+0.2**
GYA				ScS	**ScS**	**22 50 13.0**	**-1.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
TNA	**Tin City**	**34.77**	**34**	*e*P	**P**	**22 40 19.1**	**-0.5**
	comp=Z,3.3nm,0.9s						
KMI	**Kunming**	**37.01**	**253**	⇑P	**P**	**22 40 41.0**	**+1.6**
KMI				pP	**pP**	**22 41 19.5**	**+0.9**
KMI				S	**S**	**22 46 10.9**	**-0.3**
KMI				SS	**SS**	**22 48 53.3**	**-8.0**
KMI				pmax	pmax		
	comp=Z,16nm,0.7s						
KMI				pmax	pmax		
	comp=Z,76nm,3.5s						
KMI				LR	LR		
	comp=Z,29nm,15.9s						
ZALV	**Zalesovo Beam**	**37.99**	**306**	P	**P**	**22 40 47.2**	**+0.2**
ZALV						22 42 58.8	
ZALV						22 46 28.1	
ZALV				pmax	pmax		
	comp=Z,13nm,0.5s						
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZALV				pmax	pmax		
	comp=N,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**37.99**	**306**	P	**P**	**22 40 47.2**	**+0.2**
	comp=N,13nm,0.5s,baz=89,slow=8.2,SNR=87						
ZALV				PcP	**PcP**	**22 42 58.8**	**+0.3**
	comp=N,6.2nm,0.6s,baz=122,slow=2.0,SNR=13						
ZALV				ScP	**ScP**	**22 46 28.1**	**-0.2**
	comp=N,1.0nm,0.6s,baz=64,slow=5.1,SNR=4.4						
WMQ	**Urumqi**	**38.63**	**289**	P	**P**	**22 40 53.8**	**+1.2**
WMQ				pP	**pP**	**22 41 31.6**	**-0.5**
WMQ				sP	**sP**	**22 41 51.6**	**-1.6**
WMQ				PP	**PnPn**	**22 42 29.6**	**+0.5**
WMQ				PcP	**PcP**	**22 43 03.0**	**+2.2**
WMQ				ScP	**ScP**	**22 46 33.1**	**+2.1**
WMQ				S	**S**	**22 46 35.4**	**+0.5**
WMQ				sS	**sS**	**22 47 42.6**	**-1.7**
WMQ				SS	**SS**	**22 49 27.8**	**-5.0**
WMQ				ScS	**ScS**	**22 50 42.8**	**+0.8**
WMQ				pmax	pmax		
	comp=N,15nm,1.2s						
WMQ				pmax	pmax		
	comp=N,290nm,5.4s						
WMQ				LR	LR		
	comp=N,59nm,17.2s						
WMQ				LR	LR		
	comp=N,53nm,16.4s						
WMQ				LR	LR		
	comp=N,31nm,16.4s						
SLVN	**Son La**	**38.76**	**247**	*e*P	**P**	**22 40 55.7**	**+1.8**
	comp=N,65nm,2.6s						
NVS	**Novosibirsk**	**38.77**	**308**	⇑*i*P	**P**	**22 40 54.0**	**+0.5**
NVS				*e*		22 42 26.7	
NVS				pmax	pmax		
	comp=Z,17nm,1.6s						
NVS				pmax	pmax		
	comp=N,7.0nm,1.8s						
NVS				pmax	pmax		
	comp=E,16nm,1.6s						
MKAR	**Makanchi Array**	**41.26**	**296**	P	**P**	**22 41 14.8**	**+0.6**
MKAR						22 43 09.6	
MKAR				pmax	pmax		
	comp=Z,14nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**41.26**	**296**	P	**P**	**22 41 14.8**	**+0.6**
	comp=Z,14nm,0.7s,baz=80,slow=9.4,SNR=168						
MKAR				PcP	**PcP**	**22 43 09.6**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=60,slow=4.0,SNR=5.4						
MKAR				ScP	**ScP**	**22 46 41.4**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=35,slow=5.3,SNR=3.4						
PPLA	**Purkeypile**	**41.40**	**39**	*e*P	**P**	**22 41 17.6**	**+2.3**
	comp=Z,49nm,2.0s						
OHAK	**Old Harbor**	**41.57**	**48**	*e*P	**P**	**22 41 17.1**	**+0.6**
	comp=Z,205nm,1.8s						
KTH	**Kantishna Hill**	**41.92**	**38**	*e*P	**P**	**22 41 19.9**	**+0.6**
	comp=Z,107nm,2.6s						
COLD	**Coldfoot**	**42.02**	**33**	*e*P	**P**	**22 41 19.8**	**-0.2**
	comp=Z,26nm,2.0s						
TRF	**Thorofare Moun**	**42.21**	**38**	*e*P	**P**	**22 41 22.2**	**+0.4**
	comp=Z,69nm,2.2s						
KURK	**Kurchatov**	**42.41**	**302**	P	**P**	**22 41 24.5**	**+1.2**
KURK						22 43 13.6	
KURK				pmax	pmax		
	comp=Z,27nm,0.4s						
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**42.41**	**302**	*e*P	**P**	**22 41 23.9**	**+0.5**
	comp=Z,28nm,1.1s						
KURK				PcP	**PcP**	**22 43 13.6**	**+0.8**
KURBB	**Kurchatov Arra**	**42.49**	**302**	P	**P**	**22 41 24.5**	**+0.5**
	comp=Z,27nm,0.4s,baz=72,slow=8.9,SNR=247						
KURBB				PcP	**PcP**	**22 43 13.6**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=72,slow=3.6,SNR=4.6						
LSA	**Lhasa**	**42.53**	**268**	*e*P	**P**	**22 41 23.9**	**-1.3**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LSA	**Lhasa**	**42.53**	**268**	*e*P	**P**	**22 41 23.9**	**-1.3**
	comp=Z,4.4nm,0.8s						
RC01	**Rabbit Creek A**	**42.76**	**42**	*e*P	**P**	**22 41 25.7**	**-0.3**
	comp=Z,127nm,2.5s						
SEW	**Seward**	**43.05**	**43**	*e*P	**P**	**22 41 27.6**	**-0.7**
	comp=Z,104nm,1.6s						
ILAR	**Eielson Array**	**43.55**	**36**	P	**P**	**22 41 32.1**	**-0.2**
ILAR						22 43 16.3	
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**43.55**	**36**	P	**P**	**22 41 32.1**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=237,slow=6.6,SNR=30						
ILAR				PcP	**PcP**	**22 43 16.3**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=232,slow=4.4,SNR=3.6						
ILAR				ScP	**ScP**	**22 46 48.6**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=298,slow=4.0,SNR=3.9						
CHTO	**Chiang Mai**	**43.85**	**249**	*e*P	**P**	**22 41 35.6**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	**Chiang Mai**	**43.85**	**249**	*e*P	**P**	**22 41 35.6**	**+0.3**
	comp=Z,3.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.10**	**249**	P	**P**	**22 41 38.0**	**+0.8**
CMAR						22 43 19.4	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**44.10**	**249**	P	**P**	**22 41 38.0**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=41,slow=6.6,SNR=9.5						
CMAR				PcP	**PcP**	**22 43 19.4**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=2.8,slow=1.7,SNR=5.4						

PAX Paxson 44.44 38 eP P 22 41 40.4 +0.9
PAX pmax pmax
comp=Z,35nm,2.0s
PAX Paxson 44.44 38 eP P 22 41 40.4 +0.9
comp=Z,35nm,2.0s
DIV Divide 44.65 41 eP P 22 41 42.5 +1.3
comp=Z,27nm,0.7s
DOT Dot Lake 44.94 37 eP P 22 41 43.8 +0.4
comp=Z,30nm,1.7s
MENT Mentasta 45.23 38 eP P 22 41 46.5 +0.8
BMRM Bremner River 45.23 41 eP P 22 41 46.7 +0.9
comp=Z,37nm,1.5s
RAGM Ragged Mountai 45.33 42 eP P 22 41 48.1 +1.6
comp=Z,60nm,1.2s
EGAK Eagle 45.97 35 eP P 22 41 51.4 0.0
comp=Z,9.4nm,1.0s
VOSK Vostochnaya 46.33 307 eP P 22 41 54.7 +0.3
VOSK e 22 43 26.8
VOSK pmax pmax
comp=Z,30nm,0.8s
VOSK Vostochnaya 46.33 307 eP P 22 41 54.7 +0.3
comp=Z,30nm,0.8s
VOSK ePcP PcP 22 43 26.8 +0.5
TAPN Taplejung 46.35 268 eP P 22 41 56.1 +0.8
comp=Z,4.8nm,0.4s
BVAR Borovoye Array 46.57 308 P P 22 41 56.9 +0.6
BVAR 22 43 27.8
BVAR pmax pmax
comp=Z,14nm,0.4s
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 46.57 308 P P 22 41 56.9 +0.6
comp=Z,14nm,0.4s,baz=78,slow=8.8,SNR=113
BVAR PcP PcP 22 43 27.8 +0.7
comp=Z,4.0nm,0.6s,baz=94,slow=2.8,SNR=6.8
BRVK Borovoye 46.62 308 eP P 22 41 57.6 +1.0
BRVK pmax pmax
comp=Z,32nm,0.9s
BRVK Borovoye 46.62 308 eP P 22 41 57.6 +1.0
comp=Z,32nm,0.9s
ODAN Odare 46.87 268 eP P 22 41 59.6 +0.4
comp=Z,4.0nm,0.4s
DAWY Dawson 46.88 36 eP P 22 41 59.5 +1.0
TKM2 Tokmak 2 47.12 293 P P 22 42 01.6 +0.6
SNR=27
TKM2 Tokmak 2 47.12 293 eP P 22 42 02.1 +1.1
TKM2 pmax pmax
comp=Z,23nm,0.6s
TKM2 Tokmak 2 47.12 293 eP P 22 42 02.1 +1.1
comp=Z,23nm,0.6s
JIRN Jiri 47.27 269 eP P 22 42 02.9 +0.4
comp=Z,6.7nm,0.3s
GUN Gumba 47.35 270 eP P 22 42 03.2 +0.1
comp=Z,25nm,0.7s
RAMN Ramite 47.39 268 eP P 22 42 03.6 +0.4
comp=Z,8.3nm,0.4s
KBK Karagaybulak 47.67 293 P P 22 42 06.3 +1.2
SNR=23
KBK Karagaybulak 47.67 293 iP P 22 42 06.3 +1.2
USP Ospenovka 47.70 294 P P 22 42 06.2 +1.0
SNR=9.7
USP Ospenovka 47.70 294 iP P 22 42 06.2 +1.0
KZA Kyzart 47.72 292 P P 22 42 07.6 +1.7
SNR=9.3
KZA Kyzart 47.72 292 iP P 22 42 07.5 +1.7
KKN Kakani 47.86 270 eP P 22 42 07.2 +0.4
PKI Pulchoki 47.89 270 eP P 22 42 07.5 +0.3
comp=Z,13nm,0.7s
PKIN Phulchoki 47.90 270 eP P 22 42 07.3 +0.2
AAK Ala-Archa 47.98 293 P P 22 42 08.2 +0.7
SNR=10
AAK Ala-Archa 47.98 293 iP P 22 42 08.1 +0.6
AAK pmax pmax
comp=Z,14nm,1.3s
AAK Ala-Archa 47.98 293 eP P 22 42 07.8 +0.4
comp=Z,7.2nm,0.6s
DMN Daman 48.09 270 eP P 22 42 09.2 +0.6
comp=Z,13nm,0.8s
INK Inuvik 48.14 30 eP P 22 42 08.4 +0.4
INK e 22 43 33.1
INK pmax pmax
comp=Z,13nm,1.5s
INK Inuvik 48.14 30 P P 22 42 08.1 0.0
comp=Z,2.5nm,0.4s,baz=290,slow=6.0,SNR=41
INK PcP PcP 22 43 33.1 +0.7
comp=Z,2.3nm,0.9s,baz=329,slow=0.3,SNR=4.0
INK Inuvik 48.14 30 eP P 22 42 08.4 +0.4
comp=Z,13nm,1.5s
INK ePcP PcP 22 43 33.1 +0.7
GKN Gorkha 48.20 271 eP P 22 42 09.6 +0.3
comp=Z,15nm,0.7s
KSH Kashi 48.39 289 eP P 22 42 14.8 +4.2
KSH ePP PP 22 44 08.6 +3.9
KSH PcS PcS 22 47 31.4 +1.0
KSH eS S 22 48 59.4 +2.7
KSH pmax pmax
comp=Z,68nm,2.0s
KSH LR LR
comp=Z,200nm,9.3s
KSH LR LR
comp=Z,190nm,7.1s
KSH LR LR
comp=Z,310nm,6.9s
EKS2 Erkin-Say 48.44 294 P P 22 42 11.6 +0.6
SNR=12
EKS2 Erkin-Say 48.44 294 eP P 22 42 11.7 +0.7
EKS2 e 22 43 35.1
EKS2 pmax pmax
comp=Z,11nm,0.6s
EKS2 Erkin-Say 48.44 294 eP P 22 42 11.7 +0.7
comp=Z,12nm,0.6s
EKS2 ePcP PcP 22 43 35.1 +0.9
HYT Haines Junctio 48.62 40 eP P 22 42 12.9 +0.9
DANN Dangsing 48.63 272 eP P 22 42 13.8 +1.0
comp=Z,35nm,0.4s
AML Almayashu 48.73 293 P P 22 42 14.3 +0.8
SNR=6.8
AML Almayashu 48.73 293 iP P 22 42 14.3 +0.8
KOLN Koldanda 49.08 271 eP P 22 42 16.7 +0.6
comp=Z,10nm,0.5s
KKAR Karatay Array 50.39 296 eP P 22 42 25.7 +0.1
KKAR e 22 43 41.5
KKAR Karatay Array 50.39 296 eP P 22 42 25.7 +0.1
KKAR ePcP PcP 22 43 41.5 +0.3
SVE Sverdlovsk 50.51 315ceP P 22 42 26.8 +0.6
SVE pmax pmax
comp=Z,70nm,0.9s
SOKR Solikamsk 51.34 320⇓iP P 22 42 32.4 +0.1
SOKR pmax pmax
comp=Z,70nm,1.1s
ARU Arti 51.73 315 iP P 22 42 35.2 0.0
ARU AP pP 22 43 14.9 -2.0
ARU 22 43 44.2
ARU PP PP 22 44 30.9 -3.5
ARU S S 22 49 43.4 +1.3
ARU pmax pmax
comp=Z,55nm,1.0s
ARU Arti 51.73 315 eP P 22 42 35.1 -0.2
comp=Z,40nm,0.8s
DLBC Dease Lake 53.03 41 P P 22 42 47.0 +2.1
comp=Z,1.4nm,0.6s,baz=306,slow=14,SNR=2.7
ABKAR Akbulak array 54.10 307 eP P 22 42 53.2 +0.5
PRGR Permogore 55.40 325⇓iP P 22 43 01.4 -0.4
PRGR pmax pmax
comp=Z,48nm,0.7s
RES Resolute Bay 55.87 16 P P 22 43 04.6 -0.4
RES pmax pmax
comp=Z,20nm,0.6s
RES Resolute Bay 55.87 16 P P 22 43 04.6 -0.4
comp=Z,20nm,0.6s,baz=297,slow=6.5,SNR=118
LVZ Lovozero 56.14 334 eP P 22 43 06.3 -0.8
LVZ pmax pmax
comp=Z,291nm,2.2s
LVZ Lovozero 56.14 334 eP P 22 43 06.3 -0.8
comp=Z,291nm,2.2s
TMCR Tamitsa 57.06 330 eP P 22 43 12.8 -0.7
TMCR e 22 45 22.2
TMCR pmax pmax
comp=Z,51nm,1.1s
KEV Kevo 57.27 338 eP P 22 43 15.3 +0.4
KEV pmax pmax
comp=Z,6.0nm,0.4s
KEV Kevo 57.27 338 ep P 22 43 15.3 +0.4
comp=Z,5.6nm,0.4s
KEV Kevo 57.27 338 eP P 22 43 14.9 0.0
comp=Z,727nm,2.6s

YKA Yellowknife Ar 57.70 32 P P 22 43 18.3 +0.3
YKA 22 44 09.2
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 57.70 32 P P 22 43 18.3 +0.3
comp=Z,1.0nm,0.4s,baz=306,slow=7.0,SNR=52
YKA PcP PcP 22 44 09.2 +0.4
comp=Z,0.9nm,0.7s,baz=306,slow=4.4,SNR=6.9
ARCES ARCESS Array B 57.82 338 P P 22 43 18.5 -0.3
ARCES pmax pmax
comp=Z,5.0nm,0.5s
ARCES ARCESS Array B 57.82 338 P P 22 43 18.4 -0.3
comp=Z,4.6nm,0.5s,baz=43,slow=7.9,SNR=38
KLMR Klimovskoe 58.33 326 eP P 22 43 19.6 -2.8
KLMR pmax pmax
comp=Z,54nm,1.3s
DAG Danmarks Havn 59.02 355 iP P 22 43 25.5 -1.5
DAG pmax pmax
comp=Z,5.0nm,0.7s
DAG Danmarks Havn 59.02 355 iP P 22 43 25.5 -1.5
comp=Z,6.6nm,0.7s
JOF Joensuu 60.23 330 eP P 22 43 34.8 -0.6
JOF pmax pmax
comp=Z,13nm,0.3s
JOF Joensuu 60.23 330 ep P 22 43 34.8 -0.6
comp=Z,12nm,0.3s
IMYA Miami 60.74 294 eP P 22 43 38.6 -0.9
IAKL Akhelmad 61.48 295 eP P 22 43 44.8 +0.1
IKRD Kardeh 61.54 295 eP P 22 43 41.1 -3.9
KAF Kangasniemi 62.52 331 eP P 22 43 50.2 -0.5
KAF pmax pmax
comp=Z,10.0nm,0.6s
KAF Kangasniemi 62.52 331 ep P 22 43 50.2 -0.5
comp=Z,10nm,0.6s
PUL Pulkovo 62.63 328 eP P 22 43 50.9 -0.6
PUL pmax pmax
comp=Z,35nm,0.7s
IDAH Dahanechah 62.99 290 eP P 22 43 55.2 +0.4
OBN Obninsk 63.00 322 eP P 22 43 53.1 -0.9
OBN e 22 44 29.4
OBN pmax pmax
comp=Z,24nm,1.1s
OBN Obninsk 63.00 322 eP P 22 43 53.4 -0.6
comp=Z,50nm,1.3s
FINES FINESS Array B 63.05 331 P P 22 43 53.9 -0.4
FINES pmax pmax
comp=Z,21nm,0.6s
FINES FINESS Array B 63.05 331 P P 22 43 53.9 -0.4
comp=Z,21nm,0.6s,baz=52,slow=8.0,SNR=102
VRHR Novokhopersk 63.06 316 eP P 22 43 53.4 -1.1
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
ITEG Tejag 63.66 291 eP P 22 43 58.4 -0.6
SUMG Summit 63.86 0 eP P 22 44 00.6 +0.7
SUMG pmax pmax
comp=Z,28nm,0.7s
SUMG Summit 63.86 0 iP P 22 44 00.2 +0.3
comp=Z,30nm,0.8s
SUMG Summit 63.86 0 eP P 22 44 00.6 +0.7
comp=Z,28nm,0.7s
WRA Warramunga Arr 63.89 188 P P 22 43 58.2 -2.0
WRA *PP pP 22 44 43.3 -0.4
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 63.89 188 P P 22 43 58.2 -2.0
comp=Z,1.2nm,1.0s,baz=6.2,slow=6.7,SNR=5.6
WRA pP pP 22 44 43.3 -0.4
comp=Z,0.6nm,0.6s,baz=6.4,slow=7.1,SNR=3.5
VSR Storozhevoye 64.21 317diP P 22 44 02.1 +0.1
VSR pmax pmax
comp=Z,60nm,0.8s
VORD Divnogorie 64.30 317 eP P 22 44 02.2 -0.4
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,5.0nm,0.9s
VORD pmax pmax
comp=Z,20nm,0.9s
IANJ Anjilo 65.31 296 eP P 22 44 08.4 -1.3
ILAS Lasjerd 65.99 297 eP P 22 44 13.9 -0.2
GOF Gofitskoye 66.02 310 eP P 22 44 12.9 -0.9
KIV Kislovodsk 66.91 309ciP P 22 44 21.2 +1.6
KIV e 22 46 48.2
KIV pmax pmax
comp=Z,37nm,0.7s
KIV Kislovodsk 66.91 309 eP P 22 44 20.8 +1.2
comp=Z,53nm,0.8s
KBZ Khabaz 66.93 309 P P 22 44 20.6 +1.0
KBZ pmax pmax
comp=Z,20nm,0.8s
KBZ Khabaz 66.93 309 P P 22 44 20.6 +1.0
comp=Z,20nm,0.8s,baz=60,slow=4.0,SNR=38
ZEI Tsey 66.95 308 eP P 22 44 18.7 -1.3
ZEI pmax pmax
comp=Z,17nm,1.0s
ISAL Salakas 67.14 326 eP P 22 44 21.1 +0.4
ISAL AMB AMB 22 44 22.3
comp=Z,6.4nm,0.6s
IIGN Ignalina 67.26 326 eP P 22 44 21.5 0.0
IIGN AMB AMB 22 44 22.6
comp=Z,9.9nm,0.6s
IMHD Mahdasht 67.27 298 eP P 22 44 21.9 -0.1
NACGM Naroch 67.35 326 e P 22 44 20.0 -2.0
ASAR Alice Springs 67.62 188 P P 22 44 25.2 +1.2
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 67.62 188 P P 22 44 25.2 +1.2
comp=Z,1.1nm,0.8s,baz=0.5,slow=4.7,SNR=12
ISAD Sadrabad 67.64 293 eP P 22 44 24.0 -0.6
IHRS Heris 67.90 302 eP P 22 44 26.4 +0.3
IZEF Zefreh 67.93 295 eP P 22 44 25.9 -0.4
NB2 NORSAR Subarra 68.11 337 P P 22 44 26.3 -0.4
comp=Z,13nm,0.6s,baz=38,slow=6.5
NB2 NORSAR Subarra 68.11 337 P P 22 44 26.3 -0.4
baz=38,slow=6.5
NOA NORSAR Array B 68.11 337 P P 22 44 26.6 -0.2
NOA pmax pmax
comp=Z,13nm,0.7s
NOA NORSAR Array B 68.11 337 P P 22 44 26.6 -0.2
comp=Z,13nm,0.7s,baz=36,slow=6.3,SNR=81
GNI Garni 68.13 305 eP P 22 44 26.3 -1.1
GNI pmax pmax
comp=Z,11nm,1.1s
GNI Garni 68.13 305 eP P 22 44 26.3 -1.1
comp=Z,11nm,1.1s
IKLH Kolahrood 68.16 296 eP P 22 44 27.6 -0.2
AKASG Malin Array Be 69.26 321 P P 22 44 33.7 -0.2
AKASG pmax pmax
comp=Z,19nm,0.6s
AKASG Malin Array Be 69.26 321 P P 22 44 33.7 -0.2
comp=Z,19nm,0.6s,baz=41,slow=6.3,SNR=109
KIEV Kiev 69.27 321 eP P 22 44 33.9 -0.1
KIEV pmax pmax
comp=Z,24nm,0.7s
KIEV Kiev 69.27 321 eP P 22 44 33.9 -0.1
comp=Z,24nm,0.7s
SUW Suwalki 69.45 327 eP P 22 44 35.6 +0.5
SUW Suwalki 69.45 327 eP P 22 44 35.5 +0.5
KONO Kongsberg 69.71 336 eP P 22 44 36.5 -0.1
KONO pmax pmax
comp=Z,158nm,2.8s
KONO Kongsberg 69.71 336 eP P 22 44 36.5 -0.1
comp=Z,158nm,2.8s
NVAR Mina Array Bea 70.57 55 P P 22 44 43.8 +1.3
comp=Z,0.4nm,0.5s,baz=300,slow=6.1,SNR=3.6
BORG Borgarnes 70.95 353 eP P 22 44 44.7 +0.8
BORG pmax pmax
comp=Z,777nm,2.6s
BORG Borgarnes 70.95 353 eP P 22 44 44.7 +0.8
comp=Z,777nm,2.6s
BEL Belsk 72.04 326 eP P 22 44 52.5 +1.7
BEL Belsk 72.04 326 eP P 22 44 52.4 +1.7
COP Copenhagen 72.08 333 iP P 22 44 51.0 +0.2
COP pmax pmax
comp=Z,20nm,0.7s
COP Copenhagen 72.08 333 iP P 22 44 51.0 +0.2
comp=Z,20nm,0.7s
LVV L'vov 72.20 323 eP P 22 44 51.7 0.0

GKP Gorka Klasztor 72.31 329 eP P 22 44 52.6 +0.3
GKP Gorka Klasztor 72.31 329 eP P 22 44 52.5 +0.3
MUD Monsted U'grnd 72.49 335 iP P 22 44 53.9 +0.6
MUD pmax pmax
comp=Z,11nm,0.7s
MUD Monsted U'grnd 72.49 335 iP P 22 44 53.9 +0.6
comp=Z,11nm,0.6s
KWP Kalwaria Pacla 72.91 324 eP P 22 44 56.7 +0.8
KWP pmax pmax
comp=Z,31nm,0.7s
KWP Kalwaria Pacla 72.91 324 eP P 22 44 56.6 +0.7
KWP Kalwaria Pacla 72.91 324⇑iP P 22 44 57.0 +1.1
KWP Kalwaria Pacla 72.91 324 eP P 22 44 56.7 +0.8
comp=Z,31nm,0.7s
BURAR Bucovina Array 73.31 321⇓iP P 22 44 58.8 +0.4
TESR Tescani 73.35 319⇑iP P 22 44 59.5 +0.3
ULM Lac du Bonnet 73.55 35 P P 22 44 59.9 +0.3
ULM pmax pmax
comp=Z,1.0nm,0.6s
ULM Lac du Bonnet 73.55 35 P P 22 44 59.9 +0.3
comp=Z,1.4nm,0.6s,baz=320,slow=7.7,SNR=4.2
KOLS Kolonicke sedl 73.62 323 eP P 22 45 00.9 +0.8
KOLS pmax pmax
comp=Z,12nm,1.2s
KOLS Kolonicke sedl 73.62 323 eP P 22 45 00.9 +0.8
OJC Ojcow 73.68 326 eP P 22 45 00.7 +0.3
OJC pmax pmax
comp=Z,24nm,0.7s
OJC Ojcow 73.68 326 eP P 22 45 01.0 +0.6
OJC Ojcow 73.68 326 eP P 22 45 00.7 +0.3
comp=Z,24nm,0.7s
CFR Carcaliu 73.72 318⇑iP P 22 45 01.2 +0.5
VRI Vrincioaia 73.89 319⇓iP P 22 45 02.5 +0.8
CRVS Cervenica-Dubn 74.00 324 eP P 22 45 03.0 +0.7
CRVS pmax pmax
comp=Z,4.0nm,0.9s
CRVS Cervenica-Dubn 74.00 324 eP P 22 45 03.0 +0.7
NIE Niedzica 74.09 325 eP P 22 45 03.9 +1.1
NIE Niedzica 74.09 325 eP P 22 45 03.9 +1.1
TRPA Tarpa 74.12 323⇓iP P 22 45 03.9 +1.0
TLB Topalu 74.19 317⇓iP P 22 45 04.1 +0.7
RUE Ruedersdorf 74.21 330 eP P 22 45 03.2 -0.2
comp=Z,15nm,0.8s
BSEG Bad Segeberg 74.22 333 eP P 22 45 04.2 +0.8
comp=Z,22nm,0.8s
DOPR Dopca 74.45 320⇓iP P 22 45 04.8 -0.2
KSP Ksiaz 74.59 328⇓eP P 22 45 06.3 +0.7
KSP Ksiaz 74.59 328 eP P 22 45 06.3 +0.7
CJR Cluj-Napoca 74.72 321⇑iP P 22 45 08.0 +1.5
BRTR Keskin Array B 74.75 311 P P 22 45 07.6 +0.6
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 74.75 311 P P 22 45 07.6 +0.6
comp=Z,2.7nm,0.7s,baz=66,slow=3.9,SNR=15
MORC Moravsky Berou 74.94 326 eP P 22 45 08.1 +0.4
MORC pmax pmax
comp=Z,16nm,0.6s
MORC Moravsky Berou 74.94 326⇑iP P 22 45 08.7 +0.9
MORC Moravsky Berou 74.94 326 eP P 22 45 08.1 +0.4
comp=Z,16nm,0.6s
UPC Upice 74.96 328 iP P 22 45 08.8 +1.0
UPC Upice 74.96 328 iP P 22 45 08.8 +1.0
DPC Dobruska-Polom 74.97 327 eP P 22 45 08.7 +0.8
DPC pmax pmax
comp=Z,95nm,1.1s
DPC Dobruska-Polom 74.97 327 iP P 22 45 08.9 +1.0
DPC Dobruska-Polom 74.97 327 eP P 22 45 08.7 +0.8
comp=Z,95nm,1.1s
VOIR 75.00 320⇑iP P 22 45 09.5 +1.3
DRGR 75.06 322⇓iP P 22 45 09.1 +0.6
ARR Arges 75.25 320⇓iP P 22 45 10.9 +1.3
VYHS Vyhne 75.42 325 eP P 22 45 10.9 +0.4
VYHS pmax pmax
comp=Z,11nm,1.5s
VYHS Vyhne 75.42 325 eP P 22 45 10.9 +0.4
PSZ Piszkesteto 75.42 324 eP P 22 45 10.7 +0.1
PSZ pmax pmax
comp=Z,10.0nm,0.7s
PSZ Piszkesteto 75.42 324 eP P 22 45 10.7 +0.1
comp=Z,10nm,0.7s
CLL Collm 75.45 330 iP P 22 45 10.7 +0.2
CLL pmax pmax
comp=Z,32nm,0.7s
CLL Collm 75.45 330 eP P 22 45 10.9 +0.4
comp=Z,32nm,0.7s
CLL Collm 75.45 330 iP P 22 45 10.7 +0.2
comp=Z,32nm,0.7s
BRG Berggiesshubel 75.45 329 eP P 22 45 10.8 +0.2
comp=Z,6.6nm,0.7s
BRG e 22 45 27.7
comp=Z,5.2nm,1.1s
BRG Berggiesshubel 75.45 329 eP P 22 45 10.8 +0.2
BRG e 22 45 27.7
BRG pmax pmax
comp=Z,7.0nm,0.7s
BRG pmax pmax
comp=Z,5.0nm,1.1s
VRAC Vranov 75.69 327⇑iP P 22 45 13.2 +1.2
PV10 Paradox Valley 75.93 50 eP P 22 45 11.7 -2.2
CLZ Clausthal 75.94 331 eP P 22 45 14.0 +0.6
comp=Z,23nm,0.8s
PRU Pruhonice 75.94 328 iP P 22 45 14.1 +0.7
PRU Pruhonice 75.94 328 iP P 22 45 14.1 +0.7
PRU ex x 22 45 15.5
GZR Gura Zlata 76.09 321⇑iP P 22 45 14.9 +0.5
TREC Trest 76.14 327 eP P 22 45 15.3 +0.8
TREC Trest 76.14 327 eP P 22 45 15.3 +0.8
IBBN Ibbenburen 76.43 333 eP P 22 45 16.6 +0.6
comp=Z,232nm,3.0s
BZS Buzias 76.44 322⇓iP P 22 45 16.4 +0.1
JMB Yambol 76.47 317⇓iP P 22 45 15.6 -0.9
NKC Novy Kostel 76.53 329 eP P 22 45 17.0 +0.3
NKC Novy Kostel 76.53 329 eP P 22 45 17.0 +0.3
KHC Kasperske Hory 77.01 328 eP P 22 45 19.1 -0.4
KHC pmax pmax
comp=Z,10.0nm,0.7s
KHC Kasperske Hory 77.01 328 iP P 22 45 20.0 +0.6
KHC ex x 22 45 21.8
KHC Kasperske Hory 77.01 328 eP P 22 45 19.1 -0.4
comp=Z,9.9nm,0.7s
CONA Conrad Observa 77.08 326⇑iP P 22 45 21.4 +1.4
comp=Z,8.0nm,0.7s,SNR=7.0
GERES GERESS Array B 77.19 328 P P 22 45 20.8 +0.2
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES GERESS Array B 77.19 328 P P 22 45 20.8 +0.2
comp=Z,2.3nm,0.5s,baz=297,slow=5.4,SNR=30
WET Wettzell 77.26 329 eP P 22 45 22.0 +1.2
comp=Z,11nm,1.0s
PKSM Moragy 77.29 324⇑iP P 22 45 21.1 +0.1
BUG Bochum--Univer 77.32 333 eP P 22 45 21.5 +0.4
comp=Z,18nm,0.9s
GRF Grafenberg Arr 77.42 330 eP P 22 45 22.7 +1.0
comp=Z,76nm,1.9s
VTS Vitosha 78.02 319⇑iP P 22 45 26.3 +1.0
PERS Pernice 78.42 326 iP P 22 45 27.9 +0.5
SOKA Soboth 78.42 326⇓iP P 22 45 28.1 +0.7
comp=Z,11nm,1.3s,SNR=5.9
RJOB Jochberg 78.45 328 eP P 22 45 28.7 +1.2
comp=Z,9.0nm,0.8s
MEM Membach 78.45 333 P P 22 45 27.6 +0.3
comp=Z,6.2nm,0.9s
MMB Musomiste 78.53 318⇑iP P 22 45 29.0 +1.0
RAYN Ar Rayn 78.59 292 eP P 22 45 28.8 +0.2
comp=Z,11nm,1.4s
SCHQ Schefferville 78.64 17 P P 22 45 28.4 +0.1
comp=Z,2.4nm,0.6s,baz=349,slow=10,SNR=5.3
FUR Furstenfeldbru 78.67 329 eP P 22 45 29.7 +1.1
comp=Z,22nm,1.1s
KBA Koelnbreinsper 78.77 327⇑iP P 22 45 30.4 +1.0
comp=Z,14nm,1.0s
BCLA Clavier 78.84 333 P P 22 45 28.8 -0.6
LEGS Legarje 78.90 325 iP P 22 45 30.0 +0.1
STU Stuttgart 78.92 330 eP P 22 45 29.9 0.0
STU pmax pmax
comp=Z,17nm,0.8s
STU Stuttgart 78.92 330 eP P 22 45 30.6 +0.7
comp=Z,19nm,0.8s
STU Stuttgart 78.92 330 eP P 22 45 29.9 0.0
comp=Z,17nm,0.8s
SNF Seneffe 79.09 334 P P 22 45 30.8 +0.1
WATA Walderalm 79.25 328⇑iP P 22 45 32.2 +0.3
comp=Z,5.8nm,0.6s
GIVF Givet 79.27 334 eP P 22 45 31.5 -0.3
GIVF Givet 79.27 334 eP P 22 45 31.5 -0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GIVF	Givet	79.27	334	eP	P	22 45 31.5	-0.3
WTTA	Wattenberg	79.28	328⇓	iP	P	22 45 33.0	+0.8
	comp=Z,12nm,0.6s						
MOTA	Moosalm	79.42	329⇑	iP	P	22 45 33.3	+0.5
	comp=Z,12nm,0.7s,SNR=16						
RETA	Reutte	79.43	329⇓	iP	P	22 45 33.3	+0.5
	comp=Z,8.8nm,0.8s						
BAIF	Baives	79.50	334	eP	P	22 45 32.7	-0.3
BAIF	Baives	79.50	334	eP	P	22 45 32.7	-0.3
BAIF	Baives	79.50	334	eP	P	22 45 32.7	-0.3
DSB	Dublin	79.55	341	eP	P	22 45 33.7	+0.5
	comp=Z,47nm,1.4s						
BFO	Black Forest	79.61	331	eP	P	22 45 33.9	+0.2
BFO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BFO	Black Forest	79.61	331	eP	P	22 45 33.9	+0.2
	comp=Z,6.3nm,0.9s						
FETA	Feichten	79.83	329⇑	iP	P	22 45 35.8	+0.7
	comp=Z,5.6nm,0.7s						
CDF	Champ du Feu	79.91	331	eP	P	22 45 35.3	-0.1
	comp=Z,14nm,0.9s						
CDF	Champ du Feu	79.91	331	eP	P	22 45 35.3	-0.1
CDF				pmax	pmax		
	comp=Z,14nm,0.9s						
CDF	Champ du Feu	79.91	331	eP	P	22 45 35.3	-0.1
	comp=Z,14nm,0.9s						
DAVA	Damuels	79.92	329⇑	iP	P	22 45 35.2	-0.4
	comp=Z,11nm,0.6s						
PAGF	Fort de Pagny	80.31	332	eP	P	22 45 37.6	+0.2
	comp=Z,8.8nm,0.7s						
PAGF	Fort de Pagny	80.31	332	eP	P	22 45 37.6	+0.2
	comp=Z,8.8nm,0.7s						
FUORN	Ofenpass-Fuorn	80.34	329	eP	P	22 45 38.7	+0.8
	comp=Z,14nm,0.7s						
HINF	Hinteralfeld	80.56	331	eP	P	22 45 38.9	+0.1
	comp=Z,9.9nm,0.9s						
HINF	Hinteralfeld	80.56	331	eP	P	22 45 38.9	+0.1
HINF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HINF	Hinteralfeld	80.56	331	eP	P	22 45 38.9	+0.1
	comp=Z,9.9nm,0.9s						
HAU	Haudompre	80.57	332	eP	P	22 45 38.6	-0.3
	comp=Z,11nm,0.8s						
HAU	Haudompre	80.57	332	eP	P	22 45 38.6	-0.3
HAU				pmax	pmax		
	comp=Z,11nm,0.8s						
HAU	Haudompre	80.57	332	eP	P	22 45 38.6	-0.3
	comp=Z,11nm,0.8s						
MEZF	Maizieres J'vi	80.58	333	eP	P	22 45 39.0	+0.1
	comp=Z,20nm,1.0s						
MEZF	Maizieres J'vi	80.58	333	eP	P	22 45 39.0	+0.1
	comp=Z,20nm,1.0s						
TUE	Stuetta	80.81	329	eP	P	22 45 40.9	+0.5
	comp=Z,641nm,0.5s						
SFTF	Sexfontaines	80.84	333	eP	P	22 45 40.2	-0.1
	comp=Z,10.0nm,0.5s						
SFTF	Sexfontaines	80.84	333	eP	P	22 45 40.2	-0.1
	comp=Z,10.0nm,0.5s						
SENIN	Lac Senin/Sane	81.65	330	eP	P	22 45 44.5	-0.3
CABF	La Chapelle	81.86	331	eP	P	22 45 45.6	-0.2
CABF	La Chapelle	81.86	331	eP	P	22 45 45.6	-0.2
CABF	La Chapelle	81.86	331	eP	P	22 45 45.6	-0.2
LOR	Lormes	82.05	333	eP	P	22 45 46.4	-0.3
	comp=Z,30nm,1.0s						
LOR	Lormes	82.05	333	eP	P	22 45 46.4	-0.3
LOR				pmax	pmax		
	comp=Z,30nm,1.0s						
LOR	Lormes	82.05	333	eP	P	22 45 46.4	-0.3
	comp=Z,30nm,1.0s						
FLN	La Foliniere	82.09	336	eP	P	22 45 46.8	+0.1
FLN	La Foliniere	82.09	336	eP	P	22 45 46.8	+0.1
FLN	La Foliniere	82.09	336	eP	P	22 45 46.8	+0.1
LDF	La Druitiere	82.13	336	eP	P	22 45 47.0	0.0
LDF	La Druitiere	82.13	336	eP	P	22 45 47.0	0.0
LDF	La Druitiere	82.13	336	eP	P	22 45 47.0	0.0
SSF	Saint Saulge	82.35	333	eP	P	22 45 47.9	-0.3
	comp=Z,11nm,0.9s						
SSF	Saint Saulge	82.35	333	eP	P	22 45 47.9	-0.3
SSF				pmax	pmax		
	comp=Z,11nm,0.9s						
SSF	Saint Saulge	82.35	333	eP	P	22 45 47.9	-0.3
	comp=Z,11nm,0.9s						
VLC	Villacollemand	82.36	327	eP	P	22 45 49.4	+1.1
	comp=Z,59nm,1.3s						
HYF	Humbligny	82.45	333	eP	P	22 45 48.9	+0.2
HYF	Humbligny	82.45	333	eP	P	22 45 48.9	+0.2
HYF	Humbligny	82.45	333	eP	P	22 45 48.9	+0.2
GRR	Gorron	82.53	336	eP	P	22 45 48.9	-0.2
GRR	Gorron	82.53	336	eP	P	22 45 48.9	-0.2
GRR	Gorron	82.53	336	eP	P	22 45 48.9	-0.2
LPL	La Plagne	82.58	330	eP	P	22 45 50.0	+0.3
	comp=Z,12nm,0.7s						
LPL	La Plagne	82.58	330	eP	P	22 45 50.0	+0.3
LPL				pmax	pmax		
	comp=Z,12nm,0.7s						
LPL	La Plagne	82.58	330	eP	P	22 45 50.0	+0.3
	comp=Z,12nm,0.7s						
LPG	La Plagne	82.59	330	eP	P	22 45 50.1	+0.3
	comp=Z,15nm,0.7s						
LPG	La Plagne	82.59	330	eP	P	22 45 50.1	+0.3
LPG				pmax	pmax		
	comp=Z,15nm,0.7s						
LPG	La Plagne	82.59	330	eP	P	22 45 50.1	+0.3
	comp=Z,15nm,0.7s						
SMF	Signal de Mont	82.60	332	eP	P	22 45 49.4	-0.1
	comp=Z,25nm,0.9s						
SMF	Signal de Mont	82.60	332	eP	P	22 45 49.4	-0.1
SMF				pmax	pmax		
	comp=Z,25nm,0.9s						
SMF	Signal de Mont	82.60	332	eP	P	22 45 49.4	-0.1
	comp=Z,25nm,0.9s						
AQU	L'Aquila	82.63	324	eP	P	22 45 49.4	-0.3
AQU				pmax	pmax		
	comp=Z,13nm,1.1s						
AQU	L'Aquila	82.63	324	eP	P	22 45 49.4	-0.3
	comp=Z,13nm,1.1s						
AVF	Avril sur Loir	82.64	333	eP	P	22 45 49.7	+0.1
	comp=Z,30nm,0.9s						
AVF	Avril sur Loir	82.64	333	eP	P	22 45 49.7	+0.1
AVF				pmax	pmax		
	comp=Z,30nm,0.9s						
AVF	Avril sur Loir	82.64	333	eP	P	22 45 49.7	+0.1
	comp=Z,30nm,0.9s						
BNI	Bardonecchia	83.00	330	eP	P	22 45 50.1	-1.6
BNI				pmax	pmax		
	comp=Z,51nm,2.0s						
BNI	Bardonecchia	83.00	330	eP	P	22 45 50.1	-1.6
	comp=Z,50nm,2.0s						
SGMF	Saint Gilles	83.14	337	eP	P	22 45 52.3	+0.1
	comp=Z,38nm,1.0s						
SGMF	Saint Gilles	83.14	337	eP	P	22 45 52.3	+0.1
SGMF				pmax	pmax		
	comp=Z,38nm,1.0s						
SGMF	Saint Gilles	83.14	337	eP	P	22 45 52.3	+0.1
	comp=Z,38nm,1.0s						
MBDF	Montbardon	83.24	330	eP	P	22 45 52.6	-0.4
	comp=Z,5.5nm,0.5s						
MBDF	Montbardon	83.24	330	eP	P	22 45 52.6	-0.4
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MBDF	Montbardon	83.24	330	eP	P	22 45 52.6	-0.4
	comp=Z,5.5nm,0.5s						
ROSF	Rostrenen	83.27	338	eP	P	22 45 53.1	+0.3
ROSF	Rostrenen	83.27	338	eP	P	22 45 53.1	+0.3
ROSF	Rostrenen	83.27	338	eP	P	22 45 53.1	+0.3
ORIF	Oris-en-Rattie	83.40	330	eP	P	22 45 53.9	+0.2
	comp=Z,20nm,1.1s						
ORIF	Oris-en-Rattie	83.40	330	eP	P	22 45 53.9	+0.2
ORIF				pmax	pmax		
	comp=Z,20nm,1.1s						
ORIF	Oris-en-Rattie	83.40	330	eP	P	22 45 53.9	+0.2
	comp=Z,20nm,1.1s						
TCF	Toulx Ste Croi	83.46	333	eP	P	22 45 54.0	+0.1
	comp=Z,17nm,1.0s						
TCF	Toulx Ste Croi	83.46	333	eP	P	22 45 54.0	+0.1
TCF				pmax	pmax		
	comp=Z,17nm,1.0s						
TCF	Toulx Ste Croi	83.46	333	eP	P	22 45 54.0	+0.1
	comp=Z,17nm,1.0s						
SBF	Sospel	83.74	329	eP	P	22 45 55.0	-0.4
SBF	Sospel	83.74	329	eP	P	22 45 55.0	-0.4
SBF	Sospel	83.74	329	eP	P	22 45 55.0	-0.4
VIVF	Saint-Julien-l	83.88	331	eP	P	22 45 56.3	+0.2
	comp=Z,21nm,1.1s						
VIVF	Saint-Julien-l	83.88	331	eP	P	22 45 56.3	+0.2
VIVF				pmax	pmax		
	comp=Z,21nm,1.1s						
VIVF	Saint-Julien-l	83.88	331	eP	P	22 45 56.3	+0.2
	comp=Z,21nm,1.1s						
MFF	Saint Martin d	83.92	335	eP	P	22 45 56.6	+0.4
	comp=Z,14nm,0.8s						
MFF	Saint Martin d	83.92	335	eP	P	22 45 56.6	+0.4
MFF				pmax	pmax		
	comp=Z,14nm,0.8s						
MFF	Saint Martin d	83.92	335	eP	P	22 45 56.6	+0.4
	comp=Z,14nm,0.8s						
PGF	Pioggiola	84.26	327	eP	P	22 45 57.6	-0.5
PGF	Pioggiola	84.26	327	eP	P	22 45 57.6	-0.5
PGF	Pioggiola	84.26	327	eP	P	22 45 57.6	-0.5
FRF	La Foret Royal	84.29	329	eP	P	22 45 57.7	-0.4
FRF	La Foret Royal	84.29	329	eP	P	22 45 57.7	-0.4
FRF	La Foret Royal	84.29	329	eP	P	22 45 57.7	-0.4
SMRF	Simiane la Rot	84.32	330	eP	P	22 45 58.6	+0.2
	comp=Z,42nm,1.3s						
SMRF	Simiane la Rot	84.32	330	eP	P	22 45 58.6	+0.2
	comp=Z,42nm,1.3s						
LMR	La Mourre	84.54	329	eP	P	22 45 59.1	-0.3
	comp=Z,23nm,0.8s						
LMR	La Mourre	84.54	329	eP	P	22 45 59.1	-0.3
LMR				pmax	pmax		
	comp=Z,23nm,0.8s						
LMR	La Mourre	84.54	329	eP	P	22 45 59.1	-0.3
	comp=Z,23nm,0.8s						
RJF	Les Rejaudoux	84.55	333	eP	P	22 45 59.6	+0.2
RJF	Les Rejaudoux	84.55	333	eP	P	22 45 59.6	+0.2
RJF	Les Rejaudoux	84.55	333	eP	P	22 45 59.6	+0.2
CAF	Calviac	84.71	333	eP	P	22 46 01.0	+0.7
	comp=Z,10nm,0.8s						
CAF	Calviac	84.71	333	eP	P	22 46 01.0	+0.7
CAF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CAF	Calviac	84.71	333	eP	P	22 46 01.0	+0.7
	comp=Z,10nm,0.8s						
LFF	La Frestale	85.13	334	eP	P	22 46 02.4	+0.1
LFF	La Frestale	85.13	334	eP	P	22 46 02.4	+0.1
LFF	La Frestale	85.13	334	eP	P	22 46 02.4	+0.1
TXAR	Lajitas Array	85.57	53	P	P	22 46 05.8	+0.9
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	85.57	53	P	P	22 46 05.8	+0.9
	comp=Z,1.0nm,0.7s,baz=294,slow=4.0,SNR=12						
MTLF	Montolieu	86.06	332	eP	P	22 46 07.6	+0.7
	comp=Z,15nm,0.9s						
MTLF	Montolieu	86.06	332	eP	P	22 46 07.6	+0.7
MTLF				pmax	pmax		
	comp=Z,15nm,0.9s						
MTLF	Montolieu	86.06	332	eP	P	22 46 07.6	+0.7
	comp=Z,15nm,0.9s						
PBMO	Poplar Bluff	86.65	40	eP	P	22 46 10.1	+0.1
	comp=Z,212nm,2.8s						
EPF	Esparros	86.96	333	eP	P	22 46 11.5	+0.1
	comp=Z,19nm,1.0s						
EPF	Esparros	86.96	333	eP	P	22 46 11.5	+0.1
EPF				pmax	pmax		
	comp=Z,19nm,1.0s						
EPF	Esparros	86.96	333	eP	P	22 46 11.5	+0.1
	comp=Z,19nm,1.0s						
ETSF	Etsaut	87.37	333	eP	P	22 46 13.3	-0.1
	comp=Z,27nm,1.0s						
ETSF	Etsaut	87.37	333	eP	P	22 46 13.3	-0.1
ETSF				pmax	pmax		
	comp=Z,27nm,1.0s						
ETSF	Etsaut	87.37	333	eP	P	22 46 13.3	-0.1
	comp=Z,27nm,1.0s						
KEST	Kesra	89.88	323	P	P	22 46 27.9	+2.6
	comp=Z,0.8nm,0.8s,baz=350,slow=9.6,SNR=3.6						
ESDC	Sonseca Array	91.38	334	P	P	22 46 32.1	-0.1
	comp=Z,2.0nm,0.8s,baz=14,slow=4.8,SNR=12						
TORD	Torodi Ar. Bea	112.76	318	PKiKP	PKiKP	22 52 01.6	-0.6
	comp=Z,0.2nm,0.4s,baz=5.9,slow=3.2,SNR=7.1						
TORD				PP	PP	22 52 42.4	-9.4
	comp=Z,1.3nm,0.8s,baz=22,slow=7.3,SNR=7.6						
DBIC	Dimbokro	121.50	321	PKIKP	PKPdf	22 52 18.5	-0.6
DBIC				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DBIC	Dimbokro	121.50	321	PKP	PKPdf	22 52 18.5	-0.6
	comp=Z,1.0nm,0.6s,baz=141,slow=6.5,SNR=3.5						
BDFB	Brasilia	150.58	20	PKIKP	PKPbc	22 53 17.9	+0.3
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BDFB	Brasilia	150.58	20	PKPbc	PKPbc	22 53 17.9	+0.3
	comp=Z,4.4nm,0.7s,baz=288,slow=2.4,SNR=10.0						

*JMA **13** 22:41:42.4±0.3, 43.98N×148.06E, h0km, M3.8*
*SKHL **13** 22:41:43.7±0.7, 44.40N×148.19E, h30km±1km, mb4.8/2*
ISC 13 22:41:41.2±3.5, 44.4N±0.1×148.4E±0.2, h55km, n9, σ1§42/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.95	336	eP	Pn	22 41 58.5	+0.1
KUR				AMB	AMB	22 41 59.1	
	32nm,0.1s						
KUR				AMB	AMB	22 41 59.1	
	25nm,0.1s						
KUR				AMB	AMB	22 41 59.1	
	220nm,0.1s						
KUR				eS	Sn	22 42 10.1	-0.9
KUR				A	A	22 42 11.0	
	269nm,0.2s						
KUR				A	A	22 42 11.0	
	803nm,0.2s						
SHO	Shikotan	1.25	247	eP	Pn	22 42 02.3	0.0
SHO				eS	Sn	22 42 15.7	-2.4
SHO				A	A	22 42 16.6	
	300nm,0.3s						
YUK	Yuzh-Kuril'sk	1.87	261	eP	Pn	22 42 11.3	+0.6
YUK				AMB	AMB	22 42 12.9	
	30nm,0.2s						
YUK				AMB	AMB	22 42 12.9	
	40nm,0.2s						
YUK				AMB	AMB	22 42 12.9	
	150nm,0.2s						
YUK				eS	Sn	22 42 32.0	-1.1
YUK				A	A	22 42 43.7	
	250nm,0.2s						
YUK				A	A	22 42 43.7	
	180nm,0.2s						
NEM2	Nemuro 2	2.18	244	P	Pn	22 42 15.0	0.0
NEM2				eS	Sn	22 42 38.8	-1.9
JRA	Rausu	2.41	261	P	Pn	22 42 19.7	+1.6
JRA				eS	Sn	22 42 46.6	+0.2
JNK	Nakash	2.78	255	P	Pn	22 42 24.4	+1.2
JNK				eS	Sn	22 42 55.0	-0.6
JAK	Akkeshi	3.03	244	P	Pn	22 42 27.2	+0.6
JAK				eS	Sn	22 43 00.4	-1.2
JAR	Ashorobuto	3.53	254	P	Pn	22 42 35.8	+2.3
JNBK	Urakawa-nobuka	4.63	245	P	Pn	22 42 50.3	+1.8

KRSC 13 22:43:31.8±1.4, 49.38N×156.74E, h15km±23km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.37	343	eP	Pn	22 43 55.9	-0.5
SKR				eS	Sn	22 44 14.0	-2.1
PAU	Pauzhetka	2.09	1	eP	Pb	22 44 08.1	-1.4
PAU				eS	Sb	22 44 35.1	-0.2
RUS	Russkaya	3.26	19	eP	Pn	22 44 24.6	+2.3
RUS				eS	Sn	22 45 03.1	+2.3
UGLR	Uglovaya	4.05	18	eP	Pn	22 44 37.4	+4.0
AVH	Avacha	4.09	17	eP	Pn	22 44 37.9	+4.0
KOK	Koryaka	4.10	16	eP	Pn	22 44 38.0	+4.0
KRER	Koryakskii	4.13	17	eP	Pn	22 44 38.5	+3.9
SDLR	Sedlovina	4.13	18	eP	Pn	22 44 38.7	+4.2
GNL	Ganaly	4.39	9	eP	Pn	22 44 41.4	+3.4

*LDG **13** 22:45:49.1±0.3, 36.87N×4.74W, h47km, Ml2.8/4, Error ellipse: s-maj=7.1km s-min=4.7km az=176.0*
*ISCJB **13** 22:45:49.1±0.4, 36.91N±0.03×4.77W±0.02, h65km±6km, Error ellipse: s-maj=5.2km s-min=2.3km az=175.2*
*CSEM **13** 22:45:50.1±0.2, 36.82N×4.77W, h40km, mb3.9*
*IGIL **13** 22:45:50.1, 36.84N×4.71W, h27km, ML2.3*
*MDD **13** 22:45:50.2±0.5, 36.75N×4.73W, h51km±6km, mb3.9/18, Error ellipse: s-maj=6.3km s-min=2.8km az=173.0, PRXIMO*
*SFS **13** 22:45:50.0, 36.83N×4.71W, h35km, ML2.2*
*INMG **13** 22:45:51.3±1.3, 36.80N×4.84W, h37km±9km, ML2.3, Error ellipse: s-maj=3.0km s-min=2.8km az=53.0*
ISC 13 22:45:47.9±1.3, 36.75N±0.05×4.73W±0.02, h67km±8km, n147, σ1§64/261, 6D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	Mijas	0.18	192	⇓P	Pn	22 45 58.2	0.0
	5.4nm,0.1s,SNR=18						
EMIJ				S	Sn	22 46 03.6	-2.1
	36nm,0.2s						
EMIJ	Mijas	0.18	192	P	Pn	22 45 58.2	0.0
	5.4nm,0.1s,SNR=18						
EMIJ				S	Sn	22 46 03.6	-2.1
	36nm,0.2s						
EMAL	Malaga-Limoner	0.24	86	iP	Pn	22 45 59.1	+0.7
EMAL				iS	Sn	22 46 06.2	+0.1
LIJA	Lijar	0.57	287	P	Pn	22 46 08.0	+6.7
ELUQ	Luque	0.89	24	P	Pn	22 46 06.5	+1.5
	5.1nm,0.2s,SNR=7.9						
ELUQ				S	Sn	22 46 16.4	-1.3
	6.4nm,0.1s,SNR=7.9						
ELUQ	Luque	0.89	24	P	Pn	22 46 06.5	+1.5
	5.1nm,0.2s,SNR=7.9						
ELUQ				S	Sn	22 46 16.4	-1.3
	6.4nm,0.1s,SNR=7.9						
ESPR	Espera	0.92	278	P	Pn	22 46 07.1	+1.9
	8.3nm,0.3s,SNR=20						
ESPR				S	Sn	22 46 19.2	+1.2
	22nm,0.1s,SNR=13						
ESPR	Espera	0.92	278	P	Pn	22 46 07.1	+1.9
	8.3nm,0.3s,SNR=20						
ESPR				S	Sn	22 46 19.2	+1.2
	22nm,0.1s,SNR=13						
EGUA	Guajares	0.94	84	⇓P	Pn	22 46 06.0	+0.5
	10nm,0.1s,SNR=18						
EGUA				S	Sn	22 46 18.7	+0.2
	21nm,0.2s,SNR=7.9						
EGUA	Guajares	0.94	84	P	Pn	22 46 06.0	+0.5
	10nm,0.1s,SNR=18						
EGUA				S	Sn	22 46 18.7	+0.2
	21nm,0.2s,SNR=7.9						
SELV	Sierra Elvira	0.94	58	P	Pn	22 46 07.4	+1.8
	5.0nm,0.2s,SNR=7.9						
SELV				S	Sn	22 46 20.5	+1.8
	11nm,0.2s,SNR=7.9						
SELV	Sierra Elvira	0.94	58	P	Pn	22 46 07.4	+1.8
	5.0nm,0.2s,SNR=7.9						
SELV				S	Sn	22 46 20.5	+1.8
	11nm,0.2s,SNR=7.9						
ECOG	Cogollos-Vega	1.07	60	P	Pn	22 46 08.6	+1.3
	3.1nm,0.1s,SNR=17						
ECOG				S	Sn	22 46 21.4	-0.3
	26nm,0.2s,SNR=8.5						
ECOG	Cogollos-Vega	1.07	60	P	Pn	22 46 08.6	+1.3
	3.1nm,0.1s,SNR=17						
ECOG				S	Sn	22 46 21.4	-0.3
	26nm,0.2s,SNR=8.5						
EQUE	Quentar	1.13	66	P	Pn	22 46 08.1	+0.1
	2.0nm,0.1s,SNR=6.5						
EQUE				S	Sn	22 46 22.8	-0.2
	17nm,0.3s						
EQUE	Quentar	1.13	66	P	Pn	22 46 08.1	+0.1
	2.0nm,0.1s,SNR=6.5						
EQUE				S	Sn	22 46 22.8	-0.2
	17nm,0.3s						
ECAB	El Cabril	1.44	338	P	Pn	22 46 13.3	+1.3
	2.9nm,0.0s,SNR=32						
ECAB				S	Sn	22 46 29.4	-0.7
	9.9nm,0.2s,SNR=6.9						
ECAB	El Cabril	1.44	338	P	Pn	22 46 13.3	+1.3
	2.9nm,0.0s,SNR=32						
ECAB				S	Sn	22 46 29.4	-0.7
	9.9nm,0.2s,SNR=6.9						
EBER	Berja	1.48	84	P	Pn	22 46 13.9	+1.2
	1.6nm,0.1s,SNR=14						
EBER				S	Sn	22 46 32.0	+0.6
	13nm,0.5s						
EBER	Berja	1.48	84	P	Pn	22 46 13.9	+1.2
	1.6nm,0.1s,SNR=14						
EBER				S	Sn	22 46 32.0	+0.6
	13nm,0.5s						
GORA	Gorafe	1.54	61	P	Pn	22 46 10.6	-2.7
	3.4nm,0.2s,SNR=7.9						
GORA				S	Sn	22 46 33.0	+0.5
	22nm,0.2s,SNR=7.9						
GORA	Gorafe	1.54	61	S	Sn	22 46 33.0	+0.5
	22nm,0.2s,SNR=7.9						
EBAN	Banos Encina	1.60	28	P	Pn	22 46 15.2	+1.0
	2.2nm,0.1s,SNR=13						
EBAN				S	Sn	22 46 33.2	-0.8
	12nm,0.1s,SNR=7.4						
EBAN	Banos Encina	1.60	28	P	Pn	22 46 15.2	+1.0
	2.2nm,0.1s,SNR=13						
EBAN				S	Sn	22 46 33.2	-0.8
	12nm,0.1s,SNR=7.4						
EQES	Quesada	1.69	51	P	Pn	22 46 17.1	+1.6
	1.0nm,0.1s,SNR=19						
EQES				S	Sn	22 46 36.4	+0.1
	7.0nm,0.3s,SNR=24						
EQES	Quesada	1.69	51	P	Pn	22 46 17.1	+1.6
	1.0nm,0.1s,SNR=19						
EQES				S	Sn	22 46 36.4	+0.1
	7.0nm,0.3s,SNR=24						
EMIN	Mina Concepcio	1.86	304	⇓P	Pn	22 46 18.8	+1.2
	4.4nm,0.1s,SNR=18						
EMIN				S	Sn	22 46 39.8	-0.3
	14nm,0.3s						
EMIN	Mina Concepcio	1.86	304	P	Pn	22 46 18.8	+1.2
	4.4nm,0.1s,SNR=18						
EMIN				S	Sn	22 46 39.8	-0.3
	14nm,0.3s						
EHUE	Huescar	2.01	57	P	Pn	22 46 20.2	+0.5
	1.1nm,0.1s,SNR=7.9						
EHUE				S	Sn	22 46 43.6	-0.3
	5.5nm,0.2s,SNR=7.9						
EHUE	Huescar	2.01	57	P	Pn	22 46 20.2	+0.5
	1.1nm,0.1s,SNR=7.9						
EHUE				S	Sn	22 46 43.6	-0.3
	5.5nm,0.2s,SNR=7.9						
PBAR	Barrancos	2.33	308	eP	Pn	22 46 25.3	+1.4
PBAR				S	Sn	22 46 50.9	-0.6
PBAR				A	A	22 46 53.8	
	32nm,0.2s						
PBAR	Barrancos	2.33	308	P	Pn	22 46 25.3	+1.4
PBAR				S	Sn	22 46 50.9	-0.6
	32nm,0.2s						
PBAR	Barrancos	2.33	308	P	Pn	22 46 25.3	+1.4
PBAR				S	Sn	22 46 50.9	-0.6
	32nm,0.2s						
EGRO	El Granado	2.34	290	⇓P	Pn	22 46 25.2	+1.1
	4.7nm,0.1s,SNR=18						
EGRO				S	Sn	22 46 51.1	-0.7
	14nm,0.1s						
EGRO	El Granado	2.34	290	P	Pn	22 46 25.2	+1.1
	4.7nm,0.1s,SNR=18						
EGRO				S	Sn	22 46 51.1	-0.7
	14nm,0.1s						
PVAQ	Vaqueiros	2.48	286	eP	Pn	22 46 26.9	+0.9
PVAQ				S	Sn	22 46 54.2	-1.0
PVAQ				A	A	22 46 56.1	
	24nm,0.2s						
PVAQ	Vaqueiros	2.48	286	⇓P	Pn	22 46 26.9	+0.9
PVAQ				S	Sn	22 46 54.2	-1.0
	24nm,0.2s						
PVAQ	Vaqueiros	2.48	286	P	Pn	22 46 26.9	+0.9
PVAQ				S	Sn	22 46 54.2	-1.0
	24nm,0.2s						
EVIA	Vianos	2.58	42	P	Pn	22 46 28.5	+1.0
	0.9nm,0.1s,SNR=16						
EVIA				S	Sn	22 46 55.9	-2.0
	12nm,0.1s,SNR=7.9						
EVIA	Vianos	2.58	42	P	Pn	22 46 28.5	+1.0
	0.9nm,0.1s,SNR=16						
PBDV	Barranco-do-Ve	2.61	282	eP	Pn	22 46 29.0	+1.2
PBDV				S	Sn	22 46 57.6	-0.9
PBDV	Barranco-do-Ve	2.61	282	P	Pn	22 46 29.0	+1.2
PBDV				S	Sn	22 46 57.6	-0.9
PBDV	Barranco-do-Ve	2.61	282	P	Pn	22 46 29.0	+1.2
PBDV				S	Sn	22 46 57.6	-0.9
EBAD	Badajoz	2.70	319	P	Pn	22 46 30.7	+1.6
	0.7nm,0.0s,SNR=25						
EBAD				S	Sn	22 47 00.3	-0.3
	3.7nm,0.3s,SNR=25						
EBAD	Badajoz	2.70	319	P	Pn	22 46 30.7	+1.6
	0.7nm,0.0s,SNR=25						
EBAD				S	Sn	22 47 00.3	-0.3
	3.7nm,0.3s,SNR=25						

PCVE Castro Verde 2.79 289 eP Pn 22 46 31.2 +1.0
PCVE S Sn 22 47 01.3 -1.4
PCVE A A 22 47 02.8
8.4nm,0.2s
PCVE Castro Verde 2.79 289 ⇓P Pn 22 46 31.2 +1.0
PCVE S Sn 22 47 01.3 -1.4
8.4nm,0.2s
PCVE Castro Verde 2.79 289 P Pn 22 46 31.2 +1.0
PCVE S Sn 22 47 01.3 -1.4
8.4nm,0.2s
PBEJ Beja 2.81 298 eP Pn 22 46 31.7 +1.2
PBEJ S Sn 22 47 02.1 -1.1
PBEJ A A 22 47 04.0
6.6nm,0.1s
PBEJ Beja 2.81 298 P Pn 22 46 31.7 +1.2
PBEJ S Sn 22 47 02.1 -1.1
3.3nm,0.1s
PBEJ Beja 2.81 298 P Pn 22 46 31.7 +1.2
PBEJ S Sn 22 47 02.1 -1.1
6.6nm,0.1s
ESDC Sonseca Array 2.98 11 P Pn 22 46 34.5 +1.6
1.6nm,0.1s,baz=188,slow=12,SNR=3.9
ESDC S Sn 22 47 06.4 -1.2
2.0nm,0.5s,baz=193,slow=23,SNR=16
ESDC Sonseca Array 2.98 11 P Pn 22 46 34.5 +1.6
1.6nm,0.1s,slow=12,SNR=3.9
ESDC S Sn 22 47 06.4 -1.2
2.0nm,0.5s,baz=193,slow=23,SNR=16
EMUR La Murta 2.99 67 P Pn 22 46 34.5 +1.6
0.6nm,0.2s,SNR=7.9
EMUR La Murta 2.99 67 P Pn 22 46 34.5 +1.6
0.6nm,0.2s,SNR=7.9
MESJ Messejana 2.99 292 eP Pn 22 46 34.1 +1.2
MESJ eS Sn 22 47 06.4 -1.3
MESJ AML AML 22 47 08.7
comp=N,17nm,0.3s
MESJ Messejana 2.99 292 eP Pn 22 46 34.2 +1.2
MESJ S Sn 22 47 06.4 -1.3
MESJ A A 22 47 08.2
comp=N,8.1nm,0.1s
MESJ Messejana 2.99 292 P Pn 22 46 34.1 +1.2
MESJ S Sn 22 47 06.4 -1.3
comp=N,17nm,0.3s
MESJ Messejana 2.99 292 P Pn 22 46 34.2 +1.2
MESJ S Sn 22 47 06.4 -1.3
comp=N,8.1nm,0.1s
PESTR Estremoz 3.10 314 eP Pn 22 46 36.6 +2.1
PESTR S Sn 22 47 09.6 -0.8
PESTR A A 22 47 09.9
comp=N,6.1nm,0.2s
PESTR Estremoz 3.10 314 eP Pn 22 46 36.6 +2.1
PESTR S Sn 22 47 09.6 -0.8
comp=N,6.1nm,0.2s
ETOB Tobarra 3.15 52 P Pn 22 46 36.5 +1.3
comp=N,4.1nm,0.2s,SNR=50
ETOB S Sn 22 47 09.6 -2.2
comp=N,5.1nm,0.1s,SNR=4.7
ETOB Tobarra 3.15 52 P Pn 22 46 36.5 +1.3
comp=N,4.1nm,0.2s,SNR=50
EVO Evora 3.16 305 ePn Pn 22 46 37.8 +2.6
EVO eSn Sn 22 47 12.7 +0.9
comp=N,18nm,0.4s
EVO Evora 3.16 305 eP Pn 22 46 37.0 +1.8
EVO S Sn 22 47 10.9 -0.9
EVO A A 22 47 13.0
comp=N,20nm,0.4s
EVO Evora 3.16 305 P Pn 22 46 37.0 +1.8
EVO S Sn 22 47 10.9 -0.9
comp=N,20nm,0.4s
EVO Evora 3.16 305 P Pn 22 46 37.0 +1.8
EVO S Sn 22 47 10.9 -0.9
comp=N,20nm,0.4s
MORF Marmelete 3.19 281 eP Pn 22 46 37.2 +1.5
MORF eS Sn 22 47 11.3 -1.2
MORF AML AML 22 47 13.2
comp=N,7.0nm,0.2s
MORF Marmelete 3.19 281 eP Pn 22 46 36.7 +1.0
MORF S Sn 22 47 11.5 -1.1
MORF Marmelete 3.19 281 P Pn 22 46 37.2 +1.5
MORF S Sn 22 47 11.3 -1.2
comp=N,7.0nm,0.2s
MORF Marmelete 3.19 281 P Pn 22 46 37.2 +1.5
MORF S Sn 22 47 11.5 -1.1
EVOP Sao Brissos 3.23 304 ePn Pn 22 46 37.8 +1.6
EVOP eSn Sn 22 47 12.7 -0.8
comp=N,8.9nm,0.4s
PTEO Sao Teotonio 3.29 285 eP Pn 22 46 38.3 +1.3
PTEO S Sn 22 47 14.2 -0.8
PTEO A A 22 47 16.2
comp=N,4.5nm,0.3s
PTEO Sao Teotonio 3.29 285 P Pn 22 46 38.3 +1.3
PTEO S Sn 22 47 14.2 -0.8
comp=N,2.2nm,0.3s
PTEO Sao Teotonio 3.29 285 P Pn 22 46 38.3 +1.3
PTEO S Sn 22 47 14.2 -0.8
comp=N,4.5nm,0.3s
PFVI Vila Bisbo 3.31 278 eP Pn 22 46 38.3 +1.0
PFVI S Sn 22 47 13.4 -2.0
PFVI A A 22 47 24.1
comp=N,6.8nm,0.7s
PFVI Vila Bisbo 3.31 278 P Pn 22 46 38.3 +1.0
comp=N,3.5nm,0.1s,SNR=27
PFVI S Sn 22 47 13.5 -2.0
comp=N,6.2nm,0.1s,SNR=7.3
PFVI Vila Bisbo 3.31 278 P Pn 22 46 38.3 +1.0
comp=N,3.5nm,0.1s,SNR=27
PFVI S Sn 22 47 13.4 -2.0
comp=N,6.8nm,0.7s
PNCL Nicolau / Gran 3.32 295 eP Pn 22 46 38.8 +1.4
PNCL S Sn 22 47 14.1 -1.6
PNCL A A 22 47 16.5
comp=N,6.2nm,0.6s
PNCL Nicolau / Gran 3.32 295 eP Pn 22 46 38.8 +1.4
PNCL S Sn 22 47 14.1 -1.6
comp=N,6.2nm,0.6s
PMRV Marv??o 3.41 323 eP Pn 22 46 40.5 +1.9
PMRV S Sn 22 47 16.9 -0.9
PMRV A A 22 47 18.5
comp=N,4.9nm,2.0s
PMRV Marv??o 3.41 323 P Pn 22 46 40.5 +1.9
PMRV S Sn 22 47 16.9 -0.9
comp=N,4.9nm,2.0s
PMRV Marv??o 3.41 323 P Pn 22 46 40.5 +1.9
PMRV S Sn 22 47 16.9 -0.9
comp=N,4.9nm,2.0s
EPLA Plasencia 3.48 343 P Pn 22 46 41.5 +1.8
comp=N,1.2nm,0.1s,SNR=7.9
EPLA S Sn 22 47 19.0 -0.7
comp=N,3.0nm,0.3s,SNR=5.8
EPLA Plasencia 3.48 343 P Pn 22 46 41.5 +1.8
comp=N,1.2nm,0.1s,SNR=7.9
EPLA S Sn 22 47 19.0 -0.7
comp=N,3.0nm,0.3s,SNR=5.8
PMTG Montargil 3.61 311 eP Pn 22 46 43.3 +1.9
PMTG S Sn 22 47 21.2 -1.6
PMTG A A 22 47 23.5
comp=N,5.2nm,0.2s
PMTG Montargil 3.61 311 eP Pn 22 46 43.3 +1.9
PMTG S Sn 22 47 21.2 -1.6
comp=N,5.2nm,0.2s
PCBR Castelo Branco 3.77 326 eP Pn 22 46 45.5 +1.9
PCBR S Sn 22 47 25.3 -1.4
PCBR A A 22 47 28.4
comp=N,5.5nm,0.3s
PCBR Castelo Branco 3.77 326 P Pn 22 46 45.5 +1.9
PCBR S Sn 22 47 25.3 -1.4
comp=N,2.8nm,0.3s
PCBR Castelo Branco 3.77 326 P Pn 22 46 45.5 +1.9
PCBR S Sn 22 47 25.3 -1.4
comp=N,5.5nm,0.3s
GUD Guadarrama 3.92 6 P Pn 22 46 47.3 +1.6
comp=N,2.3nm,0.1s,SNR=24
GUD S Sn 22 47 29.0 -1.5
comp=N,3.6nm,0.7s
GUD Guadarrama 3.92 6 P Pn 22 46 47.3 +1.6
comp=N,2.3nm,0.1s,SNR=24
GUD S Sn 22 47 29.0 -1.5
comp=N,3.6nm,0.7s
PTOM Tomar 4.08 316 eP Pn 22 46 50.3 +2.5
PTOM S Sn 22 47 32.6 -1.7
PTOM A A 22 47 36.2
comp=N,6.0nm,0.3s
PTOM Tomar 4.08 316 P Pn 22 46 50.3 +2.5
PTOM S Sn 22 47 32.6 -1.7
comp=N,3.0nm,0.3s
PTOM Tomar 4.08 316 P Pn 22 46 50.3 +2.5
PTOM S Sn 22 47 32.6 -1.7
comp=N,6.0nm,0.3s
PMAFR Mafra 4.23 303 eP Pn 22 46 51.6 +1.8
PMAFR S Sn 22 47 36.8 -1.1
PMAFR A A 22 47 39.1
comp=N,9.2nm,0.3s
PMAFR Mafra 4.23 303 P Pn 22 46 52.0 +2.2
comp=N,1.7nm,0.1s,SNR=7.9
PMAFR S Sn 22 47 36.5 -1.4
comp=N,26nm,0.3s,SNR=7.9
PMAFR Mafra 4.23 303 eP Pn 22 46 51.6 +1.8
PMAFR S Sn 22 47 36.8 -1.1
comp=N,4.4nm,0.3s
MTE Manteigas 4.26 330 A A 22 47 40.4
comp=N,4.4nm,0.3s
PCAS Casmilo, Conde 4.44 319 eP Pn 22 46 55.3 +2.6
PCAS S Sn 22 47 42.2 -0.8
PCAS A A 22 47 43.8
comp=N,5.1nm,0.3s
PCAS Casmilo, Conde 4.44 319 eP Pn 22 46 55.3 +2.6
PCAS S Sn 22 47 42.2 -0.8
comp=N,5.1nm,0.3s
ETOR Torete 4.57 26 P Pn 22 46 56.4 +1.8
comp=N,5.6nm,0.0s,SNR=8.1
ETOR S Sn 22 47 42.8 -3.6
comp=N,3.9nm,0.7s
ETOR Torete 4.57 26 P Pn 22 46 56.4 +1.8
comp=N,5.6nm,0.0s,SNR=8.1
MVO Moncorvo 4.76 339 eP Pn 22 46 59.3 +2.1
MVO S Sn 22 47 49.6 -1.5
MVO A A 22 47 53.8
comp=N,2.9nm,0.3s
MVO Moncorvo 4.76 339 P Pn 22 46 59.3 +2.1
comp=N,7.1nm,0.1s,SNR=5.9
MVO S Sn 22 47 49.2 -2.0
comp=N,2.9nm,0.3s
MVO Moncorvo 4.76 339 P Pn 22 46 59.3 +2.1
comp=N,7.1nm,0.1s,SNR=5.9
MVO S Sn 22 47 49.6 -1.5
comp=N,2.9nm,0.3s
EMOS Mosqueruela 4.92 41 P Pn 22 47 01.5 +2.1
comp=N,0.2nm,0.1s,SNR=7.9
EMOS S Sn 22 47 51.5 -3.5
comp=N,1.1nm,0.2s,SNR=7.9
EMOS Mosqueruela 4.92 41 P Pn 22 47 01.5 +2.1
comp=N,0.2nm,0.1s,SNR=7.9
POLO Lamas de Olo 5.20 334 eP Pn 22 47 05.3 +2.1
POLO S Sn 22 48 00.1 -1.8
POLO A A 22 48 04.6
comp=N,1.3nm,0.3s
POLO Lamas de Olo 5.20 334 eP Pn 22 47 05.3 +2.1
POLO S Sn 22 48 00.1 -1.8
comp=N,1.3nm,0.3s
PBRG Braganca 5.29 343 eP Pn 22 47 06.3 +1.9
PBRG S Sn 22 48 02.8 -1.2
PBRG Braganca 5.29 343 P Pn 22 47 06.3 +1.9
PBRG S Sn 22 48 02.8 -1.2
PBRG Braganca 5.29 343 P Pn 22 47 06.3 +1.9
PBRG S Sn 22 48 02.8 -1.2
ECAL Calabor 5.42 344 P Pn 22 47 08.2 +2.1
comp=N,1.1nm,0.1s,SNR=7.9
ECAL S Sn 22 48 05.6 -1.6
comp=N,0.9nm,0.1s,SNR=7.9
ECAL Calabor 5.42 344 P Pn 22 47 08.2 +2.1
comp=N,1.1nm,0.1s,SNR=7.9
ECAL S Sn 22 48 05.6 -1.6
comp=N,0.9nm,0.1s,SNR=7.9
PCAB Cabril 5.58 334 eP Pn 22 47 10.5 +2.2
PCAB S Sn 22 48 09.5 -1.6
PCAB A A 22 48 12.8
comp=N,3.9nm,0.3s
PCAB Cabril 5.58 334 P Pn 22 47 10.5 +2.2
PCAB S Sn 22 48 09.5 -1.6
comp=N,1.9nm,0.3s
PCAB Cabril 5.58 334 P Pn 22 47 10.5 +2.2
PCAB S Sn 22 48 09.5 -1.6
comp=N,3.9nm,0.3s
ELOB Lobios 5.73 334 P Pn 22 47 12.4 +2.0
comp=N,0.7nm,0.1s,SNR=7.9
ELOB S Sn 22 48 12.8 -2.0
comp=N,3.8nm,0.2s,SNR=7.9
ELOB Lobios 5.73 334 P Pn 22 47 12.4 +2.0
comp=N,0.7nm,0.1s,SNR=7.9
ELOB S Sn 22 48 12.8 -2.0
comp=N,3.8nm,0.2s,SNR=7.9
ERTA Horta de San J 5.77 42 S Sn 22 48 14.3 -1.4
comp=N,0.6nm,0.2s,SNR=4.0
ELAN Lanestosa 6.55 8 P Pn 22 47 23.6 +2.0
comp=N,0.4nm,0.1s,SNR=12
ELAN S Sn 22 48 27.3 -7.6
comp=N,0.1nm,0.1s,SNR=7.9
ELAN Lanestosa 6.55 8 P Pn 22 47 23.6 +2.0
comp=N,0.4nm,0.1s,SNR=12
EARI Arriondas 6.56 357 P Pn 22 47 24.0 +2.3
comp=N,0.2nm,0.1s,SNR=6.1
EARI S Sn 22 48 32.3 -2.7
comp=N,0.3nm,0.3s,SNR=7.9
EARI Arriondas 6.56 357 P Pn 22 47 24.0 +2.3
comp=N,0.2nm,0.1s,SNR=6.1
IEPA Eparoz 6.59 23 P Pn 22 47 24.6 +2.5
comp=N,0.9nm,0.2s,SNR=4.0
IEPA S Sn 22 48 33.5 -2.3
comp=N,0.5nm,0.2s,SNR=7.9
IEPA Eparoz 6.59 23 P Pn 22 47 24.6 +2.5
comp=N,0.9nm,0.2s,SNR=4.0
IELO Elcoad 6.66 23 P Pn 22 47 25.1 +2.1
comp=N,0.3nm,0.1s,SNR=7.9
IELO S Sn 22 48 35.5 -1.9
comp=N,0.3nm,0.1s,SNR=7.9
IELO Elcoad 6.66 23 P Pn 22 47 25.1 +2.1
comp=N,0.3nm,0.1s,SNR=7.9
IUSE Utxeti 6.66 21 P Pn 22 47 26.7 +3.6
comp=N,0.6nm,0.1s,SNR=7.9
IUSE Utxeti 6.66 21 P Pn 22 47 26.7 +3.6
comp=N,0.6nm,0.1s,SNR=7.9
ELIZ Elizondo 6.86 20 P Pn 22 47 29.2 +3.3
comp=N,1.1nm,0.2s,SNR=7.9
ELIZ Elizondo 6.86 20 P Pn 22 47 29.2 +3.3
comp=N,1.1nm,0.2s,SNR=7.9
EALK Alkurruntz 6.92 20 P Pn 22 47 29.6 +3.0
comp=N,0.4nm,0.1s,SNR=7.9
EALK S Sn 22 48 41.5 -2.3
comp=N,0.5nm,0.2s,SNR=7.9
EALK Alkurruntz 6.92 20 P Pn 22 47 29.6 +3.0
comp=N,0.4nm,0.1s,SNR=7.9
ETSF Etsaut 6.93 26 ePn Pn 22 47 28.2 +1.4
ETSF eSn Sn 22 48 41.4 -2.8
comp=N,0.4nm,0.3s
ETSF Etsaut 6.93 26 P Pn 22 47 28.2 +1.4
ETSF S Sn 22 48 41.4 -2.8
comp=N,0.2nm,0.3s
ETSF Etsaut 6.93 26 P Pn 22 47 28.2 +1.4
ATE Arette 7.05 25 P Pn 22 47 30.4 +2.0
comp=N,0.3nm,0.1s,SNR=7.9
ATE S Sn 22 48 39.6 -7.4
comp=N,0.6nm,0.2s,SNR=7.9
ATE Arette 7.05 25 P Pn 22 47 30.4 +2.0
comp=N,0.3nm,0.1s,SNR=7.9
CSOR Sort 7.22 37 S Sn 22 48 46.0 -5.3
comp=N,0.5nm,0.1s,SNR=4.0
EPF Esparros 7.39 30 ePn Pn 22 47 34.1 +1.1
EPF eSn Sn 22 48 51.9 -3.5
comp=N,1.4nm,0.5s
EPF Esparros 7.39 30 P Pn 22 47 34.1 +1.1
EPF S Sn 22 48 51.9 -3.5
comp=N,0.7nm,0.5s
EPF Esparros 7.39 30 P Pn 22 47 34.1 +1.1
MTLF Montolieu 8.47 37 ePn Pn 22 47 48.9 +1.1
MTLF eSn Sn 22 49 17.6 -4.2
comp=N,0.5nm,0.2s
MTLF Montolieu 8.47 37 P Pn 22 47 48.9 +1.1
MTLF S Sn 22 49 17.6 -4.2
comp=N,0.2nm,0.2s
MTLF Montolieu 8.47 37 P Pn 22 47 48.9 +1.1

ISCJB 13 23:14:33.3±0.4, 36°.76S±0°.07×110°.6W±0°.1, h10km, mb5.0/65, MS5.1/74, Error ellipse: s-maj=13.1km s-min=9.1km az=153.6
IDC 13 23:14:33.5±0.6, 36°.73S×110°.76W, h0km, mb4.4/13, mb1 4.5/13, mb1mx4.4/23, mbtmp4.4/13, MS4.8/16, Ms1 4.8/16, ms1mx4.8/17, Error ellipse: s-maj=20.9km s-min=17.5km az=118.0
GCMT 13 23:14:34.4±0.1, 36°.90S×110°.75W, h12km, MW5.4/111, Moment Tensor Solution. s84,c132; s111,c202; Duration: 1§2 Moment tensor: Scale 10^17Nm; Mrr-0.32±.02; Mθθ-0.38±.02; Mφφ0.69±.02; Mrθ-0.07±.05; Mrφ-1.21±.02; Mθφ-0.27±.05; Best double couple: M0 1.35700×10^17 NP1:φs11.00000°, δ85.00000°, λ-13.00000°. NP2:φs102.00000°, δ77.00000°, λ-175.00000°. Principal axes: T 1.5020, Plg6.0000°, Azm57.0000°; N -0.2910, Plg76.0000°, Azm172.0000°; P -1.2130, Plg13.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 13 23:14:34.4±0.3, 36°.78S×110°.63W, h10km, mb5.1/38, MS5.1/53 Error ellipse: s-maj=10.4km s-min=8.8km az=61.0
BJI 13 23:14:36.3, 36°.80S×110°.40W, h10km, mB5.3/10, Ms5.3/10, Ms7 5.1/10
ISC 13 23:14:34.6±0.4, 36°.7S±0°.1×110°.57W±0°.09, h10km, n312, σ1§38/252, mb5.1/66, MS5.1/74, 58C-61D, Southern East Pacific Rise

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RKT Rikitea 25.04 296 eLQ LQ 23 24 56.3
989nm,26.0s
RKT eLR LR 23 26 07.0
945nm,24.0s,baz=132
RKT Rikitea 25.04 296 eT T 23 45 19.9
1.6nm,0.3s
H03N2 Juan Fernandez 26.04 92 T T 23 47 23.9
baz=254,slow=74,SNR=423
H03N3 Juan Fernandez 26.04 92 T T 23 47 24.8
baz=254,slow=74,SNR=567
H03N1 Juan Fernandez 26.05 92 T T 23 47 25.0
baz=254,slow=74,SNR=329
PLCA Paso Flores 31.29 110 LR LR 23 30 22.5
comp=Z,802nm,20.2s,baz=266,slow=30
LCO Las Campanas 34.17 89 PFAKE 23 21 30.0 +10
LCO LR LR
comp=Z,3μm,21.0s
CFAA Coronel Fontan 35.19 94 P P 23 21 30.6 +1.7
comp=Z,0.2nm,0.7s,baz=250,slow=6.2,SNR=3.0
MEH Mehetia 37.94 289 eT T 00 01 32.9
comp=Z,30nm,0.2s
TRQA Tornquist 38.28 107 PFAKE 23 22 10.0 +15
TRQA LR LR
comp=Z,900nm,18.1s
LVC Limon Verde 38.53 80 eP P 23 21 56.7 -1.0
comp=Z,44nm,1.9s
LVC LR LR
comp=Z,4μm,22.0s
TVO Taravao 38.89 288 eT T 00 02 45.8
comp=Z,1.3nm,0.3s
NNA Nana 39.04 60 P P 23 22 01.5 -0.3
comp=Z,8.0nm,0.7s,baz=214,slow=3.6,SNR=4.7
NNA LR LR 23 34 04.0
comp=Z,3μm,19.4s,baz=232,slow=30
NNA Nana 39.04 60 eP P 23 22 00.9 -0.9
comp=Z,57nm,1.4s
PMSA Palmer Station 39.21 151 PFAKE 23 22 10.0 +7.5
PMSA LR LR
comp=Z,1μm,20.0s
PPT2 Papeete2 39.26 288 eLQ LQ 23 30 57.3
comp=Z,3μm,28.2s
PPT2 eLR LR 23 32 42.3
comp=Z,747nm,23.5s,baz=122
PPT Papeete 39.27 288 LR LR 23 33 44.9
comp=Z,540nm,21.2s,baz=136,slow=29
PMOR Pomariorio Ree 39.59 293 eT T 00 03 37.7
comp=Z,21nm,0.2s
PAYG Puerto Ayora 40.49 32 PFAKE 23 22 30.0 +16
PAYG LR LR
comp=Z,2μm,20.0s
ATAH Atahualpa 41.56 53 P P 23 22 24.4 +1.3
comp=Z,17nm,0.9s,baz=199,slow=5.8,SNR=14
ATAH LR LR 23 35 37.1
comp=Z,2μm,18.7s,baz=246,slow=30
LPAZ La Paz 42.66 73 P P 23 22 33.6 +1.3
comp=Z,2.6nm,0.9s,baz=238,slow=9.0,SNR=9.1
LPAZ LR LR 23 36 26.4
comp=Z,752nm,21.6s,baz=225,slow=31
OTAV Otavalo 47.31 46 eP P 23 23 07.4 -1.7
comp=Z,25nm,1.4s
OTAV LR LR
comp=Z,800nm,22.0s
SIV San Ignacio 48.33 78 P P 23 23 17.5 +0.9
comp=Z,1.1nm,0.6s,baz=250,slow=11,SNR=3.9
SAML Samuel 50.99 69 eP P 23 23 36.4 -0.4
comp=Z,12nm,1.5s
SAML LR LR
comp=Z,900nm,20.0s
JTS JuntasAbangare 52.61 32 P P 23 23 50.4 +1.6
comp=Z,14nm,1.0s,baz=213,slow=4.5,SNR=5.8
JTS JuntasAbangare 52.61 32 eP P 23 23 49.9 +1.1
comp=Z,63nm,1.4s
JTS LR LR
comp=Z,3μm,21.0s
ROSC El Rosal 53.44 47 P P 23 23 57.9 +2.4
comp=Z,17nm,0.9s,baz=94,slow=6.6,SNR=12
QSPA South Pole Qui 53.48 180 P P 23 23 56.7 +1.9
comp=Z,7.7nm,1.0s,baz=105,slow=3.5,SNR=15
VNDA Vanda 53.95 196 LR LR 23 41 43.1
comp=Z,1μm,21.5s,baz=93,slow=30
BCIP Isla Barro Col 54.01 39 PFAKE 23 24 10.0 +11
BCIP LR LR
comp=Z,2μm,19.0s
URZ Urewera 55.99 245 PFAKE 23 24 20.0 +6.7
URZ LR LR
comp=Z,2μm,22.0s
BKZ Black Stump Fm 56.09 244 PFAKE 23 24 30.0 +16
BKZ LR LR
comp=Z,2μm,20.0s
SNZO South Karori 56.56 241 PFAKE 23 24 30.0 +13
SNZO LR LR
comp=Z,2μm,20.0s
KHZ Kahutara 56.96 239 PFAKE 23 24 30.0 +10
KHZ LR LR
comp=Z,2μm,18.9s
PTGA Pitinga 58.84 65 PFAKE 23 24 50.0 +16
PTGA LR LR
comp=Z,3μm,20.0s
SDV Santo Domingo 58.85 48 eP P 23 24 32.0 -1.8
comp=Z,13nm,1.1s
SDV LR LR
comp=Z,1μm,19.0s
BDFB Brasilia 58.92 87 LR LR 23 47 17.4
comp=Z,1μm,20.3s,baz=235,slow=33
VNA3 Neumayer Olymp 59.05 158 P P 23 24 34.6 +0.2
VNA1 Neumayer--Stat 59.72 158 P P 23 24 40.5 +1.6
OUZ Omahuta 59.81 247 PFAKE 23 24 50.0 +10
OUZ LR LR
comp=Z,2μm,22.0s
TEIG Tepich 60.43 24 PFAKE 23 25 00.0 +16
TEIG LR LR
comp=Z,1μm,21.9s
SNAA Sanae 60.83 160 P P 23 24 47.8 +1.2
SNAA Sanae 60.83 160 P P 23 24 46.7 +0.1
comp=Z,3.1nm,0.9s,baz=236,slow=6.0,SNR=7.2
SNAA Sanae 60.83 160 eP P 23 24 45.9 -0.7
comp=Z,9.4nm,1.0s
SNAA LR LR
comp=Z,1μm,18.1s
MTDJ Mount Denham 62.93 36 PFAKE 23 25 10.0 +8.6
MTDJ LR LR
comp=Z,1μm,19.1s
035Z Hargill 63.95 12 ⇑P P 23 25 10.0 +2.2
baz=64
034A Hebbronville 64.43 12 ⇑P P 23 25 12.3 +1.3
baz=65
933A Laredo 64.88 11 ⇑P P 23 25 15.6 +1.7
baz=65,SNR=6.5
934A Benavides 64.98 12 ⇓P P 23 25 16.5 +1.9
baz=65
834A Tilden 65.49 12 ⇑P P 23 25 19.6 +1.7
baz=66,SNR=6.1
833A Chaparral WMA, 65.56 11 ⇓P P 23 25 19.3 +1.0
baz=66
733A Divot King Ran 65.96 11 ⇓P P 23 25 23.6 +2.7
baz=66
TXAR Lajitas Array 66.03 7 P P 23 25 22.3 +0.8
comp=Z,1.0nm,0.8s,baz=188,slow=8.6,SNR=10
TXAR LR LR 23 49 26.0
comp=Z,221nm,19.8s,baz=0.0,slow=32
735A Kenedy 66.33 12 ⇑P P 23 25 25.2 +1.9
baz=67
632A Uvalde 66.66 10 ⇑P P 23 25 26.4 +1.0

baz=67,SNR=11
GRGR Grenville 66.92 53 PFAKE 23 25 40.0 +13
GRGR LR LR
comp=Z,700nm,21.0s
636A Smothers Creek 67.07 13 ⇑P P 23 25 29.9 +1.9
baz=68
530A J-C Ranch, Com 67.09 9 ⇓P P 23 25 29.0 +0.8
baz=68,SNR=11
531A Rocksprings 67.20 9 ⇓P P 23 25 29.3 +0.4
baz=68
534A Blanco 67.37 11 ⇓P P 23 25 30.5 +0.6
baz=68
429A Davenport Ranc 67.49 8 ⇑P P 23 25 32.0 +1.2
baz=68
JCT Junction City 67.61 10 eP P 23 25 31.8 +0.4
comp=Z,77nm,1.8s
JCT Junction City 67.61 10 ⇑P P 23 25 32.2 +0.7
baz=68
431A Sonora 67.70 9 ⇑P P 23 25 32.5 +0.5
baz=68,SNR=7.1
430A Baggett Ranch, 67.73 9 ⇑P P 23 25 32.8 +0.5
baz=68
HKT Hockley 67.75 14 eP P 23 25 32.3 +0.1
comp=Z,46nm,1.9s
319A Douglas 67.76 1 ⇑P P 23 25 33.8 +1.3
baz=68
537A Green Hill Far 67.79 13 P P 23 25 33.5 +1.0
baz=68
433A Art 67.99 11 ⇓P P 23 25 34.2 +0.4
baz=68,SNR=7.9
432A Menard 68.00 10 P P 23 25 34.2 +0.3
baz=68
434A Burnet 68.17 11 ⇑P P 23 25 35.4 +0.4
baz=69,SNR=5.5
MNTX Cornudas Mount 68.24 5 eP P 23 25 35.0 -0.4
comp=Z,18nm,1.6s
435B Jarrell 68.25 12 ⇑P P 23 25 36.0 +0.6
baz=69
329A Wagon Wheel Ra 68.33 8 ⇓P P 23 25 36.5 +0.5
baz=69
331A San Angelo 68.34 9 P P 23 25 36.2 +0.1
baz=69
330A Mertzon 68.35 9 P P 23 25 36.2 +0.1
baz=69
214A Organ Pipe Nat 68.36 358 ⇓P P 23 25 36.9 +0.7
baz=69
332A Millersview 68.51 10 ⇑P P 23 25 39.9 +2.9
baz=69,SNR=7.1
333A Richland Sprin 68.56 11 ⇓P P 23 25 39.9 +2.5
baz=69
334A Lometa 68.68 11 ⇓P P 23 25 39.6 +1.5
baz=69
225A Deer Hill, Car 68.69 5 ⇓P P 23 25 39.8 +1.4
baz=69
226B Tecolote Peak, 68.71 6 ⇑P P 23 25 39.6 +1.2
baz=69
121A Cookes Peak, D 68.95 3 ⇑P P 23 25 42.6 +2.6
baz=69
232A Coleman 69.02 10 ⇓P P 23 25 41.3 +1.0
baz=69
125A Gardner Draw, 69.25 5 ⇓P P 23 25 41.9 +0.2
baz=70,SNR=5.7
233A Rising Star 69.26 11 ⇑P P 23 25 42.3 +0.6
baz=70
BAR Barrett 69.28 355 eP P 23 25 42.3 +0.4
comp=Z,26nm,0.3s
234A Clairette 69.36 11 ⇓P P 23 25 43.2 +0.9
baz=70
127A Arkansas Junct 69.37 6 ⇓P P 23 25 43.4 +0.9
baz=70
128A Castleberry Fa 69.40 7 ⇑P P 23 25 42.3 -0.3
baz=70
WHTX Lake Whitney 69.45 12 eP P 23 25 42.8 -0.1
comp=Z,79nm,1.8s
GLA Glamis 69.53 356 eP P 23 25 44.0 +0.5
comp=Z,72nm,2.3s
130A Snyder 69.55 9 ⇓P P 23 25 44.4 +0.9
baz=70
131A Roby 69.70 9 ⇓P P 23 25 45.3 +0.9
baz=70
Z22A Elephant Butte 69.70 3 ⇑P P 23 25 45.4 +0.8
baz=70,SNR=6.8
NATX Nacogdoches 69.74 14 eP P 23 25 45.1 +0.4
comp=Z,135nm,1.6s
ABTX Abilene, Hawle 69.75 10 eP P 23 25 44.5 -0.2
comp=Z,58nm,2.0s
ABTX Abilene, Hawle 69.75 10 ⇑P P 23 25 47.0 +2.3
baz=70
133A Hamilton Ranch 69.83 10 ⇓P P 23 25 46.5 +1.3
baz=70
Z25A Roswell 69.86 5 ⇑P P 23 25 47.3 +1.7
baz=70
Z24A Sheeppen Canyo 69.87 5 ⇓P P 23 25 46.8 +1.2
baz=70
Z26A Caprock 69.91 6 ⇓P P 23 25 46.2 +0.4
baz=70
134A White-Moore Ra 69.92 11 ⇑P P 23 25 46.6 +0.8
baz=70
135A Vickery Place, 70.02 12 ⇓P P 23 25 47.3 +1.0
baz=70
Z27A Tatum 70.02 7 ⇑P P 23 25 47.1 +0.6
baz=70,SNR=8.2
DWPF Disney 70.08 27 eP P 23 25 47.2 +0.5
comp=Z,0.4nm,1.0s
SABA Saba 70.11 48 PFAKE 23 26 00.0 +13
SABA LR LR
comp=Z,1µm,19.6s
Z29A Hungry Hill Ra 70.12 8 ⇓P P 23 25 48.5 +1.4
baz=70
BC3 Big Chuckawall 70.17 356 ⇑P P 23 25 48.9 +1.5
baz=71,SNR=5.9
PFO Pinyon Flat Ob 70.19 355 eP P 23 25 47.2 -0.3
comp=Z,14nm,0.8s
Z30A Sanderson Ranc 70.21 8 ⇑P P 23 25 49.2 +1.6
baz=71
Y12C Blythe 70.21 357 ⇓P P 23 25 48.5 +1.0
baz=71
Y14A Wickenburg 70.34 358 ⇓P P 23 25 49.7 +1.3
baz=71
Z31A Sharp Cattle R 70.36 9 ⇑P P 23 25 49.7 +1.2
baz=71
Y23A Lovelace Mesa, 70.42 4 ⇑P P 23 25 50.6 +1.5
baz=71,SNR=5.3
Z32A Haskell 70.44 10 ⇑P P 23 25 49.3 +0.4
baz=71
Y24A Capitan 70.45 5 ⇓P P 23 25 50.5 +1.2
baz=71
Z33A Whitaker Ranch 70.52 10 ⇑P P 23 25 50.0 +0.5
baz=71
Y27A Causey 70.59 7 ⇓P P 23 25 50.6 +0.6
baz=71,SNR=5.8
LENM Lemitar 70.61 3 eP P 23 25 50.7 +0.5
IRM Iron Mountain 70.65 356 ⇓P P 23 25 51.9 +1.7
baz=71
Y28A McKinney Farm, 70.70 7 ⇓P P 23 25 51.1 +0.5
baz=71
MSTX Muleshoe 70.71 7 eP P 23 25 50.8 +0.1
comp=Z,36nm,1.4s
MSTX Muleshoe 70.71 7 ⇓P P 23 25 51.6 +0.9
baz=71
Y29A Porterfield Fa 70.72 8 ⇑P P 23 25 52.4 +1.7
baz=71
PDMCI Parker Dam,Lak 70.74 357 ⇓P P 23 25 52.7 +1.9
baz=71
X16A Lo Mia Camp, P 70.79 359 ⇓P P 23 25 52.8 +1.5
baz=71
LAZ Ladron 70.84 3 eP P 23 25 52.8 +1.2
X18A Snowflake 70.89 1 ⇑P P 23 25 53.4 +1.5
baz=71
MWC Mount Wilson 70.93 353 eP P 23 25 53.8 +1.7
comp=Z,23nm,0.4s
Y31A Rekieta Farm, 70.98 9 ⇑P P 23 25 53.4 +1.1
baz=71,SNR=7.5
X25A Clemmons Ranch 71.10 5 ⇓P P 23 25 54.3 +1.1
baz=72
Y32A R-V Farms, Ver 71.13 10 ⇑P P 23 25 54.3 +1.2
baz=72
X26A CR and CF Fran 71.19 6 ⇑P P 23 25 55.4 +1.7
baz=72
Y33A Hilltop Ranch, 71.25 10 ⇑P P 23 25 56.7 +2.8
baz=72
X29A Tulia 71.29 8 ⇑P P 23 25 55.3 +1.1
baz=72
GMRC Granite Mounta 71.30 356 ⇓P P 23 25 55.9 +1.6
baz=72
HEC Hector,Ludlow 71.39 355 ⇑P P 23 25 56.0 +1.2
baz=72
ANMO Albuquerque 71.41 4 eP P 23 25 55.7 +0.6
comp=Z,70nm,2.5s
W18A Petrified Fore 71.48 1 eP P 23 25 56.2 +0.7
comp=Z,7.4nm,0.8s
X32A Elmer 71.56 10 ⇓P P 23 25 56.8 +1.0
baz=72
LDFC Landfair 71.56 356 eP P 23 25 57.1 +1.2
comp=Z,111nm,1.9s
X31A McDonald Ranch 71.68 9 ⇓P P 23 25 57.4 +1.0
baz=72
AMTX Amarillo 71.73 8 eP P 23 25 57.6 +0.8
comp=Z,66nm,1.9s
AMTX Amarillo 71.73 8 ⇓P P 23 25 58.6 +1.8
baz=72
DZM Mont Dzumac 71.73 256 eS S 23 35 22.0 +4.3
comp=Z,406nm,25.1s
DZM Mont Dzumac 71.73 256 eLR LR 23 48 04.4
comp=Z,2µm,23.4s
W26A Owens Ranch, T 71.73 6 ⇓P P 23 25 58.2 +1.3
baz=72
W24A Lazy 6 Ranch, 71.73 4 ⇓P P 23 25 57.8 +0.8
baz=72,SNR=8.7
W27A Bowe Ranch, En 71.77 6 ⇑P P 23 25 58.1 +1.0
baz=72
W25A X Bar L Ranch, 71.81 5 ⇓P P 23 25 58.3 +1.0
baz=72
WUAZ Wupatki 71.88 359 eP P 23 25 58.7 +0.9
comp=Z,25nm,1.8s
WUAZ Wupatki 71.88 359 ⇑P P 23 25 59.4 +1.6
baz=72
GSC Goldstone 71.90 355 eP P 23 25 58.7 +0.9
comp=Z,25nm,0.3s
GSC Goldstone 71.90 355 ⇓P P 23 25 59.4 +1.6
baz=72
TUQ Turquoise Moun 71.97 355 ⇓P P 23 25 60.0 +1.7
baz=72
V23A Ortiz Mt. (NFS 72.22 4 ⇑P P 23 26 01.8 +1.9
baz=73
V22A San Miguel Ran 72.35 3 ⇑P P 23 26 01.8 +1.1
baz=73
W33A Caddo, Fort Co 72.40 10 ⇑P P 23 26 02.4 +1.7
baz=73
ISA Isabella 72.40 353 eP P 23 26 01.5 +0.7
comp=Z,44nm,1.9s
ISA Isabella 72.40 353 ⇓P P 23 26 02.0 +1.2
baz=73
V25A Rancho No Teng 72.41 5 ⇓P P 23 26 01.8 +0.8
baz=73
V26A Tequesquite Ra 72.43 6 ⇑P P 23 26 00.6 -0.5
baz=73
W34A Bridge Creek, 72.58 11 eP P 23 26 01.2 -0.7
comp=Z,69nm,1.6s
W34A Bridge Creek, 72.58 11 ⇓P P 23 26 03.4 +1.5
baz=73
U23A El Rito 72.80 4 ⇑P P 23 26 05.0 +1.6
baz=73,SNR=8.9
U15A North Rim 72.81 359 ⇓P P 23 26 04.6 +1.1
baz=73
U22A Llaves 72.82 3 ⇑P P 23 26 04.5 +1.0
baz=73
V31A Spring Creek L 72.82 9 ⇑P P 23 26 05.4 +2.1
baz=73
U25A Circle Dot Ran 72.98 5 ⇑P P 23 26 05.6 +1.2
baz=73
SHPR Sheep Range 72.99 356 eP P 23 26 05.0 +0.6
U26A Atchley Ranch, 73.03 6 ⇓P P 23 26 05.5 +0.8
baz=74
V33A Lossen Ranch, 73.08 10 ⇑P P 23 26 05.6 +0.8
baz=74
V34A Guthrie 73.21 11 eP P 23 26 05.1 -0.4
comp=Z,189nm,2.3s
V34A Guthrie 73.21 11 ⇑P P 23 26 06.2 +0.7
baz=74
KNB Kanab 73.41 358 eP P 23 26 07.5 +0.7
comp=Z,102nm,2.7s
TUL1 Tulsa 73.56 12 eP P 23 26 07.2 -0.4
comp=Z,41nm,1.5s
TUL1 Tulsa 73.56 12 ⇓P P 23 26 07.9 +0.2
baz=74
T24B San Luis 73.58 4 ⇑P P 23 26 09.4 +1.3
baz=74
MVCO Mesa Verde 73.59 2 eP P 23 26 08.2 +0.2
comp=Z,85nm,2.1s
MVCO Mesa Verde 73.59 2 ⇓P P 23 26 08.3 +0.2
baz=74
T25A Trinidad 73.72 5 ⇑P P 23 26 10.3 +1.5
baz=74
TAU Tasmania Unive 73.73 228 PFAKE 23 26 20.0 +11
TAU LR LR
comp=Z,1µm,18.0s
T26A Comanche Natio 73.82 6 ⇓P P 23 26 10.2 +0.8
baz=74,SNR=5.2
T28A Walsh 73.90 7 ⇓P P 23 26 10.8 +1.1
baz=74
CCUT Cedar City 73.95 358 eP P 23 26 10.8 +0.7
comp=Z,13nm,1.3s
T31A Randall Ranch, 74.15 9 ⇓P P 23 26 12.4 +1.4
baz=75
S24A Houchin Ranch, 74.16 4 ⇓P P 23 26 12.9 +1.4
baz=75
S22A 4UR Ranch, Cre 74.18 3 ⇑P P 23 26 12.8 +1.2
baz=75
ARUT Antelope Range 74.19 358 eP P 23 26 11.8 +0.4
SDCO Great Sand Dun 74.25 4 eP P 23 26 12.1 +0.1
comp=Z,32nm,1.8s
S28A Manter 74.38 7 ⇑P P 23 26 13.3 +0.8
baz=75
PV05 Paradox Valley 74.45 1 eP P 23 26 11.9 -1.1
S29A Ulysses 74.49 8 ⇓P P 23 26 15.7 +2.6
baz=75
PV01 Paradox Valley 74.51 2 eP P 23 26 12.6 -0.8
S30A Montezuma 74.59 8 ⇓P P 23 26 15.1 +1.4
baz=75
R23A Moffat 74.68 4 ⇓P P 23 26 14.9 +0.4
baz=75
S31A Mullinville 74.69 9 ⇓P P 23 26 15.6 +1.4
baz=75
TPH Tonopah 74.69 355 eP P 23 26 15.0 +0.7
comp=Z,56nm,2.1s
R25A Fountain Ranch 74.73 5 ⇑P P 23 26 15.8 +1.3
baz=75
PV10 Paradox Valley 74.75 1 eP P 23 26 15.3 +0.5
R24A Sanders Place, 74.76 4 ⇓P P 23 26 16.5 +1.7
baz=75
PV04 Paradox Valley 74.77 1 eP P 23 26 14.9 +0.1
R11A Troy Canyon, C 74.85 356 eP P 23 26 16.0 +0.7
comp=Z,39nm,2.0s
R11A Troy Canyon, C 74.85 356 ⇑P P 23 26 16.5 +1.2
baz=75,SNR=5.8
MVU Marysvale 74.88 359 eP P 23 26 16.5 +1.0
comp=Z,34nm,2.1s
CMB Columbia Colle 74.94 352 eP P 23 26 15.1 -0.5
comp=Z,39nm,2.0s
R26A Arlington 74.95 6 ⇓P P 23 26 16.8 +1.0
baz=75
R27A Eads 74.99 6 ⇓P P 23 26 16.8 +0.8
baz=75
NVAR Mina Array Bea 75.13 354 P P 23 26 18.1 +1.1
comp=Z,2.7nm,0.9s,baz=188,slow=6.6,SNR=11
NVAR LR LR 23 52 32.5
comp=Z,424nm,19.2s,baz=186,slow=30
WAKR Walker 75.31 353 eP P 23 26 19.1 +1.2
PVMO Portageville 75.31 17 PFAKE 23 26 30.0 +12
PVMO LR LR
comp=Z,1µm,18.5s
SRU San Rafael 75.47 0 eP P 23 26 18.3 -0.5
comp=Z,25nm,1.6s
SMCO Snowmass 75.61 3 eP P 23 26 19.5 -0.4
comp=Z,53nm,2.2s
TMUT Trail Mountain 75.65 359 eP P 23 26 18.6 -1.4
comp=Z,23nm,1.2s
KSCO Kaye Shedlock' 75.72 6 eP P 23 26 21.2 +0.9
comp=Z,69nm,1.8s
P23A Jefferson 75.85 4 ⇑P P 23 26 23.4 +2.1
baz=76
P22A Eagle 76.03 3 ⇓P P 23 26 24.1 +2.0
baz=76
NLU North Lily Min 76.32 359 eP P 23 26 24.1 +0.3
comp=Z,59nm,2.4s
MPU Maple Canyon 76.38 359 eP P 23 26 24.1 0.0
comp=Z,118nm,2.8s
KMSC Kings Mountain 76.51 24 ⇑P P 23 26 25.5 +0.9
baz=77
DUG Dugway 76.58 358 eP P 23 26 24.2 -0.9
comp=Z,25nm,1.8s
JLU Jordanelle 76.96 359 eP P 23 26 26.8 -0.6
comp=Z,30nm,1.7s
BMN Battle Mountai 77.03 355 eP P 23 26 27.6 0.0
comp=Z,27nm,1.6s
ELK Elko 77.22 356 eP P 23 26 28.5 -0.3
comp=Z,42nm,2.3s
USIN University of 77.28 18 eP P 23 26 28.6 -0.3
comp=Z,108nm,1.9s
RWWY Rawlins 78.10 3 PFAKE 23 26 50.0 +16
RWWY LR LR
comp=Z,1µm,20.1s
ARMA Armidale 78.12 241 PFAKE 23 26 50.0 +16
ARMA LR LR
comp=Z,700nm,19.9s
MOD Modoc 78.76 353 eP P 23 26 37.8 +0.6
comp=Z,79nm,2.3s
PDAR Pinedale Array 79.12 1 P P 23 26 39.4 +0.1
comp=Z,3.3nm,0.9s,baz=181,slow=5.4,SNR=5.4
WVOR Wild Horse Val 79.13 354 eP P 23 26 39.7 +0.5
comp=Z,65nm,2.2s
K05A Summer Lake 79.64 352 eP P 23 26 42.3 +0.2
comp=Z,126nm,2.0s
HLID Hailey 79.99 357 eP P 23 26 43.2 -0.7
comp=Z,13nm,1.4s
YNR Norris Junctio 81.07 360 PFAKE 23 27 00.0 +10
YNR LR LR
comp=Z,1µm,18.8s
ECSD EROS Data Cent 81.08 10 eP P 23 26 49.4 -0.2
comp=Z,292nm,2.9s
MCMT McKenzie Canyo 81.20 358 eP P 23 26 50.2 -0.3
EIDS Eidsvold 81.48 245 PFAKE 23 27 00.0 +7.6
EIDS LR LR
comp=Z,900nm,19.6s
E07A Sunnyside 83.33 354 eP P 23 27 00.8 -0.5
comp=Z,224nm,3.0s
SLMT Seeley Lake 83.63 358 eP P 23 27 03.2 +0.1
SWMT Swartz Lake 83.92 358 eP P 23 27 03.3 -1.2
STKA Stephens Creek 84.05 235 LR LR 23 58 27.2
comp=Z,908nm,19.5s,baz=160,slow=31
CPNY Central Park 84.14 27 PFAKE 23 27 20.0 +14
CPNY LR LR
comp=Z,2µm,20.4s
JTMT Jette 84.16 357 eP P 23 27 05.8 +0.1
YBMT Yellow Bay 84.27 358 eP P 23 27 06.2 0.0
BSMT Bassoo Peak 84.29 357 eP P 23 27 06.1 -0.3
EGMT Eagleton 84.38 1 eP P 23 27 05.7 -1.0
comp=Z,183nm,2.8s
BBOO Buckleboo 86.98 231 PFAKE 23 27 30.0 +10
BBOO LR LR
comp=Z,6µm,21.0s
HNH Hanover 87.28 27 PFAKE 23 27 30.0 +8.9
HNH LR LR
comp=Z,2µm,20.9s
ULM Lac du Bonnet 87.57 9 P P 23 27 23.4 +1.0
comp=Z,1.8nm,0.8s,baz=225,slow=1.4,SNR=2.6
ULM LR LR 00 03 40.2
comp=Z,151nm,18.0s,baz=171,slow=34
FRNY Flat Rock 87.81 25 PFAKE 23 27 30.0 +6.4
FRNY LR LR
comp=Z,1µm,21.9s
CTAO Charters Tower 88.21 246 PFAKE 23 27 40.0 +14
CTAO LR LR
comp=Z,900nm,20.0s
BBB Bella Bella 89.86 349 LR LR 23 59 21.0
comp=Z,354nm,18.8s,baz=186,slow=30
FORT Forrest 93.25 227 PFAKE 23 28 00.0 +10
FORT LR LR
comp=Z,1µm,21.4s
COEN Coen 94.33 249 PFAKE 23 28 10.0 +15
COEN LR LR
comp=Z,4µm,18.1s
ASAR Alice Springs 94.57 236 P P 23 27 54.0 -1.9
comp=Z,1.0nm,1.1s,baz=120,slow=3.7,SNR=5.5
ASAR LR LR 00 06 43.8
comp=Z,922nm,18.1s,baz=145,slow=33
H11S2 WAKE ISLAND Hy 95.23 289 T T 01 13 32.2
baz=130,slow=74,SNR=30
H11S1 WAKE ISLAND Hy 95.24 289 T T 01 13 34.2
baz=130,slow=74,SNR=28
H11S3 WAKE ISLAND Hy 95.25 289 T T 01 13 27.6
baz=130,slow=74,SNR=22
H11N3 WAKE ISLAND Hy 95.81 290 T T 01 14 14.1
baz=131,slow=77,SNR=5.2
H11N1 WAKE ISLAND Hy 95.82 290 T T 01 14 12.8
baz=131,slow=77,SNR=8.9
H11N2 WAKE ISLAND Hy 95.82 290 T T 01 14 13.6
baz=131,slow=77,SNR=4.5
DLBC Dease Lake 96.20 350 LR LR 00 04 36.3
comp=Z,391nm,18.0s,baz=171,slow=31
WRAB Tennant Creek 96.81 239 PFAKE 23 28 20.0 +14
WRAB LR LR
comp=Z,1µm,18.0s
WRA Warramunga Arr 96.81 239 LR LR 00 08 12.2
comp=Z,919nm,18.2s,baz=140,slow=33
H01W1 Cape Leeuwin H 97.48 216 T T 01 17 05.4
baz=148
H01W2 Cape Leeuwin H 97.48 216 T T 01 17 04.9
baz=148
H01W3 Cape Leeuwin H 97.49 216 T T 01 17 09.2
baz=148
SCHQ Schefferville 98.62 24 LR LR 00 07 12.9
comp=Z,612nm,19.5s,baz=246,slow=32
DIV Divide 101.65 343 PFAKE 23 28 40.0 +13
DIV LR LR
comp=Z,800nm,18.3s
SML Sawmill 102.85 343 PFAKE 23 28 40.0 +8.1
SML LR LR
comp=Z,200nm,21.6s
MBWA Marble Bar 105.39 228 PFAKE 23 33 10.0
MBWA LR LR
comp=Z,700nm,18.0s
TSUM Tsumeb 105.93 129 ePKiKP PKiKP 23 32 56.4 -3.0
SAUI Saumlaki 107.04 246 PFAKE 23 33 10.0
SAUI LR LR
comp=Z,1µm,18.0s
SOEI Soe 110.84 240 PFAKE 23 33 20.0
SOEI LR LR
comp=Z,2µm,21.0s
MMRI Maumere 113.04 239 PFAKE 23 33 20.0
MMRI LR LR
comp=Z,400nm,21.0s
KAPI Kappang 117.34 240 PFAKE 23 33 30.0 +9.1
KAPI LR LR
comp=Z,500nm,20.0s
TOLI Toli-Toli 120.87 245 PFAKE 23 33 40.0 +12
TOLI LR LR
comp=Z,300nm,20.0s
CISI Cisompet, Garu 123.13 227 PFAKE 23 33 40.0 +7.8
CISI LR LR
comp=Z,400nm,20.0s
KKM Kota Kinabalu 127.54 246 PFAKE 23 33 50.0 +9.4
KKM LR LR
comp=Z,200nm,21.0s
KSM Kuching 128.50 237 PFAKE 23 33 50.0 +7.7
KSM LR LR
comp=Z,400nm,20.0s
PMBI Palembang 128.63 228 PFAKE 23 33 50.0 +7.4
PMBI LR LR
comp=Z,400nm,20.0s
KMBO Kilima Mbogo 131.93 134 PFAKE 23 34 00.0 +11
KMBO LR LR
comp=Z,400nm,19.0s
IPM Ipoh 136.75 230 PFAKE 23 34 10.0 +12
IPM LR LR
comp=Z,300nm,22.0s
KULM Kulim 137.62 230 PFAKE 23 34 10.0 +11
KULM LR LR
comp=Z,200nm,20.0s
TIP Timpagrande 138.88 70 PFAKE 23 34 10.0 +8.9
TIP LR LR
comp=Z,300nm,21.0s
FINES FINESS Array B 143.41 34 PKhKP PKPpre 23 34 03.4
comp=Z,2.1nm,0.9s,baz=197,slow=1.5,SNR=8.8
GVD Gavdhos 143.43 79 PFAKE 23 34 20.0 +11
GVD LR LR
comp=Z,1µm,19.0s
BJI Beijing 143.53 290 PKP PKPdf 23 34 08.4 -0.9
BJI SS SS 23 56 08.0 +4.1
BJI LR LR
comp=Z,230nm,19.0s
BJI LR LR
comp=Z,180nm,21.7s
BJI LR LR
comp=Z,170nm,26.8s
MLR Muntele Rosu 146.44 61 PKPbc PKPab 23 34 16.8 +0.1
comp=Z,0.4nm,0.4s,baz=154,slow=7.2,SNR=4.0
GYA Guiyang 146.85 263 ePKPbc PKPdf 23 34 14.6 -1.1
GYA PP PP 23 37 44.0 +2.0
GYA SKKS 23 44 32.3
GYA SS SS 23 56 42.8 +0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GYA				AMB	AMB		
	comp=Z,120nm,7.9s						
GYA				LR	LR		
	comp=Z,140nm,23.8s						
GYA				LR	LR		
	comp=Z,120nm,24.6s						
GYA				LR	LR		
	comp=Z,150nm,23.4s						
HHC	Hu-ho-hao-te	147.13	290	ePKPbc	PKPdf	23 34 11.6	-4.1
HHC				sPKP		23 34 23.1	
HHC				PP	PP	23 37 44.1	+0.6
HHC				AMB	AMB		
	comp=Z,67nm,11.1s						
HHC				LR	LR		
	comp=Z,270nm,18.5s						
HHC				LR	LR		
	comp=Z,700nm,18.5s						
HHC				LR	LR		
	comp=Z,260nm,17.3s						
XAN	Xi'an	147.84	277	PKPbc	PKPbc	23 34 19.6	-0.3
AKASG	Malin Array Be	148.18	51	PKP	PKPdf	23 34 16.5	-0.4
	comp=Z,1.2nm,0.8s,baz=274,slow=3.4,SNR=8.8						
AKASG				PKPbc	PKPbc	23 34 19.7	-0.5
	comp=Z,1.9nm,0.8s,baz=272,slow=3.5,SNR=9.3						
CMAR	Chiang Mai Arr	148.32	243	PKPbc	PKPbc	23 34 22.2	+0.7
	comp=Z,1.7nm,0.7s,baz=180,slow=2.0,SNR=12						
CHTO	Chiang Mai	148.55	243	ePKPdf	PKPdf	23 34 18.8	+0.2
PALK	Pallekele	148.93	202	PFAKE		23 34 30.0	+2.8
PALK				LR	LR		
	comp=Z,300nm,19.0s						
KMI	Kunming	149.32	257	PKPbc	PKPdf	23 34 20.9	+1.0
KMI				sPKP		23 34 25.4	
KMI				PP	PP	23 38 01.3	+4.8
KMI				SS	SS	23 57 13.8	+3.5
KMI				AMB	AMB		
	comp=Z,100nm,5.2s						
KMI				LR	LR		
	comp=Z,190nm,32.7s						
ULN	Ulaanbaatar	150.31	304	ePKPdf	PKPdf	23 34 19.1	-1.5
SONM	Songino Array	150.75	304	PKPbc	PKPbc	23 34 25.1	-1.8
	comp=Z,2.6nm,1.1s,baz=95,slow=1.8,SNR=16						
CD2	Chengdu	151.00	269	PKPbc	PKPbc	23 34 21.6	-0.5
CD2				pPKP	PKPab	23 34 32.4	-3.0
CD2				PKS	PKSdf	23 37 54.9	-2.0
CD2				PP	PP	23 38 09.5	+3.4
CD2				SKS	SKSdf	23 41 26.5	-3.4
CD2				SKKS	SKKSac	23 44 56.3	-0.4
CD2				SS	SS	23 57 29.5	+0.8
CD2				AMB	AMB		
	comp=Z,120nm,5.3s						
CD2				LR	LR		
	comp=Z,320nm,7.7s						
CD2				LR	LR		
	comp=Z,260nm,5.9s						
OBN	Obninsk	151.05	40	ePKPdf	PKPdf	23 34 19.9	-1.4
TLY	Talaya	151.59	313	ePKPdf	PKPdf	23 34 20.8	-1.5
BRTR	Keskin Array B	151.84	73	PKPbc	PKPbc	23 34 32.3	+2.6
	comp=Z,1.8nm,1.1s,baz=167,slow=2.5,SNR=2.9						
LZH	Lanzhou	152.38	279	ePKPbc	PKPdf	23 34 23.4	-0.8
LZH				pPKP	pPKPdf	23 34 25.5	-2.1
LZH				SKKS		23 45 03.3	
LZH				AMB	AMB		
	comp=Z,200nm,7.9s						
LZH				LR	LR		
	comp=Z,210nm,18.2s						
LZH				LR	LR		
	comp=Z,810nm,19.6s						
LZH				LR	LR		
	comp=Z,290nm,16.4s						
GTA	Gaotai	155.98	286	PKP	PKPdf	23 34 33.1	+4.0
ZALV	Zalesovo Beam	159.74	333	PKPab	PKPab	23 35 12.7	+0.8
	comp=Z,0.5nm,0.5s,baz=23,slow=7.8,SNR=2.8						
AKTO	Aktyubinsk	164.03	27	PKPab	PKPab	23 35 31.1	+0.4
	comp=Z,1.2nm,0.7s,baz=306,slow=7.6,SNR=2.5						
WMQ	Urumqi	164.38	303	ePKP	PKPdf	23 34 34.9	-3.3
WMQ				PKS	PKSdf	23 38 06.5	-4.6
WMQ				PP	PP	23 39 19.5	+0.4
WMQ				LR	LR		
	comp=Z,190nm,22.2s						
WMQ				LR	LR		
	comp=Z,200nm,22.8s						
WMQ				LR	LR		
	comp=Z,370nm,25.0s						
KURK	Kurchatov	164.54	338	ePKPab	PKPab	23 35 32.1	-0.9
KURK				PP	PP	23 39 17.9	-0.9
KURBB	Kurchatov Arra	164.65	338	PKPab	PKPab	23 35 33.6	+0.1
	comp=Z,0.5nm,0.3s,baz=25,slow=3.7,SNR=7.4						
KURBB				PP	PP	23 39 17.9	-1.5
	comp=Z,0.9nm,0.3s,baz=29,slow=7.0,SNR=5.2						
ABKAR	Akbulak array	165.70	26	ePKPab	PKPab	23 35 37.9	-0.2
MKAR	Makanchi Array	166.12	320	PKPab	PKPab	23 35 39.7	-0.5
	comp=Z,0.1nm,0.3s,baz=101,slow=4.6,SNR=4.3						

ISCJB 13 23:17:28.7±0.5, 0.°7N±0.°1×29.°23W±0.°09, h10km, mb4.1/21, MS3.8/3, Error ellipse: s-maj=20.8km s-min=9.5km az=151.0
IDC 13 23:17:29.1±0.8, 0.°74N×29.°26W, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.1/27, mbtmp4.1/17, ML4.3/1, MS3.9/3, Ms1 3.8/3, ms1mx3.3/24, Error ellipse: s-maj=30.0km s-min=14.4km az=147.0
ISC 13 23:17:30.6±0.7, 0.°6N±0.°2×29.°3W±0.°1, h10km, n34, σ1.°13/22, mb4.1/21, MS3.5/3, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	9.21	226	Pn	Pn	23 19 43.0	-0.6
	2.7nm,0.3s,baz=34,slow=17,SNR=27						
RCBR				Sn	Sn	23 21 19.1	-8.4
	0.9nm,0.3s,baz=2.1,slow=9.8,SNR=2.9						
RCBR				LR	LR	23 22 21.1	
	comp=Z,94nm,19.3s,baz=78,slow=31						
H10N3	ASCENSION HYDR	16.93	120	T	T	23 39 03.2	
	baz=299,slow=75,SNR=3604						
H10N2	ASCENSION HYDR	16.93	120	T	T	23 39 03.5	
	baz=299,slow=75,SNR=2777						
H10N1	ASCENSION HYDR	16.95	120	T	T	23 39 04.8	
	baz=299,slow=75,SNR=2522						
H10S3	ASCENSION HYDR	17.35	123	T	T	23 39 35.2	
	baz=303,slow=75,SNR=1695						
H10S1	ASCENSION HYDR	17.36	123	T	T	23 39 36.2	
	baz=303,slow=75,SNR=1975						
H10S2	ASCENSION HYDR	17.37	123	T	T	23 39 35.9	
	baz=303,slow=75,SNR=1581						
BDFB	Brasilia	24.58	228	P	P	23 22 51.6	+0.4
	1.8nm,0.7s,baz=69,slow=7.1,SNR=4.0						
LIC	Lamto	24.81	76	eP	P	23 22 52.8	-0.4
	23nm,1.0s						
TIC	Toumodi	24.90	75	eP	P	23 22 49.3	-4.8
	6.7nm,0.2s						
DBIC	Dimbokro	25.07	76	P	P	23 22 55.5	-0.1
	6.6nm,0.8s,baz=240,slow=12,SNR=8.8						
DBIC				LR	LR	23 31 06.2	
	comp=Z,130nm,18.7s,baz=236,slow=33						
KIC	Kosan Boka	25.11	76	eP	P	23 22 54.6	-1.3
	71nm,1.7s						
TORD	Torodi Ar. Bea	33.09	67	P	P	23 24 06.4	-0.6
	1.4nm,0.8s,baz=259,slow=8.5,SNR=7.1						
TORD				LR	LR	23 35 46.6	
	comp=Z,47nm,19.2s,baz=160,slow=33						
H05S1	Guadeloupe/Mar	34.12	295	T	T	23 59 55.9	
	SNR=114						
H05N1	Guadeloupe/Mar	35.03	298	T	T	00 00 56.6	
	SNR=16						
H09N1	TRISTAN DA CUN	40.63	159	T	T	00 08 46.3	
	SNR=12						
LPAZ	La Paz	41.87	245	P	P	23 25 23.4	+1.3
	2.0nm,0.6s,baz=68,slow=3.0,SNR=6.9						
ROSC	El Rosal	45.22	276	P	P	23 25 49.5	+0.6
	9.3nm,0.6s,baz=94,slow=19,SNR=4.6						
ESDC	Sonseca Array	45.22	28	P	P	23 25 48.2	+0.1
	2.4nm,0.7s,baz=222,slow=8.8,SNR=15						
KEST	Kesra	50.07	41	P	P	23 26 28.6	+2.7
	0.9nm,0.8s,baz=216,slow=2.2,SNR=5.3						
DAVOX	Davos/Dischmat	57.28	31	P	P	23 27 21.2	+2.5
	1.2nm,0.7s,baz=290,slow=12,SNR=2.7						
EKA	Eskdalemuir Ar	58.56	17	P	P	23 27 25.2	-2.0
	0.8nm,0.7s,baz=216,slow=7.1,SNR=4.4						
GERES	GERESS Array B	60.58	31	P	P	23 27 40.5	-1.0
	0.8nm,0.7s,baz=224,slow=5.6,SNR=9.6						
NB2	NORSAR Subarra	67.71	20	P	P	23 28 27.1	-0.9
	comp=Z,0.7nm,0.7s,baz=226,slow=6.5						
NOA	NORSAR Array B	67.71	20	P	P	23 28 27.4	-0.6
	comp=Z,1.4nm,0.8s,baz=222,slow=6.3,SNR=5.7						
HFS	Hagfors	67.96	22	P	P	23 28 28.4	-1.2
	comp=Z,0.5nm,0.5s,baz=193,slow=6.1,SNR=5.4						
BRTR	Keskin Array B	69.02	47	P	P	23 28 36.6	-0.2
	comp=Z,1.4nm,0.8s,baz=249,slow=3.4,SNR=7.4						
AKASG	Malin Array Be	70.09	35	P	P	23 28 42.4	-0.6
	comp=Z,4.8nm,0.8s,baz=245,slow=6.4,SNR=21						
FINES	FINESS Array B	73.60	24	P	P	23 29 03.4	-0.4
	comp=Z,1.7nm,0.7s,baz=190,slow=5.8,SNR=7.1						
ULM	Lac du Bonnet	74.78	322	P	P	23 29 10.2	-0.7
	comp=Z,0.9nm,0.5s,baz=174,slow=10,SNR=2.0						
TXAR	Lajitas Array	76.14	300	P	P	23 29 18.7	-0.7
	comp=Z,0.6nm,0.8s,baz=98,slow=5.6,SNR=4.2						
NVAR	Mina Array Bea	88.89	308	P	P	23 30 25.2	-0.7
	comp=Z,0.2nm,0.4s,baz=91,slow=7.2,SNR=3.1						
INK	Inuvik	94.71	339	LR	LR	00 08 55.9	
	comp=Z,382nm,21.3s,baz=150,slow=33						
ASAR	Alice Springs	151.84	146	PKPbc	PKPbc	23 37 27.1	+0.4
	comp=Z,1.1nm,0.7s,baz=206,slow=2.0,SNR=13						

ISCJB 13 23:19:22.6±0.5, 67.°13N±0.°02×21.°28E±0.°09, h0km, Error ellipse: s-maj=4.9km s-min=3.0km az=13.7
UPP 13 23:19:22.6, 67.°15N×20.°83E, h0km, ML1.7, Mining explosion.
IDC 13 23:19:22.4±1.3, 67.°19N×20.°77E, h0km, mb1 2.8/4, mb1mx2.7/29, mbtmp2.8/4, ML2.1/4, Error ellipse: s-maj=19.2km s-min=10.7km az=105.0
HEL 13 23:19:22.7±0.1, 67.°19N×20.°69E, h0km, ML1.6, ML1.7(UPP), Explosion
CSEM 13 23:19:22.9±0.2, 67.°16N×21.°03E, h2km, ML1.7, Error ellipse: s-maj=6.1km s-min=3.3km az=104.0, Mining explosion.
ISC 13 23:19:21.8±0.8, 67.°16N±0.°02×20.°79E±0.°04, h0km, n44, σ1.°35/68, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HARU	Harads	1.00	176	eP	Pg	23 19 41.0	+0.1
HARU				eS	Sb	23 19 55.5	-0.1
HARU	Harads	1.00	176	P	Pg	23 19 41.0	+0.1
HARU				S	Sb	23 19 55.5	-0.1
HARU	Harads	1.00	176	P	Pg	23 19 41.0	+0.1
HARU				S	Sb	23 19 55.5	-0.1
LANU	Lannavaara	1.01	27	eP	Pg	23 19 40.7	-0.5
LANU				eSB	Sg	23 19 54.5	+0.3
LANU	Lannavaara	1.01	27	P	Pg	23 19 40.6	-0.5
LANU				Sb	Sg	23 19 54.5	+0.3
KALU	Kalix	1.66	140	eP	Pb	23 19 52.9	-0.3
KALU	Kalix	1.66	140	P	Pb	23 19 52.9	-0.3
KALU	Kalix	1.66	140	P	Pb	23 19 52.9	-0.3
HEF	Hetta	1.67	40	eP	Pn	23 19 52.2	0.0
	baz=223						
HEF				eSG	Sn	23 20 13.9	-0.4
HEF				MSG		23 20 13.9	
	comp=Z,2.7nm,0.3s						
HEF	Hetta	1.67	40	P	Pn	23 19 52.2	0.0
HEF				Sg	Sn	23 20 13.9	-0.4
	comp=Z,2.7nm,0.3s						
SJUU	Sjulsmark	1.69	168	eP	Pb	23 19 53.1	-0.5
SJUU	Sjulsmark	1.69	168	P	Pb	23 19 53.1	-0.5
SJUU	Sjulsmark	1.69	168	P	Pb	23 19 53.1	-0.5
KIF	Kilpisjarvi	1.86	0	ePN	Pb	23 19 55.9	-0.6
KIF				MSG	Sb	23 20 20.4	+0.1
	comp=Z,7.3nm,0.3s						
KIF				eSG	Sb	23 20 20.4	+0.1
KIF	Kilpisjarvi	1.86	0	Pn	Pb	23 19 55.9	-0.6
KIF				Sg	Sb	23 20 20.4	+0.1
LILU	Lilltraesk	1.92	192	eP	Pn	23 19 56.5	+0.9
LILU	Lilltraesk	1.92	192	P	Pn	23 19 56.5	+0.9
LILU	Lilltraesk	1.92	192	P	Pn	23 19 56.5	+0.9
SGF	Sodankyl	2.25	80	ePB	Pb	23 20 02.6	-0.6
SGF				MSG	Sb	23 20 32.5	+1.1
	comp=Z,3.2nm,0.2s						
SGF				eSG	Sb	23 20 32.5	+1.1
SGF	Sodankyl	2.25	80	Pb	Pb	23 20 02.6	-0.6
SGF				Sg	Sb	23 20 32.5	+1.1
BURU	Burvik	2.59	174	eP	Pn	23 20 06.5	+1.5
BURU	Burvik	2.59	174	P	Pn	23 20 06.4	+1.5
BURU	Burvik	2.59	174	P	Pn	23 20 06.5	+1.5
SVAU	Svanoeiden	2.72	191	eP	Pn	23 20 08.1	+1.5
SVAU	Svanoeiden	2.72	191	P	Pn	23 20 08.1	+1.5
SVAU	Svanoeiden	2.72	191	P	Pn	23 20 08.1	+1.5
OUL	Oulu	2.94	133	eSG	Sb	23 20 53.7	+2.3
OUL				MSG		23 20 53.7	
	comp=Z,1.0nm,0.3s						
OUL	Oulu	2.94	133	Sg	Sb	23 20 53.7	+2.3
	comp=Z,1.0nm,0.3s						
ARA0	ARCESS Array S	2.96	34	eP	Pn	23 20 10.5	+0.5
ARA0				eS	Sn	23 20 47.7	+1.5
ARA0				MSG		23 20 47.7	
	comp=Z,1.2nm,0.2s						
ARA0	ARCESS Array S	2.96	34	P	Pn	23 20 10.5	+0.5
ARA0				S	Sn	23 20 47.7	+1.5
	comp=Z,1.2nm,0.2s						
ARCES	ARCESS Array B	2.96	34	Pn	Pn	23 20 11.0	+1.0
	comp=Z,0.3nm,0.3s,baz=217,slow=13,SNR=1.5						
ARCES				Sn	Sn	23 20 46.2	0.0
	comp=Z,0.4nm,0.3s,baz=217,slow=24,SNR=1.8						
VRF	Varrio	3.45	76	MSG	Sg	23 21 09.2	-3.3
	comp=Z,0.5nm,0.3s						
VRF				eSG	Sg	23 21 09.2	-3.3
VRF	Varrio	3.45	76	Sg	Sg	23 21 09.2	-3.3
	comp=Z,1.0nm,0.3s						
KEV	Kevo	3.48	38	eP	Pn	23 20 18.3	+1.3
KEV				MSG	Sn	23 20 59.1	+0.3
	comp=Z,1.5nm,0.3s						
KEV				eS	Sn	23 20 59.1	+0.3
KEV	Kevo	3.48	38	P	Pn	23 20 18.3	+1.3
KEV				S	Sn	23 20 59.1	+0.3
	comp=Z,0.5nm,0.3s						
MSF	Maaselka	3.53	107	MSG	Sg	23 21 12.8	-2.3
	comp=Z,1.0nm,0.3s						
MSF				eSG	Sg	23 21 12.8	-2.3
MSF	Maaselka	3.53	107	Sg	Sg	23 21 12.8	-2.3
KU6	Riekki	3.81	103	eSG	Sg	23 21 23.6	-0.3
KU6	Riekki	3.81	103	Sg	Sg	23 21 23.6	-0.3
VAF	Ylistaro	4.21	168	eP	Pn	23 20 28.9	+1.8
VAF				eSG	Sg	23 21 34.0	-2.8
VAF				MSG		23 21 34.0	
	comp=Z,1.1nm,0.3s						
VAF	Ylistaro	4.21	168	P	Pn	23 20 28.9	+1.8
VAF				Sg	Sg	23 21 34.0	-2.8
	comp=Z,1.1nm,0.3s						
FINES	FINESS Array B	6.18	156	Pn	Pn	23 20 55.4	+1.3
	comp=Z,0.1nm,0.3s,baz=348,slow=8.2,SNR=2.0						
FINES				Sn	Sn	23 22 06.8	+1.5
	comp=Z,0.1nm,0.3s,baz=336,slow=19,SNR=2.8						
FINES				Lg	Lg	23 22 37.0	
	comp=Z,0.2nm,0.3s,baz=345,slow=26,SNR=2.4						
NOA	NORSAR Array B	7.42	219	Pn	Pn	23 21 10.3	-0.9
	comp=Z,0.1nm,0.3s,baz=68,slow=16,SNR=2.6						
HFS	Hagfors	7.72	207	Pn	Pn	23 21 14.6	-0.6
	comp=Z,0.1nm,0.3s,baz=27,slow=16,SNR=1.8						

MEX 13 23:52:30.7±0.3, 25.°72N×101.°03W, h20km, MD3.8, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNIG	Linares	1.63	120	eP	Pn	23 52 55.4	-3.0
LNIG				iP	Pn	23 52 55.4	-3.0
	baz=300,slow=18						
LNIG				iS	Sn	23 53 14.6	-4.2
ZAIG	Zacatecas	3.25	206	iP	Pn	23 53 18.5	-2.5
ZAIG				iS	Sn	23 53 56.1	-3.3
HPIG		4.33	287	iP	Pn	23 53 38.7	+2.9
HPIG				eS	Sn	23 54 23.5	-2.5

NNC 13 23:53:21.1±9.8, 36.°78N×70.°27E, h148km±219km, mb2.7, mpv3.5, 4C-1D, Error ellipse: s-maj=96.9km s-min=65.5km az=29.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.32	2	P	Pn	23 54 52.4	+0.4
	1.1nm,0.4s,baz=179,slow=11,SNR=40						
KK31				⇑S	Sn	23 56 03.4	+0.2
	0.5nm,0.4s,baz=80,slow=14,SNR=3.3						
AAK	Ala-Archa	6.69	28	⇑P	Pn	23 54 57.2	0.0
	3.1nm,0.8s						
AAK				⇓S	Sn	23 56 12.8	+0.4
	2.1nm,0.5s						
TKM2	Tokmak 2	7.38	32	⇑P	Pn	23 55 06.0	-0.3
	3.3nm,0.5s						
AB31	Akbulak array	14.56	332	⇑P	Pn	23 56 39.8	-0.2
	0.1nm,0.3s,baz=154,slow=12,SNR=12						

IDC 13 23:55:18.1±1.7, 51.°00N×173.°09W, h0km, mb3.5/8, mb1 3.8/10, mb1mx3.6/31, mbtmp3.5/10, ML3.4/2, MS3.9/3, Ms1 4.0/3, ms1mx3.2/34, Error ellipse: s-maj=47.6km s-min=14.1km az=1.0
ISCJB 13 23:55:20.6±0.8, 51.°0N±0.°1×173.°28W±0.°04, h33km, mb3.5/8, MS4.0/2, Error ellipse: s-maj=14.5km s-min=3.4km az=1.3
NEIC 13 23:55:22.1, 50.°99N×173.°31W, h28km, ML3.4(AEIC), After AEIC.
ISC 13 23:55:22.7±1.2, 51.°0N±0.°2×173.°31W±0.°04, h35km, n30, σ1.°12/38, mb3.5/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	Great Sitkin M	2.00	302	P	Pn	23 55 53.4	-0.5
GSCK	Great Sitkin C	2.04	301	P	Pn	23 55 53.8	-0.8
GSCK				S	Sn	23 56 18.4	-0.4
GSTD	Great Sitkin T	2.06	302	P	Pn	23 55 54.1	-0.6
GSTD				S	Sn	23 56 19.8	+0.6
ETKA	Kagalaska Isla	2.12	295	P	Pn	23 55 54.7	-0.8
ETKA				S	Sn	23 56 19.5	-1.1
ADAG	Mount Adagdak	2.27	297	P	Pn	23 55 57.9	+0.2
ADAG				S	Sn	23 56 24.8	+0.3
ADK	Adak	2.28	294	P	Pn	23 55 56.1	-1.7
ADK				S	Sn	23 56 23.9	-0.8
KIRH	Kanaga Island	2.53	292	P	Pn	23 56 00.7	-0.5
KINC	Kanaga Island	2.56	293	P	Pn	23 56 00.8	-0.8
KINC				S	Sn	23 56 32.5	+1.1
KIKV	Kanaga Island	2.57	291	P	Pn	23 56 01.2	-0.5
TAFP	Tanaga Falls P	3.06	289	P	Pn	23 56 08.2	-0.2
TAFP				S	Sn	23 56 43.6	-0.1
TASE	Tanaga Southea	3.07	287	P	Pn	23 56 08.6	-0.1
TASE				S	Sn	23 56 44.6	+0.4
NIKH	Nikolski High	3.39	53	P	Pn	23 56 11.8	-1.1
OKSP	Okmok Steeple	3.82	52	P	Pn	23 56 18.8	-0.2
OKFG	Magazine Ridge	4.10	52	P	Pn	23 56 22.9	+0.1
OKFG				S	Sn	23 57 10.2	+0.7
MSOM	Makushin Julie	4.80	52	P	Pn	23 56 32.0	-0.3
MREP	Makushin Rep't	4.90	53	P	Pn	23 56 34.2	+0.4
MTBL	Makushin Table	5.02	51	P	Pn	23 56 35.9	+0.4
UNV	Unalaska Valle	5.04	53	P	Pn	23 56 35.5	-0.1
FX1	Attu Island--F	8.56	288	Pn	Pn	23 57 24.9	+0.8
	0.6nm,0.3s,baz=88,slow=1.2,SNR=11						
FX1				Sn	Sn	23 58 55.0	-4.2
	0.4nm,0.3s,baz=220,slow=16,SNR=2.0						
ILAR	Eielson Array	19.47	35	P	P	23 59 44.4	-1.7
	0.2nm,0.3s,baz=227,slow=11,SNR=16						
ILAR				LR	LR	00 07 32.7	
	comp=Z,253nm,18.1s,baz=132,slow=38						
DLBC	Dease Lake	25.69	56	P	P	00 00 49.3	+0.2
	1.3nm,0.6s,baz=202,slow=5.4,SNR=3.0						
INK	Inuvik	25.83	33	P	P	00 00 49.9	-0.4
	0.8nm,0.5s,baz=246,slow=8.5,SNR=8.5						
YKA	Yellowknife Ar	32.98	47	P	P	00 01 54.2	+0.6
	0.2nm,0.4s,baz=274,slow=8.9,SNR=5.4						
NVAR	Mina Array Bea	40.15	86	P	P	00 02 55.5	+0.1
	0.2nm,0.5s,baz=298,slow=3.2,SNR=3.8						
SONM	Songino Array	49.86	300	P	P	00 04 14.7	+2.4
	0.3nm,0.6s,baz=55,slow=7.3,SNR=5.4						
TXAR	Lajitas Array	55.27	85	P	P	00 04 51.1	-1.4
	0.5nm,0.7s,baz=302,slow=2.8,SNR=5.3						
ARCES	ARCESS Array B	58.98	352	LR	LR	00 33 33.1	
	comp=Z,136nm,20.3s,baz=298,slow=39						
MKAR	Makanchi Array	62.91	312	P	P	00 05 44.6	-0.5
	0.1nm,0.3s,baz=41,slow=7.4,SNR=5						
FINES	FINESS Array B	66.83	350	P	P	00 06 11.6	+1.3
	1.2nm,0.9s,baz=355,slow=14,SNR=2.8						
JTS	JuntasAbangare	81.06	85	LR	LR	00 43 27.2	
	comp=Z,65nm,19.2s,baz=88,slow=36						

IDC 14 00:15:16.7±1.8, 17.°39S×177.°51W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.8/27, mbtmp4.0/5, Error ellipse: s-maj=103.3km s-min=25.0km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.63	241	P	P	00 22 50.5	+0.2
	1.2nm,0.3s,baz=261,slow=10,SNR=9.0						
WRA	Warramunga Arr	45.57	259	P	P	00 23 38.9	0.0
	1.7nm,0.4s,baz=98,slow=7.4,SNR=36						
ASAR	Alice Springs	45.76	254	P	P	00 23 39.8	-0.5
	3.8nm,0.7s,baz=92,slow=7.5,SNR=70						
TXAR	Lajitas Array	85.00	57	P	P	00 27 55.1	+0.6
	0.5nm,0.7s,baz=213,slow=9.0,SNR=4.6						
ILAR	Eielson Array	85.19	13	P	P	00 27 54.0	-0.6
	0.2nm,0.5s,baz=225,slow=5.3,SNR=8.0						

IDC 14 00:16:03.4±8.9, 12.°75N×144.°73E, h0km, mb3.2/5, mb1 3.4/5, mb1mx3.2/39, mbtmp3.2/5, Error ellipse: s-maj=355.3km s-min=22.5km az=82.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	21.90	72	T	T	00 44 49.6	
	baz=260,slow=73,SNR=6.3						
H11S1	WAKE ISLAND Hy	21.91	72	T	T	00 44 47.5	
	baz=260,slow=75,SNR=8.1						
H11S2	WAKE ISLAND Hy	21.91	72	T	T	00 44 47.8	
	baz=260,slow=75,SNR=3.4						
H11N1	WAKE ISLAND Hy	22.36	69	T	T	00 45 21.5	
	baz=258,slow=75,SNR=9.9						
H11N2	WAKE ISLAND Hy	22.37	69	T	T	00 45 24.0	
	baz=258,slow=75,SNR=3.4						
H11N3	WAKE ISLAND Hy	22.38	69	T	T	00 45 25.4	
	baz=258,slow=75,SNR=8.4						
WRA	Warramunga Arr	34.06	198	P	P	00 22 49.4	-0.3
	0.6nm,0.6s,baz=18,slow=9.3,SNR=8.8						
ASAR	Alice Springs	37.71	196	P	P	00 23 21.2	+0.2
	0.3nm,0.5s,baz=24,slow=11,SNR=5.8						
SONM	Songino Array	47.33	325	P	P	00 24 39.7	+0.5
	0.2nm,0.8s,baz=144,slow=9.8,SNR=2.3						
MKAR	Makanchi Array	61.99	316	P	P	00 26 26.6	+1.0
	0.2nm,0.7s,baz=90,slow=8.5,SNR=4.5						
KURBB	Kurchatov Arra	65.17	320	P	P	00 26 45.1	-1.3
	0.3nm,0.6s,baz=105,slow=7.1,SNR=3.8						

IGQ 14 00:39:15±0.5, 1.°32S×77.°79W, h4km±10km, Mb4.3, Error ellipse: s-maj=3.2km s-min=2.4km az=217.7
IDC 14 00:39:16.9±1.1, 1.°22S×77.°48W, h192km±9km, mb3.8/18, mb1 4.0/24, mb1mx3.9/41, mbtmp4.4/24, Error ellipse: s-maj=16.6km s-min=8.2km az=58.0
NEIC 14 00:39:17.5±0.5, 1.°26S×77.°59W, h200km±5km, mb4.6/9, MD4.2(IGQ), Error ellipse: s-maj=9.0km s-min=5.0km az=67.0
ISC 14 00:39:16.0±0.4, 1.°29S±0.°05×77.°46W±0.°06, h181km, n376, σ0.°87/372, mb4.3/27, 155C-149D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	Pisayambo	0.96	284	⇑P	Pn	00 39 46.7	+2.6
BRUN	Tungurahua Vol	0.96	262	⇑S	Sn	00 40 07.8	+2.3
BRUN	Tungurahua Vol	0.96	262	⇑P	Pn	00 39 45.3	+1.3
BULB	Ulba Tungurahu	0.96	261	⇑S	Sn	00 40 08.0	+2.4
BULB	Ulba Tungurahu	0.96	261	⇑P	Pn	00 39 45.2	+1.1
ULBA	Ulba	0.96	260	⇑P	Pn	00 39 45.2	+1.2
RUN5	Runtun	0.97	263	⇑P	Pn	00 39 45.3	+1.2
BPAT	Tungurahua Vol	1.00	258	⇑P	Pn	00 39 46.7	+2.3
BPAT	Tungurahua Vol	1.00	258	⇑S	Sn	00 40 08.6	+2.4
RETU	Refugio	1.00	261	⇑P	Pn	00 39 46.5	+2.0
PAT1	Patacocha	1.00	257	⇑P	Pn	00 39 46.5	+2.0
ARRY	Arrayan	1.02	258	P	Pn	00 39 45.4	+1.0
JUI6	Juive	1.02	262	⇑P	Pn	00 39 45.3	+0.9
BBIL	Ulba Tungurahu	1.04	261	⇑P	Pn	00 39 46.6	+2.0
BMAS	Trigal station	1.04	258	⇑P	Pn	00 39 46.8	+2.1
COV1	Cotopaxi Volc	1.08	305	P	Pn	00 39 48.8	+3.6
TAMB	Tambo	1.08	303	P	Pn	00 39 47.6	+2.4
ANTI	Antisana	1.09	320	⇓P	Pn	00 39 47.1	+1.9
BTAM	Cotopaxi Volca	1.12	303	⇓P	Pn	00 39 48.0	+2.5
MOV1	Cotopaxi Vol s	1.14	300	P	Pn	00 39 48.0	+2.3
BVC2	Cotopaxi Volca	1.14	303	⇓P	Pn	00 39 47.2	+1.7
VC1	Cotopaxi 1	1.14	304	P	Pn	00 39 47.1	+1.5
BMOR	Cotopaxi Volca	1.14	299	⇓S	Sn	00 40 10.4	+2.0
BMOR	Cotopaxi Volca	1.14	299	⇓P	Pn	00 39 48.0	+2.3

BREF	Cotopaxi Volca	1.16	302	⇓P	Pn	00 39 48.6	+2.7
NAS2	Nasa	1.20	302	P	Pn	00 39 48.2	+2.2
IGUA	Igualata	1.20	260	P	Pn	00 39 47.7	+1.6
CAMI	Rancho Maria	1.21	300	P	Pn	00 39 48.9	+2.8
MACE	Macas	1.21	218	⇑P	Pn	00 39 48.0	+2.2
RIOE	Riobamba	1.26	248	⇑P	Pn	00 39 47.9	+1.6
PAST	Pastocalle	1.32	296	⇑P	Pn	00 39 49.7	+2.7
ANGU	Angureal	1.44	337	P	Pn	00 39 52.9	+4.6
CAYA	Cayambe	1.45	338	⇓P	Pn	00 39 51.7	+3.4
JUA2	San Juan 2	1.57	313	⇓P	Pn	00 39 50.4	+1.1
GGP	Refugio Guagua	1.59	314	⇓P	Pn	00 39 50.4	+0.9
TERV	Terraza Guagua	1.59	314	P	Pn	00 39 52.0	+2.4
PINO	Pino	1.61	314	⇓P	Pn	00 39 51.9	+2.1
OTAV	Otavalo	1.81	327	*e*Pn	Pn	00 39 52.1	+0.4
OTAV	Otavalo	1.81	327	⇓P	Pn	00 39 53.5	+1.8
LITE	Lita	2.27	336	⇓P	Pn	00 39 57.5	+1.1
MAG1	Magdalena	2.61	298	S	Sn	00 40 27.3	-7.2
MAG1	Magdalena	2.61	298	P	Pn	00 39 59.4	-0.8
ISPT	Isla de la Pla	3.62	270	⇑S	Sn	00 40 50.2	-6.2
ISPT	Isla de la Pla	3.62	270	⇑P	Pn	00 40 09.8	-2.6
ATAH	Atahualpa	5.88	189	P	Pn	00 40 42.9	+0.9
	36nm,0.3s,baz=12,slow=9.5,SNR=170						
ATAH				S	Sn	00 41 47.5	-2.2
	24nm,0.3s,baz=138,slow=21,SNR=11						
ROSC	El Rosal	6.86	27	P	Pn	00 40 58.5	+3.8
	1.4nm,0.3s,baz=212,slow=13,SNR=3.5						
ROSC				S	Sn	00 42 02.6	-10
	0.5nm,0.3s,baz=255,slow=20,SNR=2.4						
NNA	Nana	10.65	177	P	Pn	00 41 45.6	+1.5
	4.4nm,0.3s,baz=351,slow=13,SNR=8.4						
NNA				S	Sn	00 43 34.2	-8.5
	4.3nm,0.3s,baz=224,slow=21,SNR=5.7						
NNA	Nana	10.65	177	*e*Pn	Pn	00 41 45.2	+1.1
	16nm,0.4s						
NNA				S	Sn	00 43 34.2	-8.5
BCIP	Isla Barro Col	10.65	347	*e*Pn	Pn	00 41 43.8	-0.4
SDV	Santo Domingo	12.18	34	*e*Pn	Pn	00 42 05.8	+1.8
JTS	JuntasAbangare	13.71	327	P	Pn	00 42 22.9	-0.3
	0.5nm,0.3s,baz=131,slow=12,SNR=3.8						
SAML	Samuel	16.12	119	*e*P	Pn	00 42 53.4	+0.5
	10nm,1.0s						
PCRV	Puerto La Cruz	17.10	48	P	Pn	00 43 05.4	+0.7
	3.3nm,0.3s,baz=222,slow=14,SNR=13						
PTGA	Pitinga	17.50	88	P	Pn	00 43 08.8	-0.5
	0.7nm,0.3s,baz=268,slow=15,SNR=5.2						
LPAZ	La Paz	17.51	149	P	Pn	00 43 11.1	+1.0
	2.1nm,0.3s,baz=345,slow=9.3,SNR=53						
MTDJ	Mount Denham	19.39	360	*e*P	P	00 43 28.4	0.0
	38nm,0.6s						
APG	El Apazote	20.68	322	P	P	00 43 40.0	-2.4
	3.2nm,0.8s,baz=94,slow=9.7,SNR=3.6						
GTBY	Guantanamo Bay	21.21	6	*e*P	P	00 43 49.2	+1.5
	154nm,1.5s						
SIV	San Ignacio	21.78	133	P	P	00 43 54.4	+0.6
	6.6nm,0.6s,baz=313,slow=11,SNR=18						
LVC	Limon Verde	22.77	159	*e*P	P	00 44 03.9	+0.6
	16nm,0.8s						
TEIG	Tepich	23.87	334	P	P	00 44 12.8	-0.2
	5.3nm,0.4s,baz=158,slow=19,SNR=12						
TEIG	Tepich	23.87	334	*e*P	P	00 44 11.8	-1.3
CPUP	Villa Florida	31.54	144	P	P	00 45 21.5	+0.1
	3.6nm,0.9s,baz=325,slow=12,SNR=3.2						
BDFB	Brasilia	32.35	118	P	P	00 45 30.0	+1.3
	1.2nm,0.4s,baz=281,slow=10,SNR=3.8						
936A	North Padre Is	34.34	328	⇓P	P	00 45 45.8	+0.1
	baz=34						
034A	Hebbronville	34.82	326	⇑P	P	00 45 50.5	+0.7
	baz=35						
934A	Benavides	35.15	326	⇓P	P	00 45 53.3	+0.8
	baz=35						
835A	Beeville	35.31	328	⇓P	P	00 45 54.4	+0.5
	baz=35						
834A	Tilden	35.57	327	⇑P	P	00 45 56.3	0.0
	baz=36						
933A	Laredo	35.58	325	⇑P	P	00 45 57.4	+1.1
	baz=36						
735A	Kenedy	35.75	329	⇓P	P	00 45 58.5	+0.7
	baz=36						
636A	Smothers Creek	35.88	330	⇑P	P	00 45 59.1	+0.3
	baz=36						
635A	Leesville	36.16	329	⇑P	P	00 46 01.5	+0.3
	baz=36						
833A	Chaparral WMA,	36.19	326	⇑P	P	00 46 01.5	0.0
	baz=36						
536A	Bastrop	36.37	331	⇓P	P	00 46 03.0	+0.1
	baz=36						
KMSC	Kings Mountain	36.42	355	⇓P	P	00 46 04.1	+0.8
	baz=37						
733A	Divot King Ran	36.44	327	⇑P	P	00 46 04.0	+0.4
	baz=36						
832A	Faith Ranch, C	36.49	325	⇑P	P	00 46 03.8	-0.2
	baz=36						
732A	Laxson Ranch,	36.83	326	⇑P	P	00 46 07.0	+0.1
	baz=37						
633A	Saathoff Ranch	36.96	328	⇓P	P	00 46 08.0	0.0
	baz=37,SNR=6.2						
534A	Blanco	37.04	329	⇓P	P	00 46 08.4	-0.3
	baz=37						
435B	Jarrell	37.20	331	⇓P	P	00 46 10.2	+0.2
	baz=37						
632A	Uvalde	37.33	327	⇓P	P	00 46 11.8	+0.7
	baz=37,SNR=6.9						
335A	Moody	37.54	331	⇑P	P	00 46 12.4	-0.4
	baz=38						
434A	Burnet	37.57	330	⇓P	P	00 46 12.5	-0.6
	baz=38						
631A	Perdido Creek	37.69	326	⇑P	P	00 46 14.7	+0.6
	baz=38,SNR=6.7						
433A	Art	37.94	329	⇑P	P	00 46 16.3	+0.1
	baz=38,SNR=11						
334A	Lometa	37.97	330	⇑P	P	00 46 16.3	-0.2
	baz=38,SNR=7.2						
JCT	Junction City	38.09	328	⇓P	P	00 46 18.0	+0.5
	baz=38						
531A	Rocksprings	38.25	327	⇑P	P	00 46 19.8	+0.9
	baz=38,SNR=5.5						
333A	Richland Sprin	38.34	330	⇑P	P	00 46 19.3	-0.3
	baz=38						
432A	Menard	38.40	328	⇑P	P	00 46 20.2	+0.1
	baz=38						
234A	Clairette	38.47	331	⇑P	P	00 46 20.3	-0.3
	baz=38,SNR=7.1						
530A	J-C Ranch, Com	38.68	326	⇑P	P	00 46 23.7	+1.3
	baz=39,SNR=8.0						
431A	Sonora	38.68	327	⇓P	P	00 46 22.9	+0.5
	baz=39,SNR=7.4						
332A	Millersview	38.77	329	⇑P	P	00 46 23.5	+0.3
	baz=39,SNR=14						
233A	Rising Star	38.86	330	⇓P	P	00 46 23.9	0.0
	baz=39						
331A	San Angelo	39.08	328	⇑P	P	00 46 26.0	+0.3
	baz=39						
430A	Baggett Ranch,	39.11	327	⇑P	P	00 46 26.4	+0.4
	baz=39						
232A	Coleman	39.13	329	⇓P	P	00 46 26.3	+0.2
	baz=39,SNR=7.1						
529A	Stev Forest Ra	39.16	325	⇓P	P	00 46 26.7	+0.2
	baz=39						
133A	Hamilton Ranch	39.34	331	⇓P	P	00 46 28.1	+0.2
	baz=39						
429A	Davenport Ranc	39.35	326	⇑P	P	00 46 28.3	+0.3
	baz=39,SNR=5.6						
TXAR	Lajitas Array	39.44	323	P	P	00 46 29.1	+0.3
	0.9nm,0.6s,baz=147,slow=8.8,SNR=19						
231A	Bronte	39.51	329	⇓P	P	00 46 29.3	+0.1
	baz=40						
330A	Mertzon	39.55	327	⇑P	P	00 46 29.8	+0.1
	baz=40						
ABTX	Abilene, Hawle	39.72	330	⇑P	P	00 46 31.6	+0.6
	baz=40,SNR=6.6						
PLCA	Paso Flores	39.76	172	P	P	00 46 32.0	+0.8
	9.2nm,0.9s,baz=345,slow=8.3,SNR=13						
Z33A	Whitaker Ranch	39.83	332	⇑P	P	00 46 32.3	+0.5
	baz=40						
230A	Sterling City	39.89	328	⇑P	P	00 46 32.7	+0.2
	baz=40						
Y34A	Reagan Ranch,	39.92	333	⇑P	P	00 46 32.4	-0.2
	baz=40						
329A	Wagon Wheel Ra	40.05	327	⇑P	P	00 46 34.2	+0.4
	baz=40,SNR=7.2						
131A	Roby	40.13	329	⇓P	P	00 46 34.5	+0.1
	baz=40						
Z32A	Haskell	40.19	331	⇑P	P	00 46 35.2	+0.4
	baz=40,SNR=10						
229A	Bryant Ranch,	40.33	327	⇑P	P	00 46 36.3	+0.2
	baz=40						
Y33A	Hilltop Ranch,	40.36	332	⇑P	P	00 46 36.6	+0.4
	baz=40						
130A	Snyder	40.37	329	⇑P	P	00 46 36.6	+0.3
	baz=40,SNR=6.2						
Z31A	Sharp Cattle R	40.52	330	⇑P	P	00 46 38.2	+0.6
	baz=41,SNR=6.7						
Y32A	R-V Farms, Ver	40.74	332	⇓P	P	00 46 39.8	+0.5
	baz=41,SNR=5.8						
X33A	Lawton	40.74	333	⇓P	P	00 46 39.3	-0.1
	baz=41						
TUL1	Tulsa	40.77	337	⇑P	P	00 46 39.0	-0.5
	baz=41						
129A	Stewart Farms,	40.87	328	⇑P	P	00 46 40.6	+0.1
	baz=41						
Z30A	Sanderson Ranc	40.99	329	⇑P	P	00 46 41.8	+0.3
	baz=41,SNR=6.3						
W34A	Bridge Creek,	41.00	334	⇓P	P	00 46 41.4	0.0
	baz=41						
X32A	Elmer	41.01	332	⇓P	P	00 46 42.0	+0.5
	baz=41,SNR=5.6						
326A	Caldwell Ranch	41.06	324	⇓P	P	00 46 42.4	+0.3
	baz=41						
Y31A	Rekieta Farm,	41.10	331	⇑P	P	00 46 43.1	+0.8
	baz=41						
128A	Castleberry Fa	41.19	327	⇓P	P	00 46 43.6	+0.4
	baz=41						
W33A	Caddo, Fort Co	41.24	334	⇓P	P	00 46 44.1	+0.7
	baz=41						
Z29A	Hungry Hill Ra	41.27	329	⇓P	P	00 46 44.3	+0.5
	baz=41						
Y30A	Stafford Cattl	41.35	330	⇓P	P	00 46 45.1	+0.7
	baz=41,SNR=14						
X31A	McDonald Ranch	41.51	332	⇑P	P	00 46 46.0	+0.4
	baz=42,SNR=6.2						
W32A	Sentinel	41.57	333	⇓P	P	00 46 46.4	+0.4
	baz=42,SNR=9.7						
Z28A	Tucker Farm, M	41.65	328	⇓P	P	00 46 46.7	-0.2
	baz=42						
127A	Arkansas Junct	41.71	326	⇓P	P	00 46 47.6	+0.2
	baz=42						
V33A	Lossen Ranch,	41.72	334	⇑P	P	00 46 47.4	+0.1
	baz=42						
226B	Tecolote Peak,	41.72	325	⇓P	P	00 46 48.5	+1.1
	baz=42,SNR=5.4						
Y29A	Porterfield Fa	41.73	329	⇑P	P	00 46 47.7	+0.3
	baz=42,SNR=7.7						
X30A	Coker Ranch, T	41.79	330	⇑P	P	00 46 48.4	+0.5
	baz=42,SNR=5.4						
U34A	Anderson Ranch	41.92	336	⇓P	P	00 46 48.5	-0.5
	baz=42						
W31A	Holland Ranch,	41.94	332	⇓P	P	00 46 49.2	+0.1
	baz=42						
V32A	Arapaho	41.97	333	⇓P	P	00 46 49.9	+0.5
	baz=42						
126A	Clayton Basin,	42.06	326	⇑P	P	00 46 50.6	+0.3
	baz=42						
Y28A	McKinney Farm,	42.06	329	⇓P	P	00 46 50.3	+0.1
	baz=42						
Z27A	Tatum	42.12	327	⇓P	P	00 46 50.7	0.0
	baz=42						
225A	Deer Hill, Car	42.13	324	⇓P	P	00 46 51.3	+0.4
	baz=42						
X29A	Tulia	42.20	330	⇑P	P	00 46 51.6	+0.3
	baz=42						
V31A	Spring Creek L	42.38	333	⇓P	P	00 46 53.6	+1.0
	baz=42						
MSTX	Muleshoe	42.38	328	⇑P	P	00 46 52.8	-0.1
	baz=42						
125A	Gardner Draw,	42.43	325	⇑P	P	00 46 53.5	+0.3
	baz=42						
U32A	Winter Ranch,	42.50	334	⇓P	P	00 46 53.7	+0.1
	baz=43						
Z26A	Caprock	42.51	326	⇓P	P	00 46 54.3	+0.5
	baz=42,SNR=6.2						
Y27A	Causey	42.52	328	⇑P	P	00 46 54.0	0.0
	baz=43						
AMTX	Amarillo	42.54	330	⇓P	P	00 46 54.2	+0.2
	baz=43						
W29A	Amraillo	42.71	330	⇓P	P	00 46 55.5	0.0
	baz=43						
T33A	Patterson Ranc	42.77	335	⇓P	P	00 46 55.5	-0.2
	baz=43						
U31A	Nine Bar Ranch	42.87	333	⇑P	P	00 46 57.6	+1.0
	baz=43						
Y26A	Elida	42.91	327	⇓P	P	00 46 57.6	+0.5
	baz=43						
Z25A	Roswell	42.92	326	⇓P	P	00 46 57.9	+0.7
	baz=43						
X27A	F and S Farms,	43.08	329	⇑P	P	00 46 59.1	+0.7
	baz=43						
T32A	Huddler Ranch,	43.14	335	⇓P	P	00 46 58.8	+0.1
	baz=43						
Z24A	Sheeppen Canyo	43.33	325	⇑P	P	00 47 01.3	+0.8
	baz=43,SNR=6.7						
U30A	WK&E Inc. Balk	43.37	332	⇑P	P	00 47 01.3	+0.7
	baz=43						
X26A	CR and CF Fran	43.38	328	⇓P	P	00 47 01.6	+0.7
	baz=43						
W27A	Bowe Ranch, En	43.38	329	⇑P	P	00 47 01.2	+0.3
	baz=43						
Y25A	Mesa, Roswell	43.38	326	⇓P	P	00 47 01.6	+0.7
	baz=43						
T31A	Randall Ranch,	43.40	334	⇑P	P	00 47 01.2	+0.4
	baz=44						
V28A	Channing	43.49	330	⇑P	P	00 47 01.8	0.0
	baz=44						
S32A	Newby Ranch, P	43.59	335	⇓P	P	00 47 02.5	+0.2
	baz=44						
R33A	Olander Ranch,	43.71	336	⇓P	P	00 47 02.7	-0.6
	baz=44						
S31A	Mullinville	43.75	334	⇑P	P	00 47 03.9	+0.3
	baz=44						
Y24A	Capitan	43.80	326	⇑P	P	00 47 04.6	+0.3
	baz=44						
KSU1	Kansas State U	43.88	338	⇓P	P	00 47 03.7	-0.9
	baz=44						
R32A	Long Quarter,	44.11	336	⇓P	P	00 47 06.2	-0.2
	baz=44						
Y23A	Lovelace Mesa,	44.16	325	⇑P	P	00 47 07.6	+0.4
	baz=44						
T29A	Hugoton	44.18	332	⇓P	P	00 47 07.9	+0.8
	baz=44						
121A	Cookes Peak, D	44.19	322	⇑P	P	00 47 07.5	+0.1
	baz=44						
S30A	Montezuma	44.20	334	⇓P	P	00 47 07.6	+0.4
	baz=44						
Z22A	Elephant Butte	44.20	324	⇓P	P	00 47 07.9	+0.4
	baz=44						
W25A	X Bar L Ranch,	44.23	328	⇑P	P	00 47 07.5	-0.1
	baz=44						
Q33A	Connelly Farm,	44.25	337	⇓P	P	00 47 07.3	-0.3
	baz=44						
V26A	Tequesquite Ra	44.32	329	⇑P	P	00 47 09.0	+0.7
	baz=44,SNR=9.7						
U27A	Thompson Grove	44.32	330	⇑P	P	00 47 08.3	0.0
	baz=44						
R31A	Burdett	44.33	335	⇓P	P	00 47 08.6	+0.3
	baz=44,SNR=5.4						
319A	Douglas	44.36	320	⇓P	P	00 47 08.3	-0.3
	baz=44						
S29A	Ulysses	44.48	333	⇑P	P	00 47 10.4	+0.9
	baz=44,SNR=10						
Q32A	Meitler Ranch,	44.53	336	⇓P	P	00 47 09.6	-0.2
	baz=45						
T28A	Walsh	44.53	332	⇓P	P	00 47 10.8	+0.8
	baz=45						
R30A	Dighton	44.65	334	⇑P	P	00 47 11.7	+0.9
	baz=45,SNR=14						
W24A	Lazy 6 Ranch,	44.74	327	⇓P	P	00 47 12.0	+0.3
	baz=45						
U26A	Atchley Ranch,	44.76	330	⇓P	P	00 47 12.4	+0.5
	baz=45						
T27A	Campo	44.78	331	⇓P	P	00 47 12.0	0.0
	baz=45						
V25A	Rancho No Teng	44.78	328	⇑P	P	00 47 12.8	+0.7
	baz=45,SNR=5.5						
S28A	Manter	44.81	332	⇓P	P	00 47 12.5	+0.4
	baz=45,SNR=6.9						
Q31A	Ellis	44.88	336	⇑P	P	00 47 13.1	+0.5
	baz=45						
V24A	Rampart Ranch,	45.05	328	⇓P	P	00 47 14.6	+0.4
	baz=45						
P32A	Huiting Farm,	45.09	337	⇓P	P	00 47 14.1	-0.1
	baz=45						
U25A	Circle Dot Ran	45.10	329	⇑P	P	00 47 15.2	+0.6
	baz=45						
ANMO	Albuquerque	45.12	326	P	P	00 47 15.6	+0.8
	6.9nm,0.5s,baz=141,slow=8.5,SNR=41						
ANMO	Albuquerque	45.12	326	*e*P	P	00 47 14.9	+0.1
	7.2nm,0.6s						
Q30A	Quinter	45.20	335	⇓P	P	00 47 15.8	+0.7
	baz=45,SNR=8.5						
T26A	Comanche Natio	45.29	330	⇑P	P	00 47 16.5	+0.4
	baz=45						
P31A	Stockton	45.31	336	⇓P	P	00 47 16.2	+0.2
	baz=45						
S27A	Las Animas	45.36	331	⇑P	P	00 47 16.8	+0.3
	baz=45						
R28A	Tribune	45.38	333	⇓P	P	00 47 16.9	+0.3
	baz=46						
Q29A	Oakley	45.46	334	⇑P	P	00 47 17.7	+0.5
	baz=46						
V23A	Ortiz Mt. (NFS	45.56	327	⇓P	P	00 47 19.0	+0.9
	baz=46						
U24A	Moreno Valley	45.57	328	⇓P	P	00 47 19.0	+0.7
	baz=46						
S26A	Kim	45.59	331	⇓P	P	00 47 19.0	+0.8
	baz=46						
T25A	Trinidad	45.67	330	⇓P	P	00 47 19.6	+0.5
	baz=46						
P30A	Selden	45.69	335	⇑P	P	00 47 19.3	+0.3
	baz=46						
R27A	Eads	45.79	332	⇑P	P	00 47 19.8	0.0
	baz=46						
SADO	Sadowa	45.88	358	P	P	00 47 18.9	-1.3
	4.5nm,0.6s,baz=233,slow=3.2,SNR=4.7						
Q28A	Sharon Springs	45.98	333	⇑P	P	00 47 21.3	+0.1
	baz=46						
U23A	El Rito	45.99	327	⇑P	P	00 47 22.2	+0.6
	baz=46,SNR=5.9						
V22A	San Miguel Ran	46.08	326	⇑P	P	00 47 22.9	+0.6
	baz=46						
S25A	Robets Cordova	46.09	330	⇑P	P	00 47 23.0	+0.7
	baz=46,SNR=5.5						
R26A	Arlington	46.11	331	⇑P	P	00 47 22.8	+0.4
	baz=46						
O30A	MW Ranch, Wils	46.15	336	⇑P	P	00 47 22.9	+0.3
	baz=46						
N31A	Bailey Ranch,	46.26	337	⇓P	P	00 47 23.7	+0.3
	baz=46						
P28A	Saint Francis	46.36	334	⇑P	P	00 47 25.0	+0.7
	baz=46						
S24A	Houchin Ranch,	46.47	329	⇑P	P	00 47 25.7	+0.4
	baz=46						
Q26A	Hugo	46.64	332	⇓P	P	00 47 26.9	+0.4
	baz=47						
SDCO	Great Sand Dun	46.70	329	*e*P	P	00 47 27.0	-0.1
	2.9nm,0.5s						
O28A	Krutsinger Ran	46.83	334	⇑P	P	00 47 28.7	+0.9
	baz=47						
R24A	Sanders Place,	46.87	330	⇑P	P	00 47 29.5	+1.1
	baz=47						
X18A	Snowflake	46.87	323	⇑P	P	00 47 29.0	+0.6
	baz=47						
214A	Organ Pipe Nat	47.05	318	⇑P	P	00 47 30.1	+0.4
	baz=47						
P26A	Davis Ranch, A	47.07	333	⇓P	P	00 47 30.5	+0.7
	baz=47						
O27A	Beecher Island	47.19	334	⇓P	P	00 47 30.7	+0.1
	baz=47						
N28A	Pribbeno Ranch	47.19	335	⇑P	P	00 47 31.0	+0.4
	baz=47						
R23A	Moffat	47.20	329	⇓P	P	00 47 31.4	+0.4
	baz=47						
L31A	Butterfield Fa	47.38	338	⇑P	P	00 47 31.7	-0.4
	baz=48						
S22A	4UR Ranch, Cre	47.39	328	⇑P	P	00 47 32.9	+0.4
	baz=47						
P25A	Willow Gulch B	47.41	332	⇑P	P	00 47 32.8	+0.2
	baz=48						
OGNE	Ogallala	47.61	335	⇓P	P	00 47 34.3	+0.4
	baz=48						
M28A	Bar X Bar Ranc	47.71	336	⇓P	P	00 47 34.7	0.0
	baz=48						
X16A	Lo Mia Camp, P	47.72	321	⇓P	P	00 47 35.5	+0.5
	baz=48						
MVCO	Mesa Verde	47.90	326	⇓P	P	00 47 36.7	+0.3
	baz=48						
L29A	Maesberg Ranch	47.91	337	⇓P	P	00 47 36.3	+0.1
	baz=48						
ECSD	EROS Data Cent	47.99	341	⇓P	P	00 47 35.0	-1.8
	baz=48						
K30A	Basset	48.10	338	⇑P	P	00 47 37.2	-0.4
	baz=48						
P23A	Jefferson	48.11	330	⇓P	P	00 47 39.3	+1.2
	baz=48						
O24A	Longmont	48.32	332	⇓P	P	00 47 39.7	+0.3
	baz=48						
ISCO	Idaho Springs	48.33	331	⇑P	P	00 47 39.6	-0.1
	baz=48						
WUAZ	Wupatki	48.40	323	⇑P	P	00 47 40.1	0.0
	baz=48						
J30A	Dallas	48.62	339	⇓P	P	00 47 40.4	-1.1
	baz=49						
L27A	T5 Ranch, Ells	48.67	335	⇓P	P	00 47 41.2	-0.9
	baz=49						
P22A	Eagle	48.74	330	⇑P	P	00 47 43.0	+0.2
	baz=49						
N24A	Carr	48.79	332	⇓P	P	00 47 43.4	+0.4
	baz=49						
O23A	Lake Granby, G	48.80	331	⇓P	P	00 47 43.6	+0.3
	baz=49,SNR=7.6						
K28A	Ten Mile Ranch	48.81	337	⇑P	P	00 47 43.3	+0.2
	baz=49						
M25A	Palm-Egli Farm	48.89	333	⇓P	P	00 47 44.4	+0.6
	baz=49						
J29A	Okreek	49.00	338	⇑P	P	00 47 43.9	-0.6
	baz=49						
O22A	Kremmling	49.07	330	⇓P	P	00 47 45.1	-0.2
	baz=49,SNR=5.1						
N23A	Red Feather La	49.34	332	⇓P	P	00 47 47.1	-0.3
	baz=49						
J28A	Allard Ranch,	49.36	337	⇑P	P	00 47 46.9	-0.2
	baz=50						
L25A	Engebretsen Ra	49.44	334	⇑P	P	00 47 48.4	+0.5
	baz=50						
N22A	Wattenberg Ran	49.51	331	⇑P	P	00 47 49.0	+0.3
	baz=50						
J27A	Elkhorn Farm,	49.52	336	⇓P	P	00 47 49.2	+0.8
	baz=50						
U15A	North Rim	49.56	323	⇓P	P	00 47 49.6	+0.4
	baz=50						
W13A	Hualapai Mount	49.70	320	⇓P	P	00 47 50.6	+0.5
	baz=50						
I28A	Midland	49.82	338	⇓P	P	00 47 50.6	-0.1
	baz=50						
O20A	White River Ci	49.90	329	⇓P	P	00 47 51.5	0.0
	baz=50						
J26A	Sides Ranch, S	50.00	336	⇑P	P	00 47 52.7	+0.7
	baz=50						
G30A	Faulkton	50.07	340	⇑P	P	00 47 51.5	-0.9
	baz=50						
L23A	Garrett	50.18	333	⇑P	P	00 47 53.6	0.0
	baz=50						
I27A	Quinn	50.22	337	⇑P	P	00 47 54.0	+0.4
	baz=50						
N20A	Spence Gulch,	50.43	330	⇓P	P	00 47 55.7	+0.2
	baz=50						
I26A	New Underwood	50.51	336	⇑P	P	00 47 56.2	+0.3
	baz=51						
G28A	Parade	50.65	339	⇑P	P	00 47 56.1	-0.7
	baz=51						
GMRC	Granite Mounta	50.65	319	⇑P	P	00 47 57.0	-0.2
	baz=51						
H27A	Howes	50.71	337	⇓P	P	00 47 57.2	-0.1
	baz=51						
I25A	Rochford	50.86	336	⇑P	P	00 47 59.1	+0.5
	baz=51						
K22A	Casper	50.98	333	⇓P	P	00 47 58.9	-0.6
	baz=51						
I24A	Kuemmerle Ranc	51.10	335	⇓P	P	00 48 00.5	+0.2
	baz=51						
F28A	McLaughlin	51.27	339	⇓P	P	00 48 01.2	-0.3
	baz=51						
K21A	Alcova	51.30	332	⇓P	P	00 48 01.5	-0.4
	baz=51						
E29A	Napoleon	51.50	341	⇑P	P	00 48 02.8	-0.3
	baz=52						
J22A	Midwest	51.55	333	⇓P	P	00 48 03.6	-0.2
	baz=52						
F27A	Lemmon	51.73	338	⇓P	P	00 48 04.6	-0.3
	baz=52						
H24A	Dirks Ranch, A	51.79	336	⇑P	P	00 48 04.9	-0.5
	baz=52						
E28A	Huff	51.86	340	⇑P	P	00 48 05.7	-0.1
	baz=52						
AGMN	Agassiz Nation	51.92	344	*e*P	P	00 48 03.8	-2.3
	3.9nm,0.3s						

AGMN Agassiz Nation 51.92 344 ⇓P P 00 48 05.2 -0.9
baz=52
I22A 9 Mile Ranch, 51.93 334 ⇑P P 00 48 06.3 -0.3
baz=52
F26A Lodgepole 51.96 338 ⇑P P 00 48 05.8 -0.7
baz=52
E27A Carson 52.04 339 ⇓P P 00 48 07.2 +0.1
baz=52
I21A Big Trails, Te 52.23 333 ⇓P P 00 48 08.3 -0.4
baz=52
J20A Shoshoni 52.25 332 ⇑P P 00 48 09.1 +0.3
baz=52
DUG Dugway 52.40 326 ⇓P P 00 48 10.5 +0.5
baz=52
E26A Carlson Angus 52.41 338 ⇓P P 00 48 09.7 -0.1
baz=52
G23A Biddle 52.51 335 ⇓P P 00 48 10.8 +0.1
baz=53
PDAR Pinedale Array 52.52 330 P P 00 48 10.3 -0.6
1.1nm,0.6s,baz=126,slow=9.8,SNR=10
J19A Crowheart 52.64 331 ⇓P P 00 48 11.5 -0.3
baz=53
I20A Worland 52.73 332 ⇑P P 00 48 12.1 -0.2
baz=53
H21A Big Horn, Sher 52.76 334 ⇓P P 00 48 12.3 -0.3
baz=53
E25A Miller Ranch, 52.78 338 ⇓P P 00 48 12.7 +0.1
baz=53
R11A Troy Canyon, C 52.80 322 ⇑P P 00 48 13.5 +0.4
baz=53
D26A Manning 52.87 339 ⇑P P 00 48 12.9 -0.3
baz=53
G22A Birney 52.90 335 ⇑P P 00 48 13.1 -0.4
baz=53
B29A Wagenman Farm, 53.08 342 ⇑P P 00 48 15.1 +0.5
baz=53
H20A Greybull 53.08 333 ⇓P P 00 48 14.5 -0.4
baz=53
E24A Baker 53.18 337 ⇓P P 00 48 15.5 0.0
baz=53
A30A Hoffart Farm, 53.18 343 ⇑P P 00 48 14.5 -1.0
baz=53
I19A Meeteetse 53.20 332 ⇓P P 00 48 15.6 -0.3
baz=53
D25A Fairfield 53.30 338 ⇓P P 00 48 16.4 0.0
baz=53
G21A Lodge Grass 53.30 334 ⇑P P 00 48 15.9 -0.6
baz=53
C26A Wahner Farm, P 53.43 340 ⇓P P 00 48 16.9 -0.4
baz=54
A29A Manning Farm, 53.45 342 ⇑P P 00 48 17.1 -0.3
baz=54
VES Vestal, Richgr 53.55 318 ⇓P P 00 48 17.4 -0.9
baz=54
B27A Peters Farms, 53.64 340 ⇑P P 00 48 18.6 -0.2
baz=54
D24A Glendive 53.65 337 ⇑P P 00 48 19.3 +0.4
baz=54
ULM Lac du Bonnet 53.71 345 P P 00 48 17.6 -1.7
4.9nm,0.6s,baz=155,slow=5.5,SNR=13
F21A Absaloka Mine, 53.73 335 ⇑P P 00 48 19.6 0.0
baz=54
I17A Pilgrim Ck. 53.87 331 ⇑P P 00 48 21.4 +0.6
baz=54
H18A Shoshone NF, C 53.99 332 ⇓P P 00 48 21.5 -0.2
baz=54
C24A Savage 54.03 338 ⇓P P 00 48 21.9 +0.3
baz=54
D23A Lindsay 54.03 337 ⇓P P 00 48 22.2 +0.5
baz=54
B25A Knox Farm, Ray 54.18 339 ⇑P P 00 48 22.8 +0.1
baz=54
A26A Wade Farm, Ken 54.32 340 ⇑P P 00 48 23.9 +0.1
baz=54
D22A Cohagen 54.40 336 ⇑P P 00 48 24.6 +0.2
baz=54
NVAR Mina Array Bea 54.54 321 P P 00 48 25.2 -0.6
0.5nm,0.4s,baz=128,slow=6.8,SNR=6.6
C23A Lambert 54.54 337 ⇑P P 00 48 25.6 +0.2
baz=55
F19A Roth Farm, Mol 54.56 333 ⇓P P 00 48 25.3 -0.3
baz=55
D21A La Casta Ranch 54.67 336 ⇓P P 00 48 26.6 +0.3
baz=55
E20A Meyer Farm, Mu 54.70 334 ⇑P P 00 48 26.8 +0.2
baz=55
DGMT Dagmar 54.72 338 ⇓P P 00 48 26.4 -0.2
baz=55
A25A Svangstu Ranch 54.73 340 ⇑P P 00 48 27.1 +0.5
baz=55
C22A Vida 54.77 337 ⇑P P 00 48 27.1 +0.1
baz=55
E19A Rath Farm, Rou 54.96 334 ⇓P P 00 48 28.5 0.0
baz=55
B23A Brockton 55.01 338 ⇓P P 00 48 28.7 0.0
baz=55
A24A Westby 55.03 339 ⇑P P 00 48 29.3 +0.4
baz=55
D20A Manuel Ranch, 55.16 335 ⇑P P 00 48 29.7 -0.1
baz=55
C21A Desert Coulee 55.32 336 ⇑P P 00 48 30.8 -0.1
baz=55
D19A Cripps Ranch, 55.54 334 ⇑P P 00 48 32.8 +0.2
baz=56
HLID Hailey 55.57 328 ⇑P P 00 48 32.9 -0.1
baz=56
A22A Carney Farms, 55.80 338 ⇑P P 00 48 33.9 -0.4
baz=56
C19A Slack Wire Ran 56.05 335 ⇓P P 00 48 36.2 0.0
baz=56
A20A Cobblestone Ra 56.49 336 ⇑P P 00 48 40.3 +1.0
baz=57
B19A Brinkman Farms 56.57 335 ⇓P P 00 48 40.0 +0.1
baz=57
EGMT Eagleton 56.58 335 ⇑P P 00 48 39.7 -0.2
baz=57
SCHQ Schefferville 56.61 7 P P 00 48 38.9 -1.0
4.8nm,0.8s,baz=198,slow=9.6,SNR=4.0
A19A Klindworth Far 56.86 336 ⇓P P 00 48 41.9 0.0
baz=57
MSO Missoula 57.61 331 ⇓P P 00 48 47.3 +0.1
baz=58
JTMT Jette 58.42 332 eP P 00 48 50.1 -2.7
BSMT Bassoo Peak 58.74 331 eP P 00 48 55.5 +0.4
J05D Fort Rock, OR 59.21 324 ⇑P P 00 48 58.5 +0.1
baz=59
J04D Umpqua Nationa 59.70 323 ⇓P P 00 49 01.5 -0.4
baz=60
NEW Newport 60.16 331 P P 00 49 03.7 -0.9
2.4nm,0.7s,baz=139,slow=6.5,SNR=6.2
NEW Newport 60.16 331 ⇓P P 00 49 04.2 -0.5
baz=60
YKA Yellowknife Ar 69.50 343 P P 00 50 03.3 -1.3
1.4nm,0.6s,baz=140,slow=5.9,SNR=46
LIC Lamto 72.68 83 eP P 00 50 24.7 -0.1
37nm,1.4s
TIC Toumodi 72.72 83 eP P 00 50 24.9 -0.1
3.4nm,0.2s
DBIC Dimbokro 72.88 83 P P 00 50 25.9 0.0
4.3nm,0.4s,baz=272,slow=5.1,SNR=23
KIC Kosan Boka 72.98 83 eP P 00 50 26.5 0.0
34nm,0.8s
KULLO Kullorsuaq 76.73 5 iP P 00 50 46.3 -0.5
7.7nm,0.8s
SUMG Summit 77.71 11 iP P 00 50 52.7 -0.1
7.5nm,0.7s
SUMG Summit 77.71 11 eP P 00 50 51.8 -1.1
6.0nm,0.6s
TORD Torodi Ar. Bea 79.73 76 P P 00 51 03.5 -1.0
1.4nm,0.4s,baz=279,slow=5.7,SNR=77
ILAR Eielson Array 82.51 336 P P 00 51 17.3 -0.9
2.3nm,0.7s,baz=132,slow=4.1,SNR=25
DAG Danmarks Havn 84.40 11 iP P 00 51 27.0 -0.6
2.2nm,0.7s
ZALV Zalesovo Beam 125.51 13 PKP PKPdf 00 57 54.4 -1.2
0.5nm,0.4s,baz=277,slow=2.4,SNR=4.3
STKA Stephens Creek 130.45 225 PKP PKPdf 00 58 04.8 -0.9
1.0nm,0.8s,baz=314,slow=1.4,SNR=2.9
MKAR Makanchi Array 131.35 18 PKP PKPdf 00 58 06.3 -0.8
0.3nm,0.5s,baz=295,slow=2.7,SNR=11
MKAR SKPbc SKPbc 01 01 13.8 -1.5
1.0nm,1.0s,baz=316,slow=3.3,SNR=6.2
SONM Songino Array 133.51 356 PKP PKPdf 00 58 10.1 -1.2
0.3nm,0.9s,baz=162,slow=0.5,SNR=3.0
SONM SKPbc SKPbc 01 01 22.2 -0.7
0.4nm,0.7s,baz=347,slow=1.4,SNR=4.8
ASAR Alice Springs 140.70 229 PKhKP PKPpre 00 58 16.1
0.3nm,0.5s,baz=122,slow=4.0,SNR=8.5
ASAR PKP PKPdf 00 58 23.4 -1.7
0.5nm,0.4s,baz=118,slow=2.5,SNR=9.3
ASAR SKPbc SKPbc 01 01 41.1 -3.6
0.7nm,0.9s,baz=132,slow=3.5,SNR=4.2
WRA Warramunga Arr 142.36 234 PKhKP PKPpre 00 58 22.5
1.1nm,0.4s,baz=115,slow=2.9,SNR=24
WRA PKP PKPdf 00 58 26.2 -1.9
1.0nm,0.6s,baz=121,slow=2.7,SNR=11
WRA SKPbc SKPbc 01 01 46.0 -3.0
1.3nm,0.9s,baz=113,slow=2.1,SNR=9.6
DANN Dangsing 147.65 32 eP PKPbc 00 58 40.4 +0.1
41nm,0.7s
KOLN Koldanda 148.02 33 eP PKPbc 00 58 40.7 -0.5
4.2nm,0.4s
GKN Gorkha 148.39 31 eP PKPbc 00 58 42.0 -0.1
DMN Daman 148.95 31 eP PKPbc 00 58 43.3 -0.3
8.5nm,0.4s
GUN Gumba 149.09 30 eP PKPbc 00 58 44.1 0.0
11nm,0.7s
PKI Pulchoki 149.13 31 eP PKPbc 00 58 43.6 -0.6
6.3nm,0.6s
RAMN Ramite 150.24 30 eP PKPbc 00 58 46.4 -0.4
TAPN Taplejung 150.44 27 eP PKPbc 00 58 46.8 -0.5
8.5nm,0.4s

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*IDC **14** 00:50:08.6±1.6,12.°83S×166.°31E,h0^{km},mb3.9/7, mb1 4.0/7,mb1mx3.8/19,mbtmp3.8/7,MS3.0/1,Ms1 3.0/1, ms1mx2.7/23,Error ellipse: s-maj=75.0km s-min=25.4km az=134.0*
*ISCJB **14** 00:50:12.0±2.1,12.°9S±0.°3×166.°3E±0.°4,h35^{km},mb3.8/7, Error ellipse: s-maj=74.9km s-min=21.5km az=37.2*
ISC 14 00:50:14.1±1.6,12.°8S±0.°3×166.°3E±0.°4,h35^{km},n14, σ1§04/13,mb3.8/7,Santa Cruz Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 7.07 298 LR LR 00 55 12.8
comp=Z,108nm,18.3s,baz=110,slow=43
STKA Stephens Creek 29.55 226 P P 00 56 16.3 +0.7
2.5nm,1.0s,baz=26,slow=8.6,SNR=3.3
WRA Warramunga Arr 31.41 253 P P 00 56 31.3 -0.9
0.6nm,0.9s,baz=80,slow=9.5,SNR=3.7
ASAR Alice Springs 32.51 246 P P 00 56 40.6 -1.2
0.7nm,0.7s,baz=67,slow=9.6,SNR=12
SONM Songino Array 80.41 324 P P 01 02 23.6 +1.5
0.5nm,0.7s,baz=139,slow=5.3,SNR=5.2
ILAR Eielson Array 85.03 18 P P 01 02 44.3 -1.4
0.5nm,0.7s,baz=228,slow=5.6,SNR=7.8
MKAR Makanchi Array 95.17 317 P P 01 03 33.6 -0.3
0.6nm,0.8s,baz=85,slow=5.7,SNR=4.4
ZALV Zalesovo Beam 95.30 324 P P 01 03 33.6 -0.7
0.3nm,0.3s,baz=132,slow=2.1,SNR=2.9
ARCES ARCESS Array B 118.18 345 PKP PKPdf 01 08 56.6 -0.4
2.1nm,0.7s,baz=72,slow=2.9,SNR=3.4
FINES FINESS Array B 123.61 338 PKP PKPdf 01 09 07.5 0.0
1.3nm,0.8s,baz=0.0,slow=4.2,SNR=5.8
AKASG Malin Array Be 128.63 326 PKP PKPdf 01 09 17.6 +0.1
0.6nm,0.7s,baz=43,slow=1.6,SNR=2.7
GERES GERESS Array B 137.52 333 PKP PKPdf 01 09 34.5 +0.1
0.5nm,0.8s,baz=52,slow=2.2,SNR=5.9
KEST Kesra 149.14 322 PKPbc PKPbc 01 10 01.0 +1.7
1.4nm,0.8s,baz=86,slow=3.3,SNR=4.1
ESDC Sonseca Array 151.91 344 PKPbc PKPbc 01 10 06.3 +0.6
1.4nm,0.9s,baz=7.6,slow=3.3,SNR=6.1

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*ISCJB **14** 01:02:16.6±0.5,26.°48S±0.°03×27.°58E±0.°03,h8^{km}±3^{km}, mb4.0/13,Error ellipse: s-maj=5.3km s-min=4.0km az=156.9*
*NEIC **14** 01:02:16.2,26.°50S×27.°58E,h2^{km},mb4.2/4,After PRE.*
*PRE **14** 01:02:17.6±4.9,26.°42S×27.°55E,h2^{km},ML3.8*
*IDC **14** 01:02:17.2±0.7,26.°47S×27.°48E,h0^{km},mb3.9/8, mb1 4.0/14,mb1mx3.8/30,mbtmp3.9/14,ML4.0/4,Error ellipse: s-maj=14.5km s-min=11.9km az=89.0*
ISC 14 01:02:17.5±0.8,26.°42S±0.°04×27.°54E±0.°03,h7^{km}±5^{km}, n41,σ1§65/58,mb4.0/13,South Africa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KLOF Kloof 0.10 43 eP Pg 01 02 20.1 +0.2
KLOF eS Sg 01 02 21.1 -0.4
KLOF AML AML 01 02 21.8
comp=Z,294μm,0.1s
WDLM Western Deep L 0.10 269 eP Pg 01 02 20.6 +0.6
WDLM eS Sg 01 02 21.9 +0.2
WDLM AML AML 01 02 24.0
comp=Z,14μm,0.3s
OBSV Observatory 0.54 64 eP Pg 01 02 27.7 -0.2
OBSV eS Sg 01 02 33.6 -1.4
OBSV AML AML 01 02 34.7
comp=Z,3μm,0.2s
ERPM east rand prop 0.64 83 eP Pg 01 02 29.8 -0.1
ERPM eS Sg 01 02 36.6 -1.6
ERPM AML AML 01 02 38.1
comp=Z,2μm,0.2s
BFSD Buffelsfontein 0.80 237 eP Pb 01 02 33.2 -0.7
BFSD eS Sn 01 02 46.6 -1.1
BFSD AML AML 01 02 49.5
comp=Z,686nm,0.4s
KSR Koster 0.81 314 eP Pg 01 02 33.4 +0.4
KSR eS Sg 01 02 44.2 +0.6
KSR AML AML 01 02 52.9
comp=Z,299nm,0.2s
MOAB Moab Khotsong 0.87 229 eP Pb 01 02 34.4 -0.6
MOAB eS Sb 01 02 45.8 -1.1
MOAB AML AML 01 02 48.5
comp=Z,1μm,0.4s
SWZ Schweizer 2.11 248 eP Pn 01 02 54.2 +0.8
SWZ eS Sb 01 03 21.1 -1.6
SWZ AML AML 01 03 23.9
comp=Z,785nm,0.5s
LBTB Lobatse 2.24 308 Pn Pb 01 02 57.1 -1.2
comp=Z,97nm,0.3s,baz=139,slow=15,SNR=1297
LBTB Pg Pg 01 02 58.5 -1.9
comp=Z,98nm,0.3s,baz=142,slow=15,SNR=396
LBTB Lg Lg 01 03 27.8
comp=Z,102nm,0.3s,baz=222,slow=23,SNR=43
BOSA Boshof 2.98 222 Pn Pn 01 03 05.2 0.0
comp=Z,7.5nm,0.3s,baz=49,slow=13,SNR=191
BOSA Pg Pb 01 03 11.3 +0.3
comp=Z,18nm,0.3s,baz=50,slow=15,SNR=26
BOSA Sn Sn 01 03 39.9 -1.4
comp=Z,10nm,0.3s,baz=18,slow=20,SNR=3.6
BOSA Lg Lg 01 03 48.2
comp=Z,45nm,0.3s,baz=353,slow=8.2,SNR=6.8
KSD Kokstad 4.42 158 eP Pb 01 03 34.4 -1.3
KSD eS Sn 01 04 15.8 -1.2
KSD AML AML 01 04 36.5
comp=Z,95nm,0.4s
HVD Gariep Dam 4.54 203 eP Pn 01 03 26.8 0.0
HVD eS Sn 01 04 19.2 -0.7
HVD AML AML 01 04 45.1
comp=Z,119nm,0.5s
MSNA Messina 4.65 30 eP Pn 01 03 32.5 +4.3
MSNA eS Sn 01 04 18.2 -4.2
MSNA AML AML 01 04 43.4
comp=Z,101nm,0.7s
GRM Grahamstown 6.93 187 eP Pn 01 03 59.4 -0.1
GRM eS Sn 01 05 16.5 -2.1
GRM AML AML 01 06 03.5
comp=Z,55nm,0.5s
SUR Sutherland 8.34 223 Pn Pn 01 04 18.2 -0.9
comp=Z,3.0nm,0.3s,baz=50,slow=16,SNR=36
SUR Sn Sn 01 05 48.7 -5.0
comp=Z,3.6nm,0.3s,baz=3.7,slow=17,SNR=7.0
SUR Lg Lg 01 06 34.8
comp=Z,7.4nm,0.3s,baz=314,slow=22,SNR=7.6
SUR Sutherland 8.34 223 ePn Pn 01 04 19.9 +0.8
comp=Z,20nm,0.6s
SUR eSn Sn 01 05 47.3 -6.4
SUR Lg Lg 01 06 34.8
KOMG Komaggas 9.49 247 eP Pn 01 04 35.5 +0.8
KOMG eS Sn 01 06 16.8 -4.9
KOMG AML AML 01 07 26.1
comp=Z,33nm,0.6s
CER Ceres 9.95 224 eP Pn 01 04 41.6 +0.7
CER eS Sn 01 06 27.9 -4.9
CER AML AML 01 07 31.1
comp=Z,55nm,0.7s
LSZ Lusaka 11.11 3 Pn Pn 01 04 56.7 -0.2
comp=Z,0.9nm,0.3s,baz=182,slow=12,SNR=14
LSZ Sn Sn 01 06 54.9 -6.6
comp=Z,2.5nm,0.3s,baz=58,slow=14,SNR=6.8
LSZ Lg Lg 01 08 05.2
comp=Z,1.4nm,0.3s,baz=71,slow=17,SNR=3.7
LSZ Lusaka 11.11 3 ePn Pn 01 04 55.5 -1.4
comp=Z,3.0nm,0.4s
LSZ eSn Sn 01 06 55.0 -6.5
LSZ Lg Lg 01 08 05.2
TSUM Tsumeb 11.65 306 Pn Pn 01 05 04.0 -0.4
comp=Z,0.6nm,0.3s,baz=139,slow=6.2,SNR=12
TSUM Sn Sn 01 07 07.5 -7.4
comp=Z,0.3nm,0.3s,baz=303,slow=20,SNR=2.1
TSUM Lg Lg 01 08 19.2
comp=Z,0.6nm,0.3s,baz=273,slow=12,SNR=3.6
TSUM Tsumeb 11.65 306 ePn Pn 01 05 03.7 -0.7
TSUM Sn Sn 01 07 07.5 -7.4
TSUM Lg Lg 01 08 19.2
OPO Ambohidratompo 19.75 71 P Pn 01 06 50.1 +0.4
comp=Z,0.2nm,0.3s,baz=253,slow=11,SNR=3.0
ASCN Ascension 43.79 287 eP P 01 10 23.0 -1.2
DBIC Dimbokro 45.49 312 P P 01 10 38.2 +0.6
comp=Z,1.3nm,0.6s,baz=116,slow=5.0,SNR=4.2
MAW Mawson 46.44 162 P P 01 10 45.7 +1.2
comp=Z,32nm,1.1s,baz=308,slow=16,SNR=2.8
TORD Torodi Ar. Bea 46.67 324 P P 01 10 47.2 +0.1
comp=Z,2.0nm,0.6s,baz=149,slow=7.4,SNR=27
SNAA Sanae 48.35 192 eP P 01 10 59.8 +0.3
comp=Z,2.3nm,0.9s
QSPA South Pole Qui 63.77 180 P P 01 12 50.1 +0.1
comp=Z,0.4nm,0.4s,baz=76,slow=2.9,SNR=9.8
ESDC Sonseca Array 72.02 335 P P 01 13 43.1 +1.0
comp=Z,0.6nm,0.5s,baz=152,slow=5.9,SNR=11
BUR08 Bucovina Ar. S 73.75 358 eP P 01 13 54.9 +2.7
GERES GERESS Array B 75.94 351 P P 01 14 06.7 +1.9
comp=Z,0.4nm,0.7s,baz=169,slow=5.6,SNR=3.1
AKASG Malin Array Be 76.80 1 P P 01 14 10.3 +0.8
comp=Z,0.3nm,0.5s,baz=182,slow=5.1,SNR=4.7
ABKAR Akbulak array 80.69 21 eP P 01 14 32.2 +1.2
comp=Z,0.3nm,0.5s
AAK Ala-Archa 81.20 33 eP P 01 14 35.4 +1.3
comp=Z,1.8nm,1.1s
LSA Lhasa 82.61 52 eP P 01 14 43.3 +1.1
comp=Z,2.3nm,0.7s
FINES FINESS Array B 87.56 359 P P 01 15 06.2 +0.5
comp=Z,0.7nm,0.5s,baz=163,slow=6.4,SNR=11
MKAR Makanchi Array 88.05 34 P P 01 15 08.9 +0.5
comp=Z,0.4nm,0.7s,baz=231,slow=4.7,SNR=5.3
DUG Dugway 144.43 303 ePKPdf PKPdf 01 21 54.9 +0.1
HLID Hailey 144.81 309 ePKPdf PKPdf 01 21 56.0 +0.6
NVAR Mina Array Bea 148.95 301 PKPbc PKPbc 01 22 08.0 +1.4
comp=Z,0.5nm,0.5s,baz=78,slow=4.7,SNR=6.0

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*ISCJB **14** 01:07:25.1±0.5,65.°02N±0.°04×133.°3W±0.°1,h9^{km},mb2.9/1, Error ellipse: s-maj=6.6km s-min=6.0km az=33.8*
*PGC **14** 01:07:27.4±0.0,65.°05N×133.°51W,h1^{km},ML3.1/4,269km Sse of Fort McPherson, Nt Northern Yukon Territory, Canada*
*IDC **14** 01:07:27.8±0.9,65.°11N×133.°41W,h0^{km},mb2.7/1, mb1 3.1/5,mb1mx3.0/31,mbtmp2.7/5,ML3.0/3,Error ellipse: s-maj=13.2km s-min=9.8km az=21.0*
ISC 14 01:07:27.2±0.8,65.°04N±0.°04×133.°27W±0.°05,h9^{km},n15, σ1§64/24,6D,Northern Yukon Territory

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DAWY Dawson 2.82 253 ⇑Pn Pn 01 08 11.8 -0.5
DAWY ⇑Sg Sb 01 08 51.4 -0.8
INK Inuvik 3.29 358 ⇓Pn Pn 01 08 19.4 +0.7
INK ⇑Sg Sb 01 09 07.9 +2.3
INK Inuvik 3.29 358 Pn Pn 01 08 19.4 +0.7
0.2nm,0.3s,baz=176,slow=22,SNR=8.6
INK Sn Sn 01 08 58.5 +0.6
0.8nm,0.3s,baz=178,slow=19,SNR=3.4
INK Lg Lg 01 09 08.6
1.6nm,0.3s,baz=91,slow=24,SNR=6.0
WHY Whitehorse 4.45 190 ⇑Pn Pn 01 08 35.5 +0.6
WHY ⇑Sn Sn 01 09 24.9 -2.0
WHY ⇓Sg Sb 01 09 40.1 +0.8
HYT Haines Junctio 4.65 207 ⇑Pn Pn 01 08 38.5 +0.9
HYT ⇓Sg Sb 01 09 48.0 +3.2
ILAR Eielson Array 5.80 274 Pn Pn 01 08 53.4 +0.1
0.0nm,0.3s,baz=78,slow=12,SNR=2.4
ILAR Sn Sn 01 09 57.9 -2.0
0.1nm,0.3s,baz=84,slow=18,SNR=3.4
ILAR Lg Lg 01 10 23.3
0.3nm,0.3s,baz=81,slow=26,SNR=6.6
DLBC Dease Lake 6.80 165 ⇑Pn Pn 01 09 08.0 +1.0
DLBC Dease Lake 6.80 165 Pn Pn 01 09 08.7 +1.7
0.7nm,0.3s,baz=358,slow=9.8,SNR=14
DLBC Lg Lg 01 10 57.6
0.4nm,0.3s,baz=153,slow=17,SNR=4.8
GALN Gameti Lake 6.93 90 ⇑Pn Pn 01 09 09.6 +0.9
GALN ⇑Sn Sn 01 10 25.1 -2.5
CTLN Castor Lake 7.41 87 ⇓Pn Pn 01 09 15.7 +0.4
YKR1 Yellowknife Ar 8.50 99 ⇓Pn Pn 01 09 30.2 0.0
YKW3 Yellowknife Ar 8.61 98 ⇓Pn Pn 01 09 32.4 +0.7
YKA Yellowknife Ar 8.64 99 Pn Pn 01 09 32.8 +0.6
0.2nm,0.3s,baz=292,slow=13,SNR=15
YKA Sn Sn 01 11 06.5 -3.1
0.1nm,0.3s,baz=298,slow=22,SNR=5.0
RES Resolute Bay 15.98 37 Pn Pn 01 11 09.6 -2.1
0.1nm,0.3s,baz=228,slow=8.7,SNR=6.4
TXAR Lajitas Array 40.22 138 P P 01 15 05.6 +1.7
0.1nm,0.4s,baz=350,slow=10,SNR=2.7

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*IDC **14** 01:15:15.4±1.1,49.°36N×153.°58E,h0^{km},mb3.2/5, mb1 3.5/7,mb1mx3.3/27,mbtmp3.3/1,ML3.0/2,MS3.1/2, Ms1 3.1/2,ms1mx2.7/13,Error ellipse: s-maj=40.4km s-min=20.9km az=141.0*
*ISCJB **14** 01:15:18.4±0.8,49.°4N±0.°2×153.°7E±0.°2,h33^{km},mb3.2/5, MS3.3/1,Error ellipse: s-maj=28.7km s-min=14.5km az=44.6*
ISC 14 01:15:20.5±1.1,49.°4N±0.°2×153.°7E±0.°2,h35^{km},n17, σ1§33/7,mb3.2/5,Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PETK Petropavlovsk- 4.51 33 Pn Pn 01 16 27.1 +0.8
0.8nm,0.3s,baz=196,slow=11,SNR=7.3
PETK Lg Lg 01 17 40.1
baz=208,slow=14,SNR=1.6
PETK LR LR 01 18 10.9
comp=Z,94nm,20.2s,baz=143,slow=38
FX1 Attu Island--F 12.73 67 Pn Pn 01 18 17.3 -1.5
0.6nm,0.3s,baz=239,slow=18,SNR=2.9
JCJ Chichijima 23.95 206 LR LR 01 28 33.4
comp=Z,104nm,19.7s,baz=112,slow=33
H11N2 WAKE ISLAND Hy 31.42 156 T T 01 53 56.6
baz=352,slow=74,SNR=8.3
H11N1 WAKE ISLAND Hy 31.44 156 T T 01 54 04.3
baz=48,slow=74,SNR=7.1
H11N3 WAKE ISLAND Hy 31.44 156 T T 01 53 37.2
H11S1 WAKE ISLAND Hy 32.54 157 T T 01 55 06.7
baz=347,slow=78,SNR=32
H11S3 WAKE ISLAND Hy 32.55 157 T T 01 55 05.7
baz=347,slow=78,SNR=23
H11S2 WAKE ISLAND Hy 32.55 157 T T 01 55 04.4
baz=347,slow=78,SNR=19
MKAR Makanchi Array 46.11 295 P P 01 23 40.2 -0.9
0.3nm,0.9s,baz=63,slow=6.6,SNR=2.4
YKA Yellowknife Ar 48.61 38 P P 01 23 60.0 -0.2
0.1nm,0.6s,baz=298,slow=8.5,SNR=3.2
WRA Warramunga Arr 71.12 199 P P 01 26 34.8 -0.4
0.2nm,0.5s,baz=16,slow=6.5,SNR=8.9
ASAR Alice Springs 74.82 199 P P 01 26 57.8 +0.7
0.3nm,0.9s,baz=18,slow=5.7,SNR=2.8
TXAR Lajitas Array 75.89 61 P P 01 27 05.2 +1.7
0.1nm,0.4s,baz=353,slow=3.0,SNR=2.4
H03N2 Juan Fernandez 138.33 88 T T 04 08 10.4
baz=309,slow=75,SNR=4.6
H03N1 Juan Fernandez 138.34 88 T T 04 08 12.9
baz=309,slow=75,SNR=4.8
H03N3 Juan Fernandez 138.35 88 T T 04 08 08.4
baz=309,slow=75,SNR=4.6

IDC 14 01:21:43.5±1.6,9.°19N×74.°59W,h0^{km},mb3.3/2, mb1 3.4/3,mb1mx3.2/23,mbtmp3.3/3,ML1.8/1,Error ellipse: s-maj=58.8km s-min=28.7km az=79.0,Northern Colombia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ROSC El Rosal 4.31 177 Pn Pn 01 22 50.7 -0.2
1.2nm,0.3s,baz=98,slow=9.6,SNR=2.4

ROSC Sn Sn 01 23 43.8 +1.5
5.5nm,0.3s,baz=92,slow=23,SNR=4.4
YKA Yellowknife Ar 60.56 340 P P 01 31 55.4 -0.1
0.1nm,0.4s,baz=130,slow=6.7,SNR=6.1
TORD Torodi Ar. Bea 74.70 79 P P 01 33 25.9 +0.1
0.2nm,0.4s,baz=285,slow=6.7,SNR=5.8

IDC 14 01:32:32.1±3.2, 5°.67S×147°.38E, h0km, mb2.9/1, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=85.2km s-min=39.9km az=96.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.71	183	Pn	Pn	01 33 30.0	-0.8
	1.1nm,0.3s,baz=0.9,slow=15,SNR=4.3						
PMG				Sn	Sn	01 34 07.6	-7.7
	3.1nm,0.3s,baz=356,slow=16,SNR=4.4						
WRA	Warramunga Arr	19.03	221	P	P	01 36 56.2	+0.3
	0.1nm,0.3s,baz=44,slow=11,SNR=7.0						
ASAR	Alice Springs	22.10	215	P	P	01 37 29.4	+0.2
	0.2nm,0.3s,baz=45,slow=9.3,SNR=7.3						
TORD	Torodi Ar. Bea	145.38	285	PKPbc	PKPbc	01 52 12.2	-0.8
	0.3nm,0.9s,baz=98,slow=3.1,SNR=2.9						

ISCJB 14 01:44:30.4±0.4, 41°.47N×0°.03×141°.98E±0°.06, h71km±5km, mb3.4/6, Error ellipse: s-maj=7.7km s-min=4.4km az=33.8
JMA 14 01:44:31.1±0.1, 41°.48N×141°.98E, h63km±2km, M3.3
MOS 14 01:44:31.4±1.4, 41°.49N×142°.17E, h90km, mb3.9/3, Error ellipse: s-maj=24.0km s-min=14.7km az=70.2
IDC 14 01:44:32.7±2.2, 41°.47N×141°.94E, h77km±20km, mb3.3/6, mb1 3.4/8, mb1mx3.2/26, mbtmp3.6/8, MS2.5/1, Ms1 2.5/2, ms1mx2.3/16, Error ellipse: s-maj=29.5km s-min=16.2km az=106.0
ISC 14 01:44:31.1±0.9, 41°.47N±0°.04×141°.99E±0°.04, h62km±9km, n36, σ1§07/39, mb3.5/6, 2C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.71	264	⇓P	Pn	01 44 45.6	0.0
JOT				eS	Sn	01 44 56.5	+0.3
JKB	Kayabe	0.83	301	⇓P	Pn	01 44 46.7	-0.4
JTM	Tenmabayashi	0.97	226	⇓P	Pn	01 44 49.1	+0.2
JTM				eS	Sn	01 45 02.3	+0.3
JNBK	Urakawa-nobuka	0.99	35	P	Pn	01 44 48.6	-0.5
JEM	Erimo	1.03	57	⇑P	Pn	01 44 49.7	+0.1
JEM				eS	Sn	01 45 03.8	+0.4
JANG	Nango	1.15	198	P	Pn	01 44 51.2	0.0
JANG				eS	Sn	01 45 05.8	-0.3
JSR	Shiriuchi	1.18	274	P	Pn	01 44 51.7	+0.1
JNB	Noboribetsu	1.23	325	P	Pn	01 44 51.6	-0.6
JNB				eS	Sn	01 45 07.1	-0.8
JBT2	Biratori 2	1.34	12	P	Pn	01 44 54.1	+0.4
JYM2	Yakumo 2	1.38	299	⇓P	Pn	01 44 54.6	+0.4
JEW	Eniwo	1.43	344	⇓P	Pn	01 44 55.1	+0.2
JEW				eS	Sn	01 45 12.8	0.0
JCH	Churui	1.54	41	P	Pn	01 44 57.1	+0.8
JCH				eS	Sn	01 45 16.0	+0.7
JAH	Hinai	1.64	219	P	Pn	01 44 58.7	+1.0
JAH				eS	Sn	01 45 18.4	+0.6
JFR	Furan	1.75	15	⇑P	Pn	01 44 59.5	+0.2
JOSM	Okushiri--Mats	1.98	289	P	Pn	01 45 02.1	-0.2
ASAJ	Asahikawa	2.69	9	P	Pn	01 45 13.2	+1.3
ASAJ				S	Sn	01 45 45.9	+2.6
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,59nm,21.3s						
ASAJ	Asahikawa	2.69	9	P	Pn	01 45 13.2	+1.3
	comp=Z,4.6nm,0.3s,baz=223,slow=10,SNR=28						
ASAJ				S	Sn	01 45 45.9	+2.6
	comp=Z,4.6nm,0.3s,baz=18,slow=28,SNR=7.6						
ASAJ				LR	LR	01 46 46.1	
	comp=Z,59nm,21.3s,baz=307,slow=50						
YUK	Yuzh-Kuril'sk	3.84	47	d iP	Pn	01 45 27.1	-0.5
YUK				i S	Sn	01 46 08.9	-2.5
YUK				pmax	pmax		
	comp=Z,91nm,0.5s						
YUK				pmax	pmax		
	comp=N,47nm,0.2s						
YUK				pmax	pmax		
	comp=E,39nm,0.2s						
MJAR	Matsushiro Arr	5.73	212	P	Pn	01 45 56.7	+3.0
	comp=E,0.3nm,0.3s,baz=4.6,slow=14,SNR=2.6						
KSRS	Korea Array	11.59	254	P	Pn	01 47 18.8	+5.2
	comp=E,0.2nm,0.3s,baz=63,slow=14,SNR=5.2						
SONM	Songino Array	25.94	296	P	P	01 49 57.6	-0.1
	comp=E,0.4nm,0.7s,baz=84,slow=10.0,SNR=4.8						
H11N2	WAKE ISLAND Hy	30.29	128	T	T	02 23 08.4	
	baz=324,slow=76,SNR=17						
H11N1	WAKE ISLAND Hy	30.30	128	T	T	02 23 09.7	
	baz=324,slow=76,SNR=19						
H11N3	WAKE ISLAND Hy	30.31	128	T	T	02 23 06.0	
	baz=324,slow=76,SNR=20						
H11S1	WAKE ISLAND Hy	31.13	130	T	T	02 24 08.1	
	baz=326,slow=76,SNR=6.7						
H11S3	WAKE ISLAND Hy	31.13	130	T	T	02 24 08.5	
	baz=326,slow=76,SNR=5.6						
H11S2	WAKE ISLAND Hy	31.15	130	T	T	02 24 11.0	
	baz=326,slow=76,SNR=6.1						
TGY	Tagaytay City	32.84	220	LR	LR	02 04 28.3	
	comp=E,14nm,20.4s,baz=80,slow=36						
ZALV	Zalesovo Beam	39.38	308	P	P	01 51 53.8	-0.6
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	39.38	308	P	P	01 51 53.8	-0.6
	comp=Z,0.7nm,0.5s,baz=88,slow=8.0,SNR=4.7						
MKAR	Makanchi Array	42.28	298	P	P	01 52 18.0	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	42.28	298	P	P	01 52 18.0	-0.4
	comp=Z,0.5nm,0.5s,baz=78,slow=6.6,SNR=4.1						
ILAR	Eielson Array	45.55	35	P	P	01 52 45.2	+0.8
	comp=Z,0.3nm,0.8s,baz=277,slow=6.6,SNR=5.5						
WRA	Warramunga Arr	61.51	188	P	P	01 54 40.5	-1.1
	comp=Z,0.1nm,0.3s,baz=6.3,slow=7.0,SNR=4.9						
FINES	FINESS Array B	65.12	332	P	P	01 55 04.8	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	65.12	332	P	P	01 55 04.8	-0.2
	comp=Z,1.5nm,0.8s,baz=56,slow=6.7,SNR=9.1						

IDC 14 01:58:06.6±0.8, 18°.47S×168°.17E, h0km, mb4.6/14, mb1 4.8/15, mb1mx4.7/20, mbtmp4.6/15, ML4.6/1, MS4.2/16, Ms1 4.2/16, ms1mx4.0/25, Error ellipse: s-maj=28.0km s-min=15.9km az=138.0
ISCJB 14 01:58:10.1±0.3, 18°.44S±0°.03×168°.02E±0°.05, h29km, mb4.8/52, MS4.2/14, Error ellipse: s-maj=7.4km s-min=4.5km az=20.3
MOS 14 01:58:15.8±1.2, 18°.39S×167°.88E, h74km, mb4.9/24, Error ellipse: s-maj=11.8km s-min=9.8km az=8.5
NEIC 14 01:58:17.9±1.3, 18°.49S×167°.97E, h82km±12km, mb4.8/29, Error ellipse: s-maj=9.7km s-min=6.8km az=170.0
BJI 14 01:58:22.0, 18°.03S×168°.53E, h125km, mB5.0/10, mb4.5/18
ISC 14 01:58:11.7±0.4, 18°.48S±0°.06×168°.07E±0°.08, h29km, n203, σ1§26/189, mb4.9/52, MS4.2/14, 15C-11D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	3.82	197	eP	Pn	01 59 08.0	-0.5
BAYA				eS	Sn	01 59 50.9	-1.6
DZM	Mont Dzumac	3.88	203	ePn	Pn	01 59 08.1	-1.4
	94nm,0.2s						
DZM				eSn	Sn	01 59 52.1	-2.1
	251nm,0.2s						
DZM				eLR	LR	01 59 58.9	
	4µm,23.1s						
DZM	Mont Dzumac	3.88	203	Pn	Pn	01 59 08.0	-1.4
	45nm,0.3s,baz=29,slow=18,SNR=252						
DZM				Sn	Sn	01 59 52.3	-2.0
	34nm,0.3s,baz=182,slow=20,SNR=10						
DZM				LR	LR	02 00 36.6	
	comp=Z,5µm,18.4s,baz=46,slow=38						
NOUC	Port Laguerre	3.96	204	eP	Pn	01 59 11.0	+0.5
NOUC				eS	Sn	01 59 56.7	+0.6
MSVF	Nonsavu	9.52	87	eP	Pn	02 00 34.9	+8.0
MSVF	Nonsavu	9.52	87	ePn	Pn	02 00 34.9	+8.0
HNR	Honiara	11.96	318	LR	LR	02 04 49.1	
	comp=Z,519nm,19.4s,baz=168,slow=34						
EIDS	Eidsvold	17.18	244	ePn	P	02 02 12.3	+1.2
	254nm,2.3s						
OUZ	Omahuta	17.38	165	ePn	P	02 02 14.4	+1.3
	72nm,1.5s						
ARMA	Armidale	19.08	228	eP	Pn	02 02 34.3	+1.2
	25nm,0.9s						
ARMA	Armidale	19.08	228	⇑P	Pn	02 02 34.8	+1.7
	baz=20,SNR=6.6						
RMQ	Roma	19.53	242	⇑P	Pn	02 02 39.6	+1.3
	baz=20,SNR=60						
AFI	Afiamalu	19.87	80	LR	LR	02 08 47.1	
	comp=Z,912nm,20.6s,baz=256,slow=32						
CTA	Charters Tower	20.66	262	P	P	02 02 50.3	+1.0
CTA				pmax	pmax		
	comp=Z,11nm,0.6s						
CTA	Charters Tower	20.66	262	P	P	02 02 50.3	+1.0
	comp=Z,11nm,0.6s,baz=88,slow=12,SNR=23						
CTA	Charters Tower	20.66	262	⇑P	P	02 02 50.1	+0.9
	baz=21						
CTAO	Charters Tower	20.66	262	eP	P	02 02 50.3	+1.0
CTAO				pmax	pmax		
	comp=Z,79nm,1.5s						
CTAO	Charters Tower	20.66	262	eP	P	02 02 50.3	+1.0
	comp=Z,79nm,1.5s						
MGCD	Mangrove Creek	21.12	223	⇑P	P	02 02 57.0	+2.8
	baz=22,SNR=18						
URZ	Urewera	21.22	160	P	P	02 02 57.5	+2.3
	comp=Z,5.9nm,0.7s,baz=308,slow=12,SNR=4.6						
URZ				LR	LR	02 10 08.4	
	comp=Z,645nm,20.2s,baz=342,slow=34						
RIV	Riverview	21.49	221	⇓P	P	02 02 58.4	+0.3
	baz=22						
BKZ	Black Stump Fm	21.87	162	eP	P	02 03 04.9	+2.7
	comp=Z,24nm,0.8s						
PMG	Port Moresby	22.19	291	c iP	P	02 03 05.7	-0.1
PMG				pmax	pmax		
	comp=Z,23nm,1.3s						
PMG	Port Moresby	22.19	291	P	P	02 03 04.7	-1.1
	comp=Z,14nm,0.8s,baz=104,slow=8.3,SNR=12						
PMG				LR	LR	02 10 17.5	
	comp=Z,770nm,18.2s,baz=130,slow=33						
MTSU	Mount Surprise	22.56	267	P	P	02 03 11.0	+1.3
	baz=23,SNR=17						
QLP	Quilpie	23.42	246	P	P	02 03 18.8	+0.3
	baz=24,SNR=36						
YNG	Young	23.57	224	⇑P	P	02 03 21.7	+1.8
	baz=24,SNR=20						
CAN	Canberra	23.82	221	⇑P	P	02 03 23.8	+1.6
	baz=24						
CMSA	Cobar Meteorol	24.03	233	⇑P	P	02 03 25.2	+1.0
	baz=24,SNR=70						
COEN	Coen	24.32	277	eP	P	02 03 26.8	-0.2
COEN	Coen	24.32	277	⇓P	P	02 03 27.6	+0.5
	baz=25,SNR=4.4						
STKA	Stephens Creek	27.34	236	P	P	02 03 55.2	+1.0
STKA				pmax	pmax		
	comp=Z,21nm,0.8s						
STKA				MLR	MLR		
	comp=Z,16nm,28.6s						
STKA	Stephens Creek	27.34	236	P	P	02 03 55.1	+1.0
	comp=Z,21nm,0.8s,baz=72,slow=8.8,SNR=36						
STKA				LR	LR	02 14 49.2	
	comp=Z,419nm,18.1s,baz=36,slow=37						
STKA	Stephens Creek	27.34	236	P	P	02 03 55.2	+1.0
	baz=28,SNR=25						
ARPS	Mount Arapiles	29.38	226	⇑P	P	02 04 13.5	+1.1
	baz=30						
HTT	Hallett	30.01	235	⇑P	P	02 04 18.7	+0.6
	baz=30,SNR=5.1						
JAY	Jayapura	31.16	297	P	P	02 04 35.5	+7.2
	comp=Z,40nm,0.7s,comp=Z,5µm						
GENI	Genyem	31.57	297	P	P	02 04 43.4	+11
	comp=Z,78nm,1.7s,comp=Z,2µm						
WRAB	Tennant Creek	31.85	262	eP	P	02 04 32.4	-2.0
WRAB				pmax	pmax		
	comp=Z,106nm,2.5s						
WRAB	Tennant Creek	31.85	262	eP	P	02 04 32.4	-2.0
	comp=Z,106nm,2.5s						
WRA	Warramunga Arr	31.86	262	P	P	02 04 32.8	-1.7
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA				MLR	MLR		
	comp=Z,16nm,28.6s						
WRA	Warramunga Arr	31.86	262	P	P	02 04 32.8	-1.7
	comp=Z,3.9nm,0.8s,baz=83,slow=6.1,SNR=32						
WRA				LR	LR	02 16 37.5	
	comp=Z,480nm,19.2s,baz=85,slow=35						
BBOO	Buckleboo	32.05	237	eP	P	02 04 36.3	+0.3
BBOO	Buckleboo	32.05	237	P	P	02 04 36.3	+0.3
	baz=32,SNR=13						
ASAR	Alice Springs	32.25	255	P	P	02 04 37.1	-0.8
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ASAR				MLR	MLR		
	comp=Z,16nm,28.6s						
ASAR	Alice Springs	32.25	255	P	P	02 04 37.1	-0.8
	comp=Z,9.6nm,0.6s,baz=82,slow=8.7,SNR=224						
ASAR				LR	LR	02 17 28.7	
	comp=Z,911nm,18.8s,baz=91,slow=36						
KDU	Kakadu	34.73	274	⇓P	P	02 04 58.4	-1.1
	baz=35						
WRKA	Warakurna	37.41	253	⇓P	P	02 05 21.3	-1.1
	baz=38,SNR=27						
KNRA	Kununurra	37.63	268	⇑P	P	02 05 23.3	-1.1
	baz=38,SNR=5.2						
FORT	Forrest	38.18	244	eP	P	02 05 28.1	-0.7
	comp=Z,35nm,0.7s						
FORT	Forrest	38.18	244	⇑P	P	02 05 28.6	-0.3
	baz=39,SNR=11						
FAKI	Fak Fak	38.33	290	⇓P	P	02 05 28.3	-2.0
	baz=39,SNR=3.1						
SWI	Sorong	40.14	292	P	P	02 05 55.3	+10
	comp=Z,36nm,0.7s,comp=Z,1µm						
PPT2	Papeete2	40.21	96	eLR	LR	02 16 45.2	
	comp=Z,490nm,25.8s						
PPT	Papeete	40.22	96	LR	LR	02 18 15.7	
	comp=Z,269nm,19.9s,baz=232,slow=30						
FITZ	Fitzroy Crossi	40.22	264	⇓P	P	02 05 45.9	-0.2
	baz=41						
MBWA	Marble Bar	45.42	258	eP	P	02 06 27.5	-0.7
	comp=Z,30nm,1.0s						
MEEK	Meekatharra	46.16	251	⇓P	P	02 06 33.6	-0.4
	baz=46,SNR=50						
KLBR	Kellerberrin	47.05	244	P	P	02 06 40.1	-0.8
	baz=47,SNR=12						
NWAO	Narrogin (SRO)	47.58	242	P	P	02 06 44.6	-0.4
NWAO				pmax	pmax		
	comp=Z,50nm,0.7s						
NWAO	Narrogin (SRO)	47.58	242	P	P	02 06 44.6	-0.4
	comp=Z,50nm,0.7s,baz=89,slow=6.7,SNR=37						
BLDU	Balludu	47.89	245	⇓P	P	02 06 46.8	-0.7
	baz=48,SNR=5.7						
RKGY	Rocky Gully	47.95	240	⇓P	P	02 06 47.3	-0.5
	baz=48,SNR=17						
MORW	Morawa	48.44	247	P	P	02 06 51.2	-0.5
	baz=49,SNR=14						
KAPI	Kappang	49.00	280	eP	P	02 06 55.5	-0.7
	comp=Z,53nm,0.9s						
KKM	Kota Kinabalu	56.64	291	eP	P	02 07 52.8	0.0
	comp=Z,12nm,0.7s						
VNDA	Vanda	59.15	182	LR	LR	02 29 26.3	
	comp=Z,103nm,21.5s,baz=41,slow=32						
MJAR	Matsushiro Arr	61.58	333	P	P	02 08 25.7	-0.7
MJAR				pmax	pmax		
	comp=Z,14nm,1.2s						
MJAR	Matsushiro Arr	61.58	333	P	P	02 08 25.7	-0.7
	comp=Z,14nm,1.2s,baz=148,slow=7.6,SNR=5.4						
MAJO	Matsushiro	61.58	333	eP	P	02 08 27.8	+1.4
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAJO	Matsushiro	61.58	333	eP	P	02 08 27.8	+1.4
	comp=Z,6.1nm,0.8s						
YUK	Yuzh-Kuril'sk	65.45	343	i P	P	02 08 51.0	-0.8
YUK				i S	S	02 18 02.5	+28
YUK				MLR	MLR		
	comp=N,105nm,18.0s						
YUK				MLR	MLR		
	comp=E,113nm,18.0s						
YUK				MLR	MLR		
	comp=Z,139nm,18.0s						
KSRS	Korea Array	67.27	326	P	P	02 09 02.6	-1.0
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS	Korea Array	67.27	326	P	P	02 09 02.6	-1.0
	comp=Z,0.5nm,0.7s,baz=140,slow=6.2,SNR=3.3						
KSAR	Wonju Array Be	67.28	326	P	P	02 09 02.6	-1.0
KSAR	Wonju Array Be	67.28	326	P	P	02 09 02.6	-1.0
YSS	Yuzh-Sakhalins	69.02	342	eP	P	02 09 14.7	+0.4
YSS				pmax	pmax		
	comp=Z,18nm,1.7s						
YSS	Yuzh-Sakhalins	69.02	342	eP	P	02 09 13.7	-0.6
	comp=Z,8.5nm,0.4s						
IPM	Ipoh	69.85	282	eP	P	02 09 19.6	-0.7
	comp=Z,8.4nm,0.8s						
USRK	Ussuriysk Arra	70.57	333	P	P	02 09 24.7	+0.8
	comp=Z,3.3nm,0.8s,baz=159,slow=5.9,SNR=8.4						
FX1	Attu Island--F	71.20	3	LR	LR	02 35 28.6	
	comp=Z,128nm,19.4s,baz=204,slow=32						
PETK	Petropavlovsk-	71.86	353	P	P	02 09 31.5	-0.1
	comp=Z,7.3nm,0.7s,baz=152,slow=9.6,SNR=6.4						
PETK				LR	LR	02 37 31.2	
	comp=Z,118nm,19.2s,baz=122,slow=33						
MDJ	Mudanjiang	71.94	332	eP	P	02 09 33.8	+1.5
	comp=Z,28nm,1.1s						
SLVN	Son La	74.24	299	eP	P	02 09 47.1	+0.6
	comp=Z,4.9nm,0.9s						
KLR	Kul'dur	74.74	336	eP	P	02 09 45.4	-3.2
KLR				pmax	pmax		
	comp=Z,50nm,1.8s						
KMI	Kunming	76.94	302	P	P	02 10 03.3	+1.2
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
CMAR	Chiang Mai Arr	77.19	295	P	P	02 10 04.4	+1.1
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CMAR	Chiang Mai Arr	77.19	295	P	P	02 10 04.4	+1.1
	comp=Z,2.2nm,0.5s,baz=130,slow=4.6,SNR=16						
CHTO	Chiang Mai	77.34	295	eP	P	02 10 04.1	0.0
CHTO				e		02 10 14.4	
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHTO	Chiang Mai	77.34	295	eP	P	02 10 04.1	0.0
	comp=Z,9.2nm,0.9s						
CHTO				ePcP	PcP	02 10 14.4	-0.2
MAW	Mawson	78.71	202	LR	LR	02 41 19.7	
	comp=Z,223nm,20.1s,baz=104,slow=33						
LZH	Lanzhou	81.41	312	eP	P	02 10 21.0	-5.2
LZH				pP	PcP	02 10 26.5	-5.7
LZH				sP	sP	02 10 29.1	-10
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
SEY	Seymchan	82.08	353	eP	P	02 10 28.1	-0.8
ULN	Ulaanbaatar	85.61	324	eP	P	02 10 47.7	+0.2
ULN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ULN	Ulaanbaatar	85.61	324	eP	P	02 10 47.7	+0.2
	comp=Z,6.6nm,0.9s						
GTA	Gaotai	85.81	314	eP	P	02 10 49.9	+1.2
GTA				pmax	pmax		
	comp=Z,6.0nm,1.7s						
YAK	Yakutsk	85.83	343	eP	P	02 10 48.0	0.0
YAK				pmax	pmax		
	comp=Z,12nm,1.0s						
SONM	Songino Array	85.96	324	P	P	02 10 49.5	+0.3
SONM				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SONM	Songino Array	85.96	324	P	P	02 10 49.5	+0.3
	comp=Z,4.8nm,1.1s,baz=145,slow=6.3,SNR=22						
SHL	Shillong	86.02	298	eP	P	02 10 50.0	-0.1
BILL	Bilibino	86.28	359	deP	P	02 10 49.6	-0.6
BILL				i S	S	02 21 05.2	-18
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BILL	Bilibino	86.28	359	eP	P	02 10 49.9	-0.3
	comp=Z,14nm,1.0s						
CMB	Columbia Colle	87.48	49	eP	P	02 10 56.7	-0.1
CMB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMB	Columbia Colle	87.48	49	eP	P	02 10 56.7	-0.1
	comp=Z,9.5nm,0.9s						
KTH	Kantishna Hill	87.77	17	eP	P	02 10 56.7	-0.9
PMSA	Palmer Station	87.99	160	eP	P	02 10 58.9	+0.2
	comp=Z,56nm,1.4s						
LSA	Lhasa	88.20	302	eP	P	02 11 01.1	+0.2
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LSA	Lhasa	88.20	302	eP	P	02 11 01.1	+0.2
	comp=Z,6.1nm,0.8s						
WAKR	Walker	88.36	48	eP	P	02 11 01.2	+0.1
	comp=Z,8.3nm,1.0s						
MCK	McKinley	88.47	18	eP	P	02 11 00.3	-0.6
MCK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MCK	McKinley	88.47	18	eP	P	02 11 00.3	-0.6
	comp=Z,4.9nm,1.0s						
ZAK	Zakamensk	89.04	325	eP	P	02 11 03.2	-0.8
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
NVAR	Mina Array Bea	89.13	49	P	P	02 11 04.0	-0.8
	comp=Z,0.8nm,0.7s,baz=227,slow=7.6,SNR=12						
NVAR				LR	LR	02 46 13.1	
	comp=Z,174nm,18.0s,baz=122,slow=32						
NVL	N'lazarevskaya	89.46	188	eP	P	02 11 05.9	+0.4
NVL				pmax	pmax		
	comp=Z,50nm,1.6s						
TLY	Talaya	89.52	326	eP	P	02 11 05.3	-0.7
TLY				pmax	pmax		
	comp=Z,5.0nm,1.5s						
ILAR	Eielson Array	89.85	18	P	P	02 11 04.7	-2.6
	comp=Z,1.2nm,0.7s,baz=239,slow=4.6,SNR=32						
ILAR				LR	LR	02 46 26.8	
	comp=Z,130nm,18.8s,baz=218,slow=32						
SNAA	Sanae	89.86	183	P	P	02 11 05.8	-1.7
SNAA	Sanae	89.86	183	eP	P	02 11 06.5	-1.0
SNAA				pmax	pmax		
	comp=Z,26nm,1.4s						
SNAA	Sanae	89.86	183	eP	P	02 11 06.5	-1.0
	comp=Z,26nm,1.4s						
VNA3	Neumayer Olymp	90.49	181	P	P	02 11 10.7	+0.3
WVOR	Wild Horse Val	90.56	45	eP	P	02 11 11.4	+0.1
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
WVOR	Wild Horse Val	90.56	45	eP	P	02 11 11.4	+0.1
	comp=Z,7.6nm,1.1s						
SHPR	Sheep Range	90.67	52	eP	P	02 11 11.0	-1.0
	comp=Z,5.4nm,1.1s						
VNA2	Neumayer--Watz	90.77	181	P	P	02 11 12.1	+0.4
	baz=152,slow=7.9						
VNA1	Neumayer--Stat	91.06	181	P	P	02 11 11.0	-2.0
DUG	Dugway	93.74	49	eP	P	02 11 23.9	-2.2
DUG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DUG	Dugway	93.74	49	eP	P	02 11 23.9	-2.2
	comp=Z,2.5nm,1.0s						
TIXI	Tiksi	93.78	348	eP	P	02 11 25.2	-0.1
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
HLID	Hailey	93.86	45	eP	P	02 11 26.4	-0.1
	comp=Z,1.3nm,0.8s						
HWUT	Hardware Ranch	95.12	48	eP	P	02 11 32.2	-0.3
	comp=Z,2.4nm,0.9s						
TXAR	Lajitas Array	97.38	62	P	P	02 11 42.4	-0.5
	comp=Z,0.2nm,0.8s,baz=206,slow=6.0,SNR=3.6						
TXAR				LR	LR	02 49 21.1	
	comp=Z,140nm,18.9s,baz=0.0,slow=32						
MKAR	Makanchi Array	100.43	316	P	Pdif	02 11 55.9	-0.1
MKAR						02 16 07.0	
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MKAR	Makanchi Array	100.43	316	P	Pdif	02 11 55.9	-0.1
	comp=Z,0.4nm,0.7s,baz=102,slow=6.9,SNR=4.7						
MKAR				PP	PP	02 16 07.0	+4.0
	comp=Z,0.9nm,1.1s,baz=94,slow=8.9,SNR=3.9						
YKA	Yellowknife Ar	100.51	27	P	Pdif	02 11 55.2	-0.7
	comp=Z,0.3nm,0.6s,baz=252,slow=4.6,SNR=9.0						
ZALV	Zalesovo Beam	100.85	323	P	Pdif	02 11 56.7	-0.9
	comp=Z,0.3nm,0.3s,baz=87,slow=3.2,SNR=3.0						
ARCES	ARCESS Array B	124.06	345	PKIKP	PKPdf	02 17 05.8	-0.8
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	ARCESS Array B	124.06	345	PKP	PKPdf	02 17 05.8	-0.8
	comp=Z,6.2nm,1.0s,baz=318,slow=1.2,SNR=3.3						
GOF	Gofitskoye	127.47	313	ePKIKP	PKPdf	02 17 16.5	+2.6
FINES	FINESS Array B	129.47	337	PKIKP	PKPdf	02 17 16.1	-1.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	129.47	337	PKP	PKPdf	02 17 16.1	-1.0
	comp=Z,1.0nm,0.9s,baz=107,slow=1.5,SNR=2.2						
TSUM	Tsumeb	132.65	219	ePKPdf	PKPdf	02 17 23.1	-1.5
AKASG	Malin Array Be	134.24	324	PKIKP	PKPdf	02 17 26.0	-0.5
AKASG	Malin Array Be	134.24	324	PKP	PKPdf	02 17 26.0	-0.5

comp=Z,0.2nm,0.4s,baz=65,slow=2.7,SNR=2.8
BRTR Keskin Array B 135.48 308 PKIKP **PKPdf 02 17 30.7 +1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 135.48 308 PKP **PKPdf 02 17 30.7 +1.3**
comp=Z,0.5nm,0.9s,baz=17,slow=1.5,SNR=2.6
CRVS Cervenica-Dubn 139.44 326 *e*PKIKP **PKPdf 02 17 36.0 -0.2**
CRVS Cervenica-Dubn 139.44 326 *e*PKP **PKPdf 02 17 36.0 -0.2**
VYHS Vyhne 141.06 327 *e*PKIKP **PKPdf 02 17 43.0 +3.8**
VYHS Vyhne 141.06 327 *e*PKP **PKPdf 02 17 43.0 +3.8**
CLL Collm 141.77 335 *e*PKIKP **PKPdf 02 17 40.0 -0.3**
CLL Collm 141.77 335 *e*PKPdf **PKPdf 02 17 40.0 -0.3**
SRS Serrai 142.19 314 *e*P PKPdf 02 17 47.5 +6.1
HORT Hortiatis 142.75 314 *e*P **PKPdf 02 17 47.0 +4.4**
MRKA Markates 143.19 311 *e*P **PKPdf 02 17 42.5 -0.8**
GERES GERESS Array B 143.31 331 PKIKP **PKPdf 02 17 42.3 -1.0**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 143.31 331 PKP **PKPdf 02 17 42.3 -1.0**
comp=Z,0.7nm,0.7s,baz=22,slow=1.4,SNR=7.5
AXAR Agios Charalam 143.84 311 *e*P **PKPdf 02 17 45.0 +0.6**
FNA Florina 143.84 315 *e*P PKPbc 02 17 43.0 +0.9
DID Didima 143.91 309 *e*P **PKPdf 02 17 46.0 +1.4**
THL Klokotos Trika 143.95 313 *e*P PKPdf 02 17 50.0 +5.4
DSF Desfina 144.07 311 *e*P **PKPdf 02 17 44.0 -0.9**
MAKR Makrakomi, Fth 144.11 312 *e*P PKPbc 02 17 43.0 0.0
GVD Gavdhos 144.16 304 *e*PKPdf **PKPdf 02 17 45.6 +0.5**
KALE Kalithea 144.36 311 *e*P **PKPdf 02 17 46.0 +0.6**
EVR Evrytania 144.38 312 *e*P **PKPab 02 17 43.5 -0.1**
GUR Goura 144.40 310 *e*P **PKPdf 02 17 45.5 -0.1**
VLI Veliai 144.42 308 *e*P **PKPdf 02 17 50.0 +4.5**
KLV Kalavryta, Ach 144.49 310 *e*P **PKPdf 02 17 45.5 -0.2**
EFP Efpalio 144.51 311 *e*P **PKPdf 02 17 46.0 +0.4**
LAKA Lakka 144.54 311 *e*P **PKPab 02 17 44.0 -0.1**
VLX Vlachokerasia 144.59 309 *e*P PKPbc 02 17 45.0 +0.4
BEBN Eben Emael 144.85 341 PKP **PKPdf 02 17 46.5 +0.8**
DRO Drossia 144.85 310 *e*P **PKPdf 02 17 51.0 +4.8**
MEM Membach 144.90 340 PKP **PKPdf 02 17 45.5 -0.3**
PDO Prodromos 144.95 312 *e*P PKPbc 02 17 46.0 +0.4
RLS Riolos of Patr 144.98 311 *e*P PKPbc 02 17 46.0 +0.3
ITM Ithomi 145.00 309 *e*P PKPbc 02 17 43.5 -2.3
AMT Artemida-Makis 145.02 310 *e*P PKPdf 02 17 57.0 +10
IGT Igoumenitsa 145.13 314 *e*P **PKPbc 02 17 46.0 -0.2**
LKD2 Lefkada island 145.24 312 *e*P **PKPdf 02 17 47.0 +0.1**
PYL PYLOS 145.24 309 *e*P **PKPbc 02 17 46.0 -0.2**
STU Stuttgart 145.28 335 *e*PKIKP **PKPdf 02 17 48.5 +1.9**
STU Stuttgart 145.28 335 *e*PKPbc **PKPdf 02 17 48.5 +1.9**
BCLA Clavier 145.29 341 PKP **PKPbc 02 17 44.4 -1.9**
ABTA Abfaltersbach 145.38 330⇑*i*PKPab **PKPbc 02 17 46.5 -0.3**
comp=Z,14nm,1.2s
SNF Seneffe 145.53 342 PKP **PKPab 02 17 47.4 +0.1**
VLS Valsamata 145.56 311 *e*P **PKPab 02 17 47.0 -0.4**
MOTA Moosalm 145.59 332⇓*i*PKPab **PKPdf 02 17 47.4 +0.1**
comp=Z,27nm,0.9s
WLF Walferdange 145.67 339 PKP **PKPab 02 17 48.3 +0.4**
WLF Walferdange 145.67 339 *e*PKP2 **PKPab 02 17 48.2 +0.4**
WLF Walferdange 145.67 339 *e*PKPbc **PKPab 02 17 48.2 +0.4**
DOU Dourbes 145.80 341 PKP **PKPdf 02 17 47.1 -0.3**
BFO Black Forest 145.98 336 *e*PKP2 **PKPab 02 17 48.9 -0.2**
BFO Black Forest 145.98 336 *e*PKPbc **PKPab 02 17 48.9 -0.2**
FETA Feichten 146.00 332⇑*i*PKiKP **PKPab 02 17 49.5 +0.1**
comp=Z,18nm,1.0s
DAVA Damuels 146.17 333⇑*i*PKPab **PKPdf 02 17 48.8 +0.4**
comp=Z,14nm,1.2s
TUE Stuetta 147.03 333 *e*PKPbc **PKPbc 02 17 52.3 +0.3**
TIP Timpagrande 147.72 316 *e*PKPbc **PKPbc 02 17 53.2 -0.7**
AQU L'Aquila 147.93 323 *e*PKP2 **PKPbc 02 17 55.6 +1.2**
AQU L'Aquila 147.93 323 *e*PKPbc **PKPbc 02 17 55.6 +1.2**
AQU *e*PKPab **PKPab 02 17 58.8 +1.8**
BNI Bardonecchia 149.30 334 *e*PKP2 **PKPbc 02 17 58.1 +0.2**
BNI Bardonecchia 149.30 334 *e*PKPbc **PKPbc 02 17 58.1 +0.2**
BNI *e*PKPab **PKPab 02 18 03.6 +1.1**
TORD Torodi Ar. Bea 165.86 250 PKP **PKPdf 02 18 14.4 -0.3**
comp=Z,0.8nm,0.9s,baz=163,slow=1.5,SNR=3.7
TORD PKPab **PKPab 02 19 14.2 -0.1**
comp=Z,1.2nm,0.8s,baz=109,slow=4.3,SNR=4.7

WEL 14 02:08:16.8±0.4,**38°.43S×175°.84E,h166**km±3km,**ML3.9**/17, **22C-7D,Error ellipse: s-maj=1.9km s-min=1.9km az=0.0, North Island**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ALRZ Allen Road 0.42 109 PN Pn 02 08 39.5 -0.1
ALRZ SN Sn 02 08 56.6 -0.4
RATZ Rangitukua 0.44 187 ⇑PN Pn 02 08 39.6 -0.1
KRVZ Karewarewa 0.69 193 PN Pn 02 08 40.9 -0.1
WTVZ West Tongariro 0.71 196 PN Pn 02 08 41.1 -0.1
WTVZ SN Sn 02 08 59.1 -1.0
TWVZ Taurewa 0.72 206 ⇑PN Pn 02 08 41.2 0.0
TOZ Tahuroa Road 0.74 339 ⇓PN Pn 02 08 41.6 +0.3
TOZ SN Sn 02 09 00.5 +0.5
OTVZ Oturere 0.75 190 PN Pn 02 08 41.4 -0.1
OTVZ SN Sn 02 08 59.8 -0.7
NGZ Ngauruhoe 0.77 194 PN Pn 02 08 41.3 -0.3
HIZ Hauiti 0.78 263 PN Pn 02 08 41.6 +0.2
COVZ Chateau Observ 0.81 197 ⇑PN Pn 02 08 41.7 0.0
WPVZ Whakapapa 0.81 196 ⇑PN Pn 02 08 41.9 0.0
TUVZ Tukino 0.85 190 *e*PN Pn 02 08 42.0 -0.1
FWVZ Far West T-bar 0.86 195 PN Pn 02 08 42.1 -0.2
WHVZ Whangaehu Hut 0.88 193 PN Pn 02 08 42.4 0.0
BKZ Black Stump Fm 0.90 146 PN Pn 02 08 42.1 -0.2
BKZ AML AML 02 09 00.0
BKZ AML AML 02 09 01.4
TRVZ Turoa 0.90 195 PN Pn 02 08 42.6 0.0
WNVZ Wahianoa 0.92 192 PN Pn 02 08 42.6 -0.1
PKVZ Pokaka 0.94 204 PN Pn 02 08 42.7 0.0
MOVZ Moawhango 0.98 184 ⇑PN Pn 02 08 42.6 -0.4
MTVZ Mangateitei 1.00 197 PN Pn 02 08 43.1 -0.1
NMHZ Naumai 1.01 132 PN Pn 02 08 43.8 +0.6
URZ Urewera 1.01 81 ⇓PN Pn 02 08 42.5 -0.6
URZ AML AML 02 09 02.2
URZ AML AML 02 09 02.6
BHHZ Black Hill Sta 1.07 171 ⇑PN Pn 02 08 43.4 -0.4
RAHZ Arahi 1.09 117 ⇑PN Pn 02 08 44.2 +0.4
VRZ Vera Road 1.09 230 PN Pn 02 08 44.2 +0.3
MCHZ McNeill Hill 1.22 147 ⇑PN Pn 02 08 45.5 +0.6
SNGZ Shannon Statio 1.23 107 ⇓PN Pn 02 08 45.2 +0.2
RAGZ Rawiri 1.24 94 PN Pn 02 08 45.1 -0.1
WHHZ Waihua 1.27 121 PN Pn 02 08 45.6 +0.3
KRHZ Kereru 1.28 161 ⇑PN Pn 02 08 45.4 -0.1
MWZ Matawai 1.33 87 ⇓PN Pn 02 08 45.5 -0.5
MWZ AML AML 02 09 08.7
MWZ AML AML 02 09 08.7
MWZ AML AML 02 09 09.0
MWZ AML AML 02 09 09.0
WAZ Wanganui 1.48 206 ⇑PN Pn 02 08 47.3 -0.1
PNHZ Pukenui 1.51 169 PN Pn 02 08 47.3 -0.4
LREZ Lake Rotokare 1.52 227 ⇑PN Pn 02 08 48.3 +0.5
RIGZ Rimuhau 1.53 101 PN Pn 02 08 47.8 -0.1
KNZ Kokohu 1.55 113 ⇓PN Pn 02 08 47.9 -0.2
CKHZ Cape Kidnapper 1.56 142 PN Pn 02 08 48.5 +0.3
KAHZ Kahuranaki 1.59 150 PN Pn 02 08 48.6 +0.2
TSZ Takapari Road 1.63 177 ⇑PN Pn 02 08 48.5 -0.4
TSZ AML AML 02 09 12.9
TSZ AML AML 02 09 13.9
KHEZ Kahui Hut 1.67 238 PN Pn 02 08 49.7 +0.3
HAZ Te Kaha 1.67 67 PN Pn 02 08 48.6 -0.7
PRGZ Paritu Road 1.68 108 PN Pn 02 08 49.2 -0.2
WPHZ Waipukurau 1.70 164 ⇑PN Pn 02 08 49.3 -0.3
MHGZ Mahia Peninsul 1.77 115 ⇓PN Pn 02 08 50.4 +0.1
PXZ Pawanui 1.79 154 PN Pn 02 08 50.0 -0.5
PXZ AML AML 02 09 16.6
PXZ AML AML 02 09 16.7
PXZ AML AML 02 09 17.9
PXZ AML AML 02 09 17.9
CNGZ Carnagh Statio 1.86 92 PN Pn 02 08 51.5 +0.2
DVHZ Dannevirke 1.89 172 ⇑PN Pn 02 08 50.8 -0.8
PUZ Puketiti 1.94 80 *e*PN Pn 02 08 51.7 -0.6
PUZ AML AML 02 09 17.4
PUZ AML AML 02 09 17.8
PRHZ Porangahau 1.94 162 PN Pn 02 08 51.7 -0.5
POWZ Post Office Ro 1.96 182 ⇑PN Pn 02 08 51.6 -0.9
ANWZ Angora Road 2.09 167 ⇑PN Pn 02 08 53.4 -0.5
PRWZ Pori Road 2.13 177 PN Pn 02 08 53.5 -0.8
MXZ Matakaoa Point 2.13 67 PN Pn 02 08 54.2 -0.2
MXZ AML AML 02 09 23.0
MXZ AML AML 02 09 23.4
MRZ Mangatainoka R 2.24 185 ⇑PN Pn 02 08 54.3 -1.3
MRZ AML AML 02 09 24.3
MRZ AML AML 02 09 24.3
BFZ Birch Farm 2.27 172 PN Pn 02 08 54.9 -1.1
TIWZ Tintock 2.35 179 *e*PN Pn 02 08 55.6 -1.3
TIWZ AML AML 02 09 26.0
TIWZ AML AML 02 09 27.1
OGWZ Otaki Gorge 2.44 192 ⇑PN Pn 02 08 56.7 -1.3
HOWZ Holdsworth Sta 2.48 186 PN Pn 02 08 56.8 -1.7
CPWZ Castlepoint 2.49 174 PN Pn 02 08 57.8 -0.8
KIW Kapiti Island 2.54 196 PN Pn 02 08 57.4 -1.7
TMWZ Te Maipa 2.68 179 PN Pn 02 08 59.1 -1.7
MTW Mount Morrison 2.74 185 ⇑PN Pn 02 08 59.5 -2.0
MTW AML AML 02 09 32.7
MTW AML AML 02 09 33.1
CAW Cannon Point 2.74 192 PN Pn 02 08 59.7 -1.9
CAW AML AML 02 09 34.6
CAW AML AML 02 09 38.6
PAWZ Paruwai Farm 2.97 186 PN Pn 02 09 02.2 -2.2
PAWZ AML AML 02 09 37.4
PAWZ AML AML 02 09 38.9
TRWZ Traveller 2.97 182 PN Pn 02 09 02.3 -2.1
TRWZ AML AML 02 09 39.3
TRWZ AML AML 02 09 39.8
SNZO South Karori 3.01 197 PN Pn 02 09 02.5 -2.3
SNZO AML AML 02 09 38.3
SNZO AML AML 02 09 44.9
MSWZ Moikau Station 3.02 188 ⇑PN Pn 02 09 02.7 -2.3
MSWZ AML AML 02 09 03.5
MSWZ AML AML 02 09 38.8
BHW Baring Head 3.07 194 PN Pn 02 09 03.2 -2.3
BHW AML AML 02 09 35.3
PLWZ Palliser 3.17 188 ⇑PN Pn 02 09 04.4 -2.5
TUWZ Tuamarina 3.33 205 PN Pn 02 09 06.4 -2.5
TUWZ AML AML 02 09 08.1
NNZ Nelson 3.37 213 PN Pn 02 09 06.8 -2.5
QRZ Quartz Range 3.50 226 PN Pn 02 09 08.3 -2.7
BSWZ Blackbirch Sta 3.61 204 PN Pn 02 09 10.1 -2.4
THZ Tophouse 4.02 213 PN Pn 02 09 14.7 -3.0
KHZ Kahutara 4.36 203 ⇑PN Pn 02 09 19.2 -2.7
LTZ Lake Taylor 5.13 211 PN Pn 02 09 28.5 -3.6
MQZ McQueen's Vall 5.80 204 ⇓PN Pn 02 09 36.2 -4.7
WVZ Waitaha Valley 6.05 218 PN Pn 02 09 39.3 -4.9
RPZ Rata Peaks 6.40 213 *e*PN Pn 02 09 45.1 -3.8
LBZ Lake Benmore 7.31 214 PN Pn 02 09 56.3 -4.6
ODZ Otahua Downs 7.67 209 PN Pn 02 10 01.5 -4.1
JCZ Jackson Bay 7.76 221 PN Pn 02 10 02.7 -4.4

ISCJB ***14*** *02:34:22.6±1.0,3°.75S±0°.05×128°.8E±0°.1,h10km,mb3.1/1, Error ellipse: s-maj=18.2km s-min=7.6km az=5.1*
IDC ***14*** *02:34:22.1±2.2,3°.71S×128°.48E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.3/22,mbtmp3.4/3,ML3.5/1,Error ellipse: s-maj=171.9km s-min=27.4km az=68.0*
DJA ***14*** *02:34:25.7±0.4,3°S±6°×12°9E±°,h10km,M3.3/6,MLv3.3/6*
ISC 14 02:34:21.6±1.2,**3°.70S**±0°.09×**128°.6E**±0°.1,**h10**km**,n8,** σ**1°.58**/6,**Seram**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSAI Masohi 0.48 42 P **Pg 02 34 32.1 +1.1**
MSAI S **Sg 02 34 36.7 -0.6**
BNDI Bandanaira 1.53 122 P **Pn 02 34 48.1 -0.9**
LBMI Labuha 3.24 340 P **Pb 02 35 17.7 -1.5**
FAKI Fak Fak 3.72 78 P Pn 02 35 14.6 -4.6
SWI Sorong 3.87 43 P Pn 02 35 17.2 -4.0
WRA Warramunga Arr 17.08 161 P **P 02 38 22.5 0.0**
0.2nm,0.3s,baz=340,slow=14,SNR=7.0
ASAR Alice Springs 20.50 166 P Pn 02 39 02.5 +0.3
1.8nm,0.6s,baz=349,slow=11,SNR=33
MKAR Makanchi Array 64.72 327 P **P 02 45 01.8 +1.6**
0.1nm,0.5s,baz=120,slow=8.5,SNR=3.7

NIED ***14*** *02:57:00,37°.10N×141°.60E,h35km,Mw4.3 Best double couple: M0 3.66000×10^15 NP1:φs205.00000°,δ13.00000°, λ94.00000°. NP2:φs21.00000°,δ77.00000°,λ89.00000°.*
ISCJB ***14*** *02:57:36.3±0.6,37°.12N±0°.03×141°.47E±0°.04,h45km±3km, mb4.6/101,MS3.8/14,Error ellipse: s-maj=6.9km s-min=4.1km az=42.5*
JMA ***14*** *02:57:36.0±0.2,37°.06N×141°.48E,h48km±2km,M4.1*
JMA Felt I J1.
IDC ***14*** *02:57:36.4±0.6,36°.99N×141°.46E,h40km±4km,mb4.0/22, mb1 4.2/25,mb1mx4.1/31,mbtmp4.3/25,ML3.8/2,MS3.5/16, Ms1 3.6/16,ms1mx3.3/48,Error ellipse: s-maj=13.9km s-min=12.5km az=83.0*
BJI ***14*** *02:57:37.0,37°.12N×141°.34E,h56km,mB4.8/20,mb4.6/45, Ms4.4/21,Ms7 4.3/14*
MOS ***14*** *02:57:38.0±0.8,37°.34N×141°.33E,h49km,mb4.8/56,Error ellipse: s-maj=8.0km s-min=5.3km az=102.7*
NEIC ***14*** *02:57:39.3±0.6,37°.15N×141°.42E,h57km±5km,mb4.7/42, MW4.3(NIED),Error ellipse: s-maj=6.1km s-min=4.1km az=134.0*
NEIC Recorded [4 JMA] in Yamaguchi, [3 JMA] in Hiroshima, [2 JMA] in Okayama and [1 JMA] in Shimane and Tottori. Also recorded [2 JMA] in Ehime and Kochi and [1 JMA] in Kagawa and Tokushima, Shikoku and in Fukuoka, Miyazaki and Oita, Kyushu.
ISC 14 02:57:38.6±0.4,**37°.19N**±0°.04×**141°.42E**±0°.04,**h51**km±2km, **h51**km**:pP-P,n292,**σ**1°.42**/346,**mb4.6**/101,**MS3.9**/14, **12C-21D,Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JFK Kawauchi 0.47 292 ⇓P **Pn 02 57 47.9 -1.7**
JFK S **Sn 02 57 56.1 -1.4**
ONAJ Iwakimizuishiy 0.50 260 ⇓P **Pn 02 57 47.7 -2.4**
ONAJ S **Sn 02 57 55.8 -2.5**
JMM Marumori 0.84 324 ⇓P **Pn 02 57 53.3 -0.9**
JMM S **Sn 02 58 06.4 +0.8**
JHO Hitachi 0.89 230 ⇓P Pn 02 57 51.4 -3.6
JHO S Sn 02 58 02.4 -4.5
JFT Otama 0.92 291 ⇓P **Pn 02 57 55.0 -0.3**
JFT S **Sn 02 58 07.6 0.0**
JIO Ouri 1.26 358 ⇓P **Pn 02 57 58.8 -1.1**
JIO S **Sn 02 58 15.8 0.0**
JOU Okura 1.32 333 P **Pn 02 58 00.8 +0.1**
JOU S **Sn 02 58 19.7 +2.6**
MJAR Matsushiro Arr 2.65 257 P **Pn 02 58 17.9 -1.1**
MJAR 02 58 55.0
MJAR pmax pmax
comp=Z,12nm,0.3s
MJAR smax smax
comp=N,20nm,0.3s
MJAR MLR MLR
comp=Z,15nm,28.6s
MJAR Matsushiro Arr 2.65 257 Pn **Pn 02 58 17.9 -1.1**
comp=Z,12nm,0.3s,baz=90,slow=16,SNR=143
MJAR Sn **Sn 02 58 55.0 +5.1**
comp=Z,20nm,0.3s,baz=91,slow=27,SNR=6.6
MJAR LR LR 02 59 39.2
comp=Z,850nm,20.7s,baz=80,slow=47
MAJO Matsushiro 2.66 257 *e*P **Pn 02 58 18.6 -0.4**
MAJO Matsushiro 2.66 257 *e*Pn **Pn 02 58 18.6 -0.4**
MAT Matsushiro 2.66 257 P **Pn 02 58 18.9 -0.1**
MAT *e*S **Sn 02 58 52.4 +2.5**
ERM Erimo 5.00 15 *e*P **Pn 02 58 51.3 +0.2**
ASAJ Asahikawa 6.98 7 P **Pn 02 59 18.5 +0.3**
ASAJ 03 00 34.5
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ smax smax
comp=N,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,175nm,19.8s
ASAJ Asahikawa 6.98 7 Pn **Pn 02 59 18.4 +0.3**
comp=Z,1.8nm,0.3s,baz=194,slow=8.3,SNR=14
ASAJ Sn **Sn 03 00 34.5 -1.6**
comp=Z,1.3nm,0.3s,baz=204,slow=20,SNR=2.9
ASAJ LR LR 03 02 43.3
comp=Z,175nm,19.8s,baz=51,slow=43
ASAJ Asahikawa 6.98 7 *e*Pn **Pn 02 59 18.7 +0.6**
ASAJ *e*Sn **Sn 03 00 36.5 +0.5**
YUK Yuzh-Kuril'sk 7.62 25 *c i*P **Pn 02 59 25.2 -1.8**
YUK *i* S **Sn 03 00 52.8 +0.8**
YUK pmax pmax
comp=Z,71nm,0.4s
YUK pmax pmax
comp=E,18nm,0.2s
YUK pmax pmax
comp=N,38nm,0.4s
YUK MLR MLR
comp=N,442nm,6.0s
YUK MLR MLR
comp=E,506nm,6.0s
YUK MLR MLR
comp=Z,363nm,6.0s
KUR Kuril'sk 9.39 29 P **Pn 02 59 52.1 +1.0**
KUR S **Sn 03 01 32.3 -2.8**
KUR pmax pmax
comp=N,22nm,0.6s
KUR pmax pmax
comp=E,22nm,1.1s
KUR pmax pmax
comp=Z,47nm,1.1s
KUR smax smax
comp=N,66nm,2.1s
KUR smax smax
comp=E,45nm,0.5s
JNU Nakatsue 9.54 248 Pn **Pn 02 59 54.1 +0.8**
comp=E,0.3nm,0.3s,baz=54,slow=12,SNR=8.8
JNU LR LR 03 03 21.6
comp=E,159nm,21.8s,baz=9.0,slow=36
JNU Nakatsue 9.54 248 *e*Pn **Pn 02 59 54.8 +1.5**
YSS Yuzh-Sakhalins 9.81 5⇑*e*P **Pn 02 59 58.9 +2.0**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS Yuzh-Sakhalins 9.81 5 *e*Pn **Pn 02 59 58.4 +1.5**
USRK Ussuriysk Arra 10.01 317 Pn **Pn 03 00 02.5 +2.9**
comp=Z,0.3nm,0.3s,baz=133,slow=12,SNR=18
USRK LR LR 03 03 41.4
comp=Z,267nm,20.1s,baz=119,slow=36
CBIJ Chichi jima 10.09 176 Pn Pn 02 59 54.1 -6.7
CBIJ Sn Sn 03 01 35.6 -17
JCJ Chichijima 10.09 176 Pn Pn 02 59 54.1 -6.7
comp=Z,19nm,0.3s,baz=285,slow=22,SNR=8.3
JCJ Sn Sn 03 01 35.6 -17
comp=Z,14nm,0.3s,baz=255,slow=20,SNR=4.0
KSRS Korea Array 10.75 275 P **Pn 03 00 12.9 +3.1**
KSRS MLR MLR
comp=Z,15nm,28.6s
KSRS Korea Array 10.75 275 Pn **Pn 03 00 12.9 +3.1**
comp=Z,0.3nm,0.3s,baz=90,slow=14,SNR=20
KSRS LR LR 03 04 05.5
comp=Z,286nm,19.4s,baz=108,slow=36
KSAR Wonju Array Be 10.78 275 P **Pn 03 00 12.9 +2.6**
KSAR Wonju Array Be 10.78 275 Pn **Pn 03 00 12.9 +2.6**
MDJ Mudanjiang 11.61 313 P **Pn 03 00 20.4 -1.2**
MDJ S **Sn 03 02 27.3 -2.4**
MDJ ScP **ScP 03 09 38.3 +1.1**
MDJ pmax pmax
comp=Z,4.0nm,0.9s
UGL Uglegorsk 11.89 2 *e*P Pn 03 00 37.9 +13
UGL *e*S **Sn 03 02 31.5 -4.9**
CN2 Changchun 13.82 303 *e*P **Pn 03 00 52.1 +0.4**
PETK Petropavlovsk- 19.55 30 LR LR 03 11 00.3
comp=Z,49nm,18.3s,baz=217,slow=41
PET Petropavlovsk 19.88 32 *e*P **Pn 03 02 06.9 -0.5**
PET MLR MLR
comp=Z,176nm,20.4s
BJI Beijing 19.91 286 P **P 03 02 05.8 -0.1**
HHC Hu-ho-hao-te 23.43 288 *e*P **P 03 02 41.8 -1.5**
HHC pP **pP 03 02 53.0 -2.6**
HHC sP **sP 03 03 03.1 +1.2**
HHC PP **PnPn 03 03 13.8 +2.4**
HHC S S 03 06 44.8 -8.0
HHC sS sS 03 07 06.0 -8.6
HHC SS **SnSn 03 07 32.9 +0.9**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,210nm,4.6s
HHC LR LR
comp=Z,330nm,12.4s
HHC LR LR
comp=Z,410nm,11.2s
YAK Yakutsk 25.92 347 *e*P **P 03 03 06.1 +0.5**
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK Yakutsk 25.92 347 *e*P **P 03 03 05.9 +0.3**
comp=Z,20nm,0.8s
XAN Xi'an 26.54 273 P **P 03 03 10.3 -1.3**
XAN pP **pP 03 03 25.8 +1.2**
XAN pmax pmax
comp=Z,3.0nm,0.7s
XAN pmax pmax
comp=Z,60nm,5.6s
SEY Seymchan 26.64 11 *e*P **P 03 03 13.5 +1.4**
SEY Seymchan 26.64 11 P **P 03 03 13.1 +1.0**
comp=Z,3.0nm,0.7s,baz=206,slow=8.4,SNR=7.2
FX1 Attu Island--F 27.09 44 LR LR 03 12 04.9
comp=Z,31nm,21.6s,baz=288,slow=32
ULN Ulaanbaatar 27.27 304 *e*P **P 03 03 18.3 +0.1**
ULN pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 27.27 304 *e*P **P 03 03 18.3 +0.1**
comp=Z,6.3nm,0.9s
ENH Enshi 27.35 265 *e*P **P 03 03 18.1 -0.8**
comp=Z,4.8nm,0.6s
SONM Songino Array 27.70 304 P **P 03 03 22.3 +0.3**
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM MLR MLR
comp=Z,15nm,28.6s
SONM Songino Array 27.70 304 P **P 03 03 22.3 +0.3**
comp=Z,4.7nm,0.8s,baz=108,slow=8.9,SNR=33
SONM LR LR 03 14 51.1
comp=Z,112nm,19.2s,baz=257,slow=37
H11N2 WAKE ISLAND Hy 28.23 121 T T 03 32 50.4
baz=316,slow=76,SNR=386
H11N1 WAKE ISLAND Hy 28.23 121 T T 03 32 43.1
baz=316,slow=76,SNR=332
H11N3 WAKE ISLAND Hy 28.24 121 T T 03 33 00.3
baz=316,slow=76,SNR=333
H11S1 WAKE ISLAND Hy 28.94 123 T T 03 33 40.7
baz=319,slow=76,SNR=205
H11S3 WAKE ISLAND Hy 28.94 123 T T 03 33 37.7
baz=319,slow=76,SNR=226
H11S2 WAKE ISLAND Hy 28.96 123 T T 03 34 00.9
baz=319,slow=76,SNR=145
LZH Lanzhou 30.05 279 *e*P **P 03 03 44.0 +1.0**
LZH pP **pP 03 03 58.1 +2.0**
LZH sP **sP 03 04 06.5 +4.3**
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,81nm,4.3s
LZH LR LR
comp=Z,270nm,14.6s
LZH LR LR
comp=Z,410nm,16.7s
ZAK Zakamensk 30.18 308 *e*P **P 03 03 41.4 -2.5**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TLY Talaya 30.23 311 *e*P **P 03 03 44.2 -0.1**
TLY pmax pmax
comp=Z,5.0nm,1.2s
TLY Talaya 30.23 311 *e*P **P 03 03 44.9 +0.6**
comp=Z,3.7nm,0.9s
GYA Guiyang 31.25 260 *e*P **P 03 03 54.5 +0.8**
GYA pP **pP 03 04 06.8 0.0**
GYA sP **sP 03 04 17.0 +4.2**
GYA PP **PnPn 03 04 58.6 +1.4**
GYA S **S 03 08 55.0 -1.8**
GYA sS **sS 03 09 19.4 +0.5**
GYA SS **SnSn 03 10 42.5 -0.6**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.9s
GYA LR LR
comp=Z,480nm,16.8s
GYA LR LR
comp=Z,360nm,17.6s
GYA LR LR
comp=Z,430nm,17.4s
CD2 Chengdu 31.68 270 P **P 03 03 56.3 -1.0**
CD2 pP **pP 03 04 10.3 -0.1**
CD2 sP **sP 03 04 17.1 +0.6**
CD2 PP **PnPn 03 05 02.0 -0.6**
CD2 S **S 03 08 59.3 -3.9**
CD2 sS **sS 03 09 23.4 -2.0**
CD2 SS **SnSn 03 10 50.5 -2.8**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 LR LR
comp=Z,360nm,5.4s

CD2 LR LR
comp=Z,300nm,7.1s
GTA Gaotai 32.52 287 eP P 03 04 05.5 +0.8
GTA pP pP 03 04 20.0 +2.1
GTA sP sP 03 04 28.3 +4.4
GTA pmax pmax
comp=Z,3.0nm,0.8s
QIZ Qiongzhong 33.00 245 P P 03 04 09.0 +0.1
QIZ pP pP 03 04 22.5 +0.4
QIZ sP sP 03 04 28.8 +0.7
QIZ S S 03 09 23.9 +0.1
QIZ pmax pmax
comp=Z,39nm,2.2s
BILL Bilibino 33.88 16⇑eP P 03 04 16.4 +0.4
BILL i 03 05 28.4
BILL pmax pmax
comp=Z,9.0nm,2.7s
KMI Kunming 34.99 261 P P 03 04 25.8 -0.6
KMI pmax pmax
comp=Z,19nm,0.9s
KKM Kota Kinabalu 38.60 223 eP P 03 04 55.8 -1.1
comp=Z,35nm,1.3s
DLV T Lat 38.77 238 eP P 03 04 58.8 +0.2
WMQ Urumqi 40.77 297 P P 03 05 15.9 +1.1
WMQ pP pP 03 05 31.3 +3.1
WMQ sP sP 03 05 38.4 +4.2
WMQ PP PnPn 03 06 53.9 +0.1
WMQ PcS PcS 03 11 07.3 +1.3
WMQ S S 03 11 20.9 -1.0
WMQ sS sS 03 11 47.0 +2.5
WMQ SS SS 03 14 17.9 -6.1
WMQ ScS ScS 03 15 13.6 -1.7
WMQ pmax pmax
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 41.54 255 P P 03 05 20.3 -1.0
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,61nm,19.2s
CMAR Chiang Mai Arr 41.54 255 P P 03 05 20.3 -1.0
comp=Z,0.9nm,0.3s,baz=46,slow=6.5,SNR=6.8
CMAR LR LR 03 24 35.5
comp=Z,61nm,19.2s,baz=64,slow=39
ZALV Zalesovo Beam 41.81 312 P P 03 05 23.3 +0.2
ZALV *PP pP 03 05 34.5 -2.0
ZALV 03 07 17.7
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV pmax pmax
comp=Z,10.0nm,0.8s
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV MLR MLR
comp=Z,84nm,18.6s
ZALV Zalesovo Beam 41.81 312 P P 03 05 23.3 +0.2
comp=Z,4.4nm,0.8s,baz=95,slow=6.4,SNR=18
ZALV pP pP 03 05 34.5 -2.0
comp=Z,9.6nm,0.8s,baz=97,slow=6.2,SNR=11
ZALV PcP PcP 03 07 17.7 -0.5
comp=Z,1.4nm,0.6s,baz=70,slow=4.7,SNR=4.3
ZALV LR LR 03 23 31.8
comp=Z,84nm,18.6s,baz=66,slow=37
NVS Novosibirsk 42.73 314⇑iP P 03 05 29.8 -0.7
NVS pmax pmax
comp=Z,18nm,1.6s
NVS pmax pmax
comp=E,13nm,1.7s
MK31 Makanchi Array 44.04 302 iP P 03 05 41.3 +0.1
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 44.04 302 P P 03 05 41.1 -0.1
MKAR *PP pP 03 05 52.3 -2.5
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR MLR MLR
comp=Z,54nm,20.9s
MKAR Makanchi Array 44.04 302 P P 03 05 41.1 -0.1
comp=Z,5.6nm,0.8s,baz=88,slow=9.5,SNR=67
MKAR pP pP 03 05 52.3 -2.5
comp=Z,5.0nm,0.8s,baz=87,slow=8.8,SNR=15
MKAR LR LR 03 23 26.3
comp=Z,54nm,20.9s,baz=30,slow=35
KURK Kurchatov 45.84 308 eP P 03 05 55.5 +0.1
KURK *PP pP 03 06 07.5 -1.5
KURK pmax pmax
comp=Z,11nm,0.7s
KURK Kurchatov 45.84 308 eP P 03 05 55.5 +0.1
comp=Z,11nm,0.7s
KURK pP pP 03 06 07.5 -1.5
KURBB Kurchatov Arra 45.91 308 P P 03 05 56.0 0.0
comp=Z,12nm,0.6s,baz=84,slow=8.1,SNR=113
KURBB pP pP 03 06 07.5 -2.1
comp=Z,12nm,0.8s,baz=84,slow=8.0,SNR=12
TAPN Taplejung 45.93 274 eP P 03 05 56.9 +0.1
TAPN Taplejung 45.93 274 eP P 03 05 56.9 +0.1
KAPI Kappang 46.60 210 eP P 03 06 02.0 +0.3
comp=Z,30nm,0.5s
RAMN Ramite 47.00 274 eP P 03 06 05.2 +0.1
RAMN Ramite 47.00 274 eP P 03 06 05.2 +0.1
JIRN Jiri 47.01 275 eP P 03 06 05.8 +0.5
JIRN Jiri 47.01 275 eP P 03 06 05.8 +0.5
GUN Gumba 47.14 276 eP P 03 06 06.5 +0.1
comp=Z,26nm,1.0s
GUN Gumba 47.14 276 eP P 03 06 06.5 +0.1
comp=Z,26nm,1.0s
KKN Kakani 47.67 276 eP P 03 06 10.9 +0.6
KKN Kakani 47.67 276 eP P 03 06 10.9 +0.6
KKN Kakani 47.67 276 eP P 03 06 10.9 +0.6
DMN Daman 47.89 276 eP P 03 06 12.2 +0.1
DMN Daman 47.89 276 eP P 03 06 12.2 +0.1
GKN Gorkha 48.09 276 eP P 03 06 13.5 0.0
comp=Z,21nm,0.8s
GKN Gorkha 48.09 276 eP P 03 06 13.5 0.0
comp=Z,21nm,0.8s
MCK McKinley 48.50 34 eP P 03 06 16.5 +0.5
MCK pmax pmax
comp=Z,4.0nm,0.8s
MCK McKinley 48.50 34 eP P 03 06 16.4 +0.5
comp=Z,3.7nm,0.8s
DANN Dangsing 48.63 277 eP P 03 06 18.3 +0.5
comp=Z,39nm,0.7s
DANN Dangsing 48.63 277 eP P 03 06 18.3 +0.5
comp=Z,39nm,0.7s
KULM Kulim 48.90 240 eP P 03 06 18.6 -1.1
comp=Z,22nm,1.2s
COLA College 48.94 32 eP P 03 06 20.2 +0.9
COLA pmax pmax
comp=Z,3.0nm,0.9s
COLA College 48.94 32 eP P 03 06 20.1 +0.9
comp=Z,3.2nm,0.9s
KOLN Koldanda 49.02 277 eP P 03 06 20.9 +0.2
comp=Z,29nm,1.1s
KOLN Koldanda 49.02 277 eP P 03 06 20.9 +0.2
comp=Z,29nm,1.1s
ILAR Eielson Array 49.36 32 P P 03 06 22.8 +0.3
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 49.36 32 P P 03 06 22.8 +0.3
comp=Z,2.2nm,0.8s,baz=264,slow=5.9,SNR=27
TKM2 Tokmak 2 49.56 298 eP P 03 06 20.0 -4.6
TKM2 Tokmak 2 49.56 298 eP P 03 06 20.0 -4.6
VOSK Vostochnaya 50.18 312 P P 03 06 28.8 -0.1
VOSK pmax pmax
comp=Z,19nm,0.9s
KSH Kashi 50.34 294 eP P 03 06 35.0 +4.5
KSH epP pP 03 06 50.8 +6.5
KSH esP sP 03 06 57.1 +6.9
KSH ePP PP 03 08 28.6 +2.4
KSH PcS PcS 03 11 48.0 +2.1
KSH S S 03 13 42.6 +2.7
KSH SS SS 03 17 13.1 -0.6
KSH pmax pmax
comp=Z,3.0nm,0.9s
KSH pmax pmax
comp=Z,71nm,3.4s
KSH LR LR
comp=Z,95nm,6.4s
KSH LR LR
comp=Z,85nm,5.2s
KSH LR LR
comp=Z,290nm,7.4s
AAK Ala-Archa 50.42 298 eP P 03 06 31.6 +0.5
AAK pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 50.42 298 LR LR 03 29 02.1
comp=Z,125nm,18.7s,baz=68,slow=37
AAK Ala-Archa 50.42 298 eP P 03 06 31.4 +0.3
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 50.47 312 P P 03 06 31.0 -0.1
BVAR *PP pP 03 06 43.4 -1.5
BVAR 03 07 48.6
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 50.47 312 P P 03 06 31.0 -0.1
comp=Z,3.6nm,0.7s,baz=78,slow=7.7,SNR=19
BVAR pP pP 03 06 43.4 -1.5
comp=Z,1.6nm,0.7s,baz=76,slow=7.6,SNR=3.8
BVAR PcP PcP 03 07 48.6 0.0
comp=Z,2.2nm,0.7s,baz=90,slow=4.3,SNR=5.0
BRVK Borovoye 50.52 312 eP P 03 06 32.0 +0.5
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 50.52 312 eP P 03 06 32.0 +0.5
comp=Z,8.9nm,0.8s
COEN Coen 50.90 178 eP P 03 06 35.7 +1.1
EKS2 Erkin-Say 50.91 298 eP P 03 06 35.4 +0.6
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 50.91 298 eP P 03 06 35.4 +0.6
comp=Z,2.0nm,0.8s
PSI Prapat 51.88 239 LR LR 03 30 18.0
comp=Z,185nm,18.5s,baz=76,slow=38
KK31 Karatay Array 53.05 300 iP P 03 06 50.7 +0.2
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 53.05 300 eP P 03 06 50.9 +0.4
KKAR Karatay Array 53.05 300 eP P 03 06 50.9 +0.4
INK Inuvik 54.25 27 eP P 03 06 59.2 +0.4
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 54.25 27 P P 03 06 59.0 +0.2
comp=Z,1.0nm,0.6s,baz=293,slow=7.5,SNR=7.3
INK Inuvik 54.25 27 eP P 03 06 59.2 +0.4
comp=Z,2.1nm,0.9s
SVE Sverdlovsk 55.03 319⇑eP P 03 07 05.7 +1.0
SVE pmax pmax
comp=Z,20nm,1.2s
ARU Arti 56.24 318c iP P 03 07 13.5 +0.1
ARU *PP pP 03 07 24.9 -2.5
ARU 03 09 16.8
ARU S S 03 14 59.6 +0.4
ARU SS SS 03 18 41.1 -4.7
ARU pmax pmax
comp=Z,18nm,1.2s
ARU Arti 56.24 318 eP P 03 07 13.7 +0.3
ARU epP pP 03 07 24.7 -2.7
CTAO Charters Tower 57.15 175 eP P 03 07 22.7 +2.5
CTAO pmax pmax
comp=Z,15nm,1.4s
CTAO Charters Tower 57.15 175 eP P 03 07 22.7 +2.5
comp=Z,16nm,1.4s
WRAB Tennant Creek 57.21 188 eP P 03 07 25.3 +4.7
WRAB pmax pmax
comp=Z,13nm,1.3s
WRAB Tennant Creek 57.21 188 eP P 03 07 22.0 +1.4
comp=Z,12nm,1.2s
WRA Warramunga Arr 57.22 188 P P 03 07 18.1 -2.5
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 57.22 188 P P 03 07 18.1 -2.5
comp=Z,0.8nm,0.4s,baz=6.2,slow=7.1,SNR=15
AB31 Akbulak array 57.84 310 iP P 03 07 24.8 0.0
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 57.84 310 eP P 03 07 24.6 -0.2
AKTO Aktyubinsk 58.57 312 LR LR 03 33 56.4
comp=Z,88nm,18.3s,baz=20,slow=37
ASAR Alice Springs 60.94 188 P P 03 07 44.4 -2.0
ASAR *PP pP 03 07 55.5 -5.1
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 60.94 188 P P 03 07 44.4 -2.0
comp=Z,0.9nm,0.7s,baz=13,slow=7.1,SNR=11
ASAR pP pP 03 07 55.5 -5.1
comp=Z,1.1nm,0.7s,baz=0.4,slow=6.2,SNR=7.1
PALK Pallekele 62.41 258 eP P 03 07 58.5 +1.9
PALK pmax pmax
comp=Z,13nm,0.9s
PALK Pallekele 62.41 258 eP P 03 07 58.5 +1.9
comp=Z,14nm,0.9s
RES Resolute Bay 62.45 14 eP P 03 07 55.9 0.0
RES pmax pmax
comp=Z,1.0nm,0.6s
RES Resolute Bay 62.45 14 eP P 03 07 55.9 0.0
comp=Z,1.4nm,0.6s
YKA Yellowknife Ar 63.67 30 P P 03 08 04.0 -0.2
comp=Z,0.3nm,0.7s,baz=299,slow=5.6,SNR=7.6
ARCES ARCESS Array B 63.85 339 P P 03 08 05.9 +0.6
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 63.85 339 P P 03 08 05.9 +0.6
comp=Z,3.2nm,0.8s,baz=62,slow=8.3,SNR=3.7
DAG Danmarks Havn 65.62 355 iP P 03 08 16.8 +0.1
DAG pmax pmax
comp=Z,4.0nm,1.0s
DAG Danmarks Havn 65.62 355 iP P 03 08 16.8 +0.1
comp=Z,3.8nm,1.0s
JOF Joensuu 65.83 332 eP P 03 08 18.2 0.0
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 65.83 332 ep P 03 08 18.2 0.0
comp=Z,2.7nm,0.7s
OBN Obninsk 67.97 323c eP P 03 08 31.9 -0.1
OBN e 03 11 00.1
OBN iS PnS 03 17 55.5 -0.2
OBN pmax pmax
comp=Z,3.0nm,0.4s
KAF Kangasniemi 68.17 333 eP P 03 08 32.4 -0.7
KAF pmax pmax
comp=Z,5.0nm,0.6s
KAF Kangasniemi 68.17 333 ep P 03 08 32.4 -0.7
comp=Z,4.6nm,0.6s
FINES FINESS Array B 68.68 332 P P 03 08 36.3 0.0
FINES *PP pP 03 08 48.1 -2.5
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 68.68 332 P P 03 08 36.3 0.0
comp=Z,8.3nm,0.7s,baz=70,slow=6.7,SNR=27
FINES pP pP 03 08 48.1 -2.5
comp=Z,4.3nm,0.8s,baz=46,slow=8.0,SNR=5.5
FORT Forrest 68.76 192 eP P 03 08 37.9 +0.8
comp=Z,17nm,1.0s
VSR Storozhevoye 68.82 319 eP P 03 08 37.0 -0.3
VSR pmax pmax
comp=Z,14nm,1.0s
VSU Vasula 70.32 330 eP P 03 08 46.9 +0.5
VSU pmax pmax
comp=Z,31nm,0.9s
SUMG Summit 70.53 360 iP P 03 08 49.5 +1.5
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 70.53 360 iP P 03 08 49.5 +1.5
comp=Z,4.6nm,0.9s
KBZ Khabaz 70.80 311 P P 03 08 49.2 -0.5
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.80 311 P P 03 08 49.2 -0.5
comp=Z,5.2nm,0.9s,baz=51,slow=6.5,SNR=5.3
KIV Kislovodsk 70.81 311 eP P 03 08 49.0 -0.8
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,70nm,17.0s
FFC Flin Flon 73.57 33 eP P 03 09 06.6 +0.6
FFC Flin Flon 73.57 33 eP P 03 09 06.6 +0.6
NB2 NORSAR Subarra 74.04 337 P P 03 09 08.9 +0.2
comp=Z,3.5nm,0.7s,baz=39,slow=6.2
NOA NORSAR Array B 74.04 337 P P 03 09 08.9 +0.2
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA MLR MLR
comp=Z,15nm,28.6s
NOA NORSAR Array B 74.04 337 P P 03 09 08.9 +0.2
comp=Z,6.4nm,0.8s,baz=38,slow=5.9,SNR=34
NOA LR LR 03 45 05.8
comp=Z,52nm,18.8s,baz=50,slow=38
AKASG Malin Array Be 74.17 322 P P 03 09 09.2 -0.4
AKASG *PP pP 03 09 21.5 -2.6
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG MLR MLR
comp=Z,16nm,28.6s
AKASG Malin Array Be 74.17 322 P P 03 09 09.2 -0.4
comp=Z,7.1nm,0.7s,baz=46,slow=6.0,SNR=49
AKASG pP pP 03 09 21.5 -2.6
comp=Z,2.0nm,0.5s,baz=44,slow=6.3,SNR=6.2
AKASG LR LR 03 44 10.5
comp=Z,54nm,18.2s,baz=330,slow=38
KIEV Kiev 74.19 322 eP P 03 09 09.1 -0.6
KIEV pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 74.19 322 eP P 03 09 09.1 -0.6
comp=Z,9.5nm,0.8s
HLID Hailey 74.26 47 eP P 03 09 10.6 +0.1
comp=Z,1.8nm,1.0s
BOZ Bozeman (W) 74.59 44 eP P 03 09 13.1 +0.7
BOZ pmax pmax
comp=Z,4.0nm,1.3s
BOZ Bozeman (W) 74.59 44 eP P 03 09 13.1 +0.7
comp=Z,4.4nm,1.3s
SUW Suwalki 74.76 327 eP P 03 09 13.9 +1.0
SUW Suwalki 74.76 327 eP P 03 09 13.9 +1.0
NVAR Mina Array Bea 74.89 53 P P 03 09 13.3 -1.0
comp=Z,0.6nm,0.8s,baz=304,slow=7.2,SNR=3.5
DUG Dugway 77.25 49 eP P 03 09 28.1 +0.5
DUG pmax pmax
comp=Z,2.0nm,0.9s
DUG Dugway 77.25 49 eP P 03 09 28.1 +0.5
comp=Z,2.1nm,0.9s
LVV L'vov 77.25 324 eP P 03 09 28.5 +1.3
LEOM Leova 77.42 319⇓iP P 03 09 28.7 +0.5
BW06 Boulder Array 77.55 45 eP P 03 09 29.2 -0.2
comp=Z,1.3nm,0.8s
PDAR Pinedale Array 77.55 45 P P 03 09 29.5 +0.1
comp=Z,0.4nm,0.6s,baz=317,slow=6.2,SNR=4.2
KWP Kalwaria Pacla 78.00 324 eP P 03 09 32.4 +1.0
KWP Kalwaria Pacla 78.00 324 eP P 03 09 32.4 +1.0
KWP Kalwaria Pacla 78.00 324⇓iP P 03 09 32.1 +0.7
BURAR Bucovina Array 78.19 322⇓iP P 03 09 33.5 +0.9
TESR Tescani 78.22 320⇓iP P 03 09 33.0 +0.3
PETR Petresti 78.44 319⇓iP P 03 09 35.8 +1.9
VRI Vrincioaia 78.61 320⇓iP P 03 09 36.4 +1.5
KOLS Kolonicke sedl 78.70 324 eP P 03 09 35.6 +0.3
KOLS pmax pmax
comp=Z,230nm,3.8s
KOLS Kolonicke sedl 78.70 324 eP P 03 09 35.6 +0.3
BRTR Keskin Array B 78.75 312 P P 03 09 36.0 +0.1
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 78.75 312 P P 03 09 36.0 +0.1
comp=Z,2.3nm,0.9s,baz=64,slow=3.4,SNR=7.7
STHS Stebnicka Huta 78.83 325 eP P 03 09 37.7 +1.7
STHS Stebnicka Huta 78.83 325 eP P 03 09 37.7 +1.7
OJC Ojcow 78.91 326 eP P 03 09 37.1 +0.7
OJC Ojcow 78.91 326 eP P 03 09 37.1 +0.7
CRVS Cervenica-Dubn 79.10 324 eP P 03 09 38.1 +0.6
CRVS pmax pmax
comp=Z,3.0nm,1.0s
CRVS Cervenica-Dubn 79.10 324 eP P 03 09 38.1 +0.6
TRPA Tarpa 79.14 323⇓iP P 03 09 38.2 +0.6
VOIR 79.76 320⇑iP P 03 09 42.7 +1.4
KSP Ksiaz 79.97 328 eP P 03 09 41.9 -0.3
KSP Ksiaz 79.97 328 eP P 03 09 43.0 +0.8
DRGR 79.99 322⇑iP P 03 09 43.0 +0.5
ARR Arges 80.03 320⇓iP P 03 09 44.5 +1.8
MORC Moravsky Berou 80.23 327 eP P 03 09 43.9 +0.3
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 80.23 327⇓iP P 03 09 44.5 +0.9
MORC Moravsky Berou 80.23 327 eP P 03 09 43.9 +0.3
comp=Z,6.8nm,1.0s
DPC Dobruska-Polom 80.33 328 eP P 03 09 45.1 +0.9
DPC Dobruska-Polom 80.33 328 eP P 03 09 45.1 +0.9
DPC Dobruska-Polom 80.33 328 eP P 03 09 45.1 +0.9
UPC Upice 80.34 328 eP P 03 09 44.9 +0.7
UPC Upice 80.34 328 eP P 03 09 44.9 +0.7
PSZ Piszkesteto 80.53 324 eP P 03 09 45.6 +0.2
PSZ pmax pmax
comp=Z,8.0nm,1.1s
PSZ Piszkesteto 80.53 324⇑iP P 03 09 45.5 +0.2
PSZ Piszkesteto 80.53 324 eP P 03 09 45.6 +0.2
comp=Z,8.2nm,1.1s
VYHS Vyhne 80.60 325 eP P 03 09 46.4 +0.8
VYHS pmax pmax
comp=Z,11nm,2.0s
VYHS Vyhne 80.60 325 eP P 03 09 46.4 +0.8
BRG Berggiesshubel 80.92 329 eP P 03 09 48.0 +0.8
comp=Z,5.9nm,1.0s
BRG Berggiesshubel 80.92 329 eP P 03 09 48.0 +0.8
BRG pmax pmax
comp=Z,6.0nm,1.0s
GZR Gura Zlata 80.94 321⇑iP P 03 09 48.5 +0.9
CLL Collm 80.96 330⇓iP P 03 09 47.8 +0.3
CLL i *PP pP 03 10 00.6 -1.5
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 80.96 330⇓iP P 03 09 47.8 +0.3
comp=Z,11nm,1.0s
CLL i (pP) pP 03 10 00.6 -1.5
VRAC Vranov 80.99 327⇓iP P 03 09 48.5 +0.8
PRU Pruhonice 81.35 329 eP P 03 09 50.1 +0.5
PRU Pruhonice 81.35 329 eP P 03 09 50.1 +0.5
BZS Buzias 81.36 322⇓iP P 03 09 50.2 +0.5
CSS Prodhromos 81.97 308 eP P 03 09 53.8 +0.6
comp=Z,7.8nm,1.5s
NKC Novy Kostel 82.02 330 eP P 03 09 53.1 0.0
NKC Novy Kostel 82.02 330 eP P 03 09 53.1 0.0
PKSM Moragy 82.36 324⇓iP P 03 09 55.5 +0.6
KHC Kasperske Hory 82.41 328 eP P 03 09 55.7 +0.5
KHC pmax pmax
comp=Z,8.0nm,0.9s
KHC Kasperske Hory 82.41 328 eP P 03 09 55.7 +0.5
KHC ex x 03 10 07.4
KHC Kasperske Hory 82.41 328 eP P 03 09 55.7 +0.5
comp=Z,7.6nm,0.9s
GERES GERESS Array B 82.58 328 P P 03 09 56.0 -0.2
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 82.58 328 P P 03 09 56.0 -0.2
comp=Z,2.1nm,0.7s,baz=34,slow=5.0,SNR=27
VTS Vitosha 82.70 319⇑iP P 03 09 57.7 +0.7
GRA2 Grafenberg Arr 82.91 330 eP P 03 09 58.9 +1.1
comp=Z,12nm,1.0s
GRF Grafenberg Arr 82.94 330 eP P 03 09 58.9 +1.0
comp=Z,13nm,1.0s
GRB4 Grafenberg Arr 82.97 330 eP P 03 09 58.9 +0.8
comp=Z,12nm,1.0s
GRB2 Grafenberg Arr 83.09 330 eP P 03 09 59.2 +0.5
comp=Z,12nm,0.9s
MMB Musomiste 83.13 318⇓iP P 03 09 59.3 +0.2
GRC1 Grafenberg Arr 83.36 329 eP P 03 10 00.7 +0.6
comp=Z,10.0nm,0.9s
GRC3 Grafenberg Arr 83.42 329 eP P 03 10 00.9 +0.5
comp=Z,11nm,1.1s
ANMO Albuquerque 84.48 50 eP P 03 10 07.7 +1.4
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 84.48 50 eP P 03 10 07.7 +1.4
comp=Z,3.2nm,1.1s
BFO Black Forest 85.17 331 eP P 03 10 08.9 -0.4
BFO pmax pmax
comp=Z,8.0nm,1.2s
BFO Black Forest 85.17 331 eP P 03 10 08.9 -0.4
comp=Z,8.1nm,1.2s
BAIF Baives 85.27 334 eP P 03 10 09.5 -0.2
BAIF Baives 85.27 334 eP P 03 10 09.5 -0.2
BAIF Baives 85.27 334 eP P 03 10 09.5 -0.2
CDF Champ du Feu 85.51 331 eP P 03 10 11.1 0.0
comp=Z,17nm,1.0s
CDF Champ du Feu 85.51 331 eP P 03 10 11.1 0.0
CDF pmax pmax
comp=Z,17nm,1.0s
CDF Champ du Feu 85.51 331 eP P 03 10 11.1 0.0
comp=Z,17nm,1.0s

FUORN Ofenpass-Fuorn 85.77 329 eP P 03 10 13.3 +0.7
PAGF Fort de Pagny 85.98 332 eP P 03 10 13.6 +0.3
comp=Z,3.7nm,0.8s
PAGF Fort de Pagny 85.98 332 eP P 03 10 13.6 +0.3
comp=Z,3.7nm,0.8s
HAU Haudompre 86.20 332 eP P 03 10 14.1 -0.3
comp=Z,8.8nm,0.9s
HAU Haudompre 86.20 332 eP P 03 10 14.1 -0.3
HAU pmax pmax
comp=Z,9.0nm,0.9s
HAU Haudompre 86.20 332 eP P 03 10 14.1 -0.3
comp=Z,8.8nm,0.9s
MEZF Maizieres J'vi 86.27 333 eP P 03 10 14.1 -0.6
MEZF Maizieres J'vi 86.27 333 eP P 03 10 14.1 -0.6
SFTF Sexfontaines 86.52 332 eP P 03 10 16.0 0.0
comp=Z,57nm,1.4s
SFTF Sexfontaines 86.52 332 eP P 03 10 16.0 0.0
comp=Z,57nm,1.4s
AQU L'Aquila 87.74 324 eP P 03 10 22.5 +0.5
AQU pmax pmax
comp=Z,23nm,1.4s
AQU L'Aquila 87.74 324 eP P 03 10 22.5 +0.5
comp=Z,23nm,1.4s
LOR Lormes 87.74 333 eP P 03 10 22.0 +0.1
comp=Z,17nm,1.2s
LOR Lormes 87.74 333 eP P 03 10 22.0 +0.1
LOR pmax pmax
comp=Z,17nm,1.2s
LOR Lormes 87.74 333 eP P 03 10 22.0 +0.1
comp=Z,17nm,1.2s
LPG La Plagne 88.11 330 eP P 03 10 23.7 -0.3
comp=Z,12nm,1.1s
LPG La Plagne 88.11 330 eP P 03 10 23.7 -0.3
LPG pmax pmax
comp=Z,12nm,1.1s
LPG La Plagne 88.11 330 eP P 03 10 23.7 -0.3
comp=Z,12nm,1.1s
AVF Avril sur Loir 88.33 333 eP P 03 10 24.8 +0.1
comp=Z,12nm,1.1s
AVF Avril sur Loir 88.33 333 eP P 03 10 24.8 +0.1
AVF pmax pmax
comp=Z,12nm,1.1s
AVF Avril sur Loir 88.33 333 eP P 03 10 24.8 +0.1
comp=Z,12nm,1.1s
SBF Sospel 89.17 329 eP P 03 10 28.2 -0.6
SBF Sospel 89.17 329 eP P 03 10 28.2 -0.6
SBF Sospel 89.17 329 eP P 03 10 28.2 -0.6
TXAR Lajitas Array 90.02 52 P P 03 10 33.2 +0.2
comp=Z,0.3nm,0.6s,baz=302,slow=1.6,SNR=4.7
CAF Calviac 90.39 332 eP P 03 10 35.1 +0.7
CAF Calviac 90.39 332 eP P 03 10 35.1 +0.7
CAF Calviac 90.39 332 eP P 03 10 35.1 +0.7
NATX Nacogdoches 93.69 45 eP P 03 10 50.6 +0.8
comp=Z,36nm,0.6s
TORD Torodi Ar. Bea 117.22 315 PKP PKPdf 03 16 17.7 -1.0
comp=Z,0.4nm,0.9s,baz=14,slow=2.7,SNR=2.0
TSUM Tsumeb 128.10 274 ePKPdf PKPdf 03 16 38.8 -0.8
LPAZ La Paz 146.61 59 PKP2 PKPbc 03 17 15.1 -0.6
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 146.61 59 PKPbc PKPbc 03 17 15.1 -0.6
comp=Z,1.0nm,0.6s,baz=358,slow=3.9,SNR=5.6
LPAZ pPKPbc pPKPbc 03 17 27.1 -3.9
comp=Z,1.2nm,0.5s,baz=3.1,slow=3.7,SNR=4.0
H03N2 Juan Fernandez 147.04 96 T T 06 01 29.8
baz=288,slow=75,SNR=19
H03N3 Juan Fernandez 147.05 96 T T 06 01 28.9
baz=288,slow=75,SNR=22
H03N1 Juan Fernandez 147.05 96 T T 06 01 30.2
baz=288,slow=75,SNR=24

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*ISCJB **14** 03:04:52.0±0.4, 33°.43S±0°.03×179°.33W±0°.07, h100km, mb5.0/29, Error ellipse: s-maj=8.2km s-min=3.9km az=6.7*
*NEIC **14** 03:04:52.4±1.1, 33°.30S×179°.19W, h96km±9km, mb5.1/14, Error ellipse: s-maj=10.9km s-min=10.1km az=128.0*
*IDC **14** 03:04:54.9±2.1, 32°.99S×179°.30W, h118km±17km, mb4.4/9, mb1 4.6/10, mb1mx4.3/21, mbtmp4.8/10, MS3.4/6, Ms1 3.4/6, ms1mx3.3/24, Error ellipse: s-maj=20.4km s-min=13.0km az=169.0*
ISC 14 03:04:52.7±0.4, 33°.36S±0°.04×179°.19W±0°.06, h100km, n182, σ1°93/161, mb5.0/28, 16C-16D, South of Kermadec Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 4.23 15 P Pn 03 05 52.5 -2.5
72nm,0.3s,baz=72,slow=20,SNR=2.1
RAO S Sn 03 06 37.4 -6.0
399nm,0.3s,baz=103,slow=22,SNR=9.2
RAO LR LR 03 07 02.6
comp=Z,238nm,19.2s,baz=134,slow=33
MXZ Matakaoa Point 4.67 205 PN Pn 03 06 01.1 +0.2
MXZ eSN Sn 03 06 54.8 +0.9
HAZ Te Kaha 5.04 208 PN Pn 03 06 07.5 +1.7
PUZ Puketiti 5.14 203 PN Pn 03 06 07.6 +0.3
PUZ SN Sn 03 07 05.7 +0.3
CNGZ Carnagh Statio 5.54 202 PN Pn 03 06 13.1 +0.5
MWZ Matawai 5.64 207 PN Pn 03 06 13.7 -0.4
MWZ SN Sn 03 07 18.2 +0.8
URZ Urewera 5.74 211 P Pn 03 06 15.5 +0.1
8.1nm,0.3s,baz=275,slow=2.1,SNR=35
URZ S Sn 03 07 18.4 -1.5
59nm,0.3s,baz=253,slow=17,SNR=15
URZ Urewera 5.74 211 ePn Pn 03 06 15.5 +0.1
URZ S Sn 03 07 18.4 -1.5
URZ eSn Sn 03 07 22.0 +2.1
URZ Urewera 5.74 211 PN Pn 03 06 15.4 +0.1
RAGZ Rawiri 5.82 207 ePN Pn 03 06 16.7 +0.2
RIGZ Rimuhau 5.88 204 PN Pn 03 06 17.2 -0.1
PRGZ Paritu Road 6.04 202 PN Pn 03 06 19.2 -0.2
SNGZ Shannon Statio 6.10 206 PN Pn 03 06 20.6 +0.3
KNZ Kokohu 6.20 203 ePN Pn 03 06 20.9 -0.7
MHGZ Mahia Peninsul 6.24 201 PN Pn 03 06 21.6 -0.6
OUZ Omahuta 6.25 251 ePn Pn 03 06 26.5 +4.2
RAHZ Arahi 6.32 207 PN Pn 03 06 23.1 -0.1
ALRZ Allen Road 6.33 214 PN Pn 03 06 24.2 +0.8
WHHZ Waihua 6.40 206 PN Pn 03 06 23.9 -0.4
NMHZ Naumai 6.58 208 PN Pn 03 06 26.3 -0.6
BKZ Black Stump Fm 6.77 210 ePn Pn 03 06 29.0 -0.4
BKZ Black Stump Fm 6.77 210 PN Pn 03 06 28.1 -1.3
MCHZ McNeill Hill 6.92 207 ePN Pn 03 06 30.2 -1.2
CKHZ Cape Kidnapper 6.97 204 ePN Pn 03 06 30.4 -1.6
KAHZ Kahuranaki 7.16 205 PN Pn 03 06 32.9 -1.9
BHHZ Black Hill Sta 7.22 211 PN Pn 03 06 34.1 -1.4
KRHZ Kereru 7.22 208 PN Pn 03 06 33.2 -2.3
MOVZ Moawhango 7.29 213 PN Pn 03 06 35.1 -1.3
TRVZ Turoa 7.29 214 ePN Pn 03 06 37.9 +1.2
PXZ Pawanui 7.38 204 PN Pn 03 06 35.0 -2.6
PNHZ Pukenui 7.52 208 PN Pn 03 06 36.6 -3.0
WPHZ Waipukurau 7.56 206 PN Pn 03 06 37.6 -2.5
PRHZ Porangahau 7.67 205 PN Pn 03 06 39.0 -2.6
TSZ Takapari Road 7.74 209 PN Pn 03 06 39.6 -3.0
DVHZ Dannevirke 7.87 207 PN Pn 03 06 41.1 -3.1
ANWZ Angora Road 7.89 205 PN Pn 03 06 42.1 -2.5
PRWZ Pori Road 8.16 207 ePN Pn 03 06 45.5 -2.8
BFZ Birch Farm 8.17 205 PN Pn 03 06 45.5 -2.8
MRZ Mangatainoka R 8.40 208 PN Pn 03 06 47.8 -3.8
HOWZ Holdsworth Sta 8.63 208 PN Pn 03 06 50.2 -4.5
TMWZ Te Maipa 8.67 205 PN Pn 03 06 51.2 -4.1
OGWZ Otaki Gorge 8.70 210 PN Pn 03 06 51.5 -4.1
KIW Kapiti Island 8.85 210 PN Pn 03 06 53.5 -4.1
MTW Mount Morrison 8.86 207 ePN Pn 03 06 52.7 -5.1
CAW Cannon Point 8.99 209 ePN Pn 03 06 54.7 -4.8
PLWZ Palliser 9.31 207 PN Pn 03 06 59.2 -4.8
TUWZ Tuamarina 9.73 212 ePN Pn 03 07 05.0 -4.6
NNZ Nelson 9.83 215 PN Pn 03 07 06.5 -4.4
BSWZ Blackbirch Sta 9.99 211 ePN Pn 03 07 08.5 -4.7
CTZ Chatham Island 10.56 170 ePN Pn 03 07 24.4 +3.6
KHZ Kahutara 10.71 210 ePn Pn 03 07 17.7 -5.2
17nm,0.6s
WVZ Waitaha Valley 12.52 216 ePN Pn 03 07 44.6 -2.4
FOZ Fox Glacier 13.40 217 ePN Pn 03 07 56.2 -2.3
ODZ Otahua Downs 14.07 211 ePN Pn 03 08 02.5 -4.8
MSVF Nonsavu 15.75 350 ePn Pn 03 08 29.4 -1.5
20nm,0.8s
DZM Mont Dzumac 16.95 308 eLR LR 03 12 39.1
432nm,32.6s
DZM Mont Dzumac 16.95 308 P P 03 08 45.6 +1.5
0.6nm,0.3s,baz=115,slow=14,SNR=16
MGCD Mangrove Creek 24.79 262 ⇑P P 03 10 08.0 +2.7
baz=26,SNR=7.8
ARMA Armidale 24.91 269 eP P 03 10 09.1 +2.6
181nm,2.4s
ARMA Armidale 24.91 269 ⇓P P 03 10 09.6 +3.1
baz=26,SNR=6.2
CAN Canberra 26.28 257 ⇑P P 03 10 21.1 +2.3
baz=27
YNG Young 26.89 259 ⇑P P 03 10 25.8 +1.6
baz=28
EIDS Eidsvold 27.04 279 eP P 03 10 26.1 +0.5
29nm,0.9s
EIDS Eidsvold 27.04 279 ⇑P P 03 10 26.8 +1.2
baz=28,SNR=13
MOO Moorlands 27.89 241 ⇑P P 03 10 34.9 +1.9
baz=29,SNR=4.4
TBI Tubuai 27.91 77 eT T 03 39 29.6
27nm,0.3s
RMQ Roma 28.53 275 ⇓P P 03 10 41.1 +2.1
baz=30,SNR=4.7
CMSA Cobar Meteorol 29.61 264 ⇑P P 03 10 49.9 +1.5
baz=31,SNR=22
PAE Paea 30.82 67 eT T 03 43 00.9
9.4nm,0.3s
PPT2 Papeete2 30.86 67 eLR LR 03 18 48.7
391nm,35.2s
PPT2 Papeete2 30.86 67 eT T 03 43 05.0
14nm,0.4s
TVO Taravao 31.00 67 eT T 03 43 14.9
1.7nm,0.4s
MEH Mehetia 31.87 69 eT T 03 44 20.9
21nm,0.3s
ARPS Mount Arapiles 31.93 253 ⇓P P 03 11 11.0 +2.1
baz=33
QLP Quilpie 32.28 272 ⇑P P 03 11 12.5 +0.5
baz=33,SNR=12
STKA Stephens Creek 32.93 262 P P 03 11 18.2 +0.5
5.9nm,0.9s,baz=93,slow=10,SNR=8.7
STKA LR LR 03 24 02.6
comp=Z,46nm,19.2s,baz=29,slow=35
STKA Stephens Creek 32.93 262 ⇑P P 03 11 18.5 +0.9
baz=34,SNR=5.4
CTA Charters Tower 33.41 284 P P 03 11 22.7 +0.8
29nm,0.7s,baz=111,slow=10,SNR=69
CTA Charters Tower 33.41 284 ⇑P P 03 11 22.8 +0.8
baz=34
CTAO Charters Tower 33.41 284 eP P 03 11 22.7 +0.8
40nm,0.8s
VAH Vaihoa 33.77 65 eT T 03 46 40.6
31nm,0.2s
HTT Hallett 34.80 258 ⇓P P 03 11 35.0 +1.2
baz=36,SNR=6.1
MTSU Mount Surprise 35.99 286 ⇓P P 03 11 44.7 +0.6
baz=37,SNR=24
BBOO Buckleboo 37.28 258 ⇓P P 03 11 54.9 0.0
baz=38,SNR=9.2
QIS Mount Isa 38.63 279 ⇑P P 03 12 06.7 +0.2
baz=40,SNR=23
PMG Port Moresby 39.07 300 P P 03 12 10.3 +0.1
31nm,0.8s,baz=117,slow=6.8,SNR=13
PMG Port Moresby 39.07 300 eP P 03 12 10.2 +0.1
30nm,0.8s
PMG Port Moresby 39.07 300 ⇑P P 03 12 10.5 +0.4
baz=40,SNR=6.9
COEN Coen 39.23 290 eP P 03 12 11.9 +0.5
COEN Coen 39.23 290 ⇓P P 03 12 12.0 +0.6
baz=40,SNR=16
RKT Rikitea 40.01 87 eT T 03 54 41.3
1.7nm,0.3s
ASAR Alice Springs 42.03 271 P P 03 12 34.0 -0.5
24nm,0.9s,baz=111,slow=7.6,SNR=148
ASAR S S 03 18 41.8 -4.6
1.8nm,0.8s,baz=116,slow=15,SNR=9.9
ASAR LR LR 03 29 23.5
comp=Z,60nm,18.2s,baz=141,slow=35
WRAB Tennant Creek 43.29 276 P P 03 12 44.0 -0.7
405nm,0.8s,SNR=36
WRAB Tennant Creek 43.29 276 eP P 03 12 44.0 -0.7
WRA Warramunga Arr 43.29 276 P P 03 12 43.9 -0.8
50nm,0.8s,baz=117,slow=7.6,SNR=170
WRA ScP ScP 03 18 12.0 -2.1
1.6nm,0.9s,baz=126,slow=4.4,SNR=6.0
WRA LR LR 03 29 22.6
comp=Z,41nm,19.6s,baz=50,slow=34
FORT Forrest 44.38 258 eP P 03 12 52.6 -0.7
34nm,0.7s
FORT Forrest 44.38 258 ⇑P P 03 12 52.8 -0.5
baz=45,SNR=12
WRKA Warakurna 46.18 266 ⇑P P 03 13 06.3 -1.3
baz=47,SNR=33
KDU Kakadu 48.52 283 ⇑P P 03 13 25.0 -0.8
baz=50,SNR=7.1
MTN Manton Dam 49.53 282 ⇓P P 03 13 32.7 -0.8
baz=51
KNRA Kununurra 50.00 277 ⇓P P 03 13 36.7 -0.4
baz=51,SNR=6.6
FITZ Fitzroy Crossi 51.41 273 ⇑P P 03 13 47.3 -0.3
baz=52
NWAO Narrogin (SRO) 52.46 252 P P 03 13 53.8 -1.5
4.4nm,0.6s,baz=74,slow=5.4,SNR=5.9
KLBR Kellerberrin 52.49 254 ⇓P P 03 13 54.2 -1.3
baz=54,SNR=20
MEEK Meekatharra 53.59 260 ⇓P P 03 14 02.1 -1.6
baz=55,SNR=8.9
BLDU Ballidu 53.67 254 ⇓P P 03 14 02.0 -2.1
baz=55
MORW Morawa 54.77 256 ⇑P P 03 14 10.7 -1.5
baz=56,SNR=3.9
SOEI Soe 56.84 281 eP P 03 14 27.4 +0.2
55nm,1.1s
SOEI Soe 56.84 281 ⇓P P 03 14 24.2 -3.0
baz=58,SNR=6.0
LUWI Luwuk 63.07 288 ⇑P P 03 15 06.8 -2.9
baz=64,SNR=3.0
KAPI Kappang 63.19 282 eP P 03 15 09.7 -0.8
37nm,0.9s
JAGI Jajag, Banyuwa 65.91 276 ⇓P P 03 15 25.7 -2.5
baz=67
PMSA Palmer Station 70.00 156 eP P 03 15 53.5 +0.6
13nm,0.7s
SYO Syowa Base 74.01 194⇓P P 03 16 16.4 -0.5
SNAA Sanae 75.23 179 PcP PcP 03 16 31.0 -6.0
SNAA Sanae 75.23 179 P P 03 16 26.9 +2.8
SNAA Sanae 75.23 179 eP P 03 16 25.8 +1.8
34nm,1.0s
VNA3 Neumayer Olymp 75.43 177 PcP PcP 03 16 32.5 -5.3
VNA3 Neumayer Olymp 75.43 177 P P 03 16 27.9 +2.8
VNA2 Neumayer--Watz 75.85 177 PcP PcP 03 16 35.0 -4.6
baz=172,slow=4.7
VNA2 Neumayer--Watz 75.85 177 P P 03 16 30.6 +3.1
baz=171,slow=4.8
VNA1 Neumayer--Stat 76.08 177 PcP PcP 03 16 36.4 -4.1
VNA1 Neumayer--Stat 76.08 177 P P 03 16 32.3 +3.5
H03N3 Juan Fernandez 79.89 123 T T 04 45 52.5
baz=237,slow=74,SNR=75
H03N2 Juan Fernandez 79.89 123 T T 04 45 43.4
baz=237,slow=74,SNR=60
H03N1 Juan Fernandez 79.90 123 T T 04 45 39.6
baz=237,slow=74,SNR=69
MJAR Matsushiro Arr 80.11 326 LR LR 03 49 33.5
comp=Z,28nm,19.6s,baz=100,slow=34
PLCA Paso Flores 81.23 133 P P 03 16 58.4 +0.7
3.2nm,0.8s,baz=250,slow=8.0,SNR=4.6
QZH Quanzhou 82.84 306 eP P 03 17 05.4 -0.7
QZH S S 03 27 17.0 +0.6
QZH LR LR
comp=N,950nm,12.6s
QZH LR LR
comp=E,1μm,10.4s
QZH LR LR
comp=Z,640nm,16.5s
KULM Kulim 84.70 280 eP P 03 17 18.3 +2.4
22nm,1.3s
NJ2 Nanjing 87.41 311 eP P 03 17 31.3 +2.6
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
LCO Las Campanas 88.19 124 eP P 03 17 35.4 +2.3
MDJ Mudanjiang 90.50 326 P P 03 17 47.5 +4.6
MDJ pmax pmax
comp=Z,3.0nm,1.2s
MDJ pmax pmax
comp=Z,75nm,6.1s
NVAR Mina Array Bea 91.08 43 P P 03 17 47.1 +1.0
1.2nm,0.8s,baz=221,slow=6.8,SNR=7.4
CN2 Changchun 91.89 323 eP P 03 17 53.9 +4.5
GYA Guiyang 92.15 300 eP P 03 17 55.0 +3.8
GYA pP pP 03 18 16.4 -1.2
GYA PP PP 03 21 37.0 +4.0
GYA SKS SKSac 03 28 19.6 +4.2
GYA SS SS 03 35 01.3 +3.2
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=N,540nm,19.8s
GYA LR LR
comp=E,490nm,20.0s
GYA LR LR
comp=Z,610nm,20.4s
KMI Kunming 94.26 297 P P 03 18 02.1 +1.0
KMI pmax pmax
comp=Z,7.0nm,1.4s
BJI Beijing 94.33 316 P P 03 18 04.3 +3.6
BJI S S 03 29 08.3 +4.5
BJI pmax pmax
comp=Z,3.0nm,0.9s
BJI LR LR
comp=N,290nm,21.9s
BJI LR LR
comp=E,270nm,15.5s
BJI LR LR
comp=Z,120nm,16.4s
TXAR Lajitas Array 94.82 58 P P 03 18 02.3 -1.1
0.9nm,1.0s,baz=203,slow=5.9,SNR=6.1
TXAR LR LR 03 54 05.9
comp=Z,52nm,20.2s,baz=0.0,slow=31
MNTX Cornudas Mount 95.00 55 eP P 03 18 05.6 +1.5
2.6nm,1.2s
HLID Hailey 96.69 41 eP P 03 18 10.3 -1.4
7.8nm,1.6s
CD2 Chengdu 96.81 302 P P 03 18 16.8 +4.4
CD2 pP pP 03 18 37.0 -1.8
CD2 PP PP 03 22 14.1 +5.0
CD2 S S 03 29 28.1 +2.2
CD2 SS SS 03 36 07.4 +3.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=N,660nm,14.3s
CD2 LR LR
comp=Z,350nm,10.7s
HHC Hu-ho-hao-te 97.56 314 eP Pdif 03 18 20.6 +5.0
HHC pP pP 03 18 41.8 -0.2
HHC sP sP 03 18 50.0 -2.6
HHC SKS SKSac 03 28 49.4 +5.7
HHC S ScS 03 29 35.8 +3.6
HHC pmax pmax
comp=Z,27nm,1.4s
HHC LR LR
comp=N,380nm,17.7s
HHC LR LR
comp=E,540nm,18.6s
HHC LR LR
comp=Z,390nm,18.1s
JTS JuntasAbangare 99.09 84 eP Pdif 03 18 25.6 +2.6
16nm,1.2s
LZH Lanzhou 99.67 307 eP Pdif 03 18 29.8 +4.6
LZH pP pP 03 18 49.5 -2.2
LZH sP sP 03 18 59.3 -3.0
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,78nm,4.3s
LZH LR LR
comp=N,200nm,18.5s
LZH LR LR
comp=E,220nm,14.8s
LZH LR LR
comp=Z,130nm,14.6s
SONM Songino Array 104.65 318 PKKPbc PKKPbc 03 34 36.5 +4.2
0.5nm,0.9s,baz=222,slow=1.9,SNR=3.6
YKA Yellowknife Ar 108.54 26 PKiKP PKiKP 03 23 08.0 -0.7
0.2nm,0.7s,baz=258,slow=1.4,SNR=7.8
YKA PKKPbc PKKPbc 03 34 16.2 -4.2
0.2nm,0.6s,baz=37,slow=3.1,SNR=8.5
WMQ Urumqi 114.24 308 PKP PKPdf 03 23 24.3 +4.0
WMQ sPKP 03 24 01.6
WMQ PP PP 03 23 25.3 +6.0
WMQ PKS PKSdf 03 26 59.6 +2.7
WMQ SKS SKSdf 03 30 25.3 +2.1
WMQ SKKS SKKSac 03 31 05.8 -3.1
WMQ SS SS 03 40 00.9 -0.6
WMQ AMB AMB
comp=Z,29nm,12.4s
WMQ LR LR
comp=N,48nm,19.0s
WMQ LR LR
comp=E,60nm,20.6s
WMQ LR LR
comp=Z,52nm,17.8s
MKAR Makanchi Array 118.87 309 PKP PKPdf 03 23 27.1 -2.0
0.6nm,0.9s,baz=132,slow=0.5,SNR=4.7
RES Resolute Bay 120.36 18 ePKPdf PKPdf 03 23 30.7 -0.3
KSH Kashi 120.84 299 ePKP PKPdf 03 23 35.3 +2.1
KSH esPKP 03 24 10.3
KSH PKS PKSdf 03 27 10.0 +0.1
KSH SS SS 03 41 27.6 +0.1
KSH LR LR
comp=N,54nm,4.5s
KSH LR LR
comp=E,88nm,5.4s
KSH LR LR
comp=Z,200nm,5.9s
BBGH Gun Hill 121.79 95 ePKPdf PKPdf 03 23 36.0 +0.4
TKM2 Tokmak 2 122.19 303 ePKPdf PKPdf 03 23 35.4 -0.4
KURK Kurchatov 122.33 313 PKP PKPdf 03 23 33.9 -1.5
KURK ePKPdf PKiKP 03 23 34.8 -0.8
KURBB Kurchatov Arra 122.36 313 PKP PKPdf 03 23 33.9 -1.6
0.8nm,0.8s,baz=108,slow=1.8,SNR=11
EKS2 Erkin-Say 123.39 302 ePKPdf PKPdf 03 23 37.7 -0.3
LSZ Lusaka 125.03 213 ePKPdf PKPdf 03 23 43.1 +1.1
TSUM Tsumeb 125.34 200 ePKPdf PKPdf 03 23 44.0 +1.5
BVAR Borovoye Array 127.77 314 PKP PKPdf 03 23 46.0 +0.2
1.3nm,0.8s,baz=101,slow=1.5,SNR=6.1
BRVK Borovoye 127.84 314 ePKPdf PKPdf 03 23 47.1 +1.2
KMBO Kilima Mbogo 131.49 232 ePKPdf PKPdf 03 23 54.5 0.0
ABKAR Akbulak array 134.01 309 ePKPdf PKPdf 03 23 59.4 +1.6
ASCN Ascension 136.48 158 ePKPdf PKPdf 03 24 04.6 +1.1
KEV Kevo 140.75 346 epkp PKPdf 03 24 27.5 +18
ARCES ARCESS Array B 141.24 346 PKP PKPdf 03 24 09.1 -1.5
2.1nm,0.7s,baz=18,slow=4.3,SNR=4.7
GNI Garni 144.44 294 ePKPdf PKPbc 03 24 15.7 -0.4
JOF Joensuu 144.75 336 epkp PKPdf 03 24 16.1 -0.7
1.8nm,0.6s
KAF Kangasniemi 146.95 338 epkp PKPbc 03 24 21.1 -1.6
3.7nm,0.6s
FINES FINESS Array B 147.53 338 PKPbc PKPbc 03 24 23.4 -1.0
9.3nm,0.8s,baz=56,slow=3.5,SNR=66
EIL Elat 150.74 272 PKPbc PKPbc 03 24 31.0 -2.4
4.1nm,0.7s,baz=63,slow=2.3,SNR=2.8
NB2 NORSAR Subarra151.49 349 PKP PKPbc 03 24 33.7 -0.6
comp=Z,3.1nm,0.6s,baz=16,slow=2.6
NOA NORSAR Array B151.49 349 PKPbc PKPbc 03 24 33.6 -0.6
comp=Z,1.7nm,0.7s,baz=22,slow=4.7,SNR=27
LIC Lamto 152.46 167 ePKP1 PKPbc 03 24 39.9 +2.1
comp=Z,46nm,0.9s
KIC Kosan Boka 152.65 168 ePKP1 PKPbc 03 24 40.7 +2.5
comp=Z,40nm,0.9s
TIC Toumodi 152.88 167 ePKP1 PKPbc 03 24 40.1 +1.3
comp=Z,5.5nm,0.2s
DBIC Dimbokro 152.93 168 PKPbc PKPbc 03 24 40.5 +1.6
comp=Z,2.0nm,0.5s,baz=173,slow=3.0,SNR=9.0
AKASG Malin Array Be 152.93 318 PKPbc PKPbc 03 24 36.2 -1.5
comp=Z,1.4nm,0.7s,baz=64,slow=2.4,SNR=8.6
BRTR Keskin Array B 152.97 293 PKPbc PKPbc 03 24 37.0 -1.4
comp=Z,0.9nm,0.5s,baz=128,slow=3.5,SNR=13
KOLS Kolonicke sedl 157.68 321 ePKP PKPab 03 25 11.9 +2.2
CRVS Cervenica-Dubn 158.12 321 ePKP PKPab 03 25 12.9 +1.2
TORD Torodi Ar. Bea 159.87 183 PKP PKPdf 03 24 41.6 +1.1
comp=Z,0.6nm,0.7s,baz=177,slow=0.7,SNR=6.3
TORD PKPab PKPab 03 25 20.9 +1.0
comp=Z,5.2nm,0.8s,baz=168,slow=4.8,SNR=20
STU Stuttgart 163.37 340 ePKPab PKPab 03 25 35.1 +0.6

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*THR **14** 03:26:47.2±0.3, 30°.58N×49°.91E, h43km±3km, ML4.2*
*IDC **14** 03:26:47.2±0.9, 31°.03N×49°.99E, h0km, mb3.9/18, mb1 4.0/21, mb1mx3.9/31, mbtmp3.9/21, ML3.3/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/49, Error ellipse: s-maj=21.9km s-min=14.6km az=169.0*
*ISCJB **14** 03:26:48.8±0.2, 30°.79N±0°.03×49°.97E±0°.03, h30km,*

mb4.0/35,MS3.2/1,Error ellipse: s-maj=4.0km
s-min=3.1km az=34.2
MOS 14 03:26:49.8±0.9,30.95N×49.90E,h33km,mb4.3/20,Error
ellipse: s-maj=11.3km s-min=7.6km az=120.7
TEH 14 03:26:50.9,30.94N×50.06E,h11km,ML4.1
NEIC 14 03:26:51.0,30.95N×50.05E,h13km,mb4.0/5,
ML4.2(THR),MN4.2(TEH),After TEH.
CSEM 14 03:26:52.2±0.1,30.90N×50.00E,h40km,mb4.1/24,Ms4.1,
Error ellipse: s-maj=5.1km s-min=3.8km az=12.0
OMAN 14 03:27:39.8±99.0,27.65N×52.38E,h45km±999km,Error
ellipse: s-maj=318.8km s-min=23.7km az=337.0
ISC 14 03:26:51.0±0.5,30.89N±0.05×50.08E±0.04,h30km,n252,
σ1§24/248,mb4.1/35,15C-21D,Northern and central Iran

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

SHGR Shooshtar-Gavs 1.63 318 ePg Pb 03 27 19.6 -0.9
SHGR eSg Sb 03 27 43.2 +2.6
SHGR Shooshtar-Gavs 1.63 318 ePg Pb 03 27 19.6 -0.9
SHGR Shooshtar-Gavs 1.63 318 ePg Pb 03 27 19.6 -0.9
SHGR eSg Sb 03 27 43.2 +2.6
SHGR AML AML 03 27 51.2
comp=E,3μm,0.2s
SHGR AML AML 03 27 51.4
comp=N,4μm,0.4s
IPIR Pirpir 1.92 21 ePn Pn 03 27 23.1 +1.1
IPIR eSg Sb 03 27 49.7 +0.4
IPIR e 03 27 50.6
comp=Z,21μm,0.3s
IPIR Pirpir 1.92 21 ePn Pn 03 27 23.1 +1.1
IPIR eSg Sb 03 27 49.7 +0.4
IGAR Gharneh 2.26 47 ePn Pn 03 27 28.4 +1.9
IGAR e 03 28 03.0
comp=E,781nm,0.3s
IKLH Kolahrood 2.74 27 ePn Pn 03 27 34.4 +1.2
IKLH e 03 28 29.3
comp=Z,7μm,0.4s
IKLH Kolahrood 2.74 27 ePn Pn 03 27 34.4 +1.2
IZEF Zefreh 2.77 43 ePn Pn 03 27 34.9 +1.3
IZEF e 03 27 40.9
comp=Z,4μm,0.3s
IZEF Zefreh 2.77 43 ePn Pn 03 27 34.9 +1.3
IPAR Pars 2.77 111 ePn Pn 03 27 36.0 +2.3
IPAR e 03 28 13.8
comp=Z,5μm,0.4s
IPAR Pars 2.77 111 ePn Pn 03 27 36.0 +2.3
KHMZ Khomeyn 2.84 358 ePn Pn 03 27 36.0 +1.4
comp=Z,361nm,1.9s
KHMZ Khomeyn 2.84 358 ePn Pn 03 27 36.0 +1.4
KHMZ AML AML 03 28 31.2
comp=E,361nm,1.9s
IKMR Kamar-syah 2.99 332 ePn Pn 03 27 37.1 +0.8
IKMR Kamar-syah 2.99 332 ePn Pn 03 27 37.1 +0.8
NASN Na'in 3.01 50 ePn Pn 03 27 38.4 +1.5
NASN Na'in 3.01 50 ePn Pn 03 27 38.4 +1.5
NASN Na'in 3.01 50 ePn Pn 03 27 38.4 +1.5
QAM Ghamsar 3.09 22 ePn Pn 03 27 39.3 +1.4
IKFM Kafar-mosalman 3.24 325 ePn Pn 03 27 40.8 +1.1
IKFM Kafar-mosalman 3.24 325 ePn Pn 03 27 40.8 +1.1
ISAD Sadrabad 3.25 71 ePn Pn 03 27 41.6 +1.4
ISAD e 03 28 23.2
comp=Z,7μm,0.3s
ISAD Sadrabad 3.25 71 ePn Pn 03 27 41.6 +1.4
IDOB Doab 3.31 331 ePn Pn 03 27 42.0 +1.1
IDOB Doab 3.31 331 ePn Pn 03 27 42.0 +1.1
ASAO Ashtian 3.65 359 ePn Pn 03 27 47.1 +1.4
ASAO Ashtian 3.65 359 ePn Pn 03 27 47.1 +1.4
comp=Z,307nm,0.3s
ASAO Ashtian 3.65 359 ePn Pn 03 27 47.1 +1.4
ASAO AML AML 03 28 55.1
comp=N,307nm,0.3s
GHVR GHOM 3.73 16 ePn Pn 03 27 48.2 +1.7
GHVR GHOM 3.73 16 ePn Pn 03 27 48.2 +1.7
IMEH Mehriz 3.92 81 ePn Pn 03 27 51.0 +1.7
IMEH e 03 28 41.3
comp=Z,1μm,0.2s
IMEH Mehriz 3.92 81 ePn Pn 03 27 51.1 +1.7
IKOM Komasi 3.93 327 ePn Pn 03 27 49.9 +0.5
IKOM e 03 28 04.4
comp=Z,8μm,0.3s
IKOM Komasi 3.93 327 ePn Pn 03 27 49.9 +0.5
ICHK Chekchek 3.94 69 ePn Pn 03 27 51.0 +1.4
ICHK e 03 28 39.7
comp=Z,2μm,0.2s
ICHK Chekchek 3.94 69 ePn Pn 03 27 51.0 +1.4
IBZA Bozab 4.03 333 ePn Pn 03 27 51.6 +0.7
IBZA e 03 28 41.1
comp=Z,3μm,0.3s
IBZA Bozab 4.03 333 ePn Pn 03 27 51.6 +0.7
IVRN Varamin 4.33 18 ePn Pn 03 27 55.5 +0.7
IVRN Varamin 4.33 18 ePn Pn 03 27 55.5 +0.7
IRAZ Razeghan 4.51 358 ePn Pn 03 27 58.0 +0.6
IRAZ e 03 29 22.7
comp=Z,4μm,0.7s
IRAZ Razeghan 4.51 358 ePn Pn 03 27 58.0 +0.6
IGHG Ghaleghazi 4.53 320 ePn Pn 03 27 58.5 +0.7
IGHG e 03 29 41.3
comp=Z,3μm,0.4s
IGHG Ghaleghazi 4.53 320 ePn Pn 03 27 58.5 +0.7
IBAF Bafgh 4.75 80 ePn Pn 03 28 02.0 +1.2
IBAF e 03 28 22.0
comp=Z,656nm,0.2s
IBAF Bafgh 4.75 80 ePn Pn 03 28 02.0 +1.2
SNGE Sanandaj 4.78 332 ePn Pb 03 28 01.4 +0.2
SNGE Sanandaj 4.78 332 ePn Pn 03 28 01.4 +0.2
comp=Z,130nm,0.3s
SNGE Sanandaj 4.78 332 ePn Pn 03 28 01.4 +0.2
SNGE AML AML 03 28 29.8
comp=E,130nm,0.3s
ILIN Lien 4.80 328 ePn Pn 03 28 01.9 +0.5
ILIN e 03 29 01.1
comp=Z,3μm,0.3s
ILIN Lien 4.80 328 ePn Pn 03 28 01.9 +0.5
IMHD Mahdasht 4.81 6 ePn Pn 03 28 01.8 +0.3
IMHD Mahdasht 4.81 6 ePn Pn 03 28 01.8 +0.3
IDHR Dehrash 4.91 322 ePn Pn 03 28 03.4 +0.4
IDHR e 03 29 02.7
comp=Z,3μm,0.1s
IDHR Dehrash 4.91 322 ePn Pn 03 28 03.4 +0.4
IDMV Damavand 4.96 19 ePn Pn 03 28 04.0 +0.3
IDMV e 03 29 56.1
comp=Z,1μm,0.6s
IDMV Damavand 4.96 19 ePn Pn 03 28 04.0 +0.3
ILAS Lasjerd 5.09 28 ePn Pn 03 28 05.7 +0.2
ILAS e 03 29 59.8
comp=Z,924nm,0.4s
ILAS Lasjerd 5.09 28 ePn Pn 03 28 05.7 +0.2
IFIR Firoozkooh 5.24 25 e 03 28 14.8
comp=Z,784nm,0.1s
IFIR ePn Pn 03 28 08.3 +0.7
IGZV Ghazvin 5.49 1 ePn Pn 03 28 11.4 +0.5
IGZV Ghazvin 5.49 1 ePn Pn 03 28 11.4 +0.5
IANJ Anjilo 5.59 34 ePn Pn 03 28 12.6 +0.3
IANJ e 03 30 16.1
comp=Z,563nm,0.4s
IANJ Anjilo 5.59 34 ePn Pn 03 28 12.6 +0.3
IALA Alasht 5.66 23 ePn Pn 03 28 14.6 +1.2
IALA Alasht 5.66 23 ePn Pn 03 28 14.6 +1.2
IPRN Peran 5.66 19 ePn Pn 03 28 14.6 +1.4
IPRN e 03 28 38.1
comp=Z,1μm,0.4s
IGLO Ghaloghah 6.41 28 ePn Pn 03 28 24.3 +0.7
BANOM Banah 7.38 131 ⇑P Pn 03 28 37.0 +0.2
SNR=27
BANOM Banah 7.38 131 ⇑S Sn 03 29 57.7 -1.8
NAZ Nazwa, Dubai 7.68 139 P Pn 03 28 42.3 +1.5
SNR=8.6
NAZ Nazwa, Dubai 7.68 139⇓iP Pn 03 28 42.3 +1.5
SNR=8.6
IKOO Kooshah 7.76 76 ePn Pn 03 28 43.1 +0.9
IKOO Kooshah 7.76 76 ePn Pn 03 28 43.1 +0.9
ASUD Al Ashush, Dub 7.78 142 P Pn 03 28 44.1 +1.9
SNR=34
ASUD Al Ashush, Dub 7.78 142⇑iP Pn 03 28 44.1 +1.9
SNR=34
IHRS Heris 7.82 342 ePn Pn 03 28 43.6 +0.7
IHRS Heris 7.82 342 ePn Pn 03 28 43.6 +0.7
FAQ Al Faqa, Dubai 7.83 140 P Pn 03 28 44.1 +1.2
FAQ Al Faqa, Dubai 7.83 140 ⇓P Pn 03 28 44.1 +1.2
HATD Hatta, Dubai 8.07 137 P Pn 03 28 47.2 +1.0
SNR=12
HATD Hatta, Dubai 8.07 137 iP Pn 03 28 47.2 +1.0
SNR=12
ASHO Ashiyiah 8.14 138 ⇑P Pn 03 28 48.4 +1.2
RAYN Ar Rayn 8.39 210 ePn Pn 03 28 50.5 -0.1
RAYN Ar Rayn 8.39 210 ePn Pn 03 28 50.5 -0.1
ARQ Araqi 9.46 141 ⇓P Pn 03 29 05.5 +0.2
HOQ Hoqain 9.71 137 ⇓P Pn 03 29 09.3 +0.5
ASF Jabal al Asfar 11.32 280 Pn Pn 03 29 29.0 -1.7
comp=Z,0.9nm,0.3s,baz=39,slow=5.1,SNR=10
ASF Sn Sn 03 31 29.8 -6.5
comp=Z,0.2nm,0.3s,baz=360,slow=19,SNR=2.9
ASF Lg Lg 03 33 10.4
comp=Z,0.3nm,0.3s,baz=245,slow=18,SNR=4.4
WBK Wadi Bani Khal 11.45 134 P Pn 03 29 31.0 -1.5
SNR=6.4
MMAI Mount Meron Ar 12.64 283 Pn Pn 03 29 47.9 -1.0
comp=Z,0.2nm,0.3s,baz=95,slow=14,SNR=2.4
MMAI Sn Sn **03 32 06.4 -2.3**
comp=Z,0.9nm,0.3s,baz=93,slow=23,SNR=3.7
MMAI Lg Lg 03 33 54.7
baz=77,slow=37,SNR=3.5
EIL Elat 13.13 269 Pn Pn 03 29 57.4 +1.9
comp=Z,0.3nm,0.3s,baz=95,slow=3.7,SNR=1.3
EIL Lg Lg 03 34 14.7
comp=Z,0.3nm,0.3s,baz=269,slow=19,SNR=1.9
EIL LR LR 03 36 13.6
comp=Z,59nm,20.0s,baz=233,slow=43
ABTO Aybut 13.79 167 ⇑P Pn 03 30 03.6 -1.0
SNR=15
RBK Rabkut 13.84 163 ⇓P Pn 03 30 04.4 -0.9
SNR=7.6
BRTR Keskin Array B 16.04 308 Pn Pn 03 30 34.0 -0.5
comp=Z,0.0nm,0.3s,baz=131,slow=13,SNR=4.5
BRTR LR LR 03 38 13.7
comp=Z,72nm,18.0s,baz=119,slow=43
ABKAR Akbulak array 19.81 19 eP P 03 31 18.1 -0.8
comp=Z,1.5nm,0.5s
ABKAR Akbulak array 19.81 19 eP P 03 31 18.1 -0.8
comp=Z,1.5nm,0.5s
KKAR Karatay Array 20.31 47 eP Pn 03 31 27.3 +0.6
KKAR pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 20.31 47 eP Pn 03 31 27.3 +0.6
comp=Z,5.9nm,1.0s
KKAR Karatay Array 20.31 47 eP Pn 03 31 27.3 +0.6
comp=Z,5.9nm,1.0s
AKTK Aktyubinsk 20.41 15 P P 03 31 24.0 -1.5
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 20.41 15 P P 03 31 24.0 -1.5
AKTO pmax pmax
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 20.41 15 P P 03 31 24.0 -1.5
comp=Z,1.0nm,0.4s,baz=175,slow=12,SNR=8.2
VRHR Novokhopersk 21.14 345 eP P 03 31 32.2 -1.2
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR Novokhopersk 21.14 345 eP P 03 31 32.2 -1.2
IDI Anoyia 21.53 288 P P 03 31 39.3 +1.5
comp=E,11nm,0.7s,baz=100,slow=12,SNR=11
VORD Divnogorie 21.61 341 eP P 03 31 40.4 +2.1
VORD pmax pmax
comp=Z,6.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,9.0nm,0.7s
VORD Divnogorie 21.61 341 eP P 03 31 40.4 +2.1
comp=E,10.0nm,0.9s
VSR Storozhevoye 21.87 341 eP P 03 31 41.2 +0.1
VSR pmax pmax
comp=Z,6.0nm,0.9s
VSR pmax pmax
comp=N,7.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR Storozhevoye 21.87 341 eP P 03 31 41.2 +0.1
comp=E,7.0nm,0.7s
CFR Carcaliu 22.31 316⇑iP P 03 31 45.4 -0.6
CFR Carcaliu 22.31 316⇑iP P 03 31 45.4 -0.6
AAK Ala-Archa 22.72 52 P P 03 31 57.0 +6.4
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK MLR MLR
comp=Z,79nm,19.5s
AAK Ala-Archa 22.72 52 P P 03 31 57.0 +6.4
comp=Z,1.5nm,0.8s,baz=270,slow=7.1,SNR=3.9
AAK LR LR 03 42 12.7
comp=Z,79nm,19.5s,baz=250,slow=41
KSH Kashi 22.79 61 eP P 03 31 50.3 -0.9
KSH pmax pmax
comp=Z,4.0nm,1.2s
VRI Vrincioaia 23.52 316⇑iP P 03 31 57.4 -1.0
VRI Vrincioaia 23.52 316⇑iP P 03 31 57.4 -1.0
VOIR 24.33 314⇓iP P 03 32 05.6 -0.5
VOIR 24.33 314⇓iP P 03 32 05.6 -0.5
ARR Arges 24.55 313⇓iP P 03 32 08.2 +0.1
ARR Arges 24.55 313⇓iP P 03 32 08.2 +0.1
LOT Lotru 25.14 313⇓iP P 03 32 12.3 -1.1
LOT Lotru 25.14 313⇓iP P 03 32 12.3 -1.1
AKASG Malin Array Be 25.16 328 P P 03 32 12.2 -1.2
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 25.16 328 P P 03 32 12.2 -1.2
comp=Z,1.1nm,0.3s,baz=136,slow=9.3,SNR=17
BURAR Bucovina Array 25.32 318⇑iP P 03 32 16.0 +0.9
BURAR Bucovina Array 25.32 318⇑iP P 03 32 16.0 +0.9
GZR Gura Zlata 25.74 312⇓iP P 03 32 19.5 +0.6
GZR Gura Zlata 25.74 312⇓iP P 03 32 19.5 +0.6
DRGR 26.40 315⇓iP P 03 32 25.9 +1.1
DRGR 26.40 315⇓iP P 03 32 25.9 +1.1
GRUS Gruza 26.54 308 eP P 03 32 27.5 +1.4
BZS Buzias 26.58 312⇑iP P 03 32 27.5 +1.1
BZS Buzias 26.58 312⇑iP P 03 32 27.5 +1.1
BVAR Borovoye Array 26.61 28 P P 03 32 27.1 +0.6
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 26.61 28 P P 03 32 27.1 +0.6
comp=Z,1.6nm,0.6s,baz=230,slow=11,SNR=4.7
KOLS Kolonicke sedl 27.69 319 eP P 03 32 41.4 +5.1
KOLS Kolonicke sedl 27.69 319 eP P 03 32 41.4 +5.1
STHS Stebnicka Huta 28.52 319 eP P 03 32 49.3 +5.5
STHS Stebnicka Huta 28.52 319 esP P 03 32 49.2 +5.5
PKSM Moragy 28.73 311⇓iP P 03 32 45.9 +0.3
PKSM Moragy 28.73 311⇓iP P 03 32 45.9 +0.3
KURBB Kurchatov Arra 28.93 39 P P 03 32 48.6 +1.3
comp=Z,0.8nm,0.6s,baz=240,slow=9.9,SNR=11
KURK Kurchatov 29.03 39 eP P 03 32 50.4 +2.2
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 29.03 39 eP P 03 32 50.4 +2.2
comp=Z,1.2nm,0.8s
KURK Kurchatov 29.03 39 eP P 03 32 50.4 +2.2
comp=Z,1.2nm,0.8s
MKAR Makanchi Array 29.44 48 P P 03 32 52.2 +0.3
comp=Z,0.4nm,0.6s,baz=257,slow=8.1,SNR=7.7
MOA Molln 32.10 312⇓iP P 03 33 15.7 +0.3
MOA Molln 32.10 312 P P 03 33 15.7 +0.3
KBA Koelnbreinsper 32.46 310⇓iP P 03 33 19.4 +0.6
KBA Koelnbreinsper 32.46 310 P P 03 33 19.4 +0.6
GERES GERESS Array B 32.78 314 P P 03 33 20.3 -1.2
comp=Z,0.4nm,0.6s,baz=110,slow=12,SNR=6.8
WATA Walderalm 33.69 310⇑iP P 03 33 29.0 -0.5
WATA Walderalm 33.69 310 P P 03 33 29.0 -0.5
ZALV Zalesovo Beam 33.94 37 P P 03 33 32.8 +1.4
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 33.94 37 P P 03 33 32.8 +1.4
comp=Z,1.1nm,0.5s,baz=251,slow=9.2,SNR=5.9
MOTA Moosalm 34.00 310⇑iP P 03 33 31.5 -0.7
MOTA Moosalm 34.00 310 P P 03 33 31.5 -0.7
JOF Joensuu 34.24 345 eP P 03 33 30.6 -3.2
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 34.24 345 ep P 03 33 30.6 -3.2
comp=Z,2.5nm,0.7s
RETA Reutte 34.26 310⇓iP P 03 33 33.7 -0.6
RETA Reutte 34.26 310 P P 03 33 33.7 -0.6
FINES FINESS Array B 34.38 340 P P 03 33 33.9 -1.1
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 34.38 340 P P 03 33 33.9 -1.1
comp=Z,1.9nm,0.5s,baz=150,slow=10,SNR=32
DAVA Damuels 34.79 310⇓iP P 03 33 38.8 -0.2
DAVA Damuels 34.79 310 P P 03 33 38.8 -0.2
KAF Kangasniemi 34.84 341 eP P 03 33 37.7 -1.3
KAF pmax pmax
comp=Z,1.0nm,0.5s
KAF Kangasniemi 34.84 341 ep P 03 33 37.7 -1.3
comp=Z,1.1nm,0.5s
KAF Kangasniemi 34.84 341 eP P 03 33 37.7 -1.3
comp=Z,1.0nm,0.5s
MBDF Montbardon 36.47 305 eP P 03 33 52.3 -1.1
MBDF Montbardon 36.47 305 eP P 03 33 52.3 -1.1
MBDF Montbardon 36.47 305 eP P 03 33 52.3 -1.1
MBDF Montbardon 36.47 305 eP P 03 33 52.3 -1.1
LPG La Plagne 36.58 306 eP P 03 33 53.6 -1.0
comp=Z,9.3nm,0.8s
LPG La Plagne 36.58 306 eP P 03 33 53.6 -1.0
LPG pmax pmax
comp=Z,9.0nm,0.8s
LPG La Plagne 36.58 306 eP P 03 33 53.6 -1.0
comp=Z,9.3nm,0.8s
LPG La Plagne 36.58 306 eP P 03 33 53.6 -1.0
comp=Z,4.7nm,0.8s
LPL La Plagne 36.60 306 eP P 03 33 53.1 -1.5
comp=Z,8.8nm,0.8s
LPL La Plagne 36.60 306 eP P 03 33 53.1 -1.5
LPL pmax pmax
comp=Z,9.0nm,0.8s
LPL La Plagne 36.60 306 eP P 03 33 53.1 -1.5
comp=Z,8.8nm,0.8s
LPL La Plagne 36.60 306 eP P 03 33 53.1 -1.5
comp=Z,4.4nm,0.8s
CABF La Chapelle 37.21 308 eP P 03 33 58.7 -0.9
comp=Z,25nm,0.9s
CABF La Chapelle 37.21 308 eP P 03 33 58.7 -0.9
CABF pmax pmax
comp=Z,25nm,0.9s
CABF La Chapelle 37.21 308 eP P 03 33 58.7 -0.9
comp=Z,25nm,0.9s
CABF La Chapelle 37.21 308 eP P 03 33 58.7 -0.9
comp=Z,12nm,0.9s
SFTF Sexfontaines 38.18 310 eP P 03 34 06.3 -1.4
SFTF Sexfontaines 38.18 310 eP P 03 34 06.3 -1.4
SFTF Sexfontaines 38.18 310 eP P 03 34 06.3 -1.4
MEZF Maizieres J'vi 38.23 311 eP P 03 34 06.7 -1.4
MEZF Maizieres J'vi 38.23 311 eP P 03 34 06.7 -1.4
MEZF Maizieres J'vi 38.23 311 eP P 03 34 06.7 -1.4
SMF Signal de Mont 38.75 307 eP P 03 34 10.8 -1.7
comp=Z,11nm,0.6s
SMF Signal de Mont 38.75 307 eP P 03 34 10.8 -1.7
SMF pmax pmax
comp=Z,11nm,0.6s
SMF Signal de Mont 38.75 307 eP P 03 34 10.8 -1.7
comp=Z,11nm,0.6s
SMF Signal de Mont 38.75 307 eP P 03 34 10.8 -1.7
comp=Z,5.3nm,0.6s
LOR Lormes 38.82 308 eP P 03 34 11.9 -1.2
comp=Z,6.4nm,0.8s
LOR Lormes 38.82 308 eP P 03 34 11.9 -1.2
LOR pmax pmax
comp=Z,6.0nm,0.8s
LOR Lormes 38.82 308 eP P 03 34 11.9 -1.2
comp=Z,6.4nm,0.8s
LOR Lormes 38.82 308 eP P 03 34 11.9 -1.2
comp=Z,3.2nm,0.8s
SSF Saint Saulge 39.03 308 eP P 03 34 13.3 -1.6
comp=Z,5.3nm,0.8s
SSF Saint Saulge 39.03 308 eP P 03 34 13.3 -1.6
SSF pmax pmax
comp=Z,5.0nm,0.8s
SSF Saint Saulge 39.03 308 eP P 03 34 13.3 -1.6
comp=Z,5.3nm,0.8s
SSF Saint Saulge 39.03 308 eP P 03 34 13.3 -1.6
comp=Z,2.7nm,0.8s
AVF Avril sur Loir 39.10 308 eP P 03 34 14.0 -1.4
comp=Z,6.8nm,0.9s
AVF Avril sur Loir 39.10 308 eP P 03 34 14.0 -1.4
AVF pmax pmax
comp=Z,7.0nm,0.9s
AVF Avril sur Loir 39.10 308 eP P 03 34 14.0 -1.4
comp=Z,6.8nm,0.9s
AVF Avril sur Loir 39.10 308 eP P 03 34 14.0 -1.4
comp=Z,3.4nm,0.9s
BGF Bois d'Agland 39.42 307 eP P 03 34 16.4 -1.7
BGF Bois d'Agland 39.42 307 eP P 03 34 16.4 -1.7
BGF Bois d'Agland 39.42 307 eP P 03 34 16.4 -1.7
BGF Bois d'Agland 39.42 307 eP P 03 34 16.4 -1.7
NB2 NORSAR Subarra 39.46 331 P P 03 34 16.9 -1.4
comp=Z,1.1nm,0.7s,baz=122,slow=8.6
NB2 NORSAR Subarra 39.46 331 P P 03 34 16.9 -1.4
comp=Z,1.1nm,0.7s,baz=12,slow=8.2,SNR=7.0
NOA NORSAR Array B 39.46 331 P P 03 34 17.0 -1.4
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 39.46 331 P P 03 34 17.0 -1.4
comp=Z,0.5nm,0.6s,baz=122,slow=8.3,SNR=5.7
NOA NORSAR Array B 39.46 331 P P 03 34 17.0 -1.4
comp=Z,1.0nm,0.6s
TCF Toulx Ste Croi 39.83 307 eP P 03 34 20.9 -0.7
TCF Toulx Ste Croi 39.83 307 eP P 03 34 20.9 -0.7
TCF Toulx Ste Croi 39.83 307 eP P 03 34 20.9 -0.7
TCF Toulx Ste Croi 39.83 307 eP P 03 34 20.9 -0.7
ARCES ARCESS Array B 41.13 347 P P 03 34 31.5 -0.5
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 41.13 347 P P 03 34 31.5 -0.5
comp=Z,3.6nm,1.0s,baz=152,slow=5.9,SNR=3.2
LDF La Druitiere 41.64 310 eP P 03 34 34.3 -2.1
LDF La Druitiere 41.64 310 eP P 03 34 34.3 -2.1
LDF La Druitiere 41.64 310 eP P 03 34 34.3 -2.1
LDF La Druitiere 41.64 310 eP P 03 34 34.3 -2.1
FLN La Foliniere 41.89 310 eP P 03 34 36.5 -2.0
FLN La Foliniere 41.89 310 eP P 03 34 36.5 -2.0
FLN La Foliniere 41.89 310 eP P 03 34 36.5 -2.0
FLN La Foliniere 41.89 310 eP P 03 34 36.5 -2.0
SGMF Saint Gilles 43.22 309 eP P 03 34 47.7 -1.6
comp=Z,12nm,0.7s
SGMF Saint Gilles 43.22 309 eP P 03 34 47.7 -1.6
SGMF pmax pmax
comp=Z,12nm,0.7s
SGMF Saint Gilles 43.22 309 eP P 03 34 47.7 -1.6
comp=Z,12nm,0.7s
SGMF Saint Gilles 43.22 309 eP P 03 34 47.7 -1.6
comp=Z,6.2nm,0.7s
ESDC Sonseca Array 44.40 297 P P 03 34 59.3 +0.3
comp=Z,0.3nm,0.6s,baz=82,slow=8.4,SNR=4.5
SONM Songino Array 45.68 52 P P 03 35 08.9 -0.2
comp=Z,0.2nm,0.8s,baz=275,slow=8.4,SNR=2.8
CMAR Chiang Mai Arr 45.77 94 P P 03 35 10.3 +0.3
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 45.77 94 P P 03 35 10.3 +0.3
comp=Z,0.6nm,0.3s,baz=300,slow=7.2,SNR=4.1
TORD Torodi Ar. Bea 47.80 259 P P 03 35 27.0 +1.0
comp=Z,1.6nm,0.7s,baz=56,slow=8.6,SNR=19
TORD Torodi Ar. Bea 47.80 259 P P 03 35 27.0 +1.0
KSAR Wonju Array Be 63.02 61 P P 03 37 15.5 +0.3
KSAR Wonju Array Be 63.02 61 P P 03 37 15.5 +0.3
KSAR Wonju Array Be 63.02 61 P P 03 37 15.5 +0.3
KSRS Korea Array 63.04 61 P P 03 37 15.5 +0.2
KSRS pmax pmax
comp=Z,1.0nm,0.4s
KSRS Korea Array 63.04 61 P P 03 37 15.5 +0.2
comp=Z,0.6nm,0.4s,baz=282,slow=7.2,SNR=3.5
BOSA Boshof 63.73 204 P P 03 37 21.5 +1.5
BOSA pmax pmax
comp=Z,3.0nm,0.9s
BOSA Boshof 63.73 204 P P 03 37 21.5 +1.5
comp=Z,3.1nm,0.9s,baz=34,slow=5.9,SNR=3.5
SCHQ Schefferville 78.96 328 P P 03 38 51.7 0.0
comp=Z,2.4nm,0.7s,baz=45,slow=4.3,SNR=4.1
ILAR Eielson Array 83.74 7 P P 03 39 16.5 -0.3
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 83.74 7 P P 03 39 16.5 -0.3
comp=Z,0.7nm,0.7s,baz=315,slow=4.5,SNR=9.4
YKA Yellowknife Ar 86.13 353 P P 03 39 29.1 +0.3
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 86.13 353 P P 03 39 29.1 +0.3
comp=Z,0.8nm,0.9s,baz=10,slow=4.9,SNR=15

GUC 14 03:53:57.7±0.4,35.61S×72.68W,h13km±4km,MD3.8,
ML4.0,2D,Near coast of central Chile

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CTCH	Constitucion	0.36	39	⇓iP	Pb	03 54 05.6	-0.3
CTCH				iS	Sb	03 54 11.1	-0.4
CTCH				AML	AML	03 54 14.8	
	comp=E,40μm,0.6s						
TALC	Talca	0.88	76	⇓iP	Pg	03 54 13.7	-1.1
TALC				iS	Sg	03 54 25.8	-0.6
TALC				AML	AML	03 54 26.8	
	comp=E,8μm,0.1s						
CACH	El Canelo	2.27	50	eP	Pn	03 54 36.0	+0.9
CACH				iS	Sb	03 55 05.4	-1.5
CHCH	Chadas Angostu	2.37	46	iP	Pn	03 54 37.3	+1.0
CHCH				iS	Sb	03 55 07.6	-1.9
ANTU	Antumapu	2.65	40	iP	Pn	03 54 41.1	+0.9
ANTU				iS	Sn	03 55 14.0	+1.8
ANTU				AML	AML	03 55 21.0	
	comp=E,756nm,0.5s						
LMEL	Las Melosas	2.70	50	iP	Pn	03 54 41.9	+0.8
LMEL				iS	Sn	03 55 15.8	+2.2
LMEL				AML	AML	03 55 22.1	
	comp=N,497nm,0.4s						
CLCH	Cerro Calan	2.83	39	eP	Pn	03 54 43.7	+0.9
CLCH				iS	Sn	03 55 18.6	+1.7
CLCH				AML	AML	03 55 30.9	
	comp=N,798nm,0.5s						

CASC 14 03:56:08.1±2.0, 12.91N×90.78W, h0km±14km, MD3.7, 2C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
SBLS	San Blas	1.45	51	⇓iP	Pn	03 56 34.6	-1.4
RTR	El Retiro	1.47	48	⇓iP	Pn	03 56 35.0	-1.2
RTR				eS	Sn	03 56 58.8	+2.4
SNJE	San Jose	1.48	50	⇑iP	Pn	03 56 35.0	-1.4
RBDL	Robledal	1.60	42	⇑iP	Pn	03 56 36.7	-1.1
NBG	Las Nubes	1.72	14	eP	Pn	03 56 39.6	0.0
LFRS	El Faro	1.81	67	eP	Pb	03 56 42.1	-0.3
MRL	Marmol	2.39	26	⇓iP	Pn	03 56 48.8	0.0
MRL				eP	Pb	03 56 49.1	-3.1
MRL				eS	Sn	03 57 06.7	-12
VSM	San Miguel	2.49	78	iP	Pn	03 56 50.4	+0.1

BJI 14 04:02:45.7, 2.21S×99.56E, h35km, mB5.1/28, mb4.7/42, Ms4.8/14, Ms7 4.4/12
DJA 14 04:02:49.4±0.3, 2˚S±3˚×9˚9E±˚, h10km, M4.8/36, mB5.3/22, mb4.9/36, MLv5.0/22, Mw(mB)4.7/22
ISCJB 14 04:02:51.1±0.2, 1.47S±0.03×99.41E±0.03, h30km, mb4.6/78, MS3.9/9, Error ellipse: s-maj=4.9km s-min=2.8km az=41.1
MOS 14 04:02:52.9±0.8, 1.32S×99.56E, h43km, mb4.7/47, Error ellipse: s-maj=11.2km s-min=6.0km az=111.8
NEIC 14 04:02:53.9±0.7, 1.44S×99.44E, h39km±6km, mb4.6/29, Error ellipse: s-maj=7.0km s-min=4.7km az=49.0
NEIC Felt [III] at Padang and [II] at Pariaman, Sumatra.
IDC 14 04:02:55.9±2.7, 1.38S×99.55E, h56km±22km, mb4.2/23, mb1 4.3/25, mb1mx4.3/28, mbtmp4.5/25, ML4.5/2, MS3.6/7, Ms1 3.6/7, ms1mx3.2/36, Error ellipse: s-maj=15.1km s-min=11.1km az=33.0
KLM 14 04:02:58.4, 1.19S×99.56E, h80km, mb4.7, ML4.5, MS5.5
ISC 14 04:02:52.8±0.3, 1.50S±0.04×99.41E±0.04, h30km, n289, σ1.22/288, mb4.6/79, MS4.0/10, 17C-14D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
PDSI	Padang	1.20	61	P	Pn	04 03 12.8	-0.9
SDSI	Sungai Dareh	2.10	74	P	Pn	04 03 26.5	+0.6
MNSI	Mandailing Nat	2.29	4	P	Pn	04 03 27.4	-1.2
BKNI	Bangkinang	2.44	42	P	Pn	04 03 30.0	-0.7
BKNI	Bangkinang	2.44	42	ePn	Pn	04 03 30.2	-0.4
BKNI	Bangkinang	2.44	42	P	Pn	04 03 30.4	-0.3
	baz=2.5,SNR=21						
RGRI	Rengat	3.14	69	P	Pn	04 03 43.5	+3.2
MASI	Maura Aman, Be	3.26	120	P	Pn	04 03 44.3	+2.3
MASI				S	Sn	04 04 22.1	+2.2
GSI	Gunungsitoli	3.34	327	P	Pn	04 03 41.9	-1.1
GSI	Gunungsitoli	3.34	327	ePn	Pn	04 03 42.3	-0.7
JMBI	JAMBI	4.23	92	P	Pn	04 03 58.3	+3.0
JMBI				S	Sb	04 05 04.1	+6.8
PSI	Prapat	4.30	354	P	Pn	04 03 54.4	-2.0
PSI				pmax	pmax		
	comp=Z,7.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,15nm,28.6s						
PSI	Prapat	4.30	354	P	Pn	04 03 54.4	-2.0
	comp=Z,6.8nm,0.3s,baz=166,slow=10,SNR=24						
PSI				LR	LR	04 05 32.8	
	comp=Z,254nm,19.5s,baz=164,slow=38						
PSI	Prapat	4.30	354	P	Pn	04 03 54.7	-1.7
	baz=4.2,SNR=15						
MNAI	Manna	4.54	129	P	Pn	04 04 01.1	+1.5
MNAI	Manna	4.54	129	ePn	Pn	04 04 00.9	+1.4
MNAI				eSn	Sn	04 04 50.8	-0.5
MNAI	Manna	4.54	129	P	Pn	04 04 01.0	+1.5
	baz=4.6,SNR=35						
MNAI				S	Sn	04 04 53.0	+1.7
	baz=4.6,SNR=13						
LHSI	Lahat	4.71	119	P	Pn	04 04 05.7	+3.8
SNSI	Sinabang, Aceh	4.96	322	P	Pn	04 04 04.7	-0.6
TSI	Tuntungan	5.04	350	P	Pn	04 04 12.9	+6.5
FRIM	Kepong	5.20	25	⇓P	Pn	04 04 08.0	+0.1
BTDF	Bukit Timah Da	5.21	57	P	Pn	04 04 08.3	-0.4
	baz=5.3,SNR=5.7						
TPTI		5.23	335	P	Pn	04 04 07.8	-1.2
	comp=Z,38nm,0.6s,comp=Z,22μmcomp=Z,0.2nm						
KGM	Kluang	5.24	48	⇓P	Pn	04 04 09.6	+0.4
KCSI	Kotacane, Aceh	5.25	342	P	Pn	04 04 08.2	-1.2
	comp=Z,105nm,0.9s,comp=Z,1μmcomp=Z,0.6nm						
DSRI	Dabo	5.26	79	P	Pn	04 04 11.4	+1.9
	comp=Z,9.6nm,0.8s,comp=Z,0.2nm						
MYKOM	Kota Tinggi	5.51	54	ePn	Pn	04 04 14.9	+2.0
MYKOM	Kota Tinggi	5.51	54	⇓P	Pn	04 04 14.0	+1.1
MDSI	Maura Dua	5.61	122	P	Pn	04 04 16.1	+1.9
	comp=Z,80nm,0.7s,comp=Z,867nmcomp=Z,0.3nm						
TPRI	Tanjung Pinang	5.65	65	P	Pn	04 04 19.8	+4.9
	comp=Z,281nm,0.5s,comp=Z,39μmcomp=Z,2.1nm						
LWLI	Liwa	5.81	127	P	Pn	04 04 19.1	+2.0
	comp=Z,246nm,0.6s,comp=Z,6μmcomp=Z,1.7nm						
IPM	Ipoh	6.16	15	ePn	Pn	04 04 22.1	+0.3
IPM	Ipoh	6.16	15	⇑P	Pn	04 04 23.5	+1.7
KLI	Kotabumi	6.38	122	P	Pn	04 04 33.7	+8.8
KASI	Kota Agung	6.46	128	P	Pn	04 04 27.4	+1.5
	comp=Z,108nm,0.8s,comp=Z,3μmcomp=Z,1.0nm						
KULM	Kulim	6.86	10	ePn	Pn	04 04 31.3	-0.2
KULM	Kulim	6.86	10	⇓P	Pn	04 04 32.3	+0.9
LHMI	Lhok Sumawe	7.12	340	P	Pn	04 04 34.2	-0.9
	comp=Z,94nm,0.8s,comp=Z,0.4nm						
KTGM	Kuala Trenggan	7.74	29	⇓P	Pn	04 04 44.2	+0.7
CGJI	Cibinong	8.06	129	P	Pn	04 04 46.7	-1.3
	comp=Z,48nm,0.7s,comp=Z,1μm						
TPI	Tanjungpandan	8.33	99	P	Pn	04 04 53.7	+2.0
	comp=Z,44nm,1.2s						
CNJI	Cibinong	9.62	127	P	Pn	04 05 07.5	-1.8
	comp=Z,47nm,0.7s,comp=Z,1μm						
CISI	Cisompet, Garu	10.31	126	P	Pn	04 05 15.9	-3.0
	comp=Z,70nm,0.6s,comp=Z,5μm						
CISI	Cisompet, Garu	10.31	126	ePn	Pn	04 05 17.2	-1.7
	comp=Z,48nm,0.6s						
CISI	Cisompet, Garu	10.31	126	P	Pn	04 05 17.9	-1.0
	baz=10,SNR=4.4						
CISI				S	Sn	04 07 06.5	-7.1
	baz=10,SNR=5.5						
XMI	Christmas Isla	10.86	145	P	Pn	04 05 23.3	-3.1
	baz=11,SNR=4.6						
XMI				S	Sn	04 07 16.3	-11
	baz=11,SNR=4.1						
XMIS	Christmas Isla	10.86	145	P	Pn	04 05 21.4	-5.0
	baz=11,SNR=12						
XMIS				S	Sn	04 07 14.1	-13
	baz=11,SNR=3.8						
CMJI	Cimerak	10.96	125	P	Pn	04 05 24.1	-3.5
	comp=Z,38nm,0.8s,comp=Z,736nm						
KPJI	Karang Pucung	11.12	122	P	Pn	04 05 30.6	+0.7
	comp=Z,26nm,0.6s						
STKI	Sintang	12.17	83	P	P	04 05 59.7	+3.2
UGM	Wanagama	12.77	120	P	Pn	04 05 52.2	-0.3
	comp=Z,63nm,2.4s						
UGM	Wanagama	12.77	120	P	Pn	04 05 52.4	-0.1
	baz=13,SNR=5.5						
SBUM	Sibu	13.39	73	ePn	Pn	04 06 05.1	+4.1
PWJI	Pagerwojo	13.94	118	P	Pn	04 06 06.1	-2.4
	comp=Z,19nm,0.7s						
BTM	Bintulu	14.44	71	⇓P	Pn	04 06 16.7	+1.3
BBKI	Banjar Baru	15.54	97	P	P	04 06 39.5	+5.5
DLV	T Lat	16.12	34	ePn	Pn	04 06 38.1	+0.5
JAGI	Jajag, Banyuwa	16.23	116	P	Pn	04 06 37.0	-1.8
	comp=Z,18nm,0.8s						
JAGI	Jajag, Banyuwa	16.23	116	S	Sn	04 09 26.6	-12
	baz=16,SNR=3.5						
PBKT	Sadao Pong	18.02	5	P	Pn	04 07 01.9	+0.7
	comp=Z,9.5nm,1.4s,comp=Z,3μm						
KKM	Kota Kinabalu	18.38	66	eP	P	04 07 05.4	-0.1
	comp=Z,22nm,0.7s						
KKM	Kota Kinabalu	18.38	66	P	Pn	04 07 07.2	+1.5
	baz=18,SNR=7.1						
SDKM	Sandakan	19.13	68	⇑P	P	04 07 12.8	-1.0
UTTA	Uttaradit	19.16	3	P	Pn	04 07 15.3	+0.3
	comp=Z,3.7nm,0.5s,comp=Z,117nm						
KDM	Kudat	19.29	64	⇓P	P	04 07 11.3	-4.2
TSM	Tawau	19.33	73	⇑P	P	04 07 15.4	-0.4
CMAR	Chiang Mai Arr	19.84	359	P	P	04 07 20.4	-1.0
	comp=Z,1.6nm,0.3s,baz=186,slow=9.8,SNR=42						
CMAR				LR	LR	04 15 44.7	
	comp=Z,254nm,18.1s,baz=174,slow=39						
LAMP	Lampang	19.90	1	P	Pn	04 07 27.5	+3.6
	comp=Z,13nm,1.0s,comp=Z,127nm						
MYLDM	Lahad Datu	20.19	71	eP	Pn	04 07 27.8	+0.5
	comp=Z,31nm,0.7s						
MYLDM	Lahad Datu	20.19	71	⇑P	P	04 07 23.5	-1.8
CMMT	Chiang Mai	20.19	359	P	P	04 07 24.9	-0.4
	comp=Z,23nm,1.2s,comp=Z,528nm						
CHTO	Chiang Mai	20.19	359	eP	P	04 07 24.8	-0.5
CHTO				pmax	pmax		
	comp=Z,12nm,0.8s						
CHTO	Chiang Mai	20.19	359	P	Pn	04 07 28.9	+1.6
	comp=Z,82nm,1.2s,comp=Z,1μm						
CHTO	Chiang Mai	20.19	359	eP	P	04 07 24.8	-0.5
	comp=Z,12nm,0.8s						
TTSI	Tana Toraja	20.45	95	P	P	04 07 29.0	+0.9
	comp=Z,44nm,1.0s,comp=Z,930nm						
SPSI	Sidrap Palu	20.48	97	P	P	04 07 27.7	-0.8
	comp=Z,23nm,0.6s						
PALK	Pallekele	20.60	295	eP	P	04 07 30.9	+1.1
PALK				pmax	pmax		
	comp=Z,18nm,0.8s						
PALK	Pallekele	20.60	295	eP	P	04 07 30.9	+1.1
	comp=Z,18nm,0.8s						
KAPI	Kappang	20.60	100	eP	P	04 07 29.6	-0.2
	comp=Z,49nm,1.4s						
BKSI	Bulukumba	21.02	101	P	P	04 07 33.3	-1.0
	comp=Z,36nm,0.7s,comp=Z,366nm						
CMAI	Chiengmai2	21.30	359	P	P	04 07 40.0	+2.5
	comp=Z,18nm,1.2s,comp=Z,1μm						
APSI	Ampana	22.24	89	P	P	04 07 47.9	+0.5
	comp=Z,63nm,1.2s,comp=Z,811nm						
MRSI	Marisa	22.61	85	P	P	04 07 51.0	-0.4
	comp=Z,52nm,0.7s						
QIZ	Qiongzhong	22.84	26	P	P	04 07 54.4	+0.7
QIZ				pP	pP	04 08 02.3	+0.5
QIZ				S	S	04 12 02.3	+1.0
QIZ				pmax	pmax		
	comp=Z,97nm,3.3s						
QIZ				LR	LR		
	comp=Z,320nm,9.6s						
SLVN	Son La	23.12	11	eP	P	04 07 56.4	-0.2
	comp=Z,12nm,1.1s						
GTOI	Gorontalo	23.69	85	P	P	04 08 02.2	-0.1
H08S2	Diego Garcia H	27.50	256	T	T	04 36 35.4	
	baz=78,slow=75,SNR=472						
H08S3	Diego Garcia H	27.51	256	T	T	04 36 42.4	
	baz=78,slow=75,SNR=300						
H08S1	Diego Garcia H	27.52	256	T	T	04 36 43.3	
	baz=78,slow=75,SNR=327						
MBWA	Marble Bar	27.83	136	eP	P	04 08 40.7	+0.9
SHL	Shillong	27.88	345	eP	P	04 08 39.5	-0.9
SHL				ex	x	04 43 51.5	
GYA	Guiyang	28.67	14	eP	P	04 08 47.8	+0.5
GYA				pP	pP	04 08 58.8	+2.7
GYA				PP	PnPn	04 09 42.4	+4.1
GYA				S	S	04 13 35.3	+0.8
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
ODAN	Odare	30.49	338	eP	P	04 09 04.1	+0.5
	comp=Z,16nm,0.5s						
ODAN	Odare	30.49	338	eP	P	04 09 04.1	+0.5
TAPN	Taplejung	30.82	339	eP	P	04 09 07.3	+0.7
	comp=Z,18nm,0.5s						
TAPN	Taplejung	30.82	339	eP	P	04 09 07.3	+0.7
RAMN	Ramite	30.87	337	eP	P	04 09 07.9	+1.0
RAMN	Ramite	30.87	337	eP	P	04 09 07.9	+1.0
JIRN	Jiri	31.66	337	eP	P	04 09 14.9	+0.8
	comp=Z,26nm,0.7s						
JIRN	Jiri	31.66	337	eP	P	04 09 14.9	+0.8
PKI	Pulchoki	31.89	336	eP	P	04 09 16.5	+0.4
PKI	Pulchoki	31.89	336	eP	P	04 09 16.5	+0.4
PKI	Pulchoki	31.89	336	eP	P	04 09 16.5	+0.4
GUN	Gumba	32.01	337	eP	P	04 09 17.7	+0.6
	comp=Z,17nm,0.3s						
KNRA	Kununurra	32.19	118	P	P	04 09 16.9	-1.5
	baz=32,SNR=4.1						
CD2	Chengdu	32.50	7	P	P	04 09 23.8	+2.8
CD2				PP	PP	04 10 33.3	-1.5
CD2				S	S	04 14 36.3	+2.0
CD2				sS	sS	04 14 53.3	+4.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,210nm,5.7s						
CD2				LR	LR		
	comp=Z,470nm,5.4s						
CD2				LR	LR		
	comp=Z,290nm,11.9s						
GKN	Gorkha	32.59	335	eP	P	04 09 22.3	+0.3
GKN	Gorkha	32.59	335	eP	P	04 09 22.3	+0.3
KOLN	Koldanda	32.84	334	eP	P	04 09 24.9	+0.7
	comp=Z,19nm,0.7s						
KOLN	Koldanda	32.84	334	eP	P	04 09 24.9	+0.7
FAKI	Fak Fak	32.84	93	P	P	04 09 32.3	+8.1
	baz=33,SNR=3.6						
DANN	Dangsing	33.27	334	eP	P	04 09 28.8	+0.7
	comp=Z,12nm,0.5s						
DANN	Dangsing	33.27	334	eP	P	04 09 28.8	+0.7
PYUN	Piuthan	33.39	333	eP	P	04 09 30.4	+1.3
	comp=Z,26nm,0.3s						
KDU	Kakadu	34.59	110	P	P	04 09 45.4	+6.0
	baz=35,SNR=4.5						
H01W3	Cape Leeuwin H	35.94	159	T	T	04 47 54.1	
	baz=335,slow=75,SNR=199						
H01W2	Cape Leeuwin H	35.95	159	T	T	04 47 48.8	
	baz=335,slow=75,SNR=290						
H01W1	Cape Leeuwin H	35.95	159	T	T	04 47 51.7	
	baz=335,slow=75,SNR=155						
WRKA	Warakurna	36.40	132	P	P	04 09 56.5	+1.6
	baz=36,SNR=15						
XAN	Xi'an	36.47	13	P	P	04 09 52.5	-2.8
XAN				pP	pP	04 10 03.0	-1.2
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
XAN				LR	LR		
	comp=Z,140nm,15.3s						
LZH	Lanzhou	37.62	6	eP	P	04 10 08.0	+2.7
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
NJ2	Nanjing	38.12	27	eP	P	04 10 08.9	-0.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WRA	Warramunga Arr	38.75	121	P	P	04 10 14.1	-0.8
WRA						04 12 26.7	
WRA				S	S	04 16 06.7	-3.8
WRA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA				smax	smax		
	comp=N,1.0nm,0.8s						
WRA				MLR	MLR		
	comp=Z,35nm,20.1s						
WRA	Warramunga Arr	38.75	121	P	P	04 10 14.1	-0.8
	comp=Z,5.1nm,0.5s,baz=301,slow=9.1,SNR=84						
WRA				PcP	PcP	04 12 26.7	+0.5
	comp=Z,0.8nm,0.5s,baz=308,slow=2.6,SNR=5.8						
WRA				S	S	04 16 06.7	-3.8
	comp=Z,0.8nm,0.8s,baz=294,slow=16,SNR=4.1						
WRA				LR	LR	04 26 49.5	
	comp=Z,35nm,20.1s,baz=290,slow=37						
WRAB	Tennant Creek	38.76	121	c iP	P	04 10 14.4	-0.5
WRAB				pmax	pmax		
	comp=Z,20nm,0.6s						
WRAB	Tennant Creek	38.76	121	eP	P	04 10 13.9	-1.0
	comp=Z,9.4nm,0.5s						
ASAR	Alice Springs	40.02	126	P	P	04 10 25.5	0.0
ASAR						04 12 30.2	
ASAR				S	S	04 16 27.5	-2.1
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR				smax	smax		
	comp=N,1.0nm,1.0s						
ASAR	Alice Springs	40.02	126	P	P	04 10 25.4	0.0
	comp=N,2.9nm,0.5s,baz=299,slow=7.9,SNR=32						
ASAR				PcP	PcP	04 12 30.2	0.0
	comp=N,0.9nm,0.8s,baz=300,slow=2.0,SNR=4.0						
ASAR				S	S	04 16 27.4	-2.1
	comp=N,1.1nm,1.0s,baz=297,slow=15,SNR=6.7						
GTA	Gaotai	40.72	0	eP	P	04 10 30.4	-0.6
GTA				pP	pP	04 10 39.6	-0.4
GTA				sP	sP	04 10 44.3	+0.7
GTA				pmax	pmax		
	comp=N,5.0nm,1.0s						
QIS	Mount Isa	43.56	119	P	P	04 10 53.9	-0.5
	baz=44,SNR=5.5						
HHC	Hu-ho-hao-te	43.58	13	eP	P	04 10 53.8	-0.6
HHC				PP	PP	04 12 37.8	+1.6
HHC				S	S	04 17 20.3	-1.6
HHC				sS	sS	04 17 39.9	+3.2
HHC				pmax	pmax		
	comp=N,17nm,0.9s						
HHC				pmax	pmax		
	comp=N,190nm,6.9s						
HHC				LR	LR		
	comp=N,390nm,16.1s						
HHC				LR	LR		
	comp=N,550nm,15.7s						
HHC				LR	LR		
	comp=N,380nm,15.0s						
BJI	Beijing	44.10	19	P	P	04 10 56.8	-1.6
BJI				pmax	pmax		
	comp=N,17nm,1.1s						
BJI				pmax	pmax		
	comp=N,180nm,4.6s						
KSH	Kashi	46.13	335	eP	P	04 11 14.3	-0.5
KSH				pmax	pmax		
	comp=N,3.0nm,0.4s						
KSH				pmax	pmax		
	comp=N,210nm,5.4s						
WMQ	Urumqi	46.33	348	P	P	04 11 17.4	+1.3
WMQ				pP	pP	04 11 27.3	+2.1
WMQ				PP	PP	04 13 06.0	+0.7
WMQ				PcS	PcS	04 16 46.0	+0.4
WMQ				S	S	04 18 01.3	-0.2
WMQ				ScS	ScS	04 21 07.4	-2.0
WMQ				pmax	pmax		
	comp=N,18nm,0.7s						
WMQ				pmax	pmax		
	comp=N,240nm,6.2s						
BBOO	Buckleboo	46.41	136	P	P	04 11 20.9	+4.0
	baz=47,SNR=4.6						
KSAR	Wonju Array Be	46.87	31	P	P	04 11 19.3	-1.1
KSAR	Wonju Array Be	46.87	31	P	P	04 11 19.2	-1.1
KSRS	Korea Array	46.90	31	P	P	04 11 19.3	-1.3
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,15nm,28.6s						
KSRS	Korea Array	46.90	31	P	P	04 11 19.2	-1.3
	comp=Z,5.9nm,0.6s,baz=224,slow=8.1,SNR=39						
KSRS				LR	LR	04 34 04.8	
	comp=Z,24nm,19.3s,baz=165,slow=40						
MTSU	Mount Surprise	47.05	113	P	P	04 11 22.4	+0.3
	baz=47,SNR=4.4						
PMG	Port Moresby	48.13	101	eP	P	04 11 29.6	-1.0
PMG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HTT	Hallett	48.76	135	P	P	04 11 37.1	+1.9
	baz=49,SNR=7.9						
TKM2	Tokmak 2	49.15	337	eP	P	04 11 38.4	+0.2
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TKM2	Tokmak 2	49.15	337	eP	P	04 11 38.4	+0.2
	comp=Z,5.9nm,0.6s						
AAK	Ala-Archa	49.35	336	eP	P	04 11 37.8	-1.9
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	Songino Array	49.51	6	P	P	04 11 40.4	-0.4
SONM						04 13 02.4	
SONM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	49.51	6	P	P	04 11 40.4	-0.4
	comp=Z,4.8nm,0.7s,baz=190,slow=9.1,SNR=55						
SONM				PcP	PcP	04 13 02.4	0.0
	comp=Z,1.2nm,0.6s,baz=193,slow=3.6,SNR=4.1						
ULN	Ulaanbaatar	49.62	7	eP	P	04 11 40.8	-0.8
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	Ulaanbaatar	49.62	7	eP	P	04 11 40.8	-0.8
	comp=Z,3.0nm,0.6s						
EKS2	Erkin-Say	49.67	335	eP	P	04 11 42.9	+0.8
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
EKS2	Erkin-Say	49.67	335	eP	P	04 11 42.9	+0.8
	comp=Z,6.3nm,0.7s						
QLP	Quilpie	49.72	124	P	P	04 11 44.3	+1.7
	baz=50,SNR=3.9						
STKA	Stephens Creek	49.92	132	P	P	04 11 44.8	+0.8
STKA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
STKA	Stephens Creek	49.92	132	P	P	04 11 44.8	+0.8
	comp=Z,6.0nm,0.6s,baz=310,slow=7.4,SNR=19						
STKA	Stephens Creek	49.92	132	P	P	04 11 45.1	+1.1
	baz=50,SNR=19						
MK31	Makanchi Array	50.40	345	eP	P	04 11 47.2	-0.2
MK31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MKAR	Makanchi Array	50.40	345	P	P	04 11 47.4	0.0
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MKAR	Makanchi Array	50.40	345	P	P	04 11 47.4	0.0
	comp=Z,10nm,0.6s,baz=154,slow=8.4,SNR=161						
CN2	Changchun	50.77	24	eP	P	04 11 53.6	+3.4
KKAR	Karatay Array	51.45	333	eP	P	04 11 55.4	0.0
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	Karatay Array	51.45	333	eP	P	04 11 55.4	0.0
	comp=Z,1.2nm,0.5s						
ZAK	Zakamensk	51.79	3	eP	P	04 11 56.9	-1.0
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
MJAR	Matsushiro Arr	52.27	40	P	P	04 11 59.6	-2.0
MJAR				pmax	pmax		
	comp=Z,12nm,1.1s						
MJAR	Matsushiro Arr	52.27	40	P	P	04 11 59.6	-2.0
	comp=Z,12nm,1.1s,baz=201,slow=9.1,SNR=7.4						
CMSA	Cobar Meteorol	52.88	129	P	P	04 12 07.5	+1.3
	baz=53,SNR=17						
TLY	Talaya	53.11	3	eP	P	04 12 07.7	+0.2
TLY				eS	S	04 19 52.9	+17
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TLY				MLR	MLR		
	comp=Z,57nm,7.0s						
MDJ	Mudanjiang	53.21	27	P	P	04 12 08.6	+0.2
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,11nm,3.1s						
OPO	Ambohidratompo	53.90	248	P	P	04 12 15.5	+1.3
	comp=Z,4.4nm,0.8s,baz=64,slow=7.4,SNR=6.4						
USRK	Ussuriysk Arra	54.00	29	P	P	04 12 13.2	-1.0
	comp=Z,10nm,0.7s,baz=233,slow=6.3,SNR=26						
USRK				LR	LR	04 38 20.5	
	comp=Z,52nm,18.2s,baz=182,slow=40						
KURK	Kurchatov	54.97	344	c iP	P	04 12 21.1	0.0
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURK	Kurchatov	54.97	344	eP	P	04 12 21.0	-0.1
	comp=Z,4.2nm,0.6s						
ZALV	Zalesovo Beam	56.58	350	P	P	04 12 32.1	-0.5

ZALV pmax pmax
comp=Z,10.0nm,0.5s
ZALV Zalesovo Beam 56.58 350 P P 04 12 32.1 -0.5
comp=Z,10nm,0.5s,baz=182,slow=5.7,SNR=37
ARMA Armidale 57.17 126 P P 04 12 39.4 +2.0
baz=57,SNR=5.7
NVS Novosibirsk 57.72 349⇑iP P 04 12 39.8 -0.8
NVS pmax pmax
comp=Z,19nm,2.0s
NVS pmax pmax
comp=N,8.0nm,1.8s
NVS pmax pmax
comp=E,3.0nm,1.9s
KLR Kul'dur 57.72 25 eP P 04 12 35.2 -5.6
BVA0 Borovoye Array 59.52 340 iP P 04 12 52.2 -1.0
BVA0 pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 59.58 340 eP P 04 12 53.0 -0.6
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 59.58 340 eP P 04 12 52.8 -0.8
comp=Z,3.8nm,0.6s
AB31 Akbulak array 60.92 332 P P 04 13 01.9 -1.0
AB31 pmax pmax
comp=Z,2.0nm,0.6s
ABKAR Akbulak array 60.92 332 eP P 04 13 00.8 -2.1
comp=Z,1.8nm,0.6s
YSS Yuzh-Sakhalins 61.38 32⇑iP P 04 13 05.0 -1.0
YSS pmax pmax
comp=Z,20nm,0.8s
KMBO Kilima Mbogo 62.14 270 eP P 04 13 13.4 +1.3
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 62.14 270 P P 04 13 13.2 +1.1
comp=Z,5.4nm,0.8s,baz=61,slow=10,SNR=17
KMBO Kilima Mbogo 62.14 270 eP P 04 13 13.4 +1.3
comp=Z,6.3nm,0.9s
GNI Garni 64.76 316 eP P 04 13 28.1 -0.8
GNI pmax pmax
comp=Z,9.0nm,1.0s
GNI Garni 64.76 316 eP P 04 13 28.1 -0.8
comp=Z,8.7nm,1.0s
ARU Arti 66.52 337 d iP P 04 13 39.8 +0.1
ARU S S 04 22 28.4 +0.1
ARU pmax pmax
comp=Z,19nm,2.5s
ARU Arti 66.52 337 eP P 04 13 38.5 -1.1
comp=Z,3.1nm,0.5s
YAK Yakutsk 67.41 15 eP P 04 13 43.7 -1.5
YAK pmax pmax
comp=Z,25nm,1.2s
KBZ Khabaz 67.55 319 P P 04 13 45.9 -0.5
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 67.55 319 P P 04 13 45.9 -0.5
comp=Z,3.2nm,0.8s,baz=128,slow=9.2,SNR=6.2
EIL Elat 68.76 303 LR LR 04 45 05.1
comp=Z,64nm,18.2s,baz=190,slow=37
NFK Norfolk Island 70.55 120 P P 04 14 02.3 -3.2
baz=71,SNR=9.0
CSS Prodhromos 71.45 308 eP P 04 14 10.9 +0.1
comp=Z,8.3nm,1.5s
LSZ Lusaka 71.50 254 eP P 04 14 11.0 -0.5
LSZ pmax pmax
comp=Z,3.0nm,1.2s
LSZ Lusaka 71.50 254 eP P 04 14 11.0 -0.5
comp=Z,3.2nm,1.2s
BRTR Keskin Array B 72.55 313 P P 04 14 16.2 -1.3
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 72.55 313 P P 04 14 16.1 -1.3
comp=Z,1.5nm,0.7s,baz=129,slow=5.9,SNR=5.6
PETK Petropavlovsk- 72.78 32 P P 04 14 16.7 -1.7
PETK pmax pmax
comp=Z,4.0nm,0.7s
PETK Petropavlovsk- 72.78 32 P P 04 14 16.7 -1.7
comp=Z,4.0nm,0.7s,baz=232,slow=4.7,SNR=3.8
PRGR Permogore 74.98 336 P P 04 14 31.6 +0.6
PRGR pmax pmax
comp=Z,38nm,1.4s
BOSA Boshof 75.38 241 P P 04 14 34.5 +0.3
BOSA pmax pmax
comp=Z,2.0nm,0.7s
BOSA Boshof 75.38 241 P P 04 14 34.5 +0.3
comp=Z,2.4nm,0.7s,baz=54,slow=3.8,SNR=7.0
SEY Seymchan 75.39 22⇑iP P 04 14 32.5 -0.9
TIXI Tiksi 75.46 9⇓iP P 04 14 32.0 -1.6
TIXI pmax pmax
comp=Z,5.0nm,0.6s
TIXI Tiksi 75.46 9 eP P 04 14 31.8 -1.8
comp=Z,6.3nm,0.6s
OBN Obninsk 76.06 328 eP P 04 14 36.7 -0.6
OBN iS S 04 24 20.6 +1.9
OBN pmax pmax
comp=Z,6.0nm,1.3s
OBN MLR MLR
comp=Z,83nm,15.0s
KLMR Klimovskoe 77.13 334 eP P 04 14 42.4 -0.9
KLMR pmax pmax
comp=Z,36nm,1.8s
IDI Anoyia 78.27 306 P P 04 14 50.0 -0.3
comp=Z,4.6nm,0.5s,baz=86,slow=8.3
AKASG Malin Array Be 78.73 322 P P 04 14 51.9 -0.5
comp=Z,0.3nm,0.4s,baz=91,slow=4.6,SNR=4.0
KIEV Kiev 78.74 322 eP P 04 14 51.8 -0.7
KIEV pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 78.74 322 eP P 04 14 51.8 -0.7
comp=Z,4.8nm,0.9s
VRI Vrincioaia 79.09 317⇑P P 04 14 54.8 +0.3
VRI Vrincioaia 79.09 317⇑iP P 04 14 54.8 +0.3
TESR Tescani 79.29 318⇑iP P 04 14 54.7 -0.9
MLR Muntele Rosu 79.54 317⇓P P 04 14 57.2 +0.1
MLR Muntele Rosu 79.54 317⇓iP P 04 14 57.2 +0.1
SUR Sutherland 79.57 237 eP P 04 14 58.5 +0.8
comp=Z,32nm,1.3s
ARR Arges 80.41 316⇑iP P 04 15 00.8 -1.0
BURAR Bucovina Array 80.50 319⇑P P 04 15 03.0 +0.7
BURAR Bucovina Array 80.50 319⇑iP P 04 15 03.0 +0.7
VTS Vitosha 80.88 313⇓P P 04 15 04.2 -0.3
VTS Vitosha 80.88 313⇓iP P 04 15 04.2 -0.3
FX1 Attu Island--F 81.44 36 P P 04 15 06.0 -1.0
FX1 pmax pmax
comp=Z,4.0nm,0.5s
FX1 Attu Island--F 81.44 36 P P 04 15 06.0 -1.0
comp=Z,3.6nm,0.5s,baz=189,slow=13,SNR=4.6
JOF Joensuu 81.52 335 eP P 04 15 06.7 -0.5
JOF pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 81.52 335 ep P 04 15 06.7 -0.5
comp=Z,0.9nm,0.5s
BZS Buzias 82.54 316⇑P P 04 15 12.8 -0.2
BZS Buzias 82.54 316⇑iP P 04 15 12.8 -0.2
KOLS Kolonicke sedl 82.69 320 eP P 04 15 14.8 +1.1
KOLS pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 82.69 320 eP P 04 15 14.8 +1.1
BILL Bilibino 82.90 20 eP P 04 15 13.7 -0.6
BILL iS S 04 25 28.9 -1.9
BILL pmax pmax
comp=Z,2.0nm,1.3s
BILL MLR MLR
comp=Z,55nm,17.0s
CRVS Cervenica-Dubn 83.22 319 eP P 04 15 17.9 +1.5
CRVS Cervenica-Dubn 83.22 319 eP P 04 15 17.9 +1.5
FINES FINESS Array B 83.40 332 P P 04 15 16.9 -0.2
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 83.40 332 P P 04 15 16.9 -0.2
comp=Z,1.3nm,0.5s,baz=110,slow=6.5,SNR=11
STHS Stebnicka Huta 83.44 320 eP P 04 15 18.6 +1.0
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 83.44 320 eP P 04 15 18.6 +1.0
KAF Kangasniemi 83.48 333 eP P 04 15 16.4 -1.0
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 83.48 333 ep P 04 15 16.4 -1.0
comp=Z,3.2nm,0.6s
PSZ Piszkesteto 84.08 318 eP P 04 15 20.5 -0.5
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PSZ Piszkesteto 84.08 318 eP P 04 15 20.5 -0.5
comp=Z,3.0nm,0.8s
TIP Timpagrande 85.24 309 eP P 04 15 25.4 -1.6
comp=Z,12nm,1.3s
ARCES ARCESS Array B 85.81 340 P P 04 15 29.5 +0.4
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 85.81 340 P P 04 15 29.5 +0.4
comp=Z,0.8nm,0.4s,baz=97,slow=5.6,SNR=3.9
MORC Moravsky Berou 85.88 320 eP P 04 15 29.7 -0.2
MORC pmax pmax
comp=Z,2.0nm,0.7s
MORC Moravsky Berou 85.88 320 eP P 04 15 29.7 -0.2
comp=Z,1.8nm,0.7s
AQU L'Aquila 88.05 312 eP P 04 15 40.6 0.0
AQU pmax pmax
comp=Z,11nm,1.0s
AQU L'Aquila 88.05 312 eP P 04 15 40.6 0.0
comp=Z,11nm,1.0s
GERES GERESS Array B 88.29 319 P P 04 15 41.6 -0.1
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 88.29 319 P P 04 15 41.6 -0.1
comp=Z,0.9nm,0.7s,baz=88,slow=3.6,SNR=15
AFI Afiamalu 88.49 104 LR LR 04 55 38.6
comp=Z,127nm,21.7s,baz=268,slow=36
RETA Reutte 90.18 317⇓iPcP P 04 15 50.6 0.0
comp=Z,3.0nm,0.6s
KEST Kesra 90.92 306 P P 04 15 55.3 +1.0
comp=Z,1.5nm,0.7s,baz=104,slow=2.9,SNR=7.2
LPG La Plagne 92.93 315 eP P 04 16 03.8 +0.2
comp=Z,9.2nm,1.0s
LPG La Plagne 92.93 315 eP P 04 16 03.8 +0.2
LPG pmax pmax
comp=Z,9.0nm,1.0s
LPG La Plagne 92.93 315 eP P 04 16 03.8 +0.2
comp=Z,9.2nm,1.0s
LPL La Plagne 92.94 315 eP P 04 16 03.6 0.0
LPL La Plagne 92.94 315 eP P 04 16 03.6 0.0
LPL La Plagne 92.94 315 eP P 04 16 03.6 0.0
BNI Bardonecchia 92.99 315 eP P 04 16 04.2 +0.5
BNI pmax pmax
comp=Z,33nm,1.8s
BNI Bardonecchia 92.99 315 eP P 04 16 04.2 +0.5
comp=Z,33nm,1.8s
CABF La Chapelle 93.37 316 eP P 04 16 06.1 +0.7
comp=Z,2.6nm,0.6s
CABF La Chapelle 93.37 316 eP P 04 16 06.1 +0.7
CABF pmax pmax
comp=Z,3.0nm,0.6s
CABF La Chapelle 93.37 316 eP P 04 16 06.1 +0.7
comp=Z,2.6nm,0.6s
BAIF Baives 94.49 320 eP P 04 16 10.5 +0.2
BAIF Baives 94.49 320 eP P 04 16 10.5 +0.2
BAIF Baives 94.49 320 eP P 04 16 10.5 +0.2
TORD Torodi Ar. Bea 97.85 283 P P 04 16 25.9 -0.5
comp=Z,0.4nm,0.8s,baz=83,slow=4.7,SNR=2.9
WVOR Wild Horse Val 126.89 35 ePKIKP PKPdf 04 21 53.5 -0.8
WVOR Wild Horse Val 126.89 35 ePKPdf PKPdf 04 21 53.5 -0.8
HLID Hailey 128.43 31 ePKPdf PKPdf 04 21 57.5 +0.2
NVAR Mina Array Bea 129.59 39 PKP PKPdf 04 21 59.3 -0.4
comp=Z,0.2nm,0.5s,baz=251,slow=2.8,SNR=2.9
BW06 Boulder Array 131.43 28 ePKPdf PKPdf 04 22 02.4 -0.7
MNTX Cornudas Mount 141.92 35 ePKPdf PKPdf 04 22 24.0 +1.5
CPUP Villa Florida 144.36 217 PKIKP PKPbc 04 22 26.3 +1.0
CPUP pmax pmax
comp=Z,9.0nm,0.6s
CPUP Villa Florida 144.36 217 PKP PKPbc 04 22 26.2 +1.0
comp=Z,9.4nm,0.6s,baz=126,slow=2.2,SNR=22
TXAR Lajitas Array 144.66 36 PKIKP PKPab 04 22 26.7 +0.6
TXAR pmax pmax
comp=Z,3.0nm,0.5s
TXAR Lajitas Array 144.66 36 PKP PKPab 04 22 26.7 +0.6
comp=Z,3.0nm,0.5s,baz=241,slow=0.7,SNR=87
MIAR Mount Ida 144.96 19 ePKIKP PKPab 04 22 26.8 -0.1
MIAR Mount Ida 144.96 19 ePKPdf PKPab 04 22 26.8 -0.1
JCT Junction City 145.90 30 ePKP2 PKPdf 04 22 30.0 +0.5
JCT Junction City 145.90 30 ePKPbc PKPdf 04 22 30.0 +0.5
HKT Hockley 148.21 26 ePKP2 PKPbc 04 22 35.9 -0.6
HKT Hockley 148.21 26 ePKPbc PKPbc 04 22 35.9 -0.6
LCO Las Campanas 148.22 197 ePKPbc PKPbc 04 22 36.5 -0.5
LVC Limon Verde 153.46 205 ePKPbc PKPbc 04 22 50.6 +1.0
SAML Samuel 159.78 239 ePKPab PKPab 04 23 29.2 +0.3

IDC 14 04:19:07.4±1.1, 34.25N×30.36E, h0km, mb3.7/7, mb1 3.7/11, mb1mx3.5/39, mbtmp3.6/11, ML3.3/4, Error ellipse: s-maj=23.3km s-min=21.3km az=36.0
CSEM 14 04:19:10.9±0.3, 34.25N×30.36E, h40km, ML3.7, Error ellipse: s-maj=9.3km s-min=3.7km az=133.0
ISCJB 14 04:19:10.0±0.3, 34.16N±0.03×30.44E±0.03, h33km, mb3.5/7, Error ellipse: s-maj=4.6km s-min=3.2km az=9.2
NSSC 14 04:19:10.7±2.1, 34.05N×32.40E, h422km±79km, ML2.6
NIC 14 04:19:13.0, 34.31N×30.55E, h39km, mb4.1, ML3.7
HLW 14 04:19:14.9, 34.03N×30.43E, h35km±44km, Md3.2, Ml3.2
ISC 14 04:19:11.8±0.6, 34.17N±0.04×30.48E±0.04, h35km, n71, σ1§61/81, mb3.5/7, 2C-2D, Eastern Mediterranean Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PPCY Paphos 1.70 64 P Pn 04 19 38.7 -0.2
baz=249
PPCY Paphos 1.70 64 P Pn 04 19 38.7 -0.2
AKMC Akamas 1.75 60 ⇑P Pn 04 19 39.5 -0.1
baz=244
AKMC Akamas 1.75 60 ⇑P Pn 04 19 39.5 -0.1
ALFC Alevga 2.00 60 ⇓P Pn 04 19 42.9 -0.3
baz=244
ALFC S Sn 04 20 06.2 -0.9
ALFC Alevga 2.00 60 ⇓P Pn 04 19 42.9 -0.3
ALFC S Sn 04 20 06.2 -0.9
SZAC Souni-Zanaja 2.07 73 P Pn 04 19 44.2 +0.1
baz=257
SZAC S Sn 04 20 08.7 +0.1
SZAC Souni-Zanaja 2.07 73 P Pn 04 19 44.2 +0.1
SZAC S Sn 04 20 08.7 +0.1
MAMC Mammari 2.47 65 P Pn 04 19 50.0 +0.5
baz=249
MAMC Mammari 2.47 65 P Pn 04 19 50.0 +0.5
CSS Prodhromos 2.48 71 P Pn 04 19 49.7 0.0
baz=254
CSS Prodhromos 2.48 71 P Pn 04 19 49.7 0.0
KARP Karpathos 3.06 298 eP Pn 04 19 58.2 +0.5
ZKR Zakros 3.64 286 eP Pn 04 20 05.7 0.0
MATC Matruh 3.93 225 P Pn 04 20 10.6 +1.1
baz=227
NPS Neapolis 4.16 287 eP Pn 04 20 13.4 +0.6
HMAT Matruh 4.19 224 P Pn 04 20 10.6 -2.6
AMAG Maghara 4.20 146 P Pn 04 20 13.7 +0.3
baz=144
AMAG Maghara 4.20 146 P Pn 04 20 13.7 +0.3
RSH 4.21 139 P Pn 04 20 14.6 +1.2
baz=136
RSH 4.21 139 P Pn 04 20 14.6 +1.2
LAST Lasithi 4.24 285 eP Pn 04 20 14.3 +0.3
MMAI Mount Meron Ar 4.26 104 Pn Pn 04 20 14.7 +0.4
9.7nm,0.3s,baz=312,slow=11,SNR=27
MMAI Sn Sn 04 21 05.0 +2.1
16nm,0.3s,baz=106,slow=27,SNR=8.6
BHL Bhannes 4.30 92 eP Pn 04 20 09.8 -4.9
BHL Bhannes 4.30 92 eP Pn 04 20 09.9 -4.9
KOT Kottamia 4.38 165 P Pn 04 20 16.8 +1.0
baz=163
KOT AMP 04 21 00.0
comp=N,60μm,0.2s,logA/T=5.4,baz=163
KOT Kottamia 4.38 165 P Pn 04 20 16.8 +1.0
HHAG Hagoal 4.42 161 P Pn 04 20 17.7 +1.3
baz=160
HHAG S Sn 04 21 03.6 -3.0
baz=160
HHAG Hagoal 4.42 161 P Pn 04 20 17.7 +1.3
HHAG S Sn 04 21 03.6 -3.0
RCY Rachaya 4.50 97 eP Pn 04 20 17.9 +0.3
RCY Rachaya 4.50 97 eP Pn 04 20 17.9 +0.3
SMG Samos 4.61 321 eP Pn 04 20 19.0 0.0
BRBR Barbar 4.62 98 eP Pn 04 20 19.8 +0.5
BRBR eS Sn 04 21 10.2 -1.5
BRBR AML AML 04 21 17.2
comp=E,29nm,0.7s
BRBR AML AML 04 21 17.2
comp=N,73nm,0.7s
BRBR Barbar 4.62 98 eP Pn 04 20 19.8 +0.5
SNR=141
BRBR eS Sn 04 21 10.2 -1.5
comp=N,73nm,0.7s,SNR=141
HSAF As Saff 4.62 168 P Pn 04 20 19.8 +0.6
baz=167
HSAF As Saff 4.62 168 P Pn 04 20 19.8 +0.6
SANT Santorini 4.66 300 eP Pn 04 20 18.6 -1.1
GLL Jalalah 4.69 167 P Pn 04 20 20.3 +0.1
baz=165
GLL Jalalah 4.69 167 P Pn 04 20 20.3 +0.1
IDI Anoyia 4.74 285 Pn Pn 04 20 14.7 -6.2
comp=N,0.8nm,0.3s,baz=177,slow=9.0,SNR=16
IDI Sn Sn 04 21 11.7 -2.8
comp=N,6.1nm,0.3s,baz=282,slow=12,SNR=12
SUZ 4.75 155 P Pn 04 20 21.7 +0.8
baz=153
SUZ 4.75 155 P Pn 04 20 21.7 +0.8
APE Apeiranthos 4.97 307 eP Pn 04 20 23.2 -0.7
MARH Ras Al Marh 4.98 90 eP Pn 04 20 25.1 +0.8
MARH eS Sn 04 21 15.2 -5.6
MARH AML AML 04 21 24.4
comp=N,15nm,0.4s
MARH AML AML 04 21 31.3
comp=E,29nm,0.5s
MARH Ras Al Marh 4.98 90 eP Pn 04 20 25.1 +0.8
SNR=137
MARH eS Sn 04 21 15.2 -5.6
comp=E,29nm,0.5s,SNR=137
TOTH TOTAH 5.02 98 eP Pn 04 20 24.4 -0.2
TOTH eS Sn 04 21 16.5 -4.9
TOTH AML AML 04 21 33.7
comp=N,18nm,0.4s
TOTH AML AML 04 21 35.8
comp=E,31nm,0.5s
TOTH TOTAH 5.02 98 eP Pn 04 20 24.4 -0.2
SNR=137
TOTH eS Sn 04 21 16.5 -4.9
comp=E,31nm,0.5s,SNR=137
SLUM 5.18 240 P Pn 04 20 26.8 +0.1
baz=242
SLUM 5.18 240 P Pn 04 20 26.8 +0.1
GVD Gavdhos 5.32 279 eP Pn 04 20 16.1 -13
SALA Sala 5.42 104 eP Pn 04 20 26.8 -3.5
SALA eS Sn 04 21 24.5 -7.1
SALA AML AML 04 21 32.8
comp=N,27nm,0.5s
SALA AML AML 04 21 45.9
comp=E,2.1nm,0.5s
SALA Sala 5.42 104 eP Pn 04 20 26.8 -3.5
SNR=134
SALA eS Sn 04 21 24.5 -7.1
comp=E,2.1nm,0.5s,SNR=134
ASF Jabal al Asfar 5.73 109 Pn Pn 04 20 35.2 +0.7
comp=E,0.6nm,0.3s,baz=246,slow=8.7,SNR=5.2
ASF Sn Sn 04 21 40.4 +1.3
comp=E,0.5nm,0.3s,baz=311,slow=20,SNR=2.5
EIL Elat 5.88 139 Pn Pn 04 20 37.2 +0.9
comp=E,0.8nm,0.3s,baz=241,slow=3.2,SNR=21
EIL Sn Sn 04 21 39.0 -3.5
comp=E,4.0nm,0.3s,baz=353,slow=16,SNR=11
PRK Paraskevi 6.09 328 eP Pn 04 20 39.7 +0.4
BRTR Keskin Array B 6.10 24 Pn Pn 04 20 39.8 +0.3
comp=E,0.2nm,0.3s,baz=188,slow=17,SNR=5.1
BRTR Sn Sn 04 21 45.5 -2.6
comp=E,0.4nm,0.3s,baz=200,slow=26,SNR=7.7
KYTH Kithira 6.45 291 eP Pn 04 20 42.4 -1.9
SWA2 6.51 222 P Pn 04 20 45.1 0.0
baz=223
SWA2 6.51 222 P Pn 04 20 45.1 0.0
VLI Veliai 6.67 295 eP Pn 04 20 45.9 -1.3
HFRF Wahat Farafira 7.24 196 P Pn 04 20 54.9 -0.2
baz=196
HFRF Wahat Farafira 7.24 196 P Pn 04 20 54.9 -0.2
KLV Kalavryta, Ach 7.77 302 eP Pn 04 21 03.6 +1.1
AKASG Malin Array Be 16.55 357 Pn P 04 23 02.8 -0.5
comp=E,0.4nm,0.3s,baz=179,slow=11,SNR=8.1
FINES FINESS Array B 27.44 355 P P 04 24 53.0 -1.0
comp=E,1.2nm,0.7s,baz=163,slow=10,SNR=4.9
TORD Torodi Ar. Bea 33.47 238 P P 04 25 48.0 +0.3
comp=E,0.3nm,0.7s,baz=34,slow=7.7,SNR=7.4
ARCES ARCESS Array B 35.53 357 P P 04 26 05.0 0.0
comp=E,3.2nm,1.0s,baz=181,slow=7.8,SNR=2.9
MKAR Makanchi Array 40.67 56 P P 04 26 50.0 +1.3
comp=E,0.7nm,0.7s,baz=275,slow=6.1,SNR=11
SONM Songino Array 56.70 51 P P 04 28 53.6 +1.7
comp=E,0.2nm,0.7s,baz=279,slow=9.0,SNR=3.7
KSRS Korea Array 75.34 55 P P 04 30 52.8 +1.2
comp=E,0.7nm,0.7s,baz=301,slow=4.7,SNR=3.7
YKA Yellowknife Ar 79.66 344 P P 04 31 15.9 +0.6
comp=E,0.2nm,0.5s,baz=28,slow=5.2,SNR=7.4

LDG 14 04:20:09.7±0.1, 42.26N×15.79E, h2km, Ml3.2/29, Error ellipse: s-maj=3.3km s-min=2.0km az=64.0
PDG 14 04:20:10.1±0.6, 42.27N×15.87E, h13km±1km, ML3.2/10, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0
ROM 14 04:20:10.1±0.2, 42.20N×15.93E, h30km±2km, Ml3.4/32, Error ellipse: s-maj=3.6km s-min=2.0km az=32.0
CSEM 14 04:20:10.5±0.1, 42.19N×15.75E, h20km, ML3.4, Error ellipse: s-maj=2.8km s-min=2.5km az=35.0
PRU 14 04:20:11.0, 42.31N×15.73E, h0km
IDC 14 04:20:16.1±3.2, 42.87N×15.75E, h0km, mb3.5/1, mb1 3.3/5, mb1mx3.2/27, mbtmp3.3/5, ML2.9/3, MS3.5/2, Ms1 3.5/2, ms1mx2.5/37, Error ellipse: s-maj=48.9km s-min=22.2km az=49.0
ISC 14 04:20:09.0±0.4, 42.21N±0.01×15.88E±0.01, h32km±3km, n208, σ1§89/243, 17C-14D, Adriatic Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSAG Monte S. Angel 0.50 178⇓ePg Pn 04 20 21.0 +1.0
MSAG Sg Sn 04 20 29.1 +1.5
12μm,0.5s
MS1 Monte Sant'Ang 0.51 175 ePg Pn 04 20 21.0 +0.9
MELA Melanico ??? S 0.76 228⇑ePg Pn 04 20 25.0 +1.6
MELA Sg Sn 04 20 36.1 +2.3
3μm,0.5s
MELA Melanico ??? S 0.76 228⇑ePg Pn 04 20 25.0 +1.6
CIGN Sant'Elia a Pi 0.92 233⇑ePg Pn 04 20 27.6 +1.9
CIGN Sg Sn 04 20 39.6 +1.8
382nm,0.5s
CIGN Sant'Elia a Pi 0.92 233⇑ePg Pn 04 20 27.6 +1.9
CIGN Sg Sn 04 20 39.6 +1.8
382nm,0.5s
FRES Fresagrandinar 0.94 256⇑ePg Pn 04 20 28.1 +2.2
2μm,0.5s
FRES Fresagrandinar 0.94 256⇑ePg Pn 04 20 28.1 +2.2
2μm,0.5s
MOCO Biccari - m.te 1.00 213 Pg Pb 04 20 28.7 +0.8
MOCO Sg Sb 04 20 43.2 +3.2
763nm,0.9s
GATE Gambatesa 1.01 226⇑ePg Pb 04 20 29.2 +1.2
271nm,0.4s
GATE Gambatesa 1.01 226⇑ePg Pb 04 20 29.2 +1.2
271nm,0.4s
TRIV Trivento 1.09 246 Pg Pb 04 20 30.3 +1.0
TRIV Sg Sn 04 20 45.4 +3.4
477nm,0.5s
TRIV Trivento 1.09 246 Pg Pb 04 20 30.3 +1.0
TRIV Sg Sn 04 20 45.4 +3.4
477nm,0.5s
CAFR Castel Frentan 1.14 271 Pg Pb 04 20 31.4 +1.2
3μm,0.9s
CAFR Castel Frentan 1.14 271 Pg Pb 04 20 31.4 +1.2
3μm,0.9s
CDT Castel del Mon 1.17 165 ePg Pn 04 20 30.7 +1.6
CDT Sg Sb 04 20 49.8 +4.3
BSSO Busso 1.17 236 Pg Pb 04 20 31.0 +0.3
BSSO Sg Sb 04 20 48.0 +2.4
315nm,0.7s
BSSO Busso 1.17 236 Pg Pb 04 20 31.0 +0.3
BSSO Sg Sb 04 20 48.0 +2.4
315nm,0.7s
MRVN Minervino Murg 1.18 168⇑ePg Pn 04 20 30.6 +1.4
421nm,0.5s
MRVN Minervino Murg 1.18 168⇑ePg Pn 04 20 30.6 +1.4
421nm,0.5s
SACR S. Croce Del S 1.20 228 Pg Pb 04 20 31.4 +0.2
SACR S. Croce Del S 1.20 228 Pg Pb 04 20 31.4 +0.2
IPES Pescosannita 1.26 219 Pg Pn 04 20 32.1 +1.8
PALZ Palazzo San Ge 1.27 177 Pg Pn 04 20 32.3 +1.8
835nm,0.6s
PALZ Palazzo San Ge 1.27 177 Pg Pn 04 20 32.3 +1.8
835nm,0.6s
VULT Monte Vulture 1.27 189 Pg Pb 04 20 33.0 +0.5
1μm,0.5s
VULT Monte Vulture 1.27 189 Pg Pb 04 20 33.0 +0.5
1μm,0.5s
LPEL Lama dei Pelig 1.28 263 Pg Pb 04 20 33.0 +0.5
478nm,0.4s

LPEL	**Lama dei Pelig**	**1.28**	**263**	Pg	**Pb**	**04 20 33.0**	**+0.5**
	478nm,0.4s						
PTRJ	**Pietraroja**	**1.32**	**230**	Pg	**Pn**	**04 20 32.9**	**+1.6**
	703nm,0.8s						
PTRJ	**Pietraroja**	**1.32**	**230**	Pg	**Pn**	**04 20 32.9**	**+1.6**
	703nm,0.8s						
BAI	**Bari**	**1.33**	**146**	*e*Pg	**Pb**	**04 20 33.1**	**+1.8**
MIDA	**Miranda**	**1.34**	**245**	Pg	**Pn**	**04 20 33.4**	**+1.8**
	292nm,0.4s						
MIDA	**Miranda**	**1.34**	**245**	Pg	**Pn**	**04 20 33.4**	**+1.8**
	292nm,0.4s						
SNAL	**S. Angelo Dei**	**1.38**	**202**	Pg	**Pn**	**04 20 33.5**	**+1.4**
	794nm,0.7s						
SNAL	**S. Angelo Dei**	**1.38**	**202**	Pg	**Pn**	**04 20 33.5**	**+1.4**
	794nm,0.7s						
RNI2	**Rionero Sannit**	**1.39**	**249**	Pg	**Pb**	**04 20 34.4**	**0.0**
RNI2	**Rionero Sannit**	**1.39**	**249**	Pg	**Pb**	**04 20 34.4**	**0.0**
SGG	**Gregorio Mates**	**1.40**	**234**	Pg	**Pb**	**04 20 34.8**	**+0.3**
	243nm,0.5s						
SGG	**Gregorio Mates**	**1.40**	**234**	Pg	**Pb**	**04 20 34.8**	**+0.3**
	243nm,0.5s						
AMUR	**Altamura**	**1.41**	**157**	Pg	**Pn**	**04 20 34.2**	**+1.7**
	524nm,0.6s						
AMUR	**Altamura**	**1.41**	**157**	Pg	**Pn**	**04 20 34.2**	**+1.7**
	524nm,0.6s						
ACER	**Acerenza**	**1.43**	**178**	Pg	**Pn**	**04 20 34.3**	**+1.6**
ACER	**Acerenza**	**1.43**	**178**	Pg	**Pn**	**04 20 34.3**	**+1.6**
VAGA	**Valle Agricola**	**1.47**	**238**	Pg	**Pb**	**04 20 35.8**	**+0.1**
VAGA	**Valle Agricola**	**1.47**	**238**	Pg	**Pb**	**04 20 35.8**	**+0.1**
INTR	**Introdacqua**	**1.49**	**263**	Pg	**Pb**	**04 20 35.9**	**-0.1**
	381nm,0.4s						
INTR	**Introdacqua**	**1.49**	**263**	Pg	**Pb**	**04 20 35.9**	**-0.1**
	381nm,0.4s						
MRLC	**Muro Lucano**	**1.49**	**192**	Pg	**Pn**	**04 20 35.0**	**+1.5**
	629nm,0.5s						
MRLC	**Muro Lucano**	**1.49**	**192**	Pg	**Pn**	**04 20 35.0**	**+1.5**
	629nm,0.5s						
STON	**Ston**	**1.50**	**63**	*e*Pn	**Pb**	**04 20 37.0**	**+0.9**
STON				Sn	**Sb**	**04 20 59.1**	**+4.4**
STON	**Ston**	**1.50**	**63**	*e*Pn	**Pb**	**04 20 37.0**	**+0.9**
STON				Sn	**Sb**	**04 20 59.1**	**+4.4**
SG1	**Sgolgore (BA)**	**1.50**	**156**	*e*Pn	**Pn**	**04 20 35.7**	**+2.1**
MCRV	**Calabrutti - M**	**1.53**	**201**	Pg	**Pn**	**04 20 35.3**	**+1.2**
	413nm,0.4s						
MCRV	**Calabrutti - M**	**1.53**	**201**	Pg	**Pn**	**04 20 35.3**	**+1.2**
	413nm,0.4s						
SDI	**San Donato**	**1.63**	**253**	Pg	**Pn**	**04 20 37.6**	**+2.2**
	107nm,0.4s						
SDI	**San Donato**	**1.63**	**253**	Pg	**Pn**	**04 20 37.6**	**+2.2**
	107nm,0.4s						
MIGL	**Miglionico**	**1.66**	**165**	Pg	**Pn**	**04 20 37.8**	**+1.9**
MIGL	**Miglionico**	**1.66**	**165**	Pg	**Pn**	**04 20 37.8**	**+1.9**
NOCI	**Noci**	**1.68**	**148**	Pg	**Pn**	**04 20 38.1**	**+2.0**
	409nm,0.4s						
NOCI	**Noci**	**1.68**	**148**	Pg	**Pn**	**04 20 38.1**	**+2.0**
	409nm,0.4s						
MATE	**Matera**	**1.68**	**158**	Pg	**Pn**	**04 20 38.0**	**+1.9**
	398nm,0.4s						
MATE	**Matera**	**1.68**	**158**	Pg	**Pn**	**04 20 38.0**	**+1.9**
	398nm,0.4s						
POFI	**Posta Fibreno**	**1.69**	**254**	Pg	**Pn**	**04 20 38.6**	**+2.2**
	140nm,0.5s						
POFI	**Posta Fibreno**	**1.69**	**254**	Pg	**Pn**	**04 20 38.6**	**+2.2**
	140nm,0.5s						
FAGN	**Fagnano**	**1.71**	**273**	Pg	**Pb**	**04 20 39.8**	**0.0**
	561nm,0.4s						
FAGN	**Fagnano**	**1.71**	**273**	Pg	**Pb**	**04 20 39.8**	**0.0**
	561nm,0.4s						
SGO	**Sicignano**	**1.71**	**195**	Pg	**Pn**	**04 20 38.2**	**+1.6**
	102nm,0.4s						
SGO	**Sicignano**	**1.71**	**195**	Pg	**Pn**	**04 20 38.2**	**+1.6**
	102nm,0.4s						
VVLD	**Villa Vallelon**	**1.72**	**259**	Pg	**Pb**	**04 20 39.7**	**-0.3**
	211nm,0.6s						
VVLD	**Villa Vallelon**	**1.72**	**259**	Pg	**Pb**	**04 20 39.7**	**-0.3**
	211nm,0.6s						
TERO	**Teramo**	**1.74**	**284**	Pg	**Pb**	**04 20 39.8**	**-0.5**
	177nm,0.5s						
TERO	**Teramo**	**1.74**	**284**	Pg	**Pb**	**04 20 39.8**	**-0.5**
	177nm,0.5s						
MSC	**Monte Massico**	**1.76**	**235**	Pg	**Pn**	**04 20 39.6**	**+2.4**
MSC	**Monte Massico**	**1.76**	**235**	Pg	**Pn**	**04 20 39.6**	**+2.4**
CDRU	**Civita di Ruta**	**1.78**	**194**	Pg	**Pn**	**04 20 38.8**	**+1.2**
	174nm,0.6s						
CDRU	**Civita di Ruta**	**1.78**	**194**	Pg	**Pn**	**04 20 38.8**	**+1.2**
	174nm,0.6s						
PE1	**Pezze di Greco**	**1.82**	**140**	*e*Pn	**Pn**	**04 20 40.3**	**+2.2**
T0401	**Montottone (Fe**	**1.89**	**297**	Pg	**Pb**	**04 20 42.7**	**-0.1**
	792nm,0.5s						
CRAC	**Craco**	**1.89**	**167**	Pg	**Pn**	**04 20 41.3**	**+2.2**
	714nm,0.6s						
CRAC	**Craco**	**1.89**	**167**	Pg	**Pn**	**04 20 41.3**	**+2.2**
	714nm,0.6s						
SMA1	**SAN MARTINO**	**1.93**	**283**	Pg	**Pb**	**04 20 42.6**	**-1.0**
	254nm,0.7s						
HCY	**Herceg Novi**	**1.95**	**82**	⇑*i*Pn	**Pb**	**04 20 44.2**	**+0.3**
HCY				*e*Sn	**Sb**	**04 21 10.8**	**+3.0**
HCY	**Herceg Novi**	**1.95**	**82**	⇑*i*Pn	**Pb**	**04 20 44.2**	**+0.3**
HCY				*e*Sn	**Sb**	**04 21 10.8**	**+3.0**
TAR1	**Taranto**	**1.99**	**148**	*e*Pn	**Pn**	**04 20 42.6**	**+2.2**
BUM	**Brajici-Budva**	**2.24**	**87**	⇓*i*Pn	**Pb**	**04 20 47.2**	**-1.6**
BUM				*e*Sn	**Sb**	**04 21 17.6**	**+1.5**
BUM	**Brajici-Budva**	**2.24**	**87**	⇓*i*Pn	**Pb**	**04 20 47.2**	**-1.6**
BUM				*e*Sn	**Sb**	**04 21 17.6**	**+1.5**
CING	**Cingoli**	**2.29**	**301**	Pg	**Pn**	**04 20 47.1**	**+2.5**
	126nm,0.9s						
CING	**Cingoli**	**2.29**	**301**	Pg	**Pn**	**04 20 47.1**	**+2.5**
	126nm,0.9s						
UDBI	**Udbina**	**2.31**	**358**	*e*Pn	**Pb**	**04 20 49.6**	**-0.6**
UDBI				Sn	**Sb**	**04 21 18.1**	**-0.3**
UDBI	**Udbina**	**2.31**	**358**	*e*Pn	**Pb**	**04 20 49.5**	**-0.6**
UDBI				Sn	**Sb**	**04 21 18.0**	**-0.3**
NKME	**Niksic**	**2.34**	**75**	*e*Pn	**Pb**	**04 20 49.4**	**-1.1**
NKME				*e*Sn	**Sb**	**04 21 20.5**	**+1.6**
NKME	**Niksic**	**2.34**	**75**	*e*Pn	**Pb**	**04 20 49.4**	**-1.1**
NKME				*e*Sn	**Sb**	**04 21 20.5**	**+1.6**
NKY	**Niksic**	**2.38**	**74**	⇓*i*Pn	**Pb**	**04 20 50.2**	**-1.0**
NKY				*e*Sn	**Sb**	**04 21 21.0**	**+0.9**
NKY	**Niksic**	**2.38**	**74**	⇓*i*Pn	**Pb**	**04 20 50.2**	**-1.0**
NKY				*e*Sn	**Sb**	**04 21 21.0**	**+0.9**
UPM	**Unac-Piva**	**2.44**	**65**	⇓*i*Pn	**Pb**	**04 20 51.1**	**-1.1**
UPM				*e*Sn	**Sb**	**04 21 22.1**	**+0.2**
UPM	**Unac-Piva**	**2.44**	**65**	⇓*i*Pn	**Pb**	**04 20 51.1**	**-1.1**
UPM				*e*Sn	**Sb**	**04 21 22.1**	**+0.2**
DRME	**Dracevica, Mon**	**2.45**	**90**	⇓*i*Pn	**Pb**	**04 20 51.1**	**-1.3**
DRME				*e*Sn	**Sb**	**04 21 23.0**	**+0.8**
DRME	**Dracevica, Mon**	**2.45**	**90**	⇓*i*Pn	**Pb**	**04 20 51.1**	**-1.3**
DRME				*e*Sn	**Sb**	**04 21 23.0**	**+0.8**
NVLJ	**Novalja**	**2.46**	**343**	*e*Pn	**Pb**	**04 20 49.8**	**+2.9**
NVLJ				Sn	**Sn**	**04 21 19.6**	**+3.7**
NVLJ	**Novalja**	**2.46**	**343**	*e*Pn	**Pb**	**04 20 49.7**	**+2.9**
NVLJ				Sn	**Sn**	**04 21 19.5**	**+3.7**
PDG	**Podgorica**	**2.51**	**84**	*e*Pn	**Pb**	**04 20 51.9**	**-1.5**
PDG				*e*Sn	**Sb**	**04 21 24.2**	**+0.4**
TTG	**Podgorica**	**2.51**	**84**	*e*Pn	**Pb**	**04 20 51.9**	**-1.5**
TTG				*e*Sn	**Sb**	**04 21 24.2**	**+0.4**
ULC	**Ulcinj**	**2.51**	**95**	*e*Pn	**Pb**	**04 20 52.0**	**-1.5**
ULC				*e*Sn	**Sb**	**04 21 24.4**	**+0.4**
ULC	**Ulcinj**	**2.51**	**95**	*e*Pn	**Pb**	**04 20 52.0**	**-1.5**
ULC				*e*Sn	**Sb**	**04 21 24.4**	**+0.4**
PLE	**Pljevlja**	**2.81**	**65**	*e*Pn	Pn	04 20 55.9	+4.1
PLE				*e*Sn	**Sb**	**04 21 31.4**	**-1.2**
PLE	**Pljevlja**	**2.81**	**65**	*e*Pn	Pn	04 20 55.9	+4.1
PLE				*e*Sn	**Sb**	**04 21 31.4**	**-1.2**
BEY	**Berane**	**3.04**	**76**	*e*Pn	Pn	04 20 59.1	+4.3
BEY				*e*Sn	**Sb**	**04 21 36.4**	**-2.6**
IVA	**Berane**	**3.04**	**76**	*e*Pn	Pn	04 20 59.1	+4.3
IVA				*e*Sn	**Sb**	**04 21 36.4**	**-2.6**
PVY	**Plav**	**3.04**	**81**	⇑*i*Pn	Pn	04 20 59.5	+4.5
PVY				*e*Sn	**Sb**	**04 21 37.2**	**-2.0**
BOJS	**Bojanci**	**3.32**	**352**	*i* Pn	Pn	04 21 02.7	+4.0
	comp=Z,36nm,0.5s						
BOJS	**Bojanci**	**3.32**	**352**	*i* Pn	Pn	04 21 02.7	+4.0
	comp=Z,36nm,0.5s						
SKDS	**Skadanscina**	**3.59**	**339**	*i* Pn	**Pn**	**04 21 05.0**	**+2.5**
SKDS				*i* Sn	**Sn**	**04 21 45.8**	**+2.0**
	comp=Z,7.0nm,0.1s						
SKDS	**Skadanscina**	**3.59**	**339**	*i* Pn	**Pn**	**04 21 05.0**	**+2.5**
SKDS				*i* Sn	**Sn**	**04 21 45.8**	**+2.0**
	comp=Z,7.0nm,0.1s						
CRES	**Cresnjev**	**3.62**	**355**	*i* Pn	Pn	04 21 06.8	+3.9
	comp=Z,35nm,0.6s						
CRES	**Cresnjev**	**3.62**	**355**	*i* Pn	Pn	04 21 06.8	+3.9
	comp=Z,35nm,0.6s						
VISS	**Visnje**	**3.67**	**349**	*i* Pn	Pn	04 21 06.9	+3.5
VISS				*i* Sn	**Sn**	**04 21 48.0**	**+2.4**
	comp=Z,6.0nm,0.1s						
VISS	**Visnje**	**3.67**	**349**	*i* Pn	Pn	04 21 06.9	+3.5
VISS				*i* Sn	**Sn**	**04 21 48.0**	**+2.4**
	comp=Z,6.0nm,0.1s						
GOLS	**Golise**	**3.80**	**357**	*i* Pn	Pn	04 21 09.1	+3.8
GOLS	**Golise**	**3.80**	**357**	*i* Pn	Pn	04 21 09.1	+3.8
JAVS	**Javornik**	**3.91**	**341**	*i* Pn	**Pn**	**04 21 09.6**	**+2.8**
JAVS	**Javornik**	**3.91**	**341**	*i* Pn	**Pn**	**04 21 09.6**	**+2.8**
VOJS	**Vojsko**	**4.08**	**340**	*i* Pn	**Pn**	**04 21 11.8**	**+2.7**
VOJS	**Vojsko**	**4.08**	**340**	*i* Pn	**Pn**	**04 21 11.9**	**+2.7**
MAIM	**Mastiano**	**4.30**	**295**	P	**Pn**	**04 21 14.4**	**+2.3**
GORS	**Gorjuse**	**4.32**	**342**	*i* Pn	**Pn**	**04 21 15.1**	**+2.6**
GORS	**Gorjuse**	**4.32**	**342**	*i* Pn	**Pn**	**04 21 15.1**	**+2.6**
OBKA	**Obir**	**4.40**	**348**	⇓*i*Pn	**Pn**	**04 21 16.6**	**+3.0**
OBKA	**Obir**	**4.40**	**348**	Pn	**Pn**	**04 21 16.6**	**+3.0**
PERS	**Pernice**	**4.46**	**353**	*i* Pn	**Pn**	**04 21 17.2**	**+2.9**
PERS	**Pernice**	**4.46**	**353**	*i* Pn	**Pn**	**04 21 17.2**	**+2.9**
SOKA	**Soboth**	**4.50**	**353**	⇑*i*Pn	**Pn**	**04 21 18.0**	**+3.0**
SOKA	**Soboth**	**4.50**	**353**	Pn	**Pn**	**04 21 18.0**	**+3.0**
VALM	**Valbona**	**4.63**	**299**	P	**Pn**	**04 21 18.7**	**+1.9**
BACM	**Baccana**	**4.72**	**298**	P	**Pn**	**04 21 19.8**	**+1.9**
CODM	**Codolo**	**4.91**	**298**	P	**Pn**	**04 21 23.0**	**+2.4**
PGF	**Pioggiola**	**5.11**	**276**	*e*Pn	**Pn**	**04 21 24.0**	**+0.6**
PGF				*e*Sn	**Sn**	**04 22 19.8**	**-1.5**
	comp=Z,0.3nm,0.2s						
PGF	**Pioggiola**	**5.11**	**276**	*e*Pn	**Pn**	**04 21 24.0**	**+0.6**
PGF				*e*Sn	**Sn**	**04 22 19.8**	**-1.5**
	comp=Z,0.2nm,0.2s						
SC2M	**Scurtabo**	**5.12**	**297**	P	**Pn**	**04 21 26.0**	**+2.5**
ABTA	**Abfaltersbach**	**5.13**	**333**	*i* Pn	**Pn**	**04 21 26.2**	**+2.6**
	SNR=6.0						
ABTA	**Abfaltersbach**	**5.13**	**333**	Pn	**Pn**	**04 21 26.2**	**+2.6**
	SNR=6.0						
KBA	**Koelnbreinsper**	**5.19**	**340**	⇓*i*Pn	**Pn**	**04 21 27.0**	**+2.5**
KBA	**Koelnbreinsper**	**5.19**	**340**	Pn	**Pn**	**04 21 27.0**	**+2.5**
MOA	**Molln**	**5.75**	**349**	⇓*i*Pn	Pn	04 21 35.3	+3.2
MOA	**Molln**	**5.75**	**349**	Pn	Pn	04 21 35.3	+3.2
WTTA	**Wattenberg**	**5.88**	**331**	⇓*i*Pn	**Pn**	**04 21 36.4**	**+2.3**
WTTA	**Wattenberg**	**5.88**	**331**	Pn	**Pn**	**04 21 36.4**	**+2.3**
WATA	**Walderalm**	**5.97**	**331**	⇑*i*Pn	Pn	04 21 38.2	+3.0
	SNR=8.6						
WATA	**Walderalm**	**5.97**	**331**	Pn	Pn	04 21 38.2	+3.0
	SNR=8.6						
FETA	**Feichten**	**6.05**	**324**	⇑*i*Pn	**Pn**	**04 21 39.1**	**+2.8**
FETA	**Feichten**	**6.05**	**324**	Pn	**Pn**	**04 21 39.1**	**+2.8**
MOTA	**Moosalm**	**6.15**	**328**	⇓*i*Pn	Pn	04 21 40.7	+2.9
	SNR=5.2						
MOTA	**Moosalm**	**6.15**	**328**	Pn	Pn	04 21 40.7	+2.9
	SNR=5.2						
DAVOX	**Davos/Dischmat**	**6.27**	**319**	Pn	Pn	04 21 43.4	+4.1
	baz=148,slow=18						
DAVOX				Sn	**Sn**	**04 22 51.5**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=332,slow=18,SNR=3.0						
SBF	**Sospel**	**6.41**	**288**	*e*Pn	**Pn**	**04 21 41.7**	**+0.6**
SBF				*e*Sn	**Sn**	**04 22 50.7**	**-2.4**
	comp=Z,1.1nm,0.2s						
SBF	**Sospel**	**6.41**	**288**	*e*Pn	**Pn**	**04 21 41.7**	**+0.6**
SBF				*e*Sn	**Sn**	**04 22 50.7**	**-2.4**
	comp=Z,0.6nm,0.2s						
DAVA	**Damuels**	**6.63**	**322**	⇑*i*Pn	Pn	04 21 48.0	+3.7
	SNR=5.2						
DAVA	**Damuels**	**6.63**	**322**	Pn	Pn	04 21 48.0	+3.7
	SNR=5.2						
GERES	**GERESS Array B**	**6.81**	**348**	Pn	**Pn**	**04 21 48.8**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=166,slow=14,SNR=10						
GERES				Sn	**Sn**	**04 23 00.9**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=163,slow=20,SNR=8.6						
FRF	**La Foret Royal**	**6.92**	**284**	*e*Pn	**Pn**	**04 21 48.6**	**+0.5**
FRF				*e*Sn	**Sn**	**04 23 02.7**	**-2.9**
	comp=Z,0.3nm,0.2s						
FRF	**La Foret Royal**	**6.92**	**284**	*e*Pn	**Pn**	**04 21 48.6**	**+0.5**
FRF				*e*Sn	**Sn**	**04 23 02.7**	**-2.9**
	comp=Z,0.2nm,0.2s						
LMR	**La Mourre**	**6.99**	**282**	*e*Pn	**Pn**	**04 21 49.5**	**+0.5**
LMR				*e*Sn	**Sn**	**04 23 04.5**	**-2.9**
	comp=Z,0.8nm,0.2s						
LMR	**La Mourre**	**6.99**	**282**	*e*Pn	**Pn**	**04 21 49.5**	**+0.5**
LMR				*e*Sn	**Sn**	**04 23 04.5**	**-2.9**
	comp=Z,0.4nm,0.2s						
MBDF	**Montbardon**	**7.09**	**294**	*e*Pn	**Pn**	**04 21 51.2**	**+0.6**
MBDF				*e*Sn	**Sn**	**04 23 06.9**	**-3.2**
	comp=Z,0.6nm,0.2s						
MBDF	**Montbardon**	**7.09**	**294**	*e*Pn	**Pn**	**04 21 51.2**	**+0.6**
MBDF				*e*Sn	**Sn**	**04 23 06.9**	**-3.2**
	comp=Z,0.3nm,0.2s						
KHC	**Kasperske Hory**	**7.10**	**348**	*e*PN	Pn	04 21 53.9	+3.3
KHC				*ex*	x	04 22 02.0	
KHC				*e*SN	**Sn**	**04 23 11.2**	**+1.0**
KHC				*ex*	x	04 23 31.5	
KHC				*e*SG	Sb	04 24 04.5	+29
KHC	**Kasperske Hory**	**7.10**	**348**	Pn	Pn	04 21 53.9	+3.3
KHC				Sn	**Sn**	**04 23 11.2**	**+1.0**
VRAC	**Vranov**	**7.11**	**4**	Pn	Pn	04 21 54.2	+3.4
	comp=Z,0.1nm,0.3s,baz=217,slow=10,SNR=1.8						
LPG	**La Plagne**	**7.37**	**300**	*e*Pn	**Pn**	**04 21 54.7**	**+0.1**
LPG				*e*Sn	**Sn**	**04 23 13.8**	**-3.4**
	comp=Z,9.0nm,0.5s						
LPG	**La Plagne**	**7.37**	**300**	*e*Pn	**Pn**	**04 21 54.7**	**+0.1**
LPL	**La Plagne**	**7.39**	**300**	*e*Pn	**Pn**	**04 21 55.5**	**+0.7**
LPL				*e*Sn	**Sn**	**04 23 14.1**	**-3.5**
	comp=Z,14nm,0.5s						
LPL	**La Plagne**	**7.39**	**300**	*e*Pn	**Pn**	**04 21 55.5**	**+0.7**
SMRF	**Simiane la Rot**	**7.75**	**287**	*e*Pn	**Pn**	**04 22 00.0**	**+0.5**
SMRF				*e*Sn	**Sn**	**04 23 22.7**	**-3.4**
	comp=Z,1.8nm,0.5s						
SMRF	**Simiane la Rot**	**7.75**	**287**	*e*Pn	**Pn**	**04 22 00.0**	**+0.5**
SMRF				*e*Sn	**Sn**	**04 23 22.7**	**-3.4**
	comp=Z,0.9nm,0.5s						
ORIF	**Oris-en-Rattie**	**7.75**	**294**	*e*Pn	**Pn**	**04 22 00.1**	**+0.5**
ORIF				*e*Sn	**Sn**	**04 23 22.7**	**-3.6**
	comp=Z,2.0nm,0.4s						
ORIF	**Oris-en-Rattie**	**7.75**	**294**	*e*Pn	**Pn**	**04 22 00.1**	**+0.5**
CABF	**La Chapelle**	**8.27**	**305**	*e*Pn	**Pn**	**04 22 07.9**	**+1.1**
CABF				*e*Sn	**Sn**	**04 23 35.0**	**-4.1**
	comp=Z,4.5nm,0.6s						
CABF	**La Chapelle**	**8.27**	**305**	*e*Pn	**Pn**	**04 22 07.9**	**+1.1**
HINF	**Hinteralfeld**	**8.50**	**314**	*e*Pn	**Pn**	**04 22 11.0**	**+1.2**
HINF				*e*Sn	**Sn**	**04 23 40.5**	**-4.1**
	comp=Z,3.5nm,0.2s						
HINF	**Hinteralfeld**	**8.50**	**314**	*e*Pn	**Pn**	**04 22 11.0**	**+1.2**
VIVF	**Saint-Julien-l**	**8.56**	**292**	*e*Pn	**Pn**	**04 22 10.9**	**+0.2**
VIVF				*e*Sn	**Sn**	**04 23 42.0**	**-4.1**
	comp=Z,0.9nm,0.5s						
VIVF	**Saint-Julien-l**	**8.56**	**292**	*e*Pn	**Pn**	**04 22 10.9**	**+0.2**
CDF	**Champ du Feu**	**8.67**	**319**	*e*Pn	**Pn**	**04 22 12.6**	**+0.5**
CDF				*e*Sn	**Sn**	**04 23 44.4**	**-4.3**
	comp=Z,1.7nm,0.3s						
CDF	**Champ du Feu**	**8.67**	**319**	*e*Pn	**Pn**	**04 22 12.6**	**+0.5**
HAU	**Haudompre**	**8.88**	**314**	*e*Pn	**Pn**	**04 22 15.7**	**+0.6**
HAU				*e*Sn	Sn	04 23 49.5	-4.5
	comp=Z,13nm,0.4s						
HAU	**Haudompre**	**8.88**	**314**	*e*Pn	**Pn**	**04 22 15.7**	**+0.6**
PAGF	**Fort de Pagny**	**9.55**	**315**	*e*Pn	**Pn**	**04 22 24.4**	**+0.3**
PAGF				*e*Sn	Sn	04 24 05.3	-5.0
	comp=Z,0.6nm,0.5s						
PAGF	**Fort de Pagny**	**9.55**	**315**	*e*Pn	**Pn**	**04 22 24.4**	**+0.3**
SMF	**Signal de Mont**	**9.69**	**301**	*e*Pn	**Pn**	**04 22 26.4**	**+0.4**
SMF				*e*Sn	Sn	04 24 08.4	-5.2
	comp=Z,3.4nm,0.4s						
SMF	**Signal de Mont**	**9.69**	**301**	*e*Pn	**Pn**	**04 22 26.4**	**+0.4**
SFTF	**Sexfontaines**	**9.71**	**312**	*e*Pn	**Pn**	**04 22 26.7**	**+0.3**
SFTF				*e*Sn	Sn	04 24 09.2	-5.1
	comp=Z,2.6nm,0.4s						
SFTF	**Sexfontaines**	**9.71**	**312**	*e*Pn	**Pn**	**04 22 26.7**	**+0.3**
MEZF	**Maizieres J'vi**	**9.88**	**313**	*e*Pn	**Pn**	**04 22 28.9**	**+0.3**
MEZF				*e*Sn	Sn	04 24 13.3	-5.0
	comp=Z,2.9nm,0.5s						
MEZF	**Maizieres J'vi**	**9.88**	**313**	*e*Pn	**Pn**	**04 22 28.9**	**+0.3**
LOR	**Lormes**	**9.93**	**305**	*e*Pn	**Pn**	**04 22 29.7**	**+0.3**
LOR				*e*Sn	Sn	04 24 13.5	-6.2
	comp=Z,4.4nm,0.5s						
LOR	**Lormes**	**9.93**	**305**	*e*Pn	**Pn**	**04 22 29.7**	**+0.3**
AVF	**Avril sur Loir**	**10.05**	**301**	*e*Pn	**Pn**	**04 22 31.1**	**+0.1**
AVF				*e*Sn	Sn	04 24 17.3	-5.3
	comp=Z,3.5nm,0.8s						
AVF	**Avril sur Loir**	**10.05**	**301**	*e*Pn	**Pn**	**04 22 31.1**	**+0.1**
SSF	**Saint Saulge**	**10.06**	**303**	*e*Pn	**Pn**	**04 22 31.4**	**+0.2**
SSF				*e*Sn	Sn	04 24 16.7	-6.2
	comp=Z,6.3nm,0.7s						
SSF	**Saint Saulge**	**10.06**	**303**	*e*Pn	**Pn**	**04 22 31.4**	**+0.2**
BGF	**Bois d'Agland**	**10.29**	**299**	*e*Pn	**Pn**	**04 22 34.5**	**+0.2**
BGF				*e*Sn	Sn	04 24 23.2	-5.3
	comp=Z,5.6nm,0.6s						
BGF	**Bois d'Agland**	**10.29**	**299**	*e*Pn	**Pn**	**04 22 34.5**	**+0.2**
TCF	**Toulx Ste Croi**	**10.62**	**297**	*e*Pn	**Pn**	**04 22 39.0**	**+0.2**
TCF				*e*Sn	Sn	04 24 31.0	-5.6
	comp=Z,0.7nm,0.3s						
TCF	**Toulx Ste Croi**	**10.62**	**297**	*e*Pn	**Pn**	**04 22 39.0**	**+0.2**
NOA	**NORSAR Array B**	**19.07**	**353**	LR	LR	04 31 06.3	
	comp=Z,51nm,18.6s,baz=345,slow=35						
FINES	**FINESS Array B**	**20.21**	**14**	P	Pn	04 24 44.0	+1.0
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**46.32**	**61**	P	P	04 28 42.5	+11
	comp=Z,0.5nm,0.7s,baz=284,slow=6.4,SNR=5.2						
OPO	**Ambohidratompo**	**67.03**	**148**	LR	LR	05 01 05.3	
	comp=Z,112nm,20.8s,baz=248,slow=36						

MAN 14 04:29:27, 12.99N×122.62E, h22km, mb4.2, ML3.0, MS2.7, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.33**	**9**	*e*P	Pb	04 29 34.9	+0.6
AUQP				*e*S	Sn	04 29 41.5	-1.2
OTRP	**Odiongan**	**0.86**	**223**	*e*P	Pn	04 29 43.8	0.0
GQP	**Guinayangan**	**0.92**	**350**	⇓*e*P	Pb	04 29 44.3	0.0
GQP				*e*S	Sn	04 29 58.0	+0.7
RCP	**Roxas**	**1.43**	**175**	⇓*e*P	Pn	04 29 50.8	-0.9
SJMP	**San Jose**	**1.56**	**250**	*e*P	Pb	04 29 57.3	+2.2
PVCP	**Virac**	**1.61**	**68**	*e*P	Pn	04 29 55.1	+0.9

ISCJB **14** *04:31:46.0±0.6, 29.62N±0.04×139.04E±0.09, h414km, mb3.0/6, Error ellipse: s-maj=11.1km s-min=5.0km az=164.1*
IDC **14** *04:31:46.4±1.0, 29.57N×139.18E, h417km±16km, mb2.8/6, mb1 3.1/9, mb1mx2.9/28, mbtmp3.6/9, Error ellipse: s-maj=26.7km s-min=19.0km az=3.0*
JMA **14** *04:31:46.4±0.3, 29.67N×139.37E, h436km, M3.2*
ISC 14 04:31:46.9±0.9, **29.70N**±0.08×**139.1E**±0.1, **h414km, n21,** σ1§**68**/29, **mb3.2**/6, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.73**	**133**	P	**P**	**04 32 57.4**	**0.0**
CBIJ				*e*S	**S**	**04 33 53.1**	**-1.6**
JCJ	**Chichijima**	**3.73**	**133**	P	**P**	**04 32 57.7**	**+0.3**
	13nm,0.3s,baz=7.9,slow=15,SNR=7.8						
JCJ				S	**S**	**04 33 52.4**	**-2.3**
	53nm,0.3s,baz=253,slow=21,SNR=16						
JHHJ	**Haha-jima-NKT**	**4.07**	**138**	S	**S**	**04 33 58.1**	**-2.2**
BSO1	**Boso 1**	**5.18**	**17**	P	**P**	**04 33 12.5**	**+1.9**
BSO1				*e*S	**S**	**04 34 20.7**	**+1.5**
BSO3	**Boso 3**	**5.22**	**13**	P	**P**	**04 33 13.9**	**+2.6**
BSO3				S	**S**	**04 34 21.1**	**+0.7**
BSO2	**Boso 2**	**5.22**	**15**	S	**S**	**04 34 21.5**	**+1.1**
JHMK	**Hamakita**	**5.24**	**348**	P	**P**	**04 33 13.2**	**+1.6**
HMMJ	**Hamamatsu 2**	**5.28**	**347**	P	**P**	**04 33 13.7**	**+1.5**
BSO4	**Boso 4**	**5.38**	**11**	S	**S**	**04 34 24.0**	**+0.4**
JHU	**Hanno**	**6.14**	**1**	P	**P**	**04 33 22.4**	**+1.2**
JHU				*e*S	**S**	**04 34 35.6**	**-2.9**
JRY	**Ryogami san**	**6.31**	**358**	P	**P**	**04 33 24.9**	**+1.9**
JRY				*e*S	**S**	**04 34 41.2**	**-0.7**
JAG	**Ashikaga**	**6.72**	**2**	P	**P**	**04 33 27.9**	**-0.1**
JAG				*e*S	**S**	**04 34 46.3**	**-3.7**
MJAR	**Matsushiro Arr**	**6.87**	**354**	P	**P**	**04 33 30.0**	**+0.3**
	0.2nm,0.3s,baz=170,slow=11,SNR=4.2						
JHO	**Hitachi**	**7.00**	**10**	P	**P**	**04 33 32.5**	**+1.4**
JHO				*e*S	**S**	**04 34 53.7**	**-2.0**
KSRS	**Korea Array**	**12.13**	**313**	P	**P**	**04 34 29.8**	**+2.2**
	0.1nm,0.3s,baz=129,slow=10,SNR=4.5						
CMAR	**Chiang Mai Arr**	**38.19**	**262**	P	**P**	**04 38 28.4**	**-0.9**
	0.7nm,0.3s,baz=49,slow=9.7,SNR=4.4						
MKAR	**Makanchi Array**	**46.76**	**308**	P	**P**	**04 39 36.8**	**-0.1**
	0.1nm,0.4s,baz=96,slow=8.6,SNR=4.4						
ILAR	**Eielson Array**	**56.75**	**30**	P	**P**	**04 40 48.5**	**-0.8**
	0.1nm,0.6s,baz=268,slow=5.1,SNR=5.0						
INK	**Inuvik**	**61.80**	**25**	P	**P**	**04 41 22.9**	**-0.3**
	0.3nm,0.3s,baz=294,slow=4.6,SNR=4.5						
YKA	**Yellowknife Ar**	**71.13**	**28**	P	**P**	**04 42 21.5**	**-0.2**
	0.2nm,0.4s,baz=294,slow=6.0,SNR=6.3						
NVAR	**Mina Array Bea**	**81.00**	**51**	P	**P**	**04 43 17.8**	**+0.4**
	0.5nm,0.8s,baz=266,slow=6.9,SNR=3.7						

IDC **14** *04:34:25.3±0.7, 2.31S×139.69E, h0km, mb4.3/11, mb1 4.5/14, mb1mx4.4/20, mbtmp4.3/14, ML4.5/2, MS3.8/11, Ms1 3.8/11, ms1mx3.5/25, Error ellipse: s-maj=25.4km s-min=14.2km az=80.0*
BJI **14** *04:34:26.6, 3.46S×139.86E, h55km, mB5.1/8, mb4.5/34, Ms5.0/16, Ms7 4.7/10*
ISCJB **14** *04:34:28.7±0.2, 2.48S±0.03×139.69E±0.03, h27km, mb4.4/46, MS3.8/10, Error ellipse: s-maj=4.1km s-min=3.9km az=44.2*
MOS **14** *04:34:29.4±1.1, 2.43S×139.63E, h36km, mb4.6/20, Error ellipse: s-maj=13.5km s-min=7.3km az=106.7*
DJA **14** *04:34:30.1±0.5, 2°S±6°×14°0E±°, h17km±4km, M5.0/19, mB5.2/5, mb4.8/19, MLv5.2/7, Mw(mB)4.5/5*
NEIC **14** *04:34:32.6±1.1, 2.42S×139.77E, h53km±10km, mb4.7/21, Error ellipse: s-maj=9.1km s-min=6.2km az=225.0*
NEIC Felt [III] at Genyem and [II] at Jayapura and Sentani.
ISC 14 04:34:30.2±0.3, **2.52S**±0.04×**139.74E**±0.03, **h27km, n153,** σ1§**86**/156, **mb4.5**/45, **MS3.9**/11, **3C, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.43**	**99**	P	**Pn**	**04 34 40.2**	**-0.4**
GENI				S	**Sn**	**04 34 49.4**	**+1.8**
JAY	**Jayapura**	**0.96**	**90**	P	**Pn**	**04 34 46.5**	**-1.5**
JAY	**Jayapura**	**0.96**	**90**	P	**Pn**	**04 34 46.3**	**-1.7**
	baz=1.0,SNR=62						
JAY				S	**Sb**	**04 34 59.7**	**-1.0**
	baz=1.0,SNR=14						
SMPI	**Sarmi**	**1.16**	**297**	P	**Pn**	**04 34 50.0**	**-0.7**
WAMI	**Wamena**	**1.70**	**217**	P	Pb	04 35 06.1	+5.3
SRPI	**Serui, Papua**	**3.56**	**280**	P	**Pn**	**04 35 24.4**	**+0.7**
BAKI	**Biak**	**3.87**	**290**	P	**Pn**	**04 35 26.4**	**-1.6**
FAKI	**Fak Fak**	**7.50**	**267**	P	**Pn**	**04 36 18.8**	**+1.0**
	72nm,0.6s,0.3nm						
FAKI	**Fak Fak**	**7.50**	**267**	*e*Pn	**Pn**	**04 36 19.0**	**+1.1**
FAKI				*e*Sn	**Sn**	**04 37 40.9**	**-1.2**
FAKI	**Fak Fak**	**7.50**	**267**	P	**Pn**	**04 36 18.9**	**+1.0**
	baz=7.5,SNR=14						
SWI	**Sorong**	**8.64**	**281**	P	Pn	04 36 37.1	+3.6
	65nm,0.6s						
SWI				S	x	04 36 48.8	
	65nm,0.6s						
PMG	**Port Moresby**	**10.06**	**133**	⇑*i*P	Pn	04 36 57.6	+4.6
PMG				pmax	pmax		
	comp=Z,56nm,1.4s						
PMG	**Port Moresby**	**10.06**	**133**	Pn	**Pn**	**04 36 54.9**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=322,slow=10,SNR=7.2						
PMG				LR	LR	04 42 11.1	
	comp=Z,1μm,19.1s,baz=338,slow=46						
PMG	**Port Moresby**	**10.06**	**133**	*e*Pn	**Pn**	**04 36 55.1**	**+2.1**
PMG	**Port Moresby**	**10.06**	**133**	P	Pn	04 36 58.1	+5.1
	baz=10,SNR=6.9						
MSAI	**Masohi**	**10.83**	**265**	P	**Pn**	**04 37 06.0**	**+2.4**
	comp=Z,16nm,0.9s,comp=Z,309nm						
COEN	**Coen**	**11.86**	**164**	*e*Pn	Pn	04 37 21.2	+3.5
COEN	**Coen**	**11.86**	**164**	P	Pn	04 37 21.5	+3.9
	baz=12,SNR=24						
KDU	**Kakadu**	**12.40**	**215**	P	**Pn**	**04 37 26.4**	**+1.2**
	baz=12,SNR=28						
MTN	**Manton Dam**	**13.33**	**219**	P	**Pn**	**04 37 38.6**	**+0.7**
	baz=13,SNR=44						
MTN				S	**Sn**	**04 40 05.4**	**+0.1**
	baz=13,SNR=4.5						
SANI	**Sanana**	**13.75**	**272**	P	**Pn**	**04 37 42.1**	**-1.5**
	comp=Z,31nm,0.7s						
MTSU	**Mount Surprise**	**16.15**	**164**	P	**P**	**04 38 19.2**	**+0.7**
	baz=16,SNR=26						
MTSU				S	Sn	04 41 05.3	-8.7
	baz=16,SNR=3.8						
KNRA	**Kununurra**	**16.97**	**219**	P	**P**	**04 38 27.7**	**+0.2**
	baz=17,SNR=44						
KNRA				S	**Sn**	**04 41 31.6**	**-2.2**
	baz=17,SNR=4.7						
SOEI	**Soe**	**16.97**	**244**	P	**P**	**04 38 28.6**	**+0.8**
	comp=Z,173nm,1.0s,comp=Z,1μm						
SOEI	**Soe**	**16.97**	**244**	*e*Pn	**P**	**04 38 29.5**	**+1.7**
	comp=Z,189nm,1.1s						

SOEI Soe 16.97 244 P P 04 38 30.0 +2.2
baz=17,SNR=14
GTOI Gorontalo 17.02 280 P Pn 04 38 26.5 0.0
comp=Z,120nm,0.8s,comp=Z,1μm
QIS Mount Isa 17.93 180 P P 04 38 39.0 +0.8
baz=18,SNR=17
MRSI Marisa 18.05 279 P Pn 04 38 38.4 -0.8
comp=Z,36nm,1.1s,comp=Z,1μm
WRAB Tennant Creek 18.09 197 eP Pn 04 38 39.8 0.0
WRAB e 04 41 55.3
WRAB pmax pmax
comp=Z,33nm,0.8s
WRAB Tennant Creek 18.09 197 ePn Pn 04 38 39.8 0.0
comp=Z,32nm,0.8s
WRAB eSn Sn 04 41 55.3 -5.7
WRA Warramunga Arr 18.10 197 P Pn 04 38 39.3 -0.6
WRA S Sn 04 41 55.4 -5.9
WRA pmax pmax
comp=Z,2.0nm,0.3s
WRA smax smax
comp=N,1.0nm,0.3s
WRA MLR MLR
comp=Z,240nm,18.1s
WRA Warramunga Arr 18.10 197 P Pn 04 38 39.3 -0.6
comp=Z,2.3nm,0.3s,baz=20,slow=12,SNR=22
WRA S Sn 04 41 55.4 -5.9
comp=Z,0.8nm,0.3s,baz=12,slow=23,SNR=6.4
WRA LR LR 04 46 38.6
comp=Z,240nm,18.1s,baz=20,slow=40
APSI Ampana 18.16 275 P P 04 38 42.2 +1.5
comp=Z,103nm,1.1s,comp=Z,960nm
CTA Charters Tower 18.58 160 P Pn 04 38 47.9 +2.1
CTA pmax pmax
comp=Z,1.0nm,0.3s
CTA MLR MLR
comp=Z,16nm,28.6s
CTA Charters Tower 18.58 160 P Pn 04 38 47.9 +2.1
comp=Z,0.5nm,0.3s,baz=336,slow=13,SNR=8.9
CTA LR LR 04 46 46.9
comp=Z,864nm,21.9s,baz=341,slow=40
CTAO Charters Tower 18.58 160 eP Pn 04 38 47.3 +1.5
CTAO pmax pmax
comp=Z,13nm,0.9s
CTAO Charters Tower 18.58 160 eP Pn 04 38 47.3 +1.5
comp=Z,14nm,0.9s
BKSI Bulukumba 19.77 261 P Pn 04 38 59.7 -0.4
comp=Z,13nm,0.8s
TTSI Tana Toraja 19.91 268 P Pn 04 39 04.6 +2.9
comp=Z,32nm,1.6s
SPSI Sidrap Palu 19.99 265 P P 04 39 01.4 +0.5
comp=Z,29nm,0.9s
KAPI Kappang 20.10 262 eP Pn 04 39 03.5 -0.4
comp=Z,73nm,1.1s
HNR Honiara 21.22 110 eP P 04 39 14.2 0.0
HNR pmax pmax
comp=Z,167nm,0.8s
HNR Honiara 21.22 110 eP P 04 39 14.2 0.0
comp=Z,167nm,0.8s
ASAR Alice Springs 21.77 195 P P 04 39 21.0 +1.0
ASAR S S 04 43 14.9 -4.7
ASAR pmax pmax
comp=Z,14nm,0.7s
ASAR smax smax
comp=N,1.0nm,0.8s
ASAR MLR MLR
comp=Z,173nm,19.6s
ASAR Alice Springs 21.77 195 P P 04 39 21.0 +1.0
comp=Z,14nm,0.7s,baz=27,slow=9.7,SNR=130
ASAR S S 04 43 14.9 -4.7
comp=Z,1.1nm,0.8s,baz=22,slow=20,SNR=3.5
ASAR LR LR 04 48 33.1
comp=Z,173nm,19.6s,baz=12,slow=39
MYLDM Lahad Datu 22.56 290 eP P 04 39 29.9 +1.3
comp=Z,55nm,1.0s
QLP Quilpie 24.31 170 P P 04 39 47.2 +1.6
baz=24,SNR=6.8
QLP S S 04 44 07.0 +3.8
baz=24,SNR=5.1
WRKA Warakurna 24.96 205 P P 04 39 51.8 +0.2
baz=25,SNR=57
KKM Kota Kinabalu 24.99 290 eP P 04 39 50.9 -1.2
comp=Z,26nm,1.0s
EIDS Eidsvold 25.20 155 eP P 04 39 55.3 +1.5
comp=Z,36nm,0.6s
EIDS Eidsvold 25.20 155 P P 04 39 58.8 +5.0
baz=25,SNR=14
RMQ Roma 25.35 161 P P 04 39 57.7 +2.6
baz=26,SNR=15
MBWA Marble Bar 26.89 225 eP P 04 40 09.8 +0.7
comp=Z,14nm,0.9s
STKA Stephens Creek 29.25 177 P P 04 40 30.8 +0.7
STKA pmax pmax
comp=Z,3.0nm,0.7s
STKA MLR MLR
comp=Z,424nm,18.3s
STKA Stephens Creek 29.25 177 P P 04 40 30.8 +0.7
comp=Z,2.6nm,0.7s,baz=356,slow=10,SNR=7.9
STKA LR LR 04 54 59.2
comp=Z,424nm,18.3s,baz=351,slow=42
STKA Stephens Creek 29.25 177 P P 04 40 31.1 +1.0
baz=30,SNR=6.6
JCJ Chichijima 29.54 4 LR LR 04 49 58.2
comp=Z,74nm,18.4s,baz=156,slow=32
FORT Forrest 30.20 200 eP P 04 40 39.2 +0.7
comp=Z,14nm,0.6s
BBOO Buckleboo 30.33 186 eP P 04 40 39.9 +0.3
BBOO Buckleboo 30.33 186 P P 04 40 40.4 +0.8
baz=30,SNR=11
HTT Hallett 30.76 181 P P 04 40 46.4 +3.0
baz=31,SNR=5.7
MEEK Meekatharra 31.40 218 P P 04 40 50.0 +0.8
baz=32,SNR=8.2
H11S3 WAKE ISLAND Hy 33.76 51 T T 05 16 20.7
baz=232,slow=74,SNR=40
H11S2 WAKE ISLAND Hy 33.77 51 T T 05 16 21.4
baz=232,slow=74,SNR=24
H11S1 WAKE ISLAND Hy 33.78 51 T T 05 16 22.4
baz=232,slow=74,SNR=24
H11N1 WAKE ISLAND Hy 34.63 49 T T 05 17 38.0
baz=235,slow=75,SNR=23
H11N2 WAKE ISLAND Hy 34.64 49 T T 05 17 43.8
baz=235,slow=75,SNR=29
H11N3 WAKE ISLAND Hy 34.65 49 T T 05 17 37.0
baz=235,slow=75,SNR=18
MORW Morawa 34.72 218 P P 04 41 18.8 +0.7
baz=35,SNR=6.6
KLBR Kellerberrin 35.58 213 P P 04 41 25.8 +0.2
baz=36,SNR=5.8
QIZ Qiongzhong 36.38 307 P P 04 41 32.8 +0.3
QIZ pP pP 04 41 45.6 +5.1
QIZ sP sP 04 41 51.6 +7.8
QIZ S S 04 47 11.1 -1.3
QIZ pmax pmax
comp=Z,25nm,2.0s
NWAO Narrogin (SRO) 36.88 212 P P 04 41 36.8 +0.1
NWAO pmax pmax
comp=Z,6.0nm,0.8s
NWAO Narrogin (SRO) 36.88 212 P P 04 41 36.8 +0.1
comp=Z,5.9nm,0.8s,baz=24,slow=1.8,SNR=4.2
MJAR Matsushiro Arr 38.89 358 P P 04 41 50.2 -3.3
comp=Z,0.7nm,0.6s,baz=182,slow=11,SNR=3.9
MJAR LR LR 04 55 38.6
comp=Z,87nm,21.4s,baz=220,slow=33
IPM Ipoh 39.31 280 eP P 04 41 57.5 +0.1
comp=Z,14nm,1.0s
NJ2 Nanjing 39.69 332 eP P 04 42 00.0 -0.2
NJ2 pmax pmax
comp=Z,10.0nm,1.2s
KULM Kulim 39.81 281 eP P 04 42 01.8 +0.2
comp=Z,20nm,1.3s
PSI Prapat 41.15 277 P P 04 42 10.3 -2.5
PSI pmax pmax
comp=Z,8.0nm,0.8s
PSI Prapat 41.15 277 P P 04 42 10.3 -2.5
comp=Z,8.4nm,0.8s,baz=105,slow=9.1,SNR=6.8
KSAR Wonju Array Be 41.26 346 P P 04 42 11.1 -2.0
KSAR Wonju Array Be 41.26 346 P P 04 42 11.1 -2.0
KSRS Korea Array 41.26 346 P P 04 42 11.1 -2.0
comp=Z,0.5nm,0.8s,baz=156,slow=8.9,SNR=2.9
KSRS LR LR 04 56 21.9
comp=Z,92nm,21.4s,baz=167,slow=32
GYA Guiyang 43.02 314 eP P 04 42 28.8 +0.9
GYA pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 45.24 299 P P 04 42 44.1 -1.6
CMAR pmax pmax
comp=Z,1.0nm,0.5s
CMAR MLR MLR
comp=Z,30nm,19.1s
CMAR Chiang Mai Arr 45.24 299 P P 04 42 44.1 -1.6
comp=Z,1.4nm,0.5s,baz=119,slow=5.6,SNR=6.0
CMAR LR LR 05 03 03.2
comp=Z,30nm,19.1s,baz=151,slow=38
XAN Xi'an 46.52 324 P P 04 43 05.4 +10
XAN pP pP 04 43 16.3 +12
XAN sP sP 04 43 21.6 +15
XAN pmax pmax
comp=Z,1.0nm,0.8s
XAN pmax pmax
comp=Z,30nm,6.2s
BJI Beijing 47.55 335 P P 04 43 04.5 +1.1
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI LR LR
comp=Z,270nm,15.6s
BJI LR LR
comp=Z,120nm,23.8s
CD2 Chengdu 47.74 317 P P 04 43 07.0 +1.8
CD2 pP pP 04 43 21.6 +8.2
CD2 sP sP 04 43 28.3 +12
CD2 PP PP 04 44 58.8 +1.6
CD2 S S 04 49 58.8 -1.3
CD2 sS sS 04 50 23.9 +10
CD2 SS SS 04 53 22.3 -6.6
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 LR LR
comp=Z,240nm,7.1s
CD2 LR LR
comp=Z,270nm,7.7s
MDJ Mudanjiang 47.80 350 P P 04 43 06.4 +1.1
MDJ pmax pmax
comp=Z,5.0nm,2.0s
MDJ pmax pmax
comp=Z,89nm,5.3s
CN2 Changchun 47.87 346 eP P 04 43 10.4 +4.6
URZ Urewera 49.31 141 LR LR 05 02 01.3
comp=Z,152nm,21.1s,baz=350,slow=34
HHC Hu-ho-hao-te 50.24 332 eP P 04 43 25.1 +0.9
HHC pP pP 04 43 43.6 +11
HHC PP PP 04 45 24.5 +4.7
HHC S S 04 50 34.3 -0.7
HHC sS sS 04 51 01.6 +13
HHC pmax pmax
comp=Z,17nm,1.0s
HHC LR LR
comp=Z,330nm,15.9s
HHC LR LR
comp=Z,760nm,15.5s
HHC LR LR
comp=Z,260nm,15.3s
LZH Lanzhou 50.96 322 eP P 04 43 37.1 +7.3
LZH pP pP 04 43 53.0 +15
LZH sP sP 04 43 59.4 +18
LZH pmax pmax
comp=Z,13nm,1.2s
KLR Kul'dur 52.01 353 eP P 04 43 41.4 +4.2
GTA Gaotai 55.54 323 eP P 04 44 04.6 +1.2
GTA pP pP 04 44 20.8 +9.0
GTA sP sP 04 44 28.3 +13
GTA pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 57.73 335 eP P 04 44 19.5 +0.6
ULN pmax pmax
comp=Z,2.0nm,0.7s
ULN Ulaanbaatar 57.73 335 eP P 04 44 19.5 +0.6
comp=Z,2.1nm,0.7s
SONM Songino Array 58.00 334 P P 04 44 18.9 -1.8
SONM MLR MLR
comp=Z,16nm,28.6s
SONM Songino Array 58.00 334 P P 04 44 18.9 -1.8
comp=Z,0.2nm,0.5s,baz=131,slow=6.6,SNR=2.8
SONM LR LR 05 09 02.4
comp=Z,86nm,20.0s,baz=163,slow=36
PALK Pallekele 59.71 280 eP P 04 44 33.4 +0.3
PALK Pallekele 59.71 280 eP P 04 44 33.4 +0.3
ZAK Zakamensk 61.26 334 eP P 04 44 42.1 -1.0
ZAK pmax pmax
comp=Z,3.0nm,1.1s
TLY Talaya 62.07 335 eP P 04 44 48.0 -0.5
TLY pmax pmax
comp=Z,2.0nm,0.9s
YAK Yakutsk 64.84 355 eP P 04 45 06.5 0.0
YAK pmax pmax
comp=Z,5.0nm,1.0s
WMQ Urumqi 65.51 321 P P 04 45 11.8 +0.5
WMQ pP pP 04 45 28.1 +8.3
WMQ sP sP 04 45 35.1 +12
WMQ PcP PcP 04 45 43.5 +0.5
WMQ PP PP 04 47 38.6 +2.8
WMQ PcS 04 49 45.9
WMQ S S 04 53 50.5 -4.3
WMQ sS sS 04 54 18.3 +10
WMQ pmax pmax
comp=Z,8.0nm,1.2s
WMQ pmax pmax
comp=Z,210nm,5.2s
WMQ LR LR
comp=Z,54nm,21.2s
WMQ LR LR
comp=Z,62nm,19.8s
MKAR Makanchi Array 70.27 322 P P 04 45 40.3 -0.9
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 70.27 322 P P 04 45 40.3 -0.9
comp=Z,2.7nm,0.8s,baz=107,slow=5.9,SNR=21
KSH Kashi 71.71 313 eP P 04 45 52.3 +2.1
KSH esP sP 04 46 15.8 +14
KSH ePP PP 04 48 33.6 +3.9
KSH S S 04 55 06.1 -2.7
KSH SKS SKSac 04 55 44.4 -8.0
KSH SS SS 04 59 45.9 +0.9
KSH pmax pmax
comp=Z,4.0nm,1.1s
KSH LR LR
comp=Z,37nm,4.4s
KSH LR LR
comp=Z,45nm,3.8s
KSH LR LR
comp=Z,170nm,5.7s
ZALV Zalesovo Beam 72.30 329 P P 04 45 51.8 -1.4
comp=Z,0.4nm,0.4s,baz=116,slow=6.6,SNR=2.9
BILL Bilibino 72.80 10 iP P 04 45 55.2 -0.8
BILL pmax pmax
comp=Z,1.0nm,1.1s
TKM2 Tokmak 2 73.12 316 eP P 04 45 57.7 -1.0
TKM2 pmax pmax
comp=Z,13nm,1.3s
TKM2 Tokmak 2 73.12 316 eP P 04 45 57.7 -1.0
comp=Z,13nm,1.3s
NVS Novosibirsk 73.55 330 eP P 04 46 04.5 +3.9
AAK Ala-Archa 73.79 316 eP P 04 46 01.8 -0.8
AAK pmax pmax
comp=Z,6.0nm,1.1s
AAK Ala-Archa 73.79 316 eP P 04 46 01.7 -0.8
comp=Z,4.2nm,1.0s
KURK Kurchatov 74.16 325 eP P 04 46 03.6 -0.7
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 74.16 325 eP P 04 46 03.6 -0.7
comp=Z,1.8nm,0.8s
EKS2 Erkin-Say 74.30 316 eP P 04 46 05.6 +0.1
EKS2 pmax pmax
comp=Z,9.0nm,1.1s
EKS2 Erkin-Say 74.30 316 eP P 04 46 05.6 +0.1
comp=Z,8.7nm,1.1s
TIXI Tiksi 74.38 356 eP P 04 46 06.6 +1.5
TIXI pmax pmax
comp=Z,1.0nm,0.7s
BRVK Borovoye 79.82 325 eP P 04 46 35.8 -0.3
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 79.82 325 eP P 04 46 35.8 -0.3
comp=Z,6.1nm,0.8s
MCK McKinley 84.08 25 eP P 04 46 58.0 -0.3
MCK pmax pmax
comp=Z,12nm,1.2s
MCK McKinley 84.08 25 eP P 04 46 58.0 -0.3
comp=Z,12nm,1.2s
COLA College 84.87 24 eP P 04 47 01.6 -0.7
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 84.87 24 eP P 04 47 01.6 -0.7
comp=Z,4.7nm,0.8s
ILAR Eielson Array 85.24 24 P P 04 47 01.0 -3.2
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 85.24 24 P P 04 47 00.9 -3.2
comp=Z,1.9nm,0.8s,baz=265,slow=4.3,SNR=22
ABKAR Akbulak array 85.25 320 eP P 04 47 03.3 -1.2
ARU Arti 87.21 327 c iP P 04 47 14.9 +0.9
ARU 04 50 37.0
ARU S SKSac 04 57 39.7 +0.1
ARU SS SS 05 03 38.2 +2.1
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARU Arti 87.21 327 eP P 04 47 12.8 -1.2
comp=Z,4.7nm,0.8s
YKA Yellowknife Ar 99.43 27 P Pdif 04 48 09.5 -0.7
comp=Z,0.1nm,0.3s,baz=291,slow=5.1,SNR=3.8
CLL Collm 114.15 327 ePKIKP PKPdf 04 53 04.0 -3.2
CLL Collm 114.15 327 e(PKiKP) PKPdf 04 53 04.0 -3.2
CLL ePP PP 04 53 56.0 -5.8
JCT Junction City 117.34 57 ePKIKP PKPdf 04 53 12.8 -1.2
JCT Junction City 117.34 57 ePKPdf PKPdf 04 53 12.8 -1.2
JTS JuntasAbangare 134.96 78 ePKIKP PKPdf 04 53 47.6 -0.4
JTS JuntasAbangare 134.96 78 ePKPdf PKPdf 04 53 47.6 -0.4
LCO Las Campanas 137.17 139 ePKPdf PKPdf 04 53 52.0 -0.1
TORD Torodi Ar. Bea 137.19 287 PKP PKPdf 04 53 52.0 -0.1
comp=Z,0.5nm,0.8s,baz=79,slow=2.8,SNR=3.8
KIC Kosan Boka 144.40 277 ePKIKP PKPab 04 54 02.5 -0.8
comp=Z,27nm,1.0s
DBIC Dimbokro 144.48 278 PKIKP PKPab 04 54 02.5 -1.1
DBIC pmax pmax
comp=Z,6.0nm,0.7s
DBIC Dimbokro 144.48 278 PKP PKPab 04 54 02.5 -1.1
comp=Z,6.3nm,0.7s,baz=54,slow=2.5,SNR=9.0
TIC Toumodi 144.65 278 ePKIKP PKPab 04 54 02.3 -2.0
comp=Z,15nm,0.7s
LIC Lamto 144.69 277 ePKIKP PKPab 04 54 02.8 -1.6
comp=Z,52nm,1.0s
LPAZ La Paz 146.72 125 PKP2 PKPbc 04 54 11.3 -0.2
LPAZ pmax pmax
comp=Z,4.0nm,0.9s
LPAZ La Paz 146.72 125 PKPbc PKPbc 04 54 11.3 -0.2
comp=Z,3.9nm,0.9s,baz=323,slow=2.4,SNR=11
CPUP Villa Florida 146.91 151 PKP2 PKPbc 04 54 10.4 -0.6
CPUP pmax pmax
comp=Z,7.0nm,0.8s
CPUP Villa Florida 146.91 151 PKPbc PKPbc 04 54 10.4 -0.6
comp=Z,6.5nm,0.8s,baz=212,slow=4.1,SNR=8.9
SDV Santo Domingo 149.14 77 ePKPbc PKPbc 04 54 15.7 -1.9
SAML Samuel 154.47 117 ePKPbc PKPbc 04 54 27.7 -1.8
SAML ePKPab PKPab 04 54 42.0 -1.8
RCBR Riachuelo 170.63 208 ePKPab PKPab 04 55 52.8 -1.5

IDC 14 04:48:31.8±1.5, 21°.42S×175°.25W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/20, mbtmp4.0/10, MS3.7/6, Ms1 3.7/6, ms1mx3.4/25, Error ellipse: s-maj=64.1km s-min=21.7km az=146.0
ISCJB 14 04:48:37.7±1.2, 21°.6S±0°.3×175°.2W±0°.2, h60km, mb4.2/16, MS3.7/5, Error ellipse: s-maj=45.6km s-min=13.5km az=150.0
NEIC 14 04:48:51.3±3.8, 21°.59S×175°.43W, h159km±27km, mb4.5/7, Error ellipse: s-maj=36.7km s-min=13.9km az=141.0
ISC 14 04:48:40.0±1.0, 21°.5S±0°.3×175°.3W±0°.2, h60km, n40, σ1s01/32, mb4.4/16, MS3.8/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.29	299	ePn	Pn	04 50 35.8	+12
	74nm,1.0s						
RAR	Rarotonga	14.46	92	LR	LR	04 58 18.4	
	comp=Z,205nm,18.5s,baz=278,slow=41						
DZM	Mont Dzumac	16.98	265	eLR	LR	04 56 25.8	
	316nm,22.0s						
PAE	Paea	24.51	86	eT	T	05 18 30.3	
	5.1nm,0.3s						
PPT2	Papeete2	24.53	85	eLR	LR	04 59 30.0	
	343nm,25.8s						
PPT2	Papeete2	24.53	85	eT	T	05 18 32.8	
	6.4nm,0.4s						
PPT	Papeete	24.53	85	LR	LR	05 03 15.4	
	comp=Z,91nm,18.3s,baz=264,slow=36						
HNR	Honiara	26.65	293	LR	LR	05 04 25.8	
	comp=Z,134nm,18.4s,baz=70,slow=36						
CTAO	Charters Tower	35.92	265	eP	P	04 55 35.4	+0.5
	4.9nm,0.7s						
RKT	Rikitea	37.26	100	eLR	LR	05 05 23.5	
	316nm,27.8s						
RKT	Rikitea	37.26	100	eT	T	05 34 20.6	
	0.8nm,0.3s						
PMG	Port Moresby	38.02	282	eP	P	04 55 52.9	+0.2
	7.1nm,0.8s						
STKA	Stephens Creek	39.68	246	P	P	04 56 07.5	+1.1
	2.0nm,0.9s,baz=99,slow=9.9,SNR=3.9						
STKA				LR	LR	05 11 06.8	
	comp=Z,125nm,18.5s,baz=56,slow=34						
COEN	Coen	40.17	274	eP	P	04 56 10.3	-0.4
ASAR	Alice Springs	46.77	257	P	P	04 57 03.1	-0.6
	2.6nm,0.8s,baz=94,slow=8.0,SNR=21						
ASAR				PcP	PcP	04 58 37.1	+0.8
	0.4nm,0.6s,baz=109,slow=3.5,SNR=3.1						
ASAR				LR	LR	05 16 31.4	
	comp=Z,146nm,18.9s,baz=108,slow=36						
WRAB	Tennant Creek	46.97	262	eP	P	04 57 05.4	0.0
	8.1nm,1.1s						
WRA	Warramunga Arr	46.98	262	P	P	04 57 03.4	-2.0
	1.1nm,0.6s,baz=101,slow=8.0,SNR=15						
WRA				PcP	PcP	04 58 39.9	+2.8
	1.1nm,0.8s,baz=92,slow=3.6,SNR=3.4						
WRA				LR	LR	05 16 19.3	
	comp=Z,106nm,18.3s,baz=195,slow=36						
FORT	Forrest	51.25	247	eP	P	04 57 36.2	-1.7
	10nm,0.7s						
MJAR	Matsushiro Arr	72.50	322	P	P	05 00 01.5	+1.1
	8.9nm,1.2s,baz=158,slow=6.9,SNR=6.1						
PETK	Petropavlovsk-	77.87	344	P	P	05 00 31.0	+0.1
	2.4nm,0.8s,baz=116,slow=5.1,SNR=4.1						
NVAR	Mina Array Bea	80.01	42	P	P	05 00 42.2	-1.1
	0.4nm,0.7s,baz=215,slow=7.5,SNR=4.0						
KULM	Kulim	86.41	277	eP	P	05 01 16.2	-0.3
	9.4nm,1.0s						
MCK	McKinley	87.38	11	eP	P	05 01 19.9	-0.2
	4.8nm,1.0s						
PDAR	Pinedale Array	87.95	42	P	P	05 01 23.0	-0.6
	0.3nm,0.7s,baz=202,slow=3.9,SNR=1.9						
ILAR	Eielson Array	88.71	12	P	P	05 01 25.9	-0.5
	0.3nm,0.9s,baz=221,slow=5.5,SNR=2.3						
CMAR	Chiang Mai Arr	92.82	289	P	P	05 01 45.2	-1.4
	0.8nm,0.3s,baz=127,slow=3.8,SNR=4.1						
YKA	Yellowknife Ar	96.34	24	P	P	05 02 02.4	+0.8
	0.2nm,0.7s,baz=240,slow=5.1,SNR=5.3						
EKS2	Erkin-Say	119.41	308	ePKPdf	PKPdf	05 07 22.8	-0.1
BRVK	Borovoye	121.50	320	ePKPdf	PKPdf	05 07 27.1	+0.7
TSUM	Tsumeb	137.67	198	ePKPdf	PKPdf	05 07 58.2	-0.1
KIV	Kislovodsk	141.43	315	ePKPdf	PKPdf	05 08 04.9	+0.5
AKASG	Malin Array Be	145.05	333	PKhKP	PKPpre	05 08 09.5	
	2.2nm,0.6s,baz=36,slow=4.0,SNR=18						
AKBB	Malin Array Si	145.05	333	ePKPbc	PKPab	05 08 10.1	+0.2
KIEV	Kiev	145.96	325	ePKPbc	PKPdf	05 08 10.4	+0.1
BRTR	Keskin Array B	149.35	313	PKPbc	PKPbc	05 08 22.8	+0.3
	1.6nm,1.0s,baz=128,slow=2.4,SNR=5.5						
CLL	Collm	149.51	350	e(PKPbc)	PKPbc	05 08 24.0	+1.7
CLL				e		05 08 34.0	
PSZ	Piszkesteto	150.91	339	ePKPdf	PKPdf	05 08 19.4	-0.8
CSS	Prodhromos	151.53	304	ePKPdf	PKPdf	05 08 21.4	-0.1
CSS				ePKPbc	PKPbc	05 08 26.8	-0.9
GERES	GERESS Array B	151.75	347	PKPbc	PKPbc	05 08 28.3	+0.4
	0.4nm,0.7s,baz=11,slow=0.5,SNR=4.3						
AQU	L'Aquila	157.92	343	ePKPab	PKPab	05 09 02.2	-1.0

ISCJB 14 04:48:49.3±0.5, 7°.17S±0°.06×30°.39E±0°.06, h10km, mb3.8/8, MS3.5/6, Error ellipse: s-maj=11.1km s-min=5.8km az=44.2
IDC 14 04:48:50.6±0.8, 7°.06S×30°.20E, h0km, mb3.7/9, mb1 4.0/13, mb1mx3.9/29, mbtmp3.9/13, ML2.2/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/34, Error ellipse: s-maj=27.6km s-min=16.9km az=103.0
ISC 14 04:48:51.3±0.6, 7°.22S±0°.07×30°.37E±0°.08, h10km, n20, σ1s56/19, mb3.8/8, MS3.5/6, Lake Tanganyika region

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

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
DODT	Dodoma, Tanzan	5.44	79	iPn	Pn	04 50 13.8	+1.1
DODT				iS	Sn	04 51 14.2	-1.3
MZM	Mzuzu	5.52	140	eSg	Sn	04 51 15.3	-1.9
MAUS	Longido	7.72	55	iP	Pn	04 50 41.8	-2.2
MAUS				iS	Sn	04 51 11.6	-0.2
LSZ	Lusaka	8.28	195	Pn	Pn	04 50 53.7	+1.9
	1.8nm,0.3s,baz=15,slow=12,SNR=23						
LSZ				Sn	Sn	04 52 24.6	-0.9
	28nm,0.3s,baz=124,slow=17,SNR=11						
LSZ				Lg	Lg	04 53 12.1	
	24nm,0.3s,baz=124,slow=23,SNR=15						
LSZ				LR	LR	04 53 52.6	
	comp=Z,200nm,19.7s,baz=20,slow=36						
KMBO	Kilima Mbogo	9.15	49	Pn	Pn	04 51 03.7	-0.1
	2.9nm,0.3s,baz=227,slow=15,SNR=31						
KMBO				Sn	Sn	04 52 39.2	-8.1
	3.5nm,0.3s,baz=198,slow=13,SNR=8.4						
KMBO				Lg	Lg	04 53 33.5	
	5.9nm,0.3s,baz=137,slow=23,SNR=4.6						
TSUM	Tsumeb	17.21	225	Pn	Pn	04 52 50.7	-1.4
	0.5nm,0.3s,baz=252,slow=16,SNR=14						
TSUM				Sn	Sn	04 55 49.6	-14
	1.6nm,0.3s,baz=301,slow=18,SNR=7.0						
TSUM				Lg	Lg	04 57 51.3	
	1.3nm,0.3s,baz=142,slow=19,SNR=2.8						
TSUM				LR	LR	04 59 27.2	
	comp=Z,133nm,21.0s,baz=36,slow=37						
LBTB	Lobatse	18.27	194	P	P	04 53 06.6	+1.2
	0.8nm,0.3s,baz=21,slow=13,SNR=12						
LBTB				S	Sn	04 56 19.2	-10
	1.5nm,0.3s,baz=311,slow=20,SNR=6.5						
LBTB				Lg	Lg	04 58 25.6	
	0.5nm,0.3s,baz=262,slow=18,SNR=3.6						
OPO	Ambohidratompo	19.88	126	P	Pn	04 53 27.5	+2.7
	2.9nm,0.7s,baz=247,slow=4.5,SNR=3.8						
BOSA	Boshof	21.82	192	P	P	04 53 46.3	+2.3
	3.7nm,0.6s,baz=4.1,slow=11,SNR=13						
BOSA				S	S	04 57 41.8	-3.7
	8.1nm,0.9s,baz=263,slow=8.1,SNR=5.1						
BOSA				Lg	Lg	05 00 20.1	
	14nm,0.8s,baz=280,slow=17,SNR=3.7						
SUR	Sutherland	26.57	198	LR	LR	05 04 06.3	
	comp=Z,61nm,18.2s,baz=64,slow=34						
TORD	Torodi Ar. Bea	34.94	305	P	P	04 55 43.4	-0.4
	0.5nm,0.7s,baz=115,slow=7.8,SNR=5.5						
TORD				LR	LR	05 09 36.4	
	comp=Z,95nm,18.8s,baz=240,slow=36						
DBIC	Dimbokro	37.75	291	LR	LR	05 10 37.1	
	comp=Z,82nm,20.3s,baz=71,slow=35						
BRTR	Keskin Array B	46.81	3	P	P	04 57 20.4	-1.0
	0.9nm,1.0s,baz=182,slow=8.7,SNR=3.5						
BRTR				LR	LR	05 18 27.5	
	comp=Z,42nm,19.5s,baz=200,slow=38						
DAVOX	Davos/Dischmat	56.77	343	LR	LR	05 22 53.0	
	comp=Z,67nm,19.2s,baz=290,slow=36						
GERES	GERESS Array B	57.72	347	P	P	04 58 42.0	-0.3
	0.4nm,0.8s,baz=153,slow=8.8,SNR=3.7						
FINES	FINESS Array B	68.54	358	P	P	04 59 53.4	-0.4
	2.1nm,0.9s,baz=142,slow=7.0,SNR=3.1						
MKAR	Makanchi Array	70.75	35	P	P	05 00 08.7	+0.8
	1.4nm,0.8s,baz=235,slow=5.1,SNR=14						
ZALV	Zalesovo Beam	76.10	30	P	P	05 00 38.5	-0.6
	0.3nm,0.3s,baz=294,slow=4.0,SNR=3.6						
ZALV				LR	LR	05 35 25.5	
	comp=Z,49nm,18.8s,baz=52,slow=37						
SONM	Songino Array	86.04	41	P	P	05 01 34.2	+1.7
	0.3nm,0.9s,baz=256,slow=4.3,SNR=3.4						
YKA	Yellowknife Ar	119.20	342	PKP	PKPdf	05 07 40.6	+0.2
	0.2nm,0.8s,baz=42,slow=3.2,SNR=3.9						

MEX 14 05:08:10.3±0.5, 17.02N×95.25W, h122km±6km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
CMIG	Matias Romero	0.36	78	iP	Pn	05 08 26.6	-1.1
CMIG				iS	Sn	05 08 38.7	-2.2
VHO	Vista Hermosa	1.42	272	eP	Pn	05 08 35.9	-1.3
VHO				iS	Sn	05 08 55.9	-1.7
HUIG	Huatulco	1.49	214	eP	Pn	05 08 36.1	-1.6
HUIG				eS	Sn	05 08 57.2	-1.5
PCIG		2.35	124	eP	Pn	05 08 47.4	-0.9
PCIG				eS	Sn	05 09 15.8	-1.5
PNIG	Pinotepa	2.83	258	eP	Pn	05 08 53.9	-0.6
PNIG				eS	Sn	05 09 24.1	-4.3

IDC 14 05:49:10.4±1.1, 31.71N×90.52E, h0km, mb3.3/8, mb1 3.7/9, mb1mx3.5/27, mbtmp3.4/9, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/20, Error ellipse: s-maj=36.4km s-min=21.7km az=59.0

ISCJB 14 05:49:13.8±0.6, 31.77N±0.06×90.52E±0.09, h33km, mb3.4/7, MS3.1/1, Error ellipse: s-maj=12.1km s-min=7.1km az=32.9

ISC 14 05:49:15.7±0.8, 31.79N±0.09×90.5E±0.1, h35km, n20, σ0.77/19, mb3.4/7, Xizang

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
TAPN	Taplejung	5.06	210	eP	Pn	05 50 30.0	+0.6
	14nm,0.6s						
JIRN	Jiri	5.59	224	eP	Pn	05 50 37.0	+0.4
GUN	Gumba	5.59	227	eP	Pn	05 50 37.3	+0.6
	32nm,0.8s						
RAMN	Ramite	5.92	216	eP	Pn	05 50 39.6	-1.5
	22nm,0.4s						
PKI	Pulchoki	6.13	228	eP	Pn	05 50 44.6	+0.6
	10nm,0.4s						
PKIN	Phulchoki	6.13	228	eP	Pn	05 50 44.6	+0.6
DMN	Daman	6.30	230	eP	Pn	05 50 47.1	+0.8
	15nm,0.6s						
GKN	Gorkha	6.36	235	eP	Pn	05 50 46.2	-0.9
	8.9nm,0.3s						
DANN	Dangsing	6.80	241	eP	Pn	05 50 52.7	-0.5
	20nm,0.4s						
KOLN	Koldanda	7.24	238	eP	Pn	05 50 57.9	-1.2
CMAR	Chiang Mai Arr	15.29	148	Pn	Pn	05 52 48.7	-0.3
	0.2nm,0.3s,baz=326,slow=12,SNR=2.6						
MKAR	Makanchi Array	16.27	339	Pn	Pn	05 53 00.6	-0.8
	0.1nm,0.3s,baz=145,slow=14,SNR=9.1						
SONM	Songino Array	20.07	32	P	Pn	05 53 47.6	-0.3
	1.0nm,0.9s,baz=223,slow=11,SNR=13						
SONM				LR	LR	06 02 12.7	
	comp=Z,96nm,19.7s,baz=30,slow=39						
ZALV	Zalesovo Beam	22.52	351	P	P	05 54 12.7	+0.5
	0.4nm,0.3s,baz=173,slow=12,SNR=3.8						
BRTR	Keskin Array B	46.18	296	P	P	05 57 37.9	+0.8
	0.8nm,0.9s,baz=111,slow=7.9,SNR=3.0						
GERES	GERESS Array B	58.55	311	P	P	05 59 09.0	+0.2
	0.3nm,0.7s,baz=87,slow=6.0,SNR=4.5						
WRA	Warramunga Arr	66.40	135	P	P	06 00 01.7	+0.4
	0.3nm,0.7s,baz=326,slow=5.7,SNR=3.8						
ASAR	Alice Springs	69.00	138	P	P	06 00 17.0	-0.8
	0.3nm,0.7s,baz=321,slow=6.5,SNR=4.3						
ILAR	Eielson Array	73.91	22	P	P	06 00 46.5	-0.3
	0.2nm,0.6s,baz=302,slow=4.8,SNR=4.4						
YKA	Yellowknife Ar	83.89	11	P	P	06 01 41.7	+0.2
	0.2nm,0.8s,baz=326,slow=4.3,SNR=3.9						

IDC 14 06:24:47.2±26.0, 16.04N×122.41E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.3/25, mbtmp3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/35, Error ellipse: s-maj=478.5km s-min=275.4km az=149.0, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
WRA	Warramunga Arr	37.63	161	P	P	06 32 03.8	-0.3
	0.4nm,0.4s,baz=343,slow=8.9,SNR=6.0						
ASAR	Alice Springs	41.03	164	P	P	06 32 32.2	-0.3
	0.3nm,0.3s,baz=342,slow=6.7,SNR=13						
ZALV	Zalesovo Beam	47.79	331	LR	LR	06 56 16.5	
	comp=Z,42nm,18.4s,baz=60,slow=40						
STKA	Stephens Creek	51.07	159	P	P	06 33 51.8	+0.2
	0.5nm,0.3s,baz=353,slow=5.8,SNR=5.1						

IDC 14 06:58:53.1±4.3, 36.18N×70.38E, h179km±38km, mb3.2/9, mb1 3.3/14, mb1mx3.1/42, mbtmp3.8/14, Error ellipse: s-maj=29.4km s-min=16.8km az=27.0

ISCJB 14 06:58:56.0±0.5, 36.53N±0.03×70.43E±0.07, h204km, mb3.2/8, Error ellipse: s-maj=8.3km s-min=3.6km az=156.5

NNC 14 06:59:03.0±3.2, 36.99N×70.46E, h219km±29km, mb2.8, mpv3.6, Error ellipse: s-maj=28.9km s-min=16.0km az=7.0

ISC 14 06:58:56.7±0.6, 36.51N±0.06×70.51E±0.08, h204km, n43, σ1.64/49, mb3.1/8, 4C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
CEP	Cherat	2.92	156	⇑P	Pn	06 59 47.5	+1.7
CEP				S	S	07 00 25.0	+1.5
CHCP	Chirah Chowk	3.63	141	P	Pn	06 59 56.7	+2.5
SARP	Sargodha	4.92	158	⇓P	Pn	07 00 10.7	+0.5
DLH	Dalhousie	6.00	130	ex	Pn	07 00 27.0	+2.8
DLH				eS	S	07 01 33.0	-0.2
DHRM	DHARAMSHALA	6.40	130	eP	Pn	07 00 30.8	+1.3
DHRM				eS	S	07 01 42.3	-0.4
DHRM				AML	AML	07 01 43.1	
	comp=N,284nm,0.6s						
DHRM				AML	AML	07 01 46.2	
	comp=E,276nm,0.9s						
KK31	Karatay Array	6.58	0	P	Pn	07 00 32.0	+0.6
	comp=E,0.9nm,0.3s,baz=177,slow=12,SNR=78						
KK31				⇑S	S	07 01 42.7	-3.9
	comp=E,5.4nm,0.3s,baz=179,slow=21,SNR=11						
AAK	Ala-Archa	6.84	26	P	Pn	07 00 36.3	+1.3
	comp=E,2.3nm,0.3s,baz=182,slow=5.5,SNR=26						
AAK				S	S	07 01 51.7	-1.2
	comp=E,1.4nm,0.3s,baz=105,slow=20,SNR=18						
SDNR	Sundarnagar	7.33	131	eP	Pn	07 00 42.0	+0.7
SDNR				eS	S	07 02 00.0	-4.4
TKM2	Tokmak 2	7.51	30	⇓P	Pn	07 00 45.1	+1.5
	comp=E,5.1nm,0.6s						
TKM2				⇑S	S	07 02 07.4	-1.2
	comp=E,9.5nm,0.8s						
SMLA	Simla	7.71	132	eP	Pn	07 00 45.5	-0.7
SMLA				eS	S	07 02 10.7	-2.6
SMLA				AML	AML	07 02 13.9	
	comp=E,107nm,0.3s						
SMLA				AML	AML	07 02 14.1	
	comp=N,108nm,0.3s						
DDI	Dehra Dun	8.82	132	eS	S	07 02 33.8	-6.2
DDI				AML	AML	07 02 38.3	
	comp=N,133nm,0.1s						
DDI				AML	AML	07 02 39.5	
	comp=E,88nm,0.1s						
NDI	New Delhi	9.64	142	ex	S	07 02 54.0	-5.3
MK31	Makanchi Array	13.52	37	⇓P	Pn	07 02 01.1	+0.7
	comp=E,1.0nm,0.6s,baz=221,slow=11,SNR=20						
MKAR	Makanchi Array	13.52	37	P	P	07 02 01.8	-1.0
	comp=E,0.3nm,0.3s,baz=219,slow=15,SNR=12						
DANN	Dangsing	13.83	122	eP	Pn	07 02 05.1	+0.4
	comp=E,17nm,0.4s						
KOLN	Koldanda	14.10	124	eP	Pn	07 02 08.8	+0.9
	comp=E,7.5nm,0.3s						
BHPL	Bhopal	14.52	154	eP	Pn	07 02 03.6	-9.3
BHPL				eS	S	07 04 40.1	-14
GKN	Gorkha	14.65	121	eP	P	07 02 15.7	+0.1
	comp=E,18nm,0.3s						
AB31	Akbulak array	14.88	332	⇓P	Pn	07 02 16.4	-0.7
	comp=E,0.9nm,0.3s,baz=153,slow=11,SNR=72						
DMN	Daman	15.22	122	eP	P	07 02 23.1	+1.1
	comp=E,16nm,0.4s						
KKN	Kakani	15.22	121	eP	P	07 02 22.9	+0.9
	comp=E,21nm,0.3s						
KURBB	Kurchatov Arra	15.24	20	P	P	07 02 21.9	+0.2
	comp=E,0.7nm,0.3s,baz=210,slow=9.8,SNR=7.8						
PKIN	Phulchoki	15.44	121	eP	P	07 02 26.3	+1.8
	comp=E,23nm,0.3s						
PKI	Pulchoki	15.45	121	eP	P	07 02 26.1	+1.4
	comp=E,52nm,0.5s						
GUN	Gumba	15.57	119	eP	P	07 02 26.3	+0.3
	comp=E,24nm,0.4s						
JIRN	Jiri	15.94	119	eP	P	07 02 31.7	+1.2
	comp=E,92nm,0.6s						
VOSK	Vostochnaya	16.21	1	⇑P	P	07 02 33.4	+0.2
	comp=E,1.2nm,0.5s						
BVA0	Borovoye Array	16.51	360	⇓P	Pn	07 02 36.4	-0.4
	comp=E,1.8nm,0.6s,baz=168,slow=7.6,SNR=21						
BVAR	Borovoye Array	16.51	360	P	P	07 02 37.3	+0.6
	comp=E,1.1nm,0.3s,baz=174,slow=11,SNR=18						
AKTO	Aktyubinsk	16.57	331	⇓P	Pn	07 02 37.4	-0.1
	comp=E,3.8nm,0.7s						
AKTO	Aktyubinsk	16.57	331	P	Pn	07 02 37.5	0.0
	comp=E,0.8nm,0.3s,baz=136,slow=12,SNR=18						
RAMN	Ramite	16.66	120	eP	P	07 02 39.9	+0.9
	comp=E,33nm,0.6s						
TAPN	Taplejung	17.20	117	eP	P	07 02 46.3	+0.8
	comp=E,24nm,0.6s						
ZALV	Zalesovo Beam	20.07	25	P	P	07 03 15.6	+1.4
	comp=E,4.4nm,0.3s,baz=214,slow=10,SNR=25						
AKASG	Malin Array Be	32.63	309	P	P	07 05 09.2	+0.2
	comp=E,0.1nm,0.3s,baz=80,slow=7.8,SNR=3.8						
FINES	FINESS Array B	37.25	326	P	P	07 05 49.0	+0.6
	comp=E,1.5nm,0.6s,baz=126,slow=9.7,SNR=7.1						
ARCES	ARCESS Array B	40.98	338	P	P	07 06 20.2	+1.1
	comp=E,2.1nm,0.6s,baz=112,slow=7.5,SNR=14						
NB2	NORSAR Subarra	44.13	323	P	P	07 06 44.8	+0.2
	comp=Z,0.1nm,0.5s,baz=95,slow=8.6						
NOA	NORSAR Array B	44.13	323	P	P	07 06 45.0	+0.4
	comp=Z,0.7nm,0.8s,baz=98,slow=7.9,SNR=4.0						
TORD	Torodi Ar. Bea	65.32	268	P	P	07 09 15.1	-2.1
	comp=Z,0.3nm,0.4s,baz=46,slow=5.6,SNR=8.3						
YKA	Yellowknife Ar	81.25	2	P	P	07 10 50.4	+0.9
	comp=Z,0.2nm,0.5s,baz=349,slow=5.3,SNR=7.4						
WRA	Warramunga Arr	82.33	122	P	P	07 10 54.3	-1.5
	comp=Z,0.4nm,0.8s,baz=328,slow=4.8,SNR=3.2						
ASAR	Alice Springs	84.59	125	P	P	07 11 06.6	-0.7
	comp=Z,0.2nm,0.6s,baz=317,slow=3.9,SNR=4.0						

IDC 14 07:08:09.2±3.7, 14.91S×173.70W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.5/4, MS3.4/2, Ms1 3.4/2, ms1mx2.9/18, Error ellipse: s-maj=195.9km s-min=28.0km az=145.0

ISC 14 07:08:08.4±10.0, 16°S±2°×17°3W±°, h30km, n12, σ0.33/5, mb3.4/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
AFI	Afiamalu	2.29	22	Pn	Pn	07 08 36.6	-7.7
	62nm,0.3s,baz=202,slow=2.5,SNR=19						
AFI				Sn	Sn	07 08 55.4	-16
	212nm,0.3s,baz=56,slow=20,SNR=9.6						
RAR	Rarotonga	13.24	115	LR	LR	07 15 34.3	
	comp=Z,122nm,21.0s,baz=265,slow=30						
DZM	Mont Dzumac	20.63	250	eLR	LR	07 17 56.7	
	70nm,28.1s						
PPT2	Papeete2	22.14	97	eLR	LR	07 18 28.5	
	108nm,23.2s						
HNR	Honiara	27.50	281	LR	LR	07 23 58.0	
	comp=Z,84nm,18.4s,baz=360,slow=36						
RKT	Rikitea	36.11	107	eT	T	07 53 55.0	
	1.2nm,0.3s						
WRA	Warramunga Arr	50.40	257	P	P	07 17 03.2	-0.2
	0.3nm,0.7s,baz=96,slow=6.6,SNR=5.4						
ASAR	Alice Springs	50.59	252	P	P	07 17 05.0	+0.1
	0.9nm,0.5s,baz=86,slow=8.5,SNR=31						
NVAR	Mina Array Bea	74.33	42	P	P	07 19 48.1	+4.5
	0.1nm,0.3s,baz=210,slow=7.1,SNR=1.6						
ILAR	Eielson Array	82.95	11	P	P	07 20 29.9	-0.2
	0.2nm,0.7s,baz=208,slow=5.1,SNR=4.6						
GERES	GERESS Array B	146.88	352	PKPbc	PKPab	07 27 49.4	+0.1
	0.2nm,0.6s,baz=332,slow=3.3,SNR=2.2						
BRTR	Keskin Array B	147.11	321	PKPbc	PKPab	07 27 51.0	+0.3
	0.8nm,0.8s,baz=69,slow=0.8,SNR=3.1						

ISCJB 14 07:50:45.6±1.0, 9.6N±0.2×92.7E±0.2, h35km, mb3.5/6, MS3.1/1, Error ellipse: s-maj=37.6km s-min=9.2km az=136.7

IDC 14 07:50:45.4±1.7, 9.99N×93.53E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/27, mbtmp3.5/7, ML4.1/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/26, Error ellipse: s-maj=59.8km s-min=23.0km az=64.0

ISC 14 07:50:47.9±1.1, 9.7N±0.2×92.7E±0.2, h35km, n9, σ1.58/8, mb3.4/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
PSI	Prapat	9.22	138	Pn	Pn	07 52 59.9	+1.2
	0.2nm,0.3s,baz=317,slow=18,SNR=2.6						
PSI				LR	LR	07 56 33.9	
	comp=Z,95nm,18.5s,baz=224,slow=39						
CMAR	Chiang Mai Arr	10.57	34	Pn	Pn	07 53 09.4	-7.5
	0.5nm,0.3s,baz=218,slow=14,SNR=4.5						
CMAR				LR	LR	07 56 44.1	
	comp=Z,80nm,18.1s,baz=225,slow=36						
VIS	Vishakhapatnam	12.11	312	iP	P	07 53 48.7	-1.5
VIS				iS	Sn	07 55 53.3	+1.5
VIS				ex	x	07 55 57.5	
	comp=E,14nm,0.9s						
VIS				ex	x	07 56 01.0	
	comp=N,8.0nm,0.8s						
MKAR	Makanchi Array	38.00	348	P	P	07 58 03.2	+0.7
	comp=N,0.4nm,0.8s,baz=172,slow=9.8,SNR=3.0						
MKAR				LR	LR	08 16 00.6	
	comp=N,26nm,18.0s,baz=352,slow=40						
SONM	Songino Array	39.70	14	P	P	07 58 17.0	+0.1
	comp=N,0.9nm,1.1s,baz=191,slow=7.0,SNR=5.6						
ZALV	Zalesovo Beam	44.56	353	P	P	07 58 56.4	+0.2
	comp=N,2.3nm,0.3s,baz=152,slow=6.5,SNR=8.5						
WRA	Warramunga Arr	50.46	126	P	P	07 59 40.3	-2.4
	comp=N,0.3nm,0.7s,baz=302,slow=9.3,SNR=2.9						
ASAR	Alice Springs	52.16	130	P	P	07 59 55.9	+0.5
	comp=N,0.2nm,0.7s,baz=308,slow=7.1,SNR=4.4						
FINES	FINESS Array B	70.44	332	P	P	08 02 03.5	+5.1
	comp=N,0.2nm,0.3s,baz=126,slow=7.1,SNR=0.9						

ISCJB 14 08:00:02.3±0.6, 4.47N±0.05×124.9E±0.2, h200km, mb3.6/13, Error ellipse: s-maj=21.7km s-min=6.2km az=168.0

IDC 14 08:00:08.7±4.2, 4.62N×125.28E, h246km±44km, mb3.4/13, mb1 3.4/13, mb1mx3.3/31, mbtmp4.0/13, Error ellipse: s-maj=25.0km s-min=10.4km az=76.0

DJA 14 08:00:22.5±0.6, 3°N±5°×12°5E±°, h10km, M4.3/5, mb4.7/3, mB5.3/3, MLv4.1/5, Mw(mB)4.8/3

ISC 14 08:00:03.8±0.7, 4.44N±0.07×124.8E±0.2, h200km, n23, σ1.40/21, mb3.8/13, 2C, Celebes Sea

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
SGSI	Sangihe	1.05	135	P	Pn	08 00 36.8	+2.9
GSPH	General Santos	1.65	6	⇑iP	Pn	08 00 41.1	+2.1
DMPH	Davao City--Mi	2.72	15	⇑eP	Pn	08 00 53.1	+2.9
DMPH				eS	Sn	08 01 26.2	-0.4
GTOI	Gorontalo	4.17	205	P	Pn	08 01 15.7	+7.9
TNTI	Ternate	4.46	145	P	Pn	08 01 11.8	+0.4
LBMI	Labuha	5.72	152	S	Sn	08 02 30.5	-3.3
SANI	Sanana	6.56	169	P	Pn	08 01 37.7	-0.6
	31nm,0.5s,3μm0.5nm						
SANI				S	Sn	08 02 46.3	-7.0
	31nm,0.5s,3μm0.5nm						
NLAI	Namlea	7.97	163	P	Pn	08 01 57.1	+0.4
	29nm,1.1s,2μm						
JOW	Kunigami	22.52	8	P	P	08 04 45.9	-0.9
	1.9nm,0.8s,baz=174,slow=11,SNR=2.6						
WRA	Warramunga Arr	25.98	159	P	P	08 05 18.6	+0.2
	0.4nm,0.3s,baz=344,slow=9.9,SNR=9.9						
CMAR	Chiang Mai Arr	28.85	301	P	P	08 05 48.4	+4.5
	1.2nm,0.3s,baz=112,slow=7.0,SNR=6.4						
ASAR	Alice Springs	29.32	163	P	P	08 05 48.9	+0.9
	0.4nm,0.4s,baz=342,slow=7.0,SNR=16						
KSRS	Korea Array	32.98	5	P	P	08 06 19.6	-0.3
	3.8nm,0.7s,baz=179,slow=10.0,SNR=18						
MJAR	Matsushiro Arr	34.25	19	P	P	08 06 28.2	-2.6
	1.3nm,0.7s,baz=192,slow=9.7,SNR=6.8						
STKA	Stephens Creek	39.50	157	P	P	08 07 16.1	+1.0
	1.6nm,0.5s,baz=345,slow=8.9,SNR=7.4						
USRK	Ussuriysk Arra	40.10	8	P	P	08 07 17.9	-2.0
	2.9nm,0.7s,baz=174,slow=5.7,SNR=4.7						
SONM	Songino Array	46.03	343	P	P	08 08 07.3	-0.2
	0.3nm,0.3s,baz=173,slow=7.2,SNR=9.1						
MKAR	Makanchi Array	55.88	326	P	P	08 09 21.6	+0.9
	1.9nm,0.3s,baz=120,slow=7.1,SNR=72						
MKAR				PcP	PcP	08 10 16.6	-0.5
	0.3nm,0.3s,baz=141,slow=3.4,SNR=5.1						
ZALV	Zalesovo Beam	59.09	334	P	P	08 09 43.0	+0.1
	1.1nm,0.4s,baz=116,slow=6.8,SNR=5.6						
ILAR	Eielson Array	85.30	25	P	P	08 12 15.6	-2.4
	0.2nm,0.6s,baz=254,slow=4.7,SNR=7.9						
FINES	FINESS Array B	90.29	332	P	P	08 12 41.5	-0.3
	0.9nm,0.8s,baz=101,slow=6.2,SNR=5.8						
TORD	Torodi Ar. Bea	120.86	288	PKP	PKPdf	08 18 33.3	+0.1
	0.4nm,0.4s,baz=85,slow=1.2,SNR=8.2						
TXAR	Lajitas Array	122.68	51	PKP	PKPdf	08 18 36.5	-0.1
	0.1nm,0.6s,baz=319,slow=3.6,SNR=2.0						

IDC 14 08:25:12.6±2.5, 5.85S×130.03E, h0km, mb3.4/1, mb1 3.2/3, mb1mx3.1/27, mbtmp3.1/3, ML3.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/20, Error ellipse: s-maj=171.3km s-min=31.8km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
WRA	Warramunga Arr	14.63	164	Pn	Pn	08 28 41.2	+0.2
	0.1nm,0.3s,baz=344,slow=11,SNR=1.2						
WRA				Sn	Sn	08 31 08.6	-15
	0.1nm,0.3s,baz=343,slow=23,SNR=1.8						
ASAR	Alice Springs	18.11	168	P	Pn	08 29 25.6	-0.2
	0.1nm,0.3s,baz=348,slow=9.1,SNR=8.5						
ASAR				LR	LR	08 36 02.1	
	comp=Z,67nm,18.6s,baz=136,slow=36						
MKAR	Makanchi Array	67.28	327	P	P	08 36 09.2	0.0
	0.2nm,0.4s,baz=118,slow=7.8,SNR=5.5						

IDC 14 08:32:43.5±1.2, 3.57N×125.50E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.6/45, mbtmp3.9/8, Error ellipse: s-maj=105.4km s-min=18.1km az=63.0

ISC 14 08:32:49.1±1.2, 3.5N±0.3×125.4E±0.5, h35km, n8, σ1.31/8, mb3.9/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
WRA	Warramunga Arr	24.87	160	P	P	08 38 08.3	-0.3
	1.6nm,0.8s,baz=340,slow=11,SNR=15						
ASAR	Alice Springs	28.22	163	P	P	08 38 40.0	+1.2
	0.2nm,0.5s,baz=346,slow=6.9,SNR=2.7						
CMAR	Chiang Mai Arr	29.85	302	P	P	08 38 53.4	0.0
	1.6nm,0.2s,baz=141,slow=52,SNR=2.4						
STKA	Stephens Creek	38.38	157	P	P	08 40 06.0	-1.1
	1.9nm,0.8s,baz=337,slow=7.7,SNR=2.3						
MKAR	Makanchi Array	57.01	326	P	P	08 42 30.2	-1.2
	0.4nm,0.5s,baz=119,slow=8.9,SNR=4.4						
ZALV	Zalesovo Beam	60.22	334	P	P	08 42 52.9	-0.7
	0.5nm,0.4s,baz=126,slow=7.3,SNR=2.1						
KURBB	Kurchatov Arra	61.24	328	P	P	08 42 59.6	-0.9
	0.8nm,0.8s,baz=128,slow=6.5,SNR=2.4						
FINES	FINESS Array B	91.43	332	P	P	08 45 53.2	+1.7
	0.9nm,0.8s,baz=100,slow=5.8,SNR=1.7						

IDC 14 08:50:58.9±51.0, 17.88S×176.44W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/34, mbtmp3.9/3, Error ellipse: s-maj=957.5km s-min=172.7km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
STKA	Stephens Creek	40.29	242	P	P	08 58 38.6	+0.6
	1.4nm,0.6s,baz=108,slow=9.6,SNR=2.4						
WRA	Warramunga Arr	46.48	259	P	P	08 59 27.9	-0.3
	0.9nm,0.5s,baz=96,slow=8.2,SNR=16						
ASAR	Alice Springs	46.60	254	P	P	08 59 28.7	-0.5
	0.9nm,0.4s,baz=88,slow=8.3,SNR=25						

JMA 14 08:58:00.9±0.9, 44.25N×149.27E, h30km, M3.4

ISCJB 14 08:58:02.8±1.3, 43.47N±0.09×149.16E±0.10, h67km±11km, mb3.5/8, Error ellipse: s-maj=15.6km s-min=11.1km az=154.0

MOS 14 08:58:04.8±0.8, 44.08N×149.02E, h58km, mb4.2/3, Error ellipse: s-maj=25.1km s-min=16.7km az=44.9

SKHL 14 08:58:04.3±1.0, 44.07N×149.17E, h44km±7km, mb4.7/1

IDC 14 08:58:05.2±5.5, 45.06N×148.70E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/44, mbtmp3.6/9, ML2.6/1, Error ellipse: s-maj=136.3km s-min=25.9km az=160.0

ISC 14 08:58:03.4±3.0, 43.53N±0.09×149.2E±0.2, h53km±25km, n39, σ1.23/46, mb3.7/8, 2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
KUR	Kuril'sk	1.96	331	PN	Pn	08 58 29.2	-4.9
KUR				i		08 58 40.8	
KUR	Kuril'sk	1.96	331	eP	Pn	08 58 28.0	-6.1
KUR				eS	Sn	08 58 45.0	-13
KUR				A	A	08 58 46.5	
	260nm,0.5s						
KUR				A	A	08 58 46.5	
	300nm,0.5s						

YUK Yuzh-Kuril'sk 2.48 283 d iPN Pn 08 58 40.6 -0.6
YUK i S Sn 08 59 08.5 -1.7
YUK pmax pmax
comp=Z,90nm,0.4s
YUK pmax pmax
comp=N,22nm,0.2s
YUK smax smax
comp=N,112nm,0.5s
YUK smax smax
comp=E,94nm,0.5s
YUK Yuzh-Kuril'sk 2.48 283⇓ iP Pn 08 58 40.6 -0.6
YUK AMB AMB 08 58 53.4
comp=E,22nm,0.3s
YUK AMB AMB 08 58 53.4
comp=E,91nm,0.3s
YUK i S Sn 08 59 08.6 -1.7
YUK A A 08 59 12.6
comp=E,112nm,0.5s
YUK A A 08 59 12.6
comp=E,94nm,0.5s
NEM2 Nemuro 2 2.53 268 P Pn 08 58 41.1 -0.8
NEM2 eS Sn 08 59 11.5 0.0
JRA Rausu 2.99 279 P Pn 08 58 47.7 -0.5
JNK Nakash 3.26 273 eS Sn 08 59 30.3 +0.7
JAK Akkeshi 3.34 262 P Pn 08 58 53.3 +0.3
JAK eS Sn 08 59 33.0 +1.6
JTKR Abashiri--Toko 3.87 278 P Pn 08 59 00.4 +0.2
JAR Ashorobuto 3.97 269 P Pn 08 59 02.1 +0.4
JAR eS Sn 08 59 48.1 +1.2
JOB Onbets 3.98 263 P Pn 08 59 02.8 +1.0
JMP Maruseppu 4.26 278 P Pn 08 59 06.2 +0.5
JCH Churui 4.38 260 P Pn 08 59 08.6 +1.3
JKA Kamikawa-asahi 4.82 279 eP Pn 08 59 14.3 +1.0
ASAJ Asahikawa 4.82 279 Pn Pn 08 59 14.2 +0.9
comp=E,0.3nm,0.3s,baz=90,slow=11,SNR=0.9
JFR Furan 4.84 268 P Pn 08 59 14.9 +1.3
JNBK Urakawa-nobuka 4.90 258 P Pn 08 59 15.6 +1.1
JBT2 Biratori 2 5.06 264 P Pn 08 59 17.2 +0.5
JNB Noboribetsu 6.08 263 P Pn 08 59 31.7 +1.1
JNB eS Sn 09 00 40.4 +1.5
JKB Kayabe 6.24 258 P Pn 08 59 33.8 +1.0
JANG Nango 6.54 244 P Pn 08 59 37.4 +0.4
JANG eS Sn 09 00 48.1 -2.1
JTH Tanohata 6.56 239 eS Sn 09 00 48.1 -2.5
JTM Tenmabayashi 6.64 248 P Pn 08 59 39.8 +1.5
JTM eS Sn 09 00 51.2 -1.3
JRG Rokugo 7.64 240 P Pn 08 59 54.1 +2.0
JRG eS Sn 09 01 14.3 -3.0
JIO Ouri 7.81 232 eS Sn 09 01 19.6 -1.6
SONM Songino Array 29.93 293 P P 09 04 07.3 +0.9
comp=E,0.4nm,0.5s,baz=86,slow=8.4,SNR=4.9
MKAR Makanchi Array 46.01 299 P P 09 06 22.4 +1.1
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 46.01 299 P P 09 06 22.4 +1.1
comp=Z,1.2nm,0.8s,baz=78,slow=8.1,SNR=14
KURK Kurchatov 46.89 305 P P 09 06 28.1 0.0
KURK Kurchatov 46.89 305 eP P 09 06 28.1 0.0
KURBB Kurchatov Arra 46.97 305 P P 09 06 28.1 -0.7
comp=Z,0.4nm,0.4s,baz=72,slow=8.6,SNR=6.0
RES Resolute Bay 54.75 17 P P 09 07 26.6 -0.2
RES pmax pmax
comp=Z,1.0nm,0.8s
RES Resolute Bay 54.75 17 P P 09 07 26.6 -0.2
comp=Z,0.9nm,0.8s,baz=341,slow=7.1,SNR=6.1
YKA Yellowknife Ar 55.15 34 P P 09 07 31.0 +1.1
comp=Z,0.2nm,0.8s,baz=298,slow=6.8,SNR=4.1
FINES FINESS Array B 65.74 334 P P 09 08 41.4 -0.7
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 65.74 334 P P 09 08 41.4 -0.7
comp=Z,2.0nm,0.9s,baz=66,slow=4.8,SNR=5.7
NB2 NORSAR Subarra 70.34 340 P P 09 09 11.3 +0.2
comp=Z,0.9nm,0.6s,baz=31,slow=6.5
NOA NORSAR Array B 70.34 340 P P 09 09 10.6 -0.5
comp=Z,0.3nm,0.6s,baz=31,slow=6.6,SNR=4.1
AKASG Malin Array Be 72.64 325 P P 09 09 23.5 -1.5
comp=Z,0.1nm,0.4s,baz=34,slow=5.9,SNR=2.5

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*IDC **14** 08:58:00.8±0.8, 21°.84S×175°.08W, h0km, mb4.3/13, mb1 4.5/13, mb1mx4.3/35, mbtmp4.3/13, MS3.8/14, Ms1 3.9/14, ms1mx3.7/27, Error ellipse: s-maj=33.5km s-min=19.3km az=151.0*
*ISCJB **14** 08:58:01.5±0.6, 22°.4S±0°.1×174°.8W±0°.1, h22km, mb4.7/38, MS4.0/17, Error ellipse: s-maj=21.9km s-min=10.0km az=151.4*
*NEIC **14** 08:58:04.5±0.5, 22°.39S×174°.68W, h35km, mb4.9/16, Error ellipse: s-maj=18.1km s-min=8.8km az=153.0*
*BJI **14** 08:58:04.4, 21°.72S×174°.50W, h35km, mB5.1/5, mb4.9/21, Ms5.2/5, Ms7 4.7/7*
*MOS **14** 08:58:10.7±2.9, 20°.71S×175°.92W, h33km, mb4.8/19, MS4.0/4, Error ellipse: s-maj=16.8km s-min=12.6km az=53.3*

ISC 14 08:58:03.7±0.6, **22°.3S**±0°.1×**174°.68W**±0°.09, **h22**km, **h22**km**:pP-P, n131,** σ1s**87**/135, **mb4.8**/38, **MS4.0**/17, **9C-1D, Tonga Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSVF Nonsavu 8.22 303 ePn Pn 09 00 03.4 +1.5
156nm,1.1s
AFI Afiamalu 8.82 19 eP Pn 09 00 01.8 -8.3
AFI Afiamalu 8.82 19 Pn Pn 09 00 02.4 -7.8
9.1nm,0.3s,baz=42,slow=4.2,SNR=7.6
AFI Afiamalu 8.82 19 ePn Pn 09 00 01.8 -8.3
RAR Rarotonga 13.90 88 Pn Pn 09 01 13.1 -6.4
5.1nm,0.3s,baz=270,slow=12,SNR=7.8
RAR LR LR 09 05 26.3
comp=Z,404nm,21.4s,baz=274,slow=31
DZM Mont Dzumac 17.48 267 eP P 09 02 11.3 +3.9
63nm,1.4s
DZM eLR LR 09 06 23.9
792nm,22.1s
DZM Mont Dzumac 17.48 267 Pn P 09 02 09.5 +2.1
0.6nm,0.3s,baz=257,slow=21,SNR=5.4
PAE Paea 24.03 83 eT T 09 27 52.7
12nm,0.3s
PPT2 Papeete2 24.05 83 eLR LR 09 09 01.4
656nm,25.2s
PPT2 Papeete2 24.05 83 eT T 09 27 55.1
12nm,0.4s
PPT Papeete 24.06 83 LR LR 09 10 17.0
comp=Z,230nm,21.3s,baz=242,slow=30
TVO Taravao 24.30 84 eT T 09 28 13.9
1.9nm,0.3s
HNR Honiara 27.51 294 LR LR 09 12 54.7
comp=Z,212nm,21.9s,baz=130,slow=33
ARMA Armidale 31.15 248 P P 09 04 19.6 -1.6
4.3nm,0.8s
EIDS Eidsvold 31.41 258 eP P 09 04 22.7 -0.7
2.4nm,0.5s
CTAO Charters Tower 36.42 266 eP P 09 05 05.3 -1.7
CTAO pmax pmax
comp=Z,9.0nm,0.6s
CTAO Charters Tower 36.42 266 eP P 09 05 05.3 -1.7
comp=Z,8.7nm,0.6s
RKT Rikitea 36.56 99 eLR LR 09 14 38.6
comp=Z,344nm,30.8s
RKT Rikitea 36.56 99 eT T 09 43 46.4
comp=Z,2.6nm,0.3s
STKA Stephens Creek 39.84 247 P P 09 05 35.6 -0.1
STKA pmax pmax
comp=Z,2.0nm,0.5s
STKA MLR MLR
comp=Z,211nm,18.0s
STKA Stephens Creek 39.84 247 P P 09 05 35.6 -0.1
comp=Z,2.0nm,0.5s,baz=97,slow=9.7,SNR=9.7
STKA LR LR 09 22 01.1
comp=Z,211nm,18.0s,baz=47,slow=36
COEN Coen 40.79 274 eP P 09 05 42.5 -1.3
comp=Z,180nm,1.6s
ASAR Alice Springs 47.13 258 P P 09 06 32.7 -2.0
ASAR pmax pmax
comp=Z,9.0nm,0.9s
ASAR MLR MLR
comp=Z,287nm,18.6s
ASAR Alice Springs 47.13 258 P P 09 06 32.7 -2.0
comp=Z,8.7nm,0.8s,baz=90,slow=8.2,SNR=64
ASAR LR LR 09 25 59.9
comp=Z,287nm,18.6s,baz=114,slow=36
WRAB Tennant Creek 47.42 263⇑ eP P 09 06 34.7 -2.2
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WRAB Tennant Creek 47.42 263 eP P 09 06 34.4 -2.5
comp=Z,56nm,1.9s
WRA Warramunga Arr 47.43 263 P P 09 06 33.8 -3.2
WRA pmax pmax
comp=Z,4.0nm,0.6s
WRA Warramunga Arr 47.43 263 P P 09 06 33.8 -3.2
comp=Z,3.6nm,0.6s,baz=99,slow=8.4,SNR=16
FORT Forrest 51.44 248 eP P 09 07 06.2 -1.2
comp=Z,24nm,0.7s
VNDA Vanda 56.39 186 LR LR 09 30 44.4
comp=Z,80nm,18.9s,baz=67,slow=34
MBWA Marble Bar 60.48 258 eP P 09 08 10.2 -2.2
comp=Z,12nm,1.1s
KAPI Kappang 65.52 275 eP P 09 08 42.5 -3.4
comp=Z,49nm,1.0s
MJAR Matsushiro Arr 73.53 322 P P 09 09 31.1 -3.8
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR MLR MLR
comp=Z,15nm,28.6s
MJAR Matsushiro Arr 73.53 322 P P 09 09 31.1 -3.8
comp=Z,2.0nm,0.9s,baz=161,slow=6.2,SNR=8.0
MJAR LR LR 09 42 03.7
comp=Z,21nm,18.2s,baz=100,slow=36
ADK Adak 73.92 359 eP P 09 09 35.6 -1.2
ADK pmax pmax
comp=Z,14nm,0.8s
ADK Adak 73.92 359 eP P 09 09 35.6 -1.2
comp=Z,14nm,0.8s
H06S1 SOCORRO T 74.47 62 T T 10 31 17.3
SNR=19
FX1 Attu Island--F 75.64 352 LR LR 09 37 59.0
comp=Z,104nm,19.8s,baz=140,slow=32
KSM Kuching 76.72 277 eP P 09 09 53.0 -0.8
comp=Z,22nm,1.1s
CMB Columbia Colle 78.77 41 eP P 09 10 05.3 +0.5
CMB pmax pmax
comp=Z,7.0nm,0.6s
CMB Columbia Colle 78.77 41 eP P 09 10 05.3 +0.5
comp=Z,7.1nm,0.6s
PETK Petropavlovsk- 78.86 343 P P 09 10 03.0 -1.9
PETK pmax pmax
comp=Z,6.0nm,0.8s
PETK Petropavlovsk- 78.86 343 P P 09 10 03.0 -1.9
comp=Z,5.5nm,0.8s,baz=126,slow=9.1,SNR=8.2
PETK LR LR 09 37 12.7
comp=Z,34nm,20.9s,baz=74,slow=30
YSS Yuzh-Sakhalins 78.94 332⇑ iP P 09 10 04.9 -0.5
YSS pmax pmax
comp=Z,25nm,1.4s
YSS Yuzh-Sakhalins 78.94 332 eP P 09 10 04.7 -0.7
comp=Z,24nm,1.1s
KSRS Korea Array 80.31 317 LR LR 09 39 35.1
comp=Z,69nm,20.6s,baz=106,slow=31
USRK Ussuriysk Arra 82.23 324 P P 09 10 22.1 -1.0
comp=Z,3.8nm,1.0s,baz=143,slow=3.8,SNR=7.6
NJ2 Nanjing 83.43 308 eP P 09 10 30.1 +0.4
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
MDJ Mudanjiang 83.81 324 P P 09 10 30.4 -0.9
MDJ pmax pmax
comp=Z,8.0nm,1.3s
MDJ Mudanjiang 83.81 324 eP P 09 10 30.7 -0.6
comp=Z,11nm,1.1s
TXAR Lajitas Array 85.48 56 P P 09 10 42.9 +2.6
comp=Z,0.4nm,0.8s,baz=258,slow=6.3,SNR=4.3
TXAR LR LR 09 42 50.9
comp=Z,34nm,18.7s,baz=0.0,slow=32
LPM Los Pinos Moun 85.73 50 eP P 09 10 42.1 +0.6
comp=Z,5.6nm,1.1s
PLCA Paso Flores 85.77 132 LR LR 09 42 52.6
comp=Z,89nm,18.7s,baz=162,slow=31
ANMO Albuquerque 86.18 50 eP P 09 10 45.5 +1.8
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 86.18 50 P P 09 10 44.9 +1.1
comp=Z,1.8nm,0.9s,baz=203,slow=5.1,SNR=6.4
ANMO Albuquerque 86.18 50 eP P 09 10 45.5 +1.8
comp=Z,4.0nm,0.9s
IPM Ipoh 86.42 276 eP P 09 10 44.4 -0.8
comp=Z,4.0nm,0.6s
TRF Thorofare Moun 87.63 11 eP P 09 10 48.1 -2.0
comp=Z,36nm,1.7s
PDAR Pinedale Array 88.22 42 P P 09 10 51.8 -1.7
comp=Z,0.4nm,0.8s,baz=199,slow=5.3,SNR=3.3
GSI Gunungsitoli 88.40 272 eP P 09 10 55.4 +0.6
comp=Z,45nm,1.0s
SEY Seymchan 88.88 346 P P 09 10 53.5 -2.3
SEY pmax pmax
comp=Z,5.0nm,1.0s
SEY Seymchan 88.88 346 P P 09 10 53.5 -2.3
comp=Z,4.5nm,1.0s,baz=133,slow=7.2,SNR=9.0
COLA College 89.37 11⇑ eP P 09 10 59.7 +1.7
COLA pmax pmax
comp=Z,8.0nm,1.0s
BJI Beijing 89.37 314 P P 09 10 58.0 -0.6
BJI S S 09 21 44.1 -3.3
BJI pmax pmax
comp=Z,5.0nm,0.7s
ILAR Eielson Array 89.45 12 P P 09 10 56.5 -1.9
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 89.45 12 P P 09 10 56.5 -1.9
comp=Z,1.3nm,1.0s,baz=217,slow=4.7,SNR=8.5
ENH Enshi 89.62 303 eP P 09 10 59.8 -0.3
GYA Guiyang 90.24 298 eP P 09 11 04.3 +1.1
GYA pP pP 09 11 14.8 +4.3
GYA sP sP 09 11 20.0 +6.9
GYA PP PP 09 14 40.8 +3.4
GYA S S 09 21 52.5 -3.9
GYA sS sS 09 22 11.8 +3.3
GYA SS SS 09 27 57.6 +1.1
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.4s
GYA LR LR
comp=Z,480nm,20.6s
GYA LR LR
comp=Z,360nm,22.0s
GYA LR LR
comp=Z,420nm,20.9s
BILL Bilibino 91.20 353⇓ eP P 09 11 06.8 +0.3
BILL e 09 14 44.0
BILL i SS SS 09 27 53.8 -15
BILL pmax pmax
comp=Z,10.0nm,2.7s
BILL MLR MLR
comp=Z,81nm,18.0s
XAN Xi'an 91.70 306 P P 09 11 09.3 -0.4
XAN pP pP 09 11 19.6 +2.6
XAN sP sP 09 11 24.8 +5.2
XAN pmax pmax
comp=Z,3.0nm,1.1s
HHC Hu-ho-hao-te 92.85 313 eP P 09 11 14.3 -0.6
HHC sP sP 09 11 28.0 +3.2
HHC SKS SKSac 09 21 46.1 -1.5
HHC S S 09 22 15.9 -3.5
HHC pmax pmax
comp=Z,11nm,1.5s
HHC LR LR
comp=Z,290nm,18.0s
HHC LR LR
comp=Z,450nm,18.5s
HHC LR LR
comp=Z,220nm,18.0s
CMAR Chiang Mai Arr 93.63 288 P P 09 11 19.1 +0.2
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,23nm,19.0s
CMAR Chiang Mai Arr 93.63 288 P P 09 11 19.1 +0.2
comp=Z,1.0nm,0.3s,baz=111,slow=3.0,SNR=17
CMAR LR LR 09 51 53.7
comp=Z,23nm,19.0s,baz=155,slow=35
CD2 Chengdu 94.38 301 P P 09 11 22.3 +0.2
LZH Lanzhou 96.34 306 eP P 09 11 32.3 +1.2
LZH pP pP 09 11 42.0 +3.6
LZH sP sP 09 11 45.5 +4.5
LZH pmax pmax
comp=Z,14nm,1.0s
YKA Yellowknife Ar 96.91 24 P P 09 11 30.9 -1.9
comp=Z,0.4nm,0.9s,baz=243,slow=4.1,SNR=6.7
LPAZ La Paz 98.51 111 LR LR 09 49 43.3
comp=Z,70nm,18.3s,baz=51,slow=31
WMQ Urumqi 110.46 310 ePdif Pdif 09 12 33.9 +0.1
WMQ PP PP 09 17 14.3 +3.9
WMQ SKS SKSdf 09 23 40.3 -5.0
WMQ S Sdif 09 24 43.6 -4.4
WMQ SS SS 09 32 37.8 +0.1
WMQ LR LR
comp=Z,50nm,18.0s
WMQ LR LR
comp=Z,81nm,21.4s
WMQ LR LR
comp=Z,81nm,21.0s
MKAR Makanchi Array 114.70 313 PKP PKPdf 09 16 41.6 -0.7
comp=Z,0.2nm,0.5s,baz=186,slow=1.3,SNR=3.4
KURK Kurchatov 117.44 317 PKIKP PKPdf 09 16 45.8 -1.6
KURK Kurchatov 117.44 317 PKP PKPdf 09 16 45.8 -1.6
KURBB Kurchatov Arra 117.49 317 PKP PKPdf 09 16 45.8 -1.7
comp=Z,0.4nm,0.9s,baz=103,slow=1.9,SNR=3.2
KSH Kashi 118.47 304 ePKP PKPdf 09 16 50.4 +0.4
KSH esPKP 09 17 05.5
BVAR Borovoye Array 122.47 320 PKIKP PKPdf 09 16 55.5 -1.6
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 122.47 320 PKP PKPdf 09 16 55.5 -1.6
comp=Z,0.7nm,0.5s,baz=132,slow=2.2,SNR=4.1
BRVK Borovoye 122.53 320 ePKIKP PKPdf 09 16 56.9 -0.3
BRVK Borovoye 122.53 320 ePKPdf PKPdf 09 16 56.9 -0.3
ARU Arti 128.46 325 i PKIKP PKPdf 09 17 07.9 -0.5
ARU 09 19 11.2
ARU SS SS 09 36 17.2 -11
FINES FINESS Array B 138.36 345 PKIKP PKPdf 09 17 26.3 -0.6
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 138.36 345 PKP PKPdf 09 17 26.2 -0.6
comp=Z,0.6nm,0.5s,baz=83,slow=6.0,SNR=4.8
HFS Hagfors 141.77 353 PKhKP PKPpre 09 17 26.7
comp=Z,0.5nm,0.3s,baz=48,slow=2.2,SNR=6.3
SUW Suwalki 145.60 341 ePKIKP PKPdf 09 17 39.2 -0.8
SUW Suwalki 145.60 341 ePKP PKPdf 09 17 39.2 -0.8
AKASG Malin Array Be 146.09 332 PKIKP PKPdf 09 17 40.3 -0.6
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 146.09 332 PKPbc PKPdf 09 17 40.3 -0.6
comp=Z,1.6nm,0.4s,baz=39,slow=4.0,SNR=27
KIEV Kiev 146.10 332 ePKIKP PKPdf 09 17 40.3 -0.6
KIEV Kiev 146.10 332 ePKPbc PKPdf 09 17 40.3 -0.6
EKA Eskdalemuir Ar 146.44 9 PKP2 PKPdf 09 17 41.9 +0.5
EKA pmax pmax
comp=Z,2.0nm,0.8s
EKA Eskdalemuir Ar 146.44 9 PKPbc PKPdf 09 17 41.9 +0.5
comp=Z,2.1nm,0.8s,baz=316,slow=3.0,SNR=4.9
STHS Stebnicka Huta 150.18 339 ePKP2 PKPbc 09 17 53.0 +0.2
STHS Stebnicka Huta 150.18 339 ePKP PKPbc 09 17 53.0 +0.2
KOLS Kolonicke sedl 150.23 337 ePKIKP PKPbc 09 17 52.5 -0.5
KOLS Kolonicke sedl 150.23 337 ePKP PKPbc 09 17 52.5 -0.5
KSP Ksiaz 150.28 346 ePKIKP PKPbc 09 17 52.6 -0.5
KSP Ksiaz 150.28 346 ePKP PKPbc 09 17 52.5 -0.5
BRTR Keskin Array B 150.35 312 PKIKP PKPbc 09 17 52.4 -1.3
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 150.35 312 PKPbc PKPbc 09 17 52.4 -1.3
comp=Z,5.4nm,1.0s,baz=146,slow=1.8,SNR=14
CLL Collm 150.47 350 ePKIKP PKPbc 09 17 53.0 -0.4
CLL i 09 17 54.9
CLL i 09 18 02.7
CLL pmax pmax
comp=Z,11nm,1.4s
CLL Collm 150.47 350 ePKPbc PKPbc 09 17 53.0 -0.4
comp=Z,11nm,1.4s
CLL i PKiKP PKiKP 09 17 54.9 +0.7
comp=Z,9.0nm,1.1s
CLL i (PKPab) PKPab 09 18 02.7 +2.8
CLL i pPKPbc pPKPbc 09 18 04.6 +3.7
UZH Uzhgorod 150.48 337 ePKIKP PKPbc 09 17 53.0 -0.5
UZH i 09 17 57.9
UZH i 09 18 03.5
CRVS Cervenica-Dubn 150.55 338 ePKIKP PKPbc 09 17 53.3 -0.4
CRVS Cervenica-Dubn 150.55 338 ePKP PKPbc 09 17 53.3 -0.4
UPC Upice 150.66 346 ePKIKP PKPbc 09 17 53.8 -0.1
UPC e 09 18 05.3
UPC Upice 150.66 346⇑ ePKP PKPbc 09 17 53.8 -0.1
UPC epPKP PKPab 09 18 05.3 +4.5
BRG Berggiesshubel 150.73 349 ePKP PKPbc 09 17 53.5 -0.6
comp=Z,6.8nm,1.1s
BRG Berggiesshubel 150.73 349 ePKIKP PKPbc 09 17 53.5 -0.6
BRG pmax pmax
comp=Z,7.0nm,1.1s
DPC Dobruska-Polom 150.73 346 ePKIKP PKPbc 09 17 53.8 -0.4
DPC Dobruska-Polom 150.73 346⇑ ePKP PKPbc 09 17 53.8 -0.4
DPC ePKPAB PKPab 09 18 01.0 -0.1
DPC epPKP pPKPdf 09 18 05.6 +9.5
DPC esPKP 09 18 12.3
DPC Dobruska-Polom 150.73 346 ePKPdf PKPbc 09 17 53.8 -0.4
KRLC Kraliky 150.88 345 ePKIKP PKPbc 09 17 53.8 -0.7
KRLC e 09 18 00.8
KRLC e 09 18 05.9
KRLC Kraliky 150.88 345⇑ ePKP PKPbc 09 17 53.8 -0.7
KRLC ePKPAB PKPab 09 18 00.8 -1.0
KRLC epPKP pPKPdf 09 18 05.9 +10
KRLC esPKP 09 18 11.7
MLR Muntele Rosu 151.41 329 PKPbc PKPbc 09 17 55.6 -0.4
comp=Z,1.1nm,1.0s,baz=66,slow=2.7,SNR=3.6
PRU Pruhonice 151.46 347⇑ ePKP PKPbc 09 17 56.0 +0.2
PRU epPKP PKPab 09 18 07.0 +2.9
NKC Novy Kostel 151.60 350⇑ ePKP PKPbc 09 17 55.4 -0.7
NKC epPKP PKPab 09 18 07.6 +2.9
VYHS Vyhne 151.76 341 ePKP PKPbc 09 17 56.2 -0.4
VYHS e 09 18 04.5
KHC Kasperske Hory 152.47 348 ePKIKP PKPbc 09 17 58.3 +0.1
KHC e 09 18 08.5
KHC Kasperske Hory 152.47 348 ePKPDF PKPdf 09 17 53.5 +2.2
KHC ⇑ePKP PKPbc 09 17 58.3 +0.1
KHC epPKP pPKPdf 09 18 01.5 +2.7
KHC ePKPAB PKPab 09 18 08.5 +0.1
KHC ex x 09 18 18.1
KHC Kasperske Hory 152.47 348 ePKPdf PKPbc 09 17 59.4 +1.2
GERES GERESS Array B 152.72 348 PKIKP PKPbc 09 17 57.5 -1.3
GERES pmax pmax
comp=Z,1.0nm,1.0s
GERES GERESS Array B 152.72 348 PKPbc PKPbc 09 17 57.5 -1.3
comp=Z,1.2nm,1.0s,baz=354,slow=1.5,SNR=5.0
TORD Torodi Ar. Bea 170.23 159 PKP PKPdf 09 18 10.1 -0.7
comp=Z,1.3nm,1.1s,baz=222,slow=1.9,SNR=5.6
TORD PKPab PKPab 09 19 30.0 +3.6
comp=Z,1.4nm,1.1s,baz=208,slow=2.8,SNR=4.0

IDC 14 09:17:52.9±2.7, **53°.66N×87°.04E, h0**km, **mb1 2.9**/2, **mb1mx2.8**/43, **mbtmp2.9**/2, **ML2.7**/2, **Error ellipse: s-maj=27.8km s-min=15.2km az=62.0, Southwestern Siberia**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.35 283 i 09 26 58.3
baz=102,slow=347
ZALV Zalesovo Beam 1.35 283 Pg Pg 09 18 16.9 -1.8
1.7nm,0.3s,baz=103,slow=16,SNR=24
ZALV Lg Lg 09 18 36.0
1.0nm,0.3s,baz=110,slow=29,SNR=22
KURBB Kurchatov Arra 6.05 243 Pn Pn 09 19 24.8 +1.2
0.1nm,0.3s,baz=304,slow=27,SNR=6.2
MKAR Makanchi Array 7.51 206 Pn Pn 09 19 45.0 +1.2
0.2nm,0.3s,baz=26,slow=14,SNR=17
MKAR Lg Lg 09 21 49.0
0.0nm,0.3s,baz=29,slow=30,SNR=7.0

IDC 14 09:21:17.5±1.3, **8°.26S×67°.54E, h0**km, **mb3.5**/5, **mb1 3.7**/5, **mb1mx3.4**/34, **mbtmp3.5**/5, **Error ellipse: s-maj=37.6km s-min=34.5km az=135.0, Mid-Indian Ridge**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H08N3 Diego Garcia H 3.92 61 T T 09 27 37.9
baz=242,slow=74,SNR=21
H08N2 Diego Garcia H 3.94 61 T T 09 27 37.9
baz=242,slow=74,SNR=12
H08N1 Diego Garcia H 3.94 61 T T 09 27 44.2
baz=242,SNR=102
BOSA Boshof 44.62 237 P P 09 29 32.1 0.0
2.3nm,1.1s,baz=50,slow=7.9,SNR=1.6
H01W3 Cape Leeuwin H 50.18 129 T T 10 23 53.4
baz=290,slow=75,SNR=11
H01W2 Cape Leeuwin H 50.19 129 T T 10 23 51.9
baz=290,slow=75,SNR=13

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	50.20	129	T	T	10 23 54.0	
	baz=290,slow=75,SNR=13						
MKAR	Makanchi Array	56.36	12	P	P	09 30 59.1	-1.4
	0.2nm,0.8s,baz=202,slow=7.3,SNR=2.0						
ASAR	Alice Springs	65.12	112	P	P	09 32 00.8	0.0
	0.7nm,0.8s,baz=281,slow=5.6,SNR=7.0						
WRA	Warramunga Arr	65.47	108	P	P	09 32 02.8	-0.3
	0.3nm,0.3s,baz=279,slow=6.7,SNR=1.8						
SONM	Songino Array	65.56	28	P	P	09 32 04.6	+1.4
	0.2nm,0.6s,baz=220,slow=5.6,SNR=1.8						

IDC 14 09:56:09.2±3.1, 16°.34N×85°.62W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.6/39, mbtmp3.6/8, ML3.4/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/33, Error ellipse: s-maj=64.2km s-min=29.8km az=156.0
ISCJB 14 09:56:16.2±1.1, 16°.86N±0°.08×86°.08W±0°.09, h33km, mb3.8/4, MS3.2/1, Error ellipse: s-maj=14.3km s-min=9.2km az=40.7
ISC 14 09:56:17.6±1.3, 16°.8N±0°.1×86°.0W±0°.1, h35km, n12, σ1§47/10, mb3.8/4, North of Honduras

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TEIG	Tepich	4.03	328	Pn	Pn	09 57 16.6	-0.1
	37nm,0.3s,baz=120,slow=1.3,SNR=326						
TEIG				Sn	Sn	09 58 00.7	-2.0
	67nm,0.3s,baz=283,slow=21,SNR=22						
APG	El Apazote	4.63	248	Pn	Pn	09 57 23.9	-1.5
	0.3nm,0.3s,baz=357,slow=15,SNR=14						
APG				Sn	Sn	09 58 18.9	+0.7
	1.6nm,0.3s,baz=207,slow=20,SNR=4.5						
JTS	JuntasAbangare	6.55	171	Lg	Lg	09 59 38.5	
	0.8nm,0.3s,baz=162,slow=17,SNR=4.7						
TKL	Tuckaleechee C	18.89	6	P	Pn	10 00 36.7	+0.8
	0.6nm,0.3s,baz=111,slow=4.0,SNR=5.7						
TKL				S	Sn	10 03 48.7	-18
	0.4nm,0.3s,baz=34,slow=7.3,SNR=3.8						
SJG	San Juan	19.00	83	LR	LR	10 07 47.2	
	comp=Z,81nm,18.5s,baz=308,slow=37						
TXAR	Lajitas Array	20.44	311	P	Pn	10 00 55.0	+0.6
	2.5nm,0.8s,baz=131,slow=10,SNR=29						
TXAR				S	S	10 04 30.8	-8.6
	0.3nm,0.7s,baz=120,slow=30,SNR=4.6						
TXAR				LR	LR	10 11 31.2	
	comp=Z,93nm,18.0s,baz=0.0,slow=44						
NVAR	Mina Array Bea	35.53	314	P	P	10 03 13.6	+2.0
	0.4nm,0.7s,baz=122,slow=8.0,SNR=3.5						
SCHQ	Schefferville	40.74	17	P	P	10 03 54.0	-1.0
	2.7nm,0.5s,baz=218,slow=8.4,SNR=9.1						
YKA	Yellowknife Ar	49.84	343	P	P	10 05 08.1	+1.2
	0.0nm,0.5s,baz=137,slow=7.6,SNR=2.8						
ILAR	Eielson Array	62.65	335	P	P	10 06 38.3	-0.1
	0.3nm,0.9s,baz=120,slow=4.7,SNR=7.2						
FINES	FINESS Array B	85.48	27	P	P	10 08 50.6	-1.0
	1.4nm,0.9s,baz=236,slow=3.4,SNR=3.5						
ASAR	Alice Springs	142.02	253	PKhKP	PKPpre	10 15 41.4	
	0.2nm,0.7s,baz=94,slow=3.7,SNR=3.3						

MAN 14 10:04:45, 9°.40N×125°.86E, h5km, mb4.5, ML3.3, MS3.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BUTP	Butuan	0.49	208	eP	Pb	10 04 55.5	-0.6
BUTP				eS	Sb	10 05 07.6	+4.0
SCPH	Surigao	0.52	316	⇓eP	Pb	10 04 56.0	-0.7
SCPH				eS	Sg	10 05 03.2	+1.3
BUKP	Musuan	1.71	207	eP	Pn	10 05 15.5	0.0
BUKP				eS	Sb	10 05 39.0	+0.2

IDC 14 10:12:41.2±22.0, 19°.45S×68°.77W, h140km±137km, mb3.3/2, mb1 3.4/4, mb1mx3.1/26, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=310.4km s-min=37.6km az=23.0
ISC 14 10:12:35.6±1.6, 19°.9S±0°.2×69°.0W±0°.2, h105km, n6, σ0§70/7, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LPAZ	La Paz	3.72	12	P	Pn	10 13 31.8	+0.1
	2.4nm,0.3s,baz=214,slow=6.8,SNR=53						
SIV	San Ignacio	8.47	64	P		10 14 35.5	0.0
	0.6nm,0.3s,baz=274,slow=11,SNR=5.6						
TORD	Torodi Ar. Bea	76.88	71	P	P	10 24 16.6	-0.1
	0.3nm,0.4s,baz=240,slow=5.1,SNR=5.8						
YKA	Yellowknife Ar	89.71	341	P	P	10 25 20.7	-0.7
	0.4nm,0.7s,baz=132,slow=4.9,SNR=15						
MKAR	Makanchi Array	144.39	35	PKP	PKPdf	10 31 59.3	-0.1
	0.1nm,0.9s,baz=251,slow=4.4,SNR=1.7						
SONM	Songino Array	151.92	7	PKPbc	PKPbc	10 32 18.9	+0.5
	0.5nm,0.7s,baz=339,slow=1.1,SNR=5.2						
SONM				pPKPbc	pPKPbc	10 32 48.2	+1.1
	0.6nm,0.8s,baz=246,slow=2.6,SNR=4.9						

MEX 14 10:36:16.8±0.8, 16°.46N×93°.57W, h173km±8km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PCIG		0.82	156	eP	Pn	10 36 41.8	-0.8
PCIG				i S	Sn	10 37 00.3	-2.1
CCIG	Comitan	1.39	97	eP	Pn	10 36 45.9	-1.5
CCIG				i S	Sn	10 37 08.2	-2.7
CMIG	Matias Romero	1.41	297	i P	Pn	10 36 46.4	-0.9
CMIG				eS	Sn	10 37 08.5	-2.3
THIG		1.99	141	eP	Pn	10 36 52.0	-1.2
THIG				eS	Sn	10 37 19.6	-2.0
HUIG	Huatulco	2.53	255	eP	Pn	10 36 57.6	-2.0
HUIG				eS	Sn	10 37 30.3	-2.3
VHO	Vista Hermosa	3.09	282	eP	Pn	10 37 05.6	-0.9
VHO				eS	Sn	10 37 43.3	-1.9
PNIG	Pinotepa	4.37	270	eP	Pn	10 37 21.8	-0.7
PNIG				eS	Sn	10 38 11.6	-2.4

ISCJB 14 10:47:40.9±0.6, 36°.60N±0°.05×71°.16E±0°.09, h150km, mb3.3/3, Error ellipse: s-maj=10.7km s-min=5.5km az=156.1
IDC 14 10:47:41.0±6.7, 36°.51N×71°.30E, h154km±76km, mb3.2/3, mb1 3.2/7, mb1mx2.9/35, mbtmp3.6/7, Error ellipse: s-maj=78.4km s-min=48.8km az=94.0
NNC 14 10:47:47.1±5.9, 36°.97N×71°.18E, h178km±71km, mb2.7, mpv3.6, Error ellipse: s-maj=53.0km s-min=33.6km az=8.0
ISC 14 10:47:41.3±0.9, 36°.58N±0°.07×71°.17E±0°.10, h150km, n23, σ1§36/26, mb3.4/3, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KK31	Karatay Array	6.54	356	⇓P	Pn	10 49 16.4	+1.3
	2.7nm,0.4s,baz=179,slow=12,SNR=101						
KK31				⇑S	Sn	10 50 25.0	-3.6
	5.2nm,0.3s,baz=178,slow=21,SNR=7.1						
AAK	Ala-Archa	6.57	22	P	Pn	10 49 17.3	+1.6
	2.9nm,0.4s						
AAK				⇓S	Sn	10 50 28.2	-1.4
	12nm,0.7s						
AAK	Ala-Archa	6.57	22	P	Pn	10 49 17.5	+1.8
	1.9nm,0.3s,baz=163,slow=6.5,SNR=18						
AAK				S	Sn	10 50 27.5	-2.1
	2.2nm,0.3s,baz=136,slow=23,SNR=15						
TKM2	Tokmak 2	7.19	27	⇑P	Pn	10 49 25.1	+1.1
	2.4nm,0.6s						
TKM2				⇑S	Sn	10 50 44.4	-0.2
	2.5nm,0.5s						
MK09	Makanchi Array	13.13	36	⇓P	Pn	10 50 38.1	-3.8
	0.2nm,0.6s						
MKAR	Makanchi Array	13.15	36	P	Pn	10 50 42.9	+0.6
	0.0nm,0.3s,baz=210,slow=14,SNR=3.6						
DANN	Dangsing	13.42	124	eP	Pn	10 50 46.4	+0.3
	11nm,0.3s						
KOLN	Koldanda	13.70	126	eP	Pn	10 50 50.0	+0.4
	6.7nm,0.3s						
GKN	Gorkha	14.23	123	eP	P	10 50 57.3	-1.8
	14nm,0.4s						
DMN	Daman	14.80	123	eP	P	10 51 04.8	-0.7
	20nm,0.4s						
KKN	Kakani	14.80	122	eP	Pn	10 51 03.3	-0.2
	14nm,0.5s						
AB31	Akbulak array	15.08	331	⇑P	P	10 51 07.3	-0.9
	0.5nm,0.4s,baz=148,slow=12,SNR=7.2						
GUN	Gumba	15.14	121	eP	P	10 51 08.2	-1.2
	11nm,0.3s						
JIRN	Jiri	15.51	121	eP	P	10 51 13.5	0.0
	38nm,0.5s						
RAMN	Ramite	16.24	122	eP	P	10 51 21.7	+0.2
	8.8nm,0.3s						
BVA0	Borovoye Array	16.46	358	⇓P	Pn	10 51 24.9	+1.5
	0.7nm,0.5s,baz=156,slow=9.3,SNR=4.2						
BVAR	Borovoye Array	16.46	358	P	Pn	10 51 23.9	+0.6
	0.2nm,0.3s,baz=150,slow=8.3,SNR=4.4						
TAPN	Taplejung	16.76	119	eP	Pn	10 51 28.0	+0.4
	5.7nm,0.3s						
AKTO	Aktyubinsk	16.78	330	⇓P	Pn	10 51 28.5	+1.2
	2.5nm,0.5s						
AKTO	Aktyubinsk	16.78	330	P	Pn	10 51 28.8	+1.5
	0.8nm,0.3s,baz=136,slow=9.9,SNR=14						
FINES	FINESS Array B	37.50	326	P	P	10 54 41.0	+0.9
	0.5nm,0.4s,baz=116,slow=12,SNR=4.7						
NOA	NORSAR Array B	44.40	323	P	P	10 55 36.7	+0.1
	0.5nm,0.9s,baz=98,slow=7.9,SNR=3.3						
TORD	Torodi Ar. Bea	65.86	269	P	P	10 58 10.1	-0.9
	0.2nm,0.4s,baz=46,slow=5.4,SNR=5.6						

IDC 14 10:50:42.8±2.5, 54°.11N×86°.42E, h0km, mb1 3.1/2, mb1mx2.9/36, mbtmp3.1/2, ML3.1/2, Error ellipse: s-maj=21.3km s-min=12.9km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.96	261	i		10 58 11.7	
	baz=79,slow=338,SNR=0.6						
ZALV	Zalesovo Beam	0.96	261	Pg	Pg	10 50 59.9	-1.3
	2.3nm,0.3s,baz=83,slow=17,SNR=25						
ZALV				Lg	Lg	10 51 14.8	
	3.4nm,0.3s,baz=81,slow=27,SNR=16						
ZALV				Rg	Rg	10 51 22.3	
	3.3nm,0.4s,baz=71,slow=32,SNR=9.0						
KURBB	Kurchatov Arra	5.96	237	Pn	Pn	10 52 13.6	+1.3
	0.7nm,0.3s,baz=55,slow=14,SNR=4.7						
MKAR	Makanchi Array	7.78	201	Pn	Pn	10 52 38.3	+1.0
	0.2nm,0.3s,baz=27,slow=14,SNR=17						

ISCJB 14 11:02:54.9±0.4, 44°.32N±0°.02×18°.86E±0°.03, h9km±4km, Error ellipse: s-maj=3.4km s-min=3.1km az=170.2
CSEM 14 11:02:56.0±0.2, 44°.31N×18°.87E, h10km, ML2.5, Error ellipse: s-maj=4.0km s-min=3.2km az=50.0
BEO 14 11:02:56.6±0.2, 44°.31N×18°.84E, h10km±2km, ML2.5/1
ISC 14 11:02:56.2±1.0, 44°.31N±0°.02×18°.88E±0°.02, h13km±9km, n65, σ0§99/98, 16C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TEKS	Tekeris	0.52	63	⇑iPg	Pb	11 03 07.4	+0.1
TEKS	Tekeris	0.52	63	⇑iPg	Pb	11 03 07.4	+0.1
BBLS	Lazići	0.58	139	i Pg	Pg	11 03 06.7	-1.0
BBLS				eSg	Sg	11 03 15.3	-0.1
BBLS	Lazići	0.58	139	i Pg	Pg	11 03 06.7	-1.0
BBLS				eSg	Sg	11 03 15.3	-0.1
DIVS	Divibare	0.83	104	i Pg	Pg	11 03 11.2	-1.1
DIVS				eSg	Sg	11 03 23.5	+0.4
DIVS	Divibare	0.83	104	i Pg	Pg	11 03 11.2	-1.1
DIVS				eSg	Sg	11 03 23.5	+0.4
FGSL	Fruska Gora	1.08	38	⇓iPg	Pb	11 03 16.8	0.0
FGSL				eSg	Sn	11 03 32.5	+0.6
FRGS	Fruska Gora	1.08	38	⇓iPg	Pb	11 03 16.8	0.0
FRGS				eSg	Sn	11 03 32.5	+0.5
TRUS	Trudelj	1.10	94	ePg	Pb	11 03 15.6	-1.6
TRUS				eSg	Sg	11 03 32.7	+0.9
TRUS	Trudelj	1.10	94	ePg	Pb	11 03 15.6	-1.6
TRUS				eSg	Sg	11 03 32.7	+0.9
IVAS	Ivanjica	1.18	128	i Pg	Pb	11 03 17.0	-1.5
IVAS				eSg	Sb	11 03 34.3	+0.6
IVAS	Ivanjica	1.18	128	i Pg	Pb	11 03 17.0	-1.5
IVAS				eSg	Sb	11 03 34.3	+0.6
BEO	Beograd	1.24	66	ePg	Pn	11 03 18.5	-0.8
BEO				eSg	Sb	11 03 36.2	+0.7
BEO	Beograd	1.24	66	ePg	Pn	11 03 18.5	-0.8
BEO				eSg	Sb	11 03 36.2	+0.7
BLY	Banja Luka	1.29	290	ePg	Pb	11 03 20.5	+0.1
BLY				eSg	Sg	11 03 37.5	-0.3
BLY	Banja Luka	1.29	290	ePg	Pb	11 03 20.5	+0.1
BLY				eSg	Sg	11 03 37.5	-0.3
SJES	Sjenica	1.31	143	ePg	Pn	11 03 19.7	-0.7
SJES				eSg	Sg	11 03 40.6	+2.0
GRUS	Gruza	1.39	107	⇑iPg	Pg	11 03 23.1	+0.2
GRUS				eSg	Sg	11 03 43.4	+2.4
GRUS	Gruza	1.39	107	⇑iPg	Pg	11 03 23.1	+0.2
GRUS				eSg	Sg	11 03 43.4	+2.4
TREB	Trebinje	1.64	194	ePg	Pb	11 03 26.3	0.0
TREB				eSg	Sg	11 03 48.8	-0.1
TREB	Trebinje	1.64	194	ePg	Pb	11 03 26.3	0.0
TREB				eSg	Sg	11 03 48.8	-0.1
STON	Ston	1.67	211	ePn	Pn	11 03 25.4	+0.2
STON				Sn	Sb	11 03 48.6	+0.7
STON	Ston	1.67	211	ePn	Pn	11 03 25.4	+0.2
STON				Sn	Sb	11 03 48.6	+0.7
PDG	Podgorica	1.90	172	ePg	Pb	11 03 30.1	-0.6
PDG				eSg	Sg	11 03 57.7	+0.4
PKSM	Moragy	1.91	355	⇓iPn	Pn	11 03 28.4	-0.1
PKSM				eSg	Sg	11 03 57.4	-0.2
PKSM	Moragy	1.91	355	⇑iP	Pn	11 03 28.6	+0.1
PKSM	Moragy	1.91	355	S	Sn	11 03 51.3	-1.1
PKSM	Moragy	1.91	355	⇓e	Pn	11 03 28.5	-0.1
PKSM				e		11 03 51.0	
PKSM	Moragy	1.91	355	⇑iP	Pn	11 03 28.6	+0.1
PKSM				eSn	Sn	11 03 51.0	-1.4
PKSM				eSg	Sg	11 03 57.4	-0.2
SELS	Selova	1.96	123	ePg	Pn	11 03 28.9	-0.3
PKS2	Kecel	2.19	6	e	Pn	11 04 08.9	+2.1
UDBI	Udbina	2.24	277	ePn	Pn	11 03 33.5	+0.4
UDBI	Udbina	2.24	277	ePn	Pn	11 03 33.5	+0.4
BOLS	Boljevac	2.27	101	ePn	Pn	11 03 34.7	+1.3
BOLS	Boljevac	2.27	101	ePn	Pn	11 03 34.7	+1.3
PKS9	Tamasi	2.32	350	⇑e	Pn	11 03 34.3	+0.2
PKS9				e		11 04 13.2	
PKS9	Tamasi	2.32	350	⇑ePn	Pn	11 03 34.3	+0.2
BZS	Buzias	2.34	55	ePn	Pn	11 03 33.6	-0.9
BZS	Buzias	2.34	55	⇑iP	Pn	11 03 34.0	-0.5
BZS	Buzias	2.34	55	S	Sn	11 04 02.3	-0.8
BZS	Buzias	2.34	55	ePn	Pn	11 03 33.6	-0.9
BZS	Buzias	2.34	55	⇑iP	Pn	11 03 34.0	-0.5
BZS				S	Sn	11 04 02.3	-0.8
BARS	Barje	2.60	124	⇑iPn	Pn	11 03 38.2	+0.1
BARS				eSg	Sn	11 04 22.1	+2.2
BARS	Barje	2.60	124	⇑iPn	Pn	11 03 38.2	+0.1
BARS				eSg	Sg	11 04 22.1	+2.2
NVLJ	Novalja	2.88	276	Sn	Sn	11 04 16.9	+0.6
NVLJ	Novalja	2.88	276	Sn	Sn	11 04 16.9	+0.6
ZAPS	Zavoj	2.91	110	ePn	Pn	11 03 44.0	+1.7
ZAPS				eSg	Sg	11 04 30.8	+1.1
GZR	Gura Zlata	2.98	67	ePn	Pn	11 03 43.1	-0.2
GZR	Gura Zlata	2.98	67	⇓iP	Pn	11 03 43.2	-0.1
GZR	Gura Zlata	2.98	67	⇓iP	Pn	11 03 43.2	-0.1
PKSG		3.10	354	⇓e	Pn	11 03 45.6	+0.7
PKSG				e		11 04 19.9	
PKSG		3.10	354	⇓ePn	Pn	11 03 45.6	+0.7
PKSG				eSn	Sn	11 04 19.9	-1.9
DRGR		3.66	46	ePn	Pn	11 03 54.3	+1.6
DRGR		3.66	46	⇑iP	Pn	11 03 53.1	+0.4
DRGR		3.66	46	S	Sn	11 04 33.9	-1.9
DRGR		3.66	46	⇑iP	Pn	11 03 53.1	+0.4
DRGR		3.66	46	ePn	Pn	11 03 54.3	+1.6
DRGR				S	Sn	11 04 33.9	-1.9
PSZ	Piszkesteto	3.68	11	⇓ePKiKP	Pn	11 03 53.4	+0.5
PSZ	Piszkesteto	3.68	11	⇓ePn	Pn	11 03 53.4	+0.5
ARSA	Arzberg	3.76	323	ePn	Pn	11 03 54.8	+0.8
ARSA	Arzberg	3.76	323	ePn	Pn	11 03 54.8	+0.8
VYHS	Vyhne	4.18	360	ePN	Pn	11 04 00.1	+0.3
VYHS				eSN	Sn	11 04 47.1	-1.5
VYHS	Vyhne	4.18	360	ePn	Pn	11 04 00.1	+0.3
VYHS				eSn	Sn	11 04 47.1	-1.5
ARR	Arges	4.23	74	⇑iP	Pn	11 04 01.2	+0.8
ARR	Arges	4.23	74	⇑iP	Pn	11 04 01.2	+0.8

ISCJB 14 11:03:12.1±1.0, 7°.2S±0°.2×154°.9E±0°.1, h31km, mb3.7/8, MS3.2/1, Error ellipse: s-maj=34.4km s-min=10.4km az=151.4
IDC 14 11:03:16.2±6.2, 7°.27S×154°.92E, h56km±53km, mb3.5/8, mb1 3.8/9, mb1mx3.5/29, mbtmp3.7/9, ML2.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/18, Error ellipse: s-maj=41.4km s-min=29.6km az=134.0
ISC 14 11:03:13.5±1.2, 7°.2S±0°.3×155°.0E±0°.2, h31km, n11, σ1§17/11, mb3.7/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	8.10	254	P	Pn	11 05 10.6	+1.6
	0.4nm,0.3s,baz=80,slow=18,SNR=2.1						
PMG				S	Sn	11 06 39.3	-0.4
	0.5nm,0.3s,baz=112,slow=22,SNR=2.4						
WRA	Warramunga Arr	23.74	236	P	P	11 08 21.4	-1.8
	1.7nm,0.7s,baz=60,slow=9.7,SNR=10.0						
ASAR	Alice Springs	26.08	229	P	P	11 08 43.6	-0.9
	0.6nm,0.7s,baz=58,slow=8.7,SNR=7.8						
ASAJ	Asahikawa	52.29	349	LR	LR	11 34 47.4	
	comp=Z,20nm,18.1s,baz=356,slow=36						
CMAR	Chiang Mai Arr	60.91	296	P	P	11 13 24.4	+0.6
	0.8nm,0.7s,baz=114,slow=4.4,SNR=5.5						
SONM	Songino Array	69.52	327	P	P	11 14 18.8	-0.5
	0.3nm,0.3s,baz=140,slow=5.4,SNR=6.1						
ILAR	Eielson Array	83.54	21	P	P	11 15 37.1	-1.0
	0.2nm,0.4s,baz=233,slow=5.5,SNR=11						
MKAR	Makanchi Array	83.58	319	P	P	11 15 38.0	-0.8
	0.4nm,0.6s,baz=99,slow=5.5,SNR=5.3						
NVAR	Mina Array Bea	91.81	52	P	P	11 16 20.3	+1.4
	0.4nm,0.7s,baz=243,slow=4.0,SNR=3.2						
YKA	Yellowknife Ar	96.49	28	P	P	11 16 40.1	+0.5
	0.3nm,0.5s,baz=266,slow=4.5,SNR=12						
TORD	Torodi Ar. Bea	153.12	285	PKPbc	PKPbc	11 23 09.0	-0.2
	0.4nm,0.6s,baz=67,slow=3.1,SNR=2.1						

IDC 14 11:04:55.2±2.3, 13°.71N×90°.53E, h0km, mb3.2/4, mb1 3.4/5, mb1mx3.2/38, mbtmp3.2/5, ML3.3/1, Error ellipse: s-maj=65.0km s-min=27.1km az=69.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VIS	Vishakhapatnam	8.00	301	i P	Pn	11 06 56.3	+3.6
VIS				i S	Sn	11 08 23.3	-0.7
VIS				i S	Sn	11 08 24.6	+0.6
VIS				ex	x	11 08 25.0	
	comp=E,29nm,0.3s						
VIS				ex	x	11 08 25.8	
	comp=N,30nm,0.3s						
CMAR	Chiang Mai Arr	9.36	59	Pn	Pn	11 07 12.0	+0.5
	comp=N,0.1nm,0.3s,baz=246,slow=15,SNR=1.0						
MKAR	Makanchi Array	33.70	350	P	P	11 11 38.6	+0.5
	comp=N,0.9nm,1.1s,baz=163,slow=8.6,SNR=4.6						
SONM	Songino Array	36.50	18	P	P	11 12 01.5	-0.8
	comp=N,0.1nm,0.4s,baz=201,slow=9.4,SNR=6.2						
WRA	Warramunga Arr	54.55	127	P	P	11 14 25.6	+0.1
	comp=N,0.2nm,0.7s,baz=305,slow=8.6,SNR=1.5						
ASAR	Alice Springs	56.38	131	P	P	11 14 38.4	-0.2
	comp=N,0.1nm,0.5s,baz=311,slow=6.0,SNR=1.3						

IDC 14 11:15:29.2±10.0, 21°.56S×67°.97W, h183km±67km, mb3.3/2, mb1 3.3/4, mb1mx3.1/32, mbtmp3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/12, Error ellipse: s-maj=115.6km s-min=31.8km az=9.0
ISC 14 11:15:20.7±1.6, 21°.9S±0°.4×68°.3W±0°.3, h121km, n8, σ1§13/7, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LPAZ	La Paz	5.56	2	P	Pn	11 16 47.9	+6.0
	0.4nm,0.3s,baz=137,slow=6.6,SNR=6.3						
SIV	San Ignacio	9.00	51	P	Pn	11 17 29.1	+1.3
	1.3nm,0.3s,baz=271,slow=7.9,SNR=19						
SIV				S	Sn	11 19 06.2	-1.2
	0.2nm,0.3s,baz=162,slow=9.3,SNR=1.8						
PLCA	Paso Flores	18.89	185	LR	LR	11 28 23.9	
	comp=Z,54nm,18.2s,baz=276,slow=40						
TORD	Torodi Ar. Bea	76.94	70	P	P	11 27 00.1	-0.3
	0.9nm,0.6s,baz=259,slow=5.4,SNR=17						
YKA	Yellowknife Ar	91.74	340	P	P	11 28 14.1	0.0
	0.1nm,0.6s,baz=138,slow=4.2,SNR=5.7						
ZALV	Zalesovo Beam	142.05	26	PKP	PKPdf	11 34 39.1	+0.9
	0.4nm,0.4s,baz=294,slow=5.7,SNR=2.0						
MKAR	Makanchi Array	145.60	37	PKPbc	PKPdf	11 34 44.5	-0.3
	1.0nm,0.8s,baz=307,slow=2.7,SNR=11						
SONM	Songino Array	153.75	8	PKPbc	PKPbc	11 35 04.6	-1.0
	0.1nm,0.4s,baz=300,slow=3.2,SNR=1.8						

IDC 14 11:22:43.1±48.0, 13°.47S×179°.15E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/35, mbtmp3.8/3, Error ellipse: s-maj=875.2km s-min=164.3km az=72.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.94	236	P	P	11 30 10.1	-0.9
	2.0nm,0.8s,baz=47,slow=9.5,SNR=3.5						
WRA	Warramunga Arr	43.30	255	P	P	11 30 47.3	+0.2
	0.6nm,1.0s,baz=86,slow=8.3,SNR=2.6						
ASAR	Alice Springs	43.91	250	P	P	11 30 52.1	+0.1
	0.8nm,0.5s,baz=83,slow=8.7,SNR=23						

ISCJB 14 11:44:38.7±0.8, 73°.17N±0°.07×6°.9E±0°.5, h11km, mb3.4/6, Error ellipse: s-maj=19.8km s-min=9.9km az=165.7
IDC 14 11:44:39.0±0.9, 73°.11N×6°.39E, h0km, mb3.5/6, mb1 3.6/11, mb1mx3.4/41, mbtmp3.4/11, ML3.0/5, Error ellipse: s-maj=25.0km s-min=13.7km az=67.0
ISC 14 11:44:40.7±0.9, 73°.18N±0°.09×6°.8E±0°.2, h11km, n11, σ0§98/11, mb3.5/6, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SPITS	Spitsbergen Ar	5.55	21	Pn	Pn	11 46 03.0	0.0
	baz=198,slow=16,SNR=22						
SPITS				Sn	Sn	11 46 50.0	-17
	baz=281,slow=9.9,SNR=1.7						
ARCES	ARCESS Array B	7.01	112	Pn	Pn	11 46 23.6	+0.5
	0.3nm,0.3s,baz=316,slow=11,SNR=14						
NOA	NORSAR Array B	12.31	170	Pn	Pn	11 47 35.8	+0.1
	0.2nm,0.3s,baz=346,slow=11,SNR=3.1						
HFS	Hagfors	13.38	165	Pn	Pn	11 47 49.3	-0.8
	0.1nm,0.3s,baz=359,slow=14,SNR=3.7						
FINES	FINESS Array B	13.83	138	Pn	Pn	11 47 54.4	-1.9
	0.1nm,0.3s,baz=347,slow=7.8,SNR=3.5						
VRAC	Vranov	24.35	164	P	P	11 49 58.9	+0.7
	1.3nm,0.4s,baz=331,slow=9.5,SNR=4.7						
AKASG	Malin Array Be	24.58	144	P	P	11 49 59.7	-0.5
	1.2nm,0.6s,baz=345,slow=9.5,SNR=4.0						
GERES	GERESS Array B	24.62	169	P	P	11 50 01.9	+1.2
	0.6nm,0.7s,baz=352,slow=5.8,SNR=3.7						
YKA	Yellowknife Ar	39.02	321	P	P	11 52 05.9	-0.5
	0.2nm,0.7s,baz=22,slow=8.8,SNR=3.2						
ILAR	Eielson Array	41.19	343	P	P	11 52 24.8	+0.4
	0.4nm,0.8s,baz=5.5,slow=5.6,SNR=6.0						
TORD	Torodi Ar. Bea	60.09	186	P	P	11 54 46.9	-0.7
	0.9nm,0.8s,baz=349,slow=5.6,SNR=4.6						

IDC 14 12:02:29.8±16.0, 0°.74S×128°.25E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/27, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=244.9km s-min=144.5km az=154.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.00	163	P	P	12 07 03.7	-0.4
	0.3nm,0.3s,baz=341,slow=12,SNR=22						
ASAR	Alice Springs	23.45	167	P	P	12 07 42.2	+1.3
	0.6nm,0.3s,baz=348,slow=12,SNR=23						
STKA	Stephens Creek	33.44	159	P	P	12 09 09.2	-1.3
	1.7nm,1.0s,baz=323,slow=10,SNR=1.7						

IDC 14 12:04:02.7±2.3, 18°.13S×176°.51W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/23, mbtmp3.7/4, MS3.5/5, Ms1 3.5/5, ms1mx3.1/28, Error ellipse: s-maj=132.1km s-min=28.4km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RAR	Rarotonga	16.06	104	LR	LR	12 13 16.2	
	comp=Z,69nm,18.8s,baz=198,slow=34						
DZM	Mont Dzumac	16.48	253	eLR	LR	12 11 44.7	

351nm,24.5s
DZM Mont Dzumac 16.48 253 LR LR 12 13 08.4
comp=Z,258nm,21.8s,baz=32,slow=33
HNR Honiara 24.42 288 LR LR 12 16 55.0
comp=Z,80nm,19.6s,baz=142,slow=32
PAE Paea 25.63 93 eT T 12 35 37.4
3.4nm,0.3s
PPT2 Papeete2 25.64 93 eLR LR 12 15 42.7
188nm,26.2s
PPT Papeete 25.64 93 LR LR 12 16 26.0
comp=Z,130nm,21.8s,baz=211,slow=29
WRA Warramunga Arr 46.36 259 P P 12 12 30.4 -0.7
0.5nm,0.7s,baz=96,slow=6.3,SNR=6.8
ASAR Alice Springs 46.47 254 P P 12 12 31.9 0.0
1.0nm,0.6s,baz=90,slow=8.2,SNR=15
JCJ Chichijima 60.22 317 LR LR 12 36 00.7
comp=Z,54nm,22.0s,baz=123,slow=32
TXAR Lajitas Array 84.60 52 P P 12 16 38.4 -0.1
0.5nm,0.9s,baz=246,slow=6.6,SNR=4.3
ILAR Eielson Array 85.71 12 P P 12 16 42.5 -0.6
0.8nm,0.9s,baz=223,slow=5.0,SNR=5.3
GERES GERESS Array B 148.26 347 PKPbc PKPbc 12 23 51.5 +0.6
0.4nm,0.8s,baz=57,slow=3.6,SNR=4.0

MEX 14 12:05:45.3±0.9, 16.69N×99.77W, h14km±9km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.20	336	eP	Pb	12 05 52.3	+1.5
ACX				i S	Sb	12 05 55.6	+1.1
CAIG	El Cayaco	0.59	307	i P	Pg	12 05 55.3	-1.6
CAIG				i S	Sg	12 06 03.0	-1.8
MEIG	Mezcala	1.24	7	eP	Pn	12 06 04.0	-4.4
MEIG				i S	Sb	12 06 19.1	-5.6
TLIG	Tlapa	1.45	53	eP	Pn	12 06 08.1	-3.1
TLIG				i S	Sn	12 06 25.0	-5.2
PNIG	Pinotepa	1.61	100	eP	Pn	12 06 10.1	-3.2
PNIG				eS	Sn	12 06 28.6	-5.3
ARIG	Puente Sto Nin	1.68	341	eP	Pn	12 06 11.1	-3.2
ARIG				eS	Sn	12 06 31.7	-4.0
PLIG	Platanillo	1.71	9	eP	Pn	12 06 12.0	-2.9
PLIG				eS	Sn	12 06 32.9	-3.9
ZIIG	Zihuatanejo	1.86	300	eP	Pn	12 06 13.4	-3.3
ZIIG				eS	Sn	12 06 35.6	-4.5
YAIG	Yautepec	2.27	17	eP	Pn	12 06 19.6	-3.0
YAIG				eS	Sn	12 06 46.3	-4.2

NSSC 14 12:20:44.9±25.0, 39.01N×40.76E, h0km±508km, MD2.6, ML3.9
ISK 14 12:20:50.0, 38.74N×40.02E, h6km, ML4.1
DDA 14 12:20:50.7, 38.75N×40.09E, h9km, MD3.9, ML4.2
ISCJB 14 12:20:51.2±0.2, 38.71N±0.02×40.01E±0.02, h10km, mb3.2/6, MS3.1/4, Error ellipse: s-maj=2.8km s-min=2.3km az=156.0
CSEM 14 12:20:51.0±0.1, 38.73N×40.03E, h2km, ML4.1, Error ellipse: s-maj=3.8km s-min=3.4km az=46.0
IDC 14 12:20:52.9±1.0, 38.76N×39.77E, h0km, mb3.4/6, mb1 3.5/12, mb1mx3.3/49, mbtmp3.4/12, ML3.1/4, MS3.0/9, Ms1 3.0/9, ms1mx2.7/29, Error ellipse: s-maj=17.4km s-min=11.9km az=148.0
ISN 14 12:21:15.6±2.5, 37.53N×42.06E, h0km±9km, ML4.1
ISC 14 12:20:51.2±0.6, 38.72N±0.02×40.03E±0.02, h10km, n138, σ1§48/158, mb3.4/6, MS3.1/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.39	67	i Pg	Pn	12 21 01.1	-1.9
PTK	Pertek	0.53	289	PG	Pg	12 21 00.7	-0.8
PTK	Pertek	0.53	289	i Pg	Pg	12 21 00.7	-0.8
BNGB	Bing˘¶l	0.57	62	PG	Pg	12 21 01.1	-1.3
BNGB				eSG	Sg	12 21 09.5	-0.5
DYBB	Diyarbakir	0.77	173	PG	Pb	12 21 06.1	-0.6
DIYA	Diyarbakir	0.80	175	i P	Pb	12 21 07.0	-0.2
DIYA				i S	Sb	12 21 17.5	-0.6
DIYA	Diyarbakir	0.80	175	i P	Pb	12 21 07.0	-0.2
DIYA				i S	Sb	12 21 17.5	-0.6
DIY	Diyarbakir	0.84	169	i Pg	Pg	12 21 06.1	-1.2
ERZN	Erzincan	0.90	345	ePG	Pn	12 21 08.1	-1.9
EUZM	Uzumlu	1.02	345	i P	Pn	12 21 10.6	-1.1
EUZM				i S	Sb	12 21 23.4	-1.1
EUZM	Uzumlu	1.02	345	i P	Pn	12 21 10.6	-1.1
EUZM				i S	Sb	12 21 23.4	-1.1
SVAN	Silvan-Diyarba	1.08	121	ePN	Pg	12 21 11.2	-0.7
VRTB	Varto-Mus	1.20	68	ePN	Pn	12 21 13.0	-1.1
VRTB	Varto-Mus	1.20	68	ePn	Pn	12 21 13.0	-1.1
BTMT	Batman	1.26	114	ePN	Pb	12 21 14.4	-0.7
BTMT	Batman	1.26	114	ePn	Pb	12 21 14.4	-0.7
BEST	Besiri	1.28	130	i P	Pg	12 21 15.0	-0.8
BEST				i S	Sg	12 21 32.4	0.0
MAZI	Mazidag	1.30	165	ePN	Pb	12 21 14.9	-0.9
MAZI	Mazidag	1.30	165	ePn	Pb	12 21 14.9	-0.9
KEMA	Kemaliye	1.32	295	i P	Pg	12 21 15.4	-1.0
KEMA				i S	Sg	12 21 35.2	+1.6
KEMA	Kemaliye	1.32	295	i P	Pg	12 21 15.4	-1.0
KEMA				i S	Sg	12 21 35.2	+1.6
ILIC	ilic-Erzincan	1.35	303	ePN	Pg	12 21 15.8	-1.4
ILIC	ilic-Erzincan	1.35	303	ePn	Pg	12 21 15.8	-1.4
MARD	Mardin	1.52	157	i P	Pb	12 21 19.0	-0.6
MARD				i S	Sb	12 21 39.0	0.0
KELT	Kelkit	1.55	337	i P	Pg	12 21 20.2	-0.7
KELT				i S	Sg	12 21 41.5	+0.5
KELT	Kelkit	1.55	337	i P	Pg	12 21 20.2	-0.7
KELT				i S	Sg	12 21 41.5	+0.5
EZM	Erzurum	1.57	41	ePN	Pg	12 21 20.0	-1.4
URFA	Urfa	1.59	217	ePN	Pn	12 21 19.2	-0.3
URFA	Urfa	1.59	217	ePn	Pn	12 21 19.2	-0.3
BAYT	Ayd˘–ntepe-Bay	1.67	3	ePN	Pb	12 21 20.4	-1.8
BAYT	Ayd˘–ntepe-Bay	1.67	3	ePn	Pb	12 21 20.4	-1.8
KBSD	Kabsdagh	1.76	166	eP	Pn	12 21 21.8	0.0
KBSD				eS	Sb	12 21 45.9	+0.1
KBSD				AML	AML	12 21 49.7	
	comp=N,5μm,0.3s						
KBSD				AML	AML	12 21 55.3	
	comp=Z,3μm,0.5s						
KBSD				AML	AML	12 21 58.0	
	comp=E,4μm,0.6s						
KBSD	Kabsdagh	1.76	166	eP	Pn	12 21 21.8	0.0
	SNR=45						
KBSD				eS	Sb	12 21 45.9	+0.1
	comp=E,4μm,0.6s,SNR=40						
TATV	Tatvan	1.77	96	i P	Pb	12 21 22.7	-1.1
TATV				i S	Sg	12 21 48.1	+0.1
TATV	Tatvan	1.77	96	i P	Pb	12 21 22.7	-1.1
TATV				i S	Sg	12 21 48.1	+0.1
GUMT	Gumushane	1.79	346	ePN	Pb	12 21 22.9	-1.2
GUMT	Gumushane	1.79	346	ePn	Pb	12 21 22.9	-1.2
DARE	Darende-Malaty	2.00	267	ePN	Pn	12 21 25.0	-0.1
DARE	Darende-Malaty	2.00	267	ePn	Pn	12 21 25.0	-0.1
SUSE	Susehri	2.05	317	i P	Pg	12 21 28.8	-1.7
SUSE				i S	Sg	12 21 56.8	-0.3
SUSE	Susehri	2.05	317	i P	Pg	12 21 28.8	-1.7
SUSE				i S	Sg	12 21 56.8	-0.3
SIRN	S˘–rnak	2.24	122	i P	Pb	12 21 29.4	-2.5
SIRN	S˘–rnak	2.24	122	i P	Pb	12 21 29.4	-2.5
SIRT	Sirnak	2.26	122	ePN	Pb	12 21 30.9	-1.2
SIRT	Sirnak	2.26	122	ePn	Pb	12 21 30.9	-1.2
KTUT	Trabzon	2.27	355	ePN	Pb	12 21 28.3	-0.5
KTUT	Trabzon	2.27	355	ePn	Pn	12 21 28.3	-0.5
SFNV	Sufian	2.30	178	eP	Pb	12 21 30.6	-2.2
SFNV				eS	Sb	12 22 01.6	+0.3
SFNV				AML	AML	12 22 10.1	
	comp=N,1μm,0.6s						
SFNV				AML	AML	12 22 16.7	
	comp=E,4μm,0.7s						
SFNV				AML	AML	12 22 17.0	
	comp=Z,2μm,0.6s						
SFNV	Sufian	2.30	178	eP	Pb	12 21 30.6	-2.2
	SNR=45						
SFNV				eS	Sb	12 22 01.6	+0.3
	comp=Z,2μm,0.6s,SNR=40						
GEVA	Gevas	2.41	99	i P	Pb	12 21 32.8	-2.0
GEVA	Gevas	2.41	99	i P	Pb	12 21 32.8	-2.0
GEVA				i S	Sg	12 22 09.5	+0.8
AGRB	Hanur-Agry	2.46	69	ePN	Pn	12 21 32.4	+0.9
AGRB	Hanur-Agry	2.46	69	ePn	Pn	12 21 32.4	+0.9
SVSK	Karacayir	2.64	298	ePN	Pn	12 21 34.2	+0.4
SVSK	Karacayir	2.64	298	ePn	Pn	12 21 34.2	+0.4
RSDY	Resadiye-TOKAT	2.68	310	ePN	Pn	12 21 33.5	-0.9
RSDY	Resadiye-TOKAT	2.68	310	ePn	Pn	12 21 33.5	-0.9
KMRS	Kahramanmaras	2.75	245	ePN	Pn	12 21 35.5	+0.1
KMRS	Kahramanmaras	2.75	245	ePn	Pn	12 21 35.5	+0.1
MNKR	ALMNKUR	2.84	193	eP	Pn	12 21 37.9	+1.3
MNKR				eS	Sb	12 22 16.5	-0.2
MNKR				AML	AML	12 22 23.2	
	comp=Z,2μm,0.6s						
MNKR				AML	AML	12 22 29.4	
	comp=N,5μm,0.5s						
MNKR				AML	AML	12 22 30.8	
	comp=E,4μm,0.3s						
MNKR	ALMNKUR	2.84	193	eP	Pn	12 21 37.9	+1.3
	SNR=45						
MNKR				eS	Sb	12 22 16.5	-0.2
	comp=E,4μm,0.3s,SNR=40						
MZRK	Al-Mazaregh	2.93	170	eP	Pn	12 21 37.4	-0.5
MZRK				eS	Sn	12 22 14.6	+1.5
MZRK				AML	AML	12 22 34.2	
	comp=E,1μm,0.8s						
MZRK				AML	AML	12 22 39.6	
	comp=Z,2μm,0.7s						
MZRK				AML	AML	12 22 46.7	
	comp=N,685nm,0.7s						
MZRK	Al-Mazaregh	2.93	170	eP	Pn	12 21 37.3	-0.5
	SNR=45						
MZRK				eS	Sn	12 22 14.6	+1.5
	comp=N,685nm,0.7s,SNR=40						
KSRV	Kasrt alli	2.97	196	eP	Pn	12 21 39.9	+1.5
KSRV				eS	Sg	12 22 23.7	-2.7
KSRV				AML	AML	12 22 35.0	
	comp=E,661nm,0.7s						
KSRV				AML	AML	12 22 35.5	
	comp=Z,862nm,0.6s						
KSRV				AML	AML	12 22 36.0	
	comp=N,1μm,0.5s						
KSRV	Kasrt alli	2.97	196	eP	Pn	12 21 39.8	+1.5
	SNR=45						
KSRV				eS	Sg	12 22 23.7	-2.7
	comp=N,1μm,0.5s,SNR=40						
SLMH	Al Salmeh	3.01	214	eP	Pn	12 21 39.6	+0.7
SLMH				eS	Sn	12 22 07.9	-7.2
SLMH				AML	AML	12 22 34.9	
	comp=Z,671nm,0.6s						
SLMH				AML	AML	12 22 44.5	
	comp=E,2μm,0.6s						
SLMH				AML	AML	12 22 47.0	
	comp=N,2μm,0.6s						
SLMH	Al Salmeh	3.01	214	eP	Pn	12 21 39.6	+0.7
	SNR=45						
KARS	Kars	3.03	50	ePN	Pn	12 21 40.3	+1.0
KARS	Kars	3.03	50	ePn	Pn	12 21 40.3	+1.0
CLDR	Caldiran	3.06	81	ePN	Pn	12 21 39.6	-0.2
CLDR	Caldiran	3.06	81	ePn	Pn	12 21 39.6	-0.2
ANDN	Andirin	3.12	250	i P	Pn	12 21 41.8	+1.3
ANDN	Andirin	3.12	250	i P	Pn	12 21 41.8	+1.3
ANDN				i S	Sg	12 22 33.5	+2.1
HAKT	HAKKARI	3.12	111	i S	Sg	12 22 31.1	-0.4
HAKT	HAKKARI	3.12	111	i S	Sg	12 22 31.1	-0.4
CUKT	Cukurca	3.19	116	ePN	Pn	12 21 43.1	+1.6
CUKT	Cukurca	3.19	116	ePn	Pn	12 21 43.1	+1.6
BNN	Bunyan	3.27	274	ePN	Pn	12 21 44.5	+1.8
BNN	Bunyan	3.27	274	ePn	Pn	12 21 44.5	+1.8
KOZT	Kozan	3.54	251	ePN	Pn	12 21 47.5	+1.3
KOZT	Kozan	3.54	251	ePn	Pn	12 21 47.5	+1.3
AKH	Akhalkalaki	3.78	44	P	Pg	12 22 02.9	-0.7
CEYT	Ceyhan	3.79	245	ePN	Pn	12 21 50.6	+0.9
CEYT	Ceyhan	3.79	245	ePn	Pn	12 21 50.6	+0.9
KVT	Kavak	3.87	309	ePN	Pn	12 21 50.6	-0.1
KVT	Kavak	3.87	309	ePn	Pn	12 21 50.6	-0.1
BTCH	Batrach	3.91	228	eP	Pn	12 21 52.4	+1.1
BTCH				eS	Sb	12 22 43.8	-3.7
BTCH				AML	AML	12 23 06.9	
	comp=Z,926nm,0.5s						
BTCH				AML	AML	12 23 09.7	
	comp=E,818nm,0.6s						
BTCH				AML	AML	12 23 10.0	
	comp=N,1μm,0.6s						
BTCH	Batrach	3.91	228	eP	Pn	12 21 52.4	+1.1
	SNR=45						
BTCH				eS	Sb	12 22 43.8	-3.7
	comp=N,1μm,0.6s,SNR=40						
GNI	Garni	3.92	67	Pn	Pb	12 21 59.1	-1.3
	comp=N,1.1nm,0.3s,baz=180,slow=13,SNR=3.3						
GNI				Lg	Lg	12 22 57.9	
	comp=N,0.8nm,0.3s,baz=183,slow=16,SNR=1.3						
KARA	Karaisali	4.19	251	ePN	Pn	12 21 57.5	+2.3
KARA	Karaisali	4.19	251	ePn	Pn	12 21 57.5	+2.3
NIG	Nigde	4.30	264	ePN	Pn	12 21 58.5	+1.6
NIG	Nigde	4.30	264	ePn	Pn	12 21 58.5	+1.6
ARNB	Al Arnab	4.31	230	eP	Pn	12 21 58.8	+1.9
ARNB				eS	Sg	12 23 05.4	-4.3
ARNB				AML	AML	12 23 17.8	
	comp=N,274nm,0.5s						
ARNB				AML	AML	12 23 21.9	
	comp=E,443nm,0.5s						
ARNB				AML	AML	12 23 25.3	
	comp=Z,134nm,0.5s						
ARNB	Al Arnab	4.31	230	eP	Pn	12 21 58.8	+1.9
	SNR=45						
ARNB				eS	Sg	12 23 05.4	-4.3
	comp=Z,134nm,0.5s,SNR=40						
CORM	Corum	4.42	291	ePN	Pn	12 21 59.9	+1.4
CORM	Corum	4.42	291	ePn	Pn	12 21 59.9	+1.4
DIKM	Dikmen	4.68	310	ePN	Pn	12 22 02.3	+0.4
DIKM	Dikmen	4.68	310	ePn	Pn	12 22 02.3	+0.4
MERS	Mersin	4.74	249	ePN	Pn	12 22 04.4	+1.7
MERS	Mersin	4.74	249	ePn	Pn	12 22 04.4	+1.7
IKRK	Kirkuk	4.78	133	ePG	Pg	12 22 18.3	-4.5
IKRK				eSG	Sn	12 22 59.9	+1.1
RABH	Abou Rabah	4.84	209	eP	Pn	12 22 06.0	+1.8
RABH				eS	Sb	12 23 07.2	-7.3
RABH				AML	AML	12 23 35.8	
	comp=N,232nm,0.7s						
RABH				AML	AML	12 23 36.6	
	comp=Z,199nm,0.6s						
RABH				AML	AML	12 23 48.9	
	comp=E,238nm,0.7s						
RABH	Abou Rabah	4.84	209	eP	Pn	12 22 05.9	+1.8
	SNR=45						
RABH				eS	Sb	12 23 07.2	-7.3
	comp=E,238nm,0.7s,SNR=40						
BRTR	Keskin Array B	5.06	283	Pn	Pn	12 22 08.9	+1.7
	comp=E,1.4nm,0.3s,baz=111,slow=14,SNR=55						
SULT	Sultanhani-AKS	5.14	266	ePN	Pn	12 22 08.5	+0.2
SULT	Sultanhani-AKS	5.14	266	ePn	Pn	12 22 08.5	+0.2
KBZ	Khabaz	5.45	22	Pn	Pn	12 22 16.7	+4.3
	comp=E,0.1nm,0.3s,baz=83,slow=8.1,SNR=2.3						
KBZ				LR	LR	12 24 46.4	
	comp=E,261nm,19.3s,baz=177,slow=42						
AFSR	Af˘ar-Bala (A	5.46	280	ePN	Pn	12 22 14.0	+1.3
AFSR	Af˘ar-Bala (A	5.46	280	ePn	Pn	12 22 14.0	+1.3
MARH	Ras Al Marh	5.49	212	eP	Pn	12 22 15.0	+1.7
MARH				eS	Sn	12 23 17.6	+1.0
MARH				AML	AML	12 23 57.7	
	comp=N,90nm,0.6s						
MARH				AML	AML	12 24 05.8	
	comp=Z,200nm,0.7s						
MARH				AML	AML	12 24 07.5	
	comp=E,204nm,0.6s						
MARH	Ras Al Marh	5.49	212	eP	Pn	12 22 15.0	+1.7
	SNR=45						
MARH				eS	Sn	12 23 17.6	+1.0
	comp=E,204nm,0.6s,SNR=40						
RTB	Rutbah	5.68	178	ePn	Pb	12 22 28.7	-1.8
RTB				eSn	Sn	12 23 20.0	-1.0
ZALF	Zalf	6.19	202	eP	Pn	12 22 20.4	-2.2
ZALF				eS	Sn	12 23 27.7	-5.7
ZALF				AML	AML	12 24 19.8	
	comp=E,94nm,0.6s						
ZALF				AML	AML	12 24 26.2	
	comp=N,133nm,0.7s						
ZALF				AML	AML	12 24 27.1	
	comp=Z,51nm,0.6s						
BRBR	Barbar	6.24	213	eP	Pn	12 22 23.6	+0.1
BRBR				eS	Sb	12 23 46.4	-8.5
BRBR				AML	AML	12 24 23.7	
	comp=N,175nm,0.6s						
BRBR				AML	AML	12 24 29.2	
	comp=E,62nm,0.7s						
BRBR				AML	AML	12 24 32.8	
	comp=Z,105nm,0.6s						
BRBR	Barbar	6.24	213	eP	Pn	12 22 23.6	+0.1
	SNR=45						
BHD	Baghdad	6.48	146	ePn	Pn	12 22 27.4	+0.8
	SNR=39						
BHD	Baghdad	6.48	146	ePN	Pn	12 22 27.4	+0.8
BHD				eSN	Sn	12 23 19.5	-21
CSS	Prodhromos	6.55	237	ePN	Pn	12 22 30.1	+2.5
CSS	Prodhromos	6.55	237	ePn	Pn	12 22 30.1	+2.5
SALA	Sala	6.57	205	eP	Pn	12 22 24.4	-3.6
SALA				eS	Sn	12 23 46.6	+3.5
SALA				AML	AML	12 24 36.1	
	comp=N,112nm,0.6s						
SALA				AML	AML	12 24 42.3	
	comp=E,8.5nm,0.6s						
SALA				AML	AML	12 24 44.8	
	comp=Z,145nm,0.7s						
MMAI	Mount Meron Ar	6.82	215	Pn	Pn	12 22 31.8	+0.4
	comp=Z,3.5nm,0.3s,baz=52,slow=15,SNR=3.4						
MMAI				LR	LR	12 24 26.6	
	comp=Z,22nm,21.6s,baz=335,slow=32						
MMAI				Lg	Lg	12 24 28.1	
	comp=Z,2.4nm,0.3s,baz=32,slow=22,SNR=2.1						
ASF	Jabal al Asfar	7.01	202	Pn	Pn	12 22 37.7	+3.6
	comp=Z,0.8nm,0.3s,baz=333,slow=13,SNR=2.5						
ASF				Lg	Lg	12 24 34.7	
	comp=Z,2.1nm,0.3s,baz=34,slow=14,SNR=3.1						
IBDR	Badra	7.37	138	ePN	Pn	12 22 38.6	-0.1
IBDR				eSN	Sn	12 23 38.5	-24
NSR	Nassriya	9.18	145	ePN	Pn	12 23 05.3	+1.6
NSR				eSN	Sn	12 24 24.8	-22
EIL	Elat	9.96	206	LR	LR	12 27 27.3	
	comp=Z,83nm,21.6s,baz=14,slow=40						
MLR	Muntele Rosu	12.45	307	LR	LR	12 29 50.0	
	comp=Z,22nm,19.5s,baz=126,slow=44						
IDI	Anoyia	12.58	259	LR	LR	12 29 07.7	
	comp=Z,44nm,19.6s,baz=72,slow=40						
AKASG	Malin Array Be	14.21	331	Pn	Pn	12 24 14.2	+1.8
	comp=Z,0.1nm,0.3s,baz=130,slow=13,SNR=2.2						
GERES	GERESS Array B	21.43	307	P	P	12 25 41.2	+1.8
	comp=Z,0.3nm,0.8s,baz=114,slow=8.9,SNR=2.6						
FINES	FINESS Array B	24.34	344	P	P	12 26 10.7	+1.9
	comp=Z,0.8nm,0.6s,baz=153,slow=13,SNR=2.8						
AAK	Ala-Archa	26.32	70	LR	LR	12 37 36.1	
	comp=Z,55nm,20.6s,baz=268,slow=38						
HFS	Hagfors	27.10	331	P	P	12 26 36.6	+2.7
	comp=Z,1.4nm,0.7s,baz=140,slow=4.9,SNR=2.4						
HFS				LR	LR	12 38 54.6	
	comp=Z,60nm,21.0s,baz=195,slow=40						
NOA	NORSAR Array B	28.62	331	LR	LR	12 38 01.5	
	comp=Z,19nm,20.7s,baz=130,slow=36						
MKAR	Makanchi Array	31.74	61	P	P	12 27 20.9	+5.6
	comp=Z,0.6nm,0.8s,baz=263,slow=7.2,SNR=6.9						
TORD	Torodi Ar. Bea	42.39	244	P	P	12 28 46.8	+0.8
	comp=Z,0.4nm,0.8s,baz=44,slow=8.1,SNR=2.3						
SONM	Songino Array	47.81	56	LR	LR	12 53 09.2	
	comp=Z,72nm,20.1s,baz=210,slow=40						
YKA	Yellowknife Ar	77.08	348	P	P	12 32 46.7	+2.5
	comp=Z,0.1nm,0.6s,baz=16,slow=6.1,SNR=2.5						

DJA 14 12:21:14.2±1.3, 3°S±12°×13°9E±°, h10km, M3.6/4, MLv3.6/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.14	44	P	Pn	12 21 37.1	+0.9
GENI				S	Sb	12 21 46.0	-4.8
SMPI	Sarmi	1.57	335	P	Pg	12 21 45.8	+1.4
JAY	Jayapura	1.60	56	P	Pn	12 21 43.2	+0.6
SRPI	Serui, Papua	3.49	296	P	Pn	12 22 03.6	-5.1

NIED 14 12:21:00, 42.00N×139.20E, h8km, Mw3.5 Best double couple: $M_0$1.91000×10[14] NP1:φs14.00000°, δ40.00000°, λ126.00000°. NP2:φs150.00000°, δ58.00000°, λ64.00000°.
ISCJB 14 12:21:20.0±0.7, 42.04N±0.06×139.15E±0.06, h16km, mb3.4/3, Error ellipse: s-maj=8.6km s-min=6.0km az=1.5
IDC 14 12:21:20.6±2.9, 42.26N×139.11E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.1/51, mbtmp3.3/6, ML2.4/3, Error ellipse: s-maj=83.2km s-min=26.1km az=158.0
JMA 14 12:21:21.3±0.1, 42.04N×139.22E, h15km±1km, M3.9
JMA Felt I J1.
ISC 14 12:21:21.8±1.0, 42.05N±0.06×139.26E±0.06, h16km, n12, σ1§02/16, mb3.4/3, 1C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	Okushiri--Mats	0.17	78	⇓P	Pg	12 21 25.8	-0.3
JOSM				eS	Sg	12 21 28.6	-0.3
JYM2	Yakumo 2	0.83	85	⇓P	Pb	12 21 37.4	-0.5
JYM2				eS	Sg	12 21 49.0	0.0
JSH	Shimam	0.83	44	⇑P	Pb	12 21 37.2	-0.7
JSH				eS	Sb	12 21 48.3	-0.6
JSR	Shiriuchi	1.01	120	P	Pb	12 21 40.3	-0.6
JSR				eS	Sb	12 21 53.3	-0.7
JSI2	Shiura 2	1.31	138	P	Pn	12 21 44.2	-1.3
JKB	Kayabe	1.33	96	P	Pn	12 21 44.3	-1.5
ASAJ	Asahikawa	3.20	49	Pn	Pn	12 22 12.9	+1.4
	0.2nm,0.3s,baz=158,slow=24,SNR=1.7						
USRK	Ussuriysk Arra	5.74	294	Pn	Pn	12 22 44.7	-1.6
	0.7nm,0.3s,baz=112,slow=14,SNR=11						
KSRS	Korea Array	9.86	246	Pn	Pn	12 23 44.5	+1.7
	0.2nm,0.3s,baz=62,slow=15,SNR=3.7						
ILAR	Eielson Array	46.24	35	P	P	12 29 46.4	+0.5
	0.4nm,0.9s,baz=299,slow=9.4,SNR=5.6						
INK	Inuvik	50.74	29	P	P	12 30 20.4	0.0
	0.7nm,0.5s,baz=306,slow=6.4,SNR=8.5						
YKA	Yellowknife Ar	60.34	31	P	P	12 31 29.3	-0.2
	0.1nm,0.6s,baz=309,slow=6.0,SNR=5.1						

ISCJB 14 12:25:10.8±0.4, 67.21N±0.03×20.7E±0.1, h0km, Error ellipse: s-maj=6.3km s-min=3.3km az=23.8
UPP 14 12:25:11.9, 67.21N×20.70E, h0km, ML1.9, Suspected Mining explosion.
CSEM 14 12:25:11.8±0.2, 67.19N×20.60E, h2km, ML1.9, Error ellipse: s-maj=6.1km s-min=3.6km az=95.0, Mining explosion.
IDC 14 12:25:11.4±1.0, 67.24N×20.96E, h0km, mb1 2.8/4, mb1mx2.7/48, mbtmp2.7/4, ML2.4/4, Error ellipse: s-maj=16.9km s-min=7.0km az=118.0
HEL 14 12:25:12.5±0.1, 67.19N×20.70E, h0km, ML1.9(UPP), Explosion
NAO 14 12:25:12.0±1.0, 67.19N×20.92E, ML2.1
BER 14 12:25:13.6±3.4, 67.19N×20.63E, h0km, ML2.0, ML2.1(NAO), Suspected explosion
ISC 14 12:25:11.1±0.7, 67.21N±0.02×20.69E±0.03, h0km, n71, σ1§14/93, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.10	209	i P	Pg	12 25 14.2	+1.2
DUNU				i S	Sg	12 25 15.4	+1.2
DUNU	Dundret	0.10	209	P	Pg	12 25 14.2	+1.2
DUNU				S	Sg	12 25 15.4	+1.2
DUNU	Dundret	0.10	209	P	Pg	12 25 14.2	+1.2
DUNU				S	Sg	12 25 15.4	+1.2
KUA	Kurravaara	0.76	350	i P	Pg	12 25 26.4	+0.6
KUA	Kurravaara	0.76	350	P	Pg	12 25 26.4	+0.6
KUA	Kurravaara	0.76	350	P	Pg	12 25 26.4	+0.6
SALU	Saltoluokta	0.87	283	i P	Pg	12 25 28.0	+0.3
SALU	Saltoluokta	0.87	283	P	Pg	12 25 28.0	+0.3
SALU	Saltoluokta	0.87	283	P	Pg	12 25 28.0	+0.3
NIKU	Nikkaluokta	0.92	317	eP	Pg	12 25 28.8	+0.1
NIKU	Nikkaluokta	0.92	317	P	Pg	12 25 28.8	+0.1
NIKU	Nikkaluokta	0.92	317	P	Pg	12 25 28.8	+0.1
LANU	Lannavaara	0.98	30	eP	Pg	12 25 30.4	+0.4
LANU				eS	Sb	12 25 45.0	+0.4
LANU	Lannavaara	0.98	30	P	Pg	12 25 30.4	+0.4
LANU				S	Sb	12 25 44.9	+0.4
LANU	Lannavaara	0.98	30	P	Pg	12 25 30.4	+0.4
HARU	Harads	1.05	174	eP	Pg	12 25 30.7	-0.6
HARU	Harads	1.05	174	P	Pg	12 25 30.7	-0.6
HARU	Harads	1.05	174	P	Pg	12 25 30.7	-0.6
HEF	Hetta	1.65	42	eP	Pn	12 25 42.1	+0.7
HEF	Hetta	1.65	42	P	Pn	12 25 42.1	+0.7
KALU	Kalix	1.72	140	eP	Pn	12 25 42.6	+0.3
KALU	Kalix	1.72	140	P	Pn	12 25 42.6	+0.3
KALU	Kalix	1.72	140	P	Pn	12 25 42.6	+0.3
SJUU	Sjulsmark	1.75	167	eP	Pn	12 25 42.6	0.0
SJUU	Sjulsmark	1.75	167	P	Pn	12 25 42.6	0.0
SJUU	Sjulsmark	1.75	167	P	Pn	12 25 42.6	0.0
KIF	Kilpisjarvi	1.81	1	Pn	Pb	12 25 44.8	-0.3
KIF				Pg	Pg	12 25 45.9	+0.2
KIF				Lg	Lg	12 26 12.5	

KIF	**Kilpisjarvi**	**1.81**	**1**	Pn	**Pb**	**12 25 44.8**	**-0.3**
KIF				Pg	**Pg**	**12 25 45.9**	**+0.2**
KIF				Lg	Lg	12 26 12.5	
KIF	**Kilpisjarvi**	**1.81**	**1**	Pn	**Pb**	**12 25 44.8**	**-0.3**
KIF				Pg	**Pg**	**12 25 45.9**	**+0.2**
KIF				Lg	Lg	12 26 12.5	
KIF	**Kilpisjarvi**	**1.81**	**1**	Pn	**Pb**	**12 25 44.8**	**-0.3**
KIF				Pg	**Pg**	**12 25 45.9**	**+0.2**
KIF				Lg	Lg	12 26 12.5	
KIF	**Kilpisjarvi**	**1.81**	**1**	eP	**Pg**	**12 25 45.7**	**0.0**
KIF	**Kilpisjarvi**	**1.81**	**1**	Pn	**Pb**	**12 25 44.8**	**-0.3**
	SNR=50						
KIF	**Kilpisjarvi**	**1.81**	**1**	P	**Pg**	**12 25 45.7**	**0.0**
LILU	**Lilltraesk**	**1.96**	**190**	eP	**Pn**	**12 25 45.8**	**+0.3**
LILU	**Lilltraesk**	**1.96**	**190**	P	**Pn**	**12 25 45.8**	**+0.3**
LILU	**Lilltraesk**	**1.96**	**190**	P	**Pn**	**12 25 45.8**	**+0.3**
KTK1	**Kautokeino**	**2.05**	**27**	eSg	**Sg**	**12 26 17.9**	**+0.9**
KTK1				IAML		12 26 24.8	
	comp=N,20nm,0.4s						
BURU	**Burvik**	**2.65**	**174**	eP	**Pn**	**12 25 56.1**	**+1.1**
BURU	**Burvik**	**2.65**	**174**	P	**Pn**	**12 25 56.1**	**+1.1**
BURU	**Burvik**	**2.65**	**174**	P	**Pn**	**12 25 56.1**	**+1.1**
ARA0	**ARCESS Array S**	**2.94**	**35**	Pn	**Pn**	**12 26 00.3**	**+1.3**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**12 26 34.2**	**-0.9**
	baz=218,slow=16						
ARA0				Lg	Lg	12 26 43.4	
	baz=204,slow=37						
ARA0	**ARCESS Array S**	**2.94**	**35**	Pn	**Pn**	**12 26 00.3**	**+1.3**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**12 26 34.2**	**-0.9**
	baz=218,slow=16						
ARA0				Lg	Lg	12 26 43.4	
	baz=204,slow=37						
ARA0	**ARCESS Array S**	**2.94**	**35**	Pn	**Pn**	**12 26 00.3**	**+1.3**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**12 26 34.2**	**-0.9**
	baz=218,slow=16						
ARA0				Lg	Lg	12 26 43.4	
	baz=204,slow=37						
ARA0	**ARCESS Array S**	**2.94**	**35**	Pn	**Pn**	**12 26 00.3**	**+1.3**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**12 26 34.2**	**-0.9**
	baz=218,slow=16						
ARA0				Lg	Lg	12 26 43.4	
	baz=204,slow=37						
ARA0	**ARCESS Array S**	**2.94**	**35**	eP	**Pn**	**12 26 00.9**	**+1.7**
ARA0	**ARCESS Array S**	**2.94**	**35**	Pn	**Pn**	**12 26 00.3**	**+1.3**
	SNR=50						
ARA0	**ARCESS Array S**	**2.94**	**35**	P	**Pn**	**12 26 00.8**	**+1.7**
ARA0				Sn	**Sn**	**12 26 34.2**	**-0.9**
	SNR=50						
ARA0				Lg	Lg	12 26 43.4	
ARCES	**ARCESS Array B**	**2.94**	**35**	Pn	**Pn**	**12 25 59.8**	**+0.7**
	comp=N,0.5nm,0.3s,baz=218,slow=12,SNR=1.7						
ARCES				Pg	**Pb**	**12 26 01.5**	**-2.9**
	comp=N,0.5nm,0.3s,baz=216,slow=13,SNR=1.8						
ARCES				Lg	Lg	12 26 38.7	
	comp=N,0.9nm,0.3s,baz=210,slow=24,SNR=2.3						
APA0	**Apatity Array**	**4.76**	**80**	Sn	**Sn**	**12 27 21.8**	**+1.9**
	baz=274,slow=28						
APA0				Lg	Lg	12 27 39.5	
	baz=274,slow=28						
APA0	**Apatity Array**	**4.76**	**80**	Sn	**Sn**	**12 27 21.8**	**+1.9**
	baz=274,slow=28						
APA0				Lg	Lg	12 27 39.5	
	baz=274,slow=28						
APA0	**Apatity Array**	**4.76**	**80**	Sn	**Sn**	**12 27 21.8**	**+1.9**
	baz=274,slow=28						
APA0				Lg	Lg	12 27 39.5	
	baz=274,slow=28						
APA0	**Apatity Array**	**4.76**	**80**	Sn	**Sn**	**12 27 21.8**	**+1.9**
	baz=274,slow=28						
APA0				Lg	Lg	12 27 39.5	
	baz=274,slow=28						
APA0	**Apatity Array**	**4.76**	**80**	Sn	**Sn**	**12 27 21.8**	**+1.9**
	SNR=50						
FIA0	**FINESS Array S**	**6.24**	**155**	Pn	**Pn**	**12 26 45.9**	**+1.6**
	baz=344,slow=12						
FIA0				Sn	**Sn**	**12 27 53.7**	**-2.5**
	baz=343,slow=28						
FIA0				Lg	Lg	12 28 24.5	
	baz=345,slow=22						
FIA0	**FINESS Array S**	**6.24**	**155**	Pn	**Pn**	**12 26 45.9**	**+1.6**
	baz=344,slow=12						
FIA0				Sn	**Sn**	**12 27 53.7**	**-2.5**
	baz=343,slow=28						
FIA0				Lg	Lg	12 28 24.5	
	baz=345,slow=22						
FIA0	**FINESS Array S**	**6.24**	**155**	Pn	**Pn**	**12 26 45.9**	**+1.6**
	baz=344,slow=12						
FIA0				Sn	**Sn**	**12 27 53.7**	**-2.5**
	baz=343,slow=28						
FIA0				Lg	Lg	12 28 24.5	
	baz=345,slow=22						
FIA0	**FINESS Array S**	**6.24**	**155**	Pn	**Pn**	**12 26 45.9**	**+1.6**
	baz=344,slow=12						
FIA0				Sn	**Sn**	**12 27 53.7**	**-2.5**
	baz=343,slow=28						
FIA0				Lg	Lg	12 28 24.5	
	baz=345,slow=22						
FIA0	**FINESS Array S**	**6.24**	**155**	Pn	**Pn**	**12 26 45.9**	**+1.6**
	SNR=50						
FIA0				Lg	Lg	12 28 24.5	
FINES	**FINESS Array B**	**6.24**	**155**	Pn	**Pn**	**12 26 45.9**	**+1.6**
	comp=N,0.1nm,0.3s,baz=351,slow=12,SNR=1.5						
FINES				Sn	**Sn**	**12 27 56.5**	**+0.3**
	comp=N,0.2nm,0.3s,baz=345,slow=22,SNR=2.2						
FINES				Lg	Lg	12 28 24.6	
	comp=N,0.2nm,0.3s,baz=352,slow=27,SNR=2.0						
NB2	**NORSAR Subarra**	**7.44**	**218**	Pn	**Pn**	**12 27 01.5**	**+0.7**
NB2	**NORSAR Subarra**	**7.44**	**218**	Pn	**Pn**	**12 27 01.5**	**+0.7**
NB2	**NORSAR Subarra**	**7.44**	**218**	Pn	**Pn**	**12 27 01.5**	**+0.7**
NB2	**NORSAR Subarra**	**7.44**	**218**	Pn	**Pn**	**12 27 01.5**	**+0.7**
NB2	**NORSAR Subarra**	**7.44**	**218**	Pn	**Pn**	**12 27 01.5**	**+0.7**
	SNR=50						
NOA	**NORSAR Array B**	**7.44**	**218**	Pn	**Pn**	**12 27 01.4**	**+0.7**
	comp=N,0.1nm,0.3s,baz=29,slow=11,SNR=1.4						
NOA				Sn	**Sn**	**12 28 24.8**	**-1.1**
	comp=N,0.2nm,0.3s,baz=60,slow=18,SNR=2.0						
NOA				Lg	Lg	12 29 05.0	
	comp=N,0.3nm,0.3s,baz=11,slow=7.3,SNR=3.6						
HFS	**Hagfors**	**7.75**	**207**	Pn	**Pn**	**12 27 03.9**	**-1.1**
	baz=14,slow=18						
HFS	**Hagfors**	**7.75**	**207**	Pn	**Pn**	**12 27 03.9**	**-1.1**
	baz=14,slow=18						
HFS	**Hagfors**	**7.75**	**207**	Pn	**Pn**	**12 27 03.9**	**-1.1**
	baz=14,slow=18						
HFS	**Hagfors**	**7.75**	**207**	Pn	**Pn**	**12 27 03.9**	**-1.1**
	baz=14,slow=18						
HFS	**Hagfors**	**7.75**	**207**	Pn	**Pn**	**12 27 04.1**	**-0.9**
	comp=N,0.1nm,0.3s,baz=15,slow=12,SNR=1.8						
HFS				Sn	**Sn**	**12 28 32.1**	**-1.2**
	comp=N,0.2nm,0.3s,baz=21,slow=21,SNR=2.4						
HFS				Lg	Lg	12 29 13.3	
	comp=N,0.1nm,0.3s,baz=20,slow=22,SNR=1.7						
HFS	**Hagfors**	**7.75**	**207**	Pn	**Pn**	**12 27 03.9**	**-1.1**
	SNR=50						

*ISCJB **14** 12:29:22.8±0.8,24.°5N±0.°1×94.°6E±0.°1,h82km,mb3.2/4, Error ellipse: s-maj=23.5km s-min=9.4km az=34.8*
*IDC **14** 12:29:26.5±4.0,24.°58N×94.°90E,h96km±37km,mb3.0/4, mb1 3.2/5,mb1mx2.9/46,mbtmp3.3/5, Error ellipse: s-maj=76.6km s-min=18.7km az=67.0*
ISC 14 12:29:24.5±1.0,**24.°5N**±0.°2×**94.°6E**±0.°1,**h82**km,**n6**,σ**1.°04**/7, **mb3.3**/4,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.66**	**293**	ePN	**Pn**	**12 30 06.0**	**+0.5**
SHL				eSN	**Sn**	**12 30 36.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**7.27**	**145**	P	**Pn**	**12 31 08.6**	**+0.4**
	0.1nm,0.3s,baz=325,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**24.30**	**339**	P	**P**	**12 34 35.5**	**+1.3**
	0.2nm,0.5s,baz=152,slow=9.3,SNR=9.7						
SONM	**Songino Array**	**25.08**	**19**	P	**P**	**12 34 40.6**	**-0.7**
	0.2nm,0.8s,baz=192,slow=9.1,SNR=2.1						
WRA	**Warramunga Arr**	**58.75**	**135**	P	**P**	**12 39 13.4**	**-0.7**
	0.2nm,0.3s,baz=323,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**61.23**	**138**	P	**P**	**12 39 30.6**	**-0.5**
	0.3nm,0.3s,baz=316,slow=6.5,SNR=20						

*IDC **14** 13:00:05.2±1.8,56.°59S×25.°72W,h0km,mb4.1/2, mb1 4.3/2,mb1mx3.9/19,mbtmp4.1/2,Error ellipse: s-maj=77.3km s-min=41.5km az=5.0*
ISC 14 13:00:09.5±2.0,**56.°65S**±0.°6×**25.°38W**±0.°3,**h29**km,**n6**,σ**0.°64**/6, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**51.37**	**304**	P	**P**	**13 09 12.4**	**+0.3**
	3.9nm,0.4s,baz=126,slow=5.3,SNR=27						
TORD	**Torodi Ar. Bea**	**73.19**	**28**	P	**P**	**13 11 37.3**	**0.0**
	0.3nm,0.6s,baz=205,slow=7.3,SNR=2.6						
YKA	**Yellowknife Ar**	**137.15**	**317**	PKP	**PKPdf**	**13 19 27.7**	**-0.4**
	0.1nm,0.4s,baz=122,slow=1.8,SNR=3.9						
INK	**Inuvik**	**146.77**	**320**	PKPbc	**PKPbc**	**13 19 46.4**	**-0.6**
	0.8nm,0.8s,baz=105,slow=5.6,SNR=4.2						
SONM	**Songino Array**	**149.97**	**86**	PKPbc	**PKPbc**	**13 19 56.8**	**+0.7**
	0.1nm,0.4s,baz=226,slow=4.0,SNR=5.4						
ILAR	**Eielson Array**	**151.11**	**311**	PKPbc	**PKPbc**	**13 19 57.8**	**-0.4**
	0.8nm,0.8s,baz=146,slow=3.4,SNR=13						

IDC 14 13:11:03.2±2.2,**7.°76S**×**130.°31E**,**h0**km,**mb3.2**/1, **mb1 3.2**/3,**mb1mx3.1**/30,**mbtmp3.0**/3,**ML2.7**/2,**MS3.3**/1, **Ms1 3.3**/1,**ms1mx2.7**/10,**Error ellipse: s-maj=135.8km s-min=32.1km az=69.0**,**Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.73**	**163**	Pn	Pn	13 14 05.0	-0.7
	0.1nm,0.3s,baz=345,slow=13,SNR=5.4						
WRA				Sn	Sn	13 16 22.7	-5.6
	0.1nm,0.3s,baz=2.4,slow=23,SNR=1.2						
ASAR	**Alice Springs**	**16.19**	**168**	Pn	Pn	13 14 53.0	+0.7
	0.0nm,0.3s,baz=349,slow=9.3,SNR=3.2						
HNR	**Honiara**	**29.35**	**95**	LR	LR	13 31 12.0	
	comp=Z,56nm,18.4s,baz=59,slow=41						
MKAR	**Makanchi Array**	**69.02**	**327**	P	P	13 22 10.8	0.0
	0.1nm,0.6s,baz=109,slow=7.9,SNR=3.6						

*KRSC **14** 13:16:52.4±1.0,55.°19N×162.°82E,h19km±24km,ML4.4*
*ISCJB **14** 13:16:53.6±0.6,55.°22N±0.°02×162.°80E±0.°04,h18km±5km, mb3.9/23,MS3.0/1,Error ellipse: s-maj=4.0km s-min=3.2km az=27.6*
*MOS **14** 13:16:55.6±1.5,55.°27N×162.°74E,h44km,mb4.2/12,Error ellipse: s-maj=11.5km s-min=7.5km az=79.1*
*IDC **14** 13:16:58.9±2.9,55.°41N×162.°34E,h46km±29km,mb3.5/16, mb1 3.8/18,mb1mx3.6/35,mbtmp3.8/18,ML3.5/2,MS3.0/3, Ms1 3.0/3,ms1mx2.7/25,Error ellipse: s-maj=20.7km s-min=12.0km az=145.0*
ISC 14 13:16:54.0±1.6,**55.°24N**±0.°02×**162.°72E**±0.°03,**h15**km±10km, **n97**,σ**1.°30**/124,**mb3.8**/23,**4C-2D**,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.89**	**220**	PN	**Pb**	**13 17 09.5**	**-1.5**
MKZ				S	**Sb**	**13 17 21.8**	**-0.9**
MKZ	**Mys Kozlova**	**0.89**	**220**	eP	**Pb**	**13 17 09.5**	**-1.5**
MKZ				eS	**Sb**	**13 17 21.8**	**-0.9**
KBTR	**Krutoberegovo**	**0.97**	**3**	PN	**Pb**	**13 17 11.2**	**-1.3**
KBTR				S	**Sb**	**13 17 25.1**	**-0.1**
KBTR	**Krutoberegovo**	**0.97**	**3**	eP	**Pb**	**13 17 11.2**	**-1.3**
KBTR				eS	**Sb**	**13 17 25.1**	**-0.1**
KBG	**Krutoberegovo**	**1.02**	**360**	PN	**Pb**	**13 17 11.8**	**-1.5**
KBG				S	**Sb**	**13 17 25.9**	**-0.6**
KBG	**Krutoberegovo**	**1.02**	**360**	eP	**Pb**	**13 17 11.8**	**-1.5**
KBG				eS	**Sb**	**13 17 25.9**	**-0.6**
ZLN	**Zelenaya**	**1.34**	**307**	iP	**Pn**	**13 17 17.8**	**-0.4**
KZV	**Kizimen**	**1.40**	**266**	eP	**Pn**	**13 17 18.2**	**-0.8**
CIRR	**Tsirk**	**1.42**	**309**	P	**Pn**	**13 17 19.4**	**+0.1**
LGNR	**Loginova**	**1.43**	**307**	eP	**Pb**	**13 17 20.9**	**+0.5**
LGNR				eS	**Sg**	**13 17 40.7**	**+0.6**
BZMR	**Bezymyannaya**	**1.45**	**300**	iP	**Pn**	**13 17 19.5**	**-0.2**
BZMR				eS	**Sb**	**13 17 39.9**	**+1.0**
BZWR	**Bezymyannyi-We**	**1.46**	**301**	eP	**Pn**	**13 17 19.8**	**-0.1**
BZWR				eS	**Sg**	**13 17 40.7**	**-0.2**
TUMR	**Tumrok**	**1.47**	**273**	iP	**Pn**	**13 17 19.9**	**-0.1**
TUMR				eS	**Sn**	**13 17 38.9**	**-0.2**
KMNR	**Kamenistaya**	**1.50**	**291**	eP	**Pn**	**13 17 20.4**	**0.0**
KMNR				eS	**Sb**	**13 17 40.6**	**+0.1**
SMKR	**Semkarok**	**1.52**	**333**	iP	**Pn**	**13 17 19.7**	**-1.0**
KIRR	**Kirishev**	**1.53**	**299**	eP	**Pn**	**13 17 21.1**	**+0.3**
KIRR				eS	**Sb**	**13 17 42.4**	**+1.2**
KRSR	**Krestovskiy**	**1.56**	**310**	eP	**Pn**	**13 17 20.5**	**-0.8**
KRSR				eS	**Sn**	**13 17 41.2**	**-0.1**
BDR	**Baidarnaya**	**1.58**	**328**	iP	**Pn**	**13 17 21.2**	**-0.3**
KLY	**Klyuchi**	**1.59**	**314**	PN	**Pn**	**13 17 19.8**	**-1.7**
KLY				S	**Sn**	**13 17 40.4**	**-1.3**
KLY	**Klyuchi**	**1.59**	**314**	eP	**Pn**	**13 17 19.8**	**-1.7**
KLY				eS	**Sn**	**13 17 40.4**	**-1.3**
KPT	**Kopyto**	**1.59**	**298**	eP	**Pn**	**13 17 22.3**	**+0.6**
KPT				eS	**Sg**	**13 17 45.0**	**-0.3**
SRKR	**Sorokina**	**1.67**	**329**	iP	**Pn**	**13 17 22.3**	**-0.3**
SRKR				eS	**Sn**	**13 17 43.7**	**-0.1**
KOZR	**Kozyr**	**1.80**	**299**	PN	**Pn**	**13 17 25.5**	**+1.0**
KOZR				S	**Sb**	**13 17 49.9**	**+0.9**
KOZ	**Kozyrevsk**	**1.81**	**298**	eP	**Pn**	**13 17 25.5**	**+0.9**
KOZ				eS	**Sb**	**13 17 49.9**	**+0.7**
BKI	**Bering**	**1.86**	**90**	PN	**Pn**	**13 17 25.0**	**-0.3**
BKI				S	**Sn**	**13 17 49.0**	**+0.5**
BKI	**Bering**	**1.86**	**90**	eP	**Pn**	**13 17 25.0**	**-0.3**
BKI				eS	**Sn**	**13 17 49.0**	**+0.5**
SRDR	**Sredinnyy**	**2.01**	**304**	iP	**Pn**	**13 17 27.9**	**+0.5**
ESO	**Esso**	**2.38**	**288**	PN	**Pn**	**13 17 32.2**	**-0.2**
ESO	**Esso**	**2.38**	**288**	eP	**Pn**	**13 17 32.2**	**-0.2**
SPN	**Mys Shipunski**	**2.67**	**218**	PN	**Pn**	**13 17 37.3**	**+1.0**
SPN				S	**Sn**	**13 18 10.3**	**+2.0**
SPN	**Mys Shipunski**	**2.67**	**218**	P	**Pn**	**13 17 37.3**	**+1.0**
SPN				eS	**Sn**	**13 18 10.3**	**+2.0**
SDLR	**Sedlovina**	**2.98**	**230**	eP	**Pn**	**13 17 41.0**	**+0.2**
SDLR				eS	**Sn**	**13 18 16.7**	**+0.4**
KRER	**Koryakskii**	**3.03**	**232**	eP	**Pn**	**13 17 42.4**	**+0.9**
KRER				eS	**Sn**	**13 18 18.6**	**+1.1**
SMAR	**Somma**	**3.03**	**231**	eP	**Pn**	**13 17 41.7**	**+0.2**
SMAR				eS	**Sn**	**13 18 18.0**	**+0.4**
KRX	**Arik**	**3.04**	**233**	eP	**Pn**	**13 17 42.1**	**+0.6**
AVH	**Avacha**	**3.06**	**231**	eP	**Pn**	**13 17 42.8**	**+1.0**
UGLR	**Uglovaya**	**3.06**	**230**	eP	**Pn**	**13 17 42.7**	**+0.9**
KOK	**Koryaka**	**3.09**	**233**	eP	**Pn**	**13 17 42.9**	**+0.7**
GNL	**Ganaly**	**3.19**	**243**	eP	**Pn**	**13 17 44.4**	**+0.8**
PET	**Petropavlovsk**	**3.26**	**229**	ePN	**Pn**	**13 17 45.4**	**+0.9**
PET				eS	**Sn**	**13 18 25.6**	**+2.7**
PET				pmax	pmax		
	comp=Z,152nm,0.5s						
PET				smax	smax		
	comp=N,447nm,0.7s						
PET				MLR	MLR		
	comp=Z,200nm,10.0s						
PET	**Petropavlovsk**	**3.26**	**229**	eP	**Pn**	**13 17 45.2**	**+0.7**
PET				eS	**Sn**	**13 18 24.3**	**+1.4**
PETK	**Petropavlovsk-**	**3.64**	**236**	PN	**Pn**	**13 17 51.6**	**+1.9**
PETK				S	**Sb**	**13 18 38.1**	**-3.8**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK				smax	smax		
	comp=N,2.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,144nm,21.3s						
PETK	**Petropavlovsk-**	**3.64**	**236**	P	**Pn**	**13 17 51.6**	**+1.9**
	comp=Z,5.1nm,0.3s,baz=76,slow=14,SNR=41						
PETK				S	**Sb**	**13 18 38.1**	**-3.8**
	comp=Z,1.5nm,0.3s,baz=44,slow=54,SNR=1.3						
PETK				LR	LR	13 19 21.2	
	comp=Z,144nm,21.3s,baz=42,slow=40						
RUS	**Russkaya**	**3.75**	**223**	PN	**Pn**	**13 17 51.9**	**+0.7**
RUS	**Russkaya**	**3.75**	**223**	eP	**Pn**	**13 17 51.9**	**+0.7**
MTVR	**Mutnovka**	**3.85**	**226**	iP	**Pn**	**13 17 54.9**	**+2.2**
APC	**Apacha**	**4.01**	**237**	P	Pn	13 17 58.9	+4.1
OSSR	**Ossora**	**4.03**	**3**	iP	**Pn**	**13 17 56.5**	**+1.5**
ASAK	**Asacha**	**4.04**	**227**	eP	**Pn**	**13 17 57.3**	**+2.0**
TILK	**Tilichiki**	**5.54**	**18**	eP	**Pn**	**13 18 18.4**	**+2.8**
FX1	**Attu Island--F**	**6.59**	**107**	P	**Pn**	**13 18 29.7**	**-0.5**
	comp=Z,2.6nm,0.3s,baz=324,slow=7.9,SNR=13						
FX1				S	**Sn**	**13 19 41.4**	**-3.5**
	comp=Z,1.7nm,0.3s,baz=280,slow=19,SNR=1.3						
BILL	**Bilibino**	**12.96**	**6⇑**	iPN	P	13 20 02.6	-5.2
BILL				eS	Sn	13 22 27.4	+6.5
BILL				MLR	MLR		
	comp=Z,84nm,16.0s						
YSS	**Yuzh-Sakhalins**	**14.99**	**245**	P	**P**	**13 20 29.0**	**-1.5**
ASAJ	**Asahikawa**	**17.06**	**238**	P	**P**	**13 20 52.9**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,55nm,18.4s						
ASAJ	**Asahikawa**	**17.06**	**238**	P	**P**	**13 20 52.9**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=99,slow=12,SNR=8.5						
ASAJ				LR	LR	13 28 10.6	
	comp=Z,55nm,18.4s,baz=102,slow=40						
YAK	**Yakutsk**	**18.33**	**305⇓**	eP	**P**	**13 21 07.7**	**+0.4**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TIXI	**Tiksi**	**21.85**	**332⇑**	iP	**P**	**13 21 47.3**	**+1.9**
TIXI				pmax	pmax		
	comp=Z,15nm,1.1s						
USRK	**Ussuriysk Arra**	**22.54**	**254**	LR	LR	13 30 34.5	
	comp=Z,58nm,19.8s,baz=56,slow=36						
VLA	**Vladivostok**	**23.31**	**252⇓**	eP	**P**	**13 21 59.8**	**-1.2**
VLA				e		13 22 25.9	
VLA				eS	**S**	**13 26 09.8**	**-3.0**
VLA				pmax	pmax		
	comp=Z,15nm,1.6s						
MAJO	**Matsushiro**	**25.09**	**232⇑**	iP	**P**	**13 22 18.8**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,45nm,0.9s						
MAT	**Matsushiro**	**25.09**	**232**	P	**P**	**13 22 18.4**	**+0.6**
MJAR	**Matsushiro Arr**	**25.09**	**232**	P	**P**	**13 22 18.4**	**+0.6**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MJAR	**Matsushiro Arr**	**25.09**	**232**	P	**P**	**13 22 18.4**	**+0.6**
	comp=Z,6.0nm,0.6s,baz=24,slow=6.5,SNR=41						
ILAR	**Eielson Array**	**26.22**	**48**	P	**P**	**13 22 28.2**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**26.22**	**48**	P	**P**	**13 22 28.2**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=262,slow=7.6,SNR=20						
INK	**Inuvik**	**31.23**	**40**	P	**P**	**13 23 13.5**	**+1.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**31.23**	**40**	P	**P**	**13 23 13.5**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=288,slow=9.5,SNR=5.1						
SONM	**Songino Array**	**34.94**	**282**	P	**P**	**13 23 45.3**	**+0.3**
SONM						13 26 17.1	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**34.94**	**282**	P	**P**	**13 23 45.3**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=25,slow=7.6,SNR=4.1						
SONM				PcP	**PcP**	**13 26 17.1**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=9.3,slow=0.5,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**35.59**	**173**	T	T	14 03 35.1	
	baz=0.7,slow=76,SNR=48						
H11N3	**WAKE ISLAND Hy**	**35.60**	**173**	T	T	14 03 35.5	
	baz=0.7,slow=76,SNR=62						
H11N1	**WAKE ISLAND Hy**	**35.61**	**173**	T	T	14 03 36.8	
	baz=0.7,slow=76,SNR=51						
YKA	**Yellowknife Ar**	**40.54**	**45**	P	**P**	**13 24 33.2**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=299,slow=8.1,SNR=8.1						
RES	**Resolute Bay**	**40.75**	**23**	P	**P**	**13 24 34.7**	**+1.2**
RES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
RES	**Resolute Bay**	**40.75**	**23**	P	**P**	**13 24 34.7**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=319,slow=9.3,SNR=3.6						
KURK	**Kurchatov**	**47.92**	**302⇑**	eP	**P**	**13 25 32.3**	**+1.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
MKAR	**Makanchi Array**	**48.62**	**295**	P	**P**	**13 25 34.7**	**-2.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.62**	**295**	P	**P**	**13 25 34.7**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=59,slow=7.2,SNR=9.7						
NVAR	**Mina Array Bea**	**53.60**	**73**	P	**P**	**13 26 16.6**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=294,slow=6.8,SNR=2.9						
PDAR	**Pinedale Array**	**55.16**	**64**	P	**P**	**13 26 27.9**	**+2.2**
	comp=Z,0.4nm,0.8s,baz=356,slow=3.6,SNR=2.7						
JOF	**Joensuu**	**56.26**	**336**	eP	**P**	**13 26 31.3**	**-1.7**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JOF	**Joensuu**	**56.26**	**336**	ep	**P**	**13 26 31.3**	**-1.7**
	comp=Z,1.8nm,0.5s						
KAF	**Kangasniemi**	**58.10**	**338**	eP	**P**	**13 26 44.8**	**-1.3**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KAF	**Kangasniemi**	**58.10**	**338**	ep	**P**	**13 26 44.8**	**-1.3**
	comp=Z,1.4nm,0.6s						
FINES	**FINESS Array B**	**58.75**	**337**	P	**P**	**13 26 50.0**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**58.75**	**337**	P	**P**	**13 26 50.0**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=36,slow=7.6,SNR=32						
CMAR	**Chiang Mai Arr**	**60.12**	**259**	P	**P**	**13 26 59.8**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=17,slow=6.5,SNR=3.3						
OBN	**Obninsk**	**61.52**	**328**	iP	**P**	**13 27 11.6**	**+1.9**
OBN				eS	S	13 35 22.3	-7.9
OBN				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NB2	**NORSAR Subarra**	**61.90**	**345**	P	**P**	**13 27 11.1**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**61.90**	**345**	P	**P**	**13 27 11.2**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=3.5,slow=7.2,SNR=3.5						
AKASG	**Malin Array Be**	**67.55**	**330**	P	**P**	**13 27 47.8**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**67.55**	**330**	P	**P**	**13 27 47.8**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=28,slow=6.3,SNR=5.5						
TXAR	**Lajitas Array**	**68.41**	**70**	P	**P**	**13 27 56.8**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=309,slow=6.5,SNR=6.6						
WRA	**Warramunga Arr**	**78.69**	**207**	P	**P**	**13 28 55.7**	**+0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**78.69**	**207**	P	**P**	**13 28 55.7**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=13,slow=5.9,SNR=8.3						
ASAR	**Alice Springs**	**82.36**	**206**	P	**P**	**13 29 16.2**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**82.36**	**206**	P	**P**	**13 29 16.1**	**+1.3**
	comp=Z,1.7nm,0.9s,baz=18,slow=5.0,SNR=16						

MEX 14 13:35:59.9±0.8,**16.°48N**×**100.°20W**,**h11**km±26km,**MD3.6**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.51**	**40**	eP	Pg	13 36 08.6	-1.3
ACX				iS	Sg	13 36 14.8	-1.8
CAIG	**El Cayaco**	**0.57**	**353**	eP	Pg	13 36 09.3	-1.7
CAIG				iS	Sg	13 36 17.5	-1.1
MEIG	**Mezcala**	**1.54**	**21**	eP	Pn	13 36 24.0	-3.5
MEIG				eS	Sn	13 36 42.5	-5.1
ZIIG	**Zihuatanejo**	**1.65**	**313**	iP	Pn	13 36 25.3	-3.6
ZIIG				iS	Sn	13 36 45.6	-4.5
ARIG	**Puente Sto Nin**	**1.80**	**356**	eP	Pn	13 36 28.4	-2.6
ARIG				eS	Sn	13 36 49.8	-4.0
TLIG	**Tlapa**	**1.90**	**55**	eP	Pn	13 36 29.4	-3.1
TLIG				eS	Sn	13 36 51.5	-5.0
PLIG	**Platanillo**	**2.02**	**19**	eP	Pn	13 36 31.1	-3.0
PLIG				eS	Sn	13 36 54.7	-4.7

*IDC **14** 13:41:01.8±6.4,8.°78S×112.°57E,h75km±57km,mb4.4/18, mb1 4.5/18,mb1mx4.3/30,mbtmp4.7/18,MS3.2/3, Ms1 3.2/3,ms1mx2.9/27,Error ellipse: s-maj=27.0km s-min=13.2km az=65.0*
*BJI **14** 13:41:02.0,9.°10S×112.°60E,h108km,mB5.1/36,mb5.0/58*
*KLM **14** 13:41:04.8,9.°16S×112.°51E,h109km,mb4.9,ML4.5, MS5.9*
*ISCJB **14** 13:41:04.4±0.3,8.°95S±0.°03×112.°58E±0.°02,h122km±2km, mb4.8/71,Error ellipse: s-maj=5.3km s-min=3.2km az=22.9*
*NEIC **14** 13:41:04.3±0.5,8.°97S×112.°57E,h106km±5km,mb4.9/20, Error ellipse: s-maj=8.4km s-min=5.6km az=215.0*
NEIC Felt [III] at Blitar and Karangkates.
*MOS **14** 13:41:05.3±1.0,8.°73S×112.°61E,h124km,mb4.8/37,Error ellipse: s-maj=14.5km s-min=6.6km az=111.9*
*DJA **14** 13:41:06.0±0.3,9.°S±4.°×11.°3E±.°,h85km±7km,M4.8/32, mb5.1/13,mB5.3/12,MLv4.9/32,Mw(mB)4.7/12*
ISC 14 13:41:05.1±0.4,**8.°99S**±0.°04×**112.°55E**±0.°03,**h113**km±2km, **h113km:pP-P,n247**,σ**1.°35**/295,**mb4.8**/71,**14C-12D,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.14**	**51**	P	**Pn**	**13 41 27.4**	**-0.6**
GMJI				S	**Sn**	**13 41 44.2**	**-1.2**
PWJI	**Pagerwojo**	**1.21**	**323**	P	**Pn**	**13 41 28.8**	**-0.1**

PWJI				S	Sn	13 41 44.5 -2.3
BLJI	Banyuglugur	1.61	40	P	Pn	13 41 33.4 -0.1
BLJI				S	Sn	13 41 54.2 -0.9
JAGI	Jajag, Banyuwa	1.67	72	P	Pn	13 41 33.7 -0.5
JAGI				S	Sn	13 41 54.4 -1.9
JAGI	Jajag, Banyuwa	1.67	72	ePn	Pn	13 41 33.5 -0.6
JAGI	Jajag, Banyuwa	1.67	72	P	Pn	13 41 33.4 -0.8
	baz=1.7,SNR=427					
JAGI				S	Sn	13 41 54.4 -1.9
	baz=1.7,SNR=15					
NGJI	Ngawi	1.94	326	P	Pn	13 41 39.4 +1.9
NGJI				S	Sn	13 42 04.5 +2.2
WOJI	Wonogiri, Jawa	1.98	305	P	Pn	13 41 38.5 +0.5
WOJI				S	Sn	13 42 02.9 -0.1
ABJI	Asem Bagus	2.05	55	P	Pn	13 41 39.4 +0.5
GRJI	Gresik	2.07	358	P	Pn	13 41 39.5 +0.4
GRJI				S	Sn	13 42 05.3 +0.2
TBJI	Tambak Boyo	2.27	342	P	Pn	13 41 41.8 +0.1
TBJI				S	Sn	13 42 10.0 +0.2
UGM	Wanagama	2.27	298	P	Pn	13 41 42.4 +0.6
UGM				S	Sn	13 42 10.4 +0.5
UGM	Wanagama	2.27	298	ePn	Pn	13 41 41.5 -0.2
UGM	Wanagama	2.27	298	P	Pn	13 41 41.6 -0.2
	baz=2.3,SNR=110					
UGM				S	Sn	13 42 08.9 -1.0
	baz=2.3,SNR=7.7					
KMMI	Kalianget	2.39	36	P	Pn	13 41 43.3 +0.1
IGBI	Denpasar	2.57	86	P	Pn	13 41 45.3 -0.3
IGBI				S	Sn	13 42 15.2 -1.5
DNP	Denpasar	2.65	83	P	Pn	13 41 47.0 +0.4
SRBI	Singaraja	2.79	71	P	Pn	13 41 48.3 -0.1
SMRI	Semarang	2.84	313	P	Pn	13 41 49.9 +0.7
SMRI	Semarang	2.84	313	ePn	Pn	13 41 49.5 +0.3
SMRI	Semarang	2.84	313	P	Pn	13 41 49.5 +0.3
	baz=2.8,SNR=9.3					
UWJI	Ujung Watu	3.01	328	P	Pn	13 41 57.0 +5.6
KPJI	Karang Pucung	3.94	294	P	Pn	13 42 04.6 +0.8
CMJI	Cimerak	4.23	286	P	Pn	13 42 07.2 -0.4
CISI	Cisompet, Garu	4.90	287	P	Pn	13 42 16.6 -0.1
CISI	Cisompet, Garu	4.90	287	eP	Pn	13 42 16.2 -0.5
CISI	Cisompet, Garu	4.90	287	P	Pn	13 42 16.6 -0.1
	baz=4.9,SNR=9.0					
CISI				S	Sn	13 43 08.8 -3.6
	baz=4.9,SNR=6.0					
LEM	Lembang	5.34	293	P	Pn	13 42 24.3 +1.6
	175nm,0.8s,2µm0.8nm					
LEM	Lembang	5.34	293	P	Pn	13 42 24.4 +1.7
	baz=5.3,SNR=7.2					
CNJI	Cibinong	5.62	287	P	Pn	13 42 27.6 +1.2
	246nm,0.9s,5µm1.4nm					
BBKI	Banjar Baru	5.95	23	P	Pn	13 42 32.7 +1.8
CBJI	Citeko	6.20	294	P	Pn	13 42 33.0 -1.2
SKJI	Sukabumi	6.25	288	P	Pn	13 42 37.2 +2.2
	292nm,0.5s,5µm1.4nm					
PBKI	Pangkalan Bun	6.31	352	P	Pn	13 42 36.8 +1.1
	305nm,0.9s,7µm1.1nm					
KBKI	Kotabaru	6.70	33	P	Pn	13 42 42.5 +1.4
	128nm,0.8s,1µm0.5nm					
XMI	Christmas Isla	6.92	257	P	Pn	13 42 41.7 -2.2
	baz=6.9,SNR=39					
XMI				S	Sn	13 43 50.6 -11
	baz=6.9,SNR=16					
XMIS	Christmas Isla	6.96	257	ePn	Pn	13 42 41.9 -2.6
XMIS	Christmas Isla	6.96	257	P	Pn	13 42 42.3 -2.2
	baz=7.0,SNR=75					
XMIS				S	Sn	13 43 51.0 -11
	baz=7.0,SNR=23					
CGJI	Cibinong	7.19	289	P	Pn	13 42 48.5 +0.8
	483nm,0.6s,5µm1.6nm					
WSI	Waingapu	7.68	96	P	Pn	13 42 54.4 +0.1
TPI	Tanjungpandan	7.88	322	P	Pn	13 43 06.3 +9.3
KAPI	Kappang	8.17	62	ePn	Pn	13 43 00.0 -0.9
MTKI	Muara Teweh, K	8.33	16	P	Pn	13 43 04.4 +1.2
	85nm,1.1s					
BKSI	Bulukumba	8.35	65	P	Pn	13 43 03.9 +0.5
	34nm,0.8s,458nm					
KASI	Kota Agung	8.70	293	P	Pn	13 43 08.7 +0.6
	79nm,0.7s,1µm					
BNSI	Bone	8.78	59	P	Pn	13 43 16.1 +6.8
STKI	Sintang	9.06	353	P	Pn	13 43 14.7 +1.6
	57nm,0.8s,9µm					
LWLI	Liwa	9.30	295	P	Pn	13 43 18.3 +1.8
TTSI	Tana Toraja	9.34	51	P	Pn	13 43 26.0 +9.2
MDSI	Maura Dua	9.44	298	P	Pn	13 43 20.1 +1.9
	20nm,0.9s,318nm					
MMRI	Maumere	9.58	89	P	Pn	13 43 18.3 -1.8
MMRI	Maumere	9.58	89	ePn	Pn	13 43 16.4 -3.7
MNAI	Manna	10.58	295	P	Pn	13 43 32.7 -1.0
	baz=11,SNR=8.4					
KSM	Kuching	10.63	348	⇑P	Pn	13 43 38.5 +4.2
SBUM	Sibu	11.37	358	ePn	Pn	13 43 44.5 +0.3
SBUM	Sibu	11.37	358	⇑P	Pn	13 43 48.8 +4.6
SOEI	Soe	11.59	95	P	Pn	13 43 47.3 +0.1
SOEI	Soe	11.59	95	ePn	Pn	13 43 45.0 -2.3
SOEI	Soe	11.59	95	P	Pn	13 43 44.8 -2.4
	baz=12,SNR=13					
MASI	Maura Aman, Be	11.78	299	P	P	13 43 57.0 -1.1
MRSI	Marisa	13.27	45	P	P	13 44 14.5 -0.3
GIRL	Giralia	13.67	173	P	Pn	13 44 12.6 -1.7
	baz=14,SNR=27					
MYKOM	Kota Tinggi	13.78	321	⇓P	P	13 44 19.5 -0.9
MBWA	Marble Bar	13.94	151	ePn	Pn	13 44 14.8 -3.0
MBWA				eSn	Sn	13 46 35.5 -16
GTOI	Gorontalo	14.15	48	P	P	13 44 25.1 +0.6
TSM	Tawau	14.23	22	⇑P	P	13 44 23.5 -1.9
KGM	Kluang	14.29	320	⇓P	P	13 44 26.2 +0.1
SDKM	Sandakan	15.26	18	⇓P	P	13 44 36.0 -1.0
MYLDM	Lahad Datu	15.28	23	eP	Pn	13 44 35.7 +0.9
	53nm,1.1s					
MYLDM	Lahad Datu	15.28	23	⇓P	P	13 44 38.1 +1.1
FITZ	Fitzroy Crossi	15.61	127	ePn	Pn	13 44 38.8 -0.1
FITZ				eSn	Sn	13 47 13.0 -19
FITZ	Fitzroy Crossi	15.61	127	P	Pn	13 44 39.3 +0.3
	baz=16,SNR=8.9					
FITZ				S	Sn	13 47 16.3 -16
	baz=16,SNR=4.2					
KTGM	Kuala Trengan	17.04	326	⇑P	Pn	13 44 57.8 +1.1
KNRA	Kununurra	17.17	114	P	P	13 44 58.0 0.0
	baz=17,SNR=34					
IPM	Ipoh	17.64	319	⇑P	P	13 45 05.3 +1.4
BNDI	Bandanaira	17.80	77	P	Pn	13 45 10.6 +4.9
PSI	Prapat	17.94	310	LR	LR	13 52 31.2
	comp=Z,62nm,20.3s,baz=170,slow=39					
MEEK	Meekatharra	18.47	163	P	Pn	13 45 15.9 +2.2
	baz=19,SNR=46					
MEEK				S	S	13 48 28.4 -8.9
	baz=19,SNR=7.6					
MTN	Manton Dam	18.64	104	P	P	13 45 14.4 +0.2
	baz=19,SNR=14					
MTN				S	S	13 48 31.6 -9.3
	baz=19,SNR=4.0					
KDU	Kakadu	19.91	102	P	P	13 45 27.5 -0.5
	baz=20,SNR=6.8					
MORW	Morawa	20.24	171	P	Pn	13 45 36.8 +2.4
	baz=20,SNR=16					
FAKI	Fak Fak	20.49	74	P	P	13 45 33.1 -1.2
	baz=20,SNR=6.5					
BLDU	Ballidu	21.86	170	P	P	13 45 51.9 +3.2
	baz=22,SNR=8.7					
WRKA	Warakurna	21.90	139	P	P	13 45 50.3 +1.0
	baz=22,SNR=40					
WRKA				S	S	13 49 47.6 +3.3
	baz=22,SNR=5.5					
SURT	Suratani	22.49	322	P	P	13 45 56.2 +0.9
	14nm,1.2s					
WRA	Warramunga Arr	23.71	120	P	P	13 46 07.5 +0.6
	21nm,0.6s,baz=294,slow=12,SNR=166					
WRA				S	S	13 50 28.2 +14
	1.6nm,0.6s,baz=296,slow=22,SNR=2.5					
WRAB	Tennant Creek	23.71	120	d iP	P	13 46 08.0 +1.0
WRAB				pmax	pmax	
	comp=Z,91nm,1.4s					
WRAB	Tennant Creek	23.71	120	eP	P	13 46 07.5 +0.5
	comp=Z,21nm,0.6s					
ASAR	Alice Springs	25.10	128	P	P	13 46 20.4 +0.9
ASAR						13 49 52.7
ASAR				pmax	pmax	
	comp=Z,12nm,0.6s					
ASAR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
ASAR	Alice Springs	25.10	128	P	P	13 46 20.4 +0.9
	comp=Z,12nm,0.6s,baz=301,slow=8.4,SNR=210					
ASAR				PcP	PcP	13 49 52.6 +1.5
	comp=Z,1.1nm,0.8s,baz=334,slow=1.1,SNR=4.3					
ASAR				S	S	13 51 03.0 +27

	comp=Z,6.0nm,0.9s,baz=298,slow=22,SNR=15					
FORT	Forrest	26.06	148	eP	P	13 46 29.6 +1.6
	comp=Z,61nm,0.6s					
FORT	Forrest	26.06	148	P	P	13 46 30.6 +2.5
	baz=26,SNR=18					
KHLT	Khaolaem Dam	27.39	330	P	P	13 46 40.7 +0.6
	comp=Z,8.0nm,1.1s					
PBKT	Sadao Pong	27.86	336	P	P	13 46 44.4 +0.1
	comp=Z,22nm,1.0s					
QIS	Mount Isa	28.52	117	P	P	13 46 51.6 +1.4
	baz=29,SNR=7.5					
UTTA	Uttaradit	29.09	336	P	P	13 46 55.9 +0.7
	comp=Z,13nm,0.8s					
LAMP	Lampang	30.17	335	P	P	13 47 05.6 +0.9
	comp=Z,16nm,0.8s,comp=Z,132nm					
COEN	Coen	30.40	102	P	P	13 47 07.9 +1.0
	baz=30,SNR=5.5					
CMAR	Chiang Mai Arr	30.40	334	P	P	13 47 07.0 +0.2
CMAR				pmax	pmax	
	comp=Z,27nm,0.8s					
CMAR				MLR	MLR	
	comp=Z,15nm,28.6s					
CMAR	Chiang Mai Arr	30.40	334	P	P	13 47 07.0 +0.2
	comp=Z,27nm,0.8s,baz=168,slow=8.2,SNR=189					
CMAR				LR	LR	14 00 13.6
	comp=Z,23nm,18.1s,baz=175,slow=38					
CMMT	Chiang Mai	30.71	334	P	P	13 47 09.8 +0.2
	comp=Z,23nm,1.0s					
CHTO	Chiang Mai	30.72	334	eP	P	13 47 09.7 +0.1
CHTO				pmax	pmax	
	comp=Z,12nm,0.8s					
CHTO	Chiang Mai	30.72	334	P	P	13 47 09.8 +0.1
	comp=Z,81nm,1.0s					
CHTO	Chiang Mai	30.72	334	eP	P	13 47 09.7 +0.1
	comp=Z,12nm,0.8s					
SLVN	Son La	31.31	344	eP	P	13 47 16.0 +1.2
	comp=Z,7.4nm,1.0s					
MTSU	Mount Surprise	32.14	110	P	P	13 47 24.5 +2.2
	baz=32,SNR=6.0					
BBOO	Buckleboo	32.16	141	P	P	13 47 23.4 +1.3
	baz=32,SNR=5.1					
HTT	Hallett	34.38	139	P	P	13 47 43.8 +2.3
	baz=34,SNR=6.2					
QLP	Quilpie	34.73	124	P	P	13 47 46.8 +2.3
	baz=35,SNR=19					
KMI	Kunming	35.23	344	P	P	13 47 50.8 +1.8
KMI				pP	pP	13 48 18.3 +3.9
KMI				PP	PP	13 49 15.9 +4.6
KMI				pmax	pmax	
	comp=Z,13nm,1.1s					
STKA	Stephens Creek	35.28	134	P	P	13 47 51.2 +2.0
STKA				pmax	pmax	
	comp=Z,36nm,0.6s					
STKA				MLR	MLR	
	comp=Z,15nm,28.6s					
STKA	Stephens Creek	35.28	134	P	P	13 47 51.2 +2.0
	comp=Z,36nm,0.6s,baz=312,slow=8.6,SNR=110					
STKA				LR	LR	14 02 39.5
	comp=Z,56nm,18.8s,baz=205,slow=37					
STKA	Stephens Creek	35.28	134	P	P	13 47 51.2 +2.0
	baz=35,SNR=87					
GYA	Guiyang	35.70	351	P	P	13 47 55.0 +2.1
GYA				pP	pP	13 48 21.4 +3.1
GYA				sP	sP	13 48 33.8 +2.5
GYA				PP	PnPn	13 49 20.6 +4.0
GYA				PcP	PcP	13 50 18.8 -0.1
GYA				S	S	13 53 25.4 +3.9
GYA				ScP	ScP	13 53 54.3 -0.4
GYA				ScS	ScS	13 57 59.0 -1.1
GYA				pmax	pmax	
	comp=Z,20nm,0.8s					
GYA				pmax	pmax	
	comp=Z,120nm,4.8s					
CMSA	Cobar Meteorol	38.08	131	P	P	13 48 15.5 +2.5
	baz=38,SNR=6.7					
RMQ	Roma	38.44	122	P	P	13 48 19.3 +3.2
	baz=38,SNR=4.1					
ENH	Enshi	39.15	356	eP	P	13 48 21.9 0.0
	comp=Z,7.4nm,0.8s					
H08S2	Diego Garcia H	39.64	269	T	T	14 30 50.7
	baz=94,slow=75,SNR=3.8					
H08S3	Diego Garcia H	39.66	269	T	T	14 30 51.6
	baz=94,slow=75,SNR=4.2					
H08S1	Diego Carcia H	39.66	269	T	T	14 30 47.6
	baz=94,slow=75,SNR=7.3					
SHL	Shillong	39.81	330	⇑iP	P	13 48 27.5 -0.1
CD2	Chengdu	40.56	348	⇑iP	P	13 48 33.6 0.0
CD2				pP	pP	13 48 58.8 -0.6
CD2				sP	sP	13 49 11.6 -0.7
CD2				PP	PnPn	13 50 12.5 -1.8
CD2				S	S	13 54 36.0 +1.4
CD2				sS	sS	13 55 20.0 +0.7
CD2				SS	SS	13 57 37.3 -1.9
CD2				pmax	pmax	
	comp=Z,90nm,0.9s					
CD2				pmax	pmax	
	comp=Z,180nm,5.1s					
CD2				LR	LR	
	comp=Z,310nm,4.7s					
CD2				LR	LR	
	comp=Z,220nm,6.4s					
NJ2	Nanjing	41.26	8	eP	P	13 48 39.0 -0.2
NJ2				pmax	pmax	
	comp=Z,20nm,0.6s					
ARMA	Armidale	42.21	126	P	P	13 48 50.8 +3.6
	baz=42,SNR=4.1					
XAN	Xi'an	42.93	356	P	P	13 48 52.0 -0.8
XAN				pP	pP	13 49 16.9 -2.0
XAN				pmax	pmax	
	comp=Z,6.0nm,0.8s					
XAN				pmax	pmax	
	comp=Z,28nm,5.1s					
XAN				LR	LR	
	comp=Z,150nm,17.3s					
XAN				LR	LR	
	comp=Z,61nm,17.3s					
XAN				LR	LR	
	comp=Z,51nm,15.3s					
ODAN	Odare	43.20	326	eP	P	13 48 54.8 -0.5
	comp=Z,17nm,0.4s					
TAPN	Taplejung	43.41	327	eP	P	13 48 57.0 -0.1
	comp=Z,34nm,0.7s					
LSA	Lhasa	43.64	333	P	P	13 48 59.6 +0.5
LSA	Lhasa	43.64	333	eP	P	13 48 59.6 +0.5
LSA				pmax	pmax	
	comp=Z,37nm,1.1s					
LSA	Lhasa	43.64	333	eP	P	13 48 59.6 +0.5
	comp=Z,37nm,1.1s					
RAMN	Ramite	43.71	326	eP	P	13 48 59.1 -0.3
JIRN	Jiri	44.49	326	eP	P	13 49 05.3 -0.5
	comp=Z,23nm,0.5s					
GUN	Gumba	44.85	326	eP	P	13 49 08.1 -0.6
	comp=Z,42nm,0.8s					
PKI	Pulchoki	44.86	325	eP	P	13 49 07.5 -1.2
DMN	Daman	45.06	325	eP	P	13 49 09.2 -1.0
	comp=Z,15nm,0.6s					
KKN	Kakani	45.10	325	eP	P	13 49 09.5 -0.9
JNU	Nakatsue	45.37	22	P	P	13 49 11.3 -1.0
	comp=Z,7.4nm,0.9s,baz=270,slow=4.0,SNR=2.8					
LZH	Lanzhou	45.58	350	⇑P	P	13 49 14.9 +0.8
LZH				pP	pP	13 49 40.5 +0.1
LZH				eS	S	13 55 50.0 +1.9
LZH				pmax	pmax	
	comp=Z,41nm,1.0s					
LZH				pmax	pmax	
	comp=Z,210nm,5.4s					
GKN	Gorkha	45.62	325	eP	P	13 49 13.6 -0.9
	comp=Z,8.2nm,0.3s					
KOLN	Koldanda	46.05	323	eP	P	13 49 17.1 -0.9
	comp=Z,19nm,0.5s					
DANN	Dangsing	46.39	324	eP	P	13 49 19.7 -1.0
	comp=Z,20nm,0.6s					
KSAR	Wonju Array Be	48.37	16	P	P	13 49 35.6 +0.1
KSAR	Wonju Array Be	48.37	16	P	P	13 49 35.6 +0.1
KSRS	Korea Array	48.40	16	P	P	13 49 35.6 -0.1
KSRS				pmax	pmax	
	comp=Z,5.0nm,0.8s					
KSRS	Korea Array	48.40	16	P	P	13 49 35.6 -0.1
	comp=Z,4.9nm,0.8s,baz=200,slow=7.7,SNR=17					
BJT	Baijiatuau	48.88	4	eP	P	13 49 39.0 -0.3
BJT				pmax	pmax	
	comp=Z,34nm,0.6s					
BJT	Baijiatuau	48.88	4	eP	P	13 49 39.0 -0.3
	comp=Z,34nm,0.6s					
BJI	Beijing	48.90	4	P	P	13 49 38.9 -0.6
BJI				pmax	pmax	

	comp=Z,44nm,1.2s					
GTA	Gaotai	49.59	347	eP	P	13 49 45.5 +0.6
GTA				pP	pP	13 50 11.8 +0.2
GTA				sP	sP	13 50 23.9 -0.4
GTA				PcP	PcP	13 51 06.5 +1.5
GTA				pmax	pmax	
	comp=Z,6.0nm,1.1s					
HHC	Hu-ho-hao-te	49.60	359	eP	P	13 49 44.8 -0.2
HHC				pP	pP	13 50 12.6 +0.9
HHC				sP	sP	13 50 23.0 -1.3
HHC				PP	PP	13 51 42.3 +1.7
HHC				S	S	13 56 46.3 +1.6
HHC				sS	sS	13 57 32.5 +1.8
HHC				ScS	ScS	13 59 23.6 -1.8
HHC				pmax	pmax	
	comp=Z,32nm,0.9s					
HHC				pmax	pmax	
	comp=Z,200nm,6.8s					
MAJO	Matsushiro	51.31	27	⇓eP	P	13 49 55.4 -2.5
MAJO				pmax	pmax	
	comp=Z,68nm,1.0s					
MAT	Matsushiro	51.31	27	P	P	13 49 55.5 -2.4
MJAR	Matsushiro Arr	51.31	27	P	P	13 49 55.6 -2.2
MJAR						13 51 12.6
MJAR				pmax	pmax	
	comp=Z,9.0nm,1.0s					
MJAR				pmax	pmax	
	comp=Z,2.0nm,0.8s					
MJAR	Matsushiro Arr	51.31	27	P	P	13 49 55.6 -2.2
	comp=Z,9.3nm,1.0s,baz=204,slow=8.6,SNR=24					
MJAR				PcP	PcP	13 51 12.6 +1.3
	comp=Z,1.5nm,0.8s,baz=204,slow=7.4,SNR=3.3					
CN2	Changchun	53.84	12	eP	P	13 50 15.0 -1.3
CN2				pmax	pmax	
	comp=Z,10.0nm,0.8s					
VLA	Vladivostok	54.78	17	⇓eP	P	13 50 22.2 -0.9
VLA				eS	S	13 57 51.7 -3.4
VLA				pmax	pmax	
	comp=Z,4.0nm,0.6s					
MDJ	Mudanjiang	55.54	15	P	P	13 50 27.6 -1.0
MDJ				ScP	ScP	13 55 15.0 -0.7
MDJ				PcS	PcS	13 55 25.8 -1.4
MDJ				S	S	13 58 04.9 -0.3
MDJ				pmax	pmax	
	comp=Z,17nm,1.1s					
MDJ				pmax	pmax	
	comp=Z,72nm,5.4s					
MDJ	Mudanjiang	55.54	15	eP	P	13 50 28.0 -0.5
	comp=Z,15nm,0.8s					
USRK	Ussuriysk Arra	55.80	17	P	P	13 50 29.5 -0.9
	comp=Z,22nm,0.8s,baz=194,slow=5.3,SNR=53					
ULN	Ulaanbaatar	56.82	356	c iP	P	13 50 37.4 -0.6
ULN				pmax	pmax	
	comp=Z,16nm,1.3s					
ULN	Ulaanbaatar	56.82	356	eP	P	13 50 37.1 -0.7
	comp=Z,14nm,1.1s					
SONM	Songino Array	56.84	355	P	P	13 50 37.3 -0.6
SONM						13 51 33.1
SONM				pmax	pmax	
	comp=Z,7.0nm,0.8s					
SONM				pmax	pmax	
	comp=Z,1.0nm,0.6s					
SONM	Songino Array	56.84	355	P	P	13 50 37.3 -0.6
	comp=Z,7.1nm,0.8s,baz=175,slow=9.0,SNR=77					
SONM				PcP	PcP	13 51 33.1 +0.8
	comp=Z,1.1nm,0.6s,baz=169,slow=4.0,SNR=4.2					
WMQ	Urumqi	57.20	339	P	P	13 50 40.3 -0.2
WMQ				pP	pP	13 51 07.1 -0.7
WMQ				sP	sP	13 51 19.6 -0.7
WMQ				PcP	PcP	13 51 33.0 -0.7
WMQ				PP	PP	13 52 50.5 +1.6
WMQ				PcS	PcS	13 55 32.6 -2.2
WMQ				S	S	13 58 25.9 -1.5
WMQ				sS	sS	13 59 12.5 -1.9
WMQ				ScS	ScS	14 00 15.0 -3.9
WMQ				pmax	pmax	
	comp=Z,12nm,0.8s					
WMQ				pmax	pmax	
	comp=Z,120nm,4.4s					
WMQ				LR	LR	
	comp=Z,36nm,15.6s					
WMQ				LR	LR	
	comp=Z,40nm,16.0s					
WMQ				LR	LR	
	comp=Z,35nm,19.2s					
KWAJ	Kwajalein Atol	57.62	74	iP	P	13 50 43.3 -0.6
KSH	Kashi	58.99	327	eP	P	13 50 51.4 -1.7
KSH				esP	sP	13 51 32.1 -0.9
KSH				ePP	PP	13 53 06.3 +1.5
KSH				S	S	13 58 42.4 -8.5
KSH				pmax	pmax	
	comp=Z,9.0nm,0.8s					
KSH				pmax	pmax	
	comp=Z,74nm,3.7s					
KSH				LR	LR	
	comp=Z,72nm,5.0s					
KSH				LR	LR	
	comp=Z,150nm,4.9s					
KSH				LR	LR	
	comp=Z,270nm,6.3s					
ASAJ	Asahikawa	59.46	25	P	P	13 50 55.4 -0.7
ASAJ				pmax	pmax	
	comp=Z,7.0nm,0.8s					
ASAJ	Asahikawa	59.46	25	P	P	13 50 55.4 -0.7
	comp=Z,6.5nm,0.8s,baz=222,slow=14,SNR=3.4					
ZAK	Zakamensk	59.68	353	eP	P	13 50 56.5 -1.1
ZAK				pmax	pmax	
	comp=Z,3.0nm,1.4s					
TLY	Talaya	60.91	354	eP	P	13 51 06.0 +0.1
TLY				pmax	pmax	
	comp=Z,12nm,1.6s					
TLY	Talaya	60.91	354	eP	P	13 51 05.4 -0.5
	comp=Z,8.6nm,1.2s					
KZA	Kyzart	61.23	329	P	P	13 51 08.9 +0.2
	SNR=12					
KZA	Kyzart	61.23	329	iP	P	13 51 08.9 +0.2
TKM2	Tokmak 2	61.67	330	P	P	13 51 11.1 -0.3
	SNR=17					
TKM2	Tokmak 2	61.67	330	eP	P	13 51 10.8 -0.6
TKM2				pmax	pmax	
	comp=Z,15nm,0.8s					
TKM2	Tokmak 2	61.67	330	eP	P	13 51 10.8 -0.6
	comp=Z,15nm,0.8s					
UCH	Uchtor	61.71	329	P	P	13 51 12.0 0.0
	SNR=7.8					
UCH	Uchtor	61.71	329	iP	P	13 51 12.0 0.0
MK31	Makanchi Array	61.74	337	P	P	13 51 09.9 -1.7
MK31				pmax	pmax	
	comp=Z,7.0nm,0.5s					
MKAR	Makanchi Array	61.74	337	P	P	13 51 10.5 -1.1
MKAR				pmax	pmax	
	comp=Z,9.0nm,0.5s					
MKAR	Makanchi Array	61.74	337	P	P	13 51 10.5 -1.1
	comp=Z,8.6nm,0.5s,baz=141,slow=5.6,SNR=173					
KBK	Karagaybulak	61.80	329	P	P	13 51 12.4 +0.2
	SNR=24					
KBK	Karagaybulak	61.80	329	iP	P	13 51 12.4 +0.2
YSS	Yuzh-Sakhalins	61.85	23	⇑iP	P	13 51 12.1 -0.2
YSS				pmax	pmax	
	comp=Z,20nm,1.0s					
YSS	Yuzh-Sakhalins	61.85	23	eP	P	13 51 12.0 -0.2
	comp=Z,26nm,1.1s					
AAK	Ala-Archa	62.02	329	P	P	13 51 13.7 +0.1
	SNR=7.6					
AAK	Ala-Archa	62.02	329	eP	P	13 51 13.2 -0.4
AAK				e		13 53 30.8
AAK				pmax	pmax	
	comp=Z,11nm,0.9s					
AAK	Ala-Archa	62.02	329	eP	P	13 51 13.2 -0.4
	comp=Z,11nm,0.9s					
AAK				ePP	PP	13 53 30.8 -0.8
AML	Almayashu	62.07	328	P	P	13 51 14.1 -0.2
	SNR=20					
AML	Almayashu	62.07	328	iP	P	13 51 14.1 -0.2
EKS2	Erkin-Say	62.40	329	P	P	13 51 16.3 +0.1
	SNR=12					
EKS2	Erkin-Say	62.40	329	eP	P	13 51 16.0 -0.2
EKS2				pmax	pmax	
	comp=Z,18nm,0.8s					
EKS2	Erkin-Say	62.40	329	eP	P	13 51 16.0 -0.2
	comp=Z,18nm,0.8s					
USP	Ospenovka	62.47	329	P	P	13 51 16.1 -0.5
	SNR=5.6					
USP	Ospenovka	62.47	329	iP	P	13 51 16.0 -0.5
KK31	Karatay Array	64.43	327	iP	P	13 51 28.0 -1.4

KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 64.43 327 eP P 13 51 28.1 -1.3
KKAR Karatay Array 64.43 327 eP P 13 51 28.1 -1.3
KURK Kurchatov 66.35 337⇑iP P 13 51 40.8 -0.7
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 66.35 337 eP P 13 51 40.6 -0.9
comp=Z,4.9nm,0.8s
ZALV Zalesovo Beam 66.95 343 P P 13 51 44.1 -1.2
ZALV pmax pmax
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 66.95 343 P P 13 51 44.0 -1.2
comp=Z,12nm,0.7s,baz=150,slow=4.4,SNR=62
NVS Novosibirsk 68.19 342 eP P 13 51 51.0 -2.0
BRVK Borovoye 71.49 335⇑eP P 13 52 13.8 +0.4
BRVK pmax pmax
comp=Z,2.0nm,1.3s
YAK Yakutsk 72.05 8⇓iP P 13 52 15.9 -0.6
YAK pmax pmax
comp=Z,21nm,0.9s
YAK Yakutsk 72.05 8 eP P 13 52 15.4 -1.1
comp=Z,23nm,0.7s
PETK Petropavlovsk- 72.78 27 P P 13 52 20.9 -0.1
PETK pmax pmax
comp=Z,5.0nm,1.0s
PETK Petropavlovsk- 72.78 27 P P 13 52 20.9 -0.1
comp=Z,4.6nm,0.9s,baz=209,slow=4.1,SNR=4.4
RAYN Ar Rayn 73.02 298 eP P 13 52 23.1 -0.1
comp=Z,39nm,0.9s
AB31 Akbulak array 73.99 327 iP P 13 52 27.7 -0.5
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 73.99 327 eP P 13 52 27.7 -0.5
SEY Seymchan 77.94 17⇓iP P 13 52 50.8 +0.5
SEY Seymchan 77.94 17 P P 13 52 50.1 -0.2
comp=Z,2.0nm,0.4s,baz=196,slow=7.4,SNR=9.6
SVE Sverdlovsk 78.15 334⇑eP P 13 52 51.2 -0.5
SVE pmax pmax
comp=Z,17nm,0.7s
ARU Arti 78.84 333 d iP P 13 52 55.1 -0.3
ARU *PP pP 13 53 22.8 -1.5
ARU 13 55 51.2
ARU S S 14 02 43.3 -0.8
ARU SS SS 14 07 44.0 -7.6
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 78.84 333 eP P 13 52 54.6 -0.8
comp=Z,20nm,1.3s
ZEI Tsey 80.81 316 eP P 13 53 06.6 -0.1
ZEI pmax pmax
comp=Z,19nm,1.3s
TIXI Tiksi 81.20 5⇓iP P 13 53 07.0 -0.8
TIXI pmax pmax
comp=Z,10.0nm,1.2s
TIXI Tiksi 81.20 5 eP P 13 53 06.3 -1.5
comp=Z,6.8nm,0.8s
KBZ Khabaz 81.83 317 P P 13 53 12.6 +0.9
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 81.83 317 P P 13 53 12.6 +0.9
comp=Z,7.4nm,0.9s,baz=106,slow=1.9,SNR=7.6
KIV Kislovodsk 82.06 317 eP P 13 53 10.9 -2.2
KIV pmax pmax
comp=Z,11nm,1.1s
VRHR Novokhopersk 85.24 323 eP P 13 53 28.1 -0.9
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.7s
ANN Anapa 85.89 316 eP P 13 53 39.3 +6.9
ANN e 13 54 14.5
ANN eS S 14 03 56.5 0.0
ANN pmax pmax
comp=Z,186nm,1.1s
VORD Divnogorie 86.58 323 eP P 13 53 33.5 -2.1
VORD pmax pmax
comp=Z,8.0nm,1.0s
VORD pmax pmax
comp=N,3.0nm,0.7s
VORD pmax pmax
comp=E,5.0nm,0.7s
VSR Storozhevoye 86.73 323 eP P 13 53 35.0 -1.4
VSR pmax pmax
comp=Z,20nm,0.7s
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
PRGR Permogore 87.22 334 eP P 13 53 36.7 -1.8
PRGR pmax pmax
comp=Z,50nm,1.4s
BRTR Keskin Array B 87.27 311 P P 13 53 39.4 0.0
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 87.27 311 P P 13 53 39.4 0.0
comp=Z,4.0nm,0.8s,baz=132,slow=6.9,SNR=19
SNAA Sanae 89.24 197 P P 13 53 50.1 +2.0
SNAA Sanae 89.24 197⇑eP P 13 53 50.4 +2.4
SNAA pmax pmax
comp=Z,6.0nm,1.0s
OBN Obninsk 89.41 326⇓eP P 13 53 49.4 +0.5
OBN i 13 57 15.2
OBN iS SKSac 14 04 06.6 -1.9
OBN iSS SS 14 10 27.0 -0.3
OBN pmax pmax
comp=Z,15nm,1.1s
VNA2 Neumayer--Watz 90.89 197 P P 13 53 58.1 +2.5
baz=52,slow=6.1
VNA3 Neumayer Olymp 91.34 196 P P 13 53 59.6 +1.8
AKASG Malin Array Be 92.68 321 P P 13 54 03.6 -0.6
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 92.68 321 P P 13 54 03.6 -0.6
comp=Z,0.6nm,0.4s,baz=84,slow=4.2,SNR=6.5
KIEV Kiev 92.69 321 eP P 13 54 04.1 -0.2
FINES FINESS Array B 96.14 331 P P 13 54 19.8 0.0
FINES pmax pmax
comp=Z,2.0nm,1.0s
FINES FINESS Array B 96.14 331 P P 13 54 19.8 0.0
comp=Z,1.5nm,0.9s,baz=107,slow=6.6,SNR=4.9
YKA Yellowknife Ar 116.71 22 PKP PKPdf 13 59 36.1 +0.4
comp=Z,0.3nm,0.6s,baz=316,slow=1.7,SNR=13
ULM Lac du Bonnet 132.59 25 SKPbc SKPab 14 03 24.3 -0.5
comp=Z,4.8nm,0.8s,baz=318,slow=5.0,SNR=8.5
TXAR Lajitas Array 140.50 54 PKhKP PKPpre 14 00 17.0
comp=Z,0.2nm,0.8s,baz=241,slow=1.9,SNR=3.1
TXAR SKPbc SKiKP 14 03 49.5 -0.9
comp=Z,0.1nm,0.3s,baz=316,slow=2.5,SNR=3.5
CPUP Villa Florida 143.54 195 PKIKP PKPdf 14 00 26.8 -0.5
CPUP pmax pmax
comp=Z,1.0nm,0.5s
CPUP Villa Florida 143.54 195 PKP PKPdf 14 00 26.8 -0.5
comp=Z,1.4nm,0.5s,baz=181,slow=4.4,SNR=4.0
ACSO Alum Creek Sta 145.95 21 ePKPbc PKPbc 14 00 32.2 +0.3
LPAZ La Paz 154.87 178 PKP2 PKPab 14 01 13.1 +2.7
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 154.87 178 PKPab PKPab 14 01 13.1 +2.7
comp=Z,1.1nm,0.7s,baz=231,slow=6.5,SNR=5.2

MOS 14 13:47:21.4±2.0, 52.47N×159.04E, h62km, mb4.2/1, Error ellipse: s-maj=27.9km s-min=20.8km az=62.3
KRSC 14 13:47:22.1±0.7, 52.57N×159.11E, h69km±6km, ML4.0
ISCJB 14 13:47:23.2±0.4, 52.56N±0.04×159.11E±0.06, h69km±4km, mb3.3/4, Error ellipse: s-maj=8.0km s-min=3.8km az=43.2
IDC 14 13:47:24.3±1.8, 52.52N×158.94E, h70km±17km, mb3.3/4, mb1 3.8/6, mb1mx3.2/35, mbtmp3.8/6, MS3.2/1, Ms1 3.2/1, ms1mx2.6/24, Error ellipse: s-maj=31.4km s-min=18.7km az=171.0
ISC 14 13:47:23.6±0.8, 52.54N±0.04×159.14E±0.04, h59km±7km, n51, σ1.29/65, mb3.4/4, 1D, Off east coast of Kamchatka Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RUS Russkaya 0.40 254 iP Pn 13 47 34.8 +0.4
RUS eS Sn 13 47 42.8 +0.5
PET Petropavlovsk 0.56 329⇓iPN Pn 13 47 36.0 -0.2
PET eS Sn 13 47 45.0 -0.3
PET pmax pmax
comp=Z,690nm,0.3s
PET smax smax
comp=N,2μm,0.8s
PET Petropavlovsk 0.56 329 iP Pn 13 47 36.2 0.0
PET eS Sn 13 47 45.1 -0.3
MTVR Mutnovka 0.58 265 iP Pn 13 47 37.0 +0.4
MTVR eS Sn 13 47 46.6 +0.5
NLC Nalytchevo 0.64 11 eP Pn 13 47 36.7 -0.4
NLC eS Sn 13 47 46.8 -0.1
UGLR Uglovaya 0.69 344 iP Pn 13 47 38.1 +0.3
UGLR iS Sn 13 47 48.7 +0.5
SMAR Somma 0.75 344 eP Pn 13 47 38.5 -0.1
SMAR eS Sn 13 47 49.4 -0.2
SDLR Sedlovina 0.75 348 iP Pn 13 47 38.5 -0.1
SDLR eS Sn 13 47 49.3 -0.2
AVH Avacha 0.76 342 iP Pn 13 47 39.0 +0.3
AVH eS Sn 13 47 50.4 +0.7
ASAK Asacha 0.77 259 eP Pn 13 47 39.4 +0.6
ASAK eS Sn 13 47 50.8 +0.9
SPN Mys Shipunski 0.77 44 eP Pn 13 47 39.3 +0.6
SPN eS Sn 13 47 50.7 +0.9
KRER Koryakskii 0.80 343 iP Pn 13 47 39.4 +0.2
KRER eS Sn 13 47 51.0 +0.3
KOK Koryaka 0.81 338 iP Pn 13 47 39.6 +0.3
KOK eS Sn 13 47 51.2 +0.5
KRX Arik 0.87 340 iP Pn 13 47 40.1 0.0
KRX eS Sn 13 47 52.3 +0.1
PETK Petropavlovsk- 1.04 304 PN Pn 13 47 41.8 -0.3
PETK S Sn 13 47 56.2 +0.3
PETK pmax pmax
comp=Z,43nm,0.3s
PETK smax smax
comp=N,44nm,0.3s
PETK Petropavlovsk- 1.04 304 P Pn 13 47 41.8 -0.3
comp=N,43nm,0.3s,baz=102,slow=19,SNR=1255
PETK S Sn 13 47 56.2 +0.3
comp=N,44nm,0.3s,baz=86,slow=20,SNR=11
APC Apacha 1.26 288 iP Pn 13 47 45.2 +0.2
APC eS Sn 13 48 01.3 +0.2
GNL Ganaly 1.36 329 eP Pn 13 47 46.1 -0.4
GNL eS Sn 13 48 02.7 -0.9
MIPR Malaya Ipel'ka 1.48 261 eP Pn 13 47 48.7 +0.7
MIPR eS Sn 13 48 07.0 +0.7
KII Karymskiy 1.51 7 eP Pn 13 47 49.3 +0.9
KII eS Sn 13 48 07.7 +0.6
PAU Pauzhetka 1.80 234 iP Pn 13 47 53.6 +1.4
PAU eS Sn 13 48 15.4 +1.5
MKZ Mys Kozlova 2.54 36 eP Pn 13 48 03.0 +0.6
SKR Severo-Kuril's 2.65 226 ePN Pn 13 47 59.8 -4.0
SKR eS Sn 13 48 29.0 -5.7
SKR smax smax
comp=N,310nm,0.3s
SKR smax smax
comp=E,300nm,0.3s
SKR Severo-Kuril's 2.65 226 eP Pn 13 48 04.4 +0.6
SKR eS Sn 13 48 34.3 -0.4
KZV Kizimen 2.67 14 eP Pn 13 48 05.5 +1.3
TUMR Tumrok 2.81 12 eP Pn 13 48 07.6 +1.4
KMNR Kamenistaya 3.29 11 P Pn 13 48 13.3 +0.7
ESO Esso 3.40 356 eP Pn 13 48 14.6 +0.5
SRDR Sredinnyy 3.80 5 P Pn 13 48 20.9 +1.3
BDR Baidarnaya 4.21 16 eP Pn 13 48 28.0 +2.7
KBTR Krutoberegovo 4.26 29 eP Pn 13 48 27.2 +1.4
KBG Krutoberegovo 4.26 28 eP Pn 13 48 27.8 +1.9
KBG eS Sn 13 49 14.9 +0.6
SMKR Semkarok 4.27 18 eP Pn 13 48 27.9 +1.8
SRKR Sorokina 4.29 15 eP Pn 13 48 26.0 -0.3
BKI Bering 4.84 54 eP Pn 13 48 33.8 0.0
FX1 Attu Island--F 8.53 82 P Pn 13 49 25.4 +1.2
comp=E,1.9nm,0.3s,baz=322,slow=4.0,SNR=50
FX1 S Sn 13 50 54.1 -4.7
comp=E,7.8nm,0.3s,baz=144,slow=22,SNR=19
ASAJ Asahikawa 13.84 239 P Pn 13 50 37.5 +0.9
comp=E,0.4nm,0.3s,baz=18,slow=13,SNR=8.1
MJAR Matsushiro Arr 21.75 231 P P 13 52 08.4 -1.5
comp=E,0.6nm,0.5s,baz=22,slow=11,SNR=5.9
JCJ Chichijima 28.41 213 LR LR 14 04 01.7
comp=E,44nm,20.5s,baz=118,slow=35
H11N2 WAKE ISLAND Hy 33.30 167 T T 14 29 45.3
baz=354,slow=77,SNR=30
H11N3 WAKE ISLAND Hy 33.32 167 T T 14 29 46.6
baz=354,slow=77,SNR=24
H11N1 WAKE ISLAND Hy 33.32 167 T T 14 29 45.3
baz=354,slow=77,SNR=24
H11S1 WAKE ISLAND Hy 34.48 167 T T 14 31 10.4
baz=354,slow=78,SNR=5.8
H11S3 WAKE ISLAND Hy 34.49 167 T T 14 31 11.6
baz=354,slow=78,SNR=14
H11S2 WAKE ISLAND Hy 34.50 167 T T 14 31 14.1
baz=354,slow=78,SNR=4.1
MKAR Makanchi Array 47.87 296 P P 13 55 53.3 -2.0
comp=E,0.4nm,1.0s,baz=66,slow=7.0,SNR=4.4
PDAR Pinedale Array 58.30 60 P P 13 57 13.1 +0.8
comp=E,0.2nm,0.5s,baz=332,slow=2.0,SNR=2.4
TXAR Lajitas Array 71.39 66 P P 13 58 37.9 +0.5
comp=E,0.3nm,0.6s,baz=298,slow=5.1,SNR=4.7
H03N2 Juan Fernandez 134.78 89 T T 16 36 59.6
baz=314,SNR=10
H03N1 Juan Fernandez 134.79 89 T T 16 37 01.5
baz=314
H03N3 Juan Fernandez 134.80 89 T T 16 37 01.7
baz=314

ISCJB 14 13:59:43.7±0.3, 64.52N±0.06×168.14E±0.08, h10km, mb4.1/32, MS3.7/3, Error ellipse: s-maj=8.4km s-min=4.3km az=163.7
MOS 14 13:59:43.7±1.5, 64.51N×168.29E, h10km, mb4.2/22, Error ellipse: s-maj=17.9km s-min=9.2km az=88.5
IDC 14 13:59:43.8±0.5, 64.46N×168.20E, h0km, mb4.0/24, mb1 4.2/26, mb1mx4.1/44, mbtmp4.0/26, ML4.1/2, MS3.3/4, Ms1 3.3/4, ms1mx3.0/39, Error ellipse: s-maj=13.9km s-min=11.3km az=166.0
NEIC 14 13:59:45.6±0.4, 64.49N×168.26E, h10km, mb4.2/7, Error ellipse: s-maj=9.6km s-min=6.3km az=172.0
NERS 14 13:59:47.9, 64.79N×167.88E, h0km
ISC 14 13:59:45.5±0.4, 64.52N±0.06×168.20E±0.05, h10km, n90, σ1.20/99, mb4.1/32, MS3.5/3, 2D, Eastern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BILL Bilibino 3.62 348 d iP Pn 14 00 40.7 -0.8
BILL MLR MLR
comp=Z,286nm,14.0s
BILL Bilibino 3.62 348⇓iP Pn 14 00 40.9 -0.6
BILL Pmax 14 00 41.2
comp=Z,40nm,0.4s
BILL ePb Pb 14 00 44.5 -4.9
BILL ePg Pg 14 00 48.4 -6.3
BILL Pgmax 14 00 50.1
comp=Z,150nm,0.4s
BILL e 14 01 23.1
BILL eSg Sb 14 01 34.4 +1.1
BILL Sgmax 14 01 41.8
comp=Z,950nm,0.5s
BILL Sgmax 14 01 41.8
comp=Z,150nm,0.3s
BILL Bilibino 3.62 348 eP Pn 14 00 40.8 -0.6
SEY Seymchan 7.20 264 P Pn 14 01 32.5 +1.9
SEY 14 02 53.8
SEY pmax pmax
comp=Z,1.0nm,0.3s
SEY smax smax
comp=N,3.0nm,0.3s
SEY Seymchan 7.20 264 eP Pn 14 01 34.4 +3.8
SEY ePg Pg 14 01 58.3 -4.8
SEY Pgmax 14 02 03.1
comp=N,20nm,0.3s
SEY eS Sn 14 02 54.9 +2.6
SEY eSg Sg 14 03 29.3 -6.9
SEY Sgmax 14 03 39.9
comp=N,180nm,0.6s
SEY Seymchan 7.20 264 Pn Pn 14 01 32.5 +1.9
comp=N,0.9nm,0.3s,baz=261,slow=23,SNR=32
SEY Sn Sn 14 02 53.8 +1.5
comp=N,3.0nm,0.3s,baz=26,slow=24,SNR=1.5
SEY Lg Lg 14 03 27.8
comp=N,7.4nm,0.3s,baz=25,slow=9.4,SNR=5.8
SNGR Sinegor'e 8.38 261 eSg Sg 14 04 08.3 -5.7
SNGR Sgmax 14 04 08.5
comp=N,20nm,0.3s
SUUS Susuman 9.07 268 eP Pn 14 02 03.8 +7.5
SUUS Sgmax 14 04 17.7
comp=N,60nm,0.9s
SUUS eSg Sn 14 04 32.5 +54
MGD Magadan 1 9.28 249 eP Pn 14 02 05.0 +5.9
MGD eS Sn 14 03 44.0 +0.6
MGD eSg 14 04 39.4
MGD Sgmax 14 04 45.3
comp=N,100nm,0.9s
MGD Sgmax 14 04 45.3
comp=N,50nm,0.9s
OCHR Omchak 9.63 262 eP Pn 14 02 10.4 +6.3
OCHR e 14 02 12.5
OCHR eS Sn 14 03 53.3 +1.0
OCHR eSg 14 04 53.3
OCHR Sgmax 14 05 12.0
comp=N,180nm,0.7s
OCHR Sgmax 14 05 12.0
comp=N,430nm,0.7s
TNA Tin City 10.12 73 eP Pn 14 02 08.9 -1.8
comp=N,4.8nm,0.3s
FX1 Attu Island--F 11.95 165 P Pn 14 02 35.6 -0.2
FX1 pmax pmax
comp=Z,5.0nm,0.3s
FX1 MLR MLR
comp=Z,126nm,19.2s
FX1 Attu Island--F 11.95 165 Pn Pn 14 02 35.5 -0.2
comp=Z,5.2nm,0.3s,baz=355,slow=9.4,SNR=18
FX1 LR LR 14 06 60.0
comp=Z,126nm,19.2s,baz=3.0,slow=37
PETK Petropavlovsk- 12.65 210 LR LR 14 07 43.0
comp=Z,72nm,19.9s,baz=63,slow=38
TIXI Tiksi 16.02 313 eP P 14 03 34.0 +0.1
TIXI pmax pmax
comp=Z,7.0nm,0.5s
TIXI Tiksi 16.02 313 eP P 14 03 34.0 +0.1
comp=Z,7.0nm,0.5s
COLD Coldfoot 16.98 62 eP P 14 03 45.1 +0.5
comp=Z,11nm,0.9s
MCK McKinley 18.47 73 eP Pn 14 04 02.2 +1.0
MCK pmax pmax
comp=Z,37nm,1.1s
MCK McKinley 18.47 73 eP Pn 14 04 02.2 +1.0
comp=Z,37nm,1.1s
ILAR Eielson Array 18.93 69 P Pn 14 04 06.3 -0.5
comp=Z,0.1nm,0.3s,baz=285,slow=11,SNR=32
MENT Mentasta 20.94 72 eP P 14 04 27.8 -0.3
BMRM Bremner River 21.50 78 P P 14 04 33.9 -0.2
YSS Yuzh-Sakhalins 22.42 230 eP P 14 04 46.3 +2.3
YSS i 14 04 50.3
YSS pmax pmax
comp=Z,10.0nm,0.6s
INK Inuvik 22.85 55 P P 14 04 48.7 +0.4
INK 14 08 38.1
INK pmax pmax
comp=Z,3.0nm,0.5s
INK pmax pmax
comp=Z,1.0nm,0.4s
INK MLR MLR
comp=Z,196nm,21.6s
INK Inuvik 22.85 55 P P 14 04 48.7 +0.4
comp=Z,2.7nm,0.5s,baz=312,slow=9.2,SNR=17
INK PcP PcP 14 08 38.1 -0.6
comp=Z,0.7nm,0.4s,baz=353,slow=0.7,SNR=3.3
INK LR LR 14 16 02.7
comp=Z,196nm,21.6s,baz=180,slow=43
KLR Kul'dur 24.64 249 eP P 14 05 04.0 -1.8
KLR MLR MLR
comp=Z,800nm,13.0s
ASAJ Asahikawa 24.99 227 P P 14 05 11.3 +2.3
ASAJ pmax pmax
comp=Z,7.0nm,0.8s
ASAJ MLR MLR
comp=Z,70nm,19.0s
ASAJ Asahikawa 24.99 227 P P 14 05 11.3 +2.3
comp=Z,6.9nm,0.8s,baz=27,slow=6.8,SNR=3.8
ASAJ LR LR 14 16 53.6
comp=Z,70nm,19.0s,baz=84,slow=41
USRK Ussuriysk Arra 28.67 242 PcP PcP 14 08 52.7 +0.4
comp=Z,2.3nm,0.8s,baz=31,slow=4.8,SNR=4.5
RES Resolute Bay 31.20 31 P P 14 06 06.1 +1.9
RES pmax pmax
comp=Z,2.0nm,0.6s
RES Resolute Bay 31.20 31 P P 14 06 06.1 +1.9
comp=Z,1.6nm,0.6s,baz=319,slow=7.0,SNR=7.6
YKA Yellowknife Ar 32.54 57 P P 14 06 15.6 -0.5
YKA 14 09 00.9
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 32.54 57 P P 14 06 15.6 -0.5
comp=Z,0.6nm,0.6s,baz=304,slow=8.1,SNR=15
YKA PcP PcP 14 09 00.9 -1.3
comp=Z,0.5nm,0.8s,baz=326,slow=3.8,SNR=7.1
MJAR Matsushiro Arr 33.26 227 P P 14 06 21.7 -1.0
MJAR pmax pmax
comp=Z,14nm,1.2s
MJAR Matsushiro Arr 33.26 227 P P 14 06 21.7 -1.0
comp=Z,14nm,1.2s,baz=11,slow=9.4,SNR=4.0
ZAK Zakamensk 35.90 279 eP P 14 06 45.6 +0.1
ZAK pmax pmax
comp=Z,2.0nm,1.1s
KSRS Korea Array 36.04 241 P P 14 06 47.9 +1.2
KSRS 14 09 13.0
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KSRS pmax pmax
comp=Z,1.0nm,0.8s
KSRS Korea Array 36.04 241 P P 14 06 47.9 +1.2
comp=Z,2.2nm,0.6s,baz=25,slow=8.9,SNR=5.2
KSRS PcP PcP 14 09 13.0 +0.3
comp=Z,1.1nm,0.8s,baz=26,slow=2.2,SNR=4.2
KSAR Wonju Array Be 36.07 241 P P 14 06 47.9 +1.0
KSAR 14 09 13.0
KSAR Wonju Array Be 36.07 241 P P 14 06 47.9 +1.0
KSAR PcP PcP 14 09 13.0 +0.3
SONM Songino Array 36.49 273 P P 14 06 52.2 +1.6
SONM 14 09 13.9
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 36.49 273 P P 14 06 52.2 +1.6
comp=Z,1.2nm,0.5s,baz=32,slow=8.5,SNR=16
SONM PcP PcP 14 09 13.9 -0.2
comp=Z,0.5nm,0.5s,baz=72,slow=0.6,SNR=6.6
ZALV Zalesovo Beam 40.82 296 P P 14 07 27.8 +1.2
ZALV 14 09 26.7
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 40.82 296 P P 14 07 27.8 +1.2
comp=Z,1.4nm,0.6s,baz=35,slow=5.4,SNR=5.5
ZALV PcP PcP 14 09 26.7 -0.6
comp=Z,0.9nm,0.3s,baz=6.9,slow=2.4,SNR=4.2
ARCES ARCESS Array B 43.69 342 P P 14 07 51.9 +2.0
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 43.69 342 P P 14 07 51.9 +2.0
comp=Z,3.1nm,0.7s,baz=22,slow=6.9,SNR=9.3
HRY Holter Researc 45.09 73 eP P 14 08 01.2 -0.3
comp=Z,4.9nm,0.6s
KURK Kurchatov 45.73 297 P P 14 08 07.3 +1.0
KURK 14 09 43.6
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 45.73 297 eP P 14 08 06.4 +0.1
KURK PcP PcP 14 09 43.5 -0.3
comp=Z,3.8nm,1.0s
KURBB Kurchatov Arra 45.84 297 P P 14 08 07.3 +0.1
comp=Z,3.7nm,0.7s,baz=39,slow=7.8,SNR=5.0
KURBB PcP PcP 14 09 43.5 -0.7
comp=Z,0.5nm,0.4s,baz=59,slow=3.8,SNR=4.5
BVAR Borovoye Array 46.91 305 P P 14 08 16.3 +0.7
BVAR 14 09 47.7
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BVAR Borovoye Array 46.91 305 P P 14 08 16.3 +0.7
baz=45,slow=8.4
BVAR PcP PcP 14 09 47.7 -0.3
comp=Z,2.3nm,0.4s,baz=36,slow=1.5,SNR=12
MKAR Makanchi Array 47.44 292 P P 14 08 19.3 -0.6
MKAR pmax pmax
comp=Z,1.0nm,0.4s

MKAR Makanchi Array 47.44 292 P P 14 08 19.3 -0.6
comp=Z,0.5nm,0.4s,baz=39,slow=6.3,SNR=10
NVAR Mina Array Bea 49.11 85 P P 14 08 33.4 +0.3
comp=Z,0.9nm,0.7s,baz=290,slow=7.0,SNR=6.7
PDAR Pinedale Array 49.23 74 P P 14 08 33.8 -0.2
comp=Z,3.3nm,0.7s,baz=344,slow=3.2,SNR=24
FINES FINESS Array B 51.19 338 P P 14 08 48.4 +0.2
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 51.19 338 P P 14 08 48.4 +0.2
comp=Z,0.9nm,0.6s,baz=28,slow=8.6,SNR=6.4
AKTO Aktyubinsk 53.29 312 P P 14 09 03.9 -0.1
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 53.29 312 P P 14 09 03.9 -0.1
comp=Z,1.3nm,0.5s,baz=56,slow=8.9,SNR=3.9
PV01 Paradox Valley 53.51 77 eP P 14 09 06.2 +0.1
comp=Z,206nm,0.8s
NB2 NORSAR Subarra 53.56 346 P P 14 09 07.5 +1.6
comp=Z,2.2nm,0.7s,baz=12,slow=7.4
NOA NORSAR Array B 53.56 346 P P 14 09 05.1 -0.8
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 53.56 346 P P 14 09 05.1 -0.8
comp=Z,2.6nm,0.8s,baz=12,slow=7.3,SNR=12
ABKAR Akbulak array 53.67 309 eP P 14 09 06.1 -0.7
comp=Z,1.1nm,0.4s
SCHQ Schefferville 53.70 36 P P 14 09 08.6 +1.7
comp=Z,2.9nm,0.6s,baz=300,slow=8.1,SNR=8.3
KKAR Karatay Array 55.14 298 eP P 14 09 17.6 0.0
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 55.14 298 eP P 14 09 17.6 0.0
comp=Z,1.1nm,0.5s
AKASG Malin Array Be 60.77 331 P P 14 09 56.1 -0.8
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 60.77 331 P P 14 09 56.1 -0.8
comp=Z,0.6nm,0.4s,baz=21,slow=7.0,SNR=2.9
TAPN Taplejung 61.60 274 eP P 14 10 03.2 0.0
comp=Z,8.7nm,0.7s
GUN Gumba 61.90 276 eP P 14 10 05.0 -0.3
comp=Z,18nm,1.0s
JIRN Jiri 61.98 276 eP P 14 10 05.9 0.0
comp=Z,9.0nm,0.7s
ODAN Odare 62.16 274 eP P 14 10 06.5 -0.5
comp=Z,7.9nm,0.7s
GKN Gorkha 62.35 277 eP P 14 10 07.9 -0.2
DANN Dangsing 62.43 278 eP P 14 10 08.0 -0.8
comp=Z,15nm,0.8s
RAMN Ramite 62.43 275 eP P 14 10 08.3 -0.4
comp=Z,14nm,0.6s
KOLN Koldanda 63.00 278 eP P 14 10 12.2 -0.3
comp=Z,23nm,1.3s
TXAR Lajitas Array 63.15 78 P P 14 10 13.0 -0.3
comp=Z,0.2nm,0.4s,baz=294,slow=4.8,SNR=4.5
CMAR Chiang Mai Arr 64.58 259 P P 14 10 20.7 -2.1
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 64.58 259 P P 14 10 20.7 -2.1
comp=Z,0.8nm,0.6s,baz=346,slow=4.6,SNR=5.6
GERES GERESS Array B 65.23 342 P P 14 10 26.4 -0.3
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 65.23 342 P P 14 10 26.4 -0.3
comp=Z,0.6nm,0.9s,baz=23,slow=7.2,SNR=4.8
BRTR Keskin Array B 70.13 324 P P 14 10 57.7 -0.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 70.13 324 P P 14 10 57.7 -0.1
comp=Z,1.1nm,0.8s,baz=24,slow=4.7,SNR=6.0
ESDC Sonseca Array 75.96 354 P P 14 11 30.7 -1.5
comp=Z,0.2nm,0.3s,baz=354,slow=5.4,SNR=6.5
WRA Warramunga Arr 88.16 212 P P 14 12 35.4 -0.7
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 88.16 212 P P 14 12 35.4 -0.7
comp=Z,1.3nm,0.7s,baz=22,slow=5.5,SNR=18
ASAR Alice Springs 91.85 211 P P 14 12 53.0 -0.4
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 91.85 211 P P 14 12 53.0 -0.4
comp=Z,0.7nm,0.7s,baz=13,slow=4.4,SNR=9.2

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*MOS **14** 14:10:21.9±1.0, 36°.31N×71°.35E, h103km, mb4.2/10, Error ellipse: s-maj=17.1km s-min=7.1km az=92.2*
*IDC **14** 14:10:22.6±3.7, 36°.22N×71°.34E, h97km±32km, mb3.6/14, mb1 3.8/19, mb1mx3.6/33, mbtmp4.0/19, MS3.7/2, Ms1 3.7/2, ms1mx2.7/32, Error ellipse: s-maj=21.8km s-min=15.5km az=15.0*
*ISCJB **14** 14:10:23.1±0.3, 36°.34N±0°.03×71°.56E±0°.06, h114km, mb3.8/16, Error ellipse: s-maj=7.0km s-min=3.0km az=159.7*
*NNC **14** 14:10:30.3±4.9, 36°.87N×71°.05E, h129km±57km, mb3.7, mpv4.5, Error ellipse: s-maj=37.9km s-min=29.5km az=16.0*
ISC 14 14:10:24.4±0.5**, 36°.38N**±0°.05**×71°.48E**±0°.07**, h114km, n86, σ1s67**/97**, mb3.8**/16**, 11C-5D, Afghanistan-Tajikistan border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CEP Cherat 2.57 172 ⇓P Pn 14 11 06.1 +1.1
CEP S Sn 14 11 38.0 +1.8
CHCP Chirah Chowk 3.08 151 ⇓P Pn 14 11 13.2 +1.6
CHCP S Sn 14 11 52.0 +4.0
SARP Sargodha 4.55 167 P Pn 14 11 30.5 -0.7
SARP S Sn 14 12 20.0 -3.2
DLH Dalhousie 5.33 135 eP Pn 14 11 43.0 +1.1
DLH eS Sn 14 12 42.0 -0.2
DHRM DHARAMSHALA 5.73 135 eP Pn 14 11 47.3 -0.1
DHRM eS Sn 14 12 49.5 -2.5
DHRM AML AML 14 12 53.6
comp=N,343nm,0.2s
DHRM AML AML 14 12 54.1
comp=E,394nm,0.3s
AML Almayashu 6.00 16 P Pn 14 11 51.5 +0.5
SNR=163
UCH Uchtor 6.30 21 P Pn 14 11 56.1 +0.9
SNR=22
KZA Kyzart 6.40 26 P Pn 14 11 57.5 +1.0
SNR=13
BHK Bhakra 6.43 139 eP Pn 14 11 58.0 +1.4
EKS2 Erkin-Say 6.52 15 P Pn 14 11 58.6 +0.7
SNR=38
AAK Ala-Archa 6.67 20 ⇓P Pn 14 12 00.7 +0.8
comp=E,12nm,0.6s
AAK ⇑S Sn 14 13 13.1 -1.4
comp=E,24nm,0.6s
AAK Ala-Archa 6.67 20 P Pn 14 12 01.1 +1.1
SNR=18
AAK Ala-Archa 6.67 20 PN Pn 14 12 01.0 +1.1
AAK pmax pmax
comp=Z,5.0nm,0.3s
AAK Ala-Archa 6.67 20 P Pn 14 12 01.0 +1.1
comp=Z,4.7nm,0.3s,baz=163,slow=6.7,SNR=38
AAK S Sn 14 13 12.8 -1.7
comp=Z,2.5nm,0.3s,baz=165,slow=22,SNR=8.4
SDNR Sundarnagar 6.67 135 eP Pn 14 12 01.0 +1.2
SDNR ex Sn 14 13 18.0 +3.6
KK31 Karatay Array 6.76 354 P Pn 14 12 00.3 -0.7
comp=Z,91nm,0.4s,baz=178,slow=12,SNR=3273
KK31 ⇑S Sn 14 13 12.4 -4.0
comp=Z,26nm,0.4s,baz=176,slow=16,SNR=10
KK31 Karatay Array 6.76 354 ePN Pn 14 12 00.3 -0.7
KK31 pmax pmax
comp=Z,110nm,0.2s
SMLA Simla 7.06 136 eP Pn 14 12 05.0 -0.1
SMLA eS Sn 14 13 21.2 -2.6
SMLA AML AML 14 13 22.5
comp=E,121nm,0.4s
SMLA AML AML 14 13 23.6
comp=N,201nm,0.4s
USP Ospenovka 7.26 18 P Pn 14 12 08.7 +0.9
SNR=9.6
TKM2 Tokmak 2 7.26 25 ⇑P Pn 14 12 09.1 +1.1
comp=N,7.4nm,0.5s
TKM2 ⇑S Sn 14 13 28.8 -0.3
comp=N,12nm,0.9s
TKM2 Tokmak 2 7.26 25 P Pn 14 12 09.1 +1.1
SNR=7.5
DDI Dehra Dun 8.16 136 eP Pn 14 12 20.5 +0.3
DDI eS Sn 14 13 46.2 -4.6
DDI AML AML 14 14 15.5
comp=E,156nm,0.2s
DDI AML AML 14 14 17.1
comp=N,139nm,0.3s
NDI New Delhi 9.07 146 eP Pn 14 12 32.0 -0.4
NDI ex Sn 14 14 10.0 -2.7
DANN Dangsing 13.10 124 eP Pn 14 13 23.7 -2.7
comp=N,34nm,0.4s
MK31 Makanchi Array 13.17 34 ⇓P Pn 14 13 27.5 +0.6
comp=N,1.5nm,0.6s,baz=276,slow=15,SNR=32
MKAR Makanchi Array 13.17 34 P Pn 14 13 26.7 -0.2
comp=N,0.1nm,0.3s,baz=218,slow=12,SNR=14
KOLN Koldanda 13.38 126 eP Pn 14 13 27.7 -2.2
comp=N,19nm,0.3s
GKN Gorkha 13.91 123 eP Pn 14 13 34.4 -2.4
comp=N,68nm,0.4s
BHPL Bhopal 14.06 157 eP Pn 14 13 36.6 -2.1
BHPL ex x 14 16 04.6
DMN Daman 14.48 123 eP Pn 14 13 41.6 -2.6
comp=N,32nm,0.5s
KKN Kakani 14.48 122 eP Pn 14 13 41.1 -3.1
comp=N,16nm,0.3s
PKIN Phulchoki 14.70 123 eP Pn 14 13 44.5 -2.4
comp=N,22nm,0.3s
PKI Pulchoki 14.71 123 eP Pn 14 13 44.6 -2.6
comp=N,21nm,0.4s
GUN Gumba 14.82 121 eP Pn 14 13 45.2 -3.4
comp=N,21nm,0.3s
KURBB Kurchatov Arra 15.12 17 ⇑P P 14 13 53.9 -0.3
comp=N,6.3nm,0.6s
KURBB Kurchatov Arra 15.12 17 P P 14 13 54.2 0.0
comp=N,0.9nm,0.3s,baz=204,slow=10,SNR=28
JIRN Jiri 15.19 121 eP Pn 14 13 50.3 -2.9
comp=N,70nm,0.4s
KURK Kurchatov 15.23 18 ⇑P P 14 13 55.5 +0.1
comp=N,2.0nm,0.6s
KURK Kurchatov 15.23 18 P Pn 14 13 54.2 +1.1
KURK pmax pmax
comp=Z,1.0nm,0.3s
AB31 Akbulak array 15.38 330 ⇑P Pn 14 13 52.7 -2.3
comp=Z,4.6nm,0.3s,baz=142,slow=12,SNR=388
AB31 ⇑S Sn 14 16 28.2 -17
comp=Z,3.2nm,0.5s,baz=245,slow=28,SNR=5.7
AB31 Akbulak array 15.38 330 i P Pn 14 13 52.7 -2.3
AB31 pmax pmax
comp=Z,5.0nm,0.2s
RAMN Ramite 15.92 122 eP Pn 14 13 59.5 -2.7
comp=Z,19nm,0.3s
VOSK Vostochnaya 16.35 359 ⇑P Pn 14 14 04.4 -2.6
comp=Z,3.5nm,0.9s
TAPN Taplejung 16.45 119 eP Pn 14 14 06.1 -2.7
comp=Z,20nm,0.3s
ODAN Odare 16.52 121 eP Pn 14 14 07.1 -2.5
comp=Z,26nm,0.5s
BVA0 Borovoye Array 16.66 358 ⇑P P 14 14 11.9 +0.6
comp=Z,3.9nm,0.7s,baz=161,slow=12,SNR=17
BVA0 ⇑S Sn 14 17 05.2 -11
comp=Z,1.8nm,0.7s,baz=165,slow=24,SNR=3.7
BVA0 Borovoye Array 16.66 358 i P P 14 14 11.5 +0.2
BVA0 pmax pmax
comp=Z,4.0nm,0.7s
BVAR Borovoye Array 16.66 358 P Pn 14 14 10.3 -0.6
BVAR S Sn 14 17 06.2 -10
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR smax smax
comp=N,1.0nm,0.3s
BVAR Borovoye Array 16.66 358 P Pn 14 14 10.3 -0.6
comp=N,0.9nm,0.3s,baz=160,slow=11,SNR=19
BVAR S Sn 14 17 06.2 -10
comp=N,0.5nm,0.3s,baz=164,slow=23,SNR=5.2
AKTO Aktyubinsk 17.08 330 ⇓P Pn 14 14 16.8 +0.8
comp=N,13nm,0.6s
AKTO Aktyubinsk 17.08 330 P P 14 14 15.9 -0.1
AKTO S Sn 14 17 14.2 -12
AKTO pmax pmax
comp=Z,3.0nm,0.3s
AKTO Aktyubinsk 17.08 330 P P 14 14 15.8 -0.1
comp=Z,2.9nm,0.3s,baz=142,slow=13,SNR=47
AKTO S Sn 14 17 14.2 -12
comp=Z,0.3nm,0.3s,baz=53,slow=23,SNR=4.1
ZALV Zalesovo Beam 19.87 24 P P 14 14 46.6 +0.3
ZALV pmax pmax
comp=Z,16nm,0.5s
ZALV Zalesovo Beam 19.87 24 P P 14 14 46.6 +0.3
comp=Z,16nm,0.5s,baz=209,slow=10,SNR=71
NVS Novosibirsk 20.16 20 eP P 14 14 49.5 0.0
ARU Arti 21.88 341 P P 14 15 09.2 +1.4
SONM Songino Array 28.09 55 P P 14 16 07.6 +2.3
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 28.09 55 P P 14 16 07.6 +2.3
comp=Z,0.5nm,0.7s,baz=266,slow=8.5,SNR=6.3
AKASG Malin Array Be 33.32 309 P P 14 16 50.8 -0.3
comp=Z,0.3nm,0.3s,baz=85,slow=6.7,SNR=5.7
JOF Joensuu 36.17 330 eP P 14 17 16.2 +0.8
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 36.17 330 ep P 14 17 16.2 +0.8
comp=Z,2.0nm,0.4s
FINES FINESS Array B 37.80 326 P P 14 17 30.3 +1.1
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 37.80 326 P P 14 17 30.3 +1.1
comp=Z,1.4nm,0.3s,baz=123,slow=9.6,SNR=17
KAF Kangasniemi 37.94 327 eP P 14 17 31.7 +1.3
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 37.94 327 ep P 14 17 31.7 +1.3
comp=Z,0.5nm,0.4s
KEV Kevo 41.06 338 eP P 14 17 55.5 -0.7
KEV pmax pmax
comp=Z,6.0nm,0.9s
KEV Kevo 41.06 338 ep P 14 17 55.5 -0.7
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 41.41 338 P P 14 18 00.3 +1.2
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 41.41 338 P P 14 18 00.3 +1.2
comp=Z,2.5nm,0.5s,baz=109,slow=8.7,SNR=28
GERES GERESS Array B 43.32 305 LR LR 14 41 03.3
comp=Z,85nm,18.6s,baz=312,slow=42
KSRS Korea Array 44.55 71 P P 14 18 26.3 +1.5
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS MLR MLR
comp=Z,94nm,20.1s
KSRS Korea Array 44.55 71 P P 14 18 26.3 +1.5
comp=Z,0.8nm,0.5s,baz=279,slow=7.0,SNR=6.1
KSRS LR LR 14 38 24.7
comp=Z,94nm,20.1s,baz=161,slow=38
NB2 NORSAR Subarra 44.71 323 P P 14 18 26.1 +0.3
comp=Z,1.8nm,0.5s,baz=95,slow=7.9
NOA NORSAR Array B 44.71 323 P P 14 18 26.1 +0.3
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA NORSAR Array B 44.71 323 P P 14 18 26.1 +0.3
comp=Z,1.6nm,0.5s,baz=106,slow=7.2,SNR=19
TORD Torodi Ar. Bea 66.10 269 P P 14 20 57.8 -1.8
comp=Z,0.5nm,0.4s,baz=50,slow=5.8,SNR=8.9
INK Inuvik 73.96 9 P P 14 21 48.0 +1.2
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 73.96 9 P P 14 21 48.0 +1.2
comp=Z,0.9nm,0.5s,baz=338,slow=5.5,SNR=17
ILAR Eielson Array 74.79 16 P P 14 21 52.0 +0.3
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 74.79 16 P P 14 21 52.0 +0.3
comp=Z,0.5nm,0.8s,baz=328,slow=5.1,SNR=6.1
BOSA Boshof 77.90 220 P P 14 22 10.2 +0.4
BOSA pmax pmax
comp=Z,4.0nm,0.9s
BOSA Boshof 77.90 220 P P 14 22 10.2 +0.4
comp=Z,3.7nm,0.9s,baz=45,slow=5.9,SNR=4.5
YKA Yellowknife Ar 81.35 3 P P 14 22 28.4 +0.5
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 81.35 3 P P 14 22 28.4 +0.5
comp=Z,0.6nm,0.6s,baz=349,slow=5.4,SNR=23
WRA Warramunga Arr 81.60 122 P P 14 22 29.5 -0.3
comp=Z,0.2nm,0.3s,baz=324,slow=5.0,SNR=6.2
ASAR Alice Springs 83.87 125 P P 14 22 41.3 -0.2
comp=Z,0.3nm,0.6s,baz=312,slow=5.2,SNR=8.9

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*IDC **14** 14:14:02.5±0.8, 6°.70N×72°.95W, h162km±7km, mb3.1/4, mb1 3.5/6, mb1mx3.1/25, mbtmp3.7/6, Error ellipse: s-maj=23.5km s-min=11.3km az=126.0*
*FUNV **14** 14:14:02.6, 6°.78N×73°.18W, h172km, MW4.1*
*ISCJB **14** 14:14:03.2±0.7, 6°.94N±0°.06×72°.95W±0°.05, h174km±6km, mb3.3/4, Error ellipse: s-maj=10.9km s-min=8.1km az=157.0*
ISC 14 14:14:03.1±0.8**, 6°.87N**±0°.07**×73°.00W**±0°.06**, h164km**±6km**, n21, σ1s48**/36**, mb3.3**/4**, 2C-1D, Northern Colombia**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CAPV Capacho 1.20 35 ⇑iP Pn 14 14 32.2 +1.0
CAPV eS Sn 14 14 53.6 +0.9
ROSC El Rosal 2.40 214 P Pn 14 14 43.7 -0.5
97nm,0.3s,baz=274,slow=17,SNR=87
ROSC S Sn 14 15 13.1 -2.8
107nm,0.3s,baz=84,slow=20,SNR=9.1
VIGV El Vigia 2.54 40 ⇑iP Pn 14 14 46.7 +1.2
VIGV eS Sn 14 15 19.5 +1.1
SOCV Socops 2.55 56 eP Pn 14 14 46.4 +0.8
ELOV Elorza 3.50 88 eP Pn 14 14 58.3 +1.0
ELOV eS Sn 14 15 39.6 +0.1
VIRV Villa del Rosa 3.66 9 eP Pn 14 14 59.0 -0.4
VIRV eS Sn 14 15 41.8 -1.5
SANV Sanarito 4.31 52 eP Pn 14 15 08.5 +0.6
SANV eS Sn 14 15 57.7 -0.8
CURV Curarigua 4.34 44 eP Pn 14 15 08.9 +0.7
CURV eS Sn 14 15 57.3 -1.7
DABV Dabajuro 4.66 30 eP Pn 14 15 13.1 +0.8
SIQV Siquisique 4.91 40 ⇓iP Pn 14 15 15.9 +0.3
SIQV eS Sn 14 16 10.2 -2.1
BAUV El Baul 5.33 67 eP Pn 14 15 20.5 -0.7
BAUV eS Sn 14 16 19.3 -2.9
MAPV Macapo 5.37 57 eP Pn 14 15 22.2 +0.4
MAPV eS Sn 14 16 21.2 -2.1
MONV Montecano 5.87 30 eP Pn 14 15 28.2 -0.1
MONV eS Sn 14 16 31.0 -4.1
PCRV Puerto La Cruz 8.90 68 P Pn 14 16 10.1 +1.5
0.7nm,0.3s,baz=281,slow=2.0,SNR=7.7
PCRV S Sn 14 17 46.5 -1.2
0.5nm,0.3s,baz=289,slow=22,SNR=0.9
TXAR Lajitas Array 36.52 312 P P 14 20 53.8 +0.7
0.4nm,0.6s,baz=125,slow=9.1,SNR=7.5
NVAR Mina Array Bea 51.53 315 P P 14 22 53.7 +1.1
0.2nm,0.5s,baz=122,slow=9.7,SNR=2.9
YKA Yellowknife Ar 63.26 340 P P 14 24 14.2 +0.2
0.5nm,0.6s,baz=134,slow=6.6,SNR=18
YKA pP pP 14 24 53.3 +0.7
0.1nm,0.5s,baz=133,slow=6.8,SNR=2.1
INK Inuvik 73.02 340 P P 14 25 15.7 +1.0
0.3nm,0.5s,baz=135,slow=7.1,SNR=3.0
MKAR Makanchi Array 122.23 20 PKP PKPdf 14 32 38.6 -0.2
0.1nm,0.4s,baz=275,slow=2.6,SNR=4.3
MKAR pPKP pPKPdf 14 33 22.1 +0.1
0.1nm,0.4s,baz=31,slow=0.8,SNR=1.4
ASAR Alice Springs 149.24 234 PKPbc PKPbc 14 33 32.0 -1.2
0.8nm,0.5s,baz=119,slow=3.5,SNR=24
WRA Warramunga Arr 150.46 241 PKPbc PKPbc 14 33 35.5 -0.8
0.8nm,0.4s,baz=108,slow=2.7,SNR=35
WRA pPKPbc pPKPbc 14 34 17.0 -2.2
0.2nm,0.5s,baz=107,slow=2.6,SNR=1.6

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*DDA **14** 14:16:42.2, 38°.75N×40°.12E, h7km, MD2.8*
*CSEM **14** 14:16:42.0±0.3, 38°.70N×39°.97E, h5km, MD2.8, Error ellipse: s-maj=8.9km s-min=7.3km az=40.0*
ISK 14 14:16:41.3, 38°.72N×40°.05E, h5km, MD2.8, Turkey

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
BINT Bingol 0.38 65 ePg Pn 14 16 53.1 -0.6
BINT eSg Sb 14 17 00.5 +3.4
PTK Pertek 0.54 289 ePG Pg 14 16 52.7 +0.7
PTK eSG Sg 14 16 59.5 +0.2
PTK Pertek 0.54 289 ePg Pg 14 16 52.7 +0.7
PTK eSg Sg 14 16 59.5 +0.2
BNGB Bingˆ¶l 0.56 61 ePG Pg 14 16 53.1 +0.7
BNGB eSG Sg 14 17 00.6 +0.7
DYBB Diyarbakir 0.76 175 ePG Pg 14 16 56.6 +0.5
DIYA Diyarbakir 0.79 176 i P Pn 14 16 59.5 +0.3
DIYA i S Sb 14 17 09.3 +0.5
DIYA Diyarbakir 0.79 176 i P Pn 14 16 59.5 +0.2
DIYA i S Sb 14 17 09.3 +0.5
DIY Diyarbakir 0.83 170 ePg Pg 14 16 56.6 -0.8
ERZN Erzincan 0.91 344 ePG Pg 14 16 59.3 +0.3
SVAN Silvan-Diyarba 1.06 122 ePG Pg 14 17 01.8 0.0
VRTB Varto-Mus 1.19 68 ePN Pg 14 17 04.2 -0.1
VRTB Varto-Mus 1.19 68 ePn Pg 14 17 04.2 -0.1
BTMT Batman 1.25 114 ePN Pn 14 17 05.8 +0.2
BTMT Batman 1.25 114 ePn Pn 14 17 05.8 +0.3
BEST Besiri 1.27 130 i P Pn 14 17 06.1 +0.3
BEST i S Sn 14 17 23.5 +0.3
MAZI Mazidag 1.29 166 ePN Pn 14 17 06.2 0.0
MAZI Mazidag 1.29 166 ePn Pn 14 17 06.2 0.0
KEMA Kemaliye 1.33 295 i P Pn 14 17 06.0 -0.7
KEMA i S Sn 14 17 27.7 +2.8
KEMA Kemaliye 1.33 295 i P Pn 14 17 06.0 -0.7
KEMA i S Sn 14 17 27.7 +2.8
ILIC ilic-Erzincan 1.37 303 ePN Pg 14 17 08.3 +0.6
ILIC ilic-Erzincan 1.37 303 ePn Pg 14 17 08.3 +0.6
MARD Mardin 1.51 157 i P Pb 14 17 10.2 +0.1
MARD i S Sb 14 17 29.7 0.0
KELT Kelkit 1.56 337 i P Pg 14 17 12.5 +1.0
KELT i S Sg 14 17 32.9 +1.0
KELT Kelkit 1.56 337 i P Pg 14 17 12.5 +1.0
KELT i S Sg 14 17 32.9 +1.0
EZM Erzurum 1.57 40 ePN Pb 14 17 11.2 0.0
URFA Urfa 1.60 218 ePN Pn 14 17 10.5 +0.2
URFA Urfa 1.60 218 ePn Pn 14 17 10.5 +0.2
BAYT Ayd˜–ntepe-Bay 1.68 2 ePN Pn 14 17 12.1 +0.5
BAYT Ayd˜–ntepe-Bay 1.68 2 ePn Pn 14 17 12.1 +0.5
GUMT Gumushane 1.80 346 ePN Pn 14 17 13.7 +0.5
GUMT Gumushane 1.80 346 ePn Pn 14 17 13.7 +0.5
AGRB Hanur-Agry 2.45 69 ePN Pn 14 17 22.9 +0.7
AGRB Hanur-Agry 2.45 69 ePn Pn 14 17 22.9 +0.7
KMRS Kahramanmaras 2.76 245 ePN Pn 14 17 27.7 +1.4
KMRS Kahramanmaras 2.76 245 ePn Pn 14 17 27.7 +1.4

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*ISCJB **14** 14:42:36.9±0.6, 20°.2S±0°.1×177°.8W±0°.1, h500km, mb3.9/11, Error ellipse: s-maj=20.9km s-min=9.1km az=143.8*
*IDC **14** 14:42:37.2±2.2, 20°.22S×177°.75W, h493km±25km, mb3.5/11, mb1 3.8/13, mb1mx3.5/30, mbtmp4.4/13, Error ellipse: s-maj=23.2km s-min=13.3km az=140.0*
ISC 14 14:42:36.9±0.7**, 20°.2S**±0°.2**×177°.6W**±0°.1**, h500km, n31, σ1s21**/29**, mb3.8**/11**, 1C, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AFI Afiamalu 8.35 43 P P 14 44 38.2 +1.1
5.7nm,0.3s,baz=294,slow=13,SNR=4.3
AFI S S 14 46 11.1 -4.7
1.4nm,0.3s,baz=328,slow=23,SNR=2.5
DZM Mont Dzumac 15.02 260 P P 14 45 45.7 -1.8
0.2nm,0.3s,baz=66,slow=20,SNR=3.0
URZ Urewera 18.60 193 P P 14 46 21.5 -1.1
3.2nm,0.3s,baz=324,slow=8.7,SNR=24
ARMA Armidale 29.56 244 P P 14 48 01.7 +1.1
baz=30,SNR=4.9
RMQ Roma 31.47 252 P P 14 48 18.1 +1.0
baz=32,SNR=5.0
RABL Rabaul 33.47 294 S S 14 53 28.5 +8.3
baz=33,SNR=3.1
CMSA Cobar Meteorol 34.78 244 P P 14 48 45.1 +0.1
baz=36,SNR=8.3
QLP Quilpie 35.52 252 P P 14 48 51.2 -0.2
baz=36,SNR=8.1
MTSU Mount Surprise 35.99 267 P P 14 48 55.5 +0.1
baz=36,SNR=6.7
STKA Stephens Creek 38.28 244 P P 14 49 14.2 +0.3
2.9nm,0.6s,baz=80,slow=11,SNR=18
STKA Stephens Creek 38.28 244 P P 14 49 14.4 +0.5
baz=39,SNR=12
BBOO Buckleboo 43.04 243 P P 14 49 51.9 -0.1
baz=44,SNR=9.6
ASAR Alice Springs 44.97 256 P P 14 50 06.8 -0.4
6.7nm,0.7s,baz=90,slow=8.3,SNR=64
WRA Warramunga Arr 45.03 262 P P 14 50 06.7 -0.9
2.7nm,0.3s,baz=96,slow=7.7,SNR=149
WRKA Warakurna 49.93 254 P P 14 50 44.2 -0.3
baz=51,SNR=12
KNRA Kununurra 51.07 266 P P 14 50 52.6 -0.3

	baz=51,SNR=5.4						
FITZ	**Fitzroy Crossi**	**53.46**	**262**	P	**P**	**14 51 10.2**	**+0.2**
	baz=54,SNR=3.9						
MEEK	**Meekatharra**	**58.39**	**251**	P	**P**	**14 51 43.0**	**-1.2**
	baz=59,SNR=4.1						
MJAR	**Matsushiro Arr**	**70.18**	**323**	P	**P**	**14 52 59.3**	**+0.4**
	13nm,1.2s,baz=167,slow=5.8,SNR=4.3						
PETK	**Petropavlovsk-**	**76.06**	**345**	P	**P**	**14 53 32.8**	**+0.6**
	2.1nm,0.7s,baz=115,slow=10.0,SNR=5.7						
NVAR	**Mina Array Bea**	**80.53**	**43**	P	P	14 53 59.5	+2.6
	1.2nm,0.9s,baz=220,slow=9.3,SNR=5.6						
MAW	**Mawson**	**82.00**	**200**	P	**P**	**14 54 03.5**	**-0.2**
	14nm,0.6s,baz=162,slow=9.6,SNR=4.4						
TXAR	**Lajitas Array**	**86.56**	**57**	P	P	14 54 29.8	+2.8
	0.6nm,0.7s,baz=216,slow=6.2,SNR=10						
ILAR	**Eielson Array**	**87.92**	**13**	P	**P**	**14 54 32.5**	**+0.1**
	0.9nm,0.7s,baz=217,slow=5.9,SNR=22						
PDAR	**Pinedale Array**	**88.46**	**43**	P	**P**	**14 54 37.7**	**+1.9**
	0.6nm,0.6s,baz=186,slow=2.7,SNR=5.2						
YKA	**Yellowknife Ar**	**96.06**	**25**	P	**P**	**14 55 10.7**	**+0.9**
	0.3nm,1.0s,baz=243,slow=5.0,SNR=3.9						
MKAR	**Makanchi Array**	**111.26**	**313**	PKiKP	**PKiKP**	**15 00 13.4**	**-0.1**
	0.2nm,0.6s,baz=35,slow=3.5,SNR=3.4						
AKASG	**Malin Array Be**	**142.92**	**332**	PKhKP	PKPpre	15 01 10.0	
	1.2nm,0.3s,baz=42,slow=4.3,SNR=25						
BRTR	**Keskin Array B**	**146.91**	**313**	PKPbc	**PKPbc**	**15 01 23.0**	**-0.3**
	0.5nm,0.5s,baz=114,slow=1.7,SNR=4.5						
CLL	**Collm**	**147.84**	**347**	⇑ *i*PKPbc	**PKPbc**	**15 01 25.7**	**+0.6**
	comp=Z,5.0nm,0.7s						
CLL				*i* PKPab	**PKPab**	**15 01 29.6**	**+0.3**
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**150.00**	**345**	PKPbc	**PKPbc**	**15 01 31.1**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=29,slow=3.0,SNR=8.3						

IDC ***14*** *14:52:38.5±1.0, 16.27N×98.48W, h0km, mb4.1/9, mb1 4.2/13, mb1mx4.0/38, mbtmp4.0/13, ML3.5/4, MS3.6/4, Ms1 3.6/4, ms1mx3.2/29, Error ellipse: s-maj=29.9km s-min=17.8km az=58.0*

NEIC ***14*** *14:52:41.1, 16.20N×98.65W, h10km, mb4.2/19, MD4.2(MEX), After MEX.*

MEX ***14*** *14:52:41.1±0.4, 16.20N×98.65W, h10km±9km, MD4.2*

ISC 14 14:52:41.2±1.2, **16.24N**±0.05**×98.61W**±0.03, **h18km**±5km, **n285**, σ**1.02**/298, **mb4.2**/21, **107C-114D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**72**	*i* P	**Pg**	**14 52 50.7**	**-0.3**
PNIG				*e*S	**Sb**	**14 52 58.4**	**+0.4**
PNIG	**Pinotepa**	**0.49**	**72**	*i* P	**Pg**	**14 52 50.7**	**-0.3**
PNIG				*e*S	**Sb**	**14 52 58.4**	**+0.4**
TLIG	**Tlapa**	**1.32**	**2**	*i* P	**Pn**	**14 53 02.9**	**-1.9**
TLIG				*e*S	**Sn**	**14 53 19.2**	**-2.8**
ACX	**Acapulco**	**1.35**	**298**	*i* P	**Pn**	**14 53 04.0**	**-1.2**
ACX				*e*S	**Sn**	**14 53 20.6**	**-2.1**
ACX	**Acapulco**	**1.35**	**298**	*i* P	**Pn**	**14 53 04.0**	**-1.2**
ACX				*e*S	**Sn**	**14 53 20.6**	**-2.1**
MEIG	**Mezcala**	**1.94**	**330**	*i* P	**Pn**	**14 53 11.1**	**-2.1**
MEIG				*e*S	**Sn**	**14 53 34.8**	**-2.3**
MEIG	**Mezcala**	**1.94**	**330**	*i* P	**Pn**	**14 53 11.1**	**-2.1**
MEIG				*e*S	**Sn**	**14 53 34.8**	**-2.3**
VHO	**Vista Hermosa**	**1.98**	**65**	*e*P	**Pn**	**14 53 13.1**	**-0.9**
VHO				*e*S	**Sn**	**14 53 37.2**	**-1.2**
VHO	**Vista Hermosa**	**1.98**	**65**	*e*P	**Pn**	**14 53 13.1**	**-0.9**
VHO				*e*S	**Sn**	**14 53 37.2**	**-1.2**
OXX	**Oaxaca**	**1.99**	**65**	*i* P	**Pb**	**14 53 17.1**	**+0.1**
OXX				*e*S	**Sb**	**14 53 42.7**	**+1.1**
OXX	**Oaxaca**	**1.99**	**65**	*i* P	**Pb**	**14 53 17.1**	**+0.1**
OXX				*e*S	**Sb**	**14 53 42.7**	**+1.1**
HUIG	**Huatulco**	**2.45**	**101**	*i* P	**Pn**	**14 53 19.4**	**-0.8**
HUIG				*e*S	**Sn**	**14 53 48.4**	**-1.4**
HUIG	**Huatulco**	**2.45**	**101**	*i* P	**Pn**	**14 53 19.4**	**-0.8**
HUIG				*e*S	**Sn**	**14 53 48.4**	**-1.4**
TPIG	**Tehuac#an**	**2.47**	**29**	*i* P	**Pn**	**14 53 19.7**	**-1.0**
TPIG				*e*S	**Sn**	**14 53 50.2**	**-0.3**
TPIG	**Tehuac#an**	**2.47**	**29**	*i* P	**Pn**	**14 53 19.7**	**-1.0**
TPIG				*e*S	**Sn**	**14 53 50.2**	**-0.3**
UNM	**Universidad Na**	**3.12**	**350**	*i* P	**Pn**	**14 53 31.8**	**+2.1**
UNM				*e*S	**Sn**	**14 54 04.7**	**-1.9**
UNM	**Universidad Na**	**3.12**	**350**	*i* P	**Pn**	**14 53 31.8**	**+2.1**
UNM				*e*S	**Sn**	**14 54 04.7**	**-1.9**
CMIG	**Matias Romero**	**3.67**	**76**	*i* P	**Pn**	**14 53 35.6**	**-1.4**
CMIG				*i* S	**Sn**	**14 54 19.0**	**-0.9**
CMIG	**Matias Romero**	**3.67**	**76**	*i* P	**Pn**	**14 53 35.6**	**-1.4**
CMIG				*i* S	**Sn**	**14 54 19.0**	**-0.9**
APG	**El Apazote**	**7.94**	**98**	Pn	**Pn**	**14 54 34.1**	**-1.8**
	0.9nm,0.3s,baz=303,slow=11,SNR=12						
APG				Sn	Sn	14 55 59.5	-6.0
	1.0nm,0.3s,baz=171,slow=23,SNR=3.8						
APG				Lg	Lg	14 56 42.0	
	1.4nm,0.3s,baz=110,slow=8.4,SNR=5.4						
TEIG	**Tepich**	**10.59**	**66**	Pn	**Pn**	**14 55 11.7**	**-0.3**
	0.8nm,0.3s,baz=70,slow=16,SNR=1.6						
TEIG				Sn	Sn	14 57 01.3	-8.9
	1.7nm,0.3s,baz=345,slow=22,SNR=1.9						
835A	**Beeville**	**12.01**	**3**	⇑P	**Pn**	**14 55 33.6**	**+2.1**
	baz=12						
H06E1	**SOCORRO T-PHAS**	**12.02**	**284**	T	T	15 07 36.7	
	SNR=46						
H06S1	**SOCORRO T**	**12.04**	**284**	T	T	15 06 52.4	
	SNR=5.5						
833A	**Chaparral WMA,**	**12.05**	**357**	⇑P	**Pn**	**14 55 33.9**	**+1.9**
	baz=12						
832A	**Faith Ranch, C**	**12.05**	**354**	⇓P	**Pn**	**14 55 33.8**	**+1.7**
	baz=12						
633A	**Saathoff Ranch**	**13.17**	**358**	⇑P	**Pn**	**14 55 47.9**	**+0.6**
	baz=13						
631A	**Perdido Creek**	**13.23**	**352**	⇑P	**Pn**	**14 55 48.5**	**+0.3**
	baz=13						
632A	**Uvalde**	**13.25**	**356**	⇓P	**Pn**	**14 55 50.4**	**+2.0**
	baz=13						
LPIG	**La Paz**	**13.48**	**307**	LR	LR	15 00 40.8	
	comp=Z,218nm,20.0s,baz=349,slow=36						
TXAR	**Lajitas Array**	**13.84**	**341**	Pn	**Pn**	**14 55 58.4**	**+1.8**
	0.0nm,0.3s,baz=160,slow=15,SNR=7.9						
TXAR				Lg	Lg	14 59 59.9	
	0.0nm,0.3s,baz=164,slow=27,SNR=5.6						
TXAR				LR	LR	15 02 14.9	
	comp=Z,177nm,20.4s,baz=0.0,slow=42						
531A	**Rocksprings**	**13.97**	**353**	⇑P	**Pn**	**14 55 59.6**	**+1.3**
	baz=14						
530A	**J-C Ranch, Com**	**14.07**	**350**	⇓P	**Pn**	**14 56 01.6**	**+1.9**
	baz=14						
529A	**Stev Forest Ra**	**14.21**	**347**	⇑P	**Pn**	**14 56 03.0**	**+1.3**
	baz=14						
433A	**Art**	**14.46**	**358**	⇓P	**Pn**	**14 56 07.4**	**+2.5**
	baz=15						
431A	**Sonora**	**14.49**	**353**	⇓P	**Pn**	**14 56 07.9**	**+2.4**
	baz=15,SNR=9.8						
434A	**Burnet**	**14.51**	**1**	⇑P	**Pn**	**14 56 08.2**	**+2.5**
	baz=15						
432A	**Menard**	**14.61**	**356**	⇓P	**Pn**	**14 56 09.5**	**+2.5**
	baz=15,SNR=6.7						
430A	**Baggett Ranch,**	**14.68**	**351**	⇑P	**Pn**	**14 56 10.2**	**+2.1**
	baz=15						
335A	**Moody**	**15.01**	**4**	⇓P	**P**	**14 56 16.2**	**-1.6**
	baz=15						
333A	**Richland Sprin**	**15.02**	**359**	⇓P	**P**	**14 56 15.6**	**-2.3**
	baz=15						
331A	**San Angelo**	**15.09**	**354**	⇑P	**P**	**14 56 16.2**	**-2.6**
	baz=15,SNR=7.0						
330A	**Mertzon**	**15.28**	**352**	⇑P	**Pn**	**14 56 17.9**	**+1.9**
	baz=15						
232A	**Coleman**	**15.61**	**357**	⇑P	**P**	**14 56 24.8**	**+0.3**
	baz=16,SNR=17						
234A	**Clairette**	**15.70**	**1**	⇑P	**Pn**	**14 56 21.5**	**+0.1**
	baz=16,SNR=6.6						
231A	**Bronte**	**15.70**	**355**	⇓P	**Pn**	**14 56 22.5**	**+0.9**
	baz=16,SNR=6.5						
233A	**Rising Star**	**15.71**	**359**	⇑P	**Pn**	**14 56 22.4**	**+0.7**
	baz=16,SNR=6.3						
WHTX	**Lake Whitney**	**15.72**	**4**	*e*P	**P**	**14 56 25.0**	**-0.6**
	22nm,1.0s						
WHTX	**Lake Whitney**	**15.72**	**4**	⇑P	**Pn**	**14 56 22.3**	**+0.6**
	baz=16,SNR=6.5						
326A	**Caldwell Ranch**	**15.79**	**343**	⇓P	**Pn**	**14 56 23.5**	**+0.8**
	baz=16						
133A	**Hamilton Ranch**	**16.30**	**359**	⇓P	**P**	**14 56 31.4**	**-0.7**
	baz=16,SNR=12						
ABTX	**Abilene, Hawle**	**16.34**	**357**	*e*P	**P**	**14 56 32.6**	**+0.1**
	19nm,0.9s						
ABTX	**Abilene, Hawle**	**16.34**	**357**	⇑P	**P**	**14 56 32.3**	**-0.3**
	baz=16,SNR=8.5						
226B	**Tecolote Peak,**	**16.56**	**343**	⇓P	**P**	**14 56 34.0**	**-1.0**
	baz=17						
128A	**Castleberry Fa**	**16.68**	**349**	⇑P	**P**	**14 56 35.7**	**-0.7**
	baz=17,SNR=5.0						
225A	**Deer Hill, Car**	**16.78**	**341**	⇓P	**P**	**14 56 37.0**	**-0.5**
	baz=17,SNR=6.0						
Z33A	**Whitaker Ranch**	**16.97**	**360**	⇓P	**P**	**14 56 39.2**	**-0.3**
	baz=17						
Z32A	**Haskell**	**17.01**	**358**	⇑P	**P**	**14 56 40.0**	**0.0**
	baz=17						
126A	**Clayton Basin,**	**17.05**	**344**	⇓P	**P**	**14 56 40.4**	**-0.1**
	baz=17						
Z31A	**Sharp Cattle R**	**17.06**	**356**	⇓P	**P**	**14 56 40.7**	**+0.2**
	baz=17						
Z35A	**Perchaven, San**	**17.06**	**4**	⇓P	**P**	**14 56 40.7**	**+0.2**
	baz=17						
Z34A	**Collier Ranch,**	**17.07**	**2**	⇓P	**P**	**14 56 40.9**	**+0.3**
	baz=17						
Z30A	**Sanderson Ranc**	**17.12**	**353**	⇑P	**P**	**14 56 41.0**	**-0.2**
	baz=17						
Z29A	**Hungry Hill Ra**	**17.18**	**351**	⇑P	**P**	**14 56 41.9**	**+0.1**
	baz=17,SNR=7.6						
125A	**Gardner Draw,**	**17.24**	**343**	⇓P	**P**	**14 56 43.3**	**+0.6**
	baz=17,SNR=7.0						
Z28A	**Tucker Farm, M**	**17.31**	**349**	⇑P	**P**	**14 56 43.9**	**+0.5**
	baz=17,SNR=5.9						
Z27A	**Tatum**	**17.50**	**347**	⇓P	**P**	**14 56 45.6**	**0.0**
	baz=18,SNR=17						
Z26A	**Caprock**	**17.64**	**345**	⇓P	**P**	**14 56 47.2**	**+0.1**
	baz=18						
Y29A	**Porterfield Fa**	**17.76**	**352**	⇑P	**Pn**	**14 56 47.9**	**+0.3**
	baz=18						
Z25A	**Roswell**	**17.84**	**343**	⇑P	**P**	**14 56 49.6**	**+0.4**
	baz=18,SNR=7.3						
Y28A	**McKinney Farm,**	**17.90**	**350**	⇓P	**Pn**	**14 56 49.2**	**-0.1**
	baz=18						
319A	**Douglas**	**17.93**	**329**	⇑P	**P**	**14 56 50.9**	**+0.6**
	baz=18,SNR=7.8						
Y27A	**Causey**	**18.04**	**348**	⇑P	**P**	**14 56 51.5**	**0.0**
	baz=18						
MSTX	**Muleshoe**	**18.05**	**349**	*e*P	**P**	**14 56 51.5**	**0.0**
	16nm,0.8s						
MSTX	**Muleshoe**	**18.05**	**349**	⇑P	**P**	**14 56 51.7**	**+0.2**
	baz=18						
Z24A	**Sheeppen Canyo**	**18.08**	**341**	⇑P	**P**	**14 56 52.8**	**+0.9**
	baz=18,SNR=12						
X32A	**Elmer**	**18.11**	**358**	⇑P	**P**	**14 56 53.4**	**+1.3**
	baz=18						
121A	**Cookes Peak, D**	**18.23**	**334**	*e*P	**P**	**14 56 54.6**	**+1.0**
	11nm,1.0s						
121A	**Cookes Peak, D**	**18.23**	**334**	⇑P	**P**	**14 56 54.2**	**+0.6**
	baz=18						
X30A	**Coker Ranch, T**	**18.24**	**354**	⇓P	**P**	**14 56 54.0**	**+0.4**
	baz=18						
X29A	**Tulia**	**18.34**	**352**	⇓P	**P**	**14 56 55.3**	**+0.5**
	baz=18						
X31A	**McDonald Ranch**	**18.36**	**356**	⇓P	**Pn**	**14 56 55.3**	**+0.4**
	baz=18						
Y25A	**Mesa, Roswell**	**18.44**	**344**	⇓P	**Pn**	**14 56 56.5**	**+0.5**
	baz=18						
Z22A	**Elephant Butte**	**18.55**	**337**	⇓P	**Pn**	**14 56 57.4**	**+0.1**
	baz=19						
Y24A	**Capitan**	**18.65**	**342**	⇓P	**Pn**	**14 56 58.5**	**-0.1**
	baz=19,SNR=11						
AMTX	**Amarillo**	**18.77**	**352**	*e*P	**P**	**14 56 57.5**	**-2.0**
	9.2nm,0.6s						
AMTX	**Amarillo**	**18.77**	**352**	⇑P	**P**	**14 56 59.2**	**-0.3**
	baz=19						
MIAR	**Mount Ida**	**18.78**	**13**	*e*P	**P**	**14 56 58.8**	**-0.7**
	8.1nm,0.8s						
W32A	**Sentinel**	**18.81**	**358**	⇑P	**P**	**14 56 60.0**	**+0.1**
	baz=19						
X26A	**CR and CF Fran**	**18.82**	**347**	⇑P	**Pn**	**14 57 00.7**	**0.0**
	baz=19						
Y23A	**Lovelace Mesa,**	**18.85**	**341**	⇓P	**Pn**	**14 57 00.8**	**-0.2**
	baz=19,SNR=8.8						
W27A	**Bowe Ranch, En**	**19.16**	**349**	⇓P	**P**	**14 57 03.3**	**-0.5**
	baz=19						
X24A	**Lazy VL Ranch,**	**19.25**	**343**	⇓P	**P**	**14 57 05.1**	**+0.2**
	baz=19						
V31A	**Spring Creek L**	**19.48**	**357**	⇑P	**P**	**14 57 07.4**	**+0.1**
	baz=20						
V34A	**Guthrie**	**19.54**	**3**	⇓P	**P**	**14 57 07.8**	**0.0**
	baz=20						
W25A	**X Bar L Ranch,**	**19.61**	**346**	⇓P	**P**	**14 57 08.5**	**-0.2**
	baz=20						
TUL1	**Tulsa**	**19.75**	**7**	*e*P	**P**	**14 57 08.5**	**-1.6**
	16nm,1.1s						
TUL1	**Tulsa**	**19.75**	**7**	⇓P	**P**	**14 57 09.1**	**-1.0**
	baz=20						
W24A	**Lazy 6 Ranch,**	**19.85**	**343**	⇓P	**P**	**14 57 11.5**	**+0.1**
	baz=20,SNR=7.5						
ANMO	**Albuquerque**	**19.91**	**341**	P	**P**	**14 57 12.8**	**+0.7**
	0.1nm,0.3s,baz=149,slow=12,SNR=14						
ANMO				LR	LR	15 05 57.4	
	comp=Z,110nm,21.9s,baz=150,slow=40						
ANMO	**Albuquerque**	**19.91**	**341**	*e*P	**P**	**14 57 12.7**	**+0.6**
	5.9nm,0.8s						
W23A	**Werner Place,**	**20.02**	**342**	⇑P	**P**	**14 57 12.9**	**-0.3**
	baz=20						
V26A	**Tequesquite Ra**	**20.02**	**348**	⇑P	**P**	**14 57 13.3**	**+0.2**
	baz=20,SNR=15						
U32A	**Winter Ranch,**	**20.06**	**359**	⇓P	**P**	**14 57 13.2**	**-0.3**
	baz=20						
U34A	**Anderson Ranch**	**20.14**	**3**	*e*P	**P**	**14 57 14.4**	**+0.1**
	9.2nm,0.7s						
U34A	**Anderson Ranch**	**20.14**	**3**	⇓P	**P**	**14 57 15.0**	**+0.7**
	baz=20						
V25A	**Rancho No Teng**	**20.24**	**346**	⇓P	**P**	**14 57 15.8**	**+0.2**
	baz=20,SNR=6.4						
214A	**Organ Pipe Nat**	**20.28**	**323**	⇑P	Pn	14 57 17.2	-0.8
	baz=20						
V24A	**Rampart Ranch,**	**20.30**	**344**	⇓P	**P**	**14 57 16.7**	**+0.4**
	baz=20						
U27A	**Thompson Grove**	**20.45**	**350**	⇓P	**P**	**14 57 18.3**	**+0.5**
	baz=21						
V23A	**Ortiz Mt. (NFS**	**20.57**	**342**	⇓P	**P**	**14 57 19.8**	**+0.6**
	baz=21,SNR=7.8						
U26A	**Atchley Ranch,**	**20.59**	**348**	⇑P	**P**	**14 57 19.9**	**+0.5**
	baz=21,SNR=6.9						
U25A	**Circle Dot Ran**	**20.73**	**347**	⇓P	**P**	**14 57 21.3**	**+0.3**
	baz=21						
T32A	**Huddler Ranch,**	**20.86**	**359**	⇓P	**P**	**14 57 22.8**	**+0.7**
	baz=21						
X18A	**Snowflake**	**20.86**	**333**	⇓P	**P**	**14 57 23.3**	**+0.9**
	baz=21,SNR=6.1						
V22A	**San Miguel Ran**	**20.95**	**341**	⇓P	**P**	**14 57 23.9**	**+0.6**
	baz=21,SNR=6.7						
T28A	**Walsh**	**21.03**	**352**	⇑P	**P**	**14 57 24.1**	**0.0**
	baz=21						
T27A	**Campo**	**21.06**	**351**	⇓P	**P**	**14 57 25.4**	**+1.0**
	baz=21						
U23A	**El Rito**	**21.11**	**343**	⇑P	**P**	**14 57 25.8**	**+0.7**
	baz=21,SNR=20						
W18A	**Petrified Fore**	**21.27**	**334**	⇑P	**P**	**14 57 27.8**	**+0.9**
	baz=21						
T26A	**Comanche Natio**	**21.31**	**349**	⇓P	**P**	**14 57 27.9**	**+0.7**
	baz=21						
U22A	**Llaves**	**21.36**	**341**	⇑P	**P**	**14 57 28.7**	**+0.9**
	baz=22,SNR=6.8						
Z14A	**Wintersburg**	**21.41**	**325**	⇑P	**P**	**14 57 29.5**	**+1.4**
	baz=22						
113A	**Mohawk Valley,**	**21.43**	**323**	⇓P	**P**	**14 57 29.6**	**+1.3**
	baz=22,SNR=5.6						
T25A	**Trinidad**	**21.44**	**347**	⇓P	**P**	**14 57 29.3**	**+0.6**
	baz=22						
X16A	**Lo Mia Camp, P**	**21.46**	**330**	⇑P	**P**	**14 57 30.1**	**+1.3**
	baz=22,SNR=13						
S28A	**Manter**	**21.46**	**353**	⇓P	**P**	**14 57 28.9**	**+0.2**
	baz=22						
T24B	**San Luis**	**21.59**	**345**	⇓P	**P**	**14 57 30.1**	**-0.2**
	baz=22						
S26A	**Kim**	**21.73**	**350**	⇑P	**P**	**14 57 30.3**	**+1.4**
	baz=22,SNR=6.3						
T23A	**Casias Ranch,**	**21.73**	**344**	⇓P	**P**	**14 57 32.2**	**+0.4**
	baz=22						
Y14A	**Wickenburg**	**21.88**	**326**	⇑P	**P**	**14 57 34.3**	**+1.2**
	baz=22,SNR=8.4						
GOGA	**Godfrey**	**21.89**	**36**	P	**P**	**14 57 31.8**	**-1.4**
	6.4nm,0.6s						
S25A	**Robets Cordova**	**21.95**	**348**	⇓P	**P**	**14 57 34.3**	**+0.3**
	baz=22						
R33A	**Olander Ranch,**	**21.99**	**1**	⇓P	**P**	**14 57 35.4**	**+1.1**
	baz=22						
S24A	**Houchin Ranch,**	**22.10**	**346**	⇓P	**P**	**14 57 35.9**	**+0.1**
	baz=22						
R28A	**Tribune**	**22.20**	**353**	⇓P	**P**	**14 57 37.3**	**+0.7**
	baz=22						
GLA	**Glamis**	**22.25**	**322**	⇓P	**P**	**14 57 38.2**	**+1.0**
	baz=22						
R27A	**Eads**	**22.27**	**351**	⇑P	**P**	**14 57 38.4**	**+1.0**
	baz=22,SNR=9.4						
WUAZ	**Wupatki**	**22.33**	**332**	*e*P	**P**	**14 57 39.5**	**+1.3**
	23nm,1.0s						
WUAZ	**Wupatki**	**22.33**	**332**	⇓P	**P**	**14 57 39.4**	**+1.3**
	baz=22,SNR=16						
S23A	**Nye Farm, Mont**	**22.36**	**344**	⇑P	**P**	**14 57 39.1**	**+0.6**
	baz=22						
R26A	**Arlington**	**22.39**	**350**	⇑P	**P**	**14 57 39.6**	**+0.9**
	baz=22,SNR=5.6						
R25A	**Fountain Ranch**	**22.39**	**348**	⇑P	**P**	**14 57 39.2**	**+0.5**
	baz=22						
Y12C	**Blythe**	**22.57**	**323**	⇑P	**P**	**14 57 41.7**	**+1.1**
	baz=23						
S22A	**4UR Ranch, Cre**	**22.62**	**343**	⇑P	**P**	**14 57 41.7**	**+0.4**
	baz=23,SNR=5.6						
R24A	**Sanders Place,**	**22.64**	**347**	⇑P	**P**	**14 57 41.9**	**+0.4**
	baz=23						
MVCO	**Mesa Verde**	**22.65**	**339**	*e*P	**P**	**14 57 41.4**	**-0.2**
	19nm,1.1s						
MVCO	**Mesa Verde**	**22.65**	**339**	⇓P	**P**	**14 57 41.8**	**+0.2**
	baz=23,SNR=9.6						
Q32A	**Meitler Ranch,**	**22.66**	**0**	⇓P	**P**	**14 57 42.1**	**+0.6**
	baz=23						
PDMCI	**Parker Dam,Lak**	**22.76**	**325**	⇑P	**P**	**14 57 43.6**	**+1.1**
	baz=23						
R23A	**Moffat**	**22.77**	**345**	⇑P	**P**	**14 57 43.1**	**+0.1**
	baz=23						
Q26A	**Hugo**	**23.00**	**350**	⇑P	**P**	**14 57 45.4**	**+0.2**
	baz=23						
BC3	**Big Chuckawall**	**23.05**	**322**	⇓P	**P**	**14 57 46.8**	**+1.1**
	baz=23						
IRM	**Iron Mountain**	**23.23**	**323**	⇑P	**P**	**14 57 48.8**	**+1.4**
	baz=23,SNR=6.0						
Q24A	**Divide**	**23.35**	**347**	⇓P	**P**	**14 57 49.8**	**+0.8**
	baz=24						
P27A	**Ficken Ranch,**	**23.49**	**352**	⇑P	**P**	**14 57 50.9**	**+0.8**
	baz=24						
U15A	**North Rim**	**23.50**	**331**	⇑P	**P**	**14 57 51.3**	**+0.9**
	baz=24						
PV01	**Paradox Valley**	**23.51**	**340**	*e*P	**P**	**14 57 51.1**	**+0.7**
	487nm,1.0s						
P26A	**Davis Ranch, A**	**23.60**	**351**	⇓P	**P**	**14 57 51.9**	**+0.7**
	baz=24						
BELC	**Belle Mtn. Jos**	**23.61**	**322**	⇓P	**P**	**14 57 52.5**	**+1.1**
	baz=24						
PFO	**Pinyon Flat Ob**	**23.62**	**320**	P	**P**	**14 57 52.0**	**+0.6**
	2.2nm,0.9s,baz=120,slow=8.8,SNR=3.8						
P25A	**Willow Gulch B**	**23.69**	**349**	⇓P	**P**	**14 57 53.0**	**+0.9**
	baz=24						
P23A	**Jefferson**	**23.90**	**346**	⇓P	**P**	**14 57 54.8**	**+0.5**
	baz=24						
O28A	**Krutsinger Ran**	**23.96**	**354**	⇑P	**P**	**14 57 54.5**	**0.0**
	baz=24						
GMRC	**Granite Mounta**	**23.97**	**324**	⇓P	**P**	**14 57 55.6**	**+0.9**
	baz=24,SNR=5.1						
MURC	**Murrieta**	**24.08**	**319**	⇑P	**P**	**14 57 56.9**	**+1.3**
	baz=24						
O27A	**Beecher Island**	**24.10**	**353**	⇓P	**P**	**14 57 56.6**	**+0.7**
	baz=24						
ISCO	**Idaho Springs**	**24.25**	**347**	⇑P	**P**	**14 57 57.9**	**+0.3**
	baz=24,SNR=8.4						
O26A	**Horse Wrangler**	**24.26**	**351**	⇑P	**P**	**14 57 58.5**	**+1.1**
	baz=24						
O25A	**Wiggins**	**24.27**	**350**	⇓P	**P**	**14 57 58.0**	**+0.6**
	baz=24						
P22A	**Eagle**	**24.33**	**345**	⇑P	**P**	**14 57 58.9**	**+0.8**
	baz=24,SNR=14						
HEC	**Hector,Ludlow**	**24.39**	**323**	⇓P	**P**	**14 57 58.9**	**+0.3**
	baz=24						
WCI	**Wyandotte Cave**	**24.44**	**24**	*e*P	**P**	**14 57 57.7**	**-1.3**
	51nm,1.6s						
O24A	**Longmont**	**24.45**	**348**	⇓P	**P**	**14 57 59.5**	**+0.3**
	baz=25						
TUQ	**Turquoise Moun**	**24.59**	**324**	⇑P	**P**	**14 58 02.0**	**+1.6**
	baz=25,SNR=8.8						
O23A	**Lake Granby, G**	**24.72**	**347**	⇓P	**P**	**14 58 03.0**	**+1.2**
	baz=25,SNR=5.9						
O22A	**Kremmling**	**24.82**	**345**	⇑P	**P**	**14 58 03.6**	**+1.0**
	baz=25,SNR=10						
CCUT	**Cedar City**	**24.91**	**331**	*e*P	**P**	**14 58 05.0**	**+1.6**
	4.2nm,1.1s						
SHPR	**Sheep Range**	**24.97**	**327**	P	**P**	**14 58 05.0**	**+1.1**
	2.3nm,1.0s						
GSC	**Goldstone**	**25.00**	**323**	⇑P	**P**	**14 58 05.7**	**+1.6**
	baz=25						
N24A	**Carr**	**25.10**	**349**	⇓P	**P**	**14 58 05.7**	**+0.7**
	baz=25						
SHOC	**Shoshone**	**25.13**	**325**	⇑P	**P**	**14 58 06.6**	**+1.4**
	baz=25						
ARUT	**Antelope Range**	**25.14**	**331**	*e*P	**P**	**14 58 06.8**	**+1.4**
	117nm,0.8s						
M28A	**Bar X Bar Ranc**	**25.18**	**355**	⇓P	**P**	**14 58 07.1**	**+1.5**
	baz=25						
O20A	**White River Ci**	**25.24**	**342**	⇑P	**P**	**14 58 07.3**	**+1.0**
	baz=25						
N23A	**Red Feather La**	**25.38**	**347**	⇓P	**P**	**14 58 08.6**	**+0.9**
	baz=26,SNR=6.4						
N22A	**Wattenberg Ran**	**25.40**	**346**	⇑P	**P**	**14 58 08.4**	**+0.5**
	baz=26						
EDW2	**Edwards Air Fo**	**25.41**	**321**	⇓P	**P**	**14 58 09.4**	**+1.6**
	baz=26						
M26A	**McRoberts Ranc**	**25.44**	**352**	⇑P	**P**	**14 58 09.5**	**+1.5**
	baz=26						
L30A	**Spencer Herefo**	**25.64**	**358**	⇑P	**P**	**14 58 11.0**	**+1.3**
	baz=26						
M24A	**Cheyenne**	**25.71**	**349**	⇑P	**P**	**14 58 11.4**	**+0.8**
	baz=26						
L28A	**Connealy Angus**	**25.80**	**355**	⇑P	**P**	**14 58 12.6**	**+1.3**
	baz=26						
M23A	**Laramie**	**25.88**	**348**	⇓P	**P**	**14 58 13.2**	**+1.0**
	baz=26						
N20A	**Spence Gulch,**	**25.89**	**343**	⇑P	**P**	**14 58 13.5**	**+1.2**
	baz=26						
SCIA	**State Center**	**26.00**	**9**	*e*P	**P**	**14 58 12.4**	**-0.6**
	12nm,0.7s						
M22A	**Cedar Creek Ra**	**26.01**	**346**	⇑P	**P**	**14 58 14.0**	**+0.7**
	baz=26						
L25A	**Engebretsen Ra**	**26.23**	**351**	⇑P	**P**	**14 58 15.8**	**+0.6**
	baz=26						
L23A	**Garrett**	**26.50**	**348**	⇓P	**P**	**14 58 18.2**	**+0.5**
	baz=27						
K27A	**Flueckinger Fa**	**26.56**	**354**	⇓P	**P**	**14 58 18.6**	**+0.4**
	baz=27						
L22A	**Ellis Ranch, M**	**26.57**	**347**	⇑P	**P**	**14 58 18.9**	**+0.5**
	baz=27						
R11A	**Troy Canyon, C**	**26.61**	**329**	⇓P	**P**	**14 58 19.3**	**+0.6**
	baz=27						
K25A	**Mack Ranch, Ha**	**26.67**	**351**	⇓P	**P**	**14 58 20.3**	**+1.2**
	baz=27						
VES	**Vestal, Richgr**	**26.72**	**321**	⇑P	**P**	**14 58 21.6**	**+2.0**
	baz=27						
DUG	**Dugway**	**26.88**	**335**	⇓P	**P**	**14 58 22.4**	**+1.3**
	baz=27						
K22A	**Casper**	**27.18**	**347**	⇓P	**P**	**14 58 25.0**	**+1.2**
	baz=27						
J26A	**Sides Ranch, S**	**27.25**	**353**	⇑P	**P**	**14 58 25.5**	**+1.2**
	baz=27						
K21A	**Alcova**	**27.33**	**346**	⇑P	**P**	**14 58 26.2**	**+1.0**
	baz=27						
J25A	**Sunshine Ranch**	**27.42**	**352**	⇑P	**P**	**14 58 26.7**	**+0.8**
	baz=28						
ECSD	**EROS Data Cent**	**27.46**	**3**	⇓P	**P**	**14 58 27.9**	**+1.8**
	baz=28						
J24A	**Dixon Ranch, L**	**27.49**	**350**	⇓P	**P**	**14 58 27.8**	**+1.3**
	baz=28						
J22A	**Midwest**	**27.90**	**348**	⇓P	**P**	**14 58 31.1**	**+0.8**
	baz=28						
BW06	**Boulder Array**	**28.05**	**343**	*e*P	**P**	**14 58 32.2**	**+0.6**
	3.2nm,0.9s						
PDAR	**Pinedale Array**	**28.05**	**343**	P	**P**	**14 58 32.1**	**+0.4**
	2.5nm,0.9s,baz=146,slow=8.2,SNR=15						
NVAR	**Mina Array Bea**	**28.07**	**326**	P	**P**	**14 58 33.7**	**+1.8**
	3.6nm,1.0s,baz=149,slow=9.7,SNR=19						
J20A	**Shoshoni**	**28.20**	**345**	⇓P	**P**	**14 58 33.8**	**+0.8**
	baz=28						
ELK	**Elko**	**28.35**	**333**	P	**P**	**14 58 35.9**	**+1.4**
	0.7nm,0.4s,baz=140,slow=3.0,SNR=3.7						
ELK				LR	LR	15 11 18.6	
	comp=Z,404nm,18.1s,baz=182,slow=40						
I22A	**9 Mile Ranch,**	**28.36**	**348**	⇓P	**P**	**14 58 35.0**	**+0.6**
	baz=28						
J19A	**Crowheart**	**28.37**	**344**	⇑P	**P**	**14 58 35.2**	**+0.7**
	baz=28						
H28A	**Mission Ridge**	**28.42**	**356**	⇓P	**P**	**14 58 35.5**	**+0.8**
	baz=28						
H27A	**Howes**	**28.45**	**355**	⇓P	**P**	**14 58 35.7**	**+0.6**
	baz=29						

I21A	Big Trails, Te	28.46	347	⇑P	P	14 58 35.6	+0.4
	baz=29						
I20A	Worland	28.78	346	⇑P	P	14 58 38.7	+0.7
	baz=29						
G30A	Faulkton	28.80	359	⇓P	P	14 58 38.2	+0.1
	baz=29						
H24A	Dirks Ranch, A	28.86	351	⇑P	P	14 58 39.0	+0.3
	baz=29						
H22A	Clearmont	29.01	349	⇑P	P	14 58 41.1	+1.0
	baz=29						
I19A	Meeteetse	29.07	344	⇑P	P	14 58 41.1	+0.3
	baz=29						
G25A	Newell	29.15	353	⇑P	P	14 58 42.0	+0.8
	baz=29						
G26A	Maurine	29.16	354	⇑P	P	14 58 42.1	+0.8
	baz=29						
H21A	Big Horn, Sher	29.18	348	⇑P	P	14 58 42.7	+1.1
	baz=29						
H20A	Greybull	29.26	346	⇓P	P	14 58 42.6	+0.3
	baz=29						
G23A	Biddle	29.43	350	⇓P	P	14 58 44.0	+0.2
	baz=30						
G22A	Birney	29.60	349	⇓P	P	14 58 46.1	+0.8
	baz=30						
H19A	Powell	29.66	345	⇑P	P	14 58 46.6	+0.7
	baz=30						
F24A	Ekalaka	29.92	352	⇓P	P	14 58 47.8	-0.3
	baz=30						
HLID	Hailey	30.37	337	eP	P	14 58 53.4	+1.2
HLID	Hailey	30.37	337	⇑P	P	14 58 52.9	+0.7
	baz=30						
F20A	Billings	30.54	347	⇑P	P	14 58 53.8	+0.2
	baz=31						
E22A	Miles City	30.73	350	⇑P	P	14 58 55.5	+0.4
	baz=31						
D30A	Buchanan	30.78	360	⇓P	P	14 58 55.8	+0.2
	baz=31						
D26A	Manning	30.86	355	⇓P	P	14 58 56.9	+0.6
	baz=31						
D28A	Regan	30.91	357	⇓P	P	14 58 57.0	+0.2
	baz=31						
E21A	Keefer Ranch,	31.02	349	⇑P	P	14 58 58.0	+0.2
	baz=31						
D25A	Fairfield	31.07	354	⇓P	P	14 58 58.6	+0.4
	baz=31						
D24A	Glendive	31.15	352	⇑P	P	14 58 59.4	+0.5
	baz=31						
E19A	Rath Farm, Rou	31.30	346	⇓P	P	14 59 00.7	+0.4
	baz=31						
C30A	Mose, Pekin	31.37	0	⇓P	P	14 59 01.7	+0.9
	baz=32						
C28A	Hausauer Farms	31.42	358	⇓P	P	14 59 01.6	+0.4
	baz=32						
D22A	Cohagen	31.45	350	⇓P	P	14 59 02.2	+0.6
	baz=32						
D21A	La Casta Ranch	31.51	349	⇑P	P	14 59 02.7	+0.5
	baz=32						
C24A	Savage	31.57	352	⇑P	P	14 59 02.9	+0.3
	baz=32						
C26A	Wahner Farm, P	31.63	356	⇑P	P	14 59 03.7	+0.7
	baz=32						
D20A	Manuel Ranch,	31.76	348	⇓P	P	14 59 04.7	+0.4
	baz=32						
C23A	Lambert	31.94	352	⇑P	P	14 59 06.3	+0.5
	baz=32						
C22A	Vida	31.99	351	⇓P	P	14 59 07.0	+0.7
	baz=32						
D19A	Cripps Ranch,	31.99	347	⇑P	P	14 59 06.9	+0.6
	baz=32						
AGMN	Agassiz Nation	32.05	3	⇑P	P	14 59 07.3	+0.5
	baz=32						
B30A	Myrvik Farm, E	32.12	0	⇑P	P	14 59 08.1	+0.7
	baz=32						
B29A	Wagenman Farm,	32.14	359	⇓P	P	14 59 07.9	+0.3
	baz=32						
B28A	Dugan Ranch, T	32.15	358	⇓P	P	14 59 08.4	+0.8
	baz=32						
B26A	Jensen Ranch,	32.19	355	⇓P	P	14 59 08.3	+0.3
	baz=32						
N02D	Trinity Center	32.27	325	⇓P	P	14 59 09.7	+0.8
	baz=32						
HRY	Holter Researc	32.31	343	eP	P	14 59 10.2	+0.9
B23A	Brockton	32.56	352	⇓P	P	14 59 12.3	+1.0
	baz=33						
C19A	Slack Wire Ran	32.57	347	⇑P	P	14 59 12.2	+0.9
	baz=33						
A29A	Manning Farm,	32.60	359	⇓P	P	14 59 11.7	+0.2
	baz=33,SNR=6.3						
A28A	Rude Farm, Bot	32.61	358	⇑P	P	14 59 12.7	+1.0
	baz=33						
A30A	Hoffart Farm,	32.61	0	⇑P	P	14 59 12.8	+1.1
	baz=33						
A24A	Westby	32.89	353	⇓P	P	14 59 14.8	+0.7
	baz=33						
MSO	Missoula	33.05	341	⇓P	P	14 59 16.4	+0.7
	baz=33						
B19A	Brinkman Farms	33.23	347	⇑P	P	14 59 17.5	+0.4
	baz=33,SNR=5.4						
A20A	Cobblestone Ra	33.43	349	⇓P	P	14 59 19.6	+0.7
	baz=34						
A19A	Klindworth Far	33.64	348	⇑P	P	14 59 21.2	+0.5
	baz=34						
ULM	Lac du Bonnet	33.99	3	P	P	14 59 22.7	-1.0
	1.5nm,0.7s,baz=200,slow=11,SNR=2.2						
SAML	Samuel	43.08	123	eP	P	15 00 39.8	-0.6
	1.7nm,1.0s						
SCHQ	Schefferville	45.64	25	P	P	15 00 59.7	-0.8
	4.8nm,0.8s,baz=250,slow=10,SNR=3.3						
YKA	Yellowknife Ar	47.55	350	P	P	15 01 14.5	-0.8
	1.2nm,0.8s,baz=159,slow=7.2,SNR=17						
H03N2	Juan Fernandez	52.85	159	T	T	15 58 48.4	
	baz=337,slow=75,SNR=516						
H03N1	Juan Fernandez	52.86	159	T	T	15 58 49.0	
	baz=337,slow=75,SNR=608						
H03N3	Juan Fernandez	52.87	159	T	T	15 58 49.7	
	baz=337,slow=75,SNR=516						
ILAR	Eielson Array	58.32	338	P	P	15 02 35.1	+0.3
	2.3nm,1.0s,baz=148,slow=4.2,SNR=14						
ILAR				PcP	PcP	15 03 24.9	-0.7
	0.3nm,0.7s,baz=150,slow=3.0,SNR=4.5						
PLCA	Paso Flores	62.39	156	P	P	15 03 03.9	+1.0
	1.5nm,0.8s,baz=314,slow=9.4,SNR=4.6						
BILL	Bilibino	76.98	337	eP	P	15 04 33.0	+0.6
	14nm,1.6s						
WRA	Warramunga Arr	129.70	257	PKP	PKPdf	15 11 49.6	-0.5
	0.6nm,1.0s,baz=83,slow=2.8,SNR=6.6						
ASAR	Alice Springs	130.31	253	PKP	PKPdf	15 11 51.4	+0.2
	0.5nm,0.9s,baz=79,slow=1.4,SNR=4.3						
CMAR	Chiang Mai Arr	141.43	333	PKP	PKPdf	15 12 12.2	+0.3
	0.3nm,0.3s,baz=328,slow=2.7,SNR=4.9						

IDC 14 14:57:11.9±2.1, 34°.74S×179°.93W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.9/18, mbtmp3.9/4, ML3.5/1, MS3.5/2, Ms1 3.6/2, ms1mx2.9/21, Error ellipse: s-maj=49.8km s-min=34.3km az=61.0

ISCJB 14 14:57:12.9±1.7, 34°.99S±0°.08×179°.5W±0°.2, h43km, mb3.8/3, MS3.6/2, Error ellipse: s-maj=25.8km s-min=11.8km az=7.1

ISC 14 14:57:15.8±2.0, 35°.0S±0°.1×179°.6W±0°.2, h43km, n23, σ0°.71/22, mb3.7/3, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.06	213	PN	Pn	14 58 00.5	-1.1
HAZ	Te Kaha	3.46	217	PN	Pn	14 58 06.0	-1.2
HAZ				SN	Sn	14 58 47.3	+0.4
PUZ	Puketiti	3.51	209	PN	Pn	14 58 07.8	0.0
PUZ				SN	Sn	14 58 48.9	+0.7
MWZ	Matawai	4.04	214	PN	Pn	14 58 14.5	-0.7
KUZ	Kuaotunu	4.18	244	PN	Pn	14 58 15.8	-1.1
URZ	Urewera	4.19	218	Pn	Pn	14 58 16.9	-0.2
	2.6nm,0.3s,baz=264,slow=4.1,SNR=36						
URZ				Sn	Sn	14 58 57.6	-7.1
	4.9nm,0.3s,baz=243,slow=21,SNR=8.9						
URZ	Urewera	4.19	218	PN	Pn	14 58 16.4	-0.7
OPRZ	Ohinepanea	4.20	226	PN	Pn	14 58 17.6	+0.3
PRGZ	Paritu Road	4.40	207	PN	Pn	14 58 19.5	-0.6
SNGZ	Shannon Statio	4.49	212	PN	Pn	14 58 21.1	-0.3
KNZ	Kokohu	4.56	208	PN	Pn	14 58 21.4	-0.8
MHGZ	Mahia Peninsul	4.59	205	PN	Pn	14 58 21.6	-1.1
MKAZ	Moumakai	4.73	242	PN	Pn	14 58 24.3	-0.2
WHHZ	Waihua	4.79	211	PN	Pn	14 58 24.9	-0.4
TOZ	Tahuroa Road	4.79	234	PN	Pn	14 58 25.4	0.0
MCHZ	McNeill Hill	5.32	213	PN	Pn	14 58 32.8	+0.1
BHHZ	Black Hill Sta	5.65	216	PN	Pn	14 58 37.5	+0.2

STKA	Stephens Creek	32.39	264	LR	LR	15 16 22.5	
	comp=Z,58nm,19.8s,baz=196,slow=36						
ASAR	Alice Springs	41.74	273	P	P	15 05 00.9	0.0
	1.7nm,0.5s,baz=115,slow=7.8,SNR=76						
WRA	Warramunga Arr	43.15	278	P	P	15 05 11.7	-0.6
	0.8nm,0.5s,baz=118,slow=7.7,SNR=21						
QSPA	South Pole Qui	55.12	180	P	P	15 06 47.6	+4.3
	0.7nm,0.9s,baz=42,slow=12,SNR=4.1						
LPAZ	La Paz	97.44	116	LR	LR	15 45 37.8	
	comp=Z,34nm,19.6s,baz=138,slow=30						
FINES	FINESS Array B	148.91	336	PKPbc	PKPbc	15 16 59.1	+1.2
	1.3nm,1.0s,baz=66,slow=1.7,SNR=3.5						

ISCJB 14 14:59:31.3±0.3, 67°.07N±0°.02×20°.91E±0°.08, h0km, Error ellipse: s-maj=4.3km s-min=2.7km az=10.2

UPP 14 14:59:32.5, 67°.07N×20°.91E, h0km, ML2.0, Mining explosion.

CSEM 14 14:59:32.6±0.2, 67°.10N×20°.89E, h2km, ML2.0, Error ellipse: s-maj=4.9km s-min=3.4km az=103.0, Mining explosion.

IDC 14 14:59:32.6±1.1, 67°.10N×21°.14E, h0km, mb1 2.8/3, mb1mx2.7/27, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=17.7km s-min=6.9km az=109.0

HEL 14 14:59:33.0±0.1, 67°.08N×20°.89E, h0km, ML1.8, ML2.0(UPP), Explosion

KOLA 14 14:59:33.5, 67°.58N×20°.53E, h0km

ISC 14 14:59:32.4±0.7, 67°.08N±0°.02×20°.83E±0°.03, h0km, n69, σ0°.84/96, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.59	50	iP	Pg	14 59 43.5	-0.2
MASU	Masugnsbyn	0.59	50	P	Pg	14 59 43.5	-0.2
MASU	Masugnsbyn	0.59	50	P	Pg	14 59 43.5	-0.2
KUA	Kurravaara	0.90	348	eP	Pg	14 59 49.5	0.0
KUA				eS	Sb	15 00 03.0	-0.3
KUA	Kurravaara	0.90	348	P	Pg	14 59 49.5	0.0
KUA				S	Sb	15 00 03.0	-0.3
KUA	Kurravaara	0.90	348	P	Pg	14 59 49.5	0.0
KUA				S	Sb	15 00 03.0	-0.3
HARU	Harads	0.93	176	eP	Pg	14 59 49.3	-0.8
HARU				eS	Sg	15 00 01.9	-0.2
HARU	Harads	0.93	176	P	Pg	14 59 49.3	-0.8
HARU				S	Sg	15 00 01.9	-0.2
HARU	Harads	0.93	176	P	Pg	14 59 49.3	-0.8
HARU				S	Sg	15 00 01.9	-0.2
SALU	Saltoluokta	0.95	289	eP	Pg	14 59 51.0	+0.4
SALU	Saltoluokta	0.95	289	P	Pg	14 59 51.0	+0.4
SALU	Saltoluokta	0.95	289	P	Pg	14 59 51.0	+0.4
NIKU	Nikkaluokta	1.05	320	eP	Pg	14 59 52.5	0.0
NIKU	Nikkaluokta	1.05	320	P	Pg	14 59 52.5	0.0
NIKU	Nikkaluokta	1.05	320	P	Pg	14 59 52.5	0.0
LANU	Lannavaara	1.07	24	eP	Pg	14 59 51.9	-0.9
	baz=194						
LANU	Lannavaara	1.07	24	P	Pg	14 59 51.9	-0.9
LANU	Lannavaara	1.07	24	P	Pg	14 59 51.9	-0.9
KALU	Kalix	1.59	139	eP	Pn	15 00 01.0	-0.8
KALU	Kalix	1.59	139	P	Pn	15 00 01.0	-0.8
KALU	Kalix	1.59	139	P	Pn	15 00 01.0	-0.8
SJUU	Sjulsmark	1.61	168	eP	Pn	15 00 01.4	-0.6
SJUU	Sjulsmark	1.61	168	P	Pn	15 00 01.5	-0.6
SJUU	Sjulsmark	1.61	168	P	Pn	15 00 01.4	-0.6
HEF	Hetta	1.71	38	eP	Pn	15 00 03.2	-0.3
	baz=214						
HEF				eSG	Sn	15 00 25.4	-0.6
HEF				MSG		15 00 25.4	
	comp=Z,5.5nm,0.3s						
HEF	Hetta	1.71	38	P	Pn	15 00 03.1	-0.3
HEF				Sg	Sn	15 00 25.4	-0.6
	comp=Z,5.5nm,0.3s						
KIF	Kilpisjarvi	1.93	360	ePG	Pb	15 00 08.1	-0.3
KIF				eSG	Sg	15 00 35.2	+0.9
KIF				MSG		15 00 35.2	
	comp=Z,19nm,0.2s						
KIF	Kilpisjarvi	1.93	360	Pg	Pb	15 00 08.1	-0.3
KIF				Sg	Sg	15 00 35.2	+0.9
	comp=Z,19nm,0.2s						
SGF	Sodankyl	2.24	78	ePB	Pn	15 00 11.7	+1.0
SGF				MSG	Sb	15 00 41.2	-0.8
	comp=Z,6.8nm,0.3s						
SGF				eSG	Sb	15 00 41.2	-0.8
SGF	Sodankyl	2.24	78	Pb	Pn	15 00 11.7	+1.0
SGF				Sg	Sb	15 00 41.2	-0.8
SVAU	Svanoeiden	2.65	192	eP	Pn	15 00 17.0	+0.7
SVAU	Svanoeiden	2.65	192	P	Pn	15 00 17.0	+0.7
SVAU	Svanoeiden	2.65	192	P	Pn	15 00 17.0	+0.7
OUL	Oulu	2.88	132	ePB	Pn	15 00 21.1	+1.7
OUL				eSG	Sb	15 01 01.8	+1.6
OUL				MSG		15 01 01.8	
	comp=Z,0.9nm,0.3s						
OUL	Oulu	2.88	132	Pb	Pn	15 00 21.1	+1.7
OUL				Sg	Sb	15 01 01.8	+1.6
	comp=Z,0.9nm,0.3s						
ARA0	ARCESS Array S	3.01	33	eP	Pn	15 00 21.3	0.0
	baz=218						
ARA0	ARCESS Array S	3.01	33	P	Pn	15 00 21.3	0.0
ARCES	ARCESS Array B	3.01	33	Pn	Pn	15 00 21.5	+0.2
	comp=Z,0.5nm,0.3s,baz=212,slow=14,SNR=54						
ARCES				Sn	Sn	15 00 58.4	+0.3
	comp=Z,0.9nm,0.3s,baz=207,slow=21,SNR=12						
ARCES				Lg	Lg	15 01 02.8	
	comp=Z,1.3nm,0.3s,baz=207,slow=27,SNR=10						
UMAU	Umeaa	3.21	181	eP	Pn	15 00 24.5	+0.5
UMAU	Umeaa	3.21	181	P	Pn	15 00 24.5	+0.5
UMAU	Umeaa	3.21	181	P	Pn	15 00 24.5	+0.5
BREU	Bredtraesk	3.34	197	eP	Pn	15 00 26.1	+0.3
BREU	Bredtraesk	3.34	197	P	Pn	15 00 26.1	+0.3
BREU	Bredtraesk	3.34	197	P	Pn	15 00 26.1	+0.3
VRF	Varrio	3.45	75	eP	Pn	15 00 29.0	+1.6
	baz=255						
VRF				eSB	Sb	15 01 16.5	-0.3
VRF				MSG		15 01 16.5	
	comp=Z,1.3nm,0.3s						
VRF	Varrio	3.45	75	P	Pn	15 00 29.0	+1.6
VRF				Sb	Sb	15 01 16.5	-0.3
	comp=Z,1.3nm,0.3s						
MSF	Maaselka	3.49	106	eP	Pn	15 00 29.3	+1.4
	baz=301						
MSF				eSG	Sb	15 01 20.2	+2.2
MSF	Maaselka	3.49	106	P	Pn	15 00 29.3	+1.4
MSF				Sg	Sb	15 01 20.2	+2.2
KEV	Kevo	3.52	38	eP	Pn	15 00 28.7	+0.4
	baz=221						
KEV				eS	Sn	15 01 11.1	+0.6
KEV				MSG		15 01 11.1	
	comp=Z,2.2nm,0.2s						
KEV	Kevo	3.52	38	P	Pn	15 00 28.7	+0.4
KEV				S	Sn	15 01 11.1	+0.6
	comp=Z,2.2nm,0.2s						
KU6	Riekki	3.77	102	eP	Pn	15 00 31.7	0.0
	baz=286						
KU6				eS	Sn	15 01 18.0	+1.2
KU6	Riekki	3.77	102	P	Pn	15 00 31.7	0.0
KU6				S	Sn	15 01 18.0	+1.2
HUSU	Husum	3.82	191	eP	Pn	15 00 33.3	+0.9
HUSU	Husum	3.82	191	P	Pn	15 00 33.2	+0.9
HUSU	Husum	3.82	191	P	Pn	15 00 33.3	+0.9
VAF	Ylistaro	4.13	168	eP	Pn	15 00 37.4	+0.7
	baz=351						
VAF	Ylistaro	4.13	168	P	Pn	15 00 37.4	+0.7
SOLU	Sollefteaa	4.14	203	eP	Pn	15 00 37.3	+0.6
SOLU	Sollefteaa	4.14	203	P	Pn	15 00 37.3	+0.6
SOLU	Sollefteaa	4.14	203	P	Pn	15 00 37.3	+0.6
NOD	Norderasen	4.43	217	eP	Pn	15 00 41.7	+0.9
NOD	Norderasen	4.43	217	P	Pn	15 00 41.7	+0.9
NOD	Norderasen	4.43	217	P	Pn	15 00 41.7	+0.9
HEMU	Hemsoen	4.58	196	eP	Pn	15 00 43.0	+0.2
HEMU	Hemsoen	4.58	196	P	Pn	15 00 43.0	+0.2
HEMU	Hemsoen	4.58	196	P	Pn	15 00 43.0	+0.2
APA0	Apatity Array	4.73	78	P	Pn	15 00 45.4	+0.5
APA0				S	Sn	15 01 39.4	-1.0
FINES	FINESS Array B	6.10	156	Pn	Pn	15 01 03.4	-0.3
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=10						
FINES				Sn	Sn	15 02 13.9	-0.2
	comp=Z,0.1nm,0.3s,baz=346,slow=24,SNR=5.6						
FINES				Lg	Lg	15 02 43.9	
	comp=Z,0.2nm,0.3s,baz=348,slow=24,SNR=3.8						
NOA	NORSAR Array B	7.38	219	Pn	Pn	15 01 21.2	0.0
	comp=Z,0.1nm,0.3s,baz=16,slow=8.9,SNR=1.8						
NOA				Sn	Sn	15 02 43.1	-2.5
	comp=Z,0.1nm,0.3s,baz=61,slow=20,SNR=1.1						

MEX 14 15:01:59.9±0.8, 16°.14N×98°.69W, h16km±7km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.60	64	iP	Pg	15 02 09.6	-2.2
PNIG				iS	Sg	15 02 17.1	-2.7
ACX	Acapulco	1.34	303	iP	Pn	15 02 22.4	-1.7
ACX				eS	Sn	15 02 38.7	-2.9
TLIG	Tlapa	1.42	5	iP	Pn	15 02 21.3	-4.0
TLIG				eS	Sn	15 02 38.0	-5.9
CAIG	El Cayaco	1.77	301	eP	Pn	15 02 26.1	-3.7
CAIG				iS	Sn	15 02 47.5	-4.5
MEIG	Mezcala	1.99	334	eP	Pn	15 02 30.1	-3.0
MEIG				iS	Sn	15 02 52.8	-5.0
VHO	Vista Hermosa	2.09	63	iP	Pn	15 02 31.9	-2.7
VHO				eS	Sn	15 02 55.3	-5.3
OXX	Oaxaca	2.10	63	iP	Pb	15 02 38.9	+0.9
OXX				eS	Sg	15 03 06.5	-1.7
HUIG	Huatulco	2.51	98	iP	Pn	15 02 38.0	-2.1
HUIG				iS	Sn	15 03 05.8	-4.5
TPIG	Tehuac#an	2.60	29	iP	Pn	15 02 38.9	-2.7
TPIG				eS	Sn	15 03 08.3	-4.7
YAIG	Yautepec	2.74	352	eP	Pn	15 02 41.7	-1.7
YAIG				eS	Sn	15 03 13.1	-3.2
CMIG	Matias Romero	3.77	75	iP	Pn	15 02 58.5	+1.1
CMIG				eS	Sn	15 03 37.7	-3.8

ISCJB 14 15:47:03.4±1.0, 36°.62N±0°.06×71°.1E±0°.1, h100km, Error ellipse: s-maj=17.5km s-min=6.3km az=156.1

NNC 14 15:47:06.6±9.8, 37°.02N×71°.12E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=84.6km s-min=60.2km az=150.0

ISC 14 15:47:02.8±1.6, 36°.5N±0°.1×70°.9E±0°.2, h100km, n11, σ1°.26/12, 5C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.58	357	⇑Pn	Pn	15 48 40.4	+3.4
	0.6nm,0.3s,baz=171,slow=12,SNR=26						
KK31				⇑Sn	Sn	15 49 49.1	-1.2
	2.2nm,0.5s,baz=170,slow=25,SNR=9.7						
AAK	Ala-Archa	6.69	23	⇑Pn	Pn	15 48 40.6	+2.0
	1.2nm,0.5s						
AAK				⇓Sn	Sn	15 49 51.9	-1.5
	3.2nm,0.5s						
DANN	Dangsing	13.55	123	eP	Pn	15 50 09.6	-1.6
	2.7nm,0.2s						
GKN	Gorkha	14.37	122	eP	Pn	15 50 21.0	-0.6
	4.7nm,0.3s						
DMN	Daman	14.94	123	eP	Pn	15 50 29.0	0.0
	5.1nm,0.4s						
AB31	Akbulak array	15.03	331	⇑P	P	15 50 31.9	-0.8
	0.2nm,0.3s,baz=146,slow=11,SNR=14						
PKI	Pulchoki	15.17	122	eP	Pn	15 50 32.6	+0.6
	3.4nm,0.3s						
JIRN	Jiri	15.65	120	eP	Pn	15 50 37.2	-0.9
	12nm,0.4s						
RAMN	Ramite	16.38	121	eP	P	15 50 47.8	-0.3
AKTO	Aktyubinsk	16.73	330	⇑P	P	15 50 51.7	+0.2
	0.6nm,0.3s						
TAPN	Taplejung	16.91	118	eP	P	15 50 55.3	+1.3
	3.4nm,0.3s						

IDC 14 16:03:22.3±3.4, 39°.81N×118°.52E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.2/28, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=94.0km s-min=21.2km az=28.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	7.73	105	Pn	Pn	16 05 15.1	-0.9
	0.9nm,0.3s,baz=288,slow=14,SNR=20						
KSRS				Sn	Sn	16 06 36.5	-7.7
	0.2nm,0.3s,baz=287,slow=24,SNR=2.5						
KSRS				Lg	Lg	16 07 29.2	
	0.6nm,0.3s,baz=291,slow=28,SNR=6.8						
SONM	Songino Array	11.87	317	Pn	Pn	16 06 14.7	+1.8
	0.1nm,0.3s,baz=134,slow=14,SNR=4.1						
SONM				Lg	Lg	16 09 38.6	
	0.1nm,0.3s,baz=122,slow=29,SNR=4.2						
FINES	FINESS Array B	57.08	325	P	P	16 13 09.7	-0.2
	2.2nm,1.0s,baz=72,slow=6.2,SNR=5.8						
YKA	Yellowknife Ar	69.50	23	P	P	16 14 31.9	-0.3
	0.2nm,0.7s,baz=322,slow=5.5,SNR=4.6						

IDC 14 16:26:09.4±9.5, 58°.84N×156°.83W, h164km±85km, mb2.8/3, mb1 3.3/4, mb1mx2.9/28, mbtmp3.4/4, Error ellipse: s-maj=75.6km s-min=68.6km az=59.0

ISCJB 14 16:26:11.3±0.4, 58°.52N±0°.03×156°.49W±0°.09, h184km, mb3.0/2, Error ellipse: s-maj=7.1km s-min=4.1km az=25.2

NEIC 14 16:26:12.3, 58°.45N×156°.52W, h193km, MG3.1(AEIC), After AEIC.

ISC 14 16:26:11.9±1.0, 58°.49N±0°.05×156°.50W±0°.07, h184km, n62, σ0°.84/63, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELA	Mount Kelaz	0.40	97	P	Pn	16 26 37.0	+0.1
KVTA	Katmai Vly 10	0.64	99	P	Pn	16 26 38.2	+0.4
PLK2	Peulik 2	0.73	173	P	Pn	16 26 39.1	+0.8
KCE	Katmai Mt Cerb	0.74	109	P	Pn	16 26 39.0	+0.6
PLBL	Peulik Blue Cr	0.81	192	P	Pn	16 26 39.3	+0.5
PLK3	Peulik 3	0.81	171	P	Pn	16 26 39.6	+0.8
PLK3				S	Sn	16 27 01.7	+2.3
PLK4	Peulik 4	0.86	175	P	Pn	16 26 39.8	+0.6
KABR	Katmai Barrier	0.89	113	P	Pn	16 26 39.9	+0.6
MCNL	McNeil River	1.32	57	P	Pn	16 26 43.4	+0.8
AUH	Augustine H	1.81	60	P	Pn	16 26 48.5	+1.2
OHAK	Old Harbor	2.14	125	P	Pn	16 26 50.8	+0.1
OHAK				S	Sn	16 27 20.2	-0.5
KDAK	Kodiak Island	2.20	107	P	Pn	16 26 51.5	+0.2
SII	Sitkinak Islan	2.30	146	P	Pn	16 26 52.4	-0.2
SII				S	Sn	16 27 24.1	-0.1
ILW	Iliamna West	2.34	46	P	Pn	16 26 53.9	+0.8
CHGN	Chignik	2.43	206	P	Pn	16 26 53.8	-0.1
SVW2	Sparrevohn	2.66	10	P	Pn	16 26 57.2	+0.6
RDWB	Redoubt West	2.74	41	P	Pn	16 26 58.3	+0.6
RSO	Redoubt South	2.75	42	eP	Pn	16 26 58.4	+0.5
NCT	North Crescent	2.76	40	P	Pn	16 26 59.1	+1.2
BRLK	Bradley Lake	3.17	64	P	Pn	16 27 02.9	+0.2
BGL	Barrier Glacie	3.47	35	P	Pn	16 27 07.0	+0.5
SLKM	Skilak Lake	3.79	55	P	Pn	16 27 10.8	+0.5
STLK	Strandline Lak	3.82	36	P	Pn	16 27 11.9	+1.0
SEW	Seward	3.96	63	P	Pn	16 27 12.6	+0.1
SUA	Susitna One	4.16	42	P	Pn	16 27 14.9	-0.1
FIB	Fire Island	4.17	47	P	Pn	16 27 15.6	+0.4
SKT	Skwentna	4.29	33	P	Pn	16 27 17.4	+0.7
RC01	Rabbit Creek A	4.30	50	P	Pn	16 27 16.2	-0.6
PS4A	Pavlof South-4	4.30	225	P	Pn	16 27 16.9	-0.1
TT01	Tatalina	4.44	3	P	Pn	16 27 19.1	+0.6
DOL	Dolgoi Island	4.46	224	P	Pn	16 27 17.9	-1.0
PTE	Portage	4.48	55	P	Pn	16 27 18.4	-0.6
DTNA	Dutton South F	4.60	226	P	Pn	16 27 20.0	-0.8
DRIA	Deer Island	4.75	224	P	Pn	16 27 21.1	-1.5
PWL	Port Wells	4.77	57	P	Pn	16 27 22.2	-0.7
PMR	Palmer	4.83	47	eP	Pn	16 27 17.6	-6.0
PPLA	Purkeypile	4.90	24	P	Pn	16 27 24.8	+0.1
GLI	Glacier Island	5.33	59	P	Pn	16 27 29.0	-1.2
JPK	Jack Peak	5.63	59	P	Pn	16 27 33.7	-0.2
SCM	Sheep Creek Mo	5.68	50	P	Pn	16 27 33.6	-1.0
KTH	Kantishna Hill	5.76	26	P	Pn	16 27 34.8	-0.9
VLZ	Valdez	5.78	58	P	Pn	16 27 35.5	-0.3
CHUM	Lake Minchumin	5.78	19	P	Pn	16 27 36.2	+0.4
TRF	Thorofare Moun	5.82	29	P	Pn	16 27 35.7	-0.9
EYAK	Cordova Ski Ar	5.85	65	P	Pn	16 27 36.0	-0.9
DIV	Divide	6.03	59	P	Pn	16 27 38.9	-0.3
SGAM	Sherman Glacie	6.10	66	P	Pn	16 27 39.7	-0.4
KLU	Klutina	6.10	56	P	Pn	16 27 39.3	-0.9
RND	Reindeer	6.18	34	P	Pn	16 27 40.1	-1.1
GOAT	Goat Mountain	6.35	66	P	Pn	16 27 43.2	-0.2
MCK	McKinley	6.41	32	P	Pn	16 27 42.9	-1.2
DHY	Denali Highway	6.41	40	P	Pn	16 27 42.2	-2.1
PS12	TAPS Pump St12	6.44	57	P	Pn	16 27 44.6	+0.1
BMRM	Bremner River	6.51	63	P	Pn	16 27 44.9	-0.6
PS11	TAPS Pump St11	6.56	52	P	Pn	16 27 46.5	+0.4
BWN	Browne	6.63	28	P	Pn	16 27 45.6	-1.4
PAX	Paxson	7.03	46	P	Pn	16 27 50.8	-1.5
IM3	Indian Mountai	7.63	9	P	Pn	16 28 00.0	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
ILAR	Eielson Array	7.78	32	P	Pn	16 27 58.5	-3.6
	0.7nm,0.3s,baz=224,slow=13,SNR=54						
ILAR				S	Sn	16 29 20.2	-9.2
	0.4nm,0.3s,baz=179,slow=29,SNR=5.3						
YKA	Yellowknife Ar	20.74	61	P	P	16 30 37.0	-0.8
	0.8nm,0.5s,baz=277,slow=9.8,SNR=20						
PDAR	Pinedale Array	32.88	98	P	P	16 32 29.6	+1.1
	0.2nm,0.6s,baz=287,slow=9.1,SNR=2.6						
TXAR	Lajitas Array	46.23	105	P	P	16 34 19.3	+0.8
	0.3nm,0.8s,baz=339,slow=2.2,SNR=4.2						

BKK 14 16:45:59.2±1.0, 18°N±5°×9°6E±°, h10km, M4.4/5, MLv4.4/5
DMN 14 16:47:45.5±58.0, 23.45N×90.68E, h10km, Mb4.5/5, Error ellipse: s-maj=1461.6km s-min=84.5km az=136.0
ISC 14 16:45:59.0±1.2, 18.1N±0.1×96.17E±0.07, h10km, n16, σ2.01/16, Myanmar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
CHTO	Chiang Mai	2.74	73	P	Pb	16 46 47.8	-0.3
CHTO				S	Sn	16 47 19.6	+3.4
CMMT	Chiang Mai	2.74	73	P	Pb	16 46 47.2	-1.0
CMMT				S	Sn	16 47 19.4	+3.1
UMPA	Umpang Tak	3.15	125	P	Sn	16 47 17.8	-8.7
CMAI	Chiengmai2	3.30	55	S	Sb	16 47 38.1	-0.1
LAMP	Lampang	3.32	81	S	Sb	16 47 38.0	-0.5
SUKH	Sukhothai	3.34	99	P	Pn	16 46 51.5	+0.2
KHLT	Khaolaem Dam	3.98	144	P	Pn	16 47 01.0	+1.0
UTTA	Uttaradit	4.18	93	P	Pg	16 47 16.9	-2.2
SRDT	SRDT	4.64	142	P	Pn	16 47 09.7	+0.5
TAPN	Taplejung	12.11	321	eP	Pn	16 48 58.7	+6.8
	3.4nm,0.4s						
GUN	Gumba	13.64	318	eP	P	16 49 20.9	-1.0
PKI	Pulchoki	13.72	316	eP	P	16 49 21.3	-1.4
	6.0nm,0.7s						
PKIN	Phulchoki	13.73	316	eP	P	16 49 21.4	-1.4
	1.7nm,0.3s						
GKN	Gorkha	14.52	315	eP	P	16 49 31.0	-0.4
	3.9nm,0.3s						
KOLN	Koldanda	15.08	312	eP	P	16 49 41.4	+3.6
	8.8nm,0.9s						
DANN	Dangsing	15.33	314	eP	P	16 49 43.1	+2.5
	9.0nm,0.5s						

MAN 14 17:05:11, 18.11N×120.23E, h21km, mb4.7, ML3.5, MS3.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
PIP	Pasuquin	0.43	60	⇑iP	Pn	17 05 21.5	-0.5
PIP				eS	Sn	17 05 30.0	+0.8
ABRA	Dolores	0.65	135	eP	Pb	17 05 23.4	-0.3
ABRA				eS	Sb	17 05 33.2	+0.8
APYP	Conner	1.00	104	eP	Pb	17 05 29.4	-0.2
APYP				eS	Sn	17 05 43.8	+0.5

ISCJB 14 17:08:18.4±1.2, 1.31N±0.09×96.81E±0.08, h28km, mb3.5/4, Error ellipse: s-maj=14.9km s-min=7.3km az=38.7
IDC 14 17:08:18.6±4.1, 1.75N×97.23E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/25, mbtmp3.5/4, Error ellipse: s-maj=160.4km s-min=27.4km az=57.0
DJA 14 17:08:21.9±0.8, 1°N±5°×9°E±°, h10km, M3.1/6, MLv3.1/6
ISC 14 17:08:20.4±1.3, 1.39N±0.10×96.95E±0.09, h28km, n12, σ1.22/12, mb3.7/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
GSI	Gunungsitoli	0.63	98	P	Pb	17 08 33.1	+0.2
GSI				S	Sn	17 08 43.0	+0.3
SNSI	Sinabang, Aceh	1.19	328	P	Pb	17 08 42.7	+0.4
SNSI				S	Sn	17 08 54.8	-1.6
TPTI		1.87	7	P	Pb	17 08 56.1	+2.2
TPTI				S	Sb	17 09 15.9	-1.0
KCSI	Kotacane, Aceh	2.27	21	P	Pn	17 08 55.0	-1.1
MNSI	Mandailing Nat	2.69	103	P	Pb	17 09 07.5	-0.5
H08S2	Diego Garcia H	26.00	249	T	T	17 40 53.7	
	baz=70,slow=75,SNR=154						
H08S3	Diego Garcia H	26.00	249	T	T	17 40 52.6	
	baz=70,slow=75,SNR=143						
H08S1	Diego Garcia H	26.01	249	T	T	17 40 54.2	
	baz=70,slow=75,SNR=149						
WRA	Warramunga Arr	42.35	122	P	P	17 16 14.3	+1.8
	0.4nm,1.1s,baz=304,slow=9.1,SNR=3.2						
SONM	Songino Array	46.98	9	P	P	17 16 48.7	-0.4
	0.3nm,0.3s,baz=196,slow=7.8,SNR=4.4						
MKAR	Makanchi Array	47.00	346	P	P	17 16 49.2	+0.1
	0.7nm,0.7s,baz=163,slow=8.3,SNR=8.3						
ZALV	Zalesovo Beam	53.33	351	P	P	17 17 36.8	-0.2
	0.4nm,0.3s,baz=155,slow=7.2,SNR=3.0						

ISCJB 14 17:27:33.4±0.4, 40.58N±0.03×27.42E±0.04, h12km, Error ellipse: s-maj=4.8km s-min=3.9km az=4.7
DDA 14 17:27:33.5, 40.57N×27.44E, h7km, MD2.9
CSEM 14 17:27:33.5±0.1, 40.59N×27.41E, h10km, MD2.5, Error ellipse: s-maj=2.7km s-min=2.1km az=166.0
ISK 14 17:27:33.1, 40.58N×27.43E, h8km, MD2.5
ISC 14 17:27:33.5±0.9, 40.59N±0.02×27.43E±0.02, h12km, n42, σ0.41/47, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
SART	Tekirdag	0.21	298	iP	Pg	17 27 38.7	+0.5
SART	Tekirdag	0.21	298	iP	Pg	17 27 38.7	+0.5
SART				iS	Sg	17 27 42.2	+0.9
RKY	Sarkoy-Tekirda	0.21	298	ePG	Pg	17 27 38.2	0.0
RKY				eSG	Sg	17 27 41.8	+0.5
RKY	Sarkoy-Tekirda	0.21	298	ePg	Pg	17 27 38.2	0.0
RKY				eSg	Sg	17 27 41.8	+0.5
KRBG	Karabiga-Canak	0.22	207	PG	Pg	17 27 38.1	-0.1
KRBG				eSG	Sg	17 27 41.4	+0.1
KRBG	Karabiga-Canak	0.22	207	iPg	Pg	17 27 38.1	-0.1
KRBG				eSg	Sg	17 27 41.4	+0.1
EDC	Edincik	0.41	126	ePG	Pg	17 27 41.5	-0.2
EDC	Edincik	0.41	126	ePg	Pg	17 27 41.5	-0.2
BNT	Bandirma	0.44	121	ePG	Pg	17 27 42.2	-0.1
BNT	Bandirma	0.44	121	ePg	Pg	17 27 42.2	-0.1
LPK	Lapseki	0.55	247	ePG	Pg	17 27 43.8	-0.5
LPK	Lapseki	0.55	247	ePg	Pg	17 27 43.8	-0.5
CRLT	Corlu	0.59	23	ePG	Pg	17 27 44.9	-0.1
CRLT	Corlu	0.59	23	ePg	Pg	17 27 44.9	-0.1
GELI	Tayfur-Gelibol	0.75	256	ePG	Pg	17 27 48.0	0.0
GELI	Tayfur-Gelibol	0.75	256	ePg	Pg	17 27 48.0	0.0
SLVT	Silivri	0.87	43	ePG	Pg	17 27 50.4	0.0
SLVT	Silivri	0.87	43	ePg	Pg	17 27 50.4	0.0
ENEZ	Enez	0.98	279	ePG	Pg	17 27 51.5	-0.9
ENEZ	Enez	0.98	279	ePg	Pg	17 27 51.5	-0.9
BALB	Balikesir	1.01	160	ePG	Pb	17 27 52.7	-0.2
BALB	Balikesir	1.01	160	ePg	Pb	17 27 52.7	-0.2
CTKS	Kestanelik-??a	1.04	51	ePG	Pb	17 27 53.5	0.0
CTKS	Kestanelik-??a	1.04	51	ePg	Pb	17 27 53.5	0.0
ALN	Alexandroupoli	1.09	287	ePN	Pb	17 27 53.9	-0.5
ALN	Alexandroupoli	1.09	287	ePn	Pb	17 27 53.9	-0.5
EZN	Ezine	1.14	228	ePN	Pg	17 27 55.8	+0.4
EZN	Ezine	1.14	228	ePn	Pg	17 27 55.8	+0.4
BGKT	Bogazkoy	1.18	59	ePN	Pn	17 27 55.4	-0.4
BGKT	Bogazkoy	1.18	59	ePn	Pn	17 27 55.4	-0.4
ISK	Istanbul-Kandi	1.33	68	ePN	Pb	17 27 58.5	+0.1
ISK	Istanbul-Kandi	1.33	68	ePn	Pb	17 27 58.5	+0.1
GEMT	Gemlik	1.35	96	ePN	Pb	17 27 58.9	+0.1
GEMT	Gemlik	1.35	96	ePn	Pb	17 27 58.9	+0.1
EDRB	Edirne	1.36	338	ePN	Pb	17 27 58.9	0.0
EDRB	Edirne	1.36	338	ePn	Pb	17 27 58.9	0.0
KLYT	Kilyos	1.39	61	ePN	Pb	17 27 59.7	+0.2
KLYT	Kilyos	1.39	61	ePn	Pb	17 27 59.7	+0.2
HRT	Hereke	1.72	81	ePN	Pb	17 28 04.3	-0.8
HRT	Hereke	1.72	81	ePn	Pb	17 28 04.3	-0.8
AKS	Akhisar	1.73	170	ePN	Pn	17 28 04.0	+0.5
AKS	Akhisar	1.73	170	ePn	Pn	17 28 04.0	+0.5

KRNET 14 17:44:25.9±0.1, 41.68N×75.85E, h1km, mb2.8
NNC 14 17:44:27.8±2.5, 41.74N×75.82E, h0km, mb2.6, mpv2.6, Error ellipse: s-maj=15.2km s-min=10.4km az=144.0
KNET 14 17:44:28.1±0.4, 41.79N×75.83E, h8km±6km, ml1.8, Error ellipse: s-maj=2.8km s-min=2.0km az=20.0
ISC 14 17:44:25.0±2.2, 41.61N±0.09×75.91E±0.05, h9km±10km, n19, σ0.49/34, 21C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
KZA	Kyzart	0.68	314	P	Pg	17 44 38.3	+0.2
	37nm,0.3s,SNR=36						
KZA				⇓S	Sg	17 44 47.1	0.0
	41nm,0.3s						
KZA	Kyzart	0.68	314	⇑iP	Pg	17 44 37.9	-0.2
	baz=312						
KZA				⇑iS	Sg	17 44 46.7	-0.3
	baz=312						
ULHL	Ulahol	0.68	22	P	Pg	17 44 38.4	+0.2
	1.3nm,0.1s,SNR=8.6						
ULHL				⇑S	Sg	17 44 47.1	-0.1
	62nm,0.3s						
ULHL	Ulahol	0.68	22	⇑iP	Pg	17 44 38.2	0.0
	baz=27						
ULHL				⇑iS	Sg	17 44 46.8	-0.4
	baz=27						
BOOM	Boomskoye usch	0.88	2	eP	Pg	17 44 42.0	+0.1
	baz=5.0						
BOOM				eS	Sg	17 44 53.4	0.0
	baz=5.0						
UCH	Uchtor	1.21	301	⇑P	Pb	17 44 48.7	+0.4
	1.8nm,0.2s,SNR=7.0						
ARLS	Aral	1.21	282	⇓iP	Pb	17 44 47.0	-1.2
	baz=279						
ARLS				⇓iS	Sb	17 45 03.7	-0.3
	baz=279						
KBK	Karagaybulak	1.26	326	⇓P	Pn	17 44 49.2	+0.2
	10.0nm,0.1s,SNR=34						
KBK				⇓S	Sb	17 45 05.4	-0.2
	17nm,0.2s						
KBK	Karagaybulak	1.26	326	⇑iP	Pn	17 44 49.1	0.0
	baz=326						
KBK				⇑iS	Sb	17 45 05.1	-0.5
	baz=326						
TKM2	Tokmak 2	1.33	350	⇑P	Pn	17 44 50.0	0.0
	1.3nm,0.3s						
TKM2				S	Sb	17 45 07.2	-0.3
	4.7nm,0.3s						
TKM2	Tokmak 2	1.33	350	⇑iP	Pn	17 44 50.1	+0.1
	baz=351						
TKM2				⇑iS	Sb	17 45 06.8	-0.7
	baz=351						
AAK	Ala-Archa	1.46	315	⇓P	Pb	17 44 52.7	+0.2
	5.7nm,0.3s						
AAK				⇓S	Sn	17 45 11.0	-0.2
	5.8nm,0.6s						
AAK	Ala-Archa	1.46	315	⇑P	Pb	17 44 52.9	+0.4
	7.0nm,0.1s,SNR=9.2						
AAK	Ala-Archa	1.46	315	⇑iP	Pb	17 44 52.6	+0.1
	baz=314						
AAK				⇑iS	Sn	17 45 10.9	-0.3
	baz=314						
AML	Almayashu	1.73	288	⇑iP	Pb	17 44 58.1	+0.9
	baz=286						
AML				⇑iS	Sb	17 45 20.0	+0.8
	baz=286						
EKS	Erkin-Say	1.90	305	eP	Pg	17 45 01.3	-0.1
	baz=303						
EKS				eS	Sg	17 45 26.4	+0.4
	baz=303						
EKS2	Erkin-Say	1.90	304	⇑iP	Pb	17 45 01.0	+1.1
	baz=303						
EKS2				⇑iS	Sg	17 45 25.2	-0.8
	baz=303						
USP	Ospenovka	1.95	328	⇑iP	Pb	17 45 00.9	+0.1
	baz=328						
USP				⇑iS	Sb	17 45 26.1	+0.8
	baz=328						
KK31	Karatay Array	4.26	292	⇓Pn	Pb	17 45 36.3	-3.9
	0.5nm,0.6s,baz=110,slow=16,SNR=3.5						
KK31				⇑Lg	Lg	17 46 38.6	
	0.7nm,0.4s,baz=105,slow=25,SNR=7.1						

ISCJB 14 18:19:53.4±0.8, 12.9N±0.2×87.0W±0.2, h13km, mb3.5/3, Error ellipse: s-maj=42.8km s-min=8.4km az=141.1
IDC 14 18:19:53.1±1.8, 12.89N×87.03W, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/23, mbtmp3.3/5, ML2.5/2, Error ellipse: s-maj=77.2km s-min=27.0km az=50.0
ISC 14 18:19:54.7±1.1, 12.8N±0.2×87.1W±0.3, h13km, n9, σ0.88/7, mb3.4/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
JTS	JuntasAbangare	3.26	140	Pn	Pn	18 20 46.6	+0.9
	0.8nm,0.3s,baz=99,slow=23,SNR=5.1						
JTS				Sn	Sn	18 21 23.5	-0.9
	2.8nm,0.3s,baz=284,slow=14,SNR=3.6						
APG	El Apazote	3.93	304	Pn	Pn	18 20 55.5	+0.5
	0.2nm,0.3s,baz=112,slow=19,SNR=1.9						
TXAR	Lajitas Array	22.53	319	P	P	18 24 54.4	-0.2
	0.5nm,0.4s,baz=136,slow=10,SNR=12						
ULM	Lac du Bonnet	38.03	351	P	P	18 27 12.9	+0.3
	1.7nm,0.6s,baz=161,slow=6.8,SNR=3.0						
H03N2	Juan Fernandez	46.64	171	T	T	19 20 20.6	
	baz=350,slow=74,SNR=4.9						
H03N1	Juan Fernandez	46.64	171	T	T	19 20 24.1	
	baz=350,slow=74,SNR=8.6						
H03N3	Juan Fernandez	46.66	171	T	T	19 20 25.3	
	baz=350						
YKA	Yellowknife Ar	53.37	345	P	P	18 29 13.6	0.0
	0.2nm,0.6s,baz=136,slow=8.0,SNR=4.9						
CMAR	Chiang Mai Arr	148.37	349	PKPbc	PKPbc	18 39 40.8	-1.0
	0.3nm,0.7s,baz=344,slow=3.1,SNR=4.7						

MEX 14 18:31:17.1±0.4, 17.06N×94.92W, h68km±5km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
CMIG	Matias Romero	0.04	43	iP	Pn	18 31 26.0	-1.1
CMIG				eS	Sn	18 31 32.3	-2.1
HUIG	Huatulco	1.72	222	iP	Pn	18 31 43.3	-1.6
HUIG				eS	Sn	18 32 05.0	-1.1
VHO	Vista Hermosa	1.74	271	iP	Pn	18 31 44.4	-1.0
VHO				eS	Sn	18 32 05.1	-1.9
PCIG		2.11	129	iP	Pn	18 31 48.3	-1.9
PCIG				iS	Sn	18 32 14.4	-1.1
PNIG	Pinotepa	3.15	258	iP	Pn	18 32 02.6	-1.8
PNIG				eS	Sn	18 32 39.1	-1.8

MAN 14 18:40:54, 10.39N×125.10E, h4km, mb4.2, ML3.0, MS2.8, 3D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
MSLP	Maasin	0.35	224	eP	Pb	18 41 02.8	0.0
SCPH	Surigao	0.71	148	⇓eP	Pb	18 41 08.7	-0.3
PLP	Palo	0.78	351	⇓iP	Pb	18 41 10.1	-0.1
PLP				iS	Sb	18 41 20.9	-0.3
OCLP	Ormoc	0.82	324	eP	Pg	18 41 07.1	-2.6
OCLP				eS	Sn	18 41 27.7	+2.8
LLP	Lapu-Lapu	1.12	266	⇓eP	Pn	18 41 16.3	-0.2
LLP				eS	Sn	18 41 32.8	+0.4
GUIM	Jordan	2.48	276	eP	Pn	18 41 37.1	+1.9

ISCJB 14 18:43:41.2±0.8, 43.24N±0.04×126.08W±0.08, h10km, mb3.1/4, Error ellipse: s-maj=9.0km s-min=5.6km az=157.6
NEIC 14 18:43:41.7±1.1, 43.09N×126.09W, h10km, ML3.1, Error ellipse: s-maj=13.8km s-min=6.9km az=63.0
IDC 14 18:43:41.5±1.8, 43.21N×126.12W, h0km, mb3.1/5, mb1 3.5/9, mb1mx3.4/43, mbtmp3.3/9, ML3.4/4, MS2.8/1, Ms1 2.8/1, ms1mx2.6/11, Error ellipse: s-maj=32.4km s-min=12.2km az=55.0
ISC 14 18:43:42.2±1.4, 43.12N±0.06×126.08W±0.09, h10km, n46, σ1.06/47, mb3.3/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
KEBM	Edson Butte	1.30	100	ePn	Pn	18 44 05.0	-1.5
KEBM				eSn	Sg	18 44 25.5	+1.4
KBO	Bosley Butte	1.64	123	ePn	Pn	18 44 09.5	-1.6
RNO	Roman Nose	1.88	64	P	Pn	18 44 14.0	-0.4
UMPQ	Umpqua Communi	2.02	84	P	Pn	18 44 15.8	-0.5
DBO	Dodson Butte	2.08	89	P	Pn	18 44 16.9	-0.3
HSO	Harness Mounta	2.22	78	P	Pn	18 44 18.9	-0.2
MPOR	Mary's Peak	2.30	52	P	Pn	18 44 19.2	-1.0
HUMO	Hull Mountain	2.35	101	ePn	Pn	18 44 20.1	-0.8
HUMO				eSn	Sn	18 44 49.7	-0.1
COR	Corvallis	2.49	53	ePn	Pn	18 44 21.1	-1.6
COR				eSn	Sn	18 44 53.0	-0.2
BBOR	Butler Butte	2.50	94	P	Pn	18 44 23.5	+0.4
YBH	Yreka Blue Hor	2.85	118	Pn	Pn	18 44 28.2	+0.4
	1.5nm,0.3s,baz=302,slow=14,SNR=22						
YBH				Sn	Sb	18 45 06.7	-1.5
	1.4nm,0.3s,baz=123,slow=14,SNR=3.2						
YBH				LR	LR	18 45 30.3	
	comp=Z,158nm,19.2s,baz=316,slow=37						
YBH	Yreka Blue Hor	2.85	118	ePn	Pn	18 44 27.0	-0.8
YBH				eSn	Sn	18 45 00.4	-1.8
YBH				Sn	Sb	18 45 06.7	-1.5
H04A	Detroit Lake	3.22	60	ePn	Pn	18 44 33.0	+0.2
TDH	Tom, Dick, Har	3.77	53	P	Pn	18 44 41.3	+0.7
F04A	Amboy	3.84	42	ePn	Pn	18 44 40.3	-1.0
MTMW	Mount Mitchell	4.01	42	P	Pn	18 44 43.6	-0.2
FL2	Flat Top 2	4.07	40	P	Pn	18 44 44.9	+0.3
G06A	Carlson Farm,	4.45	60	ePn	Pn	18 44 48.9	-0.9
LON	Longmire	4.73	38	ePn	Pn	18 44 52.9	-0.8
LON				eSn	Sn	18 45 48.1	-0.4
I07A	Izee	4.87	76	ePn	Pn	18 44 55.1	-0.5
D05A	Enumclaw	4.99	34	ePn	Pn	18 44 55.2	-1.9
G08A	Pilot Rock	5.56	65	ePn	Pn	18 45 05.1	+0.1
E07A	Sunnyside	5.61	50	ePn	Pn	18 45 05.7	+0.1
LTY	Liberty	5.63	41	ePn	Pn	18 45 05.2	-0.8
HAWA	Hanford	5.70	53	ePn	Pn	18 45 05.8	-1.0
HAWA				eSn	Sn	18 46 11.0	-1.2
B06A	Marblemount	6.28	29	ePn	Pn	18 45 13.9	-1.0
BMO	Blue Mountains	6.56	72	ePn	Pn	18 45 18.7	-0.1
E09A	Wood Farm, Sta	6.59	56	ePn	Pn	18 45 19.7	+0.6
F10A	Beach Ranch, E	6.94	63	ePn	Pn	18 45 24.6	+0.7
C09A	Chrisman Ranch	7.21	47	ePn	Pn	18 45 28.3	+0.6
NVAR	Mina Array Bea	7.53	126	Pn	Pn	18 45 35.9	+3.7
	0.1nm,0.3s,baz=302,slow=14,SNR=5.6						
NEW	Newport	8.11	48	Pn	Pn	18 45 42.0	+2.0
	0.4nm,0.3s,baz=239,slow=12,SNR=4.6						
BGU	Big Grassy Mou	9.96	98	ePn	Pn	18 46 05.4	0.0
BOZ	Bozeman (W)	10.65	71	ePn	Pn	18 46 15.3	+0.4
ANMO	Albuquerque	17.27	112	P	P	18 47 45.7	+0.7
	0.1nm,0.3s,baz=292,slow=12,SNR=3.7						
YKA	Yellowknife Ar	20.55	15	P	P	18 48 20.5	-0.1
	0.4nm,0.7s,baz=207,slow=11,SNR=4.9						
ULM	Lac du Bonnet	21.81	60	P	P	18 48 33.8	-0.5
	1.3nm,0.5s,baz=276,slow=8.2,SNR=2.8						
TXAR	Lajitas Array	22.63	120	P	P	18 48 46.5	+3.1
	0.2nm,0.6s,baz=305,slow=8.7,SNR=2.3						
ILAR	Eielson Array	24.68	339	P	P	18 49 02.2	-0.7
	0.5nm,1.0s,baz=148,slow=9.7,SNR=3.5						
INK	Inuvik	25.56	354	P	P	18 49 11.7	+0.9
	0.8nm,0.9s,baz=169,slow=5.0,SNR=2.4						
H11N3	WAKE ISLAND Hy	60.14	270	T	T	19 58 21.1	
	baz=53,slow=75,SNR=77						
H11N2	WAKE ISLAND Hy	60.14	270	T	T	19 58 21.2	
	baz=53,slow=75,SNR=74						
H11N1	WAKE ISLAND Hy	60.16	270	T	T	19 58 22.8	
	baz=53,slow=75,SNR=48						
H11S1	WAKE ISLAND Hy	61.06	269	T	T	19 59 33.6	
	baz=50,slow=74,SNR=292						
H11S2	WAKE ISLAND Hy	61.06	269	T	T	19 59 35.2	
	baz=50,slow=74,SNR=87						
H11S3	WAKE ISLAND Hy	61.08	269	T	T	19 59 33.8	
	baz=50,slow=74,SNR=171						

MEX 14 18:56:47.1±0.5, 16.00N×96.91W, h6km±8km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
HUIG	Huatulco	0.80	106	eP	Pg	18 57 00.5	-2.0
HUIG				iS	Sg	18 57 12.1	-0.9
VHO	Vista Hermosa	1.08	9	iP	Pg	18 57 05.4	-2.7
VHO				iS	Sg	18 57 19.0	-3.4
PNIG	Pinotepa	1.24	289	eP	Pg	18 57 07.6	-3.3
PNIG				iS	Sg	18 57 22.7	-4.3
CMIG	Matias Romero	2.22	60	iP	Pn	18 57 21.5	-3.1
CMIG				eS	Sn	18 57 48.2	-4.2

IDC 14 19:00:59.1±8.3, 15.42N×143.25E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/24, mbtmp3.2/3, Error ellipse: s-maj=318.7km s-min=31.3km az=78.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
WRA	Warramunga Arr	36.22	194	P	P	19 08 04.0	0.0
	0.3nm,0.6s,baz=16,slow=9.4,SNR=6.8						
ASAR	Alice Springs	39.91	193	P	P	19 08 34.8	-0.3
	0.3nm,0.9s,baz=14,slow=7.9,SNR=2.2						
MKAR	Makanchi Array	59.09	316	P	P	19 11 01.3	-0.1
	0.1nm,0.3s,baz=86,slow=7.8,SNR=5.6						

IDC 14 19:56:11.0±0.8, 7.17S×154.96E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.3/19, mbtmp4.2/12, ML3.0/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/26, Error ellipse: s-maj=27.8km s-min=17.3km az=125.0
ISCJB 14 19:56:15.5±0.7, 7.3S±0.1×154.92E±0.10, h41km, mb4.1/11, MS3.0/2, Error ellipse: s-maj=20.3km s-min=9.6km az=146.3
ISC 14 19:56:16.8±0.8, 7.2S±0.1×155.0E±0.1, h41km, n28, σ0.89/29, mb4.2/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
HNR	Honiara	5.39	114	LR	LR	19 59 40.7	
	comp=Z,310nm,18.4s,baz=272,slow=39						
PMG	Port Moresby	8.03	254	Pn	Pn	19 58 10.8	-0.3
	1.0nm,0.3s,baz=75,slow=14,SNR=12						
PMG				Sn	Sn	19 59 40.3	-0.3
	1.5nm,0.3s,baz=83,slow=17,SNR=3.9						
CTA	Charters Tower	15.33	213	Pn	P	19 59 55.1	+0.5
	0.1nm,0.3s,baz=36,slow=13,SNR=7.6						
WRA	Warramunga Arr	23.67	236	P	P	20 01 23.6	-1.3
	8.6nm,0.9s,baz=61,slow=9.7,SNR=37						
WRA				PcP	PcP	20 05 10.4	+1.7
	0.5nm,0.6s,baz=61,slow=2.7,SNR=5.3						
ASAR	Alice Springs	26.00	229	P	P	20 01 45.4	-0.8
	3.3nm,0.8s,baz=60,slow=9.1,SNR=25						
ASAR				LR	LR	20 11 37.1	
	comp=Z,49nm,21.0s,baz=120,slow=36						
STKA	Stephens Creek	27.52	205	P	P	20 01 59.5	-0.1
	6.8nm,0.6s,baz=22,slow=12,SNR=14						
STKA				LR	LR	20 12 38.2	
	comp=Z,46nm,19.7s,baz=32,slow=36						
KSRS	Korea Array	51.13	332	P	P	20 05 14.3	-1.4
	0.8nm,0.6s,baz=146,slow=8.1,SNR=4.3						
CMAR	Chiang Mai Arr	60.87	296	P	P	20 06 27.0	+1.2
	1.8nm,0.6s,baz=123,slow=5.5,SNR=21						
SONM	Songino Array	69.52	327	P	P	20 07 21.6	+0.2
	1.0nm,0.8s,baz=147,slow=6.2,SNR=17						
TAPN	Taplejung	73.50	301	eP	P	20 07 47.1	+1.0
ODAN	Odare	73.63	301	eP	P	20 07 47.5	+0.7
	15nm,0.7s						
JIRN	Jiri	74.89	301	eP	P	20 07 54.9	+0.6
	5.9nm,0.6s						
GUN	Gumba	75.22	301	eP	P	20 07 57.2	+1.0
	13nm,0.7s						
PKI	Pulchoki	75.53	301	eP	P	20 07 58.5	+0.6
PKIN	Phulchoki	75.54	301	eP	P	20 07 58.5	+0.6
KKN	Kakani	75.70	301	eP	P	20 07 59.7	+1.0
	6.4nm,0.6s						
DMN	Daman	75.79	301	eP	P	20 08 00.4	+1.1
	24nm,1.1s						
GKN	Gorkha	76.30	301	eP	P	20 08 02.7	+0.6
	14nm,0.9s						
KOLN	Koldanda	77.12	301	eP	P	20 08 07.4	+0.6
	8.9nm,0.9s						
DANN	Dangsing	77.14	301	eP	P	20 08 07.5	+0.5
	4.8nm,0.7s						
MKAR	Makanchi Array	83.56	319	P	P	20 08 40.9	+0.1
	1.4nm,0.7s,baz=103,slow=5.8,SNR=21						
ILAR	Eielson Array	83.60	21	P	P	20 08 39.6	-1.0
	0.8nm,0.5s,baz=239,slow=4.9,SNR=31						
ZALV	Zalesovo Beam	84.36	326	P	P	20 08 43.4	-1.2
	0.7nm,0.5s,baz=132,slow=6.3,SNR=5.3						
NVAR	Mina Array Bea	91.88	52	P	P	20 09 21.6	+0.3
	0.8nm,0.8s,baz=264,slow=7.3,SNR=5.2						
YKA	Yellowknife Ar	96.55	28	P	P	20 09 42.1	+0.2
	1.0nm,0.7s,baz=265,slow=4.6,SNR=18						
GERES	GERESS Array B	127.24	329	PKP	PKPdf	20 15 18.0	+0.9
	0.2nm,0.5s,baz=15,slow=4.1,SNR=2.2						

BDFB Brasilia 147.83 135 PKPbc PKPab 20 15 59.8 -1.2
2.3nm,0.8s,baz=96,slow=9.2,SNR=2.8
TORD Torodi Ar. Bea 153.06 285 PKPbc PKPbc 20 16 11.5 +0.5
1.0nm,0.6s,baz=70,slow=2.6,SNR=9.4

FUNV 14 20:08:16.1,6.86N×73.17W,h166km,MW3.8,2C, Northern Colombia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CAPV Capacho 1.31 41 ⇑iP Pn 20 08 45.0 -0.4
CAPV eS Sn 20 09 06.0 -2.0
VIGV El Vigia 2.66 42 ⇑iP Pn 20 08 59.4 -0.6
VIGV eS Sn 20 09 30.8 -3.3
SOCV Socops 2.70 58 eP Pn 20 08 59.1 -1.4
SOCV eS Sn 20 09 30.8 -4.1
ELOV Elorza 3.67 88 eP Pn 20 09 11.0 -1.6
ELOV eS Sn 20 09 51.6 -4.9
VIRV Villa del Rosa 3.70 12 eP Pn 20 09 11.7 -1.2
VIRV eS Sn 20 09 52.0 -5.3
SANV Sanarito 4.46 54 eP Pn 20 09 21.1 -1.7
SANV eS Sn 20 10 10.3 -4.7
CURV Curarigua 4.46 45 eP Pn 20 09 21.6 -1.3
CURV eS Sn 20 10 09.6 -5.5
SIQV Siquisique 5.02 41 eP Pn 20 09 28.7 -1.5
SIQV eS Sn 20 10 21.6 -6.6
BAUV El Baul 5.49 68 eS Sn 20 10 32.7 -6.4
MAPV Macapo 5.52 57 eP Pn 20 09 34.8 -2.0
MAPV eS Sn 20 10 33.6 -6.3

ISCJB 14 20:21:42.4±0.3,5.67N±0.02×126.20E±0.03,h152km±2km, mb4.7/86,Error ellipse: s-maj=4.7km s-min=2.8km az=172.1
MOS 14 20:21:42.1±0.9,5.60N×126.00E,h151km,mb4.7/33,Error ellipse: s-maj=14.9km s-min=6.6km az=117.6
KLM 14 20:21:42.3,5.68N×126.48E,h163km,mb5.1,ML5.0, MS5.9
BJI 14 20:21:42.7,5.60N×125.83E,h146km,mB5.0/27,mb4.6/37
NEIC 14 20:21:43.5±0.3,5.60N×126.07E,mb4.9/27,Error ellipse: s-maj=7.2km s-min=5.4km az=81.0
MAN 14 20:21:43,5.60N×126.00E,h135km,mb5.6,ML4.6,MS5.0
IDC 14 20:21:44.2±0.8,5.60N×126.02E,h151km±6km,mb4.1/27, mb1 4.2/27,mb1mx4.0/42,mbtmp4.5/27,MS3.1/1, Ms1 3.3/1,ms1mx2.5/33,Error ellipse: s-maj=15.5km s-min=7.5km az=73.0
DJA 14 20:21:46.4±0.5,5°N±4°×12°6E±°,h138km±4km,M4.8/64, mb5.1/64,mB5.3/45,MLv5.4/12,Mw(mB)4.7/45,Mwp6.3/2
ISC 14 20:21:43.6±0.3,5.61N±0.03×126.07E±0.04,h147km±2km, h147km:pP-P,n308,σ1§47/368,mb4.7/85,33C-41D, Mindanao

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GSPH General Santos 1.21 293 ⇓iP Pn 20 22 07.6 -2.6
GSPH iS Sn 20 22 26.4 -4.1
MATI Mati 1.34 8 eP Pn 20 22 10.3 -1.0
MATI eS Sn 20 22 27.9 -4.7
DAV Davao City (W) 1.53 342 ePn Pn 20 22 12.1 -1.3
DMPH Davao City--Mi 1.56 339 ⇑eP Pn 20 22 13.3 -0.4
DMPH eS Sn 20 22 36.2 -0.6
SGSI Sangihe 1.99 196 P Pn 20 22 19.1 +0.6
SGSI S Sn 20 22 43.8 -1.4
CTBH Cotabato--PC H 2.42 312 ⇓iP Pn 20 22 22.6 -1.0
BUKP Musuan 2.46 336 eP Pn 20 22 24.2 -0.1
BUKP eS Sn 20 22 54.1 -1.5
CGP Cagayan de Oro 3.14 334 ⇓eP Pn 20 22 32.7 0.0
CGP eS Sn 20 23 11.3 +0.7
BUTP Butuan 3.37 352 eP Pn 20 22 37.2 +1.6
PAGZ Pagadian 3.47 310 eP Pn 20 22 36.9 0.0
SCPH Surigao 4.18 352 ⇓eP Pn 20 22 47.4 +1.1
MSLP Maasin 4.65 345 eP Pn 20 22 52.0 -0.4
SNPH Sibulan 4.65 323 eP Pn 20 22 48.0 -4.5
TNTI Ternate 4.98 165 P Pn 20 22 55.8 -1.0
TNTI S Sn 20 23 50.5 -3.3
TNTI Ternate 4.98 165 ePn Pn 20 22 55.0 -1.8
LLP Lapu-Lapu 5.12 336 ⇓eP Pn 20 22 59.2 +0.6
LLP eS Sn 20 23 57.5 +0.4
KMSI Cibinong 5.42 203 P Pn 20 23 03.5 +0.9
773nm,1.1s,6μm3.1nm
GTOI Gorontalo 5.81 212 P Pn 20 23 08.2 +0.4
1μm,0.8s,9μm3.9nm
GUIM Jordan 6.06 326 eP Pn 20 23 10.5 -0.6
LBMI Labuha 6.37 167 P Pn 20 23 14.3 -1.0
124nm,0.7s,2μm2.5nm
LBMI S Sn 20 24 23.1 -4.0
124nm,0.7s,2μm2.5nm
MRSI Marisa 6.55 219 P Pn 20 23 19.2 +1.4
181nm,0.6s,2μm1.1nm
RCP Roxas 6.76 331 ⇓eP Pn 20 23 21.6 +1.1
TOLI Toli-Toli 6.90 230 ePn Pn 20 23 22.8 +0.4
155nm,0.6s
LUWI Luwuk 7.38 207 P Pn 20 23 30.9 +2.1
305nm,0.8s,3μm1.5nm
LUWI Luwuk 7.38 207 ePn Pn 20 23 28.0 -0.9
LUWI Luwuk 7.38 207 ⇑P Pn 20 23 30.6 +1.7
baz=7.4,SNR=22
MYLDM Lahad Datu 7.55 267 ePn Pn 20 23 31.2 +0.2
MYLDM Lahad Datu 7.55 267 ⇓P Pn 20 23 34.5 +3.5
MYLDM Lahad Datu 7.55 267 ⇓S Sn 20 25 04.7 +9.4
SANI Sanana 7.61 181 P Pn 20 23 28.5 -3.4
552nm,0.7s,7μm2.3nm
APSI Ampana 7.84 214 P Pn 20 23 38.9 +4.0
193nm,0.9s,2μm0.7nm
MPSI Mapaga 8.09 230 P Pn 20 23 41.4 +3.2
24nm,0.9s
SWI Sorong 8.26 141 P Pn 20 23 39.7 -0.9
97nm,0.9s,1μm0.4nm
SWI Sorong 8.26 141 ⇑P Pn 20 23 40.1 -0.5
baz=8.3
TSM Tawau 8.27 261 ⇑P Pn 20 23 43.8 +3.1
SDKM Sandakan 8.83 271 ⇓P Pn 20 23 51.0 +2.7
NLAI Namlea 8.85 173 P Pn 20 23 46.2 -2.3
136nm,0.7s,3μm
KDM Kudat 9.27 279 ⇓P Pn 20 23 56.9 +2.9
KKM Kota Kinabalu 9.81 273 ⇓P Pn 20 24 03.4 +2.0
baz=9.8
KKM Kota Kinabalu 9.81 273 ⇑P Pn 20 24 05.5 +4.2
FAKI Fak Fak 10.48 144 P Pn 20 24 10.0 -0.2
99nm,1.1s,1μm
FAKI Fak Fak 10.48 144 ePn Pn 20 24 07.9 -2.3
FAKI Fak Fak 10.48 144 ⇓P Pn 20 24 07.8 -2.3
baz=10,SNR=9.8
TTSI Tana Toraja 10.62 216 P Pn 20 24 14.8 +2.8
387nm,1.1s,4μm
SPSI Sidrap Palu 11.40 214 P Pn 20 24 23.8 +1.5
84nm,0.7s,766nm
BNSI Bone 11.59 211 P Pn 20 24 26.4 +1.7
126nm,0.9s,1μm
KAPI Kappang 12.29 211 Pn Pn 20 24 34.0 +0.1
684nm,0.9s,SNR=16
KAPI Kappang 12.29 211 ePn Pn 20 24 33.9 0.0
BKSI Bulukumba 12.38 209 P Pn 20 24 35.3 +0.4
28nm,0.9s
SRPI Serui, Papua 12.59 126 P P 20 24 43.2 -0.1
BTM Bintulu 13.16 260 ⇓P P 20 24 53.1 +3.4
BTM Bintulu 13.16 260 ⇑S Sn 20 27 12.2 +1.4
KBKI Kotabaru 13.27 228 P P 20 24 49.8 -1.1
71nm,1.4s,839nm
SBUM Sibu 14.16 258 ePn P 20 25 00.1 -0.8
SBUM Sibu 14.16 258 ⇑P P 20 25 01.5 +0.7
BBKI Banjar Baru 14.38 231 P P 20 25 05.3 +2.0
116nm,1.0s,1μm
MMRI Maumere 14.66 195 P P 20 25 07.1 +0.8
143nm,0.7s,1μm
MMRI Maumere 14.66 195 ePn Pn 20 25 03.2 -0.8
90nm,0.6s
SOEI Soe 15.37 187 P P 20 25 15.3 +1.0
125nm,0.7s,1μm
SOEI Soe 15.37 187 ePn Pn 20 25 12.7 -0.3
92nm,0.8s
SOEI Soe 15.37 187 ⇓P P 20 25 14.2 -0.1
baz=15,SNR=59
STKI Sintang 15.57 250 P P 20 25 18.9 +2.4
39nm,1.4s,4μm
WSI Waingapu 16.23 201 P Pn 20 25 23.4 0.0
211nm,0.6s,3μm
WSI Waingapu 16.23 201 ⇓P Pn 20 25 22.7 -0.7
baz=16,SNR=13
KSM Kuching 16.25 256 ePn Pn 20 25 21.8 -1.9
52nm,0.9s
KSM Kuching 16.25 256 ⇑P Pn 20 25 23.3 -0.5
baz=16,SNR=9.4
KSM Kuching 16.25 256 ⇑P P 20 25 24.0 0.0
GENI Genyem 16.27 120 P P 20 25 27.0 +2.8
85nm,0.8s
PBKI Pangkalan Bun 16.58 240 P Pn 20 25 30.4 +2.7
177nm,0.9s,2μm
JAY Jayapura 16.70 119 ⇑P P 20 25 28.2 -0.8
baz=17,SNR=5.1
SRBI Singaraja 17.39 219 P Pn 20 25 37.2 -0.2
60nm,0.7s
KMMI Kalianget 17.43 224 P Pn 20 25 40.4 +2.4
88nm,1.0s
ABJI Asem Bagus 17.80 222 P Pn 20 25 47.3 +5.0
DNP Denpasar 17.85 217 P Pn 20 25 47.0 +4.1
290nm,0.3s,23μm
IGBI Denpasar 18.00 217 P Pn 20 25 45.4 +0.7
89nm,0.4s,2μm
BLJI Banyuglugur 18.19 223 P Pn 20 25 47.5 +0.6
50nm,0.7s
JAGI Jajag, Banyuwa 18.35 220 P Pn 20 25 48.2 -0.7
87nm,0.8s,1μm
JAGI Jajag, Banyuwa 18.35 220 eP P 20 25 46.9 -0.2
48nm,0.4s
JAGI Jajag, Banyuwa 18.35 220 ⇓P P 20 25 47.6 +0.6
baz=18,SNR=31
GRJI Gresik 18.40 228 P Pn 20 25 51.6 +2.1
121nm,0.8s,916nm
DLV T Lat 18.47 291 eP P 20 25 47.0 -1.6
33nm,0.8s
TBJI Tambak Boyo 18.81 229 P Pn 20 25 56.1 +1.9
221nm,1.3s
MTN Manton Dam 19.01 165 ⇓P P 20 25 55.1 +0.9
baz=19,SNR=46
KDU Kakadu 19.26 161 ⇑P P 20 25 57.6 +0.7
baz=19,SNR=67
NGJI Ngawi 19.46 229 P Pn 20 26 03.0 +1.2
132nm,0.8s
PWJI Pagerwojo 19.64 227 P Pn 20 26 03.3 -0.7
73nm,0.7s,691nm
SMRI Semarang 20.03 231 P Pn 20 26 09.8 +1.2
136nm,1.2s
WOJI Wonogiri, Jawa 20.16 229 P Pn 20 26 08.8 -1.3
50nm,1.4s,7μm
TPI Tanjungpandan 20.18 246 P Pn 20 26 08.8 -1.6
80nm,0.8s,512nm
UGM Wanagama 20.52 229 P Pn 20 26 12.7 -1.7
106nm,0.9s
UGM Wanagama 20.52 229 eP P 20 26 10.1 -0.4
98nm,1.0s
UGM Wanagama 20.52 229 ⇓P P 20 26 12.3 +1.8
baz=20,SNR=7.0
QIZ Qiongzhong 20.69 312 P P 20 26 11.6 -0.6
QIZ sP sP 20 26 54.8 -2.2
QIZ S S 20 29 55.8 +0.4
QIZ pmax pmax
comp=Z,13nm,2.2s
KNRA Kununurra 21.32 173 ⇓P P 20 26 19.6 +0.6
baz=21,SNR=98
KPJI Karang Pucung 21.39 233 P P 20 26 21.8 +1.9
53nm,0.7s,1μm
CMJI Cimerak 22.04 233 P P 20 26 25.8 -0.9
33nm,0.6s
LEM Lembang 22.17 236 P P 20 26 30.0 +1.9
86nm,1.3s,1μm
LEM Lembang 22.17 236 ⇑P P 20 26 29.3 +1.2
baz=22,SNR=6.9
CISI Cisompet, Garu 22.42 235 P P 20 26 31.3 +0.9
64nm,0.8s,2μm
CISI Cisompet, Garu 22.42 235 eP P 20 26 27.9 -2.5
40nm,0.7s
CISI Cisompet, Garu 22.42 235 ⇑P P 20 26 31.4 +1.0
baz=22
MYKOM Kota Tinggi 22.49 261 eP P 20 26 29.7 -1.4
31nm,0.9s
MYKOM Kota Tinggi 22.49 261 ⇑P P 20 26 31.5 +0.5
BTDF Bukit Timah Da 22.64 260 ⇓P P 20 26 32.0 -0.5
baz=23,SNR=8.6
KTGM Kuala Trenggan 22.83 270 ⇓P P 20 26 34.4 +0.1
PMBI Palembang 22.90 249 P P 20 26 39.5 +4.6
158nm,0.7s
PMBI Palembang 22.90 249 eP P 20 26 34.0 -0.8
104nm,0.5s
KGM Kluang 22.97 262 ⇑P P 20 26 35.4 -0.2
BLSI Bandar Lampung 23.48 243 P P 20 26 39.3 -0.9
JMBI JAMBI 23.52 253 P P 20 26 45.0 +4.4
133nm,0.7s,3μm
KLI Kotabumi 23.60 244 P P 20 26 43.3 +2.0
95nm,0.8s,2μm
CGJI Cibinong 23.68 239 P P 20 26 42.4 +0.3
55nm,1.0s,688nm
MDSI Maura Dua 24.05 246 P P 20 26 47.6 +2.2
23nm,1.0s,1μm
KASI Kota Agung 24.21 243 P P 20 26 48.2 +1.4
107nm,0.8s,861nm
LWLI Liwa 24.38 245 P P 20 26 50.8 +2.3
76nm,0.9s,3μm
FRIM Kepong 24.48 266 ⇑P P 20 26 48.6 -0.8
IPM Ipoh 24.97 269 eP P 20 26 53.4 -0.4
16nm,0.6s
IPM Ipoh 24.97 269 ⇑P P 20 26 53.8 0.0
MNAI Manna 25.12 247 ⇓P P 20 26 55.5 +0.4
baz=25,SNR=3.2
KULM Kulim 25.30 271 eP P 20 26 55.2 -1.6
28nm,1.3s
KULM Kulim 25.30 271 ⇓P P 20 26 57.5 +0.7
MASI Maura Aman, Be 25.34 250 P P 20 27 01.7 +4.6
210nm,0.6s,4μm
BKNI Bangkinang 25.53 259 P P 20 27 00.3 +1.5
BKNI Bangkinang 25.53 259 eP P 20 26 57.3 -1.5
51nm,1.0s
BKNI Bangkinang 25.53 259 ⇑P P 20 26 59.4 +0.6
baz=26
PMG Port Moresby 25.78 125 ⇓iP P 20 27 01.2 +0.2
PMG pmax pmax
comp=Z,55nm,1.3s
PMG Port Moresby 25.78 125 eP P 20 26 57.8 -3.2
comp=Z,47nm,1.1s
PMG Port Moresby 25.78 125 ⇑P P 20 27 01.0 0.0
baz=26,SNR=4.5
COEN Coen 25.81 139 eP P 20 26 59.9 -1.5
comp=Z,246nm,0.6s
COEN Coen 25.81 139 ⇓P P 20 27 01.9 +0.6
baz=26,SNR=82
CBIJ Chichi jima 26.31 34 P P 20 27 05.0 -0.7
JCJ Chichijima 26.31 34 P P 20 27 05.0 -0.7
comp=Z,56nm,0.6s,baz=344,slow=18,SNR=4.1
WRAB Tennant Creek 26.66 162 P P 20 27 09.0 +0.1
comp=Z,115nm,0.4s,SNR=35
WRAB Tennant Creek 26.66 162 eP P 20 27 08.2 -0.7
WRAB pmax pmax
comp=Z,35nm,1.4s
WRAB Tennant Creek 26.66 162 eP P 20 27 08.2 -0.7
comp=Z,35nm,1.4s
WRA Warramunga Arr 26.66 162 P P 20 27 08.9 -0.1
WRA *PP pP 20 27 42.6 +2.7
WRA S S 20 31 31.8 -1.6
WRA pmax pmax
comp=Z,6.0nm,0.5s
WRA pmax pmax
comp=Z,10.0nm,0.7s
WRA smax smax
comp=N,2.0nm,1.0s
WRA pmax pmax
comp=N,1.0nm,0.8s
WRA Warramunga Arr 26.66 162 P P 20 27 08.9 -0.1
comp=N,6.2nm,0.5s,baz=341,slow=10.0,SNR=65
WRA pP pP 20 27 42.6 +2.7
comp=N,9.8nm,0.7s,baz=343,slow=10,SNR=1.9
WRA S S 20 31 31.8 -1.6
comp=N,1.7nm,1.0s,baz=328,slow=15,SNR=5.6
WRA ScP ScP 20 33 55.3 -0.3
comp=N,1.2nm,0.8s,baz=335,slow=3.4,SNR=6.1
PBKT Sadao Pong 26.89 296 P P 20 27 14.0 +3.0
comp=N,9.1nm,1.0s
NJ2 Nanjing 27.16 346 eP P 20 27 12.0 -1.2
NJ2 pmax pmax
comp=N,10.0nm,0.7s
PSI Prapat 27.21 265 P P 20 27 14.5 +0.4
PSI 20 30 31.3
PSI pmax pmax
comp=Z,5.0nm,0.4s
PSI pmax pmax
comp=Z,5.0nm,0.6s
PSI Prapat 27.21 265 P P 20 27 14.4 +0.4
comp=Z,4.8nm,0.4s,baz=67,slow=4.1,SNR=7.6
PSI PcP PcP 20 30 31.2 +0.5
comp=Z,5.4nm,0.6s,baz=336,slow=22,SNR=4.6
PSI Prapat 27.21 265 ⇓P P 20 27 14.6 +0.4
baz=27,SNR=5.4
MBWA Marble Bar 27.32 193 eP P 20 27 14.8 0.0
comp=Z,78nm,1.4s
GYA Guiyang 27.80 320 P P 20 27 18.8 -0.4
GYA pP pP 20 27 50.4 +0.1
GYA sP sP 20 28 08.6 +1.2
GYA PP PnPn 20 28 14.8 +0.6
GYA S S 20 31 50.5 -1.0
GYA sS sS 20 32 46.0 -0.4
GYA ScP SS 20 33 56.8 +1.7
GYA ScS ScS 20 37 47.4 -4.3
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
RABL Rabaul 27.82 110 ⇑P P 20 27 20.5 +1.1
baz=28,SNR=7.7
GSI Gunungsitoli 28.75 262 eP P 20 27 26.6 -1.1
comp=Z,71nm,1.0s
GSI Gunungsitoli 28.75 262 ⇑P P 20 27 27.0 -0.6
baz=29
QIS Mount Isa 29.21 153 ⇓P P 20 27 32.2 +0.6
baz=29,SNR=50
CMAR Chiang Mai Arr 29.38 298 P P 20 27 34.0 +0.8
CMAR 20 30 37.7
CMAR 20 34 04.8
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR pmax pmax
comp=N,3.0nm,1.1s
CMAR MLR MLR
comp=Z,35nm,18.5s
CMAR Chiang Mai Arr 29.38 298 P P 20 27 34.0 +0.8
comp=Z,1.1nm,0.7s,baz=102,slow=6.9,SNR=11
CMAR PcP PcP 20 30 37.6 +1.8
comp=Z,2.6nm,0.8s,baz=136,slow=0.9,SNR=20
CMAR ScP ScP 20 34 04.8 +0.7
comp=Z,3.1nm,1.1s,baz=142,slow=1.6,SNR=15
CMAR LR LR 20 41 41.9
comp=Z,35nm,18.5s,baz=85,slow=41
CMMT Chiang Mai 29.51 299 P P 20 27 36.8 +2.5
CHTO Chiang Mai 29.52 299 eP P 20 27 32.8 -1.6
CHTO pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 29.52 299 P P 20 27 36.9 +2.5
comp=Z,23nm,1.2s
CHTO Chiang Mai 29.52 299 eP P 20 27 32.8 -1.6
comp=Z,2.7nm,0.7s
MTSU Mount Surprise 29.68 143 ⇑P P 20 27 37.6 +1.8
baz=30,SNR=28
AS15 Alice Springs 30.06 166 ⇑P P 20 27 39.9 +0.7
baz=30
ASAR Alice Springs 30.09 166 P P 20 27 39.8 +0.5
ASAR 20 30 38.2
ASAR S S 20 32 25.9 -1.3
ASAR pmax pmax
comp=Z,9.0nm,0.6s
ASAR pmax pmax
comp=Z,2.0nm,0.5s
ASAR smax smax
comp=N,1.0nm,0.8s
ASAR pmax pmax
comp=N,2.0nm,0.8s
ASAR Alice Springs 30.09 166 P P 20 27 39.8 +0.5
comp=N,8.5nm,0.6s,baz=344,slow=7.2,SNR=180
ASAR PcP PcP 20 30 38.1 +0.6
comp=N,1.5nm,0.5s,baz=351,slow=2.4,SNR=4.3
ASAR S S 20 32 25.9 -1.3
comp=N,1.1nm,0.8s,baz=352,slow=16,SNR=4.5
ASAR ScP ScP 20 34 07.1 +0.9
comp=N,2.0nm,0.8s,baz=347,slow=2.4,SNR=9.2
WRKA Warakurna 30.54 176 ⇓P P 20 27 43.9 +0.6
baz=31,SNR=34
KSAR Wonju Array Be 31.73 3 P P 20 27 54.0 +0.5
KSAR 20 30 42.8
KSAR Wonju Array Be 31.73 3 P P 20 27 54.0 +0.5
KSAR PcP PcP 20 30 42.8 +1.2
KSRS Korea Array 31.74 3 P P 20 27 54.0 +0.4
KSRS 20 30 42.8
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS Korea Array 31.74 3 P P 20 27 54.0 +0.4
comp=Z,1.3nm,0.6s,baz=185,slow=9.6,SNR=5.7
KSRS PcP PcP 20 30 42.8 +1.1
comp=Z,1.2nm,0.7s,baz=186,slow=2.7,SNR=4.7
CTA Charters Tower 32.35 143 ⇑P P 20 28 00.9 +1.7
baz=32
CTAO Charters Tower 32.35 143 eP P 20 27 57.8 -1.4
CTAO pmax pmax
comp=Z,19nm,0.7s
CTAO Charters Tower 32.35 143 eP P 20 27 57.8 -1.4
comp=Z,19nm,0.7s
XAN Xi'an 32.45 333 P P 20 27 59.8 -0.2
MJAR Matsushiro Arr 32.74 18 P P 20 28 01.7 -0.7
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR Matsushiro Arr 32.74 18 P P 20 28 01.7 -0.7
comp=Z,2.6nm,0.8s,baz=197,slow=9.7,SNR=9.4
CD2 Chengdu 32.75 323 P P 20 28 03.3 +0.6
CD2 pP pP 20 28 35.5 +1.3
CD2 sP sP 20 28 52.8 +1.7
CD2 PP PP 20 29 19.3 -0.4
CD2 S S 20 33 08.9 +0.3
CD2 sS sS 20 34 05.0 +1.1
CD2 SS SnSn 20 35 19.0 -3.4
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,110nm,4.8s
MEEK Meekatharra 32.86 192 ⇓P P 20 28 03.7 +0.1
baz=33,SNR=52
BJT Baijiatuau 35.40 347 P P 20 28 24.6 -0.7
BJT pmax pmax
comp=Z,18nm,0.5s
BJT Baijiatuau 35.40 347 P P 20 28 24.6 -0.7
comp=Z,18nm,0.5s
BJI Beijing 35.42 347 P P 20 28 25.6 +0.2
BJI pP pP 20 28 55.9 -1.4
BJI pmax pmax
comp=Z,23nm,0.5s
MORW Morawa 35.80 195 ⇑P P 20 28 28.4 -0.5
baz=36,SNR=13
FORT Forrest 36.23 177 eP P 20 28 31.4 -1.1
comp=Z,26nm,0.7s
FORT Forrest 36.23 177 ⇓P P 20 28 33.0 +0.5
baz=36,SNR=7.5
QLP Quilpie 36.52 152 ⇑P P 20 28 37.1 +2.1
baz=37,SNR=5.0
LZH Lanzhou 36.56 329 ⇓P P 20 28 36.9 +1.4
LZH pP pP 20 29 08.5 +1.1
LZH sP sP 20 29 24.8 +0.5
LZH pmax pmax
comp=Z,18nm,1.2s
LZH pmax pmax
comp=Z,65nm,4.2s
BLDU Ballidu 37.12 193 ⇓P P 20 28 40.1 0.0
baz=37,SNR=45
HHC Hu-ho-hao-te 37.42 342 eP P 20 28 43.9 +1.3
HHC pP pP 20 29 11.5 -3.1
HHC sP sP 20 29 31.4 -0.1
HHC PP PnPn 20 30 15.9 +2.3
HHC S S 20 34 17.4 -2.6
HHC ScP ScP 20 34 29.4 -2.5
HHC sS sS 20 35 14.8 -1.2
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,170nm,6.0s
HHC LR LR
comp=Z,720nm,21.6s
KLBR Kellerberrin 37.84 192 ⇓P P 20 28 46.1 +0.1
baz=38,SNR=7.8
SHL Shillong 38.25 305 ex P 20 28 50.8 +0.9
USRK Ussuriysk Arra 38.78 7 P P 20 28 54.6 +0.8
comp=Z,3.0nm,0.6s,baz=189,slow=9.0,SNR=8.4
MDJ Mudanjiang 38.97 4 P P 20 28 57.3 +1.9
MDJ pmax pmax
comp=Z,7.0nm,1.1s
MDJ pmax pmax
comp=Z,58nm,4.4s

BBOO Buckleboo 39.37 167 P P 20 28 57.3 -1.6
comp=Z,785nm,0.6s
BBOO Buckleboo 39.37 167 ⇑P P 20 28 59.6 +0.8
baz=40,SNR=162
STKA Stephens Creek 40.11 159 P P 20 29 05.7 +0.7
STKA pmax pmax
comp=Z,11nm,0.7s
STKA pmax pmax
comp=N,4.0nm,0.8s
STKA Stephens Creek 40.11 159 P P 20 29 05.7 +0.7
comp=N,11nm,0.7s,baz=336,slow=8.0,SNR=25
STKA ScP ScP 20 34 44.0 +1.7
comp=N,4.0nm,0.8s,baz=283,slow=5.9,SNR=5.5
STKA Stephens Creek 40.11 159 ⇓P P 20 29 06.1 +1.1
baz=40,SNR=15
HTT Hallett 40.70 163 ⇑P P 20 29 10.9 +1.1
baz=41,SNR=5.4
LSA Lhasa 40.72 310 eP P 20 29 08.3 -2.3
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 40.72 310 eP P 20 29 08.3 -2.3
comp=Z,6.4nm,0.6s
RKGY Rocky Gully 40.91 191 ⇑P P 20 29 12.9 +1.3
baz=41,SNR=23
GTA Gaotai 41.16 329 eP P 20 29 14.1 +0.5
GTA pP pP 20 29 46.1 -0.1
GTA sP sP 20 30 01.3 -1.6
GTA PcP PcP 20 31 11.8 +1.6
GTA pmax pmax
comp=Z,4.0nm,0.7s
CMSA Cobar Meteorol 41.42 154 ⇓P P 20 29 17.6 +1.9
baz=42,SNR=9.9
TAPN Taplejung 42.39 305 eP P 20 29 24.6 +0.5
comp=Z,25nm,0.5s
TAPN Taplejung 42.39 305 eP P 20 29 24.6 +0.5
ODAN Odare 42.46 304 eP P 20 29 24.9 +0.3
comp=Z,32nm,0.6s
ODAN Odare 42.46 304 eP P 20 29 24.9 +0.3
RAMN Ramite 43.15 304 eP P 20 29 30.8 +0.7
comp=Z,34nm,0.6s
RAMN Ramite 43.15 304 eP P 20 29 30.8 +0.7
ARMA Armidale 43.39 147 ⇓P P 20 29 33.9 +2.1
baz=44,SNR=14
JIRN Jiri 43.75 305 eP P 20 29 35.7 +0.6
comp=Z,43nm,0.6s
JIRN Jiri 43.75 305 eP P 20 29 35.7 +0.6
GUN Gumba 44.10 305 eP P 20 29 38.3 +0.4
comp=Z,64nm,0.7s
GUN Gumba 44.10 305 eP P 20 29 38.3 +0.4
PKI Pulchoki 44.36 304 eP P 20 29 40.0 +0.1
PKI Pulchoki 44.36 304 eP P 20 29 40.2 +0.3
PKI Pulchoki 44.36 304 eP P 20 29 40.2 +0.3
PKIN Phulchoki 44.37 304 eP P 20 29 40.2 +0.3
comp=Z,8.1nm,0.7s
KKN Kakani 44.55 304 eP P 20 29 41.2 -0.1
comp=Z,33nm,1.0s
KKN Kakani 44.55 304 eP P 20 29 41.2 -0.1
KKN Kakani 44.55 304 eP P 20 29 41.2 -0.1
DMN Daman 44.62 304 eP P 20 29 42.2 +0.3
comp=Z,26nm,0.8s
DMN Daman 44.62 304 eP P 20 29 42.2 +0.3
ARPS Mount Arapiles 44.67 162 ⇓P P 20 29 43.6 +1.9
baz=45
ULN Ulaanbaatar 45.14 342 ⇑iP P 20 29 45.9 +0.4
ULN pmax pmax
comp=Z,2.0nm,1.2s
ULN Ulaanbaatar 45.14 342 eP P 20 29 44.0 -1.5
comp=Z,1.8nm,0.8s
GKN Gorkha 45.16 304 eP P 20 29 45.7 -0.3
comp=Z,16nm,0.7s
GKN Gorkha 45.16 304 eP P 20 29 45.7 -0.3
SONM Songino Array 45.32 341 P P 20 29 45.9 -1.0
SONM 20 31 25.3
SONM pmax pmax
comp=Z,1.0nm,0.4s
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM pmax pmax
comp=N,1.0nm,0.8s
SONM Songino Array 45.32 341 P P 20 29 45.9 -1.0
comp=N,0.8nm,0.4s,baz=161,slow=8.7,SNR=15
SONM PcP PcP 20 31 25.3 +1.2
comp=N,1.7nm,0.7s,baz=152,slow=2.6,SNR=7.9
SONM ScP ScP 20 35 05.1 +2.0
comp=N,0.8nm,0.8s,baz=160,slow=3.9,SNR=7.2
KOLN Koldanda 45.93 304 eP P 20 29 52.6 +0.5
comp=N,50nm,0.5s
KOLN Koldanda 45.93 304 eP P 20 29 52.6 +0.5
DANN Dangsing 46.00 304 eP P 20 29 53.1 +0.3
comp=N,68nm,0.6s
DANN Dangsing 46.00 304 eP P 20 29 53.1 +0.3
WMQ Urumqi 50.82 325 eP P 20 30 29.9 +0.8
WMQ pP pP 20 31 02.3 -0.6
WMQ sP sP 20 31 18.1 -1.2
WMQ pmax pmax
comp=N,9.0nm,0.8s
WMQ pmax pmax
comp=N,210nm,5.2s
WMQ LR LR
comp=N,35nm,18.0s
WMQ LR LR
comp=N,46nm,15.8s
WMQ LR LR
comp=N,35nm,17.4s
PETK Petropavlovsk- 53.96 23 P P 20 30 54.1 +2.1
PETK pmax pmax
comp=Z,6.0nm,0.6s
PETK Petropavlovsk- 53.96 23 P P 20 30 54.1 +2.1
comp=Z,5.6nm,0.6s,baz=229,slow=1.4,SNR=9.2
MKAR Makanchi Array 55.65 325 P P 20 31 04.5 +0.1
MKAR *PP pP 20 31 39.3 +0.6
MKAR 20 32 01.1
MKAR pmax pmax
comp=Z,6.0nm,0.5s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 55.65 325 P P 20 31 04.5 +0.1
comp=Z,6.0nm,0.5s,baz=117,slow=7.6,SNR=238
MKAR pP pP 20 31 39.3 +0.6
comp=Z,2.1nm,0.6s,baz=113,slow=9.3,SNR=2.5
MKAR PcP PcP 20 32 01.1 -1.0
comp=Z,5.6nm,0.8s,baz=108,slow=4.0,SNR=9.3
KSH Kashi 56.26 314 eP P 20 31 10.8 +1.8
KSH esP sP 20 31 59.8 +0.2
KSH PcS PcS 20 36 02.3 -3.3
KSH S S 20 38 46.4 -1.2
KSH SS SS 20 42 35.8 -0.8
KSH pmax pmax
comp=Z,18nm,1.5s
KSH pmax pmax
comp=Z,81nm,2.7s
KSH LR LR
comp=Z,220nm,5.7s
KSH LR LR
comp=Z,160nm,5.3s
KSH LR LR
comp=Z,170nm,6.0s
YAK Yakutsk 56.36 2 ⇓iP P 20 31 10.8 +1.7
YAK pmax pmax
comp=Z,22nm,1.0s
AAK Ala-Archa 58.53 317 P P 20 31 24.9 0.0
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 58.53 317 P P 20 31 24.9 0.0
comp=Z,2.1nm,0.8s,baz=96,slow=6.7,SNR=7.1
ZALV Zalesovo Beam 58.62 333 P P 20 31 24.3 -0.8
ZALV 20 32 12.7
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 58.62 333 P P 20 31 24.3 -0.8
comp=Z,2.9nm,0.3s,baz=111,slow=7.1,SNR=16
ZALV PcP PcP 20 32 12.7 -0.9
comp=Z,1.1nm,0.4s,baz=146,slow=2.9,SNR=4.3
KURBB Kurchatov Arra 59.81 327 P P 20 31 33.1 -0.2
comp=Z,2.5nm,0.4s,baz=128,slow=6.2,SNR=59
KURK Kurchatov 59.81 327 P P 20 31 33.1 -0.2
KURK pmax pmax
comp=Z,3.0nm,0.4s
KURK Kurchatov 59.81 327 eP P 20 31 31.5 -1.8
KKAR Karatay Array 61.42 317 eP P 20 31 44.4 0.0
KKAR Karatay Array 61.42 317 eP P 20 31 44.4 0.0
BVAR Borovoye Array 65.39 327 P P 20 32 10.0 -0.3
BVAR pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 65.39 327 P P 20 32 10.0 -0.3
comp=Z,4.5nm,0.8s,baz=120,slow=8.9,SNR=18
BRVK Borovoye 65.47 327 ⇑iP P 20 32 10.9 +0.1
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 65.47 327 eP P 20 32 10.8 0.0
comp=Z,8.0nm,1.0s
TIXI Tiksi 65.98 1 ⇓iP P 20 32 14.4 +0.7
TIXI pmax pmax
comp=Z,6.0nm,1.6s
TIXI Tiksi 65.98 1 P P 20 32 10.3 -3.4
comp=Z,2.9nm,0.6s
BILL Bilibino 67.92 15 ceP P 20 32 27.0 +1.0
BILL e 20 32 53.5
BILL e*PP pP 20 33 06.4 +4.8
BILL i *SP sP 20 33 19.6 +2.0
BILL e 20 34 56.2
BILL eS S 20 41 10.4 -2.2
BILL eSS SS 20 45 40.7 +3.4
BILL pmax pmax
comp=Z,3.0nm,1.2s
ABKAR Akbulak array 70.29 320 eP P 20 32 39.0 -2.0
comp=Z,6.3nm,0.7s
AKTO Aktyubinsk 71.79 321 P P 20 32 50.0 0.0
AKTO pmax pmax
comp=Z,10.0nm,0.7s
AKTO Aktyubinsk 71.79 321 P P 20 32 50.0 0.0
comp=Z,9.9nm,0.7s,baz=99,slow=8.8,SNR=23
SVE Sverdlovsk 72.02 328 ⇓eP P 20 32 51.1 -0.2
SVE pmax pmax
comp=Z,12nm,0.8s
ARU Arti 73.00 328 P P 20 32 56.6 -0.5
comp=Z,94nm,0.6s,SNR=6.1
ARU Arti 73.00 328 c iP P 20 32 56.2 -0.9
ARU *PP pP 20 33 32.0 -1.2
ARU 20 35 36.0
ARU S S 20 42 12.0 0.0
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 73.00 328 eP P 20 32 54.5 -2.5
comp=Z,19nm,1.0s
RAYN Ar Rayn 79.14 293 P P 20 33 31.9 -0.7
comp=Z,1.0nm,1.0s,SNR=5.0
RAYN Ar Rayn 79.14 293 eP P 20 33 30.3 -2.3
comp=Z,3.0nm,0.6s
PRGR Permogore 80.55 331 eP P 20 33 38.1 -1.1
PRGR pmax pmax
comp=Z,30nm,0.9s
VRHR Novokhopersk 82.17 321 eP P 20 33 46.1 -2.0
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,1.0s
KLMR Klimovskoe 83.45 331 eP P 20 33 53.2 -1.3
KLMR pmax pmax
comp=Z,27nm,1.5s
VORD Divnogorie 83.65 321 eP P 20 33 53.2 -2.4
VORD pmax pmax
comp=Z,6.0nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.9s
ILAR Eielson Array 83.70 26 P P 20 33 56.2 +0.5
ILAR *PP pP 20 34 33.9 +1.2
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 83.70 26 P P 20 33 56.2 +0.5
comp=Z,0.7nm,0.6s,baz=242,slow=5.1,SNR=19
ILAR pP pP 20 34 33.9 +1.2
comp=Z,0.7nm,0.6s,baz=252,slow=5.0,SNR=2.1
VSR Storozhevoye 83.72 321 eP P 20 33 54.6 -1.4
VSR pmax pmax
comp=Z,9.0nm,0.7s
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.7s
TMCR Tamitsa 84.13 334 eP P 20 33 58.5 +0.7
TMCR e 20 37 17.3
TMCR pmax pmax
comp=Z,18nm,0.8s
ANN Anapa 85.12 314 eP P 20 34 11.5 +8.3
ANN e*PP pP 20 34 47.7 +7.4
ANN eS S 20 44 23.9 +3.3
ANN e*SS sS 20 45 35.7 +11
ANN pmax pmax
comp=Z,130nm,1.2s
OBN Obninsk 85.15 325 ⇓eP P 20 34 02.9 -0.2
OBN e*PP pP 20 34 41.2 +1.0
OBN e*SP sP 20 34 55.9 +0.1
OBN eS SKSac 20 44 14.1 +0.1
OBN eSS SS 20 49 59.5 +2.1
OBN pmax pmax
comp=Z,17nm,1.1s
OBN Obninsk 85.15 325 P P 20 34 03.0 -0.1
comp=Z,13nm,0.8s,baz=139,slow=24,SNR=5.0
VNDA Vanda 85.36 173 P P 20 34 04.3 +0.6
VNDA pmax pmax
comp=Z,2.0nm,0.6s
VNDA Vanda 85.36 173 P P 20 34 04.3 +0.6
comp=Z,2.1nm,0.6s,baz=315,slow=6.5,SNR=6.7
ASF Jabal al Asfar 86.35 302 P P 20 34 09.4 -0.3
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF Jabal al Asfar 86.35 302 P P 20 34 09.4 -0.3
comp=Z,0.6nm,0.3s,baz=30,slow=3.3,SNR=3.1
JOF Joensuu 87.22 333 eP P 20 34 11.7 -1.4
JOF pmax pmax
comp=Z,9.0nm,0.6s
JOF Joensuu 87.22 333 ep P 20 34 11.7 -1.4
comp=Z,8.7nm,0.6s
BRTR Keskin Array B 88.32 310 P P 20 34 17.8 -1.3
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 88.32 310 P P 20 34 17.8 -1.3
comp=Z,1.1nm,0.8s,baz=92,slow=3.7,SNR=6.5
ARCES ARCESS Array B 88.47 340 P P 20 34 18.1 -0.9
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 88.47 340 P P 20 34 18.1 -0.9
comp=Z,2.4nm,0.7s,baz=79,slow=6.3,SNR=11
SPITS Spitsbergen Ar 88.52 349 P P 20 34 19.0 -0.1
SPITS pmax pmax
comp=Z,2.0nm,0.4s
SPITS Spitsbergen Ar 88.52 349 P P 20 34 18.9 -0.1
comp=Z,2.2nm,0.4s,baz=93,slow=8.4,SNR=21
KAF Kangasniemi 89.64 332 eP P 20 34 22.9 -1.6
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF Kangasniemi 89.64 332 ep P 20 34 22.9 -1.6
comp=Z,5.6nm,0.5s
FINES FINESS Array B 89.87 332 P P 20 34 24.1 -1.5
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 89.87 332 P P 20 34 24.1 -1.5
comp=Z,3.7nm,0.6s,baz=51,slow=5.4,SNR=31
AKASG Malin Array Be 90.03 321 P P 20 34 25.0 -1.6
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 90.03 321 P P 20 34 25.0 -1.6
comp=Z,0.5nm,0.5s,baz=64,slow=4.9,SNR=5.2
DAG Danmarks Havn 95.31 352 i P P 20 34 50.0 -0.4
DAG pmax pmax
comp=Z,3.0nm,1.0s
DAG Danmarks Havn 95.31 352 i P P 20 34 50.0 -0.4
comp=Z,2.8nm,1.0s
CRVS Cervenica-Dubn 95.31 320 eP P 20 34 51.5 +0.4
CRVS Cervenica-Dubn 95.31 320 eP P 20 34 51.5 +0.4
NB2 NORSAR Subarra 96.82 334 P P 20 34 56.4 -1.3
comp=Z,1.6nm,0.6s,baz=66,slow=4.6
NOA NORSAR Array B 96.82 334 P P 20 34 56.4 -1.3
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 96.82 334 P P 20 34 56.4 -1.3
comp=Z,1.9nm,0.7s,baz=66,slow=4.5,SNR=9.0
YKA Yellowknife Ar 98.07 24 P Pdif 20 35 03.5 +0.3
comp=Z,0.3nm,0.7s,baz=302,slow=4.7,SNR=8.9
YKA PKKPbc PKKPbc 20 51 35.1 -3.1
comp=Z,0.3nm,0.6s,baz=121,slow=2.5,SNR=7.2
GERES GERESS Array B 100.21 322 P Pdif 20 35 12.7 -0.5
GERES pmax pmax
comp=Z,500nm,0.8s
GERES GERESS Array B 100.21 322 P Pdif 20 35 12.7 -0.5
comp=Z,0.5nm,0.8s,baz=74,slow=7.2,SNR=3.1
PDAR Pinedale Array 110.37 40 PKKPbc PKKPbc 20 51 10.3 +9.3
comp=Z,1.0nm,0.7s,baz=98,slow=5.5,SNR=8.3
TXAR Lajitas Array 120.95 51 PKIKP PKPdf 20 40 21.0 +1.6
TXAR Lajitas Array 120.95 51 PKP PKPdf 20 40 21.0 +1.6
comp=Z,0.3nm,0.6s,baz=61,slow=0.8,SNR=4.7
TORD Torodi Ar. Bea 121.69 289 PKP PKPdf 20 40 21.5 +0.4
comp=Z,4.9nm,0.8s,baz=67,slow=1.8,SNR=47
LIC Lamto 129.79 283 ePKIKP PKPdf 20 40 37.6 +1.0
comp=Z,11nm,0.7s
LIC Lamto 129.79 283 ePKPdf PKPdf 20 40 37.6 +1.0
PLCA Paso Flores 141.99 159 PKIKP PKPdf 20 40 56.3 -2.3
PLCA pmax pmax
comp=Z,2.0nm,0.9s
PLCA Paso Flores 141.99 159 PKP PKPdf 20 40 56.3 -2.3
comp=Z,2.2nm,0.9s,baz=125,slow=0.6,SNR=4.6
BDFB Brasilia 168.46 210 PKP2 PKPab 20 42 44.1 +0.4
BDFB pmax pmax
comp=Z,1.0nm,0.4s
BDFB Brasilia 168.46 210 PKPab PKPab 20 42 44.1 +0.4
comp=Z,0.9nm,0.4s,baz=158,slow=15,SNR=4.3

DDA 14 20:25:04.9, 39.74N×30.54E, h19km, MD3.3
ISK 14 20:25:04.8, 39.74N×30.55E, h3km, MD3.0
CSEM 14 20:25:05.1, 39.75N×30.53E, h2km, MD3.3, Error ellipse: s-maj=2.9km s-min=2.6km az=36.0
ISC 14 20:25:05.6±0.1, 39.75N±0.02×30.54E±0.02, h7km±9km, n92, σ0.76/109, 4C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORA	Eskisehir	0.15	333	i P	Pg	20 25 08.6	+0.1
BORA				i S	Sg	20 25 10.4	-0.2
BORA	Eskisehir	0.15	333	i P	Pg	20 25 08.6	+0.1
BORA				i S	Sg	20 25 10.4	-0.2
SEYT	Eskypehyr	0.33	134	i P	Pg	20 25 12.1	+0.1
SEYT	Eskypehyr	0.33	134	i P	Pg	20 25 12.1	+0.1
AUBOZ	BOZOYUK	0.42	292	i P	Pg	20 25 13.9	+0.2
AUBOZ				i S	Sg	20 25 20.1	+0.9
CAVI	Cavuskoy	0.70	310	PG	Pg	20 25 18.8	-0.1
CAVI	Cavuskoy	0.70	310	i Pg	Pg	20 25 18.8	-0.1
AUMIH	MIHALICIK	0.74	81	i P	Pg	20 25 18.8	-0.8
AUMIH				i S	Sb	20 25 30.7	-0.3
ALT	Altintas	0.77	206	ePG	Pb	20 25 20.6	-0.7
ALT				eSG	Sb	20 25 31.4	-0.5
ALT	Altintas	0.77	206	ePg	Pb	20 25 20.6	-0.7
ALT				eSg	Sb	20 25 31.5	-0.5
SVRH	Sivrihisar-ESK	0.82	111	ePG	Pg	20 25 20.8	-0.4
SVRH				eSG	Sb	20 25 32.3	-1.1
SVRH	Sivrihisar-ESK	0.82	111	ePg	Pg	20 25 20.8	-0.4
SVRH				eSg	Sb	20 25 32.3	-1.1
MDUB	Mudurnu	0.88	35	ePG	Pb	20 25 23.3	+0.2
MDUB	Mudurnu	0.88	35	ePg	Pb	20 25 23.3	+0.2
TVSB	Tavsanli	0.89	251	ePG	Pg	20 25 21.8	-0.7
TVSB	Tavsanli	0.89	251	ePg	Pg	20 25 21.8	-0.7
BTAS	Taskesti	0.89	23	i P	Pg	20 25 22.2	-0.4
BTAS				i S	Sb	20 25 35.5	0.0
BTAS	Taskesti	0.89	23	i P	Pg	20 25 22.2	-0.4
BTAS				i S	Sb	20 25 35.5	0.0
ADVT	Abdulvahap	0.92	318	ePG	Pg	20 25 22.8	-0.3
ADVT	Abdulvahap	0.92	318	ePg	Pg	20 25 22.8	-0.3
SPNC	Sapanca-Adapaz	0.95	349	ePG	Pb	20 25 24.1	-0.2
SPNC	Sapanca-Adapaz	0.95	349	ePg	Pb	20 25 24.1	-0.2
GDZ	Gediz	1.05	231	i P	Pg	20 25 25.2	-0.5
GDZ				i S	Sb	20 25 40.0	-0.2
GDZ	Gediz	1.05	231	i P	Pg	20 25 25.2	-0.5
GDZ				i S	Sb	20 25 40.0	-0.2
ULDT	Uludag	1.15	290	i P	Pg	20 25 27.4	-0.1
ULDT				i S	Sb	20 25 43.3	+0.3
ULDT	Uludag	1.15	290	i P	Pg	20 25 27.4	-0.1
ULDT				i S	Sb	20 25 43.3	+0.3
SHUT	Suhut-Afyon	1.20	180	ePN	Pb	20 25 28.4	-0.1
SHUT	Suhut-Afyon	1.20	180	ePn	Pb	20 25 28.4	-0.1
GEMT	Gemlik	1.24	304	ePN	Pn	20 25 29.6	+0.3
GEMT	Gemlik	1.24	304	ePn	Pn	20 25 29.6	+0.3
HRT	Hereke	1.26	328	ePN	Pg	20 25 29.1	-0.6
HRT	Hereke	1.26	328	ePn	Pg	20 25 29.1	-0.6
ORLT	Orhaneli	1.30	284	ePN	Pb	20 25 30.6	+0.3
ORLT	Orhaneli	1.30	284	ePn	Pb	20 25 30.6	+0.3
KIZT	Kizilcal	1.35	129	ePN	Pg	20 25 30.9	-0.5
KIZT	Kizilcal	1.35	129	ePn	Pg	20 25 30.9	-0.5
MDNY	Mudanya-Bursa	1.41	296	ePN	Pg	20 25 32.4	-0.2
MDNY	Mudanya-Bursa	1.41	296	ePn	Pg	20 25 32.4	-0.2
SILT	Sile	1.56	334	ePN	Pb	20 25 34.7	0.0
SILT	Sile	1.56	334	ePn	Pb	20 25 34.7	0.0
BCAM	Yenicaga	1.58	47	i P	Pn	20 25 33.7	-0.4
BCAM				i S	Sg	20 25 57.2	+1.0
BCAM	Yenicaga	1.58	47	i P	Pn	20 25 33.7	-0.4
BCAM				i S	Sg	20 25 57.2	+1.0
KHL	Karahalli	1.63	209	ePN	Pb	20 25 35.3	-0.6
KHL	Karahalli	1.63	209	ePn	Pb	20 25 35.3	-0.6
KDZE	Karadeniz Ereo	1.71	23	ePN	Pn	20 25 36.2	+0.5
KDZE	Karadeniz Ereo	1.71	23	ePn	Pn	20 25 36.2	+0.5
LOD	Lodumlu	1.72	85	ePN	Pn	20 25 36.5	+0.6
LOD	Lodumlu	1.72	85	ePn	Pn	20 25 36.5	+0.6
ISK	Istanbul-Kandi	1.73	320	ePN	Pb	20 25 37.7	+0.1
ISK	Istanbul-Kandi	1.73	320	ePn	Pb	20 25 37.7	+0.1
KDHN	Kadinhani	1.73	135	i P	Pn	20 25 36.0	-0.2
KDHN	Kadinhani	1.73	135	i P	Pn	20 25 36.0	-0.2
KDHN				i S	Sg	20 26 03.1	+1.9
ANTO	Ankara	1.74	85	ePN	Pb	20 25 37.0	-0.8
ANTO	Ankara	1.74	85	⇑iP	Pg	20 25 38.8	0.0
ANTO	Ankara	1.74	85	ePn	Pb	20 25 37.0	-0.8
ANTO	Ankara	1.74	85	⇑iP	Pg	20 25 38.8	0.0
KLYT	Kilyos	1.89	323	ePN	Pn	20 25 38.9	+0.8
KLYT	Kilyos	1.89	323	ePn	Pn	20 25 38.9	+0.8
KULA	Kula-Manisa	1.91	230	ePN	Pn	20 25 38.9	+0.3
KULA	Kula-Manisa	1.91	230	ePn	Pn	20 25 38.9	+0.3
ISP	Isparta	1.93	180	ePN	Pn	20 25 39.3	+0.5
ISP	Isparta	1.93	180	ePn	Pn	20 25 39.3	+0.5
BGKT	Bogazkoy	1.96	317	ePN	Pb	20 25 41.0	-0.6
BGKT	Bogazkoy	1.96	317	ePn	Pb	20 25 41.0	-0.6
AFSR	Af˘ar-Bala (A	1.98	98	ePN	Pn	20 25 40.4	+0.9
AFSR	Af˘ar-Bala (A	1.98	98	ePn	Pn	20 25 40.4	+0.9
BALB	Balikesir	2.06	268	ePN	Pn	20 25 41.0	+0.5
BALB	Balikesir	2.06	268	ePn	Pn	20 25 41.0	+0.5
LADK	Ladik-KONYA	2.10	137	ePN	Pn	20 25 41.6	+0.4
LADK	Ladik-KONYA	2.10	137	ePn	Pn	20 25 41.6	+0.4
EDC	Edincik	2.14	287	ePN	Pb	20 25 43.1	-1.5
EDC	Edincik	2.14	287	ePn	Pb	20 25 43.1	-1.5
CTKS	Kestanelik-??a	2.15	314	ePN	Pn	20 25 43.1	+1.4
CTKS	Kestanelik-??a	2.15	314	ePn	Pn	20 25 43.1	+1.4
SAFT	Safranbolu	2.21	47	ePN	Pb	20 25 44.3	-1.5
SAFT	Safranbolu	2.21	47	ePn	Pb	20 25 44.3	-1.5
BCK	Bucak	2.29	179	ePN	Pb	20 25 45.5	-1.6
BCK	Bucak	2.29	179	ePn	Pb	20 25 45.5	-1.6
AKS	Akhisar	2.29	249	ePN	Pn	20 25 45.2	+1.5
AKS	Akhisar	2.29	249	ePn	Pn	20 25 45.2	+1.5
KONT	Konya--Tatoy	2.29	141	ePN	Pn	20 25 44.3	+0.5
KONT	Konya--Tatoy	2.29	141	ePn	Pn	20 25 44.3	+0.5
SLVT	Silivri	2.31	310	ePN	Pb	20 25 45.8	-1.7
SLVT	Silivri	2.31	310	ePn	Pb	20 25 45.8	-1.7
PSN	Preselentsi	4.31	337	⇑iP	Pn	20 26 11.4	0.0
PSN	Preselentsi	4.31	337	⇑iP	Pn	20 26 11.4	0.0
KOZT	Kozan	4.72	117	ePG	Pg	20 26 37.6	+1.7
KOZT	Kozan	4.72	117	ePg	Pg	20 26 37.6	+1.7
TIRR	Tirgusor	4.96	342	⇓iP	Pn	20 26 20.8	+0.4
TIRR	Tirgusor	4.96	342	⇓iP	Pn	20 26 20.8	+0.4
CFR	Carcaliu	5.71	343	⇓iP	Pn	20 26 30.0	-0.6
CFR	Carcaliu	5.71	343	⇓iP	Pn	20 26 30.0	-0.6

DDA 14 20:26:28.8, 37.24N×34.84E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GULE	Gulek	0.06	313	i P	Pg	20 26 30.5	-0.3
GULE				i S	Sg	20 26 32.7	+0.6
KARA	Karaisali	0.18	83	PG	Pg	20 26 31.6	-0.8
KARA				eSG	Sg	20 26 35.1	+0.3
MERS	Mersin	0.45	214	ePG	Pb	20 26 38.6	-0.5

DDA 14 20:30:49.2, 37.16N×34.77E, h7km, MD2.6, Turkey

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

GULE Gulek 0.13 2 i P Pg 20 30 52.3 +0.2
GULE i S Sg 20 30 54.5 +0.3
KARA Karaisali 0.25 65 ePG Pg 20 30 53.5 -0.7
KARA eSG Sg 20 30 56.7 -0.8
KOZT Kozan 0.90 69 ePG Pg 20 31 00.9 -5.6

ISCJB 14 20:32:43.2±1.1, 39°.57N±0°.02×71°.74E±0°.03, h12km±7km, mb4.0/39, MS3.3/11, Error ellipse: s-maj=4.4km s-min=3.3km az=144.2
IDC 14 20:32:43.1±0.6, 39°.72N×71°.77E, h0km, mb4.1/18, mb1 4.3/24, mb1mx4.1/48, mbtmp4.1/24, ML3.7/6, MS3.5/15, Ms1 3.5/15, ms1mx3.3/45, Error ellipse: s-maj=12.0km s-min=9.7km az=156.0
KRNET 14 20:32:43.1±0.1, 39°.74N×71°.77E, h4km, mb4.5
NNC 14 20:32:46.3±3.1, 39°.80N×71°.60E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=29.7km s-min=15.4km az=178.0
MOS 14 20:32:46.3±1.4, 39°.60N×71°.59E, h33km, mb4.3/24, Error ellipse: s-maj=8.2km s-min=5.5km az=72.9
BJI 14 20:32:46.3, 39°.73N×71°.58E, h28km, mB4.4/4, mb4.2/12, ML4.2/4, Ms4.1/3
ISC 14 20:32:43.5±1.1, 39°.76N±0°.03×71°.80E±0°.03, h3km±7km, n157, σ1§78/148, mb4.0/39, MS3.4/11, 25C-22D, Tajikistan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DRK Karamyk 0.28 180 ⇓iP Pg 20 32 48.3 -0.6
baz=174
DRK ⇓eS Sg 20 32 52.5 0.0
baz=174
BTK Batken 0.81 292 i P Pg 20 32 58.2 -0.9
baz=294
BTK eS Sg 20 33 09.4 -0.2
baz=294
OHH Osh 1.07 44 eP Pg 20 33 04.0 -0.1
baz=44
OHH eS Sb 20 33 19.2 -0.1
baz=44
SFK Sufi-Kurgan 1.33 78 ⇓iP Pg 20 33 08.6 -0.5
baz=77
SFK ⇓eS Sg 20 33 27.1 +0.7
baz=77
ARSB Arslanbob 1.81 30 ⇓iP Pg 20 33 18.0 -0.1
baz=30
ARSB ⇓eS Sg 20 33 43.4 +1.9
baz=30
TRKS Terek-Say 1.84 344 i P Pb 20 33 17.8 -0.1
baz=345
TRKS eS Sg 20 33 43.0 +0.4
baz=345
ARK Arkit 2.04 3 eP Pb 20 33 21.0 -0.3
baz=4.0
ARK eS Sg 20 33 48.7 -0.4
baz=4.0
AML Almayashu 2.77 31 P Pb 20 33 32.9 -1.1
SNR=64
AML Almayashu 2.77 31 i PN Pb 20 33 32.8 -1.1
UCH Uchtor 3.21 39 P Pb 20 33 40.1 -1.4
SNR=23
UCH Uchtor 3.21 39 i PN Pb 20 33 40.0 -1.4
KSH Kashi 3.23 93 Pn Pn 20 33 37.0 +1.7
KSH Sn Sb 20 34 21.8 +0.4
KSH smax smax
comp=N,870nm,0.8s
KSH smax smax
comp=E,850nm,0.7s
EKS2 Erkin-Say 3.26 27 P Pb 20 33 40.0 -2.2
SNR=36
EKS2 Erkin-Say 3.26 27 i PN Pb 20 33 39.9 -2.2
KK31 Karatay Array 3.48 344 ⇓Pn Pn 20 33 41.5 +2.9
38nm,0.6s,baz=165,slow=12,SNR=1166
KK31 ⇓Pg Pg 20 33 50.4 +0.2
108nm,0.5s,baz=166,slow=16,SNR=20
KK31 ⇓Lg Lg 20 34 35.7
514nm,0.8s,baz=164,slow=29,SNR=6.0
KZA Kyzart 3.49 47 P Pb 20 33 44.0 -2.3
SNR=15
KZA Kyzart 3.49 47 i PN Pb 20 33 43.9 -2.3
AAK Ala-Archa 3.52 34 Pn Pb 20 33 43.5 -3.0
31nm,0.5s
AAK ⇑Pg Pg 20 33 55.4 +4.5
182nm,0.7s
AAK ⇓Lg Lg 20 34 37.4
543nm,0.8s
AAK Ala-Archa 3.52 34 P Pb 20 33 43.7 -2.9
SNR=40
AAK Ala-Archa 3.52 34c iPN Pb 20 33 43.7 -2.9
AAK pmax pmax
comp=Z,99nm,0.6s
AAK Ala-Archa 3.52 34 Pn Pb 20 33 43.6 -3.0
comp=Z,13nm,0.3s,baz=193,slow=4.5,SNR=159
AAK Lg Lg 20 34 36.2
comp=Z,42nm,0.3s,baz=24,slow=18,SNR=12
AAK LR LR 20 35 24.5
comp=Z,421nm,21.0s,baz=215,slow=45
FRU Bishkek 3.73 34 ePN Pb 20 33 47.6 -2.5
FRU i 20 33 57.0
FRU eS Sg 20 34 41.0 -2.4
FRU pmax pmax
comp=Z,320nm,1.6s
FRU smax smax
comp=N,2μm,1.8s
KBK Karagaybulak 3.74 38 P Pb 20 33 47.5 -2.9
SNR=29
KBK Karagaybulak 3.74 38 i PN Pb 20 33 47.5 -2.9
CHMS Chumysh 3.93 33 P Pb 20 33 49.1 -4.3
SNR=65
CHMS Chumysh 3.93 33 i PN Pb 20 33 49.1 -4.3
USP Ospenovka 4.05 29 P Pn 20 33 50.4 +4.0
SNR=47
USP Ospenovka 4.05 29 i PN Pn 20 33 50.4 +4.0
ULHL Ulahol 4.18 52 P Pb 20 33 53.9 -3.9
SNR=9.5
ULHL Ulahol 4.18 52 i PN Pb 20 33 53.9 -3.9
TKM2 Tokmak 2 4.26 41 ⇓Pn Pn 20 33 53.9 +4.4
comp=N,16nm,0.5s
TKM2 ⇓Pg Pg 20 34 05.1 -0.1
comp=N,28nm,0.4s
TKM2 ⇓Lg Lg 20 35 00.3
comp=N,182nm,0.6s
TKM2 Tokmak 2 4.26 41 P Pb 20 33 54.6 -4.6
SNR=28
TKM2 Tokmak 2 4.26 41 i PN Pb 20 33 54.6 -4.6
KNDC Almaty 5.20 47 ⇑Pg Pg 20 34 22.8 -0.2
comp=N,83nm,0.8s
KNDC ⇓Lg Lg 20 35 32.3
comp=N,325nm,0.7s
AAA Alma-Ata 5.22 46 ePN Pg 20 34 24.4 +0.9
AAA eS Sg 20 35 30.9 -0.2
AAA pmax pmax
comp=Z,88nm,0.9s
AAA smax smax
comp=E,381nm,1.1s
CEP Cherat 5.92 179 P Pn 20 34 15.9 +3.6
CHCP Chirah Chowk 6.20 169 ⇑P Pn 20 34 20.0 +4.0
DLH Dalhousie 7.95 154 ex x 20 35 54.0
DLH eS Sn 20 36 10.0 -0.8
DHRM DHARAMSHALA 8.33 153 eP Pn 20 34 46.6 +1.2
DHRM eS Sn 20 36 18.2 -2.0
DHRM AML AML 20 37 39.3
comp=E,50nm,0.7s
DHRM AML AML 20 37 40.4
comp=N,49nm,0.7s
SDNR Sundarnagar 9.25 151 ex x 20 35 04.0
SDNR eS Sn 20 36 40.0 -2.5
SMLA Simla 9.66 151 eP Pn 20 35 04.2 +0.8
SMLA eS Sn 20 36 45.0 -7.4
SMLA AML AML 20 37 28.1
comp=E,53nm,0.4s
SMLA AML AML 20 37 30.8
comp=N,56nm,0.6s
MK09 Makanchi Array 10.36 44 ⇓Pn Pn 20 35 19.7 +6.6
comp=N,3.1nm,0.8s
MKAR Makanchi Array 10.38 44 P Pn 20 35 16.0 +2.7
MKAR Makanchi Array 10.38 44 Pn Pn 20 35 16.0 +2.7
comp=N,0.1nm,0.3s,baz=241,slow=11,SNR=10
MKAR Lg Lg 20 38 15.9
comp=N,0.5nm,0.3s,baz=242,slow=26,SNR=4.1
DDI Dehra Dun 10.72 150 eP Pn 20 35 18.2 +0.2
DDI eS Sn 20 37 11.5 -7.0
DDI AML AML 20 38 36.0
comp=N,32nm,0.6s
DDI AML AML 20 38 42.1
comp=E,26nm,0.7s

KURBB Kurchatov Arra 11.85 21 ⇑Pn Pn 20 35 32.8 -0.5
comp=E,24nm,0.8s
KURBB ⇑Lg Lg 20 39 03.8
comp=E,51nm,0.7s
KURBB Kurchatov Arra 11.85 21 Pn Pn 20 35 30.6 -2.7
comp=E,0.8nm,0.3s,baz=213,slow=12,SNR=22
KURBB Lg Lg 20 39 02.1
comp=E,0.7nm,0.3s,baz=208,slow=27,SNR=7.6
NDI New Delhi 11.92 156 eP9 x 20 35 43.0
NDI eS Sn 20 37 38.0 -10
KURK Kurchatov 11.96 21 ⇑Pn Pn 20 35 34.5 -0.3
comp=E,8.9nm,0.9s
KURK ⇑Lg Lg 20 39 04.6
comp=E,21nm,0.8s
KURK Kurchatov 11.96 21 ⇓iP Pn 20 35 34.9 +0.1
KURK pmax pmax
comp=Z,11nm,1.0s
WMQ Urumqi 12.54 66 eP Pn 20 35 44.3 +1.5
WMQ pP 20 35 51.3
WMQ sP 20 35 56.1
WMQ pmax pmax
comp=Z,7.0nm,0.8s
WMQ LR LR
comp=Z,530nm,8.6s
WMQ LR LR
comp=Z,470nm,6.2s
AB31 Akbulak array 12.70 322 Pn Pn 20 35 42.9 -2.1
comp=Z,5.1nm,0.5s,baz=128,slow=12,SNR=127
VOSK Vostochnaya 12.98 358 ⇑Pn Pn 20 35 47.5 -1.3
comp=Z,6.4nm,0.8s
VOSK ⇑Lg Lg 20 39 33.1
comp=Z,33nm,1.0s
BVA0 Borovoye Array 13.31 356 ⇑Pn Pn 20 35 51.6 -1.6
comp=Z,7.6nm,0.8s,baz=245,slow=39,SNR=28
BVA0 ⇑Lg Lg 20 39 51.1
comp=Z,46nm,1.1s,baz=167,slow=24,SNR=3.5
BVAR Borovoye Array 13.31 356 P Pn 20 35 51.8 -1.4
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR MLR MLR
comp=Z,15nm,28.6s
BVAR Borovoye Array 13.31 356 Pn Pn 20 35 51.8 -1.4
comp=Z,0.7nm,0.3s,baz=166,slow=13,SNR=22
BVAR Lg Lg 20 39 47.0
comp=Z,0.4nm,0.3s,baz=161,slow=24,SNR=4.1
BVAR LR LR 20 41 25.6
comp=Z,308nm,21.6s,baz=169,slow=39
BRVK Borovoye 13.34 356 ⇑Pn Pn 20 35 55.0 +1.3
comp=Z,7.2nm,0.7s
BRVK Borovoye 13.34 356 ⇑iP Pn 20 35 53.2 -0.5
BRVK pmax pmax
comp=Z,6.0nm,0.7s
AKTO Aktyubinsk 14.42 322 ⇑Pn Pn 20 36 06.4 -2.1
comp=Z,9.5nm,0.9s
AKTO Aktyubinsk 14.42 322 P Pn 20 36 06.4 -2.1
AKTO 20 38 45.0
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO smax smax
comp=N,1.0nm,0.3s
AKTO MLR MLR
comp=Z,259nm,19.0s
AKTO Aktyubinsk 14.42 322 Pn Pn 20 36 06.4 -2.1
comp=Z,0.5nm,0.3s,baz=138,slow=12,SNR=9.2
AKTO Sn Sn 20 38 45.0 -3.8
comp=Z,1.2nm,0.3s,baz=230,slow=19,SNR=5.4
AKTO LR LR 20 42 16.5
comp=Z,259nm,19.0s,baz=134,slow=40
DANN Dangsing 15.07 135 eP Pn 20 36 14.0 -3.7
comp=Z,33nm,0.6s
IALA Alasht 15.43 262 eP Pn 20 36 21.8 -0.6
KOLN Koldanda 15.45 137 eP Pn 20 36 19.3 -3.3
comp=Z,14nm,0.6s
GKN Gorkha 15.83 134 eP Pn 20 36 23.6 -3.9
comp=Z,21nm,0.4s
KKN Kakani 16.35 133 eP Pn 20 36 30.0 -4.3
comp=Z,19nm,0.5s
DMN Daman 16.39 134 eP Pn 20 36 31.6 -3.3
comp=Z,11nm,0.5s
PKIN Phulchoki 16.58 133 eP Pn 20 36 34.3 -3.0
comp=Z,16nm,0.6s
PKI Pulchoki 16.59 133 eP Pn 20 36 34.4 -3.1
comp=Z,23nm,0.6s
GUN Gumba 16.60 131 eP Pn 20 36 34.9 -2.8
comp=Z,15nm,0.6s
ZALV Zalesovo Beam 16.71 28 Pn Pn 20 36 37.7 -0.8
comp=Z,0.4nm,0.3s,baz=230,slow=14,SNR=13
ZALV LR LR 20 43 26.1
comp=Z,165nm,20.3s,baz=254,slow=38
NVS Novosibirsk 16.93 23 ⇓iP P 20 36 43.4 +0.1
NVS eS S 20 39 57.5 -2.8
NVS pmax pmax
comp=Z,15nm,1.1s
NVS pmax pmax
comp=N,10.0nm,0.9s
NVS pmax pmax
comp=E,4.0nm,0.5s
NVS smax smax
comp=N,6.0nm,0.8s
NVS smax smax
comp=E,10.0nm,1.0s
JIRN Jiri 16.97 131 eP Pn 20 36 38.3 -4.0
comp=E,17nm,0.4s
RAMN Ramite 17.75 132 eP Pn 20 36 48.4 -3.5
comp=E,25nm,0.6s
TAPN Taplejung 18.10 128 eP Pn 20 36 52.0 -4.4
comp=E,11nm,0.7s
ODAN Odare 18.27 130 eP Pn 20 36 54.6 -3.8
comp=E,22nm,0.9s
SVE Sverdlovsk 18.58 340 eP P 20 37 01.1 -0.4
SVE pmax pmax
comp=Z,17nm,1.4s
ARU Arti 18.82 337 d iP P 20 37 04.2 0.0
ARU S Sn 20 40 31.9 -3.6
ARU pmax pmax
comp=Z,12nm,1.0s
BOK Bokaro 19.88 139 eP Pn 20 37 17.3 -0.2
DGRG David-gareji 20.11 283 P Pn 20 37 20.1 -0.2
TBLG Delisi 20.57 284 P Pn 20 37 27.0 +1.4
GNI Garni 20.72 280 P P 20 37 25.3 +0.1
GNI pmax pmax
comp=Z,9.0nm,0.8s
GNI MLR MLR
comp=Z,34nm,20.3s
GNI Garni 20.72 280 P P 20 37 25.3 +0.1
comp=Z,8.5nm,0.8s,baz=91,slow=4.2,SNR=7.7
GNI LR LR 20 47 54.7
comp=Z,34nm,20.3s,baz=102,slow=44
GUDG Gudauri 20.73 286 P Pn 20 37 26.7 -1.1
ZEI Tsey 21.15 287 eP P 20 37 28.2 -1.7
ZEI pmax pmax
comp=Z,5.0nm,0.6s
ONI Oni 21.48 287 P P 20 37 34.8 +1.4
GTA Gaotai 21.56 82 eP P 20 37 38.6 +4.3
GTA pP pP 20 37 45.6 +11
GTA sP sP 20 37 48.9 +14
GTA pmax pmax
comp=Z,4.0nm,0.6s
GOF Gofitskoye 21.82 293 eP P 20 37 39.0 +2.1
KBZ Khabaz 21.88 290 P P 20 37 35.6 -1.8
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ MLR MLR
comp=Z,15nm,28.6s
KBZ Khabaz 21.88 290 P P 20 37 35.6 -1.8
comp=Z,4.2nm,0.9s,baz=90,slow=9.1,SNR=5.2
KBZ LR LR 20 47 52.7
comp=Z,71nm,18.2s,baz=44,slow=42
NEY Neytrino 22.00 289 ⇓eP P 20 37 39.2 +0.2
NEY pmax pmax
comp=Z,2.0nm,0.9s
KIV Kislovodsk 22.03 290 ⇑eP P 20 37 40.6 +1.4
KIV pmax pmax
comp=Z,31nm,1.1s
VRHR Novokhopersk 23.85 308 eP P 20 38 03.4 +5.6
VRHR pmax pmax
comp=Z,50nm,1.7s
VRHR pmax pmax
comp=N,9.0nm,1.4s
VRHR pmax pmax
comp=E,40nm,1.8s
ZAK Zakamensk 24.46 54 eP P 20 38 02.8 -0.9
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 25.02 51 P P 20 38 14.3 +5.7
TLY pmax pmax
comp=Z,1.0nm,0.8s

VORD Divnogorie 25.24 307 eP P 20 38 11.1 +0.6
VORD pmax pmax
comp=Z,9.0nm,0.9s
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VSR Storozhevoye 25.37 308 eP P 20 38 11.1 -0.7
VSR pmax pmax
comp=Z,8.0nm,0.7s
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
SONM Songino Array 26.07 61 P P 20 38 18.9 +0.6
comp=E,0.3nm,0.6s,baz=266,slow=8.1,SNR=5.3
SONM LR LR 20 48 49.5
comp=E,54nm,19.4s,baz=22,slow=37
ULN Ulaanbaatar 26.51 61 ⇑iP P 20 38 27.4 +5.0
ULN pmax pmax
comp=Z,8.0nm,2.5s
OBN Obninsk 27.98 315 ceP P 20 38 35.5 +0.3
OBN e 20 39 21.6
OBN i SS SS 20 45 03.4 -14
OBN pmax pmax
comp=Z,27nm,2.5s
OBN MLR MLR
comp=Z,99nm,14.0s
OBN Obninsk 27.98 315 LR LR 20 49 53.1
comp=Z,61nm,19.9s,baz=92,slow=37
ASF Jabal al Asfar 29.11 266 LR LR 20 52 16.3
comp=Z,193nm,20.8s,baz=92,slow=40
BRTR Keskin Array B 29.20 282 P P 20 38 47.4 +1.0
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 29.20 282 P P 20 38 47.4 +1.0
comp=Z,3.5nm,0.8s,baz=91,slow=7.9,SNR=19
XAN Xi'an 30.08 89 P P 20 38 55.8 +1.6
XAN pmax pmax
comp=Z,1.0nm,0.9s
AKASG Malin Array Be 31.50 305 P P 20 39 05.8 -0.7
AKASG MLR MLR
comp=Z,15nm,28.6s
AKASG Malin Array Be 31.50 305 P P 20 39 05.8 -0.7
comp=Z,0.3nm,0.4s,baz=81,slow=7.4,SNR=8.5
AKASG LR LR 20 54 00.1
comp=Z,62nm,19.5s,baz=355,slow=40
CMAR Chiang Mai Arr 31.62 124 P P 20 39 07.2 -0.6
CMAR 20 42 01.0
CMAR pmax pmax
comp=Z,1.0nm,0.9s
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR MLR MLR
comp=Z,32nm,21.3s
CMAR Chiang Mai Arr 31.62 124 P P 20 39 07.2 -0.6
comp=Z,0.5nm,0.9s,baz=324,slow=9.4,SNR=5.0
CMAR PcP PcP 20 42 00.9 +0.8
comp=Z,0.8nm,0.7s,baz=316,slow=4.3,SNR=6.5
CMAR ScP ScP 20 45 44.4 +0.2
comp=Z,0.1nm,0.3s,baz=304,slow=3.6,SNR=4.2
CMAR LR LR 20 53 40.8
comp=Z,32nm,21.3s,baz=325,slow=40
CFR Carcaliu 32.36 294 ⇑iP P 20 39 15.5 +1.5
PLOR Plostina 33.33 296 ⇑iP P 20 39 25.8 +3.2
JOF Joensuu 33.41 327 eP P 20 39 23.7 +0.6
JOF pmax pmax
comp=Z,3.0nm,0.8s
JOF Joensuu 33.41 327 ep P 20 39 23.7 +0.6
comp=Z,2.5nm,0.8s
MLR Muntele Rosu 33.86 295 ⇑iP P 20 39 31.0 +3.7
BURAR Bucovina Array 34.15 299 ⇑iP P 20 39 31.5 +1.6
VOIR 34.49 295 ⇓iP P 20 39 35.2 +2.4
ARR Arges 34.79 295 ⇓iP P 20 39 37.5 +2.2
FINES FINESS Array B 35.19 323 P P 20 39 38.6 +0.1
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES MLR MLR
comp=Z,15nm,28.6s
FINES FINESS Array B 35.19 323 P P 20 39 38.6 +0.1
comp=Z,1.4nm,0.4s,baz=110,slow=9.3,SNR=16
FINES LR LR 20 55 10.5
comp=Z,118nm,18.7s,baz=269,slow=38
KAF Kangasniemi 35.29 325 eP P 20 39 39.7 +0.4
KAF pmax pmax
comp=Z,2.0nm,0.9s
KAF Kangasniemi 35.29 325 ep P 20 39 39.7 +0.4
comp=Z,2.0nm,0.9s
TRPA Tarpa 35.91 300 ⇑iP P 20 39 46.3 +1.5
KEV Kevo 38.04 337 eP P 20 40 07.7 +5.0
KEV Kevo 38.04 337 ep P 20 40 07.7 +5.0
comp=Z,0.3nm,0.3s
ARCES ARCESS Array B 38.41 336 P P 20 40 06.0 +0.2
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,165nm,18.2s
ARCES ARCESS Array B 38.41 336 P P 20 40 06.0 +0.2
comp=Z,1.7nm,0.6s,baz=91,slow=7.3,SNR=9.6
ARCES LR LR 20 57 07.1
comp=Z,165nm,18.2s,baz=129,slow=38
BRG Berggiesshubel 41.18 305 e(P) P 20 40 30.9 +1.8
comp=Z,1.5nm,0.7s
BRG e 20 40 37.3
comp=Z,4.8nm,1.1s
BRG Berggiesshubel 41.18 305 eP P 20 40 30.9 +1.8
BRG e 20 40 37.3
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG pmax pmax
comp=Z,5.0nm,1.1s
GERES GERESS Array B 41.64 302 P P 20 40 34.6 +1.6
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,15nm,28.6s
GERES GERESS Array B 41.64 302 P P 20 40 34.6 +1.6
comp=Z,0.8nm,0.7s,baz=61,slow=7.9,SNR=8.9
GERES LR LR 21 00 35.5
comp=Z,72nm,18.9s,baz=312,slow=40
KHC Kasperske Hory 41.67 303 eP P 20 40 34.4 +1.2
KHC pmax pmax
comp=Z,17nm,1.5s
NB2 NORSAR Subarra 42.21 321 P P 20 40 36.5 -0.9
comp=Z,1.9nm,0.8s,baz=88,slow=7.9
NOA NORSAR Array B 42.21 321 P P 20 40 36.9 -0.5
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA MLR MLR
comp=Z,15nm,28.6s
NOA NORSAR Array B 42.21 321 P P 20 40 36.9 -0.5
comp=Z,0.8nm,0.6s,baz=103,slow=7.3,SNR=6.0
NOA LR LR 20 59 17.1
comp=Z,75nm,19.7s,baz=280,slow=38
TIXI Tiksi 42.53 23 ⇓iP P 20 40 40.9 +1.1
TIXI pmax pmax
comp=Z,10.0nm,1.0s
KSRS Korea Array 43.31 74 P P 20 40 46.7 +0.1
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS Korea Array 43.31 74 P P 20 40 46.7 +0.1
comp=Z,0.8nm,0.7s,baz=295,slow=5.8,SNR=3.1
MJAR Matsushiro Arr 51.24 71 P P 20 41 49.4 +0.9
MJAR pmax pmax
comp=Z,1.0nm,0.6s
MJAR Matsushiro Arr 51.24 71 P P 20 41 49.4 +0.9
comp=Z,1.0nm,0.6s,baz=279,slow=11,SNR=6.1
DAG Danmarks Havn 51.80 343 i P P 20 41 52.3 +0.3
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG Danmarks Havn 51.80 343 i P P 20 41 52.3 +0.3
comp=Z,3.6nm,0.7s
BILL Bilibino 55.41 27 ceP P 20 42 23.4 +4.7
BILL i *PP pP 20 42 40.1 +21
BILL e 20 44 25.6
BILL pmax pmax
comp=Z,2.0nm,1.1s
ESDC Sonseca Array 56.54 296 P P 20 42 26.7 -0.6
comp=Z,1.1nm,0.8s,baz=45,slow=6.9,SNR=6.3
SUMG Summit 58.20 341 eP P 20 42 37.5 -1.4
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 58.20 341 i P P 20 42 37.5 -1.4
comp=Z,4.0nm,0.9s
TORD Torodi Ar. Bea 66.45 268 P P 20 43 34.0 -0.6
comp=Z,5.4nm,0.6s,baz=51,slow=5.6,SNR=61

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
INK	Inuvik	70.59	10	P	P	20 44 00.6	+1.0
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	Inuvik	70.59	10	P	P	20 44 00.6	+1.0
	comp=Z,2.2nm,0.6s,baz=358,slow=8.4,SNR=11						
ILAR	Eielson Array	71.48	16	P	P	20 44 05.6	+0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	71.48	16	P	P	20 44 05.6	+0.5
	comp=Z,1.0nm,0.8s,baz=336,slow=2.8,SNR=11						
YKA	Yellowknife Ar	77.97	3	P	P	20 44 43.3	+0.6
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	Yellowknife Ar	77.97	3	P	P	20 44 43.3	+0.6
	comp=Z,2.2nm,0.8s,baz=350,slow=5.7,SNR=35						
WRA	Warramunga Arr	83.20	123	P	P	20 45 10.8	-0.5
WRA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRA	Warramunga Arr	83.20	123	P	P	20 45 10.8	-0.5
	comp=Z,4.7nm,0.7s,baz=325,slow=4.9,SNR=58						
ASAR	Alice Springs	85.62	126	P	P	20 45 23.2	-0.4
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	Alice Springs	85.62	126	P	P	20 45 23.1	-0.4
	comp=Z,2.8nm,0.7s,baz=316,slow=4.7,SNR=32						
FFC	Flin Flon	85.74	356	cP	P	20 45 28.0	+4.3

NOU 14 20:45:29.3±0.6, 19°.64S×168°.64E, h30km, MD3.1
IDC 14 20:45:30.4±1.6, 20°.40S×169°.22E, h39km±6km, mb3.8/6, mb1 4.0/7, mb1mx3.7/32, mbtmp4.0/7, ML4.2/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/33, Error ellipse: s-maj=62.1km s-min=19.1km az=144.0
SZGRF 14 20:45:30.3, 20°.55S×169°.23E, h33km, Vanuatu Islands
NEIC 14 20:45:31.3±0.9, 20°.33S×169°.09E, mb4.5/2, Error ellipse: s-maj=33.2km s-min=11.8km az=144.0

ISC 14 20:45:30.3±1.1, 20°.2S±0°.2×169°.1E±0°.2, h31km, h34km:pP-P, n33, σ1§92/42, mb4.2/8, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	2.81	227	eP	Pn	20 46 13.4	+0.3
BAYA				eS	Sn	20 46 46.1	+0.2
PLUM	Mont Dore	3.06	228	eP	Pn	20 46 16.5	0.0
PLUM				eS	Sn	20 46 51.9	-0.1
DZM	Mont Dzumac	3.08	233	Pn	Pn	20 46 16.7	-0.2
	28nm,0.3s,baz=79,slow=10.0,SNR=248						
DZM				Sn	Sn	20 46 52.4	-0.2
	73nm,0.3s,baz=122,slow=21,SNR=73						
DZM				LR	LR	20 46 59.9	
	comp=Z,179nm,20.8s,baz=44,slow=29						
NORM	Noumea	3.14	230	eP	Pn	20 46 17.5	-0.2
NORM				eS	Sn	20 46 53.3	-0.8
NOUC	Port Laguerre	3.20	234	eP	Pn	20 46 18.5	+0.1
NOUC				eS	Sn	20 46 54.0	-1.6
NOUC				AMP		20 47 00.6	
	comp=Z,149nm,6.0s						
URZ	Urewera	19.27	161	LR	LR	20 56 00.5	
	comp=Z,117nm,18.3s,baz=344,slow=33						
CTAO	Charters Tower	21.44	266	P	P	20 50 15.1	-0.9
STKA	Stephens Creek	27.21	239	P	P	20 51 10.7	-0.7
	comp=Z,0.6nm,0.8s,baz=28,slow=17,SNR=1.5						
STKA				pP	pP	20 51 21.5	+1.1
	comp=Z,1.5nm,0.7s,baz=40,slow=6.3,SNR=2.6						
WRAB	Tennant Creek	32.59	264	eP	P	20 51 58.7	-0.5
	comp=Z,6.9nm,1.3s						
WRA	Warramunga Arr	32.60	264	P	P	20 51 58.0	-1.4
	comp=Z,0.8nm,0.4s,baz=94,slow=8.5,SNR=28						
WRA				pP	pP	20 52 11.4	+3.0
	comp=Z,1.1nm,0.5s,baz=91,slow=8.5,SNR=6.5						
ASAR	Alice Springs	32.77	257	P	P	20 52 00.8	+0.1
	comp=Z,2.4nm,0.5s,baz=86,slow=9.1,SNR=41						
ASAR				pP	pP	20 52 12.3	+2.6
	comp=Z,5.5nm,0.6s,baz=84,slow=9.1,SNR=19						
ASAR				LR	LR	21 04 58.1	
	comp=Z,80nm,19.8s,baz=138,slow=36						
CMAR	Chiang Mai Arr	78.78	294	P	P	20 57 30.9	+0.4
	comp=Z,0.4nm,0.7s,baz=132,slow=3.8,SNR=4.9						
ULN	Ulaanbaatar	87.57	323	eP	P	20 58 14.7	-0.7
	comp=Z,3.6nm,1.0s						
SONM	Songino Array	87.92	323	P	P	20 58 17.2	+0.1
	comp=Z,1.7nm,0.8s,baz=142,slow=6.4,SNR=20						
NVAR	Mina Array Bea	89.56	49	P	P	20 58 24.8	-0.3
	comp=Z,0.7nm,0.7s,baz=226,slow=7.8,SNR=5.2						
ARCES	ARCESS Array B	125.98	345	PKP	PKPdf	21 04 26.9	-1.7
	comp=Z,3.7nm,0.9s,baz=63,slow=2.1,SNR=6.3						
TANN	Tannenbergstha	144.66	334	ePKPbc	PKPab	21 05 02.4	-0.1
WERD	Werda	144.69	334	ePKPbc	PKPab	21 05 02.5	-0.1
WERD				e		21 05 13.2	
GUNZ	Gunzen	144.75	334	ePKPbc	PKPab	21 05 02.7	-0.1
GUNZ				e		21 05 13.4	
WERN	Wernitzgruen	144.79	334	ePKPbc	PKPab	21 05 03.1	+0.2
NKC	Novy Kostel	144.80	334	ePKPbc	PKPab	21 05 03.1	+0.1
NKC	Novy Kostel	144.80	334	ePKP	PKPab	21 05 02.8	-0.2
NKC				ex	x	21 05 06.1	
NKC				epPKP	pPKPdf	21 05 13.3	-1.0
NKC				ex	x	21 05 16.9	
MOX	Moxa	144.82	335	ePKPbc	PKPab	21 05 02.8	-0.2
IBBN	Ibbenburen	144.84	340	ePKPbc	PKPab	21 05 02.9	-0.1
CONA	Conrad Observa	144.91	328	⇑iPKPdf	PKPab	21 05 03.8	+0.3
	comp=Z,5.4nm,0.8s						
KHC	Kasperske Hory	145.14	332	ePKP	PKPbc	21 05 04.0	-0.2
KHC				epPKP	pPKPdf	21 05 14.4	-0.5
ROTZ	Rotzenmuhle	145.26	333	ePKPbc	PKPbc	21 05 05.1	+0.6
GEC2	GERESS Array S	145.29	331	ePKPbc	PKPbc	21 05 04.4	-0.4
GERES	GERESS Array B	145.29	331	PKPbc	PKPbc	21 05 04.3	-0.4
	comp=Z,3.1nm,0.6s,baz=35,slow=5.3,SNR=46						
GERES				pPKPbc	pPKPbc	21 05 15.1	0.0
	comp=Z,1.5nm,0.8s,baz=35,slow=4.9,SNR=7.1						
WET	Wettzell	145.44	332	ePKPbc	PKPdf	21 05 05.2	0.0
MOA	Molln	145.74	329	⇑iPKPab	PKPdf	21 05 05.9	+0.2
	comp=Z,6.4nm,0.8s						
MOTA	Mosealm	147.57	332	⇑iPKPbc	PKPdf	21 05 10.8	+1.8
	comp=Z,4.8nm,0.8s						
WLF	Walferdange	147.63	339	ePKPbc	PKPbc	21 05 12.1	+0.6

ISCJB 14 20:47:58.2±0.5, 16°.93S±0°.09×173°.88W±0°.06, h100km, mb4.5/8, Error ellipse: s-maj=12.3km s-min=8.3km az=10.3
IDC 14 20:47:59.9±2.7, 16°.93S×173°.86W, h102km±25km, mb4.0/7, mb1 4.2/9, mb1mx3.8/36, mbtmp4.4/9, MS3.9/3, Ms1 3.9/3, ms1mx3.0/36, Error ellipse: s-maj=37.3km s-min=16.8km az=127.0

ISC 14 20:48:00.3±0.6, 16°.86S±0°.09×173°.84W±0°.09, h100km, n37, σ1§13/27, mb4.3/8, 4C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.55	34	P	Pn	20 48 53.5	0.0
	173nm,0.3s,baz=206,slow=2.6,SNR=203						
NIUE	Niue	4.33	121	P	Pn	20 49 05.6	+1.7
	baz=3.8,SNR=87						
NIUE				S	Sn	20 49 51.5	-1.9
	baz=3.8,SNR=9.0						
DZM	Mont Dzumac	19.29	251	P	P	20 52 17.9	+0.5
	0.3nm,0.3s,baz=90,slow=20,SNR=2.9						
URZ	Urewera	22.75	199	P	P	20 52 53.4	-0.7
	5.7nm,0.3s,baz=280,slow=3.3,SNR=9.1						
HNR	Honiara	26.55	283	LR	LR	21 03 17.8	
	comp=Z,50nm,18.4s,baz=151,slow=35						
ARMA	Armidale	34.24	240	P	P	20 54 36.0	-0.8
	baz=35,SNR=8.9						
CMSA	Cobar Meteorol	39.46	241	P	P	20 55 19.7	-1.3
	baz=40,SNR=12						
H11S2	WAKE ISLAND Hy	40.01	331	T	T	21 37 03.9	
	baz=149,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	40.02	331	T	T	21 37 05.4	
	baz=149,slow=76,SNR=12						
H11S1	WAKE ISLAND Hy	40.02	331	T	T	21 37 05.8	
	baz=149,slow=76,SNR=8.4						
STKA	Stephens Creek	42.95	241	P	P	20 55 48.6	-0.9
	4.9nm,0.6s,baz=82,slow=8.7,SNR=14						
STKA	Stephens Creek	42.95	241	P	P	20 55 48.7	-0.9
	baz=44,SNR=10						
WRA	Warramunga Arr	49.11	258	P	P	20 56 36.1	-2.0
	1.4nm,0.3s,baz=96,slow=7.2,SNR=67						
ASAR	Alice Springs	49.27	253	P	P	20 56 37.4	-1.9
	24nm,0.5s,baz=88,slow=8.5,SNR=346						
WRKA	Warakurna	54.31	251	P	P	20 57 15.0	-1.7
	baz=55,SNR=14						
SOEI	Soe	60.45	268	P	P	20 58 00.7	+0.6
	baz=61,SNR=3.7						
JCJ	Chichijima	61.07	315	P	P	20 58 05.4	+1.5
	102nm,0.9s,baz=210,slow=21,SNR=3.5						
MEEK	Meekatharra	62.87	248	P	P	20 58 14.3	-1.9
	baz=64,SNR=3.8						
UGM	Wanagama	74.05	266	P	P	20 59 25.0	-1.0
	baz=75,SNR=4.0						
PFO	Pinyon Flat Ob	74.23	47	LR	LR	21 24 19.6	
	comp=Z,198nm,20.1s,baz=160,slow=29						
YBH	Yreka Blue Hor	75.02	37	LR	LR	21 24 18.3	
	comp=Z,101nm,19.2s,baz=254,slow=29						
SEY	Seymchan	83.81	345	P	P	21 00 17.1	-1.0
	2.3nm,0.8s,baz=37,slow=5.1,SNR=7.5						
ILAR	Eielson Array	83.95	11	P	P	21 00 18.6	-0.2
	0.3nm,0.8s,baz=212,slow=5.5,SNR=6.6						
CMAR	Chiang Mai Arr	92.67	288	P	P	21 01 00.5	-1.1
	0.6nm,0.7s,baz=100,slow=2.3,SNR=6.6						
KMBO	Kilima Mbogo	144.50	243	PKP	PKPab	21 07 25.3	+0.4
	3.9nm,0.9s,baz=80,slow=6.9,SNR=13						
BURAR	Bucovina Array	145.55	337	⇑iP	PKPdf	21 07 27.8	+0.8
DPC	Dobruska-Polom	145.60	348	eP	PKPdf	21 07 27.2	+0.3
TESR	Tescani	145.89	334	⇑iP	PKPdf	21 07 28.5	+1.1
VRI	Vrincioaia	146.37	334	⇑iP	PKPdf	21 07 29.6	+1.3
TLB	Topalu	146.78	331	⇑iP	PKPbc	21 07 32.2	+1.4
BRTR	Keskin Array B	147.00	319	PKPbc	PKPdf	21 07 31.0	+1.3
	2.8nm,0.8s,baz=121,slow=2.7,SNR=18						
MLR	Muntele Rosu	147.00	334	⇓iP	PKPdf	21 07 29.1	-0.4
DRGR		147.15	339	⇓iP	PKPdf	21 07 31.9	+2.2
KHC	Kasperske Hory	147.25	351	eP	PKPbc	21 07 32.6	+0.5
ARR	Arges	147.64	335	⇓iP	PKPbc	21 07 34.4	+1.1
BZS	Buzias	148.55	339	⇓iP	PKPbc	21 07 35.6	0.0
TORD	Torodi Ar. Bea	174.32	130	PKP	PKPdf	21 07 57.9	-1.3
	0.8nm,0.9s,baz=343,slow=1.5,SNR=3.4						

DDA 14 20:53:51.8, 37°.22N×34°.85E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GULE	Gulek	0.09	320	iP	Pg	20 53 53.9	-0.2
GULE				iS	Sg	20 53 56.1	+0.3
KARA	Karaisali	0.17	76	PG	Pg	20 53 54.3	-1.0
KARA				eSG	Sg	20 53 58.2	+0.5
KOZT	Kozan	0.82	71	ePG	Pg	20 54 05.6	-2.1

NNC 14 21:22:50.0±3.5, 35°.67N×75°.54E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=38.2km s-min=31.6km az=89.0
ISCJB 14 21:22:52.0±0.5, 35°.80N±0°.05×75°.96E±0°.09, h38km, mb3.6/9, Error ellipse: s-maj=12.0km s-min=4.3km az=149.9
BJI 14 21:22:53.7, 36°.02N×76°.02E, h12km, mb4.0/3, ML3.8/4, Ms3.9/3
IDC 14 21:22:58.8±4.0, 36°.04N×75°.84E, h68km±34km, mb3.5/8, mb1 3.6/13, mb1mx3.3/46, mbtmp3.8/13, ML3.6/5, MS2.6/2, Ms1 2.6/2, ms1mx2.4/30, Error ellipse: s-maj=28.1km s-min=19.4km az=24.0

ISC 14 21:22:54.7±0.8, 35°.92N±0°.07×75°.96E±0°.09, h38km, n38, σ1§41/39, mb3.5/9, 8C-4D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	3.59	0	Pn	Pn	21 23 48.3	+0.4
KSH				Sn	Sn	21 24 26.1	-3.0
KSH				smax	smax		
	comp=N,120nm,0.7s						
KSH				smax	smax		
	comp=E,170nm,0.9s						
AAK	Ala-Archa	6.80	351	⇓Pn	Pn	21 24 36.6	+4.6
	5.4nm,0.7s						
AAK				⇑Sn	Sn	21 25 56.8	+8.5
	17nm,0.8s						
AAK	Ala-Archa	6.80	351	P	Pn	21 24 33.6	+1.6
	0.8nm,0.3s,baz=138,slow=6.1,SNR=18						
AAK				LR	LR	21 27 08.7	
	comp=Z,19nm,19.3s,baz=162,slow=37						
TKM2	Tokmak 2	7.00	358	⇑Pn	Pn	21 24 39.4	+4.6
TKM2				⇓Lg	Lg	21 26 40.2	
KK31	Karatay Array	8.32	331	⇑Pn	Pn	21 24 53.7	+1.0
	0.6nm,0.3s,baz=147,slow=14,SNR=6.1						
KK31				⇑Sn	Sn	21 26 26.5	+1.2
	5.2nm,0.8s,baz=149,slow=22,SNR=4.6						
DANN	Dangsing	10.03	137	eP	Pn	21 25 16.1	-0.3
	23nm,0.6s						
KOLN	Koldanda	10.40	139	eP	Pn	21 25 21.7	+0.3
	9.0nm,0.4s						
GKN	Gorkha	10.79	135	eP	Pn	21 25 25.5	-1.2
	9.9nm,0.4s						
KKN	Kakani	11.33	133	eP	Pn	21 25 32.8	-1.3
	11nm,0.6s						
DMN	Daman	11.36	134	eP	Pn	21 25 33.2	-1.4
	12nm,0.5s						
PKIN	Phulchoki	11.55	133	eP	Pn	21 25 36.7	-0.6
	7.8nm,0.6s						
PKI	Pulchoki	11.56	133	eP	Pn	21 25 36.8	-0.7
	11nm,0.7s						
GUN	Gumba	11.60	131	eP	Pn	21 25 36.5	-1.5
	13nm,0.8s						
MK31	Makanchi Array	11.86	22	⇑P	Pn	21 25 41.4	+0.3
	0.6nm,0.6s,baz=197,slow=12,SNR=21						
MKAR	Makanchi Array	11.86	22	P	Pn	21 25 42.2	+1.2
	0.2nm,0.3s,baz=192,slow=11,SNR=18						
MKAR				S	Sn	21 27 52.6	+0.6
	0.2nm,0.3s,baz=186,slow=22,SNR=4.6						
MKAR				LR	LR	21 30 52.1	
	comp=Z,58nm,19.2s,baz=308,slow=40						
JIRN	Jiri	11.97	131	eP	Pn	21 25 41.5	-1.6
	8.5nm,0.3s						
WMQ	Urumqi	11.97	45	eP	Pn	21 25 44.1	+1.4
WMQ				pP		21 25 51.1	
WMQ				sP		21 25 56.0	
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WMQ				LR	LR		
	comp=N,400nm,8.0s						
WMQ				LR	LR		
	comp=E,240nm,6.6s						
RAMN	Ramite	12.73	132	eP	Pn	21 25 51.5	-1.9
	10nm,0.6s						
TAPN	Taplejung	13.15	127	eP	Pn	21 25 56.8	-2.3
	4.3nm,0.5s						
KURBB	Kurchatov Arra	14.81	6	⇑P	Pn	21 26 23.2	+1.9
	7.4nm,0.9s						
KURK	Kurchatov	14.91	7	⇑P	P	21 26 25.9	-1.8
	5.7nm,1.1s						
VOSK	Vostochnaya	17.17	350	⇑P	P	21 26 53.0	+0.3
	2.1nm,0.7s						
BVA0	Borovoye Array	17.55	349	P	P	21 26 57.6	+0.7
	2.4nm,0.6s,baz=170,slow=9.8,SNR=22						
BVAR	Borovoye Array	17.55	349	P	P	21 26 57.1	+0.1
	0.7nm,0.3s,baz=156,slow=11,SNR=28						
AB31	Akbulak array	17.75	324	⇓P	P	21 26 56.6	-2.0
	1.1nm,0.7s,baz=0.0,slow=0.1,SNR=6.2						
ZALV	Zalesovo Beam	19.06	16	P	P	21 27 15.2	+0.6
	0.2nm,0.3s,baz=202,slow=11,SNR=7.3						
AKTO	Aktyubinsk	19.46	324	⇓P	P	21 27 17.9	-0.1
	5.1nm,0.7s						
AKTO	Aktyubinsk	19.46	324	P	P	21 27 18.6	-0.8
	0.5nm,0.3s,baz=117,slow=11,SNR=24						
SONM	Songino Array	25.43	53	P	P	21 28 21.2	+2.4
	1.2nm,0.9s,baz=253,slow=8.8,SNR=10.0						
CMAR	Chiang Mai Arr	26.73	125	P	P	21 28 33.8	+3.1
	0.6nm,0.7s,baz=305,slow=12,SNR=5.6						
JOF	Joensuu	38.41	329	ep	P	21 30 12.3	+0.2
	0.2nm,0.3s						
FINES	FINESS Array B	40.23	325	P	P	21 30 28.1	+0.9
	2.2nm,0.5s,baz=120,slow=9.6,SNR=20						
ARCES	ARCESS Array B	43.24	337	P	P	21 30 52.5	+0.7
	4.4nm,0.9s,baz=102,slow=8.4,SNR=3.6						
NB2	NORSAR Subarra	47.26	323	P	P	21 31 23.8	0.0
	comp=Z,0.7nm,0.7s,baz=93,slow=7.9						
NOA	NORSAR Array B	47.26	323	P	P	21 31 23.8	0.0
	comp=Z,1.0nm,0.7s,baz=97,slow=7.2,SNR=5.3						
TORD	Torodi Ar. Bea	69.73	272	P	P	21 34 00.4	-0.6
	comp=Z,0.4nm,0.5s,baz=42,slow=5.5,SNR=7.4						
ILAR	Eielson Array	74.18	18	P	P	21 34 26.4	-0.6
	comp=Z,0.6nm,1.1s,baz=283,slow=5.7,SNR=4.4						
YKA	Yellowknife Ar	81.56	5	P	P	21 35 06.2	-1.7
	comp=Z,0.2nm,0.7s,baz=351,slow=5.6,SNR=4.7						

ISCJB 14 21:35:46.2±0.3, 32°.22N±0°.02×116°.56W±0°.02, h3km±2km, mb3.9/4, MS3.4/2, Error ellipse: s-maj=3.1km s-min=2.1km az=39.7
ECX 14 21:35:47.9±0.9, 32°.21N×116°.57W, h7km, MD4.3, ML4.6, Fault plane solution: NP1:φs120.00000°, δ90.00000°, λ30.00000°.
BJI 14 21:35:47.7, 32°.23N×117°.19W, h9km, mb4.9/2
NEIC 14 21:35:47.9, 32°.24N×116°.59W, h6km, ML4.5(PAS), ML4.6(ECX), After PAS.
NEIC Felt [IV] at Ensenada and Tecate, [III] at Tijuana and [II] at Rosarito. Also felt at Primo Tapia. Felt [III] at Alpine, El Cajon, Jacumba, Jamul, Santee and Spring Valley; [II] at Campo, Chula Vista, Coronado, Del Mar, Escondido, Imperial Beach, La Jolla, La Mesa, Lakeside, Lemon Grove, Oceanside, Poway, San Diego, San Marcos, San Ysidro, Solana Beach and Vista, California. Felt in much of San Diego County and as far as El Centro and Los Angeles.
IDC 14 21:35:51.3±1.9, 32°.53N×116°.09W, h0km, mb3.5/3, mb1 4.0/9, mb1mx3.7/42, mbtmp3.7/9, ML4.1/6, MS3.5/3, Ms1 3.5/3, ms1mx3.0/25, Error ellipse: s-maj=31.1km s-min=10.4km az=51.0
MEX 14 21:35:58.8±0.4, 31°.80N×115°.20W, h20km±999km, MD4.0

ISC 14 21:35:47.8±0.8, 32°.24N±0°.02×116°.55W±0°.02, h9km±6km, n199, σ1§54/247, mb3.6/4, 58C-57D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBX	Cerro Bola	0.12	308	⇑eP	Pg	21 35 50.6	-0.2
CBX				iS	Sg	21 35 52.8	+0.1
CBX				e		21 35 54.3	
	comp=N,298μm,0.3s						
CBX	Cerro Bola	0.12	308	⇑eP	Pg	21 35 50.6	-0.2
CBX				iS	Sg	21 35 52.8	+0.1
BAR	Barrett	0.45	347	⇑eP	Pg	21 35 56.2	-0.5
BAR	Barrett	0.45	347	eP	Pg	21 35 56.0	-0.7
BAR				eS	Sg	21 36 00.8	-1.8
PBX	Punta Banda	0.52	196	⇓eP	Pg	21 35 56.8	-1.1
PBX				eS	Sg	21 36 02.8	-2.0
PBX	Punta Banda	0.52	196	⇓eP	Pg	21 35 56.8	-1.1
PBX				eS	Sg	21 36 02.8	-2.0
RMX	La Rumorosa	0.54	48	⇑eP	Pg	21 35 58.1	-0.3
RMX				eS	Sg	21 36 05.5	-0.1
RMX	La Rumorosa	0.54	48	⇑eP	Pg	21 35 58.1	-0.3
RMX				eS	Sg	21 36 05.5	-0.1
ECNX	Esteban Cantu	0.58	184	⇓iP	Pg	21 35 58.0	-1.2
ECNX				eS	Sg	21 36 05.5	-1.3
ECNX	Esteban Cantu	0.58	184	⇓iP	Pg	21 35 58.0	-1.2
ECNX				eS	Sg	21 36 05.5	-1.3
RDX	Rancho Dawling	0.60	121	⇑eP	Pg	21 35 58.6	-1.0
RDX				eS	Sg	21 36 06.0	-1.6
RDX	Rancho Dawling	0.60	121	⇑eP	Pg	21 35 58.6	-1.0
RDX				eS	Sg	21 36 06.0	-1.6
MONP	Monument Peak	0.66	10	⇓eP	Pg	21 36 00.2	-0.5
MONP	Monument Peak	0.66	10	⇑P	Pg	21 36 00.1	-0.5
	baz=0.6						
MONP				⇓S	Sg	21 36 09.3	0.0
	baz=0.6						
YUH	Yuha Desert	0.67	53	⇑eP	Pg	21 36 00.5	-0.3
YUH	Yuha Desert	0.67	53	ePg	Pg	21 36 00.5	-0.3
EML	El Monte Cty P	0.69	339	eP	Pg	21 36 00.5	-0.8
EML	El Monte Cty P	0.69	339	ePg	Pg	21 36 00.3	-1.0
CBKC	Canebrake	0.70	21	ePg	Pg	21 36 01.4	-0.1
ZAX	El Zacaton	0.76	162	⇓eP	Pg	21 36 01.0	-1.6
ZAX				eS	Sg	21 36 10.8	-1.7
109C	Camp Elliot, M	0.80	324	⇑P	Pg	21 36 02.1	-1.1
	baz=0.8						
109C				⇓S	Sg	21 36 12.7	-0.9
	baz=0.8						
CPE	Camp Elliot	0.80	324	⇓eP	Pg	21 36 02.1	-1.2
CPE	Camp Elliot	0.80	324	ePg	Pg	21 36 02.1	-1.2
CRR	Carrizo Plain	0.81	37	ePg	Pg	21 36 03.3	-0.2
DPP	Dos Picos Cty	0.82	337	ePg	Pg	21 36 02.5	-1.3
ERPC	Ernies Place	0.91	56	ePn	Pb	21 36 05.5	-0.2
SWSC	Sam W. Stewart	0.95	42	ePn	Pg	21 36 05.9	-0.2
SWSC	Sam W. Stewart	0.95	42	⇓P	Pg	21 36 05.8	-0.3
	baz=0.9						
SWSC				⇓S	Sb	21 36 19.1	0.0
	baz=0.9						
ERRC	Elmore Ranch	1.07	35	ePn	Pb	21 36 08.3	-0.2
CPBX	Cerro Prieto	1.07	80	⇑eP	Pg	21 36 08.0	-0.4
PLM	Palomar	1.14	347	ePg	Pg	21 36 07.9	-1.9
MBIG	Mexicali	1.16	81	iP	Pg	21 36 09.1	-1.1
MBIG				eS	Sg	21 36 16.4	-8.8
CLIC	Calipatria	1.25	44	ePn	Pn	21 36 10.4	-1.0
FRD	Ford Ranch	1.25	358	ePg	Pn	21 36 10.4	-1.2
SNDA	J Saunders Pla	1.31	358	ePg	Pn	21 36 11.5	-0.9
DNR	Dunn Ranch,Anz	1.32	357	ePg	Pn	21 36 11.8	-0.8
CRY	Cary Ranch	1.33	353	ePg	Pn	21 36 11.6	-1.1
BATC	Bat Cave Butte	1.35	26	ePn	Pn	21 36 12.2	-0.7
COA	Coachella	1.36	62	ePn	Pn	21 36 11.9	-1.0
PFO	Pinyon Flat Ob	1.37	3	Pg	Pn	21 36 12.6	-0.6
	comp=N,412nm,0.3s,baz=182,slow=14,SNR=2690						
PFO				Lg	Lg	21 36 30.1	
	comp=N,157nm,0.3s,baz=142,slow=20,SNR=6.6						
PFO	Pinyon Flat Ob	1.37	3	eP	Pn	21 36 12.7	-0.6
PFO				eS	Sb	21 36 29.1	-2.3
PFO	Pinyon Flat Ob	1.37	3	⇑P	Pn	21 36 12.6	-0.6
	baz=1.3						
PFO				⇑S	Sb	21 36 30.8	-0.5
	baz=1.3						
FRK	Frink	1.39	33	ePg	Pn	21 36 12.1	-1.3
EMSC	East Mesa	1.42	69	ePn	Pn	21 36 13.0	-0.7
BACC	Bachelor Mtn.	1.43	343	ePn	Pn	21 36 12.3	-1.7
DGR	Domenigoni Val	1.46	345	ePn	Pn	21 36 12.9	-1.4
MURC	Murrieta	1.46	338	⇓P	Pn	21 36 13.1	-1.4
	baz=1.4						
CTCC	Cactus City	1.49	18	ePn	Pn	21 36 14.1	-0.8
CTW	Cottonwood Mou	1.54	22	ePn	Pn	21 36 14.7	-0.9
GLA	Glamis	1.67	60	ePn	Pn	21 36 16.3	-1.0
GLA				eSn	Sn	21 36 34.2	-4.6
GLA	Glamis	1.67	60	⇑P	Pn	21 36 16.3	-1.0
	baz=1.7						
BC3	Big Chuckawall	1.69	33	⇑P	Pn	21 36 16.9	-0.7
	baz=1.7						
DEVC	Devers	1.69	359	ePn	Pn	21 36 17.6	+0.1
BELC	Belle Mtn. Jos	1.82	15	ePn	Pn	21 36 19.0	-0.4
BELC	Belle Mtn. Jos	1.82	15	⇓P	Pn	21 36 19.0	-0.4
	baz=1.8						
SCI	San Clemente I	1.84	294	⇑P	Pn	21 36 17.4	-2.1
	baz=1.8						
TPC	Twentynine Pal	1.91	13	ePn	Pn	21 36 20.3	-0.3
SVD	Seven Oaks Dam	1.92	346	ePn	Pn	21 36 21.0	+0.3
CIS	Catalina Islan	1.94	307	⇑P	Pn	21 36 18.9	-2.2
	baz=1.9						
BBRC	Big Bear Solar	2.04	351	ePn	Pn	21 36 23.1	+0.5
BBRC	Big Bear Solar	2.04	351	⇓P	Pn	21 36 23.0	+0.5
	baz=2.0						
FMP	Fort Macarthur	2.07	316	ePn	Pb	21 36 24.9	-0.7
FMP	Fort Macarthur	2.07	316	⇑Pb	Pb	21 36 24.6	-1.0
	baz=2.0						
SSK	Sunset Peak	2.19	334	ePn	Pn	21 36 24.8	+0.3
BFSC	Mount Baldy Ra	2.20	335	⇑P	Pn	21 36 24.6	0.0
	baz=2.2						
BFSC				⇑Sn	Sn	21 36 53.6	+1.6
	baz=2.2						
IRM	Iron Mountain	2.25	31	⇓P	Pn	21 36 25.2	0.0
	baz=2.2						
Y12C	Blythe	2.28	48	⇓P	Pn	21 36 25.2	-0.4
	baz=2.3						
MWC	Mount Wilson	2.35	328	ePn	Pn	21 36 26.0	-0.7
MWC				eSn	Sb	21 36 58.2	-1.4
PASC	Pasadena Art C	2.36	325	ePn	Pn	21 36 25.9	-0.9
PASC				eSn	Sn	21 36 56.7	+0.8
113A	Mohawk Valley,	2.41	77	⇑P	Pn	21 36 27.2	-0.3
	baz=2.4						
113A				⇑Sn	Sn	21 36 57.2	+0.1
	baz=2.4						
EL2	El Mirage 2	2.43	340	ePn	Pn	21 36 29.0	+1.2
DJJ	Donna J Jenkin	2.45	320	ePn	Pn	21 36 27.1	-0.9
DECC	Green Verdugo	2.50	324	ePn	Pn	21 36 29.0	+0.3
DECC	Green Verdugo	2.50	324	⇓P	Pn	21 36 28.4	-0.2
	baz=2.5						
DANC	Danby, Needles	2.58	22	ePn	Pn	21 36 28.9	-1.0
HEC	Hector,Ludlow	2.59	4	⇓P	Pn	21 36 30.1	+0.1
	baz=2.6						
HEC				⇓Sb	Sg	21 37 09.9	-1.2
	baz=2.6						
GMRC	Granite Mounta	2.64	16	⇓P	Pn	21 36 31.0	+0.3
	baz=2.6						
GMRC				⇓Sb	Sg	21 37 10.7	-2.0
	baz=2.6						
RRX	Edison Barstow	2.66	352	⇑Pb	Pb	21 36 35.1	-0.6
	baz=2.6						
RRX				⇑Sb	Sb	21 37 10.7	+2.3

baz=2.6
LEOC Leona Valley 2.80 329 ePn Pn 21 36 33.4 +0.5
PDMCI Parker Dam,Lak 2.88 44 ⇑P Pn 21 36 33.9 0.0
baz=2.9
PDMCI ⇓Sb Sg 21 37 17.8 -2.7
baz=2.9
EDW2 Edwards Air Fo 2.89 336 ePn Pn 21 36 35.0 +0.8
EDW2 Edwards Air Fo 2.89 336 ⇑P Pn 21 36 34.9 +0.8
baz=2.9
EDW2 ⇓Sb Sb 21 37 15.8 +0.6
baz=2.9
OSI Osito Adit 2.98 323 ePn Pn 21 36 35.3 -0.1
OSI eSn Sn 21 37 10.6 -0.7
OSI Osito Adit 2.98 323 ⇑P Pn 21 36 35.0 -0.3
baz=2.9
OSI ⇑Sn Sn 21 37 10.2 -1.1
baz=2.9
GSC Goldstone 3.06 356 ePn Pn 21 36 37.0 +0.5
GSC eSn Sb 21 37 20.1 +0.1
GSC Goldstone 3.06 356 ⇑P Pn 21 36 36.8 +0.4
baz=3.0
GSC ⇓Sb Sg 21 37 23.3 -2.9
baz=3.0
LDFC Landfair 3.08 23 ePn Pn 21 36 38.0 +1.3
LDFC ePg Pg 21 36 46.8 0.0
LDFC eSn Sn 21 37 13.6 -0.1
BSC Santa Cruz Isl 3.12 305 ⇑P Pn 21 36 36.4 -0.8
baz=3.1
BSC ⇓Sb Sb 21 37 23.3 +1.6
baz=3.1
CCAC Calif City Air 3.15 338 ePn Pn 21 36 38.5 +0.8
214A Organ Pipe Nat 3.19 94 ePn Pn 21 36 37.0 -1.1
214A ePg Pg 21 36 49.9 +1.0
214A eSn Sn 21 37 13.6 -2.7
214A Organ Pipe Nat 3.19 94 ⇑P Pn 21 36 37.1 -1.1
baz=3.2
214A ⇓Sn Sn 21 37 15.9 -0.4
baz=3.2
TUQ Turquoise Moun 3.23 9 ePn Pn 21 36 39.3 +0.4
TUQ Turquoise Moun 3.23 9 ⇓P Pn 21 36 39.2 +0.3
baz=3.2
TUQ ⇑Sb Sg 21 37 28.5 -3.1
baz=3.2
Z14A Wintersburg 3.24 69 ⇑P Pn 21 36 38.8 0.0
baz=3.2
ABL Mount Abel 3.43 320 ePn Pn 21 36 41.8 +0.2
Y14A Wickenburg 3.43 59 ⇑P Pn 21 36 41.7 +0.3
baz=3.4
Y14A ⇑Sb Sg 21 37 34.4 -3.5
baz=3.4
PLEC Pleito Hills 3.44 323 ePn Pn 21 36 42.6 +1.0
ARVC Arvin 3.45 327 ⇓P Pn 21 36 42.4 +0.6
baz=3.4
ARVC ⇑Sn Sn 21 37 22.5 -0.1
baz=3.4
MARC Maricopa 3.60 321 ePn Pn 21 36 44.4 +0.5
W13A Hualapai Mount 3.62 37 ⇓P Pn 21 36 44.9 +0.7
baz=3.6
SHOC Shoshone 3.66 3 ⇑P Pn 21 36 45.1 +0.4
baz=3.6
SHOC ⇑Sb Sg 21 37 42.0 -3.4
baz=3.6
WOFM Oak Flat 3.75 332 ePn Pn 21 36 46.9 +1.0
ISA Isabella 3.77 335 ePn Pn 21 36 46.9 +0.8
ISA eSn Sn 21 37 27.8 -2.9
ISA Isabella 3.77 335 ⇓P Pn 21 36 46.8 +0.6
baz=3.7
ISA ⇓Sb Sb 21 37 43.9 +3.5
baz=3.7
RCWM Renegade Canyo 3.81 347 ePn Pn 21 36 47.4 +0.6
CRGC Crocker Grade 3.99 319 ePn Pn 21 36 49.7 +0.4
VES Vestal, Richgr 4.16 330 ⇑P Pn 21 36 52.6 +1.1
baz=4.1
WLHM Little Horse 4.17 340 ePn Pn 21 36 52.9 +1.0
SMMC Simmler 4.20 318 ⇑P Pn 21 36 51.9 -0.1
baz=4.2
SMMC ⇓Sn Sn 21 37 41.0 -0.2
baz=4.2
FURC Furnace Creek, 4.23 357 ⇓P Pn 21 36 53.2 +0.8
baz=4.2
SHPR Sheep Range 4.41 15 ePn Pn 21 36 56.3 +1.2
SHPR ePg Pg 21 37 09.4 -2.9
SHPR eSn Sn 21 37 44.8 -1.9
RCTC Rector, Farmer 4.63 332 ⇑P Pn 21 36 58.6 +0.7
baz=4.6
GRAC Grapevine Rang 4.80 352 ⇑P Pn 21 37 01.1 +0.8
baz=4.8
X16A Lo Mia Camp, P 4.80 62 ⇑P Pn 21 37 01.5 +1.0
baz=4.8
TIN Tinemaha 5.00 344 ⇑P Pn 21 37 04.8 +1.6
baz=5.0
WUAZ Wupatki 5.41 51 ePn Pn 21 37 10.6 +1.8
WUAZ eSn Sn 21 38 14.7 +3.5
WUAZ Wupatki 5.41 51 ⇑P Pn 21 37 10.4 +1.6
baz=5.4
U15A North Rim 5.47 39 ⇑P Pn 21 37 11.5 +1.8
baz=5.5
KNB Kanab 5.67 32 ePn Pn 21 37 14.6 +2.2
KNB eSn Sn 21 38 14.7 -3.0
TPH Tonopah 5.85 355 ePn Pn 21 37 16.8 +1.9
CCUT Cedar City 5.91 25 ePn Pn 21 37 18.2 +2.4
CCUT eSn Sn 21 38 21.5 -2.2
X18A Snowflake 5.98 66 ⇑P Pn 21 37 18.0 +1.3
baz=6.0
ARUT Antelope Range 6.10 24 ePn Pn 21 37 18.2 0.0
ARUT eSn Sn 21 38 24.0 -4.2
ARUT eSg Sg 21 39 00.6 -2.9
R11A Troy Canyon, C 6.15 7 ePn Pn 21 37 19.7 +0.8
R11A eSn Sn 21 38 26.3 -3.1
R11A Troy Canyon, C 6.15 7 ⇑P Pn 21 37 20.5 +1.5
baz=6.1
319A Douglas 6.25 96 ⇓P Pn 21 37 20.9 +0.6
baz=6.3
NVAR Mina Array Bea 6.34 347 Pn Pn 21 37 23.8 +2.1
comp=N,0.7nm,0.3s,baz=171,slow=15,SNR=13
NVAR Lg Lg 21 39 06.9
baz=114,slow=35,SNR=2.6
W18A Petrified Fore 6.37 61 ePn Pn 21 37 22.9 +0.9
W18A eSn Sn 21 38 25.8 -9.1
W18A Petrified Fore 6.37 61 ⇓P Pn 21 37 23.6 +1.6
baz=6.4
CMB Columbia Colle 6.58 333 ePn Pn 21 37 25.8 +1.0
CMB eSn Sn 21 38 37.8 -2.1
WAKR Walker 6.68 340 ePn Pn 21 37 27.3 +1.0
WAKR eSn Sn 21 38 28.6 -14
MVU Marysvale 7.18 28 ePn Pn 21 37 34.5 +1.2
comp=N,20nm,0.4s
MVU eS Sg 21 39 35.5 -2.9
121A Cookes Peak, D 7.42 85 ePn Pn 21 37 36.7 +0.2
comp=N,34nm,0.7s
121A eSn Sn 21 39 02.1 +1.2
121A eSg Sg 21 39 46.5 +0.4
121A Cookes Peak, D 7.42 85 ⇓P Pn 21 37 37.2 +0.7
baz=7.4
Z22A Elephant Butte 8.14 80 ⇑P Pn 21 37 47.7 +1.3
baz=8.1
LAZ Ladron 8.17 72 ePn Pn 21 37 48.7 +2.0
LAZ eSg Sg 21 40 10.2 +0.1
BMN Battle Mountai 8.19 356 ePn Pn 21 37 42.9 -4.1
LENM Lemitar 8.26 74 ePn Pn 21 37 49.7 +1.8
LENM eSg Sg 21 40 11.8 -1.0
TMUT Trail Mountain 8.27 30 ePn Pn 21 37 48.8 +0.5
TMUT eSg Sg 21 40 11.1 -2.2
MVCO Mesa Verde 8.28 51 ePn Pn 21 37 50.9 +2.6
comp=N,18nm,0.6s
MVCO eSg Sg 21 40 11.9 -1.6
MVCO Mesa Verde 8.28 51 ⇓P Pn 21 37 50.5 +2.3
baz=8.3
Y22D IRIS PASSCAL I 8.28 75 ⇓P Pn 21 37 50.3 +2.1
baz=8.3
SRU San Rafael 8.43 34 ePn Pn 21 37 50.6 +0.3
DUG Dugway 8.49 20 ePn Pn 21 37 51.6 +0.5
DUG eSg Sg 21 40 17.9 -2.4
DUG Dugway 8.49 20 ⇑P Pn 21 37 53.4 +2.3
baz=8.5
NLU North Lily Min 8.51 24 ePn Pn 21 37 49.6 -1.8
BNM Barren Site 8.53 74 ePn Pn 21 37 53.5 +1.7
ELK Elko 8.55 7 Pn Pn 21 37 53.1 +1.1
comp=N,1.0nm,0.3s,baz=179,slow=8.5,SNR=21
ELK Lg Lg 21 40 13.7
comp=N,0.2nm,0.3s,baz=182,slow=6.1,SNR=2.6
ELK Elko 8.55 7 ePn Pn 21 37 54.7 +2.7
ELK Lg Lg 21 40 13.7
LPM Los Pinos Moun 8.56 73 ePn Pn 21 37 53.8 +1.7
PV10 Paradox Valley 8.67 43 ePn Pn 21 37 57.0 +3.4
PV09 Paradox Valley 8.70 42 ePn Pn 21 37 58.0 +3.9
PV04 Paradox Valley 8.76 43 ePn Pn 21 37 59.2 +4.4
PV01 Paradox Valley 8.79 46 ePn Pn 21 37 59.4 +4.2
V22A San Miguel Ran 8.80 63 ⇓P Pn 21 37 57.5 +2.1
baz=8.8
ANMO Albuquerque 8.84 70 Pn Pn 21 37 55.6 -0.4
comp=N,0.4nm,0.3s,baz=260,slow=12,SNR=19
ANMO Albuquerque 8.84 70 ePn Pn 21 37 58.4 +2.4
Y23A Lovelace Mesa, 8.97 76 ⇓P Pn 21 37 58.8 +1.1
baz=9.0
U22A Llaves 9.02 60 ⇑P Pn 21 38 00.6 +2.1
baz=9.0
BGU Big Grassy Mou 9.12 17 ePn Pn 21 38 02.6 +2.9
W23A Werner Place, 9.14 69 ⇑P Pn 21 38 01.0 +0.8
baz=9.1
V23A Ortiz Mt. (NFS 9.29 65 ⇓P Pn 21 38 04.2 +2.0
baz=9.3
Y24A Capitan 9.48 77 ⇓P Pn 21 38 06.2 +1.4
baz=9.5
Z24A Sheeppen Canyo 9.48 80 ⇑P Pn 21 38 05.8 +1.0
baz=9.5
U23A El Rito 9.49 62 ⇑P Pn 21 38 07.1 +2.2
baz=9.5
MNTX Cornudas Mount 9.51 90 ePn Pn 21 38 05.9 +1.0
X24A Lazy VL Ranch, 9.58 73 ⇓P Pn 21 38 08.0 +1.9
baz=9.6
S22A 4UR Ranch, Cre 9.68 53 ⇓P Pn 21 38 10.7 +3.1
baz=9.7
W24A Lazy 6 Ranch, 9.74 69 ⇑P Pn 21 38 10.7 +2.4
baz=9.7
T23A Casias Ranch, 9.89 58 ⇓P Pn 21 38 13.3 +2.8
baz=9.9
225A Deer Hill, Car 9.94 88 ⇓P Pn 21 38 12.7 +1.6
baz=10.0
HVU Hansel Valley 9.99 17 ePn Pn 21 38 12.5 +0.9
V24A Rampart Ranch, 9.99 67 ⇓P Pn 21 38 14.1 +2.3
baz=10.0
Z25A Roswell 10.02 81 ⇓P Pn 21 38 13.8 +1.7
baz=10.0
125A Gardner Draw, 10.06 84 ⇓P Pn 21 38 14.2 +1.6
baz=10
X25A Clemmons Ranch 10.20 74 ⇓P Pn 21 38 17.0 +2.5
baz=10
SLBS Sierra La Lagu 10.33 144 iP Pn 21 38 10.7 -5.6
O20A White River Ci 10.35 38 ⇓P Pn 21 38 20.9 +4.3
baz=10
W25A X Bar L Ranch, 10.50 70 ⇓P Pn 21 38 21.4 +2.7
baz=10
226B Tecolote Peak, 10.50 88 ⇑P Pn 21 38 21.2 +2.6
baz=10
R23A Moffat 10.59 53 ⇓P Pn 21 38 22.5 +2.5
baz=11
SDCO Great Sand Dun 10.60 56 ePn Pn 21 38 23.1 +3.0
S24A Houchin Ranch, 10.75 57 ⇓P Pn 21 38 25.0 +2.7
baz=11
P22A Eagle 10.81 45 ⇑P Pn 21 38 24.8 +1.9
baz=11
N20A Spence Gulch, 10.86 36 ⇓P Pn 21 38 27.3 +3.7
baz=11
R24A Sanders Place, 11.10 54 ⇑P Pn 21 38 28.8 +1.9
baz=11
T25A Trinidad 11.12 61 ⇓P Pn 21 38 30.4 +3.1
baz=11
O22A Kremmling 11.30 43 ⇓P Pn 21 38 33.3 +3.5
baz=11
TXAR Lajitas Array 11.45 101 Pn Pn 21 38 33.6 +1.9
comp=N,2.3nm,0.3s,baz=283,slow=13,SNR=135
PDAR Pinedale Array 11.88 26 Pn Pn 21 38 38.5 +0.9
comp=N,0.6nm,0.3s,baz=224,slow=7.6,SNR=21
NEW Newport 16.01 359 Pn P 21 39 36.4 -0.3
comp=N,0.1nm,0.3s,baz=174,slow=12,SNR=6.9
NEW LR LR 21 44 41.1
comp=N,192nm,21.6s,baz=224,slow=34
ULM Lac du Bonnet 23.65 34 P P 21 41 01.1 +1.9
comp=N,2.6nm,0.9s,baz=286,slow=7.4,SNR=3.5
TKL Tuckaleechee C 27.34 74 LR LR 21 53 30.2
comp=N,149nm,18.9s,baz=162,slow=39
TEIG Tepich 27.96 108 LR LR 21 54 15.3
comp=N,64nm,18.9s,baz=266,slow=40
YKA Yellowknife Ar 30.29 2 P P 21 42 01.4 +2.3
comp=N,0.4nm,1.0s,baz=185,slow=8.4,SNR=4.9
ILAR Eielson Array 37.52 339 P P 21 43 06.2 +4.5
comp=N,0.5nm,0.7s,baz=154,slow=7.7,SNR=12
BJI Beijing 93.08 322 P P 21 49 01.3 -0.8
BJI pmax pmax
comp=N,5.0nm,0.4s
NJ2 Nanjing 97.36 315 eP Pdif 21 49 23.1 +1.2
LZH Lanzhou 102.20 328 eP Pdif 21 49 45.0 +1.4
LZH pP 21 49 50.0
LZH sP 21 49 52.1

DDA 14 21:36:30.0, 37°.25N×34°.85E, h7km, MD2.6
ISC 14 21:36:22.0±4.6, 36°.9N±0°.2×34°.9E±0°.1, h13km, n3, σ1s.72/5, Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GULE Gulek 0.40 352 iP Pb 21 36 31.6 +0.5
GULE iS Sg 21 36 33.8 -1.8
KARA Karaisali 0.41 24 ePG Pb 21 36 32.6 +1.5
KARA eSG Sg 21 36 35.9 +0.2
KOZT Kozan 0.98 53 ePG Pb 21 36 40.4 -0.5

IDC 14 21:37:38.5±1.8, 27°.49S×67°.30W, h122km±17km, mb3.6/8, mb1 3.7/12, mb1mx3.7/30, mbtmp3.9/12, Error ellipse: s-maj=22.2km s-min=13.5km az=94.0
SJA 14 21:37:39.4±0.7, 27°.58S×67°.32W, h166km±6km, ML3.9, MW3.5
ISCJB 14 21:37:40.0±0.5, 27°.62S±0°.04×67°.29W±0°.08, h158km±6km, mb3.7/8, Error ellipse: s-maj=11.9km s-min=5.6km az=21.5
ISC 14 21:37:40.5±0.9, 27°.58S±0°.06×67°.34W±0°.08, h148km±9km, n31, σ1s.02/39, mb3.8/8, 1D, Catamarca Province

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CYA Choya 1.61 123 iP Pn 21 38 12.0 +0.8
CYA iS Sn 21 38 35.4 +0.8
CYA AML AML 21 38 36.2
comp=Z,506nm,0.7s
ACLC CERRO LA CRUZ 1.87 169 iP Pn 21 38 14.7 +0.5
ACLC eS Sn 21 38 41.1 +1.0
AHML Horco Molle 1.96 67 iP Pn 21 38 15.7 +0.6
AHML AML AML 21 38 49.8
comp=Z,109nm,0.6s
AGUA GUANDACOL 2.15 208 iP Pn 21 38 18.2 +0.8
APLL PUNTA DE LOS L 2.89 166 iP Pn 21 38 27.1 +0.6
AVFE Valle Fertil 3.07 182 iP Pn 21 38 29.4 +0.7
AVFE eS Sn 21 39 06.3 +0.2
AVFE AML AML 21 39 09.7
comp=Z,611nm,0.4s
SLA San Lorenzo 3.29 31 iP Pn 21 38 32.0 +0.2
SLA AML AML 21 39 14.0
comp=Z,87nm,0.7s
ACHE Chepes 3.62 171 iP Pn 21 38 36.0 +0.1
ACHE eS Sn 21 39 18.7 -0.3
CFAA Coronel Fontan 4.08 191 P Pn 21 38 42.1 +0.2
comp=Z,2.2nm,0.3s,baz=17,slow=15,SNR=234
CFAA S Sn 21 39 28.2 -1.4
comp=Z,33nm,0.3s,baz=269,slow=21,SNR=59
RTCV Cerro Valdivia 4.39 193 iP Pn 21 38 46.1 +0.2
RTCV eS Sn 21 39 35.2 -1.6
ASTB Santa Barbara 4.44 36 iP Pn 21 38 46.8 +0.1
TCA Tanti 4.44 148 iP Pn 21 38 46.4 -0.3
TCA eS Sn 21 39 36.5 -1.6
TCA AML AML 21 39 39.7
comp=Z,140nm,0.5s
ACAN Cantantal 4.68 178 iP Pn 21 38 50.3 +0.6
ACAN eS Sn 21 39 41.1 -2.5
AUSP Uspallata 4.96 200 iP Pn 21 38 53.7 +0.1
AUSP eS Sn 21 39 49.8 -0.7
ARCO CERRO ARCO 5.42 194 AML AML 21 40 04.5
comp=Z,255nm,0.3s
LPAZ La Paz 11.26 356 P Pn 21 40 16.3 -1.6
comp=Z,0.6nm,0.3s,baz=179,slow=4.2,SNR=11
SIV San Ignacio 12.92 28 P Pn 21 40 36.8 -2.0
comp=Z,0.4nm,0.3s,baz=229,slow=11,SNR=9.5
PLCA Paso Flores 13.38 191 P Pn 21 40 44.9 +0.2
comp=Z,0.2nm,0.3s,baz=1.2,slow=14,SNR=3.4
BB16B Bebedouro 18.29 73 ⇓iP P 21 41 42.5 -0.8
BB16B i 21 41 44.1
BDFB Brasilia 21.51 60 P P 21 42 16.1 -2.0
comp=Z,2.1nm,0.4s,baz=235,slow=13,SNR=5.4
SNAA Sanae 56.10 160 P P 21 47 05.5 +1.5
comp=Z,1.1nm,0.5s,baz=276,slow=9.2,SNR=18
TXAR Lajitas Array 66.42 326 P P 21 48 14.6 +0.6
comp=Z,0.3nm,0.7s,baz=134,slow=8.9,SNR=4.4
TORD Torodi Ar. Bea 78.16 68 P P 21 49 24.5 +0.6
comp=Z,6.1nm,0.6s,baz=267,slow=5.7,SNR=82
PDAR Pinedale Array 80.06 330 P P 21 49 34.6 +0.7
comp=Z,0.9nm,0.7s,baz=118,slow=7.6,SNR=9.9
NVAR Mina Array Bea 81.14 322 P P 21 49 40.5 +0.8
comp=Z,0.3nm,0.5s,baz=165,slow=7.1,SNR=3.5
ULM Lac du Bonnet 81.52 342 P P 21 49 41.2 0.0
comp=Z,1.1nm,0.4s,baz=164,slow=7.4,SNR=3.3
YKA Yellowknife Ar 97.37 340 P P 21 50 56.3 -0.1
comp=Z,0.2nm,0.6s,baz=134,slow=4.3,SNR=4.2
WRA Warramunga Arr 128.30 206 PKP PKPdf 21 56 31.1 +0.9
comp=Z,0.5nm,0.7s,baz=153,slow=2.2,SNR=5.8
ZALV Zalesovo Beam 146.66 30 PKPbc PKPbc 21 57 04.2 -0.3
comp=Z,5.7nm,0.4s,baz=300,slow=4.1,SNR=32
MKAR Makanchi Array 149.41 43 PKPbc PKPbc 21 57 13.0 +1.0
comp=Z,1.9nm,0.5s,baz=291,slow=2.6,SNR=44
SONM Songino Array 159.20 12 PKPab PKPab 21 57 57.9 -0.9
comp=Z,0.4nm,0.7s,baz=323,slow=4.7,SNR=5.8

MOS 14 21:40:26.4±2.2, 49°.72N×156°.56E, h45km, mb4.4/1, Error ellipse: s-maj=74.8km s-min=15.0km az=79.9
KRSC 14 21:40:34.5±2.0, 50°.24N×157°.10E, h40km±21km, ML4.2, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SKR Severo-Kuril's 0.77 306 ePN Pn 21 40 44.0 -4.9
SKR eS Sn 21 40 53.0 -6.3
SKR pmax pmax
comp=N,640nm,0.4s
SKR pmax pmax
comp=E,590nm,0.4s
SKR pmax pmax
comp=Z,1μm,0.4s
SKR pmax pmax
comp=Z,5μm,0.4s
SKR smax smax
comp=N,5μm,1.0s
SKR smax smax
comp=E,5μm,1.0s
SKR smax smax
comp=N,2μm,0.2s
SKR Severo-Kuril's 0.77 306 iP Pn 21 40 49.0 +0.1
SKR iS Sn 21 40 57.7 -1.6
PAU Pauzhetka 1.25 352 PN Pn 21 40 57.1 +1.7
PAU S Sn 21 41 12.1 +1.1
PAU Pauzhetka 1.25 352 eP Pn 21 40 57.1 +1.7
PAU eS Sn 21 41 12.1 +1.1
MIPR Malaya Ipel'ka 2.05 354 eP Pn 21 41 08.3 +1.7
ASAK Asacha 2.21 13 eS Sn 21 41 37.9 +3.0
MTVR Mutnovka 2.35 16 eP Pn 21 41 13.8 +3.0
MTVR eS Sn 21 41 41.1 +2.5
RUS Russkaya 2.37 21 PN Pn 21 41 13.1 +2.2
RUS Russkaya 2.37 21 eP Pn 21 41 13.1 +2.2
RUS eS Sn 21 41 40.4 +1.7
APC Apacha 2.69 1 eP Pn 21 41 18.2 +2.9
PET Petropavlovsk 2.96 19 ePN Pn 21 41 17.6 -1.3
PET Petropavlovsk 2.96 19 eS Sn 21 41 56.6 +3.5
UGLR Uglovaya 3.17 19 eP Pn 21 41 26.2 +4.3
UGLR eS Sn 21 42 03.6 +5.1
AVH Avacha 3.20 18 eP Pn 21 41 26.7 +4.3
AVH eS Sn 21 42 03.8 +4.5
KOK Koryaka 3.21 17 eP Pn 21 41 27.1 +4.6
KOK eS Sn 21 42 05.1 +5.6
SMAR Somma 3.21 19 eP Pn 21 41 26.9 +4.2
SMAR eS Sn 21 42 04.7 +4.8
KRER Koryakskii 3.24 18 eP Pn 21 41 27.2 +4.1
KRER eS Sn 21 42 05.1 +4.5
SDLR Sedlovina 3.24 19 eP Pn 21 41 26.4 +3.4
SDLR eS Sn 21 42 04.3 +3.8
KRX Arik 3.27 17 eP Pn 21 41 27.9 +4.4
KRX eS Sn 21 42 06.4 +5.1
SPN Mys Shipunski 3.40 31 eS Sn 21 42 07.3 +3.4
GNL Ganaly 3.50 8 eP Pn 21 41 30.0 +3.4
MKZ Mys Kozlova 5.17 31 PN Pn 21 41 52.9 +3.6
MKZ Mys Kozlova 5.17 31 eP Pn 21 41 52.9 +3.6
TUMR Tumrok 5.38 19 P Pn 21 41 58.6 +6.2
KBTR Krutoberegovo 6.90 28 PN Pn 21 42 16.6 +3.6
KBTR Krutoberegovo 6.90 28 eP Pn 21 42 16.5 +3.5

MOS 14 21:52:15.1±2.4, 48°.81N×156°.33E, h9km, mb4.4/1, Error ellipse: s-maj=99.9km s-min=17.1km az=80.4
KRSC 14 21:52:15.8±3.2, 49°.01N×157°.06E, h6km±10km, ML4.3, East of Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SKR Severo-Kuril's 1.79 340 ePN Pn 21 52 40.5 -6.7
SKR pmax pmax
comp=N,80nm,0.5s
SKR pmax pmax
comp=Z,90nm,0.5s
SKR Severo-Kuril's 1.79 340 eP Pn 21 52 45.4 -1.8
SKR eS Sn 21 53 06.6 -3.6
PAU Pauzhetka 2.47 356 PN Pn 21 52 58.0 +1.4
PAU Pauzhetka 2.47 356 eP Pn 21 52 58.0 +1.4
PAU eS Sn 21 53 28.0 +1.0
ASAK Asacha 3.42 9 eS Sn 21 53 53.4 +2.6
MTVR Mutnovka 3.56 11 eP Pn 21 53 15.4 +3.7
MTVR eS Sn 21 53 58.1 +3.9
RUS Russkaya 3.56 15 PN Pn 21 53 14.5 +3.0
RUS Russkaya 3.56 15 eP Pn 21 53 14.5 +3.0
RUS eS Sb 21 53 58.1 -4.3
APC Apacha 3.92 1 eP Pn 21 53 19.7 +3.1
PET Petropavlovsk 4.15 13 ePN Pn 21 53 23.7 +4.1
PET pmax pmax
comp=Z,10.0nm,0.4s
AVH Avacha 4.39 13 eP Pn 21 53 28.0 +4.8
AVH eS Sb 21 54 20.8 -6.0
SMAR Somma 4.40 14 eP Pn 21 53 28.0 +4.5
KOK Koryaka 4.41 12 eP Pn 21 53 28.3 +5.0
KOK eS Sb 21 54 22.6 -4.6
SDLR Sedlovina 4.43 14 eP Pn 21 53 27.5 +3.8
KRER Koryakskii 4.43 13 eP Pn 21 53 28.6 +4.7
KRER eS Sb 21 54 22.7 -5.5
KRX Arik 4.47 12 eP Pn 21 53 29.0 +4.7
GNL Ganaly 4.73 6 eP Pn 21 53 32.1 +4.3
MKZ Mys Kozlova 6.27 26 PN Pn 21 53 52.3 +3.6
MKZ Mys Kozlova 6.27 26 eP Pn 21 53 52.3 +3.6
KBTR Krutoberegovo 8.02 24 PN Pn 21 54 16.8 +4.0
KBTR Krutoberegovo 8.02 24 eP Pn 21 54 16.8 +4.0

IDC 14 21:57:57.7±1.4, 27°.24N×129°.58E, h0km, mb3.1/3, mb1 3.4/4, mb1mx3.2/32, mbtmp3.2/4, ML3.1/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/11, Error ellipse: s-maj=24.7km s-min=24.4km az=62.0
ISCJB 14 21:57:58.9±1.0, 27°.28N±0°.04×129°.61E±0°.04, h26km±8km, mb3.0/3, Error ellipse: s-maj=7.4km s-min=5.3km az=148.2
JMA 14 21:58:00.8±0.1, 27°.39N×129°.50E, h52km, M3.0
ISC 14 21:57:59.0±2.1, 27°.28N±0°.05×129°.60E±0°.04, h17km±14km, n17, σ0s.99/25, mb3.2/3, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JTK Tokunoshima 0.77 311 P Pb 21 58 13.8 -0.1
JTK eS Sb 21 58 22.9 -1.1
JOKE Okinoerabujima 0.92 275 P Pb 21 58 16.6 +0.1
JAMN Amaminishikomi 1.03 339 P Pb 21 58 17.5 -0.9
JZK Kikaishima 1.08 18 P Pb 21 58 19.0 -0.2
JZK eS Sb 21 58 32.5 -0.6
JAM Amami Oshima 1.13 0 P Pb 21 58 18.8 -1.2
JAM eS Sb 21 58 33.2 -1.2
JOW Kunigami 1.26 250 P Pn 21 58 21.9 0.0
JOW Kunigami 1.26 250 Pn Pn 21 58 22.3 +0.4
2.4nm,0.3s,baz=128,slow=30,SNR=56
JOW Sn Sg 21 58 40.2 +0.3
3.9nm,0.3s,baz=128,slow=19,SNR=13
JIH Iheya 1.48 261 P Pn 21 58 24.7 -0.1
JIH eS Sn 21 58 42.5 -1.2
JNTH Nagotoyohara 1.60 242 P Pn 21 58 26.6 +0.1
JNTH eS Sn 21 58 46.0 -0.7
JMZ Minamidaito 2 2.06 135 P Pn 21 58 32.6 -0.1
JMZ eS Sn 21 58 56.0 -1.9
JAGN Aguni-jima 2.21 252 P Pn 21 58 34.7 -0.2

JAGN eS Sn 21 59 00.7 -1.2
JKE Kume jima 2 2.69 250 P Pn 21 58 40.9 -0.6
JKE eS Sn 21 59 12.5 -1.1
JNU Nakatsue 5.93 10 Pn Pn 21 59 27.3 +1.3
0.5nm,0.3s,baz=177,slow=21,SNR=10
KSRS Korea Array 10.24 352 LR LR 22 04 57.7
comp=Z,34nm,18.4s,baz=171,slow=41
MKAR Makanchi Array 41.77 311 P P 22 05 48.7 +1.4
0.1nm,0.7s,baz=98,slow=8.9,SNR=2.3
WRA Warramunga Arr 47.17 174 P P 22 06 31.0 +0.3
0.4nm,0.8s,baz=355,slow=8.3,SNR=5.9
ASAR Alice Springs 50.82 175 P P 22 07 00.3 +1.6
0.2nm,0.7s,baz=8.5,slow=13,SNR=6.2

MOS 14 22:00:28.1±2.0, 48.°96N×156.°40E, h27km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=18.9km az=80.7
KRSC 14 22:00:28.9±2.1, 49.°11N×156.°89E, h6km±19km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.65**	**343**	ePN	Pn	22 00 54.0	-4.3
SKR				eS	Sn	22 01 14.4	-5.4
SKR				pmax	pmax		
	comp=Z,70nm,0.7s						
SKR				smax	smax		
	comp=N,180nm,0.4s						
SKR				smax	smax		
	comp=E,270nm,0.2s						
SKR	**Severo-Kuril's**	**1.65**	**343**	eP	Pn	22 00 56.9	-1.4
SKR				eS	Sn	22 01 18.0	-1.8
PAU	**Pauzhetka**	**2.36**	**359**	PN	Pb	22 01 10.3	-1.4
PAU				S	Sb	22 01 41.1	0.0
PAU	**Pauzhetka**	**2.36**	**359**	eP	Pb	22 01 10.3	-1.4
PAU				eS	Sb	22 01 41.1	0.0
RUS	**Russkaya**	**3.48**	**17**	PN	Pb	22 01 27.4	-3.5
RUS				S	Sb	22 02 09.2	-4.2
RUS	**Russkaya**	**3.48**	**17**	eP	Pb	22 01 27.4	-3.5
RUS				eS	Sb	22 02 09.2	-4.2
AVH	**Avacha**	**4.32**	**15**	eP	Pn	22 01 39.5	+4.4
KOK	**Koryaka**	**4.33**	**14**	eP	Pn	22 01 39.9	+4.6
SMAR	**Somma**	**4.33**	**15**	eP	Pn	22 01 38.8	+3.3
SDLR	**Sedlovina**	**4.36**	**16**	eP	Pn	22 01 39.5	+3.8
KRX	**Arik**	**4.39**	**14**	eP	Pn	22 01 40.5	+4.2
GNL	**Ganaly**	**4.64**	**8**	eP	Pn	22 01 44.4	+4.8
MKZ	**Mys Kozlova**	**6.22**	**27**	PN	Pn	22 02 05.5	+4.4
MKZ	**Mys Kozlova**	**6.22**	**27**	eP	Pn	22 02 05.5	+4.4
KBTR	**Krutoberegovo**	**7.97**	**25**	PN	Pn	22 02 30.4	+5.3
KBTR	**Krutoberegovo**	**7.97**	**25**	eP	Pn	22 02 30.4	+5.3

CSEM 14 22:06:11.0±0.3, 43.°21N×21.°00E, h10km, ML1.6, Error ellipse: s-maj=8.3km s-min=4.4km az=24.0
BEO 14 22:06:11.8±0.3, 43.°21N×21.°03E, h9km±2km, ML1.6/1, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.07**	**82**	ePg	Pg	22 06 13.2	-0.7
SELS				eSg	Sg	22 06 14.5	-0.8
SELS	**Selova**	**0.07**	**82**	ePg	Pg	22 06 13.2	-0.7
SELS				eSg	Sg	22 06 14.5	-0.8
BARS	**Barje**	**0.70**	**124**	ePg	Pg	22 06 25.1	-0.2
BARS				eSg	Sg	22 06 34.3	-0.1
BARS	**Barje**	**0.70**	**124**	ePg	Pg	22 06 25.1	-0.2
BARS				eSg	Sg	22 06 34.3	-0.1
GRUS	**Gruza**	**0.72**	**341**	ePg	Pg	22 06 24.5	-1.2
GRUS				eSg	Sg	22 06 35.0	0.0
GRUS	**Gruza**	**0.72**	**341**	ePg	Pg	22 06 24.5	-1.2
GRUS				eSg	Sg	22 06 35.0	0.0
IVAS	**Ivanjica**	**0.74**	**300**	ePg	Pg	22 06 25.1	-1.0
IVAS				eSg	Sg	22 06 34.9	-0.9
IVAS	**Ivanjica**	**0.74**	**300**	ePg	Pg	22 06 25.1	-1.0
IVAS				eSg	Sg	22 06 34.9	-0.9
SJES	**Sjenica**	**0.77**	**274**	ePg	Pg	22 06 26.3	-0.6
SJES				eSg	Sg	22 06 36.2	-0.9
SVIS	**Svilajnac**	**1.06**	**7**	ePg	Pn	22 06 32.9	0.0
SVIS				eSg	Sb	22 06 46.4	0.0
TRUS	**Trudelj**	**1.11**	**336**	ePg	Pg	22 06 31.8	-1.4
TRUS				eSg	Sg	22 06 47.5	-0.1
TRUS	**Trudelj**	**1.11**	**336**	ePg	Pg	22 06 31.8	-1.4
TRUS				eSg	Sg	22 06 47.5	-0.1
DIVS	**Divibare**	**1.17**	**320**	ePg	Pb	22 06 33.4	-0.9
DIVS				eSg	Sg	22 06 49.5	-0.1
DIVS	**Divibare**	**1.17**	**320**	ePg	Pb	22 06 33.4	-0.9
DIVS				eSg	Sg	22 06 49.5	-0.1
ZAPS	**Zavoj**	**1.17**	**86**	ePg	Pg	22 06 34.4	0.0
ZAPS	**Zavoj**	**1.17**	**86**	ePg	Pg	22 06 34.4	0.0
BBLS	**Lazići**	**1.35**	**300**	ePg	Pn	22 06 36.1	-0.9
BBLS				eSg	Sb	22 06 55.0	+0.1
BBLS	**Lazići**	**1.35**	**300**	ePg	Pn	22 06 36.1	-0.9
BBLS				eSg	Sb	22 06 55.0	+0.1
BZS	**Buzias**	**2.44**	**10**	ePn	Pn	22 06 50.0	-1.9
BZS				eSn	Sn	22 07 19.6	-2.3
BZS	**Buzias**	**2.44**	**10**	ePn	Pn	22 06 50.0	-1.9
BZS				eSn	Sn	22 07 19.6	-2.3

IDC 14 22:09:06.8±0.5, 2.°73N×94.°22E, h0km, mb4.4/30, mb1 4.5/32, mb1mx4.4/50, mbtmp4.4/32, ML4.6/2, MS4.1/19, Ms1 4.1/19, ms1mx3.9/35, Error ellipse: s-maj=16.3km s-min=12.1km az=39.0
BJI 14 22:09:08.3, 2.°41N×94.°17E, h37km, mB5.1/43, mb4.7/48, Ms4.9/43, Ms7 4.7/40
ISCJB 14 22:09:10.3±0.9, 2.°79N±0.°03×94.°21E±0.°02, h30km±6km, mb4.7/99, MS4.4/33, Error ellipse: s-maj=5.5km s-min=3.4km az=31.8
MOS 14 22:09:11.4±0.9, 2.°79N×94.°30E, h41km, mb4.9/50, MS4.1/5, Error ellipse: s-maj=9.1km s-min=5.5km az=111.4
GCMT 14 22:09:13.2±0.3, 2.°71N×94.°10E, h12km, MW4.9/67, Moment Tensor Solution. s25,c26; s67,c95; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.20±.12; Mθθ-1.62±.08; Mφφ-0.57±.13; Mrθ-0.83±.33; Mrφ1.70±.09; Mθφ0.85±.37; Best double couple: Mo2.80900×10^16 NP1:φs312.00000°, δ58.00000°, λ97.00000°. NP2: φs120.00000°, δ33.00000°, λ80.00000°. Principal axes: T 2.4800, Plg76.0000°, Azm242.0000°; N 0.6600, Plg6.0000°, Azm128.0000°; P -3.1380, Plg12.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 14 22:09:13.2±0.7, 2.°77N×94.°29E, h44km±6km, mb4.9/36 Error ellipse: s-maj=7.1km s-min=4.5km az=49.0
KLM 14 22:09:13.6, 2.°85N×94.°43E, h10km, mb4.8, ML4.8, MS5.8
DJA 14 22:09:17.4±1.3, 3.°N±3.°×9.°5E±.°, h23km±13km, M4.8/27, mB5.4/24, mb4.9/27, MLv4.8/9, Mw(mB)4.8/24
ISC 14 22:09:13.0±0.3, 2.°77N±0.°04×94.°22E±0.°04, h39km±2km, h39km:pP-P, n327, σ1.°39/351, mb4.8/99, MS4.3/33, 16C-13D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**2.14**	**100**	P	Pn	22 09 44.4	-1.8
SNSI				S	Sn	22 10 10.1	-1.4
TPTI		**3.00**	**81**	P	Pn	22 09 56.7	-1.3
KCSI	**Kotacane, Aceh**	**3.63**	**78**	P	Pn	22 10 07.1	+0.4
KCSI				S	Sn	22 10 48.2	-0.1
LHMI	**Lhok Sumawe**	**3.66**	**48**	P	Pn	22 10 15.5	+8.4
LHMI	**Lhok Sumawe**	**3.66**	**48**	ePn	Pn	22 10 06.5	-0.6
LHMI				eSn	Sn	22 10 42.5	-6.6
LHMI	**Lhok Sumawe**	**3.66**	**48**	P	Pn	22 10 06.5	-0.6
	baz=3.7,SNR=5.5						
GSI	**Gunungsitoli**	**3.66**	**113**	P	Pn	22 10 06.1	-1.0
GSI				S	Sn	22 10 47.3	-1.8
GSI	**Gunungsitoli**	**3.66**	**113**	ePn	Pn	22 10 08.8	+1.7
CMBY	**CAMPBELL BAY**	**4.22**	**356**	eP	Pn	22 10 14.1	-0.8
TSI	**Tuntungan**	**4.40**	**80**	P	Sn	22 11 08.1	+0.7
PSI	**Prapat**	**4.70**	**90**	P	Pn	22 10 20.2	-1.4
PSI						22 11 14.5	
PSI				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PSI				smax	smax		
	comp=N,6.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,534nm,18.3s						
PSI	**Prapat**	**4.70**	**90**	Pn	Pn	22 10 20.2	-1.4
	comp=Z,7.5nm,0.3s,baz=264,slow=9.1,SNR=41						
PSI				Sn	Sn	22 11 14.4	-0.5
	comp=Z,5.5nm,0.3s,baz=238,slow=23,SNR=4.2						
PSI				LR	LR	22 11 45.2	
	comp=Z,534nm,18.3s,baz=258,slow=34						
PSI	**Prapat**	**4.70**	**90**	P	Pn	22 10 21.2	-0.4
	baz=4.9,SNR=18						
MNSI	**Mandailing Nat**	**5.71**	**110**	P	Pn	22 10 34.7	-0.6
	comp=Z,372nm,0.5s,comp=Z,9µm						
MNSI				S	Sn	22 11 35.4	-4.2
	comp=Z,372nm,0.5s,comp=Z,9µm						
PKDT	**Phuket**	**6.53**	**39**	P	Pn	22 10 53.9	+7.2
KULM	**Kulim**	**6.89**	**68**	ePn	Pn	22 10 50.7	-0.8
KULM				eSn	Sn	22 12 05.4	-3.2
KULM	**Kulim**	**6.89**	**68**	⇓P	Pn	22 10 51.7	+0.2
IPM	**Ipoh**	**7.00**	**76**	ePn	Pn	22 10 51.9	-1.2
IPM	**Ipoh**	**7.00**	**76**	⇓P	Pn	22 10 53.3	+0.2
PDSI	**Padang**	**7.24**	**120**	P	Pn	22 10 58.1	+1.8
	comp=Z,100nm,0.6s,comp=Z,1µmcomp=Z,0.4nm						
BKNI	**Bangkinang**	**7.24**	**109**	P	Pn	22 10 57.9	+1.5
	comp=Z,227nm,1.1s,comp=Z,3µmcomp=Z,0.9nm						
BKNI	**Bangkinang**	**7.24**	**109**	ePn	Pn	22 10 54.5	-1.9
FRIM	**Kepong**	**7.41**	**86**	⇑P	Pn	22 10 58.1	-0.7
SURT	**Suratani**	**7.65**	**36**	P	Pn	22 11 01.8	-0.2
	comp=Z,24nm,1.0s,comp=Z,424nmcomp=Z,0.1nm						
PBA	**Port Blair**	**8.95**	**351**	eP	Pn	22 11 18.9	-0.9
KGM	**Kluang**	**9.12**	**95**	⇑P	Pn	22 11 23.2	+1.0
KTGM	**Kuala Trengganu**	**9.25**	**74**	⇓P	Pn	22 11 24.6	+0.7
MYKOM	**Kota Tinggi**	**9.67**	**96**	ePn	Pn	22 11 28.2	-1.6
MYKOM	**Kota Tinggi**	**9.67**	**96**	⇑P	Pn	22 11 29.2	-0.6
DGPR	**DIGLIPUR**	**10.42**	**353**	eP3	Pn	22 11 35.6	-4.3
DGPR				eS	Sn	22 13 28.2	-7.2
TPRI	**Tanjung Pinang**	**10.47**	**100**	P	Pn	22 11 44.9	+4.3
	comp=Z,46nm,1.2s,comp=Z,5µm						
MNAI	**Manna**	**11.24**	**129**	ePn	Pn	22 11 49.0	-2.3
MNAI	**Manna**	**11.24**	**129**	P	Pn	22 11 57.5	+6.2
	baz=12,SNR=3.5						
MDSI	**Maura Dua**	**12.29**	**126**	P	Pn	22 12 05.6	0.0
	comp=Z,82nm,1.2s,comp=Z,980nm						
SRDT	**SRDT**	**12.48**	**23**	P	P	22 12 17.7	-1.6
LWLI	**Liwa**	**12.51**	**128**	P	Pn	22 12 08.9	+0.2
	comp=Z,207nm,0.8s,comp=Z,2µm						
KHLT	**Khaolaem Dam**	**12.70**	**20**	P	P	22 12 23.7	+1.9
CHBT	**CHBT**	**12.76**	**39**	P	P	22 12 26.7	+4.3
KASI	**Kota Agung**	**13.16**	**129**	P	Pn	22 12 15.2	-2.3
	comp=Z,102nm,1.2s,comp=Z,1µm						
PALK	**Pallekele**	**14.18**	**289**	eP	Pn	22 12 33.8	+2.3
PALK	**Pallekele**	**14.18**	**289**	ePn	Pn	22 12 33.8	+2.3
PBKT	**Sadao Pong**	**15.24**	**25**	P	Pn	22 12 46.6	+1.1
	comp=Z,34nm,0.9s,comp=Z,840nm						
SUKH	**Sukhothai**	**15.55**	**20**	P	P	22 12 52.8	-0.7
	comp=Z,21nm,0.8s,comp=Z,157nm						
UTTA	**Uttaradit**	**16.13**	**22**	P	Pn	22 12 56.1	-0.9
	comp=Z,13nm,0.9s,comp=Z,91nm						
KSM	**Kuching**	**16.13**	**94**	eP	Pn	22 12 56.7	-0.4
	comp=Z,118nm,1.4s						
KSM	**Kuching**	**16.13**	**94**	P	P	22 13 00.8	+0.9
	baz=16,SNR=6.6						
KSM	**Kuching**	**16.13**	**94**	⇓P	Pn	22 12 56.5	-0.6
CM31	**Chiang Mai Arr**	**16.26**	**16**	ePn	Pn	22 12 57.5	-1.2
	comp=Z,39nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.26**	**16**	P	Pn	22 12 57.3	-1.4
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,662nm,21.2s						
CMAR	**Chiang Mai Arr**	**16.26**	**16**	Pn	Pn	22 12 57.3	-1.4
	comp=Z,1.9nm,0.3s,baz=203,slow=12,SNR=32						
CMAR				LR	LR	22 19 08.3	
	comp=Z,662nm,21.2s,baz=202,slow=37						
CNJI	**Cibinong**	**16.32**	**128**	P	P	22 13 01.1	-0.9
	comp=Z,77nm,1.0s,comp=Z,765nm						
LEM	**Lembang**	**16.43**	**126**	P	P	22 13 04.3	+0.9
	comp=Z,49nm,1.0s						
LAMP	**Lampang**	**16.53**	**18**	P	P	22 13 04.1	-0.2
	comp=Z,18nm,0.9s,comp=Z,147nm						
CHTO	**Chiang Mai**	**16.60**	**16**	eP	Pn	22 13 02.6	-0.4
CHTO				pmax	pmax		
	comp=Z,38nm,0.8s						
CHTO	**Chiang Mai**	**16.60**	**16**	P	Pn	22 13 01.7	-1.3
	comp=Z,178nm,1.0s,comp=Z,3µm						
CHTO	**Chiang Mai**	**16.60**	**16**	ePn	Pn	22 13 02.6	-0.4
	comp=Z,38nm,0.8s						
CMMT	**Chiang Mai**	**16.60**	**16**	P	Pn	22 13 01.7	-1.3
	comp=Z,80nm,0.8s,comp=Z,972nm						
UBPT	**Khong Chiam**	**16.66**	**41**	P	P	22 13 11.3	+5.6
DLV	**T Lat**	**16.82**	**56**	ePn	Pn	22 13 04.7	-1.3
	comp=Z,42nm,1.1s						
CISI	**Cisompet, Garu**	**17.01**	**127**	P	P	22 13 10.0	+0.3
	comp=Z,45nm,1.0s,comp=Z,2µm						
CISI	**Cisompet, Garu**	**17.01**	**127**	ePn	Pn	22 13 07.6	-0.6
	comp=Z,28nm,0.8s						
MDRS	**Chennai**	**17.19**	**307**	eP	Pn	22 13 10.9	+0.5
MDRS				AMB	AMB	22 14 33.9	
	comp=Z,22nm,0.3s						
XMIS	**Christmas Isla**	**17.40**	**139**	P	P	22 13 15.8	+1.8
	baz=18,SNR=3.4						
STKI	**Sintang**	**17.46**	**99**	P	P	22 13 15.6	+0.9
	comp=Z,36nm,1.1s,comp=Z,2µm						
CMJI	**Cimerak**	**17.65**	**127**	P	P	22 13 18.2	+1.5
	comp=Z,27nm,1.6s						
CMAI	**Chiengmai2**	**17.70**	**15**	P	Pn	22 13 17.0	+0.2
	comp=Z,163nm,1.4s						
KPJI	**Karang Pucung**	**17.79**	**124**	P	P	22 13 19.6	+1.4
	comp=Z,22nm,0.8s,comp=Z,812nm						
SBUM	**Sibu**	**17.99**	**91**	ePn	Pn	22 13 19.6	-0.7
	comp=Z,72nm,1.7s						
SBUM	**Sibu**	**17.99**	**91**	⇓P	P	22 13 20.9	+0.4
TRD	**Trivandrum**	**18.09**	**289**	eP	P	22 13 23.8	+2.2
VIS	**Vishakhapatnam**	**18.30**	**325**	eP	P	22 13 23.1	-0.8
BTM	**Bintulu**	**18.84**	**88**	⇑P	Pn	22 13 31.3	+0.5
NGJI	**Ngawi**	**19.94**	**120**	P	P	22 13 45.5	+1.8
	comp=Z,42nm,1.2s,comp=Z,1µm						
SLVN	**Son La**	**20.72**	**26**	eP	P	22 13 48.5	-1.9
	comp=Z,36nm,0.9s						
HYB	**Hyderabad**	**21.17**	**314**	eP	P	22 13 55.0	-0.3
HYB	**Hyderabad**	**21.17**	**314**	iP	P	22 13 55.0	-0.3
HYB	**Hyderabad**	**21.17**	**314**	eP	P	22 13 54.3	-1.0
HYB	**Hyderabad**	**21.17**	**314**	eP	P	22 13 55.0	-0.3
BBKI	**Banjar Baru**	**21.52**	**107**	P	P	22 13 59.4	+0.4
	comp=Z,105nm,1.0s,comp=Z,5µm						
KMMI	**Kalianget**	**21.99**	**116**	P	P	22 14 06.0	+2.0
	comp=Z,54nm,1.6s,comp=Z,1µm						
KKM	**Kota Kinabalu**	**22.17**	**81**	eP	P	22 14 08.0	+1.9
	comp=Z,56nm,1.0s						
KKM	**Kota Kinabalu**	**22.17**	**81**	P	P	22 14 07.9	+1.9
	baz=22,SNR=4.0						
KKM	**Kota Kinabalu**	**22.17**	**81**	⇓P	P	22 14 07.6	+1.5
QIZ	**Qiongzhong**	**22.25**	**42**	P	P	22 14 07.3	+0.6
QIZ				S	S	22 18 10.5	+1.1
QIZ				pmax	pmax		
	comp=Z,12nm,1.0s						
QIZ				LR	LR		
	comp=Z,1µm,15.8s						
QIZ				LR	LR		
	comp=Z,1µm,16.3s						
QIZ				LR	LR		
	comp=Z,2µm,16.2s						
BOK	**Bokaro**	**22.40**	**340**	eP	P	22 14 08.8	+0.5
SHL	**Shillong**	**22.78**	**355**	eP	P	22 14 11.0	-1.5
SHL				eS	S	22 18 16.0	-3.0
KDM	**Kudat**	**22.90**	**79**	⇑P	P	22 14 17.3	+3.5
SDKM	**Sandakan**	**23.09**	**82**	⇓P	P	22 14 16.7	+1.0
NGP	**Nagpur**	**23.49**	**322**	eP	P	22 14 20.7	+1.1
NGP				ex	x	22 14 25.0	
	comp=Z,36nm,1.3s						
NGP				ex	x	22 19 15.9	
SRBI	**Singaraja**	**23.55**	**117**	P	P	22 14 20.3	+0.1
	comp=Z,38nm,0.9s,comp=Z,825nm						
TSM	**Tawau**	**23.66**	**86**	⇑P	P	22 14 23.2	+2.0
KMI	**Kunming**	**23.69**	**20**	P	P	22 14 22.3	+0.7
KMI				pP	pP	22 14 32.3	+0.2
KMI				S	S	22 18 40.6	+6.3
KMI				pmax	pmax		
	comp=Z,22nm,2.0s						
KMI				pmax	pmax		
	comp=Z,350nm,3.6s						
KMI				LR	LR		
	comp=Z,2µm,11.5s						
KMI				LR	LR		
	comp=Z,1µm,12.7s						
KMI				LR	LR		
	comp=Z,2µm,10.9s						
H08S2	**Diego Garcia H**	**24.02**	**244**	T	T	22 39 39.7	
	baz=65,slow=75,SNR=788						
H08S3	**Diego Garcia H**	**24.02**	**244**	T	T	22 39 21.0	
	baz=65,slow=75,SNR=725						
H08S1	**Diego Garcia H**	**24.04**	**244**	T	T	22 39 22.2	
	baz=65,slow=75,SNR=248						
MYLDM	**Lahad Datu**	**24.34**	**84**	eP	P	22 14 28.9	+1.4
	comp=Z,109nm,1.1s						
MYLDM	**Lahad Datu**	**24.34**	**84**	⇓P	P	22 14 30.5	+2.9
ODAN	**Odare**	**24.83**	**345**	eP	P	22 14 32.6	+0.5
ODAN	**Odare**	**24.83**	**345**	eP	P	22 14 32.6	+0.5
RAMN	**Ramite**	**25.13**	**344**	eP	P	22 14 35.5	+0.7
	comp=Z,111nm,1.4s						
RAMN	**Ramite**	**25.13**	**344**	eP	P	22 14 35.5	+0.7
	comp=Z,111nm,1.4s						
TAPN	**Taplejung**	**25.22**	**346**	eP	P	22 14 35.2	-0.5
	comp=Z,41nm,0.9s						
TAPN	**Taplejung**	**25.22**	**346**	eP	P	22 14 35.2	-0.5
	comp=Z,41nm,0.9s						
POO	**Poona**	**25.36**	**310**	eP	P	22 14 38.0	+1.2
JIRN	**Jiri**	**25.91**	**344**	eP	P	22 14 42.4	+0.3
	comp=Z,30nm,0.6s						
JIRN	**Jiri**	**25.91**	**344**	eP	P	22 14 42.4	+0.3
	comp=Z,30nm,0.6s						
BHPL	**Bhopal**	**26.05**	**323**	eP	P	22 14 41.6	-1.4
PKI	**Pulchoki**	**26.06**	**342**	eP	P	22 14 43.8	+0.4
PKI	**Pulchoki**	**26.06**	**342**	eP	P	22 14 43.8	+0.4
PKI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PKI	**Pulchoki**	**26.06**	**342**	eP	P	22 14 43.8	+0.4
	comp=Z,5.6nm,0.5s						
PKIN	**Phulchoki**	**26.07**	**342**	eP	P	22 14 43.8	+0.4
	comp=Z,5.6nm,0.5s						
DMN	**Daman**	**26.19**	**341**	eP	P	22 14 45.5	+1.0
DMN	**Daman**	**26.19**	**341**	eP	P	22 14 45.5	+1.0
GUN	**Gumba**	**26.24**	**343**	eP	P	22 14 45.1	+0.1
	comp=Z,38nm,0.7s						
GUN	**Gumba**	**26.24**	**343**	eP	P	22 14 45.1	+0.1
	comp=Z,38nm,0.7s						
KKN	**Kakani**	**26.30**	**342**	eP	P	22 14 45.5	+0.1
	comp=Z,35nm,1.1s						
KKN	**Kakani**	**26.30**	**342**	eP	P	22 14 45.5	+0.1
KKN				pmax	pmax		
	comp=Z,35nm,1.1s						
KKN	**Kakani**	**26.30**	**342**	eP	P	22 14 45.5	+0.1
	comp=Z,35nm,1.1s						
GYA	**Guiyang**	**26.41**	**26**	P	P	22 14 47.6	+1.3
GYA				pP	pP	22 14 58.6	+1.6
GYA				sP	sP	22 15 02.5	+0.8
GYA				PP	PnPn	22 15 32.0	+4.9
GYA				PcP	PcP	22 18 13.4	+2.1
GYA				S	S	22 19 16.5	-0.9
GYA				sS	sS	22 19 35.3	0.0
GYA				SS	SnSn	22 20 26.0	+5.5
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=Z,480nm,17.8s						
GYA				LR	LR		
	comp=Z,390nm,18.0s						
GYA				LR	LR		
	comp=Z,440nm,17.6s						
GKN	**Gorkha**	**26.71**	**341**	eP	P	22 14 49.0	0.0
	comp=Z,24nm,0.8s						
GKN	**Gorkha**	**26.71**	**341**	eP	P	22 14 49.0	0.0
	comp=Z,24nm,0.8s						
KOLN	**Koldanda**	**26.85**	**339**	eP	P	22 14 50.7	+0.4
	comp=Z,125nm,1.4s						
KOLN	**Koldanda**	**26.85**	**339**	eP	P	22 14 50.7	+0.4
	comp=Z,125nm,1.4s						
LSA	**Lhasa**	**26.94**	**354**	P	P	22 14 52.9	+1.5
LSA	**Lhasa**	**26.94**	**354**	eP	P	22 14 52.0	+0.6
LSA				pmax	pmax		
	comp=Z,28nm,0.7s						
LSA	**Lhasa**	**26.94**	**354**	eP	P	22 14 52.0	+0.6
	comp=Z,28nm,0.7s						
DANN	**Dangsing**	**27.32**	**340**	eP	P	22 14 54.7	0.0
	comp=Z,48nm,1.1s						
DANN	**Dangsing**	**27.32**	**340**	eP	P	22 14 54.7	0.0
	comp=Z,48nm,1.1s						
CD2	**Chengdu**	**29.41**	**17**	P	P	22 15 13.4	+0.5
CD2				pP	pP	22 15 24.3	+0.6
CD2				sP	sP	22 15 29.3	+0.9
CD2				PP	PnPn	22 16 09.8	+1.9
CD2				S	S	22 20 03.4	-1.0
CD2				sS	sS	22 20 21.8	-0.5
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,180nm,5.9s						
CD2				LR	LR		
	comp=Z,2µm,12.5s						
CD2				LR	LR		
	comp=Z,2µm,10.7s						
SMLA	**Simla**	**32.48**	**332**	eP	P	22 15 40.1	+0.2
SMLA				AMB	AMB	22 15 42.4	
	comp=Z,44nm,0.9s						
DHRM	**DHARAMSHALA**	**33.82**	**332**	eP	P	22 15 51.5	-0.4
XAN	**Xi'an**	**34.00**	**22**	P	P	22 15 51.8	-1.5
XAN				pP	pP	22 16 02.0	-2.2
XAN				S	S	22 21 09.8	-6.3
XAN				pmax	pmax		
	comp=Z,57nm,5.7s						
XAN				LR	LR		
	comp=Z,510nm,12.1s						
XAN				LR	LR		
	comp=Z,260nm,12.3s						
XAN				LR	LR		
	comp=Z,380nm,12.3s						
LZH	**Lanzhou**	**34.33**	**14**	eP	P	22 16 00.8	+4.6
LZH				pP	pP	22 16 05.6	-1.5
LZH				sP	sP	22 16 08.1	-3.6
LZH				eS	S	22 21 24.0	+2.7
LZH				sS	sS	22 21 45.0	+5.7
LZH				SS	SnSn	22 23 36.4	+3.3
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				pmax	pmax		
	comp=Z,78nm,6.1s						
LZH				LR	LR		
	comp=Z,680nm,13.6s						
LZH				LR	LR		
	comp=Z,670nm,12.0s						
LZH				LR	LR		
	comp=Z,790nm,17.0s						
MBWA	**Marble Bar**	**34.50**	**135**	eP	P	22 15 58.3	+0.6
	comp=Z,42nm,1.4s						
GTA	**Gaotai**	**36.82**	**7**	P	P	22 16 17.3	-0.3
GTA				pP	pP	22 16 26.3	-2.2
GTA				sP	sP	22 16 31.0	-2.1
GTA				PP	PnPn	22 17 44.1	+1.9
GTA				S	S	22 21 58.5	-0.9
GTA				SS	SnSn	22 24 28.9	-4.5
GTA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,170nm,5.0s						
GTA				LR	LR		
	comp=Z,540nm,12.4s						
GTA				LR	LR		
	comp=Z,370nm,10.7s						
GTA				LR	LR		
	comp=Z,530nm,12.1s						
NJ2	**Nanjing**	**37.22**	**36**	eP	P	22 16 21.0	+0.1
NJ2				pmax	pmax		
	comp=Z,30nm,1.2s						
MEEK	**Meekatharra**	**37.55**	**143**	P	P	22 16 24.2	+0.4
	baz=38,SNR=5.2						
SSE	**Sheshan**	**37.97**	**39**	P	P	22 16 27.0	-0.2
SSE				S	S	22 22 19.8	+3.0
SSE				pmax	pmax		
	comp=Z,16nm,1.2s						
SSE				pmax	pmax		
	comp=Z,210nm,4.9s						
SSE				LR	LR		
	comp=Z,940nm,13.2s						
SSE				LR	LR		
	comp=Z,740nm,13.2s						
SSE				LR	LR		
	comp=Z,1µm,12.6s						
FAKI	**Fak Fak**	**38.43**	**98**	eP	P	22 16 27.8	-3.6
	comp=Z,105nm,1.5s						
FAKI	**Fak Fak**	**38.43**	**98**	P	P	22 16 39.0	+7.6
	baz=39,SNR=3.7						
KSH	**Kashi**	**40.16**	**338**	eP	P	22 16 44.1	-1.5
KSH				esP	sP	22 17 00.8	-0.5
KSH				ePP	PnPn	22 18 21.9	-0.4
KSH				PcS	PcS	22 22 33.8	-6.1
KSH				S	S	22 22 43.5	-6.3

KSH SS SS 22 25 38.1 -11
KSH pmax pmax
comp=Z,9.0nm,1.2s
KSH pmax pmax
comp=Z,190nm,4.9s
KSH LR LR
comp=Z,120nm,7.3s
KSH LR LR
comp=Z,240nm,6.2s
KSH LR LR
comp=Z,300nm,6.2s
PALU Palau 40.34 82 S **S 22 22 54.3 +1.4**
baz=40,SNR=4.6
HHC Hu-ho-hao-te 41.01 20 eP **P 22 16 53.8 +1.2**
HHC pP **pP 22 17 06.5 +2.8**
HHC PP **PP 22 18 29.8 +2.0**
HHC PcP **PcP 22 18 56.1 +3.9**
HHC S **S 22 23 03.6 +1.1**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,300nm,6.2s
HHC LR LR
comp=Z,2μm,14.1s
HHC LR LR
comp=Z,760nm,14.0s
HHC LR LR
comp=Z,2μm,14.0s
WMQ Urumqi 41.28 353 P **P 22 16 55.3 +0.6**
WMQ pP **pP 22 17 05.0 -0.8**
WMQ sP **sP 22 17 09.0 -1.4**
WMQ PP **PnPn 22 18 34.0 -1.3**
WMQ PcP **PcP 22 18 54.5 +1.6**
WMQ PcS **PcS 22 22 44.4 +0.3**
WMQ S **S 22 23 06.3 0.0**
WMQ sS **sS 22 23 22.6 -2.0**
WMQ SS **SS 22 26 05.4 -5.5**
WMQ ScS **ScS 22 26 54.8 -1.1**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,230nm,4.8s
WMQ LR LR
comp=Z,170nm,20.2s
WMQ LR LR
comp=Z,240nm,23.4s
H01W3 Cape Leeuwin H 41.87 155 T T 23 01 52.7
baz=331,slow=76,SNR=25
H01W2 Cape Leeuwin H 41.88 155 T T 23 02 02.6
baz=331,slow=76,SNR=19
H01W1 Cape Leeuwin H 41.88 155 T T 23 01 39.6
baz=331,slow=76,SNR=23
BJT Baijiatuau 42.08 25 eP **P 22 17 01.1 -0.1**
BJT pmax pmax
comp=Z,7.0nm,0.8s
BJT Baijiatuau 42.08 25 eP **P 22 17 01.1 -0.1**
comp=Z,7.2nm,0.8s
BJI Beijing 42.10 25 P **P 22 17 02.0 +0.6**
BJI PP **PP 22 18 42.8 +3.4**
BJI S **S 22 23 21.5 +3.2**
BJI pmax pmax
comp=Z,14nm,1.9s
BJI pmax pmax
comp=Z,120nm,3.7s
BJI LR LR
comp=Z,430nm,19.7s
BJI LR LR
comp=Z,870nm,12.8s
BJI LR LR
comp=Z,340nm,24.0s
WRKA Warakurna 43.09 132 P **P 22 17 09.5 -0.3**
baz=44,SNR=6.5
WRKA S S 22 23 15.1 -18
baz=44,SNR=5.5
TKM2 Tokmak 2 43.29 340 eP **P 22 17 10.4 -0.9**
TKM2 Tokmak 2 43.29 340 eP **P 22 17 10.4 -0.9**
AAK Ala-Archa 43.42 339⇑iP **P 22 17 13.0 +0.6**
AAK pmax pmax
comp=Z,9.0nm,1.2s
AAK Ala-Archa 43.42 339 eP **P 22 17 12.9 +0.6**
comp=Z,17nm,1.4s
MKAR Makanchi Array 45.06 348 P **P 22 17 25.6 +0.4**
MKAR pmax pmax
comp=Z,17nm,0.7s
MKAR MLR MLR
comp=Z,16nm,28.6s
MKAR Makanchi Array 45.06 348 P **P 22 17 25.6 +0.4**
comp=Z,16nm,0.7s,baz=168,slow=8.1,SNR=310
MKAR LR LR 22 39 21.7
comp=Z,183nm,19.2s,baz=166,slow=40
KKAR Karatay Array 45.37 336 eP **P 22 17 27.7 0.0**
KKAR Karatay Array 45.37 336 eP **P 22 17 27.7 0.0**
WRA Warramunga Arr 45.39 122 P **P 22 17 27.3 -0.9**
WRA pmax pmax
comp=Z,13nm,1.2s
WRA Warramunga Arr 45.39 122 P **P 22 17 27.3 -0.9**
comp=Z,13nm,1.2s,baz=299,slow=8.9,SNR=24
WRAB Tennant Creek 45.40 122 eP **P 22 17 27.9 -0.4**
WRAB pmax pmax
comp=Z,77nm,1.7s
WRAB Tennant Creek 45.40 122 eP **P 22 17 27.9 -0.4**
comp=Z,77nm,1.7s
SONM Songino Array 46.11 11 P **P 22 17 33.5 0.0**
SONM 22 19 09.2
SONM pmax pmax
comp=Z,6.0nm,1.0s
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM MLR MLR
comp=Z,265nm,20.5s
SONM Songino Array 46.11 11 P **P 22 17 33.5 0.0**
comp=Z,5.9nm,1.0s,baz=191,slow=8.6,SNR=39
SONM PcP **PcP 22 19 09.2 0.0**
comp=Z,2.2nm,0.9s,baz=191,slow=3.5,SNR=6.2
SONM LR LR 22 38 36.2
comp=Z,265nm,20.5s,baz=183,slow=38
ULN Ulaanbaatar 46.27 12 eP **P 22 17 34.6 -0.2**
ULN pmax pmax
comp=Z,15nm,1.3s
ULN Ulaanbaatar 46.27 12 eP **P 22 17 34.6 -0.2**
comp=Z,15nm,1.3s
KSAR Wonju Array Be 46.31 38 P **P 22 17 35.6 +0.4**
KSAR Wonju Array Be 46.31 38 P **P 22 17 35.5 +0.4**
KSRS Korea Array 46.34 38 P **P 22 17 35.6 +0.2**
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS MLR MLR
comp=Z,343nm,19.6s
KSRS Korea Array 46.34 38 P **P 22 17 35.5 +0.2**
comp=Z,2.2nm,0.8s,baz=218,slow=8.6,SNR=7.4
KSRS LR LR 22 38 12.4
comp=Z,343nm,19.6s,baz=234,slow=38
ASAR Alice Springs 46.72 126 P **P 22 17 37.9 -0.7**
ASAR 22 19 11.7
ASAR pmax pmax
comp=Z,3.0nm,0.9s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 46.72 126 P **P 22 17 37.9 -0.7**
comp=Z,3.4nm,0.9s,baz=298,slow=7.0,SNR=24
ASAR PcP **PcP 22 19 11.7 -0.1**
comp=Z,1.4nm,0.8s,baz=299,slow=3.8,SNR=5.7
ZAK Zakamensk 48.06 8 eP P 22 17 43.3 -5.4
ZAK pmax pmax
comp=Z,8.0nm,1.7s
CN2 Changchun 49.34 30 eP **P 22 17 58.3 -0.2**
CN2 eS **S 22 25 03.8 +1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,600nm,14.0s
CN2 LR LR
comp=Z,600nm,13.0s
TLY Talaya 49.38 8 i P **P 22 17 59.8 +1.1**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 49.38 8 eP **P 22 17 59.8 +1.1**
comp=Z,7.7nm,1.0s
KURK Kurchatov 49.56 347c iP **P 22 18 00.4 +0.4**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 49.56 347 eP **P 22 17 59.8 -0.2**
comp=Z,7.6nm,0.7s
IRK Irkutsk 50.01 8 eP **P 22 18 04.3 +0.8**
IRK e 22 25 09.2
IRK pmax pmax
comp=Z,41nm,1.7s
QIS Mount Isa 50.16 120 P **P 22 18 06.5 +1.3**
baz=50,SNR=3.1
OPO Ambohidratompo 50.90 243 LR LR 22 36 43.3
comp=Z,134nm,18.0s,baz=64,slow=33
HIA Hailar 51.19 21 eP **P 22 18 12.1 -0.4**
HIA pmax pmax
comp=Z,13nm,0.8s
HIA Hailar 51.19 21 eP **P 22 18 12.1 -0.4**
comp=Z,13nm,0.8s
RAYN Ar Rayn 51.39 298 eP **P 22 18 15.4 +1.0**
comp=Z,12nm,1.0s
ZALV Zalesovo Beam 51.59 353 P **P 22 18 15.7 +0.4**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ZALV MLR MLR
comp=Z,16nm,28.6s
ZALV Zalesovo Beam 51.59 353 P **P 22 18 15.7 +0.4**
comp=Z,6.3nm,0.4s,baz=184,slow=8.1,SNR=44
ZALV LR LR 22 44 22.2
comp=Z,180nm,19.3s,baz=240,slow=41
MDJ Mudanjiang 52.03 32 P **P 22 18 19.5 +0.7**
MDJ pP **pP 22 18 28.9 -1.2**
MDJ sP **sP 22 18 32.4 -2.2**
MDJ S S 22 25 48.1 +8.3
MDJ sS **sS 22 25 56.3 -2.2**
MDJ pmax pmax
comp=Z,10.0nm,1.6s
MDJ pmax pmax
comp=Z,21nm,2.9s
MDJ LR LR
comp=Z,190nm,21.7s
MDJ LR LR
comp=Z,310nm,18.5s
MDJ LR LR
comp=Z,380nm,15.9s
MJAR Matsushiro Arr 52.61 45 LR LR 22 43 02.4
comp=Z,346nm,18.9s,baz=230,slow=39
NVS Novosibirsk 52.67 352⇑iP **P 22 18 23.0 -0.3**
NVS pmax pmax
comp=Z,28nm,1.2s
NVS pmax pmax
comp=N,8.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,0.5s
USRK Ussuriysk Arra 53.04 33 P **P 22 18 27.1 +0.8**
comp=E,3.5nm,0.9s,baz=246,slow=5.9,SNR=8.8
USRK LR LR 22 43 12.8
comp=E,342nm,18.3s,baz=213,slow=38
MTSU Mount Surprise 53.53 115 P **P 22 18 30.6 +0.3**
baz=54,SNR=4.7
BVAR Borovoye Array 53.83 342 P **P 22 18 31.7 -0.2**
BVAR pmax pmax
comp=Z,6.0nm,0.7s
BVAR MLR MLR
comp=Z,16nm,28.6s
BVAR Borovoye Array 53.83 342 P **P 22 18 31.7 -0.2**
comp=Z,6.2nm,0.7s,baz=145,slow=9.0
BVAR LR LR 22 43 44.7
comp=Z,162nm,18.1s,baz=136,slow=39
BRVK Borovoye 53.89 342⇑eP **P 22 18 32.3 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 53.89 342 eP **P 22 18 31.3 -1.0**
comp=Z,6.9nm,0.6s
ABKAR Akbulak array 54.76 333 eP **P 22 18 37.7 -1.0**
comp=Z,4.2nm,0.7s
KLR Kul'dur 56.25 29 eP P 22 18 46.0 -3.5
KLR eS **S 22 26 31.5 -5.1**
KLR pmax pmax
comp=E,45nm,2.0s
KLR pmax pmax
comp=Z,90nm,2.0s
KLR MLR MLR
comp=E,900nm,12.0s
KLR MLR MLR
comp=Z,4μm,12.0s
AKTO Aktyubinsk 56.47 333 P **P 22 18 50.5 -0.5**
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 56.47 333 P **P 22 18 50.5 -0.5**
comp=Z,1.6nm,0.7s,baz=64,slow=5.7,SNR=6.5
STKA Stephens Creek 56.62 131 P **P 22 18 51.1 -1.3**
STKA pmax pmax
comp=Z,4.0nm,0.7s
STKA MLR MLR
comp=Z,16nm,28.6s
STKA Stephens Creek 56.62 131 P **P 22 18 51.0 -1.3**
comp=Z,3.6nm,0.7s,baz=278,slow=9.8,SNR=5.7
STKA LR LR 22 44 04.2
comp=Z,94nm,20.8s,baz=241,slow=37
STKA Stephens Creek 56.62 131 P **P 22 18 51.5 -0.9**
baz=57,SNR=4.9
KMBO Kilima Mbogo 57.08 267 eP **P 22 18 57.1 +0.8**
KMBO pmax pmax
comp=Z,11nm,1.2s
KMBO Kilima Mbogo 57.08 267 P **P 22 18 55.9 -0.5**
comp=Z,5.2nm,1.0s,baz=67,slow=9.0,SNR=13
KMBO Kilima Mbogo 57.08 267 eP **P 22 18 57.1 +0.8**
comp=Z,11nm,1.2s
MAK Makhachkala 57.63 321 eP P 22 19 07.6 +8.2
GNI Garni 58.11 317 P **P 22 19 03.2 +0.2**
GNI pmax pmax
comp=Z,2.0nm,0.7s
GNI Garni 58.11 317 P **P 22 19 03.2 +0.2**
comp=Z,2.4nm,0.7s,baz=24,slow=4.7,SNR=4.3
ERM Erimo 58.60 41 P **P 22 19 05.5 -0.7**
ERM pmax pmax
comp=Z,27nm,1.3s
ASAJ Asahikawa 59.26 39 LR LR 22 46 56.4
comp=Z,145nm,18.5s,baz=324,slow=38
CMSA Cobar Meteorol 59.59 129 P **P 22 19 13.2 0.0**
baz=60,SNR=12
RMQ Roma 60.13 123 P **P 22 19 18.5 +1.5**
baz=60,SNR=5.3
SVE Sverdlovsk 60.16 339 eP **P 22 19 16.6 -0.1**
SVE pmax pmax
comp=Z,19nm,1.0s
ARU Arti 60.61 338c iP **P 22 19 18.7 -1.0**
ARU 22 21 30.6
ARU S **S 22 27 33.7 +0.6**
ARU SS **SS 22 31 29.4 -2.6**
ARU pmax pmax
comp=Z,18nm,1.7s
ARU Arti 60.61 338 eP **P 22 19 18.2 -1.5**
comp=Z,17nm,1.4s
YSS Yuzh-Sakhalins 60.79 36 eP **P 22 19 22.0 +0.9**
KBZ Khabaz 60.95 320 P **P 22 19 22.8 +0.5**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 60.95 320 P **P 22 19 22.8 +0.5**
comp=Z,4.2nm,1.0s,baz=161,slow=6.2,SNR=3.5
ASF Jabal al Asfar 61.13 305 P **P 22 19 24.6 +0.7**
ASF pmax pmax
comp=Z,1.0nm,0.4s
ASF Jabal al Asfar 61.13 305 P **P 22 19 24.6 +0.7**
comp=Z,0.8nm,0.4s,baz=57,slow=6.0,SNR=3.5
KIV Kislovodsk 61.19 320⇓eP **P 22 19 23.9 -0.1**
KIV pmax pmax
comp=Z,7.0nm,0.9s
EIL Elat 62.10 302 P **P 22 19 30.8 +0.4**
comp=Z,2.7nm,0.7s,baz=145,slow=9.2,SNR=4.6
MMAI Mount Meron Ar 62.57 306 P **P 22 19 34.2 +0.6**
comp=Z,1.2nm,0.4s,baz=93,slow=13,SNR=6.8
YAK Yakutsk 64.79 18⇓eP **P 22 19 47.6 +0.1**
YAK pmax pmax
comp=Z,20nm,1.1s
ANN Anapa 64.96 319 e*PP **P 22 19 50.0 +1.1**
ANN pmax pmax
comp=Z,124nm,1.5s
BRTR Keskin Array B 65.86 313 P **P 22 19 54.5 -0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR MLR MLR
comp=Z,15nm,28.6s
BRTR Keskin Array B 65.86 313 P **P 22 19 54.5 -0.6**
comp=Z,3.2nm,0.9s,baz=138,slow=6.5,SNR=14
BRTR LR LR 22 49 34.6
comp=Z,48nm,19.5s,baz=94,slow=37
PRGR Permogore 69.04 337 eP **P 22 20 12.8 -1.7**
PRGR pmax pmax
comp=Z,15nm,1.0s
OBN Obninsk 69.73 329⇑eP **P 22 20 18.1 -0.8**
OBN e 22 20 37.0
OBN e 22 22 53.3
OBN eSS SS 22 33 53.9 0.0
OBN pmax pmax
comp=Z,14nm,2.0s
OBN MLR MLR
comp=Z,86nm,15.0s
PSN Preselentsi 70.89 315⇑iP **P 22 20 25.5 -0.8**
TIRR Tirgusor 70.93 316⇑iP **P 22 20 27.1 +0.6**
KLMR Klimovskoe 71.07 335 eP **P 22 20 24.4 -2.6**
KLMR pmax pmax
comp=Z,41nm,1.9s
PETK Petropavlovsk- 72.11 35 P **P 22 20 33.2 -0.3**
PETK pmax pmax
comp=Z,13nm,1.1s
PETK MLR MLR
comp=Z,179nm,21.1s
PETK Petropavlovsk- 72.11 35 P **P 22 20 33.2 -0.3**
comp=Z,12nm,1.1s,baz=278,slow=13,SNR=4.0
PETK LR LR 22 52 55.1
comp=Z,179nm,21.1s,baz=231,slow=36
TIXI Tiksi 72.19 11⇑iP **P 22 20 33.0 -0.5**
TIXI pmax pmax
comp=Z,12nm,1.1s
TIXI Tiksi 72.19 11 eP **P 22 20 32.9 -0.7**
AKASG Malin Array Be 72.21 323 P **P 22 20 32.6 -1.5**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 72.21 323 P **P 22 20 32.5 -1.5**
comp=Z,2.8nm,0.9s,baz=91,slow=4.9,SNR=11
MLR Muntele Rosu 72.89 317 P **P 22 20 38.5 +0.1**
MLR pmax pmax
comp=Z,2.0nm,1.0s
MLR Muntele Rosu 72.89 317 P **P 22 20 38.5 +0.1**
comp=Z,2.4nm,1.0s,baz=356,slow=7.4,SNR=5.1
BOSA Boshof 73.00 239 P **P 22 20 39.9 +0.5**
BOSA pmax pmax
comp=Z,2.0nm,0.7s
BOSA MLR MLR
comp=Z,161nm,19.7s
BOSA Boshof 73.00 239 P **P 22 20 39.9 +0.5**
comp=Z,1.5nm,0.7s,baz=113,slow=7.1,SNR=5.1
BOSA LR LR 22 50 02.0
comp=Z,161nm,19.6s,baz=70,slow=34
SEY Seymchan 73.52 24⇓iP **P 22 20 42.1 +0.5**
MAW Mawson 73.59 192 LR LR 22 49 19.6
comp=Z,127nm,19.6s,baz=344,slow=33
JOF Joensuu 75.47 335 eP **P 22 20 50.8 -2.1**
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 75.47 335 ep **P 22 20 50.8 -2.1**
comp=Z,4.1nm,0.8s
KWP Kalwaria Pacla 75.97 321 eP **P 22 20 56.8 +0.7**
KWP Kalwaria Pacla 75.97 321 eP **P 22 20 56.7 +0.7**
KOLS Kolonicke sedl 76.10 320 eP **P 22 20 57.4 +0.6**
KOLS pmax pmax
comp=Z,100nm,2.6s
KOLS Kolonicke sedl 76.10 320 eP **P 22 20 57.4 +0.6**
CRVS Cervenica-Dubn 76.62 320 eP **P 22 21 01.7 +1.9**
CRVS pmax pmax
comp=Z,35nm,2.4s
CRVS Cervenica-Dubn 76.62 320 eP **P 22 21 01.7 +1.9**
SUW Suwalki 76.68 325 eP **P 22 20 59.1 -0.9**
SUW Suwalki 76.68 325 eP **P 22 20 59.1 -0.9**
STHS Stebnicka Huta 76.86 320 eP **P 22 21 01.9 +0.8**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 76.86 320 eP **P 22 21 01.9 +0.8**
FINES FINESS Array B 77.24 333 P **P 22 21 01.0 -2.0**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 77.24 333 P **P 22 21 01.0 -2.0**
comp=Z,3.2nm,0.7s,baz=115,slow=5.5,SNR=15
KAF Kangasniemi 77.35 333 eP **P 22 21 02.3 -1.3**
KAF pmax pmax
comp=Z,5.0nm,0.9s
KAF Kangasniemi 77.35 333 ep **P 22 21 02.3 -1.3**
comp=Z,4.7nm,0.9s
VYHS Vyhne 78.25 319 eP **P 22 21 08.9 -0.1**
VYHS pmax pmax
comp=Z,46nm,2.8s
VYHS Vyhne 78.25 319 eP **P 22 21 08.9 -0.1**
OKC Ostrava-Krasne 78.91 320 eP **P 22 21 13.3 +0.8**
OKC e 22 21 25.5
OKC Ostrava-Krasne 78.91 320 eP **P 22 21 13.3 +0.8**
OKC epP **pP 22 21 25.5 +1.1**
KRLC Kraliky 79.82 320 eP **P 22 21 17.8 +0.3**
KRLC e 22 21 26.9
KRLC Kraliky 79.82 320 eP **P 22 21 17.8 +0.3**
KRLC epP **PcP 22 21 26.9 +1.8**
ARCES ARCESS Array B 80.07 341 P **P 22 21 16.6 -1.8**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 80.07 341 P **P 22 21 16.6 -1.8**
comp=Z,2.2nm,0.8s,baz=111,slow=5.3,SNR=6.9
DPC Dobruska-Polom 80.15 321 eP **P 22 21 19.8 +0.5**
DPC e 22 21 29.0
DPC Dobruska-Polom 80.15 321 eP **P 22 21 19.8 +0.5**
DPC epP **pP 22 21 29.0 -2.2**
KSP Ksiaz 80.23 321 eP **P 22 21 20.2 +0.5**
UPC Upice 80.37 321 eP **P 22 21 20.1 -0.3**
UPC Upice 80.37 321 eP **P 22 21 20.1 -0.3**
TREC Trest 80.56 319 eP P 22 21 25.6 +4.1
TREC e 22 21 32.7
TREC Trest 80.56 319 eP P 22 21 25.6 +4.1
TREC epP pP 22 21 32.7 -0.7
SOKA Soboth 80.57 317⇑iP **P 22 21 21.8 +0.1**
comp=Z,8.9nm,1.0s
BILL Bilibino 80.78 21⇓eP **P 22 21 20.1 -2.1**
BILL e 22 24 31.6
BILL pmax pmax
comp=Z,15nm,2.5s
BILL MLR MLR
comp=Z,594nm,19.0s
FX1 Attu Island--F 81.13 37 LR LR 22 57 13.0
comp=Z,95nm,21.3s,baz=258,slow=36
PRU Pruhonice 81.24 320 eP **P 22 21 27.0 +1.9**
PRU Pruhonice 81.24 320 eP **P 22 21 27.0 +1.9**
GERES GERESS Array B 81.68 319 P **P 22 21 27.9 +0.3**
GERES pmax pmax
comp=Z,5.0nm,0.9s
GERES GERESS Array B 81.68 319 P **P 22 21 27.9 +0.3**
comp=Z,4.5nm,0.9s,baz=100,slow=4.6,SNR=21
KHC Kasperske Hory 81.78 319 eP P 22 21 35.2 +7.2
KHC e 22 21 47.6
KHC Kasperske Hory 81.78 319 ePCP P 22 21 35.2 +7.2
KHC epP pP 22 21 38.5 -1.4
KHC esP sP 22 21 47.6 +3.2
CLL Collm 82.35 321 eP **P 22 21 28.0 -2.9**
NKC Novy Kostel 82.61 320 eP **P 22 21 32.8 +0.5**
NKC e 22 21 40.3
NKC Novy Kostel 82.61 320 eP **P 22 21 32.8 +0.5**
NKC ex x 22 21 40.3
HFS Hagfors 82.88 330 P **P 22 21 33.4 -0.1**
HFS pmax pmax
comp=Z,6.0nm,1.0s
HFS Hagfors 82.88 330 P **P 22 21 33.4 -0.1**
comp=Z,5.5nm,1.0s,baz=145,slow=10,SNR=5.0
DAVOX Davos/Dischmat 84.11 317 P **P 22 21 40.3 0.0**
DAVOX pmax pmax
comp=Z,6.0nm,0.7s
DAVOX Davos/Dischmat 84.11 317 P **P 22 21 40.3 0.0**
comp=Z,5.8nm,0.7s,baz=76,slow=6.2,SNR=10
NB2 NORSAR Subarra 84.19 331 P **P 22 21 39.6 -0.7**
comp=Z,7.7nm,1.2s,baz=90,slow=5.3
NOA NORSAR Array B 84.19 331 P **P 22 21 39.9 -0.4**
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 84.19 331 P **P 22 21 39.9 -0.4**
comp=Z,2.7nm,0.9s,baz=94,slow=5.6,SNR=7.2
KEST Kesra 84.23 305 P **P 22 21 40.4 -0.6**
comp=Z,1.9nm,0.8s,baz=321,slow=10,SNR=3.5
KONO Kongsberg 84.90 329⇓eP **P 22 21 44.1 +0.3**
KONO pmax pmax
comp=Z,64nm,1.2s
LPG La Plagne 86.26 315 eP **P 22 21 49.8 -1.5**
comp=Z,29nm,1.4s
LPG La Plagne 86.26 315 eP **P 22 21 49.8 -1.5**
LPG pmax pmax
comp=Z,29nm,1.4s
LPG La Plagne 86.26 315 eP **P 22 21 49.8 -1.5**
comp=Z,29nm,1.4s
LPL La Plagne 86.28 315 eP **P 22 21 49.6 -1.6**
LPL La Plagne 86.28 315 eP **P 22 21 49.6 -1.6**

LPL La Plagne 86.28 315 eP P 22 21 49.6 -1.6
HAU Haudompre 86.53 318 eP P 22 21 52.1 -0.1
comp=Z,9.4nm,0.9s
HAU Haudompre 86.53 318 eP P 22 21 52.1 -0.1
HAU pmax pmax
comp=Z,9.0nm,0.9s
HAU Haudompre 86.53 318 eP P 22 21 52.1 -0.1
comp=Z,9.4nm,0.9s
SFTF Sexfontaines 87.41 318 eP P 22 21 56.5 +0.1
comp=Z,13nm,1.0s
SFTF Sexfontaines 87.41 318 eP P 22 21 56.5 +0.1
comp=Z,13nm,1.0s
VNDA Vanda 87.95 168 LR LR 22 57 14.6
comp=Z,136nm,18.3s,baz=240,slow=33
NVL N'lazarevskaya 90.08 199 eP P 22 22 19.8 +11
NVL pmax pmax
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 91.83 283 PKKPbc PKKPbc 22 39 43.4 +7.6
comp=Z,0.3nm,0.5s,baz=293,slow=4.0,SNR=4.9
TORD LR LR 23 02 11.4
comp=Z,146nm,18.1s,baz=305,slow=35
EKA Eskdalemuir Ar 91.94 325 P P 22 22 16.9 -0.6
EKA pmax pmax
comp=Z,2.0nm,1.0s
EKA Eskdalemuir Ar 91.94 325 P P 22 22 16.9 -0.6
comp=Z,1.9nm,1.0s,baz=197,slow=20,SNR=3.9
QSPA South Pole Qui 92.71 180 P P 22 22 19.3 -1.6
comp=Z,2.7nm,1.1s,baz=23,slow=7.8,SNR=3.1
RES Resolute Bay 102.46 2 P Pdif 22 23 05.0 +0.3
RES pmax pmax
comp=Z,1.0nm,0.8s
RES Resolute Bay 102.46 2 P Pdif 22 23 05.0 +0.3
comp=Z,1.4nm,0.8s,baz=311,slow=5.6,SNR=5.5
YKA Yellowknife Ar 111.33 14 PKKPbc PKKPbc 22 38 44.8 +4.2
comp=Z,0.2nm,0.8s,baz=138,slow=2.6,SNR=4.0
PDAR Pinedale Array 129.84 23 PKP PKPdf 22 28 17.4 -1.6
comp=Z,0.6nm,1.0s,baz=121,slow=4.6,SNR=3.8
BDFB Brasilia 140.68 249 PKIKP PKPdf 22 28 38.9 -0.8
BDFB pmax pmax
comp=Z,2.0nm,0.6s
BDFB Brasilia 140.68 249 PKP PKPdf 22 28 38.9 -0.8
comp=Z,1.6nm,0.6s,baz=162,slow=5.5,SNR=3.9
TXAR Lajitas Array 143.77 27 PKIKP PKPbc 22 28 43.0 +0.5
TXAR Lajitas Array 143.77 27 PKP PKPbc 22 28 43.0 +0.5
comp=Z,0.4nm,0.4s,baz=353,slow=1.5,SNR=12
CPUP Villa Florida 144.03 227 PKIKP PKPbc 22 28 43.0 -0.2
CPUP pmax pmax
comp=Z,6.0nm,0.8s
CPUP Villa Florida 144.03 227 PKP PKPbc 22 28 43.0 -0.2
comp=Z,6.0nm,0.8s,baz=122,slow=1.6,SNR=8.3
CFAA Coronel Fontan 146.89 208 PKPbc PKPbc 22 28 51.8 -0.2
comp=Z,0.9nm,0.8s,baz=221,slow=2.5,SNR=12
LPAZ La Paz 158.05 231 PKIKP PKPdf 22 29 07.1 -0.5
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
LPAZ La Paz 158.05 231 PKP PKPdf 22 29 07.1 -0.5
comp=Z,0.7nm,0.5s,baz=22,slow=6.4,SNR=4.5
LPAZ PKPab PKPab 22 29 41.7 +0.7
comp=Z,1.6nm,1.0s,baz=91,slow=4.5,SNR=3.7

MOS 14 22:10:33.1±1.5, 49.04N×156.12E, h15km, mb4.3/1, Error ellipse: s-maj=99.9km s-min=26.3km az=78.9
KRSC 14 22:10:33.5±2.9, 49.12N×156.93E, h6km±20km, ML4.1, Kuril Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SKR Severo-Kuril's 1.65 342 ePN Pn 22 10 55.3 -7.6
SKR pmax pmax
comp=N,60nm,0.5s
SKR pmax pmax
comp=Z,70nm,0.5s
SKR Severo-Kuril's 1.65 342 eP Pn 22 11 01.5 -1.4
SKR eS Sn 22 11 21.2 -3.2
PAU Pauzhetka 2.35 358 PN Pb 22 11 14.6 -1.6
PAU S Sb 22 11 44.5 -0.9
PAU Pauzhetka 2.35 358 eP Pb 22 11 14.6 -1.6
PAU eS Sb 22 11 44.5 -0.9
MTVR Mutnovka 3.46 13 eP Pb 22 11 32.5 -2.8
MTVR eS Sb 22 12 13.7 -4.0
RUS Russkaya 3.46 16 PN Pn 22 11 31.0 +3.1
RUS Russkaya 3.46 16 eP Pn 22 11 31.0 +3.1
RUS eS Sb 22 12 14.6 -2.9
UGLR Uglovaya 4.26 16 eP Pb 22 11 44.4 -4.6
AVH Avacha 4.30 15 eP Pn 22 11 44.2 +4.7
SMAR Somma 4.31 15 eP Pn 22 11 44.4 +4.6
KOK Koryaka 4.31 14 eP Pn 22 11 44.4 +4.7
SDLR Sedlovina 4.34 16 eP Pn 22 11 44.3 +4.2
KRER Koryakskii 4.34 15 eP Pn 22 11 44.2 +4.0
KRX Arik 4.38 14 eP Pn 22 11 44.6 +3.9
GNL Ganaly 4.62 7 eP Pn 22 11 47.4 +3.4
MKZ Mys Kozlova 6.20 27 PN Pn 22 12 08.7 +3.3
MKZ Mys Kozlova 6.20 27 eP Pn 22 12 08.7 +3.3
KBTR Krutoberegovo 7.95 25 PN Pn 22 12 33.4 +4.0
KBTR Krutoberegovo 7.95 25 eP Pn 22 12 33.4 +4.0

ISCJB 14 22:10:57.2±1.5, 37.0N±0.1×34.6E±0.3, h12km, Error ellipse: s-maj=41.4km s-min=10.2km az=27.5
DDA 14 22:10:57.1, 37.06N×34.57E, h7km, MD2.5
ISC 14 22:10:57.3±1.8, 37.0N±0.1×34.6E±0.2, h12km, n3, σ0.10/4, Turkey

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
MERS Mersin 0.19 204 ePG Pg 22 11 01.6 0.0
GULE Gulek 0.27 28 iP Pg 22 11 03.0 -0.1
GULE iS Sg 22 11 07.0 +0.1
KARA Karaisali 0.41 58 ePG Pg 22 11 05.5 0.0

IDC 14 22:14:29.0±0.8, 34.94N×5.58W, h0km, mb3.8/15, mb1 4.0/19, mb1mx3.7/58, mbtmp3.8/19, ML4.2/3, MS3.1/5, Ms1 3.1/5, ms1mx2.8/43, Error ellipse: s-maj=22.9km s-min=11.1km az=86.0
INMG 14 22:14:31.7±1.5, 34.92N×5.55W, h0km, ML3.6, Error ellipse: s-maj=3.7km s-min=3.3km az=135.0
SFS 14 22:14:31.0, 34.80N×5.60W, h4km, ML2.8
MDD 14 22:14:32.9±0.5, 34.92N×5.47W, h11km±4km, mbLg3.1/49, Error ellipse: s-maj=3.6km s-min=3.4km az=103.0, PRXIMO
IGIL 14 22:14:32.6, 34.86N×5.63W, h0km, ML3.8
CSEM 14 22:14:33.5±0.1, 34.92N×5.55W, h30km, ML4.2/7, Error ellipse: s-maj=3.2km s-min=2.7km az=91.0
CNRM 14 22:14:33.2, 34.97N×5.51W, h14km, MD4.2
BJI 14 22:14:33.2, 34.90N×5.50W, h30km, mb4.4/3
LDG 14 22:14:33.1±0.3, 35.19N×5.59W, h10km, MI3.4/25, Error ellipse: s-maj=6.6km s-min=4.6km az=5.0
NEIC 14 22:14:33.0±1.5, 34.94N×5.50W, h27km±12km, mb4.2/4, Error ellipse: s-maj=8.5km s-min=4.6km az=95.0
CRAAG 14 22:14:34.2, 34.95N×5.58W, MI4.2
ISC 14 22:14:32.6±0.5, 34.88N±0.02×5.53W±0.02, h27km±4km, h27km:pP-P, n328, σ1.58/445, mb4.0/17, 18C-9D, Morocco

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
RSA Sarsar 0.24 269 P Pb 22 14 39.0 0.0
RSA S Sb 22 14 44.0 +0.6
RSA Sarsar 0.24 269 iP Pb 22 14 39.0 0.0
RSA iS Sb 22 14 44.0 +0.6
TGT Taghat 0.90 154 P Pb 22 14 49.0 -0.7
TGT S Sn 22 15 04.0 +2.3
TGT Taghat 0.90 154 iP Pb 22 14 49.0 -0.7
TGT iS Sn 22 15 04.0 +2.3
ECEU Ceuta 1.02 7 P Pn 22 14 50.4 -0.7
52nm,0.2s,SNR=22
ECEU S Sn 22 15 06.2 +1.6
106nm,0.2s,SNR=13
ECEU Ceuta 1.02 7 P Pn 22 14 50.4 -0.7
52nm,0.2s,SNR=22
ECEU S Sn 22 15 06.2 +1.6
106nm,0.2s,SNR=13
IFR Ifrane 1.40 166 P Pn 22 14 57.2 +0.7
IFR Ifrane 1.40 166 P Pn 22 14 57.2 +0.7
RTC Rabat Centre 1.41 231 P Pb 22 14 58.0 -0.2
RTC S Sb 22 15 17.0 +1.2
RTC Rabat Centre 1.41 231 ePn Pb 22 14 58.6 +0.4
RTC eSg Sn 22 15 14.4 +0.2
RTC Rabat Centre 1.41 231 iP Pb 22 14 58.0 -0.2
RTC Rabat Centre 1.41 231 ePn Pb 22 14 58.7 +0.4
RTC eSg Sn 22 15 14.4 +0.2
RTC iS Sb 22 15 17.0 +1.2
TOU Touzarine 1.47 86 P Pn 22 14 56.0 -1.3
TOU S Sn 22 15 16.0 +0.3
TOU Touzarine 1.47 86 iP Pn 22 14 56.0 -1.3
TOU iS Sn 22 15 16.0 +0.3
CNIL Conil 1.54 344 P Pb 22 15 02.0 +1.5
CNIL Conil 1.54 344 P Pb 22 15 02.0 +1.5
REAL Reales 1.62 9 P Pn 22 15 01.0 +1.5
REAL Reales 1.62 9 P Pn 22 15 01.0 +1.5
SFS San Fernando 1.67 341 P Pn 22 15 00.6 +0.5
SFS S Sn 22 15 20.3 -0.3
SFS San Fernando 1.67 341 P Pn 22 15 00.6 +0.5
SFS S Sn 22 15 20.3 -0.3
EMIJ Mijas 1.79 20 P Pn 22 15 00.2 -1.6
31nm,0.2s,SNR=7.9
EMIJ S Sn 22 15 25.4 +1.8
28nm,0.3s,SNR=7.9
EMIJ Mijas 1.79 20 P Pn 22 15 00.4 -1.3
EMIJ S Sb 22 15 26.3 -0.5
EMIJ Mijas 1.79 20 P Pn 22 15 00.4 -1.3
EMIJ S Sn 22 15 25.4 +1.8
28nm,0.3s,SNR=7.9
ESPR Espera 2.00 353 P Pn 22 15 04.8 +0.2
6.4nm,0.2s,SNR=14
ESPR Espera 2.00 353 P Pn 22 15 05.2 +0.6
ESPR S Sb 22 15 31.7 -1.0
ESPR Espera 2.00 353 P Pn 22 15 04.8 +0.2
6.4nm,0.2s,SNR=14
ESPR S Sb 22 15 31.7 -1.0
LIJA Lijar 2.02 3 P Pn 22 15 05.0 0.0
LIJA Lijar 2.02 3 P Pn 22 15 05.0 0.0
EMAL Malaga-Limoner 2.08 25 eP Pn 22 15 04.8 -0.9
EMEL Melilla 2.15 78 P Pn 22 15 07.2 +0.5
79nm,0.1s,SNR=7.9
EMEL S Sb 22 15 36.8 -0.4
68nm,0.1s,SNR=7.9
EMLI Melilla 2.16 78 P Pn 22 15 07.2 +0.4
79nm,0.1s,SNR=7.9
EMLI S Sb 22 15 36.8 -0.5
68nm,0.1s,SNR=7.9
MDT Midelt 2.20 159 Pn Pn 22 15 08.0 +0.6
40nm,0.3s,baz=6.7,slow=9.5,SNR=1310
MDT Sn Sn 22 15 35.6 +1.9
83nm,0.3s,baz=1.2,slow=16,SNR=8.2
MDT Lg Lg 22 15 41.4
239nm,0.3s,baz=197,slow=6.7,SNR=13
MDT LR LR 22 16 16.4
comp=Z,434nm,18.0s,baz=356,slow=47
MDT Midelt 2.20 159 Pn Pn 22 15 08.0 +0.6
ZAI Zaio 2.29 87 P Pn 22 15 09.0 +0.3
ZAI S Sn 22 15 37.0 +0.9
ZAI Zaio 2.29 87 iP Pn 22 15 09.0 +0.3
ZAI iS Sn 22 15 37.0 +0.9
KIB El Ksiba 2.34 191 P Pn 22 15 10.5 +1.2
KIB S Sn 22 15 39.0 +1.8
KIB El Ksiba 2.34 191 iP Pn 22 15 10.5 +1.2
KIB iS Sn 22 15 39.0 +1.8
EGUA Guajares 2.52 39 P Pn 22 15 10.7 -1.1
30nm,0.2s,SNR=7.9
EGUA Guajares 2.52 39 P Pn 22 15 11.2 -0.5
EGUA S Sn 22 15 43.4 +1.8
EGUA Guajares 2.52 39 P Pn 22 15 11.2 -0.5
EGUA S Sn 22 15 43.4 +1.8
SELV Sierra Elvira 2.77 31 P Pn 22 15 16.0 +0.8
8.6nm,0.3s,SNR=7.9
SELV S Sn 22 15 49.2 +1.4
2.3nm,0.2s,SNR=7.9
SELV Sierra Elvira 2.77 31 P Pn 22 15 16.0 +0.8
8.6nm,0.3s,SNR=7.9
SELV S Sn 22 15 49.2 +1.4
2.3nm,0.2s,SNR=7.9
TZC Tazercounte 2.84 197 P Pn 22 15 17.0 +0.7
TZC S Sn 22 15 52.0 +2.2
TZC Tazercounte 2.84 197 iP Pn 22 15 17.0 +0.7
TZC iS Sn 22 15 52.0 +2.2
ELUQ Luque 2.86 21 P Pn 22 15 19.3 +2.8
12nm,0.2s,SNR=7.9
ELUQ Luque 2.86 21 P Pn 22 15 19.3 +2.8
12nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 2.87 33 P Pn 22 15 19.1 +2.4
16nm,0.3s,SNR=36
ECOG S Sn 22 15 51.4 +0.9
9.9nm,0.3s,SNR=6.0
ECOG Cogollos-Vega 2.87 33 P Pn 22 15 19.1 +2.4
16nm,0.3s,SNR=36
ECOG S Sn 22 15 51.4 +0.9
9.9nm,0.3s,SNR=6.0
EQUE Quentar 2.87 36 P Pn 22 15 18.0 +1.3
8.7nm,0.3s,SNR=7.9
EQUE Quentar 2.87 36 P Pn 22 15 18.0 +1.3
8.7nm,0.3s,SNR=7.9
EBER Berja 2.94 46 ⇓P Pn 22 15 17.0 -0.7
26nm,0.2s,SNR=18
EBER S Sn 22 15 52.5 +0.3
14nm,0.3s,SNR=7.9
EBER Berja 2.94 46 P Pn 22 15 17.0 -0.7
26nm,0.2s,SNR=18
EBER S Sn 22 15 52.5 +0.3
14nm,0.3s,SNR=7.9
ZFT Errachidia 3.01 160 P Pn 22 15 20.0 +1.4
ZFT S Sn 22 15 56.0 +2.1
ZFT Errachidia 3.01 160 iP Pn 22 15 20.0 +1.4
ZFT iS Sn 22 15 56.0 +2.1
EMIN Mina Concepcio 3.02 343 P Pn 22 15 18.0 -0.7
2.4nm,0.1s,SNR=33
EMIN S Sn 22 15 53.5 -0.4
12nm,0.2s,SNR=7.9
EMIN Mina Concepcio 3.02 343 P Pn 22 15 18.0 -0.7
2.4nm,0.1s,SNR=33
EMIN S Sn 22 15 53.5 -0.4
12nm,0.2s,SNR=7.9
PBDV Barranco-do-Ve 3.05 321 ePn Pn 22 15 19.2 +0.1
PBDV eSn Sn 22 15 55.4 +0.6
PBDV A A 22 16 07.0
149nm,0.7s
PBDV Barranco-do-Ve 3.05 321 P Pn 22 15 19.2 +0.1
PBDV S Sn 22 15 55.4 +0.6
149nm,0.7s
PBDV Barranco-do-Ve 3.05 321 P Pn 22 15 19.2 +0.1
PBDV S Sn 22 15 55.4 +0.6
149nm,0.7s
PVAQ Vaqueiros 3.08 326 ePn Pn 22 15 19.4 0.0
PVAQ eSn Sn 22 15 56.4 +1.2
PVAQ A A 22 15 58.1
326nm,0.6s
PVAQ Vaqueiros 3.08 326 P Pn 22 15 19.4 0.0
PVAQ S Sn 22 15 56.4 +1.2
326nm,0.6s
PVAQ Vaqueiros 3.08 326 P Pn 22 15 19.4 0.0
PVAQ S Sn 22 15 56.4 +1.2
326nm,0.6s
EGRO El Granado 3.08 330 ⇑P Pn 22 15 19.2 -0.2
29nm,0.2s,SNR=18
EGRO S Sn 22 15 55.8 +0.4
32nm,0.2s,SNR=6.2
EGRO El Granado 3.08 330 P Pn 22 15 19.2 -0.2
29nm,0.2s,SNR=18
EGRO S Sn 22 15 55.8 +0.4
32nm,0.2s,SNR=6.2
ECAB El Cabril 3.19 2 P Pn 22 15 20.6 -0.4
4.0nm,0.2s,SNR=29
ECAB S Sn 22 15 56.9 -1.2
8.0nm,0.2s,SNR=7.9
ECAB El Cabril 3.19 2 P Pn 22 15 20.6 -0.4
4.0nm,0.2s,SNR=29
ECAB S Sn 22 15 56.9 -1.2
8.0nm,0.2s,SNR=7.9
GORA Gorafe 3.29 37 ⇓P Pn 22 15 25.2 +2.9
6.0nm,0.4s,SNR=18
GORA S Sn 22 16 02.0 +1.4
9.9nm,0.2s,SNR=4.0
GORA Gorafe 3.29 37 P Pn 22 15 25.2 +2.9
6.0nm,0.4s,SNR=18
GORA S Sn 22 16 02.0 +1.4
9.9nm,0.2s,SNR=4.0
PCVE Castro Verde 3.41 324 ePn Pn 22 15 24.7 +0.7
PCVE eSn Sn 22 16 04.1 +0.6
PCVE A A 22 16 10.4
147nm,0.5s
PCVE Castro Verde 3.41 324 P Pn 22 15 24.7 +0.7
PCVE S Sn 22 16 04.1 +0.6
147nm,0.5s
PCVE Castro Verde 3.41 324 P Pn 22 15 24.7 +0.7
PCVE S Sn 22 16 04.1 +0.6
147nm,0.5s
ENIJ Nijar 3.41 51 P Pn 22 15 23.5 -0.5
11nm,0.2s,SNR=7.9
ENIJ S Sn 22 16 03.3 -0.3
5.9nm,0.2s,SNR=7.9
ENIJ Nijar 3.41 51 P Pn 22 15 23.5 -0.5
11nm,0.2s,SNR=7.9
ENIJ S Sn 22 16 03.3 -0.3
5.9nm,0.2s,SNR=7.9
PFVI Vila Bisbo 3.49 311 ePn Pn 22 15 25.4 +0.4
PFVI eSn Sn 22 16 05.8 +0.4
PFVI A A 22 16 11.4
103nm,0.6s
PFVI Vila Bisbo 3.49 311 P Pn 22 15 24.9 -0.1
16nm,0.2s,SNR=11
PFVI S Sn 22 16 04.5 -0.9
24nm,0.2s,SNR=7.9
PFVI Vila Bisbo 3.49 311 P Pn 22 15 24.9 -0.1
16nm,0.2s,SNR=11
PFVI Vila Bisbo 3.49 311 ePn Pn 22 15 25.4 +0.4
PFVI S Sn 22 16 04.5 -0.9
24nm,0.2s,SNR=7.9
PFVI eSn Sn 22 16 05.8 +0.4
103nm,0.6s
MORF Marmelete 3.50 315 eP Pn 22 15 25.1 -0.1
MORF eS Sn 22 16 05.2 -0.5
MORF AML AML 22 16 08.6
comp=E,160nm,0.4s
MORF Marmelete 3.50 315 eSn Sn 22 16 06.7 +1.0
MORF A A 22 16 10.8
comp=E,69nm,0.5s
MORF Marmelete 3.50 315 P Pn 22 15 25.1 -0.1
MORF S Sn 22 16 06.7 +1.0
comp=E,69nm,0.5s
MORF Marmelete 3.50 315 P Pn 22 15 25.1 -0.1
MORF S Sn 22 16 06.7 +1.0
comp=E,69nm,0.5s
PBAR Barrancos 3.50 340 ePn Pn 22 15 25.9 +0.7
PBAR eSn Sn 22 16 05.1 -0.7
PBAR A A 22 16 13.5
comp=E,193nm,0.4s
PBAR Barrancos 3.50 340 P Pn 22 15 25.9 +0.7
PBAR S Sn 22 16 05.1 -0.7
comp=E,193nm,0.4s
PBAR Barrancos 3.50 340 P Pn 22 15 25.9 +0.7
PBAR S Sn 22 16 05.1 -0.7
comp=E,193nm,0.4s
EQES Quesada 3.53 34 P Pn 22 15 26.8 +1.1
comp=E,8.9nm,0.2s,SNR=51
EQES S Sn 22 16 08.4 +1.8
comp=E,5.4nm,0.2s,SNR=7.9
EQES Quesada 3.53 34 P Pn 22 15 26.8 +1.1
comp=E,8.9nm,0.2s,SNR=51
EQES S Sn 22 16 08.4 +1.8
comp=E,5.4nm,0.2s,SNR=7.9
EBAN Banos Encina 3.57 23 P Pn 22 15 25.8 -0.4
comp=E,6.8nm,0.2s,SNR=7.9
EBAN S Sn 22 16 08.2 +0.8
comp=E,9.3nm,0.2s,SNR=7.9
EBAN Banos Encina 3.57 23 P Pn 22 15 25.8 -0.4
comp=E,6.8nm,0.2s,SNR=7.9
EBAN S Sn 22 16 08.2 +0.8
comp=E,9.3nm,0.2s,SNR=7.9
PBEJ Beja 3.66 330 ePn Pn 22 15 27.7 +0.3
PBEJ eSn Sn 22 16 10.2 +0.6
PBEJ A A 22 16 15.1
comp=E,81nm,0.6s
PBEJ Beja 3.66 330 P Pn 22 15 27.7 +0.3
PBEJ S Sn 22 16 10.2 +0.6
comp=E,41nm,0.6s
PBEJ Beja 3.66 330 P Pn 22 15 27.7 +0.3
PBEJ S Sn 22 16 10.2 +0.6
comp=E,41nm,0.6s
MESJ Messejana 3.66 324 eP Pn 22 15 27.6 +0.2
MESJ eS Sn 22 16 09.6 -0.1
MESJ AML AML 22 16 13.4
comp=E,196nm,0.4s
MESJ Messejana 3.66 324 P Pn 22 15 27.6 +0.2
MESJ S Sn 22 16 09.6 -0.1
comp=E,196nm,0.4s
MESJ Messejana 3.66 324 P Pn 22 15 27.6 +0.2
MESJ S Sn 22 16 09.6 -0.1
comp=E,196nm,0.4s
PTEO Sao Teotonio 3.70 317 iPn Pn 22 15 28.4 +0.4
PTEO eSn Sn 22 16 11.5 +0.8
PTEO A A 22 16 14.6
comp=E,124nm,0.7s
PTEO Sao Teotonio 3.70 317 ⇓P Pn 22 15 28.4 +0.4
PTEO S Sn 22 16 11.5 +0.8
comp=E,62nm,0.7s
PTEO Sao Teotonio 3.70 317 P Pn 22 15 28.4 +0.4
PTEO S Sn 22 16 11.5 +0.8
comp=E,62nm,0.7s
EHUE Huescar 3.77 38 P Pn 22 15 31.4 +2.4
comp=E,8.2nm,0.2s,SNR=7.9
EHUE S Sn 22 16 14.6 +2.1
comp=E,3.6nm,0.2s,SNR=7.9
EHUE Huescar 3.77 38 P Pn 22 15 31.4 +2.4
comp=E,8.2nm,0.2s,SNR=7.9
EHUE S Sn 22 16 14.6 +2.1
comp=E,3.6nm,0.2s,SNR=7.9
PNCL Nicolau / Gran 4.03 324 ePn Pn 22 15 33.1 +0.7
PNCL eSn Sn 22 16 19.2 +0.5
PNCL A A 22 16 34.1
comp=E,71nm,0.6s
PNCL Nicolau / Gran 4.03 324 ePn Pn 22 15 33.1 +0.7
PNCL eSn Sn 22 16 19.2 +0.5
comp=E,71nm,0.6s
EBAD Badajoz 4.04 343 P Pn 22 15 32.6 -0.1
comp=E,9.3nm,0.1s,SNR=66
EBAD S Sn 22 16 17.7 -1.4
comp=E,33nm,0.2s,SNR=120
EBAD Badajoz 4.04 343 P Pn 22 15 32.6 -0.1
comp=E,9.3nm,0.1s,SNR=66
EBAD S Sn 22 16 17.7 -1.4
comp=E,33nm,0.2s,SNR=120
EVO Evora 4.15 332 ePn Pn 22 15 34.2 0.0
EVO eSn Sn 22 16 16.5 -5.3
comp=E,248nm,0.4s
EVO Evora 4.15 332 ePn Pn 22 15 34.0 -0.2
EVO eSn Sn 22 16 22.0 +0.2
EVO A A 22 16 27.3
comp=E,69nm,0.4s
EVO Evora 4.15 332 P Pn 22 15 34.0 -0.2
EVO S Sn 22 16 22.0 +0.2
comp=E,69nm,0.4s
EVO Evora 4.15 332 P Pn 22 15 34.0 -0.2
EVO S Sn 22 16 22.0 +0.2
comp=E,69nm,0.4s
OUK Oukaimeden 4.15 209 P Pn 22 15 36.0 +1.5
OUK S Sn 22 16 22.0 -0.4
OUK Oukaimeden 4.15 209 iP Pn 22 15 36.0 +1.5
OUK S Sn 22 16 22.0 -0.4
EVOP Sao Brissos 4.19 331 ePn Pn 22 15 34.2 -0.5
CIA Chichaoua 4.27 220 P Pn 22 15 37.0 +1.1
CIA S Sn 22 16 26.0 +1.2
CIA Chichaoua 4.27 220 iP Pn 22 15 37.0 +1.1
CIA iS Sn 22 16 26.0 +1.2
PESTR Estremoz 4.30 338 ePn Pn 22 15 36.7 +0.4
PESTR eSn Sn 22 16 25.0 -0.6
PESTR A A 22 16 45.3
comp=E,56nm,0.5s
PESTR Estremoz 4.30 338 ePn Pn 22 15 36.7 +0.4
PESTR eSn Sn 22 16 25.0 -0.6
comp=E,56nm,0.5s
ODJA Bouhanifia 4.44 83 P Pn 22 15 43.0 +4.9
ODJA Bouhanifia 4.44 83 P Pn 22 15 43.0 +4.9
ODJA Bouhanifia 4.44 83 P Pn 22 15 43.0 +4.9
EVIA Vianos 4.47 32 P Pn 22 15 39.6 +1.0
comp=E,5.4nm,0.2s,SNR=7.9
EVIA Vianos 4.47 32 P Pn 22 15 39.6 +1.0
comp=E,5.4nm,0.2s,SNR=7.9
PMTG Montargil 4.70 334 ePn Pn 22 15 42.3 +0.6
PMTG eSn Sn 22 16 35.5 +0.2
PMTG A A 22 16 54.3
comp=E,66nm,0.6s
PMTG Montargil 4.70 334 ePn Pn 22 15 42.3 +0.6
PMTG eSn Sn 22 16 35.5 +0.2
comp=E,66nm,0.6s
PAB San Pablo 4.75 11 ePn Pn 22 15 41.9 -0.6
PAB eSn Sn 22 16 35.0 -1.7
PAB San Pablo 4.75 11 ePn Pn 22 15 41.9 -0.6
PAB eSn Sn 22 16 35.0 -1.7
PMRV Marv??o 4.77 342 ePn Pn 22 15 42.9 +0.2

PMRV				eSn	Sn	22 16 36.1	-1.1
PMRV				A	A	22 16 48.7	
	comp=E,48nm,0.4s						
PMRV	Marv??o	4.77	342	P	Pn	22 15 42.9	+0.2
PMRV				S	Sn	22 16 36.1	-1.1
	comp=E,48nm,0.4s						
PMRV	Marv??o	4.77	342	P	Pn	22 15 42.9	+0.2
PMRV				S	Sn	22 16 36.1	-1.1
	comp=E,48nm,0.4s						
LIS	Lisbon	4.80	324	eS	Sn	22 16 36.2	-1.6
LIS				AML	AML	22 16 40.1	
	comp=E,244nm,0.7s						
LIS	Lisbon	4.80	324	S	Sn	22 16 36.2	-1.6
	comp=E,244nm,0.7s						
ETOB	Tobarra	4.93	39	P	Pn	22 15 46.6	+1.6
	comp=E,3.6nm,0.2s,SNR=33						
ETOB				S	Sn	22 16 39.9	-1.3
	comp=E,1.0nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.93	39	P	Pn	22 15 46.6	+1.6
	comp=E,3.6nm,0.2s,SNR=33						
ETOB				S	Sn	22 16 39.9	-1.3
	comp=E,1.0nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.95	14	P	Pn	22 15 45.0	-0.1
	comp=E,3.9nm,0.2s,baz=198,slow=13,SNR=36						
ESDC				S	Sn	22 16 38.5	-2.9
	comp=E,0.8nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.95	14	Pn	Pn	22 15 44.5	-0.6
	comp=E,5.4nm,0.3s,baz=201,slow=13,SNR=30						
ESDC				Sn	Sn	22 16 38.8	-2.6
	comp=E,4.7nm,0.3s,baz=194,slow=21,SNR=5.5						
ESDC				LR	LR	22 17 05.3	
	comp=E,75nm,20.9s,baz=255,slow=32						
ESDC	Sonseca Array	4.95	14	P	Pn	22 15 45.0	-0.1
	comp=E,3.9nm,0.2s,SNR=36						
ESDC				S	Sn	22 16 38.5	-2.9
	comp=E,0.8nm,0.2s,SNR=7.9						
ESDC				Sn	Sn	22 16 38.8	-2.6
PMAFR	Mafra	5.05	325	ePn	Pn	22 15 47.7	+1.1
PMAFR				eSn	Sn	22 16 44.3	+0.2
PMAFR				A	A	22 16 53.7	
	comp=E,132nm,0.5s						
PMAFR	Mafra	5.05	325	P	Pn	22 15 46.9	+0.3
	comp=E,18nm,0.2s,SNR=7.9						
PMAFR				S	Sn	22 16 41.4	-2.6
	comp=E,38nm,0.3s,SNR=7.9						
PMAFR	Mafra	5.05	325	P	Pn	22 15 46.9	+0.3
	comp=E,18nm,0.2s,SNR=7.9						
PMAFR	Mafra	5.05	325	ePn	Pn	22 15 47.7	+1.1
PMAFR				S	Sn	22 16 41.4	-2.6
	comp=E,38nm,0.3s,SNR=7.9						
PMAFR				eSn	Sn	22 16 44.3	+0.2
	comp=E,132nm,0.5s						
PCBR	Castelo Branco	5.19	343	ePn	Pn	22 15 48.8	+0.4
PCBR				eSn	Sn	22 16 46.6	-0.7
PCBR				A	A	22 16 50.5	
	comp=E,33nm,0.8s						
PCBR	Castelo Branco	5.19	343	P	Pn	22 15 48.8	+0.4
PCBR				S	Sn	22 16 46.6	-0.7
	comp=E,16nm,0.8s						
PCBR	Castelo Branco	5.19	343	P	Pn	22 15 48.8	+0.4
PCBR				S	Sn	22 16 46.6	-0.7
	comp=E,16nm,0.8s						
EPLA	Plasencia	5.19	355	P	Pn	22 15 48.8	+0.3
	SNR=7.9						
EPLA				S	Sn	22 16 43.3	-4.2
	SNR=7.9						
EPLA	Plasencia	5.19	355	P	Pn	22 15 48.8	+0.3
	SNR=7.9						
EPLA				S	Sn	22 16 43.3	-4.2
	SNR=7.9						
PTOM	Tomar	5.25	335	ePn	Pn	22 15 49.6	+0.3
PTOM				eSn	Sn	22 16 48.3	-0.7
PTOM				A	A	22 16 58.7	
	comp=E,68nm,0.6s						
PTOM	Tomar	5.25	335	P	Pn	22 15 49.6	+0.3
PTOM				S	Sn	22 16 48.3	-0.7
	comp=E,34nm,0.6s						
PTOM	Tomar	5.25	335	P	Pn	22 15 49.6	+0.3
PTOM				S	Sn	22 16 48.3	-0.7
	comp=E,34nm,0.6s						
AFS	Agadir Fac de	5.57	218	P	Pn	22 15 56.0	+2.4
AFS				S	Sn	22 16 56.0	-0.7
AFS	Agadir Fac de	5.57	218	eP	Pn	22 15 56.0	+2.4
PCAS	Casmilo, Conde	5.67	336	ePn	Pn	22 15 55.8	+0.7
PCAS				eSn	Sn	22 16 59.5	+0.2
PCAS				A	A	22 17 29.6	
	comp=E,40nm,0.6s						
PCAS	Casmilo, Conde	5.67	336	ePn	Pn	22 15 55.8	+0.7
PCAS				eSn	Sn	22 16 59.5	+0.2
	comp=E,40nm,0.6s						
EBEN	Beniarda	5.72	47	P	Pn	22 15 54.0	-1.7
	comp=E,0.5nm,0.2s,SNR=8.1						
EBEN	Beniarda	5.72	47	P	Pn	22 15 54.0	-1.7
	comp=E,0.5nm,0.2s,SNR=8.1						
MTE	Manteigas	5.73	344	ePn	Pn	22 15 56.5	+0.5
MTE				eSn	Sn	22 16 59.4	-1.5
MTE				A	A	22 17 37.2	
	comp=E,76nm,0.7s						
MTE	Manteigas	5.73	344	P	Pn	22 15 56.5	+0.5
MTE				S	Sn	22 16 59.4	-1.5
	comp=E,38nm,0.7s						
MTE	Manteigas	5.73	344	ePn	Pn	22 15 54.6	-1.4
	comp=E,24nm,0.4s						
MTE				eSn	Sn	22 16 58.7	-2.2
MTE	Manteigas	5.73	344	P	Pn	22 15 56.5	+0.5
MTE				S	Sn	22 16 59.4	-1.5
	comp=E,38nm,0.7s						
GUD	Guadarrama	5.85	10	P	Pn	22 15 57.9	+0.2
	comp=E,1.6nm,0.2s,SNR=13						
GUD				S	Sn	22 17 01.4	-2.6
	comp=E,1.6nm,0.3s,SNR=7.9						
GUD	Guadarrama	5.85	10	P	Pn	22 15 57.9	+0.2
	comp=E,1.6nm,0.2s,SNR=13						
GUD				S	Sn	22 17 01.4	-2.6
	comp=E,1.6nm,0.3s,SNR=7.9						
MVO	Moncorvo	6.38	350	ePn	Pn	22 16 04.9	0.0
MVO				eSn	Sn	22 17 16.0	-0.9
MVO				A	A	22 17 20.6	
	comp=E,42nm,0.5s						
MVO	Moncorvo	6.38	350	P	Pn	22 16 05.4	+0.5
	comp=E,8.4nm,0.1s,SNR=23						
MVO				S	Sn	22 17 12.8	-4.1
	comp=E,5.2nm,0.2s,SNR=7.9						
MVO	Moncorvo	6.38	350	ePn	Pn	22 16 04.9	0.0
MVO	Moncorvo	6.38	350	P	Pn	22 16 05.4	+0.5
	comp=E,8.4nm,0.1s,SNR=23						
MVO				eSn	Sn	22 17 16.0	-0.9
	comp=E,42nm,0.5s						
ETOR	Torete	6.53	24	P	Pn	22 16 06.3	-0.7
	comp=E,11nm,0.2s,SNR=28						
ETOR				S	Sn	22 17 18.0	-2.7
	comp=E,5.1nm,0.2s,SNR=7.9						
ETOR	Torete	6.53	24	P	Pn	22 16 06.3	-0.7
	comp=E,11nm,0.2s,SNR=28						
ETOR				S	Sn	22 17 18.0	-2.7
	comp=E,5.1nm,0.2s,SNR=7.9						
PVRL	Vila Real	6.61	346	ePn	Pn	22 16 08.0	0.0
PVRL				eSn	Sn	22 17 18.8	-3.7
PVRL				A	A	22 17 24.1	
	comp=E,38nm,0.4s						
PVRL	Vila Real	6.61	346	P	Pn	22 16 08.0	0.0
PVRL				S	Sn	22 17 18.8	-3.7
	comp=E,19nm,0.4s						
PVRL	Vila Real	6.61	346	P	Pn	22 16 08.0	0.0
POLO	Lamas de Olo	6.72	345	ePn	Pn	22 16 09.6	0.0
POLO				eSn	Sn	22 17 22.4	-2.8
POLO				A	A	22 17 27.3	
	comp=E,14nm,0.5s						
POLO	Lamas de Olo	6.72	345	ePn	Pn	22 16 09.6	0.0
EMOS	Mosqueruela	6.79	35	P	Pn	22 16 12.4	+1.9
	comp=E,1.1nm,0.2s,SNR=20						
EMOS				S	Sn	22 17 24.8	-2.2
	comp=E,0.5nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	6.79	35	P	Pn	22 16 12.4	+1.9
	comp=E,1.1nm,0.2s,SNR=20						
EMOS				S	Sn	22 17 24.8	-2.2
	comp=E,0.5nm,0.2s,SNR=7.9						
EIBI	Ibiza	6.89	51	P	Pn	22 16 12.6	+0.9
	comp=E,13nm,0.5s,SNR=7.8						
EIBI				S	Sn	22 17 26.7	-2.5
	comp=E,17nm,0.7s,SNR=7.9						
EIBI	Ibiza	6.89	51	P	Pn	22 16 12.6	+0.9
	comp=E,13nm,0.5s,SNR=7.8						
EIBI				S	Sn	22 17 26.7	-2.5
	comp=E,17nm,0.7s,SNR=7.9						
PBRG	Braganca	6.98	353	ePn	Pn	22 16 12.8	-0.2
PBRG				eSn	Sn	22 17 26.7	-4.8
PBRG				A	A	22 17 46.1	
	comp=E,13nm,0.8s						
PBRG	Braganca	6.98	353	P	Pn	22 16 12.8	-0.2
PBRG				S	Sn	22 17 26.7	-4.8
	comp=E,6.3nm,0.8s						
PBRG	Braganca	6.98	353	P	Pn	22 16 12.8	-0.2
ECAL	Calabor	7.11	353	P	Pn	22 16 14.5	-0.4
	comp=E,3.6nm,0.1s,SNR=61						
ECAL				S	Sn	22 17 31.9	-3.0
	comp=E,2.5nm,0.4s,SNR=7.9						
ECAL	Calabor	7.11	353	P	Pn	22 16 14.5	-0.4
	comp=E,3.6nm,0.1s,SNR=61						
ELOB	Lobios	7.25	345	P	Pn	22 16 15.9	-0.9
	comp=E,2.6nm,0.2s,SNR=15						
ELOB				S	Sn	22 17 33.7	-4.6
	comp=E,4.9nm,0.2s,SNR=7.9						
ELOB	Lobios	7.25	345	P	Pn	22 16 15.9	-0.9
	comp=E,2.6nm,0.2s,SNR=15						
ERTA	Horta de San J	7.63	36	P	Pn	22 16 24.4	+2.4
	comp=E,0.5nm,0.3s,SNR=7.9						
ERTA				S	Sn	22 17 45.1	-2.5
	comp=E,18nm,0.8s,SNR=7.9						
ERTA	Horta de San J	7.63	36	P	Pn	22 16 24.4	+2.4
	comp=E,0.5nm,0.3s,SNR=7.9						
ERTA				S	Sn	22 17 45.1	-2.5
	comp=E,18nm,0.8s,SNR=7.9						
EZAM	Zamans	7.67	342	P	Pn	22 16 20.8	-1.6
	comp=E,2.3nm,0.2s,SNR=7.9						
EZAM				S	Sn	22 17 43.7	-4.7
	comp=E,0.9nm,0.3s,SNR=7.9						
EZAM	Zamans	7.67	342	P	Pn	22 16 20.8	-1.6
	comp=E,2.3nm,0.2s,SNR=7.9						
EARI	Arriondas	8.41	2	P	Pn	22 16 33.2	+0.5
	comp=E,0.6nm,0.2s,SNR=7.9						
EARI				S	Sn	22 18 02.9	-3.8
	comp=E,0.4nm,0.2s,SNR=7.9						
EARI	Arriondas	8.41	2	P	Pn	22 16 33.2	+0.5
	comp=E,0.6nm,0.2s,SNR=7.9						
IUNC	Unciti	8.47	21	P	Pn	22 16 35.3	+1.8
	comp=E,1.6nm,0.3s,SNR=7.9						
IUNC	Unciti	8.47	21	P	Pn	22 16 35.3	+1.8
	comp=E,1.6nm,0.3s,SNR=7.9						
EMAZ	Mazaricos	8.49	343	P	Pn	22 16 35.2	+1.5
	comp=E,5.3nm,0.4s,SNR=4.0						
EMAZ	Mazaricos	8.49	343	P	Pn	22 16 35.2	+1.5
	comp=E,5.3nm,0.4s,SNR=4.0						
ELAN	Lanestosa	8.50	10	P	Pn	22 16 33.8	0.0
	comp=E,1.0nm,0.2s,SNR=7.9						
ELAN				S	Sn	22 18 05.3	-3.4
	comp=E,0.6nm,0.2s,SNR=7.9						
ELAN	Lanestosa	8.50	10	P	Pn	22 16 33.8	0.0
	comp=E,1.0nm,0.2s,SNR=7.9						
EPON	Pontenova	8.53	352	P	Pn	22 16 35.6	+1.4
	comp=E,1.6nm,0.2s,SNR=7.9						
EPON				S	Sn	22 18 05.4	-4.1
	comp=E,0.7nm,0.2s,SNR=7.9						
EPON	Pontenova	8.53	352	P	Pn	22 16 35.6	+1.4
	comp=E,1.6nm,0.2s,SNR=7.9						
IEPA	Eparoz	8.56	22	P	Pn	22 16 37.3	+2.6
	comp=E,1.1nm,0.2s,SNR=7.9						
IEPA				S	Sn	22 18 07.9	-2.4
	comp=E,0.3nm,0.4s,SNR=7.9						
IELO	Elcoad	8.62	22	P	Pn	22 16 38.2	+2.6
	comp=E,1.6nm,0.2s,SNR=7.9						
IELO				S	Sn	22 18 08.6	-3.5
	comp=E,9.4nm,0.6s,SNR=7.9						
IUSE	Utxeti	8.63	20	P	Pn	22 16 38.2	+2.5
	comp=E,1.1nm,0.2s,SNR=7.9						
ELIZ	Elizondo	8.84	19	P	Pn	22 16 42.2	+3.7
	comp=E,18nm,0.4s,SNR=12						
SJPF	Ste Jean	8.88	21	ePn	Pn	22 16 36.6	-2.4
SJPF				eSn	Sn	22 18 06.6	-12
	comp=E,16nm,0.9s						
SJPF	Ste Jean	8.88	21	P	Pn	22 16 36.6	-2.4
SJPF				S	Sn	22 18 06.6	-12
	comp=E,8.1nm,0.9s						
SJPF	Ste Jean	8.88	21	P	Pn	22 16 36.6	-2.4
ETSF	Etsaut	8.89	24	ePn	Pn	22 16 37.8	-1.5
ETSF				eSn	Sn	22 18 07.4	-11
	comp=E,9.5nm,0.8s						
ETSF	Etsaut	8.89	24	P	Pn	22 16 37.8	-1.5
ETSF				S	Sn	22 18 07.4	-11
	comp=E,4.8nm,0.8s						
ETSF	Etsaut	8.89	24	P	Pn	22 16 37.8	-1.5
EALK	Alkurruntz	8.89	19	P	Pn	22 16 41.6	+2.4
	comp=E,2.3nm,0.3s,SNR=7.9						
EALK				S	Sn	22 18 15.2	-3.3
	comp=E,1.1nm,0.2s,SNR=7.9						
EALK	Alkurruntz	8.89	19	P	Pn	22 16 41.6	+2.4
	comp=E,2.3nm,0.3s,SNR=7.9						
EMIR	Miracle	8.94	36	P	Pn	22 16 41.9	+1.9
	comp=E,1.3nm,0.2s,SNR=9.5						
EMIR	Miracle	8.94	36	P	Pn	22 16 41.9	+1.9
	comp=E,1.3nm,0.2s,SNR=9.5						
OSSF	Osses	9.00	20	P	Pn	22 16 44.3	+3.7
ATE	Arette	9.01	23	P	Pn	22 16 42.0	+1.1
	comp=E,1.4nm,0.3s,SNR=7.9						
ATE				S	Sn	22 18 17.9	-3.6
	comp=E,0.3nm,0.2s,SNR=7.9						
ATE	Arette	9.01	23	P	Pn	22 16 42.0	+1.1
	comp=E,1.4nm,0.3s,SNR=7.9						
ORDF	Ordiarp	9.05	22	P	Pn	22 16 44.8	+3.4
REYF	Montagne du Re	9.10	25	P	Pn	22 16 44.8	+2.6
CSOR	Sort	9.12	33	P	Pn	22 16 44.1	+1.7
	comp=E,0.2nm,0.5s,SNR=7.9						
CSOR	Sort	9.12	33	P	Pn	22 16 44.1	+1.7
	comp=E,0.2nm,0.5s,SNR=7.9						
EPF	Esparros	9.33	28	ePn	Pn	22 16 42.9	-2.4
EPF				eSn	Sn	22 18 18.1	-11
	comp=E,2.3nm,0.5s						
EPF	Esparros	9.33	28	P	Pn	22 16 42.9	-2.4
EPF				S	Sn	22 18 18.1	-11
	comp=E,1.2nm,0.5s						
EPF	Esparros	9.33	28	ePn	Pn	22 16 42.9	-2.4
CFUE	Fuerteventura	9.47	231	P	Pn	22 16 46.5	-0.8
	comp=E,1.7nm,0.2s,SNR=7.9						
CFUE				S	Sn	22 18 26.6	-6.3
	comp=E,10nm,0.5s,SNR=7.9						
CFUE	Fuerteventura	9.47	231	P	Pn	22 16 46.5	-0.8
	comp=E,1.7nm,0.2s,SNR=7.9						
CLLI	Llivia	9.59	35	P	Pn	22 16 50.8	+1.9
	comp=E,0.2nm,0.2s,SNR=7.9						
CLLI	Llivia	9.59	35	P	Pn	22 16 50.8	+1.9
	comp=E,0.2nm,0.2s,SNR=7.9						
MTLF	Montolieu	10.37	33	ePn	Pn	22 16 56.2	-3.3
MTLF				eSn	Sn	22 18 43.2	-12
	comp=E,0.4nm,0.2s						
MTLF	Montolieu	10.37	33	P	Pn	22 16 56.2	-3.3
MTLF				S	Sn	22 18 43.2	-12
	comp=E,0.2nm,0.2s						
LFF	La Frestale	11.14	24	ePn	Pn	22 17 06.1	-3.8
LFF				eSn	Sn	22 19 00.8	-13
	comp=E,8.4nm,0.8s						
LFF	La Frestale	11.14	24	P	Pn	22 17 06.1	-3.8
LFF				S	Sn	22 19 00.8	-13
	comp=E,4.2nm,0.8s						
CAF	Calviac	11.60	28	ePn	Pn	22 17 12.5	-3.8
CAF				eSn	Sn	22 19 12.5	-12
	comp=E,0.8nm,0.3s						
CAF	Calviac	11.60	28	P	Pn	22 17 12.5	-3.8
CAF				S	Sn	22 19 12.5	-12
	comp=E,0.4nm,0.3s						
RJF	Les Rejaudoux	11.72	25	ePn	Pn	22 17 14.3	-3.7
RJF				eSn	Sn	22 19 14.8	-13
	comp=E,2.8nm,0.7s						
RJF	Les Rejaudoux	11.72	25	P	Pn	22 17 14.3	-3.7
RJF				S	Sn	22 19 14.8	-13
	comp=E,1.4nm,0.7s						
KEST	Kesra	12.19	82	Pn	Pn	22 17 25.9	+1.5
	comp=E,0.0nm,0.3s,baz=227,slow=18,SNR=3.3						
KEST				LR	LR	22 21 53.8	
	comp=E,66nm,21.7s,baz=212,slow=36						
MFF	Saint Martin d	12.40	18	ePn	Pn	22 17 23.2	-4.0
MFF				eSn	Sn	22 19 30.5	-14
	comp=E,1.4nm,0.5s						
MFF	Saint Martin d	12.40	18	P	Pn	22 17 23.2	-4.0
MFF				S	Sn	22 19 30.5	-14
	comp=E,0.7nm,0.5s						
TCF	Toulx Ste Croi	12.81	25	ePn	Pn	22 17 29.3	-3.6
TCF				eSn	Sn	22 19 41.1	-14
	comp=E,0.2nm,0.3s						
TCF	Toulx Ste Croi	12.81	25	P	Pn	22 17 29.3	-3.6
TCF				S	Sn	22 19 41.1	-14
	comp=E,0.1nm,0.3s						
QUIF	Quistinic	13.14	7	ePn	Pn	22 17 33.1	-4.2
QUIF				eSn	Sn	22 19 47.9	-15
	comp=E,2.0nm,0.5s						
QUIF	Quistinic	13.14	7	P	Pn	22 17 33.1	-4.2
QUIF				S	Sn	22 19 47.9	-15
	comp=E,1.0nm,0.5s						
BGF	Bois d'Agland	13.27	26	ePn	Pn	22 17 35.2	-3.9
BGF				eSn	Sn	22 19 51.9	-14
	comp=E,0.9nm,0.3s						
BGF	Bois d'Agland	13.27	26	P	Pn	22 17 35.2	-3.9
BGF				S	Sn	22 19 51.9	-14
	comp=E,0.4nm,0.3s						
SGMF	Saint Gilles	13.54	9	ePn	Pn	22 17 38.6	-4.2
SGMF				eSn	Sn	22 19 57.4	-15
	comp=E,1.6nm,0.5s						
SGMF	Saint Gilles	13.54	9	P	Pn	22 17 38.6	-4.2
SGMF				S	Sn	22 19 57.4	-15
	comp=E,0.8nm,0.5s						
ROSF	Rostrenen	13.55	6	ePn	Pn	22 17 38.4	-4.5
ROSF				eSn	Sn	22 19 57.6	-15
	comp=E,1.8nm,0.5s						
ROSF	Rostrenen	13.55	6	P	Pn	22 17 38.4	-4.5
ROSF				S	Sn	22 19 57.6	-15
	comp=E,0.9nm,0.5s						
AVF	Avril sur Loir	13.65	27	ePn	Pn	22 17 40.3	-4.0
AVF				eSn	Sn	22 20 01.3	-14
	comp=E,0.2nm,0.3s						
AVF	Avril sur Loir	13.65	27	P	Pn	22 17 40.3	-4.0
AVF				S	Sn	22 20 01.3	-14
	comp=E,0.1nm,0.3s						
SMF	Signal de Mont	13.72	28	ePn	Pn	22 17 41.3	-3.9
SMF				eSn	Sn	22 20 02.9	-14
	comp=E,0.2nm,0.2s						
SMF	Signal de Mont	13.72	28	P	Pn	22 17 41.3	-3.9
SMF				S	Sn	22 20 02.9	-14
	comp=E,0.1nm,0.2s						
GRR	Gorron	13.94	13	ePn	Pn	22 17 43.9	-4.3
GRR				eSn	Sn	22 20 07.1	-15
	comp=E,0.3nm,0.2s						
GRR	Gorron	13.94	13	P	Pn	22 17 43.9	-4.3
GRR				S	Sn	22 20 07.1	-15
	comp=E,0.2nm,0.2s						
SSF	Saint Saulge	13.94	26	ePn	Pn	22 17 44.5	-3.7
SSF				eSn	Sn	22 20 08.1	-14
	comp=E,0.4nm,0.1s						
SSF	Saint Saulge	13.94	26	P	Pn	22 17 44.5	-3.7
SSF				S	Sn	22 20 08.1	-14
	comp=E,0.2nm,0.1s						
LOR	Lormes	14.24	27	ePn	Pn	22 17 48.5	-3.9
LOR				eSn	Sn	22 20 15.3	-14
	comp=E,0.3nm,0.3s						
LOR	Lormes	14.24	27	P	Pn	22 17 48.5	-3.9
LOR				S	Sn	22 20 15.3	-14
	comp=E,0.2nm,0.3s						
LDF	La Druitiere	14.28	15	ePn	Pn	22 17 48.5	-4.3
LDF				eSn	Sn	22 20 15.3	-15
	comp=E,0.5nm,0.3s						
FLN	La Foliniere	14.37	14	ePn	Pn	22 17 49.7	-4.3
FLN				eSn	Sn	22 20 17.2	-15
	comp=E,0.5nm,0.2s						
FLN	La Foliniere	14.37	14	P	Pn	22 17 49.7	-4.3
FLN				S	Sn	22 20 17.2	-15
	comp=E,0.2nm,0.2s						
CABF	La Chapelle	14.64	33	ePn	Pn	22 17 54.5	-3.4
CABF				eSn	Sn	22 20 25.4	-14
	comp=E,0.3nm,0.2s						
CABF	La Chapelle	14.64	33	P	Pn	22 17 54.5	-3.4
CABF				S	Sn	22 20 25.4	-14
	comp=E,0.2nm,0.2s						
TAM	Tamanrasset	15.44	138	ePn	Pn	22 18 08.2	-0.6
	comp=E,3.0nm,0.6s						
TAM	Tamanrasset	15.44	138	ePn	Pn	22 18 08.2	-0.6
	comp=E,3.0nm,0.6s						
HAU	Haudompre	15.82	30	ePn	Pn	22 18 10.2	-3.2
HAU	Haudompre	15.82	30	P	Pn	22 18 10.2	-3.2
HINF	Hinteralfeld	15.89	32	ePn	Pn	22 18 11.2	-3.1
HINF	Hinteralfeld	15.89	32	P	Pn	22 18 11.2	-3.1
DAVOX	Davos/Dischmat	16.62	40	Pn	P	22 18 27.8	+1.9
	baz=171,slow=12						
FETA	Feichten	17.22	40	⇓iPn	P	22 18 33.7	+1.1
	comp=E,10nm,0.7s						
FETA	Feichten	17.22	40	Pn	P	22 18 33.7	+1.1
	comp=E,10nm,0.7s						
WTTA	Wattenberg	17.86	41	⇓iP	P	22 18 40.4	+0.7
	comp=E,9.3nm,0.8s						
WTTA	Wattenberg	17.86	41	P	P	22 18 40.4	+0.7
	comp=E,9.3nm,0.8s						
GERES	GERESS Array B	19.92	40	P	P	22 19 02.4	+0.2
	comp=E,0.3nm,0.3s,baz=215,slow=8.4,SNR=16						
KHC	Kasperske Hory	20.03	39	eP	P	22 19 04.4	+1.1
KHC				ex	x	22 19 06.9	
KHC				epP	pP	22 19 12.5	+1.8
KHC	Kasperske Hory	20.03	39	eP	P	22 19 03.2	-0.1
	comp=E,9.7nm,0.8s						
KHC	Kasperske Hory	20.03	39	eP	P	22 19 03.2	-0.1
	comp=E,9.7nm,0.8s						
NKC	Novy Kostel	20.19	35	eP	Pn	22 19 07.5	+0.5
NKC	Novy Kostel	20.19	35	P	Pn	22 19 07.5	+0.5
EKA	Eskdalemuir Ar	20.52	4	P	P	22 19 08.7	+0.2
	comp=E,1.4nm,0.7s,baz=179,slow=11,SNR=4.4						
PRU	Pruhonice	21.05	38	eP	P	22 19 17.9	+3.6
TREC	Trest	21.13	41	eP	P	22 19 17.6	+2.4
TREC				epP	pP	22 19 22.8	+0.2
TREC				esP	sP	22 19 26.9	+0.8
TREC	Trest	21.13	41	P	P	22 19 17.6	+2.4
CLL	Collm	21.18	34	iP	P	22 19 17.4	+1.7
	comp=Z,7.0nm,0.9s						
CLL				isP	sP	22 19 27.2	+0.7
VRAC	Vranov	21.74	42	⇑iP	P	22 19 23.6	+1.9
VRAC	Vranov	21.74	42	P	P	22 19 22.9	+1.2
	comp=Z,2.2nm,0.5s,baz=236,slow=13,SNR=4.4						
UPC	Upice	22.12	39	eP	P	22 19 24.2	-1.6
UPC				epP	pP	22 19 31.4	-1.8
UPC	Upice	22.12	39	P	P	22 19 24.2	-1.6
DPC	Dobruska-Polom	22.19	39	eP	P	22 19 28.9	+2.3
DPC				epP	pP	22 19 32.5	-1.5
DPC				esP	sP	22 19 35.4	-2.1
DPC	Dobruska-Polom	22.19	39	P	P	22 19 28.9	+2.3
KRLC	Kraliky	22.27	40	eP	P	22 19 30.8	+3.4
KRLC				epP	pP	22 19 36.9	+2.0
BBTS	Babate	22.44	209	P	P	22 19 30.3	+0.9
	comp=Z,8.9nm,0.7s,baz=81,slow=19,SNR=2.6						
TOA0	Torodi Ar. Sit	22.61	161	eP	P	22 19 32.6	+1.4
TOA0	Torodi Ar. Sit	22.61	161	eP	P	22 19 32.6	+1.4
TORD	Torodi Ar. Bea	22.61	161	P	P	22 19 33.0	+1.7
	comp=Z,1.9nm,0.5s,baz=339,slow=11,SNR=39						
TORD	Torodi Ar. Bea	22.61	161	P	P	22 19 33.0	+1.7
BZS	Buzias	23.23	54	⇑iP	P	22 19 39.5	+2.1
BZS	Buzias	23.23	54	⇑iP	P	22 19 39.5	+2.1
VTS	Vitosha	23.62	62	⇑iP	P	22 19 47.3	+5.7
GZR	Gura Zlata	23.94	55	⇑iP	P	22 19 42.0	-2.4
DRGR		24.32	52	⇑iP	P	22 19 51.4	+3.5
ARR	Arges	25.20	56	⇑iP	P	22 19 56.0	+0.1
ARR	Arges	25.20	56	⇑iP	P	22 19 56.0	+0.1
VOIR		25.50	56	⇑iP	P	22 20 00.1	+1.5
VOIR		25.50	56	⇑iP	P	22 20 00.1	+1.5
MLR	Muntele Rosu	26.12	57	⇓iP	P	22 20 08.5	+4.1
MLR	Muntele Rosu	26.12	57	P	P	22 20 05.3	+0.9
	comp=Z,1.5nm,0.7s,baz=185,slow=7.3,SNR=17						
BURAR	Bucovina Array	26.20	52	⇑iP	P	22 20 05.7	+0.7
BURAR	Bucovina Array	26.20	52	⇑iP	P	22 20 05.7	+0.7
PLOR	Plostina	26.69	56	⇑iP	P	22 20 11.5	+2.2
PLOR	Plostina	26.69	56	⇑iP	P	22 20 11.5	+2.2
VRI	Vrincioaia	26.74	56	⇓iP	P	22 20 12.1	+2.3
VRI	Vrincioaia	26.74	56	⇓iP	P	22 20 12.1	+2.3
TESR	Tescani	26.84	55	⇑iP	P	22 20 16.3	+5.6
MSAB	Monastry St. A	27.18	60	⇑iP	P	22 20 18.3	+4.5
TLB	Topalu	27.41	59	⇓iP	P	22 20 12.8	-3.0
CFR	Carcaliu	27.58	58	⇑iP	P	22 20 08.5	-8.8
HFS	Hagfors	28.19	20	P	P	22 20 21.2	-1.4
	comp=Z,1.6nm,0.5s,baz=206,slow=9.9,SNR=14						
HFS				LR	LR	22 34 05.0	
	comp=Z,84nm,18.9s,baz=218,slow=42						
NOA	NORSAR Array B	28.30	17	P	P	22 20 23.9	+0.3
	comp=Z,0.8nm,0.8s,baz=211,slow=8.6,SNR=3.7						
NOA				LR	LR	22 33 07.4	
	comp=Z,34nm,18.2s,baz=190,slow=40						
ARCES	ARCESS Array B	38.68	17	P	P	22 21 54.2	+0.7
	comp=Z,2.8nm,0.8s,baz=219,slow=9.1,SNR=6.0						
AKTO	Aktyubinsk	47.79	51	P	P	22 23 08.4	+1.1
	comp=Z,1.8nm,0.7s,baz=253,slow=9.0,SNR=5.9						
ABKAR	Akbulak array	49.18	52	eP	P	22 23 17.4	-0.7
	comp=Z,3.3nm,1.1s						
ABKAR	Akbulak array	49.18	52	eP	P	22 23 17.4	-0.7
	comp=Z,3.3nm,1.1s						
BVAR	Borovoye Array	54.94	46	P	P	22 24 01.1	+0.2

comp=Z,0.2nm,0.4s,baz=288,slow=5.7,SNR=3.4
KURK Kurchatov 60.48 47 eP P 22 24 38.7 -1.2
comp=Z,1.7nm,0.8s
KURK Kurchatov 60.48 47 eP P 22 24 38.7 -1.2
comp=Z,1.7nm,0.8s
ZALV Zalesovo Beam 62.86 42 P P 22 24 55.0 -0.8
comp=Z,0.7nm,0.3s,baz=313,slow=7.1,SNR=2.3
MKAR Makanchi Array 64.21 50 P P 22 25 04.8 -0.1
comp=Z,0.4nm,0.4s,baz=300,slow=4.4,SNR=16
YKA Yellowknife Ar 67.70 332 P P 22 25 27.4 +0.4
comp=Z,0.3nm,0.7s,baz=64,slow=6.3,SNR=5.2
ILAR Eielson Array 76.16 344 P P 22 26 18.6 +0.8
comp=Z,0.2nm,0.5s,baz=18,slow=4.7,SNR=7.0
CMAR Chiang Mai Arr 90.91 67 P P 22 27 34.4 +0.1
comp=Z,0.6nm,0.3s,baz=327,slow=10,SNR=4.3
WRA Warramunga Arr 141.67 78 PKhKP PKPpre 22 33 59.0
comp=Z,0.3nm,0.9s,baz=312,slow=2.3,SNR=3.2
STKA Stephens Creek 152.46 93 PKPbc PKPbc 22 34 26.0 -0.3
comp=Z,1.2nm,0.6s,baz=256,slow=2.9,SNR=3.5

IDC 14 22:41:20.2±1.4, 41.47N×75.75E, h0km, mb3.2/4, mb1 3.4/8, mb1mx3.2/39, mbtmp3.3/8, ML3.1/4, Error ellipse: s-maj=21.8km s-min=13.0km az=17.0
KRNET 14 22:41:22.4±0.1, 41.68N×75.85E, h3km, mb4.1
KNET 14 22:41:23.0±0.9, 41.72N×75.86E, h4km±4km, ml3.3, Error ellipse: s-maj=7.0km s-min=2.0km az=151.0
NNC 14 22:41:24.9±1.1, 41.76N×75.81E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=7.2km s-min=5.3km az=165.0
BJI 14 22:41:25.9, 41.80N×76.08E, h6km, ML3.3/6
ISC 14 22:41:21.9±1.6, 41.62N±0.06×75.84E±0.03, h9km±9km, n43, σ1.05/57, mb3.4/4, 20C-27D, Kyrgyzstan

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KZA Kyzart 0.63 316 P Pg 22 41 34.7 +0.5
1µm,0.3s,SNR=1576
KZA Kyzart 0.63 316 ⇑iP Pg 22 41 34.6 +0.5
baz=312
KZA ⇑iS Sg 22 41 43.3 +0.8
baz=312
ULHL Ulahol 0.69 26 ⇓P Pg 22 41 34.8 -0.5
106nm,0.1s,SNR=1001
ULHL ⇓S Sg 22 41 43.5 -0.9
2µm,0.3s
ULHL Ulahol 0.69 26 eP Pg 22 41 34.8 -0.5
baz=27
ULHL iS Sg 22 41 43.4 -1.0
baz=27
ARLS Aral 1.16 282 iP Pb 22 41 44.0 -0.2
baz=279
ARLS ⇓iS Sb 22 41 59.5 +0.1
baz=279
UCH Uchtor 1.16 302 ⇓P Pb 22 41 44.2 -0.2
53nm,0.2s,SNR=66
UCH Uchtor 1.16 302 ⇑iP Pb 22 41 44.2 -0.2
baz=299
UCH ⇑iS Sg 22 42 00.6 +1.4
baz=299
KBK Karagaybulak 1.23 328 ⇓P Pb 22 41 45.6 +0.2
324nm,0.2s,SNR=1163
KBK ⇓S Sg 22 42 01.8 +0.4
707nm,0.2s
KBK Karagaybulak 1.23 328 ⇓iP Pb 22 41 45.6 +0.2
baz=326
KBK ⇓iS Sb 22 42 01.4 0.0
baz=326
TKM2 Tokmak 2 1.31 352 ⇓P Pn 22 41 46.6 -0.1
96nm,0.3s
TKM2 ⇑S Sb 22 42 03.5 -0.3
54nm,0.2s
TKM2 Tokmak 2 1.31 352 P Pn 22 41 46.6 -0.1
297nm,0.3s,SNR=661
TKM2 Tokmak 2 1.31 352 ⇑iP Pn 22 41 46.5 -0.1
baz=351
TKM2 ⇑iS Sb 22 42 03.6 -0.3
baz=351
AAK Ala-Archa 1.42 316 ⇓P Pb 22 41 49.1 +0.4
196nm,0.4s
AAK ⇓S Sg 22 42 07.8 +0.2
95nm,0.3s
AAK Ala-Archa 1.42 316 Pg Pb 22 41 49.0 +0.4
133nm,0.3s,baz=120,slow=10,SNR=2562
AAK Lg Lg 22 42 07.4
59nm,0.3s,baz=293,slow=23,SNR=13
AAK Ala-Archa 1.42 316 ⇓iP Pb 22 41 49.0 +0.4
baz=314
AAK ⇓iS Sg 22 42 07.5 -0.1
baz=314
CHMS Chumysh 1.59 330 ⇓P Pb 22 41 51.8 +0.2
78nm,0.2s,SNR=60
CHMS Chumysh 1.59 330 ⇓iP Pb 22 41 51.8 +0.2
baz=329
CHMS ⇓iS Sb 22 42 12.1 +0.3
baz=329
AML Almayashu 1.68 288 ⇓P Pb 22 41 53.9 +0.8
147nm,0.2s,SNR=159
AML Almayashu 1.68 288 ⇑iP Pb 22 41 54.3 +1.1
baz=286
AML ⇑iS Sg 22 42 16.1 +0.2
baz=286
ANVS Anan'yevo 1.79 49 ⇓iP Pb 22 41 55.1 +0.1
baz=50
KNDC Almaty 1.80 27 ⇑Pn Pb 22 41 55.4 +0.3
KNDC ⇑Sn Sg 22 42 20.0 +0.2
EKS Erkin-Say 1.85 305 iP Pg 22 41 57.3 0.0
baz=303
EKS2 Erkin-Say 1.85 305 ⇓P Pb 22 41 56.9 +1.0
104nm,0.3s,SNR=135
EKS2 Erkin-Say 1.85 305 ⇓iP Pb 22 41 57.0 +1.0
baz=303
EKS2 ⇓iS Sg 22 42 21.7 +0.4
baz=303
USP Ospenovka 1.92 329 ⇓P Pb 22 41 57.5 +0.4
106nm,0.3s,SNR=174
USP Ospenovka 1.92 329 ⇓iP Pb 22 41 57.6 +0.5
baz=328
USP ⇓iS Sg 22 42 22.6 -0.9
baz=328
KSH Kashi 2.10 177 Pn Pg 22 42 10.0 +7.8
KSH Sn Sg 22 42 44.3 +14
KSH smax smax
comp=N,370nm,0.6s
KSH smax smax
comp=E,500nm,0.6s
KK31 Karatay Array 4.21 292 Pn Pn 22 42 31.1 +4.8
0.2nm,0.3s,baz=112,slow=14,SNR=246
KK31 ⇑Pg Pg 22 42 40.0 -2.6
4.3nm,0.3s,baz=106,slow=16,SNR=90
KK31 Lg Lg 22 43 35.8
18nm,0.4s,baz=103,slow=27,SNR=6.8
MK31 Makanchi Array 6.95 40 Pn Pn 22 43 07.0 +3.2
2.3nm,0.6s,baz=211,slow=16,SNR=30
MK31 ⇑Lg Lg 22 45 02.0
3.9nm,0.5s,baz=229,slow=22,SNR=3.9
MKAR Makanchi Array 6.95 40 Pn Pn 22 43 06.9 +3.0
0.4nm,0.3s,baz=216,slow=16,SNR=21
MKAR Lg Lg 22 44 54.9
0.9nm,0.3s,baz=221,slow=26,SNR=4.2
KURBB Kurchatov Arra 9.20 11 ⇑Pn Pn 22 43 37.5 +2.8
0.5nm,0.4s
KURBB ⇑Lg Lg 22 46 12.7
18nm,0.7s
KURK Kurchatov 9.30 11 ⇑Pn Pn 22 43 37.9 +1.9
0.5nm,0.6s
KURK ⇑Lg Lg 22 46 11.4
20nm,0.9s
VOSK Vostochnaya 11.58 345 ⇑Pn Pn 22 44 06.3 -1.0
1.8nm,1.2s
BVA0 Borovoye Array 11.99 344 ⇑Pn Pn 22 44 20.1 +7.2
1.7nm,0.7s,baz=148,slow=14,SNR=6.1
BVA0 ⇓Sn Sn 22 46 27.0 +0.3
1.3nm,0.6s,baz=150,slow=28,SNR=5.0
BVA0 ⇓Lg Lg 22 47 37.2
7.6nm,0.8s,baz=152,slow=29,SNR=3.7
BVAR Borovoye Array 11.99 344 Pn Pn 22 44 12.0 -0.9
0.1nm,0.3s,baz=148,slow=12,SNR=4.5
BVAR Lg Lg 22 47 39.3
0.3nm,0.3s,baz=154,slow=28,SNR=6.5
AB31 Akbulak array 13.50 310 ⇓P Pn 22 44 37.9 +4.3
0.6nm,0.6s,baz=118,slow=13,SNR=6.0
ZALV Zalesovo Beam 13.72 23 Pn Pn 22 44 37.4 +1.0
0.3nm,0.3s,baz=221,slow=14,SNR=4.5
AKTO Aktyubinsk 15.16 312 ⇑P P 22 45 00.0 -1.3
6.2nm,1.2s
AKTO Aktyubinsk 15.16 312 Pn Pn 22 44 54.4 -1.7
0.1nm,0.3s,baz=109,slow=17,SNR=1.9
SONM Songino Array 22.49 64 P P 22 46 22.6 +1.0
0.3nm,1.0s,baz=266,slow=11,SNR=2.8
ILAR Eielson Array 68.79 18 P P 22 52 25.6 -0.3
0.4nm,0.9s,baz=277,slow=3.7,SNR=4.2
TORD Torodi Ar. Bea 69.56 270 P P 22 52 31.2 -0.2
0.3nm,0.8s,baz=53,slow=6.5,SNR=2.8
YKA Yellowknife Ar 75.89 5 P P 22 53 07.9 -0.4
0.3nm,0.9s,baz=348,slow=5.7,SNR=5.0

KRSC 14 22:44:53.3±1.9, 49.74N×157.17E, h10km±4km, ML3.7, East of Kuril Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SKR Severo-Kuril's 1.16 325 eP Pb 22 45 14.3 -1.2
SKR eS Sb 22 45 28.7 -1.9
PAU Pauzhetka 1.75 353 eP Pb 22 45 25.3 -0.1
PAU eS Sb 22 45 47.1 -0.3
MTVR Mutnovka 2.82 13 eP Pb 22 45 41.7 -2.3
MTVR eS Sb 22 46 16.6 -2.2
RUS Russkaya 2.83 17 eP Pb 22 45 41.7 -2.2
RUS eS Sb 22 46 16.2 -2.4
UGLR Uglovaya 3.63 16 eP Pn 22 45 53.5 +3.8
AVH Avacha 3.67 15 eP Pn 22 45 53.9 +3.7
SMAR Somma 3.67 16 eP Pb 22 45 54.6 -4.0
KOK Koryaka 3.68 14 eP Pn 22 45 54.0 +3.7
NLC Nalytchevo 3.70 21 eS Sn 22 46 36.6 +2.5
SDLR Sedlovina 3.71 16 eP Pn 22 45 54.0 +3.2
KRER Koryakskii 3.71 15 eP Pn 22 45 53.1 +2.2
GNL Ganaly 3.99 7 eP Pn 22 45 57.6 +2.9
MKZ Mys Kozlova 5.58 28 eP Pn 22 46 19.5 +3.2

JMA 14 22:46:50.3±0.1, 23.93N×121.59E, h41km±1km, M3.1
ISCJB 14 22:46:51.8±0.2, 23.97N±0.02×121.67E±0.02, h44km±4km, mb3.4/2, Error ellipse: s-maj=3.1km s-min=2.1km az=140.2
TAP 14 22:46:51.5, 23.97N×121.60E, h44km, ML3.9, B
IDC 14 22:46:56.7±12.0, 23.81N×122.26E, h89km±94km, mb3.1/2, mb1 3.2/4, mb1mx2.8/33, mbtmp3.4/4, ML2.6/2, Error ellipse: s-maj=167.7km s-min=28.6km az=91.0
ISC 14 22:46:51.1±0.9, 23.97N±0.02×121.65E±0.02, h42km±5km, n75, σ1.57/121, 11C-9D, Taiwan

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
HWA Hwalien 0.04 281 P Pn 22 46 58.8 +1.0
baz=82
HWA S Sn 22 47 05.0 +2.5
baz=82
TWD Chiawan 0.12 335 ⇓iP Pn 22 46 58.8 +0.7
baz=350
TWD iS Sn 22 47 03.5 +0.5
baz=350
ESF Shoufeng Towns 0.17 234 eP Pn 22 46 59.4 +1.0
baz=232
ESF eS Sn 22 47 04.3 +0.8
baz=232
ESL Shilin 0.25 233 ⇑iP Pn 22 46 59.2 +0.1
baz=222
ESL S Sn 22 47 04.3 -0.4
baz=222
TEGC Jichi Village 0.28 202 eP Pn 22 47 01.0 +1.7
baz=190
TEGC eS Sn 22 47 08.3 +3.3
baz=190
WHF Hehuan Shan 0.40 296 P Pn 22 47 01.2 +0.2
baz=295
WHF S Sn 22 47 07.6 -0.5
baz=295
ENA Nanau 0.47 10 ⇓iP Pn 22 47 02.0 +0.5
baz=9.0
ENA eS Sn 22 47 09.4 +0.5
baz=9.0
TWT Tachien 0.52 303 ⇓iP Pn 22 47 03.0 +0.7
baz=299
TWT iS Sn 22 47 10.8 +0.5
baz=299
NNS Nan Shan 0.54 331 ⇓iP Pn 22 47 02.9 +0.4
baz=340
NNS eS Sn 22 47 10.5 -0.1
baz=340
EHY Hungye 0.55 213 ⇑iP Pn 22 47 02.0 -0.7
baz=208
TWC Suao 0.66 16 P Pn 22 47 04.8 +0.7
baz=12
TWC eS Sn 22 47 15.5 +2.1
baz=12
ENTT Nioudou 0.67 353 ⇓iP Pn 22 47 04.7 +0.4
baz=4.0
ENTT eS Sn 22 47 14.2 +0.5
baz=4.0
SMLT Sun Moon Lake 0.69 263 P Pn 22 47 04.9 +0.3
baz=261
SMLT S Sn 22 47 15.1 +0.8
baz=261
TWF1 Yuli 0.69 208 ⇑iP Pn 22 47 03.8 -0.7
baz=211
TYC Yuchr 0.73 265 ⇑iP Pn 22 47 05.3 +0.3
baz=264
TYC eS Sn 22 47 15.6 +0.6
baz=264
NSK Sanguang 0.75 339 ⇓iP Pn 22 47 06.0 +0.6
baz=349
NSK S Sn 22 47 15.6 -0.1
baz=349
ILA Ilan 0.80 6 eP Pn 22 47 06.3 +0.4
baz=3.0
YUS Yu-Shan 0.80 234 ⇑P Pn 22 47 07.0 +0.6
baz=224
YUS S Sn 22 47 17.6 +0.2
baz=224
NSTT Nanjuang 0.89 318 eP Pn 22 47 08.6 +1.4
baz=307
NSTT eS Sn 22 47 20.1 +1.2
baz=307
TWQ1 Liyutan 0.89 295 ⇓iP Pn 22 47 08.3 +1.1
baz=296
TWQ1 S Sn 22 47 20.0 +1.1
baz=296
WNT Mingjian 0.89 264 ⇑iP Pn 22 47 08.6 +1.4
baz=263
WNT S Sn 22 47 20.7 +1.7
baz=263
ALS Alishan 0.90 240 ⇑iP Pn 22 47 08.5 +0.9
baz=230
ALS eS Sn 22 47 20.4 +0.8
baz=230
CHKT Chengkung 0.91 197 eP Pn 22 47 07.6 +0.2
baz=199
CHKT eS Sn 22 47 20.2 +1.0
baz=199
EGS 0.91 16 eP Pn 22 47 09.9 +2.5
baz=12
TCU Taichung 0.91 281 eP Pn 22 47 08.9 +1.4
baz=281
TCU eS Sn 22 47 21.3 +1.8
baz=281
NSY Sanyi 0.93 299 ⇓P Pn 22 47 08.9 +1.2
baz=300
NSY eS Sn 22 47 21.6 +1.7
baz=300
CHN5 Tsauling 0.97 248 ⇑P Pn 22 47 09.5 +1.2
baz=237
CHN5 eS Sn 22 47 22.9 +1.9
baz=237
ELDTW Lidau 0.97 217 eP Pn 22 47 08.0 -0.4
baz=207
TWA Mucha 1.01 356 ⇓iP Pn 22 47 09.8 +1.0
baz=359
TWA eS Sn 22 47 22.9 +1.0
baz=359
HSN Hsinchu 1.04 323 eP Pn 22 47 10.7 +1.5
baz=327
HSN eS Sn 22 47 24.6 +2.1
baz=327
WGK Gukeng 1.04 255 ⇑iP Pn 22 47 10.6 +1.4
baz=252
WGK eS Sn 22 47 25.0 +2.5
baz=252
TAP1 Taipei 1.07 354 eP Pn 22 47 10.8 +1.1
baz=355
TAP Taipei 1.07 353 eP Pn 22 47 10.1 +0.4
baz=355
TWB1 Santiao Chiao 1.08 16 eP Pn 22 47 11.0 +1.2
baz=11
TWB1 eS Sn 22 47 25.2 +1.7
baz=11
NCU National Centr 1.08 337 eP Pn 22 47 10.9 +1.0
baz=339
NCU eS Sn 22 47 25.8 +2.1
baz=339
NWF Wu-fen Shan 1.10 6 eP Pn 22 47 11.1 +0.9
baz=8.0
TWS1 Kuangyinshan 1.15 349 eP Pn 22 47 11.6 +0.9
baz=5.0
TWS1 eS Sn 22 47 26.7 +1.5
baz=5.0
CHN4 Tsaushan 1.15 238 eP Pn 22 47 12.3 +1.5
baz=226
CHN4 eS Sn 22 47 28.1 +2.7
baz=226
CHN2 Minshiung 1.16 248 eP Pn 22 47 12.6 +1.7
baz=246
CHN2 eS Sn 22 47 29.5 +3.9
baz=246
WTP Ta-pu 1.19 233 eP Pn 22 47 12.8 +1.4
baz=230
WTP eS Sn 22 47 29.2 +2.7
baz=230
CHY Chiayi 1.22 248 eP Pn 22 47 13.6 +2.0
baz=245
CHY eS Sn 22 47 29.8 +2.8
baz=245
WTCT Ta-ch'eng 1.26 266 eP Pn 22 47 13.1 +0.9
baz=265
TWG Pinlang 1.26 205 eP Pn 22 47 11.2 -1.1
baz=195
TWG eS Sn 22 47 26.2 -1.8
baz=195
JYNG Yonagunijimaku 1.27 68 eS Sn 22 47 29.9 +1.6
TWK Hsinying 1.28 237 eP Pn 22 47 13.9 +1.3
baz=234
TWK eS Sn 22 47 31.2 +2.7
baz=234
CHN1 Nanshi 1.29 233 ⇑P Pn 22 47 14.2 +1.5
baz=230
CHN1 eS Sn 22 47 30.7 +1.9
baz=230
TTN Taitung 1.29 201 eP Pn 22 47 12.0 -0.7
baz=188
SGST Jiashian 1.32 228 ⇑iP Pn 22 47 15.0 +1.9
baz=217
SGST eS Sn 22 47 32.3 +2.7
baz=217
YOJ Yonaguni jima 1.33 68 P Pn 22 47 14.7 +1.5
YOJ eS Sn 22 47 30.5 +0.7
YOJ Yonaguni jima 1.33 68 eP Pn 22 47 14.7 +1.5
baz=69
WSF Szhu 1.35 256 eP Pn 22 47 14.9 +1.5
baz=243
WSF eS Sn 22 47 32.9 +2.6
baz=243
CHN3 Shinhua 1.48 233 eP Pn 22 47 16.9 +1.7
baz=243
CHN3 eS Sn 22 47 37.8 +4.5
baz=243
ECL Taimali 1.51 205 eP Pn 22 47 14.3 -1.4
baz=194
SSD Sandimen 1.54 218 eP Pn 22 47 17.5 +1.5
baz=204
SSD eS Sn 22 47 37.5 +2.7
baz=204
SCLT Jiali 1.55 240 eP Pn 22 47 16.3 0.0
baz=237
SCLT eS Sn 22 47 37.8 +2.6
baz=237
TAI1 Yung-k'ang 1.60 235 eP Pn 22 47 18.6 +1.7
baz=232
TWM1 Shoushan 1.60 225 eP Pn 22 47 19.9 +2.9
baz=232
SGLT Jiouru 1.64 221 eP Pn 22 47 21.2 +3.8
baz=218
EAST Anshuo 1.74 205 eP Pn 22 47 19.6 +0.7
baz=192
SCZT Fangliau 1.85 211 eP Pn 22 47 22.0 +1.6
baz=196
LAY Lan-yu 1.92 183 eP Pn 22 47 21.1 -0.2
baz=174
IRIF Iriomote-Funau 1.93 79 P Pn 22 47 22.9 +1.4
IRIF S Sn 22 47 46.1 +1.6
WDGT Dungji 1.96 249 eP Pn 22 47 22.1 +0.2
baz=248
PNG Penghu 1.96 259 eP Pn 22 47 22.1 +0.2
baz=256
PNG eS Sn 22 47 45.0 -0.3
baz=256
HATJ Hateruma jima 1.97 87 P Pn 22 47 24.1 +2.1
HATJ eS Sn 22 47 48.7 +3.2
TWK1 Hengchun 2.16 201 eP Pn 22 47 27.6 +2.9
baz=189
JKRS Kuro-shima 2.17 82 P Pn 22 47 26.7 +2.0
JKRS eS Sn 22 47 52.9 +2.5
JIJ Ishigaki jima 2.31 80 P Pn 22 47 27.9 +1.3
JIJ S Sn 22 47 54.6 +0.8
JISG Ishigakijimahi 2.50 75 P Pn 22 47 30.5 +1.2
JISG S Sn 22 47 58.9 +0.3
JTJ Tarama 2.86 76 P Pn 22 47 35.2 +1.0
JTJ S Sn 22 48 08.7 +1.3
KNM Kinmen 2.97 279 eP Pn 22 47 36.5 +0.7
baz=278
JOW Kunigami 6.63 63 P Pn 22 48 25.8 -0.3
0.2nm,0.3s,baz=125,slow=25,SNR=8.8
KSRS Korea Array 14.48 20 P P 22 50 16.8 -2.4
0.1nm,0.3s,baz=197,slow=12,SNR=4.7
WRA Warramunga Arr 45.36 163 P P 22 55 03.8 -1.7
0.3nm,0.6s,baz=344,slow=8.5,SNR=3.0
YKA Yellowknife Ar 83.00 23 P P 22 59 11.3 -0.3
0.4nm,0.7s,baz=312,slow=4.8,SNR=8.9

IDC 14 22:58:38.9±1.1, 13.53S×111.56W, h0km, mb3.8/10, mb1 4.1/10, mb1mx4.0/31, mbtmp3.8/10, MS4.2/11, Ms1 4.2/11, ms1mx4.0/24, Error ellipse: s-maj=41.8km s-min=18.5km az=52.0
ISCJB 14 22:58:39.1±0.8, 13.5S±0.1×111.5W±0.2, h11km, mb4.3/19, MS4.2/11, Error ellipse: s-maj=25.1km s-min=11.9km az=147.2
GCMT 14 22:58:40.4±0.3, 13.50S×111.37W, h23km±1km, MW5.0/96, Moment Tensor Solution. s34,c36; s96,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.51±.20; $M_{\theta\theta}$2.57±.19; $M_{\phi\phi}$-1.06±.17; $M_{r\theta}$0.41±.21; $M_{r\phi}$3.65±.13; $M_{\theta\phi}$-1.11±.23; Best double couple: M_o4.36500×10^{16} NP1:ϕ_s16.00000°, δ73.00000°, λ-159.00000°. NP2: ϕ_s280.00000°, δ70.00000°, λ-18.00000°. Principal axes: T 4.8400, Plg2.0000°, Azm148.0000°; N -0.9500, Plg64.0000°, Azm54.0000°; P -3.8900, Plg26.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 14 22:58:40.4±0.6, 13.57S×111.51W, h10km, mb4.8/8 Error ellipse: s-maj=19.4km s-min=10.5km az=58.0
ISC 14 22:58:40.8±0.9, 13.5S±0.1×111.5W±0.2, h11km, n42, σ0.94/22, mb4.4/19, MS4.2/11, Central East Pacific Rise

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
RKT Rikitea 24.22 243 eLR LR 23 09 51.6
899nm,28.2s,baz=65
RKT Rikitea 24.22 243 eT T 23 28 58.0
2.5nm,0.3s
ATAH Atahualpa 33.14 82 P P 23 05 19.1 +1.1
9.2nm,0.9s,baz=284,slow=8.3,SNR=4.6
H03N2 Juan Fernandez 35.61 129 T T 23 43 12.8
baz=297,slow=74,SNR=136
H03N3 Juan Fernandez 35.62 129 T T 23 43 08.8
baz=297,slow=74,SNR=180
H03N1 Juan Fernandez 35.62 129 T T 23 43 08.8
baz=297,slow=74,SNR=162
PPT Papeete 36.87 259 LR LR 23 16 40.8
comp=Z,220nm,18.4s,baz=36,slow=29
PPT2 Papeete2 36.87 259 eLQ LQ 23 14 18.1
1µm,32.5s
PPT2 eLR LR 23 15 45.7
478nm,28.5s
LPIG La Paz 37.42 2 LR LR 23 17 21.6
comp=Z,502nm,20.7s,baz=193,slow=30
LPAZ La Paz 41.93 99 P P 23 06 32.3 -0.3
2.8nm,0.8s,baz=259,slow=5.2,SNR=11
LPAZ LR LR 23 19 55.0

comp=Z,150nm,19.2s,baz=216,slow=30
TXAR Lajitas Array 43.28 10 P P 23 06 43.5 +0.8
0.6nm,0.9s,baz=213,slow=9.7,SNR=3.6
CFAA Coronel Fontan 43.47 122 P P 23 06 44.0 -0.3
0.3nm,0.8s,baz=331,slow=2.4,SNR=4.7
PLCA Paso Flores 44.80 135 P P 23 06 55.1 +0.2
2.5nm,0.9s,baz=21,slow=8.9,SNR=3.6
PLCA LR LR 23 21 02.0
comp=Z,687nm,18.6s,baz=276,slow=30
JCT Junction City 45.18 14 eP P 23 06 59.1 +1.2
11nm,1.0s
121A Cookes Peak, D 45.94 4 eP P 23 07 04.2 +0.2
9.9nm,1.0s
SDV Santo Domingo 46.27 63 eP P 23 07 06.5 -0.4
13nm,0.8s
SAML Samuel 47.54 90 eP P 23 07 15.9 -0.8
15nm,0.9s
SIV San Ignacio 48.72 99 LR LR 23 24 54.3
comp=Z,241nm,19.5s,baz=132,slow=32
SHPR Sheep Range 49.89 356 eP P 23 07 35.4 +0.9
11nm,1.4s
PV01 Paradox Valley 51.47 3 eP P 23 07 45.0 -1.5
486nm,1.3s
NVAR Mina Array Bea 52.08 353 P P 23 07 52.0 +0.9
1.6nm,0.7s,baz=183,slow=11,SNR=11
NVAR LR LR 23 25 10.3
comp=Z,154nm,18.9s,baz=182,slow=31
PCRV Puerto La Cruz 52.12 66 LR LR 23 26 55.1
comp=Z,264nm,20.7s,slow=32
CPUP Villa Florida 52.14 113 LR LR 23 25 45.5
comp=Z,258nm,20.6s,baz=224,slow=31
DAU Daniels Canyon 53.67 0 eP P 23 08 04.7 +1.8
4.6nm,1.0s
SJG San Juan 54.66 56 LR LR 23 26 52.0
comp=Z,143nm,21.7s,baz=256,slow=31
PDAR Pinedale Array 56.05 2 P P 23 08 19.1 -0.8
0.9nm,0.7s,baz=177,slow=7.2,SNR=6.7
YKA Yellowknife Ar 75.82 359 P P 23 10 26.2 -0.4
0.6nm,0.9s,baz=174,slow=5.2,SNR=9.6
QSPA South Pole Qui 76.57 180 P P 23 10 31.2 +0.1
8.2nm,1.0s
ILAR Eielson Array 82.55 346 P P 23 11 02.9 -0.5
0.6nm,1.0s,baz=171,slow=6.4,SNR=3.6
KTH Kantishna Hill 82.62 343 eP P 23 11 03.9 0.0
28nm,1.1s
INK Inuvik 83.15 352 P P 23 11 04.4 -1.9
1.1nm,0.9s,baz=148,slow=3.4,SNR=3.9
H11S2 WAKE ISLAND Hy 86.66 290 T T 00 47 29.1
baz=105
H11S1 WAKE ISLAND Hy 86.67 290 T T 00 47 24.8
baz=105
H11S3 WAKE ISLAND Hy 86.68 290 T T 00 47 27.8
baz=105
H11N3 WAKE ISLAND Hy 86.80 291 T T 00 47 27.6
baz=113
H11N2 WAKE ISLAND Hy 86.82 291 T T 00 47 45.7
baz=113
H11N1 WAKE ISLAND Hy 86.82 291 T T 00 47 25.4
baz=113
FX1 Attu Island--F 92.06 324 LR LR 23 45 36.0
comp=Z,126nm,18.8s,baz=92,slow=31
MAW Mawson 98.98 178 LR LR 23 53 05.8
comp=Z,165nm,19.4s,baz=208,slow=33
MKAR Makanchi Array 144.88 343 PKP PKPab 23 18 16.8 -0.4
2.2nm,0.9s,baz=20,slow=3.9,SNR=13
KMBO Kilima Mbogo 145.76 113 PKPbc PKPab 23 18 22.2 +0.5
1.1nm,0.8s,baz=220,slow=4.7,SNR=6.1
CMAR Chiang Mai Arr 150.37 284 PKPbc PKPbc 23 18 33.5 +0.3
0.8nm,0.6s,baz=42,slow=1.2,SNR=6.4

KRSC 14 23:11:23.2±3.1, 49°.16N×157°.00E, h6km±20km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.63	340	eP	Pn	23 11 50.5	-1.9
SKR				eS	Sn	23 12 11.1	-2.6
PAU	Pauzhetka	2.32	357	eP	Pb	23 12 04.4	-0.9
PAU				eS	Sb	23 12 34.0	-0.2
RUS	Russkaya	3.42	16	eP	Pn	23 12 19.4	+2.5
RUS				eS	Sb	23 13 02.9	-2.9
AVH	Avacha	4.26	14	eP	Pb	23 12 34.1	-4.4
KOK	Koryaka	4.27	13	eP	Pb	23 12 34.0	-4.7
KRER	Koryakskii	4.30	14	eP	Pn	23 12 34.1	+4.8
KRX	Arik	4.33	13	eP	Pn	23 12 33.9	+4.2
GNL	Ganaly	4.58	7	eP	Pn	23 12 37.6	+4.5
MKZ	Mys Kozlova	6.15	27	eP	Pn	23 12 58.6	+4.2
KBTR	Krutoberegovo	7.90	24	eP	Pn	23 13 22.0	+3.6

ISCJB 14 23:16:07.9±0.9, 37°.56N±0°.09×42°.57E±0°.07, h15km, Error ellipse: s-maj=13.3km s-min=5.8km az=155.0
DDA 14 23:16:07.8, 37°.59N×42°.63E, h7km, MD2.8
ISC 14 23:16:06.5±1.2, 37°.6N±0°.1×42°.62E±0°.08, h15km, n4, σ0°.26/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	Sirnak	0.17	235	ePG	Pg	23 16 10.7	-0.1
SIRN	S~rnak	0.19	238	iP	Pg	23 16 11.0	-0.1
SIRN				iS	Sb	23 16 15.4	+0.1
GEVA	Gevas	0.79	26	iP	Pg	23 16 15.0	-7.0
GEVA				iS	Sn	23 16 34.9	-0.1
HAKT	HAKKARI	0.87	92	iP	Pn	23 16 24.6	+0.3
HAKT				iS	Sn	23 16 36.6	-0.3

ISCJB 14 23:22:00.4±1.9, 11°.52N±0°.05×142°.37E±0°.05, h19km±13km, mb4.8/68, MS3.8/10, Error ellipse: s-maj=8.2km s-min=7.6km az=161.8
MOS 14 23:22:01.2±0.9, 11°.52N×142°.35E, h26km, mb4.8/11, Error ellipse: s-maj=12.9km s-min=8.1km az=101.2
BJI 14 23:22:04.2, 11°.88N×142°.25E, h19km, mB5.1/21, mb4.6/24, Ms4.6/15, Ms7 4.6/6
IDC 14 23:22:05.9±0.7, 11°.54N×142°.31E, h44km±6km, mb4.0/19, mb1 4.2/19, mb1mx4.0/34, mbtmp4.2/19, MS3.5/5, Ms1 3.5/5, ms1mx3.2/30, Error ellipse: s-maj=18.8km s-min=11.6km az=77.0
NEIC 14 23:22:06.0±0.2, 11°.53N×142°.35E, mb5.1/30, Error ellipse: s-maj=7.2km s-min=5.5km az=102.0
NEIC Felt at Barrigada, Guam.
ISC 14 23:22:04.3±0.5, 11°.54N±0°.05×142°.41E±0°.06, h32km±3km, h31km:pP-P, n117, σ1°.53/138, mb4.8/70, MS3.9/11, 1C-3D, South of Mariana Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUMO Guam 3.15 49 eP Pn 23 22 51.6 -0.2
GUMO e 23 23 34.8
GUMO Guam 3.15 49 ePn Pn 23 22 51.6 -0.2
GUMO eSn Sb 23 23 34.8 -2.8
FAKI Fak Fak 17.56 216 ePn P 23 26 09.7 +2.0
31nm,1.0s
PMG Port Moresby 21.33 167 eP P 23 26 47.8 -1.1
PMG pmax pmax
comp=Z,60nm,1.4s
PMG Port Moresby 21.33 167 P P 23 26 48.0 -0.8
comp=Z,19nm,1.0s,baz=1.2,slow=9.7,SNR=9.0
PMG Port Moresby 21.33 167 eP P 23 26 47.8 -1.1
comp=Z,60nm,1.4s
SZP Santa 22.07 288 eP P 23 26 54.3 -2.5
comp=Z,70nm,0.4s
LUWI Luwuk 23.18 239 eP P 23 27 07.2 -1.3
comp=Z,72nm,0.8s
SSLB Suanglung 23.76 304 eP P 23 27 14.2 0.0
comp=Z,267nm,2.5s
JNU Nakatsue 23.95 336 P P 23 27 15.8 0.0
comp=Z,11nm,0.8s,baz=137,slow=7.0,SNR=4.9
JNU Nakatsue 23.95 336 eP P 23 27 16.2 +0.3
comp=Z,267nm,2.3s
MJAR Matsushiro Arr 25.19 352 LR LR 23 35 16.5
comp=Z,77nm,21.9s,baz=85,slow=31
COEN Coen 25.34 178 eP P 23 27 27.9 -0.7
comp=Z,49nm,1.0s
KSRS Korea Array 28.90 336 P P 23 27 59.2 -1.2
comp=Z,0.6nm,0.7s,baz=144,slow=9.0,SNR=4.0
KSRS LR LR 23 37 51.5
comp=Z,80nm,21.4s,baz=155,slow=33
KSAR Wonju Array Be 28.91 336 P P 23 27 59.2 -1.3
KSAR Wonju Array Be 28.91 336 P P 23 27 59.2 -1.3
NJ2 Nanjing 29.80 317 eP P 23 28 07.9 -0.5
NJ2 pmax pmax
comp=Z,10.0nm,1.1s
QIZ Qiongzhong 32.25 287 P P 23 28 29.4 -0.8
QIZ pP pP 23 28 42.9 +3.5
QIZ S S 23 33 40.3 -1.5
QIZ pmax pmax
comp=Z,55nm,1.9s
WRA Warramunga Arr 32.27 194 P P 23 28 28.7 -1.7
comp=Z,2.0nm,0.7s,baz=13,slow=9.4,SNR=8.2
ASAJ Asahikawa 32.47 0 LR LR 23 44 04.2
comp=Z,36nm,19.4s,baz=170,slow=41
USRK Ussuriysk Arra 33.77 346 P P 23 28 41.8 -1.4
comp=Z,1.5nm,0.5s,baz=172,slow=7.0,SNR=5.4
MDJ Mudanjiang 34.76 344 P P 23 28 52.8 +1.0
MDJ pP pP 23 28 58.8 -2.2
MDJ sP sP 23 29 01.6 -3.2
MDJ S S 23 34 23.3 +3.2
MDJ pmax pmax
comp=Z,61nm,2.5s
ASAR Alice Springs 35.96 193 P P 23 29 01.7 -0.7
comp=Z,0.8nm,0.7s,baz=14,slow=12,SNR=9.7
ASAR PcP PcP 23 31 30.6 +1.8
comp=Z,0.6nm,0.9s,baz=17,slow=2.5,SNR=4.3
BJT Baijiatuau 36.65 325 eP P 23 29 08.1 +0.1
BJT pmax pmax
comp=Z,15nm,0.7s
BJT Baijiatuau 36.65 325 eP P 23 29 08.1 +0.1
comp=Z,15nm,0.7s
BJI Beijing 36.66 325 P P 23 29 08.3 +0.2
BJI pmax pmax
comp=Z,12nm,1.2s
BJI LR LR
comp=Z,160nm,20.1s
BJI LR LR
comp=Z,190nm,12.1s
GYA Guiyang 36.77 299 eP P 23 29 09.8 +0.4
GYA pP pP 23 29 16.0 -2.7
GYA PP PnPn 23 30 34.5 +0.9
GYA PcP PcP 23 31 32.4 +1.0
GYA S S 23 34 52.3 +0.7
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,510nm,17.6s
GYA LR LR
comp=Z,490nm,17.9s
GYA LR LR
comp=Z,540nm,17.0s
EIDS Eidsvold 37.64 167 eP P 23 29 15.7 -0.9
comp=Z,118nm,2.6s
KLR Kul'dur 38.61 349 eP P 23 29 20.0 -4.5
HHC Hu-ho-hao-te 39.85 323 eP P 23 29 35.8 +0.7
HHC S S 23 35 34.4 -3.4
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,330nm,6.1s
HHC LR LR
comp=Z,310nm,14.5s
HHC LR LR
comp=Z,320nm,14.4s
CD2 Chengdu 40.59 304 P P 23 29 41.8 +0.4
CD2 pP pP 23 29 48.0 -2.7
CD2 sP sP 23 29 51.1 -3.4
CD2 PP PnPn 23 31 19.1 -0.2
CD2 S S 23 35 49.8 +0.7
CD2 pmax pmax
comp=Z,10.0nm,0.9s
CD2 pmax pmax
comp=Z,170nm,4.7s
CD2 LR LR
comp=Z,280nm,6.0s
CD2 LR LR
comp=Z,240nm,6.5s
DZM Mont Dzumac 40.88 145 P P 23 29 44.6 +0.8
comp=Z,5.6nm,0.6s,baz=310,slow=16,SNR=6.5
CMAR Chiang Mai Arr 42.47 285 P P 23 29 57.1 +0.3
comp=Z,2.0nm,0.8s,baz=87,slow=6.7,SNR=12
STKA Stephens Creek 43.17 181 P P 23 30 01.5 -0.8
comp=Z,1.9nm,0.6s,baz=20,slow=7.1,SNR=5.5
PSI Prapat 43.96 262 P P 23 30 08.8 -0.2
comp=Z,4.0nm,0.7s,baz=242,slow=2.5,SNR=5.3
BBOO Buckleboo 44.51 188 eP P 23 30 12.6 -0.5
comp=Z,190nm,1.6s
MSVF Nonsavu 45.65 129 eP P 23 30 23.2 +0.8
MSVF pmax pmax
comp=Z,350nm,2.7s
MSVF Nonsavu 45.65 129 eP P 23 30 23.2 +0.8
comp=Z,350nm,2.7s
ULN Ulaanbaatar 46.76 328⇑eP P 23 30 30.4 -0.4
ULN pmax pmax
comp=Z,2.0nm,1.4s
ULN Ulaanbaatar 46.76 328 eP P 23 30 30.4 -0.4
comp=Z,4.9nm,1.1s
GTA Gaotai 46.80 314 eP P 23 30 31.4 +0.1
SONM Songino Array 47.09 327 P P 23 30 32.8 -0.6
comp=Z,1.0nm,0.7s,baz=138,slow=7.9,SNR=12
SONM pP pP 23 30 46.9 +4.0
comp=Z,1.0nm,0.6s,baz=142,slow=6.6,SNR=6.5
SONM PcP PcP 23 32 05.1 0.0
comp=Z,1.5nm,0.9s,baz=156,slow=3.8,SNR=4.9
SONM pPcP 23 32 17.4
comp=Z,1.3nm,0.9s,baz=137,slow=3.7,SNR=4.2
ZAK Zakamensk 50.26 328 eP P 23 30 56.8 -0.9
ZAK pmax pmax
comp=Z,5.0nm,1.0s
LSA Lhasa 50.84 299 eP P 23 31 02.7 -0.2
LSA pmax pmax
comp=Z,2.0nm,0.8s
LSA Lhasa 50.84 299 eP P 23 31 02.7 -0.2
comp=Z,1.8nm,0.8s
TLY Talaya 50.86 330 eP P 23 31 05.3 +3.2
TLY pmax pmax
comp=Z,5.0nm,1.8s
TLY MLR MLR
comp=Z,82nm,18.0s
YAK Yakutsk 51.25 352 eP P 23 31 04.1 -0.7
YAK pmax pmax
comp=Z,5.0nm,0.7s
YAK Yakutsk 51.25 352 eP P 23 31 04.2 -0.7
comp=Z,18nm,0.5s
SEY Seymchan 51.81 6 P P 23 31 09.3 +0.3
comp=Z,0.9nm,0.3s,baz=184,slow=11,SNR=4.2
WMQ Urumqi 56.85 315 eP P 23 31 46.3 +0.2
WMQ pP pP 23 31 59.0 +3.2
WMQ PcP PcP 23 32 41.5 0.0
WMQ PP PP 23 33 54.4 +1.7
WMQ PcS PcS 23 36 40.8 -1.6
WMQ S S 23 39 34.4 -3.3
WMQ pmax pmax
comp=Z,7.0nm,1.6s
WMQ pmax pmax
comp=Z,170nm,5.0s
WMQ LR LR
comp=Z,56nm,20.0s
WMQ LR LR
comp=Z,91nm,21.2s
SPIA Saint Paul Isl 58.11 28 eP P 23 31 55.6 +1.0
comp=Z,28nm,0.8s
UNV Unalaska Valle 58.34 33 eP P 23 31 56.2 -0.1
comp=Z,125nm,1.9s
BILL Bilibino 58.59 10⇓eP P 23 31 56.8 -1.0
BILL e 23 34 12.8
BILL pmax pmax
comp=Z,8.0nm,1.5s
BILL MLR MLR
comp=Z,108nm,15.0s
BILL Bilibino 58.59 10 eP P 23 31 56.9 -0.9
comp=Z,4.5nm,0.9s
TIXI Tiksi 60.64 355⇓eP P 23 32 12.0 +0.1
TIXI pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 61.33 317 P P 23 32 16.9 -0.2
comp=Z,1.4nm,0.8s,baz=83,slow=9.9,SNR=12
ZALV Zalesovo Beam 61.92 326 P P 23 32 19.8 -1.0
comp=Z,0.5nm,0.4s,baz=123,slow=7.3,SNR=6.2
ZALV PcP PcP 23 33 00.5 -0.9
comp=Z,1.7nm,0.7s,baz=114,slow=3.5,SNR=5.0
NVS Novosibirsk 63.09 326 eP P 23 32 28.5 -0.2
TNA Tin City 63.60 21 eP P 23 32 31.1 -0.7
comp=Z,5.7nm,0.8s
KSH Kashi 64.60 308 eP P 23 32 42.8 +3.7
KSH esP sP 23 32 49.8 -2.8
KSH ePP PP 23 35 05.5 +4.2
KSH PcS 23 37 18.6
KSH S S 23 41 20.9 +3.9
KSH pmax pmax
comp=Z,69nm,1.8s
KSH LR LR
comp=Z,84nm,5.7s
KSH LR LR
comp=Z,49nm,3.5s
KSH LR LR
comp=Z,160nm,4.7s
KURK Kurchatov 64.63 321⇓iP P 23 32 37.8 -1.0
KURK pmax pmax
comp=Z,4.0nm,1.1s
KURK Kurchatov 64.63 321 eP P 23 32 37.7 -1.2
comp=Z,3.1nm,0.9s
SVW2 Sparrevohn 66.60 28 eP P 23 32 51.7 +0.3
comp=Z,214nm,2.7s
PPLA Purkeypile 68.69 27 eP P 23 33 05.0 +0.2
comp=Z,80nm,2.0s
RC01 Rabbit Creek A 69.32 29 eP P 23 33 07.9 -0.5
KTH Kantishna Hill 69.42 26 eP P 23 33 09.0 -0.2
comp=Z,63nm,1.8s
VOSK Vostochnaya 69.67 322 eP P 23 33 10.3 -0.5
VOSK pmax pmax
comp=Z,2.0nm,0.8s
VOSK Vostochnaya 69.67 322 eP P 23 33 10.3 -0.5
comp=Z,1.9nm,0.8s
TRF Thorofare Moun 69.67 26 eP P 23 33 09.1 -1.7
comp=Z,21nm,1.2s
PMR Palmer 69.72 28 eP P 23 33 11.1 +0.2
PMR pmax pmax
comp=Z,152nm,2.2s
PMR Palmer 69.72 28 eP P 23 33 11.1 +0.2
comp=Z,152nm,2.2s
BRVK Borovoye 70.13 322 eP P 23 33 14.0 +0.4
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 70.13 322 eP P 23 33 14.0 +0.4
comp=Z,5.5nm,0.8s
MCK McKinley 70.33 26 eP P 23 33 14.3 -0.4
MCK pmax pmax
comp=Z,148nm,2.7s
MCK McKinley 70.33 26 eP P 23 33 14.3 -0.4
comp=Z,148nm,2.7s
COLD Coldfoot 70.75 22 eP P 23 33 17.9 +0.7
comp=Z,14nm,0.8s
ILAR Eielson Array 71.44 25 P P 23 33 20.2 -1.2
comp=Z,5.2nm,0.7s,baz=250,slow=5.8,SNR=85
ILAR pP pP 23 33 33.8 +2.5
comp=Z,7.0nm,0.7s,baz=254,slow=5.6,SNR=18
PAX Paxson 71.69 27 eP P 23 33 23.4 +0.4
PAX pmax pmax
comp=Z,107nm,2.6s
PAX Paxson 71.69 27 eP P 23 33 23.4 +0.4
comp=Z,107nm,2.6s
DOT Dot Lake 72.43 27 eP P 23 33 27.1 -0.4
comp=Z,13nm,0.8s
MENT Mentasta 72.47 27 eP P 23 33 28.1 +0.5
EGAK Eagle 73.86 26 eP P 23 33 34.5 -1.2
comp=Z,79nm,2.3s
DAWY Dawson 74.54 27 eP P 23 33 40.4 +0.6
HYT Haines Junctio 75.17 30 eP P 23 33 42.3 -1.3
SIT Sitka 76.20 34 eP P 23 33 47.8 -1.6
SIT pmax pmax
comp=Z,203nm,1.5s
SIT Sitka 76.20 34 eP P 23 33 47.8 -1.6
comp=Z,202nm,1.5s
ABKAR Akbulak array 76.45 318 eP P 23 33 50.8 -0.3
ARU Arti 77.08 325 eP P 23 33 53.2 -1.2
ARU pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 77.17 22 eP P 23 33 54.6 -0.1
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 77.17 22 eP P 23 33 54.6 -0.1
comp=Z,8.8nm,0.9s
PRGR Permogore 83.15 331 eP P 23 34 26.0 -1.0
PRGR pmax pmax
comp=Z,61nm,1.6s
ALE Alert 85.41 3 P P 23 34 39.0 +0.8
comp=Z,54nm,0.7s,SNR=6.6
YKA Yellowknife Ar 85.77 27 P P 23 34 40.9 +0.6
comp=Z,1.7nm,0.8s,baz=287,slow=5.1,SNR=18
YKA pP pP 23 34 54.3 +3.9
comp=Z,3.5nm,0.9s,baz=291,slow=5.3,SNR=14
APA Apatity 86.50 339 eP P 23 34 45.4 +1.6
RES Resolute Bay 87.08 13 eP P 23 34 47.0 +0.5
RES pmax pmax
comp=Z,6.0nm,0.9s
RES Resolute Bay 87.08 13 eP P 23 34 47.0 +0.5
comp=Z,5.7nm,0.9s
HAWA Hanford 87.23 43 eP P 23 34 49.8 +2.0
comp=Z,206nm,3.0s
ARCES ARCESS Array B 88.28 342 P P 23 34 52.1 -0.3
comp=Z,3.0nm,0.8s,baz=52,slow=2.0,SNR=6.9
BMO Blue Mountains 89.13 44 eP P 23 34 57.9 +0.9
BMO pmax pmax
comp=Z,81nm,2.8s
BMO Blue Mountains 89.13 44 eP P 23 34 57.9 +0.9
comp=Z,81nm,2.8s
JOF Joensuu 89.13 335 eP P 23 34 53.8 -2.7
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 89.13 335 ep P 23 34 53.8 -2.7
comp=Z,3.2nm,0.7s
WAKR Walker 89.19 51 eP P 23 34 58.4 +0.8
NVAR Mina Array Bea 90.07 51 P P 23 35 03.2 +1.5
comp=Z,2.9nm,0.6s,baz=270,slow=5.5,SNR=26
SBA Scott Base 90.29 175 eP P 23 35 00.7 -0.7
SBA pmax pmax
comp=Z,152nm,1.5s
SBA Scott Base 90.29 175 eP P 23 35 00.7 -0.7
comp=Z,152nm,1.5s
FINES FINESS Array B 91.99 334 P P 23 35 08.5 -1.3
comp=Z,3.2nm,0.7s,baz=99,slow=4.2,SNR=12
LRM Limekiln Ridge 92.12 42 eP P 23 35 11.0 -0.1
HRY Holter Researc 92.23 42 eP P 23 35 11.2 -0.2
QLMT Earthquake Lak 93.12 43 eP P 23 35 15.9 +0.2
RLMT Red Lodge 94.46 42 eP P 23 35 20.6 -1.3
comp=Z,153nm,3.0s
AKASG Malin Array Be 95.28 324 LR LR 00 21 36.9
comp=Z,66nm,19.3s,baz=300,slow=38
BRTR Keskin Array B 96.71 313 LR LR 00 24 59.4
comp=Z,16nm,19.2s,baz=292,slow=39
CRVS Cervenica-Dubn 100.56 325 eP Pdif 23 35 53.0 +4.0
CRVS Cervenica-Dubn 100.56 325 e Pdif 23 35 53.0 +4.0
CFAA Coronel Fontan 145.39 130 PKPbc PKPab 23 41 41.0 +1.2
comp=Z,0.5nm,0.7s,baz=272,slow=4.0,SNR=6.8
LPAZ La Paz 150.00 103 PKPbc PKPbc 23 41 54.7 +1.3
comp=Z,3.8nm,0.7s,baz=329,slow=2.9,SNR=11

IDC 14 23:36:03.3±5.4, 13°.04S×74°.01W, h0km, mb3.9/1, mb1 3.8/2, mb1mx3.4/23, mbtmp3.7/2, ML3.4/1, Error ellipse: s-maj=205.3km s-min=48.0km az=39.0, Central Peru

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 6.54 120 Pn Pn 23 37 41.4 -0.2
0.4nm,0.3s,baz=280,slow=5.8,SNR=9.8
TORD Torodi Ar. Bea 79.41 74 P P 23 48 12.1 0.0
0.7nm,0.6s,baz=262,slow=5.1,SNR=11
SONM Songino Array 145.31 360 PKPbc PKPbc 23 55 42.3 -0.9
0.4nm,0.6s,baz=355,slow=1.8,SNR=4.4

IDC 15 00:01:53.8±2.1, 56°.54S×28°.71W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/17, mbtmp3.9/2, Error ellipse: s-maj=80.5km s-min=44.7km az=4.0
ISCJB 15 00:01:54.8±1.1, 56°.35S±0°.2×28°.7W±0°.6, h10km, mb4.0/2, Error ellipse: s-maj=49.3km s-min=15.0km az=156.1
ISC 15 00:01:55.9±1.0, 56°.45S±0°.2×28°.8W±0°.3, h10km, n8, σ0°.84/8, South Sandwich Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VNA1 Neumayer--Stat 16.86 156 P P 00 05 54.9 +1.1
VNA3 Neumayer Olymp 17.02 159 P P 00 05 56.0 +0.4
VNA2 Neumayer--Watz 17.26 156 P Pn 00 05 55.9 -0.8
baz=311,slow=14
SNAA Sanae 18.84 155 P Pn 00 06 16.1 -0.1
LPAZ La Paz 49.84 307 P P 00 10 49.9 +0.1
1.1nm,0.5s,baz=131,slow=3.6,SNR=5.8
TORD Torodi Ar. Bea 73.76 31 P P 00 13 30.5 +0.4
0.7nm,0.6s,baz=201,slow=5.9,SNR=14
ILAR Eielson Array 149.65 312 PKPbc PKPbc 00 21 44.1 -0.1
0.2nm,0.8s,baz=150,slow=2.0,SNR=3.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	151.62	88	PKPbc	**PKPbc**	**00 21 48.4**	**-1.2**
	0.3nm,0.6s,baz=200,slow=4.2,SNR=3.7						

IDC 15 00:07:09.9±1.0, 36.02N×117.80W, h0km, mb3.6/2, mb1 3.8/7, mb1mx3.5/37, mbtmp3.4/7, ML3.4/5, MS3.2/5, Ms1 3.2/5, ms1mx3.0/31, Error ellipse: s-maj=20.4km s-min=7.1km az=76.0

NEIC 15 00:07:09.4, 36.07N×117.87W, h0km, ML4.1(PAS), After PAS.

NEIC Felt at Inyokern, Porterville and Weldon.

ISC 15 00:07:09.3±1.1, 36.05N±0.02×117.80W±0.02, h1km±8km, n52, σ1.57/83, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISA	**Isabella**	**0.67**	**235**	*e*Pg	**Pg**	**00 07 21.7**	**-0.5**
ISA				*e*Sg	**Sg**	**00 07 30.3**	**-0.6**
GSC	**Goldstone**	**1.10**	**132**	*e*Pg	**Pb**	**00 07 30.9**	**-0.3**
GSC				*e*Sg	**Sb**	**00 07 45.7**	**-0.3**
MTUM	**Tungsten Hills**	**1.44**	**335**	*e*Pn	**Pn**	**00 07 35.6**	**-1.1**
MTUM				*e*Sn	**Sg**	**00 07 53.6**	**-2.0**
OSI	**Osito Adit**	**1.62**	**208**	*e*Pn	**Pn**	**00 07 37.8**	**-1.2**
OSI				*e*Sg	**Sg**	**00 08 01.1**	**-0.2**
MWC	**Mount Wilson**	**1.83**	**187**	*e*Pn	**Pn**	**00 07 42.2**	**+0.1**
MWC				*e*Sg	**Sg**	**00 08 08.6**	**+0.4**
PASC	**Pasadena Art C**	**1.90**	**190**	*e*Pn	**Pn**	**00 07 42.4**	**-0.5**
PASC				*e*Sg	**Sg**	**00 08 09.6**	**-0.8**
PTRM	**Twissleman Ran**	**2.00**	**259**	*e*Pn	**Pn**	**00 07 44.3**	**0.0**
TPH	**Tonopah**	**2.07**	**13**	*e*Pn	**Pn**	**00 07 45.4**	**-0.1**
TPH				*e*Sg	**Sg**	**00 08 16.6**	**+0.7**
SHPR	**Sheep Range**	**2.18**	**77**	*e*Pn	**Pn**	**00 07 47.7**	**+0.9**
SHPR				*e*Sg	**Sg**	**00 08 20.2**	**+0.8**
LDFC	**Landfair**	**2.40**	**113**	*e*Pn	**Pn**	**00 07 49.1**	**-0.7**
LDFC				*e*Sn	**Sb**	**00 08 22.2**	**-1.3**
NVAR	**Mina Array Bea**	**2.41**	**351**	Pn	**Pn**	**00 07 50.7**	**+0.6**
	4.2nm,0.3s,baz=176,slow=14,SNR=99						
NVAR				Pg	**Pg**	**00 07 55.7**	**+0.2**
	34nm,0.3s,baz=171,slow=18,SNR=71						
NVAR				Lg	Lg	00 08 31.9	
	16nm,0.3s,baz=174,slow=32,SNR=5.9						
NVAR				LR	LR	00 08 36.3	
	comp=Z,142nm,19.6s,baz=170,slow=36						
PFO	**Pinyon Flat Ob**	**2.67**	**155**	Pn	**Pn**	**00 07 53.6**	**0.0**
	2.3nm,0.3s,baz=344,slow=14,SNR=26						
PFO				Sn	**Sn**	**00 08 25.6**	**-1.2**
	16nm,0.3s,baz=102,slow=23,SNR=6.1						
PFO				Lg	Lg	00 08 36.1	
	40nm,0.3s,baz=245,slow=20,SNR=14						
PFO				LR	LR	00 09 00.9	
	comp=Z,219nm,20.1s,baz=331,slow=42						
PFO	**Pinyon Flat Ob**	**2.67**	**155**	*e*Pn	**Pn**	**00 07 53.4**	**-0.2**
PFO				*e*Sg	**Sg**	**00 08 35.0**	**-0.2**
PFO				Lg	Lg	00 08 36.1	
WAKR	**Walker**	**2.78**	**332**	*e*Pn	**Pn**	**00 07 55.8**	**+0.7**
WAKR				*e*Sg	**Sb**	**00 08 35.9**	**+1.5**
CMB	**Columbia Colle**	**2.87**	**314**	*e*Pn	**Pn**	**00 07 57.2**	**+1.0**
CMB				*e*Sn	**Sn**	**00 08 33.0**	**+1.6**
R11A	**Troy Canyon, C**	**2.90**	**37**	*e*Pn	**Pn**	**00 07 56.8**	**+0.1**
R11A				*e*Sg	**Sg**	**00 08 41.8**	**-0.6**
SAO	**San Andreas Ge**	**3.03**	**285**	*e*Pn	**Pn**	**00 07 58.1**	**-0.3**
SAO				*e*Sn	**Sn**	**00 08 36.6**	**+1.3**
BAR	**Barrett**	**3.49**	**164**	*e*Pn	**Pn**	**00 08 05.3**	**+0.5**
BAR				*e*Sg	**Sb**	**00 08 57.8**	**+3.0**
WCN	**Washoe City**	**3.60**	**335**	*e*Pn	**Pn**	**00 08 05.6**	**-0.8**
CCUT	**Cedar City**	**3.86**	**66**	*e*Pn	**Pn**	**00 08 10.7**	**+0.7**
CCUT				*e*Pg	**Pg**	**00 08 22.3**	**-1.1**
CCUT				*e*Sg	**Sg**	**00 09 13.6**	**+0.2**
GLA	**Glamis**	**3.87**	**140**	*e*Pn	**Pn**	**00 08 09.4**	**-0.5**
GLA				*e*Pg	**Pg**	**00 08 23.1**	**-0.3**
GLA				*e*Sg	**Sg**	**00 09 12.9**	**-0.6**
OHCM	**Honcut**	**4.39**	**319**	*e*Pn	Pn	00 08 20.7	+3.6
BMN	**Battle Mountai**	**4.40**	**6**	*e*Pn	**Pn**	**00 08 17.3**	**-0.1**
BMN				*e*Sg	**Sg**	**00 09 28.1**	**-2.5**
MVU	**Marysvale**	**5.08**	**60**	*e*Pn	**Pn**	**00 08 29.3**	**+2.4**
ELK	**Elko**	**5.10**	**22**	Pn	**Pn**	**00 08 28.1**	**+1.0**
	1.7nm,0.3s,baz=184,slow=7.2,SNR=30						
ELK				Pg	**Pg**	**00 08 46.4**	**-0.7**
	1.2nm,0.3s,baz=188,slow=13,SNR=22						
ELK				Lg	Lg	00 09 51.3	
	3.3nm,0.3s,baz=353,slow=0.2,SNR=8.2						
WUAZ	**Wupatki**	**5.25**	**94**	*e*Pn	**Pn**	**00 08 32.0**	**+2.9**
DUG	**Dugway**	**5.71**	**42**	*e*Pg	**Pg**	**00 08 56.4**	**-2.3**
DUG				*e*Sg	**Sg**	**00 10 08.7**	**-3.9**
214A	**Organ Pipe Nat**	**5.81**	**133**	*e*Pn	**Pn**	**00 08 34.2**	**-2.5**
	11nm,0.7s						
214A				*e*Pg	**Pg**	**00 09 01.8**	**+1.0**
KIPM	**Iron Peak**	**5.85**	**312**	*e*Pn	Pn	00 08 41.6	+4.3
NLU	**North Lily Min**	**5.97**	**48**	*e*Pg	**Pg**	**00 09 05.6**	**+1.9**
NLU				*e*Sg	**Sg**	**00 10 20.6**	**-0.4**
BGU	**Big Grassy Mou**	**6.14**	**36**	*e*Pn	**Pn**	**00 08 44.0**	**+2.7**
BGU				*e*Pg	**Pg**	**00 09 06.7**	**-0.2**
BGU				*e*Sg	**Sg**	**00 10 24.9**	**-1.5**
TMUT	**Trail Mountain**	**6.15**	**56**	*e*Pn	**Pn**	**00 08 43.0**	**+1.4**
TMUT				*e*Pg	**Pg**	**00 09 06.7**	**-0.5**
MOD	**Modoc**	**6.16**	**342**	*e*Pg	Pg	00 09 03.5	-3.9
MOD				*e*Sg	**Sg**	**00 10 25.2**	**-2.0**
MPU	**Maple Canyon**	**6.27**	**49**	*e*Pg	**Pg**	**00 09 12.0**	**+2.5**
SRU	**San Rafael**	**6.53**	**60**	*e*Pn	**Pn**	**00 08 49.0**	**+2.2**
SRU				*e*Pg	**Pg**	**00 09 12.9**	**-1.6**
SRU				*e*Sg	**Sg**	**00 10 35.9**	**-3.3**
W18A	**Petrified Fore**	**6.63**	**96**	*e*Pg	**Pg**	**00 09 15.0**	**-1.4**
W18A				*e*Sg	**Sg**	**00 10 43.4**	**+1.0**
CTU	**Camp Tracy**	**6.64**	**44**	*e*Pg	**Pg**	**00 09 15.3**	**-1.2**
CTU				*e*Sg	**Sg**	**00 10 39.3**	**-3.2**
DAU	**Daniels Canyon**	**6.74**	**48**	*e*Pg	**Pg**	**00 09 17.6**	**-0.9**
DAU				*e*Sg	**Sg**	**00 10 45.2**	**-0.7**
JLU	**Jordanelle**	**6.75**	**46**	*e*Pg	**Pg**	**00 09 18.6**	**0.0**
JLU				*e*Sg	**Sg**	**00 10 46.8**	**+0.8**
YBH	**Yreka Blue Hor**	**6.84**	**327**	Lg	Lg	00 10 41.2	
	0.2nm,0.3s,baz=90,slow=20,SNR=4.1						
HVU	**Hansel Valley**	**6.93**	**33**	*e*Pn	**Pn**	**00 08 54.0**	**+1.8**
HVU				*e*Pg	**Pg**	**00 09 20.9**	**-1.2**
HVU				*e*Sg	**Sg**	**00 10 48.6**	**-3.3**
PV04	**Paradox Valley**	**7.47**	**69**	*e*Pn	**Pn**	**00 09 01.4**	**+1.8**
MVCO	**Mesa Verde**	**7.57**	**78**	*e*Pg	**Pg**	**00 09 33.5**	**-0.7**
121A	**Cookes Peak, D**	**9.00**	**110**	*e*Pn	**Pn**	**00 09 20.6**	**+0.1**
	4.1nm,0.9s						
PDAR	**Pinedale Array**	**9.25**	**41**	Pn	Pn	00 09 27.8	+3.7
	0.1nm,0.3s,baz=230,slow=15,SNR=3.2						
PDAR				Lg	Lg	00 12 11.3	
	0.1nm,0.3s,baz=216,slow=31,SNR=4.3						
ANMO	**Albuquerque**	**9.31**	**93**	LR	LR	00 13 15.5	
	comp=Z,220nm,19.0s,baz=277,slow=39						
TXAR	**Lajitas Array**	**13.65**	**115**	Pn	Pn	00 10 28.3	+4.2
	0.1nm,0.3s,baz=299,slow=13,SNR=5.6						
TXAR				LR	LR	00 16 38.0	
	comp=Z,105nm,18.7s,baz=0.0,slow=42						
YKA	**Yellowknife Ar**	**26.54**	**3**	P	**P**	**00 12 49.1**	**+0.8**
	0.5nm,0.6s,baz=183,slow=9.7,SNR=7.3						
TKL	**Tuckaleechee C**	**27.50**	**81**	LR	LR	00 23 31.5	
	comp=Z,141nm,21.8s,baz=47,slow=36						
ILAR	**Eielson Array**	**33.60**	**338**	P	**P**	**00 13 53.1**	**+2.3**
	1.0nm,1.0s,baz=160,slow=7.6,SNR=18						
HHC	**Hu-ho-hao-te**	**91.07**	**325**	*e*P	**P**	**00 20 15.0**	**-0.7**
HHC				PP	**PP**	**00 23 52.4**	**+1.1**
HHC	**Hu-ho-hao-te**	**91.07**	**325**	S	**S**	**00 31 09.8**	**-4.8**

PGC 15 00:11:45.1±2.0, 50.57N×130.37W, h10km, MLSn3.4/22, Mw4.0/22, 208km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.43**	**86**	P	Pn	00 12 09.0	-2.2
HOLB				S	Sn	00 12 25.7	-4.3
BPBC	**Brooks Peninsu**	**1.71**	**103**	Pn	Pn	00 12 12.8	-2.4
PHC	**Port Hardy**	**1.88**	**85**	Pn	Pn	00 12 15.4	-1.9
PHC				Sn	Sn	00 12 36.9	-4.0
MAYB	**Maynard**	**2.05**	**93**	Pn	Pn	00 12 18.0	-1.9
BBB	**Bella Bella**	**2.15**	**40**	Pn	Pn	00 12 19.4	-1.6
BBB				Sn	Sn	00 12 43.1	-4.5
BNB	**Barry Inlet**	**2.19**	**337**	Pn	Pn	00 12 19.6	-2.0
EDB	**Eliza Dome**	**2.20**	**107**	Pn	Pn	00 12 19.9	-1.8
TLCB	**Telegraph Cove**	**2.25**	**89**	Sn	Sn	00 12 46.4	-3.8
WOSB	**Woss**	**2.47**	**98**	Pn	Pn	00 12 24.0	-1.6
NCRB	**Newcastle Ridg**	**2.76**	**92**	Pn	Pn	00 12 28.1	-1.6
MOBC	**Moresby Island**	**2.76**	**340**	Pn	Pn	00 12 27.9	-1.6
MOBC				Sn	Sn	00 12 58.6	-4.4
BCBC	**Bella Coola**	**2.89**	**50**	Sn	Sn	00 13 02.1	-3.8
GDR	**Gold River**	**2.90**	**104**	Pn	Pn	00 12 29.7	-1.6
CBB	**Campbell River**	**3.25**	**98**	Pn	Pn	00 12 34.2	-2.0
CBB				Sn	Sn	00 13 10.9	-4.1
BTB	**Buttle Lake**	**3.32**	**108**	Pn	Pn	00 12 35.9	-1.4
TXB	**Texada**	**3.92**	**101**	Pn	Pn	00 12 43.7	-1.6
MGB	**Mount Grey**	**4.00**	**111**	Pn	Pn	00 12 45.2	-1.4
SHB	**Sechelt**	**4.29**	**101**	Pn	Pn	00 12 49.8	-0.9
YOUB	**Youbou, Lake C**	**4.30**	**111**	Pn	Pn	00 12 49.9	-0.8
UBRB	**Upper Baezaeko**	**4.55**	**57**	Pn	Pn	00 12 53.6	-0.5
UBRB				Sn	Sn	00 13 44.7	-2.4
LZB	**Mount Lazard**	**4.69**	**112**	Pn	Pn	00 12 55.6	-0.4
WPB	**Watts Point**	**4.70**	**98**	Pn	Pn	00 12 55.5	-0.6
GOBB	**Galiano Island**	**4.73**	**107**	Pn	Pn	00 12 56.4	-0.1
WSLR	**Whistler**	**4.79**	**92**	Pn	Pn	00 12 55.6	-1.8
OBC	**Olympics--Boni**	**4.83**	**119**	Pn	Pn	00 12 57.1	-1.0
MCW	**Mount Constitu**	**5.25**	**108**	Pn	Pn	00 13 03.7	0.0
FSB	**Fort Saint Jam**	**5.38**	**41**	Pn	Pn	00 13 05.1	-0.3
LLLB	**Lillooet**	**5.41**	**86**	Pn	Pn	00 13 05.8	-0.1
VDB	**Vedder Mountai**	**5.57**	**103**	Pn	Pn	00 13 08.5	+0.4
A05A	**Maple Falls**	**5.59**	**103**	Pn	Pn	00 13 08.8	+0.5
CMW	**Cultus Mountai**	**5.79**	**109**	Pn	Pn	00 13 10.8	-0.4
JCW	**Jim Creek**	**6.00**	**110**	Pn	Pn	00 13 14.2	+0.2

ISCJB 15 00:12:30.3±0.6, 36.20N±0.02×35.73E±0.03, h2km±5km, Error ellipse: s-maj=4.6km s-min=3.5km az=139.8

CSEM 15 00:12:30.6±0.2, 36.19N×35.69E, h2km, ML2.5, Error ellipse: s-maj=4.9km s-min=3.4km az=49.0

DDA 15 00:12:31.2, 36.13N×35.71E, h12km, MD3.5

NSSC 15 00:12:33.0±5.1, 36.17N×35.91E, h12km±14km, MD2.1, ML2.5

ISK 15 00:12:33.8, 36.41N×35.56E, h10km, MD3.2

ISC 15 00:12:31.0±1.0, 36.17N±0.02×35.73E±0.02, h14km±8km, n58, σ1.08/80, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNB	**Al Arnab**	**0.37**	**148**	*e*P	**Pg**	**00 12 38.8**	**+0.3**
ARNB				*e*S	**Sg**	**00 12 42.7**	**-0.8**
ARNB				AML	AML	00 12 46.9	
	comp=Z,387nm,0.6s						
ARNB				AML	AML	00 12 47.4	
	comp=E,737nm,0.9s						
ARNB				AML	AML	00 12 47.4	
	comp=N,744nm,0.7s						
ARNB	**Al Arnab**	**0.37**	**148**	*e*P	**Pg**	**00 12 38.8**	**+0.3**
	SNR=101						
ARNB				*e*S	**Sg**	**00 12 42.7**	**-0.8**
	comp=N,744nm,0.7s,SNR=106						
BTCH	**Batrach**	**0.60**	**103**	*e*P	**Pb**	**00 12 43.9**	**+0.4**
BTCH				*e*S	**Sg**	**00 12 50.5**	**-0.5**
BTCH				AML	AML	00 12 54.9	
	comp=N,854nm,0.4s						
BTCH				AML	AML	00 12 55.0	
	comp=Z,668nm,0.4s						
BTCH				AML	AML	00 12 55.7	
	comp=E,317nm,0.5s						
BTCH	**Batrach**	**0.60**	**103**	*e*P	**Pb**	**00 12 43.9**	**+0.4**
	SNR=95						
BTCH				*e*S	**Sg**	**00 12 50.5**	**-0.5**
	comp=E,317nm,0.5s,SNR=100						
CEYT	**Ceyhan**	**0.84**	**1**	*e*PG	**Pg**	**00 12 46.7**	**-0.6**
CEYT	**Ceyhan**	**0.84**	**1**	*e*Pg	**Pg**	**00 12 46.7**	**-0.6**
MERS	**Mersin**	**1.20**	**306**	*e*PG	**Pn**	**00 12 52.6**	**-0.9**
MERS	**Mersin**	**1.20**	**306**	*e*Pg	**Pn**	**00 12 52.6**	**-0.9**
KARA	**Karaisali**	**1.22**	**334**	*e*PG	**Pn**	**00 12 52.2**	**-1.5**
KARA	**Karaisali**	**1.22**	**334**	*e*Pg	**Pn**	**00 12 52.2**	**-1.5**
KUZU	**Kuzuini**	**1.24**	**61**	*i* P	**Pb**	**00 12 54.2**	**-0.1**
KUZU				*i* S	**Sg**	**00 13 11.6**	**+0.5**
KUZU	**Kuzuini**	**1.24**	**61**	*i* P	**Pb**	**00 12 54.2**	**-0.1**
KUZU				*i* S	**Sg**	**00 13 11.6**	**+0.5**
KOZT	**Kozan**	**1.31**	**3**	*e*PN	**Pn**	**00 12 54.9**	**-0.1**
KOZT	**Kozan**	**1.31**	**3**	*e*Pn	**Pn**	**00 12 54.9**	**-0.1**
KIZK	**Mersin**	**1.32**	**284**	*i* P	**Pn**	**00 12 53.9**	**-1.2**
KIZK				*i* S	**Sn**	**00 13 12.6**	**+0.1**
KIZK	**Mersin**	**1.32**	**284**	*i* P	**Pn**	**00 12 53.9**	**-1.2**
KIZK				*i* S	**Sn**	**00 13 12.6**	**+0.1**
GULE	**Gulek**	**1.35**	**326**	*i* P	**Pn**	**00 12 55.0**	**-0.7**
GULE				*i* S	**Sn**	**00 13 13.8**	**+0.2**
GULE	**Gulek**	**1.35**	**326**	*i* P	**Pn**	**00 12 55.0**	**-0.7**
GULE				*i* S	**Sn**	**00 13 13.8**	**+0.2**
EREN	**Erenkoy**	**1.42**	**244**	*e*PN	**Pg**	**00 13 00.4**	**+2.0**
EREN	**Erenkoy**	**1.42**	**244**	*e*Pn	**Pg**	**00 13 00.4**	**+2.0**
ANDN	**Andirin**	**1.49**	**19**	*i* P	**Pb**	**00 12 58.5**	**-0.1**
ANDN				*i* S	**Sb**	**00 13 18.0**	**+0.5**
ANDN	**Andirin**	**1.49**	**19**	*i* P	**Pb**	**00 12 58.5**	**-0.1**
ANDN				*i* S	**Sb**	**00 13 18.0**	**+0.5**
KMRS	**Kahramanmaras**	**1.63**	**35**	*e*PN	**Pg**	**00 13 01.9**	**-0.4**
KMRS	**Kahramanmaras**	**1.63**	**35**	*e*Pn	**Pg**	**00 13 01.9**	**-0.4**
GZT	**Gaziantep**	**1.89**	**51**	*i* P	**Pn**	**00 13 02.9**	**-0.2**
GZT				*i* S	**Sg**	**00 13 34.8**	**+2.9**
LFK	**Lefkose**	**2.00**	**244**	*e*PN	**Pg**	**00 13 08.6**	**-0.8**
LFK	**Lefkose**	**2.00**	**244**	*e*Pn	**Pg**	**00 13 08.6**	**-0.8**
FKH	**Fakeheh**	**2.00**	**164**	*e*P	**Pb**	**00 13 06.2**	**-1.2**
RABH	**Abou Rabah**	**2.11**	**145**	*e*P	**Pb**	**00 13 08.3**	**-0.8**
RABH				*e*S	**Sn**	**00 13 30.9**	**-1.2**
RABH				AML	AML	00 13 46.4	
	comp=N,30nm,0.4s						
RABH				AML	AML	00 13 48.0	
	comp=Z,46nm,0.6s						
RABH				AML	AML	00 13 49.0	
	comp=E,50nm,0.7s						
RABH	**Abou Rabah**	**2.11**	**145**	*e*P	**Pb**	**00 13 08.3**	**-0.8**
	SNR=51						
NIG	**Nigde**	**2.13**	**336**	*e*PN	**Pn**	**00 13 06.6**	**+0.1**
NIG	**Nigde**	**2.13**	**336**	*e*Pn	**Pn**	**00 13 06.6**	**+0.1**
MARH	**Ras Al Marh**	**2.23**	**164**	*e*P	**Pn**	**00 13 09.3**	**+1.4**
MARH				*e*S	**Sn**	**00 13 36.1**	**+0.7**
MARH				AML	AML	00 13 43.1	
	comp=E,73nm,0.6s						
MARH				AML	AML	00 13 45.3	
	comp=N,33nm,0.4s						
MARH				AML	AML	00 13 46.1	
	comp=Z,83nm,0.4s						
MARH	**Ras Al Marh**	**2.23**	**164**	*e*P	**Pn**	**00 13 09.3**	**+1.4**
	SNR=51						
MARH				*e*S	**Sn**	**00 13 36.1**	**+0.7**
	comp=Z,83nm,0.4s,SNR=49						
BHL	**Bhannes**	**2.26**	**182**	*e*P	**Pn**	**00 13 08.2**	**0.0**
BHL	**Bhannes**	**2.26**	**182**	*e*P	**Pn**	**00 13 08.2**	**0.0**
CSS	**Prodhromos**	**2.30**	**239**	*e*PN	**Pb**	**00 13 12.7**	**+0.4**
CSS	**Prodhromos**	**2.30**	**239**	*e*Pn	**Pb**	**00 13 12.7**	**+0.4**
ERMK	**Ermenek**	**2.32**	**282**	*i* P	**Pn**	**00 13 09.6**	**+0.5**
ERMK				*i* S	**Sb**	**00 13 39.6**	**-1.8**
ERMK	**Ermenek**	**2.32**	**282**	*i* P	**Pn**	**00 13 09.6**	**+0.5**
ERMK				*i* S	**Sb**	**00 13 39.6**	**-1.8**
KSRV	**Kasrt alli**	**2.67**	**96**	*e*P	**Pn**	**00 13 13.8**	**+0.1**
KSRV				*e*S	**Sn**	**00 13 43.7**	**-2.2**
KSRV				AML	AML	00 13 58.9	
	comp=N,32nm,0.4s						
KSRV				AML	AML	00 13 59.3	
	comp=E,22nm,0.3s						
KSRV				AML	AML	00 14 02.1	
	comp=Z,32nm,0.4s						
KSRV	**Kasrt alli**	**2.67**	**96**	*e*P	**Pn**	**00 13 13.8**	**+0.1**
	SNR=51						
BNN	**Bunyan**	**2.68**	**2**	*e*PN	**Pn**	**00 13 14.8**	**+0.9**
BNN	**Bunyan**	**2.68**	**2**	*e*Pn	**Pn**	**00 13 14.8**	**+0.9**
SULT	**Sultanhani-AKS**	**2.69**	**320**	*e*PN	**Pn**	**00 13 14.0**	**0.0**
SULT	**Sultanhani-AKS**	**2.69**	**320**	*e*Pn	**Pn**	**00 13 14.0**	**0.0**
BRBR	**Barbar**	**2.76**	**176**	*e*P	**Pn**	**00 13 17.4**	**+2.3**
BRBR				*e*S	**Sb**	**00 13 53.1**	**-1.0**
BRBR				AML	AML	00 13 59.9	
	comp=E,16nm,0.6s						
BRBR				AML	AML	00 14 01.0	
	comp=N,28nm,0.7s						
BRBR				AML	AML	00 14 01.2	
	comp=Z,31nm,0.7s						
BRBR	**Barbar**	**2.76**	**176**	*e*P	**Pn**	**00 13 17.4**	**+2.3**
	SNR=51						
BRBR				*e*S	**Sb**	**00 13 53.1**	**-1.0**
	comp=Z,31nm,0.7s,SNR=49						
DARE	**Darende-Malaty**	**2.77**	**30**	*e*PN	**Pn**	**00 13 17.5**	**+2.3**
DARE	**Darende-Malaty**	**2.77**	**30**	*e*Pn	**Pn**	**00 13 17.5**	**+2.3**
KONT	**Konya--Tatoy**	**3.23**	**304**	*e*PN	**Pn**	**00 13 22.0**	**+0.8**
KONT	**Konya--Tatoy**	**3.23**	**304**	*e*Pn	**Pn**	**00 13 22.0**	**+0.8**
SFNV	**Sufian**	**3.55**	**85**	*e*P	**Pn**	**00 13 25.3**	**-0.5**
SFNV				*e*S	**Sn**	**00 14 07.2**	**-0.4**
SFNV				AML	AML	00 14 27.1	
	comp=E,74nm,0.7s						
SFNV				AML	AML	00 14 30.4	
	comp=Z,59nm,0.5s						
SFNV				AML	AML	00 14 30.9	
	comp=N,30nm,0.4s						
SFNV	**Sufian**	**3.55**	**85**	*e*P	**Pn**	**00 13 25.3**	**-0.5**
	SNR=51						
AFSR	**Af¨ar-Bala (A**	**3.89**	**328**	*e*PN	**Pn**	**00 13 31.9**	**+1.4**
AFSR	**Af¨ar-Bala (A**	**3.89**	**328**	*e*Pn	**Pn**	**00 13 31.9**	**+1.4**
KIZT	**Kizilcal**	**4.08**	**313**	*e*PN	**Pn**	**00 13 34.6**	**+1.4**
KIZT	**Kizilcal**	**4.08**	**313**	*e*Pn	**Pn**	**00 13 34.7**	**+1.4**

IDC 15 00:25:24.7±1.9, 2.83N×127.07E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/32, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/15, Error ellipse: s-maj=143.0km s-min=24.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.73**	**163**	P	P	00 30 38.7	0.0
	1.5nm,0.6s,baz=342,slow=10,SNR=15						
ASAR	**Alice Springs**	**27.16**	**166**	P	P	00 31 09.7	-0.3
	0.3nm,0.6s,baz=351,slow=7.4,SNR=5.6						
ASAJ	**Asahikawa**	**43.36**	**16**	LR	LR	00 54 23.2	
	comp=Z,24nm,18.1s,baz=7.5,slow=40						
MKAR	**Makanchi Array**	**58.49**	**325**	P	P	00 35 22.8	+0.1
	0.2nm,0.6s,baz=117,slow=5.4,SNR=2.7						

ISCJB 15 00:26:01.8±0.8, 21.9S±0.4×178.0W±0.1, h373km, mb3.9/7, Error ellipse: s-maj=50.8km s-min=7.7km az=162.9

IDC 15 00:26:10.6±7.3, 21.86S×178.23W, h450km±74km, mb3.6/6, mb1 3.8/6, mb1mx3.4/27, mbtmp4.4/6, Error ellipse: s-maj=44.4km s-min=30.5km az=129.0

ISC 15 00:26:02.4±0.7, 21.9S±0.3×177.9W±0.1, h373km, n34, σ1.06/36, mb3.9/7, 9C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.96**	**71**	P	**P**	**00 27 58.4**	**+1.0**
	baz=7.5,SNR=3.6						
NIUE				S	**S**	**00 29 28.0**	**-1.9**
	baz=7.5,SNR=9.3						
RMQ	**Roma**	**30.73**	**255**	P	**P**	**00 31 46.5**	**+1.8**
	baz=31,SNR=6.3						
CTA	**Charters Tower**	**33.50**	**266**	P	**P**	**00 32 08.8**	**+0.1**
	14nm,0.6s,baz=94,slow=11,SNR=25						
QLP	**Quilpie**	**34.78**	**255**	P	**P**	**00 32 19.3**	**-0.1**
	baz=35,SNR=8.5						
MTSU	**Mount Surprise**	**35.67**	**269**	P	**P**	**00 32 27.5**	**+0.4**
	baz=36,SNR=6.8						
STKA	**Stephens Creek**	**37.30**	**246**	P	**P**	**00 32 40.5**	**0.0**
	3.0nm,0.6s,baz=95,slow=9.9,SNR=8.5						
STKA	**Stephens Creek**	**37.30**	**246**	P	**P**	**00 32 40.7**	**+0.2**
	baz=38,SNR=5.2						
ASAR	**Alice Springs**	**44.33**	**258**	P	**P**	**00 33 36.9**	**-0.5**
	13nm,0.8s,baz=91,slow=8.1,SNR=114						
WRA	**Warramunga Arr**	**44.55**	**263**	P	**P**	**00 33 38.0**	**-1.1**
	6.7nm,0.8s,baz=97,slow=8.3,SNR=36						
KDU	**Kakadu**	**48.12**	**272**	P	**P**	**00 34 06.0**	**-0.6**
	baz=48,SNR=4.9						
KDU				S	S	00 40 13.9	-23
	baz=48,SNR=5.3						
WRKA	**Warakurna**	**49.21**	**255**	P	**P**	**00 34 14.1**	**-0.7**
	baz=50,SNR=33						
MTN	**Manton Dam**	**49.32**	**272**	P	**P**	**00 34 14.9**	**-0.7**
	baz=50,SNR=4.1						
KNRA	**Kununurra**	**50.70**	**267**	P	**P**	**00 34 25.6**	**-0.3**
	baz=51,SNR=4.9						
KSM	**Kuching**	**73.74**	**278**	P	**P**	**00 36 56.6**	**-0.7**
	baz=74,SNR=3.2						
NVAR	**Mina Array Bea**	**81.98**	**43**	P	**P**	**00 37 43.8**	**+1.8**
	0.6nm,0.7s,baz=218,slow=6.9,SNR=4.5						
ILAR	**Eielson Array**	**89.68**	**13**	P	**P**	**00 38 18.2**	**-0.2**
	0.5nm,0.4s,baz=220,slow=5.4,SNR=20						
CMAR	**Chiang Mai Arr**	**90.71**	**290**	P	**P**	**00 38 26.4**	**+2.1**
	0.7nm,0.3s,baz=131,slow=3.2,SNR=9.8						
MKAR	**Makanchi Array**	**112.27**	**313**	PKiKP	**PKiKP**	**00 43 53.1**	**-1.2**
	0.1nm,0.4s,baz=83,slow=1.0,SNR=4.9						
ARCES	**ARCESS Array B**	**130.34**	**349**	PKP	**PKPdf**	**00 44 27.8**	**-0.5**
	8.9nm,1.1s,baz=34,slow=1.7,SNR=9.3						
FINES	**FINESS Array B**	**137.18**	**343**	PKP	**PKPdf**	**00 44 42.0**	**+0.8**
	0.2nm,0.3s,baz=202,slow=2.1,SNR=4.1						
AKASG	**Malin Array Be**	**144.32**	**330**	PKP	**PKPab**	**00 44 52.7**	**-1.0**
	0.6nm,0.4s,baz=42,slow=4.3,SNR=30						
BRTR	**Keskin Array B**	**147.88**	**311**	PKPbc	**PKPbc**	**00 45 03.5**	**-1.0**
	1.1nm,0.8s,baz=131,slow=3.1,SNR=6.2						
BURAR	**Bucovina Array**	**148.36**	**330**	⇑*i* P	**PKPbc**	**00 45 04.1**	**-1.3**
TESR	**Tescani**	**148.43**	**327**	⇑*i* P	**PKPbc**	**00 45 03.8**	**-1.7**
VRI	**Vrincioaia**	**148.82**	**326**	⇑*i* P	**PKPdf**	**00 45 03.6**	**+1.5**
DOPR	**Dopca**	**149.44**	**327**	⇑*i* P	**PKPbc**	**00 45 09.1**	**+1.1**
MLR	**Muntele Rosu**	**149.48**	**326**	⇑*i* P	**PKPdf**	**00 45 04.5**	**+1.1**
VOIR		**149.98**	**327**	⇓*i* P	**PKPbc**	**00 45 09.4**	**0.0**
DRGR		**150.12**	**331**	⇑*i* P	**PKPbc**	**00 45 08.7**	**-1.0**
GZR	**Gura Zlata**	**151.13**	**329**	⇑*i* P	**PKPbc**	**00 45 12.1**	**0.0**
BZS	**Buzias**	**151.51**	**331**	⇑*i* P	**PKPbc**	**00 45 12.9**	**+0.1**
GERES	**GERESS Array B**	**151.61**	**344**	PKPbc	**PKPbc**	**00 45 12.9**	**-0.2**
	1.6nm,1.0s,baz=29,slow=3.0,SNR=8.9						
PKSM	**Moragy**	**152.30**	**335**	⇑*i* P	**PKPbc**	**00 45 14.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**171.25**	**177**	PKP	**PKPdf**	**00 45 25.8**	**-1.7**
	0.6nm,0.8s,baz=202,slow=0.8,SNR=4.2						
TORD				PKPab	**PKPab**	**00 46 50.0**	**+0.5**
	0.5nm,0.7s,baz=176,slow=4.5,SNR=6.3						

IDC 15 00:33:10.7±1.1, 9.43S×158.14E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/27, mbtmp3.9/5, MS3.3/1, Ms1 3.2/1, ms1mx2.6/21, Error ellipse: s-maj=38.5km s-min=19.4km az=171.0

ISCJB 15 00:33:13.4±0.8, 9.5S±0.2×158.08E±0.07, h27km, mb3.8/5, MS3.2/1, Error ellipse: s-maj=32.8km s-min=9.6km az=174.6

ISC 15 00:33:14.5±1.1, 9.6S±0.3×158.20E±0.09, h27km, n7, σ1.05/7, mb3.8/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.73**	**85**	Pn	**Pn**	**00 33 42.9**	**+0.1**
	113nm,0.3s,baz=214,slow=11,SNR=12						
HNR				Sn	**Sb**	**00 34 07.2**	**+0.3**
	214nm,0.3s,baz=244,slow=12,SNR=6.9						
HNR				LR	LR	00 34 15.3	
	comp=Z,88nm,21.5s,baz=280,slow=36						
WRA	**Warramunga Arr**	**25.23**	**243**	P	**P**	**00 38 39.0**	**+0.5**
	1.6nm,0.7s,baz=66,slow=9.2,SNR=7.8						
STKA	**Stephens Creek**	**27.01**	**212**	LR	LR	00 49 34.9	
	comp=Z,68nm,20.0s,baz=202,slow=36						
ASAR	**Alice Springs**	**27.11**	**236**	P	**P**	**00 38 55.4**	**0.0**
	0.7nm,0.8s,baz=63,slow=11,SNR=4.3						
SONM	**Songino Array**	**73.21**	**326**	P	**P**	**00 44 44.6**	**+1.4**
	0.6nm,0.8s,baz=122,slow=4.4,SNR=5.5						
MKAR	**Makanchi Array**	**87.42**	**318**	P	**P**	**00 45 58.3**	**-1.3**
	0.5nm,0.3s,baz=120,slow=8.0,SNR=20						
NVAR	**Mina Array Bea**	**90.83**	**51**	P	**P**	**00 46 15.4**	**-0.6**
	0.8nm,0.8s,baz=236,slow=5.6,SNR=3.6						

IDC 15 00:36:06.5±8.8, 1.11N×123.98E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/30, mbtmp3.8/3, Error ellipse: s-maj=178.4km s-min=136.5km az=62.0

ISCJB 15 00:36:24.2±1.5, 1.6N±0.1×125.11E±0.09, h150km, mb3.7/3, Error ellipse: s-maj=19.3km s-min=11.6km az=15.4

DJA 15 00:36:27.3±1.2, 2°N±7°×12°5E±°, h118km±19km, M3.9/7, mb4.2/1, MLv3.8/7

ISC 15 00:36:22.9±1.9, 1.7N±0.2×125.10E±0.07, h150km, n10, σ1.85/10, mb3.7/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.57**	**225**	P	**Pn**	**00 36 54.1**	**+0.9**
GTOI	**Gorontalo**	**2.33**	**244**	P	Pn	00 37 07.1	+5.1
TNTI	**Ternate**	**2.44**	**112**	P	**Pn**	**00 37 05.2**	**+1.9**
LBMI	**Labuha**	**3.33**	**134**	P	**Pn**	**00 37 16.4**	**+1.9**
MRSI	**Marisa**	**3.38**	**249**	P	**Pn**	**00 37 17.1**	**+2.0**
LUWI	**Luwuk**	**3.57**	**221**	P	**Pn**	**00 37 19.2**	**+1.6**
SANI	**Sanana**	**3.81**	**166**	P	**Pn**	**00 37 22.2**	**+1.4**
SANI				S	**Sn**	**00 38 06.4**	**+0.7**
WRA	**Warramunga Arr**	**23.32**	**158**	P	**P**	**00 41 16.1**	**-1.7**
	2.4nm,0.7s,baz=332,slow=11,SNR=11						
ASAR	**Alice Springs**	**26.61**	**162**	P	**P**	**00 41 46.1**	**-1.5**
	0.4nm,0.3s,baz=342,slow=7.5,SNR=13						
STKA	**Stephens Creek**	**36.86**	**156**	P	**P**	**00 43 15.4**	**-1.5**
	1.8nm,0.9s,baz=333,slow=6.8,SNR=2.7						

WEL 15 00:39:09.1±0.4, 45.43S×166.68E, h12km, ML3.7/9, 1C-2D,

Error ellipse: s-maj=3.6km s-min=2.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.34	98	⇓P*	Pg	00 39 16.2	+0.3
DCZ				S*	Sg	00 39 20.9	+0.4
DCZ				AML	AML	00 39 21.0	
DCZ				AML	AML	00 39 21.4	
DCZ				AML	AML	00 39 21.4	
WHZ	Wether Hill Ro	1.00	118	P*	Pb	00 39 27.3	-1.1
WHZ				S*	Sg	00 39 40.3	-1.3
WHZ				AML	AML	00 39 41.3	
MLZ	Mavora Lakes	1.06	86	⇓P*	Pb	00 39 27.5	-1.9
MLZ				eS*	Sb	00 39 40.8	-2.4
MLZ				AML	AML	00 39 41.7	
MSZ	Milford Sound	1.17	50	P*	Pb	00 39 28.9	-2.2
MSZ				AML	AML	00 39 48.1	
MSZ				AML	AML	00 39 48.1	
MSZ				AML	AML	00 39 48.1	
MSZ				AML	AML	00 39 48.1	
APZ	The Paps	1.67	147	PN	Pn	00 39 37.2	-1.0
WKZ	Wanaka	1.76	71	PN	Pn	00 39 39.5	+0.1
WKZ				AML	AML	00 40 09.0	
WKZ				AML	AML	00 40 10.7	
EAZ	Earnscleugh	1.87	85	PN	Pn	00 39 40.3	+0.1
EAZ				AML	AML	00 40 08.7	
EAZ				AML	AML	00 40 08.8	
EAZ				AML	AML	00 40 09.4	
EAZ				AML	AML	00 40 09.4	
EAZ				AML	AML	00 40 09.4	
JCZ	Jackson Bay	2.01	48	PN	Pn	00 39 43.6	+0.6
JCZ				AML	AML	00 40 18.0	
JCZ				AML	AML	00 40 18.6	
SYZ	Scrubby Hill	2.04	124	PN	Pn	00 39 44.1	+0.9
TUZ	Tuapeka	2.14	105	PN	Pn	00 39 45.3	+0.8
LBZ	Lake Benmore	2.70	69	PN	Pn	00 39 52.8	+0.4
LBZ				AML	AML	00 40 45.7	
ODZ	Otahua Downs	2.83	84	⇑PN	Pn	00 39 53.1	-1.0
FOZ	Fox Glacier	2.85	50	AML	AML	00 40 45.5	
RPZ	Rata Peaks	3.56	63	PN	Pn	00 40 04.9	+0.7

TAP 15 00:53:00.5, 24°07N×120°97E, h26km, ML3.6, 14C-8D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYC	Yuchr baz=203	0.19	213	⇓iP	Pb	00 53 06.7	+0.5
TYC	baz=203			iS	Sb	00 53 11.2	+1.1
SMLT	Sun Moon Lake baz=191	0.19	200	⇓iP	Pb	00 53 06.8	+0.4
SMLT	baz=191			iS	Sb	00 53 11.4	+1.0
TWT	Tachien baz=44	0.26	45	⇑iP	Pb	00 53 07.5	+0.1
TWT	baz=44			iS	Sb	00 53 12.0	-0.1
WHF	Hehuan Shan baz=83	0.28	74	⇑iP	Pb	00 53 08.5	+0.6
WHF	baz=83			S	Sb	00 53 13.8	+0.8
TCU	Taichung baz=286	0.28	287	⇓iP	Pb	00 53 08.0	+0.6
TCU	baz=286			eS	Sn	00 53 13.4	-1.0
WNT	Mingjian baz=233	0.32	234	⇓iP	Pb	00 53 08.7	+0.7
WNT	baz=233			eS	Sn	00 53 14.7	-0.6
TWQ1	Liyutan baz=328	0.33	327	⇓iP	Pb	00 53 08.8	+0.6
TWQ1	baz=328			iS	Sb	00 53 14.5	+1.1
NSY	Sanyi baz=331	0.40	331	⇓iP	Pn	00 53 10.1	-0.5
NSY	baz=331			iS	Sn	00 53 16.9	-0.3
ESL	Shilin baz=121	0.49	121	⇑iP	Pn	00 53 11.4	-0.5
ESL	baz=121			eS	Sn	00 53 18.5	+1.0
NNS	Nan Shan baz=46	0.52	45	⇑P	Pb	00 53 11.1	-0.2
NNS	baz=46			eS	Sb	00 53 18.9	+0.2
ESF	Shoufeng Towns baz=112	0.53	112	eP	Pn	00 53 12.3	0.0
WGK	Gukeng baz=224	0.53	225	eP	Pn	00 53 11.9	-0.5
WGK	baz=224			eS	Sn	00 53 20.4	-0.1
CHN5	Tsauling baz=220	0.54	210	⇑iP	Pb	00 53 11.9	+0.4
CHN5	baz=220			S	Sb	00 53 20.0	+0.9
NSTT	Nanjuang baz=356	0.56	3	⇑iP	Pn	00 53 12.5	-0.4
NSTT	baz=356			eS	Sb	00 53 19.7	+0.1
TWD	Chiawan baz=89	0.57	89	⇑iP	Pb	00 53 12.4	+0.4
TWD	baz=89			S	Sb	00 53 20.1	+0.4
ALS	Alishan baz=195	0.57	195	⇑iP	Pb	00 53 12.7	+0.3
ALS	baz=195			S	Sb	00 53 21.3	+0.8
YUS	Yu-Shan baz=182	0.57	182	⇑P	Pb	00 53 12.9	+0.2
YUS	baz=182			S	Sb	00 53 21.5	+0.5
HWA	Hwalien baz=99	0.59	99	eP	Pn	00 53 12.9	-0.2
HWA	baz=99			eS	Sn	00 53 21.6	-0.2
EHY	Hungye baz=150	0.64	150	P	Pn	00 53 13.8	-0.1
EHY	baz=150			S	Sn	00 53 22.7	-0.6
WTCT	Ta-ch'eng baz=251	0.66	252	eP	Pb	00 53 13.7	+0.2
WTCT	baz=251			eS	Sn	00 53 23.8	0.0
CHN2	Minshiung baz=220	0.70	221	eP	Pn	00 53 14.6	-0.1
CHN2	baz=220			eS	Sn	00 53 25.1	+0.4
NSK	Sanguang baz=25	0.70	30	⇑iP	Pb	00 53 14.3	0.0
NSK	baz=25			eS	Sn	00 53 24.4	-0.5
HSN	Hsinchu baz=3.0	0.73	360	eP	Pn	00 53 15.7	+0.6
HSN	baz=3.0			eS	Sn	00 53 27.2	+1.8
CHY	Chiayi baz=221	0.76	222	⇓eP	Pb	00 53 15.2	+0.2
CHY	baz=221			eS	Sn	00 53 26.3	+0.2
TWF1	Yuli baz=157	0.77	157	⇑iP	Pn	00 53 16.0	+0.3
TWF1	baz=157			eS	Sn	00 53 26.6	+0.2
ENTT	Nioudou baz=36	0.79	43	eP	Pb	00 53 15.2	-0.5
ENTT	baz=36			eS	Sn	00 53 27.4	+0.5
ENA	Nanau baz=71	0.79	63	eP	Pb	00 53 15.5	-0.1
ENA	baz=71			eS	Sn	00 53 28.3	+1.4
CHN4	Tsaushan baz=206	0.79	206	eP	Pb	00 53 15.7	0.0
CHN4	baz=206			eS	Sn	00 53 27.5	+0.5
WSF	Szhu baz=237	0.81	238	eP	Pn	00 53 16.1	0.0
WSF	baz=237			eS	Sn	00 53 27.8	+0.5
ELDTW	Lidau baz=181	0.88	177	⇑P	Pn	00 53 17.3	0.0
ELDTW	baz=181			eS	Sn	00 53 29.6	+0.3
WTP	Ta-pu baz=202	0.88	202	eP	Pb	00 53 17.0	-0.2
WTP	baz=202			eS	Sn	00 53 29.5	+0.3
TWK	Hsinying baz=209	0.91	209	⇑P	Pn	00 53 17.7	0.0
TWK	baz=209			S	Sn	00 53 30.6	+0.6
NCU	National Centr baz=359	0.92	12	eP	Pb	00 53 18.0	+0.1
NCU	baz=359			eS	Sn	00 53 30.9	+0.8
TWC	Suao baz=65	0.97	56	eP	Pb	00 53 18.8	+0.2
TWC	baz=65			S	Sn	00 53 32.7	+1.5
CHN1	Nanshi baz=205	0.97	205	⇑P	Pb	00 53 18.7	0.0
CHN1	baz=205			S	Sn	00 53 32.2	+0.8
CHN8	Yiju baz=237	1.00	224	eP	Pb	00 53 19.1	-0.1
CHN8	baz=237			eS	Sn	00 53 33.2	+1.2
CHKT	Chengkung baz=147	1.03	159	eP	Pb	00 53 20.6	+1.0
SGST	Jiashian baz=189	1.04	200	eP	Pb	00 53 20.1	+0.1
SGST	baz=189			eS	Sb	00 53 34.9	+1.7
TWA	Mucha baz=32	1.07	31	eP	Pb	00 53 21.0	+0.6
TWA	baz=32			eS	Sb	00 53 34.9	+1.0
TWS1	Kuangyinshan baz=22	1.11	21	eP	Pb	00 53 21.9	+0.9
SCLT	Jiali baz=219	1.14	219	eP	Pn	00 53 21.1	+0.4
SCLT	baz=219			eS	Sb	00 53 38.0	+2.1
TAI1	Yung-k'ang baz=214	1.23	214	eP	Pb	00 53 23.1	+0.1
NWF	Wu-fen Shan baz=37	1.24	36	eP	Pb	00 53 24.0	+0.6
NWF	baz=37			eS	Sb	00 53 40.8	+1.6
TWG	Pinlang baz=168	1.24	176	⇓P	Pb	00 53 23.8	+0.4
TWG	baz=168			eS	Sb	00 53 41.1	+2.1
TWB1	Santiao Chiao baz=29	1.32	44	eP	Pb	00 53 24.6	+0.1
TWB1	baz=29			eS	Sb	00 53 42.1	+1.0
TWM1	Shoushan baz=203	1.34	202	eP	Pb	00 53 24.6	-0.3
SSD	Sandimen baz=194	1.35	193	eP	Pb	00 53 24.7	-0.5
PNG	Penghu baz=249	1.39	249	eP	Pn	00 53 24.3	+0.2
WDGT	Dungji baz=236	1.45	237	eP	Pn	00 53 25.1	+0.1
WDGT	baz=236			eS	Sn	00 53 44.5	-0.3
ECL	Taimali baz=168	1.46	181	eP	Pb	00 53 27.0	-0.1
EAST	Anshuo baz=200	1.68	184	eP	Pb	00 53 29.7	-1.1
SCZT	Fangliau baz=191	1.72	191	eP	Pn	00 53 29.9	+1.2
SCZT	baz=191			eS	Sb	00 53 51.8	-0.8

IDC 15 00:53:14.6±1.4, 9°39S×158°99E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/25, mbtmp3.6/3, Error ellipse: s-maj=53.2km s-min=16.4km az=175.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara 75nm,0.3s,baz=273,slow=4.6,SNR=21	0.94	93	Pn	Pn	00 53 35.5	+0.4
HNR	899nm,0.3s,baz=255,slow=20,SNR=31			Sn	Sn	00 53 49.2	-0.2
WRA	Warramunga Arr 0.9nm,0.5s,baz=71,slow=9.8,SNR=4.9	26.02	243	P	P	00 58 49.8	+0.1
ASAR	Alice Springs 0.5nm,0.7s,baz=69,slow=9.6,SNR=5.4	27.86	236	P	P	00 59 06.2	-0.1
MKAR	Makanchi Array 0.2nm,0.6s,baz=121,slow=6.8,SNR=4.0	87.81	318	P	P	01 06 05.8	-0.1

KRNET 15 01:04:48.7±0.1, 41°70N×75°86E, h2km, mb3.6
KNET 15 01:04:49.9±0.5, 41°76N×75°85E, h12km±3km, ml2.8, Error ellipse: s-maj=3.7km s-min=2.4km az=149.0
NNC 15 01:04:51.3±1.0, 41°76N×75°77E, h0km, mb3.3, mpv3.2, Error ellipse: s-maj=6.5km s-min=3.9km az=178.0
ISC 15 01:04:48.0±1.3, 41°65N±0°04×75°86E±0°03, h4km±10km, n32, σ1§06/51, 26C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	Kyzart 394nm,0.3s,SNR=203	0.63	314	⇓P	Pb	01 05 01.0	-0.9
KZA	197nm,0.2s			⇓S	Sb	01 05 09.7	-1.5
KZA	Kyzart baz=310	0.63	314	⇑iP	Pb	01 05 00.9	-0.9
KZA	baz=310			⇑iS	Sg	01 05 09.4	+1.1
ULHL	Ulahol 60nm,0.2s,SNR=287	0.66	25	⇓P	Pg	01 05 01.0	+0.2
ULHL	477nm,0.3s			⇑S	Sg	01 05 09.7	+0.3
ULHL	Ulahol baz=27	0.66	25	⇑iP	Pg	01 05 01.0	+0.2
ULHL	baz=27			⇑iS	Sg	01 05 09.7	+0.3
UCH	Uchtor 20nm,0.2s,SNR=84	1.16	300	⇓P	Pg	01 05 10.5	+0.2
ARLS	Aral baz=278	1.17	281	iP	Pg	01 05 10.3	-0.2
KBK	Karagaybulak 98nm,0.1s,SNR=441	1.22	326	P	Pn	01 05 11.8	-0.2
KBK	288nm,0.2s			⇑S	Sn	01 05 28.2	-0.9
KBK	Karagaybulak baz=325	1.22	326	⇑iP	Pn	01 05 11.7	-0.4
KBK	baz=325			⇑iS	Sb	01 05 27.3	-0.6
TKM2	Tokmak 2 22nm,0.3s	1.29	351	⇓P	Pn	01 05 12.7	-0.4
TKM2	12nm,0.1s			⇑S	Sn	01 05 29.8	-1.1
TKM2	Tokmak 2 70nm,0.3s,SNR=154	1.29	351	⇓P	Pn	01 05 12.8	-0.2
TKM2	Tokmak 2 baz=351	1.29	351	eP	Pn	01 05 12.7	-0.4
TKM2	baz=351			iS	Sb	01 05 29.7	-0.3
AAK	Ala-Archa 46nm,0.3s	1.42	315	⇓P	Pb	01 05 15.2	+0.1
AAK	48nm,0.5s			⇑S	Sn	01 05 33.8	-0.2
AAK	Ala-Archa 97nm,0.2s,SNR=282	1.42	315	P	Pb	01 05 15.3	+0.1
AAK	111nm,0.3s			⇓S	Sn	01 05 33.9	-0.2
AAK	Ala-Archa baz=313	1.42	315	⇑iP	Pb	01 05 15.2	+0.1
AAK	baz=313			⇑iS	Sn	01 05 33.6	-0.4
CHMS	Chumysh 21nm,0.2s,SNR=15	1.58	329	⇓P	Pg	01 05 18.1	-0.3
CHMS	64nm,0.1s			⇓S	Sg	01 05 38.7	-0.1
CHMS	Chumysh baz=328	1.58	329	⇑iP	Pg	01 05 18.0	-0.3
CHMS	baz=328			⇑iS	Sg	01 05 38.5	-0.3
AML	Almayashu 64nm,0.3s,SNR=56	1.69	287	⇑P	Pg	01 05 20.4	0.0
AML	Almayashu baz=286	1.69	287	⇑iP	Pg	01 05 20.4	0.0
AML	baz=286			⇑iS	Sg	01 05 42.6	+0.3
ANVS	Anan'yevo baz=50	1.76	49	⇓iP	Pg	01 05 21.3	-0.4
KNDC	Almaty 22nm,0.5s	1.77	27	⇓P	Pg	01 05 21.9	-0.1
KNDC	79nm,0.3s			⇓S	Sg	01 05 45.3	+0.4
EKS	Erkin-Say baz=303	1.85	304	iP	Pg	01 05 23.6	+0.1
EKS2	Erkin-Say 62nm,0.5s,SNR=30	1.85	304	⇓P	Pg	01 05 23.7	+0.2
EKS2	Erkin-Say baz=303	1.85	304	⇑iP	Pg	01 05 23.4	-0.1
EKS2	baz=303			⇑iS	Sg	01 05 47.6	+0.1
USP	Ospenovka 19nm,0.2s,SNR=21	1.91	329	⇓P	Pg	01 05 23.9	-0.7
USP	Ospenovka baz=328	1.91	329	⇑iP	Pg	01 05 23.8	-0.7
USP	baz=328			⇑iS	Sg	01 05 48.9	-0.4
ARSB	Arslanbob baz=261	2.19	262	eP	Pb	01 05 27.3	-1.0
ARSB	baz=261			eS	Sg	01 05 59.1	+0.8
SFK	Sufi-Kurgan baz=228	2.42	228	eP	Pb	01 05 32.4	+0.1
SFK	baz=228			eS	Sb	01 06 02.5	-0.1
PDGK	Podgornoye	3.16	57	⇓Pn	Pb	01 05 42.8	-2.0
PDGK				⇑Sn	Sb	01 06 23.0	-0.7
KK31	Karatay Array 0.2nm,0.5s,baz=130,slow=12,SNR=5.7	4.22	292	Pn	Pn	01 05 57.4	+4.2
KK31	2.8nm,0.6s,baz=114,slow=15,SNR=53			⇑Pg	Pb	01 06 04.8	+1.9
KK31	4.6nm,0.5s,baz=107,slow=28,SNR=7.8			Lg	Lg	01 07 01.0	
MK08	Makanchi Array 0.6nm,0.5s	6.88	40	⇑Pn	Pn	01 06 34.3	+4.5
MK08	0.4nm,0.5s			⇓Sn	Sn	01 07 53.6	+5.0
MK08	2.4nm,0.6s			⇓Lg	Lg	01 08 23.9	
OTUK	Ortayu	7.05	340	⇓Pg	Pb	01 06 53.6	+2.5
OTUK				⇑Lg	Lg	01 08 28.8	
KURK	Kurchatov 2.7nm,0.8s	9.27	11	⇑Lg	Lg	01 09 41.7	

MAN 15 01:14:18, 13°53N×120°78E, h7km, mb3.9, ML2.7, MS2.3, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.17	99	⇓iP	Pg	01 14 18.1	-3.4
LUBP	Lubang	0.56	291	eP	Pb	01 14 30.0	-0.2
LUBP				eS	Sb	01 14 39.1	+0.8
SJMP	San Jose	1.11	163	eP	Pn	01 14 39.9	-0.1
SJMP				eS	Sn	01 14 56.6	+1.1
OTRP	Odiongan	1.68	134	eP	Pn	01 14 48.3	+0.6

WEL 15 01:25:49.7±0.4, 35°25S×178°69E, h196km±7km, ML3.7/7, 1C, Error ellipse: s-maj=14.3km s-min=5.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.33	188	ePN	Pn	01 26 31.8	+0.4
MXZ				eSN	Sn	01 27 03.3	-0.8
HAZ	Te Kaha	2.61	196	⇑PN	Pn	01 26 35.0	+0.5
HAZ				SN	Sn	01 27 09.7	+0.1
PUZ	Puketiti	2.84	187	PN	Pn	01 26 37.2	-0.1
PUZ				SN	Sn	01 27 14.4	-0.2
MWZ	Matawai	3.22	196	PN	Pn	01 26 42.4	+0.6
URZ	Urewera	3.26	202	PN	Pn	01 26 41.7	-0.5
URZ				eSN	Sn	01 27 23.9	+0.4
RIGZ	Rimuhau	3.53	192	PN	Pn	01 26 45.7	+0.2
KNZ	Kokohu	3.85	192	ePN	Pn	01 26 48.8	-0.6
NMHZ	Naumai	4.13	201	PN	Pn	01 26 53.0	0.0
BKZ	Black Stump Fm	4.29	204	PN	Pn	01 26 54.6	-0.4
KRHZ	Kereru	4.76	202	ePN	Pn	01 26 59.3	-1.7
KAHZ	Kahuranaki	4.76	197	ePN	Pn	01 26 59.9	-1.1
TSZ	Takapari Road	5.27	203	PN	Pn	01 27 04.6	-2.9
TSZ				eSN	Sn	01 28 06.2	-2.7
BFZ	Birch Farm	5.76	199	ePN	Pn	01 27 10.9	-2.8
MRZ	Mangatainoka R	5.94	204	PN	Pn	01 27 13.1	-3.0
MRZ				eSN	Sn	01 28 19.0	-5.3
HOWZ	Holdsworth Sta	6.17	203	ePN	Pn	01 27 15.6	-3.5
OGWZ	Otaki Gorge	6.21	205	PN	Pn	01 27 16.5	-3.1
KIW	Kapiti Island	6.35	207	PN	Pn	01 27 18.0	-3.4
THZ	Tophouse	7.93	213	ePN	Pn	01 27 38.8	-3.2
MQZ	McQueen's Vall	9.65	207	eSN	Sn	01 29 42.6	-9.4

NNC 15 01:25:44.1±6.5, 36°51N×70°09E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=62.3km s-min=54.5km az=68.0
ISC 15 01:25:50.9±3.9, 36°6N±0°2×70°8E±0°2, h204km, n11, σ1§15/12, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu SNR=39	5.96	21	P	Pn	01 27 17.0	-1.0
UCH	Uchtor SNR=5.1	6.32	26	P	Pn	01 27 21.8	-0.8
KZA	Kyzart SNR=6.7	6.47	31	P	Pn	01 27 23.4	-1.3
EKS2	Erkin-Say SNR=11	6.48	20	P	Pn	01 27 24.4	0.0
KK31	Karatay Array 4.4nm,0.4s,baz=187,slow=13,SNR=90	6.50	358	⇓Pn	Pn	01 27 23.7	-0.8
KK31	1.5nm,0.3s			⇓Sn	S	01 28 40.0	+1.3
AAK	Ala-Archa 8.5nm,0.4s	6.67	24	⇑Pn	Pn	01 27 26.5	-0.4
AAK	Ala-Archa SNR=14	6.67	24	P	Pn	01 27 26.5	-0.4
KBK	Karagaybulak SNR=8.5	6.84	27	P	Pn	01 27 29.5	+0.3
CHMS	Chumysh SNR=8.8	7.08	24	P	Pn	01 27 32.1	-0.1
AB31	Akbulak array 0.8nm,0.3s,baz=157,slow=12,SNR=56	14.91	331	⇑Pn	P	01 29 13.8	+1.4
AB31	0.3nm,0.4s,baz=152,slow=23,SNR=2.5			⇑Sn	S	01 31 54.9	-1.9
AKTO	Aktyubinsk 3.5nm,0.9s	16.60	330	⇑Pn	Pn	01 29 37.3	+5.2

CASC 15 01:45:32.9±1.8, 12°31N×87°71W, h38km±999km, MD3.8, ML3.5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.97	353	eP	Pn	01 45 50.6	+0.4
CNCH				eS	Sn	01 46 03.8	+0.9
COPN	Copaltepe	1.10	96	eP	Pn	01 45 52.0	+0.2
COPN				eS	Sn	01 46 06.3	+0.6
VSM	San Miguel	1.24	334	eP	Pn	01 45 54.3	+0.2
VSM				eS	Sn	01 46 10.7	+0.8
LFRS	El Faro	1.86	315	eP	Pn	01 46 02.4	0.0
LFRS				eS	Sn	01 46 25.7	+1.0
LBRS	Las Brisas	1.93	318	eP	Pn	01 46 03.6	+0.3
LBRS				eS	Sn	01 46 27.2	+0.8
LFU	La Fuente	1.98	317	eP	Pn	01 46 03.9	-0.1
LFU				eS	Sn	01 46 27.9	+0.2
SNET	Serv Nac Est T comp=Z,490nm,0.2s	2.02	313	AML	AML	01 46 33.2	
BOQS	Boqueron	2.09	313	eP	Pn	01 46 06.2	+0.6
BOQS				eS	Sn	01 46 31.3	+0.7
JCR	Jicaral	3.53	133	eP	Pn	01 46 26.3	+1.0
JCR				eS	Sn	01 47 05.0	-0.9
CGA2	Cerro Gallo 2	3.91	125	eP	Pn	01 46 33.1	+2.4
CGA2				eS	Sn	01 47 16.5	+1.0
BUS	Buena Vista	4.75	125	eP	Pn	01 46 45.4	+2.9

TAP 15 01:52:51.6, 21°17N×121°22E, h62km±2km, ML3.4, 1C, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	Hengchuen, Pin baz=328	0.78	338	eP	Pn	01 53 07.8	+0.9
TSEB	baz=328			S	Sn	01 53 19.9	+1.7
TWK1	Hengchun baz=334	0.86	333	⇑iP	Pn	01 53 08.3	+0.5
TWK1				iS	Sn	01 53 20.3	+0.4

baz=334
LAY Lan-yu 0.92 20 i P Pn 01 53 08.7 0.0
baz=20
LAY i S Sn 01 53 21.8 +0.6
baz=20
HEN Hengchun 0.94 332 eP Pn 01 53 09.9 +1.0
baz=325
HEN S Sn 01 53 23.2 +1.5
baz=325
EAST Anshuo 1.25 344 eP Pn 01 53 13.5 +0.4
baz=355
EAST S Sn 01 53 30.5 +1.4
baz=355
SCZT Fangliau 1.32 335 P Pn 01 53 14.2 +0.3
baz=327
SCZT eS Sn 01 53 30.5 0.0
baz=327
ECL Taimali 1.44 350 eP Pn 01 53 16.4 +0.9
baz=358
TWG Pinlang 1.65 355 eP Pn 01 53 19.4 +1.2
baz=356
TWG eS Sn 01 53 39.5 +1.0
baz=356
SSD Sandimen 1.66 341 eP Pn 01 53 19.6 +1.2
baz=348
TWM1 Shoushan 1.80 336 eP Pn 01 53 22.4 +2.0
baz=336
CHKT Chengkung 1.92 4 eP Pn 01 53 24.2 +2.3
baz=355
SGST Jiashian 1.99 343 eP Pn 01 53 26.3 +3.3
baz=332
CHN1 Nanshi 2.10 342 eP Pn 01 53 26.9 +2.4
baz=355
WTP Ta-pu 2.14 345 eP Pn 01 53 27.9 +2.9
baz=345
ALS Alishan 2.36 351 eP Pn 01 53 31.3 +3.0
baz=351
ALS eS Sn 01 53 59.9 +3.5
baz=351
CHN5 Tsauling 2.46 348 eP Pn 01 53 31.6 +2.1
baz=348
SMLT Sun Moon Lake 2.71 354 eP Pn 01 53 34.2 +1.2
baz=354

KRSC 15 02:10:17.2±1.5,49.39N×156.86E,h45km±17km,ML3.7, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PAU Pauzhetka 2.08 359 P Pn 02 10 51.9 +2.4
PAU S Sn 02 11 16.8 +2.7
MIPR Malaya Ipel'ka 2.89 359 P Pn 02 11 02.8 +2.1
ASAK Asacha 3.06 12 P Pn 02 11 07.2 +4.0
MTVR Mutnovka 3.21 15 P Pn 02 11 09.0 +3.8
MTVR S Sn 02 11 46.7 +4.4
RUS Russkaya 3.22 18 P Pn 02 11 08.9 +3.7
RUS S Sn 02 11 46.0 +3.8
UGLR Uglovaya 4.01 17 P Pn 02 11 20.8 +4.5
AVH Avacha 4.05 16 P Pn 02 11 21.0 +4.3
KOK Koryaka 4.06 15 P Pn 02 11 21.1 +4.2
SMAR Somma 4.06 17 P Pn 02 11 20.7 +3.7
KRER Koryakskii 4.09 16 P Pn 02 11 21.9 +4.5
SDLR Sedlovina 4.09 17 P Pn 02 11 21.2 +3.9
KRX Arik 4.13 15 P Pn 02 11 22.3 +4.5
GNL Ganaly 4.36 9 P Pn 02 11 24.3 +3.3
MKZ Mys Kozlova 5.98 28 P Pn 02 11 46.7 +3.7
KBTR Krutoberegovo 7.72 26 P Pn 02 12 10.4 +3.5

JMA 15 02:16:58.0±0.1,22.56N×121.95E,h18km,M4.2
TAP 15 02:16:59.5,22.49N×121.90E,h35km,ML4.0,C
ISC 15 02:16:57.4±1.3,22.49N±0.03×121.96E±0.03,h15km±10km, n67,σ1.04/124,15C-2D,Taiwan region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LAY Lan-yu 0.59 220⇓iP Pb 02 17 09.8 +0.5
baz=214
LAY eS Sb 02 17 18.1 +0.6
baz=214
TTN Taitung 0.79 289 P Pg 02 17 13.1 +0.3
baz=298
TTN i S Sg 02 17 23.4 +0.1
baz=298
CHKT Chengkung 0.81 318⇑iP Pb 02 17 13.2 0.0
baz=329
CHKT i S Sb 02 17 22.8 -1.3
baz=329
TWG Pinlang 0.88 292⇑iP Pb 02 17 14.2 -0.2
baz=300
TWG S Sb 02 17 25.2 -0.8
baz=300
ECL Taimali 0.93 277⇑iP Pb 02 17 15.2 -0.1
baz=278
ECL eS Sb 02 17 26.6 -0.9
baz=278
TAW Tawu 0.99 262 eP Pb 02 17 16.3 +0.1
baz=262
TAW eS Sb 02 17 28.1 -0.9
baz=262
EAST Anshuo 1.03 264⇑iP Pb 02 17 16.9 -0.1
baz=255
EAST eS Sb 02 17 29.0 -1.3
baz=255
TWF1 Yuli 1.05 325⇑iP Pb 02 17 17.0 -0.3
baz=328
TWF1 eS Sb 02 17 30.0 -0.8
baz=328
ELDTW Lidau 1.11 309⇑iP Pb 02 17 17.6 -0.7
baz=312
ELDTW eS Sb 02 17 30.5 -2.1
baz=312
TSEB Hengchuen, Pin 1.14 239 eP Pb 02 17 19.0 +0.2
baz=247
TSEB eS Sn 02 17 33.6 -0.6
baz=247
EHY Hungye 1.17 330 P Pn 02 17 18.8 -0.3
baz=333
EHY eS Sb 02 17 32.5 -1.7
baz=333
TWK1 Hengchun 1.20 243 ⇓P Pb 02 17 19.4 -0.2
baz=242
TWK1 eS Sb 02 17 33.3 -1.8
baz=242
HEN Hengchun 1.23 247 eP Pb 02 17 20.3 0.0
baz=239
HEN eS Sb 02 17 34.0 -2.0
baz=239
SCZT Fangliau 1.24 265 P Pb 02 17 20.6 +0.1
baz=254
SCZT eS Sg 02 17 36.8 -0.8
baz=254
SSD Sandimen 1.25 282⇑iP Pn 02 17 20.0 -0.3
baz=283
SSD eS Sb 02 17 35.2 -1.4
baz=283
YUS Yu-Shan 1.36 317⇑iP Pn 02 17 22.4 +0.2
baz=320
YUS eS Sn 02 17 38.6 -1.6
baz=320
SGLT Jiouru 1.38 280 eP Pg 02 17 23.6 -0.3
baz=285
SGST Jiashian 1.40 295 ⇑P Pb 02 17 23.4 +0.2
baz=299
SGST eS Sb 02 17 40.3 -0.6
baz=299
ESL Shilin 1.40 340 eP Pn 02 17 22.3 -0.1
baz=350
ESL eS Sn 02 17 38.9 -1.7
baz=350
WTP Ta-pu 1.45 301⇑iP Pb 02 17 24.3 +0.2
baz=304
WTP eS Sb 02 17 42.6 +0.2
baz=304
TWM1 Shoushan 1.46 283 eP Pg 02 17 25.1 -0.4
baz=285
TWM1 eS Sb 02 17 42.8 +0.3
baz=285
ALS Alishan 1.47 314 ⇑P Pb 02 17 24.4 -0.1
baz=322
ALS eS Sb 02 17 42.9 -0.3
baz=322
TWP Hsiaoliuchiu 1.48 265 eP Pg 02 17 26.7 +0.7
baz=252
TWP eS Sg 02 17 45.0 -0.3
baz=252
CHN1 Nanshi 1.49 298⇑iP Pb 02 17 25.4 +0.6
baz=306
CHN1 S Sb 02 17 43.9 +0.4
baz=306
HWA Hwalien 1.51 348 eP Pn 02 17 24.3 +0.4
baz=1.0
HWA eS Sn 02 17 42.2 -1.1
baz=1.0
CHN4 Tsaushan 1.52 304⇑iP Pb 02 17 25.6 +0.3
baz=313
CHN4 S Sb 02 17 44.7 +0.3
baz=313
TWK Hsinying 1.56 300 ⇑P Pb 02 17 26.3 +0.3
baz=310
TWK eS Sb 02 17 45.8 +0.3
baz=310
CHN3 Shinhua 1.58 292 eP Pg 02 17 28.5 +0.6
baz=293
CHN5 Tsauling 1.61 313⇑iP Pb 02 17 27.2 +0.3
baz=315
CHN5 S Sb 02 17 47.6 +0.5
baz=315
TWD Chiawan 1.61 348 eP Pn 02 17 25.2 -0.2
baz=1.0
TWD eS Sn 02 17 44.5 -1.4
baz=1.0
TAI1 Yung-k'ang 1.69 289 eP Pb 02 17 28.2 +0.1
baz=290
SMLT Sun Moon Lake 1.69 325 eP Pb 02 17 27.5 -0.8
baz=333
SMLT eS Sn 02 17 48.3 +0.3
baz=333
CHN2 Minshiung 1.71 307 eP Pb 02 17 28.6 +0.1
baz=309
CHN2 eS Sb 02 17 50.7 +0.8
baz=309
CHY Chiayi 1.73 306 eP Pb 02 17 29.1 +0.2
baz=308
CHY eS Sb 02 17 51.2 +0.7
baz=308
TYC Yuchr 1.73 324 eP Pb 02 17 28.5 -0.4
baz=333
TYC eS Sb 02 17 49.9 -0.5
baz=333
WGK Gukeng 1.75 313 eP Pb 02 17 29.0 -0.2
baz=315
WGK eS Sb 02 17 51.4 +0.4
baz=315
SCLT Jiali 1.76 293 eP Pb 02 17 29.1 -0.3
baz=294
WHF Hehuan Shan 1.76 339 P Pn 02 17 28.4 +0.6
baz=353
WHF eS Sn 02 17 48.3 -1.8
baz=353
WNT Mingjian 1.81 320 eP Pb 02 17 30.5 +0.3
baz=323
WNT eS Sb 02 17 52.9 +0.2
baz=323
CHN8 Yiju 1.82 298 eP Pb 02 17 30.1 -0.3
baz=300
TWT Tachien 1.89 338 eP Pb 02 17 30.9 -0.8
baz=350
TWT eS Sn 02 17 52.0 -1.1
baz=350
NNS Nan Shan 2.01 345 eP Pn 02 17 31.7 +0.8
baz=347
NNS eS Sn 02 17 55.6 -0.2
baz=347
TCU Taichung 2.02 325 eP Pb 02 17 33.9 0.0
baz=315
TCU eS Sb 02 17 58.8 -0.2
baz=315
TWC Suao 2.11 357 P Pn 02 17 33.5 +1.4
TWC eS Sn 02 17 58.2 +0.1
TWQ1 Liyutan 2.14 330 eP Pb 02 17 35.2 -0.8
baz=343
TWQ1 eS Sb 02 18 01.4 -1.0
baz=343
JYNG Yonagunijimaku 2.15 25 P Pn 02 17 32.7 0.0
ENTT Nioudou 2.17 351 eP Pn 02 17 34.9 +1.9
baz=3.0
ENTT eS Sn 02 17 59.6 0.0
baz=3.0
YOJ Yonaguni jima 2.19 26 P Pn 02 17 34.7 +1.5
NSY Sanyi 2.21 330 eP Pb 02 17 36.8 -0.2
baz=343
NSY eS Sb 02 18 02.6 -1.6
baz=343
NSK Sanguang 2.24 346 eP Pn 02 17 35.5 +1.5
baz=360
NSK eS Sn 02 18 00.4 -1.0
baz=360
WDGT Dungji 2.25 290 eP Pn 02 17 35.1 +1.0
baz=292
WDGT eS Sn 02 18 00.4 -1.2
baz=292
NSTT Nanjuang 2.30 338 eP Pn 02 17 36.5 +1.8
baz=348
NSTT eS Sn 02 18 04.3 +1.4
baz=348
HATJ Hateruma jima 2.30 47 P Pn 02 17 36.2 +1.4
HATJ eS Sn 02 18 02.5 -0.4
IRIF Iriomote-Funau 2.45 41 P Pn 02 17 37.0 +0.2
IRIF eS Sn 02 18 06.7 +0.2
PNG Penghu 2.46 296 eP Pn 02 17 38.1 +1.2
baz=298
HSN Hsinchu 2.47 339 eP Pn 02 17 39.2 +2.1
baz=342
HSN eS Sn 02 18 09.1 +2.1
baz=342
TWA Mucha 2.50 352 eP Pn 02 17 39.9 +2.4
baz=355
TWA eS Sn 02 18 09.8 +2.0
baz=355
TWB1 Santiao Chiao 2.50 1 P Pn 02 17 39.4 +1.9
baz=14
TWB1 eS Sn 02 18 08.2 +0.3
baz=14
JKRS Kuro-shima 2.56 47 P Pn 02 17 40.1 +1.7
JKRS eS Sn 02 18 08.7 -0.6
NCU National Centr 2.56 344 eP Pn 02 17 40.5 +2.1
baz=356
NCU eS Sn 02 18 11.6 +2.2
baz=356
NWF Wu-fen Shan 2.57 356 eP Pb 02 17 41.4 -1.8
baz=359
NWF eS Sn 02 18 10.9 +1.3
baz=359
TWS1 Kuangyinshan 2.64 349 eP Pb 02 17 42.4 -2.0
baz=1.0
TWS1 eS Sn 02 18 13.1 +1.9
baz=1.0
JIJ Ishigaki jima 2.74 47 P Pn 02 17 41.8 +1.0
JIJ eS Sn 02 18 12.4 -1.2
JISG Ishigakijimahi 3.00 46 P Pn 02 17 45.3 +0.9
JISG eS Sn 02 18 19.5 -0.6
JTJ Tarama 3.30 49 P Pn 02 17 50.0 +1.5
JTJ eS Sn 02 18 27.1 -0.4
JIRB Irabujima 3.75 51 eS Sn 02 18 38.0 -0.7
KNM Kinmen 3.76 301 eP Pn 02 17 56.7 +1.9
baz=303

OTT 15 02:19:48.0±0.6,75.18N×74.88W,h18km,ML3.5/7,Baffin Bay Seismic Zone. 205km southeast from Craig Harbour, Nu
ISC 15 02:19:43.3±0.8,75.15N±0.07×74.51W±0.06,h10km,n16, σ2.33/16,Baffin Bay

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KULLO Kullorsuaq 4.56 89 i P Pn 02 20 56.7 +4.5
KULLO i S Sn 02 21 43.9 -1.3
RES Resolute Bay 5.33 275 PN Pn 02 21 05.6 +2.8
RES SN Sn 02 22 00.7 -3.4
RES Trac 02 22 04.3
comp=Z,14nm,0.1s
EUNU Eureka 5.54 338 PN Pn 02 21 07.9 +2.2
EUNU SN Sn 02 22 06.4 -2.9
EUNU Trac 02 22 12.6
comp=Z,7.0nm,0.3s
ILON Igloolik, Nuna 6.22 205 PN Pn 02 21 18.9 +3.9
ILON SN Sn 02 22 24.3 -1.7
ILON Trac 02 22 28.5
comp=Z,8.0nm,0.2s
ILULI Ilulissat 9.25 118 i P Pn 02 21 54.1 -2.4
QILN Qililugaq Expl 9.35 210 PN Pn 02 21 59.6 +1.7
QILN SN Sn 02 23 36.6 -6.4
QILN Trac 02 23 42.0
comp=Z,2.7nm,0.3s
STLN Stellar Camp, 9.80 226 PN Pn 02 22 05.2 +1.1
STLN SN Sn 02 23 46.5 -7.6
STLN Trac 02 23 51.3
comp=Z,2.4nm,0.1s
SUMG Summit 10.23 87 i P Pn 02 22 12.4 +2.1
SUMG eS Sn 02 23 58.5 -6.6
WAGN Wager Bay 10.51 215 SN Sn 02 24 04.8 -6.5
BULN Bullion Camp, 10.64 224 PN Pn 02 22 17.2 +1.6
BULN SN Sn 02 24 07.8 -6.8
BULN Trac 02 24 15.5
comp=Z,1.2nm,0.2s
NUNN Nunuq Camp, NU 11.38 218 PN Pn 02 22 27.6 +1.9
NUNN SN Sn 02 24 22.0 -11
FRB Frobisher Bay 11.64 167 PN Pn 02 22 31.6 +2.4
FRB SN Sn 02 24 33.0 -6.0
FRB Trac 02 24 39.8
comp=Z,0.9nm,0.1s
DAG Danmarks Havn 13.21 57 i P Pn 02 22 50.0 -0.5
DAG i S Sn 02 25 07.0 -10
AKVQ Akulivik 14.47 187 PN Pn 02 23 05.2 -2.6
AKVQ SN Sn 02 25 37.5 -11
INUQ Inukjuak 16.83 187 SN Sn 02 26 32.6 -13
YKW3 Yellowknife Ar 18.63 249 PN P 02 24 00.7 +0.2
YKW3 SN Sn 02 27 13.3 -15

ISCJB 15 02:54:40.9±0.2,22.68S±0.04×66.12W±0.06,h222km, mb4.6/47,Error ellipse: s-maj=7.4km s-min=4.7km az=159.4
IDC 15 02:54:41.7±1.1,22.78S×66.20W,h224km±10km,mb4.1/10, mb1 4.2/16,mb1mx4.1/29,mbtmp4.7/16,Error ellipse: s-maj=11.9km s-min=10.5km az=79.0
NEIC 15 02:54:42.5±0.5,22.73S×66.14W,h232km±5km,mb4.7/39, Error ellipse: s-maj=7.4km s-min=5.6km az=76.0
SJA 15 02:54:43.1±0.5,22.66S×66.21W,h247km±23km,ML3.7
ISC 15 02:54:42.3±0.5,22.70S±0.05×66.17W±0.07,h222km, n413,σ0.86/399,mb4.7/47,166C-172D,Jujuy Province

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AZAP Zapla 1.83 146 eP Pn 02 55 24.8 +3.6
ASTB Santa Barbara 1.99 129 eP Pn 02 55 26.4 +3.8
SLA San Lorenzo 2.10 163 eP Pn 02 55 27.6 +3.9
LVC Limon Verde 2.53 271 ePn Pn 02 55 30.9 +2.6
LVC eS S 02 56 07.4 +3.5
LVC Limon Verde 2.53 271 eP Pn 02 55 30.9 +2.6
LVC eP Pn 02 55 30.9 +2.6
CYA Choya 5.73 177 eP Pn 02 56 08.9 +2.4
CYA AML AML 02 57 09.2
comp=Z,21nm,0.2s
CYA eS S 02 57 12.0 -1.3
LPAZ La Paz 6.64 344 P Pn 02 56 21.1 +2.3
comp=Z,27nm,0.3s,baz=152,slow=6.3,SNR=448
LPAZ S S 02 57 33.2 -2.1
baz=288,slow=20,SNR=1.1
LPAZ La Paz 6.64 344 ePn Pn 02 56 20.6 +1.9
comp=Z,86nm,0.4s
LPAZ S S 02 57 33.2 -2.1
LPAZ eS S 02 57 38.8 +3.0
LCO Las Campanas 7.49 212 ePn Pn 02 56 28.1 -1.1
comp=Z,21nm,0.4s
LCO eS S 02 57 42.5 -12
ARE Arequipa 7.97 320⇑iP Pn 02 56 34.6 -1.0
ARE eS S 02 57 59.0 -7.2
SIV San Ignacio 8.23 37 P Pn 02 56 39.4 +0.8
comp=Z,6.6nm,0.3s,baz=229,slow=11,SNR=114
SIV S S 02 57 55.9 -16
baz=115,slow=19,SNR=1.5
CPUP Villa Florida 8.83 116 P Pn 02 56 46.5 +0.3
comp=Z,0.5nm,0.3s,baz=91,slow=2.6,SNR=3.2
CFAA Coronel Fontan 9.06 191 P Pn 02 56 48.3 -0.9
comp=Z,1.7nm,0.3s,baz=4.5,slow=9.3,SNR=241
CFAA S S 02 58 23.6 -7.6
comp=Z,2.8nm,0.3s,baz=128,slow=18,SNR=17
SAML Samuel 13.97 12 ePn Pn 02 57 51.5 +0.3
comp=Z,21nm,0.7s
SAML eS S 03 00 27.4 +1.5
NNA Nana 14.73 315 P Pn 02 58 01.8 +1.3
comp=Z,3.8nm,0.3s,baz=157,slow=12,SNR=19
NNA S S 03 00 39.5 -4.1
comp=Z,1.9nm,0.3s,baz=204,slow=20,SNR=3.8
NNA Nana 14.73 315 eP Pn 02 58 01.0 +0.5
comp=Z,46nm,0.7s
NNA S S 03 00 39.5 -4.1
TRQA Tornquist 15.73 168 eP P 02 58 10.4 -1.4
comp=Z,24nm,0.9s
BB16B Bebedouro 16.41 88⇓iP P 02 58 20.1 +0.6
BB16B i 02 58 22.3
BB16B i 02 58 24.3
BB16B i 02 58 28.8
BB16B i 03 01 31.8
BB16B i 03 01 36.0
BB16B i 03 01 40.2
BB16B i 03 01 43.2
PLCA Paso Flores 18.36 191 P P 02 58 40.5 -0.1
comp=Z,0.3nm,0.3s,baz=29,slow=11,SNR=14
BDFB Brasilia 18.52 71 P P 02 58 42.7 0.0
comp=Z,2.2nm,0.3s,baz=248,slow=12,SNR=42
ATAH Atahualpa 19.44 321 P P 02 58 55.3 +2.5
comp=Z,0.9nm,0.3s,baz=134,slow=6.3,SNR=8.7
OTAV Otavalo 25.74 331 eP P 02 59 54.4 +1.2
comp=Z,12nm,0.9s
ROSC El Rosal 28.52 343 P P 03 00 24.0 +6.1
comp=Z,7.5nm,0.6s,baz=100,slow=9.4,SNR=5.3
ROSC El Rosal 28.52 343 eP P 03 00 17.4 -0.5
SDV Santo Domingo 31.69 352 eP P 03 00 43.6 -1.9
comp=Z,20nm,0.8s
PCRV Puerto La Cruz 32.70 3 P P 03 00 54.1 -0.1
comp=Z,16nm,0.6s,baz=189,slow=4.0,SNR=8.3
RCBR Riachuelo 33.68 65 P P 03 01 02.3 -0.4
comp=Z,14nm,0.5s,baz=239,slow=9.7,SNR=30
RCBR Riachuelo 33.68 65 eP P 03 01 02.0 -0.7
comp=Z,12nm,0.5s
FDF Fort de France 37.52 8 eP P 03 01 33.7 -1.5
comp=Z,110nm,1.0s
JTS JuntasAbangare 37.60 329 eP P 03 01 36.2 +0.3
comp=Z,4.3nm,0.6s
RPN Rapa Nui 39.25 254 P P 03 01 47.5 -2.1
comp=Z,1μm,0.5s,baz=226,slow=2.4,SNR=2.9
CELP Cerrillos 40.52 359 eP P 03 01 58.1 -2.0
SJG San Juan 40.56 0 P P 03 01 58.1 -2.2
comp=Z,16nm,0.7s,baz=202,slow=5.4,SNR=5.6
TEIG Tepich 47.81 332 eP P 03 02 56.8 -0.9
comp=Z,20nm,1.1s
BRAL Brewton 57.04 339 eP P 03 04 04.5 -0.7
comp=Z,29nm,0.6s
GOGA Godfrey 58.18 343 eP P 03 04 12.0 -1.1
comp=Z,5.6nm,0.5s
LRAL Lakeview Retre 58.88 340 eP P 03 04 16.4 -1.5
comp=Z,18nm,0.5s
KMSC Kings Mountain 59.29 346 ⇑P P 03 04 20.8 0.0
baz=60
933A Laredo 59.36 326 ⇑P P 03 04 22.0 +0.6
baz=60
636A Smothers Creek 59.79 329 ⇓P P 03 04 24.8 +0.6
baz=60
833A Chaparral WMA, 60.00 326 ⇑P P 03 04 26.3 +0.6
baz=60,SNR=9.5
734A La Parita Cree 60.00 327 ⇓P P 03 04 26.2 +0.5
baz=60
733A Divot King Ran 60.27 326 ⇑P P 03 04 27.8 +0.3
baz=61
832A Faith Ranch, C 60.27 326 ⇓P P 03 04 27.6 0.0
baz=61
536A Bastrop 60.29 329 ⇑P P 03 04 27.3 -0.4
baz=61
535A Dale 60.49 329 ⇑P P 03 04 28.7 -0.3
baz=61
SWET Sewanee 60.57 341 eP P 03 04 28.4 -1.1
comp=Z,52nm,0.9s
732A Laxson Ranch, 60.62 326 ⇓P P 03 04 30.1 +0.2
baz=61
633A Saathoff Ranch 60.81 327 ⇑P P 03 04 30.9 -0.3
baz=61
534A Blanco 60.93 328 ⇑P P 03 04 31.2 -0.8
baz=61
632A Uvalde 61.16 327 ⇓P P 03 04 33.7 +0.1
baz=62,SNR=6.1
533A Kerrville 61.24 328 ⇑P P 03 04 34.0 -0.1
baz=62
335A Moody 61.47 330 ⇓P P 03 04 34.8 -0.8

	baz=62						
434A	Burnet baz=62	61.48	329	⇑P	P	03 04 35.4	-0.3
631A	Perdido Creek baz=62,SNR=5.8	61.49	326	⇓P	P	03 04 35.4	-0.4
433A	Art baz=62	61.83	328	⇑P	P	03 04 37.9	-0.1
334A	Lometa baz=62	61.89	329	⇓P	P	03 04 38.4	0.0
JCT	Junction City comp=Z,7.2nm,0.8s	61.95	327	eP	P	03 04 38.4	-0.5
JCT	Junction City baz=62	61.95	327	⇓P	P	03 04 39.0	+0.1
WHTX	Lake Whitney baz=62	62.07	330	⇑P	P	03 04 39.4	-0.1
531A	Rocksprings baz=62,SNR=8.9	62.08	326	⇓P	P	03 04 39.6	-0.1
333A	Richland Sprin baz=62,SNR=8.6	62.24	328	⇓P	P	03 04 40.2	-0.6
432A	Menard baz=63,SNR=8.7	62.27	327	⇑P	P	03 04 40.7	-0.3
234A	Clairette baz=63,SNR=14	62.40	330	⇓P	P	03 04 41.6	-0.2
530A	J-C Ranch, Com baz=63,SNR=8.1	62.47	326	⇓P	P	03 04 42.2	-0.1
431A	Sonora baz=63,SNR=5.9	62.52	327	⇑P	P	03 04 42.3	-0.4
135A	Vickery Place, baz=63	62.53	330	⇓P	P	03 04 42.3	-0.3
MIAR	Mount Ida comp=Z,15nm,1.1s	62.60	335	eP	P	03 04 42.1	-0.9
332A	Millersview baz=63,SNR=10	62.66	328	⇓P	P	03 04 43.1	-0.4
233A	Rising Star baz=63,SNR=7.6	62.77	329	⇓P	P	03 04 43.9	-0.4
134A	White-Moore Ra baz=63	62.85	330	⇑P	P	03 04 44.2	-0.5
529A	Stev Forest Ra baz=63,SNR=6.0	62.91	325	⇑P	P	03 04 45.7	+0.5
430A	Baggett Ranch, baz=63,SNR=13	62.93	326	⇓P	P	03 04 44.9	-0.4
331A	San Angelo baz=63,SNR=9.2	62.94	327	⇑P	P	03 04 44.8	-0.6
232A	Coleman baz=63,SNR=12	63.03	328	⇑P	P	03 04 45.3	-0.6
TXAR	Lajitas Array comp=Z,1.8nm,0.7s,baz=142,slow=6.2,SNR=5.4	63.08	323	P	P	03 04 46.1	-0.2
PARMO	Parma	63.10	339	eP	P	03 04 45.5	-0.7
Z35A	Perchaven, San baz=63	63.11	331	⇑P	P	03 04 46.3	0.0
429A	Davenport Ranc baz=63,SNR=9.3	63.14	326	⇓P	P	03 04 46.7	0.0
133A	Hamilton Ranch baz=64,SNR=8.6	63.27	329	⇑P	P	03 04 47.2	-0.3
231A	Bronte baz=64	63.39	328	⇑P	P	03 04 47.9	-0.5
330A	Mertzon baz=64	63.39	327	⇓P	P	03 04 48.1	-0.2
Z34A	Collier Ranch, baz=64,SNR=10	63.44	331	⇑P	P	03 04 48.6	0.0
WCI	Wyandotte Cave comp=Z,16nm,0.6s	63.48	342	eP	P	03 04 47.0	-1.8
ABTX	Abilene, Hawle baz=64	63.63	329	⇓P	P	03 04 49.4	-0.5
230A	Sterling City baz=64	63.75	327	⇑P	P	03 04 51.0	+0.4
Z33A	Whitaker Ranch baz=64,SNR=18	63.76	330	⇑P	P	03 04 50.6	0.0
Y34A	Reagan Ranch, baz=64,SNR=8.0	63.86	331	⇓P	P	03 04 51.0	-0.3
329A	Wagon Wheel Ra baz=64,SNR=9.3	63.87	326	⇓P	P	03 04 51.1	-0.4
131A	Roby baz=64	64.03	328	⇑P	P	03 04 52.2	-0.3
Z32A	Haskell baz=64,SNR=6.1	64.11	329	⇓P	P	03 04 52.5	-0.5
130A	Snyder baz=65	64.25	328	⇑P	P	03 04 53.6	-0.3
Y33A	Hilltop Ranch, baz=65	64.30	330	⇑P	P	03 04 53.7	-0.4
X34A	Smith Ranch, M baz=65	64.44	331	⇑P	P	03 04 54.5	-0.6
Z31A	Sharp Cattle R baz=65,SNR=12	64.44	329	⇓P	P	03 04 54.6	-0.5
ACSO	Alum Creek Sta comp=Z,24nm,0.8s	64.54	346	eP	P	03 04 54.5	-1.0
Y32A	R-V Farms, Ver baz=65,SNR=8.5	64.67	330	⇓P	P	03 04 56.0	-0.5
TUL1	Tulsa comp=Z,12nm,0.8s	64.68	334	eP	P	03 04 55.2	-1.3
TUL1	Tulsa baz=65	64.68	334	⇑P	P	03 04 56.0	-0.6
X33A	Lawton baz=65	64.68	331	⇓P	P	03 04 56.2	-0.4
228A	UT Block 9, Go baz=65,SNR=5.1	64.69	326	⇓P	P	03 04 56.3	-0.5
129A	Stewart Farms, baz=65,SNR=9.5	64.72	327	⇓P	P	03 04 56.5	-0.5
Z30A	Sanderson Ranc baz=65,SNR=6.3	64.89	328	⇑P	P	03 04 58.0	0.0
X32A	Elmer baz=65	64.94	330	⇑P	P	03 04 58.0	-0.3
W34A	Bridge Creek, baz=65	64.94	332	⇓P	P	03 04 58.4	+0.1
227A	Bennet, Jal baz=65	64.97	326	⇑P	P	03 04 58.8	+0.2
Y31A	Rekieta Farm, baz=65,SNR=7.3	65.02	329	⇑P	P	03 04 58.6	-0.2
128A	Castleberry Fa baz=65,SNR=8.2	65.03	327	⇑P	P	03 04 58.4	-0.7
Z29A	Hungry Hill Ra baz=66	65.15	328	⇓P	P	03 04 58.9	-0.9
W33A	Caddo, Fort Co baz=66,SNR=10.0	65.18	331	⇓P	P	03 05 00.1	+0.3
V34A	Guthrie baz=66,SNR=5.4	65.34	332	⇑P	P	03 05 00.4	-0.4
X31A	McDonald Ranch baz=66,SNR=16	65.44	330	⇓P	P	03 05 01.1	-0.4
226B	Tecolote Peak, baz=66,SNR=6.1	65.48	325	⇓P	P	03 05 02.7	+0.8
W32A	Sentinel baz=66,SNR=7.2	65.51	331	⇓P	P	03 05 01.7	-0.2
Z28A	Tucker Farm, M baz=66,SNR=5.7	65.51	327	⇓P	P	03 05 01.4	-0.7
127A	Arkansas Junct baz=66	65.52	326	⇑P	P	03 05 01.8	-0.4
Y29A	Porterfield Fa baz=66,SNR=5.7	65.62	328	⇑P	P	03 05 02.1	-0.6
V33A	Lossen Ranch, baz=66,SNR=8.8	65.66	332	⇑P	P	03 05 02.6	-0.3
X30A	Coker Ranch, T baz=66,SNR=8.0	65.71	329	⇑P	P	03 05 02.7	-0.5
SFIN	Scholer Farm comp=Z,29nm,1.0s	65.71	343	eP	P	03 05 01.1	-1.9
SFIN	Scholer Farm baz=66,SNR=8.0	65.71	343	⇑P	P	03 05 01.6	-1.4
ERPA	Erie comp=Z,15nm,0.6s	65.74	349	eP	P	03 05 02.7	-0.6
MNTX	Cornudas Mount comp=Z,4.4nm,0.9s	65.84	324	eP	P	03 05 02.8	-1.4
126A	Clayton Basin, baz=66,SNR=6.1	65.84	325	⇑P	P	03 05 04.6	+0.3
225A	Deer Hill, Car baz=66,SNR=5.5	65.85	324	⇓P	P	03 05 04.2	-0.2
U34A	Anderson Ranch comp=Z,26nm,0.7s	65.86	333	eP	P	03 05 03.4	-0.7
U34A	Anderson Ranch baz=66,SNR=6.1	65.86	333	⇓P	P	03 05 03.8	-0.4
W31A	Holland Ranch, baz=66	65.88	330	⇓P	P	03 05 03.9	-0.4
V32A	Arapaho baz=66	65.91	331	⇓P	P	03 05 04.1	-0.4
Y28A	McKinney Farm, baz=66	65.94	328	⇓P	P	03 05 04.1	-0.7
Z27A	Tatum baz=66,SNR=9.7	65.95	326	⇑P	P	03 05 04.2	-0.8
U33A	Lingo Farm, Me baz=66,SNR=5.4	66.10	332	⇑P	P	03 05 05.0	-0.7
X29A	Tulia baz=66,SNR=5.7	66.10	328	⇑P	P	03 05 05.6	-0.3
125A	Gardner Draw, baz=66,SNR=9.2	66.19	325	⇑P	P	03 05 05.8	-0.6
MSTX	Muleshoe comp=Z,26nm,0.9s	66.25	327	eP	P	03 05 05.9	-0.9
MSTX	Muleshoe baz=67,SNR=9.6	66.25	327	⇓P	P	03 05 06.2	-0.6
Z26A	Caprock baz=67,SNR=10	66.31	326	⇓P	P	03 05 07.0	-0.2
V31A	Spring Creek L baz=67	66.32	331	⇓P	P	03 05 07.2	+0.1
Y27A	Causey baz=67,SNR=12	66.38	327	⇑P	P	03 05 07.0	-0.7
X28A	Dimmitt baz=67	66.40	328	⇓P	P	03 05 07.3	-0.5
U32A	Winter Ranch, baz=67	66.44	331	⇓P	P	03 05 07.8	0.0
AMTX	Amarillo baz=67	66.45	329	⇓P	P	03 05 07.7	-0.3
W29A	Amraillo baz=67	66.62	329	⇓P	P	03 05 08.6	-0.5
Z25A	Roswell baz=67,SNR=12	66.70	325	⇑P	P	03 05 09.1	-0.6
T33A	Patterson Ranc baz=67	66.70	332	⇓P	P	03 05 09.1	-0.4
X27A	F and S Farms, baz=67	66.95	327	⇑P	P	03 05 11.1	-0.1
T32A	Huddler Ranch, baz=67	67.08	332	⇓P	P	03 05 11.9	0.0
Z24A	Sheeppen Canyo baz=67,SNR=13	67.08	325	⇑P	P	03 05 12.0	-0.2
Y25A	Mesa, Roswell baz=68,SNR=5.9	67.19	326	⇑P	P	03 05 12.4	-0.4
X26A	CR and CF Fran baz=68,SNR=6.8	67.23	327	⇑P	P	03 05 13.0	0.0
W27A	Bowe Ranch, En baz=68,SNR=5.5	67.27	328	⇓P	P	03 05 13.2	0.0
U30A	WK&E Inc. Balk baz=68	67.31	330	⇑P	P	03 05 14.7	+1.3
T31A	Randall Ranch, baz=68	67.34	331	⇓P	P	03 05 14.0	+0.5
V28A	Channing baz=68	67.41	329	⇑P	P	03 05 14.8	+0.7
S32A	Newby Ranch, P baz=68	67.52	332	⇓P	P	03 05 14.3	-0.3
R33A	Olander Ranch, baz=68	67.63	333	⇓P	P	03 05 14.9	-0.4
W26A	Owens Ranch, T baz=68	67.63	327	⇑P	P	03 05 15.5	0.0
S31A	Mullinville baz=68	67.69	332	⇑P	P	03 05 15.5	-0.2
KSU1	Kansas State U comp=Z,16nm,0.8s	67.76	335	eP	P	03 05 14.9	-1.1
KSU1	Kansas State U baz=68,SNR=5.4	67.76	335	⇑P	P	03 05 15.5	-0.5
121A	Cookes Peak, D comp=Z,11nm,0.9s	67.80	323	eP	P	03 05 17.7	+1.0
121A	Cookes Peak, D baz=68,SNR=9.0	67.80	323	⇓P	P	03 05 18.1	+1.4
319A	Douglas baz=68	67.80	321	⇓P	P	03 05 17.7	+1.0
Z22A	Elephant Butte baz=68,SNR=26	67.89	324	⇑P	P	03 05 18.5	+1.3
Y23A	Lovelace Mesa, baz=68	67.91	325	⇑P	P	03 05 18.0	+0.6
U28A	Mallet baz=68	67.92	329	⇓P	P	03 05 17.3	+0.1
R32A	Long Quarter, baz=68	68.03	333	⇑P	P	03 05 17.7	-0.1
W25A	X Bar L Ranch, baz=68,SNR=7.6	68.08	327	⇓P	P	03 05 18.0	-0.4
T29A	Hugoton baz=68	68.12	330	⇓P	P	03 05 18.4	0.0
Q33A	Connelly Farm, baz=68	68.16	334	⇑P	P	03 05 18.5	-0.1
V26A	Tequesquite Ra baz=68,SNR=11	68.20	328	⇑P	P	03 05 19.0	0.0
U27A	Thompson Grove baz=68	68.24	329	⇑P	P	03 05 19.4	+0.1
R31A	Burdett baz=69	68.27	332	⇑P	P	03 05 19.4	+0.2
S29A	Ulysses baz=69	68.42	331	⇓P	P	03 05 20.5	+0.2
Q32A	Meitler Ranch, baz=69	68.45	333	⇑P	P	03 05 20.4	0.0
T28A	Walsh baz=69	68.47	330	⇑P	P	03 05 20.5	-0.1
W24A	Lazy 6 Ranch, baz=69	68.56	326	⇑P	P	03 05 21.4	0.0
R30A	Dighton baz=69	68.59	332	⇓P	P	03 05 21.7	+0.4
V25A	Rancho No Teng baz=69,SNR=9.8	68.65	327	⇓P	P	03 05 22.2	+0.3
U26A	Atchley Ranch, baz=69,SNR=10	68.66	328	⇓P	P	03 05 22.3	+0.3
T27A	Campo baz=69	68.70	329	⇓P	P	03 05 22.3	+0.2
S28A	Manter baz=69,SNR=8.6	68.75	330	⇑P	P	03 05 22.7	+0.3
Q31A	Ellis baz=69	68.81	333	⇓P	P	03 05 23.2	+0.6
V24A	Rampart Ranch, baz=69,SNR=7.2	68.89	327	⇓P	P	03 05 24.1	+0.6
W23A	Werner Place, baz=69	68.91	326	⇑P	P	03 05 24.1	+0.6
JFWS	Jewell Farm comp=Z,26nm,0.7s	68.95	341	eP	P	03 05 22.2	-1.2
U25A	Circle Dot Ran baz=69,SNR=8.4	68.99	328	⇓P	P	03 05 24.4	+0.4
P32A	Huiting Farm, baz=69	69.00	334	⇓P	P	03 05 23.8	+0.1
Q30A	Quinter baz=70,SNR=7.2	69.14	332	⇓P	P	03 05 24.8	+0.1
T26A	Comanche Natio baz=70,SNR=11	69.21	329	⇑P	P	03 05 25.7	+0.4
P31A	Stockton baz=70	69.24	333	⇑P	P	03 05 25.4	+0.2
R28A	Tribune baz=70	69.32	331	⇓P	P	03 05 25.8	0.0
V23A	Ortiz Mt. (NFS baz=70,SNR=5.4	69.38	326	⇑P	P	03 05 27.0	+0.6
Q29A	Oakley baz=70	69.40	332	⇓P	P	03 05 26.6	+0.3
O32A	Brockman Farm, baz=70	69.41	334	⇑P	P	03 05 26.4	+0.1
S26A	Kim baz=70,SNR=12	69.51	329	⇑P	P	03 05 27.9	+0.8
T25A	Trinidad baz=70,SNR=6.1	69.57	328	⇓P	P	03 05 27.6	+0.1
P30A	Selden baz=70	69.62	332	⇓P	P	03 05 27.9	+0.3
R27A	Eads baz=70	69.73	330	⇑P	P	03 05 28.4	+0.1
O31A	Woolen Ranch, baz=70	69.75	333	⇑P	P	03 05 28.3	0.0
U23A	El Rito baz=70	69.83	326	⇓P	P	03 05 29.3	+0.2
V22A	San Miguel Ran baz=70,SNR=6.6	69.88	326	⇑P	P	03 05 30.2	+0.7
Q28A	Sharon Springs baz=70	69.92	331	⇑P	P	03 05 29.8	+0.3
P29A	Atwood baz=70	69.97	332	⇑P	P	03 05 30.4	+0.7
T24B	San Luis baz=70,SNR=9.8	69.99	327	⇓P	P	03 05 30.9	+0.7
S25A	Robets Cordova baz=70,SNR=11	70.00	328	⇓P	P	03 05 30.6	+0.4
R26A	Arlington baz=70,SNR=7.1	70.04	330	⇑P	P	03 05 30.7	+0.4
O30A	MW Ranch, Wils baz=70	70.07	333	⇑P	P	03 05 30.9	+0.5
N31A	Bailey Ranch, baz=70	70.16	334	⇓P	P	03 05 31.1	+0.3
U22A	Llaves baz=70	70.21	326	⇓P	P	03 05 32.8	+1.3
KSCO	Kaye Shedlock' baz=71	70.23	331	⇓P	P	03 05 32.0	+0.6
T23A	Casias Ranch, baz=71	70.30	327	⇓P	P	03 05 32.9	+0.8
P28A	Saint Francis baz=71	70.30	331	⇑P	P	03 05 32.4	+0.6
R25A	Fountain Ranch baz=71,SNR=5.6	70.31	329	⇑P	P	03 05 32.3	+0.4
BGNE	Belgrade comp=Z,44nm,0.5s	70.34	335	eP	P	03 05 31.7	-0.1
BGNE	Belgrade baz=71,SNR=5.7	70.34	335	⇑P	P	03 05 31.8	-0.1
O29A	4D Ranch, Culb baz=71	70.34	332	⇑P	P	03 05 32.8	+0.8
S24A	Houchin Ranch, baz=71,SNR=10	70.36	328	⇓P	P	03 05 33.5	+1.1
X18A	Snowflake baz=71	70.49	323	⇑P	P	03 05 34.1	+0.9
Q26A	Hugo baz=71	70.57	330	⇓P	P	03 05 35.2	+1.7
SDCO	Great Sand Dun comp=Z,13nm,1.2s	70.59	328	eP	P	03 05 34.1	+0.3
M31A	Lambtecht Ranc baz=71	70.61	334	⇑P	P	03 05 33.7	+0.2
P27A	Ficken Ranch, baz=71	70.66	331	⇑P	P	03 05 34.3	+0.3
O28A	Krutsinger Ran baz=71	70.77	332	⇑P	P	03 05 34.8	+0.3
R24A	Sanders Place, baz=71,SNR=10	70.78	328	⇓P	P	03 05 35.6	+0.8
W18A	Petrified Fore baz=71	70.80	323	⇓P	P	03 05 35.7	+0.7
Q25A	Bedland, Calha baz=71	70.91	329	⇑P	P	03 05 35.9	+0.3
P26A	Davis Ranch, A baz=71	71.01	330	⇓P	P	03 05 36.4	+0.3
R23A	Moffat baz=71	71.09	328	⇑P	P	03 05 37.7	+0.8
N28A	Pribbeno Ranch baz=72	71.13	332	⇓P	P	03 05 37.0	+0.3
O27A	Beecher Island baz=71	71.13	331	⇑P	P	03 05 37.7	+0.9
M30A	Dale-Ortello V baz=72	71.14	334	⇓P	P	03 05 37.0	+0.3
S22A	4UR Ranch, Cre baz=72	71.25	327	⇑P	P	03 05 38.5	+0.7
X16A	Lo Mia Camp, P baz=72,SNR=5.7	71.25	322	⇓P	P	03 05 38.9	+1.2
L31A	Butterfield Fa baz=72	71.26	335	⇓P	P	03 05 37.8	+0.4
P25A	Willow Gulch B baz=72,SNR=6.2	71.35	330	⇑P	P	03 05 39.1	+0.9
Q24A	Divide baz=72,SNR=7.1	71.37	329	⇓P	P	03 05 39.2	+0.7
M29A	Burnside Ranch baz=72	71.39	333	⇑P	P	03 05 38.9	+0.6
L30A	Spencer Herefo baz=72	71.42	334	⇓P	P	03 05 39.0	+0.6
O26A	Horse Wrangler baz=72	71.54	331	⇑P	P	03 05 39.9	+0.6
OGNE	Ogallala baz=72	71.55	332	⇓P	P	03 05 39.7	+0.5
M28A	Bar X Bar Ranc baz=72	71.64	333	⇑P	P	03 05 40.6	+0.8
MVCO	Mesa Verde baz=72,SNR=6.1	71.70	326	⇓P	P	03 05 41.1	+0.7
ECSD	EROS Data Cent comp=Z,16nm,1.3s	71.77	337	eP	P	03 05 39.2	-1.1
ECSD	EROS Data Cent baz=72,SNR=6.9	71.77	337	⇑P	P	03 05 39.7	-0.7
Y14A	Wickenburg baz=72	71.82	320	⇓P	P	03 05 42.1	+1.1
SPMN	St. Paul comp=Z,11nm,0.6s	71.82	341	eP	P	03 05 39.2	-1.4
SPMN	St. Paul baz=72,SNR=7.5	71.82	341	⇑P	P	03 05 39.7	-1.0
L29A	Maesberg Ranch baz=72	71.82	334	⇓P	P	03 05 41.5	+0.7
K30A	Basset baz=72	71.99	335	⇓P	P	03 05 42.0	+0.2
WUAZ	Wupatki baz=72,SNR=7.8	72.00	323	⇑P	P	03 05 43.3	+1.1
P23A	Jefferson baz=72	72.03	329	⇓P	P	03 05 43.6	+1.1
ISCO	Idaho Springs comp=Z,8.8nm,1.2s	72.25	329	eP	P	03 05 43.9	+0.1
ISCO	Idaho Springs baz=73,SNR=6.8	72.25	329	⇓P	P	03 05 44.4	+0.6
K29A	Lazy Trails An baz=73,SNR=6.3	72.34	334	⇓P	P	03 05 44.4	+0.6
PV01	Paradox Valley comp=Z,210nm,0.5s	72.43	326	eP	P	03 05 45.7	+0.9
J30A	Dallas baz=73	72.49	335	⇓P	P	03 05 44.9	+0.2
Y12C	Blythe baz=73	72.59	319	⇑P	P	03 05 47.2	+1.8
P22A	Eagle baz=73,SNR=6.3	72.64	328	⇑P	P	03 05 46.8	+0.9
O23A	Lake Granby, G baz=73,SNR=8.2	72.72	329	⇓P	P	03 05 47.6	+1.1
N24A	Carr baz=73	72.72	330	⇑P	P	03 05 47.2	+0.9
K28A	Ten Mile Ranch baz=73	72.73	334	⇓P	P	03 05 47.2	+1.1
M25A	Palm-Egli Farm baz=73	72.84	331	⇓P	P	03 05 47.9	+0.9
J29A	Okreek baz=73	72.89	335	⇓P	P	03 05 47.6	+0.6
L26A	Underwood Farm baz=73	72.89	332	⇓P	P	03 05 48.4	+1.2
O22A	Kremmling baz=73,SNR=9.7	72.98	329	⇓P	P	03 05 48.7	+0.7
K27A	Flueckinger Fa baz=73,SNR=7.5	73.08	333	⇓P	P	03 05 49.1	+0.8
BC3	Big Chuckawall baz=73,SNR=5.4	73.09	319	⇑P	P	03 05 49.5	+1.0
W13A	Hualapai Mount baz=73,SNR=5.1	73.15	321	⇑P	P	03 05 50.2	+1.2
U15A	North Rim baz=74,SNR=11	73.18	323	⇓P	P	03 05 50.9	+1.7
M24A	Cheyenne baz=74,SNR=7.5	73.21	331	⇑P	P	03 05 50.4	+1.3
IRM	Iron Mountain baz=74	73.25	319	⇑P	P	03 05 50.6	+1.2
J28A	Allard Ranch, baz=74,SNR=6.8	73.27	334	⇓P	P	03 05 49.8	+0.5
N23A	Red Feather La baz=74,SNR=7.1	73.27	330	⇑P	P	03 05 50.6	+0.9
N22A	Wattenberg Ran baz=74,SNR=6.1	73.44	329	⇑P	P	03 05 51.6	+1.0
J27A	Elkhorn Farm, baz=74,SNR=9.6	73.44	333	⇓P	P	03 05 51.3	+0.9
K26A	Motz Farm, Whi baz=74	73.48	332	⇑P	P	03 05 51.4	+0.8
M23A	Laramie baz=74,SNR=5.6	73.62	330	⇓P	P	03 05 52.4	+0.8
BELC	Belle Mtn. Jos baz=74	73.66	319	⇑P	P	03 05 52.2	+0.4
K25A	Mack Ranch, Ha baz=74	73.70	332	⇑P	P	03 05 52.2	+0.2
L24A	Wheatland baz=74	73.72	331	⇑P	P	03 05 52.7	+0.7
I28A	Midland baz=74	73.72	334	⇓P	P	03 05 51.9	+0.1
O20A	White River Ci baz=74,SNR=6.9	73.78	328	⇑P	P	03 05 53.7	+1.2
H29A	Onida baz=74	73.87	335	⇓P	P	03 05 53.4	+0.7
J26A	Sides Ranch, S baz=74	73.93	333	⇑P	P	03 05 54.0	+0.8
M22A	Cedar Creek Ra baz=74	73.97	330	⇑P	P	03 05 55.0	+1.3
GMRC	Granite Mounta baz=74,SNR=9.4	73.98	319	⇓P	P	03 05 55.0	+1.3
L23A	Garrett baz=74	74.12	331	⇓P	P	03 05 55.3	+0.8
I27A	Quinn baz=74	74.13	334	⇑P	P	03 05 55.0	+0.7
SRU	San Rafael comp=Z,13nm,0.9s	74.17	326	eP	P	03 05 55.3	+0.4
H28A	Mission Ridge baz=75,SNR=5.7	74.22	335	⇓P	P	03 05 55.4	+0.6
J25A	Sunshine Ranch baz=75	74.30	332	⇓P	P	03 05 56.5	+1.1
N20A	Spence Gulch, baz=75	74.33	328	⇑P	P	03 05 56.6	+0.8
L22A	Ellis Ranch, M baz=75	74.39	330	⇑P	P	03 05 56.9	+0.9
I26A	New Underwood baz=75	74.43	333	⇑P	P	03 05 56.8	+0.8
G28A	Parade baz=75	74.52	335	⇑P	P	03 05 55.7	-0.8
K23A	Bowen Ranch, D baz=75,SNR=6.3	74.59	331	⇓P	P	03 05 58.0	+0.9
H27A	Howes baz=75,SNR=6.1	74.61	334	⇓P	P	03 05 56.9	-0.1
J24A	Dixon Ranch, L baz=75	74.63	332	⇓P	P	03 05 58.7	+1.4
H26A	Fairpoint baz=75,SNR=28	74.88	334	⇓P	P	03 05 59.1	+0.5
K22A	Casper baz=75	74.92	330	⇓P	P	03 05 59.9	+0.9
F28A	McLaughlin baz=76	75.12	336	⇑P	P	03 05 59.7	-0.2
G27A	Dupree baz=76	75.17	335	⇑P	P	03 06 00.8	+0.6
H25A	Fruitdale baz=76	75.22	333	⇑P	P	03 06 01.1	+0.6
K21A	Alcova baz=76,SNR=20	75.24	330	⇓P	P	03 06 01.9	+1.0

E29A	Napoleon	75.30	337	⇑P	P	03 06 01.2	+0.3
	baz=76						
G26A	Maurine	75.36	334	⇑P	P	03 06 01.7	+0.3
	baz=76						
TORD	Torodi Ar. Bea	75.39	69	P	P	03 06 00.4	-1.7
	comp=Z,5.8nm,0.4s,baz=257,slow=5.8,SNR=159						
D30A	Buchanan	75.45	338	⇑P	P	03 06 02.0	+0.4
	baz=76						
J22A	Midwest	75.50	331	⇓P	P	03 06 02.6	+0.4
	baz=76						
AGMN	Agassiz Nation	75.52	340	⇓P	P	03 06 01.7	-0.3
	baz=76,SNR=5.5						
G25A	Newell	75.61	334	⇓P	P	03 06 03.4	+0.7
	baz=76						
F27A	Lemmon	75.61	335	⇓P	P	03 06 03.4	+0.7
	baz=76,SNR=5.4						
E28A	Huff	75.69	336	⇓P	P	03 06 03.8	+0.7
	baz=76						
H24A	Dirks Ranch, A	75.72	333	⇑P	P	03 06 03.8	+0.4
	baz=76,SNR=11						
F26A	Lodgepole	75.85	335	⇑P	P	03 06 04.5	+0.5
	baz=76,SNR=8.2						
C30A	Mose, Pekin	75.86	338	⇓P	P	03 06 04.7	+0.7
	baz=76						
I22A	9 Mile Ranch,	75.88	331	⇓P	P	03 06 04.9	+0.6
	baz=76,SNR=7.9						
J21A	Lysite	75.88	330	⇑P	P	03 06 05.3	+0.8
	baz=76,SNR=5.4						
E27A	Carson	75.90	336	⇓P	P	03 06 04.9	+0.6
	baz=76						
G24A	Alzada	76.13	333	⇑P	P	03 06 06.2	+0.4
	baz=76,SNR=5.4						
D28A	Regan	76.17	337	⇑P	P	03 06 06.5	+0.7
	baz=76						
DUG	Dugway	76.17	325	⇑P	P	03 06 07.5	+1.3
	baz=76,SNR=5.2						
I21A	Big Trails, Te	76.17	331	⇓P	P	03 06 06.6	+0.5
	baz=76,SNR=13						
J20A	Shoshoni	76.18	330	⇑P	P	03 06 07.2	+1.1
	baz=76						
F25A	Bowman	76.22	334	⇑P	P	03 06 06.9	+0.7
	baz=77						
E26A	Carlson Angus	76.28	335	⇑P	P	03 06 06.9	+0.4
	baz=77						
ISA	Isabella	76.28	318	⇑P	P	03 06 08.3	+1.5
	baz=76,SNR=6.5						
H22A	Clearmont	76.37	332	⇓P	P	03 06 07.8	+0.7
	baz=77						
R11A	Troy Canyon, C	76.39	322	⇑P	P	03 06 08.7	+1.3
	baz=77,SNR=8.7						
BW06	Boulder Array	76.43	329	eP	P	03 06 07.5	-0.1
	comp=Z,1.5nm,0.5s						
PDAR	Pinedale Array	76.43	329	P	P	03 06 07.5	-0.2
	comp=Z,1.6nm,0.6s,baz=128,slow=8.2,SNR=18						
G23A	Biddle	76.44	333	⇓P	P	03 06 07.8	+0.4
	baz=77,SNR=7.3						
D27A	Center	76.45	336	⇑P	P	03 06 07.9	+0.5
	baz=77						
B30A	Myrvik Farm, E	76.45	339	⇓P	P	03 06 07.8	+0.4
	baz=77						
F24A	Ekalaka	76.56	334	⇑P	P	03 06 08.8	+0.6
	baz=77						
J19A	Crowheart	76.57	329	⇑P	P	03 06 09.2	+0.9
	baz=77,SNR=9.0						
I20A	Worland	76.66	330	⇓P	P	03 06 09.6	+0.8
	baz=77,SNR=6.0						
E25A	Miller Ranch,	76.67	335	⇓P	P	03 06 09.4	+0.7
	baz=77						
H21A	Big Horn, Sher	76.70	331	⇓P	P	03 06 09.5	+0.5
	baz=77,SNR=5.0						
D26A	Manning	76.73	335	⇑P	P	03 06 10.1	+1.1
	baz=77						
VES	Vestal, Richgr	76.77	318	⇓P	P	03 06 10.4	+1.0
	baz=77						
B29A	Wagenman Farm,	76.82	338	⇑P	P	03 06 10.0	+0.6
	baz=77						
F23A	Volborg	76.86	333	⇓P	P	03 06 10.2	+0.5
	baz=77,SNR=8.6						
A30A	Hoffart Farm,	76.87	339	⇓P	P	03 06 09.8	+0.1
	baz=77						
C27A	Sayler Ranch,	76.95	336	⇓P	P	03 06 10.6	+0.5
	baz=77						
H20A	Greybull	77.02	331	⇓P	P	03 06 11.2	+0.5
	baz=77,SNR=9.6						
E24A	Baker	77.08	334	⇓P	P	03 06 11.8	+0.8
	baz=77,SNR=5.3						
I19A	Meeteetse	77.13	330	⇓P	P	03 06 12.2	+0.8
	baz=77,SNR=6.2						
B28A	Dugan Ranch, T	77.16	337	⇓P	P	03 06 12.0	+0.7
	baz=78						
A29A	Manning Farm,	77.17	338	⇓P	P	03 06 11.3	0.0
	baz=78,SNR=5.5						
D25A	Fairfield	77.17	335	⇓P	P	03 06 12.2	+0.8
	baz=78						
SCHQ	Schefferville	77.21	360	P	P	03 06 10.4	-1.1
	comp=Z,5.4nm,0.6s,baz=181,slow=3.2,SNR=11						
G21A	Lodge Grass	77.24	332	⇑P	P	03 06 12.6	+0.6
	baz=78						
ULM	Lac du Bonnet	77.24	341	P	P	03 06 10.8	-0.9
	comp=Z,9.3nm,0.5s,baz=156,slow=6.9,SNR=26						
C26A	Wahner Farm, P	77.26	336	⇓P	P	03 06 12.6	+0.7
	baz=78						
F22A	Rosebud	77.27	332	⇑P	P	03 06 12.4	+0.4
	baz=78,SNR=7.2						
C25A	Freed Ranch, W	77.61	335	⇓P	P	03 06 14.9	+1.1
	baz=78						
H19A	Powell	77.61	330	⇑P	P	03 06 14.9	+0.9
	baz=78						
E22A	Miles City	77.66	333	⇑P	P	03 06 14.5	+0.4
	baz=78						
F21A	Absaloka Mine,	77.67	332	⇑P	P	03 06 14.7	+0.4
	baz=78						
G20A	Bridger	77.68	331	⇓P	P	03 06 14.7	+0.3
	baz=78,SNR=8.4						
B26A	Jensen Ranch,	77.77	336	⇓P	P	03 06 15.2	+0.4
	baz=78						
I17A	Pilgrim Ck.	77.79	329	⇑P	P	03 06 16.4	+1.3
	baz=78,SNR=9.3						
A27A	Ledoux Ranch,	77.89	337	⇑P	P	03 06 16.5	+1.2
	baz=78						
C24A	Savage	77.92	335	⇓P	P	03 06 16.7	+1.1
	baz=78,SNR=5.3						
H18A	Shoshone NF, C	77.93	330	⇑P	P	03 06 16.5	+0.5
	baz=78,SNR=14						
D23A	Lindsay	77.94	334	⇑P	P	03 06 16.7	+1.0
	baz=78,SNR=5.6						
NVAR	Mina Array Bea	78.01	321	P	P	03 06 17.2	+0.7
	comp=Z,3.2nm,0.9s,baz=159,slow=6.2,SNR=14						
B25A	Knox Farm, Ray	78.03	336	⇑P	P	03 06 17.4	+1.3
	baz=78						
H17A	Grant Village	78.14	329	⇓P	P	03 06 18.5	+1.3
	baz=78						
E21A	Keefer Ranch,	78.22	333	⇑P	P	03 06 18.1	+0.8
	baz=78						
D22A	Cohagen	78.32	333	⇓P	P	03 06 18.6	+0.8
	baz=79,SNR=5.6						
C23A	Lambert	78.44	334	⇑P	P	03 06 19.4	+1.0
	baz=79						
F19A	Roth Farm, Mol	78.50	331	⇑P	P	03 06 19.7	+0.9
	baz=79,SNR=6.5						
YMR	Madison River	78.53	329	eP	P	03 06 20.1	+0.9
	comp=Z,8.3nm,0.8s						
A25A	Svangstu Ranch	78.57	336	⇑P	P	03 06 20.1	+1.1
	baz=79						
DGMT	Dagmar	78.59	335	⇓P	P	03 06 20.4	+1.2
	baz=79						
D21A	La Casta Ranch	78.60	333	⇑P	P	03 06 20.4	+1.1
	baz=79,SNR=5.8						
E20A	Meyer Farm, Mu	78.64	332	⇓P	P	03 06 20.7	+1.2
	baz=79						
C22A	Vida	78.68	334	⇑P	P	03 06 20.7	+1.0
	baz=79						
GCMT	Greycliff	78.78	331	eP	P	03 06 20.6	+0.2
	comp=Z,3.5nm,0.7s						
A24A	Westby	78.89	336	⇑P	P	03 06 21.6	+0.8
	baz=79						
E19A	Rath Farm, Rou	78.90	332	⇓P	P	03 06 21.8	+0.8
	baz=79,SNR=9.2						
B23A	Brockton	78.90	335	⇓P	P	03 06 21.7	+0.8
	baz=79						
D20A	Manuel Ranch,	79.10	332	⇓P	P	03 06 22.6	+0.6
	baz=79						
B22A	Reddig Ranch S	79.17	334	⇓P	P	03 06 23.3	+1.0
	baz=80						
C21A	Desert Coulee	79.24	333	⇓P	P	03 06 23.1	+0.3
	baz=80						
HLID	Hailey	79.42	327	⇓P	P	03 06 25.0	+1.0
	baz=80,SNR=14						
D19A	Cripps Ranch,	79.48	332	⇑P	P	03 06 24.5	+0.4
	baz=80,SNR=5.9						
C20A	Veseth Ranch,	79.53	333	⇑P	P	03 06 24.5	+0.1
	baz=80						
MCMT	McKenzie Canyo	79.55	328	eP	P	03 06 25.3	+0.5
	comp=Z,4.1nm,0.9s						
B21A	Ellsworth Farm	79.68	334	⇑P	P	03 06 26.0	+0.9
	baz=80						
A22A	Carney Farms,	79.69	335	⇑P	P	03 06 25.5	+0.3
	baz=80,SNR=7.1						
C19A	Slack Wire Ran	79.99	332	⇓P	P	03 06 27.5	+0.6
	baz=80						
B20A	Solberg Farm,	80.10	333	⇓P	P	03 06 28.1	+0.7
	baz=80						
A20A	Cobblestone Ra	80.41	334	⇓P	P	03 06 29.7	+0.7
	baz=81,SNR=7.8						
B19A	Brinkman Farms	80.50	333	⇓P	P	03 06 30.3	+0.8
	baz=81,SNR=7.1						
EGMT	Eagleton	80.52	332	⇑P	P	03 06 30.2	+0.6
	baz=81						
BOSA	Boshof	80.65	117	P	P	03 06 29.0	-2.0
	comp=Z,1.1nm,0.7s,baz=226,slow=5.0,SNR=5.5						
A19A	Klindworth Far	80.79	333	⇓P	P	03 06 31.6	+0.6
	baz=81						
MSO	Missoula	81.53	329	⇑P	P	03 06 35.8	+0.7
	baz=82						
M04C	Macdoel	82.25	321	⇓P	P	03 06 39.9	+0.9
	baz=82						
JTMT	Jette	82.36	330	eP	P	03 06 39.4	0.0
	comp=Z,1.5nm,0.5s						
J05D	Fort Rock, OR	82.87	323	⇓P	P	03 06 43.0	+0.9
	baz=83						
I05D	Terrebonne, OR	83.61	324	⇓P	P	03 06 47.1	+1.4
	baz=84						
NEW	Newport	84.07	329	⇓P	P	03 06 50.3	+2.3
	baz=84						
YKA	Yellowknife Ar	93.17	340	P	P	03 07 30.2	-0.5
	comp=Z,3.4nm,0.6s,baz=130,slow=4.5,SNR=104						
ASAR	Alice Springs	129.95	204	PKP	PKPdf	03 13 25.2	-1.1
	comp=Z,0.7nm,0.6s,baz=163,slow=2.9,SNR=6.8						
ASAR				SKPbc	SKPab	03 16 25.4	-2.3
	comp=Z,1.1nm,0.8s,baz=153,slow=3.4,SNR=8.2						
WRA	Warramunga Arr	133.12	207	PKP	PKPdf	03 13 31.6	-0.7
	comp=Z,0.4nm,0.3s,baz=154,slow=1.8,SNR=11						
WRA				SKPbc	SKPbc	03 16 36.0	-3.2
	comp=Z,0.3nm,0.4s,baz=155,slow=3.6,SNR=6.4						
ZALV	Zalesovo Beam	141.89	28	PKP	PKPdf	03 13 47.4	+0.1
	comp=Z,1.1nm,0.5s,baz=246,slow=4.8,SNR=6.8						
ZALV				SKPbc	SKPbc	03 17 02.0	-1.5
	comp=Z,0.6nm,0.5s,baz=300,slow=3.2,SNR=4.3						
MKAR	Makanchi Array	145.04	39	PKPbc	PKPdf	03 13 52.5	-0.6
	comp=Z,4.3nm,0.7s,baz=312,slow=2.9,SNR=64						
SONM	Songino Array	154.22	12	PKP	PKPdf	03 14 08.4	+0.7
	comp=Z,0.3nm,0.5s,baz=53,slow=0.7,SNR=4.4						
SONM				PKPab	PKPab	03 14 30.6	-0.1
	comp=Z,0.9nm,0.7s,baz=325,slow=4.0,SNR=7.8						

IDC 15 03:06:47.9±3.5, 19°.08S×177°.15W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.6/4, MS3.6/4, Ms1 3.6/4, ms1mx3.2/20, Error ellipse: s-maj=200.6km s-min=26.7km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.64	256	eLR	LR	03 14 11.1	
	521nm,24.6s						
DZM	Mont Dzumac	15.64	256	LR	LR	03 15 49.7	
	comp=Z,307nm,19.3s,baz=43,slow=35						
PPT2	Papeete2	26.21	91	eLR	LR	03 18 22.6	
	293nm,27.0s						
PPT	Papeete	26.21	91	LR	LR	03 19 17.0	
	comp=Z,91nm,21.7s,baz=248,slow=29						
STKA	Stephens Creek	39.13	243	LR	LR	03 29 17.1	
	comp=Z,103nm,18.4s,baz=54,slow=34						
WRA	Warramunga Arr	45.60	260	P	P	03 15 09.6	-0.7
	0.3nm,0.8s,baz=98,slow=7.0,SNR=4.3						
ASAR	Alice Springs	45.63	255	P	P	03 15 10.7	+0.1
	1.0nm,0.8s,baz=84,slow=8.3,SNR=11						
PETK	Petropavlovsk-	75.12	345	LR	LR	03 47 19.7	
	comp=Z,23nm,19.7s,baz=93,slow=32						
NVAR	Mina Array Bea	79.45	43	P	P	03 18 56.3	-0.3
	0.5nm,0.9s,baz=227,slow=8.5,SNR=3.1						
ILAR	Eielson Array	86.77	12	P	P	03 19 33.6	+0.1
	0.7nm,1.0s,baz=218,slow=5.7,SNR=5.1						
GERES	GERESS Array B	149.04	346	PKPbc	PKPbc	03 26 38.2	+0.1
	0.5nm,0.8s,baz=11,slow=0.5,SNR=4.4						

IDC 15 03:20:08.8±1.1, 39°.12N×21°.68E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.3/31, mbtmp3.4/7, ML2.8/2, Error ellipse: s-maj=28.2km s-min=18.8km az=105.0
CSEM 15 03:20:09.5±0.1, 39°.11N×21°.75E, h10km, ML3.2, Error ellipse: s-maj=3.7km s-min=3.0km az=98.0
ISCJB 15 03:20:09.5±0.5, 39°.11N±0°.01×21°.69E±0°.02, h15km±4km, mb3.3/5, Error ellipse: s-maj=2.9km s-min=2.4km az=2.0
ATH 15 03:20:09.4, 39°.12N×21°.74E, h20km±1km, MD3.0/31, ML3.1
SKO 15 03:20:09.4, 38°.93N×21°.90E, h19km, M2.5, ML2.9
THE 15 03:20:10.1, 39°.08N×21°.72E, h9km±1km, ML3.2/12, Error ellipse: s-maj=1.2km s-min=0.5km az=204.0
ISC 15 03:20:10.0±0.9, 39°.09N±0°.01×21°.73E±0°.02, h11km±6km, n152, σ0°.91/196, mb3.5/5, 3C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.18	161	P	Pg	03 20 13.9	-0.1
EVR				S	Sg	03 20 17.4	+0.6
EVR	Evrytania	0.18	161	ePB	Pg	03 20 13.9	-0.1
EVR	Evrytania	0.18	161	P	Pg	03 20 13.9	-0.1
MAKR	Makrakomi, Fth	0.32	104	P	Pb	03 20 16.8	-0.9
MAKR				S	Sb	03 20 22.2	-0.7
MAKR	Makrakomi, Fth	0.32	104	ePB	Pb	03 20 16.8	-0.9
MAKR				eSB	Sb	03 20 22.3	-0.7
MAKR	Makrakomi, Fth	0.32	104	P	Pb	03 20 16.8	-0.9
MAKR				eSb	Sb	03 20 22.3	-0.7
AGG	Agios Georgios	0.47	98	P	Pg	03 20 19.2	0.0
AGG	Agios Georgios	0.47	98	ePB	Pg	03 20 19.1	-0.1
AGG	Agios Georgios	0.47	98	P	Pg	03 20 19.2	0.0
DSL	Palaion Diasel	0.50	275	P	Pg	03 20 18.9	-0.8
DSL				S	Sg	03 20 26.5	+0.2
DSL	Palaion Diasel	0.50	275	ePN	Pg	03 20 19.1	-0.6
DSL				eSN	Sg	03 20 26.4	+0.2
DSL	Palaion Diasel	0.50	275	ePn	Pg	03 20 19.1	-0.6
DSL				S	Sg	03 20 26.5	+0.2
PVO	Paravola	0.50	199	P	Pg	03 20 19.1	-0.6
PVO				S	Sg	03 20 26.6	+0.3
PVO	Paravola	0.50	199	P	Pg	03 20 19.1	-0.6
PVO				S	Sg	03 20 26.6	+0.3
THL	Klokotos Trika	0.52	25	P	Pg	03 20 19.8	-0.4
THL				S	Sb	03 20 28.5	-0.2
THL	Klokotos Trika	0.52	25	ePB	Pg	03 20 19.7	-0.4
THL				eSB	Sg	03 20 26.5	-0.6
THL	Klokotos Trika	0.52	25	P	Pg	03 20 19.8	-0.4
THL				eSb	Sg	03 20 26.5	-0.6
THL				S	Sb	03 20 28.5	-0.2
PDO	Prodromos	0.65	221	P	Pb	03 20 22.8	-0.6
PDO				S	Sb	03 20 32.5	0.0
PDO	Prodromos	0.65	221	ePN	Pb	03 20 22.9	-0.5
PDO				eSN	Sb	03 20 32.8	+0.3
PDO	Prodromos	0.65	221	P	Pb	03 20 22.8	-0.6
PDO				S	Sb	03 20 32.5	0.0
EFP	Efpalio	0.68	168	P	Pg	03 20 22.4	-0.7
EFP				S	Sb	03 20 33.1	0.0
EFP	Efpalio	0.68	168	ePN	Pg	03 20 22.6	-0.5
EFP				eSN	Sb	03 20 32.8	-0.3
EFP	Efpalio	0.68	168	P	Pg	03 20 22.4	-0.7
EFP				eSn	Sb	03 20 32.8	-0.3
EFP				S	Sb	03 20 33.1	0.0
KALE	Kalithea	0.77	155	P	Pg	03 20 23.8	-1.0
KALE				S	Sb	03 20 36.3	+0.4
KALE	Kalithea	0.77	155	ePN	Pg	03 20 23.7	-1.0
KALE				eSN	Sb	03 20 35.8	-0.1
KALE	Kalithea	0.77	155	P	Pg	03 20 23.8	-1.0
KALE				eSn	Sb	03 20 35.8	-0.1
KALE				S	Sb	03 20 36.3	+0.4
AXAR	Agios Charalam	0.79	114	P	Pb	03 20 25.0	-0.3
AXAR				S	Sb	03 20 36.4	-0.1
AXAR	Agios Charalam	0.79	114	ePN	Pb	03 20 25.3	-0.5
AXAR				eSN	Sb	03 20 36.5	-0.1
AXAR	Agios Charalam	0.79	114	P	Pb	03 20 25.0	-0.3
AXAR	Agios Charalam	0.79	114	ePn	Pb	03 20 25.3	-0.5
AXAR				S	Sb	03 20 36.4	-0.1
LAKA	Lakka	0.87	167	ePB	Pg	03 20 26.0	-0.8
LAKA	Lakka	0.87	167	ePb	Pg	03 20 26.0	-0.8
JAN	Janina	0.89	310	P	Pg	03 20 26.4	-0.7
JAN	Janina	0.89	310	ePN	Pg	03 20 26.6	-0.5
JAN	Janina	0.89	310	P	Pg	03 20 26.4	-0.7
LKD2	Lefkada island	0.89	251	ePN	Pg	03 20 26.8	-0.4
LKD2	Lefkada island	0.89	251	ePn	Pg	03 20 26.8	-0.4
DSF	Desfina	0.92	137	P	Pg	03 20 26.2	-1.5
DSF				S	Sb	03 20 40.1	-0.1
DSF	Desfina	0.92	137	ePN	Pb	03 20 28.0	0.0
DSF	Desfina	0.92	137	P	Pg	03 20 26.2	-1.5
DSF	Desfina	0.92	137	ePn	Pb	03 20 28.0	0.0
DSF				S	Sb	03 20 40.1	-0.1
RLS	Riolos of Patr	1.05	192	P	Pg	03 20 29.8	-0.4
RLS	Riolos of Patr	1.05	192	ePN	Pg	03 20 29.9	-0.3
RLS	Riolos of Patr	1.05	192	ePn	Pg	03 20 29.9	-0.3
LKR	Lokris	1.08	114	P	Pg	03 20 30.2	-0.6
LKR	Lokris	1.08	114	ePN	Pg	03 20 29.9	-0.9
LKR	Lokris	1.08	114	ePn	Pg	03 20 29.9	-0.9
LKR	Lokris	1.08	114	P	Pg	03 20 30.2	-0.6
KLV	Kalavryta, Ach	1.09	163	P	Pg	03 20 30.0	-1.0
KLV				S	Sn	03 20 46.1	-0.4
KLV	Kalavryta, Ach	1.09	163	ePB	Pg	03 20 30.0	-1.0
KLV	Kalavryta, Ach	1.09	163	P	Pg	03 20 30.0	-1.0
KLV				S	Sn	03 20 46.1	-0.4
DRO	Drossia	1.14	181	P	Pb	03 20 31.3	-0.4
DRO	Drossia	1.14	181	ePN	Pb	03 20 31.2	-0.4
DRO	Drossia	1.14	181	ePn	Pb	03 20 31.2	-0.4
LIT	Litokhoron	1.17	30	P	Pb	03 20 31.4	-0.7
LIT				S	Sn	03 20 49.6	+1.4
LIT	Litokhoron	1.17	30	ePN	Pb	03 20 31.5	-0.7
LIT	Litokhoron	1.17	30	ePn	Pb	03 20 31.5	-0.7
XOR	Xorichti	1.17	76	P	Pb	03 20 31.3	-0.9
XOR				S	Sn	03 20 49.2	+1.0
XOR	Xorichti	1.17	76	ePN	Pb	03 20 31.6	-0.6
XOR	Xorichti	1.17	76	P	Pb	03 20 31.3	-0.9
XOR	Xorichti	1.17	76	ePn	Pb	03 20 31.6	-0.6
XOR				S	Sn	03 20 49.2	+1.0
SMIA	Simia	1.17	100	ePN	Pn	03 20 32.3	0.0
SMIA	Simia	1.17	100	ePn	Pn	03 20 32.3	0.0
IGT	Igoumenitsa	1.17	293	ePN	Pn	03 20 32.9	+0.5
IGT	Igoumenitsa	1.17	293	ePn	Pn	03 20 32.9	+0.5
NEO	Neokhori	1.18	79	P	Pb	03 20 32.0	-0.4
NEO				S	Sn	03 20 48.5	0.0
NEO	Neokhori	1.18	79	ePN	Pb	03 20 31.3	-1.1
NEO	Neokhori	1.18	79	ePn	Pb	03 20 31.3	-1.1
NEO	Neokhori	1.18	79	P	Pb	03 20 32.0	-0.4
NEO				S	Sn	03 20 48.5	0.0
KZN	Kozani	1.22	1	P	Pb	03 20 31.9	-1.1
KZN				S	Sn	03 20 50.4	+0.9
KZN	Kozani	1.22	1	ePN	Pb	03 20 32.0	-1.1
KZN	Kozani	1.22	1	ePn	Pb	03 20 32.0	-1.1
KFL	Anninata	1.23	217	P	Pn	03 20 32.3	-0.8
KFL	Anninata	1.23	217	P	Pn	03 20 32.3	-0.8
GUR	Goura	1.25	157	P	Pn	03 20 32.5	-1.0
GUR	Goura	1.25	157	ePN	Pn	03 20 32.8	-0.7
GUR	Goura	1.25	157	P	Pn	03 20 32.5	-1.0
GUR	Goura	1.25	157	ePn	Pn	03 20 32.8	-0.7
VLS	Valsamata	1.28	225	ePB	Pn	03 20 33.1	-0.7
VLS	Valsamata	1.28	225	ePb	Pn	03 20 33.1	-0.7
SKIA	Skiathos	1.35	86	ePN	Pb	03 20 34.8	-0.5
SKIA	Skiathos	1.35	86	ePn	Pb	03 20 34.8	-0.5
LTK	Loutraki	1.44	137	P	Pb	03 20 36.4	-0.4
LTK	Loutraki	1.44	137	ePN	Pg	03 20 37.0	-0.6
LTK	Loutraki	1.44	137	P	Pb	03 20 36.4	-0.4
LTK	Loutraki	1.44	137	ePn	Pg	03 20 37.0	-0.6
MRKA	Markates	1.50	104	ePN	Pn	03 20 36.5	-0.3
MRKA	Markates	1.50	104	ePn	Pn	03 20 36.5	-0.3
AMT	Artemida-Makis	1.56	181	ePN	Pg	03 20 39.5	-0.3
AMT	Artemida-Makis	1.56	181	ePn	Pg	03 20 39.5	-0.3
KEK	Kerkira	1.62	293	ePN	Pn	03 20 41.4	+0.3
KEK	Kerkira	1.62	293	ePn	Pn	03 20 41.4	+0.3
AOS	Alonnisos	1.67	87	ePN	Pn	03 20 38.7	-0.5
AOS	Alonnisos	1.67	87	ePn	Pn	03 20 38.7	-0.5
FNA	Florina	1.71	351	P	Pn	03 20 40.5	-1.0
FNA	Florina	1.71	351	P	Pn	03 20 40.5	-1.0
PAIG	Paliouri	1.72	60	ePB	Pn	03 20 39.3	-0.6
PAIG	Paliouri	1.72	60	ePb	Pn	03 20 39.3	-0.6
THE	Thessaloniki	1.81	31	ePB	Pn	03 20 40.3	-0.8
THE	Thessaloniki	1.81	31	ePb	Pn	03 20 40.3	-0.8
HORT	Hortiatis	1.84	34	ePB	Pn	03 20 40.6	-1.0
HORT	Hortiatis	1.84	34	ePb	Pn	03 20 40.6	-1.0
PLG	Polygyros	1.84	45	P	Pn	03 20 40.6	-1.0
PLG	Polygyros	1.84	45	ePB	Pn	03 20 40.7	-0.9
PLG	Polygyros	1.84	45	ePb	Pn	03 20 40.7	-0.9
ATH	Athens Observa	1.91	125	ePN	Pn	03 20 43.2	+0.7
ATH	Athens Observa	1.91	125	ePn	Pn	03 20 43.2	+0.7
ITM	Ithomi	1.91	175	ePN	Pg	03 20 45.9	-0.8
ITM	Ithomi	1.91	175	ePn	Pg	03 20 45.9	-0.8
PTL	Penteli	1.97	121	ePN	Pn	03 20 44.1	+0.8
PTL	Penteli	1.97	121	ePn	Pn	03 20 44.1	+0.8
DID	Didima	1.98	143	P	Pn	03 20 43.5	+0.1
DID	Didima	1.98	143	ePN	Pb	03 20 44.9	-1.1
DID	Didima	1.98	143	P	Pn	03 20 43.5	+0.1
DID	Didima	1.98	143	ePn	Pb	03 20 44.9	-1.1
SOH	Sokhos	2.13	35	P	Pn	03 20 45.2	-0.4
SOH				S	Sn	03 21 12.5	+0.4
SOH	Sokhos	2.13	35	ePB	Pn	03 20 45.5	-0.1
SOH	Sokhos	2.13	35	P	Pn	03 20 45.2	-0.4
SOH	Sokhos	2.13	35	ePb	Pn	03 20 45.5	-0.1
SOH				S	Sn	03 21 12.5	+0.4
OUR	Ouranopolis	2.13	54	ePB	Pn	03 20 45.2	-0.3
OUR	Ouranopolis	2.13	54	ePb	Pn	03 20 45.2	-0.3
PYL	PYLOS	2.19	180	ePN	Pb	03 20 50.0	+0.4
PYL	PYLOS	2.19	180	ePn	Pb	03 20 50.0	+0.4
KNT	Kendrikon	2.25	23	P	Pn	03 20 47.7	+0.5
KNT	Kendrikon	2.25	23	ePN	Pn	03 20 47.7	+0.5
KNT	Kendrikon	2.25	23	P	Pn	03 20 47.7	+0.5
VAY	Valandovo	2.32	16	iPn	Pn	03 20 48.8	+0.7
VAY				eSg	Sg	03 21 29.7	+5.2
VAY				eLg	Lg	03 21 31.1	
	comp=N,128nm,1.4s						
VAY				eLg	Lg	03 21 33.3	
	comp=E,57nm,0.8s						
VAY	Valandovo	2.32	16	iPn	Pn	03 20 48.8	+0.7
VAY				eLg	Lg	03 21 33.3	
	comp=E,57nm,0.8s						
SRS	Serrai	2.48	35	ePN	Pn	03 20 50.1	-0.2
SRS	Serrai	2.48	35	ePn	Pn	03 20 50.1	-0.2
VLI	Veliai	2.55	158	ePN	Pn	03 20 52.7	+1.4
VLI	Veliai	2.55	158	ePn	Pn	03 20 52.7	+1.4
NVR	Nevrokopi	2.78	35	ePN	Pn	03 20 55.0	+0.5
NVR	Nevrokopi	2.78	35	ePn	Pn	03 20 55.0	+0.5
KAVA	Kavala	2.86	47	ePN	Pn	03 20 54.8	-0.7
KAVA	Kavala	2.86	47	ePn	Pn	03 20 54.8	-0.7
MMB	Musomiste	2.92	31	⇑iP	Pn	03 20 56.6	+0.1
VTS	Vitosha	3.67	17	⇓iP	Pn	03 21 07.7	+0.8
KDZ	Kurdzhali	3.80	47	⇑iP	Pb	03 21 13.3	-3.8
IDI	Anoyia	4.55	145	Pn	Pn	03 21 21.2	+2.3
	comp=E,0.2nm,0.3s,baz=324,slow=14,SNR=2.8						
IDI				Sn	Sn	03 22 14.1	+2.2
	comp=E,0.6nm,0.3s,baz=63,slow=2.3,SNR=2.6						
STON	Ston	4.86	322	iPn	Pn	03 21 23.7	+0.8
STON				Sn	Sn	03 22 17.8	-1.4
STON	Ston	4.86	322	iPn	Pn	03 21 23.7	+0.8
STON				Sn	Sn	03 22 17.7	-1.4
DIVS	Divibare	5.17	346	ePn	Pn	03 21 29.8	+2.4
VOIR		6.80	20	⇑iP	Pn	03 21 48.0	-1.8
MLR	Muntele Rosu	7.12	25	Pn	Pn	03 21 55.7	+1.6
	comp=E,0.1nm,0.3s,baz=33,slow=6.4,SNR=5.3						
NVLJ	Novalja	7.49	319	ePn	Pn	03 21 58.6	-0.5
NVLJ				Sn	Sn	03 23 20.2	-3.9
NVLJ	Novalja	7.49	319	ePn	Pn	03 21 58.6	-0.5
NVLJ				Sn	Sn	03 23 20.1	-3.9
NOA	NORSAR Array B	22.93	347	P	P	03 25 13.7	-0.2
	comp=E,0.5nm,0.8s,baz=156,slow=9.3,SNR=3.2						
TORD	Torodi Ar. Bea	31.34	220	P	P	03 26 30.9	+0.3
	comp=E,0.3nm,0.5s,baz=33,slow=8.9,SNR=7.5						
MKAR	Makanchi Array	44.02	59	P	P	03 28 17.9	+0.4
	comp=E,0.5nm,0.5s,baz=273,slow=7.2,SNR=14						
ZALV	Zalesovo Beam	44.38	49	P	P	03 28 19.8	-0.4
	comp=E,1.4nm,0.6s,baz=274,slow=8.8,SNR=6.3						
YKA	Yellowknife Ar	72.85	340	P	P	03 31 38.9	+0.5
	comp=E,0.1nm,0.6s,baz=37,slow=5.5,SNR=4.3						

IDC 15 03:39:45.1±11.0, 20°.10S×172°.25W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/28, mbtmp3.6/2, Error ellipse: s-maj=512.3km s-min=55.8km az=144.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.7nm,0.8s,baz=95,slow=8.5,SNR=5.5	**49.86**	**256**	P	P	03 48 40.1	-0.4
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=93,slow=8.5,SNR=4.0	**50.00**	**260**	P	P	03 48 42.0	+0.4
AKASG	**Malin Array Be** 0.7nm,0.5s,baz=43,slow=4.1,SNR=10.0	**145.06**	**336**	PKPbc	PKPbc	03 59 22.8	-0.9

*IDC **15** 03:41:55.3±1.2, 37°.12N×21°.63E, h0km, mb3.5/6, mb1 3.4/8, mb1mx3.3/40, mbtmp3.4/8, ML2.4/1, Error ellipse: s-maj=24.3km s-min=21.8km az=64.0*
*ISCJB **15** 03:41:59.2±0.7, 36°.94N±0°.03×21°.52E±0°.04, h24km±3km, mb3.5/6, Error ellipse: s-maj=6.8km s-min=4.1km az=141.8*
*CSEM **15** 03:42:00.3±0.3, 37°.01N×21°.59E, h15km, ML3.4, Error ellipse: s-maj=6.9km s-min=4.2km az=48.0*
*ATH **15** 03:42:00.1, 37°.00N×21°.64E, h25km±1km, MD3.2/25*
*THE **15** 03:42:01.7, 37°.02N×21°.67E, h17km, ML3.4/4, Error ellipse: s-maj=1.6km s-min=1.0km az=248.0*
ISC 15 03:41:59.0±0.8, **36°.98N**±0°.03×**21°.55E**±0°.03, **h27**km±5km, **n113**, σ**1s.51**/141, **mb3.5**/6, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.17**	**120**	P	**Pb**	**03 42 05.0**	**+0.5**
PYL				S	**Sb**	**03 42 08.7**	**+0.4**
PYL	**PYLOS**	**0.17**	**120**	*e*PB	**Pb**	**03 42 05.1**	**+0.5**
PYL				*e*SB	**Sb**	**03 42 08.6**	**+0.3**
PYL	**PYLOS**	**0.17**	**120**	P	**Pb**	**03 42 05.1**	**+0.5**
PYL				S	**Sb**	**03 42 08.7**	**+0.4**
ITM	**Ithomi**	**0.36**	**56**	P	**Pb**	**03 42 07.2**	**+0.2**
ITM				S	**Sb**	**03 42 12.2**	**-0.3**
ITM	**Ithomi**	**0.36**	**56**	*e*PB	**Pb**	**03 42 07.2**	**+0.2**
ITM				*e*SB	**Sb**	**03 42 12.6**	**+0.1**
ITM	**Ithomi**	**0.36**	**56**	P	**Pb**	**03 42 07.2**	**+0.2**
ITM				S	**Sb**	**03 42 12.2**	**-0.3**
AMT	**Artemida-Makis**	**0.56**	**13**	P	**Pn**	**03 42 11.4**	**+0.1**
AMT				S	**Sb**	**03 42 19.2**	**+1.1**
AMT	**Artemida-Makis**	**0.56**	**13**	*e*PN	**Pn**	**03 42 11.4**	**+0.1**
AMT				*e*SN	**Sb**	**03 42 19.5**	**+1.4**
AMT	**Artemida-Makis**	**0.56**	**13**	P	**Pn**	**03 42 11.4**	**+0.1**
AMT				S	**Sb**	**03 42 19.2**	**+1.1**
VLX	**Vlachokerasia**	**0.76**	**59**	P	**Pb**	**03 42 13.9**	**+0.1**
VLX				S	**Sb**	**03 42 24.5**	**+0.7**
VLX	**Vlachokerasia**	**0.76**	**59**	*e*PN	**Pb**	**03 42 13.9**	**+0.1**
VLX				*e*SN	**Sb**	**03 42 23.9**	**+0.1**
VLX	**Vlachokerasia**	**0.76**	**59**	P	**Pb**	**03 42 13.9**	**+0.1**
VLX				*e*Sn	**Sb**	**03 42 23.9**	**+0.1**
VLX				S	**Sb**	**03 42 24.5**	**+0.7**
DRO	**Drossia**	**0.98**	**7**	P	**Pb**	**03 42 18.7**	**+1.4**
DRO	**Drossia**	**0.98**	**7**	*e*PN	**Pb**	**03 42 18.2**	**+0.9**
DRO				*e*SN	**Sn**	**03 42 32.3**	**+2.4**
DRO	**Drossia**	**0.98**	**7**	*e*Pn	**Pb**	**03 42 18.2**	**+0.9**
DRO	**Drossia**	**0.98**	**7**	P	**Pb**	**03 42 18.7**	**+1.4**
DRO				*e*Sn	**Sn**	**03 42 32.3**	**+2.4**
DRO				S	**Sb**	**03 42 33.4**	**+3.6**
RLS	**Riolos of Patr**	**1.08**	**356**	P	**Pb**	**03 42 20.6**	**+1.7**
RLS	**Riolos of Patr**	**1.08**	**356**	*e*PN	**Pb**	**03 42 20.6**	**+1.7**
RLS				*e*SN	**Sb**	**03 42 35.6**	**+3.0**
RLS	**Riolos of Patr**	**1.08**	**356**	P	**Pb**	**03 42 20.6**	**+1.7**
RLS				*e*Sn	**Sb**	**03 42 35.6**	**+3.0**
GUR	**Goura**	**1.14**	**33**	P	**Pn**	**03 42 20.0**	**+0.8**
GUR	**Goura**	**1.14**	**33**	*e*PB	**Pn**	**03 42 20.1**	**+0.8**
GUR				*e*SN	**Sb**	**03 42 35.8**	**+1.2**
GUR	**Goura**	**1.14**	**33**	*e*Pb	**Pn**	**03 42 20.1**	**+0.8**
GUR	**Goura**	**1.14**	**33**	P	**Pb**	**03 42 20.6**	**+0.5**
GUR				*e*Sn	**Sb**	**03 42 35.8**	**+1.2**
GUR				S	**Sn**	**03 42 37.2**	**+3.1**
VLI	**Veliai**	**1.14**	**103**	P	**Pb**	**03 42 20.2**	**+0.2**
VLI				S	**Sb**	**03 42 35.4**	**+1.0**
VLI	**Veliai**	**1.14**	**103**	*e*PB	**Pb**	**03 42 20.1**	**+0.1**
VLI				*e*SN	**Sb**	**03 42 36.9**	**+2.5**
VLI	**Veliai**	**1.14**	**103**	P	**Pb**	**03 42 20.2**	**+0.2**
VLI				S	**Sb**	**03 42 35.4**	**+1.0**
VLI				*e*Sn	**Sb**	**03 42 36.9**	**+2.5**
KLV	**Kalavryta, Ach**	**1.16**	**24**	P	**Pb**	**03 42 20.7**	**+0.3**
KLV	**Kalavryta, Ach**	**1.16**	**24**	*e*PN	**Pb**	**03 42 20.7**	**+0.3**
KLV	**Kalavryta, Ach**	**1.16**	**24**	P	**Pb**	**03 42 20.7**	**+0.3**
KFL	**Anninata**	**1.28**	**332**	P	**Pb**	**03 42 24.2**	**+1.8**
KFL	**Anninata**	**1.28**	**332**	P	**Pb**	**03 42 24.2**	**+1.8**
LAKA	**Lakka**	**1.30**	**15**	P	**Pb**	**03 42 23.6**	**+0.8**
LAKA	**Lakka**	**1.30**	**15**	*e*PN	**Pb**	**03 42 24.5**	**+1.7**
LAKA	**Lakka**	**1.30**	**15**	P	**Pb**	**03 42 23.6**	**+0.8**
LAKA	**Lakka**	**1.30**	**15**	*e*Pn	**Pb**	**03 42 24.5**	**+1.7**
KYTH	**Kithira**	**1.38**	**120**	P	**Pb**	**03 42 25.4**	**+1.2**
KYTH	**Kithira**	**1.38**	**120**	*e*PN	**Pb**	**03 42 25.9**	**+1.7**
KYTH	**Kithira**	**1.38**	**120**	P	**Pb**	**03 42 25.4**	**+1.2**
KYTH	**Kithira**	**1.38**	**120**	*e*Pn	**Pb**	**03 42 25.9**	**+1.7**
VLS	**Valsamata**	**1.42**	**328**	*e*PB	**Pb**	**03 42 25.7**	**+0.9**
VLS	**Valsamata**	**1.42**	**328**	*e*Pb	**Pb**	**03 42 25.7**	**+0.9**
DID	**Didima**	**1.44**	**68**	P	**Pn**	**03 42 25.1**	**-0.1**
DID	**Didima**	**1.44**	**68**	*e*PN	**Pn**	**03 42 25.1**	**-0.1**
DID	**Didima**	**1.44**	**68**	P	**Pn**	**03 42 25.1**	**-0.1**
DID				S	**Sb**	**03 42 44.5**	**+1.4**
EFP	**Efpalio**	**1.47**	**11**	*e*PN	**Pb**	**03 42 27.7**	**+2.1**
EFP	**Efpalio**	**1.47**	**11**	P	**Pb**	**03 42 27.5**	**+1.9**
KALE	**Kalithea**	**1.48**	**18**	*e*PN	**Pb**	**03 42 27.6**	**+1.7**
KALE	**Kalithea**	**1.48**	**18**	P	**Pb**	**03 42 27.6**	**+1.7**
LTK	**Loutraki**	**1.53**	**47**	P	**Pn**	**03 42 26.5**	**-0.2**
LTK	**Loutraki**	**1.53**	**47**	*e*PN	**Pn**	**03 42 26.8**	**+0.1**
LTK	**Loutraki**	**1.53**	**47**	P	**Pn**	**03 42 26.5**	**-0.2**
LTK	**Loutraki**	**1.53**	**47**	*e*Pn	**Pn**	**03 42 26.8**	**+0.1**
DSF	**Desfina**	**1.62**	**28**	P	**Pn**	**03 42 28.1**	**-0.2**
DSF	**Desfina**	**1.62**	**28**	*e*PN	**Pn**	**03 42 28.3**	**0.0**
DSF	**Desfina**	**1.62**	**28**	P	**Pb**	**03 42 27.6**	**-0.7**
DSF	**Desfina**	**1.62**	**28**	*e*Pn	**Pn**	**03 42 28.3**	**0.0**
PDO	**Prodromos**	**1.64**	**350**	P	**Pb**	**03 42 29.8**	**+1.3**
PDO	**Prodromos**	**1.64**	**350**	*e*PN	**Pb**	**03 42 30.2**	**+1.7**
PDO	**Prodromos**	**1.64**	**350**	P	**Pb**	**03 42 29.8**	**+1.3**
PDO	**Prodromos**	**1.64**	**350**	*e*Pn	**Pb**	**03 42 30.2**	**+1.7**
ANKY	**Antikythira Is**	**1.80**	**128**	*e*PN	**Pb**	**03 42 31.8**	**+0.6**
ANKY	**Antikythira Is**	**1.80**	**128**	*e*Pn	**Pb**	**03 42 31.8**	**+0.6**
EVR	**Evrytania**	**1.94**	**6**	*e*PN	**Pb**	**03 42 35.8**	**+2.1**
EVR	**Evrytania**	**1.94**	**6**	*e*Pn	**Pb**	**03 42 35.8**	**+2.1**
AXAR	**Agios Charalam**	**1.98**	**26**	P	**Pb**	**03 42 33.8**	**-0.6**
AXAR	**Agios Charalam**	**1.98**	**26**	*e*PN	**Pb**	**03 42 33.8**	**-0.6**
AXAR	**Agios Charalam**	**1.98**	**26**	P	**Pb**	**03 42 33.8**	**-0.6**
LKR	**Lokris**	**2.02**	**34**	P	**Pn**	**03 42 32.9**	**+1.7**
LKR	**Lokris**	**2.02**	**34**	*e*PB	**Pn**	**03 42 33.0**	**+1.7**
LKR	**Lokris**	**2.02**	**34**	P	**Pn**	**03 42 32.9**	**+1.7**
MAKR	**Makrakomi, Fth**	**2.08**	**13**	*e*PB	**Pb**	**03 42 37.0**	**+1.0**
MAKR	**Makrakomi, Fth**	**2.08**	**13**	*e*Pb	**Pb**	**03 42 37.0**	**+1.0**
PTL	**Penteli**	**2.12**	**59**	*e*PN	**Pn**	**03 42 33.7**	**+1.0**
PTL	**Penteli**	**2.12**	**59**	*e*Pn	**Pn**	**03 42 33.7**	**+1.0**
DSL	**Palaion Diasel**	**2.18**	**351**	*e*PB	**Pb**	**03 42 37.3**	**-0.4**
DSL	**Palaion Diasel**	**2.18**	**351**	*e*Pb	**Pb**	**03 42 37.3**	**-0.4**
MRKA	**Markates**	**2.36**	**42**	*e*PN	**Pn**	**03 42 37.5**	**+1.6**
MRKA	**Markates**	**2.36**	**42**	*e*Pn	**Pn**	**03 42 37.5**	**+1.6**
THL	**Klokotos Trika**	**2.60**	**8**	*e*PN	**Pb**	**03 42 42.5**	**-2.4**
THL	**Klokotos Trika**	**2.60**	**8**	*e*Pn	**Pb**	**03 42 42.5**	**-2.4**
SKIA	**Skiathos**	**2.65**	**34**	*e*PN	**Pn**	**03 42 42.3**	**+2.3**
SKIA	**Skiathos**	**2.65**	**34**	*e*Pn	**Pn**	**03 42 42.3**	**+2.3**
NEO	**Neokhori**	**2.67**	**29**	*e*PN	**Pn**	**03 42 42.3**	**+2.1**
NEO	**Neokhori**	**2.67**	**29**	*e*Pn	**Pn**	**03 42 42.3**	**+2.1**
XOR	**Xorichti**	**2.71**	**28**	P	**Pn**	**03 42 43.1**	**+2.4**
XOR	**Xorichti**	**2.71**	**28**	P	**Pn**	**03 42 43.1**	**+2.4**
JAN	**Janina**	**2.73**	**349**	*e*PN	**Pb**	**03 42 44.5**	**-2.6**
JAN	**Janina**	**2.73**	**349**	*e*Pn	**Pb**	**03 42 44.5**	**-2.6**
IDI	**Anoyia** 0.4nm,0.3s,baz=287,slow=14,SNR=9.0	**3.19**	**121**	Pn	**Pn**	**03 42 48.5**	**+1.1**
IDI	6.1nm,0.3s,baz=140,slow=23,SNR=12			Sn	**Sn**	**03 43 27.0**	**+2.5**
KZN	**Kozani**	**3.32**	**3**	*e*PN	Pn	03 42 52.5	+3.2
KZN	**Kozani**	**3.32**	**3**	*e*Pn	Pn	03 42 52.5	+3.2
PLG	**Polygyros**	**3.70**	**23**	*e*PN	**Pn**	**03 42 56.5**	**+2.2**
PLG	**Polygyros**	**3.70**	**23**	*e*Pn	**Pn**	**03 42 56.5**	**+2.2**
SMG	**Samos**	**4.27**	**79**	*e*PN	**Pn**	**03 43 03.8**	**+1.6**
SMG	**Samos**	**4.27**	**79**	*e*Pn	**Pn**	**03 43 03.8**	**+1.6**
VAY	**Valandovo**	**4.40**	**10**	*i* PN	**Pn**	**03 43 06.2**	**+2.2**
VAY	**Valandovo**	**4.40**	**10**	*i* Pn	**Pn**	**03 43 06.2**	**+2.2**
SKO	**Skopje**	**4.98**	**359**	*i* Pn	**Pn**	**03 43 13.2**	**+1.2**
SKO				*e*Sg	Sn	03 44 02.9	-5.9
SKO	comp=E,37nm,0.3s			*e*Lg	Lg	03 44 03.7	
SKO	comp=N,49nm,0.2s			*e*Lg	Lg	03 44 04.3	
SKO	**Skopje**	**4.98**	**359**	*i* Pn	**Pn**	**03 43 13.2**	**+1.2**
SKO	comp=N,49nm,0.2s			*e*Lg	Lg	03 44 04.2	
STON	**Ston**	**6.58**	**334**	*e*Pn	**Pn**	**03 43 34.0**	**+0.1**
STON				Sn	**Sn**	**03 44 44.8**	**-3.3**
IVAS	**Ivanjica**	**6.67**	**351**	*e*Pn	**Pn**	**03 43 36.2**	**+0.9**
GRUS	**Gruza**	**6.93**	**355**	*e*Pn	**Pn**	**03 43 39.2**	**+0.5**
DIVS	**Divibare**	**7.21**	**351**	*e*Pn	**Pn**	**03 43 42.8**	**+0.2**
NVLJ	**Novalja**	**9.11**	**328**	*e*Pn	**Pn**	**03 44 08.5**	**-0.1**
NVLJ				Sn	**Sn**	**03 45 45.5**	**-4.7**
BRTR	**Keskin Array B** baz=256,slow=13,SNR=0.9	**9.88**	**70**	Pn	**Pn**	**03 44 21.0**	**+1.7**
AKASG	**Malin Array Be** comp=N,1.0nm,0.3s,baz=206,slow=8.0,SNR=9.8	**14.78**	**19**	Pn	**P**	**03 45 29.7**	**-2.0**
HFS	**Hagfors** comp=N,0.7nm,0.5s,baz=155,slow=11,SNR=8.6	**23.71**	**350**	P	**P**	**03 47 07.7**	**-0.8**
FINES	**FINESS Array B** comp=N,0.5nm,0.4s,baz=163,slow=13,SNR=6.9	**24.65**	**5**	P	**P**	**03 47 16.4**	**-0.6**
NB2	**NORSAR Subarra** comp=Z,0.8nm,0.8s,baz=156,slow=9.3	**24.95**	**348**	P	**P**	**03 47 18.8**	**-1.1**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.7s,baz=155,slow=9.3,SNR=4.4	**24.95**	**348**	P	**P**	**03 47 19.8**	**-0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.6s,baz=32,slow=8.5,SNR=7.0	**29.65**	**222**	P	**P**	**03 48 03.7**	**+1.3**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.4s,baz=282,slow=7.6,SNR=19	**45.24**	**58**	P	**P**	**03 50 12.5**	**-1.4**
MKAR	comp=Z,0.2nm,0.8s,baz=345,slow=4.5,SNR=1.2			PcP	**PcP**	**03 51 53.6**	**+0.1**
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.3s,baz=262,slow=8.8,SNR=4.4	**45.89**	**47**	P	**P**	**03 50 16.7**	**-2.1**

PGC 15 04:12:02.6±10.0, **50°.59N**×**130°.31W**, **h10**km, **MLSn2.8**/6, **Mw3.5**/6, **204km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.39**	**87**	P	Pn	04 12 25.8	-2.3
PHC	**Port Hardy**	**1.83**	**85**	Pn	Pn	04 12 32.2	-2.0
PHC				Sn	Sn	04 12 53.6	-3.8
MAYB	**Maynard**	**2.01**	**94**	Pn	Pn	04 12 34.6	-2.2
MAYB				Sn	Sn	04 12 58.2	-4.0
BBB	**Bella Bella**	**2.11**	**40**	Pn	Pn	04 12 36.3	-1.5
BBB				Sn	Sn	04 13 00.2	-3.9
TLCB	**Telegraph Cove**	**2.21**	**90**	Pn	Pn	04 12 37.9	-1.5
WOSB	**Woss**	**2.43**	**99**	Pn	Pn	04 12 41.0	-1.5
NCRB	**Newcastle Ridg**	**2.72**	**92**	Pn	Pn	04 12 44.8	-1.8
CBB	**Campbell River**	**3.22**	**98**	Pn	Pn	04 12 52.0	-1.2

*IDC **15** 04:22:08.1±6.4, 6°.82S×130°.04E, h120km±59km, mb3.7/6, mb1 4.0/9, mb1mx3.6/35, mbtmp4.3/9, Error ellipse: s-maj=72.6km s-min=19.7km az=56.0*
*ISCJB **15** 04:22:09.7±0.4, 6°.98S±0°.03×129°.87E±0°.04, h150km, mb3.7/6, Error ellipse: s-maj=6.2km s-min=4.4km az=25.0*
*DJA **15** 04:22:11.7±0.3, 7°S±3°×13°0E±°, h197km±8km, M4.8/11, mb4.8/7, mB5.0/4, MLv4.9/11, Mw(mB)4.3/4*
ISC 15 04:22:10.4±0.6, **7°.00S**±0°.05×**129°.88E**±0°.05, **h150**km, **n31**, σ**2s.25**/38, **mb3.8**/6, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.71**	**125**	P	Pn	04 22 46.1	+3.8
SAUI				S	**Sn**	**04 23 12.3**	**+5.6**
BNDI	**Bandanaira**	**2.46**	**1**	P	**Pn**	**04 22 54.3**	**+3.2**
MSAI	**Masohi**	**3.75**	**345**	P	Pn	04 23 11.8	+4.3
NLAI	**Namlea**	**4.65**	**323**	P	Pn	04 23 27.1	+7.8
FAKI	**Fak Fak**	**4.69**	**30**	P	**Pn**	**04 23 19.4**	**-0.4**
FAKI				S	**Sn**	**04 24 11.1**	**-2.8**
FAKI	**Fak Fak** baz=4.6,SNR=14	**4.69**	**30**	S	**Sn**	**04 24 11.0**	**-2.9**
KMPI	**Kaimana, Papua**	**5.05**	**49**	P	**Pn**	**04 23 25.6**	**+1.1**
KMPI				S	**Sn**	**04 24 21.0**	**-1.3**
MTN	**Manton Dam** baz=6.0,SNR=129	**5.93**	**168**	P	**Pn**	**04 23 37.5**	**+1.2**
MTN	baz=6.0,SNR=9.7			S	**Sn**	**04 24 41.2**	**-2.3**
SOEI	**Soe** 104nm,0.9s,3μm1.4nm	**6.19**	**243**	P	**Pn**	**04 23 41.7**	**+1.8**
SOEI	104nm,0.9s,3μm1.4nm			S	**Sn**	**04 24 47.7**	**-2.1**
SOEI	**Soe** baz=6.3,SNR=15	**6.19**	**243**	P	**Pn**	**04 23 41.5**	**+1.7**
SOEI	baz=6.3,SNR=7.4			S	**Sn**	**04 24 47.9**	**-1.9**
KDU	**Kakadu** baz=6.2,SNR=354	**6.20**	**156**	P	**Pn**	**04 23 41.0**	**+1.1**
KDU	baz=6.2,SNR=9.5			S	**Sn**	**04 24 47.5**	**-2.3**
SWI	**Sorong** 48nm,0.8s,2μm0.3nm	**6.25**	**13**	P	**Pn**	**04 23 40.6**	**+0.1**
SWI	48nm,0.8s,2μm0.3nm			S	Sn	04 24 45.6	-5.5
SANI	**Sanana** 27nm,0.9s,0.1nm	**6.27**	**322**	P	**Pn**	**04 23 43.6**	**+2.9**
LBMI	**Labuha** 184nm,0.9s,2μm0.5nm	**6.75**	**339**	P	**Pn**	**04 23 50.3**	**+3.0**
BATI	**Baumata** baz=55,slow=2.9	**6.92**	**242**	P	**Pn**	**04 23 50.4**	**+0.8**
BATI	baz=76,slow=17			S	**Sn**	**04 25 05.1**	**-2.2**
BAKI	**Biak**	**8.48**	**47**	P	**Pn**	**04 24 12.6**	**+2.3**
BAKI				S	**Sn**	**04 25 42.3**	**-2.3**
KNRA	**Kununurra** baz=8.8,SNR=68	**8.69**	**187**	P	**Pn**	**04 24 12.7**	**-0.4**
KNRA	baz=8.8,SNR=5.5			S	**Sn**	**04 25 45.2**	**-4.5**
WRA	**Warramunga Arr** 3.1nm,0.3s,baz=344,slow=13,SNR=44	**13.57**	**162**	P	**Pn**	**04 25 15.5**	**-1.5**
WRA	4.3nm,0.3s,baz=334,slow=23,SNR=11			S	Sn	04 27 38.3	-9.1
COEN	**Coen** baz=15,SNR=12	**14.78**	**119**	P	**P**	**04 25 33.4**	**-1.0**
QIS	**Mount Isa** baz=16,SNR=8.1	**16.44**	**146**	P	**P**	**04 25 55.2**	**+2.5**
ASAR	**Alice Springs** 1.9nm,0.3s,baz=343,slow=10.0,SNR=110	**17.01**	**167**	P	**Pn**	**04 26 00.9**	**+1.4**
ASAR	1.3nm,0.3s,baz=354,slow=26,SNR=6.6			S	**S**	**04 29 05.5**	**-3.3**
WRKA	**Warakurna** baz=18,SNR=41	**18.00**	**185**	P	**Pn**	**04 26 12.0**	**+0.7**
BBOO	**Buckleboo** baz=26,SNR=5.9	**26.31**	**168**	P	P	04 27 37.1	+4.8
STKA	**Stephens Creek** 1.4nm,0.5s,baz=323,slow=6.3,SNR=3.9	**27.06**	**158**	P	**P**	**04 27 41.0**	**+2.1**
STKA	**Stephens Creek** baz=27,SNR=4.8	**27.06**	**158**	P	**P**	**04 27 41.1**	**+2.1**
CMAR	**Chiang Mai Arr** 1.2nm,0.4s,baz=139,slow=7.3,SNR=8.1	**39.64**	**310**	P	**P**	**04 29 28.4**	**+0.5**
SONM	**Songino Array** 0.2nm,0.4s,baz=161,slow=7.6,SNR=3.8	**58.41**	**342**	P	**P**	**04 31 50.9**	**+0.6**
MKAR	**Makanchi Array** 4.1nm,0.6s,baz=116,slow=8.5,SNR=67	**68.16**	**327**	P	**P**	**04 32 55.7**	**+1.2**
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=129,slow=5.9,SNR=3.6	**71.53**	**334**	P	**P**	**04 33 14.7**	**-0.1**
BVAR	**Borovoye Array** 0.8nm,0.8s,baz=139,slow=7.5,SNR=4.6	**78.00**	**328**	P	**P**	**04 33 52.2**	**+0.1**
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=52,slow=1.3,SNR=2.6	**128.69**	**281**	PKP	**PKPdf**	**04 41 01.9**	**+1.0**

FUNV 15 04:41:52.9, **12°.01N**×**69°.80W**, **h1**km, **MW3.5**, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACV	**Jacura**	**1.31**	**134**	*e*P	Pg	04 42 17.9	-0.2
JACV				*e*S	Sg	04 42 34.9	-0.4
SIQV	**Siquisique**	**1.35**	**181**	*e*P	Pg	04 42 18.3	-0.6
SIQV				*e*S	Sn	04 42 37.2	-0.3
DABV	**Dabajuro**	**1.36**	**218**	*e*P	Pg	04 42 17.1	-1.8
DABV				*e*S	Sg	04 42 36.0	-0.5
CURV	**Curarigua**	**1.99**	**185**	*e*P	Pn	04 42 26.6	-1.2
TURV	**Turiamo**	**2.46**	**129**	*e*P	Pn	04 42 32.8	-1.4
TURV				*e*S	Sn	04 43 02.7	-2.3
SANV	**Sanarito**	**2.50**	**174**	*e*P	Pn	04 42 34.5	-0.4
VIRV	**Villa del Rosa**	**2.96**	**240**	*e*S	Sn	04 43 15.1	-2.2
BAUV	**El Baul**	**3.50**	**150**	*e*P	Pn	04 42 47.7	-0.7
BAUV				*e*S	Sn	04 43 27.5	-3.0
VIGV	**El Vigia**	**3.50**	**206**	*e*P	Pn	04 42 47.9	-0.7
VIGV				*e*S	Sn	04 43 28.4	-2.3
BIRV	**Birongo**	**3.78**	**113**	*e*P	Pn	04 42 50.5	-1.8
BIRV				*e*S	Sn	04 43 34.0	-3.4
SOCV	**Socops**	**3.84**	**196**	*e*P	Pn	04 42 52.2	-1.0
SOCV				*e*S	Sn	04 43 35.8	-3.2
CUPV	**Cœpira**	**4.38**	**116**	*e*P	Pn	04 42 60.0	-0.8
CUPV				*e*S	Sn	04 43 48.8	-3.7
CAPV	**Capacho**	**4.80**	**211**	*e*P	Pn	04 43 05.3	-1.4
CAPV				*e*S	Sn	04 43 58.1	-5.1

IDC 15 05:17:13.4±17.0, **12°.07N**×**142°.14E**, **h170**km±164km, **mb3.2**/8, **mb1 3.5**/8, **mb1mx3.3**/33, **mbtmp3.6**/8, **Error ellipse: s-maj=43.9km s-min=25.2km az=59.0**, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=14,slow=9.6,SNR=2.9	**32.72**	**194**	P	P	05 23 29.8	-0.3
CMAR	**Chiang Mai Arr** 1.0nm,0.4s,baz=83,slow=6.2,SNR=4.9	**42.08**	**284**	P	P	05 24 49.2	+0.3
SONM	**Songino Array** 0.1nm,0.4s,baz=138,slow=6.0,SNR=4.5	**46.50**	**327**	P	P	05 25 23.7	0.0
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=89,slow=8.7,SNR=4.7	**60.76**	**317**	P	P	05 27 07.7	+0.3
ILAR	**Eielson Array** 0.3nm,0.6s,baz=248,slow=5.7,SNR=7.7	**71.07**	**25**	P	P	05 28 12.1	-0.8
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=288,slow=5.2,SNR=3.7	**85.42**	**27**	P	P	05 29 32.1	+0.5
NVAR	**Mina Array Bea** 0.7nm,0.7s,baz=297,slow=5.6,SNR=4.6	**89.94**	**51**	P	P	05 29 55.4	+1.4
FINES	**FINESS Array B** 0.5nm,0.4s,baz=76,slow=3.8,SNR=9.2	**91.40**	**334**	P	P	05 29 58.6	-1.3

*IDC **15** 05:29:14.0±0.8, 19°.20S×176°.57W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.3/32, mbtmp4.3/14, MS4.4/25, Ms1 4.4/25, ms1mx4.3/27, Error ellipse: s-maj=33.4km s-min=17.2km az=152.0*
*ISCJB **15** 05:29:18.4±0.2, 19°.20S±0°.07×176°.67W±0°.05, h32km, mb4.9/62, MS4.4/26, Error ellipse: s-maj=10.9km s-min=5.7km az=166.1*
*MOS **15** 05:29:18.8±1.7, 19°.05S×176°.68W, h33km, mb5.0/22, Error ellipse: s-maj=12.4km s-min=9.9km az=165.5*
*GCMT **15** 05:29:20.5±0.2, 19°.27S×176°.14W, h15km, MW5.2/100, Moment Tensor Solution. s67,c88; s100,c170; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.15±.17; $M_{\theta\theta}$-4.52±.14; $M_{\phi\phi}$6.67±.15; $M_{r\theta}$-1.59±.50; $M_{\theta\phi}$-4.40±.12; $M_{\phi r}$0.84±.40; Best double couple: $M_0$7.38300×10^{16} NP1:ϕ_s117.00000°, δ84.00000°, λ-163.00000°. NP2: ϕ_s25.00000°, δ73.00000°, λ-7.00000°. Principal axes: T 8.3590, Plg7.0000°, Azm250.0000°; N -1.9520, Plg72.0000°, Azm138.0000°; P -6.4070, Plg17.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 05:29:20.6±0.2, 19°.07S×176°.67W, h35km, mb5.0/27 Error ellipse: s-maj=9.8km s-min=5.7km az=152.0*
ISC 15 05:29:20.6±0.4, **19°.11S**±0°.07×**176°.57W**±0°.05, **h38**km±3km, **h39**km**:pP-P**, **n276**, σ**1s.29**/282, **mb5.0**/63, **MS4.4**/27, **10C-8D**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.29**	**284**	*e*P	**Pn**	**05 30 35.6**	**-1.6**
MSVF				*e*		05 31 29.9	
MSVF	**Nonsavu**	**5.29**	**284**	*e*Pn	**Pn**	**05 30 35.6**	**-1.6**
MSVF				*e*Sn	Sn	05 31 29.9	-7.1
AFI	**Afiamalu**	**6.92**	**42**	P	**Pn**	**05 30 59.5**	**-0.2**
AFI	**Afiamalu** comp=Z,3μm,21.9s,baz=219,slow=34	**6.92**	**42**	LR	LR	05 33 11.7	
AFI	**Afiamalu**	**6.92**	**42**	Pn	**Pn**	**05 30 59.5**	**-0.2**
RAO	**Raoul Island** comp=Z,4μm,19.7s,baz=7.0,slow=35	**10.17**	**187**	LR	LR	05 35 04.0	
RAR	**Rarotonga**	**15.91**	**100**	*e*P	**Pn**	**05 33 01.8**	**0.0**
RAR	comp=Z,34nm,0.9s			pmax	pmax		
RAR	**Rarotonga** comp=Z,1μm,21.7s,baz=276,slow=31	**15.91**	**100**	LR	LR	05 37 28.1	
RAR	**Rarotonga** comp=Z,34nm,0.9s	**15.91**	**100**	*e*Pn	**Pn**	**05 33 01.8**	**0.0**
DZM	**Mont Dzumac** comp=Z,52nm,1.4s	**16.18**	**257**	*e*Pn	**P**	**05 33 10.9**	**+2.9**
DZM	comp=Z,8μm,24.9s			*e*LR	LR	05 37 02.4	
DZM	**Mont Dzumac** comp=Z,5μm,20.3s,baz=61,slow=34	**16.18**	**257**	LR	LR	05 38 20.7	
URZ	**Urewera** comp=Z,2μm,21.1s,baz=25,slow=34	**19.86**	**195**	LR	LR	05 40 33.4	
URZ	**Urewera** comp=Z,4.4nm,0.6s	**19.86**	**195**	*e*P	**P**	**05 33 48.1**	**-0.2**
SNZO	**South Karori** comp=Z,126nm,1.3s	**23.35**	**197**	*e*P	**P**	**05 34 28.6**	**+3.1**
HNR	**Honiara** comp=Z,559nm,20.3s,baz=132,slow=33	**24.68**	**290**	LR	LR	05 42 50.6	
PAE	**Paea** comp=Z,1.2nm,0.3s	**25.64**	**91**	*e*T	T	06 01 00.2	
PPT2	**Papeete2** comp=Z,354nm,27.5s	**25.66**	**91**	*e*S	**S**	**05 39 07.6**	**-5.6**
PPT2	comp=Z,3μm,27.2s			*e*LQ	LQ	05 39 43.5	
PPT2	comp=Z,5μm,26.5s,baz=257			*e*LR	LR	05 40 54.0	
PPT	**Papeete** comp=Z,1μm,20.6s,baz=258,slow=30	**25.66**	**91**	LR	LR	05 41 58.7	
CTA	**Charters Tower** comp=Z,0.7nm,0.3s,baz=63,slow=9.0,SNR=1.8	**34.99**	**262**	P	**P**	**05 36 08.9**	**-0.7**
CTAO	**Charters Tower**	**34.99**	**262**	*e*P	**P**	**05 36 10.1**	**+0.5**
CTAO	comp=Z,11nm,1.0s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,11nm,1.0s	**34.99**	**262**	*e*P	**P**	**05 36 10.1**	**+0.5**
PMG	**Port Moresby**	**36.38**	**280**	*d i*P	**P**	**05 36 22.7**	**+1.1**
PMG	comp=Z,20nm,1.2s			pmax	pmax		
PMG	**Port Moresby** comp=Z,7.4nm,0.6s,baz=72,slow=8.3,SNR=7.8	**36.38**	**280**	P	**P**	**05 36 21.1**	**-0.5**
PMG	**Port Moresby** comp=Z,36nm,1.1s	**36.38**	**280**	*e*P	**P**	**05 36 21.6**	**+0.1**
COEN	**Coen** comp=Z,63nm,0.9s	**38.87**	**271**	*e*P	**P**	**05 36 42.5**	**-0.1**
COEN				*e*pP	**pP**	**05 36 49.6**	**-3.9**
RKT	**Rikitea** comp=Z,373nm,26.8s	**38.91**	**103**	*e*S	S	05 42 28.1	-11
RKT	comp=Z,1μm,27.8s,baz=292			*e*LR	LR	05 47 01.2	
STKA	**Stephens Creek**	**39.61**	**243**	*e*P	P	05 36 55.2	+6.6
STKA	comp=Z,9.0nm,0.9s			pmax	pmax		
STKA	**Stephens Creek** comp=Z,6.1nm,1.1s,baz=54,slow=8.7,SNR=4.5	**39.61**	**243**	P	**P**	**05 36 46.5**	**-2.1**
STKA	comp=Z,973nm,18.2s,baz=73,slow=34			LR	LR	05 51 48.4	
WRAB	**Tennant Creek**	**46.13**	**260**	P	**P**	**05 37 40.7**	**-1.0**
WRAB	comp=Z,4.0nm,1.1s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,4.1nm,1.1s	**46.13**	**260**	P	**P**	**05 37 40.7**	**-1.0**
WRA	**Warramunga Arr** comp=Z,1.9nm,0.9s,baz=97,slow=8.9,SNR=10	**46.14**	**260**	P	**P**	**05 37 38.8**	**-2.9**
WRA	comp=Z,2μm,18.8s,baz=100,slow=36			LR	LR	05 56 31.5	
ASAR	**Alice Springs** comp=Z,4.6nm,0.8s,baz=94,slow=8.2,SNR=23	**46.16**	**255**	P	**P**	**05 37 39.8**	**-2.0**
ASAR	comp=Z,658nm,21.0s,baz=94,slow=34			LR	LR	05 55 38.2	
FAKI	**Fak Fak** comp=Z,27nm,1.1s	**52.52**	**281**	*e*P	**P**	**05 38 29.6**	**-0.9**
FAKI				*e*pP	**pP**	**05 38 39.1**	**-2.7**
SBA	**Scott Base**	**59.34**	**184**	*e*P	**P**	**05 39 16.9**	**-1.4**
SBA	comp=Z,76nm,1.6s			pmax	pmax		
SBA	**Scott Base** comp=Z,76nm,1.6s	**59.34**	**184**	*e*P	**P**	**05 39 16.9**	**-1.4**
VNDA	**Vanda** comp=Z,145nm,20.9s,baz=350,slow=31	**59.41**	**185**	LR	LR	06 00 19.1	
MBWA	**Marble Bar** comp=Z,15nm,0.9s	**59.48**	**256**	*e*P	**P**	**05 39 20.7**	**+0.5**
MJA0	**Matsu Arr-Jizo**	**69.89**	**323**	*e*P	P	05 40 34.8	+7.0
MJA0	comp=Z,1.0nm,0.4s			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,0.7nm,0.4s,baz=163,slow=4.7,SNR=2.4	**69.92**	**323**	P	**P**	**05 40 26.8**	**-1.1**
MJAR	comp=Z,103nm,21.5s,baz=195,slow=32			LR	LR	06 06 41.9	
MAJO	**Matsushiro**	**69.92**	**323**	*e*P	**P**	**05 40 29.4**	**+1.5**
QSPA	**South Pole Qui** comp=Z,18nm,1.5s	**70.95**	**180**	*e*P	**P**	**05 40 33.4**	**-0.5**

YUK Yuzh-Kuril'sk 71.63 332 d iP P 05 40 37.0 -1.1
YUK i 05 41 02.5
YUK i 05 43 15.3
YUK i PPP PPP 05 44 57.4
YUK i S S 05 49 45.9 -8.9
YUK i 05 50 40.8
YUK i SS SS 05 54 26.8 -4.5
YUK i SSS SSS 05 57 43.4
JNU Nakatsue 72.22 316 LR LR 06 07 51.4
comp=Z,83nm,19.5s,baz=1.5,slow=32
FX1 Attu Island--F 72.25 353 LR LR 06 05 45.3
comp=Z,277nm,21.9s,baz=178,slow=30
H06E1 SOCORRO T-PHAS 74.62 64 T T 07 02 21.8
SNR=5.7
YSS Yuzh-Sakhalins 75.28 333⇓ eP P 05 40 58.6 -0.9
YSS pmax pmax
comp=Z,18nm,1.2s
PETK Petropavlovsk- 75.30 344 eP P 05 41 06.0 +6.5
PETK pmax pmax
comp=Z,10.0nm,1.0s
PETK Petropavlovsk- 75.30 344 P P 05 40 59.2 -0.3
comp=Z,2.1nm,0.7s,baz=161,slow=9.2,SNR=3.0
PETK LR LR 06 10 38.6
comp=Z,150nm,19.4s,baz=144,slow=33
PTRM Twissleman Ran 76.25 44 eP P 05 41 05.3 -0.1
KSRS Korea Array 76.76 318 LR LR 06 09 55.6
comp=Z,79nm,19.0s,baz=121,slow=32
ISA Isabella 77.41 45 eP P 05 41 12.1 +0.1
ISA pmax pmax
comp=Z,38nm,2.0s
ISA Isabella 77.41 45 eP P 05 41 12.1 +0.1
comp=Z,38nm,2.0s
ISA Isabella 77.41 45 P P 05 41 13.1 +1.1
baz=78
SWSC Sam W. Stewart 77.76 49 P P 05 41 15.8 +1.9
baz=78
BELC Belle Mtn. Jos 78.18 48 P P 05 41 20.0 +3.5
baz=78
GSC Goldstone 78.33 46 P P 05 41 16.9 -0.3
GSC pmax pmax
comp=Z,12nm,1.3s
GSC Goldstone 78.33 46 P P 05 41 16.9 -0.3
comp=Z,12nm,1.3s
GSC Goldstone 78.33 46 P P 05 41 20.8 +3.7
baz=79
HEC Hector,Ludlow 78.40 47 P P 05 41 20.2 +2.7
baz=79
USRK Ussuriysk Arra 78.59 325 LR LR 06 12 33.2
comp=Z,90nm,18.8s,baz=122,slow=33
IRM Iron Mountain 78.86 48 P P 05 41 20.3 +0.3
baz=79
NVAR Mina Array Bea 79.10 43 P P 05 41 20.1 -1.4
comp=Z,1.8nm,1.0s,baz=224,slow=8.0,SNR=9.6
NVAR LR LR 06 09 07.4
comp=Z,465nm,19.7s,baz=122,slow=30
TPH Tonopah 79.60 44 eP P 05 41 24.6 +0.4
TPH pmax pmax
comp=Z,8.0nm,1.2s
TPH Tonopah 79.60 44 eP P 05 41 24.6 +0.4
comp=Z,7.9nm,1.2s
NJ2 Nanjing 80.05 309 eP P 05 41 27.6 +1.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
SHPR Sheep Range 80.11 46 eP P 05 41 27.4 +0.5
SHPR ePP PP 05 44 28.2 -1.5
Y14A Wickenburg 80.27 49 P P 05 41 27.9 +0.2
baz=80
R11A Troy Canyon, C 80.82 44 eP P 05 41 34.1 +3.4
comp=Z,47nm,2.7s
R11A Troy Canyon, C 80.82 44 P P 05 41 33.3 +2.6
baz=81
QIZ Qiongzhong 81.53 293 P P 05 41 36.1 +1.4
QIZ S S 05 51 43.9 -0.3
QIZ pmax pmax
comp=Z,170nm,3.5s
X16A Lo Mia Camp, P 81.63 49 P P 05 41 35.1 0.0
baz=82
319A Douglas 81.74 53 P P 05 41 36.3 +0.6
baz=82
CCUT Cedar City 81.88 46 eP P 05 41 37.0 +0.6
comp=Z,78nm,2.9s
U15A North Rim 82.04 47 P P 05 41 37.5 +0.1
baz=82
CN2 Changchun 82.04 322 eP P 05 41 36.6 -0.2
WUAZ Wupatki 82.22 48 eP P 05 41 39.2 +1.0
comp=Z,67nm,2.7s
WUAZ Wupatki 82.22 48 P P 05 41 38.4 +0.3
baz=82
ELK Elko 82.35 42 eP P 05 41 39.6 +0.7
ELK pmax pmax
comp=Z,11nm,1.5s
ELK Elko 82.35 42 eP P 05 41 39.6 +0.7
comp=Z,11nm,1.5s
G08A Pilot Rock 82.70 37 eP P 05 41 40.7 +0.3
comp=Z,114nm,2.7s
GAMB Gambell 82.71 2 eP P 05 41 39.8 0.0
comp=Z,9.9nm,1.0s
X18A Snowflake 82.75 50 P P 05 41 41.6 +0.6
baz=83
HAWA Hanford 83.04 36 eP P 05 41 42.8 +0.9
comp=Z,109nm,2.5s
MVU Marysvale 83.15 45 eP P 05 41 44.0 +1.0
MAW Mawson 83.31 199 LR LR 06 16 17.7
comp=Z,222nm,21.4s,baz=117,slow=34
BMO Blue Mountains 83.40 38 eP P 05 41 44.6 +0.6
comp=Z,30nm,1.9s
121A Cookes Peak, D 83.41 52 P P 05 41 45.4 +1.0
baz=84
MFID Camas Ranch 83.46 40 eP P 05 41 45.6 +1.2
comp=Z,23nm,1.7s
DUG Dugway 83.62 44 P P 05 41 46.1 +0.8
baz=84
F10A Beach Ranch, E 84.09 37 eP P 05 41 48.0 +0.5
comp=Z,123nm,2.5s
TMUT Trail Mountain 84.23 45 eP P 05 41 48.6 -0.1
comp=Z,16nm,1.1s
HLID Hailey 84.40 40 eP P 05 41 50.2 +0.9
comp=Z,13nm,1.4s
HLID Hailey 84.40 40 P P 05 41 50.4 +1.1
baz=85
HVU Hansel Valley 84.48 42 eP P 05 41 48.3 -1.3
HVU pmax pmax
comp=Z,36nm,1.7s
HVU Hansel Valley 84.48 42 eP P 05 41 48.3 -1.3
comp=Z,36nm,1.7s
CTU Camp Tracy 84.58 44 eP P 05 41 50.6 +0.4
comp=Z,9.5nm,1.1s
SRU San Rafael 84.59 46 eP P 05 41 51.0 +0.6
SRU pmax pmax
comp=Z,20nm,1.4s
SRU San Rafael 84.59 46 eP P 05 41 51.0 +0.6
comp=Z,20nm,1.4s
JLU Jordanelle 84.73 44 eP P 05 41 50.8 -0.3
comp=Z,7.7nm,1.2s
LAZ Ladron 84.74 51 eP P 05 41 52.2 +1.0
comp=Z,6.5nm,1.3s
LENM Lemitar 84.76 51 eP P 05 41 52.3 +1.0
MNTX Cornudas Mount 84.85 54 eP P 05 41 51.6 0.0
comp=Z,23nm,1.4s
LPM Los Pinos Moun 85.07 51 eP P 05 41 54.0 +1.2
TXAR Lajitas Array 85.18 57 eP P 05 41 58.3 +4.9
TXAR pmax pmax
comp=Z,3.0nm,0.9s
TXAR Lajitas Array 85.18 57 P P 05 41 53.7 +0.3
comp=Z,4.2nm,1.1s,baz=216,slow=4.5,SNR=5.8
TXAR LR LR 06 11 19.7
comp=Z,181nm,21.9s,baz=0.0,slow=30
Y23A Lovelace Mesa, 85.33 52 P P 05 41 53.8 -0.4
baz=86
MCK McKinley 85.34 12 eP P 05 41 52.2 -1.1
MCK pmax pmax
comp=Z,19nm,1.0s
MCK McKinley 85.34 12 eP P 05 41 52.2 -1.1
comp=Z,19nm,1.0s
SEY Seymchan 85.34 346 P P 05 41 53.2 -0.1
comp=Z,5.7nm,0.9s,baz=146,slow=7.0,SNR=6.2
PV01 Paradox Valley 85.46 47 eP P 05 41 54.9 +0.2
comp=Z,1μm,1.6s
225A Deer Hill, Car 85.46 54 P P 05 41 54.7 -0.1
baz=86
ANMO Albuquerque 85.49 51 eP P 05 41 54.7 -0.3
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO Albuquerque 85.49 51 eP P 05 41 54.7 -0.3
comp=Z,15nm,1.3s
Z24A Sheeppen Canyo 85.58 53 P P 05 41 55.0 -0.4
baz=86
V22A San Miguel Ran 85.60 50 P P 05 41 55.6 +0.1
baz=86
Y24A Capitan 85.79 52 P P 05 41 56.6 +0.1
baz=86
W23A Werner Place, 85.81 51 P P 05 41 57.3 +0.8
baz=86
125A Gardner Draw, 85.82 54 P P 05 41 56.9 +0.3
baz=86
GDL2 Guadalupe Moun 85.85 54 eP P 05 41 56.1 -0.6
U22A Llaves 85.85 49 P P 05 41 57.0 +0.3
baz=86
BJI Beijing 85.87 315 P P 05 41 58.3 +1.9
BJI S S 05 52 28.0 +1.0
BJI SS SS 05 58 06.8 +1.4
BJI pmax pmax
comp=Z,5.0nm,0.8s
BJI pmax pmax
comp=Z,120nm,5.2s
BJI LR LR
comp=Z,180nm,27.0s
BJI LR LR
comp=Z,170nm,25.1s
BJI LR LR
comp=Z,73nm,30.5s
226B Tecolote Peak, 85.95 54 P P 05 41 57.5 +0.3
baz=86
Z25A Roswell 86.05 53 P P 05 41 58.0 +0.3
baz=86
V23A Ortiz Mt. (NFS 86.05 50 P P 05 41 57.9 +0.1
baz=86
126A Clayton Basin, 86.30 54 P P 05 41 59.2 +0.3
baz=86
U23A El Rito 86.31 50 P P 05 41 59.4 +0.4
baz=86
Y25A Mesa, Roswell 86.34 52 P P 05 41 59.6 +0.5
baz=86
W24A Lazy 6 Ranch, 86.38 51 P P 05 41 59.6 +0.3
baz=87
MSO Missoula 86.45 38 P P 05 42 00.1 +0.8
baz=87
S22A 4UR Ranch, Cre 86.49 48 P P 05 42 00.2 +0.2
baz=87
BSMT Bassoo Peak 86.53 36 eP P 05 42 00.4 +0.6
comp=Z,19nm,1.8s
IM04 Indian Mountai 86.56 9 eP P 05 41 59.9 +0.6
COLA College 86.58 12 eP P 05 41 59.8 +0.5
COLA pmax pmax
comp=Z,21nm,1.2s
COLA College 86.58 12 eP P 05 41 58.0 -1.3
comp=Z,18nm,1.1s
Z26A Caprock 86.60 53 P P 05 41 59.9 -0.5
baz=87
X25A Clemmons Ranch 86.63 52 P P 05 42 00.5 0.0
baz=87
529A Stev Forest Ra 86.65 57 P P 05 42 00.7 +0.1
baz=87
ILAR Eielson Array 86.68 12 P P 05 41 58.6 -1.2
comp=Z,3.9nm,1.1s,baz=219,slow=5.1,SNR=9.5
ILAR LR LR 06 12 18.9
comp=Z,135nm,20.4s,baz=204,slow=30
V24A Rampart Ranch, 86.70 51 P P 05 42 01.7 +0.7
baz=87
IMW Indian Meadow 86.72 41 eP P 05 42 02.4 +1.4
comp=Z,72nm,2.7s
127A Arkansas Junct 86.82 54 P P 05 42 01.7 +0.3
baz=87
N20A Spence Gulch, 86.95 45 P P 05 42 02.4 +0.4
baz=87
PDAR Pinedale Array 87.03 43 P P 05 42 05.4 +2.9
comp=Z,0.9nm,0.9s,baz=195,slow=2.9,SNR=5.4
SMCO Snowmass 87.05 47 eP P 05 42 03.4 +0.6
comp=Z,58nm,3.0s
W25A X Bar L Ranch, 87.08 51 P P 05 42 02.7 0.0
baz=87
429A Davenport Ranc 87.11 56 P P 05 42 02.5 -0.4
baz=87
GYA Guiyang 87.15 299 eP P 05 42 05.0 +1.8
GYA pP pP 05 42 15.8 +0.7
GYA PP PP 05 45 30.3 +2.8
GYA SKS SKSac 05 52 25.6 -2.4
GYA S SKKSac 05 52 36.0 -1.0
GYA sS sS 05 52 57.4 -2.7
GYA SS SS 05 58 26.0 +1.1
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.4s
GYA LR LR
comp=Z,480nm,20.2s
GYA LR LR
comp=Z,320nm,21.4s
GYA LR LR
comp=Z,440nm,20.6s
228A UT Block 9, Go 87.18 55 P P 05 42 03.3 +0.1
baz=87
BOZ Bozeman (W) 87.19 40 eP P 05 42 04.5 +1.5
BOZ pmax pmax
comp=Z,31nm,1.9s
BOZ Bozeman (W) 87.19 40 eP P 05 42 04.5 +1.5
comp=Z,31nm,1.9s
Z27A Tatum 87.20 53 P P 05 42 03.4 +0.1
baz=87
V25A Rancho No Teng 87.23 51 P P 05 42 02.9 -0.6
baz=87
530A J-C Ranch, Com 87.36 57 P P 05 42 04.8 +0.7
baz=88
329A Wagon Wheel Ra 87.39 56 P P 05 42 05.1 +0.9
baz=88
128A Castleberry Fa 87.47 54 P P 05 42 05.3 +0.8
baz=88
Y27A Causey 87.48 53 P P 05 42 05.4 +0.8
baz=88
W26A Owens Ranch, T 87.54 52 P P 05 42 05.0 +0.1
baz=88
S24A Houchin Ranch, 87.59 49 P P 05 42 05.5 +0.2
baz=88
U25A Circle Dot Ran 87.63 50 P P 05 42 05.6 +0.2
baz=88
631A Perdido Creek 87.67 58 P P 05 42 05.8 +0.3
baz=88
832A Faith Ranch, C 87.71 59 P P 05 42 06.3 +0.6
baz=88
O22A Kremmling 87.80 46 P P 05 42 06.8 +0.5
baz=88
BILL Bilibino 87.81 354 d iP P 05 42 03.5 -1.7
BILL i 05 42 10.3
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL MLR MLR
comp=Z,181nm,19.0s
BILL Bilibino 87.81 354 eP P 05 42 04.7 -0.5
comp=Z,11nm,1.1s
T25A Trinidad 87.95 50 P P 05 42 07.6 +0.7
baz=88
531A Rocksprings 87.99 57 P P 05 42 07.8 +0.7
baz=88
W27A Bowe Ranch, En 88.05 52 P P 05 42 07.6 +0.3
baz=88
U26A Atchley Ranch, 88.11 50 P P 05 42 08.7 +1.0
baz=88
Y29A Porterfield Fa 88.60 53 P P 05 42 09.9 -0.1
baz=89
S26A Kim 88.83 49 P P 05 42 11.9 +1.0
baz=89
432A Menard 88.87 57 P P 05 42 12.1 +0.9
baz=89
332A Millersview 89.11 56 P P 05 42 13.0 +0.7
baz=89
R26A Arlington 89.14 49 P P 05 42 13.1 +0.7
baz=89
PLCA Paso Flores 89.24 133 LR LR 06 12 11.3
comp=Z,87nm,20.7s,baz=236,slow=29
L23A Garrett 89.25 45 P P 05 42 13.1 +0.2
baz=90
E19A Rath Farm, Rou 89.31 40 P P 05 42 14.4 +1.5
baz=90
SNAA Sanae 89.35 178 eP P 05 42 14.5 +1.7
SNAA Sanae 89.35 178 eP P 05 42 14.5 +1.7
HHC Hu-ho-hao-te 89.36 314 eP P 05 42 14.6 +1.2
HHC PP PP 05 45 47.6 +2.7
HHC S S 05 52 59.3 -1.4
HHC SS SS 05 58 57.0 +0.3
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.8s
HHC LR LR
comp=Z,290nm,16.9s
HHC LR LR
comp=Z,280nm,17.8s
HHC LR LR
comp=Z,140nm,17.3s
232A Coleman 89.38 56 P P 05 42 13.5 -0.1
baz=90
433A Art 89.38 57 P P 05 42 14.0 +0.4
baz=90
Z31A Sharp Cattle R 89.55 54 P P 05 42 14.8 +0.5
baz=90
D19A Cripps Ranch, 89.60 39 P P 05 42 15.1 +0.8
baz=90
Y31A Rekieta Farm, 89.71 54 P P 05 42 15.9 +0.8
baz=90
C19A Slack Wire Ran 89.78 39 P P 05 42 15.8 +0.7
baz=90
D20A Manuel Ranch, 90.01 39 P P 05 42 17.0 +0.8
baz=90
233A Rising Star 90.01 56 P P 05 42 17.6 +1.1
baz=90
Z32A Haskell 90.06 55 P P 05 42 17.0 +0.3
baz=90
133A Hamilton Ranch 90.22 56 P P 05 42 18.6 +1.1
baz=90
R28A Tribune 90.32 49 P P 05 42 18.7 +0.8
baz=90
C20A Veseth Ranch, 90.38 39 P P 05 42 19.1 +1.2
baz=91
Z33A Whitaker Ranch 90.60 55 P P 05 42 19.3 +0.1
baz=91
X32A Elmer 90.64 54 P P 05 42 20.3 +1.0
baz=91
V31A Spring Creek L 90.74 52 P P 05 42 21.1 +1.3
baz=91
G23A Biddle 90.83 42 P P 05 42 21.1 +1.1
baz=91
CMAR Chiang Mai Arr 90.93 289 P P 05 42 21.4 +0.3
comp=Z,0.6nm,0.3s,baz=90,slow=2.7,SNR=2.9
CMAR LR LR 06 25 18.2
comp=Z,50nm,18.6s,baz=140,slow=37
W32A Sentinel 90.94 53 P P 05 42 21.2 +0.5
baz=91
Y33A Hilltop Ranch, 90.98 54 P P 05 42 21.4 +0.5
baz=91
A20A Cobblestone Ra 90.98 38 P P 05 42 22.2 +1.5
baz=91
F23A Volborg 91.05 42 P P 05 42 22.3 +1.2
baz=91
H24A Dirks Ranch, A 91.17 43 P P 05 42 21.9 +0.2
baz=91
CD2 Chengdu 91.19 302 P P 05 42 23.3 +1.3
CD2 pP pP 05 42 34.3 +0.3
CD2 sP sP 05 42 38.4 0.0
CD2 PP PP 05 46 02.4 +2.8
CD2 SKS SKSac 05 52 50.6 -0.9
CD2 S S 05 53 15.8 -2.0
CD2 SS SS 05 59 23.8 +0.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.8s
CD2 LR LR
comp=Z,200nm,8.9s
CD2 LR LR
comp=Z,180nm,10.1s
D22A Cohagen 91.22 40 P P 05 42 22.3 +0.5
baz=91
X33A Lawton 91.28 54 P P 05 42 22.7 +0.3
baz=92
I25A Rochford 91.38 44 P P 05 42 23.5 +0.7
baz=92
U32A Winter Ranch, 91.60 52 P P 05 42 25.1 +1.3
baz=92
H25A Fruitdale 91.72 43 P P 05 42 24.8 +0.5
baz=92
X34A Smith Ranch, M 91.81 54 P P 05 42 25.3 +0.5
baz=92
V33A Lossen Ranch, 91.92 53 P P 05 42 26.4 +1.1
baz=92
C23A Lambert 92.12 40 P P 05 42 27.7 +1.8
baz=92
D24A Glendive 92.34 41 P P 05 42 28.9 +1.9
baz=92
B23A Brockton 92.52 39 P P 05 42 29.6 +1.8
baz=93
INK Inuvik 92.59 15 P P 05 42 27.7 +0.2
comp=Z,1.8nm,0.9s,baz=206,slow=7.7,SNR=3.1
DGMT Dagmar 93.00 39 eP P 05 42 31.2 +1.2
comp=Z,26nm,1.1s
DGMT Dagmar 93.00 39 P P 05 42 31.1 +1.2
baz=93
LZH Lanzhou 93.01 307 eP P 05 42 31.1 +0.6
LZH pP pP 05 42 42.5 0.0
LZH sP sP 05 42 45.8 -1.0
LZH pmax pmax
comp=Z,14nm,1.0s
R33A Olander Ranch, 93.08 51 P P 05 42 31.9 +1.3
baz=93
G27A Dupree 93.12 43 P P 05 42 32.0 +1.4
baz=93
F27A Lemmon 93.26 42 P P 05 42 32.1 +0.9
baz=94
E27A Carson 93.78 42 P P 05 42 34.5 +0.9
baz=94
C26A Wahner Farm, P 94.01 41 P P 05 42 34.8 +0.1
baz=94
F28A McLaughlin 94.03 43 P P 05 42 35.7 +0.9
baz=94
YKA Yellowknife Ar 94.70 24 eP P 05 42 42.0 +4.6
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 94.70 24 P P 05 42 35.6 -1.8
comp=Z,0.1nm,0.4s,baz=240,slow=4.2,SNR=3.5
ULN Ulaanbaatar 95.20 319 eP P 05 42 39.4 -0.9
ULN pmax pmax
comp=Z,1.0nm,1.2s
SONM Songino Array 95.60 319 LR LR 06 21 04.8
comp=Z,84nm,21.4s,baz=72,slow=32
ECSD EROS Data Cent 96.01 46 P P 05 42 44.3 +0.4
baz=96
TIXI Tiksi 97.76 345 eP Pdif 05 42 52.2 +1.1
TIXI pmax pmax
comp=Z,2.0nm,1.2s
TLY Talaya 98.65 322 eP P 05 42 52.1 -3.5
TLY pmax pmax
comp=Z,2.0nm,1.0s
ULM Lac du Bonnet 98.71 40 LR LR 06 19 54.2
comp=Z,404nm,20.6s,baz=250,slow=31
WMQ Urumqi 107.04 311 Pdif Pdif 05 43 34.3 +1.1
WMQ PP PP 05 48 03.4 +3.2
WMQ S Sdif 05 55 29.1 -3.4
WMQ SS SS 06 03 03.4 -1.4
WMQ AMB AMB
comp=Z,140nm,6.4s
WMQ LR LR
comp=Z,160nm,20.6s
WMQ LR LR
comp=Z,140nm,20.8s
WMQ LR LR
comp=Z,110nm,20.8s
KSH Kashi 115.19 305 ePKP PKPdf 05 48 00.3 +2.0
KSH esPKP 05 48 15.6
KSH PKS PKSdf 05 51 36.3 +1.3
KSH SKKS 05 55 57.5
KSH SS SS 06 04 59.0 +4.9
KSH LR LR
comp=Z,27nm,3.9s
KSH LR LR
comp=Z,13nm,3.0s
KSH LR LR
comp=Z,140nm,7.4s
OBN Obninsk 136.16 333 ePKIKP PKPdf 05 48 42.3 +4.8
OBN i 05 51 19.4
OBN pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 142.43 333 ePKIKP PKPdf 05 48 50.8 +1.7
AKASG Malin Array Be 142.43 333 PKP PKPdf 05 48 49.1 0.0
comp=Z,1.0nm,0.8s,baz=39,slow=4.0,SNR=5.5
KWP Kalwaria Pacla 145.86 338 ePKP2 PKPbc 05 48 55.8 0.0
KWP Kalwaria Pacla 145.86 338 ePKP PKPbc 05 48 55.7 0.0
KWP Kalwaria Pacla 145.86 338 ⇑iP PKPab 05 48 55.0 -0.2
BURAR Bucovina Array 146.48 333 ⇑iP PKPab 05 48 59.0 +0.2
KSP Ksiaz 146.74 345 ePKP2 PKPab 05 48 59.5 0.0
KSP Ksiaz 146.74 345 ePKP PKPbc 05 48 57.8 -0.5
UZH Uzhgorod 146.84 337 ePKP2 PKPab 05 49 01.5 +1.5
BRTR Keskin Array B 146.87 315 ePKP2 PKPbc 05 48 58.6 -0.7

BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 146.87 315 PKPbc **PKPbc 05 48 58.6 -0.7**
comp=Z,1.3nm,0.9s,baz=116,slow=2.9,SNR=4.4
CLL Collm 147.00 349 *e*PKP2 **PKPdf 05 48 58.0 +1.0**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL pmax pmax
comp=Z,14nm,1.1s
CLL Collm 147.00 349 *e*PKPbc **PKPdf 05 48 58.0 +1.0**
comp=Z,5.0nm,0.8s
CLL *i* PKiKP **PKiKP 05 49 02.1 +0.5**
comp=Z,14nm,1.1s
CLL *i* 05 49 03.8
CLL *i* pPKPbc pPKPbc 05 49 08.0 -3.3
CLL Lm MLR 06 49 00.0
comp=Z,200nm,22.0s
UPC Upice 147.11 345 *e*PKP2 **PKPab 05 49 04.9 +3.9**
UPC Upice 147.11 345 *e*PKP **PKPab 05 49 04.9 +3.9**
TRPA Tarpa 147.16 336⇑*i*P **PKPdf 05 48 58.6 +1.2**
DPC Dobruska-Polom 147.18 345 *e*PKP2 **PKPbc 05 48 59.6 -0.1**
DPC Dobruska-Polom 147.18 345 *e*PKP **PKPbc 05 48 59.6 -0.1**
DPC *e*x x 05 49 05.2
BRG Berggiesshubel 147.23 348 *e*PKP **PKPbc 05 48 59.3 -0.4**
comp=Z,5.6nm,1.3s
BRG *e* 05 49 04.6
comp=Z,10nm,1.0s
BRG *e* 05 51 05.3
comp=Z,3.8nm,1.0s
BRG Berggiesshubel 147.23 348 *e*PKP2 **PKPbc 05 48 59.3 -0.4**
BRG pmax pmax
comp=Z,6.0nm,1.3s
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,1.0s
MORC Moravsky Berou 147.38 343⇓*i*P **PKPdf 05 48 57.2 -0.6**
MLR Muntele Rosu 147.75 330⇓*i*P **PKPab 05 49 02.9 -1.0**
MLR Muntele Rosu 147.75 330 PKPbc **PKPab 05 49 02.8 -1.0**
comp=Z,0.9nm,0.8s,baz=315,slow=2.9,SNR=2.4
PRU Pruhonice 147.94 346 *e*PKP2 **PKPab 05 49 03.2 -1.1**
PRU Pruhonice 147.94 346 *e*PKP **PKPab 05 49 03.2 -1.1**
PRU *e*x x 05 49 06.9
DRGR 148.18 335⇑*i*P **PKPbc 05 49 01.3 -1.2**
VOIR 148.22 330⇑*i*P **PKPab 05 49 04.8 -0.9**
TREC Trest 148.37 345 *e*PKP2 **PKPab 05 49 06.4 +0.3**
TREC Trest 148.37 345 *e*PKP **PKPab 05 49 06.4 +0.3**
ARR Arges 148.46 331⇓*i*P **PKPbc 05 49 03.9 +0.6**
KHC Kasperske Hory 148.96 347 *e*PKIKP **PKPdf 05 49 01.5 +1.1**
KHC *e* 05 49 05.0
KHC *e* 05 49 09.3
KHC Kasperske Hory 148.96 347 *e*PKPDF **PKPdf 05 49 01.5 +1.1**
KHC ⇑*e*PKP **PKPbc 05 49 04.9 +0.5**
KHC *e*PKPAB **PKPab 05 49 09.0 +0.5**
KHC Kasperske Hory 148.96 347 *e*PKPdf **PKPdf 05 49 01.5 +1.1**
KHC *e*PKPbc **PKPbc 05 49 05.0 +0.5**
KHC *e*PKPab **PKPab 05 49 09.3 +0.8**
GERES GERESS Array B 149.20 347 PKPbc **PKPbc 05 49 04.7 -0.4**
comp=Z,3.7nm,0.9s,baz=22,slow=1.4,SNR=9.3
CONA Conrad Observa 149.53 343⇑*i*PKiKP **PKPbc 05 49 06.6 +0.6**
comp=Z,16nm,1.1s
BZS Buzias 149.58 334⇓*i*P **PKPbc 05 49 00.9 -0.5**
PKSM Moragy 150.21 338⇑*i*P **PKPbc 05 49 07.8 +0.3**
BFO Black Forest 150.59 353 *e*PKIKP **PKPbc 05 49 09.1 +0.7**
BFO Black Forest 150.59 353 *e*PKPbc **PKPbc 05 49 09.1 +0.7**
ABTA Abfaltersbach 151.45 347⇑*i*PKPbc **PKPbc 05 49 09.8 -0.7**
comp=Z,15nm,0.9s
FETA Feichten 151.53 349⇑*i*PKiKP **PKPbc 05 49 10.7 -0.1**
comp=Z,11nm,1.1s
FUORN Ofenpass-Fuorn 152.00 350 *e*PKPdf **PKPbc 05 49 11.5 -0.5**
TORD Torodi Ar. Bea 173.84 164 PKP **PKPdf 05 49 26.2 -0.7**
comp=Z,1.2nm,1.0s,baz=120,slow=0.1,SNR=3.0
TORD PKPab **PKPab 05 50 55.7 -1.3**
comp=Z,0.5nm,0.9s,baz=179,slow=5.1,SNR=3.5

MEX 15 05:30:49.4±0.4,**16.16N×99.28W,h17**km±999km,**MD3.6, Near coast of Guerrero**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ACX Acapulco 0.90 322 *i* P Pb 05 31 03.4 -3.2
ACX *e*S Sb 05 31 14.3 -3.9
CAIG El Cayaco 1.29 313 *i* P Pn 05 31 09.7 -3.0
CAIG *e*S Sb 05 31 24.9 -4.7
TLIG Tlapa 1.55 26 *i* P Pn 05 31 12.8 -3.6
TLIG *e*S Sn 05 31 31.0 -5.3
PLIG Platanillo 2.23 355 *i* P Pn 05 31 22.6 -3.1
PLIG *e*S Sn 05 31 49.2 -3.7
ARIG Puente Sto Nin 2.34 334 *i* P Pn 05 31 24.8 -2.4
ARIG *e*S Sn 05 31 51.6 -4.0

ISCJB **15** *05:34:13.9±2.3, 24.3S±0.4×115.6W±0.5, h10km, mb3.9/7, MS4.1/2, Error ellipse: s-maj=78.4km s-min=19.0km az=141.1*
IDC **15** *05:34:14.8±1.3, 24.25S×115.44W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.7/28, mbtmp3.7/5, MS4.0/2, Ms1 4.0/2, ms1mx3.4/21, Error ellipse: s-maj=50.4km s-min=26.3km az=47.0*
NEIC **15** *05:34:16.1±0.7, 24.31S×115.51W, h10km, mb4.3/2, Error ellipse: s-maj=28.4km s-min=13.1km az=223.0*
ISC 15 05:34:16.1±1.4,**24.3S**±0.3×**115.5W**±0.3,**h10**km,**n21,** σ0.42/11,**mb3.9/7, Southern East Pacific Rise**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H03N2 Juan Fernandez 33.16 114 T T 06 16 03.8
baz=277,slow=75,SNR=11
H03N3 Juan Fernandez 33.17 114 T T 06 16 05.0
baz=277,slow=75,SNR=22
H03N1 Juan Fernandez 33.17 114 T T 06 16 03.3
baz=277,slow=75,SNR=14
PLCA Paso Flores 40.83 125 P **P 05 41 58.2 +0.2**
2.4nm,0.9s,baz=260,slow=6.3,SNR=6.8
LVC Limon Verde 42.62 98 *e*P **P 05 42 13.8 +0.6**
1.8nm,0.5s
LPAZ La Paz 44.96 89 P **P 05 42 32.1 -0.3**
2.1nm,0.7s,baz=252,slow=4.1,SNR=8.7
TRQA Tornquist 47.21 120 *e*P **P 05 42 49.0 -0.3**
5.8nm,1.0s
AFI Afiamalu 53.87 270 LR LR 06 02 18.3
comp=Z,132nm,18.1s,baz=126,slow=31
NVAR Mina Array Bea 62.44 358 P **P 05 44 40.2 +0.6**
0.2nm,0.5s,baz=175,slow=11,SNR=3.0
PDAR Pinedale Array 66.94 5 P **P 05 45 08.9 -0.1**
0.5nm,0.9s,baz=156,slow=4.6,SNR=3.5
YKA Yellowknife Ar 86.47 0 P **P 05 46 58.2 -0.3**
0.4nm,0.9s,baz=176,slow=5.0,SNR=7.0
H11S2 WAKE ISLAND Hy 86.90 292 T T 07 22 53.3
baz=120,slow=74,SNR=55
H11S1 WAKE ISLAND Hy 86.91 292 T T 07 22 54.5
baz=120,slow=74,SNR=47
H11S3 WAKE ISLAND Hy 86.91 292 T T 07 22 55.0
baz=120,slow=74,SNR=37
H11N3 WAKE ISLAND Hy 87.28 293 T T 07 23 27.4
baz=116,slow=78,SNR=11
H11N1 WAKE ISLAND Hy 87.29 293 T T 07 23 25.1
baz=116,slow=78,SNR=8.0
H11N2 WAKE ISLAND Hy 87.29 293 T T 07 23 25.1
baz=116,slow=78,SNR=18
PMG Port Moresby 92.79 258 LR LR 06 19 14.7
comp=Z,69nm,19.8s,baz=214,slow=29
CMAR Chiang Mai Arr 147.47 266 PKPbc **PKPbc 05 54 00.9 -0.2**
0.5nm,0.3s,baz=80,slow=1.0,SNR=4.3
BRTR Keskin Array B 149.82 52 PKPbc **PKPbc 05 54 06.5 -0.3**
0.3nm,0.4s,baz=250,slow=4.3,SNR=3.2
BRTR PKPab **PKPab 05 54 12.0 -0.2**
1.3nm,1.0s,baz=294,slow=1.4,SNR=4.2
MKAR Makanchi Array 153.40 332 PKPbc **PKPbc 05 54 15.0 +0.4**
0.2nm,0.7s,baz=20,slow=4.6,SNR=1.9

IDC **15** *05:45:06.7±1.1, 12.33N×144.44E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.6/28, mbtmp3.5/7, Error ellipse: s-maj=35.7km s-min=22.2km az=97.0*
ISCJB **15** *05:45:09.4±0.9, 12.3N±0.1×144.4E±0.2, h30km, mb3.5/7, Error ellipse: s-maj=31.2km s-min=18.3km az=5.4*
ISC 15 05:45:11.3±1.1,**12.3N**±0.2×**144.4E**±0.2,**h30**km,**n13,** σ0.78/7,**mb3.5/7, South of Mariana Islands**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H11S3 WAKE ISLAND Hy 22.32 71 T T 06 13 40.7
baz=270,slow=76,SNR=6.1
H11S1 WAKE ISLAND Hy 22.34 71 T T 06 13 37.8
baz=270
H11S2 WAKE ISLAND Hy 22.34 71 T T 06 13 41.1
baz=270,slow=76,SNR=6.1
H11N1 WAKE ISLAND Hy 22.81 68 T T 06 14 13.3
baz=258,slow=75,SNR=24
H11N2 WAKE ISLAND Hy 22.82 68 T T 06 14 14.0
baz=258,slow=75,SNR=21
H11N3 WAKE ISLAND Hy 22.82 68 T T 06 14 13.7
baz=258,slow=75,SNR=14
WRA Warramunga Arr 33.55 197 P **P 05 51 48.2 -0.6**
0.5nm,0.8s,baz=20,slow=9.7,SNR=4.2
ASAR Alice Springs 37.21 196 P **P 05 52 20.6 +0.5**
0.2nm,0.5s,baz=15,slow=12,SNR=4.2
CMAR Chiang Mai Arr 44.18 284 P **P 05 53 18.3 +0.5**
1.1nm,0.3s,baz=88,slow=8.2,SNR=3.4
SONM Songino Array 47.52 326 P **P 05 53 44.5 +0.5**
0.3nm,0.8s,baz=134,slow=6.2,SNR=2.7
MKAR Makanchi Array 62.10 317 P **P 05 55 28.3 -1.1**
0.4nm,0.5s,baz=98,slow=8.1,SNR=7.3
ILAR Eielson Array 69.90 25 P **P 05 56 19.2 -0.1**
0.3nm,0.7s,baz=247,slow=6.0,SNR=5.0
YKA Yellowknife Ar 84.19 27 P **P 05 57 39.8 +0.2**
0.1nm,0.4s,baz=290,slow=5.9,SNR=4.5

IDC **15** *05:51:45.8±1.8, 48.10N×157.07E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/34, mbtmp3.5/7, ML2.5/1, MS3.5/1, Ms1 3.6/1, ms1mx2.6/32, Error ellipse: s-maj=41.6km s-min=28.1km az=9.0*
KRSC **15** *05:51:46.4±2.3, 48.35N×157.94E, h15km±6km, ML4.3*
MOS **15** *05:51:49.3±1.7, 48.47N×156.88E, h25km, mb4.2/1, Error ellipse: s-maj=40.1km s-min=10.2km az=83.5*
SKHL **15** *05:51:49.7, 48.38N×156.29E, h38km±4km, mb4.2/1*
ISCJB **15** *05:51:50.3±0.9, 48.34N±0.05×157.3E±0.2, h35km, mb3.5/6, MS3.6/1, Error ellipse: s-maj=17.0km s-min=7.6km az=179.0*
ISC 15 05:51:51.9±1.2,**48.32N**±0.10×**157.1E**±0.1,**h35**km,**n33,** σ1.71/43,**mb3.5/6, East of Kuril Islands**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SKR Severo-Kuril's 2.44 346 *e*PN Pn 05 52 24.0 -5.3
SKR *e*S **Sn 05 52 52.9 -5.0**
SKR pmax pmax
comp=Z,50nm,0.5s
SKR smax smax
comp=N,170nm,0.5s
SKR smax smax
comp=E,170nm,0.5s
SKR Severo-Kuril's 2.44 346 P **Pn 05 52 28.7 -0.6**
SKR S **Sn 05 52 58.2 +0.3**
SKR Severo-Kuril's 2.44 346 *e*P Pn 05 52 24.0 -5.3
SKR AMB AMB 05 52 24.4
comp=E,50nm,0.5s
SKR *e*rx rx 05 52 26.0
SKR *e*rx rx 05 52 36.5
SKR *e*S **Sn 05 52 52.9 -5.0**
SKR A A 05 52 54.0
comp=E,170nm,0.5s
SKR A A 05 52 54.0
comp=E,60nm,0.5s
PAU Pauzhetka 3.15 357 PN **Pn 05 52 38.7 -0.3**
PAU S **Sn 05 53 16.6 +1.2**
PAU Pauzhetka 3.15 357 P **Pn 05 52 38.7 -0.3**
PAU S **Sn 05 53 16.6 +1.2**
PAU Pauzhetka 3.15 357 *e*P **Pn 05 52 41.1 +2.1**
PAU *e*S **Sn 05 53 16.0 +0.6**
ASAK Asacha 4.10 7 P **Pn 05 52 51.2 -0.9**
ASAK S **Sn 05 53 38.7 -0.2**
RUS Russkaya 4.22 12 S **Sn 05 53 40.5 -1.1**
MTVR Mutnovka 4.23 9 P **Pn 05 52 53.0 -0.9**
MTVR S **Sn 05 53 41.5 -0.6**
PETK Petropavlovsk- 4.81 5 PN **Pn 05 53 02.6 +0.8**
PETK 05 54 01.4
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK smax smax
comp=N,1.0nm,0.3s
PETK Petropavlovsk- 4.81 5 Pn **Pn 05 53 02.6 +0.8**
comp=N,0.9nm,0.3s,baz=167,slow=15,SNR=4.6
PETK Sn **Sn 05 54 01.4 +5.2**
comp=N,0.7nm,0.3s,baz=207,slow=27,SNR=2.2
PET Petropavlovsk 4.82 11 *e*PN **Pn 05 53 01.4 -0.4**
PET *e*S **Sn 05 53 55.6 -0.7**
PET smax smax
comp=N,50nm,0.6s
PET Petropavlovsk 4.82 11 S **Sn 05 53 56.3 0.0**
PET Petropavlovsk 4.82 11 *e*P **Pn 05 53 01.4 -0.4**
PET *e*S **Sn 05 53 55.6 -0.7**
PET A A 05 53 57.3
comp=N,50nm,0.6s
UGLR Uglovaya 5.02 12 P **Pn 05 53 04.8 0.0**
AVH Avacha 5.06 11 P **Pn 05 53 05.4 +0.1**
SMAR Somma 5.07 12 P **Pn 05 53 05.5 0.0**
KOK Koryaka 5.08 11 P **Pn 05 53 05.3 -0.2**
SDLR Sedlovina 5.09 12 P **Pn 05 53 04.6 -1.2**
KRER Koryakskii 5.10 11 P **Pn 05 53 05.7 -0.3**
KRX Arik 5.14 11 P **Pn 05 53 05.7 -0.8**
GNL Ganaly 5.41 5 P **Pn 05 53 10.9 +0.8**
GNL S **Sn 05 54 13.0 +1.8**
MKZ Mys Kozlova 6.89 23 PN **Pn 05 53 28.5 -1.8**
MKZ Mys Kozlova 6.89 23 P **Pn 05 53 28.5 -1.8**
KBTR Krutoberegovo 8.65 22 PN **Pn 05 53 52.6 -1.8**
KBTR Krutoberegovo 8.65 22 P **Pn 05 53 52.6 -1.8**
ILAR Eielson Array 33.63 40 P **P 05 58 29.4 +0.7**
comp=N,0.3nm,0.6s,baz=249,slow=7.5,SNR=6.6
YKA Yellowknife Ar 48.04 39 P **P 06 00 28.6 +1.4**
comp=N,0.5nm,0.7s,baz=296,slow=7.2,SNR=6.4
MKAR Makanchi Array 48.59 298 P **P 06 00 31.9 +0.2**
comp=N,0.3nm,0.8s,baz=63,slow=7.2,SNR=3.9
NVAR Mina Array Bea 59.33 65 P **P 06 01 48.7 -1.8**
comp=N,0.2nm,0.6s,baz=287,slow=9.4,SNR=2.4
NVAR LR LR 06 26 05.4
comp=N,43nm,20.0s,baz=103,slow=35
FINES FINESS Array B 63.73 336 P **P 06 02 19.5 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 63.73 336 P **P 06 02 19.5 0.0**
comp=Z,1.0nm,0.8s,baz=20,slow=4.4,SNR=2.7
TXAR Lajitas Array 74.39 63 P **P 06 03 27.2 +1.0**
comp=Z,0.4nm,0.6s,baz=309,slow=5.7,SNR=2.7

ISCJB **15** *05:59:24.4±0.8, 20.8S±0.2×177.9W±0.2, h450km, mb3.6/8, Error ellipse: s-maj=27.1km s-min=9.6km az=136.5*
IDC **15** *05:59:25.5±2.1, 20.84S×177.70W, h464km±24km, mb3.3/8, mb1 3.6/10, mb1mx3.4/20, mbtmp4.2/10, Error ellipse: s-maj=28.6km s-min=14.8km az=138.0*
ISC 15 05:59:25.1±0.7,**20.7S**±0.1×**177.9W**±0.2,**h450**km,**n14,** σ1.70/17,**mb3.7/8, Fiji Islands region**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 8.89 42 P **P 06 01 31.6 +1.2**
9.4nm,0.3s,baz=243,slow=14,SNR=4.6
AFI S **S 06 03 14.2 +0.8**
2.7nm,0.3s,baz=240,slow=20,SNR=2.7
URZ Urewera 18.05 193 P **P 06 03 07.4 -0.8**
0.6nm,0.3s,baz=14,slow=4.2,SNR=2.5
URZ S **S 06 06 15.3 +4.2**
0.4nm,0.3s,baz=56,slow=18,SNR=2.6
STKA Stephens Creek 37.83 244 P **P 06 06 01.5 -0.4**
1.2nm,0.5s,baz=92,slow=12,SNR=3.5
ASAR Alice Springs 44.60 257 P **P 06 06 56.0 -0.2**
5.3nm,0.5s,baz=95,slow=7.9,SNR=97
ASAR PcP **PcP 06 08 28.8 -1.1**
0.5nm,0.6s,baz=97,slow=4.0,SNR=4.6
WRA Warramunga Arr 44.71 262 P **P 06 06 56.4 -0.7**
2.7nm,0.6s,baz=98,slow=8.2,SNR=34
KSRS Korea Array 77.11 319 P **P 06 10 32.4 +1.3**
1.1nm,0.7s,baz=128,slow=5.4,SNR=4.7
USRK Ussuriysk Arra 79.19 326 P **P 06 10 43.9 +1.7**
2.3nm,0.8s,baz=166,slow=4.4,SNR=5.2
NVAR Mina Array Bea 81.07 43 P **P 06 10 50.9 -1.7**
0.2nm,0.5s,baz=234,slow=8.8,SNR=2.5
ILAR Eielson Array 88.47 13 P **P 06 11 27.1 -0.7**
0.3nm,0.8s,baz=251,slow=5.1,SNR=7.3
CMAR Chiang Mai Arr 90.30 290 P **P 06 11 38.6 +1.1**
1.2nm,0.4s,baz=137,slow=3.5,SNR=5.4
FINES FINESS Array B 135.99 344 PKP **PKPdf 06 17 52.2 -1.3**
1.6nm,0.9s,baz=46,slow=4.0,SNR=2.3
AKASG Malin Array Be 143.24 331 PKP PKPab 06 18 03.5 -1.1
1.6nm,0.5s,baz=42,slow=4.5,SNR=20
BRTR Keskin Array B 147.06 312 PKPbc **PKPdf 06 18 15.4 +1.3**
0.6nm,0.6s,baz=64,slow=6.6,SNR=4.0
TORD Torodi Ar. Bea 172.49 177 PKP **PKPdf 06 18 40.1 -2.3**
0.4nm,0.8s,baz=144,slow=0.3,SNR=2.4
TORD PKPab **PKPab 06 20 09.3 -0.8**
0.4nm,0.8s,baz=171,slow=4.2,SNR=2.5

PRU 15 06:15:04.9, 50.38N×18.82E, h0km**, Poland**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CHZP Chorzow 0.14 129 *e*Pg Pg 06 15 07.2 -0.4
CHZP *e*Sg Sg 06 15 09.2 -0.3
OJC Ojcow 0.65 104 *e*Pg Pg 06 15 17.4 0.0
OJC *e*Sg Sg 06 15 25.7 -0.1
OKC Ostrava-Krasne 0.69 219 *e*PG Pg 06 15 18.3 +0.1
OKC *e*SG Sg 06 15 26.8 -0.5
6.0nm,0.4s
DPC Dobruska-Polom 1.60 270 *e*PG Pn 06 15 34.6 +0.1
DPC *e*SG Sn 06 15 55.7 -0.2

DJA 15 06:15:39.6±0.5,**3°S**±7°×**12°9E**±°,**h10**km,**M3.6**/7,**MLv3.6**/7, **Seram**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSAI Masohi 0.24 70 P Pg 06 15 43.9 -0.7
MSAI S Sg 06 15 48.0 0.0
NLAI Namlea 1.61 277 P Pn 06 16 08.2 +0.1
LBMI Labuha 3.02 337 P Pn 06 16 28.5 +0.9
FAKI Fak Fak 3.58 82 P Pn 06 16 37.4 +2.2
FAKI S Sn 06 17 16.5 -1.1
SWI Sorong 3.61 45 P Pn 06 16 37.4 +1.7

ROM **15** *06:16:38.7±0.7, 46.28N×14.35E, h10km, Md2.4/3, Ml2.2/6, Error ellipse: s-maj=7.3km s-min=5.1km az=95.0*
CSEM **15** *06:16:39.4±0.1, 46.30N×14.31E, h2km, ML2.8/20, Error ellipse: s-maj=1.8km s-min=1.2km az=9.0*
VIE **15** *06:16:39.0±0.3, 46.30N×14.31E, h6km±9km, mb1.8/4, ML2.5/6, Error ellipse: s-maj=1.2km s-min=1.0km az=1.0 7 km NNW of Kranj*
PRU **15** *06:16:40.1, 46.31N×14.35E, h1km*
LJU 15 06:16:39.0, 46.30N×14.31E, h5km**, ML2.0, 14C-12D, Northwestern Balkan Peninsula**
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MOZS Mozjanca 0.09 94⇓*i*Pg Pg 06 16 41.6 +0.5
MOZS *i* Sg Sg 06 16 43.8 +1.3
comp=Z,310nm,0.1s
MOZS Mozjanca 0.09 94⇓*i*Pg Pg 06 16 41.6 +0.5
MOZS *i* Sg Sg 06 16 43.8 +1.3
comp=Z,310nm,0.1s
GORS Gorjuse 0.22 274 *i* Pg Pg 06 16 43.4 -0.1
GORS *i* Sg Sg 06 16 46.9 +0.4
comp=Z,38nm,0.1s
GORS Gorjuse 0.22 274 *i* Pg Pg 06 16 43.4 -0.1
GORS *i* Sg Sg 06 16 46.9 +0.4
comp=Z,38nm,0.1s
CRNS Crni Vrh 0.22 189⇓*i*Pg Pg 06 16 43.7 +0.2
CRNS *i* Sg Sg 06 16 47.1 +0.6
comp=Z,158nm,0.1s
OBKA Obir 0.27 38 *e*Pg Pg 06 16 44.8 +0.5
SNR=112
OBKA ⇓*i*Sg Sg 06 16 48.5 +0.5
comp=Z,177nm,0.1s
OBKA Obir 0.27 38 Pg Pg 06 16 44.8 +0.4
SNR=112
OBKA Sg Sg 06 16 48.5 +0.5
comp=Z,177nm,0.1s
LJU Ljubljana 0.30 150⇓*i*Pg Pg 06 16 45.5 +0.7
LJU *i* Sg Sg 06 16 49.6 +0.8
comp=Z,153nm,0.1s
LJU Ljubljana 0.30 150⇓*i*Pg Pg 06 16 45.5 +0.7
LJU *i* Sg Sg 06 16 49.6 +0.8
comp=Z,153nm,0.1s
VNDS Vrh nad Dolski 0.34 126 *i* Pg Pg 06 16 46.3 +0.7
VNDS *i* Sg Sg 06 16 50.8 +0.8
comp=Z,72nm,0.2s
VOJS Vojsko 0.40 228⇓*i*Pg Pg 06 16 46.7 -0.2
VOJS *i* Sg Sg 06 16 52.5 +0.3
comp=Z,42nm,0.1s
VOJS Vojsko 0.40 228⇓*i*Pg Pg 06 16 46.7 -0.2
VOJS *i* Sg Sg 06 16 52.5 +0.3
comp=Z,42nm,0.1s
CADS Cadrg 0.40 260 *i* Pg Pg 06 16 46.8 -0.1
CADS *i* Sg Sg 06 16 53.0 +0.7
comp=Z,60nm,0.1s
CADS Cadrg 0.40 260 *i* Pg Pg 06 16 46.8 -0.1
CADS *i* Sg Sg 06 16 53.0 +0.7
comp=Z,60nm,0.1s
JAVS Javornik 0.44 203 *i* Pg Pg 06 16 47.4 -0.3
JAVS *i* Sg Sg 06 16 53.8 +0.3
comp=Z,100nm,0.2s
JAVS Javornik 0.44 203 *i* Pg Pg 06 16 47.4 -0.3
JAVS *i* Sg Sg 06 16 53.8 +0.2
comp=Z,100nm,0.2s
DRE Drenchia 0.48 255⇑*e*Pg Pg 06 16 48.4 +0.1
DRE *e*Sg Sg 06 16 56.0 +1.3
DRE Drenchia 0.48 255 *e*P Pg 06 16 48.4 0.0
DRE *e*Sg Sg 06 16 56.0 +1.3
PDKS Podkum 0.54 116⇑*i*Pg Pg 06 16 49.9 +0.5
PDKS *i* Sg Sg 06 16 56.9 +0.5
comp=Z,50nm,0.2s
PDKS Podkum 0.54 116⇑*i*Pg Pg 06 16 49.9 +0.5
PDKS *i* Sg Sg 06 16 56.9 +0.5
comp=Z,50nm,0.2s
ROBS Robic 0.56 264 *i* Pg Pg 06 16 49.7 -0.1
ROBS *i* Sg Sb 06 16 58.7 -0.8
comp=Z,9.0nm,0.1s
ROBS Robic 0.56 264 *i* Pg Pg 06 16 49.7 -0.1
ROBS *i* Sg Sb 06 16 58.7 -0.9
comp=Z,9.0nm,0.1s
MYKA Terra Mystica 0.57 306⇓*e*Pg Pg 06 16 50.6 +0.5
SNR=8.2
MYKA ⇑*i*Sg Sg 06 16 58.2 +0.7
comp=Z,16nm,0.1s
MYKA Terra Mystica 0.57 306 Pg Pg 06 16 50.6 +0.5
SNR=8.2
MYKA Sg Sg 06 16 58.2 +0.7
comp=Z,16nm,0.1s
CEY Cerknica 0.57 172 *i* Pg Pg 06 16 49.8 -0.2
CEY *i* Sg Sg 06 16 57.6 +0.2
comp=Z,94nm,0.1s
CEY Cerknica 0.57 172 *i* Pg Pg 06 16 49.8 -0.2
CEY *i* Sg Sg 06 16 57.6 +0.2
comp=Z,94nm,0.1s
LSR Lussari 0.57 288⇑*e*Pg Pg 06 16 50.3 +0.1
LSR *e*Sg Sg 06 16 58.5 +0.7
LSR Lussari 0.57 288 *e*P Pg 06 16 50.3 +0.1
LSR *e*Sg Sg 06 16 58.5 +0.7
SABO M.te Sabotino 0.59 237⇑*e*Pg Pg 06 16 50.0 -0.4
SABO *e*Sg Sg 06 16 58.2 +0.1
SABO M.te Sabotino 0.59 237 Pg Pg 06 16 49.9 -0.5
SABO Sg Sg 06 16 58.5 +0.4
comp=Z,188nm,0.5s
SABO M.te Sabotino 0.59 237 *e*P Pg 06 16 50.0 -0.4
SABO *e*Sg Sg 06 16 58.2 +0.1
ACOM Acomizza, Ital 0.60 294⇑*e*Pg Pg 06 16 51.0 +0.1
ACOM *e*Sg Sg 06 16 59.8 +0.8
ACOM Acomizza, Ital 0.60 294 Pg Pg 06 16 51.1 +0.2
ACOM Sg Sg 06 17 00.0 +1.0
comp=Z,145nm,0.2s
ACOM Acomizza, Ital 0.60 294 *e*P Pg 06 16 51.0 +0.1
ACOM *e*Sg Sg 06 16 59.8 +0.8
VISS Visnje 0.62 143 *i* Pg Pg 06 16 51.4 +0.6
comp=Z,35nm,0.1s
VISS Visnje 0.62 143 *i* Pg Pg 06 16 51.4 +0.5
comp=Z,35nm,0.1s
SOKA Soboth 0.63 53⇓*e*Pg Pg 06 16 51.2 0.0
SNR=9.5
SOKA ⇑*i*Sg Sg 06 16 59.8 +0.3
comp=Z,35nm,0.2s
SOKA Soboth 0.63 53 Pg Pg 06 16 51.2 0.0
SNR=9.5
SOKA Sg Sg 06 16 59.8 +0.4
comp=Z,35nm,0.2s
PERS Pernice 0.65 59 *i* Pg Pg 06 16 51.6 0.0
PERS *i* Sg Sg 06 17 00.5 +0.3
PERS Pernice 0.65 59 *i* Pg Pg 06 16 51.6 0.0
PERS *i* Sg Sg 06 17 00.5 +0.3

BISS Bistriski jare 0.66 58 *i* Pg Pg 06 16 51.9 +0.1
BISS *i* Sg Sg 06 17 00.9 +0.4
comp=Z,121nm,0.1s
BISS Bistriski jare 0.66 58 *i* Pg Pg 06 16 51.9 +0.1
BISS *i* Sg Sg 06 17 00.9 +0.4
comp=Z,121nm,0.1s
COLI Coloredo 0.67 256⇑*e*Pg Pg 06 16 51.9 +0.1
COLI *e*Sg Sb 06 17 02.1 -0.6
COLI Coloredo 0.67 256 *e*P Pg 06 16 51.9 0.0
COLI *e*Sg Sb 06 17 02.1 -0.6
PTCC Patocco-Chiusa 0.67 279 Pg Pg 06 16 51.9 -0.1
PTCC Sg Sb 06 17 01.9 -1.1
comp=Z,42nm,0.5s
PTCC Patocco-Chiusa 0.67 279 Pg Pg 06 16 51.9 -0.1
PTCC Sg Sb 06 17 01.9 -1.1
comp=Z,42nm,0.5s
VINO Villanova 0.71 267⇓*e*Pg Pg 06 16 52.6 -0.3
VINO *e*Sg Sb 06 17 03.8 -0.4
VINO Villanova 0.71 267 Pg Pg 06 16 52.6 -0.2
VINO Sg Sb 06 17 04.2 0.0
comp=Z,39nm,0.4s
VINO Villanova 0.71 267 *e*P Pg 06 16 52.6 -0.2
VINO *e*Sg Sb 06 17 03.8 -0.4
BAD Bernadia 0.74 265⇑*e*Pg Pg 06 16 53.0 -0.3
BAD *e*Sg Sb 06 17 04.2 -0.8
BAD Bernadia 0.74 265 *e*P Pg 06 16 53.0 -0.4
BAD *e*Sg Sb 06 17 04.2 -0.8
KNDS Knezji Dol 0.78 176 *i* Sg Sb 06 17 05.3 -0.8
KNDS Knezji Dol 0.78 176 *i* Sg Sb 06 17 05.3 -0.7
SKDS Skadanscina 0.78 195 *i* Pg Pg 06 16 53.1 -0.9
SKDS *i* Sg Sg 06 17 05.0 +0.7
comp=Z,51nm,0.2s
SKDS Skadanscina 0.78 195 *i* Pg Pg 06 16 53.2 -0.9
SKDS *i* Sg Sg 06 17 05.0 +0.7
comp=Z,51nm,0.2s
LEGS Legarje 0.78 116 *i* Pg Pg 06 16 54.5 +0.4
LEGS *i* Sg Sb 06 17 05.6 -0.6
LEGS Legarje 0.78 116 *i* Pg Pg 06 16 54.5 +0.4
LEGS *i* Sg Sb 06 17 05.6 -0.5
DOBS Dobrina 0.82 100 *i* Pg Pg 06 16 54.9 +0.1
DOBS *i* Sg Sb 06 17 07.8 +0.7
DOBS Dobrina 0.82 100 *i* Pg Pg 06 16 54.9 +0.1
DOBS *i* Sg Sb 06 17 07.8 +0.7
CESS Cesta pri Krsk 0.87 112 *i* Pg Pg 06 16 55.7 +0.1
CESS *i* Sg Sb 06 17 08.1 -0.4
CESS Cesta pri Krsk 0.87 112 *i* Pg Pg 06 16 55.7 0.0
CESS *i* Sg Sb 06 17 08.1 -0.4
CRES Cresnjev 0.93 120 *i* Pg Pb 06 16 57.5 -0.1
CRES Cresnjev 0.93 120 *i* Pg Pb 06 16 57.5 -0.1
GOLS Golise 0.96 107 *i* Pg Pg 06 16 57.7 +0.2
GOLS Golise 0.96 107 *i* Pg Pg 06 16 57.7 +0.2
ZOU Zoufplan 0.96 286 *e*Pg Pg 06 16 57.6 -0.1
ZOU *e*Sg Sb 06 17 11.6 0.0
GCIS Gornji Cirnik 1.01 115 *i* Pg Pg 06 16 58.7 +0.2
GCIS *i* Sg Sb 06 17 12.9 +0.2
comp=Z,22nm,0.1s
GCIS Gornji Cirnik 1.01 115 *i* Pg Pg 06 16 58.7 +0.2
GCIS *i* Sg Sb 06 17 12.9 +0.2
comp=Z,22nm,0.1s
KBA Koelnbreinsper 1.02 320⇑*i*Pg Pg 06 16 58.9 0.0
KBA ⇑*i*Sg Sg 06 17 12.5 +0.1
comp=Z,11nm,0.2s
KBA Koelnbreinsper 1.02 320 Pg Pg 06 16 58.9 0.0
KBA Sg Sg 06 17 12.5 +0.1
comp=Z,11nm,0.2s
BOJS Bojanci 1.03 140 *i* Pg Pb 06 16 59.3 0.0
BOJS *i* Sg Sn 06 17 14.2 -0.8
comp=Z,18nm,0.1s
BOJS Bojanci 1.03 140 *i* Pg Pb 06 16 59.3 -0.1
BOJS *i* Sg Sn 06 17 14.2 -0.8
comp=Z,18nm,0.1s
MLNI Malnisio 1.19 263⇑*e*Pg Pn 06 17 03.2 +0.8
MLNI *e*Sg Sn 06 17 21.1 +2.1
MLNI Malnisio 1.19 263 *e*P Pn 06 17 03.2 +0.8
MLNI *e*Sg Sn 06 17 21.1 +2.1
POLC Polcenigo 1.29 258 Pg Pb 06 17 03.9 +0.2
comp=Z,66nm,0.3s
POLC Polcenigo 1.29 258 Pg Pb 06 17 03.9 +0.2
comp=Z,66nm,0.3s
POLC *e*Sg Sn 06 17 23.5 +2.3
CIMO Cimolais 1.30 271 *e*Pg Pg 06 17 04.4 +0.5
CIMO *e*Sg Sn 06 17 23.2 +1.6
CIMO Cimolais 1.30 271 *e*P Pg 06 17 04.4 +0.5
CIMO *e*Sg Sn 06 17 23.2 +1.6
CAE Caneva 1.33 258 *e*Pg Pg 06 17 05.3 +0.5
CAE *e*Sg Sn 06 17 24.6 +2.0
CAE Caneva 1.33 258 *e*P Pg 06 17 05.3 +0.6
CAE *e*Sg Sn 06 17 24.6 +2.0
MOA Molln 1.55 359⇑*i*Pg Pg 06 17 09.1 +0.3
MOA ⇓*i*Sg Sg 06 17 31.1 +2.1
comp=Z,9.6nm,0.3s
MOA Molln 1.55 359 Pg Pg 06 17 09.1 +0.3
MOA Sg Sg 06 17 31.1 +2.2
comp=Z,9.6nm,0.3s
RISI Rein 1.67 294 Pg Pb 06 17 10.2 -0.3
comp=Z,32nm,0.5s
RISI Rein 1.67 294 *e*P Pb 06 17 10.2 -0.3
RISI *e*Sg Sg 06 17 34.1 +1.0
NVLJ Novalja 1.78 167 *e*Pn Pb 06 17 11.6 -0.5
NVLJ Sn Sb 06 17 34.9 +0.2
NVLJ Novalja 1.78 167 *e*Pn Pb 06 17 11.6 -0.5
NVLJ Sn Sb 06 17 34.9 +0.2
CGRP Cima Grappa 1.80 257 *e*Pn Pn 06 17 11.5 +0.6
CGRP Cima Grappa 1.80 257 *e*Pn Pn 06 17 11.5 +0.6
UDBI Udbina 2.05 149 *e*Pn Pb 06 17 15.5 -1.2
UDBI Sn Sb 06 17 42.8 +0.1
UDBI Udbina 2.05 149 *e*Pn Pb 06 17 15.5 -1.3
UDBI Sn Sb 06 17 42.7 +0.1
ABSI Aberstueckl 2.11 283 *e*P Pb 06 17 17.3 -0.7
ABSI *e*S Sg 06 17 47.1 -0.1
KHC Kasperske Hory 2.87 350 *e*PG Pb 06 17 31.6 +0.8
KHC *e*SN Sn 06 18 01.3 +0.7
KHC *e*SG Sg 06 18 10.3 -1.2
comp=Z,4.0nm,0.7s
KHC Kasperske Hory 2.87 350 Pg Pb 06 17 31.6 +0.8
KHC Sn Sn 06 18 01.3 +0.7
KHC Sg Sg 06 18 10.3 -1.2
comp=Z,4.0nm,0.7s

IDC 15 06:22:46.1±2.6,54°.15N×86°.25E,h0km,mb1 2.8/1, mb1mx2.7/32,mbtmp2.8/1,ML2.8/1,Error ellipse: s-maj=19.2km s-min=11.3km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
I46RU	ZALESOVO INFRA	0.86	257	*i*		06 29 05.0	
	baz=76,slow=338,SNR=2.2						
ZALV	Zalesovo Beam	0.87	257	Pg	Pg	06 23 01.9	-0.8
	3.9nm,0.3s,baz=74,slow=17,SNR=23						
ZALV				Lg	Lg	06 23 15.1	
	4.3nm,0.3s,baz=79,slow=32,SNR=18						
MKAR	Makanchi Array	7.78	200	Pn	Pn	06 24 42.0	+1.4
	0.1nm,0.3s,baz=24,slow=13,SNR=12						
MKAR				Lg	Lg	06 26 54.1	
	0.0nm,0.3s,baz=23,slow=32,SNR=5.5						

*ISCJB **15** 06:57:04.8±0.6,32°.15N±0°.05×105°.03E±0°.08,h14km, mb3.7/5,MS3.9/3,Error ellipse: s-maj=10.9km s-min=5.6km az=21.5*
*IDC **15** 06:57:04.5±1.0,31°.99N×104°.66E,h0km,mb3.7/5, mb1 4.0/7,mb1mx3.7/28,mbtmp3.7/7,ML4.7/1,MS3.8/3, Ms1 3.8/3,ms1mx2.8/50,Error ellipse: s-maj=49.1km s-min=19.6km az=67.0*
*BJI **15** 06:57:07.9,32°.29N×104°.88E,h22km,mb3.9/2,ML3.6/22, Ms3.4/6,Ms7 3.3/6*
ISC 15 06:57:06.8±0.7,32°.13N±0°.05×104°.92E±0°.06,h14km,n14, σ1°.43/18,mb3.6/5,MS4.0/3,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
CD2	Chengdu	1.57	220	Pn	**Pb**	**06 57 36.0**	**+0.4**
CD2				Pg	**Pg**	**06 57 37.0**	**+0.1**
CD2				Sg	**Sg**	**06 57 59.9**	**+2.5**
CD2				smax	smax		
	comp=N,3μm,0.6s						
CD2				smax	smax		
	comp=E,3μm,0.7s						
XAN	Xi'an	3.86	59	Pn	**Pn**	**06 58 04.1**	**-1.7**
XAN				Pg	**Pb**	**06 58 15.3**	**+0.7**
XAN				Sg	**Sb**	**06 59 02.9**	**+1.6**
XAN				smax	smax		
	comp=N,210nm,0.8s						
XAN				smax	smax		
	comp=E,130nm,0.7s						
XAN				LR	LR		
	comp=N,520nm,7.8s						
XAN				LR	LR		
	comp=E,66nm,7.4s						
XAN				LR	LR		
	comp=Z,59nm,6.1s						
LZH	Lanzhou	4.05	348	Pn	**Pn**	**06 58 08.1**	**-0.4**
LZH				Pg	**Pb**	**06 58 17.3**	**-0.7**
LZH				Sn	**Sn**	**06 58 54.6**	**-1.2**
LZH				Sg	**Sb**	**06 59 08.3**	**+1.5**
LZH				smax	smax		
	comp=N,440nm,0.9s						
LZH				smax	smax		
	comp=E,500nm,1.1s						
LZH				LR	LR		
	comp=N,650nm,6.0s						
LZH				LR	LR		
	comp=E,890nm,5.0s						
LZH				LR	LR		
	comp=Z,700nm,7.5s						
GTA	Gaotai	8.37	332	*e*P	**Pn**	**06 59 09.1**	**+1.4**
GTA				pP	pP	06 59 13.3	
GTA				sP		06 59 16.5	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR	Chiang Mai Arr	14.64	203	Pn	**Pn**	**07 00 30.9**	**-2.7**
	1.1nm,0.3s,baz=284,slow=12,SNR=3.6						
SONM	Songino Array	15.73	4	Pn	**Pn**	**07 00 48.0**	**+0.1**
	0.0nm,0.3s,baz=181,slow=13,SNR=3.0						
MKAR	Makanchi Array	22.69	317	P	**P**	**07 02 06.4**	**-1.4**
	1.2nm,0.9s,baz=118,slow=11,SNR=9.7						
ZALV	Zalesovo Beam	26.12	333	P	**P**	**07 02 40.7**	**+0.5**
	0.7nm,0.5s,baz=168,slow=9.4,SNR=1.9						
BVAR	Borovoye Array	32.44	320	LR	LR	07 15 45.5	
	comp=Z,41nm,19.4s,baz=246,slow=35						
ASF	Jabal al Asfar	56.65	290	LR	LR	07 32 22.6	
	comp=Z,137nm,19.9s,baz=171,slow=38						
WRA	Warramunga Arr	58.95	147	P	**P**	**07 07 05.6**	**-0.2**
	1.5nm,0.6s,baz=340,slow=7.4,SNR=13						
ASAR	Alice Springs	62.01	150	P	**P**	**07 07 26.4**	**-0.3**
	0.4nm,0.4s,baz=339,slow=6.2,SNR=6.5						
YKA	Yellowknife Ar	80.51	17	P	**P**	**07 09 19.5**	**+1.5**
	0.4nm,0.6s,baz=328,slow=5.1,SNR=15						
TORD	Torodi Ar. Bea	93.99	288	LR	LR	07 55 46.2	
	comp=Z,124nm,19.2s,baz=300,slow=38						

MEX 15 06:57:36.9±0.3,16°.64N×100°.25W,h12km±47km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
CAIG	El Cayaco	0.41	358	*i* P	Pg	06 57 44.7	-0.4
CAIG				*i* S	Sg	06 57 50.5	0.0
ACX	Acapulco	0.44	58	*i* P	Pg	06 57 44.2	-1.5
ACX				*e*S	Sg	06 57 50.3	-1.3
ARIG	Puente Sto Nin	1.64	357	*i* P	Pn	06 58 01.8	-3.8
ARIG				*i* S	Sn	06 58 21.4	-5.3
TLIG	Tlapa	1.85	60	*i* P	Pn	06 58 04.8	-4.0
TLIG				*i* S	Sn	06 58 27.8	-4.5
PLIG	Platanillo	1.89	22	*i* P	Pn	06 58 05.3	-3.8
PLIG				*e*S	Sn	06 58 28.1	-4.9

IDC 15 07:04:40.9±3.4,54°.18N×87°.29E,h0km,mb1 2.9/1, mb1mx2.7/33,mbtmp2.9/1,ML2.7/1,Error ellipse: s-maj=31.2km s-min=18.8km az=48.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
I46RU	ZALESOVO INFRA	1.47	262	*i*		07 14 07.3	
	baz=80,slow=346,SNR=6.0						
ZALV	Zalesovo Beam	1.47	262	Pg	Pn	07 05 07.5	-1.1
	1.1nm,0.3s,baz=82,slow=15,SNR=11						
ZALV				Lg	Lg	07 05 27.8	
	1.6nm,0.3s,baz=82,slow=32,SNR=7.2						
MKAR	Makanchi Array	8.05	205	Pn	Pn	07 06 40.3	+1.2
	0.1nm,0.3s,baz=24,slow=13,SNR=9.3						

IDC 15 07:29:25.5±6.3,7°.51S×124°.28E,h132km±70km,mb2.9/1, mb1 3.1/4,mb1mx2.9/40,mbtmp3.4/4,Error ellipse: s-maj=85.1km s-min=31.0km az=46.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
BATI	Baumata	2.75	193	P	Pn	07 30 09.3	+0.3
	5.3nm,0.3s,baz=45,slow=2.9,SNR=4.2						
BATI				S	Sn	07 30 43.0	+0.4
	8.1nm,0.3s,baz=342,slow=20,SNR=3.6						
WRA	Warramunga Arr	15.75	143	P	Pn	07 32 60.0	-0.2
	0.1nm,0.3s,baz=316,slow=12,SNR=5.8						
ASAR	Alice Springs	18.53	151	P	P	07 33 32.0	+0.1
	0.2nm,0.3s,baz=332,slow=15,SNR=15						
MKAR	Makanchi Array	65.67	330	P	P	07 39 55.6	0.0
	0.2nm,0.5s,baz=120,slow=7.3,SNR=5.2						

IDC 15 07:29:27.6±3.5,53°.51N×87°.44E,h0km,mb1 2.7/1, mb1mx2.6/44,mbtmp2.7/1,ML2.7/1,Error ellipse: s-maj=31.8km s-min=15.8km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
I46RU	ZALESOVO INFRA	1.61	287	*i*		07 40 20.4	
	baz=105,slow=343,SNR=10						
ZALV	Zalesovo Beam	1.61	287	Pg	Pn	07 29 56.5	-0.9
	1.1nm,0.3s,baz=106,slow=15,SNR=9.9						
ZALV				Lg	Lg	07 30 19.0	
	2.4nm,0.3s,baz=100,slow=23,SNR=12						
MKAR	Makanchi Array	7.49	208	Pn	Pn	07 31 19.6	+1.4
	0.1nm,0.3s,baz=22,slow=12,SNR=5.5						
MKAR				Lg	Lg	07 33 25.4	
	0.1nm,0.3s,baz=28,slow=30,SNR=5.5						

*ISCJB **15** 07:33:28.3±1.1,21°.32S±0°.07×68°.4W±0°.2,h118km, mb3.5/2,Error ellipse: s-maj=24.2km s-min=9.9km az=1.0*
*IDC **15** 07:33:29.8±2.5,21°.34S×68°.40W,h116km±21km,mb3.4/3, mb1 3.6/5,mb1mx3.4/26,mbtmp3.9/5,Error ellipse: s-maj=33.6km s-min=26.2km az=95.0*
ISC 15 07:33:29.4±1.0,21°.37S±0°.07×68°.3W±0°.2,h118km,n7, σ2°.01/9,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
LPAZ	La Paz	5.06	2	P	**Pn**	**07 34 44.9**	**+1.1**
	1.5nm,0.3s,baz=191,slow=5.2,SNR=58						
LPAZ				S	**Sn**	**07 35 38.5**	**-3.1**
	0.1nm,0.3s,baz=103,slow=19,SNR=3.3						
SIV	San Ignacio	8.71	53	P	**Pn**	**07 35 31.8**	**-0.8**
	4.5nm,0.3s,baz=257,slow=12,SNR=62						
CFAA	Coronel Fontan	10.19	180	P	**Pn**	**07 35 53.3**	**+0.8**
	0.1nm,0.3s,baz=360,slow=13,SNR=13						
CFAA				S	**Sn**	**07 37 42.3**	**-2.7**
	0.1nm,0.3s,baz=94,slow=14,SNR=8.6						
BDFB	Brasilia	20.08	77	P	**P**	**07 37 55.8**	**+1.9**
	3.2nm,0.5s,baz=260,slow=9.6,SNR=8.9						
TORD	Torodi Ar. Bea	76.80	70	P	**P**	**07 45 09.3**	**+0.6**
	0.4nm,0.4s,baz=253,slow=5.7,SNR=8.0						
YKA	Yellowknife Ar	91.25	340	P	**P**	**07 46 20.4**	**-0.5**
	0.2nm,0.5s,baz=134,slow=4.7,SNR=8.6						
MKAR	Makanchi Array	145.21	36	PKPbc	**PKPab**	**07 52 54.1**	**+0.9**
	0.2nm,0.3s,baz=320,slow=3.3,SNR=4.3						

MEX 15 07:49:28.3±0.4,16°.72N×99°.68W,h11km±4km,MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
ACX	Acapulco	0.23	311	*i* P	Pg	07 49 33.5	+0.3
ACX				*e*S	Sg	07 49 37.5	+1.0
CAIG	El Cayaco	0.66	300	*i* P	Pg	07 49 39.3	-1.8
CAIG				*e*S	Sg	07 49 48.2	-1.5
MEIG	Mezcala	1.20	3	*i* P	Pn	07 49 47.1	-4.1
MEIG				*e*S	Sb	07 50 01.6	-5.3
TLIG	Tlapa	1.35	51	*i* P	Pn	07 49 49.6	-3.7
TLIG				*e*S	Sb	07 50 05.9	-5.4
PNIG	Pinotepa	1.52	102	*e*P	Pn	07 49 51.8	-3.7
PNIG				*i* S	Sn	07 50 10.7	-4.6
PLIG	Platanillo	1.67	6	*i* P	Pn	07 49 54.6	-3.1
PLIG				*e*S	Sn	07 50 14.8	-4.5
ARIG	Puente Sto Nin	1.68	338	*i* P	Pn	07 49 54.8	-3.0
ARIG				*e*S	Sn	07 50 15.1	-4.2
ZIIG	Zihuatanejo	1.93	298	*i* P	Pn	07 49 58.7	-2.4
ZIIG				*e*S	Sn	07 50 21.4	-3.9
YAIG	Yautepec	2.21	15	*e*P	Pn	07 50 01.5	-3.7
YAIG				*i* S	Sn	07 50 27.5	-5.1

IDC 15 07:54:46.9±4.7,2°.60S×139°.43E,h0km,mb3.1/2, mb1 3.4/3,mb1mx3.2/28,mbtmp3.2/3,ML3.2/1,Error ellipse: s-maj=186.5km s-min=28.5km az=88.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
WRA	Warramunga Arr	17.94	196	P	Pn	07 58 56.9	-1.1
	0.1nm,0.3s,baz=17,slow=12,SNR=6.6						
ASAR	Alice Springs	21.62	194	P	P	07 59 39.2	+0.4
	0.5nm,0.6s,baz=17,slow=10.0,SNR=11						
MKAR	Makanchi Array	70.14	322	P	P	08 06 01.4	+0.1
	0.1nm,0.4s,baz=105,slow=7.1,SNR=2.3						

IDC 15 08:00:04.7±2.2,6°.99S×129°.13E,h0km,mb3.8/2, mb1 3.9/4,mb1mx3.6/19,mbtmp3.6/4,ML3.5/2,Error ellipse: s-maj=101.2km s-min=29.1km az=62.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
MTN	Manton Dam	6.14	161	P	Pn	08 01 42.8	+6.0
	baz=7.9,SNR=12						
MTN				S	Sn	08 02 45.3	-2.5
	baz=7.9,SNR=4.5						
KDU	Kakadu	6.54	150	P	Pn	08 01 49.5	+7.1
	baz=8.4,SNR=25						
KDU				S	Sn	08 02 58.0	+0.3
	baz=8.4,SNR=7.6						
KNRA	Kununurra	8.64	182	P	Pn	08 02 13.1	+2.0
	baz=10,SNR=12						
KNRA				S	Sn	08 03 39.9	-9.4
	baz=10,SNR=6.0						
WRA	Warramunga Arr	13.83	159	Pn	Pn	08 03 22.2	-0.1
	0.3nm,0.3s,baz=337,slow=12,SNR=13						
WRA				Sn	Sn	08 05 44.7	-12
	0.3nm,0.3s,baz=336,slow=22,SNR=6.7						
ASAR	Alice Springs	17.20	165	P	Pn	08 04 06.8	+0.1
	0.1nm,0.3s,baz=346,slow=11,SNR=7.9						
WRKA	Warakurna	17.96	182	P	Pn	08 04 15.5	-0.6
	baz=19,SNR=3.2						
CMAR	Chiang Mai Arr	39.07	311	P	P	08 07 34.3	+0.5
	1.2nm,0.3s,baz=128,slow=5.8,SNR=4.8						
MKAR	Makanchi Array	67.75	327	P	P	08 11 03.6	-0.7
	0.2nm,0.6s,baz=123,slow=7.2,SNR=3.4						

*NNC **15** 08:03:00.8±6.0,43°.99N×74°.81E,h0km,mb2.3,mpv2.6, Error ellipse: s-maj=38.9km s-min=31.1km az=147.0*
KNET 15 08:03:01.6±0.4,41°.77N×75°.83E,h0km,ml1.6,6C-10D, Error ellipse: s-maj=2.7km s-min=2.0km az=164.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
KZA	Kyzart	0.53	305	⇓P	Pg	08 03 12.2	-0.2
	SNR=36						
KZA				⇓S	Sg	08 03 20.9	+1.2
	18nm,0.1s						
ULHL	Ulahol	0.56	33	⇓P	Pg	08 03 12.3	-0.5
	1.7nm,0.1s,SNR=12						
ULHL				⇑S	Sg	08 03 21.0	+0.7
	16nm,0.1s						
UCH	Uchtor	1.08	295	⇓P	Pg	08 03 22.5	-0.6
	1.0nm,0.1s,SNR=6.5						
KBK	Karagaybulak	1.10	324	⇓P	Pg	08 03 23.1	+0.1
	8.9nm,0.1s,SNR=30						
KBK				⇓S	Sb	08 03 39.3	+0.4
	10.0nm,0.1s						
TKM2	Tokmak 2	1.16	352	⇑P	Pg	08 03 24.0	-0.2
	1.0nm,0.3s						
TKM2				⇑S	Sb	08 03 40.6	-0.1
	1.7nm,0.3s						
TKM2	Tokmak 2	1.16	352	⇓P	Pg	08 03 24.1	-0.1
	1.3nm,0.1s,SNR=22						
AAK	Ala-Archa	1.31	311	⇑P	Pg	08 03 26.7	-0.4
	3.9nm,0.4s						
AAK				⇓S	Sb	08 03 45.1	+0.1
	2.0nm,0.4s						
AAK	Ala-Archa	1.31	311	⇑P	Pg	08 03 26.8	-0.3
	6.3nm,0.1s,SNR=19						
AAK				⇑S	Sb	08 03 45.2	+0.2
	3.6nm,0.2s						
AML	Almayashu	1.63	283	⇓P	Pn	08 03 32.2	0.0
	3.1nm,0.2s,SNR=7.2						
EKS2	Erkin-Say	1.76	301	⇓P	Pb	08 03 35.4	+0.3
	1.1nm,0.1s,SNR=7.4						

IDC 15 08:07:18.7±1.8,7°.68S×124°.59E,h0km,mb3.3/1, mb1 3.6/4,mb1mx3.4/33,mbtmp3.4/4,ML3.5/3,Error ellipse: s-maj=62.2km s-min=27.4km az=74.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
SOEI	Soe	2.08	189	P	Pg	08 07 58.3	-0.6
	baz=1.3,SNR=16						
BATI	Baumata	2.67	200	Pn	Pn	08 08 02.4	-0.7
	17nm,0.3s,baz=29,slow=1.2,SNR=17						
BATI				Sn	Sn	08 08 27.2	-8.9
	42nm,0.3s,baz=80,slow=20,SNR=24						
LUWI	Luwuk	6.84	345	P	Pb	08 09 14.6	-3.9
	baz=7.6,SNR=5.3						
MTN	Manton Dam	8.23	129	P	Pn	08 09 28.5	+9.0
	baz=8.2,SNR=5.4						
MTN				S	Sn	08 10 56.8	+3.5
	baz=8.2,SNR=7.7						
KNRA	Kununurra	8.93	153	P	Pn	08 09 31.3	+2.2
	baz=8.6,SNR=8.0						
KNRA				S	Sn	08 11 02.5	-8.0
	baz=8.6,SNR=3.9						
KDU	Kakadu	9.21	123	P	Pn	08 09 42.2	+9.3
	baz=9.3,SNR=10.0						
KDU				S	Sn	08 11 22.8	+5.4
	baz=9.3,SNR=4.2						
WRA	Warramunga Arr	15.42	143	Pn	Pn	08 10 58.5	+0.8
	0.2nm,0.3s,baz=323,slow=13,SNR=11						
WRA				Sn	Sn	08 13 36.3	-13
	0.3nm,0.3s,baz=316,slow=25,SNR=8.4						
ASAR	Alice Springs	18.23	152	P	P	08 11 33.5	-0.1
	0.1nm,0.3s,baz=330,slow=13,SNR=7.3						
ASAR				S	Sn	08 14 43.0	-15
	0.1nm,0.3s,baz=325,slow=25,SNR=3.5						
QIS	Mount Isa	19.36	133	P	Pn	08 11 49.0	+1.8
	baz=19,SNR=3.8						
MKAR	Makanchi Array	65.97	330	P	P	08 18 06.9	0.0
	0.2nm,0.6s,baz=128,slow=7.3,SNR=5.0						

*IDC **15** 08:18:13.5±1.9,0°.94N×125°.80E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.4/36,mbtmp3.7/3,MS2.8/2,Ms1 2.8/2, ms1mx2.3/40,Error ellipse: s-maj=171.8km s-min=24.3km az=65.0*
*ISCJB **15** 08:18:18.4±1.2,1°.2N±0°.2×126°.21E±0°.08,h44km,mb3.6/3, MS2.7/2,Error ellipse: s-maj=23.6km s-min=10.4km az=14.8*
*DJA **15** 08:18:20.0±1.3,1°N±7°×12°6E±°,h17km±17km,M3.7/4, MLv3.7/4*
ISC 15 08:18:19.8±1.3,1°.1N±0°.2×126°.21E±0°.07,h44km,n10, σ1°.52/8,mb3.6/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
TNTI	Ternate	1.20	106	P	**Pn**	**08 18 41.4**	**+1.2**
LBMI	Labuha	2.15	143	P	**Pn**	**08 18 54.3**	**+1.0**
KMSI	Cibinong	2.29	257	P	**Pn**	**08 18 54.9**	**-0.2**
GTOI	Gorontalo	3.23	262	P	**Pn**	**08 19 10.3**	**+2.2**
APSI	Ampana	4.98	246	P	**Pn**	**08 19 33.1**	**+1.0**
WRA	Warramunga Arr	22.38	160	P	**P**	**08 23 13.0**	**-1.5**
	1.7nm,0.5s,baz=337,slow=11,SNR=20						
JOW	Kunigami	25.66	4	LR	LR	08 32 19.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,4.7nm,20.0s,baz=115,slow=33						
ASAR	Alice Springs	25.73	164	P	P	08 23 46.0	-0.3
	0.7nm,0.3s,baz=345,slow=12,SNR=26						
MKAR	Makanchi Array	59.43	326	P	P	08 28 17.3	-0.8
	0.2nm,0.4s,baz=123,slow=7.7,SNR=7.7						
ZALV	Zalesovo Beam	62.69	334	LR	LR	08 57 42.6	
	comp=Z,30nm,19.7s,baz=62,slow=38						

*IDC **15** 08:20:13.1±1.4, 34°.93N×23°.54E, h0km, mb3.6/8, mb1 3.6/10, mb1mx3.5/29, mbtmp3.5/10, ML3.4/2, Error ellipse: s-maj=28.4km s-min=12.7km az=173.0*
*ISCJB **15** 08:20:16.6±1.0, 34°.74N±0°.06×23°.73E±0°.04, h23km±5km, mb3.5/7, Error ellipse: s-maj=10.3km s-min=5.0km az=16.6*
*ATH **15** 08:20:17.3, 34°.84N×23°.76E, h24km±1km, MD3.3/11, ML3.4*
*THE **15** 08:20:18.7, 34°.89N×23°.83E, h0km±5km, Error ellipse: s-maj=6.2km s-min=1.6km az=222.0*
*CSEM **15** 08:20:19.7±0.3, 35°.00N×23°.92E, h10km, MD3.3, Error ellipse: s-maj=8.6km s-min=3.4km az=34.0*
ISC 15 08:20:17.9±0.9, 34°.85N±0°.05×23°.79E±0°.04, h30km±6km, n91, σ1§84/96, mb3.5/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.24	92	P	Pb	08 20 24.1	-0.5
GVD	Gavdhos	0.24	92	ePB	Pb	08 20 24.4	-0.2
GVD				eSB	Sb	08 20 29.0	-0.1
GVD	Gavdhos	0.24	92	P	Pb	08 20 24.1	-0.5
GVD	Gavdhos	0.24	92	ePb	Pb	08 20 24.4	-0.2
GVD				eSb	Sb	08 20 29.0	-0.1
VAM	Vamos	0.65	31	P	Pb	08 20 29.9	-0.9
VAM				S	Sb	08 20 40.5	+0.9
VAM	Vamos	0.65	31	ePB	Pb	08 20 29.8	-1.0
VAM				eSN	Sn	08 20 41.1	+0.7
VAM	Vamos	0.65	31	P	Pb	08 20 29.9	-0.9
VAM				S	Sb	08 20 40.5	+0.9
VAM				eSn	Sn	08 20 41.1	+0.7
SIVA	Sivas	0.85	78	P	Pb	08 20 34.3	+0.1
SIVA				S	Sb	08 20 46.3	+1.1
SIVA	Sivas	0.85	78	ePN	Pb	08 20 34.2	+0.1
SIVA				eSN	Sb	08 20 46.5	+1.3
SIVA	Sivas	0.85	78	P	Pb	08 20 34.3	+0.1
SIVA				eSn	Sb	08 20 46.5	+1.3
IDI	Anoyia	1.00	64	Pg	Pn	08 20 36.8	+0.8
	28nm,0.3s,baz=245,slow=13,SNR=118						
IDI				Lg	Lg	08 20 51.5	
	45nm,0.3s,baz=216,slow=14,SNR=35						
ANKY	Antikythira Is	1.09	339	ePN	Pn	08 20 37.9	+0.7
ANKY	Antikythira Is	1.09	339	ePn	Pn	08 20 37.9	+0.7
LAST	Lasithi	1.42	77	P	Pn	08 20 43.7	+2.0
LAST	Lasithi	1.42	77	ePN	Pn	08 20 43.3	+1.6
LAST				eSN	Sb	08 21 04.3	+2.8
LAST	Lasithi	1.42	77	ePn	Pn	08 20 43.3	+1.6
LAST	Lasithi	1.42	77	P	Pn	08 20 43.7	+2.0
LAST				eSn	Sb	08 21 04.3	+2.8
NPS	Neapolis	1.55	74	P	Pb	08 20 46.3	+0.4
NPS	Neapolis	1.55	74	ePN	Pb	08 20 46.0	+0.1
NPS				eSN	Sb	08 21 06.2	+1.1
NPS	Neapolis	1.55	74	ePn	Pb	08 20 46.0	+0.1
NPS	Neapolis	1.55	74	P	Pb	08 20 46.3	+0.4
NPS				eSn	Sb	08 21 06.2	+1.1
KYTH	Kithira	1.56	337	ePN	Pb	08 20 46.5	+0.4
KYTH	Kithira	1.56	337	ePn	Pb	08 20 46.5	+0.4
KYTH	Kithira	1.56	337	P	Pb	08 20 46.5	+0.4
VLI	Veliai	1.99	340	ePN	Pb	08 20 53.0	-0.5
VLI	Veliai	1.99	340	ePn	Pb	08 20 53.0	-0.5
ZKR	Zakros	2.01	82	P	Pn	08 20 52.5	+2.8
ZKR	Zakros	2.01	82	ePB	Pn	08 20 52.0	+2.3
ZKR	Zakros	2.01	82	ePb	Pn	08 20 52.0	+2.3
ZKR	Zakros	2.01	82	P	Pn	08 20 52.5	+2.8
SANT	Santorini	2.04	41	ePB	Pn	08 20 52.4	+2.2
SANT	Santorini	2.04	41	ePb	Pn	08 20 52.4	+2.2
APE	Apeiranthos	2.63	32	ePN	Pn	08 20 59.7	+1.4
APE	Apeiranthos	2.63	32	ePn	Pn	08 20 59.7	+1.4
DID	Didima	2.69	351	P	Pn	08 21 01.7	+2.5
DID	Didima	2.69	351	ePN	Pn	08 21 01.2	+2.0
DID	Didima	2.69	351	ePn	Pn	08 21 01.2	+2.0
DID	Didima	2.69	351	P	Pn	08 21 01.7	+2.5
ITM	Ithomi	2.78	328	ePB	Pn	08 21 03.4	+3.1
ITM	Ithomi	2.78	328	ePb	Pn	08 21 03.4	+3.1
KARP	Karpathos	2.84	75	ePN	Pn	08 21 03.0	+1.7
KARP	Karpathos	2.84	75	ePn	Pn	08 21 03.0	+1.7
NAIG	Nisos Aigina	2.92	355	ePN	Pn	08 21 04.7	+2.5
NAIG	Nisos Aigina	2.92	355	ePn	Pn	08 21 04.7	+2.5
ATH	Athens Observa	3.12	359	ePN	Pn	08 21 06.8	+1.8
ATH	Athens Observa	3.12	359	ePn	Pn	08 21 06.8	+1.8
PTL	Penteli	3.20	1	ePN	Pn	08 21 08.0	+1.9
PTL	Penteli	3.20	1	ePn	Pn	08 21 08.0	+1.9
LTK	Loutraki	3.24	348	ePN	Pn	08 21 08.9	+2.2
LTK	Loutraki	3.24	348	ePn	Pn	08 21 08.9	+2.2
GUR	Goura	3.30	340	ePN	Pn	08 21 10.9	+3.3
GUR	Goura	3.30	340	ePn	Pn	08 21 10.9	+3.3
KLV	Kalavryta, Ach	3.46	338	ePN	Pn	08 21 13.1	+3.4
KLV	Kalavryta, Ach	3.46	338	ePn	Pn	08 21 13.1	+3.4
DRO	Drossia	3.53	332	ePN	Pn	08 21 12.9	+2.3
DRO	Drossia	3.53	332	ePn	Pn	08 21 12.9	+2.3
LAKA	Lakka	3.69	337	ePN	Pn	08 21 15.8	+2.9
LAKA	Lakka	3.69	337	ePn	Pn	08 21 15.8	+2.9
DSF	Desfina	3.70	344	ePN	Pn	08 21 15.7	+2.6
DSF	Desfina	3.70	344	ePn	Pn	08 21 15.7	+2.6
KALE	Kalithea	3.78	340	ePN	Pn	08 21 16.6	+2.5
KALE	Kalithea	3.78	340	ePn	Pn	08 21 16.6	+2.5
LKR	Lokris	3.85	351	ePN	Pn	08 21 17.2	+2.2
LKR	Lokris	3.85	351	ePn	Pn	08 21 17.2	+2.2
MRKA	Markates	3.85	358	ePN	Pn	08 21 17.1	+2.0
MRKA	Markates	3.85	358	ePn	Pn	08 21 17.1	+2.0
AXAR	Agios Charalam	4.02	347	ePN	Pn	08 21 19.5	+2.1
AXAR	Agios Charalam	4.02	347	ePn	Pn	08 21 19.5	+2.1
PDO	Prodromos	4.29	332	ePN	Pn	08 21 23.4	+2.3
PDO	Prodromos	4.29	332	ePn	Pn	08 21 23.4	+2.3
AGG	Agios Georgios	4.33	345	ePN	Pn	08 21 23.8	+2.1
AGG	Agios Georgios	4.33	345	ePn	Pn	08 21 23.8	+2.1
EVR	Evrytania	4.36	339	ePN	Pn	08 21 25.8	+3.6
EVR	Evrytania	4.36	339	ePn	Pn	08 21 25.8	+3.6
MAKR	Makrakomi, Fth	4.37	343	ePN	Pn	08 21 25.3	+3.1
MAKR	Makrakomi, Fth	4.37	343	ePn	Pn	08 21 25.3	+3.1
DSL	Palaion Diasel	4.79	334	ePN	Pn	08 21 30.8	+2.8
DSL	Palaion Diasel	4.79	334	ePn	Pn	08 21 30.8	+2.8
STON	Ston	9.31	331	ePn	Pn	08 22 28.5	-1.5
STON				Sn	Sn	08 24 07.1	-6.6
NVLJ	Novalja	11.88	327	ePn	Pn	08 23 04.8	-0.3
GERES	GERESS Array B	15.86	335	Pn	Pn	08 23 54.9	-4.1
	0.0nm,0.3s,baz=145,slow=34,SNR=2.1						
AKASG	Malin Array Be	16.33	12	Pn	Pn	08 24 03.8	-1.1
	0.5nm,0.3s,baz=203,slow=11,SNR=4.7						
HFS	Hagfors	26.14	349	P	P	08 25 48.9	-0.2
	1.2nm,0.4s,baz=159,slow=13,SNR=13						
FINES	FINESS Array B	26.66	2	P	P	08 25 52.2	-1.5
	2.0nm,1.1s,baz=235,slow=4.9,SNR=2.4						
NB2	NORSAR Subarra	27.43	347	P	P	08 25 59.1	-1.7
	comp=Z,0.7nm,0.5s,baz=147,slow=11						
NOA	NORSAR Array B	27.43	347	P	P	08 25 59.8	-0.9
	comp=Z,0.6nm,0.6s,baz=153,slow=11,SNR=3.5						
TORD	Torodi Ar. Bea	29.44	228	P	P	08 26 19.0	0.0
	comp=Z,0.2nm,0.6s,baz=41,slow=10,SNR=2.7						
MKAR	Makanchi Array	44.88	56	P	P	08 28 29.1	-0.5
	comp=Z,0.3nm,0.4s,baz=270,slow=7.9,SNR=8.6						
ZALV	Zalesovo Beam	46.03	46	P	P	08 28 36.8	-1.6
	comp=Z,0.3nm,0.3s,baz=261,slow=8.0,SNR=2.5						
SONM	Songino Array	60.55	50	P	P	08 30 24.6	-0.8
	comp=Z,0.2nm,0.5s,baz=292,slow=7.6,SNR=2.5						
YKA	Yellowknife Ar	77.40	342	P	P	08 32 08.6	-1.0
	comp=Z,0.0nm,0.4s,baz=32,slow=5.3,SNR=3.8						

MEX 15 08:21:57.6±0.3, 16°.68N×99°.66W, h14km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.26	315	iP	Pg	08 22 03.0	-0.3
ACX				eS	Sg	08 22 07.1	-0.1
CAIG	El Cayaco	0.68	302	iP	Pg	08 22 08.9	-2.0
CAIG				iS	Sg	08 22 17.6	-2.5
MEIG	Mezcala	1.24	2	iP	Pn	08 22 16.7	-3.9
MEIG				iS	Sb	08 22 31.9	-4.9
TLIG	Tlapa	1.36	50	iP	Pn	08 22 18.6	-3.8
TLIG				eS	Sn	08 22 34.8	-5.7
PNIG	Pinotepa	1.50	101	iP	Pn	08 22 20.9	-3.3
PNIG				iS	Sn	08 22 38.4	-5.1
PLIG	Platanillo	1.71	5	iP	Pn	08 22 23.0	-4.1
PLIG				iS	Sn	08 22 43.7	-5.1
ARIG	Puente Sto Nin	1.72	338	iP	Pn	08 22 24.0	-3.1
ARIG				eS	Sn	08 22 44.1	-4.8
YAIG	Yautepec	2.24	15	iP	Pn	08 22 30.9	-3.6
YAIG				iS	Sn	08 22 58.2	-3.9

IDC 15 08:31:01.9±5.5, 55°.91N×86°.38E, h0km, mb1 2.8/3, mb1mx2.8/46, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=62.9km s-min=22.8km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.16	205	i		08 45 26.7	
	baz=23,slow=338,SNR=1.0						
ZALV	Zalesovo Beam	2.16	205	Pn	Pn	08 31 38.4	-0.8
	1.7nm,0.3s,baz=20,slow=14,SNR=26						
ZALV				Sn	Sb	08 32 09.2	0.0
	3.5nm,0.3s,baz=21,slow=26,SNR=16						
MKAR	Makanchi Array	9.48	197	Pn	Pn	08 33 19.1	-0.5
	0.1nm,0.3s,baz=20,slow=14,SNR=4.6						
BVAR	Borovoye Array	9.75	259	Pn	Pn	08 33 22.5	-0.7
	0.2nm,0.3s,baz=64,slow=15,SNR=5.9						

IDC 15 08:33:36.2±2.4, 14°.86S×61°.08W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/23, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=113.7km s-min=34.7km az=169.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	6.95	257	Pn	Pn	08 35 19.9	-0.2
	0.4nm,0.3s,baz=96,slow=6.1,SNR=16						
LPAZ				Sn	Sn	08 36 28.4	-12
	0.0nm,0.3s,baz=76,slow=18,SNR=2.2						
TORD	Torodi Ar. Bea	68.07	69	P	P	08 44 38.3	0.0
	0.2nm,0.3s,baz=253,slow=5.8,SNR=5.7						
YKA	Yellowknife Ar	87.64	338	P	P	08 46 26.0	-0.1
	0.1nm,0.6s,baz=125,slow=4.2,SNR=4.7						

*IDC **15** 08:34:39.5±6.7, 31°.72S×179°.71W, h120km±54km, mb3.6/4, mb1 3.7/5, mb1mx3.5/32, mbtmp3.9/5, Error ellipse: s-maj=48.1km s-min=26.1km az=43.0*
ISC 15 08:34:39.0±1.5, 31°.63S±0°.09×179°.9W±0°.2, h100km, n16, σ1§92/16, mb4.0/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	6.40	197	ePN	Pn	08 36 14.1	+3.4
HAZ				eSN	Sn	08 37 25.1	+2.8
PUZ	Puketiti	6.61	193	ePN	Pn	08 36 18.0	+4.5
PUZ				eSN	Sn	08 37 25.4	-1.8
MWZ	Matawai	7.01	197	eSN	Sn	08 37 36.6	-0.6
URZ	Urewera	7.05	199	P	Pn	08 36 21.4	+1.8
	0.6nm,0.3s,baz=118,slow=7.3,SNR=10						
URZ				S	Sn	08 37 36.4	-1.7
	1.0nm,0.3s,baz=17,slow=19,SNR=4.9						
URZ	Urewera	7.05	199	PN	Pn	08 36 24.1	+4.6
URZ				eSN	Sn	08 37 36.4	-1.7
RIGZ	Rimuhau	7.32	194	ePN	Pn	08 36 27.1	+4.0
SNGZ	Shannon Statio	7.48	197	ePN	Pn	08 36 27.3	+1.9
BKZ	Black Stump Fm	8.07	200	PN	Pn	08 36 36.3	+2.8
MRZ	Mangatainoka R	9.72	201	ePN	Pn	08 36 55.7	-0.1
MRZ				eSN	Sn	08 38 36.3	-6.8
STKA	Stephens Creek	32.62	259	P	P	08 41 00.5	-0.8
	1.6nm,0.8s,baz=90,slow=15,SNR=2.8						
ASAR	Alice Springs	41.43	269	P	P	08 42 16.1	+0.3
	1.2nm,0.8s,baz=105,slow=7.5,SNR=14						
WRA	Warramunga Arr	42.53	275	P	P	08 42 25.1	+0.2
	1.9nm,0.7s,baz=113,slow=7.7,SNR=14						
QSPA	South Pole Qui	58.49	180	P	P	08 44 22.6	-1.8
	1.3nm,0.8s,baz=55,slow=4.1						
FINES	FINESS Array B	145.70	338	PKPbc	PKPdf	08 54 02.8	-2.1
	2.5nm,0.6s,baz=48,slow=2.8,SNR=12						
NB2	NORSAR Subarra	149.68	349	PKP	PKPdf	08 54 13.5	+1.9
	comp=Z,0.3nm,0.5s,baz=16,slow=4.3						
NOA	NORSAR Array B	149.68	349	PKPbc	PKPdf	08 54 13.6	+2.0
	comp=Z,0.4nm,0.5s,baz=20,slow=3.9,SNR=3.6						

IDC 15 08:36:11.4±2.2, 6°.21S×129°.23E, h0km, mb3.3/1, mb1 3.3/3, mb1mx3.1/34, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=158.4km s-min=31.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.53	160	Pn	Pn	08 39 37.4	-1.1
	0.1nm,0.3s,baz=339,slow=13,SNR=6.3						
WRA				Sn	Sn	08 42 01.8	-19
	0.2nm,0.3s,baz=332,slow=22,SNR=7.4						
ASAR	Alice Springs	17.93	166	P	P	08 40 23.1	0.0
	0.1nm,0.3s,baz=347,slow=10,SNR=4.9						
MKAR	Makanchi Array	67.15	327	P	P	08 47 07.2	0.0
	0.2nm,0.7s,baz=122,slow=7.4,SNR=3.3						

*CRAAG **15** 08:44:04.4, 36°.26N×3°.20E, Ml2.4*
*ISCJB **15** 08:44:05.8±0.6, 36°.34N±0°.04×3°.23E±0°.06, h15km, Error ellipse: s-maj=7.5km s-min=5.2km az=149.9*
*CSEM **15** 08:44:06.0±0.4, 36°.25N×3°.26E, h8km, mb4.1, Error ellipse: s-maj=11.1km s-min=8.8km az=28.0*
*MDD **15** 08:44:06.4±0.5, 36°.25N×3°.21E, h1km±7km, mb4.1/5, Error ellipse: s-maj=7.2km s-min=4.4km az=14.0, PRXIMO*
ISC 15 08:44:05.5±0.9, 36°.23N±0°.04×3°.24E±0°.03, h15km, n46, σ1§49/49, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADJB	Djebel Djouab	0.17	115	P	Pg	08 44 09.9	0.0
ADJB	Djebel Djouab	0.17	115	P	Pg	08 44 09.9	0.0
ADJB	Djebel Djouab	0.17	115	P	Pg	08 44 09.9	0.0
EMHD	Djebel Mahouad	0.24	263	P	Pg	08 44 10.2	-0.7
EMHD	Djebel Mahouad	0.24	263	P	Pg	08 44 10.2	-0.7
EMHD	Djebel Mahouad	0.24	263	P	Pg	08 44 10.2	-0.7
AKET	Djebel Ketaf	0.55	109	P	Pb	08 44 18.0	+1.0
AKET	Djebel Ketaf	0.55	109	P	Pb	08 44 18.0	+1.0
AKET	Djebel Ketaf	0.55	109	P	Pb	08 44 18.0	+1.0
ABMS	Boumerdes	0.55	20	P	Pn	08 44 26.7	+7.8
ABMS	Boumerdes	0.55	20	P	Pn	08 44 26.7	+7.8
ABMS	Boumerdes	0.55	20	P	Pn	08 44 26.7	+7.8
ABA	Alger-Bouzarea	0.59	344	P	Pg	08 44 16.7	-0.5
ABA	Alger-Bouzarea	0.59	344	P	Pg	08 44 16.7	-0.5
ABA	Alger-Bouzarea	0.59	344	P	Pg	08 44 16.7	-0.5
EBNR	Beni Rached	1.39	273	P	Pg	08 44 34.2	+2.0
EBNR	Beni Rached	1.39	273	P	Pg	08 44 34.2	+2.0
ECHA	Ech Chlef	1.52	267	P	Pg	08 44 49.0	+14
ECHA	Ech Chlef	1.52	267	P	Pg	08 44 49.0	+14
ECHF	Ech Chlef	1.54	268	P	Pg	08 44 49.0	+14
ECHF	Ech Chlef	1.54	268	P	Pg	08 44 49.0	+14
SET	Setif	1.75	90	P	Pn	08 44 35.0	-0.4
SET	Setif	1.75	90	P	Pn	08 44 35.0	-0.4
SET	Setif	1.75	90	P	Pn	08 44 35.0	-0.4
EANR	'Ain N'Sour	1.76	261	P	Pn	08 44 36.6	+1.1
EANR	'Ain N'Sour	1.76	261	P	Pn	08 44 36.6	+1.1
EANR	'Ain N'Sour	1.76	261	P	Pn	08 44 36.6	+1.1
ETRT	Tiaret	1.79	243	P	Pb	08 44 37.5	-0.6
ETRT	Tiaret	1.79	243	P	Pb	08 44 37.5	-0.6
ETRT	Tiaret	1.79	243	P	Pb	08 44 37.5	-0.6
OKGL	Djebel Kef Gue	2.11	266	P	Pn	08 44 40.8	+0.4
	12nm,0.2s,SNR=7.9						
OKGL	Djebel Kef Gue	2.11	266	P	Pn	08 44 40.8	+0.4
	12nm,0.2s,SNR=7.9						
EIBI	Ibiza	3.17	332	P	Pn	08 44 56.0	+1.1
	5.3nm,0.3s,SNR=8.8						
EIBI				S	Sn	08 45 31.6	-0.9
	26nm,0.5s,SNR=7.9						
EIBI	Ibiza	3.17	332	P	Pn	08 44 56.0	+1.1
	5.3nm,0.3s,SNR=8.8						
EIBI				S	Sn	08 45 31.6	-0.9
	26nm,0.5s,SNR=7.9						
EBEN	Beniarda	3.70	313	P	Pn	08 45 03.4	+1.1
	0.1nm,0.1s,SNR=7.9						
EBEN	Beniarda	3.70	313	P	Pn	08 45 03.4	+1.1
	0.1nm,0.1s,SNR=7.9						
ETOB	Tobarra	4.51	304	P	Pn	08 45 15.1	+1.7
	3.5nm,0.3s,SNR=18						
ETOB				S	Sn	08 46 03.8	-1.8
	0.3nm,0.5s,SNR=7.9						
ETOB	Tobarra	4.51	304	P	Pn	08 45 15.1	+1.7
	3.5nm,0.3s,SNR=18						
ETOB				S	Sn	08 46 03.8	-1.8
	0.3nm,0.5s,SNR=7.9						
EMOS	Mosqueruela	5.05	326	P	Pn	08 45 22.4	+1.4
	4.2nm,0.3s,SNR=21						
EMOS				S	Sn	08 46 17.0	-2.2
	1.1nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	5.05	326	P	Pn	08 45 22.4	+1.4
	4.2nm,0.3s,SNR=21						
EMOS				S	Sn	08 46 17.0	-2.2
	1.1nm,0.2s,SNR=7.9						
ERTA	Horta de San J	5.24	335	S	Sn	08 46 20.9	-2.6
	1.9nm,0.2s,SNR=4.0						
ERTA	Horta de San J	5.24	335	S	Sn	08 46 20.9	-2.6
	1.9nm,0.2s,SNR=4.0						
CFON	Fontmartina	5.56	354	P	Pn	08 45 30.2	+2.4
	0.9nm,0.1s,SNR=4.0						
CFON				S	Sn	08 46 28.9	-2.6
	5.1nm,0.3s,SNR=7.9						
CFON	Fontmartina	5.56	354	P	Pn	08 45 30.2	+2.4
	0.9nm,0.1s,SNR=4.0						
CFON				S	Sn	08 46 28.9	-2.6
	5.1nm,0.3s,SNR=7.9						
EMIR	Miracle	5.83	347	P	Pn	08 45 33.9	+2.4
	2.8nm,0.2s,SNR=7.9						
EMIR				S	Sn	08 46 37.2	-0.9
	2.2nm,0.2s,SNR=7.9						
EMIR	Miracle	5.83	347	P	Pn	08 45 33.9	+2.4
	2.8nm,0.2s,SNR=7.9						
EMIR				S	Sn	08 46 37.2	-0.9
	2.2nm,0.2s,SNR=7.9						

*ISN **15** 08:47:15.5±2.6, 37°.04N×43°.62E, h0km±12km, ML3.5*
*DDA **15** 08:47:19.3, 37°.16N×43°.26E, h7km, MD3.7*
*CSEM **15** 08:47:19.3±0.3, 37°.09N×43°.32E, h2km, MD3.7, Error ellipse: s-maj=6.4km s-min=4.5km az=104.0*
*ISK **15** 08:47:19.5, 37°.15N×43°.19E, h5km, ML3.5*
ISC 15 08:47:18.9±1.1, 37°.07N±0°.02×43°.27E±0°.03, h5km±10km, n52, σ1§42/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAKT	HAKKARI	0.60	35	iP	Pg	08 47 29.9	-0.6
HAKT				iS	Sg	08 47 37.6	-0.7
HAKT	HAKKARI	0.60	35	iP	Pg	08 47 29.9	-0.6
HAKT				iS	Sg	08 47 37.6	-0.7
MSL	Mosul	0.68	191	ePg	Pg	08 47 32.0	0.0
	SNR=9.0						
MSL				eSg	Sb	08 47 43.0	+0.1
	SNR=9.0						
MSL	Mosul	0.68	191	ePg	Pg	08 47 32.0	0.0
MSL				eSg	Sb	08 47 43.0	+0.1
SIRT	Sirnak	0.79	303	ePG	Pg	08 47 33.8	-0.3
SIRT				eSG	Sg	08 47 44.7	+0.3
SIRT	Sirnak	0.79	303	ePg	Pg	08 47 33.8	-0.3
SIRT				eSg	Sg	08 47 44.7	+0.3
SIRN	S¨–rnak	0.81	302	iP	Pg	08 47 34.1	-0.3
SIRN				iS	Sg	08 47 44.8	-0.1
SIRN	S¨–rnak	0.81	302	iP	Pg	08 47 34.1	-0.3
SIRN				iS	Sg	08 47 44.8	-0.1
GEVA	Gevas	1.25	352	iP	Pb	08 47 41.7	-1.4
GEVA	Gevas	1.25	352	iP	Pb	08 47 41.7	-1.4
GEVA				iS	Sn	08 48 04.1	+3.6
TVAN	Van	1.46	4	iP	Pb	08 47 45.8	-0.3
TVAN	Van	1.46	4	iP	Pb	08 47 45.8	-0.3
TVAN				iS	Sg	08 48 09.0	+3.1
TATV	Tatvan	1.64	331	iP	Pb	08 47 49.0	+0.4
TATV				iS	Sg	08 48 12.3	+0.6
TATV	Tatvan	1.64	331	iP	Pb	08 47 49.0	+0.4
TATV				iS	Sg	08 48 12.3	+0.6
BEST	Besiri	1.79	298	iP	Pb	08 47 51.8	-0.4
BEST				iS	Sg	08 48 16.9	+0.4
BTMT	Batman	1.81	309	ePN	Pb	08 47 51.6	-0.9
BTMT	Batman	1.81	309	ePn	Pb	08 47 51.6	-0.9
IKRK	Kirkuk	1.88	152	ePg	Pn	08 47 52.0	+0.4
IKRK				eSg	Sg	08 48 22.0	+2.8
SVAN	Silvan-Diyarba	1.97	304	ePN	Pn	08 47 53.9	+1.0
MARD	Mardin	2.01	278	iP	Pb	08 47 54.9	-1.0
MARD				iS	Sb	08 48 22.0	+0.8
CLDR	Caldiran	2.13	14	ePN	Pb	08 47 56.9	-1.3
CLDR	Caldiran	2.13	14	ePn	Pb	08 47 56.9	-1.3
KBSD	Kabsdagh	2.19	269	eP	Pn	08 47 57.0	+1.1
	SNR=90						
KBSD				eS	Sn	08 48 21.8	-1.5
	293nm,0.5s,SNR=90						
MAZI	Mazidag	2.29	281	ePN	Pn	08 47 58.9	+1.5
MAZI	Mazidag	2.29	281	ePn	Pn	08 47 58.9	+1.5
TUTA	Tutak	2.36	351	iP	Pn	08 47 59.7	+1.2
TUTA	Tutak	2.36	351	iP	Pn	08 47 59.7	+1.2
TUTA				iS	Sb	08 48 32.9	+1.5
MZRK	Al-Mazaregh	2.45	240	eP	Pn	08 48 00.9	+1.4
	SNR=90						
MZRK				eS	Sn	08 48 26.9	-2.9
	362nm,0.6s,SNR=90						
AGRB	Hanur-Agry	2.51	355	ePN	Pn	08 48 01.7	+1.2
AGRB	Hanur-Agry	2.51	355	ePn	Pn	08 48 01.7	+1.2
VRTB	Varto-Mus	2.53	326	ePN	Pn	08 48 01.9	+1.1
VRTB	Varto-Mus	2.53	326	ePn	Pn	08 48 01.9	+1.1
DIY	Diyarbakir	2.56	290	ePn	Pb	08 48 03.7	-1.6
SFNV	Sufian	2.62	257	eP	Pn	08 48 03.0	+1.1
	SNR=90						
SFNV				eS	Sn	08 48 32.6	-1.5
	238nm,0.6s,SNR=90						
DYBB	Diyarbakir	2.64	290	ePN	Pn	08 48 03.7	+1.5
DIYA	Diyarbakir	2.65	290	iP	Pb	08 48 05.4	-1.4
DIYA	Diyarbakir	2.65	290	iP	Pb	08 48 05.4	-1.4
DIYA				iS	Sb	08 48 39.2	-0.5
BNGB	Bing¨¶l	2.81	314	ePN	Pn	08 48 05.4	+0.9
BINT	Bingol	2.84	310	ePn	Pn	08 48 05.4	+0.4
EZM	Erzurum	3.20	333	ePN	Pn	08 48 11.6	+1.5
PTK	Pertek	3.56	302	ePN	Pn	08 48 16.8	+1.8
PTK	Pertek	3.56	302	ePn	Pn	08 48 16.8	+1.8
URFA	Urfa	3.57	277	ePN	Pn	08 48 16.8	+1.8
URFA	Urfa	3.57	277	ePn	Pn	08 48 16.8	+1.8
ERZN	Erzincan	3.76	313	ePN	Pn	08 48 19.4	+1.8
BHD	Baghdad	3.90	166	ePN	Pn	08 48 15.8	-3.6
	SNR=39						
BHD	Baghdad	3.90	166	ePN	Pn	08 48 15.8	-3.6
EZC	Erzincan	4.08	312	ePn	Pn	08 48 19.4	-2.7
RTB	Rutbah	4.71	212	ePn	Pn	08 48 31.7	+1.1
	SNR=39						
RTB				eSn	Sn	08 49 24.0	-1.6
	SNR=39						
RTB	Rutbah	4.71	212	ePN	Pn	08 48 31.7	+1.1
RTB				eSN	Sn	08 49 24.0	-1.6
KMRS	Kahramanmaras	5.10	277	ePN	Pn	08 48 38.8	+2.8
KMRS	Kahramanmaras	5.10	277	ePn	Pn	08 48 38.8	+2.8

*IDC **15** 08:55:04.4±2.8, 53°.51N×87°.72E, h0km, mb1 3.3/2, mb1mx3.0/43, mbtmp3.3/2, ML3.2/2, Error ellipse: s-maj=26.3km s-min=13.0km az=67.0*
*NNC **15** 08:55:06.7±6.0, 53°.53N×87°.22E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=46.6km s-min=33.2km az=57.0*
ISC 15 08:55:08.6±3.8, 53°.6N±0°.1×87°.5E±0°.2, h35km, n7, σ1§26/10, 6C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.61	282	i		09 06 54.7	
	baz=101,slow=346,SNR=2.5						
ZALV	Zalesovo Beam	1.61	282	Pg	Pn	08 55 34.9	+0.3
	4.4nm,0.3s,baz=103,slow=15,SNR=23						
ZALV				Lg	Lg	08 56 00.1	
	5.3nm,0.3s,baz=102,slow=26,SNR=12						
KURK	Kurchatov	6.19	245	⇑Pn	Pn	08 56 37.9	+0.5
	1.4nm,0.9s						
KURK				⇑Sn	Sn	08 57 48.6	+1.8
	0.9nm,1.0s						
KURK				⇑Lg	Lg	08 58 16.9	
	4.4nm,0.8s						
MK31	Makanchi Array	7.62	208	⇓Pn	Pn	08 56 56.8	-0.3
	0.7nm,0.5s,baz=28,slow=13,SNR=22						
MK31				⇓Sn	Sn	08 58 22.0	-0.1
	1.8nm,0.9s						
MK31				⇑Lg	Lg	08 59 00.8	
	2.6nm,0.8s,baz=38,slow=30,SNR=5.7						
MKAR	Makanchi Array	7.62	208	Pn	Pn	08 56 56.8	-0.2
	0.3nm,0.3s,baz=28,slow=13,SNR=17						
MKAR				Sn	Sn	08 58 22.1	0.0
	0.1nm,0.3s,baz=31,slow=25,SNR=4.4						

MKAR				Lg	Lg	08 59 03.7	
	0.1nm,0.3s,baz=24,slow=32,SNR=7.6						
VOSK	**Vostochnaya**	**9.95**	**271**	⇑Pn	**Pn**	**08 57 28.4**	**-0.6**
	1.3nm,0.9s						
VOSK				⇑Sn	**Sn**	**08 59 17.3**	**-2.1**
	1.6nm,0.8s						
BVAR	**Borovoye Array**	**10.25**	**273**	Pn	**Pn**	**08 57 34.7**	**+1.7**
	0.2nm,0.3s,baz=79,slow=15,SNR=4.9						

*IDC **15** 08:56:17.3±1.1, 5.°06S×152.°76E, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.9/31, mbtmp3.8/10, ML3.0/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/28, Error ellipse: s-maj=40.6km s-min=19.9km az=129.0*

*ISCJB **15** 08:56:22.8±1.0, 5.°1S±0.°2×152.°5E±0.°2, h43km, mb3.8/9, Error ellipse: s-maj=35.3km s-min=9.8km az=41.1*

ISC 15 08:56:23.7±1.1**, 5.°1S**±0.°2×**152.°7E**±0.°2**, h43km, n13, σ1s12**/13**, mb3.9**/9**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.90**	**232**	Pn	**Pn**	**08 58 03.6**	**+1.3**
	1.6nm,0.3s,baz=39,slow=12,SNR=4.6						
PMG				Sn	**Sn**	**08 59 17.9**	**-1.7**
	2.4nm,0.3s,baz=356,slow=19,SNR=4.2						
PMG				LR	LR	09 01 07.4	
	comp=Z,70nm,19.3s,baz=44,slow=41						
HNR	**Honiara**	**8.40**	**121**	LR	LR	09 02 05.7	
	comp=Z,94nm,18.9s,baz=290,slow=42						
WRA	**Warramunga Arr**	**23.11**	**229**	P	**P**	**09 01 26.0**	**-0.1**
	1.3nm,0.6s,baz=51,slow=9.7,SNR=17						
ASAR	**Alice Springs**	**25.80**	**223**	P	**P**	**09 01 51.8**	**+0.8**
	0.8nm,0.6s,baz=55,slow=9.1,SNR=11						
CMAR	**Chiang Mai Arr**	**57.88**	**295**	P	**P**	**09 06 11.9**	**+0.1**
	0.9nm,0.3s,baz=110,slow=5.2,SNR=7.5						
SONM	**Songino Array**	**66.53**	**328**	P	**P**	**09 07 10.9**	**+1.6**
	0.2nm,0.5s,baz=142,slow=7.3,SNR=2.2						
MKAR	**Makanchi Array**	**80.48**	**319**	P	**P**	**09 08 30.9**	**-0.3**
	0.2nm,0.5s,baz=102,slow=7.6,SNR=5.7						
ZALV	**Zalesovo Beam**	**81.35**	**326**	P	**P**	**09 08 34.6**	**-1.1**
	1.2nm,0.6s,baz=131,slow=6.7,SNR=4.6						
ILAR	**Eielson Array**	**82.53**	**22**	P	**P**	**09 08 40.4**	**-1.3**
	2.2nm,0.7s,baz=242,slow=5.8,SNR=35						
NVAR	**Mina Array Bea**	**92.41**	**52**	P	**P**	**09 09 31.1**	**+0.6**
	0.2nm,0.4s,baz=272,slow=6.2,SNR=2.4						
YKA	**Yellowknife Ar**	**95.80**	**28**	P	**P**	**09 09 45.2**	**+0.1**
	0.4nm,0.9s,baz=274,slow=4.9,SNR=6.9						
GERES	**GERESS Array B**	**124.26**	**328**	PKP	**PKPdf**	**09 15 17.9**	**-0.2**
	0.5nm,0.6s,baz=107,slow=1.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.26**	**288**	PKPbc	**PKPbc**	**09 16 10.1**	**-1.2**
	1.3nm,0.8s,baz=95,slow=2.1,SNR=6.1						

*OMAN **15** 09:17:55.1±99.0, 31.°34N×54.°28E, h88km±188km, Error ellipse: s-maj=195.7km s-min=22.9km az=342.0*

*IDC **15** 09:18:26.4±1.1, 28.°46N×54.°94E, h0km, mb3.8/15, mb1 4.0/15, mb1mx3.8/35, mbtmp3.8/15, Error ellipse: s-maj=24.7km s-min=19.6km az=1.0*

*ISCJB **15** 09:18:27.6±0.3, 28.°55N±0.°04×54.°92E±0.°04, h10km, mb3.8/14, Error ellipse: s-maj=6.7km s-min=3.7km az=135.7*

*THR **15** 09:18:29.5±0.3, 28.°63N×54.°96E, h17km±3km, ML3.6*

*CSEM **15** 09:18:30.5±0.3, 28.°53N×54.°90E, h10km, ML3.6, Error ellipse: s-maj=10.0km s-min=5.7km az=56.0*

*TEH **15** 09:18:32.1, 28.°64N×55.°00E, h7km, ML3.7*

ISC 15 09:18:29.1±0.5**, 28.°59N**±0.°04×**54.°95E**±0.°03**, h10km, n52, σ1s43**/55**, mb3.8**/14**, 4C-2D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.60**	**137**	*e*Pg	**Pb**	**09 18 59.4**	**+0.5**
	388nm,0.3s						
BNDS	**Bandar-Abbas**	**1.60**	**137**	*e*Pg	**Pb**	**09 18 59.4**	**+0.5**
BNDS				AML	AML	09 19 33.3	
	comp=N,388nm,0.2s						
GHIR	**Ghir-Karzin**	**1.75**	**261**	*e*Pg	**Pb**	**09 19 01.9**	**+0.4**
	comp=N,614nm,0.4s						
GHIR	**Ghir-Karzin**	**1.75**	**261**	*e*Pg	**Pb**	**09 19 01.9**	**+0.4**
GHIR				AML	AML	09 19 41.8	
	comp=N,544nm,0.3s						
GHIR				AML	AML	09 19 44.1	
	comp=E,614nm,0.4s						
ISRV	**Sarvestan**	**1.79**	**297**	*e*Sg	**Sg**	**09 19 29.2**	**+2.3**
ISRV				*e*Pn	**Pg**	**09 19 03.2**	**-0.4**
ISRV				*e*		09 19 39.6	
	comp=Z,11μm,0.4s						
IBND	**Bandar-abas**	**1.81**	**128**	*e*Sg	**Sg**	**09 19 28.3**	**+1.2**
IBND				*e*Pn	**Pg**	**09 19 03.7**	**0.0**
IBND				*e*		09 19 48.6	
	comp=Z,12μm,0.3s						
IPAR	**Pars**	**2.08**	**307**	*e*Sg	**Sg**	**09 19 36.5**	**+0.4**
IPAR				*e*Pn	**Pb**	**09 19 07.7**	**+0.5**
IPAR				*e*		09 19 43.6	
	comp=Z,8μm,0.4s						
KRBR	**Kerman**	**2.11**	**48**	*e*Pg	**Pb**	**09 19 07.4**	**-0.2**
	comp=Z,447nm,0.7s						
KRBR	**Kerman**	**2.11**	**48**	*e*Pg	**Pb**	**09 19 07.4**	**-0.2**
KRBR				AML	AML	09 19 41.0	
	comp=N,757nm,0.6s						
KRBR				AML	AML	09 19 42.9	
	comp=E,447nm,0.7s						
IMEH	**Mehriz**	**2.81**	**354**	*e*Pn	**Pn**	**09 19 16.8**	**+2.4**
IMEH				*e*		09 20 04.5	
	comp=Z,1μm,0.1s						
IMEH	**Mehriz**	**2.81**	**354**	*e*Pn	**Pn**	**09 19 16.8**	**+2.4**
BANOM	**Banah**	**2.91**	**155**	⇑P	**Pn**	**09 19 17.1**	**+1.5**
BANOM	**Banah**	**2.91**	**155**	P	**Pn**	**09 19 17.1**	**+1.5**
IBAF	**Bafgh**	**3.04**	**10**	*e*Pn	**Pn**	**09 19 19.7**	**+2.2**
IBAF				*e*		09 19 35.8	
	comp=Z,1μm,0.2s						
IBAF	**Bafgh**	**3.04**	**10**	*e*Pn	**Pn**	**09 19 19.7**	**+2.2**
ICHK	**Chekchek**	**3.68**	**353**	*e*Pn	**Pn**	**09 19 28.6**	**+2.4**
ICHK				*e*		09 20 39.8	
	comp=Z,767nm,0.4s						
ICHK	**Chekchek**	**3.68**	**353**	*e*Pn	**Pn**	**09 19 28.6**	**+2.4**
ASHO	**Ashiyiah**	**4.01**	**165**	⇓P	**Pn**	**09 19 32.7**	**+2.0**
ASHO	**Ashiyiah**	**4.01**	**165**	P	**Pn**	**09 19 32.7**	**+2.0**
NASN	**Na'in**	**4.59**	**337**	*e*Pn	**Pn**	**09 19 40.1**	**+1.2**
NASN	**Na'in**	**4.59**	**337**	*e*Pn	**Pn**	**09 19 40.1**	**+1.2**
ZHSF	**Zahedan**	**5.20**	**77**	*e*Pn	**Pn**	**09 19 48.7**	**+1.5**
ZHSF	**Zahedan**	**5.20**	**77**	*e*Pn	**Pn**	**09 19 48.6**	**+1.5**
TABS	**Tabas**	**5.38**	**20**	*e*Pn	**Pn**	**09 19 50.8**	**+1.2**
TABS	**Tabas**	**5.38**	**20**	*e*Pn	**Pn**	**09 19 50.8**	**+1.2**
SMDO	**Samad**	**6.17**	**152**	⇑P	**Pn**	**09 20 02.9**	**+2.5**
SMDO	**Samad**	**6.17**	**152**	P	**Pn**	**09 20 02.9**	**+2.5**
JMDO	**Jabal Madar**	**6.81**	**155**	⇓P	**Pn**	**09 20 10.6**	**+1.4**
JMDO	**Jabal Madar**	**6.81**	**155**	P	**Pn**	**09 20 10.6**	**+1.4**
ASAO	**Ashtian**	**7.28**	**326**	*e*Pn	**Pn**	**09 20 17.2**	**+1.4**
ASAO	**Ashtian**	**7.28**	**326**	*e*Pn	**Pn**	**09 20 17.2**	**+1.4**
DAMV	**Damavand**	**7.46**	**341**	*e*Pn	**Pn**	**09 20 20.0**	**+1.7**
DAMV	**Damavand**	**7.46**	**341**	*e*Pn	**Pn**	**09 20 19.9**	**+1.7**
RBK	**Rabkut**	**11.05**	**184**	⇑P	**Pn**	**09 21 07.2**	**-0.2**
RBK	**Rabkut**	**11.05**	**184**	P	**Pn**	**09 21 07.2**	**-0.2**
ABTO	**Aybut**	**11.28**	**188**	⇑P	**Pn**	**09 21 09.4**	**-1.1**
ABTO	**Aybut**	**11.28**	**188**	P	**Pn**	**09 21 09.4**	**-1.1**
BRTR	**Keskin Array B**	**20.79**	**308**	P	**P**	**09 23 11.6**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=138,slow=13,SNR=6.1						
AAK	**Ala-Archa**	**21.12**	**43**	P	**P**	**09 23 15.4**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=195,slow=14,SNR=4.2						
AKTO	**Aktyubinsk**	**21.95**	**5**	P	**P**	**09 23 22.9**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=167,slow=12,SNR=6.1						
BVAR	**Borovoye Array**	**26.95**	**21**	P	**P**	**09 24 10.4**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=197,slow=9.1,SNR=5.9						
MKAR	**Makanchi Array**	**28.04**	**42**	P	**P**	**09 24 19.6**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=233,slow=11,SNR=5.8						
AKASG	**Malin Array Be**	**29.41**	**326**	P	**P**	**09 24 31.9**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=133,slow=8.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**33.41**	**32**	P	**P**	**09 25 07.0**	**-0.8**
	comp=Z,3.2nm,0.5s,baz=240,slow=9.5,SNR=14						
GERES	**GERESS Array B**	**37.42**	**314**	P	**P**	**09 25 41.6**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=100,slow=5.7,SNR=4.9						
FINES	**FINESS Array B**	**38.05**	**338**	P	**P**	**09 25 47.0**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=141,slow=10,SNR=9.6						
NOA	**NORSAR Array B**	**43.52**	**331**	P	**P**	**09 26 31.1**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=132,slow=5.5,SNR=3.2						
ARCES	**ARCESS Array B**	**44.36**	**346**	P	**P**	**09 26 39.5**	**+0.2**
	comp=Z,7.2nm,1.1s,baz=153,slow=10,SNR=3.6						
TORD	**Torodi Ar. Bea**	**51.68**	**264**	P	**P**	**09 27 35.2**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=58,slow=6.7,SNR=12						
YKA	**Yellowknife Ar**	**88.85**	**355**	P	**P**	**09 31 23.0**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=3.4,slow=5.0,SNR=18						
WRA	**Warramunga Arr**	**90.52**	**112**	P	**P**	**09 31 30.4**	**-1.3**
	comp=Z,0.6nm,0.9s,baz=318,slow=4.1,SNR=5.4						
ASAR	**Alice Springs**	**92.03**	**116**	P	**P**	**09 31 37.4**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=302,slow=4.7,SNR=5.7						

IDC 15 10:08:32.8±3.3**, 16.°68S**×**67.°22W, h306km**±19km**, mb2.8**/3**, mb1 3.1**/4**, mb1mx3.0**/19**, mbtmp3.5**/4**, Error ellipse: s-maj=173.3km s-min=24.9km az=12.0, Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**0.95**	**294**	P	Pn	10 09 14.6	+0.1
	0.8nm,0.3s,baz=184,slow=6.2,SNR=32						
SIV	**San Ignacio**	**5.94**	**84**	P	Pn	10 10 01.6	-0.2
	0.9nm,0.3s,baz=252,slow=13,SNR=14						
TXAR	**Lajitas Array**	**57.71**	**322**	P	P	10 17 51.1	-1.3
	0.4nm,0.6s,baz=140,slow=4.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**74.25**	**71**	P	P	10 19 37.0	-0.3
	0.2nm,0.4s,baz=242,slow=4.6,SNR=3.5						
YKA	**Yellowknife Ar**	**87.21**	**340**	P	P	10 20 45.6	+1.3
	0.2nm,0.5s,baz=135,slow=4.4,SNR=9.3						

*BJI **15** 10:15:40.3, 6.°06N×127.°12E, h99km, mB5.2/42, mb5.3/65*

*ISCJB **15** 10:15:42.6±0.3, 6.°16N±0.°01×126.°96E±0.°02, h101km±2km, mb5.4/176, Error ellipse: s-maj=3.8km s-min=2.4km az=172.7*

*MAN **15** 10:15:43, 6.°09N×126.°88E, h72km, mb5.8, ML4.9, MS5.4*

MAN INTENSITY II - GENERAL SANTOS CITY; MATI CARAGA & TARAGONA DAVAO ORIENTAL; INTENSITY I - TAGUM CITY DIGOS CITY; CATEEL DAVAO ORIENTAL.

*IDC **15** 10:15:43.5±1.4, 6.°17N×126.°92E, h95km±12km, mb4.8/32, mb1 4.9/33, mb1mx4.9/35, mbtmp5.2/33, MS3.8/31, Ms1 3.8/31, ms1mx4.0/40, Error ellipse: s-maj=12.4km s-min=6.9km az=79.0*

*NEIC **15** 10:15:44.3±0.5, 6.°17N×126.°91E, h103km±4km, mb5.4/67, Error ellipse: s-maj=4.4km s-min=3.2km az=79.0*

NEIC Felt at Tagum.

*GCMT **15** 10:15:44.3±0.2, 6.°11N×126.°99E, h85km±2km, MW5.1/92, Moment Tensor Solution. s62,c75; s92,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.34±.13; $M_{\theta\theta}$0.79±.13; $M_{\phi\phi}$-5.13±.15; $M_{r\theta}$0.46±.09; $M_{\theta\phi}$0.69±.15; $M_{r\phi}$2.89±.11; Best double couple: $M_0$5.61300×10^{16} NP1:ϕ_s3.00000°, δ61.00000°, λ100.00000°. NP2: ϕ_s162.00000°, δ31.00000°, λ72.00000°. Principal axes: T 5.2410, Plg72.0000°, Azm297.0000°; N 0.7470, Plg9.0000°, Azm178.0000°; P -5.9850, Plg15.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*KLM **15** 10:15:44.3, 6.°15N×127.°00E, h99km, mb5.5, ML5.1, MS6.0*

*DJA **15** 10:15:46.6±0.5, 6.°N±4°×12.°7E±°, h104km±4km, M5.2/105, mB5.7/88, mb5.6/105, MLv5.8/9, Mw(mB)5.2/88, Mwp5.5/1*

*MOS **15** 10:15:48.1±1.1, 6.°32N×126.°98E, h147km, mb5.5/43, Error ellipse: s-maj=9.1km s-min=4.6km az=118.7*

ISC 15 10:15:44.1±0.3**, 6.°19N**±0.°03×**126.°90E**±0.°04**, h102km**±2km**, h102km:pP-P, n870, σ1s46**/945**, mb5.3**/174**, 203C-162D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.99**	**320**	*e*P	**Pn**	**10 16 02.3**	**-2.2**
MATI				*e*S	**Sn**	**10 16 17.7**	**-2.3**
DAV	**Davao City (W)**	**1.58**	**304**	*e*P	**Pn**	**10 16 11.6**	**+0.1**
DMPH	**Davao City--Mi**	**1.64**	**303**	⇓*e*P	**Pn**	**10 16 12.0**	**-0.2**
DMPH				*e*S	**Sn**	**10 16 34.9**	**+1.3**
GSPH	**General Santos**	**1.94**	**267**	⇓*i*P	Pn	10 16 12.2	-3.9
GSPH				*i* S	**Sn**	**10 16 36.2**	**-4.3**
BUKP	**Musuan**	**2.48**	**313**	*e*P	**Pn**	**10 16 23.2**	**+0.1**
BUKP				*e*S	**Sn**	**10 16 53.8**	**+0.8**
CTBH	**Cotabato--PC H**	**2.83**	**291**	⇓*i*P	**Pn**	**10 16 26.6**	**-1.0**
CTBH				*i* S	**Sn**	**10 17 01.6**	**+0.5**
SGSI	**Sangihe**	**2.84**	**209**	P	**Pn**	**10 16 27.0**	**-0.7**
SGSI				S	**Sn**	**10 17 01.8**	**+0.5**
BUTP	**Butuan**	**3.04**	**335**	*e*P	**Pn**	**10 16 32.3**	**+1.8**
BUTP				*e*S	**Sn**	**10 17 08.3**	**+2.2**
CGP	**Cagayan de Oro**	**3.14**	**316**	⇑*i*P	**Pn**	**10 16 32.7**	**+0.9**
CGP				*i* S	**Sn**	**10 17 09.2**	**+0.6**
SCPH	**Surigao**	**3.83**	**339**	⇓*e*P	**Pn**	**10 16 42.0**	**+0.9**
PAGZ	**Pagadian**	**3.86**	**295**	*e*P	**Pn**	**10 16 41.5**	**+0.1**
MSLP	**Maasin**	**4.41**	**333**	*e*P	**Pn**	**10 16 49.2**	**+0.3**
TBP	**Tagbilaran**	**4.60**	**319**	*e*P	Pn	10 16 54.9	+3.5
TBP				*e*S	**Sn**	**10 17 48.8**	**+5.0**
SNPH	**Sibulan**	**4.80**	**311**	*e*P	Pn	10 16 50.2	-4.0
SNPH				*e*S	**Sn**	**10 17 45.1**	**-3.5**
ZMPH	**Zamboanga City**	**4.86**	**279**	⇓*i*P	**Pn**	**10 16 55.0**	**-0.1**
ZMPH				*i* S	**Sn**	**10 17 50.6**	**+0.4**
LLP	**Lapu-Lapu**	**5.03**	**325**	*e*P	**Pn**	**10 16 58.0**	**+0.8**
LLP				*e*S	**Sn**	**10 17 53.9**	**-0.2**
PLP	**Palo**	**5.30**	**339**	⇓*e*P	**Pn**	**10 17 03.2**	**+2.3**
PLP				*e*S	**Sn**	**10 17 56.6**	**-4.1**
OCLP	**Ormoc**	**5.34**	**335**	*e*P	Pn	10 17 05.0	+3.6
TNTI	**Ternate**	**5.40**	**175**	P	**Pn**	**10 17 01.7**	**-0.6**
	1μm,1.3s,15μm5.8nm						
TNTI	**Ternate**	**5.40**	**175**	*e*Pn	**Pn**	**10 17 01.2**	**-1.1**
GUIM	**Jordan**	**6.13**	**316**	*e*P	**Pn**	**10 17 13.8**	**+1.5**
KMSI	**Cibinong**	**6.29**	**208**	P	**Pn**	**10 17 14.0**	**-0.4**
	2μm,0.9s,14μm8.1nm						
CNP	**Catarman**	**6.66**	**341**	*e*P	Pn	10 17 24.1	+4.7
RCP	**Roxas**	**6.73**	**323**	⇓*e*P	**Pn**	**10 17 22.0**	**+1.6**
GTOI	**Gorontalo**	**6.74**	**215**	P	**Pn**	**10 17 19.0**	**-1.6**
	1μm,0.7s,12μm4.1nm						
LBMI	**Labuha**	**6.81**	**175**	P	**Pn**	**10 17 21.4**	**0.0**
	613nm,1.2s,7μm2.3nm						
CUYO	**Cuyo Island**	**7.43**	**309**	*e*P	**Pn**	**10 17 31.5**	**+1.5**
MRSI	**Marisa**	**7.53**	**221**	P	**Pn**	**10 17 29.9**	**-1.3**
	939nm,0.8s,10μm3.3nm						
MRSI				S	**Sn**	**10 18 54.9**	**-0.1**
	939nm,0.8s,10μm3.3nm						
PALU	**Palau**	**7.61**	**81**	⇑P	Pn	10 17 28.3	-4.0
	baz=7.5,SNR=35						
I39PW	**PALAU INFRASON**	**7.71**	**80**	*i*		11 13 30.0	
	baz=275,slow=280,SNR=0.2						
OTRP	**Odiongan**	**7.80**	**322**	*e*P	**Pn**	**10 17 37.6**	**+2.8**
PVCP	**Virac**	**7.84**	**340**	*e*P	Pn	10 17 39.6	+4.2
TOLI	**Toli-Toli**	**7.90**	**231**	*e*Pn	**Pn**	**10 17 34.2**	**-2.1**
	177nm,0.4s						
SANI	**Sanana**	**8.23**	**186**	P	Pn	10 17 37.0	-3.8
	260nm,0.8s,6μm1.4nm						
SANI				S	Sn	10 19 00.4	-12
	260nm,0.8s,6μm1.4nm						
SWI	**Sorong**	**8.25**	**148**	P	**Pn**	**10 17 39.9**	**-1.1**
	485nm,0.8s,3μm						
LUWI	**Luwuk**	**8.28**	**210**	P	**Pn**	**10 17 41.5**	**0.0**
	1μm,1.0s,12μm						
LUWI	**Luwuk**	**8.28**	**210**	*e*Pn	**Pn**	**10 17 42.5**	**+1.0**
LUWI	**Luwuk**	**8.28**	**210**	⇑P	**Pn**	**10 17 40.4**	**-1.0**
	baz=8.3,SNR=16						
MYLDM	**Lahad Datu**	**8.42**	**264**	*e*Pn	**Pn**	**10 17 44.5**	**+1.2**
MYLDM	**Lahad Datu**	**8.42**	**264**	⇓P	**Pn**	**10 17 44.6**	**+1.2**
SJMP	**San Jose**	**8.45**	**318**	*e*P	**Pn**	**10 17 46.1**	**+2.4**
BUSP	**Coron**	**8.78**	**312**	*e*P	**Pn**	**10 17 50.1**	**+1.9**
APSI	**Ampana**	**8.79**	**217**	P	**Pn**	**10 17 48.5**	**+0.2**
	756nm,0.9s,7μm						
ENPP	**El Nido**	**8.91**	**305**	*e*P	**Pn**	**10 17 51.0**	**+0.9**
MPSI	**Mapaga**	**9.09**	**231**	P	**Pn**	**10 17 52.6**	**+0.1**
	130nm,0.7s,1μm						
TSM	**Tawau**	**9.18**	**259**	⇓P	**Pn**	**10 17 53.2**	**-0.6**
NLAI	**Namlea**	**9.37**	**179**	P	**Pn**	**10 17 55.6**	**-0.6**
	332nm,0.6s,5μm						
LQP	**Lukban**	**9.48**	**327**	*e*P	Pn	10 18 02.1	+4.2
SDKM	**Sandakan**	**9.67**	**267**	⇓P	Pn	10 18 02.1	+1.7
MSAI	**Masohi**	**9.69**	**168**	P	Pn	10 18 06.4	+5.8
	45nm,1.0s,464nm						
TGY	**Tagaytay City**	**9.81**	**324**	P	Pn	10 18 10.1	+7.7
	28nm,0.3s,baz=46,slow=5.8,SNR=3.9						
FAKI	**Fak Fak**	**10.51**	**149**	P	**Pn**	**10 18 11.1**	**-0.7**
	116nm,0.9s,1μm						
FAKI	**Fak Fak**	**10.51**	**149**	*e*Pn	**Pn**	**10 18 09.8**	**-2.0**
FAKI	**Fak Fak**	**10.51**	**149**	⇑P	Pn	10 18 07.3	-4.5
	baz=10,SNR=12						
RKPI	**Ransiki, Papua**	**10.55**	**136**	P	Pn	10 18 16.0	+3.6
	391nm,1.1s						
KKM	**Kota Kinabalu**	**10.62**	**270**	*e*Pn	**Pn**	**10 18 15.2**	**+1.8**
KKM	**Kota Kinabalu**	**10.62**	**270**	⇑P	**Pn**	**10 18 14.1**	**+0.6**
	baz=11,SNR=10						
KKM	**Kota Kinabalu**	**10.62**	**270**	⇓P	**Pn**	**10 18 15.5**	**+2.1**
TTSI	**Tana Toraja**	**11.58**	**218**	P	**Pn**	**10 18 26.5**	**+0.3**
	456nm,0.9s,4μm						
SMKI	**Samarinda**	**11.70**	**236**	P	Pn	10 18 32.2	+4.3
	320nm,1.2s,8μm						
BAKI	**Biak**	**11.76**	**128**	P	**Pn**	**10 18 30.1**	**+1.5**
	1μm,1.1s,10μm						
SRPI	**Serui, Papua**	**12.29**	**130**	P	**Pn**	**10 18 37.6**	**+1.9**
	428nm,1.1s						
SPSI	**Sidrap Palu**	**12.35**	**215**	P	**Pn**	**10 18 34.9**	**-1.5**
	138nm,0.9s,1μm						
BKB	**Balikpapan**	**12.43**	**234**	P	**Pn**	**10 18 39.1**	**+1.6**
	631nm,0.8s,5μm						
BNSI	**Bone**	**12.52**	**213**	P	**Pn**	**10 18 38.5**	**-0.1**
	149nm,0.9s,2μm						
SZP	**Santa**	**12.93**	**331**	*e*Pn	**Pn**	**10 18 44.7**	**+0.6**
KAPI	**Kappang**	**13.22**	**213**	Pn	**Pn**	**10 18 46.0**	**-1.9**
	1μm,0.9s,SNR=31						
KAPI	**Kappang**	**13.22**	**213**	*e*Pn	**Pn**	**10 18 45.7**	**-2.2**
BKSI	**Bulukumba**	**13.29**	**211**	P	**Pn**	**10 18 47.1**	**-1.7**
	61nm,1.1s,758nm						
BSSI	**Bau Bau, Buton**	**13.82**	**208**	P	**P**	**10 19 01.2**	**+0.5**
	391nm,0.7s,4μm						
MTKI	**Muara Teweh, K**	**13.92**	**240**	P	**P**	**10 19 01.2**	**-0.6**
	420nm,1.0s						
KBKI	**Kotabaru**	**14.27**	**229**	P	**Pn**	**10 19 02.8**	**+1.2**
	147nm,1.1s,2μm						
SMPI	**Sarmi**	**14.32**	**124**	P	**Pn**	**10 19 03.2**	**+1.0**
	478nm,1.2s						
SBUM	**Sibu**	**15.10**	**256**	*e*Pn	**Pn**	**10 19 13.6**	**+1.4**
	1μm,0.8s						
BBKI	**Banjar Baru**	**15.39**	**232**	P	**Pn**	**10 19 16.9**	**+1.1**
	330nm,1.3s,4μm						
MMRI	**Maumere**	**15.44**	**198**	P	**P**	**10 19 20.6**	**+1.9**
	234nm,1.1s,3μm						
MMRI	**Maumere**	**15.44**	**198**	*e*Pn	**Pn**	**10 19 16.7**	**+0.2**
	132nm,0.6s						
GENI	**Genyem**	**15.86**	**123**	P	**P**	**10 19 25.0**	**+1.6**
	173nm,1.8s,4μm						
SOEI	**Soe**	**16.05**	**189**	P	P	10 19 32.9	+7.3
SOEI	**Soe**	**16.05**	**189**	*e*Pn	**P**	**10 19 25.7**	**+0.1**
	395nm,1.1s						
SOEI	**Soe**	**16.05**	**189**	⇓P	**P**	**10 19 26.0**	**+0.4**
	baz=16,SNR=7.8						
STKI	**Sintang**	**16.55**	**249**	P	**P**	**10 19 31.4**	**+0.4**
	280nm,1.1s,10μm						
BATI	**Baumata**	**16.60**	**191**	P	**P**	**10 19 32.6**	**+1.0**
	224nm,0.8s,2μm						
BATI	**Baumata**	**16.60**	**191**	P	**P**	**10 19 31.5**	**-0.1**
	23nm,0.3s,baz=301,slow=2.2,SNR=12						
BATI				S	**S**	**10 22 40.4**	**+0.4**
	2.9nm,0.3s,baz=185,slow=19,SNR=2.7						
KSM	**Kuching**	**17.20**	**255**	*e*Pn	**Pn**	**10 19 39.2**	**+1.0**
	269nm,0.9s						
KSM	**Kuching**	**17.20**	**255**	⇓P	**Pn**	**10 19 38.9**	**+0.8**
	baz=17,SNR=107						
KSM	**Kuching**	**17.20**	**255**	⇑P	**Pn**	**10 19 39.6**	**+1.4**
BASI	**Baing, Sumba**	**17.47**	**201**	P	**P**	**10 19 39.7**	**-1.5**
	358nm,0.8s,6μm						
PBKI	**Pangkalan Bun**	**17.59**	**240**	P	**P**	**10 19 43.1**	**+0.2**
	729nm,1.0s,5μm						
TPUB	**Ta-pu**	**18.05**	**341**	*e*P	**P**	**10 19 43.5**	**-4.0**
	41nm,0.8s						
SRBI	**Singaraja**	**18.35**	**220**	P	**P**	**10 19 49.5**	**-1.4**
	132nm,0.7s,1μm						
SSLB	**Suanglung**	**18.41**	**343**	*e*Pn	**P**	**10 19 54.3**	**+1.6**
	24nm,0.7s						
KMMI	**Kalianget**	**18.42**	**225**	P	**P**	**10 19 53.2**	**+0.3**
	309nm,1.0s,3μm						
ABJI	**Asem Bagus**	**18.78**	**222**	P	**P**	**10 20 00.4**	**+3.3**
	112nm,0.7s,2μm						
DNP	**Denpasar**	**18.81**	**218**	P	**P**	**10 19 57.8**	**+0.3**
	561nm,1.0s						
IGBI	**Denpasar**	**18.96**	**218**	P	**P**	**10 19 58.8**	**-0.5**
	316nm,0.8s,3μm						
DLV	**T Lat**	**19.05**	**289**	*e*P	**P**	**10 20 00.5**	**-0.1**
	673nm,1.2s						
YHNB	**Yeheng**	**19.13**	**344**	*e*P	**P**	**10 20 00.3**	**+1.0**
	83nm,1.1s						
BLJI	**Banyuglugur**	**19.17**	**224**	P	**P**	**10 20 02.0**	**+0.2**
	154nm,0.7s						
JAGI	**Jajag, Banyuwa**	**19.33**	**221**	P	**P**	**10 20 00.8**	**-0.7**
	293nm,0.8s,3μm						
JAGI	**Jajag, Banyuwa**	**19.33**	**221**	*e*P	**P**	**10 20 00.4**	**-1.1**
	267nm,0.8s						
JAGI	**Jajag, Banyuwa**	**19.33**	**221**	⇑P	**P**	**10 20 00.8**	**-0.7**
	baz=19,SNR=13						
MTN	**Manton Dam**	**19.37**	**167**	⇓P	**P**	**10 20 01.9**	**0.0**
	baz=19,SNR=6.0						
GRJI	**Gresik**	**19.40**	**228**	P	**Pn**	**10 20 05.8**	**+1.3**
	273nm,0.8s,2μm						
KDU	**Kakadu**	**19.55**	**164**	⇑P	**P**	**10 20 03.3**	**-0.6**
	baz=20,SNR=12						
GMJI	**Gumukmas**	**19.66**	**223**	P	**P**	**10 20 06.1**	**+1.0**
	163nm,0.7s,1μm						
TBJI	**Tambak Boyo**	**19.81**	**230**	P	**Pn**	**10 20 08.8**	**-0.4**
	540nm,1.1s,5μm						
UWJI	**Ujung Watu**	**20.25**	**232**	P	**P**	**10 20 13.0**	**+1.4**
	576nm,0.8s,5μm						
QZH	**Quanzhou**	**20.28**	**338**	⇓*i*P	**P**	**10 20 13.1**	**+1.4**
QZH				pmax	pmax		
	comp=Z,100nm,0.8s						
NGJI	**Ngawi**	**20.46**	**229**	P	**P**	**10 20 15.1**	**+1.4**
	539nm,0.9s,4μm						
JOW	**Kunigami**	**20.57**	**4**	P	**P**	**10 20 15.3**	**+0.4**
	4.9nm,0.4s,baz=151,slow=13,SNR=19						
JOW				LR	LR	10 28 58.1	
	comp=Z,16nm,20.2s,baz=166,slow=39						
JOW	**Kunigami**	**20.57**	**4**	*e*P	**P**	**10 20 15.6**	**+0.8**
PWJI	**Pagerwojo**	**20.64**	**227**	P	**P**	**10 20 15.0**	**-0.7**
	132nm,0.7s,1μm						
QIZ	**Qiongzhong**	**20.95**	**309**	P	**P**	**10 20 20.0**	**+1.0**
QIZ				pP	**pP**	**10 20 37.8**	**-0.6**
QIZ				sP	**sP**	**10 20 49.4**	**-1.8**
QIZ				S	**S**	**10 24 09.1**	**+2.2**
QIZ				sS	**sS**	**10 24 40.3**	**+1.0**
QIZ				LR	LR		
	comp=N,410nm,13.5s						
QIZ				LR	LR		
	comp=E,180nm,19.5s						
QIZ				LR	LR		
	comp=Z,740nm,26.0s						
QIZ	**Qiongzhong**	**20.95**	**309**	*e*P	**P**	**10 20 19.5**	**+0.5**
	41nm,0.8s						
SMRI	**Semarang**	**21.04**	**232**	P	**P**	**10 20 20.9**	**+0.9**
	236nm,0.9s,4μm						
SMRI	**Semarang**	**21.04**	**232**	*e*P	**P**	**10 20 20.2**	**+0.2**
	198nm,0.9s						
SMRI	**Semarang**	**21.04**	**232**	⇓P	**P**	**10 20 20.4**	**+0.4**
	baz=21,SNR=4.7						
WOJI	**Wonogiri, Jawa**	**21.17**	**229**	P	**P**	**10 20 21.9**	**+0.6**
	165nm,1.2s,8μm						
UGM	**Wanagama**	**21.52**	**230**	P	**P**	**10 20 25.8**	**+0.7**
	290nm,0.9s						
UGM	**Wanagama**	**21.52**	**230**	*e*P	**P**	**10 20 24.2**	**-1.0**
	211nm,0.8s						
UGM	**Wanagama**	**21.52**	**230**	⇑P	**P**	**10 20 24.5**	**-0.6**
	baz=22,SNR=14						
KNRA	**Kununurra**	**21.80**	**175**	⇑P	**P**	**10 20 27.5**	**-0.5**
	baz=22,SNR=40						
KPJI	**Karang Pucung**	**22.40**	**233**	P	**P**	**10 20 34.2**	**-0.2**
	122nm,0.8s,2μm						
JCJI	**Jatiwangi**	**22.45**	**236**	P	**P**	**10 20 38.3**	**+3.3**
	385nm,0.9s						
UBPT	**Khong Chiam**	**22.89**	**295**	P	**P**	**10 20 39.6**	**+0.2**
	103nm,1.4s,1μm						
TPRI	**Tanjung Pinang**	**22.93**	**258**	P	**P**	**10 20 39.4**	**-0.4**
	463nm,1.0s						
CMJI	**Cimerak**	**23.05**	**233**	P	**P**	**10 20 39.1**	**-1.8**
	102nm,1.1s,902nm						
LEM	**Lembang**	**23.18**	**236**	P	**P**	**10 20 43.8**	**+1.5**
	300nm,1.1s,3μm						
LEM	**Lembang**	**23.18**	**236**	⇑P	**P**	**10 20 42.4**	**0.0**
	baz=23,SNR=9.2						
MYKOM	**Kota Tinggi**	**23.40**	**260**	*e*P	**P**	**10 20 43.7**	**-0.5**
MYKOM	**Kota Tinggi**	**23.40**	**260**	⇓P	**P**	**10 20 45.0**	**+0.8**
CISI	**Cisompet, Garu**	**23.43**	**235**	P	**P**	**10 20 43.0**	**-1.5**
	170nm,1.0s,6μm						
CISI	**Cisompet, Garu**	**23.43**	**235**	*e*P	**P**	**10 20 41.9**	**-2.6**
	87nm,0.6s						
BTDF	**Bukit Timah Da**	**23.56**	**259**	P	**P**	**10 20 45.7**	**0.0**
	baz=24,SNR=35						
CBJI	**Citeko**	**23.61**	**238**	P	**P**	**10 20 47.4**	**+1.4**
	543nm,0.8s						
CNJI	**Cibinong**	**23.85**	**236**	P	**P**	**10 20 46.4**	**-1.8**
	191nm,1.0s,2μm						
KGM	**Kluang**	**23.88**	**261**	⇑P	**P**	**10 20 48.7**	**+0.2**
PMBI	**Palembang**	**23.88**	**248**	P	**P**	**10 20 50.2**	**+1.7**
	1μm,1.0s						
PMBI	**Palembang**	**23.88**	**248**	*e*P	**P**	**10 20 50.0**	**+1.5**
	834nm,0.9s						
SBJI	**Serang**	**24.07**	**240**	P	**P**	**10 20 51.9**	**+1.7**
	305nm,1.3s						

SKJI Sukabumi 24.16 237 P P 10 20 54.2 +3.2
203nm,0.9s,2µm
FITZ Fitzroy Crossi 24.17 183 eP P 10 20 51.3 +0.3
FITZ Fitzroy Crossi 24.17 183 ⇓P P 10 20 50.9 -0.1
baz=24,SNR=22
BLSI Bandar Lampung 24.48 242 P P 10 20 55.7 +1.8
252nm,0.7s,4µm
JMBI JAMBI 24.49 252 P P 10 20 56.1 +2.1
772nm,0.7s
KLI Kotabumi 24.59 244 P P 10 20 56.1 +1.1
255nm,1.0s,11µm
CGJI Cibinong 24.69 239 P P 10 20 54.5 -1.3
169nm,0.8s,7µm
MDSI Maura Dua 25.04 245 P P 10 20 58.6 -0.5
128nm,1.2s,1µm
CHBT CHBT 25.08 287 P P 10 20 59.7 +0.3
96nm,1.2s
KASI Kota Agung 25.21 243 P P 10 21 00.4 -0.2
222nm,1.0s,2µm
FRIM Kepong 25.36 265 ⇑P P 10 21 03.2 +1.3
LHSI Lahat 25.37 247 P P 10 21 02.8 +0.7
451nm,1.1s,4µm
LWLI Liwa 25.37 244 P P 10 21 02.5 +0.3
224nm,0.7s,4µm
CBIJ Chichi jima 25.38 33 eP P 10 21 01.3 -0.7
JCJ Chichijima 25.38 33 P P 10 21 01.0 -0.9
548nm,0.5s,baz=233,slow=3.2,SNR=67
JCJ LR LR 10 28 56.5
comp=Z,176nm,21.1s,baz=117,slow=31
PMG Port Moresby 25.45 127c iP P 10 21 04.1 +1.3
PMG pmax pmax
comp=Z,5.0nm,0.8s
PMG Port Moresby 25.45 127 P P 10 21 04.0 +1.3
comp=Z,9.8nm,0.7s,baz=28,slow=7.5,SNR=8.2
PMG Port Moresby 25.45 127 eP P 10 21 04.6 +1.9
COEN Coen 25.72 141 eP P 10 21 05.7 +0.5
COEN Coen 25.72 141 ⇑P P 10 21 04.1 -1.1
baz=26,SNR=34
IPM Ipoh 25.82 268 eP P 10 21 05.5 -0.6
comp=Z,136nm,0.9s
IPM Ipoh 25.82 268 ⇓P P 10 21 06.2 +0.1
MNAI Manna 26.10 247 P P 10 21 13.5 +4.8
comp=Z,343nm,1.3s,comp=Z,4µm
MNAI Manna 26.10 247 eP P 10 21 08.1 -0.6
comp=Z,401nm,1.0s
MNAI Manna 26.10 247 ⇓P P 10 21 08.1 -0.6
baz=26,SNR=7.7
KULM Kulim 26.13 269 eP P 10 21 08.9 -0.1
comp=Z,82nm,0.9s
KULM Kulim 26.13 269 ⇑P P 10 21 09.3 +0.3
MASI Maura Aman, Be 26.31 250 P P 10 21 12.5 +1.9
comp=Z,737nm,0.9s,comp=Z,7µm
SDSI Sungai Dareh 26.39 255 P P 10 21 10.9 -0.4
comp=Z,194nm,0.7s,comp=Z,24µm
BKNI Bangkinang 26.45 258 P P 10 21 11.7 -0.2
comp=Z,291nm,0.7s,comp=Z,2µm
BKNI Bangkinang 26.45 258 eP P 10 21 11.4 -0.5
comp=Z,185nm,0.7s
BKNI Bangkinang 26.45 258 P P 10 21 11.9 0.0
baz=26,SNR=3.7
PATY Pattaya 26.51 287 P P 10 21 15.9 +3.5
comp=Z,13nm,0.7s
NJ2 Nanjing 26.81 345 eP P 10 21 15.3 +0.5
NJ2 pP pP 10 21 37.8 +0.5
NJ2 sP sP 10 21 47.3 -1.9
NJ2 pmax pmax
comp=Z,20nm,0.7s
XMIS Christmas Isla 26.87 232 eP P 10 21 19.4 +3.9
SLVN Son La 26.87 306 eP P 10 21 16.2 +0.6
comp=Z,187nm,2.4s
WHN Wuhan 26.95 336 ⇓P P 10 21 18.3 +2.2
WHN pP pP 10 21 38.1 -0.5
WHN S S 10 25 49.4 +3.6
WHN LR LR
comp=Z,710nm,19.8s
WRAB Tennant Creek 26.97 164 P P 10 21 15.9 -0.5
comp=Z,256nm,0.6s,SNR=5.2
WRAB Tennant Creek 26.97 164 eP P 10 21 18.6 +2.2
WRAB pmax pmax
comp=Z,198nm,1.6s
WRA Warramunga Arr 26.98 164 P P 10 21 15.5 -1.0
comp=Z,10.0nm,0.8s,baz=344,slow=10.0,SNR=21
WRA PcP PcP 10 24 35.2 -0.7
comp=Z,7.5nm,0.7s,baz=333,slow=2.7,SNR=4.9
WRA S S 10 25 43.5 -3.1
comp=Z,6.4nm,1.0s,baz=348,slow=16,SNR=4.8
WRA ScP ScP 10 28 07.5 +0.4
comp=Z,4.4nm,0.6s,baz=342,slow=3.5,SNR=8.4
WRA LR LR 10 34 28.7
comp=Z,167nm,19.3s,baz=335,slow=42
JNU Nakatsue 27.05 7 P P 10 21 15.9 -1.1
comp=Z,31nm,0.6s,baz=269,slow=0.9,SNR=20
JNU LR LR 10 33 20.6
comp=Z,127nm,20.3s,baz=127,slow=39
JNU Nakatsue 27.05 7 eP P 10 21 16.0 -1.1
comp=Z,20nm,0.9s
PDSI Padang 27.32 256 P P 10 21 18.1 -1.5
comp=Z,365nm,0.9s,comp=Z,8µm
PBKT Sadao Pong 27.40 294 P P 10 21 20.9 +0.7
comp=Z,52nm,1.4s,comp=Z,3µm
MNSI Mandailing Nat 27.78 260 P P 10 21 22.4 -1.3
comp=Z,89nm,0.7s
GYA Guiyang 27.90 319⇑iP P 10 21 25.3 +0.5
GYA pP pP 10 21 49.8 +2.3
GYA sP sP 10 22 02.0 +2.7
GYA PP PnPn 10 22 20.4 +3.0
GYA PcP PcP 10 24 39.8 +1.6
GYA S S 10 26 02.3 +1.0
GYA sS sS 10 26 42.0 +1.2
GYA SS SnSn 10 27 32.0 +5.6
GYA ScP ScP 10 28 09.6 -0.4
GYA ScS ScS 10 32 01.3 -1.3
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=Z,860nm,16.9s
GYA LR LR
comp=Z,670nm,17.0s
GYA LR LR
comp=Z,840nm,17.6s
SURT Suratani 27.99 277 P P 10 21 25.7 +0.1
comp=Z,57nm,1.1s,comp=Z,554nm
MBWA Marble Bar 28.07 194 eP P 10 21 26.0 -0.2
comp=Z,63nm,0.7s
PSI Prapat 28.09 264 P P 10 21 25.9 -0.8
comp=Z,22nm,0.6s,baz=319,slow=20,SNR=14
PSI PcP PcP 10 24 38.8 -0.1
comp=Z,15nm,1.0s,baz=160,slow=7.6,SNR=4.4
PSI Prapat 28.09 264 ⇑P P 10 21 26.1 -0.6
baz=28,SNR=11
UTTA Uttaradit 28.17 296 P P 10 21 28.0 +0.9
comp=Z,9.3nm,0.9s,comp=Z,152nm
PKDT Phuket 28.40 275 P P 10 21 29.4 +0.2
comp=Z,181nm,1.0s
SRDT SRDT 28.48 289 P P 10 21 30.6 +0.6
comp=Z,191nm,1.3s
SUKH Sukhothai 28.91 295 P P 10 21 34.9 +1.2
comp=Z,9.7nm,1.0s,comp=Z,76nm
ENH Enshi 29.02 328 eP P 10 21 35.0 +0.4
comp=Z,10.0nm,0.5s
KHLT Khaolaem Dam 29.09 289 P P 10 21 36.3 +0.9
comp=Z,23nm,1.1s,comp=Z,262nm
KCSI Kotacane, Aceh 29.14 266 P P 10 21 34.3 -1.5
comp=Z,134nm,0.8s,comp=Z,868nm
LAMP Lampang 29.27 297 P P 10 21 38.3 +1.4
comp=Z,8.2nm,0.8s,comp=Z,76nm
QIS Mount Isa 29.37 155 ⇓P P 10 21 37.1 -0.6
baz=29,SNR=40
GSI Gunungsitoli 29.65 262 P P 10 21 38.5 -1.9
comp=Z,396nm,0.7s
GSI Gunungsitoli 29.65 262 eP P 10 21 38.8 -1.6
MTSU Mount Surprise 29.66 145 ⇑P P 10 21 39.1 -1.2
baz=30,SNR=12
TPTI 29.76 266 P P 10 21 40.6 -0.7
comp=Z,303nm,0.8s,comp=Z,24µm
KMI Kunming 29.82 312 P P 10 21 43.0 +1.0
KMI PP PnPn 10 22 42.4 -0.2
KMI pmax pmax
comp=Z,62nm,1.0s
KMI LR LR
comp=Z,370nm,26.8s
KMI LR LR
comp=Z,450nm,26.8s
KMI LR LR
comp=Z,490nm,33.3s

CMAR Chiang Mai Arr 29.85 297 P P 10 21 43.1 +1.1
comp=Z,8.8nm,0.6s,baz=109,slow=7.3,SNR=42
CMAR PcP PcP 10 24 42.0 -1.1
comp=Z,6.7nm,0.7s,baz=93,slow=0.8,SNR=11
CMAR ScP ScP 10 28 18.9 +2.8
comp=Z,3.8nm,0.8s,baz=98,slow=1.4,SNR=12
CMAR LR LR 10 35 28.8
comp=Z,332nm,18.5s,baz=113,slow=40
CMMT Chiang Mai 29.97 297 P P 10 21 43.9 +0.7
comp=Z,50nm,0.7s,comp=Z,644nm
CHTO Chiang Mai 29.98 297 eP P 10 21 44.1 +0.9
CHTO pmax pmax
comp=Z,24nm,0.6s
CHTO Chiang Mai 29.98 297 P P 10 21 44.0 +0.9
comp=Z,174nm,0.8s,comp=Z,2µm
CHTO Chiang Mai 29.98 297 eP P 10 21 44.1 +0.9
comp=Z,24nm,0.6s
CMAI Chiengmai2 30.31 299 P P 10 21 47.5 +1.2
comp=Z,38nm,1.1s
ASAR Alice Springs 30.45 167 P P 10 21 46.6 -0.7
comp=Z,6.2nm,0.7s,baz=344,slow=7.4,SNR=50
ASAR PcP PcP 10 24 45.0 +0.5
comp=Z,8.3nm,0.6s,baz=350,slow=2.4,SNR=8.6
ASAR S S 10 26 39.9 -1.2
comp=Z,2.0nm,0.8s,baz=351,slow=18,SNR=3.2
ASAR ScP ScP 10 28 19.6 +1.6
comp=Z,8.3nm,0.8s,baz=350,slow=3.0,SNR=13
ASAR PKiKP PKiKP 10 32 13.8 -2.3
comp=Z,1.2nm,0.8s,baz=335,slow=4.7,SNR=5.7
ASAR LR LR 10 34 42.6
comp=Z,134nm,20.9s,baz=338,slow=37
WRKA Warakurna 31.07 178 ⇓P P 10 21 52.0 -0.7
baz=31,SNR=35
KSAR Wonju Array Be 31.12 2 P P 10 21 52.6 -0.4
KSAR 10 24 46.8
KSAR Wonju Array Be 31.12 2 P P 10 21 52.5 -0.4
KSAR PcP PcP 10 24 46.8 +0.7
KSRS Korea Array 31.14 2 P P 10 21 52.5 -0.6
comp=Z,3.7nm,0.5s,baz=184,slow=9.8,SNR=28
KSRS PcP PcP 10 24 46.8 +0.7
comp=Z,2.3nm,0.7s,baz=205,slow=2.7,SNR=5.1
KSRS LR LR 10 34 22.3
comp=Z,76nm,21.8s,baz=184,slow=36
GIRL Giralia 31.22 203 ⇑P P 10 21 54.2 +0.2
baz=31,SNR=3.9
MAJO Matsushiro 31.94 17 eP P 10 21 59.0 -1.2
MAT Matsushiro 31.94 17 P P 10 21 58.5 -1.7
MJAR Matsushiro Arr 31.94 17 P P 10 21 58.6 -1.6
comp=Z,7.9nm,0.8s,baz=192,slow=9.7,SNR=16
MJAR PcP PcP 10 24 49.2 +0.9
comp=Z,3.3nm,0.8s,baz=193,slow=4.7,SNR=4.1
MJAR LR LR 10 33 55.1
comp=Z,199nm,21.8s,baz=185,slow=34
CTA Charters Tower 32.31 144 P P 10 22 03.9 +0.2
comp=Z,11nm,0.7s,baz=328,slow=11,SNR=17
CTA ScP ScP 10 28 27.1 +2.9
comp=Z,6.0nm,0.8s,baz=342,slow=7.4,SNR=5.2
CTAO Charters Tower 32.31 144 eP P 10 22 05.2 +1.5
CTAO Charters Tower 32.31 144 eP P 10 22 05.2 +1.5
XAN Xi'an 32.33 331 P P 10 22 03.8 0.0
XAN pP pP 10 22 25.3 -1.3
XAN S S 10 27 14.5 +4.2
XAN pmax pmax
comp=Z,22nm,0.5s
XAN pmax pmax
comp=Z,39nm,7.3s
XAN LR LR
comp=Z,190nm,24.5s
XAN LR LR
comp=Z,180nm,29.6s
XAN LR LR
comp=Z,130nm,28.6s
CD2 Chengdu 32.80 321 P P 10 22 08.1 +0.2
CD2 pP pP 10 22 30.9 +0.1
CD2 sP sP 10 22 42.4 -0.2
CD2 PP PnPn 10 23 21.6 +1.3
CD2 S S 10 27 17.5 -0.3
CD2 sS sS 10 27 57.3 -0.2
CD2 SS SnSn 10 29 23.3 -1.8
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,140nm,5.5s
CD2 LR LR
comp=Z,460nm,7.7s
CD2 LR LR
comp=Z,590nm,29.7s
DL2 Dalian 32.92 352 eP P 10 22 08.6 -0.1
DL2 eS S 10 27 19.6 +0.4
DL2 pmax pmax
comp=Z,46nm,0.9s
DL2 pmax pmax
comp=Z,170nm,4.3s
MEEK Meekatharra 33.60 193 ⇓P P 10 22 14.4 -0.5
baz=34,SNR=71
BJT Baijiatuau 35.04 346 eP P 10 22 26.5 -0.6
BJT pmax pmax
comp=Z,65nm,0.6s
BJT Baijiatuau 35.04 346 eP P 10 22 26.5 -0.6
comp=Z,65nm,0.6s
BJI Beijing 35.06 346 P P 10 22 26.3 -0.9
BJI S S 10 27 57.3 +5.2
BJI pmax pmax
comp=Z,41nm,1.0s
BJI pmax pmax
comp=Z,140nm,3.5s
BJI LR LR
comp=Z,160nm,26.8s
BJI LR LR
comp=Z,160nm,25.5s
BJI LR LR
comp=Z,93nm,24.8s
SNY Shenyang 35.61 356 ⇑P P 10 22 31.8 -0.1
SNY pP pP 10 22 55.3 +0.2
SNY S S 10 28 03.8 +3.2
SNY pmax pmax
comp=Z,26nm,1.1s
SNY pmax pmax
comp=Z,150nm,3.5s
SNY LR LR
comp=Z,180nm,5.5s
SNY LR LR
comp=Z,330nm,4.3s
SNY LR LR
comp=Z,220nm,30.6s
LZH Lanzhou 36.50 328 ⇑P P 10 22 41.5 +1.6
LZH pP pP 10 23 05.8 +2.7
LZH sP sP 10 23 16.4 +1.6
LZH S S 10 28 14.3 -0.5
LZH sS sS 10 28 55.8 +0.9
LZH SS SnSn 10 30 49.0 -5.4
LZH pmax pmax
comp=Z,130nm,1.2s
LZH pmax pmax
comp=Z,450nm,4.0s
LZH LR LR
comp=Z,300nm,14.9s
LZH LR LR
comp=Z,230nm,13.8s
LZH LR LR
comp=Z,890nm,15.0s
MORW Morawa 36.58 196 ⇑P P 10 22 40.0 -0.3
baz=37,SNR=28
QLP Quilpie 36.66 153 ⇓P P 10 22 40.2 -0.8
baz=37,SNR=14
FORT Forrest 36.77 178 eP P 10 22 41.7 -0.2
comp=Z,122nm,0.9s
FORT Forrest 36.77 178 ⇓P P 10 22 42.0 0.0
baz=37,SNR=49
HHC Hu-ho-hao-te 37.14 341 eP P 10 22 45.8 +0.7
HHC PP PnPn 10 24 16.9 +3.5
HHC S S 10 28 27.0 +2.8
HHC sS sS 10 29 04.6 +0.2
HHC SS SnSn 10 31 02.4 -7.2
HHC ScS ScS 10 32 47.5 -1.7
HHC pmax pmax
comp=Z,53nm,1.1s
HHC pmax pmax
comp=Z,160nm,5.5s
HHC LR LR
comp=Z,280nm,17.3s
HHC LR LR
comp=Z,240nm,16.3s
HHC LR LR
comp=Z,360nm,19.4s
CN2 Changchun 37.48 358 eP P 10 22 48.1 +0.3

CN2 epP pP 10 23 10.8 -0.3
CN2 esP sP 10 23 22.3 -0.5
CN2 eS S 10 28 31.3 +2.2
CN2 eSS SS 10 31 12.3 -5.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,18.0s
BLDU Ballidu 37.87 194 ⇑P P 10 22 51.0 -0.3
baz=38,SNR=111
USRK Ussuriysk Arra 38.12 6 P P 10 22 53.2 0.0
comp=Z,12nm,0.5s,baz=177,slow=7.8,SNR=52
USRK LR LR 10 38 39.6
comp=Z,68nm,21.1s,baz=182,slow=36
MDJ Mudanjiang 38.35 3 P P 10 22 55.3 +0.2
MDJ pP pP 10 23 16.3 -2.1
MDJ sP sP 10 23 26.1 -4.0
MDJ PP PP 10 24 26.0 +1.2
MDJ ScP S 10 28 42.4 +0.3
MDJ S ScP 10 28 46.0 +0.3
MDJ PcS PcS 10 28 53.5 -2.5
MDJ ScS ScS 10 32 47.4 -8.3
MDJ pmax pmax
comp=Z,23nm,0.7s
MDJ pmax pmax
comp=Z,46nm,4.4s
MDJ LR LR
comp=Z,180nm,31.4s
MDJ LR LR
comp=Z,38nm,33.6s
MDJ LR LR
comp=Z,220nm,38.1s
MDJ Mudanjiang 38.35 3 eP P 10 22 54.6 -0.5
comp=Z,24nm,0.8s
KLBR Kellerberrin 38.57 193 ⇓P P 10 22 56.8 -0.3
baz=39,SNR=46
SHL Shillong 38.61 304 eP P 10 22 59.0 +1.2
SHL ex PcP 10 25 10.0 +1.7
EIDS Eidsvold 39.20 144 ⇑P P 10 23 03.0 +0.5
baz=39,SNR=3.6
BBOO Buckleboo 39.75 168 eP P 10 23 06.8 -0.1
comp=Z,1µm,0.9s
BBOO Buckleboo 39.75 168 ⇓P P 10 23 06.6 -0.3
baz=40,SNR=36
NWAO Narrogin (SRO) 39.97 193 P P 10 23 09.4 +0.7
comp=Z,168nm,0.6s,baz=21,slow=8.0,SNR=211
ASAJ Asahikawa 40.21 18 P P 10 23 11.7 +1.1
comp=Z,14nm,0.4s,baz=223,slow=9.1,SNR=29
ASAJ Asahikawa 40.21 18 eP P 10 23 11.3 +0.7
comp=Z,20nm,1.0s
STKA Stephens Creek 40.37 161 P P 10 23 12.1 +0.1
comp=Z,17nm,0.4s,baz=336,slow=7.5,SNR=77
STKA LR LR 10 43 20.8
comp=Z,115nm,18.7s,baz=349,slow=41
STKA Stephens Creek 40.37 161 ⇓P P 10 23 11.9 -0.1
baz=40,SNR=66
H11S3 WAKE ISLAND Hy 40.64 69 T T 11 07 29.2
baz=259,slow=73,SNR=9.0
H11S1 WAKE ISLAND Hy 40.66 69 T T 11 07 30.7
baz=259,slow=73,SNR=9.7
H11S2 WAKE ISLAND Hy 40.66 69 T T 11 07 32.8
baz=259,slow=73,SNR=14
LSA Lhasa 40.99 309 P P 10 23 18.5 +0.7
LSA Lhasa 40.99 309 eP P 10 23 18.7 +0.9
LSA pmax pmax
comp=Z,37nm,0.6s
LSA Lhasa 40.99 309 eP P 10 23 18.7 +0.9
comp=Z,37nm,0.6s
HTT Hallett 41.02 165 ⇑P P 10 23 17.6 +0.1
baz=41,SNR=6.4
H11N1 WAKE ISLAND Hy 41.10 67 T T 11 08 06.5
baz=258,slow=75,SNR=8.0
GTA Gaotai 41.11 328 P P 10 23 19.3 +1.1
GTA PcP PcP 10 25 17.6 +1.6
GTA S S 10 29 27.1 +3.3
GTA SS SS 10 32 24.3 -6.0
GTA pmax pmax
comp=Z,69nm,1.5s
GTA pmax pmax
comp=Z,140nm,6.6s
GTA LR LR
comp=Z,320nm,23.5s
GTA LR LR
comp=Z,220nm,23.5s
GTA LR LR
comp=Z,490nm,24.7s
H11N2 WAKE ISLAND Hy 41.11 67 T T 11 08 26.6
baz=258,slow=75,SNR=9.5
H11N3 WAKE ISLAND Hy 41.12 67 T T 11 08 12.6
baz=258,slow=75,SNR=4.4
YUK Yuzh-Kuril'sk 41.20 21c iP P 10 23 20.4 +1.7
YUK i PPP PPP 10 25 22.9
YUK i S S 10 29 20.4 -4.4
YUK i SS SS 10 32 24.2 -7.6
YUK MLR MLR
comp=N,196nm,24.0s
YUK MLR MLR
comp=Z,116nm,24.0s
CMSA Cobar Meteorol 41.59 156 ⇓P P 10 23 22.7 +0.6
baz=42,SNR=7.7
RKGY Rocky Gully 41.65 192 ⇑P P 10 23 23.8 +1.4
baz=42,SNR=82
HABR Khabarovsk 42.70 8 eP P 10 23 29.1 -1.8
HABR e 10 25 19.6
HABR ePPP PPP 10 25 46.2
HABR eS S 10 29 42.7 -4.0
HABR e 10 33 17.8
HABR eSSS SSS 10 33 49.3
HABR pmax pmax
comp=Z,71nm,2.0s
HABR MLR MLR
comp=Z,79nm,17.0s
HABR pmax pmax
comp=Z,20nm,1.1s
TAPN Taplejung 42.75 304 eP P 10 23 32.4 +0.4
comp=Z,60nm,0.5s
TAPN Taplejung 42.75 304 eP P 10 23 32.4 +0.4
ODAN Odare 42.83 303 eP P 10 23 33.2 +0.6
comp=Z,203nm,0.8s
ODAN Odare 42.83 303 eP P 10 23 33.2 +0.6
YSS Yuzh-Sakhalins 42.85 16⇑eP P 10 23 31.9 -0.1
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 42.85 16 eP P 10 23 32.2 +0.1
comp=Z,24nm,0.5s
KLR Kul'dur 43.09 5 eP P 10 23 29.7 -4.3
HIA Hailar 43.35 353 eP P 10 23 35.7 -0.5
HIA pmax pmax
comp=Z,8.0nm,0.6s
HIA Hailar 43.35 353 eP P 10 23 35.7 -0.5
comp=Z,7.7nm,0.6s
ARMA Armidale 43.44 148 eP P 10 23 38.2 +1.0
comp=Z,43nm,0.9s
ARMA Armidale 43.44 148 ⇑P P 10 23 37.7 +0.5
baz=44,SNR=8.4
RAMN Ramite 43.52 303 eP P 10 23 38.9 +0.8
comp=Z,82nm,0.5s
RAMN Ramite 43.52 303 eP P 10 23 38.9 +0.8
JIRN Jiri 44.11 304 eP P 10 23 43.1 +0.1
comp=Z,137nm,0.7s
JIRN Jiri 44.11 304 eP P 10 23 43.1 +0.1
GUN Gumba 44.46 304 eP P 10 23 46.3 +0.5
comp=Z,355nm,1.1s
GUN Gumba 44.46 304 eP P 10 23 46.3 +0.5
PKI Pulchoki 44.73 303 eP P 10 23 47.9 0.0
comp=Z,120nm,1.0s
PKI Pulchoki 44.73 303 eP P 10 23 47.9 0.0
PKI Pulchoki 44.73 303 eP P 10 23 47.9 0.0
PKIN Phulchoki 44.74 303 eP P 10 23 47.8 -0.1
comp=Z,62nm,1.0s
ULN Ulaanbaatar 44.86 341ceP P 10 23 48.8 +0.4
ULN pmax pmax
comp=Z,29nm,0.9s
ULN Ulaanbaatar 44.86 341 eP P 10 23 48.7 +0.3
comp=Z,33nm,0.8s
KKN Kakani 44.91 304 eP P 10 23 49.2 0.0
comp=Z,141nm,1.0s
KKN Kakani 44.91 304 eP P 10 23 49.2 0.0
KKN Kakani 44.91 304 eP P 10 23 49.2 0.0
ARPS Mount Arapiles 44.96 163 ⇓P P 10 23 50.0 +0.8
baz=45,SNR=18
DMN Daman 44.99 303 eP P 10 23 50.0 +0.1

comp=Z,164nm,1.0s
DMN Daman 44.99 303 eP P 10 23 50.0 +0.1
SONM Songino Array 45.04 341 P P 10 23 50.0 +0.2
comp=Z,14nm,0.7s,baz=157,slow=7.2,SNR=60
SONM PcP PcP 10 25 29.1 0.0
comp=Z,4.8nm,0.8s,baz=153,slow=3.5,SNR=3.3
SONM LR LR 10 43 41.8
comp=Z,137nm,21.7s,baz=145,slow=37
GKN Gorkha 45.52 304 eP P 10 23 54.0 0.0
comp=Z,159nm,1.2s
GKN Gorkha 45.52 304 eP P 10 23 54.0 0.0
PALK Pallekele 45.88 274 eP P 10 23 55.9 -0.9
PALK pmax pmax
comp=Z,34nm,0.9s
PALK Pallekele 45.88 274 eP P 10 23 55.9 -0.9
comp=Z,34nm,0.9s
PALK Pallekele 45.88 274⇑iP P 10 23 56.8 0.0
SNR=6.2
KOLN Koldanda 46.30 303 eP P 10 24 00.5 +0.3
comp=Z,274nm,0.8s
KOLN Koldanda 46.30 303 eP P 10 24 00.5 +0.3
DANN Dangsing 46.37 304 eP P 10 24 00.7 -0.1
comp=Z,266nm,0.8s
DANN Dangsing 46.37 304 eP P 10 24 00.7 -0.1
PYUN Piuthan 46.92 303 eP P 10 24 05.3 +0.3
comp=Z,286nm,0.6s
PYUN Piuthan 46.92 303 eP P 10 24 05.3 +0.3
DZM Mont Dzumac 47.84 127 eLR LR 10 37 52.8
comp=Z,897nm,35.2s
DZM Mont Dzumac 47.84 127 P P 10 24 12.1 +0.1
comp=Z,6.7nm,0.6s,baz=293,slow=12,SNR=7.0
DZM LR LR 10 41 59.8
comp=Z,294nm,21.6s,baz=291,slow=33
ZAK Zakamensk 48.28 340 eP P 10 24 15.0 0.0
ZAK e 10 25 40.4
ZAK pmax pmax
comp=Z,6.0nm,0.9s
HYB Hyderabad 48.49 288⇑iP P 10 24 16.5 -0.6
HYB ePcP PcP 10 25 42.5 +0.8
TLY Talaya 49.27 341 P P 10 24 23.1 +0.7
comp=Z,135nm,0.9s,SNR=22
TLY Talaya 49.27 341 eP P 10 24 23.1 +0.7
TLY pmax pmax
comp=Z,32nm,1.3s
TLY MLR MLR
comp=Z,94nm,18.0s
TLY Talaya 49.27 341 eP P 10 24 22.9 +0.5
comp=Z,29nm,1.0s
IRK Irkutsk 49.55 342 eP P 10 24 24.2 -0.4
IRK pmax pmax
comp=Z,35nm,2.2s
MOY Mondy 50.15 339 eP P 10 24 30.2 +1.0
MOY pmax pmax
comp=Z,34nm,2.6s
CLNS Chul'man 50.54 359 eP P 10 24 32.0 0.0
CLNS e 10 25 48.4
CLNS e 10 26 24.7
CLNS ePPP PPP 10 27 26.7
CLNS eS S 10 31 38.6 +0.3
CLNS e*SS sS 10 32 33.7 +14
CLNS eSS SS 10 35 10.2 -3.5
CLNS pmax pmax
comp=Z,20nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS pmax pmax
comp=N,9.0nm,0.7s
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,1.0s
CLNS smax smax
comp=E,141nm,10.1s
CLNS smax smax
comp=N,101nm,12.8s
WMQ Urumqi 50.84 324 P P 10 24 35.8 +1.3
WMQ pP pP 10 24 59.3 +0.4
WMQ sP sP 10 25 10.5 +0.2
WMQ PcP PcP 10 25 51.1 +1.2
WMQ PP PP 10 26 34.5 +2.8
WMQ PcS PcS 10 29 47.3 -0.1
WMQ S S 10 31 43.3 +0.3
WMQ sS sS 10 32 24.0 -0.8
WMQ ScS ScS 10 34 13.5 -1.9
WMQ SS SS 10 35 16.9 -2.0
WMQ pmax pmax
comp=N,83nm,0.8s
WMQ pmax pmax
comp=N,550nm,6.4s
WMQ LR LR
comp=N,280nm,24.4s
WMQ LR LR
comp=N,290nm,25.0s
WMQ LR LR
comp=N,450nm,25.0s
NDI New Delhi 51.95 302 ex P 10 24 43.5 +0.5
KAD Karad 52.63 287 ex P 10 24 47.6 -0.6
NFK Norfolk Island 52.78 134 ⇓P P 10 24 50.2 +1.1
baz=53,SNR=3.5
PETK Petropavlovsk- 53.11 23 P P 10 24 51.5 +0.5
comp=N,5.6nm,0.5s,baz=195,slow=5.0,SNR=11
PETK LR LR 10 48 51.2
comp=N,36nm,19.6s,baz=222,slow=37
PET Petropavlovsk 53.41 23 eP P 10 24 53.6 +0.3
PET eS S 10 32 22.0 +4.3
PET pmax pmax
comp=Z,21nm,0.7s
PET MLR MLR
comp=Z,100nm,13.0s
MK31 Makanchi Array 55.66 324 eP P 10 25 10.4 +0.7
MK31 pmax pmax
comp=Z,132nm,0.6s
MKAR Makanchi Array 55.66 324 P P 10 25 10.7 +0.9
comp=Z,136nm,0.5s,baz=119,slow=7.9,SNR=1937
MKAR PcP PcP 10 26 08.5 +0.4
comp=Z,31nm,0.6s,baz=106,slow=4.4,SNR=7.2
MKAR ScP ScP 10 29 59.0 +1.1
comp=Z,3.1nm,0.8s,baz=114,slow=5.7,SNR=5.0
MKAR LR LR 10 49 55.1
comp=Z,86nm,20.3s,baz=116,slow=37
YAK Yakutsk 55.76 2 iP P 10 25 09.6 -0.5
YAK eS S 10 32 48.0 -0.9
YAK pmax pmax
comp=Z,79nm,0.8s
YAK Yakutsk 55.76 2 eP P 10 25 09.5 -0.6
comp=Z,109nm,0.8s
KSH Kashi 56.45 314 P P 10 25 17.4 +1.8
KSH epP pP 10 25 41.8 +1.3
KSH esP sP 10 25 52.3 +0.5
KSH ePP PP 10 27 26.4 +4.1
KSH PcS PcS 10 30 08.9 -3.4
KSH S S 10 32 56.8 -2.3
KSH pmax pmax
comp=Z,63nm,0.7s
KSH LR LR
comp=Z,180nm,6.3s
KSH LR LR
comp=Z,230nm,5.5s
KSH LR LR
comp=Z,210nm,5.6s
ULHL Ulahol 57.33 317 P P 10 25 23.3 +1.4
SNR=17
ULHL Ulahol 57.33 317 iP P 10 25 23.3 +1.4
KZA Kyzart 57.94 316 P P 10 25 28.0 +1.6
SNR=91
KZA Kyzart 57.94 316 iP P 10 25 28.0 +1.6
TKM2 Tokmak 2 58.04 317 P P 10 25 27.9 +1.0
SNR=142
TKM2 Tokmak 2 58.04 317 eP P 10 25 27.6 +0.7
TKM2 pmax pmax
comp=Z,100nm,0.7s
TKM2 Tokmak 2 58.04 317 eP P 10 25 27.6 +0.7
comp=Z,100nm,0.7s
KBK Karagaybulak 58.38 317 P P 10 25 30.4 +1.3
SNR=50
KBK Karagaybulak 58.38 317 iP P 10 25 30.4 +1.3
ZALV Zalesovo Beam 58.49 332 P P 10 25 29.4 -0.1
comp=Z,69nm,0.5s,baz=137,slow=6.4,SNR=298
ZALV LR LR 10 52 06.3
comp=Z,104nm,20.0s,baz=66,slow=37
UCH Uchtor 58.51 316 P P 10 25 31.9 +1.5
SNR=249
UCH Uchtor 58.51 316 iP P 10 25 31.9 +1.5
CHMS Chumysh 58.64 317 P P 10 25 31.7 +0.8
SNR=5.3
CHMS Chumysh 58.64 317 iP P 10 25 31.6 +0.8
FRU Bishkek 58.67 317 iP P 10 25 31.0 0.0
FRU pmax pmax
comp=Z,120nm,2.1s
AAK Ala-Archa 58.67 317 P P 10 25 32.0 +0.8
comp=Z,421nm,0.5s,SNR=58
AAK Ala-Archa 58.67 317 P P 10 25 32.4 +1.1
SNR=66
AAK Ala-Archa 58.67 317 eP P 10 25 32.0 +0.8
AAK pmax pmax
comp=Z,37nm,0.6s
AAK Ala-Archa 58.67 317 P P 10 25 32.3 +1.1
comp=Z,36nm,0.5s,baz=106,slow=5.2,SNR=156
AAK LR LR 10 53 41.3
comp=Z,86nm,19.4s,baz=86,slow=39
AAK Ala-Archa 58.67 317 eP P 10 25 32.0 +0.8
comp=Z,37nm,0.6s
USP Ospenovka 58.92 317 P P 10 25 33.6 +0.9
SNR=154
USP Ospenovka 58.92 317 iP P 10 25 33.6 +0.9
AML Almayashu 59.03 316 P P 10 25 35.7 +1.6
SNR=16
AML Almayashu 59.03 316 iP P 10 25 35.6 +1.6
EKS2 Erkin-Say 59.17 317 P P 10 25 36.0 +1.4
SNR=84
EKS2 Erkin-Say 59.17 317 eP P 10 25 35.7 +1.1
EKS2 pmax pmax
comp=Z,175nm,0.7s
EKS2 Erkin-Say 59.17 317 eP P 10 25 35.7 +1.1
comp=Z,175nm,0.7s
SEY Seymchan 59.62 13 P P 10 25 37.8 +0.7
comp=Z,4.1nm,0.7s,baz=227,slow=4.6,SNR=29
NVS Novosibirsk 59.78 332⇑iP P 10 25 38.0 -0.3
NVS iS S 10 33 43.5 +2.0
NVS pmax pmax
comp=Z,67nm,0.6s
NVS pmax pmax
comp=E,3.0nm,0.5s
NVS smax smax
comp=N,17nm,1.5s
NVS smax smax
comp=E,2.0nm,0.4s
KURK Kurchatov 59.78 327 P P 10 25 39.1 +0.7
comp=E,2μm,0.6s
KURK Kurchatov 59.78 327c iP P 10 25 39.2 +0.7
KURK pmax pmax
comp=Z,171nm,0.6s
KURK Kurchatov 59.78 327 eP P 10 25 39.1 +0.7
FX1 Attu Island--F 59.89 30 P P 10 25 40.3 +1.1
comp=Z,50nm,0.7s,baz=290,slow=6.1,SNR=12
FX1 LR LR 10 45 45.1
comp=Z,91nm,21.9s,baz=256,slow=30
KK31 Karatay Array 61.57 316 P P 10 25 50.8 0.0
KK31 pmax pmax
comp=Z,128nm,0.7s
KKAR Karatay Array 61.57 316 eP P 10 25 51.4 +0.6
KKAR pmax pmax
comp=Z,133nm,0.7s
KKAR Karatay Array 61.57 316 eP P 10 25 51.4 +0.6
comp=Z,133nm,0.7s
RAO Raoul Island 63.64 127 LR LR 10 52 29.7
comp=Z,262nm,19.0s,baz=124,slow=35
AFI Afiamalu 64.04 109 LR LR 10 51 08.1
comp=Z,74nm,18.5s,baz=284,slow=33
URZ Urewera 64.22 138 LR LR 10 51 13.1
comp=Z,130nm,21.7s,baz=312,slow=33
ADK Adak 64.86 35 P P 10 26 11.9 -0.4
ADK Adak 64.86 35 P P 10 26 11.9 -0.4
BVA0 Borovoye Array 65.37 326 P P 10 26 15.8 +0.2
BVA0 pmax pmax
comp=Z,163nm,0.7s
BVAR Borovoye Array 65.37 326 LR LR 10 56 10.9
comp=Z,115nm,20.4s,baz=109,slow=37
TIXI Tiksi 65.40 1 d iP P 10 26 15.1 -0.3
TIXI pmax pmax
comp=Z,20nm,0.8s
TIXI Tiksi 65.40 1 eP P 10 26 14.6 -0.8
comp=Z,21nm,0.8s
BRVK Borovoye 65.44 326 P P 10 26 16.7 +0.6
comp=Z,2μm,0.8s
BRVK Borovoye 65.44 326 eP P 10 26 16.9 +0.8
BRVK pmax pmax
comp=Z,271nm,0.8s
BRVK Borovoye 65.44 326 eP P 10 26 16.9 +0.8
comp=Z,271nm,0.8s
BILL Bilibino 67.15 15⇑iP P 10 26 25.9 -0.8
BILL i 10 26 51.4
BILL i *PP PcP 10 27 00.3 +6.3
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 67.15 15 eP P 10 26 26.1 -0.5
comp=Z,11nm,0.9s
JMDO Jabal Madar 68.08 292 ⇑P P 10 26 32.6 -0.8
SNR=14
SMDO Samad 68.15 292 ⇓P P 10 26 32.8 -1.2
SNR=8.5
HOQ Hoqain 68.85 293 ⇓P P 10 26 37.9 -0.3
SNR=9.8
ABKT Ailbek 69.51 308 P P 10 26 43.8 +1.7
comp=Z,592nm,0.9s,SNR=17
BANOM Banah 69.88 295 ⇓P P 10 26 44.5 -0.1
UOSS Wadi Hilu 69.92 294 P P 10 26 44.5 -0.3
comp=Z,101nm,0.5s,SNR=5.8
HATD Hatta, Dubai 69.98 294 iP P 10 26 45.1 -0.1
SNR=9.3
ASHO Ashiyiah 70.04 294 ⇑P P 10 26 45.1 -0.4
ABKAR Akbulak array 70.37 320 eP P 10 26 47.6 +0.6
comp=Z,92nm,0.6s
FAQ Al Faqa, Dubai 70.47 294⇓iP P 10 26 47.8 -0.4
SNR=5.5
ASUD Al Ashush, Dub 70.70 294 iP P 10 26 49.9 +0.4
SNR=7.8
UNV Unalaska Valle 71.32 35 eP P 10 26 52.6 -0.1
comp=Z,39nm,0.8s
RBK Rabkut 71.69 286 ⇓P P 10 26 55.4 -0.3
SNR=6.5
AKUT Akutan 71.81 35 eP P 10 26 55.5 -0.1
comp=Z,38nm,0.6s
AKTO Aktyubinsk 71.86 321 LR LR 11 02 19.2
comp=Z,98nm,18.3s,baz=106,slow=39
SVE Sverdlovsk 71.97 328 d iP P 10 26 57.2 +0.7
SVE pmax pmax
comp=Z,192nm,0.6s
GAMB Gambell 72.10 24 eP P 10 26 57.5 +0.4
comp=Z,17nm,0.9s
ABTO Aybut 72.55 286 ⇑P P 10 27 00.5 -0.3
SNR=8.2
ARU Arti 72.97 327 P P 10 27 02.6 +0.2
comp=Z,2μm,0.5s,SNR=58
ARU Arti 72.97 327c eP P 10 27 02.4 0.0
ARU pmax pmax
comp=Z,73nm,0.6s
ARU Arti 72.97 327 eP P 10 27 02.3 -0.2
comp=Z,178nm,0.6s
CASY Casey 73.26 187 eP P 10 27 04.6 +0.7
comp=Z,74nm,1.1s
OHAK Old Harbor 79.31 33 eP P 10 27 38.3 -0.1
DGRG David-gareji 79.59 311 P P 10 27 44.1 +3.7
RAYN Ar Rayn 79.69 293 P P 10 27 41.3 +0.1
comp=Z,1.0nm,1.0s,SNR=40
RAYN Ar Rayn 79.69 293 eP P 10 27 41.1 -0.1
comp=Z,220nm,0.9s
KDAK Kodiak Island 79.74 32 P P 10 27 41.0 +0.3
comp=Z,334nm,0.5s,SNR=9.8
KDAK Kodiak Island 79.74 32c eP P 10 27 41.5 +0.8
SEAG Tbilisi Sea 80.02 311 P P 10 27 43.5 +0.9
IM04 Indian Mountai 80.03 24 eP P 10 27 42.4 +0.2
GNI Garni 80.05 310c iP P 10 27 44.3 +1.3
GNI pmax pmax
comp=Z,75nm,1.2s
GNI Garni 80.05 310 eP P 10 27 44.3 +1.3
comp=Z,54nm,0.9s
GNI Garni 80.05 310 iP P 10 27 44.7 +1.7
SNR=11
TBLG Delisi 80.07 311 P P 10 27 44.1 +1.2
GUDG Gudauri 80.27 312 P P 10 27 45.0 +0.8
PPLA Purkeypile 80.38 27 eP P 10 27 45.8 +1.5
comp=Z,9.8nm,0.6s
PRGR Permogore 80.44 331⇑iP P 10 27 44.6 +0.3
PRGR eS S 10 37 40.7 -1.4
PRGR pmax pmax
comp=Z,136nm,0.6s
CLDR Caldiran 80.69 309 eP P 10 27 48.0 +1.5
ZEI Tsey 80.69 312 eP P 10 27 43.9 -2.5
ZEI pmax pmax
comp=Z,92nm,0.8s
AKH Akhalkalaki 81.00 311 P P 10 27 50.0 +1.9
KTH Kantishna Hill 81.01 27 eP P 10 27 48.5 +1.1
comp=Z,21nm,1.0s
ONI Oni 81.03 312 P P 10 27 49.5 +1.5
TRF Thorofare Moun 81.28 27 eP P 10 27 48.5 -0.6
comp=Z,30nm,0.9s
GOF Gofitskoye 81.32 315 eP P 10 27 49.7 +0.3
AGRB Hanur-Agry 81.40 309 eP P 10 27 51.6 +1.3
KBZ Khabaz 81.43 313 P P 10 27 50.6 +0.6
comp=Z,32nm,0.9s,baz=76,slow=4.3,SNR=24
KBZ LR LR 11 10 33.2
comp=Z,50nm,18.5s,baz=74,slow=40
NEY Neytrino 81.56 313⇓iP P 10 27 52.2 +1.2
COLD Coldfoot 81.58 23 eP P 10 27 51.3 +1.0
comp=Z,37nm,0.9s
KIV Kislovodsk 81.58 313 P P 10 27 52.8 +1.8
comp=Z,563nm,0.8s,SNR=6.4
KIV Kislovodsk 81.58 313c iP P 10 27 51.4 +0.5
KIV pmax pmax
comp=Z,68nm,1.0s
KIV Kislovodsk 81.58 313 eP P 10 27 51.5 +0.5
comp=Z,48nm,0.7s
KIV Kislovodsk 81.58 313⇓iP P 10 27 51.7 +0.7
SNR=9.8
SIRT Sirnak 81.88 307 eP P 10 27 53.4 +0.7
CHVG Ch'k'valeri 82.03 312 P P 10 27 54.5 +1.3
VRHR Novokhopersk 82.25 321 eP P 10 27 52.6 -1.6
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,110nm,0.7s
ABPO Ambohimpanom 82.30 250 eP P 10 27 54.8 -0.5
ABPO pmax pmax
comp=Z,21nm,0.8s
ABPO Ambohimpanom 82.30 250 eP P 10 27 54.8 -0.5
comp=Z,21nm,0.8s
COLA College 82.42 25 eP P 10 27 55.3 +0.6
COLA pmax pmax
comp=Z,74nm,1.0s
VRTB Varto-Mus 82.60 309 eP P 10 27 58.5 +2.0
EZM Erzurum 82.65 309 eP P 10 27 58.6 +1.7
ILAR Eielson Array 82.83 26 P P 10 27 56.6 -0.3
comp=Z,13nm,0.8s,baz=243,slow=5.3,SNR=58
ILAR PKKPbc PKKPbc 10 46 19.9 -2.8
comp=Z,0.6nm,1.0s,baz=104,slow=4.4,SNR=4.9
ILAR LR LR 11 04 10.2
comp=Z,18nm,20.3s,baz=289,slow=35
BNGB Bing˜¶l 83.21 308 eP P 10 27 59.6 0.0
KLMR Klimovskoe 83.36 331 eP P 10 27 59.0 -0.7
KLMR pmax pmax
comp=Z,100nm,0.9s
KBSD Kabsdagh 83.41 306 eP P 10 28 01.8 +1.2
PAX Paxson 83.45 27 eP P 10 27 57.2 -3.1
PAX pmax pmax
comp=Z,25nm,1.1s
PAX Paxson 83.45 27 eP P 10 27 57.2 -3.1
comp=Z,25nm,1.1s
MAZI Mazidag 83.47 307 eP P 10 28 01.6 +0.7
DYBB Diyarbakir 83.68 307 eP P 10 28 02.7 +0.7
VORD Divnogorie 83.73 321 eP P 10 28 00.0 -1.8
VORD pmax pmax
comp=Z,60nm,1.5s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,30nm,1.0s
SOC Sochi 83.74 313c iP P 10 28 01.3 -0.7
SOC e*PP pP 10 28 35.1 +6.6
SOC eS S 10 38 11.0 -5.7
SOC e*SS sS 10 38 59.5 -2.7
SOC pmax pmax
comp=Z,63nm,0.6s
SFNV Sufian 83.79 306 eP P 10 28 03.9 +1.4
VSR Storozhevoye 83.80 321c iP P 10 28 02.0 -0.2
VSR pmax pmax
comp=Z,84nm,0.4s
TMCR Tamitsa 83.98 334 eP P 10 28 02.8 0.0
TMCR e 10 31 17.2
TMCR pmax pmax
comp=Z,84nm,1.1s
PTK Pertek 84.22 308 eP P 10 28 06.3 +1.5
MOS Moscow 84.52 325 eP P 10 28 04.1 -1.6
MOS eS S 10 38 22.2 -1.8
MOS pmax pmax
comp=Z,167nm,0.8s
URFA Urfa 84.76 307 eP P 10 28 08.2 +0.8
LVZ Lovozero 85.16 338 eP P 10 28 08.5 -0.2
LVZ pmax pmax
comp=Z,30nm,0.9s
LVZ Lovozero 85.16 338 eP P 10 28 08.5 -0.2
comp=Z,30nm,0.9s
OBN Obninsk 85.16 325 P P 10 28 09.8 +0.9
comp=Z,942nm,0.8s,SNR=6.2
OBN Obninsk 85.16 325c iP P 10 28 08.8 -0.1
OBN i *PP pP 10 28 41.5 +6.0
OBN i 10 31 29.9
OBN pmax pmax
comp=Z,124nm,0.7s
OBN MLR MLR
comp=Z,162nm,24.0s
OBN Obninsk 85.16 325 eP P 10 28 09.1 +0.2
comp=Z,107nm,0.8s
EGAK Eagle 85.28 25 eP P 10 28 09.8 +0.4
comp=Z,12nm,0.7s
ANN Anapa 85.31 314c iP P 10 28 09.8 -0.1
ANN e 10 38 30.2
ANN pmax pmax
comp=Z,375nm,0.8s
SLMH Al Salmeh 85.56 306 eP P 10 28 13.0 +1.6
APA Apatity 85.66 337⇓iP P 10 28 10.8 -0.4
APA i 10 31 33.6
APA iS S 10 38 30.0 -4.8
APA iPS PnS 10 39 44.0 -0.4
PPT Papeete 85.71 108 LR LR 11 01 28.8
comp=Z,59nm,18.7s,baz=285,slow=32
PPT2 Papeete2 85.71 108 eS S 10 38 37.0 -0.3
comp=Z,119nm,26.2s
PPT2 Papeete2 85.71 108 eLR LR 10 55 21.0
comp=Z,270nm,27.8s
DARE Darende-Malaty 85.73 308 eP P 10 28 14.2 +1.9
VNDA Vanda 85.83 173 P P 10 28 11.5 -0.2
comp=Z,8.1nm,0.8s,baz=319,slow=6.8,SNR=9.7
VNDA LR LR 11 08 07.9
comp=Z,58nm,18.0s,baz=322,slow=37
SVSK Karacayir 86.00 310 eP P 10 28 14.7 +1.3
MAW Mawson 86.10 200 LR LR 11 03 49.2
comp=Z,67nm,18.7s,baz=140,slow=34
DAWY Dawson 86.11 26 eP P 10 28 13.9 +0.4
KMRS Kahramanmaras 86.28 307 eP P 10 28 15.9 +1.0
RABH Abou Rabah 86.29 304 eP P 10 28 17.3 +2.2
MARH Ras Al Marh 86.93 304 eP P 10 28 17.3 -1.2
FKH Fakeheh 86.97 304 eP P 10 28 19.9 +1.4
JOF Joensuu 87.08 333 eP P 10 28 17.5 -0.7
JOF pmax pmax
comp=Z,32nm,0.7s
JOF Joensuu 87.08 333 ep P 10 28 17.5 -0.7
comp=Z,32nm,0.7s
KOZT Kozan 87.13 307 eP P 10 28 19.2 +0.2
ARNB Al Arnab 87.17 306 eP P 10 28 20.5 +1.1
CEYT Ceyhan 87.24 307 eP P 10 28 20.7 +1.1
BRBR Barbar 87.42 303 eP P 10 28 23.0 +2.2
RCY Rachaya 87.51 303 eP P 10 28 22.1 +0.9
BHL Bhannes 87.62 304 eP P 10 28 22.0 +0.4
SIM Simferopol' 87.64 315 eP P 10 28 22.0 +0.7
SIM pmax pmax
comp=Z,46nm,0.7s
SIM pmax pmax
comp=E,500nm,11.0s
KEV Kevo 87.65 340 eP P 10 28 20.1 -0.7
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 87.65 340 ep P 10 28 20.1 -0.7
comp=Z,1.7nm,0.4s
KARA Karaisali 87.76 307 eP P 10 28 22.0 -0.1
CORM Corum 87.78 310 eP P 10 28 21.6 -0.7
INK Inuvik 87.83 22 P P 10 28 21.3 -0.4
comp=Z,6.8nm,0.8s,baz=292,slow=4.4,SNR=26
ARCES ARCESS Array B 88.21 340 P P 10 28 23.0 -0.5
ARCES ARCESS Array B 88.21 340 P P 10 28 23.0 -0.5
comp=Z,21nm,0.6s,baz=83,slow=4.7,SNR=75
ARCES PKKP PKKPdf 10 46 06.1 +2.6
comp=Z,2.2nm,0.8s,baz=321,slow=1.7,SNR=5.5

ARCES LR LR 11 10 33.7
comp=Z,78nm,19.1s,baz=82,slow=37
MERS Mersin 88.23 307 eP P 10 28 24.4 +0.1
BRTR Keskin Array B 88.59 310 P P 10 28 25.8 -0.3
comp=Z,12nm,0.6s,baz=136,slow=4.4,SNR=22
BRTR LR LR 11 13 59.3
comp=Z,21nm,19.6s,baz=100,slow=39
EIL Elat 88.66 300 P P 10 28 27.5 +1.0
baz=89,SNR=20
LFK Lefkose 89.21 305 eP P 10 28 27.9 -1.1
CSS Prodhromos 89.41 305 eP P 10 28 30.0 +0.1
CSS Prodhromos 89.41 305 eP P 10 28 29.8 -0.1
comp=Z,15nm,0.8s
KAF Kangasniemi 89.51 332 eP P 10 28 27.9 -1.8
KAF pmax pmax
comp=Z,14nm,0.7s
KAF Kangasniemi 89.51 332 ep P 10 28 27.9 -1.8
comp=Z,14nm,0.7s
FINES FINESS Array B 89.76 332 P P 10 28 30.4 -0.5
comp=Z,21nm,0.7s,baz=85,slow=4.4,SNR=43
KMBO Kilima Mbogo 89.77 269 eP P 10 28 32.7 +0.4
KMBO pmax pmax
comp=Z,24nm,1.1s
KMBO Kilima Mbogo 89.77 269 P P 10 28 32.6 +0.4
comp=Z,13nm,0.9s,baz=64,slow=5.2,SNR=23
KMBO LR LR 11 10 15.7
comp=Z,60nm,19.7s,baz=86,slow=36
KMBO Kilima Mbogo 89.77 269 eP P 10 28 32.7 +0.4
comp=Z,24nm,1.1s
VSU Vasula 90.06 329⇓iP P 10 28 32.0 -0.3
VSU pmax pmax
comp=Z,184nm,1.7s
AKASG Malin Array Be 90.10 321 P P 10 28 32.1 -0.6
comp=Z,11nm,0.7s,baz=66,slow=4.9,SNR=71
AKASG LR LR 11 13 10.2
comp=Z,62nm,21.2s,baz=270,slow=38
AK01 Malin Array Si 90.11 321 eP P 10 28 32.0 -0.8
KIEV Kiev 90.11 321 eP P 10 28 31.8 -1.0
KIEV pmax pmax
comp=Z,20nm,0.9s
KIEV Kiev 90.11 321 eP P 10 28 31.8 -1.0
comp=Z,20nm,0.9s
AK02 Malin Array Si 90.12 321 eP P 10 28 32.1 -0.7
MICGM Minsk 90.23 325 e P 10 28 31.0 -2.2
MNK Minsk 90.25 325 eP P 10 28 31.0 -2.3
NACGM Naroch 90.77 325 eP P 10 28 33.0 -2.7
TIRR Tirgusor 91.74 315 ⇑P P 10 28 40.5 0.0
TIRR Tirgusor 91.74 315⇑iP P 10 28 40.5 0.0
CFR Carcaliu 91.80 316 ⇓P P 10 28 40.9 +0.2
CFR Carcaliu 91.80 316⇓iP P 10 28 40.9 +0.2
PSN Preselentsi 92.04 314 ⇑P P 10 28 41.9 0.0
PSN Preselentsi 92.04 314⇑iP P 10 28 41.9 0.0
TESR Tescani 92.56 317⇓iP P 10 28 44.5 +0.2
VRI Vrincioaia 92.64 316 ⇑P P 10 28 45.9 +1.2
VRI Vrincioaia 92.64 316⇑iP P 10 28 45.9 +1.2
PLOR Plostina 92.70 316 ⇑P P 10 28 45.3 +0.4
PLOR Plostina 92.70 316⇑iP P 10 28 45.3 +0.4
SUW Suwalki 93.02 325 eP P 10 28 46.0 -0.2
SUW pmax pmax
comp=Z,45nm,0.3s
SUW Suwalki 93.02 325 eP P 10 28 45.9 -0.2
SUW Suwalki 93.02 325 eP P 10 28 46.0 -0.2
comp=Z,45nm,0.3s
SULR 93.21 315⇑iP P 10 28 48.1 +0.9
MLR Muntele Rosu 93.25 316 ⇑P P 10 28 47.8 +0.2
MLR Muntele Rosu 93.25 316⇑iP P 10 28 47.8 +0.2
BURAR Bucovina Array 93.29 318 ⇑P P 10 28 48.2 +0.5
BURAR Bucovina Array 93.29 318⇑iP P 10 28 48.2 +0.5
DOPR Dopca 93.53 317⇑iP P 10 28 48.6 -0.2
LVV L'vov 93.55 321 eP P 10 28 45.1 -3.6
VOIR 93.88 316 ⇓P P 10 28 50.2 -0.3
VOIR 93.88 316⇓iP P 10 28 50.2 -0.3
ARR Arges 94.18 316⇑iP P 10 28 51.6 -0.2
KWP Kalwaria Pacla 94.42 321 eP P 10 28 53.3 +0.5
KWP pmax pmax
comp=Z,21nm,0.8s
KWP Kalwaria Pacla 94.42 321 eP P 10 28 53.2 +0.5
KWP Kalwaria Pacla 94.42 321⇑iP P 10 28 52.3 -0.5
KWP Kalwaria Pacla 94.42 321 eP P 10 28 53.3 +0.5
comp=Z,21nm,0.8s
DAG Danmarks Havn 94.86 352 iP P 10 28 52.6 -1.5
DAG pmax pmax
comp=Z,10.0nm,0.9s
DAG Danmarks Havn 94.86 352 iP P 10 28 52.6 -1.5
comp=Z,12nm,0.9s
KOLS Kolonicke sedl 94.88 320 eP P 10 28 55.0 +0.1
KOLS Kolonicke sedl 94.88 320 eP P 10 28 55.0 +0.1
UZH Uzhgorod 94.94 320⇓P P 10 28 54.7 -0.4
DRGR 95.14 318 ⇑P P 10 28 56.5 +0.3
DRGR 95.14 318⇑iP P 10 28 56.5 +0.3
STHS Stebnicka Huta 95.40 321 eP P 10 28 58.0 +0.8
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 95.40 321 eP P 10 28 58.0 +0.8
CRVS Cervenica-Dubn 95.40 320 eP P 10 28 57.9 +0.6
CRVS pmax pmax
comp=Z,12nm,0.9s
CRVS Cervenica-Dubn 95.40 320 eP P 10 28 57.9 +0.6
GZR Gura Zlata 95.45 317 ⇑P P 10 28 56.6 -1.0
GZR Gura Zlata 95.45 317⇑iP P 10 28 56.6 -1.0
MMB Musomiste 95.69 313 ⇑P P 10 28 58.6 -0.2
MMB Musomiste 95.69 313⇑iP P 10 28 58.6 -0.2
VTS Vitosha 95.83 314 ⇑P P 10 28 56.9 -2.6
VTS Vitosha 95.83 314⇑iP P 10 28 56.9 -2.6
BZS Buzias 96.18 317 ⇓P P 10 29 00.2 -0.6
BZS Buzias 96.18 317⇓iP P 10 29 00.2 -0.6
NB2 NORSAR Subarra 96.67 334 P P 10 29 01.4 -1.4
comp=Z,11nm,0.8s,baz=67,slow=4.6
NB2 NORSAR Subarra 96.67 334 P P 10 29 01.4 -1.4
baz=67,slow=4.6
NOA NORSAR Array B 96.67 334 P P 10 29 01.4 -1.4
comp=Z,7.7nm,0.7s,baz=65,slow=4.6,SNR=35
NOA LR LR 11 16 18.9
comp=Z,66nm,18.7s,baz=75,slow=38
VYHS Vyhne 97.19 320 eP P 10 29 04.5 -0.9
VYHS Vyhne 97.19 320 eP P 10 29 04.5 -0.9
OKC Ostrava-Krasne 97.20 322 eP Pdif 10 29 05.9 +0.5
OKC Ostrava-Krasne 97.20 322 eP Pdif 10 29 05.9 +0.5
YKA Yellowknife Ar 97.20 24 P Pdif 10 29 05.4 +0.3
comp=Z,1.1nm,0.6s,baz=300,slow=4.3,SNR=25
YKA PKiKP PKiKP 10 33 42.7 +2.8
comp=Z,0.3nm,0.7s,baz=302,slow=1.9,SNR=5.3
YKA PKKP PKKPbc 10 45 43.4 -3.1
comp=Z,0.8nm,0.6s,baz=119,slow=2.8,SNR=27
MORC Moravsky Berou 97.59 322 ⇑P Pdif 10 29 07.8 +0.6
MORC Moravsky Berou 97.59 322⇑iP Pdif 10 29 07.8 +0.6
KSP Ksiaz 97.99 323⇑eP Pdif 10 29 09.3 +0.4
KSP Ksiaz 97.99 323 eP Pdif 10 29 09.4 +0.5
PKSM Moragy 98.00 318 ⇑P P 10 29 08.2 -0.8
PKSM Moragy 98.00 318⇑iP P 10 29 08.1 -0.9
DPC Dobruska-Polom 98.14 323 eP Pdif 10 29 10.5 +0.8
DPC Dobruska-Polom 98.14 323 eP Pdif 10 29 10.5 +0.8
DPC ex x 10 29 15.6
UPC Upice 98.28 323 eP Pdif 10 29 11.0 +0.8
UPC Upice 98.28 323 eP Pdif 10 29 11.0 +0.8
UPC ex x 10 29 15.7
VRAC Vranov 98.33 322 ⇑P Pdif 10 29 11.2 +0.7
VRAC Vranov 98.33 322⇑iP Pdif 10 29 11.2 +0.7
TREC Trest 99.02 322 eP Pdif 10 29 13.6 0.0
TREC Trest 99.02 322 eP Pdif 10 29 13.6 0.0
PRU Pruhonice 99.34 323 eP Pdif 10 29 15.7 +0.7
PRU Pruhonice 99.34 323 eP Pdif 10 29 15.7 +0.7
PRU ex x 10 29 21.6
BRG Berggiesshubel 99.37 324 iP Pdif 10 29 14.9 -0.1
comp=Z,7.0nm,0.6s
BRG e 10 29 22.6
comp=Z,8.8nm,0.9s
BRG e 10 29 45.2
comp=Z,9.6nm,1.0s
BRG Berggiesshubel 99.37 324 iP Pdif 10 29 14.9 -0.1
BRG pmax pmax
comp=Z,7.0nm,0.6s
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 99.37 324 ePdiff Pdif 10 29 17.0 +1.9
PRA Prague 99.38 323 P Pdif 10 29 16.0 +0.9
FBE Freiberg 99.70 324 ePdiff Pdif 10 29 18.6 +2.1
CLL Collm 99.76 324 eP Pdif 10 29 18.0 +1.2
CLL pmax pmax
comp=Z,4.0nm,0.6s
CLL Collm 99.76 324 ePdiff Pdif 10 29 18.4 +1.6
CLL Collm 99.76 324 ePdif Pdif 10 29 18.0 +1.2
comp=Z,4.0nm,0.6s
KHC Kasperske Hory 100.24 322⇓iP Pdif 10 29 19.7 +0.7
KHC pmax pmax
comp=Z,58nm,2.5s
KHC Kasperske Hory 100.24 322 ePDIFF Pdif 10 29 19.6 +0.6
KHC ex x 10 29 27.7
GEC2 GERESS Array S 100.27 322 ePdiff Pdif 10 29 20.1 +0.8
GERES GERESS Array B 100.27 322 P Pdif 10 29 19.0 -0.3
GERES GERESS Array B 100.27 322 P Pdif 10 29 18.9 -0.3
comp=Z,3.6nm,0.8s,baz=66,slow=4.7,SNR=22
MOA Molln 100.29 321⇑iPdif Pdif 10 29 19.0 -0.3
comp=Z,8.6nm,0.8s
TANN Tannenbergstha 100.42 324 ePdiff Pdif 10 29 21.7 +1.9
WERD Werda 100.50 324 ePdiff Pdif 10 29 22.0 +1.9
NKC Novy Kostel 100.50 324 ePdiff Pdif 10 29 22.1 +2.0
GUNZ Gunzen 100.52 324 ePdiff Pdif 10 29 22.2 +2.0
WERN Wernitzgruen 100.52 324 ePdiff Pdif 10 29 22.3 +2.1
ROHR Rohrbach 100.58 324 ePdiff Pdif 10 29 22.5 +2.0
MOX Moxa 100.82 324 ePdiff Pdif 10 29 23.5 +1.9
ROTZ Rotzenmuhle 100.82 323 ePdiff Pdif 10 29 23.2 +1.6
WTTA Wattenberg 102.16 321⇑iPdiff Pdif 10 29 27.5 -0.3
comp=Z,8.2nm,0.8s
BOSA Boshof 103.15 242 Pdiff Pdif 10 29 34.5 +2.0
comp=Z,4.0nm,1.1s,baz=96,slow=5.2,SNR=4.0
BOSA PKiKP PKiKP 10 33 52.1 +0.3
comp=Z,1.1nm,0.5s,baz=336,slow=3.3,SNR=3.5
CDF Champ du Feu 104.33 323 eP Pdif 10 29 38.2 +0.9
comp=Z,12nm,0.9s
CDF Champ du Feu 104.33 323 eP Pdif 10 29 38.2 +0.9
CDF pmax pmax
comp=Z,12nm,0.9s
CDF Champ du Feu 104.33 323 eP Pdif 10 29 38.2 +0.9
comp=Z,12nm,0.9s
NVAR Mina Array Bea 105.14 48 Pdiff Pdif 10 29 42.6 +1.3
comp=Z,0.4nm,0.6s,baz=288,slow=5.1,SNR=4.3
NVAR PKKPbc PKKPbc 10 45 23.0 -0.1
comp=Z,1.1nm,0.7s,baz=128,slow=4.4,SNR=9.8
NVAR PKKPab PKKPab 10 45 40.5 -0.5
comp=Z,3.8nm,0.8s,baz=128,slow=4.7,SNR=16
HLID Hailey 105.87 42 ⇑P PKKPab 10 45 36.6 -1.2
baz=106
ISA Isabella 105.98 50 ⇓P PKKPab 10 45 36.0 -1.1
baz=106
EDW2 Edwards Air Fo 106.61 51 ⇓P PKKPab 10 45 33.7 -0.5
baz=106
A19A Klindworth Far 106.83 35 ⇓P PKKPab 10 45 34.8 +1.4
baz=107
FURC Furnace Creek, 106.92 49 ⇑P PKKPab 10 45 35.0 +2.2
baz=107
R11A Troy Canyon, C 107.16 47 ⇓P PKKPab 10 45 32.4 +0.4
baz=107
C19A Slack Wire Ran 107.27 36 ⇓P PKKPab 10 45 27.6 -3.8
baz=107
A20A Cobblestone Ra 107.32 34 ⇑P PKKPab 10 45 32.7 +1.5
baz=107
D19A Cripps Ranch, 107.65 36 ⇑P PKKPab 10 45 30.3 +0.6
baz=108
MURC Murrieta 107.67 52 ⇑P PKKPab 10 45 28.0 -1.5
baz=108
HEC Hector,Ludlow 107.91 51 ⇑P PKKPab 10 45 28.8 +0.3
baz=108
TUQ Turquoise Moun 108.00 50 ⇓P PKKPab 10 45 29.4 +1.2
baz=108
E19A Rath Farm, Rou 108.06 37 ⇑P PKKPab 10 45 27.4 -0.5
baz=108
D20A Manuel Ranch, 108.13 36 ⇑P PKKPab 10 45 25.9 -1.6
baz=108
I17A Pilgrim Ck. 108.20 40 ⇓P PKKPab 10 45 26.0 -1.5
baz=108,SNR=5.3
F19A Roth Farm, Mol 108.27 38 ⇓P PKKPab 10 45 24.6 -2.4
baz=108,SNR=6.7
DUG Dugway 108.38 44 ⇓P PKKPab 10 45 26.5 -0.1
baz=108
H18A Shoshone NF, C 108.41 39 ⇑P PKKPab 10 45 24.2 -2.3
baz=108
E20A Meyer Farm, Mu 108.43 37 ⇓P PKKPab 10 45 24.0 -2.2
baz=108,SNR=5.8
GMRC Granite Mounta 108.44 50 ⇓P PKKPab 10 45 24.6 -1.6
baz=108
BELC Belle Mtn. Jos 108.46 51 ⇓P PKKPab 10 45 24.4 -1.7
baz=108
F20A Billings 108.78 37 ⇑P PKKPab 10 45 22.0 -2.7
baz=109
D21A La Casta Ranch 108.81 36 ⇓P PKKPab 10 45 21.3 -3.3
baz=109
H19A Powell 108.84 39 ⇓P PKKPab 10 45 21.5 -3.0
baz=109
A23A Redstone 108.96 33 ⇑P PKKPab 10 45 20.6 -3.2
baz=109
BC3 Big Chuckawall 109.01 51 ⇓P PKKPab 10 45 22.7 -0.9
baz=109
G20A Bridger 109.04 38 ⇓P PKKPab 10 45 20.2 -3.5
baz=109
IRM Iron Mountain 109.06 51 ⇑P PKKPab 10 45 23.2 -0.1
baz=109
I19A Meeteetse 109.14 39 ⇓P PKKPab 10 45 21.2 -2.1
baz=109
B23A Brockton 109.18 34 ⇓P PKKPab 10 45 17.6 -5.3
baz=109
D22A Cohagen 109.23 35 ⇑P PKKPab 10 45 21.3 -1.4
baz=109
PDAR Pinedale Array 109.40 41 PKKPbc PKKPbc 10 45 08.9 -1.2
comp=Z,0.6nm,0.7s,baz=140,slow=4.0,SNR=4.9
PDAR PKKPab PKKPab 10 45 20.2 -1.9
comp=Z,4.2nm,0.7s,baz=122,slow=6.2,SNR=26
C23A Lambert 109.44 34 ⇑P PKKPab 10 45 20.9 -0.8
baz=109
J19A Crowheart 109.48 40 ⇓P PKKPab 10 45 20.0 -1.7
baz=109
H20A Greybull 109.54 38 ⇑P PKKPab 10 45 18.3 -3.1
baz=109
G21A Lodge Grass 109.64 37 ⇑P PKKPab 10 45 19.1 -1.8
baz=110
W13A Hualapai Mount 109.67 49 ⇓P PKKPab 10 45 20.4 -0.4
baz=110
Y12C Blythe 109.70 51 ⇑P PKKPab 10 45 20.4 0.0
baz=110
GLA Glamis 109.72 52 ⇑P PKKPab 10 45 20.3 -0.1
baz=110
I20A Worland 109.73 39 ⇑P PKKPab 10 45 18.5 -2.1
baz=110
E22A Miles City 109.75 36 ⇑P PKKPab 10 45 18.7 -1.7
baz=110
PDMCI Parker Dam,Lak 109.78 50 ⇑P PKKPab 10 45 20.0 0.0
baz=110
F22A Rosebud 109.92 37 ⇑P PKKPab 10 45 17.3 -2.3
baz=110
J20A Shoshoni 110.05 39 ⇓P PKKPab 10 45 17.4 -1.7
baz=110,SNR=5.6
D24A Glendive 110.31 35 ⇓P PKKPab 10 45 13.3 -4.6
baz=110
I21A Big Trails, Te 110.32 39 ⇑P PKKPab 10 45 17.2 -0.8
baz=110
U15A North Rim 110.33 48 ⇓P PKKPab 10 45 19.1 +1.1
baz=110
F23A Volborg 110.46 36 ⇓P PKKPab 10 45 15.2 -2.1
baz=110
J21A Lysite 110.46 39 ⇑P PKKPab 10 45 15.0 -2.3
baz=110
113A Mohawk Valley, 110.65 52 ⇓P PKKPab 10 45 16.2 0.0
baz=111
G23A Biddle 110.75 37 ⇑P PKKPab 10 45 14.2 -1.8
baz=111
I22A 9 Mile Ranch, 110.78 38 ⇓P PKKPab 10 45 14.2 -1.6
baz=111
Y14A Wickenburg 110.79 50 ⇓P PKKPab 10 45 14.8 -0.8
baz=111
D25A Fairfield 110.85 34 ⇓P PKKPab 10 45 10.6 -4.9
baz=111
K21A Alcova 110.94 40 ⇑P PKKPab 10 45 14.2 -1.0
baz=111
J22A Midwest 111.03 39 ⇑P PKKPab 10 45 13.0 -1.8
baz=111
N20A Spence Gulch, 111.18 42 ⇑P PKKPab 10 45 13.8 -0.5
baz=111
E25A Miller Ranch, 111.18 35 ⇑P PKKPab 10 45 10.7 -3.4
baz=111
G24A Alzada 111.25 36 ⇑P PKKPab 10 45 10.9 -2.8
baz=111
WUAZ Wupatki 111.38 48 ⇓P PKKPab 10 45 14.5 +1.3
baz=111
K22A Casper 111.40 40 ⇓P PKKPab 10 45 11.1 -2.1
baz=111
H24A Dirks Ranch, A 111.49 37 ⇓P PKKPab 10 45 09.5 -3.1
baz=111
O20A White River Ci 111.53 43 ⇑P PKKPab 10 45 12.1 -0.5
baz=111
J23A Dilts Ranch, B 111.61 38 ⇓P PKKPab 10 45 10.3 -1.9
baz=112
214A Organ Pipe Nat 111.71 52 ⇓P PKKPab 10 45 12.9 +1.3
baz=112
X16A Lo Mia Camp, P 111.79 49 ⇑P PKKPab 10 45 12.5 +1.0
baz=112
K23A Bowen Ranch, D 111.91 39 ⇑P PKKPab 10 45 09.3 -1.6
baz=112
G25A Newell 111.91 36 ⇓P PKKPab 10 45 08.2 -2.5
baz=112
A29A Manning Farm, 111.96 31 ⇑P PKKPab 10 45 05.8 -4.7
baz=112
M22A Cedar Creek Ra 111.99 41 ⇓P PKKPab 10 45 08.3 -2.4
baz=112
C28A Hausauer Farms 112.11 32 ⇓P PKKPab 10 45 04.5 -5.3
baz=112
H25A Fruitdale 112.13 36 ⇓P PKKPab 10 45 08.3 -1.5
baz=112
L23A Garrett 112.20 40 ⇓P PKKPab 10 45 08.3 -1.4
baz=112
J24A Dixon Ranch, L 112.20 38 ⇓P PKKPab 10 45 07.9 -1.7
baz=112
F27A Lemmon 112.33 35 ⇑P PKKPab 10 45 06.0 -2.9
baz=112
G26A Maurine 112.33 35 ⇑P PKKPab 10 45 06.8 -2.1
baz=112
N22A Wattenberg Ran 112.38 41 ⇑P PKKPab 10 45 07.5 -1.5
baz=112
K24A Anderson Ranch 112.43 39 ⇓P PKKPab 10 45 07.2 -1.4
baz=112
N23A Red Feather La 112.67 41 ⇑P PKKPab 10 45 06.4 -1.2
baz=112
MVCO Mesa Verde 112.72 45 ⇓P PKKPab 10 45 08.4 +1.1
baz=113
W18A Petrified Fore 112.77 48 ⇑P PKKPab 10 45 06.6 -0.5
baz=113
P22A Eagle 112.78 42 ⇑P PKKPab 10 45 06.2 -0.9
baz=113
X18A Snowflake 112.86 49 ⇑P PKKPab 10 45 07.3 +0.6
baz=113
F28A McLaughlin 113.03 34 ⇑P PKKPab 10 45 01.5 -4.3
baz=113
M24A Cheyenne 113.09 40 ⇑P PKKPab 10 45 03.8 -1.9
baz=113
I27A Quinn 113.36 36 ⇑P PKKPab 10 45 01.4 -2.9
baz=113
K26A Motz Farm, Whi 113.45 38 ⇑P PKKPab 10 45 02.0 -2.0
baz=113
P23A Jefferson 113.51 42 ⇓P PKKPab 10 45 05.4 +1.4
baz=113
H28A Mission Ridge 113.60 35 ⇓P PKKPab 10 44 59.4 -3.9
baz=114
I28A Midland 113.91 36 ⇓P PKKPab 10 44 59.1 -2.7
baz=114
AGMN Agassiz Nation 114.06 30 ⇑P PKKPab 10 44 58.7 -2.5
baz=114
R23A Moffat 114.11 43 ⇓P PKKPab 10 45 01.3 +0.1
baz=114
J28A Allard Ranch, 114.21 37 ⇓P PKKPab 10 44 56.4 -4.2
baz=114
U22A Llaves 114.28 46 ⇓P PKKPab 10 45 00.8 +0.4
baz=114
I29A Vivian Onida 114.40 36 ⇓P PKKPab 10 44 57.8 -1.9
baz=114
V22A San Miguel Ran 114.46 46 ⇑P PKKPab 10 44 59.8 +0.1
baz=114,SNR=5.7
T23A Casias Ranch, 114.54 45 ⇑P PKKPab 10 44 59.4 +0.1
baz=114
P25A Willow Gulch B 114.55 41 ⇓P PKKPab 10 44 56.9 -2.3
baz=114
319A Douglas 114.70 51 ⇑P PKKPab 10 44 58.6 +0.2
baz=115
J29A Okreek 114.76 36 ⇑P PKKPab 10 44 55.5 -2.6
baz=115
U23A El Rito 114.77 45 ⇓P PKKPab 10 44 57.9 -0.4
baz=115,SNR=8.5
S24A Houchin Ranch, 114.81 44 ⇑P PKKPab 10 44 57.6 -0.6
baz=115
T24B San Luis 114.98 44 ⇑P PKKPab 10 44 56.3 -1.1
baz=115
V23A Ortiz Mt. (NFS 115.06 46 ⇑P PKKPab 10 44 57.5 +0.5
baz=115
OGNE Ogallala 115.14 39 ⇓P PKKPab 10 44 56.1 -0.3
baz=115
R25A Fountain Ranch 115.18 43 ⇑P PKKPab 10 44 56.0 -0.3
baz=115
ANMO Albuquerque 115.24 47 i PKIKP PKPdf 10 34 14.5 0.0
ANMO pmax pmax
comp=Z,36nm,2.5s
Q26A Hugo 115.29 42 ⇑P PKKPab 10 44 54.5 -1.4
baz=115
J30A Dallas 115.29 36 ⇓P PKKPab 10 44 52.3 -3.5
baz=115
S25A Robets Cordova 115.33 43 ⇓P PKKPab 10 44 54.5 -1.3
baz=115
121A Cookes Peak, D 115.35 50 ⇑P PKKPab 10 44 56.7 +1.1
baz=115
W23A Werner Place, 115.36 46 ⇓P PKKPab 10 44 55.7 0.0
baz=115,SNR=7.6
U24A Moreno Valley 115.38 45 ⇓P PKKPab 10 44 55.3 -0.4
baz=115
P27A Ficken Ranch, 115.56 41 ⇑P PKKPab 10 44 52.5 -2.1
baz=115
N28A Pribbeno Ranch 115.60 39 ⇓P PKKPab 10 44 52.0 -2.4
baz=116
X23A Hourglass Bar 115.61 47 ⇓P PKKPab 10 44 55.2 +0.7
baz=116
T25A Trinidad 115.61 44 ⇓P PKKPab 10 44 53.4 -1.1
baz=116
K30A Basset 115.61 36 ⇑P PKKPab 10 44 51.2 -3.1
baz=116
Z22A Elephant Butte 115.65 49 ⇓P PKKPab 10 44 54.8 +0.5
baz=116,SNR=8.2
R26A Arlington 115.67 42 ⇓P PKKPab 10 44 53.4 -0.8
baz=116
V24A Rampart Ranch, 115.72 46 ⇑P PKKPab 10 44 53.0 -1.1
baz=116
O28A Krutsinger Ran 115.77 40 ⇓P PKKPab 10 44 51.9 -1.8
baz=116
KSCO Kaye Shedlock' 115.83 41 ⇓P PKKPab 10 44 50.9 -2.6
baz=116
W24A Lazy 6 Ranch, 115.87 46 ⇑P PKKPab 10 44 52.9 -0.5
baz=116,SNR=15
U25A Circle Dot Ran 115.99 44 ⇓P PKKPab 10 44 52.2 -0.7
baz=116
S26A Kim 116.01 43 ⇑P PKKPab 10 44 45.8 -6.9
baz=116
Y23A Lovelace Mesa, 116.01 48 ⇓P PKKPab 10 44 52.9 +0.2
baz=116,SNR=13
P28A Saint Francis 116.08 40 ⇑P PKKPab 10 44 50.0 -2.3
baz=116
V25A Rancho No Teng 116.12 45 ⇑P PKKPab 10 44 51.6 -0.6
baz=116
X24A Lazy VL Ranch, 116.16 47 ⇑P PKKPab 10 44 51.3 -0.8
baz=116
U26A Atchley Ranch, 116.45 44 ⇓P PKKPab 10 44 50.2 -0.6
baz=116
Y24A Capitan 116.47 47 ⇑P PKKPab 10 44 49.7 -1.1
baz=116,SNR=9.1
W25A X Bar L Ranch, 116.54 46 ⇓P PKKPab 10 44 50.5 +0.1
baz=116
ECSD EROS Data Cent 116.67 34 ⇑P PKKPab 10 44 45.8 -3.8
baz=116
R28A Tribune 116.73 41 ⇓P PKKPab 10 44 48.4 -1.1
baz=117
V26A Tequesquite Ra 116.73 45 ⇓P PKKPab 10 44 48.6 -0.9
baz=117,SNR=7.5
Z24A Sheeppen Canyo 116.80 48 ⇑P PKKPab 10 44 50.1 +0.8
baz=117
O30A MW Ranch, Wils 116.82 39 ⇓P PKKPab 10 44 46.9 -2.1
baz=117
Y25A Mesa, Roswell 117.01 47 ⇑P PKKPab 10 44 47.1 -1.2
baz=117,SNR=12
U27A Thompson Grove 117.07 44 ⇑P PKKPab 10 44 45.2 -2.8
baz=117
S28A Manter 117.08 42 ⇓P PKKPab 10 44 46.4 -1.5
baz=117
Z25A Roswell 117.30 48 ⇓P PKKPab 10 44 46.2 -0.7
baz=117,SNR=7.9
X26A CR and CF Fran 117.34 46 ⇓P PKKPab 10 44 46.4 -0.5
baz=117,SNR=9.7
Q30A Quinter 117.40 40 ⇑P PKKPab 10 44 45.2 -1.2
baz=117
V27A Dan Oppiter Fa 117.41 44 ⇑P PKKPab 10 44 46.3 -0.2
baz=117
S29A Ulysses 117.58 42 ⇑P PKKPab 10 44 45.8 +0.1
baz=118
W27A Bowe Ranch, En 117.61 45 ⇓P PKKPab 10 44 45.1 -0.5

baz=118
P31A Stockton 117.62 39 ⇑P PKKPab 10 44 44.2 -1.3
baz=118
Y26A Elida 117.64 47 ⇑P PKKPab 10 44 44.8 -0.7
baz=118
125A Gardner Draw, 117.64 48 ⇑P PKKPab 10 44 44.6 -0.8
baz=118
R30A Dighton 117.76 41 ⇑P PKKPab 10 44 43.6 -1.3
baz=118
225A Deer Hill, Car 117.78 49 ⇑P PKKPab 10 44 44.8 -0.1
baz=118
X27A F and S Farms, 117.80 46 ⇓P PKKPab 10 44 44.4 -0.4
baz=118
Z26A Caprock 117.85 47 ⇑P PKKPab 10 44 44.3 -0.2
baz=118
Q31A Ellis 117.91 40 ⇑P PKKPab 10 44 43.1 -1.1
baz=118
P32A Huiting Farm, 118.05 39 ⇓P PKKPab 10 44 41.0 -2.6
baz=118
126A Clayton Basin, 118.12 48 ⇑P PKKPab 10 44 43.2 -0.2
baz=118,SNR=10
SCHQ Schefferville 118.13 9 PKP PKPdf 10 34 18.8 -0.5
comp=Z,3.7nm,0.9s,baz=214,slow=3.6,SNR=5.7
Y27A Causey 118.14 46 ⇑P PKKPab 10 44 42.8 -0.5
baz=118,SNR=8.6
R31A Burdett 118.24 40 ⇓P PKKPab 10 44 40.9 -1.8
baz=118
226B Tecolote Peak, 118.28 49 ⇑P PKKPab 10 44 42.5 -0.1
baz=118,SNR=12
MSTX Muleshoe 118.37 46 ⇑P PKKPab 10 44 41.7 -0.6
baz=118,SNR=10.0
Z27A Tatum 118.38 47 ⇑P PKKPab 10 44 42.0 -0.2
baz=118,SNR=12
X28A Dimmitt 118.50 45 ⇑P PKKPab 10 44 41.0 -0.7
baz=118
127A Arkansas Junct 118.59 48 ⇑P PKKPab 10 44 39.9 -1.3
baz=118
S31A Mullinville 118.66 41 ⇑P PKKPab 10 44 39.0 -2.0
baz=118
AMTX Amarillo 118.67 45 ⇑P PKKPab 10 44 39.7 -1.2
baz=119
R32A Long Quarter, 118.69 40 ⇓P PKKPab 10 44 39.4 -1.4
baz=119
Y28A McKinney Farm, 118.78 46 ⇓P PKKPab 10 44 39.7 -0.8
baz=119,SNR=6.6
T31A Randall Ranch, 118.83 42 ⇑P PKKPab 10 44 39.5 -0.7
baz=119
X29A Tulia 118.89 45 ⇑P PKKPab 10 44 39.2 -0.7
baz=119
Q33A Connelly Farm, 118.90 39 ⇓P PKKPab 10 44 37.7 -2.2
baz=119
EVO Evora 118.95 321 ePKIKP PKPdf 10 34 21.0 -0.3
227A Bennet, Jal 118.97 48 ⇓P PKKPab 10 44 40.2 +0.6
baz=119
Z28A Tucker Farm, M 119.00 47 ⇓P PKKPab 10 44 38.5 -1.0
baz=119,SNR=8.1
EVOP Sao Brissos 119.03 321 ePKIKP PKPdf 10 34 21.0 -0.4
EVOP Sao Brissos 119.03 321 ePKPdf PKPdf 10 34 21.0 -0.4
Y29A Porterfield Fa 119.21 46 ⇓P PKKPab 10 44 38.2 -0.4
baz=119,SNR=8.7
128A Castleberry Fa 119.26 47 ⇑P PKKPab 10 44 38.3 0.0
baz=119,SNR=10
V31A Spring Creek L 119.46 43 ⇓P PKKPab 10 44 36.8 -0.6
baz=119
X30A Coker Ranch, T 119.47 45 ⇓P PKKPab 10 44 36.4 -1.0
baz=119,SNR=14
Z29A Hungry Hill Ra 119.50 46 ⇑P PKKPab 10 44 37.0 -0.3
baz=119
KSU1 Kansas State U 119.59 38 ⇑P PKKPab 10 44 34.5 -2.2
baz=120
129A Stewart Farms, 119.70 47 ⇓P PKKPab 10 44 34.1 -2.3
baz=120
W31A Holland Ranch, 119.71 43 ⇑P PKKPab 10 44 34.5 -1.8
baz=120
Z30A Sanderson Ranc 119.90 46 ⇓P PKKPab 10 44 34.9 -0.6
baz=120
TXAR Lajitas Array 119.95 51 PKP PKPdf 10 34 25.6 +2.0
comp=Z,0.4nm,0.6s,baz=225,slow=0.4,SNR=3.6
TXAR PKKPbc PKKPbc 10 44 32.7 -0.6
comp=Z,4.4nm,0.9s,baz=124,slow=6.2,SNR=15
X31A McDonald Ranch 119.99 44 ⇑P PKKPab 10 44 34.2 -0.9
baz=120,SNR=7.0
V32A Arapaho 120.02 42 ⇑P PKKPab 10 44 33.8 -1.2
baz=120
229A Bryant Ranch, 120.08 48 ⇓P PKKPab 10 44 34.2 -0.5
baz=120
Y31A Rekieta Farm, 120.16 45 ⇑P PKKPab 10 44 32.9 -1.5
baz=120,SNR=8.0
329A Wagon Wheel Ra 120.19 48 ⇓P PKKPab 10 44 33.2 -1.0
baz=120
W32A Sentinel 120.22 43 ⇑P PKKPab 10 44 33.5 -0.6
baz=120
U33A Lingo Farm, Me 120.23 41 ⇑P PKKPab 10 44 32.4 -1.6
baz=120
130A Snyder 120.38 47 ⇑P PKKPab 10 44 32.9 -0.5
baz=120
V33A Lossen Ranch, 120.47 42 ⇓P PKKPab 10 44 31.9 -1.0
baz=120
Z31A Sharp Cattle R 120.58 45 ⇓P PKKPab 10 44 32.3 -0.2
baz=120,SNR=8.0
X32A Elmer 120.58 44 ⇑P PKKPab 10 44 32.2 -0.3
baz=120
U34A Anderson Ranch 120.61 41 ⇑P PKKPab 10 44 30.9 -1.4
baz=120
529A Stev Forest Ra 120.69 50 ⇓P PKKPab 10 44 32.2 +0.1
baz=121
429A Davenport Ranc 120.69 49 ⇓P PKKPab 10 44 31.4 -0.6
baz=121
Y32A R-V Farms, Ver 120.70 44 ⇑P PKKPab 10 44 31.3 -0.7
baz=121
W33A Caddo, Fort Co 120.73 43 ⇓P PKKPab 10 44 30.7 -1.2
baz=121
131A Roby 120.75 46 ⇑P PKKPab 10 44 30.4 -1.4
baz=121
330A Mertzon 120.83 48 ⇑P PKKPab 10 44 30.3 -1.1
baz=121
X33A Lawton 121.06 43 ⇑P PKKPab 10 44 29.5 -0.9
baz=121
Z32A Haskell 121.06 45 ⇓P PKKPab 10 44 30.4 0.0
baz=121,SNR=7.2
430A Baggett Ranch, 121.10 48 ⇑P PKKPab 10 44 30.9 +0.7
baz=121
231A Bronte 121.19 47 ⇑P PKKPab 10 44 29.5 -0.4
baz=121
Y33A Hilltop Ranch, 121.27 44 ⇑P PKKPab 10 44 29.7 +0.2
baz=121
ABTX Abilene, Hawle 121.31 46 ⇑P PKKPab 10 44 29.2 -0.1
baz=121
530A J-C Ranch, Com 121.34 49 ⇓P PKKPab 10 44 28.8 -0.4
baz=121
331A San Angelo 121.43 48 ⇑P PKKPab 10 44 28.5 -0.3
baz=121
X34A Smith Ranch, M 121.47 43 ⇓P PKKPab 10 44 27.0 -1.6
baz=121
Z33A Whitaker Ranch 121.57 45 ⇑P PKKPab 10 44 27.4 -0.8
baz=122
431A Sonora 121.62 48 ⇑P PKKPab 10 44 27.3 -0.7
baz=122
232A Coleman 121.70 47 ⇓P PKKPab 10 44 26.2 -1.5
baz=122
133A Hamilton Ranch 121.83 45 ⇓P PKKPab 10 44 26.5 -0.6
baz=122
332A Millersview 121.89 47 ⇑P PKKPab 10 44 25.1 -1.7
baz=122
Y34A Reagan Ranch, 121.89 43 ⇓P PKKPab 10 44 26.0 -0.8
baz=122
531A Rocksprings 121.92 49 ⇑P PKKPab 10 44 25.4 -1.3
baz=122
TUL1 Tulsa 122.06 40 ⇓P PKKPab 10 44 23.9 -2.2
baz=122
Z34A Collier Ranch, 122.11 44 ⇑P PKKPab 10 44 25.2 -0.7
baz=122
432A Menard 122.12 48 ⇓P PKKPab 10 44 25.3 -0.6
baz=122
233A Rising Star 122.16 46 ⇑P PKKPab 10 44 24.3 -1.3
baz=122
631A Perdido Creek 122.28 50 ⇓P PKKPab 10 44 24.2 -0.9
baz=122
TORD Torodi Ar. Bea 122.29 290 PKP PKPdf 10 34 28.2 0.0
comp=Z,18nm,0.7s,baz=44,slow=1.9,SNR=107
TORD PKKPab PKKPbc 10 44 24.1 +0.1
comp=Z,1.1nm,0.9s,baz=269,slow=4.4,SNR=3.8
JCT Junction City 122.32 48 ePKIKP PKPdf 10 34 28.6 +0.6
JCT Junction City 122.32 48 ePKPdf PKPdf 10 34 28.6 +0.6
JCT Junction City 122.32 48 ⇓P PKKPab 10 44 25.1 +0.2
baz=122
134A White-Moore Ra 122.44 45 ⇑P PKKPab 10 44 23.6 -0.8
baz=122
333A Richland Sprin 122.47 47 ⇑P PKKPab 10 44 22.8 -1.5
baz=122
433A Art 122.70 47 ⇓P PKKPab 10 44 22.8 -0.5
baz=123
234A Clairette 122.72 46 ⇑P PKKPab 10 44 23.2 0.0
baz=123
632A Uvalde 122.83 49 ⇓P PKKPab 10 44 21.7 -1.1
baz=123
135A Vickery Place, 122.92 45 ⇑P PKKPab 10 44 20.5 -1.8
baz=123
334A Lometa 123.01 46 ⇓P PKKPab 10 44 21.2 -0.8
baz=123
732A Laxson Ranch, 123.08 50 ⇑P PKKPab 10 44 20.6 -1.1
baz=123
533A Kerrville 123.09 48 ⇓P PKKPab 10 44 21.6 -0.1
baz=123
434A Burnet 123.26 47 ⇓P PKKPab 10 44 20.4 -0.5
baz=123
832A Faith Ranch, C 123.30 50 ⇓P PKKPab 10 44 20.3 -0.4
baz=123
633A Saathoff Ranch 123.31 49 ⇓P PKKPab 10 44 20.2 -0.5
baz=123
USHA Ushuaia 129.95 168 PKP PKPdf 10 34 43.0 +1.3
comp=Z,9.7nm,0.8s,baz=87,slow=3.2,SNR=5.3
KIC Kosan Boka 130.15 284 ePKP2 PKPdf 10 34 43.8 +0.4
comp=Z,42nm,0.9s
DBIC Dimbokro 130.19 284 PKP PKPdf 10 34 43.3 -0.1
comp=Z,8.0nm,0.7s,baz=62,slow=1.7,SNR=11
DBIC PP PP 10 36 57.6 0.0
comp=Z,3.2nm,0.8s,baz=112,slow=6.2,SNR=3.4
TIC Toumodi 130.35 284 ePKP2 PKPdf 10 34 44.8 +1.0
comp=Z,12nm,0.2s
LIC Lamto 130.46 284 ePKIKP PKPdf 10 34 44.1 +0.2
comp=Z,25nm,0.7s
LIC Lamto 130.46 284 ePKP2 PKPdf 10 34 45.0 +1.1
comp=Z,40nm,0.7s
LIC Lamto 130.46 284 ePKPdf PKPdf 10 34 44.1 +0.2
PLCA Paso Flores 142.22 158 PKP PKPdf 10 35 03.7 -1.4
comp=Z,2.7nm,0.6s,baz=275,slow=2.5,SNR=12
TRQA Tornquist 147.27 167 ePKPbc PKPbc 10 35 16.4 +0.2
SDDR Presa de Saban 149.23 35 ePKPbc PKPbc 10 35 21.6 -0.2
CFAA Coronel Fontan 151.02 153 PKPbc PKPbc 10 35 26.1 +0.2
comp=Z,2.8nm,0.6s,baz=233,slow=3.0,SNR=36
OTAV Otavalo 153.91 77 ePKPab PKPab 10 35 47.5 +0.6
SDV Santo Domingo 156.99 50 ePKPdf PKPdf 10 35 28.6 -0.4
LPAZ La Paz 162.18 126 PKP PKPdf 10 35 36.2 +0.7
comp=Z,2.4nm,0.8s,baz=75,slow=1.4,SNR=8.0
LPAZ PKPab PKPab 10 36 24.6 +2.0
comp=Z,6.1nm,1.1s,baz=175,slow=1.9,SNR=4.2
BDFB Brasilia 169.36 208 PKP PKPdf 10 35 40.7 +0.1
comp=Z,4.6nm,0.9s,baz=188,slow=7.5,SNR=4.7
BDFB PKPab PKPab 10 36 54.3 +0.8
comp=Z,14nm,0.8s,baz=152,slow=3.6,SNR=14
SAML Samuel 169.64 106 ePKPdf PKPdf 10 35 40.6 -0.2

MEX 15 10:32:11.9±0.4, 16.67N×99.66W, h8km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.28	317	i P	Pg	10 32 18.1	+0.7
ACX				i S	Sg	10 32 22.0	+0.8
CAIG	El Cayaco	0.69	303	i P	Pg	10 32 24.0	-1.3
CAIG				i S	Sg	10 32 33.5	-0.9
MEIG	Mezcala	1.25	2	i P	Pn	10 32 31.7	-4.2
MEIG				i S	Sb	10 32 47.6	-4.8
TLIG	Tlapa	1.38	49	eP	Pn	10 32 33.9	-3.8
TLIG				eS	Sb	10 32 50.6	-5.4
PLIG	Platanillo	1.73	5	i P	Pn	10 32 39.4	-3.0
PLIG				eS	Sn	10 33 00.3	-4.5
ARIG	Puente Sto Nin	1.73	338	i P	Pn	10 32 39.7	-2.7
ARIG				eS	Sn	10 33 00.4	-4.5
YAIG	Yautepec	2.26	14	i P	Pn	10 32 46.1	-3.7
YAIG				i S	Sn	10 33 13.4	-4.6

ARO 15 10:39:44.3, 14°N±21°×4°2E±6°0, h15km±99km, ML3.9
CSEM 15 10:39:49.6, 13.69N×42.08E, h3km, ML3.5, After DHMR
DHMR 15 10:39:49.6±0.8, 13.69N×42.08E, h4km±10km, ML3.5
ISC 15 10:39:45.5±2.8, 13.97N±0.09×42.0E±0.1, h10km, n14, σ1.07/21, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	Malaho	1.88	172	eP	Pg	10 40 21.0	-0.5
UDYN	Al 'Udayn	1.95	90	i P	Pg	10 40 23.5	+0.6
UDYN				i S	Sg	10 40 49.3	+1.1
UDYN				AML	AML	10 40 59.9	
	comp=E,421nm,0.6s						
TRBA	At Turbah	2.22	109	i P	Pb	10 40 25.8	0.0
TRBA				i S	Sg	10 40 54.7	-2.2
TRBA				AML	AML	10 41 03.9	
	comp=N,264nm,0.7s						
TDD	Tadjoura Ara	2.34	157	eP	Pb	10 40 28.1	+0.3
OBO	Obock	2.36	146	eP	Pb	10 40 27.7	-0.4
DHBB	Dhamar BB	2.43	75	i P	Pg	10 40 32.2	+0.1
DHBB				i S	Sg	10 41 05.3	+1.6
DHBB	Dhamar BB	2.43	75	i P	Pg	10 40 32.2	+0.1
DHBB				i S	Sg	10 41 05.3	+1.6
ATD	Arta Tunnel	2.57	160	eP	Pb	10 40 31.6	-0.2
ATD	Arta Tunnel	2.57	160	eP	Pb	10 40 31.6	-0.2
ATD				eS	Sg	10 41 09.9	+1.7
SGH	Sud-Ghoubbet	2.60	165	eP	Pb	10 40 31.9	-0.3
ATA	Atar	2.78	154	eP	Pb	10 40 34.6	-0.7
GBR	Grand-Bara	2.84	170	eP	Pb	10 40 35.9	-0.4
BDHA	Al Bayda'	3.50	89	i P	Pb	10 40 46.2	-1.6
BDHA				i S	Sb	10 41 30.5	+0.1
BDHA				AML	AML	10 41 50.1	
	comp=N,371nm,0.6s						
BDHA	Al Bayda'	3.50	89	i P	Pb	10 40 46.2	-1.6
BDHA				i S	Sb	10 41 30.5	+0.1
	comp=N,185nm,0.6s						

IDC 15 10:39:57.4±2.1, 17.65S×168.32E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/29, mbtmp3.9/7, ML3.6/1, Error ellipse: s-maj=60.6km s-min=29.2km az=126.0
ISCJB 15 10:40:04.3±1.5, 17.9S±0.1×168.3E±0.3, h69km, mb3.5/5, Error ellipse: s-maj=41.1km s-min=11.5km az=14.1
ISC 15 10:40:05.4±1.7, 18.0S±0.1×168.4E±0.3, h69km, n7, σ0.89/8, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.51	204	Pn	Pn	10 41 11.3	0.0
	2.5nm,0.3s,baz=72,slow=11,SNR=48						
DZM				Sn	Sn	10 42 02.8	+0.3
	7.8nm,0.3s,baz=334,slow=20,SNR=8.0						
WRA	Warramunga Arr	32.28	261	P	P	10 46 26.7	-1.1
	0.2nm,0.5s,baz=83,slow=8.3,SNR=7.2						
ASAR	Alice Springs	32.72	254	P	P	10 46 31.1	-0.6
	0.5nm,0.4s,baz=81,slow=8.6,SNR=15						
CMAR	Chiang Mai Arr	77.28	294	P	P	10 51 53.8	+1.0
	0.6nm,0.3s,baz=106,slow=5.0,SNR=3.2						
SONM	Songino Array	85.73	323	P	P	10 52 37.7	+0.7
	0.3nm,0.8s,baz=127,slow=3.8,SNR=5.5						
ILAR	Eielson Array	89.23	18	P	P	10 52 52.5	-0.8
	0.4nm,0.9s,baz=224,slow=5.3,SNR=5.9						
MKAR	Makanchi Array	100.28	316	P	Pdif	10 53 44.5	+0.3
	0.2nm,0.7s,baz=113,slow=3.7,SNR=3.0						

WEL 15 10:43:52.2±0.3, 40.92S×172.91E, h221km±2km, ML3.6/8, 7C-2D, Error ellipse: s-maj=2.5km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.30	287	⇓PN	Pn	10 44 21.0	-0.1
QRZ				SN	S	10 44 42.4	-1.3
NNZ	Nelson	0.47	131	⇑PN	Pn	10 44 21.5	0.0
NNZ				SN	S	10 44 43.5	-1.0
DUWZ	D'Urville Isla	0.78	82	PN	Pn	10 44 23.0	+0.1
DUWZ				SN	S	10 44 46.0	-0.7
THZ	Tophouse	0.85	180	⇑PN	Pn	10 44 23.5	+0.2
THZ				SN	S	10 44 47.4	-0.3
TUWZ	Tuamarina	0.93	124	PN	Pn	10 44 23.7	+0.1
TUWZ				AML	AML	10 44 48.1	
TUWZ				AML	AML	10 44 48.8	
TCW	Tory Channel	1.07	107	⇑PN	Pn	10 44 24.6	+0.1
TCW				SN	S	10 44 48.4	-1.3
TCW				AML	AML	10 44 50.0	
BSWZ	Blackbirch Sta	1.08	138	PN	Pn	10 44 24.6	0.0
DSZ	Denniston Nort	1.18	225	⇑PN	Pn	10 44 24.9	-0.4
DSZ				SN	S	10 44 48.9	-2.2
SNZO	South Karori	1.41	107	⇑PN	Pn	10 44 26.7	-0.2
SNZO				AML	AML	10 44 54.8	
SNZO				AML	AML	10 44 54.8	
WEL	Wellington	1.45	105	PN	Pn	10 44 27.1	-0.2
KIW	Kapiti Island	1.52	89	PN	Pn	10 44 27.7	-0.1
BHW	Baring Head	1.56	109	PN	Pn	10 44 27.9	-0.3
BHW				AML	AML	10 44 56.6	
KHZ	Kahutara	1.57	163	⇑PN	Pn	10 44 27.8	-0.5
CAW	Cannon Point	1.64	97	PN	Pn	10 44 28.8	-0.2
CAW				AML	AML	10 44 58.5	
CAW				AML	AML	10 44 58.7	
NMEZ	Namu Road	1.67	27	PN	Pn	10 44 28.8	-0.5
OGWZ	Otaki Gorge	1.72	88	PN	Pn	10 44 29.7	+0.1
NWEZ	Newall Road	1.79	24	PN	Pn	10 44 29.8	-0.5
KHEZ	Kahui Hut	1.83	28	PN	Pn	10 44 30.0	-0.8
MSWZ	Moikau Station	1.83	107	PN	Pn	10 44 30.4	-0.3
MSWZ				AML	AML	10 45 01.5	
PLWZ	Palliser	1.89	111	PN	Pn	10 44 30.9	-0.3
LTZ	Lake Taylor	1.93	194	PN	Pn	10 44 30.1	-1.5
WAZ	Wanganui	1.96	55	⇓PN	Pn	10 44 31.9	0.0
HOWZ	Holdsworth Sta	1.97	90	PN	Pn	10 44 31.9	-0.2
MTW	Mount Morrison	1.98	98	PN	Pn	10 44 31.8	-0.2
MTW				AML	AML	10 45 03.5	
MRZ	Mangatainoka R	2.04	84	PN	Pn	10 44 32.3	-0.3
MRZ				SN	S	10 45 02.1	-2.0
MRZ				AML	AML	10 45 04.7	
POWZ	Post Office Ro	2.23	77	PN	Pn	10 44 34.3	-0.4
TIWZ	Tintock	2.26	87	PN	Pn	10 44 34.7	-0.2
VRZ	Vera Road	2.28	39	PN	Pn	10 44 33.5	-1.6
PRWZ	Pori Road	2.35	82	⇑PN	Pn	10 44 35.9	+0.1
PKVZ	Pokaka	2.47	50	PN	Pn	10 44 36.2	-1.0
MTVZ	Mangateitei	2.49	53	ePN	Pn	10 44 36.4	-0.9
OXZ	Oxford	2.50	195	PN	Pn	10 44 36.1	-1.2
OXZ				SN	S	10 45 09.0	-3.6
BFZ	Birch Farm	2.54	86	PN	Pn	10 44 37.6	-0.3
TRVZ	Turoa	2.59	52	PN	Pn	10 44 37.6	-1.1
WNVZ	Wahianoa	2.60	53	PN	Pn	10 44 37.7	-1.0
FWVZ	Far West T-bar	2.62	52	PN	Pn	10 44 37.6	-1.4
WPVZ	Whakapapa	2.65	51	PN	Pn	10 44 37.9	-1.3
COVZ	Chateau Observ	2.65	51	PN	Pn	10 44 37.7	-1.4
TUVZ	Tukino	2.67	53	PN	Pn	10 44 38.4	-1.1
NGZ	Ngauruhoe	2.70	51	PN	Pn	10 44 38.4	-1.4
WVZ	Waitaha Valley	2.70	216	PN	Pn	10 44 38.4	-1.1
PNHZ	Pukenui	2.70	69	PN	Pn	10 44 39.3	-0.4
WTVZ	West Tongariro	2.73	50	PN	Pn	10 44 38.7	-1.3
ANWZ	Angora Road	2.75	82	PN	Pn	10 44 39.7	-0.3
KRVZ	Karewarewa	2.77	50	PN	Pn	10 44 39.3	-1.3
MQZ	McQueen's Vall	2.80	184	PN	Pn	10 44 38.9	-1.6
BHHZ	Black Hill Sta	2.80	60	PN	Pn	10 44 39.7	-1.2
WPHZ	Waipukurau	2.82	74	PN	Pn	10 44 40.8	-0.1
HIZ	Hauiti	2.83	33	PN	Pn	10 44 39.3	-1.7
KRHZ	Kereru	2.94	66	PN	Pn	10 44 41.7	-0.6
PXZ	Pawanui	3.14	75	PN	Pn	10 44 44.2	-0.3
KAHZ	Kahuranaki	3.23	71	PN	Pn	10 44 45.6	-0.1
MCHZ	McNeill Hill	3.25	64	PN	Pn	10 44 45.5	-0.3
BKZ	Black Stump Fm	3.26	59	PN	Pn	10 44 44.6	-1.4
FOZ	Fox Glacier	3.57	221	PN	Pn	10 44 46.6	-2.8
SNGZ	Shannon Statio	4.02	59	PN	Pn	10 44 54.0	-1.1
KNZ	Kokohu	4.12	64	PN	Pn	10 44 55.1	-1.0
URZ	Urewera	4.19	52	PN	Pn	10 44 54.7	-2.3
PRGZ	Paritu Road	4.31	64	ePN	Pn	10 44 57.7	-0.9
JCZ	Jackson Bay	4.40	223	PN	Pn	10 44 57.6	-2.1

IDC 15 10:50:52.7±5.4, 1.42S×145.90E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/30, mbtmp3.2/3, Error ellipse: s-maj=182.7km s-min=33.2km az=93.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.61	211	P	P	10 55 43.6	-0.9
	0.5nm,1.0s,baz=32,slow=11,SNR=2.9						
ASAR	Alice Springs	24.99	207	P	P	10 56 19.0	+0.6
	0.3nm,0.9s,baz=42,slow=7.5,SNR=3.1						
MKAR	Makanchi Array	73.30	320	P	P	11 02 26.2	0.0
	0.5nm,0.6s,baz=102,slow=5.1,SNR=4.3						

ISCJB 15 10:56:38.9±0.2, 8.37S±0.04×120.68E±0.04, h200km, mb4.2/13, Error ellipse: s-maj=6.2km s-min=3.6km az=42.9
NEIC 15 10:56:39.8±0.5, 8.28S×120.70E, h194km±6km, mb4.7/7, Error ellipse: s-maj=11.6km s-min=6.5km az=48.0
DJA 15 10:56:40.9±0.4, 9°S±3°×12°1E±°, h184km±7km, M4.4/11, mb4.5/5, mB4.8/4, MLv4.5/11, Mw(mB)4.1/4
IDC 15 10:56:41.5±1.3, 8.04S×121.12E, h210km±11km, mb3.8/9, mb1 3.9/12, mb1mx3.6/37, mbtmp4.3/12, Error ellipse: s-maj=43.1km s-min=8.0km az=55.0
ISC 15 10:56:39.8±0.4, 8.42S±0.04×120.66E±0.04, h200km, n78, σ1.43/91, mb4.2/13, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.29	196	P	Pn	10 57 11.7	-0.1
WSI				S	Sn	10 57 34.7	-2.0
WSI	Waingapu	1.29	196	P	Pn	10 57 11.6	-0.2
	baz=1.3,SNR=16						
WSI				S	Sn	10 57 35.0	-1.7
	baz=1.3,SNR=25						
MMRI	Maumere	1.57	98	P	Pn	10 57 13.7	-0.5
MMRI				S	Sn	10 57 38.9	-1.9
MMRI	Maumere	1.57	98	ePn	Pn	10 57 13.5	-0.6
BASI	Baing, Sumba	1.79	183	P	Pn	10 57 16.2	0.0
BASI				S	Sn	10 57 43.2	-1.5
BKSI	Bulukumba	3.13	350	P	Pn	10 57 30.6	-0.4
BKSI				S	Pn	10 57 30.9	-0.1
BATI	Baumata	3.45	121	P	Pn	10 57 35.1	+0.2
BATI				S	Sn	10 58 15.7	-2.4
BATI	Baumata	3.45	121	P	Pn	10 57 35.1	+0.2
	66nm,0.3s,baz=272,slow=1.4,SNR=85						
BATI				S	Sn	10 58 16.7	-1.4
	107nm,0.3s,baz=246,slow=22,SNR=4.0						
BBSI	Bau Bau	3.48	33	P	Pn	10 57 35.9	+0.7
KAPI	Kappang	3.50	345	ePn	Pn	10 57 35.7	+0.2
SOEI	Soe	3.80	111	P	Pn	10 57 39.3	0.0
SOEI				S	Sn	10 58 23.5	-2.4
SOEI	Soe	3.80	111	ePn	Pn	10 57 39.2	0.0
SOEI	Soe	3.80	111	P	Pn	10 57 39.3	0.0
	baz=3.8,SNR=345						
BNSI	Bone	4.03	352	P	Pn	10 57 43.1	+1.0
SPSI	Sidrap Palu	4.52	349	P	Pn	10 57 48.6	+0.5
SRBI	Singaraja	5.40	273	P	Pn	10 58 00.3	+0.9
	72nm,0.7s,1μm						
TTSI	Tana Toraja	5.41	351	P	Pn	10 58 02.4	+2.9
	65nm,0.9s,737nm						
IGBI	Denpasar	5.47	265	P	Pn	10 57 59.9	-0.4
	156nm,1.0s,4μm						
JAGI	Jajag, Banyuwa	6.44	269	ePn	Pn	10 58 12.2	-0.7
	40nm,0.4s						
JAGI				eSn	Sn	10 59 22.5	-4.0
JAGI	Jajag, Banyuwa	6.44	269	P	Pn	10 58 11.4	-1.5
	baz=6.5,SNR=10						
JAGI				S	Sn	10 59 20.9	-5.6
	baz=6.5,SNR=11						
UGM	Wanagama	10.05	272	P	Pn	10 59 00.5	+0.7
	baz=10,SNR=7.2						
UGM				S	Sn	11 00 35.2	-17
	baz=10,SNR=7.3						
KNRA	Kununurra	10.71	133	P	Pn	10 59 06.9	-1.3
	baz=11,SNR=229						
KNRA				S	Sn	11 00 58.9	-8.9
	baz=11,SNR=14						
MTN	Manton Dam	11.19	114	P	Pn	10 59 14.1	-0.3
	baz=11,SNR=35						
MTN				S	Sn	11 01 07.4	-12
	baz=11,SNR=17						
KDU	Kakadu	12.36	111	P	Pn	10 59 28.6	-0.8
	baz=12,SNR=25						
MBWA	Marble Bar	12.70	184	ePn	Pn	10 59 34.8	+1.3
	6.2nm,0.4s						
FAKI	Fak Fak	12.76	65	ePn	Pn	10 59 32.0	-2.4
	54nm,0.5s						
FAKI	Fak Fak	12.76	65	P	Pn	10 59 32.2	-2.2
	baz=13,SNR=44						
KSM	Kuching	14.25	313	P	P	10 59 57.1	+2.5
	baz=14,SNR=5.7						
KKM	Kota Kinabalu	15.04	343	ePn	Pn	11 00 00.8	-1.9
	38nm,0.9s						
KKM	Kota Kinabalu	15.04	343	P	P	11 00 04.1	+0.8

baz=15,SNR=8.5
WRA Warramunga Arr 17.50 132 P Pn 11 00 31.7 -0.5
0.8nm,0.3s,baz=308,slow=12,SNR=67
WRA S S 11 03 39.5 -2.5
1.6nm,0.3s,baz=308,slow=20,SNR=9.3
WRA ScP ScP 11 08 16.5 -0.4
baz=306,slow=1.5,SNR=3.8
WRAB Tennant Creek 17.51 132 eP Pn 11 00 31.4 -0.8
11nm,0.6s
WRKA Warakurna 18.06 157 P Pn 11 00 39.7 +1.0
baz=18,SNR=46
MEEK Meekatharra 18.22 186 P Pn 11 00 42.0 +1.5
baz=18,SNR=5.8
MEEK S S 11 04 03.5 +7.3
baz=18,SNR=6.1
ASAR Alice Springs 19.77 142 P Pn 11 00 57.1 -1.8
1.0nm,0.3s,baz=319,slow=10.0,SNR=63
ASAR S S 11 04 26.6 -0.1
0.1nm,0.3s,baz=312,slow=18,SNR=8.5
ASAR ScP ScP 11 08 20.9 -0.9
0.2nm,0.3s,baz=329,slow=2.1,SNR=5.7
QIS Mount Isa 21.92 125 P P 11 01 18.7 +1.2
baz=22,SNR=26
COEN Coen 22.75 106 eP P 11 01 25.8 +0.7
232nm,0.4s
COEN Coen 22.75 106 P P 11 01 26.2 +1.1
baz=23,SNR=212
IPM Ipoh 23.41 302 eP P 11 01 31.0 0.0
8.4nm,0.4s
MTSU Mount Surprise 24.93 115 P P 11 01 47.3 +2.4
baz=25,SNR=15
BBOO Buckleboo 28.15 152 P P 11 02 15.8 +2.3
baz=28,SNR=12
HTT Hallett 30.06 148 P P 11 02 33.6 +3.2
baz=30,SNR=5.1
STKA Stephens Creek 30.39 143 P P 11 02 36.1 +2.8
7.6nm,0.5s,baz=319,slow=8.8,SNR=54
STKA Stephens Creek 30.39 143 P P 11 02 36.0 +2.8
baz=30,SNR=38
CMSA Cobar Meteorol 32.74 138 P P 11 02 57.1 +3.3
baz=33,SNR=6.8
CMAR Chiang Mai Arr 34.24 321 P P 11 03 08.8 +1.8
3.0nm,0.3s,baz=146,slow=6.8,SNR=6.8
CMAR ScP ScP 11 09 03.8 -1.3
0.9nm,0.3s,baz=123,slow=3.3,SNR=4.5
LSA Lhasa 47.36 324 P P 11 04 53.4 -1.1
LSA Lhasa 47.36 324 eP P 11 04 55.1 +0.6
7.3nm,0.7s
ODAN Odare 47.66 318 eP P 11 04 58.0 +1.5
6.8nm,0.5s
ODAN Odare 47.66 318 eP P 11 04 58.0 +1.5
TAPN Taplejung 47.78 319 eP P 11 04 58.1 +0.5
9.4nm,0.4s
RAMN Ramite 48.24 318 eP P 11 05 02.0 +1.0
16nm,0.6s
RAMN Ramite 48.24 318 eP P 11 05 02.0 +1.0
JIRN Jiri 48.98 318 eP P 11 05 06.7 -0.1
20nm,0.6s
JIRN Jiri 48.98 318 eP P 11 05 06.7 -0.1
GUN Gumba 49.35 318 eP P 11 05 10.1 +0.5
24nm,0.6s
GUN Gumba 49.35 318 eP P 11 05 10.1 +0.5
PKI Pulchoki 49.44 318 eP P 11 05 10.1 -0.2
20nm,0.5s
PKI Pulchoki 49.44 318 eP P 11 05 10.1 -0.2
PKIN Phulchoki 49.45 318 eP P 11 05 09.6 -0.7
5.8nm,0.3s
DMN Daman 49.67 317 eP P 11 05 12.1 +0.2
DMN Daman 49.67 317 eP P 11 05 12.1 +0.2
GKN Gorkha 50.24 317 eP P 11 05 15.8 -0.3
18nm,0.5s
GKN Gorkha 50.24 317 eP P 11 05 15.8 -0.3
KOLN Koldanda 50.79 316 eP P 11 05 19.1 -1.1
11nm,0.5s
KOLN Koldanda 50.79 316 eP P 11 05 19.1 -1.1
DANN Dangsing 51.05 317 eP P 11 05 22.0 -0.3
46nm,0.5s
DANN Dangsing 51.05 317 eP P 11 05 22.0 -0.3
PYUN Piuthan 51.42 316 eP P 11 05 24.3 -0.6
42nm,0.4s
SONM Songino Array 57.42 349 P P 11 06 06.9 -0.8
0.4nm,0.4s,baz=168,slow=7.4,SNR=10
SONM PcP PcP 11 07 00.6 +1.5
0.3nm,0.6s,baz=160,slow=4.6,SNR=2.2
KSH Kashi 63.14 322 eP P 11 06 46.1 -0.5
KSH pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 64.71 332 P P 11 06 56.3 -0.3
comp=Z,2.9nm,0.7s,baz=144,slow=7.5,SNR=37
AAK Ala-Archa 65.95 324 P P 11 07 04.5 -0.4
comp=Z,1.5nm,0.5s,baz=154,slow=5.7,SNR=7.5
ZALV Zalesovo Beam 69.10 338 P P 11 07 22.4 -1.6
comp=Z,1.3nm,0.4s,baz=149,slow=5.9,SNR=10
AKTO Aktyubinsk 79.70 325 P P 11 08 25.1 -0.2
comp=Z,2.8nm,0.6s,baz=113,slow=6.3,SNR=15
QSPA South Pole Qui 81.57 180 P P 11 08 37.5 +2.4
comp=Z,0.8nm,0.6s,baz=289,slow=1.4,SNR=8.4
KBZ Khabaz 87.03 315 P P 11 09 03.3 +0.6
comp=Z,2.9nm,0.9s,baz=88,slow=2.8,SNR=3.6
TORD Torodi Ar. Bea 119.98 280 PKP PKPdf 11 15 07.6 0.0
comp=Z,0.3nm,0.5s,baz=40,slow=2.3,SNR=5.8

IDC 15 11:41:13.7±6.6,32.°45N×133.°30E,h0km,mb3.3/4, mb1 3.4/4,mb1mx3.2/30,mbtmp3.2/4,Error ellipse: s-maj=288.6km s-min=23.6km az=63.0
ISCJB 15 11:41:34.3±2.3,34.°3N±0.°4×137.°1E±1.°0,h344km±14km, mb2.6/4,Error ellipse: s-maj=141.0km s-min=25.5km az=152.1
JMA 15 11:41:35.1±0.2,34.°60N×136.°86E,h340km±2km,M2.9
ISC 15 11:41:35.6±1.9,34.°3N±0.°3×137.°1E±0.°5,h333km±14km,n9, σ0.°68/8,mb2.7/4,Near south coast of eastern Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JAA Atsumi 0.33 2 P Pn 11 42 17.9 +0.3
JIE Ise 0.36 285 P Pn 11 42 18.0 +0.3
JKN2 Miekihoku 0.71 265 P Pn 11 42 18.6 +0.1
TSUJ Tsu 2 0.72 305 P Pn 11 42 18.2 -0.2
JEG Eigenji 1.03 324 P Pn 11 42 18.8 -0.8
SONM Songino Array 26.63 310 P P 11 46 45.4 +0.7
0.2nm,0.5s,baz=114,slow=7.9,SNR=3.1
MKAR Makanchi Array 42.68 304 P P 11 48 57.4 -3.2
0.2nm,0.5s,baz=88,slow=10.0,SNR=5.2
WRA Warramunga Arr 54.01 183 P P 11 50 26.5 0.0
0.2nm,0.3s,baz=0.0,slow=6.8,SNR=6.8
ASAR Alice Springs 57.73 184 P P 11 50 52.0 -0.6
0.2nm,0.8s,baz=358,slow=6.5,SNR=3.5

NIED 15 11:50:00,46.°40N×153.°70E,h11km,Mw4.2 Best double couple: Mo2.47000×10^15 NP1:φs354.00000°,δ45.00000°, λ41.00000°. NP2:φs232.00000°,δ62.00000°,λ127.00000°.
IDC 15 11:50:39.5±0.6,46.°52N×153.°36E,h0km,mb4.3/22, mb1 4.5/27,mb1mx4.3/42,mbtmp4.3/27,ML3.5/5,MS3.6/12, Ms1 3.6/12,ms1mx3.3/35,Error ellipse: s-maj=16.9km s-min=11.6km az=148.0
ISCJB 15 11:50:41.2±0.9,46.°54N±0.°05×153.°31E±0.°05,h17km±6km, mb4.5/79,MS3.8/17,Error ellipse: s-maj=9.0km s-min=3.5km az=145.2
SKHL 15 11:50:44.2±0.5,46.°46N×153.°57E,h53km±1km,mb5.0/11, Ms4.0/2
MOS 15 11:50:45.1±0.9,46.°83N×153.°13E,h33km,mb4.8/46,Error ellipse: s-maj=7.9km s-min=5.4km az=95.0
BJI 15 11:50:45.9,46.°85N×153.°30E,h58km,mB4.9/33,mb4.6/47, Ms4.3/20,Ms7 4.1/21
NEIC 15 11:50:46.2±0.7,46.°62N×153.°34E,h41km±5km,mb4.8/31, Error ellipse: s-maj=8.1km s-min=4.3km az=142.0
ISC 15 11:50:46.4±0.5,46.°59N±0.°06×153.°29E±0.°05,h46km±2km, h46km:pP-P,n369,σ1.°31/405,mb4.6/79,MS3.8/17, 24C-18D,Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 4.02 252 d iPN Pn 11 51 45.8 +0.4
KUR i 11 52 32.5
KUR pmax pmax
comp=Z,556nm,0.8s
KUR pmax pmax
comp=E,68nm,0.8s
KUR pmax pmax
comp=N,98nm,0.4s
KUR pmax pmax
comp=Z,38μm,0.5s
KUR pmax pmax
comp=Z,567nm,3.3s
KUR pmax pmax
comp=E,447nm,0.9s
KUR Kuril'sk 4.02 252 eP Pn 11 51 45.8 +0.4
KUR AMB AMB 11 51 46.4
comp=E,98nm,0.6s
KUR AMB AMB 11 51 46.4
comp=E,560nm,0.6s
KUR eS Sn 11 52 32.3 +1.1
KUR A A 11 52 42.7
comp=E,105nm,0.4s
KUR A A 11 52 42.7
comp=E,390nm,0.4s
SKR Severo-Kuril's 4.51 24 ePN Pn 11 51 46.6 -5.5
SKR pmax pmax
comp=N,50nm,0.5s
SKR pmax pmax
comp=Z,80nm,0.5s
SKR Severo-Kuril's 4.51 24 eP Pn 11 51 50.6 -1.5
SKR AMB AMB 11 51 57.2
comp=Z,150nm,0.6s
SKR eS Sn 11 52 40.6 -2.5
SKR A A 11 52 56.0
comp=Z,338nm,0.6s
SKR A A 11 52 56.0
comp=Z,298nm,0.6s
SHO Shikotan 5.31 242 eP Pn 11 52 02.5 -0.6
SHO AMB AMB 11 52 09.6
comp=Z,154nm,0.5s
SHO eS Sn 11 53 00.8 -2.1
PAU Pauzhetka 5.41 24 eP Pn 11 52 04.2 -0.2
PAU AMB AMB 11 52 17.5
comp=Z,367nm,0.7s
PAU eS Sn 11 53 04.0 -1.2
PAU A A 11 53 11.0
comp=Z,691nm,0.9s
PAU A A 11 53 11.0
comp=Z,761nm,0.9s
YUK Yuzh-Kuril'sk 5.83 247 d iPN Pn 11 52 09.3 -0.9
YUK iS Sn 11 53 18.6 +2.9
YUK pmax pmax
comp=Z,192nm,0.5s
YUK pmax pmax
comp=E,151nm,0.4s
YUK pmax pmax
comp=N,85nm,0.3s
YUK smax smax
comp=E,117nm,0.3s
YUK smax smax
comp=N,348nm,0.7s
YUK MLR MLR
comp=Z,435nm,5.0s
YUK Yuzh-Kuril'sk 5.83 247 eP Pn 11 52 09.3 -0.9
YUK AMB AMB 11 52 14.6
comp=Z,85nm,0.5s
YUK AMB AMB 11 52 14.6
comp=Z,152nm,0.5s
YUK AMB AMB 11 52 14.6
comp=Z,192nm,0.5s
YUK eS Sn 11 53 18.6 +2.9
YUK A A 11 53 24.5
comp=Z,350nm,0.4s
YUK A A 11 53 24.5
comp=Z,117nm,0.4s
YUK AMS AMS 11 54 38.0
comp=Z,435nm,5.0s
NEM2 Nemuro 2 6.25 242 P Pn 11 52 12.2 -3.8
NEM2 eS Sn 11 53 20.0 -6.0
JRA Rausu 6.34 248 P Pn 11 52 16.0 -1.3
JNK Nakash 6.77 247 P Pn 11 52 21.7 -1.4
JNK eS Sn 11 53 36.5 -2.3
JAK Akkeshi 7.09 243 P Pn 11 52 24.2 -3.3
JAK eS Sn 11 53 40.5 -6.2
JTKR Abashiri--Toko 7.12 252 P Pn 11 52 27.5 -0.4
PETK Petropavlovsk- 7.12 22 Pn Pn 11 52 25.9 -2.0
comp=Z,1.1nm,0.3s,baz=178,slow=13,SNR=14
PETK Sn Sn 11 53 40.2 -7.2
comp=Z,1.5nm,0.3s,baz=74,slow=18,SNR=7.0
YSS Yuzh-Sakhalins 7.25 277⇓ ePN Pn 11 52 34.0 +4.4
YSS eS Sn 11 53 57.0 +6.5
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=E,400nm,15.0s
YSS MLR MLR
comp=Z,1μm,15.0s
YSS Yuzh-Sakhalins 7.25 277 ePn Pn 11 52 29.0 -0.7
YSS Yuzh-Sakhalins 7.25 277 eP Pn 11 52 32.0 +2.4
YSS AMB AMB 11 52 35.6
comp=Z,30nm,0.9s
YSS eS Sn 11 53 52.8 +2.3
YSS A A 11 54 01.0
comp=Z,248nm,0.7s
YSS AMS AMS 11 55 12.0
comp=Z,400nm,15.0s
YSS AMS AMS 11 55 12.0
comp=Z,1μm,15.0s
PET Petropavlovsk 7.32 26 ePN Pn 11 52 29.6 -1.0
PET Petropavlovsk 7.32 26 ePn Pn 11 52 30.5 -0.1
PET Petropavlovsk 7.32 26 eP Pn 11 52 28.9 -1.7
PET AMB AMB 11 52 41.9
comp=Z,190nm,0.5s
PET eS Sn 11 53 46.9 -5.3
PET A A 11 53 55.2
comp=Z,673nm,0.5s
JMP Maruseppu 7.46 253 P Pn 11 52 32.6 -0.1
JAR Ashorobuto 7.51 247 P Pn 11 52 31.9 -1.4
JAR eS Sn 11 53 54.4 -2.7
JOB Onbets 7.67 245 P Pn 11 52 33.0 -2.5
JOB eS Sn 11 53 57.3 -3.7
JKK2 Kamakawa 2 7.92 254 P Pn 11 52 39.2 +0.3
ASAJ Asahikawa 7.93 256 PN Pn 11 52 38.8 -0.2
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,229nm,18.1s
ASAJ Asahikawa 7.93 256 P Pn 11 52 40.1 +1.1
ASAJ Asahikawa 7.93 256 Pn Pn 11 52 38.8 -0.2
comp=Z,1.6nm,0.3s,baz=89,slow=16,SNR=19
ASAJ LR LR 11 55 34.3
comp=Z,229nm,18.1s,baz=45,slow=37
ASAJ Asahikawa 7.93 256 ePn Pn 11 52 39.6 +0.6
JWK2 Keihoku 8.04 265 P Pn 11 52 44.0 +3.5
JCH Churui 8.12 244 P Pn 11 52 38.8 -2.8
JCH eS Sn 11 54 06.5 -5.5
TYV Tymovskoe 8.23 305 eP Pn 11 52 46.0 +2.9
TYV AMB AMB 11 52 49.0
comp=Z,8.0nm,0.7s
TYV AMB AMB 11 52 49.0
comp=Z,31nm,0.7s
JFR Furan 8.33 250 P Pn 11 52 44.0 -0.6
JAB Ashibetsu 8.42 253 P Pn 11 52 46.5 +0.7
ERM Erimo 8.58 241 ePN Pn 11 52 49.1 +1.1
ERM Erimo 8.58 241 ePn Pn 11 52 49.1 +1.1
ERM eSb Sn 11 55 00.1 +37
ERM Erimo 8.58 241 eP Pn 11 52 48.6 +0.6
JBT2 Biratori 2 8.66 248 P Pn 11 52 45.5 -3.6
JBT2 eS Sn 11 54 23.9 -1.5
JNBK Urakawa-nobuka 8.68 244 P Pn 11 52 46.1 -3.2
JNBK eS Sn 11 54 22.2 -3.6
JEW Eniwo 9.22 250 P Pn 11 52 56.8 0.0
OKH Okha 9.63 320 erx rx 11 53 10.0
JNB Noboribetsu 9.67 249 P Pn 11 53 00.9 -1.9
JNB eS Sn 11 54 46.0 -4.0
JKB Kayabe 9.97 246 P Pn 11 53 02.9 -4.0
JKB eS Sn 11 54 49.1 -8.3
NKL Nikolayevsk 10.45 314 eP Pn 11 53 16.0 +2.5
NKL AMB AMB 11 53 18.7
comp=Z,20nm,1.0s
NKL AMS AMS 11 58 20.0
comp=Z,700nm,15.0s
NKL AMS AMS 11 58 20.0
comp=Z,500nm,15.0s
NKL AMS AMS 11 58 20.0
comp=Z,1μm,15.0s
JANG Nango 10.57 238 P Pn 11 53 07.5 -7.7
JANG eS Sn 11 55 00.3 -12
JTM Tenmabayashi 10.57 241 P Pn 11 53 10.7 -4.6
JTM eS Sn 11 55 01.2 -11
JTH Tanohata 10.65 235 eS Sn 11 55 01.2 -13
JOSM Okushiri--Mats 10.87 251 P Pn 11 53 16.9 -2.4
OFUJ Ofunato 11.35 233 eS Sn 11 55 17.9 -13
JRG Rokugo 11.72 237 eS Sn 11 55 23.1 -17
GRNR Gornyy 11.90 297 eP Pn 11 53 34.6 +1.2
GRNR AMB AMB 11 53 42.0
comp=Z,16nm,1.0s
JIO Ouri 11.97 232 P Pn 11 53 26.4 -8.0
JIO eS Sn 11 55 31.2 -15
FX1 Attu Island--F 14.29 57 P Pn 11 54 00.4 -5.4
FX1 pmax pmax
comp=Z,2.0nm,0.3s
FX1 MLR MLR
comp=Z,41nm,18.9s
FX1 Attu Island--F 14.29 57 Pn Pn 11 54 00.4 -5.4
comp=Z,2.4nm,0.3s,baz=328,slow=4.4,SNR=8.5
FX1 LR LR 12 00 37.6
comp=Z,40nm,18.9s,baz=267,slow=42
EKMR Ekimchan 14.62 304 eP Pn 11 54 11.0 +0.8
EKMR AMB AMB 11 54 19.7
comp=Z,8.0nm,0.5s
KLR Kul'dur 14.68 288 eP Pn 11 54 09.7 -1.3
KLR Kul'dur 14.68 288 eP Pn 11 54 09.7 -1.3
MJAR Matsushiro Arr 15.08 234 Pn Pn 11 54 11.7 -4.7
comp=Z,0.2nm,0.3s,baz=24,slow=12,SNR=6.3
MAJO Matsushiro 15.08 234 eP Pn 11 54 18.7 +2.3
MAJO pmax pmax
comp=Z,157nm,2.1s
MAJO Matsushiro 15.08 234 ePn Pn 11 54 18.6 +2.3
comp=Z,157nm,2.1s
MAT Matsushiro 15.08 234 P P 11 54 19.0 -1.9
USRK Ussuriysk Arra 15.15 269 Pn Pn 11 54 15.9 -1.3
comp=Z,0.5nm,0.3s,baz=71,slow=15,SNR=11
USRK LR LR 12 00 00.2
comp=Z,135nm,19.3s,baz=53,slow=37
VLA Vladivostok 15.56 265⇓ iP Pn 11 54 23.2 +0.7
VLA S Sn 11 57 15.0 +1.3
VLA pmax pmax
comp=Z,10.0nm,0.6s
VLA Vladivostok 15.56 265 eP Pn 11 54 23.2 +0.7
SEY Seymchan 16.39 359 eP Pn 11 54 31.3 -1.6
SEY Seymchan 16.39 359 Pn Pn 11 54 32.8 -0.1
comp=Z,0.2nm,0.3s,baz=72,slow=23,SNR=11
SEY Seymchan 16.39 359 eP Pn 11 54 31.3 -1.6
MDJ Mudanjiang 16.69 272 P Pn 11 54 36.5 -0.3
MDJ pP pP 11 54 49.3 -0.1
MDJ sP sP 11 54 54.5 -0.7
MDJ S Sn 11 57 39.3 -1.8
MDJ PcP PcP 11 59 24.8 +1.0
MDJ ScP ScP 12 02 54.1 -0.4
MDJ PcS PcS 12 02 59.9 +0.3
MDJ ScS ScS 12 06 33.3 -0.5
MDJ pmax pmax
comp=Z,15nm,0.8s
MDJ pmax pmax
comp=Z,45nm,6.2s
MDJ LR LR
comp=Z,110nm,17.4s
MDJ Mudanjiang 16.69 272 ePn Pn 11 54 37.3 +0.4
comp=Z,9.0nm,0.8s
BMKR Bomnak 17.43 307 eP Pn 11 54 44.0 -2.0
BMKR AMB AMB 11 54 49.5
comp=Z,5.0nm,0.7s
ZEA Zeya 18.08 303 eP Pn 11 54 56.5 +2.5
ZEA AMB AMB 11 55 05.0
comp=Z,12nm,1.0s
ZEA AMS AMS 12 02 39.0
comp=Z,300nm,13.0s
ZEA AMS AMS 12 02 39.0
comp=Z,200nm,13.0s
KROS Kirovskiy 18.41 305 eP P 11 54 55.5 -2.0
KROS AMB AMB 11 54 59.9
comp=Z,13nm,0.9s
CN2 Changchun 19.78 272 eP P 11 55 09.3 -3.3
CN2 eS S 11 58 42.0 -11
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
YAK Yakutsk 20.52 327 eP P 11 55 20.0 -0.5
YAK e 11 55 38.8
YAK ePPP PPP 11 55 47.7
YAK eSS Sn 11 59 34.8 +22
YAK eSSS SSS 11 59 46.2
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=Z,8.0nm,0.6s
YAK MLR MLR
comp=N,141nm,16.0s
YAK MLR MLR
comp=E,90nm,13.0s
YAK MLR MLR
comp=Z,102nm,13.0s
YAK Yakutsk 20.52 327 eP P 11 55 19.9 -0.6
YAK Yakutsk 20.52 327 eP P 11 55 20.0 -0.5
KSRS Korea Array 20.86 253 P P 11 55 25.3 +0.9
KSRS pmax pmax
comp=Z,7.0nm,0.7s
KSRS MLR MLR
comp=Z,15nm,28.6s
KSRS Korea Array 20.86 253 P P 11 55 25.3 +0.9
comp=Z,6.5nm,0.7s,baz=59,slow=9.7,SNR=17
KSRS LR LR 12 02 14.2
comp=Z,72nm,20.8s,baz=60,slow=33
KSAR Wonju Array Be 20.90 253 P P 11 55 25.3 +0.6
KSAR Wonju Array Be 20.90 253 P P 11 55 25.3 +0.6
KSAR Wonju Array Be 20.90 253 eP P 11 55 25.3 +0.6
BILL Bilibino 22.52 13 iP P 11 55 40.5 -1.4
BILL pmax pmax
comp=Z,6.0nm,0.8s
BILL MLR MLR
comp=Z,112nm,15.0s
BILL Bilibino 22.52 13 eP P 11 55 41.5 -0.4
BILL Bilibino 22.52 13 eP P 11 55 40.5 -1.4
BJI Beijing 27.60 270 P P 11 56 29.3 +0.1
BJI S S 12 01 07.6 +0.2
BJI pmax pmax
comp=Z,8.0nm,1.1s
BJI pmax pmax
comp=Z,130nm,6.2s
BJI LR LR
comp=Z,180nm,16.0s
BJI LR LR
comp=Z,240nm,12.1s
BJI LR LR
comp=Z,85nm,19.2s
TIXI Tiksi 27.66 344 eP P 11 56 30.5 +1.1
TIXI pmax pmax
comp=Z,1.0nm,1.2s
TIXI MLR MLR
comp=Z,160nm,20.0s
H11N2 WAKE ISLAND Hy 29.02 153 T T 12 28 31.3
baz=342,slow=76,SNR=226
H11N1 WAKE ISLAND Hy 29.03 153 T T 12 28 33.7
baz=342,slow=76,SNR=147
H11N3 WAKE ISLAND Hy 29.04 153 T T 12 28 24.4
baz=342,slow=76,SNR=93
NJ2 Nanjing 30.07 253 eP P 11 56 53.6 +2.4
NJ2 pmax pmax
comp=Z,20nm,1.1s
H11S1 WAKE ISLAND Hy 30.11 154 T T 12 29 50.0
baz=343,slow=77,SNR=247
H11S3 WAKE ISLAND Hy 30.12 154 T T 12 29 41.7
baz=343,slow=77,SNR=206
H11S2 WAKE ISLAND Hy 30.13 154 T T 12 29 45.2
baz=343,slow=77,SNR=243
HHC Hu-ho-hao-te 30.43 274 eP P 11 56 56.3 +1.9
HHC PP PnPn 11 57 56.0 +1.8
HHC S S 12 01 51.3 -0.8
HHC sS sS 12 02 11.4 -1.1
HHC SS ScP 12 03 31.6 +0.1
HHC ScS ScS 12 07 28.3 +0.7
HHC pmax pmax
comp=Z,24nm,1.1s
HHC pmax pmax
comp=Z,63nm,5.9s
HHC LR LR
comp=Z,260nm,15.1s

HHC LR LR
comp=Z,300nm,16.3s
HHC LR LR
comp=Z,350nm,16.0s
ULN Ulaanbaatar 31.07 290 ceP P 11 57 00.2 +0.1
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 31.07 290 eP P 11 57 00.2 +0.1
SONM Songino Array 31.50 290 P P 11 57 03.1 -0.8
SONM 11 59 55.0
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,15nm,28.6s
SONM Songino Array 31.50 290 P P 11 57 03.1 -0.8
comp=Z,0.8nm,0.6s,baz=73,slow=8.0,SNR=10
SONM PcP PcP 11 59 55.0 -0.8
comp=Z,0.4nm,0.7s,baz=132,slow=3.6,SNR=5.4
SONM LR LR 12 10 49.3
comp=Z,167nm,18.3s,baz=87,slow=38
TLY Talaya 32.36 298 eP P 11 57 10.0 -1.2
TLY e 11 58 23.1
TLY pmax pmax
comp=Z,3.0nm,0.8s
TLY MLR MLR
comp=Z,257nm,16.0s
TLY Talaya 32.36 298 eP P 11 57 10.9 -0.4
comp=Z,3.3nm,1.0s
TLY Talaya 32.36 298 eP P 11 57 10.7 -0.5
ZAK Zakamensk 32.86 295⇑iP P 11 57 14.9 -0.8
ZAK pmax pmax
comp=Z,2.0nm,1.0s
WHN Wuhan 34.01 256 eP P 11 57 25.9 +0.2
XAN Xi'an 35.62 266 P P 11 57 39.8 +0.1
XAN pP pP 11 57 50.3 -1.7
XAN pmax pmax
comp=Z,2.0nm,1.7s
XAN pmax pmax
comp=Z,41nm,4.9s
COLA College 36.19 38 eP P 11 57 44.7 +0.6
COLA pmax pmax
comp=Z,14nm,1.0s
COLA College 36.19 38 eP P 11 57 44.7 +0.6
ILAR Eielson Array 36.60 38 P P 11 57 47.0 -0.7
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 36.60 38 P P 11 57 47.0 -0.7
comp=Z,0.9nm,0.9s,baz=260,slow=7.5,SNR=7.9
LZH Lanzhou 38.02 272 ⇑P P 11 58 01.6 +1.4
LZH pP pP 11 58 11.3 -1.2
LZH sP sP 11 58 20.3 +2.3
LZH pmax pmax
comp=Z,30nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.9s
GTA Gaotai 39.12 279 eP P 11 58 10.8 +1.4
GTA pP pP 11 58 23.3 +1.6
GTA sP sP 11 58 28.0 +0.9
GTA pmax pmax
comp=Z,7.0nm,1.0s
CD2 Chengdu 40.99 266 P P 11 58 25.3 +0.5
CD2 pP pP 11 58 37.4 +0.1
CD2 sP sP 11 58 42.8 +0.1
CD2 PP PnPn 12 00 03.3 -1.1
CD2 S S 12 04 32.8 -1.0
CD2 sS sS 12 04 53.3 -1.3
CD2 SS SS 12 07 30.3 -6.5
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,150nm,4.9s
CD2 LR LR
comp=Z,310nm,6.5s
CD2 LR LR
comp=Z,160nm,8.3s
INK Inuvik 41.72 32 P P 11 58 30.8 +0.5
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 41.72 32 P P 11 58 30.8 +0.5
comp=Z,2.1nm,0.7s,baz=276,slow=8.1,SNR=13
GYA Guiyang 41.80 258 eP P 11 58 33.0 +1.4
GYA pP pP 11 58 46.3 +2.2
GYA sP sP 11 58 52.0 +2.5
GYA PP PnPn 12 00 12.3 -1.7
GYA S S 12 04 46.5 +0.5
GYA sS sS 12 05 08.8 +2.0
GYA SS SS 12 07 46.9 -6.2
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=Z,480nm,18.5s
GYA LR LR
comp=Z,390nm,19.2s
GYA LR LR
comp=Z,440nm,18.9s
ZALV Zalesovo Beam 42.80 306 P P 11 58 38.0 -1.3
ZALV 12 00 30.4
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV MLR MLR
comp=Z,196nm,19.3s
ZALV Zalesovo Beam 42.80 306 P P 11 58 38.0 -1.3
comp=Z,1.6nm,0.5s,baz=57,slow=5.7,SNR=8.2
ZALV PcP PcP 12 00 30.4 +0.6
comp=Z,1.9nm,0.8s,baz=64,slow=3.4,SNR=6.9
ZALV LR LR 12 17 39.5
comp=Z,196nm,19.2s,baz=74,slow=38
QIZ Qiongzhong 44.90 247 P P 11 58 58.4 +1.9
QIZ S S 12 05 32.8 +1.6
WMQ Urumqi 45.10 291 eP P 11 58 58.6 +0.6
WMQ pP pP 11 59 11.0 +0.5
WMQ sP sP 11 59 16.3 +0.4
WMQ PcP PcP 12 00 39.6 +1.7
WMQ PP PP 12 00 44.8 +1.1
WMQ PcS PcS 12 04 32.4 +0.7
WMQ S S 12 05 32.8 -1.0
WMQ sS sS 12 05 53.6 -1.2
WMQ ScS ScS 12 08 49.3 -1.4
WMQ pmax pmax
comp=Z,7.0nm,1.2s
WMQ pmax pmax
comp=Z,270nm,4.2s
WMQ LR LR
comp=Z,81nm,17.8s
WMQ LR LR
comp=Z,84nm,17.6s
WMQ LR LR
comp=Z,98nm,18.2s
MKAR Makanchi Array 47.12 298 P P 11 59 13.3 -0.5
MKAR 12 00 44.9
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,140nm,19.8s
MKAR Makanchi Array 47.12 298 P P 11 59 13.3 -0.5
comp=Z,6.0nm,0.8s,baz=66,slow=7.8,SNR=71
MKAR PcP PcP 12 00 44.9 0.0
comp=Z,1.3nm,0.7s,baz=62,slow=5.9,SNR=4.6
MKAR LR LR 12 20 05.0
comp=Z,140nm,19.8s,baz=36,slow=37
KURK Kurchatov 47.55 304 eP P 11 59 16.0 -1.1
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 47.55 304 eP P 11 59 16.0 -1.1
comp=Z,5.9nm,0.9s
KURK Kurchatov 47.55 304 eP P 11 59 15.9 -1.1
LSA Lhasa 50.40 273 P P 11 59 40.9 +1.2
LSA Lhasa 50.40 273 eP P 11 59 41.5 +1.8
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 50.40 273 eP P 11 59 41.5 +1.8
comp=Z,11nm,0.7s
RES Resolute Bay 50.95 19 P P 11 59 43.0 +0.4
RES pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 50.95 19 P P 11 59 43.0 +0.4
comp=Z,3.2nm,0.8s,baz=310,slow=7.1,SNR=13
RES Resolute Bay 50.95 19 eP P 11 59 43.2 +0.6
YKA Yellowknife Ar 50.98 37 P P 11 59 43.7 +0.7
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 50.98 37 P P 11 59 43.7 +0.7
comp=Z,2.3nm,0.6s,baz=295,slow=7.1,SNR=41
BRVK Borovoye 51.10 310 eP P 11 59 43.3 -0.7
BRVK pmax pmax
comp=Z,8.0nm,0.7s
BRVK Borovoye 51.10 310 eP P 11 59 43.3 -0.7
comp=Z,7.6nm,0.7s
BRVK Borovoye 51.10 310 eP P 11 59 43.1 -0.9
CHTO Chiang Mai 52.20 257 eP P 11 59 54.1 +1.4
CHTO pmax pmax
comp=Z,11nm,0.9s
CHTO Chiang Mai 52.20 257 eP P 11 59 54.1 +1.4
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 52.45 257 P P 11 59 55.9 +1.4
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR Chiang Mai Arr 52.45 257 P P 11 59 55.9 +1.4
comp=Z,4.6nm,0.7s,baz=34,slow=7.7,SNR=30
ULHL Ulahol 53.14 295 P P 12 00 00.0 +0.4
SNR=5.0
ULHL Ulahol 53.14 295 i P P 12 00 00.0 +0.4
USP Ospenovka 53.67 297 P P 12 00 02.0 -1.3
SNR=6.7
USP Ospenovka 53.67 297 i P P 12 00 02.0 -1.3
KZA Kyzart 53.85 296 P P 12 00 06.3 +1.2
SNR=7.6
KZA Kyzart 53.85 296 i P P 12 00 06.3 +1.2
AAK Ala-Archa 54.02 297 P P 12 00 06.3 +0.3
SNR=7.7
AAK Ala-Archa 54.02 297⇓iP P 12 00 06.3 +0.3
AAK pmax pmax
comp=Z,17nm,0.9s
AAK Ala-Archa 54.02 297 eP P 12 00 06.3 +0.3
comp=Z,5.5nm,0.8s
AAK Ala-Archa 54.02 297 eP P 12 00 06.3 +0.3
TAPN Taplejung 54.23 273 eP P 12 00 09.4 +1.5
comp=Z,14nm,0.6s
TAPN Taplejung 54.23 273 eP P 12 00 09.4 +1.5
EKS2 Erkin-Say 54.44 297 P P 12 00 09.7 +0.6
SNR=6.4
EKS2 Erkin-Say 54.44 297 i P P 12 00 09.7 +0.6
EKS2 Erkin-Say 54.44 297 eP P 12 00 09.7 +0.6
comp=Z,8.5nm,1.0s
ODAN Odare 54.76 273 eP P 12 00 13.0 +1.3
comp=Z,12nm,0.5s
ODAN Odare 54.76 273 eP P 12 00 13.0 +1.3
AML Almayashu 54.79 296 P P 12 00 12.8 +0.9
SNR=5.0
AML Almayashu 54.79 296 i P P 12 00 12.7 +0.9
KSH Kashi 54.83 293 eP P 12 00 15.5 +3.6
KSH epP pP 12 00 30.3 +5.6
KSH esP sP 12 00 32.8 +2.8
KSH ePP PP 12 02 18.8 +4.1
KSH PcS PcS 12 05 14.8 +1.2
KSH S S 12 07 50.3 +0.7
KSH SS SS 12 11 34.5 +1.7
KSH pmax pmax
comp=Z,3.0nm,0.6s
KSH pmax pmax
comp=Z,77nm,3.5s
KSH LR LR
comp=Z,43nm,3.4s
KSH LR LR
comp=Z,120nm,5.0s
KSH LR LR
comp=Z,120nm,5.6s
JIRN Jiri 55.08 275 eP P 12 00 15.4 +1.3
comp=Z,30nm,0.5s
JIRN Jiri 55.08 275 eP P 12 00 15.4 +1.3
GUN Gumba 55.14 275 eP P 12 00 15.5 +1.0
comp=Z,13nm,0.4s
ARU Arti 55.21 318c iP P 12 00 13.2 -1.0
ARU 12 02 13.0
ARU S S 12 07 54.4 +0.4
ARU SS SS 12 11 35.0 -2.9
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 55.21 318 eP P 12 00 13.6 -0.7
comp=Z,7.1nm,0.6s
RAMN Ramite 55.25 274 eP P 12 00 15.9 +0.7
comp=Z,32nm,0.6s
RAMN Ramite 55.25 274 eP P 12 00 15.9 +0.7
KKN Kakani 55.62 276 eP P 12 00 19.5 +1.6
comp=Z,30nm,0.6s
KKN Kakani 55.62 276 eP P 12 00 19.5 +1.6
KKN Kakani 55.62 276 eP P 12 00 19.5 +1.6
PKI Pulchoki 55.67 275 eP P 12 00 19.4 +1.0
comp=Z,13nm,0.5s
PKI Pulchoki 55.67 275 eP P 12 00 19.4 +1.0
PKI Pulchoki 55.67 275 eP P 12 00 19.4 +1.0
PKIN Phulchoki 55.68 275 eP P 12 00 19.2 +0.9
comp=Z,14nm,0.6s
DMN Daman 55.86 275 eP P 12 00 20.9 +1.3
comp=Z,23nm,0.5s
DMN Daman 55.86 275 eP P 12 00 20.9 +1.3
GKN Gorkha 55.93 276 eP P 12 00 21.0 +1.0
comp=Z,29nm,0.5s
GKN Gorkha 55.93 276 eP P 12 00 21.0 +1.0
HNR Honiara 56.08 172 LR LR 12 21 04.6
comp=Z,29nm,19.4s,baz=113,slow=33
KKAR Karatay Array 56.18 299 eP P 12 00 21.4 0.0
KKAR Karatay Array 56.18 299 eP P 12 00 21.4 0.0
DANN Dangsing 56.31 277 eP P 12 00 24.1 +1.2
comp=Z,48nm,0.5s
DANN Dangsing 56.31 277 eP P 12 00 24.1 +1.2
EDM Edmonton 56.34 46 eP P 12 00 22.7 +0.3
EDM Edmonton 56.34 46 eP P 12 00 22.6 +0.3
KOLN Koldanda 56.79 277 eP P 12 00 27.4 +1.2
comp=Z,23nm,0.8s
KOLN Koldanda 56.79 277 eP P 12 00 27.4 +1.2
DAG Danmarks Havn 56.81 358 i P P 12 00 25.1 -0.3
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 56.81 358 i P P 12 00 25.1 -0.3
comp=Z,4.0nm,0.8s
APA Apatity 57.53 337 eP P 12 00 21.8 -8.8
PRGR Permogore 57.57 327 eP P 12 00 27.5 -3.4
PRGR pmax pmax
comp=Z,13nm,0.5s
ARCES ARCESS Array B 58.05 341 P P 12 00 34.1 -0.1
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,15nm,28.6s
ARCES ARCESS Array B 58.05 341 P P 12 00 34.0 -0.1
comp=Z,5.0nm,0.9s,baz=30,slow=7.4,SNR=5.7
ARCES LR LR 12 28 55.7
comp=Z,67nm,19.5s,baz=284,slow=40
ABKAR Akbulak array 58.62 310 eP P 12 00 38.1 -0.4
FFC Flin Flon 60.78 40 i P P 12 00 54.3 +1.0
FFC Flin Flon 60.78 40 eP P 12 00 54.3 +1.0
SUMG Summit 60.85 4 i P P 12 00 54.3 +0.4
SUMG pmax pmax
comp=Z,16nm,0.8s
SUMG Summit 60.85 4 i P P 12 00 54.3 +0.4
comp=Z,16nm,0.8s
SUMG Summit 60.85 4 eP P 12 00 54.6 +0.7
comp=Z,448nm,2.9s
JOF Joensuu 61.53 334 eP P 12 00 58.0 -0.2
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 61.53 334 ep P 12 00 58.0 -0.2
comp=Z,1.3nm,0.4s
NVAR Mina Array Bea 62.40 62 P P 12 01 05.0 +0.4
comp=Z,0.8nm,0.9s,baz=298,slow=6.1,SNR=5.7
KAF Kangasniemi 63.64 335 eP P 12 01 11.1 -1.1
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 63.64 335 ep P 12 01 11.1 -1.1
comp=Z,5.0nm,0.7s
FINES FINESS Array B 64.24 335 P P 12 01 15.6 -0.5
FINES pmax pmax
comp=Z,7.0nm,0.5s
FINES MLR MLR
comp=Z,111nm,18.3s
FINES FINESS Array B 64.24 335 P P 12 01 15.6 -0.5
comp=Z,7.1nm,0.5s,baz=41,slow=6.8,SNR=52
FINES LR LR 12 32 38.3
comp=Z,111nm,18.3s,baz=88,slow=39
PDAR Pinedale Array 64.74 54 P P 12 01 19.9 -0.3
comp=Z,1.1nm,0.9s,baz=283,slow=1.5,SNR=7.1
ULM Lac du Bonnet 66.56 41 P P 12 01 31.1 -0.3
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM Lac du Bonnet 66.56 41 P P 12 01 31.1 -0.3
comp=Z,1.6nm,0.7s,baz=250,slow=7.6,SNR=3.5
WRA Warramunga Arr 68.40 199 P P 12 01 41.4 -1.8
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 68.40 199 P P 12 01 41.4 -1.8
comp=Z,1.7nm,0.8s,baz=19,slow=6.8,SNR=8.1
NB2 NORSAR Subarra 68.42 341 P P 12 01 42.9 -0.1
comp=Z,5.2nm,0.7s,baz=28,slow=6.5
NOA NORSAR Array B 68.42 341 P P 12 01 43.1 +0.1
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA MLR MLR
comp=Z,15nm,28.6s
NOA NORSAR Array B 68.42 341 P P 12 01 43.1 +0.1
comp=Z,6.2nm,0.7s,baz=28,slow=6.3,SNR=25
NOA LR LR 12 36 41.6
comp=Z,35nm,18.4s,baz=25,slow=40
KBZ Khabaz 71.06 314 P P 12 02 00.9 +1.5
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 71.06 314 P P 12 02 00.9 +1.5
comp=Z,4.8nm,0.8s,baz=76,slow=19,SNR=6.6
AKASG Malin Array Be 71.75 326 P P 12 02 03.3 -0.2
AKASG pmax pmax
comp=Z,12nm,0.6s
AKASG MLR MLR
comp=Z,15nm,28.6s
AKASG Malin Array Be 71.75 326 P P 12 02 03.2 -0.2
comp=Z,12nm,0.6s,baz=34,slow=6.2,SNR=23
AKASG LR LR 12 35 38.0
comp=Z,53nm,20.0s,baz=0.0,slow=38
KIEV Kiev 71.76 326 eP P 12 02 03.1 -0.4
KIEV pmax pmax
comp=Z,13nm,0.7s
KIEV Kiev 71.76 326 eP P 12 02 03.1 -0.4
comp=Z,14nm,0.7s
KIEV Kiev 71.76 326 eP P 12 02 03.1 -0.4
ASAR Alice Springs 72.09 199 P P 12 02 05.4 -0.4
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 72.09 199 P P 12 02 05.3 -0.4
comp=Z,1.5nm,0.6s,baz=11,slow=5.2,SNR=39
KWP Kalwaria Pacla 75.02 329 ⇓P P 12 02 23.9 +1.1
KWP Kalwaria Pacla 75.02 329⇓iP P 12 02 23.9 +1.1
STHS Stebnicka Huta 75.72 330 eP P 12 02 28.2 +1.4
STHS pmax pmax
comp=Z,3.0nm,0.6s
STHS Stebnicka Huta 75.72 330 eP P 12 02 28.1 +1.3
BURAR Bucovina Array 75.79 327 ⇓P P 12 02 28.1 +0.7
BURAR Bucovina Array 75.79 327⇓iP P 12 02 28.1 +0.7
TESR Tescani 76.15 325⇑iP P 12 02 29.4 +0.1
DPC Dobruska-Polom 76.52 333 eP P 12 02 32.3 +0.9
DPC Dobruska-Polom 76.52 333 eP P 12 02 33.4 +2.0
DPC Dobruska-Polom 76.52 333 eP P 12 02 32.3 +0.9
MORC Moravsky Berou 76.64 332 eP P 12 02 32.4 +0.3
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 76.64 332⇓iP P 12 02 33.0 +0.9
MORC Moravsky Berou 76.64 332 eP P 12 02 32.4 +0.3
comp=Z,5.6nm,0.8s
CFR Carcaliu 76.64 324 ⇑P P 12 02 33.0 +0.9
CFR Carcaliu 76.64 324⇑iP P 12 02 33.0 +0.9
CLL Collm 76.66 336 i P P 12 02 32.2 +0.1
CLL i 12 02 39.0
CLL pmax pmax
comp=Z,12nm,0.7s
CLL Collm 76.66 336 eP P 12 02 32.2 +0.1
comp=Z,12nm,0.7s
CLL Collm 76.66 336 i P P 12 02 32.2 +0.1
comp=Z,12nm,0.7s
CLL Collm 76.66 336 eP P 12 02 32.2 +0.1
MLR Muntele Rosu 77.27 325 ⇓P P 12 02 37.2 +1.4
MLR Muntele Rosu 77.27 325⇓iP P 12 02 37.2 +1.4
VYHS Vyhne 77.33 331 eP P 12 02 35.7 -0.2
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 77.33 331 eP P 12 02 35.7 -0.2
ISR Istrita 77.34 324 ⇓P P 12 02 36.9 +0.8
ISR Istrita 77.34 324⇓iP P 12 02 36.9 +0.8
VRAC Vranov 77.35 333 ⇓P P 12 02 36.7 +0.7
VRAC Vranov 77.35 333⇓iP P 12 02 36.7 +0.7
PRU Pruhonice 77.39 334 eP P 12 02 36.9 +0.7
PRU Pruhonice 77.39 334 eP P 12 02 36.9 +0.7
PRU Pruhonice 77.39 334 eP P 12 02 36.9 +0.7
DRGR 77.42 328 ⇑P P 12 02 37.6 +1.1
DRGR 77.42 328⇑iP P 12 02 37.6 +1.1
TXAR Lajitas Array 77.47 61 P P 12 02 36.8 -0.3
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 77.47 61 P P 12 02 36.8 -0.3
comp=Z,1.3nm,0.6s,baz=301,slow=4.1,SNR=11
VOIR 77.66 326 ⇑P P 12 02 39.1 +1.2
VOIR 77.66 326⇑iP P 12 02 39.1 +1.2
KHC Kasperske Hory 78.44 334 eP P 12 02 42.8 +0.7
KHC pmax pmax
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 78.44 334 eP P 12 02 42.8 +0.7
KHC ePCP PcP 12 02 49.4 -1.8
KHC epP pP 12 02 54.8 -0.8
KHC Kasperske Hory 78.44 334 eP P 12 02 42.8 +0.7
comp=Z,6.4nm,0.8s
KHC Kasperske Hory 78.44 334 eP P 12 02 42.8 +0.7
GZR Gura Zlata 78.57 327 ⇓P P 12 02 43.5 +0.6
GZR Gura Zlata 78.57 327⇓iP P 12 02 43.5 +0.6
BRTR Keskin Array B 78.59 317 P P 12 02 43.9 +0.6
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 78.59 317 P P 12 02 43.9 +0.6
comp=Z,2.2nm,0.9s,baz=36,slow=2.3,SNR=7.1
GRF Grafenberg Arr 78.62 336 eP P 12 02 44.2 +1.2
comp=Z,16nm,1.1s
GERES GERESS Array B 78.66 334 P P 12 02 43.2 -0.2
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 78.66 334 P P 12 02 43.2 -0.2
comp=Z,2.0nm,0.7s,baz=34,slow=5.0,SNR=15
CONA Conrad Observa 78.80 332⇑iP P 12 02 45.3 +1.1
comp=Z,4.8nm,0.6s
BZS Buzias 78.82 328 ⇑P P 12 02 44.9 +0.7
BZS Buzias 78.82 328⇑iP P 12 02 44.9 +0.7
PKSM Moragy 79.37 330 ⇑P P 12 02 48.3 +1.1
PKSM Moragy 79.37 330⇑iP P 12 02 48.3 +1.1
BAIF Baives 80.08 340 eP P 12 02 51.4 +0.4
comp=Z,12nm,0.9s
BAIF Baives 80.08 340 eP P 12 02 51.4 +0.4
BAIF pmax pmax
comp=Z,12nm,0.9s
BAIF Baives 80.08 340 eP P 12 02 51.4 +0.4
comp=Z,12nm,0.9s
SOKA Soboth 80.17 332⇑iP P 12 02 52.6 +1.0
comp=Z,5.8nm,0.7s
KBA Koelnbreinsper 80.34 334⇑iP P 12 02 54.1 +1.4
comp=Z,16nm,0.9s
WATA Walderalm 80.64 335⇑iP P 12 02 55.2 +0.9
comp=Z,4.5nm,0.5s
BFO Black Forest 80.65 337 eP P 12 02 54.7 +0.6
BFO pmax pmax
comp=Z,4.0nm,0.9s
BFO Black Forest 80.65 337 eP P 12 02 54.7 +0.6
comp=Z,4.2nm,0.9s
WTTA Wattenberg 80.69 335⇑iP P 12 02 56.1 +1.5
comp=Z,8.6nm,0.6s
VTS Vitosha 80.77 325 ⇑P P 12 02 56.0 +1.0
VTS Vitosha 80.77 325⇑iP P 12 02 56.0 +1.0
CDF Champ du Feu 80.85 338 eP P 12 02 55.6 +0.3
comp=Z,9.3nm,0.8s
CDF Champ du Feu 80.85 338 eP P 12 02 55.6 +0.3
CDF pmax pmax
comp=Z,9.0nm,0.8s
CDF Champ du Feu 80.85 338 eP P 12 02 55.6 +0.3
comp=Z,9.3nm,0.8s
PAGF Fort de Pagny 81.11 339 eP P 12 02 57.5 +0.9
comp=Z,5.9nm,0.7s
PAGF Fort de Pagny 81.11 339 eP P 12 02 57.5 +0.9
comp=Z,5.9nm,0.7s
MEZF Maizieres J'vi 81.33 339 eP P 12 02 58.5 +0.8
MEZF Maizieres J'vi 81.33 339 eP P 12 02 58.5 +0.8
MMB Musomiste 81.41 324 ⇑P P 12 02 59.5 +1.2
MMB Musomiste 81.41 324⇑iP P 12 02 59.5 +1.2
HAU Haudompre 81.47 338 eP P 12 02 58.8 +0.3
HAU Haudompre 81.47 338 eP P 12 02 58.8 +0.3
HAU Haudompre 81.47 338 eP P 12 02 58.8 +0.3
HINF Hinteralfeld 81.51 338 eP P 12 02 59.0 +0.3
HINF Hinteralfeld 81.51 338 eP P 12 02 59.0 +0.3

HINF Hinterfeld 81.51 338 eP P 12 02 59.0 +0.3
SFTF Sexfontaines 81.61 339 eP P 12 02 59.7 +0.5
comp=Z,9.3nm,0.5s
SFTF Sexfontaines 81.61 339 eP P 12 02 59.7 +0.5
comp=Z,9.3nm,0.5s
TUE Stuetta 82.07 336 eP P 12 03 02.7 +0.8
comp=Z,76nm,2.6s
FLN La Foliniere 82.32 343 eP P 12 03 03.1 +0.2
FLN La Foliniere 82.32 343 eP P 12 03 03.1 +0.2
FLN La Foliniere 82.32 343 eP P 12 03 03.1 +0.2
GRR Gorron 82.76 343 eP P 12 03 05.6 +0.4
comp=Z,19nm,0.8s
GRR Gorron 82.76 343 eP P 12 03 05.6 +0.4
GRR pmax pmax
comp=Z,19nm,0.8s
GRR Gorron 82.76 343 eP P 12 03 05.6 +0.4
comp=Z,19nm,0.8s
LOR Lormes 82.77 340 eP P 12 03 05.7 +0.4
comp=Z,4.6nm,0.5s
LOR Lormes 82.77 340 eP P 12 03 05.7 +0.4
LOR pmax pmax
comp=Z,5.0nm,0.5s
LOR Lormes 82.77 340 eP P 12 03 05.7 +0.4
comp=Z,4.6nm,0.5s
CABF La Chapelle 82.83 338 eP P 12 03 06.3 +0.6
CABF La Chapelle 82.83 338 eP P 12 03 06.3 +0.6
CABF La Chapelle 82.83 338 eP P 12 03 06.3 +0.6
SSF Saint Saulge 83.05 340 eP P 12 03 07.2 +0.5
SSF Saint Saulge 83.05 340 eP P 12 03 07.2 +0.5
SSF Saint Saulge 83.05 340 eP P 12 03 07.2 +0.5
SGMF Saint Gilles 83.22 344 eP P 12 03 08.1 +0.5
SGMF Saint Gilles 83.22 344 eP P 12 03 08.1 +0.5
SGMF Saint Gilles 83.22 344 eP P 12 03 08.1 +0.5
ROSF Rostrenen 83.27 344 eP P 12 03 08.5 +0.7
ROSF Rostrenen 83.27 344 eP P 12 03 08.5 +0.7
ROSF Rostrenen 83.27 344 eP P 12 03 08.5 +0.7
AVF Avril sur Loir 83.34 340 eP P 12 03 08.7 +0.5
comp=Z,22nm,1.0s
AVF Avril sur Loir 83.34 340 eP P 12 03 08.7 +0.5
AVF pmax pmax
comp=Z,22nm,1.0s
AVF Avril sur Loir 83.34 340 eP P 12 03 08.7 +0.5
comp=Z,22nm,1.0s
SMF Signal de Mont 83.36 339 eP P 12 03 09.0 +0.7
comp=Z,24nm,1.0s
SMF Signal de Mont 83.36 339 eP P 12 03 09.0 +0.7
SMF pmax pmax
comp=Z,24nm,1.0s
SMF Signal de Mont 83.36 339 eP P 12 03 09.0 +0.7
comp=Z,24nm,1.0s
LPL La Plagne 83.67 337 eP P 12 03 11.2 +1.0
LPL La Plagne 83.67 337 eP P 12 03 11.2 +1.0
LPL La Plagne 83.67 337 eP P 12 03 11.2 +1.0
BGF Bois d'Agland 83.68 340 eP P 12 03 10.5 +0.5
comp=Z,9.8nm,0.7s
BGF Bois d'Agland 83.68 340 eP P 12 03 10.5 +0.5
BGF pmax pmax
comp=Z,10.0nm,0.7s
BGF Bois d'Agland 83.68 340 eP P 12 03 10.5 +0.5
comp=Z,9.8nm,0.7s
LPG La Plagne 83.68 337 eP P 12 03 10.9 +0.5
comp=Z,7.3nm,0.7s
LPG La Plagne 83.68 337 eP P 12 03 10.9 +0.5
LPG pmax pmax
comp=Z,7.0nm,0.7s
LPG La Plagne 83.68 337 eP P 12 03 10.9 +0.5
comp=Z,7.3nm,0.7s
TCF Toulx Ste Croi 84.08 340 eP P 12 03 12.8 +0.7
comp=Z,4.1nm,0.6s
TCF Toulx Ste Croi 84.08 340 eP P 12 03 12.8 +0.7
TCF pmax pmax
comp=Z,4.0nm,0.6s
TCF Toulx Ste Croi 84.08 340 eP P 12 03 12.8 +0.7
comp=Z,4.1nm,0.6s
MFF Saint Martin d 84.31 342 eP P 12 03 13.8 +0.6
MFF Saint Martin d 84.31 342 eP P 12 03 13.8 +0.6
MFF Saint Martin d 84.31 342 eP P 12 03 13.8 +0.6
MBDF Montbardon 84.39 337 eP P 12 03 14.3 +0.5
comp=Z,3.7nm,0.6s
MBDF Montbardon 84.39 337 eP P 12 03 14.3 +0.5
MBDF pmax pmax
comp=Z,4.0nm,0.6s
MBDF Montbardon 84.39 337 eP P 12 03 14.3 +0.5
comp=Z,3.7nm,0.6s
ORIF Oris-en-Rattie 84.45 337 eP P 12 03 15.2 +1.2
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 84.45 337 eP P 12 03 15.2 +1.2
ORIF pmax pmax
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 84.45 337 eP P 12 03 15.2 +1.2
comp=Z,12nm,0.8s
RAYN Ar Rayn 84.61 299 eP P 12 03 16.2 +1.1
comp=Z,4.9nm,1.1s
VIVF Saint-Julien-l 84.82 338 eP P 12 03 16.9 +1.0
comp=Z,5.4nm,0.8s
VIVF Saint-Julien-l 84.82 338 eP P 12 03 16.9 +1.0
VIVF pmax pmax
comp=Z,5.0nm,0.8s
VIVF Saint-Julien-l 84.82 338 eP P 12 03 16.9 +1.0
comp=Z,5.4nm,0.8s
SBF Sospel 85.00 336 eP P 12 03 17.5 +0.7
comp=Z,20nm,0.8s
SBF Sospel 85.00 336 eP P 12 03 17.5 +0.7
SBF pmax pmax
comp=Z,20nm,0.8s
SBF Sospel 85.00 336 eP P 12 03 17.5 +0.7
comp=Z,20nm,0.8s
SMRF Simiane la Rot 85.41 337 eP P 12 03 19.9 +1.1
SMRF Simiane la Rot 85.41 337 eP P 12 03 19.9 +1.1
LMR La Mourre 85.75 336 eP P 12 03 21.2 +0.8
LMR La Mourre 85.75 336 eP P 12 03 21.2 +0.8
LMR La Mourre 85.75 336 eP P 12 03 21.2 +0.8
TORD Torodi Ar. Bea 115.30 329 PKP PKPdf 12 09 22.5 -0.7
comp=Z,0.7nm,0.8s,baz=308,slow=0.4,SNR=4.4
H03N2 Juan Fernandez 138.63 91 T T 14 45 16.4
baz=305,slow=75,SNR=5.1
H03N1 Juan Fernandez 138.64 91 T T 14 45 16.4
baz=305,slow=75,SNR=4.3
H03N3 Juan Fernandez 138.64 91 T T 14 45 16.4
baz=305,slow=75,SNR=5.8
PLCA Paso Flores 148.07 96 PKIKP PKPbc 12 10 25.3 -1.2
PLCA pmax pmax
comp=Z,1.0nm,0.6s
PLCA Paso Flores 148.07 96 PKPbc PKPbc 12 10 25.3 -1.2
comp=Z,1.3nm,0.6s,baz=237,slow=5.0,SNR=5.1
CPUP Villa Florida 148.44 61 PKIKP PKPbc 12 10 27.1 -0.7
CPUP pmax pmax
comp=Z,2.0nm,0.8s
CPUP Villa Florida 148.44 61 PKPbc PKPbc 12 10 27.1 -0.7
comp=Z,2.4nm,0.8s,baz=205,slow=6.5,SNR=3.1

KRSC 15 11:52:57.8±0.6, 54.°60N×161.°34E, h80km±8km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.23	102	eP	Pn	11 53 11.0	+1.4
MKZ				eS	Sn	11 53 20.1	+1.7
KZV	Kizimen	0.79	311	eP	Pn	11 53 15.3	+0.7
KZV				eS	Sn	11 53 27.1	0.0
TUMR	Tumrok	0.97	315	eP	Pn	11 53 17.6	+1.1
TUMR				eS	Sn	11 53 31.5	+0.9
KII	Karymskiy	1.24	244	i P	Pn	11 53 21.3	+1.4
KII				eS	Sn	11 53 37.6	+1.1
KMNR	Kamenistaya	1.31	332	eP	Pn	11 53 22.8	+2.0
KMNR				eS	Sn	11 53 40.3	+2.1
KOZ	Kozyrevsk	1.68	331	eP	Pn	11 53 27.4	+2.0
KOZ				eS	Sn	11 53 48.4	+2.0
SPN	Mys Shipunski	1.70	208	eP	Pn	11 53 26.8	+1.2
SPN				eS	Sn	11 53 47.2	+0.5
KLY	Klyuchi	1.76	347	eP	Pn	11 53 28.0	+1.6
KLY				eS	Sn	11 53 49.6	+1.5
KBTR	Krutoberegovo	1.82	27	eP	Pn	11 53 29.5	+2.3
KBTR				eS	Sn	11 53 52.0	+2.5
KBG	Krutoberegovo	1.83	25	eP	Pn	11 53 29.7	+2.4
KBG				eS	Sn	11 53 52.3	+2.5
NLC	Nalytchevo	1.86	220	eP	Pn	11 53 29.5	+1.8
NLC				eS	Sn	11 53 52.3	+1.9
SRDR	Sredinnyy	1.95	332	eP	Pn	11 53 30.3	+1.3
SRDR				eS	Sn	11 53 53.4	+0.6
SDLR	Sedlovina	1.97	228	eP	Pn	11 53 31.3	+2.0
SDLR				eS	Sn	11 53 55.3	+1.9
BDR	Baidarnaya	1.97	358	i P	Pn	11 53 31.8	+2.5
BDR				eS	Sn	11 53 56.3	+2.9
SMKR	Semkarok	1.98	2	i P	Pn	11 53 31.8	+2.3
SMKR				eS	Sn	11 53 56.2	+2.5
ESO	Esso	2.01	312	eP	Pn	11 53 31.0	+1.3
ESO				eS	Sn	11 53 54.6	+0.5
KRER	Koryakskii	2.01	231	eP	Pn	11 53 32.3	+2.3
KRER				eS	Sn	11 53 56.5	+1.9
SMAR	Somma	2.01	229	eP	Pn	11 53 32.1	+2.0
SMAR				eS	Sn	11 53 56.7	+2.0
KRX	Arik	2.02	233	eP	Pn	11 53 31.6	+1.5
AVH	Avacha	2.04	230	eP	Pn	11 53 32.7	+2.4
AVH				eS	Sn	11 53 57.8	+2.8
UGLR	Uglovaya	2.04	228	eP	Pn	11 53 32.3	+2.0
UGLR				eS	Sn	11 53 57.1	+2.0
SRKR	Sorokina	2.06	357	i P	Pn	11 53 32.7	+2.2
SRKR				i S	Sn	11 53 57.7	+2.3
KOK	Koryaka	2.07	232	eP	Pn	11 53 32.9	+2.2
GNL	Ganaly	2.19	247	eP	Pn	11 53 34.9	+2.5
PET	Petropavlovsk	2.24	226	eP	Pn	11 53 34.9	+2.0
PET				eS	Sn	11 54 01.5	+1.8
BKI	Bering	2.74	75	eS	Sn	11 54 11.2	-0.5

IDC 15 12:06:47.6±7.1, 21.°32S×68.°06W, h140km±49km, mb3.7/3, mb1 3.7/5, mb1mx3.4/28, mbtmp4.0/5, Error ellipse: s-maj=65.3km s-min=25.8km az=22.0
ISC 15 12:06:45.1±1.3, 21.°5S±0.°1×68.°1W±0.°1, h121km, n7, σ1.°32/10, mb4.0/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.19	360	P	Pn	12 08 02.5	+1.3
	1.6nm,0.3s,baz=189,slow=0.4,SNR=32						
LPAZ				S	Sn	12 08 58.9	-1.4
	0.2nm,0.3s,baz=240,slow=3.0,SNR=3.8						
SIV	San Ignacio	8.63	52	P	Pn	12 08 47.1	-0.1
	1.4nm,0.3s,baz=252,slow=12,SNR=18						
SIV				S	Sn	12 10 23.3	+0.3
	0.2nm,0.3s,baz=289,slow=22,SNR=3.6						
DBIC	Dimbokro	68.03	73	P	P	12 17 30.8	-1.1
	3.2nm,0.7s,baz=236,slow=4.2,SNR=3.4						
TORD	Torodi Ar. Bea	76.66	70	P	P	12 18 23.4	+0.2
	1.5nm,0.6s,baz=257,slow=5.5,SNR=20						
TORD				pP	pP	12 18 55.9	+2.3
	1.2nm,0.8s,baz=250,slow=5.9,SNR=4.0						
YKA	Yellowknife Ar	91.44	340	P	P	12 19 36.8	-0.3
	0.2nm,0.5s,baz=135,slow=4.8,SNR=11						
MKAR	Makanchi Array	145.20	36	PKPbc	PKPab	12 26 08.8	+0.4
	0.3nm,0.6s,baz=320,slow=3.3,SNR=6.4						
SONM	Songino Array	153.36	8	PKPbc	PKPbc	12 26 27.8	-1.3
	0.1nm,0.4s,baz=117,slow=1.9,SNR=2.9						

ISCJB 15 12:07:19.0±0.4, 52.°1N±0.°1×178.°47E±0.°05, h115km±4km, mb3.7/15, Error ellipse: s-maj=19.1km s-min=4.4km az=7.8
IDC 15 12:07:19.7±2.0, 52.°01N×178.°43E, h109km±16km, mb3.5/15, mb1 3.7/17, mb1mx3.5/43, mbtmp3.8/17, Error ellipse: s-maj=18.9km s-min=11.8km az=169.0
NEIC 15 12:07:20.8, 51.°68N×178.°38E, h87km, MG3.5(AEIC), After AEIC.
ISC 15 12:07:19.7±0.9, 52.°0N±0.°1×178.°44E±0.°04, h110km±8km, n42, σ0.°94/51, mb3.7/15, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	Gareloi East	1.75	96	P	Pn	12 07 49.9	+0.4
GAEA				S	Sn	12 08 11.1	-1.1
TANO	Tanaga North	2.13	91	P	Pn	12 07 54.8	+0.6
TANO				S	Sn	12 08 20.7	0.0
TASE	Tanaga Southea	2.19	93	P	Pn	12 07 55.4	+0.4
TASE				S	Sn	12 08 21.5	-0.6
TAFP	Tanaga Falls P	2.21	91	P	Pn	12 07 55.4	+0.1
TAFP				S	Sn	12 08 22.3	-0.4
TAFL	Tanaga Flats	2.28	95	P	Pn	12 07 56.4	+0.2
TAFL				S	Sn	12 08 24.2	+0.1
KIKV	Kanaga Island	2.72	91	P	Pn	12 08 02.1	+0.2
KIKV				S	Sn	12 08 34.8	+0.4
KINC	Kanaga Island	2.74	90	P	Pn	12 08 02.6	+0.5
KINC				S	Sn	12 08 35.3	+0.4
SMY	Shemya	2.76	287	P	Pn	12 08 03.1	+0.7
SMY				S	Sn	12 08 36.6	+1.3
KIRH	Kanaga Island	2.76	90	P	Pn	12 08 02.7	+0.2
ADK	Adak	3.02	90	P	Pn	12 08 05.6	-0.2
ADK				S	Sn	12 08 41.3	-0.1
ADAG	Mount Adagdak	3.06	88	P	Pn	12 08 06.9	+0.5
ETKA	Kagalaska Isla	3.19	90	P	Pn	12 08 08.1	0.0
ETKA				S	Sn	12 08 45.7	+0.2
GSCK	Great Sitkin C	3.33	88	P	Pn	12 08 10.0	0.0
GSTD	Great Sitkin T	3.34	87	P	Pn	12 08 10.1	-0.1
GSTD				S	Sn	12 08 48.5	-0.8
FX1	Attu Island--F	3.35	287	P	Pn	12 08 10.2	0.0
	19nm,0.3s,baz=162,slow=3.0,SNR=260						
FX1				S	Sn	12 08 49.0	-0.3
	68nm,0.3s,baz=280,slow=22,SNR=20						
GSMY	Great Sitkin M	3.40	87	P	Pn	12 08 10.9	0.0
KOKL	Mount Kliuchef	4.54	83	P	Pn	12 08 27.4	+1.2
KOFP	Korovin Flat P	4.61	84	P	Pn	12 08 28.8	+1.7
PETK	Petropavlovsk-	12.67	283	P	Pn	12 10 17.2	+1.5
	0.4nm,0.3s,baz=94,slow=19,SNR=15						
PETK				S	Sn	12 12 31.0	-4.0
	0.2nm,0.3s,baz=95,slow=16,SNR=3.4						
ILAR	Eielson Array	21.87	41	P	P	12 12 02.7	-0.5
	0.6nm,0.6s,baz=252,slow=9.7,SNR=7.4						
H11N2	WAKE ISLAND Hy	33.44	200	T	T	12 49 18.4	
	baz=13,slow=76,SNR=14						
H11N3	WAKE ISLAND Hy	33.45	200	T	T	12 49 15.8	
	baz=13,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	33.46	200	T	T	12 49 18.4	
	baz=13,slow=76,SNR=13						
H11S1	WAKE ISLAND Hy	34.67	200	T	T	12 50 56.4	
	baz=7.1						
H11S2	WAKE ISLAND Hy	34.69	200	T	T	12 50 51.0	
	baz=7.1						
H11S3	WAKE ISLAND Hy	34.69	200	T	T	12 50 47.6	
	baz=7.1						
YKA	Yellowknife Ar	36.05	47	P	P	12 14 10.9	+0.9
	0.3nm,0.4s,baz=282,slow=9.3,SNR=17						
YKA				PcP	PcP	12 16 31.1	-2.5
	0.1nm,0.4s,baz=289,slow=3.8,SNR=3.4						
SONM	Songino Array	44.83	295	P	P	12 15 23.8	+1.2
	0.6nm,0.5s,baz=65,slow=7.8,SNR=11						
SONM				PcP	PcP	12 17 02.6	+0.1
	0.3nm,0.5s,baz=60,slow=2.8,SNR=3.6						
NVAR	Mina Array Bea	45.17	81	P	P	12 15 26.3	+0.8
	0.9nm,0.5s,baz=294,slow=7.5,SNR=8.9						
PDAR	Pinedale Array	47.74	71	P	P	12 15 44.8	-0.8
	0.5nm,0.7s,baz=343,slow=3.1,SNR=7.4						
SPITS	Spitsbergen Ar	49.63	355	P	P	12 15 59.6	+0.4
	1.4nm,0.4s,baz=25,slow=6.5,SNR=16						
ZALV	Zalesovo Beam	52.35	312	P	P	12 16 19.9	+0.1
	1.6nm,0.7s,baz=39,slow=9.6,SNR=7.6						
MKAR	Makanchi Array	58.30	307	P	P	12 17 02.7	+0.1
	0.6nm,0.5s,baz=51,slow=5.8,SNR=16						
TXAR	Lajitas Array	60.24	80	P	P	12 17 16.6	+0.2
	0.4nm,0.6s,baz=302,slow=4.7,SNR=5.4						
FINES	FINESS Array B	64.78	346	P	P	12 17 45.0	-0.8
	4.1nm,1.1s,baz=0.0,slow=16,SNR=3.1						
NOA	NORSAR Array B	66.85	353	P	P	12 17 58.6	-0.7
	0.4nm,0.6s,baz=8.1,slow=6.1,SNR=2.3						
AKASG	Malin Array Be	74.41	340	P	P	12 18 45.2	0.0
	0.2nm,0.3s,baz=19,slow=6.2,SNR=3.5						
WRA	Warramunga Arr	81.30	221	P	P	12 19 23.4	-0.3
	1.0nm,0.7s,baz=31,slow=6.3,SNR=14						
ASAR	Alice Springs	84.81	220	P	P	12 19 41.9	+0.2
	0.4nm,0.6s,baz=24,slow=5.2,SNR=8.3						
STKA	Stephens Creek	89.55	211	P	P	12 20 04.5	+0.3
	2.2nm,1.1s,baz=350,slow=6.5,SNR=5.2						
TORD	Torodi Ar. Bea	115.07	357	PKP	PKPdf	12 25 47.0	-1.0
	0.8nm,1.1s,baz=331,slow=1.9,SNR=4.5						
BOSA	Boshof	149.27	309	PKPbc	PKPbc	12 26 56.0	+0.6
	3.0nm,1.0s,baz=348,slow=1.7,SNR=6.5						

ISCJB 15 12:07:55.0±0.9, 66.°3N±0.°2×174.°7W±0.°2, h10km, mb3.8/10, Error ellipse: s-maj=24.3km s-min=11.1km az=171.8
IDC 15 12:07:55.4±1.4, 66.°36N×174.°82W, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.6/37, mbtmp3.6/10, ML2.9/2, Error ellipse: s-maj=37.2km s-min=21.3km az=162.0
ISC 15 12:07:57.0±1.0, 66.°4N±0.°2×174.°7W±0.°1, h10km, n14, σ0.°58/13, mb3.9/10, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	11.60	85	Pn	Pn	12 10 42.5	+0.1
	0.2nm,0.3s,baz=288,slow=14,SNR=25						
SEY	Seymchan	14.38	272	Pn	Pn	12 11 20.4	+0.1
	0.0nm,0.3s,baz=92,slow=7.9,SNR=3.9						
SEY				Lg	Lg	12 15 33.5	
	0.1nm,0.3s,baz=92,slow=6.1,SNR=3.7						
INK	Inuvik	15.79	64	Pn	Pn	12 11 37.8	-1.3
	0.0nm,0.3s,baz=280,slow=4.4,SNR=4.8						
YKA	Yellowknife Ar	25.35	70	P	P	12 13 23.5	-0.1
	0.3nm,0.8s,baz=308,slow=8.4,SNR=5.9						
RES	Resolute Bay	25.71	37	P	P	12 13 27.4	+0.7
	1.2nm,0.9s,baz=268,slow=7.9,SNR=3.6						
DAG	Danmarks Havn	36.34	9	i P	P	12 15 00.8	+0.5
	1.9nm,1.0s						
SUMG	Summit	38.31	20	i P	P	12 15 21.9	+4.4
	4.6nm,1.0s						
FINES	FINESS Array B	51.59	347	P	P	12 17 02.3	-0.3
	0.9nm,0.8s,baz=15,slow=12,SNR=3.5						
NB2	NORSAR Subarra	52.84	356	P	P	12 17 12.7	+0.7
	comp=Z,3.7nm,1.1s,baz=0.9,slow=6.9						
NOA	NORSAR Array B	52.84	356	P	P	12 17 11.9	-0.1
	comp=Z,1.1nm,0.8s,baz=1.9,slow=7.2,SNR=4.0						
AKASG	Malin Array Be	61.85	343	P	P	12 18 15.1	-0.5
	comp=Z,1.0nm,0.5s,baz=15,slow=6.6,SNR=7.1						
CMAR	Chiang Mai Arr	71.79	274	P	P	12 19 19.1	-0.3
	comp=Z,0.4nm,0.4s,baz=0.4,slow=6.7,SNR=4.6						
BRTR	Keskin Array B	72.02	337	P	P	12 19 20.8	+0.1
	comp=Z,0.9nm,0.8s,baz=48,slow=1.8,SNR=3.6						
WRA	Warramunga Arr	94.07	227	P	P	12 21 15.1	0.0
	comp=Z,0.2nm,0.7s,baz=33,slow=6.3,SNR=3.4						

IDC 15 12:30:54.4±2.1, 1.°86N×126.°14E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/26, mbtmp3.1/3, Error ellipse: s-maj=188.6km s-min=26.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.11	160	P	P	12 36 00.7	-1.6
	0.3nm,0.6s,baz=339,slow=11,SNR=5.3						
ASAR	Alice Springs	26.47	164	P	P	12 36 35.0	+1.5
	0.2nm,0.5s,baz=337,slow=6.3,SNR=4.5						
MKAR	Makanchi Array	58.76	326	P	P	12 40 54.1	-0.2
	0.1nm,0.4s,baz=116,slow=7.1,SNR=6.3						

IDC 15 12:48:25.0±1.7, 3.°12S×148.°08E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/25, mbtmp3.4/4, MS3.6/1, Ms1 3.5/1, ms1mx2.7/15, Error ellipse: s-maj=70.9km s-min=24.6km az=110.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.43	218	P	P	12 53 15.0	+0.1
	0.9nm,0.6s,baz=43,slow=10,SNR=18						
ASAR	Alice Springs	24.59	213	P	P	12 53 47.0	-0.1
	0.8nm,0.7s,baz=36,slow=7.4,SNR=23						
H11S3	WAKE ISLAND Hy	28.24	40	T	T	13 23 54.2	
	baz=222,slow=76,SNR=170						
H11S2	WAKE ISLAND Hy	28.25	40	T	T	13 23 54.9	
	baz=222,slow=76,SNR=166						
H11S1	WAKE ISLAND Hy	28.26	40	T	T	13 23 56.3	
	baz=222,slow=76,SNR=130						
STKA	Stephens Creek	29.25	191	LR	LR	13 05 41.2	
	comp=Z,101nm,19.5s,baz=211,slow=35						
H11N1	WAKE ISLAND Hy	29.27	38	T	T	13 25 11.4	
	baz=223,slow=76,SNR=41						
H11N3	WAKE ISLAND Hy	29.29	38	T	T	13 25 11.7	
	baz=223,slow=76,SNR=46						
H11N2	WAKE ISLAND Hy	29.29	38	T	T	13 25 11.7	
	baz=223,slow=76,SNR=72						
SONM	Songino Array	62.45	330	P	P	12 58 50.4	+0.1
	0.2nm,0.5s,baz=130,slow=6.9,SNR=2.6						
ILAR	Eielson Array	82.43	23	P	P	13 00 48.8	-0.1
	0.4nm,0.9s,baz=249,slow=4.4,SNR=6.8						

MEX 15 12:53:44.4±0.4, 16.°71N×99.°68W, h10km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.23	314	i P	Pg	12 53 49.5	+0.3
ACX				eS	Sg	12 53 53.1	+0.6
CAIG	El Cayaco	0.65	301	i P	Pg	12 53 55.6	-1.5
CAIG				eS	Sg	12 54 04.5	-1.2
MEIG	Mezcala	1.21	3	i P	Pn	12 54 03.5	-4.2
MEIG				eS	Sb	12 54 18.4	-5.1
TLIG	Tlapa	1.37	51	i P	Pn	12 54 06.0	-3.8
TLIG				eS	Sb	12 54 22.2	-5.8
PNIG	Pinotepa	1.53	102	i P	Pn	12 54 08.7	-3.2
PNIG				i S	Sn	12 54 26.6	-5.2
PLIG	Platanillo	1.69	6	i P	Pn	12 54 11.4	-2.7
PLIG				eS	Sn	12 54 31.4	-4.5
ARIG	Puente Sto Nin	1.69	338	i P	Pn	12 54 11.1	-3.0
ARIG				eS	Sn	12 54 31.6	-4.3
ZIIG	Zihuatanejo	1.92	298	i P	Pn	12 54 14.6	-2.6
ZIIG				i S	Sn	12 54 36.9	-4.7
YAIG	Yautepec	2.22	15	i P	Pn	12 54 18.8	-2.8
YAIG				i S	Sn	12 54 45.0	-4.3

IDC 15 13:18:27.6±1.4, 39.°01N×110.°62E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/36, mbtmp3.5/5, ML2.5/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/41, Error ellipse: s-maj=44.1km s-min=20.4km az=65.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	9.34	342	Pn	Pn	13 20 43.0	-0.6
	0.1nm,0.3s,baz=154,slow=14,SNR=18						
SONM				Lg	Lg	13 23 26.3	
	0.1nm,0.3s,baz=157,slow=30,SNR=8.0						
MKAR	Makanchi Array	22.08	300	P	P	13 23 23.9	-0.3
	1.4nm,0.9s,baz=103,slow=11,SNR=11						
CMAR	Chiang Mai Arr	22.86	210	P	P	13 23 32.5	-0.1
	3.1nm,0.8s,baz=13,slow=9.7,SNR=26						
SPITS	Spitsbergen Ar	53.02	345	LR	LR	13 55 13.0	
	comp=Z,32nm,20.4s,baz=90,slow=42						
EIL	Elat	61.54	286	LR	LR	14 00 38.8	
	comp=Z,32nm,18.7s,baz=282,slow=41						
WRA	Warramunga Arr	62.71	155	P	P	13 28 54.5	+0.1
	0.7nm,0.9s,baz=345,slow=6.7,SNR=4.8						
ASAR	Alice Springs	66.05	157	P	P	13 29 16.4	+0.1
	0.2nm,0.5s,baz=344,slow=6.4,SNR=5.4						

IDC 15 13:46:19.2±5.4, 6.°91S×155.°76E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=160.2km s-min=41.7km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.49	236	P	P	13 51 41.5	+1.1
	0.8nm,0.7s,baz=62,slow=9.5,SNR=8.5						
ASAR	Alice Springs	26.80	229	P	P	13 52 00.4	-0.9
	0.3nm,0.8s,baz=54,slow=10,SNR=4.2						
H11S3	WAKE ISLAND Hy	27.45	23	T	T	14 20 32.1	
	baz=202,slow=77,SNR=19						
H11S2	WAKE ISLAND Hy	27.46	23	T	T	14 20 32.9	
	baz=202,slow=77,SNR=13						
H11S1	WAKE ISLAND Hy	27.47	23	T	T	14 20 34.2	
	baz=202,slow=77,SNR=7.7						
MKAR	Makanchi Array	83.84	319	P	P	13 58 50.6	-0.2
	0.7nm,0.9s,baz=93,slow=6.4,SNR=5.9						

IDC 15 14:11:53.1±4.5, 7.°43S×156.°13E, h173km±39km, mb3.6/8, mb1 3.7/9, mb1mx3.5/30, mbtmp4.1/9, MS3.1/1, Ms1 3.1/1, ms1mx2.4/32, Error ellipse: s-maj=27.7km s-min=17.0km az=61.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	9.09	257	P	Pn	14 14 01.1	+0.3
	0.2nm,0.3s,baz=66,slow=16,SNR=3.9						
PMG				LR	LR	14 17 09.0	
	comp=Z,120nm,19.4s,baz=159,slow=35						
WRA	Warramunga Arr	24.52	237	P	P	14 16 56.7	0.0
	4.4nm,0.6s,baz=63,slow=9.5,SNR=65						
WRA				PcP	PcP	14 20 30.9	+0.3
	0.4nm,0.8s,baz=62,slow=2.4,SNR=4.6						
ASAR	Alice Springs	26.75	230	P	P	14 17 16.3	-0.6
	1.5nm,0.7s,baz=57,slow=10.0,SNR=25						

ASAR PcP PcP 14 20 36.0 +0.3
0.3nm,0.7s,baz=86,slow=2.4,SNR=4.2
H11S3 WAKE ISLAND Hy 27.78 22 T T 14 45 48.7
baz=202,slow=76,SNR=348
H11S2 WAKE ISLAND Hy 27.79 22 T T 14 45 47.1
baz=202,slow=76,SNR=271
H11S1 WAKE ISLAND Hy 27.80 22 T T 14 45 49.9
baz=202,slow=76,SNR=128
STKA Stephens Creek 27.85 207 P P 14 17 26.6 +0.1
0.8nm,0.5s,baz=21,slow=14,SNR=2.9
H11N1 WAKE ISLAND Hy 28.98 21 T T 14 47 17.1
baz=205,slow=76,SNR=12
H11N3 WAKE ISLAND Hy 28.99 21 T T 14 47 17.8
baz=205,slow=76,SNR=34
H11N2 WAKE ISLAND Hy 29.00 21 T T 14 47 20.7
baz=205,slow=76,SNR=13
RAO Raoul Island 32.68 135 P P 14 18 09.2 +0.1
1μm,0.5s,baz=68,slow=20,SNR=5.6
CMAR Chiang Mai Arr 61.99 295 P P 14 21 56.0 +0.7
2.1nm,0.8s,baz=116,slow=4.9,SNR=14
SONM Songino Array 70.31 327 P P 14 22 48.5 +0.6
0.4nm,0.5s,baz=139,slow=5.9,SNR=8.6
QSPA South Pole Qui 82.55 180 P P 14 23 56.5 0.0
1.7nm,0.7s,baz=237,slow=0.9,SNR=14
MKAR Makanchi Array 84.47 318 P P 14 24 05.8 -0.6
3.0nm,0.7s,baz=96,slow=7.7,SNR=36
ZALV Zalesovo Beam 85.17 326 P P 14 24 08.5 -1.2
0.6nm,0.4s,baz=128,slow=4.8,SNR=3.1
TORD Torodi Ar. Bea 154.23 285 PKPbc PKPbc 14 31 33.4 -0.3
0.5nm,0.7s,baz=100,slow=1.8,SNR=3.5

IDC 15 14:26:35.5±50.0, 18°.88S×176°.63W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/35, mbtmp3.8/3, Error ellipse: s-maj=929.5km s-min=160.9km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.67**	**243**	P	P	14 34 09.5	0.0
	0.8nm,0.7s,baz=95,slow=9.5,SNR=4.7						
WRA	**Warramunga Arr**	**46.13**	**260**	P	P	14 35 01.9	-0.1
	0.4nm,0.3s,baz=96,slow=7.4,SNR=27						
ASAR	**Alice Springs**	**46.17**	**255**	P	P	14 35 02.0	-0.3
	1.1nm,0.6s,baz=96,slow=7.5,SNR=25						

MEX 15 14:27:52.5±0.4, 16°.17N×100°.92W, h12km±127km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.07**	**35**	*i* P	Pb	14 28 10.5	-2.6
CAIG				*e*S	Sb	14 28 22.4	-4.7
ACX	**Acapulco**	**1.23**	**55**	*i* P	Pn	14 28 10.7	-4.9
ACX				*e*S	Sb	14 28 26.0	-5.7
ARIG	**Puente Sto Nin**	**2.17**	**14**	*i* P	Pn	14 28 25.1	-3.5
ARIG				*e*S	Sn	14 28 51.0	-4.5
PLIG	**Platanillo**	**2.59**	**31**	*i* P	Pn	14 28 31.1	-3.4
PLIG				*e*S	Sn	14 29 02.1	-3.9

NIED 15 14:32:00, 35°.20N×140°.10E, h53km, Mw3.7 Best double couple: M₀3.71000×10¹⁴ NP1:φs118.00000°, δ42.00000°, λ-67.00000°. NP2:φs268.00000°, δ52.00000°, λ-110.00000°.

JMA 15 14:32:21.6±0.2, 35°.27N×140°.09E, h68km±2km, M3.4, 3C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.17**	**32**	⇓P	Pn	14 32 32.5	+0.6
JCN				S	Sn	14 32 40.7	+1.4
KTR	**Katsuura**	**0.22**	**123**	⇓P	Pn	14 32 32.0	-0.1
KTR				S	Sn	14 32 39.1	-0.6
TATJ	**Tateyama 2**	**0.29**	**215**	P	Pn	14 32 32.6	+0.1
TATJ				S	Sn	14 32 40.8	+0.4
BSO4	**Boso 4**	**0.34**	**144**	P	Pn	14 32 33.2	+0.4
BSO4				S	Sn	14 32 42.0	+1.1
JYO	**Yokosk**	**0.35**	**263**	⇓P	Pn	14 32 33.4	+0.5
JYO				S	Sn	14 32 42.2	+1.0
BSO3	**Boso 3**	**0.58**	**143**	⇑P	Pn	14 32 34.9	+0.2
BSO3				S	Sn	14 32 45.4	+1.1
JIM2	**Oshima 3**	**0.77**	**225**	P	Pn	14 32 36.7	-0.5
JIM2				S	Sn	14 32 47.4	-1.4
JOD2	**Odawara 2**	**0.82**	**270**	P	Pn	14 32 37.5	-0.3
JOD2				S	Sn	14 32 48.7	-1.1
BSO1	**Boso 1**	**0.95**	**130**	P	Pn	14 32 38.6	-0.1
BSO1				S	Sn	14 32 51.7	+0.3
JIZS	**Izushimoda**	**1.14**	**241**	⇑P	Pn	14 32 41.5	-0.2
JIZS				S	Sn	14 32 55.7	-1.1
JRY	**Ryogami san**	**1.22**	**308**	P	Pn	14 32 43.2	+0.3
JAG	**Ashikaga**	**1.26**	**336**	⇑P	Pn	14 32 43.5	+0.1
JYN	**Shimob**	**1.28**	**281**	P	Pn	14 32 43.7	0.0

BJI 15 14:38:44.3, 7°.19S×130°.74E, h121km, mB5.0/6, mb4.6/22
ISCJB 15 14:38:49.3±0.2, 6°.29S±0°.02×130°.51E±0°.03, h100km, mb4.5/33, Error ellipse: s-maj=4.0km s-min=3.2km az=171.3
NEIC 15 14:38:52.8±0.7, 6°.25S×130°.47E, h123km±7km, mb4.6/15, Error ellipse: s-maj=6.5km s-min=6.2km az=50.0
IDC 15 14:38:53.6±2.1, 6°.31S×130°.48E, h131km±20km, mb4.1/15, mb1 4.1/18, mb1mx4.0/33, mbtmp4.5/18, MS3.5/2, Ms1 3.5/2, ms1mx2.8/23, Error ellipse: s-maj=14.4km s-min=8.8km az=58.0
DJA 15 14:38:54.8±0.2, 6°S±2°×13°1E±°, h107km±4km, M5.0/23, mB5.5/9, mb4.7/23, MLv5.2/15, Mw(mB)4.9/9
ISC 15 14:38:51.3±0.3, 6°.31S±0°.04×130°.53E±0°.04, h100km, n141, σ1°.75/152, mb4.5/33, 7C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.83**	**155**	P	Pn	14 39 26.2	+4.5
SAUI				S	**Sn**	**14 39 49.8**	**+5.0**
BNDI	**Bandanaira**	**1.88**	**341**	P	Pn	14 39 26.2	+3.8
BNDI				S	**Sn**	**14 39 50.8**	**+4.7**
MSAI	**Masohi**	**3.35**	**332**	P	**Pn**	**14 39 44.5**	**+2.7**
FAKI	**Fak Fak**	**3.78**	**27**	P	**Pn**	**14 39 48.1**	**+0.5**
FAKI	**Fak Fak**	**3.78**	**27**	*e*P	**Pn**	**14 39 47.9**	**+0.3**
FAKI	**Fak Fak**	**3.78**	**27**	P	**Pn**	**14 39 48.0**	**+0.3**
	baz=3.8,SNR=290						
FAKI				S	**Sn**	**14 40 29.8**	**-1.4**
	baz=3.8,SNR=24						
KMPI	**Kaimana, Papua**	**4.12**	**50**	P	**Pn**	**14 39 53.8**	**+1.7**
NLAI	**Namlea**	**4.58**	**312**	P	Pn	14 40 03.9	+5.5
SWI	**Sorong**	**5.46**	**8**	P	**Pn**	**14 40 10.1**	**-0.2**
	290nm,0.6s,32μm6.0nm						
SANI	**Sanana**	**6.20**	**313**	P	**Pn**	**14 40 23.4**	**+3.1**
	50nm,0.8s,776nm0.2nm						
LBMI	**Labuha**	**6.40**	**332**	P	**Pn**	**14 40 24.8**	**+1.8**
	78nm,0.6s,2μm0.6nm						
MTN	**Manton Dam**	**6.52**	**175**	P	**Pn**	**14 40 25.8**	**+1.2**
	baz=6.5,SNR=107						
MTN				S	**Sn**	**14 41 36.7**	**-0.8**
	baz=6.5,SNR=7.5						
KDU	**Kakadu**	**6.62**	**163**	P	**Pn**	**14 40 26.6**	**+0.7**
	baz=6.6,SNR=436						
KDU				S	**Sn**	**14 41 37.6**	**-2.4**
	baz=6.6,SNR=7.7						
SOEI	**Soe**	**7.08**	**241**	P	**Pn**	**14 40 35.2**	**+2.8**
	132nm,0.9s,3μm1.3nm						
SOEI	**Soe**	**7.08**	**241**	*e*P	**Pn**	**14 40 34.9**	**+2.6**
	62nm,0.4s						
SOEI	**Soe**	**7.08**	**241**	P	**Pn**	**14 40 35.0**	**+2.6**
	baz=7.0,SNR=65						
SOEI				S	**Sn**	**14 41 53.8**	**+2.4**
	baz=7.0,SNR=7.0						
SRPI	**Serui, Papua**	**7.21**	**52**	P	**Pn**	**14 40 36.6**	**+2.5**
	111nm,0.9s,9μm2.6nm						
BAKI	**Biak**	**7.54**	**48**	P	**Pn**	**14 40 41.6**	**+3.0**
	753nm,0.7s,2.7nm						
BATI	**Baumata**	**7.81**	**240**	P	**Pn**	**14 40 44.4**	**+2.1**
	67nm,0.4s,2μm0.8nm						
BATI	**Baumata**	**7.81**	**240**	P	**Pn**	**14 40 44.7**	**+2.3**
	40nm,0.3s,baz=76,slow=4.4,SNR=53						
BATI				S	**Sn**	**14 42 09.6**	**+0.3**
	54nm,0.3s,baz=78,slow=5.5,SNR=11						
MMRI	**Maumere**	**8.54**	**254**	*e*P	**Pn**	**14 40 53.3**	**+1.1**
	29nm,0.4s						
KNRA	**Kununurra**	**9.46**	**190**	P	**Pn**	**14 41 04.0**	**-0.7**
	baz=9.5,SNR=951						
KNRA				S	Sn	14 42 42.0	-7.3
	baz=9.5,SNR=24						
GENI	**Genyem**	**10.30**	**69**	P	**Pn**	**14 41 18.6**	**+2.5**
	54nm,0.8s						
BKSI	**Bulukumba**	**10.40**	**275**	P	Pn	14 41 23.0	+5.5
	25nm,0.7s						
BNSI	**Bone**	**10.55**	**280**	P	Pn	14 41 25.6	+6.1
	16nm,0.9s						
WSI	**Waingapu**	**10.66**	**251**	P	**Pn**	**14 41 22.4**	**+1.3**
	baz=11,SNR=5.6						
WSI				S	**Sn**	**14 43 18.2**	**-0.4**
	baz=11,SNR=3.4						
KAPI	**Kappang**	**10.80**	**276**	*e*P	Pn	14 41 14.2	-8.7
MRSI	**Marisa**	**10.91**	**308**	P	**Pn**	**14 41 26.5**	**+2.1**
	22nm,0.9s						
SPSI	**Sidrap Palu**	**10.96**	**282**	P	Pn	14 41 30.1	+4.9
	19nm,0.7s						
TTSI	**Tana Toraja**	**11.15**	**286**	P	Pn	14 41 33.2	+5.5
	21nm,0.8s						
WRAB	**Tennant Creek**	**14.04**	**166**	*e*P	Pn	14 42 02.2	-3.6
	11nm,0.4s						
WRA	**Warramunga Arr**	**14.04**	**165**	P	Pn	14 42 02.5	-3.4
	3.4nm,0.3s,baz=347,slow=13,SNR=73						
WRA				S	Sn	14 44 32.0	-8.7
	8.7nm,0.3s,baz=342,slow=22,SNR=11						
COEN	**Coen**	**14.58**	**122**	*e*P	**Pn**	**14 42 12.4**	**-0.4**
	121nm,0.8s						
COEN	**Coen**	**14.58**	**122**	P	**Pn**	**14 42 12.5**	**-0.2**
	baz=15,SNR=34						
COEN				S	Sn	14 44 42.9	-11
	baz=15,SNR=8.6						
SRBI	**Singaraja**	**15.29**	**262**	P	**Pn**	**14 42 22.9**	**+1.1**
	29nm,1.0s						
BBKI	**Banjar Baru**	**15.88**	**280**	P	**P**	**14 42 32.9**	**+2.0**
	118nm,1.3s,4μm						
JAGI	**Jajag, Banyuwa**	**16.38**	**261**	P	**Pn**	**14 42 33.4**	**-2.0**
	baz=16,SNR=31						
TSM	**Tawau**	**16.45**	**310**	⇑P	**Pn**	**14 42 35.5**	**-0.8**
KMMI	**Kalianget**	**16.46**	**267**	P	**P**	**14 42 39.6**	**+2.2**
	59nm,0.9s						
MYLDM	**Lahad Datu**	**16.57**	**313**	⇑P	**Pn**	**14 42 37.3**	**-0.4**
QIS	**Mount Isa**	**16.68**	**149**	P	**Pn**	**14 42 39.0**	**0.0**
	baz=17,SNR=6.6						
QIS				S	Sn	14 45 33.2	-11
	baz=17,SNR=3.6						
PMG	**Port Moresby**	**16.76**	**102**	P	**Pn**	**14 42 41.5**	**+1.4**
	0.9nm,0.3s,baz=276,slow=6.9,SNR=9.5						
PMG				S	Sn	14 45 35.0	-11
	0.6nm,0.3s,baz=273,slow=18,SNR=5.0						
PMG	**Port Moresby**	**16.76**	**102**	*e*P	**Pn**	**14 42 42.0**	**+1.9**
PMG				S	Sn	14 45 35.0	-11
PMG	**Port Moresby**	**16.76**	**102**	P	**Pn**	**14 42 42.4**	**+2.3**
	baz=17,SNR=6.1						
BLJI	**Banyuglugur**	**16.86**	**264**	P	**P**	**14 42 43.1**	**+1.3**
	107nm,0.7s						
GMJI	**Gumukmas**	**17.05**	**262**	P	**P**	**14 42 45.2**	**+1.3**
	26nm,1.1s						
MANU	**Manus Island**	**17.32**	**77**	S	**Sn**	**14 45 59.0**	**-0.8**
	baz=17,SNR=5.0						
ASAR	**Alice Springs**	**17.56**	**170**	P	**P**	**14 42 49.2**	**-0.2**
	2.1nm,0.3s,baz=347,slow=12,SNR=98						
ASAR				S	Sn	14 45 57.2	-8.3
	2.3nm,0.3s,baz=350,slow=27,SNR=6.8						
SDKM	**Sandakan**	**17.84**	**311**	⇑P	**Pn**	**14 42 54.9**	**+1.7**
MTSU	**Mount Surprise**	**17.86**	**132**	P	**P**	**14 42 55.0**	**+2.2**
	baz=18,SNR=17						
MBWA	**Marble Bar**	**18.09**	**214**	*e*P	**P**	**14 42 55.7**	**+0.5**
	28nm,0.6s						
PWJI	**Pagerwojo**	**18.65**	**264**	P	**Pn**	**14 43 04.6**	**+1.6**
	22nm,1.9s						
WRKA	**Warakurna**	**18.74**	**186**	P	**P**	**14 43 03.3**	**+1.0**
	baz=19,SNR=83						
KKM	**Kota Kinabalu**	**18.84**	**310**	P	**P**	**14 43 03.6**	**0.0**
	baz=19,SNR=7.5						
KKM	**Kota Kinabalu**	**18.84**	**310**	⇑P	**P**	**14 43 04.0**	**+0.5**
KDM	**Kudat**	**18.96**	**314**	⇓P	**P**	**14 43 04.7**	**-0.1**
BTM	**Bintulu**	**19.82**	**298**	⇑P	**P**	**14 43 14.5**	**+0.3**
UGM	**Wanagama**	**19.91**	**264**	P	**P**	**14 43 15.1**	**-0.2**
	baz=20,SNR=6.0						
SMRI	**Semarang**	**19.96**	**267**	P	**P**	**14 43 13.5**	**-2.3**
	baz=20,SNR=4.6						
CTA	**Charters Tower**	**20.51**	**133**	P	**P**	**14 43 23.4**	**+1.8**
	3.0nm,0.7s,baz=331,slow=12,SNR=9.1						
CTA				S	**S**	**14 47 03.8**	**-1.9**
	3.0nm,0.9s,baz=270,slow=20,SNR=2.1						
KSM	**Kuching**	**21.62**	**290**	⇓P	**P**	**14 43 32.8**	**-0.7**
RABL	**Rabaul**	**21.65**	**85**	P	**P**	**14 43 34.3**	**+0.4**
	baz=22,SNR=4.2						
CISI	**Cisompet, Garu**	**22.58**	**266**	*e*P	**P**	**14 43 40.5**	**-3.2**
	94nm,0.5s						
CISI	**Cisompet, Garu**	**22.58**	**266**	P	**P**	**14 43 42.5**	**-1.2**
	baz=22,SNR=6.3						
GIRL	**Giralia**	**22.59**	**222**	P	**P**	**14 43 44.3**	**+0.7**
	baz=23,SNR=5.0						
MEEK	**Meekatharra**	**23.18**	**208**	P	**P**	**14 43 48.8**	**-0.6**
	baz=23,SNR=20						
QLP	**Quilpie**	**24.02**	**149**	P	**P**	**14 43 59.1**	**+2.1**
	baz=24,SNR=5.0						
MORW	**Morawa**	**26.45**	**209**	P	**P**	**14 44 18.8**	**-0.2**
	baz=26,SNR=8.8						
BBOO	**Buckleboo**	**26.86**	**170**	P	**P**	**14 44 22.4**	**-0.2**
	baz=27,SNR=6.1						
BLDU	**Ballidu**	**27.44**	**207**	P	**P**	**14 44 27.5**	**-0.3**
	baz=28,SNR=13						
STKA	**Stephens Creek**	**27.46**	**159**	P	**P**	**14 44 28.1**	**+0.1**
	1.7nm,0.4s,baz=320,slow=8.8,SNR=24						
STKA	**Stephens Creek**	**27.46**	**159**	P	**P**	**14 44 28.1**	**+0.1**
	baz=28,SNR=14						
MYKOM	**Kota Tinggi**	**27.82**	**286**	⇑P	P	14 44 25.0	-6.4
KLBR	**Kellerberrin**	**27.84**	**204**	P	**P**	**14 44 31.3**	**-0.1**
	baz=28,SNR=26						
HTT	**Hallett**	**28.09**	**165**	P	**P**	**14 44 34.4**	**+0.8**
	baz=28,SNR=5.6						
KGM	**Kluang**	**28.40**	**286**	⇑P	**P**	**14 44 34.4**	**-2.2**
CMSA	**Cobar Meteorol**	**28.83**	**152**	P	**P**	**14 44 40.9**	**+0.7**
	baz=29,SNR=5.6						
NWAO	**Narrogin (SRO)**	**29.23**	**203**	P	**P**	**14 44 43.7**	**0.0**
	9.5nm,0.4s,baz=39,slow=7.6,SNR=24						
NWAO				LR	LR	14 56 50.5	
	comp=Z,58nm,18.1s,baz=340,slow=37						
KTGM	**Kuala Trenggan**	**29.69**	**292**	⇓P	**P**	**14 44 45.9**	**-2.2**
RKGY	**Rocky Gully**	**30.81**	**202**	P	**P**	**14 44 59.0**	**+1.4**
	baz=31,SNR=15						
IPM	**Ipoh**	**31.34**	**289**	⇓P	**P**	**14 45 03.2**	**+0.6**
QIZ	**Qiongzhong**	**32.40**	**321**	P	**P**	**14 45 11.6**	**-0.2**
QIZ				S	**S**	**14 50 17.6**	**-1.4**
QIZ				pmax	pmax		
	comp=Z,33nm,2.7s						
QIZ				LR	LR		
	comp=Z,270nm,8.8s						
PSI	**Prapat**	**32.83**	**285**	P	P	14 45 12.7	-3.1
	11nm,0.7s,baz=140,slow=3.9,SNR=4.6						
DZM	**Mont Dzumac**	**38.04**	**118**	P	**P**	**14 46 00.3**	**0.0**
	4.2nm,0.8s,baz=310,slow=14,SNR=3.3						
CMAR	**Chiang Mai Arr**	**39.70**	**309**	P	**P**	**14 46 12.9**	**-1.2**
	4.5nm,0.6s,baz=134,slow=7.2,SNR=51						
CMAR				PcP	**PcP**	**14 48 17.5**	**-1.5**
	1.0nm,0.7s,baz=172,slow=2.3,SNR=5.8						
CMAR				ScP	**ScP**	**14 51 54.7**	**-4.2**
	0.2nm,0.4s,baz=123,slow=3.3,SNR=4.3						
NJ2	**Nanjing**	**39.74**	**344**	*e*P	P	14 46 23.0	+8.8
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CHTO	**Chiang Mai**	**39.91**	**309**	*e*P	**P**	**14 46 14.1**	**-1.8**
	comp=Z,9.5nm,0.8s						
MJAR	**Matsushiro Arr**	**43.23**	**9**	P	**P**	**14 46 41.6**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=187,slow=8.6,SNR=3.1						
MAJO	**Matsushiro**	**43.23**	**9**	P	**P**	**14 46 42.7**	**0.0**
KSAR	**Wonju Array Be**	**43.60**	**357**	P	**P**	**14 46 45.4**	**-0.1**
KSRS	**Korea Array**	**43.61**	**357**	P	**P**	**14 46 45.4**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=174,slow=7.2,SNR=3.0						
CD2	**Chengdu**	**45.01**	**327**	P	**P**	**14 46 58.1**	**+1.0**
CD2				pP	**pP**	**14 47 25.3**	**+4.7**
CD2				sP	sP	14 47 39.3	+7.4
CD2				PP	**PP**	**14 48 46.1**	**+1.9**
CD2				S	**S**	**14 53 27.6**	**-0.8**
CD2				sS	sS	14 54 15.4	+6.5
CD2				SS	**ScS**	**14 56 44.3**	**-0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,420nm,10.7s						
CD2				LR	LR		
	comp=Z,590nm,13.1s						
BJI	**Beijing**	**47.99**	**345**	P	**P**	**14 47 20.6**	**+0.6**
BJI				pP	**pP**	**14 47 45.8**	**+2.0**
BJI				S	**S**	**14 54 09.5**	**-0.9**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,120nm,5.8s						
BJI				LR	LR		
	comp=Z,310nm,16.8s						
BJI				LR	LR		
	comp=Z,300nm,14.0s						
BJI				LR	LR		
	comp=Z,130nm,20.9s						
LZH	**Lanzhou**	**49.05**	**331**	*e*P	**P**	**14 47 31.3**	**+2.8**
LZH				pP	pP	14 47 59.1	+6.7
LZH				sP	sP	14 48 11.5	+7.9
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC	**Hu-ho-hao-te**	**50.06**	**341**	*e*P	**P**	**14 47 38.5**	**+2.5**
HHC				PP	**PP**	**14 49 36.5**	**+4.3**
HHC				S	**S**	**14 54 40.6**	**+0.8**
HHC				SS	**SS**	**14 58 12.3**	**-2.1**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,5.8s						
HHC				LR	LR		
	comp=Z,230nm,16.9s						
HHC				LR	LR		
	comp=Z,430nm,16.9s						
HHC				LR	LR		
	comp=Z,270nm,15.7s						
ASAJ	**Asahikawa**	**51.37**	**11**	P	**P**	**14 47 44.0**	**-1.6**
	comp=Z,7.9nm,1.0s,baz=193,slow=18,SNR=2.8						
LSA	**Lhasa**	**52.07**	**316**	P	**P**	**14 47 49.6**	**-2.1**
LSA	**Lhasa**	**52.07**	**316**	*e*P	**P**	**14 47 50.7**	**-1.0**
	comp=Z,2.8nm,0.4s						
ODAN	**Odare**	**53.21**	**310**	*e*P	**P**	**14 47 58.1**	**-1.8**
	comp=Z,10.0nm,0.4s						
TAPN	**Taplejung**	**53.23**	**311**	*e*P	**P**	**14 47 58.3**	**-1.8**
	comp=Z,13nm,0.4s						
GTA	**Gaotai**	**53.63**	**331**	P	**P**	**14 48 01.9**	**-0.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
RAMN	**Ramite**	**53.86**	**310**	*e*P	**P**	**14 48 03.2**	**-1.5**
	comp=Z,33nm,0.5s						
RAMN	**Ramite**	**53.86**	**310**	*e*P	**P**	**14 48 03.2**	**-1.5**
JIRN	**Jiri**	**54.54**	**310**	*e*P	**P**	**14 48 08.0**	**-1.7**
	comp=Z,6.9nm,0.2s						
GUN	**Gumba**	**54.90**	**311**	*e*P	**P**	**14 48 10.6**	**-1.7**
	comp=Z,20nm,0.5s						
GUN	**Gumba**	**54.90**	**311**	*e*P	**P**	**14 48 10.6**	**-1.7**
PKI	**Pulchoki**	**55.08**	**310**	*e*P	**P**	**14 48 11.6**	**-2.0**
	comp=Z,2.9nm,0.2s						
PKIN	**Phulchoki**	**55.10**	**310**	*e*P	**P**	**14 48 12.1**	**-1.5**
	comp=Z,2.7nm,0.2s						
KKN	**Kakani**	**55.29**	**310**	*e*P	**P**	**14 48 13.3**	**-1.7**
	comp=Z,7.3nm,0.3s						
DMN	**Daman**	**55.34**	**310**	*e*P	**P**	**14 48 13.4**	**-1.9**
	comp=Z,18nm,0.8s						
DMN	**Daman**	**55.34**	**310**	*e*P	**P**	**14 48 13.4**	**-1.9**
GKN	**Gorkha**	**55.89**	**310**	*e*P	**P**	**14 48 17.4**	**-1.8**
	comp=Z,9.0nm,0.3s						
KOLN	**Koldanda**	**56.57**	**309**	*e*P	**P**	**14 48 22.4**	**-1.7**
	comp=Z,9.7nm,0.6s						
KOLN	**Koldanda**	**56.57**	**309**	*e*P	**P**	**14 48 22.4**	**-1.7**
DANN	**Dangsing**	**56.73**	**310**	*e*P	**P**	**14 48 23.5**	**-1.9**
	comp=Z,18nm,0.9s						
DANN	**Dangsing**	**56.73**	**310**	*e*P	**P**	**14 48 23.5**	**-1.9**
ULN	**Ulaanbaatar**	**57.78**	**342**	*e*P	**P**	**14 48 31.4**	**-0.7**
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**57.96**	**341**	P	**P**	**14 48 32.6**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=167,slow=6.4,SNR=29						
WMQ	**Urumqi**	**63.11**	**327**	*e*P	**P**	**14 49 08.5**	**+0.1**
WMQ				pP	**pP**	**14 49 35.8**	**+2.5**
WMQ				PcP	**PcP**	**14 49 45.1**	**-0.1**
WMQ				sP	**sP**	**14 49 48.3**	**+4.0**
WMQ				PP	**PP**	**14 51 29.8**	**+1.3**
WMQ				S	**S**	**14 57 28.3**	**-3.4**
WMQ				sS	sS	14 58 19.9	+5.5
WMQ				ScS	SKSac	14 58 45.1	-7.0
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WMQ				LR	LR		
	comp=Z,87nm,17.8s						
WMQ				LR	LR		
	comp=Z,99nm,19.6s						
WMQ				LR	LR		
	comp=Z,1μm,18.8s						
PETK	**Petropavlovsk-**	**63.51**	**18**	P	**P**	**14 49 09.7**	**-1.1**
	comp=Z,4.9nm,0.8s,baz=184,slow=3.4,SNR=4.6						
KSH	**Kashi**	**67.87**	**317**	*e*P	**P**	**14 49 38.8**	**-0.5**
KSH				*e*sP	sP	14 50 23.8	+8.4
KSH				*e*PP	**PP**	**14 52 10.6**	**+0.3**
KSH				S	S	14 58 21.3	-8.8
KSH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**67.94**	**326**	P	**P**	**14 49 38.5**	**-1.0**
	comp=Z,12nm,0.6s,baz=120,slow=8.1,SNR=145						
FX1	**Attu Island--F**	**69.13**	**26**	P	**P**	**14 49 45.9**	**-0.8**
	comp=Z,3.3nm,0.6s,baz=201,slow=8.6,SNR=2.3						
KZA	**Kyzart**	**69.60**	**319**	P	**P**	**14 49 50.0**	**-0.3**
	SNR=5.8						
TKM2	**Tokmak 2**	**69.79**	**320**	P	**P**	**14 49 50.4**	**-0.8**
	SNR=6.4						
TKM2	**Tokmak 2**	**69.79**	**320**	*e*P	**P**	**14 49 50.1**	**-1.1**
	comp=Z,4.1nm,0.7s						
UCH	**Uchtor**	**70.15**	**319**	P	**P**	**14 49 53.1**	**-0.7**
	SNR=5.9						
AML	**Almayashu**	**70.64**	**319**	P	**P**	**14 49 56.1**	**-0.6**
	SNR=7.0						
USP	**Ospenovka**	**70.66**	**320**	P	**P**	**14 49 55.5**	**-0.8**
	SNR=5.3						
EKS2	**Erkin-Say**	**70.84**	**319**	P	**P**	**14 49 57.4**	**-0.1**
	SNR=7.5						
EKS2	**Erkin-Say**	**70.84**	**319**	P	**P**	**14 49 56.1**	**-1.4**
	comp=Z,4.1nm,0.7s						
ZALV	**Zalesovo Beam**	**71.20**	**333**	P	**P**	**14 49 57.5**	**-1.8**
	comp=Z,3.3nm,0.5s,baz=118,slow=5.5,SNR=15						
KURK	**Kurchatov**	**72.21**	**328**	*e*P	**P**	**14 50 03.5**	**-1.8**
	comp=Z,4.5nm,1.1s						
VNDA	**Vanda**	**73.06**	**173**	P	**P**	**14 50 09.7**	**-0.3**
	comp=Z,4.1nm,0.9s,baz=309,slow=6.5,SNR=4.2						
KKAR	**Karatay Array**	**73.17**	**318**	*e*P	**P**	**14 50 09.7**	**-1.6**
	comp=Z,1.2nm,0.6s						
ABKAR	**Akbulak array**	**82.30**	**321**	*e*P	P	14 50 59.5	-2.3
QSPA	**South Pole Qui**	**83.66**	**180**	*e*P	**P**	**14 51 07.6**	**-1.1**
	comp=Z,4.6nm,0.8s						
RAYN	**Ar Rayn**	**87.95**	**294**	*e*P	P	14 51 28.4	-2.2
	comp=Z,12nm,0.8s						
KBZ	**Khabaz**	**92.60**	**314**	LR	LR	15 40 49.6	
	comp=Z,35nm,19.0s,baz=10,slow=40						
ARCES	**ARCESS Array B**	**101.12**	**340**	P	**Pdif**	**14 52 27.6**	**-2.2**
	comp=Z,4.6nm,0.9s,baz=70,slow=5.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**129.19**	**282**	PKP	**PKPdf**	**14 57 47.4**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=107,slow=2.2,SNR=6.9						

KRSC 15 14:46:58.0±1.7, 48°.08N×155°.49E, h2km±3km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.64**	**9**	P	Pb	14 47 45.7	-0.2
SKR				*e*S	Sb	14 48 17.5	-1.2
PAU	**Pauzhetka**	**3.50**	**14**	*e*S	Sb	14 48 39.9	-3.6
MTVR	**Mutnovka**	**4.73**	**20**	S	Sn	14 49 10.3	+4.2
RUS	**Russkaya**	**4.77**	**23**	P	Pn	14 48 15.5	+4.7
SDLR	**Sedlovina**	**5.63**	**21**	P	Pn	14 48 26.3	+3.4
GNL	**Ganaly**	**5.83**	**14**	P	Pn	14 48 29.7	+4.1
KBTR	**Krutoberegovo**	**9.30**	**26**	P	Pn	14 49 17.7	+4.8

IDC 15 15:13:18.8±7.0, 27°.91S×176°.49W, h413km±121km, mb2.6/3, mb1 3.0/5, mb1mx3.0/19, mbtmp3.9/5, Error ellipse: s-maj=121.6km s-min=26.0km az=150.0
ISC 15 15:13:17.9±1.3, 28°.1S±0°.2×176°.5W±0°.2, h400km, n13, σ1°.32/13, mb2.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**10.79**	**205**	*e*PN	**P**	**15 15 45.3**	**+1.2**
HAZ				*e*SN	S	15 17 27.7	-17
PUZ	**Puketiti**	**10.91**	**202**	*e*PN	**P**	**15 15 45.9**	**+0.5**
PUZ				*e*SN	S	15 17 30.4	-17
MWZ	**Matawai**	**11.40**	**204**	*e*PN	**P**	**15 15 50.5**	**-0.4**
URZ	**Urewera**	**11.49**	**206**	P	**P**	**15 15 53.4**	**+1.6**
	1.3nm,0.3s,baz=272,slow=4.6,SNR=20						
URZ	**Urewera**	**11.49**	**206**	*e*PN	**P**	**15 15 51.1**	**-0.7**
URZ				*e*SN	S	15 17 42.3	-17
SNGZ	**Shannon Statio**	**11.86**	**204**	*e*PN	**P**	**15 15 55.7**	**-0.3**

BKZ	Black Stump Fm	12.52	206	ePN	P	15 16 02.2	-0.9
MRZ	Mangatainoka R	14.16	205	ePN	P	15 16 20.1	-1.0
MRZ				eSN	S	15 18 35.2	-18
RAR	Rarotonga	16.67	70	P	P	15 16 48.9	+0.5
	5.1nm,0.3s,baz=271,slow=1.0,SNR=5.9						
STKA	Stephens Creek	36.33	254	P	P	15 19 45.7	-0.1
	0.9nm,0.8s,baz=113,slow=13,SNR=2.6						
ASAR	Alice Springs	44.59	264	P	P	15 20 52.5	-0.1
	0.2nm,0.5s,baz=97,slow=6.7,SNR=7.0						
WRA	Warramunga Arr	45.37	269	P	P	15 20 59.5	+0.8
	0.2nm,0.3s,baz=107,slow=7.9,SNR=8.0						
YKA	Yellowknife Ar	102.78	25	P	Pdif	15 26 27.2	-3.1
	0.1nm,0.5s,baz=253,slow=7.4,SNR=3.0						

*NEIC **15** 15:37:23.9±0.7, 24.25S×115.45W, h10km, mb4.3/1, Error ellipse: s-maj=28.6km s-min=17.9km az=64.0*

*IDC **15** 15:37:23.1±1.3, 24.02S×115.31W, h0km, mb3.9/5, mb1 4.3/5, mb1mx4.0/18, mbtmp3.9/5, MS3.7/3, Ms1 3.8/3, ms1mx3.3/20, Error ellipse: s-maj=51.2km s-min=26.8km az=43.0*

ISC 15 15:37:24.1±1.0**, 24.3S**±0.2×**115.4W**±0.2**, h10km, n24, σ1.04**/10**, mb3.9**/6**, MS3.7**/3**, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RKT	Rikitea	17.93	270	eLR	LR	15 45 23.5	
	315nm,26.0s						
RKT	Rikitea	17.93	270	eT	T	15 59 24.7	
	2.7nm,0.3s						
PPT2	Papeete2	32.52	275	eLR	LR	15 52 08.6	
	132nm,26.2s						
H03N2	Juan Fernandez	33.10	114	T	T	16 19 15.8	
	baz=276,slow=74,SNR=104						
H03N3	Juan Fernandez	33.11	114	T	T	16 19 16.2	
	baz=276,slow=74,SNR=148						
H03N1	Juan Fernandez	33.12	114	T	T	16 19 16.9	
	baz=276,slow=74,SNR=111						
PLCA	Paso Flores	40.77	125	P	P	15 45 06.3	+0.7
	2.2nm,0.8s,baz=257,slow=8.4,SNR=4.9						
PLCA				LR	LR	15 57 42.3	
	comp=Z,111nm,20.2s,baz=351,slow=30						
LPAZ	La Paz	44.91	89	P	P	15 45 40.0	-0.1
	2.8nm,0.6s,baz=269,slow=5.6,SNR=14						
LPAZ				LR	LR	15 59 54.2	
	comp=Z,75nm,20.4s,baz=122,slow=30						
CPUP	Villa Florida	52.18	105	LR	LR	16 03 43.4	
	comp=Z,86nm,18.6s,baz=109,slow=30						
NVAR	Mina Array Bea	62.46	357	P	P	15 47 47.8	0.0
	0.6nm,0.8s,baz=184,slow=7.1,SNR=4.6						
QSPA	South Pole Qui	65.85	180	eP	P	15 48 08.6	-1.1
PDAR	Pinedale Array	66.95	5	P	P	15 48 16.1	-1.0
	0.5nm,0.6s,baz=172,slow=6.3,SNR=4.3						
HLID	Hailey	67.54	1	eP	P	15 48 20.3	-0.4
	2.1nm,0.9s						
YKA	Yellowknife Ar	86.50	0	P	P	15 50 04.2	-2.4
	0.6nm,0.8s,baz=175,slow=5.2,SNR=13						
H11S2	WAKE ISLAND Hy	86.96	292	T	T	17 26 07.7	
	baz=119						
H11S1	WAKE ISLAND Hy	86.97	292	T	T	17 25 59.6	
	baz=119						
H11S3	WAKE ISLAND Hy	86.97	292	T	T	17 26 00.9	
	baz=119						
H11N3	WAKE ISLAND Hy	87.33	293	T	T	17 26 33.8	
	baz=115						
H11N1	WAKE ISLAND Hy	87.35	293	T	T	17 26 33.9	
	baz=115						
H11N2	WAKE ISLAND Hy	87.35	293	T	T	17 26 28.8	
	baz=115						
ZALV	Zalesovo Beam	146.73	338	PKPbc	PKPdf	15 57 05.8	+1.5
	0.7nm,0.3s,baz=33,slow=3.5,SNR=5.5						
CMAR	Chiang Mai Arr	147.52	266	PKPbc	PKPbc	15 57 10.7	+1.4
	0.3nm,0.8s,baz=85,slow=1.9,SNR=3.7						
BRTR	Keskin Array B	149.79	52	PKPbc	PKPbc	15 57 14.6	-0.2
	0.6nm,0.7s,baz=294,slow=7.3,SNR=2.5						
MKAR	Makanchi Array	153.44	332	PKPbc	PKPbc	15 57 22.1	-0.7
	0.4nm,0.7s,baz=297,slow=1.1,SNR=5.2						

IDC 15 15:41:23.4±2.0**, 49.89S**×**117.74E, h0km, mb3.6**/3**, mb1 4.0**/4**, mb1mx3.7**/24**, mbtmp3.9**/4**, ML2.7**/1**, MS3.3**/3**, Ms1 3.3**/3**, ms1mx3.1**/15**, Error ellipse: s-maj=58.4km s-min=45.6km az=89.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.21	349	T	T	16 00 19.6	
	baz=170,slow=73,SNR=11						
H01W1	Cape Leeuwin H	15.21	349	T	T	16 00 18.0	
	baz=170,slow=73,SNR=11						
H01W3	Cape Leeuwin H	15.22	349	T	T	16 00 20.1	
	baz=170,slow=73,SNR=8.8						
NWAO	Narrogin (SRO)	16.95	359	Pn	P	15 45 23.7	-0.2
	1.2nm,0.3s,baz=180,slow=13,SNR=11						
NWAO				LR	LR	15 50 17.8	
	comp=Z,94nm,18.9s,baz=189,slow=32						
STKA	Stephens Creek	25.30	54	LR	LR	15 54 46.3	
	comp=Z,57nm,21.7s,baz=205,slow=32						
ASAR	Alice Springs	29.07	32	P	P	15 47 24.9	-0.6
	0.4nm,0.7s,baz=201,slow=9.1,SNR=6.8						
ASAR				LR	LR	15 58 33.0	
	comp=Z,85nm,18.3s,baz=198,slow=35						
WRA	Warramunga Arr	32.68	30	P	P	15 47 57.3	-0.1
	0.7nm,0.6s,baz=199,slow=11,SNR=6.9						
H08S2	Diego Garcia H	56.48	302	T	T	16 51 49.0	
	baz=168						
H08S1	Diego Garcia H	56.49	302	T	T	16 51 49.8	
	baz=168						
H08S3	Diego Garcia H	56.50	302	T	T	16 51 46.8	
	baz=168						
CMAR	Chiang Mai Arr	70.05	341	P	P	15 52 36.5	-0.5
	0.5nm,0.7s,baz=191,slow=5.9,SNR=7.4						
PDAR	Pinedale Array	147.04	84	PKPbc	PKPdf	16 01 06.4	+0.7
	0.5nm,0.8s,baz=199,slow=4.1,SNR=4.8						
YKA	Yellowknife Ar	149.20	46	PKPbc	PKPbc	16 01 13.0	+0.4
	1.0nm,0.7s,baz=277,slow=2.2,SNR=22						

*PDG **15** 15:43:09.7±0.6, 38.09N×23.19E, h150km±2km, ML3.8/9, Error ellipse: s-maj=1.1km s-min=1.5km az=0.0*

*CSEM **15** 15:43:10.8±0.1, 38.08N×23.22E, h134km±1km, ML2.9, Error ellipse: s-maj=2.8km s-min=2.4km az=60.0*

*ISCJB **15** 15:43:10.3±0.4, 38.11N±0.02×23.23E±0.03, h136km±3km, Error ellipse: s-maj=3.9km s-min=3.3km az=150.2*

*ATH **15** 15:43:10.3, 38.06N×23.23E, h134km±1km, ML2.9*

*THE **15** 15:43:11.3, 38.08N×23.23E, h132km±1km, ML3.2/18, Error ellipse: s-maj=1.3km s-min=0.7km az=231.0*

*SKO **15** 15:43:15.9, 38.42N×22.74E, h16km*

ISC 15 15:43:10.5±1.2**, 38.08N**±0.02×**23.26E**±0.03**, h136km**±5km**, n186, σ0.89**/280**, 10C-8D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LTK	Loutraki	0.24	257	P	Pn	15 43 29.1	-0.1
LTK				S	Sn	15 43 43.2	-0.1
LTK	Loutraki	0.24	257	eP	Pn	15 43 29.2	0.0
LTK				eS	Sn	15 43 42.2	-1.1
LTK	Loutraki	0.24	257	eP	Pn	15 43 29.2	0.0
LTK				S	Sn	15 43 43.2	-0.1
NAIG	Nisos Aigina	0.37	150	eP	Pn	15 43 29.7	+0.1
NAIG	Nisos Aigina	0.37	150	eP	Pn	15 43 29.7	+0.1
ATH	Athens Observa	0.38	106	eP	Pn	15 43 29.9	+0.3
ATH				eS	Sn	15 43 43.3	-0.8
ATH	Athens Observa	0.38	106	eP	Pn	15 43 29.9	+0.3
ATH				eS	Sn	15 43 43.3	-0.8
ATHU	Athens Univers	0.43	105	P	Pn	15 43 30.4	+0.5
ATHU	Athens Univers	0.43	105	P	Pn	15 43 30.4	+0.5
PTL	Penteli	0.48	93	eP	Pn	15 43 30.8	+0.6
PTL				eS	Sn	15 43 44.4	-0.6
PTL	Penteli	0.48	93	eP	Pn	15 43 30.8	+0.6
PTL				eS	Sn	15 43 44.4	-0.6
ERET	Eretria	0.56	50	P	Pn	15 43 31.3	+0.6
ERET				S	Sn	15 43 45.9	-0.1
ERET	Eretria	0.56	50	P	Pn	15 43 31.3	+0.6
ERET				S	Sn	15 43 45.9	-0.1
DID	Didima	0.57	182	P	Pn	15 43 30.5	-0.2
DID				S	Sn	15 43 46.2	+0.2
DID	Didima	0.57	182	eP	Pn	15 43 30.5	-0.2
DID				eS	Sn	15 43 45.4	-0.6
DID	Didima	0.57	182	eP	Pn	15 43 30.5	-0.2
DID				S	Sn	15 43 46.2	+0.2
LKR	Lokris	0.61	340	P	Pn	15 43 31.1	+0.2
LKR	Lokris	0.61	340	eP	Pn	15 43 31.1	+0.2
LKR				eS	Sn	15 43 45.7	-0.7
LKR	Lokris	0.61	340	eP	Pn	15 43 31.1	+0.2
LKR				eS	Sn	15 43 45.7	-0.7
DSF	Desfina	0.67	300	P	Pn	15 43 31.3	0.0
DSF				S	Sn	15 43 46.2	-0.9
DSF	Desfina	0.67	300	eP	Pn	15 43 31.4	+0.1
DSF				eS	Sn	15 43 45.9	-1.2
DSF	Desfina	0.67	300	eP	Pn	15 43 31.4	+0.1
DSF				S	Sn	15 43 46.2	-0.9
MRKA	Markates	0.68	22	eP	Pn	15 43 31.9	+0.5
MRKA				eS	Sn	15 43 46.8	-0.5
MRKA	Markates	0.68	22	eP	Pn	15 43 31.9	+0.5
MRKA				eS	Sn	15 43 46.8	-0.5
GUR	Goura	0.74	259	P	Pn	15 43 32.1	+0.2
GUR				S	Sn	15 43 47.9	-0.2
GUR	Goura	0.74	259	eP	Pn	15 43 32.1	+0.2
GUR				eS	Sn	15 43 47.0	-1.1
GUR	Goura	0.74	259	eP	Pn	15 43 32.1	+0.2
GUR				S	Sn	15 43 47.9	-0.2
SMIA	Simia	0.80	357	P	Pn	15 43 33.0	+0.7
SMIA				S	Sn	15 43 49.1	+0.2
SMIA	Simia	0.80	357	eP	Pn	15 43 33.0	+0.7
SMIA				eS	Sn	15 43 49.1	+0.2
SMIA	Simia	0.80	357	eP	Pn	15 43 33.0	+0.7
SMIA				eS	Sn	15 43 49.1	+0.2
AXAR	Agios Charalam	0.83	326	P	Pn	15 43 33.1	+0.6
AXAR				S	Sn	15 43 49.3	0.0
AXAR	Agios Charalam	0.83	326	eP	Pn	15 43 33.2	+0.7
AXAR				eS	Sn	15 43 48.9	-0.4
AXAR	Agios Charalam	0.83	326	P	Pn	15 43 33.1	+0.6
AXAR				eS	Sn	15 43 48.9	-0.4
KLV	Kalavryta, Ach	0.88	268	P	Pn	15 43 33.0	+0.1
KLV				S	Sn	15 43 49.8	-0.2
KLV	Kalavryta, Ach	0.88	268	eP	Pn	15 43 33.2	+0.3
KLV				eS	Sn	15 43 49.1	-0.9
KLV	Kalavryta, Ach	0.88	268	eP	Pn	15 43 33.2	+0.3
KLV				S	Sn	15 43 49.8	-0.2
KALE	Kalithea	0.94	290	P	Pn	15 43 33.8	+0.4
KALE				S	Sn	15 43 50.1	-0.8
KALE	Kalithea	0.94	290	eP	Pn	15 43 33.8	+0.4
KALE				eS	Sn	15 43 50.0	-0.8
KALE	Kalithea	0.94	290	eP	Pn	15 43 33.8	+0.4
KALE				S	Sn	15 43 50.1	-0.8
VLX	Vlachokerasia	0.99	225	P	Pn	15 43 34.7	+0.7
VLX				S	Sn	15 43 51.1	-0.7
VLX	Vlachokerasia	0.99	225	eP	Pn	15 43 34.5	+0.5
VLX				eS	Sn	15 43 51.4	-0.4
VLX	Vlachokerasia	0.99	225	eP	Pn	15 43 34.5	+0.5
VLX				eS	Sn	15 43 51.4	-0.4
LAKA	Lakka	1.02	280	P	Pn	15 43 35.0	+0.8
LAKA	Lakka	1.02	280	eP	Pn	15 43 34.9	+0.8
LAKA	Lakka	1.02	280	eP	Pn	15 43 34.9	+0.8
SKIA	Skiathos	1.10	8	P	Pn	15 43 35.6	+0.7
SKIA	Skiathos	1.10	8	eP	Pn	15 43 35.4	+0.5
SKIA				eS	Sn	15 43 53.5	0.0
SKIA	Skiathos	1.10	8	eP	Pn	15 43 35.4	+0.5
SKIA				S	Sn	15 43 53.5	0.0
EFP	Efpalio	1.12	289	P	Pn	15 43 35.6	+0.5
EFP				S	Sn	15 43 53.6	-0.1
EFP	Efpalio	1.12	289	eP	Pn	15 43 35.7	+0.6
EFP				eS	Sn	15 43 53.3	-0.4
EFP	Efpalio	1.12	289	P	Pn	15 43 35.6	+0.5
EFP				S	Sn	15 43 53.6	-0.1
AGG	Agios Georgios	1.19	323	P	Pn	15 43 36.4	+0.6
AGG	Agios Georgios	1.19	323	eP	Pn	15 43 36.4	+0.6
AGG				eS	Sn	15 43 54.8	-0.3
AGG	Agios Georgios	1.19	323	eP	Pn	15 43 36.4	+0.6
AGG				eS	Sn	15 43 54.8	-0.3
AOS	Alonnisos	1.20	24	P	Pn	15 43 36.2	+0.4
AOS	Alonnisos	1.20	24	P	Pn	15 43 36.2	+0.4
NEO	Neokhori	1.23	359	P	Pn	15 43 36.8	+0.6
NEO	Neokhori	1.23	359	eP	Pn	15 43 36.8	+0.6
NEO				eS	Sn	15 43 55.5	-0.3
NEO	Neokhori	1.23	359	eP	Pn	15 43 36.8	+0.6
NEO				eS	Sn	15 43 55.5	-0.3
DRO	Drossia	1.23	265	P	Pn	15 43 36.5	+0.3
DRO				S	Sn	15 43 55.8	+0.1
DRO	Drossia	1.23	265	eP	Pn	15 43 36.9	+0.7
DRO				eS	Sn	15 43 55.8	+0.1
DRO	Drossia	1.23	265	P	Pn	15 43 36.5	+0.3
DRO				eS	Sn	15 43 55.8	+0.1
MAKR	Makrakomi, Fth	1.29	317	P	Pn	15 43 37.7	+0.9
MAKR				S	Sn	15 43 56.9	+0.1
MAKR	Makrakomi, Fth	1.29	317	eP	Pn	15 43 37.7	+0.9
MAKR				eS	Sn	15 43 56.8	0.0
MAKR	Makrakomi, Fth	1.29	317	eP	Pn	15 43 37.7	+0.9
MAKR				eS	Sn	15 43 56.8	0.0
XOR	Xorichti	1.29	358	P	Pn	15 43 37.4	+0.6
XOR	Xorichti	1.29	358	eP	Pn	15 43 37.4	+0.6
XOR				eS	Sn	15 43 56.6	-0.3
XOR	Xorichti	1.29	358	eP	Pn	15 43 37.4	+0.6
XOR				eS	Sn	15 43 56.6	-0.3
AMT	Artemida-Makis	1.34	247	P	Pn	15 43 38.7	+1.3
AMT				S	Sn	15 43 58.5	+0.7
AMT	Artemida-Makis	1.34	247	eP	Pn	15 43 38.7	+1.3
AMT				eS	Sn	15 43 57.5	-0.3
AMT	Artemida-Makis	1.34	247	eP	Pn	15 43 38.7	+1.3
AMT				eS	Sn	15 43 57.5	-0.3
VLI	Veliai	1.38	191	P	Pn	15 43 37.4	-0.3
VLI				S	Sn	15 43 59.4	+0.9
VLI	Veliai	1.38	191	eP	Pn	15 43 37.4	-0.3
VLI				eS	Sn	15 43 56.6	-1.9
VLI	Veliai	1.38	191	eP	Pn	15 43 37.4	-0.3
VLI				S	Sn	15 43 59.4	+0.9
ITM	Ithomi	1.39	230	P	Pn	15 43 38.6	+0.8
ITM				S	Sn	15 43 58.6	0.0
ITM	Ithomi	1.39	230	eP	Pn	15 43 38.7	+0.9
ITM				eS	Sn	15 43 58.3	-0.3
ITM	Ithomi	1.39	230	P	Pn	15 43 38.6	+0.8
ITM				S	Sn	15 43 58.6	0.0
EVR	Evrytania	1.41	307	P	Pn	15 43 39.1	+0.9
EVR				S	Sn	15 43 59.7	+0.4
EVR	Evrytania	1.41	307	eP	Pn	15 43 39.1	+0.9
EVR				eS	Sn	15 43 59.5	+0.2
EVR	Evrytania	1.41	307	P	Pn	15 43 39.1	+0.9
EVR				eS	Sn	15 43 59.5	+0.2
RLS	Riolos of Patr	1.42	270	P	Pn	15 43 39.0	+0.9
RLS				S	Sn	15 43 59.5	+0.4
RLS	Riolos of Patr	1.42	270	eP	Pn	15 43 39.7	+1.6
RLS				eS	Sn	15 43 58.9	-0.2
RLS	Riolos of Patr	1.42	270	P	Pn	15 43 39.0	+0.9
RLS				eS	Sn	15 43 58.9	-0.2
PVO	Paravola	1.47	292	P	Pn	15 43 39.9	+1.3
PVO				S	Sn	15 44 00.8	+0.7
PVO	Paravola	1.47	292	P	Pn	15 43 39.9	+1.3
PVO				S	Sn	15 44 00.8	+0.7
PYL	PYLOS	1.69	226	P	Pn	15 43 40.9	-0.2
PYL				S	Sn	15 44 04.8	+0.3
PYL	PYLOS	1.69	226	eP	Pn	15 43 40.9	-0.2
PYL				eS	Sn	15 44 03.0	-1.5
PYL	PYLOS	1.69	226	eP	Pn	15 43 40.9	-0.2
PYL				S	Sn	15 44 04.8	+0.3
PDO	Prodromos	1.71	288	P	Pn	15 43 42.9	+1.5
PDO				S	Sn	15 44 06.5	+1.5
PDO	Prodromos	1.71	288	eP	Pn	15 43 42.9	+1.5
PDO				eS	Sn	15 44 05.4	+0.4
PDO	Prodromos	1.71	288	eP	Pn	15 43 42.9	+1.5
PDO				eS	Sn	15 44 05.4	+0.4
THL	Klokotos Trika	1.78	327	P	Pn	15 43 42.5	+0.5
THL				S	Sn	15 44 07.0	+0.7
THL	Klokotos Trika	1.78	327	eP	Pn	15 43 42.6	+0.5
THL				eS	Sn	15 44 05.7	-0.6
THL	Klokotos Trika	1.78	327	eP	Pn	15 43 42.6	+0.5
THL				S	Sn	15 44 07.0	+0.7
KYTH	Kithira	1.80	186	P	Pn	15 43 42.2	-0.2
KYTH	Kithira	1.80	186	eP	Pn	15 43 42.3	-0.2
KYTH	Kithira	1.80	186	eP	Pn	15 43 42.3	-0.2
PAIG	Paliouri	1.88	10	P	Pn	15 43 43.8	+0.5
PAIG	Paliouri	1.88	10	P	Pn	15 43 43.8	+0.5
KFL	Anninata	1.95	272	P	Pn	15 43 44.6	+0.4
KFL				S	Sn	15 44 10.3	+0.3
KFL	Anninata	1.95	272	P	Pn	15 43 44.6	+0.4
KFL				S	Sn	15 44 10.3	+0.3
DSL	Palaion Diasel	2.00	303	P	Pn	15 43 46.0	+1.3
DSL				S	Sn	15 44 11.3	+0.3
DSL	Palaion Diasel	2.00	303	eP	Pn	15 43 46.1	+1.3
DSL	Palaion Diasel	2.00	303	P	Pn	15 43 46.0	+1.3
DSL				S	Sn	15 44 11.3	+0.3
APE	Apeiranthos	2.07	118	P	Pn	15 43 46.5	+0.9
APE	Apeiranthos	2.07	118	eP	Pn	15 43 46.5	+0.9
APE	Apeiranthos	2.07	118	eP	Pn	15 43 46.5	+0.9
LIT	Litokhoron	2.11	344	P	Pn	15 43 46.7	+0.6
LIT				S	Sn	15 44 14.5	+1.0
LIT	Litokhoron	2.11	344	eP	Pn	15 43 46.0	-0.1
LIT				eS	Sn	15 44 13.2	-0.3
LIT	Litokhoron	2.11	344	P	Pn	15 43 46.7	+0.6
LIT				S	Sn	15 44 14.5	+1.0
VLS	Valsamata	2.11	274	P	Pn	15 43 46.2	+0.1
VLS				S	Sn	15 44 12.8	-0.6
VLS	Valsamata	2.11	274	eP	Pn	15 43 46.2	+0.1
VLS				eS	Sn	15 44 12.6	-0.8
VLS	Valsamata	2.11	274	eP	Pn	15 43 46.2	+0.1
VLS				S	Sn	15 44 12.8	-0.6
LKD2	Lefkada island	2.16	290	P	Pn	15 43 47.7	+0.9
LKD2				S	Sn	15 44 16.3	+1.7
LKD2	Lefkada island	2.16	290	eP	Pn	15 43 47.7	+0.9
LKD2	Lefkada island	2.16	290	P	Pn	15 43 47.7	+0.9
LKD2				S	Sn	15 44 16.3	+1.7
ANKY	Antikythira Is	2.21	179	P	Pn	15 43 46.5	-0.8
ANKY	Antikythira Is	2.21	179	eP	Pn	15 43 47.2	-0.1
ANKY	Antikythira Is	2.21	179	eP	Pn	15 43 47.2	-0.1
CHOS	Chios island	2.22	81	P	Pn	15 43 49.0	+1.4
CHOS	Chios island	2.22	81	P	Pn	15 43 49.0	+1.4
PLG	Polygyros	2.30	4	P	Pn	15 43 49.1	+0.6
PLG	Polygyros	2.30	4	eP	Pn	15 43 49.0	+0.6
PLG	Polygyros	2.30	4	P	Pn	15 43 49.1	+0.6
OUR	Ouranopolis	2.32	14	P	Pn	15 43 49.6	+0.9
OUR	Ouranopolis	2.32	14	P	Pn	15 43 49.6	+0.9
JAN	Janina	2.46	311	P	Pn	15 43 51.7	+1.3
JAN				S	Sn	15 44 21.4	+0.3
JAN	Janina	2.46	311	eP	Pn	15 43 51.7	+1.3
JAN				eS	Sn	15 44 19.9	-1.2
JAN	Janina	2.46	311	eP	Pn	15 43 51.7	+1.3
JAN				S	Sn	15 44 21.4	+0.3
KZN	Kozani	2.51	333	P	Pn	15 43 52.0	+0.9
KZN	Kozani	2.51	333	eP	Pn	15 43 52.1	+0.9
KZN	Kozani	2.51	333	P	Pn	15 43 52.0	+0.9
HORT	Hortiatis	2.52	357	P	Pn	15 43 52.1	+0.8
HORT	Hortiatis	2.52	357	eP	Pn	15 43 51.6	+0.3
HORT	Hortiatis	2.52	357	P	Pn	15 43 52.1	+0.8
IGT	Igoumenitsa	2.71	303	P	Pn	15 43 53.8	+0.2
IGT				S	Sn	15 44 28.3	+1.5
IGT	Igoumenitsa	2.71	303	eP	Pn	15 43 53.8	+0.2
IGT	Igoumenitsa	2.71	303	eP	Pn	15 43 53.8	+0.2
IGT				S	Sn	15 44 28.3	+1.5
SOH	Sokhos	2.74	1	P	Pn	15 43 55.3	+1.3
SOH	Sokhos	2.74	1	P	Pn	15 43 55.3	+1.3
FNA	Florina	3.07	332	P	Pn	15 43 58.7	+0.4
FNA				S	Sn	15 44 36.6	+1.4
FNA	Florina	3.07	332	eP	Pn	15 43 58.6	+0.3
FNA				eS	Sn	15 44 34.2	-1.0
FNA	Florina	3.07	332	P	Pn	15 43 58.7	+0.4
FNA				S	Sn	15 44 36.6	+1.4
KAVA	Kavala	3.07	18	P	Pn	15 43 58.9	+0.7
KAVA	Kavala	3.07	18	P	Pn	15 43 58.9	+0.7
KNT	Kendrikon	3.09	355	eP	Pn	15 43 59.4	+0.9
KNT	Kendrikon	3.09	355	eP	Pn	15 43 59.4	+0.9
SRN	Sarande	3.11	306	P	Pn	15 43 59.2	+0.5
SRN	Sarande	3.11	306	P	Pn	15 43 59.2	+0.5
KEK	Kerkira	3.16	302	P	Pn	15 43 59.5	+0.2
KEK				S	Sn	15 44 37.9	+0.9
KEK	Kerkira	3.16	302	eP	Pn	15 43 59.5	+0.2
KEK	Kerkira	3.16	302	eP	Pn	15 43 59.5	+0.2
KEK				S	Sn	15 44 37.9	+0.9
VAY	Valandovo	3.28	351	ePn	Pn	15 44 02.4	+1.4
VAY	Valandovo	3.28	351	ePn	Pn	15 44 02.3	+1.4
NVR	Nevrokopi	3.30	8	eP	Pn	15 44 01.9	+0.7
NVR	Nevrokopi	3.30	8	eP	Pn	15 44 01.9	+0.7
NPS	Neapolis	3.39	145	P	Pn	15 44 03.5	+1.1
NPS	Neapolis	3.39	145	P	Pn	15 44 03.5	+1.1
KARP	Karpathos	4.02	128	P	Pn	15 44 12.1	+1.4
KARP	Karpathos	4.02	128	P	Pn	15 44 12.1	+1.4
PHP	Peshkopia	4.21	330	P	Pn	15 44 15.0	+1.9
PHP	Peshkopia	4.21	330	P	Pn	15 44 15.0	+1.9
ULC	Ulcinj	4.96	323	⇑iPn	Pn	15 44 22.4	-0.7
ULC				eSn	Sn	15 45 17.2	-2.4
ULC	Ulcinj	4.96	323	⇑iPn	Pn	15 44 22.4	-0.7
ULC				eSn	Sn	15 45 17.2	-2.4
DRME	Dracevica, Mon	5.16	324	⇑iPn	Pn	15 44 25.0	-0.7
DRME				eSn	Sn	15 45 22.2	-2.2
DRME	Dracevica, Mon	5.16	324	⇑iPn	Pn	15 44 25.0	-0.7
DRME				eSn	Sn	15 45 22.2	-2.2
PVY	Plav	5.17	332	⇓iPn	Pn	15 44 25.9	-0.1
PVY				eSn	Sn	15 45 23.1	-1.7
PVY	Plav	5.17	332	⇓iPn	Pn	15 44 25.9	-0.1
PVY				eSn	Sn	15 45 23.1	-1.7
PDG	Podgorica	5.32	326	⇑iPn	Pn	15 44 27.2	-0.6
PDG				eSn	Sn	15 45 26.1	-2.1
TTG	Podgorica	5.32	326	⇑iPn	Pn	15 44 27.2	-0.6
TTG				eSn	Sn	15 45 26.1	-2.1
BUM	Brajici-Budva	5.38	323	⇑iPn	Pn	15 44 28.1	-0.7
BUM				eSn	Sn	15 45 28.0	-1.8
BUM	Brajici-Budva	5.38	323	⇑iPn	Pn	15 44 28.1	-0.7
BUM				eSn	Sn	15 45 28.0	-1.8
BEY	Berane	5.43	333	ePn	Pn	15 44 29.4	-0.1
IVA	Berane	5.43	333	ePn	Pn	15 44 29.4	-0.1
IVA				eSn	Sn	15 45 29.1	-2.0
HCY	Herceg Novi	5.69	322	⇓iPn	Pn	15 44 31.6	-1.2
HCY				eSn	Sn	15 45 34.5	-2.5
HCY	Herceg Novi	5.69	322	⇓iPn	Pn	15 44 31.6	-1.2
NKME	Niksic	5.72	326	⇓iPn	Pn	15 44 32.7	-0.6
NKME				eSn	Sn	15 45 35.3	-2.7
NKME	Niksic	5.72	326	⇓iPn	Pn	15 44 32.7	-0.6
NKY	Niksic	5.74	327	⇑iPn	Pn	15 44 33.5	-0.1
NKY				eSn	Sn	15 45 36.1	-2.4
NKY	Niksic	5.74	327	⇑iPn	Pn	15 44 33.5	-0.1
UPM	Unac-Piva	6.10	328	⇓iPn	Pn	15 44 38.4	-0.1
UPM				eSn	Sn	15 45 44.9	-2.3
UPM	Unac-Piva	6.10	328	⇓iPn	Pn	15 44 38.4	-0.1
STON	Ston	6.39	320	ePn	Pn	15 44 39.6	-2.6
STON				Sn	Sn	15 45 45.6	-8.4
BBLS	Lazići	6.48	334	ePn	Pn	15 44 41.8	-1.6
UDBI	Udbina	8.56	321	ePn	Pn	15 45 10.1	-1.3
UDBI				Sn	Sn	15 46 37.8	-8.6
UDBI	Udbina	8.56	321	ePn	Pn	15 45 10.1	-1.3

*IDC **15** 15:45:05.5±1.4, 2.30S×139.70E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/10, Error ellipse: s-maj=18.1km s-min=11.6km az=173.0*

*ISCJB **15** 15:45:09.0±0.6, 2.47S±0.06×139.74E±0.04, h25km, mb3.1/2, Error ellipse: s-maj=8.5km s-min=4.8km az=14.6*

*DJA **15** 15:45:09.6±0.7, 2°S±14°×14°0E±°, h18km±12km, M4.1/5, MLv4.1/5*

ISC 15 15:45:09.2±0.8**, 2.37S**±0.08×**139.79E**±0.04**, h25km, n22, σ2.06**/24**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	Genyem	0.44	121	P	Pn	15 45 20.1	+0.2
GENI				S	Sn	15 45 28.6	+1.5
JAY	Jayapura	0.93	99	P	Pb	15 45 26.0	-0.7
JAY				S	Sn	15 45 39.1	-0.2
JAY	Jayapura	0.93	99	Pg	Pb	15 45 25.8	-0.9
	1μm,0.3s,baz=115,slow=0.1,SNR=239						
JAY				Lg	Lg	15 45 38.5	
	3μm,0.3s,baz=233,slow=0.2,SNR=44						
JAY	Jayapura	0.93	99	P	Pb	15 45 25.6	-1.1
	baz=0.9,SNR=143						
JAY				S	Sn	15 45 39.0	-0.2
	baz=0.9,SNR=8.5						
SMPI	Sarmi	1.14	289	P	Pn	15 45 29.6	0.0
SMPI				S	Sb	15 45 46.1	+1.4
SRPI	Serui, Papua	3.58	278	P	Pn	15 46 04.9	+1.7
BAKI	Biak	3.86	288	P	Pn	15 46 07.8	+0.8
FAKI	Fak Fak	7.55	266	P	Pn	15 46 59.1	+1.3
	baz=7.7,SNR=3.0						
PMG	Port Moresby	10.13	134	LR	LR	15 52 34.2	
	comp=Z,49nm,20.6s,baz=214,slow=44						
PMG	Port Moresby	10.13	134	S	Sn	15 49 30.8	+4.8
	baz=10,SNR=3.9						
KDU	Kakadu	12.55	215	P	Pn	15 48 06.3	0.0
	baz=13,SNR=5.5						
KDU				S	Sn	15 50 22.1	-3.4
	baz=13,SNR=3.1						
MTN	Manton Dam	13.48	219	P	Pn	15 48 18.9	-0.1
	baz=14,SNR=7.9						
KNRA	Kununurra	17.12	219	P	Pn	15 49 07.6	+0.7
	baz=17,SNR=5.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.26	197	P	P	15 49 22.1	+1.0
	0.3nm,0.3s,baz=18,slow=13,SNR=22						
WRA				S	Sn	15 52 39.7	-4.7
	0.1nm,0.3s,baz=9.2,slow=22,SNR=5.4						
WSI	Waingapu	20.68	249	S	S	15 53 28.4	-9.3
	baz=21,SNR=3.2						
FITZ	Fitzroy Crossi	20.91	221	P	Pn	15 49 59.1	+6.5
	baz=21,SNR=3.4						
ASAR	Alice Springs	21.93	195	P	P	15 50 01.6	+0.6
	0.5nm,0.4s,baz=24,slow=10.0,SNR=14						
ASAR				S	S	15 54 05.6	+3.5
	0.3nm,0.8s,baz=14,slow=26,SNR=3.7						
WRKA	Warakurna	25.12	205	P	P	15 50 32.6	+0.3
	baz=26,SNR=3.9						
SMRI	Semarang	29.61	260	P	P	15 51 03.4	-9.4
	baz=30,SNR=3.3						
NFK	Norfolk Island	37.70	138	P	P	15 52 15.7	-7.1
	baz=38,SNR=3.5						
MKAR	Makanchi Array	70.18	322	P	P	15 56 19.3	-0.6
	0.1nm,0.6s,baz=111,slow=8.2,SNR=2.1						
MAW	Mawson	82.84	202	P	P	15 57 28.6	-2.6
	baz=83,SNR=12						

MEX 15 16:04:18.7±0.3,15.93N×98.54W,h4km±13km,MD3.9,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.61	41	iP	Pg	16 04 30.0	-0.5
PNIG				iS	Sg	16 04 39.0	+0.5
ACX	Acapulco	1.57	307	iP	Pn	16 04 37.4	-10
ACX				eS	Sn	16 04 57.9	-10
TLIG	Tlapa	1.63	359	iP	Pn	16 04 44.2	-4.2
TLIG				eS	Sn	16 05 04.5	-5.4
CAIG	El Cayaco	1.99	304	iP	Pn	16 04 49.9	-3.3
CAIG				eS	Sn	16 05 14.6	-4.1
MEIG	Mezcala	2.24	333	iP	Pn	16 04 53.7	-3.0
MEIG				eS	Sn	16 05 20.6	-4.2
PLIG	Platanillo	2.62	340	iP	Pn	16 04 58.4	-3.5
PLIG				eS	Sn	16 05 29.9	-4.4
ARIG	Puente Sto Nin	2.91	324	iP	Pn	16 05 03.0	-2.9
ARIG				eS	Sn	16 05 37.2	-4.1

ATH 15 16:06:59.8,39.79N×19.47E,h4km±1km,MD3.2/13
CSEM 15 16:07:01.8±0.4,39.77N×19.56E,h2km,ML2.4,Error ellipse: s-maj=8.7km s-min=6.1km az=72.0
THE 15 16:07:04.4,39.75N×19.78E,h0km±3km,ML2.4/3,Error ellipse: s-maj=4.3km s-min=1.3km az=254.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.04	163	P	Pg	16 07 04.3	-0.9
KEK				S	Sg	16 07 06.2	+0.5
KEK	Kerkira	0.04	163	ePG	Pg	16 07 04.3	-0.9
KEK	Kerkira	0.04	163	ePg	Pg	16 07 04.3	-0.9
IGT	Igoumenitsa	0.48	117	P	Pg	16 07 12.7	-0.9
IGT				S	Sg	16 07 20.2	+0.4
IGT	Igoumenitsa	0.48	117	ePG	Pg	16 07 12.8	-0.8
IGT				eSG	Sb	16 07 23.2	-0.1
IGT	Igoumenitsa	0.48	117	ePg	Pg	16 07 12.8	-0.8
IGT				eSg	Sb	16 07 23.2	-0.1
JAN	Janina	0.83	96	ePG	Pg	16 07 20.1	-0.3
JAN				eSG	Sb	16 07 34.9	+1.4
JAN	Janina	0.83	96	ePg	Pg	16 07 20.1	-0.3
JAN				eSg	Sb	16 07 34.9	+1.4
KBN	Korca	1.16	41	P	Pg	16 07 25.6	-1.2
KBN				S	Sn	16 07 44.0	-0.7
KBN	Korca	1.16	41	P	Pg	16 07 25.6	-1.2
KBN				S	Sn	16 07 44.0	-0.7
LKD2	Lefkada island	1.18	144	P	Pg	16 07 26.8	-0.2
LKD2	Lefkada island	1.18	144	ePB	Pg	16 07 25.3	-1.7
LKD2				eSB	Sb	16 07 44.1	+0.6
LKD2	Lefkada island	1.18	144	ePb	Pg	16 07 25.3	-1.7
LKD2	Lefkada island	1.18	144	P	Pg	16 07 26.8	-0.2
LKD2				eSb	Sb	16 07 44.1	+0.6
DSL	Palaion Diasel	1.19	121	P	Pg	16 07 27.5	+0.2
DSL	Palaion Diasel	1.19	121	P	Pg	16 07 27.5	+0.2
PDO	Prodromos	1.58	136	P	Pn	16 07 33.0	-0.7
PDO	Prodromos	1.58	136	ePG	Pn	16 07 33.0	-0.7
PDO	Prodromos	1.58	136	P	Pn	16 07 33.0	-0.7
FNA	Florina	1.60	49	P	Pn	16 07 32.6	-1.4
FNA				S	Sn	16 07 54.7	-0.7
FNA	Florina	1.60	49	ePB	Pn	16 07 32.8	-1.2
FNA				eSB	Sg	16 07 57.1	+1.2
FNA	Florina	1.60	49	P	Pn	16 07 32.6	-1.4
FNA				S	Sn	16 07 54.7	-0.7
FNA				eSb	Sg	16 07 57.1	+1.2
KZN	Kozani	1.62	69	ePB	Pn	16 07 34.6	+0.2
KZN				eSB	Sg	16 07 59.4	+2.6
KZN	Kozani	1.62	69	ePb	Pn	16 07 34.6	+0.2
KZN				eSb	Sg	16 07 59.4	+2.6
VLS	Valsamata	1.69	158	P	Pn	16 07 34.1	-1.1
VLS	Valsamata	1.69	158	ePB	Pn	16 07 34.8	-0.4
VLS	Valsamata	1.69	158	P	Pn	16 07 34.1	-1.1
VLS	Valsamata	1.69	158	ePb	Pn	16 07 34.8	-0.4
THL	Klokotos Trika	1.73	95	P	Pn	16 07 35.6	-0.1
THL	Klokotos Trika	1.73	95	ePN	Pn	16 07 35.5	-0.2
THL				eSN	Sg	16 08 02.2	+2.1
THL	Klokotos Trika	1.73	95	ePn	Pn	16 07 35.5	-0.2
THL				eSn	Sg	16 08 02.2	+2.1
EVR	Evrytania	1.78	117	ePN	Pn	16 07 36.6	+0.1
EVR	Evrytania	1.78	117	ePn	Pn	16 07 36.6	+0.1
KFL	Anninata	1.82	154	P	Pn	16 07 36.3	-0.6
KFL	Anninata	1.82	154	P	Pn	16 07 36.3	-0.6
MAKR	Makrakomi, Fth	1.96	111	P	Pn	16 07 39.1	+0.1
MAKR				S	Sb	16 08 05.5	-0.6
MAKR	Makrakomi, Fth	1.96	111	ePG	Pb	16 07 40.1	-1.0
MAKR	Makrakomi, Fth	1.96	111	P	Pn	16 07 39.1	+0.1
MAKR	Makrakomi, Fth	1.96	111	ePg	Pb	16 07 40.1	-1.0
MAKR				S	Sb	16 08 05.5	-0.6
PHP	Peshkopia	2.00	14	P	Pn	16 07 38.8	-0.7
PHP	Peshkopia	2.00	14	P	Pn	16 07 38.8	-0.7
LIT	Litokhoron	2.11	80	ePN	Pn	16 07 41.2	+0.2
LIT	Litokhoron	2.11	80	ePn	Pn	16 07 41.2	+0.2
EFP	Efpalio	2.12	128	ePN	Pn	16 07 41.5	+0.5
EFP	Efpalio	2.12	128	ePn	Pn	16 07 41.5	+0.5
LAKA	Lakka	2.28	131	ePB	Pn	16 07 42.7	-0.6
LAKA	Lakka	2.28	131	ePb	Pn	16 07 42.7	-0.6
KALE	Kalithea	2.28	126	P	Pn	16 07 43.7	+0.3
KALE	Kalithea	2.28	126	ePN	Pn	16 07 44.2	+0.8
KALE	Kalithea	2.28	126	P	Pn	16 07 43.7	+0.3
KALE	Kalithea	2.28	126	ePn	Pn	16 07 44.2	+0.8
GRG	Griva	2.33	58	P	Pn	16 07 43.9	-0.2
GRG	Griva	2.33	58	P	Pn	16 07 43.9	-0.2
DRO	Drossia	2.34	139	ePB	Pn	16 07 43.2	-1.0
DRO	Drossia	2.34	139	ePb	Pn	16 07 43.2	-1.0
KLV	Kalavryta, Ach	2.51	132	P	Pn	16 07 46.9	+0.3
KLV	Kalavryta, Ach	2.51	132	ePB	Pn	16 07 47.4	+0.8
KLV	Kalavryta, Ach	2.51	132	P	Pn	16 07 46.9	+0.3
KLV	Kalavryta, Ach	2.51	132	ePb	Pn	16 07 47.4	+0.8
GUR	Goura	2.70	131	P	Pn	16 07 49.4	+0.2
GUR	Goura	2.70	131	ePN	Pn	16 07 49.4	+0.2
GUR	Goura	2.70	131	P	Pn	16 07 49.4	+0.2
STON	Ston	3.49	334	ePn	Pn	16 07 54.6	-5.3
STON				Sn	Sn	16 08 33.0	-8.9
STON	Ston	3.49	334	ePn	Pn	16 07 54.6	-5.3
STON				Sn	Sn	16 08 32.9	-9.0
DID	Didima	3.51	129	P	Pn	16 07 59.3	-1.0
DID	Didima	3.51	129	P	Pn	16 07 59.3	-1.0
NVLJ	Novalja	6.04	324	ePn	Pn	16 08 29.4	-5.5
NVLJ				Sn	Sn	16 09 34.3	-10
NVLJ	Novalja	6.04	324	ePn	Pn	16 08 29.4	-5.5
NVLJ				Sn	Sn	16 09 34.3	-10

CSEM 15 16:08:12.0,44.46N×21.90E,h0km,ML1.5,Mining explosion. After BEO
BEO 15 16:08:12.0±0.3,44.46N×21.90E,h0km,ML1.5/8,2C, Mining explosion.,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVIS	Svilajnac	0.53	249	eSg	Sg	16 08 28.6	-0.4
GRUS	Gruza	1.03	237	eSg	Sg	16 08 45.4	+0.4
GRUS	Gruza	1.03	237	eSg	Sg	16 08 45.4	+0.4
TRUS	Trudelj	1.10	258	ePg	Pg	16 08 30.9	-2.2
TRUS				eSg	Sg	16 08 47.6	+0.3
TRUS	Trudelj	1.10	258	ePg	Pg	16 08 30.9	-2.2
TRUS				eSg	Sg	16 08 47.6	+0.3
GZR	Gura Zlata	1.12	33	ePg	Pg	16 08 32.4	-1.3
GZR				eSg	Sg	16 08 47.0	-1.3
GZR	Gura Zlata	1.12	33	⇑iP	Pg	16 08 32.4	-1.3
GZR	Gura Zlata	1.12	33	S	Sg	16 08 48.2	-0.1
GZR	Gura Zlata	1.12	33	ePg	Pg	16 08 32.4	-1.3
GZR				eSg	Sg	16 08 47.0	-1.3
BZS	Buzias	1.17	350	ePg	Pg	16 08 33.3	-1.2
BZS				eSg	Sg	16 08 49.9	+0.1
BZS	Buzias	1.17	350	⇑iP	Pg	16 08 33.2	-1.3
BZS	Buzias	1.17	350	S	Sb	16 08 51.4	+0.4
BZS	Buzias	1.17	350	ePg	Pg	16 08 33.3	-1.2
BZS				eSg	Sg	16 08 49.9	+0.1
ZAPS	Zavoj	1.30	156	ePg	Pg	16 08 34.5	-2.5
ZAPS				eSg	Sg	16 08 53.6	-0.3
DIVS	Divibare	1.42	256	ePg	Pn	16 08 38.0	-1.2
DIVS				eSg	Sg	16 08 55.4	-2.4
DIVS	Divibare	1.42	256	ePg	Pn	16 08 38.0	-1.2
DIVS				eSg	Sg	16 08 55.4	-2.4
IVAS	Ivanjica	1.54	236	ePg	Pn	16 08 38.8	-2.0
IVAS				eSg	Sn	16 09 00.4	-1.2
IVAS	Ivanjica	1.54	236	ePg	Pn	16 08 38.8	-2.0
IVAS				eSg	Sn	16 09 00.4	-1.2

IDC 15 16:17:01.4±3.2,6.49S×147.71E,h0km,mb3.3/2, mb1 3.5/4,mb1mx3.2/26,mbtmp3.2/4,ML2.7/2,MS2.2/1, Ms1 2.2/1,ms1mx2.2/17,Error ellipse: s-maj=80.3km s-min=26.7km az=90.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.95	191	Pn	Pn	16 17 48.9	-0.6
	1.5nm,0.3s,baz=12,slow=9.3,SNR=9.1						
PMG				Sn	Sn	16 18 25.8	+0.2
	4.7nm,0.3s,baz=347,slow=18,SNR=4.4						
PMG				LR	LR	16 19 23.7	
	comp=Z,46nm,21.2s,baz=214,slow=48						
WRA	Warramunga Arr	18.64	223	P	P	16 21 20.6	-0.3
	0.1nm,0.3s,baz=47,slow=12,SNR=5.9						
ASAR	Alice Springs	21.63	216	P	P	16 21 54.0	+0.6
	0.5nm,0.4s,baz=50,slow=8.9,SNR=14						
CMAR	Chiang Mai Arr	54.11	298	P	P	16 26 28.3	-0.3
	0.2nm,0.4s,baz=133,slow=6.1,SNR=4.3						
TORD	Torodi Ar. Bea	145.90	284	PKPbc	PKPdf	16 36 43.2	-0.1
	0.4nm,0.5s,baz=88,slow=3.2,SNR=3.4						

IDC 15 16:27:32.9±1.6,35.85N×31.20E,h0km,mb3.5/4, mb1 3.4/9,mb1mx3.3/42,mbtmp3.3/9,ML3.3/5,Error ellipse: s-maj=29.4km s-min=22.9km az=65.0
CSEM 15 16:27:35.8±0.1,35.68N×31.14E,h2km,MD3.2,Error ellipse: s-maj=4.1km s-min=3.0km az=57.0
NIC 15 16:27:36.3,35.90N×31.36E,h5km,ML3.5
ISK 15 16:27:37.1,35.65N×31.12E,h23km,MD3.6
DDA 15 16:27:39.1,35.96N×31.37E,h14km,MD3.2
HLW 15 16:27:40.6,35.52N×31.04E,h31km±29km,Md3.4
ISC 15 16:27:35.1±1.1,35.68N±0.03×31.14E±0.02,h11km±8km, n90,σ1.92/114,mb3.4/4,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	1.10	59	iP	Pg	16 27 55.5	-0.8
GAZI	Gazipasa	1.10	59	iP	Pg	16 27 55.5	-0.8
GAZI				iS	Sg	16 28 06.1	-4.6
AKMC	Akamas	1.17	123	P	Pb	16 27 58.1	+0.8
	baz=318						
AKMC	Akamas	1.17	123	P	Pb	16 27 58.1	+0.8
PPCY	Paphos	1.26	128	P	Pn	16 28 00.9	+2.3
	baz=321						
PPCY				S	Sn	16 28 18.4	+2.9
PPCY	Paphos	1.26	128	P	Pn	16 28 00.9	+2.3
PPCY				S	Sn	16 28 18.4	+2.9
ALFC	Alevga	1.30	113	iP	Pg	16 27 59.4	-0.6
	baz=306						
ALFC				S	Sb	16 28 17.7	+1.5
ALFC	Alevga	1.30	113	iP	Pg	16 27 59.4	-0.6
ALFC				S	Sb	16 28 17.7	+1.5
ELL	Elmali	1.46	317	ePN	Pg	16 28 03.5	+0.3
ELL	Elmali	1.46	317	ePn	Pg	16 28 03.5	+0.3
KORT	Korkueli	1.47	334	iP	Pg	16 28 03.5	+0.2
KORT	Korkueli	1.47	334	iP	Pg	16 28 03.5	+0.2
KORT				iS	Sn	16 28 28.4	+7.6
LEF	Lefka	1.53	111	ePN	Pn	16 28 03.5	+1.2
LEF				eSN	Sn	16 28 22.6	+0.4
LEF	Lefka	1.53	111	ePn	Pn	16 28 03.5	+1.2
LEF				eSn	Sn	16 28 22.6	+0.4
AKDN	Akdeniz- K¨–br	1.54	104	ePN	Pb	16 28 04.2	+0.6
AKDN	Akdeniz- K¨–br	1.54	104	ePn	Pb	16 28 04.2	+0.6
SZAC	Souni-Zanaja	1.70	122	P	Pg	16 28 08.3	+0.7
	baz=312						
SZAC				S	Sg	16 28 29.7	0.0
SZAC	Souni-Zanaja	1.70	122	P	Pg	16 28 08.3	+0.7
SZAC				S	Sg	16 28 29.7	0.0
ERMK	Ermenek	1.73	56	iP	Pn	16 28 06.3	+1.1
ERMK	Ermenek	1.73	56	iP	Pn	16 28 06.3	+1.1
ERMK				iS	Sn	16 28 25.4	-1.9
MAMC	Mammari	1.77	106	P	Pn	16 28 05.9	+0.3
	baz=296						
MAMC	Mammari	1.77	106	P	Pn	16 28 05.9	+0.3
BCK	Bucak	1.83	346	ePN	Pn	16 28 08.2	+1.6
BCK	Bucak	1.83	346	ePn	Pn	16 28 08.2	+1.6
FETY	Fethiye	1.92	300	ePN	Pn	16 28 08.6	+0.9
FETY	Fethiye	1.92	300	ePn	Pn	16 28 08.6	+0.9
CSS	Prodhromos	1.93	111	ePN	Pn	16 28 09.6	+1.8
CSS	Prodhromos	1.93	111	ePn	Pn	16 28 09.6	+1.8
LFK	Lefkose	1.99	101	ePN	Pn	16 28 10.5	+1.8
LFK	Lefkose	1.99	101	ePn	Pn	16 28 10.5	+1.8
GOLH	Golhisar	2.01	321	iP	Pb	16 28 11.6	-0.1
GOLH	Golhisar	2.01	321	iP	Pb	16 28 11.6	-0.1
GOLH				iS	Sg	16 28 41.9	+2.1
ISP	Isparta	2.20	347	ePN	Pn	16 28 13.9	+2.3
ISP	Isparta	2.20	347	ePn	Pn	16 28 13.9	+2.3
DALY	Dalyan (Mu˘la	2.31	300	ePN	Pn	16 28 14.8	+1.8
DALY	Dalyan (Mu˘la	2.31	300	ePn	Pn	16 28 14.8	+1.8
KONT	Konya--Tatoy	2.47	23	ePN	Pn	16 28 17.1	+1.9
KONT	Konya--Tatoy	2.47	23	ePn	Pn	16 28 17.1	+1.9
EREN	Erenkoy	2.47	93	ePN	Pn	16 28 17.1	+1.9
EREN	Erenkoy	2.47	93	ePn	Pn	16 28 17.1	+1.9
KIZK	Mersin	2.56	71	iP	Pn	16 28 19.1	+2.6
KIZK				iS	Sn	16 28 49.5	+1.9
KIZK	Mersin	2.56	71	iP	Pn	16 28 19.1	+2.6
KIZK				iS	Sn	16 28 49.5	+1.9
LADK	Ladik-KONYA	2.70	21	ePN	Pn	16 28 20.6	+2.1
LADK	Ladik-KONYA	2.70	21	ePn	Pn	16 28 20.6	+2.1
KDHN	Kadinhani	2.94	15	iP	Pn	16 28 22.7	+0.9
KDHN				iS	Sn	16 28 58.6	+1.4
KDHN	Kadinhani	2.94	15	iP	Pn	16 28 22.7	+0.9
KDHN				iS	Sn	16 28 58.6	+1.4
MERS	Mersin	2.98	66	ePN	Pn	16 28 25.1	+2.8
MERS	Mersin	2.98	66	ePn	Pn	16 28 25.1	+2.8
SULT	Sultanhani-AKS	3.15	36	ePN	Pn	16 28 27.2	+2.6
SULT	Sultanhani-AKS	3.15	36	ePn	Pn	16 28 27.3	+2.6
BDRM	Kayabasi	3.29	296	iP	Pn	16 28 29.1	+2.7
BDRM				iS	Sn	16 29 02.0	-3.5
GULE	Gulek	3.34	60	iP	Pn	16 28 30.4	+3.1
GULE	Gulek	3.34	60	iP	Pn	16 28 30.4	+3.1
GULE				iS	Sb	16 29 13.8	-1.2
BODT	Bodrum	3.39	295	ePN	Pn	16 28 30.0	+2.2
BODT	Bodrum	3.39	295	ePn	Pn	16 28 30.0	+2.2
KARA	Karaisali	3.53	62	ePN	Pn	16 28 32.7	+2.9
KARA	Karaisali	3.53	62	ePn	Pn	16 28 32.7	+2.9
GDZ	Gediz	3.65	339	iP	Pn	16 28 34.8	+3.2
GDZ				iS	Sn	16 29 17.7	+3.0
GDZ	Gediz	3.65	339	iP	Pn	16 28 34.8	+3.2
GDZ				iS	Sn	16 29 17.7	+3.0
KOZT	Kozan	4.18	63	ePN	Pn	16 28 41.7	+3.0
KOZT	Kozan	4.18	63	ePn	Pn	16 28 41.7	+3.0
MMAI	Mount Meron Ar	4.41	126	Pn	Pn	16 28 41.7	-0.4
	5.3nm,0.3s,baz=306,slow=12,SNR=24						
MMAI				Sn	Sn	16 29 32.5	-0.9
	5.6nm,0.3s,baz=313,slow=25,SNR=6.8						
BRTR	Keskin Array B	4.50	25	Pn	Pn	16 28 43.8	+0.6
	0.3nm,0.3s,baz=203,slow=14,SNR=9.2						
BRTR				Sn	Sn	16 29 37.3	+1.7
	0.3nm,0.3s,baz=206,slow=16,SNR=4.1						
IDI	Anoyia	5.12	267	Pn	Pn	16 28 52.6	+1.0
	0.4nm,0.3s,baz=80,slow=16,SNR=4.0						
IDI				Sn	Sn	16 29 50.3	-0.4
	1.2nm,0.3s,baz=336,slow=20,SNR=4.3						
RSH		5.18	155	P	Pn	16 28 54.5	+2.1
	baz=152						
RSH		5.18	155	P	Pn	16 28 54.5	+2.1
BCAM	Yenicaga	5.18	8	iP	Pn	16 28 53.8	+1.2
BCAM				iS	Sn	16 29 52.7	+0.3
BCAM	Yenicaga	5.18	8	iP	Pn	16 28 53.8	+1.2
BCAM				iS	Sn	16 29 52.7	+0.3
AMAG	Maghara	5.31	160	P	Pn	16 28 55.9	+1.6
	baz=158						
AMAG	Maghara	5.31	160	P	Pn	16 28 55.9	+1.6
HMAT	Matruh	5.69	218	P	Pn	16 29 00.9	+1.5
	baz=218						
HMAT				S	Sn	16 30 01.7	-3.0
	baz=218						
HMAT	Matruh	5.69	218	P	Pn	16 29 00.9	+1.5
KOT	Kottamia	5.76	174	P	Pn	16 29 02.2	+1.7
	baz=172						
KOT	Kottamia	5.76	174	P	Pn	16 29 02.2	+1.7
HHAG	Hagoal	5.76	172	P	Pn	16 29 02.7	+2.2
	baz=170						
HHAG				S	Sn	16 30 04.3	-2.3
	baz=170						
HHAG	Hagoal	5.76	172	P	Pn	16 29 02.7	+2.2
SUZ		5.99	166	P	Pn	16 29 06.0	+2.4
	baz=164						
SUZ		5.99	166	P	Pn	16 29 06.0	+2.4
HSAF	As Saff	6.05	177	P	Pn	16 29 06.5	+2.1
	baz=175						
HSAF	As Saff	6.05	177	P	Pn	16 29 06.6	+2.1
GLL	Jalalah	6.10	175	P	Pn	16 29 06.6	+1.4
	baz=174						
GLL	Jalalah	6.10	175	P	Pn	16 29 06.6	+1.4
EIL	Elat	6.80	151	Pn	Pn	16 29 16.3	+1.6
	0.5nm,0.3s,baz=343,slow=16,SNR=4.4						
EIL				Sn	Sn	16 30 31.0	-1.1
	0.5nm,0.3s,baz=325,slow=14,SNR=4.7						
HFRF	Wahat Farafira	8.84	197	P	Pn	16 29 44.1	+1.4
	baz=197						
HFRF	Wahat Farafira	8.84	197	P	Pn	16 29 44.1	+1.4
AKASG	Malin Array Be	15.08	355	Pn	Pn	16 31 04.2	-3.7
	0.4nm,0.3s,baz=180,slow=12,SNR=4.5						
FINES	FINESS Array B	25.99	354	P	P	16 33 04.3	-3.2
	0.9nm,0.8s,baz=171,slow=12,SNR=3.4						
MKAR	Makanchi Array	39.40	57	P	P	16 35 03.5	-1.2
	0.5nm,0.7s,baz=271,slow=7.7,SNR=8.1						
ZALV	Zalesovo Beam	41.12	46	P	P	16 35 16.1	-2.6
	0.4nm,0.3s,baz=286,slow=10,SNR=3.4						
SONM	Songino Array	55.34	52	P	P	16 37 07.4	-1.5
	0.1nm,0.4s,baz=292,slow=7.6,SNR=3.1						

MEX 15 16:31:42.9±0.3,15.87N×94.87W,h20km±18km,MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.20	265	iP	Pn	16 32 01.3	-3.2
HUIG				iS	Sb	16 32 15.6	-4.3
CMIG	Matias Romero	1.22	359	iP	Pn	16 32 01.8	-3.0
CMIG				eS	Sb	16 32 15.5	-5.0
PCIG		1.60	96	iP	Pn	16 32 06.7	-3.3
PCIG				eS	Sn	16 32 26.1	-4.0
VHO	Vista Hermosa	2.15	304	iP	Pn	16 32 14.8	-3.1
VHO				iS	Sn	16 32 41.0	-3.2
CCIG	Comitan	2.66	81	iP	Pn	16 32 22.3	-2.6
CCIG				iS	Sn	16 32 53.4	-3.4

IDC 15 16:37:36.8±2.9,28.70N×83.34E,h0km,mb3.3/3, mb1 3.5/5,mb1mx3.2/41,mbtmp3.4/5,ML3.5/2,Error ellipse: s-maj=115.4km s-min=23.0km az=62.0,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.55	122	P	Pn	16 41 43.6	+0.6
	0.1nm,0.3s,baz=322,slow=11,SNR=5.1						
MKAR	Makanchi Array	18.09	358	P	Pn	16 41 49.1	-0.4
	0.1nm,0.3s,baz=191,slow=12,SNR=13						
ZALV	Zalesovo Beam	25.25	2	P	P	16 43 04.5	0.0
	0.6nm,0.4s,baz=182,slow=10.0,SNR=3.4						
BVAR	Borovoye Array	26.12	342	P	P	16 43 12.7	+0.3
	0.2nm,0.4s,baz=130,slow=9.5,SNR=2.3						
WRA	Warramunga Arr	69.01	128	P	P	16 48 44.3	-0.2
	0.2nm,0.8s,baz=324,slow=6.1,SNR=3.3						

IDC 15 16:46:32.7±15.0,47.38S×125.23E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.6/21,mbtmp3.4/3,MS3.3/2,Ms1 3.3/2, ms1mx2.9/10,Error ellipse: s-maj=359.2km s-min=59.5km az=153.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	19.90	45	LR	LR	16 57 37.6	
	comp=Z,65nm,19.1s,baz=202,slow=33						
ASAR	Alice Springs	24.66	19	P	P	16 51 54.9	-0.3
	1.2nm,0.7s,baz=193,slow=9.0,SNR=15						
WRA	Warramunga Arr	28.36	18	P	P	16 52 28.6	+0.2
	0.4nm,0.9s,baz=191,slow=8.0,SNR=3.1						
VNDA	Vanda	33.41	166	LR	LR	17 03 40.0	
	comp=Z,77nm,20.9s,baz=270,slow=31						
CMAR	Chiang Mai Arr	69.67	333	P	P	16 57 44.1	+0.1
	0.1nm,0.4s,baz=166,slow=5.4,SNR=3.1						

BJI 15 17:29:09.0,58.80N×137.70W,h8km,mB5.2/20,mb4.7/31, Ms4.6/6,Ms7 4.4/6
IDC 15 17:29:11.2±0.5,59.03N×137.59W,h0km,mb4.2/23, mb1 4.3/30,mb1mx4.2/50,mbtmp4.2/30,ML4.1/7,MS3.8/29, Ms1 3.8/29,ms1mx3.7/53,Error ellipse: s-maj=11.8km s-min=6.3km az=41.0
ISCJB 15 17:29:11.4±0.1,58.97N±0.02×137.80W±0.04,h10km, mb4.6/80,MS3.8/29,Error ellipse: s-maj=4.1km s-min=1.5km az=34.7
MOS 15 17:29:11.2±1.0,58.98N×137.75W,h12km,mb4.8/34, Error ellipse: s-maj=13.2km s-min=5.1km az=107.0
NEIC 15 17:29:12.3,58.78N×137.72W,h3km,mb4.8/41, ML4.4(AEIC),MW4.5(OTT),After AEIC.
NEIC Felt [II] at Haines and Juneau. Also felt at Skagway. Felt at Whitehorse, Yukon Territory.
PGC 15 17:29:12.5±2.0,58.87N×137.60W,h1km,ML4.8/4,Mw4.5, 117km Ese of Yakutat, Ak Southeastern Alaska
ISC 15 17:29:13.3±0.5,58.95N±0.04×137.79W±0.03,h15km±2km, h14km:pP-P,n477,σ1.02/491,mb4.8/80,MS3.8/29, 97C-108D,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESE	Bessie Mountai	1.57	102	P	Pn	17 29 38.8	-1.9
BESE				S	Sn	17 29 58.4	-2.5
HYT	Haines Junctio	1.89	4	⇑Pn	Pb	17 29 46.7	-0.8
HYT				⇓Sn	Sb	17 30 12.4	+1.5
HYT	Haines Junctio	1.89	4	P	Pb	17 29 46.9	-0.6
HYT				S	Sb	17 30 12.5	+1.5
CHX	Chaix Hills	2.03	305	P	Pn	17 29 48.4	+1.3
CHX				S	Sb	17 30 15.0	-0.1
WHY	Whitehorse	2.26	39	⇓Pn	Pn	17 29 49.7	-0.5
WHY				⇓Sn	Sn	17 30 17.0	-0.9
WHY				⇑Sg	Sb	17 30 22.9	+1.3
WHY	Whitehorse	2.26	39	P	Pn	17 29 49.9	-0.4
WHY				S	Sn	17 30 19.5	+1.7
CTGM	Chitina Glacie	2.70	320	P	Pn	17 29 56.3	+0.1
CTGM				S	Sb	17 30 33.4	-0.8
BALM	Baldy	3.10	314	P	Pn	17 30 01.1	-0.7
BALM				S	Sb	17 30 44.5	-1.4
BALM	Baldy	3.10	314	P	Pn	17 30 01.1	-0.7
BALM				S	Sb	17 30 44.5	-1.4
RAGM	Ragged Mountai	3.78	295	P	Pn	17 30 11.6	+0.5
RAGM				S	Sn	17 30 56.1	+0.8
WRAK	Wrangell Islan	3.87	129	P	Pn	17 30 08.8	-3.4
GOAT	Goat Mountain	3.87	298	P	Pn	17 30 12.7	+0.4
BMRM	Bremner River	3.98	303	P	Pn	17 30 14.1	+0.2
SGAM	Sherman Glacie	4.07	296	P	Pn	17 30 16.3	+1.4
DLBC	Dease Lake	4.08	94	⇑Pn	Pn	17 30 13.0	-2.2
DLBC				⇓Sg	Sb	17 31 16.0	+2.0
DLBC	Dease Lake	4.08	94	Pn	Pn	17 30 14.4	-0.8
	10nm,0.3s,baz=312,slow=9.7,SNR=86						
DLBC				Pg	Pb	17 30 25.1	+0.2
	34nm,0.3s,baz=272,slow=13,SNR=22						
DLBC				Sn	Sn	17 31 01.8	-0.9
	66nm,0.3s,baz=299,slow=19,SNR=4.3						
DLBC				Lg	Lg	17 31 15.7	

135nm,0.3s,baz=180,slow=20,SNR=6.5
DLBC LR LR 17 31 45.5
comp=Z,1µm,20.9s,baz=284,slow=39
DLBC Dease Lake 4.08 94 P Pn 17 30 13.2 -2.0
DLBC Pn Pn 17 30 14.4 -0.8
CRAG Craig 4.31 142 ePn Pn 17 30 13.7 -4.6
DIV Divide 4.56 302 P Pn 17 30 22.4 +0.6
BCA3 Beaver Creek A 4.56 336 P Pn 17 30 21.9 +0.1
KLU Klutina 4.79 306 P Pn 17 30 26.4 +1.4
VLZ Valdez 4.81 301 P Pn 17 30 25.9 +0.7
JPK Jack Peak 4.90 299 P Pn 17 30 27.2 +0.7
PS11 TAPS Pump St11 4.93 313 P Pn 17 30 28.7 +2.0
MENT Mentasta 4.94 327 eP Pn 17 30 29.1 +2.1
HARP HAARP 5.01 317 P Pn 17 30 29.2 +1.2
GLI Glacier Island 5.07 296 P Pn 17 30 28.0 -0.7
DAWY Dawson 5.19 352 ⇑Pn Pn 17 30 31.4 +1.0
DAWY ⇓Sn Sn 17 31 30.2 +0.2
DAWY ⇑Sg Sg 17 31 56.8 -3.0
DAWY Dawson 5.19 352 P Pn 17 30 32.0 +1.6
PAX Paxson 5.50 320 eP Pn 17 30 36.3 +1.6
PAX Paxson 5.50 320 eP Pn 17 30 36.3 +1.6
SCM Sheep Creek Mo 5.54 305 P Pn 17 30 36.4 +1.1
SCM Sheep Creek Mo 5.54 305 P Pn 17 30 36.4 +1.1
DOT Dot Lake 5.60 330 P Pn 17 30 37.3 +1.3
PWL Port Wells 5.64 294 P Pn 17 30 36.4 -0.2
SCRK Sand Creek 5.85 332 P Pn 17 30 39.4 -0.2
SEW Seward 6.05 286 P Pn 17 30 41.0 -1.1
EGAK Eagle 6.06 346 P Pn 17 30 43.5 +1.2
RUBB Prince Rupert 6.22 135 ⇑Pn Pn 17 30 43.0 -1.6
RUBB ⇓Sg Sb 17 32 22.9 +7.5
DHY Denali Highway 6.23 316 P Pn 17 30 46.0 +1.2
PMR Palmer 6.24 300 P Pn 17 30 44.8 +0.1
PMR Palmer 6.24 300 P Pn 17 30 44.8 +0.1
RC01 Rabbit Creek A 6.36 295 P Pn 17 30 45.9 -0.6
DIB Dawson Inlet, 6.48 150 ⇓Pn Pn 17 30 46.3 -1.7
SLKM Skilak Lake 6.48 289 P Pn 17 30 47.7 -0.4
SLKM Skilak Lake 6.48 289 P Pn 17 30 47.6 -0.4
BRLK Bradley Lake 6.75 283 P Pn 17 30 51.8 0.0
SUA Susitna One 6.93 297 P Pn 17 30 54.0 -0.4
RND Reindeer 6.97 315 P Pn 17 30 56.4 +1.6
RND Reindeer 6.97 315 P Pn 17 30 56.4 +1.6
MCK McKinley 7.19 317 P Pn 17 30 59.3 +1.5
MCK McKinley 7.19 317 P Pn 17 30 59.2 +1.5
IL1 Eielson Array 7.25 328 P Pn 17 31 00.1 +1.5
ILAR Eielson Array 7.25 328 Pn Pn 17 30 58.6 +0.1
1.4nm,0.3s,baz=153,slow=12,SNR=91
ILAR Lg Lg 17 33 03.6
1.5nm,0.3s,baz=114,slow=27,SNR=4.5
WRH Wood River Hil 7.39 323 P Pn 17 31 01.8 +1.3
CCB Clear Creek Bu 7.42 325 P Pn 17 31 02.3 +1.3
STLK Strandline Lak 7.45 296 P Pn 17 31 01.9 +0.5
TRF Thorofare Moun 7.53 312 P Pn 17 31 04.3 +1.6
COLA College 7.60 326 eP Pn 17 31 04.8 +1.4
COLA College 7.60 326 eP Pn 17 31 01.9 -1.4
13nm,0.6s
CKL Chakachamna La 7.62 293 P Pn 17 31 04.0 +0.2
SPBG Spurr Blockage 7.65 294 P Pn 17 31 04.3 +0.2
RSO Redoubt South 7.72 288 eP Pn 17 31 04.1 -1.2
106nm,0.6s
KTH Kantishna Hill 7.83 312 eP Pn 17 31 07.6 +1.0
KDAK Kodiak Island 7.87 268 eP Pn 17 31 06.9 -0.2
KDAK pmax pmax
comp=Z,62nm,0.8s
KDAK Kodiak Island 7.87 268 ePn Pn 17 31 06.9 -0.2
comp=Z,62nm,0.8s
ILW Iliamna West 7.89 285 P Pn 17 31 07.7 +0.1
OPT Oil Point 7.94 282 P Pn 17 31 08.0 -0.1
PPLA Purkeypile 8.05 306 eP Pn 17 31 09.8 +0.1
comp=Z,53nm,0.8s
OHAK Old Harbor 8.39 265 eP Pn 17 31 12.5 -1.8
comp=Z,38nm,0.7s
BBB Bella Bella 8.71 137 Pn Pn 17 31 19.6 +1.0
comp=Z,0.7nm,0.3s,baz=322,slow=12,SNR=3.8
BBB Sn Sn 17 32 54.9 -1.6
comp=Z,0.9nm,0.3s,baz=326,slow=18,SNR=3.2
BBB Lg Lg 17 33 43.3
comp=Z,0.7nm,0.3s,baz=261,slow=18,SNR=3.5
INK Inuvik 9.58 10 eP Pn 17 31 31.3 +0.8
INK 17 33 14.3
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 9.58 10 Pn Pn 17 31 30.4 0.0
comp=Z,2.1nm,0.3s,baz=192,slow=14,SNR=97
INK Sn Sn 17 33 14.2 -3.5
comp=Z,0.6nm,0.3s,baz=270,slow=15,SNR=3.0
INK Lg Lg 17 34 12.7
comp=Z,1.5nm,0.3s,baz=283,slow=19,SNR=3.4
INK LR LR 17 35 39.8
comp=Z,901nm,18.1s,baz=179,slow=41
INK Inuvik 9.58 10 eP Pn 17 31 31.2 +0.8
comp=Z,6.1nm,0.7s
INK Sn Sn 17 33 14.2 -3.5
INK Lg Lg 17 34 12.7
COLD Coldfoot 10.01 331 eP Pn 17 31 38.8 +2.4
comp=Z,54nm,0.8s
IM04 Indian Mountai 10.19 320 eP Pn 17 31 39.4 +0.4
YKA Yellowknife Ar 11.86 63 Pn Pn 17 31 56.8 -4.9
comp=Z,0.8nm,0.3s,baz=262,slow=13,SNR=35
YKA Sn Sn 17 34 06.1 -7.5
comp=Z,0.4nm,0.3s,baz=284,slow=24,SNR=3.4
YKA Lg Lg 17 35 18.0
comp=Z,0.3nm,0.3s,baz=261,slow=27,SNR=4.7
EDM Edmonton 14.74 102 eP Pn 17 32 40.2 -1.0
EDM Edmonton 14.74 102 eP Pn 17 32 40.2 -1.0
TNA Tin City 15.39 308 eP Pn 17 32 50.1 +0.5
comp=Z,12nm,1.0s
LON Longmire 15.51 135 eP P 17 32 56.0 +0.2
LON pmax pmax
comp=Z,22nm,1.0s
LON Longmire 15.51 135 eP P 17 32 56.0 +0.2
comp=Z,22nm,1.0s
NEW Newport 16.20 122 Pn Pn 17 33 00.0 -0.2
comp=Z,0.2nm,0.3s,baz=314,slow=13,SNR=3.8
NEW Lg Lg 17 37 40.4
comp=Z,0.1nm,0.3s,baz=72,slow=21,SNR=3.4
NEW LR LR 17 39 28.5
comp=Z,176nm,21.2s,baz=318,slow=38
NEW Newport 16.20 122 ⇑P Pn 17 32 59.6 -0.6
baz=16
GAMB Gambell 16.81 301 eP Pn 17 33 08.7 +0.8
comp=Z,27nm,1.0s
I05D Terrebonne, OR 17.76 138 ⇓P Pn 17 33 19.8 -0.1
baz=18
I04A Tendick Farm, 17.88 141 ⇓P Pn 17 33 20.6 -0.8
baz=18
SWMT Swartz Lake 18.16 119 eP P 17 33 26.3 +1.3
comp=Z,10nm,1.3s
SLMT Seeley Lake 18.59 118 eP Pn 17 33 30.7 +0.6
comp=Z,8.4nm,1.0s
MSO Missoula 18.69 120 ⇑P P 17 33 31.1 +0.2
baz=18
J05D Fort Rock, OR 18.72 140 ⇓P Pn 17 33 31.9 +0.2
baz=18
CHMT Chamberlain Mo 18.94 119 eP Pn 17 33 35.2 +0.8
comp=Z,11nm,1.1s
L02D Cave Junction, 19.00 146 ⇑P Pn 17 33 34.9 -0.1
baz=19
K04D Chiloquin, OR 19.14 142 ⇓P P 17 33 35.8 -0.1
baz=19
YBH Yreka Blue Hor 19.66 145 Pn Pn 17 33 43.4 +0.5
comp=Z,0.1nm,0.3s,baz=12,slow=9.3,SNR=3.3
YBH LR LR 17 40 03.5
comp=Z,436nm,19.0s,baz=331,slow=33
A19A Klindworth Far 19.66 108 ⇓P P 17 33 41.9 +0.4
baz=20,SNR=9.7
HRY Holter Researc 19.74 117 eP Pn 17 33 43.3 -0.7
comp=Z,5.9nm,0.6s
EGMT Eagleton 19.78 111 ⇑P P 17 33 43.3 +0.4
baz=20,SNR=10
FFC Flin Flon 19.88 87 eP P 17 33 43.7 0.0
FFC pmax pmax
comp=Z,17nm,1.0s
FFC Flin Flon 19.88 87 eP P 17 33 43.7 0.0
comp=Z,17nm,1.0s
B19A Brinkman Farms 19.88 109 ⇓P Pn 17 33 44.7 -0.8
baz=20
M02C Callahan 19.93 145 ⇓P Pn 17 33 45.5 -0.6
baz=20
A20A Cobblestone Ra 20.10 107 ⇓P Pn 17 33 47.1 -1.0
baz=20
LRM Limekiln Ridge 20.13 120 eP Pn 17 33 49.0 +0.2
comp=Z,63nm,1.0s
C19A Slack Wire Ran 20.32 111 ⇓P P 17 33 49.6 +0.9
baz=20,SNR=13
N02D Trinity Center 20.35 146 ⇑P Pn 17 33 50.4 -0.8
baz=20
MCMT McKenzie Canyo 20.72 122 eP P 17 33 53.5 +0.3
comp=Z,4.2nm,1.1s
D19A Cripps Ranch, 20.81 112 ⇑P P 17 33 54.8 +0.8
baz=21,SNR=12
C20A Veseth Ranch, 20.85 110 ⇓P P 17 33 55.5 +1.2
baz=21
A22A Carney Farms, 21.03 104 ⇑P P 17 33 57.5 +1.2
baz=21,SNR=7.3
HLID Hailey 21.07 127 ⇓P P 17 33 58.2 +1.3
baz=21,SNR=5.9
C21A Desert Coulee 21.21 108 ⇑P P 17 33 59.3 +1.0
baz=21
D20A Manuel Ranch, 21.22 111 ⇑P P 17 33 59.3 +1.0
baz=21,SNR=26
QLMT Earthquake Lak 21.35 120 eP P 17 33 59.1 -0.9
comp=Z,1.9nm,1.2s
E19A Rath Farm, Rou 21.36 113 ⇑P P 17 34 00.9 +1.0
baz=21
GCMT Greycliff 21.43 116 eP P 17 34 01.1 +0.3
comp=Z,9.9nm,1.2s
B22A Reddig Ranch S 21.44 106 ⇑P P 17 34 01.9 +1.1
baz=21,SNR=11
A23A Redstone 21.57 103 ⇓P P 17 34 03.3 +1.1
baz=21
E20A Meyer Farm, Mu 21.64 112 ⇑P P 17 34 03.9 +1.0
baz=22,SNR=6.6
YMR Madison River 21.69 119 eP P 17 34 03.6 0.0
comp=Z,18nm,0.9s
F19A Roth Farm, Mol 21.73 114 ⇓P P 17 34 04.8 +0.9
baz=22,SNR=26
D21A La Casta Ranch 21.79 109 ⇓P P 17 34 05.5 +1.0
baz=22,SNR=7.4
B23A Brockton 21.84 104 ⇑P P 17 34 05.6 +0.6
baz=22,SNR=8.3
C22A Vida 21.87 107 ⇑P P 17 34 05.8 +0.5
baz=22
A24A Westby 22.04 102 ⇑P P 17 34 07.9 +0.8
baz=22,SNR=9.7
H17A Grant Village 22.07 119 ⇓P P 17 34 08.5 +0.7
baz=22
E21A Keefer Ranch, 22.12 111 ⇓P P 17 34 09.0 +0.9
baz=22,SNR=5.9
D22A Cohagen 22.13 108 ⇓P P 17 34 09.0 +0.8
baz=22,SNR=8.5
F20A Billings 22.14 113 ⇑P P 17 34 08.9 +0.6
baz=22
C23A Lambert 22.18 106 ⇓P P 17 34 09.3 +0.6
baz=22,SNR=5.8
DGMT Dagmar 22.23 103 eP P 17 34 09.1 -0.1
comp=Z,97nm,1.8s
DGMT Dagmar 22.23 103 ⇑P P 17 34 09.8 +0.6
baz=22
H18A Shoshone NF, C 22.27 117 ⇓P P 17 34 10.6 +0.7
baz=22
RES Resolute Bay 22.28 28 P P 17 34 09.0 -0.4
RES pmax pmax
comp=Z,11nm,0.7s
RES MLR MLR
comp=Z,16nm,28.6s
RES Resolute Bay 22.28 28 P P 17 34 09.0 -0.4
comp=Z,11nm,0.7s,baz=242,slow=13,SNR=34
RES LR LR 17 43 30.9
comp=Z,452nm,19.2s,baz=226,slow=39
LAO LASA Array 22.43 109 eP P 17 34 10.7 -0.7
comp=Z,36nm,1.2s
I17A Pilgrim Ck. 22.45 120 ⇓P P 17 34 12.3 +0.6
baz=22
A25A Svangstu Ranch 22.48 101 ⇑P P 17 34 12.6 +0.7
baz=22
G20A Bridger 22.54 115 ⇓P P 17 34 12.7 +0.1
baz=22,SNR=6.9
H19A Powell 22.59 117 ⇑P P 17 34 13.4 +0.2
baz=22
D23A Lindsay 22.60 107 ⇑P P 17 34 13.6 +0.5
baz=22
F21A Absaloka Mine, 22.61 112 ⇑P P 17 34 13.5 +0.1
baz=22
C24A Savage 22.74 105 ⇑P P 17 34 14.9 +0.2
baz=23
E22A Miles City 22.74 109 ⇓P P 17 34 15.1 +0.4
baz=23
B25A Knox Farm, Ray 22.89 103 ⇑P P 17 34 15.9 -0.2
baz=23
G21A Lodge Grass 23.01 113 ⇑P P 17 34 17.1 -0.4
baz=23
A26A Wade Farm, Ken 23.05 100 ⇑P P 17 34 17.7 -0.2
baz=23
F22A Rosebud 23.07 111 ⇓P P 17 34 17.5 -0.5
baz=23
D24A Glendive 23.07 106 ⇓P P 17 34 18.8 +0.7
baz=23,SNR=6.4
I19A Meeteetse 23.07 118 ⇓P P 17 34 17.7 -0.6
baz=23
ELK Elko 23.11 132 P P 17 34 19.6 +0.8
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK MLR MLR
comp=Z,15nm,28.6s
ELK Elko 23.11 132 P P 17 34 19.6 +0.8
comp=Z,3.4nm,0.9s,baz=338,slow=11,SNR=10.0
ELK LR LR 17 44 18.1
comp=Z,310nm,19.9s,baz=360,slow=39
C25A Freed Ranch, W 23.21 104 ⇑P P 17 34 20.5 +1.0
baz=23
HVU Hansel Valley 23.22 127 eP P 17 34 21.0 +1.2
HVU pmax pmax
comp=Z,6.0nm,0.9s
HVU Hansel Valley 23.22 127 eP P 17 34 21.0 +1.2
comp=Z,5.6nm,0.9s
B26A Jensen Ranch, 23.29 101 ⇓P P 17 34 20.8 +0.6
baz=23
A27A Ledoux Ranch, 23.43 99 ⇓P P 17 34 22.1 +0.5
baz=23
E24A Baker 23.47 107 ⇑P P 17 34 22.3 +0.2
baz=23
F23A Volborg 23.52 110 ⇓P P 17 34 22.9 +0.2
baz=23
H21A Big Horn, Sher 23.54 114 ⇓P P 17 34 23.2 +0.4
baz=23
C26A Wahner Farm, P 23.72 102 ⇑P P 17 34 24.9 +0.4
baz=24
B27A Peters Farms, 23.77 100 ⇓P P 17 34 25.2 +0.3
baz=24
PDAR Pinedale Array 23.81 120 P P 17 34 26.2 +0.6
comp=Z,1.6nm,0.9s,baz=319,slow=6.7,SNR=9.9
PDAR LR LR 17 44 24.5
comp=Z,225nm,19.2s,baz=317,slow=38
H22A Clearmont 23.89 113 ⇑P P 17 34 26.5 +0.2
baz=24
F24A Ekalaka 23.90 109 ⇓P P 17 34 26.7 +0.3
baz=24
G23A Biddle 23.90 111 ⇑P P 17 34 26.1 -0.3
baz=24
A28A Rude Farm, Bot 23.95 98 ⇓P P 17 34 26.6 -0.2
baz=24
E25A Miller Ranch, 23.96 106 ⇑P P 17 34 26.7 -0.2
baz=24
J20A Shoshoni 24.02 117 ⇓P P 17 34 27.1 -0.5
baz=24
I21A Big Trails, Te 24.03 116 ⇓P P 17 34 27.6 -0.1
baz=24
NVAR Mina Array Bea 24.06 140 P P 17 34 28.8 +0.8
comp=Z,6.6nm,0.9s,baz=322,slow=7.6,SNR=23
NVAR LR LR 17 43 11.8
comp=Z,282nm,19.1s,baz=30,slow=35
D26A Manning 24.08 104 ⇑P P 17 34 28.8 +0.9
baz=24
C27A Sayler Ranch, 24.09 102 ⇓P P 17 34 28.5 +0.5
baz=24
B28A Dugan Ranch, T 24.20 99 ⇑P P 17 34 29.5 +0.6
baz=24
G24A Alzada 24.29 109 ⇑P P 17 34 30.1 +0.2
baz=24
F25A Bowman 24.33 107 ⇑P P 17 34 30.8 +0.5
baz=24
I22A 9 Mile Ranch, 24.35 114 ⇓P P 17 34 30.8 +0.2
baz=24
E26A Carlson Angus 24.45 105 ⇓P P 17 34 31.5 +0.1
baz=24
A29A Manning Farm, 24.47 97 ⇓P P 17 34 31.6 +0.1
baz=24,SNR=6.0
D27A Center 24.48 103 ⇑P P 17 34 31.9 +0.3
baz=24
DUG Dugway 24.54 129 ⇓P P 17 34 32.7 +0.3
baz=24,SNR=5.8
H24A Dirks Ranch, A 24.64 111 ⇑P P 17 34 33.5 +0.3
baz=24
J22A Midwest 24.72 115 ⇑P P 17 34 34.1 +0.2
baz=24
TPH Tonopah 24.74 139 eP P 17 34 34.2 -0.1
TPH pmax pmax
comp=Z,15nm,0.9s
TPH Tonopah 24.74 139 eP P 17 34 34.2 -0.1
comp=Z,15nm,0.9s
F26A Lodgepole 24.77 106 ⇓P P 17 34 34.7 +0.4
baz=25
G25A Newell 24.87 108 ⇑P P 17 34 35.9 +0.7
baz=25
D28A Regan 24.91 102 ⇑P P 17 34 36.4 +0.9
baz=25
A30A Hoffart Farm, 24.94 96 ⇓P P 17 34 35.9 +0.2
baz=25
K21A Alcova 24.96 117 ⇓P P 17 34 36.8 +0.6
baz=25
DAU Daniels Canyon 25.00 126 P P 17 34 33.8 -2.8
DAU Daniels Canyon 25.00 126 P P 17 34 33.8 -2.8
R11A Troy Canyon, C 25.08 135 eP P 17 34 36.8 -0.5
comp=Z,10nm,1.1s
R11A Troy Canyon, C 25.08 135 ⇓P P 17 34 37.4 +0.2
baz=25,SNR=14
F27A Lemmon 25.08 106 ⇓P P 17 34 37.4 +0.3
baz=25,SNR=5.7
H25A Fruitdale 25.20 110 ⇓P P 17 34 38.9 +0.7
baz=25
G26A Maurine 25.20 107 ⇓P P 17 34 39.0 +0.8
baz=25,SNR=6.4
B30A Myrvik Farm, E 25.24 97 ⇑P P 17 34 38.9 +0.5
baz=25
I24A Kuemmerle Ranc 25.26 112 ⇓P P 17 34 39.2 +0.4
baz=25
E28A Huff 25.27 103 ⇑P P 17 34 39.1 +0.4
baz=25
K22A Casper 25.29 116 ⇑P P 17 34 39.3 +0.3
baz=25
RSSD Black Hills 25.35 111 eP P 17 34 40.1 +0.4
RSSD pmax pmax
comp=Z,18nm,1.0s
RSSD Black Hills 25.35 111 eP P 17 34 40.1 +0.4
comp=Z,18nm,1.0s
ULM Lac du Bonnet 25.40 91 P P 17 34 39.8 0.0
ULM pmax pmax
comp=Z,13nm,0.8s
ULM MLR MLR
comp=Z,15nm,28.6s
ULM Lac du Bonnet 25.40 91 P P 17 34 39.8 0.0
comp=Z,13nm,0.8s,baz=296,slow=10,SNR=21
ULM LR LR 17 45 12.0
comp=Z,482nm,19.3s,baz=324,slow=38
D29A Pettibone, Tap 25.50 101 ⇑P P 17 34 41.3 +0.5
baz=25
K23A Bowen Ranch, D 25.63 115 ⇓P P 17 34 42.8 +0.6
baz=25
BILL Bilibino 25.64 314 eP P 17 34 42.1 +0.3
BILL i 17 35 17.5
BILL i 17 38 12.4
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,206nm,21.0s
BILL Bilibino 25.64 314 eP P 17 34 42.3 +0.5
comp=Z,10nm,1.1s
C30A Mose, Pekin 25.64 99 ⇑P P 17 34 42.8 +0.7
baz=26
F28A McLaughlin 25.71 104 ⇓P P 17 34 43.9 +1.1
baz=26
E29A Napoleon 25.80 102 ⇓P P 17 34 44.9 +1.3
baz=26
L22A Ellis Ranch, M 25.81 117 ⇓P P 17 34 44.4 +0.5
baz=26
D30A Buchanan 25.89 100 ⇑P P 17 34 45.1 +0.7
baz=26
H27A Howes 25.94 108 ⇑P P 17 34 45.7 +0.8
baz=26
N20A Spence Gulch, 25.94 121 ⇓P P 17 34 46.1 +0.9
baz=26,SNR=20
CWC Cottonwood Cre 25.94 142 ⇑P P 17 34 46.1 +1.1
baz=26
J25A Sunshine Ranch 26.01 112 ⇑P P 17 34 46.5 +0.9
baz=26
L23A Garrett 26.09 116 ⇓P P 17 34 47.2 +0.8
baz=26
VES Vestal, Richgr 26.18 144 ⇓P P 17 34 48.2 +1.3
baz=26
G28A Parade 26.20 106 ⇓P P 17 34 47.9 +0.8
baz=26
F29A Eureka 26.21 103 ⇑P P 17 34 48.5 +1.2
baz=26
E30A Jud 26.22 101 ⇑P P 17 34 48.5 +1.2
baz=26
M22A Cedar Creek Ra 26.23 118 ⇑P P 17 34 48.2 +0.4
baz=26
I27A Quinn 26.36 109 ⇓P P 17 34 49.8 +1.1
baz=26
ARUT Antelope Range 26.37 133 eP P 17 34 48.9 0.0
ARUT pmax pmax
comp=Z,85nm,0.7s
ARUT Antelope Range 26.37 133 eP P 17 34 48.9 0.0
comp=Z,85nm,0.7s
H28A Mission Ridge 26.43 106 ⇓P P 17 34 50.1 +0.9
baz=26
L24A Wheatland 26.50 115 ⇑P P 17 34 50.8 +0.7
baz=26
O20A White River Ci 26.52 122 ⇑P P 17 34 50.8 +0.5
baz=26
ISA Isabella 26.53 143 ⇑P P 17 34 51.4 +1.2
baz=26
K25A Mack Ranch, Ha 26.57 113 ⇓P P 17 34 51.1 +0.5
baz=26
AGMN Agassiz Nation 26.61 95 ⇓P P 17 34 51.0 +0.2
baz=26,SNR=5.2
N22A Wattenberg Ran 26.78 119 ⇓P P 17 34 53.3 +0.6
baz=27
K26A Motz Farm, Whi 26.83 112 ⇑P P 17 34 53.8 +0.8
baz=27
I28A Midland 26.84 108 ⇓P P 17 34 53.9 +0.9
baz=27
H29A Onida 26.87 106 ⇑P P 17 34 53.8 +0.6
baz=27
ARVC Arvin 26.91 144 ⇑P P 17 34 54.6 +0.9
baz=27
J27A Elkhorn Farm, 26.98 110 ⇓P P 17 34 55.5 +1.1
baz=27
M24A Cheyenne 27.00 116 ⇑P P 17 34 55.4 +0.8
baz=27
SHOC Shoshone 27.03 139 ⇑P P 17 34 56.0 +1.3
baz=27
G30A Faulkton 27.05 104 ⇑P P 17 34 55.7 +0.9
baz=27,SNR=9.2
J28A Allard Ranch, 27.23 109 ⇓P P 17 34 57.6 +1.0
baz=27
O22A Kremmling 27.25 120 ⇓P P 17 34 57.6 +0.6
baz=27,SNR=5.4
I29A Vivian Onida 27.26 107 ⇓P P 17 34 58.0 +1.2
baz=27
K27A Flueckinger Fa 27.28 111 ⇓P P 17 34 57.9 +0.9
baz=27
SBC Santa Barbara 27.29 146 ⇓P P 17 34 59.2 +2.2
baz=27
M25A Palm-Egli Farm 27.39 115 ⇓P P 17 35 00.0 +2.0
baz=27
O23A Lake Granby, G 27.49 119 ⇓P P 17 35 00.5 +1.3
baz=27
TUQ Turquoise Moun 27.57 139 ⇑P P 17 35 01.1 +1.4
baz=27
FX1 Attu Island--F 27.61 279 LR LR 17 45 51.7
comp=Z,66nm,19.6s,baz=64,slow=36
P22A Eagle 27.61 121 ⇓P P 17 35 00.7 +0.5
baz=27
BRSD Miller 27.63 104 ⇓P P 17 35 01.5 +1.5
baz=28
J29A Okreek 27.70 108 ⇓P P 17 35 01.4 +0.7
baz=28
K28A Ten Mile Ranch 27.70 110 ⇑P P 17 35 01.9 +1.1
baz=28
ISCO Idaho Springs 27.96 119 ⇓P P 17 35 04.2 +0.8
baz=28
U15A North Rim 28.00 132 ⇑P P 17 35 04.2 +0.5
baz=28
PV01 Paradox Valley 28.04 125 eP P 17 35 01.9 -2.1
comp=Z,480nm,0.8s
P23A Jefferson 28.21 120 ⇓P P 17 35 06.9 +1.2
baz=28
P25A Willow Gulch B 28.86 117 ⇓P P 17 35 11.5 +0.3
baz=29
S22A 4UR Ranch, Cre 29.11 123 ⇓P P 17 35 13.4 -0.2

baz=29
WUAZ Wupatki 29.15 132 eP P 17 35 14.0 +0.1
comp=Z,2.9nm,0.7s
WUAZ Wupatki 29.15 132 ⇓P P 17 35 14.6 +0.8
baz=29
P26A Davis Ranch, A 29.20 116 ⇑P P 17 35 15.0 +0.8
baz=29
ECSD EROS Data Cent 29.32 103 ⇓P P 17 35 14.9 -0.1
baz=29,SNR=5.7
R25A Fountain Ranch 29.91 119 ⇑P P 17 35 20.8 +0.3
baz=30
X16A Lo Mia Camp, P 30.10 133 ⇑P P 17 35 23.2 +1.0
baz=30
Q28A Sharon Springs 30.30 115 ⇑P P 17 35 23.3 -0.6
baz=30
R27A Eads 30.48 117 ⇓P P 17 35 26.0 +0.6
baz=30
X18A Snowflake 30.58 131 ⇑P P 17 35 27.8 +1.3
baz=30
V22A San Miguel Ran 30.62 125 ⇑P P 17 35 28.1 +1.1
baz=30
S26A Kim 30.71 119 ⇑P P 17 35 27.7 +0.1
baz=30
Q29A Oakley 30.84 114 ⇓P P 17 35 28.7 0.0
baz=31
R28A Tribune 30.89 116 ⇓P P 17 35 29.4 +0.3
baz=31
T26A Comanche Natio 31.02 119 ⇑P P 17 35 30.4 0.0
baz=31
U25A Circle Dot Ran 31.30 121 ⇑P P 17 35 33.9 +1.1
baz=31
V24A Rampart Ranch, 31.48 123 ⇑P P 17 35 35.5 +1.0
baz=31
T27A Campo 31.51 118 ⇑P P 17 35 33.6 -1.0
baz=31
U26A Atchley Ranch, 31.60 120 ⇓P P 17 35 36.4 +1.0
baz=31,SNR=5.8
ANMO Albuquerque 31.64 125 eP P 17 35 34.7 -1.1
ANMO pmax pmax
comp=Z,8.0nm,1.2s
ANMO Albuquerque 31.64 125 P P 17 35 35.8 -0.1
comp=Z,0.5nm,0.3s,baz=344,slow=10,SNR=3.1
ANMO LR LR 17 47 42.0
comp=Z,135nm,20.0s,baz=329,slow=35
R30A Dighton 31.66 114 ⇓P P 17 35 35.6 -0.2
baz=32
V25A Rancho No Teng 31.68 122 ⇑P P 17 35 37.2 +1.1
baz=32
T28A Walsh 31.74 118 ⇓P P 17 35 37.9 +1.3
baz=32
214A Organ Pipe Nat 31.80 137 ⇑P P 17 35 37.1 -0.1
baz=32
W24A Lazy 6 Ranch, 31.86 124 ⇓P P 17 35 38.3 +0.5
baz=32
U27A Thompson Grove 31.99 119 ⇑P P 17 35 39.8 +1.0
baz=32
R31A Burdett 32.01 113 ⇓P P 17 35 39.1 +0.3
baz=32
V26A Tequesquite Ra 32.08 121 ⇓P P 17 35 40.6 +1.0
baz=32,SNR=9.1
Q33A Connelly Farm, 32.26 110 ⇑P P 17 35 41.9 +0.8
baz=32
W25A X Bar L Ranch, 32.27 123 ⇑P P 17 35 41.0 -0.3
baz=32
SEY Seymchan 32.63 307 P P 17 35 44.3 +0.3
comp=Z,2.0nm,0.5s,baz=86,slow=9.8,SNR=21
W26A Owens Ranch, T 32.68 122 ⇑P P 17 35 45.9 +1.0
baz=32
Y23A Lovelace Mesa, 32.68 126 ⇑P P 17 35 45.5 +0.6
baz=32
R33A Olander Ranch, 32.73 111 ⇑P P 17 35 45.6 +0.4
baz=33
Z22A Elephant Butte 32.89 128 ⇑P P 17 35 48.0 +1.3
baz=33
U30A WK&E Inc. Balk 32.90 116 ⇑P P 17 35 47.9 +1.2
baz=33
Y24A Capitan 32.95 125 ⇑P P 17 35 48.9 +1.5
baz=33
121A Cookes Peak, D 33.19 130 ⇓P P 17 35 50.5 +1.1
baz=33
Y25A Mesa, Roswell 33.27 124 ⇓P P 17 35 51.4 +1.4
baz=33
Z24A Sheeppen Canyo 33.49 126 ⇓P P 17 35 53.4 +1.4
baz=33
Z25A Roswell 33.81 125 ⇓P P 17 35 55.9 +1.2
baz=34
Y27A Causey 33.96 122 ⇑P P 17 35 57.1 +1.0
baz=34
MSTX Muleshoe 34.06 122 ⇓P P 17 35 58.0 +1.1
baz=34
Z26A Caprock 34.13 124 ⇑P P 17 35 59.0 +1.5
baz=34
Y28A McKinney Farm, 34.34 121 ⇑P P 17 36 01.0 +1.7
baz=34
125A Gardner Draw, 34.37 125 ⇑P P 17 36 00.5 +0.9
baz=34
Z27A Tatum 34.42 123 ⇑P P 17 36 01.1 +1.0
baz=34
U34A Anderson Ranch 34.44 113 ⇑P P 17 36 00.7 +0.6
baz=34
225A Deer Hill, Car 34.77 126 ⇑P P 17 36 04.4 +1.2
baz=35
Z29A Hungry Hill Ra 35.13 121 ⇓P P 17 36 07.3 +1.1
baz=35,SNR=8.9
230A Sterling City 36.56 121 ⇓P P 17 36 18.4 0.0
baz=36
SFIN Scholer Farm 36.61 98 ⇓P P 17 36 18.5 -0.1
baz=36
330A Mertzon 36.94 122 ⇑P P 17 36 21.7 0.0
baz=37
SCHQ Schefferville 37.31 64 P P 17 36 24.2 -0.3
comp=Z,7.4nm,0.8s,baz=316,slow=9.3,SNR=5.4
SCHQ LR LR 17 52 02.8
comp=Z,402nm,19.7s,baz=30,slow=37
430A Baggett Ranch, 37.45 123 ⇑P P 17 36 26.0 0.0
baz=37
TXAR Lajitas Array 37.67 127 P P 17 36 26.9 -1.0
TXAR 17 38 44.7
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR MLR MLR
comp=Z,114nm,19.6s
TXAR Lajitas Array 37.67 127 P P 17 36 26.9 -1.0
comp=Z,0.9nm,1.0s,baz=334,slow=8.0,SNR=5.1
TXAR PcP PcP 17 38 44.7 -0.3
comp=Z,1.0nm,1.0s,baz=280,slow=1.6,SNR=4.9
TXAR LR LR 17 53 48.8
comp=Z,114nm,19.6s,baz=0.0,slow=39
SUMG Summit 37.80 29 iP P 17 36 29.3 +0.4
SUMG pmax pmax
comp=Z,6.0nm,1.1s
SUMG Summit 37.80 29 iP P 17 36 29.3 +0.4
comp=Z,6.0nm,1.1s
431A Sonora 37.81 122 ⇓P P 17 36 29.0 -0.1
baz=38,SNR=5.1
530A J-C Ranch, Com 37.95 123 ⇓P P 17 36 31.4 +1.2
baz=38
632A Uvalde 39.18 122 ⇑P P 17 36 39.9 -0.6
baz=39
DAG Danmarks Havn 39.28 19 iP P 17 36 40.4 -0.3
DAG pmax pmax
comp=Z,5.0nm,1.1s
DAG Danmarks Havn 39.28 19 iP P 17 36 40.4 -0.3
comp=Z,4.2nm,1.1s
LPIG La Paz 39.87 139 LR LR 17 51 17.6
comp=Z,76nm,22.0s,baz=251,slow=39
YAK Yakutsk 41.98 315 eP P 17 37 04.0 +0.8
YAK pmax pmax
comp=Z,23nm,1.7s
SPITS Spitsbergen Ar 42.22 8 P P 17 37 04.1 -0.9
SPITS pmax pmax
comp=Z,7.0nm,1.0s
SPITS Spitsbergen Ar 42.22 8 P P 17 37 04.1 -0.9
comp=Z,7.2nm,1.0s,baz=359,slow=5.8,SNR=5.2
TIGA Tifton 45.33 103 ⇓P P 17 37 30.1 -0.4
baz=45
YSS Yuzh-Sakhalins 46.53 292 eP P 17 37 39.6 -0.2
YSS pmax pmax
comp=Z,73nm,2.5s
BORG Borgarnes 47.67 31 LR LR 17 58 51.5
comp=Z,197nm,20.0s,baz=4.6,slow=37
HABR Khabarovsk 49.05 298 eP P 17 37 57.6 -1.7
HABR e*PP pP 17 38 00.7 -3.2
HABR e*SP sP 17 38 02.0 -3.7
HABR e 17 39 20.6
HABR e 17 39 51.4
HABR ePPP PPP 17 40 42.3
HABR eS S 17 45 03.5 +0.4
HABR e*SS sS 17 45 08.9 -1.8
HABR 17 47 49.4
HABR eSS SS 17 48 36.2 +2.7
HABR eSSS SSS 17 49 51.8
HABR pmax pmax
comp=Z,15nm,1.6s
HABR MLR MLR
comp=Z,58nm,16.0s
KLR Kul'dur 49.98 301 eP P 17 38 02.8 -3.6
ARCES ARCESS Array B 51.25 7 P P 17 38 14.6 -1.1
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 51.25 7 P P 17 38 14.6 -1.1
comp=Z,4.1nm,0.8s,baz=343,slow=8.8,SNR=3.6
USRK Ussuriysk Arra 53.65 297 LR LR 18 02 07.7
comp=Z,86nm,19.8s,baz=25,slow=37
H11N2 WAKE ISLAND Hy 55.61 250 T T 18 38 19.7
baz=33,slow=76,SNR=916
H11N3 WAKE ISLAND Hy 55.61 250 T T 18 38 20.6
baz=33,slow=76,SNR=665
H11N1 WAKE ISLAND Hy 55.63 250 T T 18 38 08.2
baz=33,slow=76,SNR=198
MJAR Matsushiro Arr 56.59 286 P P 17 38 54.7 -0.5
MJAR pmax pmax
comp=Z,9.0nm,1.1s
MJAR Matsushiro Arr 56.59 286 P P 17 38 54.7 -0.5
comp=Z,8.5nm,1.1s,baz=0.0,slow=6.2,SNR=4.9
H11S1 WAKE ISLAND Hy 56.75 249 T T 18 39 45.0
baz=31,slow=77,SNR=439
H11S2 WAKE ISLAND Hy 56.76 249 T T 18 39 46.0
baz=31,slow=77,SNR=128
H11S3 WAKE ISLAND Hy 56.77 249 T T 18 39 36.3
baz=31,slow=77,SNR=190
CN2 Changchun 56.93 301 eP P 17 38 55.1 -2.4
CN2 pmax pmax
comp=Z,10.0nm,0.9s
NB2 NORSAR Subarra 57.94 17 P P 17 39 03.8 -0.6
comp=Z,4.9nm,1.2s,baz=345,slow=6.9
NOA NORSAR Array B 57.94 17 P P 17 39 04.0 -0.4
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,16nm,28.6s
NOA NORSAR Array B 57.94 17 P P 17 39 04.0 -0.4
comp=Z,1.4nm,0.8s,baz=344,slow=6.8,SNR=5.1
NOA LR LR 18 04 56.4
comp=Z,70nm,18.5s,baz=355,slow=37
NOA NORSAR Array B 57.94 17 P P 17 39 04.0 -0.4
TLY Talaya 59.01 320 eP P 17 39 11.7 -0.3
TLY pmax pmax
comp=Z,13nm,1.7s
HFS Hagfors 59.17 16 LR LR 18 06 52.8
comp=Z,133nm,18.0s,baz=300,slow=38
FINES FINESS Array B 59.29 9 P P 17 39 12.9 -0.8
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES MLR MLR
comp=Z,16nm,28.6s
FINES FINESS Array B 59.29 9 P P 17 39 12.8 -0.8
comp=Z,1.8nm,0.7s,baz=3.2,slow=7.1,SNR=7.4
FINES LR LR 18 09 10.6
comp=Z,72nm,18.3s,baz=20,slow=40
PRGR Permogore 59.72 358 eP P 17 39 15.1 -1.5
PRGR pmax pmax
comp=Z,48nm,1.1s
MOY Mondy 59.88 322 eP P 17 39 19.8 +1.7
MOY pmax pmax
comp=Z,21nm,1.6s
ZAK Zakamensk 60.24 320 ⇑iP P 17 39 21.0 +0.4
ZAK e 17 40 06.1
ZAK pmax pmax
comp=Z,3.0nm,1.7s
KSRS Korea Array 60.86 295 P P 17 39 25.9 +1.1
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS MLR MLR
comp=Z,49nm,21.8s
KSRS Korea Array 60.86 295 P P 17 39 25.9 +1.1
comp=Z,2.0nm,0.7s,baz=31,slow=7.4,SNR=3.8
KSRS LR LR 18 05 51.8
comp=Z,49nm,21.8s,baz=82,slow=36
KSAR Wonju Array Be 60.88 295 P P 17 39 25.9 +0.9
KSAR Wonju Array Be 60.88 295 P P 17 39 25.9 +0.9
ULN Ulaanbaatar 61.06 316 eP P 17 39 27.4 +1.1
ULN pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 61.06 316 eP P 17 39 26.8 +0.5
comp=Z,6.2nm,0.9s
SONM Songino Array 61.33 316 P P 17 39 28.4 +0.4
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM MLR MLR
comp=Z,85nm,19.8s
SONM Songino Array 61.33 316 P P 17 39 28.4 +0.4
comp=Z,3.6nm,1.0s,baz=40,slow=6.3,SNR=25
SONM LR LR 18 06 14.5
comp=Z,85nm,19.8s,baz=230,slow=36
NVS Novosibirsk 61.88 335 eP P 17 39 29.6 -1.8
ZALV Zalesovo Beam 62.34 333 P P 17 39 34.1 -0.4
ZALV pmax pmax
comp=Z,6.0nm,0.8s
ZALV MLR MLR
comp=Z,85nm,19.1s
ZALV Zalesovo Beam 62.34 333 P P 17 39 34.1 -0.4
comp=Z,5.6nm,0.8s,baz=15,slow=6.2,SNR=19
ZALV LR LR 18 11 28.7
comp=Z,85nm,19.1s,baz=8.5,slow=41
SVE Sverdlovsk 63.64 349 eP P 17 39 43.6 +0.4
SVE pmax pmax
comp=Z,18nm,1.1s
BJI Beijing 64.02 305 P P 17 39 46.4 +0.5
BJI S S 17 48 23.6 +2.2
BJI pmax pmax
comp=Z,6.0nm,0.9s
BJI pmax pmax
comp=Z,96nm,7.3s
BJI LR LR
comp=Z,210nm,25.1s
BJI LR LR
comp=Z,180nm,25.0s
BJI LR LR
comp=Z,44nm,22.0s
ARU Arti 64.23 350 d iP P 17 39 46.7 -0.4
ARU 17 40 19.2
ARU 17 42 06.5
ARU S S 17 48 26.0 +2.4
ARU pmax pmax
comp=Z,16nm,1.0s
ARU Arti 64.23 350 eP P 17 39 46.5 -0.6
comp=Z,11nm,0.8s
HHC Hu-ho-hao-te 65.26 309 eP P 17 39 54.4 +0.2
HHC PP PP 17 42 19.8 +2.6
HHC PcS 17 44 29.8
HHC S S 17 48 35.0 -2.0
HHC SS SS 17 52 49.0 +0.2
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,170nm,5.4s
HHC LR LR
comp=Z,220nm,16.5s
HHC LR LR
comp=Z,340nm,17.1s
HHC LR LR
comp=Z,270nm,16.3s
BRVK Borovoye 66.06 342 eP P 17 39 59.2 +0.2
BRVK pmax pmax
comp=Z,20nm,2.5s
OBN Obninsk 66.20 4 iP P 17 39 59.8 0.0
OBN i 17 40 30.5
OBN pmax pmax
comp=Z,10.0nm,0.7s
KURK Kurchatov 66.74 336 eP P 17 40 03.5 +0.1
KURK pmax pmax
comp=Z,4.0nm,1.2s
KURK Kurchatov 66.74 336 eP P 17 40 02.8 -0.6
comp=Z,8.0nm,1.4s
PAGF Fort de Pagny 68.76 25 eP P 17 40 16.6 +0.4
PAGF Fort de Pagny 68.76 25 eP P 17 40 16.6 +0.4
DPC Dobruska-Polom 69.03 17 eP P 17 40 18.4 +0.5
DPC Dobruska-Polom 69.03 17 eP P 17 40 18.4 +0.5
KRLC Kraliky 69.36 17 eP P 17 40 20.4 +0.4
KRLC Kraliky 69.36 17 eP P 17 40 20.4 +0.4
NJ2 Nanjing 69.52 298 eP P 17 40 21.3 +0.2
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
LOR Lormes 69.55 27 eP P 17 40 21.2 +0.1
LOR Lormes 69.55 27 eP P 17 40 21.2 +0.1
LOR Lormes 69.55 27 eP P 17 40 21.2 +0.1
MK31 Makanchi Array 69.58 332 eP P 17 40 20.5 -0.8
MK31 Makanchi Array 69.58 332 eP P 17 40 20.5 -0.8
MKAR Makanchi Array 69.58 332 P P 17 40 20.7 -0.7
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR MLR MLR
comp=Z,51nm,19.1s
MKAR Makanchi Array 69.58 332 P P 17 40 20.7 -0.7
comp=Z,2.3nm,0.9s,baz=33,slow=5.4,SNR=20
MKAR LR LR 18 15 11.9
comp=Z,51nm,19.1s,baz=9.0,slow=40
SSF Saint Saulge 69.66 27 eP P 17 40 21.8 0.0
comp=Z,7.4nm,0.9s
SSF Saint Saulge 69.66 27 eP P 17 40 21.8 0.0
SSF pmax pmax
comp=Z,7.0nm,0.9s
SSF Saint Saulge 69.66 27 eP P 17 40 21.8 0.0
comp=Z,7.4nm,0.9s
HINF Hinteralfeld 69.70 25 eP P 17 40 22.2 +0.1
HINF Hinteralfeld 69.70 25 eP P 17 40 22.2 +0.1
HINF Hinteralfeld 69.70 25 eP P 17 40 22.2 +0.1
KHC Kasperske Hory 69.76 20 eP P 17 40 22.3 -0.1
KHC pmax pmax
comp=Z,51nm,2.5s
KHC Kasperske Hory 69.76 20 eP P 17 40 22.9 +0.5
AVF Avril sur Loir 69.88 27 eP P 17 40 23.0 -0.1
comp=Z,17nm,1.2s
AVF Avril sur Loir 69.88 27 eP P 17 40 23.0 -0.1
AVF pmax pmax
comp=Z,17nm,1.2s
AVF Avril sur Loir 69.88 27 eP P 17 40 23.0 -0.1
comp=Z,17nm,1.2s
GERES GERESS Array B 70.05 20 P P 17 40 24.3 0.0
comp=Z,0.3nm,0.6s,baz=335,slow=4.3,SNR=4.1
TCF Toulx Ste Croi 70.07 28 eP P 17 40 25.2 +0.8
TCF Toulx Ste Croi 70.07 28 eP P 17 40 25.2 +0.8
TCF Toulx Ste Croi 70.07 28 eP P 17 40 25.2 +0.8
VRAC Vranov 70.08 18 LR LR 18 11 55.7
comp=Z,104nm,18.7s,baz=316,slow=37
AKASG Malin Array Be 70.19 9 P P 17 40 23.8 -1.1
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,16nm,28.6s
AKASG Malin Array Be 70.19 9 P P 17 40 23.8 -1.1
comp=Z,1.1nm,0.4s,baz=352,slow=5.9,SNR=20
AKASG LR LR 18 15 23.0
comp=Z,62nm,18.3s,baz=285,slow=40
KIEV Kiev 70.20 9 ⇓iP P 17 40 24.5 -0.5
AKTO Aktyubinsk 70.21 349 LR LR 18 15 05.8
comp=Z,32nm,18.2s,baz=6.7,slow=39
WMQ Urumqi 70.91 327 P P 17 40 29.4 -0.2
WMQ pP pP 17 40 38.9 +4.6
WMQ sP sP 17 40 42.9 +6.8
WMQ pmax pmax
comp=Z,7.0nm,1.2s
WMQ pmax pmax
comp=Z,140nm,5.4s
GTA Gaotai 71.00 316 eP P 17 40 31.3 +1.0
GTA pP pP 17 40 35.8 +0.8
GTA sP sP 17 40 39.0 +2.2
GTA pmax pmax
comp=Z,6.0nm,1.0s
ABKAR Akbulak array 71.18 348 eP P 17 40 30.6 -0.4
comp=Z,12nm,0.8s
DAVOX Davos/Dischmat 71.32 23 LR LR 18 14 16.4
comp=Z,93nm,18.1s,baz=268,slow=38
LZH Lanzhou 72.42 312 ⇓P P 17 40 39.6 +0.7
LZH pP pP 17 40 44.0 +0.3
LZH sP sP 17 40 45.3 -0.1
LZH pmax pmax
comp=Z,14nm,1.0s
PMOR Pomariorio Ree 74.15 190 eT T 19 00 59.9
comp=Z,35nm,0.2s
VAH Vaihoa 74.36 190 eT T 19 01 15.4
comp=Z,12nm,0.4s
ESDC Sonseca Array 74.53 35 P P 17 40 50.8 -0.2
comp=Z,2.0nm,0.8s,baz=328,slow=5.8,SNR=8.2
USP Ospenovka 74.69 336 P P 17 40 52.7 +0.7
SNR=9.1
USP Ospenovka 74.69 336 iP P 17 40 52.7 +0.7
TKM2 Tokmak 2 74.79 335 P P 17 40 53.6 +0.8
SNR=6.3
TKM2 Tokmak 2 74.79 335 iP P 17 40 53.5 +0.8
CHMS Chumysh 74.90 336 P P 17 40 54.0 +0.8
SNR=7.3
CHMS Chumysh 74.90 336 iP P 17 40 54.0 +0.8
MLR Muntele Rosu 75.06 12 LR LR 18 15 27.9
comp=Z,17nm,20.6s,baz=344,slow=37
KBK Karagaybulak 75.18 336 P P 17 40 55.7 +0.7
SNR=9.4
KBK Karagaybulak 75.18 336 iP P 17 40 55.7 +0.7
AAK Ala-Archa 75.30 336 P P 17 40 56.4 +0.7
SNR=6.4
AAK Ala-Archa 75.30 336 iP P 17 40 56.3 +0.7
AAK pmax pmax
comp=Z,11nm,0.6s
AAK Ala-Archa 75.30 336 eP P 17 40 56.0 +0.4
comp=Z,2.3nm,0.8s
EKS2 Erkin-Say 75.43 336 P P 17 40 57.4 +1.1
SNR=18
EKS2 Erkin-Say 75.43 336 eP P 17 40 56.8 +0.5
EKS2 pmax pmax
comp=Z,14nm,0.9s
EKS2 Erkin-Say 75.43 336 eP P 17 40 56.8 +0.5
comp=Z,14nm,0.9s
AML Almayashu 75.95 336 P P 17 41 01.0 +1.2
SNR=9.4
AML Almayashu 75.95 336 iP P 17 41 00.9 +1.2
ANN Anapa 76.54 3 eP P 17 41 01.0 -1.4
ANN eS S 17 50 47.7 +0.2
ANN pmax pmax
comp=Z,111nm,1.6s
TIAR Tiarei 76.82 191 eT T 19 04 20.7
comp=Z,12nm,0.3s
PPT2 Papeete2 76.87 192 eLR LR 18 04 30.6
comp=Z,57nm,21.0s
CD2 Chengdu 77.01 309 P P 17 41 06.3 +0.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KSH Kashi 77.96 334 eP P 17 41 13.6 +2.9
KSH epP PcP 17 41 18.1 -2.4
KSH esP sP 17 41 21.3 +4.1
KSH S S 17 51 06.1 +2.7
KSH SKS SKSac 17 51 21.3 -2.8
KSH SS SS 17 56 10.4 +7.4
KSH pmax pmax
comp=Z,10.0nm,1.2s
KSH pmax pmax
comp=Z,110nm,3.8s
KSH LR LR
comp=Z,17nm,3.9s
KSH LR LR
comp=Z,22nm,2.5s
KSH LR LR
comp=Z,160nm,5.1s
BRTR Keskin Array B 81.43 7 P P 17 41 29.5 -0.1
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 81.43 7 P P 17 41 29.4 -0.1
comp=Z,2.5nm,1.0s,baz=310,slow=5.4,SNR=6.3
RKT Rikitea 81.79 177 eT T 19 10 25.2
comp=Z,3.5nm,0.3s
TBI Tubuai 82.56 191 eT T 19 11 30.5
comp=Z,12nm,0.3s
LSA Lhasa 82.80 319 eP P 17 41 38.8 +1.5
LSA pmax pmax
comp=Z,9.0nm,1.3s
LSA Lhasa 82.80 319 eP P 17 41 38.8 +1.5
comp=Z,9.5nm,1.3s
QIZ Qiongzhong 84.81 299 P P 17 41 47.6 +0.5
QIZ S S 17 52 15.5 +0.8
QIZ pmax pmax
comp=Z,150nm,7.1s
TAPN Taplejung 86.12 321 eP P 17 41 53.9 -0.1
comp=Z,26nm,1.0s
TAPN Taplejung 86.12 321 eP P 17 41 53.9 -0.1
comp=Z,26nm,1.0s
GUN Gumba 86.19 322 eP P 17 41 54.6 +0.2
comp=Z,34nm,1.0s
GUN Gumba 86.19 322 eP P 17 41 54.6 +0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,34nm,1.0s						
JIRN	Jiri	86.33	322	eP	P	17 41 55.3	+0.2
	comp=Z,38nm,0.8s						
JIRN	Jiri	86.33	322	eP	P	17 41 55.3	+0.2
	comp=Z,38nm,0.8s						
DANN	Dangsing	86.44	324	eP	P	17 41 55.8	+0.3
	comp=Z,32nm,0.8s						
DANN	Dangsing	86.44	324	eP	P	17 41 55.8	+0.3
	comp=Z,32nm,0.8s						
KKN	Kakani	86.50	323	eP	P	17 41 55.8	+0.1
	comp=Z,15nm,0.7s						
KKN	Kakani	86.50	323	eP	P	17 41 55.8	+0.1
KKN				pmax	pmax		
	comp=Z,15nm,0.7s						
KKN	Kakani	86.50	323	eP	P	17 41 55.8	+0.1
	comp=Z,15nm,0.7s						
GKN	Gorkha	86.50	323	eP	P	17 41 55.7	+0.1
	comp=Z,36nm,1.2s						
GKN	Gorkha	86.50	323	eP	P	17 41 55.7	+0.1
	comp=Z,36nm,1.2s						
PKIN	Phulchoki	86.66	323	eP	P	17 41 57.1	+0.6
	comp=Z,4.3nm,0.5s						
PKI	Pulchoki	86.66	323	eP	P	17 41 56.5	-0.1
	comp=Z,19nm,1.1s						
PKI	Pulchoki	86.66	323	eP	P	17 41 57.1	+0.5
PKI				pmax	pmax		
	comp=Z,4.0nm,0.5s						
PKI	Pulchoki	86.66	323	eP	P	17 41 57.1	+0.5
	comp=Z,4.3nm,0.5s						
ODAN	Odare	86.68	321	eP	P	17 41 56.6	0.0
	comp=Z,20nm,0.9s						
ODAN	Odare	86.68	321	eP	P	17 41 56.6	0.0
	comp=Z,20nm,0.9s						
DMN	Daman	86.72	323	eP	P	17 41 57.0	+0.2
	comp=Z,18nm,0.9s						
DMN	Daman	86.72	323	eP	P	17 41 57.0	+0.2
	comp=Z,18nm,0.9s						
RAMN	Ramite	86.86	321	eP	P	17 41 57.7	+0.2
	comp=Z,11nm,0.6s						
RAMN	Ramite	86.86	321	eP	P	17 41 57.7	+0.2
	comp=Z,11nm,0.6s						
KOLN	Koldanda	87.03	324	eP	P	17 41 58.2	-0.1
	comp=Z,14nm,0.8s						
KOLN	Koldanda	87.03	324	eP	P	17 41 58.2	-0.1
	comp=Z,14nm,0.8s						
SAML	Samuel	89.78	108	eP	P	17 42 09.6	-1.5
	comp=Z,9.1nm,0.9s						
CMAR	Chiang Mai Arr	90.05	307	P	P	17 42 13.0	+0.6
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,16nm,28.6s						
CMAR	Chiang Mai Arr	90.05	307	P	P	17 42 12.9	+0.6
	comp=Z,5.6nm,0.9s,baz=4.7,slow=5.2,SNR=29						
CMAR				LR	LR	18 27 02.0	
	comp=Z,35nm,18.1s,baz=15,slow=38						
QSPA	South Pole Qui	148.76	180	ePKPbc	PKPbc	17 48 57.8	-0.7

MOS **15** *17:34:31.2±0.9, 1.83N×127.47E, h51km, mb4.8/30, Error ellipse: s-maj=13.3km s-min=6.5km az=114.5*
BJI **15** *17:34:33.7, 1.10N×127.46E, h118km, mB5.0/22, mb4.6/38*
ISCJB **15** *17:34:38.0±0.4, 1.79N±0.02×127.48E±0.03, h115km±3km, mb4.7/85, Error ellipse: s-maj=4.6km s-min=3.3km az=152.8*
IDC **15** *17:34:39.6±1.5, 1.74N×127.42E, h116km±12km, mb4.3/22, mb1 4.3/22, mb1mx4.1/39, mbtmp4.6/22, Error ellipse: s-maj=16.0km s-min=7.7km az=75.0*
KLM **15** *17:34:39.6, 1.83N×127.47E, h110km, mb4.8, ML3.6, MS6.1*
NEIC **15** *17:34:39.4±0.6, 1.74N×127.43E, h117km±5km, mb4.7/27, Error ellipse: s-maj=5.7km s-min=4.4km az=54.0*
DJA **15** *17:34:40.3±0.2, 2˚N±2˚×12˚7E±˚, h94km±2km, M4.8/80, mb5.0/80, mB5.4/42, MLv5.0/20, Mw(mB)4.8/42, Mwp6.7/1*
ISC 15 17:34:40.1±0.4, **1.75N**±0.03**×127.41E**±0.04, **h122km**±2km, **n281**, σ1.35/326, **mb4.7/85, 21C-30D, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.97	183	P	Pn	17 35 01.3	-0.7
TNTI				S	Sn	17 35 16.6	-2.0
TNTI	Ternate	0.97	183	eP	Pn	17 35 01.0	-1.0
LBMI	Labuha	2.37	178	P	Pn	17 35 18.9	+0.5
LBMI				S	Sn	17 35 49.6	+1.8
SGSI	Sangihe	2.69	316	P	Pn	17 35 19.8	-2.7
SGSI				S	Sn	17 35 50.5	-4.6
KMSI	Cibinong	3.62	251	P	Pn	17 35 34.4	-0.3
KMSI				S	Sn	17 36 15.3	-1.7
SANI	Sanana	4.03	201	P	Pn	17 35 38.7	-1.5
SANI				S	Sn	17 36 21.8	-5.0
GTOI	Gorontalo	4.54	256	P	Pn	17 35 47.8	+0.9
SWI	Sorong	4.64	124	P	Pn	17 35 48.1	-0.2
GSPH	General Santos	4.96	330	⇓iP	Pn	17 35 49.6	-3.1
GSPH				iS	Sn	17 36 43.3	-5.9
NLAI	Namlea	4.96	184	P	Pn	17 35 53.4	+0.7
	116nm,0.5s,4μm1.6nm						
NLAI				S	Sn	17 36 44.8	-4.3
	116nm,0.5s,4μm1.6nm						
MSAI	Masohi	5.28	163	P	Pn	17 36 01.1	+4.2
	32nm,0.8s,298nm0.1nm						
MATI	Mati	5.29	347	eP	Pn	17 35 55.3	-1.7
MATI				eS	Sn	17 36 14.7	-42
LUWI	Luwuk	5.41	239	P	Pn	17 35 58.2	-0.4
	547nm,0.6s,8μm7.1nm						
LUWI	Luwuk	5.41	239	eP	Pn	17 35 57.1	-1.4
	378nm,0.6s						
LUWI	Luwuk	5.41	239	⇑P	Pn	17 35 57.3	-1.3
	baz=5.5,SNR=28						
MRSI	Marisa	5.62	257	P	Pn	17 36 01.1	-0.3
	491nm,0.6s,7μm2.3nm						
DMPH	Davao City--Mi	5.63	340	⇓eP	Sn	17 37 07.8	+2.6
CTBH	Cotabato--PC H	6.29	330	⇓eP	Sn	17 36 08.2	-2.2
CTBH				iS	Sn	17 37 14.6	-6.4
APSI	Ampana	6.34	245	P	Pn	17 36 10.4	-0.8
	753nm,0.5s,11μm3.2nm						
BUKP	Musuan	6.52	339	eP	Pn	17 36 12.3	-1.5
BUKP				eS	Sn	17 36 44.6	-42
TOLI	Toli-Toli	6.65	265	eP	Pn	17 36 14.4	-1.0
	335nm,0.5s						
FAKI	Fak Fak	6.70	134	P	Pn	17 36 16.4	+0.3
	62nm,1.5s,0.2nm						
FAKI	Fak Fak	6.70	134	eP	Pn	17 36 16.8	+0.7
	27nm,0.6s						
BNDI	Bandanaira	6.71	158	P	Pn	17 36 17.7	+1.5
	131nm,1.2s,0.4nm						
PAGZ	Pagadian	7.27	327	eP	Pn	17 36 21.1	-2.7
BUTP	Butuan	7.39	346	eP	Pn	17 36 24.3	-1.1
MPSI	Mapaga	7.64	260	P	Pn	17 36 29.3	+0.5
	69nm,0.7s,1μm0.2nm						
TTSI	Tana Toraja	8.96	238	P	Pn	17 36 45.5	-1.1
	364nm,0.7s,3μm						
PALU	Palau	8.97	51	⇑P	Pn	17 36 44.3	-2.4
	baz=8.9						
BAKI	Biak	9.17	109	P	Pn	17 36 53.0	+3.5
	115nm,1.0s						
SPSI	Sidrap Palu	9.52	233	P	Pn	17 36 53.6	-0.5
	653nm,0.6s,7μm						
BNSI	Bone	9.52	230	P	Pn	17 36 53.2	-1.0
	170nm,0.6s,2μm						
MYLDM	Lahad Datu	9.53	291	⇑P	Pn	17 36 55.3	+1.1
MYLDM	Lahad Datu	9.53	291	⇓S	Sn	17 38 47.1	+7.5
TSM	Tawau	9.86	285	⇑P	Pn	17 36 59.1	+0.4
TSM	Tawau	9.86	285	⇑S	Sn	17 38 46.3	-1.3
BKSI	Bulukumba	10.12	226	P	Pn	17 37 03.5	+1.3
	96nm,0.5s,1μm						
KAPI	Kappang	10.19	229	eP	Pn	17 37 02.7	-0.4
	396nm,0.6s						
SAUI	Saumlaki	10.42	158	P	Pn	17 37 07.2	+0.9
	260nm,0.8s						
SDKM	Sandakan	10.90	291	⇑P	Pn	17 37 12.1	-0.8
SDKM	Sandakan	10.90	291	⇓S	Sn	17 39 09.3	-3.8
SOEI	Soe	11.85	195	P	P	17 37 44.4	+11
SOEI	Soe	11.85	195	eP	Pn	17 37 24.8	-0.7
	25nm,0.6s						
SMPI	Sarmi	11.89	108	P	P	17 37 37.7	+4.0
KKM	Kota Kinabalu	11.96	291	⇓P	Pn	17 37 26.0	-0.9
	baz=12						
KKM	Kota Kinabalu	11.96	291	⇑P	Pn	17 37 27.2	+0.3
KBKI	Kotabaru	12.31	246	P	Pn	17 37 32.1	+0.7
	41nm,0.9s,464nm						
BATI	Baumata	12.45	197	P	P	17 37 38.5	-1.6
	25nm,0.7s						
GENI	Genyem	13.46	109	P	P	17 37 53.0	+1.7
BBKI	Banjar Baru	13.59	248	P	Pn	17 37 49.0	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	62nm,0.8s,958nm						
JAY	Jayapura	13.95	108	P	P	17 37 58.1	+1.3
	50nm,0.7s						
BTM	Bintulu	14.39	276	⇑P	Pn	17 37 58.8	+0.5
MTN	Manton Dam	14.96	166	P	Pn	17 38 03.7	-1.7
	baz=15,SNR=68						
KDU	Kakadu	15.20	161	⇓P	Pn	17 38 06.4	-2.0
	baz=15,SNR=10						
SRBI	Singaraja	15.60	231	P	P	17 38 16.6	+1.5
	55nm,0.9s						
KMMI	Kalianget	16.02	237	P	P	17 38 20.9	+1.2
	231nm,0.8s,2μm						
STKI	Sintang	16.02	264	P	Pn	17 38 19.1	+0.4
	33nm,1.2s,3μm						
ABJI	Asem Bagus	16.21	234	P	P	17 38 26.4	+4.6
	44nm,0.8s						
PBKI	Pangkalan Bun	16.35	254	P	P	17 38 23.8	+0.4
	56nm,1.0s						
JAGI	Jajag, Banyuwa	16.67	232	P	P	17 38 30.8	+3.9
	77nm,1.1s,811nm						
JAGI	Jajag, Banyuwa	16.67	232	eP	P	17 38 28.6	+1.6
	41nm,0.6s						
JAGI	Jajag, Banyuwa	16.67	232	⇓P	P	17 38 28.1	+1.1
	baz=17,SNR=15						
BLJI	Banyuglugur	16.70	235	P	P	17 38 31.6	+4.3
	262nm,0.6s,3μm						
KSM	Kuching	17.10	269	eP	P	17 38 31.5	-0.2
	34nm,0.8s						
KSM	Kuching	17.10	269	⇑P	P	17 38 31.7	0.0
	baz=17,SNR=19						
KNRA	Kununurra	17.37	176	P	P	17 38 34.4	-0.1
	baz=17,SNR=102						
NGJI	Ngawi	18.31	240	P	Pn	17 38 48.5	+2.1
	65nm,0.9s						
PWJI	Pagerwojo	18.35	238	P	Pn	17 38 47.1	+0.3
	84nm,0.7s						
WOJI	Wonogiri, Jawa	19.01	240	P	Pn	17 38 55.3	+0.7
	61nm,1.0s,7μm						
SMRI	Semarang	19.06	243	P	Pn	17 38 56.7	+1.4
	86nm,0.8s						
SMRI	Semarang	19.06	243	eP	P	17 38 53.5	+0.3
	54nm,0.7s						
UGM	Wanagama	19.39	240	P	Pn	17 38 58.9	-0.2
	106nm,0.8s						
UGM	Wanagama	19.39	240	⇓P	Pn	17 38 58.3	-0.9
	baz=20,SNR=14						
FITZ	Fitzroy Crossi	19.80	185	⇓P	P	17 38 60.0	-1.2
	baz=20,SNR=54						
KPJI	Karang Pucung	20.53	244	P	P	17 39 09.7	+0.7
	107nm,0.7s,3μm340μm						
DLV	T Lat	21.32	299	eP	P	17 39 18.4	+0.6
	19nm,0.5s						
LEM	Lembang	21.52	246	P	P	17 39 22.8	+3.0
	90nm,0.8s						
CISI	Cisompet, Garu	21.63	244	P	P	17 39 22.3	+1.4
	81nm,0.7s,900nm						
CISI	Cisompet, Garu	21.63	244	eP	P	17 39 20.3	-0.6
	56nm,0.6s						
CISI	Cisompet, Garu	21.63	244	⇓P	P	17 39 20.7	-0.2
	baz=22,SNR=5.6						
COEN	Coen	22.08	135	eP	P	17 39 23.6	-2.0
	66nm,0.7s						
COEN	Coen	22.08	135	⇓P	P	17 39 24.1	-1.5
	baz=22,SNR=12						
CNJI	Cibinong	22.15	246	P	P	17 39 27.3	+1.0
	160nm,0.9s,1μm						
TPUB	Ta-pu	22.41	343	eP	P	17 39 26.9	-2.0
	16nm,0.4s						
SKJI	Sukabumi	22.56	247	P	P	17 39 31.9	+1.5
	108nm,0.7s						
PMG	Port Moresby	22.58	120	P	P	17 39 29.4	-1.2
PMG				pmax	pmax		
	comp=Z,12nm,0.7s						
PMG	Port Moresby	22.58	120	P	P	17 39 29.4	-1.2
	comp=Z,12nm,0.7s,baz=319,slow=8.6,SNR=14						
PMG	Port Moresby	22.58	120	eP	P	17 39 28.8	-1.7
	comp=Z,12nm,0.7s						
PMG	Port Moresby	22.58	120	⇓P	P	17 39 29.2	-1.4
	baz=22,SNR=5.8						
WRAB	Tennant Creek	22.60	163	ciP	P	17 39 29.8	-0.9
WRAB				pmax	pmax		
	comp=Z,204nm,1.2s						
WRAB	Tennant Creek	22.60	163	eP	P	17 39 29.7	-0.9
	comp=Z,79nm,0.8s						
WRA	Warramunga Arr	22.60	163	P	P	17 39 30.0	-0.8
WRA						17 43 19.6	
WRA				S	S	17 43 30.7	+1.1
WRA				pmax	pmax		
	comp=Z,32nm,0.5s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA				smax	smax		
	comp=N,3.0nm,0.9s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.8s						
WRA	Warramunga Arr	22.60	163	P	P	17 39 29.9	-0.8
	comp=N,32nm,0.5s,baz=338,slow=11,SNR=388						
WRA				PcP	PcP	17 43 19.6	-0.2
	comp=N,0.6nm,0.4s,baz=319,slow=2.4,SNR=3.6						
WRA				S	S	17 43 30.7	+1.1
	comp=N,3.3nm,0.8s,baz=330,slow=21,SNR=5.5						
WRA				ScP	ScP	17 46 44.9	-1.5
	comp=N,1.1nm,0.8s,baz=338,slow=3.2,SNR=6.5						
CGJI	Cibinong	23.22	249	P	P	17 39 36.4	-0.3
	comp=N,148nm,0.6s,comp=N,1μm						
BLSI	Bandar Lampung	23.24	252	P	P	17 39 40.0	+3.0
	comp=N,45nm,0.8s						
YHNB	Yeheng	23.52	346	eP	P	17 39 39.2	-0.2
BTDF	Bukit Timah Da	23.64	269	⇓P	P	17 39 40.6	+0.1
	baz=24,SNR=8.4						
MBWA	Marble Bar	23.98	198	eP	P	17 39 43.2	-0.3
	comp=N,6.4nm,0.5s						
KASI	Kota Agung	24.00	252	P	P	17 39 45.4	+1.6
	comp=N,84nm,0.9s,comp=N,556nm						
JMBI	JAMBI	24.00	262	P	P	17 39 46.8	+3.0
	comp=N,222nm,0.9s						
MDSI	Maura Dua	24.03	255	P	P	17 39 44.6	+0.5
	comp=N,26nm,1.0s						
KGM	Kluang	24.08	271	⇑P	P	17 39 46.4	+1.8
LWLI	Liwa	24.28	254	P	P	17 39 47.4	+0.9
	comp=N,46nm,0.9s,comp=N,3μm						
QIZ	Qiongzhong	24.31	316	P	P	17 39 47.1	+0.5
QIZ				S	S	17 43 59.8	+2.7
XMI	Christmas Isla	24.79	240	⇓P	P	17 39 51.1	+0.1
	baz=25,SNR=5.1						
XMIS	Christmas Isla	24.83	240	eP	P	17 39 51.3	-0.1
	comp=N,277nm,0.8s						
XMIS	Christmas Isla	24.83	240	P	P	17 39 51.3	-0.1
	baz=25,SNR=9.0						
MNAI	Manna	25.18	256	⇓P	P	17 39 55.1	+0.5
	baz=25,SNR=5.5						
QIS	Mount Isa	25.18	152	P	P	17 39 54.7	+0.2
	baz=25,SNR=33						
UBPT	Khong Chiam	25.48	303	P	P	17 39 58.0	+0.8
	comp=N,56nm,0.7s						
MASI	Maura Aman, Be	25.63	259	P	P	17 40 05.3	+6.6
	comp=N,130nm,1.0s,comp=N,4μm						
AS05	Alice Springs	26.03	166	⇓P	P	17 40 01.5	-0.7
	baz=26						
ASAR	Alice Springs	26.04	166	P	P	17 40 01.8	-0.4
ASAR						17 43 27.0	
ASAR				S	S	17 44 27.5	+3.1
ASAR				pmax	pmax		
	comp=Z,11nm,0.4s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR				smax	smax		
	comp=N,1.0nm,1.0s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.7s						
ASAR	Alice Springs	26.04	166	P	P	17 40 01.8	-0.4
	comp=N,11nm,0.4s,baz=343,slow=7.3,SNR=560						
ASAR				PcP	PcP	17 43 27.0	-0.3
	comp=N,1.0nm,0.5s,baz=352,slow=1.7,SNR=4.2						
ASAR				S	S	17 44 27.5	+3.1
	comp=N,1.1nm,0.9s,baz=347,slow=15,SNR=5.2						
ASAR				ScP	ScP	17 46 54.8	-1.1
	comp=N,1.2nm,0.7s,baz=350,slow=2.6,SNR=8.8						
AS07	Alice Springs	26.05	166	⇓P	P	17 40 01.7	-0.7
	baz=26						
AS10	Alice Springs	26.07	166	⇓P	P	17 40 01.9	-0.6
	baz=26						
IPM	Ipoh	26.49	276	eP	P	17 40 05.8	-0.6
	comp=N,12nm,0.8s						
IPM	Ipoh	26.49	276	⇑P	P	17 40 08.0	+1.7
WRKA	Warakurna	26.64	178	⇑P	P	17 40 07.0	-0.6
	baz=27,SNR=114						
CHBT	CHBT	27.14	295	P	P	17 40 12.5	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,36nm,0.8s						
MNSI	Mandailing Nat	27.84	268	P	P	17 40 23.1	+4.6
	comp=N,16nm,0.5s,comp=N,846nm						
PSI	Prapat	28.49	273	P	P	17 40 24.1	-0.2
PSI				pmax	pmax		
	comp=Z,17nm,0.7s						
PSI	Prapat	28.49	273	P	P	17 40 24.1	-0.2
	comp=Z,17nm,0.7s,baz=93,slow=5.3,SNR=24						
PSI	Prapat	28.49	273	⇓P	P	17 40 24.2	-0.1
	baz=29,SNR=10						
CTA	Charters Tower	28.50	141	P	P	17 40 24.7	+0.4
CTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CTA	Charters Tower	28.50	141	P	P	17 40 24.6	+0.4
	comp=Z,4.9nm,0.7s,baz=317,slow=11,SNR=5.7						
MEEK	Meekatharra	29.47	196	P	P	17 40 32.1	-0.7
	baz=30,SNR=13						
KCSI	Kotacane, Aceh	29.66	274	P	P	17 40 34.2	-0.4
	comp=Z,14nm,0.8s						
GSI	Gunungsitoli	29.83	270	P	P	17 40 35.6	-0.5
	comp=Z,63nm,0.6s,comp=Z,1μm						
GSI	Gunungsitoli	29.83	270	eP	P	17 40 34.3	-1.8
	comp=Z,41nm,0.5s						
GSI	Gunungsitoli	29.83	270	⇓P	P	17 40 35.0	-1.1
	baz=30						
PBKT	Sadao Pong	29.91	301	P	P	17 40 40.9	+4.2
	comp=Z,13nm,0.7s						
SRDT	SRDT	30.63	296	P	P	17 40 43.8	+0.7
	comp=Z,41nm,1.4s,comp=Z,7μm						
UTTA	Uttaradit	30.80	303	P	P	17 40 45.3	+0.8
	comp=Z,3.1nm,1.0s						
WHN	Wuhan	31.20	338	⇑P	P	17 40 49.6	+1.7
WHN				pP	pP	17 41 14.9	+0.4
NJ2	Nanjing	31.20	346	eP	P	17 40 48.6	+0.7
NJ2				pmax	pmax		
	comp=Z,20nm,1.2s						
KHLT	Khaolaem Dam	31.27	296	P	P	17 40 49.4	+0.6
	comp=Z,8.4nm,1.2s						
SUKH	Sukhothai	31.46	302	P	P	17 40 51.1	+0.8
	comp=Z,3.6nm,0.7s,comp=Z,51nm						
UMPA	Umpang Tak	31.58	299	P	P	17 40 53.5	+2.0
	comp=Z,15nm,1.0s,comp=Z,1μm						
GYA	Guiyang	31.64	323	eP	P	17 40 54.3	+2.3
GYA				pP	pP	17 41 20.6	+2.0
GYA				sP	sP	17 41 33.0	+0.4
GYA				PP	PnPn	17 42 02.4	+1.5
GYA				S	S	17 45 53.8	+1.3
GYA				sS	sS	17 46 40.3	+1.4
GYA				ScP	ScP	17 47 13.9	+0.2
GYA				ScS	ScS	17 51 09.6	-2.5
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LAMP	Lampang	31.93	303	P	P	17 40 55.8	+1.2
	comp=Z,3.5nm,0.8s						
FORT	Forrest	32.35	179	P	P	17 40 57.5	-0.6
	baz=32,SNR=16						
CMAR	Chiang Mai Arr	32.48	303	P	P	17 40 59.6	+0.2
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR				pmax	pmax		
	comp=N,2.0nm,0.9s						
CMAR	Chiang Mai Arr	32.48	303	P	P	17 40 59.5	+0.2
	comp=N,4.0nm,0.9s,baz=116,slow=6.8,SNR=27						
CMAR				ScP	ScP	17 47 17.2	+0.7
	comp=N,1.5nm,0.9s,baz=139,slow=2.7,SNR=9.0						
QLP	Quilpie	32.51	151	⇓P	P	17 40 59.0	-0.5
	baz=33,SNR=8.0						
MORW	Morawa	32.52	199	P	P	17 40 59.1	-0.4
	baz=33,SNR=17						
CMMT	Chiang Mai	32.64	303	P	P	17 41 00.8	0.0
	comp=N,14nm,1.0s						
CHTO	Chiang Mai	32.65	303	eP	P	17 41 00.9	+0.1
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CHTO	Chiang Mai	32.65	303	P	P	17 41 00.9	+0.1
	comp=Z,49nm,1.0s						
CHTO	Chiang Mai	32.65	303	eP	P	17 41 00.8	+0.1
	comp=Z,2.2nm,0.4s						
CMAI	Chiengmai2	33.10	305	P	P	17 41 04.9	0.0
	comp=Z,71nm,1.0s						
KMI	Kunming	33.26	316	P	P	17 41 07.3	+1.0
KMI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BLDU	Ballidu	33.76	197	⇑P	P	17 41 09.7	-0.6
	baz=34,SNR=26						
KLBR	Kellerberrin	34.40	195	⇓P	P	17 41 15.4	-0.5
	baz=35,SNR=62						
BBOO	Buckleboo	35.33	167	eP	P	17 41 23.1	-0.7
	comp=Z,496nm,0.4s						
BBOO	Buckleboo	35.33	167	P	P	17 41 23.2	-0.5
	baz=36,SNR=164						
EIDS	Eidsvold	35.38	141	⇑P	P	17 41 23.8	-0.5
	baz=35,SNR=5.0						
KSAR	Wonju Array Be	35.52	1	P	P	17 41 25.3	0.0
KSAR	Wonju Array Be	35.52	1	P	P	17 41 25.3	0.0
KSRS	Korea Array	35.53	1	P	P	17 41 25.3	-0.1
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KSRS	Korea Array	35.53	1	P	P	17 41 25.3	-0.1
	comp=Z,1.1nm,0.4s,baz=178,slow=9.1,SNR=8.8						
NWAO	Narrogin (SRO)	35.81	195	P	P	17 41 27.5	-0.3
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.4s						
NWAO	Narrogin (SRO)	35.81	195	P	P	17 41 27.5	-0.3
	comp=Z,8.1nm,0.4s,baz=32,slow=6.0,SNR=28						
MJAR	Matsushiro Arr	36.03	15	P	P	17 41 27.9	-1.8
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MJAR	Matsushiro Arr	36.03	15	P	P	17 41 27.9	-1.8
	comp=Z,1.2nm,0.6s,baz=188,slow=10,SNR=5.2						
STKA	Stephens Creek	36.05	159	P	P	17 41 29.7	-0.2
STKA				pmax	pmax		
	comp=Z,48nm,0.6s						
STKA	Stephens Creek	36.05	159	P	P	17 41 29.7	-0.2
	comp=Z,48nm,0.6s,baz=334,slow=8.3,SNR=254						
STKA	Stephens Creek	36.05	159	⇑P	P	17 41 29.8	-0.2
	baz=36,SNR=218						
XAN	Xi'an	36.48	334	P	P	17 41 33.6	-0.1
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HTT	Hallett	36.64	164	⇓P	P	17 41 34.6	-0.4
	baz=37,SNR=22						
CD2	Chengdu	36.64	325	P	P	17 41 34.8	-0.2
CD2				pP	pP	17 42 01.3	-0.8
CD2				sP	sP	17 42 15.3	-0.7
CD2				PP	PnPn	17 43 03.8	+1.4
CD2				S	S	17 47 09.0	-0.3
CD2				sS	sS	17 47 55.3	-1.0
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,160nm,7.7s						
CD2				LR	LR		
	comp=Z,350nm,7.7s						
CD2				LR	LR		
	comp=Z,170nm,9.6s						
CMSA	Cobar Meteorol	37.38	154	⇓P	P	17 41 41.5	+0.3
	baz=38,SNR=20						
RKGY	Rocky Gully	37.47	194	⇓P	P	17 41 42.9	+0.9
	baz=38,SNR=48						
BJT	Baijiatuau	39.44	346	eP	P	17 41 58.2	-0.2
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJT	Baijiatuau	39.44	346	eP	P	17 41 58.1	-0.2
	comp=Z,9.2nm,0.6s						
ARMA	Armidale	39.45	146	⇑P	P	17 41 59.1	+0.4
	baz=40,SNR=9.2						
BJI	Beijing	39.46	346	P	P	17 41 59.8	+1.3
BJI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
LZH	Lanzhou	40.55	330	⇓P	P	17 42 09.1	+1.3
LZH				pP	pP	17 42 35.5	+0.3
LZH				sP	sP	17 42 49.0	0.0
LZH				pmax	pmax		
	comp=Z,30nm,1.0s						
LZH				pmax	pmax		
	comp=Z,180nm,4.6s						
ARPS	Mount Arapiles	40.60	162	P	P	17 42 08.3	+0.3
	baz=41,SNR=19						
HHC	Hu-ho-hao-te	41.48	342	eP	P	17 42 17.5	+2.2
HHC				PP	PnPn	17 43 58.5	-0.9
HHC				S	S	17 48 25.1	+3.4
HHC				sS	sS	17 49 09.5	+0.1
HHC				SS	SS	17 51 28.6	-2.5
HHC				ScS	ScS	17 52 07.1	+0.7
HHC				pmax	pmax		

	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.4s						
HHC				LR	LR		
	comp=Z,230nm,16.3s						
HHC				LR	LR		
	comp=Z,220nm,16.7s						
HHC				LR	LR		
	comp=Z,130nm,16.7s						
TOO	**Toolangi**	**42.56**	**159**	⇑P	**P**	**17 42 24.7**	**+0.7**
	baz=43,SNR=8.9						
MDJ	**Mudanjiang**	**42.73**	**2**	P	**P**	**17 42 26.5**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,77nm,3.9s						
LSA	**Lhasa**	**44.26**	**312**	*e*P	**P**	**17 42 39.3**	**+1.0**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LSA	**Lhasa**	**44.26**	**312**	*e*P	**P**	**17 42 39.3**	**+1.0**
	comp=Z,6.3nm,0.6s						
ASAJ	**Asahikawa**	**44.29**	**16**	P	**P**	**17 42 38.6**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ASAJ	**Asahikawa**	**44.29**	**16**	P	**P**	**17 42 38.6**	**+0.9**
	comp=Z,4.5nm,0.7s,baz=268,slow=10,SNR=8.1						
GTA	**Gaotai**	**45.14**	**330**	*e*P	**P**	**17 42 45.6**	**+0.9**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TAPN	**Taplejung**	**45.74**	**308**	*e*P	**P**	**17 42 50.3**	**+0.4**
	comp=Z,17nm,0.7s						
TAPN	**Taplejung**	**45.74**	**308**	*e*P	**P**	**17 42 50.3**	**+0.4**
ODAN	**Odare**	**45.78**	**307**	*e*P	**P**	**17 42 50.4**	**+0.3**
	comp=Z,36nm,0.8s						
ODAN	**Odare**	**45.78**	**307**	*e*P	**P**	**17 42 50.4**	**+0.3**
RAMN	**Ramite**	**46.45**	**306**	*e*P	**P**	**17 42 56.0**	**+0.6**
	comp=Z,66nm,1.2s						
RAMN	**Ramite**	**46.45**	**306**	*e*P	**P**	**17 42 56.0**	**+0.6**
PALK	**Pallekele**	**46.86**	**278**	*i* P	**P**	**17 43 01.2**	**+2.7**
HABR	**Khabarovsk**	**47.01**	**7**	*e*P	**P**	**17 42 57.4**	**-1.6**
HABR				*e*		17 44 28.0	
HABR						17 44 49.5	
HABR				*e*PPP	PPP	17 45 36.6	
HABR				*e*S	**S**	**17 49 41.0**	**-0.3**
HABR				*e*		17 52 39.9	
HABR				*e*SS	**SS**	**17 53 10.5**	**+0.6**
HABR				*e*SSS	SSS	17 54 22.3	
HABR				pmax	pmax		
	comp=Z,51nm,2.5s						
JIRN	**Jiri**	**47.09**	**307**	*e*P	**P**	**17 43 00.9**	**+0.4**
	comp=Z,26nm,0.6s						
JIRN	**Jiri**	**47.09**	**307**	*e*P	**P**	**17 43 00.9**	**+0.4**
GUN	**Gumba**	**47.45**	**307**	*e*P	**P**	**17 43 03.6**	**+0.4**
	comp=Z,44nm,0.5s						
GUN	**Gumba**	**47.45**	**307**	*e*P	**P**	**17 43 03.6**	**+0.4**
PKI	**Pulchoki**	**47.68**	**307**	*e*P	**P**	**17 43 04.9**	**-0.1**
	comp=Z,9.0nm,0.5s						
PKI	**Pulchoki**	**47.68**	**307**	*e*P	**P**	**17 43 05.4**	**+0.4**
PKI	**Pulchoki**	**47.68**	**307**	*e*P	**P**	**17 43 05.4**	**+0.4**
PKIN	**Phulchoki**	**47.69**	**307**	*e*P	**P**	**17 43 05.4**	**+0.4**
	comp=Z,5.5nm,0.5s						
HIA	**Hailar**	**47.79**	**353**	*e*P	**P**	**17 43 04.2**	**-1.0**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HIA	**Hailar**	**47.79**	**353**	*e*P	**P**	**17 43 04.2**	**-1.0**
	comp=Z,6.6nm,0.8s						
KKN	**Kakani**	**47.87**	**307**	*e*P	**P**	**17 43 06.5**	**+0.1**
	comp=Z,14nm,0.5s						
KKN	**Kakani**	**47.87**	**307**	*e*P	**P**	**17 43 06.5**	**+0.1**
KKN	**Kakani**	**47.87**	**307**	*e*P	**P**	**17 43 06.5**	**+0.1**
DMN	**Daman**	**47.94**	**306**	*e*P	**P**	**17 43 07.1**	**+0.2**
	comp=Z,36nm,1.0s						
DMN	**Daman**	**47.94**	**306**	*e*P	**P**	**17 43 07.1**	**+0.2**
GKN	**Gorkha**	**48.48**	**307**	*e*P	**P**	**17 43 11.1**	**+0.1**
	comp=Z,17nm,0.7s						
GKN	**Gorkha**	**48.48**	**307**	*e*P	**P**	**17 43 11.1**	**+0.1**
ULN	**Ulaanbaatar**	**49.20**	**342**	*e*P	**P**	**17 43 16.4**	**+0.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**49.20**	**342**	*e*P	**P**	**17 43 16.4**	**+0.3**
	comp=Z,2.6nm,0.6s						
KOLN	**Koldanda**	**49.22**	**306**	*e*P	**P**	**17 43 17.2**	**+0.5**
	comp=Z,71nm,0.7s						
KOLN	**Koldanda**	**49.22**	**306**	*e*P	**P**	**17 43 17.2**	**+0.5**
DANN	**Dangsing**	**49.33**	**307**	*e*P	**P**	**17 43 17.9**	**+0.3**
	comp=Z,70nm,0.7s						
DANN	**Dangsing**	**49.33**	**307**	*e*P	**P**	**17 43 17.9**	**+0.3**
SONM	**Songino Array**	**49.38**	**341**	P	**P**	**17 43 17.8**	**+0.4**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM				pmax	pmax		
	comp=N,1.0nm,1.2s						
SONM	**Songino Array**	**49.38**	**341**	P	**P**	**17 43 17.8**	**+0.4**
	comp=N,2.2nm,0.5s,baz=156,slow=7.8,SNR=25						
SONM				ScP	**ScP**	**17 48 22.0**	**-0.4**
	comp=N,1.2nm,1.2s,baz=169,slow=3.8,SNR=5.2						
WMQ	**Urumqi**	**54.73**	**325**	P	**P**	**17 43 58.3**	**+1.2**
WMQ				pP	**pP**	**17 44 26.8**	**+0.9**
WMQ				sP	**sP**	**17 44 40.0**	**+0.6**
WMQ				PcP	**PcP**	**17 45 01.1**	**+2.9**
WMQ				PP	**PP**	**17 46 01.6**	**+0.6**
WMQ				PcS	**PcS**	**17 48 57.6**	**-0.5**
WMQ				S	**S**	**17 51 26.9**	**-1.4**
WMQ				sS	**sS**	**17 52 18.6**	**+0.6**
WMQ				ScS	**ScS**	**17 53 31.3**	**-3.2**
WMQ				SS	**SS**	**17 55 11.4**	**-1.7**
WMQ				pmax	pmax		
	comp=N,10.0nm,0.8s						
WMQ				pmax	pmax		
	comp=N,130nm,5.8s						
WMQ				LR	LR		
	comp=N,48nm,24.2s						
WMQ				LR	LR		
	comp=N,83nm,23.8s						
WMQ				LR	LR		
	comp=N,68nm,18.8s						
PETK	**Petropavlovsk-**	**57.01**	**21**	P	**P**	**17 44 13.4**	**+0.4**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PETK	**Petropavlovsk-**	**57.01**	**21**	P	**P**	**17 44 13.4**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=193,slow=6.4,SNR=8.6						
MK31	**Makanchi Array**	**59.56**	**326**	*e*P	**P**	**17 44 31.3**	**+0.3**
MK31	**Makanchi Array**	**59.56**	**326**	*e*P	**P**	**17 44 31.3**	**+0.3**
MKAR	**Makanchi Array**	**59.56**	**326**	P	**P**	**17 44 31.4**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.8s						
MKAR	**Makanchi Array**	**59.56**	**326**	P	**P**	**17 44 31.4**	**+0.4**
	comp=N,6.4nm,0.4s,baz=117,slow=7.6,SNR=235						
MKAR				ScP	**ScP**	**17 49 06.5**	**-0.3**
	comp=N,0.6nm,0.8s,baz=120,slow=4.6,SNR=4.0						
MKAR	**Makanchi Array**	**59.56**	**326**	⇑P	**P**	**17 44 31.5**	**+0.4**
	baz=60						
KSH	**Kashi**	**59.92**	**316**	*e*P	**P**	**17 44 35.1**	**+1.4**
KSH				*e*sP	**sP**	**17 45 17.3**	**+0.9**
KSH				*e*PP	**PP**	**17 46 49.0**	**+1.7**
KSH				S	**S**	**17 52 33.3**	**-3.3**
KSH				pmax	pmax		
	comp=N,3.0nm,0.8s						
KSH				pmax	pmax		
	comp=N,130nm,4.0s						
KSH				LR	LR		
	comp=N,100nm,5.4s						
KSH				LR	LR		
	comp=N,51nm,4.1s						
KSH				LR	LR		
	comp=N,160nm,6.4s						
YAK	**Yakutsk**	**60.16**	**1**	*e*P	**P**	**17 44 33.2**	**-1.5**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KZA	**Kyzart**	**61.53**	**318**	P	**P**	**17 44 46.2**	**+1.3**
	SNR=8.8						
KZA	**Kyzart**	**61.53**	**318**	*i* P	**P**	**17 44 46.2**	**+1.3**
TKM2	**Tokmak 2**	**61.68**	**319**	P	**P**	**17 44 46.3**	**+0.7**
	SNR=8.7						
TKM2	**Tokmak 2**	**61.68**	**319**	*e*P	**P**	**17 44 46.1**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TKM2	**Tokmak 2**	**61.68**	**319**	*e*P	**P**	**17 44 46.1**	**+0.5**
	comp=Z,6.9nm,0.6s						
UCH	**Uchtor**	**62.09**	**318**	P	**P**	**17 44 50.1**	**+1.4**
	SNR=16						
UCH	**Uchtor**	**62.09**	**318**	*i* P	**P**	**17 44 50.1**	**+1.4**
AAK	**Ala-Archa**	**62.28**	**318**	*e*P	**P**	**17 44 51.2**	**+1.6**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AAK	**Ala-Archa**	**62.28**	**318**	P	**P**	**17 44 50.5**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=116,slow=8.0,SNR=5.0						
AAK	**Ala-Archa**	**62.28**	**318**	*e*P	**P**	**17 44 50.3**	**+0.7**
	comp=Z,2.9nm,0.7s						
USP	**Ospenovka**	**62.55**	**319**	P	**P**	**17 44 51.8**	**+0.6**
	SNR=13						
USP	**Ospenovka**	**62.55**	**319**	*i* P	**P**	**17 44 51.8**	**+0.6**
AML	**Almayashu**	**62.60**	**318**	P	**P**	**17 44 53.1**	**+1.0**
	SNR=13						
AML	**Almayashu**	**62.60**	**318**	*i* P	**P**	**17 44 53.0**	**+1.0**
ZALV	**Zalesovo Beam**	**62.65**	**333**	P	**P**	**17 44 50.7**	**-0.9**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**62.65**	**333**	P	**P**	**17 44 50.7**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=125,slow=7.4,SNR=5.0						
EKS2	**Erkin-Say**	**62.77**	**318**	P	**P**	**17 44 54.1**	**+1.3**
	SNR=12						
EKS2	**Erkin-Say**	**62.77**	**318**	*e*P	**P**	**17 44 53.6**	**+0.8**
EKS2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
EKS2	**Erkin-Say**	**62.77**	**318**	*e*P	**P**	**17 44 53.6**	**+0.8**
	comp=Z,8.8nm,0.8s						
FX1	**Attu Island--F**	**63.46**	**29**	P	**P**	**17 44 57.5**	**+0.5**
FX1				pmax	pmax		
	comp=Z,6.0nm,0.6s						
FX1	**Attu Island--F**	**63.46**	**29**	P	**P**	**17 44 57.5**	**+0.5**
	comp=Z,5.7nm,0.6s,baz=256,slow=4.2,SNR=7.4						
FX1	**Attu Island--F**	**63.46**	**29**	*e*P	**P**	**17 44 56.9**	**-0.1**
KURK	**Kurchatov**	**63.77**	**328**	*e*P	**P**	**17 44 59.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,20nm,0.8s						
KURK	**Kurchatov**	**63.77**	**328**	*e*P	**P**	**17 44 59.0**	**-0.1**
	comp=Z,20nm,0.8s						
SEY	**Seymchan**	**63.80**	**12**	⇓*i*P	**P**	**17 45 00.0**	**+1.0**
SEY	**Seymchan**	**63.80**	**12**	P	**P**	**17 44 59.9**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=206,slow=9.2,SNR=8.9						
NVS	**Novosibirsk**	**63.94**	**333**	*e*P	**P**	**17 45 01.4**	**+1.4**
KKAR	**Karatay Array**	**65.14**	**317**	*e*P	**P**	**17 45 07.9**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KKAR	**Karatay Array**	**65.14**	**317**	*e*P	**P**	**17 45 07.9**	**-0.3**
	comp=Z,5.9nm,0.8s						
BRVK	**Borovoye**	**69.41**	**327**	⇓*i*P	**P**	**17 45 34.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BILL	**Bilibino**	**71.28**	**14**	*i* P	P	17 45 42.0	-4.0
BILL				pmax	pmax		
	comp=Z,1.0nm,1.2s						
ABKAR	**Akbulak array**	**74.11**	**321**	*e*P	**P**	**17 46 02.6**	**-0.4**
	comp=Z,2.2nm,0.6s						
ABKAR	**Akbulak array**	**74.11**	**321**	⇓P	**P**	**17 46 02.6**	**-0.4**
	baz=74						
GAMB	**Gambell**	**75.92**	**24**	P	**P**	**17 46 12.9**	**-0.2**
	comp=Z,3.5nm,0.9s						
ARU	**Arti**	**76.97**	**328***c*	*i*P	**P**	**17 46 18.2**	**-1.0**
ARU						17 49 09.7	
ARU				S	**S**	**17 55 57.1**	**-0.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNDA	**Vanda**	**81.39**	**173**	P	**P**	**17 46 42.5**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
VNDA	**Vanda**	**81.39**	**173**	P	**P**	**17 46 42.5**	**-0.4**
	comp=Z,3.1nm,0.5s,baz=325,slow=7.3,SNR=8.2						
RAYN	**Ar Rayn**	**81.89**	**293**	*e*P	**P**	**17 46 45.9**	**-0.8**
	comp=Z,7.2nm,0.8s						
ZEI	**Tsey**	**84.05**	**313**	*e*P	P	17 47 01.1	+3.5
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
PRGR	**Permogore**	**84.56**	**332**	P	**P**	**17 46 59.0**	**-0.5**
ILAR	**Eielson Array**	**86.59**	**25**	P	**P**	**17 47 09.3**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=246,slow=5.0,SNR=13						
ARCES	**ARCESS Array B**	**92.53**	**340**	P	**P**	**17 47 36.3**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	**ARCESS Array B**	**92.53**	**340**	P	**P**	**17 47 36.3**	**-1.0**
	comp=Z,5.7nm,1.0s,baz=74,slow=4.6,SNR=5.5						
FINES	**FINESS Array B**	**93.89**	**332**	P	**P**	**17 47 43.6**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**93.89**	**332**	P	**P**	**17 47 43.6**	**-0.1**
	comp=Z,1.7nm,1.0s,baz=33,slow=5.3,SNR=3.3						
TXAR	**Lajitas Array**	**122.24**	**53**	PKP	**PKPdf**	**17 53 21.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=349,slow=0.9,SNR=3.6						
SCHQ	**Schefferville**	**122.40**	**10**	PKP	**PKPdf**	**17 53 20.9**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=338,slow=5.4,SNR=5.6						
PLCA	**Paso Flores**	**137.92**	**160**	PKIKP	**PKPdf**	**17 53 51.6**	**+0.7**
PLCA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PLCA	**Paso Flores**	**137.92**	**160**	PKP	**PKPdf**	**17 53 51.6**	**+0.7**
	comp=Z,1.8nm,1.0s,baz=236,slow=3.6,SNR=3.1						
LPAZ	**La Paz**	**158.95**	**134**	PKP2	**PKPab**	**17 55 02.9**	**+0.7**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LPAZ	**La Paz**	**158.95**	**134**	PKPab	**PKPab**	**17 55 02.9**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=184,slow=2.5,SNR=5.0						

IDC 15 17:45:08.2±27.0,**19°.85S×177°.77W,h454**km±249km**, mb3.3/4,mb1 3.4/4,mb1mx3.0/33,mbtmp4.1/4,Error ellipse: s-maj=173.0km s-min=96.7km az=85.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.78**	**263**	P	P	17 51 11.7	+0.7
	0.5nm,0.3s,baz=84,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**38.27**	**243**	P	P	17 51 48.1	-0.3
	2.6nm,1.1s,baz=94,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**44.88**	**256**	P	P	17 52 40.9	-0.3
	2.1nm,0.5s,baz=97,slow=7.6,SNR=60						
ASAR				PcP	PcP	17 54 13.3	-0.2
	0.3nm,0.5s,baz=96,slow=3.6,SNR=4.0						
WRA	**Warramunga Arr**	**44.91**	**261**	P	P	17 52 41.0	-0.4
	1.1nm,0.3s,baz=96,slow=7.4,SNR=88						
AKASG	**Malin Array Be**	**142.55**	**332**	PKP	PKPdf	18 03 47.9	-0.6
	0.8nm,0.5s,baz=43,slow=4.2,SNR=18						

MEX 15 17:47:22.3±0.5,**14°.85N×92°.31W,h109**km±6km**,MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.07**	**36**	*i* P	Pn	17 47 35.6	-1.7
THIG				*i* S	Sn	17 47 46.8	-1.7
PCIG		**1.22**	**314**	*i* P	Pn	17 47 44.2	-1.6
PCIG				*i* S	Sn	17 48 01.8	-1.8
CCIG	**Comitan**	**1.43**	**7**	*i* P	Pn	17 47 47.6	-0.9
CCIG				*e*S	Sn	17 48 05.7	-2.7
CMIG	**Matias Romero**	**3.33**	**312**	*i* P	Pn	17 48 11.9	-0.8
CMIG				*e*S	Sn	17 48 50.0	-1.6

KRSC 15 18:20:25.6±2.0,**50°.53N×157°.59E,h70**km±23km**,ML3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.95**	**280**	*i* P	Pn	18 20 43.8	+0.4
SKR				*i* S	Sn	18 20 56.1	-0.5
PAU	**Pauzhetka**	**1.06**	**333**	*e*P	Pn	18 20 46.6	+1.9
PAU				*e*S	Sn	18 21 01.1	+2.1
MIPR	**Malaya Ipel'ka**	**1.82**	**344**	P	Pn	18 20 56.4	+1.6
ASAK	**Asacha**	**1.86**	**6**	*e*P	Pn	18 20 58.1	+2.6
ASAK				*e*S	Sn	18 21 20.9	+2.7
MTVR	**Mutnovka**	**1.99**	**11**	*i* P	Pn	18 20 59.9	+2.7
MTVR				*e*S	Sn	18 21 24.1	+2.8
RUS	**Russkaya**	**1.99**	**17**	*i* P	Pn	18 20 59.4	+2.4
RUS				*e*S	Sn	18 21 22.9	+1.9
PET	**Petropavlovsk**	**2.58**	**14**	*e*S	Sn	18 21 37.9	+2.6
UGLR	**Uglovaya**	**2.79**	**15**	*e*P	Pn	18 21 11.2	+3.2
AVH	**Avacha**	**2.83**	**14**	*e*P	Pn	18 21 12.1	+3.6
AVH				S	Sn	18 21 44.9	+3.4
SMAR	**Somma**	**2.84**	**15**	*e*P	Pn	18 21 11.9	+3.1
KOK	**Koryaka**	**2.84**	**13**	*e*P	Pn	18 21 12.3	+3.6
KOK				S	Sn	18 21 45.1	+3.3
NLC	**Nalytchevo**	**2.86**	**22**	*e*S	Sn	18 21 42.1	+0.1
SDLR	**Sedlovina**	**2.87**	**16**	*e*P	Pn	18 21 11.6	+2.6
SDLR				S	Sn	18 21 44.2	+1.7
KRER	**Koryakskii**	**2.87**	**14**	*e*P	Pn	18 21 12.5	+3.3
KRER				S	Sn	18 21 45.7	+2.9
KRX	**Arik**	**2.91**	**13**	*e*P	Pn	18 21 12.8	+3.2
KRX				S	Sn	18 21 46.1	+2.5
SPN	**Mys Shipunski**	**2.98**	**30**	S	Sn	18 21 46.8	+1.8
GNL	**Ganaly**	**3.18**	**4**	*e*P	Pn	18 21 15.8	+2.5
MKZ	**Mys Kozlova**	**4.76**	**30**	*e*P	Pn	18 21 36.5	+1.9
KBTR	**Krutoberegovo**	**6.49**	**27**	*e*P	Pn	18 22 00.2	+1.9

*IDC **15** 18:23:33.4±1.0,27°.71S×63°.55W,h524km±12km,mb2.9/4, mb1 3.1/9,mb1mx3.0/33,mbtmp3.8/9,Error ellipse: s-maj=21.0km s-min=17.3km az=141.0*

ISC 15 18:23:34.4±0.8,**27°.74S**±0°.09×**63°.7W**±0°.1,**h550**km**,n13,** σ**1^s.36**/14,**mb3.1**/4,**Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.50**	**225**	P	**P**	**18 25 08.2**	**-0.3**
	0.3nm,0.3s,baz=45,slow=9.6,SNR=26						
CFAA				S	**S**	**18 26 24.4**	**-1.2**
	0.4nm,0.3s,baz=304,slow=19,SNR=11						
CPUP	**Villa Florida**	**5.87**	**78**	P	P	18 25 08.8	-3.0
	3.4nm,0.3s,baz=242,slow=11,SNR=16						
SIV	**San Ignacio**	**11.95**	**12**	P	**P**	**18 26 10.6**	**-2.0**
	0.5nm,0.3s,baz=217,slow=10,SNR=5.5						
LPAZ	**La Paz**	**12.11**	**339**	P	**P**	**18 26 14.6**	**-0.3**
	2.2nm,0.3s,baz=149,slow=5.3,SNR=53						
LPAZ				S	**S**	**18 28 25.0**	**-1.7**
	0.1nm,0.3s,baz=324,slow=18,SNR=4.7						
PLCA	**Paso Flores**	**14.13**	**202**	P	**P**	**18 26 33.6**	**-1.2**
	0.2nm,0.3s,baz=28,slow=11,SNR=6.0						
DBIC	**Dimbokro**	**66.31**	**68**	P	**P**	**18 33 28.8**	**-0.2**
	3.0nm,0.9s,baz=242,slow=15,SNR=2.4						
TXAR	**Lajitas Array**	**68.43**	**323**	P	**P**	**18 33 42.9**	**+1.0**
	0.3nm,0.5s,baz=142,slow=4.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**75.25**	**66**	P	**P**	**18 34 21.2**	**-0.5**
	0.9nm,0.9s,baz=240,slow=5.9,SNR=4.1						
PDAR	**Pinedale Array**	**81.87**	**328**	P	**P**	**18 34 58.6**	**+2.0**
	0.3nm,0.6s,baz=122,slow=6.5,SNR=3.9						
ASAR	**Alice Springs**	**126.14**	**200**	PKP	**PKPdf**	**18 41 36.4**	**+1.2**
	0.1nm,0.5s,baz=113,slow=1.4,SNR=3.7						
WRA	**Warramunga Arr**	**129.48**	**202**	PKP	**PKPdf**	**18 41 42.8**	**+1.2**
	0.2nm,0.8s,baz=160,slow=1.6,SNR=6.4						
ZALV	**Zalesovo Beam**	**145.12**	**33**	PKPbc	**PKPbc**	**18 42 11.2**	**+1.2**
	0.6nm,0.3s,baz=297,slow=4.7,SNR=2.7						
MKAR	**Makanchi Array**	**147.28**	**45**	PKPbc	**PKPbc**	**18 42 17.2**	**+1.0**
	0.7nm,0.6s,baz=316,slow=2.3,SNR=12						

*IDC **15** 19:20:57.2±1.6,6°.04S×130°.39E,h0km,mb3.8/4, mb1 3.9/7,mb1mx3.7/34,mbtmp3.9/7,ML4.0/3,Error ellipse: s-maj=55.2km s-min=25.9km az=84.0*

ISC 15 19:20:58.8±1.2,**6°.1S**±0°.1×**130°.4E**±0°.1,**h10**km**,n16,** σ**2^s.23**/12,**mb3.9**/4,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.72**	**174**	P	Pn	19 22 44.2	+6.6
	baz=6.0,SNR=14						
MTN				S	**Sn**	**19 23 50.4**	**-3.9**
	baz=6.0,SNR=11						
KDU	**Kakadu**	**6.85**	**162**	P	Pn	19 22 47.5	+8.2
	baz=6.2,SNR=176						
KDU				S	**Sn**	**19 23 57.9**	**+0.6**
	baz=6.2,SNR=7.0						
SOEI	**Soe**	**7.04**	**239**	P	Pn	19 22 45.5	+3.5
	baz=6.3,SNR=7.7						
BATI	**Baumata**	**7.78**	**238**	Pn	**Pn**	**19 22 54.3**	**+2.2**
	6.9nm,0.3s,baz=268,slow=5.4,SNR=18						
BATI				Sn	Sn	19 24 10.7	-10
	4.8nm,0.3s,baz=239,slow=19,SNR=9.5						
KNRA	**Kununurra**	**9.62**	**189**	P	**Pn**	**19 23 19.4**	**+1.9**
	baz=8.8,SNR=40						
KNRA				S	Sn	19 24 52.4	-13
	baz=8.8,SNR=22						
WRA	**Warramunga Arr**	**14.27**	**165**	Pn	**Pn**	**19 24 21.0**	**-0.1**
	0.6nm,0.3s,baz=334,slow=15,SNR=33						
WRA				Sn	Sn	19 26 46.3	-13
	1.5nm,0.3s,baz=334,slow=25,SNR=10						
COEN	**Coen**	**14.81**	**123**	P	P	19 24 40.8	+6.4
	baz=15,SNR=6.0						
COEN				S	**Sn**	**19 27 13.1**	**+0.2**
	baz=15,SNR=4.3						
QIS	**Mount Isa**	**16.92**	**149**	P	**P**	**19 25 01.3**	**+3.5**
	baz=16,SNR=4.5						
ASAR	**Alice Springs**	**17.77**	**169**	P	**P**	**19 25 07.3**	**0.0**
	0.3nm,0.3s,baz=340,slow=10,SNR=9.9						
ASAR				S	Sn	19 28 10.0	-15
	0.3nm,0.3s,baz=345,slow=25,SNR=6.7						
MTSU	**Mount Surprise**	**18.11**	**132**	P	P	19 25 18.4	+7.4
	baz=18,SNR=7.2						
WRKA	**Warakurna**	**18.91**	**186**	P	**P**	**19 25 17.5**	**-2.3**
	baz=18,SNR=6.8						
WRKA				S	Sn	19 28 31.7	-21
	baz=18,SNR=4.8						
NFK	**Norfolk Island**	**42.16**	**127**	P	P	19 28 57.3	+5.5
	baz=42,SNR=3.6						
SONM	**Songino Array**	**57.73**	**341**	P	P	19 30 51.3	+1.4
	0.2nm,0.4s,baz=164,slow=6.7,SNR=4.8						
MKAR	**Makanchi Array**	**67.70**	**326**	P	**P**	**19 31 56.0**	**-0.3**
	1.2nm,0.4s,baz=117,slow=7.8,SNR=33						
ZALV	**Zalesovo Beam**	**70.96**	**333**	P	**P**	**19 32 15.3**	**-1.1**
	0.7nm,0.4s,baz=128,slow=4.2,SNR=3.8						
BVAR	**Borovoye Array**	**77.52**	**328**	P	**P**	**19 32 53.4**	**-1.3**
	0.3nm,0.5s,baz=123,slow=5.3,SNR=4.0						

*IDC **15** 19:34:12.7±2.0,12°.21S×120°.52E,h0km,mb3.7/3, mb1 4.1/6,mb1mx3.8/26,mbtmp3.9/6,ML4.2/3,MS2.9/1, Ms1 2.9/1,ms1mx2.4/26,Error ellipse: s-maj=56.5km s-min=29.2km az=37.0*

*ISCJB **15** 19:34:16.2±0.4,11°.99S±0°.04×120°.65E±0°.04,h33km, mb3.7/3,Error ellipse: s-maj=5.8km s-min=5.3km az=145.2*

*AUST **15** 19:34:17.6,12°.00S×120°.46E,h35km*

*DJA **15** 19:34:23.1±1.2,12°S±5°×12°1E±°,h28km±14km,M4.3/9, mb4.5/3,mB5.2/2,MLv4.1/9,Mw(mB)4.5/2*

ISC 15 19:34:17.9±0.6,**12°.00S**±0°.05×**120°.66E**±0°.06,**h35**km**,n30,** σ**2^s.23**/35,**mb3.7**/3,**South of Sumba**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.77**	**357**	P	**Pn**	**19 34 45.9**	**-0.1**
WSI	**Waingapu**	**2.34**	**351**	P	**Pn**	**19 34 54.0**	**+0.1**
WSI				S	**Sn**	**19 35 18.0**	**-3.5**
WSI	**Waingapu**	**2.34**	**351**	P	**Pn**	**19 34 54.5**	**+0.6**
	baz=2.3,SNR=7.7						
BATI	**Baumata**	**3.44**	**59**	P	**Pn**	**19 35 11.4**	**+2.3**
BATI				S	**Sn**	**19 35 50.5**	**+1.8**
BATI	**Baumata**	**3.44**	**59**	Pn	**Pn**	**19 35 11.4**	**+2.3**
	43nm,0.3s,baz=279,slow=3.3,SNR=58						
BATI				Sn	**Sn**	**19 35 47.9**	**-0.9**
	58nm,0.3s,baz=38,slow=19,SNR=16						
BATI				LR	LR	19 37 24.3	
	comp=Z,139nm,18.2s,baz=164,slow=52						
MMRI	**Maumere**	**3.68**	**25**	P	**Pn**	**19 35 11.5**	**-0.9**
MMRI				S	**Sn**	**19 35 51.0**	**-3.6**
SOEI	**Soe**	**4.19**	**58**	P	**Pn**	**19 35 21.0**	**+1.6**
SOEI				S	**Sn**	**19 36 07.4**	**+0.2**
SOEI	**Soe**	**4.19**	**58**	P	**Pn**	**19 35 21.1**	**+1.7**
	baz=4.4,SNR=39						
IGBI	**Denpasar**	**6.28**	**300**	P	**Pn**	**19 35 47.9**	**-0.1**
DNP	**Denpasar**	**6.30**	**301**	P	Pn	19 35 51.8	+3.5
	162nm,0.7s,10µm1.1nm						
SRBI	**Singaraja**	**6.62**	**305**	P	Pn	19 35 57.9	+5.1
BKSI	**Bulukumba**	**6.66**	**355**	P	**Pn**	**19 35 52.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**7.30**	**298**	P	**Pn**	**19 36 01.5**	**-0.6**
JAGI	**Jajag, Banyuwa**	**7.30**	**298**	P	**Pn**	**19 36 02.2**	**0.0**
	baz=7.1,SNR=6.9						
JAGI				S	**Sn**	**19 37 21.0**	**-2.8**
	baz=7.1,SNR=5.2						
KNRA	**Kununurra**	**8.68**	**116**	P	**Pn**	**19 36 21.3**	**+0.3**
	baz=8.9,SNR=34						
KNRA				S	**Sn**	**19 37 53.3**	**-4.3**
	baz=8.9,SNR=4.2						
MTN	**Manton Dam**	**10.26**	**96**	P	**Pn**	**19 36 43.3**	**+0.5**
	baz=10,SNR=15						
MTN				S	Sn	19 38 28.6	-8.1
	baz=10,SNR=6.4						
KDU	**Kakadu**	**11.56**	**95**	P	**Pn**	**19 37 02.5**	**+2.0**
	baz=12,SNR=3.4						
KDU				S	Sn	19 38 56.7	-12
	baz=12,SNR=5.1						
GIRL	**Giralia**	**12.23**	**209**	P	**Pn**	**19 37 11.1**	**+1.4**
	baz=12,SNR=3.7						
MEEK	**Meekatharra**	**14.69**	**187**	P	**Pn**	**19 37 43.4**	**+0.2**
	baz=15,SNR=14						

MEEK				S	Sn	19 40 14.5	-11
	baz=15,SNR=10						
WRKA	**Warakurna**	**14.85**	**152**	P	**Pn**	**19 37 45.7**	**+0.3**
	baz=15,SNR=6.4						
WRKA				S	**Sn**	**19 40 23.2**	**-5.5**
	baz=15,SNR=5.3						
WRA	**Warramunga Arr**	**15.33**	**123**	Pn	**Pn**	**19 37 48.8**	**-3.1**
	0.8nm,0.3s,baz=297,slow=13,SNR=30						
WRA				Sn	Sn	19 40 27.6	-13
	0.7nm,0.3s,baz=296,slow=21,SNR=9.5						
ASAR	**Alice Springs**	**17.12**	**134**	P	**Pn**	**19 38 14.2**	**-0.3**
	0.6nm,0.3s,baz=316,slow=12,SNR=45						
ASAR				S	Sn	19 41 10.8	-13
	0.2nm,0.3s,baz=314,slow=25,SNR=10						
MORW	**Morawa**	**17.52**	**194**	P	**P**	**19 38 20.9**	**+0.6**
	baz=18,SNR=16						
MORW				S	Sn	19 41 19.6	-14
	baz=18,SNR=6.5						
BLDU	**Ballidu**	**18.89**	**191**	P	**Pn**	**19 38 39.9**	**+3.8**
	baz=19,SNR=10						
QIS	**Mount Isa**	**20.06**	**118**	P	Pn	19 38 54.3	+3.9
	baz=20,SNR=5.3						
BBOO	**Buckleboo**	**25.07**	**148**	P	**P**	**19 39 42.7**	**+3.6**
	baz=25,SNR=6.1						
PSI	**Prapat**	**26.13**	**303**	P	**P**	**19 39 46.8**	**-2.3**
	baz=26,SNR=3.4						
SONM	**Songino Array**	**60.91**	**349**	P	**P**	**19 44 28.8**	**+1.5**
	0.3nm,0.7s,baz=167,slow=8.7,SNR=4.6						
MKAR	**Makanchi Array**	**67.85**	**333**	P	**P**	**19 45 14.7**	**+2.1**
	0.5nm,0.7s,baz=140,slow=7.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**72.41**	**339**	P	**P**	**19 45 40.5**	**+0.2**
	0.6nm,0.5s,baz=136,slow=5.0,SNR=2.6						

DJA 15 19:42:12.1±0.9,**5˚S**±6˚×**10˚3E**±˚,**h70**km±8km,**M2.9**/5, **MLv2.9**/5,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.26**	**328**	P	Pn	19 42 23.8	+0.8
MNAI				S	Sn	19 42 33.7	+2.7
MNAI	**Manna**	**0.26**	**328**	S	Pn	19 42 23.8	+0.7
	baz=19,SNR=39						
LHSI	**Lahat**	**0.86**	**30**	P	Pn	19 42 28.8	-0.1
LWLI	**Liwa**	**1.06**	**114**	P	Pn	19 42 31.6	+0.1
LWLI				S	Sn	19 42 48.4	+2.5
MDSI	**Maura Dua**	**1.09**	**85**	P	Pn	19 42 31.9	+0.2
MDSI				S	Sn	19 42 47.3	+0.9
KLSI		**1.64**	**94**	S	Sn	19 43 00.2	+1.0
MASI	**Maura Aman, Be**	**1.66**	**329**	S	Sn	19 43 02.2	+2.3
KASI	**Kota Agung**	**1.69**	**124**	P	Pn	19 42 39.5	0.0
KASI				S	Sn	19 43 01.5	+1.2

SJA 15 19:58:54.1±0.5,25˚30S×71˚11W,h368km±10km,MD4.5, ML5.2

ISCJB 15 19:58:58.0±1.7,25˚52S±0˚02×70˚58W±0˚07,h3km±11km, mb4.5/20,MS3.8/3,Error ellipse: s-maj=10.4km s-min=3.6km az=174.8

GUC 15 19:58:58.6±0.5,25˚47S×70˚45W,h30km±4km,ML4.3

NEIC 15 19:59:01.0±2.1,25˚62S×70˚59W,h17km±13km,mb4.5/9, ML4.3(GUC),Error ellipse: s-maj=10.8km s-min=5.3km az=92.0

NEIC Felt [II] at Taltal.

IDC 15 19:59:04.9±2.7,25˚54S×70˚60W,h44km±23km,mb4.3/11, mb1 4.3/14,mb1mx4.1/31,mbtmp4.4/14,ML3.8/3,MS3.6/5, Ms1 3.6/5,ms1mx3.4/18,Error ellipse: s-maj=22.5km s-min=17.6km az=51.0

BJI 15 19:59:06.7,25˚70S×70˚40W,h37km,mB5.0/2,Ms5.0/2, Ms7 4.8/5

ISC 15 19:59:02.1±1.1,**25˚55S**±0˚03×**70˚70W**±0˚07,**h24**km±7km, **n182**,σ**1˚67**/185,**mb4.5**/20,**MS3.5**/3,**45C-50D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**1.51**	**184**	eP	**Pn**	**19 59 26.5**	**-1.1**
CDCH				eS	**Sn**	**19 59 45.7**	**-0.9**
CDCH				AML	AML	19 59 49.1	
	comp=E,5μm,0.6s						
CDCH	**Caldera**	**1.51**	**184**	eP	**Pn**	**19 59 26.5**	**-1.1**
CDCH				S	**Sn**	**19 59 45.7**	**-0.9**
CPCH	**Copiapo**	**1.82**	**170**	eP	**Pn**	**19 59 30.6**	**-1.4**
CPCH				eS	**Sn**	**19 59 55.1**	**+0.7**
CPCH	**Copiapo**	**1.82**	**170**	eP	**Pn**	**19 59 30.6**	**-1.4**
CPCH				eS	**Sn**	**19 59 55.1**	**+0.7**
ANCH	**Antofagasta**	**1.88**	**8**	eP	Pn	19 59 29.0	-3.7
ANCH				eS	**Sn**	**19 59 51.7**	**-4.0**
ANCH				AML	AML	20 00 06.5	
	comp=E,5μm,0.4s						
ANCH	**Antofagasta**	**1.88**	**8**	eP	Pn	19 59 29.0	-3.7
ANCH				eS	**Sn**	**19 59 51.7**	**-4.0**
PB10	**Plate Boundary**	**2.04**	**4**	⇑eP	**Pn**	**19 59 33.8**	**-1.1**
PB10				eS	**Sn**	**19 59 59.1**	**-0.5**
PB10				AML	AML	20 00 16.4	
	comp=N,8μm,0.8s						
CEN1	**Los Morros**	**2.20**	**12**	eP	Pn	19 59 32.3	-4.9
CEN1				eS	Sn	19 59 57.7	-6.2
CEN1				AML	AML	20 00 11.9	
	comp=E,3μm,0.9s						
CEN1	**Los Morros**	**2.20**	**12**	P	Pn	19 59 32.3	-4.9
CEN1				S	Sn	19 59 57.7	-6.2
VACH	**Vallenar**	**3.01**	**181**	eP	**Pn**	**19 59 47.7**	**-0.7**
VACH				eS	**Sn**	**20 00 24.1**	**+0.3**
VACH	**Vallenar**	**3.01**	**181**	eP	**Pn**	**19 59 47.7**	**-0.7**
VACH				S	**Sn**	**20 00 24.1**	**+0.3**
LVC	**Limon Verde**	**3.35**	**30**	ePn	**Pn**	**19 59 55.2**	**+1.9**
LVC	**Limon Verde**	**3.35**	**30**	eP	**Pb**	**19 59 59.0**	**-2.0**
LVC				eS	**Sb**	**20 00 46.6**	**+5.1**
LCO	**Las Campanas**	**3.44**	**180**	eP	**Pn**	**19 59 53.8**	**-0.7**
LCO				eS	**Sn**	**20 00 37.2**	**+2.4**
LCO	**Las Campanas**	**3.44**	**180**	eP	**Pn**	**19 59 53.8**	**-0.7**
LCO				eS	**Sn**	**20 00 37.2**	**+2.4**
AGUA	**GUANDACOL**	**4.38**	**154**	eP	Pn	20 00 12.2	+4.9
AGUA				eS	**Sb**	**20 01 11.6**	**+0.7**
SLA	**San Lorenzo**	**4.78**	**81**	eP	Pn	20 00 17.1	+4.3
ACLC	**CERRO LA CRUZ**	**5.09**	**140**	eP	Pn	20 00 21.4	+4.3
ACLC				eS	**Sb**	**20 01 26.2**	**-5.3**
CYA	**Choya**	**5.23**	**124**	eP	Pn	20 00 23.1	+4.2
AZAP	**Zapla**	**5.28**	**77**	eP	**Pn**	**20 00 22.5**	**+2.7**
AMOG	**MOGNA**	**5.71**	**161**	eP	**Pn**	**20 00 27.6**	**+2.2**
AVFE	**Valle Fertil**	**5.84**	**151**	eP	**Pn**	**20 00 29.3**	**+2.0**
AVFE				eS	Sn	20 01 40.3	+6.8
AVFE				AML	AML	20 01 48.1	
	comp=Z,710nm,0.7s						
SJA	**San Juan**	**6.24**	**163**	AML	AML	20 02 15.4	
	comp=Z,252nm,0.8s						
RTLS	**Leoncito**	**6.34**	**169**	eP	**Pn**	**20 00 35.4**	**+1.0**
CFAA	**Coronel Fontan**	**6.41**	**161**	P	**Pn**	**20 00 36.8**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=326,slow=5.2,SNR=24						
CFAA				S	Sn	20 01 55.5	+8.1
	comp=Z,1.9nm,0.3s,baz=183,slow=17,SNR=3.8						
CFAA	**Coronel Fontan**	**6.41**	**161**	eP	**Pn**	**20 00 36.6**	**+1.6**
CFAA				eP	**Pn**	**20 00 36.6**	**+1.6**
AUSP	**Uspallata**	**6.75**	**170**	eP	**Pn**	**20 00 39.8**	**-0.1**
ASAL	**Salagasta**	**7.20**	**167**	eP	**Pn**	**20 00 45.5**	**-0.5**
ARCO	**CERRO ARCO**	**7.42**	**168**	AML	AML	20 02 37.0	
	comp=Z,138nm,0.7s						
ARE	**Arequipa**	**9.08**	**355**	eP	**Pn**	**20 01 10.0**	**-1.9**
LPAZ	**La Paz**	**9.53**	**15**	P	**Pn**	**20 01 18.9**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=188,slow=6.7,SNR=23						
H03N1	**Juan Fernandez**	**10.62**	**220**	T	T	20 12 13.2	
	baz=44,slow=74,SNR=1897						
H03N2	**Juan Fernandez**	**10.63**	**220**	T	T	20 12 15.1	
	baz=44,slow=74,SNR=1617						
H03N3	**Juan Fernandez**	**10.64**	**220**	T	T	20 12 25.0	
	baz=44,slow=74,SNR=1954						
CPUP	**Villa Florida**	**12.06**	**97**	P	**Pn**	**20 01 54.2**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=253,slow=12,SNR=4.5						
CPUP				LR	LR	20 06 49.0	
	comp=Z,322nm,18.2s,baz=234,slow=39						
SIV	**San Ignacio**	**13.09**	**45**	P	Pn	20 02 03.1	-3.6
	comp=Z,0.5nm,0.3s,baz=243,slow=11,SNR=7.2						
SIV				S	**Sn**	**20 04 29.3**	**-2.4**
	baz=330,slow=20,SNR=3.8						
SIV				LR	LR	20 08 07.3	
	comp=Z,281nm,21.2s,baz=232,slow=42						
TRQA	**Tornquist**	**14.49**	**151**	Pn	Pn	20 02 22.7	-3.0
	comp=Z,24nm,0.6s						
PLCA	**Paso Flores**	**15.14**	**180**	P	**P**	**20 02 38.7**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=15,slow=13,SNR=7.9						
PLCA				LR	LR	20 08 50.0	
	comp=Z,252nm,21.2s,baz=7.5,slow=39						
SAML	**Samuel**	**18.00**	**25**	eP	**Pn**	**20 03 10.1**	**-0.6**
	comp=Z,10.0nm,1.1s						
BB16B	**Bebedouro**	**20.80**	**82**	⇑iP	**P**	**20 03 40.1**	**-1.7**
BB16B				i		20 03 41.3	
BB16B				i		20 03 53.7	
BB16B				i		20 04 00.1	
BDFB	**Brasilia**	**23.38**	**69**	P	**P**	**20 04 07.3**	**-2.0**
	comp=Z,11nm,0.7s,baz=234,slow=11,SNR=14						
BDFB				LR	LR	20 14 21.9	
	comp=Z,199nm,21.0s,baz=240,slow=39						
ROSC	**El Rosal**	**30.43**	**353**	LR	LR	20 17 16.2	
	comp=Z,102nm,19.9s,baz=182,slow=36						
SDV	**Santo Domingo**	**34.23**	**0**	eP	**P**	**20 05 48.0**	**+1.6**
	comp=Z,8.3nm,0.8s						
RCBR	**Riachuelo**	**38.62**	**65**	P	**P**	**20 06 24.7**	**+0.8**
	comp=Z,25nm,0.8s,baz=230,slow=10,SNR=9.1						
VNA2	**Neumayer--Watz**	**57.41**	**160**	P	**P**	**20 08 48.2**	**-0.1**
	baz=290,slow=8.5						
H06E1	**SOCORRO T-PHAS**	**58.93**	**314**	T	T	21 12 50.9	
	SNR=23						
SNAA	**Sanae**	**59.03**	**160**	P	**P**	**20 08 59.2**	**-0.5**
JCT	**Junction City**	**62.30**	**332**	eP	**P**	**20 09 23.0**	**+0.6**
	comp=Z,7.9nm,0.5s						
529A	**Stev Forest Ra**	**63.07**	**329**	⇑P	**P**	**20 09 28.8**	**+1.2**
	baz=63,SNR=6.6						
TXAR	**Lajitas Array**	**63.09**	**328**	P	**P**	**20 09 28.3**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=152,slow=8.7,SNR=12						
429A	**Davenport Ranc**	**63.34**	**330**	⇑P	**P**	**20 09 30.4**	**+1.0**
	baz=64,SNR=7.9						
131A	**Roby**	**64.45**	**332**	⇓P	**P**	**20 09 37.9**	**+1.3**
	baz=65						
Z31A	**Sharp Cattle R**	**64.90**	**333**	⇑P	**P**	**20 09 40.6**	**+1.0**
	baz=65						
228A	**UT Block 9, Go**	**64.92**	**330**	⇑P	**P**	**20 09 40.7**	**+0.9**
	baz=65						
Z30A	**Sanderson Ranc**	**65.29**	**332**	⇑P	**P**	**20 09 42.8**	**+0.7**
	baz=66						
Z29A	**Hungry Hill Ra**	**65.51**	**332**	⇑P	**P**	**20 09 44.2**	**+0.6**
	baz=66						
Y31A	**Rekieta Farm,**	**65.51**	**333**	⇓P	**P**	**20 09 44.4**	**+0.9**
	baz=66						
226B	**Tecolote Peak,**	**65.61**	**329**	⇑P	**P**	**20 09 45.8**	**+1.6**
	baz=66						
225A	**Deer Hill, Car**	**65.94**	**329**	⇓P	**P**	**20 09 47.6**	**+1.1**
	baz=66						
X31A	**McDonald Ranch**	**65.98**	**334**	⇓P	**P**	**20 09 47.5**	**+1.0**
	baz=66						
W32A	**Sentinel**	**66.12**	**335**	⇓P	**P**	**20 09 48.4**	**+1.0**
	baz=66						
Z27A	**Tatum**	**66.21**	**331**	⇓P	**P**	**20 09 48.5**	**+0.4**
	baz=67						
Y28A	**McKinney Farm,**	**66.30**	**332**	⇓P	**P**	**20 09 49.1**	**+0.5**
	baz=67						
125A	**Gardner Draw,**	**66.32**	**329**	⇓P	**P**	**20 09 49.3**	**+0.5**
	baz=67,SNR=5.0						
V33A	**Lossen Ranch,**	**66.38**	**336**	⇓P	**P**	**20 09 49.7**	**+0.7**
	baz=67						
Z26A	**Caprock**	**66.52**	**330**	⇓P	**P**	**20 09 50.8**	**+0.7**
	baz=67,SNR=8.5						
MSTX	**Muleshoe**	**66.58**	**331**	⇑P	**P**	**20 09 50.9**	**+0.5**
	baz=67,SNR=5.4						
Y27A	**Causey**	**66.67**	**331**	⇑P	**P**	**20 09 52.1**	**+1.0**
	baz=67						
Z25A	**Roswell**	**66.86**	**329**	⇓P	**P**	**20 09 53.3**	**+0.9**
	baz=67						
V31A	**Spring Creek L**	**66.93**	**335**	⇓P	**P**	**20 09 54.4**	**+1.9**
	baz=67						
Y26A	**Elida**	**67.00**	**330**	⇑P	**P**	**20 09 54.7**	**+1.5**
	baz=67						
U32A	**Winter Ranch,**	**67.14**	**335**	⇑P	**P**	**20 09 55.8**	**+1.9**
	baz=68						
Z24A	**Sheeppen Canyo**	**67.21**	**329**	⇑P	**P**	**20 09 55.6**	**+1.0**
	baz=68,SNR=8.1						
W28A	**Vega**	**67.43**	**332**	⇑P	**P**	**20 09 57.0**	**+1.1**
	baz=68						
319A	**Douglas**	**67.56**	**325**	⇓P	**P**	**20 09 58.4**	**+1.7**
	baz=68						
121A	**Cookes Peak, D**	**67.72**	**327**	⇑P	**P**	**20 09 59.8**	**+2.0**
	baz=68						
Y24A	**Capitan**	**67.73**	**329**	⇓P	**P**	**20 10 00.2**	**+2.3**
	baz=68						
Z22A	**Elephant Butte**	**67.91**	**328**	⇑P	**P**	**20 10 01.3**	**+2.4**
	baz=68,SNR=8.6						
W26A	**Owens Ranch, T**	**67.96**	**331**	⇑P	**P**	**20 10 01.7**	**+2.5**
	baz=68						
Y23A	**Lovelace Mesa,**	**68.03**	**329**	⇑P	**P**	**20 10 01.9**	**+2.1**
	baz=68						
V27A	**Dan Oppiter Fa**	**68.12**	**332**	⇓P	**P**	**20 10 02.5**	**+2.3**
	baz=68						
X24A	**Lazy VL Ranch,**	**68.26**	**330**	⇓P	**P**	**20 10 03.6**	**+2.4**
	baz=69						
W25A	**X Bar L Ranch,**	**68.37**	**331**	⇓P	**P**	**20 10 02.8**	**+1.0**
	baz=69						
U28A	**Mallet**	**68.40**	**333**	⇑P	**P**	**20 10 02.6**	**+0.6**
	baz=69						
V26A	**Tequesquite Ra**	**68.56**	**332**	⇓P	**P**	**20 10 03.7**	**+0.7**
	baz=69						
U27A	**Thompson Grove**	**68.69**	**333**	⇑P	**P**	**20 10 04.3**	**+0.6**
	baz=69						
W24A	**Lazy 6 Ranch,**	**68.79**	**330**	⇓P	**P**	**20 10 06.1**	**+1.6**
	baz=69						
R32A	**Long Quarter,**	**68.84**	**337**	⇓P	**P**	**20 10 05.8**	**+1.2**
	baz=69						
V25A	**Rancho No Teng**	**68.96**	**331**	⇓P	**P**	**20 10 06.5**	**+1.0**
	baz=69,SNR=7.7						
U26A	**Atchley Ranch,**	**69.05**	**332**	⇑P	**P**	**20 10 07.0**	**+0.8**
	baz=69,SNR=5.2						
W23A	**Werner Place,**	**69.08**	**329**	⇑P	**P**	**20 10 08.1**	**+1.7**
	baz=70,SNR=5.9						
V24A	**Rampart Ranch,**	**69.16**	**330**	⇓P	**P**	**20 10 08.1**	**+1.2**
	baz=70						
T27A	**Campo**	**69.19**	**333**	⇓P	**P**	**20 10 07.6**	**+0.7**
	baz=70						
S28A	**Manter**	**69.32**	**334**	⇓P	**P**	**20 10 08.3**	**+0.8**
	baz=70						
U25A	**Circle Dot Ran**	**69.34**	**331**	⇑P	**P**	**20 10 09.2**	**+1.3**
	baz=70,SNR=5.9						
T26A	**Comanche Natio**	**69.65**	**332**	⇓P	**P**	**20 10 10.9**	**+1.1**
	baz=70						
214A	**Organ Pipe Nat**	**69.90**	**323**	⇓P	**P**	**20 10 13.5**	**+2.3**
	baz=70						
T25A	**Trinidad**	**69.97**	**332**	⇓P	**P**	**20 10 13.4**	**+1.7**
	baz=70						
S26A	**Kim**	**69.98**	**333**	⇑P	**P**	**20 10 12.6**	**+0.9**
	baz=70,SNR=5.3						
V22A	**San Miguel Ran**	**70.05**	**329**	⇓P	**P**	**20 10 14.4**	**+2.0**
	baz=70						
T24B	**San Luis**	**70.32**	**331**	⇓P	**P**	**20 10 15.6**	**+1.6**
	baz=71,SNR=5.5						
X18A	**Snowflake**	**70.40**	**326**	⇓P	**P**	**20 10 16.4**	**+2.0**
	baz=71						
U22A	**Llaves**	**70.41**	**330**	⇓P	**P**	**20 10 16.8**	**+2.3**
	baz=71						
S25A	**Robets Cordova**	**70.42**	**332**	⇓P	**P**	**20 10 16.2**	**+1.7**
	baz=71						
R26A	**Arlington**	**70.55**	**333**	⇓P	**P**	**20 10 16.4**	**+1.2**
	baz=71						
S24A	**Houchin Ranch,**	**70.73**	**332**	⇑P	**P**	**20 10 18.4**	**+1.8**
	baz=71,SNR=9.6						
X16A	**Lo Mia Camp, P**	**71.07**	**325**	⇓P	**P**	**20 10 20.6**	**+2.1**
	baz=71						
R24A	**Sanders Place,**	**71.18**	**332**	⇑P	**P**	**20 10 21.2**	**+2.1**
	baz=72						
R23A	**Moffat**	**71.46**	**331**	⇓P	**P**	**20 10 22.6**	**+1.7**
	baz=72						
DBIC	**Dimbokro**	**71.48**	**73**	P	**P**	**20 10 20.4**	**-0.9**
	comp=Z,3.7nm,0.6s,baz=203,slow=5.4,SNR=7.2						
S22A	**4UR Ranch, Cre**	**71.53**	**330**	⇑P	**P**	**20 10 23.1**	**+1.7**
	baz=72						
Q24A	**Divide**	**71.82**	**332**	⇑P	**P**	**20 10 25.1**	**+2.0**
	baz=72						
MVCO	**Mesa Verde**	**71.85**	**329**	⇑P	**P**	**20 10 25.3**	**+2.1**
	baz=72						
WUAZ	**Wupatki**	**71.89**	**326**	⇓P	**P**	**20 10 25.8**	**+2.3**
	baz=72						
Y12C	**Blythe**	**72.19**	**323**	⇑P	**P**	**20 10 27.6**	**+2.5**
	baz=73						
P22A	**Eagle**	**73.03**	**332**	⇓P	**P**	**20 10 30.7**	**+0.5**
	baz=73						
U15A	**North Rim**	**73.07**	**326**	⇑P	**P**	**20 10 31.0**	**+0.5**
	baz=73						
O23A	**Lake Granby, G**	**73.19**	**333**	⇓P	**P**	**20 10 33.3**	**+2.1**
	baz=74						
K29A	**Lazy Trails An**	**73.25**	**338**	⇑P	**P**	**20 10 32.7**	**+1.4**
	baz=74						
N24A	**Carr**	**73.28**	**334**	⇓P	**P**	**20 10 33.3**	**+1.7**
	baz=74						
M25A	**Palm-Egli Farm**	**73.47**	**334**	⇓P	**P**	**20 10 34.8**	**+2.1**
	baz=74						
J30A	**Dallas**	**73.48**	**338**	⇑P	**P**	**20 10 34.5**	**+2.0**
	baz=74						
K28A	**Ten Mile Ranch**	**73.58**	**337**	⇑P	**P**	**20 10 35.4**	**+2.2**
	baz=74						
GMRC	**Granite Mounta**	**73.59**	**323**	⇓P	**P**	**20 10 35.1**	**+1.6**
	baz=74						
L26A	**Underwood Farm**	**73.61**	**335**	⇑P	**P**	**20 10 34.9**	**+1.4**
	baz=74						
N23A	**Red Feather La**	**73.77**	**333**	⇑P	**P**	**20 10 35.9**	**+1.3**
	baz=74						
M24A	**Cheyenne**	**73.80**	**334**	⇓P	**P**	**20 10 36.2**	**+1.5**
	baz=74						
J29A	**Okreek**	**73.83**	**338**	⇓P	**P**	**20 10 35.8**	**+1.2**
	baz=74						
SRU	**San Rafael**	**74.32**	**329**	eP	**P**	**20 10 38.5**	**+0.7**
	comp=Z,3.4nm,0.8s						
ARUT	**Antelope Range**	**74.70**	**326**	P	**P**	**20 10 42.0**	**+2.0**
	comp=Z,58nm,0.6s						
R11A	**Troy Canyon, C**	**76.22**	**325**	⇓P	**P**	**20 10 50.7**	**+2.0**
	baz=77						
DUG	**Dugway**	**76.26**	**328**	⇑P	**P**	**20 10 50.8**	**+1.9**
	baz=77						
HWUT	**Hardware Ranch**	**76.79**	**330**	eP	**P**	**20 10 52.5**	**+0.6**
	comp=Z,2.6nm,0.5s						
J19A	**Crowheart**	**77.03**	**332**	⇓P	**P**	**20 10 54.9**	**+1.8**
	baz=77						
E25A	**Miller Ranch,**	**77.59**	**338**	⇑P	**P**	**20 10 58.2**	**+2.1**
	baz=78						
H20A	**Greybull**	**77.60**	**334**	⇑P	**P**	**20 10 58.5**	**+2.3**
	baz=78						
I19A	**Meeteetse**	**77.63**	**333**	⇑P	**P**	**20 10 58.4**	**+1.8**
	baz=78						
C28A	**Hausauer Farms**	**77.67**	**340**	⇑P	**P**	**20 10 58.7**	**+2.2**
	baz=78						
NVAR	**Mina Array Bea**	**77.71**	**324**	P	**P**	**20 10 58.0**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=159,slow=6.5,SNR=8.0						
NVAR	**Mina Array Bea**	**77.71**	**324**	P	**P**	**20 10 58.0**	**+0.8**
D26A	**Manning**	**77.72**	**338**	⇓P	**P**	**20 10 59.4**	**+2.7**
	baz=78						
ELK	**Elko**	**77.86**	**327**	P	**P**	**20 10 58.5**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=297,slow=1.9,SNR=6.4						
E24A	**Baker**	**77.96**	**337**	⇓P	**P**	**20 10 59.9**	**+1.7**
	baz=78						
B29A	**Wagenman Farm,**	**78.03**	**341**	⇓P	**P**	**20 10 59.7**	**+1.3**
	baz=78						
D25A	**Fairfield**	**78.13**	**338**	⇑P	**P**	**20 11 00.9**	**+1.8**
	baz=78						
H19A	**Powell**	**78.15**	**333**	⇓P	**P**	**20 11 00.7**	**+1.4**
	baz=78						
I17A	**Pilgrim Ck.**	**78.20**	**332**	⇑P	**P**	**20 11 01.3**	**+1.5**
	baz=79						
G20A	**Bridger**	**78.29**	**334**	⇑P	**P**	**20 11 01.1**	**+1.0**
	baz=79						
C26A	**Wahner Farm, P**	**78.31**	**339**	⇓P	**P**	**20 11 01.9**	**+1.9**
	baz=79						
ULM	**Lac du Bonnet**	**78.70**	**344**	P	**P**	**20 11 01.4**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=153,slow=4.0,SNR=6.0						
YMR	**Madison River**	**78.97**	**332**	eP	**P**	**20 11 05.4**	**+1.4**
	comp=Z,9.7nm,1.0s						
MCMT	**McKenzie Canyo**	**79.91**	**331**	eP	**P**	**20 11 10.3**	**+1.2**
	comp=Z,2.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.26**	**70**	P	**P**	**20 11 11.0**	**-0.4**
	comp=Z,8.1nm,0.6s,baz=260,slow=5.2,SNR=62						
MAW	**Mawson**	**80.93**	**164**	P	**P**	**20 11 13.8**	**-0.3**
	comp=Z,6.8nm,0.6s,baz=306,slow=19,SNR=4.4						
HRY	**Holter Researc**	**80.97**	**333**	P	**P**	**20 11 15.0**	**+0.4**
	comp=Z,4.4nm,0.8s						
JTMT	**Jette**	**82.82**	**332**	eP	**P**	**20 11 25.1**	**+0.7**
	comp=Z,1.6nm,0.8s						
BOSA	**Boshof**	**82.99**	**118**	P	**P**	**20 11 25.2**	**-0.7**
	comp=Z,5.5nm,0.9s,baz=264,slow=7.3,SNR=5.5						
YKA	**Yellowknife Ar**	**94.46**	**341**	P	**P**	**20 12 19.0**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=136,slow=4.4,SNR=29						
ASAR	**Alice Springs**	**125.58**	**208**	PKP	**PKPdf**	**20 18 01.4**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=148,slow=2.6,SNR=14						
H11S2	**WAKE ISLAND Hy**	**126.66**	**275**	T	T	22 37 35.3	
	baz=117						
H11S1	**WAKE ISLAND Hy**	**126.67**	**275**	T	T	22 37 32.9	
	baz=117						
H11S3	**WAKE ISLAND Hy**	**126.67**	**275**	T	T	22 37 35.6	
	baz=117						
H11N3	**WAKE ISLAND Hy**	**126.85**	**276**	T	T	22 37 44.7	
	baz=110,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**126.87**	**276**	T	T	22 37 48.1	
	baz=110,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**126.87**	**276**	T	T	22 37 54.2	
	baz=110,slow=76,SNR=25						
WRA	**Warramunga Arr**	**128.64**	**211**	PKP	**PKPdf**	**20 18 07.7**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=158,slow=1.7,SNR=24						
SEY	**Seymchan**	**133.10**	**335**	PKP	**PKPdf**	**20 18 15.7**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=112,slow=5.4,SNR=16						
KURK	**Kurchatov**	**145.59**	**35**	ePKP	**PKPdf**	**20 18 38.4**	**+0.3**
ZALV	**Zalesovo Beam**	**146.30**	**26**	PKPbc	**PKPdf**	**20 18 39.5**	**+0.4**
	comp=Z,15nm,0.8s,baz=310,slow=3.7,SNR=47						
AAK	**Ala-Archa**	**146.81**	**50**	ePKPbc	**PKPdf**	**20 18 42.0**	**+1.3**
CISI	**Cisompet, Garu**	**147.06**	**177**	PKPbc	**PKPdf**	**20 18 43.6**	**+1.8**
KSH	**Kashi**	**148.84**	**55**	PKPbc	**PKPbc**	**20 18 48.1**	**+0.1**
KSH				esPKP		20 19 02.8	
KSH				ePP	**PP**	**20 22 20.6**	**+1.9**
KSH				PKS	**PKSdf**	**20 22 22.3**	**+3.1**
KSH				SKKS		20 29 08.6	
KSH				SS	**SS**	**20 41 29.1**	**+0.8**
KSH				AMB	AMB		
	comp=Z,57nm,5.7s						
KSH				LR	LR		
	comp=Z,57nm,4.7s						
MKAR	**Makanchi Array**	**149.84**	**38**	PKPbc	**PKPbc**	**20 18 50.0**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=322,slow=2.5,SNR=49						
HYB	**Hyderabad**	**150.32**	**100**	i PKP	**PKPbc**	**20 18 50.5**	**-1.6**
MJAR	**Matsushiro Arr**	**153.01**	**301**	PKPbc	**PKPbc**	**20 18 57.1**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=90,slow=1.2,SNR=5.3						
WMQ	**Urumqi**	**154.68**	**39**	ePKPbc	**PKPdf**	**20 18 51.6**	**-1.0**
WMQ				LR	LR		
	comp=Z,76nm,24.2s						
WMQ				LR	LR		
	comp=Z,26nm,20.0s						
WMQ				LR	LR		
	comp=Z,33nm,20.6s						
SONM	**Songino Array**	**157.64**	**5**	PKP	**PKPdf**	**20 18 56.8**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=242,slow=1.2,SNR=13						
SONM				PKPab	**PKPab**	**20 19 28.5**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=338,slow=3.2,SNR=6.8						
BJI	**Beijing**	**164.45**	**340**	PKP	**PKPdf**	**20 19 04.1**	**+0.3**
BJI				SS	SS	20 44 18.0	+4.6
BJI				LR	LR		
	comp=Z,120nm,18.1s						
HHC	**Hu-ho-hao-te**	**164.63**	**354**	ePKP	**PKPdf**	**20 19 03.3**	**-0.8**
HHC				PKS	**PKSdf**	**20 22 34.8**	**-2.3**
HHC				PP	**PP**	**20 23 49.0**	**+4.5**
HHC				SKS	**SKSdf**	**20 26 02.3**	**-4.8**
HHC				SKKS	**SKKSac**	**20 30 30.9**	**-0.9**
HHC				SS	**SS**	**20 44 17.0**	**+1.8**
HHC				AMB	AMB		
	comp=Z,93nm,5.2s						
HHC				LR	LR		
	comp=Z,140nm,19.4s						
HHC				LR	LR		
	comp=Z,270nm,19.0s						
HHC				LR	LR		
	comp=Z,140nm,20.6s						
LZH	**Lanzhou**	**168.50**	**23**	ePKP	**PKPdf**	**20 19 06.3**	**-1.0**
LZH				pPKP	**pPKPdf**	**20 19 16.5**	**+1.2**
LZH				sPKP		20 19 20.8	
NJ2	**Nanjing**	**169.41**	**310**	ePKP	**PKPdf**	**20 19 07.4**	**-0.4**
CD2	**Chengdu**	**172.76**	**41**	PKP	**PKPdf**	**20 19 07.8**	**-1.8**

DJA 15 20:00:01.5±0.3,**1˚N**±3˚×**10˚0E**±˚,**h10**km,**M3.8**/10, **MLv3.8**/10,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.53**	**298**	P	Pg	20 00 07.0	-4.9
BKNI	**Bangkinang**	**1.01**	**102**	P	Pg	20 00 18.5	-2.5
BKNI				S	Sg	20 00 32.9	-1.3
PDSI	**Padang**	**1.50**	**164**	P	Pn	20 00 27.0	-1.5
PDSI				S	Sn	20 00 48.0	-0.2
SDSI	**Sungai Dareh**	**2.01**	**137**	P	Pn	20 00 35.4	-0.1
SDSI				S	Sb	20 01 02.1	-1.2
RGRI	**Rengat**	**2.45**	**111**	S	Sb	20 01 16.8	+0.9
GSI	**Gunungsitoli**	**2.59**	**287**	P	Pn	20 00 41.5	-2.0
GSI				S	Sn	20 01 16.4	+1.4
TSI	**Tuntungan**	**3.29**	**333**	P	Pn	20 00 53.4	+0.2
TSI				S	Sb	20 01 37.2	-3.1
KCSI	**Kotacane, Aceh**	**3.74**	**322**	P	Pn	20 01 00.2	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TPTI		3.94	313	P	Pn	20 01 02.2	+0.1
TPTI				S	Sb	20 01 53.7	-5.2

ISCJB ***15*** *20:15:25.4±0.3, 6°.13S±0°.03×128°.62E±0°.04, h322km, mb3.7/6, Error ellipse: s-maj=5.7km s-min=4.1km az=152.5*
IDC ***15*** *20:15:27.6±1.7, 6°.24S×128°.42E, h326km±20km, mb3.7/5, mb1 4.0/8, mb1mx3.6/21, mbtmp4.7/8, Error ellipse: s-maj=18.2km s-min=9.7km az=67.0*
DJA ***15*** *20:15:27.6±0.3, 6°S±3°×12°9E±°, h280km, M4.6/16, mb4.6/10, mB5.1/6, MLv4.8/16, Mw(mB)4.4/6*
ISC 15 20:15:26.4±0.5, **6°.15S**±0°.05×**128°.60E**±0°.06, **h322**km, **n40**, σ**1s98**/51, **mb4.0**/6, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.07	39	P	Pn	20 16 14.1	-1.7
BNDI				S	S	20 16 54.3	-0.9
MSAI	Masohi	2.80	7	P	Pn	20 16 19.1	-2.9
MSAI				S	S	20 16 59.1	-7.3
SAUI	Saumlaki	3.25	124	P	Pn	20 16 25.3	-0.8
SAUI				S	S	20 17 10.8	-3.2
NLAI	Namlea	3.25	333	P	Pn	20 16 26.4	+0.2
NLAI				S	S	20 17 14.4	+0.3
SANI	Sanana	4.83	327	P	Pn	20 16 41.6	-1.4
SANI				S	S	20 17 39.6	-5.0
FAKI	Fak Fak	4.85	49	P	Pn	20 16 40.3	-2.9
FAKI				S	S	20 17 36.3	-8.8
FAKI	Fak Fak	4.85	49	P	Pn	20 16 40.9	-2.4
	baz=4.8,SNR=222						
FAKI				S	S	20 17 37.1	-8.0
	baz=4.8,SNR=23						
LBMI	Labuha	5.58	349	P	Pn	20 16 50.4	-1.2
	185nm,0.8s,2μm0.7nm						
KMPI	Kaimana, Papua	5.66	64	P	Pn	20 16 50.4	-2.0
	146nm,0.7s,5μm2.4nm						
SWI	Sorong	5.88	27	P	Pn	20 16 52.3	-2.8
	81nm,0.7s,4μm0.8nm						
BATI	Baumata	6.33	230	P	Pn	20 16 59.7	-0.7
	370nm,0.6s,6μm1.8nm						
BATI	Baumata	6.33	230	P	Pn	20 16 59.9	-0.5
	221nm,0.3s,baz=94,slow=2.6,SNR=649						
BATI				S	S	20 18 12.9	-3.4
	37nm,0.3s,baz=35,slow=23,SNR=22						
MMRI	Maumere	6.77	248	P	Pn	20 17 06.8	+1.2
	56nm,1.2s,0.2nm						
MTN	Manton Dam	7.11	160	P	Pn	20 17 08.5	-1.1
	baz=7.3,SNR=138						
KDU	Kakadu	7.54	150	P	Pn	20 17 13.9	-0.8
	baz=7.7,SNR=21						
KDU				S	S	20 18 37.5	-5.1
	baz=7.7,SNR=6.3						
KMSI	Cibinong	8.11	325	P	P	20 17 23.9	-2.1
	60nm,0.9s						
BKSI	Bulukumba	8.47	275	P	Pn	20 17 26.4	+0.4
WSI	Waingapu	8.93	246	P	Pn	20 17 32.6	+1.1
	baz=8.9,SNR=4.6						
KNRA	Kununurra	9.47	179	P	Pn	20 17 37.4	-0.6
	baz=9.7,SNR=230						
JAGI	Jajag, Banyuwa	14.51	260	P	P	20 18 37.5	+0.4
	baz=14,SNR=5.5						
WRA	Warramunga Arr	14.81	158	P	P	20 18 40.8	+0.4
	12nm,0.3s,baz=339,slow=12,SNR=313						
WRA				S	S	20 21 17.9	-3.4
	5.6nm,0.3s,baz=337,slow=20,SNR=21						
COEN	Coen	16.31	120	P	P	20 18 57.6	+0.8
	baz=16,SNR=289						
COEN				S	S	20 21 49.3	-2.1
	baz=16,SNR=5.4						
QIS	Mount Isa	17.87	144	P	P	20 19 14.7	+1.1
	baz=18,SNR=49						
QIS				S	S	20 22 19.6	-2.4
	baz=18,SNR=20						
ASAR	Alice Springs	18.15	164	P	P	20 19 17.8	+1.1
	14nm,0.3s,baz=346,slow=12,SNR=711						
ASAR				S	S	20 22 27.3	-0.3
	7.7nm,0.3s,baz=343,slow=19,SNR=93						
PMG	Port Moresby	18.67	101	P	P	20 19 24.4	+2.2
	1.4nm,0.3s,baz=284,slow=4.2,SNR=27						
PMG	Port Moresby	18.67	101	P	P	20 19 25.5	+3.3
	baz=19,SNR=8.2						
WRKA	Warakurna	18.79	181	P	P	20 19 24.3	+1.0
	baz=19,SNR=145						
MTSU	Mount Surprise	19.42	129	P	P	20 19 31.1	+0.9
	baz=20,SNR=15						
MTSU				S	S	20 22 51.1	-0.8
	baz=20,SNR=4.5						
CTA	Charters Tower	22.05	131	P	P	20 19 57.5	+2.2
	18nm,0.8s,baz=308,slow=12,SNR=31						
MEEK	Meekatharra	22.49	204	P	P	20 19 59.5	+0.2
	baz=23,SNR=11						
STKA	Stephens Creek	28.34	156	P	P	20 20 52.6	+1.1
	2.7nm,0.4s,baz=323,slow=8.9,SNR=11						
STKA	Stephens Creek	28.34	156	P	P	20 20 52.9	+1.4
	baz=29,SNR=12						
NWAO	Narrogin (SRO)	28.67	200	P	P	20 20 54.3	-0.1
	8.9nm,0.9s,baz=38,slow=7.8,SNR=7.1						
HTT	Hallett	28.79	162	P	P	20 20 57.6	+2.0
	baz=29,SNR=6.1						
CMSA	Cobar Meteorol	29.90	150	P	P	20 21 07.2	+1.9
	baz=30,SNR=8.6						
KSRS	Korea Array	43.38	359	P	P	20 22 58.8	+0.9
	1.1nm,0.6s,baz=175,slow=9.3,SNR=4.6						
SONM	Songino Array	57.20	342	P	P	20 24 42.0	+1.2
	0.2nm,0.4s,baz=152,slow=6.5,SNR=3.8						
MKAR	Makanchi Array	66.75	327	P	P	20 25 44.9	+1.1
	1.2nm,0.5s,baz=123,slow=7.1,SNR=32						
SEY	Seymchan	71.24	11	P	P	20 26 11.2	+0.5
	baz=240,slow=20						
LPAZ	La Paz	152.24	144	PKPbc	PKPbc	20 34 47.0	+1.0
	0.5nm,0.4s,baz=211,slow=2.1,SNR=5.1						

MAN 15 20:37:45, 8°.54N×124°.61E, h32km, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	0.12	135	⇑iP	Pb	20 37 51.4	+0.6
CGP				iS	Sb	20 37 55.2	+0.4
BUKP	Musuan	0.80	146	eP	Pb	20 38 01.1	+0.5
BUKP				eS	Sb	20 38 12.3	+1.1
PAGZ	Pagadian	1.39	240	eP	Pn	20 38 09.2	+1.0
PAGZ				eS	Sn	20 38 25.8	+0.2

MOS 15 20:37:57.9±1.8, **51°.13N×98°.45E, h10km, mb4.2/1, Error ellipse: s-maj=50.6km s-min=24.9km az=141.0, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORL	Orlik	1.64	30	ePN	Pn	20 38 27.7	+0.7
ORL				e		20 38 48.6	
ORL				pmax	pmax		
	comp=Z,33nm,0.3s						
ORL				smax	smax		
	comp=E,240nm,0.7s						
ARS	Arshan	2.60	71	ePN	Pb	20 38 43.0	-1.8
ARS				e		20 39 19.8	
ARS				pmax	pmax		
	comp=Z,38nm,0.6s						
ARS				smax	smax		
	comp=E,281nm,0.5s						
ZAK	Zakamensk	3.16	102	ePN	Pn	20 38 49.7	+1.9
ZAK				e		20 38 55.3	
ZAK				e		20 39 36.2	
ZAK				pmax	pmax		
	comp=Z,28nm,0.4s						
ZAK				smax	smax		
	comp=N,162nm,0.5s						
TLY	Talaya	3.30	78	ePN	Pn	20 38 50.0	+0.4
TLY				e		20 38 57.1	
TLY				e		20 39 40.6	
TLY				pmax	pmax		
	comp=Z,16nm,0.6s						
TLY				smax	smax		
	comp=E,85nm,0.8s						
IRK	Irkutsk	3.79	71	ePN	Pb	20 39 06.3	+1.4
IRK				e		20 39 54.6	
IRK				pmax	pmax		
	comp=Z,41nm,0.4s						
IRK				smax	smax		
	comp=E,202nm,0.4s						
OGRR	Ongureny	6.14	62	ePN	Pn	20 39 27.5	-1.1
OGRR				e		20 39 46.4	
OGRR				e		20 41 05.6	
OGRR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
OGRR				smax	smax		
	comp=N,47nm,0.9s						

NIED ***15*** *20:38:00, 36°.90N×142°.20E, h11km, Mw3.8 Best double couple: Mo4.85000×10^14 NP1:φs205.00000°, δ15.00000°, λ94.00000°. NP2:φs21.00000°, δ75.00000°, λ89.00000°.*
IDC ***15*** *20:38:16.7±1.0, 36°.76N×142°.32E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.6/40, mbtmp3.7/10, ML3.7/2, MS2.5/3, Ms1 2.5/3, ms1mx2.4/43, Error ellipse: s-maj=27.5km s-min=18.7km az=93.0*
JMA ***15*** *20:38:19.7±0.3, 36°.86N×142°.17E, h34km, M3.7*
ISC 15 20:38:18.2±3.9, **36°.90N**±0°.07×**142°.20E**±0°.07, **h8**km±24km, **n30**, σ**1s24**/29, **mb3.7**/8, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.14	281	P	Pb	20 38 39.3	-0.9
JFK	Kawauchi	1.16	294	P	Pn	20 38 39.8	-1.0
JHO	Hitachi	1.34	258	P	Pn	20 38 42.3	-0.9
JMM	Marumori	1.48	311	P	Pn	20 38 44.8	-0.4
JFT	Otama	1.61	293	P	Pn	20 38 47.3	+0.3
JIO	Ouri	1.70	337	P	Pn	20 38 47.7	-0.4
JIO				eS	Sn	20 39 08.2	-1.8
JOU	Okura	1.91	321	P	Pn	20 38 51.7	+0.6
JFY	Yanaizu	2.06	285	P	Pn	20 38 54.1	+1.0
JFY				eS	Sn	20 39 20.0	+1.0
JYS	Shirataka	2.15	309	P	Pn	20 38 55.9	+1.5
JMK	Ichinoseki	2.20	340	P	Pn	20 38 55.7	+0.7
JAG	Ashikaga	2.26	259	P	Pn	20 38 55.7	-0.2
JYK	Kaneyama	2.49	325	P	Pn	20 38 59.9	+0.9
JYK				eS	Sn	20 39 28.8	-0.8
MJAR	Matsushiro Arr	3.23	265	Pn	Pn	20 39 10.9	+1.7
	4.1nm,0.3s,baz=46,slow=11,SNR=37						
MJAR				Sn	Sb	20 39 54.5	-0.7
	4.9nm,0.3s,baz=211,slow=29,SNR=6.0						
MJAR				LR	LR	20 40 21.7	
	comp=Z,72nm,18.5s,baz=105,slow=38						
MAT	Matsushiro	3.23	265	P	Pn	20 39 11.0	+1.8
MAT				S	Sn	20 39 45.8	-2.1
ASAJ	Asahikawa	7.22	2	Pn	Pn	20 40 03.9	-0.1
	1.6nm,0.3s,baz=217,slow=14,SNR=10						
ASAJ				Sn	Sn	20 41 23.7	-2.5
	0.2nm,0.3s,baz=156,slow=20,SNR=1.6						
ASAJ				LR	LR	20 42 20.3	
	comp=Z,18nm,18.5s,baz=186,slow=33						
KSRS	Korea Array	11.41	277	LR	LR	20 45 28.5	
	comp=Z,44nm,21.9s,baz=55,slow=37						
SEY	Seymchan	26.81	10	P	P	20 44 00.2	+1.6
	1.4nm,0.6s,baz=183,slow=7.2,SNR=6.3						
H11N2	WAKE ISLAND Hy	27.54	122	T	T	21 12 46.5	
	baz=316,slow=76,SNR=22						
H11N1	WAKE ISLAND Hy	27.54	122	T	T	21 12 46.7	
	baz=316,slow=76,SNR=15						
H11N3	WAKE ISLAND Hy	27.55	122	T	T	21 12 55.5	
	baz=316,slow=76,SNR=14						
H11S1	WAKE ISLAND Hy	28.26	124	T	T	21 13 45.6	
	baz=319,slow=76						
H11S3	WAKE ISLAND Hy	28.26	124	T	T	21 13 47.0	
	baz=319,slow=76						
H11S2	WAKE ISLAND Hy	28.27	124	T	T	21 13 49.2	
	baz=319,slow=76						
SONM	Songino Array	28.39	304	P	P	20 44 13.9	+0.8
	2.2nm,0.9s,baz=109,slow=9.4,SNR=3.9						
ZALV	Zalesovo Beam	42.47	312	P	P	20 46 14.8	+1.3
	0.8nm,0.6s,baz=99,slow=7.7,SNR=5.0						
MKAR	Makanchi Array	44.73	302	P	P	20 46 32.2	+0.4
	1.0nm,0.9s,baz=83,slow=9.2,SNR=6.4						
ILAR	Eielson Array	49.27	32	P	P	20 47 07.5	+0.4
	0.6nm,0.8s,baz=255,slow=6.1,SNR=8.0						
WRA	Warramunga Arr	57.02	189	P	P	20 48 03.3	-1.2
	0.5nm,0.7s,baz=147,slow=7.3,SNR=8.6						
ASAR	Alice Springs	60.74	189	P	P	20 48 29.1	-1.3
	0.3nm,0.8s,baz=358,slow=5.6,SNR=3.8						
FINES	FINESS Array B	69.23	333	P	P	20 49 25.6	+0.5
	0.7nm,0.7s,baz=46,slow=9.9,SNR=3.5						

MAN 15 20:59:14, 8°.57N×124°.64E, h40km, mb3.8, ML2.5, MS2.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	0.12	156	⇑iP	Pn	20 59 21.1	+0.3
CGP				iS	Sn	20 59 25.1	-0.3
BUKP	Musuan	0.80	149	eP	Pn	20 59 31.6	+2.8
BUKP				eS	Sn	20 59 42.4	+2.8
PAGZ	Pagadian	1.44	240	eP	Pn	20 59 39.2	+1.6
PAGZ				eS	Sn	20 59 56.0	+0.7

NEIC ***15*** *21:09:16.4, 26°.97S×26°.80E, h2km, mb4.5/3, ML3.9(PRE), After PRE.*
PRE ***15*** *21:09:16.8±1.8, 26°.98S×26°.76E, h2km, ML4.2*
ISCJB ***15*** *21:09:17.5±1.6, 26°.99S±0°.03×26°.74E±0°.04, h12km±11km, mb4.2/13, Error ellipse: s-maj=5.8km s-min=4.1km az=33.0*
IDC ***15*** *21:09:17.8±0.7, 26°.96S×26°.72E, h0km, mb4.1/11, mb1 4.3/15, mb1mx4.2/29, mbtmp4.2/15, ML4.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/35, Error ellipse: s-maj=18.4km s-min=11.5km az=98.0*
ISC 15 21:09:18.2±1.2, **26°.94S**±0°.04×**26°.74E**±0°.03, **h9**km±7km, **n48**, σ**2s17**/69, **mb4.4**/13, **4C-5D, South Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WDLM	Western Deep L	0.79	50	iP	Pg	21 09 33.1	-0.4
WDLM				eS	Sg	21 09 42.8	-1.1
WDLM				AML	AML	21 09 51.7	
	comp=Z,2μm,0.8s						
KLOF	Kloof	0.97	53	⇓iP	Pg	21 09 36.3	-0.6
KLOF				eS	Sg	21 09 47.4	-2.1
KSR	Koster	1.09	7	eP	Pg	21 09 38.9	-0.3
KSR				eS	Sg	21 09 53.5	+0.1
KSR				AML	AML	21 09 57.9	
	comp=Z,1μm,0.3s						
KSR	Koster	1.09	7	⇓iP	Pg	21 09 38.9	-0.3
KSR				eS	Sg	21 09 52.8	-0.6
SWZ	Schweizer	1.28	259	⇑iP	Pg	21 09 43.4	+0.6
SWZ				eS	Sg	21 09 59.6	+0.1
ERPM	east rand prop	1.47	67	⇓iP	Pb	21 09 45.6	-0.1
ERPM				eS	Sn	21 10 02.8	-1.5
SEK	Senekal	1.59	151	eP	Pn	21 09 46.8	+0.2
SEK				eS	Sn	21 10 05.5	-1.8
SLR	Silverton	1.83	49	⇑iP	Pn	21 09 50.9	+1.0
SLR				eS	Sn	21 10 13.9	+0.7
BOSA	Boshof	2.13	218	Pn	Pn	21 09 54.9	+0.9
	comp=Z,103nm,0.3s,baz=39,slow=12,SNR=1135						
BOSA				Lg	Lg	21 10 23.9	
	comp=Z,378nm,0.3s,baz=316,slow=13,SNR=20						
LBTB	Lobatse	2.17	331	Pn	Pb	21 09 57.4	-0.4
	comp=Z,55nm,0.3s,baz=165,slow=12,SNR=733						
LBTB				Lg	Lg	21 10 26.1	
	comp=Z,388nm,0.3s,baz=246,slow=19,SNR=54						
LBTB	Lobatse	2.17	331	ePn	Pb	21 09 56.5	-1.2
LBTB				Lg	Lg	21 10 26.1	
KSD	Kokstad	4.29	147	⇑iP	Pn	21 10 24.9	+1.2
KSD				eS	Sn	21 11 12.3	-1.6
MSNA	Messina	5.46	34	eP	Pn	21 10 41.0	+1.3
MSNA				eS	Sn	21 11 38.5	-4.2
MSNA				AML	AML	21 12 13.2	
	comp=Z,94nm,0.3s						
MSNA	Messina	5.46	34	eP	Pn	21 10 39.9	+0.1
MSNA				eS	Sn	21 11 37.2	-5.5
GRM	Grahamstown	6.36	182	eP	Pn	21 10 51.8	-0.2
GRM				eS	Sn	21 12 00.9	-3.9
GRM				AML	AML	21 12 39.1	
	comp=Z,130nm,0.6s						
GRM	Grahamstown	6.36	182	⇑iP	Pn	21 10 51.5	-0.6
GRM				eS	Sn	21 12 01.1	-3.7
BUFB	Buffelsbos	7.39	193	eP	Pn	21 11 05.8	-0.4
BUFB				eS	Sn	21 12 25.9	-4.3
BUFB				AML	AML	21 12 30.1	
	comp=Z,23nm,0.2s						
BUFB	Buffelsbos	7.39	193	eP	Pn	21 11 05.8	-0.4
BUFB				eS	Sn	21 12 24.5	-5.7
SUR	Sutherland	7.49	222	Pn	Pn	21 11 08.4	+0.7
	comp=Z,15nm,0.3s,baz=62,slow=13,SNR=67						
SUR				Sn	Sn	21 12 28.9	-3.9
	comp=Z,13nm,0.3s,baz=71,slow=18,SNR=8.3						
SUR				Lg	Lg	21 13 07.7	
	comp=Z,39nm,0.3s,baz=338,slow=20,SNR=3.6						
SUR	Sutherland	7.49	222	ePn	Pn	21 11 08.4	+0.7
	comp=Z,39nm,0.3s						
SUR				eSn	Sn	21 12 29.9	-2.9
SUR				Lg	Lg	21 13 07.7	
KOMG	Komaggas	8.64	249	⇓iP	Pn	21 11 24.1	+0.7
KOMG				eS	Sn	21 12 57.1	-3.9
CER	Ceres	9.09	223	eP	Pn	21 11 29.8	+0.3
CER				eS	Sn	21 13 07.4	-4.5
CER				AML	AML	21 14 11.7	
	comp=Z,136nm,0.5s						
CER	Ceres	9.09	223	eP	Pn	21 11 29.2	-0.2
CER				eS	Sn	21 13 07.1	-4.8
ELIM	Elim	9.72	217	eP	Pn	21 11 38.3	+0.1
ELIM				eS	Sn	21 13 19.6	-7.9
WIN	Windhoek	9.78	294	eP	Pn	21 11 41.0	+1.8
WIN				eS	Sn	21 13 24.7	-4.6
WIN				AML	AML	21 14 28.8	
	comp=Z,14nm,0.5s						
WIN	Windhoek	9.78	294	⇓iP	Pn	21 11 41.5	+2.2
WIN				eS	Sn	21 13 24.8	-4.6
TSUM	Tsumeb	11.41	311	Pn	Pn	21 12 01.6	+0.1
	comp=Z,1.9nm,0.3s,baz=135,slow=11,SNR=66						
TSUM				Sn	Sn	21 14 02.4	-6.8
	comp=Z,2.0nm,0.3s,baz=253,slow=19,SNR=7.3						
TSUM				Lg	Lg	21 15 10.2	
	comp=Z,1.4nm,0.3s,baz=234,slow=18,SNR=3.9						
TSUM				LR	LR	21 16 02.9	
	comp=Z,78nm,18.0s,baz=179,slow=36						
TSUM	Tsumeb	11.41	311	ePn	Pn	21 12 02.0	+0.5
	comp=Z,11nm,0.6s						
TSUM				eSn	Sn	21 13 59.1	-10
TSUM				Lg	Lg	21 15 10.2	
LSZ	Lusaka	11.68	7	Pn	Pn	21 12 04.1	-1.1
	comp=Z,1.4nm,0.3s,baz=195,slow=12,SNR=42						
LSZ				Sn	Sn	21 14 07.9	-7.9
	comp=Z,0.9nm,0.3s,baz=200,slow=15,SNR=5.1						
LSZ				Lg	Lg	21 15 17.3	
	comp=Z,1.1nm,0.3s,baz=126,slow=18,SNR=9.9						
LSZ	Lusaka	11.68	7	ePn	Pn	21 12 04.6	-0.6
	comp=Z,18nm,0.8s						
LSZ				eSn	Sn	21 14 07.8	-8.0
LSZ				Lg	Lg	21 15 17.3	
TORD	Torodi Ar. Bea	46.69	325	P	P	21 17 47.8	+0.3
	comp=Z,2.9nm,0.7s,baz=148,slow=8.0,SNR=28						
QSPA	South Pole Qui	63.25	180	P	P	21 19 47.2	+0.4
	comp=Z,4.9nm,0.9s,baz=247,slow=5.7,SNR=9.9						
QSPA	South Pole Qui	63.25	180	eP	P	21 19 47.8	+0.9
	comp=Z,2.9nm,0.7s						
BDFB	Brasilia	69.70	262	P	P	21 20 29.9	+1.0
	comp=Z,3.7nm,0.5s,baz=99,slow=6.3,SNR=7.2						
ESDC	Sonseca Array	72.19	336	P	P	21 20 44.4	+1.1
	comp=Z,1.2nm,0.6s,baz=153,slow=5.8,SNR=8.0						
TRQA	Tornquist	73.00	236	eP	P	21 20 48.6	+0.2
	comp=Z,2.8nm,0.7s						
GERES	GERESS Array B	76.33	351	P	P	21 21 08.8	+1.5
	comp=Z,0.2nm,0.4s,baz=168,slow=5.0,SNR=6.3						
AKASG	Malin Array Be	77.33	2	P	P	21 21 13.8	+1.1
	comp=Z,0.8nm,0.4s,baz=190,slow=5.6,SNR=7.7						
KKAR	Karatay Array	80.48	31	eP	P	21 21 30.8	+0.5
	comp=Z,6.0nm,1.0s						
CMAR	Chiang Mai Arr	83.27	66	P	P	21 21 46.8	+1.3
	comp=Z,1.1nm,0.9s,baz=245,slow=5.8,SNR=5.9						
LPAZ	La Paz	86.98	253	P	P	21 22 05.7	+0.6
	comp=Z,2.1nm,0.7s,baz=114,slow=5.7,SNR=8.5						
FINES	FINESS Array B	88.06	360	P	P	21 22 09.7	+1.4
	comp=Z,3.0nm,1.0s,baz=160,slow=6.1,SNR=8.7						
MKAR	Makanchi Array	88.88	35	P	P	21 22 13.2	+0.7
	comp=Z,0.2nm,0.7s,baz=235,slow=5.1,SNR=2.9						
ASAR	Alice Springs	93.53	119	P	P	21 22 35.9	+1.0
	comp=Z,0.2nm,0.3s,baz=245,slow=4.3,SNR=3.2						
TXAR	Lajitas Array	136.46	285	PKP	PKPdf	21 28 43.2	+2.3
	comp=Z,0.7nm,0.9s,baz=117,slow=1.4,SNR=4.5						
PDAR	Pinedale Array	141.27	306	PKP	PKPdf	21 28 49.6	+0.1
	comp=Z,0.4nm,0.8s,baz=104,slow=3.8,SNR=4.0						
ILAR	Eielson Array	141.94	356	PKhKP	PKPpre	21 28 42.4	
	comp=Z,0.4nm,0.8s,baz=338,slow=3.5,SNR=7.1						
NVAR	Mina Array Bea	148.60	300	PKPbc	PKPab	21 29 08.6	-0.9
	comp=Z,2.4nm,0.5s,baz=69,slow=4.9,SNR=21						

KRSC 15 21:11:39.7±2.4, **50°.01N×156°.68E, h40**km±15km, **ML3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.77	332	eP	Pn	21 11 53.8	-0.3
SKR				eS	Sn	21 12 04.6	+0.2
PAU	Pauzhetka	1.47	3	eP	Pn	21 12 05.4	+1.8
PAU				eS	Sn	21 12 24.7	+3.1
MIPR	Malaya Ipel'ka	2.27	1	eP	Pn	21 12 16.0	+1.2
MTVR	Mutnovka	2.66	20	eP	Pn	21 12 23.6	+3.4
MTVR				eS	Sn	21 12 54.8	+3.5
RUS	Russkaya	2.69	25	eP	Pn	21 12 23.0	+2.5
RUS				eS	Sn	21 12 54.5	+2.7
UGLR	Uglovaya	3.48	22	P	Pn	21 12 36.2	+4.8
AVH	Avacha	3.51	21	P	Pn	21 12 37.2	+5.4
KOK	Koryaka	3.51	20	P	Pn	21 12 36.8	+4.9
SMAR	Somma	3.52	21	P	Pn	21 12 37.1	+4.9
KRER	Koryakskii	3.55	21	P	Pn	21 12 37.6	+5.1
SDLR	Sedlovina	3.55	22	P	Pn	21 12 36.6	+4.1
KRX	Arik	3.58	19	P	Pn	21 12 37.8	+5.0
GNL	Ganaly	3.78	11	eP	Pn	21 12 37.9	+2.3
MKZ	Mys Kozlova	5.51	32	P	Pn	21 13 01.9	+2.8
KBTR	Krutoberegovo	7.23	28	P	Pn	21 13 26.4	+3.7

SKHL ***15*** *21:37:30.0±0.9, 52°.55N×142°.82E, h10km, mb4.7/7, Ms4.3/3*
MOS ***15*** *21:37:33.5±1.5, 52°.61N×142°.97E, h11km, mb4.1/15, Error ellipse: s-maj=13.1km s-min=7.8km az=81.3*
IDC ***15*** *21:37:33.1±0.7, 52°.66N×142°.81E, h0km, mb3.9/14, mb1 4.1/17, mb1mx3.9/45, mbtmp3.9/17, ML3.3/3, MS3.4/5, Ms1 3.4/5, ms1mx3.1/54, Error ellipse: s-maj=18.4km s-min=15.1km az=130.0*
NEIC ***15*** *21:37:34.4±0.3, 52°.60N×142°.80E, h10km, mb4.0/3, Error ellipse: s-maj=6.8km s-min=6.3km az=148.0*
BJI ***15*** *21:37:36.7, 52°.70N×143°.20E, h70km, mB4.4/1, mb4.1/7, Ms4.4/2, Ms7 4.0/2*
ISC 15 21:37:35.1±0.9, **52°.60N**±0°.03×**142°.79E**±0°.04, **h12**km±6km, **n76**, σ**1s46**/85, **mb4.0**/22, **2C-5D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKH	Okha	0.95	5	iPN	Pg	21 37 53.0	-0.5
OKH				iS	Sn	21 38 08.1	+0.3
OKH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OKH				smax	smax		
	comp=N,7.0nm,0.5s						
OKH				smax	smax		
	comp=E,5.0nm,0.5s						
OKH	Okha	0.95	5	⇑iPg	Pg	21 37 52.5	-1.0
OKH				ePg	Pg	21 37 52.5	-1.0
OKH				AMB	AMB	21 37 53.6	
	comp=E,4μm,0.6s						
OKH				eSg	Sn	21 38 08.1	+0.3
OKH				⇓iSg	Sn	21 38 08.1	+0.3
OKH				A	A	21 38 08.6	
	comp=E,7μm,0.5s						
OKH				A	A	21 38 08.6	
	comp=E,5μm,0.5s						
NKL	Nikolayevsk	1.39	294	ePg	Pn	21 37 59.0	-1.3
NKL				AMB	AMB	21 38 01.5	
	comp=E,600nm,1.5s						
NKL				AMB	AMB	21 38 01.5	
	comp=E,2μm,1.5s						
NKL				AMB	AMB	21 38 01.5	
	comp=E,1μm,1.5s						
NKL				AMB	AMB	21 38 03.0	
	comp=E,860nm,0.6s						
NKL				AMB	AMB	21 38 03.0	
	comp=E,850nm,0.6s						
NKL				eSg	Sb	21 38 18.7	+0.1
NKL				A	A	21 38 20.0	
	comp=E,16μm,1.5s						
NKL				AMS	AMS	21 39 24.0	
	comp=E,4μm,7.0s						
NKL				AMS	AMS	21 39 24.0	
	comp=E,4μm,7.0s						

NKL AMS AMS 21 39 24.0
comp=E,2µm,7.0s
TYV Tymovskoe 1.74 183 *e*Pg **Pn 21 38 03.3 -1.9**
TYV AMB AMB 21 38 15.0
comp=E,367nm,0.5s
TYV *e*Sg **Sn 21 38 27.5 +0.2**
TYV A A 21 38 42.0
comp=E,758nm,0.5s
UGL Uglegorsk 3.56 188 *e*PN **Pb 21 38 39.0 +1.1**
UGL *e* 21 39 23.5
UGL pmax pmax
comp=Z,271nm,0.9s
UGL smax smax
comp=N,239nm,0.6s
UGL smax smax
comp=E,578nm,0.8s
UGL Uglegorsk 3.56 188 *e*Pg **Pb 21 38 39.3 +1.4**
UGL AMB AMB 21 38 52.5
comp=E,271nm,0.9s
UGL *e*Sg **Sg 21 39 28.3 -1.0**
UGL A A 21 39 38.5
comp=E,239nm,0.6s
UGL A A 21 39 38.5
comp=E,578nm,0.8s
GRNR Gornyy 4.36 248 *e*P Pn 21 38 38.0 -3.2
GRNR *e*Pg **Pg 21 38 56.5 -2.1**
GRNR AMB AMB 21 38 59.5
comp=E,78nm,0.4s
GRNR *e*Sg **Sg 21 39 57.0 +1.9**
GRNR A A 21 40 05.0
comp=E,228nm,0.4s
YSS Yuzh-Sakhalins 5.65 180 *e*PN **Pn 21 38 59.0 +0.1**
YSS Yuzh-Sakhalins 5.65 180 *e*P **Pn 21 38 58.0 -0.9**
YSS AMS AMS 21 45 50.0
comp=E,300nm,12.0s
YSS Yuzh-Sakhalins 5.65 180 *e*Pn **Pn 21 38 57.9 -0.9**
comp=E,67nm,1.0s
YSS *e*Sn **Sn 21 40 05.4 +1.6**
EKMR Ekimchan 5.98 278 *e*P **Pn 21 39 00.5 -2.9**
EKMR *e*Pg **Pg 21 39 27.8 -1.7**
EKMR AMB AMB 21 39 36.5
comp=E,47nm,0.5s
EKMR *e*S **Sn 21 40 08.5 -3.3**
EKMR *e*Sg **Sg 21 40 52.5 +5.6**
EKMR A A 21 40 55.9
comp=E,300nm,0.7s
EKMR A A 21 40 55.9
comp=E,140nm,0.7s
EKMR A A 21 40 55.9
comp=E,93nm,0.7s
HABR Khabarovsk 6.43 233 *e*PN Pn 21 39 15.2 +5.6
HABR *e*S Sn 21 40 31.8 +8.9
KLR Kul'dur 7.75 249 *e*PN **Pn 21 39 27.2 -0.4**
KLR MLR MLR
comp=Z,1µm,11.5s
KLR Kul'dur 7.75 249 *e*P **Pn 21 39 27.2 -0.4**
KLR AMS AMS 21 42 51.5
comp=Z,1µm,12.0s
ASAJ Asahikawa 8.49 181 PN **Pn 21 39 39.6 +1.7**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=E,536nm,18.4s
ASAJ Asahikawa 8.49 181 Pn **Pn 21 39 39.6 +1.7**
comp=Z,0.6nm,0.3s,baz=28,slow=15,SNR=5.9
ASAJ LR LR 21 43 39.5
comp=E,536nm,18.4s,baz=23,slow=43
ASAJ Asahikawa 8.49 181 *e*Pn **Pn 21 39 37.7 -0.2**
BMKR Bomnak 8.55 290 *e*P **Pn 21 39 37.4 -1.2**
BMKR *e*Pg **Pg 21 40 16.5 -2.1**
BMKR *e*Sg **Sg 21 42 12.4 +3.3**
BMKR A A 21 42 16.0
comp=Z,62nm,0.7s
TEY Ternei 8.60 211 *e*Sg Sg 21 42 27.0 +16
TEY A A 21 42 28.0
comp=Z,78nm,0.8s
PETK Petropavlovsk- 9.04 81 Pn **Pn 21 39 44.6 -0.7**
comp=Z,0.5nm,0.3s,baz=289,slow=9.9,SNR=9.4
PETK LR LR 21 43 04.7
comp=Z,117nm,21.7s,baz=257,slow=37
ZEA Zeya 9.40 283 *e*Pg Pn 21 39 58.8 +8.5
ZEA AMB AMB 21 39 59.5
comp=Z,7.0nm,0.5s
ZEA *e*Sg 21 42 38.0
ZEA AMS AMS 21 43 53.0
comp=Z,1µm,7.0s
KROS Kirovskiy 9.60 287 *e*P **Pn 21 39 51.3 -1.7**
KROS AMB AMB 21 39 59.6
comp=Z,4.0nm,0.5s
KROS *e*Pg 21 40 42.5
KROS *e*Sg Sn 21 42 39.9 +59
KROS A A 21 42 44.0
comp=Z,77nm,0.8s
PET Petropavlovsk 9.62 81 *e*PN **Pn 21 39 53.1 -0.2**
PET Petropavlovsk 9.62 81 *e*P **Pn 21 39 53.2 -0.1**
PET Petropavlovsk 9.62 81 *e*Pn **Pn 21 39 51.8 -1.5**
USRK Ussuriysk Arra 11.04 225 Lg Lg 21 43 28.0
comp=Z,0.2nm,0.3s,baz=152,slow=32,SNR=4.5
USRK LR LR 21 44 49.6
comp=Z,210nm,18.5s,baz=24,slow=39
SEY Seymchan 11.54 22 *e*PN **Pn 21 40 20.9 +1.4**
SEY Seymchan 11.54 22 Pn **Pn 21 40 20.6 +1.2**
comp=Z,0.2nm,0.3s,baz=202,slow=12,SNR=5.1
YAK Yakutsk 11.78 328 *e*PN **Pn 21 40 20.7 -2.1**
YAK pmax pmax
comp=Z,17nm,1.4s
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=E,17nm,1.3s
YAK MLR MLR
comp=N,131nm,10.0s
YAK MLR MLR
comp=E,319nm,15.0s
YAK MLR MLR
comp=Z,221nm,18.0s
YAK Yakutsk 11.78 328 *e*Pn **Pn 21 40 21.1 -1.7**
comp=Z,17nm,0.6s
VLA Vladivostok 11.97 222 ⇑PN Pn 21 40 35.4 +10
VLA S Sn 21 42 51.7 +13
MJAR Matsushiro Arr 16.38 193 LR LR 21 48 12.8
comp=Z,60nm,19.8s,baz=20,slow=39
KSRS Korea Array 18.37 220 LR LR 21 49 00.9
comp=Z,150nm,18.3s,baz=36,slow=37
BILL Bilibino 19.15 27 *i*P **Pn 21 41 59.6 +0.8**
BILL *i*S **Sn 21 45 31.6 -1.3**
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL MLR MLR
comp=Z,222nm,17.0s
BJT Baijiatuau 22.13 246 *e*P **P 21 42 29.3 -1.1**
BJT pmax pmax
comp=Z,7.0nm,0.7s
BJT Baijiatuau 22.13 246 *e*P **P 21 42 29.3 -1.1**
comp=Z,7.5nm,0.7s
ULN Ulaanbaatar 23.18 273 *e*P **P 21 42 43.2 +1.6**
ULN pmax pmax
comp=Z,6.0nm,3.3s
ULN Ulaanbaatar 23.18 273 *e*P **P 21 42 41.2 -0.4**
comp=Z,1.8nm,0.8s
SONM Songino Array 23.59 273 *e*P **P 21 42 47.3 +1.6**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 23.59 273 P **P 21 42 46.9 +1.2**
comp=Z,1.0nm,0.7s,baz=55,slow=8.7,SNR=9.3
TLY Talaya 23.84 284 *e*P **P 21 42 50.6 +2.6**
TLY pmax pmax
comp=Z,6.0nm,1.0s
TLY MLR MLR
comp=Z,125nm,10.0s
TLY Talaya 23.84 284 *e*P **P 21 42 48.0 0.0**
comp=Z,3.6nm,0.8s
ZAK Zakamensk 24.49 281 *e*P **P 21 42 55.7 +1.7**
ZAK pmax pmax
comp=Z,3.0nm,0.8s
ILAR Eielson Array 36.49 43 P **P 21 44 39.8 +0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 36.49 43 P **P 21 44 39.8 +0.1**
comp=Z,1.3nm,0.6s,baz=274,slow=7.1,SNR=19

MKAR Makanchi Array 38.54 286 *e*P **P 21 45 00.4 +3.1**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 38.54 286 P **P 21 44 57.3 0.0**
comp=Z,1.1nm,0.7s,baz=64,slow=8.4,SNR=17
KURK Kurchatov 38.68 294 *e*P **P 21 44 59.9 +1.6**
KURK pmax pmax
comp=Z,3.0nm,1.7s
KURK Kurchatov 38.68 294 *e*P **P 21 44 57.7 -0.6**
comp=Z,1.1nm,0.7s
INK Inuvik 40.49 35 P **P 21 45 13.1 -0.1**
INK pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 40.49 35 P **P 21 45 13.1 -0.1**
comp=Z,0.8nm,0.6s,baz=305,slow=6.3,SNR=4.7
BRVK Borovoye 42.05 301⇓*i*P **P 21 45 28.7 +2.4**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
ARU Arti 46.13 310⇓*i*P **P 21 45 58.2 -0.7**
ARU pmax pmax
comp=Z,3.0nm,1.2s
ARCES ARCESS Array B 49.95 336 P **P 21 46 27.3 -0.9**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 49.95 336 P **P 21 46 27.3 -0.9**
comp=Z,5.7nm,0.9s,baz=51,slow=8.5,SNR=3.3
YKA Yellowknife Ar 50.20 36 *e*P **P 21 46 30.1 -0.2**
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 50.20 36 P **P 21 46 28.8 -1.5**
comp=Z,0.6nm,1.0s,baz=306,slow=7.2,SNR=7.4
FINES FINESS Array B 55.72 329 P **P 21 47 09.9 -1.0**
FINES pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 55.72 329 P **P 21 47 09.9 -1.0**
comp=Z,3.7nm,1.0s,baz=46,slow=8.2,SNR=6.0
NB2 NORSAR Subarra 60.31 335 P **P 21 47 42.9 -0.2**
comp=Z,1.0nm,0.8s,baz=31,slow=6.5
NOA NORSAR Array B 60.31 335 P **P 21 47 43.0 -0.2**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 60.31 335 P **P 21 47 43.0 -0.2**
comp=Z,1.6nm,0.8s,baz=33,slow=6.6,SNR=4.2
FFC Flin Flon 60.35 37 *i*P **P 21 47 44.4 +0.9**
AKASG Malin Array Be 62.84 319 P **P 21 47 59.3 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 62.84 319 P **P 21 47 59.3 -1.0**
comp=Z,1.3nm,0.6s,baz=37,slow=7.3,SNR=11
PDAR Pinedale Array 66.43 50 P **P 21 48 23.9 -0.3**
comp=Z,1.3nm,0.8s,baz=29,slow=3.4,SNR=4.4
CLL Collm 68.17 329⇓*i*P **P 21 48 34.5 -0.3**
CLL *e* 21 48 38.0
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 68.17 329⇓*i*P **P 21 48 34.5 -0.3**
comp=Z,6.0nm,1.0s
CLL *e*pP **pP 21 48 38.0 -0.5**
GERES GERESS Array B 70.07 327 *e*P **P 21 48 47.4 +0.7**
GERES GERESS Array B 70.07 327 P **P 21 48 46.5 -0.2**
comp=Z,0.4nm,0.6s,baz=38,slow=6.8,SNR=4.4
WRA Warramunga Arr 72.61 188 *e*P **P 21 49 02.3 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 72.61 188 P **P 21 49 01.5 -0.6**
comp=Z,1.5nm,0.9s,baz=8.7,slow=6.6,SNR=10
ASAR Alice Springs 76.34 188 P **P 21 49 24.2 +0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 76.34 188 P **P 21 49 24.1 +0.4**
comp=Z,0.8nm,0.6s,baz=3.2,slow=4.9,SNR=8.5
TXAR Lajitas Array 80.01 54 *e*P **P 21 49 46.3 +1.8**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 80.01 54 P **P 21 49 44.5 +0.1**
comp=Z,0.5nm,0.8s,baz=316,slow=3.5,SNR=4.3

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*BJI **15** 21:51:42.3, 7.°62S×129.°23E, h130km, mB6.6/56, mb6.5/80*

*MOS **15** 21:51:46.4±1.1, 7.°13S×128.°70E, h120km, mb6.3/69, MS5.2/16, Error ellipse: s-maj=7.6km s-min=4.6km az=118.0*

*NEIC **15** 21:51:47.8±0.1, 7.°22S×128.°72E, mb6.4/126, ME5.9, MW6.2, MW6.2, Error ellipse: s-maj=3.5km s-min=2.8km az=209.0, Moment Tensor Solution. s50 Moment tensor: Scale 10^{18}Nm; M_{rr}1.84; $M_{\theta\theta}$-0.92; $M_{\phi\phi}$-0.91; $M_{r\theta}$1.26; $M_{\theta\phi}$1.18; $M_{\phi r}$-0.26; Best double couple: $M_0$2.40000×10^{18} NP1:ϕ_s117.00000°, δ62.00000°, λ71.00000°. NP2:ϕ_s333.00000°, δ33.00000°, λ121.00000°. Principal axes: T 2.3400, Plg67.0000°, Azm350.0000°; N 0.0500, Plg16.0000°, Azm126.0000°; P -2.3900, Plg14.0000°, Azm220.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s143.00000°, δ56.00000°, λ83.00000°. NP2:ϕ_s335.00000°, δ35.00000°, λ100.00000°. Principal axes: T Plg78.0000°, Azm28.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm238.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Saumlaki. Felt [II] at Darwin, Australia. Also felt at Katherine, Kununurra and Palmerston. Felt [II] at Dili, Timor-Leste. Also felt at Los Palos.

*IDC **15** 21:51:47.9±0.8, 7.°25S×128.°82E, h127km±6km, mb5.7/39, mb1 5.6/40, mb1mx5.6/40, mbtmp6.0/40, MS5.2/22, Ms1 5.2/22, ms1mx5.0/30 Error ellipse: s-maj=10.5km s-min=7.2km az=78.0*

*GCMT **15** 21:51:47.8±0.1, 7.°39S×129.°76E, h136km, MW6.2/138, Moment Tensor Solution. s137,c332; s138,c486; Duration: 3s1 Moment tensor: Scale 10^{18}Nm; M_{rr}1.99±.01; $M_{\theta\theta}$-0.25±.02; $M_{\phi\phi}$-1.74±.02; $M_{r\theta}$1.30±.01; $M_{\theta\phi}$1.33±.02; $M_{\phi r}$-0.29±.01; Best double couple: $M_0$2.65700×10^{18} NP1:ϕ_s127.00000°, δ61.00000°, λ63.00000°. NP2:ϕ_s353.00000°, δ39.00000°, λ129.00000°. Principal axes: T 2.6090, Plg63.0000°, Azm350.0000°; N 0.1010, Plg24.0000°, Azm141.0000°; P -2.7060, Plg12.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*ISCJB **15** 21:51:48.0±0.3, 7.°34S±0.°02×128.°74E±0.°02, h144km±2km, mb6.1/241 Error ellipse: s-maj=2.8km s-min=2.4km az=138.0*

*NEIC **15** 21:51:48.0±0.0, 7.°26S×128.°79E, h128km Best double couple: NP1:ϕ_s132.00000°, δ63.00000°, λ66.00000°. NP2:ϕ_s357.00000°, δ34.00000°, λ129.00000°. Principal axes: T 2.3500, Plg63.0000°, Azm3.0000°; N 0.0600, Plg20.0000°, Azm143.0000°; P -2.4000, Plg15.0000°, Azm239.0000°;*

*DJA **15** 21:51:49.6±0.2, 7°S±2°×12°9E±°, h134km±2km, M6.3/127, mb6.2/127, mB6.6/126, MLv6.8/21, Mw(mB)6.4/126, Mwp6.2/73*

*KLM **15** 21:51:54.8, 7.°13S×129.°28E, h232km, mb6.2, MS6.9*

*NEIC **15** 21:51:59.1±0.0, 7.°19S×128.°47E, h115km, Moment Tensor Solution. s78 Moment tensor: Scale 10^{18}Nm; M_{rr}1.76; $M_{\theta\theta}$-0.17; $M_{\phi\phi}$-1.59; $M_{r\theta}$1.13; $M_{\theta\phi}$0.93; $M_{\phi r}$-0.10; Best double couple: $M_0$2.20000×10^{18} NP1:ϕ_s129.00000°, δ59.00000°, λ61.00000°. NP2:ϕ_s357.00000°, δ41.00000°, λ129.00000°. Principal axes: T 2.3100, Plg63.0000°, Azm349.0000°; N -0.1600, Plg24.0000°, Azm145.0000°; P -2.1500, Plg9.0000°, Azm239.0000°;*

ISC 15 21:51:48.2±0.2, **7.°27S**±0.°03×**128.°77E**±0.°03, **h135**km±1km, **h135km:pP-P, n2000,** σ1.s**38**/2291, **mb6.3**/240, **386C-287D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.61**	**106**	P	**Pn**	**21 52 30.0**	**0.0**
SAUI				S	**Sn**	**21 53 01.6**	**-0.5**
SAUI	**Saumlaki**	**2.61**	**106**	*e*Pn	**Pn**	**21 52 29.6**	**-0.4**
SAUI				*e*Sn	**Sn**	**21 52 56.9**	**-5.2**
BNDI	**Bandanaira**	**2.95**	**23**	P	**Pn**	**21 52 37.0**	**+2.6**
MSAI	**Masohi**	**3.90**	**2**	P	Pn	21 52 50.6	+3.8
NLAI	**Namlea**	**4.33**	**337**	P	Pn	21 52 57.4	+4.9
SOEI	**Soe**	**5.09**	**241**	P	**Pn**	**21 53 02.9**	**+0.2**
	39µm,1.1s,405µm349µm304nm						
SOEI	**Soe**	**5.09**	**241**	*e*Pn	**Pn**	**21 53 03.3**	**+0.6**
SOEI				*e*Sn	**Sn**	**21 54 00.5**	**-0.2**
FAKI	**Fak Fak**	**5.54**	**39**	P	**Pn**	**21 53 08.5**	**-0.1**
	6µm,1.5s,129µm892µm38nm						
FAKI	**Fak Fak**	**5.54**	**39**	*e*Pn	**Pn**	**21 53 07.8**	**-0.8**
FAKI				*e*Sn	**Sn**	**21 54 10.4**	**-0.9**
FAKI	**Fak Fak**	**5.54**	**39**	⇑P	**Pn**	**21 53 08.7**	**+0.1**
	baz=5.7,SNR=612						
BATI	**Baumata**	**5.83**	**240**	P	**Pn**	**21 53 12.6**	**+0.1**
	28µm,1.0s,279µm15µm115nm						
BATI	**Baumata**	**5.83**	**240**	P	**Pn**	**21 53 13.2**	**+0.7**
	7µm,0.3s,baz=106,slow=2.9,SNR=2622						
BATI				S	**Sn**	**21 54 16.6**	**-1.7**
	6µm,0.3s,baz=229,slow=20,SNR=21						
SANI	**Sanana**	**5.88**	**332**	P	Pn	21 53 17.6	+4.5
	3µm,1.7s,61µm195µm16nm						
MTN	**Manton Dam**	**6.01**	**157**	⇑P	**Pn**	**21 53 12.8**	**-2.1**
	baz=6.0,SNR=1000						
KMPI	**Kaimana, Papua**	**6.08**	**54**	P	**Pn**	**21 53 15.7**	**-0.2**
	12µm,1.1s,238µm422µm82nm						
KDU	**Kakadu**	**6.50**	**146**	⇑P	**Pn**	**21 53 19.2**	**-2.3**
	baz=6.5,SNR=1000						
MMRI	**Maumere**	**6.61**	**258**	P	**Pn**	**21 53 24.4**	**+1.5**
	17µm,1.0s,205µm234µm55nm						
MMRI	**Maumere**	**6.61**	**258**	*e*Pn	**Pn**	**21 53 23.8**	**+0.9**
LBMI	**Labuha**	**6.71**	**349**	P	Pn	21 53 29.6	+5.3
	4µm,2.0s,97µm322µm22nm						
SWI	**Sorong**	**6.83**	**21**	P	**Pn**	**21 53 28.0**	**+2.0**
	2µm,1.5s,170µm818µm47nm						
TNTI	**Ternate**	**8.11**	**350**	P	Pn	21 53 47.0	+3.8
	2µm,1.4s,34µm117µm9.0nm						
TNTI	**Ternate**	**8.11**	**350**	*e*Pn	Pn	21 53 46.9	+3.8
BSSI	**Bau Bau, Buton**	**8.30**	**277**	P	**Pn**	**21 53 48.7**	**+3.0**
	8µm,1.6s,186µm42nm						
KNRA	**Kununurra**	**8.36**	**180**	⇓P	**Pn**	**21 53 43.8**	**-2.7**
	baz=8.3,SNR=1000						
LUWI	**Luwuk**	**8.60**	**316**	P	Pn	21 53 55.2	+5.5
	4µm,1.5s,45µm81µm14nm						
LUWI	**Luwuk**	**8.60**	**316**	*e*Pn	Pn	21 53 55.1	+5.4
LUWI				*e*ScS	ScS	22 07 00.3	+0.4
BASI	**Baing, Sumba**	**8.61**	**250**	P	**Pn**	**21 53 49.0**	**-0.8**
	19µm,0.9s,186µm						
WSI	**Waingapu**	**8.71**	**254**	P	**Pn**	**21 53 50.8**	**-0.4**
	46µm,0.7s,473µm139µm						
WSI	**Waingapu**	**8.71**	**254**	P	**Pn**	**21 53 51.0**	**-0.3**
	baz=8.6,SNR=232						
BKSI	**Bulukumba**	**8.81**	**282**	P	**Pn**	**21 53 55.0**	**+2.5**
	4µm,1.7s,64µm211µm20nm						
BNSI	**Bone**	**9.07**	**288**	P	**Pn**	**21 53 59.1**	**+3.0**
	4µm,1.9s,55µm73µm						
KMSI	**Cibinong**	**9.14**	**328**	P	Pn	21 54 02.0	+5.1
	6µm,1.2s,70µm75µm						
SRPI	**Serui, Papua**	**9.18**	**55**	P	**Pn**	**21 53 56.6**	**-0.9**
	5µm,0.9s,51µm118µm						
KAPI	**Kappang**	**9.24**	**284**	*e*Pn	**Pn**	**21 54 00.4**	**+2.1**
BAKI	**Biak**	**9.49**	**51**	P	**Pn**	**21 54 01.7**	**+0.1**
	31µm,1.1s,280µm206µm						
APSI	**Ampana**	**9.50**	**311**	P	Pn	21 54 07.5	+5.7
	3µm,1.6s,35µm74µm						
SPSI	**Sidrap Palu**	**9.54**	**290**	P	**Pn**	**21 54 05.4**	**+3.1**
	2µm,1.2s,32µm65µm						
GTOI	**Gorontalo**	**9.73**	**324**	P	Pn	21 54 12.7	+7.8
	3µm,1.4s,64µm136µm						
TTSI	**Tana Toraja**	**9.85**	**295**	P	Pn	21 54 11.3	+4.8
	2µm,1.7s,27µm						
MRSI	**Marisa**	**10.27**	**318**	P	Pn	21 54 17.0	+4.8
	2µm,1.0s,34µm62µm						
WAMI	**Wamena**	**10.45**	**72**	P	**Pn**	**21 54 16.5**	**+2.0**
	5µm,0.9s,66µm212µm						
SMPI	**Sarmi**	**11.21**	**63**	P	**Pn**	**21 54 23.4**	**-1.2**
	2µm,1.9s,44µm						
SGSI	**Sangihe**	**11.35**	**343**	P	Pn	21 54 29.8	+3.3
	10µm,1.7s,160µm						
TOLI	**Toli-Toli**	**11.52**	**316**	*e*Pn	**P**	**21 54 34.9**	**-1.9**
MMPI	**Merauke**	**11.57**	**97**	P	**Pn**	**21 54 28.3**	**-1.1**
	6µm,1.3s,88µm						
MMPI	**Merauke**	**11.57**	**97**	⇑P	**Pn**	**21 54 28.0**	**-1.3**
	baz=12						
MPSI	**Mapaga**	**11.63**	**310**	P	**P**	**21 54 35.1**	**-3.0**
	1µm,1.9s,27µm52µm						
GENI	**Genyem**	**12.27**	**68**	P	**Pn**	**21 54 37.4**	**-1.1**
	3µm,1.2s,57µm182µm						
JAY	**Jayapura**	**12.79**	**69**	P	**Pn**	**21 54 44.7**	**-0.7**
	757nm,2.2s,21µm						
SGKI	**Sangatta, Kali**	**12.99**	**301**	P	P	21 55 02.7	+9.5
KBKI	**Kotabaru**	**13.15**	**287**	P	**P**	**21 54 53.3**	**-1.7**
	1µm,1.0s,14µm42µm						
BKB	**Balikpapan**	**13.25**	**296**	P	**P**	**21 54 58.4**	**+2.3**
	3µm,1.5s,36µm103µm						
SMKI	**Samarinda**	**13.37**	**300**	P	**P**	**21 54 59.2**	**+1.7**
	2µm,1.8s,44µm						
SRBI	**Singaraja**	**13.46**	**266**	P	**Pn**	**21 54 52.3**	**-1.6**
	585nm,1.5s,16µm56µm						
DNP	**Denpasar**	**13.50**	**263**	P	**Pn**	**21 54 53.7**	**-0.7**
	2µm,0.8s,48µm						
IGBI	**Denpasar**	**13.57**	**263**	P	**Pn**	**21 54 53.2**	**-2.2**
	2µm,0.8s,23µm31µm						
WRAB	**Tennant Creek**	**13.71**	**157**	*c* *i*P	Pn	21 54 51.5	-5.5
WRAB				pmax	pmax		
	comp=Z,5µm,1.7s						
WRAB	**Tennant Creek**	**13.71**	**157**	*e*Pn	Pn	21 54 51.2	-5.8
WRA	**Warramunga Arr**	**13.71**	**157**	P	Pn	21 54 52.7	-4.4
WRA				pmax	pmax		
	comp=Z,47nm,0.3s						
WRA				MLR	MLR		
	comp=Z,12µm,21.6s						
WRA	**Warramunga Arr**	**13.71**	**157**	P	Pn	21 54 52.6	-4.4
	comp=Z,47nm,0.3s,baz=345,slow=12,SNR=571						
WRA				S	Sn	21 57 12.1	-17
	comp=Z,274nm,0.3s,baz=332,slow=22,SNR=12						
WRA				LR	LR	21 59 45.6	
	comp=Z,12µm,21.6s,baz=330,slow=35						
WRA				P3KPbc		22 30 25.6	
	comp=Z,0.0nm,0.3s,baz=162,slow=1.8,SNR=4.0						
GSPH	**General Santos**	**13.80**	**344**	⇑*i*P	**Pn**	**21 54 59.6**	**+1.2**
MATI	**Mati**	**14.34**	**350**	*e*P	**P**	**21 55 09.0**	**+0.8**
MATI				*e*S	Px	21 55 32.2	
BBKI	**Banjar Baru**	**14.37**	**285**	P	**P**	**21 55 09.7**	**+1.1**
	comp=Z,7µm,1.1s,comp=Z,79µmcomp=Z,59µm						
ABJI	**Asem Bagus**	**14.42**	**267**	P	**Pn**	**21 55 05.3**	**-0.8**
	comp=Z,2µm,1.1s,comp=Z,26µm						
JAGI	**Jajag, Banyuwa**	**14.53**	**264**	P	Pn	21 55 04.1	-3.4
	comp=Z,1µm,0.8s,comp=Z,18µmcomp=Z,76µm						
JAGI	**Jajag, Banyuwa**	**14.53**	**264**	*e*Pn	Pn	21 55 03.9	-3.7
JAGI	**Jajag, Banyuwa**	**14.53**	**264**	⇑P	**Pn**	**21 55 05.2**	**-2.3**
	baz=14,SNR=41						
DAV	**Davao City (W)**	**14.59**	**347**	*e*Pn	**P**	**21 55 11.3**	**+0.3**
DMPH	**Davao City--Mi**	**14.62**	**347**	⇓*e*P	**P**	**21 55 11.1**	**-0.3**
KMMI	**Kalianget**	**14.69**	**270**	P	**Pn**	**21 55 10.7**	**+1.2**
	comp=Z,3µm,1.5s,comp=Z,42µmcomp=Z,133µm						
BLJI	**Banyuglugur**	**15.05**	**267**	P	**Pn**	**21 55 13.3**	**-0.7**
	comp=Z,2µm,0.7s,comp=Z,24µmcomp=Z,67µm						
CTBH	**Cotabato--PC H**	**15.08**	**343**	⇓*e*P	**P**	**21 55 16.4**	**0.0**
MTKI	**Muara Teweh, K**	**15.19**	**294**	P	**P**	**21 55 20.3**	**+2.6**
	comp=Z,2µm,1.1s,comp=Z,29µm						
BUKP	**Musuan**	**15.49**	**346**	*e*P	**P**	**21 55 22.2**	**+1.1**
BUKP				*e*S	Px	21 55 52.6	
PALU	**Palau**	**15.59**	**22**	⇓P	**P**	**21 55 23.1**	**+1.0**
	baz=16,SNR=62						
ZMPH	**Zamboanga City**	**15.63**	**335**	⇓*e*P	**P**	**21 55 25.2**	**+2.6**
COEN	**Coen**	**15.64**	**116**	*e*Pn	**Pn**	**21 55 17.7**	**-3.7**
	comp=Z,4µm,0.8s						
TSM	**Tawau**	**15.81**	**316**	⇑P	**P**	**21 55 29.2**	**+4.6**
PAGZ	**Pagadian**	**15.95**	**340**	*e*P	**P**	**21 55 28.3**	**+2.3**
MYLDM	**Lahad Datu**	**16.06**	**320**	*e*P	**P**	**21 55 31.7**	**+4.4**
	comp=Z,13µm,1.7s						
MYLDM	**Lahad Datu**	**16.06**	**320**	⇑P	**P**	**21 55 31.7**	**+4.4**
BWJI	**Bawean**	**16.07**	**274**	P	**P**	**21 55 30.7**	**+3.3**
	comp=Z,665nm,1.9s,comp=Z,12µm						
CGP	**Cagayan de Oro**	**16.14**	**345**	⇓*e*P	**P**	**21 55 30.8**	**+2.6**
GRJI	**Gresik**	**16.17**	**270**	P	**P**	**21 55 28.7**	**+0.2**
	comp=Z,2µm,0.9s,comp=Z,17µm						
MBWA	**Marble Bar**	**16.34**	**211**	*e*Pn	**Pn**	**21 55 27.0**	**-3.0**
	comp=Z,3µm,1.2s						
BUTP	**Butuan**	**16.43**	**349**	*e*P	**P**	**21 55 35.2**	**+3.8**
TBJI	**Tambak Boyo**	**16.80**	**270**	P	**Pn**	**21 55 36.4**	**+0.8**
	comp=Z,3µm,1.7s,comp=Z,39µmcomp=Z,65µm						
PWJI	**Pagerwojo**	**16.83**	**266**	P	**P**	**21 55 33.9**	**-1.9**
	comp=Z,992nm,0.6s,comp=Z,13µm						
QIS	**Mount Isa**	**16.87**	**143**	⇓P	**P**	**21 55 34.9**	**-1.4**
	baz=17,SNR=282						
ASAR	**Alice Springs**	**17.04**	**164**	P	**P**	**21 55 35.4**	**-2.7**
	comp=Z,20nm,0.3s,baz=337,slow=9.9,SNR=360						
ASAR				S	Sn	21 58 33.6	-15
	comp=Z,42nm,0.3s,baz=342,slow=20,SNR=6.3						
ASAR				LR	LR	22 03 14.0	
	comp=Z,15µm,18.9s,baz=338,slow=40						
ASAR				P3KPbc		22 30 20.8	
	baz=116,slow=2.2,SNR=4.6						
ASAR				P3KP		22 31 15.7	

comp=Z,0.2nm,0.3s,baz=88,slow=8.4,SNR=18
AS08 Alice Springs 17.07 164 ⇑P P 21 55 36.5 -1.9
baz=17
NGJI Ngawi 17.17 269 P Pn 21 55 40.1 +0.1
comp=Z,1µm,1.6s,comp=Z,36µmcomp=Z,109µm
SCPH Surigao 17.25 349⇓eP Pn 21 55 43.6 +2.6
SDKM Sandakan 17.25 318 ⇑P Pn 21 55 44.1 +2.9
SNPH Sibulan 17.40 341 eP P 21 55 41.2 -0.9
TBP Tagbilaran 17.54 344 eP Pn 21 55 51.1 +6.6
PBKI Pangkalan Bun 17.62 284 P Pn 21 55 48.2 +2.7
comp=Z,15µm,1.1s,comp=Z,132µmcomp=Z,70µm
WRKA Warakurna 17.68 181 ⇓P P 21 55 43.4 -1.7
baz=18,SNR=954
WOJI Wonogiri, Jawa 17.70 267 P P 21 55 44.3 -1.1
comp=Z,3µm,1.8s,comp=Z,39µm
UWJI Ujung Watu 17.71 272 P Pn 21 55 46.4 -0.2
comp=Z,1µm,1.5s,comp=Z,21µmcomp=Z,42µm
UGM Wanagama 18.10 267 P P 21 55 49.2 -0.6
comp=Z,1µm,1.2s,comp=Z,20µmcomp=Z,60µm
UGM Wanagama 18.10 267 eP P 21 55 46.8 -3.0
LLP Lapu-Lapu 18.11 345 eP Pn 21 55 52.5 +1.2
LLP eS S 21 59 12.6 +1.9
SMRI Semarang 18.18 270 P P 21 55 51.0 +0.3
comp=Z,886nm,1.1s,comp=Z,31µmcomp=Z,81µm
SMRI Semarang 18.18 270 eP P 21 55 51.2 +0.5
comp=Z,3µm,1.5s
SMRI eScS ScS 22 07 25.1 +2.8
SMRI Semarang 18.18 270 ⇑P P 21 55 49.3 -1.4
baz=18,SNR=9.5
KKM Kota Kinabalu 18.21 316 ePn Pn 21 55 54.1 +1.6
comp=Z,6µm,1.6s
KKM eScP ScP 22 03 40.0 -1.4
KKM Kota Kinabalu 18.21 316 ⇑P Pn 21 55 54.2 +1.6
PMG Port Moresby 18.32 98 eP Pn 21 55 54.9 +1.1
PMG S S 21 59 05.9 -9.0
PMG Port Moresby 18.32 98 P P 21 55 50.6 -1.6
comp=Z,16nm,0.3s,baz=283,slow=12,SNR=361
PMG S S 21 59 05.9 -9.0
comp=Z,10.0nm,0.3s,baz=186,slow=19,SNR=11
PMG LR LR 22 04 26.7
comp=Z,12µm,21.8s,baz=267,slow=42
PMG Port Moresby 18.32 98 ePn Pn 21 55 54.9 +1.1
PMG S S 21 59 05.9 -9.0
PMG Port Moresby 18.32 98 ⇓P P 21 55 51.9 -0.3
baz=18,SNR=72
KDM Kudat 18.45 320 ⇑P Pn 21 55 57.0 +1.8
MTSU Mount Surprise 18.60 127 P Pn 21 55 56.4 -0.7
baz=19,SNR=865
PLP Palo 18.70 348⇓eP Pn 21 55 58.8 +0.6
STKI Sintang 18.72 292 P Pn 21 55 59.3 +0.8
comp=Z,1µm,1.8s,comp=Z,28µmcomp=Z,52µm
BTM Bintulu 18.79 303 ⇑P Pn 21 56 01.0 +1.6
SBUM Sibu 19.13 300 ePn Pn 21 56 04.4 +1.1
comp=Z,3µm,1.4s
SBUM Sibu 19.13 300 ⇑P Pn 21 56 04.6 +1.3
MANU Manus Island 19.25 75 ⇑P Pn 21 56 04.7 0.0
baz=19,SNR=10
RCP Roxas 19.64 342⇑eP P 21 56 07.6 +1.1
PPR Puerto Princes 19.66 329⇑eP Pn 21 56 10.9 +1.4
KPJI Karang Pucung 19.68 269 P P 21 56 05.6 -1.3
comp=Z,1µm,0.7s,comp=Z,14µm
CNP Catarman 20.07 348 eP Pn 21 56 13.2 -1.0
CMJI Cimerak 20.15 267 P P 21 56 09.8 -2.2
comp=Z,1µm,0.9s,comp=Z,18µmcomp=Z,36µm
KSM Kuching 20.36 295 eP P 21 56 15.6 +1.3
comp=Z,2µm,1.0s
KSM eScP ScP 22 03 44.8 -1.4
KSM Kuching 20.36 295 P P 21 56 16.0 +1.7
baz=20,SNR=164
KSM Kuching 20.36 295 ⇓P Pn 21 56 16.7 -1.1
JCJI Jatiwangi 20.36 271 P P 21 56 14.4 +0.1
comp=Z,957nm,1.2s,comp=Z,27µmcomp=Z,79µm
ENPP El Nido 20.57 333 eP Pn 21 56 19.5 -0.7
OTRP Odiongan 20.62 341 eP Pn 21 56 21.0 +0.2
GIRL Giralia 20.72 221 P P 21 56 19.3 +1.2
baz=21,SNR=121
CISI Cisompet, Garu 20.78 268 P P 21 56 16.6 -2.3
comp=Z,1µm,0.7s,comp=Z,17µmcomp=Z,42µm
CISI Cisompet, Garu 20.78 268 eP P 21 56 15.9 -2.9
comp=Z,967nm,0.7s
CISI eScS ScS 22 07 30.0 -1.0
CISI Cisompet, Garu 20.78 268 P P 21 56 16.5 -2.3
baz=21,SNR=210
BUSP Coron 20.95 336 eP Pn 21 56 23.3 -1.4
LEM Lembang 20.99 270 P P 21 56 20.3 -1.0
comp=Z,780nm,1.1s,comp=Z,21µm
LEM Lembang 20.99 270 P P 21 56 22.0 +0.7
baz=21,SNR=25
SJMP San Jose 21.02 339 eP P 21 56 24.4 +3.1
CTA Charters Tower 21.21 129 P P 21 56 24.4 +1.0
CTA S S 22 00 11.3 -0.3
CTA pmax pmax
comp=Z,89nm,0.7s
CTA smax smax
comp=N,84nm,0.8s
CTA MLR MLR
comp=Z,18nm,28.6s
CTA Charters Tower 21.21 129 P P 21 56 24.4 +1.0
comp=Z,89nm,0.7s,baz=306,slow=15,SNR=102
CTA S S 22 00 11.3 -0.3
comp=Z,84nm,0.8s,baz=68,slow=19,SNR=3.6
CTA LR LR 22 05 36.9
comp=Z,22µm,18.1s,baz=308,slow=39
CTAO Charters Tower 21.21 129 eP P 21 56 23.9 +0.5
CTAO pmax pmax
comp=Z,2µm,1.7s
CTAO Charters Tower 21.21 129 eP P 21 56 23.9 +0.5
comp=Z,2µm,1.7s
PVCP Virac 21.23 348⇑eP P 21 56 24.6 +1.1
AUQP San Andres 21.33 344 eP P 21 56 28.7 +4.1
CNJI Cibinong 21.46 269 P P 21 56 23.4 -2.7
comp=Z,1µm,0.9s,comp=Z,14µmcomp=Z,26µm
MEEK Meekatharra 21.55 205 P P 21 56 26.4 -0.6
baz=22,SNR=656
BOAC Boac 21.71 342 eP P 21 56 31.2 +2.5
GQP Guinayangan 21.95 343⇑eP P 21 56 31.9 +0.7
SKJI Sukabumi 22.04 269 P P 21 56 29.5 -2.7
comp=Z,1µm,1.1s,comp=Z,17µmcomp=Z,25µm
LQP Lukban 22.42 341⇑eP P 21 56 37.0 +0.8
SBJI Serang 22.51 272 P P 21 56 36.5 -0.4
comp=Z,341nm,1.7s,comp=Z,10µm
LUBP Lubang 22.52 338 eP P 21 56 38.8 +1.9
TGY Tagaytay City 22.61 340 P P 21 56 38.6 +0.7
comp=Z,2µm,0.7s,baz=229,slow=2.2,SNR=62
TGY Tagaytay City 22.61 340⇑eP P 21 56 40.0 +2.2
CGJI Cibinong 22.91 270 P P 21 56 37.3 -3.4
comp=Z,951nm,1.1s,comp=Z,19µmcomp=Z,33µm
XMI Christmas Isla 23.02 260 P P 21 56 40.8 -0.9
baz=23,SNR=41
XMIS Christmas Isla 23.06 260 eP P 21 56 39.6 -2.5
comp=Z,3µm,1.0s
XMIS Christmas Isla 23.06 260 ⇓P P 21 56 39.8 -2.3
baz=23,SNR=35
FORT Forrest 23.40 182 eP P 21 56 40.6 -4.4
comp=Z,2µm,0.8s
FORT Forrest 23.40 182 P P 21 56 45.1 +0.1
baz=23,SNR=440
BLSI Bandar Lampung 23.45 273 P P 21 56 45.2 -0.5
comp=Z,196nm,1.3s,comp=Z,14µmcomp=Z,28µm
RABL Rabaul 23.48 84 ⇑P P 21 56 46.8 +0.9
baz=24,SNR=3.2
KLI Kotabumi 23.89 274 P P 21 56 49.8 +0.1
comp=Z,310nm,0.9s,comp=Z,15µm
BALP Baler 23.94 343 eP P 21 56 50.5 +0.4
KASI Kota Agung 24.18 273 P P 21 56 49.0 -3.3
comp=Z,264nm,1.1s,comp=Z,8µmcomp=Z,36µm
QLP Quilpie 24.20 144 ⇑P P 21 56 53.0 +0.7
baz=24,SNR=122
PMBI Palembang 24.28 279 P P 21 56 57.6 +4.4
comp=Z,2µm,1.0s,comp=Z,22µmcomp=Z,40µm
PMBI Palembang 24.28 279 eP P 21 56 56.5 +3.3
PMBI Palembang 24.28 279 ⇓P P 21 56 54.4 +1.3
baz=24,SNR=7.7
MDSI Maura Dua 24.61 275 P P 21 56 54.4 -1.8
comp=Z,150nm,1.0s,comp=Z,8µmcomp=Z,20µm
LWLI Liwa 24.66 274 P P 21 56 55.5 -1.3
comp=Z,194nm,1.0s,comp=Z,7µm
MORW Morawa 24.78 207 P P 21 56 57.5 -0.1
baz=25,SNR=574
BCPH Baguio City Da 24.85 341⇓iP P 21 56 58.6 +0.1
CAUP Cauayan 25.02 344 eP P 21 57 00.8 +1.1
BOLP Bolinao 25.08 340 eP P 21 57 00.2 -0.2
LHSI Lahat 25.35 276 P P 21 57 02.8 -0.1
comp=Z,431nm,1.0s,comp=Z,12µm
TPRI Tanjung Pinang 25.51 288 P P 21 57 06.1 +1.7
comp=Z,519nm,1.0s,comp=Z,9µmcomp=Z,22µm

JMBI JAMBI 25.66 281 P P 21 57 09.0 +3.3
comp=Z,2µm,1.1s,comp=Z,26µmcomp=Z,43µm
CVP Callao Caves 25.74 345⇑eP P 21 57 04.3 -2.1
BLDU Ballidu 25.83 204 P P 21 57 06.9 -0.2
baz=26,SNR=199
MNAI Manna 25.84 275 P P 21 57 15.0 +7.7
MNAI Manna 25.84 275 eP P 21 57 07.8 +0.4
comp=Z,3µm,2.0s
MNAI Manna 25.84 275 ⇑P P 21 57 05.7 -1.7
baz=26,SNR=8.6
SZP Santa 25.99 342 eP P 21 57 08.3 -0.3
comp=Z,775nm,1.3s
SZP eScP ScP 22 04 03.5 +2.6
ABRA Dolores 26.00 342 eP P 21 57 07.8 -0.9
APYP Conner 26.05 344 eP P 21 57 08.4 -0.7
GUMO Guam 26.17 38 eP P 21 57 10.8 +0.5
GUMO pmax pmax
comp=Z,2µm,1.3s
GUMO Guam 26.17 38 eP P 21 57 10.8 +0.5
comp=Z,2µm,1.3s
KLBR Kellerberrin 26.29 202 ⇑P P 21 57 11.3 +0.1
baz=26,SNR=142
BBOO Buckleboo 26.30 166 eP P 21 57 11.1 -0.2
comp=Z,56µm,2.0s
BBOO Buckleboo 26.30 166 P P 21 57 11.0 -0.2
baz=26,SNR=277
BTDF Bukit Timah Da 26.37 288 ⇓P P 21 57 13.5 +1.4
baz=26,SNR=15
MYKOM Kota Tinggi 26.44 289 eP P 21 57 14.6 +1.8
comp=Z,616nm,1.0s
MYKOM Kota Tinggi 26.44 289 ⇑P P 21 57 14.6 +1.8
PIP Pasuquin 26.67 343⇓eP P 21 57 13.3 -1.4
MASI Maura Aman, Be 26.73 277 P P 21 57 17.5 +2.1
comp=Z,440nm,1.4s,comp=Z,32µm
RMQ Roma 26.96 137 ⇑P P 21 57 17.6 +0.3
baz=27,SNR=29
KGM Kluang 27.02 289 ⇑P P 21 57 19.5 +1.6
RGRI Rengat 27.24 283 P P 21 57 21.8 +1.9
comp=Z,245nm,0.8s,comp=Z,10µm
STKA Stephens Creek 27.25 156 P P 21 57 19.7 -0.1
STKA pmax pmax
comp=Z,92nm,0.5s
STKA MLR MLR
comp=Z,18nm,28.6s
STKA Stephens Creek 27.25 156 P P 21 57 19.7 -0.1
comp=Z,92nm,0.5s,baz=323,slow=8.6,SNR=172
STKA LR LR 22 09 58.3
comp=Z,13µm,18.0s,baz=324,slow=40
STKA Stephens Creek 27.25 156 ⇓P P 21 57 19.9 +0.1
baz=27,SNR=242
HTT Hallett 27.68 161 ⇓P P 21 57 24.1 +0.4
baz=28,SNR=58
NWAO Narrogin (SRO) 27.69 201 P P 21 57 24.0 +0.3
NWAO pmax pmax
comp=Z,162nm,0.4s
NWAO Narrogin (SRO) 27.69 201 P P 21 57 24.0 +0.3
comp=Z,162nm,0.4s,baz=30,slow=10,SNR=153
DLV T Lat 27.77 313 eP P 21 57 26.4 +1.7
comp=Z,6µm,2.6s
EIDS Eidsvold 27.89 133 eP P 21 57 23.1 -2.5
comp=Z,177nm,1.0s
EIDS Eidsvold 27.89 133 ⇓P P 21 57 25.2 -0.3
baz=28,SNR=19
SDSI Sungai Dareh 27.97 282 P P 21 57 27.6 +1.2
comp=Z,276nm,1.0s,comp=Z,20µm
KTGM Kuala Trenggan 28.47 295 ⇓P P 21 57 33.2 +2.4
BKNI Bangkinang 28.67 284 P P 21 57 34.0 +1.4
comp=Z,312nm,0.8s,comp=Z,11µmcomp=Z,20µm
BKNI Bangkinang 28.67 284 eP P 21 57 34.0 +1.4
comp=Z,762nm,1.4s
CMSA Cobar Meteorol 28.86 149 P P 21 57 34.6 +0.5
baz=29,SNR=236
PDSI Padang 28.92 281 P P 21 57 33.8 -1.0
comp=Z,89nm,0.7s,comp=Z,5µm
FRIM Kepong 29.03 290 ⇑P P 21 57 37.0 +1.2
RKGY Rocky Gully 29.30 200 ⇑P P 21 57 39.8 +1.9
baz=29,SNR=101
IPM Ipoh 30.04 292 eP P 21 57 45.3 +0.5
comp=Z,199nm,0.8s
IPM eScP ScP 22 04 13.0 -0.6
IPM Ipoh 30.04 292 ⇓P P 21 57 46.3 +1.5
MNSI Mandailing Nat 30.20 284 P P 21 57 45.9 -0.2
comp=Z,542nm,0.9s,comp=Z,6µm
H01W3 Cape Leeuwin H 30.61 204 P P 21 57 51.3 +2.1
baz=44,slow=7.2,SNR=26
H01W1 Cape Leeuwin H 30.61 204 P P 21 57 51.8 +2.5
baz=44,slow=7.2,SNR=24
H01W2 Cape Leeuwin H 30.62 204 P P 21 57 51.9 +2.6
baz=44,slow=7.2,SNR=26
KULM Kulim 30.70 293 eP P 21 57 50.4 -0.3
comp=Z,443nm,1.2s
KULM eScP ScP 22 04 14.1 -1.7
KULM Kulim 30.70 293 ⇑P P 21 57 51.4 +0.8
TWG Pinlang 30.84 346 eP P 21 57 49.6 -2.0
comp=Z,322nm,0.9s
HNR Honiara 30.92 96 eP P 21 57 53.2 +0.7
HNR pmax pmax
comp=Z,2µm,1.5s
HNR Honiara 30.92 96 eP P 21 57 53.2 +0.7
comp=Z,2µm,1.5s
YULB Yu-li 31.34 347 eP P 21 57 53.9 -2.1
comp=Z,106nm,1.2s
TPUB Ta-pu 31.41 346 eP P 21 57 55.9 -0.8
comp=Z,529nm,1.4s
PSI Prapat 31.42 288 P P 21 57 56.2 -0.8
PSI S S 22 02 45.5 -10
PSI pmax pmax
comp=Z,468nm,0.9s
PSI smax smax
comp=N,3.0nm,0.3s
PSI Prapat 31.42 288 P P 21 57 56.2 -0.8
comp=N,468nm,0.9s,baz=129,slow=6.1,SNR=71
PSI S S 22 02 45.5 -10
comp=N,3.3nm,0.3s,baz=156,slow=16,SNR=1.5
PSI Prapat 31.42 288 ⇓P P 21 57 57.5 +0.5
baz=31,SNR=96
ARMA Armidale 31.46 140 eP P 21 57 51.2 -6.0
comp=N,801nm,1.8s
ARMA Armidale 31.46 140 ⇓P P 21 57 58.9 +1.6
baz=32,SNR=46
ARPS Mount Arapiles 31.69 160 ⇑P P 21 58 00.1 +1.1
baz=32,SNR=69
SSLB Suanglung 31.80 346 eP P 21 57 58.4 -1.7
SSLB ePcP PcP 22 00 48.5 +0.3
NACB Ninganchiao 32.02 348 eP P 21 58 00.6 -1.5
comp=N,1µm,1.9s
YOJ Yonaguni jima 32.03 350 eP P 21 58 02.0 0.0
YOJ pmax pmax
comp=Z,319nm,0.9s
YOJ Yonaguni jima 32.03 350 eP P 21 58 02.0 0.0
comp=Z,319nm,0.9s
QIZ Qiongzhong 32.11 325 P P 21 58 03.3 +0.5
QIZ pP pP 21 58 31.0 -0.9
QIZ S S 22 03 03.9 -1.5
QIZ pmax pmax
comp=Z,520nm,2.0s
QIZ pmax pmax
comp=Z,3µm,9.7s
QIZ LR LR
comp=Z,5µm,17.0s
QIZ LR LR
comp=Z,3µm,20.2s
QIZ LR LR
comp=Z,6µm,31.4s
QIZ Qiongzhong 32.11 325 eP P 21 58 03.8 +1.0
comp=Z,1µm,1.4s
UBPT Khong Chiam 32.17 314 P P 21 58 04.6 +1.2
comp=Z,953nm,1.6s,comp=Z,17µm
GSI Gunungsitoli 32.26 284 P P 21 58 03.7 -0.6
comp=Z,374nm,1.7s,comp=Z,9µm
GSI Gunungsitoli 32.26 284 eP P 21 58 03.6 -0.7
YNG Young 32.43 149 ⇑P P 21 58 06.6 +1.1
baz=32,SNR=28
YHNB Yeheng 32.55 347 eP P 21 58 04.8 -1.9
comp=Z,583nm,1.3s
PATS Pohnpei 32.63 65 ⇑P P 21 58 09.2 +1.7
baz=33,SNR=3.9
HKC Hong Kong Obse 32.68 334⇑iP P 21 58 10.0 +2.2
KCSI Kotacane, Aceh 32.74 288 P P 21 58 08.0 -0.5
comp=Z,166nm,1.1s,comp=Z,4µm
TATO Taipei 32.82 348 eP P 21 58 08.0 -1.0
comp=Z,247nm,1.1s
CHBT CHBT 32.95 307 P P 21 58 11.6 +1.4
comp=Z,743nm,1.8s,comp=Z,12µm
MGCD Mangrove Creek 33.09 144 ⇑P P 21 58 12.9 +1.6
baz=33,SNR=10.0
TPTI 33.21 287 P P 21 58 12.3 -0.3

comp=Z,428nm,0.8s,comp=Z,16µm
QZH Quanzhou 33.52 343⇑iP P 21 58 15.3 +0.3
QZH PP PP 21 59 34.0 +0.4
QZH eS S 22 03 27.0 -0.1
QZH pmax pmax
comp=Z,1µm,1.0s
QZH pmax pmax
comp=Z,8µm,2.8s
QZH LR LR
comp=Z,3µm,11.8s
QZH LR LR
comp=Z,4µm,11.9s
CAN Canberra 33.53 149 eP P 21 58 16.1 +0.9
CAN eS S 22 03 28.3 +0.9
CAN pmax pmax
comp=Z,119nm,0.7s
CAN Canberra 33.53 149 eP P 21 58 16.1 +0.9
comp=Z,119nm,0.7s
CAN eS S 22 03 28.3 +0.9
CAN eScP ScP 22 04 21.0 -4.1
CAN Canberra 33.53 149 ⇓P P 21 58 16.6 +1.4
baz=34
CNB Canberra Magne 33.72 149 ⇑P P 21 58 17.9 +1.1
baz=34,SNR=9.3
GZH Guangzhou 33.73 334 P P 21 58 20.4 +3.5
GZH S S 22 03 39.3 +8.8
GZH pmax pmax
comp=Z,6µm,3.5s
GZH LR LR
comp=Z,11µm,23.0s
GZH LR LR
comp=Z,12µm,19.6s
SNSI Sinabang, Aceh 33.77 285 P P 21 58 18.3 +0.9
comp=Z,431nm,1.8s,comp=Z,9µm
TOO Toolangi 33.77 156 ⇓P P 21 58 19.0 +1.8
baz=34,SNR=58
PKDT Phuket 33.88 296 P P 21 58 19.1 +0.8
comp=Z,611nm,1.1s,comp=Z,8µm
JOW Kunigami 33.90 359 P P 21 58 18.0 -0.3
comp=Z,97nm,0.8s,baz=181,slow=7.4,SNR=97
JOW LR LR 22 10 40.1
comp=Z,780nm,21.2s,baz=180,slow=33
JOW Kunigami 33.90 359 eP P 21 58 19.5 +1.2
comp=Z,704nm,1.0s
JOW eScP ScP 22 04 27.0 +0.6
SURT Suratani 33.94 298 P P 21 58 19.6 +0.8
comp=Z,148nm,1.9s,comp=Z,3µm
LHMI Lhok Sumawe 34.09 290 P P 21 58 21.4 +1.2
comp=Z,747nm,1.2s,comp=Z,14µm
LHMI Lhok Sumawe 34.09 290 eP P 21 58 20.6 +0.5
comp=Z,503nm,0.7s
LHMI Lhok Sumawe 34.09 290 ⇑P P 21 58 20.8 +0.6
baz=34,SNR=38
PATY Pattaya 34.22 306 P P 21 58 22.8 +1.6
comp=Z,203nm,1.0s,comp=Z,2µm
MILA Mila 34.98 151 ⇓P P 21 58 29.7 +2.1
baz=35,SNR=12
PBKT Sadao Pong 36.29 311 P P 21 58 39.7 +0.7
comp=Z,300nm,1.4s,comp=Z,7µm
SRDT SRDT 36.42 306 P P 21 58 41.4 +1.3
comp=Z,2µm,1.4s,comp=Z,29µm
CBIJ Chichi jima 36.55 20 eP P 21 58 39.9 -1.1
comp=Z,1µm,1.8s
CBIJ eS S 22 04 13.1 -0.5
JCJ Chichijima 36.55 20 P P 21 58 39.9 -1.1
comp=Z,368nm,0.7s,baz=231,slow=2.8,SNR=13
JCJ LR LR 22 11 05.3
comp=Z,5µm,20.8s,baz=188,slow=32
KHLT Khaolaem Dam 37.09 306 P P 21 58 47.0 +1.2
comp=Z,311nm,1.6s,comp=Z,5µm
UTTA Uttaradit 37.34 312 P P 21 58 49.1 +1.3
comp=Z,286nm,1.0s,comp=Z,3µm
SLVN Son La 37.46 320 eP P 21 58 50.8 +1.9
CMBY CAMPBELL BAY 37.53 291 eP P 21 58 49.5 0.0
UMPA Umpang Tak 37.69 308 P P 21 58 53.3 +2.5
comp=Z,46nm,0.7s,comp=Z,4µm
LAMP Lampang 38.51 312 P P 21 58 59.4 +1.8
comp=Z,240nm,1.1s,comp=Z,2µm
MOO Moorlands 38.63 158 P P 21 59 00.4 +2.0
baz=39,SNR=14
CMAR Chiang Mai Arr 38.98 311 P P 21 59 03.2 +1.6
CMAR 22 01 10.3
CMAR 22 04 45.0
CMAR pmax pmax
comp=Z,365nm,1.0s
CMAR pmax pmax
comp=Z,29nm,0.7s
CMAR pmax pmax
comp=N,22nm,0.8s
CMAR pmax pmax
comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 38.98 311 P P 21 59 03.2 +1.6
comp=Z,365nm,1.0s,baz=144,slow=7.3,SNR=1211
CMAR PcP PcP 22 01 10.2 +0.8
comp=Z,29nm,0.7s,baz=176,slow=2.6,SNR=6.7
CMAR ScP ScP 22 04 45.0 -0.4
comp=Z,22nm,0.8s,baz=159,slow=3.6,SNR=12
CMAR P3KPbc 22 29 01.6
comp=Z,1.9nm,0.9s,baz=309,slow=5.7,SNR=12
CMAR PKP2ab 22 32 58.1
comp=Z,2.9nm,1.1s,baz=297,slow=4.9,SNR=5.8
NOUC Port Laguerre 39.05 116 eP P 21 59 02.0 -0.2
TAU Tasmania Unive 39.08 158 eP P 21 59 04.0 +1.9
TAU pmax pmax
comp=Z,704nm,1.8s
TAU Tasmania Unive 39.08 158 eP P 21 59 04.0 +1.9
comp=Z,704nm,1.8s
DZM Mont Dzumac 39.17 116 eP P 21 59 04.0 +0.7
comp=Z,357nm,1.5s
DZM eS S 22 04 49.9 -3.7
comp=Z,7µm,28.4s
DZM eLR LR 22 09 40.4
comp=Z,18µm,31.2s
DZM Mont Dzumac 39.17 116 P P 21 59 03.2 0.0
comp=Z,36nm,0.7s,baz=270,slow=7.1,SNR=28
DZM Mont Dzumac 39.17 116 eP P 21 59 04.2 +0.9
comp=Z,239nm,1.3s
DZM epP pP 21 59 31.5 -1.6
DZM ePP PP 22 00 35.5 -0.3
DZM ePcP PcP 22 01 11.8 +1.6
DZM eScP ScP 22 04 45.9 -0.3
CMMT Chiang Mai 39.19 312 P P 21 59 04.4 +1.0
comp=Z,1µm,1.5s,comp=Z,19µm
CHTO Chiang Mai 39.20 312 eP P 21 59 04.2 +0.8
CHTO Chiang Mai 39.20 312 P P 21 59 04.5 +1.1
comp=Z,5µm,1.5s,comp=Z,72µm
CHTO Chiang Mai 39.20 312 eP P 21 59 04.2 +0.8
GYA Guiyang 39.80 328⇑iP P 21 59 10.4 +2.0
GYA pP pP 21 59 40.3 +2.0
GYA sP sP 21 59 55.0 +1.4
GYA PP PnPn 22 00 48.6 +1.3
GYA PcP PcP 22 01 13.4 +1.4
GYA S S 22 05 05.3 +2.4
GYA sS sS 22 05 57.0 +2.1
GYA SS SS 22 08 01.6 -3.0
GYA ScS ScS 22 09 01.5 -0.5
GYA LR LR
comp=Z,5µm,17.8s
GYA LR LR
comp=Z,3µm,18.0s
GYA LR LR
comp=Z,5µm,17.6s
CMAI Chiengmai2 39.83 313 P P 21 59 09.9 +1.1
comp=Z,647nm,1.3s,comp=Z,27µm
WHN Wuhan 40.06 341⇑iP P 21 59 11.3 +1.0
WHN PP PnPn 22 00 48.5 -1.6
WHN S S 22 05 03.4 -2.9
WHN pmax pmax
comp=Z,3µm,1.2s
WHN LR LR
comp=Z,4µm,11.4s
WHN LR LR
comp=Z,12µm,12.6s
WHN LR LR
comp=Z,28µm,47.8s
JNU Nakatsue 40.22 3 P P 21 59 11.5 -0.2
comp=Z,427nm,1.1s,baz=176,slow=7.4,SNR=52
JNU Nakatsue 40.22 3 eP P 21 59 12.3 +0.7
comp=Z,568nm,1.4s
NJ2 Nanjing 40.23 347 eP P 21 59 11.6 -0.1
NJ2 PcP PcP 22 01 13.3 +0.2
NJ2 ScP ScP 22 04 48.3 -1.6
NJ2 S S 22 05 11.0 +2.2
NJ2 pmax pmax
comp=Z,750nm,1.0s
NJ2 pmax pmax

comp=Z,4μm,7.8s
NJ2 LR LR
comp=Z,3μm,17.6s
NJ2 LR LR
comp=Z,4μm,21.1s
NJ2 LR LR
comp=Z,5μm,16.9s
KSSGP Seogwipo 40.36 357 P **P** **21 59 15.1 +2.3**
SNR=5.3
PBA Port Blair 40.47 297 eP P 21 59 12.7 -1.3
KSSSP Seongsanpo 40.47 358 P **P** **21 59 15.7 +2.0**
SNR=7.1
KSJJU Jeju 40.53 357 P **P** **21 59 16.2 +2.0**
SNR=12
KMI Kunming 40.97 323 P **P** **21 59 19.9 +1.7**
KMI pP **pP** **21 59 51.4 +3.1**
KMI PP **PP** **22 00 56.5 +1.0**
KMI PcP **PcP** **22 01 18.5 +2.5**
KMI S **S** **22 05 19.8 -0.7**
KMI sS **sS** **22 06 16.5 +3.7**
KMI pmax pmax
comp=Z,1μm,1.5s
KMI pmax pmax
comp=Z,6μm,3.1s
KMI LR LR
comp=Z,3μm,19.4s
KMI LR LR
comp=Z,3μm,17.8s
KMI LR LR
comp=Z,6μm,18.0s
DGPR DIGLIPUR 40.98 300 eP **P** **21 59 17.9 -0.3**
KSWAN Wando 41.48 357 P **P** **21 59 23.7 +1.8**
SNR=9.8
KSJDO Jindo 41.58 357 P **P** **21 59 23.8 +1.1**
SNR=16
ENH Enshi 41.66 335 eP **P** **21 59 24.2 +0.7**
comp=Z,203nm,1.2s
ENH eScP **ScP** **22 04 56.0 +0.3**
KSHAN Haenam 41.66 357 P **P** **21 59 24.9 +1.5**
SNR=7.0
KSHUK Heuksando 41.84 356 P **P** **21 59 26.5 +1.7**
SNR=12
KSMOK Mokpo 41.85 357 P **P** **21 59 26.5 +1.6**
SNR=5.2
KWAJ Kwajalein Atol 41.88 68 eP **P** **21 59 28.0 +2.5**
KWAJ pmax pmax
comp=Z,1μm,1.4s
KWAJ Kwajalein Atol 41.88 68 eP **P** **21 59 28.0 +2.5**
comp=Z,1μm,1.4s
KSKWJ Gwangju 42.23 358 P **P** **21 59 29.7 +1.7**
SNR=8.7
KSBUS Busan 42.29 0 P **P** **21 59 29.6 +1.1**
SNR=8.6
KSJEU Jeongeup 42.57 358 P **P** **21 59 31.8 +1.0**
SNR=15
KSDAG Daegu 42.81 0 P **P** **21 59 33.9 +1.3**
SNR=6.3
KSJEO Jeonju 43.00 358 P **P** **21 59 35.6 +1.5**
SNR=11
KSGUS GUNSAN 43.11 358 P **P** **21 59 36.5 +1.4**
SNR=8.1
KSPHA Pohang 43.23 1 P **P** **21 59 38.0 +1.9**
SNR=5.8
KSCPR CHUPUNGNYEONG 43.26 359 P **P** **21 59 38.1 +1.7**
SNR=15
TJN Taejon 43.43 358 c iP **P** **21 59 38.4 +0.7**
KSBON Boeun 43.55 359 P **P** **21 59 41.0 +2.4**
SNR=18
KSULJ Uljin 43.74 1 P **P** **21 59 42.0 +1.9**
SNR=6.8
KSSES Seosan 43.88 357 P **P** **21 59 42.7 +1.5**
SNR=13
KSCEA Cheonan 43.88 358 P **P** **21 59 42.9 +1.6**
SNR=33
KSCHJ Chungju 43.91 359 P **P** **21 59 43.0 +1.4**
SNR=9.1
KSTBA Taebaek 44.16 0 P **P** **21 59 44.9 +1.4**
SNR=14
KSYOW Yeongwol 44.21 360 P **P** **21 59 45.6 +1.7**
SNR=13
KSSWO Suwon 44.33 358 P **P** **21 59 46.9 +2.1**
SNR=28
KSICN Icheon 44.34 358 P **P** **21 59 47.0 +2.0**
SNR=15
KSWJU Wonju 44.44 359 P **P** **21 59 47.5 +1.7**
SNR=26
MJAR Matsushiro Arr 44.47 11 P **P** **21 59 45.0 -1.0**
MJAR *PP **pP** **22 00 14.6 -1.9**
MJAR 22 01 26.7
MJAR pmax pmax
comp=Z,294nm,0.9s
MJAR pmax pmax
comp=Z,56nm,1.0s
MJAR pmax pmax
comp=Z,75nm,1.0s
MJAR pmax pmax
comp=N,20nm,1.0s
MJAR MLR MLR
comp=Z,17nm,28.6s
MJAR Matsushiro Arr 44.47 11 P **P** **21 59 45.0 -1.0**
comp=Z,294nm,0.9s,baz=188,slow=9.5,SNR=341
MJAR pP **pP** **22 00 14.6 -1.9**
comp=Z,56nm,1.0s,baz=196,slow=8.8,SNR=1.9
MJAR PcP **PcP** **22 01 26.7 -0.5**
comp=Z,75nm,1.0s,baz=181,slow=3.7,SNR=7.5
MJAR ScP **ScP** **22 05 04.1 -2.8**
comp=Z,20nm,1.0s,baz=200,slow=5.8,SNR=6.5
MJAR LR LR 22 16 26.4
comp=Z,3μm,21.0s,baz=205,slow=33
MAJO Matsushiro 44.47 11 eP **P** **21 59 45.1 -0.9**
MAJO pmax pmax
comp=Z,427nm,0.9s
MAJO Matsushiro 44.47 11 eP **P** **21 59 45.0 -0.9**
comp=Z,427nm,0.9s
MAJO eScP **ScP** **22 05 06.5 -0.5**
MAT Matsushiro 44.47 11 P **P** **21 59 45.0 -1.0**
MAT S **S** **22 06 10.8 -0.2**
KSAR Wonju Array Be 44.48 359 P **P** **21 59 47.1 +1.1**
KSAR 22 01 25.7
KSAR Wonju Array Be 44.48 359 P **P** **21 59 47.1 +1.1**
KSAR PcP **PcP** **22 01 25.7 -1.5**
KSAR ScP **ScP** **22 05 06.1 -0.8**
KSRS Korea Array 44.49 359 P **P** **21 59 47.1 +1.0**
KSRS 22 01 25.7
KSRS pmax pmax
comp=Z,174nm,0.8s
KSRS pmax pmax
comp=Z,48nm,0.9s
KSRS pmax pmax
comp=N,8.0nm,0.7s
KSRS MLR MLR
comp=Z,4μm,22.0s
KSRS Korea Array 44.49 359 P **P** **21 59 47.1 +1.0**
comp=Z,174nm,0.8s,baz=179,slow=9.5,SNR=317
KSRS PcP **PcP** **22 01 25.7 -1.5**
comp=Z,48nm,0.9s,baz=194,slow=2.8,SNR=8.3
KSRS ScP **ScP** **22 05 06.1 -0.8**
comp=Z,7.5nm,0.7s,baz=170,slow=4.7,SNR=6.4
KSRS LR LR 22 16 52.1
comp=Z,4μm,21.9s,baz=162,slow=34
KSULL Ulleungdo 44.55 2 P **P** **21 59 48.4 +1.8**
SNR=6.0
INCN Inchon 44.56 358 eP **P** **21 59 48.1 +1.4**
TIA Tai'an 44.61 347 ⇑P **P** **21 59 46.8 -0.3**
TIA pP **pP** **22 00 18.8 +1.2**
TIA sP **sP** **22 00 31.8 -0.9**
TIA pmax pmax
comp=Z,450nm,1.4s
TIA pmax pmax
comp=Z,5μm,5.0s
TIA LR LR
comp=Z,1μm,15.5s
TIA LR LR
comp=Z,2μm,21.4s
TIA LR LR
comp=Z,2μm,11.9s
KSDGY Daegwallycong 44.72 360 P **P** **21 59 50.0 +1.9**
SNR=13
KSGAH Ganghwa 44.79 357 P **P** **21 59 50.4 +1.9**
SNR=12
KSCHC Chuncheon 44.82 359 P **P** **21 59 50.8 +2.1**
SNR=15
CD2 Chengdu 44.89 329 P **P** **21 59 49.1 -0.4**
CD2 pP **pP** **22 00 18.3 -1.7**
CD2 SS SS 22 09 34.6 -7.5
CD2 pmax pmax
comp=Z,1μm,1.4s
CD2 pmax pmax
comp=Z,5μm,8.4s
CD2 LR LR
comp=Z,10μm,21.0s
CD2 LR LR
comp=Z,6μm,25.0s
KSJMJ Jumunjin 44.91 360 P **P** **21 59 51.5 +2.1**
SNR=14
KSMUS Musan 44.96 358 P **P** **21 59 51.6 +1.8**
SNR=41
KSDDC Dongducheon 44.96 358 P **P** **21 59 51.8 +2.0**
SNR=16
KSIJA INJE 45.02 359 P **P** **21 59 52.2 +1.9**
SNR=28
YNCB YEONCHEON 45.11 358 P **P** **21 59 53.1 +2.1**
SNR=14
KSCWO Cheorwon 45.13 359 P **P** **21 59 52.4 +1.2**
SNR=14
KSBAR Backryungdo 45.17 355 P **P** **21 59 53.5 +2.0**
SNR=9.5
XAN Xi'an 45.18 337 P **P** **21 59 51.4 -0.3**
XAN pP **pP** **22 00 21.8 -0.5**
XAN PP **PP** **22 01 37.3 -2.9**
XAN PcS **PcS** **22 05 24.8 +0.9**
XAN S **S** **22 06 16.8 -4.6**
XAN pmax pmax
comp=Z,290nm,1.3s
XAN pmax pmax
comp=Z,820nm,6.4s
XAN LR LR
comp=Z,3μm,23.5s
XAN LR LR
comp=Z,1μm,32.7s
KSSKC Sokcho 45.32 360 P **P** **21 59 54.8 +2.1**
SNR=17
WAKE Wake Island 45.71 54 eP **P** **21 59 57.6 +1.6**
comp=Z,648nm,1.0s
TIY Taiyuan 47.27 342 P **P** **22 00 08.9 +0.8**
TIY pP **pP** **22 00 39.6 +0.7**
TIY PP **PP** **22 01 59.6 -0.9**
TIY S **S** **22 06 48.0 -3.3**
TIY pmax pmax
comp=Z,550nm,0.8s
TIY pmax pmax
comp=Z,3μm,5.8s
BJT Baijiatuau 48.47 347 eP **P** **22 00 17.5 +0.4**
BJT pmax pmax
comp=Z,819nm,0.9s
BJT Baijiatuau 48.47 347 eP **P** **22 00 17.4 +0.4**
comp=Z,819nm,0.9s
BJI Beijing 48.49 347 P **P** **22 00 17.4 +0.2**
BJI pP **pP** **22 00 47.5 -0.7**
BJI pmax pmax
comp=Z,900nm,1.1s
BJI pmax pmax
comp=Z,5μm,3.8s
BJI LR LR
comp=Z,3μm,18.2s
BJI LR LR
comp=Z,2μm,23.4s
BJI LR LR
comp=Z,3μm,27.4s
SHL Shillong 48.49 314 eP **P** **22 00 17.6 -0.1**
SHL AMB AMB 22 00 19.0
comp=Z,593nm,1.0s
LZH Lanzhou 49.08 333 ⇑P **P** **22 00 23.4 +1.4**
LZH pP **pP** **22 00 55.0 +2.0**
LZH S **S** **22 07 13.0 -3.9**
LZH pmax pmax
comp=Z,3μm,1.0s
LZH pmax pmax
comp=Z,10μm,4.0s
LZH LR LR
comp=Z,2μm,16.4s
LZH LR LR
comp=Z,5μm,17.2s
LZH LR LR
comp=Z,8μm,20.5s
SNY Shenyang 49.09 355 ⇑P **P** **22 00 21.8 0.0**
SNY S **S** **22 07 12.6 -3.8**
SNY sS **sS** **22 08 10.6 +0.6**
SNY pmax pmax
comp=Z,320nm,1.8s
SNY pmax pmax
comp=Z,6μm,12.0s
SNY LR LR
comp=Z,2μm,21.2s
SNY LR LR
comp=Z,3μm,17.1s
SNY LR LR
comp=Z,3μm,20.6s
MSVF Nonsavu 49.09 107 eP **P** **22 00 23.9 +1.5**
MSVF pmax pmax
comp=Z,174nm,1.0s
MSVF Nonsavu 49.09 107 eP **P** **22 00 23.9 +1.5**
comp=Z,174nm,1.0s
OUZ Omahuta 49.59 131 eP **P** **22 00 28.2 +2.4**
comp=Z,374nm,1.3s
PALK Pallekele 50.06 286 eP **P** **22 00 30.6 +0.8**
PALK pmax pmax
comp=Z,825nm,2.1s
PALK Pallekele 50.06 286 eP **P** **22 00 30.6 +0.8**
comp=Z,825nm,2.1s
PALK Pallekele 50.06 286 ⇑iP **P** **22 00 29.8 +0.1**
SNR=20
VLA Vladivostok 50.23 3 c iP **P** **22 00 31.0 +0.6**
VLA e 22 01 47.5
VLA iS **S** **22 07 33.0 +0.8**
VLA pmax pmax
comp=Z,1μm,1.7s
HHC Hu-ho-hao-te 50.43 343 eP **P** **22 00 32.8 +0.7**
HHC PP **PP** **22 02 31.4 +2.2**
HHC PcS **PcS** **22 05 44.8 -1.1**
HHC S **S** **22 07 33.6 -1.8**
HHC SS **SS** **22 11 09.4 -1.8**
HHC pmax pmax
comp=Z,960nm,1.3s
HHC pmax pmax
comp=Z,4μm,5.4s
HHC LR LR
comp=Z,5μm,21.6s
HHC LR LR
comp=Z,3μm,17.7s
HHC LR LR
comp=Z,5μm,20.4s
DCZ Deep Cove 50.48 146 eP **P** **22 00 34.1 +1.8**
comp=Z,320nm,1.6s
DCZ Deep Cove 50.48 146 ePN **P** **22 00 33.7 +1.4**
JCZ Jackson Bay 50.58 143 PN **P** **22 00 34.9 +1.6**
BTO Baotou 50.67 342 eP **P** **22 00 33.8 -0.1**
ERM Erimo 50.78 14 d iP **P** **22 00 35.1 +0.6**
ERM pmax pmax
comp=Z,28nm,0.8s
ERM Erimo 50.78 14 eP **P** **22 00 35.3 +0.7**
FOZ Fox Glacier 50.86 142 PN **P** **22 00 36.5 +1.3**
CN2 Changchun 50.92 357 eP **P** **22 00 35.3 -0.3**
CN2 PcP **PcP** **22 01 49.5 -0.6**
CN2 ScP **ScP** **22 05 32.6 -1.3**
CN2 eS **S** **22 07 41.8 0.0**
CN2 eSS **SS** **22 11 15.6 -3.0**
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,3μm,17.0s
CN2 LR LR
comp=Z,2μm,17.0s
WHZ Wether Hill Ro 51.17 146 eP **P** **22 00 38.4 +0.9**
comp=Z,224nm,1.0s
VIS Vishakhapatnam 51.28 299 eP **P** **22 00 39.1 +0.4**
USRK Ussuriysk Arra 51.31 3 P **P** **22 00 39.1 +0.6**
comp=Z,139nm,0.8s,baz=188,slow=7.2,SNR=221
USRK pP **pP** **22 01 09.7 -0.1**
comp=Z,18nm,0.7s,baz=160,slow=6.1,SNR=1.2
USRK PKP2ab 22 31 56.3
comp=Z,7.6nm,0.8s,baz=0.0,slow=4.9,SNR=18
MKAZ Moumakai 51.51 132 ePN **P** **22 00 42.2 +2.0**
LSA Lhasa 51.55 317 P **P** **22 00 42.9 +1.7**
LSA pmax pmax
comp=Z,1μm,1.5s
LSA pmax pmax
comp=Z,4μm,4.2s
LSA Lhasa 51.55 317 eP **P** **22 00 42.5 +1.3**
LSA pmax pmax
comp=Z,10μm,2.4s
LSA Lhasa 51.55 317 eP **P** **22 00 42.5 +1.3**
comp=Z,10μm,2.4s
LBZ Lake Benmore 51.61 143 PN **P** **22 00 41.3 +0.5**
MDJ Mudanjiang 51.65 1 P **P** **22 00 42.1 +1.1**
MDJ pP **pP** **22 01 10.1 -2.2**
MDJ PcP **PcP** **22 01 53.6 +0.8**
MDJ PP PP 22 02 46.0 +6.0
MDJ S **S** **22 07 54.4 +2.6**
MDJ ScS **ScS** **22 10 17.8 +0.2**
MDJ SS **SS** **22 11 29.3 -0.9**
MDJ pmax pmax
comp=Z,580nm,1.7s
MDJ pmax pmax
comp=Z,4μm,9.2s
MDJ LR LR
comp=Z,2μm,20.0s
MDJ LR LR
comp=Z,6μm,26.0s
MDJ LR LR
comp=Z,6μm,36.9s
MDJ Mudanjiang 51.65 1 eP **P** **22 00 41.8 +0.8**
comp=Z,4μm,2.1s
KUZ Kuaotunu 51.77 132 ePN **P** **22 00 43.9 +1.8**
RPZ Rata Peaks 51.78 142 eP **P** **22 00 43.5 +1.4**
comp=Z,942nm,1.0s
RPZ eS **S** **22 07 58.0 +4.1**
RPZ Rata Peaks 51.78 142 PN **P** **22 00 43.3 +1.2**
THZ Tophouse 51.97 139 PN **P** **22 00 44.4 +0.8**
BOK Bokaro 52.01 308 eP **P** **22 00 43.7 -0.4**
LTZ Lake Taylor 52.06 140 PN **P** **22 00 45.2 +0.9**
OXZ Oxford 52.19 141 PN **P** **22 00 45.6 +0.5**
ODZ Otahua Downs 52.24 143 eP **P** **22 00 46.6 +1.1**
comp=Z,96nm,1.1s
MDRS Chennai 52.26 293 eP **P** **22 00 44.1 -1.9**
MDRS AMB AMB 22 00 47.2
comp=Z,571nm,1.5s
MDRS ex x 22 19 54.2
ODAN Odare 52.52 312 eP **P** **22 00 47.3 -0.8**
comp=Z,649nm,0.6s
ODAN Odare 52.52 312 eP **P** **22 00 47.3 -0.8**
comp=Z,649nm,0.6s
TAPN Taplejung 52.56 313 eP **P** **22 00 47.0 -1.4**
comp=Z,675nm,0.6s
TAPN Taplejung 52.56 313 eP **P** **22 00 47.0 -1.4**
comp=Z,675nm,0.6s
ASAJ Asahikawa 52.65 13 P **P** **22 00 48.7 +0.2**
ASAJ pmax pmax
comp=Z,235nm,0.9s
ASAJ Asahikawa 52.65 13 P **P** **22 00 48.6 +0.2**
comp=Z,235nm,0.9s,baz=232,slow=12,SNR=75
ASAJ Asahikawa 52.65 13 eP **P** **22 00 49.0 +0.6**
comp=Z,215nm,1.1s
KHZ Kahutara 52.70 139 eP **P** **22 00 49.4 +0.5**
comp=Z,367nm,0.8s
KHZ Kahutara 52.70 139 PN **P** **22 00 48.9 0.0**
MQZ McQueen's Vall 52.77 141 ePN **P** **22 00 50.2 +0.8**
SNZO South Karori 52.96 137 eP **P** **22 00 50.9 +0.1**
comp=Z,215nm,0.9s
SNZO epP **pP** **22 01 25.9 +3.7**
MCQ Macquarie Isla 52.97 158 eP **P** **22 00 51.5 +0.9**
MCQ pmax pmax
comp=Z,10μm,0.8s
MCQ Macquarie Isla 52.97 158 eP **P** **22 00 51.5 +0.9**
comp=Z,10μm,0.8s
MCQ Macquarie Isla 52.97 158 ⇑P **P** **22 00 52.5 +1.9**
baz=53,SNR=3.9
RAMN Ramite 53.15 312 eP **P** **22 00 51.9 -0.8**
comp=Z,4μm,1.3s
RAMN Ramite 53.15 312 eP **P** **22 00 51.9 -0.8**
comp=Z,4μm,1.3s
MRZ Mangatainoka R 53.27 136 ePN **P** **22 00 52.6 -0.5**
TSZ Takapari Road 53.28 135 PN **P** **22 00 53.3 +0.1**
BKZ Black Stump Fm 53.28 134 eP **P** **22 00 53.9 +0.5**
YUK Yuzh-Kuril'sk 53.35 15 c iP P 22 00 46.8 -6.7
YUK i *SP sP 22 01 29.3 -11
YUK i 22 01 56.0
YUK i PPP PPP 22 04 00.0
YUK i S **S** **22 08 10.3 -4.7**
YUK i SS **SKiKP** **22 11 52.7 -3.4**
YUK MLR MLR
comp=N,1μm,18.0s
YUK MLR MLR
comp=E,481nm,18.0s
YUK MLR MLR
comp=Z,789nm,18.0s
URZ Urewera 53.37 133 P **P** **22 00 54.0 +0.1**
comp=Z,61nm,0.7s,baz=310,slow=4.7,SNR=18
URZ Urewera 53.37 133 eP **P** **22 00 54.3 +0.4**
comp=Z,299nm,1.5s
URZ eS **S** **22 08 15.0 -0.7**
KRHZ Kereru 53.39 135 ePN **P** **22 00 54.3 +0.3**
PLWZ Palliser 53.45 137 ePN **P** **22 00 54.0 -0.4**
MCHZ McNeill Hill 53.54 134 ePN **P** **22 00 56.0 +0.9**
GTA Gaotai 53.63 332 ⇑P **P** **22 00 57.0 +1.2**
GTA pP **pP** **22 01 26.4 -0.9**
GTA PcP **PcP** **22 02 01.5 +0.9**
GTA S **S** **22 08 18.5 -0.7**
GTA ScS **ScS** **22 10 30.6 -1.5**
GTA SS **SS** **22 12 00.3 -1.6**
GTA pmax pmax
comp=Z,2μm,1.3s
GTA pmax pmax
comp=Z,8μm,6.9s
GTA LR LR
comp=Z,3μm,20.9s
GTA LR LR
comp=Z,3μm,17.6s
GTA LR LR
comp=Z,4μm,21.8s
MWZ Matawai 53.71 133 PN **P** **22 00 56.5 +0.1**
BFZ Birch Farm 53.73 136 eP **P** **22 00 56.9 +0.3**
comp=Z,1μm,2.5s
KAHZ Kahuranaki 53.81 135 ePN **P** **22 00 57.6 +0.5**
JIRN Jiri 53.85 312 eP **P** **22 00 57.1 -0.9**
comp=Z,3μm,1.3s
JIRN Jiri 53.85 312 eP **P** **22 00 57.1 -0.9**
comp=Z,3μm,1.3s
TRD Trivandrum 53.97 286 eP **P** **22 00 57.9 -0.7**
RIGZ Rimuhau 54.02 133 ePN **P** **22 00 58.9 +0.2**
PUZ Puketiti 54.14 132 PN **P** **22 01 00.0 +0.5**
GUN Gumba 54.21 312 eP **P** **22 00 59.7 -0.9**
comp=Z,2μm,0.8s
GUN Gumba 54.21 312 eP **P** **22 00 59.7 -0.9**
comp=Z,2μm,0.8s
CNGZ Carnagh Statio 54.26 133 ePN **P** **22 01 01.2 +0.9**
PKI Pulchoki 54.38 311 eP **P** **22 01 00.5 -1.3**
comp=Z,385nm,0.7s
PKI Pulchoki 54.38 311 eP **P** **22 01 01.1 -0.7**
PKI pmax pmax
comp=Z,924nm,1.5s
PKI Pulchoki 54.38 311 eP **P** **22 01 01.1 -0.7**
comp=Z,924nm,1.5s
PKIN Phulchoki 54.39 311 eP **P** **22 01 01.1 -0.7**
comp=Z,924nm,1.5s
KKN Kakani 54.59 312 eP **P** **22 01 01.7 -1.5**
comp=Z,2μm,1.4s
KKN Kakani 54.59 312 eP **P** **22 01 01.7 -1.5**
KKN pmax pmax
comp=Z,2μm,1.4s
KKN Kakani 54.59 312 eP **P** **22 01 01.7 -1.5**
comp=Z,2μm,1.4s
DMN Daman 54.62 311 eP **P** **22 01 02.6 -0.9**
comp=Z,4μm,1.6s
DMN Daman 54.62 311 eP **P** **22 01 02.6 -0.9**
comp=Z,4μm,1.6s
KUR Kuril'sk 55.01 16 d iP **P** **22 01 02.7 -2.8**
KUR iS S 22 08 27.0 -9.4
KUR i SSS SSS 22 14 29.4
KUR pmax pmax
comp=E,181nm,1.6s
KUR pmax pmax
comp=Z,1μm,1.6s
KUR pmax pmax
comp=N,311nm,1.6s
KUR pmax pmax
comp=Z,8μm,5.9s
GKN Gorkha 55.18 311 eP **P** **22 01 06.6 -0.8**
GKN Gorkha 55.18 311 eP **P** **22 01 06.6 -0.8**
AIS Amsterdam Isla 55.31 229 P P 22 01 17.0 +9.1
AIS S S 22 08 27.0 -15
AIS R 22 17 00.0
HYB Hyderabad 55.34 297 ⇑iP **P** **22 01 06.5 -2.0**
comp=Z,120nm,1.0s
HYB epP **pP** **22 01 40.0 -0.1**
HYB esP **sP** **22 01 55.0 0.0**
HYB ePcP **PcP** **22 02 09.5 +2.0**
HYB e 22 03 13.0

HYB eScP ScP 22 05 52.0 -1.9
HYB eS S 22 08 34.0 -8.7
HYB e 22 09 36.0
HYB eScS ScS 22 10 42.0 -2.9
HYB Hyderabad 55.34 297 eP P 22 01 07.0 -1.5
YSS Yuzh-Sakhalins 55.40 12α iP P 22 01 08.2 -0.1
YSS e*PP pP 22 01 38.0 -2.0
YSS e*SP sP 22 01 52.0 -2.8
YSS e 22 03 10.0
YSS ePPP PPP 22 04 28.0
YSS eS S 22 08 39.0 -3.3
YSS e 22 10 40.0
YSS eSS SS 22 12 35.0 +5.8
YSS pmax pmax
comp=Z,940nm,1.5s
YSS Yuzh-Sakhalins 55.40 12 eP P 22 01 08.0 -0.2
comp=Z,3μm,2.3s
HABR Khabarovsk 55.78 5c iP P 22 01 11.6 +0.6
HABR e*PP pP 22 01 40.2 -2.5
HABR e*SP sP 22 01 55.0 -2.5
HABR e 22 02 07.0
HABR e 22 03 15.1
HABR ePPP PPP 22 04 30.7
HABR eS S 22 08 48.4 +1.1
HABR e 22 10 45.7
HABR eSS SS 22 12 36.3 +1.2
HABR pmax pmax
comp=Z,924nm,1.3s
HABR pmax pmax
comp=N,269nm,1.3s
HABR pmax pmax
comp=E,183nm,1.3s
HABR pmax pmax
comp=Z,4μm,2.3s
HABR MLR MLR
comp=Z,1μm,17.0s
DGAR Diego Garcia 55.82 266 eP P 22 01 12.6 +0.6
DGAR Diego Garcia 55.82 266 eP P 22 01 11.8 -0.1
KOLN Koldanda 55.84 311 eP P 22 01 11.6 -0.5
comp=Z,4μm,1.5s
KOLN Koldanda 55.84 311 eP P 22 01 11.6 -0.5
comp=Z,4μm,1.5s
DANN Dangsing 56.02 311 eP P 22 01 12.0 -1.5
comp=Z,4μm,1.6s
DANN Dangsing 56.02 311 eP P 22 01 12.0 -1.5
comp=Z,4μm,1.6s
KLR Kul'dur 56.32 2⇓ iP P 22 01 11.2 -3.6
KLR iS S 22 08 51.5 -3.0
KLR pmax pmax
comp=N,300nm,1.6s
KLR pmax pmax
comp=E,130nm,1.6s
KLR pmax pmax
comp=Z,1μm,1.6s
NGP Nagpur 56.38 301 eP P 22 01 15.4 -0.5
NGP ex x 22 08 48.2
HIA Hailar 56.85 353 eP P 22 01 19.2 +0.6
HIA pmax pmax
comp=Z,1μm,1.9s
HIA Hailar 56.85 353 eP P 22 01 19.1 +0.6
comp=Z,1μm,1.9s
MNGI Mangalore 57.23 290 eP9 P 22 01 15.6 -6.2
MNGI eS S 22 08 57.2 -10
ULN Ulaanbaatar 58.15 343c iP P 22 01 29.0 +1.0
ULN pmax pmax
comp=Z,2μm,2.2s
ULN Ulaanbaatar 58.15 343 eP P 22 01 28.9 +1.0
comp=Z,2μm,1.6s
SONM Songino Array 58.32 342 P P 22 01 30.2 +1.1
SONM 22 02 19.9
SONM pmax pmax
comp=Z,317nm,0.9s
SONM pmax pmax
comp=Z,77nm,1.0s
SONM pmax pmax
comp=N,16nm,0.9s
SONM pmax pmax
comp=Z,5.0nm,1.1s
SONM pmax pmax
comp=Z,12nm,1.0s
SONM MLR MLR
comp=Z,1μm,18.1s
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 58.32 342 P P 22 01 30.2 +1.1
comp=Z,317nm,0.9s,baz=159,slow=6.4,SNR=749
SONM PcP PcP 22 02 19.9 +1.3
comp=Z,77nm,0.9s,baz=152,slow=4.6,SNR=4.6
SONM ScP ScP 22 06 06.7 +0.2
comp=Z,16nm,0.9s,baz=165,slow=4.2,SNR=4.8
SONM PKPPKP P'P'df 22 31 01.1 -5.2
comp=Z,4.7nm,1.1s,baz=243,slow=1.0,SNR=6.9
SONM PKP2bc 22 31 17.3
comp=Z,12nm,1.0s,baz=300,slow=1.6,SNR=17
SONM LR LR 22 31 47.1
comp=Z,1μm,18.1s,baz=152,slow=41
SONM P4KPbc 22 38 36.8
comp=Z,1.2nm,1.0s,baz=179,slow=4.1,SNR=5.4
BHPL Bhopal 58.62 303 eP P 22 01 30.7 -0.8
AFI Afiamalu 58.70 102 eP P 22 01 33.3 +1.1
AFI Afiamalu 58.70 102 eP P 22 01 33.3 +1.1
GOA Goa 58.93 293 eP P 22 01 32.6 -1.2
KAD Karad 59.20 295 eP P 22 01 34.9 -0.7
LGTI Lohaghat 59.23 310 ex P 22 01 40.9 +5.4
LGTI ex x 22 03 55.3
POO Poona 59.91 296 eP P 22 01 39.8 -0.8
CASY Casey 60.26 188 eP P 22 01 43.2 +1.2
CIT Chita 60.48 349 eP P 22 01 45.0 +1.3
CIT e 22 02 17.4
CIT e 22 02 28.2
CIT pmax pmax
comp=Z,1μm,1.9s
NDI New Delhi 61.18 308 eP P 22 01 49.0 +0.1
NDI ex x 22 09 52.0
DDI Dehra Dun 61.31 310 eP P 22 01 50.6 +0.8
DDI AMB AMB 22 01 51.0
comp=Z,453nm,0.7s
ZAK Zakamensk 61.52 342⇓ iP P 22 01 51.4 +0.5
ZAK e 22 02 29.8
ZAK pmax pmax
comp=Z,280nm,1.8s
AJM Ajmer 62.27 305 ex P 22 01 55.0 -1.3
SMLA Simla 62.37 311 eP P 22 01 57.4 +0.6
SMLA AMB AMB 22 02 58.1
comp=Z,1μm,0.9s
SKR Severo-Kuril's 62.38 19d iP P 22 01 51.0 -5.4
SKR e*PP pP 22 02 22.0 -6.8
SKR e 22 02 36.0
SKR eS S 22 10 06.0 -6.4
SKR e*SS pS 22 10 40.0 -8.7
SKR pmax pmax
comp=E,4μm,3.0s
SKR pmax pmax
comp=Z,7μm,3.0s
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,3μm,4.0s
SKR pmax pmax
comp=Z,5μm,4.0s
SKR smax smax
comp=E,3μm,8.0s
SKR smax smax
comp=N,3μm,6.0s
SKR MLR MLR
comp=N,3μm,20.0s
SKR MLR MLR
comp=Z,3μm,20.0s
TLY Talaya 62.55 343c iP P 22 01 59.0 +1.4
TLY e 22 02 44.4
TLY eS S 22 10 16.5 +1.9
TLY e 22 11 29.2
TLY pmax pmax
comp=Z,557nm,1.8s
TLY Talaya 62.55 343 eP P 22 01 59.1 +1.4
comp=Z,2μm,2.4s
SDNR Sundarnagar 62.69 311 eP P 22 01 59.0 0.0
SDNR ex x 22 10 12.0
MIDW Midway 62.80 53 eP P 22 02 00.8 +1.2
comp=Z,234nm,1.1s
IRK Irkutsk 62.87 343⇑ iP P 22 02 01.1 +1.4
IRK pmax pmax
comp=Z,2μm,2.0s
WMQ Urumqi 62.96 328 P P 22 02 01.8 +1.3
WMQ pP pP 22 02 32.3 -0.7
WMQ PcP PcP 22 02 38.3 +0.9
WMQ sP sP 22 02 46.3 -1.3
WMQ PP PP 22 04 23.3 +2.5
WMQ ScP ScP 22 06 27.1 0.0
WMQ PcS PcS 22 06 40.3 -0.6
WMQ S S 22 10 20.3 +0.2
WMQ sS sS 22 11 13.3 -2.7
WMQ ScS SKSac 22 11 38.4 -2.1
WMQ SS SS 22 14 30.0 +1.8
WMQ pmax pmax
comp=Z,2μm,1.1s
WMQ pmax pmax
comp=Z,10μm,4.4s
WMQ LR LR
comp=Z,9μm,18.0s
WMQ LR LR
comp=Z,5μm,18.0s
WMQ LR LR
comp=Z,4μm,21.8s
BHK Bhakra 63.07 311 ex P 22 02 01.5 0.0
MOY Mondy 63.36 341 eP P 22 02 04.6 +1.5
MOY pmax pmax
comp=Z,2μm,2.2s
DHRM DHARAMSHALA 63.55 311 eP P 22 02 04.8 -0.1
DHRM AMB AMB 22 02 06.1
comp=Z,1μm,0.9s
DLH Dalhousie 63.94 312 eP P 22 02 08.0 +0.6
CLNS Chul'man 63.96 358 eP P 22 02 07.7 +0.9
CLNS e 22 02 42.5
CLNS eS S 22 10 23.3 -8.6
CLNS pmax pmax
comp=Z,210nm,1.5s
CLNS pmax pmax
comp=N,176nm,1.4s
CLNS pmax pmax
comp=E,50nm,0.9s
CLNS pmax pmax
comp=Z,57nm,1.5s
CLNS pmax pmax
comp=E,45nm,1.5s
CLNS pmax pmax
comp=N,98nm,2.0s
CLNS smax smax
comp=E,446nm,13.7s
CLNS smax smax
comp=N,211nm,10.4s
PAF Port-aux-Franc 64.31 218 P P 22 02 07.0 -2.2
PAF S S 22 10 20.0 -16
PAF SS SS 22 14 32.0 -17
PAF L L 22 18 00.0
PAF R R 22 22 00.0
PETK Petropavlovsk- 64.96 19 P P 22 02 14.3 +0.9
PETK pmax pmax
comp=Z,490nm,0.9s
PETK Petropavlovsk- 64.96 19 P P 22 02 14.3 +0.9
comp=Z,490nm,0.9s,baz=193,slow=5.9,SNR=245
PET Petropavlovsk 65.20 19α iP P 22 02 15.4 +0.6
PET e*PP PcP 22 02 45.8 -0.4
PET e*SP sP 22 03 00.1 -2.0
PET iS S 22 10 47.0 -0.2
PET eSS SS 22 15 05.3 +2.7
PET pmax pmax
comp=Z,5μm,6.9s
PET pmax pmax
comp=Z,919nm,1.3s
PET pmax pmax
comp=Z,3μm,16.6s
PET smax smax
comp=N,3μm,17.0s
PET MLR MLR
comp=Z,2μm,15.0s
PET MLR MLR
comp=Z,2μm,18.0s
PET Petropavlovsk 65.20 19 eP P 22 02 15.5 +0.6
comp=Z,1μm,1.2s
BHJ Bhuj 65.22 300 eP P 22 02 14.8 -0.9
KSH Kashi 67.39 318 P P 22 02 30.8 +1.5
KSH esP sP 22 03 14.9 -1.8
KSH ePP PP 22 05 02.8 +3.1
KSH S S 22 11 11.6 -3.0
KSH sS sS 22 12 12.3 +1.2
KSH SS SS 22 15 45.0 +7.5
KSH pmax pmax
comp=Z,640nm,0.9s
KSH pmax pmax
comp=Z,5μm,2.7s
KSH LR LR
comp=Z,4μm,20.6s
KSH LR LR
comp=Z,1μm,16.4s
KSH LR LR
comp=Z,3μm,29.9s
MKAR Makanchi Array 67.78 327 P P 22 02 32.6 +1.1
MKAR pmax pmax
comp=Z,573nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 67.78 327 P P 22 02 32.6 +1.1
comp=Z,573nm,0.7s,baz=120,slow=7.4,SNR=1704
MKAR PKKP PKKPdf 22 22 34.8 -2.3
comp=Z,1.0nm,1.0s,baz=318,slow=1.9,SNR=3.9
MKAR PKPPKP P'P'df 22 30 42.4 -9.2
comp=Z,1.1nm,0.7s,baz=275,slow=3.2,SNR=6.4
MKAR P4KPbc 22 39 19.1
comp=Z,2.9nm,0.8s,baz=131,slow=4.8,SNR=24
MKAR Makanchi Array 67.78 327 eP P 22 02 32.2 +0.7
UHLL Ulahol 68.65 321 P P 22 02 39.1 +1.8
SNR=66
UHLL Ulahol 68.65 321 iP P 22 02 39.1 +1.8
AAA Alma-Ata 68.77 322 iP P 22 02 39.5 +1.7
AAA iS S 22 11 27.2 -3.4
AAA pmax pmax
comp=Z,9μm,4.8s
AAA smax smax
comp=N,2μm,14.6s
AAA MLR MLR
comp=Z,2μm,24.0s
YAK Yakutsk 69.09 0 eP P 22 02 39.6 +0.4
YAK e 22 03 02.0
YAK e*PP pP 22 03 10.9 -1.3
YAK e 22 05 15.8
YAK eS S 22 11 31.6 -1.9
YAK e 22 12 23.1
YAK pmax pmax
comp=N,420nm,1.1s
YAK pmax pmax
comp=Z,1μm,0.9s
YAK pmax pmax
comp=E,167nm,0.9s
YAK pmax pmax
comp=N,183nm,2.3s
YAK pmax pmax
comp=E,36nm,1.1s
YAK pmax pmax
comp=Z,323nm,2.3s
YAK smax smax
comp=N,170nm,2.3s
YAK smax smax
comp=E,744nm,2.5s
YAK Yakutsk 69.09 0 eP P 22 02 39.6 +0.4
comp=E,2μm,0.9s
YAK epP pP 22 03 11.1 -1.1
KZA Kyzart 69.19 320 P P 22 02 42.8 +2.0
SNR=628
KZA Kyzart 69.19 320 iP P 22 02 42.8 +2.0
TKM2 Tokmak 2 69.42 321 P P 22 02 43.5 +1.5
SNR=162
TKM2 Tokmak 2 69.42 321 iP P 22 02 43.4 +1.5
TKM2 Tokmak 2 69.42 321 eP P 22 02 43.4 +1.5
comp=E,914nm,1.0s
KBK Karagaybulak 69.68 321 P P 22 02 45.3 +1.7
SNR=551
KBK Karagaybulak 69.68 321 iP P 22 02 45.3 +1.7
UCH Uchtor 69.74 320 P P 22 02 46.0 +1.8
SNR=938
UCH Uchtor 69.74 320 iP P 22 02 46.0 +1.8
AAK Ala-Archa 69.96 320 P P 22 02 47.0 +1.8
SNR=809
AAK Ala-Archa 69.96 320 P P 22 02 47.0 +1.8
AAK pmax pmax
comp=Z,566nm,0.9s
AAK pmax pmax
comp=Z,96nm,1.1s
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 69.96 320 P P 22 02 47.0 +1.8
comp=Z,566nm,0.9s,baz=125,slow=6.0,SNR=680
AAK PKP2bc 22 30 47.7
comp=Z,96nm,1.1s,baz=239,slow=2.8,SNR=81
AAK P4KPbc 22 39 30.8
comp=Z,2.6nm,0.9s,baz=104,slow=4.2,SNR=8.1
AAK Ala-Archa 69.96 320 eP P 22 02 46.8 +1.6
comp=Z,1μm,1.1s
MRIV Mauritius Mete 69.98 251 eP P 22 02 47.4 +1.7
FRU Bishkek 69.98 321⇑ iP P 22 02 46.0 +0.8
FRU i 22 03 10.0
FRU i 22 05 27.0
FRU eS S 22 11 43.0 -1.9
FRU e 22 12 34.0
FRU eSS SS 22 16 10.0 -7.1
FRU pmax pmax
comp=Z,4μm,2.3s
FRU smax smax
comp=N,1μm,4.0s
CHMS Chumysh 69.99 321 P P 22 02 46.3 +1.1
SNR=285
CHMS Chumysh 69.99 321 iP P 22 02 46.3 +1.1
RAR Rarotonga 70.15 110 eP P 22 02 46.9 +0.3
RAR pmax pmax
comp=Z,385nm,1.3s
RAR Rarotonga 70.15 110 eP P 22 02 46.9 +0.3
comp=Z,385nm,1.3s
AML Almayashu 70.21 320 P P 22 02 49.5 +2.4
SNR=31
AML Almayashu 70.21 320 iP P 22 02 49.4 +2.4
USP Ospenovka 70.28 321 P P 22 02 48.3 +1.3
SNR=801
USP Ospenovka 70.28 321 iP P 22 02 48.3 +1.3
EKS2 Erkin-Say 70.43 320 P P 22 02 49.9 +1.9
SNR=779
EKS2 Erkin-Say 70.43 320 eP P 22 02 49.8 +1.7
EKS2 pmax pmax
comp=Z,1μm,1.1s
EKS2 Erkin-Say 70.43 320 eP P 22 02 49.8 +1.7
comp=Z,1μm,1.1s
EKS2 eP'P'df P'P'df 22 30 45.9 -1.8
FX1 Attu Island--F 70.75 27 P P 22 02 50.3 +0.7
FX1 pmax pmax
comp=Z,385nm,0.9s
FX1 MLR MLR
comp=Z,18nm,28.6s
FX1 Attu Island--F 70.75 27 P P 22 02 50.3 +0.7
comp=Z,385nm,0.9s,baz=154,slow=1.3,SNR=49
FX1 LR LR 22 29 35.2
comp=Z,1μm,21.3s,baz=248,slow=32
SMY Shemya 71.07 27 eP P 22 02 53.1 +1.6
SMY pmax pmax
comp=Z,1μm,1.2s
SMY Shemya 71.07 27 eP P 22 02 53.1 +1.6
comp=Z,1μm,1.2s
ZALV Zalesovo Beam 71.29 334 P P 22 02 52.7 -0.1
ZALV pmax pmax
comp=Z,527nm,0.8s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV MLR MLR
comp=Z,17nm,28.6s
ZALV Zalesovo Beam 71.29 334 P P 22 02 52.7 -0.1
comp=Z,527nm,0.8s,baz=139,slow=5.0,SNR=583
ZALV PKPPKP P'P'df 22 30 28.2 -17
comp=Z,0.7nm,0.4s,baz=299,slow=3.0,SNR=6.1
ZALV LR LR 22 36 13.5
comp=Z,1μm,20.2s,baz=106,slow=37
RER Riviere de l'E 71.61 250 eP P 22 02 56.3 +0.7
comp=Z,178nm,0.9s
RER ePcP PcP 22 03 15.3 +1.2
RER epP pP 22 03 31.7 +3.0
KURK Kurchatov 72.11 329c iP P 22 02 58.4 +0.6
KURK pmax pmax
comp=Z,511nm,0.8s
KURK Kurchatov 72.11 329 eP P 22 02 58.4 +0.6
comp=Z,1μm,1.2s
KURK eP'P'df P'P'df 22 30 36.2 -7.8
SEY Seymchan 72.30 11c iP P 22 02 59.8 +1.2
SEY Seymchan 72.30 11 P P 22 02 59.4 +0.8
comp=Z,706nm,1.0s,baz=204,slow=4.7,SNR=888
VNDA Vanda 72.33 173 P P 22 02 59.4 +0.7
VNDA pmax pmax
comp=Z,20nm,0.7s
VNDA MLR MLR
comp=Z,18nm,28.6s
VNDA Vanda 72.33 173 P P 22 02 59.4 +0.7
comp=Z,20nm,0.7s,baz=327,slow=8.0,SNR=44
VNDA LR LR 22 35 40.0
comp=Z,3μm,18.0s,baz=344,slow=36
NVS Novosibirsk 72.57 334⇑ iP P 22 03 00.2 -0.2
NVS i*PP PcP 22 03 25.2 +7.9
NVS iS S 22 12 10.2 -3.8
NVS i*SS SKSac 22 12 45.1 -7.5
NVS iPS PnS 22 13 06.8 +2.5
NVS pmax pmax
comp=Z,2μm,1.7s
NVS pmax pmax
comp=N,517nm,1.1s
NVS pmax pmax
comp=E,550nm,1.1s
NVS smax smax
comp=N,253nm,2.4s
NVS smax smax
comp=E,337nm,2.4s
KKAR Karatay Array 72.74 319 eP P 22 03 02.7 +0.9
KKAR Karatay Array 72.74 319 eP P 22 03 02.6 +0.9
XMAS Kiritimati 74.20 86 eP P 22 03 13.8 +2.9
comp=E,942nm,1.1s
MAW Mawson 74.26 201 P P 22 03 11.4 +1.3
MAW pmax pmax
comp=Z,68nm,1.0s
MAW MLR MLR
comp=Z,18nm,28.6s
MAW Mawson 74.26 201 P P 22 03 11.4 +1.3
comp=Z,68nm,0.9s,baz=59,slow=5.5,SNR=9.9
MAW LR LR 22 33 42.6
comp=Z,4μm,19.8s,baz=52,slow=34
MAW Mawson 74.26 201 ⇓P P 22 03 11.9 +1.8
baz=74,SNR=10
WBK Wadi Bani Khal 74.42 296 P P 22 03 13.0 +0.9
SNR=15
JMDO Jabal Madar 75.14 295 P P 22 03 16.6 +0.5
SNR=20
JMDO Jabal Madar 75.14 295 P P 22 03 16.4 +0.3
SNR=85
SMDO Samad 75.36 296 P P 22 03 18.0 +0.5
SNR=38
SMDO Samad 75.36 296 P P 22 03 17.7 +0.2
SNR=115
CRZF Crozet Islands 75.75 224 P P 22 03 01.0 -18
CRZF S SKiKP 22 12 13.0 -14
CRZF L L 22 23 00.0
HOQ Hoqain 76.14 296 P P 22 03 23.0 +1.1
SNR=49
ARQ Araqi 76.79 296 P P 22 03 26.1 +0.6
SNR=22
VOSK Vostochnaya 77.18 328 eP P 22 03 27.2 +0.2
VOSK pmax pmax
comp=Z,282nm,0.6s
VOSK Vostochnaya 77.18 328 eP P 22 03 27.2 +0.2
comp=Z,282nm,0.6s
HON Honolulu 77.21 66 eP P 22 03 29.5 +1.7
HON Honolulu 77.21 66 eP P 22 03 29.5 +1.7
KIP Kipapa 77.22 66 eP P 22 03 29.5 +1.6
KIP pmax pmax
comp=Z,1μm,1.6s
KIP Kipapa 77.22 66 eP P 22 03 29.5 +1.6
comp=Z,1μm,1.6s
OPA Opana 77.28 66 eP P 22 03 30.8 +2.6
OPA Opana 77.28 66 eP P 22 03 30.8 +2.6
HATD Hatta, Dubai 77.49 297 iP P 22 03 29.9 +0.5
SNR=49
ASHO Ashiyiah 77.52 297 P P 22 03 30.1 +0.5
SNR=60
BANOM Banah 77.61 298 P P 22 03 31.0 +0.9
SNR=51
RBK Rabkut 77.62 290 P P 22 03 31.4 +1.1
SNR=7.4
RBK Rabkut 77.62 290 P P 22 03 30.8 +0.5
SNR=35
BVAR Borovoye Array 77.64 328 P P 22 03 30.0 +0.4

BVAR pmax pmax
comp=Z,349nm,0.9s
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 77.64 328 P **P** **22 03 30.0 +0.4**
comp=Z,349nm,0.9s,baz=125,slow=8.0,SNR=596
BVAR PKKPbc **PKKPbc** **22 22 32.3 -2.3**
comp=Z,1.8nm,0.8s,baz=286,slow=2.2,SNR=7.8
BVAR PKKPKP P'P'df 22 30 23.6 -11
comp=Z,0.6nm,0.7s,baz=224,slow=4.0,SNR=4.3
BRVK Borovoye 77.71 328 *e*P **P** **22 03 30.5 +0.5**
BRVK pmax pmax
comp=Z,594nm,1.0s
BRVK Borovoye 77.71 328 *e*P **P** **22 03 30.5 +0.5**
comp=Z,594nm,1.0s
NAZ Nazwa, Dubai 77.94 297 *i* P **P** **22 03 32.2 +0.3**
SNR=26
FAQ Al Faqa, Dubai 77.95 297 *i* P **P** **22 03 32.2 +0.3**
SNR=85
ASUD Al Ashush, Dub 78.15 297⇑*i*P **P** **22 03 33.8 +0.8**
SNR=54
ABTO Aybut 78.44 289 P **P** **22 03 36.4 +1.6**
SNR=7.6
ABTO Aybut 78.44 289 P **P** **22 03 34.9 +0.1**
SNR=37
HKL Haleakala 78.66 67 *e*P **P** **22 03 38.2 +1.8**
HKL Haleakala 78.66 67 *e*P **P** **22 03 38.2 +1.8**
HLK Haleakala 78.68 67 *e*P **P** **22 03 38.6 +2.2**
POHA Pohakuloa 79.13 68 *e*P **P** **22 03 40.5 +1.8**
comp=Z,1μm,1.8s
PUH Pauahi 79.35 69 *e*P **P** **22 03 40.1 +0.3**
comp=Z,2μm,1.5s
ABKT Ailbek 79.45 311 P **P** **22 03 41.1 +1.2**
comp=Z,1μm,1.2s,SNR=53
TBI Tubuai 79.63 112⇑*i*P **P** **22 03 43.0 +1.9**
comp=Z,853nm,1.1s
BILL Bilibino 79.66 13*c* *i*P **P** **22 03 40.0 -0.2**
BILL *i* 22 03 49.0
BILL *i* SS SS 22 18 39.7 -2.9
BILL pmax pmax
comp=Z,105nm,1.2s
BILL Bilibino 79.66 13⇑*e*P **P** **22 03 40.1 -0.2**
comp=Z,117nm,1.1s
ABPO Ambohimpanom 79.70 252 *e*P **P** **22 03 42.8 +1.0**
ABPO pmax pmax
comp=Z,93nm,1.4s
ABPO Ambohimpanom 79.70 252 *e*P **P** **22 03 42.8 +1.0**
comp=Z,93nm,1.4s
OPO Ambohidratompo 79.77 252 P **P** **22 03 42.8 +0.6**
comp=Z,28nm,0.7s,baz=78,slow=6.2,SNR=22
PAE Paea 79.91 107⇑*i*P **P** **22 03 45.2 +2.5**
comp=Z,99nm,1.2s
PPT2 Papeete2 79.92 107⇑*i*P **P** **22 03 45.6 +2.7**
comp=Z,424nm,1.1s
PPT2 Papeete2 79.92 107 *e*PP PP 22 06 46.4 0.0
comp=Z,323nm,24.5s
PPT2 *e*S **S** **22 13 33.1 -2.9**
comp=Z,6μm,31.5s
PPT2 *e*SS **SS** **22 18 47.5 -1.1**
comp=Z,4μm,28.2s
PPT2 *e*LQ LQ 22 25 17.1
comp=Z,6μm,26.2s
PPT2 *e*LR LR 22 28 37.0
comp=Z,5μm,30.5s
PPT Papeete 79.92 107 P **P** **22 03 46.0 +3.2**
PPT pmax pmax
comp=Z,366nm,0.9s
PPT MLR MLR
comp=Z,995nm,20.6s
PPT Papeete 79.92 107 P **P** **22 03 46.0 +3.2**
comp=Z,366nm,0.9s,baz=285,slow=0.4,SNR=18
PPT LR LR 22 35 53.1
comp=Z,995nm,20.6s,baz=264,slow=33
TIAR Tiarei 80.14 107⇑*i*P **P** **22 03 46.6 +2.6**
comp=Z,111nm,1.2s
TVO Taravao 80.21 107⇑*i*P **P** **22 03 47.1 +2.7**
comp=Z,159nm,1.3s
SPIA Saint Paul Isl 80.99 29 *e*P **P** **22 03 48.7 +1.1**
comp=Z,2μm,1.3s
MEH Mehetia 81.33 107⇑*i*P **P** **22 03 52.6 +2.3**
comp=Z,195nm,1.2s
UNV Unalaska Valle 81.39 33 *e*P **P** **22 03 50.3 +0.5**
comp=Z,418nm,1.1s
PMOR Pomariorio Ree 81.75 104⇑*i*P **P** **22 03 55.0 +2.5**
comp=Z,1μm,1.3s
AKUT Akutan 81.90 33 *e*P **P** **22 03 52.9 +0.4**
comp=Z,1μm,1.3s
MUKL Al Mukalla 81.95 286 *e*P **P** **22 03 54.2 +0.7**
ABKAR Akbulak array 81.96 322 *e*P **P** **22 03 53.1 +0.2**
VAH Vaihoa 81.98 104⇑*i*P **P** **22 03 56.1 +2.3**
comp=Z,733nm,1.3s
QSPA South Pole Qui 82.71 180 P **P** **22 03 56.9 +0.2**
comp=Z,84nm,0.9s,baz=326,slow=1.8,SNR=137
QSPA pP **pP** **22 04 28.4 -2.4**
comp=Z,22nm,0.7s,baz=231,slow=1.1,SNR=2.0
QSPA South Pole Qui 82.71 180 *e*P **P** **22 03 56.7 -0.1**
comp=Z,636nm,1.7s
SYO Syowa Base 82.97 201⇓*i*P **P** **22 03 57.7 -0.1**
SYO Syowa Base 82.97 201⇓*i*P pP 22 04 34.6 +2.8
FALS False Pass 83.45 33 *e*P **P** **22 04 00.3 -0.2**
comp=Z,6μm,2.6s
AKTO Aktyubinsk 83.54 323 P **P** **22 04 01.5 +0.4**
AKTO pmax pmax
comp=Z,368nm,0.9s
AKTO pmax pmax
comp=Z,5.0nm,0.8s
AKTO MLR MLR
comp=Z,18nm,28.6s
AKTO Aktyubinsk 83.54 323 P **P** **22 04 01.5 +0.4**
comp=Z,368nm,0.9s,baz=118,slow=7.5,SNR=374
AKTO PKKPbc **PKKPbc** **22 22 19.1 -1.9**
comp=Z,4.7nm,0.8s,baz=322,slow=2.3,SNR=11
AKTO LR LR 22 44 49.6
comp=Z,1μm,21.5s,baz=117,slow=38
GAMB Gambell 83.63 23 *e*P **P** **22 04 01.6 +0.3**
comp=Z,690nm,1.3s
SVE Sverdlovsk 84.37 329*d* *i*P **P** **22 04 05.5 +0.4**
SVE *e* 22 07 20.1
SVE *e*S **S** **22 14 14.5 -5.2**
SVE pmax pmax
comp=Z,610nm,0.9s
SVE pmax pmax
comp=Z,938nm,8.3s
SDPT Sand Point 85.20 33 *e*P **P** **22 04 09.6 +0.3**
comp=Z,3μm,1.5s
ARU Arti 85.29 328 P **P** **22 04 09.9 +0.2**
comp=Z,3μm,0.8s
ARU Arti 85.29 328*c* *i*P **P** **22 04 09.2 -0.5**
ARU *e**PP **pP** **22 04 41.9 -2.0**
ARU *SP **sP** **22 04 54.8 -3.4**
ARU *e* 22 07 27.4
ARU PPP PPP 22 09 24.3
ARU S **SKSac** **22 14 21.0 -1.0**
ARU pmax pmax
comp=Z,571nm,1.0s
ARU Arti 85.29 328 *e*P **P** **22 04 09.5 -0.2**
comp=Z,472nm,0.9s
ARU *e*PP **PP** **22 07 24.9 -4.6**
TNA Tin City 85.92 22 *e*P **P** **22 04 12.8 +0.1**
comp=Z,1μm,2.5s
TRBA At Turbah 86.48 284 *e*P **P** **22 04 17.6 +0.8**
CHGN Chignik 86.62 32 *e*P **P** **22 04 15.7 -0.5**
CHGN *e*S **S** **22 14 45.4 +3.7**
RAYN Ar Rayn 86.74 294 *e*P **P** **22 04 17.8 +0.1**
comp=Z,1μm,1.1s
RAYN *e*P'P'df **P'P'df** **22 30 19.3 -0.7**
MAK Makhachkala 88.55 313 *e*P **P** **22 04 27.1 +1.3**
MAK *e**PP **pP** **22 04 58.2 -2.0**
MAK *e**SP **sP** **22 05 12.8 -1.6**
MAK *e* 22 07 59.4
MAK *e*PPP PPP 22 09 52.1
MAK *e*S **SKSac** **22 14 44.2 +1.7**
MAK *e* 22 14 58.8
MAK *e*SS **SS** **22 20 56.0 +1.2**
MAK *e*SSS SSS 22 24 27.1
MAK pmax pmax
comp=Z,233nm,0.9s
SII Sitkinak Islan 88.94 33 *e*P **P** **22 04 28.6 +1.3**
comp=Z,2μm,1.6s
SVW2 Sparrevohn 89.45 28 *e*P **P** **22 04 31.0 +1.3**
comp=Z,1μm,2.4s
SVW2 *e*PP **PP** **22 08 00.6 -2.1**
OHAK Old Harbor 89.58 32 *e*P **P** **22 04 31.1 +0.8**
comp=Z,438nm,1.3s

DGRG David-gareji 89.83 312 P P 22 04 36.6 +4.7
KDAK Kodiak Island 90.09 32 *e*P **P** **22 04 33.5 +0.9**
KDAK pmax pmax
comp=Z,648nm,1.6s
KDAK Kodiak Island 90.09 32 *e*P **P** **22 04 33.5 +0.9**
comp=Z,648nm,1.6s
GNI Garni 90.09 310 *e*P **P** **22 04 34.8 +1.5**
GNI pmax pmax
comp=Z,380nm,1.6s
GNI Garni 90.09 310 P **P** **22 04 34.2 +0.9**
comp=Z,82nm,1.1s,baz=153,slow=1.9,SNR=14
GNI Garni 90.09 310 *e*P **P** **22 04 34.8 +1.5**
comp=Z,380nm,1.6s
GNI Garni 90.09 310⇓*i*P **P** **22 04 34.4 +1.1**
SNR=10
TBLG Delisi 90.35 312 P **P** **22 04 33.7 -0.6**
KZR Kazreti 90.53 312 P P 22 04 40.3 +5.1
RSO Redoubt South 90.63 29 *e*P **P** **22 04 34.9 -0.4**
GUDG Gudauri 90.66 313 P **P** **22 04 35.9 0.0**
SPU Mount Spurr 91.13 28 *e*P **P** **22 04 37.4 -0.1**
ZEI Tsey 91.13 313 *e*P **P** **22 04 37.0 -1.1**
ZEI pmax pmax
comp=Z,202nm,1.4s
FURI Furi 91.19 279 *e*P **P** **22 04 42.2 +3.0**
comp=Z,357nm,2.5s
AKH Akhalkalaki 91.22 311 P P 22 04 45.1 +6.5
KMBO Kilima Mbogo 91.36 269 P **P** **22 04 40.9 +1.0**
KMBO pmax pmax
comp=Z,18nm,0.9s
KMBO MLR MLR
comp=Z,796nm,20.7s
KMBO Kilima Mbogo 91.36 269 P **P** **22 04 40.9 +1.0**
comp=Z,18nm,0.9s,baz=76,slow=4.8,SNR=38
KMBO LR LR 22 43 02.0
comp=Z,796nm,20.7s,baz=98,slow=34
KMBO Kilima Mbogo 91.36 269 *e*P **P** **22 04 40.6 +0.7**
comp=Z,46nm,1.2s
KMBO Kilima Mbogo 91.36 269 ⇑P **P** **22 04 41.3 +1.4**
baz=91,SNR=5.0
PPLA Purkeypile 91.45 27 *e*P **P** **22 04 39.2 +0.1**
comp=Z,311nm,1.2s
CAST Castle Rocks 91.62 26 *e*P **P** **22 04 39.9 +0.2**
comp=Z,144nm,1.6s
NVL N'lazarevskaya 91.74 197 *e*P **P** **22 04 41.0 +0.9**
NVL *e* 22 15 08.8
NVL pmax pmax
comp=Z,66nm,0.9s
KBZ Khabaz 91.99 314 P **P** **22 04 42.1 +0.3**
KBZ pmax pmax
comp=Z,41nm,1.0s
KBZ MLR MLR
comp=Z,728nm,21.0s
KBZ Khabaz 91.99 314 P **P** **22 04 42.0 +0.3**
comp=Z,41nm,1.0s,baz=141,slow=2.9,SNR=20
KBZ LR LR 22 52 18.0
comp=Z,728nm,21.0s,baz=94,slow=40
NEY Neytrino 92.05 313*c* *i*P **P** **22 04 43.1 +0.7**
GOF Gofitskoye 92.08 315⇑*i*P **P** **22 04 42.4 +0.2**
GOF pmax pmax
comp=Z,200nm,1.5s
KTH Kantishna Hill 92.16 26 *e*P **P** **22 04 41.3 -1.0**
comp=Z,270nm,1.2s
KTH *e*PKKPdf **PKKPdf** **22 21 58.7 +1.2**
SEW Seward 92.16 30 *e*P **P** **22 04 42.6 +0.4**
comp=Z,188nm,1.3s
KIV Kislovodsk 92.17 314*c* *i*P **P** **22 04 42.8 0.0**
KIV pmax pmax
comp=Z,55nm,1.0s
KIV Kislovodsk 92.17 314 *e*P **P** **22 04 43.5 +0.6**
comp=Z,68nm,1.1s
KIV Kislovodsk 92.17 314 *i* P **P** **22 04 42.9 +0.1**
SNR=7.1
RC01 Rabbit Creek A 92.21 29 *e*P **P** **22 04 41.8 -0.6**
comp=Z,397nm,0.4s
TRF Thorofare Moun 92.41 26 *e*P **P** **22 04 43.3 -0.3**
comp=Z,316nm,1.4s
CHVG Ch'k'vaeli 92.44 313 P P 22 04 35.2 -8.7
PMR Palmer 92.59 28 *e*P **P** **22 04 43.8 -0.4**
PMR pmax pmax
comp=Z,323nm,1.4s
PMR Palmer 92.59 28 *e*P **P** **22 04 43.8 -0.4**
comp=Z,323nm,1.4s
MZRK Al-Mazaregh 92.68 306 *i* P **P** **22 04 48.0 +2.8**
RKT Rikitea 92.90 114 *e*P **P** **22 04 48.7 +2.2**
comp=Z,142nm,1.3s
RKT Rikitea 92.90 114 *e*SP SP 22 16 47.1 -6.6
comp=Z,1μm,26.9s
RKT *e*SS **SS** **22 21 55.6 -2.5**
comp=Z,1μm,29.0s
RKT Rikitea 92.90 114 *e*LR LR 22 34 35.2
comp=Z,3μm,31.0s
KBSD Kabsdagh 92.91 307 *i* P **P** **22 04 47.0 +0.8**
MCK McKinley 93.06 26 *e*P **P** **22 04 45.4 -0.9**
MCK *e* 22 08 29.1
MCK pmax pmax
comp=Z,480nm,1.3s
MCK McKinley 93.06 26 *e*P **P** **22 04 45.4 -0.9**
comp=Z,480nm,1.3s
MCK *e*PP **PP** **22 08 29.1 -2.0**
PRGR Permogore 93.09 332⇑*i*P **P** **22 04 44.9 -1.5**
PRGR *PP **pP** **22 05 18.5 -2.4**
PRGR *e* 22 08 27.8
PRGR *e*S **SKSac** **22 15 05.7 -1.9**
PRGR pmax pmax
comp=Z,130nm,1.0s
SFNV Sufian 93.18 306 *i* P **P** **22 04 48.8 +1.2**
COLD Coldfoot 93.19 23 *e*P **P** **22 04 46.8 0.0**
comp=Z,167nm,1.1s
COLD *e*PKKPdf **PKKPdf** **22 21 55.8 +0.2**
COLA College 93.72 25*c* *i*P **P** **22 04 47.8 -1.4**
COLA pmax pmax
comp=Z,149nm,1.0s
COLA College 93.72 25 *e*P **P** **22 04 47.8 -1.4**
comp=Z,961nm,2.4s
COLA *e*PP **PP** **22 08 35.5 -0.7**
VRHR Novokhopersk 93.80 321 *e*P **P** **22 04 48.0 -2.0**
VRHR pmax pmax
comp=Z,150nm,0.8s
VRHR pmax pmax
comp=N,40nm,1.0s
VRHR pmax pmax
comp=E,140nm,1.2s
KSRV Kasrt alli 94.01 305 *i* P **P** **22 04 52.4 +1.1**
ILAR Eielson Array 94.11 25 P **P** **22 04 49.6 -1.5**
comp=E,47nm,1.0s,baz=267,slow=4.2,SNR=227
ILAR PP **PP** **22 08 34.4 -4.9**
comp=E,21nm,1.2s,baz=254,slow=6.6,SNR=6.8
ILAR PKiKP **PKiKP** **22 09 34.7 +0.2**
comp=E,2.2nm,0.8s,baz=279,slow=3.1,SNR=4.5
ILAR PKKP **PKKPdf** **22 21 52.5 -1.4**
comp=E,4.8nm,0.9s,baz=38,slow=1.5,SNR=16
ILAR SKKP 22 25 16.5
comp=E,0.8nm,0.8s,baz=357,slow=1.9,SNR=4.4
ILAR LR LR 22 43 31.5
comp=E,571nm,21.6s,baz=270,slow=33
DIV Divide 94.12 29 *e*P **P** **22 04 51.5 +0.2**
comp=E,470nm,1.3s
SOC Sochi 94.27 313 *e*P **P** **22 04 50.5 -1.8**
SOC *e**PP pP 22 05 21.2 -5.6
SOC *e* 22 15 12.4
SOC *e*SS SS 22 22 10.6 -6.3
SOC *e*SSS SSS 22 25 54.8
SOC MLR MLR
comp=Z,1μm,19.0s
JHLN Al Jahlan 94.45 305 *i* P **P** **22 04 52.1 -1.3**
PAX Paxson 94.49 27 *e*P **P** **22 04 52.8 -0.3**
PAX *e* 22 08 38.7
PAX pmax pmax
comp=Z,321nm,1.2s
PAX Paxson 94.49 27 *e*P **P** **22 04 52.8 -0.3**
comp=Z,321nm,1.2s
PAX *e*PP **PP** **22 08 38.7 -3.7**
BMRM Bremner River 94.66 29 *e*P **P** **22 04 54.5 +0.7**
comp=Z,275nm,1.3s
SNAA Sanae 95.12 194 P **P** **22 04 56.8 +1.1**
SNAA Sanae 95.12 194 P **P** **22 04 56.6 +0.8**
SNAA pmax pmax
comp=Z,23nm,1.1s
SNAA pmax pmax
comp=Z,4.0nm,0.9s
SNAA Sanae 95.12 194 P **P** **22 04 56.6 +0.8**
comp=Z,23nm,1.1s,baz=194,slow=5.5,SNR=68
SNAA PKKP **PKKPdf** **22 21 48.7 -2.6**
comp=Z,4.2nm,0.9s,baz=247,slow=3.8,SNR=15
SNAA Sanae 95.12 194 *e*P **P** **22 04 56.2 +0.5**
comp=Z,362nm,1.9s

SNAA PKKP **PKKPdf** **22 21 48.7 -2.6**
SNAA *e*PKKPdf **PKKPbc** **22 21 49.4 -3.1**
DOT Dot Lake 95.20 27 *e*P **P** **22 04 55.8 -0.4**
comp=Z,255nm,1.3s
VORD Divnogorie 95.26 321 *e*P P 22 04 51.9 -4.7
VORD pmax pmax
comp=Z,50nm,1.4s
VORD pmax pmax
comp=N,40nm,0.4s
VORD pmax pmax
comp=E,70nm,0.6s
MENT Mentasta 95.28 27 *e*P **P** **22 04 56.4 -0.1**
MENT *e*PP **PP** **22 08 45.6 -2.9**
RABH Abou Rabah 95.34 304 *i* P **P** **22 04 56.7 -0.8**
VSR Storozhevoye 95.36 321*c* *i*P **P** **22 04 56.0 -1.1**
VSR pmax pmax
comp=Z,284nm,1.0s
VOR Voronezh 95.38 321 *e*P **P** **22 04 57.0 -0.2**
VOR pmax pmax
comp=Z,500nm,1.0s
ASF Jabal al Asfar 95.40 302 P **P** **22 04 58.7 +0.8**
ASF pmax pmax
comp=Z,37nm,1.2s
ASF pmax pmax
comp=Z,7.0nm,0.9s
ASF Jabal al Asfar 95.40 302 P **P** **22 04 58.7 +0.8**
comp=Z,37nm,1.1s,baz=60,slow=0.9,SNR=32
ASF PKKP **PKKPdf** **22 21 51.5 +0.6**
comp=Z,6.6nm,0.9s,baz=325,slow=0.9,SNR=9.7
MARH Ras Al Marh 95.90 303 *i* P **P** **22 04 57.9 -2.5**
KLMR Klimovskoe 95.92 331 *e*P P 22 04 54.9 -4.5
KLMR pmax pmax
comp=Z,133nm,1.2s
ANN Anapa 96.01 314 *e*P **P** **22 04 59.8 -0.4**
ANN *e**PP **pP** **22 05 33.1 -1.7**
ANN *e* 22 15 24.0
ANN pmax pmax
comp=Z,85nm,0.8s
BTCH Batrach 96.08 305 *i* P P 22 04 54.3 -6.6
TCHB Talchebab 96.22 302 *i* P **P** **22 04 59.5 -2.0**
BRBR Barbar 96.30 303 *i* P P 22 04 58.6 -3.5
ARNB Al Arnab 96.46 305 *i* P P 22 04 53.8 -8.9
EGAK Eagle 96.55 26 *e*P **P** **22 05 02.3 0.0**
comp=Z,205nm,1.4s
EGAK *e*PP **PP** **22 08 56.8 -1.4**
MOS Moscow 96.59 325 *e*P **P** **22 05 00.6 -2.0**
MOS *i* 22 09 00.6
MOS pmax pmax
comp=Z,136nm,1.0s
MOS MLR MLR
comp=Z,2μm,21.0s
MOS MLR MLR
comp=E,2μm,22.0s
VNA2 Neumayer--Watz 96.69 193 P **P** **22 05 04.1 +1.2**
MMAI Mount Meron Ar 96.72 302 P **P** **22 05 04.4 +0.5**
comp=E,83nm,1.2s,baz=87,slow=5.9,SNR=41
MMAI PKiKP **PKiKP** **22 09 41.1 +1.0**
comp=E,0.9nm,0.4s,baz=90,slow=2.9,SNR=4.1
MMAI PKKP **PKKPbc** **22 21 47.6 +0.5**
comp=E,1.5nm,0.5s,baz=348,slow=2.1,SNR=6.7
TMCR Tamitsa 96.81 334 *e*P **P** **22 05 01.1 -2.2**
TMCR *e* 22 08 59.0
TMCR *e*S **SKSac** **22 15 24.6 -2.7**
TMCR pmax pmax
comp=Z,166nm,1.4s
EIL Elat 96.85 299 PKKP **PKKPdf** **22 21 47.2 -0.8**
comp=Z,12nm,0.8s,baz=300,slow=3.2,SNR=14
EIL Elat 96.85 299 P **P** **22 05 05.0 +0.6**
baz=97,SNR=6.7
VNA3 Neumayer Olymp 96.96 192 P **P** **22 05 04.8 +0.7**
VNA1 Neumayer--Stat 97.09 193 P Pdif 22 05 06.3 +1.6
OBN Obninsk 97.17 325⇑*i*P **P** **22 05 04.2 -0.9**
OBN *i* 22 09 05.3
OBN *i* S S 22 16 09.5 -7.3
OBN pmax pmax
comp=Z,185nm,1.1s
OBN Obninsk 97.17 325 P **P** **22 05 04.3 -0.9**
comp=Z,70nm,0.6s,baz=268,slow=2.3,SNR=33
OBN Obninsk 97.17 325 *e*P **P** **22 05 03.4 -1.8**
comp=Z,228nm,1.2s
OBN *e*PP **PP** **22 09 06.1 +3.0**
DAWY Dawson 97.29 26 *e*P Pdif 22 05 05.8 +0.1
DAWY *e*PP **PP** **22 09 01.1 -2.9**
HYT Haines Junctio 98.12 30 *e*P Pdif 22 05 12.0 +2.4
HYT *e*PP **PP** **22 09 13.6 +3.2**
LSZ Lusaka 98.21 253 *e*P Pdif 22 05 11.5 +0.5
LSZ pmax pmax
comp=Z,11nm,0.7s
LSZ Lusaka 98.21 253 PKKP **PKKPdf** **22 21 44.2 -1.0**
comp=Z,3.5nm,0.8s,baz=346,slow=4.2,SNR=8.0
LSZ Lusaka 98.21 253 *e*P Pdif 22 05 11.5 +0.4
comp=Z,11nm,0.7s
LSZ PKKP **PKKPdf** **22 21 44.2 -1.0**
LSZ *e*PKKPdf **PKKPbc** **22 21 44.8 +2.4**
BOSA Boshof 98.27 240 P Pdif 22 05 11.3 +0.2
BOSA pmax pmax
comp=Z,6.0nm,0.9s
BOSA MLR MLR
comp=Z,18nm,28.6s
BOSA Boshof 98.27 240 P Pdif 22 05 11.3 +0.2
comp=Z,6.3nm,0.9s,baz=165,slow=1.6,SNR=7.9
BOSA LR LR 22 44 04.0
comp=Z,1μm,21.5s,baz=106,slow=32
BRTR Keskin Array B 98.53 309 P **P** **22 05 10.6 -1.3**
comp=Z,10nm,0.9s,baz=121,slow=3.5,SNR=27
BRTR PP **PP** **22 09 11.0 -3.3**
comp=Z,8.5nm,0.9s,baz=90,slow=5.2,SNR=4.8
BRTR PKiKP **PKiKP** **22 09 43.6 +0.4**
comp=Z,4.1nm,0.9s,baz=129,slow=4.3,SNR=5.6
BRTR PKKP **PKKPbc** **22 21 42.5 +0.1**
comp=Z,4.9nm,0.9s,baz=214,slow=3.5,SNR=12
BRTR LR LR 22 56 33.8
comp=Z,499nm,21.1s,baz=87,slow=39
CSS Prodhromos 98.56 304 *e*P Pdif 22 05 12.1 +0.1
comp=Z,20nm,1.4s
APA Apatity 98.72 337⇓*i*P **P** **22 05 11.6 -0.3**
APA *i* 22 15 42.0
APA *i* S **S** **22 16 24.0 -5.5**
LBTB Lobatse 98.76 243 PKKPbc PKKPbc 22 21 41.5 +0.4
comp=Z,5.8nm,0.9s,baz=282,slow=5.1,SNR=6.0
INK Inuvik 99.56 22 *e*P **Pdif** **22 05 14.8 -0.8**
INK pmax pmax
comp=Z,116nm,1.3s
INK Inuvik 99.56 22 P **Pdif** **22 05 14.8 -0.8**
comp=Z,40nm,1.1s,baz=271,slow=7.3,SNR=58
INK PKiKP **PKiKP** **22 09 44.2 +0.2**
comp=Z,6.5nm,0.9s,baz=331,slow=1.8,SNR=8.5
INK PKKPbc **PKKPbc** **22 21 37.6 -2.7**
comp=Z,4.1nm,0.5s,baz=100,slow=2.0,SNR=14
INK LR LR 22 47 36.8
comp=Z,833nm,21.4s,baz=274,slow=34
INK Inuvik 99.56 22 *e*Pdif **Pdif** **22 05 14.8 -0.8**
comp=Z,116nm,1.3s
INK PKiKP **PKiKP** **22 09 44.2 +0.2**
INK PKKPbc **PKKPbc** **22 21 37.6 -2.7**
JOF Joensuu 99.83 333 *e*P **Pdif** **22 05 14.5 -2.4**
JOF pmax pmax
comp=Z,18nm,0.5s
JOF Joensuu 99.83 333 *e*p **Pdif** **22 05 14.5 -2.4**
comp=Z,18nm,0.5s
JOF Joensuu 99.83 333 *e*pkp **PKiKP** **22 09 43.1 -1.5**
comp=Z,1.2nm,0.4s
JOF Joensuu 99.83 333 *e*pkp **PKKPbc** **22 21 36.2 -3.3**
comp=Z,5.6nm,0.7s
HOPEN Hopen 100.23 347 *e* **PP** **22 09 25.6 -0.3**
KEV Kevo 100.85 340 *e*P **Pdif** **22 05 22.6 +1.3**
KEV pmax pmax
comp=Z,2.0nm,0.3s
KEV Kevo 100.85 340 *e*p **Pdif** **22 05 22.6 +1.3**
comp=Z,1.5nm,0.3s
KEV Kevo 100.85 340 *e*pkp **PKiKP** **22 09 46.0 -0.2**
comp=Z,3.0nm,0.3s
KEV Kevo 100.85 340 *e*pkp **PKKPbc** **22 21 33.3 -3.4**
comp=Z,1.7nm,0.3s
ARCES ARCESS Array B 101.40 340 P **Pdif** **22 05 22.9 -1.0**
comp=Z,28nm,0.8s,baz=84,slow=4.4,SNR=64
ARCES PP **PP** **22 09 35.6 +0.7**
comp=Z,26nm,1.1s,baz=69,slow=5.1,SNR=7.1
ARCES PKiKP **PKiKP** **22 09 47.6 +0.3**
comp=Z,3.5nm,0.4s,baz=104,slow=1.2,SNR=66
ARCES PKKPbc **PKKPbc** **22 21 31.9 -3.3**
comp=Z,6.5nm,0.4s,baz=264,slow=3.4,SNR=54
ARE0 ARCESS Array S 101.40 340 *e* **PP** **22 09 37.5 +2.6**
SPA0 Spitsbergen Ar 101.59 349 *e* **PP** **22 09 36.8 +0.7**
SPITS Spitsbergen Ar 101.59 349 P **Pdif** **22 05 24.5 0.0**
comp=Z,100nm,1.1s,baz=87,slow=8.8,SNR=32

SPITS PKiKP PKiKP 22 09 48.5 +1.0
comp=Z,28nm,1.2s,baz=108,slow=4.7,SNR=11
AKASG Malin Array Be 101.63 320 P Pdif 22 05 24.2 -1.0
comp=Z,19nm,0.8s,baz=72,slow=4.4,SNR=61
AKASG PP PP 22 09 36.3 -0.8
comp=Z,7.2nm,0.9s,baz=76,slow=7.7,SNR=4.1
AKASG PKiKP PKiKP 22 09 48.7 +0.5
comp=Z,3.1nm,0.4s,baz=66,slow=2.8,SNR=16
AKASG PKKPbc PKKPbc 22 21 31.1 -2.8
comp=Z,0.9nm,0.4s,baz=278,slow=3.5,SNR=6.2
KIEV Kiev 101.64 320 ⇑iP Pdif 22 05 24.3 -0.9
KIEV Kiev 101.64 320 ePdif Pdif 22 05 24.3 -0.9
DLBC Dease Lake 102.02 32 ePdif Pdif 22 05 28.1 +1.2
KIS Kishinev 102.06 316 eP Pdif 22 05 30.0 +2.8
KIS e 22 15 50.0
KIS i 22 16 50.0
KIS MLR MLR
comp=Z,2μm,20.0s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS Kishinev 102.06 316 eP Pdif 22 05 30.0 +2.8
KIS Kishinev 102.06 316 ePP PP 22 09 34.0 -6.5
KIS Kishinev 102.06 316 ePS SP 22 18 15.0 -17
KIS LRM MLR 22 53 36.0
comp=Z,2μm,20.0s
KBS Kingsbay 102.11 350 e PP 22 09 40.0 0.0
KBS e 22 15 52.2
TLCR 102.13 315 ⇑P Pdif 22 05 27.9 +0.3
TLCR 102.13 315 ⇑iP Pdif 22 05 27.9 +0.3
BJO Bjornoya 102.15 345 e 22 09 41.0
MICGM Minsk 102.20 324 ⇑eP Pdif 22 05 26.0 -1.7
KAF Kangasniemi 102.21 332 eP Pdif 22 05 25.7 -1.9
KAF pmax pmax
comp=Z,9.0nm,0.6s
KAF Kangasniemi 102.21 332 ep Pdif 22 05 25.7 -1.9
comp=Z,8.9nm,0.6s
KAF Kangasniemi 102.21 332 epkp PKiKP 22 09 47.4 -1.5
comp=Z,2.2nm,0.3s
KAF Kangasniemi 102.21 332 epkp PKKPbc 22 21 29.0 -3.6
comp=Z,2.9nm,0.5s
MNK Minsk 102.23 324 ⇑eP Pdif 22 05 26.0 -1.8
MNK pmax pmax
comp=Z,320nm,1.0s
FINES FINESS Array B 102.41 331 P Pdif 22 05 26.8 -1.7
comp=Z,7.0nm,0.6s,baz=96,slow=4.2,SNR=42
FINES PP PP 22 09 39.1 -3.5
comp=Z,22nm,1.0s,baz=79,slow=7.5,SNR=6.3
FINES PKiKP PKiKP 22 09 49.7 +0.4
comp=Z,14nm,0.5s,baz=107,slow=2.9,SNR=6.5
FINES PKKPbc PKKPbc 22 21 29.5 -2.5
comp=Z,1.3nm,0.4s,baz=223,slow=2.0,SNR=14
TIRR Tirgusor 102.44 314 ⇑P Pdif 22 05 29.3 +0.3
TIRR Tirgusor 102.44 314 ⇑iP Pdif 22 05 29.3 +0.3
TIRR Tirgusor 102.44 314 ⇑iP PKKPbc 22 21 30.4 -0.8
TIRR Tirgusor 102.44 314 ePdif Pdif 22 05 28.9 -0.1
VSU Vasula 102.45 328 eP Pdif 22 05 28.6 -0.1
CFR Carcaliu 102.61 315 ⇓P Pdif 22 05 29.8 +0.1
CFR Carcaliu 102.61 315 ⇓iP Pdif 22 05 29.8 +0.1
PSN Preselentsi 102.63 313 ⇑P Pdif 22 05 30.1 +0.2
PSN Preselentsi 102.63 313 ⇑iP Pdif 22 05 30.1 +0.2
NACGM Naroch 102.80 325 eP Pdif 22 05 28.0 -2.4
IIGN Ignalina 103.08 325 eP Pdif 22 05 31.0 -0.6
IIGN AMB AMB 22 05 34.0
comp=Z,37nm,1.1s
ISAL Salakas 103.11 325 eP Pdif 22 05 31.2 -0.5
ISAL AMB AMB 22 05 34.6
comp=Z,24nm,1.0s
GRER 103.42 315 ⇑iP Pdif 22 05 34.3 +1.0
VRI Vrincioaia 103.56 315 ⇓P Pdif 22 05 34.6 +0.6
VRI Vrincioaia 103.56 315 ⇓iP Pdif 22 05 34.6 +0.6
VRI Vrincioaia 103.56 315 ⇓iP PKKPbc 22 21 28.7 +0.7
TESR Tescani 103.58 316 ⇓iP Pdif 22 05 34.0 0.0
PLOR Plostina 103.62 315 ⇑P Pdif 22 05 35.2 +0.9
PLOR Plostina 103.62 315 ⇑iP Pdif 22 05 35.2 +0.9
JMB Yambol 103.85 312 ⇑P Pdif 22 05 34.8 -0.5
JMB Yambol 103.85 312 ⇑iP Pdif 22 05 34.8 -0.5
JMB Yambol 103.85 312 ⇓iP PKKPbc 22 21 25.9 -1.1
SULR 103.97 314 ⇑iP PKKPbc 22 21 26.7 0.0
MLR Muntele Rosu 104.13 315 ⇓iP Pdif 22 05 37.3 +0.6
MLR Muntele Rosu 104.13 315 ⇑iP PKKPbc 22 21 26.3 -0.1
MLR Muntele Rosu 104.13 315 Pdiff Pdif 22 05 36.6 -0.1
comp=Z,2.8nm,0.8s,baz=356,slow=2.6,SNR=7.5
MLR PKiKP PKiKP 22 09 53.8 +0.7
comp=Z,11nm,1.0s,baz=87,slow=2.9,SNR=9.8
MLR PKKPbc PKKPbc 22 21 25.1 -1.3
comp=Z,2.5nm,0.8s,baz=135,slow=1.4,SNR=7.5
BURAR Bucovina Array 104.47 317 ⇑P Pdif 22 05 38.7 +0.6
BURAR Bucovina Array 104.47 317 ⇑iP Pdif 22 05 38.7 +0.6
BURAR Bucovina Array 104.47 317 ⇑iP PKKPbc 22 21 25.8 +0.3
DOPR Dopca 104.49 316 ⇓iP Pdif 22 05 40.0 +1.9
DOPR Dopca 104.49 316 ⇓iP PKKPbc 22 21 24.4 -0.9
VOIR 104.77 315 ⇑P Pdif 22 05 38.6 -0.8
VOIR 104.77 315 ⇑iP Pdif 22 05 38.6 -0.8
VOIR 104.77 315 ⇓iP PKKPbc 22 21 24.5 0.0
HUMR Humele 104.89 314 ⇑iP Pdif 22 05 40.2 +0.3
HUMR Humele 104.89 314 ⇑iP PKKPbc 22 21 23.8 -0.1
SUW Suwalki 105.00 324 eP Pdif 22 05 40.0 -0.1
SUW Suwalki 105.00 324 ePdiff Pdif 22 05 39.5 -0.6
SUW ePKiKP PKiKP 22 09 52.0 -2.2
SUW ePP PP 22 10 03.4 +1.0
SUW LMZ LR 22 57 03.0
SUW Suwalki 105.00 324 ePdif Pdif 22 05 40.0 -0.1
SUW ePKiKP PKiKP 22 09 55.0 +0.8
LVV L'vov 105.02 320 eP Pdif 22 05 41.4 +1.0
LVV i 22 10 04.4
LVV e 22 17 13.2
LVV ePS PS 22 19 15.2 -4.6
LVV MLR MLR
comp=Z,500nm,19.0s
LVV MLR MLR
comp=N,400nm,17.0s
LVV MLR MLR
comp=E,300nm,19.0s
ARR Arges 105.06 315 ⇑iP Pdif 22 05 41.3 +0.5
ARR Arges 105.06 315 ⇑iP PKKPbc 22 21 23.7 +0.2
PLD Plovdiv 105.27 312 eP PKiKP 22 09 52.5 -2.6
RZN Rozhen 105.29 311 eP PKiKP 22 09 54.1 -1.3
IDI Anoyia 105.48 305 PKiKP PKiKP 22 09 56.8 +0.9
comp=E,18nm,0.4s,baz=124,slow=3.6,SNR=40
IDI PKKPbc PKKPbc 22 21 22.4 +0.5
comp=E,36nm,0.8s,baz=312,slow=6.4,SNR=13
CJR Cluj-Napoca 105.65 316 ⇓P Pdif 22 05 44.8 +1.5
CJR Cluj-Napoca 105.65 316 ⇓iP Pdif 22 05 44.8 +1.5
KWP Kalwaria Pacla 105.90 319 eP Pdif 22 05 44.6 +0.3
KWP pmax pmax
comp=Z,32nm,0.9s
KWP Kalwaria Pacla 105.90 319 ePdiff Pdif 22 05 44.4 +0.1
KWP ePP PKiKP 22 09 59.6 +3.5
KWP LMZ LR 22 56 42.2
KWP Kalwaria Pacla 105.90 319 ⇓iP Pdif 22 05 45.6 +1.3
KWP Kalwaria Pacla 105.90 319 ⇑iP PKKPbc 22 21 21.2 +0.1
KWP Kalwaria Pacla 105.90 319 ePdif Pdif 22 05 44.6 +0.3
comp=Z,32nm,0.9s
MMB Musomiste 106.03 311 eP PKiKP 22 09 55.0 -1.6
MMB Musomiste 106.03 311 ⇑iP Pdif 22 05 44.8 -0.3
MMB Musomiste 106.03 311 ⇓iP PKKPbc 22 21 19.9 -0.5
TRPA Tarpa 106.20 318 ⇑iP Pdif 22 05 48.0 +2.4
TRPA Tarpa 106.20 318 ⇓iP PKKPbc 22 21 20.4 +0.4
DRGR 106.25 317 ⇓P Pdif 22 05 47.0 +1.0
DRGR 106.25 317 ⇓iP Pdif 22 05 47.0 +1.0
DRGR 106.25 317 ⇑iP PKKPbc 22 21 20.0 0.0
KOLS Kolonicke sedl 106.27 319 eP Pdif 22 05 46.7 +0.7
KOLS e 22 10 15.4
KOLS Kolonicke sedl 106.27 319 PDIF Pdif 22 05 46.7 +0.7
KOLS ePP PP 22 10 15.4 +3.7
UZH Uzhgorod 106.30 318 eP Pdif 22 05 44.4 -1.7
UZH i 22 10 17.4
UZH i 22 19 37.0
UZH i 22 20 12.4
VTS Vitosha 106.33 312 ⇑P Pdif 22 05 46.3 -0.3
VTS Vitosha 106.33 312 eP PKiKP 22 09 58.8 +1.5
VTS Vitosha 106.33 312 ⇑iP Pdif 22 05 46.3 -0.3
VTS Vitosha 106.33 312 ⇑iP PKKPbc 22 21 19.8 +0.1
GZR Gura Zlata 106.36 315 ⇓P Pdif 22 05 47.7 +1.2
GZR Gura Zlata 106.36 315 ⇓iP Pdif 22 05 47.7 +1.2
GZR Gura Zlata 106.36 315 ⇑iP PKKPbc 22 21 19.7 +0.1
KKB Krupnik 106.49 311 eP PKiKP 22 09 56.8 -0.6
BEL Belsk 106.77 322 eP Pdif 22 05 48.7 +0.6
BEL Belsk 106.77 322 ePdiff Pdif 22 05 48.6 +0.5
BEL ePKiKP PKiKP 22 10 02.4 +4.8
BEL ePP PP 22 10 19.6 +4.4
BEL LMZ LR 22 57 16.7
CRVS Cervenica-Dubn 106.81 319 eP Pdif 22 05 47.5 -0.9
CRVS e 22 10 21.3
CRVS Cervenica-Dubn 106.81 319 PDIF Pdif 22 05 47.5 -0.9
CRVS e 22 10 21.2
CRVS e 22 21 34.5
STHS Stebnicka Huta 106.87 319 eP Pdif 22 05 48.9 +0.3
STHS Stebnicka Huta 106.87 319 PDIF Pdif 22 05 48.9 +0.3
BZS Buzias 107.15 315 ⇓P Pdif 22 05 50.3 +0.4
BZS Buzias 107.15 315 ⇓iP Pdif 22 05 50.3 +0.4
BZS Buzias 107.15 315 ⇓iP PKKPbc 22 21 17.2 +0.2
TSUM Tsumeb 107.32 247 PKKP PKKPab 22 21 32.6 +1.3
comp=Z,4.9nm,0.9s,baz=273,slow=4.7,SNR=5.4
TSUM Tsumeb 107.32 247 ePKKPdf PKKPdf 22 21 33.6 +5.0
NIE Niedzica 107.47 320 ePKiKP PKiKP 22 09 58.9 -0.2
NIE i PP PP 22 10 26.1 +5.6
OJC Ojcow 107.67 320 eP Pdif 22 05 52.7 +0.6
OJC e 22 10 17.6
OJC Ojcow 107.67 320 ePdif Pdif 22 05 52.7 +0.6
OJC ePP PP 22 10 17.6 -4.2
F04D Rainier, OR 107.83 44 ⇑PKiKP PKiKP 22 10 00.1 +0.3
baz=108
L02D Cave Junction, 107.91 48 ⇓PKiKP PKiKP 22 10 01.7 +1.6
baz=108
I03D Drain, OR 107.91 47 ⇑PKiKP PKiKP 22 10 01.5 +1.5
baz=108
KHMM Horse Mountain 107.95 49 ePKiKP PKiKP 22 10 02.8 +2.4
KHMM ePP PP 22 10 25.1 +0.7
PSZ Piszkesteto 107.99 318 ⇑iP PKKPbc 22 21 14.9 +0.3
KMRM Mail Ridge 108.03 50 ePP PP 22 10 25.5 +0.5
CMW Cultus Mountai 108.07 41 P PKiKP 22 10 01.4 +1.1
RES Resolute Bay 108.17 11 eP Pdif 22 05 54.7 +0.9
RES Resolute Bay 108.17 11 PKKPbc PKKPbc 22 21 10.5 -4.2
comp=Z,5.5nm,1.0s,baz=124,slow=3.6,SNR=8.1
RES Resolute Bay 108.17 11 ePdif Pdif 22 05 54.7 +0.9
RES ePKiKP PKiKP 22 10 00.3 +0.7
RES PKKPbc PKKPbc 22 21 10.5 -4.2
JCW Jim Creek 108.23 42 P PKiKP 22 10 01.9 +1.4
LVP Lakeview Peak 108.25 44 P PKiKP 22 10 02.2 +1.5
HUMO Hull Mountain 108.33 48 ePdif Pdif 22 05 58.0 +2.7
HUMO ePKiKP PKiKP 22 10 02.6 +1.7
DAG Danmarks Havn 108.35 352 i P Pdif 22 05 54.2 -0.4
DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 108.35 352 i P Pdif 22 05 54.2 -0.4
comp=Z,7.9nm,0.9s
DAG Danmarks Havn 108.35 352 i P PKiKP 22 09 59.5 -0.4
comp=Z,8.1nm,0.9s
DAG i 22 10 27.3
DAG Danmarks Havn 108.35 352 i P PKKPbc 22 21 10.4 -3.8
comp=Z,4.1nm,1.1s
DAG i 22 21 24.1
D05A Enumclaw 108.36 43 ePdif Pdif 22 05 58.1 +2.9
B06A Marblemount 108.47 41 ePdif Pdif 22 05 56.8 +1.1
B06A ePKiKP PKiKP 22 10 01.9 +1.1
YKA Yellowknife Ar 108.53 26 Pdiff Pdif 22 05 55.4 -0.2
comp=Z,4.7nm,0.9s,baz=291,slow=4.6,SNR=26
YKA PKiKP PKiKP 22 10 00.2 -0.4
comp=Z,8.9nm,0.7s,baz=290,slow=1.8,SNR=70
YKA SKiKP SKiKP 22 13 23.5 0.0
comp=Z,0.8nm,0.6s,baz=288,slow=2.3,SNR=4.0
YKA PKKPbc PKKPbc 22 21 10.7 -2.6
comp=Z,1.8nm,0.4s,baz=108,slow=3.1,SNR=23
YKA SKKP 22 24 38.2
comp=Z,1.3nm,0.8s,baz=104,slow=3.1,SNR=5.1
LON Longmire 108.55 43 ePKiKP PKiKP 22 10 02.4 +1.2
M02C Callahan 108.55 49 ⇑PKiKP PKiKP 22 10 02.9 +1.5
baz=109
I04A Tendick Farm, 108.57 46 ⇑PKiKP PKiKP 22 10 02.4 +1.1
baz=109
VYHS Vyhne 108.59 319 ePP PP 22 10 33.9 +5.3
VYHS e 22 21 11.9
VYHS e 22 21 24.6
GKP Gorka Klasztor 108.61 324 ePKiKP PKiKP 22 10 02.2 +1.2
GKP ePP PP 22 10 24.0 -4.5
GKP LMZ LR 22 59 42.7
HFS Hagfors 108.61 331 Pdiff Pdif 22 05 54.4 -1.7
comp=Z,6.9nm,0.7s,baz=85,slow=3.6,SNR=32
HFS PKiKP PKiKP 22 10 00.5 -0.3
comp=Z,10nm,0.7s,baz=80,slow=1.8,SNR=21
HFS PKKPbc PKKPbc 22 21 09.6 -3.3
comp=Z,1.9nm,0.5s,baz=202,slow=3.1,SNR=11
YBH Yreka Blue Hor 108.62 48 eP Pdif 22 05 59.6 +2.9
YBH e 22 10 29.0
YBH Yreka Blue Hor 108.62 48 ePdif Pdif 22 05 59.6 +2.9
YBH ePP PP 22 10 29.0 -0.2
N02D Trinity Center 108.71 49 ⇓PKiKP PKiKP 22 10 03.0 +1.3
baz=109
OKC Ostrava-Krasne 108.78 320 eP Pdif 22 05 57.8 +0.7
OKC e 22 10 27.1
OKC ePS PS 22 20 01.6 +3.3
OKC MLR MLR
comp=Z,2μm,17.0s
OKC Ostrava-Krasne 108.78 320 ePDIFF Pdif 22 05 57.8 +0.7
OKC epP 22 06 33.5
OKC ePKP PKiKP 22 10 02.6 +1.2
OKC ePP PP 22 10 27.1 -2.8
OKC ex x 22 11 16.3
OKC eSDIF 22 17 54.4
OKC ePS PS 22 20 01.6 +3.3
OKC ePKKP PKKPbc 22 21 12.6 +0.5
OKC ex x 22 21 25.7
OKC AMS AMS 22 57 10.0
comp=Z,2μm,17.0s
J04D Umpqua Nationa 108.86 47 ⇑PKiKP PKiKP 22 10 03.5 +1.4
baz=109
WDC Whiskeytown Da 108.88 50 eP Pdif 22 06 00.1 +2.3
WDC e 22 10 31.0
WDC Whiskeytown Da 108.88 50 ePdif Pdif 22 06 00.1 +2.3
WDC ePKiKP PKiKP 22 10 03.1 +1.1
WDC ePP PP 22 10 31.0 0.0
PKSM Moragy 109.11 316 ⇑P Pdif 22 05 59.9 +1.3
PKSM Moragy 109.11 316 ⇑iP Pdif 22 05 59.9 +1.3
PKSM Moragy 109.11 316 ⇑iP PKKPbc 22 21 10.7 -0.1
G05D Wamic, OR 109.13 45 ⇓PKiKP PKiKP 22 10 03.5 +1.2
baz=109
MORC Moravsky Berou 109.18 320 eP Pdif 22 06 00.1 +1.2
MORC e 22 10 31.0
MORC Moravsky Berou 109.18 320 ⇑iP PKKPbc 22 21 07.4 -3.5
MORC Moravsky Berou 109.18 320 ePdif Pdif 22 06 00.1 +1.2
MORC ePP PP 22 10 31.0 -1.8
MORC ePKKPab PKKPab 22 21 23.5 +1.9
K04D Chiloquin, OR 109.21 47 ⇑PKiKP PKiKP 22 10 04.1 +1.5
baz=109
I05D Terrebonne, OR 109.25 46 ⇑PKiKP PKiKP 22 10 03.7 +1.1
baz=109
M04C Macdoel 109.26 48 ⇑PKiKP PKiKP 22 10 04.0 +1.2
baz=109
NB2 NORSAR Subarra 109.46 333 PKiK PKiKP 22 10 02.7 +0.3
comp=Z,11nm,0.8s,baz=69,slow=1.9
NB2 NORSAR Subarra 109.46 333 PKiK PKiKP 22 10 02.7 +0.3
baz=69,slow=1.9
NOA NORSAR Array B 109.46 333 Pdiff Pdif 22 05 58.8 -1.1
comp=Z,4.0nm,1.0s,baz=73,slow=4.5,SNR=6.5
NOA PKiKP PKiKP 22 10 02.0 -0.5
comp=Z,8.3nm,0.8s,baz=139,slow=1.9,SNR=18
NOA SKiKP SKiKP 22 13 24.9 -0.6
comp=Z,2.8nm,0.8s,baz=263,slow=3.1,SNR=3.6
NOA PKKPbc PKKPbc 22 21 08.4 -1.9
comp=Z,3.8nm,0.8s,baz=67,slow=3.2,SNR=9.1
BSD Bornholm Skovb 109.47 326 i P Pdif 22 06 00.6 +0.6
BSD pmax pmax
comp=Z,19nm,1.0s
BSD Bornholm Skovb 109.47 326 i P Pdif 22 06 00.6 +0.6
comp=Z,19nm,0.9s
BSD Bornholm Skovb 109.47 326 i P PKiKP 22 10 03.6 +1.1
comp=Z,19nm,1.3s
BSD i 22 10 33.4
BSD Bornholm Skovb 109.47 326 i P PKKPbc 22 21 08.8 -1.2
comp=Z,11nm,1.0s
TRW Toppenish Ridg 109.49 43 P PKiKP 22 10 04.3 +1.4
J05D Fort Rock, OR 109.49 47 ⇑PKiKP PKiKP 22 10 04.5 +1.3
baz=110
KRLC Kraliky 109.60 321 eP Pdif 22 06 01.5 +0.7
KRLC e 22 10 38.2
KRLC e 22 21 07.9
KRLC Kraliky 109.60 321 ePDIFF Pdif 22 06 01.5 +0.7
KRLC ex x 22 06 20.1
KRLC ePKP PKiKP 22 10 03.9 +0.9
KRLC ePP PP 22 10 38.2 +2.3
KRLC ePKKP PKKPbc 22 21 07.9 -1.6
KRLC ex x 22 21 22.3
G06A Carlson Farm, 109.61 45 ePdif Pdif 22 06 03.2 +2.3
G06A ePKiKP PKiKP 22 10 04.7 +1.4
G06A ePP PP 22 10 36.1 0.0
KSP Ksiaz 109.73 322 eP Pdif 22 06 02.0 +0.7
KSP Ksiaz 109.73 322 ePdiff Pdif 22 06 01.5 +0.2
KSP ePKiKP PKiKP 22 10 03.2 0.0
KSP ePP PP 22 10 24.5 -12
KSP ePS PS 22 20 10.4 +3.2
KSP LMZ LR 22 59 21.4
K05A Summer Lake 109.82 47 ePKiKP PKiKP 22 10 00.5 -3.4
K05A ePP PP 22 10 37.8 -0.2
DPC Dobruska-Polom 109.83 321 eP Pdif 22 06 03.2 +1.4
DPC e 22 10 36.4
DPC Dobruska-Polom 109.83 321 ePDIFF Pdif 22 06 02.5 +0.7
DPC ex x 22 06 18.9
DPC ePKP PKiKP 22 10 04.6 +1.1
DPC ePP PP 22 10 37.1 -0.4
DPC ex x 22 11 11.6
DPC ex x 22 11 27.6
DPC eSKKS 22 17 28.5
DPC ePS PS 22 20 07.8 -0.4
DPC ePKKP PKKPbc 22 21 06.5 -2.3
DPC ex x 22 21 18.7
DPC ex x 22 25 12.1
DPC AMS AMS 23 01 10.0
DPC Dobruska-Polom 109.83 321 ePdif Pdif 22 06 03.2 +1.4
DPC ePKiKP PKiKP 22 10 04.5 +1.0
DPC ePP PP 22 10 36.4 -1.1
DPC ePKKPab PKKPab 22 21 21.3 +2.6
VRAC Vranov 109.88 320 PKiKP PKiKP 22 10 04.5 +0.9
comp=Z,14nm,1.0s,baz=98,slow=1.9,SNR=8.4
VRAC PKKPbc PKKPbc 22 21 08.6 0.0
comp=Z,1.4nm,0.3s,baz=306,slow=2.2,SNR=6.1
VRAC PKKP PKKPab 22 21 19.7 +1.3
comp=Z,7.6nm,1.0s,baz=45,slow=1.4,SNR=7.8
UPC Upice 109.98 321 eP Pdif 22 06 03.2 +0.8
UPC e 22 10 37.3
UPC e 22 21 19.9
UPC Upice 109.98 321 ePDIFF Pdif 22 06 03.2 +0.8
UPC ePKP PKiKP 22 10 04.7 +1.0
UPC ePP PP 22 10 37.3 -1.3
UPC ePKKP PKKPbc 22 21 10.7 +2.4
UPC ex x 22 21 19.9
STON Ston 110.33 313 P PKiKP 22 10 04.4 -0.1
MOD Modoc 110.38 48 ePdif Pdif 22 06 06.6 +2.0
MOD ePKiKP PKiKP 22 10 06.6 +1.6
D08A Wollman Farm, 110.44 42 ePdif Pdif 22 06 06.2 +1.7
D08A ePKiKP PKiKP 22 10 05.8 +1.1
OD2 Odessa Site #2 110.51 42 P PKiKP 22 10 05.8 +0.9
TREC Trest 110.59 320 eP Pdif 22 06 06.4 +1.2
TREC e 22 10 05.5
TREC e 22 10 40.0
TREC ePS PS 22 20 15.2 0.0
TREC e 22 21 06.5
TREC e 22 21 17.4
TREC MLR MLR
comp=Z,1μm,18.0s
TREC Trest 110.59 320 ePDIFF Pdif 22 06 06.4 +1.2
TREC ePKP PKiKP 22 10 05.5 +0.6
TREC ePP PP 22 10 40.0 -3.0
TREC ex x 22 11 29.1
TREC eSKKS 22 17 27.8
TREC eSDIF Sdif 22 18 10.4 +0.9
TREC ePS PS 22 20 15.2 0.0
TREC ePKKP PKKPbc 22 21 06.5 +0.2
TREC ex x 22 21 17.4
TREC AMS AMS 22 58 10.0
comp=Z,1μm,18.0s
CONA Conrad Observa 110.65 319 ⇑iPKiKP PKiKP 22 10 05.4 +0.3
comp=Z,8.3nm,0.6s
COP Copenhagen 110.66 327 i PKIKP PKiKP 22 10 05.5 +0.8
COP i 22 10 36.6
COP pmax pmax
comp=Z,11nm,0.9s
COP MLR MLR
comp=Z,910nm,18.0s
COP Copenhagen 110.66 327 i P PKiKP 22 10 05.5 +0.8
comp=Z,11nm,0.9s
COP i 22 10 36.6
comp=Z,910nm,18.0s
KOGS Kog 110.70 317 ePKiKP PKiKP 22 10 05.5 +0.3
KOGS ePP PP 22 10 48.5 +4.6
C09A Chrisman Ranch 110.72 42 ePKiKP PKiKP 22 10 06.4 +1.2
C09A ePP PP 22 10 43.8 -0.2
G08A Pilot Rock 110.76 44 ePdif Pdif 22 06 08.7 +2.5
G08A ePKiKP PKiKP 22 10 07.0 +1.5
RUE Ruedersdorf 110.84 324 ePdiff Pdif 22 06 07.0 +0.9
RUE ePKKP PKKPab 22 21 16.1 +2.0
RUE Ruedersdorf 110.84 324 ePdif Pdif 22 06 07.1 +1.0
RUE ePP PP 22 10 47.4 +2.8
CMB Columbia Colle 110.85 52 eP Pdif 22 06 09.3 +2.7
CMB i 22 10 07.0
CMB e 22 10 42.6
CMB e 22 21 16.2
CMB Columbia Colle 110.85 52 ePdif Pdif 22 06 09.3 +2.7
CMB ePKiKP PKiKP 22 10 07.0 +1.2
CMB ePP PP 22 10 42.6 -2.7
CMB ePKKPab PKKPab 22 21 16.2 +1.8
LLD Lille Linde 110.89 327 i PKIKP PKiKP 22 10 02.3 -2.9
LLD i 22 10 42.3
LLD pmax pmax
comp=Z,5.0nm,0.9s
LLD Lille Linde 110.89 327 i P PKiKP 22 10 02.3 -2.9
comp=Z,5.1nm,0.8s
LLD i 22 10 42.3
ARSA Arzberg 111.02 318 ⇓iPKiKP PKiKP 22 10 06.1 +0.3
comp=Z,6.9nm,0.7s
PRU Pruhonice 111.02 321 eP Pdif 22 06 07.2 +0.1
PRU e 22 10 06.1
PRU e 22 10 50.1
PRU ePS PS 22 20 14.4 -4.7
PRU e 22 21 15.2
PRU MLR MLR
comp=Z,1μm,19.8s
PRU Pruhonice 111.02 321 ePDIFF Pdif 22 06 07.2 +0.1
PRU ePKP PKiKP 22 10 06.1 +0.4
PRU ePP PP 22 10 50.1 +4.1
PRU ex x 22 11 21.7
PRU ex x 22 11 32.0
PRU eSDIF 22 18 15.8
PRU ePS PS 22 20 14.4 -4.7
PRU ePKKP PKKPbc 22 21 05.3 +0.5
PRU ex x 22 21 15.2
PRU AMS AMS 22 55 20.0
comp=Z,1μm,19.8s
PRA Prague 111.07 321 PDIFF Pdif 22 06 08.0 +0.8
PRA PKP PKiKP 22 10 07.0 +1.3
PRA PP PP 22 10 51.0 +4.6
PRA PKKP PKKPbc 22 21 06.0 +1.3
E09A Wood Farm, Sta 111.07 43 ePdif Pdif 22 06 09.2 +1.8
E09A ePKiKP PKiKP 22 10 06.9 +1.0
BRG Berggiesshubel 111.17 322 i P Pdif 22 06 08.3 +0.6
BRG i 22 10 06.6
BRG 22 10 43.8
BRG e 22 21 14.6
BRG pmax pmax
comp=Z,23nm,1.5s
BRG pmax pmax
comp=Z,24nm,0.8s
BRG pmax pmax
comp=Z,211nm,1.8s
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG pmax pmax
comp=Z,25nm,1.5s
BRG pmax pmax
comp=N,62nm,2.2s
BRG pmax pmax
comp=Z,91nm,2.7s
BRG MLR MLR
comp=Z,2μm,18.6s
BRG MLR MLR
comp=N,1μm,17.3s
BRG MLR MLR
comp=E,1μm,17.3s
BRG Berggiesshubel 111.17 322 ePdiff Pdif 22 06 08.2 +0.6
BRG ePKKPab PKiKP 22 10 06.8 +0.9
BRG ePKKP PKKPab 22 21 14.8 +2.1
comp=Z,2μm,18.6s
comp=N,1μm,17.3s
comp=E,1μm,17.3s
BRG Berggiesshubel 111.17 322 i PFIF 22 06 08.3
comp=E,23nm,1.5s
BRG e 22 09 37.2

comp=E,23nm,1.6s
BRG i 22 10 06.6
comp=E,24nm,0.8s
BRG PP PP 22 10 43.8 -3.3
comp=E,211nm,1.8s
BRG PKKP PKKPbc 22 21 04.5 +0.1
comp=E,7.9nm,1.1s
BRG e 22 21 14.6
comp=E,25nm,1.5s
BRG SKKP 22 25 04.9
comp=E,62nm,2.2s
BRG e 22 25 39.9
comp=E,91nm,2.7s
NEW Newport 111.36 41 eP **Pdif 22 06 10.2 +1.5**
NEW i 22 10 07.4
NEW Newport 111.36 41 ePdif **Pdif 22 06 10.2 +1.5**
NEW ePKiKP **PKiKP 22 10 07.4 +1.0**
CRES Cresnjev 111.37 316 ePdiff **Pdif 22 06 09.2 +0.5**
CRES e 22 09 32.1
CRES i PKiKP **PKiKP 22 10 07.1 +0.6**
CRES ePP **PP 22 10 52.4 +3.7**
CRES e 22 20 21.8
CRES e 22 21 06.3
UDBI Udbina 111.42 315 P **PKiKP 22 10 06.6 0.0**
SOKA Soboth 111.47 317⇑iPKiKP **PKiKP 22 10 07.1 +0.4**
comp=E,22nm,0.9s,SNR=7.3
SMMC Simmler 111.48 55 ⇓PKiKP **PKiKP 22 10 08.1 +1.0**
baz=112
WVOR Wild Horse Val 111.51 47 ePKiKP **PKiKP 22 10 08.8 +1.8**
WVOR e 22 10 49.3
WVOR Wild Horse Val 111.51 47 ePKiKP **PKiKP 22 10 08.8 +1.8**
WVOR ePP **PP 22 10 49.3 -0.7**
FBE Freiberg 111.52 322 ePdiff **Pdif 22 06 10.1 +0.9**
FBE ePKKPab **PKiKP 22 10 07.3 +0.7**
FBE ePKKP **PKKPab 22 21 13.3 +2.2**
WAKR Walker 111.53 52 ePdif **Pdif 22 06 14.8 +5.0**
WAKR ePKiKP **PKiKP 22 10 09.2 +1.9**
WAKR ePP **PP 22 10 45.7 -4.7**
TIP Timpagrande 111.59 309 ePKiKP **PKiKP 22 10 08.0 +0.8**
CLL Collm 111.62 323⇑eP **Pdif 22 06 10.0 +0.3**
CLL i 22 10 07.2
CLL e 22 10 50.0
CLL i 22 21 12.4
CLL pmax pmax
comp=Z,25nm,0.9s
CLL pmax pmax
comp=Z,90nm,1.3s
CLL pmax pmax
comp=Z,20nm,1.2s
CLL Collm 111.62 323 ePKKPab **PKiKP 22 10 07.2 +0.5**
CLL ePP **PP 22 10 50.3 0.0**
CLL ePKKP **PKKPab 22 21 12.2 +1.5**
CLL Collm 111.62 323 ePdif **Pdif 22 06 10.0 +0.3**
CLL e 22 06 20.0
CLL epPdif PKiKP 22 09 42.0 -25
CLL ⇑iPKiKP **PKiKP 22 10 07.2 +0.5**
comp=Z,25nm,0.9s
CLL i 22 10 11.5
CLL ePP **PP 22 10 50.0 -0.3**
comp=Z,90nm,1.3s
CLL ePPlp 22 10 53.0
comp=Z,700nm,18.3s
CLL e(sPKiKP) 22 10 56.0
CLL esPP 22 11 35.0
CLL esPPP 22 13 48.0
CLL ePPPP 22 15 12.0
CLL eSdif Sdif 22 18 17.0 -0.9
CLL esSdiff **sSdif 22 19 17.0 -1.3**
CLL eSP **SP 22 20 09.0 +0.9**
CLL ePS **PS 22 20 22.0 -2.6**
CLL epPS 22 20 57.0
CLL i PKKPbc **PKKPbc 22 21 02.9 0.0**
CLL i PKKPab **PKKPab 22 21 12.4 +1.7**
comp=Z,20nm,1.2s
CLL epPPS 22 21 50.0
CLL eSS **SS 22 26 13.0 -2.0**
CLL e 22 35 18.0
CLL e 22 37 00.0
CLL LmV 23 00 00.0
comp=Z,2µm,20.0s
MOA Molln 111.72 319⇑iPKiKP **PKiKP 22 10 07.2 +0.1**
comp=Z,9.8nm,0.6s
SBC Santa Barbara 111.81 56 ⇑PKiKP **PKiKP 22 10 09.1 +1.4**
baz=112
F10A Beach Ranch, E 111.81 43 ePKiKP **PKiKP 22 10 08.0 +0.6**
GEC2 GERESS Array S 111.84 320 ePKKPab **PKiKP 22 10 07.6 +0.2**
GEC2 ePKKP **PKKPab 22 21 11.4 +1.5**
GERES GERESS Array B 111.84 320 Pdiff **Pdif 22 06 11.6 +0.7**
comp=Z,2.0nm,0.9s,baz=72,slow=3.2,SNR=13
GERES PKiKP **PKiKP 22 10 07.5 +0.2**
comp=Z,22nm,0.5s,baz=67,slow=1.8,SNR=195
GERES PP PP 22 10 46.3 -5.8
comp=Z,12nm,0.9s,baz=74,slow=4.2,SNR=6.8
GERES SKiKP **SKiKP 22 13 29.6 -0.9**
comp=Z,7.9nm,0.8s,baz=62,slow=2.3,SNR=7.6
GERES PKKPbc **PKKPbc 22 21 01.4 -0.8**
comp=Z,2.2nm,0.7s,baz=228,slow=2.5,SNR=15
KHC Kasperske Hory 111.84 320 eP **Pdif 22 06 11.8 +1.0**
KHC e 22 10 07.8
KHC e 22 10 55.6
KHC ePS **PS 22 20 28.3 +1.5**
KHC MLR MLR
comp=Z,1µm,17.2s
KHC Kasperske Hory 111.84 320 ePDIFF **Pdif 22 06 11.8 +1.0**
KHC ex x 22 06 49.8
KHC ePKP **PKiKP 22 10 07.8 +0.5**
KHC ePP **PP 22 10 55.6 +3.6**
KHC ex x 22 11 27.5
KHC ex x 22 11 42.1
KHC ePS **PS 22 20 28.3 +1.5**
KHC ePKKP **PKKPbc 22 21 00.9 -1.3**
KHC ex x 22 21 10.7
KHC AMS AMS 22 54 10.0
comp=Z,1µm,17.2s
BSC Santa Cruz Isl 111.92 56 ⇓PKiKP **PKiKP 22 10 09.0 +1.1**
baz=112
LJU Ljubljana 111.95 317 e 22 09 36.8
LJU ePKiKP **PKiKP 22 10 08.3 +0.7**
LJU ePP **PP 22 10 56.8 +3.9**
LJU e 22 11 26.6
LJU e 22 11 41.3
LJU e 22 13 14.5
MOZS Mozjanca 111.96 317 i PKiKP **PKiKP 22 10 07.7 +0.1**
MOZS ePP **PP 22 10 56.6 +3.7**
BMO Blue Mountains 112.00 45 eP **Pdif 22 06 13.2 +1.6**
BMO i 22 10 08.1
BMO Blue Mountains 112.00 45 ePdif **Pdif 22 06 13.2 +1.6**
BMO ePKiKP **PKiKP 22 10 08.1 +0.2**
NVLJ Novalja 112.03 315 P **PKiKP 22 10 07.7 0.0**
MUD Monsted U'grnd 112.12 329 ePKiKP **PKiKP 22 10 09.4 +1.9**
MUD pmax pmax
comp=Z,11nm,0.9s
MUD Monsted U'grnd 112.12 329 i P **PKiKP 22 10 09.4 +1.9**
comp=Z,11nm,0.8s
MUD Monsted U'grnd 112.12 329 i P **PKKPab 22 21 10.8 +2.5**
comp=Z,8.9nm,1.0s
VES Vestal, Richgr 112.16 54 ⇓PKiKP **PKiKP 22 10 09.1 +0.8**
baz=112
CUC Castrocucco 112.19 310 ePKiKP **PKiKP 22 10 07.8 -0.5**
TANN Tannenbergstha 112.20 322 ePKKPab **PKiKP 22 10 08.6 +0.6**
NKC Novy Kostel 112.26 322 eP **Pdif 22 06 13.7 +1.1**
NKC e 22 10 08.8
NKC e 22 10 55.7
NKC MLR MLR
comp=Z,1µm,18.1s
NKC Novy Kostel 112.26 322 ePKKPab **PKiKP 22 10 08.4 +0.4**
NKC Novy Kostel 112.26 322 ePDIFF **Pdif 22 06 13.7 +1.1**
NKC epP 22 06 48.1
NKC ePKP **PKiKP 22 10 08.8 +0.8**
NKC ePP **PP 22 10 55.7 +0.8**
NKC ex x 22 20 48.0
NKC ePKKP **PKKPbc 22 20 59.7 -1.1**
NKC ex x 22 21 10.2
NKC AMS AMS 23 04 10.0
comp=Z,1µm,18.1s
WET Wettzell 112.29 320 ePKKPab **PKiKP 22 10 08.3 +0.2**
WET ePKKP **PKKPab 22 21 09.2 +1.4**
WERD Werda 112.29 322 ePdiff **Pdif 22 06 13.7 +1.0**
WERD ePKKPab **PKiKP 22 10 08.8 +0.7**
WERN Wernitzgruen 112.29 322 ePKKPab **PKiKP 22 10 08.8 +0.7**
GUNZ Gunzen 112.30 322 ePKKPab **PKiKP 22 10 08.8 +0.7**
EDM Edmonton 112.30 35 eP **Pdif 22 06 14.1 +1.4**
EDM i 22 10 08.8
EDM e 22 10 51.7
EDM Edmonton 112.30 35 ePdif **Pdif 22 06 14.1 +1.4**
EDM ePKiKP **PKiKP 22 10 08.8 +0.8**
EDM ePP **PP 22 10 51.7 -3.4**
EDM ePKKPab **PKKPab 22 21 07.2 -0.5**
ROHR Rohrbach 112.34 322 ePKKPab **PKiKP 22 10 09.0 +0.8**
RUND Rundenannen 112.34 333 e **PKiKP 22 10 07.8 -0.1**
BER Bergen 112.37 333 e **PKiKP 22 10 08.5 +0.6**
BSEG Bad Segeberg 112.38 326 ePdiff **Pdif 22 06 14.1 +1.1**
BSEG ePKKPab **PKiKP 22 10 09.4 +1.3**
NEUB Neuenburg 112.39 323 ePdiff **Pdif 22 06 14.4 +1.3**
NEUB ePKKPab **PKiKP 22 10 08.8 +0.6**
CEL Celeste 112.40 308 ePKiKP **PKiKP 22 10 07.9 -0.8**
CEL ePP **PP 22 10 54.4 -2.0**
MYKA Terra Mystica 112.42 318⇑iPKiKP **PKiKP 22 10 08.5 -0.1**
comp=Z,14nm,0.7s
NVAR Mina Array Bea 112.42 51 Pdiff **Pdif 22 06 15.2 +1.4**
comp=Z,0.6nm,0.3s,baz=285,slow=3.5,SNR=4.7
NVAR PKiKP **PKiKP 22 10 10.4 +1.4**
comp=Z,13nm,0.9s,baz=252,slow=1.8,SNR=22
NVAR PP **PP 22 10 53.6 -3.1**
comp=Z,4.1nm,0.7s,baz=286,slow=4.2,SNR=4.9
NVAR PKKPbc **PKKPbc 22 21 00.1 0.0**
comp=Z,1.7nm,0.7s,baz=118,slow=3.3,SNR=7.2
CADS Cadrg 112.45 317 ePKiKP **PKiKP 22 10 08.7 +0.2**
ARVC Arvin 112.45 55 ⇓PKiKP **PKiKP 22 10 10.1 +1.3**
baz=112
KBA Koelnbreinsper 112.51 318⇑iPKiKP **PKiKP 22 10 08.2 -0.6**
comp=Z,22nm,0.7s,SNR=8.0
MANZ Manzenberg 112.54 321 ePKKP **PKKPab 22 21 08.5 +1.8**
ROTZ Rotzenmuhle 112.54 321 ePdiff **Pdif 22 06 15.0 +1.2**
ROTZ ePKKPab **PKiKP 22 10 09.3 +0.7**
ROTZ ePKKP **PKKPab 22 21 08.7 +2.0**
TRI Trieste 112.55 317 ePKiKP **PKiKP 22 10 08.7 0.0**
TRI e 22 10 53.6
TRI Trieste 112.55 317 ePKiKP **PKiKP 22 10 08.7 0.0**
TRI ePP **PP 22 10 53.6 -3.5**
OSI Osito Adit 112.60 56 ⇑PKiKP **PKiKP 22 10 10.7 +1.5**
baz=113
KULLO Kullorsuaq 112.65 2 i PKiKP **PKiKP 22 10 08.1 0.0**
KULLO pmax pmax
comp=Z,37nm,1.0s
KULLO Kullorsuaq 112.65 2 i P **PKiKP 22 10 08.1 0.0**
comp=Z,37nm,1.0s
MOX Moxa 112.65 322 ePKKPab **PKiKP 22 10 09.4 +0.6**
ISA Isabella 112.67 54 ePKiKP **PKiKP 22 10 10.2 +0.9**
ISA Isabella 112.67 54 ePKiKP **PKiKP 22 10 10.2 +0.9**
ISA Isabella 112.67 54 ⇓PKiKP **PKiKP 22 10 09.9 +0.6**
baz=113
TIN Tinemaha 112.68 53 ⇓PKiKP **PKiKP 22 10 10.7 +1.3**
baz=113
RJOB Jochberg 112.70 319 ePKKPab **PKiKP 22 10 08.9 -0.1**
CWC Cottonwood Cre 112.88 54 ⇓PKiKP **PKiKP 22 10 11.1 +1.2**
baz=113
BMN Battle Mountai 112.91 49 ePKiKP **PKiKP 22 10 11.3 +1.5**
BMN e 22 10 53.5
BMN Battle Mountai 112.91 49 ePKiKP **PKiKP 22 10 11.2 +1.5**
BMN ePP PP 22 10 53.5 -6.6
SCI San Clemente I 112.94 57 ⇑PKiKP **PKiKP 22 10 10.9 +1.1**
baz=113
NRDL Niedersach Rie 112.98 324 ePdiff **Pdif 22 06 16.2 +0.6**
NRDL ePKKPab **PKiKP 22 10 10.2 +1.0**
NRDL ePP **PP 22 11 02.1 +2.4**
NRDL ePKKP **PKKPab 22 21 06.6 +2.1**
BSMT Bassoo Peak 112.98 41 ePKiKP **PKiKP 22 10 10.0 +0.3**
CIS Catalina Islan 113.01 57 ⇑PKiKP **PKiKP 22 10 10.8 +0.8**
baz=113
CLZ Clausthal 113.03 324 ePdiff **Pdif 22 06 16.8 +0.8**
CLZ ePKKPab **PKiKP 22 10 10.4 +0.9**
CLZ ePKKP **PKKPab 22 21 06.5 +2.0**
PASC Pasadena Art C 113.10 56 ePKiKP **PKiKP 22 10 11.9 +1.8**
ABTA Abfaltersbach 113.14 318 i PKiKP **PKiKP 22 10 10.0 +0.1**
comp=Z,73nm,1.5s,SNR=15
EDW2 Edwards Air Fo 113.17 55 ⇑PKiKP **PKiKP 22 10 11.6 +1.3**
baz=113
GRF Grafenberg Arr 113.17 321 ePdiff **Pdif 22 06 17.6 +0.9**
GRF ePKKPab **PKiKP 22 10 10.3 +0.5**
GRF ePP **PP 22 11 05.8 +4.4**
MWC Mount Wilson 113.19 56 ePKiKP **PKiKP 22 10 12.2 +1.6**
WALA Waterton Lakes 113.22 39 ePKiKP **PKiKP 22 10 09.0 -1.1**
BLMT Blacktail Moun 113.22 41 ePKiKP **PKiKP 22 10 10.4 +0.2**
TPH Tonopah 113.31 52 ePKiKP **PKiKP 22 10 12.1 +1.5**
JTMT Jette 113.34 41 ePKiKP **PKiKP 22 10 10.6 +0.2**
GRAC Grapevine Rang 113.37 53 ⇓PKiKP **PKiKP 22 10 11.9 +1.3**
baz=113
YBMT Yellow Bay 113.48 41 ePKiKP **PKiKP 22 10 10.8 +0.2**
BFSC Mount Baldy Ra 113.52 56 ⇓PKiKP **PKiKP 22 10 11.2 +0.1**
baz=114
AQU L'Aquila 113.54 313 ePKiKP **PKiKP 22 10 11.4 +0.7**
FUR Furstenfeldbru 113.57 320 ePKKPab **PKiKP 22 10 11.1 +0.5**
FUR ePKKP **PKKPab 22 21 03.9 +1.8**
UBBA Unterbreizbach 113.58 323 ePKKPab **PKiKP 22 10 11.0 +0.6**
UBBA ePKKP **PKKPab 22 21 03.7 +1.8**
WTTA Wattenberg 113.59 319⇑iPKiKP **PKiKP 22 10 11.1 +0.2**
comp=Z,108nm,0.4s,SNR=31
SWMT Swartz Lake 113.59 41 ePKiKP **PKiKP 22 10 11.1 +0.3**
WATA Walderalm 113.61 319⇑iPKiKP **PKiKP 22 10 10.6 -0.3**
comp=Z,20nm,0.4s,SNR=27
MSO Missoula 113.81 42 ePKiKP **PKiKP 22 10 11.8 +0.6**
MSO Missoula 113.81 42 ⇑PKiKP **PKiKP 22 10 11.8 +0.6**
baz=114
FURC Furnace Creek, 113.85 53 ⇓PKiKP **PKiKP 22 10 12.9 +1.5**
baz=114
MOTA Moosalm 113.91 319⇑iPKPdf **PKiKP 22 10 11.3 -0.2**
comp=Z,31nm,0.4s,SNR=26
RRX Edison Barstow 113.97 55 ⇑PKiKP **PKiKP 22 10 13.3 +1.5**
baz=114
MURC Murrieta 113.98 57 ⇑PKiKP **PKiKP 22 10 13.0 +1.1**
baz=114
SLMT Seeley Lake 113.99 41 ePKiKP **PKiKP 22 10 12.0 +0.3**
GSC Goldstone 114.07 55 ePKiKP PKPdf 22 10 10.8 -1.3
GSC Goldstone 114.07 55 ePKiKP PKPdf 22 10 10.8 -1.2
GSC Goldstone 114.07 55 ⇓PKiKP **PKiKP 22 10 13.9 +1.8**
baz=114
RETA Reutte 114.10 319⇑iPKPdf PKPdf 22 10 11.6 -0.2
comp=Z,15nm,0.5s,SNR=6.5
BBRC Big Bear Solar 114.12 56 ePdif **Pdif 22 06 23.5 +2.0**
BBRC Big Bear Solar 114.12 56 ⇑PKiKP **PKiKP 22 10 13.6 +1.2**
baz=114
109C Camp Elliot, M 114.15 57 ⇑PKiKP **PKiKP 22 10 13.5 +1.4**
baz=114
CHMT Chamberlain Mo 114.24 42 ePKiKP PKPdf 22 10 12.2 0.0
FETA Feichten 114.25 319⇑iPKiKP **PKiKP 22 10 12.2 +0.1**
comp=Z,41nm,0.9s,SNR=11
SUMG Summit 114.29 356 i PKiKP PKPdf 22 10 13.0 +1.2
SUMG pmax pmax
comp=Z,32nm,0.9s
SUMG Summit 114.29 356 i P pPdif 22 06 53.1 -3.1
comp=Z,4.2nm,1.1s
SUMG Summit 114.29 356 i P PKPdf 22 10 13.0 +1.2
comp=Z,32nm,0.9s
SUMG i 22 10 29.0
SUMG Summit 114.29 356 i P **PKKPbc 22 20 52.6 -2.5**
comp=Z,8.4nm,1.0s
SUMG Summit 114.29 356 ePKiKP **PKiKP 22 10 12.7 +0.9**
HLID Hailey 114.31 45 ePKiKP **PKiKP 22 10 13.7 +1.3**
HLID Hailey 114.31 45 ⇑PKiKP **PKiKP 22 10 14.3 +1.9**
baz=114
ELK Elko 114.33 49 ePKiKP PKPdf 22 10 13.5 +0.9
ELK Elko 114.33 49 ePKiKP **PKiKP 22 10 13.5 +0.9**
IBBN Ibbenburen 114.39 325 ePKKPab PKPdf 22 10 12.9 +0.9
IBBN ePKKP **PKKPab 22 21 00.3 +2.0**
SHOC Shoshone 114.41 54 ⇑PKiKP **PKiKP 22 10 14.5 +1.9**
baz=114
DNR Dunn Ranch,Anz 114.46 57 ePdif **Pdif 22 06 19.1 -3.8**
HEC Hector,Ludlow 114.53 55 ⇑PKiKP **PKiKP 22 10 14.5 +1.5**
baz=114
R11A Troy Canyon, C 114.54 51 ePKiKP **PKiKP 22 10 14.6 +1.6**
R11A Troy Canyon, C 114.54 51 ⇓PKiKP **PKiKP 22 10 14.4 +1.4**
baz=114
BAR Barrett 114.54 57 ePKiKP **PKiKP 22 10 14.5 +1.5**
PFO Pinyon Flat Ob 114.60 56 ePKiKP PKPdf 22 10 14.5 +1.3
PFO Pinyon Flat Ob 114.60 56 ePKiKP **PKiKP 22 10 14.5 +1.4**
PFO Pinyon Flat Ob 114.60 56 ⇓PKiKP **PKiKP 22 10 14.6 +1.4**
baz=115
FUORN Ofenpass-Fuorn 114.67 318 ePKiKP **PKiKP 22 10 13.4 +0.3**
TNS Taunus Mts 114.71 322 ePKKPab PKPdf 22 10 13.4 +0.6
TNS ePKKP **PKKPab 22 20 58.6 +1.5**
STU Stuttgart 114.72 321 ePKiKP PKPdf 22 10 13.4 +0.6
STU e 22 11 15.3
STU Stuttgart 114.72 321 ePKKPab PKPdf 22 10 13.7 +0.9
STU ePKKP **PKKPab 22 20 58.8 +1.8**
STU Stuttgart 114.72 321 ePKiKP PKPdf 22 10 13.4 +0.7
STU ePP **PP 22 11 15.3 +3.0**
STU ePKKPab **PKKPab 22 20 59.2 +2.2**
MONP Monument Peak 114.72 57 ⇑PKiKP **PKiKP 22 10 15.2 +1.7**
baz=115
DAVA Damuels 114.73 319 i PKiKP PKPdf 22 10 13.2 +0.2
comp=Z,62nm,0.5s,SNR=28
TUQ Turquoise Moun 114.76 54 ⇑PKiKP **PKiKP 22 10 15.2 +1.7**
baz=115
DAVOX Davos/Dischmat 114.88 318 PKiKP PKPdf 22 10 13.7 +0.3
DAVOX 22 20 50.6
DAVOX pmax pmax
comp=Z,41nm,0.5s
DAVOX pmax pmax
comp=Z,16nm,0.8s
DAVOX Davos/Dischmat 114.88 318 PKP PKPdf 22 10 13.7 +0.3
comp=Z,41nm,0.5s,baz=343,slow=1.2,SNR=78
DAVOX PKKPbc **PKKPbc 22 20 50.6 -1.5**
comp=Z,16nm,0.8s,baz=297,slow=4.5,SNR=14
BELC Belle Mtn. Jos 114.92 56 ⇑PKiKP PKPdf 22 10 15.6 +1.8
baz=115
BUG Bochum--Univer 114.99 324 ePKKPab PKPdf 22 10 14.0 +0.8
BUG ePKKP **PKKPab 22 20 57.3 +1.6**
WTSB Winterswijk 115.07 325 ePKP **PKPdf 22 10 13.8 +0.6**
comp=Z,168nm,1.9s
WTSB ePP PP 22 11 09.1 -5.5
GMRC Granite Mounta 115.08 55 ⇑PKiKP **PKPdf 22 10 15.8 +1.7**
baz=115
LRM Limekiln Ridge 115.08 43 ePKiKP **PKPdf 22 10 14.4 +0.5**
MCMT McKenzie Canyo 115.08 44 ePKiKP **PKPdf 22 10 15.4 +1.5**
DLMT Dillon 115.11 43 ePKiKP **PKPdf 22 10 15.3 +1.5**
SHPR Sheep Range 115.20 53 ePKPdf **PKPdf 22 10 15.8 +1.5**
SHPR ePP **PP 22 11 15.1 -1.3**
HRY Holter Researc 115.23 42 ePKPdf **PKPdf 22 10 14.6 +0.6**
SWSC Sam W. Stewart 115.23 57 ⇓PKiKP **PKPdf 22 10 16.0 +1.7**
baz=115
VLC Villacollemand 115.25 316 ePKPdf **PKPdf 22 10 13.2 -0.7**
VLC ePP **PP 22 11 21.1 +4.8**
LRW Lerwick 115.31 335 eP **PKPdf 22 10 13.9 +0.4**
LRW AMB AMB 22 10 24.2
comp=Z,315nm,3.2s
TUE Stuetta 115.32 318 ePKPdf **PKPdf 22 10 14.5 +0.2**
TUE ePKKPdf PKKPdf 22 21 06.1 -8.3
BFO Black Forest 115.40 320 ePKiKP **PKPdf 22 10 13.9 -0.2**
BFO e 22 11 16.6
BFO Black Forest 115.40 320 ePKKPab **PKPdf 22 10 14.0 -0.2**
BFO ePP **PP 22 11 17.6 +0.5**
BFO Black Forest 115.40 320 ePKPdf **PKPdf 22 10 13.9 -0.2**
BFO ePP PP 22 11 16.6 -0.6
BC3 Big Chuckawall 115.42 56 ⇑PKiKP **PKiKP 22 10 16.3 +1.6**
baz=115
LDFC Landfair 115.48 55 ePKPdf **PKPdf 22 10 16.1 +1.3**
LANF Langenberg 115.52 321 eP **PKPdf 22 10 14.7 +0.4**
IRM Iron Mountain 115.59 56 ⇓PKiKP **PKiKP 22 10 16.6 +1.7**
baz=116
BOZ Bozeman (W) 115.68 43 eP **Pdif 22 06 29.1 +1.0**
BOZ e 22 10 15.3
BOZ Bozeman (W) 115.68 43 ePdif **Pdif 22 06 29.1 +1.0**
BOZ ePKPdf **PKPdf 22 10 15.3 +0.4**
HVU Hansel Valley 115.91 47 ePKiKP **PKPdf 22 10 15.3 -0.2**
HVU Hansel Valley 115.91 47 ePKPdf **PKPdf 22 10 15.3 -0.2**
BGU Big Grassy Mou 115.93 48 ePKPdf **PKPdf 22 10 16.8 +1.2**
WLS Welschbruch 115.99 321 eP **PKPdf 22 10 15.0 -0.3**
HGN Heimansgroeve 116.02 324 ePKP **PKPdf 22 10 15.7 +0.5**
comp=Z,63nm,1.3s
HGN ePP PP 22 11 15.5 -5.8
HGN eSKS 22 18 58.6
HGN eS **PKKPdf 22 21 09.3 -3.6**
GLA Glamis 116.03 57 ePKiKP **PKPdf 22 10 17.6 +1.8**
GLA Glamis 116.03 57 ePKPdf **PKPdf 22 10 17.6 +1.8**
GLA Glamis 116.03 57 ⇓PKiKP **PKiKP 22 10 17.3 +1.5**
baz=116
MEM Membach 116.03 323 PKP **PKPdf 22 10 15.9 +0.7**
MEM PP **PP 22 11 23.7 +2.3**
MEM SKPdf **SKPdf 22 13 37.5 -0.9**
MEM Membach 116.03 323 PKKPab PKKPab 22 20 52.7 +1.6
MEM Membach 116.03 323 ePKiKP **PKPdf 22 10 16.2 +1.0**
MEM Membach 116.03 323 ePKPdf **PKPdf 22 10 16.2 +1.0**
CDF Champ du Feu 116.04 321 ePKiKP **PKPdf 22 10 14.9 -0.5**
comp=Z,39nm,0.9s
CDF Champ du Feu 116.04 321 ePKiKP **PKPdf 22 10 14.9 -0.5**
CDF Champ du Feu 116.04 321 ePKPdf **PKPdf 22 10 14.9 -0.5**
QLMT Earthquake Lak 116.05 43 ePKPdf **PKPdf 22 10 17.5 +1.8**
BEBN Eben Emael 116.16 324 PKP **PKPdf 22 10 15.7 +0.3**
BEBN PP **PP 22 11 21.3 -0.9**
EGMT Eagleton 116.16 40 ePKPdf **PKPdf 22 10 15.9 +0.3**
EGMT Eagleton 116.16 40 ⇑PKiKP **PKiKP 22 10 16.6 +0.9**
baz=116
Y12C Blythe 116.17 56 ⇓PKiKP **PKiKP 22 10 17.2 +1.2**
baz=116
ECH Echery 116.18 321 ePKiKP **PKPdf 22 10 15.4 -0.2**
ECH e 22 11 22.2
ECH Echery 116.18 321 eP **PKPdf 22 10 15.4 -0.2**
ECH Echery 116.18 321 ePKPdf **PKPdf 22 10 15.4 -0.2**
ECH ePP **PP 22 11 22.2 -0.3**
DUG Dugway 116.26 49 ePKiKP **PKPdf 22 10 17.2 +1.0**
DUG Dugway 116.26 49 ePKPdf **PKPdf 22 10 17.2 +1.0**
DUG Dugway 116.26 49 ⇓PKiKP **PKiKP 22 10 17.7 +1.4**
baz=116
SPUT South Promonto 116.27 47 ePKPdf **PKPdf 22 10 16.7 +0.5**
WLF Walferdange 116.29 322 PKP **PKPdf 22 10 17.1 +1.3**
WLF PP **PP 22 11 25.4 +2.1**
WLF Walferdange 116.29 322 PKKPbc PKKPbc 22 20 46.6 -0.4
WLF Walferdange 116.29 322 ePKiKP **PKPdf 22 10 16.8 +1.0**
WLF eSP SP 22 20 52.5 +1.7
WLF Walferdange 116.29 322 ePKKPab **PKPdf 22 10 16.9 +1.1**
WLF ePKKP **PKKPab 22 20 51.8 +1.8**
WLF Walferdange 116.29 322 ePKPdf **PKPdf 22 10 16.8 +1.0**
WLF eSP SP 22 20 52.5 +1.6
ARUT Antelope Range 116.31 51 ePKiKP **PKPdf 22 10 16.3 -0.1**
ARUT e 22 11 21.9
ARUT Antelope Range 116.31 51 ePKPdf **PKPdf 22 10 16.3 -0.1**
ARUT ePP **PP 22 11 21.9 -2.2**
MOF Molkenrain 116.32 320 eP **PKPdf 22 10 15.8 -0.2**
PDMCI Parker Dam,Lak 116.39 55 ⇑PKiKP **PKiKP 22 10 17.7 +1.3**
baz=116
CCUT Cedar City 116.42 52 ePKPdf **PKPdf 22 10 19.0 +2.3**
W13A Hualapai Mount 116.46 54 ⇑PKiKP **PKiKP 22 10 18.3 +1.5**
baz=116
USHA Ushuaia 116.47 169 PKP **PKPdf 22 10 16.8 +0.8**
comp=Z,28nm,1.0s,baz=172,slow=2.6,SNR=7.1
USHA SKP 22 13 38.6
comp=Z,14nm,1.1s,baz=188,slow=2.5,SNR=5.1
A19A Klindworth Far 116.48 38 ⇓PKiKP **PKiKP 22 10 16.7 +0.4**
baz=116
HINF Hinteralfeld 116.51 320 ePKiKP **PKPdf 22 10 16.0 -0.3**
comp=Z,95nm,0.6s
HINF Hinteralfeld 116.51 320 ePKiKP **PKPdf 22 10 16.0 -0.3**
HINF Hinteralfeld 116.51 320 ePKPdf **PKPdf 22 10 16.0 -0.3**
BCLA Clavier 116.52 323 PKP **PKPdf 22 10 16.8 +0.6**
BCLA PP **PP 22 11 21.2 -3.6**
BCLA SKPdf **SKPdf 22 13 38.4 -0.9**
B19A Brinkman Farms 116.52 39 ⇓PKiKP **PKiKP 22 10 17.1 +0.8**
baz=116
YFT Old Faithful 116.57 44 ePKPdf **PKPdf 22 10 16.7 -0.1**
IMW Indian Meadow 116.66 44 ePKPdf **PKPdf 22 10 18.1 +1.1**
PGF Pioggiola 116.66 314 ePKiKP **PKPdf 22 10 16.9 +0.1**
comp=Z,95nm,0.7s
PGF Pioggiola 116.66 314 ePKiKP **PKPdf 22 10 16.9 +0.1**
PGF Pioggiola 116.66 314 ePKPdf **PKPdf 22 10 16.9 +0.1**
FXWY Fox Creek 116.67 45 ePKPdf **PKPdf 22 10 18.1 +1.1**
LOMF Lomont 116.68 320 eP **PKPdf 22 10 16.7 0.0**
SENIN Lac Senin/Sane 116.70 319 ePKiKP **PKPdf 22 10 17.2 +0.3**
SENIN ePP **PP 22 11 28.0 +1.5**
C19A Slack Wire Ran 116.71 40 ⇑PKiKP **PKiKP 22 10 17.5 +0.7**
baz=117
OSPF L'Ospedale 116.75 313 eP **PKPdf 22 10 17.2 +0.2**
H17A Grant Village 116.76 44 ePKPdf **PKPdf 22 10 18.1 +0.9**
H17A Grant Village 116.76 44 ⇑PKiKP **PKiKP 22 10 19.3 +2.1**
baz=117
HAU Haudompre 116.76 321 ePKiKP **PKPdf 22 10 16.7 -0.1**
comp=Z,86nm,0.8s
HAU Haudompre 116.76 321 ePKiKP **PKPdf 22 10 16.7 -0.1**
HAU Haudompre 116.76 321 ePKPdf **PKPdf 22 10 16.7 -0.1**
TPAW Teton Pass 116.76 45 ePKPdf **PKPdf 22 10 18.5 +1.2**
HWUT Hardware Ranch 116.83 47 ePKPdf **PKPdf 22 10 18.1 +0.8**
AHID Auburn Hatcher 116.86 46 ePKPdf **PKPdf 22 10 18.8 +1.4**
REDW Red Top Meadow 116.87 45 ePKPdf **PKPdf 22 10 18.5 +1.1**
NLU North Lily Min 116.87 49 ePKPdf **PKPdf 22 10 19.1 +1.6**
I17A Pilgrim Ck. 116.90 44 ⇓PKiKP **PKiKP 22 10 19.1 +1.7**
baz=117
THEF They Montfort 116.91 321 eP **PKPdf 22 10 17.4 +0.4**
GIVF Givet 116.93 323 ePKiKP **PKPdf 22 10 17.4 +0.4**
comp=Z,55nm,0.8s
GIVF Givet 116.93 323 ePKiKP **PKPdf 22 10 17.4 +0.4**

GIVF Givet 116.93 323 ePKPdf PKPdf 22 10 17.4 +0.4
CTU Camp Tracy 116.93 48 ePKPdf PKPdf 22 10 17.9 +0.4
GCMT Greycliff 116.95 42 ePKPdf PKPdf 22 10 18.5 +1.1
KNB Kanab 116.95 52 ePKIKP PKPdf 22 10 19.9 +2.3
KNB Kanab 116.95 52 ePKPdf PKPdf 22 10 19.9 +2.3
113A Mohawk Valley, 116.95 57 ⇓PKiKP PKiKP 22 10 18.7 +1.2
baz=117
PAGF Fort de Pagny 116.96 321 ePKIKP PKPdf 22 10 17.2 +0.1
comp=Z,12nm,0.7s
PAGF Fort de Pagny 116.96 321 ePKPdf PKPdf 22 10 17.2 +0.1
LOHW Long Hollow 116.97 45 ePKPdf PKPdf 22 10 18.7 +1.1
A20A Cobblestone Ra 117.00 38 ⇓PKiKP PKiKP 22 10 17.4 +0.2
baz=117
D19A Cripps Ranch, 117.01 40 ⇓PKiKP PKiKP 22 10 17.7 +0.3
baz=117
DOU Dourbes 117.07 323 PKP PKPdf 22 10 17.4 +0.2
DOU PP PP 22 11 30.1 +1.5
DOU SKPdf SKPdf 22 13 38.9 -1.4
SNF Seneffe 117.09 324 PKP PKPdf 22 10 18.1 +0.9
SNF PP PP 22 11 32.0 +3.3
SNF SKPdf SKPdf 22 13 40.1 -0.2
SNF Seneffe 117.09 324 PKKPbc PKKPbc 22 20 47.6 +3.4
MVU Marysvale 117.10 50 ePKPdf PKPdf 22 10 20.1 +2.1
MVU ePP PP 22 11 35.7 +6.0
B20A Solberg Farm, 117.11 39 ⇓PKiKP PKiKP 22 10 18.0 +0.5
baz=117
VSL Villasalto 117.15 311 ePKPdf PKPdf 22 10 18.4 +0.6
JLU Jordanelle 117.17 48 ePKPdf PKPdf 22 10 19.5 +1.4
MPU Maple Canyon 117.18 49 ePKPdf PKPdf 22 10 19.7 +1.6
SAOF Saorge 117.26 316 eP PKPdf 22 10 17.8 -0.1
MLA1 Latheron 117.26 334⇑eP PKPdf 22 10 17.8 +0.4
H18A Shoshone NF, C 117.30 43 ⇑PKiKP PKiKP 22 10 19.2 +1.0
baz=117
E19A Rath Farm, Rou 117.31 41 ⇑PKiKP PKiKP 22 10 18.8 +0.8
baz=117
BAIF Baives 117.31 323 ePKIKP PKPdf 22 10 18.2 +0.5
comp=Z,68nm,0.9s
BAIF Baives 117.31 323 ePKIKP PKPdf 22 10 18.2 +0.5
BAIF Baives 117.31 323 ePKPdf PKPdf 22 10 18.2 +0.5
LPG La Plagne 117.34 318 ePKIKP PKPdf 22 10 18.5 +0.2
comp=Z,72nm,0.6s
LPG La Plagne 117.34 318 ePKIKP PKPdf 22 10 18.5 +0.2
LPG La Plagne 117.34 318 ePKPdf PKPdf 22 10 18.5 +0.2
LPL La Plagne 117.34 318 ePKIKP PKPdf 22 10 18.4 +0.2
comp=Z,81nm,0.5s
LPL La Plagne 117.34 318 ePKIKP PKPdf 22 10 18.4 +0.2
LPL La Plagne 117.34 318 ePKPdf PKPdf 22 10 18.4 +0.2
AUTN L'Aution 117.35 316 eP PKPdf 22 10 17.1 -1.2
RSL Roselend 117.36 318 eP PKPdf 22 10 18.1 -0.1
DAU Daniels Canyon 117.36 48 ePKIKP PKPdf 22 10 20.1 +1.6
DAU e 22 11 30.4
DAU Daniels Canyon 117.36 48 ePKPdf PKPdf 22 10 20.1 +1.6
DAU ePP PP 22 11 30.4 -1.1
DAU eSP PKKPab 22 20 48.3 +2.4
C20A Veseth Ranch, 117.38 40 ⇑PKiKP PKiKP 22 10 18.9 +0.9
baz=117
SBF Sospel 117.38 316 ePKIKP PKPdf 22 10 18.0 -0.1
comp=Z,111nm,0.7s
SBF Sospel 117.38 316 ePKIKP PKPdf 22 10 18.0 -0.1
SBF Sospel 117.38 316 ePKPdf PKPdf 22 10 18.0 -0.1
Y14A Wickenburg 117.38 56 ⇓PKiKP PKiKP 22 10 19.6 +1.1
baz=117
MEZF Maizieres J'vi 117.39 321 ePKIKP PKPdf 22 10 18.1 +0.2
comp=Z,22nm,0.4s
MEZF Maizieres J'vi 117.39 321 ePKPdf PKPdf 22 10 18.1 +0.2
BIGH Upper Bighouse 117.39 334 eP PKPdf 22 10 16.8 -0.7
F19A Roth Farm, Mol 117.41 42 ⇑PKiKP PKiKP 22 10 18.9 +0.7
baz=117
CABF La Chapelle 117.41 319 ePKIKP PKPdf 22 10 18.5 +0.4
comp=Z,159nm,0.5s
CABF La Chapelle 117.41 319 ePKIKP PKPdf 22 10 18.5 +0.4
CABF La Chapelle 117.41 319 ePKPdf PKPdf 22 10 18.5 +0.4
RLMT Red Lodge 117.43 43 ePKPdf PKPdf 22 10 19.3 +0.9
LUCF Luceram 117.43 316 eP PKPdf 22 10 18.4 +0.1
REVF Revere 117.47 316 eP PKPdf 22 10 18.1 -0.2
TOUF Mont Tournerai 117.47 316 eP PKPdf 22 10 18.2 -0.3
U15A North Rim 117.48 53 ⇑PKiKP PKiKP 22 10 20.6 +1.7
baz=118
SFTF Sexfontaines 117.51 321 ePKIKP PKPdf 22 10 18.2 0.0
comp=Z,29nm,0.7s
SFTF Sexfontaines 117.51 321 ePKPdf PKPdf 22 10 18.2 0.0
D20A Manuel Ranch, 117.51 40 ⇓PKiKP PKiKP 22 10 19.0 +0.7
baz=118
BNI Bardonecchia 117.53 317 ePKIKP PKPdf 22 10 18.7 +0.2
BNI Bardonecchia 117.53 317 ePKPdf PKPdf 22 10 18.7 +0.2
BNI ePP PP 22 11 24.4 -7.8
Z14A Wintersburg 117.53 56 ⇑PKiKP PKiKP 22 10 20.0 +1.3
baz=118
MVIF Mont Vial 117.57 316 eP PKPdf 22 10 18.4 -0.2
MBDF Montbardon 117.57 317 ePKIKP PKPdf 22 10 18.3 -0.3
comp=Z,64nm,0.8s
MBDF Montbardon 117.57 317 ePKIKP PKPdf 22 10 18.3 -0.3
MBDF Montbardon 117.57 317 ePKPdf PKPdf 22 10 18.3 -0.3
MCD Coleburn Disti 117.62 333⇑eP PKPdf 22 10 18.0 -0.1
SURF Saint Ours 117.62 317 eP PKPdf 22 10 19.5 +0.8
MME1 Meikle Cairn 117.64 333⇑eP PKPdf 22 10 17.9 -0.2
DRUM Mains of Drumt 117.64 332 eP PKPdf 22 10 18.3 +0.2
DRUM AMB AMB 22 10 20.0
comp=Z,153nm,1.4s
TMUT Trail Mountain 117.68 49 PKPdf PKPdf 22 10 20.5 +1.3
E20A Meyer Farm, Mu 117.72 41 ⇓PKiKP PKiKP 22 10 19.8 +1.1
baz=118
B21A Ellsworth Farm 117.73 38 ⇓PKiKP PKiKP 22 10 19.2 +0.5
baz=118
H19A Powell 117.76 43 ⇑PKiKP PKiKP 22 10 20.4 +1.4
baz=118
CALN Calern 117.79 316 eP PKPdf 22 10 18.8 -0.2
FFC Flin Flon 117.81 31 e iPKIKP PKPdf 22 10 19.1 +0.6
FFC Flin Flon 117.81 31 ePKPdf PKPdf 22 10 19.1 +0.6
MVH1 Achvaich 117.84 334⇑eP PKPdf 22 10 18.5 0.0
214A Organ Pipe Nat 117.88 58 ⇑PKiKP PKiKP 22 10 20.8 +1.3
baz=118
C21A Desert Coulee 117.91 39 ⇑PKiKP PKiKP 22 10 20.1 +1.1
baz=118
BW06 Boulder Array 117.95 45 ePKPdf PKPdf 22 10 19.8 +0.3
PDAR Pinedale Array 117.95 45 PKP PKPdf 22 10 19.5 0.0
comp=Z,20nm,0.7s,baz=280,slow=0.5,SNR=88
PDAR PKKPbc PKKPbc 22 20 39.9 -1.4
comp=Z,3.0nm,0.9s,baz=111,slow=4.9,SNR=6.5
F20A Billings 117.95 42 ⇑PKiKP PKiKP 22 10 19.7 +0.5
baz=118
I19A Meeteetse 117.95 44 ⇓PKiKP PKiKP 22 10 20.4 +0.9
baz=118
KEST Kesra 118.01 307 PKP PKPdf 22 10 20.7 +1.1
comp=Z,14nm,0.6s,baz=92,slow=0.7,SNR=107
KEST PP PP 22 11 32.2 -3.6
comp=Z,27nm,1.0s,baz=296,slow=6.5,SNR=9.8
KEST PKKPbc PKKPbc 22 20 41.0 +0.4
comp=Z,4.0nm,0.8s,baz=264,slow=5.5,SNR=8.0
FRF La Foret Royal 118.02 316 ePKIKP PKPdf 22 10 19.3 0.0
comp=Z,59nm,0.5s
FRF La Foret Royal 118.02 316 ePKIKP PKPdf 22 10 19.3 0.0
FRF La Foret Royal 118.02 316 ePKPdf PKPdf 22 10 19.3 0.0
GRN Grenoble 118.09 318 eP PKPdf 22 10 19.9 +0.4
G20A Bridger 118.10 42 ⇓PKiKP PKiKP 22 10 20.5 +0.9
baz=118
ORIF Oris-en-Rattie 118.11 317 ePKIKP PKPdf 22 10 19.6 +0.1
comp=Z,60nm,0.5s
ORIF Oris-en-Rattie 118.11 317 ePKIKP PKPdf 22 10 19.6 +0.1
ORIF Oris-en-Rattie 118.11 317 ePKPdf PKPdf 22 10 19.6 +0.1
ILULI Ilulissat 118.14 360 i PKIKP PKPdf 22 10 18.3 -0.4
ILULI pmax pmax
comp=Z,44nm,0.8s
ILULI Ilulissat 118.14 360 i P PKPdf 22 10 18.3 -0.4
comp=Z,44nm,0.8s
J19A Crowheart 118.15 45 ⇑PKiKP PKiKP 22 10 21.0 +1.2
baz=118
LMR La Mourre 118.18 316 ePKIKP PKPdf 22 10 19.7 +0.1
comp=Z,168nm,1.2s
LMR La Mourre 118.18 316 ePKIKP PKPdf 22 10 19.7 +0.1
LMR La Mourre 118.18 316 ePKPdf PKPdf 22 10 19.7 +0.1
A22A Carney Farms, 118.19 38 ⇑PKiKP PKiKP 22 10 20.3 +0.7
baz=118
MDO Dochfour 118.19 333⇑eP PKPdf 22 10 19.3 +0.1
ESY Stoneypath 118.23 331 eP PKPdf 22 10 19.6 +0.3
SRU San Rafael 118.24 49 ePKIKP PKPdf 22 10 20.5 +0.4
SRU San Rafael 118.24 49 ePKPdf PKPdf 22 10 20.5 +0.4
D21A La Casta Ranch 118.25 40 ⇑PKiKP PKiKP 22 10 20.7 +0.9
baz=118
LMK Market Rasen 118.35 328 eP PKPdf 22 10 19.9 +0.3
LMK AMB AMB 22 10 21.1
comp=Z,108nm,1.1s
E21A Keefer Ranch, 118.39 40 ⇓PKiKP PKiKP 22 10 20.9 +0.9
baz=118

WUAZ Wupatki 118.40 54 ePKPdf PKPdf 22 10 21.6 +1.1
WUAZ Wupatki 118.40 54 ⇑PKiKP PKiKP 22 10 21.8 +1.2
baz=118
B22A Reddig Ranch S 118.41 38 ⇓PKiKP PKiKP 22 10 21.2 +1.2
baz=118
H20A Greybull 118.49 43 ⇑PKiKP PKiKP 22 10 20.9 +0.5
baz=118
EBL Broad Law 118.52 331⇑eP PKPdf 22 10 20.2 +0.4
X16A Lo Mia Camp, P 118.57 55 ⇓PKiKP PKiKP 22 10 22.4 +1.5
baz=119
I20A Worland 118.57 44 ⇓PKiKP PKiKP 22 10 21.4 +0.9
baz=118
KAC Achnashellach 118.57 334⇑eP PKPdf 22 10 19.9 0.0
LOR Lormes 118.60 320 ePKIKP PKPdf 22 10 20.4 +0.1
comp=Z,58nm,0.7s
LOR Lormes 118.60 320 ePKIKP PKPdf 22 10 20.4 +0.1
LOR Lormes 118.60 320 ePKPdf PKPdf 22 10 20.4 +0.1
XAL Allendale 118.60 330 eP PKPdf 22 10 20.0 0.0
OG26 St.-Nazaire-De 118.61 317 eP PKPdf 22 10 21.3 +0.8
F21A Absaloka Mine, 118.61 41 ⇑PKiKP PKiKP 22 10 21.4 +0.9
baz=119
SMRF Simiane la Rot 118.62 317 ePKIKP PKPdf 22 10 21.1 +0.6
comp=Z,91nm,0.8s
SMRF Simiane la Rot 118.62 317 ePKPdf PKPdf 22 10 21.1 +0.6
LEPF PUYLOUBIER 118.68 316 eP PKPdf 22 10 20.7 +0.1
C22A Vida 118.69 39 ⇑PKiKP PKiKP 22 10 21.8 +1.2
baz=119
D22A Cohagen 118.73 40 ⇓PKiKP PKiKP 22 10 21.7 +1.1
baz=119
G21A Lodge Grass 118.77 42 ⇓PKiKP PKiKP 22 10 20.9 +0.1
baz=119
HPK Haverah Park 118.77 329 eP PKPdf 22 10 20.5 +0.1
HPK AMB AMB 22 10 22.0
comp=Z,97nm,1.4s
J20A Shoshoni 118.80 44 ⇓PKiKP PKiKP 22 10 21.6 +0.6
baz=119
KSB Sheil Bridge 118.80 334⇑eP PKPdf 22 10 20.2 -0.1
EKA Eskdalemuir Ar 118.81 331 PKIKP PKPdf 22 10 20.3 -0.1
EKA pmax pmax
comp=Z,12nm,0.4s
EKA pmax pmax
comp=Z,6.0nm,0.8s
EKA pmax pmax
comp=Z,4.0nm,0.9s
EKA Eskdalemuir Ar 118.81 331 PKP PKPdf 22 10 20.3 -0.1
comp=Z,12nm,0.4s,baz=48,slow=3.7,SNR=116
EKA PP PP 22 11 32.9 -7.4
comp=Z,5.8nm,0.8s,baz=74,slow=5.3,SNR=4.6
EKA PKKPbc PKKPbc 22 20 35.8 -2.4
comp=Z,4.1nm,0.9s,baz=230,slow=3.3,SNR=4.9
KPL Plockton 118.82 334 eP PKPdf 22 10 20.4 +0.1
KPL AMB AMB 22 10 22.1
comp=Z,116nm,2.8s
A23A Redstone 118.82 37 ⇑PKiKP PKiKP 22 10 21.1 +0.4
baz=119
ESK Eskdalemuir 118.84 331 eP PKPdf 22 10 20.6 +0.1
SMF Signal de Mont 118.84 320 ePKIKP PKPdf 22 10 20.7 -0.1
comp=Z,26nm,0.4s
SMF Signal de Mont 118.84 320 ePKIKP PKPdf 22 10 20.7 -0.1
SMF Signal de Mont 118.84 320 ePKPdf PKPdf 22 10 20.7 -0.1
SSB Saint Sauveur 118.88 318 ePKIKP PKPdf 22 10 21.5 +0.5
SSB e 22 11 41.6
SSB Saint Sauveur 118.88 318 eP PKPdf 22 10 21.1 +0.2
SSB Saint Sauveur 118.88 318 ePKPdf PKPdf 22 10 21.5 +0.5
SSB ePP PP 22 11 41.6 +0.2
SSB eSKPdf SKPdf 22 13 43.1 -1.0
EAB Aberfoyle 118.89 332⇑eP PKPdf 22 10 20.8 +0.2
SSF Saint Saulge 118.90 320 ePKIKP PKPdf 22 10 21.1 +0.2
comp=Z,100nm,0.6s
SSF Saint Saulge 118.90 320 ePKIKP PKPdf 22 10 21.1 +0.2
SSF Saint Saulge 118.90 320 ePKPdf PKPdf 22 10 21.1 +0.2
VIVF Saint-Julien-l 118.94 318 ePKIKP PKPdf 22 10 21.2 +0.1
comp=Z,66nm,0.7s
VIVF Saint-Julien-l 118.94 318 ePKIKP PKPdf 22 10 21.2 +0.1
VIVF Saint-Julien-l 118.94 318 ePKPdf PKPdf 22 10 21.2 +0.1
B23A Brockton 118.96 38 ⇓PKiKP PKiKP 22 10 21.8 +0.7
baz=119
KBI1 Birley Grange 119.08 328⇑eP PKPdf 22 10 21.2 +0.2
H21A Big Horn, Sher 119.08 43 ⇓PKiKP PKiKP 22 10 22.1 +0.6
baz=119
FCC Fort Churchill 119.10 24 ePKIKP PKPdf 22 10 20.4 -0.4
FCC Fort Churchill 119.10 24 ePKPdf PKPdf 22 10 20.4 -0.4
LHO Holmfirth 119.10 329⇑eP PKPdf 22 10 21.5 +0.4
AVF Avril sur Loir 119.10 320 ePKIKP PKPdf 22 10 21.2 0.0
comp=Z,42nm,0.5s
AVF Avril sur Loir 119.10 320 ePKIKP PKPdf 22 10 21.2 0.0
AVF Avril sur Loir 119.10 320 ePKPdf PKPdf 22 10 21.2 0.0
C23A Lambert 119.11 39 ⇓PKiKP PKiKP 22 10 22.7 +1.3
baz=119
E22A Miles City 119.15 40 ⇓PKiKP PKiKP 22 10 22.4 +0.9
baz=119
KESW Keswick, Cumbr 119.18 330 eP PKPdf 22 10 21.5 +0.3
KESW AMB AMB 22 10 21.8
comp=Z,130nm,1.3s
I21A Big Trails, Te 119.19 43 ⇓PKiKP PKiKP 22 10 22.2 +0.4
baz=119
F22A Rosebud 119.19 41 ⇑PKiKP PKiKP 22 10 22.4 +0.7
baz=119
HMNX Herstmonceux 119.21 325 eP PKPdf 22 10 22.3 +1.0
J21A Lysite 119.24 44 ⇑PKiKP PKiKP 22 10 22.7 +0.7
baz=119
D23A Lindsay 119.34 39 ⇑PKiKP PKiKP 22 10 22.8 +0.9
baz=119
COLF Collangettes 119.35 319 eP PKPdf 22 10 22.5 +0.6
A24A Westby 119.36 37 ⇓PKiKP PKiKP 22 10 22.4 +0.6
baz=119
HYF Humbligny 119.36 321 ePKIKP PKPdf 22 10 22.4 +0.6
HYF Humbligny 119.36 321 ePKPdf PKPdf 22 10 22.4 +0.6
G22A Birney 119.37 42 ⇑PKiKP PKiKP 22 10 22.5 +0.4
baz=119
DGMT Dagmar 119.44 38 ePKPdf PKPdf 22 10 22.5 +0.6
DGMT Dagmar 119.44 38 ⇓PKiKP PKiKP 22 10 22.7 +0.7
baz=119
N20A Spence Gulch, 119.44 47 ⇓PKiKP PKiKP 22 10 23.6 +1.1
baz=119
BGF Bois d'Agland 119.51 320 ePKIKP PKPdf 22 10 22.5 +0.4
comp=Z,219nm,0.6s
BGF Bois d'Agland 119.51 320 ePKIKP PKPdf 22 10 22.5 +0.4
BGF Bois d'Agland 119.51 320 ePKPdf PKPdf 22 10 22.5 +0.4
STNC Stoke 119.51 328 eP PKPdf 22 10 22.6 +0.8
AGO Saint Agoulin 119.52 319 eP PKPdf 22 10 22.3 +0.2
H22A Clearmont 119.56 42 ⇑PKiKP PKiKP 22 10 22.6 +0.1
baz=120
PV05 Paradox Valley 119.58 50 ePKPdf PKPdf 22 10 24.2 +1.4
PV05 eSdif Sdif 22 19 29.7 +4.3
K21A Alcova 119.61 45 ⇑PKiKP PKiKP 22 10 23.4 +0.7
baz=120
PV04 Paradox Valley 119.64 50 ePKPdf PKPdf 22 10 23.8 +1.0
O20A White River Ci 119.66 48 ePKPdf PKPdf 22 10 23.8 +1.0
O20A White River Ci 119.66 48 ⇓PKiKP PKiKP 22 10 24.1 +1.2
baz=120
C24A Savage 119.68 39 ⇓PKiKP PKiKP 22 10 23.9 +1.4
baz=120
I22A 9 Mile Ranch, 119.71 43 ⇓PKiKP PKiKP 22 10 23.1 +0.3
baz=120
PYM Petit Puy Mans 119.71 319 eP PKPdf 22 10 22.8 +0.2
LBL Lubilhac 119.75 319 eP PKPdf 22 10 22.5 -0.2
X18A Snowflake 119.75 54 ⇑PKiKP PKiKP 22 10 24.6 +1.4
baz=120
LASF Ste Croix 119.76 317 ePKIKP PKPdf 22 10 22.9 +0.3
comp=Z,199nm,1.2s
LASF Ste Croix 119.76 317 ePKPdf PKPdf 22 10 22.9 +0.3
F23A Volborg 119.77 41 ⇓PKiKP PKiKP 22 10 23.1 +0.3
baz=120
W18A Petrified Fore 119.79 54 ⇑PKiKP PKiKP 22 10 24.3 +1.0
baz=120
GAL1 Galloway 119.81 331 eP PKPdf 22 10 22.2 -0.2
J22A Midwest 119.88 44 ⇓PKiKP PKPdf 22 10 23.1 0.0
baz=120
A25A Svangstu Ranch 119.89 37 ⇑PKiKP PKiKP 22 10 23.4 +0.6
baz=120
D24A Glendive 119.91 39 ⇑PKiKP PKiKP 22 10 23.8 +0.9
baz=120
G23A Biddle 119.97 41 ⇓PKiKP PKiKP 22 10 23.6 +0.4
baz=120
TCF Toulx Ste Croi 120.02 320 ePKIKP PKPdf 22 10 23.4 +0.3
comp=Z,105nm,0.8s
TCF Toulx Ste Croi 120.02 320 ePKIKP PKPdf 22 10 23.4 +0.3
TCF Toulx Ste Croi 120.02 320 ePKPdf PKPdf 22 10 23.4 +0.3
SWN1 Swindon 120.08 327⇑eP PKPdf 22 10 23.6 +0.6
K22A Casper 120.11 45 ePKPdf PKPdf 22 10 23.5 -0.1
K22A Casper 120.11 45 ⇑PKiKP PKiKP 22 10 23.7 +0.1
baz=120
FOEL Foel Wylfa 120.13 329 eP PKPdf 22 10 23.3 +0.3
FOEL AMB AMB 22 10 24.7

comp=Z,67nm,1.0s
FRNF Fournols 120.14 319 eP PKPdf 22 10 24.4 +1.0
CASM Ain Smara 120.14 308 P PKPdf 22 10 23.2 -0.5
B25A Knox Farm, Ray 120.15 37 ⇑PKiKP PKiKP 22 10 24.4 +1.0
baz=120
E24A Baker 120.15 40 ⇓PKiKP PKiKP 22 10 24.3 +0.8
baz=120
STRD Stroud 120.15 327 eP PKPdf 22 10 23.1 0.0
STRD AMB AMB 22 10 24.0
comp=Z,137nm,0.9s
HLM1 Long Mynd 120.16 328 eP PKPdf 22 10 22.7 -0.4
H23A Clabaugh Cattl 120.20 42 ⇓PKiKP PKiKP 22 10 23.8 +0.1
baz=120
MVCO Mesa Verde 120.26 51 ePKPdf PKPdf 22 10 25.7 +1.6
MVCO Mesa Verde 120.26 51 ⇓PKiKP PKiKP 22 10 25.3 +1.1
baz=120
WPM1 Penmaenmawr 120.30 329⇑eP PKPdf 22 10 23.9 +0.5
C25A Freed Ranch, W 120.33 38 ⇑PKiKP PKiKP 22 10 24.9 +1.1
baz=120
F24A Ekalaka 120.34 40 ⇓PKiKP PKiKP 22 10 23.9 0.0
baz=120
SFJD Kangerlussuaq 120.36 360 i PKIKP PKPdf 22 10 22.8 -0.3
SFJD pmax pmax
comp=Z,54nm,0.8s
SFJD Kangerlussuaq 120.36 360 i P PKPdf 22 10 22.8 -0.3
comp=Z,54nm,0.7s
SFJD Kangerlussuaq 120.36 360 SKP SKPdf 22 13 45.7 -0.4
comp=Z,14nm,0.8s,baz=51,slow=1.4,SNR=5.3
SFJD Kangerlussuaq 120.36 360 ePKPdf PKPdf 22 10 22.7 -0.4
SFJD SKP 22 13 45.7
L22A Ellis Ranch, M 120.37 45 ⇓PKiKP PKiKP 22 10 24.7 +0.5
baz=120
I23A Meade Ranch, G 120.38 43 ⇑PKiKP PKiKP 22 10 24.1 0.0
baz=120
BATH Bath 120.41 327 eP PKPdf 22 10 23.4 -0.2
WME Myndd Eilian 120.42 330⇑eP PKPdf 22 10 24.1 +0.6
M22A Cedar Creek Ra 120.46 46 ⇓PKiKP PKiKP 22 10 24.9 +0.4
baz=120
MONM Monmouth 120.46 327 eP PKPdf 22 10 23.7 0.0
MONM AMB AMB 22 10 24.3
comp=Z,83nm,1.8s
MCH1 Michaelchurch 120.49 328⇑eP PKPdf 22 10 23.9 +0.1
MCH1 AMB AMB 22 10 24.6
comp=Z,78nm,1.0s
LDF La Druitiere 120.50 323 ePKIKP PKPdf 22 10 24.0 +0.1
comp=Z,130nm,1.2s
LDF La Druitiere 120.50 323 ePKIKP PKPdf 22 10 24.0 +0.1
LDF La Druitiere 120.50 323 ePKPdf PKPdf 22 10 24.0 +0.1
J23A Dilts Ranch, B 120.52 43 ⇑PKiKP PKiKP 22 10 24.5 +0.1
baz=120
D25A Fairfield 120.53 39 ⇑PKiKP PKiKP 22 10 25.1 +1.0
baz=120
WLF1 Llynfaes 120.53 329 eP PKPdf 22 10 24.2 +0.5
WLF1 AMB AMB 22 10 25.2
comp=Z,93nm,1.7s
A26A Wade Farm, Ken 120.54 36 ⇑PKiKP PKiKP 22 10 24.8 +0.7
baz=120
DFRA Djebel Bou Aff 120.55 308 P PKPdf 22 10 37.2 +13
G24A Alzada 120.56 41 ⇓PKiKP PKiKP 22 10 24.6 +0.2
baz=120
FLN La Foliniere 120.63 323 ePKIKP PKPdf 22 10 24.3 +0.2
comp=Z,99nm,1.1s
FLN La Foliniere 120.63 323 ePKIKP PKPdf 22 10 24.3 +0.2
FLN La Foliniere 120.63 323 ePKPdf PKPdf 22 10 24.3 +0.2
CAF Calviac 120.64 319 ePKIKP PKPdf 22 10 25.0 +0.7
comp=Z,252nm,1.2s
CAF Calviac 120.64 319 ePKIKP PKPdf 22 10 25.0 +0.7
CAF Calviac 120.64 319 ePKPdf PKPdf 22 10 25.0 +0.7
B26A Jensen Ranch, 120.66 37 ⇑PKiKP PKiKP 22 10 24.9 +0.5
baz=121
K23A Bowen Ranch, D 120.69 44 ⇓PKiKP PKPdf 22 10 24.4 -0.3
baz=121
H24A Dirks Ranch, A 120.69 42 ⇑PKiKP PKPdf 22 10 24.5 -0.1
baz=121
E25A Miller Ranch, 120.74 39 ⇓PKiKP PKiKP 22 10 25.6 +0.9
baz=121
N22A Wattenberg Ran 120.76 47 ⇑PKiKP PKiKP 22 10 26.4 +1.2
baz=121
RJF Les Rejaudoux 120.85 319 ePKIKP PKPdf 22 10 25.2 +0.5
comp=Z,226nm,1.4s
RJF Les Rejaudoux 120.85 319 ePKIKP PKPdf 22 10 25.2 +0.5
RJF Les Rejaudoux 120.85 319 ePKPdf PKPdf 22 10 25.2 +0.5
L23A Garrett 120.86 45 ⇑PKiKP PKiKP 22 10 25.4 +0.2
baz=121
SMCO Snowmass 120.87 48 ePKPdf PKPdf 22 10 26.8 +1.4
O22A Kremmling 120.89 47 ⇓PKiKP PKiKP 22 10 25.9 +0.4
baz=121
P22A Eagle 120.91 48 ⇓PKiKP PKiKP 22 10 26.5 +1.1
baz=121
319A Douglas 120.94 58 ⇓PKiKP PKiKP 22 10 27.1 +1.6
baz=121
F25A Bowman 120.94 40 ⇓PKiKP PKiKP 22 10 25.6 +0.5
baz=121
I24A Kuemmerle Ranc 120.98 43 ⇑PKiKP PKPdf 22 10 25.1 0.0
baz=121
SJAF Saint Jean de 120.98 316 eP PKPdf 22 10 25.1 +0.1
A27A Ledoux Ranch, 120.98 36 ⇓PKiKP PKiKP 22 10 25.8 +0.8
baz=121
C26A Wahner Farm, P 120.98 38 ⇓PKiKP PKiKP 22 10 26.0 +1.0
baz=121
LPW Lampeter 120.99 328 eP PKPdf 22 10 24.6 -0.1
SET Setif 121.01 308 P PKPdf 22 10 26.0 +0.6
GRR Gorron 121.03 323 ePKIKP PKPdf 22 10 25.1 +0.2
comp=Z,42nm,0.6s
GRR Gorron 121.03 323 ePKIKP PKPdf 22 10 25.1 +0.2
GRR Gorron 121.03 323 ePKPdf PKPdf 22 10 25.1 +0.2
LRDF Laroque-de-Fa 121.06 316 eP PKPdf 22 10 25.5 +0.3
M23A Laramie 121.06 46 ⇓PKiKP PKiKP 22 10 26.2 +0.5
baz=121
N23A Red Feather La 121.09 46 ⇑PKiKP PKiKP 22 10 26.5 +0.7
baz=121
D26A Manning 121.12 39 ⇑PKiKP PKiKP 22 10 25.9 +0.6
baz=121
MTLF Montolieu 121.13 317 ePKIKP PKPdf 22 10 25.5 +0.2
comp=Z,85nm,0.7s
MTLF Montolieu 121.13 317 ePKIKP PKPdf 22 10 25.5 +0.2
MTLF Montolieu 121.13 317 ePKPdf PKPdf 22 10 25.5 +0.2
J24A Dixon Ranch, L 121.15 43 ⇓PKiKP PKiKP 22 10 25.6 0.0
baz=121
FILF Fillols 121.17 316 eP PKPdf 22 10 25.8 +0.3
B27A Peters Farms, 121.22 37 ⇓PKiKP PKiKP 22 10 26.0 +0.5
baz=121
G25A Newell 121.26 41 ⇑PKiKP PKiKP 22 10 25.8 +0.1
baz=121
K24A Anderson Ranch 121.26 44 ⇑PKiKP PKPdf 22 10 25.8 0.0
baz=121
RSSD Black Hills 121.28 42 ePKIKP PKPdf 22 10 25.6 -0.2
RSSD Black Hills 121.28 42 ePKPdf PKPdf 22 10 25.6 -0.2
PHWY Pilot Hill 121.31 46 ePKPdf PKPdf 22 10 26.2 +0.1
O23A Lake Granby, G 121.33 47 ⇑PKiKP PKiKP 22 10 27.4 +1.1
baz=121
E26A Carlson Angus 121.35 39 ⇓PKiKP PKiKP 22 10 26.5 +0.6
baz=121
H25A Fruitdale 121.37 41 ⇓PKiKP PKiKP 22 10 25.9 -0.1
baz=121
MFF Saint Martin d 121.38 321 ePKIKP PKPdf 22 10 25.8 +0.2
comp=Z,118nm,0.6s
MFF Saint Martin d 121.38 321 ePKIKP PKPdf 22 10 25.8 +0.2
MFF Saint Martin d 121.38 321 ePKPdf PKPdf 22 10 25.8 +0.2
C27A Sayler Ranch, 121.39 37 ⇑PKiKP PKiKP 22 10 26.7 +0.8
baz=121
HEX Exmoor 121.40 327⇑eP PKPdf 22 10 25.4 -0.1
S22A 4UR Ranch, Cre 121.40 50 ⇓PKiKP PKiKP 22 10 27.7 +1.2
baz=121
JSA Saint Aubin 121.42 324 eP PKPdf 22 10 25.6 0.0
JSA AMB AMB 22 10 26.7
comp=Z,77nm,1.1s
L24A Wheatland 121.42 45 ⇑PKiKP PKiKP 22 10 26.6 +0.4
baz=121
F26A Lodgepole 121.47 40 ⇓PKiKP PKiKP 22 10 26.7 +0.6
baz=121
LFF La Frestale 121.50 319 ePKIKP PKPdf 22 10 26.6 +0.7
comp=Z,152nm,0.9s
LFF La Frestale 121.50 319 ePKIKP PKPdf 22 10 26.6 +0.7
LFF La Frestale 121.50 319 ePKPdf PKPdf 22 10 26.6 +0.7
A28A Rude Farm, Bot 121.57 36 ⇓PKiKP PKiKP 22 10 26.9 +0.7
baz=122
VALF Valcebollere 121.61 316 eP PKPdf 22 10 27.3 +0.9
D27A Center 121.65 38 ⇓PKiKP PKiKP 22 10 27.2 +0.8
baz=122
P23A Jefferson 121.65 48 ⇑PKiKP PKiKP 22 10 27.8 +0.8
baz=122
ISCO Idaho Springs 121.69 47 ePKIKP PKPdf 22 10 28.3 +1.4
ISCO Idaho Springs 121.69 47 ePKPdf PKPdf 22 10 28.2 +1.4
ISCO Idaho Springs 121.69 47 ⇑PKiKP PKiKP 22 10 27.9 +0.8
baz=122

M24A Cheyenne 121.70 45 ⇓PKiKP PKiKP 22 10 27.5 +0.7
baz=122
J25A Sunshine Ranch 121.71 43 ⇑PKiKP PKiKP 22 10 26.8 +0.1
baz=122
LCHF La Chataignera 121.72 321 *e*P PKPdf 22 10 27.4 +1.1
B28A Dugan Ranch, T 121.73 36 ⇑PKiKP PKPdf 22 10 27.1 +0.6
baz=122
G26A Maurine 121.75 40 ⇑PKiKP PKiKP 22 10 26.9 +0.2
baz=122
U22A Llaves 121.76 52 ⇑PKiKP PKiKP 22 10 28.8 +1.6
baz=122
DYA Yadsworthy 121.79 326 *e*P PKPdf 22 10 26.2 -0.2
DYA AMB AMB 22 10 27.3
comp=Z,124nm,1.3s
DYA Yadsworthy 121.79 326 *e*PKPdf PKPdf 22 10 26.7 +0.4
HTL Hartland 121.80 327 *e*P PKPdf 22 10 26.2 -0.1
HTL AMB AMB 22 10 27.9
comp=Z,88nm,0.8s
Q23A Hartsel 121.80 48 ⇑PKiKP PKiKP 22 10 28.4 +1.1
baz=122
V22A San Miguel Ran 121.84 52 ⇑PKiKP PKiKP 22 10 28.8 +1.5
baz=122
N24A Carr 121.88 46 ⇓PKiKP PKiKP 22 10 27.9 +0.7
baz=122
F27A Lemmon 121.88 40 ⇑PKiKP PKiKP 22 10 27.0 +0.1
baz=122
H26A Fairpoint 121.91 41 ⇓PKiKP PKiKP 22 10 27.2 +0.2
baz=122
E27A Carson 121.92 39 ⇑PKiKP PKiKP 22 10 27.6 +0.6
baz=122
121A Cookes Peak, D 121.95 56 *e*PKPdf PKPdf 22 10 28.8 +1.3
121A Cookes Peak, D 121.95 56 ⇑PKiKP PKiKP 22 10 28.9 +1.3
baz=122
K25A Mack Ranch, Ha 121.95 44 ⇑PKiKP PKiKP 22 10 27.4 +0.1
baz=122
O24A Longmont 121.97 47 ⇑PKiKP PKiKP 22 10 28.2 +0.8
baz=122
R23A Moffat 122.03 49 ⇑PKiKP PKiKP 22 10 29.3 +1.6
baz=122
MLS Moulis 122.03 317 *e*P PKPdf 22 10 26.7 -0.3
S23A Nye Farm, Mont 122.04 50 ⇓PKiKP PKiKP 22 10 29.3 +1.6
baz=122
L25A Engebretsen Ra 122.06 44 ⇑PKiKP PKiKP 22 10 27.9 +0.5
baz=122
C28A Hausauer Farms 122.06 37 ⇓PKiKP PKiKP 22 10 27.7 +0.6
baz=122
I26A New Underwood 122.09 42 ⇓PKiKP PKiKP 22 10 27.5 +0.1
baz=122
SGMF Saint Gilles 122.09 324 *e*PKiKP PKPdf 22 10 26.9 -0.1
comp=Z,132nm,0.9s
SGMF Saint Gilles 122.09 324 *e*PKiKP PKPdf 22 10 26.9 -0.1
SGMF Saint Gilles 122.09 324 *e*PKPdf PKPdf 22 10 26.9 -0.1
G27A Dupree 122.14 40 ⇓PKiKP PKiKP 22 10 27.4 -0.1
baz=122
A29A Manning Farm, 122.16 35 ⇑PKiKP PKiKP 22 10 27.4 +0.1
baz=122
D28A Regan 122.19 38 ⇓PKiKP PKiKP 22 10 27.9 +0.5
baz=122
T23A Casias Ranch, 122.20 51 ⇓PKiKP PKiKP 22 10 29.5 +1.4
baz=122
J26A Sides Ranch, S 122.23 43 ⇓PKiKP PKiKP 22 10 27.8 +0.1
baz=122
M25A Palm-Egli Farm 122.25 45 ⇓PKiKP PKiKP 22 10 28.7 +0.8
baz=122
U23A El Rito 122.28 51 ⇓PKiKP PKiKP 22 10 30.0 +1.8
baz=122
P24A Kohler Place, 122.29 47 ⇓PKiKP PKiKP 22 10 28.9 +0.8
baz=122
Q24A Divide 122.29 48 ⇓PKiKP PKiKP 22 10 28.9 +0.7
baz=122
Y22D IRIS PASSCAL I 122.30 54 ⇓PKiKP PKiKP 22 10 29.8 +1.6
baz=122
B29A Wagenman Farm,122.32 36 ⇑PKiKP PKiKP 22 10 27.9 +0.3
baz=122
H27A Howes 122.36 41 ⇑PKiKP PKiKP 22 10 27.9 0.0
baz=122
K26A Motz Farm, Whi 122.39 43 ⇑PKiKP PKiKP 22 10 28.0 -0.1
baz=122
E28A Huff 122.40 38 ⇓PKiKP PKiKP 22 10 28.2 +0.4
baz=122
SDCO Great Sand Dun 122.40 50 *e*PKPdf PKPdf 22 10 29.4 +1.1
ANMO Albuquerque 122.45 53*c* *i*PKiKP PKPdf 22 10 29.4 +1.0
ANMO pmax pmax
comp=Z,360nm,1.0s
ANMO Albuquerque 122.45 53 *e*PKPdf PKPdf 22 10 29.4 +1.0
N25A Grover 122.45 46 ⇓PKiKP PKiKP 22 10 28.9 +0.6
baz=122
V23A Ortiz Mt. (NFS 122.45 52 ⇑PKiKP PKiKP 22 10 30.5 +1.9
baz=122
Z22A Elephant Butte 122.46 55 ⇓PKiKP PKiKP 22 10 29.6 +1.1
baz=122
LPM Los Pinos Moun 122.47 54 *e*PKPdf PKPdf 22 10 29.6 +1.2
ROSF Rostrenen 122.47 324 *e*PKiKP PKPdf 22 10 27.7 0.0
comp=Z,51nm,0.7s
ROSF Rostrenen 122.47 324 *e*PKiKP PKPdf 22 10 27.7 0.0
ROSF Rostrenen 122.47 324 *e*PKPdf PKPdf 22 10 27.7 0.0
BNM Barren Site 122.51 54 *e*PKPdf PKPdf 22 10 29.8 +1.2
EPF Esparros 122.52 317 *e*PKiKP PKPdf 22 10 28.2 +0.2
comp=Z,101nm,0.8s
EPF Esparros 122.52 317 *e*PKiKP PKPdf 22 10 28.2 +0.2
EPF Esparros 122.52 317 *e*PKPdf PKPdf 22 10 28.2 +0.2
R24A Sanders Place, 122.55 49 ⇓PKiKP PKiKP 22 10 29.7 +1.0
baz=122
ADJB Djebel Djouab 122.55 308 P PKPdf 22 10 30.2 +1.8
CHRN Cochrane 122.56 163 ⇑*i*P PKPdf 22 10 29.2 +1.3
CHRN Cochrane 122.56 163 ⇑*i*P PKPdf 22 10 29.2 +1.3
I27A Quinn 122.61 42 ⇓PKiKP PKiKP 22 10 28.5 +0.1
baz=123
QUIF Quistinic 122.61 324 *e*PKiKP PKPdf 22 10 28.0 +0.1
comp=Z,90nm,0.8s
QUIF Quistinic 122.61 324 *e*PKiKP PKPdf 22 10 28.0 +0.1
QUIF Quistinic 122.61 324 *e*PKPdf PKPdf 22 10 28.0 +0.1
W23A Werner Place, 122.63 53 ⇑PKiKP PKiKP 22 10 30.1 +1.2
baz=123
S24A Houchin Ranch, 122.65 50 ⇑PKiKP PKiKP 22 10 30.3 +1.4
baz=123
F28A McLaughlin 122.66 39 ⇑PKiKP PKiKP 22 10 28.7 +0.3
baz=123
O25A Wiggins 122.67 47 ⇑PKiKP PKiKP 22 10 29.4 +0.6
baz=123
ABA Alger-Bouzarea 122.68 309 P PKPdf 22 10 29.4 +0.9
A30A Hoffart Farm, 122.69 35 ⇑PKiKP PKiKP 22 10 28.4 0.0
baz=123
LABF Labassere 122.69 317 *e*P PKPdf 22 10 28.9 +0.5
T24B San Luis 122.70 50 ⇓PKiKP PKiKP 22 10 30.6 +1.5
baz=123
L26A Underwood Farm 122.71 44 ⇑PKiKP PKiKP 22 10 28.9 +0.2
baz=123
X23A Hourglass Bar 122.75 53 ⇓PKiKP PKiKP 22 10 30.1 +0.9
baz=123
VIEF Viey 122.79 317 *e*P PKPdf 22 10 29.3 +0.7
P25A Willow Gulch B 122.83 47 ⇑PKiKP PKiKP 22 10 30.2 +1.1
baz=123
D29A Pettibone, Tap 122.84 37 ⇓PKiKP PKPdf 22 10 28.4 -0.1
baz=123
M26A McRoberts Ranc 122.88 45 ⇑PKiKP PKiKP 22 10 29.4 +0.3
baz=123
B30A Myrvik Farm, E 122.92 36 ⇓PKiKP PKPdf 22 10 28.8 0.0
baz=123
G28A Parade 122.92 40 ⇑PKiKP PKPdf 22 10 29.0 0.0
baz=123
U24A Moreno Valley 122.97 51 ⇑PKiKP PKiKP 22 10 31.2 +1.6
baz=123
J27A Elkhorn Farm, 122.97 42 ⇓PKiKP PKiKP 22 10 29.6 +0.4
baz=123
Q25A Bedland, Calha 122.97 48 ⇓PKiKP PKiKP 22 10 30.1 +0.6
baz=123
H28A Mission Ridge 123.03 41 ⇑PKiKP PKPdf 22 10 28.9 0.0
baz=123
Y23A Lovelace Mesa, 123.03 54 ⇑PKiKP PKiKP 22 10 30.2 +0.5
baz=123
K27A Flueckinger Fa 123.03 43 ⇓PKiKP PKPdf 22 10 29.1 0.0
baz=123
E29A Napoleon 123.05 38 ⇓PKiKP PKPdf 22 10 28.7 -0.2
baz=123
N26A Koester Ranch, 123.06 46 ⇓PKiKP PKPdf 22 10 29.5 0.0
baz=123
V24A Rampart Ranch, 123.17 52 ⇓PKiKP PKiKP 22 10 31.5 +1.5
baz=123
ETSF Etsaut 123.18 317 *e*PKiKP PKPdf 22 10 30.3 +1.0
comp=Z,250nm,1.2s
ETSF Etsaut 123.18 317 *e*PKiKP PKPdf 22 10 30.3 +1.0
ETSF Etsaut 123.18 317 *e*PKPdf PKPdf 22 10 30.3 +1.0
R25A Fountain Ranch 123.19 49 ⇑PKiKP PKiKP 22 10 30.5 +0.7
baz=123
ATE Arette 123.20 317 *e*P PKPdf 22 10 30.0 +0.7
O26A Horse Wrangler 123.20 46 ⇓PKiKP PKiKP 22 10 30.1 +0.4
baz=123
C30A Mose, Pekin 123.20 36 ⇑PKiKP PKPdf 22 10 29.2 +0.1
baz=123
W24A Lazy 6 Ranch, 123.20 53 ⇓PKiKP PKiKP 22 10 31.2 +1.1
baz=123
I28A Midland 123.22 41 ⇓PKiKP PKPdf 22 10 29.6 +0.1
baz=123
L27A T5 Ranch, Ells 123.22 44 ⇓PKiKP PKPdf 22 10 29.9 +0.2
baz=123
S25A Robets Cordova 123.23 49 ⇓PKiKP PKiKP 22 10 30.7 +0.7
baz=123
F29A Eureka 123.27 39 ⇓PKiKP PKPdf 22 10 29.4 0.0
baz=123
D30A Buchanan 123.33 37 ⇑PKiKP PKPdf 22 10 29.6 0.0
baz=123
ULM Lac du Bonnet 123.33 33 PKiKP PKPdf 22 10 29.1 -0.2
ULM pmax pmax
comp=Z,56nm,0.8s
ULM Lac du Bonnet 123.33 33 PKP PKPdf 22 10 29.1 -0.2
comp=Z,56nm,0.8s,baz=308,slow=3.0,SNR=75
X24A Lazy VL Ranch, 123.36 53 ⇓PKiKP PKiKP 22 10 30.8 +0.5
baz=123
M27A Reverse DX Ran 123.38 44 ⇑PKiKP PKiKP 22 10 30.5 +0.4
baz=123
TAM Tamanrasset 123.39 292 *e*PKiKP PKPdf 22 10 31.6 +1.2
TAM Tamanrasset 123.39 292 *e*PKPdf PKPdf 22 10 31.6 +1.2
TAM *e*PKKPdf PKKPdf 22 20 59.5 +0.9
J28A Allard Ranch, 123.41 42 ⇓PKiKP PKiKP 22 10 30.1 +0.2
baz=123
P26A Davis Ranch, A 123.41 47 ⇓PKiKP PKiKP 22 10 31.2 +0.9
baz=123
T25A Trinidad 123.42 50 ⇓PKiKP PKiKP 22 10 31.4 +1.0
baz=123
G29A Hoven 123.50 40 ⇑PKiKP PKPdf 22 10 29.8 0.0
baz=123
Q26A Hugo 123.51 48 ⇓PKiKP PKiKP 22 10 31.5 +1.0
baz=124
E30A Jud 123.52 38 ⇑PKiKP PKiKP 22 10 30.0 -0.1
baz=124
Y24A Capitan 123.53 54 ⇓PKiKP PKiKP 22 10 32.0 +1.3
baz=124
SJPF Ste Jean 123.54 318 *e*PKiKP PKPdf 22 10 31.0 +1.1
comp=Z,62nm,0.7s
SJPF Ste Jean 123.54 318 *e*PKiKP PKPdf 22 10 31.0 +1.1
SJPF Ste Jean 123.54 318 *e*PKPdf PKPdf 22 10 31.0 +1.1
N27A Anderson Farm, 123.55 45 ⇓PKiKP PKiKP 22 10 30.5 +0.1
baz=124
H29A Onida 123.57 40 ⇑PKiKP PKPdf 22 10 29.9 0.0
baz=124
K28A Ten Mile Ranch 123.62 43 ⇓PKiKP PKPdf 22 10 30.3 +0.1
baz=124
U25A Circle Dot Ran 123.64 51 ⇓PKiKP PKiKP 22 10 31.9 +1.0
baz=124
V25A Rancho No Teng 123.65 52 ⇓PKiKP PKiKP 22 10 31.6 +0.7
baz=124
Z24A Sheeppen Canyo 123.74 55 ⇓PKiKP PKiKP 22 10 32.4 +1.3
baz=124
F30A Leola 123.77 39 ⇓PKiKP PKPdf 22 10 30.3 0.0
baz=124
R26A Arlington 123.77 48 ⇓PKiKP PKiKP 22 10 31.6 +0.7
baz=124
I29A Vivian Onida 123.77 41 ⇑PKiKP PKPdf 22 10 30.3 0.0
baz=124
L28A Connealy Angus 123.80 44 ⇓PKiKP PKPdf 22 10 30.6 +0.1
baz=124
O27A Beecher Island 123.81 46 ⇓PKiKP PKiKP 22 10 31.5 +0.6
baz=124
OGNE Ogallala 123.85 45 *e*PKPdf PKPdf 22 10 31.0 +0.3
OGNE Ogallala 123.85 45 ⇑PKiKP PKiKP 22 10 31.1 +0.1
W25A X Bar L Ranch, 123.95 52 ⇓PKiKP PKiKP 22 10 32.2 +0.8
baz=124
P27A Ficken Ranch, 123.97 47 ⇑PKiKP PKiKP 22 10 31.5 +0.2
baz=124
S26A Kim 123.97 49 ⇑PKiKP PKiKP 22 10 32.1 +0.7
baz=124
X25A Clemmons Ranch123.98 53 ⇑PKiKP PKiKP 22 10 32.0 +0.5
baz=124
G30A Faulkton 124.02 39 ⇓PKiKP PKPdf 22 10 30.8 0.0
baz=124
J29A Okreek 124.02 42 ⇑PKiKP PKPdf 22 10 31.1 -0.1
baz=124
T26A Comanche Natio 124.02 50 ⇓PKiKP PKiKP 22 10 32.3 +0.8
baz=124
Y25A Mesa, Roswell 124.12 54 ⇑PKiKP PKiKP 22 10 32.5 +0.7
baz=124
MNTX Cornudas Mount 124.12 57 *e*PKPdf PKPdf 22 10 28.9 -2.5
KSCO Kaye Shedlock' 124.13 47 *e*PKPdf PKPdf 22 10 32.5 +1.2
KSCO Kaye Shedlock' 124.13 47 ⇑PKiKP PKiKP 22 10 32.1 +0.5
baz=124
M28A Bar X Bar Ranc 124.14 44 ⇑PKiKP PKPdf 22 10 31.4 -0.1
baz=124
U26A Atchley Ranch, 124.15 51 ⇓PKiKP PKiKP 22 10 32.6 +0.7
baz=124
COYC Coyhaique 124.18 162 ⇑*i*P PKPdf 22 10 31.8 +0.7
COYC Coyhaique 124.18 162 ⇑*i*P PKPdf 22 10 31.8 +0.7
R27A Eads 124.25 48 ⇓PKiKP PKiKP 22 10 32.8 +0.9
baz=124
Z25A Roswell 124.27 55 ⇓PKiKP PKiKP 22 10 33.1 +1.0
baz=124
N28A Pribbeno Ranch 124.29 45 ⇓PKiKP PKiKP 22 10 32.1 +0.2
baz=124
K29A Lazy Trails An 124.30 42 ⇓PKiKP PKPdf 22 10 31.7 -0.1
baz=124
V26A Tequesquite Ra 124.30 51 ⇑PKiKP PKiKP 22 10 32.6 +0.5
baz=124
O28A Krutsinger Ran 124.34 46 ⇑PKiKP PKiKP 22 10 32.0 +0.1
baz=124
S27A Las Animas 124.38 49 ⇑PKiKP PKiKP 22 10 33.3 +1.1
baz=124
AGMN Agassiz Nation 124.40 35 *e*PKPdf PKPdf 22 10 31.0 -0.4
AGMN Agassiz Nation 124.40 35 ⇑PKiKP PKPdf 22 10 31.0 -0.4
baz=124
BRSD Miller 124.45 40 *e*PKPdf PKPdf 22 10 31.9 +0.2
BRSD Miller 124.45 40 ⇑PKiKP PKPdf 22 10 31.7 +0.1
baz=124
L29A Maesberg Ranch 124.48 43 ⇑PKiKP PKPdf 22 10 31.8 0.0
baz=124
125A Gardner Draw, 124.48 55 ⇑PKiKP PKiKP 22 10 33.1 +0.6
baz=124
225A Deer Hill, Car 124.49 56 ⇓PKiKP PKiKP 22 10 33.7 +1.1
baz=124
W26A Owens Ranch, T 124.53 52 ⇓PKiKP PKiKP 22 10 33.2 +0.6
baz=124
P28A Saint Francis 124.56 46 ⇓PKiKP PKiKP 22 10 33.0 +0.5
baz=124
M29A Burnside Ranch 124.59 44 ⇑PKiKP PKPdf 22 10 31.6 -0.4
baz=124
J30A Dallas 124.61 41 ⇑PKiKP PKPdf 22 10 31.9 -0.1
baz=124
X26A CR and CF Fran 124.65 53 ⇑PKiKP PKiKP 22 10 33.3 +0.5
baz=125
Q28A Sharon Springs 124.69 47 ⇑PKiKP PKiKP 22 10 33.5 +0.7
baz=125
T27A Campo 124.72 50 ⇓PKiKP PKiKP 22 10 33.4 +0.5
baz=125
K30A Basset 124.81 42 ⇑PKiKP PKPdf 22 10 32.7 -0.1
baz=125
U27A Thompson Grove124.85 50 ⇑PKiKP PKiKP 22 10 33.4 +0.3
baz=125
Z26A Caprock 124.87 54 ⇑PKiKP PKiKP 22 10 33.5 +0.2
baz=125
N29A Votaw Ranch, W 124.88 45 ⇑PKiKP PKiKP 22 10 33.1 +0.1
baz=125
R28A Tribune 124.96 48 ⇑PKiKP PKiKP 22 10 34.0 +0.7
baz=125
126A Clayton Basin, 125.00 55 ⇑PKiKP PKiKP 22 10 33.8 +0.3
baz=125
O29A 4D Ranch, Culb 125.03 45 ⇑PKiKP PKiKP 22 10 33.4 +0.1
baz=125
226B Tecolote Peak, 125.03 56 ⇓PKiKP PKiKP 22 10 34.0 +0.4
baz=125
L30A Spencer Herefo 125.04 43 ⇑PKiKP PKPdf 22 10 32.4 -0.5
baz=125
V27A Dan Oppiter Fa 125.05 51 ⇓PKiKP PKiKP 22 10 34.2 +0.6
baz=125
W27A Bowe Ranch, En 125.09 52 ⇓PKiKP PKiKP 22 10 33.6 0.0
baz=125
M30A Dale-Ortello V 125.11 44 ⇑PKiKP PKPdf 22 10 32.8 -0.3
baz=125
P29A Atwood 125.14 46 ⇑PKiKP PKiKP 22 10 33.9 +0.4
baz=125
T28A Walsh 125.16 49 ⇑PKiKP PKiKP 22 10 34.2 +0.5
baz=125
S28A Manter 125.16 49 ⇑PKiKP PKiKP 22 10 34.1 +0.4
baz=125
X27A F and S Farms, 125.18 53 ⇑PKiKP PKiKP 22 10 34.0 +0.2
baz=125
N30A Hueftle Ranch, 125.26 44 ⇓PKiKP PKPdf 22 10 33.5 +0.2
baz=125
U28A Mallet 125.32 50 ⇓PKiKP PKiKP 22 10 34.3 +0.2
baz=125
Y27A Causey 125.36 53 ⇑PKiKP PKiKP 22 10 34.3 0.0
baz=125
Q29A Oakley 125.37 47 ⇓PKiKP PKiKP 22 10 34.5 +0.5
baz=125
R29A Marienthal 125.43 48 ⇑PKiKP PKiKP 22 10 34.9 +0.7
baz=125
Z27A Tatum 125.48 54 ⇑PKiKP PKiKP 22 10 34.7 +0.3
baz=126
V28A Channing 125.52 51 ⇓PKiKP PKiKP 22 10 35.1 +0.6
baz=126
O30A MW Ranch, Wils 125.53 45 ⇑PKiKP PKPdf 22 10 33.8 -0.1
baz=126
127A Arkansas Junct 125.54 55 ⇓PKiKP PKiKP 22 10 34.7 +0.1
baz=126
L31A Butterfield Fa 125.54 42 ⇑PKiKP PKPdf 22 10 33.7 -0.1
baz=126
MSTX Muleshoe 125.64 53 *e*PKPdf PKPdf 22 10 35.5 +1.1
MSTX Muleshoe 125.64 53 ⇓PKiKP PKiKP 22 10 34.9 +0.1
baz=126
P30A Selden 125.65 46 ⇑PKiKP PKiKP 22 10 34.8 +0.2
baz=126
W28A Vega 125.69 52 ⇓PKiKP PKiKP 22 10 35.3 +0.4
baz=126
S29A Ulysses 125.73 48 ⇓PKiKP PKiKP 22 10 35.4 +0.6
baz=126
T29A Hugoton 125.76 49 ⇑PKiKP PKiKP 22 10 35.6 +0.8
baz=126
227A Bennet, Jal 125.77 56 ⇓PKiKP PKiKP 22 10 35.5 +0.5
baz=126
M31A Lambtecht Ranc 125.80 43 ⇑PKiKP PKPdf 22 10 34.2 -0.2
baz=126
Q30A Quinter 125.89 47 ⇑PKiKP PKiKP 22 10 35.2 +0.2
baz=126
X28A Dimmitt 125.93 52 ⇑PKiKP PKiKP 22 10 35.6 +0.3
baz=126
U29A Oasis Ranch, S 126.02 50 ⇓PKiKP PKiKP 22 10 35.6 +0.2
baz=126
V29A Stinnett 126.03 51 ⇑PKiKP PKiKP 22 10 35.9 +0.4
baz=126
N31A Bailey Ranch, 126.04 44 ⇓PKiKP PKPdf 22 10 35.0 +0.2
baz=126
O31A Woolen Ranch, 126.06 45 ⇓PKiKP PKPdf 22 10 35.1 +0.2
baz=126
Y28A McKinney Farm, 126.08 53 ⇓PKiKP PKiKP 22 10 35.9 +0.2
baz=126
R30A Dighton 126.11 47 ⇑PKiKP PKiKP 22 10 35.7 +0.2
baz=126
TXAR Lajitas Array 126.11 59 PKiKP PKPdf 22 10 36.2 +0.8
TXAR pmax pmax
comp=Z,34nm,1.0s
TXAR pmax pmax
comp=N,2.0nm,0.8s
TXAR Lajitas Array 126.11 59 PKP PKPdf 22 10 36.2 +0.8
comp=N,34nm,1.0s,baz=298,slow=1.9,SNR=71
TXAR SKPbc SKiKP 22 13 39.5 -20
comp=N,2.2nm,0.8s,baz=284,slow=4.5,SNR=3.9
Z28A Tucker Farm, M 126.15 54 ⇑PKiKP PKiKP 22 10 35.8 0.0
baz=126
W29A Amraillo 126.17 51 ⇑PKiKP PKiKP 22 10 36.0 +0.3
baz=126
S30A Montezuma 126.21 48 ⇓PKiKP PKiKP 22 10 36.2 +0.5
baz=126
AMTX Amarillo 126.22 52 *e*PKPdf PKPdf 22 10 36.5 +1.1
AMTX Amarillo 126.22 52 ⇑PKiKP PKiKP 22 10 36.4 +0.5
baz=126
128A Castleberry Fa 126.26 55 ⇓PKiKP PKiKP 22 10 36.1 +0.1
baz=126
P31A Stockton 126.28 46 ⇓PKiKP PKiKP 22 10 36.2 +0.4
baz=126
ECSD EROS Data Cent 126.28 40 *e*PKPdf PKPdf 22 10 35.2 0.0
ECSD EROS Data Cent 126.28 40 ⇑PKiKP PKiKP 22 10 35.4 -0.2
baz=126
228A UT Block 9, Go 126.31 55 ⇓PKiKP PKiKP 22 10 36.0 -0.2
baz=126
BGNE Belgrade 126.34 43 *e*PKPdf PKPdf 22 10 35.1 -0.3
BGNE Belgrade 126.34 43 ⇑PKiKP PKPdf 22 10 35.3 0.0
baz=126
X29A Tulia 126.34 52 ⇓PKiKP PKiKP 22 10 36.4 +0.2
baz=126
T30A Plains 126.37 49 ⇑PKiKP PKiKP 22 10 36.7 +0.6
baz=126
U30A WK&E Inc. Balk 126.46 50 ⇑PKiKP PKiKP 22 10 36.7 +0.4
baz=126
Q31A Ellis 126.47 46 ⇓PKiKP PKiKP 22 10 36.0 -0.2
baz=126
N32A Stulken Farm, 126.52 44 ⇓PKiKP PKPdf 22 10 35.8 +0.1
baz=126
Y29A Porterfield Fa 126.55 53 ⇑PKiKP PKiKP 22 10 37.0 +0.5
baz=126
R31A Burdett 126.65 47 ⇓PKiKP PKiKP 22 10 36.9 +0.4
baz=127
V30A Spur Ranch, Mi 126.70 50 ⇑PKiKP PKiKP 22 10 37.7 +0.9
baz=127
Z29A Hungry Hill Ra 126.70 54 ⇓PKiKP PKiKP 22 10 36.8 -0.1
baz=127
O32A Brockman Farm, 126.74 44 ⇑PKiKP PKPdf 22 10 36.4 +0.2
baz=127
129A Stewart Farms, 126.76 55 ⇑PKiKP PKiKP 22 10 36.8 -0.2
baz=127
P32A Hulting Farm, 126.78 45 ⇑PKiKP PKiKP 22 10 36.8 0.0
baz=127
ESDC Sonseca Array 126.83 315 PKP PKPdf 22 10 37.6 +1.2
comp=N,24nm,0.9s,baz=33,slow=2.4,SNR=61
ESDC PP PP 22 12 36.0 +0.9
comp=N,9.7nm,0.9s,baz=62,slow=6.8,SNR=5.9
ESDC SKP 22 13 41.1
comp=N,4.5nm,0.7s,baz=43,slow=3.3,SNR=7.3
ESDC SKKPbc SKKPbc 22 23 59.5 +13
comp=N,2.6nm,1.0s,baz=249,slow=3.9,SNR=4.5
S31A Mullinville 126.94 48 ⇓PKiKP PKiKP 22 10 37.5 +0.3
baz=127
W30A Crocket Farms 126.98 51 ⇑PKiKP PKiKP 22 10 37.7 +0.3
baz=127
329A Wagon Wheel Ra 126.98 56 ⇓PKiKP PKiKP 22 10 37.6 +0.1
baz=127
T31A Randall Ranch, 126.99 49 ⇓PKiKP PKiKP 22 10 37.8 +0.6
baz=127
229A Bryant Ranch, 126.99 55 ⇓PKiKP PKiKP 22 10 37.4 -0.1
baz=127
X30A Coker Ranch, T 126.99 52 ⇑PKiKP PKiKP 22 10 37.3 0.0
baz=127
EYMN Ely 127.01 33 *e*PKPdf PKPdf 22 10 37.0 +0.5
EYMN *e*PP PP 22 12 33.4 -2.4
Q32A Meitler Ranch, 127.07 46 ⇓PKiKP PKiKP 22 10 37.7 +0.4
baz=127
U31A Nine Bar Ranch 127.12 49 ⇓PKiKP PKiKP 22 10 38.2 +0.6
baz=127
529A Stev Forest Ra 127.14 58 ⇑PKiKP PKiKP 22 10 37.8 0.0
baz=127
Y30A Stafford Cattl 127.15 53 ⇓PKiKP PKiKP 22 10 37.8 +0.1
baz=127
Z30A Sanderson Ranc 127.15 53 ⇓PKiKP PKiKP 22 10 37.4 +0.2
baz=127
PAB San Pablo 127.16 315 *e*PKiKP PKPdf 22 10 38.5 +1.4
PAB *e* 22 12 41.1
PAB San Pablo 127.16 315 *e*PKPdf PKPdf 22 10 38.5 +1.4
PAB *e*PP PP 22 12 41.1 +3.8
R32A Long Quarter, 127.19 47 ⇑PKiKP PKiKP 22 10 37.8 +0.2
baz=127
429A Davenport Ranc 127.29 57 ⇑PKiKP PKiKP 22 10 38.2 +0.1
baz=127
S32A Newby Ranch, P 127.31 48 ⇑PKiKP PKiKP 22 10 38.2 +0.3
baz=127
V31A Spring Creek L 127.34 50 ⇓PKiKP PKiKP 22 10 38.9 +0.8
baz=127
W31A Holland Ranch, 127.47 51 ⇓PKiKP PKiKP 22 10 38.5 +0.2
baz=127
130A Snyder 127.49 54 ⇓PKiKP PKiKP 22 10 38.3 -0.1
baz=128
P33A Williams Farm, 127.50 45 ⇓PKiKP PKiKP 22 10 38.2 0.0
baz=127
T32A Huddler Ranch, 127.52 48 ⇑PKiKP PKiKP 22 10 38.7 +0.4
baz=128
230A Sterling City 127.58 55 ⇑PKiKP PKiKP 22 10 38.6 0.0
baz=128
Q33A Connelly Farm, 127.58 46 ⇑PKiKP PKiKP 22 10 38.6 +0.2
baz=128
X31A McDonald Ranch 127.63 52 ⇓PKiKP PKiKP 22 10 39.0 +0.4
baz=128
Y31A Rekieta Farm, 127.63 52 ⇑PKiKP PKiKP 22 10 38.8 +0.2
baz=128
TOA0 Torodi Ar. Sit 127.66 281 *e*PKPdf PKPdf 22 10 38.4 -0.2
TORD Torodi Ar. Bea 127.66 281 PKP PKPdf 22 10 38.5 0.0
comp=N,82nm,1.0s,baz=76,slow=1.6,SNR=115

TORD SKPbc SKiKP 22 13 40.4 -22
comp=N,25nm,1.0s,baz=63,slow=3.7,SNR=7.1
330A Mertzon 127.67 56 ⇑PKiKP PKiKP 22 10 38.6 -0.2
baz=128
U32A Winter Ranch, 127.76 49 ⇓PKiKP PKiKP 22 10 38.9 +0.1
baz=128
R33A Olander Ranch, 127.76 46 ⇓PKiKP PKiKP 22 10 38.8 0.0
baz=128
PBRG Braganca 127.78 318 PKPdf PKPdf 22 10 39.2 +1.1
430A Baggett Ranch, 127.79 57 ⇓PKiKP PKiKP 22 10 39.4 +0.3
baz=128
SPMN St. Paul 127.84 36 ePKPdf PKPdf 22 10 38.7 +0.6
SPMN St. Paul 127.84 36 ⇑PKiKP PKiKP 22 10 38.4 -0.3
baz=128
530A J-C Ranch, Com 127.88 57 ⇑PKiKP PKiKP 22 10 39.9 +0.7
baz=128
Z31A Sharp Cattle R 127.93 53 ⇑PKiKP PKiKP 22 10 39.4 +0.1
baz=128
131A Roby 127.93 54 ⇓PKiKP PKiKP 22 10 39.5 +0.2
baz=128
V32A Arapaho 127.97 50 ⇓PKiKP PKiKP 22 10 39.8 +0.6
baz=128
W32A Sentinel 128.03 51 ⇓PKiKP PKiKP 22 10 39.4 0.0
baz=128
S33A Kaszmaul Farm, 128.03 47 ⇓PKiKP PKiKP 22 10 39.4 +0.1
baz=128
T33A Patterson Ranc 128.06 48 ⇓PKiKP PKiKP 22 10 39.6 +0.2
baz=128
231A Bronte 128.22 55 ⇓PKiKP PKiKP 22 10 39.7 -0.2
baz=128
X32A Elmer 128.24 52 ⇓PKiKP PKiKP 22 10 39.7 -0.1
baz=128
Y32A R-V Farms, Ver 128.26 52 ⇓PKiKP PKiKP 22 10 39.9 0.0
baz=128
MVO Moncorvo 128.27 318 PKPdf PKPdf 22 10 40.5 +1.4
MVO Moncorvo 128.27 318 ePP PP 22 12 48.3 +3.8
331A San Angelo 128.31 56 ⇑PKiKP PKiKP 22 10 40.0 -0.1
baz=128
431A Sonora 128.34 56 ⇑PKiKP PKiKP 22 10 40.3 +0.1
baz=128
U33A Lingo Farm, Me 128.40 49 ⇑PKiKP PKiKP 22 10 40.4 +0.3
baz=128
KSU1 Kansas State U 128.40 45 ePKPdf PKPdf 22 10 40.2 +0.9
KSU1 Kansas State U 128.40 45 ⇓PKiKP PKiKP 22 10 40.1 +0.1
baz=128
Z32A Haskell 128.46 53 ⇓PKiKP PKiKP 22 10 40.5 +0.2
baz=128
V33A Lossen Ranch, 128.50 49 ⇑PKiKP PKiKP 22 10 40.4 +0.1
baz=128
531A Rocksprings 128.53 57 ⇓PKiKP PKiKP 22 10 40.8 +0.2
baz=128
ABTX Abilene, Hawle 128.55 54 ePKPdf PKPdf 22 10 39.4 -0.5
ABTX Abilene, Hawle 128.55 54 ⇑PKiKP PKiKP 22 10 40.5 0.0
baz=128
W33A Caddo, Fort Co 128.61 50 ⇓PKiKP PKiKP 22 10 40.9 +0.4
baz=129
PCAB Cabril 128.66 319 PKPdf PKPdf 22 10 41.8 +2.0
PVRL Vila Real 128.67 318 PKPdf PKPdf 22 10 41.3 +1.5
POLO Lamas de Olo 128.67 318 PKPdf PKPdf 22 10 41.4 +1.5
631A Perdido Creek 128.71 58 ⇓PKiKP PKiKP 22 10 41.0 +0.1
baz=129
232A Coleman 128.77 55 ⇑PKiKP PKiKP 22 10 41.1 +0.1
baz=129
X33A Lawton 128.80 51 ⇓PKiKP PKiKP 22 10 40.9 0.0
baz=129
U34A Anderson Ranch 128.83 48 ePKPdf PKPdf 22 10 41.6 +1.3
U34A epPKPdf pPKPdf 22 11 18.3 +2.0
U34A Anderson Ranch 128.83 48 ⇓PKiKP PKiKP 22 10 41.1 +0.1
baz=129
332A Millersview 128.85 55 ⇑PKiKP PKiKP 22 10 41.4 +0.2
baz=129
Y33A Hilltop Ranch, 128.89 52 ⇑PKiKP PKiKP 22 10 41.2 +0.1
baz=129
432A Menard 128.96 56 ⇓PKiKP PKiKP 22 10 41.3 -0.1
baz=129
MTE Manteigas 128.97 317 PKPdf PKPdf 22 10 41.9 +1.4
MTE Manteigas 128.97 317 ePKPdf PKPdf 22 10 41.9 +1.4
MTE ePP PP 22 12 47.9 -1.2
Z33A Whitaker Ranch 129.03 53 ⇑PKiKP PKiKP 22 10 41.7 +0.3
baz=129
PLCA Paso Flores 129.03 161 PKIKP PKPdf 22 10 41.2 +0.5
PLCA pmax pmax
comp=Z,110nm,1.1s
PLCA Paso Flores 129.03 161 PKP PKPdf 22 10 41.2 +0.5
comp=Z,110nm,1.1s,baz=210,slow=2.9,SNR=58
PVIS Viseu 129.06 318 PKPdf PKPdf 22 10 42.1 +1.5
JCT Junction City 129.06 56 ePKIKP PKPdf 22 10 36.6 -4.3
JCT Junction City 129.06 56 ⇑PKiKP PKiKP 22 10 41.3 -0.3
baz=129
V34A Guthrie 129.08 49 ePKPdf PKPdf 22 10 42.0 +1.3
V34A Guthrie 129.08 49 ⇓PKiKP PKiKP 22 10 41.6 +0.2
baz=129
W34A Bridge Creek, 129.11 50 ⇑PKiKP PKiKP 22 10 41.6 0.0
baz=129
133A Hamilton Ranch 129.13 54 ⇓PKiKP PKiKP 22 10 41.6 0.0
baz=129
PCBR Castelo Branco 129.19 317 PKPdf PKPdf 22 10 42.4 +1.6
X34A Smith Ranch, M 129.30 51 ⇓PKiKP PKiKP 22 10 42.3 +0.4
baz=129
PTO Porto 129.32 319 PKPdf PKPdf 22 10 42.6 +1.6
PMRV Marv??o 129.32 316 PKPdf PKPdf 22 10 42.4 +1.3
PMRV Marv??o 129.32 316 ePP PP 22 12 47.8 -3.6
PMRV eSKS SKPbc 22 13 52.8 +2.2
233A Rising Star 129.34 54 ⇑PKiKP PKiKP 22 10 42.3 +0.2
baz=129
632A Uvalde 129.35 58 ⇑PKiKP PKiKP 22 10 42.4 +0.3
baz=129
SCIA State Center 129.35 40 ePKPdf PKPdf 22 10 41.8 +0.8
732A Laxson Ranch, 129.40 59 ⇓PKiKP PKiKP 22 10 42.4 +0.1
baz=129
333A Richland Sprin 129.48 55 ⇑PKiKP PKiKP 22 10 42.1 -0.3
baz=130
832A Faith Ranch, C 129.51 59 ⇓PKiKP PKiKP 22 10 42.6 +0.1
baz=130
433A Art 129.57 56 ⇑PKiKP PKiKP 22 10 42.2 -0.4
baz=130
Y34A Reagan Ranch, 129.59 52 ⇑PKiKP PKiKP 22 10 42.1 +0.4
baz=130
PBAR Barrancos 129.64 314 PKPdf PKPdf 22 10 43.1 +1.4
PBAR eSKS SKPbc 22 13 54.5 +2.9
Z34A Collier Ranch, 129.67 52 ⇓PKiKP PKiKP 22 10 42.7 -0.1
baz=130
PESTR Estremoz 129.72 316 PKPdf PKPdf 22 10 43.1 +1.2
PESTR eSKS SKPbc 22 13 52.5 +0.6
PCAS Casmilo, Conde 129.78 317 PKPdf PKPdf 22 10 43.1 +1.2
PCAS Casmilo, Conde 129.78 317 ePP PP 22 12 58.6 +4.3
134A White-Moore Ra 129.81 53 ⇑PKiKP PKiKP 22 10 42.9 -0.1
baz=130
533A Kerrville 129.81 57 ⇑PKiKP PKiKP 22 10 42.9 -0.2
baz=130
633A Saathoff Ranch 129.87 58 ⇓PKiKP PKiKP 22 10 43.3 +0.1
baz=130
MDT Midelt 129.91 307 PKP PKPdf 22 10 43.6 +1.1
comp=Z,19nm,0.5s,baz=92,slow=3.0,SNR=42
MDT SKPbc SKPab 22 13 51.9 -0.6
comp=Z,25nm,0.8s,baz=81,slow=6.7,SNR=13
PTOM Tomar 129.93 317 PKPdf PKPdf 22 10 44.2 +2.0
PTOM Tomar 129.93 317 ePP PP 22 12 57.5 +2.2
PTOM eSKS SKPab 22 13 52.4 +0.2
234A Clairette 129.95 54 ⇑PKiKP PKiKP 22 10 43.1 -0.3
baz=130
733A Divot King Ran 129.97 58 ⇑PKiKP PKiKP 22 10 43.6 +0.2
baz=130
833A Chaparral WMA, 130.00 59 ⇑PKiKP PKiKP 22 10 43.8 +0.3
baz=130
PMTG Montargil 130.06 316 PKPdf PKPdf 22 10 43.4 +0.9
PMTG eSKS SKPab 22 13 52.5 -0.3
334A Lometa 130.09 55 ⇓PKiKP PKiKP 22 10 43.5 -0.2
baz=130
EVO Evora 130.16 315 ⇑iPKIKP PKPdf 22 10 43.7 +1.0
comp=Z,470nm,1.6s
EVO Evora 130.16 315 PKPdf PKPdf 22 10 44.1 +1.4
EVO Evora 130.16 315 ePP PP 22 12 57.0 +0.2
EVO eSKS SKPbc 22 13 53.7 +0.2
Z35A Perchaven, San 130.20 52 ⇓PKiKP PKiKP 22 10 43.7 -0.1
baz=130
434A Burnet 130.22 56 ⇓PKiKP PKiKP 22 10 43.5 +0.4
baz=130
EVOP Sao Brissos 130.24 315 ⇑iPKIKP PKPdf 22 10 43.7 +0.9
EVOP Sao Brissos 130.24 315 ⇑iPKIKP PKPdf 22 10 43.7 +0.9
933A Laredo 130.28 60 ⇑PKiKP PKiKP 22 10 44.6 +0.5
baz=130
PBEJ Beja 130.29 315 PKPdf PKPdf 22 10 44.5 +1.5
PBEJ eSKS SKPab 22 13 53.8 0.0
534A Blanco 130.29 57 ⇑PKiKP PKiKP 22 10 43.7 -0.4
baz=130
TUL1 Tulsa 130.33 48 ePKPdf PKPdf 22 10 43.8 +0.7
TUL1 Tulsa 130.33 48 ⇑PKiKP PKPdf 22 10 43.5 +0.4
baz=130
135A Vickery Place, 130.35 53 ⇑PKiKP PKiKP 22 10 44.2 +0.1
baz=130
PVAQ Vaqueiros 130.46 314 PKPdf PKPdf 22 10 44.6 +1.3
PVAQ eSKS SKPbc 22 13 55.6 +1.0
WHTX Lake Whitney 130.50 54 ePKPdf PKPdf 22 10 45.8 +2.2
WHTX Lake Whitney 130.50 54 ⇓PKiKP PKiKP 22 10 44.4 -0.1
baz=130
734A La Parita Cree 130.56 58 ⇓PKiKP PKiKP 22 10 44.9 +0.3
baz=131
634A China Grove, S 130.58 57 ⇓PKiKP PKiKP 22 10 44.4 -0.2
baz=131
PCVE Castro Verde 130.59 314 PKPdf PKPdf 22 10 45.1 +1.6
PCVE eSKS SKPab 22 13 55.1 0.0
MESJ Messejana 130.62 315 eP PKPdf 22 10 44.3 +0.7
MESJ ePP PP 22 13 00.6 +0.8
MESJ AMS AMS 23 16 33.7
comp=Z,769nm,19.9s
MESJ Messejana 130.62 315 PKPdf PKPdf 22 10 45.0 +1.4
MESJ eSKS SKPab 22 13 55.2 0.0
MESJ Messejana 130.62 315 ePKIKP PKPdf 22 10 44.2 +0.7
MESJ e 22 13 00.6
JFWS Jewell Farm 130.66 38 ePKIKP PKPdf 22 10 43.5 0.0
JFWS Jewell Farm 130.66 38 ePKPdf PKPdf 22 10 43.5 0.0
PBDV Barranco-do-Ve 130.68 314 eSKS SKPab 22 13 57.8 +2.2
PNCL Nicolau / Gran 130.72 315 PKPdf PKPdf 22 10 45.4 +1.7
335A Moody 130.76 55 ⇑PKiKP PKiKP 22 10 44.6 -0.4
baz=131
834A Tilden 130.76 59 ⇑PKiKP PKiKP 22 10 45.7 +0.7
baz=131
435B Jarrell 130.79 55 ⇑PKiKP PKiKP 22 10 45.0 0.0
baz=131
PMAFR Mafra 130.84 316 PKPdf PKPdf 22 10 45.7 +1.7
PMAFR eSKS SKiKP 22 14 02.7 -5.9
LIS Lisbon 130.86 316 ePP PP 22 13 02.4 +1.1
LIS AMS AMS 23 12 15.3
comp=E,1μm,19.4s
034A Hebbronville 130.93 60 ⇓PKiKP PKiKP 22 10 46.2 +0.8
baz=131
934A Benavides 130.93 60 ⇓PKiKP PKiKP 22 10 46.3 +0.9
baz=131
SCHQ Schefferville 130.94 12 PKP PKPdf 22 10 44.4 +0.7
comp=E,38nm,0.7s,baz=303,slow=2.8,SNR=34
SCHQ SKPbc SKPbc 22 13 54.8 -1.0
comp=E,91nm,0.8s,baz=334,slow=5.2,SNR=18
535A Dale 131.04 56 ⇑PKiKP PKiKP 22 10 45.4 -0.2
baz=131
635A Leesville 131.06 57 ⇓PKiKP PKiKP 22 10 45.7 +0.1
baz=131
MORF Marmelete 131.17 314 eP PKPdf 22 10 45.2 +0.5
MORF AMS AMS 23 16 59.8
comp=Z,1μm,21.2s
MORF Marmelete 131.17 314 PKPdf PKPdf 22 10 46.6 +1.9
MORF eSKS SKPab 22 13 57.9 +0.3
MORF Marmelete 131.17 314 ePKIKP PKPdf 22 10 45.2 +0.5
735A Kenedy 131.19 58 ⇑PKiKP PKiKP 22 10 46.3 +0.4
baz=131
835A Beeville 131.33 59 ⇓PKiKP PKiKP 22 10 46.8 +0.6
baz=131
PFVI Vila Bisbo 131.37 314 PKPdf PKPdf 22 10 46.7 +1.7
436A Wall Ranch, Ga 131.44 55 ⇓PKiKP PKiKP 22 10 46.4 0.0
baz=131
035A Encino 131.46 60 ⇓PKiKP PKiKP 22 10 47.4 +1.0
baz=132
035Z Hargill 131.61 61 ⇓PKiKP PKiKP 22 10 47.6 +0.8
baz=132
636A Smothers Creek 131.63 57 ⇑PKiKP PKiKP 22 10 47.5 +0.7
baz=132
HKT Hockley 132.49 56 c iPKIKP PKPdf 22 10 48.0 +0.7
HKT Hockley 132.49 56 ePKPdf PKPdf 22 10 49.1 +1.9
MIAR Mount Ida 132.55 49 ePKHKP PKPpre 22 10 35.4
MIAR Mount Ida 132.55 49 ePKPpre PKPpre 22 10 35.4
538A Harpers Horsep 132.68 55 ⇑PKiKP PKiKP 22 10 49.8 +1.0
baz=133
UALR University of 133.37 48 ePKPdf PKPdf 22 10 49.9 +1.1
TRQA Tornquist 133.81 168 ePKPdf PKPdf 22 10 50.6 +0.9
KIC Kosan Boka 133.84 272 eP PKPpre 22 10 38.9
comp=Z,268nm,1.2s
KIC Kosan Boka 133.84 272 ePKP2 SKPbc 22 14 05.4 -1.7
comp=Z,462nm,1.4s
DBIC Dimbokro 133.98 272 PKIKP PKPdf 22 10 51.1 +0.5
DBIC pmax pmax
comp=Z,33nm,0.6s
DBIC pmax pmax
comp=N,67nm,0.9s
DBIC Dimbokro 133.98 272 PKP PKPdf 22 10 51.1 +0.5
comp=N,33nm,0.6s,baz=78,slow=3.1,SNR=26
DBIC SKPbc SKPbc 22 14 06.1 -1.4
comp=N,67nm,0.9s,baz=84,slow=3.7,SNR=18
SFIN Scholer Farm 134.05 39 ePKPdf PKPdf 22 10 50.9 +0.9
SFIN ePP PP 22 13 20.1 -1.4
SFIN Scholer Farm 134.05 39 ⇑PKiKP PKPdf 22 10 50.4 +0.4
baz=134
LIC Lamto 134.12 272 ⇑iPKIKP PKPdf 22 10 51.0 +0.2
comp=N,156nm,0.9s
LIC Lamto 134.12 272 eP PKPpre 22 10 40.6
comp=N,231nm,0.9s
LIC Lamto 134.12 272 ePKP2 SKPbc 22 14 06.4 -1.6
comp=N,242nm,1.2s
LIC Lamto 134.12 272 ⇑iPKIKP PKPdf 22 10 51.0 +0.2
TIC Toumodi 134.14 272 eP PKPpre 22 10 39.7
comp=N,74nm,0.7s
TIC Toumodi 134.14 272 ePKP2 SKPbc 22 14 06.6 -1.5
comp=N,172nm,1.0s
SIUC Southern Illin 134.16 43 ePKPdf PKPdf 22 10 51.1 +0.8
OLIL Olney 134.35 41 ePKPdf PKPdf 22 10 51.7 +1.1
GNAR Gosnell 134.49 45 ePKPdf PKPdf 22 10 50.3 -0.6
AAM Ann Arbor 134.87 34 ePKIKP PKPdf 22 10 51.0 -0.4
AAM Ann Arbor 134.87 34 ePKPdf PKPdf 22 10 51.0 -0.4
USIN University of 135.06 42 ePKPdf PKPdf 22 10 52.6 +0.7
BLO Bloomington 135.12 40 ePKIKP PKPdf 22 10 52.9 +0.9
BLO Bloomington 135.12 40 ePKPdf PKPdf 22 10 52.9 +0.9
WCI Wyandotte Cave 135.81 40 ePKHKP PKPpre 22 10 45.8
WCI e 22 13 29.8
WCI Wyandotte Cave 135.81 40 ePKPpre PKPpre 22 10 45.8
WCI ePP PP 22 13 29.8 -2.9
ACSO Alum Creek Sta 136.61 36 ePKPpre PKPpre 22 10 44.3
ERPA Erie 136.97 32 ePKPpre PKPpre 22 10 50.7
PTN Potsdam (NY) 137.47 25 ePKHKP PKPpre 22 10 47.0
PTN Potsdam (NY) 137.47 25 ePKPpre PKPpre 22 10 47.0
MMNY Mt. Morris Dam 137.57 29 ePKPpre PKPpre 22 10 49.1
LONY Lake Ozonia 137.60 25 ePKPpre PKPpre 22 10 49.0
DRLN Deer Lake 137.82 6 ePKPdf PKPdf 22 10 57.3 +0.6
CFAA Coronel Fontan 138.07 158 PKhKP PKPpre 22 10 48.5
comp=N,1.7nm,0.4s,baz=204,slow=3.6,SNR=28
CFAA PKP PKPdf 22 10 57.9 0.0
comp=N,9.5nm,0.7s,baz=192,slow=2.6,SNR=20
CFAA SKPbc SKPbc 22 14 17.9 -1.8
comp=N,3.8nm,0.8s,baz=210,slow=4.9,SNR=10
CPCT Cooper Cave 138.56 43 ePKPdf PKPdf 22 10 58.6 +0.1
CPCT eSKP 22 14 22.2
TZTN Tazewell 138.56 41 ePKPpre PKPpre 22 10 53.0
MDV Middlebury 138.68 24 ePKPpre PKPpre 22 10 51.6
BINY Binghamton 138.90 28 ePKPpre PKPpre 22 10 49.9
TKL Tuckaleechee C 138.94 42 SKPbc SKPbc 22 14 20.1 -1.8
comp=N,38nm,1.0s,baz=289,slow=1.6,SNR=7.4
ACCN Adirondack Com 138.99 25 ePKPpre PKPpre 22 10 55.5
BRAL Brewton 139.03 50 ePKPpre PKPpre 22 10 51.8
PKME Peaks-Kenny Pk 139.03 20 ePKPpre PKPpre 22 10 53.9
SSPA Standing Stone 139.14 31 ePKPpre PKPpre 22 10 48.6
SSPA ePKPdf PKPdf 22 10 59.6 +0.2
LCO Las Campanas 139.34 153 ePKPpre PKPpre 22 10 52.1
LCO ePKPdf PKiKP 22 11 01.8 -1.0
KSPA Keystone Colle 139.50 29 ePKPpre PKPpre 22 10 52.0
TRY Troy 139.52 26 ePKPpre PKPpre 22 10 55.1
BLA Blacksburg 140.10 37 ePKHKP PKPpre 22 10 53.2
BLA Blacksburg 140.10 37 ePKPpre PKPpre 22 10 53.2
PAYG Puerto Ayora 140.25 100 ePKPdf PKPdf 22 11 01.0 -1.2
ASCN Ascension 140.25 248 ePKPdf PKPdf 22 11 03.0 +0.8
ODNJ Ogdensburg 140.41 28 ePKPpre PKPpre 22 10 55.0
GOGA Godfrey 140.43 44 ePKHKP PKPpre 22 10 55.5
GOGA Godfrey 140.43 44 ePKPpre PKPpre 22 10 55.5
SDMD Soldier's Deli 140.58 32 ePKPpre PKPpre 22 10 57.3
APG El Apazote 140.80 75 PKhKP PKPpre 22 10 53.2
baz=241,slow=4.0
APG SKPbc SKPbc 22 14 23.5 -4.2
comp=N,76nm,1.2s,baz=232,slow=2.3,SNR=7.1
KMSC Kings Mountain 140.84 41 ePKPpre PKPpre 22 10 55.8
KMSC Kings Mountain 140.84 41 ⇓PKiKP PKPdf 22 11 02.9 +0.3
baz=141
BRYW Bryant College 141.08 24 ePKPpre PKPpre 22 10 58.5
CBN Corbin 141.17 34 ePKPdf PKPdf 22 11 02.6 -0.5
JSRW J. Sargeant Re 141.25 35 ePKPpre PKPpre 22 10 57.3
TIGA Tifton 141.40 47 ePKPdf PKPdf 22 11 04.4 +0.7
TIGA Tifton 141.40 47 ⇓PKiKP PKPdf 22 11 04.9 +1.2
baz=141
URVA University of 141.53 34 ePKPpre PKPpre 22 10 58.6
TEIG Tepich 141.89 66 PKhKP PKPpre 22 11 01.6
baz=265,slow=2.0
TEIG SKPbc SKPbc 22 14 30.1 0.0
comp=N,34nm,0.8s,baz=321,slow=6.5,SNR=5.7
TEIG Tepich 141.89 66 ePKPpre PKPpre 22 11 00.8
TEIG SKPbc SKPbc 22 14 30.1 0.0
CEN1 Los Morros 144.33 149 ⇓iP PKPab 22 11 07.5 -0.1
CEN1 Los Morros 144.33 149 ⇓iP PKPab 22 11 07.5 -0.1
BBTS Babate 145.19 285 PKPbc PKPab 22 11 11.7 +0.9
comp=N,144nm,0.8s,baz=117,slow=1.5,SNR=23
BBTS SKPbc SKPbc 22 14 37.2 -0.8
comp=N,66nm,0.9s,baz=115,slow=2.2,SNR=5.2
LVC Limon Verde 145.63 150 ePKPdf PKPab 22 11 13.8 +1.2
SOR Soroa 145.76 60 eP PKPbc 22 11 12.3 -0.1
CPUP Villa Florida 146.08 170 PKP2 PKPbc 22 11 13.5 +0.4
CPUP 22 14 38.8
CPUP pmax pmax
comp=Z,92nm,0.5s
CPUP pmax pmax
comp=N,24nm,0.7s
CPUP Villa Florida 146.08 170 PKPbc PKPbc 22 11 13.5 +0.4
comp=N,92nm,0.5s,baz=181,slow=2.0,SNR=109
CPUP SKPbc SKPbc 22 14 38.8 -1.1
comp=N,24nm,0.7s,baz=141,slow=6.5,SNR=5.3
JTS JuntasAbangare 146.55 82 PKIKP PKPbc 22 11 14.6 -0.3
JTS pmax pmax
comp=Z,254nm,0.8s
JTS JuntasAbangare 146.55 82 PKPbc PKPbc 22 11 14.6 -0.3
comp=Z,254nm,0.8s,baz=336,slow=4.0,SNR=61
JTS JuntasAbangare 146.55 82 ePKPdf PKPbc 22 11 14.4 -0.5
JTS PKPbc PKPbc 22 11 14.6 -0.3
NNA Nana 148.15 127 iPKIKP PKPdf 22 11 17.5 +1.6
NNA Nana 148.15 127 ePKPdf PKPdf 22 11 17.6 +1.6
MGV Manicaragua 148.61 59 eP PKPdf 22 11 17.0 +0.7
ATAH Atahualpa 149.36 117 PKPbc PKPdf 22 11 20.3 +1.9
comp=Z,82nm,1.0s,baz=277,slow=3.2,SNR=61
CCCC Cccc 150.86 59 eP PKPdf 22 11 20.6 +0.6
LPAZ La Paz 151.23 145 PKIKP PKPdf 22 11 23.1 +1.6
LPAZ pmax pmax
comp=Z,79nm,1.1s
LPAZ La Paz 151.23 145 PKPbc PKPdf 22 11 23.1 +1.6
comp=Z,79nm,1.1s,baz=31,slow=2.5,SNR=151
BCIP Isla Barro Col 151.63 84 ePKPdf PKPdf 22 11 21.6 +0.3
BCIP ePKPbc PKiKP 22 11 28.1 0.0
BB16B Bebedouro 151.75 185 ⇑iP PKPdf 22 11 21.8 +0.4
BB16B i 22 11 28.4
BB16B i 22 11 30.0
BB16B i 22 11 37.2
SACV Santiago Islan 151.86 288 ePKPdf PKPdf 22 11 23.0 +1.3
LMGC Las Mercedes 151.97 60 eP PKPdf 22 11 22.2 +0.5
OTAV Otavalo 151.97 103 ePKPdf PKPdf 22 11 23.6 +1.1
BBSR BB Station 152.06 25 ePKPdf PKPdf 22 11 22.9 +1.4
MCJ Malvern 152.14 65 iP PKPbc 22 11 29.0 +0.1
MTDJ Mount Denham 152.17 64 ePKPdf PKPdf 22 11 22.8 +0.6
MTDJ ePKPbc PKiKP 22 11 29.5 +0.2
MTDJ ePKPab PKPab 22 11 39.4 +0.3
BBJ Bamboo Saint A 152.36 64 iP PKPbc 22 11 29.7 +0.4
HLGC Holguin 152.43 58 eP PKPbc 22 11 29.8 +0.4
STH Stony Hill 152.87 64 iP PKPdf 22 11 23.9 +0.8
GWJ Greenwich 152.95 64 iP PKPbc 22 11 30.8 +0.1
HOJ Hope 152.95 64 iP PKPbc 22 11 30.7 +0.1
RCC Rio Carpintero 153.12 59 eP PKPdf 22 11 23.1 -0.3
YHJ Yallahs 153.22 64 iP PKPdf 22 11 24.6 +0.9
MOAC Moa 153.46 57 eP PKPdf 22 11 25.3 +1.5
MASC Masc 154.28 58 eP PKPdf 22 11 25.0 0.0
SIV San Ignacio 154.92 157 PKP PKPdf 22 11 27.1 +1.0
comp=Z,32nm,1.0s,baz=236,slow=1.9,SNR=45
SIV PKPab PKPab 22 11 51.6 +1.1
comp=Z,50nm,0.8s,baz=231,slow=7.5,SNR=6.2
GRTK Grand Turk 156.13 52 ePKPab PKPab 22 11 55.9 +0.3
ROSC El Rosal 156.91 95 PKP PKPdf 22 11 30.0 +0.8
comp=Z,28nm,0.7s,baz=294,slow=3.5,SNR=34
BDFB Brasilia 157.02 188 PKIKP PKPdf 22 11 29.5 +0.5
BDFB pmax pmax
comp=Z,29nm,1.0s
BDFB Brasilia 157.02 188 PKP PKPdf 22 11 29.5 +0.5
comp=Z,29nm,1.0s,baz=178,slow=1.9,SNR=28
SDDR Presa de Saban 157.29 57 ePKPdf PKPdf 22 11 29.6 +0.4
SMN1 Samana, DR 158.84 54 ePKPdf PKPdf 22 11 31.2 +0.2
RCBR Riachuelo 159.92 230 ePKPab PKPab 22 12 14.8 +2.5
SAML Samuel 159.97 143 ePKPdf PKPdf 22 11 33.2 +0.8
SDV Santo Domingo 160.72 84 ePKPdf PKPdf 22 11 33.6 +0.1
AGP Aguadilla 160.96 53 ePKPab PKPab 22 12 17.8 +1.0
LSP Las Mesas 161.13 53 ePKPdf PKPdf 22 11 34.2 +0.7
LRS Lares 161.26 53 ePKPdf PKPdf 22 11 34.1 +0.4
LRS epPKPdf pPKPdf 22 12 11.0 +1.0
AOPR Arecibo Observ 161.30 52 ePKPab PKPab 22 12 19.0 +0.8
OBIP Obispado Ponce 161.59 53 ePKPdf PKPdf 22 11 34.1 +0.1
OBIP ePKPab PKPab 22 12 20.2 +0.7
CELP Cerrillos 161.59 53 ePKPdf PKPdf 22 11 34.5 +0.5
CELP ePKPab PKPab 22 12 15.4 -4.0
ICMP Isla Caja de M 161.74 53 ePKPdf PKPdf 22 11 34.4 +0.3
ICMP ePKPab PKPab 22 12 20.2 +0.2
SJG San Juan 161.91 52 PKIKP PKPdf 22 11 34.4 +0.1
SJG 22 12 21.7
SJG pmax pmax
comp=Z,75nm,0.8s
SJG pmax pmax
comp=Z,269nm,0.9s
SJG San Juan 161.91 52 PKP PKPdf 22 11 34.4 +0.1
comp=Z,75nm,0.8s,baz=349,slow=4.3,SNR=17
SJG PKPab PKPab 22 12 21.7 +0.8
comp=Z,269nm,0.9s,baz=322,slow=4.7,SNR=20
CBYP Canovanas 162.04 51 ePKPab PKPab 22 12 21.9 +0.4
HUMP Col San Antoni 162.12 51 ePKPdf PKPdf 22 11 34.9 +0.3
HUMP ePKPab PKPab 22 12 22.8 +1.0
CPD Cerro la Pandu 162.13 52 ePKP2 PKPab 22 12 22.9 +1.0
CPD e 22 16 03.9
CPD Cerro la Pandu 162.13 52 ePKPab PKPab 22 12 22.9 +1.0
CPD ePP PP 22 16 03.9 -1.9
CDVI St. Croix 163.19 50 ePKPdf PKPdf 22 11 36.0 +0.4
CDVI ePKPab PKPab 22 12 27.0 +0.6
PCRV Puerto La Cruz 166.44 77 PKP PKPdf 22 11 36.7 -1.9
comp=Z,13nm,0.9s,baz=315,slow=5.7,SNR=2.4
PCRV PKPab PKPab 22 12 41.6 +0.5
comp=Z,37nm,1.0s,baz=315,slow=2.9,SNR=3.6
MLG Mont-d'or 166.53 49 eP PKPdf 22 11 38.7 +0.1
LKG Breislack 166.58 49 eP PKPdf 22 11 38.9 +0.1
ECG Echelle 166.58 49 eP PKPdf 22 11 38.9 +0.1
TBG Guadaloupe-3 166.71 49 eP PKPdf 22 11 38.8 +0.1
BBL Barber's Block 167.04 50 eP PKPdf 22 11 37.8 -1.1
FDF Fort de France 167.76 52 ePKIKP PKPdf 22 11 39.5 0.0
FDF Fort de France 167.76 52 ePKPdf PKPdf 22 11 39.5 0.0

CSEM 15 21:56:40.8, 51.41N×16.21E, h0km, After GFU
PRU 15 21:56:38.7, 51.48N×16.22E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	176	ePg	Pg	21 56 51.1	+0.1
KSP				eSg	Sg	21 57 00.2	+0.9
UPC	Upice	0.98	188	ePG	Pg	21 56 57.4	-0.2
UPC				eSG	Sg	21 57 10.2	-0.1
	2.0nm,0.2s						
UPC	Upice	0.98	188	Pg	Pg	21 56 57.4	-0.2
UPC				Sg	Sg	21 57 10.2	-0.1
	2.0nm,0.2s						
DPC	Dobruska-Polom	1.13	177	ePG	Pg	21 57 00.0	-0.5
DPC				eSG	Sg	21 57 14.9	-0.4
DPC	Dobruska-Polom	1.13	177	Pg	Pg	21 57 00.0	-0.5
DPC				Sg	Sg	21 57 14.9	-0.4
KRLC	Kraliky	1.45	166	ePG	Pn	21 57 05.8	-0.5
KRLC				eSG	Sg	21 57 25.0	-0.5
KRLC	Kraliky	1.45	166	Pg	Pn	21 57 05.8	-0.5
KRLC				Sg	Sg	21 57 25.0	-0.5
BRG	Berggiesshubel	1.56	248	PG	Pn	21 57 07.3	-0.3
BRG				SG	Sn	21 57 27.6	-0.9
	5.7nm,0.4s						
PRU	Pruhonice	1.83	216	ePG	Pb	21 57 13.0	-0.1
PRU				eSG	Sg	21 57 37.2	-0.5
PRU	Pruhonice	1.83	216	Pg	Pb	21 57 13.0	-0.1
PRU				Sg	Sg	21 57 37.2	-0.5
OKC	Ostrava-Krasne	2.05	143	eSG	Sg	21 57 44.0	-0.6
	3.2nm,0.5s						
OKC	Ostrava-Krasne	2.05	143	Sg	Sg	21 57 44.0	-0.6
	3.2nm,0.5s						
TREC	Trest	2.24	192	eSG	Sg	21 57 49.9	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
	1.6nm,0.2s						
TREC	Trest	2.24	192	Sg	Sg	21 57 49.9	-0.8
	1.6nm,0.2s						
NKC	Novy Kostel	2.70	244	eSG	Sg	21 58 05.5	+0.1
	1.8nm,0.3s						
NKC	Novy Kostel	2.70	244	Sg	Sg	21 58 05.5	+0.1
	1.8nm,0.3s						
KHC	Kasperske Hory	2.90	217	ePG	Pb	21 57 31.4	+0.1
KHC				eSN	Sn	21 58 00.7	-1.0
KHC				eSG	Sg	21 58 11.3	-0.6
KHC	Kasperske Hory	2.90	217	Pg	Pb	21 57 31.4	+0.1
KHC				Sn	Sn	21 58 00.7	-1.0
KHC				Sg	Sg	21 58 11.3	-0.6

PRU 15 22:08:09.1, 50°.33N × 18°.81E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHZP	Chorzow	0.12	108	ePg	Pg	22 08 11.6	+0.1
CHZP				eSg	Sg	22 08 13.6	+0.5
OJC	Ojcow	0.64	100	ePg	Pg	22 08 21.7	+0.2
OJC				eSg	Sg	22 08 30.2	+0.3
OKC	Ostrava-Krasne	0.65	221	ePG	Pg	22 08 21.8	+0.2
OKC				eSG	Sg	22 08 30.4	+0.3
	5.6nm,0.4s						
KRLC	Kraliky	1.33	260	ePG	Pg	22 08 33.4	-1.3
KRLC				eSG	Sg	22 08 51.5	-0.4
NIE	Niedzica	1.33	133	ePg	Pb	22 08 35.5	+0.5
NIE				eSg	Sn	22 08 54.1	+0.6
DPC	Dobruska-Polom	1.59	272	ePG	Pn	22 08 38.1	-0.5
DPC				eSG	Sn	22 09 00.1	+0.1
KSP	Ksiaz	1.68	289	ePg	Pn	22 08 40.2	+0.4
KSP				eSg	Sg	22 09 03.1	-0.2
UPC	Upice	1.80	277	eSG	Sg	22 09 06.9	-0.1
PRU	Pruhonice	2.77	265	eSG	Sg	22 09 37.2	-0.8
KHC	Kasperske Hory	3.60	253	eSG	Sg	22 10 03.2	-1.7

ISCJB 15 22:13:33.2±1.3, 37°.3N±0°.1 × 27°.5E±0°.3, h12km, Error ellipse: s-maj=37.5km s-min=8.1km az=25.3
DDA 15 22:13:33.4, 37°.06N × 27°.78E, h4km, MD2.7
ISC 15 22:13:33.7±1.6, 37°.31N±0°.10 × 27°.5E±0°.2, h12km, n3, σ0§53/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.24	191	iP	Pg	22 13 38.7	-0.2
BDRM				iS	Sg	22 13 42.4	+0.1
BODT	Bodrum	0.29	212	ePG	Pg	22 13 39.2	-0.4
BODT				eSG	Sg	22 13 44.2	+0.6
AYDB	Zeytinkoy-Aydi	0.71	26	ePG	Pg	22 13 47.5	-0.1

JMA 15 22:33:57.9, 34°.92N × 135°.57E, h11km±1km, M3.6, 4D Broadband fault plane solution: P waves. NP1: ϕ_s172.00000°, δ55.00000°, λ58.00000°. NP2: ϕ_s39.00000°, δ46.00000°, λ127.00000°. Principal axes: T Plg64.0000°, Azm24.0000°; N Plg25.0000°, Azm192.0000°; P Plg5.0000°, Azm284.0000°; Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHE	Heguri	0.28	160	⇓P	Pg	22 34 03.6	-0.1
JHE				S	Sg	22 34 07.7	+0.2
JWT	Wachi	0.39	339	⇓P	Pg	22 34 05.7	+0.1
JWT				S	Sg	22 34 10.7	-0.1
TSUJ	Tsu 2	0.73	106	⇓P	Pg	22 34 11.6	-0.4
JKN2	Miekihoku	0.89	139	⇓P	Pg	22 34 14.5	-0.6
MAT	Matsushiro	2.69	52	P	Pn	22 34 41.9	+0.8
MAT				S	Sb	22 35 16.5	-2.6

IDC 15 23:12:56.9±5.7, 38°.66N × 22°.12E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.3/37, mbtmp3.5/6, ML2.9/1 Error ellipse: s-maj=113.4km s-min=26.5km az=23.0
SOF 15 23:12:58.0, 38°.15N × 21°.99E, h13km, MD3.0
ISCJB 15 23:13:00.3±0.3, 38°.11N±0°.02 × 22°.03E±0°.02, h59km±3km, mb3.5/5, Error ellipse: s-maj=2.7km s-min=2.5km az=141.5
ATH 15 23:13:00.1, 38°.10N × 22°.03E, h53km±2km, MD2.8/20, ML3.1
CSEM 15 23:13:01.3±0.1, 38°.11N × 22°.03E, h40km, MD2.8, Error ellipse: s-maj=1.5km s-min=1.4km az=75.0
THE 15 23:13:01.1, 38°.11N × 22°.03E, h53km±1km, ML3.1/30, Error ellipse: s-maj=1.1km s-min=0.4km az=209.0
ISC 15 23:13:00.2±0.8, 38°.11N±0°.02 × 22°.02E±0°.02, h50km±4km, n176, σ1§29/296, mb3.4/5, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLV	Kalavryta, Ach	0.12	121	P	Pn	23 13 08.4	+0.3
KLV				S	Sn	23 13 15.4	+1.6
KLV	Kalavryta, Ach	0.12	121	eP	Pn	23 13 08.5	+0.3
KLV				eS	Sn	23 13 15.2	+1.4
KLV	Kalavryta, Ach	0.12	121	eP	Pn	23 13 08.5	+0.3
KLV				S	Sn	23 13 14.1	+0.3
LAKA	Lakka	0.14	346	P	Pn	23 13 08.6	+0.3
LAKA	Lakka	0.14	346	eP	Pn	23 13 08.5	+0.3
LAKA	Lakka	0.14	346	P	Pn	23 13 08.6	+0.3
UPR	University Cam	0.26	314	P	Pn	23 13 09.7	+0.8
UPR				S	Sn	23 13 17.5	+2.4
UPR	University Cam	0.26	314	P	Pn	23 13 09.7	+0.8
UPR				S	Sn	23 13 16.1	+1.0
DRO	Drossia	0.29	238	P	Pn	23 13 09.1	-0.1
DRO				S	Sn	23 13 16.3	+0.7
DRO	Drossia	0.29	238	eP	Pn	23 13 09.2	0.0
DRO	Drossia	0.29	238	eP	Pn	23 13 09.2	0.0
DRO				S	Sn	23 13 16.3	+0.7
KALE	Kalithea	0.30	18	P	Pn	23 13 10.2	+0.8
KALE				S	Sn	23 13 17.8	+1.9
KALE	Kalithea	0.30	18	eP	Pn	23 13 10.2	+0.8
KALE				eS	Sn	23 13 17.8	+1.9
KALE	Kalithea	0.30	18	eP	Pn	23 13 10.2	+0.8
KALE				S	Sn	23 13 16.9	+1.0
GUR	Goura	0.30	123	P	Pn	23 13 10.2	+0.8
GUR				S	Sn	23 13 17.6	+1.6
GUR	Goura	0.30	123	eP	Pn	23 13 10.3	+0.8
GUR				eS	Sn	23 13 17.7	+1.7
GUR	Goura	0.30	123	P	Pn	23 13 10.2	+0.8
GUR				S	Sn	23 13 17.6	+1.6
EFP	Efpalio	0.33	344	P	Pn	23 13 10.0	+0.4
EFP				S	Sn	23 13 18.5	+2.2
EFP	Efpalio	0.33	344	eP	Pn	23 13 10.1	+0.4
EFP				eS	Sn	23 13 18.5	+2.2
EFP	Efpalio	0.33	344	eP	Pn	23 13 10.1	+0.4
EFP				S	Sn	23 13 17.3	+1.0
RLS	Riolos of Patr	0.44	264	P	Pn	23 13 10.3	-0.4
RLS				S	Sn	23 13 19.1	+0.8
RLS	Riolos of Patr	0.44	264	eP	Pn	23 13 10.4	-0.3
RLS				eS	Sn	23 13 19.0	+0.8
RLS	Riolos of Patr	0.44	264	eP	Pn	23 13 10.4	-0.3
RLS				S	Sn	23 13 18.5	+0.3
DSF	Desfina	0.50	52	P	Pn	23 13 12.1	+0.5
DSF				S	Sn	23 13 20.7	+1.1
DSF	Desfina	0.50	52	eP	Pn	23 13 12.0	+0.5
DSF	Desfina	0.50	52	P	Pn	23 13 12.1	+0.5
DSF				S	Sn	23 13 20.5	+0.9
AMT	Artemida-Makis	0.62	204	P	Pn	23 13 13.7	+0.7
AMT				S	Sn	23 13 23.1	+0.9
AMT	Artemida-Makis	0.62	204	eP	Pn	23 13 13.6	+0.6
AMT				eS	Sn	23 13 24.4	+2.2
AMT	Artemida-Makis	0.62	204	P	Pn	23 13 13.7	+0.7
AMT				S	Sn	23 13 23.0	+0.9
PVO	Paravola	0.64	323	P	Pn	23 13 14.1	+0.9
PVO				S	Sn	23 13 24.3	+1.7
PVO	Paravola	0.64	323	P	Pn	23 13 14.1	+0.9
PVO				S	Sn	23 13 24.3	+1.7
LTK	Loutraki	0.75	96	P	Pn	23 13 15.2	+0.7
LTK				S	Sn	23 13 26.0	+0.9
LTK	Loutraki	0.75	96	eP	Pn	23 13 15.3	+0.7
LTK				eS	Sn	23 13 25.6	+0.5
LTK	Loutraki	0.75	96	eP	Pn	23 13 15.3	+0.7
LTK				eS	Sn	23 13 25.6	+0.5
VLX	Vlachokerasia	0.79	159	P	Pn	23 13 16.8	+1.6
VLX				S	Sn	23 13 26.5	+0.5
VLX	Vlachokerasia	0.79	159	eP	Pn	23 13 16.6	+1.4
VLX	Vlachokerasia	0.79	159	eP	Pn	23 13 16.6	+1.4
VLX				S	Sn	23 13 26.5	+0.5
PDO	Prodromos	0.82	307	P	Pn	23 13 16.5	+0.9
PDO				S	Sn	23 13 28.1	+1.3
PDO	Prodromos	0.82	307	eP	Pn	23 13 16.4	+0.9
PDO				eS	Sn	23 13 28.9	+2.1
PDO	Prodromos	0.82	307	P	Pn	23 13 16.5	+0.9
PDO				S	Sn	23 13 27.8	+1.0
EVR	Evrytania	0.83	348	P	Pn	23 13 17.4	+1.7
EVR				S	Sn	23 13 28.1	+1.1
EVR	Evrytania	0.83	348	eP	Pn	23 13 17.4	+1.7
EVR	Evrytania	0.83	348	eP	Pn	23 13 17.4	+1.7
EVR				S	Sn	23 13 28.1	+1.1
AXAR	Agios Charalam	0.83	37	P	Pn	23 13 16.5	+0.8
AXAR				S	Sn	23 13 28.9	+2.0
AXAR	Agios Charalam	0.83	37	P	Pn	23 13 16.4	+0.8
AXAR				S	Sn	23 13 27.0	+0.1
MAKR	Makrakomi, Fth	0.91	5	P	Pn	23 13 18.1	+1.3
MAKR	Makrakomi, Fth	0.91	5	eP	Pn	23 13 18.2	+1.4
MAKR	Makrakomi, Fth	0.91	5	P	Pn	23 13 18.1	+1.3
ITM	Ithomi	0.93	185	P	Pn	23 13 18.5	+1.5
ITM				S	Sn	23 13 30.4	+1.2
ITM	Ithomi	0.93	185	eP	Pn	23 13 18.3	+1.3
ITM	Ithomi	0.93	185	eP	Pn	23 13 18.3	+1.3
ITM				S	Sn	23 13 30.4	+1.2
LKR	Lokris	0.94	54	P	Pn	23 13 17.5	+0.4
LKR				S	Sn	23 13 31.2	+1.6
LKR	Lokris	0.94	54	eP	Pn	23 13 17.6	+0.4
LKR	Lokris	0.94	54	eP	Pn	23 13 17.6	+0.4
LKR				S	Sn	23 13 31.2	+1.6
AGG	Agios Georgios	0.95	15	P	Pn	23 13 18.1	+0.8
AGG	Agios Georgios	0.95	15	eP	Pn	23 13 18.0	+0.8
AGG	Agios Georgios	0.95	15	P	Pn	23 13 18.1	+0.8
KFL	Anninata	0.97	271	P	Pn	23 13 18.6	+1.0
KFL				S	Sn	23 13 31.9	+1.6
KFL	Anninata	0.97	271	P	Pn	23 13 18.6	+1.0
KFL				S	Sn	23 13 31.9	+1.6
VLS	Valsamata	1.13	274	P	Pn	23 13 20.2	+0.5
VLS				S	Sn	23 13 36.0	+1.8
VLS	Valsamata	1.13	274	eP	Pn	23 13 20.1	+0.4
VLS	Valsamata	1.13	274	P	Pn	23 13 20.2	+0.5
VLS				S	Sn	23 13 36.0	+1.8
DID	Didima	1.13	121	P	Pn	23 13 20.3	+0.6
DID				S	Sn	23 13 35.6	+1.4
DID	Didima	1.13	121	eP	Pn	23 13 20.1	+0.4
DID	Didima	1.13	121	P	Pn	23 13 20.3	+0.6
DID				S	Sn	23 13 35.6	+1.4
SFD	Strofades	1.17	223	P	Pn	23 13 21.2	+1.0
SFD	Strofades	1.17	223	P	Pn	23 13 21.2	+1.0
NAIG	Nisos Aigina	1.21	106	eP	Pn	23 13 21.5	+0.7
NAIG	Nisos Aigina	1.21	106	eP	Pn	23 13 21.5	+0.7
SMIA	Simia	1.21	50	P	Pn	23 13 21.6	+0.8
SMIA	Simia	1.21	50	eP	Pn	23 13 21.5	+0.8
SMIA	Simia	1.21	50	P	Pn	23 13 21.6	+0.8
PYL	PYLOS	1.23	191	P	Pn	23 13 22.8	+1.7
PYL				S	Sn	23 13 38.3	+1.8
PYL	PYLOS	1.23	191	eP	Pn	23 13 22.7	+1.7
PYL	PYLOS	1.23	191	eP	Pn	23 13 22.7	+1.7
PYL				S	Sn	23 13 38.3	+1.8
DSL	Palaion Diasel	1.26	325	P	Pn	23 13 22.9	+1.5
DSL				S	Sn	23 13 38.1	+0.8
DSL	Palaion Diasel	1.26	325	eP	Pn	23 13 23.0	+1.5
DSL				eS	Sn	23 13 39.5	+2.2
DSL	Palaion Diasel	1.26	325	P	Pn	23 13 22.9	+1.5
DSL				S	Sn	23 13 38.1	+0.8
LKD2	Lefkada island	1.27	303	P	Pn	23 13 22.4	+0.8
LKD2				S	Sn	23 13 39.4	+1.8
LKD2	Lefkada island	1.27	303	P	Pn	23 13 22.4	+0.8
LKD2				S	Sn	23 13 39.4	+1.8
ATH	Athens Observa	1.34	95	P	Pn	23 13 23.6	+1.0
ATH				S	Sn	23 13 40.6	+1.3
ATH	Athens Observa	1.34	95	eP	Pn	23 13 23.5	+1.0
ATH				eS	Sn	23 13 40.0	+0.7
ATH	Athens Observa	1.34	95	eP	Pn	23 13 23.5	+1.0
ATH				eS	Sn	23 13 40.0	+0.7
MRKA	Markates	1.37	64	P	Pn	23 13 23.7	+0.8
MRKA				S	Sn	23 13 41.8	+1.8
MRKA	Markates	1.37	64	eP	Pn	23 13 23.6	+0.7
MRKA	Markates	1.37	64	P	Pn	23 13 23.7	+0.8
MRKA				S	Sn	23 13 41.8	+1.8
ATHU	Athens Univers	1.40	95	P	Pn	23 13 24.2	+0.9
ATHU				S	Sn	23 13 41.7	+1.0
ATHU	Athens Univers	1.40	95	P	Pn	23 13 24.2	+0.9
ATHU				S	Sn	23 13 41.7	+1.0
ERET	Eretria	1.45	76	P	Pn	23 13 25.0	+1.0
ERET				S	Sn	23 13 43.1	+1.2
ERET	Eretria	1.45	76	P	Pn	23 13 25.0	+1.0
ERET				S	Sn	23 13 43.1	+1.2
PTL	Penteli	1.46	92	P	Pn	23 13 25.1	+1.0
PTL				S	Sn	23 13 43.9	+1.8
PTL	Penteli	1.46	92	eP	Pn	23 13 24.9	+0.8
PTL				eS	Sn	23 13 42.3	+0.2
PTL	Penteli	1.46	92	eP	Pn	23 13 24.9	+0.8
PTL				eS	Sn	23 13 42.3	+0.2
THL	Klokotos Trika	1.46	360	P	Pn	23 13 25.5	+1.4
THL				S	Sn	23 13 43.1	+1.0
THL	Klokotos Trika	1.46	360	eP	Pn	23 13 25.2	+1.1
THL	Klokotos Trika	1.46	360	eP	Pn	23 13 25.2	+1.1
THL				S	Sn	23 13 43.1	+1.0
FYTO	Fytoko, Volos	1.49	29	P	Pn	23 13 25.1	+0.6
FYTO				S	Sn	23 13 44.0	+1.2
FYTO	Fytoko, Volos	1.49	29	P	Pn	23 13 25.1	+0.6
FYTO				S	Sn	23 13 44.0	+1.2
NEO	Neokhori	1.52	38	P	Pn	23 13 25.6	+0.5
NEO				S	Sn	23 13 44.3	+0.5
NEO	Neokhori	1.52	38	eP	Pn	23 13 25.5	+0.5
NEO	Neokhori	1.52	38	P	Pn	23 13 25.6	+0.5
NEO				S	Sn	23 13 44.3	+0.5
SKIA	Skiathos	1.55	46	P	Pn	23 13 26.1	+0.7
SKIA				S	Sn	23 13 45.2	+0.8
SKIA	Skiathos	1.55	46	eP	Pn	23 13 26.0	+0.7
SKIA	Skiathos	1.55	46	P	Pn	23 13 26.1	+0.7
SKIA				S	Sn	23 13 45.2	+0.8
XOR	Xorichti	1.56	36	P	Pn	23 13 26.1	+0.6
XOR				S	Sn	23 13 45.3	+0.7
XOR	Xorichti	1.56	36	P	Pn	23 13 26.1	+0.6
XOR				S	Sn	23 13 45.3	+0.7
VLI	Veliai	1.56	152	P	Pn	23 13 26.7	+1.1
VLI				S	Sn	23 13 46.8	+2.1
VLI	Veliai	1.56	152	eP	Pn	23 13 26.5	+0.9
VLI	Veliai	1.56	152	eP	Pn	23 13 26.5	+0.9
VLI				S	Sn	23 13 46.8	+2.1
MEV	Metsovon	1.79	340	P	Pn	23 13 31.2	+2.4
MEV	Metsovon	1.79	340	P	Pn	23 13 31.2	+2.4
JAN	Janina	1.80	330	P	Pn	23 13 30.6	+1.8
JAN				S	Sn	23 13 52.7	+2.2
JAN	Janina	1.80	330	P	Pn	23 13 30.6	+1.8
JAN				S	Sn	23 13 52.7	+2.2
AOS	Alonnisos	1.80	53	P	Pn	23 13 29.2	+0.4
AOS				S	Sn	23 13 51.7	+1.2
AOS	Alonnisos	1.80	53	P	Pn	23 13 29.2	+0.4
AOS				S	Sn	23 13 51.7	+1.2
IGT	Igoumenitsa	1.94	318	P	Pn	23 13 30.9	+0.1
IGT				S	Sn	23 13 55.6	+1.6
IGT	Igoumenitsa	1.94	318	P	Pn	23 13 30.9	+0.1
IGT				S	Sn	23 13 55.6	+1.6
KYTH	Kithira	1.99	156	P	Pn	23 13 33.8	+2.3
KYTH	Kithira	1.99	156	P	Pn	23 13 33.8	+2.3
LIT	Litokhoron	2.03	10	P	Pn	23 13 33.0	+1.1
LIT				S	Sn	23 13 56.9	+0.8
LIT	Litokhoron	2.03	10	P	Pn	23 13 33.0	+1.1
LIT				S	Sn	23 13 56.9	+0.8
KZN	Kozani	2.21	355	P	Pn	23 13 35.8	+1.3
KZN	Kozani	2.21	355	P	Pn	23 13 35.8	+1.3
PAIG	Paliouri	2.23	35	P	Pn	23 13 34.9	+0.2
PAIG				S	Sn	23 14 02.4	+1.4
PAIG	Paliouri	2.23	35	P	Pn	23 13 34.9	+0.2
PAIG				S	Sn	23 14 02.4	+1.4
KEK	Kerkira	2.36	313	P	Pn	23 13 36.9	+0.4
KEK				S	Sn	23 14 06.3	+2.0
KEK	Kerkira	2.36	313	P	Pn	23 13 36.9	+0.4
KEK				S	Sn	23 14 06.3	+2.0
SRN	Sarande	2.37	319	P	Pn	23 13 36.9	+0.3
SRN				S	Sn	23 14 05.5	+1.0
SRN	Sarande	2.37	319	P	Pn	23 13 36.9	+0.3
SRN				S	Sn	23 14 05.5	+1.0
PLG	Polygyros	2.52	26	P	Pn	23 13 39.1	+0.4
PLG				S	Sn	23 14 08.9	+0.7
PLG	Polygyros	2.52	26	P	Pn	23 13 39.1	+0.4
PLG				S	Sn	23 14 08.9	+0.7
HORT	Hortiatis	2.63	18	P	Pn	23 13 40.3	+0.1
HORT				S	Sn	23 14 12.0	+1.1
HORT	Hortiatis	2.63	18	P	Pn	23 13 40.3	+0.1
HORT				S	Sn	23 14 12.0	+1.1
THE	Thessaloniki	2.63	16	P	Pn	23 13 41.4	+1.3
THE	Thessaloniki	2.63	16	P	Pn	23 13 41.4	+1.3
KBN	Korca	2.69	340	P	Pn	23 13 42.3	+1.2
KBN	Korca	2.69	340	P	Pn	23 13 42.3	+1.2
OUR	Ouranopolis	2.70	34	P	Pn	23 13 41.5	+0.4
OUR				S	Sn	23 14 14.0	+1.5
OUR	Ouranopolis	2.70	34	P	Pn	23 13 41.5	+0.4
OUR				S	Sn	23 14 14.0	+1.5
FNA	Florina	2.72	350	P	Pn	23 13 42.6	+1.1
FNA				S	Sn	23 14 15.6	+2.4
FNA	Florina	2.72	350	P	Pn	23 13 42.6	+1.1
FNA				S	Sn	23 14 15.6	+2.4
SOH	Sokhos	2.90	20	P	Pn	23 13 44.8	+0.8
SOH				S	Sn	23 14 19.7	+2.1
SOH	Sokhos	2.90	20	P	Pn	23 13 44.8	+0.8
SOH				S	Sn	23 14 19.7	+2.1
APE	Apeiranthos	2.97	109	P	Pn	23 13 45.8	+0.9
APE	Apeiranthos	2.97	109	P	Pn	23 13 45.8	+0.9
LIA	Limnos Island	3.04	53	P	Pn	23 13 46.4	+0.6
LIA	Limnos Island	3.04	53	P	Pn	23 13 46.4	+0.6
KNT	Kendrikon	3.13	12	P	Pn	23 13 48.2	+1.2
KNT				S	Sn	23 14 25.2	+2.1
KNT	Kendrikon	3.13	12	P	Pn	23 13 48.2	+1.2
KNT				S	Sn	23 14 25.2	+2.1
CHOS	Chios island	3.19	84	P	Pn	23 13 49.2	+1.3
CHOS	Chios island	3.19	84	P	Pn	23 13 49.2	+1.3
VAY	Valandovo	3.24	7	iPn	Pn	23 13 50.0	+1.5
VAY				iSn	Sn	23 14 28.2	+2.3
VAY				eLg	Lg	23 14 32.0	
	comp=N,41nm,0.9s						
VAY				eLg	Lg	23 14 34.2	
	comp=E,23nm,0.6s						
VAY	Valandovo	3.24	7	iPn	Pn	23 13 50.0	+1.5
VAY				iSn	Sn	23 14 28.1	+2.3
VAY				eLg	Lg	23 14 32.0	
	comp=E,41nm,0.9s						
SRS	Serrai	3.24	21	P	Pn	23 13 49.3	+0.7
SRS				S	Sn	23 14 27.5	+1.5
SRS	Serrai	3.24	21	P	Pn	23 13 49.3	+0.7
SRS				S	Sn	23 14 27.5	+1.5
KAVA	Kavala	3.47	33	P	Pn	23 13 52.9	+1.2
KAVA				S	Sn	23 14 33.4	+1.9
KAVA	Kavala	3.47	33	P	Pn	23 13 52.9	+1.2
KAVA				S	Sn	23 14 33.4	+1.9
NVR	Nevrokopi	3.54	23	P	Pn	23 13 53.5	+0.8
NVR	Nevrokopi	3.54	23	P	Pn	23 13 53.5	+0.8
MMB	Musomiste	3.72	20	iP	Pn	23 13 55.8	+0.7
MMB				iS	Sn	23 14 37.9	+0.2
MMB	Musomiste	3.72	20	iP	Pn	23 13 55.8	+0.7
MMB				iS	Sn	23 14 37.9	+0.2
KKB	Krupnik	3.84	12	iP	Pn	23 13 57.5	+0.7
KKB				iS	Sn	23 14 41.5	+0.7
KKB	Krupnik	3.84	12	iP	Pn	23 13 57.5	+0.7
KKB				iS	Sn	23 14 41.5	+0.7
SKO	Skopje	3.89	354	iPn	Pn	23 13 59.3	+1.9
SKO				eSn	Sn	23 14 39.2	-2.7
SKO				eLg	Lg	23 14 44.9	
	comp=E,10.0nm,0.5s						
SKO				eLg	Lg	23 14 51.0	
	comp=N,17nm,0.4s						
SKO	Skopje	3.89	354	iPn	Pn	23 13 59.3	+1.9
SKO				eSn	Sn	23 14 39.1	-2.7
SKO				eLg	Lg	23 14 44.8	
	comp=N,10.0nm,0.5s						
VTS	Vitosha	4.57	11	iP	Pn	23 14 09.1	+2.2
VTS				iS	Sn	23 14 58.9	+0.1
VTS	Vitosha	4.57	11	iP	Pn	23 14 09.1	+2.2
VTS				iS	Sn	23 14 58.9	+0.1
STON	Ston	5.79	327	ePn	Pn	23 14 21.1	-2.3
STON				Sn	Sn	23 15 21.1	-7.4
UDBI	Udbina	7.96	326	ePn	Pn	23 14 51.7	-1.5
UDBI				Sn	Sn	23 16 16.3	-5.6
NVLJ	Novalja	8.40	322	iPn	Pn	23 14 57.2	-2.0
NVLJ				Sn	Sn	23 16 23.8	-8.7
BRTR	Keskin Array B	9.20	76	Pn	Pn	23 15 12.8	+2.4
	comp=N,0.1nm,0.3s,baz=267,slow=14,SNR=4.2						
HFS	Hagfors	22.68	349	P	P	23 17 54.8	-2.4
	comp=N,0.7nm,0.5s,baz=156,slow=11,SNR=8.8						
NOA	NORSAR Array B	23.94	347	P	P	23 18 07.4	-2.0
	comp=N,0.5nm,0.7s,baz=154,slow=10,SNR=4.6						
EKA	Eskdalemuir Ar	24.18	324	P	P	23 18 11.2	-0.4
	comp=N,1.8nm,0.9s,baz=124,slow=9.7,SNR=4.7						
MKAR	Makanchi Array	44.33	59	P	P	23 21 05.7	+0.4
	comp=N,0.5nm,0.7s,baz=273,slow=7.8,SNR=6.3						
ZALV	Zalesovo Beam	44.86	48	P	P	23 21 08.0	-1.3
	comp=N,1.8nm,0.5s,baz=269,slow=7.9,SNR=5.5						

NNC 15 23:14:28.7±7.6, 37°.22N × 69°.66E, h0km, mb3.9, mpv3.2, 4C-3D, Error ellipse: s-maj=74.5km s-min=49.5km az=146.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	5.92	6	⇑Pn	Pn	23 16 02.0	+4.4
	0.6nm,0.3s,baz=189,slow=14,SNR=13						
KK31				⇑Sn	Sn	23 17 07.6	+1.5
	1.2nm,0.3s,baz=189,slow=16,SNR=9.9						
AAK	Ala-Archa	6.56	33	⇓Pn	Pn	23 16 06.5	-0.2
	2.4nm,0.8s						
AAK				⇑Sn	Sn	23 17 22.2	-0.2
	9.5nm,0.6s						
AB31	Akbulak array	13.95	333	⇓Pn	Pn	23 17 46.0	-1.5
	0.7nm,0.4s,baz=159,slow=11,SNR=26						
AKTO	Aktyubinsk	15.63	331	⇑Pn	Pn	23 18 07.3	-3.0
	5.3nm,0.9s						
BVA0	Borovoye Array	15.82	2	Pn	Pn	23 18 09.5	-3.1
	0.4nm,0.4s,baz=179,slow=10,SNR=7.8						
BRVK	Borovoye	15.85	1	⇓Pn	Pn	23 18 09.1	-4.0
	4.7nm,0.9s						

IDC 16 00:32:45.4±44.0, 24°.77S × 177°.86W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/28, mbtmp4.2/3, Error ellipse: s-maj=806.5km s-min=156.8km az=89.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.23	249	P	P	00 39 49.7	-0.5
	1.5nm,0.7s,baz=98,slow=8.8,SNR=5.7						
ASAR	Alice Springs	43.82	261	P	P	00 40 53.3	-0.2
	1.9nm,0.4s,baz=97,slow=7.8,SNR=34						
WRA	Warramunga Arr	44.30	266	P	P	00 40 57.6	+0.3
	2.2nm,0.5s,baz=104,slow=7.8,SNR=11						

TRN 16 00:42:01.3, 16°.59N × 61°.85W, h116km, M3.7(FDF), M3.3(FDF), 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LZG	Guadaloupe-1	0.46	171	eP	Pn	00 42 19.8	+1.2
SSG	Sans Toucher	0.53	162	eP	Pn	00 42 20.2	+1.0
MLG	Mont-d'or	0.55	166	eP	Pn	00 42 20.6	+1.3
FNG	Fond-Bernard	0.55	164	eP	Pn	00 42 20.4	+1.1
TAG	Tarade	0.58	162	eP	Pn	00 42 21.2	+1.6
SCG	Saint Claude	0.58	164	eP	Pn	00 42 20.5	+1.0
SCG				eS	Sn	00 42 34.4	+1.3
HMG	Houelmont	0.62	167	eP	Pn	00 42 21.2	+1.4
HMG				eS	Sn	00 42 35.2	+1.6
TBG	Guadaloupe-3	0.76	165	⇑iP	Pn	00 42 22.1	+1.3
BBL	Barber's Block	1.12	161	eP	Pn	00 42 25.6	+1.2
DLPL	La Plaine	1.38	155	eP	Pn	00 42 28.4	+1.3
SEUS	St. Eustatius	1.41	310	eP	Pn	00 42 29.0	+1.6
SMRT	St. Maarten	1.86	321	eP	Pn	00 42 33.6	+0.7
FDF	Fort de France	1.97	160	eP	Pn	00 42 35.7	+1.4
FDF				eS	Sn	00 42 59.9	+0.5
BVM	Bellevue	2.00	158	eP	Pn	00 42 35.9	+1.3
ZAM	Aeronautique	2.16	158	eP	Pn	00 42 37.8	+1.2
LPMF	Morne Lapointe	2.18	157	eP	Pn	00 42 37.9	+1.0
TRMF	Trois Ilets	2.19	159	eP	Pn	00 42 38.5	+1.5
MVM	Montagne Vaucl	2.23	156	eP	Pn	00 42 38.8	+1.3

JMA 16 00:58:47.4±0.1, 39°.26N × 143°.74E, h17km, M2.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.52	283	P	Pn	00 59 14.4	+0.6

JTH Tanohata 1.60 296 P Pn 00 59 15.3 +0.4
JTH eS Sn 00 59 35.8 +0.6
OFUJ Ofunato 1.62 264 P Pn 00 59 15.8 +0.6
JOM Ohasama 1.91 277 P Pn 00 59 20.2 +1.0
JOM eS Sb 00 59 44.5 -0.8
JIO Ouri 2.03 247 eS Sn 00 59 45.9 +0.1
JRG Rokugo 2.41 274 P Pn 00 59 28.0 +1.9

IDC **16** *00:58:04.4±3.5, 38.59N×142.64E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/35, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=80.5km s-min=31.1km az=168.0*
ISCJB **16** *00:58:55.6±0.6, 43.77N±0.08×141.20E±0.10, h232km±6km, mb3.0/4, Error ellipse: s-maj=14.1km s-min=9.9km az=145.2*
JMA **16** *00:58:55.9±0.3, 43.80N×141.09E, h228km±3km, M3.2*
ISC 16 00:58:56.4±0.9, 43.77N±0.08×141.16E±0.07, h226km±7km, n19, σ0.82/27, mb3.0/4, Hokkaido region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JHR Hokuryu 0.41 94 P Pn 00 59 26.7 +0.4
JHR eS S 00 59 50.1 +0.5
JSK Shakotan 0.65 230 P Pn 00 59 26.6 -0.5
JAB Ashibetsu 0.81 109 eS S 00 59 53.2 +0.8
JEW Eniwo 0.95 167 P Pn 00 59 29.2 +0.5
ASAJ Asahikawa 1.09 71 Pn Pn 00 59 28.1 -1.3
2.6nm,0.3s,baz=248,slow=12,SNR=13
JKK2 Kamakawa 2 1.15 84 P Pn 00 59 30.1 +0.2
JKK2 eS S 00 59 55.4 -0.6
JFR Furan 1.21 120 P Pn 00 59 30.2 -0.1
JFR eS S 00 59 56.5 -0.1
JKB Kayabe 1.89 183 P Pn 00 59 36.0 +0.1
JNBK Urakawa-nobuka 1.89 141 P Pn 00 59 36.6 +0.7
JNBK eS S 01 00 07.6 +0.9
JAR Ashorobuto 1.95 103 P Pn 00 59 37.0 +0.5
JCH Churui 1.98 125 P Pn 00 59 36.1 -0.6
JCH eS S 01 00 05.7 -2.4
JTKR Abashiri--Toko 2.00 83 P Pn 00 59 37.5 +0.7
JTKR eS S 01 00 09.0 +0.7
JOSM Okushiri--Mats 2.10 217 P Pn 00 59 37.3 -0.6
JOT Ohata 2.39 182 P Pn 00 59 41.0 +0.1
JOT eS S 01 00 16.0 +0.5
JAK Akkeshi 2.69 106 P Pn 00 59 43.9 -0.1
JAK eS S 01 00 19.9 -1.2
SONM Songino Array 24.45 292 P P 01 03 54.5 -0.1
0.2nm,0.4s,baz=89,slow=8.8,SNR=3.9
MKAR Makanchi Array 40.70 296 P P 01 06 14.5 -0.2
0.3nm,0.6s,baz=80,slow=14,SNR=7.4
ILAR Eielson Array 44.02 36 P P 01 06 40.9 -0.3
0.6nm,0.8s,baz=277,slow=10,SNR=7.8
YKA Yellowknife Ar 58.14 32 P P 01 08 26.7 +0.8
0.2nm,0.5s,baz=304,slow=6.0,SNR=4.8

DJA 16 01:02:30.1±0.8, 1°N±6°×12°3E±°, h10km, M3.7/7, mb4.1/1, mB5.3/1, MLv3.5/7, Mw(mB)4.7/1, Minahassa Peninsula, Sulawesi

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
GTOI Gorontalo 0.55 217 P Pg 01 02 38.4 -2.4
GTOI S Sb 01 02 49.3 -0.5
KMSI Cibinong 0.81 128 P Pg 01 02 44.4 -1.4
MRSI Marisa 1.52 247 P Pn 01 02 54.5 -2.9
MRSI S Sb 01 03 17.6 -0.2
LUWI Luwuk 2.18 195 P Pn 01 03 07.0 +0.5
LUWI S Sn 01 03 34.7 +1.1
APSI Ampana 2.60 221 P Pn 01 03 13.7 +1.4
MPSI Mapaga 3.52 258 P Pn 01 03 26.7 +1.8
TTSI Tana Toraja 5.40 221 P Pn 01 03 51.0 +0.2

IDC 16 01:03:21.8±8.8, 17.32S×178.85W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/29, mbtmp3.5/2, MS3.2/3, Ms1 3.2/3, ms1mx3.0/20, Error ellipse: s-maj=441.5km s-min=51.1km az=146.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AFI Afiamalu 7.61 65 LR LR 01 07 20.0
comp=Z,101nm,19.5s,baz=42,slow=31
DZM Mont Dzumac 14.63 249 eLR LR 01 10 44.7
413nm,24.8s
DZM Mont Dzumac 14.63 249 LR LR 01 11 30.1
comp=Z,54nm,19.0s,baz=33,slow=33
URZ Urewera 21.16 189 LR LR 01 13 54.4
comp=Z,178nm,20.5s,baz=44,slow=30
PPT2 Papeete2 27.92 95 eLR LR 01 14 47.8
202nm,27.0s
WRA Warramunga Arr 44.33 259 P P 01 11 33.6 -0.5
0.2nm,0.4s,baz=93,slow=7.9,SNR=3.1
ASAR Alice Springs 44.55 254 P P 01 11 36.0 +0.2
0.9nm,0.7s,baz=91,slow=8.2,SNR=12
GERES GERESS Array B 146.94 345 PKPbc PKPbc 01 23 05.6 -0.8
0.8nm,0.9s,baz=42,slow=3.1,SNR=5.8

IDC **16** *01:42:30.6±1.0, 32.75N×88.41E, h0km, mb3.7/14, mb1 3.8/17, mb1mx3.7/30, mbtmp3.7/17, ML2.9/2, MS3.7/5, Ms1 3.7/5, ms1mx3.2/39, Error ellipse: s-maj=26.9km s-min=18.6km az=29.0*
ISCJB **16** *01:42:34.8±0.5, 33.02N±0.04×88.43E±0.10, h33km, mb3.7/13, MS3.9/4, Error ellipse: s-maj=11.8km s-min=5.4km az=12.9*
ISC 16 01:42:36.7±0.6, 32.97N±0.08×88.42E±0.09, h35km, n47, σ1.45/44, mb3.7/13, MS3.8/4, Xizang

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
GUN Gumba 5.50 204 eP Pn 01 43 57.6 +1.1
65nm,0.7s
GUN Gumba 5.50 204 eP Pn 01 43 57.7 +1.2
65nm,0.7s
JIRN Jiri 5.63 201 eP Pn 01 44 00.1 +1.8
44nm,0.5s
JIRN Jiri 5.63 201 eP Pn 01 44 00.2 +1.9
44nm,0.5s
TAPN Taplejung 5.64 186 eP Pn 01 44 00.8 +2.5
89nm,0.8s
TAPN Taplejung 5.64 186 eP Pn 01 44 01.0 +2.7
89nm,0.8s
KKN Kakani 5.83 208 eP Pn 01 44 01.7 +0.8
24nm,0.8s
KKN Kakani 5.83 208 eP Pn 01 44 01.9 +1.0
8.4nm,0.4s
GKN Gorkha 5.93 214 eP Pn 01 44 01.6 -0.6
8.3nm,0.3s
GKN Gorkha 5.93 214 eP Pn 01 44 03.0 +0.8
8.3nm,0.3s
PKI Pulchoki 5.98 207 eP Pn 01 44 04.0 +1.0
33nm,0.5s
PKI Pulchoki 5.98 207 eP Pn 01 44 04.2 +1.2
33nm,0.5s
PKIN Phulchoki 5.98 207 eP Pn 01 44 03.3 +0.3
13nm,0.5s
PKIN Phulchoki 5.98 207 eP Pn 01 44 03.6 +0.6
27nm,0.6s
PKIN Phulchoki 5.98 207 eP Pn 01 44 03.8 +0.8
27nm,0.6s
DMN Daman 6.06 209 eP Pn 01 44 05.0 +0.9
13nm,0.3s
DMN Daman 6.06 209 eP Pn 01 44 05.6 +1.5
13nm,0.3s
DANN Dangsing 6.11 222 eP Pn 01 44 04.7 -0.1
29nm,0.7s
DANN Dangsing 6.11 222 eP Pn 01 44 05.3 +0.5
29nm,0.7s
ODAN Odare 6.16 189 eP Pn 01 44 07.4 +2.0
185nm,0.7s
ODAN Odare 6.16 189 eP Pn 01 44 07.5 +2.0
185nm,0.7s
RAMN Ramite 6.21 195 eP Pn 01 44 07.4 +1.3
70nm,0.6s
RAMN Ramite 6.21 195 eP Pn 01 44 07.4 +1.3
70nm,0.6s
KOLN Koldanda 6.65 220 eP Pn 01 44 11.9 -0.2
17nm,0.7s
KOLN Koldanda 6.65 220 eP Pn 01 44 11.9 -0.2
17nm,0.7s
PYUN Piuthan 6.74 225 eP Pn 01 44 13.2 -0.2
MKAR Makanchi Array 14.57 343 Pn Pn 01 45 58.7 -1.6
0.0nm,0.3s,baz=154,slow=12,SNR=12
MKAR LR LR 01 51 59.1
comp=Z,46nm,19.7s,baz=174,slow=38
AAK Ala-Archa 14.61 315 Pn Pn 01 46 00.6 -0.4
0.1nm,0.3s,baz=153,slow=14,SNR=2.2
CMAR Chiang Mai Arr 17.27 144 Pn Pn 01 46 31.3 -3.9
baz=238,slow=42,SNR=2.1
SONM Songino Array 20.12 37 P P 01 47 08.2 +0.6
1.7nm,0.9s,baz=221,slow=12,SNR=13
ZALV Zalesovo Beam 21.12 354 P P 01 47 19.7 +1.5
1.5nm,0.8s,baz=183,slow=12,SNR=5.4
ZALV LR LR 01 56 29.1
comp=Z,70nm,19.5s,baz=62,slow=39
BVAR Borovoye Array 23.86 332 P P 01 47 48.6 +1.9
0.4nm,0.6s,baz=140,slow=9.2,SNR=4.4
AKTO Aktyubinsk 28.35 317 LR LR 02 00 15.2
comp=Z,263nm,20.6s,baz=328,slow=37
KSRS Korea Array 32.42 71 P P 01 49 02.0 -1.3
1.6nm,0.8s,baz=270,slow=9.7,SNR=3.8
BRTR Keskin Array B 44.05 295 P P 01 50 42.1 +0.8
1.3nm,0.9s,baz=86,slow=14,SNR=3.3
EIL Elat 45.39 281 LR LR 02 10 19.7
comp=Z,113nm,18.3s,baz=132,slow=37
AKASG Malin Array Be 46.23 311 P P 01 50 58.2 0.0
0.2nm,0.3s,baz=57,slow=16,SNR=3.2
FINES FINESS Array B 48.50 325 P P 01 51 15.8 +0.1
1.1nm,0.7s,baz=92,slow=10.0,SNR=4.1
ARCES ARCESS Array B 50.08 336 P P 01 51 29.5 +1.8
5.4nm,0.9s,baz=99,slow=11,SNR=3.0
PETK Petropavlovsk- 52.31 45 P P 01 51 44.0 -0.7
0.5nm,0.6s,baz=267,slow=5.5,SNR=2.8
NB2 NORSAR Subarra 55.68 325 P P 01 52 11.9 +2.7
comp=Z,2.8nm,1.1s,baz=84,slow=7.9
NOA NORSAR Array B 55.68 325 P P 01 52 08.0 -1.1
comp=Z,2.5nm,1.0s,baz=82,slow=7.4,SNR=2.7
GERES GERESS Array B 56.42 310 P P 01 52 14.0 -0.7
comp=Z,1.0nm,0.8s,baz=76,slow=6.2,SNR=8.7
WRA Warramunga Arr 68.50 133 P P 01 53 35.1 -0.6
comp=Z,0.3nm,0.7s,baz=326,slow=6.4,SNR=3.1
TORD Torodi Ar. Bea 80.25 279 P P 01 54 43.1 -1.1
comp=Z,0.7nm,0.8s,baz=69,slow=5.1,SNR=5.2
YKA Yellowknife Ar 83.08 11 P P 01 54 59.3 +1.0
comp=Z,0.1nm,0.6s,baz=306,slow=2.7,SNR=3.5
ULM Lac du Bonnet 97.05 3 LR LR 02 42 53.6
comp=Z,229nm,18.7s,baz=346,slow=37

NIED **16** *01:57:00, 40.30N×143.80E, h11km, Mw5.2 Best double couple: M0 8.19000×10^16 NP1:φs157.00000°, δ36.00000°, λ34.00000°. NP2:φs39.00000°, δ71.00000°, λ121.00000°.*
ISCJB **16** *01:57:13.5±0.7, 40.37N±0.02×143.73E±0.02, h6km±4km, mb5.1/227, MS5.0/62, Error ellipse: s-maj=3.2km s-min=2.1km az=163.5*
IDC **16** *01:57:13.2±0.5, 40.30N×143.84E, h0km, mb4.7/29, mb1 4.8/32, mb1mx4.8/36, mbtmp4.7/32, ML4.2/3, MS4.6/24, Ms1 4.7/24, ms1mx4.4/36, Error ellipse: s-maj=13.5km s-min=11.9km az=150.0*
JMA **16** *01:57:14.2±0.1, 40.32N×143.84E, h23km, M5.3*
BJI **16** *01:57:15.0, 40.40N×143.67E, h22km, mB5.6/54, mb5.1/73, Ms5.3/79, Ms7 5.2/71*
MOS **16** *01:57:15.7±1.0, 40.46N×143.69E, h19km, mb5.4/88, MS5.2/23, Error ellipse: s-maj=6.3km s-min=4.1km az=104.5*
GCMT **16** *01:57:16.4±0.2, 40.35N×144.00E, h14km, MW5.3/102, Moment Tensor Solution. s56,c81; s102,c183; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.61±.02; Mθθ-0.04±.01; Mφφ-0.56±.01; Mrθ0.30±.03; Mrφ-0.16±.01; Mθφ0.69±.04; Best double couple: M0 0.96300×10^17 NP1:φs22.00000°, δ70.00000°, λ94.00000°. NP2:φs190.00000°, δ20.00000°, λ79.00000°. Principal axes: T 0.9650, Plg64.0000°, Azm298.0000°; N -0.0040, Plg4.0000°, Azm200.0000°; P -0.9610, Plg25.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **16** *01:57:16.4±1.8, 40.33N×143.65E, h16km±11km, mb5.2/119, MW5.3, MW5.2(NIED) Error ellipse: s-maj=4.8km s-min=3.1km az=146.0, Moment Tensor Solution. s43 Moment tensor: Scale 10^16Nm; Mrr7.13; Mθθ-5.58; Mφφ-1.55; Mrθ3.09; Mrφ-3.19; Mθφ6.06; Best double couple: M0 9.90000×10^16 NP1:φs259.00000°, δ28.00000°, λ125.00000°. NP2:φs40.00000°, δ67.00000°, λ73.00000°. Principal axes: T 10.4000, Plg63.0000°, Azm281.0000°; N -0.9000, Plg15.0000°, Azm46.0000°; P -9.4000, Plg20.0000°, Azm142.0000°;*
SZGRF **16** *01:57:24.8, 41.50N×143.50E, h33km, mb5.3, MS5.2, Hokkaido, Japan, region*
ISC 16 01:57:17.6±0.4, 40.38N±0.03×143.73E±0.03, h25km±1km, h25km:pP-P, n945, σ1.14/1033, mb5.1/227, MS5.2/64, 211C-156D, Off east coast of Honshu

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JTH Tanohata 1.50 253 ⇑P Pn 01 57 41.1 -1.7
JTH eS Sn 01 58 01.3 -0.3
MIYJ Miyakonagasawa 1.68 242 ⇑P Pn 01 57 43.6 -1.7
MIYJ eS Sn 01 58 04.7 -1.2
ERM Erimo 1.69 345 Pn Pn 01 57 44.2 -1.2
7μm,0.7s,SNR=46
ERM Erimo 1.69 345 eP Pn 01 57 45.0 -0.4
ERM eS Sn 01 58 06.7 +0.5
ERM Erimo 1.69 345 ePn Pn 01 57 45.0 -0.4
ERM eS Sn 01 58 06.7 +0.5
JEM Erimo 1.69 345 P Pn 01 57 43.8 -1.6
JEM eS Sn 01 58 05.9 -0.3
JANG Nango 1.69 270 P Pn 01 57 44.3 -1.2
JANG eS Sn 01 58 06.3 -0.1
JNBK Urakawa-nobuka 2.03 339 P Pn 01 57 50.1 -0.1
JNBK eS Sn 01 58 16.0 +1.2
JOM Ohasama 2.08 245 ⇑P Pn 01 57 50.1 -0.8
JCH Churui 2.25 353 P Pn 01 57 52.1 -1.0
JCH eS Sn 01 58 19.9 -0.1
JOT Ohata 2.27 297 ⇑P Pn 01 57 53.3 -0.1
JOT eS Sn 01 58 22.1 +1.6
JMK Ichinoseki 2.41 234 P Pn 01 57 53.9 -1.4
JKB Kayabe 2.53 307 P Pn 01 57 57.2 +0.2
JKB eS Sn 01 58 28.5 +1.5
JAK Akkeshi 2.71 15 P Pn 01 57 57.9 -1.6
JAK eS Sn 01 58 29.8 -1.6
JSR Shiriuchi 2.76 296 ⇑P Pn 01 58 00.7 +0.6
JFR Furan 2.91 343 P Pn 01 58 03.1 +0.9
JFR eS Sn 01 58 38.8 +2.5
JAR Ashorobuto 2.91 1 ⇑P Pn 01 58 00.8 -1.5
JAR eS Sn 01 58 35.2 -1.2
JYK Kaneyama 2.99 242 ⇑P Pn 01 58 02.7 -0.6
JYK eS Sn 01 58 37.4 -0.9
JEW Eniwo 2.99 326 P Pn 01 58 04.2 +0.8
NEM2 Nemuro 2 3.34 26 P Pn 01 58 06.0 -2.1
NEM2 eS Sn 01 58 43.6 -3.3
JTKR Abashiri--Toko 3.59 2 ⇑P Pn 01 58 10.7 -0.8
JTKR eS Sn 01 58 53.0 -0.1
JOSM Okushiri--Mats 3.63 299 P Pn 01 58 12.3 +0.2
JHR Hokuryu 3.67 337 P Pn 01 58 14.3 +1.6
JHR eS Sb 01 59 00.6 -5.2
ASAJ Asahikawa 3.82 348 ePn Pn 01 58 14.6 -0.2
ASAJ eS Sn 01 58 45.7 -13
YUK Yuzh-Kuril'sk 3.98 23 iP Pn 01 58 14.9 -2.0
JAG Ashikaga 5.19 222 ⇑P Pn 01 58 31.7 -1.9
KUR Kuril'sk 5.72 31 ⇑iP Pn 01 58 40.1 -0.7
KUR iS Sn 01 59 41.6 -4.0
KUR pmax pmax
comp=E,139nm,0.8s
KUR pmax pmax
comp=N,161nm,0.8s
KUR pmax pmax
comp=Z,350nm,0.8s
KUR pmax pmax
comp=Z,42μm,1.0s
KUR smax smax
comp=E,1μm,1.2s
KUR smax smax
comp=N,405nm,0.4s
KUR pmax pmax
comp=E,2μm,1.3s
KUR MLR MLR
comp=N,10μm,14.0s
KUR MLR MLR
comp=E,9μm,14.0s
KUR MLR MLR
comp=Z,4μm,14.0s
MJA0 Matsu Arr-Jizo 5.76 230 eP Pn 01 58 42.2 +0.7
MJA0 pmax pmax
comp=Z,9.0nm,0.3s
MJAR Matsushiro Arr 5.79 230 P Pn 01 58 41.8 0.0
MJAR pmax pmax
comp=Z,9.0nm,0.3s
MJAR Matsushiro Arr 5.79 230 Pn Pn 01 58 41.8 0.0
comp=Z,9.3nm,0.3s,baz=43,slow=11,SNR=42
MAJO Matsushiro 5.79 230 eP Pn 01 58 41.5 -0.3
MAJO eS Sn 01 59 46.3 -1.1
MAJO Matsushiro 5.79 230 ePn Pn 01 58 41.5 -0.3
MAJO eS Sn 01 59 46.3 -1.1
MAT Matsushiro 5.79 230 P Pn 01 58 41.3 -0.5
MAT eS Sn 01 59 45.2 -2.2
MAT Matsushiro 5.79 230 P Pn 01 58 41.4 -0.4
YSS Yuzh-Sakhalins 6.61 354 eP Pn 01 58 53.0 0.0
YSS eS Sn 02 00 08.4 +1.0
YSS pmax pmax
comp=Z,70nm,1.1s
YSS smax smax
comp=N,270nm,1.2s
YSS MLR MLR
comp=N,10μm,16.0s
YSS MLR MLR
comp=Z,9μm,16.0s
YSS Yuzh-Sakhalins 6.61 354 ePn Pn 01 58 54.0 +1.0
VLA Vladivostok 9.27 291 c iP Pn 01 59 32.0 +2.5
USRK Ussuriysk Arra 9.50 298 Pn Pn 01 59 35.4 +2.7
comp=Z,2.4nm,0.3s,baz=95,slow=14,SNR=80
HABR Khabarovsk 10.19 325 deP Pn 01 59 36.4 -5.7
MDJ Mudanjiang 11.26 297 P Pn 01 59 58.5 +1.7
MDJ S Sn 02 02 04.9 +3.1
MDJ PcP PcP 02 05 50.8 0.0
MDJ PcS PcS 02 09 25.8 +1.2
MDJ ScS ScS 02 12 59.0 +2.0
MDJ pmax pmax
comp=Z,73nm,1.0s
MDJ pmax pmax
comp=Z,2μm,8.2s
MDJ LR LR
comp=Z,7μm,14.2s
MDJ LR LR
comp=Z,8μm,14.2s
MDJ LR LR
comp=Z,13μm,14.5s
MDJ Mudanjiang 11.26 297 ePn Pn 01 59 57.6 +0.8
comp=Z,1μm,2.2s
KLR Kul'dur 12.26 320 eP Pn 02 00 06.2 -4.2
KLR pmax pmax
comp=E,200nm,1.8s
KLR pmax pmax
comp=Z,240nm,1.8s
KLR pmax pmax
comp=Z,3μm,9.5s
KLR MLR MLR
comp=Z,18μm,12.5s
JNU Nakatsue 12.59 239 Pn Pn 02 00 14.5 -0.6
comp=Z,1.6nm,0.3s,baz=200,slow=6.4,SNR=4.5
JNU LR LR 02 05 31.4
comp=Z,10μm,18.3s,baz=46,slow=40
JNU Nakatsue 12.59 239 ePn Pn 02 00 14.0 -1.1
KSRS Korea Array 12.65 262 P Pn 02 00 19.1 +3.2
KSRS MLR MLR
comp=Z,17nm,28.6s
KSRS Korea Array 12.65 262 Pn Pn 02 00 19.1 +3.2
comp=Z,0.4nm,0.3s,baz=64,slow=14,SNR=3.7
KSRS LR LR 02 04 31.7
comp=Z,3μm,20.1s,baz=72,slow=34
KSAR Wonju Array Be 12.69 262 P Pn 02 00 19.1 +2.8
KSAR Wonju Array Be 12.69 262 Pn Pn 02 00 19.1 +2.8
OKH Okha 13.18 358 eP P 02 00 30.0 -2.7
OKH pmax pmax
comp=Z,900nm,4.0s
SKR Severo-Kuril's 13.45 36 eP Pn 02 00 27.0 +0.4
SKR pmax pmax
comp=E,40nm,0.7s
SKR pmax pmax
comp=Z,60nm,0.7s
SKR MLR MLR
comp=N,5μm,14.0s
SKR MLR MLR
comp=E,6μm,14.0s
SKR MLR MLR
comp=Z,5μm,14.0s
CN2 Changchun 14.00 290 eP Pn 02 00 34.3 +0.1
CN2 esP 02 00 44.0
CN2 eS Sn 02 03 07.8 -0.9
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,4μm,13.0s
CN2 LR LR
comp=Z,5μm,13.0s
CN2 LR LR
comp=Z,5μm,12.0s
SNY Shenyang 15.26 282 ⇑P Pn 02 00 51.1 -0.2
SNY pmax pmax
comp=Z,43nm,1.2s
SNY LR LR
comp=Z,4μm,16.2s
SNY LR LR
comp=Z,5μm,14.1s
SNY LR LR
comp=Z,6μm,14.2s
PETK Petropavlovsk- 15.89 32 P Pn 02 00 57.9 -1.4
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK MLR MLR
comp=Z,2μm,19.1s
PETK Petropavlovsk- 15.89 32 Pn Pn 02 00 57.9 -1.4
comp=Z,1.1nm,0.3s,baz=219,slow=13,SNR=4.5
PETK LR LR 02 06 51.8
comp=Z,2μm,19.1s,baz=216,slow=36
PET Petropavlovsk 16.22 34 eP P 02 01 09.2 +2.7
PET pmax pmax
comp=Z,200nm,6.1s
PET pmax pmax
comp=Z,60nm,1.2s
PET MLR MLR
comp=Z,5μm,16.0s
PET MLR MLR
comp=Z,4μm,14.0s
PET Petropavlovsk 16.22 34 ePn Pn 02 01 04.8 +1.2
comp=Z,77nm,1.2s
DL2 Dalian 17.09 272 ⇑P Pn 02 01 13.5 -1.1
DL2 S Sn 02 04 26.5 +2.8
DL2 pmax pmax
comp=Z,190nm,1.5s
DL2 pmax pmax
comp=Z,1μm,8.0s
DL2 LR LR
comp=Z,3μm,12.4s
DL2 LR LR
comp=Z,3μm,12.9s
HIA Hailar 19.13 306 eP P 02 01 37.8 -0.9
HIA pmax pmax
comp=Z,46nm,0.9s
HIA Hailar 19.13 306 eP P 02 01 37.8 -0.9
comp=Z,46nm,0.9s
SSE Sheshan 20.47 250 eP Pn 02 01 55.3 -0.2
SSE sP sP 02 02 06.9 +3.5
SSE S S 02 05 40.0 -1.2
SSE pmax pmax
comp=Z,26nm,1.1s
SSE pmax pmax
comp=Z,410nm,8.8s
SSE LR LR
comp=Z,4μm,15.6s
SSE LR LR
comp=Z,2μm,15.6s
SSE LR LR
comp=Z,2μm,17.5s
CLNS Chul'man 20.53 330 eP P 02 01 53.2 -0.6
CLNS e*PP pP 02 01 58.5 -2.2
CLNS e 02 02 08.1
CLNS eS S 02 05 29.5 -13
CLNS e 02 06 06.8
CLNS eSS SnSn 02 06 24.3 +23
CLNS pmax pmax
comp=Z,91nm,1.2s
CLNS pmax pmax
comp=N,125nm,1.4s
CLNS pmax pmax
comp=E,40nm,0.8s
CLNS pmax pmax
comp=Z,98nm,1.4s

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CLNS                             pmax    pmax
     comp=N,136nm,1.3s
CLNS                             pmax    pmax
     comp=E,68nm,1.0s
CLNS                             smax    smax
     comp=E,879nm,12.5s
CLNS                             smax    smax
     comp=N,457nm,14.4s
CLNS                             MLR     MLR
     comp=Z,3µm,13.0s
CLNS                             MLR     MLR
     comp=N,2µm,13.0s
CLNS                             MLR     MLR
     comp=E,1µm,14.0s
BJI  Beijing         21.02 278   P       P       02 01 56.8 -2.4
BJI                              S       S       02 05 51.5 -0.5
BJI                              pmax    pmax
     comp=E,40nm,2.2s
BJI                              pmax    pmax
     comp=E,660nm,6.2s
BJI                              LR      LR
     comp=E,3µm,17.0s
BJI                              LR      LR
     comp=E,4µm,14.2s
BJI                              LR      LR
     comp=E,2µm,14.8s
BJT  Baijiatuau      21.03 278   eP      P       02 01 56.9 -2.4
BJT                              pmax    pmax
     comp=Z,691nm,2.0s
BJT  Baijiatuau      21.03 278   eP      P       02 01 56.9 -2.4
     comp=Z,691nm,2.0s
TIA  Tai'an          21.26 267 ⇑P       P       02 02 01.8 -0.1
TIA                              pP      pP      02 02 10.4 +1.6
TIA                              S       S       02 05 51.0 -5.9
TIA                              sS      Sn      02 06 03.9 -0.7
TIA                              pmax    pmax
     comp=Z,40nm,0.9s
TIA                              LR      LR
     comp=Z,5µm,11.9s
TIA                              LR      LR
     comp=Z,6µm,12.5s
TIA                              LR      LR
     comp=Z,7µm,13.2s
NJ2  Nanjing         21.67 255   eP      P       02 02 08.6 +2.3
NJ2                              S       S       02 06 07.0 +2.0
NJ2                              pmax    pmax
     comp=Z,930nm,1.1s
NJ2                              pmax    pmax
     comp=Z,2µm,4.5s
NJ2                              LR      LR
     comp=Z,4µm,16.6s
NJ2                              LR      LR
     comp=Z,4µm,17.0s
NJ2                              LR      LR
     comp=Z,5µm,15.2s
SEY  Seymchan        23.17  10   P       P       02 02 20.3 -1.6
SEY                              pmax    pmax
     comp=Z,18nm,0.7s
SEY  Seymchan        23.17  10   P       P       02 02 20.3 -1.6
     comp=Z,18nm,0.7s,baz=193,slow=7.3,SNR=64
YAK  Yakutsk         23.29 343   eP      P       02 02 19.8 -3.3
YAK                              e*PP    pP      02 02 27.2 -3.0
YAK                              ePPP    PPP     02 02 49.5
YAK                              e               02 06 06.5
YAK                              eS      S       02 06 27.1 -6.6
YAK                              e*SS    sS      02 06 38.7 -7.2
YAK                              eSSS    SSS     02 07 13.8
YAK                              e               02 13 38.7
YAK                              pmax    pmax
     comp=N,20nm,1.0s
YAK                              pmax    pmax
     comp=Z,47nm,0.9s
YAK                              pmax    pmax
     comp=E,8.0nm,1.1s
YAK                              pmax    pmax
     comp=Z,91nm,0.9s
YAK                              pmax    pmax
     comp=N,40nm,0.9s
YAK                              pmax    pmax
     comp=E,55nm,1.3s
YAK                              smax    smax
     comp=N,285nm,2.0s
YAK                              smax    smax
     comp=E,777nm,3.7s
YAK                              MLR     MLR
     comp=Z,4µm,17.0s
YAK                              MLR     MLR
     comp=N,4µm,17.0s
YAK                              MLR     MLR
     comp=E,1µm,16.0s
YAK  Yakutsk         23.29 343   eP      P       02 02 20.1 -3.0
     comp=E,97nm,1.0s
FX1  Attu Island--F  23.57  48   P       P       02 02 26.5 +0.5
FX1                              pmax    pmax
     comp=Z,15nm,0.8s
FX1  Attu Island--F  23.57  48   P       P       02 02 26.5 +0.5
     comp=Z,15nm,0.8s,baz=288,slow=3.2,SNR=4.0
FX1  Attu Island--F  23.57  48   eP      P       02 02 26.7 +0.7
CIT  Chita           23.73 309   eP      P       02 02 25.8 -1.8
CIT                              e               02 02 59.4
CIT                              e               02 03 12.0
CIT                              e               02 06 38.1
CIT                              pmax    pmax
     comp=Z,410nm,2.7s
TATO Taipei          24.12 237   eP      P       02 02 30.7 -0.7
HHC  Hu-ho-hao-te    24.35 282   eP      P       02 02 30.9 -2.7
HHC                              sP      sP      02 02 42.0 -2.1
HHC                              PP      PnPn    02 03 05.6 +1.6
HHC                              SS      SnSn    02 07 37.9 +2.5
HHC                              pmax    pmax
     comp=Z,47nm,1.6s
HHC                              pmax    pmax
     comp=Z,830nm,3.7s
HHC                              LR      LR
     comp=Z,4µm,14.6s
HHC                              LR      LR
     comp=Z,6µm,14.3s
HHC                              LR      LR
     comp=Z,7µm,14.9s
TIY  Taiyuan         24.39 274   eP      P       02 02 35.8 +1.9
TIY                              pmax    pmax
     comp=Z,910nm,7.3s
YHNB Yeheng          24.41 237   eP      P       02 02 31.8 -2.4
     comp=Z,34nm,0.9s
NACB Ninganchiao     24.63 236   eP      P       02 02 33.9 -2.1
     comp=Z,40nm,1.1s
SSLB Suanglung       25.31 236   eP      P       02 02 41.4 -0.8
     comp=Z,3.8nm,0.5s
YULB Yu-li           25.38 235   eP      P       02 02 42.0 -0.8
     comp=Z,18nm,1.0s
BTO  Baotou          25.55 282   eP      P       02 02 44.1 -0.3
WHN  Wuhan           25.76 257 ⇓iP      P       02 02 46.3  0.0
WHN                              pP      pP      02 02 55.5 +1.9
WHN                              S       S       02 07 14.9 +1.0
WHN                              LR      LR
     comp=Z,15µm,14.0s
WHN                              LR      LR
     comp=Z,5µm,13.7s
WHN                              LR      LR
     comp=Z,9µm,14.9s
TPUB Ta-pu           25.87 236   eP      P       02 02 46.4 -0.8
     comp=Z,15nm,0.8s
TWG  Pinlang         25.94 234   eP      P       02 02 49.5 +1.6
     comp=Z,1µm,1.7s
QZH  Quanzhou        26.05 241 ⇓iP      P       02 02 50.3 +1.4
QZH                              pmax    pmax
     comp=Z,3µm,4.7s
QZH                              LR      LR
     comp=Z,6µm,14.2s
QZH                              LR      LR
     comp=Z,5µm,16.1s
QZH                              LR      LR
     comp=Z,6µm,13.2s
ULN  Ulaanbaatar     27.17 298   eP      P       02 02 59.5 +0.5
ULN                              pmax    pmax
     comp=Z,65nm,1.4s
ULN  Ulaanbaatar     27.17 298   eP      P       02 02 59.5 +0.5
     comp=Z,65nm,1.4s
SONM Songino Array   27.61 298   P       P       02 03 03.6 +0.6
SONM                             pmax    pmax
     comp=Z,10.0nm,0.9s
SONM                             MLR     MLR
     comp=Z,1µm,18.4s
SONM Songino Array   27.61 298   P       P       02 03 03.6 +0.6
     comp=Z,9.6nm,0.9s,baz=92,slow=6.1,SNR=58
SONM                             LR      LR      02 14 22.4
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     comp=Z,1µm,18.4s,baz=94,slow=37
XAN   Xi'an           28.31 268   P       P       02 03 08.8 -0.4
XAN                               pP      pP      02 03 16.4 -0.2
XAN                               pmax    pmax
     comp=Z,9.0nm,1.3s
XAN                               pmax    pmax
     comp=Z,180nm,8.1s
XAN                               LR      LR
     comp=Z,1µm,14.3s
XAN                               LR      LR
     comp=Z,880nm,13.0s
XAN                               LR      LR
     comp=Z,1µm,13.3s
H11N2 WAKE ISLAND Hy  28.58 129   T       T       02 32 51.1
     baz=324,slow=76,SNR=130
H11N1 WAKE ISLAND Hy  28.59 129   T       T       02 33 02.9
     baz=324,slow=76,SNR=108
H11N3 WAKE ISLAND Hy  28.60 129   T       T       02 32 50.9
     baz=324,slow=76,SNR=128
IRK   Irkutsk         29.36 307   eP      P       02 03 19.3 +1.0
IRK                               pmax    pmax
     comp=Z,161nm,1.7s
H11S1 WAKE ISLAND Hy  29.42 131   T       T       02 33 56.9
     baz=326,slow=76,SNR=58
H11S3 WAKE ISLAND Hy  29.43 131   T       T       02 33 56.6
     baz=326,slow=76,SNR=50
H11S2 WAKE ISLAND Hy  29.44 131   T       T       02 34 10.9
     baz=326,slow=76,SNR=62
ENH   Enshi           29.54 261   eP      P       02 03 19.2 -0.9
     comp=Z,18nm,0.8s
TLY   Talaya          29.67 306   P       P       02 03 22.2 +1.1
     comp=Z,149nm,1.0s,SNR=5.5
TLY   Talaya          29.67 306c  iP      P       02 03 21.6 +0.5
TLY                               e               02 04 27.4
TLY                               pmax    pmax
     comp=Z,46nm,1.4s
TLY                               MLR     MLR
     comp=Z,3µm,14.0s
TLY   Talaya          29.67 306   eP      P       02 03 22.2 +1.1
     comp=Z,65nm,1.4s
ZAK   Zakamensk       29.78 303⇑  iP      P       02 03 22.2  0.0
ZAK                               e               02 06 22.8
ZAK                               pmax    pmax
     comp=Z,13nm,1.4s
ZAK                               pmax    pmax
     comp=Z,18nm,1.7s
BILL  Bilibino        30.30  17c  iP      P       02 03 26.7 +0.2
BILL                              i               02 03 36.3
BILL                              e               02 04 24.9
BILL                              i S     S       02 08 30.3 +5.6
BILL                              pmax    pmax
     comp=Z,13nm,0.8s
BILL                              MLR     MLR
     comp=Z,2µm,16.0s
BILL  Bilibino        30.30  17   eP      P       02 03 26.2 -0.3
     comp=Z,35nm,1.0s
GZH   Guangzhou       30.86 245   P       P       02 03 30.8 -1.0
GZH                               S       S       02 08 31.5 -2.7
GZH                               LR      LR
     comp=Z,5µm,19.6s
GZH                               LR      LR
     comp=Z,4µm,18.0s
LZH   Lanzhou         31.44 275 ⇑P       P       02 03 37.9 +0.9
LZH                               pP      pP      02 03 46.8 +2.4
LZH                               sP      sP      02 03 50.8 +3.3
LZH                               PP      PnPn    02 04 42.4 +2.4
LZH                               S       S       02 08 41.1 -2.3
LZH                               sS      sS      02 08 54.5 -1.2
LZH                               SS      SnSn    02 10 27.0 -1.3
LZH                               pmax    pmax
     comp=Z,200nm,1.0s
LZH                               pmax    pmax
     comp=Z,580nm,4.0s
LZH                               LR      LR
     comp=Z,2µm,11.6s
LZH                               LR      LR
     comp=Z,2µm,13.4s
LZH                               LR      LR
     comp=Z,3µm,14.0s
GTA   Gaotai          33.45 283   P       P       02 03 55.4 +0.8
GTA                               pP      pP      02 04 02.8 +0.8
GTA                               sP      sP      02 04 05.8 +0.7
GTA                               PP      PnPn    02 05 07.0 +1.2
GTA                               S       S       02 09 13.8 -0.8
GTA                               sS      sS      02 09 26.4 -0.6
GTA                               SS      SnSn    02 11 17.8 +0.7
GTA                               pmax    pmax
     comp=Z,72nm,1.6s
GTA                               pmax    pmax
     comp=Z,650nm,8.1s
GTA                               LR      LR
     comp=Z,2µm,14.3s
GTA                               LR      LR
     comp=Z,4µm,14.3s
GTA                               LR      LR
     comp=Z,4µm,14.3s
CD2   Chengdu         33.59 266⇑  eP      P       02 03 55.3 -0.5
CD2                               pP      pP      02 04 03.5 +0.3
CD2                               sP      sP      02 04 07.1 +0.8
CD2                               PP      PnPn    02 05 07.6  0.0
CD2                               PcP     PcP     02 06 36.4 +0.6
CD2                               S       S       02 09 13.9 -2.9
CD2                               sS      sS      02 09 27.5 -1.6
CD2                               PcS     PcS     02 10 21.0 -0.8
CD2                               SS      SnSn    02 11 17.6 -3.0
CD2                               pmax    pmax
     comp=Z,30nm,1.0s
CD2                               pmax    pmax
     comp=Z,520nm,8.0s
CD2                               LR      LR
     comp=Z,7µm,13.1s
CD2                               LR      LR
     comp=Z,3µm,13.7s
CD2                               LR      LR
     comp=Z,4µm,14.2s
GYA   Guiyang         33.65 257⇑  iP      P       02 03 55.3 -1.2
GYA                               pP      pP      02 04 05.8 +1.9
GYA                               PP      PP      02 05 11.3 -1.4
GYA                               PcP     PcP     02 06 36.8 +0.7
GYA                               S       S       02 09 19.1 +1.1
GYA                               sS      sS      02 09 31.0 +0.7
GYA                               ScP     ScP     02 10 19.8 +0.8
GYA                               SS      SnSn    02 11 21.4 -0.9
GYA                               pmax    pmax
     comp=Z,50nm,1.0s
GYA                               pmax    pmax
     comp=Z,390nm,7.4s
GYA                               LR      LR
     comp=Z,4µm,14.9s
GYA                               LR      LR
     comp=Z,3µm,15.2s
GYA                               LR      LR
     comp=Z,3µm,15.2s
GAMB  Gambell         34.92  33   eP      P       02 04 07.4 +0.6
     comp=Z,30nm,1.6s
QIZ   Qiongzhong      36.00 244   P       P       02 04 18.6 +2.0
QIZ                               S       S       02 09 55.6 +1.7
QIZ                               pmax    pmax
     comp=Z,54nm,2.2s
QIZ                               LR      LR
     comp=Z,2µm,15.1s
QIZ                               LR      LR
     comp=Z,990nm,15.5s
QIZ                               LR      LR
     comp=Z,3µm,12.6s
TNA   Tin City        37.05  31   eP      P       02 04 26.2 +1.1
     comp=Z,51nm,1.3s
TNA                               ePcP    PcP     02 06 53.8 +8.6
KMI   Kunming         37.33 259 ⇑P       P       02 04 28.3 +0.1
KMI                               pP      pP      02 04 36.3 +0.6
KMI                               sP      sP      02 04 40.5 +1.7
KMI                               PP      PnPn    02 05 56.0 +1.9
KMI                               S       S       02 10 14.0 -0.6
KMI                               sS      sS      02 10 26.3 -0.7
KMI                               SS      SnSn    02 12 44.9 -6.6
KMI                               pmax    pmax
     comp=Z,38nm,1.5s
KMI                               LR      LR
     comp=Z,4µm,14.2s
KMI                               LR      LR
     comp=Z,3µm,15.1s
KMI                               LR      LR
     comp=Z,3µm,12.0s
SLVN  Son La          38.71 253   eP      P       02 04 39.8 +0.1
     comp=Z,58nm,1.8s
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WMQ   Urumqi          41.05 294   P       P       02 04 59.6 +0.7
WMQ                               pP      pP      02 05 07.0 +0.6
WMQ                               sP      sP      02 05 10.4 +0.9
WMQ                               PP      PnPn    02 06 37.6 -0.4
WMQ                               PcP     PcP     02 07 00.5 +2.2
WMQ                               PcS     PcS     02 10 50.3 +1.0
WMQ                               S       S       02 11 09.5 -0.4
WMQ                               sS      sS      02 11 21.8 -0.5
WMQ                               SS      SS      02 14 06.8 -5.4
WMQ                               ScS     ScS     02 15 00.8 -0.9
WMQ                               pmax    pmax
     comp=Z,47nm,1.2s
WMQ                               pmax    pmax
     comp=Z,670nm,8.2s
WMQ                               LR      LR
     comp=Z,3µm,14.8s
WMQ                               LR      LR
     comp=Z,3µm,12.8s
WMQ                               LR      LR
     comp=Z,2µm,17.4s
ZALV  Zalesovo Beam   41.09 310   P       P       02 04 59.2 +0.2
     comp=Z,19nm,0.8s,baz=91,slow=7.4,SNR=48
ZALV                              PcP     PcP     02 06 58.7 +0.5
     comp=Z,6.0nm,0.8s,baz=123,slow=5.3,SNR=2.7
ZALV                              LR      LR      02 22 24.8
     comp=Z,317nm,18.2s,baz=70,slow=37
MYLDM Lahad Datu      41.75 220   eP      P       02 05 07.7 +2.9
     comp=Z,93nm,1.2s
NVS   Novosibirsk     41.92 311⇑  iP      P       02 05 05.3 -0.5
NVS                               eS      S       02 11 32.3 +10
NVS                               pmax    pmax
     comp=Z,120nm,1.9s
NVS                               pmax    pmax
     comp=N,15nm,1.6s
NVS                               pmax    pmax
     comp=E,61nm,1.6s
NVS                               smax    smax
     comp=N,5.0nm,1.2s
NVS                               smax    smax
     comp=E,46nm,2.1s
CMAI  Chiengmai2      43.14 255   P       P       02 05 17.4 +1.1
     comp=E,34nm,1.0s,comp=E,1µm
RSO   Redoubt South   43.17  40   eP      P       02 05 18.1 +2.0
PPLA  Purkeypile      43.40  37   eP      P       02 05 18.0 +0.1
     comp=E,108nm,1.6s
UTTA  Uttaradit       43.42 252   P       P       02 05 20.6 +2.3
     comp=E,5.2nm,0.9s
LAMP  Lampang         43.59 253   P       P       02 05 22.2 +2.5
     comp=E,6.2nm,1.2s,comp=E,152nm
LSA   Lhasa           43.78 273   P       P       02 05 22.0 +0.3
LSA                               sP      sP      02 05 36.4 +4.0
LSA                               LR      LR
     comp=E,2µm,13.4s
LSA   Lhasa           43.78 273   eP      P       02 05 22.7 +1.0
LSA                               pmax    pmax
     comp=Z,155nm,1.8s
LSA   Lhasa           43.78 273   eP      P       02 05 22.7 +1.0
     comp=Z,155nm,1.8s
CMMT  Chiang Mai      43.91 254   P       P       02 05 23.7 +1.4
     comp=Z,59nm,0.7s,comp=Z,626nm
CHTO  Chiang Mai      43.91 254   eP      P       02 05 22.6 +0.3
CHTO                              pmax    pmax
     comp=Z,144nm,2.2s
CHTO  Chiang Mai      43.91 254   P       P       02 05 23.8 +1.5
     comp=Z,178nm,0.8s,comp=Z,2µm
CHTO  Chiang Mai      43.91 254   eP      P       02 05 22.6 +0.3
     comp=Z,144nm,2.2s
MK31  Makanchi Array  43.96 300   i P     P       02 05 22.3 -0.2
MK31                              pmax    pmax
     comp=Z,65nm,1.1s
MK31  Makanchi Array  43.96 300   eP      P       02 05 22.6 +0.2
MKAR  Makanchi Array  43.96 300   P       P       02 05 22.7 +0.2
     comp=Z,27nm,0.9s,baz=83,slow=8.7,SNR=107
MKAR                              LR      LR      02 26 01.7
     comp=Z,486nm,18.9s,baz=82,slow=39
MKAR  Makanchi Array  43.96 300   eP      P       02 05 22.1 -0.4
KTH   Kantishna Hill  43.97  36   eP      P       02 05 23.4 +1.1
     comp=Z,195nm,2.1s
CMAR  Chiang Mai Arr  44.14 254   eP      P       02 05 24.6 +0.5
CMAR                              pmax    pmax
     comp=Z,2.0nm,0.4s
CMAR  Chiang Mai Arr  44.14 254   P       P       02 05 24.6 +0.5
     comp=Z,3.0nm,0.6s,baz=48,slow=6.6,SNR=14
CMAR                              LR      LR      02 25 52.6
     comp=Z,742nm,18.7s,baz=62,slow=39
COLD  Coldfoot        44.35  31   eP      P       02 05 26.4 +1.1
     comp=Z,12nm,0.9s
MCK   McKinley        44.85  36   eP      P       02 05 29.2 -0.1
MCK                               pmax    pmax
     comp=Z,28nm,1.2s
MCK   McKinley        44.85  36   eP      P       02 05 29.2 -0.1
     comp=Z,28nm,1.2s
COLA  College         45.29  34   eP      P       02 05 33.7 +1.0
COLA                              pmax    pmax
     comp=Z,20nm,0.8s
COLA  College         45.29  34   eP      P       02 05 33.6 +1.0
     comp=Z,20nm,0.8s
SHL   Shillong        45.31 267   eP      P       02 05 35.0 +1.3
KURK  Kurchatov       45.37 306   P       P       02 05 33.5 -0.1
     comp=Z,183nm,0.9s,SNR=34
KURK  Kurchatov       45.37 306   eP      P       02 05 33.8 +0.2
KURK                              pmax    pmax
     comp=Z,38nm,1.0s
KURK  Kurchatov       45.37 306   eP      P       02 05 33.8 +0.2
     comp=Z,38nm,1.0s
CHBT  CHBT            45.53 245   P       P       02 05 37.0 +1.8
     comp=Z,54nm,1.1s,comp=Z,2µm
ILAR  Eielson Array   45.70  34   P       P       02 05 36.0 -0.1
ILAR                              pmax    pmax
     comp=Z,8.0nm,0.8s
ILAR  Eielson Array   45.70  34   P       P       02 05 36.0 -0.1
     comp=Z,8.3nm,0.8s,baz=260,slow=6.2,SNR=57
SRDT  SRDT            46.69 249   P       sP      02 05 56.4 +1.4
KHLT  Khaolaem Dam    46.77 250   P       P       02 05 47.7 +2.7
     comp=Z,14nm,1.2s
MENT  Mentasta        47.26  36   eP      P       02 05 49.4 +1.0
TAPN  Taplejung       47.57 272   eP      P       02 05 52.2 +0.7
     comp=Z,289nm,1.5s
TAPN  Taplejung       47.57 272   eP      P       02 05 52.2 +0.7
ODAN  Odare           48.07 272   eP      P       02 05 55.6 +0.3
     comp=Z,101nm,1.2s
ODAN  Odare           48.07 272   eP      P       02 05 55.6 +0.3
EGAK  Eagle           48.15  34   eP      P       02 05 56.5 +1.4
     comp=Z,26nm,1.3s
JIRN  Jiri            48.57 273   eP      P       02 05 59.7 +0.3
JIRN  Jiri            48.57 273   eP      P       02 05 59.7 +0.3
RAMN  Ramite          48.62 272   eP      P       02 05 59.8 +0.2
     comp=Z,182nm,1.2s
RAMN  Ramite          48.62 272   eP      P       02 05 59.8 +0.2
AAA   Alma-Ata        48.64 297   i P     P       02 05 53.1 -6.2
AAA                               pmax    pmax
     comp=Z,900nm,5.9s
AAA                               MLR     MLR
     comp=Z,3µm,13.0s
GUN   Gumba           48.68 274   eP      P       02 06 00.5 +0.3
     comp=Z,219nm,1.1s
GUN   Gumba           48.68 274   eP      P       02 06 00.5 +0.3
DAWY  Dawson          49.01  35   eP      P       02 06 02.3 +0.4
KKN   Kakani          49.20 274   eP      P       02 06 04.2 +0.2
KKN   Kakani          49.20 274   eP      P       02 06 04.2 +0.2
KKN   Kakani          49.20 274   eP      P       02 06 04.2 +0.2
PKI   Pulchoki        49.21 274   eP      P       02 06 04.1 -0.1
     comp=Z,201nm,1.5s
PKI   Pulchoki        49.21 274   eP      P       02 06 04.9 +0.7
PKI   Pulchoki        49.21 274   eP      P       02 06 04.9 +0.7
PKIN  Phulchoki       49.22 274   eP      P       02 06 04.9 +0.7
DMN   Daman           49.43 274   eP      P       02 06 05.9 +0.1
     comp=Z,443nm,1.7s
DMN   Daman           49.43 274   eP      P       02 06 05.9 +0.1
GKN   Gorkha          49.58 275   eP      P       02 06 06.8  0.0
     comp=Z,144nm,1.2s
GKN   Gorkha          49.58 275   eP      P       02 06 06.8  0.0
PMG   Port Moresby    49.64 176   eP      P       02 06 08.4 +1.3
PMG                               pmax    pmax
     comp=Z,15nm,0.7s
PMG   Port Moresby    49.64 176   eP      P       02 06 08.4 +1.3
     comp=Z,14nm,0.7s
TKM2  Tokmak 2        49.69 297   P       P       02 06 08.9 +1.3
     SNR=15
TKM2  Tokmak 2        49.69 297   eP      P       02 06 08.6 +1.0
TKM2                              pmax    pmax
     comp=Z,403nm,2.2s
TKM2  Tokmak 2        49.69 297   eP      P       02 06 08.6 +1.0
     comp=Z,403nm,2.2s
BVA0  Borovoye Array  49.71 311   i P     P       02 06 07.5 +0.2
BVA0                              pmax    pmax
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comp=Z,62nm,1.3s
BVAR Borovoye Array 49.71 311 P P 02 06 07.9 +0.6
BVAR pmax pmax
comp=Z,9.0nm,0.9s
BVAR Borovoye Array 49.71 311 P P 02 06 07.9 +0.6
comp=Z,9.4nm,0.8s,baz=80,slow=7.4,SNR=41
BRVK Borovoye 49.77 311 P P 02 06 08.0 +0.3
comp=Z,210nm,1.6s,SNR=14
BRVK Borovoye 49.77 311 eP P 02 06 08.5 +0.8
BRVK pmax pmax
comp=Z,64nm,1.3s
BRVK Borovoye 49.77 311 eP P 02 06 08.5 +0.8
comp=Z,64nm,1.3s
DANN Dangsing 50.07 276 eP P 02 06 11.2 +0.5
comp=Z,156nm,0.9s
DANN Dangsing 50.07 276 eP P 02 06 11.2 +0.5
KBK Karagaybulak 50.23 297 P P 02 06 12.2 +0.6
SNR=29
CHMS Chumysh 50.24 297 P P 02 06 13.3 +1.8
SNR=5.5
CHMS Chumysh 50.24 297 i P P 02 06 13.3 +1.8
KZA Kyzart 50.25 296 P P 02 06 13.4 +1.4
SNR=12
KZA Kyzart 50.25 296 i P P 02 06 13.4 +1.4
KAPI Kappang 50.26 212 eP P 02 06 12.0 +0.2
comp=Z,15nm,0.4s
USP Ospenovka 50.31 297 P P 02 06 12.2 +0.2
SNR=14
USP Ospenovka 50.31 297 i P P 02 06 12.2 +0.2
FRU Bishkek 50.39 297 i P P 02 06 12.0 -0.7
FRU e 02 08 12.0
FRU pmax pmax
comp=Z,140nm,2.0s
FRU MLR MLR
comp=Z,1μm,15.5s
KOLN Koldanda 50.49 275 eP P 02 06 14.1 +0.3
comp=Z,382nm,1.9s
KOLN Koldanda 50.49 275 eP P 02 06 14.1 +0.3
HYT Haines Junctio 50.54 38 eP P 02 06 16.8 +3.1
AAK Ala-Archa 50.55 297 P P 02 06 13.4 -0.6
comp=Z,73nm,1.4s,SNR=5.9
AAK Ala-Archa 50.55 297 P P 02 06 15.8 +1.8
SNR=8.4
AAK Ala-Archa 50.55 297 P P 02 06 12.7 -1.3
comp=Z,5.8nm,0.9s,baz=85,slow=6.6,SNR=16
AAK Ala-Archa 50.55 297 eP P 02 06 13.5 -0.6
comp=Z,33nm,1.4s
INK Inuvik 50.58 29 eP P 02 06 14.1 +0.5
INK pmax pmax
comp=Z,7.0nm,0.7s
INK Inuvik 50.58 29 eP P 02 06 14.1 +0.5
comp=Z,6.9nm,0.7s
SURT Suratani 50.65 244 P sP 02 06 26.4 +0.8
KSH Kashi 50.75 292 P P 02 06 19.8 +4.3
KSH epP pP 02 06 26.4 +3.1
KSH esP sP 02 06 29.6 +3.3
KSH PP PP 02 08 18.4 +6.9
KSH PcS PcS 02 11 29.4 -0.5
KSH S S 02 13 32.4 +2.8
KSH SS SS 02 17 05.8 +1.9
KSH pmax pmax
comp=Z,24nm,1.2s
KSH LR LR
comp=Z,260nm,5.7s
KSH LR LR
comp=Z,190nm,6.1s
KSH LR LR
comp=Z,180nm,11.8s
EKS2 Erkin-Say 51.03 297 P P 02 06 17.8 +0.2
SNR=8.0
EKS2 Erkin-Say 51.03 297 eP P 02 06 17.5 -0.1
EKS2 pmax pmax
comp=Z,18nm,1.0s
EKS2 Erkin-Say 51.03 297 eP P 02 06 17.5 -0.1
comp=Z,18nm,1.0s
AML Almayashu 51.29 296 P P 02 06 22.2 +2.3
SNR=16
PKDT Phuket 51.73 244 P sP 02 06 36.0 +2.3
MMRI Maumere 52.66 207 eP P 02 06 29.1 -0.6
comp=Z,135nm,1.6s
KK31 Karatay Array 53.06 299 i P P 02 06 31.9 -0.7
KK31 pmax pmax
comp=Z,29nm,1.0s
KKAR Karatay Array 53.06 299 eP P 02 06 32.5 -0.1
KKAR pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 53.06 299 eP P 02 06 32.5 -0.1
comp=Z,9.7nm,0.8s
SVE Sverdlovsk 53.87 317 deP P 02 06 39.3 +1.1
SVE e 02 08 46.0
SVE eS S 02 14 16.2 +4.6
SVE eSS SKiKP 02 17 48.2 -1.4
SVE pmax pmax
comp=Z,91nm,1.8s
SVE MLR MLR
comp=Z,5μm,14.0s
SVE MLR MLR
comp=E,4μm,14.0s
ARU Arti 55.09 318 P P 02 06 47.1 0.0
comp=E,195nm,1.0s,SNR=6.7
ARU Arti 55.09 318 c iP P 02 06 47.4 +0.3
ARU 02 07 46.4
ARU 02 08 49.8
ARU S S 02 14 29.6 +1.7
ARU SS SS 02 18 07.9 -3.4
ARU pmax pmax
comp=Z,84nm,1.7s
ARU MLR MLR
comp=Z,4μm,15.0s
ARU Arti 55.09 318 eP P 02 06 47.2 +0.2
comp=Z,82nm,1.3s
PMBI Palembang 55.91 229 eP P 02 06 58.8 +5.3
comp=Z,461nm,0.4s
ALE Alert 56.66 4 P P 02 06 59.4 +1.4
comp=Z,77nm,1.4s,SNR=5.4
GSI Gunungsitoli 57.07 239 eP P 02 07 01.6 -0.2
comp=Z,232nm,1.8s
AB31 Akbulak array 57.20 309 P P 02 07 02.1 -0.2
AB31 pmax pmax
comp=Z,10.0nm,0.9s
AKTO Aktyubinsk 57.81 311 P P 02 07 05.6 -1.0
AKTO pmax pmax
comp=Z,21nm,0.8s
AKTO Aktyubinsk 57.81 311 P P 02 07 06.6 0.0
comp=Z,16nm,0.8s,baz=70,slow=12,SNR=31
AJM Ajmer 57.95 279 ex P 02 07 08.0 0.0
RES Resolute Bay 58.90 15 eP P 02 07 13.7 -0.1
RES pmax pmax
comp=Z,22nm,0.6s
RES Resolute Bay 58.90 15 eP P 02 07 13.7 -0.1
comp=Z,22nm,0.6s
PRGR Permogore 58.96 327 ⇑iP P 02 07 12.9 -1.5
PRGR pmax pmax
comp=Z,256nm,2.0s
YKA Yellowknife Ar 60.01 32 P P 02 07 21.6 0.0
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 60.01 32 P P 02 07 21.6 0.0
comp=Z,3.2nm,0.8s,baz=300,slow=6.5,SNR=44
HYB Hyderabad 60.12 268 i P P 02 07 21.0 -2.1
CTA Charters Tower 60.20 177 P P 02 07 23.2 -0.2
CTA pmax pmax
comp=Z,2.0nm,0.5s
CTA Charters Tower 60.20 177 P P 02 07 23.2 -0.2
comp=Z,1.5nm,0.5s,baz=325,slow=5.4,SNR=2.5
APA Apatity 60.39 336 eP P 02 07 24.0 -0.1
APA MLR MLR
comp=Z,3μm,14.0s
WRAB Tennant Creek 60.64 190 P P 02 07 24.0 -2.4
comp=Z,42nm,1.5s,SNR=6.1
WRAB Tennant Creek 60.64 190 eP P 02 07 24.3 -2.0
WRAB pmax pmax
comp=Z,15nm,1.1s
WRAB Tennant Creek 60.64 190 eP P 02 07 24.3 -2.0
comp=Z,15nm,1.1s
WRA Warramunga Arr 60.65 190 P P 02 07 24.5 -2.0
WRA pmax pmax
comp=Z,4.0nm,0.5s
WRA MLR MLR
comp=Z,16nm,28.6s
WRA Warramunga Arr 60.65 190 P P 02 07 24.4 -2.0
comp=Z,3.6nm,0.5s,baz=8.7,slow=6.9,SNR=31
WRA LR LR 02 37 33.6
comp=Z,145nm,18.8s,baz=40,slow=40
TMCR Tamitsa 60.69 331 eP P 02 07 27.4 +1.2
TMCR pmax pmax
comp=Z,37nm,1.0s
KEV Kevo 60.96 339 eP P 02 07 26.8 -1.2
KEV pmax pmax
comp=Z,9.0nm,0.8s
KEV Kevo 60.96 339 ep P 02 07 26.8 -1.2
comp=Z,9.0nm,0.8s
ARCES ARCESS Array B 61.50 339 P P 02 07 32.4 +0.7
comp=Z,9.1nm,0.9s,baz=54,slow=12,SNR=4.8
ARCES LR LR 02 39 54.3
comp=Z,1μm,18.3s,baz=20,slow=42
KLMR Klimovskoe 61.90 327 eP P 02 07 33.4 -1.1
KLMR e 02 09 49.6
KLMR pmax pmax
comp=Z,76nm,1.6s
KLMR MLR MLR
comp=Z,1μm,14.0s
DAG Danmarks Havn 62.59 355 i P P 02 07 38.6 -0.3
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 62.59 355 i P P 02 07 38.6 -0.3
comp=Z,7.5nm,0.9s
KAD Karad 63.52 271 ex P 02 07 45.6 -0.4
JOF Joensuu 63.87 332 eP P 02 07 47.0 -0.5
JOF pmax pmax
comp=Z,11nm,0.7s
JOF Joensuu 63.87 332 ep P 02 07 47.0 -0.5
comp=Z,11nm,0.7s
IKRD Kardeh 64.16 297 eP P 02 07 46.7 -3.5
ISFR Sfrayin 64.36 298 eP P 02 07 51.7 +0.1
ASAR Alice Springs 64.37 190 P P 02 07 49.9 -1.4
comp=Z,3.6nm,0.9s,baz=10,slow=6.1,SNR=20
ASAR LR LR 02 34 33.7
comp=Z,163nm,21.2s,baz=3.5,slow=35
G03D McMinnville, O 64.65 51 ⇓P P 02 07 53.7 +0.7
baz=64
EDM Edmonton 65.61 40 eP P 02 07 59.8 +0.7
EDM Edmonton 65.61 40 eP P 02 07 59.8 +0.7
DZM Mont Dzumac 65.64 157 eS S 02 16 46.9 +3.1
comp=Z,311nm,23.9s
DZM Mont Dzumac 65.64 157 eLR LR 02 27 43.1
comp=Z,496nm,20.6s
MOS Moscow 65.64 323 eP P 02 07 58.9 -0.3
MOS e 02 10 23.8
MOS pmax pmax
comp=Z,76nm,1.4s
MOS MLR MLR
comp=Z,2μm,16.0s
E07A Sunnyside 65.91 49 eP P 02 08 03.7 +2.6
comp=Z,27nm,1.6s
I04A Tendick Farm, 65.93 52 ⇓P P 02 08 02.1 +0.8
baz=66
C09A Chrisman Ranch 66.11 47 eP P 02 08 03.2 +0.8
comp=Z,18nm,1.3s
KAF Kangasniemi 66.16 333 eP P 02 08 01.7 -0.7
KAF pmax pmax
comp=Z,9.0nm,0.8s
KAF Kangasniemi 66.16 333 ep P 02 08 01.7 -0.7
comp=Z,9.1nm,0.8s
J04D Umpqua Nationa 66.42 53 ⇓P P 02 08 05.3 +0.6
baz=66
VRHR Novokhopersk 66.43 318 eP P 02 08 03.2 -1.1
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
NEW Newport 66.48 46 eP P 02 08 05.2 +0.4
NEW pmax pmax
comp=Z,16nm,1.4s
NEW Newport 66.48 46 eP P 02 08 05.2 +0.4
comp=Z,16nm,1.4s
NEW Newport 66.48 46 ⇑P P 02 08 05.5 +0.7
baz=66
OBN Obninsk 66.50 323 ⇓iP P 02 08 05.2 +0.5
OBN i 02 08 15.3
OBN e 02 10 30.5
OBN i S S 02 17 02.0 +8.5
OBN pmax pmax
comp=Z,75nm,1.7s
OBN MLR MLR
comp=Z,1μm,19.0s
OBN Obninsk 66.50 323 eP P 02 08 04.8 +0.1
comp=Z,55nm,1.2s
FINES FINESS Array B 66.69 332 P P 02 08 06.2 +0.3
comp=Z,19nm,0.8s,baz=52,slow=7.5,SNR=38
FINES LR LR 02 40 25.1
comp=Z,1μm,19.7s,baz=89,slow=39
E09A Wood Farm, Sta 66.91 48 eP P 02 08 07.8 +0.3
comp=Z,15nm,1.3s
J05D Fort Rock, OR 66.92 52 ⇑P P 02 08 09.1 +1.2
baz=67
N02D Trinity Center 67.32 55 ⇓P P 02 08 10.6 +0.3
baz=67
SUMG Summit 67.33 1 i P P 02 08 10.7 +0.5
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 67.33 1 i P P 02 08 10.7 +0.5
comp=Z,12nm,1.0s
SUMG Summit 67.33 1 eP P 02 08 10.7 +0.5
comp=Z,145nm,2.1s
M04C Macdoel 67.40 54 ⇑P P 02 08 11.3 +0.4
baz=67
K05A Summer Lake 67.45 53 eP P 02 08 12.4 +1.1
comp=Z,95nm,1.9s
VSR Storozhevoye 67.61 319 eP P 02 08 11.5 -0.3
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.7s
VORD Divnogorie 67.69 319 eP P 02 08 10.8 -1.6
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,80nm,0.8s
MAK Makhachkala 67.83 308 eP P 02 08 12.1 -1.2
MAK e 02 08 41.8
MAK e 02 10 42.1
MAK eS S 02 17 09.5 -0.4
MAK e 02 18 04.5
MAK eSS SS 02 21 33.2 +2.3
MAK pmax pmax
comp=Z,120nm,1.0s
MAK MLR MLR
comp=Z,3μm,14.0s
BMO Blue Mountains 68.35 49 eP P 02 08 17.3 +0.5
comp=Z,32nm,2.1s
WVOR Wild Horse Val 68.98 52 eP P 02 08 22.1 +1.3
WVOR pmax pmax
comp=Z,68nm,2.4s
WVOR Wild Horse Val 68.98 52 eP P 02 08 22.1 +1.3
comp=Z,68nm,2.4s
MSO Missoula 69.07 46 eP P 02 08 21.5 +0.3
MSO Missoula 69.07 46 ⇓P P 02 08 21.3 +0.1
baz=69,SNR=5.6
IMEH Mehriz 69.84 294 eP P 02 08 25.1 -1.4
FFC Flin Flon 69.92 34 P P 02 08 26.0 -0.2
comp=Z,92nm,0.9s,SNR=5.3
FFC Flin Flon 69.92 34 eP P 02 08 26.3 +0.1
FFC pmax pmax
comp=Z,13nm,0.9s
FFC Flin Flon 69.92 34 eP P 02 08 26.3 +0.1
comp=Z,13nm,0.9s
IGZV Ghazvin 69.92 301 eP P 02 08 26.8 0.0
DGRG David-gareji 69.99 308 P P 02 08 27.2 +0.3
MFID Camas Ranch 70.06 50 eP P 02 08 27.9 +0.5
comp=Z,13nm,1.4s
ZEI Tsey 70.07 310 eP P 02 08 27.7 +0.1
ZEI pmax pmax
comp=Z,37nm,1.6s
KBZ Khabaz 70.09 311 P P 02 08 28.5 +1.1
KBZ pmax pmax
comp=Z,16nm,0.9s
KBZ MLR MLR
comp=Z,16nm,28.6s
KBZ Khabaz 70.09 311 P P 02 08 28.4 +1.1
comp=Z,16nm,0.9s,baz=44,slow=4.3,SNR=16
KBZ LR LR 02 44 32.5
comp=Z,591nm,18.4s,baz=28,slow=40
ISAD Sadrabad 70.18 295 eP P 02 08 27.9 -0.7
FCC Fort Churchill 70.20 28 eP P 02 08 27.3 -0.5
FCC pmax pmax
comp=Z,2.0nm,1.8s
FCC Fort Churchill 70.20 28 eP P 02 08 27.3 -0.5
comp=Z,1.7nm,1.8s
TBLG Delisi 70.21 308 P P 02 08 29.3 +1.0
ONI Oni 70.46 310 P P 02 08 30.9 +1.1
CMB Columbia Colle 70.48 56 eP P 02 08 30.6 +0.6
CMB pmax pmax
comp=Z,41nm,1.8s
CMB Columbia Colle 70.48 56 eP P 02 08 30.6 +0.6
comp=Z,41nm,1.8s
A19A Klindworth Far 70.52 42 ⇑P P 02 08 30.3 +0.1
baz=70,SNR=6.3
EGMT Eagleton 70.57 43 eP P 02 08 30.9 +0.4
comp=Z,23nm,1.4s
EGMT Eagleton 70.57 43 ⇓P P 02 08 30.4 -0.1
baz=70
IDID Didziasalis 70.65 327 eP P 02 08 31.0 +0.3
IDID AMB AMB 02 08 33.6
comp=Z,14nm,1.0s
DLMT Dillon 70.71 47 eP P 02 08 32.4 +1.0
comp=Z,14nm,1.2s
B19A Brinkman Farms 70.72 42 ⇑P P 02 08 31.6 +0.3
baz=70
ISAL Salakas 70.72 328 eP P 02 08 31.4 +0.4
ISAL AMB AMB 02 08 34.1
comp=Z,20nm,1.3s
MICGM Minsk 70.73 326 e P 02 08 30.0 -1.2
MNK Minsk 70.75 326 eP P 02 08 30.0 -1.3
HLID Hailey 70.78 49 eP P 02 08 32.7 +0.7
comp=Z,6.7nm,1.1s
HLID Hailey 70.78 49 ⇑P P 02 08 31.9 0.0
baz=71
IIGN Ignalina 70.84 328 eP P 02 08 32.1 +0.3
IIGN AMB AMB 02 08 34.4
comp=Z,19nm,1.4s
NACGM Naroch 70.92 327 e P 02 08 31.0 -1.3
A20A Cobblestone Ra 70.97 42 ⇑P P 02 08 33.1 +0.3
baz=71
BOZ Bozeman (W) 71.06 46 eP P 02 08 34.4 +0.8
BOZ Bozeman (W) 71.06 46 eP P 02 08 34.4 +0.8
C19A Slack Wire Ran 71.13 43 ⇑P P 02 08 34.1 +0.3
baz=71,SNR=11
AKH Akhalkalaki 71.15 309 P P 02 08 36.0 +1.8
GNI Garni 71.16 307 eP P 02 08 35.3 +1.1
GNI pmax pmax
comp=Z,46nm,1.7s
GNI Garni 71.16 307 eP P 02 08 34.6 +0.4
CHVG Ch'k'valeri 71.18 310 P P 02 08 30.3 -3.8
B20A Solberg Farm, 71.20 42 ⇑P P 02 08 34.6 +0.4
baz=71,SNR=5.9
NVAR Mina Array Bea 71.56 55 P P 02 08 37.0 +0.3
comp=Z,3.2nm,0.8s,baz=289,slow=6.3,SNR=20
NVAR LR LR 02 36 57.7
comp=Z,156nm,18.9s,baz=62,slow=33
D19A Cripps Ranch, 71.58 43 ⇑P P 02 08 36.7 +0.2
baz=71,SNR=8.3
C20A Veseth Ranch, 71.68 42 ⇓P P 02 08 37.3 +0.2
baz=72
NB2 NORSAR Subarra 71.79 338 P P 02 08 37.2 -0.3
comp=Z,5.3nm,0.7s,baz=38,slow=6.2
NOA NORSAR Array B 71.79 338 P P 02 08 37.5 0.0
comp=Z,9.5nm,0.8s,baz=38,slow=6.0,SNR=29
NOA LR LR 02 44 13.1
comp=Z,662nm,19.4s,baz=35,slow=39
IPAR Pars 71.84 294 eP P 02 08 38.8 +0.1
A22A Carney Farms, 71.90 41 ⇓P P 02 08 38.6 +0.1
baz=72,SNR=10
STKA Stephens Creek 71.93 182 LR LR 02 40 07.0
comp=Z,225nm,20.5s,baz=6.2,slow=36
SOC Sochi 72.00 312 eP P 02 08 32.0 -7.0
SOC eS S 02 17 56.5 -2.4
SOC MLR MLR
comp=Z,1μm,14.0s
D20A Manuel Ranch, 72.01 43 ⇓P P 02 08 39.6 +0.4
baz=72,SNR=7.1
ELK Elko 72.03 52 eP P 02 08 42.2 +2.7
ELK pmax pmax
comp=Z,66nm,2.8s
ELK Elko 72.03 52 eP P 02 08 42.2 +2.7
comp=Z,66nm,2.8s
YMR Madison River 72.04 46 eP P 02 08 41.0 +1.4
comp=Z,20nm,1.4s
ISRV Sarvestan 72.07 293 eP P 02 08 40.2 +0.1
C21A Desert Coulee 72.07 42 ⇓P P 02 08 39.5 0.0
baz=72
E19A Rath Farm, Rou 72.08 44 ⇑P P 02 08 40.1 +0.5
baz=72,SNR=9.1
YNR Norris Junctio 72.17 46 eP P 02 08 43.8 +3.4
comp=Z,32nm,1.7s
YFT Old Faithful 72.25 46 eP P 02 08 41.7 +0.8
comp=Z,6.3nm,0.8s
F19A Roth Farm, Mol 72.39 44 ⇓P P 02 08 41.7 +0.3
baz=72,SNR=7.8
E20A Meyer Farm, Mu 72.40 44 ⇓P P 02 08 41.0 -0.5
baz=72,SNR=5.1
LKWY Lake 72.42 46 eP P 02 08 45.1 +3.2
LKWY pmax pmax
comp=Z,79nm,2.5s
LKWY Lake 72.42 46 eP P 02 08 45.1 +3.2
comp=Z,79nm,2.5s
H17A Grant Village 72.43 46 eP P 02 08 43.9 +2.0
H17A Grant Village 72.43 46 ⇓P P 02 08 43.2 +1.2
baz=72,SNR=11
A23A Redstone 72.44 40 ⇓P P 02 08 41.9 +0.3
baz=72
TPH Tonopah 72.45 55 eP P 02 08 42.5 +0.4
TPH pmax pmax
comp=Z,7.0nm,0.9s
TPH Tonopah 72.45 55 eP P 02 08 42.5 +0.4
comp=Z,7.1nm,0.9s
ANN Anapa 72.51 314 eP P 02 08 41.8 -0.2
ANN pmax pmax
comp=Z,307nm,1.5s
IMW Indian Meadow 72.55 47 eP P 02 08 44.1 +1.5
FLWY Flagg Ranch 72.56 47 eP P 02 08 45.7 +3.0
comp=Z,48nm,1.8s
FXWY Fox Creek 72.66 47 eP P 02 08 44.6 +1.3
comp=Z,27nm,1.7s
B23A Brockton 72.71 41 ⇑P P 02 08 43.3 0.0
baz=72,SNR=9.0
I17A Pilgrim Ck. 72.73 47 ⇑P P 02 08 44.7 +1.0
baz=73,SNR=6.9
C22A Vida 72.74 41 ⇓P P 02 08 43.0 -0.5
baz=73
AKASG Malin Array Be 72.75 323 P P 02 08 43.4 +0.1
comp=Z,16nm,0.7s,baz=44,slow=5.9,SNR=74
AKASG LR LR 02 45 06.6
comp=Z,1μm,18.1s,baz=60,slow=39
H18A Shoshone NF, C 72.75 46 ⇓P P 02 08 44.4 +0.6
baz=73
KIEV Kiev 72.76 323 eP P 02 08 43.3 -0.1
KIEV pmax pmax
comp=Z,28nm,0.9s
KIEV Kiev 72.76 323 eP P 02 08 43.3 -0.1
comp=Z,28nm,0.9s
TPAW Teton Pass 72.80 47 eP P 02 08 45.6 +1.5
comp=Z,26nm,1.4s
HVU Hansel Valley 72.84 50 eP P 02 08 45.2 +0.9
HVU pmax pmax
comp=Z,8.0nm,0.9s
HVU Hansel Valley 72.84 50 eP P 02 08 45.2 +0.9
comp=Z,7.7nm,0.9s
LOHW Long Hollow 72.92 47 eP P 02 08 47.7 +2.9
comp=Z,19nm,1.6s
REDW Red Top Meadow 72.94 47 eP P 02 08 46.3 +1.4
comp=Z,24nm,1.5s
D22A Cohagen 72.99 42 ⇑P P 02 08 45.2 +0.3
baz=73
GRAC Grapevine Rang 73.01 56 ⇑P P 02 08 46.0 +0.7
baz=73
SUW Suwalki 73.03 328 eP P 02 08 45.6 +0.6
SUW Suwalki 73.03 328 eP P 02 08 45.6 +0.6
C23A Lambert 73.06 41 ⇑P P 02 08 45.4 0.0
baz=73
DGMT Dagmar 73.10 40 ⇑P P 02 08 45.5 -0.1
baz=73
H19A Powell 73.13 45 ⇑P P 02 08 46.4 +0.5
baz=73
ISA Isabella 73.13 57 ⇑P P 02 08 46.4 +0.5
baz=73
G20A Bridger 73.19 45 ⇑P P 02 08 46.1 -0.1
baz=73
BGU Big Grassy Mou 73.23 50 eP P 02 08 47.4 +0.8
comp=Z,3.1nm,1.2s
R11A Troy Canyon, C 73.30 54 eP P 02 08 47.7 +0.6
R11A Troy Canyon, C 73.30 54 ⇑P P 02 08 47.4 +0.4
baz=73,SNR=7.6

IDHR Dehrash 73.42 302 eP P 02 08 46.8 -1.1
D23A Lindsay 73.47 42 ⇓P P 02 08 48.0 +0.3
baz=73,SNR=10.0
IGHG Ghaleghazi 73.53 301 eP P 02 08 49.5 +0.9
I19A Meeteetse 73.53 46 ⇑P P 02 08 49.2 +0.8
baz=73
E22A Miles City 73.58 43 ⇓P P 02 08 49.3 +0.9
baz=73
C24A Savage 73.62 41 ⇑P P 02 08 48.8 +0.2
baz=73
G21A Lodge Grass 73.72 44 ⇓P P 02 08 48.7 -0.6
baz=74
B25A Knox Farm, Ray 73.74 40 ⇓P P 02 08 49.1 -0.2
baz=74
H20A Greybull 73.78 45 ⇑P P 02 08 49.7 0.0
baz=74
DUG Dugway 73.81 51 eP P 02 08 50.2 +0.2
DUG pmax pmax
comp=Z,8.0nm,0.8s
DUG Dugway 73.81 51 eP P 02 08 50.2 +0.2
comp=Z,8.2nm,0.8s
DUG Dugway 73.81 51 ⇓P P 02 08 50.6 +0.6
baz=74,SNR=12
F22A Rosebud 73.86 43 ⇑P P 02 08 50.0 -0.1
baz=74
A26A Wade Farm, Ken 73.86 39 ⇑P P 02 08 49.8 -0.2
baz=74
EDW2 Edwards Air Fo 73.92 58 ⇓P P 02 08 50.6 0.0
baz=74
D24A Glendive 73.95 41 ⇑P P 02 08 50.9 +0.3
baz=74,SNR=5.4
J19A Crowheart 74.00 47 ⇑P P 02 08 51.3 +0.2
baz=74,SNR=8.6
PDAR Pinedale Array 74.05 47 P P 02 08 50.9 -0.6
comp=Z,3.5nm,0.8s,baz=275,slow=2.1,SNR=21
PDAR PP PP 02 11 32.6 -3.7
comp=Z,0.7nm,1.0s,baz=332,slow=3.1,SNR=2.1
I20A Worland 74.06 46 ⇑P P 02 08 52.2 +0.8
baz=74
C25A Freed Ranch, W 74.08 40 ⇑P P 02 08 52.0 +0.6
baz=74
B26A Jensen Ranch, 74.12 39 ⇑P P 02 08 52.3 +0.8
baz=74
CTU Camp Tracy 74.12 50 eP P 02 08 54.3 +2.4
comp=Z,108nm,2.9s
SIM Simferopol' 74.20 316 P P 02 09 05.1 +13
SIM S S 02 18 28.0 +4.2
H21A Big Horn, Sher 74.20 44 ⇓P P 02 08 52.2 0.0
baz=74,SNR=7.6
G22A Birney 74.21 44 ⇑P P 02 08 52.5 +0.2
baz=74
E24A Baker 74.34 42 ⇓P P 02 08 53.5 +0.6
baz=74
F23A Volborg 74.34 43 ⇑P P 02 08 53.1 +0.1
baz=74,SNR=8.0
JLU Jordanelle 74.36 50 eP P 02 08 55.8 +2.4
comp=Z,14nm,1.4s
NLU North Lily Min 74.41 51 eP P 02 08 54.7 +1.2
comp=Z,7.0nm,1.1s
GSC Goldstone 74.42 57 ⇑P P 02 08 53.4 -0.2
baz=74
J20A Shoshoni 74.48 46 ⇓P P 02 08 54.1 +0.2
baz=74,SNR=6.8
BFSC Mount Baldy Ra 74.53 58 ⇑P P 02 08 54.5 +0.2
baz=74
C26A Wahner Farm, P 74.57 40 ⇓P P 02 08 54.4 +0.3
baz=74
H22A Clearmont 74.59 44 ⇓P P 02 08 54.6 +0.1
baz=74
I21A Big Trails, Te 74.61 45 ⇓P P 02 08 55.0 +0.3
baz=74,SNR=12
MPU Maple Canyon 74.63 50 eP P 02 08 55.8 +0.9
comp=Z,22nm,1.4s
A28A Rude Farm, Bot 74.69 38 ⇓P P 02 08 55.2 +0.4
baz=74
G23A Biddle 74.69 43 ⇓P P 02 08 55.5 +0.5
baz=74
SHPR Sheep Range 74.71 55 eP P 02 08 56.3 +1.0
comp=Z,5.1nm,1.0s
F24A Ekalaka 74.75 42 ⇓P P 02 08 55.4 +0.1
baz=75
J21A Lysite 74.83 46 ⇓P P 02 08 56.2 +0.2
baz=75
E25A Miller Ranch, 74.83 41 ⇑P P 02 08 56.1 +0.4
baz=75
TUQ Turquoise Moun 74.90 56 ⇓P P 02 08 56.7 +0.2
baz=75,SNR=6.1
C27A Sayler Ranch, 74.94 39 ⇓P P 02 08 56.4 +0.2
baz=75
D26A Manning 74.95 40 ⇑P P 02 08 56.7 +0.3
baz=75
ARUT Antelope Range 74.97 53 eP P 02 08 57.8 +1.0
ARUT pmax pmax
comp=Z,30nm,0.8s
ARUT Antelope Range 74.97 53 eP P 02 08 57.8 +1.0
comp=Z,30nm,0.8s
B28A Dugan Ranch, T 74.97 38 ⇑P P 02 08 56.6 +0.2
baz=75
I22A 9 Mile Ranch, 74.99 45 ⇓P P 02 08 57.0 +0.2
baz=75,SNR=5.6
HEC Hector,Ludlow 75.02 57 ⇑P P 02 08 57.6 +0.5
baz=75,SNR=5.1
A29A Manning Farm, 75.16 37 ⇓P P 02 08 57.9 +0.4
baz=75,SNR=7.4
CCUT Cedar City 75.16 53 eP P 02 08 59.5 +1.5
comp=Z,41nm,2.2s
F25A Bowman 75.20 42 ⇓P P 02 08 57.9 0.0
baz=75
MURC Murrieta 75.23 58 ⇓P P 02 08 58.8 +0.6
baz=75
MVU Marysvale 75.25 52 eP P 02 09 00.2 +1.7
J22A Midwest 75.32 45 ⇑P P 02 08 59.0 +0.3
baz=75
E26A Carlson Angus 75.33 41 ⇓P P 02 08 58.5 -0.1
baz=75
BSD Bornholm Skovb 75.34 332 iP P 02 08 59.2 +0.8
BSD pmax pmax
comp=Z,16nm,1.0s
BSD Bornholm Skovb 75.34 332 iP P 02 08 59.2 +0.8
comp=Z,16nm,0.9s
K21A Alcova 75.41 46 ⇑P P 02 08 59.6 +0.3
baz=75
B29A Wagenman Farm, 75.43 38 ⇑P P 02 08 59.4 +0.3
baz=75
H24A Dirks Ranch, A 75.44 43 ⇓P P 02 08 59.3 0.0
baz=75
GMRC Granite Mounta 75.48 57 ⇑P P 02 09 00.2 +0.5
baz=75
KIS Kishinev 75.51 320 eP P 02 09 06.0 +6.5
KIS e 02 13 37.0
KIS MLR MLR
comp=Z,1μm,15.0s
KIS pmax pmax
comp=Z,2μm,20.0s
KIS Kishinev 75.51 320 eP P 02 09 06.0 +6.5
KIS LRM MLR 02 45 48.0
comp=Z,2μm,20.0s
A30A Hoffart Farm, 75.58 37 ⇑P P 02 08 59.9 0.0
baz=75,SNR=6.7
BEL Belsk 75.62 327 eP P 02 09 02.7 +2.7
BEL Belsk 75.62 327 eP P 02 09 02.7 +2.7
LDFC Landfair 75.64 56 eP P 02 09 01.7 +1.0
comp=Z,32nm,1.6s
F26A Lodgepole 75.65 41 ⇑P P 02 09 00.7 +0.3
baz=76
PFO Pinyon Flat Ob 75.70 58 P P 02 09 00.8 -0.3
baz=315,slow=5.7
PFO Pinyon Flat Ob 75.70 58 ⇓P P 02 09 01.6 +0.5
baz=76
ULM Lac du Bonnet 75.72 35 eP P 02 09 00.4 -0.3
ULM pmax pmax
comp=Z,5.0nm,0.8s
ULM Lac du Bonnet 75.72 35 P P 02 08 60.0 -0.7
comp=Z,5.1nm,0.8s,baz=322,slow=8.1,SNR=7.7
G25A Newell 75.72 42 ⇓P P 02 09 00.7 -0.2
baz=76
LVV L'vov 75.73 325 eP P 02 09 01.4 +0.7
LVV e 02 09 15.6
LVV e 02 11 47.2
LVV ePPP PPP 02 13 43.4
LVV eS S 02 18 45.4 +4.7
LVV ePS PnS 02 19 00.2 -18
LVV MLR MLR
comp=N,700nm,14.0s
LVV MLR MLR
comp=E,800nm,14.0s
LVV MLR MLR
comp=Z,800nm,14.0s
BELC Belle Mtn. Jos 75.75 58 ⇑P P 02 09 01.4 0.0
baz=76
SRU San Rafael 75.86 51 eP P 02 09 02.5 +0.5
SRU pmax pmax
comp=Z,11nm,1.0s
SRU San Rafael 75.86 51 eP P 02 09 02.5 +0.5
comp=Z,11nm,1.0s
B30A Myrvik Farm, E 75.92 37 ⇑P P 02 09 01.9 0.0
baz=76,SNR=6.2
GKP Gorka Klasztor 75.93 330 eP P 02 09 01.3 -0.5
GKP Gorka Klasztor 75.93 330 eP P 02 09 01.2 -0.5
F27A Lemmon 75.96 41 ⇑P P 02 09 02.9 +0.6
baz=76
I24A Kuemmerle Ranc 76.01 44 ⇓P P 02 09 03.0 +0.3
baz=76
H25A Fruitdale 76.02 43 ⇑P P 02 09 03.1 +0.5
baz=76
N20A Spence Gulch, 76.04 48 ⇑P P 02 09 03.4 +0.4
baz=76
G26A Maurine 76.07 42 ⇓P P 02 09 03.0 +0.1
baz=76,SNR=7.3
RSSD Black Hills 76.14 43 eP P 02 09 03.4 -0.1
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 76.14 43 eP P 02 09 03.4 -0.1
comp=Z,9.5nm,1.1s
IRM Iron Mountain 76.20 57 ⇓P P 02 09 04.2 +0.4
baz=76
L22A Ellis Ranch, M 76.27 46 ⇑P P 02 09 03.8 -0.5
baz=76
BC3 Big Chuckawall 76.32 57 ⇑P P 02 09 05.1 +0.5
baz=76
G27A Dupree 76.35 41 ⇓P P 02 09 04.5 0.0
baz=76
C30A Mose, Pekin 76.39 38 ⇑P P 02 09 05.0 +0.4
baz=76
W13A Hualapai Mount 76.40 55 ⇓P P 02 09 05.4 +0.2
baz=76
KWP Kalwaria Pacla 76.45 325 eP P 02 09 05.4 +0.6
KWP pmax pmax
comp=Z,91nm,1.3s
KWP Kalwaria Pacla 76.45 325 eP P 02 09 05.6 +0.7
KWP Kalwaria Pacla 76.45 325 ⇓iP P 02 09 06.2 +1.3
KWP Kalwaria Pacla 76.45 325 eP P 02 09 05.4 +0.6
comp=Z,91nm,1.3s
H26A Fairpoint 76.45 42 ⇑P P 02 09 05.0 -0.1
baz=76
O20A White River Ci 76.52 49 ⇑P P 02 09 05.5 -0.2
baz=76
U15A North Rim 76.54 54 ⇓P P 02 09 06.7 +0.7
baz=76,SNR=5.6
F28A McLaughlin 76.59 40 ⇑P P 02 09 06.0 +0.3
baz=76
M22A Cedar Creek Ra 76.60 47 ⇑P P 02 09 06.4 +0.2
baz=76
L23A Garrett 76.61 46 ⇑P P 02 09 06.2 0.0
baz=76
E29A Napoleon 76.64 39 ⇑P P 02 09 06.3 +0.3
baz=76
D30A Buchanan 76.68 39 ⇓P P 02 09 06.5 +0.3
baz=76
PDMCI Parker Dam,Lak 76.75 56 ⇑P P 02 09 07.7 +0.9
baz=77
BURAR Bucovina Array 76.79 322 ⇑iP P 02 09 07.6 +0.6
H27A Howes 76.80 42 ⇑P P 02 09 07.3 +0.3
baz=77
I26A New Underwood 76.81 43 ⇓P P 02 09 07.5 +0.4
baz=77
Y12C Blythe 76.86 57 ⇑P P 02 09 08.0 +0.6
baz=77
TESR Tescani 76.91 321 ⇑iP P 02 09 07.7 +0.2
M23A Laramie 77.04 46 ⇑P P 02 09 08.4 -0.2
baz=77
E30A Jud 77.05 39 ⇓P P 02 09 08.3 0.0
baz=77
G28A Parade 77.08 41 ⇓P P 02 09 07.8 -0.7
baz=77
N22A Wattenberg Ran 77.08 47 ⇓P P 02 09 08.8 -0.2
baz=77
GLA Glamis 77.11 58 eP P 02 09 10.7 +1.7
GLA Glamis 77.11 58 eP P 02 09 10.7 +1.7
GLA Glamis 77.11 58 ⇑P P 02 09 09.7 +0.8
baz=77
CFR Carcaliu 77.12 319 ⇓iP P 02 09 10.0 +1.3
KOLS Kolonicke sedl 77.16 325 eP P 02 09 10.4 +1.5
KOLS pmax pmax
comp=Z,12nm,1.1s
KOLS Kolonicke sedl 77.16 325 eP P 02 09 10.4 +1.5
AGMN Agassiz Nation 77.16 36 eP P 02 09 08.5 -0.4
comp=Z,12nm,1.0s
AGMN Agassiz Nation 77.16 36 ⇓P P 02 09 08.8 -0.1
baz=77
PETR Petresti 77.19 320 ⇑iP P 02 09 10.4 +1.4
J26A Sides Ranch, S 77.20 43 ⇑P P 02 09 09.5 +0.1
baz=77
I27A Quinn 77.20 42 ⇓P P 02 09 09.3 0.0
baz=77,SNR=7.5
STHS Stebnicka Huta 77.24 326 eP P 02 09 10.5 +1.1
STHS pmax pmax
comp=Z,14nm,1.3s
STHS Stebnicka Huta 77.24 326 eP P 02 09 10.5 +1.1
OJC Ojcow 77.25 327 ⇑iP P 02 09 09.9 +0.5
OJC Ojcow 77.25 327 iP P 02 09 09.9 +0.5
PV04 Paradox Valley 77.29 50 eP P 02 09 11.4 +1.4
H28A Mission Ridge 77.31 41 ⇓P P 02 09 10.1 +0.3
baz=77,SNR=10
N23A Red Feather La 77.31 47 ⇑P P 02 09 10.5 +0.3
baz=77
UZH Uzhgorod 77.37 325 ⇑iP P 02 09 10.8 +0.8
UZH e 02 09 13.4
UZH i 02 09 18.4
UZH eS S 02 18 58.0 -0.7
O22A Kremmling 77.46 48 ⇓P P 02 09 11.5 +0.3
baz=77
CRVS Cervenica-Dubn 77.54 325 eP P 02 09 12.7 +1.7
CRVS pmax pmax
comp=Z,32nm,1.7s
CRVS Cervenica-Dubn 77.54 325 eP P 02 09 12.7 +1.7
BMR Baia Mare 77.54 323 ⇓iP P 02 09 11.8 +0.8
TRPA Tarpa 77.64 324 ⇓iP P 02 09 13.0 +1.5
TRPA Tarpa 77.64 324 ⇓eP P 02 09 13.6 +2.1
NIE Niedzica 77.64 326 ⇑iP P 02 09 12.3 +0.7
NIE i 02 09 21.0
NIE Niedzica 77.64 326 iP P 02 09 12.3 +0.7
NIE iPcP PcP 02 09 21.0 -0.7
PV01 Paradox Valley 77.66 50 eP P 02 09 13.6 +1.4
comp=Z,778nm,1.3s
WUAZ Wupatki 77.70 54 eP P 02 09 13.8 +1.5
comp=Z,8.0nm,0.9s
WUAZ Wupatki 77.70 54 ⇓P P 02 09 12.6 +0.3
baz=78
Y14A Wickenburg 77.70 56 ⇑P P 02 09 12.8 +0.6
baz=78
I28A Midland 77.71 42 ⇓P P 02 09 12.3 +0.2
baz=78,SNR=8.1
P22A Eagle 77.73 48 ⇓P P 02 09 12.6 0.0
baz=78,SNR=7.6
H29A Onida 77.75 41 ⇑P P 02 09 12.6 +0.3
baz=78
O23A Lake Granby, G 77.78 47 ⇑P P 02 09 13.1 +0.2
baz=78,SNR=6.4
J27A Elkhorn Farm, 77.80 43 ⇓P P 02 09 13.1 +0.4
baz=78
BSEG Bad Segeberg 77.87 334 eP P 02 09 13.4 +0.7
comp=Z,104nm,2.1s
SMCO Snowmass 77.89 49 eP P 02 09 15.9 +2.3
DOPR Dopca 77.90 321 ⇓iP P 02 09 14.3 +1.2
G30A Faulkton 77.92 40 ⇓P P 02 09 13.5 +0.3
baz=78
N24A Carr 77.94 46 ⇓P P 02 09 13.7 +0.1
baz=78
ISR Istrita 77.96 320 ⇓iP P 02 09 15.1 +1.6
BRTR Keskin Array B 77.97 312 P P 02 09 14.1 +0.4
BRTR 02 12 09.8
BRTR pmax pmax
comp=Z,3.0nm,1.1s
BRTR pmax pmax
comp=Z,3.0nm,1.1s
BRTR Keskin Array B 77.97 312 P P 02 09 14.1 +0.4
comp=Z,3.1nm,1.1s,baz=34,slow=4.0,SNR=7.8
BRTR PP PP 02 12 09.8 +0.5
comp=Z,3.2nm,1.1s,baz=34,slow=4.8,SNR=4.2
BRTR LR LR 02 49 42.1
comp=Z,222nm,18.4s,baz=3.0,slow=40
M25A Palm-Egli Farm 77.97 45 ⇑P P 02 09 14.1 +0.3
baz=78
MLR Muntele Rosu 77.98 320 ⇑iP P 02 09 14.7 +1.0
MSAB Monastry St. A 78.05 319 ⇑iP P 02 09 14.8 +0.9
J28A Allard Ranch, 78.08 42 ⇑P P 02 09 14.7 +0.5
baz=78
Z14A Wintersburg 78.12 56 ⇑P P 02 09 15.3 +0.8
baz=78
I29A Vivian Onida 78.13 42 ⇓P P 02 09 15.2 +0.8
baz=78
KSP Ksiaz 78.19 329 eP P 02 09 15.0 +0.4
KSP eS S 02 19 10.0 +2.5
KSP MLR MLR
comp=Z,8μm,17.4s
KSP Ksiaz 78.19 329 eP P 02 09 15.3 +0.7
CJR Cluj-Napoca 78.20 323 ⇑iP P 02 09 15.9 +1.1
OKC Ostrava-Krasne 78.23 327 eP P 02 09 15.6 +0.8
OKC e 02 09 20.9
OKC MLR MLR
comp=Z,1μm,14.1s
OKC Ostrava-Krasne 78.23 327 eP P 02 09 15.6 +0.8
OKC epP pP 02 09 20.9 -2.0
OKC AMS AMS 02 48 50.0
comp=Z,1μm,14.1s
ISCO Idaho Springs 78.24 47 eP P 02 09 15.9 +0.4
ISCO pmax pmax
comp=Z,52nm,2.3s
ISCO Idaho Springs 78.24 47 eP P 02 09 15.9 +0.4
comp=Z,52nm,2.3s
ISCO Idaho Springs 78.24 47 ⇑P P 02 09 15.6 +0.2
baz=78
MVCO Mesa Verde 78.32 51 eP P 02 09 16.6 +0.7
comp=Z,90nm,2.8s
MVCO Mesa Verde 78.32 51 ⇑P P 02 09 16.3 +0.5
baz=78
O24A Longmont 78.32 47 ⇓P P 02 09 17.1 +1.4
baz=78
ANTO Ankara 78.35 313 ⇓iP P 02 09 17.3 +1.5
X16A Lo Mia Camp, P 78.38 55 ⇓P P 02 09 16.8 +0.6
baz=78,SNR=8.7
VOIR 78.45 321 ⇓iP P 02 09 17.8 +1.6
K28A Ten Mile Ranch 78.51 43 ⇑P P 02 09 16.9 +0.3
baz=78
MORC Moravsky Berou 78.52 328 eP P 02 09 17.2 +0.7
MORC pmax pmax
comp=Z,88nm,1.8s
MORC Moravsky Berou 78.52 328 ⇑iP P 02 09 17.5 +1.0
MORC Moravsky Berou 78.52 328 eP P 02 09 17.2 +0.7
comp=Z,88nm,1.8s
DRGR 78.55 323 ⇓iP P 02 09 17.4 +0.6
J29A Okreek 78.56 42 ⇑P P 02 09 17.2 +0.4
baz=78
UPC Upice 78.56 329 eP P 02 09 18.4 +1.7
UPC Upice 78.56 329 eP P 02 09 18.4 +1.7
DPC Dobruska-Polom 78.56 329 eP P 02 09 17.6 +0.9
DPC e 02 09 24.3
DPC Dobruska-Polom 78.56 329 eP P 02 09 17.6 +0.9
DPC epP pP 02 09 24.3 -0.5
DPC AMS AMS 02 53 20.0
DPC Dobruska-Polom 78.56 329 eP P 02 09 17.9 +1.1
KRLC Kraliky 78.60 328 eP P 02 09 17.8 +0.9
KRLC e 02 09 24.3
KRLC Kraliky 78.60 328 eP P 02 09 17.8 +0.9
KRLC epP pP 02 09 24.3 -0.7
ARR Arges 78.70 321 ⇑iP P 02 09 19.1 +1.5
N26A Koester Ranch, 78.85 45 ⇑P P 02 09 19.3 +0.7
baz=79
O25A Wiggins 78.85 46 ⇓P P 02 09 19.5 +0.9
baz=79
S22A 4UR Ranch, Cre 78.94 50 ⇓P P 02 09 19.8 +0.5
baz=79
PSZ Piszkesteto 78.96 325 eP P 02 09 19.7 +0.7
PSZ pmax pmax
comp=Z,43nm,1.2s
PSZ Piszkesteto 78.96 325 ⇑iP P 02 09 19.8 +0.7
PSZ Piszkesteto 78.96 325 eP P 02 09 19.7 +0.7
comp=Z,43nm,1.2s
PSZ Piszkesteto 78.96 325 ⇓eP P 02 09 21.0 +2.0
VYHS Vyhne 78.98 326 eP P 02 09 19.7 +0.7
VYHS pmax pmax
comp=Z,48nm,2.2s
VYHS Vyhne 78.98 326 eP P 02 09 19.7 +0.7
K29A Lazy Trails An 79.02 42 ⇑P P 02 09 20.2 +0.8
baz=79
J30A Dallas 79.04 42 ⇑P P 02 09 20.1 +0.7
baz=79
Q24A Divide 79.07 48 ⇑P P 02 09 20.5 +0.4
baz=79
BRG Berggiesshubel 79.07 330 eP P 02 09 20.7 +1.3
comp=Z,29nm,1.5s
BRG PP PP 02 12 18.3 +0.3
comp=Z,20nm,1.8s
BRG S S 02 19 20.0 +3.1
comp=Z,2μm,16.2s
comp=N,1μm,15.3s
comp=E,890nm,15.3s
BRG Berggiesshubel 79.07 330 eP P 02 09 20.7 +1.3
BRG 02 12 18.3
BRG S S 02 19 20.0 +3.1
BRG pmax pmax
comp=Z,29nm,1.5s
BRG pmax pmax
comp=Z,20nm,1.8s
BRG MLR MLR
comp=Z,2μm,16.2s
BRG Berggiesshubel 79.07 330 eP P 02 09 20.5 +1.1
comp=Z,33nm,1.6s
CLL Collm 79.07 331 ⇑iP P 02 09 19.1 -0.3
CLL i 02 09 24.4
CLL eS S 02 19 18.0 +1.1
CLL pmax pmax
comp=Z,26nm,1.1s
CLL MLR MLR
comp=Z,1μm,20.7s
CLL Collm 79.07 331 eP P 02 09 19.6 +0.2
comp=Z,26nm,1.1s
CLL Collm 79.07 331 ⇑iP P 02 09 19.1 -0.3
comp=Z,26nm,1.1s
CLL ipP pP 02 09 24.4 -3.1
CLL e 02 09 40.0
CLL ePP PP 02 12 20.0 +2.0
CLL eS S 02 19 18.0 +1.1
CLL eScS ScS 02 19 48.0 +8.0
CLL eSS SS 02 24 21.0 -0.6
CLL e 02 25 23.0
CLL e(SSS) 02 28 36.0
CLL eSSSS 02 30 30.0
CLL LmH 02 43 00.0
comp=N,1μm,20.3s
CLL LmH 02 43 00.0
comp=E,2μm,21.8s
CLL LmV 02 47 00.0
comp=Z,1μm,20.7s
214A Organ Pipe Nat 79.12 57 ⇑P P 02 09 20.8 +0.8
baz=79
O26A Horse Wrangler 79.21 46 ⇑P P 02 09 20.9 +0.4
baz=79
R23A Moffat 79.21 49 ⇑P P 02 09 21.1 +0.2
baz=79
X18A Snowflake 79.22 54 ⇑P P 02 09 21.4 +0.6
baz=79
N27A Anderson Farm, 79.24 45 ⇑P P 02 09 21.1 +0.4
baz=79
P25A Willow Gulch B 79.24 47 ⇓P P 02 09 21.2 +0.3
baz=79
EYMN Ely 79.35 34 eP P 02 09 21.6 +0.6
comp=Z,13nm,0.7s
S23A Nye Farm, Mont 79.44 49 ⇓P P 02 09 22.2 +0.2
baz=79
K30A Basset 79.45 42 ⇑P P 02 09 21.7 0.0
baz=79
PRA Prague 79.53 330 P P 02 09 23.0 +1.1
PRU Pruhonice 79.55 329 eP P 02 09 22.8 +0.7
PRU e 02 09 28.2
PRU e 02 09 34.1
PRU MLR MLR
comp=Z,2μm,14.3s
PRU Pruhonice 79.55 329 eP P 02 09 22.8 +0.7
PRU epP PcP 02 09 28.2 -1.8
PRU ex x 02 09 34.1
PRU AMS AMS 02 48 50.0
comp=Z,2μm,14.3s
GZR Gura Zlata 79.57 322 ⇑iP P 02 09 22.9 +0.6
CLZ Clausthal 79.58 333 eP P 02 09 23.4 +1.1
comp=Z,65nm,1.5s
R24A Sanders Place, 79.60 48 ⇓P P 02 09 22.9 +0.1

baz=79
Q25A Bedland, Calha 79.61 47 ⇑P P 02 09 22.9 0.0
baz=79
P26A Davis Ranch, A 79.67 46 ⇑P P 02 09 23.4 +0.3
baz=80
BUD Budapest 79.67 325⇑eP P 02 09 24.6 +1.8
O27A Beecher Island 79.70 45 ⇓P P 02 09 23.4 +0.1
baz=80
TREC Trest 79.73 328 eP P 02 09 23.8 +0.7
TREC e 02 09 29.3
TREC MLR MLR
comp=Z,1μm,17.5s
TREC Trest 79.73 328 eP P 02 09 23.8 +0.7
TREC epP PcP 02 09 29.3 -1.5
TREC AMS AMS 02 48 20.0
comp=Z,1μm,17.5s
U22A Llaves 79.85 51 ⇓P P 02 09 24.8 +0.6
baz=80
N28A Pribbeno Ranch 79.86 45 ⇑P P 02 09 24.5 +0.5
baz=80
T23A Casias Ranch, 79.88 50 ⇑P P 02 09 25.4 +0.9
baz=80
L30A Spencer Herefo 79.91 43 ⇓P P 02 09 24.8 +0.5
baz=80
BZS Buzias 79.94 323⇓iP P 02 09 25.7 +1.5
S24A Houchin Ranch, 79.94 49 ⇑P P 02 09 25.2 +0.3
baz=80
TANN Tannenbergstha 80.00 331 eP P 02 09 25.8 +1.2
comp=Z,63nm,2.2s
Q26A Hugo 80.01 47 ⇓P P 02 09 25.0 0.0
baz=80
PKSG 80.02 326⇑eP P 02 09 25.6 +1.0
MOX Moxa 80.12 331 eP P 02 09 25.7 +0.5
comp=Z,72nm,2.1s
MOX eL L 02 43 58.5
comp=N,1μm,19.4s
R25A Fountain Ranch 80.12 48 ⇓P P 02 09 24.9 -0.7
baz=80
V22A San Miguel Ran 80.14 51 ⇓P P 02 09 25.9 +0.1
baz=80
NKC Novy Kostel 80.15 331 eP P 02 09 24.8 -0.6
NKC e 02 09 32.3
NKC Novy Kostel 80.15 331 eP P 02 09 24.8 -0.6
NKC epP PcP 02 09 32.3 -0.3
ECSD EROS Data Cent 80.18 40 eP P 02 09 25.1 -0.5
comp=N,114nm,2.5s
ECSD EROS Data Cent 80.18 40 ⇑P P 02 09 25.4 -0.2
baz=80
L31A Butterfield Fa 80.20 42 ⇓P P 02 09 25.6 -0.2
baz=80
T24B San Luis 80.25 49 ⇑P P 02 09 26.1 -0.4
baz=80
PKST T''s 80.28 326⇓eP P 02 09 27.1 +1.0
U23A El Rito 80.28 50 ⇑P P 02 09 27.2 +0.7
baz=80,SNR=8.4
S25A Robets Cordova 80.38 48 ⇑P P 02 09 26.9 -0.2
baz=80
KSCO Kaye Shedlock' 80.45 46 ⇑P P 02 09 27.1 -0.3
baz=80
R26A Arlington 80.49 47 ⇓P P 02 09 27.7 +0.2
baz=80
P28A Saint Francis 80.53 45 ⇓P P 02 09 28.0 +0.3
baz=80
UBBA Unterbreizbach 80.56 332 eP P 02 09 28.0 +0.6
comp=Z,116nm,2.8s
SOP Sopron 80.57 327⇓eP P 02 09 27.6 0.0
KHC Kasperske Hory 80.61 329 eP P 02 09 28.2 +0.3
KHC e 02 09 34.1
KHC e 02 09 39.9
KHC MLR MLR
comp=Z,2μm,16.2s
KHC Kasperske Hory 80.61 329 eP P 02 09 28.2 +0.3
KHC epP PcP 02 09 34.1 -0.6
KHC ex x 02 09 39.9
KHC AMS AMS 02 49 30.0
comp=Z,2μm,16.2s
KHC Kasperske Hory 80.61 329 eP P 02 09 28.6 +0.7
ROTZ Rotzenmuhle 80.62 331 eP P 02 09 28.9 +1.0
comp=Z,62nm,1.7s
CONA Conrad Observa 80.66 327 iP P 02 09 29.6 +1.4
comp=Z,27nm,1.3s,SNR=9.2
V23A Ortiz Mt. (NFS 80.68 51 ⇓P P 02 09 29.6 +0.9
baz=80,SNR=5.3
PKS9 Tamasi 80.69 325⇑eP P 02 09 28.3 0.0
T25A Trinidad 80.75 49 ⇑P P 02 09 29.3 +0.2
baz=81
U24A Moreno Valley 80.75 50 ⇓P P 02 09 30.4 +1.2
baz=81
GEC2 GERESS Array S 80.80 329 eP P 02 09 29.2 +0.3
comp=Z,54nm,2.2s
GERES GERESS Array B 80.80 329 P P 02 09 29.2 +0.3
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES MLR MLR
comp=Z,1μm,18.4s
GERES GERESS Array B 80.80 329 P P 02 09 29.2 +0.3
comp=Z,3.1nm,0.8s,baz=35,slow=4.9,SNR=24
GERES LR LR 02 49 36.4
comp=Z,1μm,18.4s,baz=7.5,slow=39
PKSM Moragy 80.82 325⇓iP P 02 09 29.3 +0.3
PKSM Moragy 80.82 325⇑eP P 02 09 29.3 +0.3
Q28A Sharon Springs 80.85 46 ⇓P P 02 09 29.4 0.0
baz=81
SPMN St. Paul 80.86 37 ⇑P P 02 09 29.3 +0.1
baz=81
R27A Eads 80.86 47 ⇑P P 02 09 29.5 0.0
baz=81
WET Wettzell 80.87 330 eP P 02 09 30.3 +1.0
comp=Z,34nm,1.4s
S26A Kim 80.95 48 ⇓P P 02 09 29.9 -0.1
baz=81
BUG Bochum--Univer 80.98 334 eP P 02 09 30.3 +0.6
comp=Z,44nm,1.4s
LAZ Ladron 81.03 52 eP P 02 09 31.5 +0.9
comp=Z,3.9nm,1.2s
RAYN Ar Rayn 81.04 293 eP P 02 09 30.6 0.0
comp=Z,42nm,1.6s
GRF Grafenberg Arr 81.05 331 eP P 02 09 31.2 +1.0
comp=Z,80nm,1.4s
GRF eL L 02 44 14.4
comp=N,1μm,19.4s
ANMO Albuquerque 81.06 51 eP P 02 09 31.8 +1.0
ANMO pmax pmax
comp=Z,17nm,1.5s
ANMO Albuquerque 81.06 51 LR LR 02 44 54.7
comp=Z,103nm,18.9s,baz=333,slow=35
ANMO Albuquerque 81.06 51 eP P 02 09 31.8 +1.0
comp=Z,17nm,1.5s
W23A Werner Place, 81.10 51 ⇑P P 02 09 31.3 +0.4
baz=81
BGNE Belgrade 81.11 42 ⇓P P 02 09 30.5 -0.2
baz=81
N31A Bailey Ranch, 81.12 43 ⇓P P 02 09 30.8 0.0
baz=81
T26A Comanche Natio 81.19 48 ⇑P P 02 09 31.2 -0.2
baz=81,SNR=7.4
U25A Circle Dot Ran 81.27 49 ⇑P P 02 09 31.0 -0.8
baz=81
ARSA Arzberg 81.34 327⇑iP P 02 09 31.2 -0.6
comp=Z,13nm,1.3s,SNR=6.6
P30A Selden 81.37 45 ⇑P P 02 09 32.0 -0.1
baz=81
O31A Woolen Ranch, 81.42 44 ⇓P P 02 09 32.4 +0.1
baz=81
BEHE Becsehely 81.43 326⇑eP P 02 09 32.8 +0.6
Q29A Oakley 81.44 46 ⇑P P 02 09 32.3 -0.2
baz=81
VTS Vitosha 81.45 320⇑iP P 02 09 33.5 +0.9
X23A Hourglass Bar 81.48 52 ⇓P P 02 09 33.3 +0.4
baz=81
MMAI Mount Meron Ar 81.48 306 P P 02 09 33.6 +0.8
comp=Z,7.4nm,0.9s,baz=42,slow=8.9,SNR=8.4
W24A Lazy 6 Ranch, 81.51 51 ⇓P P 02 09 33.8 +0.7
baz=81,SNR=10
V25A Rancho No Teng 81.54 50 ⇑P P 02 09 33.2 0.0
baz=81
TNS Taunus Mts 81.61 333 eP P 02 09 34.4 +1.2
comp=Z,42nm,1.9s
SCHQ Schefferville 81.61 17 P P 02 09 32.9 -0.2
comp=Z,6.2nm,0.8s,baz=12,slow=6.8,SNR=5.9
SCHQ LR LR 02 51 13.5
comp=Z,660nm,18.0s,baz=354,slow=40
U26A Atchley Ranch, 81.65 49 ⇓P P 02 09 34.1 +0.2
baz=82
319A Douglas 81.75 56 ⇑P P 02 09 34.7 +0.3
baz=82,SNR=6.6
T27A Campo 81.77 48 ⇑P P 02 09 33.9 -0.5
baz=82
P31A Stockton 81.85 44 ⇓P P 02 09 34.7 +0.1
baz=82
S28A Manter 81.86 47 ⇓P P 02 09 34.8 +0.1
baz=82
O32A Brockman Farm, 81.89 43 ⇓P P 02 09 34.6 -0.2
baz=82
121A Cookes Peak, D 81.90 54 ⇑P P 02 09 35.7 +0.5
baz=82,SNR=5.1
Z22A Elephant Butte 81.92 53 ⇓P P 02 09 35.7 +0.5
baz=82,SNR=6.5
X24A Lazy VL Ranch, 81.94 51 ⇓P P 02 09 35.9 +0.5
baz=82,SNR=11
MMB Musomiste 81.94 319⇑iP P 02 09 35.9 +0.9
PERS Pernice 82.00 327 eP P 02 09 36.0 +0.7
SOKA Soboth 82.00 327 iP P 02 09 36.0 +0.6
comp=Z,32nm,1.1s,SNR=19
Y23A Lovelace Mesa, 82.00 52 ⇓P P 02 09 36.1 +0.4
baz=82,SNR=11
RJOB Jochberg 82.05 329 eP P 02 09 36.9 +1.4
comp=Z,25nm,1.1s
V26A Tequesquite Ra 82.05 49 ⇑P P 02 09 36.0 +0.2
baz=82
BEBN Eben Emael 82.06 335 P P 02 09 36.0 +0.6
W25A X Bar L Ranch, 82.06 50 ⇑P P 02 09 36.4 +0.4
baz=82,SNR=10
MEM Membach 82.11 334 P P 02 09 35.8 +0.1
comp=Z,14nm,2.6s
U27A Thompson Grove 82.16 48 ⇑P P 02 09 36.4 -0.1
baz=82
P32A Huiting Farm, 82.19 44 ⇑P P 02 09 35.7 -0.7
baz=82,SNR=5.6
R30A Dighton 82.26 46 ⇓P P 02 09 36.6 -0.2
baz=82
OBKA Obir 82.33 327⇑iP P 02 09 37.6 +0.5
comp=Z,9.6nm,0.8s
KBA Koelnbreinsper 82.36 328 iP P 02 09 38.3 +0.9
comp=Z,20nm,1.1s,SNR=11
Y24A Capitan 82.38 52 ⇑P P 02 09 38.5 +0.8
baz=82,SNR=5.7
BCLA Clavier 82.50 335 P P 02 09 38.3 +0.5
MYKA Terra Mystica 82.61 328 iP P 02 09 38.9 +0.4
comp=Z,18nm,1.4s,SNR=6.3
S30A Montezuma 82.62 46 ⇑P P 02 09 38.5 -0.2
baz=82
R31A Burdett 82.66 45 ⇓P P 02 09 38.9 0.0
baz=82
Q32A Meitler Ranch, 82.67 44 ⇓P P 02 09 38.6 -0.3
baz=82
VAY Valandovo 82.72 319 iP P 02 09 39.9 +0.9
SKO Skopje 82.78 321 iP P 02 09 40.2 +0.8
VISS Visnje 82.78 327 iP P 02 09 39.5 +0.1
Y25A Mesa, Roswell 82.82 51 ⇑P P 02 09 40.3 +0.3
baz=83
Z24A Sheeppen Canyo 82.83 52 ⇑P P 02 09 40.7 +0.6
baz=83
BOJS Bojanci 82.84 326 eP P 02 09 40.2 +0.6
WLF Walferdange 82.87 334 P P 02 09 41.2 +1.6
WLF Walferdange 82.87 334 eP P 02 09 40.7 +1.0
comp=Z,75nm,2.1s
WTTA Wattenberg 82.89 329⇑iP P 02 09 40.9 +0.8
comp=Z,17nm,1.1s,SNR=7.6
X26A CR and CF Fran 82.91 50 ⇓P P 02 09 40.7 +0.3
baz=83
GIVF Givet 82.93 335 eP P 02 09 40.2 +0.2
GIVF Givet 82.93 335 eP P 02 09 40.2 +0.2
GIVF Givet 82.93 335 eP P 02 09 40.2 +0.2
W27A Bowe Ranch, En 82.98 49 ⇓P P 02 09 41.4 +0.7
baz=83
MOTA Moosalm 83.03 330⇑iP P 02 09 41.2 +0.4
comp=Z,17nm,0.9s,SNR=14
JAVS Javornik 83.03 327 iP P 02 09 40.1 -0.6
RETA Reutte 83.04 330⇑iP P 02 09 41.5 +0.7
comp=Z,27nm,1.6s,SNR=6.0
Q33A Connelly Farm, 83.05 44 ⇓P P 02 09 40.6 -0.3
baz=83
BAIF Baives 83.17 335 eP P 02 09 41.4 +0.2
comp=Z,106nm,1.7s
BAIF Baives 83.17 335 eP P 02 09 41.4 +0.2
BAIF pmax pmax
comp=Z,106nm,1.7s
BAIF Baives 83.17 335 eP P 02 09 41.4 +0.2
comp=Z,106nm,1.7s
BFO Black Forest 83.24 332 eP P 02 09 42.2 +0.5
BFO pmax pmax
comp=Z,59nm,1.7s
BFO Black Forest 83.24 332 eP P 02 09 42.4 +0.7
comp=Z,112nm,2.0s
BFO Black Forest 83.24 332 eP P 02 09 42.2 +0.5
comp=Z,59nm,1.7s
X27A F and S Farms, 83.26 50 ⇓P P 02 09 42.7 +0.6
baz=83
Z25A Roswell 83.26 52 ⇑P P 02 09 42.0 -0.1
baz=83
U30A WK&E Inc. Balk 83.31 47 ⇓P P 02 09 42.5 +0.2
baz=83
Y26A Elida 83.34 51 ⇑P P 02 09 42.4 -0.2
baz=83
W28A Vega 83.34 49 ⇓P P 02 09 43.1 +0.6
baz=83
S32A Newby Ranch, P 83.41 45 ⇓P P 02 09 42.9 +0.1
baz=83
FETA Feichten 83.44 330⇓iP P 02 09 43.2 +0.3
comp=Z,14nm,1.0s,SNR=5.6
T31A Randall Ranch, 83.44 46 ⇑P P 02 09 42.4 -0.5
baz=83
DAVA Damuels 83.54 330⇑iP P 02 09 44.1 +0.7
comp=Z,27nm,1.6s,SNR=7.3
CDF Champ du Feu 83.55 332 eP P 02 09 43.7 +0.4
comp=Z,45nm,1.2s
CDF Champ du Feu 83.55 332 eP P 02 09 43.7 +0.4
CDF pmax pmax
comp=Z,45nm,1.2s
CDF Champ du Feu 83.55 332 eP P 02 09 43.7 +0.4
comp=Z,45nm,1.2s
KSU1 Kansas State U 83.61 43 eP P 02 09 43.2 -0.6
comp=Z,9.7nm,0.8s
Z26A Caprock 83.70 51 ⇑P P 02 09 44.8 +0.4
baz=84,SNR=9.3
125A Gardner Draw, 83.73 52 ⇑P P 02 09 45.2 +0.6
baz=84,SNR=7.6
ECH Echery 83.76 332 eP P 02 09 44.6 +0.2
ECH pmax pmax
comp=Z,26nm,1.6s
ECH Echery 83.76 332 eP P 02 09 44.6 +0.2
comp=Z,26nm,1.6s
Y27A Causey 83.76 50 ⇑P P 02 09 44.8 +0.1
baz=84
T32A Huddler Ranch, 83.79 46 ⇓P P 02 09 45.2 +0.5
baz=84
X28A Dimmitt 83.87 49 ⇑P P 02 09 45.7 +0.4
baz=84
AMTX Amarillo 83.91 49 ⇓P P 02 09 46.3 +0.8
baz=84
MSTX Muleshoe 83.92 50 ⇑P P 02 09 46.8 +1.2
baz=84
PAGF Fort de Pagny 83.96 333 eP P 02 09 46.0 +0.6
comp=Z,9.5nm,1.0s
PAGF Fort de Pagny 83.96 333 eP P 02 09 46.0 +0.6
comp=Z,9.5nm,1.0s
225A Deer Hill, Car 84.01 53 ⇑P P 02 09 46.6 +0.4
baz=84
URZ Urewera 84.02 154 P P 02 09 44.8 -0.7
comp=Z,7.8nm,0.9s,baz=323,slow=14,SNR=3.2
EIL Elat 84.04 304 P P 02 09 46.6 +0.6
comp=Z,6.5nm,0.8s,baz=343,slow=2.0,SNR=15
Z27A Tatum 84.13 51 ⇓P P 02 09 47.1 +0.5
baz=84,SNR=12
HINF Hinteralfeld 84.20 332 eP P 02 09 46.6 -0.1
HINF Hinteralfeld 84.20 332 eP P 02 09 46.6 -0.1
HINF Hinteralfeld 84.20 332 eP P 02 09 46.6 -0.1
X29A Tulia 84.21 49 ⇓P P 02 09 47.8 +0.8
baz=84
HAU Haudompre 84.22 333 eP P 02 09 46.9 +0.2
comp=Z,22nm,1.0s
HAU eR
comp=Z,1μm,21.8s
HAU Haudompre 84.22 333 eP P 02 09 46.9 +0.2
HAU pmax pmax
comp=Z,22nm,1.0s
HAU Haudompre 84.22 333 eP P 02 09 46.9 +0.2
comp=Z,22nm,1.0s
MEZF Maizieres J'vi 84.24 334 eP P 02 09 47.4 +0.7
comp=Z,78nm,1.5s
MEZF Maizieres J'vi 84.24 334 eP P 02 09 47.4 +0.7
comp=Z,78nm,1.5s
V31A Spring Creek L 84.31 47 ⇑P P 02 09 48.8 +1.3
baz=84
226B Tecolote Peak, 84.43 52 ⇓P P 02 09 48.7 +0.5
baz=84,SNR=7.0
SFTF Sexfontaines 84.50 334 eP P 02 09 48.4 +0.3
comp=Z,64nm,1.4s
SFTF Sexfontaines 84.50 334 eP P 02 09 48.4 +0.3
comp=Z,64nm,1.4s
PPT Papeete 84.57 118 LR LR 02 48 17.7
comp=Z,525nm,19.0s,baz=302,slow=36
PPT2 Papeete2 84.58 118 eS S 02 20 12.8 -1.8
comp=Z,130nm,25.8s
PPT2 Papeete2 84.58 118 eLR LR 02 36 30.0
comp=Z,868nm,21.8s,baz=320
Z28A Tucker Farm, M 84.63 50 ⇓P P 02 09 49.7 +0.5
baz=84
Y29A Porterfield Fa 84.64 49 ⇑P P 02 09 49.7 +0.5
baz=84
W31A Holland Ranch, 84.68 48 ⇓P P 02 09 49.5 +0.2
baz=84
X30A Coker Ranch, T 84.68 49 ⇑P P 02 09 49.6 +0.2
baz=84
V32A Arapaho 84.79 47 ⇓P P 02 09 50.0 +0.1
baz=85
128A Castleberry Fa 85.05 51 ⇑P P 02 09 51.3 0.0
baz=85,SNR=6.6
Z29A Hungry Hill Ra 85.05 50 ⇑P P 02 09 51.9 +0.6
baz=85,SNR=19
X31A McDonald Ranch 85.06 48 ⇑P P 02 09 50.5 -0.7
baz=85
U34A Anderson Ranch 85.09 45 ⇑P P 02 09 50.8 -0.5
baz=85
W32A Sentinel 85.11 47 ⇑P P 02 09 51.8 +0.4
baz=85
228A UT Block 9, Go 85.34 51 ⇓P P 02 09 53.1 +0.4
baz=85
Z30A Sanderson Ranc 85.37 50 ⇓P P 02 09 52.7 -0.1
baz=85,SNR=5.4
Y31A Rekieta Farm, 85.38 49 ⇑P P 02 09 53.0 +0.1
baz=85
129A Stewart Farms, 85.41 50 ⇓P P 02 09 53.4 +0.4
baz=85
CABF La Chapelle 85.50 332 eP P 02 09 53.6 +0.3
CABF La Chapelle 85.50 332 eP P 02 09 53.6 +0.3
CABF La Chapelle 85.50 332 eP P 02 09 53.6 +0.3
W33A Caddo, Fort Co 85.53 47 ⇑P P 02 09 54.1 +0.6
baz=85
V34A Guthrie 85.55 46 ⇓P P 02 09 53.8 +0.2
baz=85
X32A Elmer 85.61 48 ⇑P P 02 09 54.1 +0.1
baz=85
LOR Lormes 85.71 334 eP P 02 09 54.5 +0.3
comp=Z,107nm,1.5s
LOR eR
comp=Z,1μm,19.5s
LOR Lormes 85.71 334 eP P 02 09 54.5 +0.3
LOR pmax pmax
comp=Z,107nm,1.5s
LOR Lormes 85.71 334 eP P 02 09 54.5 +0.3
comp=Z,107nm,1.5s
FLN La Foliniere 85.76 337 eP P 02 09 54.5 +0.1
comp=Z,60nm,1.1s
FLN eR
comp=Z,645nm,21.5s
FLN La Foliniere 85.76 337 eP P 02 09 54.5 +0.1
FLN pmax pmax
comp=Z,60nm,1.1s
FLN La Foliniere 85.76 337 eP P 02 09 54.5 +0.1
comp=Z,60nm,1.1s
LDF La Druitiere 85.81 337 eP P 02 09 54.8 +0.2
LDF La Druitiere 85.81 337 eP P 02 09 54.8 +0.2
LDF La Druitiere 85.81 337 eP P 02 09 54.8 +0.2
Y32A R-V Farms, Ver 85.82 48 ⇓P P 02 09 54.7 -0.3
baz=86
W34A Bridge Creek, 85.85 46 ⇑P P 02 09 55.2 +0.1
baz=86
229A Bryant Ranch, 85.92 51 ⇓P P 02 09 55.2 -0.3
baz=86
Z31A Sharp Cattle R 85.92 49 ⇑P P 02 09 56.0 +0.5
baz=86
X33A Lawton 85.96 47 ⇑P P 02 09 55.1 -0.6
baz=86
130A Snyder 85.96 50 ⇓P P 02 09 55.4 -0.3
baz=86
SSF Saint Saulge 86.01 334 eP P 02 09 56.0 +0.4
comp=Z,23nm,1.0s
SSF Saint Saulge 86.01 334 eP P 02 09 56.0 +0.4
SSF pmax pmax
comp=Z,23nm,1.0s
SSF Saint Saulge 86.01 334 eP P 02 09 56.0 +0.4
comp=Z,23nm,1.0s
HYF Humbligny 86.11 335 eP P 02 09 57.0 +0.8
HYF Humbligny 86.11 335 eP P 02 09 57.0 +0.8
329A Wagon Wheel Ra 86.16 51 ⇓P P 02 09 57.7 +0.9
baz=86
LPL La Plagne 86.21 331 eP P 02 09 57.6 +0.6
comp=Z,32nm,1.1s
LPL La Plagne 86.21 331 eP P 02 09 57.6 +0.6
LPL pmax pmax
comp=Z,32nm,1.1s
LPL La Plagne 86.21 331 eP P 02 09 57.6 +0.6
comp=Z,32nm,1.1s
GRR Gorron 86.21 337 eP P 02 09 57.0 +0.4
comp=Z,69nm,1.3s
GRR Gorron 86.21 337 eP P 02 09 57.0 +0.4
GRR pmax pmax
comp=Z,69nm,1.3s
GRR Gorron 86.21 337 eP P 02 09 57.0 +0.4
comp=Z,69nm,1.3s
LPG La Plagne 86.22 331 eP P 02 09 57.7 +0.6
comp=Z,41nm,1.0s
LPG La Plagne 86.22 331 eP P 02 09 57.7 +0.6
LPG pmax pmax
comp=Z,41nm,1.0s
LPG La Plagne 86.22 331 eP P 02 09 57.7 +0.6
comp=Z,41nm,1.0s
131A Roby 86.24 50 ⇑P P 02 09 57.8 +0.6
baz=86
SMF Signal de Mont 86.26 334 eP P 02 09 57.2 +0.3
comp=Z,50nm,1.1s
SMF Signal de Mont 86.26 334 eP P 02 09 57.2 +0.3
SMF pmax pmax
comp=Z,50nm,1.1s
SMF Signal de Mont 86.26 334 eP P 02 09 57.2 +0.3
comp=Z,50nm,1.1s
Y33A Hilltop Ranch, 86.28 48 ⇑P P 02 09 57.4 +0.2
baz=86
X34A Smith Ranch, M 86.29 47 ⇑P P 02 09 57.9 +0.6
baz=86
AVF Avril sur Loir 86.30 334 eP P 02 09 57.6 +0.5
comp=Z,64nm,0.9s
AVF Avril sur Loir 86.30 334 eP P 02 09 57.6 +0.5
AVF pmax pmax
comp=Z,64nm,0.9s
AVF Avril sur Loir 86.30 334 eP P 02 09 57.6 +0.5
comp=Z,64nm,0.9s
Z32A Haskell 86.31 49 ⇑P P 02 09 57.5 0.0
baz=86
230A Sterling City 86.39 50 ⇓P P 02 09 58.3 +0.4
baz=86
TXAR Lajitas Array 86.66 54 P P 02 09 58.3 -1.0
TXAR pmax pmax
comp=Z,4.0nm,0.9s
TXAR MLR MLR
comp=Z,16nm,28.6s
TXAR Lajitas Array 86.66 54 P P 02 09 58.3 -1.0
comp=Z,4.2nm,0.9s,baz=289,slow=3.8,SNR=27
TXAR LR LR 02 51 11.5
comp=Z,86nm,18.1s,baz=0.0,slow=37
BGF Bois d'Agland 86.67 334 eP P 02 09 59.3 +0.4
comp=Z,20nm,1.0s
BGF Bois d'Agland 86.67 334 eP P 02 09 59.3 +0.4
BGF pmax pmax
comp=Z,20nm,1.0s
BGF Bois d'Agland 86.67 334 eP P 02 09 59.3 +0.4
comp=Z,20nm,1.0s
330A Mertzon 86.69 51 ⇑P P 02 09 59.4 0.0
baz=86
ABTX Abilene, Hawle 86.71 49 ⇑P P 02 10 00.1 +0.7
baz=86
Z33A Whitaker Ranch 86.73 48 ⇑P P 02 09 59.8 +0.3
baz=87
Y34A Reagan Ranch, 86.80 47 ⇑P P 02 09 59.6 -0.2
baz=87
231A Bronte 86.82 50 ⇓P P 02 10 00.5 +0.5
baz=87
SGMF Saint Gilles 86.82 338 eP P 02 10 00.2 +0.6
comp=Z,55nm,1.3s

SGMF Saint Gilles 86.82 338 eP P 02 10 00.2 +0.6
SGMF pmax pmax
comp=Z,55nm,1.3s
SGMF Saint Gilles 86.82 338 eP P 02 10 00.2 +0.6
comp=Z,55nm,1.3s
429A Davenport Ranc 86.83 52 ⇑P P 02 10 00.6 +0.5
baz=87
MBDF Montbardon 86.87 331 eP P 02 10 00.4 +0.3
MBDF Montbardon 86.87 331 eP P 02 10 00.4 +0.3
MBDF Montbardon 86.87 331 eP P 02 10 00.4 +0.3
ROSF Rostrenen 86.95 339 eP P 02 10 00.4 +0.2
comp=Z,41nm,1.0s
ROSF Rostrenen 86.95 339 eP P 02 10 00.4 +0.2
ROSF pmax pmax
comp=Z,41nm,1.0s
ROSF Rostrenen 86.95 339 eP P 02 10 00.4 +0.2
comp=Z,41nm,1.0s
529A Stev Forest Ra 86.99 52 ⇑P P 02 10 01.3 +0.4
baz=87,SNR=5.3
ORIF Oris-en-Rattie 87.03 331 eP P 02 10 01.4 +0.6
comp=Z,17nm,0.9s
ORIF eR
comp=Z,1μm,21.8s
ORIF Oris-en-Rattie 87.03 331 eP P 02 10 01.4 +0.6
ORIF pmax pmax
comp=Z,17nm,0.9s
ORIF Oris-en-Rattie 87.03 331 eP P 02 10 01.4 +0.6
comp=Z,17nm,0.9s
TCF Toulx Ste Croi 87.11 334 eP P 02 10 01.8 +0.7
comp=Z,62nm,1.4s
TCF Toulx Ste Croi 87.11 334 eP P 02 10 01.8 +0.7
TCF pmax pmax
comp=Z,62nm,1.4s
TCF Toulx Ste Croi 87.11 334 eP P 02 10 01.8 +0.7
comp=Z,62nm,1.4s
133A Hamilton Ranch 87.14 49 ⇓P P 02 10 01.7 +0.2
baz=87
Z34A Collier Ranch, 87.15 48 ⇑P P 02 10 01.5 0.0
baz=87
331A San Angelo 87.21 50 ⇓P P 02 10 02.5 +0.7
baz=87
232A Coleman 87.24 50 ⇑P P 02 10 02.3 +0.3
baz=87
QUIF Quistinic 87.30 338 eP P 02 10 02.5 +0.6
QUIF Quistinic 87.30 338 eP P 02 10 02.5 +0.6
QUIF Quistinic 87.30 338 eP P 02 10 02.5 +0.6
530A J-C Ranch, Com 87.50 52 ⇑P P 02 10 04.1 +0.8
baz=87
VIVF Saint-Julien-l 87.52 332 eP P 02 10 03.7 +0.6
VIVF Saint-Julien-l 87.52 332 eP P 02 10 03.7 +0.6
VIVF Saint-Julien-l 87.52 332 eP P 02 10 03.7 +0.6
Z35A Perchaven, San 87.55 47 ⇓P P 02 10 04.6 +1.2
baz=87
431A Sonora 87.55 51 ⇓P P 02 10 03.6 0.0
baz=87
332A Millersview 87.56 50 ⇓P P 02 10 03.6 +0.1
baz=87,SNR=5.6
233A Rising Star 87.58 49 ⇑P P 02 10 04.2 +0.5
baz=87
MFF Saint Martin d 87.59 336 eP P 02 10 04.0 +0.6
MFF Saint Martin d 87.59 336 eP P 02 10 04.0 +0.6
MFF Saint Martin d 87.59 336 eP P 02 10 04.0 +0.6
432A Menard 87.89 50 ⇑P P 02 10 05.6 +0.4
baz=88
FRF La Foret Royal 87.91 330 eP P 02 10 05.4 +0.4
comp=Z,29nm,1.3s
FRF La Foret Royal 87.91 330 eP P 02 10 05.4 +0.4
FRF pmax pmax
comp=Z,29nm,1.3s
FRF La Foret Royal 87.91 330 eP P 02 10 05.4 +0.4
comp=Z,29nm,1.3s
SMRF Simiane la Rot 87.95 331 eP P 02 10 05.8 +0.6
SMRF Simiane la Rot 87.95 331 eP P 02 10 05.8 +0.6
531A Rocksprings 87.96 51 ⇑P P 02 10 05.6 +0.1
baz=88
234A Clairette 88.03 49 ⇓P P 02 10 06.3 +0.5
baz=88
333A Richland Sprin 88.04 50 ⇑P P 02 10 06.6 +0.8
baz=88
LMR La Mourre 88.15 330 eP P 02 10 06.2 +0.1
comp=Z,74nm,1.5s
LMR La Mourre 88.15 330 eP P 02 10 06.2 +0.1
LMR pmax pmax
comp=Z,74nm,1.5s
LMR La Mourre 88.15 330 eP P 02 10 06.2 +0.1
comp=Z,74nm,1.5s
RJF Les Rejaudoux 88.21 334 eP P 02 10 07.1 +0.7
comp=Z,46nm,1.2s
RJF eR
comp=Z,1μm,19.8s
RJF Les Rejaudoux 88.21 334 eP P 02 10 07.1 +0.7
RJF pmax pmax
comp=Z,46nm,1.3s
RJF Les Rejaudoux 88.21 334 eP P 02 10 07.1 +0.7
comp=Z,46nm,1.3s
CAF Calviac 88.36 334 eP P 02 10 08.3 +1.2
comp=Z,58nm,1.2s
CAF Calviac 88.36 334 eP P 02 10 08.3 +1.2
CAF pmax pmax
comp=Z,58nm,1.2s
CAF Calviac 88.36 334 eP P 02 10 08.3 +1.2
comp=Z,58nm,1.2s
WHTX Lake Whitney 88.43 48 ⇓P P 02 10 08.4 +0.8
baz=88
334A Lometa 88.47 49 ⇑P P 02 10 08.6 +0.8
baz=88
LASF Ste Croix 88.49 332 eP P 02 10 08.4 +0.7
comp=Z,82nm,1.6s
LASF Ste Croix 88.49 332 eP P 02 10 08.4 +0.7
comp=Z,82nm,1.6s
631A Perdido Creek 88.49 52 ⇓P P 02 10 08.3 +0.4
baz=88
LFF La Frestale 88.79 335 eP P 02 10 09.4 +0.3
LFF La Frestale 88.79 335 eP P 02 10 09.4 +0.3
LFF La Frestale 88.79 335 eP P 02 10 09.4 +0.3
534A Blanco 89.29 50 ⇓P P 02 10 12.3 +0.5
baz=89
633A Saathoff Ranch 89.29 51 ⇑P P 02 10 12.2 +0.5
baz=89
832A Faith Ranch, C 89.67 52 ⇑P P 02 10 13.8 +0.3
baz=90
636A Smothers Creek 90.52 50 ⇓P P 02 10 18.4 +1.0
baz=90
933A Laredo 90.58 52 ⇑P P 02 10 19.0 +1.2
baz=90
ETSF Etsaut 91.03 335 eP P 02 10 20.7 +1.0
comp=Z,15nm,0.8s
ETSF Etsaut 91.03 335 eP P 02 10 20.7 +1.0
ETSF pmax pmax
comp=Z,15nm,0.8s
ETSF Etsaut 91.03 335 eP P 02 10 20.7 +1.0
comp=Z,15nm,0.8s
SJPF Ste Jean 91.06 335 eP P 02 10 20.0 +0.2
SJPF Ste Jean 91.06 335 eP P 02 10 20.0 +0.2
SJPF Ste Jean 91.06 335 eP P 02 10 20.0 +0.2
KEST Kesra 93.41 324 LR LR 02 58 43.3
comp=Z,363nm,18.3s,baz=332,slow=40
ESDC Sonseca Array 95.04 336 LR LR 02 59 16.5
comp=Z,484nm,18.8s,baz=40,slow=39
RKT Rikitea 98.37 113 eLR LR 02 42 26.0
comp=Z,492nm,34.2s
TORD Torodi Ar. Bea 116.15 318 PKP PKPdf 02 15 58.0 -1.0
comp=Z,0.6nm,0.7s,baz=5.1,slow=0.9,SNR=11
TORD PP PP 02 17 00.1 -3.2
comp=Z,2.2nm,1.0s,baz=16,slow=7.3,SNR=6.5
DBIC Dimbokro 124.97 321 PKIKP PKPdf 02 16 14.7 -1.2
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC Dimbokro 124.97 321 PKP PKPdf 02 16 14.7 -1.2
comp=Z,2.5nm,0.7s,baz=356,slow=3.6,SNR=4.8
LPAZ La Paz 143.41 58 PKhKP PKPpre 02 16 45.1
comp=Z,1.1nm,0.8s,baz=34,slow=7.3,SNR=3.1
LPAZ PKP PKPdf 02 16 51.6 +0.7
comp=Z,1.3nm,0.7s,baz=355,slow=8.3,SNR=4.8
SNAA Sanae 144.48 197 P PKPab 02 16 47.1 -1.7
SNAA Sanae 144.48 197 ePKIKP PKPab 02 16 48.5 -0.4
SNAA Sanae 144.48 197 ePKPdf PKPab 02 16 48.5 -0.4
VNA2 Neumayer--Watz 146.04 197 P PKPdf 02 16 53.0 -0.1
baz=130,slow=2.4
LVC Limon Verde 147.25 67 ePKPbc PKPbc 02 16 59.9 +0.7
BDFB Brasilia 153.31 26 PKIKP PKPbc 02 17 13.3 -0.6
BDFB pmax pmax
comp=Z,2.0nm,0.6s
BDFB Brasilia 153.31 26 PKPbc PKPbc 02 17 13.3 -0.6
comp=Z,1.6nm,0.6s,baz=242,slow=10,SNR=3.9
PLCA Paso Flores 154.04 102 PKIKP PKPbc 02 17 14.9 +0.1
PLCA pmax pmax
comp=Z,3.0nm,0.7s
PLCA Paso Flores 154.04 102 PKPbc PKPbc 02 17 14.9 +0.1
comp=Z,2.5nm,0.7s,baz=251,slow=5.6,SNR=5.5

IDC 16 02:02:33.9±1.3, 6.68S×155.18E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/18, mbtmp4.0/7, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/31, Error ellipse: s-maj=43.3km s-min=27.2km az=122.0
ISCJB 16 02:02:40.5±1.1, 6.8S±0.2×154.9E±0.1, h56km, mb3.9/6, Error ellipse: s-maj=30.2km s-min=11.3km az=148.5
ISC 16 02:02:41.9±1.1, 6.8S±0.2×155.0E±0.2, h56km, n9, σ1§15/11, mb3.7/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.19	251	Pn	Pn	02 04 36.9	-1.3
	1.8nm,0.3s,baz=196,slow=7.4,SNR=2.8						
PMG				Sn	Sn	02 06 09.9	+0.5
	1.3nm,0.3s,baz=66,slow=18,SNR=3.1						
PMG				LR	LR	02 07 34.0	
	comp=Z,140nm,19.8s,baz=54,slow=36						
WRA	Warramunga Arr	23.95	235	PcP	PcP	02 11 33.1	+0.6
	0.4nm,0.4s,baz=60,slow=2.7,SNR=5.0						
STKA	Stephens Creek	27.96	205	P	P	02 08 28.0	+0.8
	2.2nm,0.8s,baz=30,slow=14,SNR=6.4						
CMAR	Chiang Mai Arr	60.67	295	P	P	02 12 49.2	+1.4
	1.9nm,0.3s,baz=117,slow=5.4,SNR=5.2						
SONM	Songino Array	69.12	327	P	P	02 13 43.1	+0.7
	0.3nm,0.4s,baz=147,slow=5.3,SNR=8.3						
ILAR	Eielson Array	83.14	22	P	P	02 14 60.0	-1.6
	0.2nm,0.4s,baz=240,slow=5.3,SNR=8.4						
MKAR	Makanchi Array	83.22	319	P	P	02 15 02.1	-0.2
	0.2nm,0.5s,baz=100,slow=6.1,SNR=2.4						
YKA	Yellowknife Ar	96.12	28	P	P	02 16 04.0	+0.8
	0.5nm,0.5s,baz=267,slow=4.5,SNR=9.3						
TORD	Torodi Ar. Bea	152.96	286	PKPbc	PKPbc	02 22 33.9	-0.1
	0.4nm,0.4s,baz=68,slow=2.1,SNR=27						
TORD				PKPab	PKPab	02 22 44.0	-1.4
	0.6nm,0.7s,baz=72,slow=2.2,SNR=4.9						

ISCJB 16 02:05:53.3±0.9, 40.38N±0.04×143.77E±0.07, h16km, mb3.4/3, Error ellipse: s-maj=9.1km s-min=4.3km az=33.0
JMA 16 02:05:54.4±0.1, 40.36N×143.75E, h27km, M3.6
IDC 16 02:06:22.6±1.5, 45.93N×142.09E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, ML1.7/1, Error ellipse: s-maj=30.2km s-min=27.0km az=135.0
ISC 16 02:05:54.4±1.3, 40.34N±0.07×143.79E±0.08, h16km, n20, σ1§30/24, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JTH	Tanohata	1.53	255	P	Pn	02 06 20.1	-1.0
MIYJ	Miyakonagasawa	1.70	244	P	Pn	02 06 23.0	-0.4
JANG	Nango	1.74	272	P	Pn	02 06 23.2	-0.8
JEM	Erimo	1.74	344	eS	Sn	02 06 43.7	-2.2
JNBK	Urakawa-nobuka	2.09	338	P	Pn	02 06 28.8	0.0
JOM	Ohasama	2.11	247	S	Sn	02 06 54.5	-0.4
JTM	Tenmabayashi	2.12	283	S	Sn	02 06 54.2	-1.1
JCH	Churui	2.30	352	P	Pn	02 06 31.4	-0.2
JCH				eS	Sn	02 06 58.6	-0.9
JOT	Ohata	2.33	297	S	Sn	02 06 59.6	-0.7
JAH	Hinai	2.42	267	P	Pn	02 06 33.8	+0.5
JAH				S	Sn	02 07 02.5	-0.1
JKB	Kayabe	2.60	307	eS	Sn	02 07 05.6	-1.3
JAK	Akkeshi	2.74	14	S	Sn	02 07 08.1	-2.3
JAR	Ashorobuto	2.96	360	P	Pn	02 06 39.8	-0.9
JAR				S	Sn	02 07 13.6	-2.2
JFR	Furan	2.96	343	eS	Sn	02 07 14.5	-1.5
JOU	Okura	3.13	232	eS	Sn	02 07 18.8	-1.2
ASAJ	Asahikawa	3.88	347	Pn	Pn	02 06 55.1	+1.8
	0.9nm,0.3s,baz=228,slow=14,SNR=2.1						
ASAJ				Sn	Sn	02 07 40.8	+2.2
	1.7nm,0.3s,baz=156,slow=28,SNR=4.3						
USRK	Ussuriysk Arra	9.56	298	Pn	Pn	02 08 11.0	-0.3
	0.1nm,0.3s,baz=96,slow=13,SNR=4.8						
SONM	Songino Array	27.68	298	P	P	02 11 42.5	+0.8
	0.4nm,0.8s,baz=77,slow=7.6,SNR=3.0						
MKAR	Makanchi Array	44.02	300	P	P	02 14 01.9	+0.7
	0.9nm,0.9s,baz=86,slow=8.9,SNR=3.9						
ILAR	Eielson Array	45.71	34	P	P	02 14 14.8	+0.5
	0.8nm,1.0s,baz=267,slow=6.1,SNR=4.7						

IDC 16 02:31:38.6±2.1, 6.52S×129.15E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.4/24, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=116.7km s-min=32.8km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.27	160	Pn	Pn	02 35 01.4	-0.7
	0.2nm,0.3s,baz=339,slow=13,SNR=6.0						
WRA				Sn	Sn	02 37 28.4	-13
	0.4nm,0.3s,baz=339,slow=21,SNR=8.8						
ASAR	Alice Springs	17.65	165	Pn	Pn	02 35 46.7	+0.5
	0.1nm,0.3s,baz=339,slow=10,SNR=8.0						
ASAR				Sn	Sn	02 38 53.6	-10
	0.1nm,0.3s,baz=345,slow=24,SNR=3.2						
MKAR	Makanchi Array	67.36	327	P	P	02 42 35.8	0.0
	0.4nm,0.5s,baz=119,slow=8.2,SNR=6.5						

BEO 16 02:32:03.7±0.5, 43.17N×17.44E, h1km±2km, ML3.2/1
CSEM 16 02:32:04.8±0.1, 43.14N×17.56E, h2km, ML3.2, Error ellipse: s-maj=3.8km s-min=2.1km az=32.0
LDG 16 02:32:05.9±0.1, 43.24N×17.73E, h2km, Ml3.0/18, Error ellipse: s-maj=4.4km s-min=2.0km az=10.0
PDG 16 02:32:05.1±0.4, 43.16N×17.62E, h4km, MD3.3/1, ML3.2/11, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0
VIE 16 02:32:06.6±0.5, 43.24N×17.71E, h10km, mb3.0/9, ML2.9/8, Error ellipse: s-maj=4.1km s-min=3.3km az=123.0
PRU 16 02:32:06.2, 43.13N×17.57E, h0km
ISC 16 02:32:04.5±1.0, 43.18N±0.02×17.56E±0.02, h6km±9km, n143, σ1§65/221, 29C-19D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
STON	Ston	0.33	162	i Pg	Pg	02 32 10.5	-0.4
STON				Sg	Sg	02 32 15.7	+0.4
STON	Ston	0.33	162	⇓iPg	Pg	02 32 10.5	-0.4
STON	Ston	0.33	162	⇓iPg	Pg	02 32 10.5	-0.4
STON				Sg	Sg	02 32 15.6	+0.4
TREB	Trebinje	0.74	129	⇑iPg	Pg	02 32 17.3	-1.5
TREB				eSg	Sg	02 32 28.9	+0.5
TREB	Trebinje	0.74	129	⇑iPg	Pg	02 32 17.3	-1.5
TREB				eSg	Sg	02 32 28.9	+0.5
UPM	Unac-Piva	0.98	88	⇓iPg	Pg	02 32 22.4	-1.0
UPM				eSg	Sb	02 32 37.7	+0.4
UPM	Unac-Piva	0.98	88	⇓iPg	Pg	02 32 22.4	-1.0
UPM				eSg	Sb	02 32 37.7	+0.4
HCY	Herceg Novi	1.00	137	⇑iPg	Pg	02 32 22.1	-1.7
HCY				eSg	Sb	02 32 38.0	+0.2
HCY	Herceg Novi	1.00	137	⇑iPg	Pg	02 32 22.1	-1.7
HCY				eSg	Sb	02 32 38.0	+0.2
NKME	Niksic	1.10	112	⇑iPg	Pg	02 32 24.0	-1.7
NKME				eSg	Sn	02 32 41.7	-0.4
NKME	Niksic	1.10	112	⇑iPg	Pg	02 32 24.0	-1.7
NKME				eSg	Sn	02 32 41.7	-0.4
NKY	Niksic	1.11	109	⇓iPg	Pb	02 32 24.5	-1.7
NKY				eSg	Sn	02 32 41.8	-0.6
NKY	Niksic	1.11	109	⇓iPg	Pb	02 32 24.5	-1.7
NKY				eSg	Sn	02 32 41.8	-0.6
BUM	Brajici-Budva	1.32	131	⇑iPg	Pn	02 32 28.6	-0.9
BUM				eSg	Sg	02 32 48.5	+1.6
BUM	Brajici-Budva	1.32	131	⇑iPg	Pn	02 32 28.6	-0.9
BUM				eSg	Sg	02 32 48.5	+1.6
PLE	Pljevlja	1.34	83	⇓iPg	Pn	02 32 29.2	-0.7
PLE				eSg	Sg	02 32 49.1	+1.4
PLE	Pljevlja	1.34	83	⇓iPg	Pn	02 32 29.2	-0.7
PLE				eSg	Sg	02 32 49.1	+1.4
PDG	Podgorica	1.46	121	ePn	Pn	02 32 31.0	-0.3
PDG				eSn	Sg	02 32 52.9	+1.6
PDG	Podgorica	1.46	121	ePn	Pn	02 32 31.0	-0.3
PDG	Podgorica	1.46	121	⇑iPg	Pb	02 32 31.5	-0.5
PDG				eSn	Sg	02 32 52.9	+1.6
PDG				eSg	Sg	02 32 53.2	+1.9
TTG	Podgorica	1.46	121	⇑iPg	Pb	02 32 31.5	-0.5
TTG				eSg	Sg	02 32 53.2	+1.9
BBLS	Lazići	1.50	62	⇓iPn	Pn	02 32 31.8	-0.3
BBLS				eSg	Sg	02 32 53.6	+0.7
BBLS	Lazići	1.50	62	⇓iPn	Pn	02 32 31.8	-0.3
BBLS				eSg	Sg	02 32 53.6	+0.7
DRME	Dracevica, Mon	1.56	129	⇑iPg	Pb	02 32 33.5	-0.2
DRME				eSg	Sg	02 32 56.2	+1.7
DRME	Dracevica, Mon	1.56	129	⇑iPg	Pb	02 32 33.5	-0.2
DRME				eSg	Sg	02 32 56.2	+1.7
BLY	Banja Luka	1.59	350	ePn	Pn	02 32 34.0	+0.8
BLY				eSg	Sg	02 32 56.6	+1.0
BLY	Banja Luka	1.59	350	ePn	Pn	02 32 34.0	+0.8
BLY				eSg	Sg	02 32 56.6	+1.0
BEY	Berane	1.74	100	⇑iPn	Pn	02 32 35.9	+0.6
BEY				eSn	Sg	02 33 01.3	+0.9
IVA	Berane	1.74	100	⇑iPn	Pn	02 32 35.9	+0.6
IVA				eSn	Sg	02 33 01.3	+0.9
ULC	Ulcinj	1.74	134	⇓iPn	Pn	02 32 35.8	+0.5
ULC				eSn	Sg	02 33 01.2	+0.8
ULC	Ulcinj	1.74	134	⇓iPn	Pn	02 32 35.8	+0.5
ULC				eSn	Sg	02 33 01.2	+0.8
SJES	Sjenica	1.76	87	ePn	Pb	02 32 37.4	+0.1
SJES				eSn	Sg	02 33 02.1	+0.9
PVY	Plav	1.86	108	⇑iPn	Pb	02 32 38.7	-0.2
PVY				eSn	Sg	02 33 04.3	+0.1
PVY	Plav	1.86	108	⇑iPn	Pb	02 32 38.7	-0.2
PVY				eSn	Sg	02 33 04.3	+0.1
UDBI	Udbina	1.87	317	ePn	Pb	02 32 39.4	+0.2
UDBI				Sn	Sg	02 33 06.5	+1.8
UDBI	Udbina	1.87	317	ePn	Pb	02 32 39.3	+0.2
UDBI				Sn	Sg	02 33 06.4	+1.8
MS1	Monte Sant'Ang	1.90	220	ePn	Pb	02 32 39.1	-0.6
IVAS	Ivanjica	1.93	77	ePn	Pb	02 32 39.2	-0.9
IVAS				eSn	Sg	02 33 05.5	-1.0
IVAS	Ivanjica	1.93	77	ePn	Pb	02 32 39.2	-0.9
IVAS				eSn	Sg	02 33 05.5	-1.0
TEKS	Tekeris	1.97	45	ePn	Pn	02 32 38.5	0.0
TEKS				eSg	Sg	02 33 09.9	+2.0
TEKS	Tekeris	1.97	45	ePn	Pn	02 32 38.5	0.0
TEKS				eSg	Sg	02 33 09.9	+2.0
DIVS	Divibare	1.99	62	ePn	Pn	02 32 39.1	+0.4
DIVS				eSg	Sg	02 33 07.6	-0.8
DIVS	Divibare	1.99	62	ePn	Pn	02 32 39.1	+0.4
BAI	Bari	2.14	194	ePn	Pn	02 32 39.5	-1.2
CDT	Castel del Mon	2.31	205	ePn	Pn	02 32 43.1	0.0
PE1	Pezze di Greco	2.38	183	ePn	Pn	02 32 43.6	-0.4
NVLJ	Novalja	2.39	306	ePn	Pn	02 32 45.6	+1.4
NVLJ				Sn	Sb	02 33 17.3	-0.2
NVLJ	Novalja	2.39	306	ePn	Pn	02 32 45.5	+1.4
NVLJ				Sn	Sb	02 33 17.3	-0.2
GRUS	Gruza	2.40	72	ePn	Pn	02 32 44.8	+0.5
GRUS				eSn	Sb	02 33 16.2	-1.7
GRUS	Gruza	2.40	72	ePn	Pn	02 32 44.8	+0.5
GRUS				eSn	Sb	02 33 16.2	-1.7
SG1	Sgolgore (BA)	2.43	196	ePn	Pn	02 32 44.2	-0.6
SISC	Sisak	2.44	340	ePn	Pb	02 32 47.5	-1.4
SISC				Sn	Sb	02 33 20.0	+0.9
SISC	Sisak	2.44	340	ePn	Pb	02 32 47.4	-1.4
SISC				Sn	Sb	02 33 20.0	+0.9
FGSL	Fruska Gora	2.55	39	eSn	Sn	02 33 18.6	+0.8
FRGS	Fruska Gora	2.55	39	ePn	Pn	02 32 45.9	-0.5
FRGS				eSn	Sn	02 33 18.6	+0.8
SELS	Selova	2.60	88	ePn	Pn	02 32 47.8	+0.7
SELS				eSn	Sb	02 33 22.0	-1.8
SELS	Selova	2.60	88	ePn	Pn	02 32 47.8	+0.7
SELS				eSn	Sb	02 33 22.0	-1.8
TAR1	Taranto	2.66	185	ePn	Pn	02 32 44.9	-3.0
BOJS	Bojanci	2.85	325	i Pn	Pn	02 32 53.0	+2.5
BOJS				i Sn	Sb	02 33 30.6	-0.3
BOJS	Bojanci	2.85	325	i Pn	Pn	02 32 53.0	+2.5
BOJS				i Sn	Sb	02 33 30.6	-0.3
CRES	Cresnjev	3.04	331	i Pn	Pn	02 32 55.4	+2.2
CRES	Cresnjev	3.04	331	i Pn	Pn	02 32 55.4	+2.2
SKO	Skopje	3.11	112	ePn	Pn	02 32 56.7	+2.6
SKO				eSn	Sb	02 33 38.6	+0.2
SKO				eLg	Lg	02 33 46.0	
	comp=N,30nm,0.4s						
SKO				eLg	Lg	02 33 51.3	
	comp=E,46nm,0.6s						
SKO	Skopje	3.11	112	ePn	Pn	02 32 56.7	+2.6
SKO				eSn	Sb	02 33 38.5	+0.2
SKO				eLg	Lg	02 33 46.0	
	comp=E,30nm,0.4s						
PKSM	Moragy	3.12	14	ePn	Pn	02 32 53.9	-0.4
PKSM				eSg	Sg	02 33 44.4	-0.5
PKSM	Moragy	3.12	14	⇑iP	Pn	02 32 54.3	0.0
PKSM	Moragy	3.12	14	ePn	Pn	02 32 53.9	-0.4
LEGS	Legarje	3.20	331	ePn	Pn	02 32 57.4	+2.1
LEGS	Legarje	3.20	331	ePn	Pn	02 32 57.4	+2.1
VISS	Visnje	3.27	324	i Pn	Pn	02 32 58.8	+2.6
VISS				i Sn	Sb	02 33 41.5	-1.3
VISS	Visnje	3.27	324	i Pn	Pn	02 32 58.8	+2.6
VISS				i Sn	Sb	02 33 41.5	-1.3
JAVS	Javornik	3.69	319	i Pn	Pn	02 33 03.8	+1.7
JAVS				i Sn	Sn	02 33 49.8	+3.9
JAVS	Javornik	3.69	319	i Pn	Pn	02 33 03.8	+1.7
JAVS				i Sn	Sn	02 33 49.8	+3.9
ZAPS	Zavoj	3.71	87	ePn	Pn	02 33 04.2	+1.9
ZAPS				eSn	Sn	02 33 48.7	+2.4
ZAPS	Zavoj	3.71	87	ePn	Pn	02 33 04.2	+1.9
ZAPS				eSn	Sn	02 33 48.7	+2.4
BZS	Buzias	3.79	49	⇑iP	Pn	02 33 03.8	+0.4
BZS	Buzias	3.79	49	S	Sn	02 33 48.7	+0.4
SOKA	Soboth	3.93	334	i Pn	Pn	02 33 07.4	+2.0
	SNR=66						
SOKA				⇑iSn	Sn	02 33 54.2	+2.4
SOKA	Soboth	3.93	334	Pn	Pn	02 33 07.4	+2.0
	SNR=66						
SOKA				Sn	Sn	02 33 54.2	+2.4
OBKA	Obir	3.96	328	⇓iPn	Pn	02 33 07.7	+1.9
OBKA	Obir	3.96	328	Pn	Pn	02 33 07.7	+1.9
VAY	Valandovo	4.16	115	i P	Pn	02 33 09.6	+1.1
VAY	Valandovo	4.16	115	i P	Pn	02 33 09.6	+1.1
VTS	Vitosha	4.19	96	i P	Sn	02 34 00.7	+2.3
VTS	Vitosha	4.19	96	⇓iP	Pb	02 33 14.2	-4.5
VTS	Vitosha	4.19	96	S	Sn	02 34 01.1	+2.7
ARSA	Arzberg	4.32	341	⇓iPn	Pn	02 33 11.8	+1.1
ARSA				⇑iSn	Sn	02 34 03.3	+2.0
ARSA	Arzberg	4.32	341	Pn	Pn	02 33 11.8	+1.1
ARSA				Sn	Sn	02 34 03.3	+2.0
GZR	Gura Zlata	4.35	58	⇑iP	Pn	02 33 12.3	+1.2
MMB	Musomiste	4.84	107	⇓iP	Pn	02 33 22.3	+4.5
CONA	Conrad Observa	4.89	346	⇓iPn	Pn	02 33 20.2	+1.6
CONA	Conrad Observa	4.89	346	Pn	Pn	02 33 20.2	+1.6
KBA	Koelnbreinsper	4.91	324	⇓iPn	Pn	02 33 21.0	+2.1
	SNR=9.0						
KBA	Koelnbreinsper	4.91	324	Pn	Pn	02 33 21.0	+2.1
	SNR=9.0						
PSZ	Piszkesteto	5.01	18	⇑iP	Pn	02 33 22.1	+1.8
ABTA	Abfaltersbach	5.05	317	⇑iPn	Pn	02 33 22.4	+1.5
	SNR=7.1						
ABTA	Abfaltersbach	5.05	317	Pn	Pn	02 33 22.4	+1.5
	SNR=7.1						
DRGR		5.13	44	⇑iP	Pn	02 33 23.5	+1.6
MOA	Molln	5.21	335	⇓iPn	Pn	02 33 24.8	+1.9
	SNR=38						
MOA	Molln	5.21	335	Pn	Pn	02 33 24.8	+1.9
	SNR=38						
VYHS	Vyhne	5.39	9	ePN	Pn	02 33 25.0	-0.4
VYHS				eSN	Sn	02 34 19.8	-7.8
VYHS	Vyhne	5.39	9	ePn	Pn	02 33 25.0	-0.4
ARR	Arges	5.53	64	⇑iP	Pn	02 33 29.6	+2.2
VOIR		5.83	65	⇑iP	Pn	02 33 34.4	+2.9
WTTA	Wattenberg	5.84	316	⇑iPn	Pn	02 33 34.2	+2.4
	SNR=6.6						
WTTA	Wattenberg	5.84	316	Pn	Pn	02 33 34.2	+2.4
	SNR=6.6						
MOTA	Moosalm	6.17	315	⇑iPn	Pn	02 33 38.4	+2.1
MOTA	Moosalm	6.17	315	Pn	Pn	02 33 38.4	+2.1
PGF	Pioggiola	6.32	267	ePn	Pn	02 33 39.6	+1.3
PGF				eSn	Sn	02 34 49.5	-1.4
	comp=E,0.7nm,0.3s						
PGF	Pioggiola	6.32	267	ePn	Pn	02 33 39.6	+1.3
PGF				eSn	Sn	02 34 49.5	-1.4
	comp=E,0.3nm,0.3s						
KHC	Kasperske Hory	6.56	336	ePN	Pn	02 33 43.5	+2.0
KHC				ex	x	02 33 46.4	
KHC				ex	x	02 33 54.3	
KHC				eSN	Sn	02 34 57.4	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
KHC	Kasperske Hory	6.56	336	Pn	Pn	02 33 43.5	+2.0
KHC				Sn	Sn	02 34 57.4	+0.8
MORC	Moravsky Berou	6.60	360	⇑iP	Pn	02 33 44.7	+2.7
SBF	Sospel	7.39	279	ePn	Pn	02 33 54.0	+1.0
SBF				eSn	Sn	02 35 14.7	-2.4
	comp=E,3.0nm,0.3s						
SBF	Sospel	7.39	279	ePn	Pn	02 33 54.0	+1.0
MBDF	Montbardon	7.94	285	ePn	Pn	02 34 01.4	+0.9
MBDF				eSn	Sn	02 35 27.6	-3.1
	comp=E,1.8nm,0.4s						
MBDF	Montbardon	7.94	285	ePn	Pn	02 34 01.4	+0.9
FRF	La Foret Royal	7.96	276	ePn	Pn	02 34 01.6	+0.9
FRF				eSn	Sn	02 35 28.3	-2.8
	comp=E,1.3nm,0.3s						
FRF	La Foret Royal	7.96	276	ePn	Pn	02 34 01.6	+0.9
LMR	La Mourre	8.07	275	ePn	Pn	02 34 03.1	+0.9
LMR				eSn	Sn	02 35 30.8	-2.9
	comp=E,0.6nm,0.3s						
LMR	La Mourre	8.07	275	ePn	Pn	02 34 03.1	+0.9
LPG	La Plagne	8.09	290	ePn	Pn	02 34 03.5	+0.8
LPG				eSn	Sn	02 35 31.3	-3.2
	comp=E,7.1nm,0.8s						
LPG	La Plagne	8.09	290	ePn	Pn	02 34 03.5	+0.8
LPL	La Plagne	8.11	290	ePn	Pn	02 34 03.7	+0.8
LPL				eSn	Sn	02 35 31.6	-3.3
	comp=E,5.0nm,0.6s						
LPL	La Plagne	8.11	290	ePn	Pn	02 34 03.7	+0.8
ORIF	Oris-en-Rattie	8.59	286	ePn	Pn	02 34 10.4	+1.0
ORIF				eSn	Sn	02 35 43.2	-3.5
	comp=E,1.9nm,0.5s						
ORIF	Oris-en-Rattie	8.59	286	ePn	Pn	02 34 10.4	+1.0
SMRF	Simiane la Rot	8.74	279	ePn	Pn	02 34 12.3	+0.9
SMRF				eSn	Sn	02 35 46.7	-3.5
	comp=E,0.5nm,0.4s						
SMRF	Simiane la Rot	8.74	279	ePn	Pn	02 34 12.3	+0.9
HINF	Hinteralfeld	8.83	305	ePn	Pn	02 34 13.0	+0.3
HINF				eSn	Sn	02 35 48.2	-4.3
	comp=E,1.7nm,0.4s						
HINF	Hinteralfeld	8.83	305	ePn	Pn	02 34 13.0	+0.3
CABF	La Chapelle	8.84	297	ePn	Pn	02 34 13.4	+0.6
CABF				eSn	Sn	02 35 48.8	-3.8
	comp=E,0.9nm,0.3s						
CABF	La Chapelle	8.84	297	ePn	Pn	02 34 13.4	+0.6
CDF	Champ du Feu	8.88	310	ePn	Pn	02 34 13.7	+0.3
CDF	Champ du Feu	8.88	310	ePg	Pg	02 34 51.2	-3.3
CDF				eSn	Sn	02 35 49.3	-4.5
	comp=E,0.6nm,0.3s						
CDF	Champ du Feu	8.88	310	ePn	Pn	02 34 13.7	+0.3
VIVF	Saint-Julien-l	9.44	285	ePn	Pn	02 34 21.7	+0.7
VIVF				eSn	Sn	02 36 03.4	-3.9
	comp=E,0.8nm,0.3s						
VIVF	Saint-Julien-l	9.44	285	ePn	Pn	02 34 21.7	+0.7
PAGF	Fort de Pagny	9.85	307	ePn	Pn	02 34 27.0	+0.5
PAGF	Fort de Pagny	9.85	307	ePg	Pn	02 35 09.5	+43
PAGF				eSn	Sn	02 36 12.3	-5.0
	comp=E,0.2nm,0.3s						
PAGF	Fort de Pagny	9.85	307	ePn	Pn	02 34 27.0	+0.5
LOR	Lormes	10.49	298	ePn	Pn	02 34 35.8	+0.4
LOR				eSn	Sn	02 36 28.1	-5.1
	comp=E,1.5nm,0.3s						
LOR	Lormes	10.49	298	ePn	Pn	02 34 35.8	+0.4

MAN 16 02:45:16, 17.99N×120.42E, h21km, mb4.1, ML2.9, MS2.7, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	0.08	149	⇑iP	Pb	02 45 22.4	+2.4
SIPP				eS	Sb	02 45 27.9	+5.2
PIP	Pasuquin	0.39	30	⇑iP	Pn	02 45 26.2	-0.2
PIP				eS	Sn	02 45 35.1	+2.0
ABRA	Dolores	0.44	140	eP	Pb	02 45 26.1	-1.0
ABRA				eS	Sb	02 45 32.1	+0.9
APYP	Conner	0.80	99	eP	Pn	02 45 32.0	-0.1
APYP				eS	Sb	02 45 39.6	-2.0
CVP	Callao Caves	1.37	102	eP	Pb	02 45 40.9	0.0
CVP				iS	Sb	02 45 58.0	-0.1
CAUP	Cauayan	1.70	128	eP	Pb	02 45 46.2	-0.3
BALP	Baler	2.50	153	eP	Pn	02 45 57.2	+1.7

MEX 16 02:45:25.7±0.6, 16.72N×96.37W, h59km±7km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	Oaxaca	0.50	317	iP	Pn	02 45 36.3	-1.6
OXX				eS	Sn	02 45 43.9	-2.8
VHO	Vista Hermosa	0.50	315	iP	Pn	02 45 36.3	-1.5
VHO				iS	Sn	02 45 44.9	-1.7
HUIG	Huatulco	0.98	165	iP	Pn	02 45 42.3	-1.2
HUIG				eS	Sn	02 45 54.7	-1.9
CMIG	Matias Romero	1.47	75	eP	Pn	02 45 48.6	-1.4
CMIG				iS	Sn	02 46 06.0	-2.2
PNIG	Pinotepa	1.72	259	iP	Pn	02 45 51.4	-1.9
PNIG				iS	Sn	02 46 12.1	-2.2
TPIG	Tehuac#an	1.94	331	iP	Pn	02 45 59.8	+3.2
TPIG				iS	Sn	02 46 18.5	-1.5

IDC 16 02:45:41.7±1.4, 24.08S×66.70W, h189km±13km, mb3.5/9, mb1 3.6/14, mb1mx3.6/20, mbtmp4.0/14, Error ellipse: s-maj=16.9km s-min=12.3km az=88.0
ISCJB 16 02:45:42.2±0.3, 24.03S±0.03×66.85W±0.04, h211km±3km, mb3.6/11, Error ellipse: s-maj=7.0km s-min=4.0km az=139.5
SJA 16 02:45:42.5±0.8, 24.01S×66.78W, h220km±7km, ML3.4, MW3.5
NEIC 16 02:45:42.2±1.3, 24.05S×66.63W, h191km±22km, mb4.2/4, Error ellipse: s-maj=31.0km s-min=11.2km az=92.0
GUC 16 02:45:45.3±0.3, 23.80S×67.42W, h250km, ML4.9
ISC 16 02:45:43.3±0.7, 24.00S±0.05×66.86W±0.05, h208km±6km, n55, σ1§41/75, mb3.9/11, 14C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.43	121	iP	Pn	02 46 17.8	+0.5
SLA				IAML		02 46 18.1	
	comp=Z,295nm,0.6s						
SLA				iS	S	02 46 43.3	-0.2
AZAP	Zapla	1.65	98	iP	Pn	02 46 19.3	-0.1
ASTB	Santa Barbara	2.17	89	iP	Pn	02 46 24.5	+0.1
ASTB				eS4	S	02 46 59.9	+4.0
LVC	Limon Verde	2.34	306	ePn	Pn	02 46 27.3	+1.1
LVC				eS	S	02 47 00.3	+1.1
LVC	Limon Verde	2.34	306	iP	Pn	02 46 27.5	+1.2
LVC				iS	S	02 47 01.0	+1.8
ALOL	LOMAS DE OLMED	2.65	87	iP	Pn	02 46 29.1	-0.4
PB06	Plate Boundary	2.81	297	⇑iP	Pn	02 46 32.2	+0.9
PB06				iS	S	02 47 08.1	-0.3
PB06				AML	AML	02 47 09.9	
	comp=N,2μm,0.4s						
PB06	Plate Boundary	2.81	297	⇑iP	Pn	02 46 32.2	+0.9
PB06				iS	S	02 47 08.1	-0.3
PB04	Plate Boundary	2.97	305	⇑iP	Pn	02 46 39.0	+6.0
PB04	Plate Boundary	2.97	305	⇑iP	Pn	02 46 39.0	+6.0
AHML	Horco Molle	3.10	154	iP	Pn	02 46 34.0	-0.6
AHML				IAML		02 46 34.8	
	comp=Z,31nm,0.4s						
AHML				iS	S	02 47 12.7	-1.7
PB09	Plate Boundary	3.10	314	⇑iP	Pn	02 46 36.0	+1.2
PB09				iS	S	02 47 14.6	0.0
PB09				AML	AML	02 47 17.6	
	comp=N,3μm,0.2s						
PB09	Plate Boundary	3.10	314	⇑iP	Pn	02 46 36.0	+1.2
PB09				iS	S	02 47 14.6	0.0
CEN1	Los Morros	3.12	280	eP	Pn	02 46 36.3	+1.4
CEN1				iS	S	02 47 15.3	+0.5
CEN1				AML	AML	02 47 19.4	
	comp=N,2μm,0.6s						
CEN1	Los Morros	3.12	280	eP	Pn	02 46 36.3	+1.4
CEN1				iS	S	02 47 15.3	+0.5
MACH	Maria Elena	3.22	303	⇑iP	Pn	02 46 36.9	+0.7
MACH				iS	S	02 47 16.1	-0.9
MACH	Maria Elena	3.22	303	⇑iP	Pn	02 46 36.9	+0.7
MACH				iS	S	02 47 16.1	-0.9
PB10	Plate Boundary	3.42	277	eP	Pn	02 46 38.7	+0.3
PB10				iS	S	02 47 19.2	-1.8
PB07	Plate Boundary	3.59	308	⇑iP	Pn	02 46 41.0	+0.3
PB07				iS	S	02 47 23.3	-1.8
PB07	Plate Boundary	3.59	308	⇑iP	Pn	02 46 41.0	+0.3
PB07				iS	S	02 47 23.3	-1.8
PB01	Plate Boundary	3.81	320	⇑iP	Pn	02 46 43.3	0.0
PB01				iS	S	02 47 27.9	-2.0
PB01	Plate Boundary	3.81	320	⇑iP	Pn	02 46 43.3	0.0
PB01				iS	S	02 47 27.9	-2.0
PATCX	Punta Patache	4.39	315	iP	Pn	02 46 49.6	-0.8
PATCX				iS	S	02 47 39.1	-3.6
CYA	Choya	4.53	168	iP	Pn	02 46 52.1	+0.1
CYA				IAML		02 46 53.4	
	comp=Z,12nm,0.4s						
CYA				iS	S	02 47 43.6	-2.2
HMBC	Humberstone	4.65	322	⇑iP	Pn	02 46 52.4	-1.3
HMBC				iS	S	02 47 45.1	-3.5
HMBC	Humberstone	4.65	322	⇑iP	Pn	02 46 52.4	-1.3
HMBC				iS	S	02 47 45.1	-3.5
ACLC	CERRO LA CRUZ	5.41	181	iP	Pn	02 47 02.5	-0.7
LCO	Las Campanas	6.07	214	ePn	Pn	02 47 09.6	-2.2
	comp=Z,43nm,0.9s						
LCO				eS	S	02 48 08.1	-14
AVFE	Valle Fertil	6.66	184	IAML		02 48 33.5	
	comp=Z,16nm,0.3s						
CFAA	Coronel Fontan	7.68	189	P	Pn	02 47 31.1	-1.3
	comp=Z,0.2nm,0.3s,baz=56,slow=16,SNR=22						
CFAA				S	S	02 48 52.2	-7.1
	comp=Z,1.0nm,0.3s,baz=221,slow=13,SNR=18						
LPAZ	La Paz	7.76	351	P	Pn	02 47 34.8	+0.6
	comp=Z,1.0nm,0.3s,baz=110,slow=3.9,SNR=34						
LPAZ				S	S	02 49 01.5	-0.9
	comp=Z,0.5nm,0.3s,baz=311,slow=24,SNR=7.4						
CPUP	Villa Florida	8.94	107	P	Pn	02 47 47.0	-1.8
	comp=Z,0.9nm,0.3s,baz=269,slow=9.9,SNR=10.0						
SIV	San Ignacio	9.64	35	P	Pn	02 47 56.0	-1.9
	comp=Z,0.6nm,0.3s,baz=228,slow=13,SNR=22						
TRQA	Tornquist	14.62	165	eP	Pn	02 48 59.2	-1.3
SAML	Samuel	15.37	14	eP	P	02 49 09.0	-1.0
	comp=Z,3.8nm,0.8s						
PLCA	Paso Flores	16.97	190	P	Pn	02 49 28.1	-0.8
	comp=Z,0.2nm,0.3s,baz=1.6,slow=13,SNR=5.6						
BB16B	Bebedouro	17.14	84	eP	P	02 49 28.2	-1.2
BB16B				i		02 49 32.1	
BB16B				i		02 49 47.5	
BDFB	Brasilia	19.57	68	P	P	02 49 55.2	-0.6
	comp=Z,2.1nm,0.3s,baz=235,slow=11,SNR=45						
SNAA	Sanae	59.31	161	eP	P	02 55 23.3	+0.3
	comp=Z,2.0nm,0.7s						
TXAR	Lajitas Array	63.75	324	P	P	02 55 55.0	+1.7
	comp=Z,0.2nm,0.6s,baz=151,slow=11,SNR=3.3						
QSPA	South Pole Qui	66.21	180	eP	P	02 56 09.3	+0.7
	comp=Z,2.7nm,0.4s						
DBIC	Dimbokro	67.68	71	P	P	02 56 17.5	-1.0
	comp=Z,2.2nm,0.7s,baz=251,slow=7.3,SNR=5.1						
TORD	Torodi Ar. Bea	76.45	69	P	P	02 57 09.8	-0.7
	comp=Z,1.2nm,0.4s,baz=258,slow=6.0,SNR=61						
PDAR	Pinedale Array	77.21	329	P	P	02 57 16.5	+2.0
	comp=Z,0.2nm,0.5s,baz=151,slow=6.0,SNR=3.0						
ULM	Lac du Bonnet	78.27	341	P	P	02 57 20.9	+1.0
	comp=Z,0.9nm,0.5s,baz=157,slow=7.7,SNR=3.4						
SCHQ	Schefferville	78.50	0	P	P	02 57 21.8	+0.7
	comp=Z,3.6nm,0.9s,baz=249,slow=14,SNR=2.9						
BOSA	Boshof	80.62	117	P	P	02 57 33.1	-0.3
	comp=Z,1.0nm,0.4s,baz=263,slow=8.1,SNR=4.7						
ESDC	Sonseca Array	86.31	44	P	P	02 58 02.0	+0.2
	comp=Z,0.3nm,0.6s,baz=198,slow=5.8,SNR=3.7						
YKA	Yellowknife Ar	94.17	340	P	P	02 58 38.9	+1.0
	comp=Z,0.3nm,0.5s,baz=137,slow=4.8,SNR=13						
FX1	Attu Island--F	126.77	319	PKP	PKPdf	03 04 22.8	+1.0
	comp=Z,7.7nm,0.7s,baz=312,slow=15,SNR=7.2						
ASAR	Alice Springs	128.51	205	PKP	PKPdf	03 04 26.7	+0.5
	comp=Z,0.5nm,0.7s,baz=122,slow=1.7,SNR=5.7						
WRA	Warramunga Arr	131.69	207	PKhKP	PKPpre	03 04 26.6	
	comp=Z,0.3nm,1.0s,baz=153,slow=1.7,SNR=4.7						
WRA				PKP	PKiKP	03 04 33.4	+0.1
	comp=Z,0.4nm,0.5s,baz=154,slow=1.6,SNR=11						
ZALV	Zalesovo Beam	143.33	28	PKP	PKPdf	03 04 51.2	-1.2
	comp=Z,1.2nm,0.5s,baz=274,slow=4.2,SNR=6.2						
MKAR	Makanchi Array	146.44	40	PKPbc	PKPab	03 04 59.5	-1.7
	comp=Z,2.1nm,0.6s,baz=300,slow=3.3,SNR=25						
SONM	Songino Array	155.61	11	PKPab	PKPab	03 05 40.1	+0.8
	comp=Z,0.3nm,0.6s,baz=316,slow=4.0,SNR=2.9						

NIED 16 02:47:00, 40.30N×143.70E, h14km, Mw3.9 Best double couple: M₀7.13000×10[14] NP1:φs170.00000°, δ34.00000°, λ68.00000°. NP2:φs16.00000°, δ59.00000°, λ104.00000°.
IDC 16 02:47:30.5±0.9, 40.10N×143.94E, h0km, mb3.6/11, mb1 3.7/13, mb1mx3.6/27, mbtmp3.6/13, ML2.8/2, MS3.7/1, Ms1 3.7/1, ms1mx2.6/28, Error ellipse: s-maj=23.5km s-min=21.1km az=101.0
ISCJB 16 02:47:32.1±0.6, 40.31N±0.03×143.85E±0.05, h16km, mb3.5/11, MS3.7/1, Error ellipse: s-maj=6.0km s-min=3.5km az=31.8
JMA 16 02:47:33.6±0.2, 40.32N×143.73E, h18km±5km, M3.8
ISC 16 02:47:33.5±0.8, 40.30N±0.05×143.85E±0.06, h16km, n39, σ1§32/43, mb3.6/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.57	257	P	Pn	02 47 59.6	-1.1
JTH				S	Sn	02 48 18.3	-2.4
MIYJ	Miyakonagasawa	1.72	246	P	Pn	02 48 02.2	-0.6
JANG	Nango	1.79	273	P	Pn	02 48 02.8	-0.9
JEM	Erimo	1.79	343	eS	Sn	02 48 24.4	-1.8
JOM	Ohasama	2.14	248	eS	Sn	02 48 33.2	-1.5
JNBK	Urakawa-nobuka	2.14	338	P	Pn	02 48 08.6	0.0
JNBK				S	Sn	02 48 35.1	+0.2
JTM	Tenmabayashi	2.18	284	P	Pn	02 48 09.0	-0.1
JTM				S	Sn	02 48 35.0	-0.7
JCH	Churui	2.34	351	P	Pn	02 48 11.6	+0.3
JCH				S	Sn	02 48 38.5	-1.2
JOT	Ohata	2.39	298	S	Sn	02 48 39.8	-1.0
JAH	Hinai	2.47	268	P	Pn	02 48 13.5	+0.5
JAH				eS	Sn	02 48 42.4	-0.4
JRG	Rokugo	2.64	251	P	Pn	02 48 15.6	+0.2
JRG				eS	Sn	02 48 46.9	-0.2
JKB	Kayabe	2.66	308	eS	Sn	02 48 47.1	-0.4
JAK	Akkeshi	2.77	13	P	Pn	02 48 16.2	-0.9
JAK				eS	Sn	02 48 49.3	-0.9
JAR	Ashorobuto	2.99	359	P	Pn	02 48 19.2	-1.1
JAR				S	Sn	02 48 53.5	-2.3
JYK	Kaneyama	3.03	244	P	Pn	02 48 21.0	+0.2
JEW	Eniwo	3.11	325	eS	Sn	02 48 58.8	0.0
JOU	Okura	3.14	233	P	Pn	02 48 22.2	-0.1
JOU				S	Sn	02 48 58.5	-1.0
ASAJ	Asahikawa	3.92	347	Pn	Pn	02 48 36.7	+3.6
	0.8nm,0.3s,baz=235,slow=12,SNR=2.7						
ASAJ				Sn	Sn	02 49 16.4	-2.5
	1.5nm,0.3s,baz=30,slow=20,SNR=3.2						
MJAR	Matsushiro Arr	5.81	232	Pn	Pn	02 48 59.8	+0.8
	0.6nm,0.3s,baz=38,slow=9.4,SNR=4.7						
MAT	Matsushiro	5.81	232	P	Pn	02 48 59.3	+0.3
MAT				eS	Sn	02 50 03.0	-2.3
USRK	Ussuriysk Arra	9.62	298	Pn	Pn	02 49 53.6	+2.3
	0.3nm,0.3s,baz=105,slow=14,SNR=12						
USRK				Sn	Sn	02 51 35.1	-3.8
	1.6nm,0.3s,baz=94,slow=19,SNR=41						
SEY	Seymchan	23.23	10	P	P	02 52 39.4	-0.3
	1.3nm,0.5s,baz=161,slow=8.0,SNR=4.4						
SONM	Songino Array	27.73	298	P	P	02 53 22.4	+1.2
	0.5nm,0.8s,baz=99,slow=8.9,SNR=4.4						
H11N2	WAKE ISLAND Hy	28.46	129	T	T	03 23 16.8	
	baz=324,slow=76,SNR=7.8						
H11N1	WAKE ISLAND Hy	28.47	129	T	T	03 23 15.9	
	baz=324,slow=76,SNR=6.1						
H11N3	WAKE ISLAND Hy	28.48	129	T	T	03 23 15.0	
	baz=324,slow=76,SNR=5.3						
H11S1	WAKE ISLAND Hy	29.30	131	T	T	03 24 37.9	
	baz=312						
H11S3	WAKE ISLAND Hy	29.30	131	T	T	03 24 34.6	
	baz=312						
H11S2	WAKE ISLAND Hy	29.32	131	T	T	03 24 40.7	
	baz=312						
ZALV	Zalesovo Beam	41.21	310	P	P	02 55 17.7	+0.5
	0.4nm,0.3s,baz=83,slow=12,SNR=3.0						
MKAR	Makanchi Array	44.08	300	P	P	02 55 41.3	+0.6
	1.2nm,0.9s,baz=83,slow=9.3,SNR=9.0						
ILAR	Eielson Array	45.72	34	P	P	02 55 54.2	+0.8
	0.5nm,0.7s,baz=257,slow=6.1,SNR=8.8						
PMG	Port Moresby	49.55	176	LR	LR	03 13 09.5	
	comp=Z,72nm,20.1s,baz=182,slow=31						
YKA	Yellowknife Ar	60.03	32	P	P	02 57 39.6	+0.6
	0.2nm,0.6s,baz=304,slow=6.4,SNR=4.5						
WRA	Warramunga Arr	60.58	190	P	P	02 57 42.5	-0.9
	0.2nm,0.5s,baz=8.7,slow=6.9,SNR=2.7						
ASAR	Alice Springs	64.31	190	P	P	02 58 05.6	-2.6
	0.2nm,0.7s,baz=358,slow=7.8,SNR=3.8						
FINES	FINESS Array B	66.81	332	P	P	02 58 24.2	+0.3
	1.7nm,1.1s,baz=72,slow=13,SNR=3.0						
AKASG	Malin Array Be	72.87	323	P	P	02 59 01.9	+0.5
	0.6nm,0.6s,baz=44,slow=7.3,SNR=4.9						
PDAR	Pinedale Array	74.03	47	P	P	02 59 09.6	+0.9
	0.4nm,0.9s,baz=285,slow=1.8,SNR=3.0						

IDC 16 02:55:14.4±2.1, 6.37S×152.15E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/28, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=130.2km s-min=26.0km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.79	238	Pn	Pn	02 56 43.0	+1.3
	1.3nm,0.3s,baz=196,slow=19,SNR=2.7						
PMG				Sn	Sn	02 57 43.8	-5.1
	1.9nm,0.3s,baz=90,slow=20,SNR=4.8						
WRA	Warramunga Arr	21.94	230	P	P	03 00 09.2	-0.6
	0.9nm,0.8s,baz=54,slow=10.0,SNR=8.1						
ASAR	Alice Springs	24.57	224	P	P	03 00 36.5	+0.2
	1.1nm,0.6s,baz=60,slow=8.6,SNR=15						
ILAR	Eielson Array	83.85	22	P	P	03 07 46.0	+0.4
	0.4nm,0.8s,baz=229,slow=5.8,SNR=5.5						
TORD	Torodi Ar. Bea	150.14	285	PKPbc	PKPbc	03 15 07.3	-1.1
	0.4nm,0.8s,baz=104,slow=2.4,SNR=4.6						

IDC 16 03:05:45.8±4.0, 40.26N×144.22E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.4/34, mbtmp3.6/7, ML2.7/3, Error ellipse: s-maj=70.5km s-min=30.1km az=128.0
ISCJB 16 03:05:47.5±0.8, 40.35N±0.04×143.83E±0.07, h16km, mb3.3/4, Error ellipse: s-maj=8.8km s-min=4.1km az=33.7
JMA 16 03:05:48.2±0.2, 40.33N×143.73E, h18km±4km, M3.4
ISC 16 03:05:48.8±1.3, 40.33N±0.06×143.86E±0.08, h16km, n23, σ1§71/28, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.58	256	P	Pn	03 06 14.3	-1.8
JTH				eS	Sn	03 06 33.4	-2.8
MIYJ	Miyakonagasawa	1.74	245	P	Pn	03 06 16.9	-1.4
JEM	Erimo	1.76	343	eS	Sn	03 06 39.7	-1.1
JANG	Nango	1.79	272	P	Pn	03 06 17.4	-1.7
JANG				eS	Sn	03 06 38.8	-2.7
JNBK	Urakawa-nobuka	2.12	337	P	Pn	03 06 23.4	-0.1
JOM	Ohasama	2.15	247	P	Pn	03 06 23.2	-0.8
JCH	Churui	2.31	351	P	Pn	03 06 26.0	-0.2
JCH				S	Sn	03 06 53.3	-1.0
JOT	Ohata	2.38	297	P	Pn	03 06 26.5	-0.6
JOT				eS	Sn	03 06 53.8	-2.1
JAK	Akkeshi	2.74	13	P	Pn	03 06 31.8	-0.2
JAK				eS	Sn	03 07 02.0	-2.8
JAR	Ashorobuto	2.96	359	P	Pn	03 06 33.5	-1.7
JAR				eS	Sn	03 07 07.9	-2.5
JYK	Kaneyama	3.05	244	P	Pn	03 06 36.2	-0.1
JYK				eS	Sn	03 07 11.8	-0.7
JEW	Eniwo	3.09	325	eS	Sn	03 07 14.3	+0.8
NEM2	Nemuro 2	3.34	24	P	Pn	03 06 39.5	-0.9
NEM2				S	Sn	03 07 16.8	-2.9
ASAJ	Asahikawa	3.90	347	Pn	Pn	03 06 48.2	+0.2
	0.5nm,0.3s,baz=171,slow=19,SNR=2.7						
ASAJ				Sn	Sn	03 07 34.7	+1.3
	2.3nm,0.3s,baz=19,slow=27,SNR=5.6						
MJAR	Matsushiro Arr	5.83	231	Pn	Pn	03 07 15.7	+1.1
	0.4nm,0.3s,baz=40,slow=12,SNR=5.8						
USRK	Ussuriysk Arra	9.61	298	Pn	Pn	03 08 09.2	+2.8
	0.2nm,0.3s,baz=98,slow=15,SNR=4.8						
SEY	Seymchan	23.20	10	P	P	03 10 54.4	-0.3
	0.7nm,0.4s,baz=49,slow=19,SNR=2.9						
SONM	Songino Array	27.72	298	P	P	03 11 39.3	+2.9
	0.3nm,0.8s,baz=86,slow=9.1,SNR=2.5						
H11N2	WAKE ISLAND Hy	28.47	129	T	T	03 41 46.7	
	baz=327						
H11N1	WAKE ISLAND Hy	28.48	129	T	T	03 41 46.5	
	baz=327						
H11N3	WAKE ISLAND Hy	28.49	129	T	T	03 41 44.6	
	baz=327						
ZALV	Zalesovo Beam	41.20	310	P	P	03 13 34.3	+1.9
	0.4nm,0.3s,baz=69,slow=9.4,SNR=2.5						
MKAR	Makanchi Array	44.07	300	P	P	03 13 56.1	+0.2
	0.4nm,0.7s,baz=74,slow=11,SNR=2.8						

NIED 16 03:11:00, 24.00N×122.30E, h23km, Mw4.4 Best double couple: M₀4.21000×10[15] NP1:φs342.00000°, δ33.00000°, λ-147.00000°. NP2:φs223.00000°, δ73.00000°, λ-62.00000°.
BJI 16 03:11:26.5, 24.15N×122.22E, h9km, mB4.3/4, mb4.0/16, ML4.2/5, Ms4.1/9, Ms7 4.0/8
JMA 16 03:11:27.4±0.1, 24.04N×122.29E, h26km±3km, M4.6
NEIC 16 03:11:27.9±1.1, 24.13N×122.26E, h32km±8km, mb4.3/4, ML4.5(TAP), Error ellipse: s-maj=6.6km s-min=5.9km az=118.0
NEIC Recorded [2 TAP] in I-lan and [1 TAP] in Hua-lien.
TAP 16 03:11:27.5, 24.13N×122.28E, h23km, ML4.5, C
ISCJB 16 03:11:27.5±0.3, 24.09N±0.02×122.31E±0.01, h28km±2km, mb4.1/21, MS4.0/5, Error ellipse: s-maj=2.9km s-min=1.8km az=159.0
IDC 16 03:11:27.3±3.0, 24.19N×122.23E, h28km±20km, mb3.9/16, mb1 4.0/18, mb1mx3.9/27, mbtmp4.0/18, ML3.2/1, MS3.9/7, Ms1 3.9/7, ms1mx3.3/38, Error ellipse: s-maj=20.5km s-min=13.7km az=66.0
ISC 16 03:11:27.0±0.6, 24.06N±0.02×122.27E±0.02, h27km±4km, n123, σ1§12/191, mb4.2/21, MS4.0/5, 7C-13D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	Nanau	0.60	307	eP	Pb	03 11 38.8	-0.1
	baz=307						
HWA	Hwalien	0.61	262	eP	Pn	03 11 40.0	+0.1
	baz=242						
TWD	Chiawan	0.61	272	eP	Pn	03 11 39.9	0.0
	baz=266						
NACB	Ninganchiao	0.62	280	ePg	Pn	03 11 39.7	-0.3
TWC	Suao	0.66	325	P	Pb	03 11 39.5	-0.5
	baz=321						
TWC				S	Sb	03 11 47.5	-1.4
	baz=321						
ESF	Shoufeng Towns	0.72	255	eP	Pn	03 11 42.9	+1.5
	baz=240						
JYNG	Yonagunijimaku	0.73	58	P	Pb	03 11 41.0	-0.1
JYNG				eS	Sb	03 11 50.1	-0.7
YOJ	Yonaguni jima	0.79	60	P	Pb	03 11 42.2	+0.1
YOJ				eS	Sb	03 11 51.8	-0.6
YOJ	Yonaguni jima	0.79	60	ePg	Pb	03 11 42.1	+0.1
YOJ				eS	Sb	03 11 52.5	+0.1
YOJ	Yonaguni jima	0.79	60	⇓iP	Pb	03 11 42.2	+0.1
	baz=62						
YOJ				eS	Sb	03 11 51.7	-0.7
	baz=62						
ESL	Shilin	0.80	252	eP	Pb	03 11 42.5	+0.2
	baz=238						
ESL				eS	Sn	03 11 53.7	+0.1
	baz=238						
EGS		0.83	339	eP	Pn	03 11 43.5	+0.5
	baz=326						
EGS				eS	Sn	03 11 54.2	-0.2
	baz=326						
ILA	Ilan	0.84	326	eP	Pn	03 11 43.4	+0.3
	baz=322						
ILA				eS	Sn	03 11 55.0	+0.3
	baz=322						
ENTT	Nioudou	0.86	312	⇓P	Pn	03 11 43.5	+0.2
	baz=315						
ENTT				eS	Sb	03 11 54.6	+0.2
	baz=315						
NNS	Nan Shan	0.90	295	⇓iP	Pb	03 11 44.4	+0.4
	baz=291						
WHF	Hehuan Shan	0.92	275	⇓P	Pn	03 11 44.8	+0.3
	baz=257						
TWB1	Santiao Chiao	0.97	345	⇓iP	Pn	03 11 44.9	0.0
	baz=328						
TWB1				S	Sb	03 11 57.3	-0.3
	baz=328						
YHNB	Yeheng	1.01	307	ePg	Pb	03 11 46.0	+0.1
YHNB				eS	Sb	03 11 60.0	+1.1
TWT	Tachien	1.01	281	eP	Pb	03 11 46.8	+0.9
	baz=263						

EHY Hungye 1.03 237 ⇑P Pn 03 11 45.9 +0.3
baz=227
EHY eS Sn 03 11 59.3 +0.1
baz=227
NSK Sanguang 1.03 307⇓iP Pb 03 11 46.5 +0.3
baz=302
NSK eS Sb 03 11 59.9 +0.6
baz=302
NWF Wu-fen Shan 1.09 336⇓iP Pb 03 11 47.3 -0.1
baz=332
NWF S Sb 03 12 01.4 +0.2
baz=332
TWA Mucha 1.10 326⇓iP Pb 03 11 47.9 +0.5
baz=322
TWA S Sb 03 12 02.1 +0.7
baz=322
YULB Yu-li 1.11 233 ePg Pn 03 11 46.9 +0.1
YULB eS Sb 03 12 02.4 +0.7
TWF1 Yuli 1.14 232 ⇑P Pn 03 11 47.6 +0.5
baz=247
TWF1 eS Sb 03 12 03.3 +1.0
baz=247
TATO Taipei 1.15 322 ePn Pb 03 11 48.5 +0.3
TAP1 Taipei 1.18 325 eP Pb 03 11 49.2 +0.4
baz=321
TAP1 eS Sb 03 12 04.3 +0.6
baz=321
TAP Taipei 1.19 325 eP Pb 03 11 49.4 +0.5
baz=321
TAP eS Sb 03 12 04.9 +1.0
baz=321
SSLB Suanglung 1.23 257 ePn Pb 03 11 49.3 -0.3
SSLB eS Sb 03 12 03.8 -0.5
SMLT Sun Moon Lake 1.26 262 ⇓P Pb 03 11 50.3 +0.2
baz=250
SMLT eS Sb 03 12 06.1 +0.1
baz=250
CHKT Chengkung 1.27 221 eP Pn 03 11 48.5 -0.4
baz=210
CHKT eS Sn 03 12 03.8 -1.3
baz=210
NSTT Nanjuang 1.28 296 ⇓P Pb 03 11 51.1 +0.6
baz=293
TWS1 Kuangyinshan 1.29 323 eP Pb 03 11 50.6 +0.1
baz=331
TWS1 eS Sb 03 12 08.0 +1.3
baz=331
TYC Yuchr 1.30 263⇓iP Pb 03 11 50.8 +0.1
baz=261
TYC eS Sb 03 12 06.5 -0.5
baz=261
YUS Yu-Shan 1.33 245 ⇑P Pb 03 11 51.5 -0.1
baz=244
YUS eS Sn 03 12 08.0 +0.6
baz=244
NCU National Centr 1.33 313 eP Pb 03 11 51.3 0.0
baz=309
NCU eS Sb 03 12 10.4 +2.4
baz=309
TWY Chenhua 1.35 334 eP Pb 03 11 51.5 -0.1
baz=345
IRIF Iriomote-Funau 1.36 78 P Pb 03 11 51.2 -0.7
IRIF eS Sb 03 12 09.6 +0.7
HSN Hsinchu 1.39 302 eP Pb 03 11 51.9 -0.4
baz=300
TWQ1 Liyutan 1.39 282⇓eP Pb 03 11 53.0 +0.7
baz=279
TWQ1 eS Sb 03 12 11.4 +1.7
baz=279
HATJ Hateruma jima 1.41 90 P Pb 03 11 52.1 -0.5
HATJ eS Sb 03 12 11.5 +1.4
NSY Sanyi 1.42 285⇓eP Pb 03 11 53.5 +0.8
baz=282
ELDTW Lidau 1.44 233 eP Pn 03 11 52.0 +0.6
baz=219
ALS Alishan 1.45 248 eP Pb 03 11 53.4 0.0
baz=246
TCU Taichung 1.45 274 eP Pb 03 11 54.6 +1.2
baz=271
TCU eS Sb 03 12 13.8 +2.4
baz=271
WNT Mingjian 1.46 263 eP Pb 03 11 54.0 +0.6
baz=261
WNT eS Sb 03 12 13.0 +1.5
baz=261
CHN5 Tsauling 1.52 253 eP Pb 03 11 55.2 +0.5
baz=251
JKRS Kuro-shima 1.60 83 P Pb 03 11 55.0 -0.9
JKRS eS Sb 03 12 16.5 +0.8
WGK Gukeng 1.60 257 eP Pb 03 11 56.2 +0.3
baz=243
WGK eS Sb 03 12 17.0 +1.3
baz=243
TWG Pinlang 1.65 222 ePn Pn 03 11 54.1 -0.1
TWG eS Sn 03 12 16.1 +1.4
TWG Pinlang 1.65 222 eP Pn 03 11 54.4 +0.1
baz=234
TWG eS Sn 03 12 14.7 +0.1
baz=234
TPUB Ta-pu 1.68 243 ePn Pb 03 11 56.7 -0.5
TPUB eS Sb 03 12 20.1 +2.0
CHN4 Tsaushan 1.69 245 eP Pb 03 11 57.1 +0.1
baz=235
CHN4 eS Sb 03 12 19.2 +0.9
baz=235
WTP Ta-pu 1.72 242⇑eP Pb 03 11 57.6 -0.4
baz=242
WTP S Sb 03 12 20.1 +1.0
baz=242
CHN2 Minshiung 1.72 252 eP Pb 03 11 58.4 +0.4
baz=252
CHN2 eS Sb 03 12 20.6 +1.4
baz=252
JIJ Ishigaki jima 1.74 80 P Pn 03 11 56.3 +0.8
JIJ eS Sn 03 12 17.2 +0.4
CHY Chiayi 1.78 252⇑eP Pb 03 11 58.9 0.0
baz=251
TWK Hsinying 1.81 244 eP Pb 03 11 59.3 -0.2
baz=244
TWK eS Sb 03 12 22.3 +0.4
baz=244
CHN1 Nanshi 1.82 242 eP Pb 03 11 59.5 -0.1
baz=242
CHN1 eS Sb 03 12 23.4 +1.5
baz=242
SGST Jiashian 1.83 238⇑eP Pb 03 11 59.2 -0.5
baz=238
SGST eS Sb 03 12 22.4 +0.2
baz=238
WTCT Ta-ch'eng 1.83 264 eP Pb 03 11 59.4 -0.3
baz=263
WTCT eS Sb 03 12 22.8 +0.7
baz=263
ECL Taimali 1.89 220 eP Pn 03 11 58.4 +0.9
baz=230
WSF Szhu 1.92 258 eP Pb 03 12 00.4 -0.9
baz=257
WSF eS Sb 03 12 25.7 +0.9
baz=257
JISG Ishigakijimahi 1.94 74 P Pn 03 11 59.0 +0.8
JISG eS Sn 03 12 22.1 +0.5
SSD Sandimen 1.99 229 eP Pb 03 12 01.1 -1.4
baz=222
SSD eS Sb 03 12 27.1 +0.2
baz=222
CHN3 Shinhua 2.00 241 eP Pb 03 12 02.8 +0.1
baz=241
TWM1 Shoushan 2.09 234 eP Pb 03 12 04.8 +0.5
baz=233
SCLT Jiali 2.10 245 eP Pb 03 12 02.7 -1.6
baz=246
SCLT eS Sb 03 12 29.9 0.0
baz=246
SGLT Jiouru 2.10 231 eP Pb 03 12 03.9 -0.6
baz=231
TAW Tawu 2.11 217 eP Pn 03 12 02.1 +1.5
baz=217
LAY Lan-yu 2.12 198 eP Pn 03 12 00.2 -0.5
baz=209
LAY eS Sn 03 12 24.5 -1.7
baz=209
EAST Anshuo 2.12 218 eP Pn 03 12 01.0 +0.3
baz=219
TAI1 Yung-k'ang 2.13 242 eP Pb 03 12 04.2 -0.6
baz=242
SCZT Fangliau 2.26 222 eP Pb 03 12 05.2 -2.0
baz=218
SCZT eS Sb 03 12 33.6 -1.1
baz=218
JTJ Tarama 2.30 75 P Pn 03 12 04.1 +1.0
JTJ eS Sn 03 12 31.7 +1.2
TWP Hsiaoliuchiu 2.45 226 eP Pb 03 12 11.2 +0.9
baz=227
HEN Hengchun 2.48 215 eP Pn 03 12 07.5 +1.9
baz=215
TSEB Hengchuen, Pin 2.49 211 eP Pn 03 12 04.7 -1.1
baz=214
TSEB eS Sn 03 12 37.2 +1.8
baz=214
TWK1 Hengchun 2.50 213 eP Pn 03 12 06.4 +0.5
baz=215
TWK1 eS Sn 03 12 36.1 +0.5
baz=215
WDGT Dungji 2.52 252 eP Pn 03 12 07.2 +1.0
baz=240
WDGT eS Sn 03 12 37.0 +1.0
baz=240
PNG Penghu 2.53 259 eP Pn 03 12 07.5 +1.1
baz=258
JIRB Irabujima 2.76 73 P Pn 03 12 10.8 +1.4
JIRB eS Sn 03 12 42.5 +0.6
JIKM Ikemajima 2.85 72 P Pn 03 12 12.4 +1.7
JIKM eS Sn 03 12 43.5 -0.6
JMJ Miyako jima 2 2.86 74 P Pn 03 12 12.8 +1.9
JMJ eS Sn 03 12 45.8 +1.4
JMJ Miyako jima 2 2.86 74 eP Pn 03 12 11.9 +1.1
baz=74
JOGS Gusukube 2.95 76 P Pn 03 12 14.3 +2.3
JOGS eS Sn 03 12 48.9 +2.3
QZH Quanzhou 3.46 285⇑iPn Pn 03 12 19.4 +0.3
QZH Sn Sn 03 12 58.8 -0.4
QZH smax smax
comp=N,810nm,0.9s
QZH smax smax
comp=E,590nm,0.9s
KNM Kinmen 3.52 277 eP Pn 03 12 22.3 +2.4
baz=275
JOW Kunigami 6.09 62 P Pn 03 12 54.8 -0.5
JOW eS Sn 03 14 05.2 +1.1
JOW Kunigami 6.09 62 Pn Pn 03 12 54.8 -0.5
1.3nm,0.3s,baz=173,slow=16,SNR=17
JOW Sn Sn 03 14 05.5 +1.3
0.2nm,0.3s,baz=93,slow=19,SNR=1.9
JOW Kunigami 6.09 62 ePn Pn 03 12 54.9 -0.4
JOW eS Sn 03 14 05.3 +1.1
JOW Kunigami 6.09 62 eP Pn 03 12 54.9 -0.4
baz=60
SSE Sheshan 7.07 352 P Pn 03 13 08.5 -0.2
SSE S Sn 03 14 24.0 -4.2
SSE smax smax
comp=N,44nm,1.2s
SSE smax smax
comp=E,74nm,1.7s
SSE LR LR
comp=N,720nm,12.4s
SSE LR LR
comp=E,340nm,12.4s
SSE LR LR
comp=Z,870nm,16.8s
JAM Amami Oshima 7.88 55 P Pn 03 13 18.8 -1.1
WHN Wuhan 9.55 314 eP Pn 03 13 52.9 +10
WHN S Sn 03 15 32.1 +3.0
WHN LR LR
comp=N,2μm,4.6s
WHN LR LR
comp=E,830nm,5.9s
WHN LR LR
comp=Z,2μm,14.0s
JNU Nakatsue 11.77 38 LR LR 03 19 26.1
comp=Z,206nm,20.7s,baz=183,slow=41
KSAR Wonju Array Be 14.18 19 Pn Pn 03 14 46.1 +0.1
KSRS Korea Array 14.20 19 Pn Pn 03 14 46.1 -0.2
baz=204,slow=14,SNR=3.7
KSRS LR LR 03 20 58.0
comp=Z,201nm,20.5s,baz=188,slow=41
GYA Guiyang 14.32 283 eP P 03 15 00.3 +5.3
GYA PP PbPb 03 15 16.3 -20
GYA S S 03 17 54.4 +8.4
GYA SS SbSb 03 18 10.8 -16
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.6s
GYA LR LR
comp=N,770nm,8.9s
GYA LR LR
comp=E,640nm,6.5s
GYA LR LR
comp=Z,690nm,13.0s
XAN Xi'an 15.31 313 P P 03 15 07.6 +1.7
XAN sP sP 03 15 17.3 +0.7
XAN S Sn 03 17 50.6 +0.4
XAN pmax pmax
comp=Z,2.0nm,0.8s
XAN pmax pmax
comp=Z,23nm,4.8s
XAN LR LR
comp=Z,180nm,17.3s
XAN LR LR
comp=Z,140nm,20.4s
LZH Lanzhou 19.90 311 eP Pn 03 15 59.3 +0.9
LZH pP pP 03 16 02.4 -1.5
LZH sP sP 03 16 06.3 -1.1
LZH PP PnPn 03 16 21.0 +8.3
LZH S S 03 19 32.6 -6.9
LZH SS SnSn 03 20 07.0 +11
LZH pmax pmax
comp=Z,22nm,1.0s
LZH LR LR
comp=Z,600nm,12.8s
LZH LR LR
comp=Z,740nm,13.9s
LZH LR LR
comp=Z,980nm,14.1s
CMAR Chiang Mai Arr 22.43 260 P P 03 16 24.8 +0.9
comp=Z,1.3nm,0.3s,baz=143,slow=25,SNR=3.2
CMAR LR LR 03 26 16.2
comp=Z,200nm,18.8s,baz=78,slow=40
ULN Ulaanbaatar 26.66 337 eP P 03 17 03.3 -0.4
comp=Z,6.6nm,0.9s
SONM Songino Array 26.87 336 P P 03 17 05.0 -0.5
comp=Z,6.0nm,0.7s,baz=149,slow=11,SNR=67
SONM ScP ScP 03 24 05.6 -0.4
comp=Z,1.3nm,1.1s,baz=114,slow=3.6,SNR=6.4
MKAR Makanchi Array 39.11 316 P P 03 18 51.9 -0.2
comp=Z,1.2nm,0.6s,baz=98,slow=9.6,SNR=27
MKAR ScP ScP 03 24 47.5 -0.7
comp=Z,0.5nm,0.8s,baz=124,slow=4.3,SNR=4.7
MKAR LR LR 03 36 24.6
comp=Z,186nm,18.6s,baz=98,slow=38
ZALV Zalesovo Beam 40.88 327 P P 03 19 05.2 -1.4
comp=Z,2.3nm,0.4s,baz=114,slow=7.2,SNR=14
ZALV LR LR 03 37 23.7
comp=Z,210nm,19.1s,baz=88,slow=38
COEN Coen 42.96 149 eP P 03 19 25.6 +1.6
comp=Z,94nm,0.7s
WRAB Tennant Creek 45.29 164 eP P 03 19 42.7 +0.1
comp=Z,2.8nm,0.6s
WRA Warramunga Arr 45.30 164 P P 03 19 43.1 +0.5
comp=Z,3.8nm,0.7s,baz=346,slow=8.7,SNR=37
KKAR Karatay Array 46.33 307 eP P 03 19 51.5 +0.8
comp=Z,0.5nm,0.4s
AS31 Alice Springs 48.77 166 eP P 03 20 11.1 +1.3
ASAR Alice Springs 48.77 166 P P 03 20 11.0 +1.2
comp=Z,2.1nm,0.6s,baz=342,slow=7.3,SNR=28
ABKAR Akbulak array 54.23 314 eP P 03 20 50.4 +0.1
comp=Z,3.4nm,0.6s
STKA Stephens Creek 58.62 161 P P 03 21 22.7 +1.0
comp=Z,5.0nm,0.7s,baz=338,slow=6.3,SNR=18
ILAR Eielson Array 68.87 27 P P 03 22 28.9 0.0
comp=Z,0.2nm,0.6s,baz=280,slow=5.4,SNR=3.5
ARCES ARCESS Array B 70.02 338 P P 03 22 34.4 -1.5
comp=Z,4.8nm,0.9s,baz=76,slow=7.6,SNR=5.4
FINES FINESS Array B 72.05 330 P P 03 22 47.1 -1.2
comp=Z,1.0nm,0.7s,baz=96,slow=1.9,SNR=5.8
FINES LR LR 03 57 36.1
comp=Z,160nm,19.8s,baz=279,slow=38
AKASG Malin Array Be 73.61 319 P P 03 22 56.4 -1.5
comp=Z,0.4nm,0.4s,baz=61,slow=6.2,SNR=3.5
BRTR Keskin Array B 74.04 307 P P 03 23 01.1 +0.3
comp=Z,2.3nm,0.9s,baz=81,slow=2.1,SNR=8.2
NOA NORSAR Array B 78.79 332 P P 03 23 25.5 -1.6
comp=Z,1.1nm,0.8s,baz=56,slow=5.6,SNR=3.0
NOA LR LR 04 02 00.1
comp=Z,152nm,18.2s,baz=40,slow=39
YKA Yellowknife Ar 82.69 23 P P 03 23 47.5 -0.5
comp=Z,0.3nm,0.5s,baz=308,slow=5.0,SNR=10
GERES GERESS Array B 83.56 321 P P 03 23 52.6 -0.3
comp=Z,0.1nm,0.3s,baz=60,slow=5.8,SNR=3.8
NVAR Mina Array Bea 95.84 43 P P 03 24 53.0 +1.4
comp=Z,0.2nm,0.6s,baz=300,slow=6.1,SNR=2.7

NIED ***16*** *03:27:00, 40.°30N×143.°80E, h14km, Mw4.5 Best double couple: $M_0$6.20000×10^{15} NP1:ϕ_s146.00000°, δ40.00000°, λ22.00000°. NP2:ϕ_s39.00000°, δ76.00000°, λ128.00000°.*
IDC ***16*** *03:27:42.8±0.7, 40.°23N×143.°86E, h0km, mb4.0/19, mb1 4.2/21, mb1mx4.2/29, mbtmp4.0/21, ML3.6/2, MS3.8/5, Ms1 3.8/5, ms1mx3.1/53, Error ellipse: s-maj=18.4km s-min=15.2km az=125.0*
ISCJB ***16*** *03:27:43.6±0.4, 40.°31N±0.°03×143.°87E±0.°05, h16km, mb4.1/40, MS3.9/7, Error ellipse: s-maj=5.5km s-min=3.3km az=28.6*
NEIC ***16*** *03:27:44.5±0.4, 40.°31N×143.°85E, h10km, mb4.2/6, Error ellipse: s-maj=8.3km s-min=6.3km az=133.0*
JMA ***16*** *03:27:44.7±0.3, 40.°32N×143.°76E, h18km±5km, M4.2*
MOS ***16*** *03:27:45.4±1.0, 40.°25N×143.°87E, h32km, mb4.4/32, Error ellipse: s-maj=11.4km s-min=7.1km az=98.9*
BJI ***16*** *03:27:53.2, 40.°40N×142.°90E, h33km, mB5.0/18, mb4.5/27, Ms4.4/10, Ms7 4.2/10*
ISC 16 03:27:45.4±0.5, **40.°33N**±0.°04×**143.°85E**±0.°05, **h16km, n113, σ1.°47**/117, **mb4.2**/40, **MS3.9**/7, **5C-2D, Off east coast of Honshu**

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

JTH Tanohata 1.57 256 P Pn 03 28 11.1 -1.6
MIYJ Miyakonagasawa 1.73 245 P Pn 03 28 13.7 -1.2
ERM Erimo 1.76 343 eP Pn 03 28 14.7 -0.5
ERM eS Sn 03 28 37.9 +0.6
ERM Erimo 1.76 343 ePn Pn 03 28 14.7 -0.5
ERM eS Sn 03 28 37.9 +0.6
JEM Erimo 1.76 343 P Pn 03 28 14.9 -0.3
JEM eS Sn 03 28 37.0 -0.3
JANG Nango 1.78 272 P Pn 03 28 14.3 -1.3
JANG eS Sn 03 28 35.6 -2.3
JNBK Urakawa-nobuka 2.11 337 P Pn 03 28 20.3 +0.2
JNBK eS Sn 03 28 47.0 +1.0
JOM Ohasama 2.15 247 P Pn 03 28 20.1 -0.5
JCH Churui 2.31 351 P Pn 03 28 22.3 -0.5
JCH eS Sn 03 28 50.0 -0.8
JOT Ohata 2.37 297 P Pn 03 28 23.2 -0.4
JMK Ichinoseki 2.45 237 P Pn 03 28 24.1 -0.7
JMK eS Sn 03 28 53.4 -1.0
JAK Akkeshi 2.73 13 P Pn 03 28 28.0 -0.6
JAK eS Sn 03 28 59.6 -1.8
JAR Ashorobuto 2.96 359 P Pn 03 28 30.5 -1.3
JAR S Sn 03 29 04.5 -2.5
JFR Furan 2.98 342 P Pn 03 28 32.6 +0.6
JYK Kaneyama 3.04 243 P Pn 03 28 32.9 0.0
JYK eS Sn 03 29 08.9 -0.1
JEW Eniwo 3.08 325 P Pn 03 28 34.9 +1.4
JEW eS Sn 03 29 10.8 +0.8
NEM2 Nemuro 2 3.34 24 P Pn 03 28 36.0 -1.0
NEM2 eS Sn 03 29 12.6 -3.7
ASAJ Asahikawa 3.89 347 P Pn 03 28 46.3 +1.7
ASAJ 03 29 37.3
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ smax smax
comp=N,6.0nm,0.3s
ASAJ Asahikawa 3.89 347 Pn Pn 03 28 46.3 +1.7
comp=N,3.2nm,0.3s,baz=189,slow=10,SNR=14
ASAJ Sn Sb 03 29 37.3 -3.3
comp=N,6.3nm,0.3s,baz=196,slow=23,SNR=5.3
ASAJ Asahikawa 3.89 347 ePn Pn 03 28 43.4 -1.1
ASAJ eS Sn 03 29 30.0 +0.1
YUK Yuzh-Kuril'sk 3.99 21c iP Pn 03 28 45.3 -0.6
YUK iS Sn 03 29 29.0 -3.3
YUK pmax pmax
comp=N,114nm,0.4s
YUK pmax pmax
comp=E,108nm,0.4s
YUK pmax pmax
comp=Z,174nm,0.4s
YUK smax smax
comp=N,467nm,0.8s
YUK smax smax
comp=E,299nm,0.8s
KUR Kuril'sk 5.72 30⇓iP Pn 03 29 09.3 -0.3
KUR iS Sn 03 30 10.3 -4.6
KUR pmax pmax
comp=E,37nm,0.5s
KUR pmax pmax
comp=N,35nm,0.5s
KUR pmax pmax
comp=Z,88nm,1.0s
KUR smax smax
comp=E,13nm,0.2s
KUR smax smax
comp=N,113nm,0.2s
KUR pmax pmax
comp=N,12μm,0.2s
MJAR Matsushiro Arr 5.82 231 P Pn 03 29 11.6 +0.4
MJAR pmax pmax
comp=Z,2.0nm,0.3s
MJAR Matsushiro Arr 5.82 231 Pn Pn 03 29 11.6 +0.4
comp=Z,1.8nm,0.3s,baz=39,slow=11,SNR=18
MAJO Matsushiro 5.83 231 eP Pn 03 29 10.4 -0.8
MAJO pmax pmax
comp=Z,39nm,0.7s
MAJO Matsushiro 5.83 231 ePn Pn 03 29 10.4 -0.8
comp=Z,39nm,0.7s
MAT Matsushiro 5.83 231 P Pn 03 29 11.5 +0.3
MAT eS Sn 03 30 12.1 -5.5
YSS Yuzh-Sakhalins 6.67 354 eP Pn 03 29 30.0 +7.4
USRK Ussuriysk Arra 9.60 298 Pn Pn 03 30 04.2 +1.3
comp=Z,0.5nm,0.3s,baz=101,slow=14,SNR=16
MDJ Mudanjiang 11.36 297 P Pn 03 30 28.9 +1.9
MDJ pmax pmax
comp=Z,11nm,1.0s
MDJ pmax pmax
comp=Z,150nm,5.2s
MDJ Mudanjiang 11.36 297 ePn Pn 03 30 28.5 +1.4
comp=Z,9.8nm,1.0s
KLR Kul'dur 12.36 320 eP Pn 03 30 36.8 -3.8
KLR pmax pmax
comp=Z,33nm,1.4s
KSRS Korea Array 12.74 262 LR LR 03 35 38.3
comp=Z,291nm,19.1s,baz=67,slow=37
SNY Shenyang 15.36 282 ⇑P P 03 31 31.9 +5.8
SNY S S 03 34 47.5 +20
SNY pmax pmax
comp=Z,170nm,9.3s
SNY LR LR
comp=N,530nm,13.8s
SNY LR LR
comp=E,500nm,16.2s
SNY LR LR
comp=Z,560nm,14.4s
PET Petropavlovsk 16.21 34 eP P 03 31 42.4 +7.0
BJT Baijiatuau 21.12 278 eP P 03 32 28.3 -1.2
BJT pmax pmax
comp=Z,3.0nm,0.5s
BJT Baijiatuau 21.12 278 eP P 03 32 28.3 -1.2
comp=Z,2.7nm,0.5s
SEY Seymchan 23.20 10 P P 03 32 50.5 -0.8
SEY pmax pmax
comp=Z,2.0nm,0.5s
SEY Seymchan 23.20 10 P P 03 32 50.5 -0.8
comp=Z,1.9nm,0.5s,baz=35,slow=20,SNR=10
ULN Ulaanbaatar 27.27 298⇑iP P 03 33 28.1 -1.0
ULN pmax pmax
comp=Z,3.0nm,1.5s
SONM Songino Array 27.71 298 P P 03 33 33.3 +0.3
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM MLR MLR
comp=Z,119nm,19.2s
SONM Songino Array 27.71 298 P P 03 33 33.3 +0.3
comp=Z,1.3nm,0.9s,baz=104,slow=8.7,SNR=7.8
SONM LR LR 03 45 14.6
comp=Z,118nm,19.2s,baz=100,slow=38
XAN Xi'an 28.40 268 P P 03 33 39.4 +0.2
XAN pP pP 03 33 49.5 +5.5

XAN sP sP 03 33 54.4 +8.4
XAN pmax pmax
comp=Z,2.0nm,1.6s
XAN pmax pmax
comp=Z,27nm,7.0s
XAN LR LR
comp=Z,160nm,12.2s
XAN LR LR
comp=Z,110nm,13.3s
XAN LR LR
comp=Z,110nm,14.3s
H11N2 WAKE ISLAND Hy 28.48 129 T T 04 03 31.0
baz=324,slow=76,SNR=40
H11N1 WAKE ISLAND Hy 28.49 129 T T 04 03 29.8
baz=324,slow=76,SNR=23
H11N3 WAKE ISLAND Hy 28.50 129 T T 04 03 28.2
baz=324,slow=76,SNR=25
H11S1 WAKE ISLAND Hy 29.32 131 T T 04 04 30.2
baz=326,slow=74
H11S3 WAKE ISLAND Hy 29.33 131 T T 04 04 42.8
baz=326,slow=74
H11S2 WAKE ISLAND Hy 29.34 131 T T 04 04 50.0
baz=326
TLY Talaya 29.77 306 *e*P **P 03 33 53.9 +2.7**
TLY *e*S **S 03 38 43.6 -3.2**
TLY pmax pmax
comp=Z,5.0nm,1.2s
TLY MLR MLR
comp=Z,208nm,11.0s
ZAK Zakamensk 29.89 303 *e*P **P 03 33 52.5 +0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
BILL Bilibino 30.33 17 *e*P P 03 34 02.7 +6.9
BILL pmax pmax
comp=Z,9.0nm,1.3s
GTA Gaotai 33.55 283 *e*P **P 03 34 25.3 +0.7**
GTA pP **pP 03 34 34.6 +5.1**
GTA sP sP 03 34 38.8 +7.3
GTA pmax pmax
comp=Z,11nm,1.1s
GTA pmax pmax
comp=Z,150nm,6.4s
GTA LR LR
comp=Z,270nm,13.1s
GTA LR LR
comp=Z,410nm,15.7s
GTA LR LR
comp=Z,370nm,14.5s
ZALV Zalesovo Beam 41.19 310 P **P 03 35 29.4 +0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 41.19 310 P **P 03 35 29.4 +0.4**
comp=Z,2.5nm,0.8s,baz=297,slow=7.7,SNR=8.6
MK31 Makanchi Array 44.06 300 *i* P **P 03 35 52.3 -0.2**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 44.06 300 P **P 03 35 52.9 +0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 44.06 300 P **P 03 35 52.9 +0.4**
comp=Z,4.2nm,0.9s,baz=83,slow=9.4,SNR=32
COLA College 45.28 34⇑*e*P P 03 36 08.8 +7.0
COLA pmax pmax
comp=Z,13nm,1.3s
KURK Kurchatov 45.47 306 *e*P **P 03 36 03.8 +0.2**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 45.47 306 *e*P **P 03 36 03.8 +0.2**
comp=Z,5.1nm,0.9s
ILAR Eielson Array 45.69 34 P **P 03 36 04.6 -0.6**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 45.69 34 P **P 03 36 04.6 -0.6**
comp=Z,1.9nm,0.8s,baz=265,slow=6.4,SNR=25
BVA0 Borovoye Array 49.81 311 *i* P **P 03 36 37.3 0.0**
BVA0 pmax pmax
comp=Z,7.0nm,1.1s
BRVK Borovoye 49.87 311 *e*P **P 03 36 38.2 +0.5**
BRVK pmax pmax
comp=Z,9.0nm,1.1s
BRVK Borovoye 49.87 311 *e*P **P 03 36 38.2 +0.5**
comp=Z,8.5nm,1.1s
INK Inuvik 50.58 29 P **P 03 36 44.0 +1.1**
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 50.58 29 P **P 03 36 44.0 +1.1**
comp=Z,1.4nm,0.8s,baz=297,slow=7.4,SNR=8.0
INK Inuvik 50.58 29 *e*P **P 03 36 43.9 +1.1**
comp=Z,1.9nm,0.9s
KK31 Karatay Array 53.17 299 *i* P **P 03 37 02.0 -0.6**
KK31 pmax pmax
comp=Z,3.0nm,1.2s
KKAR Karatay Array 53.17 299 *e*P **P 03 37 02.4 -0.2**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 53.17 299 *e*P **P 03 37 02.4 -0.2**
comp=Z,0.9nm,0.6s
ARU Arti 55.18 318*d i*P **P 03 37 17.8 +0.8**
ARU 03 39 17.7
ARU S **S 03 44 57.2 -2.1**
ARU SS **SS 03 48 37.9 -4.9**
ARU pmax pmax
comp=Z,1.0nm,0.2s
AB31 Akbulak array 57.30 309 P **P 03 37 32.1 -0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 57.30 309 *e*P **P 03 37 32.4 +0.2**
comp=Z,1.5nm,0.4s
RES Resolute Bay 58.93 15 P **P 03 37 43.7 +0.5**
RES pmax pmax
comp=Z,2.0nm,0.8s
RES Resolute Bay 58.93 15 P **P 03 37 43.7 +0.5**
comp=Z,1.7nm,0.8s,baz=308,slow=6.6,SNR=8.7
YKA Yellowknife Ar 60.00 32 P **P 03 37 51.8 +1.0**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 60.00 32 P **P 03 37 51.8 +1.0**
comp=Z,0.6nm,0.7s,baz=298,slow=6.5,SNR=14
WRA Warramunga Arr 60.62 190 P **P 03 37 54.1 -1.3**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 60.62 190 P **P 03 37 54.1 -1.3**
comp=Z,1.4nm,0.8s,baz=10,slow=7.2,SNR=7.9
KEV Kevo 61.04 339 *e*P P 03 38 02.6 +4.8
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 61.04 339 *e*p P 03 38 02.6 +4.8
comp=Z,5.1nm,0.8s
JOF Joensuu 63.95 332 *e*P **P 03 38 15.7 -1.6**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 63.95 332 *e*p **P 03 38 15.7 -1.6**
comp=Z,1.8nm,0.5s
ASAR Alice Springs 64.34 190 P **P 03 38 19.1 -1.2**
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 64.34 190 P **P 03 38 19.1 -1.2**
comp=Z,1.2nm,0.9s,baz=12,slow=5.8,SNR=11
KAF Kangasniemi 66.25 333 *e*P **P 03 38 32.2 -0.1**
KAF pmax pmax
comp=Z,1.0nm,0.6s
KAF Kangasniemi 66.25 333 *e*p **P 03 38 32.2 -0.1**
comp=Z,1.2nm,0.6s
OBN Obninsk 66.59 323⇑*e*P **P 03 38 35.7 +1.1**
OBN pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 66.78 332 P **P 03 38 35.8 +0.1**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 66.78 332 P **P 03 38 35.8 +0.1**
comp=Z,2.9nm,0.7s,baz=49,slow=5.8,SNR=12
KBZ Khabaz 70.19 311 P **P 03 38 58.6 +1.3**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 70.19 311 P **P 03 38 58.5 +1.3**
comp=Z,4.1nm,1.0s,baz=307,slow=5.1,SNR=2.7
NVAR Mina Array Bea 71.51 55 P **P 03 39 06.4 +0.6**
comp=Z,1.1nm,0.8s,baz=286,slow=6.4,SNR=9.9
HFS Hagfors 71.85 336 LR LR 04 14 54.5
comp=Z,67nm,18.5s,baz=36,slow=39
NB2 NORSAR Subarra 71.87 338 P **P 03 39 07.7 +0.5**
comp=Z,0.8nm,0.6s,baz=37,slow=6.2
NOA NORSAR Array B 71.87 338 P **P 03 39 07.7 +0.5**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 71.87 338 P **P 03 39 07.7 +0.5**

comp=Z,1.5nm,0.8s,baz=39,slow=6.1,SNR=4.6
AKASG Malin Array Be 72.84 323 P **P 03 39 13.2 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 72.84 323 P **P 03 39 13.2 0.0**
comp=Z,1.5nm,0.6s,baz=43,slow=5.7,SNR=15
PDAR Pinedale Array 74.01 47 P **P 03 39 21.3 +0.8**
comp=Z,0.8nm,0.7s,baz=275,slow=2.7,SNR=7.6
BRTR Keskin Array B 78.07 312 LR LR 04 17 46.6
comp=Z,48nm,18.7s,baz=332,slow=38
CLL Collm 79.16 331 *e*P **P 03 39 50.0 +0.8**
KHC Kasperske Hory 80.70 329 *e*P **P 03 39 58.9 +1.3**
KHC Kasperske Hory 80.70 329 *e*P **P 03 39 58.9 +1.3**
GERES GERESS Array B 80.89 329 P **P 03 39 58.5 -0.2**
GERES MLR MLR
comp=Z,16nm,28.6s
GERES GERESS Array B 80.89 329 P **P 03 39 58.5 -0.2**
comp=Z,0.3nm,0.6s,baz=316,slow=3.7,SNR=4.0
GERES LR LR 04 17 54.7
comp=Z,84nm,19.0s,baz=24,slow=37
SCHQ Schefferville 81.63 17 P **P 03 40 02.9 +0.5**
comp=Z,1.9nm,0.8s,baz=276,slow=10,SNR=2.6
TXAR Lajitas Array 86.62 54 P **P 03 40 29.4 +1.0**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 86.62 54 P **P 03 40 29.4 +1.0**
comp=Z,0.7nm,0.8s,baz=302,slow=2.8,SNR=5.5
HALT Halls 89.73 41 *e*P **P 03 40 43.4 +0.4**
TORD Torodi Ar. Bea 116.25 318 PKP **PKPdf 03 46 28.5 -0.1**
comp=Z,0.1nm,0.5s,baz=3.9,slow=1.7,SNR=4.0

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*NIED **16** 03:31:00, 40°.30N×143°.70E, h11km, Mw4.3 Best double couple: Mo3.26000×10^15 NP1:ϕs157.00000°, δ35.00000°, λ38.00000°. NP2:ϕs35.00000°, δ69.00000°, λ119.00000°.*
*IDC **16** 03:31:55.9±0.7, 40°.22N×143°.87E, h0km, mb3.9/19, mb1 4.2/22, mb1mx4.1/30, mbtmp4.0/22, ML3.5/3, MS4.2/2, Ms1 4.2/2, ms1mx3.1/43, Error ellipse: s-maj=18.2km s-min=15.1km az=130.0*
*ISCJB **16** 03:31:56.6±1.0, 40°.32N±0°.02×143°.84E±0°.04, h15km±7km, mb4.3/52, MS4.1/4, Error ellipse: s-maj=5.9km s-min=3.8km az=21.0*
*NEIC **16** 03:31:57.0±2.7, 40°.28N×143°.87E, h6km±16km, mb4.3/9, Error ellipse: s-maj=8.2km s-min=5.5km az=108.0*
*JMA **16** 03:31:58.2±0.1, 40°.33N×143°.75E, h21km, M4.1*
*BJI **16** 03:31:59.2, 40°.46N×143°.84E, h34km, mB5.0/15, mb4.5/30, Ms4.3/7, Ms7 4.1/7*
*MOS **16** 03:31:59.5±1.3, 40°.26N×143°.94E, h36km, mb4.5/30, Error ellipse: s-maj=9.5km s-min=5.8km az=99.7*
ISC 16 03:32:00.4±0.7, 40°.31N±0°.04×143°.86E±0°.05, h30km±4km, h29km:pP-P, n167, σ1.37/179, mb4.4/52, MS3.9/4, 3C-3D, Off east coast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JTH Tanohata 1.58 257 P **Pn 03 32 24.2 -2.1**
JTH *e*S **Sn 03 32 42.9 -2.8**
MIYJ Miyakonagasawa 1.73 246 P **Pn 03 32 26.6 -1.8**
ERM Erimo 1.78 343 *e*P **Pn 03 32 27.9 -1.2**
ERM *e*S **Sn 03 32 50.6 -0.2**
ERM Erimo 1.78 343 *e*Pn **Pn 03 32 27.9 -1.2**
ERM *e*S **Sn 03 32 50.6 -0.2**
JEM Erimo 1.78 343 P **Pn 03 32 27.9 -1.2**
JANG Nango 1.79 273 P **Pn 03 32 27.5 -1.8**
JNBK Urakawa-nobuka 2.14 337 P **Pn 03 32 33.2 -0.8**
JNBK *e*S **Sn 03 32 59.1 -0.4**
JOM Ohasama 2.15 248 P **Pn 03 32 33.2 -0.9**
JCH Churui 2.33 351 P **Pn 03 32 35.6 -1.1**
JCH *e*S **Sn 03 33 03.1 -1.2**
JOT Ohata 2.39 298 P **Pn 03 32 36.4 -1.0**
JOT *e*S **Sn 03 33 04.1 -1.5**
JMK Ichinoseki 2.45 237 P **Pn 03 32 37.2 -1.1**
JKB Kayabe 2.65 307 P **Pn 03 32 39.9 -1.2**
JKB *e*S **Sn 03 33 11.0 -1.2**
JAK Akkeshi 2.75 13 P **Pn 03 32 41.3 -1.2**
JAK *e*S **Sn 03 33 12.4 -2.3**
JAR Ashorobuto 2.98 359 P **Pn 03 32 44.1 -1.5**
JAR S **Sn 03 33 18.0 -2.4**
JFR Furan 3.00 342 P **Pn 03 32 46.1 +0.2**
JFR *e*S **Sn 03 33 20.5 -0.4**
JYK Kaneyama 3.04 244 P **Pn 03 32 45.9 -0.5**
JYK *e*S **Sn 03 33 21.2 -0.6**
JEW Eniwo 3.11 325 P **Pn 03 32 48.0 +0.7**
JEW *e*S **Sn 03 33 23.8 +0.4**
NEM2 Nemuro 2 3.36 24 P **Pn 03 32 49.1 -1.7**
NEM2 *e*S **Sn 03 33 26.3 -3.3**
ASAJ Asahikawa 3.92 347 P **Pn 03 32 58.6 +0.1**
ASAJ 03 33 48.9
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ smax smax
comp=N,5.0nm,0.3s
ASAJ Asahikawa 3.92 347 Pn **Pn 03 32 58.6 +0.1**
comp=N,4.3nm,0.3s,baz=184,slow=17,SNR=9.2
ASAJ Sn **Sn 03 33 48.9 +5.5**
comp=N,5.4nm,0.3s,baz=68,slow=19,SNR=4.6
ASAJ Asahikawa 3.92 347 *e*Pn **Pn 03 32 58.4 -0.1**
ASAJ *e*S **Sn 03 33 44.0 +0.6**
YUK Yuzh-Kuril'sk 4.01 21*c i*P **Pn 03 32 58.6 -1.1**
YUK *i* S **Sn 03 33 42.8 -2.8**
YUK pmax pmax
comp=Z,146nm,0.3s
YUK pmax pmax
comp=N,58nm,0.2s
YUK pmax pmax
comp=E,38nm,0.2s
YUK smax smax
comp=N,368nm,0.7s
YUK smax smax
comp=E,702nm,0.7s
KUR Kuril'sk 5.73 30⇑*i*P **Pn 03 33 22.4 -1.0**
KUR *i* S **Sn 03 34 24.1 -4.0**
KUR *i* S **Sn 03 34 24.1 -4.0**
KUR pmax pmax
comp=N,29nm,0.6s
KUR pmax pmax
comp=E,44nm,0.6s
KUR pmax pmax
comp=Z,79nm,0.6s
KUR smax smax
comp=E,181nm,0.7s
KUR smax smax
comp=N,152nm,0.7s
KUR pmax pmax
comp=E,190nm,0.6s
MAJO Matsushiro 5.82 231 *e*P **Pn 03 33 24.3 -0.4**
MAJO Matsushiro 5.82 231 *e*Pn **Pn 03 33 24.2 -0.4**
MAT Matsushiro 5.82 231 P **Pn 03 33 24.2 -0.4**
MAT *e*S **Sn 03 34 27.8 -2.5**
MJAR Matsushiro Arr 5.82 231 P **Pn 03 33 24.7 +0.1**
MJAR pmax pmax
comp=Z,2.0nm,0.3s
MJAR Matsushiro Arr 5.82 231 Pn **Pn 03 33 24.7 +0.1**
comp=Z,2.1nm,0.3s,baz=36,slow=13,SNR=14
YSS Yuzh-Sakhalins 6.69 353 *e*P Pn 03 33 40.0 +3.5
YSS *e*S **Sn 03 34 50.8 -0.8**
USRK Ussuriysk Arra 9.62 298 Pn **Pn 03 34 17.0 +0.3**
comp=Z,0.9nm,0.3s,baz=102,slow=14,SNR=30
MDJ Mudanjiang 11.38 297 *e*Pn **Pn 03 34 40.9 0.0**
comp=Z,15nm,0.9s
KLR Kul'dur 12.38 320 *e*P Pn 03 34 50.7 -3.7
KLR pmax pmax
comp=Z,33nm,1.4s
KSRS Korea Array 12.74 262 Pn Pn 03 35 04.5 +5.1
comp=Z,0.2nm,0.3s,baz=70,slow=12,SNR=3.8
KSAR Wonju Array Be 12.78 262 P Pn 03 35 04.6 +4.7
KSAR Wonju Array Be 12.78 262 Pn Pn 03 35 04.5 +4.7
CN2 Changchun 14.12 290 *e*P **Pn 03 35 17.8 -0.4**
BJT Baijiatuau 21.14 278 *e*P **P 03 36 40.5 -2.2**
BJT pmax pmax
comp=Z,6.0nm,0.4s
BJT Baijiatuau 21.14 278 *e*P **P 03 36 40.5 -2.2**
comp=Z,6.1nm,0.4s
SEY Seymchan 23.22 10 P **P 03 37 03.5 -1.1**
SEY pmax pmax
comp=Z,4.0nm,0.7s
SEY Seymchan 23.22 10 P **P 03 37 03.5 -1.1**
comp=Z,3.8nm,0.7s,baz=188,slow=8.8,SNR=9.7
YAK Yakutsk 23.39 343 *e*P **P 03 37 05.4 -0.9**
YAK *e**PP **pP 03 37 13.9 -0.7**
YAK *e*PPP PPP 03 37 36.3
YAK *e* 03 40 57.3

YAK *e*S **S 03 41 11.7 -5.4**
YAK *e**SS **sS 03 41 29.1 -2.3**
YAK *e*SSS SSS 03 42 06.7
YAK *e* 03 48 04.9
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,11nm,0.8s
YAK smax smax
comp=E,93nm,3.2s
YAK MLR MLR
comp=Z,204nm,14.0s
YAK MLR MLR
comp=E,122nm,14.0s
YAK MLR MLR
comp=N,190nm,16.0s
YHNB Yeheng 24.45 237 *e*P **P 03 37 17.6 +0.8**
comp=N,130nm,1.5s
GUMO Guam 26.64 178 *e*P **P 03 37 35.6 -0.8**
GUMO pmax pmax
comp=Z,44nm,0.7s
GUMO Guam 26.64 178 *e*P **P 03 37 35.6 -0.8**
comp=Z,44nm,0.7s
ULN Ulaanbaatar 27.29 298*c i*P **P 03 37 41.6 -0.7**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 27.29 298 *e*P **P 03 37 42.3 0.0**
comp=Z,2.0nm,0.6s
SONM Songino Array 27.73 298 P **P 03 37 46.9 +0.7**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 27.73 298 P **P 03 37 46.9 +0.7**
comp=Z,2.4nm,0.8s,baz=79,slow=9.0,SNR=12
XAN Xi'an 28.41 268 P **P 03 37 52.3 0.0**
XAN pP **pP 03 38 02.8 +1.9**
XAN pmax pmax
comp=Z,2.0nm,1.0s
H11N2 WAKE ISLAND Hy 28.46 129 T T 04 07 41.6
baz=324,slow=76,SNR=9.3
H11N1 WAKE ISLAND Hy 28.47 129 T T 04 07 38.0
baz=324,slow=76,SNR=8.7
H11N3 WAKE ISLAND Hy 28.48 129 T T 04 07 37.3
baz=324,slow=76,SNR=12
H11S1 WAKE ISLAND Hy 29.30 131 T T 04 08 42.3
baz=326,slow=76,SNR=4.7
H11S3 WAKE ISLAND Hy 29.30 131 T T 04 08 42.9
baz=326,slow=76,SNR=4.5
H11S2 WAKE ISLAND Hy 29.32 131 T T 04 08 44.4
baz=326,slow=76,SNR=5.6
TLY Talaya 29.79 306 *e*P P 03 38 09.0 +4.7
TLY pmax pmax
comp=Z,10.0nm,1.2s
ZAK Zakamensk 29.91 303 *e*P **P 03 38 05.8 +0.3**
ZAK pmax pmax
comp=Z,2.0nm,1.1s
BILL Bilibino 30.34 16⇓*i*P **P 03 38 10.2 +1.2**
BILL pmax pmax
comp=Z,3.0nm,1.0s
GTA Gaotai 33.56 283 *e*P **P 03 38 38.4 +0.7**
GTA pP **pP 03 38 47.3 +0.8**
GTA sP **sP 03 38 50.4 +0.3**
GTA pmax pmax
comp=Z,15nm,1.1s
KMI Kunming 37.41 259 P P 03 39 18.3 +7.2
KMI pmax pmax
comp=Z,10.0nm,1.3s
KMI LR LR
comp=Z,170nm,15.0s
ZALV Zalesovo Beam 41.21 310 P **P 03 39 42.1 0.0**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 41.21 310 P **P 03 39 42.1 0.0**
comp=Z,3.5nm,0.7s,baz=91,slow=7.4,SNR=13
NVS Novosibirsk 42.04 311 *e*P P 03 39 52.2 +3.3
LSA Lhasa 43.88 273 P **P 03 40 04.0 -0.7**
LSA Lhasa 43.88 273 *e*P **P 03 40 05.8 +1.0**
LSA pmax pmax
comp=Z,3.0nm,0.7s
LSA Lhasa 43.88 273 *e*P **P 03 40 05.8 +1.0**
comp=Z,3.2nm,0.7s
MK31 Makanchi Array 44.08 300 *i* P **P 03 40 05.7 +0.1**
MK31 pmax pmax
comp=Z,13nm,0.9s
MKAR Makanchi Array 44.08 300 P **P 03 40 06.0 +0.4**
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR Makanchi Array 44.08 300 P **P 03 40 06.0 +0.4**
comp=Z,6.9nm,0.9s,baz=82,slow=8.9,SNR=32
CMAR Chiang Mai Arr 44.21 254 P **P 03 40 06.0 -0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 44.21 254 P **P 03 40 06.0 -0.9**
comp=Z,0.7nm,0.3s,baz=49,slow=8.4,SNR=4.2
KURK Kurchatov 45.49 306 *e*P **P 03 40 16.6 -0.1**
KURK Kurchatov 45.49 306 *e*P **P 03 40 16.6 -0.1**
ILAR Eielson Array 45.71 34 P **P 03 40 19.2 +1.0**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 45.71 34 P **P 03 40 19.2 +1.0**
comp=Z,0.9nm,0.8s,baz=260,slow=5.8,SNR=8.9
TAPN Taplejung 47.67 272 *e*P **P 03 40 35.3 +0.8**
comp=Z,19nm,1.1s
TAPN Taplejung 47.67 272 *e*P **P 03 40 35.3 +0.8**
ODAN Odare 48.17 272 *e*P **P 03 40 38.8 +0.5**
comp=Z,13nm,0.8s
ODAN Odare 48.17 272 *e*P **P 03 40 38.8 +0.5**
RAMN Ramite 48.73 273 *e*P **P 03 40 43.0 +0.4**
comp=Z,24nm,1.0s
RAMN Ramite 48.73 273 *e*P **P 03 40 43.0 +0.4**
GUN Gumba 48.79 274 *e*P **P 03 40 43.4 +0.3**
comp=Z,20nm,0.8s
GUN Gumba 48.79 274 *e*P **P 03 40 43.4 +0.3**
BVA0 Borovoye Array 49.84 311 *i* P **P 03 40 51.0 +0.6**
BVA0 pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 49.89 311⇓*e*P **P 03 40 52.0 +1.2**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 49.89 311 *e*P **P 03 40 51.9 +1.1**
comp=Z,5.3nm,1.1s
DANN Dangsing 50.18 276 *e*P **P 03 40 54.3 +0.6**
comp=Z,11nm,0.3s
KOLN Koldanda 50.60 275 *e*P **P 03 40 57.1 +0.4**
comp=Z,13nm,0.8s
KOLN Koldanda 50.60 275 *e*P **P 03 40 57.1 +0.4**
INK Inuvik 50.60 28 P **P 03 40 57.5 +1.6**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 50.60 28 P **P 03 40 57.5 +1.6**
comp=Z,0.5nm,0.5s,baz=301,slow=2.2,SNR=5.7
AAK Ala-Archa 50.67 297 *e*P **P 03 40 57.6 +0.5**
AAK pmax pmax
comp=Z,5.0nm,1.3s
KK31 Karatay Array 53.19 299 *i* P **P 03 41 15.1 -0.5**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 53.19 299 *e*P **P 03 41 15.7 +0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 53.19 299 *e*P **P 03 41 15.7 +0.1**
comp=Z,0.8nm,0.6s
ARU Arti 55.20 318*d i*P **P 03 41 30.7 +0.6**
ARU 03 43 31.3
ARU S **S 03 49 12.7 +1.5**
ARU SS **SS 03 52 49.2 -5.8**
ARU pmax pmax
comp=Z,19nm,2.5s
AB31 Akbulak array 57.32 309 P **P 03 41 45.5 +0.2**
AB31 pmax pmax
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 57.32 309 *e*P **P 03 41 45.7 +0.4**
comp=Z,4.5nm,0.7s
AKTO Aktyubinsk 57.94 311 LR LR 04 10 46.3
comp=Z,72nm,19.6s,baz=40
RES Resolute Bay 58.95 15 P **P 03 41 57.4 +1.2**
RES pmax pmax
comp=Z,1.0nm,1.1s
RES Resolute Bay 58.95 15 P **P 03 41 57.4 +1.2**
comp=Z,1.3nm,1.1s,baz=315,slow=7.1,SNR=3.2
PRGR Permogore 59.08 327 P **P 03 41 57.6 +0.3**
YKA Yellowknife Ar 60.02 32 P **P 03 42 04.6 +0.8**
comp=Z,0.2nm,0.6s,baz=302,slow=6.3,SNR=7.6

CTAO Charters Tower 60.13 177 eP P 03 42 04.5 -0.5
CTAO pmax pmax
comp=Z,2.0nm,0.4s
CTAO Charters Tower 60.13 177 eP P 03 42 04.5 -0.5
comp=Z,1.6nm,0.4s
WRA Warramunga Arr 60.60 190 P P 03 42 07.4 -0.8
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 60.60 190 P P 03 42 07.4 -0.8
comp=Z,1.4nm,1.0s,baz=8.1,slow=7.0,SNR=4.7
JOF Joensuu 63.98 332 eP P 03 42 28.7 -1.7
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 63.98 332 ep P 03 42 28.7 -1.7
comp=Z,1.7nm,0.7s
ASAR Alice Springs 64.32 190 P P 03 42 32.6 -0.5
ASAR pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 64.32 190 P P 03 42 32.5 -0.5
comp=Z,1.0nm,1.0s,baz=352,slow=4.1,SNR=6.4
PALK Pallekele 64.94 258 LR LR 04 11 55.4
comp=Z,628nm,21.5s,baz=34,slow=37
KAF Kangasniemi 66.27 333 eP P 03 42 43.6 -1.7
KAF pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 66.27 333 ep P 03 42 43.6 -1.7
comp=Z,2.2nm,0.8s
OBN Obninsk 66.62 323 eP P 03 42 47.2 -0.4
OBN pmax pmax
comp=Z,9.0nm,1.5s
FINES FINESS Array B 66.80 332 P P 03 42 48.8 +0.1
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 66.80 332 P P 03 42 48.8 +0.1
comp=Z,3.4nm,0.8s,baz=64,slow=8.7,SNR=8.3
KBZ Khabaz 70.22 311 P P 03 43 12.0 +1.7
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.22 311 P P 03 43 12.0 +1.7
comp=Z,4.8nm,0.9s,baz=18,slow=6.4,SNR=4.3
NVAR Mina Array Bea 71.52 55 P P 03 43 20.0 +1.4
comp=Z,0.3nm,0.6s,baz=277,slow=7.1,SNR=3.1
NB2 NORSAR Subarra 71.89 338 P P 03 43 20.7 +0.5
comp=Z,14nm,1.7s,baz=39,slow=6.2
NOA NORSAR Array B 71.89 338 P P 03 43 20.8 +0.5
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 71.89 338 P P 03 43 20.8 +0.6
comp=Z,2.2nm,0.9s,baz=38,slow=6.1,SNR=5.9
AKASG Malin Array Be 72.86 323 P P 03 43 26.8 +0.6
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 72.86 323 P P 03 43 26.8 +0.6
comp=Z,3.4nm,0.8s,baz=42,slow=5.8,SNR=18
PDAR Pinedale Array 74.02 47 P P 03 43 32.9 -0.5
comp=Z,0.5nm,0.7s,baz=248,slow=1.6,SNR=3.6
KWP Kalwaria Pacla 76.56 325 eP P 03 43 49.2 +1.6
KWP Kalwaria Pacla 76.56 325 eP P 03 43 49.1 +1.5
KSP Ksiaz 78.30 329 eP P 03 43 59.1 +1.8
DPC Dobruska-Polom 78.68 329 eP P 03 44 00.8 +1.3
DPC Dobruska-Polom 78.68 329 eP P 03 44 00.8 +1.3
BRG Berggiesshubel 79.18 330 eP P 03 44 00.4 -1.8
comp=Z,5.6nm,1.3s
CLL Collm 79.18 331 eP P 03 44 02.0 -0.1
CLL e 03 44 07.0
CLL pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 79.18 331 eP P 03 44 02.0 -0.1
comp=Z,3.0nm,0.9s
CLL e 03 44 07.0
CLL LmH 04 13 00.0
comp=N,100nm,19.1s
CLL LmH 04 13 00.0
comp=E,200nm,20.0s
PRU Pruhonice 79.66 329 eP P 03 44 06.4 +1.6
PRU Pruhonice 79.66 329 eP P 03 44 06.4 +1.6
TREC Trest 79.84 329 eP P 03 44 07.3 +1.5
TREC Trest 79.84 329 eP P 03 44 07.3 +1.5
KHC Kasperske Hory 80.73 329 eP P 03 44 12.1 +1.5
KHC Kasperske Hory 80.73 329 eP P 03 44 12.1 +1.5
GERES GERESS Array B 80.91 329 P P 03 44 12.3 +0.7
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 80.91 329 P P 03 44 12.3 +0.7
comp=Z,1.1nm,0.9s,baz=20,slow=4.3,SNR=6.4
BAIF Baives 83.28 335 eP P 03 44 24.5 +0.6
BAIF Baives 83.28 335 eP P 03 44 24.5 +0.6
BAIF Baives 83.28 335 eP P 03 44 24.5 +0.6
HAU Haudompre 84.33 333 eP P 03 44 29.8 +0.4
comp=Z,12nm,1.0s
HAU Haudompre 84.33 333 eP P 03 44 29.8 +0.4
HAU pmax pmax
comp=Z,12nm,1.0s
HAU Haudompre 84.33 333 eP P 03 44 29.8 +0.4
comp=Z,12nm,1.0s
SSF Saint Saulge 86.11 334 eP P 03 44 39.0 +0.7
SSF Saint Saulge 86.11 334 eP P 03 44 39.0 +0.7
SSF Saint Saulge 86.11 334 eP P 03 44 39.0 +0.7
LPL La Plagne 86.32 331 eP P 03 44 40.6 +1.0
comp=Z,20nm,1.2s
LPL La Plagne 86.32 331 eP P 03 44 40.6 +1.0
LPL pmax pmax
comp=Z,20nm,1.2s
LPL La Plagne 86.32 331 eP P 03 44 40.6 +1.0
comp=Z,20nm,1.2s
LPG La Plagne 86.33 331 eP P 03 44 40.6 +0.9
comp=Z,15nm,1.2s
LPG La Plagne 86.33 331 eP P 03 44 40.6 +0.9
LPG pmax pmax
comp=Z,15nm,1.2s
LPG La Plagne 86.33 331 eP P 03 44 40.6 +0.9
comp=Z,15nm,1.2s
SMF Signal de Mont 86.36 334 eP P 03 44 40.2 +0.7
comp=Z,12nm,0.9s
SMF Signal de Mont 86.36 334 eP P 03 44 40.2 +0.7
SMF pmax pmax
comp=Z,12nm,0.9s
SMF Signal de Mont 86.36 334 eP P 03 44 40.2 +0.7
comp=Z,12nm,0.9s
AVF Avril sur Loir 86.40 334 eP P 03 44 40.7 +1.0
comp=Z,21nm,1.1s
AVF Avril sur Loir 86.40 334 eP P 03 44 40.7 +1.0
AVF pmax pmax
comp=Z,21nm,1.1s
AVF Avril sur Loir 86.40 334 eP P 03 44 40.7 +1.0
comp=Z,21nm,1.1s
TXAR Lajitas Array 86.62 54 P P 03 44 41.9 +0.7
comp=Z,0.4nm,0.8s,baz=319,slow=5.2,SNR=3.4
MBDF Montbardon 86.98 331 eP P 03 44 43.4 +0.6
comp=Z,11nm,0.9s
MBDF Montbardon 86.98 331 eP P 03 44 43.4 +0.6
MBDF pmax pmax
comp=Z,11nm,0.9s
MBDF Montbardon 86.98 331 eP P 03 44 43.4 +0.6
comp=Z,11nm,0.9s

CSEM 16 03:38:40.4±0.9, 50.34N×18.93E, h1km, Error ellipse: s-maj=13.7km s-min=10.1km az=54.0

PRU 16 03:38:42.0, 50.27N×18.89E, h0km, Poland

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CHZP Chorzow 0.07 72 ePg Pg 03 38 43.4 0.0
CHZP eSg Sg 03 38 44.6 +0.3
OJC Ojcow 0.58 95 ePg Pg 03 38 53.1 -0.2
OJC eSg Sg 03 39 00.6 -0.3
OKC Ostrava-Krasne 0.65 228 ePG Pg 03 38 54.0 -0.4
OKC eSG Sg 03 39 02.4 -0.4
4.0nm,0.5s
OKC Ostrava-Krasne 0.65 228 Pg Pg 03 38 54.0 -0.4
OKC Sg Sg 03 39 02.4 -0.4
4.0nm,0.5s
MORC Moravsky Berou 1.00 241 ePg Pg 03 39 01.6 +0.3
MORC eSg Sg 03 39 14.5 +0.2
KRLC Kraliky 1.37 263 ePG Pg 03 39 06.7 -1.7
KRLC eSG Sg 03 39 25.7 -0.5
KRLC Kraliky 1.37 263 Pg Pg 03 39 06.7 -1.7
KRLC Sg Sg 03 39 25.7 -0.5
DPC Dobruska-Polom 1.65 274 ePG Pn 03 39 12.3 0.0
DPC eSG Sb 03 39 34.5 -0.2
DPC Dobruska-Polom 1.65 274 Pg Pn 03 39 12.3 0.0
DPC Sg Sb 03 39 34.5 -0.2
UPC Upice 1.86 278 eSG Sg 03 39 41.9 +0.1
0.6nm,0.1s
UPC Upice 1.86 278 Sg Sg 03 39 41.9 +0.1
0.6nm,0.1s
KHC Kasperske Hory 3.63 254 eSG Sg 03 40 37.8 -1.0
KHC Kasperske Hory 3.63 254 Sg Sg 03 40 37.8 -1.0

NIED 16 03:44:00, 40.40N×143.80E, h17km, Mw4.2 Best double couple: Mo2.22000×10^15 NP1:φs351.00000°, δ43.00000°, λ42.00000°. NP2:φs228.00000°, δ63.00000°, λ125.00000°.
IDC 16 03:44:57.1±0.8, 40.24N×143.86E, h0km, mb3.8/15, mb1 4.0/18, mb1mx3.9/29, mbtmp3.8/18, ML3.3/3, MS3.5/3, Ms1 3.5/3, ms1mx2.8/46, Error ellipse: s-maj=19.7km s-min=16.7km az=133.0
NEIC 16 03:44:58.5±4.1, 40.32N×143.85E, h7km±25km, mb4.2/2, Error ellipse: s-maj=13.8km s-min=7.9km az=113.0
ISCJB 16 03:44:58.1±0.4, 40.35N±0.03×143.89E±0.05, h16km, mb3.8/20, Error ellipse: s-maj=5.5km s-min=3.2km az=31.7
JMA 16 03:44:59.4±0.2, 40.35N×143.81E, h22km, M4.1
MOS 16 03:44:59.4±0.8, 40.29N×143.85E, h29km, mb4.0/14, Error ellipse: s-maj=16.1km s-min=8.3km az=83.8

ISC 16 03:44:59.7±0.6, 40.33N±0.05×143.91E±0.05, h16km, n70, σ1.23/75, mb3.8/20, 3C, Off east coast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JTH Tanohata 1.62 257 P Pn 03 45 26.0 -1.6
ERM Erimo 1.78 341 eP Pn 03 45 27.8 -1.9
ERM Erimo 1.78 341 ePn Pn 03 45 27.8 -1.9
JEM Erimo 1.78 341 eS Sn 03 45 50.2 -1.8
MIYJ Miyakonagasawa 1.78 246 P Pn 03 45 28.7 -1.1
MIYJ eS Sn 03 45 49.6 -2.4
JANG Nango 1.83 272 P Pn 03 45 29.3 -1.3
JANG eS Sn 03 45 50.8 -2.6
JNBK Urakawa-nobuka 2.13 336 P Pn 03 45 34.9 +0.2
JNBK eS Sn 03 46 01.0 +0.2
JOM Ohasama 2.19 248 P Pn 03 45 34.8 -0.7
JCH Churui 2.32 350 P Pn 03 45 37.0 -0.2
JCH eS Sn 03 46 03.4 -2.0
JOT Ohata 2.41 297 P Pn 03 45 38.3 -0.2
JOT S Sn 03 46 05.9 -1.8
JMK Ichinoseki 2.50 237 P Pn 03 45 39.0 -0.6
JAK Akkeshi 2.73 12 P Pn 03 45 42.0 -0.8
JAK S Sn 03 46 13.3 -2.1
JAR Ashorobuto 2.96 358 P Pn 03 45 45.1 -1.0
JAR S Sn 03 46 18.8 -2.5
JYK Kaneyama 3.09 244 P Pn 03 45 47.8 0.0
JYK eS Sn 03 46 23.6 -0.8
JEW Eniwo 3.11 324 eS Sn 03 46 25.1 +0.1
NEM2 Nemuro 2 3.32 24 P Pn 03 45 50.2 -0.8
NEM2 S Sn 03 46 27.2 -3.0
JTKR Abashiri--Toko 3.64 360 P Pn 03 45 54.9 -0.4
JTKR eS Sn 03 46 36.1 -1.8
ASAJ Asahikawa 3.91 346 P Pn 03 46 00.1 +1.0
ASAJ 03 46 44.5
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ smax smax
comp=N,9.0nm,0.3s
ASAJ Asahikawa 3.91 346 Pn Pn 03 46 00.1 +1.0
comp=N,2.6nm,0.3s,baz=211,slow=12,SNR=12
ASAJ Sn Sn 03 46 44.5 -0.1
comp=N,9.0nm,0.3s,baz=320,slow=21,SNR=6.2
ASAJ Asahikawa 3.91 346 ePn Pn 03 45 59.6 +0.6
ASAJ eS Sn 03 46 44.8 +0.3
YUK Yuzh-Kuril'sk 3.97 21c iP Pn 03 45 59.2 -0.7
YUK i S Sn 03 46 43.5 -2.7
YUK pmax pmax
comp=N,49nm,0.8s
YUK pmax pmax
comp=E,68nm,0.8s
YUK pmax pmax
comp=Z,154nm,0.8s
YUK smax smax
comp=E,160nm,0.4s
YUK smax smax
comp=N,331nm,0.8s
KUR Kuril'sk 5.70 29 iP Pn 03 46 24.5 +0.9
KUR i S Sn 03 47 25.1 -3.5
KUR pmax pmax
comp=N,24nm,0.1s
KUR pmax pmax
comp=E,40nm,0.7s
KUR pmax pmax
comp=Z,87nm,0.7s
KUR pmax pmax
comp=Z,18μm,0.1s
KUR smax smax
comp=N,54nm,0.6s
KUR smax smax
comp=E,89nm,0.6s
MJAR Matsushiro Arr 5.86 232 P Pn 03 46 25.4 -0.6
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 5.86 232 Pn Pn 03 46 25.4 -0.6
comp=Z,0.7nm,0.3s,baz=40,slow=11,SNR=15
MAJO Matsushiro 5.86 232 eP Pn 03 46 25.9 -0.1
MAJO pmax pmax
comp=Z,26nm,0.6s
MAJO Matsushiro 5.86 232 ePn Pn 03 46 25.9 -0.1
comp=Z,26nm,0.6s
MAT Matsushiro 5.86 232 P Pn 03 46 26.6 +0.6
USRK Ussuriysk Arra 9.65 298 Pn Pn 03 47 18.7 +0.9
comp=Z,0.8nm,0.3s,baz=101,slow=15,SNR=12
USRK LR LR 03 51 03.8
comp=Z,187nm,18.2s,baz=130,slow=38
KLR Kul'dur 12.39 320 eP P 03 48 01.7 -5.6
JNU Nakatsue 12.69 240 LR LR 03 53 08.3
comp=Z,275nm,18.6s,baz=87,slow=39
KSRS Korea Array 12.79 262 LR LR 03 53 02.8
comp=Z,160nm,19.3s,baz=49,slow=38
SEY Seymchan 23.20 10 P P 03 50 05.0 -0.5
SEY pmax pmax
comp=Z,3.0nm,0.6s
SEY Seymchan 23.20 10 P P 03 50 05.0 -0.5
comp=Z,3.3nm,0.6s,baz=200,slow=12,SNR=10
SONM Songino Array 27.76 298 P P 03 50 48.6 +0.9
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 27.76 298 P P 03 50 48.6 +0.9
comp=Z,0.6nm,0.7s,baz=111,slow=11,SNR=4.0
H11N2 WAKE ISLAND Hy 28.44 129 T T 04 22 03.8
baz=316
H11N1 WAKE ISLAND Hy 28.45 129 T T 04 21 18.1
baz=316
H11N3 WAKE ISLAND Hy 28.46 129 T T 04 20 42.1
baz=316
H11S1 WAKE ISLAND Hy 29.29 131 T T 04 22 04.1
baz=319
H11S3 WAKE ISLAND Hy 29.29 131 T T 04 21 54.9
baz=319,slow=74
H11S2 WAKE ISLAND Hy 29.30 131 T T 04 21 47.9
baz=319,slow=74
ZAK Zakamensk 29.93 303 eP P 03 51 07.0 +0.1
ZAK e 03 52 03.7
ZAK pmax pmax
comp=Z,1.0nm,1.5s
BILL Bilibino 30.31 16 eP P 03 51 11.0 +1.0
BILL pmax pmax
comp=Z,9.0nm,1.5s
ZALV Zalesovo Beam 41.23 310 P P 03 52 43.4 -0.2
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 41.23 310 P P 03 52 43.4 -0.2
comp=Z,0.7nm,0.4s,baz=81,slow=13,SNR=3.1
MKAR Makanchi Array 44.11 300 P P 03 53 07.6 +0.5
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 44.11 300 P P 03 53 07.5 +0.5
comp=Z,1.5nm,0.9s,baz=83,slow=8.6,SNR=9.7
KURK Kurchatov 45.51 306 eP P 03 53 18.0 -0.2
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 45.51 306 eP P 03 53 18.0 -0.2
comp=Z,2.3nm,0.7s
ILAR Eielson Array 45.67 34 P P 03 53 20.3 +1.1
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 45.67 34 P P 03 53 20.3 +1.1
comp=Z,1.1nm,0.7s,baz=260,slow=6.7,SNR=24
INK Inuvik 50.56 29 P P 03 53 58.5 +1.5
comp=Z,0.3nm,0.3s,baz=256,slow=6.8,SNR=6.2
ABKAR Akbulak array 57.34 309 eP P 03 54 47.2 +0.4
comp=Z,1.2nm,0.5s
YKA Yellowknife Ar 59.98 32 P P 03 55 05.6 +0.7
comp=Z,0.4nm,0.7s,baz=302,slow=6.4,SNR=14
WRA Warramunga Arr 60.62 190 P P 03 55 08.2 -1.6
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 60.62 190 P P 03 55 08.2 -1.6
comp=Z,0.5nm,0.6s,baz=7.0,slow=6.7,SNR=6.2
JOF Joensuu 63.98 332 eP P 03 55 31.0 -0.8
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 63.98 332 ep P 03 55 31.0 -0.8
comp=Z,1.5nm,0.7s
ASAR Alice Springs 64.35 190 P P 03 55 34.2 -0.4
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 64.35 190 P P 03 55 34.2 -0.4
comp=Z,0.5nm,0.9s,baz=12,slow=6.6,SNR=3.7
FINES FINESS Array B 66.81 332 P P 03 55 49.6 -0.5
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 66.81 332 P P 03 55 49.6 -0.5
comp=Z,1.7nm,0.8s,baz=35,slow=7.0,SNR=5.8
NVAR Mina Array Bea 71.47 55 P P 03 56 21.4 +1.6
comp=Z,0.6nm,0.7s,baz=293,slow=6.3,SNR=5.0
NOA NORSAR Array B 71.89 338 P P 03 56 21.7 +0.1
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 71.89 338 P P 03 56 21.7 +0.1
comp=Z,0.7nm,0.7s,baz=36,slow=5.9,SNR=3.5
AKASG Malin Array Be 72.87 323 P P 03 56 26.8 -0.8
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 72.87 323 P P 03 56 26.8 -0.8
comp=Z,0.7nm,0.5s,baz=46,slow=5.9,SNR=8.7
PDAR Pinedale Array 73.98 47 P P 03 56 34.7 0.0
comp=Z,0.6nm,0.7s,baz=282,slow=2.4,SNR=7.4
TXAR Lajitas Array 86.58 54 P P 03 57 43.1 +0.6
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 86.58 54 P P 03 57 43.1 +0.6
comp=Z,0.5nm,0.8s,baz=272,slow=5.8,SNR=3.7

IDC 16 03:50:01.7±56.0, 19.83S×175.11W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/24, mbtmp3.7/3, Error ellipse: s-maj=1048.0km s-min=175.8km az=83.0, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 40.52 244 P P 03 57 41.8 -0.9
0.7nm,0.5s,baz=96,slow=9.2,SNR=3.5
ASAR Alice Springs 47.31 256 P P 03 58 37.2 -0.3
0.8nm,0.7s,baz=102,slow=8.1,SNR=9.1
WRA Warramunga Arr 47.38 261 P P 03 58 38.5 +0.5
0.3nm,0.3s,baz=93,slow=8.0,SNR=16

IDC 16 03:55:49.8±2.8, 30.44S×177.45W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/27, mbtmp4.0/5, ML3.4/1, Error ellipse: s-maj=57.8km s-min=26.5km az=106.0

ISC 16 03:55:53.6±2.7, 30.33S±0.09×177.4W±0.4, h33km, n7, σ1.84/8, mb4.1/4, Kermadec Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 1.17 338 Pn Pb 03 56 14.4 -0.8
219nm,0.3s,baz=90,slow=20,SNR=2.9
RAO Sn Sb 03 56 28.5 -1.4
889nm,0.3s,baz=27,slow=21,SNR=12
URZ Urewera 9.11 208 Pn Pn 03 58 00.1 -2.6
0.4nm,0.3s,baz=61,slow=19,SNR=2.8
URZ Sn Sn 03 59 37.9 -6.2
0.5nm,0.3s,baz=356,slow=19,SNR=3.6
CTA Charters Tower 34.29 279 P P 04 02 38.9 +1.9
0.9nm,0.2s,baz=97,slow=11,SNR=4.0
STKA Stephens Creek 34.99 257 P P 04 02 44.6 +1.7
1.1nm,0.5s,baz=95,slow=11,SNR=5.2
ASAR Alice Springs 43.62 267 P P 04 03 55.0 -0.1
0.4nm,0.4s,baz=102,slow=7.6,SNR=7.4
WRA Warramunga Arr 44.60 272 P P 04 04 03.1 +0.1
1.7nm,0.5s,baz=110,slow=8.1,SNR=27
FINES FINESS Array B 145.26 340 PKPbc PKPdf 04 15 28.1 +1.0
1.6nm,0.5s,baz=66,slow=3.5,SNR=18

ISCJB 16 04:14:20.4±0.3, 14.13N±0.03×93.11E±0.04, h32km, mb4.2/24, MS3.5/2, Error ellipse: s-maj=5.5km s-min=4.7km az=2.3
IDC 16 04:14:22.1±0.7, 13.96N×93.02E, h32km±4km, mb4.0/18, mb1 4.1/20, mb1mx4.0/30, mbtmp4.2/20, ML3.9/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/49, Error ellipse: s-maj=20.5km s-min=12.7km az=57.0
NEIC 16 04:14:23.2±0.9, 13.93N×93.04E, h42km±8km, mb4.6/5, Error ellipse: s-maj=7.8km s-min=6.8km az=64.0

ISC 16 04:14:22.4±0.4, 14.09N±0.05×93.05E±0.06, h32km, n61, σ1.30/63, mb4.3/24, 4C, Andaman Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DGPR DIGLIPUR 0.91 187 eP Pb 04 14 39.5 -0.3
DGPR eS Sb 04 14 53.2 +1.7
DGPR AML AML 04 14 54.9
comp=E,15μm,0.3s
DGPR AML AML 04 14 55.0
comp=N,11μm,0.2s
PBA Port Blair 2.43 187 eP Pn 04 15 02.0 +2.1
PBA eS Sn 04 15 29.2 +0.6
CMAR Chiang Mai Arr 7.14 52 Pn Pn 04 16 06.4 +1.8
comp=N,0.3nm,0.3s,baz=244,slow=16,SNR=3.3
CMAR Sn Sn 04 17 23.5 -1.2
comp=N,0.8nm,0.3s,baz=242,slow=28,SNR=7.3
CHTO Chiang Mai 7.36 49 ePn Pn 04 16 09.3 +1.7
comp=N,8.6nm,0.8s
CHTO eS Sn 04 17 28.4 -1.7
VIS Vishakhapatnam 10.02 292 eP Pn 04 16 43.2 -1.0
VIS eS Sn 04 18 25.8 -10
VIS AML AML 04 18 30.1
comp=E,86nm,0.3s
VIS AML AML 04 18 30.7
comp=N,112nm,0.6s
SHL Shillong 11.47 355 eP Pn 04 17 07.9 +3.7
SHL eS Sn 04 19 03.0 -8.4
BOK Bokaro 11.79 326 eP Pn 04 17 09.6 +1.1
BOK ex x 04 19 12.1
PSI Prapat 12.63 152 LR LR 04 22 21.6
comp=N,140nm,19.5s,baz=336,slow=38
ODAN Odare 13.77 338 eP Pn 04 17 32.6 -3.0
comp=N,9.6nm,0.4s
ODAN Odare 13.77 338 eP Pn 04 17 32.6 -3.0
PALK Pallekele 13.89 242 Pn Pn 04 17 36.1 -1.0
comp=N,1.4nm,0.3s,baz=71,slow=14,SNR=5.5
PALK Sn Sn 04 19 56.9 -13
comp=N,2.8nm,0.3s,baz=335,slow=14,SNR=6.5
PALK LR LR 04 22 05.6
comp=N,178nm,21.2s,baz=40,slow=34
TAPN Taplejung 14.11 340 eP Pn 04 17 37.4 -2.9
comp=N,7.8nm,0.4s
TAPN Taplejung 14.11 340 eP Pn 04 17 37.4 -2.9
RAMN Ramite 14.15 336 eP Pn 04 17 37.2 -3.6
comp=N,14nm,0.5s
RAMN Ramite 14.15 336 eP Pn 04 17 37.2 -3.6
HYB Hyderabad 14.34 285 i P P 04 17 49.0 -1.0
HYB e 04 20 08.0
HYB eS Sn 04 20 23.0 +1.7
HYB Hyderabad 14.34 285 eS Sn 04 20 20.8 -0.6
LSA Lhasa 15.64 354 ePn P 04 18 04.5 -0.3
comp=N,2.8nm,0.6s
KOLN Koldanda 16.21 329 eP Pn 04 18 06.6 -1.5
comp=N,24nm,0.6s
KOLN Koldanda 16.21 329 eP Pn 04 18 06.6 -1.5
PYUN Piuthan 16.79 328 eP Pn 04 18 15.2 -0.2
PYUN Piuthan 16.79 328 eP Pn 04 18 15.2 -0.2
BHPL Bhopal 17.36 304 eP P 04 18 23.8 +0.2
BHPL ex x 04 21 26.6
H08S3 Diego Garcia H 29.70 225 T T 04 51 13.1
baz=42,slow=76,SNR=16
H08S2 Diego Garcia H 29.70 225 T T 04 51 13.6
baz=42,slow=76,SNR=27
H08S1 Diego Garcia H 29.71 225 T T 04 51 12.6
baz=42,slow=76,SNR=11
AAK Ala-Archa 32.64 334 P P 04 20 51.7 +0.1
comp=N,1.0nm,0.7s,baz=149,slow=5.9,SNR=3.6
MK31 Makanchi Array 33.83 347 eP P 04 21 03.0 +1.3

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
MKAR	Makanchi Array	33.83	347	P	P	04 21 03.2	+1.4
	comp=N,3.0nm,0.7s,baz=160,slow=8.6,SNR=36						
MKAR				pP	pP	04 21 12.2	+1.2
	comp=N,4.6nm,0.8s,baz=162,slow=8.2,SNR=23						
SONM	Songino Array	35.43	16	P	P	04 21 17.1	+1.4
	comp=N,1.1nm,0.8s,baz=199,slow=7.9,SNR=7.9						
SONM				pP	pP	04 21 26.9	+1.8
	comp=N,1.0nm,0.9s,baz=213,slow=9.5,SNR=4.2						
ZALV	Zalesovo Beam	40.30	352	P	P	04 21 57.0	+0.5
	comp=N,3.4nm,0.7s,baz=168,slow=7.6,SNR=11						
ZALV				pP	pP	04 22 07.0	+1.0
	comp=N,2.9nm,0.6s,baz=178,slow=8.3,SNR=6.9						
ABKAR	Akbulak array	44.34	329	eP	P	04 22 30.7	+1.2
	comp=N,4.0nm,0.8s						
MEEK	Meekatharra	47.50	148	P	P	04 22 53.4	-1.3
	baz=39,SNR=4.1						
KLBR	Kellerberrin	51.23	153	P	P	04 23 22.1	-1.0
	baz=42,SNR=5.3						
WRKA	Warakurna	51.90	138	P	P	04 23 27.1	-1.2
	baz=43,SNR=8.6						
NWAO	Narrogin (SRO)	52.15	154	P	P	04 23 28.7	-1.3
	comp=N,6.1nm,0.6s,baz=330,slow=5.4,SNR=5.1						
WRA	Warramunga Arr	52.85	129	P	P	04 23 34.2	-1.2
	comp=N,3.0nm,0.8s,baz=301,slow=9.9,SNR=28						
WRAB	Tennant Creek	52.86	129	eP	P	04 23 34.2	-1.2
	comp=N,3.5nm,0.6s						
ASAR	Alice Springs	54.81	133	P	P	04 23 48.7	-1.0
	comp=N,3.5nm,0.4s,baz=308,slow=6.9,SNR=65						
BRTR	Keskin Array B	57.67	308	P	P	04 24 10.1	0.0
	comp=N,2.8nm,0.8s,baz=115,slow=6.3,SNR=9.7						
BRTR				LR	LR	04 51 23.5	
	comp=N,31nm,18.1s,baz=343,slow=38						
AKASG	Malin Array Be	62.69	320	P	P	04 24 42.5	-1.5
	comp=N,0.2nm,0.2s,baz=76,slow=6.6,SNR=3.6						
QLP	Quilpie	64.09	129	P	P	04 24 53.9	+0.3
	baz=55,SNR=3.5						
JOF	Joensuu	64.83	334	ep	P	04 24 55.0	-2.9
	comp=N,2.0nm,0.6s						
STKA	Stephens Creek	65.20	135	P	P	04 25 00.4	-0.5
	comp=N,2.2nm,0.7s,baz=312,slow=6.9,SNR=5.5						
FINES	FINESS Array B	66.77	331	P	P	04 25 10.5	+0.1
	comp=N,1.6nm,0.5s,baz=106,slow=6.5,SNR=16						
FINES				pP	pP	04 25 20.3	0.0
	comp=N,2.3nm,0.6s,baz=107,slow=6.9,SNR=5.3						
KAF	Kangasniemi	66.82	332	ep	P	04 25 20.8	+10
	comp=N,1.8nm,0.7s						
RMQ	Roma	67.50	127	P	P	04 25 17.4	+1.7
	baz=58,SNR=4.8						
CMSA	Cobar Meteorol	67.86	133	P	P	04 25 18.0	+0.2
	baz=59,SNR=9.3						
ARCES	ARCESS Array B	69.10	340	P	P	04 25 25.8	+0.8
	comp=N,6.3nm,1.1s,baz=79,slow=6.3,SNR=5.0						
ARCES				LR	LR	04 57 23.4	
	comp=N,28nm,20.3s,baz=234,slow=37						
GERES	GERESS Array B	72.54	317	P	P	04 25 46.9	+0.5
	comp=N,1.4nm,0.6s,baz=86,slow=6.0,SNR=16						
GERES				pP	pP	04 25 57.1	+0.6
	comp=N,1.7nm,0.9s,baz=88,slow=4.5,SNR=5.7						
CLL	Collm	72.93	320	eP	P	04 25 49.0	+0.5
NB2	NORSAR Subarra	73.84	330	P	P	04 25 53.5	-0.2
	comp=Z,0.7nm,0.6s,baz=88,slow=5.9						
NOA	NORSAR Array B	73.84	330	P	P	04 25 53.6	-0.2
	comp=Z,0.8nm,0.7s,baz=90,slow=5.6,SNR=3.9						
NOA				pP	pP	04 26 03.4	-0.4
	comp=Z,1.2nm,0.7s,baz=89,slow=5.8,SNR=3.6						
LPG	La Plagne	77.52	314	⇑iP	P	04 26 16.0	+0.5
	comp=Z,13nm,0.8s						
LPG	La Plagne	77.52	314	⇑iP	P	04 26 16.0	+0.5
	comp=Z,13nm,0.8s						
LPL	La Plagne	77.53	314	⇑iP	P	04 26 16.0	+0.5
	comp=Z,11nm,0.8s						
LPL	La Plagne	77.53	314	⇑iP	P	04 26 16.0	+0.5
	comp=Z,11nm,0.8s						
BOSA	Boshof	78.04	236	P	P	04 26 18.7	+0.3
	comp=Z,2.2nm,0.5s,baz=94,slow=4.5,SNR=6.5						
ESDC	Sonseca Array	86.42	310	P	P	04 27 02.2	+0.2
	comp=Z,0.8nm,0.7s,baz=53,slow=5.2,SNR=4.1						
TORD	Torodi Ar. Bea	88.14	283	P	P	04 27 11.1	+0.4
	comp=Z,1.0nm,0.7s,baz=86,slow=4.6,SNR=6.3						
ILAR	Eielson Array	89.42	22	P	P	04 27 15.8	0.0
	comp=Z,0.4nm,0.8s,baz=304,slow=3.2,SNR=5.9						
ILAR				pP	pP	04 27 25.2	-0.8
	comp=Z,0.6nm,0.8s,baz=295,slow=4.7,SNR=4.7						

*ISCJB **16** 04:15:55.1±0.9, 50°.2S±0°.2×112°.5E±0°.4, h10km, mb4.3/6, MS3.6/5, Error ellipse: s-maj=40.4km s-min=16.2km az=25.9*

*IDC **16** 04:15:55.6±0.9, 50°.21S×112°.48E, h0km, mb4.3/6, mb1 4.5/6, mb1mx4.2/16, mbtmp4.3/6, MS3.7/6, Ms1 3.7/6, ms1mx3.4/26, Error ellipse: s-maj=42.6km s-min=19.1km az=112.0*

ISC 16 04:15:56.9±1.0, **50°.2S**±0°.2×**112°.5E**±0°.3, **h10km, n16,** $\sigma 0^{s}$**46**/10, **mb4.3**/6, **MS3.6**/5, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.38	5	T	T	04 35 21.0	
	baz=183,slow=74,SNR=61						
H01W1	Cape Leeuwin H	15.38	5	T	T	04 35 18.1	
	baz=183,slow=74,SNR=42						
H01W3	Cape Leeuwin H	15.39	5	T	T	04 35 18.6	
	baz=183,slow=74,SNR=39						
NWAO	Narrogin (SRO)	17.65	13	LR	LR	04 25 06.6	
	comp=Z,309nm,21.7s,baz=177,slow=31						
STKA	Stephens Creek	28.32	61	P	P	04 21 50.8	+0.1
	2.5nm,1.0s,baz=231,slow=16,SNR=3.4						
MAW	Mawson	29.84	216	LR	LR	04 31 53.7	
	comp=Z,202nm,19.4s,baz=286,slow=32						
ASAR	Alice Springs	31.33	40	P	P	04 22 17.2	-0.2
	3.3nm,0.9s,baz=206,slow=8.2,SNR=26						
ASAR				LR	LR	04 33 39.5	
	comp=Z,132nm,20.5s,baz=203,slow=34						
VNDA	Vanda	32.94	162	LR	LR	04 34 15.7	
	comp=Z,147nm,20.5s,baz=235,slow=33						
WRA	Warramunga Arr	34.84	38	P	P	04 22 48.0	-0.1
	7.0nm,0.9s,baz=205,slow=8.3,SNR=26						
WRA				LR	LR	04 36 21.7	
	comp=Z,104nm,18.7s,baz=225,slow=35						
QSPA	South Pole Qui	39.89	180	P	P	04 23 30.7	+0.1
	5.0nm,1.0s,baz=310,slow=1.7,SNR=7.9						
SNAA	Sanae	50.19	202	P	P	04 24 52.2	-0.1
	4.1nm,1.1s,baz=136,slow=6.8,SNR=8.7						
CMAR	Chiang Mai Arr	69.44	346	P	P	04 27 05.4	+0.3
	4.8nm,1.0s,baz=190,slow=5.7,SNR=12						
CMAR				LR	LR	04 53 02.6	
	comp=Z,33nm,21.2s,baz=184,slow=32						
NVAR	Mina Array Bea	142.48	88	PKhKP	PKPpre	04 35 25.7	
	0.7nm,1.0s,baz=279,slow=1.7,SNR=3.0						
TXAR	Lajitas Array	145.71	114	PKPbc	PKPab	04 35 36.4	+0.2
	3.4nm,1.1s,baz=198,slow=5.7,SNR=12						
PDAR	Pinedale Array	150.41	88	PKPbc	PKPbc	04 35 48.9	+0.6
	3.6nm,1.0s,baz=228,slow=2.3,SNR=17						
YKA	Yellowknife Ar	151.86	46	PKP	PKPdf	04 35 43.2	-0.9
	0.1nm,0.4s,baz=274,slow=5.5,SNR=3.9						
YKA				PKPbc	PKiKP	04 35 50.8	-0.1
	2.0nm,0.9s,baz=280,slow=2.1,SNR=21						

IDC 16 04:17:01.6±12.0, **1°.97N×17°.27W, h0km, mb3.6**/2, **mb1 3.9**/3, **mb1mx3.4**/34, **mbtmp3.8**/3, **ML3.8**/1, **MS3.5**/4, **Ms1 3.4**/4, **ms1mx3.1**/24, **Error ellipse: s-maj=413.4km s-min=42.9km az=174.0, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	10.12	164	T	T	04 28 05.9	
	baz=342,slow=74,SNR=18						
H10N3	ASCENSION HYDR	10.12	164	T	T	04 27 53.5	
	baz=342,slow=74,SNR=20						
H10N1	ASCENSION HYDR	10.13	164	T	T	04 28 03.0	
	baz=342,slow=74,SNR=30						
H10S1	ASCENSION HYDR	11.14	167	T	T	04 29 13.2	
	baz=345,slow=74,SNR=16						
H10S3	ASCENSION HYDR	11.15	167	T	T	04 29 13.5	
	baz=345,slow=74,SNR=6.8						
H10S2	ASCENSION HYDR	11.16	167	T	T	04 29 12.4	
	baz=345,slow=74,SNR=7.7						
DBIC	Dimbokro	13.22	69	Pn	Pn	04 20 08.8	-2.0
	0.5nm,0.3s,baz=236,slow=13,SNR=10						
DBIC				Sn	Sn	04 22 30.4	-8.4
	0.2nm,0.3s,baz=150,slow=14,SNR=3.8						
DBIC				LR	LR	04 24 27.0	
	comp=Z,75nm,19.4s,baz=243,slow=34						
TORD	Torodi Ar. Bea	21.81	58	P	P	04 21 56.4	+0.8
	2.6nm,0.8s,baz=241,slow=11,SNR=13						
TORD				LR	LR	04 29 21.6	
	comp=Z,87nm,18.7s,baz=260,slow=34						
KMBO	Kilima Mbogo	54.60	93	LR	LR	04 47 53.1	
	comp=Z,50nm,18.8s,baz=78,slow=34						
SNAA	Sanae	74.10	175	LR	LR	04 54 21.7	
	comp=Z,63nm,20.0s,baz=38,slow=30						
YKA	Yellowknife Ar	91.67	333	P	P	04 30 10.5	-0.2
	0.1nm,0.5s,baz=87,slow=5.3,SNR=4.4						

*IDC **16** 04:20:39.3±0.9, 9°.20S×122°.92E, h0km, mb4.1/6, mb1 4.2/8, mb1mx3.9/39, mbtmp4.1/8, ML4.2/2, Error ellipse: s-maj=56.5km s-min=17.9km az=66.0*

*ISCJB **16** 04:20:49.4±0.5, 9°.15S±0°.06×123°.19E±0°.06, h100km, mb3.9/6, Error ellipse: s-maj=10.5km s-min=5.6km az=138.0*

*DJA **16** 04:20:52.5±0.7, 9°S±7°×12°3E±°, h67km±11km, M4.1/4, MLv4.1/4*

*AUST **16** 04:20:58.8, 10°.00S×123°.51E, h100km*

ISC 16 04:20:50.6±0.7, **9°.25S**±0°.08×**123°.10E**±0°.08, **h100km, n28,** $\sigma 1^{s}$**89**/31, **mb4.0**/6, **Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMRI	Maumere	1.05	306	P	Pn	04 21 10.6	-1.0
MMRI				S	Sn	04 21 25.8	-1.6
BATI	Baumata	1.10	150	P	Pn	04 21 11.8	-0.4
BATI				S	Sn	04 21 28.7	+0.2
BATI	Baumata	1.10	150	Pn	Pn	04 21 12.2	-0.1
	335nm,0.3s,baz=136,slow=0.4,SNR=192						
BATI				Sn	Sn	04 21 29.0	+0.5
	900nm,0.3s,baz=173,slow=17,SNR=30						
SOEI	Soe	1.26	114	P	Pn	04 21 14.9	+0.8
SOEI				S	Sn	04 21 33.4	+1.6
BKSI	Bulukumba	4.89	323	P	Pn	04 22 03.1	+1.1
KNRA	Kununurra	8.45	140	P	Pn	04 22 47.0	-3.3
	baz=7.6,SNR=42						
KNRA				S	Sn	04 24 15.1	-8.9
	baz=7.6,SNR=23						
MTN	Manton Dam	8.66	115	P	Pn	04 22 51.3	-1.8
	baz=8.0,SNR=49						
MTN				S	Sn	04 24 21.9	-7.2
	baz=8.0,SNR=13						
KDU	Kakadu	9.82	111	P	Pn	04 23 07.2	-1.7
	baz=9.2,SNR=12						
KDU				S	Sn	04 24 49.9	-7.4
	baz=9.2,SNR=5.1						
WRA	Warramunga Arr	15.20	136	Pn	Pn	04 24 15.4	-4.6
	1.0nm,0.3s,baz=303,slow=14,SNR=18						
WRA				Sn	Sn	04 26 52.9	-15
	2.2nm,0.3s,baz=300,slow=23,SNR=13						
WRKA	Warakurna	16.46	163	P	Pn	04 24 34.6	-1.1
	baz=16,SNR=12						
ASAR	Alice Springs	17.67	146	P	P	04 24 48.7	-1.3
	0.9nm,0.3s,baz=326,slow=13,SNR=29						
ASAR				S	Sn	04 27 51.7	-16
	0.7nm,0.3s,baz=324,slow=25,SNR=12						
MEEK	Meekatharra	17.81	193	P	Pn	04 24 53.7	+1.6
	baz=17,SNR=15						
MEEK				S	Sn	04 27 56.5	-14
	baz=17,SNR=7.5						
QIS	Mount Isa	19.49	127	P	Pn	04 25 12.2	+0.1
	baz=19,SNR=6.5						
COEN	Coen	20.21	105	P	Pn	04 25 25.7	+5.2
	baz=20,SNR=4.3						
COEN				S	S	04 28 53.8	-5.5
	baz=20,SNR=12						
MORW	Morawa	20.80	198	P	Pn	04 25 27.8	+0.5
	baz=20,SNR=9.8						
MORW				S	S	04 29 08.7	-1.9
	baz=20,SNR=4.1						
BLDU	Ballidu	22.08	195	P	P	04 25 38.0	+0.4
	baz=22,SNR=9.8						
KLBR	Kellerberrin	22.78	192	P	P	04 25 45.1	+0.3
	baz=22,SNR=6.8						
NWAO	Narrogin (SRO)	24.18	192	P	P	04 25 57.6	-0.1
	2.6nm,0.3s,baz=12,slow=9.3,SNR=5.8						
BBOO	Buckleboo	26.33	155	P	P	04 26 18.5	+1.3
	baz=26,SNR=17						
HTT	Hallett	28.14	151	P	P	04 26 35.7	+2.3
	baz=27,SNR=11						
STKA	Stephens Creek	28.31	145	P	P	04 26 36.9	+1.9
	1.6nm,0.4s,baz=313,slow=8.4,SNR=8.7						
STKA	Stephens Creek	28.31	145	P	P	04 26 37.1	+2.2
	baz=28,SNR=5.7						
ARPS	Mount Arapiles	32.24	151	P	P	04 27 12.0	+2.4
	baz=32,SNR=5.7						
SONM	Songino Array	58.73	347	P	P	04 30 38.8	+0.7
	0.5nm,0.5s,baz=164,slow=8.7,SNR=5.0						
MKAR	Makanchi Array	66.59	331	P	P	04 31 31.3	+1.1
	1.4nm,0.6s,baz=136,slow=7.4,SNR=21						
AAK	Ala-Archa	68.04	323	P	P	04 31 39.8	+0.2
	1.2nm,0.6s,baz=134,slow=8.8,SNR=3.8						
ZALV	Zalesovo Beam	70.78	337	P	P	04 31 55.6	-0.5
	1.0nm,0.4s,baz=108,slow=4.8,SNR=5.7						
TORD	Torodi Ar. Bea	122.49	280	PKP	PKPdf	04 39 37.0	+1.6
	0.4nm,1.0s,baz=108,slow=2.7,SNR=3.1						

IDC 16 04:36:28.1±2.0, **6°.69S×129°.51E, h0km, mb3.1**/1, **mb1 3.5**/3, **mb1mx3.3**/30, **mbtmp3.3**/3, **ML3.7**/2, **MS3.6**/1, **Ms1 3.6**/1, **ms1mx2.7**/13, **Error ellipse: s-maj=114.1km s-min=31.3km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.98	161	Pn	Pn	04 39 47.5	-0.1
	0.4nm,0.3s,baz=340,slow=13,SNR=16						
WRA				Sn	Sn	04 42 09.0	-15
	0.6nm,0.3s,baz=337,slow=24,SNR=12						
ASAR	Alice Springs	17.40	166	P	Pn	04 40 32.5	+0.1
	0.2nm,0.3s,baz=349,slow=9.3,SNR=7.6						
ASAR				S	Sn	04 43 32.1	-15
	0.1nm,0.3s,baz=359,slow=29,SNR=3.9						
KSRS	Korea Array	43.94	358	LR	LR	05 02 50.1	
	comp=Z,70nm,20.2s,baz=150,slow=36						
MKAR	Makanchi Array	67.70	327	P	P	04 47 27.3	0.0
	0.1nm,0.6s,baz=132,slow=6.0,SNR=2.7						

*NIED **16** 04:42:00, 40°.40N×143°.70E, h8km, Mw3.9 Best double couple: Mo7.18000×10^14 NP1:φs136.00000°, δ23.00000°, λ0.00000°. NP2:φs46.00000°, δ90.00000°, λ113.00000°.*

*IDC **16** 04:42:18.9±0.7, 40°.22N×143°.99E, h0km, mb3.6/11, mb1 3.8/14, mb1mx3.7/39, mbtmp3.6/14, ML0.3/0, Error ellipse: s-maj=20.0km s-min=16.6km az=64.0*

*ISCJB **16** 04:42:19.9±0.5, 40°.27N±0°.03×143°.83E±0°.05, h16km, mb3.7/12, Error ellipse: s-maj=5.9km s-min=4.6km az=24.5*

*JMA **16** 04:42:21.0±0.2, 40°.35N×143°.66E, h10km±3km, M3.6*

*MOS **16** 04:42:21.8±1.8, 40°.12N×143°.80E, h33km, mb3.9/8, Error ellipse: s-maj=22.6km s-min=12.3km az=88.1*

ISC 16 04:42:21.4±0.7, **40°.27N**±0°.05×**143°.86E**±0°.06, **h16km, n42,** $\sigma 1^{s}$**42**/46, **mb3.6**/12, **1C, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	Tanohata	1.57	259	P	Pn	04 42 47.1	-1.5
JTH				S	Sn	04 43 06.5	-2.1
MIYJ	Miyakonagasawa	1.72	247	P	Pn	04 42 50.0	-0.6
MIYJ				eS	Sn	04 43 10.1	-2.1
JANG	Nango	1.80	274	P	Pn	04 42 50.2	-1.5
JANG				eS	Sn	04 43 12.0	-2.2
JEM	Erimo	1.83	343	P	Pn	04 42 51.1	-1.0
JEM				eS	Sn	04 43 13.4	-1.5
JOM	Ohasama	2.13	249	P	Pn	04 42 56.1	-0.2
JOM				eS	Sn	04 43 21.8	-0.7
JNBK	Urakawa-nobuka	2.18	338	P	Pn	04 42 56.4	-0.5
JNBK				eS	Sn	04 43 22.9	-0.7
JCH	Churui	2.38	351	P	Pn	04 42 59.1	-0.5
JOT	Ohata	2.41	298	P	Pn	04 42 59.1	-1.0
JOT				eS	Sn	04 43 27.2	-2.1
JKB	Kayabe	2.68	308	eS	Sn	04 43 33.9	-2.1
JYK	Kaneyama	3.02	245	P	Pn	04 43 09.3	+0.7
JFR	Furan	3.04	342	eS	Sn	04 43 44.6	-0.4
JEW	Eniwo	3.14	326	eS	Sn	04 43 46.7	-0.7
ASAJ	Asahikawa	3.96	347	P	Pn	04 43 21.8	+0.4
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	3.96	347	Pn	Pn	04 43 21.8	+0.4
	comp=Z,1.0nm,0.3s,baz=194,slow=12,SNR=4.9						
YUK	Yuzh-Kuril'sk	4.05	21	⇑iP	Pb	04 43 28.6	-3.6
YUK				iS	Sn	04 44 04.8	-4.8
YUK				pmax	pmax		
	comp=N,39nm,0.3s						
YUK				pmax	pmax		
	comp=E,38nm,0.3s						
YUK				pmax	pmax		
	comp=Z,110nm,0.3s						
YUK				smax	smax		
	comp=N,176nm,0.5s						
YUK				smax	smax		
	comp=E,221nm,0.5s						
MJAR	Matsushiro Arr	5.79	232	P	Pn	04 43 45.9	-0.7
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	5.79	232	Pn	Pn	04 43 45.9	-0.7
	comp=Z,0.6nm,0.3s,baz=41,slow=11,SNR=5.3						
USRK	Ussuriysk Arra	9.64	298	Pn	Pn	04 44 41.4	+2.0
	comp=Z,0.5nm,0.3s,baz=95,slow=14,SNR=8.4						
SONM	Songino Array	27.76	298	P	P	04 48 11.3	+2.0
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	27.76	298	P	P	04 48 11.3	+2.0
	comp=Z,0.6nm,0.7s,baz=84,slow=8.8,SNR=5.1						
H11N2	WAKE ISLAND Hy	28.43	129	T	T	05 17 56.1	
	baz=324,slow=76,SNR=6.7						
H11N1	WAKE ISLAND Hy	28.44	129	T	T	05 17 59.5	
	baz=324,slow=76,SNR=4.5						
H11N3	WAKE ISLAND Hy	28.45	129	T	T	05 18 00.8	
	baz=324,slow=76,SNR=6.2						
ZALV	Zalesovo Beam	41.24	310	P	P	04 50 07.1	+1.8
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	Zalesovo Beam	41.24	310	P	P	04 50 07.1	+1.8
	comp=Z,1.0nm,0.4s,baz=91,slow=10,SNR=3.2						
MKAR	Makanchi Array	44.10	300	P	P	04 50 29.4	+0.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	44.10	300	P	P	04 50 29.4	+0.7
	comp=Z,0.7nm,0.7s,baz=82,slow=9.5,SNR=9.9						
ILAR	Eielson Array	45.74	34	P	P	04 50 42.1	+0.6
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	45.74	34	P	P	04 50 42.1	+0.6
	comp=Z,0.5nm,0.8s,baz=279,slow=6.7,SNR=5.1						
YKA	Yellowknife Ar	60.05	32	P	P	04 52 25.3	-1.8
	comp=Z,0.2nm,0.7s,baz=304,slow=6.7,SNR=4.2						
WRA	Warramunga Arr	60.55	190	P	P	04 52 29.7	-1.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	60.55	190	P	P	04 52 29.7	-1.2
	comp=Z,0.5nm,0.9s,baz=11,slow=7.0,SNR=3.8						
ASAR	Alice Springs	64.28	190	P	P	04 52 55.9	0.0
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	Alice Springs	64.28	190	P	P	04 52 55.9	0.0
	comp=Z,0.7nm,0.9s,baz=8.9,slow=6.6,SNR=4.6						
FINES	FINESS Array B	66.84	332	P	P	04 53 11.6	-0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	66.84	332	P	P	04 53 11.6	-0.4
	comp=Z,1.0nm,0.8s,baz=42,slow=11,SNR=2.9						
AFI	Afiamalu	67.83	133	P	P	04 53 19.2	+0.3
AFI				pmax	pmax		
	comp=Z,12nm,0.3s						
AFI	Afiamalu	67.83	133	P	P	04 53 19.1	+0.3
	comp=Z,12nm,0.3s,baz=73,slow=19,SNR=3.6						
NVAR	Mina Array Bea	71.54	55	P	P	04 53 42.5	+0.7
	comp=Z,0.3nm,0.8s,baz=278,slow=6.3,SNR=2.8						
NOA	NORSAR Array B	71.93	338	P	P	04 53 43.4	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	71.93	338	P	P	04 53 43.4	-0.2
	comp=Z,0.7nm,0.8s,baz=37,slow=6.0,SNR=3.4						
AKASG	Malin Array Be	72.90	323	P	P	04 53 50.3	+0.8
	comp=Z,0.2nm,0.4s,baz=44,slow=6.0,SNR=2.8						

*IDC **16** 04:47:25.9±0.6, 40°.11S×46°.17E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/35, mbtmp4.1/11, MS3.4/4, Ms1 3.4/4, ms1mx3.1/34, Error ellipse: s-maj=31.9km s-min=16.4km az=33.0*

*ISCJB **16** 04:47:26.1±0.6, 40°.1S±0°.2×46°.2E±0°.2, h10km, mb4.0/10, MS3.2/4, Error ellipse: s-maj=28.6km s-min=13.3km az=34.7*

ISC 16 04:47:27.4±0.7, **40°.1S**±0°.2×**46°.2E**±0°.2, **h10km, n17,** $\sigma 1^{s}$**15**/15, **mb4.1**/10, **MS3.2**/4, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOSA	Boshof	20.68	297	P	P	04 52 08.8	+1.2
	5.1nm,0.9s,baz=144,slow=7.2,SNR=4.1						
BOSA				LR	LR	04 58 47.9	
	comp=Z,72nm,19.0s,baz=153,slow=33						
SUR	Sutherland	21.82	283	LR	LR	05 00 07.3	
	comp=Z,89nm,18.5s,baz=184,slow=35						
LBTB	Lobatse	22.89	305	P	P	04 52 32.6	+1.3
	4.2nm,0.7s,baz=151,slow=8.9,SNR=6.9						
LBTB				LR	LR	05 00 06.6	
	comp=Z,90nm,18.5s,baz=160,slow=33						
LSZ	Lusaka	29.31	322	P	P	04 53 30.3	0.0
	1.6nm,0.6s,baz=137,slow=5.1,SNR=4.7						
LSZ				LR	LR	05 03 19.8	
	comp=Z,122nm,20.9s,baz=118,slow=33						
QSPA	South Pole Qui	50.09	180	P	P	04 56 22.5	+0.3
	1.5nm,0.8s,baz=240,slow=2.8,SNR=3.7						
H01W2	Cape Leeuwin H	52.98	107	T	T	05 53 51.3	
	baz=243,slow=75,SNR=14						
H01W3	Cape Leeuwin H	52.99	107	T	T	05 53 54.4	
	baz=243,slow=75,SNR=8.8						
H01W1	Cape Leeuwin H	53.00	107	T	T	05 53 48.3	
	baz=243,slow=75,SNR=15						
TORD	Torodi Ar. Bea	67.17	312	P	P	04 58 21.8	+0.1
	0.7nm,0.8s,baz=136,slow=5.7,SNR=5.2						
ASAR	Alice Springs	73.50	107	P	P	04 59 01.2	+0.8
	1.6nm,0.8s,baz=228,slow=6.6,SNR=15						
STKA	Stephens Creek	74.00	118	P	P	04 59 03.9	+0.6
	2.7nm,0.6s,baz=205,slow=3.4,SNR=13						
WRA	Warramunga Arr	76.07	104	P	P	04 59 16.1	+0.7
	2.0nm,0.9s,baz=223,slow=4.9,SNR=16						
CMAR	Chiang Mai Arr	76.20	51	P	P	04 59 16.3	+0.4
	0.8nm,0.4s,baz=224,slow=7.7,SNR=6.8						
CTA	Charters Tower	84.66	112	P	P	05 00 00.9	-0.8
	2.3nm,0.8s,baz=243,slow=6.9,SNR=4.4						
MKAR	Makanchi Array	92.33	24	P	P	05 00 37.2	-0.2
	0.3nm,0.8s,baz=202,slow=4.8,SNR=2.8						
INK	Inuvik	151.75	360	PKPbc	PKPbc	05 07 20.7	-0.2
	2.3nm,0.8s,baz=350,slow=4.3,SNR=8.8						
INK				PKPab	PKPab	05 07 28.1	-1.9
	0.7nm,0.5s,baz=324,slow=0.6,SNR=4.8						
TXAR	Lajitas Array	153.10	256	PKPbc	PKPbc	05 07 26.0	+0.6
	1.9nm,0.8s,baz=134,slow=5.4,SNR=12						
TXAR				PKPab	PKPab	05 07 34.4	-2.6
	0.5nm,0.7s,baz=123,slow=4.6,SNR=4.4						

*ISCJB **16** 04:47:27.2±1.2, 50°.2S±0°.1×112°.9E±0°.5, h10km, mb4.1/5, MS3.4/1, Error ellipse: s-maj=49.7km s-min=17.5km az=8.8*

*IDC **16** 04:47:27.5±1.2, 50°.25S×112°.84E, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/15, mbtmp4.1/5, MS3.4/2, Ms1 3.4/2, ms1mx2.9/22, Error ellipse: s-maj=57.9km s-min=20.9km az=99.0*

ISC 16 04:47:29.0±1.2, **50°.3S**±0°.1×**112°.9E**±0°.4, **h10km, n13,** $\sigma 0^{s}$**26**/8, **mb4.0**/5, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.38	4	T	T	05 06 48.0	
	baz=182,slow=74						
H01W1	Cape Leeuwin H	15.39	4	T	T	05 06 48.5	
	baz=182,slow=74						
H01W3	Cape Leeuwin H	15.40	4	T	T	05 06 49.2	
	baz=182,slow=74						
NWAO	Narrogin (SRO)	17.62	12	LR	LR	04 56 26.7	
	comp=Z,98nm,20.0s,baz=180,slow=31						
ASAR	Alice Springs	31.19	39	P	P	04 53 48.2	-0.1
	0.7nm,0.5s,baz=209,slow=8.2,SNR=7.2						
VNDA	Vanda	32.84	162	P	P	04 54 02.5	+0.3
	9.0nm,1.1s,baz=307,slow=10,SNR=3.4						
WRA	Warramunga Arr	34.71	37	P	P	04 54 19.1	0.0
	1.0nm,0.5s,baz=206,slow=8.6,SNR=16						
QSPA	South Pole Qui	39.86	180	P	P	04 55 02.2	-0.3
	2.2nm,0.6s,baz=285,slow=1.9,SNR=22						
BATI	Baumata	40.92	16	LR	LR	05 12 17.3	
	comp=Z,48nm,18.8s,baz=301,slow=36						
CMAR	Chiang Mai Arr	69.52	346	P	P	04 58 37.9	+0.2
	0.7nm,0.4s,baz=192,slow=6.1,SNR=4.2						
TXAR	Lajitas Array	145.47	113	PKPbc	PKPab	05 07 07.4	0.0

0.6nm,0.7s,baz=201,slow=4.6,SNR=5.7
PDAR Pinedale Array 150.17 88 PKPbc PKPbc 05 07 19.9 +0.1
0.8nm,0.8s,baz=197,slow=5.7
YKA Yellowknife Ar 151.70 46 PKPbc PKPbc 05 07 22.0 -0.3
0.8nm,0.6s,baz=280,slow=2.1,SNR=32

IDC 16 05:06:58.7±1.8, 1.27N×125.09E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/33, mbtmp3.8/3, Error ellipse: s-maj=188.1km s-min=23.4km az=64.0, Northern Molucca Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 22.95 157 P P 05 12 04.2 -0.6
0.9nm,0.3s,baz=335,slow=11,SNR=25
ASAR Alice Springs 26.22 161 P P 05 12 36.0 +0.5
0.4nm,0.2s,baz=342,slow=7.0,SNR=5.7
MKAR Makanchi Array 58.67 327 P P 05 16 58.0 0.0
0.7nm,0.4s,baz=118,slow=8.4,SNR=21

IDC 16 05:21:00.1±3.1, 53.61N×88.22E, h0km, mb1 3.0/2, mb1mx2.9/42, mbtmp3.0/2, ML2.6/2, 1C-2D, Error ellipse: s-maj=27.8km s-min=16.5km az=66.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 2.04 281 *i* 05 33 37.7
baz=100,slow=346,SNR=1.5
ZALV Zalesovo Beam 2.04 281 Pn Pn 05 21 34.9 -0.9
3.2nm,0.3s,baz=103,slow=18,SNR=26
ZALV Lg Lg 05 22 05.0
10.0nm,0.3s,baz=102,slow=25,SNR=23
MK31 Makanchi Array 7.81 211 ⇓Pn Pn 05 22 58.1 +3.1
1.6nm,1.1s,baz=28,slow=13,SNR=21
MK31 ⇓Sn Sn 05 24 19.3 -4.7
3.0nm,1.3s
MK31 ⇑Lg Lg 05 24 58.1
4.6nm,0.9s,baz=31,slow=29,SNR=4.9
MKAR Makanchi Array 7.81 211 Pn Pn 05 22 55.8 +0.9
0.3nm,0.3s,baz=28,slow=13,SNR=22
MKAR Sn Sn 05 24 25.3 +1.3
0.1nm,0.3s,baz=27,slow=26,SNR=4.4
MKAR Lg Lg 05 25 06.7
0.1nm,0.3s,baz=30,slow=32,SNR=6.4

*NIED **16** 05:30:00, 40.30N×143.80E, h11km, Mw4.2 Best double couple: M0 2.64000×10^15 NP1:φs157.00000°, δ36.00000°, λ35.00000°. NP2:φs37.00000°, δ70.00000°, λ121.00000°.*
*BJI **16** 05:30:52.6, 39.90N×144.40E, h33km, mB4.9/10, mb4.6/29, Ms3.9/6, Ms7 3.7/5*
*IDC **16** 05:30:56.3±0.7, 40.33N×143.80E, h0km, mb4.0/20, mb1 4.2/23, mb1mx4.0/47, mbtmp4.0/23, ML3.8/2, MS3.4/9, Ms1 3.4/9, ms1mx3.0/43, Error ellipse: s-maj=17.5km s-min=14.5km az=129.0*
*ISCJB **16** 05:30:57.0±1.1, 40.34N±0.02×143.84E±0.04, h15km±7km, mb4.2/51, MS3.6/6, Error ellipse: s-maj=5.5km s-min=3.2km az=30.8*
*MOS **16** 05:30:57.9±1.1, 40.32N×143.82E, h23km, mb4.6/26, Error ellipse: s-maj=9.4km s-min=6.3km az=109.5*
*JMA **16** 05:30:57.5±0.2, 40.34N×143.78E, h15km±4km, M4.3*
*NEIC **16** 05:30:59.3±2.6, 40.37N×143.80E, h18km±16km, mb4.6/13, MW4.2(NIED), Error ellipse: s-maj=8.6km s-min=5.7km az=127.0*
ISC 16 05:30:58.1±1.3, 40.33N±0.04×143.88E±0.04, h14km±7km, n176, σ1§18/179, mb4.4/51, MS3.6/6, 3C-6D, Off east coast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JTH Tanohata 1.59 256 P Pn 05 31 24.4 -1.4
JTH S Sb 05 31 44.2 -3.0
MIYJ Miyakonagasawa 1.75 245 P Pn 05 31 27.2 -0.8
MIYJ *e*S Sn 05 31 48.4 -1.8
ERM Erimo 1.77 342⇓*e*P Pb 05 31 29.2 -1.1
ERM pmax pmax
comp=Z,164nm,0.7s
ERM Erimo 1.77 342 *e*Pn Pn 05 31 27.7 -0.5
JEM Erimo 1.77 342 P Pn 05 31 27.7 -0.6
JEM *e*S Sb 05 31 50.7 -1.6
JANG Nango 1.80 272 P Pn 05 31 27.6 -1.2
JANG *e*S Sn 05 31 49.5 -2.0
JNBK Urakawa-nobuka 2.12 337 P Pn 05 31 33.0 -0.1
JOM Ohasama 2.16 247 P Pn 05 31 33.4 -0.3
JTM Tenmabayashi 2.19 283 P Pn 05 31 33.6 -0.4
JTM S Sn 05 31 58.9 -2.0
JCH Churui 2.31 351 P Pn 05 31 35.2 -0.6
JCH S Sn 05 32 02.4 -1.6
JOT Ohata 2.39 297 P Pn 05 31 36.4 -0.4
JOT *e*S Sn 05 32 04.4 -1.4
JAH Hinai 2.48 268 P Pn 05 31 38.2 +0.1
JKB Kayabe 2.65 307 P Pn 05 31 40.2 -0.2
JKB S Sn 05 32 11.7 -0.6
JRG Rokugo 2.66 251 P Pn 05 31 40.1 -0.5
JAK Akkeshi 2.73 13 P Pn 05 31 40.6 -0.9
JAK S Sn 05 32 11.5 -2.8
JAR Ashorobuto 2.96 359 P Pn 05 31 43.5 -1.2
JAR S Sn 05 32 17.3 -2.8
JFR Furan 2.99 342 P Pn 05 31 45.8 +0.7
JFR *e*S Sn 05 32 21.3 +0.6
JYK Kaneyama 3.06 244 P Pn 05 31 46.1 0.0
JEW Eniwo 3.10 325 P Pn 05 31 47.4 +0.9
JEW *e*S Sn 05 32 23.4 0.0
JOU Okura 3.17 233 P Pn 05 31 46.6 -1.0
JOU *e*S Sn 05 32 24.2 -1.0
NEM2 Nemuro 2 3.34 24 P Pn 05 31 48.7 -1.1
NEM2 S Sn 05 32 26.0 -3.2
JKK2 Kamakawa 2 3.64 347 P Pn 05 31 53.9 -0.1
JTKR Abashiri--Toko 3.64 0 P Pn 05 31 53.5 -0.4
JTKR S Sn 05 32 34.9 -1.7
ASAJ Asahikawa 3.90 346 P Pn 05 31 58.1 +0.5
ASAJ 05 32 45.6
ASAJ pmax pmax
comp=Z,6.0nm,0.3s
ASAJ smax smax
comp=N,7.0nm,0.3s
ASAJ Asahikawa 3.90 346 Pn Pn 05 31 58.1 +0.5
comp=N,5.8nm,0.3s,baz=207,slow=10,SNR=20
ASAJ Sn Sn 05 32 45.6 +2.5
comp=N,7.0nm,0.3s,baz=57,slow=28,SNR=5.5
ASAJ Asahikawa 3.90 346 *e*Pn Pn 05 31 57.5 0.0
ASAJ Sn Sn 05 32 45.6 +2.5
JFT Otama 3.94 226 P Pn 05 31 57.7 -0.4
JFT *e*S Sn 05 32 43.1 -1.1
YUK Yuzh-Kuril'sk 3.98 21*d i*P Pn 05 31 53.7 -5.0
YUK *i* S Sn 05 32 40.9 -4.3
YUK pmax pmax
comp=N,94nm,0.4s
YUK pmax pmax
comp=E,52nm,0.4s
YUK pmax pmax
comp=Z,130nm,0.4s
YUK smax smax
comp=N,509nm,0.6s
YUK smax smax
comp=E,676nm,0.6s
KUR Kuril'sk 5.71 30⇑*i*P Pn 05 32 22.1 -0.3
KUR *i* S Sn 05 33 23.8 -3.9
KUR pmax pmax
comp=E,38nm,0.4s
KUR pmax pmax
comp=Z,95nm,0.5s
KUR pmax pmax
comp=N,38nm,0.2s
KUR pmax pmax
comp=Z,11μm,0.1s
KUR smax smax
comp=N,130nm,0.2s
KUR smax smax
comp=E,186nm,0.4s
KUR pmax pmax
comp=N,15μm,0.2s
MJAR Matsushiro Arr 5.84 231 P Pn 05 32 24.7 +0.4
MJAR pmax pmax
comp=Z,2.0nm,0.3s
MJAR Matsushiro Arr 5.84 231 Pn Pn 05 32 24.7 +0.4
comp=Z,1.6nm,0.3s,baz=36,slow=11,SNR=7.9
MAJO Matsushiro 5.84 231⇓*i*P Pn 05 32 25.0 +0.7
MAJO Matsushiro 5.84 231 *e*Pn Pn 05 32 24.8 +0.5
comp=Z,33nm,0.6s
MAT Matsushiro 5.84 231 P Pn 05 32 24.8 +0.5
MAT S Sn 05 33 32.2 +1.2
YSS Yuzh-Sakhalins 6.67 353 *e*P Pb 05 32 45.2 -8.6
YSS *e*S Sn 05 33 54.0 +2.6
YSS MLR MLR
comp=N,300nm,14.0s
YSS MLR MLR
comp=Z,500nm,14.0s
USRK Ussuriysk Arra 9.62 298 Pn Pn 05 33 13.8 -2.3
comp=Z,0.2nm,0.3s,baz=98,slow=13,SNR=3.6
USRK LR LR 05 37 01.2
comp=Z,65nm,19.6s,baz=83,slow=38
HABR Khabarovsk 10.29 325 *e*P Pn 05 33 27.5 +2.2
HABR 05 35 28.5
HABR pmax pmax
comp=Z,29nm,1.7s
HABR MLR MLR
comp=Z,182nm,18.0s
MDJ Mudanjiang 11.38 297 *e*Pn Pn 05 33 39.7 -0.5
comp=Z,18nm,0.9s
KLR Kul'dur 12.37 320 *e*P Pn 05 33 50.2 -3.5
JNU Nakatsue 12.66 239 LR LR 05 38 22.7
comp=Z,114nm,21.2s,baz=87,slow=35
KSRS Korea Array 12.76 262 Pn Pn 05 34 01.6 +2.6
comp=Z,0.3nm,0.3s,baz=68,slow=13,SNR=3.8
KSRS LR LR 05 38 14.4
comp=Z,95nm,19.4s,baz=73,slow=34
KSAR Wonju Array Be 12.79 262 P Pn 05 34 01.6 +2.1
KSAR Wonju Array Be 12.79 262 Pn Pn 05 34 01.6 +2.1
SNY Shenyang 15.38 282 ⇓P Pn 05 34 33.3 -1.3
SNY S Sn 05 37 21.8 -2.9
SNY pmax pmax
comp=Z,8.0nm,0.8s
SNY LR LR
comp=Z,160nm,13.8s
SNY LR LR
comp=Z,220nm,9.0s
SNY LR LR
comp=Z,260nm,11.4s
PETK Petropavlovsk- 15.87 32 LR LR 05 40 34.2
comp=Z,57nm,18.8s,baz=203,slow=36
HIA Hailar 19.25 306 *e*P Pn 05 35 21.7 -1.3
HIA pmax pmax
comp=Z,9.0nm,0.6s
HIA Hailar 19.25 306 *e*P Pn 05 35 21.6 -1.3
comp=Z,9.0nm,0.6s
BJT Baijiatuau 21.14 278 *e*P P 05 35 40.9 -1.7
BJT pmax pmax
comp=Z,7.0nm,0.4s
BJT Baijiatuau 21.14 278 *e*P P 05 35 40.9 -1.7
comp=Z,6.8nm,0.4s
SEY Seymchan 23.20 10 P P 05 36 03.2 -1.0
SEY pmax pmax
comp=Z,2.0nm,0.4s
SEY Seymchan 23.20 10 P P 05 36 03.2 -1.0
comp=Z,2.4nm,0.4s,baz=198,slow=7.6,SNR=14
YAK Yakutsk 23.37 343 *e*P P 05 36 06.5 +0.5
YAK pmax pmax
comp=Z,14nm,0.8s
ULN Ulaanbaatar 27.29 298 *e*P P 05 36 42.2 -0.1
ULN pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 27.29 298 *e*P P 05 36 42.2 -0.1
comp=Z,2.6nm,0.7s
SONM Songino Array 27.73 298 P P 05 36 46.6 +0.4
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM MLR MLR
comp=Z,15nm,28.6s
SONM Songino Array 27.73 298 P P 05 36 46.6 +0.4
comp=Z,1.8nm,0.6s,baz=102,slow=9.9,SNR=13
SONM LR LR 05 47 30.8
comp=Z,63nm,19.4s,baz=74,slow=36
XAN Xi'an 28.42 268 P P 05 36 51.6 -0.7
XAN pP pP 05 36 58.3 +1.8
XAN pmax pmax
comp=Z,1.0nm,0.8s
H11N2 WAKE ISLAND Hy 28.46 129 T T 06 06 44.1
baz=191,slow=76
H11N1 WAKE ISLAND Hy 28.47 129 T T 06 06 40.0
baz=191
H11N3 WAKE ISLAND Hy 28.48 129 T T 06 06 40.8
baz=191,slow=76
H11S1 WAKE ISLAND Hy 29.31 131 T T 06 07 48.1
baz=327,slow=76
H11S3 WAKE ISLAND Hy 29.31 131 T T 06 07 51.0
baz=327,slow=76
H11S2 WAKE ISLAND Hy 29.32 131 T T 06 07 46.7
baz=327,slow=76
TLY Talaya 29.79 306 *e*P P 05 37 08.7 +4.4
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,108nm,14.0s
ZAK Zakamensk 29.90 303 *e*P P 05 37 06.1 +0.7
ZAK pmax pmax
comp=Z,2.0nm,1.4s
BILL Bilibino 30.32 16⇓*e*P P 05 37 05.9 -2.9
BILL pmax pmax
comp=Z,8.0nm,2.1s
LZH Lanzhou 31.55 275 *e*P P 05 37 22.3 +2.2
LZH pP pP 05 37 27.8 +3.5
LZH sP sP 05 37 32.0 +5.9
LZH pmax pmax
comp=Z,12nm,1.0s
GTA Gaotai 33.57 283 *e*P P 05 37 38.8 +1.0
GTA pP pP 05 37 47.8 +5.8
GTA sP sP 05 37 52.3 +8.6
GTA pmax pmax
comp=Z,13nm,1.0s
ZALV Zalesovo Beam 41.21 310 *e*P P 05 38 42.5 +0.4
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 41.21 310 P P 05 38 42.5 +0.4
comp=Z,3.8nm,0.6s,baz=93,slow=7.7,SNR=13
NVS Novosibirsk 42.04 311 *e*P P 05 38 49.4 +0.5
IM04 Indian Mountai 42.82 32 *e*P P 05 38 56.8 +1.6
LSA Lhasa 43.90 273 P P 05 39 06.3 +1.5
LSA Lhasa 43.90 273 *e*P P 05 39 04.5 -0.3
LSA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 43.90 273 *e*P P 05 39 04.5 -0.3
comp=Z,3.3nm,0.6s
MK31 Makanchi Array 44.08 300 *i* P P 05 39 05.5 -0.1
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 44.08 300 P P 05 39 05.7 +0.1
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 44.08 300 P P 05 39 05.7 +0.1
comp=Z,5.4nm,0.9s,baz=82,slow=9.2,SNR=47
CMAR Chiang Mai Arr 44.23 254 P P 05 39 07.0 0.0
CMAR pmax pmax
comp=Z,3.0nm,0.3s
CMAR Chiang Mai Arr 44.23 254 P P 05 39 07.0 0.0
comp=Z,3.0nm,0.3s,baz=34,slow=7.5,SNR=4.8
KURK Kurchatov 45.49 306 *e*P P 05 39 16.6 -0.1
KURK pmax pmax
comp=Z,3.0nm,0.5s
KURK Kurchatov 45.49 306 *e*P P 05 39 16.6 -0.1
comp=Z,3.1nm,0.5s
ILAR Eielson Array 45.68 34 P P 05 39 19.4 +1.3
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 45.68 34 P P 05 39 19.4 +1.3
comp=Z,0.7nm,0.8s,baz=263,slow=6.6,SNR=9.7
TAPN Taplejung 47.68 272 *e*P P 05 39 34.9 +0.3
comp=Z,5.6nm,0.5s
TAPN Taplejung 47.68 272 *e*P P 05 39 34.9 +0.3
RAMN Ramite 48.74 273 *e*P P 05 39 42.9 +0.2
comp=Z,16nm,0.8s
RAMN Ramite 48.74 273 *e*P P 05 39 42.9 +0.2
GUN Gumba 48.80 274 *e*P P 05 39 43.5 +0.2
comp=Z,21nm,0.5s
GUN Gumba 48.80 274 *e*P P 05 39 43.5 +0.2
KKN Kakani 49.31 274 *e*P P 05 39 47.3 +0.2
comp=Z,11nm,0.4s
PKI Pulchoki 49.33 274 *e*P P 05 39 47.2 -0.1
PKI Pulchoki 49.33 274 *e*P P 05 39 47.2 -0.1
PKI Pulchoki 49.33 274 *e*P P 05 39 47.2 -0.1
VOSK Vostochnaya 49.57 310 P P 05 39 47.8 -0.7
VOSK pmax pmax
comp=Z,7.0nm,1.0s
GKN Gorkha 49.70 275 *e*P P 05 39 51.2 +1.3
comp=Z,11nm,0.6s
GKN Gorkha 49.70 275 *e*P P 05 39 51.2 +1.3
BVA0 Borovoye Array 49.83 311 *i* P P 05 39 50.3 -0.1
BVA0 pmax pmax
comp=Z,5.0nm,1.2s
BVAR Borovoye Array 49.83 311 LR LR 06 00 44.9
comp=Z,66nm,18.6s,baz=64,slow=36
BRVK Borovoye 49.88 311 *e*P P 05 39 50.6 -0.2
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 49.88 311 *e*P P 05 39 50.6 -0.2
comp=Z,4.8nm,0.8s
DANN Dangsing 50.19 276 *e*P P 05 39 54.4 +0.6
comp=Z,26nm,0.5s
DANN Dangsing 50.19 276 *e*P P 05 39 54.4 +0.6
HYT Haines Junctio 50.51 38 *e*P P 05 39 55.0 -0.6
INK Inuvik 50.58 29 P P 05 39 57.4 +1.6
INK pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 50.58 29 P P 05 39 57.4 +1.6
comp=Z,0.5nm,0.6s,baz=290,slow=5.5,SNR=6.8
KOLN Koldanda 50.60 275 *e*P P 05 39 57.3 +0.4
comp=Z,5.7nm,0.5s
KOLN Koldanda 50.60 275 *e*P P 05 39 57.3 +0.4
AAK Ala-Archa 50.67 297*ce*P P 05 39 56.5 -0.7
AAK pmax pmax
comp=Z,15nm,2.5s
PYUN Piuthan 50.90 276 *e*P P 05 40 00.6 +1.5
comp=Z,22nm,0.3s
KKAR Karatay Array 53.19 299 *e*P P 05 40 15.3 -0.4
KKAR pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 53.19 299 *e*P P 05 40 15.3 -0.4
comp=Z,0.6nm,0.3s
ARU Arti 55.20 318*d i*P P 05 40 30.4 +0.3
ARU 05 42 30.9
ARU S S 05 48 16.2 +3.5
ARU SS SS 05 51 55.9 -0.4
ARU pmax pmax
comp=Z,4.0nm,0.8s
AB31 Akbulak array 57.32 309 *i* P P 05 40 45.4 +0.1
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 57.32 309 *e*P P 05 40 45.4 0.0
comp=Z,4.3nm,0.6s
RES Resolute Bay 58.92 15 P P 05 40 56.7 +0.5
RES pmax pmax
comp=Z,1.0nm,0.7s
RES Resolute Bay 58.92 15 P P 05 40 56.7 +0.5
comp=Z,0.8nm,0.7s,baz=308,slow=8.2,SNR=4.1
YKA Yellowknife Ar 59.99 32 P P 05 41 03.7 0.0
comp=Z,0.2nm,0.6s,baz=297,slow=6.1,SNR=5.1
WRAB Tennant Creek 60.61 190⇑*e*P P 05 40 59.6 -8.8
WRAB pmax pmax
comp=Z,19nm,2.5s
WRA Warramunga Arr 60.62 190 P P 05 41 07.4 -1.1
comp=Z,0.4nm,0.5s,baz=8.3,slow=6.9,SNR=5.9
ARCES ARCESS Array B 61.59 339 LR LR 06 13 06.6
comp=Z,65nm,18.5s,baz=244,slow=41
JOF Joensuu 63.96 332 *e*P P 05 41 29.3 -1.1
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 63.96 332 *e*p P 05 41 29.3 -1.1
comp=Z,2.5nm,0.5s
ASAR Alice Springs 64.34 190 P P 05 41 34.5 +1.1
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 64.34 190 P P 05 41 34.5 +1.1
comp=Z,0.7nm,0.9s,baz=10,slow=5.7,SNR=4.0
KAF Kangasniemi 66.26 333 *e*P P 05 41 44.4 -0.9
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 66.26 333 *e*p P 05 41 44.4 -0.9
comp=Z,1.5nm,0.7s
OBN Obninsk 66.61 323 *e*P P 05 41 45.6 -2.1
OBN pmax pmax
comp=Z,5.0nm,0.4s
FINES FINESS Array B 66.79 332 P P 05 41 49.1 +0.4
comp=Z,4.1nm,0.7s,baz=46,slow=8.2,SNR=12
FINES LR LR 06 13 44.8
comp=Z,61nm,19.8s,baz=274,slow=38
KBZ Khabaz 70.21 311 P P 05 42 11.1 +0.7
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 70.21 311 P P 05 42 11.1 +0.7
comp=Z,6.2nm,1.0s,baz=68,slow=2.4,SNR=4.7
NVAR Mina Array Bea 71.50 55 P P 05 42 20.4 +1.7
comp=Z,0.5nm,0.7s,baz=288,slow=7.1,SNR=3.8
NB2 NORSAR Subarra 71.88 338 P P 05 42 20.4 +0.1
comp=Z,0.8nm,0.6s,baz=35,slow=6.2
NOA NORSAR Array B 71.88 338 P P 05 42 20.6 +0.3
comp=Z,2.1nm,0.8s,baz=37,slow=6.1,SNR=6.9
NOA LR LR 06 19 53.8
comp=Z,29nm,18.8s,baz=340,slow=41
AKASG Malin Array Be 72.86 323 *e*P P 05 42 26.3 +0.1
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 72.86 323 P P 05 42 26.3 +0.1
comp=Z,2.1nm,0.6s,baz=44,slow=5.9,SNR=20
AK01 Malin Array Si 72.87 323 *e*P P 05 42 26.0 -0.3
AK02 Malin Array Si 72.89 323 *e*P P 05 42 26.3 -0.2
FRB Frobisher Bay 73.12 14 P P 05 42 27.6 +0.1
FRB pmax pmax
comp=Z,1.0nm,0.5s
FRB Frobisher Bay 73.12 14 P P 05 42 27.6 +0.1
comp=Z,1.4nm,0.5s,baz=330,slow=5.2
PDAR Pinedale Array 74.00 47 P P 05 42 34.6 +1.2
comp=Z,0.4nm,0.8s,baz=259,slow=3.0,SNR=3.5
DPC Dobruska-Polom 78.67 329 *e*P P 05 43 01.4 +1.8
DPC Dobruska-Polom 78.67 329 *e*P P 05 43 01.4 +1.8
BRG Berggiesshubel 79.17 330 *e*P P 05 43 02.8 +0.5
comp=Z,1.7nm,0.6s
CLL Collm 79.17 331 *e*P P 05 43 02.0 -0.2
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 79.17 331 *e*P P 05 43 02.0 -0.2
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 80.71 329 *e*P P 05 43 11.7 +1.0
KHC Kasperske Hory 80.71 329 *e*P P 05 43 11.7 +1.0
GERES GERESS Array B 80.90 329 P P 05 43 12.2 +0.4
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 80.90 329 P P 05 43 12.2 +0.4
comp=Z,0.5nm,0.7s,baz=38,slow=6.5,SNR=4.3
LOR Lormes 85.80 334 *e*P P 05 43 37.2 +0.2
LOR Lormes 85.80 334 *e*P P 05 43 37.2 +0.2
LOR Lormes 85.80 334 *e*P P 05 43 37.2 +0.2
LPL La Plagne 86.31 331 *e*P P 05 43 40.2 +0.5
comp=Z,10nm,0.9s
LPL La Plagne 86.31 331 *e*P P 05 43 40.2 +0.5
LPL pmax pmax
comp=Z,10.0nm,0.9s
LPL La Plagne 86.31 331 *e*P P 05 43 40.2 +0.5
comp=Z,10nm,0.9s
LPG La Plagne 86.31 331 *e*P P 05 43 40.5 +0.6
comp=Z,9.1nm,0.9s
LPG La Plagne 86.31 331 *e*P P 05 43 40.5 +0.6
LPG pmax pmax
comp=Z,9.0nm,0.9s
LPG La Plagne 86.31 331 *e*P P 05 43 40.5 +0.6
comp=Z,9.1nm,0.9s
SMF Signal de Mont 86.35 334 *e*P P 05 43 40.0 +0.3
SMF Signal de Mont 86.35 334 *e*P P 05 43 40.0 +0.3
SMF Signal de Mont 86.35 334 *e*P P 05 43 40.0 +0.3
AVF Avril sur Loir 86.39 334 *e*P P 05 43 40.4 +0.6
comp=Z,17nm,1.0s
AVF Avril sur Loir 86.39 334 *e*P P 05 43 40.4 +0.6
AVF pmax pmax
comp=Z,17nm,1.0s
AVF Avril sur Loir 86.39 334 *e*P P 05 43 40.4 +0.6
comp=Z,17nm,1.0s
TXAR Lajitas Array 86.60 54 P P 05 43 41.6 +0.3
comp=Z,0.2nm,0.6s,baz=261,slow=3.6,SNR=3.5
MBDF Montbardon 86.97 331 *e*P P 05 43 43.7 +0.8
comp=Z,20nm,1.1s
MBDF Montbardon 86.97 331 *e*P P 05 43 43.7 +0.8
MBDF pmax pmax
comp=Z,20nm,1.1s
MBDF Montbardon 86.97 331 *e*P P 05 43 43.7 +0.8
comp=Z,20nm,1.1s
CAF Calviac 88.46 334 *e*P P 05 43 51.2 +1.3
comp=Z,14nm,1.0s
CAF Calviac 88.46 334 *e*P P 05 43 51.2 +1.3
CAF pmax pmax
comp=Z,14nm,1.0s
CAF Calviac 88.46 334 *e*P P 05 43 51.2 +1.3
comp=Z,14nm,1.0s

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	116.27	318	PKP	PKPdf	05 49 40.8	-0.7
	comp=Z,0.3nm,0.6s,baz=26,slow=2.5,SNR=3.7						
H03N2	Juan Fernandez	145.34	92	T	T	08 31 25.6	
	baz=279						
H03N3	Juan Fernandez	145.35	92	T	T	08 31 22.4	
	baz=279						
H03N1	Juan Fernandez	145.36	92	T	T	08 31 23.1	
	baz=279						

*ISCJB **16** 05:42:51.5±0.8, 18°.8S±0°.1×169°.5E±0°.1, h246km, mb3.8/7, Error ellipse: s-maj=20.5km s-min=14.2km az=135.8*
*IDC **16** 05:42:56.3±2.7, 19°.03S×169°.52E, h286km±27km, mb3.5/8, mb1 3.7/9, mb1mx3.5/34, mbtmp4.2/9, Error ellipse: s-maj=23.7km s-min=18.1km az=174.0*
ISC 16 05:42:52.6±0.8, 18°.8S±0°.1×169°.6E±0°.2, h246km, n22, σ1s36/21, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.40	221	P	Pn	05 44 03.5	+2.4
	4.0nm,0.3s,baz=54,slow=18,SNR=42						
ARMA	Armidale	19.98	231	P	P	05 47 07.4	+0.6
	baz=22,SNR=5.1						
URZ	Urewera	20.50	163	P	P	05 47 10.9	-1.2
	6.3nm,0.8s,baz=9.5,slow=6.1,SNR=3.1						
RMQ	Roma	20.67	244	P	P	05 47 15.6	+1.5
	baz=22,SNR=3.9						
CMSA	Cobar Meteorol	25.01	235	P	P	05 47 53.5	-0.7
	baz=26,SNR=21						
STKA	Stephens Creek	28.36	237	P	P	05 48 23.6	-0.5
	5.4nm,0.7s,baz=72,slow=8.2,SNR=16						
STKA	Stephens Creek	28.36	237	P	P	05 48 23.6	-0.5
	baz=30,SNR=4.2						
HTT	Hallett	31.01	236	P	P	05 48 46.8	-0.7
	baz=32,SNR=5.2						
WRA	Warramunga Arr	33.23	262	P	P	05 49 05.9	-1.0
	0.5nm,0.3s,baz=81,slow=5.9,SNR=14						
ASAR	Alice Springs	33.55	255	P	P	05 49 09.0	-0.7
	6.9nm,0.6s,baz=83,slow=9.1,SNR=103						
ASAR				pP	pP	05 50 00.5	+1.5
	1.8nm,0.8s,baz=84,slow=8.8,SNR=5.9						
MTN	Manton Dam	37.40	273	P	P	05 49 40.0	-2.4
	baz=38,SNR=7.2						
WRKA	Warakurna	38.69	253	P	P	05 49 52.4	-0.7
	baz=40,SNR=10						
SWI	Sorong	41.57	291	S	S	05 56 21.3	+7.1
	baz=42,SNR=6.5						
FITZ	Fitzroy Crossi	41.60	264	P	P	05 50 09.6	-7.4
	baz=43,SNR=4.5						
MEEK	Meekatharra	47.40	251	P	P	05 51 01.9	-0.9
	baz=49,SNR=4.7						
PETK	Petropavlovsk-	72.32	353	P	P	05 53 53.2	+2.0
	4.3nm,0.9s,baz=131,slow=3.6,SNR=5.4						
SONM	Songino Array	87.04	323	P	P	05 55 10.9	+0.5
	0.3nm,0.4s,baz=138,slow=7.4,SNR=4.7						
NVAR	Mina Array Bea	88.26	48	P	P	05 55 17.4	+0.9
	1.3nm,0.9s,baz=228,slow=9.1,SNR=7.3						
ILAR	Eielson Array	89.70	17	P	P	05 55 21.4	-1.0
	0.6nm,0.7s,baz=247,slow=5.0,SNR=11						
YKA	Yellowknife Ar	100.12	27	P	Pdif	05 56 11.3	+1.5
	0.3nm,0.6s,baz=256,slow=4.7,SNR=11						
ARCES	ARCESS Array B	124.70	345	PKP	PKPdf	06 01 20.6	-1.7
	3.5nm,0.9s,baz=101,slow=3.2,SNR=6.9						
GERES	GERESS Array B	144.23	332	PKP	PKPab	06 01 57.6	-0.2
	0.7nm,0.5s,baz=35,slow=4.2,SNR=9.4						

*IDC **16** 05:57:27.9±0.9, 44°.56N×102°.23E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/42, mbtmp3.4/8, ML2.9/2, Error ellipse: s-maj=20.8km s-min=17.9km az=130.2*
ISC 16 05:57:29.1±1.1, 44°.7N±0°.2×102°.4E±0°.1, h10km, n8, σ1s44/8, mb3.5/5, Mongolia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SONM	Songino Array	4.20	40	Pn	Pn	05 58 36.9	+3.6
	0.8nm,0.3s,baz=221,slow=15,SNR=32						
SONM				Pg	Pg	05 58 48.7	-0.9
	16nm,0.3s,baz=221,slow=18,SNR=57						
SONM				Lg	Lg	05 59 44.2	
	15nm,0.3s,baz=223,slow=30,SNR=7.9						
MKAR	Makanchi Array	14.16	286	Pn	Pn	06 00 49.7	0.0
	0.0nm,0.3s,baz=95,slow=14,SNR=2.9						
MKAR				Lg	Lg	06 04 50.0	
	0.1nm,0.3s,baz=101,slow=27,SNR=3.3						
AAK	Ala-Archa	20.22	274	P	P	06 02 01.8	-2.5
	0.7nm,0.5s,baz=225,slow=1.4,SNR=2.5						
BVAR	Borovoye Array	22.46	303	P	P	06 02 28.9	+0.8
	1.1nm,0.5s,baz=97,slow=12,SNR=8.0						
BRTR	Keskin Array B	49.76	290	P	P	06 06 22.5	+0.7
	1.3nm,0.9s,baz=46,slow=6.2,SNR=3.3						
YKA	Yellowknife Ar	69.12	17	P	P	06 08 36.3	+1.4
	0.3nm,0.9s,baz=331,slow=5.1,SNR=6.3						
WRA	Warramunga Arr	70.65	148	P	P	06 08 44.4	-0.5
	0.2nm,0.6s,baz=348,slow=7.2,SNR=3.0						
ASAR	Alice Springs	73.90	150	P	P	06 09 04.7	+0.4
	0.3nm,0.6s,baz=326,slow=5.8,SNR=3.5						

IDC 16 06:14:21.2±7.7, 48°.57N×150°.16E, h504km±99km, mb2.9/8, mb1 3.1/8, mb1mx2.8/40, mbtmp3.8/8, Error ellipse: s-maj=64.9km s-min=25.2km az=2.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SONM	Songino Array	28.89	285	P	P	06 19 38.6	0.0
	0.7nm,1.0s,baz=91,slow=8.1,SNR=3.4						
MKAR	Makanchi Array	44.35	294	P	P	06 21 45.4	-0.4
	0.2nm,0.5s,baz=69,slow=5.7,SNR=4.8						
YKA	Yellowknife Ar	50.66	37	P	P	06 22 32.9	0.0
	0.1nm,0.5s,baz=298,slow=7.2,SNR=4.6						
FINES	FINESS Array B	61.52	333	P	P	06 23 48.2	+0.1
	0.8nm,0.4s,baz=26,slow=6.7,SNR=7.6						
NB2	NORSAR Subarra	65.84	339	P	P	06 24 15.5	-0.3
	comp=Z,0.8nm,0.6s,baz=26,slow=6.5						
NOA	NORSAR Array B	65.84	339	P	P	06 24 15.7	-0.1
	comp=Z,1.2nm,0.6s,baz=27,slow=6.2,SNR=5.0						
HFS	Hagfors	66.03	338	P	P	06 24 16.7	-0.2
	comp=Z,1.5nm,0.4s,baz=55,slow=5.5,SNR=7.1						
AKASG	Malin Array Be	68.91	324	P	P	06 24 35.2	+0.5
	comp=Z,1.4nm,0.5s,baz=34,slow=6.3,SNR=5.7						
TXAR	Lajitas Array	78.30	59	P	P	06 25 28.8	0.0
	comp=Z,0.4nm,0.5s,baz=297,slow=4.5,SNR=6.3						

*IDC **16** 06:14:57.8±1.2, 15°.10S×173°.83W, h0km, mb4.2/9, mb1 4.5/9, mb1mx4.2/27, mbtmp4.2/9, MS3.5/5, Ms1 3.5/5, ms1mx3.3/29, Error ellipse: s-maj=65.3km s-min=18.8km az=147.0*
*NEIC **16** 06:14:58.9±0.9, 15°.15S×173°.57W, h10km, mb4.9/6, Error ellipse: s-maj=42.7km s-min=11.0km az=150.0*
*ISCJB **16** 06:15:00.8±0.8, 15°.1S±0°.2×173°.8W±0°.2, h30km, mb4.4/15, MS3.6/3, Error ellipse: s-maj=39.1km s-min=11.0km az=147.4*
ISC 16 06:15:02.3±1.2, 15°.1S±0°.3×173°.7W±0°.2, h30km, n41, σ1s00/21, mb4.4/15, MS3.4/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
AFI	Afiamalu	2.19	57	Pn	Pn	06 15 30.3	-6.6
	14nm,0.3s,baz=2.8,slow=8.0,SNR=17						
AFI				Sn	Sn	06 15 51.4	-12
	88nm,0.3s,baz=83,slow=19,SNR=10						
AFI	Afiamalu	2.19	57	ePn	Pn	06 15 31.6	-5.2
AFI				Sn	Sn	06 15 51.4	-12
MSVF	Nonsavu	8.36	251	ePn	Pn	06 17 03.3	+1.8
	38nm,1.0s						
RAR	Rarotonga	14.53	117	LR	LR	06 22 40.8	
	comp=Z,105nm,20.1s,baz=262,slow=32						
DZM	Mont Dzumac	20.06	247	LR	LR	06 26 14.8	
	comp=Z,89nm,19.4s,baz=336,slow=34						
PPT	Papeete	23.25	99	LR	LR	06 27 12.5	
	comp=Z,45nm,18.1s,baz=350,slow=31						
PAE	Paea	23.25	100	eT	T	06 43 40.8	
	5.0nm,0.2s						
PPT2	Papeete2	23.25	99	eLQ	LQ	06 24 30.8	
	437nm,27.2s						
PPT2				eLR	LR	06 25 33.1	
	149nm,28.0s						
PPT2	Papeete2	23.25	99	eT	T	06 43 41.7	
	8.6nm,0.4s						
TVO	Taravao	23.57	100	eT	T	06 44 04.8	
	2.6nm,0.3s						
TBI	Tubuai	24.26	113	eT	T	06 45 08.1	
	25nm,0.3s						
VAH	Vaihoa	25.14	94	eT	T	06 45 56.9	
	8.1nm,0.3s						
RKT	Rikitea	37.34	108	eT	T	07 01 23.3	
	5.4nm,0.4s						
H11S2	WAKE ISLAND Hy	38.58	329	T	T	07 03 09.7	
	baz=149,slow=77						
H11S3	WAKE ISLAND Hy	38.59	329	T	T	07 03 10.5	
	baz=149,slow=77						
H11S1	WAKE ISLAND Hy	38.60	329	T	T	07 03 11.0	
	baz=149,slow=77						
H11N3	WAKE ISLAND Hy	39.53	331	T	T	07 04 19.9	
	baz=152,slow=77,SNR=52						
H11N1	WAKE ISLAND Hy	39.54	331	T	T	07 04 20.4	
	baz=152,slow=77,SNR=74						
H11N2	WAKE ISLAND Hy	39.55	331	T	T	07 04 21.2	
	baz=152,slow=77,SNR=64						
STKA	Stephens Creek	43.95	240	P	P	06 23 06.2	-0.7
	1.0nm,0.7s,baz=104,slow=15,SNR=3.7						
WRAB	Tennant Creek	49.64	257	eP	P	06 23 50.7	-0.8
WRA	Warramunga Arr	49.65	257	P	P	06 23 49.7	-2.0
	1.3nm,0.5s,baz=91,slow=7.4,SNR=29						
ASAR	Alice Springs	49.95	252	P	P	06 23 52.9	-1.0
	10.0nm,0.7s,baz=86,slow=8.3,SNR=99						
VNDA	Vanda	63.63	186	LR	LR	06 48 19.4	
	comp=Z,60nm,20.7s,baz=192,slow=32						
FX1	Attu Island--F	68.66	351	LR	LR	06 49 27.6	
	comp=Z,117nm,21.9s,baz=176,slow=30						
PETK	Petropavlovsk-	72.28	342	P	P	06 26 25.2	+0.5
	4.0nm,0.9s,baz=168,slow=7.6,SNR=3.9						
NVAR	Mina Array Bea	74.30	42	P	P	06 26 37.3	+0.1
	2.1nm,0.9s,baz=230,slow=8.5,SNR=11						
GAMB	Gambell	78.66	1	eP	P	06 27 01.2	+0.2
	11nm,1.5s						
TCUT	Toone Canyon	80.22	43	eP	P	06 27 11.3	+0.9
	12nm,0.8s						
TNA	Tin City	80.55	2	eP	P	06 27 11.9	+0.7
	21nm,1.4s						
TXAR	Lajitas Array	80.68	56	P	P	06 27 14.7	+1.8
	2.0nm,1.1s,baz=251,slow=3.8,SNR=7.6						
PV01	Paradox Valley	80.72	46	eP	P	06 27 12.9	-0.2
COLA	College	82.13	11	eP	P	06 27 19.3	-0.4
	9.9nm,1.0s						
ILAR	Eielson Array	82.22	11	P	P	06 27 20.1	-0.1
	2.4nm,1.1s,baz=227,slow=5.2,SNR=11						
PDAR	Pinedale Array	82.23	42	P	P	06 27 21.4	+0.4
	2.4nm,1.0s,baz=201,slow=4.7,SNR=9.3						
COLD	Coldfoot	83.90	9	eP	P	06 27 27.5	-1.3
	8.9nm,1.5s						
BILL	Bilibino	84.19	353	eP	P	06 27 29.0	-1.2
ABTX	Abilene, Hawle	85.11	55	eP	P	06 27 35.1	-0.7
	20nm,1.2s						
YKA	Yellowknife Ar	89.94	23	P	P	06 27 58.6	+0.3
	0.9nm,1.0s,baz=239,slow=4.7,SNR=11						
BRTR	Keskin Array B	145.77	321	PKPbc	PKPbc	06 34 38.8	-0.1
	2.7nm,1.0s,baz=338,slow=6.5,SNR=4.4						
GERES	GERESS Array B	145.82	351	PKPbc	PKPab	06 34 39.1	0.0
	1.4nm,0.9s,baz=28,slow=4.4,SNR=8.4						

KRSC 16 06:24:56.0±1.3, 60°.50N×167°.33E, h4km±10km, ML3.6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TILK	Tilichiki	0.59	265	eP	Pb	06 25 09.2	+0.4
TILK				eS	Sb	06 25 16.8	-0.7
OSSR	Ossora	2.49	242	P	Pn	06 25 38.7	+1.5
OSSR				S	Sb	06 26 11.6	-0.6
KBTR	Krutoberegovo	4.92	211	eP	Pn	06 26 15.5	+5.0
BKI	Bering	5.36	188	P	Pn	06 26 21.2	+4.6

*ROM **16** 06:42:15.9±0.3, 35°.15N×14°.09E, h10km±5km, Ml3.7/15, Error ellipse: s-maj=9.0km s-min=4.4km az=161.0*
*IDC **16** 06:42:16.3±1.2, 35°.32N×14°.00E, h0km, mb3.4/5, mb1 3.4/10, mb1mx3.4/40, mbtmp3.4/10, ML3.9/4, Error ellipse: s-maj=28.5km s-min=18.4km az=167.0*
ISC 16 06:42:16.2±2.2, 35°.23N±0°.07×14°.02E±0°.06, h1km±14km, n31, σ0s68/43, mb3.5/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WDD	Wield Dalam	0.75	33	Pg	Pg	06 42 30.5	-0.2
WDD				Sg	Sb	06 42 42.0	-0.9
HMDC	Modica	1.83	19	Pg	Pn	06 42 48.7	-0.2
HMDC				Sg	Sn	06 43 13.0	+0.3
	788nm,0.5s						
HAVL	Avola	1.94	27	Pg	Pn	06 42 49.7	-0.7
HAVL				Sg	Sn	06 43 15.7	+0.3
RAFF	Raffo Rosso	2.00	8	Pg	Pn	06 42 51.3	0.0
RAFF				Sg	Sn	06 43 17.0	0.0
	415nm,0.7s						
HVZN	Vizzini	2.02	16	Pg	Pn	06 42 52.4	+0.9
HVZN				Sg	Sn	06 43 17.2	-0.3
	654nm,0.5s						
SSY	Sortino	2.10	24	Pg	Pn	06 42 52.8	+0.3
	1μm,0.6s						
HCRL	Carlentini	2.20	21	Pg	Pn	06 42 53.7	-0.3
HCRL				Sg	Sn	06 43 22.8	+0.9
	1μm,0.7s						
AGST	Augusta-Monte	2.24	25	Pg	Pn	06 42 54.8	+0.3
	417nm,0.6s						
RESU	Resuttano	2.41	1	Pg	Pn	06 42 57.6	+0.7
ECNV	Catenanuova	2.42	13	Pg	Pn	06 42 57.6	+0.6
GALF	Gagliano Caste	2.51	10	Pg	Pn	06 42 58.7	+0.4
GALF				Sg	Sn	06 43 30.0	+0.4
	280nm,0.5s						
ALJA	Alia	2.52	355	Pg	Pn	06 42 59.3	+0.9
	172nm,0.8s						
CSLB	Castelbuono	2.70	1	Pg	Pn	06 43 01.5	+0.7
CSLB				Sg	Sn	06 43 34.7	+0.5
	97nm,0.4s						
GIB	Gibilmanna	2.75	0	Pg	Pn	06 43 02.4	+0.8
	370nm,0.5s						
PLLN	Pollina	2.75	2	Pg	Pn	06 43 02.7	+1.1
PLLN				Sg	Sn	06 43 35.8	+0.2
	212nm,0.5s						
MMME	Mongiuffi-Meli	2.87	20	Pg	Pn	06 43 03.5	+0.2
	200nm,0.5s						
MPAZ	Palizzi	3.15	30	Pg	Pn	06 43 07.0	0.0
MPAZ				Sg	Sn	06 43 44.7	-0.6
	121nm,0.8s						
MSRU	Castanea	3.25	21	Pg	Pn	06 43 08.4	0.0
	603nm,1.3s						
SOI	Samo	3.27	29	Pg	Pn	06 43 08.9	+0.2
	83nm,0.6s						
CEL	Celeste	3.37	26	Pg	Pn	06 43 10.7	+0.6
	131nm,0.9s						
PLAC	Placanica	3.75	30	Pg	Pn	06 43 15.2	-0.1
	61nm,0.6s						
KEST	Kesra	3.85	279	Pn	Pn	06 43 17.2	+0.5
	0.2nm,0.3s,baz=60,slow=8.7,SNR=16						
KEST				Sn	Sn	06 44 01.8	-0.8
	1.4nm,0.3s,baz=42,slow=23,SNR=12						
IDI	Anoyia	8.89	87	Pn	Pn	06 44 27.0	+1.1
	0.5nm,0.3s,baz=308,slow=17,SNR=2.6						
IDI				Sn	Sn	06 46 07.7	+1.0
	0.3nm,0.3s,baz=313,slow=19,SNR=2.7						
ESDC	Sonseca Array	14.96	293	Pn	Pn	06 45 49.9	+1.1
	0.5nm,0.3s,baz=94,slow=13,SNR=3.1						
BRTR	Keskin Array B	16.20	68	Pn	P	06 46 09.1	+0.6
	0.1nm,0.3s,baz=258,slow=7.2,SNR=3.2						
AKASG	Malin Array Be	18.98	31	P	P	06 46 37.9	-1.1
	0.3nm,0.3s,baz=227,slow=10,SNR=5.4						
EKA	Eskdalemuir Ar	23.33	335	P	P	06 47 25.5	-0.2
	0.8nm,0.6s,baz=135,slow=11,SNR=4.0						
TORD	Torodi Ar. Bea	24.65	210	P	P	06 47 38.8	+0.3
	0.3nm,0.5s,baz=25,slow=9.6,SNR=4.6						
FINES	FINESS Array B	27.33	13	P	P	06 48 00.7	-1.7
	0.8nm,0.7s,baz=195,slow=10,SNR=3.4						
MKAR	Makanchi Array	51.28	55	P	P	06 51 22.3	+0.6
	0.4nm,0.8s,baz=285,slow=7.0,SNR=4.2						
SONM	Songino Array	66.32	47	P	P	06 53 06.2	-0.3
	0.5nm,0.8s,baz=286,slow=5.8,SNR=4.2						

*NEIC **16** 06:48:54.3±0.2, 19°.04N×121°.15E, h10km, mb5.2/50, Error ellipse: s-maj=4.6km s-min=3.1km az=115.0*
NEIC Felt [II PIVS] at Laoag and Pasuquin, Luzon.
*GCMT **16** 06:48:54.2±0.3, 19°.14N×121°.03E, h22km±1km, MW5.0/81, Moment Tensor Solution. s28,c32; s81,c104; Duration: 0 Moment tensor: Scale 10^16 N m; Mrr-2.48±.22; Mθθ-0.13±.12; Mφφ2.61±.16; Mrθ-1.52±.22; Mrφ-2.11±.09; Mθφ-0.56±.22; Best double couple: M0 3.68000×10^16 NP1: φs122.00000°, δ56.00000°, λ-133.00000°. NP2: φs1.00000°, δ52.00000°, λ-44.00000°. Principal axes: T 3.7660, Plg2.0000°, Azm241.0000°; N -0.1690, Plg35.0000°, Azm149.0000°; P -3.5940, Plg55.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **16** 06:48:55.6, 19°.38N×121°.01E, h10km, mB5.1/50, mb4.8/70, ML5.1/3, Ms4.6/70, Ms7 4.3/65*
*ISCJB **16** 06:48:56.7±0.8, 19°.18N±0°.01×121°.10E±0°.03, h33km±5km, mb5.0/147, MS4.2/37, Error ellipse: s-maj=4.1km s-min=2.4km az=2.6*
*MAN **16** 06:48:56, 19°.01N×121°.07E, h3km, mb5.6, ML4.7, MS5.0*
MAN INTENSITY II - PASUQUIN & LAOAG ILOCOS NORTE; APARRI CAGAYAN.
*IDC **16** 06:48:56.8±2.1, 19°.01N×121°.17E, h27km±12km, mb4.6/31, mb1 4.7/34, mb1mx4.7/46, mbtmp4.8/34, ML4.0/3, MS4.0/22, Ms1 4.0/22, ms1mx3.9/37, Error ellipse: s-maj=13.6km s-min=9.4km az=82.0*
*MOS **16** 06:48:57.8±0.9, 19°.19N×121°.14E, h42km, mb5.3/47, MS4.2/8, Error ellipse: s-maj=7.6km s-min=4.4km az=110.4*
*KLM **16** 06:49:04.3, 19°.10N×121°.36E, h117km, mb5.2, MS5.8*
*BKK **16** 06:49:08.8±0.7, 20°N±4°×12°2E±°, h135km±8km, M5.3/12, mB4.8/2, mb4.8/12, MLv5.6/1, Mw(mB)4.1/2, Mwp6.1/1*
*DJA **16** 06:49:15.3±2.1, 18°N±13°×12°0E±°, h115km±14km, M5.1/40, mB5.6/22, mb5.0/40, Mw(mB)5.1/22, Mwp6.2/1*
ISC 16 06:48:56.4±0.2, 19°.15N±0°.03×121°.11E±0°.03, h21km±2km, h21km:pP-P, n404, σ1s61/460, mb5.0/148, MS4.2/37, 43C-33D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PIP	Pasuquin	0.94	209	⇓iP	Pb	06 49 11.2	-2.8
PIP				eS	Sb	06 49 26.0	-0.1
SGCP	Mt. Cagua	1.27	135	eP	Pb	06 49 19.2	-0.3
SGCP				eS	Sb	06 49 36.2	+0.8
APYP	Conner	1.29	174	eP	Pn	06 49 18.9	-0.2
APYP				eS	Sb	06 49 36.4	+0.3
SIPP	Brgy, Tapao	1.37	207	⇑iP	Pn	06 49 20.2	0.0
SIPP				i S	Sb	06 49 38.2	-0.1
ABRA	Dolores	1.54	194	eP	Pn	06 49 21.3	-1.3
ABRA				eS	Sb	06 49 43.3	+0.1
CVP	Callao Caves	1.59	155	⇓iP	Pb	06 49 24.4	-0.7
CVP				i S	Sb	06 49 44.0	-0.7
SZP	Santa	1.71	201	ePn	Pn	06 49 24.1	-0.7
SZP				eSn	Sn	06 49 46.0	-0.1
CAUP	Cauayan	2.30	163	eP	Pb	06 49 36.7	-0.4
BCPH	Baguio City Da	2.80	190	⇑iP	Pn	06 49 40.7	+0.6
BCPH				i S	Sb	06 50 17.0	-2.8
BOLP	Bolinao	2.98	203	eP	Pn	06 49 43.1	+0.7
BALP	Baler	3.42	172	eP	Pn	06 49 50.2	+1.8
SCZP	Santa Cruz	3.55	199	eP	Pn	06 49 50.4	+0.2
TWG	Pinlang	3.65	359	ePn	Pn	06 49 50.7	-0.9
TPUB	Ta-pu	4.15	354	ePn	Pn	06 49 58.1	-0.4
YULB	Yu-li	4.22	2	ePn	Pn	06 50 01.0	+1.5
SSLB	Suanglung	4.62	358	ePn	Pn	06 50 05.4	+0.5
NACB	Ninganchiao	5.02	5	ePn	Pn	06 50 11.0	+0.6
	232nm,0.8s						
TGY	Tagaytay City	5.02	182	Pn	Pn	06 50 14.2	+3.6
	83nm,0.3s,baz=314,slow=3.6,SNR=14						
TGY	Tagaytay City	5.02	182	⇑eP	Pn	06 50 15.1	+4.5
LQP	Lukban	5.03	175	⇑eP	Pn	06 50 16.9	+6.2
GQP	Guinayangan	5.37	166	⇓eP	Pn	06 50 17.3	+2.0
GQP				eS	Sn	06 51 19.8	+3.2
LUBP	Lubang	5.45	189	eP	Pn	06 50 20.7	+4.3
YHNB	Yeheng	5.50	3	ePn	Pn	06 50 18.2	+1.1
	218nm,0.6s						
YOJ	Yonaguni jima	5.57	18	eP	Pn	06 50 20.1	+2.1
YOJ	Yonaguni jima	5.57	18	ePn	Pn	06 50 20.1	+2.1
TATO	Taipei	5.81	3	ePn	Pn	06 50 23.5	+2.3
AUQP	San Andres	5.99	165	eP	Pn	06 50 29.3	+5.5
QZH	Quanzhou	6.22	338	⇑iPn	Pn	06 50 25.4	-1.5
QZH				Sn	Sn	06 51 32.6	-4.8
QZH				smax	smax		
	comp=N,180nm,1.0s						
QZH				smax	smax		
	comp=E,480nm,1.3s						
QZH				LR	LR		
	comp=N,5μm,13.7s						
QZH				LR	LR		
	comp=E,4μm,14.5s						
QZH				LR	LR		
	comp=Z,4μm,12.2s						
JOW	Kunigami	10.10	39	Pn	Pn	06 51 20.8	+0.6
	0.9nm,0.3s,baz=240,slow=14,SNR=7.4						
JOW				LR	LR	06 54 53.8	
	comp=Z,108nm,21.1s,baz=301,slow=35						
QIZ	Qiongzhong	10.65	271	P	Pn	06 51 27.6	-0.2
QIZ				S	Sn	06 53 27.3	+0.8
QIZ				LR	LR		
	comp=N,2μm,18.3s						
QIZ				LR	LR		
	comp=Z,2μm,14.2s						
QIZ	Qiongzhong	10.65	271	ePn	Pn	06 51 26.3	-1.5
	192nm,1.4s						
SSE	Sheshan	11.89	0	eP	Pn	06 51 48.6	+3.9
SSE				S	Sn	06 54 03.1	+6.3
SSE				pmax	pmax		
	comp=Z,20nm,1.2s						
SSE				pmax	pmax		
	comp=Z,250nm,7.5s						
SSE				LR	LR		
	comp=N,260nm,19.9s						
SSE				LR	LR		
	comp=E,560nm,20.0s						
SSE				LR	LR		
	comp=Z,630nm,21.8s						
WHN	Wuhan	12.89	333	P	Pn	06 51 57.5	-0.8
WHN				LR	LR		
	comp=N,2μm,11.7s						
WHN				LR	LR		
	comp=E,3μm,11.0s						
WHN				LR	LR		
	comp=Z,4μm,14.4s						
NJ2	Nanjing	13.01	351	eP	Pn	06 52 00.6	+0.7
NJ2				S	Sn	06 54 27.6	+3.6
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
NJ2				LR	LR		
	comp=N,2μm,19.5s						
NJ2				LR	LR		
	comp=E,2μm,14.9s						
NJ2				LR	LR		
	comp=Z,4μm,16.0s						
KKM	Kota Kinabalu	13.87	201	ePn	Pn	06 52 11.5	-0.4
KKM	Kota Kinabalu	13.87	201	⇑P	Pn	06 52 15.5	+3.5
SDKM	Sandakan	13.96	196	⇑P	P	06 52 17.1	-4.0
MYLDM	Lahad Datu	14.12	191	ePn	P	06 52 19.2	-3.5
MYLDM	Lahad Datu	14.12	191	⇓P	P	06 52 19.2	-3.5
TSM	Tawau	15.10	192	⇓P	P	06 52 33.6	0.0
GYA	Guiyang	15.17	301	⇑iP	Pn	06 52 28.9	-0.6
GYA				PP	pP	06 52 43.3	+2.9
GYA				S	Sn	06 55 21.9	+4.9
GYA				SS	S	06 55 38.0	+4.2
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,150nm,4.6s						
GYA				LR	LR		
	comp=N,2μm,14.9s						
GYA				LR	LR		
	comp=E,990nm,15.2s						
GYA				LR	LR		
	comp=Z,2μm,16.2s						
ENH	Enshi	15.29	319	ePn	Pn	06 52 32.4	+1.4
	39nm,1.1s						
SLVN	Son La	16.29	281	eP	P	06 52 52.4	+5.4
	12nm,0.8s						
JNU	Nakatsue	16.43	30	Pn	Pn	06 52 47.0	+1.2
	1.0nm,0.3s,baz=206,slow=6.8,SNR=19						
JNU	Nakatsue	16.43	30	ePn	P	06 52 47.3	-1.0
KMI	Kunming	18.02	293	P	P	06 53 07.4	+1.2
KMI				pP	pP	06 53 09.3	-2.8
KMI				sP	sP	06 53 11.0	-3.8
KMI				PP	PnPn	06 53 22.9	+6.0
KMI				S	Sn	06 56 24.8	-1.6
KMI				sS	S	06 56 29.4	-2.8
KMI				SS	SnSn	06 56 48.8	+8.7
KMI				pmax	pmax		
	comp=Z,16nm,1.5s						
KMI				pmax	pmax		

comp=Z,200nm,4.3s
KMI LR LR
comp=N,3μm,12.6s
KMI LR LR
comp=E,2μm,12.6s
KMI LR LR
comp=Z,2μm,11.7s
TJN Taejon 18.02 17 eP Pn 06 53 04.9 -0.6
XAN Xi'an 18.38 326 P Pn 06 53 11.1 +1.2
XAN pP pP 06 53 16.3 +0.5
XAN pmax pmax
comp=Z,110nm,6.6s
XAN LR LR
comp=N,820nm,14.3s
XAN LR LR
comp=Z,410nm,14.3s
GTOI Gorontalo 18.50 174 P Pn 06 53 12.9 +1.5
76nm,1.5s
MRSI Marisa 18.58 177 P Pn 06 53 13.8 +1.4
43nm,0.7s
KMSI Cibinong 18.68 171 P Pn 06 53 20.7 +7.1
263nm,1.2s
SBUM Sibu 18.74 209 ePn Pn 06 53 14.4 0.0
SBUM Sibu 18.74 209 ⇓P Pn 06 53 15.4 +1.0
KSAR Wonju Array Be 19.16 17 P P 06 53 18.9 +0.5
KSAR Wonju Array Be 19.16 17 P P 06 53 18.9 +0.5
KSRS Korea Array 19.18 17 P P 06 53 18.9 +0.2
1.1nm,0.3s,baz=198,slow=12,SNR=28
KSRS LR LR 07 01 27.1
comp=Z,738nm,18.5s,baz=198,slow=39
UTTA Uttaradit 19.55 269 P Pn 06 53 25.5 +1.3
CD2 Chengdu 19.57 310⇓eP P 06 53 23.5 +0.5
CD2 pP pP 06 53 27.3 -1.7
CD2 sP sP 06 53 30.5 -1.2
CD2 PP PnPn 06 53 41.8 +3.8
CD2 S S 06 56 59.1 -4.0
CD2 sS Sn 06 57 04.5 +0.9
CD2 SS SnSn 06 57 26.1 +8.1
CD2 pmax pmax
comp=Z,60nm,0.5s
CD2 pmax pmax
comp=Z,480nm,4.7s
CD2 LR LR
comp=N,2μm,21.9s
CD2 LR LR
comp=E,2μm,14.1s
CD2 LR LR
comp=Z,980nm,16.2s
DL2 Dalian 19.69 1 P Pn 06 53 25.9 +0.2
DL2 pmax pmax
comp=Z,40nm,1.1s
DL2 LR LR
comp=E,740nm,17.5s
DL2 LR LR
comp=Z,500nm,12.1s
APSI Ampana 19.95 178 P Pn 06 53 29.2 +0.4
188nm,1.1s,1μm
TIY Taiyuan 19.98 340 eP Pn 06 53 30.5 +1.2
TIY pmax pmax
comp=Z,63nm,0.8s
TIY pmax pmax
comp=Z,340nm,9.3s
TIY LR LR
comp=N,640nm,11.1s
TIY LR LR
comp=E,1μm,15.0s
TIY LR LR
comp=Z,990nm,15.3s
LAMP Lampang 20.34 272 P Pn 06 53 40.8 +7.3
6.0nm,0.9s,102nm
PATY Pattaya 20.41 255 P Pn 06 53 36.1 +1.8
KSM Kuching 20.51 212 ePn P 06 53 33.4 +0.1
108nm,1.2s
KSM Kuching 20.51 212 ⇓P Pn 06 53 35.0 -0.5
CMAI Chiengmai2 20.81 276 P Pn 06 53 39.4 +0.2
MTKI Muara Teweh, K 20.88 198 P Pn 06 53 38.7 -1.1
127nm,1.2s,7μm
CHTO Chiang Mai 20.96 273 eP P 06 53 39.5 +1.3
CHTO pmax pmax
comp=Z,35nm,1.1s
CHTO Chiang Mai 20.96 273 P Pn 06 53 40.2 -0.6
CHTO Chiang Mai 20.96 273 ePn P 06 53 39.5 +1.3
comp=Z,35nm,1.1s
CMAR Chiang Mai Arr 20.99 272 P P 06 53 39.4 +0.8
comp=Z,6.2nm,0.9s,baz=78,slow=8.9,SNR=29
CMAR PcP PcP 06 57 46.6 +1.0
comp=Z,2.1nm,0.5s,baz=46,slow=0.5,SNR=7.8
CMAR ScP ScP 07 01 20.8 -0.5
comp=Z,1.9nm,0.6s,baz=73,slow=1.6,SNR=6.2
STKI Sintang 21.19 208 P P 06 53 40.8 +0.2
comp=Z,59nm,1.2s,comp=Z,16μm
BJT Baijiatuau 21.23 349 eP P 06 53 42.2 +1.3
BJT pmax pmax
comp=Z,161nm,0.9s
BJT Baijiatuau 21.23 349 eP P 06 53 42.1 +1.3
comp=Z,162nm,0.9s
BJI Beijing 21.25 350 P P 06 53 42.3 +1.3
BJI pmax pmax
comp=Z,37nm,1.4s
BJI pmax pmax
comp=Z,230nm,3.5s
BJI LR LR
comp=Z,640nm,17.4s
BJI LR LR
comp=Z,760nm,18.6s
BJI LR LR
comp=Z,310nm,26.5s
UMPA Umpang Tak 21.40 266 P P 06 53 53.4 +10
comp=Z,25nm,0.4s,comp=Z,2μm
SANI Sanana 21.61 167 P P 06 53 46.5 +1.4
comp=Z,59nm,1.0s
TTSI Tana Toraja 22.09 183 P P 06 53 53.7 +3.4
comp=Z,29nm,1.7s
SWI Sorong 22.25 152 P P 06 53 55.6 +3.6
comp=Z,39nm,0.9s
SNY Shenyang 22.70 5 ⇓P P 06 53 57.4 +0.8
SNY S S 06 57 57.3 -6.6
SNY pmax pmax
comp=Z,45nm,1.2s
SNY LR LR
comp=Z,690nm,14.4s
SNY LR LR
comp=Z,430nm,11.4s
SNY LR LR
comp=Z,950nm,15.6s
LZH Lanzhou 22.71 321 ⇑P P 06 53 58.3 +1.3
LZH pP pP 06 54 03.0 0.0
LZH sP sP 06 54 05.3 -0.4
LZH PP PnPn 06 54 28.6 +7.5
LZH S S 06 58 04.6 +0.1
LZH sS sS 06 58 09.0 -5.8
LZH pmax pmax
comp=Z,76nm,1.0s
LZH pmax pmax
comp=Z,300nm,4.1s
LZH LR LR
comp=Z,1μm,12.1s
LZH LR LR
comp=Z,2μm,12.8s
LZH LR LR
comp=Z,2μm,13.7s
MAJO Matsushiro 22.93 37 eP P 06 53 59.3 +0.2
MAJO Matsushiro 22.93 37 eP P 06 53 59.2 +0.2
MAT Matsushiro 22.93 37 P P 06 53 58.2 -0.9
MAT S S 06 58 10.0 +1.9
MJAR Matsushiro Arr 22.93 37 P P 06 53 58.9 -0.2
comp=Z,16nm,0.9s,baz=219,slow=9.2,SNR=13
SPSI Sidrap Palu 23.01 183 P P 06 54 02.8 +2.8
comp=Z,27nm,1.0s
NLAI Namlea 23.02 165 P P 06 54 13.5 +13
HHC Hu-ho-hao-te 23.12 341 eP P 06 54 02.3 +1.2
HHC pP pP 06 54 10.0 +2.8
HHC PcP PcP 06 57 50.1 +0.5
HHC SS SS 06 58 53.5
HHC pmax pmax
comp=Z,120nm,1.4s
HHC pmax pmax
comp=Z,270nm,3.7s
HHC LR LR
comp=Z,2μm,14.9s
HHC LR LR
comp=Z,2μm,16.2s
HHC LR LR
comp=Z,2μm,13.7s
BBKI Banjar Baru 23.30 196 P P 06 54 02.2 -0.8
comp=Z,167nm,1.0s,comp=Z,4μm

KAPI Kappang 24.05 183 eP P 06 54 10.1 -0.1
comp=Z,46nm,1.2s
MYKOM Kota Tinggi 24.15 226 eP P 06 54 10.0 -1.2
comp=Z,309nm,2.1s
MYKOM Kota Tinggi 24.15 226 ⇑P P 06 54 11.5 +0.3
KULM Kulim 24.24 238 eP P 06 54 11.8 -0.2
comp=Z,103nm,1.3s
KULM Kulim 24.24 238 ⇑P P 06 54 12.9 +0.9
BKSI Bulukumba 24.34 182 P P 06 54 14.0 +1.1
comp=Z,21nm,1.0s,comp=Z,305nm
KGM Kluang 24.36 228 ⇓P P 06 54 13.1 0.0
IPM Ipoh 24.43 236 eP P 06 54 12.7 -1.1
comp=Z,162nm,1.5s
IPM Ipoh 24.43 236 ⇓P P 06 54 13.4 -0.4
FRIM Kepong 24.76 233 ⇑P P 06 54 16.9 +0.2
CN2 Changchun 24.84 7 eP P 06 54 18.6 +1.4
CN2 esP sP 06 54 25.6 -0.7
CN2 eS S 06 58 39.3 +0.4
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,500nm,15.0s
TPI Tanjungpandan 25.48 213 P P 06 54 22.6 -0.6
comp=Z,40nm,1.0s
VLA Vladivostok 25.57 18⇑eP P 06 54 23.7 -0.1
VLA pmax pmax
comp=Z,58nm,1.7s
MDJ Mudanjiang 26.36 14 P P 06 54 32.5 +1.5
MDJ pP pP 06 54 35.5 -1.9
MDJ sP sP 06 54 36.9 -3.1
MDJ S S 06 59 06.9 +3.9
MDJ PcS PcS 07 01 37.4 0.0
MDJ ScS ScS 07 05 27.3 +2.0
MDJ pmax pmax
comp=Z,18nm,1.1s
MDJ pmax pmax
comp=Z,100nm,4.7s
MDJ LR LR
comp=Z,440nm,16.8s
MDJ LR LR
comp=Z,640nm,14.9s
MDJ LR LR
comp=Z,620nm,19.5s
MDJ Mudanjiang 26.36 14 eP P 06 54 30.7 -0.2
comp=Z,20nm,1.1s
USRK Ussuriysk Arra 26.59 18 P P 06 54 33.6 +0.6
comp=Z,11nm,0.8s,baz=198,slow=7.4,SNR=15
USRK LR LR 07 05 49.5
comp=Z,272nm,19.1s,baz=185,slow=38
RGRI Rengat 26.74 226 P P 06 54 34.9 +0.2
comp=Z,335nm,0.4s,comp=Z,48μm
KMMI Kalianget 26.97 196 P P 06 54 39.3 +2.6
comp=Z,50nm,1.0s,comp=Z,3μm
PSI Prapat 27.11 236 P P 06 54 37.8 -0.3
comp=Z,11nm,0.9s,baz=16,slow=6.2,SNR=12
PSI LR LR 07 05 49.4
comp=Z,490nm,18.3s,baz=79,slow=37
GRJI Gresik 27.26 199 P P 06 54 40.0 +0.7
comp=Z,73nm,0.8s
GTA Gaotai 27.31 322 eP P 06 54 40.5 +0.8
GTA pP pP 06 54 44.9 -1.2
GTA sP sP 06 54 47.8 -1.0
GTA PcP PcP 06 57 59.8 +0.8
GTA S S 06 59 18.3 0.0
GTA sS sS 06 59 26.4 -2.5
GTA pmax pmax
comp=Z,15nm,1.3s
GTA pmax pmax
comp=Z,150nm,5.7s
GTA LR LR
comp=Z,780nm,16.9s
GTA LR LR
comp=Z,910nm,18.3s
GTA LR LR
comp=Z,670nm,15.4s
KCSI Kotacane, Aceh 27.59 239 P P 06 54 41.3 -1.1
comp=Z,31nm,1.4s
BLJI Banyuglugur 27.73 196 P P 06 54 43.5 0.0
comp=Z,59nm,1.0s,comp=Z,1μm
SHL Shillong 27.73 289 eP P 06 54 44.0 +0.2
MNSI Mandailing Nat 27.90 232 P P 06 54 44.5 -0.6
comp=Z,36nm,0.9s,comp=Z,5μm
NGJI Ngawi 28.02 201 P P 06 54 47.5 +1.4
comp=Z,70nm,0.9s
WOJI Wonogiri, Jawa 28.64 201 P P 06 54 51.0 -0.6
comp=Z,85nm,1.3s,comp=Z,12μm
MDSI Maura Dua 28.80 217 P P 06 54 53.2 +0.1
comp=Z,15nm,1.4s
GSI Gunungsitoli 29.09 235 P P 06 54 54.5 -1.3
comp=Z,42nm,0.8s,comp=Z,8μm
GSI Gunungsitoli 29.09 235 eP P 06 54 54.4 -1.3
comp=Z,25nm,0.8s
LSA Lhasa 29.15 297 P P 06 54 57.8 +1.1
LSA Lhasa 29.15 297 eP P 06 54 58.3 +1.6
LSA pmax pmax
comp=Z,17nm,1.0s
LSA Lhasa 29.15 297 eP P 06 54 58.3 +1.6
comp=Z,17nm,1.0s
BATI Baumata 29.28 175 P P 06 54 57.1 -0.3
comp=Z,14nm,0.4s,baz=85,slow=17,SNR=2.4
BATI LR LR 07 06 59.3
comp=Z,286nm,21.6s,baz=350,slow=37
ERM Erimo 29.49 35⇑eP P 06 54 56.8 -2.2
ERM pmax pmax
comp=Z,124nm,1.2s
CISI Cisompet, Garu 29.60 207 P P 06 55 02.2 +2.0
HIA Hailar 30.06 358 eP P 06 55 03.7 -0.3
HIA pmax pmax
comp=Z,13nm,0.8s
HIA Hailar 30.06 358 eP P 06 55 03.7 -0.3
comp=Z,13nm,0.8s
ASAJ Asahikawa 30.71 31 eP P 06 55 11.1 +1.4
comp=Z,10nm,0.9s
ULN Ulaanbaatar 30.84 341 eP P 06 55 12.3 +1.2
ULN pmax pmax
comp=Z,47nm,1.5s
ULN Ulaanbaatar 30.84 341 eP P 06 55 12.3 +1.2
comp=Z,47nm,1.5s
SONM Songino Array 31.02 341 P P 06 55 13.6 +1.0
comp=Z,16nm,1.0s,baz=161,slow=10,SNR=74
SONM ScP ScP 07 01 49.9 -0.1
comp=Z,1.8nm,0.9s,baz=156,slow=5.2,SNR=9.6
SONM LR LR 07 10 25.9
comp=Z,526nm,18.1s,baz=156,slow=41
KLR Kul'dur 31.21 14 eP P 06 55 10.7 -3.4
KLR e 06 58 05.1
KLR pmax pmax
comp=Z,45nm,1.6s
HABR Khabarovsk 31.35 18 eP P 06 55 12.7 -2.6
HABR e 06 58 08.0
HABR eS S 07 00 18.4 -3.0
HABR eSS SnSn 07 02 00.4 -5.2
HABR e 07 05 47.9
HABR pmax pmax
comp=Z,26nm,0.8s
HABR MLR MLR
comp=Z,354nm,20.0s
TAPN Taplejung 31.68 291 eP P 06 55 19.6 +0.7
comp=Z,56nm,1.1s
TAPN Taplejung 31.68 291 eP P 06 55 19.6 +0.7
comp=Z,56nm,1.1s
ODAN Odare 31.90 290 eP P 06 55 21.4 +0.7
ODAN Odare 31.90 290 eP P 06 55 21.4 +0.7
YUK Yuzh-Kuril'sk 32.32 34c iP P 06 55 23.7 -0.2
YUK i PPP PPP 06 56 32.8
YUK i 06 58 14.9
YUK S S 07 00 38.9 +2.3
RAMN Ramite 32.61 290 eP P 06 55 27.8 +0.8
comp=Z,56nm,0.7s
RAMN Ramite 32.61 290 eP P 06 55 27.8 +0.8
comp=Z,56nm,0.7s
YSS Yuzh-Sakhalins 32.91 28 eP P 06 55 30.0 +0.9
YSS e 06 55 38.0
YSS eS S 07 00 45.0 -0.7
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=N,400nm,17.0s

YSS Yuzh-Sakhalins 32.91 28 eP P 06 55 30.5 +1.5
comp=N,35nm,1.1s
JIRN Jiri 33.06 291 eP P 06 55 31.8 +0.8
comp=N,23nm,0.7s
JIRN Jiri 33.06 291 eP P 06 55 31.8 +0.8
comp=N,23nm,0.7s
GUN Gumba 33.36 292 eP P 06 55 34.3 +0.6
comp=N,68nm,0.9s
GUN Gumba 33.36 292 eP P 06 55 34.3 +0.6
comp=N,68nm,0.9s
PKI Pulchoki 33.73 291 eP P 06 55 36.9 0.0
PKI Pulchoki 33.73 291 eP P 06 55 36.9 0.0
PKI Pulchoki 33.73 291 eP P 06 55 36.9 0.0
PKIN Phulchoki 33.74 291 eP P 06 55 36.8 -0.1
KKN Kakani 33.87 291 eP P 06 55 38.3 +0.3
KKN Kakani 33.87 291 eP P 06 55 38.3 +0.3
KKN Kakani 33.87 291 eP P 06 55 38.3 +0.3
DMN Daman 34.01 291 eP P 06 55 39.3 +0.1
comp=N,44nm,1.0s
DMN Daman 34.01 291 eP P 06 55 39.3 +0.1
comp=N,44nm,1.0s
ZAK Zakamensk 34.24 340⇓iP P 06 55 41.3 +0.5
ZAK pmax pmax
comp=Z,11nm,1.1s
GKN Gorkha 34.46 292 eP P 06 55 42.9 -0.1
comp=Z,56nm,1.1s
GKN Gorkha 34.46 292 eP P 06 55 42.9 -0.1
comp=Z,56nm,1.1s
TLY Talaya 35.25 341 P P 06 55 50.2 +0.8
comp=Z,110nm,0.9s,SNR=5.5
TLY Talaya 35.25 341 eP P 06 55 50.8 +1.4
TLY e 06 57 06.8
TLY eS S 07 01 17.8 -4.1
TLY pmax pmax
comp=Z,28nm,1.3s
TLY MLR MLR
comp=Z,355nm,16.0s
TLY Talaya 35.25 341 eP P 06 55 50.8 +1.4
comp=Z,28nm,1.2s
DANN Dangsing 35.27 292 eP P 06 55 50.1 -0.1
DANN Dangsing 35.27 292 eP P 06 55 50.1 -0.1
KOLN Koldanda 35.35 291 eP P 06 55 52.0 +1.2
comp=Z,39nm,0.9s
KOLN Koldanda 35.35 291 eP P 06 55 52.0 +1.2
comp=Z,39nm,0.9s
IRK Irkutsk 35.56 342 eP P 06 55 53.1 +1.1
IRK pmax pmax
comp=Z,62nm,1.4s
PYUN Piuthan 35.92 292 eP P 06 55 55.8 +0.1
comp=Z,40nm,0.7s
PYUN Piuthan 35.92 292 eP P 06 55 55.8 +0.1
comp=Z,40nm,0.7s
MOY Mondy 36.10 339 eP P 06 55 58.3 +1.5
MOY pmax pmax
comp=Z,38nm,3.2s
WMQ Urumqi 37.23 319 P P 06 56 08.1 +1.6
WMQ pP pP 06 56 12.5 -0.5
WMQ sP sP 06 56 15.1 -0.5
WMQ PP PnPn 06 57 35.5 +3.5
WMQ PcP PcP 06 58 28.8 +2.8
WMQ S S 07 01 54.8 +2.3
WMQ sS sS 07 02 02.8 -0.4
WMQ PcS PcS 07 02 14.9 +0.6
WMQ SS SnSn 07 04 25.9 -2.5
WMQ ScS ScS 07 06 19.8 0.0
WMQ pmax pmax
comp=Z,19nm,1.6s
WMQ pmax pmax
comp=Z,250nm,4.6s
WMQ LR LR
comp=Z,590nm,12.6s
WMQ LR LR
comp=Z,450nm,10.0s
WMQ LR LR
comp=Z,260nm,17.0s
CLNS Chul'man 37.73 3 eP P 06 56 10.5 0.0
CLNS pmax pmax
comp=Z,20nm,0.8s
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.9s
PMG Port Moresby 38.27 136⇑eP P 06 56 19.0 +3.6
PMG pmax pmax
comp=Z,12nm,1.7s
HYB Hyderabad 40.37 275 i P P 06 56 32.0 -1.1
WRAB Tennant Creek 40.95 161 P P 06 56 34.1 -3.6
comp=Z,56nm,0.5s,SNR=16
WRAB Tennant Creek 40.95 161⇑eP P 06 56 35.0 -2.7
WRAB pmax pmax
comp=Z,28nm,1.3s
WRAB Tennant Creek 40.95 161 eP P 06 56 34.5 -3.2
comp=Z,72nm,2.1s
WRA Warramunga Arr 40.96 161 P P 06 56 34.7 -3.1
comp=Z,5.0nm,0.5s,baz=342,slow=9.0,SNR=54
WRA PcP PcP 06 58 38.0 0.0
comp=Z,3.9nm,0.5s,baz=343,slow=3.2,SNR=10
WRA ScP ScP 07 02 25.3 -1.3
comp=Z,2.1nm,0.9s,baz=347,slow=3.8,SNR=7.2
WRA S S 07 02 43.8 -5.0
comp=Z,0.9nm,0.8s,baz=355,slow=14,SNR=4.6
WRA LR LR 07 16 33.9
comp=Z,94nm,19.4s,baz=355,slow=41
MK31 Makanchi Array 42.01 320 i P P 06 56 47.2 +1.1
MK31 pmax pmax
comp=Z,34nm,0.9s
MK31 Makanchi Array 42.01 320 eP P 06 56 47.3 +1.1
MKAR Makanchi Array 42.01 320 P P 06 56 47.5 +1.3
comp=Z,18nm,0.9s,baz=114,slow=9.7,SNR=141
MKAR PcP PcP 06 58 41.3 +0.2
comp=Z,7.2nm,0.9s,baz=111,slow=5.3,SNR=5.1
MKAR LR LR 07 14 58.4
comp=Z,224nm,20.1s,baz=124,slow=37
H11S3 WAKE ISLAND Hy 43.05 83 T T 07 42 31.8
baz=277,slow=73,SNR=136
H11S1 WAKE ISLAND Hy 43.06 83 T T 07 42 49.7
baz=277,slow=73,SNR=87
H11S2 WAKE ISLAND Hy 43.07 83 T T 07 42 54.4
baz=277,slow=73,SNR=81
H11N1 WAKE ISLAND Hy 43.08 81 T T 07 42 49.6
baz=280,slow=75,SNR=166
H11N2 WAKE ISLAND Hy 43.08 81 T T 07 42 54.4
baz=280,slow=75,SNR=97
H11N3 WAKE ISLAND Hy 43.09 81 T T 07 42 50.8
baz=280,slow=75,SNR=124
YAK Yakutsk 43.26 6 eP P 06 56 55.6 -0.4
YAK e*PP pP 06 57 05.3 +2.8
YAK e 06 58 39.1
YAK e 06 58 45.2
YAK ePPP PPP 06 59 08.2
YAK eS S 07 03 19.3 -2.5
YAK e*SS sS 07 03 33.8 +1.2
YAK eSS SS 07 06 28.9 -6.3
YAK e 07 06 48.8
YAK pmax pmax
comp=Z,26nm,1.1s
YAK pmax pmax
comp=N,18nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=E,11nm,1.2s
YAK smax smax
comp=N,73nm,3.7s
YAK MLR MLR
comp=Z,276nm,15.0s
YAK MLR MLR
comp=E,160nm,16.0s
YAK MLR MLR
comp=N,266nm,15.0s
YAK Yakutsk 43.26 6 eP P 06 56 56.1 +0.1
comp=N,32nm,0.8s
KSH Kashi 43.74 308 P P 06 57 04.0 +3.6
KSH epP pP 06 57 10.3 +3.3
KSH PP PcP 06 58 50.8 +3.7
KSH PcS PcS 07 02 40.3 +0.2
KSH S S 07 03 35.0 +5.2
KSH SS SS 07 06 44.8 -0.8
KSH pmax pmax
comp=N,21nm,0.8s
KSH LR LR
comp=N,530nm,14.5s
KSH LR LR
comp=N,230nm,6.8s

KSH LR LR
comp=N,510nm,17.0s
PETK Petropavlovsk- 44.13 31 P P 06 57 03.3 +0.1
comp=N,18nm,0.8s,baz=205,slow=6.1,SNR=11
PETK LR LR 07 17 00.9
comp=N,136nm,18.9s,baz=220,slow=38
ASAR Alice Springs 44.35 163 P P 06 57 02.6 -2.6
comp=N,1.4nm,0.3s,baz=340,slow=7.0,SNR=34
ASAR PcP PcP 06 58 49.5 +0.2
comp=N,1.9nm,0.7s,baz=345,slow=3.2,SNR=4.2
ASAR ScP ScP 07 02 39.5 -0.7
comp=N,1.8nm,0.9s,baz=346,slow=3.1,SNR=7.8
ASAR S S 07 03 35.3 -3.3
comp=N,0.4nm,0.7s,baz=358,slow=20,SNR=3.8
ASAR LR LR 07 17 29.5
comp=N,128nm,18.5s,baz=358,slow=39
ZALV Zalesovo Beam 44.48 330 P P 06 57 06.5 +0.5
comp=N,17nm,0.7s,baz=119,slow=7.7,SNR=51
ZALV LR LR 07 16 42.8
comp=N,264nm,18.3s,baz=98,slow=37
PET Petropavlovsk 44.55 32 eP P 06 57 06.1 -0.4
PET eS S 07 03 39.9 -1.0
PET pmax pmax
comp=Z,33nm,1.1s
PET MLR MLR
comp=Z,300nm,15.0s
TKM2 Tokmak 2 44.94 312 P P 06 57 11.9 +1.8
SNR=7.6
TKM2 Tokmak 2 44.94 312 eP P 06 57 11.4 +1.3
TKM2 pmax pmax
comp=Z,14nm,1.3s
TKM2 Tokmak 2 44.94 312 eP P 06 57 11.4 +1.3
comp=Z,14nm,1.3s
KZA Kyzart 44.94 311 P P 06 57 12.6 +2.2
SNR=13
KZA Kyzart 44.94 311 iP P 06 57 12.5 +2.2
UCH Uchtor 45.51 311 P P 06 57 17.3 +2.3
SNR=33
UCH Uchtor 45.51 311 iP P 06 57 17.2 +2.3
CHMS Chumysh 45.55 312 P P 06 57 16.6 +1.9
SNR=9.6
CHMS Chumysh 45.55 312 iP P 06 57 16.6 +1.9
FRU Bishkek 45.60 312 eP P 06 57 17.0 +1.9
AAK Ala-Archa 45.63 311 P P 06 57 17.9 +2.4
comp=Z,44nm,1.0s,SNR=5.5
AAK Ala-Archa 45.63 311 P P 06 57 17.5 +2.0
SNR=5.4
AAK Ala-Archa 45.63 311 P P 06 57 17.0 +1.5
AAK Ala-Archa 45.63 311 eP P 06 57 17.3 +1.8
comp=Z,7.6nm,1.0s
NVS Novosibirsk 45.76 330⇓iP P 06 57 16.5 +0.4
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,13nm,1.4s
NVS pmax pmax
comp=Z,29nm,1.4s
USP Ospenovka 45.80 312 P P 06 57 18.2 +1.4
SNR=6.8
USP Ospenovka 45.80 312 iP P 06 57 18.2 +1.4
KURK Kurchatov 45.98 323 P P 06 57 18.2 +0.3
comp=Z,122nm,1.0s,SNR=27
KURK Kurchatov 45.98 323 P P 06 57 18.6 +0.7
KURK pmax pmax
comp=Z,28nm,1.2s
AML Almayashu 46.07 310 P P 06 57 21.5 +2.2
SNR=30
KK31 Karatay Array 48.58 311 P P 06 57 38.9 +0.5
KK31 pmax pmax
comp=Z,28nm,0.9s
KKAR Karatay Array 48.58 311 eP P 06 57 38.3 -0.1
KKAR pmax pmax
comp=Z,30nm,0.9s
KKAR Karatay Array 48.58 311 eP P 06 57 38.3 -0.1
comp=Z,30nm,0.9s
SEY Seymchan 48.73 18 eP P 06 57 40.2 +1.1
VOSK Vostochnaya 51.14 323 P P 06 57 57.1 -0.5
VOSK pmax pmax
comp=Z,26nm,1.3s
BVA0 Borovoye Array 51.58 323 iP P 06 58 01.7 +0.8
BVA0 pmax pmax
comp=Z,22nm,1.2s
BRVK Borovoye 51.65 323 P P 06 58 02.4 +1.0
comp=Z,199nm,0.8s,SNR=12
BRVK Borovoye 51.65 323 eP P 06 58 02.5 +1.0
BRVK pmax pmax
comp=Z,39nm,1.0s
BRVK Borovoye 51.65 323 eP P 06 58 02.5 +1.0
comp=Z,39nm,1.0s
FX1 Attu Island--F 52.29 37 P P 06 58 06.8 +0.6
comp=Z,9.8nm,0.7s,baz=233,slow=10,SNR=3.1
FX1 LR LR 07 21 19.9
comp=Z,25nm,20.5s,baz=262,slow=37
BBOO Buckleboo 53.61 164 eP P 06 58 15.0 -1.1
comp=Z,244nm,0.8s
STKA Stephens Creek 54.41 159 P P 06 58 21.4 -0.5
comp=Z,2.4nm,0.6s,baz=346,slow=10,SNR=9.6
STKA LR LR 07 25 02.3
comp=Z,104nm,18.5s,baz=7.2,slow=40
BILL Bilibino 56.44 19d iP P 06 58 36.3 +0.2
BILL i 06 58 43.8
BILL eS S 07 06 23.0 -2.7
BILL pmax pmax
comp=Z,37nm,1.3s
BILL MLR MLR
comp=Z,153nm,18.0s
BILL Bilibino 56.44 19 eP P 06 58 36.2 +0.1
comp=Z,26nm,0.9s
AB31 Akbulak array 56.97 317 iP P 06 58 40.6 +0.4
AB31 pmax pmax
comp=Z,19nm,0.7s
ABKAR Akbulak array 56.97 317 eP P 06 58 40.9 +0.7
comp=Z,14nm,0.7s
ISFR Sfrayin 57.47 302 eP P 06 58 42.7 -1.7
SVE Sverdlovsk 58.09 326ceP P 06 58 49.0 +1.0
SVE pmax pmax
comp=Z,84nm,0.9s
ARU Arti 59.12 325 P P 06 58 55.7 +0.5
comp=Z,448nm,0.7s,SNR=13
ARU Arti 59.12 325d iP P 06 58 55.5 +0.3
ARU 07 01 02.4
ARU S S 07 07 02.9 +1.7
ARU SS SS 07 10 50.3 -4.9
ARU pmax pmax
comp=Z,58nm,1.0s
ARU Arti 59.12 325 eP P 06 58 55.2 +0.1
comp=Z,43nm,0.6s
SOKR Solikamsk 60.72 328c iP P 06 59 06.9 +0.9
SOKR pmax pmax
comp=Z,40nm,1.0s
SOKR MLR MLR
comp=Z,480nm,17.0s
IKIA Kiasar 60.97 301 eP P 06 59 09.4 +0.9
IPAR Pars 62.07 294 eP P 06 59 16.2 0.0
ISRV Sarvestan 62.07 294 eP P 06 59 15.7 -0.6
IKLH Kolahrood 62.93 298 eP P 06 59 20.4 -1.4
GAMB Gambell 62.94 27 eP P 06 59 21.5 +0.6
comp=Z,23nm,1.3s
IPIR Pirpir 63.57 298 eP P 06 59 25.2 -1.0
TNA Tin City 64.86 26 eP P 06 59 33.9 +0.3
comp=Z,5.8nm,0.9s
PRGR Permogore 66.44 330 eP P 06 59 40.9 -2.9
PRGR pmax pmax
comp=Z,39nm,0.6s
GNI Garni 67.65 306deP P 06 59 53.9 +1.7
GNI pmax pmax
comp=Z,28nm,1.7s
GNI Garni 67.65 306 P P 06 59 53.1 +0.9
comp=Z,4.0nm,0.5s,baz=191,slow=16,SNR=2.3
ZEI Tsey 67.99 309 eP P 06 59 53.7 -0.6
ZEI pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 68.61 310 P P 06 59 58.3 +0.4
comp=Z,10nm,0.9s,baz=145,slow=3.6,SNR=9.2
KBZ LR LR 07 33 56.7
comp=Z,221nm,18.8s,baz=95,slow=39
VRHR Novokhopersk 68.78 318 eP P 06 59 57.5 -1.3
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,1.6s
VRHR pmax pmax
comp=E,30nm,1.5s
NEY Neytrino 68.80 310 eP P 07 00 00.8 +1.5
KLMR Klimovskoe 69.39 329 eP P 06 59 59.7 -2.7
KLMR pmax pmax
comp=Z,60nm,1.3s
RAYN Ar Rayn 69.81 289 P P 07 00 05.2 -0.6
comp=Z,1.0nm,1.0s,SNR=9.9
RAYN Ar Rayn 69.81 289 eP P 07 00 05.2 -0.6
comp=Z,44nm,1.1s
TMCR Tamitsa 69.94 332 eP P 07 00 04.7 -1.0
TMCR e 07 02 40.2
TMCR pmax pmax
comp=Z,45nm,1.4s
VORD Divnogorie 70.26 318 eP P 07 00 06.2 -1.8
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,30nm,0.7s
VSR Storozhevoye 70.31 319deP P 07 00 07.2 -1.1
VSR pmax pmax
comp=Z,41nm,1.3s
OBN Obninsk 71.42 323⇑eP P 07 00 14.9 0.0
OBN i 07 00 26.1
OBN iS SKSac 07 10 15.6 -1.3
OBN eSS SS 07 14 01.8 -4.5
OBN pmax pmax
comp=Z,32nm,1.7s
OBN MLR MLR
comp=Z,129nm,15.0s
APA Apatity 71.60 336⇓iP P 07 00 16.4 +0.6
COLD Coldfoot 72.01 24 eP P 07 00 18.9 +0.6
comp=Z,24nm,1.4s
KDAK Kodiak Island 72.06 34 P P 07 00 18.6 -0.1
comp=Z,215nm,0.7s,SNR=7.8
KDAK Kodiak Island 72.06 34 iP P 07 00 18.7 0.0
ANN Anapa 72.35 312 eP P 07 00 16.7 -4.0
ANN pmax pmax
comp=Z,443nm,1.8s
TRF Thorofare Moun 72.44 28 eP P 07 00 21.2 0.0
comp=Z,12nm,0.8s
MCK McKinley 73.00 28 eP P 07 00 24.4 +0.1
MCK pmax pmax
comp=Z,34nm,1.0s
MCK McKinley 73.00 28 eP P 07 00 24.4 +0.1
comp=Z,34nm,1.0s
JOF Joensuu 73.05 331 eP P 07 00 22.4 -2.2
JOF pmax pmax
comp=Z,8.0nm,0.6s
JOF Joensuu 73.05 331 ep P 07 00 22.4 -2.2
comp=Z,7.8nm,0.6s
PMR Palmer 73.24 30 eP P 07 00 24.7 -1.0
PMR pmax pmax
comp=Z,9.0nm,0.7s
PMR Palmer 73.24 30 eP P 07 00 24.7 -1.0
comp=Z,9.0nm,0.7s
COLA College 73.29 26c iP P 07 00 26.2 +0.3
COLA pmax pmax
comp=Z,55nm,1.3s
COLA College 73.29 26 eP P 07 00 25.6 -0.3
comp=Z,8.1nm,0.9s
KEV Kevo 73.61 339 eP P 07 00 27.0 -0.7
KEV pmax pmax
comp=Z,8.0nm,0.8s
KEV Kevo 73.61 339 ep P 07 00 27.0 -0.7
comp=Z,7.8nm,0.8s
ILAR Eielson Array 73.71 27 P P 07 00 27.4 -1.1
comp=Z,4.4nm,0.8s,baz=265,slow=4.8,SNR=36
ILAR LR LR 07 33 10.1
comp=Z,48nm,21.5s,baz=320,slow=36
ARCES ARCESS Array B 74.17 339 P P 07 00 30.6 -0.4
comp=Z,9.0nm,0.9s,baz=71,slow=7.6,SNR=15
SPITS Spitsbergen Ar 74.36 348 P P 07 00 32.4 +0.3
comp=Z,6.8nm,0.7s,baz=82,slow=7.7,SNR=8.4
PAX Paxson 74.67 28 eP P 07 00 34.3 +0.1
PAX pmax pmax
comp=Z,14nm,1.2s
PAX Paxson 74.67 28 eP P 07 00 34.3 +0.1
comp=Z,14nm,1.2s
DIV Divide 74.92 30 eP P 07 00 35.8 +0.2
comp=Z,45nm,1.3s
DOT Dot Lake 75.15 27 eP P 07 00 36.7 -0.2
comp=Z,18nm,1.1s
KAF Kangasniemi 75.49 331 eP P 07 00 37.5 -1.3
KAF pmax pmax
comp=Z,8.0nm,0.8s
KAF Kangasniemi 75.49 331 ep P 07 00 37.5 -1.3
comp=Z,8.2nm,0.8s
BMRM Bremner River 75.51 30 eP P 07 00 39.0 0.0
comp=Z,78nm,1.6s
FINES FINESS Array B 75.75 330 P P 07 00 40.3 +0.1
comp=Z,8.9nm,0.8s,baz=94,slow=7.6,SNR=22
FINES LR LR 07 35 48.2
comp=Z,238nm,19.1s,baz=90,slow=37
EGAK Eagle 76.11 26 eP P 07 00 42.0 -0.2
comp=Z,25nm,1.1s
BRTR Keskin Array B 76.13 307 P P 07 00 42.8 -0.3
comp=Z,6.2nm,1.1s,baz=97,slow=3.1,SNR=7.8
VSU Vasula 76.14 327c iP P 07 00 42.8 +0.3
VSU pmax pmax
comp=Z,59nm,1.3s
AKASG Malin Array Be 76.59 319 P P 07 00 44.3 -0.9
comp=Z,7.8nm,0.7s,baz=63,slow=5.7,SNR=33
AKASG LR LR 07 37 07.0
comp=Z,111nm,19.3s,baz=0.0,slow=38
KIEV Kiev 76.60 319d iP P 07 00 44.2 -1.1
NACGM Naroch 77.00 324 e P 07 00 45.0 -2.5
INK Inuvik 77.90 22 P P 07 00 52.3 0.0
comp=Z,16nm,0.9s,baz=300,slow=5.8,SNR=61
INK LR LR 07 39 03.5
comp=Z,107nm,18.3s,baz=317,slow=38
CFR Carcaliu 78.70 314 ⇑P P 07 00 56.2 -1.0
CFR Carcaliu 78.70 314⇑iP P 07 00 56.2 -1.0
HYT Haines Junctio 78.88 29 eP P 07 01 00.3 +2.2
SUW Suwalki 79.26 323 eP P 07 00 59.3 -0.8
SUW pmax pmax
comp=Z,72nm,1.0s
SUW Suwalki 79.26 323 eP P 07 00 59.5 -0.6
SUW Suwalki 79.26 323 eP P 07 00 59.3 -0.8
comp=Z,72nm,1.0s
TESR Tescani 79.33 316⇑iP P 07 01 00.6 0.0
PLOR Plostina 79.52 315 ⇑P P 07 01 02.1 +0.4
PLOR Plostina 79.52 315⇑iP P 07 01 02.1 +0.4
BURAR Bucovina Array 79.95 317 ⇑P P 07 01 04.4 +0.3
BURAR Bucovina Array 79.95 317⇑iP P 07 01 04.4 +0.3
MLR Muntele Rosu 80.10 315 ⇑P P 07 01 05.6 +0.6
MLR Muntele Rosu 80.10 315⇑iP P 07 01 05.6 +0.6
SULR 80.13 314⇑iP P 07 01 06.0 +1.1
DOPR Dopca 80.33 315⇓iP P 07 01 06.3 +0.2
VOIR 80.72 315 ⇓P P 07 01 07.9 -0.3
VOIR 80.72 315⇓iP P 07 01 07.9 -0.3
CJR Cluj-Napoca 81.28 316 ⇓P P 07 01 12.5 +1.3
CJR Cluj-Napoca 81.28 316⇓iP P 07 01 12.5 +1.3
DAG Danmarks Havn 81.31 351 iP P 07 01 10.1 -0.6
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 81.31 351 iP P 07 01 10.1 -0.6
comp=Z,7.2nm,0.9s
KOLS Kolonicke sedl 81.41 319 eP P 07 01 11.6 -0.2
KOLS pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 81.41 319 eP P 07 01 11.6 -0.2
UZH Uzhgorod 81.49 318 eP P 07 01 10.5 -1.7
UZH i 07 01 18.9
TRPA Tarpa 81.50 318⇑iP P 07 01 12.1 -0.1
DRGR 81.83 317 ⇓P P 07 01 14.2 +0.1
DRGR 81.83 317⇓iP P 07 01 14.2 +0.1
CRVS Cervenica-Dubn 81.92 319 eP P 07 01 14.0 -0.5
CRVS pmax pmax
comp=Z,9.0nm,1.2s
CRVS Cervenica-Dubn 81.92 319 eP P 07 01 14.0 -0.5
GZR Gura Zlata 82.25 315 ⇑P P 07 01 16.6 +0.3
GZR Gura Zlata 82.25 315⇑iP P 07 01 16.6 +0.3
NIE Niedzica 82.45 320 eP P 07 01 18.0 +0.7
NIE Niedzica 82.45 320 eP P 07 01 18.0 +0.7
NB2 NORSAR Subarra 82.63 333 P P 07 01 16.9 -1.1
comp=Z,3.3nm,0.7s,baz=64,slow=5.3
NOA NORSAR Array B 82.63 333 P P 07 01 17.2 -0.7
comp=Z,4.2nm,0.8s,baz=65,slow=5.2,SNR=18
NOA LR LR 07 42 35.6
comp=Z,303nm,18.4s,baz=85,slow=39
VTS Vitosha 82.88 313 ⇑P P 07 01 20.0 +0.2
VTS Vitosha 82.88 313⇑iP P 07 01 20.0 +0.2
BZS Buzias 82.94 316 ⇑P P 07 01 19.3 -0.5
BZS Buzias 82.94 316⇑iP P 07 01 19.3 -0.5
DLBC Dease Lake 83.31 30 P P 07 01 22.3 +0.7
comp=Z,8.5nm,0.8s,baz=295,slow=7.4,SNR=9.4
DLBC LR LR 07 41 12.4
comp=Z,102nm,18.0s,baz=322,slow=38
BSD Bornholm Skovb 83.37 326 iP P 07 01 21.2 -0.6
BSD pmax pmax
comp=Z,12nm,1.0s
BSD Bornholm Skovb 83.37 326 iP P 07 01 21.2 -0.6
comp=Z,12nm,0.9s
RES Resolute Bay 83.62 9 P P 07 01 23.1 +0.4
comp=Z,7.4nm,0.8s,baz=321,slow=6.6,SNR=24
VYHS Vyhne 83.69 319 eP P 07 01 24.0 +0.3
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 83.69 319 eP P 07 01 24.0 +0.3
MORC Moravsky Berou 84.00 321 eP P 07 01 24.7 -0.6
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 84.00 321⇓iP P 07 01 25.5 +0.2
MORC Moravsky Berou 84.00 321 eP P 07 01 24.7 -0.6
comp=Z,8.2nm,1.0s
KSP Ksiaz 84.32 322⇓eP P 07 01 27.2 +0.4
KSP e*PP pP 07 01 38.3 +4.5
KSP Ksiaz 84.32 322 eP P 07 01 27.2 +0.4
KRLC Kraliky 84.34 321 eP P 07 01 27.1 +0.1
KRLC e 07 01 39.3
KRLC Kraliky 84.34 321 eP P 07 01 27.1 +0.1
KRLC ex x 07 01 39.3
DPC Dobruska-Polom 84.50 322 eP P 07 01 28.1 +0.3
DPC e 07 01 39.3
DPC Dobruska-Polom 84.50 322 eP P 07 01 28.1 +0.3
DPC ex x 07 01 39.3
KMBO Kilima Mbogo 84.56 267 eP P 07 01 29.8 +0.8
KMBO Kilima Mbogo 84.56 267 P P 07 01 29.1 +0.1
comp=Z,5.8nm,1.0s,baz=50,slow=7.3,SNR=8.7
KMBO Kilima Mbogo 84.56 267 eP P 07 01 29.8 +0.8
UPC Upice 84.62 322 eP P 07 01 28.8 +0.5
UPC e 07 01 39.6
UPC Upice 84.62 322 eP P 07 01 28.8 +0.5
UPC ex x 07 01 39.6
PKSM Moragy 84.67 317 ⇓P P 07 01 28.7 +0.1
PKSM Moragy 84.67 317⇓iP P 07 01 28.6 0.0
VRAC Vranov 84.75 320 ⇓P P 07 01 29.7 +0.7
VRAC Vranov 84.75 320⇓iP P 07 01 29.7 +0.7
TREC Trest 85.42 321 eP P 07 01 33.1 +0.7
TREC e 07 01 43.7
TREC Trest 85.42 321 eP P 07 01 33.1 +0.7
TREC ex x 07 01 43.7
BRG Berggiesshubel 85.67 323 iP P 07 01 33.5 -0.1
comp=Z,14nm,1.1s
PRU Pruhonice 85.69 322 eP P 07 01 33.7 0.0
PRU e 07 01 45.7
PRU Pruhonice 85.69 322 eP P 07 01 33.7 0.0
PRU ex x 07 01 45.7
CONA Conrad Observa 85.75 319⇑iP P 07 01 34.6 +0.5
comp=Z,18nm,1.6s
CLL Collm 86.02 323 iP P 07 01 35.0 -0.3
CLL i 07 01 50.8
CLL pmax pmax
comp=Z,13nm,1.2s
CLL Collm 86.02 323 iP P 07 01 35.0 -0.3
comp=Z,13nm,1.2s
CLL ipP PcP 07 01 39.3 +1.3
CLL i 07 01 50.8
ARSA Arzberg 86.23 319⇓iP P 07 01 36.5 0.0
comp=Z,9.1nm,1.2s
KHC Kasperske Hory 86.62 321 eP P 07 01 38.2 -0.2
KHC e 07 01 49.3
KHC e 07 01 54.5
KHC Kasperske Hory 86.62 321 eP P 07 01 38.2 -0.2
KHC ex x 07 01 49.3
KHC ex x 07 01 54.5
GERES GERESS Array B 86.67 321 P P 07 01 38.6 -0.1
comp=Z,4.0nm,0.8s,baz=57,slow=4.9,SNR=25
GERES LR LR 07 43 01.8
comp=Z,153nm,19.0s,baz=64,slow=37
SOKA Soboth 86.78 318⇑iP P 07 01 39.4 +0.2
comp=Z,7.5nm,0.8s
NKC Novy Kostel 86.81 322 eP P 07 01 40.2 +1.0
NKC Novy Kostel 86.81 322 eP P 07 01 40.2 +1.0
SUMG Summit 87.47 354 iP P 07 01 42.2 -0.3
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 87.47 354 iP P 07 01 42.2 -0.3
comp=Z,7.6nm,0.9s
YKA Yellowknife Ar 87.62 23 P P 07 01 43.2 +0.4
comp=Z,12nm,0.7s,baz=310,slow=4.6,SNR=308
YKA PKKP PKKPbc 07 19 29.2 -3.5
comp=Z,0.2nm,0.5s,baz=133,slow=2.9,SNR=6.3
ABTA Abfaltersbach 88.31 319⇑iP P 07 01 45.6 -1.0
comp=Z,6.3nm,1.0s
FETA Feichten 89.28 320⇑iPcP P 07 01 51.0 -0.3
comp=Z,7.7nm,0.9s
DAVOX Davos/Dischmat 89.91 320 P P 07 01 54.4 +0.2
comp=Z,5.7nm,0.8s,baz=66,slow=6.9,SNR=8.6
LPG La Plagne 92.43 320 eP P 07 02 05.7 -0.4
comp=Z,22nm,0.9s
LPG La Plagne 92.43 320 eP P 07 02 05.7 -0.4
LPG pmax pmax
comp=Z,22nm,0.9s
LPG La Plagne 92.43 320 eP P 07 02 05.7 -0.4
comp=Z,22nm,0.9s
LPL La Plagne 92.43 320 eP P 07 02 05.5 -0.5
comp=Z,32nm,1.2s
LPL La Plagne 92.43 320 eP P 07 02 05.5 -0.5
LPL pmax pmax
comp=Z,32nm,1.2s
LPL La Plagne 92.43 320 eP P 07 02 05.5 -0.5
comp=Z,32nm,1.2s
SMF Signal de Mont 93.56 322 eP P 07 02 10.6 -0.3
SMF Signal de Mont 93.56 322 eP P 07 02 10.6 -0.3
SMF Signal de Mont 93.56 322 eP P 07 02 10.6 -0.3
EDM Edmonton 94.01 29 eP P 07 02 12.9 0.0
EDM Edmonton 94.01 29 eP P 07 02 12.9 0.0
PPT Papeete 95.00 107 LR LR 07 38 25.0
comp=Z,40nm,19.6s,baz=268,slow=31
NEW Newport 95.16 35 P P 07 02 19.2 +0.9
comp=Z,6.4nm,0.8s,baz=286,slow=3.6,SNR=17
FRB Frobisher Bay 97.03 4 P P 07 02 25.8 -0.5
comp=Z,3.3nm,0.9s,baz=336,slow=15,SNR=3.1
NVAR Mina Array Bea 100.13 43 P Pdif 07 02 42.4 +1.2
comp=Z,1.1nm,0.8s,baz=288,slow=5.6,SNR=9.0
TORD Torodi Ar. Bea 112.24 294 PKiKP PKiKP 07 07 30.2 -1.2
comp=Z,0.7nm,0.7s,baz=115,slow=1.8,SNR=4.8
TXAR Lajitas Array 115.28 43 PKP PKPdf 07 07 37.4 +0.3
comp=Z,1.7nm,0.7s,baz=293,slow=0.5,SNR=18
JCT Junction City 116.88 39 ePKIKP PKPdf 07 07 38.6 -1.5
JCT Junction City 116.88 39 ePKPdf PKPdf 07 07 38.6 -1.5
TKL Tuckaleechee C 120.61 23 PKP PKPdf 07 07 46.3 -0.8
comp=Z,4.2nm,0.7s,baz=300,slow=4.3,SNR=3.6
DBIC Dimbokro 120.92 290 PKP PKPdf 07 07 46.8 -1.3
comp=Z,4.6nm,0.9s,baz=135,slow=7.1,SNR=3.7
LIC Lamto 121.27 290 ePKIKP PKPdf 07 07 47.8 -1.0
comp=Z,4.0nm,0.6s
LIC Lamto 121.27 290 ePKPdf PKPdf 07 07 47.8 -1.0
BCIP Isla Barro Col 145.10 38 ePKPbc PKPbc 07 08 32.1 -0.5
SDV Santo Domingo 149.83 24 ePKPdf PKPdf 07 08 41.3 0.0
ROSC El Rosal 151.71 34 PKPbc PKPbc 07 08 51.9 +1.1
comp=Z,16nm,0.6s,baz=102,slow=9.3,SNR=20
OTAV Otavalo 152.80 47 ePKPdf PKPdf 07 08 47.1 +0.9
BDFB Brasilia 169.05 287 PKP PKPdf 07 09 02.1 -0.9
comp=Z,3.9nm,0.9s,baz=76,slow=4.4,SNR=4.4
LPAZ La Paz 170.75 74 PKP PKPdf 07 09 05.0 +0.4
comp=Z,1.6nm,1.0s,baz=333,slow=6.4,SNR=4.7
CPUP Villa Florida 172.71 191 PKPab PKPab 07 10 29.8 -0.1
comp=Z,3.9nm,0.8s,baz=210,slow=8.9,SNR=4.4

ATH 16 06:51:49.9, 36°.99N×28°.06E, h34km±11km, MD3.1/3
CSEM 16 06:51:50.7±0.1, 36°.97N×28°.01E, h15km, MD3.4, Error ellipse: s-maj=3.6km s-min=3.3km az=25.0
ISK 16 06:51:50.4, 37°.00N×28°.04E, h15km, MD3.4
THE 16 06:51:50.5, 36°.96N×28°.02E, h4km±1km, ML2.9/2, Error ellipse: s-maj=2.2km s-min=0.5km az=86.0
DDA 16 06:51:51.1, 36°.97N×28°.04E, h7km, ML3.6
ISCJB 16 06:51:51.0±0.4, 36°.98N±0°.03×28°.03E±0°.03, h20km±5km, Error ellipse: s-maj=4.4km s-min=4.1km az=33.5
ISC 16 06:51:50.9±1.0, 36°.97N±0°.02×28°.01E±0°.02, h13km±8km, n50, σ0.86/72, Dodecanese Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
YER Yerkesik 0.27 54 ePG Pg 06 51 56.3 -0.4
YER eSG Sg 06 52 00.3 -0.3
YER Yerkesik 0.27 54 ePg Pg 06 51 56.3 -0.4
YER eSg Sg 06 52 00.3 -0.3

BDRM Kayabasi 0.46 282 *i* P Pg 06 52 00.5 +0.4
BDRM *i* S Sb 06 52 08.3 +0.7
BDRM Kayabasi 0.46 282 *i* P Pg 06 52 00.5 +0.4
BDRM *i* S Sb 06 52 08.3 +0.7
DALY Dalyan (Mu¯la 0.54 107 *e*PG Pg 06 52 01.2 -0.4
DALY *e*SG Sg 06 52 08.9 +0.1
DALY Dalyan (Mu¯la 0.54 107 *e*Pg Pg 06 52 01.2 -0.4
DALY *e*Sg Sg 06 52 08.9 +0.1
BODT Bodrum 0.56 279 *e*PG Pg 06 52 02.1 +0.1
BODT *e*SG Sb 06 52 11.4 +0.8
BODT Bodrum 0.56 279 *e*Pg Pg 06 52 02.1 +0.1
BODT *e*Sg Sb 06 52 11.4 +0.8
ARG Arkhangelos 0.76 173 P Pg 06 52 04.9 -0.8
ARG S Sg 06 52 16.3 +0.6
ARG Arkhangelos 0.76 173 *e*PN Pg 06 52 04.9 -0.8
ARG *e*SN Sb 06 52 16.7 +0.4
ARG Arkhangelos 0.76 173 P Pg 06 52 04.9 -0.8
ARG S Sg 06 52 16.3 +0.6
FETY Fethiye 0.93 111 *e*PG Pg 06 52 08.4 -0.5
FETY Fethiye 0.93 111 *e*Pg Pg 06 52 08.4 -0.5
AYDB Zeytinkoy-Aydi 0.98 355 *e*PG Pg 06 52 09.1 -0.7
AYDB Zeytinkoy-Aydi 0.98 355 *e*Pg Pg 06 52 09.1 -0.7
SMG Samos 1.19 309 P Pn 06 52 12.2 -1.0
SMG Samos 1.19 309 *e*PN Pn 06 52 12.4 -0.8
SMG *e*SN Sb 06 52 28.1 -0.5
SMG Samos 1.19 309 *e*Pn Pn 06 52 12.4 -0.8
SMG *e*Sn Sb 06 52 28.1 -0.5
GOLH Golhisar 1.27 78 *i* P Pg 06 52 15.8 +0.4
GOLH Golhisar 1.27 78 *i* P Pg 06 52 15.8 +0.4
GOLH *i* S Sg 06 52 35.2 +3.3
AKAS Kas 1.48 119 *i* P Pg 06 52 19.0 -0.5
AKAS Kas 1.48 119 *i* P Pg 06 52 18.9 -0.5
AKAS *i* S Sg 06 52 42.6 +3.8
ELL Elmali 1.54 98 *e*PN Pn 06 52 18.0 -0.2
ELL Elmali 1.54 98 *e*Pn Pn 06 52 18.0 -0.2
MANT Manisa 1.58 16 *i* P Pn 06 52 17.5 -1.3
MANT *i* S Sn 06 52 38.4 -0.8
MANT Manisa 1.58 16 *i* P Pn 06 52 17.5 -1.3
MANT *i* S Sn 06 52 38.4 -0.8
KARP Karpathos 1.58 206 P Pn 06 52 17.9 -0.7
KARP S Sn 06 52 38.4 -0.5
KARP Karpathos 1.58 206 *e*PB Pn 06 52 18.2 -0.4
KARP *e*SN Sn 06 52 38.2 -0.7
KARP Karpathos 1.58 206 P Pn 06 52 17.9 -0.7
KARP Karpathos 1.58 206 *e*Pb Pn 06 52 18.2 -0.4
KARP *e*Sn Sn 06 52 38.2 -0.7
BLCB Balcova 1.60 332 *e*PN Pn 06 52 19.0 +0.1
BLCB Balcova 1.60 332 *e*Pn Pn 06 52 19.0 +0.1
KULA Kula-Manisa 1.62 18 P Pn 06 52 18.4 -0.9
KULA Kula-Manisa 1.62 18 *e*PN Pn 06 52 18.8 -0.5
KULA Kula-Manisa 1.62 18 P Pn 06 52 18.4 -0.9
KULA Kula-Manisa 1.62 18 *e*Pn Pn 06 52 18.8 -0.5
KHL Karahalli 1.81 41 *e*PN Pn 06 52 21.3 -0.6
KHL Karahalli 1.81 41 *e*Pn Pn 06 52 21.3 -0.6
AKS Akhisar 1.91 355 *e*PN Pn 06 52 22.4 -0.8
AKS Akhisar 1.91 355 *e*Pn Pn 06 52 22.4 -0.8
APE Apeiranthos 1.98 273 *e*PN Pn 06 52 23.7 -0.5
APE Apeiranthos 1.98 273 *e*Pn Pn 06 52 23.7 -0.5
CHOS Chios island 2.10 313 P Pn 06 52 25.3 -0.5
CHOS S Sn 06 52 52.1 +0.4
CHOS Chios island 2.10 313 *e*PN Pn 06 52 25.6 -0.2
CHOS Chios island 2.10 313 *e*PN Pn 06 52 25.3 -0.5
CHOS Chios island 2.10 313 P Pn 06 52 25.3 -0.5
CHOS S Sn 06 52 52.1 +0.4
ALT Altintas 2.66 38 *e*PN Pn 06 52 33.5 -0.1
ALT Altintas 2.66 38 *e*Pn Pn 06 52 33.5 -0.1
TVSB Tavsanli 2.73 24 *e*PN Pn 06 52 34.6 +0.1
TVSB Tavsanli 2.73 24 *e*Pn Pn 06 52 34.6 +0.1

IDC **16** *07:07:48.9±0.5, 13.°89N×93.°01E, h30km±3km, mb3.9/18, mb1 4.0/21, mb1mx3.9/32, mbtmp4.1/21, ML4.0/3, MS3.7/12, Ms1 3.7/12, ms1mx3.5/39, Error ellipse: s-maj=18.8km s-min=11.9km az=59.0*
NEIC **16** *07:07:49.4±0.4, 13.°82N×92.°85E, h35km, mb4.7/8, Error ellipse: s-maj=10.4km s-min=7.9km az=59.0*
MOS **16** *07:07:51.5±0.9, 13.°58N×93.°75E, h26km, mb4.8/26, Error ellipse: s-maj=11.9km s-min=6.8km az=121.6*
BJI **16** *07:07:54.8, 14.°20N×94.°12E, h35km, mB4.7/7, mb4.2/17*
ISC 16 07:07:49.0±0.4, **13.°87N**±0.°05×**92.°86E**±0.°05, **h32km**±2km, **h31km:pP-P, n185**, σ1°**36**/136, **mb4.5**/53, **MS3.7**/11, **8C-5D, Andaman Islands region**

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

DGPR DIGLIPUR 0.69 174 *e*P Pb 07 08 06.5 +4.0
DGPR *e*S Sn 07 08 19.6 +7.6
DGPR AML AML 07 08 23.9
comp=E,28μm,1.0s
DGPR AML AML 07 08 24.2
comp=N,20μm,0.2s
PBA Port Blair 2.20 183 *e*P Pb 07 08 28.8 +0.7
PBA *e*S Sb 07 08 58.4 +3.5
CMBY CAMPBELL BAY 6.89 171 *ex* x 07 09 57.1
CMBY *e*S Sn 07 10 45.8 +0.5
CM31 Chiang Mai Arr 7.42 51 *e*Pn Pn 07 09 37.5 +2.4
comp=N,12nm,0.4s
CMAR Chiang Mai Arr 7.42 51 P Pn 07 09 33.0 -2.1
CMAR 07 10 49.0
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR smax smax
comp=N,2.0nm,0.3s
CMAR Chiang Mai Arr 7.42 51 Pn Pn 07 09 33.0 -2.1
comp=N,0.7nm,0.3s,baz=237,slow=15,SNR=9.6
CMAR Sn Sn 07 10 49.0 -9.2
comp=N,1.6nm,0.3s,baz=238,slow=27,SNR=5.5
CHTO Chiang Mai 7.64 49 *e*P Pn 07 09 40.5 +2.4
CHTO *e* 07 10 53.9
CHTO Chiang Mai 7.64 49 *e*Pn Pn 07 09 40.5 +2.4
CHTO *e*Sn Sn 07 10 53.9 -10
VIS Vishakhapatnam 9.94 294 *i* P Pn 07 10 10.6 +0.9
VIS *e*S Sn 07 11 53.5 -6.8
VIS AML AML 07 11 58.5
comp=N,199nm,0.0s
VIS AML AML 07 11 58.6
comp=E,155nm,0.3s
KULM Kulim 11.47 137 *e*Pn Pn 07 10 26.5 -4.2
SHL Shillong 11.68 356 *e*P Pn 07 10 34.9 +1.2
SHL *e*S Sn 07 12 31.0 -12
BOK Bokaro 11.88 327 *e*P Pn 07 10 35.8 -0.4
BOK *ex* x 07 12 45.1
PSI Prapat 12.52 151 P Pn 07 10 44.7 -0.4
PSI MLR MLR
comp=Z,16nm,28.6s
PSI Prapat 12.52 151 Pn Pn 07 10 44.7 -0.4
comp=Z,0.4nm,0.3s,baz=315,slow=19,SNR=2.4
PSI LR LR 07 16 20.6
comp=Z,357nm,19.7s,baz=308,slow=41
PALK Pallekele 13.62 242 Pn Pn 07 11 01.2 +1.0
comp=Z,1.3nm,0.3s,baz=66,slow=12,SNR=5.3
PALK Sn Sn 07 13 26.9 -3.7
comp=Z,4.7nm,0.3s,baz=2.8,slow=17,SNR=8.7
PALK LR LR 07 16 23.4
comp=Z,587nm,18.4s,baz=52,slow=37
ODAN Odare 13.90 339 *e*P Pn 07 11 00.7 -3.4
comp=Z,33nm,0.4s
HYB Hyderabad 14.22 286 *e*P P 07 11 26.0 +11
HYB Hyderabad 14.22 286 *i* P Pn 07 11 09.0 +0.6
HYB *e*S Sn 07 13 50.0 +4.8
HYB Hyderabad 14.22 286 *e*P P 07 11 26.0 +11
HYB *e*S Sn 07 13 40.0 -5.2
TAPN Taplejung 14.25 341 *e*P Pn 07 11 06.0 -3.0
RAMN Ramite 14.27 337 *e*P Pn 07 11 05.0 -4.2
comp=Z,43nm,0.6s
KMI Kunming 14.56 38 P Pn 07 11 04.6 -8.4
KMI pmax pmax
comp=Z,8.0nm,1.8s
JIRN Jiri 15.07 337 *e*P Pn 07 11 16.3 -3.8
comp=Z,23nm,0.4s
DMN Daman 15.47 333 *e*P Pn 07 11 22.4 -2.8
comp=Z,92nm,0.9s
LSA Lhasa 15.84 355 P P 07 11 33.8 +0.1
LSA Lhasa 15.84 355 *e*P P 07 11 34.0 +0.4
LSA Lhasa 15.84 355 *e*P P 07 11 34.0 +0.4
GKN Gorkha 16.02 333 *e*P Pn 07 11 28.8 -3.4
comp=Z,52nm,0.6s
KOLN Koldanda 16.31 329 *e*P Pn 07 11 34.1 -1.8
comp=Z,74nm,0.6s
KOLN Koldanda 16.31 329 *e*P Pn 07 11 34.1 -1.8
comp=Z,74nm,0.6s

DANN Dangsing 16.71 331 *e*P Pn 07 11 38.6 -2.5
comp=Z,67nm,0.8s
PYUN Piuthan 16.88 329 *e*P Pn 07 11 41.7 -1.5
comp=Z,92nm,0.4s
BHPL Bhopal 17.34 305 *ex* x 07 11 55.7
BHPL *e*S Sn 07 15 02.8 +1.9
KAD Karad 18.31 283 *ex* Sn 07 15 13.0 -12
NDI New Delhi 20.70 318 *e*P Pn 07 12 30.0 +0.9
LZH Lanzhou 24.23 22 *e*P P 07 13 02.8 -0.4
LZH pP pP 07 13 10.9 -1.4
LZH sP sP 07 13 16.8 +0.7
LZH pmax pmax
comp=Z,14nm,1.0s
XAN Xi'an 24.81 33 P P 07 13 06.1 -2.3
XAN pP pP 07 13 15.9 -1.6
XAN sP sP 07 13 20.8 -0.5
XAN pmax pmax
comp=Z,2.0nm,0.8s
GTA Gaotai 26.18 12 *e*P P 07 13 20.9 +0.1
GTA pmax pmax
comp=Z,2.0nm,1.1s
H08S3 Diego Garcia H 29.41 225 T T 07 44 43.8
baz=42,slow=76,SNR=17
H08S2 Diego Garcia H 29.42 225 T T 07 44 45.3
baz=42,slow=76,SNR=16
H08S1 Diego Carcia H 29.43 225 T T 07 44 43.2
baz=42,slow=76,SNR=11
KSH Kashi 29.57 333 *e*P P 07 13 59.4 +8.3
KSH *e*PP PP 07 14 57.9 -0.2
KSH pmax pmax
comp=Z,5.0nm,1.0s
KSH pmax pmax
comp=Z,120nm,7.5s
AAK Ala-Archa 32.76 335⇑*e*P pP 07 14 30.4 +1.9
AAK pmax pmax
comp=Z,11nm,1.3s
MKAR Makanchi Array 34.00 347 P P 07 14 30.4 +0.5
MKAR *PP pP 07 14 38.8 -0.3
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR pmax pmax
comp=Z,9.0nm,0.9s
MKAR MLR MLR
comp=Z,16nm,28.6s
MKAR Makanchi Array 34.00 347 P P 07 14 30.4 +0.5
comp=Z,1.7nm,0.8s,baz=156,slow=9.3,SNR=12
MKAR pP pP 07 14 38.8 -0.3
comp=Z,9.3nm,0.9s,baz=159,slow=8.3,SNR=33
MKAR LR LR 07 32 18.9
comp=Z,101nm,20.8s,baz=158,slow=43
KKAR Karatay Array 34.91 331 *e*P P 07 14 35.7 -2.1
comp=Z,1.9nm,0.6s
JOW Kunigami 35.49 63 LR LR 07 31 53.8
comp=Z,17nm,18.6s,baz=48,slow=41
SONM Songino Array 35.69 16 P P 07 14 43.9 -0.7
SONM *PP pP 07 14 53.5 -0.3
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 35.69 16 P P 07 14 43.9 -0.7
comp=Z,2.5nm,1.1s,baz=197,slow=7.1,SNR=9.3
SONM pP pP 07 14 53.5 -0.3
comp=Z,3.7nm,0.9s,baz=196,slow=11,SNR=12
ULN Ulaanbaatar 35.90 16 *e*P P 07 14 46.6 +0.3
ULN pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 35.90 16 *e*P P 07 14 46.6 +0.3
comp=Z,2.8nm,0.9s
ZAK Zakamensk 37.40 11 *e*P pP 07 15 07.4 -0.9
ZAK *e* 07 17 16.5
ZAK pmax pmax
comp=Z,2.0nm,1.2s
TLY Talaya 38.71 11 *e*P P 07 15 13.6 +3.6
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY MLR MLR
comp=Z,117nm,20.0s
SOEI Soe 39.01 125 *e*P P 07 15 14.2 +1.1
comp=Z,27nm,0.9s
SOEI Soe 39.01 125 P P 07 15 16.9 +3.8
baz=29,SNR=3.3
KSRS Korea Array 39.03 47 LR LR 07 32 59.6
comp=Z,134nm,19.2s,baz=228,slow=39
JNU Nakatsue 39.50 54 LR LR 07 33 32.3
comp=Z,95nm,18.6s,baz=234,slow=39
ZALV Zalesovo Beam 40.49 353 P P 07 15 24.4 -0.3
ZALV *PP pP 07 15 33.3 -0.7
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 40.49 353 P P 07 15 24.4 -0.3
comp=Z,0.7nm,0.3s,baz=166,slow=8.9,SNR=4.0
ZALV pP pP 07 15 33.3 -0.7
comp=Z,6.3nm,0.7s,baz=178,slow=9.0,SNR=7.0
NVS Novosibirsk 41.57 352 *e*P pP 07 15 42.2 -0.7
BVAR Borovoye Array 42.95 340 P P 07 15 45.7 +0.8
BVAR *PP pP 07 15 54.2 -0.1
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 42.95 340 P P 07 15 45.7 +0.8
comp=Z,0.4nm,0.4s,baz=99,slow=8.9,SNR=3.5
BVAR pP pP 07 15 54.2 -0.1
comp=Z,1.7nm,0.8s,baz=129,slow=5.9,SNR=5.0
BRVK Borovoye 43.02 340⇓*e*P pP 07 15 55.4 +0.6
BRVK pmax pmax
comp=Z,6.0nm,1.3s
AKTO Aktyubinsk 46.15 330 P P 07 16 11.2 +0.7
AKTO *PP pP 07 16 20.8 +0.9
AKTO pmax pmax
comp=Z,1.0nm,0.6s
AKTO pmax pmax
comp=Z,5.0nm,0.8s
AKTO Aktyubinsk 46.15 330 P P 07 16 11.2 +0.7
comp=Z,0.7nm,0.6s,baz=117,slow=7.5,SNR=2.6
AKTO pP pP 07 16 20.8 +0.9
comp=Z,5.3nm,0.8s,baz=134,slow=7.7,SNR=15
MJAR Matsushiro Arr 46.30 52 LR LR 07 37 10.1
comp=Z,107nm,18.1s,baz=230,slow=38
SVE Sverdlovsk 49.41 337 *e*P pP 07 16 45.1 -0.1
SVE pmax pmax
comp=Z,21nm,0.9s
GNI Garni 49.46 311*ce*P pP 07 16 48.9 +2.8
GNI pmax pmax
comp=Z,27nm,1.3s
ARU Arti 49.93 336*d i*P pP 07 16 49.0 -0.1
ARU 07 18 40.8
ARU S S 07 24 04.3 +17
ARU SS SS 07 27 35.1 +14
ARU pmax pmax
comp=Z,14nm,1.6s
ARU Arti 49.93 336 *e*P P 07 16 40.5 +0.9
comp=Z,12nm,1.1s
WRKA Warakurna 51.86 138 P P 07 16 53.9 -0.7
baz=42,SNR=7.0
ASAJ Asahikawa 51.88 44 LR LR 07 40 04.9
comp=Z,87nm,19.2s,baz=120,slow=37
NWAO Narrogin (SRO) 52.03 154 P P 07 16 55.0 -0.7
NWAO pmax pmax
comp=Z,6.0nm,0.6s
NWAO Narrogin (SRO) 52.03 154 P P 07 16 55.0 -0.7
comp=Z,5.8nm,0.6s,baz=353,slow=4.9,SNR=3.5
WRA Warramunga Arr 52.86 129 P P 07 17 01.0 -1.1
WRA 07 18 10.8
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 52.86 129 P P 07 17 01.0 -1.1
comp=Z,5.3nm,0.9s,baz=309,slow=8.1,SNR=36
WRA PcP PcP 07 18 10.8 -0.3
comp=Z,1.6nm,0.5s,baz=321,slow=3.1,SNR=19
WRAB Tennant Creek 52.86 129*c i*P P 07 17 01.1 -1.0
WRAB pmax pmax
comp=Z,23nm,1.3s
WRAB Tennant Creek 52.86 129 *e*P P 07 17 00.7 -1.4
comp=Z,6.6nm,0.9s
ASAR Alice Springs 54.79 133 P P 07 17 15.4 -0.8
ASAR 07 18 18.3
ASAR pmax pmax
comp=Z,3.0nm,0.3s
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 54.79 133 P P 07 17 15.4 -0.8
comp=Z,3.1nm,0.2s,baz=305,slow=6.5,SNR=73

ASAR PcP PcP 07 18 18.3 -0.1
comp=Z,2.2nm,0.8s,baz=312,slow=4.0,SNR=7.5
YAK Yakutsk 54.79 20 *e*P P 07 17 20.9 +5.4
YAK pmax pmax
comp=Z,10.0nm,0.5s
ANN Anapa 55.97 315 *e*P P 07 17 27.3 +2.9
ANN pmax pmax
comp=Z,114nm,0.9s
BRTR Keskin Array B 57.66 308 P P 07 17 37.7 +1.0
BRTR *PP pP 07 17 47.2 +0.9
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BRTR MLR MLR
comp=Z,16nm,28.6s
BRTR Keskin Array B 57.66 308 P P 07 17 37.7 +1.0
comp=Z,0.7nm,0.7s,baz=108,slow=8.3,SNR=3.3
BRTR pP pP 07 17 47.2 +0.9
comp=Z,6.2nm,0.8s,baz=120,slow=7.4,SNR=17
BRTR LR LR 07 43 02.0
comp=Z,63nm,20.7s,baz=86,slow=37
PRGR Permogore 58.39 336 *e*P pP 07 17 49.8 -1.0
PRGR pmax pmax
comp=Z,61nm,1.6s
PMG Port Moresby 58.63 110⇓*e*P P 07 17 43.7 +0.1
PMG pmax pmax
comp=Z,17nm,1.7s
PMG Port Moresby 58.63 110 *e*P P 07 17 43.3 -0.3
comp=Z,4.9nm,0.6s
OBN Obninsk 59.70 326⇓*e*P pP 07 17 59.4 -0.6
OBN pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 60.56 333 *e*P P 07 18 00.5 +4.4
KLMR pmax pmax
comp=Z,29nm,1.6s
AKASG Malin Array Be 62.74 320 P P 07 18 10.7 -0.3
AKASG *PP pP 07 18 19.8 -1.0
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 62.74 320 P P 07 18 10.7 -0.3
comp=Z,0.1nm,0.4s,baz=94,slow=6.5,SNR=5.2
AKASG pP pP 07 18 19.8 -1.0
comp=Z,2.5nm,0.8s,baz=91,slow=4.8,SNR=7.4
KIEV Kiev 62.75 320⇑*e*P pP 07 18 20.1 -0.7
PETK Petropavlovsk- 63.96 37 LR LR 07 50 28.5
comp=Z,49nm,18.4s,baz=266,slow=40
QLP Quilpie 64.09 129 P P 07 18 20.9 +0.6
baz=54,SNR=4.5
JOF Joensuu 64.94 334 *e*P pP 07 18 34.0 -1.1
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 64.94 334 *e*p pP 07 18 34.0 -1.1
comp=Z,4.6nm,0.6s
STKA Stephens Creek 65.18 135 P P 07 18 27.3 0.0
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA MLR MLR
comp=Z,68nm,18.8s
STKA Stephens Creek 65.18 135 P P 07 18 27.3 0.0
comp=Z,2.3nm,0.7s,baz=315,slow=8.4,SNR=6.1
STKA LR LR 07 50 36.0
comp=Z,68nm,18.8s,baz=248,slow=39
STKA Stephens Creek 65.18 135 P P 07 18 27.7 +0.4
baz=56,SNR=4.4
VSU Vasula 65.85 328⇓*e*P pP 07 18 40.9 -0.1
VSU pmax pmax
comp=Z,96nm,2.4s
FINES FINESS Array B 66.87 331 P P 07 18 37.9 +0.1
FINES *PP pP 07 18 48.2 +0.6
FINES pmax pmax
comp=Z,1.0nm,0.9s
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 66.87 331 P P 07 18 37.9 +0.1
comp=Z,1.1nm,0.8s,baz=114,slow=9.3,SNR=4.1
FINES pP pP 07 18 48.2 +0.6
comp=Z,6.2nm,0.8s,baz=104,slow=8.0,SNR=13
KAF Kangasniemi 66.93 332 *e*P pP 07 18 46.6 -1.3
KAF pmax pmax
comp=Z,4.0nm,0.9s
KAF Kangasniemi 66.93 332 *e*p pP 07 18 46.6 -1.3
comp=Z,3.9nm,0.9s
CRVS Cervenica-Dubn 67.46 317 *e*P pP 07 18 52.8 +1.2
CRVS pmax pmax
comp=Z,15nm,1.3s
CRVS Cervenica-Dubn 67.46 317 *e*pP pP 07 18 52.8 +1.2
RMQ Roma 67.52 127 P P 07 18 44.3 +1.9
baz=58,SNR=5.1
STHS Stebnicka Huta 67.64 318 *e*P pP 07 18 53.8 +1.1
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 67.64 318 *e*pP pP 07 18 53.8 +1.1
CMSA Cobar Meteorol 67.85 133 P P 07 18 45.2 +0.8
baz=58,SNR=5.8
VYHS Vyhne 69.17 317 *e*P pP 07 19 02.7 +0.4
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 69.17 317 *e*pP pP 07 19 02.7 +0.4
ARCES ARCESS Array B 69.24 340 P P 07 18 53.1 +0.6
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 69.24 340 P P 07 18 53.1 +0.6
comp=Z,4.6nm,0.9s,baz=102,slow=8.4,SNR=4.5
MORC Moravsky Berou 70.07 318 *e*P pP 07 19 07.7 -0.2
MORC pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 70.07 318 *e*P pP 07 19 07.7 -0.2
comp=Z,5.7nm,0.9s
DPC Dobruska-Polom 70.87 319 *e*P pP 07 19 13.5 +0.7
DPC Dobruska-Polom 70.87 319 *e*pP pP 07 19 13.5 +0.7
BILL Bilibino 71.04 22⇑*e*P P 07 19 09.2 +5.7
BILL pmax pmax
comp=Z,4.0nm,1.0s
UPC Upice 71.07 319 *e*P pP 07 19 14.7 +0.7
UPC Upice 71.07 319 *e*pP pP 07 19 14.7 +0.7
CONA Conrad Observa 71.14 316⇑*i*pP pP 07 19 14.0 -0.6
comp=Z,5.1nm,1.0s
SOKA Soboth 71.72 315⇑*i*pP pP 07 19 18.9 +0.9
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 72.39 319 *e*P pP 07 19 21.8 -0.1
comp=Z,5.1nm,0.8s
GERES GERESS Array B 72.58 317 P P 07 19 13.7 +0.4
GERES *PP pP 07 19 22.9 -0.3
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 72.58 317 P P 07 19 13.7 +0.4
comp=Z,0.4nm,0.5s,baz=86,slow=6.1,SNR=5.1
GERES pP pP 07 19 22.9 -0.3
comp=Z,4.0nm,0.8s,baz=92,slow=5.0,SNR=18
KHC Kasperske Hory 72.65 317 *e*P pP 07 19 24.8 +1.3
KHC *e* 07 19 31.2
KHC Kasperske Hory 72.65 317 *e*pP pP 07 19 24.8 +1.3
KHC *e*sP sP 07 19 31.2 +4.0
CLL Collm 72.98 320 *e*P pP 07 19 26.0 +0.6
CLL Collm 72.98 320 *e*pP pP 07 19 26.0 +0.6
NB2 NORSAR Subarra 73.94 330 P pP 07 19 30.7 -0.2
comp=Z,3.9nm,0.7s,baz=90,slow=5.9
NOA NORSAR Array B 73.94 330 P P 07 19 20.8 -0.2
NOA *PP pP 07 19 31.1 +0.2
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 73.94 330 P P 07 19 20.8 -0.2
comp=Z,0.7nm,0.8s,baz=90,slow=6.3,SNR=3.3
NOA pP pP 07 19 31.1 +0.2
comp=Z,2.5nm,0.7s,baz=90,slow=5.7,SNR=8.6
FETA Feichten 74.65 315⇑*i*pP pP 07 19 35.4 -0.1
comp=Z,9.1nm,1.2s
HAU Haudompre 77.52 317 *e*P pP 07 19 50.7 -1.0
HAU Haudompre 77.52 317 *e*P pP 07 19 50.7 -1.0
HAU Haudompre 77.52 317 *e*P pP 07 19 50.7 -1.0
LPG La Plagne 77.55 314 *e*P pP 07 19 51.8 -0.4
comp=Z,21nm,0.9s
LPG La Plagne 77.55 314 *e*P pP 07 19 51.8 -0.4
LPG pmax pmax
comp=Z,21nm,0.9s
LPG La Plagne 77.55 314 *e*P pP 07 19 51.8 -0.4
comp=Z,21nm,0.9s
LPL La Plagne 77.56 314 *e*P pP 07 19 51.8 -0.4
comp=Z,19nm,0.8s
LPL La Plagne 77.56 314 *e*P pP 07 19 51.8 -0.4
LPL pmax pmax
comp=Z,19nm,0.8s
LPL La Plagne 77.56 314 *e*P pP 07 19 51.8 -0.4

	comp=Z,19nm,0.8s						
MBDF	Montbardon	77.63	313	eP	pP	07 19 51.6	-0.9
MBDF	Montbardon	77.63	313	eP	pP	07 19 51.6	-0.9
MBDF	Montbardon	77.63	313	eP	pP	07 19 51.6	-0.9
BOSA	Boshof	77.77	236	P	P	07 19 45.3	+1.8
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOSA	Boshof	77.77	236	P	P	07 19 45.3	+1.8
	comp=Z,2.4nm,0.8s,baz=46,slow=2.9,SNR=5.8						
CABF	La Chapelle	77.87	315	eP	pP	07 19 53.3	-0.5
CABF	La Chapelle	77.87	315	eP	pP	07 19 53.3	-0.5
CABF	La Chapelle	77.87	315	eP	pP	07 19 53.3	-0.5
FRF	La Foret Royal	77.87	312	eP	pP	07 19 53.2	-0.5
FRF	La Foret Royal	77.87	312	eP	pP	07 19 53.2	-0.5
FRF	La Foret Royal	77.87	312	eP	pP	07 19 53.2	-0.5
LMR	La Mourre	78.00	312	eP	pP	07 19 54.1	-0.3
	comp=Z,32nm,1.0s						
LMR	La Mourre	78.00	312	eP	pP	07 19 54.1	-0.3
LMR				pmax	pmax		
	comp=Z,32nm,1.0s						
LMR	La Mourre	78.00	312	eP	pP	07 19 54.1	-0.3
	comp=Z,32nm,1.0s						
LOR	Lormes	79.29	316	eP	pP	07 20 00.5	-1.0
	comp=Z,9.9nm,0.9s						
LOR	Lormes	79.29	316	eP	pP	07 20 00.5	-1.0
LOR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LOR	Lormes	79.29	316	eP	pP	07 20 00.5	-1.0
	comp=Z,9.9nm,0.9s						
SMF	Signal de Mont	79.39	316	eP	pP	07 20 01.1	-1.0
SMF	Signal de Mont	79.39	316	eP	pP	07 20 01.1	-1.0
SMF	Signal de Mont	79.39	316	eP	pP	07 20 01.1	-1.0
SSF	Saint Saulge	79.56	316	eP	pP	07 20 02.3	-0.6
SSF	Saint Saulge	79.56	316	eP	pP	07 20 02.3	-0.6
SSF	Saint Saulge	79.56	316	eP	pP	07 20 02.3	-0.6
AVF	Avril sur Loir	79.70	316	eP	pP	07 20 02.7	-1.0
	comp=Z,8.6nm,0.9s						
AVF	Avril sur Loir	79.70	316	eP	pP	07 20 02.7	-1.0
AVF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AVF	Avril sur Loir	79.70	316	eP	pP	07 20 02.7	-1.0
	comp=Z,8.6nm,0.9s						
TCF	Toulx Ste Croi	80.56	315	eP	pP	07 20 08.0	-0.5
	comp=Z,24nm,1.1s						
TCF	Toulx Ste Croi	80.56	315	eP	pP	07 20 08.0	-0.5
TCF				pmax	pmax		
	comp=Z,24nm,1.1s						
TCF	Toulx Ste Croi	80.56	315	eP	pP	07 20 08.0	-0.5
	comp=Z,24nm,1.1s						
CAF	Calviac	80.91	314	eP	pP	07 20 10.0	-0.3
	comp=Z,21nm,1.1s						
CAF	Calviac	80.91	314	eP	pP	07 20 10.0	-0.3
CAF				pmax	pmax		
	comp=Z,21nm,1.1s						
CAF	Calviac	80.91	314	eP	pP	07 20 10.0	-0.3
	comp=Z,21nm,1.1s						
RJF	Les Rejaudoux	81.22	314	eP	pP	07 20 11.7	-0.3
RJF	Les Rejaudoux	81.22	314	eP	pP	07 20 11.7	-0.3
RJF	Les Rejaudoux	81.22	314	eP	pP	07 20 11.7	-0.3
LDF	La Druitiere	81.69	318	eP	pP	07 20 13.5	-0.9
LDF	La Druitiere	81.69	318	eP	pP	07 20 13.5	-0.9
LDF	La Druitiere	81.69	318	eP	pP	07 20 13.5	-0.9
TORD	Torodi Ar. Bea	88.02	283	P	P	07 20 37.8	+1.0
	comp=Z,1.1nm,0.7s,baz=85,slow=4.0,SNR=6.5						
TORD				pP	pP	07 20 47.0	+0.1
	comp=Z,1.3nm,1.0s,baz=78,slow=4.8,SNR=5.3						
TORD				LR	LR	07 59 31.8	
	comp=Z,64nm,18.2s,baz=355,slow=35						
ILAR	Eielson Array	89.69	22	P	P	07 20 42.9	-0.8
ILAR				*PP	pP	07 20 54.1	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	89.69	22	P	P	07 20 42.9	-0.8
	comp=Z,0.5nm,0.8s,baz=290,slow=4.7,SNR=5.8						
ILAR				pP	pP	07 20 54.1	+0.3
	comp=Z,1.4nm,0.8s,baz=302,slow=4.4,SNR=11						
NVAR	Mina Array Bea	120.35	28	PKP	PKPdf	07 26 38.2	+0.4
	comp=Z,0.5nm,0.7s,baz=325,slow=1.4,SNR=3.9						

SKHL 16 07:09:46.8±1.1, 49.00N×141.34E, h10km, mb5.0/1, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
UGL	Uglegorsk	0.48	80	⇑iPg	Pg	07 09 56.8	+0.6
UGL				AMB	AMB	07 09 59.5	
	1µm,0.5s						
UGL				AMB	AMB	07 09 59.5	
	820nm,0.5s						
UGL				AMB	AMB	07 09 59.5	
	1µm,0.5s						
UGL				eSg	Sb	07 10 03.8	-0.7
UGL				A	A	07 10 05.5	
	2µm,0.5s						
UGL				A	A	07 10 05.5	
	460nm,0.5s						
UGL				A	A	07 10 05.5	
	1µm,0.5s						
TYV	Tymovskoe	2.05	24	ePg	Pg	07 10 28.3	+2.2
TYV				eSg	Sg	07 10 54.0	+1.3

WEL 16 07:39:32.1±0.3, 37.33S×176.39E, h200km±3km, ML3.7/7, 5C-4D, Error ellipse: s-maj=3.4km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
URZ	Urewera	1.09	149	⇑PN	Pn	07 40 02.4	-0.1
URZ				SN	S	07 40 26.4	+0.5
URZ				AML	AML	07 40 27.2	
HAZ	Te Kaha	1.19	111	PN	Pn	07 40 03.2	0.0
HAZ				SN	S	07 40 27.0	-0.1
MWZ	Matawai	1.35	138	⇓PN	Pn	07 40 04.8	+0.3
MWZ				eSN	S	07 40 28.8	-0.7
MWZ				AML	AML	07 40 39.2	
RAGZ	Rawiri	1.42	145	ePN	Pn	07 40 05.2	0.0
MXZ	Matakaoa Point	1.54	99	⇓PN	Pn	07 40 06.3	+0.2
MXZ				SN	S	07 40 33.2	+1.0
RATZ	Rangitukua	1.61	197	⇑PN	Pn	07 40 07.4	+0.5
SNGZ	Shannon Statio	1.63	153	⇑PN	Pn	07 40 07.0	-0.1
PUZ	Puketiti	1.66	117	PN	Pn	07 40 06.9	-0.4
PUZ				SN	S	07 40 33.2	-0.9
PUZ				AML	AML	07 40 33.6	
RAHZ	Arahi	1.68	161	PN	Pn	07 40 07.6	+0.2
RAHZ				eSN	S	07 40 34.8	+0.2
RIGZ	Rimuhau	1.75	142	PN	Pn	07 40 08.3	+0.1
NMHZ	Naumai	1.80	170	PN	Pn	07 40 09.0	+0.4
BKZ	Black Stump Fm	1.84	178	⇑PN	Pn	07 40 08.3	-0.7
BKZ				eSN	S	07 40 35.9	-1.5
BKZ				AML	AML	07 40 45.4	
CNGZ	Carnagh Statio	1.84	129	PN	Pn	07 40 09.2	+0.2
WHHZ	Waihua	1.87	159	PN	Pn	07 40 09.3	+0.1
KNZ	Kokohu	1.97	149	PN	Pn	07 40 09.7	-0.5
PRGZ	Paritu Road	1.98	144	PN	Pn	07 40 10.2	-0.2
TRVZ	Turoa	2.08	198	PN	Pn	07 40 11.5	-0.2
WNVZ	Wahianoa	2.09	197	PN	Pn	07 40 11.3	-0.4
MCHZ	McNeill Hill	2.12	174	PN	Pn	07 40 11.7	-0.2
MOVZ	Moawhango	2.13	193	PN	Pn	07 40 11.6	-0.5
BHHZ	Black Hill Sta	2.17	187	⇑PN	Pn	07 40 11.5	-1.0
MTVZ	Mangateitei	2.18	199	PN	Pn	07 40 12.2	-0.3
MHGZ	Mahia Peninsul	2.18	147	PN	Pn	07 40 11.7	-0.7
KRHZ	Kereru	2.31	180	PN	Pn	07 40 13.0	-1.0
CKHZ	Cape Kidnapper	2.39	167	PN	Pn	07 40 14.0	-0.7
KAHZ	Kahuranaki	2.49	171	PN	Pn	07 40 14.9	-1.0
PNHZ	Pukenui	2.58	183	PN	Pn	07 40 15.5	-1.4
PXZ	Pawanui	2.72	172	⇓PN	Pn	07 40 16.9	-1.5
PXZ				SN	S	07 40 51.0	-3.2
PXZ				AML	AML	07 40 56.1	
TSZ	Takapari Road	2.75	187	PN	Pn	07 40 17.1	-1.7
DVHZ	Dannevirke	2.97	183	⇓PN	Pn	07 40 19.2	-2.2
POWZ	Post Office Ro	3.10	189	PN	Pn	07 40 20.9	-1.9
ANWZ	Angora Road	3.13	179	PN	Pn	07 40 21.3	-1.9
PRWZ	Pori Road	3.24	186	PN	Pn	07 40 22.4	-2.1
BFZ	Birch Farm	3.35	182	PN	Pn	07 40 23.3	-2.5
MRZ	Mangatainoka R	3.39	190	PN	Pn	07 40 23.5	-2.8
MRZ				SN	S	07 41 05.0	-3.3
TIWZ	Tintock	3.46	186	PN	Pn	07 40 24.8	-2.5
TIWZ				AML	AML	07 41 11.2	
OGWZ	Otaki Gorge	3.61	195	PN	Pn	07 40 26.5	-2.5
HOWZ	Holdsworth Sta	3.63	191	PN	Pn	07 40 26.1	-3.1
KIW	Kapiti Island	3.71	198	PN	Pn	07 40 27.2	-3.1
TMWZ	Te Maipa	3.79	186	ePN	Pn	07 40 28.5	-2.8
MTW	Mount Morrison	3.89	190	PN	Pn	07 40 28.8	-3.6
CAW	Cannon Point	3.91	195	PN	Pn	07 40 29.5	-3.2
DUWZ	D'Urville Isla	3.96	208	PN	Pn	07 40 30.4	-3.0
MSWZ	Moikau Station	4.17	192	PN	Pn	07 40 32.1	-3.9
TCW	Tory Channel	4.21	202	PN	Pn	07 40 33.2	-3.3
PLWZ	Palliser	4.33	191	PN	Pn	07 40 34.2	-3.7
TUWZ	Tuamarina	4.51	204	PN	Pn	07 40 36.8	-3.4
NNZ	Nelson	4.53	210	PN	Pn	07 40 37.0	-3.5
QRZ	Quartz Range	4.61	220	PN	Pn	07 40 36.3	-5.1
THZ	Tophouse	5.18	210	PN	Pn	07 40 45.8	-3.0
KHZ	Kahutara	5.53	202	PN	Pn	07 40 49.3	-3.9
LTZ	Lake Taylor	6.30	209	PN	Pn	07 40 58.8	-4.4
MQZ	McQueen's Vall	6.98	203	PN	Pn	07 41 06.3	-5.5
MQZ				eSN	S	07 42 20.1	-11

IDC 16 07:45:19.4±2.4, 40.24N×143.80E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.3/33, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=59.3km s-min=26.4km az=77.0
JMA 16 07:45:21.8±0.1, 40.33N×143.71E, h20km, M3.3
ISC 16 07:45:19.5±3.6, 40.30N±0.05×143.86E±0.07, h7km±24km, n29, σ1§23/37, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
JTH	Tanohata	1.57	258	P	Pn	07 45 47.4	-0.4
JTH				S	Sn	07 46 05.7	-2.8
MIYJ	Miyakonagasawa	1.73	246	P	Pn	07 45 50.2	+0.3
MIYJ				eS	Sn	07 46 11.1	-1.2
JANG	Nango	1.80	273	P	Pn	07 45 50.7	-0.2
JEM	Erimo	1.80	343	P	Pb	07 45 51.5	-1.2
JEM				S	Sn	07 46 13.2	-0.8
JOM	Ohasama	2.14	248	P	Pn	07 45 56.4	+0.8
JOM				S	Sn	07 46 21.4	-1.1
JNBK	Urakawa-nobuka	2.15	337	P	Pn	07 45 56.6	+0.8
JTM	Tenmabayashi	2.19	284	P	Pn	07 45 56.9	+0.7
JCH	Churui	2.35	351	P	Pn	07 45 59.3	+0.8
JCH				S	Sn	07 46 26.8	-0.7
JOT	Ohata	2.40	298	P	Pn	07 45 59.7	+0.6
JOT				eS	Sn	07 46 26.6	-2.1
JMK	Ichinoseki	2.44	238	P	Pn	07 46 00.6	+0.8
JMK				eS	Sn	07 46 28.9	-1.0
JAH	Hinai	2.47	269	P	Pn	07 46 01.4	+1.2
JAH				eS	Sn	07 46 30.7	+0.1
JRG	Rokugo	2.64	251	P	Pn	07 46 04.2	+1.7
JKB	Kayabe	2.67	308	P	Pn	07 46 03.6	+0.8
JKB				S	Sn	07 46 34.7	-0.7
JAK	Akkeshi	2.77	13	P	Pn	07 46 05.0	+0.8
JAK				eS	Sn	07 46 36.5	-1.4
JAR	Ashorobuto	3.00	359	P	Pn	07 46 07.6	+0.2
JAR				S	Sn	07 46 41.5	-2.1
JYK	Kaneyama	3.04	244	P	Pn	07 46 08.9	+0.9
JOU	Okura	3.14	233	P	Pn	07 46 10.0	+0.6
JOU				eS	Sn	07 46 46.4	-0.8
NEM2	Nemuro 2	3.37	24	P	Pn	07 46 13.1	+0.6
NEM2				S	Sn	07 46 50.1	-2.7
ASAJ	Asahikawa	3.93	347	Pn	Pn	07 46 21.9	+1.7
	0.9nm,0.3s,baz=214,slow=11,SNR=3.3						
ASAJ				Sn	Sn	07 47 07.7	+1.1
	0.5nm,0.3s,baz=180,slow=20,SNR=3.5						
MJAR	Matsushiro Arr	5.81	232	Pn	Pn	07 46 46.0	-0.1
	0.5nm,0.3s,baz=41,slow=12,SNR=6.6						
SONM	Songino Array	27.74	298	P	P	07 51 09.3	+0.6
	0.2nm,0.6s,baz=76,slow=6.1,SNR=3.1						
H11N2	WAKE ISLAND Hy	28.45	129	T	T	08 20 59.3	
	baz=324,slow=76,SNR=8.1						
H11N1	WAKE ISLAND Hy	28.46	129	T	T	08 20 58.6	
	baz=324,slow=76,SNR=6.0						
H11N3	WAKE ISLAND Hy	28.46	129	T	T	08 21 00.4	
	baz=324,slow=76,SNR=5.9						
H11S1	WAKE ISLAND Hy	29.29	131	T	T	08 22 09.7	
	baz=326						
H11S3	WAKE ISLAND Hy	29.29	131	T	T	08 22 09.1	
	baz=326						
H11S2	WAKE ISLAND Hy	29.31	131	T	T	08 22 09.5	
	baz=326						
MKAR	Makanchi Array	44.09	300	P	P	07 53 29.2	+1.1
	0.7nm,0.9s,baz=82,slow=8.1,SNR=5.1						
WRA	Warramunga Arr	60.58	190	P	P	07 55 31.2	+0.5
	0.3nm,0.8s,baz=8.0,slow=6.9,SNR=2.9						

IDC 16 07:55:33.0±44.0, 15.70S×172.71W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/33, mbtmp4.2/3, Error ellipse: s-maj=852.0km s-min=174.3km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
STKA	Stephens Creek	44.47	240	P	P	08 03 46.2	0.0
	1.1nm,0.4s,baz=99,slow=9.5,SNR=6.4						
WRA	Warramunga Arr	50.42	257	P	P	08 04 32.4	-0.4
	0.7nm,0.5s,baz=94,slow=7.2,SNR=20						
ASAR	Alice Springs	50.65	252	P	P	08 04 34.5	0.0
	7.3nm,0.6s,baz=89,slow=8.1,SNR=141						

IDC 16 08:19:21.8±0.7, 57.67N×32.91W, h0km, mb3.5/11, mb1 3.8/12, mb1mx3.6/45, mbtmp3.5/12, ML4.1/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/43, Error ellipse: s-maj=25.2km s-min=15.8km az=13.0
ISCJB 16 08:19:22.4±0.7, 57.7N±0.2×32.9W±0.2, h15km, mb3.5/11, MS3.2/3, Error ellipse: s-maj=22.7km s-min=11.8km az=11.4
ISC 16 08:19:24.0±0.8, 57.7N±0.2×32.9W±0.1, h15km, n17, σ0§61/15, mb3.6/11, MS3.1/3, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
EKA	Eskdalemuir Ar	16.54	85	Pn	Pn	08 23 16.0	+0.8
	baz=284,slow=14,SNR=3.8						
ESDC	Sonseca Array	27.95	121	P	P	08 24 56.8	+1.1
	0.2nm,0.3s,baz=316,slow=7.3,SNR=3.1						
FINES	FINESS Array B	29.25	57	P	P	08 25 24.8	-0.2
	1.6nm,0.9s,baz=308,slow=6.7,SNR=2.7						
VRAC	Vranov	30.02	84	LR	LR	08 37 34.0	
	comp=Z,32nm,18.3s,baz=308,slow=36						
YKA	Yellowknife Ar	38.47	312	P	P	08 26 44.7	-0.1
	0.2nm,0.4s,baz=57,slow=9.1,SNR=6.3						
YKA				PcP	PcP	08 28 56.8	-0.6
	0.2nm,0.7s,baz=50,slow=3.0,SNR=3.8						
BRTR	Keskin Array B	45.45	83	LR	LR	08 47 10.4	
	comp=Z,20nm,18.5s,baz=283,slow=37						
DLBC	Dease Lake	46.98	314	LR	LR	08 48 38.4	
	comp=Z,66nm,18.5s,baz=64,slow=37						
ILAR	Eielson Array	48.06	328	P	P	08 28 02.5	+0.3
	0.9nm,1.0s,baz=34,slow=6.7,SNR=9.2						
ILAR				PcP	PcP	08 29 29.4	-0.3
	0.6nm,0.7s,baz=356,slow=2.9,SNR=11						
PDAR	Pinedale Array	48.54	287	P	P	08 28 06.2	-0.3
	0.6nm,0.7s,baz=53,slow=6.4,SNR=4.8						
TORD	Torodi Ar. Bea	51.58	135	P	P	08 28 28.6	-0.9
	0.5nm,0.8s,baz=339,slow=6.3,SNR=2.6						
BVAR	Borovoye Array	53.34	47	P	P	08 28 42.2	0.0
	0.4nm,0.4s,baz=271,slow=7.1,SNR=2.3						
TXAR	Lajitas Array	55.53	271	P	P	08 28 59.2	+0.7
	0.1nm,0.8s,baz=42,slow=9.6,SNR=2.8						
NVAR	Mina Array Bea	56.22	290	P	P	08 29 04.1	+0.7
	0.2nm,0.6s,baz=38,slow=4.6,SNR=2.6						
MKAR	Makanchi Array	62.92	44	P	P	08 29 49.2	-0.1
	0.5nm,0.5s,baz=338,slow=5.5,SNR=6.6						
SONM	Songino Array	69.61	28	P	P	08 30 32.0	-0.3
	0.4nm,0.8s,baz=339,slow=7.7,SNR=3.9						
ASAR	Alice Springs	144.74	21	PKP	PKPbc	08 38 59.0	+0.1
	0.5nm,0.7s,baz=342,slow=2.4,SNR=6.0						
QSPA	South Pole Qui	147.55	180	PKPbc	PKPbc	08 39 05.5	-0.5
	2.4nm,1.0s,baz=212,slow=2.3,SNR=5.4						

IDC 16 08:27:24.7±2.7, 54.10N×87.23E, h0km, mb1 3.4/2, mb1mx3.0/54, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=26.0km s-min=14.0km az=67.0
NNC 16 08:27:24.7±7.7, 54.11N×87.02E, h0km, mb3.3, mpv2.8, Error ellipse: s-maj=59.3km s-min=42.0km az=48.0
ISC 16 08:27:28.6±3.9, 54.2N±0.2×86.7E±0.2, h10km, n7, σ1§92/12, 6C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
I46RU	ZALESOVO INFRA	1.15	258	I		08 36 50.0	
	baz=82,slow=342,SNR=3.7						
ZALV	Zalesovo Beam	1.15	258	Pg	Pn	08 27 49.2	-1.5
	16nm,0.3s,baz=80,slow=16,SNR=56						
ZALV				Lg	Lg	08 28 09.6	
	5.4nm,0.3s,baz=82,slow=24,SNR=8.5						
KURK	Kurchatov	6.06	238	⇓Pn	Pn	08 28 58.4	+0.2
	0.6nm,0.7s						
KURK				⇑Pg	Pb	08 29 15.7	+1.5
	1.0nm,0.7s						
KURK				⇓Sn	Sn	08 30 09.6	+2.0
	0.4nm,0.4s						
KURK				⇑Lg	Lg	08 30 40.4	
	2.5nm,1.1s						
MK31	Makanchi Array	7.94	203	⇑Pn	Pn	08 29 22.3	-1.7
	0.1nm,0.3s,baz=27,slow=14,SNR=21						
MK31				⇑Pg	Pb	08 29 48.8	+2.5
	0.4nm,0.5s,baz=347,slow=6.2,SNR=3.5						
MK31				⇑Sn	Sn	08 30 52.3	-1.6
	0.3nm,0.5s,baz=27,slow=25,SNR=3.0						
MK31				⇓Lg	Lg	08 31 36.5	
	0.8nm,0.8s						
MKAR	Makanchi Array	7.94	203	Pn	Pn	08 29 22.7	-1.3
	0.3nm,0.3s,baz=23,slow=12,SNR=21						
MKAR				Sn	Sn	08 30 52.0	-1.9
	0.2nm,0.3s,baz=27,slow=26,SNR=6.2						
MKAR				Lg	Lg	08 31 37.7	
	0.1nm,0.3s,baz=22,slow=31,SNR=2.5						
VOSK	Vostochnaya	9.51	267	⇓Pn	Pn	08 29 45.8	+0.3
	1.3nm,0.8s						
VOSK				⇑Sn	Sn	08 31 30.0	-2.3
BVAR	Borovoye Array	9.78	270	Pn	Pn	08 29 50.5	+1.3
	0.2nm,0.3s,baz=79,slow=16,SNR=3.4						

IDC 16 08:28:57.0±0.9, 37.16N×144.03E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.6/50, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=26.3km s-min=20.7km az=124.0
ISCJB 16 08:28:59.7±0.6, 37.41N±0.03×143.69E±0.05, h33km, mb3.9/7, Error ellipse: s-maj=5.3km s-min=4.3km az=4.9
NIED 16 08:29:00, 37.40N×143.60E, h8km, Mw3.6 Best double couple: M0 2.80000×10[14] NP1:φs57.00000°, δ32.00000°, λ-105.00000°. NP2:φs254.00000°, δ59.00000°, λ-81.00000°.
JMA 16 08:29:00.9±0.2, 37.43N×143.61E, h44km, M4.1
NEIC 16 08:29:01.9±0.8, 37.30N×143.89E, h35km, mb4.3/2, Error ellipse: s-maj=15.8km s-min=12.7km az=135.0
ISC 16 08:29:01.4±0.9, 37.46N±0.05×143.76E±0.07, h35km, n38, σ1§93/55, mb3.9/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
JIO	Ouri	2.15	298	P	Pn	08 29 34.4	-0.3
JIO				S	Sn	08 29 58.4	-1.7
JFK	Kawauchi	2.30	269	P	Pn	08 29 35.8	-1.0
JFK				S	Sn	08 30 00.5	-3.4
OFUJ	Ofunato	2.31	315	P	Pn	08 29 36.3	-0.6
OFUJ				S	Sn	08 30 02.9	-1.1
JMK	Ichinoseki	2.49	307	P	Pn	08 29 39.6	+0.2
JMK				eS	Sn	08 30 07.3	-1.3
JOU	Okura	2.61	291	P	Pn	08 29 41.3	+0.2
JOU				S	Sn	08 30 10.9	-0.6
JFT	Otama	2.72	272	P	Pn	08 29 42.8	+0.2
JFT				S	Sn	08 30 13.2	-1.1
JOM	Ohasama	2.79	317	P	Pn	08 29 43.7	+0.2
JOM				S	Sn	08 30 15.5	-0.5
JYK	Kaneyama	3.05	300	P	Pn	08 29 48.2	+1.1
JYK				S	Sn	08 30 21.9	-0.4
JRG	Rokugo	3.12	309	P	Pn	08 29 48.9	+0.8
JRG				eS	Sn	08 30 24.3	+0.1
JANG	Nango	3.39	330	P	Pn	08 29 52.1	+0.3
JANG				S	Sn	08 30 29.2	-1.7
BSO1	Boso 1	3.59	220	P	Pn	08 29 52.3	-1.8
BSO1				S	Sn	08 30 32.9	-2.1
JAG	Ashikaga	3.60	255	P	Pn	08 29 53.9	-0.8
JAG				eS	Sn	08 30 33.3	-2.7
JAH	Hinai	3.66	319	eS	Sn	08 30 37.7	+0.4
JTM	Tenmabayashi	3.92	329	P	Pn	08 29 59.9	+0.8
JTM				S	Sn	08 30 42.4	-1.5
JRY	Ryogami san	4.16	251	P	Pn	08 30 01.4	-1.0
JRY				S	Sn	08 30 45.7	-4.1
JOD2	Odawara 2	4.36	241	P	Pn	08 30 03.2	-1.9
JOD2				S	Sn	08 30 50.0	-4.7
JOT	Ohata	4.44	333	P	Pn	08 30 06.8	+0.6
JOT				S	Sn	08 30 54.3	-2.4
MJAR	Matsushiro Arr	4.54	260	Pn	Pn	08 30 08.2	+0.6
	5.6nm,0.3s,baz=89,slow=15,SNR=47						
MJAR				Sn	Sn	08 30 59.7	+0.6
	1.5nm,0.3s,baz=176,slow=21,SNR=5.6						
MAJO	Matsushiro	4.54	260	ePn	Pn	08 30 08.6	+1.0
MAT	Matsushiro	4.54	260	P	Pn	08 30 08.5	+0.9
MAT				S	Sn	08 30 57.8	-1.3
JKB	Kayabe	4.90	335	P	Pn	08 30 13.5	+1.1
JKB				S	Sn	08 31 05.1	-2.7
JCH	Churui	5.16	357	P	Pn	08 30 15.3	-0.7
JCH				S	Sn	08 31 09.9	-4.4
NEM2	Nemuro 2	6.09	14	P	Pn	08 30 25.9	-2.9
NEM2				S	Sn	08 31 31.5	-5.7
ASAJ	Asahikawa	6.71	353	Pn	Pn	08 30 37.5	+0.2
	4.3nm,0.3s,baz=226,slow=4.6,SNR=15						
ASAJ				Sn	Sn	08 31 50.0	-2.4
	0.6nm,0.3s,baz=217,slow=20,SNR=2.7						
ASAJ	Asahikawa	6.71	353	ePn	Pn	08 30 38.0	+0.7
	3.6nm,0.3s						
KSRS	Korea Array	12.59	275	Pn	Pn	08 32 01.5	+3.6
	0.2nm,0.3s,baz=89,slow=17,SNR=3.9						
KSAR	Wonju Array Be	12.62	275	Pn	Pn	08 32 01.4	+3.1
H11N2	WAKE ISLAND Hy	26.81	125	T	T	09 01 38.7	
	baz=323,SNR=3.3						
H11N1	WAKE ISLAND Hy	26.81	125	T	T	09 01 40.1	
	baz=323						
H11N3	WAKE ISLAND Hy	26.82	125	T	T	09 01 38.9	
	baz=323						
SONM	Songino Array	29.11	303	P	P	08 35 02.5	+3.7
	0.4nm,0.8s,baz=98,slow=10,SNR=3.4						
CMAR	Chiang Mai Arr	43.41	257	P	P	08 37 02.9	+2.1
	0.8nm,0.3s,baz=54,slow=9.1,SNR=4.6						
ILAR	Eielson Array	48.13	33	P	P	08 37 39.1	+1.6
	0.8nm,0.8s,baz=259,slow=6.9,SNR=8.6						
INK	Inuvik	53.15	27	P	P	08 38 17.3	+2.0
	0.5nm,0.4s,baz=282,slow=4.5,SNR=5.6						
INK	Inuvik	53.15	27	eP	P	08 38 17.5	+2.2
	7.3nm,1.7s						
WRAB	Tennant Creek	57.77	190	eP	P	08 38 48.2	-0.8
	1.2nm,0.6s						
WRA	Warramunga Arr	57.78	190	P	P	08 38 47.8	-1.3
	1.3nm,0.6s,baz=12,slow=7.5,SNR=14						
WRA				PcP	PcP	08 39 42.1	+0.6
	0.4nm,0.6s,baz=4.1,slow=4.4,SNR=3.1						
ASAR	Alice Springs	61.50	190	P	P	08 39 13.9	-0.8
	0.4nm,0.5s,baz=8.7,slow=7.1,SNR=6.0						

MEX 16 08:31:13.3±0.4, 15.96N×96.78W, h6km±6km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
HUIG	Huatulco	0.68	107	iP	Pg	08 31 25.5	-0.8
HUIG				eS	Sg	08 31 34.6	-0.5
VHO	Vista Hermosa	1.10	2	iP	Pg	08 31 31.4	-3.4
VHO				eS	Sg	08 31 46.0	-3.3
OXX	Oaxaca	1.11	3	iP	Pg	08 31 31.9	-3.1
OXX				iS	Sg	08 31 45.2	-4.4
PNIG	Pinotepa	1.36	288	iP	Pn	08 31 34.9	-4.0
PNIG				eS	Sb	08 31 52.2	-4.9
CMIG	Matias Romero	2.14	58	iP	Pn	08 31 46.9	-2.7
CMIG				iS	Sn	08 32 12.2	-4.2

MEX 16 08:46:32.5±0.6, 16.44N×98.85W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
PNIG	Pinotepa	0.69	94	iP	Pg	08 46 44.8	-1.2
PNIG				iS	Sg	08 46 55.1	+0.1
ACX	Acapulco	1.06	294	iP	Pg	08 46 47.4	-5.4
ACX				iS	Sg	08 47 01.8	-4.8
TLIG	Tlapa	1.15	14	iP	Pg	08 46 50.9	-3.9
TLIG				iS	Sg	08 47 06.8	-3.0
CAIG	El Cayaco	1.49	294	iP	Pn	08 46 56.7	-3.2
CAIG				iS	Sn	08 47 14.7	-5.0
MEIG	Mezcala	1.65	334	iP	Pn	08 46 58.5	-3.5
MEIG				iS	Sn	08 47 19.5	-4.5

PLIG Platanillo 2.04 342 iP Pn 08 47 03.9 -3.8
PLIG eS Sn 08 47 29.2 -4.3
ARIG Puente Sto Nin 2.32 322 iP Pn 08 47 08.7 -2.7
ARIG iS Sn 08 47 36.5 -3.9

KRSC 16 09:05:35.5±1.0, 54.35N×161.95E, h40km±8km, ML3.8,
Near east coast of Kamchatka Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MKZ Mys Kozlova 0.25 328 P Pn 09 05 43.6 +0.4
MKZ S Sn 09 05 48.5 -0.3
KZV Kizimen 1.23 309 P Pn 09 05 57.7 +1.3
TUMR Tumrok 1.41 313 P Pn 09 06 00.1 +1.3
TUMR S Sn 09 06 17.4 +1.2
KII Karymskiy 1.50 259 P Pn 09 06 01.6 +1.6
KII S Sn 09 06 19.6 +1.1
SPN Mys Shipunski 1.70 223 S Sn 09 06 23.3 +0.3
KMNR Kamenistaya 1.72 326 P Pn 09 06 05.4 +2.3
KMNR S Sn 09 06 26.9 +2.9
KIRR Kirishev 1.86 331 P Pn 09 06 07.2 +2.2
KBTR Krutoberegovo 1.93 15 P Pn 09 06 07.9 +2.1
KBTR S Sn 09 06 32.2 +3.4
NLC Nalytchevo 1.94 234 P Pn 09 06 07.6 +1.7
NLC S Sn 09 06 31.8 +2.7
KOZ Kozyrevsk 2.09 326 P Pn 09 06 10.6 +2.6
KOZ S Sn 09 06 35.6 +2.8
KLY Klyuchi 2.11 340 P Pn 09 06 10.2 +2.0
KLY S Sn 09 06 34.8 +1.7
SDLR Sedlovina 2.11 241 P Pn 09 06 11.0 +2.6
SDLR S Sn 09 06 36.0 +2.5
SMAR Somma 2.16 241 P Pn 09 06 11.8 +2.6
SMAR S Sn 09 06 37.9 +2.9
KRER Koryakskii 2.17 243 P Pn 09 06 12.3 +3.0
KRER S Sn 09 06 38.9 +3.8
UGLR Uglovaya 2.18 240 P Pn 09 06 12.0 +2.7
UGLR S Sn 09 06 38.2 +3.0
AVH Avacha 2.19 242 P Pn 09 06 12.7 +3.2
AVH S Sn 09 06 38.7 +3.2
KRX Arik 2.19 245 P Pn 09 06 12.2 +2.6
KRX S Sn 09 06 38.6 +3.0
KOK Koryaka 2.23 243 P Pn 09 06 12.9 +2.8
KOK S Sn 09 06 40.0 +3.5
SMKR Semkarok 2.26 353 P Pn 09 06 13.3 +2.9
SMKR S Sn 09 06 40.2 +3.1
BDR Baidarnaya 2.27 350 P Pn 09 06 13.3 +2.8
SRDR Sredinnyy 2.35 328 P Pn 09 06 14.2 +2.5
PET Petropavlovsk 2.37 237 P Pn 09 06 14.2 +2.4
PET S Sn 09 06 41.7 +2.2
GNL Ganaly 2.45 256 P Pn 09 06 16.1 +3.0
GNL S Sn 09 06 45.1 +3.1
RUS Russkaya 2.81 228 P Pn 09 06 20.1 +2.2
RUS S Sn 09 06 53.8 +3.3
MTVR Mutnovka 2.93 232 P Pn 09 06 22.5 +2.8
MTVR S Sn 09 06 57.8 +4.1
ASAK Asacha 3.12 233 P Pn 09 06 26.5 +4.2
ASAK S Sn 09 07 03.0 +4.6
MIPR Malaya Ipel'ka 3.74 238 P Pn 09 06 34.5 +3.8
OSSR Ossora 4.96 7 P Pn 09 06 50.8 +3.6

MAN 16 09:40:05, 5.66N×125.72E, h138km, mb4.4, ML3.3, MS3.2
ISCJB 16 09:40:07.0±0.4, 5.85N±0.05×125.71E±0.09, h150km, mb3.8/7, Error ellipse: s-maj=13.2km s-min=6.3km az=170.9
IDC 16 09:40:09.8±3.1, 5.99N×125.81E, h172km±28km, mb3.7/7, mb1 3.9/7, mb1mx3.4/35, mbtmp4.2/7, Error ellipse: s-maj=37.9km s-min=13.1km az=66.0
ISC 16 09:40:06.6±0.7, 5.77N±0.08×125.78E±0.10, h150km, n26, σ0.96/21, mb3.9/7, 2C-1D, Mindanao

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GSPH General Santos 0.89 291 ⇑iP Pn 09 40 30.9 +0.2
GSPH iS Sn 09 40 49.2 +0.3
MATI Mati 1.26 22 eP Pn 09 40 33.6 -0.2
MATI eS Sn 09 40 55.7 +1.1
DMPH Davao City--Mi 1.33 348 ⇑eP Pn 09 40 34.9 +0.4
DMPH eS Sn 09 40 56.2 +0.3
BUKP Musuan 2.22 341 eP Pn 09 40 44.7 +0.3
CGP Cagayan de Oro 2.88 338 ⇓eP Pn 09 40 52.8 +0.3
PAGZ Pagadian 3.16 311 eP Pn 09 40 48.7 -7.3
WSI Waingapu 16.28 200 P P 09 43 45.9 -1.2
baz=17,SNR=6.0
KNRA Kununurra 21.51 172 P P 09 44 48.8 +5.0
baz=23,SNR=10.0
FITZ Fitzroy Crossi 23.72 180 P P 09 45 08.5 +3.4
baz=25,SNR=13
WRA Warramunga Arr 26.90 162 P P 09 45 36.2 +2.4
0.3nm,0.3s,baz=345,slow=9.6,SNR=14
CMAR Chiang Mai Arr 29.06 298 P P 09 45 53.9 +0.8
1.3nm,0.3s,baz=99,slow=12,SNR=4.9
ASAR Alice Springs 30.31 165 P P 09 46 07.1 +3.0
0.9nm,0.5s,baz=344,slow=7.3,SNR=34
ASAR PcP PcP 09 49 01.5 +0.6
0.5nm,0.4s,baz=343,slow=2.6,SNR=9.4
WRKA Warakurna 30.72 176 P P 09 46 10.9 +3.3
baz=32,SNR=8.6
MJAR Matsushiro Arr 32.68 19 P P 09 46 24.1 -0.5
2.3nm,0.9s,baz=190,slow=11,SNR=4.3
MEEK Meekatharra 32.95 192 P P 09 46 30.3 +3.1
baz=34,SNR=4.0
EIDS Eidsvold 39.53 143 S S 09 53 14.2 -0.2
baz=41,SNR=7.0
BBOO Buckleboo 39.59 166 P P 09 47 27.0 +3.6
baz=41,SNR=29
STKA Stephens Creek 40.36 159 P P 09 47 33.1 +3.4
2.6nm,0.5s,baz=336,slow=9.1,SNR=13
STKA Stephens Creek 40.36 159 P P 09 47 33.2 +3.5
baz=42,SNR=11
ARPS Mount Arapiles 44.90 162 P P 09 48 10.4 +4.1
baz=46,SNR=6.6
SONM Songino Array 45.08 342 PcP PcP 09 49 46.5 +0.6
0.4nm,0.8s,baz=170,slow=3.1,SNR=3.9
LHI Lord Howe Isla 48.82 141 P P 09 48 40.8 +4.0
baz=50,SNR=3.7
MKAR Makanchi Array 55.36 325 P P 09 49 25.1 +0.1
0.4nm,0.4s,baz=118,slow=7.6,SNR=23
MKAR PcP PcP 09 50 22.9 -0.8
0.7nm,0.6s,baz=128,slow=3.8,SNR=6.6
MKAR ScP ScP 09 54 06.5 -2.1
0.1nm,0.5s,baz=118,slow=4.5,SNR=3.4
NIUE Niue 67.92 113 P P 09 50 49.4 -0.3
baz=69,SNR=3.5
FINES FINESS Array B 89.60 332 P P 09 52 45.9 -1.1
0.8nm,0.7s,baz=66,slow=8.4,SNR=3.9
TORD Torodi Ar. Bea 121.38 289 PKP PKPdf 09 58 43.2 +0.1
0.6nm,0.4s,baz=61,slow=1.7,SNR=13

NIED 16 09:53:00, 35.70N×130.00E, h14km, Mw3.4 Best double couple: M0 1.63000×10^14 NP1:φs332.00000°, δ45.00000°, λ92.00000°. NP2:φs150.00000°, δ45.00000°, λ88.00000°.
JMA 16 09:53:28.6±0.2, 35.74N×130.02E, h5km, M3.7
ISCJB 16 09:53:30.2±1.0, 35.64N±0.03×130.04E±0.03, h7km±7km, mb3.1/2, Error ellipse: s-maj=5.4km s-min=4.3km az=32.0
IDC 16 09:53:30.7±1.8, 35.51N×130.10E, h0km, mb3.1/2, mb1 3.3/4, mb1mx3.1/35, mbtmp3.1/4, ML2.5/2, MS1.9/1, Ms1 1.9/1, ms1mx1.8/12, Error ellipse: s-maj=46.9km s-min=19.7km az=62.0
KMA 16 09:53:32.1±0.7, 35.63N×129.94E, h17km±3km, Error ellipse: s-maj=4.4km s-min=1.8km az=105.0
ISC 16 09:53:30.1±1.4, 35.62N±0.03×130.04E±0.04, h3km±11km, n19, σ0.58/29, 3C-10D, Sea of Japan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSUSN Ulsan 0.75 276 ⇓P Pb 09 53 45.4 -0.4
KSUSN ⇓S Sg 09 53 54.8 +0.6
KSPHA Pohang 0.79 317 P Pb 09 53 46.1 -0.4
SNR=197
KSPHA ⇑S Sg 09 53 56.3 +0.9
KSBUS Busan 0.84 244 ⇓S Sg 09 53 57.8 +0.6
KSDAG Daegu 0.94 279 P Pb 09 53 48.6 -0.4
SNR=572
KSDAG ⇓S Sg 09 54 00.5 +0.1
KSADO Andong 1.18 312 ⇑P Pg 09 53 52.1 -0.8
KSADO ⇑S Sg 09 54 08.0 -0.2
KSULJ Uljin 1.19 335 ⇓P Pg 09 53 53.0 0.0
SNR=432
KSULJ ⇓S Sb 09 54 09.3 +0.1
JTU Tsushima 1.21 206 P Pg 09 53 53.4 0.0
JTU eS Sb 09 54 09.8 +0.1
KSMAS Masan 1.28 250 ⇓P Pg 09 53 54.2 -0.5
KSMAS ⇓S Sg 09 54 10.5 -0.7
KSTOY TONGYEONG 1.52 240 ⇓S Sn 09 54 18.0 -0.5
JTY Toyota 1.60 148 P Pn 09 53 59.1 -0.1
JTY eS Sg 09 54 21.6 +0.2
KSTBA Taebaek 1.74 330 ⇓P Pn 09 54 00.8 -0.4
SNR=146
JII Iki 1.84 188 eS Sb 09 54 28.2 +0.5
JHIK Hikimi 1.89 124 P Pn 09 54 03.5 +0.2
JGT Gotsu 1.97 107 P Pn 09 54 03.9 -0.4
JGT S Sn 09 54 29.0 -0.5
KSRS Korea Array 2.50 318 Pn Pb 09 54 16.2 +0.6
7.7nm,0.3s,baz=133,slow=18,SNR=24
KSRS Sn Sb 09 54 47.9 +1.2
68nm,0.3s,baz=138,slow=30,SNR=34
KSRS LR LR 09 55 08.8
comp=Z,26nm,21.7s,baz=350,slow=37
JNU Nakatsue 2.59 164 Pn Pn 09 54 13.8 +0.9
0.8nm,0.3s,baz=13,slow=5.5,SNR=11
JHS Saijyo 2.59 103 P Pn 09 54 12.7 -0.3
SONM Songino Array 21.36 312 P P 09 58 19.5 +0.9
0.4nm,0.7s,baz=128,slow=11,SNR=4.1
WRA Warramunga Arr 55.41 175 P P 10 03 05.3 -0.4
0.3nm,1.0s,baz=354,slow=7.7,SNR=2.9

IDC 16 10:05:46.0±2.0, 9.87S×113.95E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/28, mbtmp3.7/7, Error ellipse: s-maj=86.2km s-min=18.4km az=53.0
DJA 16 10:05:57.1±1.8, 10°S±9°×117°4E±°, h19km±14km, M3.3/10, MLv3.3/10
ISC 16 10:05:50.8±1.1, 10.1S±0.1×113.8E±0.1, h35km, n17, σ1.91/15, mb3.7/7, South of Jawa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JAGI Jajag, Banyuwa 1.63 11 P Pn 10 06 18.2 +1.1
JAGI S Sn 10 06 35.3 -1.6
IGBI Denpasar 1.81 46 P Pn 10 06 21.3 +1.9
DNP Denpasar 1.95 44 P Pn 10 06 23.0 +1.6
ABJI Asem Bagus 2.30 10 P Pn 10 06 28.5 +2.2
BLJI Banyuglugur 2.33 354 P Pn 10 06 29.7 +3.0
SRBI Singaraja 2.41 35 P Pn 10 06 30.1 +2.4
KMMI Kalianget 3.01 3 P Pn 10 06 39.2 +3.1
WRA Warramunga Arr 22.08 119 P P 10 10 43.0 -0.1
0.7nm,0.9s,baz=292,slow=11,SNR=3.9
ASAR Alice Springs 23.44 128 P P 10 10 57.4 +0.2
1.0nm,0.9s,baz=300,slow=9.6,SNR=11
CMAR Chiang Mai Arr 31.93 333 P P 10 12 13.4 0.0
1.0nm,0.3s,baz=167,slow=9.7,SNR=7.3
STKA Stephens Creek 33.62 134 P P 10 12 29.0 +0.8
1.5nm,0.8s,baz=315,slow=9.8,SNR=3.5
H08S2 Diego Garcia H 40.90 270 T T 10 56 34.2
baz=96,slow=76,SNR=6.1
H08S3 Diego Garcia H 40.91 270 T T 10 56 32.1
baz=96,slow=76,SNR=6.4
H08S1 Diego Garcia H 40.91 270 T T 10 56 34.4
baz=96,slow=76,SNR=6.3
USRK Ussuriysk Arra 56.48 16 P P 10 15 28.1 -1.1
2.6nm,0.8s,baz=196,slow=7.6,SNR=5.9
SONM Songino Array 58.03 354 P P 10 15 39.1 -1.3
0.2nm,0.3s,baz=173,slow=8.9,SNR=3.8
MKAR Makanchi Array 63.24 336 P P 10 16 14.5 -1.2
0.2nm,0.3s,baz=147,slow=7.2,SNR=4.4

IDC 16 10:05:48.4±4.6, 36.30N×71.26E, h78km±39km, mb3.5/10, mb1 3.6/14, mb1mx3.4/42, mbtmp3.8/14, ML3.8/4, MS3.6/3, Ms1 3.6/3, ms1mx2.8/32, Error ellipse: s-maj=30.2km s-min=19.7km az=26.0
NEIC 16 10:05:49.6±2.1, 36.35N×71.15E, h88km±15km, mb4.1/2, Error ellipse: s-maj=20.4km s-min=12.1km az=194.0
ISCJB 16 10:05:50.0±0.4, 36.39N±0.03×71.37E±0.07, h114km, mb3.7/10, Error ellipse: s-maj=8.1km s-min=3.2km az=156.6
NNC 16 10:05:55.4±4.2, 36.85N×70.76E, h114km±59km, mb3.4, mpv4.1, Error ellipse: s-maj=32.1km s-min=23.7km az=16.0
ISC 16 10:05:51.2±0.6, 36.34N±0.06×71.31E±0.08, h114km, n69, σ1.52/76, mb3.8/10, 4C-7D, Afghanistan-Tajikistan border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DLH Dalhousie 5.40 133 eP Pn 10 07 11.0 +1.3
DLH eS Sn 10 08 12.0 +1.2
DHRM DHARAMSHALA 5.81 133 eP Pn 10 07 16.6 +1.4
DHRM eS Sn 10 08 20.2 -0.4
DHRM AML AML 10 08 24.6
comp=E,493nm,0.4s
DHRM AML AML 10 08 24.8
comp=N,381nm,0.7s
AML Almayashu 6.07 17 P Pn 10 07 18.3 -0.5
SNR=29
UCH Uchtor 6.38 22 P Pn 10 07 22.8 -0.4
SNR=17
KZA Kyzart 6.50 27 P Pn 10 07 24.2 -0.3
SNR=15
EKS2 Erkin-Say 6.59 16 P Pn 10 07 25.3 -0.4
SNR=33
EKS2 Erkin-Say 6.59 16 ePn Pn 10 07 25.2 -0.5
comp=N,9.4nm,0.3s
EKS2 eSn Sn 10 08 37.9 -1.5
SDNR Sundarnagar 6.74 134 eP Pn 10 07 29.0 +1.3
SDNR eS Sn 10 08 41.0 -2.0
AAK Ala-Archa 6.75 20 ⇓P Pn 10 07 27.6 -0.2
comp=N,6.2nm,0.3s
AAK ⇑S Sn 10 08 41.1 -2.2
comp=N,21nm,0.8s
AAK Ala-Archa 6.75 20 P Pn 10 07 27.6 -0.2
SNR=30
AAK Ala-Archa 6.75 20 P Pn 10 07 27.6 -0.2
comp=N,10nm,0.3s,baz=153,slow=6.3,SNR=119
AAK S Sn 10 08 41.1 -2.2
comp=N,1.5nm,0.3s,baz=143,slow=20,SNR=9.0
AAK Ala-Archa 6.75 20 ePn Pn 10 07 27.8 0.0
AAK eSn Sn 10 08 46.8 +3.5
KK31 Karatay Array 6.78 355 P Pn 10 07 26.3 -1.8
comp=N,3.4nm,0.2s,baz=174,slow=12,SNR=175
KK31 ⇓S Sn 10 08 37.3 -6.5
comp=N,28nm,0.5s,baz=163,slow=25,SNR=3.9
KKAR Karatay Array 6.78 355 ePn Pn 10 07 26.0 -2.1
comp=N,17nm,0.3s
KKAR eSn Sn 10 08 37.7 -6.1
ULHL Ulahol 7.03 31 P Pn 10 07 32.1 +0.5
SNR=7.8
SMLA Simla 7.13 135 eP Pn 10 07 33.5 +0.7
SMLA eS Sn 10 08 50.8 -1.5
SMLA AML AML 10 08 55.3
comp=N,140nm,0.2s
SMLA AML AML 10 08 59.3
comp=E,108nm,0.4s
CHMS Chumysh 7.16 21 P Pn 10 07 32.8 -0.4
SNR=18
USP Ospenovka 7.34 19 P Pn 10 07 35.4 -0.3
SNR=16
TKM2 Tokmak 2 7.36 25 ⇓P Pn 10 07 35.4 -0.7
comp=E,4.4nm,0.5s
TKM2 ⇑S Sn 10 08 56.4 -1.6
comp=E,10.0nm,0.8s
TKM2 Tokmak 2 7.36 25 P Pn 10 07 35.9 -0.2
SNR=5.5
TKM2 Tokmak 2 7.36 25 ePn Pn 10 07 35.9 -0.2
comp=E,7.4nm,0.5s
TKM2 eSn Sn 10 08 59.6 +1.6
PYUN Piuthan 12.85 126 eP Pn 10 08 47.4 -2.5
comp=E,76nm,0.4s
PYUN Piuthan 12.85 126 eP Pn 10 08 47.4 -2.5
DANN Dangsing 13.19 124 eP Pn 10 08 52.9 -1.5
comp=E,20nm,0.3s
DANN Dangsing 13.19 124 eP Pn 10 08 52.9 -1.5
MK31 Makanchi Array 13.28 35 ⇓P Pn 10 08 57.5 +2.4
comp=E,0.2nm,0.3s,baz=212,slow=9.9,SNR=14
MKAR Makanchi Array 13.28 35 P Pn 10 08 54.9 -0.2
comp=E,0.1nm,0.3s,baz=225,slow=12,SNR=3.9
KOLN Koldanda 13.47 126 eP Pn 10 08 55.9 -2.0
comp=E,6.2nm,0.3s
KOLN Koldanda 13.47 126 eP Pn 10 08 55.9 -2.0
GKN Gorkha 14.01 123 eP Pn 10 09 03.4 -1.5
comp=E,46nm,0.5s
GKN Gorkha 14.01 123 eP Pn 10 09 03.4 -1.5
BHPL Bhopal 14.09 156 eP P 10 09 08.6 -1.3
BHPL ex x 10 11 30.3
DMN Daman 14.58 123 eP Pn 10 09 10.5 -1.7
comp=E,17nm,0.5s
DMN Daman 14.58 123 eP Pn 10 09 10.5 -1.7
KKN Kakani 14.58 122 eP Pn 10 09 11.7 -0.5
comp=E,26nm,0.5s
KKN Kakani 14.58 122 eP Pn 10 09 11.7 -0.5
PKIN Phulchoki 14.80 122 eP Pn 10 09 14.0 -1.0
comp=E,14nm,0.4s
PKI Pulchoki 14.81 122 eP Pn 10 09 14.1 -1.1
comp=E,15nm,0.4s
PKI Pulchoki 14.81 122 eP Pn 10 09 14.1 -1.1
GUN Gumba 14.92 120 eP Pn 10 09 14.8 -1.9
comp=E,17nm,0.5s
GUN Gumba 14.92 120 eP Pn 10 09 14.8 -1.9
JIRN Jiri 15.29 120 eP Pn 10 09 20.0 -1.3
comp=E,35nm,0.4s
AB31 Akbulak array 15.34 331 ⇑P Pn 10 09 17.7 -3.7
comp=E,0.4nm,0.2s,baz=138,slow=12,SNR=51
AB31 S Sn 10 11 55.7 -15
comp=E,2.9nm,0.6s,baz=150,slow=22,SNR=11
ABKAR Akbulak array 15.34 331 ePn Pn 10 09 17.9 -3.5
comp=E,1.9nm,0.3s
RAMN Ramite 16.02 121 eP Pn 10 09 29.5 -0.8
comp=E,12nm,0.4s
TAPN Taplejung 16.55 118 eP Pn 10 09 36.7 -0.2
comp=E,21nm,0.6s
TAPN Taplejung 16.55 118 eP Pn 10 09 36.7 -0.2
BVA0 Borovoye Array 16.70 358 ⇓P Pn 10 09 36.2 -1.9
comp=E,1.1nm,0.6s,baz=166,slow=9.8,SNR=5.0
BVAR Borovoye Array 16.70 358 P Pn 10 09 37.3 -0.8
comp=E,0.3nm,0.3s,baz=171,slow=13,SNR=4.6
BRVK Borovoye 16.73 358 ⇑P Pn 10 09 36.9 -1.6
comp=E,7.4nm,1.3s
AKTO Aktyubinsk 17.04 330 ⇓P P 10 09 41.0 -1.3
comp=E,4.3nm,0.9s
AKTO ⇓S Sn 10 12 35.9 -16
comp=E,4.7nm,0.7s
AKTO Aktyubinsk 17.04 330 P P 10 09 41.0 -1.3
comp=E,0.4nm,0.3s,baz=144,slow=14,SNR=6.7
AKTO S Sn 10 12 38.6 -13
comp=E,0.3nm,0.3s,baz=338,slow=19,SNR=5.5
ZAA0 Zalesovo Array 19.96 24 eP P 10 10 13.5 -0.6
ZALV Zalesovo Beam 19.96 24 P P 10 10 14.1 0.0
comp=E,3.6nm,0.3s,baz=222,slow=11,SNR=12
AKASG Malin Array Be 33.24 309 P P 10 12 17.7 +0.5
comp=E,0.4nm,0.3s,baz=83,slow=6.9,SNR=3.4
FINES FINESS Array B 37.75 326 P P 10 12 56.5 +0.8
comp=E,0.7nm,0.3s,baz=129,slow=9.1,SNR=8.7
ARCES ARCESS Array B 41.39 338 P P 10 13 27.2 +1.5
comp=E,1.5nm,0.6s,baz=118,slow=8.7,SNR=12
NB2 NORSAR Subarra 44.66 323 P P 10 13 52.9 +0.7
comp=Z,2.0nm,0.5s,baz=96,slow=7.9
NOA NORSAR Array B 44.66 323 P P 10 13 52.5 +0.4
comp=Z,3.4nm,0.8s,baz=96,slow=7.8,SNR=10
KSRS Korea Array 44.70 71 LR LR 10 34 04.5
comp=Z,26nm,19.6s,baz=306,slow=38
ASAJ Asahikawa 53.43 58 LR LR 10 38 54.1
comp=Z,354nm,19.6s,slow=37
JCJ Chichijima 59.80 77 LR LR 10 43 56.2
comp=Z,28nm,20.8s,baz=48,slow=38
TORD Torodi Ar. Bea 65.96 269 P P 10 16 26.4 +0.8
comp=Z,0.6nm,0.5s,baz=47,slow=6.1,SNR=4.2
INK Inuvik 74.02 9 P P 10 17 15.8 +2.0
comp=Z,1.1nm,1.0s,baz=345,slow=5.5,SNR=5.0
DOT Dot Lake 76.46 15 eP P 10 17 30.7 +2.7
comp=Z,7.4nm,1.4s
DAWY Dawson 77.02 13 eP P 10 17 32.3 +1.1
YKA Yellowknife Ar 81.39 3 P P 10 17 56.9 +2.0
comp=Z,0.2nm,0.4s,baz=350,slow=5.6,SNR=8.8
WRA Warramunga Arr 81.70 122 P P 10 17 58.3 +1.1
comp=Z,0.1nm,0.4s,baz=325,slow=5.0,SNR=4.0
ASAR Alice Springs 83.96 125 P P 10 18 10.2 +1.4
comp=Z,0.2nm,0.7s,baz=309,slow=4.6,SNR=4.2

DJA 16 10:26:02.6±3.4, 11°S±28°×11°4E±°, h134km±43km, M4.0/12, MLv4.0/12
IDC 16 10:26:08.2±2.0, 9.93S×113.84E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/33, mbtmp3.7/7, Error ellipse: s-maj=86.0km s-min=18.2km az=53.0
ISCJB 16 10:26:09.3±0.9, 10.25S±0.08×113.6E±0.1, h23km, mb3.7/7, Error ellipse: s-maj=15.2km s-min=10.2km az=155.8
ISC 16 10:26:11.2±1.0, 10.2S±0.1×113.70E±0.09, h23km, n16, σ1.97/15, mb3.9/7, South of Jawa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JAGI Jajag, Banyuwa 1.73 15 P Pn 10 26 40.0 0.0
IGBI Denpasar 1.95 47 P Pn 10 26 44.0 +1.0
DNP Denpasar 2.10 46 P Pn 10 26 44.5 -0.4
BLJI Banyuglugur 2.40 358 P Pn 10 26 49.3 +0.2
ABJI Asem Bagus 2.41 13 P Pn 10 26 51.5 +2.3
SRBI Singaraja 2.54 36 P Pn 10 26 52.3 +1.2
PWJI Pagerwojo 2.83 318 P Pn 10 26 56.0 +1.0
KMMI Kalianget 3.10 5 P Pn 10 27 01.0 +2.2
UGM Wanagama 3.85 305 S Pn 10 27 14.2 +5.1
WRA Warramunga Arr 22.16 118 P P 10 31 06.2 +0.5
0.7nm,0.8s,baz=292,slow=12,SNR=4.3
ASAR Alice Springs 23.50 127 P P 10 31 20.3 +0.7
1.1nm,1.0s,baz=306,slow=8.7,SNR=9.4
CMAR Chiang Mai Arr 31.95 333 P P 10 32 36.1 +0.5
0.9nm,0.3s,baz=166,slow=8.5,SNR=6.3
STKA Stephens Creek 33.66 134 P P 10 32 51.2 +0.7
1.1nm,0.7s,baz=320,slow=7.9,SNR=3.6
USRK Ussuriysk Arra 56.59 16 P P 10 35 51.0 -1.2
1.7nm,0.8s,baz=198,slow=4.1,SNR=5.2
SONM Songino Array 58.10 354 P P 10 36 01.6 -1.3
0.5nm,0.4s,baz=174,slow=7.9,SNR=7.6
MKAR Makanchi Array 63.26 336 P P 10 36 37.0 -1.0
0.3nm,0.5s,baz=143,slow=8.2,SNR=7.2

IDC 16 10:49:54.4±1.5, 4.44S×139.44E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.9/17, mbtmp3.8/8, ML3.6/2, MS3.1/2, Ms1 3.1/2, ms1mx2.4/31, Error ellipse: s-maj=53.1km s-min=27.0km az=91.0
ISC 16 10:49:57.9±1.0, 4.55S±0.08×139.5E±0.2, h27km, n21, σ0.82/17, mb4.0/6, Irian Jaya

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 8.98 123 LR LR 10 56 25.5
comp=Z,54nm,18.1s,baz=131,slow=43
COEN Coen 10.01 159 P Pn 10 52 26.2 +6.2
baz=10.0,SNR=5.8
KDU Kakadu 10.67 220 P Pn 10 52 29.2 +0.2
baz=10,SNR=15
MTN Manton Dam 11.68 225 P Pn 10 52 42.4 -0.6
baz=11,SNR=9.6
PALU Palau 12.85 337 S Sn 10 55 20.6 -0.5
baz=13,SNR=5.2
MTSU Mount Surprise 14.29 161 P P 10 53 24.9 -0.6
baz=14,SNR=6.5
KNRA Kununurra 15.30 223 P Pn 10 53 30.3 -1.8
baz=15,SNR=14
KNRA S Sn 10 56 10.2 -11
baz=15,SNR=4.3
WRA Warramunga Arr 16.11 198 Pn Pn 10 53 41.7 -0.9
0.1nm,0.3s,baz=16,slow=13,SNR=13
WRA Sn Sn 10 56 30.1 -10
0.3nm,0.3s,baz=10,slow=21,SNR=5.5
FITZ Fitzroy Crossi 19.12 224 P P 10 54 21.3 +1.4
baz=19,SNR=5.1
FITZ S Sn 10 57 41.1 -13
baz=19,SNR=4.1
ASAR Alice Springs 19.76 195 P P 10 54 27.9 +0.3
0.4nm,0.3s,baz=14,slow=12,SNR=53
ASAR S S 10 57 58.0 -9.4
0.1nm,0.3s,baz=10,slow=28,SNR=3.5
WRKA Warakurna 23.05 207 P P 10 55 02.1 +0.8
baz=23,SNR=13
CISI Cisompet, Garu 31.67 263 P P 10 56 18.8 -0.6
baz=31,SNR=11
PMBI Palembang 34.71 271 P P 10 56 46.7 +0.8
baz=34,SNR=5.5
JNU Nakatsue 38.36 348 LR LR 11 11 41.0
comp=Z,44nm,20.6s,baz=328,slow=34
CMAR Chiang Mai Arr 46.06 301 P P 10 58 19.2 -0.6
1.1nm,0.5s,baz=128,slow=6.7,SNR=8.7
NIUE Niue 51.34 111 P P 10 59 09.4 +9.0
baz=52,SNR=3.6
SONM Songino Array 59.72 335 P P 11 00 00.3 0.0
0.2nm,0.7s,baz=142,slow=7.3,SNR=3.4

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
MKAR	Makanchi Array	71.74	323	P	P	11 01 18.1	+0.4
	1.0nm,0.8s,baz=117,slow=7.7,SNR=8.6						
ZALV	Zalesovo Beam	73.93	330	P	P	11 01 30.3	-0.2
	0.8nm,0.3s,baz=111,slow=7.9,SNR=3.3						
BVAR	Borovoye Array	81.28	325	P	P	11 02 11.5	-0.1
	2.0nm,0.6s,baz=111,slow=7.9,SNR=9.6						
ILAR	Eielson Array	87.17	24	P	P	11 02 41.8	+0.5
	0.8nm,0.9s,baz=258,slow=4.8,SNR=6.5						

ISCJB ***16*** *10:53:51.0±0.8, 59.33N±0.04×26.96E±0.09, h0km, Error ellipse: s-maj=7.0km s-min=5.1km az=34.4*
NAO ***16*** *10:53:50.9±1.0, 59.28N×26.88E, ML2.1*
BER ***16*** *10:53:51.9±2.6, 59.29N×26.99E, h0km, ML2.1(NAO), Suspected explosion*
HEL ***16*** *10:53:51.9±0.3, 59.31N×27.04E, h0km, ML1.7, Explosion*
CSEM ***16*** *10:53:51.6±0.5, 59.33N×26.98E, h1km, ML2.1, Error ellipse: s-maj=10.8km s-min=7.7km az=105.0, Mining explosion.*
IDC ***16*** *10:53:55.7±2.2, 59.58N×27.08E, h0km, mb1 3.2/3, mb1mx3.0/27, mbtmp3.1/3, ML2.9/2, Error ellipse: s-maj=20.3km s-min=10.0km az=113.0*
ISC 16 10:53:51.1±1.0, **59.32N**±0.03×**27.06E**±0.05, **h0km, n48,** σ1§**16**/67, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
VSU	Vasula	0.88	191	Pg	Pg	10 54 07.3	-0.5
VSU				Lg	Lg	10 54 17.8	
VSU	Vasula	0.88	191	Pg	Pg	10 54 07.3	-0.5
VSU				Lg	Lg	10 54 17.8	
VSU	Vasula	0.88	191	Pg	Pg	10 54 07.3	-0.5
VSU				Lg	Lg	10 54 17.8	
VSU	Vasula	0.88	191	Pg	Pg	10 54 07.3	-0.5
VSU				Lg	Lg	10 54 17.8	
VSU	Vasula	0.88	191	Pg	Pg	10 54 07.3	-0.5
VSU				Lg	Lg	10 54 17.8	
	SNR=93						
VJF	Virojoki	1.25	11	eP	Pg	10 54 14.4	-0.6
VJF				eSB	Sb	10 54 31.8	-0.4
VJF				MSG		10 54 32.2	
	comp=Z,6.4nm,0.1s						
VJF	Virojoki	1.25	11	P	Pg	10 54 14.4	-0.6
VJF				Sb	Sb	10 54 31.7	-0.4
PVF	Pernaja	1.37	334	eP	Pg	10 54 16.6	-0.7
PVF				MSG	Sg	10 54 34.9	-0.2
	comp=Z,4.5nm,0.2s						
PVF				eSB	Sg	10 54 34.9	-0.2
PVF	Pernaja	1.37	334	P	Pg	10 54 16.6	-0.7
PVF				Sb	Sg	10 54 34.8	-0.2
SRPE	Suurupi	1.38	277	ePB	Pg	10 54 17.2	-0.3
SRPE				eSN	Sn	10 54 36.4	0.0
SRPE	Suurupi	1.38	277	Pb	Pg	10 54 17.2	-0.3
SRPE				Sn	Sn	10 54 36.4	0.0
MEF	Metsahovi	1.62	305	ePG	Pn	10 54 21.2	+0.3
MEF				eSG	Sn	10 54 42.2	-0.2
MEF				MSG		10 54 42.2	
	comp=Z,6.5nm,0.3s						
MEF	Metsahovi	1.62	305	Pg	Pn	10 54 21.1	+0.3
MEF				Sg	Sn	10 54 42.2	-0.2
FIA0	FINESS Array S	2.19	348	Pn	Pn	10 54 29.0	+0.4
	baz=167,slow=16						
FIA0				Pg	Pb	10 54 30.5	-1.0
	baz=166,slow=18						
FIA0				Sn	Sn	10 54 57.3	+0.9
	baz=168,slow=28						
FIA0				Lg	Lg	10 54 59.8	
	baz=170,slow=37						
FIA0	FINESS Array S	2.19	348	Pn	Pn	10 54 29.0	+0.4
	baz=167,slow=16						
FIA0				Pg	Pb	10 54 30.5	-1.0
	baz=166,slow=18						
FIA0				Sn	Sn	10 54 57.3	+0.9
	baz=168,slow=28						
FIA0				Lg	Lg	10 54 59.8	
	baz=170,slow=37						
FIA0	FINESS Array S	2.19	348	Pn	Pn	10 54 29.0	+0.4
	baz=167,slow=16						
FIA0				Pg	Pb	10 54 30.5	-1.0
	baz=166,slow=18						
FIA0				Sn	Sn	10 54 57.3	+0.9
	baz=168,slow=28						
FIA0				Lg	Lg	10 54 59.8	
	baz=170,slow=37						
FIA0	FINESS Array S	2.19	348	Pn	Pn	10 54 29.0	+0.4
	baz=167,slow=16						
FIA0				Pg	Pb	10 54 30.5	-1.0
	baz=166,slow=18						
FIA0				Sn	Sn	10 54 57.3	+0.9
	baz=168,slow=28						
FIA0				Lg	Lg	10 54 59.8	
	baz=170,slow=37						
FIA0	FINESS Array S	2.19	348	eP	Pn	10 54 29.4	+0.8
FIA0				MSG	Sb	10 54 59.3	+0.2
	comp=Z,5.1nm,0.2s						
FIA0				eSG	Sb	10 54 59.3	+0.2
FIA0	FINESS Array S	2.19	348	Pn	Pn	10 54 29.0	+0.4
	SNR=9.5						
FIA0	FINESS Array S	2.19	348	P	Pn	10 54 29.4	+0.8
FIA0	FINESS Array S	2.19	348	Pg	Pb	10 54 30.5	-1.0
FIA0				Sn	Sn	10 54 57.3	+0.9
	SNR=4.8						
FIA0				Sg	Sb	10 54 59.3	+0.2
FINES	FINESS Array B	2.19	348	Pg	Pn	10 54 29.4	+0.8
	comp=Z,1.4nm,0.3s,baz=164,slow=17,SNR=34						
FINES				Lg	Lg	10 54 56.9	
	comp=Z,3.1nm,0.3s,baz=166,slow=30,SNR=24						
KAF	Kangasniemi	2.83	353	eP	Pn	10 54 38.7	+1.2
KAF				eS	Sn	10 55 13.2	+0.9
KAF	Kangasniemi	2.83	353	P	Pn	10 54 38.6	+1.2
KAF				S	Sn	10 55 13.1	+0.9
SLIT	Slitere, Latvi	3.02	238	eSG	Sb	10 55 23.8	+0.6
KEF	Keuruu	3.05	340	eP	Pn	10 54 42.5	+2.0
KEF				eSG	Sb	10 55 25.7	+1.7
KEF				MSG		10 55 26.1	
	comp=Z,2.4nm,0.2s						
KEF	Keuruu	3.05	340	P	Pn	10 54 42.5	+2.0
RAF	Rauma	3.15	305	eP	Pn	10 54 43.8	+1.9
RAF	Rauma	3.15	305	P	Pn	10 54 43.7	+1.9
SUF	Sumiainen	3.44	353	eS	Sn	10 55 28.3	+1.0
SUF	Sumiainen	3.44	353	S	Sn	10 55 28.3	+1.0
AAL	Aland	3.68	287	eS	Sn	10 55 33.5	+0.4
AAL	Aland	3.68	287	S	Sn	10 55 33.5	+0.4
JOF	Joensuu	4.16	28	eP	Pn	10 54 57.9	+2.1
JOF	Joensuu	4.16	28	P	Pn	10 54 57.8	+2.1
I43RU	DUBNA INFRASON	5.99	111	i		11 27 29.3	
	baz=300,slow=329,SNR=4.5						
HFS	Hagfors	6.81	283	Sn	Sn	10 56 43.6	-6.6
	baz=80,slow=28						
HFS				Lg	Lg	10 57 21.4	
	baz=94,slow=37						
HFS	Hagfors	6.81	283	Sn	Sn	10 56 43.6	-6.6
	baz=80,slow=28						
HFS				Lg	Lg	10 57 21.4	
	baz=94,slow=37						
HFS	Hagfors	6.81	283	Sn	Sn	10 56 43.6	-6.6
	baz=80,slow=28						
HFS				Lg	Lg	10 57 21.4	
	baz=94,slow=37						
HFS	Hagfors	6.81	283	Sn	Sn	10 56 43.6	-6.6
	baz=80,slow=28						
HFS				Lg	Lg	10 57 21.4	
	baz=94,slow=37						
HFS	Hagfors	6.81	283	Pn	Pn	10 55 33.8	+1.6
	baz=102,slow=14,SNR=2.3						
HFS				Sn	Sn	10 56 47.4	-2.9
	comp=Z,0.3nm,0.3s,baz=96,slow=26,SNR=6.8						
HFS				Lg	Lg	10 57 21.9	
	comp=Z,0.4nm,0.3s,baz=91,slow=32,SNR=6.8						
HFS	Hagfors	6.81	283	Lg	Lg	10 57 21.4	
	SNR=5.8						
NOA	NORSAR Array B	8.09	289	Pn	Pn	10 55 50.8	+1.1
	comp=Z,0.1nm,0.3s,baz=99,slow=11,SNR=3.5						
ARA0	ARCESS Array S	10.28	357	Pn	Pn	10 56 17.5	-2.2
	baz=172,slow=14						
ARA0				Sn	Sn	10 58 08.2	-7.2
	baz=178,slow=28						
ARA0	ARCESS Array S	10.28	357	Pn	Pn	10 56 17.5	-2.2
	baz=172,slow=14						
ARA0				Sn	Sn	10 58 08.2	-7.2
	baz=178,slow=28						
ARA0	ARCESS Array S	10.28	357	Pn	Pn	10 56 17.5	-2.2
	baz=172,slow=14						
ARA0				Sn	Sn	10 58 08.2	-7.2
	baz=178,slow=28						
ARA0	ARCESS Array S	10.28	357	Pn	Pn	10 56 17.5	-2.2
	baz=172,slow=14						
ARA0				Sn	Sn	10 58 08.2	-7.2
	baz=178,slow=28						
ARCES	ARCESS Array B	10.28	357	Pn	Pn	10 56 17.1	-2.5
	comp=Z,0.1nm,0.3s,baz=169,slow=15,SNR=5.5						
ARCES				Sn	Sn	10 58 07.3	-8.1
	comp=Z,0.1nm,0.3s,baz=178,slow=24,SNR=2.8						

IDC 16 10:59:42.5±2.2, **16.31S×173.80W, h0km, mb3.7**/5, **mb1 4.0**/6, **mb1mx3.7**/29, **mbtmp3.7**/6, **ML3.2**/1, **MS3.2**/1, **Ms1 3.2**/1, **ms1mx2.6**/34, **Error ellipse: s-maj=143.7km s-min=21.0km az=146.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
AFI	Afiamalu	3.08	39	Pn	Pn	11 00 31.0	-1.5
	2.8nm,0.3s,baz=225,slow=20,SNR=4.4						
AFI				Sn	Sn	11 01 05.5	-4.6
	23nm,0.3s,baz=337,slow=23,SNR=11						
DZM	Mont Dzumac	19.52	250	LR	LR	11 10 25.9	
	comp=Z,75nm,20.1s,baz=350,slow=33						
STKA	Stephens Creek	43.26	241	P	P	11 07 45.5	-0.4
	1.0nm,0.6s,baz=45,slow=14,SNR=2.9						
WRA	Warramunga Arr	49.27	258	P	P	11 08 33.3	-0.2
	0.4nm,0.8s,baz=97,slow=7.2,SNR=6.6						
ASAR	Alice Springs	49.47	253	P	P	11 08 34.9	-0.1
	1.1nm,0.6s,baz=87,slow=8.6,SNR=32						
NVAR	Mina Array Bea	75.26	42	P	P	11 11 28.4	+0.7
	0.1nm,0.5s,baz=225,slow=7.5,SNR=3.9						
PDAR	Pinedale Array	83.19	42	P	P	11 12 11.1	+0.1
	0.4nm,0.7s,baz=207,slow=3.0,SNR=4.3						

DDA ***16*** *11:05:29.7, 37.41N×36.21E, h18km, MD3.5*
ISK ***16*** *11:05:29.6, 37.32N×36.29E, h4km, MD3.4*
CSEM ***16*** *11:05:30.5±0.2, 37.35N×36.26E, h2km, MD3.5, Error ellipse: s-maj=5.7km s-min=3.1km az=168.0*
NSSC ***16*** *11:05:31.2±1.2, 36.41N×35.30E, h8km±160km, MD2.0, ML3.1*
ISC 16 11:05:30.4±1.0, **37.42N**±0.02×**36.23E**±0.02, **h17km**±9km, **n51,** σ1§**43**/70, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
ANDN	Andirin	0.18	29	iP	Pb	11 05 34.3	-1.2
ANDN				iS	Sb	11 05 39.1	+0.3
ANDN	Andirin	0.18	29	iP	Pb	11 05 34.3	-1.2
ANDN				iS	Sb	11 05 39.1	+0.3
KMRS	Kahramanmaras	0.54	80	ePG	Pb	11 05 40.3	-1.1
KMRS				eSG	Sb	11 05 48.2	-0.7
KMRS	Kahramanmaras	0.54	80	ePg	Pb	11 05 40.3	-1.1
KMRS				eSg	Sb	11 05 48.2	-0.7
CEYT	Ceyhan	0.56	224	ePG	Pb	11 05 40.5	-1.3
CEYT				eSG	Sb	11 05 48.7	-0.8
CEYT	Ceyhan	0.56	224	ePg	Pb	11 05 40.5	-1.3
CEYT				eSg	Sb	11 05 48.7	-0.8
KUZU	Kuzuini	0.93	133	iP	Pn	11 05 48.1	-0.6
KUZU	Kuzuini	0.93	133	iP	Pn	11 05 48.1	-0.6
KUZU				iS	Sn	11 06 03.1	+1.4
KARA	Karaisali	0.95	261	ePG	Pn	11 05 48.9	-0.1
KARA				eSG	Sn	11 06 03.0	+0.8
KARA	Karaisali	0.95	261	ePg	Pn	11 05 48.9	-0.1
KARA				eSg	Sn	11 06 03.0	+0.8
GZT	Gaziantep	1.06	93	iP	Pg	11 05 50.5	-0.5
GZT				iS	Sg	11 06 08.0	+3.1
GULE	Gulek	1.17	264	iP	Pg	11 05 52.0	-1.0
GULE				iS	Sg	11 06 10.6	+2.3
GULE	Gulek	1.17	264	iP	Pg	11 05 52.0	-1.0
GULE				iS	Sg	11 06 10.6	+2.3
NIG	Nigde	1.46	299	ePN	Pg	11 05 58.5	-0.1
NIG	Nigde	1.46	299	ePn	Pg	11 05 58.5	-0.1
BNN	Bunyan	1.46	348	ePN	Pg	11 05 59.3	+0.6
BNN	Bunyan	1.46	348	ePn	Pg	11 05 59.3	+0.6
MERS	Mersin	1.47	249	ePN	Pg	11 05 57.4	-1.4
MERS	Mersin	1.47	249	ePn	Pg	11 05 57.4	-1.4
DARE	Darende-Malaty	1.52	40	ePN	Pg	11 05 58.7	-0.9
DARE	Darende-Malaty	1.52	40	ePn	Pg	11 05 58.7	-0.9
ATAB	Bozova	1.64	88	iP	Pg	11 06 00.7	-1.3
ATAB				iS	Sg	11 06 23.6	+0.2
ATAB	Bozova	1.64	88	iP	Pg	11 06 00.7	-1.3
ATAB				iS	Sg	11 06 23.6	+0.2
SLMH	Al Salmeh	1.81	131	eP	Pg	11 06 06.9	+1.6
SLMH				eS	Sg	11 06 32.2	+3.3
SLMH				AML	AML	11 06 45.5	
	comp=N,338nm,0.5s						
SLMH				AML	AML	11 06 48.7	
	comp=E,244nm,0.6s						
MALT	Malatya	1.95	62	ePN	Pb	11 06 04.5	-1.1
MALT	Malatya	1.95	62	ePn	Pb	11 06 04.5	-1.1
URFA	Urfa	2.06	89	ePN	Pb	11 06 06.2	-1.1
URFA	Urfa	2.06	89	ePn	Pb	11 06 06.3	-1.1
SULT	Sultanhani-AKS	2.29	291	ePN	Pb	11 06 10.6	-0.7
SULT	Sultanhani-AKS	2.29	291	ePn	Pb	11 06 10.6	-0.7
YOZ	Yozgat	2.33	342	ePN	Pb	11 06 11.8	-0.3
YOZ	Yozgat	2.33	342	ePn	Pb	11 06 11.8	-0.3
KEMA	Kemaliye	2.56	43	iP	Pb	11 06 13.2	-2.8
KEMA	Kemaliye	2.56	43	iP	Pb	11 06 13.2	-2.8
KEMA				iS	Sg	11 06 52.6	-0.2
SVSK	Karacayir	2.57	13	ePN	Pb	11 06 14.6	-1.3
SVSK	Karacayir	2.57	13	ePn	Pb	11 06 14.6	-1.3
KSRV	Kasrt alli	2.71	124	eP	Pg	11 06 22.0	-0.4
KSRV				eS	Sg	11 06 59.5	+1.8
KSRV				AML	AML	11 07 02.1	
	comp=N,72nm,0.8s						
KSRV				AML	AML	11 07 09.7	
	comp=E,38nm,0.8s						
ILIC	ilic-Erzincan	2.74	41	ePN	Pb	11 06 16.7	-2.2
ILIC	ilic-Erzincan	2.74	41	ePn	Pb	11 06 16.7	-2.2
MNKR	ALMNKUR	2.85	120	eP	Pg	11 06 23.3	-1.8
MNKR				eS	Sg	11 07 00.1	-1.9
MNKR				AML	AML	11 07 04.8	
	comp=E,354nm,0.2s						
MNKR				AML	AML	11 07 05.8	
	comp=N,416nm,0.5s						
PTK	Pertek	2.89	58	ePN	Pb	11 06 18.4	-3.3
PTK	Pertek	2.89	58	ePn	Pb	11 06 18.4	-3.3
CORM	Corum	3.03	336	ePN	Pb	11 06 21.8	-2.1
CORM	Corum	3.03	336	ePn	Pb	11 06 21.8	-2.1
DYBB	Diyarbakir	3.15	79	ePN	Pn	11 06 21.2	+2.0
DIY	Diyarbakir	3.21	80	ePn	Pn	11 06 21.2	+1.2
SFNV	Sufian	3.26	107	eP	Pg	11 06 31.0	-2.0
SFNV				eS	Sg	11 07 14.9	-0.4
SFNV				AML	AML	11 07 25.7	
	comp=N,64nm,0.6s						
SFNV				AML	AML	11 07 33.9	
	comp=E,119nm,0.5s						
MAZI	Mazidag	3.35	88	ePN	Pn	11 06 23.4	+1.3
MAZI	Mazidag	3.35	88	ePn	Pn	11 06 23.4	+1.3
KBSD	Kabsdagh	3.46	96	eP	Pg	11 06 37.0	+0.2
KBSD				eS	Sg	11 07 23.9	+2.2
KBSD				AML	AML	11 07 29.6	
	comp=E,106nm,0.4s						
KBSD				AML	AML	11 07 32.8	
	comp=N,55nm,0.4s						
MZRK	Al-Mazaregh	3.89	113	eP	Pb	11 06 38.4	-0.2
MZRK				eS	Sb	11 07 27.2	+1.8
MZRK				AML	AML	11 07 45.4	
	comp=E,57nm,0.6s						
MZRK				AML	AML	11 07 53.4	
	comp=N,32nm,0.4s						

IDC 16 11:15:38.1±1.7, **3.14S×142.26E, h0km, mb3.2**/2, **mb1 3.6**/3, **mb1mx3.4**/30, **mbtmp3.3**/3, **ML3.5**/1, **Error ellipse: s-maj=282.0km s-min=30.6km az=113.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
WRA	Warramunga Arr	18.41	204	P	Pn	11 19 54.0	-0.9
	0.1nm,0.3s,baz=24,slow=12,SNR=12						
ASAR	Alice Springs	21.95	201	P	P	11 20 34.0	+0.4
	0.4nm,0.9s,baz=31,slow=11,SNR=4.2						
H11S3	WAKE ISLAND Hy	32.26	47	T	T	11 54 42.3	
	SNR=46						
H11N1	WAKE ISLAND Hy	33.19	46	T	T	11 57 21.6	
	baz=232,slow=76,SNR=49						
H11N2	WAKE ISLAND Hy	33.20	46	T	T	11 57 30.0	
	baz=232,slow=76,SNR=40						
H11N3	WAKE ISLAND Hy	33.20	46	T	T	11 57 23.1	
	baz=232,slow=76,SNR=27						
ILAR	Eielson Array	84.77	24	P	P	11 28 13.9	-0.1
	0.4nm,0.7s,baz=250,slow=4.5,SNR=5.5						
TORD	Torodi Ar. Bea	139.78	287	PKP	PKPdf	11 35 09.3	+0.1
	0.6nm,0.8s,baz=32,slow=2.2,SNR=3.0						

ISCJB ***16*** *11:16:22.5±0.7, 4.54N±0.04×126.31E±0.09, h86km±8km, mb3.8/10, Error ellipse: s-maj=15.4km s-min=5.9km az=0.6*
IDC ***16*** *11:16:23.2±3.6, 4.51N×125.93E, h80km±33km, mb3.7/10, mb1 3.8/10, mb1mx3.5/38, mbtmp4.0/10, Error ellipse: s-maj=41.4km s-min=13.7km az=81.0*
DJA ***16*** *11:16:24.4±1.9, 4°N±12°×12°6E±°, h19km±14km, M4.7/6, mB5.2/5, mb4.8/6, MLv4.6/2, Mw(mB)4.7/5*
MAN ***16*** *11:16:29, 4.93N×126.08E, h86km, mb4.9, ML3.8, MS3.8*
ISC 16 11:16:23.4±1.0, **4.58N**±0.05×**126.27E**±0.10, **h81**km±10km, **n23,** σ1§**61**/26, **mb4.0**/9, **2C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
SGSI	Sangihe	1.15	220	P	Pn	11 16 43.7	-0.7
SGSI				S	Sn	11 16 58.7	-1.4
GSPH	General Santos	1.99	319	⇑iP	Pn	11 16 55.2	-0.2
GSPH				iS	Sn	11 17 20.2	+0.6
MATI	Mati	2.35	360	eP	Pn	11 17 01.5	+1.4
MATI				eS	Sn	11 17 26.4	-1.7
DMPH	Davao City--Mi	2.60	343	⇑eP	Pn	11 17 05.7	+2.2
DMPH				eS	Sn	11 17 42.2	+8.1
BUKP	Musuan	3.49	340	eP	Pn	11 17 18.7	+3.1
BUKP				eS	Sn	11 17 53.4	-2.4
TNTI	Ternate	3.94	164	P	Pn	11 17 21.7	+0.2
PAGZ	Pagadian	4.33	319	eP	Pn	11 17 28.4	+1.5
GTOI	Gorontalo	5.09	220	P	Pn	11 17 37.0	-0.2
MRSI	Marisa	5.94	227	P	Pn	11 17 49.3	+0.5
	165nm,0.5s,3μm						
LUWI	Luwuk	6.58	212	P	Pn	11 18 00.6	+2.9
	144nm,1.1s,3μm						
SANI	Sanana	6.59	182	P	Pn	11 17 55.7	-2.0
	21nm,0.8s,2μm						
MPSI	Mapaga	7.63	237	P	Pn	11 18 14.0	+2.1
	19nm,0.4s,871nm						
TTSI	Tana Toraja	9.91	277	P	Pn	11 18 46.2	+2.7
WRA	Warramunga Arr	25.63	162	P	P	11 21 44.4	-1.2
	1.8nm,0.4s,baz=342,slow=10.0,SNR=15						
ASAR	Alice Springs	29.05	165	P	P	11 22 16.8	+0.7
	0.5nm,0.6s,baz=346,slow=7.2,SNR=10.0						
KSRS	Korea Array	32.76	2	P	P	11 22 49.7	+1.1
	0.6nm,0.3s,baz=187,slow=9.9,SNR=5.1						
NWAO	Narrogin (SRO)	38.27	192	P	P	11 23 35.5	-0.4
	2.2nm,0.6s,baz=17,slow=11,SNR=2.6						
STKA	Stephens Creek	39.08	159	P	P	11 23 43.2	+0.4
	1.3nm,0.6s,baz=347,slow=4.8,SNR=5.7						
SONM	Songino Array	46.35	342	P	P	11 24 40.8	-0.7
	0.1nm,0.3s,baz=160,slow=7.4,SNR=4.0						
PETK	Petropavlovsk-	54.83	23	P	P	11 25 46.8	+1.7
	0.4nm,0.3s,baz=212,slow=10,SNR=9.5						
MKAR	Makanchi Array	56.60	325	P	P	11 25 56.6	-1.3
	0.7nm,0.6s,baz=120,slow=7.6,SNR=12						
MKAR				ScP	ScP	11 30 45.0	-0.8
	0.4nm,0.8s,baz=114,slow=2.9,SNR=4.9						
ARCES	ARCESS Array B	89.50	340	P	P	11 29 10.3	-0.9
	2.8nm,0.9s,baz=83,slow=5.5,SNR=7.3						
YKA	Yellowknife Ar	98.92	24	P	Pdif	11 29 55.0	+0.5
	0.2nm,0.8s,baz=307,slow=5.2,SNR=3.2						

IDC 16 11:19:05.5±1.7, **16.50S×172.00W, h0km, mb4.0**/4, **mb1 4.1**/5, **mb1mx3.7**/43, **mbtmp3.9**/5, **ML3.2**/1, **MS3.4**/3, **Ms1 3.4**/3, **ms1mx2.9**/34, **Error ellipse: s-maj=54.7km s-min=21.3km az=130.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
AFI	Afiamalu	2.58	5	Pn	Pn	11 19 49.6	+0.9
	4.7nm,0.3s,baz=212,slow=13,SNR=5.5						
AFI				Sn	Sn	11 20 20.0	-0.9
	35nm,0.3s,baz=120,slow=21,SNR=21						
DZM	Mont Dzumac	21.08	251	eLR	LR	11 29 16.7	
	89nm,25.1s						
DZM	Mont Dzumac	21.08	251	LR	LR	11 31 10.8	
	comp=Z,91nm,18.4s,baz=225,slow=34						
PPT2	Papeete2	21.47	96	eLR	LR	11 28 32.7	
	120nm,28.8s						
PPT	Papeete	21.47	96	LR	LR	11 31 20.1	
	comp=Z,50nm,18.4s,baz=153,slow=34						
HNR	Honiara	28.20	281	LR	LR	11 34 28.3	
	comp=Z,124nm,21.0s,baz=132,slow=33						
RKT	Rikitea	35.39	107	eLR	LR	11 35 23.9	
	265nm,35.2s						
STKA	Stephens Creek	44.67	241	P	P	11 27 20.4	+0.1
	1.3nm,0.7s,baz=92,slow=9.0,SNR=3.0						
WRA	Warramunga Arr	50.91	258	P	P	11 28 08.8	-0.2
	0.7nm,0.5s,baz=96,slow=7.2,SNR=17						
ASAR	Alice Springs	51.06	253	P	P	11 28 09.9	-0.2
	3.9nm,0.5s,baz=88,slow=8.5,SNR=93						
NVAR	Mina Array Bea	74.25	41	P	P	11 30 44.8	-0.1
	0.6nm,0.9s,baz=238,slow=10,SNR=3.2						

IDC 16 11:21:17.3±4.7, **13.41N×87.69W, h60km**±66km, **mb2.8**/2, **mb1 3.2**/3, **mb1mx3.0**/34, **mbtmp3.1**/3, **ML2.3**/1, **Error ellipse: s-maj=127.1km s-min=31.5km az=48.0, Honduras**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
JTS	JuntasAbangare	4.10	139	P	Pn	11 22 18.9	+1.4
	0.2nm,0.3s,baz=316,slow=16,SNR=3.4						
JTS				S	Sn	11 23 04.5	+0.1
	0.8nm,0.3s,baz=324,slow=14,SNR=2.6						
TXAR	Lajitas Array	21.69	319	P	P	11 26 02.8	-0.6
	0.3nm,0.6s,baz=133,slow=13,SNR=4.7						
YKA	Yellowknife Ar	52.63	345	P	P	11 30 24.9	0.0
	0.1nm,0.5s,baz=146,slow=7.3,SNR=5.7						
WRA	Warramunga Arr	139.30	255	PKP	PKPdf	11 40 38.8	+0.3
	0.1nm,0.4s,baz=92,slow=2.5,SNR=4.8						

WEL 16 11:29:50.1±0.3, **37.35S×176.31E, h191**km±2km, **ML3.6**/17, **1C-4D, Error ellipse: s-maj=4.8km s-min=3.4km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
URZ	Urewera	1.11	145	PN	Pn	11 30 19.8	+0.2
URZ				SN	Sn	11 30 42.3	-0.4
HAZ	Te Kaha	1.24	110	PN	Pn	11 30 20.8	+0.1
HAZ				SN	Sn	11 30 44.3	-0.1
MWZ	Matawai	1.38	136	PN	Pn	11 30 21.7	-0.2
MWZ				SN	Sn	11 30 47.2	+0.5
RAGZ	Rawiri	1.44	143	PN	Pn	11 30 22.8	+0.3
MXZ	Matakaoa Point	1.60	98	PN	Pn	11 30 24.5	+0.6
SNGZ	Shannon Statio	1.64	151	PN	Pn	11 30 24.4	+0.1
RAHZ	Arahi	1.68	159	PN	Pn	11 30 25.1	+0.4
PUZ	Puketiti	1.70	116	⇑PN	Pn	11 30 24.8	-0.1
PUZ				eSN	Sn	11 30 50.0	-2.0
RIGZ	Rimuhau	1.77	140	PN	Pn	11 30 25.7	+0.1
NMHZ	Naumai	1.79	168	PN	Pn	11 30 26.3	+0.5
BKZ	Black Stump Fm	1.82	176	⇓PN	Pn	11 30 25.6	-0.5
WHHZ	Waihua	1.87	157	PN	Pn	11 30 26.5	0.0
CNGZ	Carnagh Statio	1.88	128	PN	Pn	11 30 27.2	+0.6
KNZ	Kokohu	1.98	148	⇓PN	Pn	11 30 27.3	-0.3
TUVZ	Tukino	1.99	195	PN	Pn	11 30 28.2	+0.2
PRGZ	Paritu Road	2.00	142	PN	Pn	11 30 27.5	-0.4
WNVZ	Wahianoa	2.06	196	PN	Pn	11 30 28.7	0.0
MOVZ	Moawhango	2.10	192	PN	Pn	11 30 28.8	-0.2
MCHZ	McNeill Hill	2.11	205	PN	Pn	11 30 29.1	-0.1
MTVZ	Mangateitei	2.14	198	PN	Pn	11 30 29.5	+0.1
BHHZ	Black Hill Sta	2.15	185	PN	Pn	11 30 28.7	-0.8
MHGZ	Mahia Peninsul	2.20	146	PN	Pn	11 30 29.5	-0.5
KRHZ	Kereru	2.29	179	PN	Pn	11 30 30.0	-1.1
CKHZ	Cape Kidnapper	2.38	166	PN	Pn	11 30 31.4	-0.7
KAHZ	Kahuranaki	2.48	170	⇓PN	Pn	11 30 32.4	-0.8
PNHZ	Pukenui	2.56	182	PN	Pn	11 30 32.9	-1.2
PXZ	Pawanui	2.71	171	PN	Pn	11 30 34.3	-1.5
PXZ				eSN	Sn	11 31 07.4	-4.2
WPHZ	Waipukurau	2.71	178	PN	Pn	11 30 34.3	-1.6
TSZ	Takapari Road	2.72	186	PN	Pn	11 30 34.6	-1.4
PRHZ	Porangahau	2.92	175	PN	Pn	11 30 36.4	-2.0
DVHZ	Dannevirke	2.95	182	PN	Pn	11 30 36.5	-2.1
POWZ	Post Office Ro	3.07	188	PN	Pn	11 30 38.2	-1.8
ANWZ	Angora Road	3.11	178	PN	Pn	11 30 38.5	-2.0
PRWZ	Pori Road	3.21	185	PN	Pn	11 30 39.8	-1.9

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
BFZ	**Birch Farm**	**3.33**	**181**	PN	Pn	11 30 40.7	-2.5
MRZ	**Mangatainoka R**	**3.36**	**190**	⇓PN	Pn	11 30 40.8	-2.7
MRZ				SN	Sn	11 30 20.4	-5.1
MRZ				AML	AML	11 31 24.4	
TIWZ	**Tintock**	**3.44**	**185**	PN	Pn	11 30 42.1	-2.5
TIWZ				AML	AML	11 31 25.6	
TIWZ				AML	AML	11 31 27.4	
OGWZ	**Otaki Gorge**	**3.58**	**194**	PN	Pn	11 30 43.6	-2.6
HOWZ	**Holdsworth Sta**	**3.60**	**190**	PN	Pn	11 30 43.6	-2.9
KIW	**Kapiti Island**	**3.67**	**197**	PN	Pn	11 30 44.5	-2.9
TMWZ	**Te Maipa**	**3.77**	**185**	PN	Pn	11 30 45.8	-2.9
MTW	**Mount Morrison**	**3.86**	**189**	PN	Pn	11 30 46.4	-3.3
CAW	**Cannon Point**	**3.88**	**194**	PN	Pn	11 30 46.7	-3.2
WEL	**Wellington**	**4.11**	**196**	PN	Pn	11 30 49.6	-3.3
MSWZ	**Moikau Station**	**4.14**	**191**	PN	Pn	11 30 49.6	-3.7
SNZO	**South Karori**	**4.15**	**197**	PN	Pn	11 30 49.8	-3.4
TCW	**Tory Channel**	**4.17**	**202**	PN	Pn	11 30 50.6	-3.0
PLWZ	**Palliser**	**4.29**	**191**	PN	Pn	11 30 51.3	-3.9
TUWZ	**Tuamarina**	**4.47**	**204**	PN	Pn	11 30 54.0	-3.4
NNZ	**Nelson**	**4.48**	**210**	PN	Pn	11 30 54.9	-2.7
QRZ	**Quartz Range**	**4.55**	**219**	PN	Pn	11 30 55.6	-2.9
THZ	**Tophouse**	**5.13**	**210**	PN	Pn	11 31 03.5	-2.5
KHZ	**Kahutara**	**5.49**	**202**	*e*PN	Pn	11 31 06.5	-4.0
DSZ	**Denniston Nort**	**5.61**	**217**	*e*PN	Pn	11 31 08.0	-4.0
OXZ	**Oxford**	**6.80**	**207**	PN	Pn	11 31 22.2	-5.3

*CSEM **16** 11:42:26.7±0.2, 45°.10N×23°.18E, h10km, ML2.6, Error ellipse: s-maj=5.0km s-min=4.0km az=65.0*
*BEO **16** 11:42:26.3±0.5, 45°.14N×23°.24E, h14km±2km, ML2.6/1*
*BUC **16** 11:42:27.4±0.6, 45°.19N×23°.22E, h10km±6km, MD3.4/2, Error ellipse: s-maj=5.7km s-min=4.8km az=21.0*
*SOF **16** 11:42:27.0, 45°.04N×22°.99E, h15km, MD3.1*
*SIGU **16** 11:42:27.5±0.2, 45°.17N±0°.01×23°.18E±0°.01, h10km, mb2.5/3*
ISC 16 11:42:26.8±1.0, **45°.10N**±0°.02×**23°.18E**±0°.02, **h9**km±9km, **n85**, σ1s.**16**/130, **27C-14D, Romania**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
GZR	**Gura Zlata**	**0.41**	**315**	⇓*i*Pg	**Pg**	**11 42 35.1**	**+0.2**
GZR	**Gura Zlata**	**0.41**	**315**	⇑*i*P	**Pb**	**11 42 35.5**	**-0.8**
GZR	**Gura Zlata**	**0.41**	**315**	S	**Sg**	**11 42 40.4**	**+0.2**
GZR	**Gura Zlata**	**0.41**	**315**	⇑*i*P	**Pb**	**11 42 35.5**	**-0.8**
GZR				*i*S	**Sg**	**11 42 40.4**	**+0.2**
GZR	**Gura Zlata**	**0.41**	**315**	⇓*i*Pg	**Pg**	**11 42 35.1**	**+0.2**
SRE	**Strehaia**	**0.44**	**178**	⇑*i*P	**Pb**	**11 42 38.2**	**+1.4**
SRE	**Strehaia**	**0.44**	**178**	⇑*i*P	**Pb**	**11 42 38.2**	**+1.4**
SRE				*i*S	**Sb**	**11 42 46.6**	**+3.0**
LOT	**Lotru**	**0.54**	**50**	⇓*i*P	**Pg**	**11 42 36.8**	**-0.5**
LOT	**Lotru**	**0.54**	**50**	S	**Sg**	**11 42 44.1**	**-0.3**
LOT	**Lotru**	**0.54**	**50**	⇓*i*P	**Pg**	**11 42 36.8**	**-0.5**
LOT				*i*S	**Sg**	**11 42 44.1**	**-0.3**
RMGR	**Halanga-Turnu**	**0.56**	**219**	S	**Sb**	**11 42 49.1**	**+2.1**
RMGR	**Halanga-Turnu**	**0.56**	**219**	*i*S	**Sb**	**11 42 49.1**	**+2.1**
DJES	**Djerdap**	**0.64**	**227**	*e*Pg	**Pg**	**11 42 40.0**	**+0.7**
DJES				*e*Sg	**Sb**	**11 42 50.0**	**+0.6**
DEV	**Deva**	**0.80**	**346**	⇑*i*P	**Pb**	**11 42 42.3**	**-0.7**
DEV	**Deva**	**0.80**	**346**	⇑*i*P	**Pb**	**11 42 42.3**	**-0.7**
DEV				*i*S	**Sg**	**11 42 52.2**	**-0.6**
ARR	**Arges**	**1.06**	**75**	⇓*i*P	**Pg**	**11 42 46.8**	**-0.4**
ARR	**Arges**	**1.06**	**75**	⇓*i*P	**Pg**	**11 42 46.8**	**-0.4**
ARR				*i*S	**Sg**	**11 43 00.7**	**-0.2**
BZS	**Buzias**	**1.22**	**295**	⇑*i*Pg	**Pb**	**11 42 49.8**	**-0.3**
BZS				*e*Sg	**Sb**	**11 43 04.6**	**-1.3**
BZS	**Buzias**	**1.22**	**295**	⇑*i*P	**Pn**	**11 42 49.9**	**-0.2**
BZS	**Buzias**	**1.22**	**295**	⇑*i*P	**Pn**	**11 42 49.9**	**-0.2**
BZS				*i*S	**Sb**	**11 43 04.9**	**-1.0**
BZS	**Buzias**	**1.22**	**295**	⇑*i*Pg	**Pb**	**11 42 49.8**	**-0.3**
BZS				*e*Sg	**Sb**	**11 43 04.6**	**-1.3**
MDB	**Medias**	**1.34**	**39**	⇑*i*P	**Pn**	**11 42 51.4**	**-0.3**
MDB	**Medias**	**1.34**	**39**	⇑*i*P	**Pn**	**11 42 51.4**	**-0.3**
MDB				*i*S	**Sg**	**11 43 09.6**	**-0.2**
MTUR	**Matau**	**1.34**	**84**	⇑*i*P	**Pg**	**11 42 53.3**	**+0.8**
MTUR	**Matau**	**1.34**	**84**	⇑*i*P	**Pg**	**11 42 53.3**	**+0.8**
VOIR		**1.36**	**75**	⇓*i*P	**Pn**	**11 42 52.0**	**-0.1**
VOIR		**1.36**	**75**	⇓*i*P	**Pn**	**11 42 52.0**	**-0.1**
VOIR				*i*S	**Sb**	**11 43 10.0**	**-0.1**
BOLS	**Boljevac**	**1.55**	**215**	*e*Pn	**Pn**	**11 42 52.9**	**-1.8**
BOLS				*e*Sg	**Sb**	**11 43 16.3**	**+0.9**
BOLS	**Boljevac**	**1.55**	**215**	*e*Pn	**Pn**	**11 42 52.9**	**-1.8**
BOLS				*e*Sg	**Sb**	**11 43 16.3**	**+0.9**
SVIS	**Svilajnac**	**1.64**	**240**	*e*Pn	**Pn**	**11 42 55.1**	**-0.7**
SVIS				*e*Sn	**Sn**	**11 43 17.2**	**+0.2**
CJR	**Cluj-Napoca**	**1.64**	**10**	⇑*i*P	**Pn**	**11 42 55.9**	**0.0**
CJR	**Cluj-Napoca**	**1.64**	**10**	⇑*i*P	**Pn**	**11 42 55.9**	**0.0**
CJR				*i*S	**Sn**	**11 43 15.8**	**-1.3**
DRGR		**1.72**	**349**	*i*Pg	**Pn**	**11 42 57.4**	**+0.3**
DRGR				*e*Sg	**Sn**	**11 43 18.9**	**-0.3**
DRGR		**1.72**	**349**	P	**Pb**	**11 42 57.7**	**-1.0**
DRGR				S	**Sn**	**11 43 18.8**	**-0.4**
DRGR		**1.72**	**349**	*i*Pg	**Pn**	**11 42 57.4**	**+0.3**
DRGR		**1.72**	**349**	P	**Pb**	**11 42 57.7**	**-1.0**
DRGR				S	**Sn**	**11 43 18.8**	**-0.4**
DOPR	**Dopca**	**1.77**	**60**	⇑*i*P	**Pn**	**11 42 58.4**	**+0.6**
DOPR	**Dopca**	**1.77**	**60**	⇑*i*P	**Pn**	**11 42 58.4**	**+0.6**
DOPR				*i*S	**Sb**	**11 43 22.4**	**+0.4**
MPEP	**Malo Peshtene**	**1.79**	**167**	P	**Pn**	**11 42 57.5**	**-0.5**
MPEP				S	**Sn**	**11 43 19.2**	**-1.7**
MPEP	**Malo Peshtene**	**1.79**	**167**	P	**Pn**	**11 42 57.5**	**-0.5**
MPEP				S	**Sn**	**11 43 19.2**	**-1.7**
ZAPS	**Zavoj**	**1.87**	**192**	⇑*i*Pn	**Pn**	**11 42 58.8**	**-0.3**
ZAPS				*e*Sn	**Sn**	**11 43 23.8**	**+0.9**
MLR	**Muntele Rosu**	**1.99**	**78**	⇓*i*P	**Pb**	**11 43 02.3**	**-1.0**
MLR	**Muntele Rosu**	**1.99**	**78**	⇓*i*P	**Pb**	**11 43 02.3**	**-1.0**
MLR				*i*S	**Sn**	**11 43 26.9**	**+1.0**
GRUS	**Gruza**	**2.14**	**236**	*e*Pn	**Pn**	**11 43 03.1**	**+0.3**
GRUS				*e*Sn	**Sn**	**11 43 29.8**	**+0.2**
GRUS	**Gruza**	**2.14**	**236**	*e*Pn	**Pn**	**11 43 03.1**	**+0.3**
GRUS				*e*Sn	**Sn**	**11 43 29.8**	**+0.2**
TRUS	**Trudelj**	**2.17**	**247**	⇑*i*Pn	**Pn**	**11 43 02.5**	**-0.7**
TRUS				*e*Sn	**Sn**	**11 43 30.0**	**-0.2**
TRUS	**Trudelj**	**2.17**	**247**	⇑*i*Pn	**Pn**	**11 43 02.5**	**-0.7**
TRUS				*e*Sn	**Sn**	**11 43 30.0**	**-0.2**
FGSL	**Fruska Gora**	**2.39**	**272**	*e*Pn	**Pn**	**11 43 06.0**	**-0.2**
FRGS	**Fruska Gora**	**2.39**	**272**	*e*Pn	**Pn**	**11 43 06.0**	**-0.2**
SELS	**Selova**	**2.40**	**219**	*e*Pn	**Pn**	**11 43 05.8**	**-0.6**
SELS				*e*Sg	**Sg**	**11 43 43.9**	**0.0**
PVL	**Pavlikeni**	**2.44**	**140**	P	**Pn**	**11 43 07.9**	**+1.0**
PVL				S	**Sn**	**11 43 34.7**	**-2.1**
PVL				Sg	**Sg**	**11 43 45.4**	**+0.2**
PVL	**Pavlikeni**	**2.44**	**140**	P	**Pn**	**11 43 07.9**	**+1.0**
PVL				S	**Sn**	**11 43 34.7**	**-2.1**
PVL				Sg	**Sg**	**11 43 45.4**	**+0.2**
DIVS	**Divibare**	**2.49**	**247**	*e*Pn	**Pn**	**11 43 07.7**	**0.0**
DIVS				*e*Sn	**Sn**	**11 43 37.4**	**-0.9**
DIVS	**Divibare**	**2.49**	**247**	*e*Pn	**Pn**	**11 43 07.7**	**0.0**
DIVS				*e*Sn	**Sn**	**11 43 37.4**	**-0.9**
VTS	**Vitosha**	**2.51**	**180**	*e*Pn	**Pn**	**11 43 06.8**	**-1.3**
VTS				*e*Sn	**Sn**	**11 43 36.8**	**-2.1**
VTS	**Vitosha**	**2.51**	**180**	P	**Pn**	**11 43 06.7**	**-1.3**
VTS				S	**Sn**	**11 43 36.3**	**-2.6**
VTS	**Vitosha**	**2.51**	**180**	*e*Pn	**Pn**	**11 43 06.8**	**-1.3**
VTS				S	**Sn**	**11 43 36.3**	**-2.6**
PLOR	**Plostina**	**2.55**	**72**	⇑*i*P	**Pn**	**11 43 09.1**	**+0.6**
PLOR	**Plostina**	**2.55**	**72**	⇑*i*P	**Pn**	**11 43 09.1**	**+0.6**
VRI	**Vrincioaia**	**2.61**	**72**	P	**Pn**	**11 43 11.2**	**+2.0**
VRI				S	**Sb**	**11 43 44.4**	**-1.5**
VRI	**Vrincioaia**	**2.61**	**72**	⇑*i*P	**Pn**	**11 43 11.4**	**+2.2**
VRI	**Vrincioaia**	**2.61**	**72**	⇑*i*P	**Pn**	**11 43 11.4**	**+2.2**
VRI	**Vrincioaia**	**2.61**	**72**	P	**Pn**	**11 43 11.2**	**+2.0**
VRI				S	**Sb**	**11 43 44.4**	**-1.5**
IVAS	**Ivanjica**	**2.66**	**236**	⇓*i*Pn	**Pn**	**11 43 09.9**	**0.0**
IVAS	**Ivanjica**	**2.66**	**236**	⇓*i*Pn	**Pn**	**11 43 09.9**	**0.0**
TEKS	**Tekeris**	**2.66**	**259**	*e*Pn	**Pn**	**11 43 10.1**	**+0.2**
TEKS	**Tekeris**	**2.66**	**259**	*e*Pn	**Pn**	**11 43 10.1**	**+0.2**
SZH	**Strazhica**	**2.70**	**132**	P	**Pn**	**11 43 09.5**	**-1.0**
SZH				S	**Sn**	**11 43 40.8**	**-2.5**
SZH	**Strazhica**	**2.70**	**132**	P	**Pn**	**11 43 09.5**	**-1.0**
SZH				S	**Sn**	**11 43 40.8**	**-2.5**
RAK	**Rakhov**	**3.03**	**13**	*i*P	**Pn**	**11 43 16.1**	**+1.0**
RAK				Pm		11 43 28.1	
RAK				*i*S	**Sn**	**11 43 51.9**	**+0.3**
RAK				Sm		11 44 06.5	
KORU	**Korolevo**	**3.06**	**359**	*e*P	**Pn**	**11 43 16.5**	**+1.2**
KORU				*i*S	**Sn**	**11 43 53.1**	**+1.1**
KKB	**Krupnik**	**3.24**	**181**	P	**Pn**	**11 43 18.3**	**+0.4**
KKB	**Krupnik**	**3.24**	**181**	P	**Pn**	**11 43 18.3**	**+0.4**
MUKU	**Mukachevo**	**3.37**	**354**	*e*P	**Pn**	**11 43 21.0**	**+1.4**
MUKU				*i*S	**Sn**	**11 44 01.0**	**+1.3**
MEZ	**Mezhgor'ye**	**3.42**	**4**	*e*P	**Pn**	**11 43 21.9**	**+1.5**
MEZ				*i*S	**Sn**	**11 44 02.5**	**+1.5**
CFR	**Carcaliu**	**3.51**	**87**	⇓*i*P	**Pn**	**11 43 22.1**	**+0.6**
CFR	**Carcaliu**	**3.51**	**87**	⇓*i*P	**Pn**	**11 43 22.1**	**+0.6**
TIRR	**Tirgusor**	**3.78**	**98**	⇑*i*P	**Pn**	**11 43 26.8**	**+1.5**
TIRR	**Tirgusor**	**3.78**	**98**	⇑*i*P	**Pn**	**11 43 26.8**	**+1.5**
KOLS	**Kolonicke sedl**	**3.88**	**351**	*e*PN	Pn	11 43 30.2	+3.5
KOLS	**Kolonicke sedl**	**3.88**	**351**	*e*Pn	Pn	11 43 30.2	+3.5
KMPD	**K-Podol'skiy**	**4.13**	**32**	*i*P	**Pn**	**11 43 31.9**	**+1.8**
KMPD				*i*S	**Sn**	**11 44 20.7**	**+2.3**
VYHS	**Vyhne**	**4.52**	**320**	*e*PN	**Pn**	**11 43 35.4**	**-0.1**
VYHS	**Vyhne**	**4.52**	**320**	*e*Pn	**Pn**	**11 43 35.4**	**-0.1**
HORU	**Horodok**	**4.67**	**27**	*i*P	**Pn**	**11 43 39.9**	**+2.4**
HORU				*e*S	**Sn**	**11 44 34.4**	**+2.6**

CASC 16 11:48:06.6±1.2, **13°.60N**×**90°.73W**, **h29**km±4km, **MD3.6, 2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
PCG	**Pacaya**	**0.80**	**8**	*e*P	Pn	11 48 22.1	-0.2
PCG				*e*S	Sb	11 48 33.0	-0.1
NBG	**Las Nubes**	**1.05**	**21**	*e*P	Pb	11 48 26.6	0.0
NBG				*e*S	Sb	11 48 41.0	+0.7
RTR	**El Retiro**	**1.09**	**74**	*e*P	Pn	11 48 26.1	-0.1
RTR				*e*S	Sb	11 48 41.3	0.0
SBLS	**San Blas**	**1.10**	**77**	*e*P	Pn	11 48 26.0	-0.4
SBLS				*e*S	Sb	11 48 41.3	-0.3
SNJE	**San Jose**	**1.12**	**76**	*e*P	Pn	11 48 26.3	-0.3
SNJE				*e*S	Sb	11 48 42.1	-0.1
JAT	**Jato**	**1.14**	**309**	⇓*e*P	Pn	11 48 26.4	-0.1
RBDL	**Robledal**	**1.14**	**63**	*e*P	Pn	11 48 26.7	-0.1
BOQS	**Boqueron**	**1.42**	**84**	*e*P	Pn	11 48 30.8	+0.1
LFRS	**El Faro**	**1.62**	**89**	*e*P	Pn	11 48 33.8	+0.4
LFRS				*e*S	Sn	11 48 54.2	+0.8
MRL	**Marmol**	**1.77**	**34**	⇓*e*P	Pn	11 48 36.3	+0.7

*IDC **16** 12:12:56.1±1.6, 19°.85S×177°.95W, h476km±20km, mb3.4/8, mb1 3.6/10, mb1mx3.3/27, mbtmp4.2/10, Error ellipse: s-maj=32.7km s-min=11.9km az=152.0*
*ISCJB **16** 12:12:59.5±0.7, 20°.3S±0°.1×178°.0W±0°.1, h534km, mb3.8/8, Error ellipse: s-maj=19.6km s-min=11.9km az=152.2*
ISC 16 12:13:00.5±0.8, **20°.2S**±0°.1×**178°.0W**±0°.1, **h534**km, **n27**, σ0s.**68**/25, **mb3.8**/8, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
NIUE	**Niue**	**7.69**	**83**	P	P	12 14 47.1	-7.5
	baz=7.3,SNR=4.1						
AFI	**Afiamalu**	**8.62**	**45**	P	P	12 14 56.2	-8.0
	8.8nm,0.3s,baz=180,slow=1.6,SNR=10						
AFI				S	S	12 16 31.5	-14
	7.7nm,0.3s,baz=138,slow=18,SNR=5.8						
RAO	**Raoul Island**	**9.04**	**180**	P	**P**	**12 15 07.5**	**-0.7**
	807nm,0.3s,baz=336,slow=22,SNR=4.6						
DZM	**Mont Dzumac**	**14.64**	**260**	P	**P**	**12 16 05.8**	**-0.9**
	0.3nm,0.3s,baz=81,slow=19,SNR=3.9						
NFK	**Norfolk Island**	**15.53**	**233**	P	**P**	**12 16 17.7**	**+2.1**
	baz=16,SNR=3.4						
LHI	**Lord Howe Isla**	**23.48**	**237**	P	**P**	**12 17 27.5**	**-1.1**
	baz=24,SNR=4.1						
QLP	**Quilpie**	**35.15**	**252**	P	**P**	**12 19 09.6**	**0.0**
	baz=36,SNR=5.8						
PMG	**Port Moresby**	**35.27**	**283**	P	**P**	**12 19 11.2**	**+0.4**
	8.2nm,0.7s,baz=131,slow=6.2,SNR=8.9						
MTSU	**Mount Surprise**	**35.61**	**267**	P	**P**	**12 19 14.2**	**+0.7**
	baz=36,SNR=12						
TOO	**Toolangi**	**36.09**	**233**	P	**P**	**12 19 17.3**	**0.0**
	baz=36,SNR=4.7						
STKA	**Stephens Creek**	**37.93**	**244**	P	**P**	**12 19 32.8**	**+0.3**
	1.5nm,0.5s,baz=95,slow=9.4,SNR=7.5						
STKA	**Stephens Creek**	**37.93**	**244**	P	**P**	**12 19 32.8**	**+0.3**
	baz=38,SNR=6.0						
BBOO	**Buckleboo**	**42.69**	**243**	P	**P**	**12 20 10.3**	**-0.2**
	baz=43,SNR=5.8						
ASAR	**Alice Springs**	**44.59**	**256**	P	**P**	**12 20 25.6**	**+0.1**
	6.3nm,0.7s,baz=96,slow=7.8,SNR=92						
WRA	**Warramunga Arr**	**44.65**	**262**	P	**P**	**12 20 25.7**	**-0.2**
	1.6nm,0.3s,baz=96,slow=7.2,SNR=150						
KDU	**Kakadu**	**47.94**	**271**	P	**P**	**12 20 51.4**	**+0.4**
	baz=48,SNR=9.0						
MTN	**Manton Dam**	**49.16**	**270**	P	**P**	**12 21 00.3**	**+0.4**
	baz=50,SNR=5.5						
WRKA	**Warakurna**	**49.55**	**254**	P	**P**	**12 21 02.9**	**+0.1**
	baz=50,SNR=50						
KNRA	**Kununurra**	**50.68**	**266**	P	**P**	**12 21 11.4**	**+0.3**
	baz=51,SNR=6.3						
FITZ	**Fitzroy Crossi**	**53.07**	**262**	P	**P**	**12 21 29.3**	**+1.0**
	baz=54,SNR=3.4						
NVAR	**Mina Array Bea**	**80.79**	**43**	P	**P**	**12 24 18.9**	**+0.1**
	1.2nm,0.8s,baz=224,slow=8.8,SNR=11						
TXAR	**Lajitas Array**	**86.88**	**57**	P	**P**	**12 24 49.5**	**+0.6**
	0.7nm,0.7s,baz=225,slow=7.1,SNR=10						
ILAR	**Eielson Array**	**88.00**	**13**	P	**P**	**12 24 52.5**	**-0.7**
	0.5nm,0.6s,baz=217,slow=6.1,SNR=13						
PDAR	**Pinedale Array**	**88.73**	**43**	P	**P**	**12 24 57.2**	**-0.2**
	0.6nm,0.7s,baz=212,slow=2.7,SNR=5.3						
MKAR	**Makanchi Array**	**110.97**	**314**	PKiKP	**PKiKP**	**12 30 33.0**	**-0.2**
	0.2nm,0.6s,baz=120,slow=2.0,SNR=2.8						
BRTR	**Keskin Array B**	**146.62**	**313**	PKPbc	**PKPbc**	**12 31 43.0**	**+0.3**
	0.6nm,0.5s,baz=158,slow=4.4,SNR=3.0						
GERES	**GERESS Array B**	**149.89**	**345**	PKPbc	**PKPbc**	**12 31 50.6**	**+0.1**
	0.5nm,0.7s,baz=0.0,slow=0.7,SNR=5.0						

*ISCJB **16** 12:41:12.7±0.6, 25°.13N±0°.08×123°.10E±0°.06, h161km±6km, mb3.2/4, Error ellipse: s-maj=13.7km s-min=8.4km az=156.0*
*IDC **16** 12:41:13.2±8.3, 25°.29N×123°.29E, h159km±96km, mb3.0/4, mb1 3.2/4, mb1mx2.8/41, mbtmp3.4/4, Error ellipse: s-maj=83.6km s-min=16.1km az=60.0*
*JMA **16** 12:41:13.8±0.2, 25°.06N×123°.08E, h158km±3km, M3.5*
ISC 16 12:41:13.6±0.9, **25°.19N**±0°.10×**123°.12E**±0°.08, **h158**km±9km, **n19**, σ1s.**29**/30, **mb3.2**/4, **Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
YOJ	**Yonaguni jima**	**0.73**	**188**	*e*S	**Sn**	**12 41 54.5**	**-0.7**
JYNG	**Yonagunijimaku**	**0.75**	**192**	*e*S	**Sn**	**12 41 54.2**	**-1.2**
IRIF	**Iriomote-Funau**	**1.02**	**147**	P	**Pn**	**12 41 38.9**	**-0.3**
IRIF				*e*S	**Sn**	**12 41 57.7**	**-1.2**
JISG	**Ishigakijimahi**	**1.23**	**119**	P	**Pn**	**12 41 41.1**	**0.0**
JISG				S	**Sn**	**12 42 01.8**	**-0.5**
JIJ	**Ishigaki jima**	**1.24**	**131**	P	**Pn**	**12 41 41.0**	**-0.2**
JIJ				*e*S	**Sn**	**12 42 00.7**	**-1.7**
JKRS	**Kuro-shima**	**1.25**	**139**	P	**Pn**	**12 41 41.4**	**+0.1**
JKRS				S	**Sn**	**12 42 01.8**	**-0.7**
HATJ	**Hateruma jima**	**1.29**	**151**	P	**Pn**	**12 41 41.6**	**-0.1**
HATJ				S	**Sn**	**12 42 02.9**	**-0.3**
JTJ	**Tarama**	**1.54**	**111**	P	**Pn**	**12 41 44.5**	**+0.4**
JTJ				*e*S	**Sn**	**12 42 07.5**	**0.0**
JIRB	**Irabujima**	**1.90**	**101**	P	**Pn**	**12 41 48.5**	**+0.5**
JIRB				*e*S	**Sn**	**12 42 14.0**	**-0.4**
JIKM	**Ikemajima**	**1.95**	**97**	P	**Pn**	**12 41 49.4**	**+0.9**
JIKM				*e*S	**Sn**	**12 42 15.6**	**+0.1**
JMJ	**Miyako jima 2**	**2.00**	**100**	P	**Pn**	**12 41 50.1**	**+0.9**
JMJ				*e*S	**Sn**	**12 42 16.6**	**-0.1**
JOGS	**Gusukube**	**2.12**	**101**	P	**Pn**	**12 41 51.6**	**+1.1**
JOGS				*e*S	**Sn**	**12 42 19.2**	**+0.2**
JKE	**Kume jima 2**	**3.49**	**70**	S	**Sn**	**12 42 49.0**	**-0.3**
JOW	**Kunigami**	**4.92**	**69**	P	**Pn**	**12 42 25.2**	**-0.8**
	0.3nm,0.3s,baz=115,slow=16,SNR=4.9						
JOW				S	**Sn**	**12 43 17.4**	**-5.1**
	0.4nm,0.3s,baz=132,slow=25,SNR=6.5						
KSRS	**Korea Array**	**12.89**	**17**	P	**Pn**	**12 44 13.0**	**+2.1**
	0.4nm,0.3s,baz=197,slow=12,SNR=8.8						
SONM	**Songino Array**	**26.18**	**334**	P	**P**	**12 46 33.9**	**+0.5**
	0.3nm,0.8s,baz=144,slow=5.4,SNR=2.7						
MKAR	**Makanchi Array**	**38.87**	**314**	P	**P**	**12 48 22.5**	**-0.9**
	0.5nm,0.4s,baz=101,slow=9.4,SNR=21						
WRA	**Warramunga Arr**	**46.17**	**165**	P	**P**	**12 49 22.0**	**-0.5**
	0.6nm,0.5s,baz=347,slow=8.8,SNR=7.8						
ASAR	**Alice Springs**	**49.68**	**167**	P	**P**	**12 49 49.9**	**+0.4**
	0.3nm,0.8s,baz=354,slow=9.5,SNR=3.4						

*NIED **16** 13:05:00, 40°.30N×143°.70E, h14km, Mw3.8 Best double couple: $M_0$5.13000×10^{14} NP1:ϕ_s141.00000°, δ43.00000°, λ16.00000°. NP2:ϕ_s39.00000°, δ79.00000°, λ132.00000°.*
*IDC **16** 13:05:47.6±1.1, 40°.25N×143°.91E, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.5/52, mbtmp3.5/10, ML3.0/3, MS2.5/1, Ms1 2.5/1, ms1mx2.1/27, Error ellipse: s-maj=26.3km s-min=19.6km az=113.0*
*ISCJB **16** 13:05:48.1±0.5, 40°.33N±0°.03×143°.86E±0°.05, h16km, mb3.5/7, Error ellipse: s-maj=6.2km s-min=3.4km az=33.9*
*MOS **16** 13:05:48.4±1.0, 40°.27N×143°.96E, h21km, mb3.9/1, Error ellipse: s-maj=25.9km s-min=12.7km az=75.9*
*JMA **16** 13:05:49.8±0.2, 40°.34N×143°.65E, h10km±3km, M3.6*
ISC 16 13:05:49.7±0.8, **40°.30N**±0°.05×**143°.88E**±0°.06, **h16**km, **n36**, σ1s.**81**/46, **mb3.5**/7, **1D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
JTH	**Tanohata**	**1.59**	**258**	P	**Pn**	**13 06 15.7**	**-1.5**
JTH				S	**Sn**	**13 06 33.9**	**-3.5**
MIYJ	**Miyakonagasawa**	**1.74**	**246**	P	**Pn**	**13 06 18.6**	**-0.7**
MIYJ				S	**Sn**	**13 06 39.0**	**-2.1**
JEM	**Erimo**	**1.80**	**343**	S	**Sn**	**13 06 42.0**	**-0.7**
JANG	**Nango**	**1.81**	**273**	P	**Pn**	**13 06 18.9**	**-1.3**
JANG				S	**Sn**	**13 06 40.6**	**-2.3**
JOM	**Ohasama**	**2.16**	**248**	P	**Pn**	**13 06 24.8**	**-0.2**
JOM				S	**Sn**	**13 06 50.7**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.16**	**337**	P	**Pn**	**13 06 25.1**	**+0.1**
JNBK				S	**Sn**	**13 06 50.6**	**-0.8**
JCH	**Churui**	**2.35**	**351**	S	**Sn**	**13 06 54.1**	**-2.0**
JOT	**Ohata**	**2.41**	**298**	P	**Pn**	**13 06 28.0**	**-0.4**
JOT				S	**Sn**	**13 06 56.0**	**-1.6**
JMK	**Ichinoseki**	**2.46**	**238**	P	**Pn**	**13 06 29.0**	**-0.1**
JMK				S	**Sn**	**13 06 57.1**	**-1.7**
JKB	**Kayabe**	**2.68**	**307**	S	**Sn**	**13 07 02.3**	**-1.9**
JAK	**Akkeshi**	**2.77**	**12**	P	**Pn**	**13 06 32.5**	**-0.8**
JAK				S	**Sn**	**13 07 03.9**	**-2.5**
JAR	**Ashorobuto**	**3.00**	**358**	P	**Pn**	**13 06 35.4**	**-1.2**
JAR				S	**Sn**	**13 07 09.2**	**-3.0**
JYK	**Kaneyama**	**3.05**	**244**	P	**Pn**	**13 06 37.4**	**+0.1**
JEW	**Eniwo**	**3.13**	**325**	S	**Sn**	**13 07 15.0**	**-0.4**
NEM2	**Nemuro 2**	**3.37**	**24**	P	**Pn**	**13 06 40.3**	**-1.3**
NEM2				S	**Sn**	**13 07 17.1**	**-4.1**
ASAJ	**Asahikawa**	**3.94**	**346**	P	**Pn**	**13 06 49.8**	**+0.4**
ASAJ						13 07 38.0	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,3.0nm,0.3s						
ASAJ	**Asahikawa**	**3.94**	**346**	Pn	**Pn**	**13 06 49.8**	**+0.4**
	comp=N,1.0nm,0.3s,baz=187,slow=11,SNR=21						
ASAJ				Sn	**Sn**	**13 07 38.0**	**+2.8**
	comp=N,2.8nm,0.3s,baz=214,slow=26,SNR=5.7						
YUK	**Yuzh-Kuril'sk**	**4.01**	**21**	*d* *i*P	**Pn**	**13 06 49.8**	**-0.7**
YUK				*i*S	**Sn**	**13 07 33.7**	**-3.5**
YUK				pmax	pmax		
	comp=Z,39nm,0.6s						
YUK				pmax	pmax		
	comp=N,37nm,0.3s						
YUK				pmax	pmax		
	comp=E,19nm,0.6s						
YUK				smax	smax		
	comp=N,172nm,0.6s						
YUK				smax	smax		
	comp=E,131nm,0.3s						
KUR	**Kuril'sk**	**5.74**	**29**	*e*P	**Pn**	**13 07 14.0**	**-0.2**
KUR				*i*S	**Sn**	**13 08 15.7**	**-4.0**
KUR				pmax	pmax		
	comp=N,19nm,0.7s						
KUR				pmax	pmax		
	comp=E,29nm,0.7s						
KUR				pmax	pmax		
	comp=Z,43nm,0.7s						
KUR				smax	smax		
	comp=E,16nm,0.3s						
KUR				smax	smax		
	comp=N,55nm,0.5s						
MAT	**Matsushiro**	**5.82**	**232**	P	**Pn**	**13 07 15.7**	**+0.3**
MAT				*e*S	**Sn**	**13 08 17.3**	**-4.5**
MJAR	**Matsushiro Arr**	**5.82**	**232**	P	**Pn**	**13 07 16.4**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.82**	**232**	Pn	**Pn**	**13 07 16.4**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=40,slow=11,SNR=11						
USRK	**Ussuriysk Arra**	**9.64**	**298**	Pn	**Pn**	**13 08 07.1**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=89,slow=14,SNR=8.2						
KSRS	**Korea Array**	**12.76**	**262**	LR	LR	13 13 34.0	
	comp=Z,20nm,20.2s,baz=143,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.44**	**129**	T	T	13 41 29.4	
	baz=324,slow=76,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**28.45**	**129**	T	T	13 41 29.9	
	baz=324,slow=76,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**28.45**	**129**	T	T	13 41 31.2	
	baz=324,slow=76,SNR=5.7						
ZALV	**Zalesovo Beam**	**41.23**	**310**	P	**P**	**13 13 35.1**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=97,slow=7.4,SNR=2.6						
MKAR	**Makanchi Array**	**44.10**	**300**	P	**P**	**13 13 57.3**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**44.10**	**300**	P	**P**	**13 13 57.3**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=76,slow=10,SNR=3.7						
CMAR	**Chiang Mai Arr**	**44.22**	**254**	P	**P**	**13 13 59.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**44.22**	**254**	P	**P**	**13 13 59.0**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=49,slow=6.1,SNR=3.4						
ILAR	**Eielson Array**	**45.71**	**34**	P	**P**	**13 14 10.4**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=268,slow=6.5,SNR=8.0						
YKA	**Yellowknife Ar**	**60.02**	**32**	P	**P**	**13 15 56.1**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=299,slow=6.1,SNR=4.3						
WRA	**Warramunga Arr**	**60.58**	**190**	P	**P**	**13 15 59.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=8.2,slow=6.9,SNR=3.7						
AKASG	**Malin Array Be**	**72.89**	**323**	P	**P**	**13 17 18.0**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=41,slow=6.4,SNR=3.2						

IDC 16 13:09:06.6±2.2, **4°.15N**×**127°.24E**, **h0**km, **mb3.3**/3, **mb1 3.6**/3, **mb1mx3.3**/23, **mbtmp3.3**/3, **Error ellipse: s-maj=156.6km s-min=27.3km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
WRA	**Warramunga Arr**	**24.94**	**164**	P	P	13 14 30.4	-1.4
	1.3nm,0.7s,baz=344,slow=10,SNR=14						
ASAR	**Alice Springs**	**28.40**	**167**	P	P	13 15 04.9	+1.8
	0.3nm,0.9s,baz=347,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**57.50**	**325**	P	P	13 18 57.7	-0.1
	0.1nm,0.4s,baz=122,slow=8.4,SNR=4.9						

IDC 16 13:09:51.1±3.2, **12°.96S**×**71°.78W**, **h0**km, **mb3.4**/2, **mb1 3.6**/3, **mb1mx3.4**/29, **mbtmp3.4**/3, **ML3.3**/1, **Error ellipse: s-maj=123.0km s-min=29.9km az=48.0, Central Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
LPAZ	**La Paz**	**4.84**	**134**	Pn	Pn	13 11 05.8	-0.2
	0.7nm,0.3s,baz=288,slow=11,SNR=18						
LPAZ				Sn	Sn	13 12 04.0	+0.6
	baz=283,slow=19,SNR=1.9						
TORD	**Torodi Ar. Bea**	**77.31**	**73**	P	P	13 21 48.2	+0.1
	0.3nm,0.7s,baz=253,slow=4.9,SNR=2.2						
YKA	**Yellowknife Ar**	**82.26**	**341**	P	P	13 22 14.0	0.0
	0.2nm,0.6s,baz=136,slow=5.2,SNR=6.9						

*IDC **16** 13:18:58.5±0.8, 3°.89N×126°.87E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/38, mbtmp4.0/10, MS3.2/3, Ms1 3.2/3, ms1mx2.8/30, Error ellipse: s-maj=52.1km s-min=15.1km az=66.0*
*ISCJB **16** 13:19:02.3±0.5, 3°.99N±0°.07×127°.0E±0°.1, h36km, mb4.0/13, MS3.2/3, Error ellipse: s-maj=19.7km s-min=7.2km az=154.2*
*NEIC **16** 13:19:07.4±1.2, 3°.85N×126°.93E, h71km±12km, mb4.2/4, Error ellipse: s-maj=16.3km s-min=7.9km az=53.0*
ISC 16 13:19:04.7±0.7, **3°.89N**±0°.09×**126°.8E**±0°.2, **h36**km, **n25**, σ1s.**62**/24, **mb4.1**/13, **MS3.1**/3, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
TNTI	**Ternate**	**3.14**	**170**	P	**Pn**	**13 19 53.0**	**+1.3**
CTBH	**Cotabato--PC H**	**4.20**	**322**	*e*P	**Pn**	**13 20 07.9**	**+1.6**
FAKI	**Fak Fak**	**8.65**	**141**	*e*P	**Pn**	**13 21 09.3**	**+1.9**
KSM	**Kuching**	**16.69**	**262**	P	**P**	**13 22 58.9**	**+0.9**
MTN	**Manton Dam**	**17.16**	**166**	P	**P**	**13 23 04.0**	**+0.8**
	baz=1.9,SNR=4.0						
KNRA	**Kununurra**	**19.53**	**174**	S	**P**	**13 23 29.6**	**+0.4**
	baz=2.0,SNR=5.5						
FITZ	**Fitzroy Crossi**	**21.88**	**183**	P	**P**	**13 23 53.9**	**-0.8**
	baz=5.7,SNR=6.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	24.17	123	LR	LR	13 34 01.7	
	comp=Z,60nm,18.6s,baz=235,slow=37						
WRAB	Tennant Creek	24.79	163	eP	P	13 24 22.2	-1.3
	13nm,0.8s						
WRA	Warramunga Arr	24.80	163	P	P	13 24 21.7	-1.8
	12nm,0.7s,baz=344,slow=10,SNR=64						
ASAR	Alice Springs	28.24	166	P	P	13 24 53.0	-1.5
	0.6nm,0.4s,baz=345,slow=8.1,SNR=6.6						
CMAR	Chiang Mai Arr	30.89	300	P	P	13 25 17.5	-0.7
	1.3nm,0.9s,baz=119,slow=7.3,SNR=7.2						
KSRS	Korea Array	33.42	2	LR	LR	13 40 43.1	
	comp=Z,15nm,19.8s,baz=225,slow=39						
STKA	Stephens Creek	38.23	160	P	P	13 26 21.2	-0.1
	9.7nm,0.7s,baz=335,slow=8.3,SNR=32						
STKA	Stephens Creek	38.23	160	eP	P	13 26 21.0	-0.4
	1.8nm,0.7s						
LSA	Lhasa	42.42	311	eP	P	13 26 56.3	-0.4
	3.4nm,0.6s						
ULN	Ulaanbaatar	47.01	342	eP	P	13 27 32.6	0.0
SONM	Songino Array	47.19	341	P	P	13 27 33.9	0.0
	0.6nm,0.7s,baz=155,slow=9.3,SNR=6.1						
MKAR	Makanchi Array	57.49	325	P	P	13 28 49.3	-1.1
	1.4nm,0.6s,baz=123,slow=7.4,SNR=20						
MKAR				ScP	ScP	13 33 46.4	+5.4
	0.3nm,0.8s,baz=110,slow=6.5,SNR=3.7						
MKAR				LR	LR	13 55 25.8	
	comp=Z,54nm,18.4s,baz=344,slow=38						
ZALV	Zalesovo Beam	60.50	333	P	P	13 29 09.6	-1.4
	0.5nm,0.4s,baz=116,slow=9.8,SNR=2.6						
KURK	Kurchatov	61.67	327	eP	P	13 29 17.7	-1.3
	1.3nm,0.7s						
BVAR	Borovoye Array	67.25	327	P	P	13 29 54.9	-0.6
	0.8nm,0.7s,baz=134,slow=8.4,SNR=4.2						
AKTO	Aktyubinsk	73.61	322	P	P	13 30 34.1	-0.2
	1.2nm,0.6s,baz=98,slow=6.4,SNR=7.3						
ILAR	Eielson Array	84.91	25	P	P	13 31 34.9	-0.9
	0.3nm,0.7s,baz=246,slow=5.3,SNR=5.4						
TORD	Torodi Ar. Bea	122.98	288	PKP	PKPdf	13 37 57.1	-1.2
	0.4nm,0.8s,baz=81,slow=1.9,SNR=3.2						

IDC 16 13:26:35.8±7.2, 7°.52S×129°.11E, h101km±76km, mb3.2/1, mb1 3.1/4, mb1mx2.9/27, mbtmp3.4/4, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/10, Error ellipse: s-maj=61.8km s-min=21.2km az=33.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.01	243	P	Pn	13 28 04.0	+1.7
	4.9nm,0.3s,baz=100,slow=11,SNR=9.9						
BATI				S	Sn	13 29 08.9	-0.9
	3.5nm,0.3s,baz=115,slow=23,SNR=7.1						
WRA	Warramunga Arr	13.35	158	P	Pn	13 29 43.3	+1.8
	0.2nm,0.3s,baz=343,slow=14,SNR=18						
WRA				S	Sn	13 32 06.0	-2.4
	0.4nm,0.3s,baz=337,slow=22,SNR=9.4						
ASAR	Alice Springs	16.71	165	P	P	13 30 24.4	-0.2
	0.0nm,0.3s,baz=342,slow=8.8,SNR=2.7						
ASAR				S	Sn	13 33 29.1	-0.4
	0.1nm,0.3s,baz=350,slow=25,SNR=4.2						
HNR	Honiara	30.56	96	LR	LR	13 44 49.8	
	comp=Z,52nm,20.5s,baz=138,slow=36						
MKAR	Makanchi Array	68.17	327	P	P	13 37 25.2	-0.1
	0.2nm,0.4s,baz=119,slow=8.0,SNR=9.4						

IDC 16 13:34:42.7±2.4, 6°.52N×126°.76E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/35, mbtmp3.3/3, Error ellipse: s-maj=170.5km s-min=28.1km az=66.0
ISCJB 16 13:34:49.6±1.7, 6°.5N±0°.3×126°.8E±0°.2, h74km, mb3.1/3, Error ellipse: s-maj=51.2km s-min=12.6km az=41.5
ISC 16 13:34:51.9±1.9, 6°.4N±0°.3×126°.6E±0°.3, h74km, n4, σ0.35/5, mb2.9/3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DMPH	Davao City--Mi	1.30	300	⇑eP	Pn	13 35 14.2	-0.3
DMPH				eS	Sn	13 35 31.7	+0.3
WRA	Warramunga Arr	27.27	164	P	P	13 40 29.8	+0.3
	0.2nm,0.5s,baz=345,slow=10,SNR=8.0						
ASAR	Alice Springs	30.73	167	P	P	13 41 00.1	-0.1
	0.1nm,0.4s,baz=344,slow=7.0,SNR=3.4						
MKAR	Makanchi Array	55.32	324	P	P	13 44 18.1	+0.1
	0.2nm,0.5s,baz=132,slow=6.7,SNR=3.9						

KRSC 16 13:40:22.3±2.2, 49°.25N×157°.30E, h31km±14km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.62	332	P	Pn	13 40 47.7	-1.1
SKR				S	Sn	13 41 07.4	-1.2
PAU	Pauzhetka	2.24	352	P	Pn	13 40 59.4	+2.2
PAU				S	Sb	13 41 26.7	-2.7
MIPR	Malaya Ipel'ka	3.05	354	P	Pn	13 41 10.4	+2.0
ASAK	Asacha	3.16	7	P	Pb	13 41 14.1	-3.7
RUS	Russkaya	3.28	13	P	Pn	13 41 14.9	+3.4
RUS				S	Sn	13 41 53.6	+4.2
MTVR	Mutnovka	3.28	9	P	Pn	13 41 15.5	+3.7
MTVR				S	Sb	13 41 55.2	-4.5
APC	Apacha	3.68	359	P	Pn	13 41 21.4	+4.4
PET	Petropavlovsk	3.87	12	P	Pn	13 41 23.5	+3.8
PET				S	Sb	13 42 10.2	-6.0
UGLR	Uglovaya	4.08	13	P	Pn	13 41 27.9	+5.2
AVH	Avacha	4.12	12	P	Pn	13 41 28.2	+5.0
SMAR	Somma	4.13	13	P	Pn	13 41 28.6	+5.1
NLC	Nalytchevo	4.13	17	S	Sn	13 42 14.6	+4.2
KOK	Koryaka	4.13	11	P	Pn	13 41 28.6	+5.2
SDLR	Sedlovina	4.15	13	P	Pn	13 41 27.7	+4.0
SDLR				S	Sn	13 42 16.3	+5.0
KRER	Koryakskii	4.16	12	P	Pn	13 41 28.8	+4.9
KRER				S	Sn	13 42 17.4	+5.8
KRX	Arik	4.20	11	P	Pn	13 41 29.4	+5.0
KRX				S	Sn	13 42 18.9	+6.4
GNL	Ganaly	4.47	5	P	Pn	13 41 32.0	+4.0
MKZ	Mys Kozlova	5.98	26	P	Pn	13 41 52.6	+4.4
MKZ				S	Sn	13 43 00.3	+4.4
TUMR	Tumrok	6.29	15	P	Pn	13 41 58.8	+5.8
KBTR	Krutoberegovo	7.73	24	P	Pn	13 42 16.9	+4.3

FUNV 16 13:41:46.3, 10°.38N×69°.18W, h3km, MW3.6, Venezuela

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIQV	Siquisique	0.67	293	eP	Pg	13 41 59.2	-0.1
SIQV				eS	Sb	13 42 09.3	-1.2
JACV	Jacura	0.78	26	eP	Pg	13 42 01.7	+0.4
JACV				eS	Sb	13 42 12.6	-1.0
CURV	Curarigua	0.85	244	eP	Pg	13 42 02.1	-0.7
CURV				eS	Sg	13 42 14.8	+0.9
SANV	Sanarito	0.94	202	eP	Pg	13 42 03.8	-0.8
SANV				eS	Sg	13 42 17.9	-0.6
TURV	Turiamo	1.32	87	eP	Pg	13 42 10.0	-1.7
TURV				eS	Sg	13 42 28.1	-0.8
QARV	Quebrada Arrib	1.33	263	eP	Pn	13 42 11.3	-0.6
DABV	Dabajuro	1.53	291	eP	Pn	13 42 14.4	-0.2
DABV				eS	Sn	13 42 34.9	0.0
MONV	Montecano	1.74	334	eP	Pn	13 42 16.6	-1.0
BAUV	El Baul	1.82	142	eP	Pn	13 42 18.7	+0.1
BAUV				eS	Sn	13 42 41.8	-0.4
FUNV	FUNVISIS	2.33	88	eP	Pn	13 42 25.3	-0.5
VIGV	El Vigia	2.64	235	eP	Pn	13 42 28.9	-1.0
VIGV				eS	Sn	13 43 00.6	-2.0
SOCV	Socops	2.66	219	eP	Pn	13 42 29.1	-1.1
SOCV				eS	Sn	13 43 00.9	-2.1
BIRV	Birongo	2.87	88	eP	Pn	13 42 32.4	-0.6
VIRV	Villa del Rosa	3.17	272	eP	Pn	13 42 35.4	-1.8
VIRV				eS	Sn	13 43 12.6	-3.1
ORCV	Isla La Orchil	3.26	64	eP	Pn	13 42 36.8	-1.6
CUPV	Cœpira	3.36	95	eP	Pn	13 42 39.2	-0.7
ELOV	Elorza	3.38	185	eP	Pn	13 42 39.4	-0.6
CAPV	Capacho	3.98	231	eP	Pn	13 42 46.7	-1.9
CAPV				eS	Sn	13 43 32.1	-3.9
PCRV	Puerto La Cruz	4.48	92	eP	Pn	13 42 54.5	-0.8

IDC 16 14:17:47.4±2.9, 32°.40S×179°.94W, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.6/35, mbtmp3.8/3, ML4.4/1, Error ellipse: s-maj=63.1km s-min=44.5km az=102.0
NEIC 16 14:18:40.7, 36°.25S×178°.74E, h157km, MG4.1(WEL), After WEL.
ISC 16 14:18:01.3±2.3, 33°.2S±0°.1×179°.4E±0°.2, h100km, n58, σ1.82/57, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.41	191	Pn	Pn	14 19 09.5	+3.6
MXZ	Matakaoa Point	4.41	191	ePN	Pn	14 19 08.8	+2.9
MXZ				eSN	Sn	14 19 57.4	+1.3
HAZ	Te Kaha	4.70	196	PN	Pn	14 19 13.0	+3.1
PUZ	Puketiti	4.91	191	Pn	Pn	14 19 14.2	+1.3
PUZ	Puketiti	4.91	191	PN	Pn	14 19 14.2	+1.3
PUZ				eSN	Sn	14 20 08.1	-0.3
OPRZ	Ohinepanea	5.15	206	Pn	Pn	14 19 20.7	+4.7
OPRZ	Ohinepanea	5.15	206	ePN	Pn	14 19 20.7	+4.7
MWZ	Matawai	5.31	196	Pn	Pn	14 19 20.1	+1.9
MWZ	Matawai	5.31	196	PN	Pn	14 19 20.1	+1.9
MWZ				eSN	Sn	14 20 20.7	+2.6
CNGZ	Carnagh Statio	5.32	190	Pn	Pn	14 19 19.6	+1.2
CNGZ	Carnagh Statio	5.32	190	PN	Pn	14 19 19.6	+1.2
URZ	Urewera	5.34	200	Pn	Pn	14 19 21.3	+2.6
	7.9nm,0.3s,baz=264,slow=4.6,SNR=69						
URZ				Sn	Sn	14 20 19.6	+0.7
	27nm,0.3s,baz=152,slow=23,SNR=25						
URZ	Urewera	5.34	200	Pn	Pn	14 19 21.2	+2.6
URZ	Urewera	5.34	200	ePN	Pn	14 19 20.3	+1.7
URZ				eSN	Sn	14 20 21.2	+2.3
SNGZ	Shannon Statio	5.78	196	ePN	Pn	14 19 26.1	+1.5
RAHZ	Arahi	5.97	198	Pn	Pn	14 19 28.3	+1.2
MHGZ	Mahia Peninsul	6.02	191	ePN	Pn	14 19 28.4	+0.5
MHGZ	Mahia Peninsul	6.02	191	ePN	Pn	14 19 28.4	+0.5
WHHZ	Waihua	6.08	196	ePN	Pn	14 19 29.5	+0.8
NMHZ	Naumai	6.21	199	Pn	Pn	14 19 31.8	+1.3
NMHZ	Naumai	6.21	199	ePN	Pn	14 19 31.8	+1.3
BKZ	Black Stump Fm	6.37	201	Pn	Pn	14 19 33.7	+1.1
BKZ	Black Stump Fm	6.37	201	ePN	Pn	14 19 33.3	+0.7
BKZ				eSN	Sn	14 20 44.8	+1.0
MCHZ	McNeill Hill	6.56	199	Pn	Pn	14 19 36.2	+1.0
MTVZ	Mangateitei	6.90	206	Pn	Pn	14 19 43.8	+3.9
MTVZ	Mangateitei	6.90	206	ePN	Pn	14 19 43.7	+3.8
PXZ	Pawanui	7.08	196	Pn	Pn	14 19 40.6	-1.6
PXZ	Pawanui	7.08	196	PN	Pn	14 19 40.2	-2.0
PXZ				eSN	Sn	14 20 57.1	-3.9
TSZ	Takapari Road	7.35	201	Pn	Pn	14 19 45.9	0.0
TSZ	Takapari Road	7.35	201	ePN	Pn	14 19 45.0	-0.9
WAZ	Wanganui	7.41	207	Pn	Pn	14 19 49.8	+3.0
WAZ	Wanganui	7.41	207	ePN	Pn	14 19 48.9	+2.1
WAZ				eSN	Sn	14 21 12.6	+3.4
BFZ	Birch Farm	7.84	198	Pn	Pn	14 19 50.3	-2.3
BFZ	Birch Farm	7.84	198	ePN	Pn	14 19 49.8	-2.8
MRZ	Mangatainoka R	8.01	201	Pn	Pn	14 19 52.9	-2.0
MRZ	Mangatainoka R	8.01	201	ePN	Pn	14 19 52.9	-2.0
TIWZ	Tintock	8.03	199	Pn	Pn	14 19 54.3	-0.8
HOWZ	Holdsworth Sta	8.25	201	Pn	Pn	14 19 57.2	-0.9
HOWZ	Holdsworth Sta	8.25	201	ePN	Pn	14 19 56.5	-1.6
OGWZ	Otaki Gorge	8.28	203	Pn	Pn	14 19 58.1	-0.4
OGWZ	Otaki Gorge	8.28	203	ePN	Pn	14 19 57.8	-0.7
TMWZ	Te Maipa	8.34	199	Pn	Pn	14 19 57.9	-1.5
TMWZ	Te Maipa	8.34	199	ePN	Pn	14 19 57.8	-1.6
KIW	Kapiti Island	8.41	204	Pn	Pn	14 19 59.7	-0.6
MTW	Mount Morrison	8.49	200	Pn	Pn	14 19 58.7	-2.8
CAW	Cannon Point	8.58	202	Pn	Pn	14 20 01.0	-1.6
WEL	Wellington	8.84	203	Pn	Pn	14 20 04.5	-1.6
TCW	Tory Channel	8.94	206	ePN	Pn	14 20 06.4	-1.2
NNZ	Nelson	9.30	209	ePN	Pn	14 20 11.9	-0.5
NNZ				eSN	Sn	14 21 52.1	-2.9
QRZ	Quartz Range	9.35	214	ePN	Pn	14 20 13.6	+0.5
THZ	Tophouse	9.95	209	ePN	Pn	14 20 20.0	-1.3
THZ				eSN	Sn	14 22 07.3	-3.6
KHZ	Kahutara	10.26	205	ePN	Pn	14 20 23.4	-2.1
DSZ	Denniston Nort	10.41	213	ePN	Pn	14 20 29.2	+1.6
OXZ	Oxford	11.61	208	ePN	Pn	14 20 39.6	-4.0
OXZ				eSN	Sn	14 22 41.7	-9.5
MQZ	McQueen's Vall	11.71	205	ePN	Pn	14 20 40.3	-4.6
ASAR	Alice Springs	40.85	271	P	P	14 25 35.5	+1.9
	0.4nm,0.6s,baz=112,slow=7.6,SNR=7.9						
WRA	Warramunga Arr	42.11	277	P	P	14 25 45.2	+1.5
	0.3nm,0.3s,baz=115,slow=8.1,SNR=12						
FINES	FINESS Array B	146.96	337	PKPbc	PKPdf	14 37 28.9	-0.4
	2.2nm,1.0s,baz=50,slow=4.3,SNR=5.2						

ISCJB 16 14:18:21.7±0.6, 49°.96N±0°.04×18°.92E±0°.04, h0km, Error ellipse: s-maj=6.2km s-min=3.3km az=13.7
CSEM 16 14:18:22.6±0.7, 50°.17N×19°.04E, h1km, ML2.5/4, Error ellipse: s-maj=21.8km s-min=6.7km az=9.0
PRU 16 14:18:24.0, 50°.14N×19°.02E, h0km
ISC 16 14:18:23.3±0.9, 50°.00N±0°.04×18°.98E±0°.03, h0km, n22, σ0.54/31, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.29	1	ePg	Pg	14 18 28.5	-0.4
CHZP				eSg	Sg	14 18 32.2	-0.5
OKC	Ostrava-Krasne	0.56	254	ePG	Pb	14 18 36.6	+0.6
OKC				eSG	Sb	14 18 44.6	0.0
	11nm,0.4s						
OKC	Ostrava-Krasne	0.56	254	Pg	Pb	14 18 36.6	+0.6
OKC				Sg	Sb	14 18 44.6	0.0
	11nm,0.4s						
MORC	Moravsky Berou	0.96	257	ePg	Pn	14 18 43.9	-0.1
MORC				eSg	Sn	14 18 58.3	-0.1
NIE	Niedzica	1.04	123	ePg	Pg	14 18 42.0	-1.2
NIE				eSg	Sg	14 18 56.2	-0.5
KRLC	Kraliky	1.42	274	ePG	Pn	14 18 50.2	-0.2
KRLC				eSG	Sb	14 19 09.7	+0.4
KRLC	Kraliky	1.42	274	Pg	Pn	14 18 50.2	-0.2
KRLC				Sg	Sb	14 19 09.7	+0.4
STHS	Stebnicka Huta	1.58	111	ePG	Pg	14 18 54.3	+0.8
STHS	Stebnicka Huta	1.58	111	ePg	Pg	14 18 54.3	+0.8
DPC	Dobruska-Polom	1.75	283	ePG	Pb	14 18 56.1	-0.1
DPC				eSG	Sb	14 19 19.3	+0.6
DPC	Dobruska-Polom	1.75	283	Pg	Pb	14 18 56.1	-0.1
DPC				Sg	Sb	14 19 19.3	+0.6
CRVS	Cervenica-Dubn	1.96	123	ePN	Pn	14 18 57.9	+0.2
CRVS	Cervenica-Dubn	1.96	123	ePn	Pn	14 18 57.9	+0.2
UPC	Upice	1.97	286	eSG	Sg	14 19 26.5	-0.1
	1.5nm,0.1s						
UPC	Upice	1.97	286	Sg	Sg	14 19 26.5	-0.1
	1.5nm,0.1s						
PRU	Pruhonice	2.87	272	eSG	Sg	14 19 54.9	-0.4
	3.3nm,0.5s						
PRU	Pruhonice	2.87	272	Sg	Sg	14 19 54.9	-0.4
	3.3nm,0.5s						
BRG	Berggiesshubel	3.34	287	SG	Sg	14 20 11.5	+1.0
	2.5nm,0.4s						
KHC	Kasperske Hory	3.62	258	eSG	Sg	14 20 19.7	+0.1
	2.5nm,0.4s						
KHC	Kasperske Hory	3.62	258	Sg	Sg	14 20 19.7	+0.1
	2.5nm,0.4s						
NVLJ	Novalja	6.11	209	ePn	Pn	14 19 53.9	-0.9
NVLJ	Novalja	6.11	209	ePn	Pn	14 19 53.9	-0.9

CSEM 16 14:19:49.5, 41°.87N×15°.82E, h25km, ML2.6/2, After ROM
ROM 16 14:19:49.5±0.2, 41°.87N×15°.82E, h25km±3km, Ml2.6/2, Error ellipse: s-maj=8.9km s-min=2.5km az=8.0, Southern Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAG	Monte S. Angel	0.17	156	Pg	Pb	14 19 54.9	0.0
MSAG				Sg	Sb	14 19 59.3	+0.7
MSAG	Monte S. Angel	0.17	156	Pg	Pb	14 19 54.9	0.0
MSAG				Sg	Sb	14 19 59.3	+0.7
MELA	Melanico ??? S	0.54	253	Pg	Pb	14 19 59.9	-0.5
MELA				Sg	Sb	14 20 08.6	+0.8
MELA	Melanico ??? S	0.54	253	Pg	Pb	14 19 59.9	-0.5
MELA				Sg	Sb	14 20 08.6	+0.8
FRES	Fresagrandinar	0.86	277	Pg	Pb	14 20 05.9	+0.1
FRES	Fresagrandinar	0.86	277	Pg	Pb	14 20 05.9	+0.1
CAFR	Castel Frentan	1.15	289	Pg	Pb	14 20 10.9	+0.2
CAFR	Castel Frentan	1.15	289	Pg	Pb	14 20 10.9	+0.2
LPEL	Lama dei Pelig	1.23	279	Pg	Pb	14 20 11.7	-0.5
LPEL				Sg	Sb	14 20 28.4	+0.7
	90nm,0.3s						
LPEL	Lama dei Pelig	1.23	279	Pg	Pb	14 20 11.7	-0.5
LPEL				Sg	Sb	14 20 28.4	+0.7
	90nm,0.3s						
INTR	Introdacqua	1.43	276	Pg	Pn	14 20 14.8	+0.8
	86nm,0.8s						
INTR	Introdacqua	1.43	276	Pg	Pn	14 20 14.8	+0.8
	86nm,0.8s						

IDC 16 14:46:34.4±0.8, 19°.08N×145°.74E, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.6/35, mbtmp3.6/7, Error ellipse: s-maj=44.1km s-min=18.9km az=104.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.36	197	P	P	14 54 14.9	+0.8
	2.7nm,0.6s,baz=6.4,slow=9.0,SNR=42						
ASAR	Alice Springs	44.03	196	P	P	14 54 44.0	0.0
	1.0nm,0.5s,baz=16,slow=8.1,SNR=32						
STKA	Stephens Creek	50.82	185	P	P	14 55 35.2	-1.6
	0.6nm,0.6s,baz=24,slow=10.0,SNR=6.9						
MKAR	Makanchi Array	58.23	314	P	P	14 56 30.3	-0.3
	0.1nm,0.5s,baz=88,slow=7.6,SNR=4.1						
ILAR	Eielson Array	63.29	26	P	P	14 57 04.7	-0.1
	0.5nm,1.0s,baz=263,slow=5.7,SNR=3.2						
YKA	Yellowknife Ar	77.64	28	P	P	14 58 32.6	+0.2
	0.1nm,0.3s,baz=290,slow=5.8,SNR=3.8						
NVAR	Mina Array Bea	82.88	52	P	P	14 59 01.7	+0.2
	0.4nm,0.7s,baz=280,slow=5.4,SNR=4.3						

ISCJB 16 14:56:58.5±1.2, 14°.2S±0°.2×167°.7E±0°.2, h10km, mb3.9/7, Error ellipse: s-maj=37.6km s-min=22.6km az=39.6
IDC 16 14:56:59.6±2.7, 13°.90S×167°.49E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/36, mbtmp3.9/6, Error ellipse: s-maj=94.1km s-min=27.4km az=129.0
NEIC 16 14:57:03.6±1.0, 14°.15S×167°.71E, h35km, mb4.0/1, Error ellipse: s-maj=31.3km s-min=18.9km az=129.0
ISC 16 14:56:59.7±1.3, 14°.1S±0°.2×167°.8E±0°.3, h10km, n8, σ0.95/8, mb4.1/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	29.76	229	P	P	15 03 08.0	+1.4
	2.6nm,0.6s,baz=56,slow=11,SNR=9.6						
WRAB	Tennant Creek	32.45	255	eP	P	15 03 29.8	-0.7
	1.3nm,0.5s						
WRA	Warramunga Arr	32.46	255	P	P	15 03 29.7	-0.8
	1.5nm,0.6s,baz=86,slow=9.4,SNR=27						
ASAR	Alice Springs	33.35	248	P	P	15 03 37.6	-0.8
	0.9nm,0.5s,baz=76,slow=9.2,SNR=40						
QSPA	South Pole Qui	75.89	180	eP	P	15 08 45.7	-0.6
SONM	Songino Array	82.32	323	P	P	15 09 22.1	+0.3
	0.2nm,0.5s,baz=130,slow=5.0,SNR=3.7						
ILAR	Eielson Array	85.81	18	P	P	15 09 39.4	+0.3
	0.4nm,0.8s,baz=224,slow=6.3,SNR=4.7						
MKAR	Makanchi Array	97.12	316	P	P	15 10 32.1	-0.3
	0.5nm,0.8s,baz=90,slow=6.1,SNR=5.4						

KRSC 16 15:17:40.6±1.3, 53°.74N×160°.73E, h63km±17km, ML4.6, FELT [II] at Institute, Petropavlovsk.
MOS 16 15:17:41.5±1.2, 53°.75N×160°.60E, h60km, mb4.6/34, Error ellipse: s-maj=9.4km s-min=5.0km az=81.8
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
ISCJB 16 15:17:42.7±0.3, 53°.76N±0°.02×160°.61E±0°.05, h69km±2km, mb4.2/53, Error ellipse: s-maj=6.0km s-min=2.2km az=30.7
NEIC 16 15:17:43.8±0.8, 53°.98N×160°.29E, h55km±8km, mb4.7/16, Error ellipse: s-maj=10.2km s-min=5.8km az=144.0
NEIC Felt [II] at Petropavlovsk-Kamchatskiy.
IDC 16 15:17:47.0±1.2, 53°.94N×160°.29E, h89km±11km, mb3.9/28, mb1 4.1/29, mb1mx4.0/32, mbtmp4.2/29, MS3.5/2, Ms1 3.5/2, ms1mx2.9/31, Error ellipse: s-maj=14.9km s-min=9.7km az=155.0
ISC 16 15:17:41.6±0.8, 53°.72N±0°.03×160°.74E±0°.03, h49km±8km, n240, σ1.47/275, mb4.3/53, 26C-5D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.76	215	PN	Pn	15 17 56.7	+0.7
SPN	Mys Shipunski	0.76	215	i P	Pn	15 17 56.7	+0.7
KII	Karymskiy	0.83	293	i P	Pn	15 17 58.1	+1.0
NLC	Nalytchevo	1.00	237	PN	Pn	15 18 00.4	+1.1
NLC	Nalytchevo	1.00	237	i P	Pn	15 18 00.4	+1.1
MKZ	Mys Kozlova	1.02	34	PN	Pn	15 18 00.2	+0.6
MKZ				S	Sn	15 18 12.0	-0.8
MKZ	Mys Kozlova	1.02	34	i P	Pn	15 18 00.2	+0.6
MKZ				i S	Sn	15 18 12.0	-0.8
SDLR	Sedlovina	1.20	249	i P	Pn	15 18 03.6	+1.5
SDLR				eS	Sn	15 18 17.7	+0.5
SMAR	Somma	1.25	249	i P	Pn	15 18 04.3	+1.4
SMAR				eS	Sn	15 18 18.8	+0.2
UGLR	Uglovaya	1.26	247	i P	Pn	15 18 04.6	+1.7
UGLR				eS	Sn	15 18 19.8	+1.1
KRER	Koryakskii	1.26	252	i P	Pn	15 18 05.0	+2.0
KRER				eS	Sn	15 18 20.3	+1.3
AVH	Avacha	1.28	250	i P	Pn	15 18 05.1	+1.9
AVH				eS	Sn	15 18 20.3	+1.0
KRX	Arik	1.30	255	i P	Pn	15 18 05.1	+1.6
KOK	Koryaka	1.33	252	i P	Pn	15 18 05.6	+1.7
KOK				eS	Sn	15 18 21.5	+1.0
KZV	Kizimen	1.42	350	i P	Pn	15 18 06.6	+1.4
KZV				eS	Sn	15 18 22.7	-0.2
PET	Petropavlovsk	1.43	242	⇓iPN	Pn	15 18 06.4	+1.2
PET				i S	Sn	15 18 24.5	+1.7
PET				pmax	pmax		
	comp=Z,500nm,1.0s						
PET				pmax	pmax		
	comp=Z,556nm,0.4s						
PET				smax	smax		
	comp=E,700nm,1.3s						
PET				smax	smax		
	comp=N,3μm,0.5s						
PET				smax	smax		
	comp=E,5μm,0.5s						
PET				smax	smax		
	comp=E,7μm,0.5s						
PET				smax	smax		
	comp=N,7μm,0.6s						
PET	Petropavlovsk	1.43	242	i P	Pn	15 18 06.7	+1.6
PET				eS	Sn	15 18 23.0	+0.2
PET	Petropavlovsk	1.43	242	ePn	Pn	15 18 06.7	+1.6
INSR	Institute	1.44	244	eP	Pn	15 18 07.1	+1.9
INSR				eS	Sn	15 18 23.8	+0.9
TUMR	Tumrok	1.61	348	i P	Pn	15 18 09.5	+1.8
TUMR				eS	Sn	15 18 27.7	+0.4
GNL	Ganaly	1.67	270	i P	Pn	15 18 10.2	+1.7
GNL				eS	Sn	15 18 29.7	+1.0
RUS	Russkaya	1.86	227	PN	Pn	15 18 12.0	+1.0
RUS				S	Sn	15 18 32.8	-0.5
RUS	Russkaya	1.86	227	i P	Pn	15 18 12.0	+1.0
RUS				eS	Sn	15 18 32.8	-0.5
PETK	Petropavlovsk-	1.92	253	PN	Pn	15 18 13.9	+2.0
PETK				S	Sn	15 18 38.5	+3.7
PETK				pmax	pmax		
	comp=Z,159nm,0.3s						
PETK				smax	smax		
	comp=N,293nm,0.3s						
PETK	Petropavlovsk-	1.92	253	P	Pn	15 18 13.9	+2.0
	comp=N,159nm,0.3s,baz=75,slow=15,SNR=2195						
PETK				S	Sn	15 18 38.5	+3.7
	comp=N,292nm,0.3s,baz=98,slow=22,SNR=21						
PETK				LR	LR	15 19 07.5	
	comp=N,295nm,19.8s,baz=76,slow=46						
MTVR	Mutnovka	1.98	232	i P	Pn	15 18 14.5	+1.7
MTVR				eS	Sn	15 18 36.8	+0.4
KMNR	Kamenistaya	2.06	352	eP	Pn	15 18 16.3	+2.4
KMNR				eS	Sn	15 18 39.9	+1.4
ASAK	Asacha	2.17	233	eP	Pn	15 18 18.4	+3.0
ASAK				eS	Sn	15 18 43.4	+2.2
BZGR	Bezymyannyi-Gr	2.23	359	eP	Pn	15 18 19.2	+3.0
BZGR				eS	Sn	15 18 44.8	+2.3
KIRR	Kirishev	2.25	354	eP	Pn	15 18 18.9	+2.4
KIRR				eS	Sn	15 18 44.4	+1.2
BZWR	Bezymyannyi-We	2.26	356	P	Pn	15 18 18.8	+2.2
BZWR				S	Sn	15 18 44.6	+1.3
KPT	Kopyto	2.27	353	P	Pn	15 18 18.2	+1.4
KPT				S	Sn	15 18 43.4	-0.2
APC	Apacha	2.29	251	eP	Pn	15 18 19.5	+2.6
APC				eS	Sn	15 18 45.4	+1.5
ZLN	Zelenaya	2.31	1	P	Pn	15 18 19.6	+2.4
ZLN				S	Sn	15 18 45.5	+1.1
LGNR	Loginova	2.37	359	eP	Pn	15 18 20.9	+2.6
LGNR				S	Sn	15 18 47.4	+1.1
KOZ	Kozyrevsk	2.40	348	i P	Pn	15 18 20.5	+2.1
KOZ				eS	Sn	15 18 46.0	-0.6
KOZR	Kozyr	2.41	349	PN	Pn	15 18 20.5	+2.0

KOZR S Sn 15 18 46.0 -0.7
KRSR Krestovskiy 2.51 358 eP Pn 15 18 21.7 +1.7
ESO Esso 2.51 333 PN Pn 15 18 21.5 +1.6
ESO Esso 2.51 333 i P Pn 15 18 21.5 +1.6
KLY Klyuchi 2.60 359 PN Pn 15 18 23.5 +2.3
KLY S Sn 15 18 52.5 +1.0
KLY Klyuchi 2.60 359 eP Pn 15 18 23.5 +2.3
KLY eS Sn 15 18 52.5 +1.0
SRDR Sredinnyy 2.67 348 eP Pn 15 18 23.5 +1.3
SRDR S Sn 15 18 52.1 -1.2
KBTR Krutoberegovo 2.77 25 PN Pn 15 18 25.8 +2.4
KBTR S Sn 15 18 56.4 +0.8
KBTR Krutoberegovo 2.77 25 eP Pn 15 18 25.8 +2.4
KBTR eS Sn 15 18 56.4 +0.8
MIPR Malaya Ipel'ka 2.81 241 eP Pn 15 18 26.9 +2.9
BDR Baidarnaya 2.87 5 eP Pn 15 18 27.9 +3.0
BDR eS Sn 15 19 00.1 +1.9
SMKR Semkarok 2.90 8 eP Pn 15 18 27.8 +2.5
SMKR eS Sn 15 18 59.2 +0.2
SRKR Sorokina 2.95 5 eP Pn 15 18 28.7 +2.6
SRKR eS Sn 15 19 01.2 +0.9
BKI Bering 3.40 62 PN Pn 15 18 33.3 +1.3
BKI S Sn 15 19 09.0 -2.0
BKI Bering 3.40 62 i P Pn 15 18 33.3 +1.3
BKI i S Sn 15 19 09.0 -2.0
SKR Severo-Kuril's 4.16 225 ePN Pn 15 18 43.9 +1.3
SKR eS Sn 15 19 29.0 -0.9
SKR pmax pmax
comp=E,50nm,0.5s
SKR pmax pmax
comp=Z,50nm,0.5s
SKR smax smax
comp=N,240nm,0.3s
SKR smax smax
comp=E,260nm,0.4s
SKR Severo-Kuril's 4.16 225 eP Pn 15 18 44.8 +2.2
SKR eS Sn 15 19 29.9 0.0
PALN Palana 5.40 356 P Pn 15 19 02.9 +3.4
OSSR Ossora 5.69 12 eP Pn 15 19 06.1 +2.6
OSSR eS Sn 15 20 06.2 -1.2
TILK Tilichiki 7.36 21 P Pn 15 19 30.3 +4.0
FX1 Attu Island--F 7.49 91 P Pn 15 19 29.1 +0.9
comp=E,18nm,0.3s,baz=315,slow=5.5,SNR=82
FX1 S Sn 15 20 47.5 -4.2
comp=E,21nm,0.3s,baz=154,slow=16,SNR=9.2
SMY Shemya 8.08 92 ePN Pn 15 19 38.6 +2.4
SMY Shemya 8.08 92 ePn Pn 15 19 38.6 +2.4
YUK Yuzh-Kuril'sk 13.75 231c iP P 15 20 53.2 -0.5
YUK S Sn 15 23 20.6 -4.1
YUK pmax pmax
comp=N,15nm,0.6s
YUK pmax pmax
comp=E,20nm,0.6s
YUK pmax pmax
comp=Z,64nm,0.6s
BILL Bilibino 14.61 8⇓eP Pn 15 21 06.5 +1.5
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 14.61 8 Pn Pn 15 21 02.1 -2.9
comp=Z,5.8nm,0.8s
ASAJ Asahikawa 15.27 238 P Pn 15 21 15.1 +1.2
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 15.27 238 P Pn 15 21 15.1 +1.2
comp=Z,0.6nm,0.3s,baz=72,slow=11,SNR=9.2
ASAJ Asahikawa 15.27 238 eP Pn 15 21 15.4 +1.5
ERM Erimo 16.57 232⇑eP Pn 15 21 28.3 -2.0
ERM pmax pmax
comp=Z,44nm,1.3s
ERM Erimo 16.57 232 eP Pn 15 21 28.0 -2.3
HABR Khabarovsk 16.92 262 eP Pn 15 21 32.0 -2.7
HABR S Sn 15 24 37.5 -4.1
HABR pmax pmax
comp=Z,6.0nm,1.6s
HABR MLR MLR
comp=Z,188nm,17.0s
YAK Yakutsk 18.33 309 i P P 15 21 50.9 -0.6
YAK pmax pmax
comp=Z,24nm,0.6s
YAK Yakutsk 18.33 309 eP P 15 21 44.6 -6.9
comp=Z,32nm,0.5s
TNA Tin City 19.52 40 eP Pn 15 22 05.9 -0.2
comp=Z,4.3nm,0.8s
MJA0 Matsu Arr-Jizo 23.22 231 eP P 15 22 45.5 +1.2
MAJO Matsushiro 23.24 231 eP P 15 22 45.5 +1.1
MAJO pmax pmax
comp=Z,11nm,0.7s
MAJO Matsushiro 23.24 231 eP P 15 22 45.5 +1.1
comp=Z,11nm,0.7s
MAT Matsushiro 23.24 231 P P 15 22 45.2 +0.8
MJAR Matsushiro Arr 23.24 231 P P 15 22 45.6 +1.2
MJAR pmax pmax
comp=Z,17nm,1.1s
MJAR Matsushiro Arr 23.24 231 P P 15 22 45.6 +1.2
comp=Z,17nm,1.1s,baz=19,slow=11,SNR=13
COLA College 27.68 46 P P 15 23 25.8 +1.3
COLA pmax pmax
comp=Z,2.0nm,0.5s
COLA College 27.68 46 P P 15 23 25.8 +1.3
comp=Z,1.7nm,0.5s
KSRS Korea Array 27.81 248 P P 15 23 26.1 +0.1
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS Korea Array 27.81 248 P P 15 23 26.1 +0.1
comp=Z,0.7nm,0.5s,baz=40,slow=9.2,SNR=5.5
KSAR Wonju Array Be 27.84 248 P P 15 23 26.1 -0.1
KSAR Wonju Array Be 27.84 248 P P 15 23 26.1 -0.1
ILAR Eielson Array 28.10 46 P P 15 23 29.1 +0.8
comp=Z,1.7nm,0.7s,baz=267,slow=8.7,SNR=26
ILAR LR LR 15 34 09.6
comp=Z,48nm,20.1s,baz=22,slow=35
INK Inuvik 33.14 38 P P 15 24 14.0 +1.4
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 33.14 38 P P 15 24 14.0 +1.4
comp=Z,2.3nm,0.5s,baz=289,slow=6.7,SNR=13
INK Inuvik 33.14 38 eP P 15 24 14.0 +1.4
comp=Z,2.4nm,0.6s
ULN Ulaanbaatar 33.74 282⇑eP P 15 24 13.9 -4.4
ULN i *PP pP 15 24 32.8 +1.7
ULN pmax pmax
comp=Z,2.0nm,0.8s
TLY Talaya 33.87 290 eP P 15 24 18.5 -0.7
TLY pmax pmax
comp=Z,3.0nm,1.7s
SONM Songino Array 34.14 283 P P 15 24 20.4 -1.3
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 34.14 283 P P 15 24 20.4 -1.3
comp=Z,0.6nm,0.5s,baz=66,slow=8.0,SNR=9.3
H11N2 WAKE ISLAND Hy 34.25 170 T T 16 00 50.1
baz=356,slow=77,SNR=133
H11N3 WAKE ISLAND Hy 34.27 170 T T 16 00 51.3
baz=356,slow=77,SNR=116
H11N1 WAKE ISLAND Hy 34.27 170 T T 16 01 03.0
baz=356,slow=77,SNR=219
H11S1 WAKE ISLAND Hy 35.44 170 T T 16 02 17.9
baz=355,slow=78,SNR=9.5
H11S3 WAKE ISLAND Hy 35.45 170 T T 16 02 19.5
baz=355,slow=78,SNR=29
H11S2 WAKE ISLAND Hy 35.46 170 T T 16 02 17.8
baz=355,slow=78,SNR=9.2
YKA Yellowknife Ar 42.44 43 P P 15 25 32.5 +1.4
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 42.44 43 P P 15 25 32.5 +1.4
comp=Z,2.3nm,0.5s,baz=298,slow=7.8,SNR=32
ZALV Zalesovo Beam 42.77 302 P P 15 25 30.9 -2.9
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 42.77 302 P P 15 25 30.9 -2.9
comp=Z,0.7nm,0.3s,baz=65,slow=8.1,SNR=2.9
GTA Gaotai 42.92 276 eP P 15 25 35.0 -0.5
GTA pmax pmax
comp=Z,3.0nm,1.1s
KURK Kurchatov 47.73 302 eP P 15 26 10.3 -2.9
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 47.73 302 eP P 15 26 10.3 -2.9
comp=Z,3.1nm,0.6s
MKAR Makanchi Array 48.24 296 P P 15 26 14.7 -2.5
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 48.24 296 P P 15 26 14.7 -2.5
comp=Z,1.2nm,0.5s,baz=58,slow=6.9,SNR=31

KULLO Kullorsuaq 49.49 13 i P P 15 26 26.6 +0.2
KULLO pmax pmax
comp=Z,9.0nm,0.8s
KULLO Kullorsuaq 49.49 13 i P P 15 26 26.6 +0.2
comp=Z,9.2nm,0.8s
DAG Danmarks Havn 49.78 360 i P P 15 26 27.9 -0.6
DAG pmax pmax
comp=Z,1.0nm,0.7s
DAG Danmarks Havn 49.78 360 i P P 15 26 27.9 -0.6
comp=Z,1.3nm,0.7s
BVAR Borovoye Array 50.31 308 P P 15 26 30.4 -2.4
BVAR 15 27 50.6
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 50.31 308 P P 15 26 30.4 -2.4
comp=Z,1.1nm,0.4s,baz=64,slow=8.0,SNR=13
BVAR PcP PcP 15 27 50.6 -0.4
comp=Z,0.7nm,0.4s,baz=48,slow=2.1,SNR=7.5
BRVK Borovoye 50.33 308⇑eP P 15 26 30.6 -2.4
BRVK pmax pmax
comp=Z,2.0nm,0.8s
KEV Kevo 52.35 341 eP P 15 26 44.9 -2.9
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 52.35 341 ep P 15 26 44.9 -2.9
comp=Z,0.5nm,0.3s
ARCES ARCESS Array B 52.81 342 P P 15 26 50.2 -1.1
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 52.81 342 P P 15 26 50.2 -1.1
comp=Z,2.8nm,0.7s,baz=42,slow=7.2,SNR=8.2
ARU Arti 53.20 317c i P P 15 26 51.0 -3.3
ARU S S 15 34 14.2 -7.1
ARU pmax pmax
comp=Z,4.0nm,1.3s
SUMG Summit 53.29 7 i P P 15 26 55.6 +0.3
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 53.29 7 i P P 15 26 55.6 +0.3
comp=Z,9.8nm,0.9s
SUMG Summit 53.29 7 eP P 15 26 55.6 +0.3
comp=Z,13nm,1.0s
AAK Ala-Archa 55.15 296 P P 15 27 06.9 -2.1
AAK pmax pmax
comp=Z,1.0nm,0.3s
AAK Ala-Archa 55.15 296 P P 15 27 06.9 -2.1
comp=Z,0.5nm,0.3s,baz=144,slow=5.6,SNR=4.7
NVAR Mina Array Bea 55.17 71 P P 15 27 12.2 +3.0
comp=Z,1.8nm,0.6s,baz=302,slow=7.5,SNR=17
PDAR Pinedale Array 56.88 62 P P 15 27 23.5 +2.1
comp=Z,2.2nm,0.8s,baz=320,slow=3.1,SNR=16
JOF Joensuu 57.16 335 eP P 15 27 22.8 0.0
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 57.16 335 ep P 15 27 22.8 0.0
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 57.69 310 eP P 15 27 23.7 -3.0
AKTO Aktyubinsk 57.69 312 P P 15 27 24.8 -1.9
AKTO 15 28 18.3
AKTO pmax pmax
comp=Z,1.0nm,0.4s
AKTO pmax pmax
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 57.69 312 P P 15 27 24.8 -1.9
comp=Z,1.2nm,0.4s,baz=53,slow=10,SNR=8.0
AKTO PcP PcP 15 28 18.3 -0.8
comp=Z,2.3nm,0.8s,baz=62,slow=4.9,SNR=6.7
ULM Lac du Bonnet 58.11 47 P P 15 27 30.7 +1.1
ULM pmax pmax
comp=Z,3.0nm,0.4s
ULM Lac du Bonnet 58.11 47 P P 15 27 30.7 +1.1
comp=Z,2.6nm,0.4s,baz=320,slow=7.9,SNR=6.2
CMAR Chiang Mai Arr 58.69 258 P P 15 27 34.6 +0.5
CMAR pmax pmax
comp=Z,1.0nm,0.5s
CMAR Chiang Mai Arr 58.69 258 P P 15 27 34.6 +0.5
comp=Z,1.1nm,0.5s,baz=27,slow=6.7,SNR=12
RSSD Black Hills 58.74 57 eP P 15 27 36.0 +1.6
RSSD pmax pmax
comp=Z,6.0nm,0.6s
RSSD Black Hills 58.74 57 eP P 15 27 36.0 +1.6
comp=Z,5.8nm,0.6s
KAF Kangasniemi 59.06 337 eP P 15 27 35.0 -1.0
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 59.06 337 ep P 15 27 35.0 -1.0
comp=Z,3.9nm,0.5s
FINES FINESS Array B 59.70 337 P P 15 27 40.0 -0.5
FINES pmax pmax
comp=Z,3.0nm,0.3s
FINES FINESS Array B 59.70 337 P P 15 27 40.0 -0.5
comp=Z,2.8nm,0.3s,baz=43,slow=5.9,SNR=39
NB2 NORSAR Subarra 63.05 344 P P 15 28 02.6 -0.5
comp=Z,1.9nm,0.4s,baz=24,slow=6.9
NOA NORSAR Array B 63.05 344 P P 15 28 02.7 -0.4
comp=Z,3.8nm,0.7s,baz=24,slow=6.6,SNR=22
SCHQ Schefferville 64.92 28 P P 15 28 15.2 -0.2
comp=Z,3.1nm,0.7s,baz=320,slow=8.8,SNR=6.4
AKASG Malin Array Be 68.28 329 P P 15 28 35.4 -1.5
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 68.28 329 P P 15 28 35.4 -1.5
comp=Z,1.8nm,0.4s,baz=28,slow=6.6,SNR=10
KBZ Khabaz 69.35 317 P P 15 28 42.7 -1.0
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 69.35 317 P P 15 28 42.7 -1.0
comp=Z,1.8nm,0.9s,baz=264,slow=3.4,SNR=4.3
TXAR Lajitas Array 70.04 68 P P 15 28 50.5 +2.2
TXAR pmax pmax
comp=Z,3.0nm,0.5s
TXAR Lajitas Array 70.04 68 P P 15 28 50.5 +2.2
comp=Z,3.0nm,0.5s,baz=302,slow=4.8,SNR=34
CLL Collm 71.91 339 i P P 15 28 59.1 0.0
CLL pmax pmax
comp=Z,13nm,1.3s
CLL Collm 71.91 339 i P P 15 28 59.1 0.0
comp=Z,13nm,1.3s
DPC Dobruska-Polom 72.07 337 eP P 15 29 01.0 +0.8
DPC Dobruska-Polom 72.07 337 eP P 15 29 01.0 +0.8
KRLC Kraliky 72.22 337 eP P 15 29 01.6 +0.5
KRLC Kraliky 72.22 337 eP P 15 29 01.6 +0.5
BURAR Bucovina Array 72.23 330 ⇓P P 15 29 00.8 -0.5
BURAR Bucovina Array 72.23 330⇓i P P 15 29 00.8 -0.5
MORC Moravsky Berou 72.32 336 ⇑P P 15 29 02.3 +0.6
MORC Moravsky Berou 72.32 336⇑i P P 15 29 02.3 +0.6
TRPA Tarpa 72.53 332⇓i P P 15 29 03.5 +0.6
VRI Vrincioaia 73.34 328 ⇑P P 15 29 03.3 -4.5
VRI Vrincioaia 73.34 328⇑i P P 15 29 03.3 -4.5
CFR Carcaliu 73.50 327 ⇑P P 15 29 08.1 -0.6
CFR Carcaliu 73.50 327⇑i P P 15 29 08.1 -0.6
KHC Kasperske Hory 73.84 338 eP P 15 29 11.5 +0.8
KHC Kasperske Hory 73.84 338 eP P 15 29 11.5 +0.8
MLR Muntele Rosu 73.92 329 ⇑P P 15 29 11.9 +0.6
MLR Muntele Rosu 73.92 329⇑i P P 15 29 11.9 +0.6
TIRR Tirgusor 74.06 327 ⇑P P 15 29 11.8 -0.1
TIRR Tirgusor 74.06 327⇑i P P 15 29 11.8 -0.1
GERES GERESS Array B 74.08 338 P P 15 29 12.6 +0.5
comp=Z,1.3nm,0.5s,baz=37,slow=6.7,SNR=12
GERES LR LR 16 09 42.5
comp=Z,58nm,18.1s,baz=53,slow=42
VOIR 74.24 329 ⇑P P 15 29 13.5 +0.4
VOIR 74.24 329⇑i P P 15 29 13.5 +0.4
ARR Arges 74.43 330⇑i P P 15 29 15.7 +1.5
GIVF Givet 74.58 344 eP P 15 29 15.1 +0.2
GIVF Givet 74.58 344 eP P 15 29 15.1 +0.2
GIVF Givet 74.58 344 eP P 15 29 15.1 +0.2
BAIF Baives 74.72 345 eP P 15 29 15.8 +0.1
comp=Z,6.4nm,0.6s
BAIF Baives 74.72 345 eP P 15 29 15.8 +0.1
BAIF pmax pmax
comp=Z,6.0nm,0.6s
BAIF Baives 74.72 345 eP P 15 29 15.8 +0.1
comp=Z,6.4nm,0.6s
GZR Gura Zlata 74.95 331 ⇑P P 15 29 17.0 -0.3
GZR Gura Zlata 74.95 331⇑i P P 15 29 17.0 -0.3
BZS Buzias 75.08 332 ⇑P P 15 29 17.6 -0.3
BZS Buzias 75.08 332⇑i P P 15 29 17.6 -0.3
CDF Champ du Feu 75.79 342 eP P 15 29 22.2 +0.2
comp=Z,11nm,0.9s
CDF Champ du Feu 75.79 342 eP P 15 29 22.2 +0.2
CDF pmax pmax
comp=Z,11nm,0.9s

CDF Champ du Feu 75.79 342 eP P 15 29 22.2 +0.2
comp=Z,11nm,0.9s
PAGF Fort de Pagny 75.93 343 eP P 15 29 23.3 +0.6
comp=Z,4.1nm,0.8s
PAGF Fort de Pagny 75.93 343 eP P 15 29 23.3 +0.6
comp=Z,4.1nm,0.8s
HAU Haudompre 76.35 343 eP P 15 29 25.2 +0.1
HAU Haudompre 76.35 343 eP P 15 29 25.2 +0.1
HAU Haudompre 76.35 343 eP P 15 29 25.2 +0.1
BRTR Keskin Array B 76.39 321 P P 15 29 24.7 -1.0
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 76.39 321 P P 15 29 24.6 -1.0
comp=Z,0.5nm,0.4s,baz=7.2,slow=3.8,SNR=4.4
WRA Warramunga Arr 76.81 205 P P 15 29 28.7 +0.8
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 76.81 205 P P 15 29 28.6 +0.8
comp=Z,0.8nm,0.6s,baz=19,slow=6.0,SNR=17
GRR Gorron 77.08 348 eP P 15 29 29.2 0.0
GRR Gorron 77.08 348 eP P 15 29 29.2 0.0
GRR Gorron 77.08 348 eP P 15 29 29.2 0.0
VTS Vitosha 77.38 329 ⇑P P 15 29 31.2 0.0
VTS Vitosha 77.38 329⇑i P P 15 29 31.2 0.0
LOR Lormes 77.49 344 eP P 15 29 31.5 0.0
comp=Z,8.3nm,0.7s
LOR Lormes 77.49 344 eP P 15 29 31.5 0.0
LOR pmax pmax
comp=Z,8.0nm,0.7s
LOR Lormes 77.49 344 eP P 15 29 31.5 0.0
comp=Z,8.3nm,0.7s
CABF La Chapelle 77.75 342 eP P 15 29 33.7 +0.6
CABF La Chapelle 77.75 342 eP P 15 29 33.7 +0.6
CABF La Chapelle 77.75 342 eP P 15 29 33.7 +0.6
SSF Saint Saulge 77.75 344 eP P 15 29 33.0 0.0
SSF Saint Saulge 77.75 344 eP P 15 29 33.0 0.0
SSF Saint Saulge 77.75 344 eP P 15 29 33.0 0.0
AVF Avril sur Loir 78.04 344 eP P 15 29 34.8 +0.3
AVF Avril sur Loir 78.04 344 eP P 15 29 34.8 +0.3
AVF Avril sur Loir 78.04 344 eP P 15 29 34.8 +0.3
SMF Signal de Mont 78.10 344 eP P 15 29 35.0 +0.1
SMF Signal de Mont 78.10 344 eP P 15 29 35.0 +0.1
SMF Signal de Mont 78.10 344 eP P 15 29 35.0 +0.1
MMB Musomiste 78.13 328 ⇑P P 15 29 35.1 -0.1
MMB Musomiste 78.13 328⇑i P P 15 29 35.1 -0.1
LPL La Plagne 78.68 342 eP P 15 29 39.6 +1.2
comp=Z,7.1nm,0.5s
LPL La Plagne 78.68 342 eP P 15 29 39.6 +1.2
LPL pmax pmax
comp=Z,7.0nm,0.5s
LPL La Plagne 78.68 342 eP P 15 29 39.6 +1.2
comp=Z,7.1nm,0.5s
LPG La Plagne 78.70 342 eP P 15 29 39.8 +1.2
comp=Z,26nm,0.9s
LPG La Plagne 78.70 342 eP P 15 29 39.8 +1.2
LPG pmax pmax
comp=Z,26nm,0.9s
LPG La Plagne 78.70 342 eP P 15 29 39.8 +1.2
comp=Z,26nm,0.9s
TCF Toulx Ste Croi 78.70 345 eP P 15 29 38.6 +0.3
TCF Toulx Ste Croi 78.70 345 eP P 15 29 38.6 +0.3
TCF Toulx Ste Croi 78.70 345 eP P 15 29 38.6 +0.3
ORIF Oris-en-Rattie 79.42 342 eP P 15 29 42.8 +0.5
comp=Z,12nm,0.9s
ORIF Oris-en-Rattie 79.42 342 eP P 15 29 42.8 +0.5
ORIF pmax pmax
comp=Z,12nm,0.9s
ORIF Oris-en-Rattie 79.42 342 eP P 15 29 42.8 +0.5
comp=Z,12nm,0.9s
MBDF Montbardon 79.44 341 eP P 15 29 43.2 +0.7
comp=Z,11nm,0.8s
MBDF Montbardon 79.44 341 eP P 15 29 43.2 +0.7
MBDF pmax pmax
comp=Z,11nm,0.8s
MBDF Montbardon 79.44 341 eP P 15 29 43.2 +0.7
comp=Z,11nm,0.8s
CAF Calviac 80.06 345 eP P 15 29 46.1 +0.4
comp=Z,3.9nm,0.5s
CAF Calviac 80.06 345 eP P 15 29 46.1 +0.4
CAF pmax pmax
comp=Z,4.0nm,0.5s
CAF Calviac 80.06 345 eP P 15 29 46.1 +0.4
comp=Z,3.9nm,0.5s
ASAR Alice Springs 80.49 205 P P 15 29 49.3 +1.2
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 80.49 205 P P 15 29 49.2 +1.2
comp=Z,1.3nm,0.8s,baz=16,slow=5.3,SNR=18
ESDC Sonseca Array 86.05 348 P P 15 30 17.4 +0.7
comp=Z,1.0nm,0.5s,baz=6.5,slow=4.9,SNR=5.3
KEST Kesra 87.53 337 P P 15 30 24.4 +0.3
comp=Z,1.6nm,0.5s,baz=318,slow=3.0,SNR=7.5

GUC 16 15:19:31.1±0.6, 21.93S×67.63W, h220km±16km, ML3.6, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	Plate Boundary	1.95	297	eP	Pn	15 20 12.4	+1.6
PB01				eS	S	15 20 43.4	+1.9
PB01				AML	AML	15 20 44.9	
comp=N,159nm,0.2s							
PB06	Plate Boundary	1.96	247	eP	Pn	15 20 12.0	+1.1
PB06				eS	S	15 20 43.6	+1.8
PB06				AML	AML	15 20 45.0	
comp=E,66nm,0.1s							
PATCX	Punta Patache	2.60	295	eP	Pn	15 20 19.6	+2.0
PATCX				eS	S	15 20 56.0	+2.4
PATCX				AML	AML	15 20 57.6	
comp=E,114nm,0.2s							
HMBC	Humberstone	2.68	308⇑	eP	Pn	15 20 20.1	+1.7
HMBC				eS	S	15 20 57.1	+1.9
HMBC				AML	AML	15 20 58.1	
comp=N,93nm,0.4s							
PB11	Plate Boundary	2.88	318⇑	eP	Pn	15 20 22.4	+1.7
PB11				eS	S	15 21 01.4	+2.1
PB11				AML	AML	15 21 02.6	
comp=E,454nm,0.2s							
PSGC	Pisagua	3.30	314	eP	Pn	15 20 26.7	+1.3
PSGC				eS	S	15 21 09.2	+1.4
PSGC				AML	AML	15 21 14.1	
comp=N,22nm,0.4s							
MNMC	Minimini	3.34	326	eP	Pn	15 20 28.6	+2.4
MNMC				eS	S	15 21 11.7	+2.4
MNMC				AML	AML	15 21 13.9	
comp=N,118nm,0.3s							

ISCJB 16 15:28:52.2±0.4, 3.59N±0.05×124.64E±0.07, h331km, mb4.4/12, Error ellipse: s-maj=11.0km s-min=4.9km az=150.0

DJA 16 15:28:54.7±0.9, 4°N±6°×12°5E±°, h286km±12km, M4.3/12, mb4.2/6, mB4.7/3, MLv4.4/12, Mw(mB)4.0/3

IDC 16 15:28:58.1±3.5, 3.57N×124.48E, h377km±39km, mb3.2/12, mb1 3.3/13, mb1mx3.2/26, mbtmp4.0/13, Error ellipse: s-maj=29.8km s-min=11.8km az=65.0

ISC 16 15:28:53.2±0.6, 3.56N±0.07×124.63E±0.08, h331km, n32, σ1.28/37, mb3.4/12, 1C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	3.33	209	P	Pn	15 29 52.4	-1.9
DMPH	Davao City--Mi	3.61	14⇑	eP	S	15 30 45.3	-3.1
TNTI	Ternate	3.89	135	P	Pn	15 29 59.5	-0.5
TNTI				S	S	15 30 52.0	-1.7
MRSI	Marisa	4.08	221	P	Pn	15 30 02.0	+0.1
LUWI	Luwuk	4.93	202	P	Pn	15 30 10.4	-0.9
LBMI	Labuha	5.06	145	P	Pn	15 30 13.0	+0.3
80nm,0.7s,2μm1.2nm							
LBMI				S	S	15 31 14.6	-2.3
80nm,0.7s,2μm1.2nm							
APSI	Ampana	5.35	214	P	Pn	15 30 15.7	-0.3
42nm,0.7s,0.2nm							
MPSI	Mapaga	5.71	236	P	Pn	15 30 19.6	-0.5
17nm,0.8s,0.1nm							
SANI	Sanana	5.73	166	P	Pn	15 30 18.2	-2.2
20nm,0.4s,1μm0.5nm							
SANI				S	S	15 31 23.1	-7.8
20nm,0.4s,1μm0.5nm							
NLAI	Namlea	7.19	160	P	Pn	15 30 38.5	+1.0
NLAI				S	S	15 31 59.9	-2.2
MSAI	Masohi	8.09	148	S	S	15 32 22.6	+0.6
BATI	Baumata	13.71	184	P	Pn	15 31 58.8	+3.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	2.0nm,0.3s,baz=65,slow=2.6,SNR=4.8						
WRA	**Warramunga Arr**	**25.23**	**158**	P	**P**	**15 33 51.5**	**+1.3**
	1.1nm,0.3s,baz=335,slow=11,SNR=38						
WRA				PcP	**PcP**	**15 37 15.0**	**+1.1**
	0.2nm,0.4s,baz=328,slow=2.3,SNR=5.6						
ASAR	**Alice Springs**	**28.53**	**162**	P	**P**	**15 34 21.2**	**+1.8**
	0.5nm,0.4s,baz=338,slow=7.7,SNR=38						
ASAR				PcP	**PcP**	**15 37 22.5**	**+0.7**
	0.2nm,0.5s,baz=338,slow=2.1,SNR=4.3						
CMAR	**Chiang Mai Arr**	**29.17**	**302**	P	**P**	**15 34 26.2**	**+1.0**
	0.2nm,0.3s,baz=114,slow=7.2,SNR=6.1						
TAPN	**Taplejung**	**42.45**	**308**	eP	**P**	**15 36 18.4**	**+1.3**
RAMN	**Ramite**	**43.15**	**306**	eP	**P**	**15 36 23.6**	**+0.9**
JIRN	**Jiri**	**43.79**	**307**	eP	**P**	**15 36 29.0**	**+1.1**
GUN	**Gumba**	**44.15**	**307**	eP	**P**	**15 36 31.3**	**+0.6**
	13nm,0.5s						
DMN	**Daman**	**44.63**	**306**	eP	**P**	**15 36 34.7**	**+0.3**
KOLN	**Koldanda**	**45.91**	**306**	eP	**P**	**15 36 44.9**	**+0.6**
	12nm,0.6s						
DANN	**Dangsing**	**46.02**	**307**	eP	**P**	**15 36 45.2**	**-0.1**
	14nm,0.6s						
SONM	**Songino Array**	**46.82**	**343**	P	**P**	**15 36 51.6**	**+0.7**
	0.7nm,0.9s,baz=162,slow=8.2,SNR=0.6						
PETK	**Petropavlovsk-**	**56.39**	**23**	P	**P**	**15 38 02.4**	**+1.6**
	0.7nm,0.6s,baz=216,slow=9.5,SNR=4.6						
MKAR	**Makanchi Array**	**56.52**	**326**	P	**P**	**15 38 02.0**	**+0.2**
	1.3nm,0.4s,baz=120,slow=7.8,SNR=48						
MKAR				PcP	**PcP**	**15 38 54.0**	**-0.3**
	0.4nm,0.6s,baz=115,slow=3.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**59.81**	**334**	P	**P**	**15 38 24.0**	**-0.3**
	0.4nm,0.3s,baz=119,slow=12,SNR=2.8						
BVAR	**Borovoye Array**	**66.33**	**328**	P	**P**	**15 39 05.6**	**-1.3**
	0.3nm,0.4s,baz=120,slow=5.8,SNR=5.9						
AKTO	**Aktyubinsk**	**72.50**	**322**	P	**P**	**15 39 44.0**	**-0.5**
	0.7nm,0.4s,baz=106,slow=9.1,SNR=5.4						
ILAR	**Eielson Array**	**86.16**	**25**	P	**P**	**15 40 56.9**	**-0.4**
	0.1nm,0.5s,baz=258,slow=4.8,SNR=3.1						
ARCES	**ARCESS Array B**	**89.88**	**340**	P	**P**	**15 41 13.9**	**-0.9**
	2.6nm,0.8s,baz=69,slow=4.9,SNR=3.5						
FINES	**FINESS Array B**	**90.99**	**332**	P	**P**	**15 41 18.6**	**-1.4**
	0.9nm,0.6s,baz=64,slow=4.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**120.98**	**288**	PKP	**PKPdf**	**15 47 06.6**	**-1.1**
	0.3nm,0.4s,baz=94,slow=1.5,SNR=5.7						

CSEM ***16*** *15:29:14.1±1.1, 38°.92N×29°.58E, h1km, MD2.7, Error ellipse: s-maj=24.4km s-min=18.6km az=35.0*
DDA ***16*** *15:29:23.9, 39°.62N×29°.44E, h7km, MD2.8*
ISK 16 15:29:23.9, 39°.65N×29°.58E, h15km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TVSB	**Tavsanli**	**0.22**	**205**	ePg	Pg	15 29 28.7	-0.2
TVSB				eSG	Sb	15 29 33.1	-0.5
TVSB	**Tavsanli**	**0.22**	**205**	ePg	Pg	15 29 28.7	-0.3
TVSB				eSg	Sb	15 29 33.1	-0.5
CAVI	**Cavuskoy**	**0.59**	**20**	ePG	Pb	15 29 35.9	-0.1
ULDT	**Uludag**	**0.60**	**326**	iP	Pg	15 29 34.9	-1.1
ULDT	**Uludag**	**0.60**	**326**	iP	Pg	15 29 34.9	-1.2
ULDT				iS	Sg	15 29 43.5	-0.7
BORA	**Eskisehir**	**0.71**	**71**	iP	Pn	15 29 39.4	-0.2
BORA				iS	Sn	15 29 52.4	+2.0
BORA	**Eskisehir**	**0.71**	**71**	iP	Pn	15 29 39.4	-0.2
BORA				iS	Sn	15 29 52.4	+2.0
ALT	**Altintas**	**0.72**	**145**	ePG	Pb	15 29 38.5	+0.2
GEMT	**Gemlik**	**0.84**	**339**	ePG	Pg	15 29 40.7	+0.4
GEMT	**Gemlik**	**0.84**	**339**	ePg	Pg	15 29 40.7	+0.4
DURS	**Dursunbey**	**0.85**	**267**	iP	Pb	15 29 36.8	-3.8
DURS				iS	Sb	15 29 50.0	-2.0
DURS	**Dursunbey**	**0.85**	**267**	iP	Pb	15 29 36.8	-3.8
DURS				iS	Sb	15 29 50.0	-2.0
MDNY	**Mudanya-Bursa**	**0.90**	**324**	ePG	Pn	15 29 41.7	-0.3
MDNY	**Mudanya-Bursa**	**0.90**	**324**	ePg	Pn	15 29 41.7	-0.3
GULT	**Gulveren**	**1.06**	**42**	ePG	Pg	15 29 44.8	+0.1
GULT	**Gulveren**	**1.06**	**42**	ePg	Pg	15 29 44.8	+0.2
HRT	**Hereke**	**1.18**	**3**	ePN	Pb	15 29 46.3	+0.3
HRT	**Hereke**	**1.18**	**3**	ePn	Pb	15 29 46.3	+0.3

CSEM ***16*** *15:29:47.7±0.3, 37°.05N×38°.89E, h2km, MD3.1, Error ellipse: s-maj=7.1km s-min=4.2km az=172.0*
DDA ***16*** *15:29:48.1, 37°.05N×38°.76E, h9km, MD3.1*
ISK 16 15:29:47.9, 37°.07N×38°.87E, h8km, MD3.1, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
URFA	**Urfa**	**0.38**	**354**	ePG	Pg	15 29 55.1	-0.3
URFA				eSG	Sg	15 30 01.5	+1.1
URFA	**Urfa**	**0.38**	**354**	ePg	Pg	15 29 55.1	-0.3
URFA				eSg	Sg	15 30 01.5	+1.0
ATAB	**Bozova**	**0.61**	**311**	iP	Pg	15 30 00.1	+0.3
ATAB				iS	Sg	15 30 07.9	+0.1
ATAB	**Bozova**	**0.61**	**311**	iP	Pg	15 30 00.1	+0.3
ATAB				iS	Sg	15 30 07.9	+0.1
MALT	**Malatya**	**1.29**	**344**	ePN	Pb	15 30 12.7	+0.1
MALT	**Malatya**	**1.29**	**344**	ePn	Pb	15 30 12.7	+0.1
DIYA	**Diyarbakir**	**1.31**	**49**	iP	Pg	15 30 13.6	+0.4
DIYA				iS	Sn	15 30 33.9	+3.5
DIYA	**Diyarbakir**	**1.31**	**49**	iP	Pg	15 30 13.6	+0.4
DIYA				iS	Sn	15 30 33.9	+3.5
MAZI	**Mazidag**	**1.32**	**72**	ePN	Pb	15 30 13.2	+0.1
MAZI				eSN	Sn	15 30 31.5	+0.8
MAZI	**Mazidag**	**1.32**	**72**	ePn	Pb	15 30 13.2	-0.2
MAZI				eSn	Sn	15 30 31.5	+0.9
DYBB	**Diyarbakir**	**1.34**	**48**	ePN	Pb	15 30 13.3	-0.1
DIY	**Diyarbakir**	**1.36**	**52**	ePn	Pb	15 30 13.3	0.0
AKCD	**Akcadag**	**1.44**	**329**	iP	Pb	15 30 14.8	+0.3
AKCD				iS	Sg	15 30 34.5	-0.1
AKCD	**Akcadag**	**1.44**	**329**	iP	Pb	15 30 14.8	-0.3
AKCD				iS	Sg	15 30 34.5	-0.1
KUZU	**Kuzuini**	**1.47**	**259**	iP	Pb	15 30 15.7	+0.1
KUZU				iS	Sg	15 30 35.9	+0.5
KUZU	**Kuzuini**	**1.47**	**259**	iP	Pb	15 30 15.7	+0.1
KUZU				iS	Sg	15 30 35.9	+0.5
KMRS	**Kahramanmaras**	**1.63**	**286**	ePN	Pn	15 30 17.7	+0.7
KMRS	**Kahramanmaras**	**1.63**	**286**	ePn	Pn	15 30 17.7	-0.6
DARE	**Darende-Malaty**	**1.86**	**324**	ePN	Pn	15 30 20.9	+0.6
DARE	**Darende-Malaty**	**1.86**	**324**	ePn	Pn	15 30 20.9	+0.7
PTK	**Pertek**	**1.87**	**13**	ePN	Pn	15 30 20.9	+0.4
PTK	**Pertek**	**1.87**	**13**	ePn	Pn	15 30 20.9	+0.4
ANDN	**Andirin**	**2.08**	**285**	iP	Pn	15 30 22.6	-0.6
ANDN				iS	Sb	15 30 53.0	+0.9
ANDN	**Andirin**	**2.08**	**285**	iP	Pn	15 30 22.6	-0.6
ANDN				iS	Sb	15 30 53.0	+0.9
BNGB	**Bingˆ¶l**	**2.39**	**36**	ePN	Pn	15 30 28.5	+0.9
ILIC	**ilic-Erzincan**	**2.39**	**354**	ePN	Pn	15 30 28.5	+0.9
ILIC	**ilic-Erzincan**	**2.39**	**354**	ePn	Pn	15 30 28.5	+0.9
YAYL	**Yayladag**	**2.45**	**246**	iP	Pg	15 30 35.1	0.0
YAYL				iS	Sg	15 31 05.4	-1.7
SVSK	**Karacayir**	**3.20**	**333**	ePN	Pn	15 30 39.9	+1.4
SVSK	**Karacayir**	**3.20**	**333**	ePn	Pn	15 30 39.9	+1.4

IDC ***16*** *15:32:20.7±1.8, 31°.95S×179°.94W, h346km±19km, mb3.4/4, mb1 3.8/7, mb1mx3.5/31, mbtmp4.5/7, Error ellipse: s-maj=26.6km s-min=16.0km az=142.0*
ISCJB ***16*** *15:32:21.1±0.6, 32°.04S±0°.04×179°.9E±0°.1, h363km, mb3.5/4, Error ellipse: s-maj=13.0km s-min=4.9km az=5.9*
ISC 16 15:32:22.3±0.7, 32°.07S±0°.07×179°.8E±0°.1, h363km, n63, σ1.40/71, mb3.6/4, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MXZ	**Matakaoa Point**	**5.62**	**192**	ePN	**Pn**	**15 33 49.8**	**+0.7**
MXZ				eSN	**S**	**15 35 00.5**	**+0.8**
HAZ	**Te Kaha**	**5.91**	**196**	ePN	**Pn**	**15 33 53.2**	**+0.8**
HAZ				eSN	**S**	**15 35 07.0**	**+1.4**
WCZ	**Waipu Caves**	**5.95**	**228**	⇓PN	Pn	15 33 58.5	+5.6
PUZ	**Puketiti**	**6.12**	**191**	PN	**Pn**	**15 33 55.5**	**+0.7**
PUZ				eSN	**S**	**15 35 08.9**	**-1.2**
MKAZ	**Moumakai**	**6.31**	**216**	PN	Pn	15 34 03.2	+6.2
OPRZ	**Ohinepanea**	**6.35**	**204**	ePN	Pn	15 34 00.1	+2.7
MWZ	**Matawai**	**6.52**	**196**	PN	**P**	**15 34 00.1**	**-0.5**
MWZ				eSN	**S**	**15 35 21.4**	**+2.9**
CNGZ	**Carnagh Statio**	**6.54**	**191**	ePN	**P**	**15 34 01.2**	**+0.5**
URZ	**Urewera**	**6.56**	**199**	P	**P**	**15 34 00.8**	**-0.2**
	13nm,0.3s,baz=294,slow=1.8,SNR=68						
URZ				S	**S**	**15 35 19.2**	**+0.1**
	73nm,0.3s,baz=276,slow=13,SNR=10						
URZ	**Urewera**	**6.56**	**199**	PN	**Pn**	**15 33 60.0**	**+0.2**
URZ				SN	**S**	**15 35 20.0**	**+0.9**
RAGZ	**Rawiri**	**6.70**	**196**	ePN	**P**	**15 34 02.3**	**-0.5**
RAGZ				SN	**S**	**15 35 25.3**	**+3.0**
RIGZ	**Rimuhau**	**6.83**	**193**	PN	**Pn**	**15 34 03.2**	**+0.2**
KNZ	**Kokohu**	**7.15**	**193**	ePN	**Pn**	**15 34 06.6**	**0.0**
TLZ	**Tolley Road**	**7.15**	**208**	ePN	**P**	**15 34 10.1**	**+2.2**
NMHZ	**Naumai**	**7.43**	**198**	ePN	**Pn**	**15 34 10.2**	**+0.3**
BKZ	**Black Stump Fm**	**7.58**	**200**	ePN	**Pn**	**15 34 11.5**	**-0.1**
BKZ				eSN	**S**	**15 35 41.3**	**+0.5**
HIZ	**Hauiti**	**7.59**	**211**	PN	P	15 34 16.3	+3.4
MCHZ	**McNeill Hill**	**7.78**	**198**	PN	**P**	**15 34 15.0**	**0.0**
MCHZ				eSN	**S**	**15 35 46.7**	**+1.6**
OTVZ	**Oturere**	**7.84**	**204**	ePN	**P**	**15 34 15.9**	**0.0**
MTVZ	**Mangateitei**	**8.10**	**204**	ePN	**P**	**15 34 19.7**	**-0.3**
VRZ	**Vera Road**	**8.15**	**209**	SN	S	15 36 01.2	+8.2
PXZ	**Pawanui**	**8.30**	**196**	ePN	**Pn**	**15 34 19.5**	**-0.4**
PXZ				eSN	**S**	**15 35 54.4**	**-1.8**
TSZ	**Takapari Road**	**8.56**	**200**	PN	**Pn**	**15 34 22.4**	**-0.7**
TSZ				eSN	**S**	**15 36 00.6**	**-1.3**
BFZ	**Birch Farm**	**9.06**	**197**	ePN	**Pn**	**15 34 28.1**	**-0.9**
MRZ	**Mangatainoka R**	**9.22**	**200**	ePN	**Pn**	**15 34 29.5**	**-1.4**
MRZ				eSN	S	15 36 08.7	-7.7
TIWZ	**Tintock**	**9.24**	**199**	ePN	**Pn**	**15 34 31.3**	**+0.1**
OGWZ	**Otaki Gorge**	**9.49**	**202**	PN	**Pn**	**15 34 33.9**	**-0.2**
OGWZ				eSN	**S**	**15 36 20.8**	**-1.3**
CAW	**Cannon Point**	**9.79**	**201**	ePN	**Pn**	**15 34 37.1**	**-0.5**
CAW				eSN	**S**	**15 36 25.8**	**-2.8**
SNZO	**South Karori**	**10.09**	**202**	ePN	**Pn**	**15 34 40.5**	**-0.5**
SNZO				eSN	**S**	**15 36 32.2**	**-2.8**
TCW	**Tory Channel**	**10.14**	**204**	ePN	**Pn**	**15 34 41.2**	**-0.6**
NNZ	**Nelson**	**10.48**	**208**	eSN	**S**	**15 36 41.6**	**-2.0**
QRZ	**Quartz Range**	**10.51**	**212**	ePN	**Pn**	**15 34 46.3**	**+0.1**
THZ	**Tophouse**	**11.13**	**208**	ePN	**Pn**	**15 34 52.6**	**-1.0**
THZ				eSN	**S**	**15 36 55.3**	**-2.5**
KHZ	**Kahutara**	**11.47**	**204**	ePN	**P**	**15 34 56.7**	**-0.5**
DSZ	**Denniston Nort**	**11.58**	**211**	ePN	**P**	**15 34 58.2**	**-0.4**
DSZ				eSN	**S**	**15 37 04.0**	**-3.5**
OXZ	**Oxford**	**12.80**	**206**	ePN	**Pn**	**15 35 12.5**	**-0.6**
CRLZ	**Canterbury Las**	**12.81**	**204**	ePN	**Pn**	**15 35 13.5**	**+0.4**
MQZ	**McQueen's Vall**	**12.91**	**204**	ePN	**P**	**15 35 13.1**	**-0.1**
WVZ	**Waitaha Valley**	**13.12**	**211**	ePN	**Pn**	**15 35 16.4**	**-0.4**
FOZ	**Fox Glacier**	**13.97**	**212**	ePN	**Pn**	**15 35 26.3**	**-0.4**
JCZ	**Jackson Bay**	**14.79**	**213**	ePN	**Pn**	**15 35 35.9**	**-0.3**
ODZ	**Otahua Downs**	**14.79**	**206**	ePN	**Pn**	**15 35 38.0**	**+1.9**
DZM	**Mont Dzumac**	**15.49**	**307**	P	**Pn**	**15 35 42.7**	**-1.9**
	1.2nm,0.3s,baz=158,slow=19,SNR=15						
NIUE	**Niue**	**15.90**	**38**	S	**S**	**15 38 36.9**	**+1.6**
	baz=16,SNR=3.2						
AFI	**Afiamalu**	**19.65**	**25**	P	**P**	**15 36 22.8**	**-3.3**
	3.7nm,0.3s,baz=0.0,slow=9.1,SNR=6.1						
QLP	**Quilpie**	**31.38**	**271**	P	**P**	**15 38 13.3**	**+2.4**
	baz=32,SNR=4.3						
STKA	**Stephens Creek**	**32.29**	**260**	P	P	15 38 22.1	+3.4
	1.7nm,0.5s,baz=102,slow=12,SNR=9.3						
STKA	**Stephens Creek**	**32.29**	**260**	P	P	15 38 22.4	+3.6
	baz=32,SNR=8.4						
HTT	**Hallett**	**34.25**	**256**	P	P	15 38 38.7	+3.2
	baz=34,SNR=3.9						
MTSU	**Mount Surprise**	**34.82**	**285**	P	**P**	**15 38 42.5**	**+2.0**
	baz=35,SNR=9.2						
ASAR	**Alice Springs**	**41.17**	**270**	P	**P**	**15 39 34.3**	**+1.4**
	0.8nm,0.3s,baz=109,slow=7.6,SNR=64						
WRA	**Warramunga Arr**	**42.31**	**275**	P	**P**	**15 39 42.8**	**+0.6**
	1.7nm,0.3s,baz=111,slow=8.1,SNR=93						
WRKA	**Warakurna**	**45.42**	**265**	P	**P**	**15 40 07.8**	**+1.3**
	baz=46,SNR=3.5						
FITZ	**Fitzroy Crossi**	**50.50**	**272**	P	**P**	**15 40 46.5**	**+1.4**
	baz=51,SNR=4.9						
NVAR	**Mina Array Bea**	**90.75**	**44**	P	**P**	**15 44 45.8**	**+0.8**
	0.3nm,0.5s,baz=216,slow=7.6,SNR=4.1						
MKAR	**Makanchi Array**	**117.39**	**310**	PKP	**PKPdf**	**15 50 24.7**	**-0.2**
	0.3nm,0.6s,baz=100,slow=1.8,SNR=3.3						
JOF	**Joensuu**	**143.23**	**336**	epkp	PKPbc	15 51 10.3	-0.6
	1.0nm,0.6s						
KAF	**Kangasniemi**	**145.44**	**338**	epkp	**PKPdf**	**15 51 14.7**	**-2.0**
	1.5nm,0.7s						
FINES	**FINESS Array B**	**146.01**	**338**	PKPbc	**PKPbc**	**15 51 18.7**	**-0.5**
	2.8nm,0.6s,baz=68,slow=3.7,SNR=24						
NB2	**NORSAR Subarra**	**150.06**	**349**	PKP	**PKPbc**	**15 51 29.6**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.06**	**349**	PKPbc	**PKPbc**	**15 51 29.6**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=16,slow=4.2,SNR=4.8						
AKASG	**Malin Array Be**	**151.40**	**319**	PKPbc	**PKPbc**	**15 51 32.5**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=60,slow=2.2,SNR=4.2						
BRTR	**Keskin Array B**	**151.66**	**295**	PKPbc	**PKPbc**	**15 51 34.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=142,slow=5.5,SNR=4.7						

ISCJB ***16*** *16:09:24.8±0.9, 31°.70S±0°.04×69°.91W±0°.04, h112km±9km, Error ellipse: s-maj=7.3km s-min=4.0km az=136.9*
SJA ***16*** *16:09:25.3±1.0, 31°.68S×69°.89W, h99km±8km, ML3.2, MW3.5*
GUC ***16*** *16:09:25.4±0.4, 31°.78S×70°.38W, h136km±3km, MD3.3, ML3.4*
ISC 16 16:09:25.6±1.6, 31°.73S±0°.04×69°.92W±0°.04, h109km±13km, n22, σ0.88/40, 4C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RTLS	**Leoncito**	**0.54**	**98**	iP	**Pn**	**16 09 42.6**	**-0.2**
AUSP	**Uspallata**	**0.67**	**138**	iP	**Pn**	**16 09 44.0**	**0.0**
AUSP				eS	**Sn**	**16 09 57.6**	**-0.1**
CMCH	**Combarbala**	**1.08**	**301**	⇓iP	**Pn**	**16 09 47.4**	**-0.2**
CMCH				iS	**Sn**	**16 10 04.5**	**+0.3**
CMCH				AML	AML	16 10 05.4	
	comp=N,3μm,0.3s						
JACH	**Jahuel**	**1.11**	**211**	⇑iP	**Pn**	**16 09 48.4**	**+0.4**
JACH				iS	**Sn**	**16 10 06.0**	**+1.1**
SJA	**San Juan**	**1.18**	**81**	iP	**Pn**	**16 09 48.6**	**-0.1**
SJA				eS	**Sn**	**16 10 05.6**	**-0.6**
SJA				IAML		16 10 07.3	
	comp=Z,751nm,0.2s						
RTCV	**Cerro Valdivia**	**1.18**	**97**	iP	**Pn**	**16 09 48.4**	**-0.3**
RTCV				iS	**Sn**	**16 10 05.7**	**-0.5**
ASAL	**Salagasta**	**1.26**	**133**	eP	**Pn**	**16 09 49.7**	**+0.1**
ASAL				eS	**Sn**	**16 10 08.8**	**+1.0**
RTLL	**Cerro Villicun**	**1.30**	**73**	iP	**Pn**	**16 09 49.5**	**-0.5**
RTLL				iS	**Sn**	**16 10 07.8**	**-0.7**
ARCO	**CERRO ARCO**	**1.39**	**143**	eP	**Pn**	**16 09 51.7**	**+0.5**
ARCO				eS	**Sn**	**16 10 11.6**	**+1.0**
ARCO				IAML		16 10 15.2	
	comp=Z,171nm,0.2s						
CFAA	**Coronel Fontan**	**1.44**	**86**	iP	**Pn**	**16 09 51.1**	**-0.6**
CFAA				iS	**Sn**	**16 10 10.6**	**-0.9**
AMOG	**MOGNA**	**1.45**	**58**	iP	**Pn**	**16 09 51.7**	**-0.1**
AMOG				eS	**Sn**	**16 10 10.7**	**-1.1**
ROCH	**El Roble**	**1.55**	**216**	⇑iP	**Pn**	**16 09 52.7**	**-0.4**
ROCH				iS	**Sn**	**16 10 13.5**	**-0.5**
ROCH				AML	AML	16 10 19.6	
	comp=N,441nm,0.4s						
PEL	**Peldehue**	**1.55**	**204**	⇓iP	**Pn**	**16 09 52.9**	**-0.1**
PEL				iS	**Sn**	**16 10 13.9**	**0.0**
PEL				AML	AML	16 10 15.4	
	comp=E,424nm,0.5s						
FCH	**Farellones**	**1.63**	**191**	eP	Pn	16 10 01.4	+7.2
FCH				iS	Sn	16 10 26.8	+11
FCH				AML	AML	16 10 34.2	
	comp=E,271nm,0.2s						
AAGR	**Agrelo**	**1.64**	**146**	eP	**Pn**	**16 09 54.6**	**+0.5**
AAGR				eS	**Sn**	**16 10 16.6**	**+0.8**
CLCH	**Cerro Calan**	**1.74**	**197**	⇑iP	**Pn**	**16 09 55.9**	**+0.6**
CLCH				iS	**Sn**	**16 10 18.8**	**+0.7**
CLCH				AML	AML	16 10 24.2	
	comp=E,327nm,0.7s						
ANTU	**Antumapu**	**1.93**	**198**	iP	**Pn**	**16 09 57.8**	**+0.1**
ANTU				iS	**Sn**	**16 10 22.4**	**+0.1**
ANTU				AML	AML	16 10 24.4	
	comp=E,397nm,0.4s						
CHCH	**Chadas Angostu**	**2.28**	**195**	iS	**Sn**	**16 10 30.2**	**-0.4**
AVFE	**Valle Fertil**	**2.37**	**64**	eP	**Pn**	**16 10 02.6**	**-0.7**
AVFE				eS	**Sn**	**16 10 32.1**	**-0.1**
AVFE				IAML		16 10 34.0	
	comp=Z,60nm,0.8s						
CACH	**El Canelo**	**2.45**	**193**	⇓iP	**Pn**	**16 10 04.9**	**+0.5**
CACH				iS	**Sn**	**16 10 35.1**	**+0.9**
AGUA	**GUANDACOL**	**2.55**	**29**	eP	**Pn**	**16 10 06.7**	**+0.9**
AGUA				eS4	**Sn**	**16 10 39.0**	**+2.4**
LNV	**Longovilo**	**2.55**	**209**	⇑iP	**Pn**	**16 10 04.2**	**-1.4**
LNV				iS	**Sn**	**16 10 33.5**	**-2.9**

IDC 16 16:17:25.5±2.0, 19°.50S×177°.57W, h526km±29km, mb3.1/6, mb1 3.4/8, mb1mx3.2/21, mbtmp4.1/8, Error ellipse: s-maj=28.7km s-min=15.3km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AFI	**Afiamalu**	**7.85**	**46**	P	P	16 19 21.5	+0.2
	6.4nm,0.3s,baz=50,slow=0.7,SNR=11						
URZ	**Urewera**	**19.26**	**193**	P	P	16 21 15.2	-0.7
	1.0nm,0.3s,baz=14,slow=6.1,SNR=12						
STKA	**Stephens Creek**	**38.59**	**243**	P	P	16 24 04.2	+0.9
	2.6nm,0.8s,baz=71,slow=9.5,SNR=4.1						
WRA	**Warramunga Arr**	**45.15**	**261**	P	P	16 24 55.0	-0.3
	1.0nm,0.3s,baz=97,slow=7.6,SNR=58						
ASAR	**Alice Springs**	**45.15**	**256**	P	P	16 24 55.3	0.0
	3.3nm,0.7s,baz=90,slow=7.7,SNR=55						
PETK	**Petropavlovsk-**	**75.41**	**345**	P	P	16 28 14.7	-0.3
	1.3nm,0.7s,baz=136,slow=9.5,SNR=8.6						
TXAR	**Lajitas Array**	**86.18**	**57**	P	P	16 29 13.0	+1.6
	0.5nm,0.9s,baz=250,slow=4.7,SNR=4.1						
ILAR	**Eielson Array**	**87.25**	**13**	P	P	16 29 14.6	-0.9
	0.3nm,0.6s,baz=227,slow=5.1,SNR=9.6						

IDC ***16*** *16:19:36.1±2.8, 50°.56N×173°.87W, h0km, mb3.5/10, mb1 3.8/12, mb1mx3.6/31, mbtmp3.6/12, ML2.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/30, Error ellipse: s-maj=66.1km s-min=18.3km az=171.0*
ISCJB ***16*** *16:19:38.7±0.7, 50°.63N±0°.07×173°.89W±0°.04, h33km, mb3.6/9, MS2.8/1, Error ellipse: s-maj=9.6km s-min=3.9km az=179.8*
NEIC ***16*** *16:19:41.3, 50°.72N×174°.05W, h17km, ML3.3(AEIC), After AEIC.*
ISC 16 16:19:42.1±1.1, 50°.7N±0°.1×173°.99W±0°.04, h35km, n32, σ1.01/38, mb3.6/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KOFP	**Korovin Flat P**	**1.54**	**357**	P	**Pn**	**16 20 06.5**	**-0.5**
KOFP				S	**Sn**	**16 20 26.6**	**+0.8**
GSMY	**Great Sitkin M**	**1.84**	**316**	P	**Pn**	**16 20 10.4**	**-0.7**
GSMY				S	**Sn**	**16 20 34.1**	**+0.9**
GSTD	**Great Sitkin T**	**1.89**	**315**	P	**Pn**	**16 20 11.1**	**-0.8**
GSTD				S	**Sn**	**16 20 34.5**	**+0.1**
ETKA	**Kagalaska Isla**	**1.89**	**307**	P	**Pn**	**16 20 10.7**	**-1.1**
ADK	**Adak**	**2.04**	**305**	P	**Pn**	**16 20 12.7**	**-1.2**
ADK				S	**Sn**	**16 20 37.4**	**-0.8**
KIRH	**Kanaga Island**	**2.27**	**302**	P	**Pn**	**16 20 16.3**	**-0.7**
KIKV	**Kanaga Island**	**2.30**	**301**	P	**Pn**	**16 20 16.7**	**-0.7**
TAFL	**Tanaga Flats**	**2.66**	**294**	P	**Pn**	**16 20 21.6**	**-0.8**
TAFP	**Tanaga Falls P**	**2.76**	**296**	P	**Pn**	**16 20 23.5**	**-0.3**
TAFP				S	**Sn**	**16 20 56.9**	**+1.0**
TASE	**Tanaga Southea**	**2.77**	**295**	P	**Pn**	**16 20 23.9**	**-0.1**
NIKH	**Nikolski High**	**3.89**	**53**	P	**Pn**	**16 20 37.6**	**-1.7**
NIKH				S	**Sn**	**16 21 24.0**	**+0.4**
OKFG	**Magazine Ridge**	**4.60**	**52**	P	**Pn**	**16 20 48.5**	**-0.6**
OKFG				S	**Sn**	**16 21 42.9**	**+1.7**
MREP	**Makushin Rep't**	**5.40**	**53**	P	**Pn**	**16 20 59.5**	**-0.7**
MSW	**Makushin Switc**	**5.44**	**51**	P	**Pn**	**16 20 58.8**	**-1.8**
UNV	**Unalaska Valle**	**5.54**	**53**	P	**Pn**	**16 21 00.8**	**-1.2**
WESE	**West Dahl East**	**6.83**	**53**	P	**Pn**	**16 21 18.5**	**-1.3**
SSBA	**Shishaldin**	**7.72**	**52**	P	**Pn**	**16 21 23.9**	**-1.1**
FX1	**Attu Island--F**	**8.25**	**290**	Pn	**Pn**	**16 21 37.9**	**-1.1**
	0.6nm,0.3s,baz=65,slow=16,SNR=7.1						
DOL	**Dolgoi Island**	**8.54**	**54**	P	**Pn**	**16 21 41.8**	**-1.4**
SDPT	**Sand Point**	**9.35**	**55**	P	**Pn**	**16 21 52.1**	**-2.0**
PETK	**Petropavlovsk-**	**17.58**	**289**	P	**Pn**	**16 23 43.8**	**-0.2**
	0.1nm,0.3s,baz=87,slow=12,SNR=3.4						
ILAR	**Eielson Array**	**19.93**	**35**	P	**P**	**16 24 09.6**	**-0.9**
	0.4nm,0.4s,baz=229,slow=8.9,SNR=20						
SEY	**Seymchan**	**21.77**	**317**	P	**P**	**16 24 30.8**	**+0.5**
	0.7nm,0.7s,baz=86,slow=21,SNR=4.3						
YKA	**Yellowknife Ar**	**33.47**	**46**	P	**P**	**16 26 17.6**	**+0.3**
	0.3nm,0.4s,baz=275,slow=7.8,SNR=9.1						
KSRS	**Korea Array**	**42.70**	**275**	LR	LR	16 42 17.5	
	comp=Z,12nm,21.4s,baz=165,slow=32						
SONM	**Songino Array**	**49.62**	**300**	P	**P**	**16 28 30.6**	**+0.7**
	0.4nm,0.7s,baz=48,slow=8.8,SNR=4.6						
ARCES	**ARCESS Array B**	**59.19**	**352**	P	**P**	**16 29 39.0**	**+0.2**
	4.7nm,1.0s,baz=27,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**62.77**	**311**	P	**P**	**16 30 03.1**	**-0.4**
	0.2nm,0.5s,baz=50,slow=7.1,SNR=5.3						
FINES	**FINESS Array B**	**67.02**	**350**	P	**P**	**16 30 31.2**	**+0.4**
	0.5nm,0.6s,baz=23,slow=7.5,SNR=2.7						
NOA	**NORSAR Array B**	**68.49**	**357**	P	**P**	**16 30 42.0**	**+1.8**
	1.4nm,1.0s,baz=9.7,slow=3.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**74.11**	**280**	P	**P**	**16 31 14.7**	**0.0**
	0.3nm,0.7s,baz=34,slow=5.5,SNR=3.2						
AKASG	**Malin Array Be**	**77.02**	**345**	P	**P**	**16 31 30.6**	**-0.3**
	0.3nm,0.3s,baz=19,slow=6.0,SNR=3.5						

CSEM ***16*** *16:24:49.5, 42°.35N×13°.51E, h10km, ML1.8/8, After ROM*
ROM 16 16:24:49.5±0.1, 42°.35N×13°.51E, h10km, Ml1.8/8, Error ellipse: s-maj=1.3km s-min=0.8km az=56.0, Central Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AQU	**L'Aquila**	**0.08**	**274**	Pg	Pg	16 24 52.4	+0.5
AQU				Sg	Sg	16 24 54.2	+0.6
	822nm,0.4s						
AQU	**L'Aquila**	**0.08**	**274**	Pg	Pg	16 24 52.4	+0.5
AQU				Sg	Sg	16 24 54.2	+0.6
	822nm,0.4s						
FAGN	**Fagnano**	**0.10**	**146**	Pg	Pg	16 24 52.2	+0.1
FAGN				Sg	Sg	16 24 54.1	+0.1
	766nm,0.5s						
FAGN	**Fagnano**	**0.10**	**146**	Pg	Pg	16 24 52.2	+0.1
FAGN				Sg	Sg	16 24 54.1	+0.1
	766nm,0.5s						
T0104	**Madonna delle**	**0.13**	**275**	Pg	Pg	16 24 53.3	+0.8
T0104				Sg	Sg	16 24 55.3	+0.6
CAMP	**Campotosto**	**0.20**	**338**	Pg	Pg	16 24 54.6	+0.7
CAMP				Sg	Sg	16 24 58.0	+1.1
	85nm,0.5s						
CAMP	**Campotosto**	**0.20**	**338**	Pg	Pg	16 24 54.6	+0.7
CAMP				Sg	Sg	16 24 58.0	+1.1
	85nm,0.5s						
T0110	**Collepietro**	**0.23**	**121**	Pg	Pg	16 24 55.3	+0.9
VCEL	**Villa Celiera**	**0.25**	**79**	Pg	Pg	16 24 55.5	+0.7
VCEL				Sg	Sg	16 25 00.1	+1.8
	173nm,0.4s						
VCEL	**Villa Celiera**	**0.25**	**79**	Pg	Pg	16 24 55.5	+0.7
VCEL				Sg	Sg	16 25 00.1	+1.8
	173nm,0.4s						
TERO	**Teramo**	**0.28**	**14**	Pg	Pg	16 24 55.8	+0.5
TERO				Sg	Sg	16 25 00.4	+1.2
	99nm,0.3s						
TERO	**Teramo**	**0.28**	**14**	Pg	Pg	16 24 55.8	+0.5
TERO				Sg	Sg	16 25 00.4	+1.2
	99nm,0.3s						
FIAM	**Fiamignano**	**0.30**	**255**	Pg	Pg	16 24 56.2	+0.5
	98nm,0.6s						
FIAM	**Fiamignano**	**0.30**	**255**	Pg	Pg	16 24 56.2	+0.5
	98nm,0.6s						
SMA1	**SAN MARTINO**	**0.31**	**336**	Pg	Pg	16 24 56.4	+0.5
	86nm,0.4s						
PTQR	**Pietraquaria**	**0.34**	**194**	Pg	Pg	16 24 56.7	+0.4
	13nm,0.3s						
PTQR	**Pietraquaria**	**0.34**	**194**	Pg	Pg	16 24 56.7	+0.4
	13nm,0.3s						
INTR	**Introdacqua**	**0.45**	**139**	Pg	Pg	16 24 58.6	+0.2
INTR				Sg	Sb	16 25 06.0	-0.5
INTR	**Introdacqua**	**0.45**	**139**	Pg	Pg	16 24 58.6	+0.2
INTR				Sg	Sb	16 25 06.0	-0.5
NRCA	**Norcia**	**0.56**	**329**	Pg	Pg	16 25 00.8	+0.2
	30nm,0.1s						
NRCA	**Norcia**	**0.56**	**329**	Pg	Pg	16 25 00.8	+0.2
	30nm,0.1s						
LPEL	**Lama dei Pelig**	**0.58**	**121**	Pg	Pg	16 25 01.2	+0.2
LPEL				Sg	Sb	16 25 10.3	-0.1
	30nm,0.4s						
LPEL	**Lama dei Pelig**	**0.58**	**121**	Pg	Pg	16 25 01.2	+0.2
LPEL				Sg	Sb	16 25 10.3	-0.1
	30nm,0.4s						

CSEM ***16*** *16:25:19.9±0.1, 42°.34N×13°.51E, h2km, ML2.9, Error ellipse: s-maj=2.7km s-min=2.3km az=81.0*
PRU ***16*** *16:25:22.0, 42°.35N×13°.47E, h0km*
ROM 16 16:25:19.3±0.1, 42°.34N×13°.52E, h9km±1km, Ml2.9/14, 1C-1D, Error ellipse: s-maj=1.4km s-min=1.0km az=50.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.09**	**148**	Pg	Pg	16 25 22.0	+0.3
FAGN				Sg	Pg	16 25 23.8	+0.4
FAGN	**Fagnano**	**0.09**	**148**	Pg	Pg	16 25 22.0	+0.3
FAGN				Sg	Pg	16 25 23.8	+0.4
AQU	**L'Aquila**	**0.09**	**279**	Pg	Pg	16 25 22.0	+0.2
AQU				Sg	Sg	16 25 24.3	+0.8
AQU	**L'Aquila**	**0.09**	**279**	Pg	Pg	16 25 22.0	+0.2
AQU				Sg	Sg	16 25 24.3	+0.8
T0104	**Madonna delle**	**0.14**	**279**	Pg	Pg	16 25 22.8	+0.3
T0104				Sg	Sg	16 25 26.0	+1.3
VCEL	**Villa Celiera**	**0.24**	**77**	Pg	Pg	16 25 25.1	+0.7
VCEL				Sg	Sg	16 25 29.2	+1.4
VCEL	**Villa Celiera**	**0.24**	**77**	Pg	Pg	16 25 25.1	+0.7
VCEL				Sg	Sg	16 25 29.2	+1.4
TERO	**Teramo**	**0.29**	**12**	Pg	Pg	16 25 25.3	+0.1
TERO				Sg	Sg	16 25 30.2	+1.0
TERO	**Teramo**	**0.29**	**12**	Pg	Pg	16 25 25.3	+0.1
TERO				Sg	Sg	16 25 30.2	+1.0
FIAM	**Fiamignano**	**0.31**	**257**	Pg	Pg	16 25 25.9	+0.3
FIAM				Sg	Sb	16 25 31.9	-0.5
FIAM	**Fiamignano**	**0.31**	**257**	Pg	Pg	16 25 25.9	+0.3
FIAM				Sg	Sb	16 25 31.9	-0.5
SMA1	**SAN MARTINO**	**0.32**	**335**	Pg	Pg	16 25 26.1	+0.2
SMA1				Sg	Sb	16 25 32.7	-0.2
PTQR	**Pietraquaria**	**0.33**	**196**	Pg	Pg	16 25 26.3	+0.3
PTQR				Sg	Sg	16 25 31.4	+0.9
PTQR	**Pietraquaria**	**0.33**	**196**	Pg	Pg	16 25 26.3	+0.3
PTQR				Sg	Sg	16 25 31.4	+0.9
INTR	**Introdacqua**	**0.43**	**139**	Pg	Pg	16 25 28.2	+0.3
INTR				Sg	Sb	16 25 35.4	-0.6
	3μm,0.9s						
INTR	**Introdacqua**	**0.43**	**139**	Pg	Pg	16 25 28.2	+0.3
INTR				Sg	Sb	16 25 35.4	-0.6
	3μm,0.9s						
VVLD	**Villa Vallelon**	**0.47**	**171**	Pg	Pg	16 25 28.8	+0.1
VVLD				Sg	Sb	16 25 37.0	-0.1
	1μm,0.8s						
VVLD	**Villa Vallelon**	**0.47**	**171**	Pg	Pg	16 25 28.8	+0.1
VVLD				Sg	Sb	16 25 37.0	-0.1
	1μm,0.8s						
GUAR	**Guarcino**	**0.57**	**196**	Pg	Pg	16 25 30.8	+0.4
GUAR	**Guarcino**	**0.57**	**196**	Pg	Pg	16 25 30.8	+0.4
LPEL	**Lama dei Pelig**	**0.57**	**121**	Pg	Pg	16 25 30.6	+0.1
LPEL				Sg	Sb	16 25 39.7	-0.2
	1μm,0.9s						
LPEL	**Lama dei Pelig**	**0.57**	**121**	Pg	Pg	16 25 30.6	+0.1
LPEL				Sg	Sb	16 25 39.7	-0.2
	1μm,0.9s						
NRCA	**Norcia**	**0.58**	**329**	Pg	Pg	16 25 30.4	-0.3
NRCA				Sg	Sb	16 25 39.5	-0.7
	307nm,0.2s						
NRCA	**Norcia**	**0.58**	**329**	Pg	Pg	16 25 30.4	-0.3
NRCA				Sg	Sb	16 25 39.5	-0.7
	307nm,0.2s						
OFFI	**Offida**	**0.61**	**11**	Pg	Pb	16 25 32.4	+0.3
	3μm,0.8s						
OFFI	**Offida**	**0.61**	**11**	Pg	Pb	16 25 32.4	+0.3
	3μm,0.8s						
CAFR	**Castel Frentan**	**0.62**	**100**	Pg	Pb	16 25 32.1	-0.3
CAFR	**Castel Frentan**	**0.62**	**100**	Pg	Pb	16 25 32.1	-0.3
MNS	**Montasola**	**0.63**	**274**	Pg	Pb	16 25 32.1	-0.4
	462nm,0.8s						
MNS	**Montasola**	**0.63**	**274**	Pg	Pb	16 25 32.1	-0.4
	462nm,0.8s						
POFI	**Posta Fibreno**	**0.64**	**167**	Pg	Pg	16 25 31.5	-0.2
	440nm,0.7s						
POFI	**Posta Fibreno**	**0.64**	**167**	Pg	Pg	16 25 31.5	-0.2
	440nm,0.7s						
MTCE	**Montecelio**	**0.66**	**242**	Pg	Pg	16 25 32.2	+0.1
	1μm,1.1s						
MTCE	**Montecelio**	**0.66**	**242**	Pg	Pg	16 25 32.2	+0.1
	1μm,1.1s						
FDMO	**Fiordimonte**	**0.77**	**335**	Pg	Pg	16 25 33.8	-0.4
	286nm,0.9s						
FDMO	**Fiordimonte**	**0.77**	**335**	Pg	Pg	16 25 33.8	-0.4
	286nm,0.9s						
GUMA	**Gualdo di Mace**	**0.79**	**23**	Pg	Pg	16 25 33.9	-0.6
	1μm,0.8s						
GUMA	**Gualdo di Mace**	**0.79**	**23**	Pg	Pg	16 25 33.9	-0.6
	1μm,0.8s						
RNI2	**Rionero Sannit**	**0.79**	**143**	Pg	Pg	16 25 34.7	0.0
RNI2	**Rionero Sannit**	**0.79**	**143**	Pg	Pg	16 25 34.7	0.0
GIUL	**Giuliano Di Ro**	**0.81**	**194**	Pg	Pg	16 25 34.7	-0.2
	408nm,0.8s						
GIUL	**Giuliano Di Ro**	**0.81**	**194**	Pg	Pg	16 25 34.7	-0.2
	408nm,0.8s						
CESI	**CESI - Serrava**	**0.81**	**326**	Pg	Pg	16 25 35.0	0.0
	274nm,1.6s						
CESI	**CESI - Serrava**	**0.81**	**326**	Pg	Pg	16 25 35.0	0.0
	274nm,1.6s						
RDP	**Rocca di Papa**	**0.83**	**226**	Pg	Pb	16 25 36.5	+0.4
	999nm,0.9s						
RDP	**Rocca di Papa**	**0.83**	**226**	Pg	Pb	16 25 36.5	+0.4
	999nm,0.9s						
CING	**Cingoli**	**1.06**	**347**	Pg	Pg	16 25 39.3	-0.5
	155nm,0.6s						
CING	**Cingoli**	**1.06**	**347**	Pg	Pg	16 25 39.3	-0.5
	155nm,0.6s						
NVLJ	**Novalja**	**2.43**	**23**	*e*Pn	Pn	16 25 60.0	+0.8
NVLJ				Sn	Sb	16 26 32.2	-1.0
NVLJ	**Novalja**	**2.43**	**23**	*e*Pn	Pn	16 25 59.9	+0.7
NVLJ				Sn	Sb	16 26 32.1	-1.1
UDBI	**Udbina**	**2.73**	**36**	*e*Pn	Pn	16 26 05.9	+2.5
UDBI	**Udbina**	**2.73**	**36**	*e*Pn	Pn	16 26 05.8	+2.4
STON	**Ston**	**3.13**	**79**	*i* Pn	Pn	16 26 10.5	+1.7
STON				Sn	Sn	16 26 46.5	+0.3
STON	**Ston**	**3.13**	**79**	*i* Pn	Pn	16 26 10.5	+1.7
STON				Sn	Sn	16 26 46.4	+0.2
ABTA	**Abfaltersbach**	**4.47**	**351**	⇓*i*Pn	Pn	16 26 29.0	+1.7
ABTA	**Abfaltersbach**	**4.47**	**351**	Pn	Pn	16 26 29.0	+1.7
BBLS	**Lazići**	**4.57**	**69**	*e*Pn	Pn	16 26 31.5	+2.8
DIVS	**Divibare**	**5.04**	**67**	*e*Pn	Pn	16 26 38.4	+3.2
FETA	**Feichten**	**5.09**	**338**	⇑*i*Pn	Pn	16 26 33.7	-2.2
FETA	**Feichten**	**5.09**	**338**	Pn	Pn	16 26 33.7	-2.2
TRUS	**Trudelj**	**5.37**	**67**	*e*Pn	Pn	16 26 40.8	+1.3
KHC	**Kasperske Hory**	**6.79**	**0**	*e*SN	Sn	16 28 15.3	-1.4

IDC 16 16:41:34.1±1.9**,3°.63N**×**126°.80E,h0**km**,mb3.4/4, mb1 3.5/4,mb1mx3.3/32,mbtmp3.4/4,Error ellipse: s-maj=158.0km s-min=24.0km az=65.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.57**	**163**	P	P	16 46 55.5	-0.5
	1.2nm,0.7s,baz=342,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**28.00**	**166**	P	P	16 47 28.0	+1.1
	0.1nm,0.3s,baz=347,slow=12,SNR=7.9						
STKA	**Stephens Creek**	**38.01**	**159**	P	P	16 48 53.5	-0.6
	1.1nm,0.6s,baz=346,slow=9.9,SNR=4.8						
MKAR	**Makanchi Array**	**57.68**	**325**	P	P	16 51 26.2	-0.2
	0.1nm,0.6s,baz=116,slow=6.6,SNR=3.3						

*MDD **16** 16:46:30.9±6.9, 33°.73N×13°.15W, h0km, mb4.3/1, Error ellipse: s-maj=89.8km s-min=45.3km az=133.0, PRXIMO*
*CSEM **16** 16:47:24.5±28.0, 35°.32N×11°.10W, h10km, mb4.3, Error ellipse: s-maj=345.7km s-min=20.8km az=43.0*
*INMG **16** 16:48:12.7±2.2, 36°.64N×9°.54W, h14km±9km, ML1.6, Error ellipse: s-maj=27.4km s-min=16.9km az=58.0*
ISC 16 16:47:24.2±28.0**,35°.3N**±0°.9×**11°.1W**±0°.7**,h10km,n43, σ1°.42/44,Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.59**	**45**	*e*P	Pg	16 48 26.5	+13
PFVI				*e*S	**Sn**	**16 48 37.2**	**-0.6**
PFVI				A	A	16 48 44.2	
	12nm,0.4s						
PFVI	**Vila Bisbo**	**2.59**	**45**	S	**Sn**	**16 48 37.5**	**-0.3**
	3.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.59**	**45**	*e*P	Pg	16 48 26.5	+13
PFVI				S	**Sn**	**16 48 37.5**	**-0.3**
	3.8nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**2.81**	**45**	*e*S	**Sn**	**16 48 42.7**	**-0.6**
MORF				A	A	16 48 45.3	
	5.2nm,0.1s						
MORF	**Marmelete**	**2.81**	**45**	S	**Sn**	**16 48 42.7**	**-0.6**
	5.2nm,0.1s						
MORF	**Marmelete**	**2.81**	**45**	S	**Sn**	**16 48 42.7**	**-0.6**
	5.2nm,0.1s						
PTEO	**Sao Teotonio**	**2.94**	**40**	*e*S	**Sn**	**16 48 47.4**	**+0.9**
PTEO				A	A	16 48 49.7	
	11nm,0.8s						
PTEO	**Sao Teotonio**	**2.94**	**40**	S	**Sn**	**16 48 47.4**	**+0.9**
	5.4nm,0.8s						
PTEO	**Sao Teotonio**	**2.94**	**40**	S	**Sn**	**16 48 47.4**	**+0.9**
	5.4nm,0.8s						
PBDV	**Barranco-do-Ve**	**3.21**	**52**	*e*S	**Sn**	**16 48 54.2**	**+1.0**
PBDV				A	A	16 48 59.3	
	6.3nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.21**	**52**	S	**Sn**	**16 48 54.2**	**+1.0**
	6.3nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.21**	**52**	S	**Sn**	**16 48 54.2**	**+1.0**
	6.3nm,0.5s						
PCVE	**Castro Verde**	**3.39**	**46**	S	**Sn**	**16 48 58.3**	**+0.8**
PCVE				A	A	16 49 03.1	
	3.4nm,0.6s						
PCVE	**Castro Verde**	**3.39**	**46**	S	**Sn**	**16 48 58.3**	**+0.8**
	3.4nm,0.6s						
PCVE	**Castro Verde**	**3.39**	**46**	S	**Sn**	**16 48 58.3**	**+0.8**
	3.4nm,0.6s						
MESJ	**Messejana**	**3.43**	**42**	S	**Sn**	**16 48 58.9**	**+0.4**
MESJ	**Messejana**	**3.43**	**42**	S	**Sn**	**16 48 58.9**	**+0.4**
MESJ	**Messejana**	**3.43**	**42**	S	**Sn**	**16 48 58.9**	**+0.4**
PVAQ	**Vaqueiros**	**3.45**	**52**	*e*Sn	**Sn**	**16 48 59.4**	**+0.5**
PVAQ				A	A	16 49 01.1	
	2.5nm,0.2s						
PVAQ	**Vaqueiros**	**3.45**	**52**	S	**Sn**	**16 48 59.4**	**+0.5**
	2.5nm,0.2s						
PVAQ	**Vaqueiros**	**3.45**	**52**	S	**Sn**	**16 48 59.4**	**+0.5**
	2.5nm,0.2s						
PNCL	**Nicolau / Gran**	**3.48**	**36**	*e*Sn	**Sn**	**16 49 00.5**	**+0.8**
PNCL				A	A	16 49 03.7	
	3.0nm,0.1s						
PNCL	**Nicolau / Gran**	**3.48**	**36**	*e*Sn	**Sn**	**16 49 00.5**	**+0.8**
	3.0nm,0.1s						
EGRO	**El Granado**	**3.67**	**52**	S	**Sn**	**16 49 04.4**	**-0.1**
	1.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.67**	**52**	S	**Sn**	**16 49 04.4**	**-0.1**
	1.4nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.92**	**22**	*e*Sn	**Sn**	**16 49 14.4**	**+4.0**
PMAFR				A	A	16 49 16.1	
	12nm,0.6s						
PMAFR	**Mafra**	**3.92**	**22**	S	**Sn**	**16 49 06.5**	**-3.9**
	1.9nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**3.92**	**22**	S	**Sn**	**16 49 06.5**	**-3.9**
	1.9nm,0.2s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**16 49 14.4**	**+4.0**
	12nm,0.6s						
EVO	**Evora**	**4.06**	**37**	*e*Sn	**Sn**	**16 49 14.2**	**+0.2**
EVO				A	A	16 49 14.8	
	5.0nm,0.4s						
EVO	**Evora**	**4.06**	**37**	S	**Sn**	**16 49 14.2**	**+0.2**
	5.0nm,0.4s						
EVO	**Evora**	**4.06**	**37**	S	**Sn**	**16 49 14.2**	**+0.2**
	5.0nm,0.4s						
EMIN	**Mina Concepcio**	**4.34**	**54**	S	**Sn**	**16 49 19.9**	**-0.9**
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.34**	**54**	S	**Sn**	**16 49 19.9**	**-0.9**
	0.2nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**4.34**	**48**	*e*Sn	**Sn**	**16 49 20.9**	**-0.1**
PBAR	**Barrancos**	**4.34**	**48**	S	**Sn**	**16 49 20.9**	**-0.1**
PBAR	**Barrancos**	**4.34**	**48**	S	**Sn**	**16 49 20.9**	**-0.1**
PMTG	**Montargil**	**4.40**	**31**	*e*Sn	**Sn**	**16 49 23.0**	**+0.7**
PMTG				A	A	16 49 25.2	
	2.0nm,0.2s						
PMTG	**Montargil**	**4.40**	**31**	*e*Sn	**Sn**	**16 49 23.0**	**+0.7**
	2.0nm,0.2s						
EBAD	**Badajoz**	**4.75**	**43**	S	**Sn**	**16 49 30.3**	**-0.7**
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.75**	**43**	S	**Sn**	**16 49 30.3**	**-0.7**
	0.6nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**5.06**	**35**	*e*Sn	**Sn**	**16 49 37.5**	**-1.3**
PMRV	**Marv??o**	**5.06**	**35**	S	**Sn**	**16 49 37.5**	**-1.3**
PMRV	**Marv??o**	**5.06**	**35**	S	**Sn**	**16 49 37.5**	**-1.3**

IDC 16 16:48:52.8±3.3**,2°.21S**×**15°.51W,h0km,mb4.0/2, mb1 4.0/2,mb1mx3.5/25,mbtmp4.0/2,MS3.5/7,Ms1 3.5/7, ms1mx3.1/38,Error ellipse: s-maj=125.6km s-min=65.1km az=134.0,North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.82**	**50**	LR	LR	16 56 24.5	
	comp=Z,119nm,20.5s,baz=212,slow=33						
TORD	**Torodi Ar. Bea**	**22.90**	**48**	P	P	16 53 58.4	0.0
	5.8nm,1.1s,baz=231,slow=9.7,SNR=11						
TORD				LR	LR	17 01 26.1	
	comp=Z,114nm,19.9s,baz=195,slow=33						
BDFB	**Brasilia**	**34.70**	**245**	LR	LR	17 09 39.9	
	comp=Z,62nm,18.7s,baz=28,slow=36						
KEST	**Kesra**	**44.32**	**29**	LR	LR	17 15 21.0	
	comp=Z,27nm,18.9s,baz=250,slow=36						
BOSA	**Boshof**	**46.87**	**128**	LR	LR	17 14 56.1	
	comp=Z,71nm,19.3s,baz=174,slow=33						
SJG	**San Juan**	**53.78**	**294**	LR	LR	17 16 39.2	
	comp=Z,71nm,18.3s,baz=241,slow=31						
ATAH	**Atahualpa**	**62.83**	**263**	LR	LR	17 26 23.7	
	comp=Z,56nm,18.9s,baz=57,slow=36						
FINES	**FINESS Array B**	**71.00**	**20**	P	P	17 00 12.1	0.0
	1.4nm,0.9s,baz=212,slow=4.9,SNR=5.2						
ASAR	**Alice Springs**	**140.67**	**133**	PKP	PKPdf	17 08 23.0	-2.4
	0.2nm,0.5s,baz=226,slow=2.8,SNR=5.7						
WRA	**Warramunga Arr**	**143.12**	**128**	PKP	PKPdf	17 08 30.8	+0.9
	0.4nm,0.8s,baz=240,slow=2.6,SNR=5.8						

*IDC **16** 16:51:08.7±1.9, 6°.81S×129°.45E, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.5/29, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=51.4km s-min=30.0km az=76.0*
*ISCJB **16** 16:51:22.2±0.6, 7°.49S±0°.05×129°.01E±0°.05, h131km, mb3.6/1, Error ellipse: s-maj=7.4km s-min=6.4km az=14.5*
ISC 16 16:51:23.1±0.9**,7°.53S**±0°.06×**128°.98E**±0°.06**,h131km,n10, σ2°.35/17,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.16**	**244**	P	**Pn**	**16 52 39.1**	**+0.6**
	baz=5.2,SNR=5.0						
SOEI				S	**Sn**	**16 53 39.4**	**+2.2**
	baz=5.2,SNR=4.5						
FAKI	**Fak Fak**	**5.62**	**36**	P	**Pn**	**16 52 43.7**	**-0.9**
	baz=5.6,SNR=6.0						
FAKI				S	**Sn**	**16 53 47.7**	**-0.5**
	baz=5.6,SNR=3.1						
MTN	**Manton Dam**	**5.69**	**158**	P	**Pn**	**16 52 47.8**	**+2.3**
	baz=5.7,SNR=24						
MTN				S	**Sn**	**16 53 50.5**	**+0.8**
	baz=5.7,SNR=6.1						
BATI	**Baumata**	**5.89**	**243**	Pn	**Pn**	**16 52 48.0**	**-0.3**
	7.1nm,0.3s,baz=112,slow=3.1,SNR=13						
BATI				Sn	**Sn**	**16 53 52.3**	**-2.4**
	7.6nm,0.3s,baz=92,slow=20,SNR=14						
KDU	**Kakadu**	**6.17**	**146**	P	**Pn**	**16 52 54.1**	**+2.2**
	baz=6.2,SNR=12						
KDU				S	**Sn**	**16 54 01.5**	**+0.2**
	baz=6.2,SNR=5.3						
KNRA	**Kununurra**	**8.10**	**182**	P	**Pn**	**16 53 18.7**	**+0.8**
	baz=8.2,SNR=32						
KNRA				S	**Sn**	**16 54 44.9**	**-3.1**
	baz=8.2,SNR=4.9						
WRA	**Warramunga Arr**	**13.38**	**158**	Pn	**Pn**	**16 54 27.0**	**-1.0**
	0.5nm,0.3s,baz=339,slow=13,SNR=36						
WRA				Sn	**Sn**	**16 56 50.3**	**-5.5**
	0.8nm,0.3s,baz=338,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.72**	**164**	P	**P**	**16 55 11.6**	**+1.8**
	0.1nm,0.3s,baz=339,slow=9.5,SNR=17						
ASAR				S	Sn	16 58 07.8	-8.4
	0.2nm,0.3s,baz=350,slow=25,SNR=4.5						
WRKA	**Warakurna**	**17.42**	**182**	P	**Pn**	**16 55 21.2**	**+3.0**
	baz=18,SNR=5.6						
MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**	**17 02 08.3**	**-0.7**
	0.5nm,0.4s,baz=125,slow=7.2,SNR=11						

*ISCJB **16** 16:57:32.5±1.0, 32°.36N±0°.06×141°.9E±0°.1, h26km, mb3.7/4, Error ellipse: s-maj=14.5km s-min=8.7km az=165.2*
*JMA **16** 16:57:33.9±0.3, 32°.35N×141°.87E, h45km, M3.4*
*IDC **16** 16:57:33.7±4.4, 31°.95N×141°.12E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/29, mbtmp3.6/5, ML3.1/1, Error ellipse: s-maj=166.1km s-min=21.9km az=69.0*
ISC 16 16:57:35.3±1.3**,32°.34N**±0°.09×**141°.7E**±0°.1**,h26km,n10, σ1°.14/13,mb3.7/4,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.78**	**295**	P	**Pn**	**16 58 04.4**	**+0.1**
JHCJ				*e*S	**Sb**	**16 58 27.2**	**-1.9**
JHJ2	**Mitsune**	**1.78**	**296**	P	**Pn**	**16 58 04.8**	**+0.4**
BSO1	**Boso 1**	**2.39**	**345**	P	**Pn**	**16 58 12.2**	**-0.1**
JHO	**Hitachi**	**4.37**	**348**	P	**Pn**	**16 58 39.2**	**-0.8**
JHO				*e*S	**Sn**	**16 59 29.2**	**-0.8**
JAG	**Ashikaga**	**4.49**	**336**	P	**Pn**	**16 58 42.2**	**+0.6**
JAG				*e*S	**Sn**	**16 59 32.8**	**-0.2**
MJAR	**Matsushiro Arr**	**5.10**	**326**	Pn	**Pn**	**16 58 51.0**	**+1.0**
	0.6nm,0.3s,baz=152,slow=11,SNR=7.3						
SONM	**Songino Array**	**30.83**	**311**	P	**P**	**17 03 51.2**	**+2.1**
	0.6nm,0.6s,baz=109,slow=9.1,SNR=6.7						
MKAR	**Makanchi Array**	**46.95**	**306**	P	**P**	**17 06 04.2**	**+0.4**
	0.7nm,0.8s,baz=89,slow=9.1,SNR=6.0						
WRA	**Warramunga Arr**	**52.46**	**189**	P	**P**	**17 06 44.7**	**-1.1**
	1.0nm,0.6s,baz=5.4,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**56.19**	**189**	P	**P**	**17 07 12.1**	**-0.9**
	0.4nm,0.9s,baz=1.0,slow=5.4,SNR=7.7						

IDC 16 17:12:17.5±5.4**,0°.10S**×**100°.89E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/36,mbtmp3.4/3,Error ellipse: s-maj=296.0km s-min=27.2km az=54.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.23**	**123**	P	P	17 19 39.7	+0.1
	0.3nm,0.6s,baz=302,slow=9.0,SNR=6.4						
ASAR	**Alice Springs**	**39.69**	**129**	P	P	17 19 51.4	-0.4
	0.1nm,0.3s,baz=299,slow=7.5,SNR=8.3						
MKAR	**Makanchi Array**	**49.47**	**343**	P	P	17 21 09.4	-0.1
	0.6nm,0.6s,baz=154,slow=7.7,SNR=8.1						

IDC 16 17:34:26.5±47.0**,18°.90S**×**172°.43W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.6/27,mbtmp3.7/3,Error ellipse: s-maj=914.9km s-min=174.4km az=83.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.20**	**243**	P	P	17 42 28.9	-0.5
	0.8nm,0.7s,baz=90,slow=8.1,SNR=3.2						
ASAR	**Alice Springs**	**50.00**	**255**	P	P	17 43 23.5	+0.5
	1.3nm,0.7s,baz=92,slow=8.9,SNR=36						
WRA	**Warramunga Arr**	**50.03**	**259**	P	P	17 43 22.8	-0.5
	0.2nm,0.3s,baz=97,slow=6.6,SNR=11						

DJA 16 18:21:20.8±0.7**,10°S**±12°×**11°4E**±°**,h65km**±32km**,M3.9/11, mb4.2/5,mB5.2/2,MLv3.8/11,Mw(mB)4.5/2,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.71**	**7**	P	Pn	18 21 49.0	+0.5
JAGI				S	Sn	18 22 10.1	+0.6
IGBI	**Denpasar**	**1.80**	**41**	P	Pn	18 21 49.5	-0.2
DNP	**Denpasar**	**1.95**	**40**	P	Pn	18 21 52.3	+0.6
DNP				S	Sn	18 22 15.7	+0.5
SRBI	**Singaraja**	**2.43**	**31**	P	Pn	18 21 58.6	+0.4
BLJI	**Banyuglugur**	**2.44**	**352**	P	Pn	18 21 58.9	+0.5
BLJI				S	Sn	18 22 28.1	+0.9
PWJI	**Pagerwojo**	**3.01**	**315**	P	Pn	18 22 05.0	-1.1
KMMI	**Kalianget**	**3.11**	**0**	P	Pn	18 22 08.3	+0.8
UGM	**Wanagama**	**4.06**	**303**	P	Pn	18 22 19.3	-1.2
KPJI	**Karang Pucung**	**5.70**	**299**	P	Pn	18 22 44.1	+1.1
	18nm,0.6s,3μm						
CMJI	**Cimerak**	**5.92**	**293**	P	Pn	18 22 44.6	-1.4
	27nm,1.0s						
CGJI	**Cibinong**	**8.89**	**293**	P	Pn	18 23 26.0	-0.7
	19nm,0.4s,922nm						
SOEI	**Soe**	**10.18**	**89**	P	Pn	18 23 42.6	-1.8

IDC 16 18:23:18.8±2.8**,24°.94S**×**68°.00W,h0km,mb4.1/2, mb1 4.3/4,mb1mx3.8/29,mbtmp4.2/4,ML4.3/2,Error ellipse: s-maj=60.6km s-min=49.8km az=78.0, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**8.61**	**359**	Pn	Pn	18 25 25.9	+0.3
	1.2nm,0.3s,baz=164,slow=10,SNR=48						
SIV	**San Ignacio**	**11.02**	**37**	Pn	Pn	18 25 56.9	-0.8
	3.0nm,0.3s,baz=250,slow=13,SNR=29						
BDFB	**Brasilia**	**20.88**	**67**	P	P	18 28 02.9	+0.1
	5.5nm,0.7s,baz=231,slow=12,SNR=10						
TORD	**Torodi Ar. Bea**	**77.75**	**69**	P	P	18 35 18.4	+0.3
	0.8nm,0.3s,baz=254,slow=5.6,SNR=29						
MKAR	**Makanchi Array**	**147.83**	**40**	PKPbc	PKPbc	18 43 04.5	-1.1
	0.4nm,0.9s,baz=323,slow=2.8,SNR=4.5						

IDC 16 18:27:21.2±1.3**,7°.30S**×**146°.26E,h188km**±17km**,mb3.3/8, mb1 3.5/10,mb1mx3.4/27,mbtmp3.3/10,Error ellipse: s-maj=30.9km s-min=17.1km az=98.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.45**	**151**	P		18 28 02.4	
	12nm,0.3s,baz=9.5,slow=6.1,SNR=68						
PMG				S		18 28 33.8	
	5.7nm,0.3s,baz=121,slow=18,SNR=11						
PMG	**Port Moresby**	**2.45**	**151**	P		18 28 02.5	
	baz=2.5,SNR=48						
PMG				S		18 28 34.8	
	baz=2.5,SNR=4.4						
RABL	**Rabaul**	**6.87**	**64**	P		18 28 59.9	
	baz=6.9,SNR=9.5						
COEN	**Coen**	**7.22**	**202**	P		18 29 05.5	
	baz=7.3,SNR=13						
WRA	**Warramunga Arr**	**16.93**	**221**	P		18 31 06.6	
	0.4nm,0.3s,baz=42,slow=12,SNR=27						
KNRA	**Kununurra**	**18.82**	**242**	P		18 31 26.9	
	baz=19,SNR=6.5						
QLP	**Quilpie**	**19.31**	**185**	P		18 31 33.3	
	baz=19,SNR=15						
ASAR	**Alice Springs**	**20.02**	**214**	P		18 31 40.2	
	1.9nm,0.5s,baz=52,slow=8.6,SNR=44						
WRKA	**Warakurna**	**24.47**	**222**	P		18 32 23.1	
	baz=24,SNR=11						
STKA	**Stephens Creek**	**24.85**	**189**	P		18 32 27.5	
	1.8nm,0.4s,baz=19,slow=9.5,SNR=12						
STKA	**Stephens Creek**	**24.85**	**189**	P		18 32 27.8	
	baz=25,SNR=5.1						
HTT	**Hallett**	**26.87**	**193**	P		18 32 45.5	
	baz=27,SNR=5.2						
MEEK	**Meekatharra**	**32.38**	**230**	P		18 33 34.0	
	baz=32,SNR=3.1						
KLBR	**Kellerberrin**	**35.78**	**224**	P		18 34 02.5	
	baz=36,SNR=7.5						
KSRS	**Korea Array**	**47.55**	**340**	P		18 35 39.1	
	1.2nm,0.6s,baz=158,slow=9.0,SNR=5.4						
CMAR	**Chiang Mai Arr**	**52.95**	**300**	P		18 36 21.0	
	0.7nm,0.5s,baz=125,slow=6.0,SNR=9.8						
SONM	**Songino Array**	**64.99**	**332**	P		18 37 43.4	
	0.2nm,0.6s,baz=117,slow=6.0,SNR=3.7						
MKAR	**Makanchi Array**	**77.80**	**321**	P		18 38 59.2	
	0.2nm,0.3s,baz=95,slow=7.1,SNR=8.0						
ZALV	**Zalesovo Beam**	**79.52**	**328**	P		18 39 07.0	
	0.5nm,0.3s,baz=116,slow=6.6,SNR=3.1						
ILAR	**Eielson Array**	**87.02**	**23**	P		18 39 44.2	
	0.9nm,0.8s,baz=252,slow=4.5,SNR=10.0						
TORD	**Torodi Ar. Bea**	**144.38**	**282**	PKP		18 46 35.9	
	0.8nm,0.7s,baz=69,slow=2.8,SNR=7.9						
DBIC	**Dimbokro**	**151.04**	**271**	PKPbc		18 46 53.0	
	2.2nm,0.9s,baz=90,slow=3.0,SNR=2.7						

*ISCJB **16** 18:29:42.2±1.3, 12°.9S±0°.2×168°.9E±0°.3, h625km, mb3.7/7, Error ellipse: s-maj=47.2km s-min=14.8km az=39.3*
*IDC **16** 18:29:42.1±8.8, 12°.86S×168°.97E, h614km±112km, mb3.2/7, mb1 3.4/7, mb1mx3.0/31, mbtmp4.1/7, Error ellipse: s-maj=63.0km s-min=51.0km az=150.0*
ISC 16 18:29:43.2±1.6**,12°.9S**±0°.3×**169°.0E**±0°.3**,h625km,n15, σ0°.59/15,mb3.8/7,Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMQ	**Roma**	**23.32**	**231**	P	**P**	**18 34 06.3**	**+0.9**
	baz=16,SNR=4.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
STKA	Stephens Creek	31.46	229	P	P	18 35 16.1	0.0
	1.5nm,0.4s,baz=49,slow=8.4,SNR=9.6						
STKA	Stephens Creek	31.46	229	P	P	18 35 16.5	+0.4
	baz=24,SNR=11						
WRA	Warramunga Arr	33.92	253	P	P	18 35 36.0	-0.9
	2.7nm,0.4s,baz=84,slow=8.6,SNR=40						
HTT	Hallett	34.19	228	P	P	18 35 39.3	+0.3
	baz=27,SNR=4.7						
ASAR	Alice Springs	34.91	247	P	P	18 35 44.4	-0.7
	3.4nm,0.5s,baz=75,slow=9.8,SNR=78						
BBOO	Buckleboo	36.03	231	P	P	18 35 54.2	+0.1
	baz=29,SNR=7.8						
KNRA	Kununurra	39.04	261	P	P	18 36 18.4	-0.2
	baz=32,SNR=8.2						
WRKA	Warakurna	40.19	246	P	P	18 36 27.6	-0.1
	baz=33,SNR=15						
MEEK	Meekatharra	49.05	246	P	P	18 37 35.1	-0.2
	baz=42,SNR=3.9						
SONM	Songino Array	82.00	323	P	P	18 40 60.0	+0.5
	0.2nm,0.5s,baz=138,slow=4.8,SNR=4.9						
ILAR	Eielson Array	84.25	17	P	P	18 41 09.6	-0.5
	0.5nm,0.5s,baz=232,slow=5.6,SNR=13						
YKA	Yellowknife Ar	95.14	27	P	P	18 42 00.9	+0.3
	0.4nm,0.8s,baz=259,slow=4.7,SNR=7.3						
MKAR	Makanchi Array	97.01	316	P	P	18 42 10.1	+0.7
	0.6nm,1.0s,baz=113,slow=4.0,SNR=3.4						
ARCES	ARCESS Array B	118.86	346	PKP	PKPdf	18 47 20.5	-0.9
	2.2nm,0.8s,baz=51,slow=1.7,SNR=8.2						

*ISCJB **16** 18:36:41.7±0.9, 12°.9S±0°.1×168°.9E±0°.2, h625km, mb3.9/10, Error ellipse: s-maj=23.9km s-min=12.9km az=36.8*

*IDC **16** 18:36:43.5±3.3, 13°.06S×169°.02E, h644km±48km, mb3.3/10, mb1 3.4/11, mb1mx3.2/31, mbtmp4.3/11, Error ellipse: s-maj=42.9km s-min=23.2km az=155.0*

ISC 16 18:36:42.7±1.0, 12°.9S±0°.1×168°.9E±0°.2, h625km, n23, σ0s.97/23, mb3.7/10, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.45	194	P	P	18 38 57.1	+0.4
	0.5nm,0.3s,baz=152,slow=18,SNR=5.5						
COEN	Coen	25.07	265	P	P	18 41 21.1	+0.7
	baz=25,SNR=3.9						
QLP	Quilpie	26.88	236	P	P	18 41 36.1	-0.1
	baz=27,SNR=3.3						
STKA	Stephens Creek	31.42	229	P	P	18 42 15.4	+0.2
	0.8nm,0.4s,baz=57,slow=10,SNR=7.5						
STKA	Stephens Creek	31.42	229	P	P	18 42 15.8	+0.6
	baz=32,SNR=5.9						
WRA	Warramunga Arr	33.87	253	P	P	18 42 34.7	-1.3
	5.4nm,0.4s,baz=84,slow=8.6,SNR=128						
ASAR	Alice Springs	34.85	247	P	P	18 42 43.8	-0.3
	5.5nm,0.5s,baz=75,slow=9.8,SNR=187						
KDU	Kakadu	35.53	266	P	P	18 42 49.5	-0.2
	baz=36,SNR=5.3						
MTN	Manton Dam	36.82	266	P	P	18 43 00.8	+0.5
	baz=37,SNR=3.9						
KNRA	Kununurra	38.98	261	P	P	18 43 17.5	-0.2
	baz=39,SNR=12						
WRKA	Warakurna	40.13	246	P	P	18 43 26.9	0.0
	baz=40,SNR=11						
FORT	Forrest	41.63	238	P	P	18 43 38.6	+0.1
	baz=42,SNR=7.4						
SOEI	Soe	43.86	269	P	P	18 43 57.2	+1.0
	baz=44,SNR=3.4						
BATI	Baumata	44.38	268	P	P	18 44 01.8	+1.7
	22nm,0.5s,baz=135,slow=7.1,SNR=18						
MEEK	Meekatharra	48.99	246	P	P	18 44 34.3	-0.2
	baz=49,SNR=12						
SMRI	Semarang	57.79	270	P	P	18 45 33.6	-3.0
	baz=58,SNR=4.1						
PETK	Petropavlovsk-	66.42	353	P	P	18 46 32.4	+1.0
	2.8nm,0.9s,baz=128,slow=6.2,SNR=5.1						
CMAR	Chiang Mai Arr	75.69	293	P	P	18 47 26.6	+0.5
	1.9nm,0.9s,baz=122,slow=4.2,SNR=10						
SONM	Songino Array	81.98	323	P	P	18 47 59.4	+0.5
	0.8nm,0.7s,baz=142,slow=5.4,SNR=11						
ILAR	Eielson Array	84.28	17	P	P	18 48 08.9	-0.8
	0.5nm,0.5s,baz=239,slow=5.0,SNR=11						
YKA	Yellowknife Ar	95.17	27	P	P	18 48 59.9	-0.3
	0.1nm,0.5s,baz=256,slow=5.0,SNR=4.3						
MKAR	Makanchi Array	96.98	316	P	P	18 49 09.2	+0.4
	0.6nm,0.7s,baz=94,slow=5.8,SNR=10.0						
ARCES	ARCESS Array B	118.86	346	PKP	PKPdf	18 54 20.4	-0.5
	2.0nm,0.7s,baz=48,slow=2.1,SNR=10.0						

NEIC 16 18:37:21.5, 51°.76N×179°.50W, h5km, ML3.6(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	Gareloi Lava P	0.45	90	P	Pb	18 37 31.5	-0.5
GAEA	Gareloi East	0.47	87	P	Pb	18 37 31.6	-0.7
TANO	Tanaga North	0.87	79	P	Pg	18 37 38.5	+0.3
TANO				S	Sg	18 37 50.1	+0.5
TASE	Tanaga Southea	0.91	85	P	Pg	18 37 39.2	+0.1
TAFP	Tanaga Falls P	0.95	81	P	Pg	18 37 39.5	-0.3
TAFL	Tanaga Flats	1.00	90	P	Pg	18 37 40.5	-0.1
KIKV	Kanaga Island	1.45	84	P	Pn	18 37 47.9	-0.5
KIKV				S	Sb	18 38 07.5	-0.4
KIRH	Kanaga Island	1.50	84	P	Pn	18 37 48.6	-0.4
ADK	Adak	1.75	85	P	Pn	18 37 52.3	-0.2
ADK				S	Sn	18 38 14.6	-0.6
ADAG	Mount Adagdak	1.81	82	P	Pn	18 37 53.6	+0.3
ETKA	Kagalaska Isla	1.93	86	P	Pn	18 37 55.0	+0.1
GSCK	Great Sitkin C	2.08	82	P	Pn	18 37 57.3	+0.2
GSTD	Great Sitkin T	2.10	81	P	Pn	18 37 57.4	0.0
GSTD				S	Sb	18 38 25.6	-1.0
GSMY	Great Sitkin M	2.15	81	P	Pn	18 37 58.0	-0.1
KOKL	Mount Kliuchef	3.32	78	P	Pn	18 38 14.8	+0.6
FX1	Attu Island--F	4.64	287	P	Pn	18 38 32.6	+0.5
SPIA	Saint Paul Isl	7.65	41	P	Pn	18 39 13.3	-0.1

IDC 16 19:06:20.8±508.0, 63°.54N×147°.80W, h0km, Error ellipse: s-maj=201.2km s-min=29.6km az=180.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I53US	FAIRBANKS INFR	1.34	359	*i*		19 12 50.0	
	baz=179,slow=331,SNR=5.0						
I18DK	QAANAAQ INFRAS	26.88	28	*i*		21 55 50.0	
	baz=282,slow=341,SNR=0.5						
I10CA	LAC DU BONNET	30.33	91	*i*		22 10 40.0	
	baz=316,slow=325,SNR=0.5						

*BJI **16** 19:08:14.1, 4°.23N×93°.11E, h1km, mB5.3/46, mb5.0/70, Ms5.0/70, Ms7 4.7/64*

*ISCJB **16** 19:08:19.3±0.7, 4°.63N±0°.02×93°.08E±0°.02, h10km±4km, mb5.1/215, MS4.7/65, Error ellipse: s-maj=4.1km s-min=2.8km az=23.5*

*KLM **16** 19:08:20.5, 4°.83N×93°.09E, h2km, mb5.1, ML5.4, MS6.3*

*MOS **16** 19:08:21.2±0.9, 4°.66N×93°.14E, h25km, mb5.4/82, MS4.8/15, Error ellipse: s-maj=7.4km s-min=3.7km az=118.4*

*SZGRF **16** 19:08:23.8, 4°.17N×92°.89E, h37km, mb5.2, MS4.5, Off west coast of northern Sumatera, Indonesia*

*IDC **16** 19:08:24.9±0.6, 4°.72N×93°.15E, h34km±3km, mb4.5/30, mb1 4.6/32, mb1mx4.6/34, mbtmp4.7/32, ML4.8/2, MS4.5/32, Ms1 4.5/32, ms1mx4.4/41, Error ellipse: s-maj=13.3km s-min=10.6km az=24.0*

*GCMT **16** 19:08:24.1±0.1, 4°.61N×93°.06E, h14km, MW5.3/102, Moment Tensor Solution. s76,c128; s102,c187; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr-0.39±.02; Mθθ0.18±.02; Mφφ0.21±.02; Mrθ-0.21±.03; Mrφ-0.97±.01; Mθφ-0.49±.04; Best double couple: M0 1.15800×10^17 NP1:φs355.00000°, δ72.00000°, λ-32.00000°. NP2:φs96.00000°, δ60.00000°, λ-159.00000°. Principal axes: T 1.1970, Plg8.0000°, Azm48.0000°; N -0.0780, Plg54.0000°, Azm149.0000°; P -1.1190, Plg35.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **16** 19:08:24.1±0.2, 4°.62N×93°.14E, mb5.2/64 Error ellipse: s-maj=5.2km s-min=3.5km az=208.0*

*DJA **16** 19:08:31.0±1.0, 5°N±3°×9°4E±°, h15km±8km, M5.1/51, mB5.5/35, mb5.2/51, MLv5.5/10, Mw(mB)5.0/35, Mwp6.5/2*

ISC 16 19:08:23.3±0.3, 4°.60N±0°.03×93°.12E±0°.03, h27km±1km, h26km:pP-P, n806, σ1s.46/870, mb5.2/213, MS4.7/67, 64C-141D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	2.53	18	*e*P	Pn	19 09 01.8	-0.9
CMBY				AMB	AMB	19 09 02.8	
	comp=Z,1μm,0.8s						
LHMI	Lhok Sumawe	3.87	80	P	Pn	19 09 22.0	+0.9
LHMI	Lhok Sumawe	3.87	80	*e*Pn	Pn	19 09 21.5	+0.4
LHMI	Lhok Sumawe	3.87	80	⇑P	Pn	19 09 21.3	+0.3
	baz=3.9,SNR=82						
SNSI	Sinabang, Aceh	3.87	124	P	Pn	19 09 20.0	-1.1
SNSI				S	Sn	19 10 00.4	-5.3
TPTI		4.26	108	P	Pn	19 09 26.7	+0.2
TPTI				S	Sn	19 10 13.7	-1.8
KCSI	Kotacane, Aceh	4.76	103	P	Pn	19 09 35.1	+1.7
KCSI				S	Sn	19 10 26.2	-1.6
GSI	Gunungsitoli	5.52	126	P	Pn	19 09 44.0	+0.1
	comp=Z,276nm,0.8s,comp=Z,6μmcomp=Z,1.8nm						
GSI	Gunungsitoli	5.52	126	*e*Pn	Pn	19 09 43.0	-0.9
	comp=Z,180nm,0.5s						
TSI	Tuntungan	5.54	101	P	Pn	19 09 45.6	+1.5
PSI	Prapat	6.06	107	Pn	Pn	19 09 52.8	+1.4
	comp=Z,32nm,0.3s,baz=294,slow=8.3,SNR=80						
PSI				Sn	Sn	19 10 57.4	-2.7
	comp=Z,54nm,0.3s,baz=68,slow=19,SNR=6.7						
PSI	Prapat	6.06	107	⇓P	Pn	19 09 52.9	+1.5
	baz=6.1,SNR=20						
PKDT	Phuket	6.13	57	P	Pn	19 09 52.0	-0.2
	comp=Z,735nm,0.7s,comp=Z,18μmcomp=Z,4.0nm						
PBA	Port Blair	7.02	357	*e*P	Pn	19 10 04.4	-0.1
PBA				AMB	AMB	19 10 32.2	
	comp=Z,144nm,1.3s						
SURT	Suratani	7.11	52	P	Pn	19 10 05.7	0.0
	comp=Z,213nm,0.7s,comp=Z,3μmcomp=Z,1.0nm						
MNSI	Mandailing Nat	7.48	120	P	Pn	19 10 09.9	-0.8
	comp=Z,363nm,0.5s,comp=Z,12μmcomp=Z,2.6nm						
KULM	Kulim	7.54	84	*e*Pn	Pn	19 10 11.0	-0.5
	comp=Z,102nm,0.4s						
KULM				*e*Sn	Sn	19 11 30.8	-5.3
KULM	Kulim	7.54	84	⇓P	Pn	19 10 11.4	-0.1
IPM	Ipoh	7.88	91	*e*Pn	Pn	19 10 15.2	-1.1
	comp=Z,97nm,0.4s						
IPM				*e*Sn	Sn	19 11 35.6	-9.2
IPM	Ipoh	7.88	91	⇑P	Pn	19 10 16.6	+0.2
DGPR	DIGLIPUR	8.53	359	*e*P	Pn	19 10 24.3	-0.8
DGPR				AMB	AMB	19 10 27.5	
	comp=Z,158nm,0.7s						
FRIM	Kepong	8.59	99	⇑P	Pn	19 10 25.4	-0.6
PDSI	Padang	9.15	127	P	Pn	19 10 31.7	-2.0
	comp=Z,68nm,1.1s,comp=Z,1μm						
KTGM	Kuala Trenggan	10.01	85	⇑P	Pn	19 10 43.1	-2.3
KGM	Kluang	10.50	104	⇑P	Pn	19 10 53.7	+1.5
MYKOM	Kota Tinggi	11.07	104	⇑P	Pn	19 11 00.1	+0.1
PATY	Pattaya	11.27	42	P	Pn	19 11 05.7	+3.0
	comp=Z,15nm,0.7s,comp=Z,2μm						
SRDT	SRDT	11.35	31	P	Pn	19 11 04.8	+0.9
	comp=Z,225nm,1.5s,comp=Z,4μm						
KHLT	Khaolaem Dam	11.48	28	P	Pn	19 11 06.0	+0.4
	comp=Z,37nm,0.9s,comp=Z,654nm						
CHBT	CHBT	12.19	48	P	Pn	19 11 16.7	+1.4
	comp=Z,142nm,1.7s,comp=Z,3μm						
PALK	Pallekele	12.63	283	Pn	Pn	19 11 19.3	-2.1
	comp=Z,382nm,0.4s,SNR=46						
PALK	Pallekele	12.63	283	*e*P	Pn	19 11 19.4	-2.1
PALK				pmax	pmax		
	comp=Z,253nm,0.6s						
PALK	Pallekele	12.63	283	Pn	Pn	19 11 20.0	-1.4
	comp=Z,27nm,0.3s,baz=103,slow=14,SNR=63						
PALK				Sn	Sn	19 13 26.9	-15
	comp=Z,45nm,0.3s,baz=184,slow=18,SNR=14						
PALK				LR	LR	19 15 45.3	
	comp=Z,7μm,18.0s,baz=102,slow=35						
PALK	Pallekele	12.63	283	*e*Pn	Pn	19 11 19.4	-2.1
	comp=Z,254nm,0.6s						
PALK				*e*Sn	Sn	19 13 26.3	-15
PALK				Sn	Sn	19 13 26.9	-15
MNAI	Manna	13.26	132	⇓P	Pn	19 11 30.0	+0.1
	baz=13,SNR=7.2						
LHSI	Lahat	13.34	129	P	Pn	19 11 33.0	+1.9
	comp=Z,61nm,1.0s,comp=Z,1μm						
PBKT	Sadao Pong	14.18	32	P	Pn	19 11 42.0	-0.5
	comp=Z,104nm,1.5s,comp=Z,1μm						
MDSI	Maura Dua	14.26	129	P	Pn	19 11 43.1	-0.6
	comp=Z,41nm,1.0s,comp=Z,565nm						
LWLI	Liwa	14.51	131	P	Pn	19 11 47.6	+0.4
	comp=Z,133nm,0.7s						
CMAR	Chiang Mai Arr	14.91	22	Pn	Pn	19 11 51.8	-0.6
	comp=Z,1.2nm,0.3s,baz=217,slow=14,SNR=254						
CMAR				Sn	Sn	19 14 40.1	+3.3
	baz=249,slow=17,SNR=2.4						
UTTA	Uttaradit	14.96	29	P	Pn	19 11 52.7	-0.4
	comp=Z,42nm,0.8s,comp=Z,361nm						
KLI	Kotabumi	15.03	129	P	P	19 12 07.2	+8.1
KASI	Kota Agung	15.17	131	P	P	19 12 14.8	+14
CHTO	Chiang Mai	15.23	21	*e*P	Pn	19 11 55.0	-1.8
CHTO				*e*		19 14 50.3	
CHTO				pmax	pmax		
	comp=Z,76nm,0.8s						
CHTO	Chiang Mai	15.23	21	P	Pn	19 11 55.0	-1.8
	comp=Z,547nm,0.9s,comp=Z,6μm						
CHTO	Chiang Mai	15.23	21	*e*Pn	Pn	19 11 55.0	-1.8
	comp=Z,76nm,0.8s						
CHTO				*e*Sn	Sn	19 14 50.2	+5.5
CMMT	Chiang Mai	15.23	21	P	Pn	19 11 55.0	-1.8
	comp=Z,158nm,0.8s,comp=Z,2μm						
LAMP	Lampang	15.23	24	P	Pn	19 11 56.7	-0.1
	comp=Z,48nm,0.7s,comp=Z,350nm						
MDRS	Chennai	15.24	304	*e*P	Pn	19 11 55.5	-1.3
MDRS				AMB	AMB	19 11 56.0	
	comp=Z,95nm,0.9s						
BLSI	Bandar Lampung	15.64	129	P	P	19 12 08.1	+2.1
	comp=Z,168nm,0.9s,comp=Z,1μm						
UBPT	Khong Chiam	16.13	48	P	Pn	19 12 08.8	+0.4
	comp=Z,230nm,1.4s,comp=Z,4μm						
VIS	Vishakhapatnam	16.19	324	*i*P	Pn	19 12 06.8	-2.3
VIS				AMB	AMB	19 12 08.6	
	comp=Z,406nm,0.2s						
VIS				*e*P	P	19 12 08.7	-3.3
VIS				*i* x	x	19 14 51.4	
CMAI	Chiengmai2	16.30	20	P	Pn	19 12 09.6	-1.1
	comp=Z,86nm,1.2s						
TRD	Trivandrum	16.52	284	*e*x	Sn	19 15 00.8	-15
CGJI	Cibinong	16.78	131	P	P	19 12 18.7	+0.1
	comp=Z,107nm,0.8s,comp=Z,1μm						
DLV	T Lat	16.86	63	*e*Pn	Pn	19 12 18.4	+0.6
	comp=Z,716nm,1.4s						
KSM	Kuching	17.44	100	*e*Pn	P	19 12 26.9	+0.9
	comp=Z,69nm,0.9s						
KSM	Kuching	17.44	100	⇓P	P	19 12 26.9	+0.9
	baz=18,SNR=18						
SKJI	Sukabumi	17.68	131	P	P	19 12 34.6	+6.0
	comp=Z,111nm,0.8s,comp=Z,1μm						
CNJI	Cibinong	18.31	130	P	Pn	19 12 42.4	+6.8
	comp=Z,79nm,1.1s,comp=Z,2μm						
LEM	Lembang	18.39	128	P	Pn	19 12 40.6	+3.9
	comp=Z,51nm,1.5s,comp=Z,1μm						
STKI	Sintang	18.88	103	P	Pn	19 12 44.0	+1.4
	comp=Z,85nm,1.3s						
CISI	Cisompet, Garu	18.99	129	P	Pn	19 12 47.5	+3.5
	comp=Z,58nm,0.9s						
CISI	Cisompet, Garu	18.99	129	*e*P	Pn	19 12 40.9	-2.3
	comp=Z,37nm,0.6s						
CISI	Cisompet, Garu	18.99	129	⇑P	Pn	19 12 45.1	+1.1
	baz=19,SNR=4.7						
HYB	Hyderabad	19.13	313	*e*P	P	19 12 44.0	-0.6
HYB				*e*S	S	19 16 22.0	+2.0
HYB	Hyderabad	19.13	313	⇓*i*P	P	19 12 44.0	-0.6
HYB				*e*S	Sn	19 16 11.0	-8.3
HYB	Hyderabad	19.13	313	*e*P	P	19 12 44.9	+0.3
HYB				AMB	AMB	19 12 47.0	
	comp=Z,85nm,0.9s						
HYB	Hyderabad	19.13	313	*e*P	P	19 12 44.0	-0.6
HYB				*e*S	S	19 16 22.0	+2.0
SLVN	Son La	19.66	31	*e*P	P	19 12 50.0	-0.4
	comp=Z,77nm,0.9s						
KPJI	Karang Pucung	19.73	127	P	Pn	19 12 52.2	-0.6
	comp=Z,48nm,0.9s						
MNGI	Mangalore	19.88	296	*e*x	P	19 12 46.7	-6.0
MNGI				*e*x	x	19 17 43.1	
PBKI	Pangkalan Bun	19.91	111	P	Pn	19 12 57.8	+3.0
	comp=Z,184nm,1.0s,comp=Z,2μm						
BTM	Bintulu	19.97	93	⇓P	Pn	19 12 56.3	+0.7
BOK	Bokaro	20.32	341	*e*P	P	19 12 57.4	-0.1
BOK				AMB	AMB	19 13 08.4	
	comp=Z,109nm,1.4s						
SMRI	Semarang	20.80	124	*e*P	P	19 13 03.5	+0.7
	comp=Z,76nm,0.9s						
SHL	Shillong	20.89	357	AMB	AMB	19 13 03.1	
	comp=Z,104nm,6.5s						
SHL				*e*P	P	19 13 03.5	-0.3
UGM	Wanagama	21.35	126	⇑P	P	19 13 10.8	+2.1
	baz=22,SNR=4.3						
NGP	Nagpur	21.39	322	*e*P	P	19 13 10.0	+0.9
NGP				*e*x	x	19 13 32.1	
	comp=Z,266nm,1.3s						
NGP				*e*S	S	19 17 02.8	-2.5
QIZ	Qiongzhong	21.73	47	P	P	19 13 12.6	-0.2
QIZ				S	S	19 17 13.5	+1.4
QIZ				pmax	pmax		
	comp=Z,77nm,1.4s						
QIZ				LR	LR		
	comp=Z,4μm,18.2s						
QIZ				LR	LR		
	comp=Z,890nm,20.1s						
QIZ				LR	LR		
	comp=Z,2μm,19.1s						
QIZ	Qiongzhong	21.73	47	*e*P	P	19 13 12.9	+0.1
	comp=Z,254nm,1.4s						
NGJI	Ngawi	21.82	123	P	P	19 13 22.2	+8.4
	comp=Z,44nm,1.2s						
GOA	Goa	21.84	301	*e*x	P	19 13 11.2	-2.7
GOA				AMB	AMB	19 13 18.9	
	comp=Z,103nm,0.7s						
KMI	Kunming	22.41	23	⇑P	P	19 13 20.4	+0.2
KMI				pP	pP	19 13 22.1	-5.4
KMI				PP	PnPn	19 13 48.4	+4.8
KMI				S	S	19 17 24.5	-0.6
KMI				SS	SnSn	19 18 05.3	+11
KMI				pmax	pmax		
	comp=Z,80nm,1.8s						
KMI				pmax	pmax		
	comp=Z,350nm,3.1s						
KMI				LR	LR		
	comp=Z,2μm,14.5s						
KMI				LR	LR		
	comp=Z,2μm,16.5s						
KMI				LR	LR		
	comp=Z,2μm,14.2s						
KAD	Karad	22.44	306	*e*x	P	19 13 21.0	+0.5
KAD				*e*x	x	19 17 47.8	
MTKI	Muara Teweh, K	22.44	104	P	P	19 13 26.1	+5.6
	comp=Z,100nm,1.3s						
ODAN	Odare	22.81	347	*e*P	P	19 13 23.7	-0.7
	comp=Z,358nm,0.7s						
ODAN	Odare	22.81	347	*e*P	P	19 13 23.7	-0.7
	comp=Z,358nm,0.7s						
KKM	Kota Kinabalu	23.04	85	*e*P	P	19 13 27.1	+0.3
	comp=Z,146nm,1.6s						
KKM	Kota Kinabalu	23.04	85	⇓P	P	19 13 27.8	+0.9
	baz=23,SNR=5.3						
RAMN	Ramite	23.09	345	*e*P	P	19 13 27.5	+0.2
	comp=Z,344nm,0.6s						
RAMN	Ramite	23.09	345	*e*P	P	19 13 27.5	+0.2
	comp=Z,344nm,0.6s						
BBKI	Banjar Baru	23.13	110	P	P	19 13 28.6	+0.9
	comp=Z,201nm,0.9s,comp=Z,5μm						
TAPN	Taplejung	23.21	348	*e*P	P	19 13 27.9	-0.7
	comp=Z,366nm,0.8s						
TAPN	Taplejung	23.21	348	*e*P	P	19 13 27.9	-0.7
	comp=Z,366nm,0.8s						
POO	Poona	23.37	308	*e*P	P	19 13 30.4	+0.3
POO				AMB	AMB	19 13 33.1	
	comp=Z,58nm,2.3s						
POO				*i* SS	SS	19 18 20.0	
KMMI	Kalianget	23.81	119	P	P	19 13 37.4	+3.1
	comp=Z,63nm,0.9s,comp=Z,1μm						
BLJI	Banyuglugur	23.83	121	P	P	19 13 41.5	+7.1
	comp=Z,57nm,0.9s						
JIRN	Jiri	23.87	345	*e*P	P	19 13 35.1	0.0
JIRN	Jiri	23.87	345	*e*P	P	19 13 35.1	0.0
H08S2	Diego Garcia H	23.90	240	T	T	19 38 24.9	
	baz=60,slow=76,SNR=2095						
H08S3	Diego Garcia H	23.90	240	T	T	19 38 28.1	
	baz=60,slow=76						
H08S1	Diego Carcia H	23.92	240	T	T	19 38 27.4	
	baz=60,slow=76,SNR=8873						
BHPL	Bhopal	23.94	322	*e*P	P	19 13 33.9	-1.6
PKI	Pulchoki	24.00	343	*e*P	P	19 13 36.2	-0.1
	comp=Z,462nm,1.0s						
PKI	Pulchoki	24.00	343	*e*P	P	19 13 36.7	+0.4
PKI	Pulchoki	24.00	343	*e*P	P	19 13 36.7	+0.4
SDKM	Sandakan	24.00	86	⇓P	P	19 13 36.6	+0.4
PKIN	Phulchoki	24.01	343	*e*P	P	19 13 36.7	+0.3
DMN	Daman	24.13	342	*e*P	P	19 13 37.3	-0.1
	comp=Z,286nm,0.6s						
DMN	Daman	24.13	342	*e*P	P	19 13 37.3	-0.1
	comp=Z,286nm,0.6s						
GUN	Gumba	24.19	344	*e*P	P	19 13 38.2	+0.1
	comp=Z,184nm,0.6s						
GUN	Gumba	24.19	344	*e*P	P	19 13 38.2	+0.1
	comp=Z,184nm,0.6s						
KKN	Kakani	24.24	343	*e*P	P	19 13 38.4	-0.1
KKN	Kakani	24.24	343	*e*P	P	19 13 38.4	-0.1
KKN	Kakani	24.24	343	*e*P	P	19 13 38.4	-0.1
ABJI	Asem Bagus	24.40	120	P	P	19 13 46.3	+6.5
	comp=Z,56nm,1.0s						
GKN	Gorkha	24.64	342	*e*P	P	19 13 42.2	+0.2
	comp=Z,640nm,1.0s						
GKN	Gorkha	24.64	342	*e*P	P	19 13 42.2	+0.2
	comp=Z,640nm,1.0s						
JAGI	Jajag, Banyuwa	24.67	122	P	P	19 13 47.2	+5.0
	comp=Z,32nm,0.9s						
JAGI	Jajag, Banyuwa	24.67	122	*e*P	P	19 13 41.2	-1.0
	comp=Z,18nm,0.7s						
JAGI	Jajag, Banyuwa	24.67	122	⇓P	P	19 13 42.5	+0.2
	baz=25,SNR=4.5						
TSM	Tawau	24.68	90	⇓P	P	19 13 43.0	+0.6
KOLN	Koldanda	24.77	340	*e*P	P	19 13 43.5	+0.3
	comp=Z,210nm,0.7s						
KOLN	Koldanda	24.77	340	*e*P	P	19 13 43.5	+0.3
	comp=Z,210nm,0.7s						
LSA	Lhasa	25.04	356	P	P	19 13 46.3	+0.3
LSA				S	S	19 17 59.8	-9.2
LSA				sS	sS	19 18 21.8	-0.1
LSA				LR	LR		
	comp=Z,890nm,27.1s						
LSA				LR	LR		
	comp=Z,1μm,32.3s						
LSA				LR	LR		
	comp=Z,2μm,22.9s						
LSA	Lhasa	25.04	356	*e*P	P	19 13 46.2	+0.3
LSA				*e*S	S	19 18 03.2	-5.8
LSA				pmax	pmax		
	comp=Z,70nm,0.6s						
LSA	Lhasa	25.04	356	*e*P	P	19 13 46.2	+0.2
	comp=Z,70nm,0.6s						
LSA				*e*S	S	19 18 03.2	-5.8
DANN	Dangsing	25.24	340	*e*P	P	19 13 47.8	+0.2
	comp=Z,329nm,0.7s						
DANN	Dangsing	25.24	340	*e*P	P	19 13 47.8	+0.2
	comp=Z,329nm,0.7s						
MYLDM	Lahad Datu	25.30	88	⇑P	P	19 13 49.9	+2.0
GYA	Guiyang	25.31	29	⇑*i*P	P	19 13 46.9	-1.1
GYA				PP	PnPn	19 14 26.8	+3.6
GYA				PcP	PcP	19 17 21.3	+0.5
GYA				S	S	19 18 12.5	-0.2
GYA				SS	SnSn	19 19 14.5	+9.3
GYA				ScP	ScP	19 21 01.0	+2.6
GYA				pmax	pmax		
	comp=Z,70nm,0.8s						
GYA				pmax	pmax		
	comp=Z,350nm,6.5s						
GYA				LR	LR		
	comp=Z,2μm,13.8s						
GYA				LR	LR		
	comp=Z,1μm,12.9s						
GYA				LR	LR		
	comp=Z,2μm,16.1s						
SRBI	Singaraja	25.39	120	P	P	19 13 51.4	+2.7
	comp=Z,107nm,1.3s,comp=Z,1μm						
MPSI	Mapaga	27.08	98	P	P	19 14 05.6	+1.5
	comp=Z,56nm,1.2s,comp=Z,774nm						
LGTI	Lohaghat	27.56	335	*e*x	P	19 14 13.9	+5.7
CD2	Chengdu	28.03	20	*e*P	P	19 14 12.8	+0.4
CD2				pP	pP	19 14 17.1	-3.2
CD2				sP	sP	19 14 19.8	-3.7
CD2				PP	PnPn	19 15 03.0	+2.8
CD2				PcP	PcP	19 17 27.3	+0.3

CD2 S S 19 18 57.4 +2.0
CD2 sS sS 19 19 03.3 -5.1
CD2 SS SnSn 19 20 19.4 +7.9
CD2 pmax pmax
comp=Z,90nm,0.8s
CD2 pmax pmax
comp=Z,180nm,4.1s
CD2 LR LR
comp=Z,2µm,12.1s
CD2 LR LR
comp=Z,3µm,13.3s
CD2 LR LR
comp=Z,2µm,12.2s
AJM Ajmer 28.03 323 *ex* P 19 14 13.0 +0.5
KAPI Kappang 28.26 109 P P 19 14 07.1 -7.5
comp=Z,123nm,0.9s
NDI New Delhi 28.32 330 *ex* P 19 14 17.0 +2.0
NDI *ex* x 19 19 41.0
BNSI Bone 28.40 108 P P 19 14 18.4 +2.5
comp=Z,34nm,1.4s
BKSI Bulukumba 28.71 110 P P 19 14 20.4 +1.7
comp=Z,56nm,0.8s,comp=Z,477nm
APSI Ampana 29.02 100 P P 19 14 25.5 +4.1
comp=Z,77nm,1.1s,comp=Z,833nm
MRSI Marisa 29.08 97 P P 19 14 26.2 +4.3
comp=Z,37nm,1.4s
DDI Dehra Dun 29.27 333 *e*P P 19 14 24.4 +0.9
DDI AMB AMB 19 14 25.9
comp=Z,49nm,2.7s
BHJ Bhuj 29.28 312 *ex* P 19 14 16.3 -7.3
ENH Enshi 29.85 29 *e*P P 19 14 26.0 -2.6
comp=Z,6.6nm,0.7s
LUWI Luwuk 30.15 100 ⇓P P 19 14 32.3 +0.9
baz=30,SNR=3.8
SMLA Simla 30.36 332 *e*P P 19 14 32.9 -0.2
SMLA AMB AMB 19 14 34.8
comp=Z,48nm,0.0s
BHK Bhakra 30.95 331 *e*P P 19 14 37.0 -1.3
KMSI Cibinong 31.08 96 P P 19 14 44.0 +4.3
comp=Z,209nm,0.9s,comp=Z,2µm
DHRM DHARAMSHALA 31.70 332 *e*P4 P 19 14 42.1 -3.0
DHRM AMB AMB 19 14 46.3
comp=Z,42nm,1.7s
MMRI Maumere 31.87 114 *e*P P 19 14 43.5 -3.1
WHN Wuhan 32.66 35 ⇓P P 19 14 53.4 +0.1
WHN S S 19 20 06.4 -1.6
WHN LR LR
comp=Z,3µm,12.4s
WHN LR LR
comp=Z,2µm,9.1s
WHN LR LR
comp=Z,4µm,13.0s
XAN Xi'an 32.77 25 P P 19 14 52.8 -1.5
XAN pP pP 19 14 56.5 -5.7
XAN pmax pmax
comp=Z,20nm,0.8s
XAN LR LR
comp=Z,1µm,24.5s
XAN LR LR
comp=Z,600nm,24.5s
XAN LR LR
comp=Z,410nm,16.3s
LZH Lanzhou 32.86 16 ⇑P P 19 14 54.8 -0.4
LZH pP pP 19 14 57.1 -6.0
LZH sP sP 19 14 58.8 -7.6
LZH PP PnPn 19 16 02.3 -2.0
LZH S S 19 20 11.0 -0.3
LZH SS SnSn 19 22 12.5 +3.4
LZH ScS ScS 19 25 23.3 +1.0
LZH pmax pmax
comp=Z,110nm,1.2s
LZH pmax pmax
comp=Z,310nm,4.2s
LZH LR LR
comp=Z,2µm,14.6s
LZH LR LR
comp=Z,2µm,13.2s
LZH LR LR
comp=Z,2µm,16.5s
SSLB Suanglung 32.92 52 P P 19 14 49.8 -6.0
BATI Baumata 33.79 116 LR LR 19 30 10.7
comp=Z,3µm,21.7s,baz=270,slow=39
SOEI Soe 34.15 115 *e*P P 19 15 03.6 -3.1
comp=Z,50nm,0.8s
SOEI Soe 34.15 115 ⇑P P 19 15 04.7 -2.0
baz=34,SNR=3.3
LBMI Labuha 34.74 98 P P 19 15 14.7 +3.0
comp=Z,51nm,0.8s,comp=Z,937nm
NLAI Namlea 34.83 102 P P 19 15 16.7 +4.2
comp=Z,152nm,0.7s,comp=Z,2µm
GTA Gaotai 35.18 9 *e*P P 19 15 15.4 +0.1
GTA pP pP 19 15 19.5 -3.7
GTA sP sP 19 15 22.8 -3.7
GTA S S 19 20 48.8 +1.7
GTA sS sS 19 20 57.1 -3.1
GTA SS SnSn 19 23 07.8 +2.5
GTA ScS ScS 19 25 33.8 -0.6
GTA pmax pmax
comp=Z,34nm,1.3s
GTA pmax pmax
comp=Z,120nm,5.9s
GTA LR LR
comp=Z,510nm,23.5s
GTA LR LR
comp=Z,650nm,21.9s
GTA LR LR
comp=Z,590nm,22.8s
NJ2 Nanjing 36.43 38 *e*P P 19 15 25.9 0.0
NJ2 S S 19 21 08.4 +2.2
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 LR LR
comp=Z,2µm,11.5s
NJ2 LR LR
comp=Z,2µm,12.5s
NJ2 LR LR
comp=Z,2µm,12.8s
MBWA Marble Bar 36.55 135 *e*P P 19 15 26.9 -0.2
comp=Z,22nm,1.1s
SSE Sheshan 37.30 42 *e*P P 19 15 34.8 +1.5
SSE S S 19 21 22.1 +2.7
SSE pmax pmax
comp=Z,16nm,1.0s
SSE pmax pmax
comp=Z,100nm,3.6s
SSE LR LR
comp=Z,2µm,18.6s
SSE LR LR
comp=Z,400nm,18.6s
SSE LR LR
comp=Z,2µm,14.1s
KSH Kashi 38.07 338 P P 19 15 37.8 -2.1
KSH *e*PP PP 19 17 07.4 +0.2
KSH S S 19 21 28.5 -2.7
KSH PcS PcS 19 21 39.1 -4.8
KSH SS SnSn 19 24 04.4 -11
KSH ScS ScS 19 25 48.3 -2.1
KSH pmax pmax
comp=Z,13nm,0.7s
KSH pmax pmax
comp=Z,180nm,4.2s
KSH LR LR
comp=Z,420nm,15.6s
KSH LR LR
comp=Z,720nm,14.6s
KSH LR LR
comp=Z,680nm,17.1s
TIA Tai'an 38.44 32 P P 19 15 42.5 -0.4
TIA S S 19 21 37.1 +0.5
TIA pmax pmax
comp=Z,20nm,1.3s
TIA LR LR
comp=Z,1µm,19.0s
TIA LR LR
comp=Z,2µm,19.6s
TIA LR LR
comp=Z,560nm,23.8s
SWI Sorong 38.49 97 P P 19 15 44.2 +0.6
BTO Baotou 38.94 21 *e*P P 19 15 44.5 -2.7
WMQ Urumqi 39.36 354 P P 19 15 51.0 +0.4
WMQ PP PnPn 19 17 25.0 +1.0
WMQ PcP PcP 19 18 00.4 +1.7
WMQ S S 19 21 52.8 +2.5
WMQ SS SS 19 24 37.3 -7.4
WMQ ScS ScS 19 25 59.3 +1.7
WMQ pmax pmax
comp=Z,23nm,1.0s
WMQ pmax pmax
comp=Z,210nm,3.6s
WMQ LR LR
comp=Z,710nm,20.4s
WMQ LR LR
comp=Z,1µm,20.0s
WMQ LR LR
comp=Z,990nm,32.0s
HHC Hu-ho-hao-te 39.72 22 ⇑P P 19 15 54.0 +0.3
HHC PP PnPn 19 17 32.4 +4.0
HHC PcS PcS 19 21 49.3 -0.8
HHC S S 19 21 56.6 +0.7
HHC SS SS 19 24 49.5 -2.6
HHC pmax pmax
comp=Z,100nm,1.4s
HHC pmax pmax
comp=Z,440nm,5.0s
HHC LR LR
comp=Z,2µm,14.9s
HHC LR LR
comp=Z,2µm,16.2s
HHC LR LR
comp=Z,1µm,14.9s
FAKI Fak Fak 39.80 100 P P 19 15 54.0 -0.6
baz=40,SNR=14
JOW Kunigami 40.18 53 P P 19 15 58.2 +0.6
comp=Z,2.8nm,0.8s,baz=234,slow=14,SNR=3.1
KZA Kyzart 40.58 339 P P 19 16 01.5 +0.3
SNR=13
KZA Kyzart 40.58 339 *i* P P 19 16 01.5 +0.3
KNRA Kununurra 40.63 120 ⇓P P 19 16 03.0 +1.6
baz=41,SNR=4.1
HATD Hatta, Dubai 40.82 303⇑*i*P P 19 16 04.9 +1.9
SNR=6.8
BJT Baijiatuau 40.94 27 *e*P P 19 16 03.9 +0.2
BJT pmax pmax
comp=Z,15nm,0.4s
BJT Baijiatuau 40.94 27 *e*P P 19 16 03.9 +0.2
comp=Z,15nm,0.4s
BJI Beijing 40.96 27 P P 19 16 04.3 +0.5
BJI S S 19 22 15.4 +1.2
BJI pmax pmax
comp=Z,22nm,0.8s
BJI pmax pmax
comp=Z,200nm,3.6s
BJI LR LR
comp=Z,730nm,19.9s
BJI LR LR
comp=Z,970nm,20.9s
BJI LR LR
comp=Z,650nm,33.3s
UCH Uchtor 40.98 339 P P 19 16 04.8 +0.3
SNR=42
UCH Uchtor 40.98 339 *i* P P 19 16 04.8 +0.3
AML Almayashu 41.19 338 P P 19 16 06.7 +0.5
SNR=52
AML Almayashu 41.19 338 *i* P P 19 16 06.7 +0.5
KBK Karagaybulak 41.20 340 P P 19 16 06.8 +0.8
SNR=42
KBK Karagaybulak 41.20 340 *i* P P 19 16 06.8 +0.8
PALU Palau 41.21 84 ⇓P P 19 16 05.3 -1.0
baz=41,SNR=3.1
TKM2 Tokmak 2 41.21 340 P P 19 16 06.3 +0.2
SNR=17
TKM2 Tokmak 2 41.21 340 *e*P P 19 16 05.7 -0.4
TKM2 pmax pmax
comp=Z,9.0nm,0.6s
TKM2 Tokmak 2 41.21 340 *e*P P 19 16 05.7 -0.4
comp=Z,9.3nm,0.6s
FAQ Al Faqa, Dubai 41.24 303 *i* P P 19 16 07.9 +1.5
SNR=6.1
AAK Ala-Archa 41.34 339 P P 19 16 07.9 +0.8
comp=Z,110nm,0.8s,SNR=12
AAK Ala-Archa 41.34 339 P P 19 16 07.2 +0.1
SNR=16
AAK Ala-Archa 41.34 339*de*P P 19 16 07.1 0.0
AAK pmax pmax
comp=Z,108nm,2.7s
AAK Ala-Archa 41.34 339 LR LR 19 36 03.8
comp=Z,2µm,19.6s,baz=144,slow=40
AAK Ala-Archa 41.34 339 *e*P P 19 16 06.9 -0.2
comp=Z,18nm,0.9s
ASUD Al Ashush, Dub 41.42 303⇑*i*P P 19 16 09.9 +2.1
SNR=18
FRU Bishkek 41.47 339⇑*i*P P 19 16 08.0 0.0
FRU *i* 19 16 18.0
FRU *e* 19 17 46.0
FRU *e* 19 22 12.0
FRU pmax pmax
comp=Z,100nm,2.1s
FRU MLR MLR
comp=Z,1µm,20.0s
MTN Manton Dam 41.55 115 ⇓P P 19 16 09.3 +0.2
baz=42,SNR=5.8
CHMS Chumysh 41.57 340 P P 19 16 08.9 0.0
SNR=6.8
CHMS Chumysh 41.57 340 *i* P P 19 16 08.8 0.0
EKS2 Erkin-Say 41.62 338 P P 19 16 10.1 +0.7
SNR=29
EKS2 Erkin-Say 41.62 338 *e*P P 19 16 09.4 0.0
EKS2 pmax pmax
comp=Z,20nm,0.7s
EKS2 Erkin-Say 41.62 338 *e*P P 19 16 09.4 0.0
comp=Z,20nm,0.7s
IDAH Dahanechah 41.80 316 *e*P P 19 16 12.9 +1.7
USP Ospenovka 41.89 340 P P 19 16 11.7 +0.1
SNR=36
USP Ospenovka 41.89 340 *i* P P 19 16 11.6 +0.1
IKOO Kooshah 42.23 315 *e*P P 19 16 15.9 +1.2
ITEG Tejag 42.67 316 *e*P P 19 16 19.8 +1.6
MK31 Makanchi Array 43.07 349 *e*P P 19 16 20.6 -0.4
MK31 pmax pmax
comp=Z,38nm,1.0s
MKAR Makanchi Array 43.07 349 P P 19 16 20.8 -0.2
comp=Z,15nm,0.8s,baz=169,slow=9.0,SNR=189
MKAR pP pP 19 16 30.4 +1.4
comp=Z,21nm,0.8s,baz=173,slow=7.6,SNR=24
MKAR LR LR 19 37 52.2
comp=Z,506nm,19.6s,baz=164,slow=41
KK31 Karatay Array 43.27 336 *i* P P 19 16 21.9 -0.7
KK31 pmax pmax
comp=Z,24nm,0.9s
KKAR Karatay Array 43.27 336 *e*P P 19 16 21.9 -0.7
KKAR pmax pmax
comp=Z,16nm,0.7s
KKAR Karatay Array 43.27 336 *e*P P 19 16 21.9 -0.7
comp=Z,16nm,0.7s
NWAO Narrogin (SRO) 43.77 150 LR LR 19 33 42.2
comp=Z,850nm,19.2s,baz=10.0,slow=35
H01W3 Cape Leeuwin H 43.97 155 T T 20 03 30.3
baz=330,slow=76,SNR=305
H01W2 Cape Leeuwin H 43.98 155 T T 20 03 31.2
baz=330,slow=76,SNR=351
H01W1 Cape Leeuwin H 43.99 155 T T 20 03 31.6
baz=330,slow=76,SNR=333
IBAF Bafgh 44.28 312 *e*P P 19 16 31.8 +0.6
SONM Songino Array 44.56 13 P P 19 16 33.3 +0.2
comp=Z,13nm,0.7s,baz=194,slow=8.1,SNR=170
SONM PcP PP 19 18 16.8 -0.6
comp=Z,3.3nm,0.7s,baz=205,slow=8.2,SNR=4.1
TJN Taejon 44.60 40 *e*P P 19 16 28.8 -4.6
ULN Ulaanbaatar 44.74 13*ce*P P 19 16 34.4 -0.1
ULN pmax pmax
comp=Z,15nm,0.7s
ULN Ulaanbaatar 44.74 13 *e*P P 19 16 34.4 -0.1
comp=Z,12nm,0.6s
ULN *e*PcP PcP 19 18 16.2 -0.3
IAKL Akhelmad 44.81 320 *e*P P 19 16 32.9 -2.6
IMEH Mehriz 44.90 311 *e*P P 19 16 34.5 -1.7
WRKA Warakurna 45.12 132 P P 19 16 38.5 +0.7
baz=45,SNR=3.6
ISRV Sarvestan 45.15 308 *e*P P 19 16 39.4 +1.0
JNU Nakatsue 45.20 46 P P 19 16 38.2 -0.1
comp=Z,14nm,0.8s,baz=259,slow=2.1,SNR=6.2
JNU LR LR 19 36 34.7
comp=Z,1µm,19.3s,baz=232,slow=38
IEMG Emamgholi 45.37 321 *e*P P 19 16 40.8 +0.8
IPAR Pars 45.40 308 *e*P P 19 16 42.1 +1.8
KSAR Wonju Array Be 45.58 39 P P 19 16 40.7 -0.5
KSAR Wonju Array Be 45.58 39 P P 19 16 40.6 -0.5
KSRS Korea Array 45.61 39 P P 19 16 40.6 -0.7
comp=Z,3.4nm,0.7s,baz=226,slow=8.9,SNR=16
KSRS LR LR 19 37 52.6
comp=Z,826nm,18.6s,baz=235,slow=39
SNY Shenyang 45.97 32 ⇑P P 19 16 43.3 -0.9
SNY S S 19 23 26.3 -1.2
SNY pmax pmax
comp=Z,19nm,1.6s
SNY LR LR
comp=Z,830nm,19.8s
SNY LR LR
comp=Z,510nm,11.7s
SNY LR LR
comp=Z,1µm,16.5s
ABKT Ailbek 46.02 321 P P 19 16 45.3 +0.6
comp=Z,292nm,0.6s,SNR=13
ZAK Zakamensk 46.42 9 *e*P P 19 16 47.9 +0.1
ZAK *e* 19 18 32.3
ZAK pmax pmax
comp=Z,9.0nm,1.4s
WRA Warramunga Arr 47.28 122 P P 19 16 55.2 +0.3
comp=Z,16nm,1.0s,baz=300,slow=8.9,SNR=72
WRA LR LR 19 37 32.1
comp=Z,785nm,21.6s,baz=280,slow=37
WRAB Tennant Creek 47.29 122 P P 19 16 55.5 +0.6
comp=Z,129nm,0.6s,SNR=12
WRAB Tennant Creek 47.29 122*c i*P P 19 16 55.3 +0.4
WRAB pmax pmax
comp=Z,74nm,1.3s
WRAB Tennant Creek 47.29 122 *e*P P 19 16 55.0 +0.1
comp=Z,19nm,0.8s
IZEF Zefreh 47.31 312 *e*P P 19 16 54.5 -0.8
MOY Mondy 47.37 7 *e*P P 19 16 56.3 +1.1
IANJ Anjilo 47.43 316 *e*P P 19 16 55.8 -0.2
KURK Kurchatov 47.55 348 P P 19 16 56.0 -0.3
comp=Z,92nm,0.8s,SNR=25
KURK Kurchatov 47.55 348 *e*P P 19 16 56.1 -0.3
KURK pmax pmax
comp=Z,24nm,0.9s
KURK Kurchatov 47.55 348 *e*P P 19 16 56.1 -0.3
comp=Z,24nm,0.9s
TLY Talaya 47.74 9 *e*P P 19 16 59.3 +1.4
TLY pmax pmax
comp=Z,16nm,1.4s
TLY MLR MLR
comp=Z,631nm,18.0s
TLY Talaya 47.74 9 *e*P P 19 16 58.2 +0.2
comp=Z,8.0nm,0.8s
IGLO Ghaloghah 48.03 317 *e*P P 19 17 00.8 +0.1
ILAS Lasjerd 48.06 315 *e*P P 19 17 01.1 +0.2
IKLH Kolahrood 48.07 312 *e*P P 19 17 00.5 -0.6
IPIR Pirpir 48.30 311 *e*P P 19 17 02.8 -0.1
CN2 Changchun 48.33 31 *e*P P 19 17 02.0 -0.6
CN2 *e*S S 19 24 02.6 +1.4
CN2 SS SS 19 27 27.1 -4.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,500nm,14.0s
IRK Irkutsk 48.38 9 *e*P P 19 17 03.5 +0.6
IRK *e* 19 19 00.1
IRK pmax pmax
comp=Z,52nm,1.7s
IALA Alasht 48.51 316 *e*P P 19 17 05.2 +0.7
ASAR Alice Springs 48.68 127 P P 19 17 05.9 +0.2
comp=Z,5.2nm,1.0s,baz=305,slow=7.2,SNR=32
ASAR LR LR 19 40 56.9
comp=Z,387nm,19.8s,baz=312,slow=40
IVRN Varamin 48.74 314 *e*P P 19 17 06.3 +0.3
IPRN Peran 48.92 316 *e*P P 19 17 07.7 +0.2
RAYN Ar Rayn 49.58 297 P P 19 17 13.6 +1.0
comp=Z,1.0nm,1.0s,SNR=14
RAYN Ar Rayn 49.58 297 *e*P P 19 17 13.0 +0.4
comp=Z,28nm,0.8s
ZALV Zalesovo Beam 49.66 354 P P 19 17 12.9 +0.3
comp=Z,16nm,0.5s,baz=181,slow=7.6,SNR=80
ZALV pP pP 19 17 22.9 +2.2
comp=Z,39nm,0.9s,baz=180,slow=6.8,SNR=11
ZALV LR LR 19 41 34.3
comp=Z,416nm,19.7s,baz=220,slow=40
HIA Hailar 49.92 23 *e*P P 19 17 14.4 -0.3
HIA pmax pmax
comp=Z,44nm,1.0s
HIA Hailar 49.92 23 *e*P P 19 17 14.4 -0.3
comp=Z,44nm,1.0s
CIT Chita 50.22 16 *e*P P 19 17 17.1 +0.1
CIT *e* 19 17 26.7
CIT *e* 19 18 35.8
IRAZ Razeghan 50.24 313 *e*P P 19 17 18.0 +0.4
NVS Novosibirsk 50.73 353⇓*i*P P 19 17 20.1 -0.6
NVS *e*S S 19 24 32.9 -1.4
NVS pmax pmax
comp=N,19nm,0.9s
NVS pmax pmax
comp=E,17nm,0.9s
NVS pmax pmax
comp=Z,33nm,0.9s
NVS smax smax
comp=N,36nm,2.4s
NVS smax smax
comp=E,46nm,2.4s
ABPO Ambohimpanom 50.90 241 *e*P P 19 17 24.3 +1.5
ABPO pmax pmax
comp=Z,45nm,1.1s
ABPO Ambohimpanom 50.90 241 *e*P P 19 17 24.3 +1.5
comp=Z,45nm,1.1s
MDJ Mudanjiang 51.08 33 P P 19 17 23.9 +0.4
MDJ PP PP 19 19 20.8 +0.4
MDJ S S 19 24 40.1 +0.5
MDJ ScS ScS 19 27 15.1 +2.6
MDJ SS SS 19 28 19.6 +4.5
MDJ pmax pmax
comp=Z,26nm,1.4s
MDJ pmax pmax
comp=Z,150nm,4.6s
MDJ LR LR
comp=Z,830nm,23.2s
MDJ LR LR
comp=Z,510nm,20.6s
MDJ LR LR
comp=Z,750nm,16.5s
MDJ Mudanjiang 51.08 33 *e*P P 19 17 23.0 -0.5
comp=Z,51nm,1.4s
VOSK Vostochnaya 51.33 343 P P 19 17 24.5 -0.8
VOSK pmax pmax
comp=Z,41nm,0.7s
VLA Vladivostok 51.44 36⇑*i*P P 19 17 26.2 0.0
VLA *e* 19 18 38.9
VLA *e* 19 19 22.3
VLA *e*S S 19 24 47.4 +2.8
VLA pmax pmax
comp=Z,27nm,1.3s
BVA0 Borovoye Array 51.77 343 *i* P P 19 17 27.8 -0.8
BVA0 pmax pmax
comp=Z,37nm,1.0s
JCJ Chichijima 51.81 59 LR LR 19 40 50.1
comp=Z,311nm,18.7s,baz=208,slow=38
BRVK Borovoye 51.83 343 P P 19 17 28.6 -0.4
comp=Z,215nm,0.7s,SNR=17
BRVK Borovoye 51.83 343 *e*P P 19 17 28.2 -0.8
BRVK *e* 19 17 38.4
BRVK pmax pmax
comp=Z,26nm,0.8s
BRVK Borovoye 51.83 343 *e*P P 19 17 28.1 -0.8
comp=Z,26nm,0.8s
BRVK *e* 19 17 38.4
QIS Mount Isa 52.02 120 ⇑P P 19 17 31.3 +0.4
baz=52,SNR=6.6
MAJO Matsushiro 52.12 46 *e*P P 19 17 30.8 -0.7
MAJO pmax pmax
comp=Z,10.0nm,0.8s
MAJO Matsushiro 52.12 46 *e*P P 19 17 30.8 -0.7
comp=Z,10nm,0.8s
MJAR Matsushiro Arr 52.12 46 P P 19 17 31.0 -0.6
comp=Z,4.1nm,0.7s,baz=247,slow=7.3,SNR=14
MJAR PcP PcP 19 18 43.8 +0.6
comp=Z,7.4nm,1.1s,baz=222,slow=1.6,SNR=6.2
MJAR LR LR 19 40 45.4
comp=Z,594nm,20.9s,baz=240,slow=37
USRK Ussuriysk Arra 52.16 35 P P 19 17 31.3 -0.2
comp=Z,2.4nm,0.7s,baz=243,slow=7.7,SNR=10
USRK LR LR 19 39 59.7
comp=Z,653nm,19.8s,baz=236,slow=36
IDHR Dehrash 52.55 311 *e*P P 19 17 33.6 -1.3

AB31 Akbulak array 52.64 333 i P P 19 17 34.7 -0.4
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 52.64 333 eP P 19 17 34.5 -0.6
comp=Z,21nm,0.7s
ABKAR e 19 17 44.1
AKTO Aktyubinsk 54.36 333 P P 19 17 46.3 -1.4
AKTO pmax pmax
comp=Z,19nm,0.8s
IMRD Marand 54.74 315 eP P 19 17 50.7 -0.2
KLR Kul'dur 55.21 30 eP P 19 17 49.8 -4.1
KLR eS S 19 25 32.5 -3.1
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s
KLR MLR MLR
comp=N,600nm,19.0s
KLR MLR MLR
comp=E,1μm,19.0s
KLR MLR MLR
comp=Z,2μm,12.0s
MTSU Mount Surprise 55.29 116 P P 19 17 56.2 +1.2
baz=55,SNR=5.7
MAK Makhachkala 55.53 320 eP P 19 17 56.2 -0.1
MAK e 19 18 53.7
MAK S S 19 25 40.3 +0.2
MAK pmax pmax
comp=Z,21nm,0.6s
MAK MLR MLR
comp=Z,480nm,14.0s
PMG Port Moresby 55.62 105 eP P 19 17 56.9 -0.5
PMG e 19 18 06.3
PMG pmax pmax
comp=Z,22nm,0.8s
PMG Port Moresby 55.62 105 P P 19 17 57.3 -0.1
comp=Z,9.8nm,0.9s,baz=262,slow=4.6,SNR=6.7
PMG LR LR 19 45 46.8
comp=Z,381nm,19.1s,baz=271,slow=40
PMG Port Moresby 55.62 105 eP P 19 17 56.9 -0.5
comp=Z,22nm,0.8s
PMG e 19 18 06.3
PMG Port Moresby 55.62 105 ⇑P P 19 17 57.8 +0.4
baz=56,SNR=5.6
GNI Garni 56.04 316 eP P 19 17 57.4 -2.8
GNI pmax pmax
comp=Z,24nm,1.1s
GNI Garni 56.04 316 eP P 19 17 57.4 -2.8
comp=Z,24nm,1.1s
KMBO Kilima Mbogo 56.10 266 eP P 19 18 02.6 +1.4
KMBO e 19 18 13.5
KMBO pmax pmax
comp=Z,16nm,0.9s
KMBO Kilima Mbogo 56.10 266 P P 19 18 02.8 +1.6
comp=Z,8.0nm,0.8s,baz=97,slow=7.9,SNR=28
KMBO Kilima Mbogo 56.10 266 eP P 19 18 02.6 +1.4
comp=Z,16nm,0.9s
KMBO e 19 18 13.5
KMBO Kilima Mbogo 56.10 266 ⇓P P 19 18 02.6 +1.4
baz=56,SNR=3.7
DGRG David-gareji 56.20 318 P P 19 18 01.3 +0.2
HABR Khabarovsk 56.43 32 ceP P 19 18 00.0 -2.6
HABR e*SP sP 19 18 04.6 -9.5
HABR 19 18 54.5
HABR e 19 20 05.0
HABR PPP PPP 19 21 20.3
HABR eS S 19 25 51.8 -0.1
HABR e*SS sS 19 25 57.3 -8.2
HABR e 19 27 49.2
HABR eSS SS 19 29 40.4 +1.1
HABR MLR MLR
comp=Z,763nm,19.0s
SIRT Sirnak 56.59 313 eP P 19 18 00.8 -3.3
TBLG Delisi 56.75 318 P P 19 18 03.8 -1.2
DUS Dusheti 56.93 318 P P 19 18 09.4 +3.0
AGRB Hanur-Agry 57.01 315 eP P 19 18 06.3 -0.9
PAF Port-aux-Franc 57.30 198 P P 19 18 02.0 -6.7
PAF PP PP 19 20 09.0 -7.2
PAF S S 19 25 58.0 -5.2
PAF L L 19 32 00.0
PAF R 19 34 00.0
AKH Akhalkalaki 57.44 317 P P 19 18 10.3 +0.2
HTT Hallett 57.49 135 ⇓P P 19 18 11.7 +1.3
baz=58,SNR=4.4
CTA Charters Tower 57.66 117 P P 19 18 12.2 +0.4
comp=Z,13nm,1.0s,baz=287,slow=9.1,SNR=9.0
CTAO Charters Tower 57.66 117 eP P 19 18 12.1 +0.2
CTAO pmax pmax
comp=Z,13nm,0.8s
CTAO Charters Tower 57.66 117 eP P 19 18 12.1 +0.2
comp=Z,13nm,0.8s
ZEI Tsey 57.78 319 eP P 19 18 11.6 -0.9
ZEI pmax pmax
comp=Z,10.0nm,1.0s
SFNV Sufian 57.94 311 eP P 19 18 14.4 +0.8
VRTB Varto-Mus 57.94 314 eP P 19 18 18.3 +4.6
ONI Oni 57.99 318 P P 19 18 14.0 +0.2
MAZI Mazidag 58.05 312 eP P 19 18 11.7 -2.7
SVE Sverdlovsk 58.08 340 ⇑iP P 19 18 13.9 -0.2
SVE pmax pmax
comp=Z,51nm,0.8s
SVE MLR MLR
comp=Z,1μm,22.0s
QLP Quilpie 58.34 125 P P 19 18 18.0 +1.6
baz=58,SNR=8.5
BNGB Bing¨¶l 58.44 314 eP P 19 18 14.8 -2.3
ARU Arti 58.52 338 P P 19 18 16.5 -0.7
comp=Z,158nm,0.9s,SNR=14
ARU Arti 58.52 338 d iP P 19 18 16.2 -1.0
ARU i 19 19 04.1
ARU S S 19 26 20.2 +1.2
ARU SS SS 19 30 08.7 -3.1
ARU pmax pmax
comp=Z,29nm,1.0s
ARU MLR MLR
comp=Z,911nm,19.0s
ARU Arti 58.52 338 eP P 19 18 15.9 -1.2
comp=Z,19nm,0.8s
ARU e 19 18 26.3
ASAJ Asahikawa 58.55 40 P P 19 18 18.1 +0.4
comp=Z,9.3nm,0.6s,baz=201,slow=4.0,SNR=5.5
ASAJ Asahikawa 58.55 40 eP P 19 18 17.2 -0.5
comp=Z,18nm,1.2s
STKA Stephens Creek 58.64 132 P P 19 18 19.1 +0.6
comp=Z,9.3nm,0.7s,baz=310,slow=5.3,SNR=36
STKA LR LR 19 46 03.8
comp=Z,325nm,18.9s,baz=304,slow=38
STKA Stephens Creek 58.64 132 ⇓P P 19 18 19.4 +0.9
baz=59,SNR=33
KBZ Khabaz 58.86 319 P P 19 18 19.1 -0.6
comp=Z,5.5nm,1.0s,baz=154,slow=4.8,SNR=7.1
ZALF Zalf 59.04 306 eP P 19 18 20.7 -0.6
KIV Kislovodsk 59.09 320 eP P 19 18 20.6 -1.0
KIV eS S 19 26 29.1 +1.9
KIV eSS SS 19 30 28.2 +6.6
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 59.09 320 eP P 19 18 20.2 -1.4
PTK Pertek 59.34 313 eP P 19 18 23.8 +0.3
ROOS tl_alroos 59.42 307 eP P 19 18 25.6 +1.6
YSS Yuzh-Sakhalins 59.98 37 eP P 19 18 27.0 -0.5
YSS e 19 18 37.0
YSS eS S 19 26 36.0 -2.4
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=E,500nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s
YSS Yuzh-Sakhalins 59.98 37 eP P 19 18 27.1 -0.4
comp=Z,82nm,1.3s
MARH Ras Al Marh 60.02 307 eP P 19 18 29.9 +1.4
EIL Elat 60.21 302 ⇑P P 19 18 30.3 +0.9
baz=60,SNR=15
BIDA Albida 60.43 308 eP P 19 18 32.8 +1.9
WRDH Warideh 60.50 308 eP P 19 18 33.5 +2.1
BTCH Batrach 60.62 309 eP P 19 18 33.0 +0.8
YUK Yuzh-Kuril'sk 60.63 41 c iP P 19 18 27.6 -4.4
YUK i 19 20 49.3
YUK i PPP PPP 19 22 09.0
YUK S S 19 26 43.0 -3.8
YUK i SS SS 19 30 47.3 +1.8
KMRS Kahramanmaras 60.72 311 eP P 19 18 30.0 -2.8
ARNB Al Arnab 60.94 309 eP P 19 18 35.2 +0.8

SVSK Karacayir 61.43 313 eP P 19 18 36.2 -1.3
SOKR Solikamsk 61.51 340 d iP P 19 18 37.1 -0.5
SOKR S S 19 27 03.8 +6.5
SOKR pmax pmax
comp=Z,20nm,0.8s
SOKR MLR MLR
comp=Z,980nm,21.0s
KOZT Kozan 61.53 310 eP P 19 18 35.8 -2.4
RMQ Roma 62.04 123 ⇓P P 19 18 43.5 +1.6
baz=62,SNR=16
CRZF Crozet Islands 62.56 211 SP S 19 27 02.0 -9.0
CRZF R 19 36 00.0
ANN Anapa 62.87 319 eP P 19 18 45.8 -1.3
ANN pmax pmax
comp=Z,87nm,0.9s
VRHR Novokhopersk 63.05 326 eP P 19 18 45.2 -3.0
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=E,6.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
CORM Corum 63.23 313 eP P 19 18 45.9 -3.8
YAK Yakutsk 63.41 18 c iP P 19 18 49.5 -0.8
YAK e*PP pP 19 18 58.4 -0.2
YAK e 19 19 27.2
YAK eS S 19 27 15.7 -5.4
YAK e*SS sS 19 27 36.0 +1.1
YAK e 19 28 37.7
YAK pmax pmax
comp=Z,37nm,1.2s
YAK pmax pmax
comp=E,17nm,1.3s
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=Z,117nm,3.5s
YAK pmax pmax
comp=E,131nm,4.3s
YAK pmax pmax
comp=N,128nm,4.2s
YAK smax smax
comp=E,222nm,2.9s
YAK smax smax
comp=N,170nm,2.9s
YAK MLR MLR
comp=Z,542nm,15.0s
YAK MLR MLR
comp=N,281nm,19.0s
YAK MLR MLR
comp=E,477nm,20.0s
YAK Yakutsk 63.41 18 eP P 19 18 49.0 -1.2
comp=E,76nm,0.9s
YAK e 19 18 58.4
SULT Sultanhani-AKS 63.49 311 eP P 19 18 50.2 -1.2
EIDS Eidsvold 63.61 121 ⇑P P 19 18 51.4 -0.9
baz=64,SNR=3.9
BRTR Keskin Array B 63.83 312 P P 19 18 53.0 -0.7
comp=E,9.9nm,0.7s,baz=127,slow=7.2,SNR=78
BRTR pP pP 19 19 04.5 +2.4
comp=E,12nm,0.7s,baz=129,slow=5.2,SNR=15
BRTR LR LR 19 48 17.6
comp=E,321nm,19.7s,baz=106,slow=38
AFSR Af¨ar-Bala (A 64.17 312 eP P 19 18 54.9 -1.0
TOO Toolangi 64.20 136 ⇑P P 19 18 58.1 +2.1
baz=64,SNR=4.7
KONT Konya--Tatoy 64.30 310 eP P 19 18 59.5 +2.8
VORD Divnogorie 64.30 325 eP P 19 18 53.1 -3.2
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,30nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 64.48 326 ⇓eP P 19 18 55.3 -2.3
VSR pmax pmax
comp=Z,21nm,1.0s
ANTO Ankara 64.49 312 eP P 19 18 57.3 -0.7
ANTO pmax pmax
comp=Z,16nm,0.9s
ANTO Ankara 64.49 312 ⇓iP P 19 18 57.9 -0.1
ANTO Ankara 64.49 312 eP P 19 18 57.3 -0.7
comp=Z,16nm,0.9s
YNG Young 64.82 131 ⇑P P 19 19 01.8 +1.6
baz=65,SNR=6.0
SAFT Safranbolu 64.96 314 eP P 19 18 56.0 -4.9
SIM Simferopol' 65.13 318 eP P 19 19 01.8 -0.1
SIM eS S 19 27 39.0 -4.1
SIM eS S 19 27 47.0 +3.9
SIM pmax pmax
comp=Z,17nm,0.9s
SVRH Sivrihisar-ESK 65.32 311 eP P 19 19 00.7 -2.7
ARMA Armidale 65.82 126 ⇓P P 19 19 08.2 +1.5
baz=66,SNR=4.3
MDUB Mudurnu 65.83 312 eP P 19 19 03.8 -2.9
ELL Elmali 65.90 308 eP P 19 19 06.9 -0.4
ALT Altintas 66.28 311 eP P 19 19 08.8 -0.8
FETY Fethiye 66.53 308 eP P 19 19 10.0 -1.1
TVSB Tavsanli 66.87 311 eP P 19 19 11.9 -1.4
DALY Dalyan (Mu¨la 66.90 308 eP P 19 19 13.4 -0.1
PRGR Permogore 66.95 338 eP P 19 19 11.6 -1.6
PRGR pmax pmax
comp=Z,105nm,1.0s
LSZ Lusaka 67.24 251 eP P 19 19 17.4 +1.2
LSZ pmax pmax
comp=Z,21nm,1.1s
LSZ Lusaka 67.24 251 eP P 19 19 17.4 +1.2
comp=Z,22nm,1.1s
MOS Moscow 67.36 330 eP P 19 19 14.7 -1.3
MOS e 19 19 27.9
MOS pmax pmax
comp=Z,35nm,0.7s
ISK Istanbul-Kandi 67.55 313 eP P 19 19 13.9 -3.6
OBN Obninsk 67.61 329 ⇑eP P 19 19 16.8 -0.8
OBN i 19 21 46.2
OBN i S S 19 28 11.9 -1.0
OBN eSS SS 19 32 38.6 +4.7
OBN pmax pmax
comp=Z,36nm,1.7s
OBN MLR MLR
comp=Z,646nm,19.0s
OBN Obninsk 67.61 329 P P 19 19 15.9 -1.7
BODT Bodrum 68.00 308 eP P 19 19 20.1 -0.4
TAU Tasmania Unive 68.01 140 eP P 19 19 18.8 -1.6
TAU Tasmania Unive 68.01 140 eP P 19 19 18.8 -1.6
HNR Honiara 68.03 102 LR LR 19 49 50.8
comp=Z,204nm,21.7s,baz=286,slow=36
EDC Edincik 68.27 312 eP P 19 19 19.7 -2.4
MRMT Marmara Adasi 68.53 312 eP P 19 19 23.6 -0.2
PSN Preselentsi 68.83 315 ⇓P P 19 19 25.8 +0.3
PSN Preselentsi 68.83 315 ⇓iP P 19 19 25.8 +0.3
TIRR Tirgusor 68.86 316 eP P 19 19 24.9 -0.8
TIRR e 19 19 36.0
TIRR pmax pmax
comp=Z,13nm,0.7s
TIRR Tirgusor 68.86 316 ⇓iP P 19 19 24.6 -1.1
TIRR Tirgusor 68.86 316 eP P 19 19 24.9 -0.8
comp=Z,13nm,0.7s
TIRR e 19 19 36.0
KLMR Klimovskoe 68.96 335 eP P 19 19 24.0 -1.9
KLMR pmax pmax
comp=Z,14nm,0.7s
CFR Carcaliu 69.24 317 ⇑P P 19 19 27.6 -0.4
CFR Carcaliu 69.24 317 ⇑iP P 19 19 27.6 -0.4
GELI Tayfur-Gelibol 69.32 311 eP P 19 19 23.6 -5.0
APE Apeiranthos 69.41 308 ⇑iP P 19 19 28.4 -0.9
EDRB Edirne 69.43 313 eP P 19 19 28.3 -1.0
LEOM Leova 69.51 318 ⇑P P 19 19 29.6 0.0
LEOM Leova 69.51 318 ⇑iP P 19 19 29.6 0.0
SKR Severo-Kuril's 69.55 37 eP P 19 19 27.5 -2.3
SKR e 19 19 34.2
SKR pmax pmax
comp=Z,70nm,0.8s
ENEZ Enez 69.63 312 eP P 19 19 27.1 -3.4
ENEZ Enez 69.63 312 eP P 19 19 27.1 -3.4
JMB Yambol 69.68 314 ⇓P P 19 19 29.0 -1.8
JMB Yambol 69.68 314 ⇓iP P 19 19 29.0 -1.8
ALN Alexandroupoli 69.74 312 eP P 19 19 28.4 -2.8
ALN Alexandroupoli 69.74 312 eP P 19 19 28.4 -2.8
AKASG Malin Array Be 70.10 323 P P 19 19 31.4 -1.8
comp=Z,3.9nm,0.7s,baz=91,slow=5.1,SNR=18
AKASG LR LR 19 54 17.4
comp=Z,327nm,21.7s,baz=110,slow=39
KIEV Kiev 70.11 323 eP P 19 19 31.3 -2.0

KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 70.11 323 eP P 19 19 31.2 -2.0
comp=Z,2.8nm,0.6s
ISR Istrita 70.32 316 ⇑P P 19 19 30.4 -4.3
ISR Istrita 70.32 316 ⇑iP P 19 19 30.4 -4.3
KDZ Kurdzhali 70.36 313 ⇓iP P 19 19 35.2 +0.2
VRI Vrincioaia 70.37 317 ⇑P P 19 19 35.3 +0.3
VRI Vrincioaia 70.37 317 ⇑iP P 19 19 35.3 +0.3
PLOR Plostina 70.42 317 ⇑P P 19 19 35.8 +0.5
PLOR Plostina 70.42 317 ⇑iP P 19 19 35.8 +0.5
TESR Tescani 70.58 318 ⇓iP P 19 19 35.8 -0.5
MLR Muntele Rosu 70.82 317 ⇑P P 19 19 37.9 0.0
MLR Muntele Rosu 70.82 317 ⇑iP P 19 19 37.9 0.0
TMCR Tamitsa 71.24 338 eP P 19 19 39.1 -0.7
TMCR e 19 19 57.3
TMCR e 19 22 16.8
TMCR pmax pmax
comp=Z,28nm,0.7s
PETK Petropavlovsk- 71.25 35 P P 19 19 39.7 -0.5
comp=Z,2.3nm,0.8s,baz=251,slow=4.4,SNR=5.2
PETK LR LR 19 52 53.8
comp=Z,237nm,18.4s,baz=242,slow=38
DOPR Dopca 71.31 317 ⇑iP P 19 19 40.3 -0.4
MTUR Matau 71.36 316 ⇑P P 19 19 40.3 -0.8
MTUR Matau 71.36 316 ⇑iP P 19 19 40.3 -0.8
VOIR 71.42 316 ⇑P P 19 19 40.9 -0.6
VOIR 71.42 316 ⇑iP P 19 19 40.9 -0.6
MMB Musomiste 71.59 312 ⇑P P 19 19 42.0 -0.5
MMB Musomiste 71.59 312 ⇑iP P 19 19 42.0 -0.5
ARR Arges 71.69 316 ⇓iP P 19 19 42.3 -0.8
PET Petropavlovsk 71.77 35 eP P 19 19 36.4 -6.9
PET eS S 19 28 53.7 -8.1
PET MLR MLR
comp=Z,600nm,17.0s
BURAR Bucovina Array 71.80 319 ⇓P P 19 19 43.8 +0.1
BURAR Bucovina Array 71.80 319 ⇓iP P 19 19 43.8 +0.1
BUR08 Bucovina Ar. S 71.82 319 eP P 19 19 43.8 0.0
VTS Vitosha 72.15 313 ⇑P P 19 19 44.7 -1.3
VTS Vitosha 72.15 313 ⇑iP P 19 19 44.7 -1.3
LOT Lotru 72.30 316 ⇑iP P 19 19 46.3 -0.5
SEY Seymchan 72.31 24 P P 19 19 45.8 -0.6
comp=Z,2.7nm,0.4s,baz=247,slow=7.7,SNR=4.7
GZR Gura Zlata 72.98 316 ⇓P P 19 19 49.8 -1.0
GZR Gura Zlata 72.98 316 ⇓iP P 19 19 49.8 -1.0
BOSA Boshof 73.00 238 P P 19 19 51.9 +0.6
comp=Z,3.1nm,0.7s,baz=77,slow=5.4,SNR=7.9
BOSA LR LR 19 45 55.7
comp=Z,558nm,22.0s,baz=78,slow=31
LVV L'vov 73.08 321 eP P 19 19 50.5 -0.7
DRGR 73.29 317 ⇓P P 19 19 52.7 +0.1
DRGR 73.29 317 ⇓iP P 19 19 52.7 +0.1
JOF Joensuu 73.36 335 eP P 19 19 51.2 -1.4
JOF pmax pmax
comp=Z,12nm,0.6s
JOF Joensuu 73.36 335 ep P 19 19 51.2 -1.4
comp=Z,12nm,0.6s
TRPA Tarpa 73.67 319 ⇑iP P 19 19 55.2 +0.5
BZS Buzias 73.82 316 ⇑iP P 19 19 54.5 -1.1
KWP Kalwaria Pacla 73.87 320 eP P 19 19 55.7 -0.2
KWP Kalwaria Pacla 73.87 320 eP P 19 19 55.7 -0.2
VSU Vasula 73.88 330 ⇓eP P 19 19 54.4 -1.3
VSU pmax pmax
comp=Z,43nm,1.0s
UZH Uzhgorod 73.93 319 eP P 19 19 55.5 -0.7
UZH i 19 20 00.9
UZH i 19 20 06.1
UZH e 19 20 11.5
UZH i 19 22 41.7
UZH eS SKiKP 19 29 23.5 +0.1
UZH e 19 29 58.7
KOLS Kolonicke sedl 74.01 320 eP P 19 19 57.0 +0.3
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 74.01 320 eP P 19 19 57.0 +0.3
CRVS Cervenica-Dubn 74.53 319 eP P 19 20 00.4 +0.7
CRVS pmax pmax
comp=Z,129nm,2.5s
CRVS Cervenica-Dubn 74.53 319 eP P 19 20 00.4 +0.7
APA Apatity 74.55 340 ⇓iP P 19 19 59.0 -0.4
APA i 19 20 09.0
APA i 19 22 53.0
APA i S S 19 29 32.0 -0.9
APA i 19 30 00.0
APA i SS SS 19 34 21.0 +1.2
APA MLR MLR
comp=Z,1μm,20.0s
SUW Suwalki 74.57 325 eP P 19 19 58.9 -0.9
SUW pmax pmax
comp=Z,47nm,1.0s
SUW Suwalki 74.57 325 eP P 19 19 58.6 -1.2
SUW Suwalki 74.57 325 eP P 19 19 58.9 -0.9
comp=Z,47nm,1.0s
STHS Stebnicka Huta 74.76 320 eP P 19 20 02.2 +1.1
STHS pmax pmax
comp=Z,11nm,0.8s
STHS Stebnicka Huta 74.76 320 eP P 19 20 02.2 +1.1
FINES FINESS Array B 75.13 333 P P 19 20 02.0 -0.9
comp=Z,11nm,0.7s,baz=114,slow=8.5,SNR=35
FINES LR LR 19 55 42.8
comp=Z,373nm,19.6s,baz=90,slow=38
MAW Mawson 75.14 192 LR LR 19 48 20.6
comp=Z,224nm,18.2s,baz=2.0,slow=32
KAF Kangasniemi 75.24 333 eP P 19 20 01.6 -1.9
KAF pmax pmax
comp=Z,9.0nm,0.8s
KAF Kangasniemi 75.24 333 ep P 19 20 01.6 -1.9
comp=Z,9.2nm,0.8s
PSZ Piszkesteto 75.38 318 eP P 19 20 04.2 -0.5
PSZ pmax pmax
comp=Z,12nm,0.9s
PSZ Piszkesteto 75.38 318 ⇓iP P 19 20 04.3 -0.5
PSZ Piszkesteto 75.38 318 eP P 19 20 04.2 -0.5
comp=Z,12nm,0.9s
BEL Belsk 75.51 322 eP P 19 20 05.3 0.0
BEL Belsk 75.51 322 eP P 19 20 05.3 0.0
OJC Ojcow 75.83 321 eP P 19 20 07.0 -0.2
OJC Ojcow 75.83 321 eP P 19 20 07.0 -0.2
PKSM Moragy 75.96 316 ⇑iP P 19 20 07.7 -0.3
VYHS Vyhne 76.17 319 eP P 19 20 09.0 -0.2
VYHS pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 76.17 319 eP P 19 20 09.0 -0.2
DZM Mont Dzumac 76.38 114 eSS SS 19 34 46.6 -3.3
comp=Z,170nm,28.0s
DZM eLR LR 19 43 47.0
comp=Z,1μm,34.1s
OKC Ostrava-Krasne 76.82 320 eP P 19 20 12.7 -0.1
OKC e 19 20 18.1
OKC e 19 20 23.1
OKC Ostrava-Krasne 76.82 320 eP P 19 20 12.7 -0.1
OKC ex x 19 20 18.1
OKC epP PcP 19 20 23.1 -0.8
MORC Moravsky Berou 77.20 320 eP P 19 20 15.2 +0.2
MORC pmax pmax
comp=Z,12nm,1.1s
MORC Moravsky Berou 77.20 320 ⇓iP P 19 20 15.4 +0.4
MORC Moravsky Berou 77.20 320 eP P 19 20 15.2 +0.2
comp=Z,12nm,1.1s
SUR Sutherland 77.65 236 P P 19 20 14.9 -3.1
comp=Z,44nm,1.2s
KRLC Kraliky 77.73 320 eP P 19 20 18.2 +0.3
KRLC e 19 20 24.6
KRLC e 19 20 29.1
KRLC Kraliky 77.73 320 eP P 19 20 18.2 +0.3
KRLC ex x 19 20 24.6
KRLC epP PcP 19 20 29.1 +1.2
VRAC Vranov 77.75 319 ⇓P P 19 20 19.0 +1.0
VRAC Vranov 77.75 319 ⇓iP P 19 20 19.0 +1.0
TSUM Tsumeb 77.92 249 P P 19 20 18.8 -0.9
comp=Z,9.0nm,1.2s
ARCES ARCESS Array B 77.99 341 P P 19 20 18.9 0.0
comp=Z,13nm,0.8s,baz=93,slow=5.8,SNR=35
ARCES LR LR 19 58 51.2
comp=Z,931nm,19.2s,baz=114,slow=39
DPC Dobruska-Polom 78.05 320 eP P 19 20 20.4 +0.6
DPC e 19 20 24.5
DPC e 19 20 30.7
DPC e 19 20 34.9
DPC Dobruska-Polom 78.05 320 eP P 19 20 20.4 +0.6
DPC ex x 19 20 24.5
DPC epP PcP 19 20 30.7 +1.3
DPC esP sP 19 20 34.9 +3.5

CONA Conrad Observa 78.07 318⇓ iP P 19 20 20.1 +0.1
comp=Z,12nm,1.2s
KSP Ksiaz 78.14 321⇓ eP P 19 20 20.6 +0.5
KSP e 19 20 29.5
KSP Ksiaz 78.14 321 eP P 19 20 20.7 +0.6
ARSA Arzberg 78.22 317 iP P 19 20 21.0 +0.3
comp=Z,22nm,1.0s,SNR=9.8
BOJS Bojanci 78.23 315 iP P 19 20 20.7 0.0
BOJS i 19 20 31.7
UPC Upice 78.27 321 eP P 19 20 19.9 -1.0
UPC e 19 20 25.9
UPC e 19 20 31.5
UPC Upice 78.27 321 eP P 19 20 19.9 -1.0
UPC ex x 19 20 25.9
UPC epP PcP 19 20 31.5 +1.3
PERS Pernice 78.44 317 eP P 19 20 22.2 +0.3
PERS i 19 20 32.9
TREC Trest 78.47 319 eP P 19 20 22.1 +0.1
TREC e 19 20 32.4
TREC Trest 78.47 319 eP P 19 20 22.1 +0.1
TREC epP PcP 19 20 32.4 +1.3
SOKA Soboth 78.50 317⇓ iP P 19 20 22.5 +0.2
comp=Z,18nm,0.8s,SNR=11
VISS Visnje 78.55 316 iP P 19 20 22.5 -0.1
VISS e 19 20 33.2
DRV Dumont d'Urvil 78.56 163 SS SS 19 34 26.0 -55
DRV R 19 43 00.0
OBKA Obir 78.81 316⇓ iP P 19 20 24.3 +0.2
comp=Z,18nm,0.9s
JAVS Javornik 79.10 316 iP P 19 20 25.6 -0.1
JAVS i 19 20 35.6
MOA Molln 79.13 318⇓ iP P 19 20 25.4 -0.3
comp=Z,6.2nm,0.8s
PRU Pruhonice 79.15 320 eP P 19 20 26.0 +0.3
PRU e 19 20 30.1
PRU e 19 20 36.3
PRU Pruhonice 79.15 320 eP P 19 20 26.0 +0.3
PRU ex x 19 20 30.1
PRU epP pP 19 20 36.3 +2.0
MYKA Terra Mystica 79.45 316⇓ iP P 19 20 27.5 -0.1
comp=Z,14nm,1.0s
BILL Bilibino 79.49 21⇓ iP P 19 20 27.3 +0.1
BILL i 19 20 37.3
BILL eS S 19 30 29.4 +2.7
BILL pmax pmax
comp=Z,18nm,1.7s
BILL MLR MLR
comp=Z,695nm,18.0s
BILL Bilibino 79.49 21 eP P 19 20 26.6 -0.6
comp=Z,24nm,1.4s
BSD Bornholm Skovb 79.50 325 iP P 19 20 26.7 -0.8
BSD pmax pmax
comp=Z,2.0nm,0.4s
BSD Bornholm Skovb 79.50 325 iP P 19 20 26.7 -0.8
comp=Z,2.0nm,0.4s
GEC2 GERESS Array S 79.59 319 eP P 19 20 28.6 +0.3
comp=Z,49nm,1.2s
GEC2 epP pP 19 20 39.3 +2.4
GERES GERESS Array B 79.59 319 P P 19 20 28.6 +0.3
comp=Z,20nm,0.8s,baz=96,slow=5.4,SNR=154
GERES pP pP 19 20 39.1 +2.3
comp=Z,17nm,0.7s,baz=93,slow=5.3,SNR=16
GERES LR LR 20 02 31.6
comp=Z,164nm,18.2s,baz=81,slow=41
BRG Berggiesshubel 79.62 321 iP P 19 20 28.6 +0.3
comp=Z,9.3nm,0.8s
BRG i 19 20 28.6
comp=Z,9.3nm,0.8s
BRG i 19 20 39.5
comp=Z,9.4nm,0.7s
comp=Z,562nm,17.5s
comp=N,192nm,16.5s
comp=E,422nm,16.5s
BRG Berggiesshubel 79.62 321 eP P 19 20 28.7 +0.4
comp=Z,32nm,1.6s
KBA Koelnbreinsper 79.69 317⇓ iP P 19 20 28.4 -0.6
comp=Z,14nm,1.0s
KHC Kasperske Hory 79.69 319 eP P 19 20 28.9 +0.1
KHC e 19 20 37.3
KHC e 19 20 39.5
KHC Kasperske Hory 79.69 319 eP P 19 20 28.9 +0.1
KHC epP pP 19 20 37.3 -0.1
KHC esP sP 19 20 44.4 +3.9
KHC Kasperske Hory 79.69 319 eP P 19 20 28.6 -0.2
comp=Z,7.0nm,0.7s
RJOB Jochberg 80.11 318 eP P 19 20 30.8 -0.3
comp=Z,22nm,0.9s
WET Wettzell 80.15 319 eP P 19 20 31.6 +0.3
comp=Z,24nm,1.4s
ABTA Abfaltersbach 80.23 316⇑ iP P 19 20 31.2 -0.6
comp=Z,7.5nm,0.9s
CLL Collm 80.25 321⇓ iP P 19 20 31.2 -0.5
CLL i 19 20 36.8
CLL i 19 20 41.9
CLL eS S 19 30 35.0 -0.3
CLL pmax pmax
comp=Z,14nm,1.0s
CLL MLR MLR
comp=Z,300nm,19.7s
CLL Collm 80.25 321 eP P 19 20 31.5 -0.2
comp=Z,14nm,1.0s
CLL Collm 80.25 321⇓ iP P 19 20 31.2 -0.5
comp=Z,14nm,1.0s
CLL iPcP PcP 19 20 36.8 -2.0
CLL ipP pP 19 20 41.9 +1.7
CLL ePP PP 19 23 33.0 -1.3
CLL eS S 19 30 35.0 -0.3
CLL eSS SS 19 35 48.0 +1.5
CLL LmH 19 59 00.0
comp=Z,300nm,19.7s
FX1 Attu Island--F 80.34 37 P P 19 20 32.0 -0.1
comp=Z,4.8nm,0.5s,baz=23,slow=7.7,SNR=7.3
FX1 LR LR 19 57 43.5
comp=Z,100nm,20.1s,baz=282,slow=37
NKC Novy Kostel 80.52 320 eP P 19 20 32.1 -1.1
NKC e 19 20 43.9
NKC Novy Kostel 80.52 320 eP P 19 20 32.1 -1.1
NKC epP pP 19 20 43.9 +2.2
TANN Tannenbergstha 80.52 320 eP P 19 20 33.3 +0.1
comp=Z,22nm,1.5s
ROTZ Rotzenmuhle 80.64 320 eP P 19 20 34.6 +0.8
comp=Z,14nm,0.9s
ROTZ epP pP 19 20 45.1 +2.7
WTTA Wattenberg 80.86 317⇑ iP P 19 20 34.5 -0.8
comp=Z,34nm,1.0s,SNR=9.3
WATA Walderalm 80.91 317⇑ iP P 19 20 34.4 -1.1
comp=Z,14nm,0.8s,SNR=6.7
MOX Moxa 81.07 320 eP P 19 20 36.4 +0.3
comp=Z,38nm,1.9s
MOX eL L 19 55 54.0
comp=N,198nm,21.4s
MOTA Moosalm 81.23 317⇑ iP P 19 20 36.4 -0.8
comp=N,28nm,0.8s,SNR=22
GRF Grafenberg Arr 81.27 319 eP P 19 20 37.7 +0.5
comp=Z,30nm,1.1s
GRF eL L 19 57 10.7
comp=N,270nm,20.6s
RETA Reutte 81.46 317⇓ iP P 19 20 38.1 -0.3
comp=N,21nm,0.9s,SNR=6.7
FETA Feichten 81.47 317⇓ iP P 19 20 38.3 -0.2
comp=N,19nm,1.1s,SNR=5.1
CLZ Clausthal 81.92 322 eP P 19 20 40.7 +0.1
comp=Z,19nm,0.9s
CLZ epP pP 19 20 51.1 +1.9
DAVA Damuels 82.06 317⇓ iP P 19 20 41.6 0.0
comp=Z,33nm,0.9s,SNR=8.5
BSEG Bad Segeberg 82.06 324 eP P 19 20 41.7 +0.5
comp=Z,30nm,1.2s
NB2 NORSAR Subarra 82.08 331 P P 19 20 40.1 -1.1
comp=Z,2.5nm,0.7s,baz=96,slow=5.6
NOA NORSAR Array B 82.08 331 P P 19 20 40.2 -1.0
comp=Z,4.1nm,0.8s,baz=95,slow=5.4,SNR=13
NOA LR LR 20 00 43.7
comp=Z,132nm,18.4s,baz=75,slow=38
NRDL Niedersach Rie 82.12 322 eP P 19 20 42.2 +0.7
comp=Z,13nm,1.1s
KEST Kesra 82.28 305 P P 19 20 43.8 +0.9
comp=Z,5.2nm,0.8s,baz=292,slow=1.2,SNR=11
KEST LR LR 20 03 01.9
comp=Z,39nm,18.8s,baz=332,slow=40
TUE Stuetta 82.40 316 eP P 19 20 42.6 -0.9
comp=Z,21nm,0.8s
PGF Pioggiola 82.58 312⇓ iP P 19 20 44.0 -0.4
PGF Pioggiola 82.58 312⇓ iP P 19 20 44.0 -0.4
PGF Pioggiola 82.58 312⇓ iP P 19 20 44.0 -0.4

TNS Taunus Mts 83.08 320 eP P 19 20 46.9 +0.2
comp=Z,23nm,1.1s
TNS epP pP 19 20 57.4 +2.1
BFO Black Forest 83.12 318 eP P 19 20 46.4 -0.6
BFO e 19 20 57.1
BFO pmax pmax
comp=Z,8.0nm,0.6s
BFO Black Forest 83.12 318 eP P 19 20 46.7 -0.3
comp=Z,59nm,2.1s
BFO Black Forest 83.12 318 eP P 19 20 46.4 -0.6
comp=Z,8.4nm,0.6s
BFO e 19 20 57.1
LANF Langenberg 83.48 319 eP P 19 20 48.7 -0.1
IBBN Ibbenburen 83.55 322 eP P 19 20 49.5 +0.5
comp=Z,101nm,2.0s
SBF Sospel 83.73 313 eP P 19 20 49.9 -0.3
comp=Z,83nm,0.8s
SBF Sospel 83.73 313 eP P 19 20 49.9 -0.3
SBF pmax pmax
comp=Z,83nm,0.8s
SBF Sospel 83.73 313 eP P 19 20 49.9 -0.3
comp=Z,83nm,0.8s
CDF Champ du Feu 83.83 318⇓ iP P 19 20 49.8 -0.9
comp=Z,14nm,0.9s
CDF Champ du Feu 83.83 318⇓ iP P 19 20 49.8 -0.9
CDF pmax pmax
comp=Z,14nm,0.9s
CDF Champ du Feu 83.83 318⇓ iP P 19 20 49.8 -0.9
comp=Z,14nm,0.9s
BUG Bochum--Univer 83.84 321 eP P 19 20 50.9 +0.4
comp=Z,31nm,1.0s
MOF Molkenrain 83.92 317 eP P 19 20 51.1 -0.1
MBDF Montbardon 84.20 314 eP P 19 20 51.6 -1.1
comp=Z,36nm,0.9s
MBDF Montbardon 84.20 314 eP P 19 20 51.6 -1.1
MBDF pmax pmax
comp=Z,36nm,0.9s
MBDF Montbardon 84.20 314 eP P 19 20 51.6 -1.1
comp=Z,36nm,0.9s
LPG La Plagne 84.20 315⇓ iP P 19 20 52.6 -0.3
comp=Z,34nm,0.7s
LPG La Plagne 84.20 315⇓ iP P 19 20 52.6 -0.3
LPG pmax pmax
comp=Z,34nm,0.7s
LPG La Plagne 84.20 315⇓ iP P 19 20 52.6 -0.3
comp=Z,34nm,0.7s
LPL La Plagne 84.22 315⇓ iP P 19 20 52.6 -0.3
comp=Z,45nm,0.8s
LPL La Plagne 84.22 315⇓ iP P 19 20 52.6 -0.3
LPL pmax pmax
comp=Z,45nm,0.8s
LPL La Plagne 84.22 315⇓ iP P 19 20 52.6 -0.3
comp=Z,45nm,0.8s
BNI Bardonecchia 84.26 315 eP P 19 20 52.2 -0.8
BNI pmax pmax
comp=Z,15nm,0.8s
BNI Bardonecchia 84.26 315 eP P 19 20 52.2 -0.8
comp=Z,15nm,0.8s
FRF La Foret Royal 84.30 313⇓ iP P 19 20 52.9 -0.2
comp=Z,49nm,0.8s
FRF La Foret Royal 84.30 313⇓ iP P 19 20 52.9 -0.2
FRF pmax pmax
comp=Z,49nm,0.8s
FRF La Foret Royal 84.30 313⇓ iP P 19 20 52.9 -0.2
comp=Z,49nm,0.8s
LMR La Mourre 84.41 313⇓ iP P 19 20 53.2 -0.4
comp=Z,50nm,1.0s
LMR La Mourre 84.41 313⇓ iP P 19 20 53.2 -0.4
LMR pmax pmax
comp=Z,50nm,1.0s
LMR La Mourre 84.41 313⇓ iP P 19 20 53.2 -0.4
comp=Z,50nm,1.0s
HAU Haudompre 84.45 318⇓ iP P 19 20 52.9 -0.9
comp=Z,23nm,0.7s
HAU eR
comp=Z,265nm,20.5s
HAU Haudompre 84.45 318⇓ iP P 19 20 52.9 -0.9
HAU pmax pmax
comp=Z,23nm,0.7s
HAU Haudompre 84.45 318⇓ iP P 19 20 52.9 -0.9
comp=Z,23nm,0.7s
MEM Membach 84.64 320 P P 19 20 54.7 +0.1
CABF La Chapelle 84.65 316⇓ iP P 19 20 54.7 -0.2
comp=Z,55nm,1.1s
CABF La Chapelle 84.65 316⇓ iP P 19 20 54.7 -0.2
CABF pmax pmax
comp=Z,55nm,1.1s
CABF La Chapelle 84.65 316⇓ iP P 19 20 54.7 -0.2
comp=Z,55nm,1.1s
THEF They Montfort 84.69 318 eP P 19 20 54.6 -0.4
ORIF Oris-en-Rattie 84.83 315⇓ iP P 19 20 55.1 -0.7
comp=Z,39nm,0.9s
ORIF eR
comp=Z,422nm,21.0s
ORIF Oris-en-Rattie 84.83 315⇓ iP P 19 20 55.1 -0.7
ORIF pmax pmax
comp=Z,39nm,0.9s
ORIF Oris-en-Rattie 84.83 315⇓ iP P 19 20 55.1 -0.7
comp=Z,39nm,0.9s
SMRF Simiane la Rot 85.07 314⇓ iP P 19 20 56.6 -0.4
comp=Z,46nm,1.1s
SMRF Simiane la Rot 85.07 314⇓ iP P 19 20 56.6 -0.4
comp=Z,46nm,1.1s
MEZF Maizieres J'vi 85.31 318⇓ iP P 19 20 57.6 -0.4
comp=Z,23nm,0.8s
MEZF Maizieres J'vi 85.31 318⇓ iP P 19 20 57.6 -0.4
comp=Z,23nm,0.8s
SFTF Sexfontaines 85.33 318 eP P 19 20 57.5 -0.6
comp=Z,31nm,0.7s
SFTF Sexfontaines 85.33 318 eP P 19 20 57.5 -0.6
comp=Z,31nm,0.6s
GIVF Givet 85.41 320 eP P 19 20 57.9 -0.6
GIVF Givet 85.41 320 eP P 19 20 57.9 -0.6
GIVF Givet 85.41 320 eP P 19 20 57.9 -0.6
DOU Dourbes 85.56 320 P P 19 20 59.3 +0.1
comp=Z,22nm,3.4s
VIVF Saint-Julien-l 85.69 315 eP P 19 20 59.7 -0.4
comp=Z,40nm,1.0s
VIVF Saint-Julien-l 85.69 315 eP P 19 20 59.7 -0.4
VIVF pmax pmax
comp=Z,40nm,1.0s
VIVF Saint-Julien-l 85.69 315 eP P 19 20 59.7 -0.4
comp=Z,40nm,1.0s
SNF Seneffe 85.75 320 P P 19 21 00.3 +0.2
SSB Saint Sauveur 85.77 315 eP P 19 21 00.2 -0.2
SSB e 19 21 10.5
SSB pmax pmax
comp=Z,16nm,0.9s
SSB Saint Sauveur 85.77 315 eP P 19 21 00.2 -0.2
comp=Z,16nm,0.9s
SSB e 19 21 10.5
BAIF Baives 85.81 320⇓ iP P 19 21 00.1 -0.4
comp=Z,22nm,0.8s
BAIF Baives 85.81 320⇓ iP P 19 21 00.1 -0.4
BAIF pmax pmax
comp=Z,22nm,0.8s
BAIF Baives 85.81 320⇓ iP P 19 21 00.1 -0.4
comp=Z,22nm,0.8s
TAM Tamanrasset 86.03 292 eP P 19 21 03.8 +1.4
TAM pmax pmax
comp=Z,24nm,1.3s
TAM Tamanrasset 86.03 292 eP P 19 21 03.8 +1.4
comp=Z,24nm,1.3s
LOR Lormes 86.16 317⇓ iP P 19 21 01.6 -0.7
comp=Z,28nm,0.9s
LOR eR
comp=Z,222nm,20.8s
LOR Lormes 86.16 317⇓ iP P 19 21 01.6 -0.7
LOR pmax pmax
comp=Z,28nm,0.9s
LOR Lormes 86.16 317⇓ iP P 19 21 01.6 -0.7
comp=Z,28nm,0.9s
SMF Signal de Mont 86.19 316⇓ iP P 19 21 01.7 -0.8
comp=Z,25nm,0.7s
SMF Signal de Mont 86.19 316⇓ iP P 19 21 01.7 -0.8
SMF pmax pmax
comp=Z,25nm,0.7s
SMF Signal de Mont 86.19 316⇓ iP P 19 21 01.7 -0.8
comp=Z,25nm,0.7s
PLDF La Plantade 86.38 316 eP P 19 21 03.0 -0.5
SSF Saint Saulge 86.41 317⇓ iP P 19 21 02.9 -0.6
comp=Z,25nm,1.0s
SSF Saint Saulge 86.41 317⇓ iP P 19 21 02.9 -0.6
SSF pmax pmax
comp=Z,25nm,1.0s
SSF Saint Saulge 86.41 317⇓ iP P 19 21 02.9 -0.6
comp=Z,25nm,1.0s

AVF Avril sur Loir 86.52 316⇓ iP P 19 21 03.4 -0.7
comp=Z,25nm,0.9s
AVF Avril sur Loir 86.52 316⇓ iP P 19 21 03.4 -0.7
AVF pmax pmax
comp=Z,25nm,0.9s
AVF Avril sur Loir 86.52 316⇓ iP P 19 21 03.4 -0.7
comp=Z,25nm,0.9s
AGO Saint Agoulin 86.72 316 eP P 19 21 05.2 +0.1
PYM Petit Puy Mans 86.82 315 eP P 19 21 05.1 -0.6
BGF Bois d'Agland 86.89 316⇓ iP P 19 21 05.6 -0.3
comp=Z,20nm,0.8s
BGF Bois d'Agland 86.89 316⇓ iP P 19 21 05.6 -0.3
BGF pmax pmax
comp=Z,21nm,0.8s
BGF Bois d'Agland 86.89 316⇓ iP P 19 21 05.6 -0.3
comp=Z,20nm,0.8s
TCF Toulx Ste Croi 87.34 316⇓ iP P 19 21 07.8 -0.3
comp=Z,19nm,0.9s
TCF Toulx Ste Croi 87.34 316⇓ iP P 19 21 07.8 -0.3
TCF pmax pmax
comp=Z,19nm,0.9s
TCF Toulx Ste Croi 87.34 316⇓ iP P 19 21 07.8 -0.3
comp=Z,19nm,0.9s
MTLF Montolieu 87.53 313⇓ iP P 19 21 09.0 -0.1
comp=Z,35nm,0.9s
MTLF Montolieu 87.53 313⇓ iP P 19 21 09.0 -0.1
MTLF pmax pmax
comp=Z,35nm,0.9s
MTLF Montolieu 87.53 313⇓ iP P 19 21 09.0 -0.1
comp=Z,35nm,0.9s
CAF Calviac 87.54 315⇓ iP P 19 21 08.9 -0.2
CAF Calviac 87.54 315⇓ iP P 19 21 08.9 -0.2
CAF Calviac 87.54 315⇓ iP P 19 21 08.9 -0.2
RJF Les Rejaudoux 87.89 315⇓ iP P 19 21 10.9 +0.1
comp=Z,26nm,0.9s
RJF eR
comp=Z,290nm,21.5s
RJF Les Rejaudoux 87.89 315⇓ iP P 19 21 10.9 +0.1
RJF pmax pmax
comp=Z,26nm,0.9s
RJF Les Rejaudoux 87.89 315⇓ iP P 19 21 10.9 +0.1
comp=Z,26nm,0.9s
GAMB Gambell 88.20 26 eP P 19 21 11.9 +0.1
comp=Z,18nm,0.9s
LFF La Frestale 88.47 315 eP P 19 21 13.7 +0.2
LFF La Frestale 88.47 315 eP P 19 21 13.7 +0.2
LFF La Frestale 88.47 315 eP P 19 21 13.7 +0.2
LDF La Druitiere 88.73 318 eP P 19 21 14.2 -0.4
comp=Z,27nm,0.9s
LDF La Druitiere 88.73 318 eP P 19 21 14.2 -0.4
LDF pmax pmax
comp=Z,27nm,0.9s
LDF La Druitiere 88.73 318 eP P 19 21 14.2 -0.4
comp=Z,27nm,0.9s
EPF Esparros 88.93 313⇓ iP P 19 21 15.6 -0.2
EPF Esparros 88.93 313⇓ iP P 19 21 15.6 -0.2
EPF Esparros 88.93 313⇓ iP P 19 21 15.6 -0.2
MFF Saint Martin d 88.94 316⇓ iP P 19 21 15.4 -0.3
comp=Z,32nm,1.0s
MFF Saint Martin d 88.94 316⇓ iP P 19 21 15.4 -0.3
MFF pmax pmax
comp=Z,32nm,1.0s
MFF Saint Martin d 88.94 316⇓ iP P 19 21 15.4 -0.3
comp=Z,32nm,1.0s
FLN La Foliniere 88.95 319⇓ iP P 19 21 15.1 -0.6
FLN eR
comp=Z,294nm,19.5s
FLN La Foliniere 88.95 319⇓ iP P 19 21 15.1 -0.6
FLN La Foliniere 88.95 319⇓ iP P 19 21 15.1 -0.6
GRR Gorron 89.24 318⇓ iP P 19 21 17.4 +0.4
GRR Gorron 89.24 318⇓ iP P 19 21 17.4 +0.4
GRR Gorron 89.24 318⇓ iP P 19 21 17.4 +0.4
TNA Tin City 89.55 24 eP P 19 21 17.9 -0.2
comp=Z,9.8nm,0.9s
ETSF Etsaut 89.60 313⇓ iP P 19 21 19.3 +0.4
comp=Z,21nm,0.8s
ETSF Etsaut 89.60 313⇓ iP P 19 21 19.3 +0.4
ETSF pmax pmax
comp=Z,21nm,0.8s
ETSF Etsaut 89.60 313⇓ iP P 19 21 19.3 +0.4
comp=Z,21nm,0.8s
VNDA Vanda 89.94 168 LR LR 19 56 40.2
comp=Z,312nm,19.2s,baz=304,slow=32
SJPF Ste Jean 90.06 313⇓ iP P 19 21 21.5 +0.5
comp=Z,29nm,0.9s
SJPF Ste Jean 90.06 313⇓ iP P 19 21 21.5 +0.5
SJPF pmax pmax
comp=Z,29nm,0.9s
SJPF Ste Jean 90.06 313⇓ iP P 19 21 21.5 +0.5
comp=Z,29nm,0.9s
TOA0 Torodi Ar. Sit 90.35 283 ⇑P P 19 21 23.4 +0.5
baz=90,SNR=4.8
TORD Torodi Ar. Bea 90.35 283 P P 19 21 23.8 +0.8
comp=Z,2.3nm,0.9s,baz=87,slow=5.0,SNR=13
TORD LR LR 20 00 14.4
comp=Z,346nm,18.9s,baz=120,slow=34
DAG Danmarks Havn 90.44 348 iP P 19 21 21.6 -0.5
DAG i 19 21 32.2
DAG pmax pmax
comp=Z,5.0nm,0.7s
DAG Danmarks Havn 90.44 348 iP P 19 21 21.6 -0.5
comp=Z,7.6nm,0.7s
DAG i 19 21 32.2
QUIF Quistinic 90.83 318⇓ iP P 19 21 24.0 -0.4
QUIF Quistinic 90.83 318⇓ iP P 19 21 24.0 -0.4
QUIF Quistinic 90.83 318⇓ iP P 19 21 24.0 -0.4
ROSF Rostrenen 90.85 318 eP P 19 21 24.2 -0.3
ROSF Rostrenen 90.85 318 eP P 19 21 24.2 -0.3
ROSF Rostrenen 90.85 318 eP P 19 21 24.2 -0.3
NVL N'lazarevskaya 91.44 199 eP sP 19 21 40.0 +1.5
NVL pmax pmax
comp=Z,14nm,0.8s
ALE Alert 92.30 357 P P 19 21 31.2 +0.6
comp=Z,77nm,1.0s,SNR=8.4
ESDC Sonseca Array 92.53 310 P P 19 21 33.3 +0.7
comp=Z,5.0nm,0.7s,baz=64,slow=4.4,SNR=24
ESDC pP pP 19 21 43.9 +2.5
comp=Z,6.4nm,0.7s,baz=57,slow=4.3,SNR=13
ESDC LR LR 20 07 02.5
comp=Z,109nm,18.5s,baz=220,slow=38
SUMG Summit 97.09 347 iP Pdif 19 21 53.4 +0.1
SUMG i 19 22 04.8
SUMG pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 97.09 347 iP Pdif 19 21 53.4 +0.1
comp=Z,4.3nm,1.0s
SUMG i 19 22 04.8
DBIC Dimbokro 97.36 277 P Pdif 19 21 56.9 +1.7
comp=Z,3.1nm,0.8s,baz=83,slow=2.8,SNR=3.9
DBIC LR LR 20 03 22.0
comp=Z,158nm,20.1s,baz=70,slow=34
ILAR Eielson Array 98.14 22 P P 19 21 57.5 -0.1
comp=Z,0.3nm,0.8s,baz=299,slow=4.8,SNR=5.2
ILAR PP PP 19 25 53.8 -2.8
comp=Z,0.8nm,0.8s,baz=295,slow=6.4,SNR=6.6
ILAR LR LR 20 09 50.4
comp=Z,190nm,19.1s,baz=303,slow=38
YKA Yellowknife Ar 109.83 13 PKiKP PKiKP 19 26 51.5 -0.3
comp=Z,0.3nm,1.0s,baz=328,slow=2.2,SNR=2.7
PPT2 Papeete2 117.39 107 eLR LR 20 02 49.5
comp=Z,215nm,23.8s
G05D Wamic, OR 121.64 28 P PKPdf 19 27 14.4 -0.6
baz=121
I04A Tendick Farm, 122.18 30 P PKPdf 19 27 15.1 -1.1
baz=122
BSMT Bassoo Peak 122.31 22 ePKPdf PKPdf 19 27 16.6 +0.2
J04D Umpqua Nationa 122.73 30 P PKPdf 19 27 16.5 -0.9
baz=122
J05D Fort Rock, OR 123.13 29 P PKPdf 19 27 17.1 -1.0
baz=123
SLMT Seeley Lake 123.30 21 ePKPdf PKPdf 19 27 18.5 +0.1
A19A Klindworth Far 123.39 17 P PKPdf 19 27 18.2 -0.1
baz=123
MSO Missoula 123.48 22 P PKPdf 19 27 18.1 -0.5
baz=123
CHMT Chamberlain Mo 123.66 21 ePKPdf PKPdf 19 27 18.9 -0.2
A20A Cobblestone Ra 123.67 17 P PKPdf 19 27 18.5 -0.4
baz=123
M02C Callahan 123.68 32 P PKPdf 19 27 18.7 -0.4
baz=124
EGMT Eagleton 123.89 18 ePKPdf PKPdf 19 27 19.7 +0.4
EGMT Eagleton 123.89 18 P PKPdf 19 27 18.9 -0.4
baz=124
M04C Macdoel 123.93 31 P PKPdf 19 27 19.4 -0.3
baz=124
B20A Solberg Farm, 124.04 17 P PKPdf 19 27 19.5 0.0

baz=124
N02D Trinity Center 124.06 32 P PKPdf 19 27 21.0 +1.2
baz=124
A22A Carney Farms, 124.11 15 P PKPdf 19 27 20.7 +1.0
baz=124
C19A Slack Wire Ran 124.36 18 P PKPdf 19 27 20.7 +0.4
baz=124
A24A Westby 124.65 14 P PKPdf 19 27 21.7 +1.0
baz=124
C20A Veseth Ranch, 124.70 17 P PKPdf 19 27 21.4 +0.6
baz=124
ULM Lac du Bonnet 124.82 7 PKP PKPdf 19 27 20.6 -0.3
comp=Z,1.3nm,0.4s,baz=351,slow=1.6,SNR=6.9
D19A Cripps Ranch, 124.92 18 P PKPdf 19 27 22.5 +1.1
baz=125
D20A Manuel Ranch, 125.22 18 P PKPdf 19 27 22.0 +0.2
baz=125
C23A Lambert 125.40 15 P PKPdf 19 27 23.0 +0.8
baz=125
E19A Rath Farm, Rou 125.58 18 P PKPdf 19 27 23.3 +0.7
baz=125
A29A Manning Farm, 125.62 10 P PKPdf 19 27 23.4 +0.9
baz=125
D22A Cohagen 125.73 16 P PKPdf 19 27 23.9 +1.0
baz=126
E20A Meyer Farm, Mu 125.75 18 P PKPdf 19 27 23.4 +0.5
baz=126
HLID Hailey 126.01 25 P PKPdf 19 27 24.8 +1.2
baz=126
E21A Keefer Ranch, 126.03 17 P PKPdf 19 27 25.3 +1.9
baz=126
F19A Roth Farm, Mol 126.07 19 P PKPdf 19 27 24.4 +0.8
baz=126
C26A Wahner Farm, P 126.11 13 P PKPdf 19 27 24.5 +0.9
baz=126
LAO LASA Array 126.14 16 ePKPdf PKPdf 19 27 25.1 +1.4
AGMN Agassiz Nation 126.74 7 P PKPdf 19 27 24.8 +0.1
baz=126
E24A Baker 126.77 15 P PKPdf 19 27 25.3 +0.5
baz=126
D26A Manning 126.79 13 P PKPdf 19 27 26.4 +1.5
baz=126
H17A Grant Village 126.79 21 P PKPdf 19 27 26.1 +0.9
baz=127
H18A Shoshone NF, C 126.86 20 P PKPdf 19 27 26.2 +0.8
baz=127
G20A Bridger 126.86 19 P PKPdf 19 27 26.3 +1.1
baz=127
C30A Mose, Pekin 126.93 10 P PKPdf 19 27 26.0 +1.0
baz=127
H19A Powell 127.10 20 P PKPdf 19 27 27.7 +2.1
baz=127
I17A Pilgrim Ck. 127.20 21 P PKPdf 19 27 27.8 +1.8
baz=127
F23A Volborg 127.25 16 P PKPdf 19 27 27.4 +1.6
baz=127
G22A Birney 127.46 17 P PKPdf 19 27 27.0 +0.8
baz=127
H22A Clearmont 128.01 18 P PKPdf 19 27 28.9 +1.6
baz=128
NVAR Mina Array Bea 128.23 31 PKP PKPdf 19 27 30.0 +1.9
comp=Z,2.3nm,0.8s,baz=302,slow=1.7,SNR=14
NVAR pPKP pPKPdf 19 27 39.1 +2.1
comp=Z,3.8nm,0.8s,baz=326,slow=2.4,SNR=12
J19A Crowheart 128.31 21 P PKPdf 19 27 29.5 +1.5
baz=128
G26A Maurine 128.38 14 P PKPdf 19 27 29.4 +1.4
baz=128
H24A Dirks Ranch, A 128.39 16 P PKPdf 19 27 28.9 +0.9
baz=128
I21A Big Trails, Te 128.42 19 P PKPdf 19 27 29.0 +0.8
baz=128
G27A Dupree 128.46 14 P PKPdf 19 27 28.9 +0.8
baz=128
J20A Shoshoni 128.57 20 P PKPdf 19 27 29.1 +0.6
baz=128
PDAR Pinedale Array 128.57 21 PKP PKPdf 19 27 28.6 0.0
comp=Z,1.8nm,0.8s,baz=338,slow=1.0,SNR=12
PDAR pPKP pPKPdf 19 27 39.5 +1.9
comp=Z,3.5nm,0.8s,baz=82,slow=1.0,SNR=12
I22A 9 Mile Ranch, 128.60 18 P PKPdf 19 27 29.2 +0.7
baz=128
J22A Midwest 129.04 18 P PKPdf 19 27 29.9 +0.5
baz=129
RSSD Black Hills 129.11 16 ePKIKP PKPdf 19 27 30.2 +0.6
RSSD Black Hills 129.11 16 ePKPdf PKPdf 19 27 30.2 +0.6
K21A Alcova 129.49 19 P PKPdf 19 27 31.4 +1.0
baz=129
R11A Troy Canyon, C 129.66 29 ePKPdf PKPdf 19 27 32.0 +1.3
R11A Troy Canyon, C 129.66 29 P PKPdf 19 27 31.0 +0.2
baz=130
J25A Sunshine Ranch 129.85 16 P PKPdf 19 27 31.0 +0.2
baz=130
J26A Sides Ranch, S 130.12 15 P PKPdf 19 27 31.8 +0.4
baz=130
L23A Garrett 130.46 18 P PKPdf 19 27 31.6 -0.7
baz=130
J28A Allard Ranch, 130.47 14 P PKPdf 19 27 32.2 +0.2
baz=130
N20A Spence Gulch, 130.73 21 P PKPdf 19 27 34.5 +1.7
baz=130
ECSD EROS Data Cent 131.10 9 P PKPdf 19 27 33.1 0.0
baz=131
O20A White River Ci 131.35 22 ePKPdf PKPdf 19 27 31.3 -2.6
O23A Lake Granby, G 132.10 20 P PKPdf 19 27 36.2 +0.7
baz=132
GMRC Granite Mounta 132.38 32 P PKPdf 19 27 36.2 +0.3
baz=132
U15A North Rim 132.77 28 P PKPdf 19 27 37.8 +1.0
baz=133
BELC Belle Mtn. Jos 132.78 33 P PKPdf 19 27 38.1 +1.4
baz=133
IRM Iron Mountain 133.12 33 P PKPdf 19 27 39.3 +2.0
baz=133
P26A Davis Ranch, A 133.51 18 P PKPdf 19 27 37.2 -0.8
baz=133
R25A Fountain Ranch 134.51 19 P PKPdf 19 27 39.5 -0.4
baz=134
X16A Lo Mia Camp, P 134.81 29 P PKPdf 19 27 42.1 +1.5
baz=135
R27A Eads 134.85 18 P PKPdf 19 27 40.4 -0.1
baz=135
R28A Tribune 135.09 17 P PKPdf 19 27 42.6 +1.7
baz=135
S26A Kim 135.25 19 P PKPdf 19 27 41.8 +0.5
baz=135
V22A San Miguel Ran 135.54 23 P PKPdf 19 27 41.8 -0.2
baz=135
T27A Campo 136.00 18 P PKPdf 19 27 43.2 +0.5
baz=136
V25A Rancho No Teng 136.47 21 P PKPdf 19 27 44.8 +1.1
baz=136
ANMO Albuquerque 136.57 24c iPKIKP PKPdf 19 27 45.2 +1.3
ANMO pmax pmax
comp=Z,28nm,1.3s
ANMO Albuquerque 136.57 24 PKP PKPdf 19 27 44.1 +0.2
comp=Z,4.4nm,0.9s,baz=4.1,slow=1.1,SNR=7.7
W24A Lazy 6 Ranch, 136.74 22 P PKPdf 19 27 45.3 +1.1
baz=136
X23A Hourglass Bar 136.99 24 P PKPdf 19 27 45.3 +0.6
baz=137
W26A Owens Ranch, T 137.45 21 P PKPdf 19 27 47.2 +1.8
baz=137
Y23A Lovelace Mesa, 137.61 24 P PKPdf 19 27 46.9 +1.1
baz=137
Z22A Elephant Butte 137.82 25 P PKPdf 19 27 47.9 +1.7
baz=138
Y24A Capitan 137.86 23 P PKPdf 19 27 48.7 +2.4
baz=138
Y25A Mesa, Roswell 138.15 22 P PKPdf 19 27 47.8 +1.0
baz=138
Z24A Sheeppen Canyo 138.41 24 P PKPdf 19 27 49.2 +1.9
baz=138
Z25A Roswell 138.71 23 P PKPdf 19 27 49.2 +1.4
baz=138
Z26A Caprock 139.00 22 P PKPdf 19 27 48.3 0.0
baz=139
Z27A Tatum 139.24 21 P PKPdf 19 27 50.1 +1.2
baz=139
125A Gardner Draw, 139.28 23 P PKPdf 19 27 49.7 +0.8
baz=139
GDL2 Guadalupe Moun 139.81 23 ePKPdf PKPdf 19 27 47.4 -2.4
Z29A Hungry Hill Ra 139.81 19 P PKPdf 19 27 50.6 +0.9
baz=140
226B Tecolote Peak, 139.99 23 P PKPdf 19 27 51.1 +1.0
baz=140
128A Castleberry Fa 140.13 21 P PKPdf 19 27 51.5 +1.1
baz=140
Z31A Sharp Cattle R 140.25 17 P PKPdf 19 27 51.4 +0.9
baz=140
BDFB Brasilia 140.27 251 PKP PKPdf 19 27 52.2 +1.2
comp=Z,3.1nm,0.7s,baz=106,slow=4.9,SNR=5.2
131A Roby 140.78 18 P PKPdf 19 27 52.9 +1.4
baz=141
PLCA Paso Flores 141.14 200 PKP PKPdf 19 27 53.5 +1.7
comp=Z,2.6nm,0.9s,baz=162,slow=3.2,SNR=3.4
TXAR Lajitas Array 142.61 25 PKhKP PKPpre 19 27 50.7
comp=Z,0.8nm,0.9s,baz=308,slow=3.0,SNR=5.0
TXAR PKP PKiKP 19 27 57.0 -1.0
comp=Z,1.2nm,0.7s,baz=11,slow=1.4,SNR=8.4
JCT Junction City 143.00 19 ePKIKP PKPdf 19 27 55.9 +0.4
JCT Junction City 143.00 19 ePKPdf PKPdf 19 27 55.9 +0.4
CPUP Villa Florida 144.42 230 PKP PKPbc 19 27 57.2 +0.8
comp=Z,17nm,0.8s,baz=117,slow=2.3,SNR=24
CELP Cerrillos 149.86 319 ePKPdf PKPdf 19 28 08.1 +0.8
LRS Lares 149.87 320 ePKPbc PKPbc 19 28 11.8 -0.4
OBIP Obispado Ponce 149.90 319 ePKPdf PKPdf 19 28 06.7 -0.6
OBIP ePKPbc PKPbc 19 28 12.0 -0.1
LCO Las Campanas 151.28 211 ePKPdf PKPdf 19 28 08.8 -0.7
LCO ePKPbc PKiKP 19 28 17.0 +1.0
SDDR Presa de Saban 151.99 327 ePKPbc PKPbc 19 28 17.7 +0.6
LVC Limon Verde 155.04 222 ePKPbc PKPdf 19 28 22.9 +7.7
SAML Samuel 156.08 258 ePKPbc PKPdf 19 28 17.7 +1.3
LPAZ La Paz 158.23 236 PKP PKPdf 19 28 21.0 +1.2
comp=Z,3.7nm,1.0s,baz=56,slow=3.6,SNR=8.3
LPAZ PKPab PKPab 19 28 55.6 +1.8
comp=Z,3.6nm,0.8s,baz=135,slow=2.9,SNR=4.9

ISCJB **16** *19:13:17.4±1.1, 13°.98N±0°.09×91°.71W±0°.06, h61km, mb3.8/4, Error ellipse: s-maj=14.0km s-min=7.4km az=22.7*
MEX **16** *19:13:19.3±0.3, 13°.77N×92°.02W, h20km, MD4.1*
IDC **16** *19:13:23.8±2.6, 14°.48N×91°.11W, h86km±17km, mb3.4/4, mb1 3.7/6, mb1mx3.3/32, mbtmp3.7/6, MS3.1/2, Ms1 3.1/2, ms1mx2.7/27, Error ellipse: s-maj=55.5km s-min=29.4km az=43.0*
ISC 16 19:13:17.9±1.3, 13°.9N±0°.1×91°.68W±0°.06, h61km, n13, σ2§11/17, mb3.7/4, Near coast of Guatemala

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
THIG 1.12 329 iP Pn 19 13 37.0 -0.5
THIG eS Sn 19 13 51.0 -1.1
APG El Apazote 1.58 48 P Pn 19 13 41.7 -2.2
140nm,0.3s,baz=252,slow=12,SNR=307
APG S Sn 19 14 03.7 +0.2
193nm,0.3s,baz=350,slow=22,SNR=13
PCIG 2.30 320 iP Pn 19 13 52.8 -0.7
PCIG eS Sn 19 14 19.1 -1.6
CCIG Comitan 2.37 349 iP Pn 19 13 56.9 +2.3
CCIG eS Sn 19 14 25.9 +3.2
CMIG Matias Romero 4.40 316 iP Pn 19 14 22.1 -0.1
TEIG Tepich 7.05 27 P Pn 19 15 00.3 +1.9
38nm,0.3s,baz=256,slow=2.3,SNR=146
TEIG S Sn 19 16 12.9 -4.2
baz=254,slow=20,SNR=1.6
TEIG LR LR 19 17 42.6
comp=Z,74nm,18.9s,baz=266,slow=41
JTS JuntasAbangare 7.51 118 P Pn 19 15 07.8 +3.0
1.2nm,0.3s,baz=309,slow=18,SNR=3.6
TXAR Lajitas Array 18.92 326 P Pn 19 17 36.5 +1.4
0.1nm,0.3s,baz=148,slow=10,SNR=4.5
NVAR Mina Array Bea 33.91 321 P P 19 19 58.7 +3.3
0.7nm,0.6s,baz=135,slow=7.9,SNR=7.6
SCHQ Schefferville 45.17 20 P P 19 21 26.4 -2.0
3.5nm,0.9s,baz=215,slow=6.6,SNR=6.5
SCHQ LR LR 19 39 38.7
comp=Z,48nm,20.7s,baz=52,slow=35
YKA Yellowknife Ar 51.16 347 P P 19 22 14.4 -0.1
0.4nm,0.5s,baz=150,slow=7.7,SNR=14
ILAR Eielson Array 63.02 337 P P 19 23 39.1 +0.9
0.4nm,0.8s,baz=96,slow=5.5,SNR=4.8
CMAR Chiang Mai Arr 146.15 342 PKPbc PKPab 19 32 53.3 +0.5
1.1nm,0.8s,baz=333,slow=3.4,SNR=7.9

CSEM **16** *19:16:24.7, 44°.13N×22°.14E, h0km, ML1.5, Mining explosion. After BEO*
BEO 16 19:16:24.7±0.3, 44°.13N×22°.14E, h0km, ML1.5/7, Mining explosion., Romania

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BOLS Boljevac 0.33 204 ePg Pg 19 16 29.3 -1.7
BOLS eSg Sg 19 16 34.6 -0.7
BOLS Boljevac 0.33 204 ePg Pg 19 16 29.3 -1.7
BOLS eSg Sg 19 16 34.6 -0.7
ZAPS Zavoj 0.93 157 ePg Pg 19 16 41.9 -0.7
ZAPS eSg Sg 19 16 55.0 +0.3
GRUS Gruza 1.06 257 ePg Pg 19 16 45.2 +0.2
GRUS eSg Sg 19 16 58.9 +0.2
GRUS Gruza 1.06 257 ePg Pg 19 16 45.2 +0.2
GRUS eSg Sg 19 16 58.9 +0.2
SELS Selova 1.17 219 ePg Pg 19 16 44.8 -2.5
SELS eSg Sg 19 17 02.6 +0.1
TRUS Trudelj 1.25 275 ePg Pg 19 16 47.3 -1.4
TRUS eSg Sg 19 17 04.5 -0.5
TRUS Trudelj 1.25 275 ePg Pg 19 16 47.3 -1.4
TRUS eSg Sg 19 17 04.5 -0.5
GZR Gura Zlata 1.34 20 ePg Pg 19 16 48.8 -1.8
GZR eSg Sg 19 17 06.8 -1.3
GZR Gura Zlata 1.34 20 ePg Pg 19 16 48.8 -1.8
GZR eSg Sg 19 17 06.8 -1.3
BZS Buzias 1.53 346 ePg Pn 19 16 52.5 -0.8
BZS eSg Sn 19 17 13.1 -0.9
BZS Buzias 1.53 346 ePg Pn 19 16 52.5 -0.8
BZS eSg Sn 19 17 13.1 -0.9
IVAS Ivanjica 1.54 250 ePg Pn 19 16 53.0 -0.5
IVAS eSg Sn 19 17 13.0 -1.3
IVAS Ivanjica 1.54 250 ePg Pn 19 16 53.0 -0.5
IVAS eSg Sn 19 17 13.0 -1.3

ISCJB **16** *19:16:39.6±0.5, 16°.62N±0°.04×120°.14E±0°.06, h87km±4km, mb3.4/8, Error ellipse: s-maj=10.1km s-min=6.2km az=10.3*
MAN **16** *19:16:40, 16°.62N×120°.15E, h59km, mb4.9, ML3.8, MS3.8*
IDC **16** *19:16:43.6±1.9, 16°.48N×120°.41E, h125km±21km, mb3.2/9, mb1 3.4/9, mb1mx3.2/34, mbtmp3.6/9, Error ellipse: s-maj=35.7km s-min=16.2km az=59.0*
ISC 16 19:16:39.9±0.8, 16°.63N±0°.04×120°.15E±0°.07, h82km±6km, n24, σ1§66/31, mb3.5/8, 3C-2D, Luzon

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BOLP Bolinao 0.33 223 eP Pn 19 16 52.6 0.0
BOLP eS Sn 19 17 02.3 +0.4
BCPH Baguio City Da 0.48 120⇑iP Pn 19 16 53.6 -0.3
BCPH iS Sn 19 17 03.5 -0.7
ABRA Dolores 1.15 28 eP Pn 19 17 01.5 +0.5
ABRA eS Sn 19 17 17.5 +0.8
SIPP Brgy, Tapao 1.32 13⇑iP Pn 19 17 03.0 -0.1
SIPP eS Sn 19 17 08.2 -12
APYP Conner 1.61 40 eP Pn 19 17 07.2 +0.4
APYP eS Sn 19 17 28.2 +1.0
BALP Baler 1.63 122 eP Pn 19 17 08.2 +1.2
CAUP Cauayan 1.63 79 eP Pn 19 17 09.1 +2.0
PIP Pasuquin 1.75 15⇑iP Pn 19 17 08.8 +0.2
PIP eS Sn 19 17 33.2 +3.0
CVP Callao Caves 1.93 56 eP Pn 19 17 10.6 -0.3
CVP eS Sn 19 17 34.5 0.0
PALP Palanan 2.22 78 eP Pn 19 17 16.5 +1.7
TGY Tagaytay City 2.62 163 P Pn 19 17 22.1 +1.8
195nm,0.3s,baz=346,slow=2.8,SNR=31
TGY S Sn 19 17 53.6 +2.3
111nm,0.3s,baz=333,slow=14,SNR=4.2
TGY Tagaytay City 2.62 163⇓eP Pn 19 17 21.9 +1.6
TGY eS Sn 19 17 54.9 +3.7
LQP Lukban 2.84 152 eP Pn 19 17 24.6 +1.2
GQP Guinayangan 3.50 140⇓eP Pn 19 17 32.7 +0.7
GQP eS Sn 19 18 09.5 -2.9
CMAR Chiang Mai Arr 20.30 278 P Pn 19 21 13.1 +0.9
0.9nm,0.8s,baz=94,slow=8.0,SNR=7.1
SONM Songino Array 33.12 343 P P 19 23 09.3 +1.0
0.4nm,0.8s,baz=164,slow=9.9,SNR=3.8
WRA Warramunga Arr 38.92 158 P P 19 23 55.1 -2.8
0.6nm,0.9s,baz=338,slow=9.0,SNR=6.7
ASAR Alice Springs 42.24 161 P P 19 24 22.7 -2.6
0.2nm,0.3s,baz=341,slow=7.0,SNR=4.3
MKAR Makanchi Array 43.39 322 P P 19 24 35.8 +1.4
0.2nm,0.3s,baz=116,slow=9.6,SNR=8.6
AIS Amsterdam Isla 67.31 216 R 19 28 00.0
ARCES ARCESS Array B 76.18 339 P P 19 28 19.1 +0.2
2.3nm,0.8s,baz=74,slow=6.7,SNR=3.8
ILAR Eielson Array 76.37 26 P P 19 28 19.1 -0.9
0.5nm,0.9s,baz=279,slow=5.2,SNR=4.5
FINES FINESS Array B 77.49 331 P P 19 28 26.4 +0.1
0.7nm,0.6s,baz=73,slow=6.4,SNR=5.5
YKA Yellowknife Ar 90.29 22 P P 19 29 30.8 -0.7
0.2nm,0.7s,baz=304,slow=3.4,SNR=5.4

SKO **16** *19:18:21.6, 39°.18N×20°.57E, h5km, M2.0, ML2.5*
ATH **16** *19:18:22.5, 39°.35N×20°.75E, h5km±4km, MD3.1/12*
CSEM **16** *19:18:22.7±0.2, 39°.33N×20°.71E, h2km, ML2.2, Error ellipse: s-maj=5.6km s-min=4.4km az=70.0*
THE **16** *19:18:22.7, 39°.36N×20°.74E, h8km±2km, ML2.2/6, Error ellipse: s-maj=2.4km s-min=0.8km az=25.0*
DDA **16** *19:20:20.5, 38°.18N×26°.81E, h7km, MD2.4*
ISC 16 19:18:22.6±1.1, 39°.33N±0°.02×20°.72E±0°.02, h2km±10km, n73, σ0§84/96, Greece-Albania border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JAN Janina 0.35 17 P Pg 19 18 28.2 -1.0
JAN S Sg 19 18 33.9 +0.1
JAN Janina 0.35 17 ePG Pg 19 18 28.3 -1.0
JAN Janina 0.35 17 ePg Pg 19 18 28.3 -1.0
JAN S Sg 19 18 33.9 +0.1
DSL Palaion Diasel 0.35 123 P Pg 19 18 29.0 -0.3
DSL S Sg 19 18 34.8 +1.0
DSL Palaion Diasel 0.35 123 ePG Pg 19 18 28.9 -0.3
DSL Palaion Diasel 0.35 123 P Pg 19 18 29.0 -0.3
DSL S Sg 19 18 34.8 +1.0
IGT Igoumenitsa 0.37 305 P Pg 19 18 28.7 -0.9
IGT S Sg 19 18 35.0 +0.6
IGT Igoumenitsa 0.37 305 ePG Pg 19 18 29.0 -0.6
IGT eSB Sg 19 18 35.2 +0.8
IGT Igoumenitsa 0.37 305 P Pg 19 18 28.7 -0.9
IGT Igoumenitsa 0.37 305 ePg Pg 19 18 29.0 -0.6
IGT S Sg 19 18 35.0 +0.6
LKD2 Lefkada island 0.54 185 P Pg 19 18 33.0 +0.1
LKD2 S Sb 19 18 43.0 0.0
LKD2 Lefkada island 0.54 185 ePB Pg 19 18 32.8 -0.1
LKD2 Lefkada island 0.54 185 ePb Pg 19 18 32.8 -0.1
PDO Prodromos 0.81 153 P Pg 19 18 38.0 -0.1
PDO Prodromos 0.81 153 ePB Pb 19 18 38.7 -0.7
PDO Prodromos 0.81 153 P Pg 19 18 38.0 -0.1
PDO Prodromos 0.81 153 ePb Pb 19 18 38.7 -0.7
KEK Kerkira 0.81 299 P Pg 19 18 37.5 -0.7
KEK S Sb 19 18 51.0 +0.1
KEK Kerkira 0.81 299 ePB Pg 19 18 38.7 +0.5
KEK eSB Sb 19 18 51.0 +0.1
KEK Kerkira 0.81 299 P Pg 19 18 37.5 -0.7
KEK Kerkira 0.81 299 ePb Pg 19 18 38.7 +0.5
KEK eSb Sb 19 18 51.0 +0.1
EVR Evrytania 0.94 115 P Pg 19 18 40.4 -0.2
EVR S Sb 19 18 53.8 -0.8
EVR Evrytania 0.94 115 ePB Pg 19 18 40.6 0.0
EVR Evrytania 0.94 115 P Pg 19 18 40.4 -0.2
EVR S Sb 19 18 53.8 -0.8
THL Klokotos Trika 1.03 76 P Pg 19 18 42.4 +0.1
THL S Sb 19 18 56.5 -0.6
THL Klokotos Trika 1.03 76 ePN Pg 19 18 42.3 0.0
THL Klokotos Trika 1.03 76 P Pg 19 18 42.4 +0.1
THL S Sb 19 18 56.5 -0.6
VLS Valsamata 1.15 185 P Pg 19 18 44.7 +0.1
VLS S Sn 19 19 01.4 -0.7
VLS Valsamata 1.15 185 ePB Pn 19 18 45.8 0.0
VLS Valsamata 1.15 185 P Pg 19 18 44.7 +0.1
VLS Valsamata 1.15 185 ePb Pn 19 18 45.8 0.0
VLS S Sn 19 19 01.4 -0.7
KFL Anninata 1.21 178 P Pg 19 18 44.5 -1.4
KFL S Sn 19 19 04.0 +0.3
KFL Anninata 1.21 178 P Pg 19 18 44.5 -1.4
KFL S Sn 19 19 04.0 +0.3
KZN Kozani 1.27 39 ePB Pg 19 18 46.0 -1.0
KZN Kozani 1.27 39 ePb Pg 19 18 46.0 -1.0
AGG Agios Georgios 1.29 103 ePB Pn 19 18 46.8 -0.9
AGG Agios Georgios 1.29 103 ePb Pn 19 18 46.8 -0.9
EFP Efpalio 1.29 134 ePB Pg 19 18 48.0 +0.7
EFP Efpalio 1.29 134 ePb Pg 19 18 48.0 +0.7
RLS Riolos of Patr 1.39 155 ePB Pb 19 18 49.2 -0.2
RLS Riolos of Patr 1.39 155 ePb Pb 19 18 49.2 -0.2
FNA Florina 1.54 19 ePB Pb 19 18 51.9 -0.1
FNA Florina 1.54 19 ePb Pb 19 18 51.9 -0.1
LIT Litokhoron 1.57 60 ePB Pb 19 18 52.2 -0.2
LIT Litokhoron 1.57 60 ePb Pb 19 18 52.2 -0.2
DRO Drossia 1.57 150 ePB Pg 19 18 52.6 -0.2
DRO Drossia 1.57 150 ePb Pg 19 18 52.6 -0.2
DSF Desfina 1.68 122 ePB Pg 19 18 55.1 +0.3
DSF Desfina 1.68 122 ePb Pg 19 18 55.1 +0.3
GUR Goura 1.88 137 ePG Pb 19 18 57.7 0.0
GUR Goura 1.88 137 ePg Pb 19 18 57.7 0.0
LKR Lokris 1.90 110 ePG Pb 19 18 57.4 -0.6
LKR Lokris 1.90 110 ePg Pb 19 18 57.4 -0.6
XOR Xorichti 1.92 88 ePN Pb 19 18 58.8 -0.5
XOR Xorichti 1.92 88 ePn Pb 19 18 58.8 -0.5
NEO Neokhori 1.94 90 ePG Pb 19 18 57.6 -1.1
NEO Neokhori 1.94 90 ePg Pb 19 18 57.6 -1.1
AMT Artemida-Makis 1.95 156 ePN Pg 19 18 59.7 -0.3
AMT Artemida-Makis 1.95 156 ePn Pg 19 18 59.7 -0.3
LTK Loutraki 2.19 126 ePN Pb 19 19 02.5 -0.4
LTK Loutraki 2.19 126 ePn Pb 19 19 02.5 -0.4
VAY Valandovo 2.44 35 ePn Pb 19 19 05.9 -1.5
VAY iSg Sg 19 19 41.8 +0.7
VAY eLg Lg 19 19 42.5
comp=E,44nm,2.3s
VAY eLg Lg 19 19 43.9
comp=N,54nm,2.2s
VAY Valandovo 2.44 35 ePn Pb 19 19 05.8 -1.5
VAY iSg Sg 19 19 41.8 +0.7
VAY eLg Lg 19 19 42.4
comp=N,44nm,2.3s
SOH Sokhos 2.51 53 ePN Pn 19 19 05.8 +1.2
SOH Sokhos 2.51 53 ePn Pn 19 19 05.8 +1.2
DID Didima 2.68 132 ePN Pb 19 19 09.4 -2.0
DID Didima 2.68 132 ePn Pb 19 19 09.4 -2.0
SKO Skopje 2.70 11 ePn Pn 19 19 08.2 +1.1
SKO iSg Sg 19 19 50.7 +1.3
SKO eLg Lg 19 19 52.8
comp=E,24nm,1.2s
SKO eLg Lg 19 19 53.4
comp=N,62nm,1.8s
SKO Skopje 2.70 11 ePn Pn 19 19 08.2 +1.1
SKO iSg Sg 19 19 50.7 +1.3
SKO eLg Lg 19 19 52.8
comp=N,24nm,1.2s
OUR Ouranopolis 2.71 67 eP Pn 19 19 08.7 +1.6
OUR Ouranopolis 2.71 67 eP Pn 19 19 08.7 +1.6
NVR Nevrokopi 3.14 49 ePN Pn 19 19 15.4 +2.2
NVR Nevrokopi 3.14 49 ePn Pn 19 19 15.4 +2.2

ISCJB **16** *19:21:41.8±0.3, 47°.83N±0°.05×150°.29E±0°.08, h250km, mb3.2/8, Error ellipse: s-maj=9.5km s-min=2.5km az=44.4*
MOS **16** *19:21:42.0±1.9, 47°.85N×150°.44E, h284km, mb4.2/1, Error ellipse: s-maj=17.1km s-min=7.3km az=60.4*
SKHL **16** *19:21:43.7±0.3, 47°.85N×150°.10E, h273km±6km, mb5.0/4, mbh5.8/3*
IDC **16** *19:21:44.4±1.8, 48°.03N×150°.09E, h286km±19km, mb2.9/8, mb1 3.2/13, mb1mx3.0/30, mbtmp3.8/13, Error ellipse: s-maj=24.1km s-min=13.6km az=129.0*
KRSC **16** *19:21:44.8±2.0, 47°.86N×151°.31E, h354km±22km, ML4.2*
JMA **16** *19:21:45.3±0.6, 46°.80N×150°.82E, h327km, M4.0*
ISC 16 19:21:41.2±0.6, 47°.83N±0°.07×150°.31E±0°.08, h250km, n92, σ2§07/93, mb3.1/8, 2C-1D, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SHO Shikotan 4.65 213 eP Pn 19 22 54.6 +1.9
SHO AMB AMB 19 22 55.2
126nm,0.7s
SHO eS S 19 23 50.1 +0.5
SHO A A 19 23 51.4
329nm,0.5s
SKR Severo-Kuril's 4.75 51 iP Pn 19 22 56.7 +3.0
SKR eS S 19 23 52.6 +1.0
SKR Severo-Kuril's 4.75 51 eP Pn 19 22 57.5 +3.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR				AMB	AMB	19 22 57.8	
	118nm,0.7s						
SKR				eS	S	19 23 54.8	+3.2
SKR				A	A	19 24 19.1	
	1µm,0.7s						
YUK	Yuzh-Kuril'sk	4.91	221 d	iPN	Pn	19 22 59.1	+3.3
YUK				iS	S	19 23 57.7	+2.5
YUK				pmax	pmax		
	comp=N,15nm,0.2s						
YUK				pmax	pmax		
	comp=E,20nm,0.2s						
YUK				pmax	pmax		
	comp=Z,94nm,0.2s						
YUK				smax	smax		
	comp=E,131nm,0.3s						
YUK				smax	smax		
	comp=N,175nm,0.6s						
YUK	Yuzh-Kuril'sk	4.91	221	eP	Pn	19 22 58.1	+2.3
YUK				AMB	AMB	19 23 00.7	
	comp=N,20nm,0.2s						
YUK				AMB	AMB	19 23 00.7	
	comp=N,90nm,0.2s						
YUK				eS	S	19 23 57.7	+2.5
YUK				A	A	19 24 04.5	
	comp=N,180nm,0.5s						
YUK				A	A	19 24 04.5	
	comp=N,130nm,0.5s						
YSS	Yuzh-Sakhalins	5.21	263	ePN	Pn	19 23 04.4	+5.0
YSS	Yuzh-Sakhalins	5.21	263	eP	Pn	19 23 00.6	+1.2
YSS				AMB	AMB	19 23 04.8	
	comp=N,704nm,0.6s						
JRA	Rausu	5.32	225	P	Pn	19 23 03.9	+3.1
NEM2	Nemuro 2	5.50	217	P	Pn	19 23 03.8	+0.8
NEM2				eS	S	19 24 05.0	-3.4
PAU	Pauzhetka	5.57	47	PN	Pn	19 23 06.0	+2.2
PAU				S	S	19 24 08.6	-1.2
PAU	Pauzhetka	5.57	47	iP	Pn	19 23 05.9	+2.2
PAU				eS	S	19 24 08.6	-1.2
PAU	Pauzhetka	5.57	47	eP	Pn	19 23 06.0	+2.2
TYV	Tymovskoe	5.85	304	eP	Pn	19 23 09.5	+2.2
JTKR	Abashiri--Toko	5.91	232	P	Pn	19 23 11.5	+3.4
JTKR				eS	S	19 24 20.2	+2.6
JSE	Soyaes	6.07	245	P	Pn	19 23 16.1	+6.0
MIPR	Malaya Ipel'ka	6.08	41	eP	Pn	19 23 12.7	+2.6
JMP	Maruseppu	6.18	234	P	Pn	19 23 15.5	+4.0
JAK	Akkeshi	6.25	221	P	Pn	19 23 13.0	+0.7
JAK				eS	S	19 24 22.1	-3.2
JWK2	Keihoku	6.32	250	P	Pn	19 23 19.2	+5.9
JAR	Ashorobuto	6.46	228	P	Pn	19 23 17.5	+2.5
JKA	Kamikawa-asahi	6.53	238	eP	Pn	19 23 20.4	+4.4
ASAJ	Asahikawa	6.54	238	PN	Pn	19 23 20.3	+4.3
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ	Asahikawa	6.54	238	P	Pn	19 23 20.4	+4.4
ASAJ	Asahikawa	6.54	238	P	Pn	19 23 20.3	+4.3
	comp=Z,5.4nm,0.3s,baz=66,slow=14,SNR=76						
JKK2	Kamakawa 2	6.60	236	P	Pn	19 23 20.7	+3.9
ASAK	Asacha	6.67	44	P	Pn	19 23 20.7	+3.1
APC	Apacha	6.72	38	iP	Pn	19 23 20.5	+2.5
JOB	Onbets	6.72	225	P	Pn	19 23 19.5	+1.3
MTVR	Mutnovka	6.87	44	eP	Pn	19 23 21.8	+1.6
MTVR				eS	S	19 24 36.8	-2.8
RUS	Russkaya	7.00	46	PN	Pn	19 23 22.5	+0.9
RUS				S	S	19 24 38.1	-4.1
RUS	Russkaya	7.00	46	eP	Pn	19 23 22.5	+0.9
RUS				S	S	19 24 38.1	-4.1
RUS	Russkaya	7.00	46	eP	Pn	19 23 22.5	+0.9
PETK	Petropavlovsk-	7.08	39	PN	Pn	19 23 24.7	+2.1
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	Petropavlovsk-	7.08	39	P	Pn	19 23 24.7	+2.1
	comp=Z,1.6nm,0.3s,baz=210,slow=12,SNR=44						
JFR	Furan	7.16	232	P	Pn	19 23 26.4	+2.6
JCH	Churui	7.16	226	P	Pn	19 23 24.2	+0.4
JCH				eS	S	19 24 41.8	-4.5
PET	Petropavlovsk	7.44	43	ePN	Pn	19 23 30.2	+3.1
PET	Petropavlovsk	7.44	43	eP	Pn	19 23 30.1	+3.0
JBT2	Biratori 2	7.54	231	P	Pn	19 23 30.2	+1.5
GNL	Ganaly	7.60	37	eP	Pn	19 23 30.9	+1.6
KOK	Koryaka	7.61	41	eP	Pn	19 23 31.8	+2.4
AVH	Avacha	7.64	41	eP	Pn	19 23 31.9	+2.2
UGLR	Uglovaya	7.64	42	eP	Pn	19 23 32.3	+2.5
KRX	Arik	7.66	41	eP	Pn	19 23 31.8	+1.7
SMAR	Somma	7.66	42	eP	Pn	19 23 32.1	+1.9
KRER	Koryakskii	7.67	41	eP	Pn	19 23 32.1	+1.8
KRER				S	S	19 24 54.8	-3.2
JNBK	Urakawa-nobuka	7.71	227	P	Pn	19 23 30.0	-0.8
JNBK				eS	S	19 24 51.3	-7.6
SDLR	Sedlovina	7.71	42	eP	Pn	19 23 32.3	+1.6
SDLR				S	S	19 24 55.4	-3.5
JEM	Erimo	7.72	224	eS	S	19 24 52.1	-7.0
ERM	Erimo	7.72	224⇑	ePN	Pn	19 23 31.8	+0.9
ERM	Erimo	7.72	224	eP	Pn	19 23 31.8	+0.9
NKL	Nikolayevsk	8.12	314	eP	Pn	19 23 38.0	+2.2
JNB	Noboribetsu	8.47	234	P	Pn	19 23 42.0	+1.7
JNB				eS	S	19 25 12.8	-3.6
JKB	Kayabe	8.87	231	P	Pn	19 23 45.1	-0.3
JKB				eS	S	19 25 19.6	-6.2
JSH	Shimam	8.91	238	P	Pn	19 23 48.1	+2.2
JYM2	Yakumo 2	9.07	235	P	Pn	19 23 48.5	+0.6
JSR	Shiriuchi	9.45	232	P	Pn	19 23 52.6	-0.1
JOSM	Okushiri--Mats	9.59	237	P	Pn	19 23 55.8	+1.3
TUMR	Tumrok	9.64	36	eP	Pn	19 23 56.8	+1.7
JTM	Tenmabayashi	9.67	227	eS	S	19 25 34.5	-10
JANG	Nango	9.78	223	P	Pn	19 23 55.0	-1.9
JANG				eS	S	19 25 35.9	-11
MKZ	Mys Kozlova	9.82	43	PN	Pn	19 23 54.1	-3.1
MKZ	Mys Kozlova	9.82	43	eP	Pn	19 23 54.1	-3.1
KBTR	Krutoberegovo	11.37	38	PN	Pn	19 24 15.4	-1.2
KBTR	Krutoberegovo	11.37	38	eP	Pn	19 24 15.4	-1.2
KBTR				S	S	19 26 10.4	-13
BKI	Bering	12.21	47	PN	Pn	19 24 25.6	-1.5
BKI	Bering	12.21	47	P	Pn	19 24 25.6	-1.5
BKI				S	S	19 26 29.7	-13
EKMR	Ekimchan	12.23	302	eP	Pn	19 24 26.0	-1.5
KLR	Kul'dur	12.39	283	ePN	Pn	19 24 29.3	-0.1
KLR	Kul'dur	12.39	283	eP	Pn	19 24 29.3	-0.1
USRK	Ussuriysk Arra	13.24	261	P	Pn	19 24 39.9	0.0
	comp=Z,0.4nm,0.3s,baz=64,slow=12,SNR=7.1						
MJA0	Matsu Arr-Jizo	14.38	223	eP	P	19 24 56.1	+2.0
MAJO	Matsushiro	14.39	223⇑	eP	P	19 24 55.7	+1.4
MAJO	Matsushiro	14.39	223	eP	P	19 24 55.7	+1.4
MAT	Matsushiro	14.39	223	P	P	19 24 55.7	+1.4
MJAR	Matsushiro Arr	14.39	223	P	P	19 24 55.9	+1.6
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	Matsushiro Arr	14.39	223	P	P	19 24 55.9	+1.6
	comp=Z,1.9nm,0.3s,baz=18,slow=12,SNR=30						
MJAR	Matsushiro Arr	14.39	223	eP	P	19 24 56.1	+1.8
SEY	Seymchan	15.18	4	eP	Pn	19 25 05.3	+2.2
SEY	Seymchan	15.18	4	eP	P	19 25 05.3	+2.2
YAK	Yakutsk	18.39	328	eP	Pn	19 25 41.9	+1.0
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
YAK	Yakutsk	18.39	328	eP	Pn	19 25 41.8	+0.9
KSRS	Korea Array	19.40	246	P	P	19 25 49.8	+1.2
	comp=Z,0.5nm,0.3s,baz=49,slow=10,SNR=15						
JNU	Nakatsue	20.76	232	P	P	19 26 03.6	+0.4
	comp=Z,8.5nm,0.7s,baz=344,slow=0.4,SNR=8.5						
BILL	Bilibino	21.82	16	eP	P	19 26 14.6	+1.6
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SONM	Songino Array	29.18	287	P	P	19 27 18.1	-1.4
	comp=Z,0.2nm,0.5s,baz=82,slow=9.0,SNR=3.6						
MKAR	Makanchi Array	44.75	295	P	P	19 29 27.4	-2.4
	comp=Z,0.7nm,0.7s,baz=70,slow=8.4,SNR=7.5						
CMAR	Chiang Mai Arr	50.82	253	P	P	19 30 16.3	-0.1
	comp=Z,0.4nm,0.3s,baz=35,slow=7.7,SNR=5.6						
YKA	Yellowknife Ar	51.19	36	P	P	19 30 19.4	+0.8
	comp=Z,0.2nm,0.5s,baz=302,slow=7.1,SNR=2.6						
FINES	FINESS Array B	62.23	333	P	P	19 31 33.4	-2.5
	comp=Z,0.3nm,0.4s,baz=27,slow=12,SNR=5.9						
WRA	Warramunga Arr	68.97	196	P	P	19 32 18.5	-0.9
	comp=Z,0.2nm,0.6s,baz=6.6,slow=7.2,SNR=2.6						
ASAR	Alice Springs	72.68	196	P	P	19 32 42.1	+0.5
	comp=Z,0.2nm,0.5s,baz=18,slow=6.3,SNR=3.2						

*IDC **16** 19:35:12.5±1.2, 8.68S×157.76E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.5/32, mbtmp3.4/6, ML3.7/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/20, Error ellipse: s-maj=35.4km s-min=25.5km az=166.0*

*ISCJB **16** 19:35:14.5±0.9, 8.7S±0.2×157.7E±0.1, h23km, mb3.3/5, MS3.9/1, Error ellipse: s-maj=28.4km s-min=16.1km az=1.9*

ISC 16 19:35:16.3±1.0, 8.7S±0.2×157.7E±0.1, h23km, n7, σ1.51/7, mb3.5/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.36	109	Pn	Pn	19 35 51.8	-1.8
	21nm,0.3s,baz=225,slow=8.9,SNR=8.3						
HNR				Sn	Sb	19 36 28.9	+2.0
	54nm,0.3s,baz=186,slow=13,SNR=16						
WRA	Warramunga Arr	25.22	241	P	P	19 40 40.0	-0.7
	0.7nm,0.7s,baz=67,slow=9.4,SNR=6.0						
ASAR	Alice Springs	27.22	234	P	P	19 40 59.2	+0.4
	0.2nm,0.8s,baz=68,slow=10,SNR=2.9						
USRK	Ussuriysk Arra	57.52	338	LR	LR	20 06 13.4	
	comp=Z,97nm,21.9s,baz=103,slow=32						
CMAR	Chiang Mai Arr	63.90	295	P	P	19 45 48.6	+0.8
	0.5nm,0.9s,baz=116,slow=4.1,SNR=4.8						
ILAR	Eielson Array	83.95	21	P	P	19 47 43.8	-0.5
	0.2nm,0.5s,baz=256,slow=4.9,SNR=5.4						
MKAR	Makanchi Array	86.41	318	P	P	19 47 57.6	+0.6
	0.2nm,0.7s,baz=99,slow=4.5,SNR=3.0						

*ATH **16** 19:44:23.9, 37.34N×28.86E, h16km±1km, MD3.7/16*
*ISCJB **16** 19:44:26.4±0.5, 37.21N±0.02×28.73E±0.02, h8km±3km, Error ellipse: s-maj=2.8km s-min=2.5km az=147.2*
*CSEM **16** 19:44:26.9±0.1, 37.22N×28.74E, h5km, MD3.4, Error ellipse: s-maj=2.0km s-min=1.9km az=25.0*
*ISK **16** 19:44:26.5, 37.21N×28.75E, h12km, MD3.4*
*DDA **16** 19:44:27.5, 37.27N×28.73E, h26km, MD3.2*
*THE **16** 19:44:29.3, 37.27N×28.74E, h9km±3km, ML3.2/6, Error ellipse: s-maj=3.0km s-min=1.0km az=104.0*
*HLW **16** 19:44:33.2, 36.81N×28.85E, h26km±14km, Md3.6, Ml3.5*

ISC 16 19:44:27.3±1.0, 37.24N±0.02×28.72E±0.02, h8km±8km, n208, σ0.95/263, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.36	254	PG	Pg	19 44 34.7	+0.3
YER				eSG	Sg	19 44 40.5	+1.2
YER	Yerkesik	0.36	254	iPg	Pg	19 44 34.7	+0.3
YER				eSg	Sg	19 44 40.5	+1.2
DALY	Dalyan (Mu¯la	0.42	187	PG	Pg	19 44 34.7	-0.8
DALY	Dalyan (Mu¯la	0.42	187	iPg	Pg	19 44 34.7	-0.8
FETY	Fethiye	0.67	154	ePG	Pg	19 44 39.2	-1.0
FETY				eSG	Sg	19 44 48.8	-0.1
FETY	Fethiye	0.67	154	ePg	Pg	19 44 39.2	-1.0
FETY				eSg	Sg	19 44 48.8	-0.1
GOLH	Golhisar	0.67	90	iP	Pg	19 44 39.7	-0.5
GOLH				iS	Sb	19 44 51.1	+0.3
GOLH	Golhisar	0.67	90	iP	Pg	19 44 39.7	-0.5
GOLH				iS	Sb	19 44 51.1	+0.3
AYDN	Tasoluk	0.79	302	iP	Pb	19 44 43.4	0.0
AYDN				iS	Sb	19 44 54.1	-0.2
AYDN	Tasoluk	0.79	302	iP	Pb	19 44 43.4	0.0
AYDN				iS	Sb	19 44 54.1	-0.2
AYDB	Zeytinkoy-Aydi	0.97	317	ePG	Pg	19 44 46.1	+0.2
AYDB	Zeytinkoy-Aydi	0.97	317	ePg	Pg	19 44 46.1	+0.2
BDRM	Kayabasi	1.03	261	iP	Pg	19 44 46.9	-0.2
BDRM				iS	Sn	19 45 03.3	+0.4
BDRM	Kayabasi	1.03	261	iP	Pg	19 44 46.9	-0.2
BDRM				iS	Sn	19 45 03.3	+0.4
ELL	Elmali	1.07	117	ePG	Pg	19 44 47.1	-0.7
ELL	Elmali	1.07	117	ePg	Pg	19 44 47.1	-0.7
ARG	Arkhangelos	1.13	205	P	Pb	19 44 47.8	-1.2
ARG				S	Sn	19 45 06.6	+1.5
ARG	Arkhangelos	1.13	205	ePN	Pb	19 44 47.9	-1.1
ARG				eSN	Sn	19 45 05.7	+0.6
ARG	Arkhangelos	1.13	205	P	Pb	19 44 47.8	-1.2
ARG				eSn	Sn	19 45 05.7	+0.6
BODT	Bodrum	1.14	262	ePN	Pb	19 44 48.7	-0.6
BODT	Bodrum	1.14	262	ePn	Pb	19 44 48.7	-0.6
AKAS	Kas	1.23	144	iP	Pn	19 44 50.9	0.0
AKAS	Kas	1.23	144	iP	Pn	19 44 50.9	0.0
AKAS				iS	Sn	19 45 12.1	+4.3
KHL	Karahalli	1.26	30	ePN	Pn	19 44 50.6	-0.7
KHL				eSN	Sg	19 45 08.1	+0.4
KHL	Karahalli	1.26	30	ePn	Pn	19 44 50.6	-0.7
KHL				eSn	Sg	19 45 08.1	+0.4
GCAM	G?zelcaml?	1.27	292	iP	Pb	19 44 51.6	+0.1
GCAM				iS	Sn	19 45 11.6	+3.0
GCAM	G?zelcaml?	1.27	292	iP	Pb	19 44 51.6	+0.1
GCAM				iS	Sn	19 45 11.6	+3.0
KULA	Kula-Manisa	1.28	358	P	Pn	19 44 51.0	-0.5
KULA				S	Sb	19 45 07.9	-0.4
KULA	Kula-Manisa	1.28	358	ePN	Pn	19 44 51.1	-0.5
KULA	Kula-Manisa	1.28	358	ePn	Pn	19 44 51.1	-0.5
KULA				S	Sb	19 45 07.9	-0.4
KHAL	Karahalli	1.28	28	iP	Pn	19 44 50.8	-0.9
KHAL				iS	Sg	19 45 10.1	+1.5
KHAL	Karahalli	1.28	28	iP	Pn	19 44 50.8	-0.9
KHAL				iS	Sg	19 45 10.1	+1.5
KORT	Korkueli	1.32	100	iP	Pg	19 44 53.0	+0.3
KORT				iS	Sg	19 45 12.9	+3.0
KORT	Korkueli	1.32	100	iP	Pg	19 44 53.0	+0.3
KORT				iS	Sg	19 45 12.9	+3.0
BCK	Bucak	1.50	81	ePN	Pn	19 44 54.1	-0.6
BCK	Bucak	1.50	81	ePn	Pn	19 44 54.1	-0.6
ISP	Isparta	1.55	67	P	Pn	19 44 55.7	+0.4
ISP				S	Sn	19 45 15.0	-0.6
ISP	Isparta	1.55	67	ePN	Pn	19 44 54.6	-0.7
ISP	Isparta	1.55	67	ePn	Pn	19 44 54.6	-0.7
ISP	Isparta	1.55	67	P	Pn	19 44 55.7	+0.4
ISP				S	Sn	19 45 15.0	-0.6
SMG	Samos	1.57	288	P	Pn	19 44 55.1	-0.4
SMG				S	Sb	19 45 16.5	-0.2
SMG	Samos	1.57	288	ePN	Pn	19 44 54.4	-1.1
SMG				eSN	Sb	19 45 16.7	0.0
SMG	Samos	1.57	288	ePn	Pn	19 44 54.4	-1.1
SMG	Samos	1.57	288	P	Pn	19 44 55.1	-0.4
SMG				S	Sb	19 45 16.5	-0.2
ANTB	Antalya	1.58	102	ePN	Pn	19 44 54.9	-0.7
ANTB	Antalya	1.58	102	ePn	Pn	19 44 54.9	-0.7
BLCB	Balcova	1.75	311	ePN	Pn	19 44 58.0	-0.1
BLCB	Balcova	1.75	311	ePn	Pn	19 44 58.0	-0.1
AKHS	Akhisar	1.79	337	iP	Pn	19 44 58.7	+0.2
AKHS				iS	Sb	19 45 22.9	0.0
AKHS	Akhisar	1.79	337	iP	Pn	19 44 58.7	+0.2
AKHS				iS	Sb	19 45 22.9	0.0
AKS	Akhisar	1.79	337	ePN	Pn	19 44 58.4	-0.2
AKS	Akhisar	1.79	337	ePn	Pn	19 44 58.4	-0.2
SHUT	Suhut-Afyon	1.96	47	ePN	Pn	19 45 00.5	-0.4
SHUT	Suhut-Afyon	1.96	47	ePn	Pn	19 45 00.5	-0.4
KARP	Karpathos	2.10	217	P	Pn	19 45 03.2	+0.3
KARP				S	Sn	19 45 30.2	+0.9
KARP	Karpathos	2.10	217	ePN	Pn	19 45 03.1	+0.2
KARP				eSN	Sb	19 45 31.3	-0.8
KARP	Karpathos	2.10	217	ePn	Pn	19 45 03.1	+0.2
KARP				S	Sn	19 45 30.2	+0.9
KARP				eSn	Sb	19 45 31.3	-0.8
ALT	Altintas	2.12	31	P	Pn	19 45 03.8	+0.6
ALT				S	Sn	19 45 29.2	-0.6
ALT	Altintas	2.12	31	ePN	Pn	19 45 03.0	-0.2
ALT	Altintas	2.12	31	ePn	Pn	19 45 03.0	-0.2
ALT	Altintas	2.12	31	P	Pn	19 45 03.8	+0.6
ALT				S	Sn	19 45 29.2	-0.6
TVSB	Tavsanli	2.28	15	ePN	Pn	19 45 05.3	-0.1
TVSB	Tavsanli	2.28	15	ePn	Pn	19 45 05.3	-0.1
DURS	Dursunbey	2.37	355	iP	Pn	19 45 07.1	+0.5
DURS				iS	Sn	19 45 37.1	+1.2
DURS	Dursunbey	2.37	355	iP	Pn	19 45 07.1	+0.5
DURS				iS	Sn	19 45 37.1	+1.2
CHOS	Chios island	2.40	299	P	Pn	19 45 07.3	+0.2
CHOS				S	Sn	19 45 36.9	+0.2
CHOS	Chios island	2.40	299	ePN	Pn	19 45 07.2	+0.2
CHOS	Chios island	2.40	299	eP	Pn	19 45 06.0	-1.0
CHOS				eSN	Sn	19 45 36.5	-0.2
CHOS	Chios island	2.40	299	ePn	Pn	19 45 07.2	+0.2
CHOS				eSn	Sn	19 45 36.5	-0.2
BALB	Balikesir	2.49	345	ePN	Pn	19 45 08.4	+0.3
BALB	Balikesir	2.49	345	ePn	Pn	19 45 08.4	+0.3
APE	Apeiranthos	2.55	267	P	Pn	19 45 09.3	+0.2
APE	Apeiranthos	2.55	267	ePN	Pn	19 45 09.1	+0.1
APE	Apeiranthos	2.55	267	ePN	Pn	19 45 08.9	-0.2
APE	Apeiranthos	2.55	267	ePn	Pn	19 45 08.9	-0.2
APE	Apeiranthos	2.55	267	P	Pn	19 45 09.3	+0.2
SANT	Santorini	2.76	253	P	Pn	19 45 13.7	+1.8
SANT				S	Sn	19 45 46.9	+1.5
SANT	Santorini	2.76	253	ePN	Pn	19 45 12.1	+0.2
SANT	Santorini	2.76	253	ePN	Pn	19 45 11.4	-0.5
SANT	Santorini	2.76	253	ePn	Pn	19 45 11.4	-0.5
SANT	Santorini	2.76	253	P	Pn	19 45 13.7	+1.8
SANT				S	Sn	19 45 46.9	+1.5
PRK	Paraskevi	2.78	317	eP	Pn	19 45 12.8	+0.6
PRK				S	Sn	19 45 44.9	-1.0
PRK	Paraskevi	2.78	317	ePB	Pn	19 45 11.0	-1.2
PRK	Paraskevi	2.78	317	ePb	Pn	19 45 11.0	-1.2
PRK	Paraskevi	2.78	317	P	Pn	19 45 12.8	+0.6
PRK				S	Sn	19 45 44.9	-1.0
ZKR	Zakros	2.93	224	P	Pn	19 45 15.4	+1.2
ZKR				S	Sn	19 45 51.0	+1.4
ZKR	Zakros	2.93	224	ePN	Pn	19 45 14.8	+0.6
ZKR	Zakros	2.93	224	ePn	Pn	19 45 14.8	+0.6
ZKR	Zakros	2.93	224	P	Pn	19 45 15.4	+1.2
ZKR				S	Sn	19 45 51.0	+1.4
KDHN	Kadinhani	2.98	63	iP	Pn	19 45 17.0	+2.1
KDHN				iS	Sn	19 45 53.0	+2.1
KDHN	Kadinhani	2.98	63	iP	Pn	19 45 17.0	+2.1
KDHN				iS	Sn	19 45 53.0	+2.1
KONT	Konya--Tatoy	2.98	75	ePN	Pn	19 45 14.7	-0.2
KONT	Konya--Tatoy	2.98	75	ePn	Pn	19 45 14.7	-0.2
SIGR	SIGRI	3.00	312	P	Pn	19 45 15.7	+0.6
SIGR				S	Sn	19 45 52.1	+0.9
SIGR	SIGRI	3.00	312	ePN	Pn	19 45 15.6	+0.6
SIGR	SIGRI	3.00	312	ePN	Pn	19 45 13.1	-2.0
SIGR	SIGRI	3.00	312	ePn	Pn	19 45 15.6	+0.5
SIGR				S	Sn	19 45 52.1	+0.9
LADK	Ladik-KONYA	3.04	71	ePN	Pn	19 45 15.4	-0.4
LADK	Ladik-KONYA	3.04	71	ePn	Pn	19 45 15.5	-0.4
CAVI	Cavuskoy	3.09	16	ePN	Pn	19 45 16.9	+0.5
CAVI	Cavuskoy	3.09	16	ePn	Pn	19 45 16.9	+0.5
SVRH	Sivrihisar-ESK	3.12	44	ePN	Pn	19 45 17.1	+0.3
SVRH	Sivrihisar-ESK	3.12	44	ePn	Pn	19 45 17.2	+0.3
EDC	Edincik	3.18	348	ePN	Pn	19 45 18.2	+0.6
EDC	Edincik	3.18	348	ePn	Pn	19 45 18.2	+0.6
NPS	Neapolis	3.19	233	P	Pn	19 45 19.4	+1.6
NPS				S	Sn	19 45 57.0	+0.9
NPS	Neapolis	3.19	233	ePN	Pn	19 45 17.9	+0.1
NPS	Neapolis	3.19	233	ePn	Pn	19 45 17.9	+0.1
NPS	Neapolis	3.19	233	P	Pn	19 45 19.4	+1.6
NPS				S	Sn	19 45 57.0	+0.9
KRBG	Karabiga-Canak	3.34	341	ePN	Pn	19 45 20.1	+0.3
KRBG	Karabiga-Canak	3.34	341	ePn	Pn	19 45 20.1	+0.3
LAST	Lasithi	3.34	233	P	Pn	19 45 21.4	+1.5
LAST				S	Sn	19 46 01.6	+1.7
LAST	Lasithi	3.34	233	ePN	Pn	19 45 20.2	+0.3
LAST	Lasithi	3.34	233	ePn	Pn	19 45 20.2	+0.3
LAST	Lasithi	3.34	233	P	Pn	19 45 21.4	+1.5
LAST				S	Sn	19 46 01.6	+1.7
MRMT	Marmara Adasi	3.47	346	ePN	Pn	19 45 22.1	+0.3
MRMT	Marmara Adasi	3.47	346	ePn	Pn	19 45 22.1	+0.3
GULT	Gulveren	3.48	23	ePN	Pn	19 45 22.4	+0.5
GULT	Gulveren	3.48	23	ePn	Pn	19 45 22.4	+0.5
LPK	Lapseki	3.48	335	ePN	Pn	19 45 22.6	+0.8
LPK	Lapseki	3.48	335	ePn	Pn	19 45 22.6	+0.8
GELI	Tayfur-Gelibol	3.61	332	ePN	Pn	19 45 24.4	+0.9
GELI	Tayfur-Gelibol	3.61	332	ePn	Pn	19 45 24.4	+0.9
RKY	Sarkoy-Tekirda	3.65	341	ePN	Pn	19 45 25.0	+0.9
RKY	Sarkoy-Tekirda	3.65	341	ePn	Pn	19 45 25.0	+0.9
MDUB	Mudurnu	3.76	30	ePN	Pn	19 45 26.4	+0.7
MDUB	Mudurnu	3.76	30	ePn	Pn	19 45 26.4	+0.7
LIA	Limnos Island	3.84	315	ePN	Pn	19 45 25.9	-0.8
LIA	Limnos Island	3.84	315	ePn	Pn	19 45 25.9	-0.8
SIVA	Sivas	3.86	236	ePN	Pn	19 45 27.6	+0.6
SIVA	Sivas	3.86	236	ePN	Pn	19 45 27.5	+0.5
SIVA	Sivas	3.86	236	ePn	Pn	19 45 27.5	+0.5
SULT	Sultanhani-AKS	3.92	74	ePN	Pn	19 45 28.3	+0.4
SULT	Sultanhani-AKS	3.92	74	ePn	Pn	19 45 28.3	+0.4
SILT	Sile	3.98	10	ePN	Pn	19 45 29.4	+0.9
SILT	Sile	3.98	10	ePn	Pn	19 45 29.4	+0.9
LEF	Lefka	3.98	121	ePN	Pn	19 45 28.8	+0.1
LEF	Lefka	3.98	121	ePn	Pn	19 45 28.8	+0.1
CTKS	Kestanelik-??a	4.00	358	ePN	Pn	19 45 29.4	+0.6
CTKS	Kestanelik-??a	4.00	358	ePn	Pn	19 45 29.4	+0.6
SLVT	Silivri	4.01	354	ePN	Pn	19 45 29.4	+0.4
SLVT	Silivri	4.01	354	ePn	Pn	19 45 29.4	+0.4
ENEZ	Enez	4.03	331	ePN	Pn	19 45 30.2	+0.9
ENEZ	Enez	4.03	331	ePn	Pn	19 45 30.2	+0.9
AFSR	Af¯ar-Bala (A	4.07	56	ePN	Pn	19 45 30.6	+0.6
AFSR	Af¯ar-Bala (A	4.07	56	ePn	Pn	19 45 30.6	+0.6
SMTH	Samothraki Isl	4.08	323	P	Pn	19 45 30.2	+0.2
SMTH	Samothraki Isl	4.08	323	ePN	Pn	19 45 28.8	-1.2
SMTH	Samothraki Isl	4.08	323	ePn	Pn	19 45 28.8	-1.2
SMTH	Samothraki Isl	4.08	323	P	Pn	19 45 30.2	+0.2
VAM	Vamos	4.08	245	ePN	Pn	19 45 30.4	+0.4
VAM	Vamos	4.08	245	ePn	Pn	19 45 30.4	+0.4
NAIG	Nisos Aigina	4.19	279	ePN	Pn	19 45 31.7	+0.1
NAIG	Nisos Aigina	4.19	279	ePn	Pn	19 45 31.7	+0.1
ALN	Alexandroupoli	4.21	331	P	Pn	19 45 31.6	-0.1
ALN	Alexandroupoli	4.21	331	ePN	Pn	19 45 32.8	+1.1
ALN	Alexandroupoli	4.21	331	ePN	Pn	19 45 29.7	-2.0
ALN	Alexandroupoli	4.21	331	P	Pn	19 45 31.6	-0.1
ALN	Alexandroupoli	4.21	331	ePn	Pn	19 45 32.8	+1.1
DID	Didima	4.38	275	ePN	Pn	19 45 33.5	-0.6
DID	Didima	4.38	275	ePn	Pn	19 45 33.5	-0.6
SKIA	Skiathos	4.56	297	ePN	Pn	19 45 35.7	-1.0
SKIA	Skiathos	4.56	297	ePn	Pn	19 45 35.7	-1.0
LTK	Loutraki	4.63	281	ePN	Pn	19 45 37.3	-0.4
LTK	Loutraki	4.63	281	ePn	Pn	19 45 37.3	-0.4
KYTH	Kithira	4.66	260	ePN	Pn	19 45 38.5	+0.4
KYTH	Kithira	4.66	260	ePn	Pn	19 45 38.5	+0.4
OUR	Ouranopolis	4.82	311	ePN	Pn	19 45 38.8	-1.4
OUR	Ouranopolis	4.82	311	ePn	Pn	19 45 38.8	-1.4
KAVA	Kavala	4.98	320	ePN	Pn	19 45 41.2	-1.2
KAVA	Kavala	4.98	320	ePn	Pn	19 45 41.2	-1.2
GUR	Goura	5.11	280	ePN	Pn	19 45 43.9	-0.4
GUR	Goura	5.11	280	ePn	Pn	19 45 43.9	-0.4
HORT	Hortiatis	5.52	309	ePN	Pn	19 45 48.7	-1.2
HORT	Hortiatis	5.52	309	ePn	Pn	19 45 48.7	-1.2
NVR	Nevrokopi	5.57	319	ePN	Pn	19 45 49.7	-0.9
NVR	Nevrokopi	5.57	319	ePn	Pn	19 45 49.7	-0.9
DRO	Drossia	5.61	279	ePN	Pn	19 45 50.7	-0.4
DRO	Drossia	5.61	279	ePn	Pn	19 45 50.7	-0.4
KNT	Kendrikon	5.98	313	ePN	Pn	19 45 55.5	-0.7
KNT	Kendrikon	5.98	313	ePn	Pn	19 45 55.5	-0.7
PDO	Prodromos	6.11	285	ePN	Pn	19 45 58.2	+0.3
PDO	Prodromos	6.11	285	ePn	Pn	19 45 58.2	+0.3
HMAT	Matruh	6.27	193	S	Sn	19 47 03.9	-8.2
	baz=195						
SLUM		6.42	208	P	Pn	19 46 02.1	-0.1
	baz=211						
SLUM		6.42	208	P	Pn	19 46 02.1	-0.1
RSH		7.51	145	P	Pn	19 46 16.1	-1.0
	baz=143						
RSH		7.51	145	P	Pn	19 46 16.1	-1.0
AMAG	Maghara	7.56	149	P	Pn	19 46 16.4	-1.5
	baz=148						
AMAG	Maghara	7.56	149	P	Pn	19 46 16.4	-1.5
KOT	Kottamia	7.74	160	P	Pn	19 46 19.1	-1.2
	baz=159						
KOT				AMP		19 47 00.0	
	comp=N,20µm,0.5s,logA/T=4.6,baz=159						
KOT	Kottamia	7.74	160	P	Pn	19 46 19.1	-1.2
HSAF	As Saff	7.96	162	P	Pn	19 46 21.7	-1.6
	baz=161						
HSAF	As Saff	7.96	162	P	Pn	19 46 21.7	-1.6
GLL	Jalalah	8.04	161	P	Pn	19 46 23.1	-1.3
	baz=160						
GLL	Jalalah	8.04	161	P	Pn	19 46 23.1	-1.3
SUZ		8.13	154	P	Pn	19 46 24.7	-1.0
	baz=153						
SUZ		8.13	154	P	Pn	19 46 24.7	-1.0
SWA2		8.43	200	P	Pn	19 46 29.1	-0.6
	baz=202						
SWA2				S	Sn	19 47 57.8	-7.3
	baz=202						
SWA2				AMP		19 48 00.0	
	comp=E,20µm,0.3s,logA/T=4.8,baz=202						
SWA2		8.43	200	P	Pn	19 46 29.1	-0.6
HKAT	Jabal Katrina	9.75	151	P	Pn	19 46 46.8	-1.3
	baz=150						
HKAT	Jabal Katrina	9.75	151	P	Pn	19 46 46.8	-1.3
TR2		9.78	153	P	Pn	19 46 46.9	-1.4
	baz=152						
TR2		9.78	153	P	Pn	19 46 46.9	-1.4
TR1		10.20	153	P	Pn	19 46 52.9	-1.2
	baz=152						
TR1		10.20	153	P	Pn	19 46 52.9	-1.2

SHRM 10.37 152 P Pn 19 46 55.6 -0.8
baz=151
SHRM 10.37 152 P Pn 19 46 55.6 -0.8

NIED **16** 19:59:00, 34.°90N×140.°10E, h86km, Mw4.7 Best double couple: Mo1.26000×10^16 NP1:φs58.00000°, δ39.00000°, λ155.00000°. NP2:φs168.00000°, δ75.00000°, λ54.00000°.
BJI **16** 19:59:25.7, 34.°78N×140.°36E, h83km, mB5.0/40, mb4.8/62, Ms4.4/34, Ms7 4.0/32
JMA **16** 19:59:30.5±0.2, 34.°95N×140.°09E, h83km±2km, M4.7 Broadband fault plane solution: P waves. NP1: φs163.00000°, δ87.00000°, λ62.00000°. NP2:φs68.00000°, δ28.00000°, λ174.00000°. Principal axes: T Plg41.0000°, Azm47.0000°; N Plg28.0000°, Azm164.0000°; P Plg36.0000°, Azm277.0000°;
JMA Felt III J1.
NEIC **16** 19:59:30.6±0.6, 34.°89N×139.°89E, h76km±5km, mb4.9/54, MW4.7(NIED) Error ellipse: s-maj=4.8km s-min=4.0km az=141.0
NEIC Felt [III] at Zushi and [II] at Yokohama and Yokosuka. Also felt at Ayase, Chiba, Tachikawa and Zama. Recorded [2 JMA] in southeastern Hokkaido and [1 JMA] in northern and southern Hokkaido. Also recorded [2 JMA] in Aomori, Ishikawa, Iwate, Miyagi and Saitama; [1 JMA] in Akita, Chiba, Fukui, Fukushima, Gumma, Ibaraki, Kanagawa and Tokyo, Honshu.
IDC **16** 19:59:31.7±1.4, 34.°89N×139.°97E, h84km±11km, mb4.4/28, mb1 4.5/30, mb1mx4.5/35, mbtmp4.7/30, MS3.6/12, Ms1 3.6/12, ms1mx3.3/44, Error ellipse: s-maj=11.6km s-min=10.5km az=108.0
MOS **16** 19:59:31.5±1.0, 34.°91N×139.°96E, h98km, mb4.8/57, Error ellipse: s-maj=7.6km s-min=5.0km az=119.2
ISCJB **16** 19:59:31.1±0.2, 34.°89N±0.°03×139.°87E±0.°02, h89km±1km, mb4.7/123, Error ellipse: s-maj=4.2km s-min=2.9km az=4.8
ISC 16 19:59:31.0±0.3, 34.°89N±0.°03×139.°95E±0.°03, h81km±2km, h80km:pP-P, n628, σ1§12/662, mb4.8/124, 166C-138D, Near south coast of eastern Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TATJ Tateyama 2 0.15 340 ⇑P Pn 19 59 43.0 +0.3
TATJ S Sn 19 59 52.8 +1.5
BSO4 Boso 4 0.33 72 ⇓P Pn 19 59 43.1 -0.3
KTR Katsuura 0.39 49 ⇓P Pn 19 59 43.0 -0.9
JIM2 Oshima 3 0.46 249 ⇑P Pn 19 59 45.2 +0.7
JIM2 S Sn 19 59 55.9 +1.4
BSO3 Boso 3 0.47 100 ⇓P Pn 19 59 43.8 -0.4
JOD2 Odawara 2 0.80 298 ⇑P Pn 19 59 48.1 +0.3
JOD2 S Sn 20 00 01.1 +0.7
BSO1 Boso 1 0.87 105 ⇓P Pn 19 59 47.2 -0.8
JMY Miyakejima3 0.89 204 ⇑P Pn 19 59 50.0 +1.2
JMY S Sn 20 00 04.8 +2.7
JIZS Izushimoda 0.90 260 ⇑P Pn 19 59 50.3 +1.4
JIZS S Sn 20 00 05.1 +2.8
JYN Shimob 1.31 298 ⇓P Pn 19 59 55.0 +1.1
JYN S Sn 20 00 13.3 +2.2
JRY Ryogami san 1.42 323 ⇓P Pn 19 59 55.7 +0.4
SHZ3 Shizuoka 3 1.44 278 ⇑P Pn 19 59 57.6 +2.0
JAG Ashikaga 1.59 345 ⇓P Pn 19 59 56.7 -0.8
JHJ2 Mitsune 1.77 184 ePn Pn 20 00 01.3 +1.4
JHJ2 eSn Sn 20 00 23.3 +1.5
MJAR Matsushiro Arr 2.18 320 P Pn 20 00 05.1 -0.2
MJAR S Sn 20 00 33.0 +1.5
MJAR pmax pmax
comp=Z,384nm,0.3s
MJAR MLR MLR
comp=Z,339nm,18.6s
MJAR smax smax
comp=N,408nm,0.3s
MJAR Matsushiro Arr 2.18 320 P Pn 20 00 05.1 -0.2
comp=N,384nm,0.3s,baz=58,slow=15,SNR=9262
MJAR LR LR 20 00 32.4
comp=N,339nm,18.6s,baz=145,slow=28
MJAR S Sn 20 00 33.0 +1.5
comp=N,408nm,0.3s,baz=156,slow=26,SNR=18
MAJO Matsushiro 2.18 320 d iP Pn 20 00 06.3 +1.0
MAJO Matsushiro 2.18 320 ePn Pn 20 00 06.3 +1.0
MAJO eSn Sn 20 00 29.7 -1.8
MAT Matsushiro 2.18 320 P Pn 20 00 06.4 +1.1
MAT S Sn 20 00 32.9 +1.4
ERM Erimo 7.55 18 Pn Pn 20 01 13.2 -5.0
comp=N,592nm,0.6s,SNR=31
ERM Erimo 7.55 18 eP Pn 20 01 12.6 -5.6
ERM pmax pmax
comp=Z,126nm,0.5s
ERM Erimo 7.55 18 ePn Pn 20 01 12.6 -5.6
comp=Z,126nm,0.5s
ERM eSn Sn 20 02 30.8 -11
JNU Nakatsue 7.74 259 P Pn 20 01 24.8 +3.8
comp=Z,12nm,0.3s,baz=71,slow=0.3,SNR=89
JNU Nakatsue 7.74 259 ePn Pn 20 01 24.5 +3.6
comp=Z,126nm,1.1s
CBIJ Chichi jima 8.00 166 P Pn 20 01 21.8 -2.7
CBIJ S Sn 20 02 45.8 -7.6
JCJ Chichijima 8.00 166 P Pn 20 01 21.8 -2.7
comp=Z,54nm,0.3s,baz=99,slow=24,SNR=17
JCJ S Sn 20 02 45.8 -7.6
comp=Z,23nm,0.3s,baz=307,slow=20,SNR=3.7
JCJ LR LR 20 04 12.7
comp=Z,206nm,18.7s,baz=84,slow=35
ASAJ Asahikawa 9.44 12 P Pn 20 01 39.3 -4.7
ASAJ S Sn 20 03 22.2 -6.2
ASAJ pmax pmax
comp=Z,7.0nm,0.3s
ASAJ smax smax
comp=N,5.0nm,0.3s
ASAJ Asahikawa 9.44 12 P Pn 20 01 39.3 -4.7
comp=N,7.3nm,0.3s,baz=224,slow=12,SNR=110
ASAJ S Sn 20 03 22.2 -6.2
comp=N,4.5nm,0.3s,baz=37,slow=20,SNR=3.3
KSRS Korea Array 10.06 288 P Pn 20 01 56.8 +4.3
KSRS pmax pmax
comp=Z,2.0nm,0.3s
KSRS MLR MLR
comp=Z,16nm,28.6s
KSRS Korea Array 10.06 288 P Pn 20 01 56.8 +4.3
comp=Z,1.8nm,0.3s,baz=104,slow=14,SNR=34
KSRS LR LR 20 05 46.0
comp=Z,233nm,18.9s,baz=110,slow=37
KSAR Wonju Array Be 10.09 288 P Pn 20 01 56.8 +3.9
KSAR Wonju Array Be 10.09 288 P Pn 20 01 56.8 +3.9
YUK Yuzh-Kuril'sk 10.21 25 c iP Pn 20 01 48.8 -5.7
YUK pmax pmax
comp=N,44nm,0.2s
YUK pmax pmax
comp=E,44nm,0.2s
YUK pmax pmax
comp=Z,274nm,0.2s
VLA Vladivostok 10.34 325 ⇑eP Pn 20 01 59.4 +3.1
VLA S Sn 20 03 54.9 +4.6
TJN Taejon 10.36 282 i P Pn 20 02 01.5 +4.9
INCN Inchon 11.07 287 Pn Pn 20 02 07.5 +1.1
comp=Z,23nm,0.9s
USRK Ussuriysk Arra 11.14 329 P Pn 20 02 07.9 +0.7
comp=Z,0.3nm,0.3s,baz=133,slow=12,SNR=7.8
KUR Kuril'sk 11.97 28 ⇑iP Pn 20 02 14.0 -4.5
KUR pmax pmax
comp=N,28nm,0.9s
KUR pmax pmax
comp=Z,73nm,0.9s
KUR pmax pmax
comp=E,23nm,0.2s
YSS Yuzh-Sakhalins 12.24 9 ⇑iP Pn 20 02 17.8 -4.3
YSS eS Sn 20 04 31.2 -5.3
YSS pmax pmax
comp=Z,50nm,0.6s
YSS MLR MLR
comp=Z,200nm,17.0s
YSS MLR MLR
comp=E,300nm,18.0s
YSS Yuzh-Sakhalins 12.24 9 ePn Pn 20 02 16.9 -5.2
comp=E,42nm,0.6s
MDJ Mudanjiang 12.56 324 P Pn 20 02 25.4 -1.0
MDJ S Sn 20 04 44.0 -0.3
MDJ PcP PcP 20 07 57.8 -0.8
MDJ ScS ScS 20 14 58.9 -1.7
MDJ pmax pmax
comp=E,11nm,0.7s
MDJ pmax pmax
comp=E,180nm,4.8s
MDJ Mudanjiang 12.56 324 ePn Pn 20 02 26.3 -0.2
comp=E,71nm,1.2s
JOW Kunigami 12.84 234 LR LR 20 06 59.8
comp=E,15nm,18.2s,baz=283,slow=35
HABR Khabarovsk 14.06 346 eP Pn 20 02 43.1 -3.1
HABR eS Sn 20 05 17.3 -3.3
HABR pmax pmax
comp=Z,39nm,2.3s
HABR MLR MLR
comp=Z,95nm,14.0s
CN2 Changchun 14.31 313 eP Pn 20 02 50.8 +1.3
CN2 epP P 20 03 04.0 +10
CN2 eS Sn 20 05 26.1 -0.7
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,400nm,12.0s
CN2 LR LR
comp=Z,400nm,13.0s
SNY Shenyang 14.59 303 ⇓P P 20 02 56.3 -1.1
SNY S S 20 05 43.1 -4.7
SNY pmax pmax
comp=Z,14nm,1.8s
SNY LR LR
comp=Z,150nm,6.6s
SNY LR LR
comp=Z,390nm,10.8s
SNY LR LR
comp=Z,410nm,15.3s
KLR Kul'dur 15.56 340 eP Pn 20 03 01.7 -3.8
NJ2 Nanjing 17.83 267 eP P 20 03 32.8 -0.5
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
TIA Tai'an 18.62 281 P P 20 03 42.6 +0.6
YHNB Yeheng 19.04 243 eP P 20 03 46.9 +0.1
NACB Ninganchiao 19.18 241 eP P 20 03 46.3 -1.9
BJI Beijing 19.54 292 P P 20 03 50.8 -1.2
BJI S S 20 07 26.3 -2.1
BJI pmax pmax
comp=Z,8.0nm,1.0s
BJI pmax pmax
comp=Z,190nm,4.6s
BJI LR LR
comp=Z,280nm,16.4s
BJI LR LR
comp=Z,230nm,11.5s
BJI LR LR
comp=Z,200nm,20.1s
BJT Baijiatuau 19.55 292 eP P 20 03 49.8 -2.3
BJT pmax pmax
comp=Z,11nm,0.4s
BJT Baijiatuau 19.55 292 eP P 20 03 49.8 -2.3
comp=Z,11nm,0.4s
SKR Severo-Kuril's 19.68 32 eP P 20 03 50.5 -2.9
SKR pmax pmax
comp=Z,180nm,1.0s
HIA Hailar 20.68 320 eP P 20 04 00.0 -4.3
HIA pmax pmax
comp=Z,8.0nm,0.6s
HIA Hailar 20.68 320 eP P 20 04 00.0 -4.3
comp=Z,7.8nm,0.6s
WHN Wuhan 21.95 266 ⇑iP P 20 04 18.8 +0.8
WHN pP pP 20 04 33.9 -0.5
WHN pmax pmax
comp=Z,40nm,0.8s
PEA0B Petropavlovsk- 22.13 29 eP P 20 04 19.8 0.0
PETK Petropavlovsk- 22.13 29 P P 20 04 19.3 -0.5
PETK pmax pmax
comp=Z,25nm,1.0s
PETK MLR MLR
comp=Z,16nm,28.6s
PETK Petropavlovsk- 22.13 29 P P 20 04 19.3 -0.5
comp=Z,25nm,1.0s,baz=215,slow=10,SNR=16
PETK LR LR 20 13 14.1
comp=Z,55nm,19.7s,baz=253,slow=37
PET Petropavlovsk 22.46 30 eP P 20 04 22.1 -1.2
PET pmax pmax
comp=Z,46nm,0.9s
PET MLR MLR
comp=Z,200nm,16.0s
PET Petropavlovsk 22.46 30 eP P 20 04 21.9 -1.3
comp=Z,45nm,1.0s
HHC Hu-ho-hao-te 23.13 293 eP P 20 04 28.6 -1.8
HHC PP PnPn 20 05 03.3 +3.8
HHC S S 20 08 30.9 -4.5
HHC pmax pmax
comp=Z,30nm,1.1s
HHC pmax pmax
comp=Z,330nm,9.9s
HHC LR LR
comp=Z,360nm,13.7s
HHC LR LR
comp=Z,200nm,12.4s
HHC LR LR
comp=Z,210nm,13.7s
XAN Xi'an 25.55 277 P P 20 04 52.0 -0.3
XAN pP pP 20 05 13.5 +2.7
XAN sP sP 20 05 24.3 +4.0
XAN pmax pmax
comp=Z,4.0nm,1.1s
XAN pmax pmax
comp=Z,31nm,6.9s
ENH Enshi 26.03 268 P P 20 04 55.2 -1.4
ULN Ulaanbaatar 27.66 308 c eP P 20 05 11.0 -0.3
ULN pmax pmax
comp=Z,22nm,1.7s
ULN Ulaanbaatar 27.66 308 eP P 20 05 10.9 -0.4
comp=Z,9.4nm,0.8s
YAK Yakutsk 27.93 350 eP P 20 05 15.3 +2.0
YAK e*PP pP 20 05 39.0 +7.1
YAK e 20 06 09.8
YAK eS S 20 09 57.1 +6.1
YAK e*SS sS 20 10 35.6 +12
YAK e 20 15 45.9
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=Z,24nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.5s
YAK smax smax
comp=E,66nm,2.2s
YAK smax smax
comp=N,22nm,1.0s
YAK Yakutsk 27.93 350 eP P 20 05 10.2 -3.1
comp=N,26nm,0.8s
SONM Songino Array 28.08 308 P P 20 05 14.9 -0.1
SONM pmax pmax
comp=Z,11nm,0.9s
SONM pmax pmax
comp=N,1.0nm,0.9s
SONM MLR MLR
comp=Z,228nm,19.3s
SONM Songino Array 28.08 308 P P 20 05 14.9 -0.1
comp=Z,10nm,0.9s,baz=116,slow=7.8,SNR=52
SONM ScP ScP 20 12 01.0 -0.2
comp=Z,0.7nm,0.9s,baz=123,slow=5.3,SNR=3.9
SONM LR LR 20 17 06.5
comp=Z,228nm,19.3s,baz=148,slow=38
H11N2 WAKE ISLAND Hy 28.18 115 T T 20 34 55.6
baz=311,slow=76,SNR=694
H11N1 WAKE ISLAND Hy 28.19 115 T T 20 35 01.3
baz=311,slow=76,SNR=254
H11N3 WAKE ISLAND Hy 28.20 115 T T 20 35 02.2
baz=311,slow=76,SNR=202
H11S3 WAKE ISLAND Hy 28.80 118 T T 20 35 29.5
baz=315,slow=75,SNR=82
H11S1 WAKE ISLAND Hy 28.80 118 T T 20 35 29.4
baz=315,slow=75,SNR=113
H11S2 WAKE ISLAND Hy 28.82 118 T T 20 35 30.1
baz=315,slow=75,SNR=81
SEY Seymchan 29.12 12 P P 20 05 23.6 -0.3
SEY pmax pmax
comp=Z,4.0nm,0.8s
SEY Seymchan 29.12 12 P P 20 05 23.6 -0.3
comp=Z,3.7nm,0.8s,baz=204,slow=6.5,SNR=16
LZH Lanzhou 29.32 283 eP P 20 05 26.0 -0.2
LZH pP pP 20 05 44.0 -0.9
LZH sP sP 20 05 53.1 -1.2
LZH PP PP 20 06 29.0 -4.6
LZH eS S 20 10 11.0 -2.9
LZH sS sS 20 10 43.4 -2.7
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,310nm,4.4s
LZH LR LR
comp=Z,880nm,14.7s
LZH LR LR
comp=Z,700nm,13.2s
LZH LR LR
comp=Z,910nm,15.3s
FX1 Attu Island--F 29.57 42 P P 20 05 28.8 +0.8
FX1 pmax pmax
comp=Z,38nm,0.8s
FX1 Attu Island--F 29.57 42 P P 20 05 28.8 +0.8
comp=Z,38nm,0.8s,baz=329,slow=2.0,SNR=10
GYA Guiyang 29.73 263 ⇑iP P 20 05 28.5 -1.3
GYA pP pP 20 05 48.6 0.0
GYA sP sP 20 06 01.4 +3.5
GYA PP PnPn 20 06 29.0 +0.3
GYA S S 20 10 17.5 -2.8
GYA sS sS 20 10 52.0 -0.6
GYA pmax pmax
comp=Z,20nm,0.6s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,1μm,14.8s
GYA LR LR
comp=Z,1μm,15.9s
GYA LR LR
comp=Z,2μm,14.1s
CD2 Chengdu 30.54 273 eP P 20 05 35.9 -1.0
CD2 pP pP 20 05 55.3 -0.3
CD2 sP sP 20 06 05.5 +0.5
CD2 PP PnPn 20 06 38.4 -0.7
CD2 PcP PcP 20 08 33.8 -0.1
CD2 S S 20 10 29.3 -3.5
CD2 sS sS 20 11 03.1 -2.0
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,250nm,5.0s
CD2 LR LR
comp=Z,280nm,9.8s
CD2 LR LR
comp=Z,390nm,17.1s
CD2 LR LR
comp=Z,280nm,16.2s
ZAK Zakamensk 30.74 312 eP P 20 05 39.3 +0.9
ZAK pmax pmax
comp=Z,4.0nm,1.0s
TLY Talaya 30.91 314 eP P 20 05 41.2 +1.4
TLY pmax pmax
comp=Z,14nm,1.5s
TLY MLR MLR
comp=Z,114nm,16.0s
TLY Talaya 30.91 314 eP P 20 05 40.5 +0.7
comp=Z,4.9nm,0.8s
QIZ Qiongzhong 30.99 247 P P 20 05 40.3 -0.5
QIZ pP pP 20 05 58.3 -1.3
QIZ sP sP 20 06 08.4 -0.5
QIZ S S 20 10 38.3 -1.5
QIZ sS sS 20 11 11.9 -0.2
QIZ pmax pmax
comp=Z,29nm,2.2s
GTA Gaotai 32.12 290 eP P 20 05 51.5 +0.7
GTA pP pP 20 06 08.8 -0.8
GTA sP sP 20 06 18.3 -0.7
GTA pmax pmax
comp=Z,10.0nm,1.0s
KMI Kunming 33.50 263 P P 20 06 01.8 -1.2
KMI pP pP 20 06 23.0 +1.1
KMI sP sP 20 06 32.3 +1.0
KMI PP PnPn 20 07 18.3 +1.4
KMI S S 20 11 16.0 -3.3
KMI pmax pmax
comp=Z,10.0nm,0.8s
KMI LR LR
comp=Z,250nm,16.6s
KMI LR LR
comp=Z,140nm,17.7s
KMI LR LR
comp=Z,100nm,17.7s
BILL Bilibino 36.42 16 ⇓eP P 20 06 26.8 -0.5
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 36.42 16 eP P 20 06 25.0 -2.3
CHTO Chiang Mai 39.64 257 eP P 20 06 54.0 -1.0
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 39.64 257 eP P 20 06 54.0 -1.0
comp=Z,4.5nm,0.8s
CMAR Chiang Mai Arr 39.83 257 P P 20 06 56.2 -0.4
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR MLR MLR
comp=Z,16nm,28.6s
CMAR Chiang Mai Arr 39.83 257 P P 20 06 56.2 -0.4
comp=Z,3.3nm,0.7s,baz=47,slow=7.3,SNR=43
CMAR LR LR 20 26 04.9
comp=Z,74nm,18.3s,baz=142,slow=40
WMQ Urumqi 40.79 299 P P 20 07 05.6 +1.2
WMQ pP pP 20 07 24.0 +0.3
WMQ sP sP 20 07 33.0 0.0
WMQ PP PnPn 20 08 44.1 -0.4
WMQ PcP PcP 20 09 06.1 +2.1
WMQ PcS PcS 20 12 55.8 +0.9
WMQ S S 20 13 10.8 +1.5
WMQ sS sS 20 13 42.4 0.0
WMQ SS SS 20 16 09.8 -3.1
WMQ ScS ScS 20 17 01.1 -0.3
WMQ pmax pmax
comp=Z,30nm,0.9s
WMQ pmax pmax
comp=Z,250nm,4.2s
WMQ LR LR
comp=Z,60nm,18.4s
WMQ LR LR
comp=Z,81nm,18.8s
WMQ LR LR
comp=Z,74nm,20.8s
LSA Lhasa 41.26 277 P P 20 07 08.8 0.0
LSA Lhasa 41.26 277 eP P 20 07 09.1 +0.3
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 41.26 277 eP P 20 07 09.1 +0.3
comp=Z,3.9nm,0.8s
ZALV Zalesovo Beam 42.52 314 P P 20 07 18.2 0.0
ZALV 20 09 09.2
ZALV pmax pmax
comp=Z,7.0nm,0.5s
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV pmax pmax
comp=N,1.0nm,0.8s
ZALV MLR MLR
comp=Z,96nm,19.2s
ZALV Zalesovo Beam 42.52 314 P P 20 07 18.2 0.0
comp=Z,7.2nm,0.5s,baz=96,slow=6.9,SNR=39
ZALV PcP PcP 20 09 09.2 -0.2
comp=Z,2.0nm,0.5s,baz=92,slow=2.8,SNR=4.0
ZALV ScP ScP 20 12 53.4 +0.4
comp=Z,1.4nm,0.8s,baz=94,slow=4.5,SNR=4.3
ZALV LR LR 20 24 22.2
comp=Z,96nm,19.1s,baz=67,slow=35
KSM Kuching 43.22 226 eP P 20 07 23.6 -0.6
TNA Tin City 43.30 29 eP P 20 07 25.2 +0.9
comp=Z,18nm,0.9s
NVS Novosibirsk 43.50 315 i P P 20 07 26.2 +0.1
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,10.0nm,0.6s
NVS pmax pmax
comp=Z,14nm,0.6s
MK31 Makanchi Array 44.29 304 i P P 20 07 32.8 +0.2
MK31 pmax pmax
comp=Z,10.0nm,0.6s
MKAR Makanchi Array 44.29 304 P P 20 07 33.3 +0.7
MKAR pmax pmax
comp=Z,17nm,0.7s

MKAR pmax pmax
comp=N,1.0nm,0.7s
MKAR MLR MLR
comp=Z,85nm,21.8s
MKAR Makanchi Array 44.29 304 P P 20 07 33.3 +0.7
comp=Z,17nm,0.7s,baz=83,slow=9.1,SNR=210
MKAR ScP ScP 20 13 00.4 0.0
comp=Z,0.8nm,0.7s,baz=86,slow=5.0,SNR=6.4
MKAR LR LR 20 25 33.3
comp=Z,85nm,21.8s,baz=30,slow=35
TAPN Taplejung 44.93 275 eP P 20 07 38.0 -0.3
comp=Z,11nm,0.3s
ODAN Odare 45.39 275 eP P 20 07 41.3 -0.6
comp=Z,9.3nm,0.5s
ODAN Odare 45.39 275 eP P 20 07 41.3 -0.6
RAMN Ramite 46.00 275 eP P 20 07 46.4 -0.3
comp=Z,31nm,0.5s
RAMN Ramite 46.00 275 eP P 20 07 46.4 -0.3
JIRN Jiri 46.06 276 eP P 20 07 47.6 +0.3
comp=Z,56nm,0.4s
GUN Gumba 46.21 277 eP P 20 07 48.6 +0.1
comp=Z,50nm,0.9s
GUN Gumba 46.21 277 eP P 20 07 48.6 +0.1
KURK Kurchatov 46.35 310 P P 20 07 49.4 +0.6
comp=Z,240nm,0.7s,SNR=53
KURK Kurchatov 46.35 310 eP P 20 07 48.9 +0.1
KURK pmax pmax
comp=Z,26nm,0.6s
KURK Kurchatov 46.35 310 eP P 20 07 48.9 +0.1
comp=Z,26nm,0.6s
KULM Kulim 46.72 240 eP P 20 07 52.3 +0.2
PKI Pulchoki 46.73 277 eP P 20 07 52.1 -0.4
comp=Z,9.6nm,0.4s
PKIN Phulchoki 46.74 277 eP P 20 07 51.9 -0.6
comp=Z,6.7nm,0.4s
KKN Kakani 46.75 277 eP P 20 07 52.4 -0.1
comp=Z,30nm,0.8s
KKN Kakani 46.75 277 eP P 20 07 52.4 -0.1
KKN Kakani 46.75 277 eP P 20 07 52.4 -0.1
SOEI Soe 46.82 201 eP P 20 07 51.6 -1.3
comp=Z,22nm,0.8s
DMN Daman 46.96 277 eP P 20 07 54.0 -0.2
DMN Daman 46.96 277 eP P 20 07 54.0 -0.2
GKN Gorkha 47.19 278 eP P 20 07 55.7 -0.2
GKN Gorkha 47.19 278 eP P 20 07 55.7 -0.2
DANN Dangsing 47.77 278 eP P 20 08 00.9 +0.4
comp=Z,20nm,0.4s
KOLN Koldanda 48.13 278 eP P 20 08 03.2 0.0
KOLN Koldanda 48.13 278 eP P 20 08 03.2 0.0
RSO Redoubt South 49.32 37 eP P 20 08 11.8 0.0
comp=Z,33nm,0.8s
KDAK Kodiak Island 49.49 41 iP P 20 08 12.6 -0.3
PPLA Purkeypile 49.60 34 eP P 20 08 14.8 +0.9
comp=Z,27nm,1.1s
TKM2 Tokmak 2 49.63 300 P P 20 08 16.1 +1.6
SNR=62
TKM2 Tokmak 2 49.63 300 eP P 20 08 15.7 +1.2
TKM2 pmax pmax
comp=Z,39nm,0.6s
TKM2 Tokmak 2 49.63 300 eP P 20 08 15.7 +1.2
comp=Z,39nm,0.6s
KZA Kyzart 50.09 299 P P 20 08 20.2 +2.0
SNR=22
KZA Kyzart 50.09 299 iP P 20 08 20.2 +2.0
KBK Karagaybulak 50.16 299 P P 20 08 19.9 +1.5
SNR=5.2
CHMS Chumysh 50.22 300 P P 20 08 19.8 +1.1
SNR=16
CHMS Chumysh 50.22 300 iP P 20 08 19.8 +1.1
KSH Kashi 50.22 295 P P 20 08 23.3 +4.4
KSH epP pP 20 08 43.4 +4.6
KSH esP sP 20 08 49.8 +1.8
KSH ePP PP 20 10 20.9 +6.2
KSH S S 20 15 29.3 +4.1
KSH SS SS 20 19 02.4 +3.2
KSH pmax pmax
comp=Z,22nm,1.2s
KSH pmax pmax
comp=Z,100nm,6.1s
KSH LR LR
comp=Z,170nm,5.1s
KSH LR LR
comp=Z,120nm,5.9s
KSH LR LR
comp=Z,170nm,5.0s
USP Ospenovka 50.33 300 P P 20 08 20.6 +1.0
SNR=27
USP Ospenovka 50.33 300 iP P 20 08 20.6 +1.0
FRU Bishkek 50.35 300 iP P 20 08 21.0 +1.2
FRU pmax pmax
comp=Z,60nm,1.7s
AAK Ala-Archa 50.49 300 P P 20 08 21.0 0.0
comp=Z,174nm,0.9s,SNR=18
AAK Ala-Archa 50.49 300 P P 20 08 22.3 +1.4
SNR=6.8
AAK Ala-Archa 50.49 300 P P 20 08 21.7 +0.7
AAK pmax pmax
comp=Z,14nm,0.6s
AAK Ala-Archa 50.49 300 LR LR 20 29 31.4
comp=Z,57nm,19.0s,baz=28,slow=36
AAK Ala-Archa 50.49 300 eP P 20 08 21.5 +0.5
comp=Z,19nm,0.8s
UCH Uchtor 50.58 299 P P 20 08 23.2 +1.2
SNR=20
UCH Uchtor 50.58 299 iP P 20 08 23.1 +1.2
VOSK Vostochnaya 50.85 313 P P 20 08 22.6 -0.7
VOSK pmax pmax
comp=Z,20nm,0.8s
EKS2 Erkin-Say 51.00 300 P P 20 08 25.7 +1.0
SNR=18
EKS2 Erkin-Say 51.00 300 eP P 20 08 25.2 +0.5
EKS2 pmax pmax
comp=Z,14nm,0.7s
EKS2 Erkin-Say 51.00 300 eP P 20 08 25.1 +0.5
comp=Z,14nm,0.7s
PMR Palmer 51.05 36 eP P 20 08 23.9 -0.7
PMR pmax pmax
comp=Z,21nm,1.0s
PMR Palmer 51.05 36 eP P 20 08 23.9 -0.7
comp=Z,21nm,1.0s
MCK McKinley 51.07 33 eP P 20 08 25.0 +0.2
MCK McKinley 51.07 33 eP P 20 08 25.0 +0.2
BVA0 Borovoye Array 51.16 313 iP P 20 08 25.4 -0.2
BVA0 pmax pmax
comp=Z,7.0nm,0.4s
BVAR Borovoye Array 51.16 313 LR LR 20 30 34.6
comp=Z,83nm,18.8s,baz=80,slow=36
AML Almayashu 51.19 299 P P 20 08 28.2 +1.7
SNR=96
BRVK Borovoye 51.22 313 P P 20 08 26.9 +0.9
comp=Z,79nm,0.4s,SNR=11
BRVK Borovoye 51.22 313⇓iP P 20 08 26.2 +0.2
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 51.22 313 eP P 20 08 26.2 +0.2
comp=Z,9.6nm,0.8s
COLA College 51.52 31 deP P 20 08 28.7 +0.6
COLA pmax pmax
comp=Z,45nm,0.8s
COLA College 51.52 31 eP P 20 08 28.4 +0.3
ILAR Eielson Array 51.94 31 P P 20 08 31.0 -0.2
ILAR pmax pmax
comp=Z,9.0nm,0.8s
ILAR Eielson Array 51.94 31 P P 20 08 31.0 -0.2
comp=Z,8.5nm,0.8s,baz=270,slow=6.2,SNR=91
KK31 Karatay Array 53.20 301 P P 20 08 41.1 +0.2
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 53.20 301 eP P 20 08 41.1 +0.2
KKAR pmax pmax
comp=Z,34nm,0.9s
KKAR Karatay Array 53.20 301 eP P 20 08 41.1 +0.2
comp=Z,34nm,0.9s
DOT Dot Lake 53.24 33 eP P 20 08 40.4 -0.5
comp=Z,6.6nm,0.6s
BMRM Bremner River 53.28 36 P P 20 08 41.5 +0.2
comp=Z,31nm,1.0s
MENT Mentasta 53.47 34 eP P 20 08 43.4 +0.7
EGAK Eagle 54.38 31 eP P 20 08 49.1 -0.1
comp=Z,6.2nm,0.6s
WRAB Tennant Creek 54.78 186 P P 20 08 52.0 -0.5
comp=Z,106nm,0.9s,SNR=40
WRAB Tennant Creek 54.78 186 c iP P 20 08 52.4 -0.1
WRAB pmax pmax
comp=Z,34nm,0.8s
WRAB Tennant Creek 54.78 186 eP P 20 08 52.3 -0.2
comp=Z,16nm,0.9s
WRA Warramunga Arr 54.79 186 P P 20 08 52.5 -0.1
WRA pmax pmax
comp=Z,14nm,0.8s
WRA Warramunga Arr 54.79 186 P P 20 08 52.5 -0.1
comp=Z,14nm,0.8s,baz=0.9,slow=7.5,SNR=210
SVE Sverdlovsk 55.99 319⇑eP P 20 09 01.4 +0.6
SVE pmax pmax
comp=Z,17nm,1.1s
INK Inuvik 56.83 26 P P 20 09 07.0 +0.4
INK pmax pmax
comp=Z,10.0nm,0.9s
INK Inuvik 56.83 26 P P 20 09 07.0 +0.4
comp=Z,9.6nm,0.8s,baz=292,slow=7.1,SNR=35
INK Inuvik 56.83 26 eP P 20 09 06.9 +0.3
HYB Hyderabad 56.97 269 iP P 20 09 07.0 -1.4
KBL Kabul 57.09 292 eP P 20 09 09.2 -0.1
KBL pmax pmax
comp=Z,23nm,1.0s
KBL Kabul 57.09 292 eP P 20 09 09.2 -0.1
comp=Z,23nm,1.0s
ARU Arti 57.20 319 P P 20 09 09.4 0.0
comp=Z,74nm,0.6s,SNR=5.9
ARU Arti 57.20 319 c iP P 20 09 09.7 +0.3
ARU S S 20 17 02.1 +3.5
ARU pmax pmax
comp=Z,18nm,1.2s
ARU Arti 57.20 319 eP P 20 09 09.0 -0.4
comp=Z,20nm,1.1s
AB31 Akbulak array 58.43 311 P P 20 09 17.6 -0.5
AB31 pmax pmax
comp=Z,20nm,0.7s
ABKAR Akbulak array 58.43 311 eP P 20 09 18.1 -0.1
comp=Z,20nm,0.8s
ASAR Alice Springs 58.51 187 P P 20 09 19.5 +0.6
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 58.51 187 P P 20 09 19.5 +0.6
comp=Z,2.3nm,0.7s,baz=190,slow=8.7,SNR=29
MBWA Marble Bar 58.96 202 eP P 20 09 21.4 -0.6
AKTO Aktyubinsk 59.24 313 P P 20 09 22.5 -1.2
AKTO pmax pmax
comp=Z,12nm,0.8s
AKTO Aktyubinsk 59.24 313 LR LR 20 35 38.2
comp=Z,74nm,18.5s,slow=37
PALK Pallekele 60.75 258 eP P 20 09 34.4 -0.2
PALK Pallekele 60.75 258 eP P 20 09 34.4 -0.2
DLBC Dease Lake 61.05 37 P P 20 09 37.3 +1.2
comp=Z,8.1nm,1.0s,baz=299,slow=8.4,SNR=6.1
PRGR Permogore 61.92 327 eP P 20 09 41.2 -0.6
ALE Alert 62.32 3 P P 20 09 44.0 -0.2
comp=Z,55nm,0.6s,SNR=9.0
TMCR Tamitsa 64.06 332 eP P 20 09 55.7 -0.2
TMCR e 20 10 29.2
TMCR e 20 12 19.0
TMCR pmax pmax
comp=Z,14nm,0.9s
KLMR Klimovskoe 64.94 328 eP P 20 10 01.2 -0.5
KLMR pmax pmax
comp=Z,25nm,1.9s
RES Resolute Bay 64.97 14 eP P 20 10 01.3 -0.3
RES pmax pmax
comp=Z,13nm,1.0s
RES Resolute Bay 64.97 14 eP P 20 10 01.3 -0.3
comp=Z,13nm,1.0s
KEV Kevo 65.03 339 eP P 20 10 01.8 -0.3
KEV Kevo 65.03 339 ep P 20 10 01.8 -0.3
comp=Z,0.4nm,0.3s
ARCES ARCESS Array B 65.58 339 P P 20 10 05.8 +0.1
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 65.58 339 P P 20 10 05.8 +0.1
comp=Z,2.9nm,0.6s,baz=43,slow=7.1,SNR=14
YKA Yellowknife Ar 66.25 29 P P 20 10 09.6 -0.5
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 66.25 29 P P 20 10 09.6 -0.5
comp=Z,3.8nm,0.7s,baz=300,slow=6.4,SNR=58
STKA Stephens Creek 66.43 178 P P 20 10 11.9 +0.4
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 66.43 178 P P 20 10 11.9 +0.4
comp=Z,2.9nm,0.8s,baz=356,slow=7.6,SNR=6.9
STKA Stephens Creek 66.43 178 eP P 20 10 11.8 +0.4
comp=Z,1.1nm,1.0s
JOF Joensuu 67.30 332 eP P 20 10 16.1 -0.6
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 67.30 332 ep P 20 10 16.1 -0.6
comp=Z,1.4nm,0.4s
DAG Danmarks Havn 67.80 355 iP P 20 10 19.5 -0.2
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 67.80 355 iP P 20 10 19.5 -0.2
comp=Z,3.2nm,0.8s
MOS Moscow 68.27 324 eP P 20 10 21.8 -1.1
VRHR Novokhopersk 68.48 318 eP P 20 10 22.6 -1.8
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.8s
OBN Obninsk 69.10 323⇓eP P 20 10 29.0 +0.9
OBN pmax pmax
comp=Z,33nm,2.5s
IMEH Mehriz 69.38 294 eP P 20 10 28.6 -2.0
CMW Cultus Mountai 69.56 45 P P 20 10 32.5 +1.2
KAF Kangasniemi 69.67 333 eP P 20 10 29.4 -2.1
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 69.67 333 ep P 20 10 29.4 -2.1
comp=Z,2.4nm,0.5s
VSR Storozhevoye 69.76 319⇓eP P 20 10 32.1 -0.2
VSR pmax pmax
comp=Z,27nm,1.3s
JCW Jim Creek 69.79 45 P P 20 10 33.8 +1.3
VORD Divnogorie 69.82 319 eP P 20 10 30.9 -1.7
VORD pmax pmax
comp=Z,7.0nm,0.9s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,70nm,0.8s
FINES FINESS Array B 70.16 332 P P 20 10 34.5 0.0
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 70.16 332 P P 20 10 34.5 0.0
comp=Z,2.0nm,0.4s,baz=69,slow=6.2,SNR=38
IGZV Ghazvin 70.16 301 eP P 20 10 36.9 +1.6
TDL Tradedollar La 70.54 47 P P 20 10 38.5 +1.1
NWAO Narrogin (SRO) 70.75 200 P P 20 10 38.9 +0.5
NWAO pmax pmax
comp=Z,9.0nm,0.6s
NWAO Narrogin (SRO) 70.75 200 P P 20 10 38.9 +0.5
comp=Z,8.8nm,0.6s,baz=21,slow=5.4,SNR=10
IRAZ Razeghan 70.85 300 eP P 20 10 39.7 +0.2
ETW Entiat 71.01 45 P P 20 10 40.8 +0.6
I03D Drain, OR 71.19 50 ⇓P P 20 10 42.3 +1.2
baz=71
ZEI Tsey 71.24 309 eP P 20 10 40.9 -0.8
ZEI pmax pmax
comp=Z,7.0nm,0.9s
IPAR Pars 71.31 294 eP P 20 10 43.8 +1.3
KBZ Khabaz 71.40 311 P P 20 10 43.2 +0.9
KBZ pmax pmax
comp=Z,14nm,0.9s
KBZ Khabaz 71.40 311 P P 20 10 43.2 +0.9
comp=Z,14nm,0.9s,baz=58,slow=3.3,SNR=8.8
KIV Kislovodsk 71.42 311 P P 20 10 43.3 +0.7
comp=Z,196nm,0.8s,SNR=5.9
KIV Kislovodsk 71.42 311 eP P 20 10 43.8 +1.1
KIV pmax pmax
comp=Z,32nm,0.9s
KIV Kislovodsk 71.42 311 eP P 20 10 43.7 +1.1
comp=Z,29nm,0.9s
ISRV Sarvestan 71.49 293 eP P 20 10 44.3 +0.7
SAW Saint Andrews 71.50 44 P P 20 10 43.4 +0.4
G05D Wamic, OR 71.65 47 ⇓P P 20 10 44.4 +0.5
baz=72
VSU Vasula 71.70 329⇑eP P 20 10 44.8 +0.9
VSU pmax pmax
comp=Z,24nm,1.0s
I04A Tendick Farm, 71.72 49 ⇓P P 20 10 45.5 +1.1
baz=72
NEY Neytrino 71.75 310 eP P 20 10 47.8 +3.0
L02D Cave Junction, 71.81 51 ⇓P P 20 10 46.0 +1.1
baz=72
GNI Garni 72.03 307⇓eP P 20 10 47.9 +1.4
GNI pmax pmax
comp=Z,16nm,1.3s
OD2 Odessa Site #2 72.06 44 P P 20 10 47.0 +0.6
I05D Terrebonne, OR 72.11 48 ⇓P P 20 10 47.7 +1.0
baz=72
J04D Umpqua Nationa 72.20 49 ⇑P P 20 10 48.3 +0.8
baz=72
NEW Newport 72.50 43 eP P 20 10 49.3 +0.4
NEW pmax pmax
comp=Z,20nm,1.1s
NEW Newport 72.50 43 eP P 20 10 49.3 +0.4
comp=Z,20nm,1.1s
NEW Newport 72.50 43 ⇓P P 20 10 49.5 +0.5
baz=72
SUMG Summit 72.82 359 iP P 20 10 51.6 +0.7
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 72.82 359 iP P 20 10 51.6 +0.7
comp=Z,7.2nm,0.8s
SUMG Summit 72.82 359 eP P 20 10 51.4 +0.5
comp=Z,8.1nm,0.8s
N02D Trinity Center 73.00 52 ⇓P P 20 10 53.4 +1.3
baz=73
M04C Macdoel 73.13 51 ⇓P P 20 10 53.8 +0.9
baz=73
IDHR Dehrash 73.71 301 eP P 20 10 56.1 -0.5
WALA Waterton Lakes 73.82 41 eP P 20 10 57.2 +0.4
comp=Z,0.5nm,1.1s
BSMT Bassoo Peak 74.03 43 P P 20 10 59.0 +0.8
ANN Anapa 74.16 314 eP P 20 10 50.5 -8.2
ANN e*PP pP 20 11 20.8 +1.0
ANN pmax pmax
comp=Z,154nm,1.5s
BMO Blue Mountains 74.26 46 eP P 20 10 59.8 +0.4
comp=Z,6.3nm,0.7s
JTMT Jette 74.37 42 eP P 20 11 00.7 +0.6
comp=Z,15nm,0.8s
SWMT Swartz Lake 74.66 42 eP P 20 11 02.0 +0.3
comp=Z,11nm,1.0s
MSO Missoula 75.09 43 ⇑P P 20 11 05.1 +0.9
baz=75
SLMT Seeley Lake 75.10 43 eP P 20 11 04.6 +0.3
comp=Z,19nm,1.1s
AKASG Malin Array Be 75.26 322 P P 20 11 04.7 -0.3
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG MLR MLR
comp=Z,16nm,28.6s
AKASG Malin Array Be 75.26 322 P P 20 11 04.7 -0.3
comp=Z,6.6nm,0.7s,baz=47,slow=5.9,SNR=35
AKASG LR LR 20 45 52.3
comp=Z,90nm,19.4s,baz=50,slow=37
KIEV Kiev 75.28 322 eP P 20 11 03.7 -1.3
KIEV pmax pmax
comp=Z,6.0nm,0.6s
KIEV Kiev 75.28 322 eP P 20 11 03.6 -1.3
comp=Z,5.7nm,0.6s
NB2 NORSAR Subarra 75.70 337 P P 20 11 07.1 -0.2
comp=Z,14nm,1.4s,baz=42,slow=5.9
NOA NORSAR Array B 75.70 337 P P 20 11 07.4 0.0
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 75.70 337 P P 20 11 07.3 0.0
comp=Z,1.8nm,0.8s,baz=41,slow=5.7,SNR=6.7
CMB Columbia Colle 76.09 53 eP P 20 11 10.7 +0.7
CMB pmax pmax
comp=Z,21nm,1.2s
CMB Columbia Colle 76.09 53 eP P 20 11 10.7 +0.7
comp=Z,21nm,1.2s
FFC Flin Flon 76.15 32 eP P 20 11 09.6 -0.3
FFC Flin Flon 76.15 32 eP P 20 11 09.6 -0.3
FCC Fort Churchill 76.44 26 eP P 20 11 11.0 -0.5
FCC Fort Churchill 76.44 26 eP P 20 11 11.0 -0.5
comp=Z,0.3nm,1.1s
WAKR Walker 76.45 52 eP P 20 11 13.2 +0.9
comp=Z,13nm,1.2s
A19A Klindworth Far 76.64 39 ⇑P P 20 11 13.5 +0.5
baz=76,SNR=8.8
EGMT Eagleton 76.67 40 eP P 20 11 13.4 +0.3
comp=Z,14nm,1.0s
EGMT Eagleton 76.67 40 ⇑P P 20 11 13.8 +0.7
baz=76,SNR=7.7
HLID Hailey 76.70 46 ⇓P P 20 11 14.5 +1.0
baz=76
BMN Battle Mountai 76.79 50 eP P 20 11 14.9 +0.8
BMN pmax pmax
comp=Z,16nm,1.3s
BMN Battle Mountai 76.79 50 eP P 20 11 14.9 +0.8
comp=Z,16nm,1.3s
B19A Brinkman Farms 76.83 40 ⇓P P 20 11 14.4 +0.4
baz=77,SNR=9.2
A20A Cobblestone Ra 77.09 39 ⇓P P 20 11 15.9 +0.4
baz=77
MALT Malatya 77.16 308⇑iP P 20 11 17.7 +1.6
C19A Slack Wire Ran 77.22 40 ⇑P P 20 11 16.9 +0.7
baz=77,SNR=18
NVAR Mina Array Bea 77.23 52 P P 20 11 17.7 +1.0
comp=Z,7.9nm,0.7s,baz=293,slow=5.4,SNR=70
B20A Solberg Farm, 77.32 39 ⇑P P 20 11 17.2 +0.4
baz=77
MLAC Mammoth Lakes 77.33 53 ⇓P P 20 11 18.4 +1.2
baz=77
D19A Cripps Ranch, 77.66 41 ⇑P P 20 11 19.3 +0.6
baz=77,SNR=7.6
C20A Veseth Ranch, 77.78 40 ⇑P P 20 11 20.1 +0.8
baz=78
SMMC Simmler 77.86 55 ⇑P P 20 11 20.4 +0.4
baz=78
A22A Carney Farms, 78.05 38 ⇓P P 20 11 21.1 +0.3
baz=78,SNR=7.2
D20A Manuel Ranch, 78.10 40 ⇓P P 20 11 21.8 +0.6
baz=78,SNR=6.5
E19A Rath Farm, Rou 78.15 41 ⇑P P 20 11 22.4 +1.0
baz=78,SNR=9.3
VES Vestal, Richgr 78.17 55 ⇑P P 20 11 22.5 +0.8
baz=78
C21A Desert Coulee 78.19 39 ⇑P P 20 11 22.5 +0.9
baz=78
H17A Grant Village 78.43 44 ⇓P P 20 11 25.8 +2.5
baz=78
F19A Roth Farm, Mol 78.44 42 ⇓P P 20 11 23.6 +0.6
baz=78,SNR=5.1
B22A Reddig Ranch S 78.45 38 ⇓P P 20 11 23.8 +0.7
baz=78
E20A Meyer Farm, Mu 78.48 41 ⇑P P 20 11 24.1 +0.9
baz=78,SNR=7.4
A23A Redstone 78.59 37 ⇑P P 20 11 24.5 +0.7
baz=78
ISA Isabella 78.69 54 ⇑P P 20 11 25.0 +0.5
baz=78
I17A Pilgrim Ck. 78.72 44 ⇓P P 20 11 26.9 +2.1
baz=78
D21A La Casta Ranch 78.73 40 ⇑P P 20 11 25.4 +0.8
baz=78
HVU Hansel Valley 78.73 47 eP P 20 11 25.8 +1.0
HVU pmax pmax
comp=Z,12nm,0.8s
HVU Hansel Valley 78.73 47 eP P 20 11 25.8 +1.0
comp=Z,12nm,0.8s
ARVC Arvin 78.75 55 ⇑P P 20 11 25.8 +1.0
baz=79
H18A Shoshone NF, C 78.77 43 ⇑P P 20 11 25.8 +0.7
baz=79,SNR=5.0
B23A Brockton 78.86 38 ⇓P P 20 11 25.6 +0.3
baz=79,SNR=7.1
C22A Vida 78.87 39 ⇑P P 20 11 25.6 +0.2
baz=79
R11A Troy Canyon, C 79.02 51 ⇑P P 20 11 27.5 +0.9
baz=79
D22A Cohagen 79.10 39 ⇑P P 20 11 27.4 +0.8
baz=79
FRB Frobisher Bay 79.12 12 P P 20 11 26.5 +0.2
FRB pmax pmax
comp=Z,11nm,0.6s
FRB Frobisher Bay 79.12 12 P P 20 11 26.5 +0.2
comp=Z,11nm,0.6s,baz=334,slow=7.1,SNR=15
H19A Powell 79.16 43 ⇑P P 20 11 27.9 +0.9
baz=79
C23A Lambert 79.19 39 ⇓P P 20 11 27.3 +0.3
baz=79,SNR=5.4
TESR Tescani 79.21 320⇓iP P 20 11 26.9 -0.3
G20A Bridger 79.24 42 ⇑P P 20 11 27.4 -0.1
baz=79
DGMT Dagmar 79.25 38 ⇓P P 20 11 28.1 +0.7

baz=79
CFR Carcaliu 79.26 318⇓iP P 20 11 29.5 +2.1
FURC Furnace Creek, 79.29 53 ⇑P P 20 11 28.8 +1.1
baz=79
LRMC Laurel Mountai 79.32 54 ⇑P P 20 11 29.1 +1.0
baz=79
LAO LASA Array 79.37 40 eP P 20 11 28.5 +0.3
comp=Z,8.9nm,1.1s
BRTR Keskin Array B 79.38 311 P P 20 11 29.4 +1.0
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 79.38 311 P P 20 11 29.4 +1.0
comp=Z,4.5nm,0.9s,baz=100,slow=4.2,SNR=24
EDW2 Edwards Air Fo 79.46 55 ⇑P P 20 11 30.0 +1.2
baz=79,SNR=8.8
I19A Meeteetse 79.55 43 ⇓P P 20 11 30.1 +0.8
baz=79
HWUT Hardware Ranch 79.56 46 eP P 20 11 30.3 +0.9
comp=Z,16nm,1.0s
VRI Vrincioaia 79.58 319⇓iP P 20 11 28.6 -0.6
D23A Lindsay 79.59 39 ⇓P P 20 11 30.4 +1.2
baz=79,SNR=5.3
PLOR Plostina 79.64 319⇑iP P 20 11 33.8 +4.3
DUG Dugway 79.66 48 eP P 20 11 30.8 +0.9
DUG pmax pmax
comp=Z,14nm,1.0s
DUG Dugway 79.66 48 eP P 20 11 30.8 +0.9
comp=Z,14nm,1.0s
DUG Dugway 79.66 48 ⇓P P 20 11 30.7 +0.9
baz=80
E22A Miles City 79.68 40 ⇑P P 20 11 30.6 +0.8
baz=79
C24A Savage 79.76 38 ⇑P P 20 11 31.4 +1.3
baz=80
G21A Lodge Grass 79.78 41 ⇑P P 20 11 31.0 +0.6
baz=80
H20A Greybull 79.82 42 ⇓P P 20 11 31.2 +0.5
baz=80
F22A Rosebud 79.94 41 ⇑P P 20 11 31.6 +0.4
baz=80
TCUT Toone Canyon 79.95 47 eP P 20 11 32.4 +0.8
comp=Z,9.5nm,0.7s
J19A Crowheart 80.00 44 ⇑P P 20 11 32.6 +0.9
baz=80,SNR=10
SHOC Shoshone 80.00 53 ⇓P P 20 11 32.7 +1.0
baz=80
GSC Goldstone 80.00 54 eP P 20 11 31.8 0.0
GSC pmax pmax
comp=Z,15nm,1.3s
GSC Goldstone 80.00 54 eP P 20 11 31.8 0.0
comp=Z,15nm,1.3s
GSC Goldstone 80.00 54 ⇓P P 20 11 32.7 +0.9
baz=80
PDAR Pinedale Array 80.02 44 P P 20 11 31.9 0.0
comp=Z,4.2nm,0.7s,baz=264,slow=2.3,SNR=40
STHS Stebnicka Huta 80.02 324 eP P 20 11 32.4 +0.9
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 80.02 324 eP P 20 11 32.3 +0.8
CIS Catalina Islan 80.02 56 ⇑P P 20 11 32.1 +0.2
baz=80
A26A Wade Farm, Ken 80.03 36 ⇑P P 20 11 32.5 +0.9
baz=80
UZH Uzhgorod 80.05 323 eP P 20 11 35.2 +3.6
BFSC Mount Baldy Ra 80.05 55 ⇑P P 20 11 32.9 +0.8
baz=80
D24A Glendive 80.08 39 ⇓P P 20 11 32.3 +0.4
baz=80,SNR=5.7
I20A Worland 80.09 43 ⇓P P 20 11 32.8 +0.6
baz=80
MSAB Monastry St. A 80.12 317⇑iP P 20 11 32.9 +0.8
MLR Muntele Rosu 80.25 319⇑iP P 20 11 33.9 +1.0
H21A Big Horn, Sher 80.26 42 ⇓P P 20 11 33.2 +0.2
baz=80
TRPA Tarpa 80.26 323⇓iP P 20 11 33.7 +0.9
G22A Birney 80.28 41 ⇑P P 20 11 33.8 +0.7
baz=80
RAYN Ar Rayn 80.36 292 P P 20 11 34.6 +0.8
comp=Z,1.0nm,1.0s,SNR=15
RAYN Ar Rayn 80.36 292 eP P 20 11 34.2 +0.3
comp=Z,36nm,0.9s
SHPR Sheep Range 80.38 52 eP P 20 11 34.7 +0.8
comp=Z,19nm,1.4s
F23A Volborg 80.43 40 ⇓P P 20 11 34.7 +0.8
baz=80
E24A Baker 80.46 39 ⇓P P 20 11 34.8 +0.8
baz=80
DAU Daniels Canyon 80.47 47 eP P 20 11 35.4 +0.9
DAU pmax pmax
comp=Z,7.0nm,0.7s
DAU Daniels Canyon 80.47 47 eP P 20 11 35.4 +0.9
comp=Z,7.4nm,0.7s
J20A Shoshoni 80.49 43 ⇓P P 20 11 34.7 +0.4
baz=80
TUQ Turquoise Moun 80.51 53 ⇑P P 20 11 35.2 +0.6
baz=80
HEC Hector,Ludlow 80.60 54 ⇑P P 20 11 35.9 +1.0
baz=80
I21A Big Trails, Te 80.64 43 ⇑P P 20 11 35.7 +0.6
baz=80
H22A Clearmont 80.66 42 ⇓P P 20 11 35.3 +0.2
baz=80
ARUT Antelope Range 80.72 50 eP P 20 11 36.1 +0.4
ARUT pmax pmax
comp=Z,66nm,0.9s
ARUT Antelope Range 80.72 50 eP P 20 11 36.1 +0.4
comp=Z,66nm,0.9s
MURC Murrieta 80.73 56 ⇓P P 20 11 36.0 +0.4
baz=81
VOIR 80.76 320⇑iP P 20 11 36.6 +1.0
G23A Biddle 80.78 41 ⇓P P 20 11 35.8 0.0
baz=80
J21A Lysite 80.85 43 ⇑P P 20 11 36.9 +0.6
baz=81
A28A Rude Farm, Bot 80.88 35 ⇓P P 20 11 36.6 +0.5
baz=81
CCUT Cedar City 80.91 50 eP P 20 11 37.8 +1.0
comp=Z,5.2nm,0.8s
E25A Miller Ranch, 80.97 39 ⇓P P 20 11 37.1 +0.4
baz=81
I22A 9 Mile Ranch, 81.04 42 ⇑P P 20 11 37.5 +0.3
baz=81
MVU Marysvale 81.06 49 eP P 20 11 38.7 +1.1
comp=Z,8.2nm,1.0s
GMRC Granite Mounta 81.07 54 ⇑P P 20 11 38.1 +0.5
baz=81,SNR=6.5
D26A Manning 81.10 38 ⇑P P 20 11 38.1 +0.7
baz=81
C27A Sayler Ranch, 81.10 37 ⇓P P 20 11 38.4 +1.0
baz=81
B28A Dugan Ranch, T 81.15 36 ⇓P P 20 11 37.8 +0.2
baz=81
G24A Alzada 81.22 40 ⇑P P 20 11 37.9 -0.2
baz=81
PFO Pinyon Flat Ob 81.23 55 ⇓P P 20 11 39.2 +0.8
baz=81,SNR=6.9
BELC Belle Mtn. Jos 81.31 55 ⇑P P 20 11 39.0 +0.1
baz=81,SNR=6.6
F25A Bowman 81.32 39 ⇑P P 20 11 38.9 +0.4
baz=81
J22A Midwest 81.35 43 ⇑P P 20 11 39.1 +0.2
baz=81,SNR=11
A29A Manning Farm, 81.36 35 ⇓P P 20 11 39.3 +0.7
baz=81
K21A Alcova 81.42 43 ⇑P P 20 11 39.8 +0.4
baz=81
E26A Carlson Angus 81.47 38 ⇑P P 20 11 39.5 +0.2
baz=81
MORC Moravsky Berou 81.50 326 P P 20 11 39.6 +0.2
MORC Moravsky Berou 81.50 326 P P 20 11 39.6 +0.2
H24A Dirks Ranch, A 81.53 41 ⇓P P 20 11 39.8 0.0
baz=81
B29A Wagenman Farm, 81.62 35 ⇓P P 20 11 40.5 +0.4
baz=81
KRLC Kraliky 81.63 327 eP P 20 11 41.2 +1.1
KRLC Kraliky 81.63 327 eP P 20 11 41.2 +1.1
KRLC ePCP PcP 20 11 47.3 +1.5
DPC Dobruska-Polom 81.63 327 eP P 20 11 41.2 +1.1
DPC Dobruska-Polom 81.63 327 eP P 20 11 41.2 +1.1
MONP Monument Peak 81.67 56 ⇓P P 20 11 41.5 +0.7
baz=82
PSZ Piszkesteto 81.70 324 eP P 20 11 41.1 +0.5
PSZ Piszkesteto 81.70 324 eP P 20 11 41.1 +0.5
SRU San Rafael 81.72 48 eP P 20 11 41.6 +0.6
SRU pmax pmax
comp=Z,20nm,0.9s
SRU San Rafael 81.72 48 eP P 20 11 41.6 +0.6

comp=Z,20nm,0.9s
F26A Lodgepole 81.78 39 ⇓P P 20 11 41.3 +0.3
baz=82
IRM Iron Mountain 81.78 54 ⇑P P 20 11 41.9 +0.7
baz=82,SNR=5.1
A30A Hoffart Farm, 81.78 35 ⇓P P 20 11 41.4 +0.5
baz=82
VYHS Vyhne 81.81 325 eP P 20 11 41.6 +0.6
VYHS Vyhne 81.81 325 eP P 20 11 41.6 +0.6
K22A Casper 81.82 43 ⇓P P 20 11 41.9 +0.5
baz=82
JMB Yambol 81.85 317⇑iP P 20 11 43.3 +2.0
BC3 Big Chuckawall 81.88 55 ⇑P P 20 11 42.6 +0.8
baz=82,SNR=7.4
ULM Lac du Bonnet 81.94 32 P P 20 11 41.0 -0.7
ULM pmax pmax
comp=Z,4.0nm,0.8s
ULM Lac du Bonnet 81.94 32 P P 20 11 41.0 -0.7
comp=Z,3.9nm,0.8s,baz=314,slow=5.1,SNR=7.5
GZR Gura Zlata 81.98 321⇓iP P 20 11 41.3 -0.8
N20A Spence Gulch, 81.99 45 ⇑P P 20 11 43.2 +0.8
baz=82,SNR=12
F27A Lemmon 82.10 39 ⇓P P 20 11 43.2 +0.6
baz=82
B30A Myrvik Farm, E 82.12 35 ⇓P P 20 11 43.6 +0.9
baz=82
H25A Fruitdale 82.12 40 ⇓P P 20 11 43.5 +0.7
baz=82
G26A Maurine 82.19 39 ⇑P P 20 11 43.8 +0.6
baz=82
L22A Ellis Ranch, M 82.27 44 ⇑P P 20 11 44.9 +1.1
baz=82
U15A North Rim 82.27 51 ⇑P P 20 11 45.1 +1.0
baz=82
BRG Berggiesshubel 82.28 329 eP P 20 11 43.7 +0.2
comp=Z,1.9nm,0.7s
CLL Collm 82.36 330 iP P 20 11 43.5 -0.3
CLL i 20 12 07.1
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 82.36 330 iP P 20 11 43.5 -0.3
comp=Z,5.0nm,1.1s
CLL i (pP) pP 20 12 07.1 +1.8
PDMCI Parker Dam,Lak 82.36 53 ⇓P P 20 11 45.0 +0.9
baz=82
J24A Dixon Ranch, L 82.41 42 ⇑P P 20 11 44.1 -0.3
baz=82
BZS Buzias 82.43 321⇓iP P 20 11 42.6 -1.7
Y12C Blythe 82.44 54 ⇓P P 20 11 45.9 +1.3
baz=82
O20A White River Ci 82.44 46 eP P 20 11 44.8 +0.1
comp=Z,7.2nm,0.7s
O20A White River Ci 82.44 46 ⇓P P 20 11 44.8 +0.1
baz=82,SNR=5.9
G27A Dupree 82.48 39 ⇑P P 20 11 44.8 +0.2
baz=82
H26A Fairpoint 82.56 40 ⇑P P 20 11 45.7 +0.6
baz=82
C30A Mose, Pekin 82.58 35 ⇑P P 20 11 45.6 +0.5
baz=82
M22A Cedar Creek Ra 82.59 44 ⇓P P 20 11 46.4 +0.9
baz=82,SNR=8.0
L23A Garrett 82.63 43 ⇑P P 20 11 45.6 -0.1
baz=82,SNR=7.1
GLA Glamis 82.66 55 ⇓P P 20 11 46.8 +1.0
baz=82
J25A Sunshine Ranch 82.83 41 ⇓P P 20 11 46.6 0.0
baz=83
D30A Buchanan 82.86 36 ⇓P P 20 11 47.0 +0.4
baz=83
M23A Laramie 83.04 44 ⇑P P 20 11 48.2 +0.3
baz=83
N22A Wattenberg Ran 83.06 44 ⇓P P 20 11 48.5 +0.5
baz=83
PV04 Paradox Valley 83.16 48 eP P 20 11 49.1 +0.7
E30A Jud 83.22 37 ⇓P P 20 11 48.8 +0.4
baz=83
F29A Eureka 83.23 37 ⇑P P 20 11 48.8 +0.3
baz=83
J26A Sides Ranch, S 83.28 41 ⇑P P 20 11 49.1 +0.2
baz=83
N23A Red Feather La 83.29 44 ⇑P P 20 11 50.2 +1.0
baz=83,SNR=7.8
AGMN Agassiz Nation 83.37 34 ⇑P P 20 11 49.1 -0.1
baz=83
WUAZ Wupatki 83.42 51 eP P 20 11 50.4 +0.5
WUAZ Wupatki 83.42 51 ⇓P P 20 11 50.5 +0.6
baz=83,SNR=9.0
O22A Kremmling 83.42 45 ⇑P P 20 11 50.3 +0.3
baz=83,SNR=8.1
H28A Mission Ridge 83.43 39 ⇓P P 20 11 50.0 +0.5
baz=83
PV01 Paradox Valley 83.52 48 eP P 20 11 50.8 +0.4
comp=Z,2μm,1.0s
M24A Cheyenne 83.55 43 ⇓P P 20 11 50.8 +0.4
baz=83
G29A Hoven 83.63 38 ⇑P P 20 11 50.9 +0.3
baz=83
VTS Vitosha 83.64 318⇑iP P 20 11 50.0 -0.8
P22A Eagle 83.67 46 ⇑P P 20 11 51.7 +0.6
baz=83,SNR=14
KHC Kasperske Hory 83.74 328 eP P 20 11 51.4 +0.4
KHC Kasperske Hory 83.74 328 eP P 20 11 51.4 +0.4
KHC ex x 20 11 59.1
O23A Lake Granby, G 83.75 45 ⇓P P 20 11 52.6 +1.0
baz=84,SNR=6.9
H29A Onida 83.88 39 ⇑P P 20 11 53.0 +1.1
baz=84
J27A Elkhorn Farm, 83.89 40 ⇑P P 20 11 52.5 +0.5
baz=84
GERES GERESS Array B 83.90 328 P P 20 11 51.9 0.0
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 83.90 328 P P 20 11 51.9 0.0
comp=Z,1.4nm,0.7s,baz=38,slow=5.0,SNR=8.3
N24A Carr 83.94 44 ⇑P P 20 11 53.5 +1.1
baz=84
X16A Lo Mia Camp, P 84.06 52 ⇓P P 20 11 54.4 +1.2
baz=84
G30A Faulkton 84.07 38 ⇑P P 20 11 53.4 +0.6
baz=84
MVCO Mesa Verde 84.16 48 ⇑P P 20 11 54.0 +0.3
baz=84,SNR=6.0
J28A Allard Ranch, 84.18 40 ⇓P P 20 11 53.8 +0.3
baz=84
ISCO Idaho Springs 84.20 45 ⇑P P 20 11 54.7 +0.8
baz=84
P23A Jefferson 84.35 45 ⇓P P 20 11 55.6 +0.8
baz=84
L27A T5 Ranch, Ells 84.52 41 ⇑P P 20 11 56.0 +0.7
baz=84
K28A Ten Mile Ranch 84.60 41 ⇑P P 20 11 56.0 +0.4
baz=84
214A Organ Pipe Nat 84.67 55 ⇑P P 20 11 56.9 +0.8
baz=84
W18A Petrified Fore 84.71 51 ⇑P P 20 11 56.9 +0.5
baz=84
S22A 4UR Ranch, Cre 84.83 47 ⇑P P 20 11 58.3 +1.2
baz=85,SNR=11
O25A Wiggins 84.85 44 ⇑P P 20 11 57.5 +0.5
baz=85
PERS Pernice 84.89 325 iP P 20 11 57.5 +0.5
SOKA Soboth 84.90 325⇑iPcP P 20 11 57.8 +0.7
comp=Z,5.8nm,0.9s
K29A Lazy Trails An 85.13 40 ⇑P P 20 11 59.1 +0.8
baz=85
R23A Moffat 85.13 46 ⇓P P 20 11 59.9 +1.3
baz=85,SNR=14
J30A Dallas 85.16 39 ⇓P P 20 11 58.8 +0.4
baz=85
O26A Horse Wrangler 85.22 43 ⇑P P 20 11 59.4 +0.5
baz=85
N27A Anderson Farm, 85.27 42 ⇑P P 20 11 59.6 +0.6
baz=85
OGNE Ogallala 85.46 42 ⇓P P 20 12 00.1 +0.1
baz=85
M28A Bar X Bar Ranc 85.51 41 ⇑P P 20 12 00.8 +0.7
baz=85
L29A Maesberg Ranch 85.53 41 ⇓P P 20 12 00.6 +0.3
baz=85
R24A Sanders Place, 85.53 46 ⇓P P 20 12 01.4 +0.9
baz=85,SNR=14
Q25A Bedland, Calha 85.58 45 ⇑P P 20 12 01.3 +0.5
baz=85,SNR=6.6
VISS Visnje 85.64 325 iP P 20 12 00.7 +0.1
BOJS Bojanci 85.66 325 iP P 20 12 01.1 +0.4
BOJS i 20 12 10.6

P26A Davis Ranch, A 85.66 44 ⇑P P 20 12 01.6 +0.5
baz=85
U22A Llaves 85.70 48 ⇑P P 20 12 02.3 +0.9
baz=86
T23A Casias Ranch, 85.77 47 ⇑P P 20 12 02.9 +1.1
baz=86
S24A Houchin Ranch, 85.86 46 ⇓P P 20 12 03.2 +1.0
baz=86,SNR=5.5
JAVS Javornik 85.93 325 iP P 20 12 01.9 -0.2
JAVS i 20 12 10.1
V22A San Miguel Ran 85.97 48 ⇓P P 20 12 03.6 +0.8
baz=86
Q26A Hugo 85.99 44 ⇓P P 20 12 03.4 +0.7
baz=86
L30A Spencer Herefo 86.01 40 ⇓P P 20 12 03.1 +0.5
baz=86
R25A Fountain Ranch 86.07 45 ⇓P P 20 12 03.8 +0.7
baz=86
P27A Ficken Ranch, 86.10 43 ⇑P P 20 12 04.4 +1.2
baz=86
U23A El Rito 86.14 48 ⇑P P 20 12 04.8 +1.2
baz=86,SNR=5.5
T24B San Luis 86.14 47 ⇓P P 20 12 04.8 +1.2
baz=86,SNR=6.3
O28A Krutsinger Ran 86.16 43 ⇓P P 20 12 03.6 +0.2
baz=86
S25A Robets Cordova 86.31 46 ⇑P P 20 12 04.5 +0.1
baz=86
N29A Votaw Ranch, W 86.31 41 ⇑P P 20 12 04.6 +0.5
baz=86
L31A Butterfield Fa 86.32 40 ⇑P P 20 12 04.6 +0.6
baz=86
ECSD EROS Data Cent 86.33 37 ⇑P P 20 12 03.9 -0.2
baz=86
R26A Arlington 86.45 45 ⇓P P 20 12 05.1 +0.2
baz=86,SNR=12
P28A Saint Francis 86.55 43 ⇓P P 20 12 06.2 +0.8
baz=86
T25A Trinidad 86.67 46 ⇓P P 20 12 06.8 +0.6
baz=86
R27A Eads 86.84 44 ⇑P P 20 12 07.2 +0.4
baz=87
Q28A Sharon Springs 86.86 43 ⇑P P 20 12 07.4 +0.5
baz=87
ANMO Albuquerque 86.88 49⇓eP P 20 12 08.3 +1.1
ANMO pmax pmax
comp=Z,17nm,1.3s
ANMO Albuquerque 86.88 49 eP P 20 12 07.2 0.0
comp=Z,4.2nm,1.2s
S26A Kim 86.90 45 ⇓P P 20 12 07.3 +0.1
baz=87
V24A Rampart Ranch, 87.09 48 ⇑P P 20 12 09.4 +1.1
baz=87
T26A Comanche Natio 87.13 46 ⇓P P 20 12 08.9 +0.5
baz=87
U25A Circle Dot Ran 87.17 47 ⇑P P 20 12 09.7 +1.2
baz=87
S27A Las Animas 87.19 45 ⇑P P 20 12 08.9 +0.4
baz=87
BGNE Belgrade 87.22 40 ⇑P P 20 12 08.9 +0.4
baz=87
W24A Lazy 6 Ranch, 87.35 48 ⇓P P 20 12 10.0 +0.6
baz=87
R28A Tribune 87.37 44 ⇑P P 20 12 09.7 +0.3
baz=87
V25A Rancho No Teng 87.42 47 ⇑P P 20 12 10.5 +0.7
baz=87
U26A Atchley Ranch, 87.57 46 ⇑P P 20 12 11.0 +0.6
baz=87
Z22A Elephant Butte 87.67 50 ⇑P P 20 12 11.0 +0.1
baz=88
R29A Marienthal 87.69 43 ⇑P P 20 12 11.3 +0.4
baz=88
SCHQ Schefferville 87.72 15 P P 20 12 10.5 -0.1
comp=Z,6.4nm,0.7s,baz=360,slow=4.0,SNR=11
Y23A Lovelace Mesa, 87.80 49 ⇑P P 20 12 11.7 +0.1
baz=88
Q30A Quinter 87.82 43 ⇑P P 20 12 11.9 +0.4
baz=88
S28A Manter 87.83 45 ⇑P P 20 12 12.1 +0.5
baz=88
P31A Stockton 87.91 42 ⇑P P 20 12 12.1 +0.2
baz=88
W25A X Bar L Ranch, 87.93 48 ⇑P P 20 12 12.6 +0.4
baz=88
V26A Tequesquite Ra 87.94 47 ⇑P P 20 12 12.9 +0.7
baz=88
Y24A Capitan 88.19 49 ⇑P P 20 12 13.5 0.0
baz=88
P32A Huiting Farm, 88.26 41 ⇓P P 20 12 13.3 -0.2
baz=88
S29A Ulysses 88.26 44 ⇓P P 20 12 13.8 +0.2
baz=88
R30A Dighton 88.28 43 ⇑P P 20 12 13.7 +0.1
baz=88
W27A Bowe Ranch, En 88.87 47 ⇓P P 20 12 17.1 +0.5
baz=89
Z25A Roswell 89.06 49 ⇑P P 20 12 18.0 +0.5
baz=89
X27A F and S Farms, 89.14 47 ⇑P P 20 12 18.5 +0.6
baz=89
125A Gardner Draw, 89.52 50 ⇓P P 20 12 20.1 +0.4
baz=89
Z26A Caprock 89.53 49 ⇓P P 20 12 20.5 +0.8
baz=89
R33A Olander Ranch, 89.53 42 ⇑P P 20 12 19.8 +0.3
baz=89
Y27A Causey 89.61 48 ⇓P P 20 12 20.7 +0.7
baz=89
X28A Dimmitt 89.77 47 ⇑P P 20 12 21.6 +0.8
baz=90
AMTX Amarillo 89.82 46 ⇑P P 20 12 21.4 +0.4
baz=90
Z27A Tatum 89.97 48 ⇓P P 20 12 22.7 +0.9
baz=90
X29A Tulia 90.11 47 ⇑P P 20 12 23.2 +0.8
baz=90
226B Tecolote Peak, 90.21 50 ⇓P P 20 12 23.7 +0.9
baz=90
T33A Patterson Ranc 90.26 43 ⇑P P 20 12 23.9 +1.0
baz=90
Y29A Porterfield Fa 90.53 47 ⇓P P 20 12 25.0 +0.7
baz=90
W31A Holland Ranch, 90.64 45 ⇑P P 20 12 25.6 +0.9
baz=90
V32A Arapaho 90.78 44 ⇓P P 20 12 26.0 +0.7
baz=91
U33A Lingo Farm, Me 90.80 43 ⇓P P 20 12 26.0 +0.6
baz=91
128A Castleberry Fa 90.89 48 ⇓P P 20 12 26.6 +0.6
baz=91
Z29A Hungry Hill Ra 90.93 48 ⇓P P 20 12 26.9 +0.7
baz=91
Y30A Stafford Cattl 90.99 47 ⇓P P 20 12 27.1 +0.7
baz=91
X31A McDonald Ranch 91.00 46 ⇓P P 20 12 27.0 +0.5
baz=91
W32A Sentinel 91.08 45 ⇑P P 20 12 27.1 +0.3
baz=91
U34A Anderson Ranch 91.12 43 ⇓P P 20 12 27.4 +0.5
baz=91
V33A Lossen Ranch, 91.14 44 ⇑P P 20 12 27.1 +0.1
baz=91
Z30A Sanderson Ranc 91.26 47 ⇑P P 20 12 27.9 +0.3
baz=91
Y31A Rekieta Farm, 91.31 46 ⇓P P 20 12 28.2 +0.4
baz=91
W33A Caddo, Fort Co 91.51 44 ⇑P P 20 12 29.2 +0.4
baz=91
229A Bryant Ranch, 91.75 49 ⇑P P 20 12 30.7 +0.8
baz=92
Y32A R-V Farms, Ver 91.76 46 ⇓P P 20 12 30.8 +0.9
baz=92
Z31A Sharp Cattle R 91.83 47 ⇑P P 20 12 30.8 +0.5
baz=92
130A Snyder 91.83 48 ⇓P P 20 12 30.6 +0.3
baz=92
329A Wagon Wheel Ra 91.98 49 ⇑P P 20 12 31.7 +0.6
baz=92
131A Roby 92.13 47 ⇓P P 20 12 32.5 +0.8
baz=92
Z32A Haskell 92.23 46 ⇓P P 20 12 32.8 +0.7
baz=92
230A Sterling City 92.23 48 ⇓P P 20 12 32.6 +0.4
baz=92
TXAR Lajitas Array 92.37 52 P P 20 12 33.5 +0.6
TXAR pmax pmax
comp=Z,2.0nm,0.5s

TXAR Lajitas Array 92.37 52 P P 20 12 33.5 +0.6
comp=Z,1.7nm,0.5s,baz=299,slow=2.3,SNR=14
TUL1 Tulsa 92.47 42 ⇓P P 20 12 33.9 +0.8
baz=92
330A Mertzon 92.53 49 ⇓P P 20 12 33.9 +0.3
baz=92
ABTX Abilene, Hawle 92.61 47 ⇓P P 20 12 34.8 +0.9
baz=92
429A Davenport Ranc 92.62 50 ⇑P P 20 12 34.1 0.0
baz=92
529A Stev Forest Ra 92.76 50 ⇑P P 20 12 35.2 +0.6
baz=93
430A Baggett Ranch, 92.92 49 ⇓P P 20 12 35.4 0.0
baz=93
232A Coleman 93.13 47 ⇑P P 20 12 36.5 +0.2
baz=93
530A J-C Ranch, Com 93.30 50 ⇑P P 20 12 37.8 +0.7
baz=93
431A Sonora 93.38 49 ⇑P P 20 12 37.9 +0.4
baz=93
332A Millersview 93.42 48 ⇑P P 20 12 38.2 +0.6
baz=93
233A Rising Star 93.48 47 ⇑P P 20 12 38.0 0.0
baz=93
Z35A Perchaven, San 93.52 45 ⇓P P 20 12 38.6 +0.6
baz=93
134A White-Moore Ra 93.58 46 ⇓P P 20 12 38.9 +0.6
baz=93
432A Menard 93.75 48 ⇑P P 20 12 39.5 +0.3
baz=94
531A Rocksprings 93.78 49 ⇓P P 20 12 39.8 +0.4
baz=94
333A Richland Sprin 93.92 47 ⇑P P 20 12 40.9 +0.9
baz=94
JCT Junction City 94.02 48 ⇑P P 20 12 40.5 +0.1
baz=94
631A Perdido Creek 94.28 50 ⇑P P 20 12 42.7 +1.1
baz=94
WHTX Lake Whitney 94.36 46 ⇑P P 20 12 42.2 +0.3
baz=94
334A Lometa 94.37 47 ⇓P P 20 12 42.6 +0.7
baz=94
632A Uvalde 94.71 49 ⇓P P 20 12 44.0 +0.5
baz=94
933A Laredo 96.36 50 ⇑P P 20 12 52.3 +1.3
baz=96
034A Hebbronville 97.11 50 ⇑P Pdif 20 12 56.0 +1.4
baz=97
TORD Torodi Ar. Bea 117.96 313 PKP PKPdf 20 18 08.7 -0.2
comp=Z,0.2nm,0.5s,baz=52,slow=0.8,SNR=6.2
SDV Santo Domingo 127.73 39 ePKPdf PKPdf 20 18 27.6 -0.3
SAML Samuel 146.60 45 ePKPdf PKPdf 20 19 02.9 +0.7
H03N2 Juan Fernandez 147.93 99 T T 23 04 12.9
baz=286,slow=74,SNR=20
H03N3 Juan Fernandez 147.94 99 T T 23 04 14.4
baz=286,slow=74,SNR=34
H03N1 Juan Fernandez 147.94 99 T T 23 04 12.0
baz=286,slow=74,SNR=23
LPAZ La Paz 148.79 61 PKP2 PKPbc 20 19 11.2 +0.8
LPAZ pmax pmax
comp=Z,5.0nm,0.5s
LPAZ La Paz 148.79 61 PKPbc PKPbc 20 19 11.2 +0.8
comp=Z,5.4nm,0.5s,baz=342,slow=1.6,SNR=26
LPAZ La Paz 148.79 61 ePKPbc PKPbc 20 19 10.9 +0.5
LVC Limon Verde 152.00 72 ePKPab PKPab 20 19 28.5 +1.4

MOS 16 20:31:15.4±2.9, 53°30N×108°48E, h10km, mb4.2/1, Error ellipse: s-maj=55.8km s-min=37.3km az=139.3
BYKL 16 20:31:15.4±0.2, 53°30N×108°51E
ISC 16 20:31:14.5±0.6, 53°25N±0°02×108°50E±0°02, h10km, n27, σ2s12/58, 5C-1D, Lake Baykal region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OGRR Ongureny 0.67 306 ⇑iPG Pg 20 31 27.6 +0.1
OGRR e 20 31 36.3
OGRR pmax pmax
comp=Z,235nm,0.3s
OGRR smax smax
comp=N,1μm,0.2s
OGRR Ongureny 0.67 306 ⇑iPg Pg 20 31 27.6 +0.1
OGRR eSg Sg 20 31 36.3 +0.1
OGRR eSb Sn 20 31 41.3 +0.7
OGRR Pmax
comp=N,238nm,0.2s
OGRR Smax
comp=N,1μm,0.2s
SYVR Suvo 0.98 65 ⇑iPg Pg 20 31 33.1 -0.4
SYVR eSg Sg 20 31 46.2 -0.1
SYVR eSb Sn 20 31 50.6 +2.2
SYVR Pmax
comp=N,25nm,0.1s
SYVR max
comp=N,126nm,0.3s
ZRHB Zarechye 1.07 230 ⇑iPg Pb 20 31 36.4 +1.2
ZRHB e 20 31 40.4
ZRHB eSg Sb 20 31 51.6 +2.3
ZRHB Pmax
comp=N,157nm,0.4s
ZRHB Smax
comp=N,968nm,0.6s
TRG Tyrgan 1.39 250 ePG Pn 20 31 40.9 +0.9
TRG e 20 32 00.2
TRG pmax pmax
comp=Z,119nm,0.2s
TRG smax smax
comp=N,328nm,0.4s
TRG Tyrgan 1.39 250 ePg Pn 20 31 40.9 +0.9
TRG eSg Sn 20 31 59.5 +1.1
TRG Pmax
comp=N,120nm,0.2s
TRG Smax
comp=N,326nm,0.4s
UUDB Ulan-Yde 1.48 201 ⇑iPg Pn 20 31 42.9 +1.7
UUDB eSg Sb 20 32 03.2 +2.3
UUDB Pmax
comp=N,41nm,0.4s
UUDB Smax
comp=N,437nm,0.3s
HRMR Khuramsha 1.88 211 ePn Pn 20 31 49.0 +2.3
HRMR ePg Pb 20 31 50.1 +1.2
HRMR eSg Sb 20 32 16.0 +3.5
YLYR Ulyunkhan 2.26 43 ⇓iPn Pn 20 31 53.0 +1.0
YLYR ePg Pb 20 31 54.8 -0.6
YLYR e 20 31 59.2
YLYR eSg Sb 20 32 24.7 +1.2
YLYR max
comp=N,14nm,0.3s
YLYR Smax
comp=N,46nm,0.3s
NIZ Nizh Angarsk 2.60 13 ePn Pn 20 31 58.3 +1.7
NIZ ePg Pb 20 32 01.2 0.0
NIZ eSn Sn 20 32 27.8 -0.5
NIZ eSg Sb 20 32 34.4 +1.2
NIZ Pmax
comp=N,10.0nm,0.3s
NIZ Smax
comp=N,91nm,0.2s
LSTR Listvyanka 2.63 240 ePn Pn 20 31 58.3 +1.2
LSTR ePg Pb 20 32 02.4 +0.7
LSTR eSn Sn 20 32 30.5 +1.5
LSTR eSg Sb 20 32 36.5 +2.4
LSTR Pmax
comp=N,9.0nm,0.5s
LSTR Smax
comp=N,39nm,0.5s
IRK Irkutsk 2.76 250 ePN Pb 20 32 04.8 +0.9
IRK e 20 32 40.2
IRK pmax pmax
comp=Z,21nm,0.1s
IRK smax smax
comp=E,164nm,0.4s
IRK Irkutsk 2.76 250 eSg Sb 20 32 40.8 +3.0
IRK Smax
comp=E,164nm,0.4s
KMO Kumora 3.07 30 ePN Pb 20 32 09.6 +0.3
KMO e 20 32 48.2
KMO pmax pmax
comp=Z,29nm,0.4s
KMO smax smax
comp=N,75nm,1.1s
KMO Kumora 3.07 30 ePn Pn 20 32 04.2 +1.1
KMO ePg Pb 20 32 09.4 +0.1
KMO ePgPg PbPb 20 32 12.9 +0.5
KMO eSg Sb 20 32 49.3 +2.5
KMO max
comp=N,30nm,0.4s
KMO Smax
comp=N,75nm,1.0s
CIT Chita 3.32 110 ePg Pb 20 32 14.8 +1.4
CIT eSg Sb 20 32 58.7 +4.9
CIT Pmax
comp=N,26nm,0.2s
CIT Smax
comp=N,126nm,0.2s
TLY Talaya 3.36 244 ePn Pn 20 32 08.2 +1.1
TLY ePg Pb 20 32 15.8 +1.6
TLY eSg Sb 20 32 59.4 +4.3
TLY Pmax
comp=N,3.0nm,0.2s
TLY Smax
comp=N,22nm,0.2s
YOA Uoyan 3.44 32 ePg Pb 20 32 16.8 +1.3
YOA eSg Sg 20 33 01.2 -3.8
YOA Pmax
comp=N,17nm,0.2s
YOA Smax
comp=N,133nm,0.6s
ARS Arshan 3.94 253 ePN Pb 20 32 25.9 +1.9
ARS e 20 33 14.9
ARS pmax pmax
comp=Z,4.0nm,0.2s
ARS smax smax
comp=E,179nm,0.6s
KPC Khapcheranga 4.30 144 ePn Pn 20 32 20.8 +0.8
KPC ePg Pb 20 32 32.6 +2.4
KPC eSn Sn 20 33 10.6 +0.3
KPC eSg Sg 20 33 29.7 -2.8
KPC Pmax
comp=E,9.0nm,0.5s
KPC Smax
comp=E,31nm,0.9s
ZAK Zakamensk 4.33 230 ePn Pn 20 32 22.6 +2.2
ZAK ePg Pb 20 32 33.7 +3.0
ZAK eSn Sn 20 33 11.6 +0.6
ZAK eSg Sg 20 33 30.9 -2.5
ZAK Pmax
comp=E,3.0nm,0.3s
ZAK Smax
comp=E,15nm,0.5s
MOY Mondy 4.86 254 ePn Pn 20 32 29.9 +2.2
MOY e 20 32 39.4
MOY e 20 32 43.7
MOY e 20 33 29.6
MOY eSg Sb 20 33 44.8 +6.6
MOY Smax
comp=E,30nm,0.6s
ORL Orlik 5.31 266 ePn Pn 20 32 37.0 +3.1
ORL e 20 33 37.9
ORL eSg Sg 20 34 00.8 -4.1
ORL Smax
comp=E,27nm,0.7s
ULN Ulaanbaatar 5.47 190 ePn Pn 20 32 39.3 +3.1
ULN ePg Pb 20 32 54.8 +4.6
ULN eSg Sb 20 34 06.8 -3.3
BOD Bodaibo 5.54 32 e Sn 20 33 44.5 +3.8
BOD eSg Sg 20 34 05.8 -6.5
BOD e 20 34 11.6
BOD max
comp=E,11nm,0.4s
TUP Tupik 6.88 76 ePG Pg 20 33 21.6 -4.6
TUP e 20 34 47.3
TUP pmax pmax
comp=Z,2.0nm,0.2s
TUP smax smax
comp=N,37nm,0.9s
TUP Tupik 6.88 76 ePn Pn 20 32 56.9 +1.5
TUP ePg Pb 20 33 18.3 +4.2
TUP e 20 33 58.2
TUP eSg Sg 20 34 47.2 -8.0
TUP Pmax
comp=N,1.0nm,0.2s
TUP Smax
comp=N,42nm,1.2s

ISCJB 16 20:31:26.6±0.8, 25°2S±0°2×179°9E±0°1, h493km, mb3.9/8, Error ellipse: s-maj=33.7km s-min=9.8km az=162.1
IDC 16 20:31:30.5±2.1, 25°43S×179°85E, h533km±24km, mb3.3/7, mb1 3.6/8, mb1mx3.3/17, mbtmp4.2/8, Error ellipse: s-maj=35.1km s-min=11.5km az=164.0
ISC 16 20:31:27.1±0.8, 25°3S±0°2×179°91E±0°10, h493km, n24, σ1s32/23, mb3.9/8, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 12.75 282 P P 20 34 15.4 +1.6
0.3nm,0.3s,baz=105,slow=17,SNR=7.3
AFI Afiamalu 13.76 36 P P 20 34 22.6 -1.9
3.1nm,0.3s,baz=336,slow=3.3,SNR=4.0
EIDS Eidsvold 26.04 264 P P 20 36 21.0 +0.7
baz=32,SNR=3.4
PPT Papeete 29.38 81 P P 20 36 51.6 +2.0
96nm,0.3s,baz=59,slow=13,SNR=4.6
MTSU Mount Surprise 33.75 275 P P 20 37 28.4 +1.2
baz=39,SNR=12
STKA Stephens Creek 34.15 250 P P 20 37 30.7 +0.4
1.5nm,0.4s,baz=95,slow=10.0,SNR=15
STKA Stephens Creek 34.15 250 P P 20 37 30.9 +0.6
baz=40,SNR=11
COEN Coen 36.28 281 P P 20 37 49.6 +1.3
baz=41,SNR=7.3
ASAR Alice Springs 41.75 262 P P 20 38 32.9 +0.2
2.8nm,0.4s,baz=90,slow=7.1,SNR=84
ASAR S S 20 44 11.9 -1.9
0.6nm,0.9s,baz=100,slow=19,SNR=5.6
WRA Warramunga Arr 42.25 268 P P 20 38 36.3 -0.3
4.6nm,0.4s,baz=103,slow=7.9,SNR=130
WRA S S 20 44 18.9 -2.1
0.8nm,0.9s,baz=102,slow=14,SNR=3.7
WRKA Warakurna 46.47 259 P P 20 39 08.2 -1.1
baz=52,SNR=15
KNRA Kununurra 48.61 271 P P 20 39 25.4 0.0
baz=54,SNR=13
PETK Petropavlovsk- 80.42 347 P P 20 42 47.5 +1.1
4.1nm,0.9s,baz=125,slow=7.2,SNR=3.4
NVAR Mina Array Bea 85.80 44 P P 20 43 14.3 +0.2
0.8nm,0.8s,baz=232,slow=8.1,SNR=5.8
TXAR Lajitas Array 91.23 58 P P 20 43 40.3 +0.8
0.3nm,0.7s,baz=216,slow=7.5,SNR=3.9
ILAR Eielson Array 93.39 14 P P 20 43 47.6 -0.9
0.1nm,0.4s,baz=222,slow=5.8,SNR=3.7
MKAR Makanchi Array 113.03 312 PKiKP PKiKP 20 49 06.3 -1.3
0.1nm,0.7s,baz=119,slow=1.8,SNR=3.3
ARCES ARCESS Array B 133.22 348 PKP PKPdf 20 49 45.7 +0.1
1.7nm,0.8s,baz=83,slow=2.2,SNR=4.7
FINES FINESS Array B 139.73 341 PKhKP PKPpre 20 49 50.1
1.1nm,0.9s,baz=49,slow=5.8,SNR=5.0
NB2 NORSAR Subarra 143.43 351 PKP PKPab 20 50 02.2 -0.4
comp=Z,1.8nm,0.6s,baz=15,slow=3.1
NOA NORSAR Array B 143.43 351 PKP PKPab 20 50 02.4 -0.2
comp=Z,1.8nm,0.6s,baz=16,slow=4.9,SNR=14
AKASG Malin Array Be 146.08 326 PKPbc PKPbc 20 50 10.5 -0.7
comp=Z,0.7nm,0.4s,baz=43,slow=3.8,SNR=5.6
BRTR Keskin Array B 148.33 305 PKPbc PKPbc 20 50 16.2 -1.4
comp=Z,0.5nm,0.4s,baz=134,slow=4.7,SNR=4.6
TORD Torodi Ar. Bea 167.81 188 PKPab PKPab 20 51 45.0 -2.0
comp=Z,0.4nm,1.1s,baz=187,slow=4.5,SNR=2.0

IDC 16 20:40:07.6±55.0, 19°36S×178°20W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/31, mbtmp4.1/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/34, Error ellipse: s-maj=1006.0km s-min=157.5km az=81.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 38.13 243 P P 20 47 28.7 +0.1
1.6nm,0.7s,baz=93,slow=15,SNR=4.1
WRA Warramunga Arr 44.58 261 P P 20 48 21.8 0.0
0.5nm,0.3s,baz=96,slow=7.6,SNR=46
ASAR Alice Springs 44.61 256 P P 20 48 21.6 -0.4
2.6nm,0.5s,baz=97,slow=7.5,SNR=60
ASAR LR LR 21 05 00.5
comp=Z,73nm,20.4s,baz=212,slow=34

KRSC 16 20:56:15.9±0.6, 55°19N×160°34E, h-3km±6km, ML4.1
IDC 16 20:56:16.1±0.9, 55°17N×160°47E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.7/30, mbtmp3.7/11, ML2.8/2, MS3.2/3, Ms1 3.3/3, ms1mx2.8/45, Error ellipse: s-maj=23.5km s-min=14.9km az=3.0
MOS 16 20:56:17.7±0.9, 55°24N×160°44E, h21km, mb4.1/9, Error ellipse: s-maj=15.6km s-min=7.7km az=85.4
ISCJB 16 20:56:18.2±0.4, 55°19N±0°02×160°42E±0°05, h15km±4km, mb3.7/11, MS3.1/2, Error ellipse: s-maj=4.8km s-min=2.8km az=15.5
ISC 16 20:56:16.2±1.2, 55°17N±0°02×160°38E±0°03, h2km±8km, n74, σ0s96/92, mb3.8/11, Kamchatka Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KZV Kizimen 0.07 221 eP Pg 20 56 18.8 +1.2
TUMR Tumrok 0.18 312 eP Pg 20 56 20.3 +0.7
KMNR Kamenistaya 0.60 352 eP Pg 20 56 28.3 +0.7
KMNR S Sb 20 56 38.2 -0.2
BZMR Bezymyannaya 0.77 5 eP Pb 20 56 32.5 0.0
BZMR S Sb 20 56 43.9 +0.4
KIRR Kirishev 0.79 359 eP Pg 20 56 31.9 +0.6
KIRR S Sb 20 56 43.8 -0.2
BZGR Bezymyannyi-Gr 0.80 13 P Pg 20 56 31.9 +0.4
BZGR S Sb 20 56 43.6 -0.6
BZWR Bezymyannyi-We 0.80 5 P Pb 20 56 32.5 -0.5
BZWR eS Sb 20 56 43.6 -0.8
KPT Kopyto 0.81 354 eP Pb 20 56 32.7 -0.3
KPT eS Sb 20 56 44.9 +0.5
ZLN Zelenaya 0.89 16 P Pg 20 56 33.3 +0.1
LGNR Loginova 0.94 11 S Sn 20 56 51.3 +0.5
KOZ Kozyrevsk 0.94 343 eP Pg 20 56 34.6 +0.4
KOZ eS Sb 20 56 48.3 +0.2
KOZR Kozyr 0.94 343 PN Pg 20 56 34.6 +0.4
KOZR S Sb 20 56 48.3 +0.1
CIRR Tsirk 0.97 12 S Sn 20 56 51.0 -0.6
MKZ Mys Kozlova 0.99 127 PN Pb 20 56 35.8 -0.3
MKZ S Sb 20 56 48.4 -1.2
MKZ Mys Kozlova 0.99 127 eP Pb 20 56 35.8 -0.3
MKZ S Sn 20 56 50.4 -1.3
KRSR Krestovskiy 1.06 6 eP Pb 20 56 37.1 -0.2
KRSR eS Sb 20 56 52.6 +0.9
KLY Klyuchi 1.16 8 PN Pn 20 56 39.3 -0.2
KLY S Sn 20 56 56.0 +0.1
KLY Klyuchi 1.16 8 eP Pn 20 56 39.3 -0.2
KLY eS Sn 20 56 56.0 +0.1
KLY S Sb 20 56 56.6 +2.1
SRDR Sredinnyy 1.21 342 eP Pg 20 56 38.0 -1.4
SRDR eS Sg 20 56 54.4 -0.7
ESO Esso 1.22 309 PN Pg 20 56 37.8 -1.7
ESO S Sg 20 56 54.5 -0.8
ESO Esso 1.22 309 eP Pg 20 56 38.1 -1.4
ESO eS Sg 20 56 54.5 -0.8
KII Karymskiy 1.25 206 P Pn 20 56 40.9 +0.1
BDR Baidarnaya 1.48 18 eP Pn 20 56 44.1 -0.5
SMKR Semkarok 1.55 23 eP Pb 20 56 45.4 -0.2
SMKR eS Sg 20 57 06.9 +1.0
SRKR Sorokina 1.56 16 eP Pb 20 56 45.3 -0.5
SRKR eS Sg 20 57 07.0 +0.8
KBG Krutoberegovo 1.71 49 P Pn 20 56 46.3 -0.7
KBTR Krutoberegovo 1.73 52 PN Pn 20 56 47.0 -0.3
KBTR S Sb 20 57 10.1 -0.9
KBTR Krutoberegovo 1.73 52 eP Pn 20 56 47.0 -0.3
KBTR eS Sb 20 57 10.1 -0.9
GNL Ganaly 2.05 225 eP Pn 20 56 52.4 +0.6
GNL eS Sb 20 57 20.6 +0.5
KRX Arik 2.07 210 eP Pn 20 56 53.6 +1.4
SPN Mys Shipunski 2.08 186 PN Pn 20 56 53.1 +1.0
SPN S Sb 20 57 20.3 -0.7
SDLR Sedlovina 2.08 205 eP Pn 20 56 53.5 +1.2
NLC Nalytchevo 2.09 197 PN Pb 20 56 54.9 +0.1
KRER Koryakskii 2.10 208 eP Pb 20 56 55.1 +0.1
SMAR Somma 2.12 207 eP Pb 20 56 54.2 +1.4
AVH Avacha 2.13 207 eP Pb 20 56 54.7 -0.9
KOK Koryaka 2.14 209 eP Pb 20 56 54.7 -1.0
UGLR Uglovaya 2.16 206 eP Pb 20 56 55.9 -0.2
PET Petropavlovsk 2.37 206 ePN Pb 20 56 59.0 -0.6
PET eS Sg 20 57 33.0 +0.6
PET pmax pmax
comp=Z,95nm,1.1s
PET smax smax
comp=E,118nm,0.6s
PET smax smax
comp=N,148nm,0.8s
PET MLR MLR
comp=Z,400nm,8.0s
PET MLR MLR
comp=Z,900nm,7.0s
PET Petropavlovsk 2.37 206 P Pg 20 57 00.8 -0.8
PETK Petropavlovsk- 2.59 218 PN Pn 20 57 00.5 +1.3
PETK 20 57 35.5
PETK pmax pmax
comp=Z,5.0nm,0.3s
PETK smax smax
comp=N,1.0nm,0.3s
PETK Petropavlovsk- 2.59 218 Pn Pn 20 57 00.5 +1.3
comp=N,4.7nm,0.3s,baz=60,slow=16,SNR=15
PETK Sn Sb 20 57 35.5 -0.2
comp=N,1.2nm,0.3s,baz=39,slow=37,SNR=3.5
APC Apacha 2.94 222 P Pn 20 57 05.4 +1.5
RUS Russkaya 2.95 203 PN Pn 20 57 06.6 +2.5
RUS S Sb 20 57 43.5 -2.5
RUS Russkaya 2.95 203 eP Pn 20 57 06.6 +2.5
MTVR Mutnovka 2.98 207 eP Pb 20 57 08.0 -2.1
ASAK Asacha 3.15 209 P Pn 20 57 09.6 +2.7
BKI Bering 3.21 87 PN Pn 20 57 08.5 +0.9
BKI S Sn 20 57 46.9 +0.5
FX1 Attu Island--F 7.87 102 PN Pn 20 58 11.0 -0.6
FX1 pmax pmax
comp=Z,1.0nm,0.3s
FX1 Attu Island--F 7.87 102 Pn Pn 20 58 11.0 -0.6
comp=Z,0.6nm,0.3s,baz=338,slow=5.3,SNR=6.4
ASAJ Asahikawa 15.91 233 LR LR 21 06 07.3
comp=Z,85nm,19.6s,baz=1.5,slow=37
YAK Yakutsk 17.27 306 eP P 21 00 25.6 +5.8
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK pmax pmax
comp=E,4.0nm,0.8s
USRK Ussuriysk Arra 21.24 251 P P 21 01 08.8 +5.5
comp=E,3.2nm,0.8s,baz=62,slow=9.3,SNR=5.6
MJAR Matsushiro Arr 24.01 228 LR LR 21 11 49.8
comp=E,24nm,18.3s,baz=50,slow=39
ILAR Eielson Array 27.27 48 P P 21 02 01.7 +0.2
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 27.27 48 P P 21 02 01.6 +0.2
comp=Z,1.0nm,1.0s,baz=260,slow=6.7,SNR=7.0
INK Inuvik 32.15 40 P P 21 02 44.8 +0.2
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 32.15 40 P P 21 02 44.8 +0.2
comp=Z,1.0nm,0.8s,baz=318,slow=9.4,SNR=3.7
ZAK Zakamensk 34.03 286 eP P 21 02 58.2 -3.2
ZAK pmax pmax
comp=Z,2.0nm,1.4s
H11N2 WAKE ISLAND Hy 35.72 169 T T 21 40 37.5
baz=357,slow=76,SNR=12
H11N3 WAKE ISLAND Hy 35.73 169 T T 21 40 37.7
baz=357,slow=76,SNR=9.5
H11N1 WAKE ISLAND Hy 35.74 169 T T 21 40 38.7
baz=357,slow=76,SNR=11
YKA Yellowknife Ar 41.54 44 P P 21 04 04.6 +0.1
comp=Z,0.1nm,0.4s,baz=299,slow=8.0,SNR=3.8
MKAR Makanchi Array 47.43 294 P P 21 04 51.6 -0.3
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 47.43 294 P P 21 04 51.6 -0.3
comp=Z,1.0nm,0.7s,baz=64,slow=5.8,SNR=4.7
BVAR Borovoye Array 49.25 307 P P 21 05 05.2 -0.6
BVAR pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 49.25 307 P P 21 05 05.2 -0.6
comp=Z,2.6nm,0.8s,baz=59,slow=8.6,SNR=8.3
NVAR Mina Array Bea 54.90 72 P P 21 05 48.5 +0.1
comp=Z,0.5nm,0.7s,baz=292,slow=4.8,SNR=4.0
FINES FINESS Array B 58.28 336 P P 21 06 11.5 -0.3
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 58.28 336 P P 21 06 11.5 -0.3
comp=Z,0.6nm,0.5s,baz=20,slow=6.1,SNR=4.1
CMAR Chiang Mai Arr 58.79 257 LR LR 21 32 41.2
comp=Z,35nm,18.5s,baz=0.0,slow=37
AKASG Malin Array Be 66.92 329 P P 21 07 10.8 +1.2
AKASG pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	66.92	329	P	P	21 07 10.8	+1.2
	comp=Z,0.5nm,0.4s,baz=28,slow=6.2,SNR=4.9						
TXAR	Lajitas Array	69.69	68	P	P	21 07 27.3	0.0
	comp=Z,0.2nm,0.3s,baz=289,slow=3.5,SNR=3.5						

*IDC **16** 20:57:55.1±0.6,27°.64N×92°.72E, h0km, mb4.0/19, mb1 4.2/20, mb1mx4.0/50, mbtmp4.0/20, ML4.2/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/41, Error ellipse: s-maj=26.5km s-min=12.3km az=60.0*
*ISCJB **16** 20:57:56.1±0.3,27°.65N±0°.05×92°.74E±0°.03, h17km, mb4.1/24, MS3.2/2, Error ellipse: s-maj=6.6km s-min=3.5km az=179.2*
*DMN **16** 20:57:58.4±0.6,27°.73N×92°.97E, h10km, Ml4.8/11, Error ellipse: s-maj=34.8km s-min=9.9km az=0.0*
*MOS **16** 20:58:00.0±1.1,27°.56N×92°.74E, h54km, mb4.1/17, Error ellipse: s-maj=14.3km s-min=6.8km az=120.3*
*NEIC **16** 20:58:01.5±0.7,27°.61N×92°.75E, h48km±8km, mb4.2/7, Error ellipse: s-maj=9.6km s-min=5.3km az=47.0*
ISC 16 20:57:57.8±0.5,**27°.66N**±0°.05×**92°.77E**±0°.05, **h17km, n97, σ1.28/118, mb4.0/24, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	2.23	201	eP	Pn	20 58 35.5	+1.3
SHL				eS	Sb	20 59 06.5	+1.3
SHL				AML	AML	20 59 07.5	
	comp=N,3µm,0.9s						
SHL				AML	AML	20 59 09.2	
	comp=E,3µm,0.4s						
LSA	Lhasa	2.48	325	eP	Pb	20 58 43.0	+0.7
LSA				eS	Sb	20 59 14.9	+2.1
LSA	Lhasa	2.48	325	ePn	Pb	20 58 43.0	+0.7
LSA				eS	Sb	20 59 14.9	+2.1
TAPN	Taplejung	4.50	267	ePn	Pn	20 59 07.8	+2.2
TAPN				eSn	Sn	20 59 58.7	+1.0
	comp=E,372nm,0.6s						
TAPN	Taplejung	4.50	267	ePn	Pn	20 59 07.8	+2.2
TAPN				eSn	Sn	20 59 58.7	+1.0
ODAN	Odare	4.85	262	ePn	Pn	20 59 11.3	+1.0
ODAN				eSn	Sn	21 00 06.1	-0.2
	comp=E,482nm,0.4s						
ODAN	Odare	4.85	262	ePn	Pn	20 59 11.3	+1.0
ODAN				eSn	Sn	21 00 06.1	-0.2
RAMN	Ramite	5.53	264	ePn	Pn	20 59 21.2	+1.5
RAMN				eSn	Sn	21 00 22.0	-1.1
RAMN	Ramite	5.53	264	ePn	Pn	20 59 21.2	+1.5
RAMN				eSn	Sn	21 00 22.0	-1.1
JIRN	Jiri	5.83	272	ePn	Pn	20 59 26.5	+2.6
JIRN				eSn	Sn	21 00 31.0	+0.3
	comp=E,185nm,0.2s						
JIRN	Jiri	5.83	272	ePn	Pn	20 59 26.5	+2.6
JIRN				eSn	Sn	21 00 31.0	+0.3
GUN	Gumba	6.11	274	ePn	Pn	20 59 29.8	+2.1
GUN				eSn	Sn	21 00 37.1	-0.3
	comp=E,209nm,0.4s						
GUN	Gumba	6.11	274	ePn	Pn	20 59 29.8	+2.1
GUN				eSn	Sn	21 00 37.1	-0.3
PKI	Pulchoki	6.53	271	ePn	Pn	20 59 34.7	+1.2
PKI				eSn	Sn	21 00 46.9	-0.8
	comp=E,75nm,0.3s						
PKI	Pulchoki	6.53	271	eP	Pn	20 59 35.0	+1.5
PKI				e		21 00 47.3	
PKI	Pulchoki	6.53	271	ePn	Pn	20 59 35.0	+1.5
PKI				eSn	Sn	21 00 47.3	-0.4
PKIN	Phulchoki	6.54	271	ePn	Pn	20 59 35.0	+1.4
PKIN				eSn	Sn	21 00 47.3	-0.6
	comp=E,252nm,0.5s						
KKN	Kakani	6.64	273	ePn	Pn	20 59 36.9	+2.0
KKN				eSn	Sn	21 00 49.9	-0.4
	comp=E,84nm,0.2s						
KKN	Kakani	6.64	273	eP	Pn	20 59 36.9	+2.0
KKN				e		21 00 49.9	
KKN	Kakani	6.64	273	ePn	Pn	20 59 36.9	+2.0
KKN				eSn	Sn	21 00 49.9	-0.4
DMN	Daman	6.80	271	ePn	Pn	20 59 38.4	+1.3
DMN				eSn	Sn	21 00 52.8	-1.4
	comp=E,92nm,0.3s						
DMN	Daman	6.80	271	ePn	Pn	20 59 38.4	+1.3
DMN				eSn	Sn	21 00 52.8	-1.4
GKN	Gorkha	7.21	275	ePn	Pn	20 59 43.8	+1.2
GKN				eSn	Sn	21 01 02.3	-1.9
	comp=E,121nm,0.3s						
GKN	Gorkha	7.21	275	ePn	Pn	20 59 43.8	+1.2
GKN				eSn	Sn	21 01 02.3	-1.9
BOK	Bokaro	7.30	240	eP	Pn	20 59 43.4	-0.4
BOK				ex	x	21 01 05.4	
BOK				AML	AML	21 01 46.1	
	comp=N,54nm,1.0s						
BOK				AML	AML	21 01 48.8	
	comp=E,42nm,0.5s						
DANN	Dangsing	7.99	277	ePn	Pn	20 59 53.4	-0.1
DANN				eSn	Sn	21 01 20.3	-3.4
	comp=E,135nm,0.3s						
DANN	Dangsing	7.99	277	ePn	Pn	20 59 53.4	-0.1
DANN				eSn	Sn	21 01 20.3	-3.4
KOLN	Koldanda	8.13	273	ePn	Pn	20 59 55.5	+0.2
KOLN				eSn	Sn	21 01 24.7	-2.2
	comp=E,70nm,0.2s						
KOLN	Koldanda	8.13	273	ePn	Pn	20 59 55.5	+0.2
KOLN				eSn	Sn	21 01 24.7	-2.2
CHTO	Chiang Mai	10.47	146	eP	Pn	21 00 27.8	+0.5
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHTO	Chiang Mai	10.47	146	ePn	Pn	21 00 27.8	+0.5
	comp=Z,2.5nm,0.7s						
CMAR	Chiang Mai Arr	10.77	147	P	Pn	21 00 32.7	+1.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,15nm,28.6s						
CMAR	Chiang Mai Arr	10.77	147	Pn	Pn	21 00 32.7	+1.3
	comp=Z,0.5nm,0.3s,baz=317,slow=14,SNR=17						
CMAR				LR	LR	21 05 22.4	
	comp=Z,42nm,20.1s,baz=270,slow=42						
DDI	Dehra Dun	13.15	285	eP	Pn	21 01 00.1	-3.8
DDI				ex	x	21 03 21.7	
DDI				AML	AML	21 03 27.9	
	comp=E,81nm,0.6s						
DDI				AML	AML	21 03 28.2	
	comp=N,87nm,1.2s						
SMLA	Simla	14.03	288	eP	Pn	21 01 13.1	-2.8
SMLA				ex	x	21 03 40.6	
SMLA				AML	AML	21 03 47.1	
	comp=E,24nm,0.2s						
SMLA				AML	AML	21 03 49.5	
	comp=N,15nm,1.3s						
NGP	Nagpur	14.07	246	eP	Pn	21 01 16.4	-0.1
NGP				ex	x	21 03 48.2	
BHPL	Bhopal	14.54	256	eP	Pn	21 01 22.4	-0.5
BHPL				ex	x	21 03 51.6	
DHRM	DHARAMSHALA	14.99	292	eP	Pn	21 01 26.2	-3.0
DHRM				ex	x	21 04 05.4	
DHRM				AML	AML	21 04 15.7	
	comp=E,19nm,0.9s						
DHRM				AML	AML	21 04 18.4	
	comp=N,13nm,0.9s						
TKM2	Tokmak 2	20.64	322	eP	Pn	21 02 38.2	-0.9
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TKM2	Tokmak 2	20.64	322	eP	Pn	21 02 38.2	-0.9
	comp=Z,5.8nm,0.6s						
MKAR	Makanchi Array	20.81	339	P	P	21 02 38.5	+0.2
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	Makanchi Array	20.81	339	P	P	21 02 38.5	+0.2
	comp=Z,2.5nm,0.5s,baz=150,slow=13,SNR=83						
MKAR	Makanchi Array	20.81	339	ePn	P	21 02 38.4	0.0
AAK	Ala-Archa	21.07	320	eP	P	21 02 42.3	+1.0
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	Ala-Archa	21.07	320	P	P	21 02 42.7	+1.4
	comp=Z,2.7nm,0.5s,baz=120,slow=8.2,SNR=16						
AAK	Ala-Archa	21.07	320	eP	P	21 02 42.2	+1.0
	comp=Z,4.1nm,0.8s						
EKS2	Erkin-Say	21.50	319	eP	P	21 02 48.1	+2.2
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EKS2	Erkin-Say	21.50	319	eP	P	21 02 48.0	+2.2
	comp=Z,6.0nm,0.8s						
SONM	Songino Array	22.78	24	P	P	21 02 59.8	+0.3
	comp=Z,1.4nm,0.5s,baz=212,slow=12,SNR=22						
SONM				LR	LR	21 11 22.9	
	comp=Z,58nm,18.8s,baz=24,slow=35						
ULN	Ulaanbaatar	23.05	25	eP	P	21 03 01.8	-0.6
	comp=Z,2.9nm,0.6s						
KKAR	Karatay Array	23.70	316	eP	P	21 03 09.6	+0.8
KKAR	Karatay Array	23.70	316	eP	P	21 03 09.6	+0.8
PSI	Prapat	25.41	166	P	P	21 03 25.1	+0.4
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PSI	Prapat	25.41	166	P	P	21 03 25.1	+0.4
	comp=Z,1.4nm,0.3s,baz=336,slow=16,SNR=4.1						
KURK	Kurchatov	25.42	339	eP	P	21 03 24.0	-0.4
KURK				pmax	pmax		
	comp=Z,17nm,1.9s						
KURK	Kurchatov	25.42	339	eP	P	21 03 24.0	-0.4
	comp=Z,17nm,1.9s						
ZALV	Zalesovo Beam	26.91	350	P	P	21 03 38.2	+0.3
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	Zalesovo Beam	26.91	350	P	P	21 03 38.1	+0.3
	comp=Z,1.8nm,0.4s,baz=172,slow=7.6,SNR=13						
BVAR	Borovoye Array	30.30	333	P	P	21 04 08.1	0.0
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	30.30	333	P	P	21 04 08.1	0.0
	comp=Z,0.7nm,0.5s,baz=133,slow=12,SNR=8.5						
ABKAR	Akbulak array	33.16	320	eP	P	21 04 34.2	+0.9
AKTO	Aktyubinsk	34.81	320	P	P	21 04 48.3	+0.7
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTO	Aktyubinsk	34.81	320	P	P	21 04 48.2	+0.7
	comp=Z,0.9nm,0.3s,baz=88,slow=4.6,SNR=6.5						
ARU	Arti	37.68	329	P	P	21 05 11.0	-1.0
ARU	Arti	37.68	329	P	P	21 05 11.0	-1.0
BRTR	Keskin Array B	49.84	300	P	P	21 06 54.7	+4.4
	comp=Z,0.3nm,0.5s,baz=116,slow=8.6,SNR=3.6						
SEY	Seymchan	51.99	30	P	P	21 07 05.9	+0.1
SEY				pmax	pmax		
	comp=Z,4.0nm,0.3s						
SEY	Seymchan	51.99	30	P	P	21 07 05.9	+0.1
	comp=Z,4.4nm,0.3s,baz=66,slow=0.7,SNR=41						
PETK	Petropavlovsk-	53.49	43	LR	LR	21 33 55.8	
	comp=Z,27nm,18.2s,baz=57,slow=40						
FINES	FINESS Array B	55.00	327	P	P	21 07 26.9	-1.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	55.00	327	P	P	21 07 26.9	-1.0
	comp=Z,0.5nm,0.5s,baz=116,slow=7.0,SNR=5.6						
ARCES	ARCESS Array B	56.44	337	P	P	21 07 36.6	-1.6
ARCES				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ARCES	ARCESS Array B	56.44	337	P	P	21 07 36.6	-1.6
	comp=Z,9.5nm,1.2s,baz=114,slow=12,SNR=5.6						
WRA	Warramunga Arr	62.11	135	P	P	21 08 18.4	+0.3
WRA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WRA	Warramunga Arr	62.11	135	P	P	21 08 18.4	+0.3
	comp=Z,9.2nm,0.7s,baz=324,slow=7.3,SNR=98						
WRAB	Tennant Creek	62.11	135	eP	P	21 08 18.1	0.0
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WRAB	Tennant Creek	62.11	135	eP	P	21 08 18.1	0.0
	comp=Z,9.9nm,0.7s						
NB2	NORSAR Subarra	62.17	327	P	P	21 08 17.3	-0.7
	comp=Z,0.7nm,0.7s,baz=82,slow=6.5						
NOA	NORSAR Array B	62.17	327	P	P	21 08 16.4	-1.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	62.17	327	P	P	21 08 16.4	-1.6
	comp=Z,0.7nm,0.7s,baz=110,slow=7.2,SNR=4.3						
GERES	GERESS Array B	62.76	313	P	P	21 08 22.5	+0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	GERESS Array B	62.76	313	P	P	21 08 22.4	+0.3
	comp=Z,0.6nm,0.4s,baz=70,slow=6.5,SNR=12						
PMG	Port Moresby	64.24	117	P	P	21 08 32.6	+0.3
PMG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PMG	Port Moresby	64.24	117	P	P	21 08 32.6	+0.3
	comp=Z,6.4nm,0.9s						
ASAR	Alice Springs	64.64	138	P	P	21 08 35.5	+0.6
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ASAR	Alice Springs	64.64	138	P	P	21 08 35.5	+0.6
	comp=Z,6.5nm,0.5s,baz=322,slow=6.7,SNR=124						
CTAO	Charters Tower	70.22	127	P	P	21 09 09.4	-0.8
CTAO	Charters Tower	70.22	127	P	P	21 09 09.4	-0.8
STKA	Stephens Creek	75.28	139	P	P	21 09 39.2	-0.8
STKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STKA	Stephens Creek	75.28	139	P	P	21 09 39.2	-0.8
	comp=Z,0.9nm,0.8s,baz=321,slow=5.0,SNR=3.7						
ILAR	Eielson Array	76.99	22	P	P	21 09 50.0	+0.6
ILAR	Eielson Array	76.99	22	P	P	21 09 50.0	+0.6
	comp=Z,0.4nm,0.7s,baz=313,slow=4.6,SNR=5.6						
INK	Inuvik	78.42	16	P	P	21 09 57.5	+0.3
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	Inuvik	78.42	16	P	P	21 09 57.5	+0.3
	comp=Z,1.0nm,0.8s,baz=345,slow=5.5,SNR=3.5						
INK	Inuvik	78.42	16	P	P	21 09 57.2	0.0
TORD	Torodi Ar. Bea	84.94	282	P	P	21 10 32.5	-0.1
	comp=Z,0.2nm,0.6s,baz=34,slow=4.4,SNR=4.1						
YKA	Yellowknife Ar	87.52	12	P	P	21 10 44.2	-0.2
	comp=Z,0.1nm,0.4s,baz=336,slow=4.7,SNR=3.0						

WEL 16 21:17:49.5±0.5,**36°.80S**×**176°.93E**, **h214km**±3km, **ML3.9**/14, **1C-5D, Error ellipse: s-maj=5.0km s-min=4.6km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.17	145	PN	Pn	21 18 22.1	+0.3
HAZ				SN	S	21 18 46.9	-0.1
URZ	Urewera	1.46	174	⇓PN	Pn	21 18 24.3	+0.3
URZ				SN	S	21 18 51.5	+0.5
MWZ	Matawai	1.60	163	PN	Pn	21 18 25.8	+0.4
MWZ				AML	AML	21 19 00.7	
MWZ				AML	AML	21 19 05.8	
PUZ	Puketiti	1.65	141	⇓PN	Pn	21 18 26.1	+0.3
PUZ				SN	S	21 18 53.6	-0.4
RAGZ	Rawiri	1.73	167	PN	Pn	21 18 26.8	+0.2
CNGZ	Carnagh Statio	1.96	149	PN	Pn	21 18 29.3	+0.6
SNGZ	Shannon Statio	2.00	171	⇓PN	Pn	21 18 29.3	+0.2
RIGZ	Rimuhau	2.01	161	PN	Pn	21 18 29.5	+0.2
RAHZ	Arahi	2.12	177	PN	Pn	21 18 30.5	+0.2
PRGZ	Paritu Road	2.25	161	PN	Pn	21 18 31.5	-0.2
WHHZ	Waihua	2.28	174	PN	Pn	21 18 31.9	0.0
KNZ	Kokohu	2.29	165	PN	Pn	21 18 31.4	-0.5
NMHZ	Naumai	2.29	182	⇓PN	Pn	21 18 32.4	+0.3
BKZ	Black Stump Fm	2.38	188	PN	Pn	21 18 32.3	-0.8
MHGZ	Mahia Peninsul	2.47	162	PN	Pn	21 18 34.0	0.0
OTVZ	Oturere	2.56	203	PN	Pn	21 18 35.3	+0.2
NGZ	Ngauruhoe	2.59	203	PN	Pn	21 18 36.2	+0.7
MCHZ	McNeill Hill	2.64	184	PN	Pn	21 18 35.4	-0.4
TRVZ	Turoa	2.72	203	PN	Pn	21 18 36.8	-0.1
WNVZ	Wahianoa	2.73	202	PN	Pn	21 18 36.5	-0.5
MOVZ	Moawhango	2.76	199	PN	Pn	21 18 36.3	-0.9
BHHZ	Black Hill Sta	2.77	194	PN	Pn	21 18 36.2	-1.1
MTVZ	Mangateitei	2.82	204	PN	Pn	21 18 37.7	-0.2
CKHZ	Cape Kidnapper	2.85	178	PN	Pn	21 18 37.6	-0.5
KRHZ	Kereru	2.87	189	PN	Pn	21 18 37.2	-1.2
KAHZ	Kahuranaki	2.99	181	⇓PN	Pn	21 18 38.7	-1.0
PNHZ	Pukenui	3.16	190	PN	Pn	21 18 40.0	-1.7
PXZ	Pawanui	3.23	181	PN	Pn	21 18 40.7	-1.7
PXZ				SN	S	21 19 20.6	-3.1
WPHZ	Waipukurau	3.28	187	PN	Pn	21 18 41.6	-1.5
WAZ	Wanganui	3.32	207	PN	Pn	21 18 43.0	-0.6
PRHZ	Porangahau	3.47	184	PN	Pn	21 18 42.8	-2.5
DVHZ	Dannevirke	3.54	189	PN	Pn	21 18 44.2	-2.1
ANWZ	Angora Road	3.67	185	PN	Pn	21 18 45.8	-1.9
POWZ	Post Office Ro	3.70	194	PN	Pn	21 18 46.4	-1.7
PRWZ	Pori Road	3.82	191	PN	Pn	21 18 47.7	-1.8
BFZ	Birch Farm	3.91	188	PN	Pn	21 18 48.3	-2.4
MRZ	Mangatainoka R	4.00	195	PN	Pn	21 18 49.0	-2.7
MRZ				SN	S	21 19 37.1	-3.4
TIWZ	Tintock	4.05	191	PN	Pn	21 18 49.8	-2.6
HOWZ	Holdsworth Sta	4.24	195	PN	Pn	21 18 51.5	-3.2
OGWZ	Otaki Gorge	4.24	198	PN	Pn	21 18 51.9	-2.8
KIW	Kapiti Island	4.35	201	PN	Pn	21 18 53.1	-2.9
TMWZ	Te Maipa	4.37	190	PN	Pn	21 18 54.1	-2.3
MTW	Mount Morrison	4.49	194	PN	Pn	21 18 54.6	-3.2
CAW	Cannon Point	4.54	198	PN	Pn	21 18 55.0	-3.4
DUWZ	D'Urville Isla	4.63	210	PN	Pn	21 18 56.9	-2.7
TRWZ	Traveller	4.69	191	PN	Pn	21 18 57.0	-3.3
PAWZ	Paruwai Farm	4.72	194	PN	Pn	21 18 57.5	-3.2
MSWZ	Moikau Station	4.79	195	PN	Pn	21 18 58.0	-3.5
SNZO	South Karori	4.82	200	PN	Pn	21 18 58.1	-3.8
TCW	Tory Channel	4.86	204	PN	Pn	21 18 59.2	-3.2
PLWZ	Palliser	4.94	195	PN	Pn	21 18 59.8	-3.6
TUWZ	Tuamarina	5.17	206	PN	Pn	21 19 02.9	-3.4
NNZ	Nelson	5.20	211	PN	Pn	21 19 03.5	-3.3
QRZ	Quartz Range	5.29	219	PN	Pn	21 19 04.2	-3.6
BSWZ	Blackbirch Sta	5.45	205	PN	Pn	21 19 06.5	-3.3
THZ	Tophouse	5.85	211	PN	Pn	21 19 12.1	-3.1
MQZ	McQueen's Vall	7.63	204	⇑PN	Pn	21 19 32.6	-5.2
MQZ				SN	S	21 20 53.7	-11
ODZ	Otahua Downs	9.50	208	PN	Pn	21 19 58.0	-4.1
JCZ	Jackson Bay	9.56	218	PN	Pn	21 19 58.1	-4.9

*ISCJB **16** 21:28:01.2±0.7,24°.95N±0°.09×100°.57E±0°.06, h10km, mb3.5/6, Error ellipse: s-maj=12.6km s-min=7.5km az=178.0*
*IDC **16** 21:28:01.9±1.2,25°.02N×100°.62E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/27, mbtmp3.5/7, ML3.5/1, Error ellipse: s-maj=40.8km s-min=17.4km az=86.0*
*BJI **16** 21:28:03.2, 24°.79N×100°.52E, h14km, mb3.7/3, ML3.7/10*
ISC 16 21:28:03.2±0.7,**24°.86N**±0°.07×**100°.46E**±0°.07, **h10km, n11, σ1.74/13, mb3.6/6, 1C, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	2.09	82	⇑Pg	Pb	21 28 40.5	-0.8
KMI				Sg	Sb	21 29 07.0	-0.5
KMI				smax	smax		
	comp=N,340nm,0.7s						
KMI				smax	smax		
	comp=E,210nm,0.7s						
GYA	Guiyang	5.82	73	Pn	Pn	21 29 31.5	+1.7
GYA				Pg	Pb	21 29 40.5	-4.5
GYA				smax	smax		
	comp=N,50nm,0.6s						
GYA				smax	smax		
	comp=E,40nm,0.6s						
CMAR	Chiang Mai Arr	6.52	193	Pn	Pn	21 29 41.0	+1.7
	0.2nm,0.3s,baz=7.7,slow=13,SNR=5.5						
CMAR				Pg	Pg	21 30 06.0	-2.1
	0.8nm,0.3s,baz=4.3,slow=17,SNR=24						
CMAR				Lg	Lg	21 31 33.6	
	1.6nm,0.3s,baz=7.3,slow=24,SNR=12						
XAN	Xi'an	11.75	37	P	Pn	21 30 49.6	-1.3
GTA	Gaotai	14.52	358	eP	P	21 31 38.1	+2.5
GTA				pP	pP	21 31 42.6	
GTA				sP		21 31 45.4	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	Songino Array	23.41	10	P	P	21 33 09.8	-2.6
	comp=Z,0.7nm,0.9s,baz=192,slow=9.3,SNR=8.1						
MKAR	Makanchi Array	26.26	331	P	P	21 33 38.6	0.0
	comp=Z,0.4nm,0.6s,baz=141,slow=8.5,SNR=8.0						
WRA	Warramunga Arr	55.41	140	P	P	21 37 38.7	+0.8
	comp=Z,0.6nm,1.0s,baz=330,slow=7.7,SNR=3.7						
AKASG	Malin Array Be	59.44	316	P	P	21 38 04.5	-1.6
	comp=Z,0.5nm,0.5s,baz=74,slow=6.8,SNR=3.0						
FINES	FINESS Array B	61.04	328	P	P	21 38 17.3	+0.4
	comp=Z,1.5nm,0.9s,baz=56,slow=8.5,SNR=2.4						
GERES	GERESS Array B	69.65	315	P	P	21 39 14.0	+1.0
	comp=Z,0.3nm,0.5s,baz=65,slow=4.7,SNR=4.5						

IDC 16 21:38:15.0±2.2,**7°.23S**×**130°.76E**, **h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/31, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=129.3km s-min=31.8km az=70.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.10	165	Pn	Pn	21 41 22.2	-0.3
	0.2nm,0.3s,baz=348,slow=14,SNR=9.1						
WRA				Sn	Sn	21 43 41.4	-7.8
	0.3nm,0.3s,baz=356,slow=23,SNR=6.3						
ASAR	Alice Springs	16.62	170	Pn	Pn	21 42 09.8	+0.3
	0.1nm,0.3s,baz=349,slow=12,SNR=7.8						
MKAR	Makanchi Array	68.83	327	P	P	21 49 21.4	0.0
	0.2nm,0.4s,baz=115,slow=8.1,SNR=8.8						

*ISCJB **16** 21:48:43.5±1.3,25°.2S±0°.5×179°.9W±0°.2, h496km, mb3.8/8, Error ellipse: s-maj=65.8km s-min=15.8km az=164.4*
*IDC **16** 21:48:44.2±3.1,24°.86S×179°.93W, h491km±29km, mb3.4/8, mb1 3.6/9, mb1mx3.3/30, mbtmp4.2/9, Error ellipse: s-maj=72.4km s-min=19.6km az=158.0*
ISC 16 21:48:44.4±1.4,**25°.05S**±0°.5×**179°.9W**±0°.2, **h496km, n10, σ0.95/11, mb3.7/8, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.90	280	P	P	21 51 33.3	+0.6
	0.5nm,0.3s,baz=116,slow=20,SNR=6.5						
CTA	Charters Tower	31.62	272	P	P	21 54 25.9	-0.3
	8.1nm,0.5s,baz=95,slow=11,SNR=16						
STKA	Stephens Creek	34.43	250	P	P	21 54 50.2	+0.4
	3.5nm,0.6s,baz=94,slow=10,SNR=14						
ASAR	Alice Springs	41.98	262	P	P	21 55 51.2	-0.4
	2.1nm,0.7s,baz=98,slow=8.2,SNR=20						
WRA	Warramunga Arr	42.47	267	P	P	21 55 54.2	-1.2
	5.2nm,0.6s,baz=104,slow=8.0,SNR=39						
WRA				ScP	ScP	22 00 41.6	+1.1
	1.8nm,0.8s,baz=99,slow=3.7,SNR=12						
NVAR	Mina Array Bea	85.48	44	P	P	22 00 29.7	+0.1
	0.6nm,0.8s,baz=232,slow=8.2,SNR=3.6						
CMAR	Chiang Mai Arr	90.04	290	P	P	22 00 51.9	+0.8
	0.5nm,0.6s,baz=128,slow=9.8,SNR=5.7						
TXAR	Lajitas Array	90.93	58	P	P	22 00 55.6	+0.5
	0.5nm,0.7s,baz=216,slow=6.2,SNR=4.4						
PDAR	Pinedale Array	93.42	44	P	P	22 01 05.9	-0.5
	0.3nm,0.8s,baz=219,slow=5.1,SNR=3.1						
BRTR	Keskin Array B	148.35	306	PKPbc	PKPbc	22 07 33.2	-1.6
	0.2nm,0.4s,baz=85,slow=4.2,SNR=2.9						

*ISCJB **16** 21:49:26.4±1.3,14°.44N±0°.07×92°.68W±0°.09, h33km±40km, Error ellipse: s-maj=16.6km s-min=8.2km az=140.2*
*MEX **16** 21:49:28.2±0.6,14°.38N×92°.67W, h16km±70km, MD3.8*
*CASC **16** 21:49:32.2±1.2,14°.57N×92°.23W, h30km, MD3.9*
ISC 16 21:49:26.8±2.2,**14°.45N**±0°.10×**92°.64W**±0°.09, **h32km**±15km, **n12, σ1.13/17, 1D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.56	36	i P	Pb	21 49 38.4	+0.1
THIG				eS	Sn	21 49 47.2	+0.3
JAT	Jato	0.95	98	⇓eP	Pb	21 49 45.5	+0.6
PCIG		1.38	335	i P	Pn	21 49 50.0	+0.1
PCIG				eS	Sn	21 50 05.7	-1.4
CCIG	Comitan	1.87	14	i P	Pn	21 49 58.1	+1.2
CCIG				eS	Sn	21 50 19.8	+0.2
PCG	Pacaya	1.94	91	eP	Pn	21 49 59.5	+1.6
PCG				eS	Sn	21 50 19.2	-2.1
IXG	Ixpaco	2.11	97	eP	Pn	21 50 00.1	+0.1
NBG	Las Nubes	2.19	86	eP	Pn	21 50 02.0	+0.7
NBG				eS	Sb	21 50 31.5	-1.5
RBDL	Robledal	2.85	96	eP	Pn	21 50 11.0	+0.7
MRL	Marmol	2.89	77	eP	Pn	21 50 11.3	+0.4
RTR	El Retiro	2.93	101	eP	Pn	21 50 12.4	+1.0
SBLS	San Blas	2.96	102	eP	Pn	21 50 12.6	+0.7
SNJE	San Jose	2.97	101	eP	Pn	21 50 12.9	+0.9

*IDC **16** 22:02:54.2±2.2, 9°.90S×113°.84E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/21, mbtmp3.9/6, MS3.4/1, Ms1 3.3/1, ms1mx2.6/27, Error ellipse: s-maj=90.1km s-min=18.7km az=55.0*
*DJA **16** 22:02:58.6±1.0, 10°S±8°×11°4E±°, h11km±11km, M4.1/21, mb4.4/3, MB4.8/1, MLv4.0/21, Mw(mB)4.1/1*
ISC 16 22:02:56.3±3.3,**10°.07S**±0°.10×**113°.75E**±0°.08, **h16km**±20km, **n20, σ1.70/25, mb4.0/6, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.64	14	P	Pb	22 03 25.6	-0.6
IGBI	Denpasar	1.86	48	P	Pb	22 03 29.7	-0.3

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
IGBI				S	Sg	22 03 55.0	-1.2
DNP	Denpasar	2.00	46	P	Pb	22 03 32.3	-0.1
DNP				S	Sg	22 04 01.1	+0.3
ABJI	Asem Bagus	2.31	12	P	Pb	22 03 38.3	+0.6
BLJI	Banyuglugur	2.32	356	P	Pb	22 03 37.6	-0.2
SRBI	Singaraja	2.45	36	P	Pb	22 03 38.5	-1.5
PWJI	Pagerwojo	2.80	317	P	Pn	22 03 41.9	+1.4
PWJI				S	Sn	22 04 15.4	+1.5
KMMI	Kalianget	3.01	4	P	Pb	22 03 47.4	-2.2
GRJI	Gresik	3.38	338	P	Pb	22 03 52.2	-3.7
GRJI				S	Sn	22 04 30.3	+2.0
NGJI	Ngawi	3.51	320	P	Pn	22 03 52.9	+2.6
WOJI	Wonogiri, Jawa	3.56	308	P	Pn	22 03 54.3	+3.3
WOJI				S	Sn	22 04 32.8	-0.1
UGM	Wanagama	3.84	304	P	Pn	22 03 55.7	+0.9
UGM				S	Sn	22 04 38.6	-1.1
KPJI	Karang Pucung	5.48	299	P	Pn	22 04 19.8	+2.4
	21nm,1.0s,919nm0.1nm						
CMJI	Cimerak	5.71	293	P	Pn	22 04 23.2	+2.7
	28nm,0.9s,0.2nm						
CMJI				S	Sn	22 05 21.6	-4.1
	28nm,0.9s,0.2nm						
WRA	Warramunga Arr	22.16	119	P	P	22 07 52.4	+0.6
	0.7nm,0.8s,baz=291,slow=12,SNR=4.8						
ASAR	Alice Springs	23.51	128	P	P	22 08 06.5	+0.6
	1.0nm,0.8s,baz=304,slow=9.6,SNR=9.3						
CMAR	Chiang Mai Arr	31.89	333	P	P	22 09 21.2	0.0
	1.8nm,0.8s,baz=163,slow=8.5,SNR=12						
STKA	Stephens Creek	33.69	134	P	P	22 09 37.2	+0.3
	1.9nm,0.7s,baz=294,slow=7.2,SNR=5.3						
STKA				LR	LR	22 25 14.3	
	comp=Z,56nm,19.3s,baz=211,slow=40						
USRK	Ussuriysk Arra	56.49	16	P	P	22 12 36.9	-0.8
	3.5nm,0.8s,baz=204,slow=5.3,SNR=9.3						
SONM	Songino Array	58.02	354	P	P	22 12 47.0	-1.5
	0.8nm,0.6s,baz=171,slow=9.0,SNR=13						

ISCJB ***16*** *22:04:20.2±0.5, 38.52S±0.03×175.84E±0.05, h186km±4km, mb3.6/4, Error ellipse: s-maj=7.1km s-min=5.1km az=31.9*
IDC ***16*** *22:04:21.0±0.8, 38.39S×175.95E, h165km±9km, mb3.1/2, mb1 3.4/2, mb1mx3.2/28, mbtmp3.6/2, Error ellipse: s-maj=41.7km s-min=23.4km az=19.0*
NEIC ***16*** *22:04:23.2, 38.44S×175.92E, h160km, mb4.1/3, After WEL.*
WEL ***16*** *22:04:23.3±0.2, 38.44S×175.91E, h158km±2km, ML4.9/23, Error ellipse: s-maj=1.3km s-min=1.1km az=90.0*
WEL Felt from Coromandel to Manawatu, maximum reported intensity MM 4.
ISC 16 22:04:21.6±0.6, 38.50S±0.04×175.83E±0.04, h174km±4km, n234, σ1§03/232, mb3.7/4, 50C-37D, North Island

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WHTZ	Whakaora	0.19	148	⇑PN	Pn	22 04 45.0	+0.1
WHTZ	Whakaora	0.19	148	Pn	Pn	22 04 45.0	+0.1
WATZ	Wairara	0.22	200	⇑PN	Pn	22 04 45.1	+0.2
WATZ	Wairara	0.22	200	Pn	Pn	22 04 45.1	+0.2
GRRZ	Galatos Road	0.27	55	PN	Pn	22 04 44.7	-0.3
TLZ	Tolley Road	0.29	307	⇑PN	Pn	22 04 45.2	+0.1
RATZ	Rangitukua	0.37	187	⇓PN	Pn	22 04 45.4	+0.1
RATZ	Rangitukua	0.37	187	Pn	Pn	22 04 45.4	+0.1
HRRZ	Handcock Road	0.38	73	⇑PN	Pn	22 04 45.0	-0.3
HRRZ	Handcock Road	0.38	73	Pn	Pn	22 04 45.0	-0.3
ALRZ	Allen Road	0.41	99	PN	Pn	22 04 45.0	-0.4
ALRZ				SN	Sn	22 05 01.7	-2.0
ALRZ	Allen Road	0.41	99	Pn	Pn	22 04 45.0	-0.4
UTU	Utuhina	0.43	42	PN	Pn	22 04 45.3	-0.3
UTU	Utuhina	0.43	42	Pn	Pn	22 04 45.3	-0.3
HATZ	Hinemaiaia	0.44	152	PN	Pn	22 04 45.4	-0.1
HATZ				SN	Sn	22 05 01.9	-2.2
HATZ	Hinemaiaia	0.44	152	Pn	Pn	22 04 45.4	-0.1
HATZ				Sn	Sn	22 05 01.9	-2.2
PRRZ	Plateau Road	0.45	90	⇑PN	Pn	22 04 44.9	-0.6
PRRZ	Plateau Road	0.45	90	Pn	Pn	22 04 44.9	-0.6
RITZ	Rihia Road	0.47	177	PN	Pn	22 04 46.1	+0.4
RITZ	Rihia Road	0.47	177	Pn	Pn	22 04 46.1	+0.4
KATZ	Kakaramea	0.48	192	⇑PN	Pn	22 04 46.1	+0.2
KATZ	Kakaramea	0.48	192	Pn	Pn	22 04 46.1	+0.2
RRRZ	Republican Roa	0.56	73	⇑PN	Pn	22 04 45.5	-0.6
RRRZ	Republican Roa	0.56	73	Pn	Pn	22 04 45.5	-0.6
KARZ	Kaharoa	0.58	34	⇑PN	Pn	22 04 45.7	-0.5
KARZ	Kaharoa	0.58	34	Pn	Pn	22 04 45.7	-0.5
OMRZ	Omania	0.58	47	⇑PN	Pn	22 04 45.6	-0.6
OMRZ	Omania	0.58	47	Pn	Pn	22 04 45.6	-0.6
TARZ	Mount Tarawera	0.60	64	⇑PN	Pn	22 04 45.8	-0.5
TARZ	Mount Tarawera	0.60	64	Pn	Pn	22 04 45.9	-0.5
KRVZ	Karewarewa	0.61	194	⇑PN	Pn	22 04 46.6	+0.2
KRVZ	Karewarewa	0.61	194	Pn	Pn	22 04 46.6	+0.2
MKRZ	Makatiti	0.62	54	⇑PN	Pn	22 04 46.4	+0.1
MKRZ	Makatiti	0.62	54	Pn	Pn	22 04 46.4	+0.1
WTVZ	West Tongariro	0.64	197	PN	Pn	22 04 46.8	+0.3
WTVZ	West Tongariro	0.64	197	Pn	Pn	22 04 46.9	+0.3
TWVZ	Taurewa	0.64	208	⇑PN	Pn	22 04 47.0	+0.5
TWVZ	Taurewa	0.64	208	Pn	Pn	22 04 47.0	+0.5
OTVZ	Oturere	0.67	191	⇑PN	Pn	22 04 47.2	+0.5
OTVZ				SN	Sn	22 05 05.6	-0.7
OTVZ	Oturere	0.67	191	Pn	Pn	22 04 47.2	+0.5
OTVZ				Sn	Sn	22 05 05.6	-0.7
NGZ	Ngauruhoe	0.69	195	PN	Pn	22 04 47.1	+0.2
NGZ	Ngauruhoe	0.69	195	Pn	Pn	22 04 47.1	+0.2
COVZ	Chateau Observ	0.73	198	⇑PN	Pn	22 04 47.5	+0.5
WPVZ	Whakapapa	0.73	197	⇑PN	Pn	22 04 47.6	+0.6
WPVZ	Whakapapa	0.73	197	Pn	Pn	22 04 47.6	+0.6
HIZ	Hauiti	0.76	269	PN	Pn	22 04 47.6	+0.5
HIZ	Hauiti	0.76	269	Pn	Pn	22 04 47.6	+0.5
FWVZ	Far West T-bar	0.78	196	⇑PN	Pn	22 04 47.8	+0.3
FWVZ	Far West T-bar	0.78	196	Pn	Pn	22 04 47.8	+0.3
DRZ	Dome Shelter	0.80	195	PN	Pn	22 04 48.3	+0.6
DRZ	Dome Shelter	0.80	195	Pn	Pn	22 04 48.3	+0.6
WHVZ	Whangaehu Hut	0.80	193	⇑PN	Pn	22 04 48.2	+0.5
TOZ	Tahuroa Road	0.81	342	⇑PN	Pn	22 04 47.4	0.0
TOZ	Tahuroa Road	0.81	342	⇑Pn	Pn	22 04 47.4	0.0
EDRZ	Edgecumbe	0.82	61	⇑PN	Pn	22 04 46.8	-0.8
EDRZ	Edgecumbe	0.82	61	Pn	Pn	22 04 46.8	-0.8
TRVZ	Turoa	0.82	195	PN	Pn	22 04 48.2	+0.4
TRVZ	Turoa	0.82	195	Pn	Pn	22 04 48.2	+0.4
BKZ	Black Stump Fm	0.84	142	⇑PN	Pn	22 04 47.8	+0.1
BKZ				SN	Sn	22 05 06.0	-1.8
BKZ				AML	AML	22 05 07.8	
BKZ	Black Stump Fm	0.84	142	⇑Pn	Pn	22 04 47.8	+0.1
BKZ				Sn	Sn	22 05 06.0	-1.8
WNVZ	Wahianoa	0.84	192	⇑PN	Pn	22 04 48.4	+0.6
WNVZ	Wahianoa	0.84	192	Pn	Pn	22 04 48.4	+0.6
MARZ	Manawahe	0.84	53	PN	Pn	22 04 47.1	-0.6
MARZ	Manawahe	0.84	53	Pn	Pn	22 04 47.1	-0.6
TGRZ	Tauranga	0.84	24	PN	Pn	22 04 47.0	-0.7
TGRZ	Tauranga	0.84	24	Pn	Pn	22 04 47.0	-0.7
PKVZ	Pokaka	0.87	205	⇓PN	Pn	22 04 48.5	+0.6
PKVZ	Pokaka	0.87	205	Pn	Pn	22 04 48.5	+0.6
OPRZ	Ohinepanea	0.87	41	PN	Pn	22 04 46.8	-1.0
OPRZ	Ohinepanea	0.87	41	Pn	Pn	22 04 46.8	-1.0
MOVZ	Moawhango	0.91	184	PN	Pn	22 04 48.4	+0.3
MOVZ	Moawhango	0.91	184	Pn	Pn	22 04 48.4	+0.3
MTVZ	Mangateitei	0.92	197	PN	Pn	22 04 48.9	+0.6
MTVZ	Mangateitei	0.92	197	Pn	Pn	22 04 48.9	+0.6
NMHZ	Naumai	0.97	128	⇑PN	Pn	22 04 49.4	+0.8
NMHZ	Naumai	0.97	128	Pn	Pn	22 04 49.4	+0.8
BHHZ	Black Hill Sta	1.00	169	⇑PN	Pn	22 04 49.1	+0.3
BHHZ	Black Hill Sta	1.00	169	Pn	Pn	22 04 49.1	+0.3
URZ	Urewera	1.04	77	⇑PN	Pn	22 04 48.0	-1.0
URZ				SN	Sn	22 05 06.4	-3.7
URZ				AML	AML	22 05 08.1	
URZ	Urewera	1.04	77	P	Pn	22 04 47.9	-1.1
	175nm,0.3s,baz=249,slow=4.1,SNR=1403						
URZ				S	Sn	22 05 06.2	-3.9
	289nm,0.3s,baz=245,slow=4.5,SNR=11						
URZ	Urewera	1.04	77	⇑Pn	Pn	22 04 48.0	-1.0
URZ				eS	Sn	22 05 06.4	-3.7
VRZ	Vera Road	1.04	233	PN	Pn	22 04 49.5	+0.5
VRZ	Vera Road	1.04	233	Pn	Pn	22 04 49.5	+0.5
RAHZ	Arahi	1.07	113	⇑PN	Pn	22 04 49.6	+0.3
RAHZ	Arahi	1.07	113	Pn	Pn	22 04 49.6	+0.3
MCHZ	McNeill Hill	1.16	144	⇑PN	Pn	22 04 51.1	+1.1
MCHZ	McNeill Hill	1.16	144	Pn	Pn	22 04 51.1	+1.1
KRHZ	Kereru	1.22	160	⇑PN	Pn	22 04 51.1	+0.6
SNGZ	Shannon Statio	1.22	104	⇑PN	Pn	22 04 50.7	+0.2
WHHZ	Waihua	1.24	118	⇑PN	Pn	22 04 51.1	+0.4
RAGZ	Rawiri	1.25	90	⇑PN	Pn	22 04 50.4	-0.4
MYRZ	Mayor Island	1.26	15	ePN	Pn	22 04 50.6	-0.3
MHEZ	Mangahewa	1.31	244	⇓PN	Pn	22 04 52.7	+1.4
MHEZ	Mangahewa	1.31	244	Pn	Pn	22 04 52.7	+1.4
MWZ	Matawai	1.35	83	⇑PN	Pn	22 04 51.0	-0.7
MWZ				eSN	Sn	22 05 11.2	-3.7
MWZ				AML	AML	22 05 11.7	
MWZ	Matawai	1.35	83	Pn	Pn	22 04 51.0	-0.7
WAZ	Wanganui	1.41	207	⇓PN	Pn	22 04 53.0	+0.8
WAZ	Wanganui	1.41	207	Pn	Pn	22 04 53.0	+0.8
PNHZ	Pukenui	1.44	168	⇑PN	Pn	22 04 53.0	+0.5
PNHZ	Pukenui	1.44	168	Pn	Pn	22 04 53.0	+0.5
LREZ	Lake Rotokare	1.46	229	⇓PN	Pn	22 04 54.1	+1.4
MKAZ	Moumakai	1.48	339	PN	Pn	22 04 52.7	-0.3
MKAZ	Moumakai	1.48	339	Pn	Pn	22 04 52.7	-0.3
CKHZ	Cape Kidnapper	1.51	140	⇑PN	Pn	22 04 54.0	+0.8
CKHZ	Cape Kidnapper	1.51	140	Pn	Pn	22 04 54.0	+0.8
KAHZ	Kahuranaki	1.53	148	⇑PN	Pn	22 04 54.2	+0.8
KAHZ	Kahuranaki	1.53	148	Pn	Pn	22 04 54.2	+0.8
RIGZ	Rimuhau	1.53	98	⇑PN	Pn	22 04 53.4	0.0
KNZ	Kokohu	1.53	110	⇑PN	Pn	22 04 53.4	0.0
KNZ	Kokohu	1.53	110	Pn	Pn	22 04 53.4	0.0
NEZ	North Egmont	1.55	240	PN	Pn	22 04 55.0	+1.3
NEZ	North Egmont	1.55	240	Pn	Pn	22 04 55.0	+1.3
TSZ	Takapari Road	1.56	176	⇓PN	Pn	22 04 54.2	+0.5
TSZ				AML	AML	22 05 19.3	
TSZ				AML	AML	22 05 22.1	
TSZ	Takapari Road	1.56	176	Pn	Pn	22 04 54.2	+0.5
PKE	Pukeiti	1.59	244	PN	Pn	22 04 55.2	+1.2
PKE	Pukeiti	1.59	244	Pn	Pn	22 04 55.2	+1.2
KHEZ	Kahui Hut	1.62	240	⇓PN	Pn	22 04 55.6	+1.2
WPHZ	Waipukurau	1.63	163	⇑PN	Pn	22 04 54.9	+0.6
WPHZ	Waipukurau	1.63	163	Pn	Pn	22 04 54.9	+0.6
PRGZ	Paritu Road	1.66	105	⇓PN	Pn	22 04 54.7	0.0
PRGZ	Paritu Road	1.66	105	Pn	Pn	22 04 54.7	0.0
HAZ	Te Kaha	1.71	65	⇓PN	Pn	22 04 53.7	-1.5
PXZ	Pawanui	1.73	153	⇑PN	Pn	22 04 55.9	+0.6
PXZ				AML	AML	22 05 22.2	
PXZ				AML	AML	22 05 23.0	
PXZ	Pawanui	1.73	153	Pn	Pn	22 04 55.9	+0.6
MHGZ	Mahia Peninsul	1.75	112	⇑PN	Pn	22 04 55.9	+0.3
MHGZ	Mahia Peninsul	1.75	112	Pn	Pn	22 04 55.9	+0.3
KUZ	Kuaotunu	1.76	357	⇓PN	Pn	22 04 55.1	-0.5
KUZ	Kuaotunu	1.76	357	Pn	Pn	22 04 55.1	-0.5
NMEZ	Namu Road	1.77	239	⇓PN	Pn	22 04 57.0	+1.3
DVHZ	Dannevirke	1.81	172	⇓PN	Pn	22 04 56.5	+0.2
DVHZ	Dannevirke	1.81	172	Pn	Pn	22 04 56.5	+0.2
CNGZ	Carnagh Statio	1.87	90	⇓PN	Pn	22 04 56.9	+0.1
CNGZ	Carnagh Statio	1.87	90	Pn	Pn	22 04 56.9	+0.1
PRHZ	Porangahau	1.87	161	⇑PN	Pn	22 04 57.4	+0.5
PRHZ	Porangahau	1.87	161	Pn	Pn	22 04 57.4	+0.5
POWZ	Post Office Ro	1.89	181	⇓PN	Pn	22 04 57.3	+0.3
POWZ	Post Office Ro	1.89	181	Pn	Pn	22 04 57.3	+0.3
PUZ	Puketiti	1.96	78	⇓PN	Pn	22 04 56.9	-0.9
PUZ				AML	AML	22 05 22.7	
PUZ				AML	AML	22 05 22.9	
PUZ	Puketiti	1.96	78	Pn	Pn	22 04 56.9	-0.9
ANWZ	Angora Road	2.02	166	⇓PN	Pn	22 04 59.0	+0.5
PRWZ	Pori Road	2.05	177	⇓PN	Pn	22 04 59.2	+0.4
MRZ	Mangatainoka R	2.16	185	PN	Pn	22 04 59.7	-0.4
MRZ				AML	AML	22 05 30.4	
MRZ				AML	AML	22 05 30.4	
MRZ	Mangatainoka R	2.16	185	Pn	Pn	22 04 59.7	-0.4
MXZ	Matakaoa Point	2.17	65	⇓PN	Pn	22 04 59.5	-0.7
MXZ				AML	AML	22 05 28.2	
MXZ				AML	AML	22 05 28.2	
MXZ	Matakaoa Point	2.17	65	Pn	Pn	22 04 59.5	-0.7
BFZ	Birch Farm	2.20	172	⇑PN	Pn	22 05 00.5	+0.1
BFZ	Birch Farm	2.20	172	⇑Pn	Pn	22 05 00.5	+0.1
TIWZ	Tintock	2.27	179	⇓PN	Pn	22 05 01.3	0.0
TIWZ				AML	AML	22 05 32.2	
TIWZ				AML	AML	22 05 32.7	
TIWZ	Tintock	2.27	179	Pn	Pn	22 05 01.3	0.0
OGWZ	Otaki Gorge	2.37	192	⇓PN	Pn	22 05 02.4	0.0
OGWZ	Otaki Gorge	2.37	192	Pn	Pn	22 05 02.4	0.0
HOWZ	Holdsworth Sta	2.40	186	⇓PN	Pn	22 05 02.5	-0.3
HOWZ	Holdsworth Sta	2.40	186	Pn	Pn	22 05 02.5	-0.3
CPWZ	Castlepoint	2.42	173	⇓PN	Pn	22 05 03.4	+0.4
KIW	Kapiti Island	2.46	196	⇓PN	Pn	22 05 03.1	-0.3
KIW				AML	AML	22 05 35.6	
KIW				AML	AML	22 05 36.5	
KIW	Kapiti Island	2.46	196	Pn	Pn	22 05 03.1	-0.3
TMWZ	Te Maipa	2.60	179	⇓PN	Pn	22 05 04.7	-0.4
TMWZ	Te Maipa	2.60	179	Pn	Pn	22 05 04.7	-0.4
MTW	Mount Morrison	2.66	185	⇓PN	Pn	22 05 05.2	-0.6
MTW				AML	AML	22 05 40.1	
MTW				AML	AML	22 05 40.2	
MTW	Mount Morrison	2.66	185	Pn	Pn	22 05 05.2	-0.6
CAW	Cannon Point	2.67	192	⇓PN	Pn	22 05 05.5	-0.4
CAW				AML	AML	22 05 40.3	
CAW				AML	AML	22 05 41.7	
CAW	Cannon Point	2.67	192	Pn	Pn	22 05 05.5	-0.4
DUWZ	D'Urville Isla	2.73	212	⇑PN	Pn	22 05 06.2	-0.4
DUWZ	D'Urville Isla	2.73	212	Pn	Pn	22 05 06.2	-0.4
PAWZ	Paruwai Farm	2.89	186	⇓PN	Pn	22 05 07.8	-0.8
PAWZ				AML	AML	22 05 43.1	
PAWZ				AML	AML	22 05 45.4	
PAWZ	Paruwai Farm	2.89	186	Pn	Pn	22 05 07.8	-0.8
TRWZ	Traveller	2.89	182	PN	Pn	22 05 08.1	-0.6
TRWZ				AML	AML	22 05 43.7	
TRWZ				AML	AML	22 05 45.5	
TRWZ	Traveller	2.89	182	Pn	Pn	22 05 08.1	-0.6
WEL	Wellington	2.90	196	PN	Pn	22 05 08.0	-0.6
WEL				AML	AML	22 05 44.6	
WEL				AML	AML	22 05 45.9	
WEL	Wellington	2.90	196	Pn	Pn	22 05 08.0	-0.6
SNZO	South Karori	2.93	197	⇓PN	Pn	22 05 08.3	-0.8
SNZO				AML	AML	22 05 45.8	
SNZO				AML	AML	22 05 47.2	
SNZO	South Karori	2.93	197	Pn	Pn	22 05 08.3	-0.8
MSWZ	Moikau Station	2.94	188	⇓PN	Pn	22 05 08.4	-0.8
MSWZ				AML	AML	22 05 45.4	
MSWZ				AML	AML	22 05 46.1	
MSWZ	Moikau Station	2.94	188	Pn	Pn	22 05 08.4	-0.8
TCW	Tory Channel	2.96	203	⇓PN	Pn	22 05 08.7	-0.6
TCW				AML	AML	22 05 46.9	
TCW				AML	AML	22 05 47.0	
TCW	Tory Channel	2.96	203	Pn	Pn	22 05 08.8	-0.6
BHW	Baring Head	2.99	194	⇓PN	Pn	22 05 09.0	-0.8
BHW				AML	AML	22 05 46.8	
BHW				AML	AML	22 05 46.9	
BHW	Baring Head	2.99	194	Pn	Pn	22 05 09.0	-0.8
PLWZ	Palliser	3.10	188	⇓PN	Pn	22 05 10.0	-1.1
PLWZ	Palliser	3.10	188	Pn	Pn	22 05 10.0	-1.1
TUWZ	Tuamarina	3.26	206	⇑PN	Pn	22 05 12.2	-0.9
TUWZ				AML	AML	22 05 52.1	
TUWZ				AML	AML	22 05 53.1	
TUWZ	Tuamarina	3.26	206	Pn	Pn	22 05 12.2	-0.9
NNZ	Nelson	3.30	214	⇓PN	Pn	22 05 12.6	-1.0
NNZ	Nelson	3.30	214	Pn	Pn	22 05 12.6	-1.0
QRZ	Quartz Range	3.44	227	⇑PN	Pn	22 05 14.1	-1.4
QRZ	Quartz Range	3.44	227	Pn	Pn	22 05 14.1	-1.4
CMWZ	Cape Campbell	3.47	200	AML	AML	22 06 03.9	
CMWZ				AML	AML	22 06 07.6	
CMWZ	Cape Campbell	3.47	200	Pn	Sn	22 05 57.3	-0.8
BSWZ	Blackbirch Sta	3.54	204	AML	AML	22 06 00.6	
BSWZ				AML	AML	22 06 00.6	
THZ	Tophouse	3.95	214	⇑PN	Pn	22 05 20.5	-1.4
THZ	Tophouse	3.95	214	Pn	Pn	22 05 20.5	-1.4
KHZ	Kahutara	4.28	203	PN	Pn	22 05 25.0	-1.0
KHZ				AML	AML	22 06 15.6	
KHZ				AML	AML	22 06 16.0	
KHZ	Kahutara	4.28	203	Pn	Pn	22 05 25.0	-1.0
DSZ	Denniston Nort	4.47	222	⇓PN	Pn	22 05 26.5	-2.1
DSZ	Denniston Nort	4.47	222	Pn	Pn	22 05 26.5	-2.1
LTZ	Lake Taylor	5.06	211	PN	Pn	22 05 33.7	-2.4
LTZ	Lake Taylor	5.06	211	Pn	Pn	22 05 33.7	-2.4
OXZ	Oxford	5.61	210	⇓PN	Pn	22 05 40.0	-3.3
CRLZ	Canterbury Las	5.62	205	PN	Pn	22 05 40.9	-2.5
CRLZ	Canterbury Las	5.62	205	Pn	Pn	22 05 40.9	-2.5
MQZ	McQueen's Vall	5.72	204	⇑PN	Pn	22 05 41.9	-2.9
MQZ	McQueen's Vall	5.72	204	Pn	Pn	22 05 41.9	-2.9
WVZ	Waitaha Valley	5.98	219	⇓PN	Pn	22 05 44.9	-3.3
WVZ	Waitaha Valley	5.98	219	Pn	Pn	22 05 44.9	-3.3
RPZ	Rata Peaks	6.33	213	PN	Pn	22 05 50.6	-2.2
RPZ	Rata Peaks	6.33	213	Pn	Pn	22 05 50.6	-2.2
RPZ				eSn	Sn	22 06 58.8	-5.9
FOZ	Fox Glacier	6.86	221	PN	Pn	22 05 55.5	-4.3
FOZ	Fox Glacier	6.86	221	Pn	Pn	22 05 55.5	-4.3
LBZ	Lake Benmore	7.25	214	PN	Pn	22 06 01.4	-3.4
LBZ	Lake Benmore	7.25	214	Pn	Pn	22 06 01.4	-3.4
ODZ	Otahua Downs	7.59	209	⇑PN	Pn	22 06 07.1	-2.4
ODZ	Otahua Downs	7.59	209	Pn	Pn	22 06 07.1	-2.4
CTZ	Chatham Island	7.73	135	ePN	Pn	22 06 16.6	+5.3
CTZ	Chatham Island	7.73	135	Pn	Pn	22 06 17.4	+6.1
TUZ	Tuapeka	8.75	210	Pn	Pn	22 06 23.1	-1.5
WHZ	Wether Hill Ro	9.41	216	ePn	Pn	22 06 31.9	-1.5
	7.4nm,0.5s						
WHZ				eSn	Sn	22 08 10.5	-7.7
APZ	The Paps	10.12	212	PN	Pn	22 06 39.9	-2.8
APZ	The Paps	10.12	212	Pn	Pn	22 06 39.9	-2.8
ASAR	Alice Springs	38.49	280	P	P	22 11 27.6	+0.6
	1.1nm,0.3s,baz=118,slow=5.8,SNR=20						
WRAB	Tennant Creek	40.26	285	eP	P	22 11 45.2	+3.6
	0.5nm,0.5s						
WRA	Warramunga Arr	40.26	285	P	P	22 11 43.0	+1.4
	0.3nm,0.6s,baz=128,slow=7.9,SNR=3.6						
QSPA	South Pole Qui	51.62	180	eP	P	22 13 13.1	+3.1
	3.4nm,0.8s						
MKAR	Makanchi Array	118.93	308	PKP	PKPdf	22 22 47.8	-1.1
	0.2nm,0.5s,baz=221,slow=3.5,SNR=5.0						
ARCES	ARCESS Array B	145.10	342	PKPbc	PKPbc	22 23 36.1	-0.8
	1.8nm,0.7s,baz=58,slow=3.0,SNR=8.0						
JOF	Joensuu	147.53	330	ep	PKPdf	22 23 43.1	+1.9
	1.4nm,0.4s						
MMAI	Mount Meron Ar	147.60	273	PKPbc	PKPbc	22 23 46.3	+0.9
	0.7nm,0.5s,baz=78,slow=6.6,SNR=2.3						
LIC	Lamto	147.86	178	ePKIKP	PKPbc	22 23 47.3	+0.8
	18nm,0.5s						
KIC	Kosan Boka	148.00	179	ePKIKP	PKPbc	22 23 47.0	+0.1
	9.3nm,0.6s						
TIC	Toumodi	148.28	178	ePKIKP	PKPbc	22 23 47.3	-0.3
	3.2nm,0.2s						
DBIC	Dimbokro	148.30	179	PKPbc	PKPbc	22 23 48.2	+0.6
	2.8nm,0.4s,baz=163,slow=3.2,SNR=5.6						
KAF	Kangasniemi	149.90	332	ep	PKPbc	22 23 48.8	-1.3
	1.1nm,0.5s						
FINES	FINESS Array B	150.39	331	PKPbc	PKPbc	22 23 51.0	-0.3
	1.0nm,0.5s,baz=60,slow=3.4,SNR=14						
FINES				PKPab	PKPab	22 23 58.1	-0.4
	0.8nm,0.8s,baz=11,slow=2.8,SNR=5.8						
BRTR	Keskin Array B	150.78	284	PKPbc	PKPbc	22 23 53.0	-0.2
	1.1nm,0.7s,baz=122,slow=4.5,SNR=7.6						
BRTR				PKPab	PKPab	22 24 01.3	+0.3
	0.7nm,0.9s,baz=137,slow=3.3,SNR=3.2						
TORD	Torodi Ar. Bea	154.21	193	PKPbc	PKPbc	22 24 01.2	-0.1
	0.2nm,0.4s,baz=166,slow=2.3,SNR=8.1						
TORD				PKPab	PKPab	22 24 16.8	+1.1
	0.4nm,0.3s,baz=173,slow=3.2,SNR=6.1						

MOS ***16*** *22:10:15.5±1.3, 36.70N×71.20E, h93km, mb4.0/17, Error ellipse: s-maj=12.5km s-min=7.4km az=91.7*
IDC ***16*** *22:10:16.5±3.1, 36.60N×71.28E, h93km±28km, mb3.5/19, mb1 3.7/22, mb1mx3.7/32, mbtmp4.0/22, MS2.9/2, Ms1 2.9/2, ms1mx2.4/39, Error ellipse: s-maj=18.0km s-min=12.7km az=170.0*
ISCJB ***16*** *22:10:18.1±0.3, 36.68N±0.02×71.63E±0.04, h142km, mb3.7/25, Error ellipse: s-maj=5.3km s-min=2.7km az=155.6*
NNC ***16*** *22:10:19.5±4.8, 37.08N×70.77E, h112km±66km, mb4.0, mpv4.6, Error ellipse: s-maj=37.5km s-min=25.1km az=16.0*
ISC 16 22:10:20.0±0.5, 36.72N±0.05×71.64E±0.06, h142km, n99, σ1§66/93, mb3.8/25, 9C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CEP	Cherat	2.89	176	P	Pn	22 11 02.7	-3.2
CEP				S	Sn	22 11 39.0	-2.2
DLH	Dalhousie	5.48	138	eP	Pn	22 11 39.0	-0.9
DLH				eS	Sn	22 12 42.0	-0.2
AML	Almayashu	5.64	16	P	Pn	22 11 40.2	-1.8
	SNR=141						
DHRM	DHARAMSHALA	5.88	138	eP	Pn	22 11 44.2	-1.1
DHRM				eS	Sn	22 12 50.6	-1.2
DHRM				AML	AML	22 12 53.9	
	comp=E,768nm,0.4s						
DHRM				AML	AML	22 12 57.4	
	comp=N,489nm,0.2s						
UCH	Uchtor	5.94	21	P	Pn	22 11 44.9	-1.2
	SNR=33						
PONG	Pong	5.94	142	eP	Pn	22 11 45.5	-0.3
PONG				eS	Sn	22 12 50.5	-2.3
KZA	Kyzart	6.04	26	P	Pn	22 11 46.6	-0.9
	SNR=25						
EKS2	Erkin-Say	6.16	15	P	Pn	22 11 47.3	-1.5
	SNR=62						
AAK	Ala-Archa	6.30	20	⇓P	Pn	22 11 50.0	-0.8
	comp=N,28nm,0.5s						
AAK				⇑S	Sn	22 12 57.9	-3.8
	comp=N,35nm,0.6s						
AAK	Ala-Archa	6.30	20	P	Pn	22 11 50.0	-0.8
	SNR=88						
AAK	Ala-Archa	6.30	20	PN	Pn	22 11 50.0	-0.8
AAK				pmax	pmax		
	comp=Z,14nm,0.3s						
AAK	Ala-Archa	6.30	20	P	Pn	22 11 50.0	-0.8
	comp=Z,14nm,0.3s,baz=174,slow=6.3,SNR=284						
AAK				S	Sn	22 13 02.5	+0.8
	comp=Z,4.7nm,0.3s,baz=335,slow=19,SNR=6.5						
KK31	Karatay Array	6.44	353	⇓P	Pn	22 11 47.7	-4.8
	comp=Z,21nm,0.3s,baz=178,slow=12						
KK31				⇑S	Sn	22 12 56.0	-8.7
	comp=Z,19nm,0.3s,baz=185,slow=24						
KBK	Karagaybulak	6.46	22	P	Pn	22 11 52.4	-0.4
	SNR=22						
FRU	Bishkek	6.52	20	i PN	Pn	22 11 53.0	-0.6
FRU				pmax	pmax		
	comp=Z,70nm,1.5s						
FRU				pmax	pmax		
	comp=E,250nm,2.0s						
ULHL	Ulahol	6.57	31	P	Pn	22 11 54.2	-0.1
	SNR=14						
BHK	Bhakra	6.60	142	eP	Pn	22 11 54.0	-0.7
BHK				eS	Sn	22 13 08.0	-0.9
CHMS	Chumysh	6.71	20	P	Pn	22 11 55.1	-1.0
	SNR=96						
SDNR	Sundarnagar	6.82	138	eP	Pn	22 11 56.0	-1.7
SDNR				ex	x	22 13 06.0	
USP	Ospenovka	6.90	18	P	Pn	22 11 57.1	-1.6
	SNR=27						
TKM2	Tokmak 2	6.90	25	⇑P	Pn	22 11 57.9	-0.9
	comp=E,15nm,0.6s						
TKM2				⇓S	Sn	22 13 15.8	-0.4
	comp=E,15nm,0.7s						
TKM2	Tokmak 2	6.90	25	P	Pn	22 11 58.2	-0.6
	SNR=28						
SMLA	Simla	7.22	139	eP	Pn	22 12 01.5	-1.5
SMLA				eS	Sn	22 13 22.1	-1.4
SMLA				AML	AML	22 13 25.3	
	comp=E,309nm,0.3s						
SMLA				AML	AML	22 13 25.9	
	comp=N,298nm,0.5s						
DDI	Dehra Dun	8.32	138	eP	Pn	22 12 17.0	-0.8
DDI				eS	Sn	22 13 46.5	-3.8
DDI				AML	AML	22 13 50.7	
	comp=N,230nm,0.3s						
DDI				AML	AML	22 13 54.5	
	comp=E,269nm,0.3s						
PDGK	Podgornoye	8.93	40	⇓P	Pn	22 12 26.6	+0.9
NDI	New Delhi	9.28	148	eP	Pn	22 12 29.0	-1.6
NDI				ex	x	22 14 10.0	
AJM	Ajmer	10.52	165	ex	Pn	22 12 43.0	-4.1
AJM				ex	x	22 14 37.0	
OTUK	Ortayu	11.53	2	⇑P	Pn	22 12 56.0	-4.3
MK31	Makanchi Array	12.81	35	⇓P	Pn	22 13 17.2	+0.3
	comp=E,2.3nm,0.6s,baz=222,slow=14,SNR=46						
MKAR	Makanchi Array	12.81	35	P	Pn	22 13 17.4	+0.5
	comp=E,0.4nm,0.3s,baz=225,slow=14,SNR=53						
DANN	Dangsing	13.19	126	eP	Pn	22 13 19.9	-2.2
	comp=E,17nm,0.3s						
DANN				eS	Sn	22 15 39.0	-9.0
KOLN	Koldanda	13.48	128	eP	Pn	22 13 24.6	-1.2
	comp=E,16nm,0.5s						
GKN	Gorkha	13.99	125	eP	Pn	22 13 30.6	-1.7
BHPL	Bhopal	14.33	158	eP	P	22 13 41.7	+2.4
BHPL				ex	x	22 16 03.3	
KKN	Kakani	14.56	124	eP	Pn	22 13 37.1	-2.4
	comp=E,30nm,0.5s						
DMN	Daman	14.56	125	eP	Pn	22 13 38.6	-1.0
	comp=E,15nm,0.3s						
PKIN	Phulchoki	14.78	124	eP	Pn	22 13 40.1	-2.2
	comp=E,18nm,0.4s						

PKI Pulchoki 14.79 124 eP Pn 22 13 40.5 -2.0
KURK Kurchatov 14.87 18 ⇑P P 22 13 45.4 +0.4
comp=E,4.1nm,1.4s
GUN Gumba 14.88 122 eP Pn 22 13 42.0 -1.7
comp=E,18nm,0.3s
AB31 Akbulak array 15.15 329 ⇑P Pn 22 13 39.2 -7.3
comp=E,6.2nm,0.3s
AB31 ⇓S Sn 22 16 14.9 -20
comp=E,1.7nm,0.4s
JIRN Jiri 15.26 122 eP Pn 22 13 46.6 -1.7
comp=E,25nm,0.3s
RAMN Ramite 15.99 123 eP P 22 13 57.2 -0.8
VOSK Vostochnaya 16.01 359 ⇑P Pn 22 13 53.2 -3.8
comp=E,5.8nm,0.7s
BVA0 Borovoye Array 16.33 357 ⇑P Pn 22 13 57.2 -3.8
comp=E,9.2nm,1.1s,baz=160,slow=12,SNR=57
BVAR Borovoye Array 16.33 357 P Pn 22 13 58.6 -2.3
BVAR pmax pmax
comp=Z,3.0nm,0.3s
BVAR MLR MLR
comp=Z,15nm,28.6s
BVAR Borovoye Array 16.33 357 P Pn 22 13 58.6 -2.3
comp=Z,2.7nm,0.3s,baz=171,slow=12,SNR=19
BVAR LR LR 22 21 20.8
comp=Z,50nm,18.2s,baz=151,slow=40
BRVK Borovoye 16.37 357 ⇑P Pn 22 13 58.4 -3.0
comp=Z,17nm,0.9s
TAPN Taplejung 16.50 120 eP Pn 22 14 02.6 -0.9
comp=Z,19nm,0.5s
ODAN Odare 16.59 122 eP P 22 14 04.3 -0.2
AKTO Aktyubinsk 16.86 329 ⇓P P 22 14 01.8 -5.3
comp=Z,31nm,0.8s
AKTO ⇓S S 22 17 00.8 -14
comp=Z,7.1nm,1.4s
AKTO Aktyubinsk 16.86 329 P P 22 14 02.1 -4.9
AKTO S S 22 17 09.8 -5.4
AKTO pmax pmax
comp=Z,2.0nm,0.3s
AKTO MLR MLR
comp=Z,33nm,19.2s
AKTO Aktyubinsk 16.86 329 P P 22 14 02.1 -4.9
comp=Z,1.9nm,0.3s,baz=129,slow=7.9,SNR=33
AKTO S S 22 17 09.8 -5.4
comp=Z,0.2nm,0.3s,baz=202,slow=19,SNR=2.4
AKTO LR LR 22 21 32.9
comp=Z,33nm,19.2s,baz=155,slow=40
ZALV Zalesovo Beam 19.51 24 P Pn 22 14 37.8 -0.9
comp=Z,4.2nm,0.3s,baz=213,slow=10,SNR=61
ZALV S Sn 22 18 22.9 +4.3
comp=Z,0.1nm,0.3s,baz=217,slow=21,SNR=4.1
NVS Novosibirsk 19.80 20 eP Pn 22 14 40.1 -1.9
NVS pmax pmax
comp=N,3.0nm,0.4s
NVS pmax pmax
comp=E,1.0nm,0.4s
NVS pmax pmax
comp=Z,4.0nm,0.4s
GNI Garni 21.32 287 P P 22 14 55.0 -0.8
GNI pmax pmax
comp=Z,5.0nm,0.4s
GNI Garni 21.32 287 P P 22 14 55.0 -0.8
comp=Z,4.6nm,0.4s,baz=352,slow=2.3,SNR=11
SVE Sverdlovsk 21.43 343 ⇓iP P 22 14 56.2 -0.3
SVE pmax pmax
comp=Z,15nm,0.8s
ARU Arti 21.60 340 P P 22 14 57.7 -0.7
ZEI Tsey 22.12 294 eP P 22 15 00.6 -3.5
ZEI pmax pmax
comp=Z,13nm,1.4s
KBZ Khabaz 22.96 297 P P 22 15 10.9 -1.0
KBZ pmax pmax
comp=Z,2.0nm,0.7s
KBZ Khabaz 22.96 297 P P 22 15 10.9 -1.0
comp=Z,2.3nm,0.7s,baz=112,slow=13,SNR=10
MOY Mondy 25.59 45 eP P 22 15 41.7 +5.9
ZAK Zakamensk 26.46 49 eP P 22 15 49.8 +6.1
ZAK e 22 16 08.9
ZAK pmax pmax
comp=Z,1.0nm,1.1s
SONM Songino Array 27.79 55 P P 22 16 01.2 +5.6
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 27.79 55 P P 22 16 01.2 +5.6
comp=Z,0.8nm,0.7s,baz=272,slow=9.4,SNR=9.6
MMAI Mount Meron Ar 29.85 274 P P 22 16 12.8 -1.1
comp=Z,0.5nm,0.3s,baz=173,slow=26,SNR=3.5
BRTR Keskin Array B 29.86 288 P P 22 16 14.3 +0.2
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 29.86 288 P P 22 16 14.3 +0.2
comp=Z,0.7nm,0.6s,baz=111,slow=9.3,SNR=6.3
AKASG Malin Array Be 33.22 308 P P 22 16 42.6 -0.5
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 33.22 308 P P 22 16 42.6 -0.5
comp=Z,0.9nm,0.5s,baz=81,slow=7.4,SNR=11
JOF Joensuu 35.94 330 eP P 22 17 06.9 +0.5
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 35.94 330 ep P 22 17 06.9 +0.5
comp=Z,2.0nm,0.6s
FINES FINESS Array B 37.59 326 P P 22 17 20.8 +0.4
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 37.59 326 P P 22 17 20.8 +0.4
comp=Z,0.8nm,0.3s,baz=122,slow=9.6,SNR=12
KAF Kangasniemi 37.73 327 eP P 22 17 24.5 +3.0
KAF pmax pmax
comp=Z,1.0nm,0.6s
KAF Kangasniemi 37.73 327 ep P 22 17 24.5 +3.0
comp=Z,1.2nm,0.6s
KEV Kevo 40.79 338 eP P 22 17 47.4 +0.6
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 40.79 338 ep P 22 17 47.4 +0.6
comp=Z,0.8nm,0.3s
ARCES ARCESS Array B 41.14 337 P P 22 17 51.0 +1.3
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 41.14 337 P P 22 17 51.0 +1.3
comp=Z,4.0nm,0.7s,baz=116,slow=9.1,SNR=41
GERES GERESS Array B 43.23 305 P P 22 18 06.9 -0.1
comp=Z,0.2nm,0.5s,baz=90,slow=5.5,SNR=3.7
NB2 NORSAR Subarra 44.52 323 P P 22 18 17.1 0.0
comp=Z,2.3nm,0.7s,baz=96,slow=8.6
NOA NORSAR Array B 44.52 323 P P 22 18 17.0 0.0
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 44.52 323 P P 22 18 17.0 0.0
comp=Z,0.9nm,0.5s,baz=107,slow=7.2,SNR=11
KMBO Kilima Mbogo 49.36 228 P P 22 18 55.6 +0.2
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 49.36 228 P P 22 18 55.6 +0.2
comp=Z,0.9nm,0.5s,baz=33,slow=13,SNR=4.8
ESDC Sonseca Array 57.81 298 P P 22 19 57.3 +0.8
comp=Z,0.3nm,0.4s,baz=54,slow=7.1,SNR=3.4
TORD Torodi Ar. Bea 66.24 269 P P 22 20 51.8 -1.2
comp=Z,1.0nm,0.4s,baz=49,slow=6.0,SNR=41
INK Inuvik 73.61 9 P P 22 21 40.7 +3.6
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 73.61 9 P P 22 21 40.7 +3.6
comp=Z,0.5nm,0.5s,baz=352,slow=9.6,SNR=7.3
ILAR Eielson Array 74.43 16 P P 22 21 45.4 +3.3
comp=Z,0.2nm,0.7s,baz=304,slow=6.4,SNR=3.5
BOSA Boshof 78.25 221 P P 22 22 04.2 +0.1
BOSA pmax pmax
comp=Z,2.0nm,0.7s
BOSA Boshof 78.25 221 P P 22 22 04.2 +0.1
comp=Z,2.2nm,0.7s,baz=46,slow=6.6,SNR=5.3
YKA Yellowknife Ar 81.00 3 P P 22 22 21.4 +3.0
comp=Z,0.4nm,0.5s,baz=350,slow=5.4,SNR=11
WRA Warramunga Arr 81.67 122 P P 22 22 25.0 +2.4
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 81.67 122 P P 22 22 25.0 +2.4
comp=Z,0.8nm,0.6s,baz=332,slow=4.7,SNR=8.2
ASAR Alice Springs 83.95 125 P P 22 22 37.2 +2.9
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 83.95 125 P P 22 22 37.1 +2.9
comp=Z,0.9nm,0.6s,baz=315,slow=5.4,SNR=10

CSEM 16 22:29:45.5, 35.62N×21.80E, h5km, MD3.5, After ATH

ATH 16 22:29:45.5, 35.62N×21.80E, h5km±4km, MD3.5/12,
Central Mediterranean Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KYTH Kithira 1.20 56 ePB Pg 22 30 08.4 -0.2
KYTH Kithira 1.20 56 ePb Pg 22 30 08.4 -0.2
ANKY Antikythira Is 1.25 78 ePB Pn 22 30 09.7 +0.1
ANKY eSB Sb 22 30 26.2 +0.3
ANKY Antikythira Is 1.25 78 ePb Pn 22 30 09.7 +0.1
ANKY eSb Sb 22 30 26.2 +0.3
PYL PYLOS 1.27 358 ePG Pg 22 30 09.4 -0.6
PYL eSB Sn 22 30 27.6 +0.1
PYL PYLOS 1.27 358 ePg Pg 22 30 09.4 -0.6
PYL eSb Sn 22 30 27.6 +0.1
VLI Veliai 1.43 40 ePG Pb 22 30 12.5 -0.2
VLI eSB Sg 22 30 33.2 +1.6
VLI Veliai 1.43 40 ePg Pb 22 30 12.5 -0.2
VLI eSb Sg 22 30 33.2 +1.6
ITM Ithomi 1.56 4 ePG Pb 22 30 14.7 -0.2
ITM eSB Sg 22 30 36.5 +0.7
ITM Ithomi 1.56 4 ePg Pb 22 30 14.7 -0.2
ITM eSb Sg 22 30 36.5 +0.7
VLX Vlachokerasia 1.81 15 ePN Pb 22 30 19.7 +0.4
VLX Vlachokerasia 1.81 15 ePn Pb 22 30 19.7 +0.4
AMT Artemida-Makis 1.91 358 ePG Pb 22 30 21.3 +0.4
AMT Artemida-Makis 1.91 358 ePg Pb 22 30 21.3 +0.4
DID Didima 2.21 31 ePG Pb 22 30 26.3 +0.3
DID Didima 2.21 31 ePg Pb 22 30 26.3 +0.3
DRO Drossia 2.33 358 ePG Pb 22 30 28.2 +0.2
DRO Drossia 2.33 358 ePg Pb 22 30 28.2 +0.2
GUR Goura 2.35 11 ePN Pb 22 30 27.8 -0.7
GUR Goura 2.35 11 ePn Pb 22 30 27.8 -0.7
KLV Kalavryta, Ach 2.44 7 ePN Pb 22 30 29.8 -0.1
KLV Kalavryta, Ach 2.44 7 ePn Pb 22 30 29.8 -0.1
LTK Loutraki 2.58 21 ePN Pb 22 30 31.0 -1.2
LTK Loutraki 2.58 21 ePn Pb 22 30 31.0 -1.2

BJI 16 22:43:58.0, 54.20N×169.50E, h12km, mB5.0/29, mb4.5/45, Ms4.8/28, Ms7 4.4/28
ISCJB 16 22:43:58.9±0.7, 54.21N±0.03×169.46E±0.02, h15km±5km, mb4.7/120, MS4.0/35, Error ellipse: s-maj=5.2km s-min=2.0km az=179.9
IDC 16 22:43:59.1±0.4, 54.25N×169.54E, h0km, mb4.5/30, mb1 4.7/32, mb1mx4.6/38, mbtmp4.5/32, ML4.3/2, MS3.9/23, Ms1 3.9/23, ms1mx3.8/32, Error ellipse: s-maj=11.1km s-min=7.6km az=179.0
MOS 16 22:43:59.0±1.1, 54.21N×169.48E, h14km, mb4.8/58, MS3.9/16, Error ellipse: s-maj=7.0km s-min=5.5km az=104.3
KRSC 16 22:44:00.9±2.6, 54.18N×168.84E, h10km±4km, ML5.1
GCMT 16 22:44:02.3±0.4, 54.37N×169.52E, h16km±1km, MW4.9/79, Moment Tensor Solution. s18,c19; s79,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.36±.09; $M_{\theta\theta}$-1.65±.11; $M_{\phi\phi}$1.28±.09; $M_{r\theta}$-1.03±.30; $M_{r\phi}$-1.80±.08; $M_{\theta\phi}$0.13±.24; Best double couple: $M_0$2.53300×10^{16} NP1: ϕ_s289.00000°, δ89.00000°, λ156.00000°. NP2: ϕ_s19.00000°, δ66.00000°, λ1.00000°. Principal axes: T 2.3100, Plg17.0000°, Azm241.0000°; N 0.4400, Plg66.0000°, Azm107.0000°; P -2.7570, Plg16.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 16 22:44:02.3±1.2, 54.17N×169.53E, h24km±8km, mb4.9/64 Error ellipse: s-maj=5.8km s-min=3.0km az=174.0
ISC 16 22:44:01.3±0.5, 54.12N±0.05×169.50E±0.03, h16km±2km, h15km:pP-P, n716, σ1.24/773, mb4.7/122, MS4.0/37, 189C-191D, Komandorsky Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FX1 Attu Island--F 2.52 118 Pn Pn 22 44 40.2 -1.3
302nm,0.3s,baz=328,slow=7.0,SNR=532
FX1 Sn Sn 22 45 09.4 -2.4
775nm,0.3s,baz=191,slow=23,SNR=17
SMY Shemya 3.08 115 ePN Pn 22 44 47.9 -1.4
SMY e 22 45 26.1
SMY Shemya 3.08 115 ePn Pn 22 44 47.9 -1.4
SMY S Sn 22 45 24.7 -1.1
SMY eSn Sb 22 45 26.1 -6.9
KBTR Krutoberegovo 4.37 301 PN Pn 22 45 05.1 -1.8
KBTR Krutoberegovo 4.37 301 eP Pn 22 45 05.1 -1.8
KBTR eS Sn 22 45 52.5 -4.9
MKZ Mys Kozlova 4.57 279 PN Pn 22 45 09.0 -0.7
MKZ Mys Kozlova 4.57 279 eP Pn 22 45 09.0 -0.7
MKZ eS Sn 22 45 58.0 -4.4
SMKR Semkarok 5.21 302 eP Pn 22 45 19.1 +0.6
SMKR eS Sn 22 46 16.9 -1.3
BDR Baidarnaya 5.33 301 eP Pn 22 45 21.3 +1.1
BDR eS Sn 22 46 19.7 -1.6
SRKR Sorokina 5.39 302 eP Pn 22 45 20.1 -0.9
SRKR S Sn 22 46 18.9 -3.8
BZWR Bezymyannyi-We 5.50 293 P Pn 22 45 22.6 0.0
KLY Klyuchi 5.52 297 PN Pn 22 45 21.1 -1.6
KLY Klyuchi 5.52 297 P Pn 22 45 21.1 -1.6
KLY S Sn 22 46 19.6 -6.3
TUMR Tumrok 5.55 286 P Pn 22 45 23.9 +0.6
TUMR eS Sn 22 46 25.1 -1.6
KMNR Kamenistaya 5.59 291 P Pn 22 45 24.7 +0.9
KMNR eS Sn 22 46 25.7 -1.9
KPT Kopyto 5.65 293 P Pn 22 45 24.8 +0.2
KPT S Sn 22 46 26.8 -2.3
SPN Mys Shipunski 5.73 264 eS Sn 22 46 24.8 -6.3
KOZR Kozyr 5.85 293 PN Pn 22 45 26.2 -1.1
KOZ Kozyrevsk 5.86 293 P Pn 22 45 26.2 -1.2
KOZ S Sn 22 46 28.4 -5.8
KII Karymskiy 5.92 273 eP Pn 22 45 28.1 -0.2
KII eS Sn 22 46 31.9 -3.9
SRDR Sredninnyy 6.02 295 eP Pn 22 45 30.2 +0.6
SRDR eS Sn 22 46 35.7 -2.5
NLC Nalytchevo 6.11 265 PN Pn 22 45 30.4 -0.5
NLC Nalytchevo 6.11 265 eP Pn 22 45 30.3 -0.6
NLC eS Sn 22 46 35.3 -5.1
OSSR Ossora 6.25 328 eP Pn 22 45 31.9 -0.8
SDLR Sedlovina 6.36 267 eP Pn 22 45 34.1 -0.3
SDLR eS Sn 22 46 42.0 -4.8
UGLR Uglovaya 6.41 266 eP Pn 22 45 35.1 0.0
UGLR eS Sn 22 46 43.3 -4.7
SMAR Somma 6.41 267 eP Pn 22 45 34.9 -0.3
SMAR eS Sn 22 46 43.4 -4.8
KRER Koryakskii 6.44 267 eP Pn 22 45 35.4 -0.1
AVH Avacha 6.45 267 eP Pn 22 45 35.7 +0.1
AVH eS Sn 22 46 45.0 -3.9
ESO Esso 6.47 291 PN Pn 22 45 36.8 +1.0
ESO Esso 6.47 291 P Pn 22 45 36.8 +1.0
KRX Arik 6.48 268 eP Pn 22 45 36.0 -0.1
KRX eS Sn 22 46 46.0 -3.8
KOK Koryaka 6.50 267 eP Pn 22 45 36.3 -0.1
KOK eS Sn 22 46 45.6 -4.6
PET Petropavlovsk 6.55 265 ePN Pn 22 45 37.5 +0.6
PET pmax pmax
comp=Z,100nm,0.5s
PET pmax pmax
comp=Z,79nm,0.4s
PET MLR MLR
comp=Z,1μm,14.0s
PET MLR MLR
comp=Z,2μm,12.0s
PET Petropavlovsk 6.55 265 P Pn 22 45 36.7 -0.2
TILK Tilichiki 6.60 345 i P Pn 22 45 37.1 -0.4
RUS Russkaya 6.80 260 PN Pn 22 45 39.8 -0.5
RUS Russkaya 6.80 260 eP Pn 22 45 39.8 -0.5
RUS eS Sn 22 46 51.9 -5.5
GNL Ganaly 6.84 271 eP Pn 22 45 41.7 +0.7
GNL eS Sn 22 46 55.6 -3.0
MTVR Mutnovka 6.98 261 eP Pn 22 45 42.4 -0.5
MTVR eS Sn 22 46 56.3 -5.7
PEA0B Petropavlovsk- 7.09 267 ePn Pn 22 45 45.7 +1.3
PEA0B eSn Sn 22 47 01.9 -2.7
PETK Petropavlovsk- 7.09 267 Pn Pn 22 45 45.5 +1.2
comp=Z,9.8nm,0.3s,baz=100,slow=18,SNR=69
PETK Sn Sn 22 47 03.8 -0.8
comp=Z,8.0nm,0.3s,baz=83,slow=15,SNR=7.2
PETK LR LR 22 48 31.6
comp=Z,645nm,21.8s,baz=89,slow=38
ASAK Asacha 7.17 261 eP Pn 22 45 45.4 -0.1
ASAK eS Sn 22 47 01.8 -4.9
PALN Palana 7.24 317 P Pn 22 45 47.8 +1.5
APC Apacha 7.46 266 eP Pn 22 45 50.4 +1.1
APC eS Sn 22 47 10.3 -3.1
TASE Tanaga Southea 7.86 102 P Pn 22 45 53.9 -1.0
MIPR Malaya Ipel'ka 7.87 262 eP Pn 22 45 55.9 +0.9
PAU Pauzhetka 8.14 256 PN Pn 22 45 59.4 +0.8
PAU Pauzhetka 8.14 256 P Pn 22 45 59.4 +0.8
PAU eS Sn 22 47 26.6 -3.6
KIKV Kanaga Island 8.35 100 P Pn 22 46 00.1 -1.5
ADK Adak 8.63 99 PN Pn 22 46 04.9 -0.5
ADK Adak 8.63 99 P Pn 22 46 04.9 -0.5
ADK S Sn 22 47 40.3 -2.0
SKR Severo-Kuril's 8.87 253 ePN Pn 22 46 05.8 -2.9
SKR pmax pmax
comp=Z,130nm,1.0s
SKR Severo-Kuril's 8.87 253 eP Pn 22 46 08.3 -0.4
SKR eS Sn 22 47 41.5 -6.8
GSMY Great Sitkin M 8.94 98 P Pn 22 46 09.0 -0.7
SEY Seymchan 12.53 322 Pn Pn 22 46 59.2 +0.5
comp=Z,0.1nm,0.3s,baz=132,slow=12,SNR=9.2
GAMB Gambell 13.64 37 ePn Pn 22 47 12.3 -1.5
BILL Bilibino 14.05 355 ⇓eP Pn 22 47 19.5 0.0
BILL pmax pmax
comp=Z,15nm,1.0s
BILL MLR MLR
comp=Z,665nm,15.0s
BILL Bilibino 14.05 355 ePn Pn 22 47 19.8 +0.4
BILL eSn S 22 50 18.8 +2.6
UNV Unalaska Valle 14.11 81 ePn Pn 22 47 24.0 +3.7
AKUT Akutan 14.48 80 ePn Pn 22 47 27.4 +2.1
FALS False Pass 15.72 76 eP P 22 47 45.5 -0.3
comp=Z,92nm,0.6s
TNA Tin City 16.01 35 ePn Pn 22 47 45.7 +0.2
comp=Z,85nm,1.1s
CHGN Chignik 18.35 70 ePn P 22 48 14.9 +0.1
YSS Yuzh-Sakhalins 18.37 258 eP Pn 22 48 18.0 +2.9
YSS eS S 22 51 45.0 +0.6
YSS MLR MLR
comp=E,500nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s
YUK Yuzh-Kuril'sk 18.39 246 deP P 22 48 14.6 -0.8
YUK eS Sn 22 51 39.6 -0.8
YUK MLR MLR
comp=Z,348nm,18.0s
SVW2 Sparrevohn 19.77 55 ePn P 22 48 30.8 +0.4
comp=Z,30nm,0.7s
ASAJ Asahikawa 20.13 251 P Pn 22 48 36.6 +0.3
ASAJ S Sn 22 52 24.9 +2.5
ASAJ pmax pmax
comp=Z,16nm,0.8s
ASAJ smax smax
comp=N,3.0nm,0.4s
ASAJ MLR MLR
comp=Z,16nm,28.6s
ASAJ Asahikawa 20.13 251 P Pn 22 48 36.6 +0.3
comp=Z,16nm,0.8s,baz=64,slow=4.4,SNR=8.2
ASAJ S Sn 22 52 24.9 +2.4
comp=Z,2.7nm,0.3s,baz=210,slow=25,SNR=4.7
ASAJ LR LR 22 55 16.3
comp=Z,299nm,21.6s,baz=9.0,slow=34
ASAJ Asahikawa 20.13 251 ePn Pn 22 48 35.8 -0.5
comp=Z,27nm,1.6s
ASAJ S Sn 22 52 24.9 +2.4
OHAK Old Harbor 21.04 66 eP P 22 48 43.2 -0.9
RSO Redoubt South 21.13 57 eP P 22 48 44.4 -0.9
KDAK Kodiak Island 21.35 65 i P P 22 48 47.4 0.0
IM04 Indian Mountai 21.46 42 eP P 22 48 47.8 -0.8
PPLA Purkeypile 21.54 51 eP P 22 48 50.6 +1.0
CAST Castle Rocks 21.65 49 eP P 22 48 51.8 +1.1
YAK Yakutsk 22.17 307 eP P 22 48 54.2 -2.0
YAK e*PP pP 22 49 02.6 +1.9
YAK ePPP PPP 22 49 25.3
YAK e 22 52 46.3
YAK eS S 22 52 59.6 0.0
YAK eSSS SSS 22 53 39.7
YAK e 23 00 05.9
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=Z,37nm,1.3s
YAK pmax pmax
comp=N,25nm,1.6s
YAK pmax pmax
comp=E,64nm,1.5s
YAK smax smax
comp=N,121nm,2.7s
YAK smax smax
comp=E,163nm,2.7s
YAK MLR MLR
comp=Z,406nm,19.0s
YAK MLR MLR
comp=E,439nm,18.0s
YAK MLR MLR
comp=N,372nm,20.0s
YAK Yakutsk 22.17 307 eP P 22 48 57.2 +1.0
comp=N,68nm,0.9s
KTH Kantishna Hill 22.19 49 eP P 22 48 57.2 +0.7
comp=N,55nm,1.0s
TRF Thorofare Moun 22.46 49 eP P 22 48 59.6 +0.1
PMR Palmer 22.90 54 eP P 22 49 03.4 -0.6
PMR pmax pmax
comp=Z,21nm,1.0s
PMR Palmer 22.90 54 eP P 22 49 03.4 -0.6
comp=Z,21nm,1.0s
MCK McKinley 23.09 49 eP P 22 49 05.6 -0.4
MCK pmax pmax
comp=Z,41nm,0.9s
MCK McKinley 23.09 49 eP P 22 49 05.6 -0.4
comp=Z,41nm,0.9s
COLD Coldfoot 23.17 40 eP P 22 49 06.2 -0.5
comp=Z,28nm,1.1s
COLA College 23.68 46 eP P 22 49 11.2 -0.5
COLA pmax pmax
comp=Z,47nm,0.9s
COLA College 23.68 46 eP P 22 49 11.2 -0.5
comp=Z,47nm,0.9s
KLR Kul'dur 23.71 274 eP P 22 49 09.8 -2.4
KLR MLR MLR
comp=E,800nm,13.0s
ILAR Eielson Array 24.07 46 P P 22 49 14.0 -1.6
ILAR pmax pmax
comp=Z,12nm,0.6s
ILAR MLR MLR
comp=Z,473nm,18.5s
ILAR Eielson Array 24.07 46 P P 22 49 14.0 -1.6
comp=Z,12nm,0.6s,baz=254,slow=7.6,SNR=163
ILAR LR LR 22 59 04.7
comp=Z,473nm,18.5s,baz=253,slow=38
DIV Divide 24.53 55 eP P 22 49 19.6 -0.2
comp=Z,92nm,1.6s
PAX Paxson 24.61 51 eP P 22 49 20.3 -0.3
PAX Paxson 24.61 51 eP P 22 49 20.3 -0.3
CLNS Chul'man 25.09 294 eP P 22 49 23.2 -1.7
CLNS pmax pmax
comp=Z,12nm,1.2s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS MLR MLR
comp=Z,423nm,17.0s
CLNS MLR MLR
comp=N,449nm,17.0s
CLNS MLR MLR
comp=E,178nm,15.0s
BMRM Bremner River 25.11 56 eP P 22 49 24.8 -0.2
RAGM Ragged Mountai 25.13 57 eP P 22 49 26.4 +1.2
DOT Dot Lake 25.25 49 eP P 22 49 24.9 -1.4
comp=E,94nm,0.8s
MENT Mentasta 25.41 51 eP P 22 49 27.1 -0.6
USRK Ussuriysk Arra 26.17 263 P P 22 49 34.5 -0.2
comp=E,4.1nm,0.9s,baz=66,slow=6.6,SNR=8.8
USRK LR LR 23 01 03.2
comp=E,336nm,18.7s,baz=50,slow=39
EGAK Eagle 26.53 47 eP P 22 49 36.5 -1.3
comp=E,36nm,0.8s
DAWY Dawson 27.31 48 eP P 22 49 44.5 -0.4
MDJ Mudanjiang 27.34 266 P P 22 49 45.1 -0.1
MDJ PcP PcP 22 53 04.4 +0.3
MDJ S S 22 54 27.3 +3.1
MDJ ScP ScP 22 56 45.0 +1.4

MDJ ScS ScS 23 00 38.8 +3.8
MDJ pmax pmax
comp=E,6.0nm,0.9s
MDJ pmax pmax
comp=E,78nm,4.5s
MDJ LR LR
comp=E,250nm,20.2s
MDJ LR LR
comp=E,280nm,20.2s
MDJ LR LR
comp=E,370nm,19.6s
MDJ Mudanjiang 27.34 266 eP **P** 22 49 45.6 +0.4
comp=E,20nm,1.2s
MAJO Matsushiro 27.83 244 d iP P 22 49 51.7 +2.0
MAJO pmax pmax
comp=Z,137nm,1.3s
MAJO Matsushiro 27.83 244 eP **P** **22 49 51.9 +2.2**
MAT Matsushiro 27.83 244 P **P** **22 49 51.1 +1.4**
MAT S **S** **22 54 37.2 +5.1**
MJAR Matsushiro Arr 27.83 244 P **P** **22 49 51.4 +1.7**
MJAR pmax pmax
comp=Z,28nm,1.3s
MJAR MLR MLR
comp=Z,16nm,28.6s
MJAR Matsushiro Arr 27.83 244 P **P** **22 49 51.4 +1.7**
comp=Z,28nm,1.3s,baz=22,slow=8.6,SNR=8.5
MJAR LR LR 23 00 36.6
comp=Z,145nm,20.8s,baz=40,slow=36
HYT Haines Junctio 28.57 55 eP **P** **22 49 58.3 +2.0**
INK Inuvik 29.58 39 P **P** **22 50 04.7 -0.2**
INK pmax pmax
comp=Z,6.0nm,0.6s
INK Inuvik 29.58 39 P **P** **22 50 04.7 -0.2**
comp=Z,5.6nm,0.6s,baz=281,slow=7.1,SNR=27
CN2 Changchun 30.24 268 eP **P** **22 50 13.3 +2.2**
CN2 eS **S** **22 55 12.4 +2.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,400nm,18.0s
SNY Shenyang 32.53 267 ⇓P **P** **22 50 34.3 +3.1**
SNY pmax pmax
comp=Z,10.0nm,0.8s
DLBC Dease Lake 32.85 58 P **P** **22 50 34.8 +0.8**
comp=Z,15nm,0.6s,baz=187,slow=17,SNR=29
DLBC Dease Lake 32.85 58 eP **P** **22 50 33.0 -0.9**
KSRS Korea Array 32.86 257 P **P** **22 50 35.9 +1.7**
KSRS pmax pmax
comp=Z,3.0nm,0.7s
KSRS MLR MLR
comp=Z,16nm,28.6s
KSRS Korea Array 32.86 257 P **P** **22 50 35.9 +1.7**
comp=Z,3.1nm,0.7s,baz=44,slow=9.1,SNR=5.4
KSRS LR LR 23 03 40.9
comp=Z,106nm,20.6s,baz=56,slow=36
KSAR Wonju Array Be 32.89 257 P **P** **22 50 35.9 +1.4**
KSAR Wonju Array Be 32.89 257 P **P** **22 50 35.9 +1.4**
JCJ Chichijima 33.64 228 LR LR 23 01 32.1
comp=Z,113nm,20.6s,baz=20,slow=31
H11N2 WAKE ISLAND Hy 34.38 184 T T 23 27 06.4
baz=4.9,slow=76,SNR=4508
H11N3 WAKE ISLAND Hy 34.40 184 T T 23 27 06.4
baz=4.9,slow=76,SNR=3264
H11N1 WAKE ISLAND Hy 34.40 184 T T 23 27 06.7
baz=4.9,slow=76,SNR=4323
H11S1 WAKE ISLAND Hy 35.61 185 T T 23 28 39.5
baz=4.6,slow=78,SNR=5471
H11S3 WAKE ISLAND Hy 35.62 185 T T 23 28 36.6
baz=4.6,slow=78,SNR=3960
H11S2 WAKE ISLAND Hy 35.62 185 T T 23 28 37.3
baz=4.6,slow=78,SNR=5370
BJI Beijing 38.01 271 P **P** **22 51 17.8 -0.5**
BJI S **S** **22 57 11.8 +2.0**
BJI pmax pmax
comp=Z,5.0nm,0.6s
BJI pmax pmax
comp=Z,78nm,3.9s
BJI LR LR
comp=Z,370nm,19.4s
BJI LR LR
comp=Z,420nm,15.9s
BJI LR LR
comp=Z,170nm,21.9s
YKA Yellowknife Ar 38.51 46 P **P** **22 51 22.1 -0.2**
YKA 22 53 34.6
YKA pmax pmax
comp=Z,7.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 38.51 46 P **P** **22 51 22.1 -0.2**
comp=Z,7.2nm,0.6s,baz=293,slow=8.1,SNR=93
YKA PcP **PcP** **22 53 34.6 -0.1**
comp=Z,1.1nm,0.6s,baz=294,slow=3.4,SNR=7.7
ULN Ulaanbaatar 38.65 287 eP **P** **22 51 22.9 -1.0**
ULN pmax pmax
comp=Z,8.0nm,1.1s
ULN Ulaanbaatar 38.65 287 eP **P** **22 51 22.9 -1.0**
comp=Z,7.7nm,1.1s
SONM Songino Array 39.03 287 P **P** **22 51 27.4 +0.3**
SONM 22 53 37.1
SONM 22 57 23.8
SONM pmax pmax
comp=Z,2.0nm,0.5s
SONM MLR MLR
comp=Z,148nm,18.5s
SONM Songino Array 39.03 287 P **P** **22 51 27.4 +0.3**
comp=Z,2.3nm,0.5s,baz=62,slow=7.8,SNR=46
SONM PcP **PcP** **22 53 37.1 +0.2**
comp=Z,0.3nm,0.6s,baz=90,slow=4.3,SNR=2.1
SONM ScP **ScP** **22 57 23.8 -0.6**
comp=Z,0.2nm,0.4s,baz=93,slow=3.0,SNR=3.8
SONM LR LR 23 07 50.1
comp=Z,148nm,18.5s,baz=45,slow=37
ZAK Zakamensk 39.38 293 eP **P** **22 51 29.0 -0.9**
ZAK pmax pmax
comp=Z,3.0nm,2.0s
MOY Mondy 39.94 295 eP P 22 51 41.6 +7.1
RES Resolute Bay 40.18 24 P **P** **22 51 35.6 -0.5**
RES pmax pmax
comp=Z,4.0nm,0.8s
RES Resolute Bay 40.18 24 P **P** **22 51 35.6 -0.5**
comp=Z,3.7nm,0.8s,baz=316,slow=7.2,SNR=8.8
HHC Hu-ho-hao-te 40.20 275 eP **P** **22 51 34.6 -2.3**
HHC PP **PnPn** **22 53 13.6 +0.8**
HHC PcS **PcS** **22 57 27.6 -3.5**
HHC S **S** **22 57 42.5 -0.6**
HHC SS **SS** **23 00 37.9 -2.9**
HHC ScS **ScS** **23 01 40.0 -2.6**
HHC pmax pmax
comp=Z,10.0nm,1.3s
HHC pmax pmax
comp=Z,260nm,8.7s
HHC LR LR
comp=Z,560nm,17.4s
HHC LR LR
comp=Z,690nm,17.4s
HHC LR LR
comp=Z,610nm,16.2s
JOW Kunigami 40.66 245 LR LR 23 08 19.2
comp=Z,12nm,21.9s,baz=130,slow=36
EDM Edmonton 43.56 58 eP **P** **22 52 04.1 0.0**
EDM Edmonton 43.56 58 eP **P** **22 52 04.1 0.0**
I03D Drain, OR 43.76 75 ⇓P **P** **22 52 06.4 +0.7**
baz=44
G05D Wamic, OR 43.95 72 ⇓P **P** **22 52 07.9 +0.5**
baz=44
I04A Tendick Farm, 44.23 74 ⇑P **P** **22 52 09.9 +0.3**
baz=44
NEW Newport 44.44 66 P **P** **22 52 11.1 -0.1**
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW Newport 44.44 66 P **P** **22 52 11.1 -0.1**
comp=Z,7.9nm,0.8s,baz=310,slow=7.6,SNR=16
NEW Newport 44.44 66 ⇓P **P** **22 52 11.2 0.0**
baz=44
L02D Cave Junction, 44.58 77 ⇓P **P** **22 52 13.0 +0.7**
baz=44
J04D Umpqua Nationa 44.75 75 ⇑P **P** **22 52 14.5 +0.6**
baz=44
M02C Callahan 45.50 77 ⇑P **P** **22 52 20.7 +1.0**
baz=45
WHN Wuhan 45.65 262 P P 22 52 29.5 +8.5
WALA Waterton Lakes 45.68 63 eP **P** **22 52 21.1 0.0**
comp=Z,1.2nm,1.0s
M04C Macdoel 45.83 76 ⇑P **P** **22 52 22.4 0.0**
baz=46
N02D Trinity Center 45.85 78 ⇓P **P** **22 52 23.4 +0.8**
baz=46
BSMT Bassoo Peak 45.95 65 eP **P** **22 52 23.2 -0.1**
comp=Z,18nm,0.8s
BLMT Blacktail Moun 46.08 65 eP **P** **22 52 24.4 0.0**
comp=Z,25nm,0.8s
JTMT Jette 46.28 65 eP **P** **22 52 25.1 -0.8**
comp=Z,14nm,1.0s
XAN Xi'an 46.33 270 P P 22 52 34.5 +8.2
XAN pmax pmax
comp=Z,2.0nm,1.3s
XAN LR LR
comp=N,150nm,15.3s
XAN LR LR
comp=E,110nm,16.3s
XAN LR LR
comp=Z,81nm,13.3s
BMO Blue Mountains 46.43 70 eP **P** **22 52 24.1 -3.0**
comp=Z,3.7nm,0.9s
SWMT Swartz Lake 46.58 65 eP **P** **22 52 27.6 -0.6**
comp=Z,5.2nm,0.9s
MOD Modoc 46.63 75 eP **P** **22 52 28.8 +0.1**
comp=Z,6.2nm,0.5s
ZALV Zalesovo Beam 46.82 306 P **P** **22 52 28.0 -1.9**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,16nm,28.6s
ZALV Zalesovo Beam 46.82 306 P **P** **22 52 28.0 -1.9**
comp=Z,0.5nm,0.5s,baz=64,slow=6.7,SNR=3.1
ZALV LR LR 23 14 04.4
comp=Z,216nm,18.1s,baz=65,slow=39
SPITS Spitsbergen Ar 46.95 353 P **P** **22 52 29.1 -1.5**
SPITS pmax pmax
comp=Z,2.0nm,0.4s
SPITS Spitsbergen Ar 46.95 353 P **P** **22 52 29.1 -1.5**
comp=Z,1.5nm,0.4s,baz=57,slow=6.1,SNR=16
SLMT Seeley Lake 47.01 65 eP **P** **22 52 28.9 -2.8**
comp=Z,6.3nm,0.7s
MSO Missoula 47.03 66 ⇓P **P** **22 52 31.5 -0.2**
baz=47
NVS Novosibirsk 47.03 308 eP **P** **22 52 29.4 -2.1**
NVS pmax pmax
comp=Z,18nm,1.6s
NVS pmax pmax
comp=N,8.0nm,2.0s
NVS pmax pmax
comp=E,13nm,1.6s
CHMT Chamberlain Mo 47.34 65 eP **P** **22 52 33.3 -1.0**
comp=E,4.4nm,1.1s
LZH Lanzhou 47.89 276 eP **P** **22 52 40.0 +1.4**
LZH pP **pP** **22 52 42.9 -0.6**
LZH sP **sP** **22 52 45.0 -0.4**
LZH eS **S** **22 59 37.5 +2.3**
LZH sS **sS** **22 59 46.4 +3.1**
LZH SS **SS** **23 02 57.4 -6.1**
LZH pmax pmax
comp=E,18nm,1.0s
LZH pmax pmax
comp=E,190nm,5.0s
LZH LR LR
comp=E,600nm,14.8s
LZH LR LR
comp=E,800nm,15.6s
LZH LR LR
comp=E,960nm,17.0s
GTA Gaotai 47.97 282 eP **P** **22 52 39.3 +0.1**
GTA pP **pP** **22 52 42.8 -1.3**
GTA sP **sP** **22 52 46.3 +0.3**
GTA PP **PP** **22 54 30.1 -0.9**
GTA S **S** **22 59 33.8 -2.5**
GTA sS **sS** **22 59 42.3 -2.1**
GTA SS SS 23 02 55.3 -9.4
GTA pmax pmax
comp=E,5.0nm,0.7s
GTA pmax pmax
comp=E,150nm,6.4s
GTA LR LR
comp=E,430nm,17.6s
GTA LR LR
comp=E,360nm,16.4s
GTA LR LR
comp=E,380nm,15.9s
FFC Flin Flon 48.15 51 eP **P** **22 52 39.6 -0.6**
FFC pmax pmax
comp=Z,5.0nm,0.7s
FFC Flin Flon 48.15 51 eP **P** **22 52 39.6 -0.6**
comp=Z,4.5nm,0.7s
HRY Holter Researc 48.23 65 eP **P** **22 52 41.1 0.0**
comp=Z,12nm,0.6s
A19A Klindworth Far 48.45 61 ⇓P **P** **22 52 42.3 -0.3**
baz=48,SNR=11
EGMT Eagleton 48.49 62 eP **P** **22 52 42.2 -0.8**
EGMT Eagleton 48.49 62 ⇑P **P** **22 52 42.6 -0.5**
baz=48
B19A Brinkman Farms 48.64 61 ⇓P **P** **22 52 44.0 -0.2**
baz=48
HLID Hailey 48.85 70 eP **P** **22 52 45.2 -0.8**
comp=Z,3.9nm,0.9s
HLID Hailey 48.85 70 ⇓P **P** **22 52 45.4 -0.6**
baz=49
MCMT McKenzie Canyo 48.89 67 eP **P** **22 52 46.1 -0.2**
comp=Z,1.7nm,0.5s
A20A Cobblestone Ra 48.90 60 ⇓P **P** **22 52 45.9 -0.3**
baz=49,SNR=10
FCC Fort Churchill 49.03 43 eP **P** **22 52 46.5 -0.4**
FCC Fort Churchill 49.03 43 eP **P** **22 52 46.5 -0.4**
comp=Z,0.3nm,0.5s
C19A Slack Wire Ran 49.05 62 ⇓P **P** **22 52 47.4 +0.1**
baz=49,SNR=6.7
B20A Solberg Farm, 49.13 61 ⇑P **P** **22 52 47.5 -0.4**
baz=49
DAG Danmarks Havn 49.28 2 eP **P** **22 52 46.5 -2.0**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 49.28 2 iP **P** **22 52 46.5 -2.0**
comp=Z,2.3nm,0.8s
WAKR Walker 49.38 78 eP **P** **22 52 50.8 +0.7**
comp=Z,14nm,0.6s
D19A Cripps Ranch, 49.50 63 ⇑P **P** **22 52 50.7 0.0**
baz=49,SNR=7.0
C20A Veseth Ranch, 49.60 62 ⇑P **P** **22 52 51.2 -0.3**
baz=49,SNR=6.1
B21A Ellsworth Farm 49.65 60 ⇑P **P** **22 52 51.5 -0.4**
baz=49
QLMT Earthquake Lak 49.66 66 eP **P** **22 52 51.8 -0.4**
comp=Z,2.6nm,1.2s
A22A Carney Farms, 49.85 59 ⇑P **P** **22 52 53.2 -0.1**
baz=50,SNR=12
D20A Manuel Ranch, 49.94 62 ⇑P **P** **22 52 54.1 0.0**
baz=50
C21A Desert Coulee 50.00 61 ⇑P **P** **22 52 54.3 -0.2**
baz=50,SNR=5.2
E19A Rath Farm, Rou 50.00 63 ⇓P **P** **22 52 54.0 -0.6**
baz=50
NVAR Mina Array Bea 50.08 77 P **P** **22 52 56.1 +0.7**
comp=Z,8.6nm,0.7s,baz=297,slow=7.6,SNR=33
NVAR LR LR 23 12 15.4
comp=Z,85nm,21.4s,baz=58,slow=34
YFT Old Faithful 50.22 66 eP **P** **22 52 57.3 +0.8**
comp=Z,12nm,1.0s
F19A Roth Farm, Mol 50.32 64 ⇓P **P** **22 52 57.2 +0.2**
baz=50
E20A Meyer Farm, Mu 50.32 63 ⇑P **P** **22 52 57.1 +0.1**
baz=50,SNR=6.7
A23A Redstone 50.39 59 ⇓P **P** **22 52 57.3 -0.2**
baz=50
H17A Grant Village 50.40 66 ⇓P **P** **22 52 58.9 +1.0**
baz=50,SNR=7.3
D21A La Casta Ranch 50.54 62 ⇑P **P** **22 52 58.8 +0.1**
baz=50
B23A Brockton 50.66 59 ⇓P **P** **22 52 59.2 -0.2**
baz=50,SNR=11
C22A Vida 50.67 60 ⇑P **P** **22 52 59.3 -0.3**
baz=50
H18A Shoshone NF, C 50.71 66 ⇓P **P** **22 53 00.3 +0.2**
baz=50
I17A Pilgrim Ck. 50.72 67 ⇓P **P** **22 53 00.6 +0.3**
baz=50
F20A Billings 50.77 64 ⇓P **P** **22 53 00.5 0.0**
baz=50
E21A Keefer Ranch, 50.85 62 ⇓P **P** **22 53 01.1 +0.1**
baz=51
A24A Westby 50.85 58 ⇑P **P** **22 53 00.8 -0.1**
baz=51,SNR=6.7
D22A Cohagen 50.91 61 ⇑P **P** **22 53 01.5 0.0**
baz=51,SNR=6.0
TPH Tonopah 50.94 77 eP **P** **22 53 01.9 0.0**
TPH pmax pmax
comp=Z,13nm,0.6s
TPH Tonopah 50.94 77 eP **P** **22 53 01.9 0.0**
comp=Z,13nm,0.6s
C23A Lambert 50.99 60 ⇓P **P** **22 53 02.1 +0.1**
baz=51,SNR=9.5
RCTC Rector, Farmer 51.00 80 ⇓P **P** **22 53 03.7 +1.6**
baz=51
DGMT Dagmar 51.05 59 ⇓P **P** **22 53 02.3 -0.2**
baz=51
H19A Powell 51.07 65 ⇑P **P** **22 53 03.2 +0.4**
baz=51
G20A Bridger 51.12 64 ⇑P **P** **22 53 02.9 -0.2**
baz=51,SNR=11
A25A Svangstu Ranch 51.29 58 ⇑P **P** **22 53 04.0 -0.2**
baz=51,SNR=6.3
D23A Lindsay 51.39 60 ⇑P **P** **22 53 04.9 -0.2**
baz=51
I19A Meeteetse 51.49 66 ⇓P **P** **22 53 06.3 +0.3**
baz=51
E22A Miles City 51.50 62 ⇑P **P** **22 53 06.1 +0.2**
baz=51
C24A Savage 51.56 60 ⇓P **P** **22 53 06.2 -0.1**
baz=51
CD2 Chengdu 51.60 271 eP **P** **22 53 07.5 +0.7**
CD2 pP **pP** **22 53 12.0 +0.3**
CD2 sP **sP** **22 53 14.5 +0.9**
CD2 PcP **PcP** **22 54 21.8 +1.3**
CD2 PP **PP** **22 55 05.6 +1.5**
CD2 PcS **PcS** **22 58 18.3 -0.3**
CD2 S **S** **23 00 27.5 +0.4**
CD2 sS **sS** **23 00 33.8 -1.4**
CD2 ScS **ScS** **23 02 56.0 -0.4**
CD2 SS **SS** **23 04 01.3 -1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,210nm,4.1s
CD2 LR LR
comp=Z,340nm,10.8s
CD2 LR LR
comp=Z,440nm,11.8s
CD2 LR LR
comp=Z,270nm,10.8s
G21A Lodge Grass 51.65 64 ⇑P **P** **22 53 06.9 -0.1**
baz=51
R11A Troy Canyon, C 51.69 75 ⇑P **P** **22 53 07.6 +0.1**
baz=52,SNR=7.7
B25A Knox Farm, Ray 51.70 58 ⇑P **P** **22 53 07.2 -0.1**
baz=51
F22A Rosebud 51.78 62 ⇑P **P** **22 53 07.8 -0.1**
baz=52
WMQ Urumqi 51.79 294 P **P** **22 53 10.5 +2.4**
WMQ PcP **PcP** **22 54 23.8 +2.8**
WMQ PP **PP** **22 55 09.3 +3.8**
WMQ PcS **PcS** **22 58 19.8 +0.8**
WMQ S **S** **23 00 33.5 +4.1**
WMQ ScS **ScS** **23 02 58.8 +1.4**
WMQ pmax pmax
comp=Z,8.0nm,1.0s
WMQ pmax pmax
comp=Z,180nm,5.2s
WMQ LR LR
comp=Z,1μm,20.8s
WMQ LR LR
comp=Z,990nm,19.0s
WMQ LR LR
comp=Z,240nm,21.2s
KURK Kurchatov 51.81 306 eP **P** **22 53 06.3 -1.7**
KURK pmax pmax
comp=Z,16nm,1.4s
KURK Kurchatov 51.81 306 eP **P** **22 53 06.3 -1.7**
comp=Z,16nm,1.4s
A26A Wade Farm, Ken 51.85 57 ⇓P **P** **22 53 08.1 -0.2**
baz=52,SNR=5.9
D24A Glendive 51.88 60 ⇑P **P** **22 53 09.0 +0.3**
baz=52,SNR=5.6
ISA Isabella 51.89 80 eP **P** **22 53 07.7 -1.3**
ISA pmax pmax
comp=Z,2.0nm,0.7s
ISA Isabella 51.89 80 eP **P** **22 53 07.7 -1.3**
comp=Z,2.3nm,0.7s
ISA Isabella 51.89 80 ⇑P **P** **22 53 08.6 -0.3**
baz=52,SNR=5.7
J19A Crowheart 51.98 66 ⇓P **P** **22 53 09.7 +0.1**
baz=52
DUG Dugway 51.99 72 ⇓P **P** **22 53 09.9 +0.2**
baz=52
I20A Worland 52.01 65 ⇑P **P** **22 53 09.8 0.0**
baz=52
PDAR Pinedale Array 52.04 67 P **P** **22 53 10.1 0.0**
comp=Z,5.0nm,0.8s,baz=306,slow=4.0,SNR=31
B26A Jensen Ranch, 52.10 58 ⇓P **P** **22 53 10.2 0.0**
baz=52
SUMG Summit 52.11 10 eP **P** **22 53 08.4 -2.1**
SUMG pmax pmax
comp=Z,19nm,1.2s
SUMG Summit 52.11 10 iP **P** **22 53 11.1 +0.6**
comp=Z,7.3nm,1.0s
SUMG Summit 52.11 10 eP **P** **22 53 08.4 -2.1**
comp=Z,19nm,1.2s
G22A Birney 52.13 63 ⇑P **P** **22 53 10.9 +0.2**
baz=52
H21A Big Horn, Sher 52.13 64 ⇑P **P** **22 53 10.4 -0.3**
baz=52
F23A Volborg 52.26 62 ⇓P **P** **22 53 11.3 -0.2**
baz=52,SNR=8.9
FURC Furnace Creek, 52.26 78 ⇓P **P** **22 53 12.0 +0.5**
baz=52,SNR=11
BSC Santa Cruz Isl 52.40 82 ⇓P **P** **22 53 13.3 +0.7**
baz=52
J20A Shoshoni 52.44 66 ⇑P **P** **22 53 13.1 +0.1**
baz=52,SNR=9.7
LRMC Laurel Mountai 52.48 79 ⇑P **P** **22 53 13.9 +0.5**
baz=52
OSI Osito Adit 52.49 81 ⇓P **P** **22 53 13.8 +0.5**
baz=52
H22A Clearmont 52.52 64 ⇑P **P** **22 53 13.5 0.0**
baz=52
C26A Wahner Farm, P 52.53 58 ⇓P **P** **22 53 13.5 0.0**
baz=52,SNR=7.7
I21A Big Trails, Te 52.55 65 ⇓P **P** **22 53 13.8 0.0**
baz=52
B27A Peters Farms, 52.56 57 ⇑P **P** **22 53 13.8 +0.1**
baz=52
G23A Biddle 52.62 62 ⇑P **P** **22 53 14.2 0.0**
baz=52
MK31 Makanchi Array 52.62 300 eP **P** **22 53 12.1 -2.1**
MK31 Makanchi Array 52.62 300 eP **P** **22 53 12.1 -2.1**
MKAR Makanchi Array 52.62 300 P **P** **22 53 12.6 -1.6**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR
comp=Z,178nm,18.6s
MKAR Makanchi Array 52.62 300 P **P** **22 53 12.6 -1.6**
comp=Z,1.6nm,0.6s,baz=49,slow=7.2,SNR=30
MKAR LR LR 23 16 13.1
comp=Z,178nm,18.6s,baz=31,slow=37
F24A Ekalaka 52.67 61 ⇓P **P** **22 53 14.9 +0.3**
baz=52
A28A Rude Farm, Bot 52.71 56 ⇓P **P** **22 53 15.0 +0.2**
baz=52
EDW2 Edwards Air Fo 52.73 80 ⇑P **P** **22 53 15.6 +0.4**
baz=52
E25A Miller Ranch, 52.77 60 ⇓P **P** **22 53 15.2 -0.1**
baz=52,SNR=5.1
J21A Lysite 52.78 65 ⇓P **P** **22 53 15.8 +0.2**
baz=52
D26A Manning 52.90 59 ⇓P **P** **22 53 16.5 +0.3**
baz=53
C27A Sayler Ranch, 52.91 58 ⇓P **P** **22 53 16.7 +0.5**
baz=53
I22A 9 Mile Ranch, 52.93 64 ⇑P **P** **22 53 16.7 +0.1**
baz=53,SNR=6.4
B28A Dugan Ranch, T 52.97 57 ⇓P **P** **22 53 16.6 -0.1**
baz=53,SNR=9.6
DECC Green Verdugo 52.98 81 ⇓P **P** **22 53 17.5 +0.6**
baz=53
SHOC Shoshone 52.99 78 ⇑P **P** **22 53 17.9 +0.8**
baz=53

Sta	Name	Dist	Az	Phase	Phase	Time	Res
G24A	Alzada	53.04	62	⇓P	P	22 53 17.1	-0.2
	baz=53						
H23A	Clabaugh Cattl	53.04	63	⇓P	P	22 53 17.5	+0.1
	baz=53						
GSC	Goldstone	53.11	79	eP	P	22 53 17.9	-0.1
GSC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GSC	Goldstone	53.11	79	eP	P	22 53 17.9	-0.1
	comp=Z,8.2nm,0.8s						
GSC	Goldstone	53.11	79	⇑P	P	22 53 18.4	+0.3
	baz=53,SNR=8.8						
F25A	Bowman	53.13	61	⇓P	P	22 53 17.9	-0.1
	baz=53						
MWC	Mount Wilson	53.15	81	eP	P	22 53 18.5	+0.1
MWC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MWC	Mount Wilson	53.15	81	eP	P	22 53 18.5	+0.1
	comp=Z,5.3nm,0.6s						
GYA	Guiyang	53.19	265	⇑iP	P	22 53 21.4	+2.7
GYA				PP	PP	22 55 20.8	+2.2
GYA				S	S	23 00 49.4	+0.4
GYA				SS	SS	23 04 27.3	-0.9
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.2s						
GYA				LR	LR		
	comp=Z,450nm,18.5s						
GYA				LR	LR		
	comp=Z,390nm,19.2s						
GYA				LR	LR		
	comp=Z,480nm,18.0s						
A29A	Manning Farm,	53.20	55	⇓P	P	22 53 18.4	-0.1
	baz=53,SNR=12						
J22A	Midwest	53.26	65	⇑P	P	22 53 19.1	+0.1
	baz=53,SNR=18						
E26A	Carlson Angus	53.26	60	⇑P	P	22 53 18.6	-0.3
	baz=53,SNR=16						
H24A	Dirks Ranch, A	53.36	62	⇓P	P	22 53 19.3	-0.5
	baz=53,SNR=7.3						
K21A	Alcova	53.38	66	⇑P	P	22 53 19.7	-0.3
	baz=53						
B29A	Wagenman Farm,	53.45	56	⇓P	P	22 53 20.1	-0.2
	baz=53						
KEV	Kevo	53.47	345	eP	P	22 53 17.3	-2.7
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KEV	Kevo	53.47	345	ep	P	22 53 17.3	-2.7
	comp=Z,3.0nm,0.6s						
TUQ	Turquoise Moun	53.53	78	⇑P	P	22 53 21.5	+0.4
	baz=53						
F26A	Lodgepole	53.58	60	⇓P	P	22 53 21.0	-0.3
	baz=53,SNR=5.3						
A30A	Hoffart Farm,	53.64	55	⇑P	P	22 53 21.3	-0.4
	baz=53						
G25A	Newell	53.65	61	⇑P	P	22 53 21.7	-0.1
	baz=53						
HEC	Hector,Ludlow	53.72	79	⇓P	P	22 53 23.0	+0.5
	baz=54						
D28A	Regan	53.72	58	⇑P	P	22 53 22.4	+0.1
	baz=54						
E27A	Carson	53.75	59	⇑P	P	22 53 22.5	0.0
	baz=54						
ULM	Lac du Bonnet	53.89	52	P	P	22 53 23.2	-0.2
ULM				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ULM				MLR	MLR		
	comp=Z,219nm,18.4s						
ULM	Lac du Bonnet	53.89	52	P	P	22 53 23.2	-0.2
	comp=Z,9.1nm,0.6s,baz=314,slow=7.4,SNR=20						
ULM				LR	LR	23 17 34.0	
	comp=Z,219nm,18.4s,baz=328,slow=38						
F27A	Lemmon	53.90	60	⇑P	P	22 53 23.1	-0.5
	baz=54,SNR=6.2						
ARCES	ARCESS Array B	53.90	345	P	P	22 53 21.9	-1.3
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,94nm,18.1s						
ARCES	ARCESS Array B	53.90	345	P	P	22 53 21.9	-1.3
	comp=Z,5.5nm,0.8s,baz=41,slow=7.4,SNR=17						
ARCES				LR	LR	23 19 29.9	
	comp=Z,94nm,18.1s,baz=360,slow=40						
H25A	Fruitdale	53.94	62	⇑P	P	22 53 24.2	+0.2
	baz=54						
B30A	Myrvik Farm, E	53.96	55	⇑P	P	22 53 23.8	-0.2
	baz=54						
G26A	Maurine	54.00	61	⇑P	P	22 53 24.1	-0.3
	baz=54,SNR=10						
BRVK	Borovoye	54.02	313	eP	P	22 53 23.2	-1.1
BRVK				pmax	pmax		
	comp=Z,14nm,0.6s						
BRVK	Borovoye	54.02	313	eP	P	22 53 23.1	-1.1
	comp=Z,14nm,0.6s						
SRU	San Rafael	54.02	71	eP	P	22 53 24.9	+0.2
SRU				pmax	pmax		
	comp=Z,11nm,0.6s						
SRU	San Rafael	54.02	71	eP	P	22 53 24.9	+0.2
	comp=Z,11nm,0.6s						
N20A	Spence Gulch,	54.07	68	⇓P	P	22 53 25.6	+0.5
	baz=54						
E28A	Huff	54.09	58	⇓P	P	22 53 24.8	-0.1
	baz=54						
GMRC	Granite Mounta	54.15	79	⇓P	P	22 53 26.0	+0.3
	baz=54,SNR=8.3						
K23A	Bowen Ranch, D	54.16	65	⇑P	P	22 53 25.4	-0.3
	baz=54						
L22A	Ellis Ranch, M	54.23	66	⇓P	P	22 53 26.5	+0.3
	baz=54						
G27A	Dupree	54.28	60	⇑P	P	22 53 26.1	-0.3
	baz=54,SNR=6.0						
D29A	Pettibone, Tap	54.30	57	⇓P	P	22 53 26.4	0.0
	baz=54						
C30A	Mose, Pekin	54.41	56	⇑P	P	22 53 27.1	-0.1
	baz=54						
BELC	Belle Mtn. Jos	54.51	80	⇓P	P	22 53 28.3	0.0
	baz=54,SNR=6.0						
PFO	Pinyon Flat Ob	54.52	80	⇓P	P	22 53 28.3	-0.1
	baz=54						
F28A	McLaughlin	54.53	59	⇓P	P	22 53 28.3	+0.1
	baz=54						
O20A	White River Ci	54.56	69	⇑P	P	22 53 28.8	+0.1
	baz=54						
L23A	Garrett	54.56	65	⇑P	P	22 53 28.4	-0.3
	baz=54,SNR=8.1						
E29A	Napoleon	54.62	58	⇑P	P	22 53 28.7	0.0
	baz=54						
D30A	Buchanan	54.68	57	⇓P	P	22 53 28.9	-0.3
	baz=54,SNR=7.9						
J25A	Sunshine Ranch	54.69	63	⇑P	P	22 53 29.0	-0.4
	baz=54						
I26A	New Underwood	54.73	62	⇓P	P	22 53 29.8	0.0
	baz=54						
IRM	Iron Mountain	54.88	79	⇓P	P	22 53 31.3	+0.5
	baz=55,SNR=6.6						
U15A	North Rim	54.91	75	⇑P	P	22 53 31.5	+0.2
	baz=55,SNR=6.4						
G28A	Parade	55.01	60	⇓P	P	22 53 31.7	0.0
	baz=55						
E30A	Jud	55.03	57	⇓P	P	22 53 31.2	-0.5
	baz=55						
F29A	Eureka	55.03	59	⇑P	P	22 53 31.7	-0.1
	baz=55,SNR=6.1						
MONP	Monument Peak	55.06	81	⇓P	P	22 53 32.8	+0.4
	baz=55						
BC3	Big Chuckawall	55.07	79	⇑P	P	22 53 32.7	+0.3
	baz=55						
N22A	Wattenberg Ran	55.07	67	⇓P	P	22 53 32.5	0.0
	baz=55						
J26A	Sides Ranch, S	55.12	63	⇓P	P	22 53 32.4	-0.2
	baz=55						
I27A	Quinn	55.13	61	⇑P	P	22 53 32.8	+0.2
	baz=55,SNR=11						
K25A	Mack Ranch, Ha	55.19	64	⇓P	P	22 53 33.2	0.0
	baz=55						
SVE	Sverdlovsk	55.21	321	eP	P	22 53 32.1	-0.7
H28A	Mission Ridge	55.23	60	⇓P	P	22 53 33.4	+0.2
	baz=55,SNR=7.7						
N23A	Red Feather La	55.28	67	⇓P	P	22 53 34.5	+0.5
	baz=55						
PDMCI	Parker Dam,Lak	55.36	78	⇑P	P	22 53 35.0	+0.7
	baz=55						
SWSC	Sam W. Stewart	55.38	80	⇓P	P	22 53 35.0	+0.5
	baz=55						
PV04	Paradox Valley	55.42	71	eP	P	22 53 34.8	-0.1
F30A	Leola	55.43	58	⇑P	P	22 53 34.3	-0.4
	baz=55						
O22A	Kremmling	55.47	68	⇓P	P	22 53 35.5	+0.1

Sta	Name	Dist	Az	Phase	Phase	Time	Res
	baz=55						
M24A	Cheyenne	55.48	65	⇑P	P	22 53 35.4	0.0
	baz=55						
K26A	Motz Farm, Whi	55.49	63	⇑P	P	22 53 35.1	-0.2
	baz=55						
SFJD	Kangerlussuaq	55.50	18	eP	P	22 53 33.9	-0.9
SFJD	Kangerlussuaq	55.50	18	eP	P	22 53 33.9	-0.9
Y12C	Blythe	55.54	79	⇑P	P	22 53 36.3	+0.7
	baz=55						
I28A	Midland	55.63	61	⇓P	P	22 53 36.1	-0.1
	baz=55						
H29A	Onida	55.68	60	⇓P	P	22 53 36.6	+0.2
	baz=55						
J27A	Elkhorn Farm,	55.72	62	⇓P	P	22 53 37.4	+0.5
	baz=56						
P22A	Eagle	55.76	68	⇑P	P	22 53 37.8	+0.4
	baz=56						
O23A	Lake Granby, G	55.78	67	⇓P	P	22 53 38.5	+0.9
	baz=56,SNR=7.9						
GLA	Glamis	55.87	79	⇑P	P	22 53 38.9	+0.9
	baz=56						
G30A	Faulkton	55.87	59	⇓P	P	22 53 37.2	-0.6
	baz=56						
N24A	Carr	55.90	66	⇑P	P	22 53 38.5	+0.2
	baz=56						
M25A	Palm-Egli Farm	55.92	65	⇓P	P	22 53 38.7	+0.3
	baz=56						
J28A	Allard Ranch,	56.00	61	⇓P	P	22 53 39.3	+0.4
	baz=56,SNR=8.5						
WUAZ	Wupatki	56.08	75	eP	P	22 53 40.6	+1.0
	comp=Z,19nm,1.3s						
WUAZ	Wupatki	56.08	75	⇓P	P	22 53 40.6	+1.0
	baz=56,SNR=5.2						
TMCR	Tamitsa	56.23	337	eP	P	22 53 43.5	+3.4
TMCR				e		22 54 36.9	
TMCR				pmax	pmax		
	comp=Z,19nm,1.0s						
ISCO	Idaho Springs	56.23	67	eP	P	22 53 40.9	0.0
ISCO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ISCO	Idaho Springs	56.23	67	eP	P	22 53 40.9	0.0
	comp=Z,7.1nm,0.8s						
ISCO	Idaho Springs	56.23	67	⇓P	P	22 53 41.7	+0.9
	baz=56,SNR=10.0						
ARU	Arti	56.27	321	c iP	P	22 53 40.0	-0.5
ARU						22 55 44.1	
ARU				PPP	PPP	22 56 57.7	
ARU				S	S	23 01 31.2	+1.8
ARU				SS	SS	23 05 12.5	-2.8
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ARU	Arti	56.27	321	eP	P	22 53 39.6	-0.9
	comp=Z,10nm,0.5s						
O24A	Longmont	56.30	67	⇓P	P	22 53 42.0	+0.8
	baz=56						
N25A	Grover	56.34	66	⇓P	P	22 53 42.1	+0.7
	baz=56						
M26A	McRoberts Ranc	56.38	64	⇓P	P	22 53 42.0	+0.3
	baz=56						
PRGR	Permogore	56.39	332	eP	P	22 53 40.3	-0.9
PRGR				e		22 53 49.1	
PRGR						22 54 38.5	
P23A	Jefferson	56.41	68	⇓P	P	22 53 43.0	+0.8
	baz=56						
K28A	Ten Mile Ranch	56.43	62	⇑P	P	22 53 42.5	+0.5
	baz=56						
BRSD	Miller	56.45	59	⇑P	P	22 53 42.2	+0.2
	baz=56						
J29A	Okreek	56.48	61	⇓P	P	22 53 42.3	+0.1
	baz=56,SNR=8.7						
MVCO	Mesa Verde	56.48	71	eP	P	22 53 41.5	-1.1
	comp=Z,6.0nm,0.7s						
MVCO	Mesa Verde	56.48	71	⇓P	P	22 53 42.8	+0.2
	baz=56,SNR=5.4						
KMI	Kunming	56.50	267	P	P	22 53 43.6	+0.8
KMI				pmax	pmax		
	comp=Z,4.0nm,1.9s						
113A	Mohawk Valley,	56.68	79	⇓P	P	22 53 44.5	+0.7
	baz=56						
N26A	Koester Ranch,	56.79	65	⇑P	P	22 53 45.5	+0.9
	baz=56						
X16A	Lo Mia Camp, P	56.83	76	⇓P	P	22 53 46.2	+1.2
	baz=57						
K29A	Lazy Trails An	56.95	61	⇑P	P	22 53 46.1	+0.5
	baz=57						
J30A	Dallas	56.97	60	⇓P	P	22 53 45.7	0.0
	baz=57						
S22A	4UR Ranch, Cre	57.03	70	⇓P	P	22 53 47.6	+1.1
	baz=57,SNR=8.9						
QIZ	Qiongzhong	57.09	257	P	P	22 53 46.8	0.0
QIZ				S	S	23 01 39.6	-1.5
QIZ				pmax	pmax		
	comp=Z,200nm,3.5s						
O26A	Horse Wrangler	57.16	65	⇑P	P	22 53 47.4	+0.2
	baz=57						
N27A	Anderson Farm,	57.17	65	⇓P	P	22 53 48.0	+0.7
	baz=57						
P25A	Willow Gulch B	57.22	67	⇑P	P	22 53 48.7	+0.9
	baz=57,SNR=5.1						
R23A	Moffat	57.26	69	⇑P	P	22 53 48.7	+0.5
	baz=57						
W18A	Petrified Fore	57.29	74	⇑P	P	22 53 49.5	+1.2
	baz=57						
OGNE	Ogallala	57.34	64	⇑P	P	22 53 49.0	+0.6
	baz=57						
L29A	Maesberg Ranch	57.36	62	⇑P	P	22 53 49.0	+0.5
	baz=57						
M28A	Bar X Bar Ranc	57.37	63	⇑P	P	22 53 49.2	+0.5
	baz=57						
K30A	Basset	57.37	61	⇓P	P	22 53 49.0	+0.4
	baz=57						
EYMN	Ely	57.56	52	eP	P	22 53 49.5	-0.3
	comp=Z,21nm,0.6s						
X18A	Snowflake	57.59	75	⇑P	P	22 53 51.3	+0.8
	baz=57						
Q25A	Bedland, Calha	57.61	67	⇑P	P	22 53 51.3	+0.8
	baz=57,SNR=5.1						
R24A	Sanders Place,	57.63	68	⇓P	P	22 53 51.5	+0.8
	baz=57,SNR=5.6						
P26A	Davis Ranch, A	57.63	66	⇓P	P	22 53 51.3	+0.7
	baz=57,SNR=5.8						
O27A	Beecher Island	57.65	65	⇑P	P	22 53 51.2	+0.6
	baz=57						
M29A	Burnside Ranch	57.69	63	⇑P	P	22 53 51.6	+0.7
	baz=57						
214A	Organ Pipe Nat	57.83	79	⇓P	P	22 53 52.9	+1.0
	baz=58						
L30A	Spencer Herefo	57.84	62	⇑P	P	22 53 52.0	+0.2
	baz=58						
Q26A	Hugo	58.00	67	⇑P	P	22 53 53.9	+0.7
	baz=58						
S24A	Houchin Ranch,	58.00	69	⇓P	P	22 53 53.6	+0.2
	baz=58						
U22A	Llaves	58.00	71	⇓P	P	22 53 53.8	+0.5
	baz=58						
P27A	Ficken Ranch,	58.05	66	⇑P	P	22 53 53.7	+0.2
	baz=58						
M30A	Dale-Ortello V	58.05	62	⇑P	P	22 53 53.7	+0.3
	baz=58						
O28A	Krutsinger Ran	58.07	65	⇓P	P	22 53 54.0	+0.5
	baz=58						
L31A	Butterfield Fa	58.13	61	⇑P	P	22 53 54.2	+0.3
	baz=58						
ECSD	EROS Data Cent	58.13	58	eP	P	22 53 52.2	-1.7
	comp=Z,9.5nm,0.7s						
ECSD	EROS Data Cent	58.13	58	⇑P	P	22 53 53.4	-0.4
	baz=58,SNR=8.8						
R25A	Fountain Ranch	58.14	68	⇑P	P	22 53 54.7	+0.5
	baz=58						
N29A	Votaw Ranch, W	58.17	63	⇓P	P	22 53 54.7	+0.4
	baz=58,SNR=5.4						
V22A	San Miguel Ran	58.30	71	⇑P	P	22 53 56.2	+0.8
	baz=58						
T24B	San Luis	58.32	69	⇑P	P	22 53 56.5	+0.9
	baz=58						
U23A	El Rito	58.40	71	⇓P	P	22 53 57.1	+0.9
	baz=58,SNR=6.1						
S25A	Robets Cordova	58.41	68	⇑P	P	22 53 56.4	+0.3
	baz=58						
KSCO	Kaye Shedlock'	58.41	66	⇑P	P	22 53 56.9	+0.8
	baz=58						
P28A	Saint Francis	58.48	65	⇓P	P	22 53 57.0	+0.6
	baz=58						
R26A	Arlington	58.48	67	⇑P	P	22 53 57.1	+0.5
	baz=58,SNR=12						
O29A	4D Ranch, Culb	58.59	64	⇑P	P	22 53 57.4	+0.3
	baz=58,SNR=8.2						
M31A	Lambtecht Ranc	58.66	62	⇑P	P	22 53 57.6	0.0

Sta	Name	Dist	Az	Phase	Phase	Time	Res
	baz=58						
KLMR	Klimovskoe	58.69	334	eP	P	22 53 57.8	+0.4
KLMR				pmax	pmax		
	comp=Z,31nm,1.6s						
SLVN	Son La	58.73	263	eP	P	22 53 57.4	-0.9
	comp=Z,12nm,0.9s						
T25A	Trinidad	58.80	69	⇓P	P	22 53 59.3	+0.4
	baz=59						
Q28A	Sharon Springs	58.80	65	⇑P	P	22 53 59.1	+0.3
	baz=59						
JOF	Joensuu	58.81	339	eP	P	22 53 57.0	-1.2
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JOF	Joensuu	58.81	339	ep	P	22 53 57.0	-1.2
	comp=Z,2.6nm,0.6s						
V23A	Ortiz Mt. (NFS	58.83	71	⇓P	P	22 53 59.9	+0.8
	baz=59						
R27A	Eads	58.85	67	⇓P	P	22 53 59.4	+0.3
	baz=59,SNR=5.7						
P29A	Atwood	58.89	64	⇑P	P	22 53 59.8	+0.5
	baz=59						
SPMN	St. Paul	58.92	55	eP	P	22 53 59.7	+0.4
	comp=Z,32nm,0.6s						
SPMN	St. Paul	58.92	55	⇑P	P	22 53 59.3	-0.1
	baz=59,SNR=9.0						
O30A	MW Ranch, Wils	58.94	63	⇑P	P	22 53 59.7	+0.1
	baz=59,SNR=5.5						
S26A	Kim	58.96	68	⇓P	P	22 54 00.4	+0.5
	baz=59						
BGNE	Belgrade	59.04	61	eP	P	22 53 59.0	-1.2
	comp=Z,31nm,0.6s						
BGNE	Belgrade	59.04	61	⇑P	P	22 54 00.2	-0.1
	baz=59,SNR=6.8						
T26A	Comanche Natio	59.22	68	⇓P	P	22 54 01.7	0.0
	baz=59,SNR=10						
S27A	Las Animas	59.23	67	⇓P	P	22 54 01.9	+0.1
	baz=59						
ANMO	Albuquerque	59.26	72	⇓eP	P	22 54 02.5	+0.4
ANMO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
W23A	Werner Place,	59.28	72	⇓P	P	22 54 02.7	+0.5
	baz=59						
P30A	Selden	59.30	64	⇑P	P	22 54 02.2	+0.1
	baz=59,SNR=6.8						
R28A	Tribune	59.34	66	⇓P	P	22 54 02.6	+0.1
	baz=59						
U25A	Circle Dot Ran	59.34	69	⇑P	P	22 54 02.9	+0.3
	baz=59,SNR=10						
O31A	Woolen Ranch,	59.34	63	⇓P	P	22 54 02.2	-0.2
	baz=59						
V24A	Rampart Ranch,	59.35	70	⇓P	P	22 54 03.5	+0.8
	baz=59,SNR=6.6						
Q29A	Oakley	59.38	65	⇑P	P	22 54 02.9	+0.2
	baz=59,SNR=6.2						
N32A	Stulken Farm,	59.43	62	⇓P	P	22 54 02.8	-0.2
	baz=59						
AAK	Ala-Archa	59.50	301	eP	P	22 54 03.0	-0.6
AAK				pmax	pmax		
	comp=Z,13nm,1.4s						
AAK	Ala-Archa	59.50	301	eP	P	22 54 03.0	-0.6
	comp=Z,14nm,1.4s						
V25A	Rancho No Teng	59.63	70	⇑P	P	22 54 05.2	+0.5
	baz=59,SNR=7.1						
R29A	Marienthal	59.64	66	⇑P	P	22 54 04.7	+0.2
	baz=59						
W24A	Lazy 6 Ranch,	59.65	71	⇓P	P	22 54 05.5	+0.7
	baz=59,SNR=5.0						
X23A	Hourglass Bar	59.68	72	⇓P	P	22 54 05.4	+0.4
	baz=60						
U26A	Atchley Ranch,	59.71	69	⇓P	P	22 54 05.4	+0.2
	baz=60,SNR=6.2						
P31A	Stockton	59.77	64	⇑P	P	22 54 05.3	-0.1
	baz=60,SNR=7.1						
T27A	Campo	59.78	68	⇑P	P	22 54 06.2	+0.6
	baz=60						
O32A	Brockman Farm,	59.81	62	⇓P	P	22 54 05.0	-0.6
	baz=60						
EKS2	Erkin-Say	59.84	302	eP	P	22 54 04.8	-1.0
EKS2				pmax	pmax		
	comp=Z,7.0nm,1.0s						
EKS2	Erkin-Say	59.84	302	eP	P	22 54 04.8	-1.0
	comp=Z,6.6nm,1.0s						
LSA	Lhasa	59.87	280	P	P	22 54 05.3	-1.4
LSA	Lhasa	59.87	280	eP	P	22 54 06.2	-0.5
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LSA	Lhasa	59.87	280	eP	P	22 54 06.2	-0.5
	comp=Z,7.0nm,0.8s						
T28A	Walsh	60.07	67	⇓P	P	22 54 07.6	+0.1
	baz=60,SNR=6.7						
P32A	Huiting Farm,	60.11	63	⇓P	P	22 54 07.2	-0.4
	baz=60,SNR=8.6						
V26A	Tequesquite Ra	60.12	69	⇑P	P	22 54 08.1	+0.2
	baz=60,SNR=13						
Q31A	Ellis	60.14	64	⇓P	P	22 54 07.9	0.0
	baz=60						
W25A	X Bar L Ranch,	60.17	70	⇓P	P	22 54 08.6	+0.3
	baz=60						
U27A	Thompson Grove	60.19	68	⇑P	P	22 54 08.6	+0.2
	baz=60,SNR=8.2						
R30A	Dighton	60.20	65	⇑P	P	22 54 08.4	0.0
	baz=60,SNR=13						
Z22A	Elephant Butte	60.22	74	⇑P	P	22 54 09.2	+0.6
	baz=60						
Y23A	Lovelace Mesa,	60.23	72	⇓P	P	22 54 09.6	+0.8
	baz=60,SNR=8.0						
S29A	Ulysses	60.24	66	⇓P	P	22 54 08.8	+0.1
	baz=60						
319A	Douglas	60.29	77	⇓P	P	22 54 09.8	+0.7
	baz=60						
KAF	Kangasniemi	60.54	341	eP	P	22 54 09.0	-1.2
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KAF	Kangasniemi	60.54	341	ep	P	22 54 09.0	-1.2
	comp=Z,2.2nm,0.6s						
U28A	Mallet	60.55	68	⇑P	P	22 54 11.0	+0.2
	baz=60						
X25A	Clemmons Ranch	60.57	71	⇓P	P	22 54 11.9	+0.8
	baz=60						
S30A	Montezuma	60.58	66	⇑P	P	22 54 10.8	-0.1
	baz=60						
Y24A	Capitan	60.58	72	⇓P	P	22 54 12.0	+0.8
	baz=60,SNR=14						
Q32A	Meitler Ranch,	60.59	63	⇑P	P	22 54 10.5	-0.5
	baz=60,SNR=5.8						
R31A	Burdett	60.60	65	⇑P	P	22 54 10.4	-0.6
	baz=60						
W26A	Owens Ranch, T	60.65	70	⇓P	P	22 54 11.9	+0.3
	baz=60						
V27A	Dan Oppiter Fa	60.67	69	⇓P	P	22 54 11.7	+0.1
	baz=60						
Q33A	Connelly Farm,	60.97	63	⇓P	P	22 54 13.0	-0.5
	baz=61,SNR=7.2						
Y25A	Mesa, Roswell	61.00	71	⇑P	P	22 54 14.5	+0.6
	baz=61,SNR=19						
V28A	Channing	61.01	68	⇓P	P	22 54 14.1	+0.2
	baz=61						
U29A	Oasis Ranch, S	61.02	67	⇓P	P	22 54 13.6	-0.3
	baz=61						
X26A	CR and CF Fran	61.03	70	⇑P	P	22 54 14.5	+0.4
	baz=61,SNR=5.1						
KSH	Kashi	61.03	298	eP	P	22 54 17.3	+3.2
KSH				ePP	PP	22 56 35.4	+7.3
KSH				PcS	PcS	22 58 59.6	-0.4
KSH				S	S	23 02 35.1	+3.0
KSH				ScS	ScS	23 04 08.3	+3.8
KSH				SS	SS	23 06 38.8	+7.8
KSH				pmax	pmax		
	comp=Z,15nm,1.6s						
KSH				LR	LR		
	comp=Z,200nm,10.9s						
KSH				LR	LR		
	comp=Z,210nm,8.2s						
KSH				LR	LR		
	comp=Z,160nm,4.5s						
W27A	Bowe Ranch, En	61.06	69	⇓P	P	22 54 14.4	+0.1
	baz=61						
Z24A	Sheeppen Canyo	61.06	72	⇑P	P	22 54 15.0	+0.5
	baz=61,SNR=6.4						
S31A	Mullinville	61.12	65	⇑P	P	22 54 14.2	-0.4
	baz=61						
KKAR	Karatay Array	61.12	304	eP	P	22 54 12.9	-1.5
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	Karatay Array	61.12	304	eP	P	22 54 12.9	-1.5
	comp=Z,2.3nm,0.6s						
SCIA	State Center	61.17	58	eP	P	22 54 14.2	-0.6
	comp=Z,31nm,0.6s						

FINES FINESS Array B 61.20 341 P P 22 54 13.9 -0.7
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,106nm,18.2s
FINES FINESS Array B 61.20 341 P P 22 54 13.9 -0.7
comp=Z,1.5nm,0.6s,baz=33,slow=7.8,SNR=9.6
FINES LR LR 23 24 48.4
comp=Z,106nm,18.2s,baz=88,slow=40
ABKAR Akbulak array 61.21 315 eP P 22 54 13.5 -1.5
comp=Z,4.5nm,0.5s
W28A Vega 61.39 69 ⇓P P 22 54 16.5 -0.1
baz=61
T31A Randall Ranch, 61.40 66 ⇑P P 22 54 16.1 -0.3
baz=61
R33A Olander Ranch, 61.40 64 ⇓P P 22 54 15.8 -0.7
baz=61,SNR=5.2
Y26A Elida 61.48 71 ⇑P P 22 54 17.5 +0.3
baz=61,SNR=7.8
KSU1 Kansas State U 61.53 62 eP P 22 54 15.8 -1.4
comp=Z,7.6nm,0.5s
KSU1 Kansas State U 61.53 62 ⇑P P 22 54 16.6 -0.7
baz=61
T32A Huddler Ranch, 61.74 65 ⇓P P 22 54 18.0 -0.7
baz=62
Y27A Causey 61.88 70 ⇑P P 22 54 20.2 +0.3
baz=62,SNR=8.5
Z26A Caprock 61.88 71 ⇑P P 22 54 20.2 +0.4
baz=62,SNR=5.1
SCHQ Schefferville 61.93 33 P P 22 54 18.7 -1.1
comp=Z,7.9nm,0.8s,baz=349,slow=7.7,SNR=8.2
X28A Dimmitt 61.94 69 ⇓P P 22 54 20.3 +0.1
baz=62
AMTX Amarillo 61.95 69 ⇓P P 22 54 20.4 +0.1
baz=62
125A Gardner Draw, 61.96 72 ⇓P P 22 54 20.9 +0.5
baz=62,SNR=11
MSTX Muleshoe 62.03 70 eP P 22 54 20.7 -0.2
comp=Z,9.2nm,0.8s
MSTX Muleshoe 62.03 70 ⇑P P 22 54 21.2 +0.4
baz=62
T33A Patterson Ranc 62.17 65 ⇓P P 22 54 20.8 -0.8
baz=62
MNTX Cornudas Mount 62.27 74 eP P 22 54 22.3 0.0
comp=Z,6.8nm,0.7s
X29A Tulia 62.27 69 ⇑P P 22 54 22.5 +0.1
baz=62
225A Deer Hill, Car 62.27 73 ⇑P P 22 54 23.0 +0.4
baz=62
Z27A Tatum 62.27 71 ⇑P P 22 54 22.6 +0.1
baz=62,SNR=6.5
V31A Spring Creek L 62.29 67 ⇓P P 22 54 22.5 -0.1
baz=62
U32A Winter Ranch, 62.29 66 ⇓P P 22 54 22.4 -0.1
baz=62
226B Tecolote Peak, 62.67 72 ⇓P P 22 54 25.3 +0.2
baz=62,SNR=5.7
W31A Holland Ranch, 62.68 67 ⇑P P 22 54 25.3 +0.2
baz=62
X30A Coker Ranch, T 62.72 68 ⇓P P 22 54 25.5 +0.1
baz=62
Y29A Porterfield Fa 62.72 69 ⇓P P 22 54 25.7 +0.2
baz=62,SNR=8.3
U33A Lingo Farm, Me 62.73 65 ⇑P P 22 54 24.8 -0.6
baz=62,SNR=5.7
V32A Arapaho 62.76 66 ⇑P P 22 54 25.7 +0.1
baz=62
U34A Anderson Ranch 63.03 65 eP P 22 54 26.3 -1.1
comp=Z,20nm,0.6s
U34A Anderson Ranch 63.03 65 ⇓P P 22 54 27.1 -0.3
baz=63
X31A McDonald Ranch 63.07 68 ⇑P P 22 54 28.1 +0.4
baz=63
V33A Lossen Ranch, 63.09 66 ⇑P P 22 54 27.5 -0.3
baz=63
W32A Sentinel 63.10 67 ⇓P P 22 54 28.2 +0.3
baz=63
Y30A Stafford Cattl 63.13 69 ⇓P P 22 54 28.3 +0.1
baz=63
Z29A Hungry Hill Ra 63.15 70 ⇓P P 22 54 28.7 +0.4
baz=63,SNR=5.6
128A Castleberry Fa 63.20 71 ⇓P P 22 54 28.9 +0.3
baz=63,SNR=8.1
Y31A Rekieta Farm, 63.42 68 ⇑P P 22 54 30.2 +0.1
baz=63
Z30A Sanderson Ranc 63.45 69 ⇑P P 22 54 30.3 0.0
baz=63,SNR=9.7
V34A Guthrie 63.50 65 ⇓P P 22 54 30.3 -0.2
baz=63
228A UT Block 9, Go 63.52 71 ⇓P P 22 54 31.1 +0.3
baz=63
CHTO Chiang Mai 63.59 266 eP P 22 54 31.9 +0.6
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 63.59 266 eP P 22 54 31.9 +0.6
comp=Z,7.3nm,0.9s
X32A Elmer 63.61 67 ⇓P P 22 54 31.3 +0.1
baz=63,SNR=5.0
TAPN Taplejung 63.63 281 eP P 22 54 30.4 -1.4
comp=Z,24nm,0.9s
TAPN Taplejung 63.63 281 eP P 22 54 30.4 -1.4
W34A Bridge Creek, 63.81 66 ⇓P P 22 54 32.3 -0.3
baz=64
Y32A R-V Farms, Ver 63.84 68 ⇓P P 22 54 32.7 0.0
baz=64,SNR=13
CMAR Chiang Mai Arr 63.87 266 P P 22 54 34.1 +1.0
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,16nm,28.6s
CMAR Chiang Mai Arr 63.87 266 P P 22 54 34.1 +1.0
comp=Z,0.8nm,0.4s,baz=26,slow=7.6,SNR=6.4
CMAR LR LR 23 22 55.4
comp=Z,91nm,21.4s,baz=36,slow=37
NB2 NORSAR Subarra 63.90 348 P P 22 54 32.2 -0.6
comp=Z,7.3nm,0.9s,baz=15,slow=6.9
NOA NORSAR Array B 63.90 348 P P 22 54 31.9 -0.9
NOA pmax pmax
comp=Z,3.0nm,0.5s
NOA MLR MLR
comp=Z,40nm,18.3s
NOA NORSAR Array B 63.90 348 P P 22 54 31.9 -0.9
comp=Z,2.6nm,0.5s,baz=1.3,slow=5.7,SNR=28
NOA LR LR 23 23 55.1
comp=Z,40nm,18.3s,baz=240,slow=38
Z31A Sharp Cattle R 63.97 69 ⇓P P 22 54 33.4 -0.2
baz=64,SNR=11
130A Snyder 64.06 70 ⇑P P 22 54 34.2 -0.1
baz=64
229A Bryant Ranch, 64.07 71 ⇑P P 22 54 34.4 +0.1
baz=64
ODAN Odare 64.19 281 eP P 22 54 33.8 -1.6
comp=Z,22nm,1.0s
ODAN Odare 64.19 281 eP P 22 54 33.8 -1.6
GUN Gumba 64.26 282 eP P 22 54 35.7 -0.3
GUN Gumba 64.26 282 eP P 22 54 35.7 -0.3
JIRN Jiri 64.27 282 eP P 22 54 36.2 +0.1
comp=Z,20nm,0.7s
JIRN Jiri 64.27 282 eP P 22 54 36.2 +0.1
Y33A Hilltop Ranch, 64.28 67 ⇑P P 22 54 35.5 -0.1
baz=64,SNR=5.0
131A Roby 64.32 69 ⇓P P 22 54 36.1 +0.1
baz=64,SNR=6.5
329A Wagon Wheel Ra 64.33 71 ⇑P P 22 54 36.3 +0.2
baz=64
Z32A Haskell 64.34 68 ⇑P P 22 54 35.7 -0.4
baz=64,SNR=6.4
TUL1 Tulsa 64.36 64 ⇓P P 22 54 35.1 -1.0
baz=64
230A Sterling City 64.51 70 ⇑P P 22 54 37.2 -0.1
baz=64
RAMN Ramite 64.57 281 eP P 22 54 37.0 -0.9
comp=Z,31nm,0.8s
RAMN Ramite 64.57 281 eP P 22 54 37.0 -0.9
KKN Kakani 64.69 283 eP P 22 54 37.4 -1.3
comp=Z,18nm,1.0s
KKN Kakani 64.69 283 eP P 22 54 37.4 -1.3
KKN Kakani 64.69 283 eP P 22 54 37.4 -1.3
Z33A Whitaker Ranch 64.75 68 ⇑P P 22 54 38.4 -0.3
baz=64,SNR=5.4
ABTX Abilene, Hawle 64.77 69 eP P 22 54 38.2 -0.7
comp=Z,13nm,0.6s
ABTX Abilene, Hawle 64.77 69 ⇑P P 22 54 39.0 +0.1
baz=64,SNR=5.3
Y34A Reagan Ranch, 64.78 67 ⇓P P 22 54 39.1 +0.1
baz=64
PKI Pulchoki 64.79 283 eP P 22 54 39.5 +0.1
comp=Z,24nm,1.1s
PKI Pulchoki 64.79 283 eP P 22 54 39.5 +0.1
PKI Pulchoki 64.79 283 eP P 22 54 39.5 +0.1
PKIN Phulchoki 64.79 283 eP P 22 54 38.5 -0.9
comp=Z,16nm,0.9s
330A Mertzon 64.84 71 ⇓P P 22 54 39.4 -0.1
baz=65,SNR=5.2
GKN Gorkha 64.90 283 eP P 22 54 39.9 -0.1
comp=Z,32nm,1.2s
GKN Gorkha 64.90 283 eP P 22 54 39.9 -0.1
231A Bronte 64.92 70 ⇓P P 22 54 39.8 -0.1
baz=65
DMN Daman 64.93 283 eP P 22 54 39.8 -0.5
DMN Daman 64.93 283 eP P 22 54 39.8 -0.5
TXAR Lajitas Array 65.02 74 P P 22 54 41.0 +0.4
TXAR pmax pmax
comp=Z,9.0nm,0.5s
TXAR Lajitas Array 65.02 74 P P 22 54 41.0 +0.4
comp=Z,9.1nm,0.5s,baz=302,slow=4.4,SNR=98
429A Davenport Ranc 65.03 72 ⇓P P 22 54 40.5 -0.1
baz=65
DANN Dangsing 65.14 284 eP P 22 54 41.0 -0.7
comp=Z,24nm,1.0s
DANN Dangsing 65.14 284 eP P 22 54 41.0 -0.7
Z34A Collier Ranch, 65.14 67 ⇑P P 22 54 41.3 0.0
baz=65
133A Hamilton Ranch 65.18 68 ⇓P P 22 54 41.7 +0.2
baz=65
529A Stev Forest Ra 65.23 73 ⇓P P 22 54 42.0 0.0
baz=65
430A Baggett Ranch, 65.28 71 ⇑P P 22 54 42.3 0.0
baz=65,SNR=11
232A Coleman 65.32 69 ⇑P P 22 54 42.6 0.0
baz=65,SNR=6.6
SFIN Scholer Farm 65.33 55 ⇑P P 22 54 41.8 -0.6
baz=65
331A San Angelo 65.33 70 ⇓P P 22 54 42.4 -0.2
baz=65,SNR=7.4
Z35A Perchaven, San 65.53 67 ⇓P P 22 54 43.4 -0.4
baz=65
233A Rising Star 65.64 69 ⇓P P 22 54 44.2 -0.3
baz=65
332A Millersview 65.66 70 ⇓P P 22 54 44.6 0.0
baz=65,SNR=5.2
134A White-Moore Ra 65.66 68 ⇓P P 22 54 44.5 -0.1
baz=65,SNR=6.2
KOLN Koldanda 65.67 284 eP P 22 54 43.7 -1.3
KOLN Koldanda 65.67 284 eP P 22 54 43.7 -1.3
530A J-C Ranch, Com 65.71 72 ⇑P P 22 54 45.3 +0.3
baz=66,SNR=12
431A Sonora 65.71 71 ⇓P P 22 54 44.8 -0.2
baz=66,SNR=13
432A Menard 66.01 70 ⇑P P 22 54 47.2 +0.2
baz=66
234A Clairette 66.06 68 ⇑P P 22 54 47.2 -0.1
baz=66
333A Richland Sprin 66.12 69 ⇓P P 22 54 47.4 -0.2
baz=66,SNR=6.5
531A Rocksprings 66.14 71 ⇓P P 22 54 47.6 -0.2
baz=66,SNR=5.4
JCT Junction City 66.31 71 eP P 22 54 48.2 -0.7
JCT pmax pmax
comp=Z,9.0nm,0.7s
JCT Junction City 66.31 71 eP P 22 54 48.1 -0.7
comp=Z,9.2nm,0.7s
JCT Junction City 66.31 71 ⇑P P 22 54 49.0 +0.1
baz=66
WHTX Lake Whitney 66.45 68 ⇓P P 22 54 49.9 +0.2
baz=66
VRHR Novokhopersk 66.45 327 eP P 22 54 43.8 -5.6
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.7s
433A Art 66.50 70 ⇑P P 22 54 49.8 -0.3
baz=66,SNR=6.3
334A Lometa 66.52 69 ⇑P P 22 54 50.3 +0.1
baz=66
MIAR Mount Ida 66.57 63 eP P 22 54 49.7 -0.7
MIAR pmax pmax
comp=Z,12nm,0.7s
MIAR Mount Ida 66.57 63 eP P 22 54 49.7 -0.7
comp=Z,12nm,0.7s
631A Perdido Creek 66.69 72 ⇑P P 22 54 51.2 -0.2
baz=66,SNR=6.4
434A Burnet 66.90 69 ⇓P P 22 54 52.6 -0.1
baz=67
335A Moody 67.00 68 ⇓P P 22 54 53.6 +0.3
baz=67
533A Kerrville 67.05 70 ⇑P P 22 54 53.7 +0.1
baz=67
632A Uvalde 67.06 71 ⇓P P 22 54 53.6 -0.1
baz=67,SNR=7.7
VSR Storozhevoye 67.12 329 eP P 22 54 50.4 -3.3
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=Z,9.0nm,0.9s
VSR pmax pmax
comp=E,7.0nm,0.8s
VORD Divnogorie 67.30 328 eP P 22 54 52.4 -2.4
VORD pmax pmax
comp=Z,10.0nm,1.6s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.7s
435B Jarrell 67.30 69 ⇓P P 22 54 55.5 +0.3
baz=67
534A Blanco 67.39 70 ⇑P P 22 54 55.5 -0.2
baz=67,SNR=5.4
732A Laxson Ranch, 67.56 72 ⇑P P 22 54 57.2 +0.5
baz=67,SNR=7.4
832A Faith Ranch, C 67.90 72 ⇓P P 22 54 59.3 +0.4
baz=68,SNR=5.2
833A Chaparral WMA, 68.19 72 ⇑P P 22 55 01.5 +0.7
baz=68
537A Green Hill Far 68.54 68 ⇑P P 22 55 03.7 +0.8
baz=68
636A Smothers Creek 68.59 69 ⇑P P 22 55 04.1 +0.9
baz=68
933A Laredo 68.81 72 ⇓P P 22 55 05.6 +0.9
baz=69
834A Tilden 68.81 71 ⇑P P 22 55 05.8 +1.2
baz=69,SNR=5.2
835A Beeville 69.09 71 ⇓P P 22 55 07.9 +1.5
baz=69
934A Benavides 69.24 72 ⇓P P 22 55 08.5 +1.2
baz=69
034A Hebbronville 69.56 72 ⇑P P 22 55 10.8 +1.4
baz=69
AKASG Malin Array Be 70.37 334 P P 22 55 13.5 -0.4
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG MLR MLR
comp=Z,147nm,18.1s
AKASG Malin Array Be 70.37 334 P P 22 55 13.5 -0.4
comp=Z,2.8nm,0.6s,baz=26,slow=6.2,SNR=10
AKASG LR LR 23 30 03.1
comp=Z,147nm,18.1s,baz=25,slow=39
KIEV Kiev 70.38 334 eP P 22 55 13.1 -0.9
KIEV pmax pmax
comp=Z,5.0nm,0.7s
KIEV Kiev 70.38 334 eP P 22 55 13.1 -0.9
comp=Z,4.7nm,0.7s
AK02 Malin Array Si 70.42 334 eP P 22 55 13.6 -0.6
IEMG Emamgholi 71.20 308 eP P 22 55 19.4 -0.2
IMYA Miami 71.39 307 eP P 22 55 21.4 +0.7
KMSC Kings Mountain 72.25 54 ⇑P P 22 55 25.2 -0.4
baz=72
KIV Kislovodsk 72.28 323 eP P 22 55 24.8 -0.9
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 72.40 322 P P 22 55 27.0 +0.7
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ MLR MLR
comp=Z,118nm,20.7s
KBZ Khabaz 72.40 322 P P 22 55 26.9 +0.7
comp=Z,3.0nm,0.8s,baz=10,slow=6.1,SNR=7.9
KBZ LR LR 23 29 55.6
comp=Z,118nm,20.7s,baz=24,slow=38
ZEI Tsey 72.85 321 eP P 22 55 36.4 +7.1
ZEI pmax pmax
comp=Z,11nm,1.5s
KWP Kalwaria Pacla 72.91 338 ⇑P P 22 55 30.3 +1.0
KWP Kalwaria Pacla 72.91 338 ⇑iP P 22 55 30.3 +1.0
STHS Stebnicka Huta 73.43 339 eP P 22 55 33.4 +1.1
STHS Stebnicka Huta 73.43 339 eP P 22 55 33.3 +0.9
DPC Dobruska-Polom 73.49 342 eP P 22 55 33.1 +0.4
DPC e 22 55 40.7
DPC e 22 55 51.4
DPC Dobruska-Polom 73.49 342 eP P 22 55 33.1 +0.4
DPC epP pP 22 55 40.7 +2.9
DPC ePCP PcP 22 55 51.4 +2.6
KRLC Kraliky 73.68 342 eP P 22 55 34.6 +0.8
KRLC Kraliky 73.68 342 eP P 22 55 34.6 +0.8
UZH Uzhgorod 73.95 338 eP P 22 55 32.7 -2.6
UZH i 22 55 34.5
UZH i 22 55 39.1
IGLO Ghaloghah 74.14 311 eP P 22 55 41.1 +4.1
TIGA Tifton 74.15 58 ⇑P P 22 55 36.7 -0.1
baz=74
BURAR Bucovina Array 74.23 336 ⇓P P 22 55 37.3 +0.1
BURAR Bucovina Array 74.23 336 ⇓iP P 22 55 37.3 +0.1
ITEG Tejag 74.84 305 eP P 22 55 41.0 -0.1
TESR Tescani 74.90 334 ⇓iP P 22 55 40.4 -0.6
IANJ Anjilo 74.97 310 eP P 22 55 41.9 0.0
IKOO Kooshah 75.11 305 eP P 22 55 42.2 -0.5
KHC Kasperske Hory 75.14 344 eP P 22 55 41.8 -0.5
KHC e 22 55 49.6
KHC e 22 55 58.2
KHC Kasperske Hory 75.14 344 eP P 22 55 41.8 -0.5
KHC epP pP 22 55 49.6 +2.2
KHC ePCP PcP 22 55 58.2 +2.3
KHC ex x 22 56 05.4
GERES GERESS Array B 75.40 344 P P 22 55 44.0 +0.1
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,60nm,18.3s
GERES GERESS Array B 75.40 344 P P 22 55 44.0 +0.1
comp=Z,0.9nm,0.7s,baz=27,slow=5.8,SNR=9.4
GERES LR LR 23 32 02.4
comp=Z,60nm,18.3s,baz=28,slow=38
VRI Vrincioaia 75.48 334 ⇑P P 22 55 45.5 +1.2
VRI Vrincioaia 75.48 334 ⇑iP P 22 55 45.5 +1.2
CFR Carcaliu 75.75 333 ⇑P P 22 55 46.1 +0.3
CFR Carcaliu 75.75 333 ⇑iP P 22 55 46.1 +0.3
CONA Conrad Observa 75.91 342 ⇑ipP P 22 55 48.5 +1.7
comp=Z,5.9nm,1.4s
MLR Muntele Rosu 76.03 334 ⇑P P 22 55 49.1 +1.5
MLR Muntele Rosu 76.03 334 ⇑iP P 22 55 49.1 +1.5
VOIR 76.30 335 ⇑P P 22 55 51.7 +2.6
VOIR 76.30 335 ⇑iP P 22 55 51.7 +2.6
ARR Arges 76.47 335 ⇓iP P 22 55 51.4 +1.4
IRAZ Razeghan 76.77 313 eP P 22 55 52.3 +0.2
GZR Gura Zlata 76.89 337 ⇑P P 22 55 53.0 +0.6
GZR Gura Zlata 76.89 337 ⇑iP P 22 55 53.0 +0.6
BZS Buzias 76.95 337 ⇑P P 22 55 53.3 +0.7
BZS Buzias 76.95 337 ⇑iP P 22 55 53.3 +0.7
KBA Koelnbreinsper 77.17 344 ⇑ipP P 22 55 56.0 +1.9
comp=Z,13nm,1.1s
SOKA Soboth 77.26 342 ⇑iP P 22 55 56.0 +1.5
comp=Z,9.8nm,1.7s
GRR Gorron 77.54 353 eP P 22 55 54.9 -1.0
comp=Z,14nm,0.7s
GRR Gorron 77.54 353 eP P 22 55 54.9 -1.0
GRR pmax pmax
comp=Z,14nm,0.7s
GRR Gorron 77.54 353 eP P 22 55 54.9 -1.0
comp=Z,14nm,0.7s
IKLH Kolahrood 77.81 311 eP P 22 55 57.1 -0.9
IZEF Zefreh 77.83 310 ePn P 22 55 57.9 -0.3
MALT Malatya 78.77 323 ⇑P P 22 56 10.5 +7.5
MALT Malatya 78.77 323 ⇑iP P 22 56 10.5 +7.5
IDHR Dehrash 78.87 315 eP P 22 56 08.1 +4.4
BRTR Keskin Array B 79.12 327 P P 22 56 05.3 +0.3
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR MLR MLR
comp=Z,47nm,18.1s
BRTR Keskin Array B 79.12 327 P P 22 56 05.3 +0.3
comp=Z,2.1nm,0.8s,baz=66,slow=2.5,SNR=9.0
BRTR LR LR 23 35 28.2
comp=Z,47nm,18.1s,baz=14,slow=39
PPT Papeete 79.52 141 LR LR 23 24 28.1
comp=Z,100nm,21.3s,baz=356,slow=30
PPT2 Papeete2 79.54 141 eLR LR 23 20 52.8
comp=Z,331nm,24.5s,baz=338
LPG La Plagne 79.68 348 eP P 22 56 06.5 -1.6
LPG La Plagne 79.68 348 eP P 22 56 06.5 -1.6
LPG La Plagne 79.68 348 eP P 22 56 06.5 -1.6
WRAB Tennant Creek 79.69 213 ⇓eP P 22 56 08.7 +0.7
WRAB pmax pmax
comp=Z,23nm,1.7s
WRAB Tennant Creek 79.69 213 eP P 22 56 08.1 +0.2
comp=Z,3.6nm,0.8s
WRA Warramunga Arr 79.70 213 P P 22 56 07.5 -0.6
WRA pmax pmax
comp=Z,3.0nm,0.9s
WRA Warramunga Arr 79.70 213 P P 22 56 07.5 -0.6
comp=Z,3.4nm,0.9s,baz=29,slow=5.7,SNR=13
ISRV Sarvestan 80.43 308 eP P 22 56 12.8 +0.3
ASAR Alice Springs 83.32 213 P P 22 56 28.4 +1.2
ASAR pmax pmax
comp=Z,3.0nm,0.9s
ASAR Alice Springs 83.32 213 P P 22 56 28.4 +1.2
comp=Z,3.0nm,0.9s,baz=21,slow=4.6,SNR=22
ESDC Sonseca Array 86.41 355 P P 22 56 42.4 -0.4
comp=Z,0.8nm,0.5s,baz=356,slow=4.8,SNR=13
STKA Stephens Creek 88.98 203 P P 22 56 56.4 +1.7
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA MLR MLR
comp=Z,57nm,21.8s
STKA Stephens Creek 88.98 203 P P 22 56 56.4 +1.7
comp=Z,4.3nm,0.8s,baz=352,slow=4.1,SNR=7.1
STKA LR LR 23 30 25.7
comp=Z,57nm,21.8s,baz=25,slow=31
NWAO Narrogin (SRO) 97.72 222 LR LR 23 38 35.2
comp=Z,52nm,21.4s,baz=34
QSPA South Pole Qui 143.87 180 ePKPdf PKPab 23 03 30.4 -1.1

NNC 16 22:44:04.7±3.1, 39.44N×70.86E, h0km, mb3.2, mpv2.8, 5C-3D, Error ellipse: s-maj=23.2km s-min=15.2km az=12.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	3.67	356	Pn	Pn	22 45 03.8	+1.0
	0.3nm,0.2s,baz=171,slow=12,SNR=6.5						
KK31				⇑Sn	Sn	22 45 48.0	+1.2
	0.6nm,0.3s						
KK31				⇑Lg	Lg	22 46 03.2	
	1.8nm,0.3s,baz=169,slow=30,SNR=13						
AAK	Ala-Archa	4.21	40	⇑Pn	Pn	22 45 10.7	+0.3
	2.0nm,0.8s						
AAK				⇓Pg	Pb	22 45 21.5	+1.5
	2.3nm,0.8s						
AAK				⇓Sn	Sn	22 46 01.0	+0.5
	1.7nm,0.8s						
AAK				⇓Lg	Lg	22 46 17.6	
	4.2nm,0.8s						
AB31	Akbulak array	12.53	325	⇑P	Pn	22 47 01.8	-2.4
	0.4nm,0.5s,baz=213,slow=7.4,SNR=11						
AB31				⇑S	Sn	22 49 21.5	-2.9
	0.6nm,0.6s						

KRNET 16 22:44:59.0±0.1, 39.15N×70.78E, h10km, mb3.6, 1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.91	2	iP	Pg	22 45 16.1	-0.6
	baz=2.0						
OHH	Osh	2.06	48	eP	Pb	22 45 37.0	+0.2
	baz=48						
OHH				eS	Sb	22 46 03.0	+0.4
	baz=48						
SFK	Sufi-Kurgan	2.27	67	eP	Pn	22 45 37.8	+0.8
	baz=67						
SFK				eS	Sn	22 46 05.0	-0.3
	baz=67						
ARSB	Arslanbob	2.75	37	eP	Pb	22 45 48.3	-0.2
	baz=37						
ARSB				eS	Sb	22 46 23.0	+0.6
	baz=37						
ARK	Arkit	2.79	18	eP	Pg	22 45 52.0	-0.8

baz=18
ARLS Aral 3.82 44⇓iP Pg 22 46 10.3 -2.2
baz=44

FUNV 16 22:52:40.8, 6.89N×72.96W, h174km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.16	33	eP	Pn	22 53 08.2	-1.3
CAPV				eS	Sn	22 53 28.8	-2.9
VIGV	El Vigia	2.50	39	eP	Pn	22 53 22.6	-0.6
VIGV				eS	Sn	22 53 53.6	-2.6
SOCV	Socops	2.50	56	eP	Pn	22 53 23.0	-0.2
SOCV				eS	Sn	22 53 53.4	-2.8
VIRV	Villa del Rosa	3.63	9	eP	Pn	22 53 35.8	-1.3
VIRV				eS	Sn	22 54 16.8	-4.3
CURV	Curarigua	4.29	43	eP	Pn	22 53 44.1	-1.5
CURV				eS	Sn	22 54 30.9	-5.5
DABV	Dabajuro	4.62	30	eP	Pn	22 53 47.9	-1.8
DABV				eS	Sn	22 54 37.7	-6.0
TEPV	Terepaima	4.82	50	eP	Pn	22 53 50.9	-1.5
TEPV				eS	Sn	22 54 42.2	-6.3
BAUV	El Baul	5.28	67	eP	Pn	22 53 56.5	-1.9
MAPV	Macapo	5.33	56	eP	Pn	22 53 57.1	-1.8
MAPV				eS	Sn	22 54 53.5	-6.9

IDC 16 23:06:17.9±0.4, 54.24N×169.55E, h0km, mb4.1/28, mb1 4.3/30, mb1mx4.2/36, mbtmp4.1/30, ML3.8/1, MS3.6/21, Ms1 3.6/21, ms1mx3.4/44, Error ellipse: s-maj=12.6km s-min=9.0km az=10.0
ISCJB 16 23:06:18.0±0.2, 54.18N±0.04×169.37E±0.03, h17km, mb4.4/61, MS3.6/20, Error ellipse: s-maj=5.2km s-min=2.3km az=0.8
MOS 16 23:06:18.5±1.0, 54.19N×169.48E, h21km, mb4.5/34, Error ellipse: s-maj=8.7km s-min=6.9km az=108.4
KRSC 16 23:06:18.9±2.4, 54.23N×168.90E, h10km±4km, ML4.9
NEIC 16 23:06:19.2±2.2, 54.22N×169.53E, h10km±14km, mb4.8/30, Error ellipse: s-maj=6.6km s-min=3.9km az=172.0
ISC 16 23:06:20.1±0.4, 54.20N±0.06×169.44E±0.04, h17km, n233, σ1.48/211, mb4.5/61, MS3.6/20, 8C-14D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.25	298	PN	Pn	23 06 54.2	-2.3
BKI	Bering	2.25	298	iP	Pn	23 06 54.2	-2.3
BKI				eS	Sn	23 07 19.8	-4.0
FX1	Attu Island--F	2.59	119	PN	Pn	23 06 59.1	-2.1
FX1						23 07 28.3	
FX1				smax	smax		
	comp=N,416nm,0.3s						
FX1	Attu Island--F	2.59	119	Pn	Pn	23 06 59.1	-2.1
	baz=90,slow=1.0						
FX1				Sn	Sn	23 07 28.2	-3.9
	comp=N,416nm,0.3s,baz=227,slow=20,SNR=6.8						
SMY	Shemya	3.15	116	ePN	Pn	23 07 06.6	-2.3
SMY				e		23 07 44.9	
SMY	Shemya	3.15	116	ePn	Pn	23 07 06.6	-2.3
SMY				eSn	Sn	23 07 44.9	-1.2
KBTR	Krutoberegovo	4.29	301	PN	Pn	23 07 23.3	-1.3
KBTR	Krutoberegovo	4.29	301	eP	Pn	23 07 23.3	-1.3
KBTR				eS	Sn	23 08 12.8	-1.4
MKZ	Mys Kozlova	4.52	278	PN	Pn	23 07 27.5	-0.2
MKZ	Mys Kozlova	4.52	278	eP	Pn	23 07 27.5	-0.2
MKZ				eS	Sn	23 08 16.1	-3.7
SMKR	Semkarok	5.13	301	eP	Pn	23 07 37.1	+0.9
SMKR				S	Sn	23 08 34.8	-0.2
BDR	Baidarnaya	5.26	300	P	Pn	23 07 37.8	-0.1
BDR				S	Sn	23 08 35.9	-2.2
SRKR	Sorokina	5.31	301	P	Pn	23 07 37.2	-1.4
SRKR				S	Sn	23 08 36.0	-3.4
TUMR	Tumrok	5.49	285	P	Pn	23 07 42.5	+1.3
TUMR				eS	Sn	23 08 43.3	-0.6
KMNR	Kamenistaya	5.52	290	P	Pn	23 07 42.2	+0.6
KMNR				eS	Sn	23 08 43.6	-1.1
SPN	Mys Shipunski	5.71	263	eS	Sn	23 08 44.3	-4.8
KII	Karymskiy	5.88	272	eP	Pn	23 07 46.6	+0.2
KII				eS	Sn	23 08 50.8	-2.6
SRDR	Sredinnyy	5.95	295	P	Pn	23 07 46.7	-0.7
SRDR				S	Sn	23 08 51.7	-3.4
NLC	Nalytchevo	6.08	264	PN	Pn	23 07 48.8	-0.4
NLC	Nalytchevo	6.08	264	eP	Pn	23 07 48.8	-0.4
NLC				eS	Sn	23 08 53.7	-4.6
OSSR	Ossora	6.16	328	eP	Pn	23 07 49.6	-0.5
SDLR	Sedlovina	6.33	266	eP	Pn	23 07 52.9	+0.2
SDLR				eS	Sn	23 09 01.2	-3.4
UGLR	Uglovaya	6.38	265	eP	Pn	23 07 53.8	+0.4
UGLR				iS	Sn	23 09 03.7	-2.1
SMAR	Somma	6.38	266	eP	Pn	23 07 53.6	+0.1
ESO	Esso	6.41	290	PN	Pn	23 07 55.1	+1.5
ESO	Esso	6.41	290	eP	Pn	23 07 55.1	+1.5
AVH	Avacha	6.42	266	eP	Pn	23 07 54.4	+0.5
AVH				S	Sn	23 09 04.2	-2.5
KRX	Arik	6.45	267	eP	Pn	23 07 54.4	0.0
KRX				eS	Sn	23 09 04.2	-3.4
KOK	Koryaka	6.47	266	eP	Pn	23 07 55.0	+0.4
KOK				eS	Sn	23 09 05.1	-3.0
TILK	Tilichiki	6.51	345	eP	Pn	23 07 55.8	+0.8
PET	Petropavlovsk	6.53	264	ePN	Pn	23 07 56.3	+1.1
PET				MLR	MLR		
	comp=Z,700nm,14.0s						
PET				MLR	MLR		
	comp=Z,1μm,12.0s						
PET	Petropavlovsk	6.53	264	P	Pn	23 07 52.8	-2.4
PET				S	Sn	23 09 07.5	-1.6
RUS	Russkaya	6.78	259	PN	Pn	23 07 58.4	-0.3
RUS	Russkaya	6.78	259	eP	Pn	23 07 58.4	-0.3
RUS				eS	Sn	23 09 11.0	-4.5
GNL	Ganaly	6.81	270	eP	Pn	23 08 00.5	+1.3
PETK	Petropavlovsk-	7.06	266	PN	Pn	23 08 04.0	+1.3
PETK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,111nm,18.9s						
PETK	Petropavlovsk-	7.06	266	Pn	Pn	23 08 04.0	+1.3
	comp=Z,8.0nm,0.3s,baz=98,slow=18,SNR=34						
PETK				Sn	Sn	23 09 21.8	-0.7
	comp=Z,12nm,0.3s,baz=246,slow=22,SNR=11						
PETK				LR	LR	23 10 50.6	
	comp=Z,111nm,18.9s,baz=91,slow=38						
PALN	Palana	7.16	317	P	Pn	23 08 07.7	+3.8
APC	Apacha	7.42	265	eP	Pn	23 08 07.7	+0.1
APC				eS	Sn	23 09 27.4	-3.9
MIPR	Malaya Ipel'ka	7.85	261	P	Pn	23 08 13.7	+0.3
TASE	Tanaga Southea	7.92	102	P	Pn	23 08 13.9	-0.5
TAFL	Tanaga Flats	8.03	103	P	Pn	23 08 16.0	+0.2
PAU	Pauzhetka	8.12	255	PN	Pn	23 08 17.4	+0.3
PAU	Pauzhetka	8.12	255	eP	Pn	23 08 17.4	+0.3
KIKV	Kanaga Island	8.40	101	P	Pn	23 08 21.3	+0.3
ADK	Adak	8.68	100	PN	Pn	23 08 23.9	-0.9
ADK	Adak	8.68	100	P	Pn	23 08 23.9	-0.9
SKR	Severo-Kuril's	8.86	252	ePN	Pn	23 08 25.5	-1.8
SKR	Severo-Kuril's	8.86	252	P	Pn	23 08 26.7	-0.6
GSCK	Great Sitkin C	8.94	98	P	Pn	23 08 28.3	0.0
SEY	Seymchan	12.44	321	Pn	Pn	23 09 17.6	+1.5
	comp=Z,0.2nm,0.3s,baz=103,slow=16,SNR=3.7						
GAMB	Gambell	13.60	38	ePn	Pn	23 09 29.7	-2.3
	comp=Z,48nm,1.1s						
BILL	Bilibino	13.97	355	⇓eP	Pn	23 09 38.1	+1.1
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BILL	Bilibino	13.97	355	ePn	Pn	23 09 37.7	+0.7
	comp=Z,9.2nm,0.6s						
TNA	Tin City	15.96	36	ePn	Pn	23 10 03.4	-0.2
	comp=Z,94nm,1.0s						
CHGN	Chignik	18.36	70	eP	P	23 10 32.7	-0.8
ASAJ	Asahikawa	20.13	251	P	Pn	23 10 55.4	+0.5
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,122nm,21.9s						
ASAJ	Asahikawa	20.13	251	P	Pn	23 10 55.4	+0.5
	comp=Z,6.8nm,0.8s,baz=92,slow=9.4,SNR=4.0						
ASAJ				LR	LR	23 17 45.8	
	comp=Z,122nm,21.9s,baz=72,slow=34						
OHAK	Old Harbor	21.04	67	eP	P	23 11 02.8	0.0
IM04	Indian Mountai	21.42	42	eP	P	23 11 06.8	-0.1
PPLA	Purkeypile	21.52	51	eP	P	23 11 08.4	+0.3
	comp=Z,163nm,1.5s						
YAK	Yakutsk	22.09	307	eP	P	23 11 12.9	-1.1
YAK				eS	S	23 15 13.9	-2.8
YAK				e*SS	x	23 15 49.2	
YAK				pmax	pmax		
	comp=Z,32nm,0.9s						
YAK				pmax	pmax		
	comp=E,16nm,1.2s						
YAK				smax	smax		
	comp=E,164nm,4.8s						
YAK				smax	smax		
	comp=N,67nm,3.0s						
YAK	Yakutsk	22.09	307	eP	P	23 11 13.0	-1.1
	comp=N,43nm,0.9s						
KTH	Kantishna Hill	22.16	49	eP	P	23 11 15.3	+0.4
	comp=N,59nm,1.1s						
TRF	Thorofare Moun	22.43	50	eP	P	23 11 18.0	+0.1
	comp=N,69nm,1.0s						
MCK	McKinley	23.06	49	eP	P	23 11 23.2	-1.2
MCK				pmax	pmax		
	comp=Z,32nm,0.9s						
MCK	McKinley	23.06	49	eP	P	23 11 23.2	-1.2
	comp=Z,32nm,0.9s						
COLD	Coldfoot	23.13	40	eP	P	23 11 25.0	+0.1
	comp=Z,44nm,1.5s						
COLA	College	23.64	46	eP	P	23 11 29.6	-0.5
COLA				pmax	pmax		
	comp=Z,33nm,0.9s						
COLA	College	23.64	46	eP	P	23 11 29.6	-0.5
	comp=Z,33nm,0.9s						
ILAR	Eielson Array	24.04	47	P	P	23 11 33.0	-1.0
ILAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,137nm,18.2s						
ILAR	Eielson Array	24.04	47	P	P	23 11 33.0	-1.0
	comp=Z,6.7nm,0.9s,baz=256,slow=7.6,SNR=34						
ILAR				LR	LR	23 21 13.3	
	comp=Z,137nm,18.2s,baz=266,slow=37						
PAX	Paxson	24.59	51	eP	P	23 11 38.2	-0.8
PAX				pmax	pmax		
	comp=Z,51nm,1.1s						
PAX	Paxson	24.59	51	eP	P	23 11 38.2	-0.8
	comp=Z,51nm,1.1s						
BMRM	Bremner River	25.09	56	eP	P	23 11 43.6	+0.1
	comp=Z,54nm,1.0s						
DOT	Dot Lake	25.23	49	eP	P	23 11 44.4	-0.3
	comp=Z,109nm,1.1s						
MENT	Mentasta	25.39	51	eP	P	23 11 47.0	+0.8
USRK	Ussuriysk Arra	26.14	263	P	P	23 11 54.1	+1.0
	comp=Z,2.2nm,0.8s,baz=53,slow=8.9,SNR=5.4						
USRK				LR	LR	23 21 26.7	
	comp=Z,99nm,21.4s,baz=62,slow=35						
EGAK	Eagle	26.50	47	eP	P	23 11 54.8	-1.3
	comp=Z,39nm,0.8s						
MJAR	Matsushiro Arr	27.83	243	P	P	23 12 10.2	+1.8
MJAR				pmax	pmax		
	comp=Z,31nm,1.3s						
MJAR				MLR	MLR		
	comp=Z,52nm,22.0s						
MJAR	Matsushiro Arr	27.83	243	P	P	23 12 10.2	+1.8
	comp=Z,30nm,1.3s,baz=318,slow=45,SNR=4.7						
MJAR				LR	LR	23 22 34.9	
	comp=Z,52nm,21.9s,baz=45,slow=35						
INK	Inuvik	29.54	39	P	P	23 12 23.0	-0.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	Inuvik	29.54	39	P	P	23 12 23.0	-0.2
	comp=Z,1.8nm,0.8s,baz=279,slow=7.1,SNR=7.5						
DLBC	Dease Lake	32.84	58	P	P	23 12 52.6	+0.2
	comp=Z,3.4nm,0.8s,baz=201,slow=7.5,SNR=4.5						
KSRS	Korea Array	32.85	257	P	P	23 12 53.7	+1.0
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,73nm,21.6s						
KSRS	Korea Array	32.85	257	P	P	23 12 53.6	+1.0
	comp=Z,2.6nm,0.9s,baz=36,slow=9.7,SNR=3.5						
KSRS				LR	LR	23 24 38.6	
	comp=Z,73nm,21.6s,baz=108,slow=33						
KSAR	Wonju Array Be	32.88	257	P	P	23 12 53.7	+0.7
KSAR	Wonju Array Be	32.88	257	P	P	23 12 53.6	+0.7
JCJ	Chichijima	33.67	227	LR	LR	23 23 51.1	
	comp=Z,75nm,21.7s,baz=78,slow=31						
H11N2	WAKE ISLAND Hy	34.46	184	T	T	23 49 24.0	
	baz=5.0,slow=76,SNR=476						
H11N3	WAKE ISLAND Hy	34.48	184	T	T	23 49 25.1	
	baz=5.0,slow=76,SNR=538						
H11N1	WAKE ISLAND Hy	34.48	184	T	T	23 49 25.4	
	baz=5.0,slow=76,SNR=355						
H11S1	WAKE ISLAND Hy	35.69	184	T	T	23 50 56.1	
	baz=4.7,slow=78,SNR=180						
H11S3	WAKE ISLAND Hy	35.70	184	T	T	23 50 55.7	
	baz=4.7,slow=78,SNR=71						
H11S2	WAKE ISLAND Hy	35.70	184	T	T	23 50 57.3	
	baz=4.7,slow=78,SNR=106						
YKA	Yellowknife Ar	38.48	46	P	P	23 13 40.3	-0.4
YKA						23 15 53.7	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	Yellowknife Ar	38.48	46	P	P	23 13 40.3	-0.4
	comp=Z,1.2nm,0.7s,baz=294,slow=7.8,SNR=20						
YKA				PcP	PcP	23 15 53.7	+0.4
	comp=Z,0.3nm,0.7s,baz=294,slow=3.3,SNR=3.3						
ULN	Ulaanbaatar	38.59	287	eP	P	23 13 42.7	+0.6
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ULN	Ulaanbaatar	38.59	287	eP	P	23 13 42.7	+0.6
	comp=Z,3.4nm,1.1s						
SONM	Songino Array	38.97	287	P	P	23 13 45.7	+0.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,123nm,19.0s						
SONM	Songino Array	38.97	287	P	P	23 13 45.7	+0.4
	comp=Z,0.9nm,0.5s,baz=67,slow=7.6,SNR=12						
SONM				LR	LR	23 30 32.7	
	comp=Z,122nm,19.0s,baz=104,slow=37						
RES	Resolute Bay	40.12	24	P	P	23 13 54.1	-0.2
RES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
RES	Resolute Bay	40.12	24	P	P	23 13 54.1	-0.2
	comp=Z,1.0nm,0.6s,baz=305,slow=13,SNR=3.6						
EDM	Edmonton	43.55	58	eP	P	23 14 22.7	+0.1
EDM	Edmonton	43.55	58	eP	P	23 14 22.7	+0.1
BSMT	Bassoo Peak	45.94	65	eP	P	23 14 42.4	+0.4
	comp=Z,7.8nm,0.7s						
BLMT	Blacktail Moun	46.07	65	eP	P	23 14 43.7	+0.7
	comp=Z,22nm,1.2s						
JTMT	Jette	46.28	65	eP	P	23 14 44.7	+0.1
	comp=Z,7.8nm,1.0s						
ZALV	Zalesovo Beam	46.74	306	P	P	23 14 49.7	+1.8
ZALV						23 16 23.8	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,16nm,28.6s						
ZALV	Zalesovo Beam	46.74	306	P	P	23 14 49.7	+1.8
	comp=Z,0.3nm,0.3s,baz=28,slow=4.9,SNR=2.6						
ZALV				PcP	PcP	23 16 23.8	+2.8
	comp=Z,0.6nm,0.6s,baz=46,slow=4.2,SNR=2.4						
ZALV				LR	LR	23 36 34.1	
	comp=Z,73nm,18.1s,baz=352,slow=39						
SPITS	Spitsbergen Ar	46.86	353	P	P	23 14 47.8	-0.8
SPITS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SPITS	Spitsbergen Ar	46.86	353	P	P	23 14 47.8	-0.8
	comp=Z,6.1nm,0.8s,baz=52,slow=9.6,SNR=10.0						
NVS	Novosibirsk	46.95	308	eP	P	23 14 55.4	+5.9
HRY	Holter Researc	48.23	65	eP	P	23 14 59.9	+0.2
	comp=Z,5.0nm,0.6s						
WAKR	Walker	49.40	78	eP	P	23 15 09.1	+0.2
	comp=Z,4.1nm,0.7s						
QLMT	Earthquake Lak	49.66	66	eP	P	23 15 11.4	+0.6
	comp=Z,0.8nm,0.8s						
NVAR	Mina Array Bea	50.10	77	P	P	23 15 15.4	+1.2
	comp=Z,2.3nm,0.8s,baz=283,slow=6.8,SNR=13						
RLMT	Red Lodge	50.62	65	eP	P	23 15 17.4	-0.7
	comp=Z,9.0nm,1.0s						
TPH	Tonopah	50.96	77	eP	P	23 15 19.5	-1.3
TPH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TPH	Tonopah	50.96	77	eP	P	23 15 19.5	-1.3
	comp=Z,4.5nm,0.6s						
LAO	LASA Array	51.18	62	eP	P	23 15 22.3	+0.2
	comp=Z,12nm,1.0s						
KURK	Kurchatov	51.73	306	eP	P	23 15 25.0	-1.1
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	Kurchatov	51.73	306	eP	P	23 15 25.0	-1.1
	comp=Z,3.8nm,0.9s						
SUMG	Summit	52.04	10	eP	P	23 15 28.6	0.0
SUMG				pmax	pmax		
	comp=Z,12nm,1.1s						
SUMG	Summit	52.04	10	iP	P	23 15 29.4	+0.8
	comp=Z,6.7nm,1.1s						
SUMG	Summit	52.04	10	eP	P	23 15 28.6	0.0
	comp=Z,12nm,1.1s						
PDAR	Pinedale Array	52.04	67	P	P	23 15 28.5	-0.3
	comp=Z,2.6nm,1.1s,baz=316,slow=4.1,SNR=9.0						
MKAR	Makanchi Array	52.55	300	P	P	23 15 31.3	-1.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,76nm,18.3s						
MKAR	Makanchi Array	52.55	300	P	P	23 15 31.2	-1.0
	comp=Z,0.7nm,0.7s,baz=54,slow=7.2,SNR=10.0						
MKAR				LR	LR	23 38 23.2	
	comp=Z,76nm,18.2s,baz=42,slow=37						
KEV	Kevo	53.38	345	eP	P	23 15 39.2	+1.2
KEV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KEV	Kevo	53.38	345	ep	P	23 15 39.2	+1.2
	comp=Z,3.9nm,0.7s						
ARCES	ARCESS Array B	53.81	345	P	P	23 15 40.7	-0.5
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,16nm,28.6s						
ARCES	ARCESS Array B	53.81	345	P	P	23 15 40.7	-0.5
	comp=Z,2.1nm,0.7s,baz=32,slow=7.8,SNR=11						
ARCES				LR	LR	23 41 48.7	
	comp=Z,76nm,18.6s,baz=354,slow=40						
ULM	Lac du Bonnet	53.87	52	P	P	23 15 42.6	+0.7
ULM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULM				MLR	MLR		
	comp=Z,90nm,19.5s						
ULM	Lac du Bonnet	53.87	52	P	P	23 15 42.6	+0.7
	comp=Z,3.1nm,0.8s,baz=291,slow=8.3,SNR=4.7						
ULM				LR	LR	23 39 26.0	
	comp=Z,90nm,19.5s,baz=323,slow=37						
BVAR	Borovoye Array	53.91	312	LR	LR	23 40 30.6	
	comp=Z,125nm,20.2s,baz=57,slow=38						
BRVK	Borovoye	53.93	313	eP	P	23 15 42.1	-0.2
BRVK				pmax	pmax		
	comp=Z,11nm,0.7s						
BRVK	Borovoye	53.93	313	eP	P	23 15 42.1	-0.2
	comp=Z,11nm,0.7s						
RSSD	Black Hills	54.05	63	eP	P	23 15 43.1	-0.5
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
RSSD	Black Hills	54.05	63	eP	P	23 15 43.1	-0.5
	comp=Z,8.1nm,1.0s						
ARU	Arti	56.18	321	P	P	23 15 59.6	+1.1
ARU	Arti	56.18	321	eP	P	23 15 58.2	-0.3
	comp=Z,4.8nm,0.6s						
SLVN	Son La	58.70	263	P	P	23 16 18.4	+1.6
JOF	Joensuu	58.72	339	eP	P	23 16 15.6	-0.7
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JOF	Joensuu	58.72	339	ep	P	23 16 15.6	-0.7
	comp=Z,1.7nm,0.5s						
AAK	Ala-Archa	59.42	301	LR	LR	23 42 20.8	
	comp=Z,45nm,18.9s,baz=86,slow=36						
LSA	Lhasa	59.82	280	eP	P	23 16 25.1	+0.1
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LSA	Lhasa	59.82	280	eP	P	23 16 25.1	+0.1
	comp=Z,4.6nm,0.8s						
KAF	Kangasniemi	60.45	341	eP	P	23 16 27.1	-1.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	Kangasniemi	60.45	341	ep	P	23 16 27.1	-1.1
	comp=Z,0.9nm,0.4s						
AKTO	Aktyubinsk	60.99	317	LR	LR	23 45 24.6	
	comp=Z,102nm,18.2s,baz=38						
KKAR	Karatay Array	61.04	304	eP	P	23 16 32.0	-0.6
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	Karatay Array	61.04	304	eP	P	23 16 32.0	-0.6
	comp=Z,1.3nm,0.6s						
FINES	FINESS Array B	61.11	341	P	P	23 16 32.2	-0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	61.11	341	P	P	23 16 32.2	-0.5
	comp=Z,1.0nm,0.6s,baz=28,slow=8.6,SNR=9.1						
ABKAR	Akbulak array	61.13	315	eP	P	23 16 32.5	-0.5
	comp=Z,1.9nm,0.5s						
TAPN	Taplejung	63.58	281	eP	P	23 16 47.7	-2.4
	comp=Z,33nm,1.2s						
TAPN	Taplejung	63.58	281	eP	P	23 16 47.7	-2.4
NB2	NORSAR Subarra	63.81	348	P	P	23 16 50.5	-0.3
	comp=Z,4.9nm,0.6s,baz=16,slow=6.9						
NOA	NORSAR Array B	63.81	348	P	P	23 16 50.5	-0.3
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	NORSAR Array B	63.81	348	P	P	23 16 50.5	-0.3
	comp=Z,1.7nm,0.5s,baz=1.5,slow=5.7,SNR=18						
CMAR	Chiang Mai Arr	63.84	265	P	P	23 16 52.8	+1.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	63.84	265	P	P	23 16 52.8	+1.2
	comp=Z,0.7nm,0.3s,baz=18,slow=6.9,SNR=4.2						
HNR	Honiara	63.90	190	LR	LR	23 43 05.7	
	comp=Z,32nm,18.5s,baz=328,slow=34						
ODAN	Odare	64.13	281	eP	P	23 16 51.0	-2.7
	comp=Z,7.7nm,0.7s						
ODAN	Odare	64.13	281	eP	P	23 16 51.0	-2.7
GUN	Gumba	64.21	282	eP	P	23 16 57.3	+3.0
GUN	Gumba	64.21	282	eP	P	23 16 57.3	+3.0
JIRN	Jiri	64.22	282	eP	P	23 16 56.7	+2.3
	comp=Z,14nm,0.9s						
JIRN	Jiri	64.22	282	eP	P	23 16 56.7	+2.3
RAMN	Ramite	64.52	281	eP	P	23 16 56.3	+0.1
	comp=Z,27nm,0.8s						
RAMN	Ramite	64.52	281	eP	P	23 16 56.3	+0.1
KKN	Kakani	64.64	283	eP	P	23 17 01.4	+4.4
KKN	Kakani	64.64	283	eP	P	23 17 01.4	+4.4
KKN	Kakani	64.64	283	eP	P	23 17 01.4	+4.4
PKI	Pulchoki	64.73	283	eP	P	23 17 00.9	+3.2
	comp=Z,13nm,0.8s						
PKI	Pulchoki	64.73	283	eP	P	23 17 01.6	+3.9
PKI	Pulchoki	64.73	283	eP	P	23 17 01.6	+3.9
PKIN	Phulchoki	64.74	283	eP	P	23 17 01.6	+3.9
	comp=Z,5.2nm,0.5s						
GKN	Gorkha	64.85	283	eP	P	23 17 04.0	+5.7
	comp=Z,9.5nm,0.9s						
DMN	Daman	64.88	283	eP	P	23 17 03.2	+4.6
DMN	Daman	64.88	283	eP	P	23 17 03.2	+4.6
TXAR	Lajitas Array	65.03	74	P	P	23 16 59.4	0.0
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	Lajitas Array	65.03	74	P	P	23 16 59.4	0.0
	comp=Z,0.6nm,0.4s,baz=304,slow=5.0,SNR=6.4						
DANN	Dangsing	65.08	284	eP	P	23 17 07.3	+7.3
	comp=Z,10.0nm,0.9s						
KOLN	Koldanda	65.62	284	eP	P	23 17 10.3	+7.0
PMG	Port Moresby	66.10	204	LR	LR	23 40 54.0	
	comp=Z,46nm,19.5s,baz=360,slow=31						
AKASG	Malin Array Be	70.28	334	P	P	23 17 31.2	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				MLR	MLR		
	comp=Z,52nm,19.6s						
AKASG	Malin Array Be	70.28	334	P	P	23 17 31.2	-0.8
	comp=Z,0.8nm,0.4s,baz=26,slow=6.4,SNR=6.9						
AKASG				LR	LR	23 49 50.0	
	comp=Z,52nm,19.6s,baz=300,slow=37						
KBZ	Khabaz	72.31	322	P	P	23 17 45.8	+1.4
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KBZ	Khabaz	72.31	322	P	P	23 17 45.8	+1.4
	comp=Z,3.4nm,1.1s,baz=243,slow=4.5,SNR=4.5						
KWP	Kalwaria Pacla	72.82	338	eP	P	23 17 45.9	-1.5
KWP				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KWP	Kalwaria Pacla	72.82	338	⇓iP	P	23 17 45.6	-1.8
KWP	Kalwaria Pacla	72.82	338	eP	P	23 17 45.9	-1.5
	comp=Z,6.8nm,0.7s						
DPC	Dobruska-Polom	73.40	342	eP	P	23 17 51.2	+0.3
DPC	Dobruska-Polom	73.40	342	eP	P	23 17 51.2	+0.3
OKC	Ostrava-Krasne	73.56	341	eP	P	23 17 59.9	+8.2

OKC	Ostrava-Krasne	73.56	341	eP	P	23 17 59.9	+8.2
KRLC	Kraliky	73.58	342	eP	P	23 18 00.9	+9.0
BURAR	Bucovina Array	74.13	336	⇓P	P	23 17 56.8	+1.5
BURAR	Bucovina Array	74.13	336	⇓/P	P	23 17 56.8	+1.5
TRPA	Tarpa	74.27	338	⇑/P	P	23 18 00.9	+5.0
GNI	Garni	74.73	319	LR	LR	23 54 54.8	
	comp=Z,73nm,20.8s,baz=49,slow=39						
KHC	Kasperske Hory	75.05	344	eP	P	23 18 05.0	+4.5
KHC	Kasperske Hory	75.05	344	eP	P	23 18 05.0	+4.5
GERES	GERESS Array B	75.31	344	P	P	23 18 02.9	+0.9
	comp=Z,0.4nm,0.5s,baz=32,slow=5.9,SNR=7.8						
GERES				LR	LR	23 55 34.5	
	comp=Z,37nm,18.3s,baz=13,slow=39						
DRGR		75.50	337	⇓P	P	23 18 11.6	+8.5
DRGR		75.50	337	⇓/P	P	23 18 11.6	+8.5
CFR	Carcaliu	75.66	333	⇑P	P	23 18 12.2	+8.3
CFR	Carcaliu	75.66	333	⇑/P	P	23 18 12.1	+8.2
MLR	Muntele Rosu	75.94	334	⇓P	P	23 18 09.2	+3.5
MLR	Muntele Rosu	75.94	334	⇓/P	P	23 18 09.2	+3.5
VOIR		76.21	335	⇓P	P	23 18 13.2	+6.0
VOIR		76.21	335	⇓/P	P	23 18 13.2	+6.0
TIRR	Tirgusor	76.25	332	⇑P	P	23 18 07.7	+0.4
TIRR	Tirgusor	76.25	332	⇑/P	P	23 18 07.7	+0.4
ARR	Arges	76.38	335	⇑/P	P	23 18 10.9	+2.7
GZR	Gura Zlata	76.80	337	⇑P	P	23 18 19.1	+8.6
GZR	Gura Zlata	76.80	337	⇑/P	P	23 18 19.1	+8.6
BZS	Buzias	76.86	337	⇓P	P	23 18 11.8	+1.0
BZS	Buzias	76.86	337	⇓/P	P	23 18 11.8	+1.0
BRTR	Keskin Array B	79.03	327	P	P	23 18 24.2	+1.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	79.03	327	P	P	23 18 24.1	+1.0
	comp=Z,0.8nm,0.8s,baz=34,slow=3.5,SNR=5.6						
VTS	Vitosha	79.34	335	⇓P	P	23 18 32.9	+8.1
VTS	Vitosha	79.34	335	⇓/P	P	23 18 32.9	+8.1
WRA	Warramunga Arr	79.75	213	P	P	23 18 27.0	0.0
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA				MLR	MLR		
	comp=Z,16nm,28.6s						
WRA	Warramunga Arr	79.75	213	P	P	23 18 27.0	0.0
	comp=Z,2.5nm,0.9s,baz=26,slow=5.7,SNR=8.0						
WRA				LR	LR	23 53 19.5	
	comp=Z,24nm,19.7s,baz=145,slow=35						
ASAR	Alice Springs	83.37	212	P	P	23 18 46.7	+0.6
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	Alice Springs	83.37	212	P	P	23 18 46.6	+0.6
	comp=Z,1.6nm,0.9s,baz=12,slow=4.9,SNR=11						
ESDC	Sonseca Array	86.32	355	P	P	23 19 02.1	+1.1
	comp=Z,0.3nm,0.4s,baz=352,slow=4.5,SNR=6.0						
STKA	Stephens Creek	89.04	203	P	P	23 19 13.9	+0.2
STKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STKA	Stephens Creek	89.04	203	P	P	23 19 13.9	+0.2
	comp=Z,2.2nm,0.7s,baz=344,slow=8.5,SNR=5.0						
QSPA	South Pole Qui	143.95	180	ePKPdf	PKPab	23 25 49.4	-1.0

KRSC 16 23:09:29.3±1.1, **50°.95N×157°.70E, h41km**±17km, **ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.76	313	eP	Pn	23 09 45.1	+1.5
PAU				eS	Sn	23 09 56.0	+2.1
SKR	Severo-Kuril's	1.04	256	eP	Pn	23 09 48.0	+0.6
SKR				eS	Sn	23 10 01.4	+0.7
ASAK	Asacha	1.44	5	S	Sn	23 10 12.4	+1.6
MIPR	Malaya Ipel'ka	1.45	336	eP	Pn	23 09 55.1	+2.0
MTVR	Mutnovka	1.56	11	eP	Pn	23 09 56.5	+1.7
MTVR				eS	Sn	23 10 15.5	+1.5
RUS	Russkaya	1.57	18	eP	Pn	23 09 55.5	+0.8
RUS				eS	Sn	23 10 14.3	+0.6
APC	Apacha	2.01	351	P	Pn	23 10 02.6	+1.9
PET	Petropavlovsk	2.16	15	eS	Sn	23 10 30.0	+1.8
UGLR	Uglovaya	2.37	17	eP	Pn	23 10 08.9	+3.1
AVH	Avacha	2.41	15	eP	Pn	23 10 09.6	+3.3
SMAR	Somma	2.41	16	eP	Pn	23 10 09.9	+3.3
KOK	Koryaka	2.42	13	eP	Pn	23 10 09.6	+3.2
SDLR	Sedlovina	2.44	17	eP	Pn	23 10 08.8	+2.0
KRER	Koryakskii	2.44	15	eP	Pn	23 10 09.7	+2.7
KRX	Arik	2.48	13	eP	Pn	23 10 10.4	+3.0
GNL	Ganaly	2.75	3	eP	Pn	23 10 15.7	+4.6

CSEM **16** *23:10:34.6, 40°.70N×34°.62E, h10km, MD2.6, After ISK*
ISK 16 23:10:34.6, 40°.70N×34°.62E, h10km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CORM	Corum	0.52	179	ePG	Pg	23 10 45.3	+0.4
CORM				eSG	Sb	23 10 52.8	-0.8
CORM	Corum	0.52	179	ePg	Pg	23 10 45.3	+0.4
CORM				eSg	Sb	23 10 52.8	-0.8
DIKM	Dikmen	1.07	27	ePG	Pn	23 10 55.5	-0.2
DIKM	Dikmen	1.07	27	ePg	Pn	23 10 55.5	-0.2
YOZ	Yozgat	1.18	153	ePN	Pg	23 10 57.8	+0.2
YOZ	Yozgat	1.18	153	ePn	Pg	23 10 57.8	+0.2
AFSR	Afˇar-Bala (A	1.72	224	ePN	Pn	23 11 05.5	+0.7
AFSR	Afˇar-Bala (A	1.72	224	ePn	Pn	23 11 05.5	+0.7

IDC **16** *23:27:54.7±2.0, 5°.34S×129°.94E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/42, mbtmp3.6/4, ML3.9/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/17, Error ellipse: s-maj=190.1km s-min=27.2km az=73.0*
ISC 16 23:27:56.1±1.0, **5°.41S**±0°.05×**129°.9E**±0°.2, **h10km, n11, σ1§80**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SWI	Sorong	4.72	17	P	Pg	23 29 28.6	+2.0
	baz=5.3,SNR=7.3						
SWI				S	Sg	23 30 25.2	-2.6
	baz=5.3,SNR=4.1						
MTN	Manton Dam	7.49	171	S	Sn	23 31 11.2	+0.7
	baz=6.9,SNR=19						
KDU	Kakadu	7.67	161	S	Sn	23 31 14.8	-0.1
	baz=7.1,SNR=12						
KNRA	Kununurra	10.26	186	P	Pn	23 30 31.0	+7.5
	baz=9.8,SNR=3.9						
WRA	Warramunga Arr	15.08	164	Pn	P	23 31 31.9	-2.9
	0.4nm,0.3s,baz=349,slow=11,SNR=4.2						
ASAR	Alice Springs	18.56	168	P	Pn	23 32 13.1	-0.4
	0.6nm,0.3s,baz=350,slow=11,SNR=30						
MTSU	Mount Surprise	18.94	133	P	Pn	23 32 19.5	+1.4
	baz=18,SNR=5.1						
WRKA	Warakurna	19.57	184	P	P	23 32 24.4	0.0
	baz=19,SNR=15						
PSI	Prapat	31.98	284	LR	LR	23 48 04.6	
	comp=Z,122nm,19.6s,baz=194,slow=38						
SONM	Songino Array	56.91	341	P	P	23 37 42.2	+0.7
	0.3nm,1.0s,baz=163,slow=8.4,SNR=3.3						
MKAR	Makanchi Array	66.84	327	P	P	23 38 47.5	-0.8
	0.3nm,0.4s,baz=108,slow=7.5,SNR=6.8						

AUST **16** *23:29:43.2±3.7, 11°.52S×117°.52E, h0km, Error ellipse: s-maj=1.0km s-min=0.7km az=248.0*
ISCJB **16** *23:29:45.0±0.4, 11°.50S±0°.04×117°.68E±0°.03, h34km, mb3.9/3, MS3.0/1, Error ellipse: s-maj=5.8km s-min=4.1km az=29.2*
DJA **16** *23:29:49.1±0.6, 11°S±6°×11°8E±°, h74km±23km, M4.5/21, mb4.6/12, mB5.0/6, MLv4.6/21, Mw(mB)4.3/6*
IDC **16** *23:29:53.7±6.5, 11°.21S×118°.11E, h89km±65km, mb3.6/3, mb1 3.5/6, mb1mx3.3/43, mbtmp3.8/6, ML3.8/3, MS3.0/1, Ms1 3.2/1, ms1mx2.6/31, Error ellipse: s-maj=54.3km s-min=23.9km az=88.0*
ISC 16 23:29:46.7±0.7, **11°.48S**±0°.07×**117°.74E**±0°.05, **h34km, n35, σ1§63**/38, **mb4.0**/3, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BASI	Baing, Sumba	3.06	66	P	Pn	23 30 32.4	-0.3
WSI	Waingapu	3.09	55	P	Pn	23 30 35.0	+1.9
WSI				S	Sn	23 31 10.4	+1.4
WSI	Waingapu	3.09	55	S	Sn	23 31 09.4	+0.4
	baz=3.3,SNR=3.4						
IGBI	Denpasar	3.67	316	P	Pn	23 30 41.8	+0.7
IGBI				S	Sn	23 31 24.0	+0.8
SRBI	Singaraja	4.19	323	P	Pn	23 30 50.0	+1.8
JAGI	Jajag, Banyuwa	4.62	310	P	Pn	23 30 53.1	-1.1
JAGI	Jajag, Banyuwa	4.62	310	P	Pn	23 30 53.4	-0.8
	baz=4.5,SNR=23						
JAGI				S	Sn	23 31 42.4	-4.3
	baz=4.5,SNR=10						
ABJI	Asem Bagus	5.03	316	P	Pn	23 30 59.7	-0.1
MMRI	Maumere	5.25	58	P	Pn	23 31 01.2	-1.7
	42nm,0.6s,0.6nm						
MMRI				S	Sn	23 31 57.2	-5.1
	42nm,0.6s,0.6nm						
GMJI	Gumukmas	5.29	307	P	Pn	23 31 04.4	+1.0
	2μm,1.0s,8.9nm						
BLJI	Banyuglugur	5.51	312	P	Pn	23 31 06.6	+0.2
	39nm,0.4s,2μm0.8nm						
BLJI				S	Sn	23 32 08.4	-0.3
	39nm,0.4s,2μm0.8nm						
KMMI	Kalianget	5.76	319	P	Pn	23 31 10.2	+0.4
	16nm,0.8s,0.1nm						
BATI	Baumata	5.96	78	P	Pn	23 31 14.4	+1.9
	4.9nm,0.3s,baz=243,slow=0.0,SNR=4.4						
BATI				S	Sn	23 32 17.6	-2.1
	12nm,0.3s,baz=6.5,slow=22,SNR=6.2						
BKSI	Bulukumba	6.55	21	P	Pn	23 31 22.3	+1.6
	121nm,0.6s,1μm0.4nm						
SOEI	Soe	6.64	76	P	Pn	23 31 24.2	+2.1
	36nm,0.9s,0.2nm						
SOEI	Soe	6.64	76	P	Pn	23 31 24.3	+2.1
	baz=6.9,SNR=5.6						
PWJI	Pagerwojo	6.78	300	P	Pn	23 31 24.9	+1.1
	30nm,0.7s,0.2nm						
PWJI				S	Sn	23 32 39.9	0.0
	30nm,0.7s,0.2nm						
BNSI	Bone	7.41	19	P	Pn	23 31 34.5	+2.0
	41nm,0.7s,1μm0.2nm						
SPSI	Sidrap Palu	7.73	15	P	Pn	23 31 37.3	+0.4
	23nm,0.5s,966nm0.1nm						
UGM	Wanagama	7.94	296	P	Pn	23 31 38.6	-1.3
	64nm,1.5s,0.3nm						
UGM	Wanagama	7.94	296	P	Pn	23 31 40.7	+0.9
	baz=7.8,SNR=8.2						
UGM				S	Sn	23 33 08.0	-0.6
	baz=7.8,SNR=4.8						
TTSI	Tana Toraja	8.63	14	P	Pn	23 31 52.8	+3.6
GIRL	Giralia	11.60	196	P	Pn	23 32 30.9	+1.0
	baz=12,SNR=34						
MTN	Manton Dam	13.17	97	S	Sn	23 35 07.6	-9.2
	baz=13,SNR=4.9						
MEEK	Meekatharra	15.11	177	P	Pn	23 33 16.5	-1.2
	baz=15,SNR=21						
MEEK				S	Sn	23 35 49.7	-14
	baz=15,SNR=24						
WRKA	Warakurna	16.79	145	P	Pn	23 33 39.2	-0.2
	baz=17,SNR=11						
WRKA				S	Sn	23 36 30.1	-15
	baz=17,SNR=3.9						
MORW	Morawa	17.58	185	P	P	23 33 49.8	-0.1
	baz=18,SNR=12						
MORW				S	Sn	23 36 50.8	-13
	baz=18,SNR=8.2						
WRA	Warramunga Arr	18.05	120	P	Pn	23 33 54.5	-0.5
	0.3nm,0.3s,baz=291,slow=13,SNR=2.9						
WRA				S	Sn	23 37 01.8	-14
	0.4nm,0.3s,baz=287,slow=23,SNR=4.5						
BLDU	Ballidu	19.07	183	P	Pn	23 34 07.9	+0.6
	baz=19,SNR=27						
ASAR	Alice Springs	19.59	130	P	Pn	23 34 14.4	+0.9
	0.3nm,0.3s,baz=318,slow=14,SNR=18						
ASAR				S	S	23 37 41.6	-10
	0.3nm,0.3s,baz=292,slow=22,SNR=7.1						
KLBR	Kellerberrin	20.02	180	P	Pn	23 34 22.1	+3.6
	baz=20,SNR=11						
NWAO	Narrogin (SRO)	21.36	181	P	P	23 34 37.0	+5.9
	6.2nm,0.5s,baz=6.3,slow=11,SNR=12						
NWAO				S	S	23 38 17.6	-8.9
	12nm,0.6s,baz=100,slow=17,SNR=8.1						
CMAR	Chiang Mai Arr	35.05	328	LR	LR	23 51 00.1	
	comp=Z,25nm,19.6s,baz=330,slow=36						
SONM	Songino Array	59.90	351	P	P	23 39 49.0	-0.3
	0.2nm,0.5s,baz=170,slow=7.3,SNR=6.1						
ZALV	Zalesovo Beam	70.92	340	P	P	23 40 60.0	-0.3
	0.5nm,0.3s,baz=134,slow=4.2,SNR=5.1						

ISCJB **16** *23:35:26.4±0.3, 28°.31N±0°.04×66°.60E±0°.03, h20km, mb3.9/27, MS3.1/5, Error ellipse: s-maj=5.2km s-min=3.7km az=5.6*
IDC **16** *23:35:26.1±0.8, 28°.43N×66°.54E, h0km, mb3.9/24, mb1 4.0/25, mb1mx3.9/52, mbtmp3.9/25, ML3.5/1, MS3.3/5, Ms1 3.3/5, ms1mx3.0/41, Error ellipse: s-maj=19.1km s-min=14.3km az=1.0*
MOS **16** *23:35:29.1±1.1, 28°.52N×66°.60E, h26km, mb4.2/20, Error ellipse: s-maj=13.9km s-min=7.9km az=116.6*
ISC 16 23:35:28.9±0.5, **28°.37N**±0°.06×**66°.57E**±0°.05, **h20km, n96, σ1§36**/95, **mb4.0**/27, **MS3.1**/5, **11C-15D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BHJ	Bhuj	5.80	151	eP	Pn	23 36 53.5	-0.3
BHJ				eS	Sn	23 37 59.4	-0.3
BHJ				AML	AML	23 38 22.0	
	comp=N,78nm,0.4s						
BHJ				AML	AML	23 38 22.7	
	comp=E,79nm,0.3s						
CEP	Cherat	7.11	39	P	Pn	23 37 12.9	+1.0
AJM	Ajmer	7.42	103	ex	Pn	23 37 17.0	+1.0
CHCP	Chirah Chowk	7.80	46	P	Pn	23 37 22.5	+1.2
WBK	Wadi Bani Khal	8.94	232	⇓P	Pn	23 37 34.7	-2.3
DHRM	DHARAMSHALA	9.26	63	eP	Pn	23 37 43.2	+1.8
DHRM				eS	Sn	23 39 25.4	+0.2
DHRM				AML	AML	23 39 35.0	
	comp=N,103nm,0.5s						
DHRM				AML	AML	23 39 38.7	
	comp=E,101nm,1.5s						
SMDO	Samad	9.32	237	⇓P	Pn	23 37 40.2	-2.1
NDI	New Delhi	9.37	86	eP	Pn	23 37 43.0	+0.2
NDI				ex	x	23 39 33.0	
BANOM	Banah	9.47	257	⇑P	Pn	23 37 44.3	+0.1
HOQ	Hoqain	9.60	242	⇓P	Pn	23 37 43.1	-2.8
SMLA	Simla	9.61	71	eP	Pn	23 37 47.3	+1.2
SMLA				ex	x	23 39 31.3	
SMLA				AML	AML	23 39 38.5	
	comp=E,55nm,0.8s						
SMLA				AML	AML	23 39 40.5	
	comp=N,44nm,0.2s						
JMDO	Jabal Madar	9.71	234	⇓P	Pn	23 37 46.7	-0.8
ASHO	Ashiyiah	10.10	251	⇓P	Pn	23 37 51.2	-1.7
ARQ	Araqi	10.34	243	⇑P	Pn	23 37 57.2	+1.0
BHPL	Bhopal	11.03	115	eP	Pn	23 38 07.4	+1.9
BHPL				eS	Sn	23 40 09.2	+0.9
PYUN	Piuthan	14.48	87	eP	Pn	23 38 48.7	-4.2
KOLN	Koldanda	15.05	88	eP	Pn	23 38 55.7	-4.9
	comp=N,24nm,0.8s						
DANN	Dangsing	15.14	86	eP	Pn	23 38 58.2	-3.7
	comp=N,23nm,0.6s						
AAK	Ala-Archa	15.62	22	Pn	Pn	23 39 06.4	-1.6
	comp=N,0.2nm,0.3s,baz=175,slow=6.9,SNR=9.1						
AAK				Sn	Sn	23 41 59.6	-0.9
	comp=N,0.1nm,0.3s,baz=259,slow=19,SNR=2.5						
GKN	Gorkha	15.94	87	eP	Pn	23 39 09.3	-2.9
KKN	Kakani	16.52	88	eP	Pn	23 39 16.5	-3.2
	comp=N,10nm,0.6s						
PKIN	Phulchoki	16.65	88	eP	Pn	23 39 18.8	-2.6
	comp=N,6.4nm,0.4s						
PKI	Pulchoki	16.66	88	eP	Pn	23 39 18.8	-2.8
	comp=N,20nm,0.8s						
GUN	Gumba	17.04	87	eP	Pn	23 39 24.1	-2.3
	comp=N,49nm,0.7s						
JIRN	Jiri	17.34	88	eP	Pn	23 39 28.7	-1.5
RAMN	Ramite	17.80	90	eP	Pn	23 39 34.2	-1.6
ODAN	Odare	18.51	90	eP	P	23 39 43.8	-0.5
TAPN	Taplejung	18.72	88	eP	Pn	23 39 46.9	-0.2
	comp=N,15nm,0.9s						
GNI	Garni	21.47	309	P	P	23 40 15.7	-0.6
GNI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GNI	Garni	21.47	309	P	P	23 40 15.7	-0.6
	comp=Z,6.3nm,0.8s,baz=135,slow=19,SNR=1.8						
MKAR	Makanchi Array	22.14	30	P	P	23 40 22.5	-0.8
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,68nm,19.3s						
MKAR	Makanchi Array	22.14	30	P	P	23 40 22.5	-0.8
	comp=Z,1.7nm,0.6s,baz=212,slow=10,SNR=23						
MKAR				LR	LR	23 50 39.3	
	comp=Z,68nm,19.3s,baz=192,slow=41						
AKTO	Aktyubinsk	22.98	346	P	P	23 40 31.4	-0.7
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTO	Aktyubinsk	22.98	346	P	P	23 40 31.4	-0.7
	comp=Z,0.9nm,0.6s,baz=174,slow=9.2,SNR=5.2						
ZEI	Tsey	23.29	314	eP	P	23 40 37.3	+1.7
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBZ	Khabaz	24.41	315	P	P	23 40 46.0	+0.1
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KBZ	Khabaz	24.41	315	P	P	23 40 46.0	+0.1
	comp=Z,5.7nm,0.9s,baz=77,slow=8.3,SNR=9.1						
BVAR	Borovoye Array	24.80	6	P	P	23 40 49.6	+0.2
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BVAR				MLR	MLR		
	comp=Z,85nm,18.9s						
BVAR	Borovoye Array	24.80	6	P	P	23 40 49.6	+0.2
	comp=Z,2.8nm,0.5s,baz=172,slow=9.3,SNR=15						
BVAR				LR	LR	23 52 21.7	
	comp=Z,85nm,18.9s,baz=190,slow=41						
ASF	Jabal al Asfar	25.87	286	P	P	23 41 00.5	+1.1
ASF				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASF	Jabal al Asfar	25.87	286	P	P	23 41 00.5	+1.1
	comp=Z,1.8nm,0.9s,baz=55,slow=8.2,SNR=4.7						
MMAI	Mount Meron Ar	27.15	288	LR	LR	23 52 57.4	
	comp=Z,62nm,22.0s,baz=220,slow=39						
ZALV	Zalesovo Beam	28.84	23	P	P	23 41 26.4	+0.7
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				MLR	MLR		
	comp=Z,15nm,28.6s						
ZALV	Zalesovo Beam	28.84	23	P	P	23 41 26.4	+0.7
	comp=Z,0.9nm,0.4s,baz=231,slow=11,SNR=7.2						
ZALV				LR	LR	23 54 04.2	
	comp=Z,43nm,19.1s,baz=217,slow=39						
TIRR	Tirgusor	34.30	308	⇑P	P	23 42 14.3	+0.5
TIRR	Tirgusor	34.30	308	⇑/P	P	23 42 14.3	+0.5
VRI	Vrincioaia	35.82	310	⇓P	P	23 42 31.7	+4.8
VRI	Vrincioaia	35.82	310	⇓/P	P	23 42 31.7	+4.8
PLOR	Plostina	35.87	310	⇓P	P	23 42 26.3	-1.1
PLOR	Plostina	35.87	310	⇓/P	P	23 42 26.3	-1.1
AKASG	Malin Array Be	35.88	319	P	P	23 42 26.5	-0.8
	comp=Z,0.3nm,0.3s,baz=108,slow=7.4,SNR=7.1						
MLR	Muntele Rosu	36.25	309	⇑P	P	23 42 32.9	+2.1
MLR	Muntele Rosu	36.25	309	⇑/P	P	23 42 32.9	+2.1
SONM	Songino Array	36.36	47	P	P	23 42 31.3	-0.5
	comp=Z,0.2nm,0.5s,baz=254,slow=8.8,SNR=4.7						
VOIR		36.85	309	⇑P	P	23 42 38.9	+3.0
VOIR		36.85	309	⇑/P	P	23 42 38.9	+3.0
ARR	Arges	37.12	309	⇑/P	P	23 42 38.8	+0.6
BURAR	Bucovina Array	37.29	312	⇓P	P	23 42 36.9	-2.7
BURAR	Bucovina Array	37.29	312	⇓/P	P	23 42 36.9	-2.7
BZS	Buzias	39.25	308	⇓P	P	23 42 56.6	+0.6
BZS	Buzias	39.25	308	⇓/P	P	23 42 56.6	+0.6
KWP	Kalwaria Pacla	39.45	315	⇓P	P	23 42 58.2	+0.6
KWP	Kalwaria Pacla	39.45	315	⇓/P	P	23 42 58.2	+0.6
PKSM	Moragy	41.40	309	⇑P	P	23 43 13.2	-0.5
PKSM	Moragy	41.40	309	⇑/P	P	23 43 13.2	-0.5
JOF	Joensuu	41.45	336	eP	P	23 43 13.6	-0.3
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JOF	Joensuu	41.45	336	ep	P	23 43 13.6	-0.3
	comp=Z,2.6nm,0.6s						
FINES	FINESS Array B	42.56	333	P	P	23 43 22.5	-0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	42.56	333	P	P	23 43 22.5	-0.5
	comp=Z,1.8nm,0.7s,baz=134,slow=8.4,SNR=10						
KAF	Kangasniemi	42.84	333	eP	P	23 43 24.9	-0.3
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KAF	Kangasniemi	42.84	333	ep	P	23 43 24.9	-0.3
	comp=Z,2.1nm,0.7s						
GERES	GERESS Array B	45.07	312	P	P	23 43 43.1	-0.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	45.07	312	P	P	23 43 43.0	-0.5
	comp=Z,0.6nm,0.5s,baz=93,slow=6.7,SNR=7.8						
ARCES	ARCESS Array B	47.46	342	P	P	23 44 02.0	+0.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,15nm,28.6s						
ARCES	ARCESS Array B	47.46	342	P	P	23 44 02.0	+0.1
	comp=Z,0.9nm,0.7s,baz=141,slow=7.8,SNR=5.7						
ARCES				LR	LR	00 05 32.4	
	comp=Z,48nm,20.0s,baz=176,slow=38						
HFS	Hagfors	47.52	327	P	P	23 44 02.5	0.0
HFS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HFS	Hagfors	47.52	327	P	P	23 44 02.5	0.0
	comp=Z,3.0nm,0.6s,baz=128,slow=9.7,SNR=19						
KEST	Kesra	48.48	294	P	P	23 44 11.0	+0.7
	comp=Z,1.1nm,0.7s,baz=209,slow=19,SNR=3.1						
NB2	NORSAR Subarra	48.95	328	P	P	23 44 12.7	-0.8
	comp=Z,1.7nm,0.7s,baz=108,slow=7.9						
NOA	NORSAR Array B	48.95	328	P	P	23 44 12.8	-0.8
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	NORSAR Array B	48.95	328	P	P	23 44 12.8	-0.8
	comp=Z,1.5nm,0.7s,baz=108,slow=7.5,SNR=6.0						
KSRS	Korea Array	51.51	63	P	P	23 44 34.3	+1.1
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KSRS	Korea Array	51.51	63	P	P	23 44 34.2	+1.1
	comp=Z,0.5nm,0.4s,baz=278,slow=37,SNR=5.6						
ESDC	Sonseca Array	58.19	301	P	P	23 45 20.2	-1.4
	comp=Z,0.5nm,0.6s,baz=67,slow=7.0,SNR=5.0						
TORD	Torodi Ar. Bea	61.88	270	P	P	23 45 46.5	-0.7
	comp=Z,4.1nm,0.9s,baz=47,slow=4.1,SNR=13						
DBIC	Dimbokro	70.53	267	P	P	23 46 44.8	+2.0
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DBIC	Dimbokro	70.53	267	P	P	23 46 44.8	+2.0
	comp=Z,1.5nm,0.6s,baz=9.8,slow=5.8,SNR=4.9						
WRA	Warramunga Arr	81.17	118	P	P	23 47 44.3	+0.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	81.17	118	P	P	23 47 44.3	+0.8
	comp=Z,0.5nm,0.4s,baz=325,slow=4.6,SNR=5.9						
INK	Inuvik	82.47	7	P	P	23 47 49.1	-0.4
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	82.47	7	P	P	23 47 49.1	-0.4
	comp=Z,0.6nm,0.6s,baz=342,slow=6.6,SNR=4.7						
ASAR	Alice Springs	82.95	122	P	P	23 47 53.4	+0.7
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	82.95	122	P	P	23 47 53.4	+0.7
	comp=Z,0.9nm,0.6s,baz=308,slow=5.3,SNR=12						
ILAR	Eielson Array	83.57	14	P	P	23 47 55.4	+0.1
	comp=Z,0.1nm,0.4s,baz=324,slow=4.5,SNR=3.0						
YKA	Yellowknife Ar	89.45	1	P	P	23 48 24.5	+0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	Yellowknife Ar	89.45	1	P	P	23 48 24.5	+0.4
	comp=Z,0.6nm,0.7s,baz=350,slow=4.8,SNR=10						

IDC 16 23:39:46.3±1.7, **9°.38S×148°.77E, h0km, mb3.3**/2, **mb1 3.7**/3, **mb1mx3.3**/28, **mbtmp3.4**/3, **ML3.4**/1, **MS3.3**/1, **Ms1 3.3**/1, **ms1mx2.5**/13, **Error ellipse: s-maj=49.8km s-min=25.3km az=155.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	1.59	269	Pn	Pn	23 40 16.1	+0.4
	37nm,0.3s,baz=90,slow=15,SNR=50						
PMG				Sn	Sn	23 40 37.0	+0.1
	130nm,0.3s,baz=257,slow=14,SNR=13						
PMG	Port Moresby	1.59	269	S	Pn	23 40 15.6	-0.1
	baz=29,SNR=19						
WRA	Warramunga Arr	17.45	231	P	Pn	23 43 51.5	+0.1
	0.1nm,0.3s,baz=55,slow=12,SNR=3.2						
ASAR	Alice Springs	20.09	223	P	P	23 44 21.6	-0.2
	0.6nm,0.6s,baz=58,slow=9.4,SNR=10						
KSRS	Korea Array	50.51	338	LR	LR	00 09 47.5	
	comp=Z,28nm,18.5s,baz=228,slow=36						
ILAR	Eielson Array	87.89	23	P	P	23 52 37.1	-0.3
	0.3nm,0.8s,baz=253,slow=4.3,SNR=6.0						
TORD	Torodi Ar. Bea	147.50	280	PKPbc	PKPbc	23 59 33.1	-0.4
	0.4nm,0.7s,baz=110,slow=2.8,SNR=4.5						

WEL 17 00:05:10.5±0.4, 39.79S×173.96E, h204km±3km, ML3.5/8, 6C-5D, Error ellipse: s-maj=2.8km s-min=1.8km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.80	88	⇑PN	Pn	00 05 40.3	+0.8
WAZ				SN	S	00 06 02.6	+0.8
DUWZ	D'Urville Isla	1.01	181	PN	Pn	00 05 41.0	+0.3
DUWZ				SN	S	00 06 03.4	-0.9
PKVZ	Pokaka	1.19	65	PN	Pn	00 05 41.9	-0.2
MTVZ	Mangateitei	1.24	71	PN	Pn	00 05 42.4	-0.1
KIW	Kapiti Island	1.29	146	PN	Pn	00 05 42.9	+0.1
KIW				SN	S	00 06 06.6	-1.2
KIW				AML	AML	00 06 08.7	
TRVZ	Turoa	1.33	69	⇓PN	Pn	00 05 43.1	-0.3
TRVZ				SN	S	00 06 06.8	-1.8
WNVZ	Wahianoa	1.35	70	PN	Pn	00 05 43.3	-0.2
WNVZ				SN	S	00 06 07.2	-1.6
WPVZ	Whakapapa	1.36	65	PN	Pn	00 05 43.3	-0.3
OGWZ	Otaki Gorge	1.38	138	PN	Pn	00 05 43.7	+0.2
OGWZ				SN	S	00 06 07.7	-1.3
NGZ	Ngauruhoe	1.42	65	PN	Pn	00 05 43.8	-0.3
WTVZ	West Tongariro	1.44	62	PN	Pn	00 05 43.8	-0.4
TCW	Tory Channel	1.44	170	PN	Pn	00 05 44.5	+0.5
TCW				SN	S	00 06 08.9	-1.0
TCW				AML	AML	00 06 10.4	
MOVZ	Moawhango	1.44	75	PN	Pn	00 05 43.2	-1.0
OTVZ	Oturere	1.47	65	PN	Pn	00 05 44.3	-0.2
OTVZ				SN	S	00 06 09.3	-1.2
KRVZ	Karewarewa	1.48	62	PN	Pn	00 05 44.2	-0.3
NNZ	Nelson	1.49	197	⇑PN	Pn	00 05 44.3	-0.1
QRZ	Quartz Range	1.50	226	⇓PN	Pn	00 05 43.8	-0.7
POWZ	Post Office Ro	1.51	114	PN	Pn	00 05 44.6	0.0
MRZ	Mangatainoka R	1.52	125	PN	Pn	00 05 44.6	0.0
MRZ				AML	AML	00 06 12.0	
MRZ				AML	AML	00 06 12.4	
CAW	Cannon Point	1.56	147	⇑PN	Pn	00 05 45.1	0.0
CAW				AML	AML	00 06 12.1	
CAW				AML	AML	00 06 13.0	
KATZ	Kakaramea	1.58	59	PN	Pn	00 05 45.2	-0.2
SNZO	South Karori	1.62	160	⇑PN	Pn	00 05 45.3	-0.2
SNZO				AML	AML	00 06 12.6	
SNZO				AML	AML	00 06 12.7	
HOWZ	Holdsworth Sta	1.62	133	PN	Pn	00 05 45.5	-0.2
TUWZ	Tuamarina	1.64	180	PN	Pn	00 05 45.7	0.0
TUWZ				AML	AML	00 05 46.6	
TUWZ				AML	AML	00 05 46.7	
BHHZ	Black Hill Sta	1.66	80	PN	Pn	00 05 45.2	-0.9
PRWZ	Pori Road	1.72	117	PN	Pn	00 05 47.0	+0.5
PNHZ	Pukenui	1.73	95	PN	Pn	00 05 46.7	0.0
DVHZ	Dannevirke	1.77	107	PN	Pn	00 05 47.0	-0.1
TIWZ	Tintock	1.77	124	PN	Pn	00 05 46.2	-0.9
TIWZ				AML	AML	00 06 16.3	
TIWZ				AML	AML	00 06 16.7	
MTW	Mount Morrison	1.80	140	PN	Pn	00 05 47.0	-0.3
MTW				AML	AML	00 06 15.8	
MTW				AML	AML	00 06 16.6	
KRHZ	Kereru	1.87	86	PN	Pn	00 05 47.8	-0.2
BSWZ	Blackbirch Sta	1.92	182	PN	Pn	00 05 48.4	0.0
WPHZ	Waipukurau	1.93	99	PN	Pn	00 05 48.7	+0.1
PAWZ	Paruwai Farm	1.94	145	PN	Pn	00 05 48.3	-0.3
BFZ	Birch Farm	1.96	118	PN	Pn	00 05 48.8	-0.1
TMWZ	Te Maipa	1.98	132	PN	Pn	00 05 48.8	-0.2
PLWZ	Palliser	2.03	151	PN	Pn	00 05 49.0	-0.7
ANWZ	Angora Road	2.04	110	PN	Pn	00 05 50.0	+0.3
BKZ	Black Stump Fm	2.06	73	PN	Pn	00 05 49.2	-0.9
PRHZ	Porangahau	2.11	104	PN	Pn	00 05 50.5	+0.1
THZ	Tophouse	2.12	202	⇑PN	Pn	00 05 50.0	-0.6
MCHZ	McNeill Hill	2.15	82	⇓PN	Pn	00 05 51.1	+0.3
PXZ	Pawanui	2.25	97	⇓PN	Pn	00 05 51.8	0.0
KAHZ	Kahuranaki	2.25	91	PN	Pn	00 05 52.1	+0.1
DSZ	Denniston Nort	2.54	219	PN	Pn	00 05 54.0	-1.1
RAHZ	Arahi	2.58	71	PN	Pn	00 05 54.9	-0.7
KHZ	Kahutara	2.64	187	⇓PN	Pn	00 05 55.3	-0.8
SNGZ	Shannon Statio	2.81	70	PN	Pn	00 05 57.1	-1.1
URZ	Urewera	2.90	59	PN	Pn	00 05 57.0	-2.1
KNZ	Kokohu	2.98	76	PN	Pn	00 05 59.1	-1.0
MHGZ	Mahia Peninsul	3.12	79	PN	Pn	00 06 01.2	-0.6
MWZ	Matawai	3.14	63	⇑PN	Pn	00 06 00.1	-1.9
RIGZ	Rimuhau	3.15	71	PN	Pn	00 06 01.0	-1.1
LTZ	Lake Taylor	3.25	202	PN	Pn	00 06 01.9	-1.3
CNGZ	Carnagh Statio	3.56	70	PN	Pn	00 06 06.0	-0.9
HAZ	Te Kaha	3.62	57	PN	Pn	00 06 04.7	-3.0
OXZ	Oxford	3.81	202	PN	Pn	00 06 07.8	-2.2
MQZ	McQueen's Vall	4.03	194	PN	Pn	00 06 09.8	-2.9
WVZ	Waitaha Valley	4.08	215	PN	Pn	00 06 11.6	-1.6

ISCJB 17 00:28:16.8±0.7, 12.69N±0.08×47.20E±0.05, h10km, mb3.5/11, MS3.2/4, Error ellipse: s-maj=12.4km s-min=6.1km az=16.7

IDC 17 00:28:16.5±1.2, 12.56N×46.39E, h0km, mb3.6/11, mb1 3.7/12, mb1mx3.6/40, mbtmp3.6/12, ML3.1/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/28, Error ellipse: s-maj=26.8km s-min=21.3km az=3.0

CSEM 17 00:28:21.8, 12.58N×46.67E, h13km, ML3.5, After DHMR

DHMR 17 00:28:21.8±1.1, 12.58N×46.67E, h14km±11km, ML3.5

ISC 17 00:28:18.7±0.8, 12.8N±0.1×47.08E±0.06, h10km, n22, σ1°93/26, mb3.5/11, MS3.1/4, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	Al Bayda'	1.88	309	iP	Pb	00 28 52.8	-0.6
BDHA				iS	Sg	00 29 17.5	-1.8
BDHA				AML	AML	00 29 20.7	
	comp=N,1µm,0.6s						
BDHA	Al Bayda'	1.88	309	iP	Pb	00 28 52.8	-0.6
BDHA				iS	Sg	00 29 17.5	-1.8
	comp=N,750nm,0.6s						
LBOS		2.08	301	iP	Pb	00 28 55.2	-1.5
LBOS				iS	Sn	00 29 20.7	+0.6
TRBA	At Turbah	2.92	279	iP	Pn	00 29 05.7	+0.3
TRBA				iS	Sn	00 29 40.5	-0.2
TRBA				AML	AML	00 29 54.0	
	comp=N,249nm,0.5s						
DHBB	Dhamar BB	3.16	304	iP	Pn	00 29 11.2	+2.4
DHBB				iS	Sb	00 29 50.7	-3.1
DHBB	Dhamar BB	3.16	304	iP	Pn	00 29 11.2	+2.4
DHBB				iS	Sb	00 29 50.7	-3.1
UDYN	Al 'Udayn	3.25	292	iP	Pn	00 29 11.9	+2.0
UDYN				iS	Sn	00 29 49.5	+0.8
UDYN				AML	AML	00 29 54.0	
	comp=E,168nm,1.0s						
KMBO	Kilima Mbogo	16.91	216	Pn	Pn	00 32 16.7	+0.8
	comp=E,0.1nm,0.3s,baz=48,slow=14,SNR=4.2						
EIL	Elat	20.22	328	LR	LR	00 40 15.9	
	comp=E,37nm,21.5s,baz=86,slow=35						
ASF	Jabal al Asfar	21.44	336	P	P	00 33 08.1	+0.9
	comp=E,1.4nm,0.9s,baz=112,slow=11,SNR=2.2						
GNI	Garni	27.33	356	LR	LR	00 46 48.2	
	comp=E,68nm,19.0s,baz=116,slow=40						
BRTR	Keskin Array B	29.34	339	P	P	00 34 24.3	+2.4
	comp=E,0.2nm,0.8s,baz=163,slow=10,SNR=2.2						
BRTR				LR	LR	00 47 34.7	
	comp=E,32nm,18.3s,baz=118,slow=39						
AAK	Ala-Archa	38.05	33	P	P	00 35 37.6	0.0
	comp=E,0.7nm,0.8s,baz=186,slow=19,SNR=2.5						
AKASG	Malin Array Be	40.52	343	P	P	00 36 00.8	+2.9
	comp=E,0.1nm,0.3s,baz=139,slow=9.2,SNR=2.7						
TORD	Torodi Ar. Bea	44.18	276	P	P	00 36 29.8	+1.6
	comp=E,1.0nm,0.8s,baz=88,slow=7.2,SNR=6.7						
MKAR	Makanchi Array	44.98	34	P	P	00 36 33.9	-0.2
	comp=E,0.4nm,0.7s,baz=224,slow=6.8,SNR=4.2						
GERES	GERESS Array B	45.31	329	P	P	00 36 38.7	+1.8
	comp=E,0.4nm,0.6s,baz=132,slow=7.4,SNR=4.1						
BOSA	Boshof	46.25	207	LR	LR	00 55 09.0	
	comp=E,101nm,19.4s,baz=166,slow=35						
CMAR	Chiang Mai Arr	50.14	77	P	P	00 37 11.7	-3.0
	comp=E,0.6nm,0.4s,baz=280,slow=8.9,SNR=5.9						
ZALV	Zalesovo Beam	50.70	28	P	P	00 37 17.6	-0.8
	comp=E,0.3nm,0.4s,baz=224,slow=6.0,SNR=2.6						
SONM	Songino Array	60.14	42	P	P	00 38 26.0	-0.7
	comp=E,0.8nm,0.9s,baz=242,slow=5.0,SNR=8.5						
WRA	Warramunga Arr	91.76	110	P	P	00 41 24.5	-2.9
	comp=E,0.3nm,0.3s,baz=300,slow=3.3,SNR=3.7						

LDG 17 00:39:02.5±0.1, 39.32N×74.92E, h10km, Mb4.6/9, Ms3.0/2, Error ellipse: s-maj=6.1km s-min=5.2km az=44.0

BJI 17 00:39:03.5, 39.52N×74.77E, h7km, mB4.4/6, mb4.4/17, ML4.3/7, Ms4.2/11, Ms7 4.1/4

IDC 17 00:39:03.5±0.5, 39.43N×75.00E, h0km, mb4.3/27, mb1 4.4/32, mb1mx4.2/60, mbtmp4.3/32, ML3.4/5, MS3.4/13, Ms1 3.4/13, ms1mx3.2/35, Error ellipse: s-maj=11.4km s-min=10.5km az=45.0

MOS 17 00:39:04.7±1.2, 39.25N×75.00E, h20km, mb4.7/41, Error ellipse: s-maj=7.7km s-min=4.2km az=102.6

ISCJB 17 00:39:05.3±1.0, 39.33N±0.02×75.02E±0.03, h15km±6km, mb4.4/68, MS3.5/11, Error ellipse: s-maj=4.2km s-min=2.9km az=153.0

KRNET 17 00:39:05.0±0.1, 39.40N×74.84E, h4km, mb5.0

NNC 17 00:39:08.4±1.5, 39.60N×74.85E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=11.9km s-min=8.1km az=177.0

NEIC 17 00:39:11.0±0.7, 39.49N×74.98E, h55km±6km, mb4.6/18, Error ellipse: s-maj=6.6km s-min=4.2km az=193.0

ISC 17 00:39:05.7±0.6, 39.42N±0.03×74.90E±0.03, h11km±3km, n277, σ1°85/273, mb4.5/68, MS3.6/12, 32C-19D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.84	83	⇓iPg	Pg	00 39 16.9	-5.0
KSH				Sg	Sg	00 39 25.8	-7.0
KSH				smax	smax		
	comp=N,27µm,0.5s						
KSH				smax	smax		
	comp=E,7µm,0.4s						
SFK	Sufi-Kurgan	1.23	299	iP	Pg	00 39 26.4	-2.9
	baz=301						
SFK				eS	Sg	00 39 43.5	-1.8
	baz=301						
OHH	Osh	1.96	305	⇓iP	Pg	00 39 42.3	-1.0
	baz=306						
OHH				⇓eS	Sg	00 40 09.7	+1.0
	baz=306						
ARSB	Arslanbob	2.40	323	eP	Pn	00 39 46.5	+1.5
	baz=324						
ARSB				eS	Sb	00 40 17.5	-1.0
	baz=324						
DRK	Karamyk	2.40	272	eP	Pg	00 39 52.0	+0.3
	baz=273						
DRK				eS	Sg	00 40 26.1	+3.3
	baz=273						
KZA	Kyzart	2.67	6	P	Pn	00 39 51.0	+2.0
	SNR=55						
KZA	Kyzart	2.67	6	iPN	Pn	00 39 50.9	+2.0
UCH	Uchtor	2.82	354	P	Pn	00 39 53.3	+2.2
	SNR=294						
UCH	Uchtor	2.82	354	iPN	Pn	00 39 53.2	+2.2
UCH	Uchtor	2.82	354	⇑iP	Pn	00 39 53.7	+2.7
	baz=355						
UCH				⇑iS	Sn	00 40 29.1	+3.9
	baz=355						
AML	Almayashu	2.85	342	P	Pn	00 39 54.2	+2.6
	SNR=457						
AML	Almayashu	2.85	342	iPN	Pn	00 39 54.2	+2.6
AML	Almayashu	2.85	342	⇑iP	Pn	00 39 54.1	+2.6
	baz=343						
ULHL	Ulahol	3.00	19	P	Pn	00 39 55.6	+2.3
	SNR=21						
ULHL	Ulahol	3.00	19	iPN	Pn	00 39 55.6	+2.3
BOOM	Boomskoye usch	3.16	14	eP	Pn	00 39 58.4	+2.8
	baz=15						
BOOM				eS	Sn	00 40 37.3	+3.9
	baz=15						
BTK	Batken	3.21	283	eP	Pg	00 40 07.0	-0.2
	baz=283						
BTK				eS	Sg	00 40 53.0	+4.3
	baz=283						
AAK	Ala-Archa	3.22	355	⇑Pn	Pn	00 39 59.1	+2.8
	38nm,0.6s						
AAK				⇑Pg	Pb	00 40 03.9	+0.9
	444nm,0.8s						
AAK				⇑Lg	Lg	00 40 42.4	
	1µm,1.2s						
AAK	Ala-Archa	3.22	355	P	Pn	00 39 59.4	+3.0
	SNR=65						
AAK	Ala-Archa	3.22	355	PN	Pn	00 39 59.1	+2.8
AAK				PG	Pb	00 40 04.2	+1.2
AAK				LG	Lg	00 40 42.0	
AAK				pmax	pmax		
	comp=Z,38nm,0.6s						
AAK	Ala-Archa	3.22	355	Pn	Pn	00 39 59.3	+3.0
	comp=Z,12nm,0.3s,baz=165,slow=13,SNR=164						
AAK				Lg	Lg	00 40 43.4	
	comp=Z,27nm,0.3s,baz=36,slow=18,SNR=3.7						
AAK				LR	LR	00 40 48.5	
	comp=Z,155nm,18.2s,baz=156,slow=32						
AAK	Ala-Archa	3.22	355	ePn	Pn	00 39 59.2	+2.9
AAK				eSn	Sn	00 40 36.5	+1.8
AAK				Lg	Lg	00 40 43.4	
KBK	Karagaybulak	3.23	1	P	Pn	00 39 59.4	+2.9
	SNR=117						
KBK	Karagaybulak	3.23	1	iPN	Pn	00 39 59.4	+2.9
KBK	Karagaybulak	3.23	1	⇑iP	Pn	00 39 59.3	+2.9
	baz=1.0						
KBK				⇑iS	Sn	00 40 38.9	+3.9
	baz=1.0						
KBK	Karagaybulak	3.23	1	eP	Pg	00 40 10.6	+3.0
	baz=40						
KBK				eS	Sg	00 41 01.6	+12
	baz=40						
ARK	Arkit	3.26	318	eP	Pb	00 40 04.3	+0.7
	baz=318						
ARK				eS	Sg	00 40 47.7	-2.6
	baz=318						
EKS2	Erkin-Say	3.34	346	P	Pn	00 40 00.9	+2.9
	SNR=52						
EKS2	Erkin-Say	3.34	346	ePN	Pn	00 40 01.0	+3.0
EKS2				e		00 40 41.5	
EKS2	Erkin-Say	3.34	346	ePn	Pn	00 40 01.0	+3.0
EKS2				eSn	Sn	00 40 41.5	+3.8
FRU	Bishkek	3.41	357	⇓ePN	Pn	00 40 00.2	+1.3
FRU				i		00 40 09.0	
FRU				eS	Sb	00 40 45.0	-2.7
FRU				i		00 40 54.0	
FRU				pmax	pmax		
	comp=Z,560nm,1.8s						
FRU				pmax	pmax		
	comp=E,2µm,1.8s						
FRU	Bishkek	3.41	357	eP	Pn	00 40 02.0	+3.1
	baz=357						
FRU				eS	Sb	00 40 45.0	-2.7
	baz=357						
TKM2	Tokmak 2	3.53	8	⇑Pn	Pn	00 40 03.3	+2.6
	comp=E,184nm,0.5s						
TKM2				⇑Sn	Sn	00 40 45.6	+3.1
	comp=E,674nm,0.6s						
TKM2	Tokmak 2	3.53	8	P	Pn	00 40 03.5	+2.8
	SNR=270						
TKM2	Tokmak 2	3.53	8	ePN	Pn	00 40 03.5	+2.8
TKM2				e		00 40 43.6	
TKM2	Tokmak 2	3.53	8	ePn	Pn	00 40 03.5	+2.8
TKM2				eSn	Sn	00 40 43.6	+1.1
TRKS	Terek-Say	3.56	307	iP	Pb	00 40 10.5	+1.8
	baz=307						
TRKS				eS	Sg	00 40 57.8	-2.1
	baz=307						
CHMS	Chumysh	3.57	358	P	Pn	00 40 03.9	+2.8
	SNR=51						
CHMS	Chumysh	3.57	358	iPN	Pn	00 40 03.8	+2.8
USP	Ospenovka	3.85	356	P	Pn	00 40 08.1	+3.1
	SNR=14						
USP	Ospenovka	3.85	356	iPN	Pn	00 40 08.0	+3.1
KNDC	Almaty	4.10	22	⇓Pn	Pn	00 40 11.5	+3.2
KNDC				⇑Lg	Lg	00 41 11.6	
	comp=E,2µm,1.2s						
AAA	Alma-Ata	4.14	21	iPN	Pb	00 40 17.0	-1.6
AAA				iS	Sb	00 41 11.3	+2.6
AAA				pmax	pmax		
	comp=Z,204nm,0.6s						
KK31	Karatay Array	4.94	319	Pn	Pn	00 40 22.0	+2.1
	comp=Z,8.9nm,0.5s,baz=124,slow=13,SNR=596						
KK31				Pg	Pb	00 40 35.1	+2.8
	comp=Z,107nm,0.7s,baz=134,slow=13,SNR=46						
KK31				⇑Sn	Sn	00 41 18.6	+1.6
	comp=Z,82nm,0.6s,baz=183,slow=30,SNR=5.8						
KK31				⇓Lg	Lg	00 41 40.7	
	comp=Z,116nm,0.6s,baz=132,slow=27,SNR=6.1						
KK31	Karatay Array	4.94	319	PN	Pn	00 40 21.7	+1.8
KK31				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KKAR	Karatay Array	4.94	319	ePN	Pn	00 40 21.9	+2.1
KKAR	Karatay Array	4.94	319	ePn	Pn	00 40 21.9	+2.1
KKAR				eSn	Sn	00 41 18.6	+1.6
PDGK	Podgornoye	5.21	40	⇓Pn	Pn	00 40 24.8	+1.4
PDGK				⇓Pg	Pb	00 40 38.3	+1.6
PDGK				⇓Lg	Lg	00 41 47.1	
CHCP	Chirah Chowk	5.90	193	⇑P	Pb	00 40 40.5	-8.1
CEP	Cherat	6.08	204	⇑P	Pn	00 40 41.6	+6.0
CEP				S	Sb	00 41 57.0	-7.6
DLH	Dalhousie	6.92	172	eP	Pn	00 40 52.0	+4.8
DLH				eS	Sn	00 42 09.0	+2.9
DHRM	DHARAMSHALA	7.25	171	eP	Pn	00 40 55.4	+3.6
DHRM				eS	Sn	00 42 16.0	+1.9
BHK	Bhakra	8.08	171	ex	x	00 41 18.0	
SDNR	Sundarnagar	8.08	167	eP	Pn	00 41 05.0	+2.0
SDNR				eS	Sn	00 42 35.1	+0.7
SMLA	Simla	8.48	167	eP	Pn	00 41 11.2	+2.8
SMLA				ex	x	00 42 41.9	
OTUK	Ortayu	9.01	349	⇑Pn	Pn	00 41 18.3	+2.7
OTUK				⇑Lg	Lg	00 43 45.6	
MK31	Makanchi Array	9.13	34	Pn	Pn	00 41 18.1	+0.7
	comp=Z,3.8nm,0.8s,baz=207,slow=14,SNR=39						
MK31				⇓Pg		00 41 52.6	
	comp=Z,3.5nm,0.6s						
MK31				⇓Lg	Lg	00 43 54.6	
	comp=Z,20nm,0.9s,baz=214,slow=27,SNR=4.0						
MK31	Makanchi Array	9.13	34	iP	Pn	00 41 18.1	+0.7
MK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MK31				pmax	pmax		
	comp=N,21nm,0.9s						
MKAR	Makanchi Array	9.13	34	eP	Pn	00 41 18.8	+1.4
MKAR				e		00 43 01.9	
MKAR	Makanchi Array	9.13	34	Pn	Pn	00 41 16.9	-0.4
	comp=N,0.3nm,0.3s,baz=211,slow=14,SNR=31						
MKAR				Lg	Lg	00 43 46.4	
	comp=N,0.3nm,0.3s,baz=204,slow=27,SNR=2.8						
MKAR				LR	LR	00 45 08.4	
	comp=N,212nm,18.4s,baz=185,slow=40						
MKAR	Makanchi Array	9.13	34	ePn	Pn	00 41 18.8	+1.4
MKAR				eSn	Sn	00 43 01.9	+1.8
MKAR				Lg	Lg	00 43 46.4	
DDI	Dehra Dun	9.44	163	eP	Pn	00 41 24.3	+2.6
DDI				ex	x	00 43 11.8	
WMQ	Urumqi	10.54	61	P	Pn	00 41 36.1	-0.6
WMQ				pP		00 41 39.3	
WMQ				sP		00 41 42.3	
WMQ				S	Sn	00 43 34.8	+0.1
WMQ				SS	SnSn	00 43 48.1	+1.8
WMQ				PcP	PcP	00 47 39.9	-0.8
WMQ				PcS	PcS	00 51 12.3	-1.9
WMQ				ScS	ScS	00 54 44.3	-3.5
WMQ				pmax	pmax		
	comp=N,13nm,0.6s						
WMQ				LR	LR		
	comp=N,460nm,5.0s						
WMQ				LR	LR		
	comp=N,370nm,4.4s						
NDI	New Delhi	10.88	169	eP	Pn	00 41 42.0	+0.6
NDI				ex	x	00 43 37.0	
KURK	Kurchatov	11.59	12	⇑Lg	Lg	00 45 12.5	
	comp=N,125nm,1.3s						
KURK	Kurchatov	11.59	12	eP	Pn	00 41 53.0	+2.0
KURK				e		00 43 58.0	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	Kurchatov	11.59	12	ePn	Pn	00 41 53.0	+2.0
	comp=Z,3.2nm,0.8s						
KURK				eSn	Sn	00 43 58.0	-2.2
AJM	Ajmer	12.91	181	ex	Pn	00 42 10.0	+0.9
AJM				ex	S	00 44 27.0	
DANN	Dangsing	13.26	144	eP	Pn	00 42 11.3	-2.9
	comp=Z,18nm,0.4s						
DANN	Dangsing	13.26	144	eP	Pn	00 42 11.3	-2.9
VOSK	Vostochnaya	13.57	350	⇑Pn	Pn	00 42 18.7	+0.7
	comp=Z,11nm,1.1s						
VOSK				⇑Lg	Lg	00 46 11.3	
	comp=Z,88nm,1.1s						
KOLN	Koldanda	13.69	145	eP	Pn	00 42 18.2	-1.7
	comp=Z,36nm,0.8s						
KOLN	Koldanda	13.69	145	eP	Pn	00 42 18.2	-1.7
BVA0	Borovoye Array	13.95	349	⇓Pn	Pn	00 42 24.6	+1.4
	comp=Z,20nm,1.1s,baz=165,slow=13,SNR=66						
BVA0				⇑Lg	Lg	00 46 23.5	
	comp=Z,52nm,1.1s,baz=154,slow=22,SNR=3.9						
BVAR	Borovoye Array	13.95	349	P	Pn	00 42 21.3	-1.9
BVAR				MLR	MLR		
	comp=Z,15nm,28.6s						
BVAR	Borovoye Array	13.95	349	Pn	Pn	00 42 21.3	-1.9
	comp=Z,0.1nm,0.3s,baz=168,slow=14,SNR=4.5						
BVAR				Lg	Lg	00 46 21.0	
	comp=Z,0.3nm,0.3s,baz=151,slow=25,SNR=3.8						
BVAR				LR	LR	00 48 14.3	
	comp=Z,101nm,18.4s,baz=174,slow=39						
GKN	Gorkha	13.97	142	eP	Pn	00 42 21.1	-2.6
	comp=Z,45nm,0.7s						
GKN	Gorkha	13.97	142	eP	Pn	00 42 21.1	-2.6
BRVK	Borovoye	14.00	348	⇓Pn	Pn	00 42 26.2	+2.4
	comp=Z,40nm,0.8s						
BRVK				⇓Lg	Lg	00 46 24.0	
	comp=Z,151nm,1.3s						
BRVK	Borovoye	14.00	348	eP	P	00 42 31.1	-0.7
BRVK				e		00 45 01.6	
BRVK	Borovoye	14.00	348	ePn	P	00 42 31.1	-0.7
BRVK				eSn	Sn	00 45 01.6	+2.4
KKN	Kakani	14.46	140	eP	Pn	00 42 27.3	-3.2
	comp=Z,28nm,0.6s						
KKN	Kakani	14.46	140	eP	Pn	00 42 27.3	-3.2
KKN	Kakani	14.46	140	eP	Pn	00 42 27.3	-3.2
AB31	Akbulak array	14.50	318	Pn	Pn	00 42 29.5	-1.2
	comp=Z,20nm,0.8s,baz=135,slow=12,SNR=215						
AB31				⇑Sn	Sn	00 45 13.3	+1.9
	comp=Z,16nm,1.1s,baz=123,slow=23,SNR=8.9						
AB31				⇓Lg	Lg	00 46 43.1	
	comp=Z,16nm,1.1s						
AB31	Akbulak array	14.50	318	iP	Pn	00 42 29.5	-1.2
AB31				pmax	pmax		
	comp=Z,28nm,0.9s						
ABKAR	Akbulak array	14.50	318	ePn	Pn	00 42 30.3	-0.4
ABKAR				eSn	Sn	00 45 01.4	-10
DMN	Daman	14.52	141	eP	Pn	00 42 28.5	-2.9
	comp=Z,15nm,0.4s						
DMN	Daman	14.52	141	eP	Pn	00 42 28.5	-2.9
GUN	Gumba	14.66	138	eP	Pn	00 42 29.9	-3.5
	comp=Z,54nm,0.8s						
GUN	Gumba	14.66	138	eP	Pn	00 42 29.9	-3.5
PKIN	Phulchoki	14.69	140	eP	Pn	00 42 29.8	-3.9
	comp=Z,23nm,0.7s						
PKI	Pulchoki	14.70	140	eP	Pn	00 42 30.9	-3.0
	comp=Z,32nm,0.6s						
PKI	Pulchoki	14.70	140	eP	Pn	00 42 30.9	-3.0
PKI	Pulchoki	14.70	140	eP	Pn	00 42 30.9	-3.0
JIRN	Jiri	15.03	138	eP	Pn	00 42 34.3	-4.0
	comp=Z,55nm,0.5s						
JIRN	Jiri	15.03	138	eP	Pn	00 42 34.3	-4.0
RAMN	Ramite	15.81	138	eP	Pn	00 42 44.8	-3.7
	comp=Z,204nm,0.8s						
RAMN	Ramite	15.81	138	eP	Pn	00 42 44.8	-3.7
ZALV	Zalesovo Beam	16.02	22	Pn	Pn	00 42 50.1	-0.7
	comp=Z,0.3nm,0.3s,baz=208,slow=11,SNR=13						
ZALV				LR	LR	00 48 45.7	
	comp=Z,33nm,18.7s,baz=230,slow=36						
TAPN	Taplejung	16.09	135	eP	Pn	00 42 48.1	-4.0
	comp=Z,50nm,0.8s						
TAPN	Taplejung	16.09	135	eP	Pn	00 42 48.1	-4.0
AKTO	Aktyubinsk	16.21	318	⇑Pn	Pn	00 42 54.8	+1.5
	comp=Z,32nm,1.1s						
AKTO				⇑Sn	Sn	00 45 54.5	+1.6
	comp=Z,12nm,1.2s						
AKTO				⇑Lg	Lg	00 47 36.7	
	comp=Z,27nm,1.4s						
AKTO	Aktyubinsk	16.21	318	P	P	00 42 55.6	-0.8
AKTO				pmax	pmax		
	comp=Z,32nm,1.2s						
AKTO	Aktyubinsk	16.21	318	Pn	Pn	00 42 51.4	-1.8
	comp=Z,0.2nm,0.3s,baz=124,slow=17,SNR=5.3						
AKTO				LR	LR	00 49 38.2	
	comp=Z,145nm,21.9s,baz=142,slow=39						
BHPL	Bhopal	16.27	172	eP	P	00 42 56.2	-1.1
BHPL				AMB	AMB	00 42 58.1	
	comp=Z,9.4nm,0.8s						
BHPL				ex	x	00 45 41.7	
ODAN	Odare	16.30	136	eP	Pn	00 42 51.3	-3.5
	comp=Z,80nm,0.6s						
ODAN	Odare	16.30	136	eP	Pn	00 42 51.3	-3.5
NVS	Novosibirsk	16.41	17	eP	Pn	00 42 56.3	+0.5

NVS pmax pmax
comp=Z,11nm,1.3s
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.8s
LSA Lhasa 16.51 121 P **Pn 00 42 58.8 +1.2**
LSA Lhasa 16.51 121 *e*P **Pn 00 42 58.9 +1.2**
LSA pmax pmax
comp=Z,22nm,1.1s
LSA Lhasa 16.51 121 *e*Pn **Pn 00 42 58.9 +1.2**
comp=Z,22nm,1.1s
GTA Gaotai 19.24 82 *e*P **P 00 43 30.8 +0.8**
GTA pP **pP 00 43 35.1 +1.9**
GTA sP sP 00 43 37.9 +3.2
GTA pmax pmax
comp=Z,140nm,5.2s
GTA LR LR
comp=Z,260nm,10.9s
GTA LR LR
comp=Z,190nm,10.4s
SVE Sverdlovsk 19.77 336 *e*P **Pn 00 43 40.3 +3.2**
SVE pmax pmax
comp=Z,12nm,1.0s
SHL Shillong 19.86 129 *e*P **P 00 43 36.5 -0.4**
SHL AMB AMB 00 43 37.9
comp=Z,12nm,0.3s
SHL Shillong 19.86 129 *e*P **P 00 43 38.0 +1.1**
ARU Arti 20.14 333*c* *i*P Pn 00 43 42.3 +0.9
ARU 00 43 57.6
ARU S Sn 00 47 30.7 +2.8
ARU pmax pmax
comp=Z,19nm,1.2s
ARU Arti 20.14 333 *e*P Pn 00 43 41.7 +0.3
comp=Z,15nm,0.9s
MOY Mondy 21.86 47 *e*P **P 00 43 59.9 +1.6**
DGRG David-gareji 22.52 285 P **P 00 44 08.3 +2.9**
ZAK Zakamensk 22.76 52 *e*P **P 00 44 05.1 -2.8**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TBLG Delisi 22.97 286 P **P 00 44 12.1 +2.0**
LZH Lanzhou 23.08 89 *e*P **P 00 44 13.1 +1.6**
LZH pP **pP 00 44 17.8 +3.1**
LZH sP sP 00 44 20.3 +4.1
LZH PP **PnPn 00 44 41.0 +4.6**
LZH *e*S **S 00 48 19.0 -3.6**
LZH sS **sS 00 48 27.0 -1.2**
LZH pmax pmax
comp=Z,28nm,1.1s
LZH LR LR
comp=Z,370nm,14.9s
LZH LR LR
comp=Z,330nm,13.4s
LZH LR LR
comp=Z,450nm,15.2s
GUDG Gudauri 23.12 287 P **P 00 44 14.8 +3.0**
GNI Garni 23.14 281 P **P 00 44 13.3 +1.3**
GNI pmax pmax
comp=Z,6.0nm,0.8s
GNI Garni 23.14 281 P **P 00 44 13.3 +1.3**
comp=Z,6.3nm,0.8s,baz=135,slow=10.0,SNR=3.5
TLY Talaya 23.40 49 *e*P **P 00 44 15.6 +1.2**
TLY pmax pmax
comp=Z,4.0nm,1.7s
ZEI Tsey 23.53 288 *e*P P 00 44 20.8 +4.8
ZEI pmax pmax
comp=Z,10.0nm,0.9s
ONI Oni 23.87 288 P **P 00 44 21.2 +2.1**
SONM Songino Array 24.17 59 P **P 00 44 21.4 -0.5**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,15nm,28.6s
SONM Songino Array 24.17 59 P **P 00 44 21.4 -0.5**
comp=Z,1.8nm,0.8s,baz=261,slow=7.8,SNR=22
SONM LR LR 00 54 44.4
comp=Z,132nm,18.7s,baz=197,slow=39
KBZ Khabaz 24.24 291 P **P 00 44 23.5 +1.1**
KBZ pmax pmax
comp=Z,2.0nm,1.0s
KBZ Khabaz 24.24 291 P **P 00 44 23.4 +1.1**
comp=Z,1.8nm,1.0s,baz=84,slow=10.0,SNR=2.6
NEY Neytrino 24.38 289 *e*P P 00 44 31.2 +7.3
KIV Kislovodsk 24.39 291 *e*P P 00 44 29.8 +5.9
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,28nm,15.0s
KIV Kislovodsk 24.39 291 *e*P **P 00 44 23.3 -0.6**
comp=Z,12nm,0.8s
ULN Ulaanbaatar 24.61 59⇓*e*P **P 00 44 25.4 -0.6**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 24.61 59 *e*P **P 00 44 25.1 -0.9**
comp=Z,3.6nm,0.9s
VRHR Novokhopersk 25.94 308 *e*P **P 00 44 41.3 +3.5**
VRHR pmax pmax
comp=N,5.0nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VORD Divnogorie 27.35 307 *e*P **P 00 44 53.1 +2.6**
VORD pmax pmax
comp=N,6.0nm,0.8s
VORD pmax pmax
comp=E,6.0nm,0.8s
VORD pmax pmax
comp=Z,7.0nm,0.8s
VSR Storozhevoye 27.48 307⇑*e*P **P 00 44 55.7 +4.1**
VSR pmax pmax
comp=Z,8.0nm,0.8s
XAN Xi'an 27.69 90 P **P 00 44 53.8 0.0**
XAN pmax pmax
comp=Z,2.0nm,0.7s
XAN pmax pmax
comp=Z,30nm,5.2s
ANN Anapa 28.13 293 *e*P **P 00 45 00.3 +2.7**
ANN pmax pmax
comp=Z,104nm,1.5s
PRGR Permogore 28.55 331 *e*P **P 00 45 04.2 +3.1**
PRGR pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 29.49 128 P **P 00 45 08.9 -1.0**
CMAR 00 48 15.4
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 29.49 128 P **P 00 45 08.9 -1.0**
comp=Z,1.1nm,0.3s,baz=311,slow=8.2,SNR=6.0
CMAR PcP **PcP 00 48 15.3 +0.1**
comp=Z,0.7nm,0.3s,baz=299,slow=4.1,SNR=4.7
RAYN Ar Rayn 29.49 246 *e*P **P 00 45 11.4 +1.5**
comp=Z,6.0nm,0.8s
OBN Obninsk 29.91 314⇑*e*P P 00 45 18.0 +4.8
OBN *SP sP 00 45 23.0 +4.9
OBN pmax pmax
comp=Z,32nm,2.5s
OBN MLR MLR
comp=Z,142nm,20.0s
OBN Obninsk 29.91 314 LR LR 00 58 03.2
comp=Z,126nm,19.0s,baz=95,slow=38
KLMR Klimovskoe 30.61 326 *e*P P 00 45 22.6 +3.3
KLMR pmax pmax
comp=Z,28nm,1.9s
KLMR pmax pmax
comp=Z,32nm,1.8s
BRTR Keskin Array B 31.60 284 P **P 00 45 29.8 +1.2**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 31.60 284 P **P 00 45 29.8 +1.2**
comp=Z,4.8nm,0.7s,baz=94,slow=8.4,SNR=39
PALK Pallekele 32.43 169 LR LR 00 58 54.5
comp=Z,126nm,19.5s,baz=323,slow=37
WHN Wuhan 33.30 93 P **P 00 45 42.3 -1.0**
AKASG Malin Array Be 33.66 305 P **P 00 45 46.0 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 33.66 305 P **P 00 45 46.0 -0.3**
comp=Z,2.7nm,0.8s,baz=77,slow=7.3,SNR=10
KIEV Kiev 33.67 305 *e*P **P 00 45 46.1 -0.2**
KIEV pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 33.67 305 *e*P **P 00 45 46.1 -0.2**
comp=Z,6.5nm,0.7s
JOF Joensuu 35.00 327 *e*P P 00 45 48.7 -9.0
JOF Joensuu 35.00 327 *e*p P 00 45 48.7 -9.0
comp=Z,0.4nm,0.4s
VSU Vasula 35.94 318⇓*e*P P 00 46 09.8 +4.0
VSU pmax pmax
comp=Z,19nm,0.7s
BUR08 Bucovina Ar. S 36.41 300 *e*P **P 00 46 10.3 +0.1**
BUR08 *e*PP **PP 00 47 34.2 +1.3**
FINES FINESS Array B 36.89 323 P **P 00 46 13.2 -0.7**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES MLR MLR
comp=Z,89nm,19.0s
FINES FINESS Array B 36.89 323 P **P 00 46 13.2 -0.7**
comp=Z,4.2nm,0.8s,baz=117,slow=10,SNR=18
FINES LR LR 01 01 55.5
comp=Z,88nm,19.0s,baz=92,slow=37
KAF Kangasniemi 36.95 324 *e*P **P 00 46 12.1 -2.3**
KAF Kangasniemi 36.95 324 *e*p **P 00 46 12.1 -2.3**
comp=Z,0.3nm,0.3s
LVV L'vov 37.01 303 *e*P P 00 46 20.3 +5.2
KWP Kalwaria Pacla 37.88 303 *e*P **P 00 46 23.0 +0.5**
KWP pmax pmax
comp=Z,6.0nm,0.7s
KWP Kalwaria Pacla 37.88 303 *e*P **P 00 46 23.0 +0.5**
comp=Z,6.2nm,0.7s
STHS Stebnicka Huta 38.85 303 *e*P P 00 46 35.7 +5.0
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 38.85 303 *e*P P 00 46 35.7 +5.0
NIE Niedzica 39.45 303 *e*P P 00 46 41.8 +6.1
NIE Niedzica 39.45 303 *e*P P 00 46 41.8 +6.1
OJC Ojcow 39.70 304 *e*P P 00 46 42.8 +5.1
OJC Ojcow 39.70 304 *e*P P 00 46 42.8 +5.1
ARCES ARCESS Array B 39.70 335 P **P 00 46 36.7 -0.8**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 39.70 335 P **P 00 46 36.7 -0.8**
comp=Z,3.1nm,0.8s,baz=105,slow=7.6,SNR=7.1
VYHS Vyhne 40.54 302 *e*P P 00 46 50.2 +5.4
VYHS Vyhne 40.54 302 *e*P P 00 46 50.2 +5.4
KSAR Wonju Array Be 41.06 75 P **P 00 46 48.4 -0.7**
KSAR Wonju Array Be 41.06 75 P **P 00 46 48.4 -0.7**
KSRS Korea Array 41.08 75 P **P 00 46 48.4 -0.9**
KSRS pmax pmax
comp=Z,3.0nm,0.7s
KSRS Korea Array 41.08 75 P **P 00 46 48.4 -0.9**
comp=Z,2.7nm,0.7s,baz=284,slow=8.0,SNR=9.8
DPC Dobruska-Polom 41.90 305 *e*P **P 00 46 56.9 +1.0**
DPC *e* 00 47 01.1
DPC Dobruska-Polom 41.90 305 *e*P **P 00 46 56.9 +1.0**
DPC *e*x x 00 47 01.1
DPC Dobruska-Polom 41.90 305 *e*P P 00 47 01.2 +5.3
UPC Upice 42.07 305 *e*P **P 00 46 57.2 -0.1**
UPC *e* 00 47 02.9
UPC Upice 42.07 305 *e*P **P 00 46 57.2 -0.1**
UPC *e*x x 00 47 02.9
USRK Ussuriysk Arra 42.09 64 LR LR 01 06 07.5
comp=Z,66nm,18.7s,baz=156,slow=39
CONA Conrad Observa 42.60 302⇓*i*P **P 00 47 02.5 +0.8**
comp=Z,8.6nm,0.8s
ARSA Arzberg 42.96 301⇑*i*P **P 00 47 05.2 +0.6**
comp=Z,5.4nm,0.8s
PRU Pruhonice 43.08 305 *e*P **P 00 47 06.2 +0.7**
PRU *e* 00 47 10.5
PRU Pruhonice 43.08 305 *e*P **P 00 47 06.2 +0.7**
PRU *e*x x 00 47 10.5
BRG Berggiesshubel 43.31 306 *e*P P 00 47 12.5 +5.1
comp=Z,5.7nm,0.9s
BRG Berggiesshubel 43.31 306 *e*P P 00 47 12.5 +5.1
SOKA Soboth 43.41 300⇑*i*P **P 00 47 09.0 +0.7**
comp=Z,11nm,1.0s
MOA Molln 43.67 302⇑*i*P **P 00 47 11.0 +0.7**
comp=Z,6.6nm,1.2s
OBKA Obir 43.77 300⇑*i*P **P 00 47 12.4 +1.2**
comp=Z,13nm,1.1s
CLL Collm 43.83 307 *e*P P 00 47 16.0 +4.5
CLL Collm 43.83 307 *e*P **P 00 47 12.0 +0.5**
CLL Lm MLR 01 08 00.0
comp=Z,100nm,22.0s
GERES GERESS Array B 43.83 303 P **P 00 47 12.4 +0.7**
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES MLR MLR
comp=Z,15nm,28.6s
GERES GERESS Array B 43.83 303 P **P 00 47 12.4 +0.7**
comp=Z,3.7nm,0.8s,baz=67,slow=7.3,SNR=20
GERES LR LR 01 09 54.3
comp=Z,77nm,18.1s,baz=94,slow=42
KHC Kasperske Hory 43.85 304 *e*P **P 00 47 11.5 -0.3**
KHC pmax pmax
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 43.85 304 *e*P **P 00 47 11.3 -0.5**
KHC *e*x x 00 47 17.1
KHC Kasperske Hory 43.85 304 *e*P **P 00 47 11.5 -0.3**
comp=Z,5.9nm,0.8s
NB2 NORSAR Subarra 43.97 321 P **P 00 47 12.1 -0.5**
comp=Z,5.8nm,0.7s,baz=91,slow=8.6
NOA NORSAR Array B 43.97 321 P **P 00 47 12.4 -0.2**
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA MLR MLR
comp=Z,15nm,28.6s
NOA NORSAR Array B 43.97 321 P **P 00 47 12.4 -0.2**
comp=Z,5.6nm,0.7s,baz=91,slow=8.1,SNR=14
NOA LR LR 01 06 28.5
comp=Z,57nm,21.2s,baz=75,slow=37
JOW Kunigami 45.83 89 LR LR 01 08 54.4
comp=Z,6.8nm,18.7s,baz=54,slow=39
DAVA Damuels 46.69 302⇑*i*P **P 00 47 34.5 +0.1**
comp=Z,9.0nm,0.7s
DAVOX Davos/Dischmat 46.82 301 P **P 00 47 35.1 -0.4**
DAVOX pmax pmax
comp=Z,8.0nm,0.6s
DAVOX Davos/Dischmat 46.82 301 P **P 00 47 35.1 -0.4**
comp=Z,8.4nm,0.6s,baz=80,slow=9.8,SNR=6.9
HAU Haudompre 48.78 304 *e*P **P 00 47 50.1 -0.4**
comp=Z,5.6nm,0.6s
HAU Haudompre 48.78 304 *e*P **P 00 47 50.1 -0.4**
HAU pmax pmax
comp=Z,6.0nm,0.6s
HAU Haudompre 48.78 304 *e*P **P 00 47 50.1 -0.4**
comp=Z,5.6nm,0.6s
MJAR Matsushiro Arr 49.07 72 P **P 00 47 51.9 -1.0**
MJAR pmax pmax
comp=Z,3.0nm,0.5s
MJAR Matsushiro Arr 49.07 72 P **P 00 47 51.9 -1.0**
comp=Z,3.3nm,0.5s,baz=286,slow=9.3,SNR=8.8
LPG La Plagne 49.28 301 *e*P **P 00 47 54.5 -0.2**
comp=Z,12nm,0.8s
LPG La Plagne 49.28 301 *e*P **P 00 47 54.5 -0.2**
LPG pmax pmax
comp=Z,12nm,0.8s
LPG La Plagne 49.28 301 *e*P **P 00 47 54.5 -0.2**
comp=Z,12nm,0.8s
LPL La Plagne 49.28 301 *e*P **P 00 47 54.7 +0.1**
comp=Z,8.2nm,0.7s
LPL La Plagne 49.28 301 *e*P **P 00 47 54.7 +0.1**
LPL pmax pmax
comp=Z,8.0nm,0.7s
LPL La Plagne 49.28 301 *e*P **P 00 47 54.7 +0.1**
comp=Z,8.2nm,0.7s
MBDF Montbardon 49.51 300 *e*P **P 00 47 56.3 0.0**
comp=Z,20nm,0.9s
MBDF Montbardon 49.51 300 *e*P **P 00 47 56.3 0.0**
MBDF pmax pmax
comp=Z,20nm,0.9s
MBDF Montbardon 49.51 300 *e*P **P 00 47 56.3 0.0**
comp=Z,20nm,0.9s
SEY Seymchan 50.27 36 LR LR 01 09 31.7
comp=Z,605nm,20.5s,baz=330,slow=36
LOR Lormes 50.61 304 *e*P **P 00 48 04.1 -0.4**
LOR Lormes 50.61 304 *e*P **P 00 48 04.1 -0.4**
LOR Lormes 50.61 304 *e*P **P 00 48 04.1 -0.4**
SMF Signal de Mont 50.83 303 *e*P **P 00 48 05.9 -0.2**
SMF Signal de Mont 50.83 303 *e*P **P 00 48 05.9 -0.2**
SMF Signal de Mont 50.83 303 *e*P **P 00 48 05.9 -0.2**
VIVF Saint-Julien-l 50.88 300 *e*P **P 00 48 06.3 -0.2**
comp=Z,22nm,1.0s
VIVF Saint-Julien-l 50.88 300 *e*P **P 00 48 06.3 -0.2**
VIVF pmax pmax
comp=Z,22nm,1.0s
VIVF Saint-Julien-l 50.88 300 *e*P **P 00 48 06.3 -0.2**
comp=Z,22nm,1.0s
AVF Avril sur Loir 51.10 303 *e*P **P 00 48 07.3 -0.8**
comp=Z,8.1nm,0.6s
AVF Avril sur Loir 51.10 303 *e*P **P 00 48 07.3 -0.8**
AVF pmax pmax
comp=Z,8.0nm,0.6s
AVF Avril sur Loir 51.10 303 *e*P **P 00 48 07.3 -0.8**
comp=Z,8.1nm,0.6s
KMBO Kilima Mbogo 53.07 230 P **P 00 48 23.2 -0.2**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 53.07 230 P **P 00 48 23.2 -0.2**
comp=Z,1.7nm,0.7s,baz=210,slow=19,SNR=8.1
KMBO Kilima Mbogo 53.07 230 *e*P **P 00 48 24.2 +0.9**
comp=Z,2.2nm,0.8s
LFF La Frestale 53.46 302 *e*P **P 00 48 25.5 -0.1**
LFF La Frestale 53.46 302 *e*P **P 00 48 25.5 -0.1**
LFF La Frestale 53.46 302 *e*P **P 00 48 25.5 -0.1**
BILL Bilibino 54.62 27⇓*e*P **P 00 48 33.7 0.0**
BILL *e**PP **pP 00 48 38.8 +1.4**
BILL *SP sP 00 48 43.0 +4.3
BILL 00 49 37.0
BILL *e* 00 50 39.2
BILL pmax pmax
comp=Z,4.0nm,1.0s
ESDC Sonseca Array 58.82 298 P **P 00 49 04.0 -0.1**
comp=Z,1.0nm,0.5s,baz=56,slow=7.1,SNR=8.5
RES Resolute Bay 65.97 357 P **P 00 49 50.7 -0.6**
comp=Z,0.3nm,0.5s,baz=5.0,slow=8.2,SNR=4.8
SFJD Kangerlussuaq 66.12 340 P **P 00 49 52.0 -0.4**
SFJD pmax pmax
comp=Z,5.0nm,0.7s
SFJD Kangerlussuaq 66.12 340 P **P 00 49 52.0 -0.4**
comp=Z,4.9nm,0.7s,baz=30,slow=8.1,SNR=2.4
COLD Coldfoot 68.30 17 *e*P **P 00 50 06.2 -0.1**
comp=Z,5.4nm,0.9s
TORD Torodi Ar. Bea 68.84 270 P **P 00 50 09.5 -0.9**
comp=Z,2.7nm,0.8s,baz=47,slow=5.7,SNR=31
LSZ Lusaka 69.70 229 *e*P **P 00 50 16.3 +0.6**
LSZ pmax pmax
comp=Z,7.0nm,0.8s
LSZ Lusaka 69.70 229 *e*P **P 00 50 16.3 +0.6**
comp=Z,6.5nm,0.8s
INK Inuvik 70.50 11 P **P 00 50 19.0 -0.7**
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 70.50 11 P **P 00 50 19.0 -0.7**
comp=Z,4.6nm,0.6s,baz=355,slow=6.7,SNR=48
ILAR Eielson Array 71.10 18 P **P 00 50 22.0 -1.5**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 71.10 18 P **P 00 50 22.0 -1.5**
comp=Z,1.5nm,0.8s,baz=319,slow=4.5,SNR=18
DBIC Dimbokro 77.89 269 P **P 00 51 03.9 +0.1**
DBIC pmax pmax
comp=Z,5.0nm,0.9s
DBIC Dimbokro 77.89 269 P **P 00 51 03.9 +0.1**
comp=Z,4.7nm,0.9s,baz=36,slow=7.7,SNR=5.5
KIC Kosan Boka 77.99 268 *e*P **P 00 51 04.1 -0.3**
comp=Z,5.7nm,0.6s
TIC Toumodi 78.03 269 *e*P **P 00 51 04.2 -0.4**
comp=Z,7.9nm,0.6s
YKA Yellowknife Ar 78.14 4 P **P 00 51 03.4 -1.0**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 78.14 4 P **P 00 51 03.4 -1.0**
comp=Z,3.4nm,0.7s,baz=348,slow=5.7,SNR=81
LIC Lamto 78.30 268 *e*P **P 00 51 05.5 -0.6**
comp=Z,12nm,0.9s
LIC Lamto 78.30 268 *e*P **P 00 51 05.7 -0.4**
comp=Z,22nm,1.3s
LIC Lamto 78.30 268 *e*P **P 00 51 05.5 -0.6**
comp=Z,12nm,0.9s
WRA Warramunga Arr 81.02 125 P **P 00 51 20.1 -0.6**
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 81.02 125 P **P 00 51 20.1 -0.6**
comp=Z,5.3nm,0.8s,baz=322,slow=4.9,SNR=8.3
BOSA Boshof 81.97 223 P **P 00 51 25.4 -0.2**
BOSA pmax pmax
comp=Z,4.0nm,0.9s
BOSA Boshof 81.97 223 P **P 00 51 25.4 -0.2**
comp=Z,3.9nm,0.9s,baz=359,slow=3.8,SNR=4.7
ASAR Alice Springs 83.50 128 P **P 00 51 32.7 -0.9**
ASAR pmax pmax
comp=Z,4.0nm,0.9s
ASAR Alice Springs 83.50 128 P **P 00 51 32.7 -0.9**
comp=Z,4.1nm,0.9s,baz=330,slow=5.4,SNR=5.5
CTA Charters Tower 89.04 117 P **P 00 52 00.9 0.0**
CTA pmax pmax
comp=Z,3.0nm,0.5s
CTA Charters Tower 89.04 117 P **P 00 52 00.9 0.0**
comp=Z,2.8nm,0.5s,baz=319,slow=9.0,SNR=3.5
ULM Lac du Bonnet 90.34 354 P **P 00 52 05.6 -1.0**
ULM pmax pmax
comp=Z,2.0nm,0.8s
ULM Lac du Bonnet 90.34 354 P **P 00 52 05.6 -1.0**
comp=Z,2.1nm,0.8s,baz=9.5,slow=6.1,SNR=4.5

IDC **17** *00:45:30.9±0.7, 1.°92N×127.°56E, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.0/38, mbtmp4.3/10, MS4.0/2, Ms1 4.0/2, ms1mx2.9/25, Error ellipse: s-maj=38.6km s-min=14.4km az=70.0*
ISCJB **17** *00:45:42.1±0.5, 1.°84N±0.°04×127.°38E±0.°06, h112km, mb4.2/10, Error ellipse: s-maj=8.2km s-min=5.9km az=173.7*
DJA **17** *00:45:44.2±0.8, 2°N±4°×12°7E±°, h115km±6km, M4.6/10, mb4.6/7, mB5.0/4, MLv4.7/10, Mw(mB)4.4/4*
ISC 17 00:45:43.8±0.7, 1.°80N±0.°05×127.°33E±0.°08, h112km, n30, σ1§59/35, mb4.0/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.02**	**178**	P	**Pn**	**00 46 07.2**	**+1.8**
TNTI				S	**Sn**	**00 46 26.9**	**+5.2**
LBMI	**Labuha**	**2.43**	**176**	P	Pn	00 46 25.7	+3.3
SGSI	**Sangihe**	**2.59**	**316**	P	**Pn**	**00 46 23.9**	**-0.7**
SGSI				S	**Sn**	**00 46 54.2**	**-1.7**
KMSI	**Cibinong**	**3.56**	**250**	P	**Pn**	**00 46 38.3**	**+1.0**
KMSI				S	**Sn**	**00 47 20.1**	**+1.4**
SANI	**Sanana**	**4.05**	**199**	P	**Pn**	**00 46 43.1**	**-0.8**
SANI				S	**Sn**	**00 47 26.4**	**-4.1**
GTOI	**Gorontalo**	**4.47**	**255**	P	**Pn**	**00 46 51.1**	**+1.6**
NLAI	**Namlea**	**5.01**	**183**	P	**Pn**	**00 46 57.3**	**+0.4**
	36nm,0.5s,3μm0.4nm						
NLAI				S	**Sn**	**00 47 51.7**	**-2.0**
	36nm,0.5s,3μm0.4nm						
LUWI	**Luwuk**	**5.36**	**238**	P	**Pn**	**00 47 00.7**	**-0.8**
	62nm,0.9s,8μm1.6nm						
MRSI	**Marisa**	**5.54**	**256**	P	**Pn**	**00 47 04.4**	**+0.4**
	35nm,0.8s,733nm0.2nm						
APSI	**Ampana**	**6.28**	**245**	P	**Pn**	**00 47 11.9**	**-2.2**
	58nm,0.9s,1μm0.8nm						
SPSI	**Sidrap Palu**	**9.48**	**233**	P	**Pn**	**00 47 57.4**	**0.0**
	46nm,0.6s						
BNSI	**Bone**	**9.49**	**229**	P	**Pn**	**00 47 58.4**	**+0.9**
	24nm,0.7s						
BKSI	**Bulukumba**	**10.09**	**225**	P	**Pn**	**00 48 07.2**	**+1.5**
WRA	**Warramunga Arr**	**22.68**	**163**	P	**P**	**00 50 35.5**	**-0.6**
	13nm,0.5s,baz=342,slow=11,SNR=25						
WRA				S	**S**	**00 54 34.9**	**-1.2**
	0.9nm,0.8s,baz=332,slow=21,SNR=4.4						
ASAR	**Alice Springs**	**26.11**	**166**	P	**P**	**00 51 07.0**	**-0.4**
	1.6nm,0.5s,baz=347,slow=7.2,SNR=24						
ASAR				PcP	**PcP**	**00 54 32.3**	**-0.1**
	0.5nm,0.6s,baz=8.5,slow=1.9,SNR=4.4						
JNU	**Nakatsue**	**31.34**	**6**	LR	LR	01 03 43.4	
	comp=Z,910nm,21.1s,baz=288,slow=35						
CMAR	**Chiang Mai Arr**	**32.38**	**303**	P	**P**	**00 52 04.2**	**+1.1**
	0.5nm,0.3s,baz=106,slow=6.5,SNR=5.0						
KSRS	**Korea Array**	**35.48**	**1**	P	**P**	**00 52 27.8**	**-1.9**
	0.7nm,0.3s,baz=174,slow=11,SNR=3.2						
STKA	**Stephens Creek**	**36.13**	**159**	P	**P**	**00 52 35.2**	**0.0**
	12nm,0.7s,baz=337,slow=8.1,SNR=27						
STKA				LR	LR	01 10 37.3	
	comp=Z,81nm,18.1s,baz=206,slow=42						
TAPN	**Taplejung**	**45.64**	**308**	*e*P	**P**	**00 53 54.0**	**+0.2**
ODAN	**Odare**	**45.68**	**307**	*e*P	**P**	**00 53 54.6**	**+0.6**
RAMN	**Ramite**	**46.35**	**306**	*e*P	**P**	**00 53 59.8**	**+0.5**
	13nm,0.7s						
GUN	**Gumba**	**47.35**	**307**	*e*P	**P**	**00 54 07.0**	**-0.1**
	10nm,0.6s						
KOLN	**Koldanda**	**49.12**	**306**	*e*P	**P**	**00 54 20.7**	**+0.1**
	15nm,0.8s						
DANN	**Dangsing**	**49.23**	**307**	*e*P	**P**	**00 54 20.5**	**-1.0**
	10.0nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	49.30	341	P	P	00 54 21.7	+0.1
	0.8nm,0.6s,baz=159,slow=8.8,SNR=6.7						
MKAR	Makanchi Array	59.47	326	P	P	00 55 36.0	+0.9
	2.2nm,0.4s,baz=118,slow=7.7,SNR=50						
AAK	Ala-Archa	62.18	318	P	P	00 55 54.7	+1.0
	0.5nm,0.5s,baz=157,slow=7.7,SNR=3.5						
ZALV	Zalesovo Beam	62.57	333	P	P	00 55 56.9	+1.1
	0.8nm,0.5s,baz=131,slow=6.7,SNR=4.4						
FX1	Attu Island--F	63.46	29	P	P	00 56 01.4	-0.3
	30nm,1.0s,baz=240,slow=8.1,SNR=2.4						

ISCJB 17 01:27:55.3±0.5, 33°.09S±0°.09×15°.81W±0°.10, h10km, mb4.4/20, MS3.6/4, Error ellipse: s-maj=14.3km s-min=10.1km az=146.5
IDC 17 01:27:55.5±1.0, 33°.15S×15°.78W, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.0/27, mbtmp4.2/8, MS3.6/4, Ms1 3.6/4, ms1mx3.2/21, Error ellipse: s-maj=37.4km s-min=20.2km az=154.0
NEIC 17 01:27:56.8±0.3, 33°.16S×15°.80W, h10km, mb4.4/9, Error ellipse: s-maj=12.5km s-min=9.0km az=158.0
ISC 17 01:27:56.9±0.5, 33°.1S±0°.1×15°.8W±0°.1, h10km, n49, σ0.89/37, mb4.4/20, MS3.5/4, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H09N1	TRISTAN DA CUN	4.86	145	T	T	01 34 09.9	
	SNR=31						
H09W1	TRISTAN DA CUN	4.87	145	T	T	01 34 15.4	
	SNR=47						
H10S2	ASCENSION HYDR	24.08	3	T	T	01 58 08.0	
	baz=184,slow=74,SNR=80						
H10S3	ASCENSION HYDR	24.09	3	T	T	01 58 09.4	
	baz=184,slow=74,SNR=74						
H10S1	ASCENSION HYDR	24.10	3	T	T	01 58 08.0	
	baz=184,slow=74,SNR=69						
H10N1	ASCENSION HYDR	25.19	3	T	T	01 59 21.7	
	baz=186						
H10N3	ASCENSION HYDR	25.20	3	T	T	01 59 27.5	
	baz=186,slow=74						
H10N2	ASCENSION HYDR	25.21	3	T	T	01 59 36.4	
	baz=186,slow=74						
TSUM	Tsumeb	32.87	73	eP	P	01 34 30.8	-0.4
	2.4nm,0.6s						
BDFB	Brasilia	33.93	293	P	P	01 34 40.2	-0.2
	8.2nm,1.1s,baz=134,slow=11,SNR=7.1						
BOSA	Boshof	35.37	94	P	P	01 34 51.8	-1.2
	4.5nm,1.0s,baz=261,slow=10,SNR=5.1						
LBTB	Lobatse	36.89	88	eP	P	01 35 06.2	+0.3
	85nm,2.1s						
TRQA	Tornquist	37.57	249	eP	P	01 35 11.9	+0.5
	9.6nm,1.2s						
SNAA	Sanae	39.22	174	eP	P	01 35 25.5	+0.6
	3.3nm,1.0s						
LIC	Lamto	40.46	17	eP	P	01 35 35.2	-0.5
	41nm,1.3s						
KIC	Kosan Boka	40.66	17	eP	P	01 35 37.1	-0.3
	29nm,0.7s						
TIC	Toumodi	40.86	17	eP	P	01 35 38.8	-0.3
	29nm,0.9s						
DBIC	Dimbokro	40.93	17	P	P	01 35 39.1	-0.5
	4.9nm,0.6s,baz=169,slow=9.2,SNR=12						
DBIC				LR	LR	01 48 06.6	
	comp=Z,58nm,21.9s,baz=149,slow=30						
PLCA	Paso Flores	43.81	244	P	P	01 36 03.8	+0.8
	2.4nm,1.0s,baz=95,slow=2.9,SNR=3.7						
PLCA	Paso Flores	43.81	244	eP	P	01 36 03.9	+0.8
	3.7nm,1.0s						
CFAA	Coronel Fontan	43.93	257	P	P	01 36 03.6	-0.5
	0.3nm,0.8s,baz=59,slow=12,SNR=5.2						
LVC	Limon Verde	47.67	269	eP	P	01 36 33.3	-0.6
	3.6nm,0.8s						
TORD	Torodi Ar. Bea	48.96	23	P	P	01 36 43.6	+0.1
	6.8nm,0.9s,baz=202,slow=7.6,SNR=28						
TORD				LR	LR	01 53 35.2	
	comp=Z,44nm,18.6s,baz=300,slow=31						
SAML	Samuel	49.80	288	eP	P	01 36 49.9	-0.2
	1.8nm,0.9s						
MAW	Mawson	55.55	153	LR	LR	01 58 44.1	
	comp=Z,128nm,18.1s,baz=268,slow=33						
QSPA	South Pole Qui	57.11	180	eP	P	01 37 44.4	+1.0
	4.3nm,0.8s						
TAM	Tamanrasset	59.22	23	eP	P	01 37 59.5	+1.0
	9.4nm,1.3s						
BRTR	Keskin Array B	85.73	36	P	P	01 40 38.3	+2.1
	0.5nm,0.8s,baz=199,slow=3.1,SNR=3.6						
GERES	GERESS Array B	85.76	19	P	P	01 40 36.1	+0.2
	0.9nm,0.9s,baz=202,slow=4.9,SNR=4.3						
GERES				PP	PP	01 43 55.3	-0.5
	0.2nm,0.5s,baz=185,slow=8.0,SNR=3.5						
AKASG	Malin Array Be	92.45	27	P	P	01 41 07.8	+0.3
	0.9nm,0.7s,baz=227,slow=4.8,SNR=4.5						
NOA	NORSAR Array B	96.40	13	LR	LR	02 22 59.1	
	comp=Z,20nm,18.3s,baz=260,slow=34						
H01W2	Cape Leeuwin H	97.64	141	T	T	03 31 03.0	
	baz=223,slow=74,SNR=5.2						
H01W3	Cape Leeuwin H	97.65	141	T	T	03 31 04.2	
	baz=223						
H01W1	Cape Leeuwin H	97.65	141	T	T	03 31 03.4	
	baz=223						
ANMO	Albuquerque	108.55	300	ePKP	PKiKP	01 46 26.0	-0.2
EKS2	Erkin-Say	111.27	52	ePKP	PKiKP	01 46 31.3	+0.3
MBWA	Marble Bar	111.33	135	ePKP	PKiKP	01 46 32.2	+0.6
AAK	Ala-Archa	111.74	53	ePKP	PKiKP	01 46 31.2	-0.7
TKM2	Tokmak 2	112.59	53	ePKP	PKiKP	01 46 33.7	+0.1
YKA	Yellowknife Ar	122.78	327	PKP	PKPdf	01 46 52.2	0.0
	0.2nm,0.6s,baz=109,slow=1.9,SNR=4.9						
KAPI	Kappang	123.34	123	ePKPdf	PKPdf	01 46 53.3	-1.6
CTAO	Charters Tower	124.37	159	ePKPdf	PKPdf	01 46 54.4	-2.3
DZM	Mont Dzumac	125.06	183	ePKPdf	PKPdf	01 46 55.8	-2.3
COEN	Coen	129.05	153	ePKPdf	PKPdf	01 47 05.7	-0.1
INK	Inuvik	130.55	334	PKP	PKPdf	01 47 07.0	+0.1
	2.0nm,1.0s,baz=74,slow=1.9,SNR=4.7						
ILAR	Eielson Array	136.70	332	PKP	PKPdf	01 47 18.3	-0.3
	0.5nm,0.8s,baz=77,slow=0.8,SNR=7.5						
MCK	McKinley	137.94	331	ePKPdf	PKPdf	01 47 21.4	+0.4
BILL	Bilibino	145.03	359	ePKPdf	PKPdf	01 47 33.2	-0.2
SEY	Seymchan	149.26	11	PKPbc	PKPbc	01 47 45.6	+0.7
	3.3nm,0.7s,baz=348,slow=3.5,SNR=6.0						

IDC 17 01:33:43.5±2.8, 3°.76S×126°.76E, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.4/29, mbtmp3.6/3, ML4.0/1, Error ellipse: s-maj=354.5km s-min=28.2km az=65.0, Buru

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.70	156	P	Pn	01 37 51.7	+0.1
	0.5nm,0.3s,baz=332,slow=13,SNR=16						
ASAR	Alice Springs	20.96	161	P	P	01 38 28.3	0.0
	1.2nm,0.5s,baz=345,slow=12,SNR=12						
MKAR	Makanchi Array	63.77	328	P	P	01 44 17.4	0.0
	0.4nm,0.9s,baz=114,slow=7.1,SNR=4.0						

MAN 17 01:36:11, 16°.76N×119°.90E, h4km, mb4.8, ML3.7, MS3.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.37	178	eP	Pg	01 36 19.0	+0.8
BOLP				eS	Sb	01 36 27.0	+0.6
BCPH	Baguio City Da	0.75	120	⇑iP	Pb	01 36 26.6	-0.4
BCPH				iS	Sn	01 36 40.0	-0.7
SCZP	Santa Cruz	0.98	179	eP	Pg	01 36 29.8	+0.1
SCZP				eS	Sg	01 36 41.7	-0.7
ABRA	Dolores	1.18	41	eP	Pg	01 36 33.2	-0.5
APYP	Conner	1.69	49	eP	Pn	01 36 41.2	-0.1
CAUP	Cauayan	1.85	84	eP	Pg	01 36 47.2	+0.7
BALP	Baler	1.90	122	eP	Pn	01 36 45.2	+1.0

IDC 17 01:36:31.0±1.1, 18°.32N×146°.97E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/30, mbtmp3.5/6, Error ellipse: s-maj=47.1km s-min=21.3km az=88.0
ISCJB 17 01:36:36.7±1.3, 18°.3N±0°.1×146°.8E±0°.4, h52km, mb3.5/6, Error ellipse: s-maj=47.7km s-min=19.8km az=176.8
ISC 17 01:36:38.2±1.3, 18°.3N±0°.2×146°.9E±0°.4, h52km, n6, σ0.35/7, mb3.6/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.94	199	P	P	01 44 07.9	+0.2
	0.2nm,0.4s,baz=19,slow=8.0,SNR=3.5						
WRA				PcP	PcP	01 46 12.0	-0.4
	0.3nm,0.5s,baz=15,slow=3.3,SNR=3.3						
ASAR	Alice Springs	43.59	197	P	P	01 44 37.5	0.0
	0.2nm,0.3s,baz=15,slow=7.3,SNR=3.9						
SONM	Songino Array	44.17	321	P	P	01 44 42.3	+0.2
	0.2nm,0.3s,baz=129,slow=8.3,SNR=8.2						
ZALV	Zalesovo Beam	59.03	322	P	P	01 46 32.2	-0.5
	0.8nm,0.3s,baz=114,slow=7.1,SNR=5.3						
MKAR	Makanchi Array	59.57	314	P	P	01 46 36.8	+0.1
	0.4nm,0.7s,baz=100,slow=7.6,SNR=4.2						
YKA	Yellowknife Ar	77.81	28	P	P	01 48 30.0	+0.2
	0.2nm,0.6s,baz=286,slow=5.8,SNR=2.5						

ISCJB 17 01:49:14.1±0.5, 0°.59S±0°.03×120°.01E±0°.03, h50km±5km, mb4.3/26, MS3.3/5, Error ellipse: s-maj=5.9km s-min=4.8km az=42.8
DJA 17 01:49:14.0±0.7, 1°S±2°×12°0E±°, h15km±9km, M4.7/22, mb4.8/6, mB5.1/4, MLv4.8/22, Mw(mB)4.5/4
NEIC 17 01:49:15.2±0.8, 0°.70S×120°.00E, h49km±8km, mb4.4/16, Error ellipse: s-maj=8.6km s-min=6.1km az=55.0
NEIC Felt [III] at Palu.
IDC 17 01:49:23.9±4.3, 0°.78S×120°.01E, h135km±45km, mb3.8/12, mb1 4.0/13, mb1mx3.8/37, mbtmp4.3/13, MS3.4/6, Ms1 3.4/6, ms1mx3.1/37, Error ellipse: s-maj=25.2km s-min=13.2km az=56.0
ISC 17 01:49:15.5±1.1, 0°.56S±0°.04×119°.98E±0°.05, h46km±12km, n83, σ1.33/78, mb4.4/26, MS3.3/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.89	355	P	Pn	01 49 28.1	-3.6
MPSI				S	Sn	01 49 42.9	-0.6
APSI	Ampana	1.70	102	P	Pn	01 49 42.8	+0.1
APSI				S	Sn	01 50 04.1	+0.8
TOLI	Toli-Toli	1.86	26	ePn	Pn	01 49 45.4	+0.5
TOLI				eSn	Sn	01 50 15.2	+8.0
MRSI	Marisa	2.21	62	P	Pn	01 49 46.4	-3.3
MRSI				S	Sn	01 50 13.7	-2.2
SGKI	Sangatta, Kali	2.38	271	P	Pn	01 49 53.5	+1.5
TTSI	Tana Toraja	2.48	184	P	Pn	01 49 52.2	-1.1
TTSI				S	Sn	01 50 27.8	+5.5
SMKI	Samarinda	2.77	272	P	Pn	01 49 56.9	-0.6
LUWI	Luwuk	2.83	100	P	Pn	01 49 59.4	+1.2
LUWI				S	Sn	01 50 32.3	+1.2
LUWI	Luwuk	2.83	100	ePn	Pn	01 49 57.7	-0.5
LUWI				eSn	Sn	01 50 39.9	+8.8
LUWI	Luwuk	2.83	100	P	Pn	01 49 57.7	-0.5
	baz=2.7,SNR=26						
GTOI	Gorontalo	3.25	69	P	Pn	01 50 00.7	-3.3
SPSI	Sidrap Palu	3.39	184	P	Pn	01 50 04.4	-1.5
BNSI	Bone	3.82	178	P	Pn	01 50 11.5	-0.3
KMSI	Cibinong	4.16	74	P	Pn	01 50 17.0	+0.6
KAPI	Kappang	4.43	183	ePn	Pn	01 50 18.6	-1.6
BKSI	Bulukumba	4.73	178	P	Pn	01 50 23.6	-0.8
BBSI	Bau Bau	5.54	152	P	Pn	01 50 37.2	+1.8
	90nm,0.7s,1µm0.4nm						
BBKI	Banjar Baru	5.89	241	P	Pn	01 50 44.2	+3.9
	63nm,0.7s,10µm0.6nm						
SANI	Sanana	6.18	104	P	Pn	01 50 41.7	-2.6
	54nm,0.7s,855nm0.2nm						
LBMI	Labuha	7.52	91	P	Pn	01 51 03.2	+0.6
	56nm,1.1s,0.3nm						
NLAI	Namlea	7.60	111	P	Pn	01 51 05.6	+1.9
BATI	Baumata	10.26	159	P	Pn	01 51 45.3	+5.1
	1.9nm,0.3s,baz=69,slow=2.5,SNR=5.6						
BATI				LR	LR	01 55 55.7	
	comp=Z,245nm,19.9s,baz=333,slow=39						
BNDI	Bandanaira	10.66	112	P	Pn	01 51 42.2	-3.5
FAKI	Fak Fak	12.48	101	P	Pn	01 52 10.7	0.0
	baz=12,SNR=3.1						
CISI	Cisompet, Garu	13.98	240	S	S	01 55 24.8	0.0
	baz=14,SNR=3.6						
MDSI	Maura Dua	16.26	256	P	P	01 53 03.2	-0.1
MTN	Manton Dam	16.47	138	S	Sn	01 56 03.2	-2.1
	baz=16,SNR=3.3						
IPM	Ipoh	19.59	285	eP	P	01 53 39.6	-0.4
	17nm,0.8s						
KULM	Kulim	20.16	287	eP	P	01 53 44.8	-1.5
	15nm,1.0s						
PSI	Prapat	21.31	279	P	P	01 54 01.1	+2.3
	8.4nm,0.8s,baz=107,slow=11,SNR=7.3						
PSI	Prapat	21.31	279	eP	P	01 54 02.0	+3.2
	baz=21,SNR=4.8						
WRAB	Tennant Creek	23.85	145	eP	P	01 54 23.2	-1.5
	14nm,1.0s						
WRA	Warramunga Arr	23.85	145	P	P	01 54 22.9	-1.8
	4.0nm,1.1s,baz=322,slow=11,SNR=6.9						
WRKA	Warakurna	25.63	162	P	P	01 54 48.3	+7.4
	baz=26,SNR=3.2						
COEN	Coen	26.53	121	eP	P	01 54 47.8	-1.4
ASAR	Alice Springs	26.65	151	P	P	01 54 47.9	-2.3
	1.6nm,0.7s,baz=323,slow=8.3,SNR=16						
ASAR				LR	LR	02 06 16.5	
	comp=Z,158nm,18.2s,baz=328,slow=38						
CMAR	Chiang Mai Arr	28.02	313	P	P	01 55 03.0	+0.6
	1.8nm,0.4s,baz=139,slow=7.5,SNR=12						
CMAR				LR	LR	02 08 16.4	
	comp=Z,62nm,18.8s,baz=155,slow=40						
CHTO	Chiang Mai	28.24	314	eP	P	01 55 04.4	0.0
	3.1nm,0.6s						
JCJ	Chichijima	34.82	36	LR	LR	02 07 46.2	
	comp=Z,56nm,21.5s,baz=30,slow=32						
QLP	Quilpie	34.84	140	P	P	01 56 06.5	+4.1
	baz=35,SNR=4.6						
HTT	Hallett	37.23	153	P	P	01 56 22.0	-0.8
	baz=37,SNR=3.8						
STKA	Stephens Creek	37.25	149	P	P	01 56 21.7	-1.2
	6.7nm,1.0s,baz=326,slow=8.0,SNR=3.5						
STKA	Stephens Creek	37.25	149	P	P	01 56 25.9	+3.0
	baz=37,SNR=5.0						
KSAR	Wonju Array Be	38.51	10	P	P	01 56 35.6	+2.2
KSRS	Korea Array	38.53	10	P	P	01 56 35.6	+2.1
	0.6nm,0.3s,baz=182,slow=8.6,SNR=4.0						
PALK	Pallekele	39.94	282	eP	P	01 56 45.4	-0.5
	81nm,1.5s						
BJT	Baijiatuau	40.53	355	eP	P	01 56 51.5	+1.3
	14nm,0.4s						
MJAR	Matsushiro Arr	40.61	23	LR	LR	02 13 24.1	
	comp=Z,30nm,21.2s,baz=240,slow=35						
LSA	Lhasa	40.77	320	eP	P	01 56 53.8	+0.9
	5.8nm,0.8s						
ODAN	Odare	41.56	314	eP	P	01 56 59.2	0.0
ODAN	Odare	41.56	314	eP	P	01 56 59.2	0.0
TAPN	Taplejung	41.62	314	eP	P	01 56 59.7	0.0
	7.0nm,0.5s						
TAPN	Taplejung	41.62	314	eP	P	01 56 59.7	0.0
RAMN	Ramite	42.19	313	eP	P	01 57 05.3	+1.0
RAMN	Ramite	42.19	313	eP	P	01 57 05.3	+1.0
JIRN	Jiri	42.89	314	eP	P	01 57 10.5	+0.3
	9.5nm,0.6s						
JIRN	Jiri	42.89	314	eP	P	01 57 10.5	+0.3
GUN	Gumba	43.26	314	eP	P	01 57 12.8	-0.4
	14nm,0.6s						
GUN	Gumba	43.26	314	eP	P	01 57 12.8	-0.4
PKI	Pulchoki	43.41	313	eP	P	01 57 14.4	0.0
	17nm,0.6s						
PKI	Pulchoki	43.41	313	eP	P	01 57 14.4	0.0
PKIN	Phulchoki	43.42	313	eP	P	01 57 14.0	-0.4
	5.4nm,0.5s						
KOLN	Koldanda	44.86	312	eP	P	01 57 26.0	+0.2
KOLN	Koldanda	44.86	312	eP	P	01 57 26.0	+0.2
DANN	Dangsing	45.05	313	eP	P	01 57 26.6	-0.9
	11nm,0.9s						
DANN	Dangsing	45.05	313	eP	P	01 57 26.6	-0.9
USRK	Ussuriysk Arra	45.83	12	P	P	01 57 33.1	+0.2
	3.4nm,0.5s,baz=191,slow=7.7,SNR=15						
ULN	Ulaanbaatar	49.53	349	eP	P	01 58 02.6	+0.8
	4.8nm,0.8s						
SONM	Songino Array	49.63	348	P	P	01 58 03.6	+1.0
	1.9nm,0.5s,baz=167,slow=9.0,SNR=28						
TLY	Talaya	53.85	347	eP	P	01 58 35.3	+1.5
	5.0nm,0.8s						
MKAR	Makanchi Array	57.55	330	P	P	01 59 01.1	+0.7
	1.6nm,0.5s,baz=137,slow=8.0,SNR=41						
MKAR				LR	LR	02 26 48.0	
	comp=Z,28nm,19.1s,baz=175,slow=39						
TKM2	Tokmak 2	58.78	323	eP	P	01 59 09.3	0.0
	2.0nm,0.5s						
AAK	Ala-Archa	59.28	322	eP	P	01 59 13.2	+0.4
	1.7nm,0.5s						
EKS2	Erkin-Say	59.74	322	eP	P	01 59 16.5	+0.6
	3.0nm,1.0s						
ZAA0	Zalesovo Array	61.62	337	eP	P	01 59 27.9	-0.3
ZALV	Zalesovo Beam	61.62	337	P	P	01 59 28.4	+0.2
	1.6nm,0.4s,baz=121,slow=5.7,SNR=13						
KURK	Kurchatov	61.99	332	eP	P	01 59 31.0	+0.1
	2.9nm,0.9s						
KKAR	Karatay Array	62.01	321	eP	P	01 59 31.2	0.0
	0.5nm,0.6s						
PETK	Petropavlovsk-	62.02	25	P	P	01 59 30.6	-0.4
	3.3nm,0.8s,baz=224,slow=10,SNR=2.6						
BRVK	Borovoye	67.50	330	eP	P	02 00 06.8	0.0
	6.7nm,1.1s						
ABKAR	Akbulak array	71.34	323	eP	P	02 00 29.9	-0.6
	2.4nm,0.7s						
BRTR	Keskin Array B	87.53	310	P	P	02 01 57.8	-1.2
	1.0nm,0.9s,baz=95,slow=3.0,SNR=4.2						
BUR08	Bucovina Ar. S	93.64	318	eP	P	02 02 27.1	-0.2

SJA 17 01:50:50.7±0.9, 33°.13S×72°.15W, h71km±17km, ML2.8
GUC 17 01:50:51.9±0.3, 32°.71S×72°.00W, h6km±1km, MD3.5, ML3.0
ISC 17 01:50:51.2±2.1, 32°.78S±0°.05×72°.1W±0°.1, h10km, n14, σ1.13/23, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.43	125	⇑iP	Pb	01 51 00.7	-0.3
IHA				iS	Sb	01 51 07.6	+0.1
PEL	Peldehue	1.21	108	⇑iP	Pb	01 51 13.7	+0.6
PEL				iS	Sg	01 51 30.1	-0.2
PEL				AML	AML	01 51 34.0	
	comp=E,578nm,0.3s						
JACH	Jahuel	1.24	86	eP	Pn	01 51 13.7	-1.1
JACH				iS	Sb	01 51 30.2	-0.7
CLCH	Cerro Calan	1.42	116	iP	Pb	01 51 17.4	-0.5
CLCH				iS	Sg	01 51 36.5	-0.5
CLCH				AML	AML	01 51 45.8	
	comp=E,334nm,0.3s						
ANTU	Antumapu	1.43	124	AML	AML	01 51 43.2	
	comp=E,308nm,0.5s						
CHCH	Chadas Angostu	1.65	135	⇑iP	Pb	01 51 21.1	-0.6
CACH	El Canelo	1.81	138	iP	Pb	01 51 23.8	-0.8
CACH				iS	Sg	01 51 48.8	-0.7
CMCH	Combarbala	1.83	30	iP	Pn	01 51 22.6	-0.3
CMCH				iS	Sn	01 51 46.0	-0.2
CMCH				AML	AML	01 51 56.2	
	comp=E,579nm,0.7s						
LMEL	Las Melosas	1.89	125	⇓iP	Pb	01 51 24.9	-0.9
LMEL				iS	Sb	01 51 50.2	+0.6
LMEL				AML	AML	01 51 56.8	
	comp=E,199nm,0.6s						
AUSP	Uspallata	2.33	77	eP	Pb	01 51 32.0	-1.4
AUSP				eS	Sb	01 52 01.8	-0.5
RTLS	Leoncito	2.54	68	eP	Pb	01 51 35.7	-1.3
RTLS				eS	Sb	01 52 08.3	0.0
AMOG	MOGNA	3.55	60	eP	Pn	01 51 48.1	+1.6
AMOG				eP	Pn	01 51 48.1	+1.6
AVFE	Valle Fertil	4.46	63	eP	Pn	01 52 00.7	+1.7
AVFE				eS	Sn	01 52 53.6	+2.7
AVFE				AML	AML	01 53 14.4	
	comp=Z,8.2nm,0.7s						
ACLC	CERRO LA CRUZ	5.51	54	eP	Pn	01 52 16.0	+2.5

IDC 17 02:04:59.2±1.6, 39°.69N×75°.91E, h0km, mb3.5/5, mb1 3.5/10, mb1mx3.3/32, mbtmp3.5/10, ML2.9/5, Error ellipse: s-maj=28.1km s-min=17.8km az=92.0
ISCJB 17 02:05:01.6±1.1, 40°.00N±0°.10×75°.51E±0°.09, h10km, mb3.3/5, Error ellipse: s-maj=14.0km s-min=9.5km az=167.9
NNC 17 02:05:04.4±1.5, 39°.88N×75°.13E, h5km±5km, mb3.7, mpv3.4, Error ellipse: s-maj=10.9km s-min=5.8km az=8.0
ISC 17 02:05:03.1±1.3, 39°.9N±0°.1×75°.44E±0°.08, h10km, n16, σ1.45/20, mb3.5/5, 13C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	2.85	346	⇑Pn	Pn	02 05 49.9	+1.1
	5.8nm,0.6s						
AAK				⇓Pg	Pb	02 05 55.9	+1.7
	27nm,1.0s						
AAK				⇑Lg	Lg	02 06 34.4	
	53nm,0.8s						
AAK	Ala-Archa	2.85	346	Pn	Pn	02 05 50.8	+2.0
	2.4nm,0.3s,baz=148,slow=11,SNR=28						
AAK				Pg	Pg	02 05 57.3	-0.4
	6.8nm,0.3s,baz=160,slow=12,SNR=26						
AAK				Lg	Lg	02 06 39.5	
	3.0nm,0.3s,baz=91,slow=23,SNR=7.8						
TKM2	Tokmak 2	3.05	2	⇑Pn	Pn	02 05 53.4	+1.8
	6.3nm,0.2s						
TKM2				⇑Pg	Pg	02 06 00.4	-1.1
	14nm,0.5s						
TKM2				⇑Lg	Lg	02 06 40.5	
	92nm,0.6s						
PDGK	Podgornoye	4.59	40	⇑Pn	Pb	02 06 17.3	-6.5
PDGK				⇑Pg	Pg	02 06 31.1	0.0
PDGK				⇑Lg	Lg	02 07 34.3	
KK31	Karatay Array	4.91	313	⇑Pn	Pn	02 06 16.8	-0.1
	0.5nm,0.2s,baz=126,slow=13,SNR=12						
KK31				⇓Pg	Pb	02 06 29.5	+0.3
	9.4nm,0.8s						
KK31				⇑Sn	Sn	02 07 12.7	-1.1
	3.8nm,0.5s,baz=136,slow=23,SNR=4.0						
KK31				⇑Lg	Lg	02 07 35.6	
	6.3nm,0.5s,baz=125,slow=27,SNR=5.3						
MK31	Makanchi Array	8.53	34	⇑Pg	Pg	02 07 41.2	-5.1
	0.3nm,0.5s						
MK31				⇓Lg	Lg	02 09 38.9	
	0.6nm,0.7s						
MKAR	Makanchi Array	8.53	34	Pn	Pn	02 07 04.5	-2.1
	0.0nm,0.3s,baz=216,slow=14,SNR=2.4						
BVAR	Borovoye Array	13.60	347	Pn	Pn	02 08 15.0	-0.9
	0.1nm,0.3s,baz=148,slow=8.5,SNR=2.3						
AB31	Akbulak array	14.46	316	⇑Pn	Pn	02 08 25.7	-2.1
	1.6nm,0.8s,baz=132,slow=11,SNR=12						
ZALV	Zalesovo Beam	15.45	21	Pn	Pn	02 08 39.2	-1.8
	0.1nm,0.3s,baz=211,slow=8.2,SNR=2.6						
AKTO	Aktyubinsk	16.16	317	Pn	Pn	02 08 51.6	+1.4
	0.1nm,0.3s,baz=121,slow=19,SNR=2.9						
BRTR	Keskin Array B	31.90	283	P	P	02 11 29.1	+0.3
	0.7nm,0.7s,baz=99,slow=8.4,SNR=5.8						
NOA	NORSAR Array B	43.89	321	P	P	02 13 10.9	+1.4
	0.7nm,0.8s,baz=90,slow=7.9,SNR=3.3						
GERES	GERESS Array B	43.94	303	P	P	02 13 11.9	+1.8
	0.3nm,0.6s,baz=67,slow=10,SNR=4.5						
TORD	Torodi Ar. Bea	69.26	270	P	P	02 16 10.0	-0.7
	0.2nm,0.8s,baz=44,slow=5.8,SNR=3.9						
YKA	Yellowknife Ar	77.66	5	P	P	02 16 58.0	-1.3
	0.2nm,0.5s,baz=347,slow=5.6,SNR=5.2						

IDC 17 02:06:39.0±0.9, 9°.43S×148°.74E, h0km, mb3.8/6, mb1 4.1/8, mb1mx4.0/17, mbtmp4.0/8, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/32, Error ellipse: s-maj=21.3km s-min=14.8km az=169.0
ISC 17 02:06:42.7±0.9, 9°.5S±0°.1×148°.5E±0°.1, h22km, n11, σ1.79/12, mb3.8/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	1.28	276	Pg	Pb	02 07 07.8	+1.7
	166nm,0.3s,baz=88,slow=12,SNR=133						
PMG				Lg	Lg	02 07 28.9	
	331nm,0.3s,baz=108,slow=20,SNR=15						
CTA	Charters Tower	10.70	191	Pn	Pn	02 09 15.5	+0.7
	0.8nm,0.3s,baz=310,slow=16,SNR=3.3						
WRA	Warramunga Arr	17.11	231	P	Pn	02 10 41.6	-0.6
	0.2nm,0.3s,baz=50,slow=13,SNR=17						
WRA				S	Sn	02 13 46.2	-4.2
	0.1nm,0.3s,baz=53,slow=24,SNR=4.2						
WRA				LR	LR	02 17 56.8	
	comp=Z,72nm,19.3s,baz=130,slow=39						
ASAR	Alice Springs	19.77	223	P	Pn	02 11 13.8	+0.8
	2.6nm,0.6s,baz=56,slow=10,SNR=31						
STKA	Stephens Creek	23.12	195	P	P	02 11 49.0	+1.6
	2.0nm,0.7s,baz=349,slow=11,SNR=4.5						
STKA				LR	LR	02 19 50.5	
	comp=Z,68nm,21.0s,baz=20,slow=34						
KSRS	Korea Array	50.55	339	P	P	02 15 39.9	+0.4
	3.0nm,0.9s,baz=158,slow=8.1,SNR=6.3						
SONM	Songino Array	68.18	331	P	P	02 17 41.4	0.0
	0.6nm,1.0s,baz=154,slow=5.6,SNR=3.6						
MKAR	Makanchi Array	81.13	321	P	P	02 18 56.1	-0.4
	0.4nm,0.5s,baz=102,slow=6.5,SNR=4.3						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ILAR	Eielson Array	88.16	23	P	P	02 19 30.1	-1.4
	1.1nm,0.7s,baz=256,slow=4.6,SNR=15						
TORD	Torodi Ar. Bea	147.23	279	PKPbc	PKPab	02 26 25.8	-1.3
	1.3nm,0.7s,baz=81,slow=2.3,SNR=13						
BDFB	Brasilia	150.13	147	PKPbc	PKPbc	02 26 33.4	+0.4
	3.8nm,0.9s,baz=214,slow=3.6,SNR=4.4						

MAN 17 02:08:17, 10.53N×125.46E, h2km, mb4.4, ML3.3, MS3.2, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
MSLP	Maasin	0.71	236	eP	Pb	02 08 32.4	+0.2
MSLP				eS	Sb	02 08 42.5	0.0
SCPH	Surigao	0.74	178	⇑eP	Pg	02 08 31.6	+0.3
PLP	Palo	0.79	323	⇓eP	Pg	02 08 31.5	-0.7
PLP				eS	Sg	02 08 42.5	+0.1
BESP	Borongan	1.06	359	eP	Pg	02 08 37.3	-0.1
CGP	Cagayan de Oro	2.20	200	⇑eP	Pn	02 08 54.6	+0.1
CGP				eS	Sn	02 09 22.2	-0.2
BUKP	Musuan	2.67	189	eP	Pn	02 09 02.2	+1.1
PVCP	Virac	3.30	337	eP	Pn	02 09 11.6	+1.9
PAGZ	Pagadian	3.37	218	eP	Pn	02 09 11.5	+0.8

NNC 17 02:16:09.0±4.7, 39.88N×75.03E, h2km±20km, mb3.5, mpv3.1, Error ellipse: s-maj=33.8km s-min=22.9km az=176.0

ISC 17 02:16:11.8±3.1, 40.0N±0.2×74.97E±0.07, h10km, n12, σ1§59/16, 5C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
KZA	Kyzart	2.06	6	P	Pb	02 16 48.8	-0.8
	SNR=5.7						
UCH	Uchtor	2.23	351	P	Pb	02 16 50.9	-1.5
	SNR=12						
AML	Almayashu	2.31	336	P	Pb	02 16 51.9	-1.9
	SNR=32						
ULHL	Ulahol	2.42	23	P	Pb	02 16 53.1	-2.4
	SNR=6.1						
AAK	Ala-Archa	2.63	352	⇑Pn	Pn	02 16 54.9	+0.5
	1.1nm,0.4s						
AAK				⇑Pg	Pg	02 17 01.0	-1.2
	10nm,0.6s						
AAK				⇓Lg	Lg	02 17 42.6	
	30nm,0.8s						
AAK	Ala-Archa	2.63	352	P	Pg	02 17 01.2	-1.0
	SNR=13						
EKS2	Erkin-Say	2.78	342	P	Pg	02 17 03.8	-1.3
	SNR=7.8						
TKM2	Tokmak 2	2.93	9	⇑Pn	Pn	02 17 00.5	+1.8
	4.5nm,0.3s,baz=179						
TKM2				⇓Pg	Pb	02 17 04.8	+0.6
	12nm,0.6s						
TKM2				⇓Lg	Lg	02 17 42.5	
	42nm,0.6s						
TKM2	Tokmak 2	2.93	9	P	Pn	02 17 00.8	+2.2
	SNR=13						
KK31	Karatay Array	4.54	314	⇑Pn	Pn	02 17 19.6	-1.0
	0.6nm,0.5s,baz=122,slow=12,SNR=19						
KK31				Pg	Pb	02 17 31.5	-0.1
	2.1nm,0.5s,baz=126,slow=17,SNR=22						
KK31				⇓Sn	Sn	02 18 15.7	+2.3
	1.0nm,0.3s,baz=135,slow=22,SNR=4.5						
KK31				⇑Lg	Lg	02 18 38.4	
	6.0nm,0.5s,baz=132,slow=29,SNR=5.6						
PDGK	Podgornoye	4.72	44	⇓Pg	Pb	02 17 33.7	-1.0
PDGK				⇓Lg	Lg	02 18 42.9	
AB31	Akbulak array	14.10	316	Pn	Pn	02 19 32.5	+1.0
	0.5nm,0.6s,baz=126,slow=12,SNR=7.8						

ISCJB 17 02:22:21.6±0.8, 13.31S±0.06×166.5E±0.2, h44km, mb4.0/9, MS3.5/3, Error ellipse: s-maj=24.6km s-min=9.3km az=178.9

IDC 17 02:22:23.1±5.0, 13.24S×166.53E, h43km±47km, mb3.8/9, mb1 3.9/10, mb1mx3.8/20, mbtmp4.0/10, ML3.7/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/30, Error ellipse: s-maj=35.2km s-min=26.3km az=130.0

ISC 17 02:22:23.3±0.8, 13.22S±0.09×166.5E±0.2, h44km, n13, σ0§81/16, mb3.9/9, MS3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
HNR	Honiara	7.45	300	LR	LR	02 26 36.7	
	comp=Z,138nm,20.6s,baz=140,slow=34						
DZM	Mont Dzumac	8.80	180	P	Pn	02 24 29.2	+1.2
	0.9nm,0.3s,baz=182,slow=22,SNR=7.9						
DZM				S	Sn	02 26 04.9	-1.1
	baz=307,slow=20,SNR=2.4						
DZM				LR	LR	02 27 32.8	
	comp=Z,132nm,21.4s,baz=37,slow=35						
STKA	Stephens Creek	29.44	227	P	P	02 28 22.9	0.0
	1.1nm,0.6s,baz=63,slow=6.8,SNR=2.9						
STKA				PcP	PcP	02 31 28.4	+0.3
	0.9nm,0.5s,baz=74,slow=7.4,SNR=2.6						
STKA				LR	LR	02 39 14.1	
	comp=Z,68nm,18.7s,baz=276,slow=34						
WRA	Warramunga Arr	31.50	253	P	P	02 28 40.4	-0.9
	0.6nm,0.6s,baz=85,slow=8.8,SNR=8.4						
WRA				PcP	PcP	02 31 34.2	+0.6
	0.5nm,0.9s,baz=72,slow=3.3,SNR=3.3						
ASAR	Alice Springs	32.55	247	P	P	02 28 50.2	-0.2
	2.1nm,0.7s,baz=73,slow=9.6,SNR=25						
ASAR				PcP	PcP	02 31 36.5	0.0
	0.5nm,0.8s,baz=79,slow=2.0,SNR=5.1						
USRK	Ussuriysk Arra	65.21	333	P	P	02 33 01.0	+0.9
	1.9nm,0.8s,baz=90,slow=7.6,SNR=5.1						
SONM	Songino Array	80.85	324	P	P	02 34 33.0	+0.3
	0.5nm,0.6s,baz=155,slow=5.4,SNR=6.6						
ILAR	Eielson Array	85.33	18	P	P	02 34 53.8	-1.5
	0.5nm,0.6s,baz=241,slow=4.9,SNR=13						
MKAR	Makanchi Array	95.60	317	P	P	02 35 44.5	+0.4
	1.2nm,0.5s,baz=95,slow=5.9,SNR=19						
MKAR				LR	LR	03 18 26.7	
	comp=Z,26nm,21.0s,baz=168,slow=35						
ZALV	Zalesovo Beam	95.74	324	P	P	02 35 44.1	-0.3
	0.5nm,0.3s,baz=69,slow=8.1,SNR=4.0						
ZALV				LR	LR	03 18 19.0	
	comp=Z,25nm,19.6s,baz=67,slow=35						
YKA	Yellowknife Ar	96.56	27	P	P	02 35 48.4	+0.4
	0.1nm,0.5s,baz=257,slow=4.9,SNR=3.8						
ARCES	ARCESS Array B	118.61	345	PKP	PKPdf	02 41 04.9	-0.9
	3.1nm,0.9s,baz=64,slow=2.8,SNR=6.6						
KEST	Kesra	149.58	321	PKPbc	PKPbc	02 42 08.8	+0.3
	1.1nm,1.0s,baz=31,slow=5.9,SNR=3.2						

MEX 17 02:22:27.9±0.6, 17.67N×101.37W, h48km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ZIIG	Zihuatanejo	0.11	234	iP	Pn	02 22 33.9	-1.6
ZIIG				iS	Sn	02 22 39.4	-1.5
ARIG	Puente Sto Nin	1.15	58	iP	Pn	02 22 45.9	-1.8
ARIG				iS	Sn	02 22 59.9	-2.5
CAIG	El Cayaco	1.23	120	iP	Pn	02 22 46.6	-2.0
CAIG				iS	Sn	02 23 01.4	-2.7
PLIG	Platanillo	1.92	68	iP	Pn	02 22 57.5	-0.8
PLIG				eS	Sn	02 23 19.7	-1.6
MMIG	Aquila	1.98	288	iP	Pn	02 22 57.6	-1.2
MMIG				iS	Sn	02 23 20.4	-2.1
TLIG	Tlapa	2.68	92	iP	Pn	02 23 07.7	-1.1
TLIG				iS	Sn	02 23 38.2	-1.9

IDC 17 02:28:19.4±2.6, 0.50S×129.88E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=183.0km s-min=26.1km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
WRA	Warramunga Arr	19.82	168	P	P	02 32 52.2	+0.4
	0.2nm,0.3s,baz=348,slow=11,SNR=4.0						
WRA				S	S	02 36 16.0	-20
	0.1nm,0.3s,baz=354,slow=22,SNR=5.1						
ASAR	Alice Springs	23.36	171	P	P	02 33 29.5	-0.3
	2.2nm,0.9s,baz=348,slow=9.5,SNR=8.6						
MKAR	Makanchi Array	62.80	325	P	P	02 38 46.9	0.0
	0.4nm,0.5s,baz=118,slow=6.8,SNR=8.0						

IDC 17 02:31:49.1±10.0, 16.86S×175.09W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/23, mbtmp3.8/3, Error ellipse: s-maj=484.6km s-min=34.6km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
WRA	Warramunga Arr	47.95	258	P	P	02 40 29.1	-0.7
	0.3nm,0.3s,baz=88,slow=7.1,SNR=6.1						
ASAR	Alice Springs	48.13	253	P	P	02 40 32.0	+0.7
	1.5nm,0.3s,baz=89,slow=7.7,SNR=26						
ILAR	Eielson Array	84.19	12	P	P	02 44 22.7	+0.8
	0.4nm,0.8s,baz=212,slow=5.8,SNR=7.9						
BRTR	Keskin Array B	146.21	318	PKPbc	PKPdf	02 51 29.6	-1.4
	0.3nm,0.5s,baz=81,slow=6.5,SNR=3.2						

NIED 17 02:52:00, 29.90N×138.60E, h460km, Mw5.0 Best double couple: Mo3.00000×10^16 NP1:φs17.00000°, δ45.00000°, λ-143.00000°. NP2:φs259.00000°, δ65.00000°, λ-52.00000°.

BJI 17 02:52:38.5, 29.83N×138.34E, h445km, mB4.7/40, mb5.0/62

JMA 17 02:52:39.6±0.1, 29.87N×138.59E, h495km, M4.5

ISCJB 17 02:52:41.2±0.2, 29.92N±0.02×138.31E±0.03, h471km±2km, mb4.7/178, Error ellipse: s-maj=4.2km s-min=2.7km az=18.6

MOS 17 02:52:41.5±0.9, 29.97N×138.15E, h470km, mb4.4/63, Error ellipse: s-maj=8.4km s-min=4.5km az=110.5

IDC 17 02:52:42.9±0.6, 29.95N×138.14E, h472km±6km, mb3.8/40, mb1 3.9/45, mb1mx3.9/50, mbtmp4.7/45, Error ellipse: s-maj=7.8km s-min=5.8km az=85.0

NEIC 17 02:52:42.6±0.3, 29.95N×138.19E, h473km±3km, mb4.8/64, MW4.9(NIED), Error ellipse: s-maj=4.5km s-min=3.1km az=111.0

ISC 17 02:52:41.6±0.3, 29.94N±0.03×138.23E±0.03, h462km±2km, h462km:pP-P, n507, σ1§39/653, mb4.7/180, 23C-19D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
JHCJ	Hachijojimakas	3.40	23	P	P	02 53 54.1	+1.7
JHCJ				eS	S	02 54 49.9	-0.2
JHJ2	Mitsune	3.44	23	P	P	02 53 53.8	+1.1
JHJ2	Mitsune	3.44	23	eP	P	02 53 53.3	+0.6
TTO1	TONANKAI O.B.S	3.87	342	P	P	02 53 59.6	+3.7
JWZ	Kozaga	4.17	330	P	P	02 54 01.6	+2.8
JWZ				eS	S	02 55 05.3	+3.5
CBIJ	Chichi jima	4.49	128	P	P	02 53 59.8	-2.0
CBIJ				eS	S	02 55 02.1	-5.0
CBIJ	Chichi jima	4.49	128	eP	P	02 53 58.8	-3.0
CBIJ				eS	S	02 55 01.2	-5.9
JCJ	Chichijima	4.49	128	P	P	02 54 00.1	-1.8
	35nm,0.3s,baz=261,slow=23,SNR=10						
JCJ				S	S	02 55 01.8	-5.3
	164nm,0.3s,baz=281,slow=23,SNR=20						
JIE	Ise	4.62	344	P	P	02 54 05.6	+2.8
JIE				eS	S	02 55 11.7	+2.5
BSO1	Boso 1	5.24	26	P	P	02 54 07.8	-0.3
BSO1				eS	S	02 55 17.3	-1.6
JOD2	Odawara 2	5.36	8	P	P	02 54 09.8	0.0
JOD2				eS	S	02 55 21.6	-0.3
JTO	Tosashimizu	5.48	303	P	P	02 54 14.2	+3.2
JRY	Ryogami san	6.08	5	P	P	02 54 17.3	+0.2
JRY				eS	S	02 55 33.0	-2.2
MJAR	Matsushiro Arr	6.58	360	P	P	02 54 22.2	+0.1
MJAR				S	S	02 55 43.0	-1.5
MJAR				pmax	pmax		
	comp=Z,12nm,0.3s						
MJAR				smax	smax		
	comp=N,4.0nm,0.3s						
MJAR	Matsushiro Arr	6.58	360	P	P	02 54 22.2	+0.1
	comp=N,12nm,0.3s,baz=175,slow=11,SNR=147						
MJAR				S	S	02 55 43.0	-1.5
	comp=N,3.9nm,0.3s,baz=151,slow=12,SNR=4.7						
MAJO	Matsushiro	6.58	360	c iP	P	02 54 22.2	+0.1
MAJO	Matsushiro	6.58	360	eP	P	02 54 22.1	0.0
MAT	Matsushiro	6.58	360	P	P	02 54 22.2	+0.1
MAT				S	S	02 55 42.7	-1.8
JHS	Saijyo	6.64	321	P	P	02 54 25.2	+2.5
JHS				eS	S	02 55 48.9	+3.3
JNU	Nakatsue	7.03	299	P	P	02 54 29.6	+2.7
	comp=N,9.5nm,0.3s,baz=173,slow=4.6,SNR=32						
JNU				S	S	02 55 56.8	+3.6
	comp=N,0.9nm,0.3s,baz=211,slow=19,SNR=2.8						
JSJ	Shimokoshiki	7.53	285	P	P	02 54 34.9	+2.9
JAMN	Amaminishikomi	8.10	260	P	P	02 54 41.0	+2.8
JTU	Tsushima	8.76	304	P	P	02 54 48.2	+3.0
JOW	Kunigami	9.30	253	P	P	02 54 54.1	+2.9
JOW	Kunigami	9.30	253	P	P	02 54 53.8	+2.6
	comp=N,1.3nm,0.3s,baz=64,slow=11,SNR=12						
JOW				S	S	02 56 41.8	+4.1
	comp=N,0.1nm,0.3s,baz=47,slow=19,SNR=4.4						
JMK	Ichinoseki	9.32	15	P	P	02 54 52.0	+0.9
JMK				eS	S	02 56 33.1	-4.6
KSPHA	Pohang	9.70	312	P	S	02 56 55.9	+11
	SNR=8.5						
KSDAG	Daegu	9.76	309	P	P	02 56 47.5	+0.8
	SNR=22						
KSULJ	Uljin	9.99	315	P	P	02 55 00.8	+2.4
	SNR=13						
JKE	Kume jima 2	10.72	253	P	P	02 55 08.4	+1.8
KSKWJ	Gwangju	10.81	302	P	x	02 56 52.2	
	SNR=8.1						
KSBON	Boeun	10.91	310	P	S	02 57 03.1	-6.3
	SNR=23						
KSJEO	Jeonju	10.96	306	P	x	02 56 58.4	
	SNR=11						
KSJEU	Jeongeup	11.01	303	P	x	02 56 56.6	
	SNR=8.4						
TJN	Taejon	11.14	308	eP	P	02 55 11.5	+0.7
KSRS	Korea Array	11.39	314	P	P	02 55 14.8	+1.3
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KSRS	Korea Array	11.39	314	P	P	02 55 14.8	+1.3
	comp=Z,3.7nm,0.3s,baz=127,slow=10,SNR=50						
KSAR	Wonju Array Be	11.40	314	P	P	02 55 14.8	+1.1
KSAR	Wonju Array Be	11.40	314	P	P	02 55 14.8	+1.1
KSSKC	Sokcho	11.57	319	P	P	02 55 17.1	+1.6
	SNR=8.1						
KSIJA	INJE	11.61	316	P	P	02 55 17.9	+1.9
	SNR=8.3						
JOT	Ohata	11.64	11	P	P	02 55 17.4	+1.2
JOT				eS	S	02 57 21.4	-2.4
SEHB	SEOHWA	11.71	318	P	P	02 55 18.8	+1.7
	SNR=15						
KSHUK	Heuksando	11.80	297	P	P	02 55 14.6	-3.5
	SNR=11						
JKB	Kayabe	12.13	10	P	P	02 55 22.7	+1.2
JKB				eS	S	02 57 31.1	-2.4
JOSM	Okushiri--Mats	12.16	4	P	P	02 55 23.0	+1.2
JOSM				eS	S	02 57 32.3	-1.7
INCN	Inchon	12.23	311	eP	P	02 55 24.2	+1.5
ERM	Erimo	12.69	17	eP	P	02 55 28.7	+1.2
ERM				eS	S	02 57 43.6	-0.9
ERM				pmax	pmax		
	comp=Z,98nm,0.8s						
ERM	Erimo	12.69	17	eP	P	02 55 28.6	+1.2
	comp=Z,98nm,0.8s						
ERM				eS	S	02 57 43.5	-0.9
JCH	Churui	13.30	17	P	P	02 55 35.4	+1.3
JCH				eS	S	02 57 58.0	+1.4
JHR	Hokuryu	14.05	10	P	P	02 55 43.8	+1.7
VLA	Vladivostok	14.10	341	c iP	P	02 55 43.4	+0.8
ASAJ	Asahikawa	14.57	13	P	P	02 55 49.1	+1.5
ASAJ				S	S	02 58 21.8	+0.5
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ	Asahikawa	14.57	13	P	P	02 55 49.1	+1.5
	comp=Z,7.1nm,0.3s,baz=228,slow=12,SNR=31						
ASAJ				S	S	02 58 21.8	+0.5
	comp=Z,0.3nm,0.3s,baz=142,slow=20,SNR=4.4						
ASAJ	Asahikawa	14.57	13	eP	P	02 55 48.7	+1.0
ASAJ				eS	S	02 58 20.7	-0.6
NEM2	Nemuro 2	14.68	22	P	P	02 55 49.7	+0.9
JTKR	Abashiri--Toko	14.71	16	P	P	02 55 50.7	+1.5
JTKR				eS	S	02 58 24.8	+0.7
USRK	Ussuriysk Arra	15.07	342	P	P	02 55 53.8	+0.8
	comp=Z,8.9nm,0.3s,baz=163,slow=11,SNR=386						
YUK	Yuzh-Kuril'sk	15.32	21	⇓iP	P	02 55 56.9	+1.3
YUK				iS	S	02 58 36.5	+0.6
YUK				pmax	pmax		
	comp=Z,57nm,0.7s						
YUK				pmax	pmax		
	comp=N,30nm,0.4s						
YUK				pmax	pmax		
	comp=E,20nm,0.4s						
YUK				smax	smax		
	comp=N,902nm,5.3s						
YUK				smax	smax		
	comp=E,547nm,5.3s						
YHNB	Yeheng	15.87	255	eP	P	02 56 00.4	-1.4
	comp=E,362nm,2.1s						
NACB	Ninganchiao	15.89	253	eP	P	02 56 00.3	-1.6
	comp=E,66nm,1.2s						
MDJ	Mudanjiang	16.16	337	P	P	02 56 05.0	+0.4
MDJ				S	S	02 58 50.3	-1.9
MDJ				PcP	PcP	03 00 30.5	+0.5
MDJ				ScP	ScP	03 03 21.8	+1.5
MDJ				PcS	PcS	03 04 06.0	+0.2
MDJ				ScS	ScS	03 07 00.4	+0.9
MDJ				pmax	pmax		
	comp=E,29nm,1.1s						
MDJ				pmax	pmax		
	comp=E,250nm,5.8s						
MDJ	Mudanjiang	16.16	337	eP	P	02 56 04.5	-0.1
	comp=E,16nm,0.6s						
SSLB	Suanglung	16.58	252	eP	P	02 56 08.9	-0.4
	comp=E,66nm,1.0s						
SSLB				eS	S	02 59 01.7	+0.9
NJ2	Nanjing	16.75	282	eP	P	02 56 11.6	+0.7
NJ2				pmax	pmax		
	comp=E,20nm,0.9s						
SNY	Shenyang	16.75	319	⇑P	P	02 56 11.3	+0.5
SNY				S	S	02 59 01.4	-2.1
SNY				pmax	pmax		
	comp=E,180nm,0.4s						
CN2	Changchun	17.17	327	eP	P	02 56 15.3	+0.1
CN2				esP	sP	02 58 05.4	-8.4
CN2				eS	S	02 59 10.3	-0.8
CN2				PcP	PcP	03 00 31.4	-0.2
CN2				ScS	ScS	03 07 00.3	-2.2
CN2				pmax	pmax		
	comp=E,30nm,1.0s						
CN2				pmax	pmax		
	comp=E,500nm,5.0s						
YSS	Yuzh-Sakhalins	17.34	10	⇑eP	P	02 56 17.0	+0.1
YSS				eS	S	02 59 13.0	-1.1
YSS				pmax	pmax		
	comp=N,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				smax	smax		
	comp=E,800nm,8.0s						
YSS	Yuzh-Sakhalins	17.34	10	eP	P	02 56 17.9	+1.0
	comp=E,64nm,0.8s						
GUMO	Guam	17.39	158	eP	P	02 56 18.6	+0.8
GUMO				pmax	pmax		
	comp=Z,1µm,1.0s						
GUMO	Guam	17.39	158	eP	P	02 56 18.6	+0.8
	comp=Z,1µm,1.0s						
QZH	Quanzhou	18.12	259	⇓iP	P	02 56 24.8	-0.2
QZH				S	S	02 59 25.4	-2.6
QZH				pmax	pmax		
	comp=Z,130nm,0.7s						
HABR	Khabarovsk	18.67	353	c eP	P	02 56 30.0	+0.2
HABR				eS	S	02 59 37.6	+1.4
HABR				pmax	pmax		
	comp=Z,269nm,1.3s						
HABR				pmax	pmax		
	comp=N,122nm,1.3s						
HABR				pmax	pmax		
	comp=E,59nm,1.3s						
HABR				MLR	MLR		
	comp=Z,131nm,17.0s						
TIA	Tai'an	18.75	295	⇑P	P	02 56 30.3	-0.5
TIA				S	S	02 59 38.8	+0.9
TIA				pmax	pmax		
	comp=Z,70nm,0.7s						
TIA				pmax	pmax		
	comp=Z,200nm,5.0s						
KLR	Kul'dur	19.89	347	eP	P	02 56 37.7	-3.3
KLR				pmax	pmax		
	comp=N,53nm,1.8s						
KLR				pmax	pmax		
	comp=Z,110nm,1.8s						
SZP	Santa	20.38	237	eP	P	02 56 45.5	-0.4
	comp=Z,227nm,0.8s						
BJT	Baijiatuau	20.64	305	eP	P	02 56 47.5	-0.5
BJT				pmax	pmax		
	comp=Z,55nm,0.9s						
BJT	Baijiatuau	20.64	305	eP	P	02 56 47.5	-0.5
	comp=Z,54nm,0.9s						
WHN	Wuhan	20.64	278	P	P	02 56 48.8	+0.7
BJI	Beijing	20.64	305	P	P	02 56 48.0	0.0
BJI				sP	sP	02 58 51.3	-0.9
BJI				S	S	03 00 08.3	-0.1
BJI				pmax	pmax		
	comp=Z,48nm,1.0s						
BJI				pmax	pmax		
	comp=Z,140nm,3.5s						
TGY	Tagaytay City	22.43	229	P	P	02 57 05.9	+1.3
TGY				pmax	pmax		
	comp=Z,246nm,0.3s						
TGY	Tagaytay City	22.43	229	P	P	02 57 05.9	+1.3
	comp=Z,246nm,0.3s,baz=139,slow=3.2,SNR=6.3						
HIA	Hailar	23.87	329	eP	P	02 57 17.1	+0.1
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	Hailar	23.87	329	eP	P	02 57 17.1	+0.1
	comp=Z,6.3nm,0.6s						
HHC	Hu-ho-hao-te	24.22	304	eP	P	02 57 21.0	+0.6
HHC				sP	sP	02 59 26.3	-5.0
HHC				PcP	PcP	03 00 48.5	+3.0
HHC				S	S	03 01 05.8	+0.5
HHC				ScP	ScP	03 03 37.5	-2.4
HHC				pmax	pmax		
	comp=Z,22nm,0.7s						
HHC				pmax	pmax		
	comp=Z,290nm,4.3s						
ENH	Enshi	24.84	278	eP	P	02 57 25.8	-0.2
ENH				eS	S	03 01 12.9	-2.4
XAN	Xi'an	25.15	287	P	P	02 57 29.0	+0.3
XAN				S	S	03 01 19.8	-0.2
XAN				pmax	pmax		
	comp=Z,18nm,0.6s						
PETK	Petropavlovsk-	27.18	26	P	P	02 57 48.2	+1.9
PETK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PETK	Petropavlovsk-	27.18	26	P	P	02 57 48.2	+1.9
	comp=Z,7.4nm,0.9s,baz=197,slow=7.7,SNR=4.7						
QIZ	Qiongzhong	27.95	254	P	P	02 57 54.4	+0.9
QIZ				pP	pP	02 59 12.6	-0.8
QIZ				sP	sP	03 00 05.5	-1.8
QIZ				S	S	03 02 05.4	+1.2
QIZ				ScS	ScS	03 07 46.0	+1.2
GYA	Guiyang	27.99	271	⇑iP	P	02 57 54.0	+0.1
GYA				pP	pP	02 59 14.6	+0.8
GYA				sP	sP	03 00 07.3	-0.5
GYA				PcP	PcP	03 00 56.4	+1.7
GYA				S	S	03 02 02.3	-2.5
GYA				ScP	ScP	03 03 51.8	+0.5
GYA				PcS	PcS	03 04 37.0	-0.7
GYA				ScS	ScS	03 07 43.9	-1.1
GYA				pmax	pmax		
	comp=Z,60nm,0.7s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
CLNS	Chul'man	28.47	345	eP	P	02 57 57.7	+0.1
CLNS				pmax	pmax		
	comp=Z,14nm,0.5s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.4s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.6s						
LZH	Lanzhou	29.38	291	P	P	02 58 06.5	+0.5
LZH				pP	pP	02 59 23.6	-2.8
LZH				sP	sP	03 00 17.6	-2.7
LZH				S	S	03 02 26.8	+0.5
LZH				sS	sS	03 04 51.3	-4.6
LZH				pmax	pmax		
	comp=E,38nm,1.0s						
LZH				pmax	pmax		
	comp=E,130nm,4.6s						
CD2	Chengdu	29.67	281	⇓iP	P	02 58 08.9	+0.4
CD2				pP	pP	02 59 29.4	+0.3
CD2				sP	sP	03 00 22.1	-0.7

CD2 PcP PcP 03 00 59.9 +1.0
CD2 S S 03 02 31.8 +1.0
CD2 PcS PcS 03 04 42.5 -0.3
CD2 sS sS 03 04 56.4 -4.1
CD2 ScS ScS 03 07 52.3 -0.4
CD2 pmax pmax
comp=E,180nm,0.5s
CD2 pmax pmax
comp=E,180nm,5.3s
ULN Ulaanbaatar 29.87 316 *e*P **P** **02 58 10.7 +0.6**
ULN *e* 03 00 59.5
ULN pmax pmax
comp=Z,9.0nm,0.7s
ULN Ulaanbaatar 29.87 316 *e*P **P** **02 58 10.7 +0.6**
comp=Z,8.9nm,0.7s
ULN *e*PcP **PcP** **03 00 59.5 +0.3**
SONM Songino Array 30.25 315 P **P** **02 58 13.8 +0.4**
SONM 03 01 00.3
SONM pmax pmax
comp=Z,3.0nm,0.4s
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM pmax pmax
comp=N,9.0nm,0.8s
SONM Songino Array 30.25 315 P **P** **02 58 13.8 +0.4**
comp=N,2.8nm,0.4s,baz=125,slow=8.8,SNR=62
SONM PcP **PcP** **03 01 00.3 +0.1**
comp=N,2.4nm,0.7s,baz=137,slow=3.2,SNR=5.8
SONM ScP **ScP** **03 03 57.2 -1.0**
comp=N,8.5nm,0.8s,baz=146,slow=3.4,SNR=28
TNTI Ternate 30.80 202 P **P** **02 58 19.7 +1.4**
comp=N,146nm,1.3s
MYLDM Lahad Datu 30.88 221 *e*P **P** **02 58 21.6 +2.5**
comp=N,70nm,0.9s
SWI Sorong 31.35 193 P **P** **02 58 23.8 +0.7**
comp=N,65nm,0.7s,comp=N,1µm
KKM Kota Kinabalu 31.55 225 *e*P **P** **02 58 26.2 +1.3**
comp=N,30nm,0.9s
KMI Kunming 31.75 270 P **P** **02 58 27.3 +0.5**
KMI pP **pP** **02 59 46.6 -1.6**
KMI S **S** **03 03 01.6 -1.8**
KMI SS **SS** **03 05 42.8 -8.3**
KMI pmax pmax
comp=N,20nm,1.4s
KMI pmax pmax
comp=N,160nm,3.1s
TSM Tawau 31.96 221 ⇑P **P** **02 58 31.3 +3.0**
SLVN Son La 32.02 263 *e*P **P** **02 58 29.9 +1.0**
comp=N,44nm,1.1s
KMSI Cibinong 32.20 208 P **P** **02 58 31.8 +1.4**
comp=N,295nm,0.9s
GTOI Gorontalo 32.55 209 P **P** **02 58 33.4 0.0**
comp=N,88nm,1.2s,comp=N,981nm
YAK Yakutsk 32.58 353 *e*P **P** **02 58 32.2 -0.8**
YAK *e* 03 01 04.9
YAK *e*S **S** **03 03 12.5 -2.1**
YAK *i* 03 08 01.8
YAK pmax pmax
comp=Z,33nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=N,16nm,1.2s
YAK smax smax
comp=E,47nm,1.2s
YAK smax smax
comp=N,244nm,2.2s
YAK Yakutsk 32.58 353 *e*P **P** **02 58 32.8 -0.2**
comp=N,54nm,0.8s
GTA Gaotai 32.77 297 *e*P **P** **02 58 35.6 +0.4**
GTA pP **pP** **02 59 57.5 +0.6**
GTA sP **sP** **03 00 46.8 -3.5**
GTA PcP **PcP** **03 01 08.1 +0.8**
GTA S **S** **03 03 15.8 -2.6**
GTA ScP **ScP** **03 04 06.0 -1.0**
GTA ScS **ScS** **03 08 05.3 -3.0**
GTA pmax pmax
comp=N,21nm,0.9s
GTA pmax pmax
comp=N,93nm,5.9s
DLV T Lat 32.90 243 *e*P **P** **02 58 37.3 +0.7**
MRSI Marisa 33.15 211 P **P** **02 58 39.5 +1.0**
comp=N,141nm,1.2s,comp=N,1µm
FAKI Fak Fak 33.17 191 *e*P **P** **02 58 39.0 +0.3**
comp=N,40nm,0.9s
ZAK Zakamensk 33.18 318 *e*P **P** **02 58 38.5 0.0**
ZAK pmax pmax
comp=Z,17nm,1.4s
UBPT Khong Chiam 33.44 251 P **P** **02 58 43.1 +2.2**
comp=Z,52nm,1.4s
TLY Talaya 33.54 320 *e*P **P** **02 58 39.2 -2.2**
TLY *e*S S 03 03 22.0 -7.6
TLY *e* 03 05 48.2
TLY pmax pmax
comp=Z,22nm,1.5s
TLY Talaya 33.54 320 *e*P **P** **02 58 41.2 -0.2**
comp=Z,16nm,1.1s
SANI Sanana 33.90 202 P **P** **02 58 43.8 -1.0**
comp=Z,113nm,0.7s,comp=Z,1µm
MPSI Mapaga 34.23 214 P **P** **02 58 48.8 +1.2**
comp=Z,24nm,1.4s,comp=Z,510nm
SEY Seymchan 34.25 11 P **P** **02 58 48.6 +1.4**
SEY pmax pmax
comp=Z,7.0nm,0.7s
SEY Seymchan 34.25 11 P **P** **02 58 48.6 +1.4**
comp=Z,6.8nm,0.7s,baz=209,slow=6.7,SNR=17
FX1 Attu Island--F 34.28 38 P **P** **02 58 49.3 +1.7**
FX1 pmax pmax
comp=Z,14nm,0.5s
FX1 Attu Island--F 34.28 38 P **P** **02 58 49.3 +1.7**
comp=Z,14nm,0.5s,baz=285,slow=4.2,SNR=5.5
APSI Ampana 34.52 210 P **P** **02 58 50.1 0.0**
comp=Z,284nm,0.7s,comp=Z,3µm
MOY Mondy 35.02 319 *e*P **P** **02 58 54.9 +0.9**
BTM Bintulu 35.70 227 ⇓P **P** **02 59 01.6 +1.5**
UTTA Uttaradit 36.38 259 P **P** **02 59 06.2 +0.6**
comp=Z,22nm,0.6s,comp=Z,300nm
PBKT Sadao Pong 36.56 257 P **P** **02 59 08.0 +0.9**
comp=Z,73nm,1.4s,comp=Z,1µm
CMAI Chiengmai2 36.75 263 P **P** **02 59 09.9 +1.0**
comp=Z,15nm,1.2s,comp=Z,879nm
LAMP Lampang 36.83 261 P **P** **02 59 10.3 +0.9**
comp=Z,27nm,0.8s,comp=Z,229nm
SBUM Sibu 36.83 227 *e*P **P** **02 59 09.7 +0.3**
comp=Z,43nm,1.0s
SBUM Sibu 36.83 227 ⇓P **P** **02 59 10.1 +0.7**
TTSI Tana Toraja 37.23 211 P P 02 59 16.2 +3.5
comp=Z,21nm,0.6s,comp=Z,1µm
CMMT Chiang Mai 37.29 262 P **P** **02 59 13.7 +0.5**
comp=Z,126nm,0.9s,comp=Z,1µm
CHTO Chiang Mai 37.29 262 *e*P **P** **02 59 13.8 +0.6**
CHTO pmax pmax
comp=Z,61nm,0.7s
CHTO Chiang Mai 37.29 262 P **P** **02 59 13.8 +0.6**
comp=Z,425nm,1.0s,comp=Z,3µm
CHTO Chiang Mai 37.29 262 *e*P **P** **02 59 13.8 +0.6**
comp=Z,61nm,0.7s
CHBT CHBT 37.35 251 P **P** **02 59 15.4 +1.7**
comp=Z,61nm,1.1s
CMAR Chiang Mai Arr 37.45 261 P **P** **02 59 15.5 +1.0**
CMAR 03 01 22.0
CMAR 03 04 24.2
CMAR pmax pmax
comp=Z,16nm,0.6s
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR pmax pmax
comp=N,1.0nm,0.3s
CMAR Chiang Mai Arr 37.45 261 P **P** **02 59 15.5 +1.0**
comp=N,16nm,0.6s,baz=49,slow=7.8,SNR=62
CMAR PcP **PcP** **03 01 21.9 +0.6**
comp=N,2.9nm,0.4s,baz=67,slow=1.1,SNR=9.8
CMAR ScP **ScP** **03 04 24.2 0.0**
comp=N,1.4nm,0.3s,baz=50,slow=3.9,SNR=6.9
SPSI Sidrap Palu 38.07 211 P **P** **02 59 19.2 -0.4**
comp=N,41nm,0.8s
BNSI Bone 38.31 210 P **P** **02 59 22.3 +0.8**
comp=N,110nm,1.1s,comp=N,975nm
PATY Pattaya 38.47 252 P **P** **02 59 24.5 +1.7**
comp=N,24nm,0.9s,comp=N,1µm
KSM Kuching 38.80 228 *e*P **P** **02 59 26.6 +1.0**
comp=N,65nm,0.7s
KSM Kuching 38.80 228 ⇓P **P** **02 59 27.0 +1.4**
KAPI Kappang 39.01 210 *e*P **P** **02 59 27.8 +0.5**
comp=N,248nm,1.0s
KAPI *e*PcP **PcP** **03 01 26.8 +0.6**

BKSI Bulukumba 39.13 209 P **P** **02 59 28.3 +0.1**
comp=N,40nm,1.0s
STKI Sintang 39.14 225 P **P** **02 59 29.3 +1.0**
comp=N,54nm,1.0s,comp=N,13µm
SRDT SRDT 39.19 255 P **P** **02 59 29.7 +1.0**
comp=N,172nm,0.9s,comp=N,8µm
KHLT Khaolaem Dam 39.42 256 P **P** **02 59 31.7 +1.1**
comp=N,26nm,1.1s,comp=N,279nm
ADK Adak 39.69 43 *e*P **P** **02 59 32.4 +0.2**
ADK pmax pmax
comp=Z,140nm,1.4s
ADK Adak 39.69 43 *e*P **P** **02 59 32.4 +0.2**
comp=Z,140nm,1.4s
PMG Port Moresby 40.05 166 P **P** **02 59 35.9 +0.2**
PMG 03 01 30.3
PMG S **S** **03 05 03.9 -3.6**
PMG pmax pmax
comp=Z,9.0nm,0.6s
PMG pmax pmax
comp=Z,12nm,0.5s
PMG smax smax
comp=N,5.0nm,0.2s
PMG Port Moresby 40.05 166 P **P** **02 59 35.9 +0.2**
comp=N,8.5nm,0.6s,baz=342,slow=6.4,SNR=5.1
PMG PcP **PcP** **03 01 30.3 +0.7**
comp=N,12nm,0.5s,baz=49,slow=9.3,SNR=8.0
PMG S **S** **03 05 03.9 -3.6**
comp=N,5.0nm,0.2s,baz=8.0,slow=7.6,SNR=4.6
BBKI Banjar Baru 40.06 218 P **P** **02 59 35.6 -0.1**
comp=N,161nm,1.1s
LSA Lhasa 40.62 282 *e*P **P** **02 59 41.9 +1.2**
LSA pmax pmax
comp=Z,5.0nm,0.4s
LSA Lhasa 40.62 282 *e*P **P** **02 59 41.9 +1.2**
comp=Z,5.1nm,0.4s
SHL Shillong 41.03 275 ⇓*i*P **P** **02 59 43.0 -0.7**
SHL *i*S **S** **03 05 19.0 -3.2**
MMRI Maumere 41.33 204 P **P** **02 59 47.6 +1.7**
comp=Z,92nm,1.0s
BILL Bilibino 41.56 15 *ci*P **P** **02 59 47.8 +0.8**
BILL *i*S **S** **03 05 25.9 -2.3**
BILL *i*SS **ScS** **03 08 59.0 +1.7**
BILL pmax pmax
comp=Z,51nm,1.2s
BILL Bilibino 41.56 15 *e*P **P** **02 59 47.9 +0.9**
comp=Z,32nm,0.9s
SOEI Soe 41.69 201 P **P** **02 59 48.9 0.0**
comp=Z,82nm,1.2s,comp=Z,960nm
SOEI Soe 41.69 201 *e*P **P** **02 59 48.5 -0.4**
comp=Z,82nm,0.9s
WMQ Urumqi 42.10 304 P **P** **02 59 53.3 +1.5**
WMQ pP **pP** **03 01 18.1 +0.1**
WMQ PcP **PcP** **03 01 36.8 +0.7**
WMQ PP **PP** **03 01 42.3 +1.1**
WMQ sP **sP** **03 02 07.3 -3.0**
WMQ PcS **PcS** **03 05 29.6 +0.9**
WMQ S **S** **03 05 40.3 +3.4**
WMQ sS **sS** **03 08 11.8 -1.7**
WMQ ScS **ScS** **03 09 03.5 +1.8**
WMQ pmax pmax
comp=Z,13nm,1.2s
WMQ pmax pmax
comp=Z,260nm,4.6s
BATI Baumata 42.31 202 P **P** **02 59 53.2 -0.5**
comp=Z,89nm,0.5s,baz=9.3,slow=1.0,SNR=18
BATI S **S** **03 05 37.3 -3.1**
comp=Z,32nm,0.7s,baz=74,slow=23,SNR=10
SURT Suratani 42.34 249 P **P** **02 59 55.3 +1.3**
comp=Z,22nm,1.1s,comp=Z,282nm
MYKOM Kota Tinggi 43.00 236 *e*P **P** **03 00 00.0 +0.9**
KULM Kulim 43.08 243 *e*P **P** **03 00 00.3 +0.5**
comp=Z,52nm,0.7s
IPM Ipoh 43.30 242 *e*P **P** **03 00 01.7 +0.1**
comp=Z,64nm,0.8s
IPM *e*PcP **PcP** **03 01 41.1 +0.5**
PKDT Phuket 43.33 248 P **P** **03 00 03.2 +1.4**
comp=Z,112nm,0.9s
KMMI Kalianget 43.54 216 P **P** **03 00 03.8 +0.4**
comp=Z,163nm,0.7s
TPI Tanjungpandan 43.72 227 P **P** **03 00 06.0 +1.2**
comp=Z,95nm,1.0s,comp=Z,904nm
SRBI Singaraja 43.81 214 P **P** **03 00 06.0 +0.5**
comp=Z,137nm,0.9s,comp=Z,1µm
COEN Coen 43.90 173 *e*P **P** **03 00 06.2 +0.1**
COEN *e*PcP **PcP** **03 01 42.8 +0.3**
ABJI Asem Bagus 44.04 215 P **P** **03 00 08.0 +0.7**
comp=Z,110nm,1.1s
TAPN Taplejung 44.13 280 *e*P **P** **03 00 09.0 +0.7**
comp=Z,27nm,0.3s
GRJI Gresik 44.21 218 P **P** **03 00 09.2 +0.6**
comp=Z,110nm,0.8s,comp=Z,1µm
DNP Denpasar 44.32 214 P **P** **03 00 10.0 +0.5**
comp=Z,400nm,0.9s
TBJI Tambak Boyo 44.47 219 P **P** **03 00 10.9 +0.2**
comp=Z,160nm,0.9s
IGBI Denpasar 44.48 214 P **P** **03 00 09.9 -0.8**
comp=Z,115nm,0.8s
ODAN Odare 44.53 279 *e*P **P** **03 00 11.9 +0.5**
comp=Z,104nm,0.8s
ODAN Odare 44.53 279 *e*P **P** **03 00 11.9 +0.5**
JAGI Jajag, Banyuwa 44.66 215 P **P** **03 00 11.5 -0.6**
comp=Z,82nm,0.8s
JAGI Jajag, Banyuwa 44.66 215 *e*P **P** **03 00 10.8 -1.3**
comp=Z,61nm,0.8s
ZALV Zalesovo Beam 45.06 318 P **P** **03 00 14.4 -0.3**
ZALV 03 01 45.5
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV pmax pmax
comp=N,12nm,0.8s
ZALV Zalesovo Beam 45.06 318 P **P** **03 00 14.4 -0.3**
comp=N,3.4nm,0.4s,baz=90,slow=8.2,SNR=19
ZALV PcP **PcP** **03 01 45.5 -0.5**
comp=N,4.1nm,0.5s,baz=123,slow=3.7,SNR=12
ZALV ScP **ScP** **03 04 52.1 -1.9**
comp=N,12nm,0.8s,baz=106,slow=4.8,SNR=26
NGJI Ngawi 45.14 219 P **P** **03 00 17.5 +1.7**
comp=N,69nm,0.8s
RAMN Ramite 45.19 279 *e*P **P** **03 00 17.1 +0.7**
comp=N,149nm,0.7s
RAMN Ramite 45.19 279 *e*P **P** **03 00 17.1 +0.7**
JIRN Jiri 45.34 281 *e*P **P** **03 00 18.6 +0.9**
comp=N,144nm,0.4s
SMRI Semarang 45.45 220 P **P** **03 00 19.4 +1.2**
comp=N,147nm,0.9s
SMRI Semarang 45.45 220 *e*P **P** **03 00 18.8 +0.6**
comp=N,65nm,0.8s
PWJI Pagerwojo 45.50 218 P **P** **03 00 17.4 -1.2**
comp=N,197nm,0.7s,comp=N,2µm
GUN Gumba 45.54 281 *e*P **P** **03 00 20.0 +0.8**
comp=N,114nm,0.7s
GUN Gumba 45.54 281 *e*P **P** **03 00 20.0 +0.8**
PSI Prapat 45.98 242 P **P** **03 00 22.8 +0.3**
PSI 03 01 50.8
PSI pmax pmax
comp=Z,32nm,0.9s
PSI pmax pmax
comp=Z,21nm,0.9s
PSI pmax pmax
comp=N,2.0nm,0.4s
PSI Prapat 45.98 242 P **P** **03 00 22.8 +0.3**
comp=N,32nm,0.8s,baz=26,slow=4.4,SNR=29
PSI PcP **pP** **03 01 50.8 +0.1**
comp=N,21nm,0.9s,baz=355,slow=4.1,SNR=7.5
PSI ScP **ScP** **03 04 58.5 -0.2**
comp=N,1.9nm,0.3s,baz=3.9,slow=9.4,SNR=4.7
MK31 Makanchi Array 45.99 308 *i* P **P** **03 00 21.9 -0.1**
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MKAR Makanchi Array 45.99 308 P **P** **03 00 22.1 +0.1**
MKAR 03 01 49.4
MKAR pmax pmax
comp=Z,4.0nm,0.4s
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR pmax pmax
comp=N,10.0nm,0.8s
MKAR Makanchi Array 45.99 308 P **P** **03 00 22.1 +0.1**
comp=N,3.6nm,0.4s,baz=88,slow=9.5,SNR=89
MKAR PcP **PcP** **03 01 49.4 -0.1**
comp=N,2.1nm,0.4s,baz=89,slow=5.3,SNR=13
MKAR ScP **ScP** **03 04 56.5 -1.5**
comp=N,9.8nm,0.8s,baz=66,slow=5.3,SNR=25
MKAR S **S** **03 06 30.6 -1.5**
comp=N,2.4nm,1.1s,baz=94,slow=20,SNR=6.6

PKI Pulchoki 46.03 281 *e*P **P** **03 00 23.4 +0.4**
PKI Pulchoki 46.03 281 *e*P **P** **03 00 23.4 +0.4**
PKI Pulchoki 46.03 281 *e*P **P** **03 00 23.4 +0.4**
BKNI Bangkinang 46.03 237 P **P** **03 00 24.5 +1.8**
comp=N,146nm,0.9s,comp=N,2µm
BKNI Bangkinang 46.03 237 *e*P **P** **03 00 23.6 +0.9**
comp=N,162nm,1.1s
PKIN Phulchoki 46.04 281 *e*P **P** **03 00 22.8 -0.2**
comp=N,12nm,0.4s
KKN Kakani 46.08 281 *e*P **P** **03 00 24.0 +0.8**
comp=N,72nm,0.8s
KKN Kakani 46.08 281 *e*P **P** **03 00 24.0 +0.8**
KKN Kakani 46.08 281 *e*P **P** **03 00 24.0 +0.8**
UGM Wanagama 46.11 220 P **P** **03 00 23.1 -0.2**
comp=N,240nm,1.1s,comp=N,2µm
UGM Wanagama 46.11 220 *e*P **P** **03 00 22.6 -0.7**
comp=N,176nm,0.8s
NVS Novosibirsk 46.12 319 *e*P **P** **03 00 22.3 -0.5**
NVS *e* 03 01 47.4
NVS pmax pmax
comp=N,13nm,1.5s
NVS pmax pmax
comp=Z,15nm,1.5s
DMN Daman 46.28 281 *e*P **P** **03 00 25.5 +0.7**
DMN Daman 46.28 281 *e*P **P** **03 00 25.5 +0.7**
KCSI Kotacane, Aceh 46.41 243 P **P** **03 00 25.0 -0.6**
comp=Z,30nm,0.9s
KPJI Karang Pucung 46.54 222 P **P** **03 00 26.4 -0.1**
comp=Z,158nm,1.1s,comp=Z,2µm
GKN Gorkha 46.57 281 *e*P **P** **03 00 27.6 +0.7**
comp=Z,34nm,0.5s
GKN Gorkha 46.57 281 *e*P **P** **03 00 27.6 +0.7**
MNSI Mandailing Nat 46.79 239 P **P** **03 00 28.5 0.0**
comp=Z,86nm,0.8s,comp=Z,10µm
LEM Lembang 46.91 224 P **P** **03 00 30.3 +0.7**
comp=Z,367nm,0.8s,comp=Z,3µm
CBJI Citeko 47.06 225 P **P** **03 00 32.5 +2.0**
comp=Z,361nm,0.3s,comp=Z,25µm
KLI Kotabumi 47.12 228 P **P** **03 00 31.2 +0.2**
comp=Z,214nm,0.8s,comp=Z,7µm
DANN Dangsing 47.22 282 *e*P **P** **03 00 32.9 +0.9**
comp=Z,87nm,0.5s
DANN Dangsing 47.22 282 *e*P **P** **03 00 32.9 +0.9**
LHSI Lahat 47.23 231 P **P** **03 00 33.0 +1.2**
comp=Z,259nm,1.0s,comp=Z,2µm
BLSI Bandar Lampung 47.25 228 P **P** **03 00 32.1 +0.1**
comp=Z,296nm,0.6s
MDSI Maura Dua 47.28 229 P **P** **03 00 32.3 +0.1**
comp=Z,260nm,1.0s,comp=Z,2µm
PDSI Padang 47.30 236 P **P** **03 00 33.1 +0.7**
comp=Z,35nm,1.0s,comp=Z,5µm
CISI Cisompet, Garu 47.37 223 P **P** **03 00 32.1 -0.8**
comp=Z,108nm,0.8s,comp=Z,5µm
CISI Cisompet, Garu 47.37 223 *e*P **P** **03 00 31.2 -1.8**
comp=Z,68nm,0.6s
KOLN Koldanda 47.52 282 *e*P **P** **03 00 35.1 +1.0**
KOLN Koldanda 47.52 282 *e*P **P** **03 00 35.1 +1.0**
CNJI Cibinong 47.59 224 P **P** **03 00 34.4 -0.1**
comp=Z,78nm,1.0s,comp=Z,986nm
MASI Maura Aman, Be 47.61 233 P **P** **03 00 35.6 +0.9**
comp=Z,679nm,0.8s,comp=Z,7µm
LWLI Liwa 47.76 229 P **P** **03 00 35.8 -0.1**
comp=Z,133nm,0.8s,comp=Z,9µm
KASI Kota Agung 47.85 228 P **P** **03 00 35.2 -1.3**
comp=Z,94nm,0.9s,comp=Z,974nm
CGJI Cibinong 47.92 226 P **P** **03 00 35.3 -1.7**
comp=Z,79nm,0.5s,comp=Z,2µm
PYUN Piuthan 47.94 282 *e*P **P** **03 00 37.8 +0.4**
comp=Z,347nm,0.4s
GSI Gunungsitoli 47.97 241 P **P** **03 00 37.5 +0.1**
comp=Z,460nm,1.0s,comp=Z,4µm
GSI Gunungsitoli 47.97 241 *e*P **P** **03 00 37.8 +0.4**
comp=Z,254nm,0.6s
MNAI Manna 48.00 231 P **P** **03 00 38.3 +0.6**
MNAI Manna 48.00 231 *e*P **P** **03 00 36.8 -0.9**
comp=Z,222nm,0.8s
TNA Tin City 48.35 27 *e*P **P** **03 00 41.1 +1.7**
KURK Kurchatov 48.51 313 *e*P **P** **03 00 39.9 -1.0**
KURK *e*S S 03 06 59.8 -7.2
KURK pmax pmax
comp=Z,4.0nm,0.4s
KURK Kurchatov 48.51 313 *e*P **P** **03 00 39.9 -1.0**
comp=Z,4.0nm,0.4s
KURK *e*S S 03 06 59.8 -7.2
WRAB Tennant Creek 49.73 185 P **P** **03 00 49.0 -1.4**
comp=Z,314nm,0.6s,SNR=61
WRAB Tennant Creek 49.73 185 *e*P **P** **03 00 50.0 -0.4**
WRAB *e* 03 02 03.8
WRAB *e**PP **pP** **03 02 20.7 +0.3**
WRAB *e*S **S** **03 07 22.8 -1.5**
WRAB pmax pmax
comp=Z,38nm,0.9s
WRAB Tennant Creek 49.73 185 *e*P **P** **03 00 50.0 -0.4**
comp=Z,38nm,0.9s
WRAB *e*PcP **PcP** **03 02 03.8 +0.5**
WRAB *e*pP **pP** **03 02 20.7 +0.3**
WRAB *e*S **S** **03 07 22.8 -1.5**
WRA Warramunga Arr 49.74 185 P **P** **03 00 49.9 -0.5**
WRA 03 02 03.9
WRA *PP **pP** **03 02 21.0 +0.5**
WRA S S 03 07 18.2 -6.3
WRA pmax pmax
comp=Z,33nm,0.5s
WRA pmax pmax
comp=Z,11nm,0.6s
WRA pmax pmax
comp=Z,12nm,0.9s
WRA pmax pmax
comp=N,2.0nm,0.8s
WRA smax smax
comp=N,2.0nm,1.0s
WRA Warramunga Arr 49.74 185 P **P** **03 00 49.9 -0.5**
comp=N,33nm,0.5s,baz=0.8,slow=7.7,SNR=272
WRA PcP **PcP** **03 02 03.9 +0.6**
comp=N,11nm,0.6s,baz=357,slow=3.9,SNR=13
WRA pP **pP** **03 02 20.9 +0.5**
comp=N,12nm,0.8s,baz=8.4,slow=8.8,SNR=7.2
WRA ScP **ScP** **03 05 13.8 -0.4**
comp=N,2.2nm,0.8s,baz=0.5,slow=4.4,SNR=5.5
WRA S S 03 07 18.2 -6.3
comp=N,2.4nm,1.0s,baz=0.3,slow=13,SNR=6.9
CTA Charters Tower 50.34 170 P **P** **03 00 55.5 +0.6**
CTA pmax pmax
comp=Z,5.0nm,0.6s
CTA Charters Tower 50.34 170 P **P** **03 00 55.5 +0.6**
comp=Z,4.5nm,0.6s,baz=350,slow=9.1,SNR=7.2
CTAO Charters Tower 50.34 170 *e*P **P** **03 00 54.6 -0.3**
CTAO pmax pmax
comp=Z,7.0nm,0.7s
CTAO Charters Tower 50.34 170 *e*P **P** **03 00 54.6 -0.3**
comp=Z,6.6nm,0.7s
TKM2 Tokmak 2 50.95 303 P **P** **03 01 00.3 +0.9**
SNR=13
TKM2 Tokmak 2 50.95 303 *e*P **P** **03 01 00.5 +1.1**
TKM2 *e* 03 02 07.3
TKM2 pmax pmax
comp=Z,9.0nm,0.6s
TKM2 Tokmak 2 50.95 303 *e*P **P** **03 01 00.5 +1.1**
comp=Z,9.4nm,0.6s
TKM2 *e*PcP **PcP** **03 02 07.3 -0.6**
TKM2 *e*ScP **ScP** **03 05 17.4 -2.2**
KSH Kashi 51.15 298 P P 03 01 04.8 +3.9
KSH *e*PP PP 03 03 09.0 +5.6
KSH PcS **PcS** **03 06 05.6 -1.6**
KSH S **S** **03 07 46.3 +2.6**
KSH SS **SS** **03 11 29.6 +3.4**
KSH pmax pmax
comp=Z,19nm,0.7s
KZA Kyzart 51.31 302 P **P** **03 01 04.1 +1.7**
SNR=6.7
KZA Kyzart 51.31 302 *i* P **P** **03 01 04.0 +1.7**
KBK Karagaybulak 51.45 303 P **P** **03 01 04.0 +1.0**
SNR=9.3
AAK Ala-Archa 51.79 303 P **P** **03 01 06.0 +0.5**
comp=Z,73nm,0.4s,SNR=5.3
AAK Ala-Archa 51.79 303 P **P** **03 01 06.2 +0.7**
SNR=6.9
AAK Ala-Archa 51.79 303 *e*P **P** **03 01 06.0 +0.5**
AAK 03 02 11.0
AAK S **S** **03 07 52.0 -0.2**
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK Ala-Archa 51.79 303 PcP **PcP** **03 02 11.0 0.0**
baz=135,slow=1.4
AAK ScP **ScP** **03 05 21.8 -1.3**
comp=Z,6.6nm,1.2s,baz=99,slow=1.9,SNR=5.9

AAK S S 03 07 52.0 -0.2
comp=Z,1.0nm,0.8s,baz=155,slow=16,SNR=4.3
AAK Ala-Archa 51.79 303 eP P 03 01 06.0 +0.5
comp=Z,9.3nm,0.7s
AAK ePcP PcP 03 02 10.9 -0.2
AAK PcP PcP 03 02 11.0 0.0
AAK eScP ScP 03 05 20.6 -2.5
AAK ScP ScP 03 05 21.8 -1.3
AAK S S 03 07 52.0 -0.2
UCH Uchtor 51.83 302 P P 03 01 07.3 +1.1
SNR=11
UCH Uchtor 51.83 302 iP P 03 01 07.2 +1.1
EKS2 Erkin-Say 52.31 303 eP P 03 01 09.8 +0.6
EKS2 e 03 02 13.1
EKS2 pmax pmax
comp=Z,4.0nm,0.6s
EKS2 Erkin-Say 52.31 303 eP P 03 01 09.8 +0.6
comp=Z,4.2nm,0.6s
EKS2 ePcP PcP 03 02 13.1 +0.1
AML Almayashu 52.45 302 P P 03 01 11.7 +1.2
SNR=17
AML Almayashu 52.45 302 iP P 03 01 11.7 +1.2
VOSK Vostochnaya 53.25 316 iP P 03 01 15.0 -0.6
VOSK pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 53.46 185 P P 03 01 17.6 +0.1
ASAR 03 02 17.7
ASAR S S 03 08 11.7 -2.9
ASAR pmax pmax
comp=Z,13nm,0.6s
ASAR pmax pmax
comp=Z,6.0nm,0.7s
ASAR pmax pmax
comp=N,1.0nm,0.8s
ASAR smax smax
comp=N,2.0nm,0.9s
ASAR Alice Springs 53.46 185 P P 03 01 17.6 +0.1
comp=N,13nm,0.6s,baz=16,slow=11,SNR=145
ASAR PcP PcP 03 02 17.6 +0.3
comp=N,5.7nm,0.7s,baz=5.1,slow=4.1,SNR=13
ASAR ScP ScP 03 05 29.9 -0.4
comp=N,1.1nm,0.8s,baz=11,slow=5.0,SNR=4.4
ASAR S S 03 08 11.7 -2.9
comp=N,1.6nm,0.9s,baz=26,slow=24,SNR=8.6
BVA0 Borovoye Array 53.59 316 iP P 03 01 17.9 -0.2
BVA0 pmax pmax
comp=Z,10.0nm,0.5s
BVAR Borovoye Array 53.59 316 P P 03 01 18.1 0.0
BVAR 03 02 17.6
BVAR S S 03 08 12.6 -3.0
BVAR pmax pmax
comp=Z,15nm,0.4s
BVAR pmax pmax
comp=Z,6.0nm,0.6s
BVAR pmax pmax
comp=N,5.0nm,0.8s
BVAR smax smax
comp=N,1.0nm,0.7s
BVAR Borovoye Array 53.59 316 P P 03 01 18.1 0.0
comp=N,15nm,0.4s,baz=95,slow=7.5,SNR=113
BVAR PcP PcP 03 02 17.6 +0.1
comp=N,6.0nm,0.6s,baz=91,slow=3.9,SNR=10
BVAR ScP ScP 03 05 28.8 -1.8
comp=N,4.9nm,0.8s,baz=101,slow=4.8,SNR=11
BVAR S S 03 08 12.6 -3.0
comp=N,1.0nm,0.7s,baz=90,slow=13,SNR=3.7
BRVK Borovoye 53.66 316 eP P 03 01 18.5 0.0
BRVK e 03 02 17.5
BRVK pmax pmax
comp=Z,8.0nm,0.5s
BRVK Borovoye 53.66 316 eP P 03 01 18.5 0.0
comp=Z,8.0nm,0.5s
BRVK ePcP PcP 03 02 17.5 -0.2
BRVK eScP ScP 03 05 29.2 -1.6
MBWA Marble Bar 53.84 202 eP P 03 01 20.1 -0.1
comp=Z,47nm,0.7s
MBWA ePcP PcP 03 02 18.1 -0.7
KDAK Kodiak Island 54.23 38 iP P 03 01 23.6 +1.2
KK31 Karatay Array 54.61 304 iP P 03 01 25.7 +0.2
KK31 pmax pmax
comp=Z,7.0nm,0.4s
KKAR Karatay Array 54.61 304 eP P 03 01 25.9 +0.4
KKAR pmax pmax
comp=Z,25nm,0.7s
KKAR Karatay Array 54.61 304 eP P 03 01 25.9 +0.4
comp=Z,25nm,0.7s
KKAR eScP ScP 03 05 32.8 -2.4
MCK McKinley 56.03 31 eP P 03 01 35.5 +0.4
MCK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 56.03 31 eP P 03 01 35.5 +0.4
comp=Z,7.4nm,0.9s
COLA College 56.51 29 eP P 03 01 39.5 +1.2
COLA pmax pmax
comp=Z,2.0nm,0.4s
COLA College 56.51 29 eP P 03 01 39.5 +1.2
comp=Z,2.1nm,0.4s
ILAR Eielson Array 56.93 30 P P 03 01 40.9 -0.3
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 56.93 30 P P 03 01 40.9 -0.3
comp=Z,1.0nm,0.6s,baz=260,slow=5.3,SNR=30
PALK Pallekele 58.35 259 iP P 03 01 53.3 +1.5
PALK Pallekele 58.35 259 eP P 03 01 52.4 +0.4
DZM Mont Dzumac 58.40 149 P P 03 01 52.6 +0.7
comp=Z,7.7nm,0.6s,baz=17,slow=6.4,SNR=13
DZM Mont Dzumac 58.40 149 eP P 03 01 52.9 +0.9
comp=Z,6.2nm,0.6s
DZM ePcP PcP 03 02 38.8 +2.0
ARU Arti 60.04 321 d iP P 03 02 02.2 -0.2
ARU 03 02 42.2
ARU *PP pP 03 03 35.9 -1.0
ARU 03 04 20.1
ARU S S 03 09 40.1 +1.5
ARU SS SS 03 13 46.9 +2.3
ARU pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 60.04 321 eP P 03 02 02.1 -0.4
comp=Z,7.5nm,0.5s
AB31 Akbulak array 60.62 313 iP P 03 02 06.1 -0.3
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 60.62 313 eP P 03 02 06.2 -0.2
FORT Forrest 61.16 190 eP P 03 02 10.3 +0.2
comp=Z,166nm,0.6s
STKA Stephens Creek 61.56 177 P P 03 02 12.8 0.0
STKA pmax pmax
comp=Z,26nm,0.5s
STKA Stephens Creek 61.56 177 P P 03 02 12.8 0.0
comp=Z,26nm,0.5s,baz=355,slow=6.3,SNR=84
AKTO Aktyubinsk 61.57 314 P P 03 02 12.5 -0.2
AKTO S S 03 09 55.5 -2.4
AKTO pmax pmax
comp=Z,5.0nm,0.5s
AKTO smax smax
comp=N,4.0nm,1.1s
AKTO Aktyubinsk 61.57 314 P P 03 02 12.5 -0.2
comp=N,5.4nm,0.5s,baz=101,slow=7.7,SNR=25
AKTO S S 03 09 55.5 -2.4
comp=N,4.4nm,1.1s,baz=353,slow=18,SNR=4.3
INK Inuvik 61.91 25 P P 03 02 14.5 -0.1
INK pmax pmax
comp=Z,1.0nm,0.3s
INK Inuvik 61.91 25 P P 03 02 14.5 -0.1
comp=Z,1.2nm,0.3s,baz=295,slow=7.1,SNR=33
BBOO Buckleboo 62.45 182 eP P 03 02 18.3 -0.2
comp=Z,410nm,0.8s
SPITS Spitsbergen Ar 66.95 349 P P 03 02 46.9 +0.3
SPITS pmax pmax
comp=Z,2.0nm,0.5s
SPITS Spitsbergen Ar 66.95 349 P P 03 02 46.9 +0.3
comp=Z,1.5nm,0.5s,baz=92,slow=8.3,SNR=13
KEV Kevo 69.13 340 eP P 03 03 00.3 +0.3
KEV pmax pmax
comp=Z,2.0nm,0.3s
KEV Kevo 69.13 340 ep P 03 03 00.3 +0.3
comp=Z,2.0nm,0.3s
ARCES ARCESS Array B 69.70 340 P P 03 03 03.7 +0.2
ARCES pmax pmax
comp=Z,4.0nm,0.4s
ARCES ARCESS Array B 69.70 340 P P 03 03 03.7 +0.2
comp=Z,4.4nm,0.4s,baz=61,slow=8.6,SNR=84
RES Resolute Bay 70.10 13 P P 03 03 07.0 +1.3
RES pmax pmax
comp=Z,1.0nm,0.6s
RES Resolute Bay 70.10 13 P P 03 03 07.0 +1.3
comp=Z,0.8nm,0.6s,baz=351,slow=4.7,SNR=6.7
RES Resolute Bay 70.10 13 eP P 03 03 06.7 +0.9
JOF Joensuu 70.98 332 eP P 03 03 10.9 -0.2
JOF pmax pmax
comp=Z,4.0nm,0.4s
JOF Joensuu 70.98 332 ep P 03 03 10.9 -0.2
comp=Z,4.1nm,0.4s
VRHR Novokhopersk 71.19 319 eP P 03 03 10.9 -1.7
VRHR pmax pmax
comp=N,4.0nm,0.7s
VRHR pmax pmax
comp=Z,9.0nm,0.7s
VRHR pmax pmax
comp=E,3.0nm,0.6s
YKA Yellowknife Ar 71.28 28 P P 03 03 13.5 +0.6
comp=E,0.3nm,0.6s,baz=300,slow=6.1,SNR=7.5
YKA PcP PcP 03 03 31.1 +1.6
comp=E,0.5nm,0.7s,baz=297,slow=5.6,SNR=8.1
YKA PKP2bc 03 30 55.2
comp=E,0.6nm,1.1s,baz=109,slow=3.1,SNR=5.0
HATD Hatta, Dubai 71.59 288 ⇓iP P 03 03 16.4 +0.9
SNR=14
IPAR Pars 71.99 294 eP P 03 03 18.5 +0.4
FAQ Al Faqa, Dubai 72.07 289 iP P 03 03 18.7 +0.4
SNR=7.0
ISRV Sarvestan 72.13 294 eP P 03 03 18.9 0.0
OBN Obninsk 72.20 324 ⇓eP P 03 03 19.2 +0.8
OBN 03 03 38.0
OBN e*PP pP 03 05 05.0 +7.7
OBN eS SKiKP 03 12 11.3 +6.6
OBN iSSS SSS 03 20 17.6
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,65nm,15.0s
VSR Storozhevoye 72.54 319 eP P 03 03 19.7 -0.8
VSR e 03 03 35.1
VSR e*PP pP 03 04 58.1 -1.4
VSR eS SKiKP 03 12 03.5 -1.9
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.7s
VSR pmax pmax
comp=Z,9.0nm,0.7s
VSR smax smax
comp=N,30nm,1.3s
VSR smax smax
comp=E,100nm,1.3s
VSR smax smax
comp=Z,50nm,1.3s
KAF Kangasniemi 73.39 333 eP P 03 03 24.7 -0.5
KAF pmax pmax
comp=Z,3.0nm,0.3s
KAF Kangasniemi 73.39 333 ep P 03 03 24.7 -0.5
comp=Z,2.6nm,0.3s
KBZ Khabaz 73.53 311 P P 03 03 26.9 +0.6
KBZ pmax pmax
comp=Z,15nm,0.8s
KBZ Khabaz 73.53 311 P P 03 03 26.9 +0.6
comp=Z,15nm,0.8s,baz=63,slow=6.8,SNR=38
KIV Kislovodsk 73.56 311 eP P 03 03 27.4 +0.7
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,52nm,18.0s
KIV Kislovodsk 73.56 311 eP P 03 03 27.5 +0.7
comp=Z,12nm,0.9s
GNI Garni 73.83 307 ceP P 03 03 29.6 +1.2
GNI pmax pmax
comp=Z,11nm,1.0s
GNI Garni 73.83 307 eP P 03 03 28.5 +0.1
comp=Z,1.4nm,0.4s,baz=117,slow=1.5,SNR=4.7
GNI Garni 73.83 307 eP P 03 03 29.0 +0.6
comp=Z,7.7nm,1.1s
FINES FINESS Array B 73.84 332 P P 03 03 27.5 -0.3
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 73.84 332 P P 03 03 27.5 -0.3
comp=Z,3.5nm,0.5s,baz=78,slow=5.2,SNR=42
ANN Anapa 76.53 314 eP P 03 03 39.7 -3.5
ANN pmax pmax
comp=Z,92nm,1.4s
NEW Newport 77.12 42 P P 03 03 46.8 +0.2
baz=258,slow=20
AKASG Malin Array Be 78.26 322 P P 03 03 51.7 -0.8
AKASG S S 03 13 04.7 -4.2
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 78.26 322 P P 03 03 51.7 -0.8
comp=Z,4.0nm,0.5s,baz=51,slow=5.6,SNR=25
AKASG S S 03 13 04.7 -4.2
comp=Z,0.2nm,0.3s,baz=56,slow=11,SNR=4.5
KIEV Kiev 78.27 322 eP P 03 03 51.8 -0.8
KIEV pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 78.27 322 eP P 03 03 51.8 -0.8
comp=Z,6.0nm,0.8s
MZRK Al-Mazaregh 78.67 305 eP P 03 03 55.3 +0.2
MALT Malatya 79.03 308 ⇓iP P 03 03 58.0 +0.9
SUW Suwalki 79.40 327 eP P 03 03 58.0 -0.5
SUW pmax pmax
comp=Z,25nm,1.0s
SUW Suwalki 79.40 327 eP P 03 03 58.0 -0.5
comp=Z,25nm,1.0s
HFS Hagfors 79.42 335 P P 03 03 58.1 -0.4
HFS pmax pmax
comp=Z,6.0nm,0.6s
HFS Hagfors 79.42 335 P P 03 03 58.1 -0.4
comp=Z,5.6nm,0.6s,baz=95,slow=3.6,SNR=27
MNKR ALMNKUR 79.60 305 eP P 03 03 55.2 -4.8
NB2 NORSAR Subarra 79.66 337 P P 03 03 59.0 -0.9
comp=Z,3.1nm,0.6s,baz=47,slow=5.1
NOA NORSAR Array B 79.66 337 P P 03 03 59.3 -0.6
NOA S S 03 13 19.0 -4.3
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA smax smax
comp=N,1.0nm,0.8s
NOA NORSAR Array B 79.66 337 P P 03 03 59.3 -0.6
comp=N,3.3nm,0.6s,baz=46,slow=5.2,SNR=21
NOA S S 03 13 18.9 -4.3
comp=N,0.9nm,0.8s,baz=64,slow=15,SNR=3.4
SLMT Seeley Lake 79.75 41 eP P 03 04 01.0 +0.2
comp=N,1.4nm,0.3s
KSRV Kasrt alli 79.83 305 eP P 03 04 02.7 +1.5
RAYN Ar Rayn 80.84 292 eP P 03 04 07.1 +0.3
comp=N,54nm,1.0s
HRY Holter Researc 80.99 41 eP P 03 04 07.2 0.0
FFC Flin Flon 81.12 31 eP P 03 04 07.3 -0.3
FFC pmax pmax
comp=Z,4.0nm,1.1s
FFC Flin Flon 81.12 31 eP P 03 04 07.3 -0.3
comp=Z,3.8nm,1.1s
NVAR Mina Array Bea 81.45 51 P P 03 04 11.1 +1.2
comp=Z,1.1nm,0.7s,baz=287,slow=5.6,SNR=10
NVAR pP pP 03 05 56.0 +4.2
comp=Z,0.5nm,0.6s,baz=278,slow=6.3,SNR=2.2
BRTR Keskin Array B 81.52 311 P P 03 04 10.5 +0.3
BRTR 03 22 39.5
BRTR pmax pmax
comp=Z,16nm,0.9s
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 81.52 311 P P 03 04 10.4 +0.3
comp=Z,16nm,0.9s,baz=96,slow=3.9,SNR=92
BRTR PKKPbc PKKPbc 03 22 39.5 0.0
comp=Z,0.6nm,0.6s,baz=187,slow=3.6,SNR=4.8
KFRA Kufra 81.71 306 eP P 03 04 06.5 -4.6
WRDH Warideh 81.83 306 eP P 03 04 10.2 -1.5
CFR Carcaliu 81.94 318 ⇑iP P 03 04 09.5 -2.5
ARNB Al Arnab 81.95 307 eP P 03 04 11.4 -1.0
ANTO Ankara 81.99 311 eP P 03 04 12.7 +0.2
ANTO pmax pmax
comp=Z,10.0nm,1.0s
ANTO Ankara 81.99 311 ⇑iP P 03 04 13.1 +0.6
ANTO Ankara 81.99 311 eP P 03 04 12.7 +0.2
comp=Z,9.5nm,1.0s
TESR Tescani 82.03 320 ⇓iP P 03 04 12.2 -0.2
PETR Petresti 82.16 319 ⇑iP P 03 04 14.7 +1.6
BUR08 Bucovina Ar. S 82.17 321 eP P 03 04 13.2 -0.1
BURAR Bucovina Array 82.18 321 ⇑iP P 03 04 13.2 -0.1
ELK Elko 82.23 47 P P 03 04 14.7 +0.8
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 82.23 47 P P 03 04 14.7 +0.8
comp=Z,2.1nm,0.8s,baz=315,slow=3.8,SNR=9.5
KWP Kalwaria Pacla 82.29 324 eP P 03 04 13.7 0.0
KWP pmax pmax
comp=Z,33nm,1.0s
KWP Kalwaria Pacla 82.29 324 ⇓iP P 03 04 13.9 +0.2
KWP Kalwaria Pacla 82.29 324 eP P 03 04 13.7 0.0
comp=Z,33nm,1.0s
TLB Topalu 82.33 317 ⇑iP P 03 04 13.9 -0.1
HAWK Haweek 82.34 305 eP P 03 04 09.9 -4.5
VRI Vrincioaia 82.36 319 ⇓iP P 03 04 14.0 -0.2
PLOR Plostina 82.41 319 ⇓iP P 03 04 14.4 -0.1
ZALF Zalf 82.49 304 eP P 03 04 14.5 -0.6
GRER 82.50 319 ⇑iP P 03 04 16.2 +1.4
MARH Ras Al Marh 82.54 305 eP P 03 04 14.9 -0.7
MSAB Monastry St. A 82.75 317 ⇓iP P 03 04 16.0 -0.1
MLR Muntele Rosu 83.02 319 P P 03 04 17.4 -0.2
MLR pmax pmax
comp=Z,1.0nm,0.5s
MLR Muntele Rosu 83.02 319 ⇓iP P 03 04 17.5 -0.2
MLR Muntele Rosu 83.02 319 P P 03 04 17.4 -0.2
comp=Z,0.5nm,0.5s,baz=165,slow=20,SNR=14
DOPR Dopca 83.06 320 ⇓iP P 03 04 17.4 -0.3
STHS Stebnicka Huta 83.17 324 eP P 03 04 19.3 +1.1
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 83.17 324 eP P 03 04 19.3 +1.1
ASF Jabal al Asfar 83.19 303 P P 03 04 18.8 +0.1
ASF pmax pmax
comp=Z,9.0nm,1.0s
ASF Jabal al Asfar 83.19 303 P P 03 04 18.8 +0.1
comp=Z,9.4nm,1.0s,baz=344,slow=2.7,SNR=15
BRBR Barbar 83.24 305 eP P 03 04 16.7 -2.4
TRPA Tarpa 83.30 323 ⇓iP P 03 04 17.6 -1.2
CRVS Cervenica-Dubn 83.39 324 eP P 03 04 19.0 -0.3
CRVS pmax pmax
comp=Z,10.0nm,1.7s
CRVS Cervenica-Dubn 83.39 324 eP P 03 04 19.0 -0.3
VOIR 83.56 319 ⇑iP P 03 04 20.6 +0.3
TCHB Talchebab 83.61 304 eP P 03 04 17.5 -3.2
MMAI Mount Meron Ar 83.83 305 P P 03 04 22.2 +0.3
comp=Z,8.2nm,0.8s,baz=67,slow=6.4,SNR=12
ARR Arges 83.84 319 ⇑iP P 03 04 21.8 +0.1
DRGR 84.04 321 ⇑iP P 03 04 22.1 -0.5
FRB Frobisher Bay 84.25 12 P P 03 04 23.4 +0.2
FRB pmax pmax
comp=Z,5.0nm,0.8s
FRB Frobisher Bay 84.25 12 P P 03 04 23.4 +0.2
comp=Z,5.0nm,0.8s,baz=333,slow=8.2,SNR=5.6
CSS Prodhromos 84.26 307 eP P 03 04 23.3 -0.6
comp=Z,2.8nm,0.8s
PDAR Pinedale Array 84.58 43 P P 03 04 26.1 +0.5
comp=Z,1.8nm,0.9s,baz=318,slow=2.0,SNR=10
PDAR pP pP 03 06 11.4 +3.0
comp=Z,0.4nm,0.9s,baz=338,slow=1.9,SNR=2.6
KSP Ksiaz 84.67 327 eP P 03 04 25.0 -0.6
PSZ Piszkesteto 84.82 324 eP P 03 04 25.3 -1.1
PSZ pmax pmax
comp=Z,3.0nm,0.9s
PSZ Piszkesteto 84.82 324 eP P 03 04 25.3 -1.1
comp=Z,3.4nm,0.9s
KRLC Kraliky 84.95 327 eP P 03 04 29.0 +2.0
KRLC Kraliky 84.95 327 eP P 03 04 29.0 +2.0
DPC Dobruska-Polom 84.98 327 eP P 03 04 27.1 -0.1
DPC Dobruska-Polom 84.98 327 eP P 03 04 27.1 -0.1
PFO Pinyon Flat Ob 85.28 54 P P 03 04 29.5 +0.4
PFO pmax pmax
comp=Z,5.0nm,0.8s
PFO Pinyon Flat Ob 85.28 54 P P 03 04 29.5 +0.4
comp=Z,5.0nm,0.8s,baz=306,slow=3.2,SNR=11
CLL Collm 85.85 329 iP P 03 04 30.5 -0.8
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 85.85 329 iP P 03 04 30.5 -0.8
comp=Z,8.0nm,1.2s
PKSM Moragy 86.58 323 ⇑iP P 03 04 34.0 -0.8
KHC Kasperske Hory 87.12 327 eP P 03 04 36.7 -0.7
KHC Kasperske Hory 87.12 327 eP P 03 04 36.7 -0.7
GERES GERESS Array B 87.26 327 P P 03 04 37.2 -1.0
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 87.26 327 P P 03 04 37.1 -1.0
comp=Z,1.0nm,0.5s,baz=41,slow=6.2,SNR=12
GERES PKKPbc PKKPbc 03 22 24.9 -1.6
comp=Z,0.5nm,0.7s,baz=198,slow=2.7,SNR=3.7
SOKA Soboth 88.11 325 ⇑iPcP P 03 04 41.6 -0.6
comp=Z,9.6nm,1.2s
EKA Eskdalemuir Ar 88.85 339 P P 03 04 45.1 -0.3
comp=Z,0.3nm,0.4s,baz=60,slow=3.5,SNR=6.3
FETA Feichten 89.96 327 ⇑iPcP P 03 04 50.1 -0.8
comp=Z,5.1nm,1.1s
CDF Champ du Feu 90.50 330 eP P 03 04 52.1 -1.2
comp=Z,6.7nm,0.9s
CDF Champ du Feu 90.50 330 eP P 03 04 52.1 -1.2
CDF pmax pmax
comp=Z,7.0nm,0.9s
CDF Champ du Feu 90.50 330 eP P 03 04 52.1 -1.2
comp=Z,6.7nm,0.9s
DAVOX Davos/Dischmat 90.54 327 P P 03 04 52.4 -1.2
DAVOX pmax pmax
comp=Z,3.0nm,0.5s
DAVOX Davos/Dischmat 90.54 327 P P 03 04 52.4 -1.2
comp=Z,2.9nm,0.5s,baz=334,slow=10
PAGF Fort de Pagny 91.06 331 eP P 03 04 55.0 -0.7
PAGF Fort de Pagny 91.06 331 eP P 03 04 55.0 -0.7
HAU Haudompre 91.21 330 eP P 03 04 55.0 -1.5
comp=Z,8.5nm,1.0s
HAU Haudompre 91.21 330 eP P 03 04 55.0 -1.5
HAU pmax pmax
comp=Z,9.0nm,1.0s
HAU Haudompre 91.21 330 eP P 03 04 55.0 -1.5
comp=Z,8.5nm,1.0s
ANMO Albuquerque 91.24 48 ⇑eP P 03 04 58.4 +1.3
ANMO pmax pmax
comp=Z,18nm,1.7s
ANMO Albuquerque 91.24 48 P P 03 04 57.7 +0.6
comp=Z,2.0nm,0.8s,baz=291,slow=3.9,SNR=8.1
SFTF Sexfontaines 91.62 331 eP P 03 04 57.2 -1.1
SFTF Sexfontaines 91.62 331 eP P 03 04 57.2 -1.1
CABF La Chapelle 92.39 329 eP P 03 05 00.6 -1.4
CABF La Chapelle 92.39 329 eP P 03 05 00.6 -1.4
CABF La Chapelle 92.39 329 eP P 03 05 00.6 -1.4
LPL La Plagne 92.94 328 eP P 03 05 03.3 -1.4
LPL La Plagne 92.94 328 eP P 03 05 03.3 -1.4
LPL La Plagne 92.94 328 eP P 03 05 03.3 -1.4
LPG La Plagne 92.94 328 eP P 03 05 03.6 -1.2
comp=Z,3.4nm,0.5s
LPG La Plagne 92.94 328 eP P 03 05 03.6 -1.2
LPG pmax pmax
comp=Z,3.0nm,0.5s
LPG La Plagne 92.94 328 eP P 03 05 03.6 -1.2
comp=Z,3.4nm,0.5s
SSF Saint Saulge 93.16 331 eP P 03 05 04.1 -1.3
SSF Saint Saulge 93.16 331 eP P 03 05 04.1 -1.3
SSF Saint Saulge 93.16 331 eP P 03 05 04.1 -1.3
BNI Bardonecchia 93.31 328 eP P 03 05 06.6 +0.2
BNI pmax pmax
comp=Z,24nm,1.6s
BNI Bardonecchia 93.31 328 eP P 03 05 06.6 +0.2
comp=Z,24nm,1.6s
SMF Signal de Mont 93.35 330 eP P 03 05 05.7 -0.6
comp=Z,10nm,0.9s
SMF Signal de Mont 93.35 330 eP P 03 05 05.7 -0.6
SMF pmax pmax
comp=Z,11nm,0.9s
SMF Signal de Mont 93.35 330 eP P 03 05 05.7 -0.6
comp=Z,10nm,0.9s
AVF Avril sur Loir 93.44 331 eP P 03 05 05.4 -1.3
AVF Avril sur Loir 93.44 331 eP P 03 05 05.4 -1.3
AVF Avril sur Loir 93.44 331 eP P 03 05 05.4 -1.3
MBDF Montbardon 93.52 328 eP P 03 05 05.8 -1.5
comp=Z,19nm,1.1s
MBDF Montbardon 93.52 328 eP P 03 05 05.8 -1.5
MBDF pmax pmax
comp=Z,19nm,1.1s
MBDF Montbardon 93.52 328 eP P 03 05 05.8 -1.5
comp=Z,19nm,1.1s
ORIF Oris-en-Rattie 93.78 328 eP P 03 05 06.8 -1.6
ORIF Oris-en-Rattie 93.78 328 eP P 03 05 06.8 -1.6
ORIF Oris-en-Rattie 93.78 328 eP P 03 05 06.8 -1.6
MNTX Cornudas Mount 93.97 50 eP P 03 05 09.5 +0.1
TXAR Lajitas Array 96.60 51 P P 03 05 21.8 +0.3
TXAR *PP pP 03 07 07.7 +1.6
TXAR pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.0nm,0.9s						
TXAR	Lajitas Array	96.60	51	P	P	03 05 21.8	+0.3
	comp=Z,0.2nm,0.7s,baz=250,slow=2.7,SNR=2.4						
TXAR				pP	pP	03 07 07.7	+1.6
	comp=Z,0.7nm,0.9s,baz=256,slow=3.6,SNR=3.9						
ETSF	Etsaut	98.22	331	eP	Pdif	03 05 27.5	-1.0
	comp=Z,19nm,1.2s						
ETSF	Etsaut	98.22	331	eP	Pdif	03 05 27.5	-1.0
ETSF				pmax	pmax		
	comp=Z,19nm,1.2s						
ETSF	Etsaut	98.22	331	eP	Pdif	03 05 27.5	-1.0
	comp=Z,19nm,1.2s						
LSZ	Lusaka	114.65	266	ePKIKP	PKPdf	03 10 29.5	+0.1
LSZ	Lusaka	114.65	266	ePKPdf	PKPdf	03 10 29.5	+0.1
QSPA	South Pole Qui	119.70	180	ePKPdf	PKPdf	03 10 36.9	-0.6
TOA0	Torodi Ar. Sit	120.09	309	ePKPdf	PKPdf	03 10 38.9	-0.9
TORD	Torodi Ar. Bea	120.09	309	PKP	PKPdf	03 10 38.9	-0.9
	comp=Z,2.1nm,0.7s,baz=38,slow=1.5,SNR=36						
TORD				PP	PP	03 12 15.0	+3.5
	comp=Z,0.8nm,1.1s,baz=33,slow=4.0,SNR=2.7						
TORD				PKKPbc	PKKPbc	03 20 49.8	+0.9
	comp=Z,0.7nm,0.4s,baz=225,slow=3.2,SNR=20						
LBTB	Lobatse	120.79	257	ePKIKP	PKPdf	03 10 41.1	+0.2
LBTB	Lobatse	120.79	257	ePKPdf	PKPdf	03 10 41.1	+0.2
BOSA	Boshof	122.31	253	PKIKP	PKPdf	03 10 43.6	-0.2
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BOSA	Boshof	122.31	253	PKP	PKPdf	03 10 43.6	-0.2
	comp=Z,3.1nm,0.6s,baz=10,slow=0.5,SNR=9.3						
BOSA	Boshof	122.31	253	ePKPdf	PKPdf	03 10 43.7	0.0
TSUM	Tsumeb	125.48	267	ePKPdf	PKPdf	03 10 50.9	+0.8
DBIC	Dimbokro	129.20	310	PKIKP	PKPdf	03 10 57.0	-0.3
DBIC						03 13 33.1	
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DBIC				pmax	pmax		
	comp=N,5.0nm,0.8s						
DBIC	Dimbokro	129.20	310	PKP	PKPdf	03 10 57.0	-0.3
	comp=N,3.1nm,0.7s,baz=18,slow=1.9,SNR=6.1						
DBIC				SKPbc	SKPab	03 13 33.1	-1.5
	comp=N,5.1nm,0.8s,baz=13,slow=6.4,SNR=5.5						
TIC	Toumodi	129.33	310	eP	SKPbc	03 13 33.3	-2.2
	comp=N,3.0nm,0.2s						
KIC	Kosan Boka	129.35	309	eP	SKPbc	03 13 32.7	-2.8
	comp=N,34nm,1.0s						
LIC	Lamto	129.64	309	ePKIKP	PKPdf	03 10 56.9	-1.2
	comp=N,10nm,0.9s						
LIC	Lamto	129.64	309	eP	SKPbc	03 13 34.6	-2.0
	comp=N,43nm,1.0s						
LIC	Lamto	129.64	309	ePKPdf	PKPdf	03 10 56.9	-1.2
SDV	Santo Domingo	132.45	40	ePKPdf	PKPdf	03 11 03.3	-0.4
SNAA	Sanae	133.21	196	ePKIKP	PKPdf	03 11 03.7	+0.5
SNAA	Sanae	133.21	196	ePKPdf	PKPdf	03 11 03.7	+0.5
USHA	Ushuaia	148.63	150	PKPbc	PKPbc	03 11 36.4	+1.2
	baz=230,slow=5.2						
SAML	Samuel	151.06	48	ePKPdf	PKPdf	03 11 36.1	+0.1
SAML				ePKPbc	PKPbc	03 11 41.9	-0.4
LPAZ	La Paz	152.29	67	ePKIKP	PKPdf	03 11 38.6	+0.1
LPAZ				e		03 11 57.4	
LPAZ	La Paz	152.29	67	PKP	PKPdf	03 11 39.3	+0.8
	comp=N,1.4nm,0.8s,baz=355,slow=15,SNR=5.0						
LPAZ				PKPbc	PKiKP	03 11 46.5	+0.6
	comp=N,3.4nm,0.6s,baz=353,slow=3.2,SNR=18						
LPAZ	La Paz	152.29	67	ePKPdf	PKPdf	03 11 38.6	+0.1
LPAZ				ePKPbc	PKiKP	03 11 46.0	0.0
LPAZ				ePKPab	PKPab	03 11 57.4	-0.4
PLCA	Paso Flores	154.28	123	ePKIKP	PKPbc	03 11 48.6	-0.1
PLCA				e		03 12 05.8	
PLCA	Paso Flores	154.28	123	PKPbc	PKPbc	03 11 49.4	+0.7
	comp=N,3.7nm,0.7s,baz=256,slow=3.0,SNR=13						
PLCA				PKPab	PKPab	03 12 06.8	+1.7
	comp=N,4.3nm,0.7s,baz=266,slow=3.6,SNR=8.5						
PLCA	Paso Flores	154.28	123	ePKPbc	PKPbc	03 11 48.6	-0.1
PLCA				ePKPab	PKPab	03 12 05.8	+0.8
LVC	Limon Verde	154.63	80	ePKPab	PKPab	03 12 08.5	+1.2
LCO	Las Campanas	154.82	95	ePKPbc	PKPbc	03 11 49.7	-0.7
LCO				ePKPab	PKPab	03 12 07.9	-0.1
RCBR	Riachuelo	155.38	346	PKP	PKPdf	03 11 43.1	+0.9
	comp=N,24nm,1.2s,baz=297,slow=4.5,SNR=3.0						
CFAA	Coronel Fontan	157.21	101	PKPab	PKPab	03 12 17.4	-0.6
	comp=N,0.3nm,0.6s,baz=346,slow=1.7,SNR=3.6						
CPUP	Villa Florida	165.81	79	PKIKP	PKPdf	03 11 53.2	+0.3
CPUP				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CPUP	Villa Florida	165.81	79	PKP	PKPdf	03 11 53.2	+0.3
	comp=Z,5.5nm,0.9s,baz=270,slow=20,SNR=4.1						

TRN 17 03:06:59.1, 18°.03N×62°.12W, h3km, M3.8(FDF), 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMRT	St. Maarten	0.91	271	⇑iP	Pn	03 07 20.9	+2.2
SMRT				eS	Sn	03 07 35.0	+2.7
SEUS	St. Eustatius	0.98	237	eP	Pn	03 07 22.9	+3.2
SEUS				eS	Sn	03 07 38.3	+4.2
SABA	Saba	1.14	249	eP	Pn	03 07 25.3	+3.0
SEG	Port Louis	1.72	160	eP	Pg	03 07 32.1	-0.1
LZG	Guadaloupe-1	1.91	170	eP	Pb	03 07 34.9	+0.3
SSG	Sans Toucher	1.98	168	eP	Pb	03 07 35.9	0.0
DEG	La Desirade	1.99	149	eP	Pn	03 07 34.6	+0.9
MLG	Mont-d'or	2.00	169	eP	Pb	03 07 36.4	+0.2
FNG	Fond-Bernard	2.00	168	eP	Pb	03 07 36.2	-0.1
ECG	Echelle	2.03	167	eP	Pb	03 07 36.6	-0.2
SCG	Saint Claude	2.04	168	eP	Pb	03 07 36.3	-0.6
DOG	Dongo Capester	2.05	166	eP	Pb	03 07 36.8	-0.1
PHG	Guadaloupe-2	2.06	167	eP	Pb	03 07 37.1	-0.1
HMG	Houelmont	2.08	169	eP	Pb	03 07 37.5	0.0
TBG	Guadaloupe-3	2.21	168	eP	Pb	03 07 39.2	-0.5
BBL	Barber's Block	2.57	166	eP	Pb	03 07 43.8	-2.0

DDA 17 03:24:39.0, 37°.90N×27°.36E, h7km, MD2.7
ISCJB 17 03:24:39.1±0.6, 37°.88N±0°.03×27°.38E±0°.05, h10km, Error ellipse: s-maj=5.8km s-min=4.4km az=0.7
CSEM 17 03:24:39.3±0.2, 37°.88N×27°.37E, h10km, MD2.7, Error ellipse: s-maj=4.6km s-min=3.2km az=78.0
ISK 17 03:24:39.2, 37°.91N×27°.39E, h12km, MD2.7
ISC 17 03:24:39.2±0.9, 37°.89N±0°.03×27°.35E±0°.04, h10km, n16, σ0§53/24, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.21	206	iP	Pg	03 24 43.9	+0.2
GCAM				iS	Sg	03 24 47.3	+0.6
GCAM	G?zelcaml?	0.21	206	iP	Pg	03 24 43.9	+0.2
GCAM				iS	Sg	03 24 47.3	+0.6
AYDB	Zeytinkoy-Aydi	0.43	83	ePG	Pg	03 24 47.9	+0.2
AYDB				eSG	Sg	03 24 53.7	+0.3
AYDB	Zeytinkoy-Aydi	0.43	83	ePg	Pg	03 24 47.9	+0.2
AYDB				eSg	Sg	03 24 53.7	+0.3
BLCB	Balcova	0.55	334	ePG	Pb	03 24 50.6	-0.3
BLCB				eSG	Sb	03 24 58.4	-0.5
BLCB	Balcova	0.55	334	ePg	Pb	03 24 50.6	-0.3
BLCB				eSg	Sb	03 24 58.4	-0.5
BDRM	Kayabasi	0.83	175	iP	Pg	03 24 54.1	-1.1
BDRM				iS	Sg	03 25 05.8	-0.3
BDRM	Kayabasi	0.83	175	iP	Pg	03 24 54.1	-1.1
BDRM				iS	Sg	03 25 05.8	-0.3
BODT	Bodrum	0.83	182	ePG	Pb	03 24 55.6	-0.1
BODT	Bodrum	0.83	182	ePg	Pb	03 24 55.6	-0.1
AKS	Akhisar	1.05	20	ePG	Pg	03 24 59.0	-0.4
AKS	Akhisar	1.05	20	ePg	Pg	03 24 59.0	-0.4
YER	Yerkesik	1.06	135	ePG	Pg	03 24 59.5	-0.1
YER	Yerkesik	1.06	135	ePg	Pg	03 24 59.5	-0.1
CHOS	Chios island	1.13	296	ePN	Pn	03 25 02.0	+0.8
CHOS	Chios island	1.13	296	ePn	Pn	03 25 02.0	+0.8

IDC 17 03:50:10.5±2.3, 12°.77N×90°.29W, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.9/25, mbtmp3.8/10, ML3.9/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/32, Error ellipse: s-maj=44.6km s-min=37.3km az=116.0
ISCJB 17 03:50:12.7±1.6, 12°.68N±0°.06×90°.93W±0°.02, h21km±13km, mb3.9/11, MS3.5/2, Error ellipse: s-maj=10.6km s-min=4.1km az=179.1
CASC 17 03:50:13.7±1.0, 12°.77N×90°.79W, h5km±5km, MD3.8, ML3.4
NEIC 17 03:50:20.5±1.9, 13°.20N×90°.40W, h47km±16km, mb4.2/3, Error ellipse: s-maj=27.3km s-min=13.9km az=53.0
ISC 17 03:50:14.5±2.9, 12°.85N±0°.08×90°.82W±0°.05, h15km±17km, n97, σ1§19/97, mb4.1/11, 33C-29D, Off coast of central America

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBLS	San Blas	1.52	50	eP	Pn	03 50 41.9	+0.4
RTR	El Retiro	1.54	47	eP	Pn	03 50 42.2	+0.5
SNJE	San Jose	1.55	49	eP	Pn	03 50 42.2	+0.3
JAT	Jato	1.66	331	eP	Pn	03 50 44.0	+0.9
RBDL	Robledal	1.67	41	eP	Pn	03 50 44.3	+0.9
RBDL				eS	Sg	03 51 08.3	-0.1
BOQS	Boqueron	1.74	59	eP	Pn	03 50 44.2	-0.2
BOQS				eS	Sb	03 51 09.1	+1.0
SNET	Serv Nac Est T	1.75	62	eP	Pn	03 50 44.7	+0.2
SNET				AML	AML	03 50 46.5	
	comp=Z,461nm,0.1s						
SNET				eS	Sb	03 51 09.3	+0.9
NBG	Las Nubes	1.79	15	eP	Pb	03 50 47.5	+0.3
LFRS	El Faro	1.88	66	eP	Pn	03 50 46.3	+0.1
LFRS				eS	Sb	03 51 11.8	-0.1
LFU	La Fuente	1.88	62	eP	Pn	03 50 46.5	+0.2
LFU				eS	Sb	03 51 12.0	-0.1
LBRS	Las Brisas	1.94	63	eP	Pn	03 50 47.5	+0.4
LBRS				eS	Sb	03 51 13.8	+0.1
SNVI	San Vicente	2.07	68	eP	Pn	03 50 49.0	0.0
SNVI				eS	Sb	03 51 17.1	-0.5
APG	El Apazote	2.17	9	Pn	Pn	03 50 48.0	-2.3
	comp=Z,32nm,0.3s,baz=173,slow=8.1,SNR=57						
APG				Sn	Sn	03 51 18.1	+1.0
	comp=Z,12nm,0.3s,baz=270,slow=5.5,SNR=16						
APG				LR	LR	03 51 35.1	
	comp=Z,58nm,21.0s,baz=148,slow=38						
MRL	Marmol	2.46	26	eP	Pn	03 50 55.3	+1.0
VSM	San Miguel	2.54	77	eP	Pn	03 50 55.3	-0.2
VSM				eS	Sn	03 51 28.8	+2.3
BLLM	Bellamira	2.58	77	eS	Sn	03 51 28.6	+1.5
COPN	Copaltepe	4.18	99	eP	Pn	03 51 17.4	-0.4
JTS	JuntasAbangare	6.29	113	Pn	Pn	03 51 47.1	+0.3
	comp=Z,0.5nm,0.3s,baz=322,slow=19,SNR=3.0						
JTS	JuntasAbangare	6.29	113	Pn	Pn	03 51 47.8	+1.0
TEIG	Tepich	7.73	18	Pn	Pn	03 52 07.8	+1.2
	comp=Z,2.8nm,0.3s,baz=170,slow=0.2,SNR=16						
TEIG	Tepich	7.73	18	ePn	Pn	03 52 05.1	-1.5
537A	Green Hill Far	17.89	344	⇓P	P	03 54 24.4	+0.9
	baz=18						
535A	Dale	18.20	341	⇑P	P	03 54 28.8	+1.8
	baz=18						
633A	Saathoff Ranch	18.26	336	⇑P	P	03 54 28.9	+1.3
	baz=18						
534A	Blanco	18.51	339	⇓P	P	03 54 31.3	+0.9
	baz=18						
632A	Uvalde	18.55	335	⇑P	Pn	03 54 32.4	+1.3
	baz=18						
533A	Kerrville	18.75	337	⇑P	Pn	03 54 34.4	+0.8
	baz=19						
434A	Burnet	19.16	340	⇑P	P	03 54 37.9	+0.4
	baz=19						
433A	Art	19.39	338	⇓P	P	03 54 40.7	+0.7
	baz=19						
531A	Rocksprings	19.44	334	⇑P	Pn	03 54 42.6	+0.7
	baz=19						
334A	Lometa	19.62	341	⇑P	P	03 54 42.5	-0.1
	baz=20						
432A	Menard	19.76	337	⇓P	P	03 54 45.2	+1.0
	baz=20						
530A	J-C Ranch, Com	19.78	332	⇑P	Pn	03 54 46.4	+0.5
	baz=20,SNR=5.6						
333A	Richland Sprin	19.87	339	⇓P	P	03 54 45.4	+0.1
	baz=20						
431A	Sonora	19.92	335	⇑P	Pn	03 54 48.2	+0.7
	baz=20						
529A	Stev Forest Ra	20.17	330	⇓P	Pn	03 54 51.6	+1.0
	baz=20						
332A	Millersview	20.19	337	⇓P	P	03 54 49.4	+0.6
	baz=20						
234A	Clairette	20.21	342	⇑P	P	03 54 48.6	-0.4
	baz=20						
430A	Baggett Ranch,	20.28	333	⇑P	Pn	03 54 51.9	0.0
	baz=20						
TXAR	Lajitas Array	20.29	326	P	Pn	03 54 52.7	+0.7
	comp=Z,2.7nm,0.7s,baz=151,slow=12,SNR=24						
331A	San Angelo	20.39	336	⇑P	P	03 54 51.5	+0.5
	baz=20,SNR=7.9						
429A	Davenport Ranc	20.44	332	⇓P	Pn	03 54 53.8	+0.2
	baz=20						
233A	Rising Star	20.47	340	⇑P	P	03 54 51.7	-0.1
	baz=20						
232A	Coleman	20.61	338	⇑P	P	03 54 53.5	+0.1
	baz=20						
134A	White-Moore Ra	20.73	342	⇓P	P	03 54 54.3	-0.3
	baz=21						
330A	Mertzon	20.79	334	⇓P	P	03 54 56.3	+1.0
	baz=21						
231A	Bronte	20.91	337	⇑P	P	03 54 57.2	+0.7
	baz=21						
133A	Hamilton Ranch	21.02	341	⇓P	P	03 54 57.9	+0.1
	baz=21,SNR=7.5						
230A	Sterling City	21.18	335	⇑P	P	03 54 59.4	-0.2
	baz=21						
329A	Wagon Wheel Ra	21.20	333	⇓P	P	03 55 01.1	+1.3
	baz=21						
ABTX	Abilene, Hawle	21.28	339	eP	P	03 55 00.4	-0.2
	comp=Z,8.4nm,1.0s						
ABTX	Abilene, Hawle	21.28	339	⇑P	P	03 55 00.7	+0.2
	baz=21,SNR=6.0						
Z34A	Collier Ranch,	21.43	344	⇑P	P	03 55 02.1	0.0
	baz=21						
131A	Roby	21.59	338	⇑P	P	03 55 04.0	+0.1
	baz=22						
Z33A	Whitaker Ranch	21.60	342	⇓P	P	03 55 03.9	-0.1
	baz=22						
130A	Snyder	21.74	336	⇑P	P	03 55 05.5	0.0
	baz=22						
Z32A	Haskell	21.84	340	⇓P	P	03 55 06.9	+0.3
	baz=22,SNR=8.1						
Z31A	Sharp Cattle R	22.08	339	⇓P	P	03 55 08.9	-0.3
	baz=22,SNR=5.8						
129A	Stewart Farms,	22.14	335	⇓P	P	03 55 09.1	-0.7
	baz=22,SNR=7.4						
128A	Castleberry Fa	22.39	333	⇑P	P	03 55 13.4	+0.8
	baz=22						
Z30A	Sanderson Ranc	22.42	337	⇓P	P	03 55 12.0	-0.8
	baz=22						
Y32A	R-V Farms, Ver	22.47	341	⇑P	P	03 55 12.3	-1.1
	baz=22						
Z29A	Hungry Hill Ra	22.62	336	⇓P	P	03 55 15.4	+0.4
	baz=23						
X33A	Lawton	22.69	343	⇓P	P	03 55 14.5	-1.2
	baz=23						
SWET	Sewanee	22.70	10	eP	P	03 55 15.3	-0.5
	comp=Z,10nm,0.8s						
Y31A	Rekieta Farm,	22.71	339	⇓P	P	03 55 15.7	-0.1
	baz=23						
226B	Tecolote Peak,	22.73	330	⇓P	P	03 55 19.2	+3.1
	baz=23						
X32A	Elmer	22.81	342	⇑P	P	03 55 16.6	-0.3
	baz=23						
Z28A	Tucker Farm, M	22.92	334	⇓P	P	03 55 18.2	-0.1
	baz=23						
225A	Deer Hill, Car	23.08	328	⇑P	P	03 55 21.1	+1.1
	baz=23,SNR=11						
W33A	Caddo, Fort Co	23.26	344	⇑P	P	03 55 21.2	-0.3
	baz=23						
X30A	Coker Ranch, T	23.36	339	⇑P	P	03 55 22.8	+0.2
	baz=23						
125A	Gardner Draw,	23.44	330	⇓P	P	03 55 26.0	+2.5
	baz=23						
W32A	Sentinel	23.45	342	⇑P	P	03 55 22.2	-1.2
	baz=23						
TKL	Tuckaleechee C	23.58	14	P	P	03 55 23.9	-0.8
	comp=Z,7.8nm,0.9s,baz=179,slow=11,SNR=6.7						
TKL				LR	LR	04 04 36.9	
	comp=Z,44nm,18.9s,baz=220,slow=37						
V34A	Guthrie	23.67	346	⇑P	P	03 55 25.1	-0.5
	baz=24						
Y27A	Causey	23.77	334	⇓P	P	03 55 27.3	+0.7
	baz=24						
Z24A	Sheeppen Canyo	24.33	329	⇑P	P	03 55 34.7	+2.6
	baz=24,SNR=5.3						
Y25A	Mesa, Roswell	24.49	331	⇓P	P	03 55 34.7	+1.3
	baz=24						
121A	Cookes Peak, D	25.01	324	eP	P	03 55 42.0	+3.8
	comp=Z,6.3nm,0.8s						
121A	Cookes Peak, D	25.01	324	⇑P	P	03 55 43.2	+5.1
	baz=25,SNR=6.8						
V28A	Channing	25.02	338	⇑P	P	03 55 37.9	-0.2
	baz=25						
Z22A	Elephant Butte	25.10	327	⇓P	P	03 55 42.4	+3.4
	baz=25						
Y23A	Lovelace Mesa,	25.16	329	⇑P	P	03 55 42.7	+3.2
	baz=25						
W25A	X Bar L Ranch,	25.46	333	⇓P	P	03 55 43.5	+1.3
	baz=25						
U26A	Atchley Ranch,	26.17	336	⇓P	P	03 55 49.6	+1.0
	baz=26						
X16A	Lo Mia Camp, P	28.49	322	⇓P	P	03 56 14.3	+4.8
	baz=28						
WUAZ	Wupatki	29.22	324	⇑P	P	03 56 20.8	+4.8
	baz=29						
PDAR	Pinedale Array	33.94	335	P	P	03 56 57.5	0.0
	comp=Z,0.2nm,0.6s,baz=143,slow=9.1,SNR=2.5						
NVAR	Mina Array Bea	35.28	321	P	P	03 57 11.4	+2.2
	comp=Z,2.1nm,0.8s,baz=133,slow=8.6,SNR=16						
ULM	Lac du Bonnet	37.52	355	P	P	03 57 25.8	-2.0
	comp=Z,1.9nm,0.7s,baz=149,slow=7.1,SNR=4.2						
SCHQ	Schefferville	45.91	19	P	P	03 58 34.2	-2.3
	comp=Z,2.3nm,0.4s,baz=218,slow=6.0,SNR=11						
YKA	Yellowknife Ar	52.41	346	P	P	03 59 25.3	-0.7
	comp=Z,0.2nm,0.6s,baz=144,slow=7.4,SNR=6.6						
INK	Inuvik	61.86	343	P	P	04 00 32.9	0.0
	comp=Z,0.6nm,0.6s,baz=130,slow=5.7,SNR=3.5						
ILAR	Eielson Array	64.34	337	P	P	04 00 50.0	+0.5
	comp=Z,0.9nm,1.1s,baz=120,slow=7.4,SNR=3.7						
PMSA	Palmer Station	80.01	169	LR	LR	04 29 32.4	
	comp=Z,106nm,21.1s,baz=166,slow=30						
WRA	Warramunga Arr	136.21	255	PKP	PKPdf	04 09 34.5	-1.9
	comp=Z,0.2nm,0.7s,baz=130,slow=4.6,SNR=3.1						

ISCJB 17 04:12:16.1±0.7, 17°.8S±0°.2×178°.5W±0°.2, h579km, mb3.8/12, Error ellipse: s-maj=33.1km s-min=9.3km az=148.7
IDC 17 04:12:22.3±2.2, 17°.96S×178°.58W, h649km±26km, mb3.3/12, mb1 3.6/13, mb1mx3.4/23, mbtmp4.3/13, Error ellipse: s-maj=30.4km s-min=10.6km az=153.0
ISC 17 04:12:16.1±0.8, 18°.0S±0°.2×178°.4W±0°.1, h579km, n36, σ1§40/39, mb3.7/12, 3C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.54	59	P	P	04 14 14.1	+3.6
	5.2nm,0.3s,baz=300,slow=16,SNR=5.2						
DZM	Mont Dzumac	14.81	251	P	P	04 15 24.9	+1.6
	1.1nm,0.3s,baz=78,slow=22,SNR=10						
EIDS	Eidsvold	29.25	250	P	P	04 17 33.8	+1.2
	baz=28,SNR=4.1						
PMG	Port Moresby	34.47	280	P	P	04 18 19.2	+2.2
	3.9nm,0.3s,baz=117,slow=2.3,SNR=3.4						
CMSA	Cobar Meteorol	35.13	240	P	P	04 18 23.3	+1.0
	baz=34,SNR=6.1						
MTSU	Mount Surprise	35.40	264	P	P	04 18 25.8	+1.1
	baz=34,SNR=5.8						
QLP	Quilpie	35.52	249	P	P	04 18 26.4	+0.8
	baz=34,SNR=7.8						
COEN	Coen	37.10	270	P	P	04 18 40.6	+1.8
	baz=36,SNR=14						
STKA	Stephens Creek	38.61	241	P	P	04 18 52.0	+1.3
	4.0nm,0.5s,baz=88,slow=8.9,SNR=17						
STKA	Stephens Creek	38.61	241	P	P	04 18 52.1	+1.3
	baz=37,SNR=12						
HTT	Hallett	41.12	240	P	P	04 19 12.4	+1.6
	baz=40,SNR=7.3						
BBOO	Buckleboo	43.38	241	P	P	04 19 29.2	+0.6
	baz=42,SNR=11						
WRA	Warramunga Arr	44.62	260	P	P	04 19 38.4	0.0
	1.7nm,0.5s,baz=95,slow=7.4,SNR=34						
WRA				PcP	PcP	04 21 08.1	-0.3
	0.3nm,0.4s,baz=91,slow=3.7,SNR=4.4						
WRA				S	S	04 25 28.2	-5.1
	0.7nm,0.9s,baz=101,slow=13,SNR=4.3						
ASAR	Alice Springs	44.78	254	P	P	04 19 40.0	+0.5
	9.3nm,0.6s,baz=87,slow=8.8,SNR=132						
ASAR				PcP	PcP	04 21 08.4	-0.5
	0.9nm,0.5s,baz=103,slow=3.7,SNR=6.3						
ASAR				S	S	04 25 32.3	-3.1
	2.2nm,0.9s,baz=89,slow=15,SNR=17						
WRKA	Warakurna	49.83	252	P	P	04 20 17.6	+0.4
	baz=48,SNR=16						
MJAR	Matsushiro Arr	67.94	323	P	P	04 22 18.3	+0.2
	0.6nm,0.3s,baz=164,slow=7.1,SNR=4.1						
NVAR	Mina Array Bea	79.46	44	P	P	04 23 24.6	+1.0
	0.8nm,0.7s,baz=228,slow=7.9,SNR=8.2						
ELK	Elko	82.69	43	P	P	04 23 41.0	+0.9
	0.8nm,0.6s,baz=163,slow=8.0,SNR=4.6						
ILAR	Eielson Array	85.93	13	P	P	04 23 54.5	-0.7
	0.7nm,0.4s,baz=221,slow=5.0,SNR=32						
TXAR	Lajitas Array	86.02	58	P	P	04 23 57.7	+1.2
	1.2nm,0.7s,baz=225,slow=5.1,SNR=11						
PDAR	Pinedale Array	87.39	43	P	P	04 24 03.3	+0.5
	0.8nm,0.6s,baz=210,slow=3.0,SNR=7.3						
INK	Inuvik	91.93	15	P	P	04 24 22.3	-0.6
	0.9nm,0.7s,baz=262,slow=2.6,SNR=4.7						
YKA	Yellowknife Ar	94.38	25	P	P	04 24 33.9	-0.3
	0.1nm,0.5s,baz=240,slow=4.5,SNR=4.7						
ZALV	Zalesovo Beam	108.27	322	PKiKP	PKiKP	04 29 37.8	-1.1
	0.4nm,0.4s,baz=126,slow=3.7,SNR=2.3						
MKAR	Makanchi Array	109.17	314	PKiKP	PKiKP	04 29 39.7	-1.1
	0.3nm,0.5s,baz=84,slow=0.6,SNR=3.3						
AKTO	Aktyubinsk	124.91	319	PKP	PKPdf	04 30 10.0	-0.8
	0.5nm,0.4s,baz=50,slow=3.4,SNR=3.9						
ARCES	ARCESS Array B	126.36	350	PKP	PKPdf	04 30 12.5	-0.6
	8.5nm,1.1s,baz=58,slow=1.3,SNR=8.8						
FINES	FINESS Array B	133.24	344	PKP	PKPdf	04 30 25.9	-0.5
	0.5nm,0.6s,baz=186,slow=1.7,SNR=4.4						
AKASG	Malin Array Be	140.60	332	PKhKP	PKPpre	04 30 32.7	
	0.5nm,0.4s,baz=46,slow=4.4,SNR=6.3						
BRTR	Keskin Array B	144.82	315	PKP	PKPdf	04 30 47.6	-0.6
	0.8nm,0.5s,baz=48,slow=2.0,SNR=8.5						
CLL	Collm	145.51	347	⇑iP	PKPbc	04 30 49.8	-0.4
	comp=Z,7.0nm,0.7s						
BRG	Berggiesshubel	145.71	346	eP	PKPbc	04 30 51.0	+0.1
	comp=Z,4.5nm,0.8s						
GERES	GERESS Array B	147.66	345	PKPbc	PKPbc	04 30 56.0	-0.2
	comp=Z,2.3nm,0.7s,baz=28,slow=3.2,SNR=23						
CONA	Conrad Observa	147.91	342	⇑iPKPbc	PKPbc	04 30 56.9	-0.1
	comp=Z,5.6nm,1.1s						
FETA	Feichten	150.05	347	⇑iPKPbc	PKPbc	04 31 02.1	-0.1
	comp=Z,3.1nm,0.9s						
TORD	Torodi Ar. Bea	175.22	181	PKP	PKPdf	04 31 18.9	-2.2
	comp=Z,1.0nm,1.0s,baz=265,slow=1.7,SNR=3.7						
TORD				PKPab	PKPab	04 33 00.1	-1.0
	comp=Z,0.1nm,0.4s,baz=181,slow=3.9,SNR=4.1						

IDC 17 04:22:42.0±3.0, 22°.97N×94°.29E, h105km±29km, mb3.4/10, mb1 3.5/11, mb1mx3.3/30, mbtmp3.7/11, Error ellipse: s-maj=60.2km s-min=13.2km az=53.0
ISC 17 04:22:40.9±0.7, 22°.9N±0°.2×94°.0E±0°.2, h105km, n25, σ1§87/27, mb3.7/10, 1D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHL	Shillong	3.30	325	⇓iP	Pn	04 23 29.5	-1.5
SHL				iS	Sn	04 24 04.5	-5.1
CMAR	Chiang Mai Arr	6.39	132	P	Pn	04 24 11.1	-1.6
	0.7nm,0.3s,baz=308,slow=13,SNR=12						
CMAR				S	Sn	04 25 22.7	-1.5
	0.8nm,0.3s,baz=312,slow=27,SNR=3.2						
ODAN	Odare	7.18	305	eP	Pn	04 24 23.4	-0.1
	81nm,0.3s						
TAPN	Taplejung	7.22	310	eP	Pn	04 24 23.2	-0.9
	38nm,0.3s						
RAMN	Ramite	7.83	303	eP	Pn	04 24 31.6	-0.7
	47nm,0.3s						
JIRN	Jiri	8.51	306	eP	Pn	04 24 40.4	-1.2
	91nm,0.4s						
GUN	Gumba	8.87	306	eP	Pn	04 24 45.1	-1.5
	47nm,0.4s						
PKI	Pulchoki	9.06	303	eP	Pn	04 24 47.9	-1.2
	39nm,0.4s						
PKIN	Phulchoki	9.07	303	eP	Pn	04 24 48.5	-0.7
	47nm,0.3s						
KKN	Kakani	9.26	304	eP	Pn	04 24 50.5	-1.3
	26nm,0.3s						
DMN	Daman	9.31	302	eP	Pn	04 24 51.7	-0.7
	14nm,0.3s						
GKN	Gorkha	9.86	303	eP	Pn	04 24 58.0	-1.9
	92nm,0.3s						
KOLN	Koldanda	10.57	300	eP	Pn	04 25 07.3	-2.3
	22nm,0.3s						
DANN	Dangsing	10.71	303	eP	Pn	04 25 08.8	-2.7
	8.3nm,0.2s						
PYUN	Piuthan	11.20	300	eP	Pn	04 25 15.4	-2.7

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
	43nm,0.3s						
AAK	Ala-Archa	25.52	325	P	P	04 28 02.2	+2.4
	2.1nm,0.8s,baz=151,slow=3.8,SNR=8.4						
MKAR	Makanchi Array	25.68	341	P	P	04 28 02.5	+1.5
	2.6nm,0.6s,baz=148,slow=9.7,SNR=44						
ZALV	Zalesovo Beam	31.81	350	P	P	04 28 55.3	0.0
	0.3nm,0.3s,baz=183,slow=9.7,SNR=1.8						
AKTO	Aktyubinsk	39.25	324	P	P	04 30 01.2	+2.2
	0.6nm,0.4s,baz=157,slow=6.7,SNR=3.8						
AKASG	Malin Array Be	56.75	317	P	P	04 32 14.4	+0.7
	0.3nm,0.4s,baz=80,slow=6.5,SNR=3.2						
WRA	Warramunga Arr	57.98	134	P	P	04 32 22.9	+0.1
	0.3nm,0.3s,baz=319,slow=7.6,SNR=7.4						
FINES	FINESS Array B	59.63	329	P	P	04 32 34.8	+1.1
	1.5nm,1.0s,baz=142,slow=7.0,SNR=3.1						
ASAR	Alice Springs	60.38	137	P	P	04 32 39.6	+0.3
	0.5nm,0.5s,baz=320,slow=6.6,SNR=11						
GERES	GERESS Array B	66.86	315	P	P	04 33 23.8	+2.0
	0.4nm,0.6s,baz=77,slow=5.9,SNR=3.6						
INK	Inuvik	82.72	16	P	P	04 34 52.4	-0.3
	0.5nm,0.8s,baz=341,slow=5.5,SNR=4.3						

SIGU 17 04:23:06.9, 44°.69N×36°.92E, h20km, Crimea region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ANN	Anapa	0.38	73	ePg	Pb	04 23 14.8	-0.1
	baz=55						
ANN				Pgm		04 23 15.0	
	baz=55						
ANN				eSg	Sb	04 23 20.2	-0.2
	baz=55						
ANN				Sgm		04 23 20.5	
	baz=55						
SUDU	Sudak	1.38	279	eSg	Sb	04 23 52.8	+3.6
	baz=278						
SUDU				Sgm		04 23 53.1	
	baz=278						

MEX 17 04:37:30.5±0.4, 17°.15N×100°.16W, h51km±6km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
CAIG	El Cayaco	0.15	226	iP	Pn	04 37 37.2	-1.5
CAIG				iS	Sn	04 37 42.8	-1.6
ACX	Acapulco	0.40	134	iP	Pn	04 37 36.2	-4.5
ACX				eS	Sn	04 37 42.5	-5.6
ARIG	Puente Sto Nin	1.14	351	iP	Pn	04 37 48.8	-1.4
ARIG				iS	Sn	04 38 02.6	-2.2
PLIG	Platanillo	1.39	27	iP	Pn	04 37 52.0	-1.6
PLIG				iS	Sn	04 38 08.2	-2.7
TLIG	Tlapa	1.57	75	iP	Pn	04 37 54.9	-1.4
TLIG				iS	Sn	04 38 13.9	-1.7

ISCJB 17 04:38:00.8±0.3, 30°.65N±0°.04×103°.40E±0°.04, h10km, mb3.9/17, MS3.0/3, Error ellipse: s-maj=6.4km s-min=4.4km az=161.8
IDC 17 04:38:00.9±0.7, 30°.67N×103°.40E, h0km, mb4.0/16, mb1 4.1/18, mb1mx4.0/28, mbtmp3.9/18, ML4.1/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/36, Error ellipse: s-maj=22.6km s-min=15.0km az=48.0
BJI 17 04:38:04.1, 30°.76N×103°.38E, h15km, mb4.2/6, ML3.9/20, Ms3.9/1
ISC 17 04:38:03.2±0.5, 30°.70N±0°.05×103°.42E±0°.05, h10km, n41, σ1s.79/48, mb4.0/17, MS3.1/3, 1C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
CD2	Chengdu	0.36	54	⇓/Pg	Pg	04 38 10.0	-0.3
CD2				Sg	Sg	04 38 14.9	-0.1
CD2				smax	smax		
	comp=N,16µm,0.8s						
CD2				smax	smax		
	comp=E,16µm,0.6s						
GYA	Guiyang	5.10	145	⇑/Pn	Pn	04 39 20.1	+0.3
GYA				Sn	Sn	04 40 18.3	-0.5
GYA				Sg	Sb	04 40 43.1	+9.2
GYA				smax	smax		
	comp=N,280nm,0.7s						
GYA				smax	smax		
	comp=E,330nm,0.7s						
LZH	Lanzhou	5.38	4	ePn	Pn	04 39 18.5	-5.2
LZH				Sg	Sg	04 40 53.9	-2.1
LZH				smax	smax		
	comp=N,370nm,0.9s						
LZH				smax	smax		
	comp=E,260nm,1.0s						
KMI	Kunming	5.59	186	Pg	Pn	04 39 29.3	+2.7
KMI				Sg	Sn	04 40 30.0	-1.0
KMI				smax	smax		
	comp=N,57nm,0.7s						
KMI				smax	smax		
	comp=E,65nm,0.8s						
KMI				LR	LR		
	comp=N,570nm,7.4s						
KMI				LR	LR		
	comp=E,1µm,7.4s						
XAN	Xi'an	5.72	53	Pn	Pn	04 39 26.6	-1.6
XAN				Pg	Pb	04 39 45.9	+2.8
XAN				Sg	Sg	04 41 00.3	-6.5
XAN				smax	smax		
	comp=E,250nm,0.9s						
XAN				smax	smax		
	comp=E,110nm,0.9s						
GTA	Gaotai	9.18	342	eP	Pn	04 40 06.3	-9.4
GTA				pP		04 40 10.5	
GTA				sP		04 40 13.9	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
WHN	Wuhan	9.42	88	P	Pn	04 40 20.1	+1.2
CMAR	Chiang Mai Arr	12.85	199	Pn	Pn	04 41 06.1	+0.1
	comp=Z,0.5nm,0.3s,baz=33,slow=12,SNR=4.1						
TAPN	Taplejung	14.15	260	eP	Pn	04 41 22.6	-1.3
	comp=Z,43nm,1.0s						
ODAN	Odare	14.57	259	eP	Pn	04 41 28.1	-1.6
	comp=Z,24nm,0.8s						
RAMN	Ramite	15.21	260	eP	Pn	04 41 36.6	-1.7
	comp=Z,20nm,0.9s						
JIRN	Jiri	15.35	263	eP	Pn	04 41 38.3	-2.0
	comp=Z,27nm,0.8s						
GUN	Gumba	15.55	264	eP	Pn	04 41 41.3	-1.6
	comp=Z,33nm,0.8s						
PKI	Pulchoki	16.05	263	eP	Pn	04 41 47.3	-2.0
	comp=Z,56nm,0.6s						
PKIN	Phulchoki	16.05	263	eP	Pn	04 41 48.6	-0.7
	comp=Z,26nm,0.6s						
KKN	Kakani	16.10	264	eP	Pn	04 41 48.3	-1.6
	comp=Z,55nm,0.6s						
DMN	Daman	16.30	264	eP	Pn	04 41 50.7	-1.7
	comp=Z,58nm,1.1s						
GKN	Gorkha	16.60	265	eP	Pn	04 41 55.7	-0.5
	comp=Z,80nm,0.7s						
SONM	Songino Array	17.26	7	P	Pn	04 42 04.6	+0.3
	comp=Z,0.3nm,0.3s,baz=189,slow=11,SNR=20						
DANN	Dangsing	17.27	267	eP	Pn	04 42 04.8	0.0
	comp=Z,26nm,0.5s						
KOLN	Koldanda	17.55	265	eP	Pn	04 42 07.5	-0.6
	comp=Z,51nm,0.9s						
PYUN	Piuthan	17.99	267	eP	Pn	04 42 13.7	+0.1
	comp=Z,38nm,0.5s						
WMQ	Urumqi	18.07	321	eP	P	04 42 15.8	+1.0
WMQ				pP	pP	04 42 25.5	+7.9
WMQ				sP	sP	04 42 30.6	+12
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSRS	Korea Array	21.35	65	P	P	04 42 50.3	-0.2
	comp=Z,4.8nm,0.8s,baz=248,slow=9.8,SNR=14						
KSRS				LR	LR	04 52 07.4	
	comp=Z,69nm,18.2s,baz=229,slow=40						
MKAR	Makanchi Array	22.91	320	P	P	04 43 07.0	-0.1
	comp=Z,1.8nm,0.7s,baz=122,slow=11,SNR=23						
MKAR				LR	LR	04 52 47.3	
	comp=Z,91nm,19.2s,baz=177,slow=39						
KSH	Kashi	24.04	299	eP	P	04 43 21.4	+2.8
KSH				epP	pP	04 43 26.4	+4.8
KSH				esP	sP	04 43 28.8	+5.9
KSH				ePP	PnPn	04 43 54.1	+6.8
KSH				S	S	04 47 35.8	-0.1
KSH				SS	SnSn	04 48 30.4	+14
KSH				pmax	pmax		
	comp=Z,24nm,2.4s						
AAK	Ala-Archa	25.95	305	P	P	04 43 37.0	+1.0
	comp=Z,4.6nm,0.9s,baz=84,slow=6.2,SNR=10						
AAK				LR	LR	04 54 19.3	
	comp=Z,20nm,18.7s,baz=71,slow=38						
USRK	Ussuriysk Arra	26.23	51	P	P	04 43 37.7	-0.5
	comp=Z,0.8nm,0.6s,baz=253,slow=13,SNR=2.5						
ZALV	Zalesovo Beam	26.84	335	P	P	04 43 43.4	-0.2
	comp=Z,2.9nm,0.7s,baz=140,slow=9.4,SNR=14						
BRTR	Keskin Array B	56.43	300	P	P	04 47 44.0	-1.2
	comp=Z,1.2nm,0.9s,baz=114,slow=3.5,SNR=4.5						
AKASG	Malin Array Be	57.23	313	P	P	04 47 49.2	-1.3
	comp=Z,0.6nm,0.5s,baz=67,slow=7.2,SNR=5.1						
ARCES	ARCESS Array B	57.38	336	P	P	04 47 50.3	-1.1
	comp=Z,2.4nm,0.8s,baz=90,slow=8.5,SNR=8.8						
ARCES				PcP	PcP	04 48 44.2	-0.9
	comp=Z,1.4nm,0.6s,baz=93,slow=7.3,SNR=4.0						
FINES	FINESS Array B	57.57	326	P	P	04 47 52.0	-0.8
	comp=Z,2.6nm,0.6s,baz=99,slow=7.3,SNR=17						
WRA	Warramunga Arr	58.47	145	P	P	04 47 59.0	-0.5
	comp=Z,3.4nm,0.7s,baz=337,slow=7.4,SNR=24						
ASAR	Alice Springs	61.46	148	P	P	04 48 18.8	-1.3
	comp=Z,0.6nm,0.5s,baz=327,slow=7.0,SNR=8.0						
NB2	NORSAR Subarra	64.68	327	P	P	04 48 39.3	-1.8
	comp=Z,1.4nm,0.5s,baz=73,slow=6.9						
NOA	NORSAR Array B	64.68	327	P	P	04 48 39.6	-1.5
	comp=Z,1.5nm,0.6s,baz=72,slow=9.0,SNR=8.3						
GERES	GERESS Array B	67.41	314	P	P	04 48 58.6	-0.3
	comp=Z,0.8nm,0.8s,baz=86,slow=7.0,SNR=5.8						
ILAR	Eielson Array	70.45	25	P	P	04 49 17.8	+0.4
	comp=Z,0.7nm,1.0s,baz=289,slow=6.5,SNR=4.6						
YKA	Yellowknife Ar	82.25	17	P	P	04 50 23.6	-0.7
	comp=Z,0.5nm,0.7s,baz=331,slow=5.2,SNR=7.6						
TORD	Torodi Ar. Bea	93.19	287	P	P	04 51 17.0	-1.3
	comp=Z,0.3nm,1.0s,baz=59,slow=3.0,SNR=2.5						

IDC 17 04:57:26.3±1.3, 3°.71N×126°.35E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/35, mbtmp3.9/6, Error ellipse: s-maj=188.9km s-min=16.9km az=68.0
ISCJB 17 04:57:29.0±0.8, 4°.03N±0°.10×127°.04E±0°.08, h36km, mb3.9/6, Error ellipse: s-maj=13.9km s-min=10.9km az=170.1
DJA 17 04:57:31.3±2.6, 4°N±40°×12°7E±1°3, h10km, M4.4/4, mb4.5/3, mB5.0/2, MLv4.4/4, Mw(mB)4.3/2
ISC 17 04:57:31.2±1.0, 4°.0N±0°.1×127°.0E±0°.1, h36km, n11, σ1s.44/11, mb3.9/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
SGSI	Sangihe	1.48	256	P	Pn	04 57 53.9	-1.4
SGSI				S	Sn	04 58 13.0	-0.5
GTOI	Gorontalo	5.20	230	P	Pn	04 58 47.1	+0.5
	27nm,1.0s,0.1nm						
MRSI	Marisa	6.14	235	P	Pn	04 59 03.7	+4.2
	30nm,0.6s,895nm0.1nm						
APSI	Ampana	7.24	227	P	Pn	04 59 17.4	+2.8
WRA	Warramunga Arr	24.91	163	P	P	05 02 49.9	-1.2
	7.0nm,0.7s,baz=343,slow=10,SNR=37						
ASAR	Alice Springs	28.36	167	P	P	05 03 20.6	-1.5
	0.4nm,0.5s,baz=347,slow=7.7,SNR=3.2						
STKA	Stephens Creek	38.33	160	P	P	05 04 48.4	-0.4
	5.7nm,0.7s,baz=338,slow=8.1,SNR=17						
SONM	Songino Array	47.08	341	P	P	05 06 01.2	+1.6
	0.3nm,0.6s,baz=148,slow=7.5,SNR=4.2						
MKAR	Makanchi Array	57.44	325	P	P	05 07 16.5	0.0
	0.4nm,0.5s,baz=117,slow=7.9,SNR=10						
ZALV	Zalesovo Beam	60.42	333	P	P	05 07 36.7	-0.3
	0.4nm,0.3s,baz=124,slow=4.2,SNR=2.4						
TORD	Torodi Ar. Bea	123.05	288	PKP	PKPdf	05 16 25.1	+0.1
	0.7nm,1.1s,baz=81,slow=2.1,SNR=3.2						

IDC 17 05:14:48.1±4.3, 30°.44S×137°.82E, h0km, mb1 3.0/3, mb1mx2.9/16, mbtmp2.8/3, ML2.9/3, Error ellipse: s-maj=89.5km s-min=22.5km az=45.0, South Australia

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
STKA	Stephens Creek	3.54	115	Pn	Pn	05 15 44.5	+0.1
	1.5nm,0.3s,baz=299,slow=9.5,SNR=6.0						
STKA				Sn	Sn	05 16 27.2	+0.2
	2.0nm,0.3s,baz=18,slow=19,SNR=3.9						
ASAR	Alice Springs	7.59	332	Pn	Pn	05 16 39.7	-0.4
	0.1nm,0.3s,baz=152,slow=14,SNR=2.8						
ASAR				Sn	Sn	05 18 07.3	+0.4
	baz=157,slow=23,SNR=2.8						
WRA	Warramunga Arr	10.91	342	Pn	Pn	05 17 26.9	+1.3
	0.1nm,0.3s,baz=166,slow=14,SNR=5.9						
WRA				Sn	Sn	05 19 27.9	-0.6
	0.0nm,0.3s,baz=162,slow=24,SNR=3.1						

ISCJB 17 05:36:43.5±0.7, 3°.44S±0°.05×140°.29E±0°.06, h39km, mb3.5/3, MS3.2/1, Error ellipse: s-maj=9.3km s-min=5.9km az=21.9
IDC 17 05:36:44.6±1.5, 3°.43S×140°.42E, h53km±21km, mb3.2/3, mb1 3.6/4, mb1mx3.3/17, mbtmp3.6/4, ML4.0/1, MS3.3/1, Ms1 3.2/1, ms1mx2.6/13, Error ellipse: s-maj=75.0km s-min=15.6km az=102.0
DJA 17 05:36:45.9±0.7, 3°S±4°×14°0E±°, h18km±11km, M4.1/5, MLv4.1/5
ISC 17 05:36:43.6±0.9, 3°.48S±0°.06×140°.32E±0°.07, h39km, n11, σ1s.62/16, mb3.6/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
GENI	Genyem	0.89	350	P	Pn	05 36 58.9	-0.8
GENI				S	Sn	05 37 09.9	-1.5
JAY	Jayapura	1.03	22	P	Pn	05 37 02.9	+1.3
JAY	Jayapura	1.03	22	P	Pn	05 37 02.3	+0.7
	56nm,0.3s,baz=222,slow=0.0,SNR=128						
JAY				S	Sn	05 37 14.9	0.0
	85nm,0.3s,baz=280,slow=2.7,SNR=27						
WAMI	Wamena	1.66	256	P	Pn	05 37 10.8	+0.6
WAMI				S	Sn	05 37 30.0	-0.2
SMPI	Sarmi	2.18	313	P	Pn	05 37 17.7	+0.3
SMPI				S	Sn	05 37 43.8	+0.6
BAKI	Biak	4.78	298	P	Pn	05 37 54.7	+1.5
WRA	Warramunga Arr	17.38	199	P	P	05 40 46.0	+1.7
	0.5nm,0.3s,baz=22,slow=12,SNR=18						
WRA				S	Sn	05 43 51.9	-3.9
	0.2nm,0.3s,baz=9.0,slow=21,SNR=5.0						
ASAR	Alice Springs	21.01	197	P	P	05 41 26.6	+2.6
	1.4nm,0.7s,baz=29,slow=9.9,SNR=16						
ASAR				S	S	05 45 15.3	-0.7
	0.2nm,0.4s,baz=14,slow=20,SNR=2.5						
STKA	Stephens Creek	28.28	178	LR	LR	05 55 20.4	
	comp=Z,67nm,20.8s,baz=334,slow=39						
MKAR	Makanchi Array	71.38	322	P	P	05 47 59.2	-0.5
	0.5nm,0.8s,baz=115,slow=7.3,SNR=5.0						
ILAR	Eielson Array	85.86	24	P	P	05 49 18.4	-0.6
	0.3nm,0.8s,baz=256,slow=3.6,SNR=4.1						

IDC 17 05:37:36.4±1.1, 4°.84N×74°.08W, h172km±11km, mb2.9/2, mb1 3.1/2, mb1mx2.8/21, mbtmp3.4/2, Error ellipse: s-maj=68.1km s-min=36.7km az=56.0, Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ROSC	El Rosal	0.25	275	P	Pn	05 38 00.6	+0.6
	22nm,0.3s,baz=94,slow=9.7,SNR=59						
ROSC				S	Sn	05 38 19.0	+1.0
	35nm,0.3s,baz=80,slow=23,SNR=55						
YKA	Yellowknife Ar	64.80	341	P	P	05 47 56.3	0.0
	0.2nm,0.6s,baz=137,slow=6.5,SNR=6.8						
TORD	Torodi Ar. Bea	75.08	78	P	P	05 48 59.9	-0.1
	0.5nm,1.0s,baz=266,slow=5.8,SNR=1.9						

IDC 17 06:27:10.7±2.9, 5°.57S×130°.71E, h0km, mb3.7/1, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, ML3.6/2, Error ellipse: s-maj=197.4km s-min=30.7km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
WRA	Warramunga Arr	14.71	166	Pn	Pn	06 30 38.2	-2.1
	0.2nm,0.3s,baz=349,slow=13,SNR=5.0						
WRA				Sn	Sn	06 33 10.3	-14
	0.5nm,0.3s,baz=347,slow=24,SNR=8.4						
ASAR	Alice Springs	18.25	171	P	P	06 31 26.4	+0.4
	0.6nm,0.3s,baz=349,slow=10.0,SNR=39						
ASAR				S	Sn	06 34 35.3	-15
	0.1nm,0.3s,baz=354,slow=27,SNR=3.4						
MKAR	Makanchi Array	67.43	326	P	P	06 38 08.3	0.0
	0.4nm,0.6s,baz=117,slow=8.1,SNR=7.3						

MOS 17 06:32:04.2±1.2, 21°.36S×178°.58W, h401km, mb4.7/30, Error ellipse: s-maj=10.7km s-min=9.9km az=145.7
ISCJB 17 06:32:05.9±0.7, 21°.53S±0°.03×178°.54W±0°.03, h421km±7km, mb4.6/98, Error ellipse: s-maj=6.1km s-min=3.7km az=143.9
IDC 17 06:32:07.9±0.6, 21°.60S×178°.50W, h436km±6km, mb4.1/28, mb1 4.3/32, mb1mx4.2/34, mbtmp4.9/32, Error ellipse: s-maj=10.7km s-min=9.0km az=166.0
NEIC 17 06:32:09.0±0.5, 21°.61S×178°.52W, h450km±6km, mb4.8/51, Error ellipse: s-maj=5.6km s-min=4.7km az=136.0
ISC 17 06:32:08.0±0.3, 21°.63S±0°.05×178°.41W±0°.04, h439km±3km, h439km:pP-P, n634, σ1s.01/682, mb4.7/98, 143C-178D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
MSVF	Nonsavu	5.12	319	eP	P	06 33 34.1	+0.9
MSVF	Nonsavu	5.12	319	eP	P	06 33 34.0	+0.9
RAO	Raoul Island	7.60	177	P	P	06 33 59.1	+0.2
RAO				S	S	06 35 28.6	-1.2
RAO				pmax	pmax		
	comp=Z,136nm,0.3s						
RAO				smax	smax		
	comp=N,316nm,0.3s						
RAO	Raoul Island	7.60	177	P	P	06 33 59.1	+0.2
	comp=N,136nm,0.3s,baz=90,slow=20,SNR=2.8						
RAO				S	S	06 35 28.6	-1.2
	comp=N,316nm,0.3s,baz=103,slow=23,SNR=6.2						
NIUE	Niue	8.35	74	P	P	06 34 06.0	-1.2
	baz=8.0,SNR=8.0						
NIUE				S	S	06 35 41.8	-3.2
	baz=8.0,SNR=9.9						
AFI	Afiamalu	9.94	40	P	P	06 34 19.9	-4.8
AFI				S	S	06 36 05.2	-12
AFI				pmax	pmax		
	comp=Z,19nm,0.3s						
AFI				smax	smax		
	comp=N,32nm,0.3s						
AFI	Afiamalu	9.94	40	P	P	06 34 19.9	-4.8
	comp=N,19nm,0.3s,baz=295,slow=0.8,SNR=28						
AFI				S	S	06 36 05.2	-12
	comp=N,32nm,0.3s,baz=12,slow=20,SNR=7.7						
AFI	Afiamalu	9.94	40	eP	P	06 34 19.9	-4.8
AFI				S	S	06 36 05.2	-12
AFI				eS	S	06 36 06.6	-11
DZM	Mont Dzumac	14.08	265	eP	P	06 35 10.7	+1.0
	comp=N,85nm,1.1s						
DZM	Mont Dzumac	14.08	265	P	P	06 35 07.5	-2.2
	comp=N,2.2nm,0.3s,baz=78,slow=17,SNR=22						
DZM				S	S	06 37 42.3	+2.5
	comp=N,0.1nm,0.3s,baz=208,slow=18,SNR=5.5						
DZM	Mont Dzumac	14.08	265	eP	P	06 35 10.4	+0.7
DZM				S	S	06 37 42.3	+2.5
OUZ	Omahuta	15.25	206	eP	P	06 35 24.5	+2.5
	comp=N,77nm,0.8s						
WCZ	Waipu Caves	15.60	202	PN	P	06 35 27.9	+2.1
MKAZ	Moumakai	16.40	198	PN	P	06 35 34.9	+0.6
HAZ	Te Kaha	16.41	191	PN	P	06 35 34.1	-0.1
HAZ				SN	S	06 38 21.2	-3.5
PUZ	Puketiti	16.64	189	PN	P	06 35 39.1	+2.4
PUZ				SN	S	06 38 25.1	-4.2
MWZ	Matawai	17.01	191	PN	P	06 35 42.6	+1.9
URZ	Urewera	17.02	192	P	P	06 35 39.1	-1.7
	comp=N,33nm,0.3s,baz=25,slow=2.8,SNR=76						
URZ				S	S	06 38 38.7	+2.2
	comp=N,6.9nm,0.3s,baz=255,slow=22,SNR=12						
URZ	Urewera	17.02	192	eP	P	06 35 40.6	-0.1
URZ				S	S	06 38 38.7	+2.2
URZ	Urewera	17.02	192	PN	P	06 35 38.6	-2.1
CNGZ	Carnagh Statio	17.05	189	PN	P	06 35 43.8	+2.7
CNGZ				SN	S	06 38 36.1	-1.0
RIGZ	Rimuhau	17.34	190	ePN	P	06 35 45.9	+1.8
RAR	Rarotonga	17.36	92	P	P	06 35 44.2	-0.3
RAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RAR	Rarotonga	17.36	92	P	P	06 35 44.2	-0.3
	comp=Z,1.1nm,0.3s,baz=270,slow=8.1,SNR=9.0						
RAR	Rarotonga	17.36	92	eP	P	06 35 43.4	-1.1
TLZ	Tolley Road	17.44	196	PN	P	06 35 45.8	+0.5
SNGZ	Shannon Statio	17.48	191	PN	P	06 35 45.0	-0.7
RAHZ	Arahi	17.66	192	PN	P	06 35 49.0	+1.4
MHGZ	Mahia Peninsul	17.75	189	PN	P	06 35 52.2	+3.7
HIZ	Hauiti	17.80	188	ePN	P	06 35 49.0	0.0
NMHZ	Naumai	17.89	192	PN	P	06 35 50.1	+0.1
RATZ	Rangitukua	17.89	195	PN	P	06 35 50.5	+0.5
BKZ	Black Stump Fm	18.02	193	eP	P	06 35 51.0	-0.3
	comp=Z,31nm,0.7s						
BKZ	Black Stump Fm	18.02	193	PN	P	06 35 48.8	-2.5
NGZ	Ngauruhoe	18.23	195	PN	P	06 35 54.0	+0.5
MCHZ	McNeill Hill	18.24	192	PN	P	06 35 53.2	-0.3
WPVZ	Whakapapa	18.27	195	PN	P	06 35 54.7	+0.8
TUVZ	Tukino	18.30	195	PN	P	06 35 54.4	+0.2
TRVZ	Turoa	18.36	195	PN	P	06 35 55.0	+0.1
WNVZ	Wahianoa	18.37	195	PN	P	06 35 54.6	-0.4
MOVZ	Moawhango	18.41	194	PN	P	06 35 54.6	-0.7
BHHZ	Black Hill Sta	18.42	194	PN	P	06 35 53.0	-2.3
MTVZ	Mangateitei	18.46	195	PN	P	06 35 55.4	-0.3
KRHZ	Kereru	18.50	193	PN	P	06 35 54.5	-1.6
KAHZ	Kahuranaki	18.55	191	PN	P	06 35 56.9	+0.3
PXZ	Pawanui	18.78	191	PN	P	06 35 57.4	-1.3
WPHZ	Waipukurau	18.89	192	PN	P	06 36 00.4	+0.6
DVHZ	Dannevirke	19.18	193	PN	P	06 36 02.1	-0.4
ANWZ	Angora Road	19.27	192	PN	P	06 36 02.7	-0.5
BFZ	Birch Farm	19.53	192	eP	P	06 36 05.8	+0.1
	comp=Z,195nm,1.6s						
MRZ	Mangatainoka R	19.65	194	PN	P	06 36 04.9	-1.9
OGWZ	Otaki Gorge	19.89	194	PN	P	06 36 07.6	-1.3
TMWZ	Te Maipa	20.01	193	PN	P	06 36 09.7	-0.4
CAW	Cannon Point	20.19	194	PN	P	06 36 11.5	-0.2
SNZO	South Karori	20.47	195	eP	P	06 36 13.7	-0.4
QRZ	Quartz Range	20.62	200	PN	P	06 36 15.5	-0.1
NNZ	Nelson	20.73	198	PN	P	06 36 16.0	-0.5
DSZ	Denniston Nort	21.69	200	PN	P	06 36 25.4	+0.1
KHZ	Kahutara	21.80	196	eP	P	06 36 27.0	+0.7
	comp=Z,56nm,0.6s						
LTZ	Lake Taylor	22.49	198	PN	P	06 36 32.2	-0.4
OXZ	Oxford	23.05	198	PN	P	06 36 36.8	-0.9
RPZ	Rata Peaks	23.70	199	eP	P	06 36 45.4	+1.9
	comp=Z,88nm,0.6s						
TARA	Tarawa	24.37	339	eP	P	06 36 49.3	-0.4
	comp=Z,250nm,0.8s						
JCZ	Jackson Bay	24.78	202	PN	P	06 36 53.0	-0.2
DCZ	Deep Cove	26.57	203	eP	P	06 37 09.7	+0.8
	comp=Z,70nm,1.2s						
WHZ	Wether Hill Ro	26.65	202	eP	P	06 37 11.2	+1.6
	comp=Z,92nm,0.7s						
PAE	Paea	27.41	87	eP	P	06 37 16.6	-0.1
	comp=Z,12nm,1.1s						
PPT2	Papeete2	27.43	87	eP	P	06 37 17.3	+0.3
	comp=Z,60nm,1.0s						
PPT	Papeete	27.44	87	eP	P	06 37 17.7	+0.7
PPT				pmax	pmax		
	comp=Z,55nm,0.9s						
PPT	Papeete	27.44	87	P	P	06 37 17.7	+0.7
	comp=Z,55nm,0.9s,baz=270,slow=4.0,SNR=5.2						
TIAR	Tiarei	27.65	87	eP	P	06 37 18.9	0.0
	comp=Z,29nm,1.1s						
TVO	Taravao	27.69	87	eP	P	06 37 19.4	+0.2
	comp=Z,17nm,1.1s						
EIDS	Eidsvold	28.20	256	P	P	06 37 23.5	-0.1
	baz=28,SNR=3.8						
MEH	Mehetia	28.77	88	eP	P	06 37 29.1	+0.4
	comp=Z,28nm,1.1s						
RMQ	Roma	30.32	254	P	P	06 37 43.0	+0.9
	baz=31,SNR=14						
CTAO	Charters Tower	33.02	266	eP	P	06 38 04.9	-0.5
CTAO				pmax	pmax		
	comp=Z,36nm,0.7s						
CTAO	Charters Tower	33.02	266	eP	P	06 38 04.9	-0.5
	comp=Z,36nm,0.7s						
CMSA	Cobar Meteorol	33.46	245	P	P	06 38 09.1	0.0
	baz=34,SNR=7.8						
QLP	Quilpie	34.38	254	P	P	06 38 16.2	-0.6
	baz=35,SNR=10						
MTSU	Mount Surprise	35.17	269	P	P	06 38 23.4	-0.3
	baz=35,SNR=16						
PMG	Port Moresby	35.24	285	P	P	06 38 23.7	-0.6
PMG				pmax	pmax		
	comp=Z,55nm,0.7s						
PMG	Port Moresby	35.24	285	P	P	06 38 23.7	-0.6

comp=Z,55nm,0.7s,baz=103,slow=5.4,SNR=35
STKA Stephens Creek 36.97 245 P **P** 06 38 38.1 -0.4
STKA 06 40 13.8
STKA 06 43 53.6
STKA pmax pmax
comp=Z,5.0nm,0.7s
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA pmax pmax
comp=N,11nm,1.0s
STKA Stephens Creek 36.97 245 P **P** 06 38 38.1 -0.4
comp=N,5.2nm,0.7s,baz=94,slow=9.5,SNR=12
STKA PP **PP** 06 40 13.8 -1.2
comp=N,3.3nm,0.9s,baz=98,slow=13,SNR=3.3
STKA ScP **ScP** 06 43 53.6 +0.4
comp=N,11nm,1.0s,baz=19,slow=5.5,SNR=9.5
STKA Stephens Creek 36.97 245 P **P** 06 38 38.4 -0.1
baz=37,SNR=6.8
COEN Coen 37.29 275 eP **P** 06 38 40.9 -0.5
comp=N,307nm,1.0s
COEN Coen 37.29 275 P **P** 06 38 41.5 +0.1
baz=37,SNR=9.1
ASAR Alice Springs 43.90 258 P **P** 06 39 33.3 -1.2
ASAR 06 41 12.0
ASAR S S 06 45 26.4 -6.6
ASAR pmax pmax
comp=Z,23nm,0.8s
ASAR pmax pmax
comp=Z,4.0nm,0.9s
ASAR pmax pmax
comp=Z,10.0nm,0.8s
ASAR pmax pmax
comp=N,7.0nm,0.8s
ASAR smax smax
comp=N,1.0nm,0.9s
ASAR Alice Springs 43.90 258 P **P** 06 39 33.3 -1.2
comp=N,23nm,0.8s,baz=89,slow=8.3,SNR=178
ASAR pP **pP** 06 40 58.2 -0.1
comp=N,3.9nm,0.9s,baz=88,slow=7.8,SNR=2.8
ASAR PcP **PcP** 06 41 11.9 +0.5
comp=N,9.9nm,0.8s,baz=103,slow=4.0,SNR=19
ASAR ScP **ScP** 06 44 22.1 +1.3
comp=N,7.3nm,0.8s,baz=101,slow=4.2,SNR=24
ASAR S S 06 45 26.4 -6.6
comp=N,0.7nm,0.9s,baz=103,slow=12,SNR=3.1
WRAB Tennant Creek 44.07 263 d iP **P** 06 39 33.9 -2.0
WRAB pmax pmax
comp=Z,82nm,1.0s
WRAB Tennant Creek 44.07 263 eP **P** 06 39 33.8 -2.0
WRA Warramunga Arr 44.08 263 P **P** 06 39 34.0 -1.9
WRA 06 41 12.2
WRA S **S** 06 45 32.0 -3.6
WRA pmax pmax
comp=Z,22nm,0.9s
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA pmax pmax
comp=Z,8.0nm,1.0s
WRA pmax pmax
comp=N,8.0nm,1.1s
WRA smax smax
comp=N,1.0nm,0.7s
WRA Warramunga Arr 44.08 263 P **P** 06 39 34.0 -1.9
comp=N,22nm,0.9s,baz=96,slow=7.8,SNR=153
WRA pP **pP** 06 41 00.4 +0.5
comp=N,2.1nm,0.8s,baz=99,slow=8.1,SNR=2.1
WRA PcP **PcP** 06 41 12.2 0.0
comp=N,7.6nm,1.0s,baz=95,slow=4.3,SNR=7.8
WRA ScP **ScP** 06 44 23.4 +1.8
comp=N,8.4nm,1.1s,baz=95,slow=4.1,SNR=12
WRA S **S** 06 45 32.0 -3.6
comp=N,0.5nm,0.7s,baz=97,slow=14,SNR=3.8
KDU Kakadu 47.61 272 P **P** 06 40 01.6 -1.4
baz=48,SNR=17
FORT Forrest 48.51 248 P **P** 06 40 08.4 -1.1
baz=49,SNR=7.3
WRKA Warakurna 48.80 255 P **P** 06 40 10.7 -1.3
baz=49,SNR=12
WRKA S **S** 06 46 39.9 -1.8
baz=49,SNR=3.9
MTN Manton Dam 48.81 272 P P 06 40 08.0 -4.0
baz=49,SNR=4.1
KNRA Kununurra 50.22 267 P **P** 06 40 21.3 -1.2
baz=50,SNR=36
SWI Sorong 53.18 286 P **P** 06 40 43.5 -0.6
baz=53,SNR=5.4
SOEI Soe 56.17 273 eP **P** 06 41 05.3 -0.1
comp=N,59nm,0.8s
SOEI Soe 56.17 273 P **P** 06 41 06.1 +0.7
baz=56,SNR=7.7
MEEK Meekatharra 57.20 252 P **P** 06 41 10.7 -1.6
baz=58,SNR=4.2
KLBR Kellerberrin 57.24 246 P **P** 06 41 11.6 -0.8
baz=58,SNR=8.2
BLDU Ballidu 58.26 247 P **P** 06 41 18.3 -1.1
baz=59,SNR=9.8
MORW Morawa 59.06 248 P **P** 06 41 23.6 -1.3
baz=59,SNR=3.7
QSPA South Pole Qui 68.44 180 P **P** 06 42 25.4 +0.7
comp=N,14nm,0.9s,baz=36,slow=1.2,SNR=36
MJAR Matsushiro Arr 70.90 324 P **P** 06 42 39.1 -0.6
MJAR pmax pmax
comp=Z,8.0nm,0.9s
MJAR Matsushiro Arr 70.90 324 P **P** 06 42 39.1 -0.6
comp=Z,7.6nm,0.8s,baz=166,slow=6.2,SNR=15
MAJO Matsushiro 70.90 324 eP P 06 42 36.3 -3.4
MAJO pmax pmax
comp=Z,103nm,1.3s
JNU Nakatsue 72.84 317 P **P** 06 42 50.0 -1.1
comp=Z,11nm,0.9s,baz=119,slow=5.9,SNR=3.5
ASAJ Asahikawa 74.54 332 P **P** 06 42 59.9 -0.7
ASAJ pmax pmax
comp=Z,12nm,0.8s
ASAJ Asahikawa 74.54 332 P **P** 06 42 59.9 -0.7
comp=Z,12nm,0.8s,baz=216,slow=8.7
YSS Yuzh-Sakhalins 76.73 334 eP **P** 06 43 10.6 -2.1
YSS pmax pmax
comp=Z,6.0nm,0.8s
PETK Petropavlovsk- 77.26 346 P **P** 06 43 15.4 -0.1
PETK pmax pmax
comp=Z,1.0nm,0.4s
PETK Petropavlovsk- 77.26 346 P **P** 06 43 15.4 -0.1
comp=Z,0.7nm,0.4s,baz=177,slow=3.9,SNR=5.1
KSRS Korea Array 77.48 319 P **P** 06 43 16.9 -0.2
KSRS pmax pmax
comp=Z,3.0nm,0.8s
KSRS Korea Array 77.48 319 P **P** 06 43 16.9 -0.2
comp=Z,2.7nm,0.8s,baz=136,slow=6.5,SNR=7.7
KSAR Wonju Array Be 77.50 319 P **P** 06 43 16.9 -0.3
KSAR Wonju Array Be 77.50 319 P **P** 06 43 16.9 -0.3
BSC Santa Cruz Isl 78.65 46 ⇑P **P** 06 43 24.7 +1.2
baz=79
SCI San Clemente I 78.81 48 ⇑P **P** 06 43 25.5 +1.2
baz=79
CIS Catalina Islan 79.15 48 ⇓P **P** 06 43 27.7 +1.4
baz=79
SMMC Simmler 79.18 45 ⇓P **P** 06 43 28.1 +1.7
baz=79
CHGN Chignik 79.45 11 eP **P** 06 43 26.3 -0.8
USRK Ussuriysk Arra 79.69 326 P **P** 06 43 29.6 +0.9
comp=Z,10nm,0.8s,baz=134,slow=3.3,SNR=26
109C Camp Elliot, M 79.75 49 ⇑P **P** 06 43 30.8 +1.4
baz=80
ARVC Arvin 79.85 46 ⇑P **P** 06 43 30.9 +1.1
baz=80
MWC Mount Wilson 79.85 47 eP **P** 06 43 30.6 +0.5
MWC pmax pmax
comp=Z,22nm,1.0s
MWC Mount Wilson 79.85 47 eP **P** 06 43 30.6 +0.5
comp=Z,22nm,1.0s
MURC Murrieta 80.08 48 ⇓P **P** 06 43 32.2 +1.0
baz=80,SNR=7.3
VES Vestal, Richgr 80.09 45 ⇓P **P** 06 43 31.9 +0.8
baz=80
BFSC Mount Baldy Ra 80.13 47 ⇑P **P** 06 43 31.9 +0.4
baz=80,SNR=5.2
MONP Monument Peak 80.23 49 ⇓P **P** 06 43 33.3 +1.1
baz=80,SNR=16
EDW2 Edwards Air Fo 80.27 47 ⇓P **P** 06 43 33.1 +1.0
baz=80,SNR=19
NJ2 Nanjing 80.31 310 eP **P** 06 43 32.8 +0.5
NJ2 pmax pmax
comp=Z,20nm,1.1s
ISA Isabella 80.39 46 eP **P** 06 43 33.3 +0.5
ISA pmax pmax
comp=Z,26nm,1.4s
ISA Isabella 80.39 46 eP **P** 06 43 33.3 +0.5
comp=Z,26nm,1.4s
ISA Isabella 80.39 46 ⇑P **P** 06 43 33.9 +1.1
baz=81,SNR=13
CMB Columbia Colle 80.55 43 eP **P** 06 43 33.8 +0.3
CMB pmax pmax
comp=Z,20nm,1.3s
CMB Columbia Colle 80.55 43 eP **P** 06 43 33.8 +0.3
comp=Z,20nm,1.3s
PFO Pinyon Flat Ob 80.61 48 P **P** 06 43 34.5 +0.5
PFO pmax pmax
comp=Z,4.0nm,0.8s
PFO Pinyon Flat Ob 80.61 48 P **P** 06 43 34.5 +0.5
comp=Z,4.0nm,0.8s,baz=283,slow=3.0,SNR=4.8
PFO Pinyon Flat Ob 80.61 48 ⇓P **P** 06 43 35.1 +1.1
baz=81
BBRC Big Bear Solar 80.65 48 ⇓P **P** 06 43 35.5 +1.1
baz=81
SWSC Sam W. Stewart 80.70 49 ⇓P **P** 06 43 35.5 +1.1
baz=81,SNR=9.1
WDC Whiskeytown Da 80.78 40 eP **P** 06 43 35.2 +0.6
WDC pmax pmax
comp=Z,40nm,1.4s
WDC Whiskeytown Da 80.78 40 eP **P** 06 43 35.2 +0.6
comp=Z,40nm,1.4s
LRMC Laurel Mountai 80.81 46 ⇑P **P** 06 43 35.9 +0.8
baz=81,SNR=8.4
N02D Trinity Center 80.93 39 ⇑P **P** 06 43 36.8 +1.3
baz=81
QIZ Qiongzhong 80.98 295 P **P** 06 43 37.3 +1.2
QIZ pP **pP** 06 45 13.5 -0.2
QIZ sP **sP** 06 45 59.5 +0.2
QIZ S **S** 06 53 09.4 +0.9
QIZ pmax pmax
comp=Z,30nm,1.6s
QIZ pmax pmax
comp=Z,380nm,3.1s
M02C Callahan 81.11 39 ⇓P **P** 06 43 37.9 +1.4
baz=81
BELC Belle Mtn. Jos 81.14 48 ⇓P **P** 06 43 37.8 +0.9
baz=81,SNR=12
L02D Cave Junction, 81.16 38 ⇑P **P** 06 43 37.9 +1.3
baz=81
MDJ Mudanjiang 81.23 325 eP **P** 06 43 36.6 -0.2
comp=Z,4.2nm,0.7s
MLAC Mammoth Lakes 81.30 44 ⇓P **P** 06 43 38.8 +1.1
baz=82
GSC Goldstone 81.31 47 ⇓P **P** 06 43 38.4 +0.8
baz=82,SNR=10
BC3 Big Chuckawall 81.33 49 ⇓P **P** 06 43 38.9 +1.1
baz=82,SNR=9.7
TIN Tinemaha 81.36 45 ⇓P **P** 06 43 38.9 +1.1
baz=82
HEC Hector,Ludlow 81.37 47 ⇑P **P** 06 43 38.6 +0.6
baz=82,SNR=18
YBH Yreka Blue Hor 81.40 39 eP **P** 06 43 38.7 +0.7
YBH pmax pmax
comp=Z,39nm,1.3s
YBH Yreka Blue Hor 81.40 39 eP **P** 06 43 38.6 +0.7
comp=Z,39nm,1.3s
WAKR Walker 81.42 43 eP **P** 06 43 39.0 +0.7
comp=Z,49nm,1.5s
GLA Glamis 81.44 50 eP **P** 06 43 39.2 +0.9
GLA pmax pmax
comp=Z,30nm,1.0s
GLA Glamis 81.44 50 eP **P** 06 43 39.2 +0.9
comp=Z,30nm,1.0s
GLA Glamis 81.44 50 ⇑P **P** 06 43 39.7 +1.4
baz=82,SNR=12
GMRC Granite Mounta 81.80 48 ⇓P **P** 06 43 41.1 +0.8
baz=82,SNR=6.1
HUMO Hull Mountain 81.81 38 eP **P** 06 43 40.0 +0.1
comp=Z,30nm,1.1s
IRM Iron Mountain 81.81 48 ⇑P **P** 06 43 41.2 +1.0
baz=82,SNR=8.9
GRAC Grapevine Rang 81.89 45 ⇓P **P** 06 43 41.8 +1.3
baz=82
FURC Furnace Creek, 81.93 46 ⇑P **P** 06 43 41.3 +0.7
baz=82
M04C Macdoel 81.94 39 ⇓P **P** 06 43 41.8 +1.0
baz=82
TUQ Turquoise Moun 81.98 47 ⇓P **P** 06 43 41.9 +0.7
baz=82,SNR=8.5
SHOC Shoshone 82.00 46 ⇓P **P** 06 43 41.7 +0.6
baz=82,SNR=6.7
Y12C Blythe 82.03 49 ⇑P **P** 06 43 42.1 +0.8
baz=82,SNR=9.9
113A Mohawk Valley, 82.05 50 ⇑P **P** 06 43 42.6 +1.3
baz=82
NVAR Mina Array Bea 82.10 43 P **P** 06 43 42.5 +0.6
comp=Z,12nm,0.8s,baz=223,slow=8.7,SNR=88
NVAR PKPbc **PKPbc** 07 02 10.4 +1.6
comp=Z,0.4nm,0.6s,baz=78,slow=3.2,SNR=4.9
NV11 Mina Array Sit 82.20 43 eP **P** 06 43 42.1 -0.1
I03D Drain, OR 82.28 37 ⇑P **P** 06 43 45.3 +1.3
baz=83
HOG Hogback Mounta 82.31 39 P **P** 06 43 43.9 +1.2
214A Organ Pipe Nat 82.31 51 eP **P** 06 43 43.3 +0.5
comp=Z,21nm,1.4s
214A Organ Pipe Nat 82.31 51 ⇓P **P** 06 43 44.2 +1.4
baz=82
LDFC Landfair 82.34 48 eP **P** 06 43 43.7 +0.8
comp=Z,60nm,1.3s
K04D Chiloquin, OR 82.52 38 ⇓P **P** 06 43 44.7 +1.0
baz=83
PDMCI Parker Dam,Lak 82.59 49 ⇑P **P** 06 43 45.3 +1.2
baz=83,SNR=11
TPH Tonopah 82.59 44 eP **P** 06 43 44.6 +0.3
TPH pmax pmax
comp=Z,35nm,1.2s
TPH Tonopah 82.59 44 eP **P** 06 43 44.6 +0.3
comp=Z,35nm,1.2s
J04D Umpqua Nationa 82.70 38 ⇑P **P** 06 43 46.0 +1.3
baz=83
WHN Wuhan 82.81 307 P **P** 06 43 45.1 -0.2
I04A Tendick Farm, 82.87 37 ⇓P **P** 06 43 46.2 +0.9
baz=83
MOD Modoc 82.92 40 eP **P** 06 43 45.7 -0.1
comp=Z,20nm,1.1s
Z14A Wintersburg 82.94 50 ⇓P **P** 06 43 47.1 +1.1
baz=83,SNR=8.8
CN2 Changchun 82.96 323 eP **P** 06 43 46.1 +0.4
CN2 pmax pmax
comp=Z,10.0nm,1.3s
SHPR Sheep Range 83.08 46 eP **P** 06 43 47.1 +0.3
comp=Z,22nm,1.5s
W13A Hualapai Mount 83.20 48 ⇓P **P** 06 43 48.2 +0.8
baz=83,SNR=16
Y14A Wickenburg 83.20 50 ⇓P **P** 06 43 48.2 +0.9
baz=83,SNR=16
J05D Fort Rock, OR 83.22 38 ⇑P **P** 06 43 48.7 +1.4
baz=84
G03D McMinnville, O 83.30 36 ⇓P **P** 06 43 48.6 +1.2
baz=84
USHA Ushuaia 83.39 147 P **P** 06 43 47.9 +0.1
comp=Z,7.0nm,1.1s,baz=300,slow=14,SNR=2.3
PINOR Pine Mountain 83.76 38 eP **P** 06 43 50.6 +1.0
comp=Z,45nm,1.2s
I05D Terrebonne, OR 83.82 37 ⇑P **P** 06 43 51.4 +1.3
baz=84
R11A Troy Canyon, C 83.82 45 ⇑P **P** 06 43 51.1 +0.7
baz=84
BMN Battle Mountai 83.94 42 eP **P** 06 43 51.0 0.0
BMN pmax pmax
comp=Z,31nm,1.4s
BMN Battle Mountai 83.94 42 eP **P** 06 43 51.0 0.0
comp=Z,31nm,1.4s
F04D Rainier, OR 83.99 35 ⇓P **P** 06 43 52.6 +1.7
baz=84
BMW Boistfort Moun 84.13 35 P **P** 06 43 52.8 +1.2
BMW Boistfort Moun 84.13 35 P **P** 06 43 52.8 +1.2
LVP Lakeview Peak 84.31 35 P **P** 06 43 53.3 +0.7
G05D Wamic, OR 84.39 37 ⇓P **P** 06 43 53.8 +0.9
baz=85
RSO Redoubt South 84.42 12 eP **P** 06 43 52.5 -0.3
comp=Z,36nm,0.8s
FL2 Flat Top 2 84.42 35 P **P** 06 43 54.4 +1.3
ERK Elk Rock 84.49 35 P **P** 06 43 54.7 +1.2
X16A Lo Mia Camp, P 84.56 50 ⇓P **P** 06 43 55.4 +1.2
baz=85,SNR=22
TDL Tradedollar La 84.59 35 P **P** 06 43 55.0 +1.0
319A Douglas 84.62 53 ⇓P **P** 06 43 56.2 +1.7
baz=85
ARUT Antelope Range 84.93 46 eP **P** 06 43 56.2 +0.2
ARUT pmax pmax
comp=Z,368nm,1.7s
ARUT Antelope Range 84.93 46 eP **P** 06 43 56.2 +0.2
comp=Z,368nm,1.7s
U15A North Rim 85.00 48 ⇑P **P** 06 43 57.6 +1.2
baz=85,SNR=25
WUAZ Wupatki 85.17 49 ⇑P **P** 06 43 58.0 +0.9
baz=85,SNR=8.4
X18A Snowflake 85.68 50 ⇑P **P** 06 44 00.6 +0.9
baz=86,SNR=8.1
121A Cookes Peak, D 86.29 53 eP **P** 06 44 03.3 +0.6
comp=Z,36nm,1.5s
121A Cookes Peak, D 86.29 53 ⇑P **P** 06 44 03.9 +1.2
baz=86,SNR=11
ETW Entiat 86.38 35 P **P** 06 44 03.1 +0.4
BJI Beijing 86.43 316 P **P** 06 44 03.3 +0.4
BJI pmax pmax
comp=Z,16nm,0.6s
BMO Blue Mountains 86.43 39 eP **P** 06 44 03.1 +0.1
comp=Z,3.7nm,0.6s
DIV Divide 86.57 15 eP **P** 06 44 03.0 -0.2
comp=Z,15nm,1.0s
DUG Dugway 86.62 44 ⇓P **P** 06 44 05.0 +1.0
baz=87
WTV Waterville 86.64 35 P **P** 06 44 04.1 +0.3
NLW Nelson Butte 86.67 35 P **P** 06 44 04.3 +0.3
BMRM Bremner River 86.72 16 eP **P** 06 44 02.8 -1.0
comp=Z,17nm,0.5s
GYA Guiyang 86.88 300 P **P** 06 44 06.8 +1.3
GYA pP **pP** 06 45 46.8 +2.1
GYA sP **sP** 06 46 30.9 +1.0
GYA PP **PP** 06 47 38.4 +2.2
GYA SKS **SKSac** 06 53 50.0 -0.4
GYA S **S** 06 54 06.3 -0.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.2s
SAW Saint Andrews 86.94 35 P **P** 06 44 05.8 +0.6
Z22A Elephant Butte 87.24 53 ⇑P **P** 06 44 08.0 +0.9
baz=88,SNR=9.0
SEY Seymchan 87.39 347 P **P** 06 44 06.5 -0.3
SEY pmax pmax
comp=Z,7.0nm,0.8s
SEY Seymchan 87.39 347 P **P** 06 44 06.5 -0.3
comp=Z,6.6nm,0.8s,baz=144,slow=5.2,SNR=21
HLID Hailey 87.43 41 ⇓P **P** 06 44 08.8 +1.1
baz=88
SRU San Rafael 87.58 46 eP **P** 06 44 08.5 -0.1
SRU pmax pmax
comp=Z,11nm,0.9s
SRU San Rafael 87.58 46 eP **P** 06 44 08.5 -0.1
comp=Z,11nm,0.9s
LAZ Ladron 87.65 52 eP **P** 06 44 09.5 +0.5
comp=Z,0.9nm,0.6s
MNTX Cornudas Mount 87.71 55 eP **P** 06 44 09.5 +0.4
comp=Z,21nm,1.1s
DAU Daniels Canyon 87.75 45 eP **P** 06 44 09.8 +0.2
DAU pmax pmax
comp=Z,11nm,1.4s
DAU Daniels Canyon 87.75 45 eP **P** 06 44 09.8 +0.2
comp=Z,10nm,1.4s
TXAR Lajitas Array 87.98 57 P **P** 06 44 11.7 +1.1
comp=Z,8.9nm,0.9s,baz=218,slow=5.9,SNR=48
TXAR pP **pP** 06 45 51.6 +1.5
comp=Z,2.5nm,1.1s,baz=214,slow=6.0,SNR=4.6
TXAR PKKPbc **PKKPbc** 07 01 54.2 +0.1
comp=Z,0.4nm,0.6s,baz=77,slow=3.9,SNR=4.7
TCUT Toone Canyon 88.02 44 eP **P** 06 44 11.1 +0.4
comp=Z,45nm,1.4s
Y23A Lovelace Mesa, 88.23 52 ⇑P **P** 06 44 12.1 +0.3
baz=88,SNR=8.5
225A Deer Hill, Car 88.32 55 ⇓P **P** 06 44 13.1 +0.9
baz=88,SNR=14
ANMO Albuquerque 88.40 51 P **P** 06 44 12.9 +0.4
ANMO pmax pmax
comp=Z,7.0nm,0.9s
ANMO Albuquerque 88.40 51 P **P** 06 44 12.9 +0.4
comp=Z,7.2nm,0.9s,baz=222,slow=4.8,SNR=9.6
ANMO Albuquerque 88.40 51 eP **P** 06 44 12.5 -0.1
comp=Z,12nm,1.1s
PV01 Paradox Valley 88.42 48 eP **P** 06 44 12.5 -0.1
comp=Z,1μm,1.3s
Z24A Sheeppen Canyo 88.46 53 ⇑P **P** 06 44 13.3 +0.4
baz=89,SNR=6.3
NEW Newport 88.51 36 P **P** 06 44 12.7 +0.2
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 88.51 36 P **P** 06 44 12.7 +0.2
comp=Z,3.3nm,0.8s,baz=217,slow=5.6,SNR=7.4
NEW Newport 88.51 36 ⇓P **P** 06 44 12.8 +0.3
baz=89
XAN Xi'an 88.52 308 P **P** 06 44 13.1 +0.2
XAN pmax pmax
comp=Z,3.0nm,0.9s
V22A San Miguel Ran 88.53 50 ⇓P **P** 06 44 14.0 +0.8
baz=89
Y24A Capitan 88.68 53 ⇓P **P** 06 44 14.7 +0.8
baz=89,SNR=30
125A Gardner Draw, 88.69 54 ⇓P **P** 06 44 14.6 +0.7
baz=89,SNR=8.2
W23A Werner Place, 88.72 51 ⇓P **P** 06 44 15.0 +0.9
baz=89
PLCA Paso Flores 88.77 134 P **P** 06 44 15.1 +0.9
PLCA pmax pmax
comp=Z,1.0nm,0.8s
PLCA Paso Flores 88.77 134 P **P** 06 44 15.1 +0.9
comp=Z,1.4nm,0.8s,baz=237,slow=12,SNR=6.8
U22A Llaves 88.78 50 ⇓P **P** 06 44 15.2 +0.8
baz=89
226B Tecolote Peak, 88.81 55 ⇓P **P** 06 44 15.4 +1.0
baz=89
Z25A Roswell 88.92 54 ⇑P **P** 06 44 15.7 +0.7
baz=89,SNR=8.5
V23A Ortiz Mt. (NFS 88.97 51 ⇑P **P** 06 44 16.1 +0.8
baz=89,SNR=6.1
X24A Lazy VL Ranch, 88.97 52 ⇓P **P** 06 44 16.0 +0.8
baz=89
MCMT McKenzie Canyo 89.06 40 eP **P** 06 44 15.9 +0.5
comp=Z,10.0nm,1.1s
DOT Dot Lake 89.15 15 eP **P** 06 44 14.9 -0.3
comp=Z,5.7nm,0.4s
Y25A Mesa, Roswell 89.23 53 ⇓P **P** 06 44 16.6 +0.2
baz=90,SNR=8.7
DLBC Dease Lake 89.23 23 P **P** 06 44 15.7 0.0
comp=Z,5.4nm,0.9s,baz=219,slow=6.2,SNR=7.8
U23A El Rito 89.23 50 ⇑P **P** 06 44 16.8 +0.3
baz=90,SNR=7.0
W24A Lazy 6 Ranch, 89.29 52 ⇓P **P** 06 44 17.0 +0.3
baz=90,SNR=9.4
IM04 Indian Mountai 89.32 10 eP **P** 06 44 14.9 -1.0
COLA College 89.39 13 eP **P** 06 44 15.2 -0.9
COLA pmax pmax
comp=Z,8.0nm,0.6s
COLA College 89.39 13 eP **P** 06 44 15.2 -0.9
comp=Z,7.7nm,0.6s
HIA Hailar 89.39 325 eP P 06 44 13.0 -3.6
HIA pmax pmax
comp=Z,3.0nm,1.0s
S22A 4UR Ranch, Cre 89.44 49 ⇓P **P** 06 44 18.0 +0.5
baz=90,SNR=10
529A Stev Forest Ra 89.46 57 ⇑P **P** 06 44 17.8 +0.4
baz=90,SNR=7.9
Z26A Caprock 89.47 54 ⇑P **P** 06 44 18.0 +0.5
baz=90,SNR=12
MSO Missoula 89.49 38 ⇓P **P** 06 44 17.3 +0.1
baz=90
ILAR Eielson Array 89.50 13 P **P** 06 44 15.7 -1.0
ILAR pmax pmax
comp=Z,8.0nm,1.0s
ILAR Eielson Array 89.50 13 P **P** 06 44 15.7 -1.0
comp=Z,7.6nm,1.0s,baz=231,slow=5.7,SNR=18
KMI Kunming 89.53 297 P **P** 06 44 19.3 +1.3
KMI pmax pmax
comp=Z,9.0nm,1.2s
X25A Clemmons Ranch 89.53 52 ⇓P **P** 06 44 18.2 +0.5
baz=90
BSMT Bassoo Peak 89.57 37 eP **P** 06 44 17.5 -0.1
comp=Z,10nm,1.5s
O20A White River Ci 89.61 46 ⇑P **P** 06 44 18.7 +0.6
baz=90
V24A Rampart Ranch, 89.62 51 ⇓P **P** 06 44 18.7 +0.4
baz=90,SNR=6.6
T23A Casias Ranch, 89.67 50 ⇑P **P** 06 44 19.4 +0.9
baz=90
LRM Limekiln Ridge 89.82 40 eP **P** 06 44 19.1 +0.2
comp=Z,194nm,2.0s
HHC Hu-ho-hao-te 89.87 315 eP **P** 06 44 20.3 +1.2
HHC pP **pP** 06 45 56.1 -2.9
HHC sP **sP** 06 46 45.3 +1.3
HHC PP **PP** 06 47 58.1 -1.5

HHC SKS SKSac 06 54 03.0 -4.3
HHC S SKKSac 06 54 27.4 +5.0
HHC sS sS 06 57 29.3 -2.3
HHC pmax pmax
comp=Z,22nm,1.3s
HHC pmax pmax
comp=Z,490nm,8.2s
Y26A Elida 89.88 53 ⇓P P 06 44 19.6 +0.2
baz=90
QLMT Earthquake Lak 89.92 41 eP P 06 44 20.2 +0.8
comp=Z,2.5nm,1.2s
429A Davenport Ranc 89.92 57 ⇓P P 06 44 20.3 +0.7
baz=90,SNR=26
N20A Spence Gulch, 89.94 46 ⇑P P 06 44 20.1 +0.5
baz=90,SNR=10.0
I17A Pilgrim Ck. 89.98 42 ⇓P P 06 44 20.9 +1.2
baz=90,SNR=11
W25A X Bar L Ranch, 89.98 52 ⇑P P 06 44 20.2 +0.4
baz=90,SNR=15
S23A Nye Farm, Mont 90.01 49 ⇑P P 06 44 21.0 +0.9
baz=90
228A UT Block 9, Go 90.02 55 ⇓P P 06 44 20.6 +0.6
baz=90
BW06 Boulder Array 90.04 43 eP P 06 44 19.1 -1.0
comp=Z,11nm,1.0s
PDAR Pinedale Array 90.04 43 P P 06 44 19.8 -0.2
comp=Z,9.1nm,0.8s,baz=212,slow=3.0,SNR=65
PDAR PP PP 06 47 58.7 -2.4
comp=Z,0.8nm,0.9s,baz=266,slow=4.1,SNR=3.7
Z27A Tatum 90.07 54 ⇓P P 06 44 20.7 +0.5
baz=90,SNR=5.2
BILL Bilibino 90.12 354 eP P 06 44 18.1 -1.4
BILL pmax pmax
comp=Z,3.0nm,0.9s
YMR Madison River 90.12 41 eP P 06 44 20.9 +0.6
comp=Z,6.1nm,0.8s
CMAR Chiang Mai Arr 90.14 290 P P 06 44 20.6 -0.1
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CMAR Chiang Mai Arr 90.14 290 P P 06 44 20.6 -0.1
comp=Z,7.4nm,0.8s,baz=126,slow=3.0,SNR=43
V25A Rancho No Teng 90.15 51 ⇑P P 06 44 21.1 +0.4
baz=90,SNR=6.3
T24B San Luis 90.15 50 ⇑P P 06 44 21.9 +1.1
baz=90
530A J-C Ranch, Com 90.16 58 ⇑P P 06 44 21.2 +0.6
baz=90,SNR=5.5
X26A CR and CF Fran 90.17 53 ⇑P P 06 44 21.7 +1.0
baz=90
H17A Grant Village 90.22 42 eP P 06 44 21.9 +1.0
comp=Z,11nm,0.9s
H17A Grant Village 90.22 42 ⇑P P 06 44 22.5 +1.7
baz=90,SNR=8.5
329A Wagon Wheel Ra 90.22 56 ⇓P P 06 44 21.4 +0.4
baz=90,SNR=7.7
CHTO Chiang Mai 90.27 290 eP P 06 44 21.2 -0.2
CHTO pmax pmax
comp=Z,14nm,1.1s
CHTO Chiang Mai 90.27 290 eP P 06 44 21.2 -0.2
comp=Z,14nm,1.1s
128A Castleberry Fa 90.32 55 ⇓P P 06 44 22.1 +0.7
baz=90
R23A Moffat 90.35 49 ⇓P P 06 44 22.8 +1.2
baz=91
Y27A Causey 90.36 54 ⇑P P 06 44 21.8 +0.2
baz=91,SNR=8.6
P22A Eagle 90.36 47 ⇓P P 06 44 22.6 +1.0
baz=91
W26A Owens Ranch, T 90.44 52 ⇓P P 06 44 22.6 +0.6
baz=91
631A Perdido Creek 90.45 59 ⇓P P 06 44 22.7 +0.7
baz=91,SNR=26
832A Faith Ranch, C 90.47 60 ⇓P P 06 44 22.5 +0.4
baz=91,SNR=16
430A Baggett Ranch, 90.51 57 ⇓P P 06 44 22.9 +0.7
baz=91
S24A Houchin Ranch, 90.53 49 ⇑P P 06 44 23.4 +0.9
baz=91,SNR=5.6
U25A Circle Dot Ran 90.55 51 ⇑P P 06 44 22.7 +0.2
baz=91,SNR=6.8
229A Bryant Ranch, 90.56 56 ⇓P P 06 44 22.9 +0.5
baz=91
J19A Crowheart 90.61 43 ⇑P P 06 44 23.1 +0.5
baz=91,SNR=13
732A Laxson Ranch, 90.65 59 ⇓P P 06 44 23.1 +0.2
baz=91,SNR=7.2
Z28A Tucker Farm, M 90.68 54 ⇓P P 06 44 23.3 +0.2
baz=91
MSTX Muleshoe 90.69 54 ⇓P P 06 44 23.4 +0.3
baz=91,SNR=6.4
V26A Tequesquite Ra 90.73 52 ⇑P P 06 44 23.6 +0.3
baz=91
X27A F and S Farms, 90.74 53 ⇓P P 06 44 23.8 +0.5
baz=91
933A Laredo 90.76 61 ⇑P P 06 44 24.4 +1.0
baz=91,SNR=6.4
O22A Kremmling 90.77 47 ⇑P P 06 44 24.1 +0.6
baz=91
531A Rocksprings 90.79 58 ⇓P P 06 44 24.3 +0.8
baz=91,SNR=13
EGAK Eagle 90.79 15 eP P 06 44 22.2 -0.4
comp=Z,13nm,1.0s
129A Stewart Farms, 90.80 55 ⇓P P 06 44 23.9 +0.3
baz=91,SNR=5.9
330A Mertzon 90.81 57 ⇓P P 06 44 23.6 -0.1
baz=91
R24A Sanders Place, 90.88 49 ⇑P P 06 44 24.9 +0.9
baz=91
T25A Trinidad 90.88 50 ⇓P P 06 44 24.5 +0.4
baz=91
H18A Shoshone NF, C 90.92 42 ⇓P P 06 44 24.7 +0.6
baz=91
W27A Bowe Ranch, En 90.94 53 ⇑P P 06 44 24.4 +0.1
baz=91
833A Chaparral WMA, 90.95 60 ⇓P P 06 44 25.0 +0.7
baz=91,SNR=7.6
431A Sonora 90.95 57 ⇓P P 06 44 24.6 +0.3
baz=91
034A Hebbronville 91.02 61 ⇓P P 06 44 26.4 +1.7
baz=91,SNR=9.1
I19A Meeteetse 91.02 42 ⇑P P 06 44 25.2 +0.7
baz=91,SNR=6.7
U26A Atchley Ranch, 91.03 51 ⇓P P 06 44 24.8 +0.1
baz=91,SNR=5.2
COLD Coldfoot 91.05 11 eP P 06 44 23.4 -0.5
comp=Z,9.4nm,1.0s
230A Sterling City 91.06 56 ⇓P P 06 44 25.4 +0.6
baz=91
CD2 Chengdu 91.08 303 eP P 06 44 25.8 +0.9
CD2 pP pP 06 46 06.1 +1.2
CD2 sP sP 06 46 50.1 +0.3
CD2 PP PP 06 48 12.1 +2.9
CD2 SKS SKSac 06 54 14.8 +0.3
CD2 S S 06 54 43.8 -0.9
CD2 sS sS 06 57 41.3 -2.0
CD2 SS SS 07 01 04.5 +2.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.2s
S25A Robets Cordova 91.09 50 ⇓P P 06 44 25.7 +0.7
baz=91,SNR=5.8
632A Uvalde 91.12 59 ⇑P P 06 44 25.9 +0.8
baz=91,SNR=13
N22A Wattenberg Ran 91.13 46 ⇓P P 06 44 26.2 +1.0
baz=91,SNR=8.6
Q24A Divide 91.18 48 ⇓P P 06 44 26.5 +1.0
baz=91
Z29A Hungry Hill Ra 91.19 55 ⇑P P 06 44 26.0 +0.6
baz=91
733A Divot King Ran 91.19 60 ⇓P P 06 44 26.4 +1.0
baz=91
O23A Lake Granby, G 91.22 47 ⇓P P 06 44 26.5 +0.8
baz=92
ISCO Idaho Springs 91.24 47 ⇓P P 06 44 26.4 +0.7
baz=92
J20A Shoshoni 91.27 43 ⇑P P 06 44 26.3 +0.8
baz=92,SNR=15
M22A Cedar Creek Ra 91.31 46 ⇓P P 06 44 26.5 +0.5
baz=92,SNR=6.6
H19A Powell 91.34 42 ⇑P P 06 44 26.8 +0.9
baz=92
X28A Dimmitt 91.35 53 ⇓P P 06 44 26.4 +0.2
baz=92
331A San Angelo 91.36 57 ⇑P P 06 44 26.2 +0.1
baz=92
V27A Dan Oppiter Fa 91.41 52 ⇑P P 06 44 27.0 +0.6
baz=92
R25A Fountain Ranch 91.42 49 ⇑P P 06 44 27.1 +0.7
baz=92
035A Encino 91.45 62 ⇓P P 06 44 28.1 +1.5
baz=92,SNR=5.5
K21A Alcova 91.46 44 ⇓P P 06 44 26.7 +0.1
baz=92,SNR=8.1
Y29A Porterfield Fa 91.47 54 ⇓P P 06 44 27.3 +0.6
baz=92
130A Snyder 91.47 56 ⇓P P 06 44 26.9 +0.2
baz=92
T26A Comanche Natio 91.48 50 ⇑P P 06 44 26.7 0.0
baz=92
JCT Junction City 91.50 58 eP P 06 44 26.8 -0.1
JCT pmax pmax
comp=Z,7.0nm,0.8s
JCT Junction City 91.50 58 eP P 06 44 26.8 -0.1
comp=Z,6.6nm,0.8s
JCT Junction City 91.50 58 ⇓P P 06 44 26.8 -0.1
baz=92,SNR=5.6
N23A Red Feather La 91.52 46 ⇑P P 06 44 27.8 +0.9
baz=92
I20A Worland 91.53 43 ⇑P P 06 44 27.0 +0.3
baz=92
834A Tilden 91.55 60 ⇑P P 06 44 28.1 +1.0
baz=92
633A Saathoff Ranch 91.58 59 ⇑P P 06 44 27.6 +0.4
baz=92,SNR=6.5
Z30A Sanderson Ranc 91.64 55 ⇑P P 06 44 27.5 +0.1
baz=92
432A Menard 91.67 57 ⇑P P 06 44 27.8 +0.2
baz=92,SNR=11
J21A Lysite 91.67 44 ⇑P P 06 44 28.1 +0.5
baz=92,SNR=11
X29A Tulia 91.69 54 ⇑P P 06 44 27.9 +0.2
baz=92
231A Bronte 91.70 56 ⇓P P 06 44 27.8 +0.1
baz=92,SNR=12
U27A Thompson Grove 91.71 51 ⇓P P 06 44 27.5 -0.2
baz=92
L22A Ellis Ranch, M 91.72 45 ⇑P P 06 44 28.4 +0.6
baz=92
S26A Kim 91.76 50 ⇑P P 06 44 28.4 +0.4
baz=92,SNR=5.6
734A La Parita Cree 91.84 60 ⇓P P 06 44 28.9 +0.5
baz=92
H20A Greybull 91.87 42 ⇑P P 06 44 28.5 +0.2
baz=92
AMTX Amarillo 91.89 53 ⇓P P 06 44 28.5 -0.1
baz=92
332A Millersview 91.92 57 ⇓P P 06 44 28.8 +0.1
baz=92,SNR=12
M23A Laramie 91.93 46 ⇑P P 06 44 29.1 +0.3
baz=92
K22A Casper 91.94 45 ⇓P P 06 44 29.1 +0.3
baz=92
533A Kerrville 91.94 58 ⇑P P 06 44 29.2 +0.3
baz=92,SNR=7.6
131A Roby 91.95 56 ⇓P P 06 44 29.1 +0.2
baz=92
F19A Roth Farm, Mol 91.95 41 ⇑P P 06 44 29.1 +0.5
baz=92
I21A Big Trails, Te 91.99 43 ⇑P P 06 44 29.0 +0.1
baz=92,SNR=9.3
W29A Amraillo 92.02 53 ⇑P P 06 44 29.5 +0.4
baz=92
Y30A Stafford Cattl 92.06 54 ⇓P P 06 44 29.6 +0.2
baz=92
R26A Arlington 92.08 49 ⇓P P 06 44 29.6 +0.2
baz=92,SNR=7.9
G20A Bridger 92.09 42 ⇓P P 06 44 30.5 +1.2
baz=92
P25A Willow Gulch B 92.10 48 ⇑P P 06 44 30.0 +0.4
baz=92
U28A Mallet 92.12 52 ⇓P P 06 44 29.8 +0.1
baz=92
433A Art 92.17 58 ⇑P P 06 44 30.0 0.0
baz=92,SNR=20
232A Coleman 92.20 57 ⇑P P 06 44 30.2 +0.2
baz=92
835A Beeville 92.20 61 ⇑P P 06 44 31.5 +1.5
baz=92
N24A Carr 92.20 47 ⇑P P 06 44 30.6 +0.6
baz=92
634A China Grove, S 92.21 59 ⇓P P 06 44 30.5 +0.4
baz=92
L23A Garrett 92.24 45 ⇓P P 06 44 30.5 +0.3
baz=92,SNR=7.1
Q26A Hugo 92.30 49 ⇓P P 06 44 31.0 +0.5
baz=92
J22A Midwest 92.33 44 ⇑P P 06 44 30.4 -0.1
baz=93,SNR=7.0
E19A Rath Farm, Rou 92.34 40 ⇓P P 06 44 31.0 +0.6
baz=93
534A Blanco 92.37 59 ⇑P P 06 44 31.2 +0.4
baz=93,SNR=19
Z31A Sharp Cattle R 92.40 55 ⇓P P 06 44 31.0 +0.1
baz=93
735A Kenedy 92.44 60 ⇓P P 06 44 31.8 +0.6
baz=93
333A Richland Sprin 92.49 57 ⇑P P 06 44 31.3 -0.1
baz=93,SNR=5.9
ABTX Abilene, Hawle 92.50 56 ⇑P P 06 44 31.6 +0.2
baz=93
T28A Walsh 92.52 51 ⇓P P 06 44 31.5 0.0
baz=93
M24A Cheyenne 92.53 46 ⇑P P 06 44 32.3 +0.8
baz=93
R27A Eads 92.53 50 ⇑P P 06 44 31.7 +0.2
baz=93
EGMT Eagleton 92.54 39 ⇓P P 06 44 31.8 +0.6
baz=93
I22A 9 Mile Ranch, 92.55 43 ⇑P P 06 44 32.1 +0.6
baz=93
Y31A Rekieta Farm, 92.57 55 ⇑P P 06 44 32.0 +0.3
baz=93
K23A Bowen Ranch, D 92.58 45 ⇓P P 06 44 32.3 +0.7
baz=93
D19A Cripps Ranch, 92.63 40 ⇑P P 06 44 32.5 +0.8
baz=93
635A Leesville 92.68 60 ⇑P P 06 44 32.9 +0.7
baz=93
P26A Davis Ranch, A 92.69 48 ⇓P P 06 44 32.9 +0.7
baz=93
L24A Wheatland 92.72 46 ⇑P P 06 44 33.1 +0.8
baz=93
E20A Meyer Farm, Mu 92.76 41 ⇓P P 06 44 33.2 +0.9
baz=93
C19A Slack Wire Ran 92.81 39 ⇓P P 06 44 33.4 +0.9
baz=93
233A Rising Star 92.83 57 ⇑P P 06 44 33.4 +0.4
baz=93
434A Burnet 92.85 58 ⇓P P 06 44 33.0 0.0
baz=93,SNR=9.5
S28A Manter 92.88 51 ⇑P P 06 44 33.7 +0.7
baz=93
Z32A Haskell 92.90 55 ⇓P P 06 44 33.6 +0.4
baz=93
H22A Clearmont 92.96 43 ⇓P P 06 44 34.3 +1.0
baz=93
KSCO Kaye Shedlock' 92.96 49 eP P 06 44 33.8 +0.3
comp=Z,37nm,1.4s
KSCO Kaye Shedlock' 92.96 49 ⇑P P 06 44 34.3 +0.8
baz=93
D20A Manuel Ranch, 93.04 40 ⇑P P 06 44 33.9 +0.4
baz=93
133A Hamilton Ranch 93.06 56 ⇓P P 06 44 34.3 +0.3
baz=93
X31A McDonald Ranch 93.06 54 ⇓P P 06 44 33.8 -0.1
baz=93
334A Lometa 93.08 58 ⇑P P 06 44 34.3 +0.3
baz=93
535A Dale 93.09 59 ⇑P P 06 44 34.6 +0.5
baz=93
T29A Hugoton 93.13 51 ⇓P P 06 44 34.9 +0.7
baz=93
LZH Lanzhou 93.16 308 eP P 06 44 35.3 +0.8
LZH pmax pmax
comp=Z,16nm,1.0s
Y32A R-V Farms, Ver 93.21 55 ⇑P P 06 44 35.0 +0.4
baz=93
B19A Brinkman Farms 93.22 39 ⇑P P 06 44 35.7 +1.3
baz=94
P27A Ficken Ranch, 93.23 49 ⇑P P 06 44 35.4 +0.7
baz=94
R28A Tribune 93.25 50 ⇑P P 06 44 35.6 +0.8
baz=94
G22A Birney 93.28 42 ⇓P P 06 44 35.7 +0.9
baz=94
W31A Holland Ranch, 93.31 54 ⇓P P 06 44 35.3 +0.3
baz=94
435B Jarrell 93.38 58 ⇓P P 06 44 36.2 +0.8
baz=94
C20A Veseth Ranch, 93.41 40 ⇑P P 06 44 35.9 +0.7
baz=94
E21A Keefer Ranch, 93.42 41 ⇓P P 06 44 36.2 +0.9
baz=94
234A Clairette 93.42 57 ⇓P P 06 44 35.8 +0.2
baz=94
Z33A Whitaker Ranch 93.44 56 ⇓P P 06 44 35.8 +0.1
baz=94
X32A Elmer 93.50 54 ⇓P P 06 44 35.8 -0.1
baz=94
536A Bastrop 93.51 59 ⇓P P 06 44 36.9 +0.9
baz=94
Q28A Sharon Springs 93.54 49 ⇑P P 06 44 37.2 +1.1
baz=94
A19A Klindworth Far 93.57 38 ⇑P P 06 44 36.6 +0.7
baz=94
O27A Beecher Island 93.57 48 ⇓P P 06 44 36.8 +0.6
baz=94
V31A Spring Creek L 93.63 53 ⇑P P 06 44 37.4 +0.9
baz=94
K25A Mack Ranch, Ha 93.67 45 ⇓P P 06 44 37.5 +0.9
baz=94
D21A La Casta Ranch 93.71 40 ⇑P P 06 44 37.4 +0.7
baz=94
B20A Solberg Farm, 93.75 39 ⇓P P 06 44 37.4 +0.7
baz=94
R29A Marienthal 93.77 50 ⇑P P 06 44 37.2 +0.1
baz=94
N27A Anderson Farm, 93.79 48 ⇓P P 06 44 37.4 +0.2
baz=94
W32A Sentinel 93.81 54 ⇑P P 06 44 37.6 +0.3
baz=94
P28A Saint Francis 93.81 49 ⇑P P 06 44 38.0 +0.7
baz=94
S30A Montezuma 93.93 51 ⇓P P 06 44 37.8 -0.1
baz=94
436A Wall Ranch, Ga 94.00 59 ⇑P P 06 44 38.9 +0.6
baz=94
C21A Desert Coulee 94.01 40 ⇓P P 06 44 38.6 +0.6
baz=94
A20A Cobblestone Ra 94.02 39 ⇑P P 06 44 38.4 +0.4
baz=94
O28A Krutsinger Ran 94.03 48 ⇓P P 06 44 38.9 +0.6
baz=94
E22A Miles City 94.06 41 ⇑P P 06 44 38.6 +0.4
baz=94
F23A Volborg 94.07 42 ⇑P P 06 44 38.6 +0.3
baz=94
Q29A Oakley 94.08 50 ⇑P P 06 44 38.8 +0.3
baz=94
H24A Dirks Ranch, A 94.17 43 ⇑P P 06 44 38.9 +0.1
baz=94
K26A Motz Farm, Whi 94.17 46 ⇑P P 06 44 39.4 +0.5
baz=94
OGNE Ogallala 94.20 48 ⇓P P 06 44 39.4 +0.4
baz=94
P29A Atwood 94.40 49 ⇓P P 06 44 40.4 +0.4
baz=95
N28A Pribbeno Ranch 94.43 48 ⇓P P 06 44 40.7 +0.6
baz=95
U32A Winter Ranch, 94.49 53 ⇑P P 06 44 41.3 +0.9
baz=95
J26A Sides Ranch, S 94.50 45 ⇓P P 06 44 40.9 +0.6
baz=95
X34A Smith Ranch, M 94.67 55 ⇑P P 06 44 41.7 +0.5
baz=95
O29A 4D Ranch, Culb 94.71 49 ⇓P P 06 44 42.1 +0.7
baz=95
F24A Ekalaka 94.72 42 ⇓P P 06 44 41.6 +0.2
baz=95
CFAA Coronel Fontan 94.74 127 P P 06 44 41.9 +0.1
comp=Z,0.6nm,0.7s,baz=242,slow=4.4,SNR=13
K27A Flueckinger Fa 94.80 46 ⇑P P 06 44 43.0 +1.2
baz=95
D23A Lindsay 94.84 41 ⇓P P 06 44 43.0 +1.2
baz=95
P30A Selden 94.86 49 ⇓P P 06 44 43.0 +0.9
baz=95
R31A Burdett 94.87 51 ⇑P P 06 44 42.6 +0.5
baz=95
C23A Lambert 95.14 40 ⇓P P 06 44 44.1 +1.0
baz=95
J27A Elkhorn Farm, 95.18 45 ⇑P P 06 44 44.7 +1.2
baz=95
F25A Bowman 95.38 43 ⇓P P 06 44 45.5 +1.2
baz=96
INK Inuvik 95.46 15 P P 06 44 42.7 -1.2
INK 06 48 42.4
INK pmax pmax
comp=Z,2.0nm,0.9s
INK pmax pmax
comp=Z,1.0nm,1.1s
INK Inuvik 95.46 15 P P 06 44 42.7 -1.2
comp=Z,2.3nm,0.9s,baz=242,slow=5.2,SNR=7.8
INK PP PP 06 48 42.4 +0.3
comp=Z,1.3nm,1.1s,baz=234,slow=4.8,SNR=3.2
P31A Stockton 95.47 50 ⇑P P 06 44 46.1 +1.3
baz=96
R32A Long Quarter, 95.51 51 ⇓P P 06 44 45.9 +0.9
baz=96
B23A Brockton 95.55 40 ⇓P P 06 44 45.8 +0.8
baz=96
G26A Maurine 95.66 43 ⇑P P 06 44 45.2 -0.3
baz=96
L29A Maesberg Ranch 95.72 47 ⇓P P 06 44 46.9 +1.0
baz=96
G27A Dupree 96.12 44 ⇓P P 06 44 48.4 +0.8
baz=96
SONM Songino Array 96.36 319 P P 06 44 47.7 -1.0
comp=Z,0.2nm,0.5s,baz=127,slow=5.8,SNR=3.7
SONM PP PP 06 48 47.9 -1.8
comp=Z,0.2nm,0.4s,baz=123,slow=5.3,SNR=2.8
Q33A Connelly Farm, 96.37 51 ⇓P P 06 44 49.3 +0.5
baz=97
H28A Mission Ridge 96.42 44 ⇓P P 06 44 50.0 +1.0
baz=97
GTA Gaotai 97.39 309 eP Pdif 06 44 54.8 +1.2
GTA pP pP 06 46 37.3 +3.3
GTA sP sP 06 47 21.1 +2.3
GTA pmax pmax
comp=Z,2.0nm,1.4s
YKA Yellowknife Ar 97.69 25 P P 06 44 53.6 -0.5
comp=Z,0.6nm,0.7s,baz=240,slow=4.4,SNR=13
YKA PKKPbc PKKPbc 07 01 26.1 -4.2
comp=Z,0.2nm,0.4s,baz=39,slow=2.3,SNR=6.0
ZALV Zalesovo Beam 111.13 321 PKiKP PKiKP 06 49 49.9 -0.5
comp=Z,0.8nm,0.4s,baz=89,slow=2.5,SNR=4.2
MKAR Makanchi Array 111.69 313 Pdiff Pdif 06 46 00.2 +3.4
comp=Z,0.3nm,0.6s,baz=86,slow=5.3,SNR=4.4
MKAR PKiKP PKiKP 06 49 50.8 -1.0
comp=Z,0.5nm,0.5s,baz=203,slow=1.3,SNR=12
MKAR PP PP 06 50 41.2 -1.0
comp=Z,0.3nm,0.7s,baz=89,slow=10,SNR=3.3
KSH Kashi 115.22 305 ePKP PKPdf 06 50 04.6 +5.7
KSH PKS PKSdf 06 53 38.9 +3.2
KSH AMB AMB
comp=Z,65nm,3.1s
KKAR Karatay Array 119.65 308 ePKIKP PKPdf 06 50 06.3 -0.9
KKAR Karatay Array 119.65 308 ePKPdf PKPdf 06 50 06.3 -0.9
BRVK Borovoye 119.76 320 i PKIKP PKPdf 06 50 05.7 -1.3
BRVK pmax pmax
comp=Z,4.0nm,1.7s
SPITS Spitsbergen Ar 122.97 356 PKIKP PKPdf 06 50 11.5 -1.1
SPITS pmax pmax
comp=Z,3.0nm,0.5s
SPITS Spitsbergen Ar 122.97 356 PKP PKPdf 06 50 11.5 -1.1
comp=Z,3.3nm,0.5s,baz=55,slow=5.8,SNR=16
BOSA Boshof 125.08 206 PKIKP PKPdf 06 50 19.4 +1.1
BOSA pmax pmax
comp=Z,4.0nm,0.9s
BOSA Boshof 125.08 206 PKP PKPdf 06 50 19.4 +1.1
comp=Z,4.1nm,0.8s,baz=157,slow=8.5,SNR=4.0
ARU Arti 125.91 325 i PKIKP PKPdf 06 50 18.3 -0.4
ARU 06 52 14.1
ARU 06 56 42.8
ABKAR Akbulak array 126.64 316 ePKPdf PKPdf 06 50 19.5 -0.9
KEV Kevo 129.50 349 ePKIKP PKPdf 06 50 23.0 -2.2
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 129.50 349 ep PKPdf 06 50 23.0 -2.2
comp=Z,0.8nm,0.4s
ARCES ARCESS Array B 129.96 349 PKIKP PKPdf 06 50 25.8 -0.3
ARCES pmax pmax

comp=Z,4.0nm,0.5s
ARCES pmax pmax
comp=N,4.0nm,0.7s
ARCES ARCESS Array B 129.96 349 PKP PKPdf 06 50 25.8 -0.3
comp=N,4.2nm,0.5s,baz=26,slow=1.2,SNR=32
ARCES SKPbc SKPab 06 53 08.4 +1.2
comp=N,4.1nm,0.7s,baz=35,slow=4.6,SNR=5.5
JOF Joensuu 134.08 342 ePKIKP PKPdf 06 50 34.0 0.0
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 134.08 342 ep PKPdf 06 50 34.0 0.0
comp=Z,1.7nm,0.4s
JOF Joensuu 134.08 342 ep SKPbc 06 53 21.7 +0.1
comp=Z,0.7nm,0.4s
KAF Kangasniemi 136.13 344 ePKIKP PKPdf 06 50 37.2 -0.6
KAF pmax pmax
comp=Z,2.0nm,0.3s
KAF Kangasniemi 136.13 344 ep PKPdf 06 50 37.2 -0.6
comp=Z,1.8nm,0.3s
FINES FINESS Array B 136.74 343 PKIKP PKPdf 06 50 36.5 -2.5
FINES 06 53 30.2
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES pmax pmax
comp=N,4.0nm,0.7s
FINES FINESS Array B 136.74 343 PKhKP PKPpre 06 50 36.5
comp=N,1.2nm,0.6s,baz=87,slow=4.2,SNR=4.0
FINES PKP PKPdf 06 50 39.4 +0.4
comp=N,2.6nm,0.6s,baz=63,slow=3.2,SNR=13
FINES SKPbc SKPbc 06 53 30.2 +0.4
comp=N,3.9nm,0.7s,baz=50,slow=2.4,SNR=10
OBN Obninsk 137.56 331 iPKIKP PKPdf 06 50 41.0 +0.3
VSU Vasula 138.98 340 iPKIKP PKPdf 06 50 44.2 +1.0
GNI Garni 139.09 307 iPKIKP PKPdf 06 50 44.0 -0.2
KIV Kislovodsk 139.46 313 ePKIKP PKPdf 06 50 43.7 -1.0
KIV pmax pmax
comp=Z,7.0nm,1.0s
NB2 NORSAR Subarra 140.05 353 PKP PKPpre 06 50 37.2
comp=Z,2.5nm,0.9s,baz=16,slow=3.2
NOA NORSAR Array B 140.05 353 PKHKP PKPpre 06 50 38.3
NOA 06 50 44.4
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA pmax pmax
comp=N,2.0nm,0.9s
NOA NORSAR Array B 140.05 353 PKhKP PKPpre 06 50 38.3
comp=N,0.6nm,0.5s,baz=49,slow=1.8,SNR=6.7
NOA PKP PKPdf 06 50 44.4 -0.7
comp=N,0.6nm,0.6s,baz=11,slow=3.7,SNR=4.3
NOA SKPbc SKiKP 06 53 41.0 -0.5
comp=N,1.5nm,0.9s,baz=2.9,slow=2.5,SNR=3.7
SUW Suwalki 143.75 338 ePKIKP PKPab 06 50 50.1 -0.3
SUW Suwalki 143.75 338 ePKP PKPab 06 50 50.1 -0.3
SUW Suwalki 143.75 338 ePKPdf PKPab 06 50 50.0 -0.4
AKASG Malin Array Be 143.81 330 PKIKP PKPab 06 50 49.6 -1.1
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG pmax pmax
comp=N,2.0nm,0.8s
AKASG Malin Array Be 143.81 330 PKP PKPab 06 50 49.6 -1.1
comp=N,13nm,0.7s,baz=42,slow=4.3,SNR=190
AKASG SKPbc SKPbc 06 53 48.7 0.0
comp=N,1.8nm,0.8s,baz=43,slow=2.9,SNR=5.1
KIEV Kiev 143.82 330c iPKHKP PKPab 06 50 49.3 -1.4
MALT Malatya 144.30 306 ⇓PKIKP PKPdf 06 50 53.6 +0.1
MALT Malatya 144.30 306 ⇓iP PKPdf 06 50 53.6 +0.1
SIM Simferopol' 144.60 319 PKIKP PKPdf 06 50 53.7 +0.1
SIM pmax pmax
comp=Z,46nm,0.7s
MUD Monsted U'grnd 144.77 353 ePKIKP PKPab 06 50 54.0 -0.1
MUD pmax pmax
comp=Z,22nm,0.9s
MUD Monsted U'grnd 144.77 353 iP PKPab 06 50 54.0 -0.1
comp=Z,22nm,0.9s
SORM Soroca 145.96 327 ⇓PKIKP PKPdf 06 50 56.4 +0.6
SORM Soroca 145.96 327 ⇓iP PKPdf 06 50 56.4 +0.6
LVV L'vov 146.75 333 ePKP2 PKPbc 06 50 58.9 -0.7
BRTR Keskin Array B 147.30 311 PKP2 PKPbc 06 51 00.9 -0.8
BRTR pmax pmax
comp=Z,8.0nm,0.7s
BRTR Keskin Array B 147.30 311 PKPbc PKPbc 06 51 00.8 -0.8
comp=Z,8.1nm,0.7s,baz=130,slow=4.3,SNR=50
ANTO Ankara 147.84 312 ePKIKP PKPbc 06 51 01.4 -1.5
ANTO Ankara 147.84 312 ⇓iP PKPbc 06 51 02.8 -0.1
ANTO Ankara 147.84 312 ePKPbc PKPbc 06 51 01.4 -1.5
BURAR Bucovina Array 147.85 329 ⇑PKP2 PKPbc 06 51 03.1 +0.4
BURAR Bucovina Array 147.85 329 ⇑iP PKPbc 06 51 03.1 +0.4
CFR Carcaliu 147.97 323 ⇑PKP2 PKPbc 06 51 02.5 -0.5
CFR Carcaliu 147.97 323 ⇑iP PKPbc 06 51 02.5 -0.5
OJC Ojcow 148.06 338 ePKP2 PKPbc 06 51 03.0 -0.1
OJC Ojcow 148.06 338 ePKP PKPbc 06 51 03.0 -0.1
KOLS Kolonicke sedl 148.16 334 ePKP2 PKPbc 06 51 03.6 +0.2
KOLS Kolonicke sedl 148.16 334 ePKP PKPbc 06 51 03.6 +0.2
STHS Stebnicka Huta 148.19 335 ePKP2 PKPbc 06 51 03.5 +0.1
STHS Stebnicka Huta 148.19 335 ePKP PKPbc 06 51 03.5 +0.1
STHS e 06 51 07.7
TIRR Tirgusor 148.26 322 ⇓PKP2 PKPbc 06 51 03.5 -0.2
TIRR Tirgusor 148.26 322 ⇓iP PKPbc 06 51 03.5 -0.2
VRI Vrincioaia 148.29 326 ⇓PKP2 PKPbc 06 51 03.2 -0.6
VRI Vrincioaia 148.29 326 ⇓iP PKPbc 06 51 03.2 -0.6
UZH Uzhgorod 148.39 333 ⇑iPKP2 PKPbc 06 51 03.8 -0.1
CRVS Cervenica-Dubn 148.52 335 ePKP PKPdf 06 51 01.9 +1.8
CRVS e 06 51 04.1
CRVS e 06 51 10.3
NIE Niedzica 148.54 336 ePKP2 PKPbc 06 51 04.9 +0.6
NIE Niedzica 148.54 336 ePKP PKPbc 06 51 04.9 +0.6
KSP Ksiaz 148.65 342 ePKP2 PKPbc 06 51 04.7 +0.2
KSP Ksiaz 148.65 342 ePKP PKPbc 06 51 04.9 +0.4
TRPA Tarpa 148.67 333 ⇓iP PKPbc 06 51 04.3 -0.3
ISR Istrita 148.88 325 ⇑PKP2 PKPab 06 51 11.8 +0.8
ISR Istrita 148.88 325 ⇑iP PKPab 06 51 11.8 +0.8
MLR Muntele Rosu 148.95 326 ⇓iP PKPbc 06 51 05.0 -0.6
CLL Collm 149.07 346 ePKP PKPbc 06 51 04.9 -0.6
CLL Collm 149.07 346 iPKIKP PKPbc 06 51 05.2 -0.3
comp=Z,46nm,1.4s
CLL iPKiKP PKiKP 06 51 07.9 +1.4
CLL ⇓iPKPab PKPab 06 51 10.7 -0.7
comp=Z,10.0nm,0.8s
CLL epPKPab pPKPab 06 52 54.0 +0.9
DPC Dobruska-Polom 149.08 342 ePKP2 PKPbc 06 51 05.6 -0.1
DPC Dobruska-Polom 149.08 342 ⇑ePKP PKPbc 06 51 05.6 -0.1
CLZ Clausthal 149.08 349 ePKP PKPbc 06 51 05.7 +0.1
KRLC Kraliky 149.19 341 ePKP2 PKPbc 06 51 05.9 0.0
KRLC Kraliky 149.19 341 ⇑ePKP PKPbc 06 51 05.9 0.0
CSS Prodhromos 149.20 302 ePKPbc PKPbc 06 51 05.0 -1.4
MORC Moravsky Berou 149.21 340 ⇓PKP2 PKPbc 06 51 05.9 -0.1
MORC Moravsky Berou 149.21 340 ⇓iP PKPbc 06 51 05.9 -0.1
BRG Berggiesshubel 149.25 345 ePKP PKPdf 06 51 01.5 +0.4
comp=Z,3.7nm,1.3s
BRG e 06 51 05.9
comp=Z,44nm,1.6s
BRG pPKP pPKPdf 06 52 50.0 +2.6
comp=Z,3.8nm,1.0s
BRG Berggiesshubel 149.25 345 ePKP PKPbc 06 51 05.9 -0.1
CJR Cluj-Napoca 149.26 330 ⇓iP PKPbc 06 51 05.8 -0.4
FBE Freiberg 149.35 345 ePKP PKPbc 06 51 06.0 -0.2
NEUB Neuenburg 149.43 347 ePKP PKPbc 06 51 06.4 0.0
VOIR 149.45 327 ⇓PKP2 PKPbc 06 51 08.8 +2.0
VOIR 149.45 327 ⇓iP PKPbc 06 51 08.8 +2.0
DRGR 149.62 331 ⇑iP PKPbc 06 51 06.5 -0.6
ARR Arges 149.71 327 ⇑iP PKPbc 06 51 08.1 +0.7
VYHS Vyhne 149.85 337 ePKP PKPbc 06 51 07.3 -0.2
VYHS e 06 51 15.4
PRU Pruhonice 149.91 343 ⇑ePKP PKPbc 06 51 07.3 -0.3
PSZ Piszkesteto 149.93 335 ⇑iP PKPbc 06 51 07.8 0.0
MOX Moxa 149.99 347 ePKP PKPbc 06 51 07.6 -0.2
PLN Plauen 150.03 346 ePKPab PKPab 06 51 15.3 -0.1
WERD Werda 150.03 346 ePKP PKPbc 06 51 07.8 -0.1
GUNZ Gunzen 150.10 346 ePKP PKPbc 06 51 08.2 +0.1
WERN Wernitzgruen 150.16 346 ePKP PKPbc 06 51 08.4 +0.2
ROHR Rohrbach 150.23 346 ePKP PKPbc 06 51 08.5 +0.1
ROHR ePKPab PKPab 06 51 16.2 -0.1
JMB Yambol 150.52 321 ⇓PKIKP PKPbc 06 51 09.2 -0.1
JMB Yambol 150.52 321 ⇓iP PKPbc 06 51 09.2 -0.1
GZR Gura Zlata 150.62 329 ⇑PKIKP PKPbc 06 51 08.6 -0.9
GZR Gura Zlata 150.62 329 ⇑iP PKPbc 06 51 08.6 -0.9
ROTZ Rotzenmuhle 150.69 346 ePKP PKPbc 06 51 09.4 0.0
MEM Membach 150.87 354 PKPbc PKPbc 06 51 10.1 +0.3
KHC Kasperske Hory 150.95 344 ePKP PKPbc 06 51 09.8 -0.3
KHC e 06 51 19.5
KHC Kasperske Hory 150.95 344 ⇑ePKP PKPbc 06 51 09.8 -0.3
KHC ePKPAB PKPab 06 51 19.5 +0.1
KHC Kasperske Hory 150.95 344 ePKPbc PKPbc 06 51 09.6 -0.5
BZS Buzias 151.00 330 ⇓PKIKP PKPbc 06 51 09.8 -0.5
BZS Buzias 151.00 330 ⇓iP PKPbc 06 51 09.8 -0.5
SNF Seneffe 151.10 356 PKPbc PKPbc 06 51 10.7 +0.4
GEC2 GERESS Array S 151.18 343 ePKP PKPbc 06 51 10.5 -0.2
GERES GERESS Array B 151.18 343 PKIKP PKPbc 06 51 10.2 -0.5
GERES pmax pmax
comp=Z,6.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 151.18 343 PKPbc PKPbc 06 51 10.2 -0.5
comp=Z,5.9nm,0.6s,baz=20,slow=2.1,SNR=42
GERES pPKPbc pPKPbc 06 52 56.1 +0.1
comp=Z,0.8nm,0.7s,baz=64,slow=3.4,SNR=3.6
CONA Conrad Observa 151.36 340 ⇓iPKiKP PKPbc 06 51 10.9 -0.2
comp=Z,11nm,0.6s
DOU Dourbes 151.49 356 PKPbc PKPbc 06 51 11.3 +0.1
WLF Walferdange 151.79 354 PKPbc PKPbc 06 51 12.2 +0.2
PKSM Moragy 151.82 334 ⇓PKIKP PKPbc 06 51 11.5 -0.6
PKSM Moragy 151.82 334 ⇓iP PKPbc 06 51 11.4 -0.6
VTS Vitosha 152.36 324 ⇑PKIKP PKPbc 06 51 12.7 -0.9
VTS Vitosha 152.36 324 ⇑iP PKPbc 06 51 12.7 -0.9
MMB Musomiste 152.73 322 ⇓PKIKP PKPbc 06 51 13.3 -1.0
MMB Musomiste 152.73 322 ⇓iP PKPbc 06 51 13.3 -1.0
ABTA Abfaltersbach 153.42 343 ⇑iPKPbc PKPbc 06 51 15.1 -0.6
comp=Z,7.6nm,0.6s
ESDC Sonseca Array 161.40 14 PKPab PKPab 06 52 04.8 +0.2
comp=Z,0.2nm,0.4s,baz=335,slow=3.6,SNR=8.4
DBIC Dimbokro 163.87 156 PKIKP PKPdf 06 51 19.7 -1.1
DBIC 06 52 17.0
DBIC pmax pmax
comp=Z,4.0nm,1.0s
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 163.87 156 PKP PKPdf 06 51 19.7 -1.1
comp=Z,4.0nm,1.0s,baz=135,slow=1.4,SNR=3.5
DBIC PKPab PKPab 06 52 17.0 +1.0
comp=Z,4.3nm,0.9s,baz=1.1,slow=3.9,SNR=3.8
KEST Kesra 164.40 336 PKPab PKPab 06 52 18.3 +0.3
comp=Z,1.3nm,0.9s,baz=124,slow=4.4,SNR=4.2
TORD Torodi Ar. Bea 171.56 181 PKP PKPdf 06 51 24.3 -1.8
comp=Z,1.5nm,1.0s,baz=297,slow=0.5,SNR=6.2
TORD PKPab PKPab 06 52 50.0 +0.1
comp=Z,2.0nm,0.7s,baz=174,slow=3.8,SNR=11

WEL 17 06:38:35.0±0.3, 37.87S×176.26E, h156km±3km, ML3.7/6, 1C, Error ellipse: s-maj=3.4km s-min=3.1km az=0.0, North Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 0.78 121 ⇑PN Pn 06 38 58.6 +0.1
URZ AML AML 06 39 16.0
URZ SN Sn 06 39 16.2 -0.3
RATZ Rangitukua 1.07 201 PN Pn 06 39 01.4 +0.5
MWZ Matawai 1.10 115 PN Pn 06 39 01.2 0.0
MWZ SN Sn 06 39 21.0 -0.3
MWZ AML AML 06 39 21.9
RAHZ Arahi 1.23 149 SN Sn 06 39 23.2 -0.2
SNGZ Shannon Statio 1.25 137 PN Pn 06 39 02.5 0.0
SNGZ SN Sn 06 39 23.2 -0.4
BKZ Black Stump Fm 1.31 172 PN Pn 06 39 02.9 -0.2
BKZ SN Sn 06 39 23.9 -0.9
BKZ AML AML 06 39 24.4
NGZ Ngauruhoe 1.41 201 PN Pn 06 39 04.7 +0.6
WHHZ Waihua 1.43 148 PN Pn 06 39 05.6 +1.4
RIGZ Rimuhau 1.45 126 PN Pn 06 39 04.6 +0.1
WPVZ Whakapapa 1.45 203 PN Pn 06 39 04.7 +0.2
TUVZ Tukino 1.48 199 PN Pn 06 39 05.0 +0.1
TRVZ Turoa 1.54 201 PN Pn 06 39 05.9 +0.3
WNVZ Wahianoa 1.55 199 PN Pn 06 39 05.6 0.0
MOVZ Moawhango 1.59 194 PN Pn 06 39 05.4 -0.5
PUZ Puketiti 1.59 98 PN Pn 06 39 05.2 -0.7
BHHZ Black Hill Sta 1.63 185 PN Pn 06 39 05.7 -0.6
MTVZ Mangateitei 1.64 202 PN Pn 06 39 06.0 -0.4
CNGZ Carnagh Static 1.65 113 PN Pn 06 39 06.9 +0.3
KRHZ Kereru 1.78 177 PN Pn 06 39 07.6 -0.4
KAHZ Kahuranaki 1.98 166 PN Pn 06 39 09.7 -0.6
PNHZ Pukenui 2.04 181 PN Pn 06 39 10.0 -1.0
WPHZ Waipukurau 2.20 176 PN Pn 06 39 11.4 -1.3
PXZ Pawanui 2.21 168 PN Pn 06 39 11.9 -0.9
PXZ AML AML 06 39 22.4
PXZ AML AML 06 39 40.5
PRHZ Porangahau 2.42 173 PN Pn 06 39 13.8 -1.4
DVHZ Dannevirke 2.43 182 PN Pn 06 39 13.7 -1.8
POWZ Post Office Ro 2.55 188 PN Pn 06 39 15.2 -1.8
ANWZ Angora Road 2.60 176 PN Pn 06 39 16.1 -1.4
PRWZ Pori Road 2.69 185 PN Pn 06 39 16.9 -1.8
MRZ Mangatainoka R 2.84 191 PN Pn 06 39 18.2 -2.3
MRZ AML AML 06 39 38.9
MRZ SN Sn 06 39 53.1 -2.7
TIWZ Tintock 2.92 186 PN Pn 06 39 19.3 -2.3
OGWZ Otaki Gorge 3.07 196 PN Pn 06 39 21.0 -2.3
HOWZ Holdsworth Sta 3.08 191 PN Pn 06 39 20.6 -2.9
KIW Kapiti Island 3.17 199 PN Pn 06 39 22.0 -2.6
TMWZ Te Maipa 3.25 185 PN Pn 06 39 22.8 -2.9
MTW Mount Morrison 3.34 190 PN Pn 06 39 23.4 -3.4
CAW Cannon Point 3.37 196 PN Pn 06 39 24.0 -3.1
CAW AML AML 06 39 36.7
CAW AML AML 06 39 55.2
DUWZ D'Urville Isla 3.45 211 PN Pn 06 39 25.4 -2.8
MSWZ Moikau Station 3.63 192 PN Pn 06 39 27.0 -3.5
MSWZ SN Sn 06 40 08.3 -5.5
SNZO South Karori 3.64 199 PN Pn 06 39 27.1 -3.5
TCW Tory Channel 3.68 204 PN Pn 06 39 28.0 -3.1
PLWZ Palliser 3.78 192 PN Pn 06 39 28.7 -3.8
TUWZ Tuamarina 3.98 206 PN Pn 06 39 31.4 -3.6
NNZ Nelson 4.02 213 PN Pn 06 39 32.0 -3.5
NNZ SN Sn 06 40 19.0 -3.8
QRZ Quartz Range 4.13 223 PN Pn 06 39 33.3 -3.7
LTZ Lake Taylor 5.78 211 PN Pn 06 39 54.1 -4.7

MEX 17 06:40:42.7±0.8, 17.13N×95.04W, h128km±9km, MD3.9, Oaxaca

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMIG Matias Romero 0.15 103 iP Pn 06 40 58.7 -1.6
CMIG iS Sn 06 41 11.5 -2.0
OXX Oaxaca 1.61 269 iP Pn 06 41 14.2 +1.9
VHO Vista Hermosa 1.62 268 iP Pn 06 41 11.8 -0.5
VHO eS Sn 06 41 32.0 -2.8
HUIG Huatulco 1.70 217 iP Pn 06 41 11.0 -2.0
HUIG eS Sn 06 41 34.1 -2.0
TPIG Tehuac#an 2.56 301 iP Pn 06 41 21.9 -1.9
TPIG iS Sn 06 41 53.4 -2.0
CCIG Comitan 2.91 106 iP Pn 06 41 27.3 -1.0
CCIG iS Sn 06 42 01.2 -2.2
PNIG Pinotepa 3.05 257 iP Pn 06 41 27.6 -2.3
PNIG iS Sn 06 42 04.0 -2.3

IDC 17 06:44:12.5±4.6, 17.66S×68.94W, h166km±26km, mb3.3/4, mb1 3.3/5, mb1mx3.1/28, mbtmp3.7/5, Error ellipse: s-maj=65.6km s-min=22.2km az=23.0
ISC 17 06:44:08.9±1.5, 18.0S±0.2×69.1W±0.1, h140km, n8, σ1.12/9, mb3.8/4, Northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 1.95 27 P Pn 06 44 43.9 +0.4
4.3nm,0.3s,baz=214,slow=6.9,SNR=280
LPAZ S Sn 06 45 09.7 -0.2
1.6nm,0.3s,baz=27,slow=20,SNR=14
SIV San Ignacio 7.90 76 P Pn 06 46 01.0 -0.1
0.5nm,0.3s,baz=189,slow=11,SNR=6.0
SIV S Sn 06 47 28.2 -1.0
0.1nm,0.3s,baz=15,slow=19,SNR=5.1
BDFB Brasilia 20.28 86 P P 06 48 36.0 +2.1
1.5nm,0.8s,baz=254,slow=13,SNR=3.5
TORD Torodi Ar. Bea 76.35 71 P P 06 55 42.1 -1.0
0.4nm,0.7s,baz=262,slow=4.9,SNR=2.7
YKA Yellowknife Ar 87.89 341 P P 06 56 41.3 -0.8
0.2nm,0.5s,baz=137,slow=4.7,SNR=9.1
BORG Borgarnes 90.19 19 P P 06 56 49.7 -3.2
26nm,1.2s,baz=245,slow=17,SNR=2.4
KEST Kesra 91.33 53 P P 06 56 59.7 +0.6
1.0nm,0.7s,baz=264,slow=9.2,SNR=2.9

SONM Songino Array 150.04 6 PKPbc PKPbc 07 03 43.2 0.0
0.2nm,0.6s,baz=325,slow=1.8,SNR=2.8

IDC 17 06:46:29.9±1.1, 15.70S×173.56W, h0km, mb4.0/10, mb1 4.3/11, mb1mx4.0/33, mbtmp4.0/11, ML3.0/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/26, Error ellipse: s-maj=68.9km s-min=15.4km az=149.0
NEIC 17 06:46:31.5±0.8, 15.60S×173.54W, h10km, mb4.7/2, Error ellipse: s-maj=46.1km s-min=8.5km az=150.0
ISC 17 06:46:36.0±1.1, 15.4S±0.3×173.6W±0.2, h42km, n34, σ2.30/25, mb4.2/13, MS3.4/4, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
AFI Afiamalu 2.24 50 Pn Pn 06 47 06.5 -4.2
72nm,0.3s,baz=193,slow=2.7,SNR=14
AFI Sn Sn 06 47 31.6 -5.5
120nm,0.3s,baz=45,slow=22,SNR=3.9
AFI Afiamalu 2.24 50 Pn Pn 06 47 06.5 -4.2
AFI Pn Pn 06 47 08.0 -2.7
AFI Sn Sn 06 47 31.6 -5.5
MSVF Nonsavu 8.40 252 ePn Pn 06 48 34.8 -0.5
36nm,1.0s
DZM Mont Dzumac 20.08 248 P P 06 51 03.4 -2.8
0.0nm,0.3s,baz=103,slow=19,SNR=2.2
DZM LR LR 06 57 10.0
comp=Z,144nm,18.3s,baz=32,slow=32
PPT Papeete 23.09 99 LR LR 06 58 48.7
comp=Z,48nm,18.8s,baz=216,slow=32
HNR Honiara 26.53 280 LR LR 07 01 09.9
comp=Z,119nm,19.6s,baz=112,slow=33
H11S2 WAKE ISLAND Hy 38.85 329 T T 07 35 53.4
baz=153,slow=77,SNR=25
H11S3 WAKE ISLAND Hy 38.87 329 T T 07 36 00.1
baz=153,slow=77,SNR=20
H11S1 WAKE ISLAND Hy 38.87 329 T T 07 35 55.3
baz=153,slow=77,SNR=18
H11N3 WAKE ISLAND Hy 39.80 331 T T 07 37 13.4
baz=152,slow=77,SNR=18
H11N1 WAKE ISLAND Hy 39.81 330 T T 07 37 13.5
baz=152,slow=77,SNR=18
H11N2 WAKE ISLAND Hy 39.82 331 T T 07 37 18.0
baz=152,slow=77,SNR=14
STKA Stephens Creek 43.93 240 P P 06 54 36.6 -2.4
6.3nm,0.8s,baz=97,slow=11,SNR=11
STKA Stephens Creek 43.93 240 eP P 06 54 36.9 -2.1
JAY Jayapura 46.84 281 P P 06 55 02.4 +0.1
251nm,0.4s,baz=343,slow=0.3,SNR=3.5
WRA Warramunga Arr 49.71 257 P P 06 55 23.4 -1.0
2.3nm,0.8s,baz=92,slow=7.3,SNR=26
AS31 Alice Springs 49.99 252 eP P 06 55 24.9 -1.6
ASAR Alice Springs 49.99 252 P P 06 55 25.1 -1.3
7.5nm,0.7s,baz=88,slow=8.0,SNR=81
H06E1 SOCORRO T-PHAS 70.36 63 T T 08 14 11.9
SNR=6.3
YBH Yreka Blue Hor 73.65 37 P P 06 58 06.3 +0.9
2.0nm,0.6s,baz=280,slow=7.6,SNR=2.1
NVAR Mina Array Bea 74.39 42 P P 06 58 11.7 +1.8
1.1nm,0.8s,baz=230,slow=10,SNR=8.5
TXAR Lajitas Array 80.71 56 P P 06 58 46.9 +1.6
0.4nm,0.8s,baz=236,slow=6.4,SNR=2.9
NEW Newport 80.75 34 P P 06 58 46.6 +1.7
1.3nm,0.7s,baz=252,slow=3.2,SNR=2.3
PV01 Paradox Valley 80.80 46 eP P 06 58 47.8 +2.1
PDAR Pinedale Array 82.33 42 P P 06 58 55.2 +1.5
0.4nm,0.7s,baz=190,slow=4.2,SNR=4.6
PDAR LR LR 07 28 11.7
comp=Z,38nm,18.5s,baz=306,slow=30
ILAR Eielson Array 82.43 11 P P 06 58 55.7 +2.3
0.5nm,0.7s,baz=231,slow=6.9,SNR=6.6
HRY Holter Researc 82.90 38 eP P 06 58 58.5 +2.1
1.5nm,0.6s
ABTX Abilene, Hawle 85.15 54 eP P 06 59 09.5 +1.4
13nm,1.2s
YKA Yellowknife Ar 90.11 23 P P 06 59 32.2 +1.0
0.2nm,0.8s,baz=234,slow=4.2,SNR=3.3
ARCES ARCESS Array B 124.55 352 PKP PKPdf 07 05 31.6 +1.5
2.8nm,0.9s,baz=64,slow=2.1,SNR=5.6
AKASG Malin Array Be 140.24 337 PKP PKPdf 07 06 00.0 -0.2
0.1nm,0.3s,baz=99,slow=0.9,SNR=3.3
KMBO Kilima Mbogo 145.42 244 PKPbc PKPab 07 06 11.1 +0.1
0.9nm,0.4s,baz=85,slow=6.1,SNR=4.0
BRTR Keskin Array B 146.03 321 PKPbc PKPab 07 06 13.6 +1.2
2.5nm,1.0s,baz=70,slow=1.4,SNR=8.2
GERES GERESS Array B 146.08 351 PKPbc PKPab 07 06 12.2 +0.1
0.7nm,0.7s,baz=356,slow=4.0,SNR=4.3

MEX 17 07:05:23.0±0.3, 17.02N×99.83W, h14km±5km, MD3.7, Guerrero

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
ACX Acapulco 0.15 192 iP Pg 07 05 25.9 -0.9
ACX iS Sg 07 05 29.9 +0.5
CAIG El Cayaco 0.42 274 iP Pg 07 05 30.6 -0.9
CAIG eS Sg 07 05 36.4 -0.8
MEIG Mezcala 0.92 12 iP Pb 07 05 37.8 -3.2
MEIG eS Sg 07 05 49.1 -4.0
TLIG Tlapa 1.32 66 iP Pn 07 05 43.2 -4.1
TLIG eS Sb 07 05 58.8 -5.9
ARIG Puente Sto Nin 1.35 338 iP Pn 07 05 43.9 -3.6
ARIG eS Sn 07 06 00.3 -5.0
PLIG Platanillo 1.40 13 iP Pn 07 05 45.1 -3.3
PLIG eS Sn 07 06 01.9 -4.9
PNIG Pinotepa 1.74 111 iP Pn 07 05 49.9 -3.1
PNIG iS Sn 07 06 10.5 -4.5

KRNET 17 07:16:35.3±0.1, 41.48N×78.04E, h3km, mb2.9
NNC 17 07:16:38.1±4.2, 44.87N×77.65E, h0km, mb2.9, mpv2.6, 7C-2D, Error ellipse: s-maj=39.4km s-min=11.2km az=2.0, Eastern Kazakhstan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
PDGK Podgornoye 2.03 139 ⇑P Pn 07 17 12.9 -0.6
PDGK ⇓S Sb 07 17 41.1 -0.5
TKM2 Tokmak 2 2.45 218 ⇑P Pn 07 17 19.5 -0.1
1.4nm,0.3s
TKM2 ⇑S Sn 07 17 50.8 +0.4
3.2nm,0.4s
KBK Karagaybulak 2.95 222 ⇑iP Pn 07 17 26.5 0.0
baz=298
KBK ⇑iS Sn 07 18 02.0 -0.8
baz=298
AAK Ala-Archa 3.19 227 P Pn 07 17 30.5 +0.7
0.8nm,0.5s
AAK ⇓S Sn 07 18 10.4 +1.5
3.9nm,0.6s
UCH Uchtor 3.49 222 ⇑iP Pn 07 17 30.8 -3.4
baz=287
UCH ⇑iS Sn 07 18 10.2 -6.4
baz=287

ISCJB 17 08:17:27.5±0.8, 4.88N±0.10×123.2E±0.3, h592km, mb3.5/7, Error ellipse: s-maj=39.8km s-min=12.3km az=173.7
IDC 17 08:17:28.8±2.1, 4.85N×123.17E, h590km±30km, mb3.0/7, mb1 3.2/8, mb1mx2.9/27, mbtmp4.2/8, Error ellipse: s-maj=35.3km s-min=12.2km az=78.0
ISC 17 08:17:28.7±0.9, 4.8N±0.1×123.2E±0.3, h592km, n8, σ0.53/9, mb3.5/7, Celebes Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BATI Baumata 14.96 178 P P 08 20 36.6 -0.3
6.2nm,0.3s,baz=57,slow=3.7,SNR=5.4
WRA Warramunga Arr 26.96 156 P P 08 22 24.5 -0.2
1.2nm,0.4s,baz=337,slow=9.5,SNR=26
ASAR Alice Springs 30.20 160 P P 08 22 53.4 +0.6
0.4nm,0.4s,baz=338,slow=7.0,SNR=12
ASAR ScP ScP 08 28 21.3 -0.4
0.2nm,0.4s,baz=339,slow=2.9,SNR=4.9
MJAR Matsushiro Arr 34.43 22 P P 08 23 27.6 -0.7
1.9nm,0.8s,baz=198,slow=9.2,SNR=4.3
USRK Ussuriysk Arra 39.95 10 P P 08 24 13.7 +0.6
0.5nm,0.5s,baz=199,slow=4.0,SNR=4.6
ASAJ Asahikawa 42.68 21 P P 08 24 35.0 +0.4
3.8nm,0.5s,baz=288,slow=6.4,SNR=5.5
SONM Songino Array 45.19 344 P P 08 24 54.2 +0.1
0.6nm,0.8s,baz=156,slow=9.9,SNR=5.2
MKAR Makanchi Array 54.66 327 P P 08 26 02.9 -0.1

0.3nm,0.3s,baz=124,slow=8.4,SNR=13

GUC 17 08:24:43.4±0.5,34°.48S×70°.58W,h112km±2km,MD3.5, ML3.5,4C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	El Canelo	0.36	357	⇑eP	Pn	08 24 59.4	-0.5
CACH				i S	Sn	08 25 11.8	-0.4
CHCH	Chadas Angostu	0.55	353	⇓iP	Pn	08 25 00.4	-0.4
CHCH				i S	Sn	08 25 13.3	-0.7
LMEL	Las Melosas	0.70	26	⇑iP	Pn	08 25 02.1	-0.1
LMEL				i S	Sn	08 25 16.1	-0.2
LMEL				AML	AML	08 25 18.4	
	comp=N,1μm,0.2s						
LNV	Longovilo	0.87	307	⇑iP	Pn	08 25 03.1	-0.3
LNV				i S	Sn	08 25 17.2	-1.3
TACH	Talagante	0.88	340	⇓iP	Pn	08 25 03.4	-0.2
TACH				i S	Sn	08 25 18.2	-0.6
ANTU	Antumapu	0.91	357	eP	Pn	08 25 03.6	-0.3
ANTU				eS	Sn	08 25 19.1	-0.3
FSR	Penalolen	1.00	2	eP	Pn	08 25 05.2	+0.3
FSR				eS	Sn	08 25 21.7	+0.7
LACH	Col Las Americ	1.03	2	eP	Pn	08 25 05.0	-0.1
LACH				eS	Sn	08 25 21.3	-0.2
SAN	Santiago	1.03	356	eP	Pn	08 25 04.9	-0.2
SAN				eS	Sn	08 25 21.0	-0.5
CLCH	Cerro Calan	1.08	2	⇑iP	Pn	08 25 05.7	0.0
CLCH				i S	Sn	08 25 22.2	-0.4
CLCH				AML	AML	08 25 23.1	
	comp=E,1μm,0.4s						
PEL	Peldehue	1.34	356	⇓iP	Pn	08 25 08.5	0.0
PEL				eS	Sn	08 25 27.2	-0.3
PEL				AML	AML	08 25 28.3	
	comp=N,894nm,0.4s						
ROCH	El Roble	1.55	346	eP	Pn	08 25 11.1	-0.2
ROCH				eS	Sn	08 25 31.8	-0.6
ROCH				AML	AML	08 25 34.8	
	comp=N,371nm,0.5s						
IHA	Instituto Hidr	1.70	328	eP	Pn	08 25 12.8	+0.1
CMCH	Combarbala	3.32	354	eP	Pn	08 25 32.8	-1.1
CMCH				AML	AML	08 26 14.4	
	comp=E,195nm,0.5s						

IDC 17 08:30:06.4±3.0,54°.16N×86°.48E,h0km,mb1 2.7/1, mb1mx2.6/29,mbtmp2.7/1,ML2.8/1,Error ellipse: s-maj=22.4km s-min=12.9km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.00	258	i		08 37 25.1	
	baz=79,slow=338,SNR=1.0						
ZALV	Zalesovo Beam	1.00	258	Pg	Pg	08 30 24.2	-1.4
	1.8nm,0.3s,baz=73,slow=16,SNR=22						
ZALV				Lg	Lg	08 30 39.9	
	3.5nm,0.3s,baz=79,slow=28,SNR=22						
ZALV				Rg	Rg	08 30 43.0	
	7.0nm,0.4s,baz=82,slow=27,SNR=12						
MKAR	Makanchi Array	7.84	202	Pn	Pn	08 32 03.2	+1.6
	0.1nm,0.3s,baz=24,slow=13,SNR=8.4						
MKAR				Lg	Lg	08 34 16.9	
	0.0nm,0.3s,baz=24,slow=28,SNR=9.8						

NNC 17 08:36:59.1±1.6,51°.75N×75°.66E,h0km,mb2.7,mpv2.3, Error ellipse: s-maj=55.0km s-min=9.4km az=25.0
IDC 17 08:37:13.9±3.1,53°.60N×87°.67E,h0km,mb1 3.2/1, mb1mx2.9/29,mbtmp3.2/1,ML3.0/1,Error ellipse: s-maj=30.1km s-min=16.4km az=56.0
ISC 17 08:36:59.4±2.5,52°.0N±0°.5×75°.8E±0°.3,h10km,n8,σ3s.30/6, 4C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	2.18	123	⇓Pn	**Pn**	**08 37 35.6**	**0.0**
	1.3nm,0.6s						
KURK				⇑Sn	**Sb**	**08 38 04.1**	**-1.8**
	3.9nm,0.6s						
VOSK	Vostochnaya	3.04	287	⇓Sn	**Sn**	**08 38 24.2**	**+0.3**
	5.2nm,0.5s						
BVA0	Borovoye Array	3.46	290	⇓Sn	**Sb**	**08 38 39.2**	**-3.5**
	2.8nm,0.8s,baz=114,slow=26,SNR=4.5						
BRVK	Borovoye	3.53	290	⇑Sn	**Sn**	**08 38 40.0**	**+4.1**
	4.4nm,0.5s						
OTUK	Ortayu	4.31	212	⇑Lg	Lg	08 39 11.8	
I46RU	ZALESOVO INFRA	5.83	66	i		08 49 26.6	
	baz=101,slow=342,SNR=2.4						
MK31	Makanchi Array	6.69	138	⇑Lg	Lg	08 40 24.0	
	0.9nm,0.6s,baz=310,slow=6.6,SNR=5.2						
MKAR	Makanchi Array	6.69	138	Pn	**Pg**	**08 39 08.0**	**+0.5**
	0.2nm,0.3s,baz=30,slow=13,SNR=13						
MKAR				Lg	Lg	08 41 14.6	
	0.1nm,0.3s,baz=27,slow=29,SNR=8.3						

IDC 17 08:48:03.1±0.8,22°.98N×142°.93E,h0km,mb3.8/10, mb1 4.0/11,mb1mx3.8/25,mbtmp3.8/11,ML3.6/1,Error ellipse: s-maj=34.1km s-min=17.8km az=79.0
ISCJB 17 08:48:10.9±0.8,22°.99N±0°.07×142°.8E±0°.2,h71km, mb3.6/10,Error ellipse: s-maj=29.4km s-min=10.1km az=175.7
ISC 17 08:48:12.4±0.9,23°.0N±0°.1×143°.0E±0°.2,h71km,n19, σ1s.38/14,mb3.9/10,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.11	350	Pn	**Pn**	**08 49 09.8**	**-2.9**
	3.2nm,0.3s,baz=286,slow=20,SNR=2.2						
JCJ				Sn	**Sn**	**08 50 00.2**	**+0.7**
	74nm,0.3s,baz=275,slow=22,SNR=21						
KSRS	Korea Array	19.34	321	P	**Pn**	**08 52 36.5**	**+2.7**
	0.4nm,0.3s,baz=135,slow=12,SNR=5.7						
H11N1	WAKE ISLAND Hy	22.52	94	T	T	09 17 03.5	
	baz=285,slow=74						
H11N2	WAKE ISLAND Hy	22.52	94	T	T	09 17 03.0	
	baz=285,slow=74						
H11N3	WAKE ISLAND Hy	22.53	94	T	T	09 17 07.0	
	baz=285						
H11S3	WAKE ISLAND Hy	22.62	97	T	T	09 16 55.4	
	baz=285						
H11S1	WAKE ISLAND Hy	22.63	97	T	T	09 16 26.9	
	baz=285						
H11S2	WAKE ISLAND Hy	22.64	97	T	T	09 16 19.4	
	baz=285						
SONM	Songino Array	38.19	320	P	**P**	**08 55 25.7**	**+0.5**
	0.8nm,0.5s,baz=142,slow=8.1,SNR=12						
WRA	Warramunga Arr	43.54	192	P	**P**	**08 56 08.2**	**-1.1**
	0.4nm,0.3s,baz=18,slow=8.8,SNR=20						
ASAR	Alice Springs	47.25	191	P	**P**	**08 56 38.5**	**-0.2**
	0.2nm,0.6s,baz=17,slow=13,SNR=3.9						
ZALV	Zalesovo Beam	53.05	321	P	**P**	**08 57 21.6**	**-0.5**
	1.0nm,0.3s,baz=104,slow=6.3,SNR=6.0						
MKAR	Makanchi Array	53.66	312	P	**P**	**08 57 26.9**	**+0.1**
	1.0nm,0.5s,baz=88,slow=9.0,SNR=20						
YKA	Yellowknife Ar	75.37	28	P	**P**	**08 59 49.0**	**+1.0**
	0.1nm,0.5s,baz=293,slow=5.7,SNR=4.3						
ARCES	ARCESS Array B	77.60	341	P	**P**	**09 00 00.3**	**-0.3**
	1.9nm,0.9s,baz=68,slow=7.3,SNR=3.5						
KBZ	Khabaz	81.30	314	P	**P**	**09 00 21.2**	**+0.1**
	1.7nm,0.8s,baz=74,slow=7.4,SNR=3.9						
FINES	FINESS Array B	81.89	334	P	**P**	**09 00 22.8**	**-1.1**
	0.4nm,0.3s,baz=94,slow=6.4,SNR=7.4						
NVAR	Mina Array Bea	82.47	52	P	**P**	**09 00 28.7**	**+1.0**
	0.3nm,0.7s,baz=280,slow=7.0,SNR=3.0						
PLCA	Paso Flores	146.78	130	PKPbc	**PKPbc**	**09 07 46.8**	**+0.2**
	1.8nm,0.6s,baz=243,slow=5.7,SNR=9.8						

KRSC 17 08:55:59.2±0.7,55°.20N×160°.38E,h-2km±4km,ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	Kizimen	0.09	210	P	Pg	08 56 02.0	+0.8
TUMR	Tumrok	0.16	304	P	Pg	08 56 03.8	+1.4
KMNR	Kamenistaya	0.57	352	P	Pb	08 56 11.6	-0.6
KMNR				S	Sb	08 56 21.1	+0.2
BZMR	Bezymyannaya	0.74	5	P	Pb	08 56 15.5	+0.2
BZMR				S	Sn	08 56 28.2	-1.2
KIRR	Kirishev	0.76	359	P	Pb	08 56 15.5	0.0
KIRR				S	Sb	08 56 28.0	+1.4
BZGR	Bezymyannyi-Gr	0.77	14	P	Pb	08 56 15.4	-0.2
BZWR	Bezymyannyi-We	0.77	5	eP	Pb	08 56 16.7	+0.9
BZWR				S	Sn	08 56 29.5	-0.6
KPT	Kopyto	0.78	354	P	Pb	08 56 16.1	+0.4
KPT				S	Sb	08 56 28.3	+1.3
KOZ	Kozyrevsk	0.91	342	P	Pb	08 56 17.7	-0.2
KOZ				S	Sb	08 56 31.6	+1.0
MKZ	Mys Kozlova	1.01	129	P	Pg	08 56 19.0	+0.5
MKZ				S	Sb	08 56 33.0	-0.4
KLY	Klyuchi	1.13	8	P	Pn	08 56 22.5	+0.2
KLY				S	Sn	08 56 39.6	+1.1
SRDR	Sredinnyy	1.19	342	eP	Pg	08 56 21.9	-0.1
SRDR				eS	Sb	08 56 38.8	+0.2
ESO	Esso	1.20	308	P	Pg	08 56 22.1	-0.2
ESO				S	Sb	08 56 39.1	+0.1
KII	Karymskiy	1.28	205	P	Pn	08 56 24.8	+0.4
BDR	Baidarnaya	1.45	18	P	Pn	08 56 26.1	-0.7
SMKR	Semkarok	1.52	23	P	Pg	08 56 28.5	0.0
SMKR				S	Sn	08 56 50.9	+2.6
SRKR	Sorokina	1.53	17	P	Pg	08 56 29.0	+0.4
KBTR	Krutoberegovo	1.72	53	P	Pn	08 56 30.7	+0.4
KBTR				S	Sg	08 56 54.1	-0.2
GNL	Ganaly	2.07	224	P	Pn	08 56 35.9	+0.6
GNL				S	Sb	08 57 04.1	0.0
KRX	Arik	2.10	210	P	Pb	08 56 38.1	-0.2
SDLR	Sedlovina	2.11	205	P	Pb	08 56 37.4	-1.1
KRER	Koryakskii	2.12	207	P	Pb	08 56 38.9	+0.1
SMAR	Somma	2.15	206	P	Pb	08 56 37.9	-1.3
AVH	Avacha	2.16	207	P	Pg	08 56 40.2	-0.5
KOK	Koryaka	2.16	209	P	Pb	08 56 39.2	-0.1
UGLR	Uglovaya	2.19	205	P	Pb	08 56 40.5	+0.7
APC	Apacha	2.96	221	P	Pn	08 56 48.9	+1.5
RUS	Russkaya	2.98	203	P	Pn	08 56 49.3	+1.7
ASAK	Asacha	3.18	209	P	Pn	08 56 52.9	+2.4

IDC 17 09:00:01.9±2.5,52°.56N×36°.58E,h0km,mb3.4/1, mb1 3.6/6,mb1mx3.3/39,mbtmp3.5/6,ML3.3/5,MS3.3/2, Ms1 3.3/2,ms1mx2.3/38,Error ellipse: s-maj=33.5km s-min=15.2km az=127.0
ISC 17 09:00:09.9±2.9,53°.2N±0°.2×35°.2E±0°.3,h10km,n10, σ2s.65/7,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	Obninsk	2.12	22	Lg	Lg	09 01 29.0	
	3.6nm,0.3s,baz=352,slow=23,SNR=5.6						
I43RU	DUBNA INFRASON	3.75	18	i		09 29 33.7	
	baz=190,slow=189,SNR=4.1						
AKASG	Malin Array Be	4.43	239	Pn	**Pn**	**09 01 16.7**	**-0.4**
	1.6nm,0.3s,baz=60,slow=15,SNR=5.0						
AKASG				Sn	**Sn**	**09 02 10.8**	**+2.2**
	2.1nm,0.3s,baz=68,slow=30,SNR=4.6						
FINES	FINESS Array B	9.64	333	Pn	**Pn**	**09 02 30.5**	**+2.1**
	0.2nm,0.3s,baz=148,slow=13,SNR=5.5						
HFS	Hagfors	13.67	309	Pn	**Pn**	**09 03 22.7**	**-0.9**
	0.1nm,0.3s,baz=114,slow=14,SNR=3.1						
HFS				Lg	Lg	09 07 46.6	
	0.1nm,0.3s,baz=125,slow=20,SNR=2.9						
NOA	NORSAR Array B	15.14	311	Pn	**Pn**	**09 03 40.0**	**-3.6**
	0.1nm,0.3s,baz=121,slow=13,SNR=3.4						
ARCES	ARCESS Array B	17.03	348	P	**P**	**09 04 11.1**	**+1.5**
	0.3nm,0.3s,baz=164,slow=8.4,SNR=9.9						
ZALV	Zalesovo Beam	29.02	68	LR	LR	09 19 35.2	
	comp=Z,36nm,19.4s,baz=76,slow=41						
BBTS	Babate	55.81	247	LR	LR	09 33 52.7	
	comp=Z,40nm,19.6s,baz=184,slow=36						
YKA	Yellowknife Ar	62.25	345	P	**P**	**09 10 29.7**	**-1.6**
	0.3nm,0.6s,baz=14,slow=6.7,SNR=8.6						

IDC 17 09:07:21.7±3.4,25°.45N×82°.73E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.3/27,mbtmp3.5/5,Error ellipse: s-maj=122.8km s-min=23.1km az=74.0,Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	8.27	87	eP	Pn	09 09 15.0	-8.2
SHL				i S	Sn	09 10 23.0	-35
MKAR	Makanchi Array	21.30	359	P	P	09 12 11.1	+1.1
	1.1nm,0.5s,baz=178,slow=10,SNR=25						
ZALV	Zalesovo Beam	28.50	3	P	P	09 13 17.5	-1.1
	0.4nm,0.4s,baz=177,slow=9.4,SNR=2.5						
SONM	Songino Array	29.11	34	P	P	09 13 24.7	+0.5
	0.2nm,0.5s,baz=219,slow=8.9,SNR=2.4						
WRA	Warramunga Arr	67.46	127	P	P	09 18 19.9	+0.2
	0.3nm,0.8s,baz=324,slow=6.3,SNR=3.7						
ASAR	Alice Springs	69.57	130	P	P	09 18 32.7	-0.2
	0.2nm,0.6s,baz=314,slow=7.5,SNR=4.1						

IDC 17 09:14:10.2±3.4,17°.95S×168°.95E,h220km±29km,mb3.5/8, mb1 3.7/9,mb1mx3.5/21,mbtmp4.1/9,Error ellipse: s-maj=26.7km s-min=18.9km az=34.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.73	210	P	Pn	09 15 21.2	-0.7
	14nm,0.3s,baz=51,slow=18,SNR=150						
URZ	Urewera	21.45	162	P	P	09 18 42.0	+0.7
	5.4nm,0.4s,baz=260,slow=1.9,SNR=11						
STKA	Stephens Creek	28.32	235	P	P	09 19 44.9	+1.2
	1.1nm,0.5s,baz=68,slow=11,SNR=3.8						
WRA	Warramunga Arr	32.77	261	P	P	09 20 22.3	-0.6
	0.2nm,0.3s,baz=81,slow=6.4,SNR=7.6						
ASAR	Alice Springs	33.20	254	P	P	09 20 26.4	-0.1
	1.4nm,0.4s,baz=85,slow=8.3,SNR=36						
QSPA	South Pole Qui	72.09	180	P	P	09 25 09.8	-0.6
	4.0nm,0.8s,baz=306,slow=0.6,SNR=23						
SONM	Songino Array	86.03	323	P	P	09 26 27.1	+1.1
	0.2nm,0.7s,baz=141,slow=7.1,SNR=3.4						
ILAR	Eielson Array	89.09	17	P	P	09 26 39.1	-0.8
	0.4nm,0.6s,baz=233,slow=4.2,SNR=8.8						
YKA	Yellowknife Ar	99.65	27	P	Pdif	09 27 29.1	+0.9
	0.4nm,0.6s,baz=256,slow=4.8,SNR=16						

IDC 17 09:22:27.5±0.8,59°.57S×26°.09W,h0km,mb3.9/7, mb1 4.0/9,mb1mx3.9/27,mbtmp3.9/9,ML4.4/2,Error ellipse: s-maj=25.1km s-min=21.7km az=45.0
AWI 17 09:22:48.2,61°.04S×26°.19W
ISC 17 09:22:28.7±0.8,60°.0S±0°.1×25°.8W±0°.1,h16km,n22, σ1s.95/19,mb4.0/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.90	153	P	**P**	**09 25 39.5**	**-2.2**
VNA3	Neumayer Olymp	13.05	157	P	**P**	**09 25 41.1**	**-2.3**
VNA3	Neumayer Olymp	13.05	157	S	**Sn**	**09 27 56.9**	**-0.8**
VNA2	Neumayer--Watz	13.30	153	P	**P**	**09 25 44.0**	**-2.2**
	baz=310,slow=15						
SNAA	Sanae	14.88	151	P	**P**	**09 26 06.4**	**+2.6**
SNAA	Sanae	14.88	151	S	**Sn**	**09 28 43.3**	**+0.9**
SNAA	Sanae	14.88	151	Pn	**P**	**09 26 05.6**	**+1.8**
	0.3nm,0.3s,baz=307,slow=15,SNR=29						
SNAA				Sn	**Sn**	**09 28 40.0**	**-2.4**
	0.1nm,0.3s,baz=332,slow=18,SNR=3.1						
PMSA	Palmer Station	18.14	238	P	**P**	**09 26 42.5**	**+2.7**
	0.7nm,0.3s,baz=87,slow=18,SNR=2.5						
USHA	Ushuaia	23.20	264	P	**P**	**09 27 36.1**	**+1.7**
	4.8nm,0.7s,baz=102,slow=9.3,SNR=3.0						
QSPA	South Pole Qui	30.25	180	P	P	09 28 44.4	+5.9
	1.1nm,0.5s,baz=207,slow=9.0,SNR=24						
PLCA	Paso Flores	33.56	285	P	**P**	**09 29 05.1**	**-2.5**
	1.4nm,0.7s,baz=150,slow=9.5,SNR=4.8						
CFAA	Coronel Fontan	39.87	296	P	**P**	**09 30 00.4**	**-1.0**
	0.2nm,0.6s,baz=164,slow=7.4,SNR=3.3						
H10S2	ASCENSION HYDR	51.61	14	T	T	10 26 10.4	
	baz=189,SNR=2.9						
H10S3	ASCENSION HYDR	51.61	14	T	T	10 26 08.5	
	baz=189,slow=74,SNR=4.7						
H10S1	ASCENSION HYDR	51.63	14	T	T	10 26 10.9	
	baz=189,slow=74,SNR=4.5						
LPAZ	La Paz	53.27	306	P	**P**	**09 31 47.2**	**+0.1**
	0.8nm,0.5s,baz=59,slow=6.6,SNR=6.8						
TORD	Torodi Ar. Bea	76.17	28	P	**P**	**09 34 16.6**	**+0.9**
	0.6nm,0.3s,baz=198,slow=6.3,SNR=18						
ASAR	Alice Springs	95.01	161	P	**P**	**09 35 52.4**	**+2.0**
	0.2nm,0.4s,baz=180,slow=4.3,SNR=4.7						
YKA	Yellowknife Ar	138.52	314	PKP	**PKPdf**	**09 41 52.2**	**-1.4**
	0.1nm,0.5s,baz=131,slow=2.5,SNR=6.3						
INK	Inuvik	149.24	316	PKPbc	**PKPbc**	**09 42 13.4**	**-1.1**
	0.2nm,0.4s,baz=141,slow=6.5,SNR=3.7						
SONM	Songino Array	150.04	92	PKPbc	**PKPbc**	**09 42 19.0**	**+1.6**
	0.4nm,0.4s,baz=224,slow=2.4,SNR=4.7						
ILAR	Eielson Array	153.15	306	PKPbc	**PKPbc**	**09 42 22.9**	**-0.9**
	0.2nm,0.4s,baz=144,slow=2.1,SNR=7.6						

KRNET 17 09:28:12.8±0.1,41°.32N×76°.80E,h1km,mb2.8
NNC 17 09:28:14.3±4.8,44°.75N×75°.70E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=40.4km s-min=20.3km az=149.0
KNET 17 09:28:16.6±0.5,41°.41N×76°.57E,h0km,ml2.0,Error ellipse: s-maj=5.2km s-min=3.0km az=98.0
ISC 17 09:28:12.7±2.3,41°.34N±0°.10×76°.82E±0°.05,h1km±18km, n19,σ0s.50/32,17C-11D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	1.00	335	⇑P	**Pb**	**09 28 32.8**	**-0.3**
	4.8nm,0.1s,SNR=33						
ULHL				⇓S	**Sb**	**09 28 46.8**	**-0.1**
	13nm,0.1s						
ULHL	Ulahol	1.00	335	⇓iP	**Pb**	**09 28 32.7**	**-0.4**
	baz=336						
ULHL				⇓iS	**Sb**	**09 28 46.5**	**-0.4**
	baz=336						
KZA	Kyzart	1.39	303	⇓P	**Pb**	**09 28 39.5**	**-0.2**
	16nm,0.2s,SNR=12						
TKM2	Tokmak 2	1.82	330	⇑P	**Pg**	**09 28 48.2**	**+0.5**
	4.7nm,0.5s						
TKM2				⇓S	**Sg**	**09 29 12.2**	**+0.8**
	12nm,0.8s						
TKM2	Tokmak 2	1.82	330	⇑P	**Pg**	**09 28 48.2**	**+0.5**
	7.9nm,0.2s,SNR=9.7						
TKM2	Tokmak 2	1.82	330	⇑iP	**Pg**	**09 28 47.9**	**+0.2**
	baz=331						
TKM2				⇑iS	**Sg**	**09 29 11.7**	**+0.4**
	baz=331						
KBK	Karagaybulak	1.92	314	⇑P	**Pg**	**09 28 49.7**	**+0.2**
	5.2nm,0.1s,SNR=7.2						
KBK				⇓S	**Sg**	**09 29 14.8**	**+0.4**
	13nm,0.2s						
KBK	Karagaybulak	1.92	314	⇑iP	**Pg**	**09 28 49.5**	**0.0**
	baz=315						
KBK				⇑iS	**Sg**	**09 29 14.6**	**+0.2**
	baz=315						
UCH	Uchtor	1.94	298	⇓P	**Pb**	**09 28 49.5**	**+0.3**
	2.4nm,0.2s,SNR=9.7						
UCH	Uchtor	1.94	298	⇑iP	**Pb**	**09 28 49.2**	**0.0**
	baz=299						
UCH				⇑iS	**Sg**	**09 29 15.2**	**+0.1**
	baz=299						
AAK	Ala-Archa	2.16	308	⇓Pn	**Pg**	**09 28 53.5**	**-0.6**
	2.6nm,0.3s						
AAK				⇑Sn	**Sg**	**09 29 22.2**	**0.0**
	7.9nm,0.6s						
AAK	Ala-Archa	2.16	308	⇑P	**Pg**	**09 28 53.6**	**-0.6**
	7.0nm,0.2s,SNR=16						
AAK	Ala-Archa	2.16	308	⇑iP	**Pb**	**09 28 53.3**	**+0.5**
	baz=308						
AAK				⇑iS	**Sb**	**09 29 20.6**	**+0.4**
	baz=308						
CHMS	Chumysh	2.26	318	⇑P	**Pg**	**09 28 55.5**	**-0.5**
	6.5nm,0.4s,SNR=6.0						
CHMS	Chumysh	2.26	318	⇑iP	**Pg**	**09 28 55.4**	**-0.7**
	baz=318						
CHMS				⇑iS	**Sg**	**09 29 24.2**	**-1.2**
	baz=318						
AML	Almayashu	2.47	290	⇓P	**Pb**	**09 28 58.8**	**+0.7**
	2.3nm,0.2s,SNR=11						
AML	Almayashu	2.47	290	eP	**Pb**	**09 28 58.5**	**+0.3**
	baz=290						
AML				i S	**Sb**	**09 29 28.8**	**-0.4**
	baz=290						
EKS	Erkin-Say	2.62	301	eP	**Pg**	**09 29 02.5**	**-0.5**
	baz=302						
EKS				eS	**Sg**	**09 29 37.6**	**+0.6**
	baz=302						
PDGK	Podgornoye	2.80	44	⇓Pn	**Pb**	**09 29 03.9**	**+0.4**
PDGK				⇓Sn	**Sg**	**09 29 42.4**	**-0.4**

IDC 17 09:44:43.3±3.5,54°.45N×86°.91E,h0km,mb1 2.5/1, mb1mx2.5/34,mbtmp2.5/1,ML2.6/1,Error ellipse: s-maj=28.3km s-min=18.3km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.33	248	i		09 53 31.3	
	baz=70,slow=339,SNR=2.7						
ZALV	Zalesovo Beam	1.33	248	Pg	Pg	09 45 07.8	-0.9
	0.7nm,0.3s,baz=69,slow=11,SNR=7.0						
ZALV				Lg	Lg	09 45 25.1	
	0.9nm,0.3s,baz=71,slow=22,SNR=7.4						
MKAR	Makanchi Array	8.21	203	Pn	Pn	09 46 44.5	+0.8
	0.1nm,0.3s,baz=24,slow=12,SNR=5.7						
MKAR				Sn	Sn	09 48 18.6	+1.4
	0.1nm,0.3s,baz=24,slow=28,SNR=3.6						
MKAR				Lg	Lg	09 49 02.4	
	0.0nm,0.3s,baz=21,slow=31,SNR=3.3						

IDC 17 09:44:38.8±1.6,6°.71S×154°.83E,h0km,mb3.4/5, mb1 3.7/5,mb1mx3.5/18,mbtmp3.4/5,Error ellipse: s-maj=90.0km s-min=26.1km az=129.0
ISCJB 17 09:44:45.1±1.8,6°.9S±0°.4×154°.9E±0°.5,h56km,mb3.2/5, Error ellipse: s-maj=92.5km s-min=21.4km az=40.0
ISC 17 09:44:46.6±1.6,6°.8S±0°.4×154°.8E±0°.5,h56km,n6,σ0s.61/7, mb3.2/5,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.78	235	P	**P**	**09 49 54.7**	**+0.4**
	0.6nm,0.6s,baz=58,slow=9.6,SNR=9.4						
WRA				PcP	**PcP**	**09 53 37.4**	**+0.6**
	0.1nm,0.4s,baz=64,slow=2.6,SNR=4.9						
ASAR	Alice Springs	26.17	228	P	**P**	**09 50 15.3**	**-0.6**
	0.3nm,0.6s,baz=60,slow=9.4,SNR=4.3						
MKAR	Makanchi Array	83.13	319	P	**P**	**09 57 06.6**	**+0.1**
	0.1nm,0.6s,baz=122,slow=5.4,SNR=2.1						
ILAR	Eielson Array	83.25	22	P	**P**	**09 57 06.3**	**-0.5**
	0.2nm,0.8s,baz=229,slow=6.3,SNR=2.8						
YKA	Yellowknife Ar	96.25	28	P	**P**	**09 58 08.9**	**+0.4**
	0.2nm,0.7s,baz=280,slow=5.2,SNR=4.7						
TORD	Torodi Ar. Bea	152.79	286	PKPbc	**PKPbc**	**10 04 38.0**	**-0.3**
	0.3nm,0.9s,baz=94,slow=2.2,SNR=2.4						

SJA 17 09:44:48.6±0.7,30°.15S×69°.24W,h4km±6km,MD3.2, ML3.6
IDC 17 09:44:49.1±1.2,30°.41S×69°.36W,h28km±6km,mb3.2/1, mb1 3.6/3,mb1mx3.5/17,mbtmp3.4/3,ML3.8/2,MS2.9/1, Ms1 2.9/1,ms1mx2.6/17,Error ellipse: s-maj=42.0km s-min=30.1km az=15.0
GUC 17 09:44:49.0±0.5,30°.00S×72°.66W,h32km±9km,ML4.4
NEIC 17 09:44:49.0,30°.00S×72°.66W,h32km,ML4.4(GUC),After GUC.
ISC 17 09:44:50.7±0.9,29°.88S±0°.06×69°.35W±0°.04,h34km±3km, n39,σ1s.54/56,2C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	1.47	306	ePn	**Pb**	**09 45 18.9**	**+1.3**
LCO				eSn	**Sb**	**09 45 40.1**	**+4.1**
RTLL	Cerro Villicun	1.63	153	eP	**Pn**	**09 45 14.8**	**-2.2**
RTLL				i S	**Sn**	**09 45 34.3**	**-2.6**
VACH	Vallenar	1.79	316	eP	**Pb**	**09 45 24.5**	**+1.5**
VACH				eS	Sb	09 45 51.5	+6.3
VACH				AML	AML	09 45 53.7	
	comp=N,3μm,0.4s						
VACH	Vallenar	1.79	316	eP	**Pb**	**09 45 24.5**	**+1.5**
VACH				eS	Sb	09 45 51.5	+6.3
AVFE	Valle Fertil	1.81	116	eP	**Pn**	**09 45 20.1**	**+0.5**
AVFE				eS	**Sn**	**09 45 42.5**	**+1.0**
AVFE				AML	AML	09 45 46.0	
	comp=Z,706nm,0.7s						
RTLS	Leoncito	1.91	179	⇓iP	**Pn**	**09 45 20.3**	**-0.9**
CMCH	Combarbala	1.93	228	⇑iP	**Pn**	**09 45 20.3**	**-0.9**
CMCH				eS	**Sn**	**09 45 43.6**	**-0.7**
CMCH				AML	AML	09 45 48.5	
	comp=E,7μm,0.6s						
CMCH	Combarbala	1.93	228	⇑iP	**Pn**	**09 45 20.3**	**-0.9**
CMCH				eS	**Sn**	**09 45 43.6**	**-0.7**
CFAA	Coronel Fontan	1.96	151	⇓iP	**Pn**	**09 45 20.5**	**-1.2**
RTCV	Cerro Valdivia	2.09	161	eP	**Pn**	**09 45 22.6**	**-0.9**
RTCV				i S	**Sn**	**09 45 48.1**	**-0.3**
AUSP	Uspallata	2.34	181	eP	**Pn**	**09 45 27.4**	**+0.4**

CDCH Caldera 3.09 335 eP Pb 09 45 42.1 -2.9
CDCH eS Sb 09 46 21.1 -1.1
CDCH Caldera 3.09 335 eP Pb 09 45 42.1 -2.9
CDCH eS Sb 09 46 21.1 -1.1
ROCH El Roble 3.40 204 eP Pn 09 45 40.2 -1.4
ROCH eS Sn 09 46 19.1 -1.7
ROCH AML AML 09 46 36.5
comp=N,343nm,0.5s
ROCH El Roble 3.40 204 eP Pn 09 45 40.2 -1.4
ROCH eS Sn 09 46 19.1 -1.7
PEL Peldehue 3.45 199 eP Pn 09 45 41.4 -0.7
PEL eS Sn 09 46 23.2 +1.3
PEL AML AML 09 46 34.6
comp=E,574nm,0.7s
PEL Peldehue 3.45 199 eP Pn 09 45 41.4 -0.7
PEL eS Sn 09 46 23.2 +1.3
CLCH Cerro Calan 3.65 196 eP Pn 09 45 44.6 -0.3
CLCH eS Sn 09 46 28.7 +1.8
CLCH AML AML 09 46 40.3
comp=E,454nm,0.5s
LMEL Las Melosas 4.02 190 eP Pn 09 45 49.8 -0.3
LMEL Las Melosas 4.02 190 P Pn 09 45 49.8 -0.3
CHCH Chadas Angostu 4.19 195 eP Pn 09 45 51.7 -0.6
CHCH Chadas Angostu 4.19 195 P Pn 09 45 51.7 -0.6
CACH El Canelo 4.36 194 eP Pn 09 45 54.3 -0.4
CACH El Canelo 4.36 194 P Pn 09 45 54.3 -0.4
LNV Longovilo 4.43 203 eP Pn 09 45 53.4 -2.1
LNV Longovilo 4.43 203 P Pn 09 45 53.4 -2.1
H03N1 Juan Fernandez 8.89 244 T T 09 54 12.4
baz=68,slow=75,SNR=109
H03N3 Juan Fernandez 8.91 244 T T 09 54 17.3
baz=68,slow=75,SNR=96
H03N2 Juan Fernandez 8.91 244 T T 09 54 09.9
baz=68,slow=75,SNR=117
PLCA Paso Flores 10.87 185 Lg Lg 09 50 32.1
comp=E,0.1nm,0.3s,baz=320,slow=17,SNR=2.2
CPUP Villa Florida 11.18 74 Pn Pn 09 47 31.2 +3.0
comp=E,0.4nm,0.3s,baz=232,slow=18,SNR=2.4
CPUP Lg Lg 09 50 36.5
comp=E,0.7nm,0.3s,baz=303,slow=18,SNR=2.1
CPUP LR LR 09 52 24.0
comp=E,63nm,20.8s,baz=181,slow=40
LPAZ La Paz 13.58 5 Pn P 09 48 08.7 -1.6
comp=E,0.1nm,0.3s,baz=180,slow=8.1,SNR=3.6
LPAZ La Paz 13.58 5 Pn P 09 48 08.7 -1.6
TXAR Lajitas Array 67.37 328 P P 09 55 44.2 +1.4
comp=E,0.2nm,0.7s,baz=144,slow=7.8,SNR=3.0
TXAR pP pP 09 55 54.0 +0.9
comp=E,0.2nm,0.8s,baz=141,slow=10,SNR=2.4
TORD Torodi Ar. Bea 80.63 69 P P 09 57 00.7 +0.2
comp=E,1μm,1.0s,baz=274,slow=5.6,SNR=6.6
TORD pP PcP 09 57 08.4 +1.2
comp=E,0.6nm,0.5s,baz=278,slow=6.2,SNR=4.8
WRA Warramunga Arr 125.46 208 PKP PKPdf 10 03 47.0 -1.9
comp=E,0.2nm,0.5s,baz=156,slow=1.7,SNR=8.7
WRA pPKP pPKPdf 10 03 57.9 -2.1
comp=E,0.1nm,0.6s,baz=151,slow=1.7,SNR=1.3
WRA Warramunga Arr 125.46 208 PKP PKPdf 10 03 47.0 -1.9
WRA pPKP pPKPdf 10 03 57.9 -2.1
MKAR Makanchi Array 152.28 45 PKPbc PKPbc 10 04 42.8 -0.1
comp=E,0.2nm,0.5s,baz=281,slow=2.8,SNR=3.8
MKAR PKPab PKPab 10 04 53.2 +0.4
comp=E,0.3nm,0.4s,baz=327,slow=4.3,SNR=7.2
MKAR pPKPab pPKPab 10 05 04.2 +0.5
comp=E,0.5nm,0.6s,baz=289,slow=4.3,SNR=4.5
MKAR Makanchi Array 152.28 45 PKPbc PKPbc 10 04 42.8 -0.1
MKAR PKPab PKPab 10 04 53.2 +0.4
MKAR pPKPab pPKPab 10 05 04.2 +0.5

HEL 17 09:58:29.7±0.7, 67.94N×20.29E, h0km, ML1.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	Lannavaara	0.65	79	PG	Pg	09 58 41.6	-0.6
	baz=264						
LANU				SG	Sg	09 58 51.1	+0.5
KIF	Kilpisjarvi	1.09	10	PN	Pn	09 58 53.1	+0.9
KIF				SG	Sg	09 59 04.7	0.0
HEF	Hetta	1.34	68	SN	Sg	09 59 13.2	+0.2
SGF	Sodankyl	2.43	99	SG	Sb	09 59 45.1	+0.4
SGF				MSG		09 59 45.1	
	comp=Z,0.9nm,0.3s						
ARA0	ARCESS Array S	2.49	47	SG	Sb	09 59 45.8	-0.6
ARA0				MSG		09 59 45.8	
	comp=Z,0.6nm,0.3s						
KEV	Kevo	3.04	50	SB	Sn	09 59 58.1	+2.0
KEV				MSG		09 59 58.1	
	comp=Z,0.4nm,0.3s						

ISCJB 17 09:59:52.4±0.5, 64.82N±0.02×30.54E±0.09, h0km, Error ellipse: s-maj=5.8km s-min=2.7km az=14.6
IDC 17 09:59:52.1±2.9, 64.74N×31.56E, h0km, mb1 3.1/4, mb1mx2.9/29, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=41.3km s-min=9.8km az=100.0
HEL 17 09:59:53.4±0.2, 64.80N×30.77E, h0km, ML1.7, Explosion
CSEM 17 09:59:53.8±0.2, 64.84N×30.59E, h2km, ML1.7, Error ellipse: s-maj=6.6km s-min=2.9km az=100.0, Mining explosion.
KOLA 17 09:59:54.4, 64.78N×30.41E, h0km
NAO 17 09:59:54.3±1.6, 64.78N×30.35E, ML2.0
BER 17 09:59:56.1±3.8, 64.83N×30.27E, h0km, ML2.0(NAO), Suspected explosion
ISC 17 09:59:53.3±0.9, 64.82N±0.02×30.53E±0.04, h0km, n56, σ0.91/101, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	Riekki	1.24	348	SB	Sg	10 00 33.4	+0.4
KU6	Riekki	1.24	348	eP	Pg	10 00 16.3	-0.7
KU6				eS	Sg	10 00 33.5	+0.4
KU6	Riekki	1.24	348	P	Pg	10 00 16.2	-0.7
KU6				S	Sg	10 00 33.4	+0.4
MSF	Maaselka	1.26	331	SN	Pg	10 00 16.8	-0.6
MSF	Maaselka	1.26	331	eP	Pg	10 00 16.8	-0.6
MSF				eS	Sg	10 00 33.5	-0.3
MSF	Maaselka	1.26	331	P	Pg	10 00 16.8	-0.6
MSF				S	Sg	10 00 33.4	-0.3
KJN	Kajaani	1.43	240	eP	Pn	10 00 19.9	-0.6
KJN				eS	Sg	10 00 39.1	0.0
KJN				MSG		10 00 42.0	
	comp=Z,7.4nm,0.1s						
KJN	Kajaani	1.43	240	P	Pn	10 00 19.8	-0.6
KJN				S	Sg	10 00 39.1	0.0
JOF	Joensuu	1.94	169	eP	Pn	10 00 26.5	-1.0
JOF				eS	Sn	10 00 50.9	-1.6
JOF				MSG		10 00 58.0	
	comp=Z,5.7nm,0.1s						
JOF	Joensuu	1.94	169	P	Pn	10 00 26.5	-1.0
OUL	Oulu	1.99	280	eP	Pb	10 00 29.7	-0.6
OUL				eS	Sb	10 00 55.6	0.0
OUL	Oulu	1.99	280	P	Pb	10 00 29.7	-0.6
OUL				S	Sb	10 00 55.6	0.0
SUF	Sumiainen	2.87	225	eP	Pn	10 00 42.0	+1.8
SUF				eS	Sn	10 01 17.1	+1.6
SUF	Sumiainen	2.87	225	P	Pn	10 00 42.0	+1.8
SUF				S	Sn	10 01 17.0	+1.6
VRF	Varrio	2.96	353	eP	Pn	10 00 42.6	+1.1
VRF				eS	Sn	10 01 18.0	+0.3
VRF	Varrio	2.96	353	P	Pn	10 00 42.6	+1.1
VRF				S	Sn	10 01 18.0	+0.3
APA0	Apatity Array	2.97	19	Pn	Pn	10 00 42.7	+1.1
	baz=194,slow=12						
APA0				Sn	Sn	10 01 18.2	+0.3
	baz=212,slow=37						
APA0	Apatity Array	2.97	19	Pn	Pn	10 00 42.7	+1.1
	baz=194,slow=12						
APA0				Sn	Sn	10 01 18.2	+0.3
	baz=212,slow=37						
APA0	Apatity Array	2.97	19	Pn	Pn	10 00 42.7	+1.1
	baz=194,slow=12						
APA0				Sn	Sn	10 01 18.2	+0.3
	baz=212,slow=37						
APA0	Apatity Array	2.97	19	Pn	Pn	10 00 42.7	+1.1
	baz=194,slow=12						
APA0				Sn	Sn	10 01 18.2	+0.3
	baz=212,slow=37						
APA0	Apatity Array	2.97	19	Pn	Pn	10 00 42.7	+1.1
	baz=194,slow=12,SNR=50						
APA0				Sn	Sn	10 01 18.2	+0.3
	baz=212,slow=30,SNR=50						
APA0	Apatity Array	2.97	19	P	Pn	10 00 42.8	+1.1
APA0				S	Sn	10 01 19.1	+1.3
APA	Apatity	3.00	22	P	Pn	10 00 43.3	+1.4
APA				S	Sn	10 01 19.8	+1.3
SGF	Sodankyl	3.10	330	eP	Pn	10 00 43.6	+0.2
SGF				eS	Sn	10 01 22.4	+1.4
SGF	Sodankyl	3.10	330	P	Pn	10 00 43.5	+0.2
SGF				S	Sn	10 01 22.3	+1.4
KAF	Kangasniemi	3.32	217	eP	Pn	10 00 47.8	+1.4
KAF				eS	Sn	10 01 27.4	+1.0
KAF	Kangasniemi	3.32	217	P	Pn	10 00 47.7	+1.4
KAF				S	Sn	10 01 27.4	+1.0
KEF	Keuruu	3.68	226	eP	Pn	10 00 53.0	+1.6
KEF				eS	Sn	10 01 36.1	+0.7
KEF	Keuruu	3.68	226	P	Pn	10 00 52.9	+1.6
KEF				S	Sn	10 01 36.0	+0.7
VAF	Ylistaro	3.90	246	eP	Pn	10 00 56.1	+1.7
VAF				eS	Sn	10 01 41.9	+1.0
VAF	Ylistaro	3.90	246	P	Pn	10 00 56.0	+1.7
VAF				S	Sn	10 01 41.8	+1.0
FIA0	FINESS Array S	3.95	213	Pn	Pn	10 00 55.2	+0.2
	baz=32,slow=14						
FIA0				Sn	Sn	10 01 41.6	-0.3
	baz=45,slow=22						
FIA0				Lg	Lg	10 01 53.5	
	baz=28,slow=37						
FIA0	FINESS Array S	3.95	213	Pn	Pn	10 00 55.2	+0.2
	baz=32,slow=14						
FIA0				Sn	Sn	10 01 41.6	-0.3
	baz=45,slow=22						
FIA0				Lg	Lg	10 01 53.5	
	baz=28,slow=37						
FIA0	FINESS Array S	3.95	213	Pn	Pn	10 00 55.2	+0.2
	baz=32,slow=14						
FIA0				Sn	Sn	10 01 41.6	-0.3
	baz=45,slow=22						
FIA0				Lg	Lg	10 01 53.5	
	baz=28,slow=37						
FIA0	FINESS Array S	3.95	213	Pn	Pn	10 00 55.2	+0.2
	baz=32,slow=14						
FIA0				Sn	Sn	10 01 41.6	-0.3
	baz=45,slow=22						
FIA0				Lg	Lg	10 01 53.5	
	baz=28,slow=37						
FIA0	FINESS Array S	3.95	213	eP	Pn	10 00 55.2	+0.2
FIA0				eSB	Sb	10 01 51.5	-0.3
FIA0	FINESS Array S	3.95	213	P	Pn	10 00 55.2	+0.2
FIA0				Sn	Sn	10 01 41.6	-0.3
	baz=45,slow=20						
FIA0				Lg	Lg	10 01 53.5	
	SNR=2.1						
FINES	FINESS Array B	3.95	213	Pn	Pn	10 00 55.3	+0.2
	comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=8.7						
FINES				Pg	Pb	10 01 03.7	+0.1
	comp=Z,0.3nm,0.3s,baz=33,slow=18,SNR=6.9						
FINES				Sn	Sn	10 01 41.8	-0.1
	comp=Z,0.3nm,0.3s,baz=45,slow=19,SNR=3.5						
FINES				Lg	Lg	10 01 54.7	
	comp=Z,1.4nm,0.3s,baz=38,slow=22,SNR=16						
FINES				Rg	Rg	10 02 17.5	
	comp=Z,16nm,1.1s,baz=36,slow=26,SNR=7.7						
HEF	Hetta	4.52	326	eP	Pn	10 01 04.2	+1.2
HEF				eS	Sn	10 01 55.3	-0.8
HEF	Hetta	4.52	326	P	Pn	10 01 04.1	+1.2
HEF				S	Sn	10 01 55.3	-0.8
LANU	Lannavaara	4.72	317	eP	Pn	10 01 06.8	+1.1
LANU				eS	Sn	10 02 01.1	+0.2
LANU	Lannavaara	4.72	317	P	Pn	10 01 06.7	+1.1
LANU				S	Sn	10 02 01.1	+0.2
ARA0	ARCESS Array S	5.12	340	Pn	Pn	10 01 11.1	-0.1
	baz=153,slow=14						
ARA0				Sn	Sn	10 02 09.8	-1.1
	baz=159,slow=28						
ARA0				Lg	Lg	10 02 30.2	
	baz=154,slow=37						
ARA0	ARCESS Array S	5.12	340	Pn	Pn	10 01 11.1	-0.1
	baz=153,slow=14						
ARA0				Sn	Sn	10 02 09.8	-1.1
	baz=159,slow=28						
ARA0				Lg	Lg	10 02 30.2	
	baz=154,slow=37						
ARA0	ARCESS Array S	5.12	340	Pn	Pn	10 01 11.1	-0.1
	baz=153,slow=14						
ARA0				Sn	Sn	10 02 09.8	-1.1
	baz=159,slow=28						
ARA0				Lg	Lg	10 02 30.2	
	baz=154,slow=37						
ARA0	ARCESS Array S	5.12	340	Pn	Pn	10 01 11.1	-0.1
	baz=153,slow=14						
ARA0				Sn	Sn	10 02 09.8	-1.1
	baz=159,slow=28						
ARA0				Lg	Lg	10 02 30.2	
	baz=154,slow=37						
ARA0	ARCESS Array S	5.12	340	Pn	Pn	10 01 11.1	-0.1
	baz=153,slow=13,SNR=50						
ARA0				Sn	Sn	10 02 09.8	-1.1
	baz=159,slow=23,SNR=50						
ARA0				Lg	Lg	10 02 30.2	
	SNR=50						
ARCES	ARCESS Array B	5.12	340	Pn	Pn	10 01 11.1	-0.1
	comp=Z,0.7nm,0.3s,baz=156,slow=13,SNR=32						
ARCES				Sn	Sn	10 02 08.8	-2.1
	comp=Z,0.5nm,0.3s,baz=155,slow=25,SNR=5.5						
ARCES				Lg	Lg	10 02 30.6	
	comp=Z,1.3nm,0.3s,baz=160,slow=27,SNR=12						
I43RU	DUBNA INFRASON	8.75	155	i		10 49 29.8	
	baz=346,slow=341,SNR=1.4						
HFS	Hagfors	9.09	247	Pn	Pn	10 02 06.1	+0.6
	comp=Z,0.1nm,0.3s,baz=62,slow=13,SNR=3.3						
HFS				Lg	Lg	10 04 33.1	
	comp=Z,0.2nm,0.3s,baz=64,slow=31,SNR=3.2						
NB2	NORSAR Subarra	9.57	256	Pn	Pn	10 02 12.6	+0.5
	baz=63,slow=14						
NB2	NORSAR Subarra	9.57	256	Pn	Pn	10 02 12.6	+0.5
	baz=63,slow=14						
NB2	NORSAR Subarra	9.57	256	Pn	Pn	10 02 12.6	+0.5
	baz=63,slow=14						
NB2	NORSAR Subarra	9.57	256	Pn	Pn	10 02 12.6	+0.5
	baz=63,slow=14						
NB2	NORSAR Subarra	9.57	256	Pn	Pn	10 02 12.6	+0.5
	baz=63,slow=12,SNR=50						
NOA	NORSAR Array B	9.57	256	Pn	Pn	10 02 12.8	+0.6
	comp=Z,0.1nm,0.3s,baz=83,slow=12,SNR=2.7						

NNC 17 10:33:11.9±11.0, 37.01N×70.37E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=93.2km s-min=85.1km az=30.0
ISCJB 17 10:33:13.7±1.5, 36.90N±0.08×70.7E±0.3, h250km, mb2.9/2, Error ellipse: s-maj=31.3km s-min=11.4km az=179.1
IDC 17 10:33:16.2±10.0, 36.29N×73.47E, h161km±134km, mb2.8/2, mb1 3.0/4, mb1mx2.7/28, mbtmp3.3/4, ML2.8/2, MS3.2/1, Ms1 3.4/1, ms1mx2.5/11, Error ellipse: s-maj=186.5km s-min=90.5km az=110.0
ISC 17 10:33:14.6±2.2, 37.0N±0.1×70.7E±0.3, h250km, n8, σ0.63/8, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.13	359	⇓P	Pn	10 34 45.6	+1.4
	1.0nm,0.3s,baz=181,slow=12,SNR=4.2						
KK31				⇑S	S	10 35 55.6	-0.4
	4.1nm,0.4s,baz=187,slow=24,SNR=16						
AAK	Ala-Archa	6.38	26	⇑P	Pn	10 34 48.2	+0.6
	1.3nm,0.3s						
AAK				⇑S	S	10 36 02.4	+0.3
	10nm,0.9s						
AAK	Ala-Archa	6.38	26	P	Pn	10 34 48.2	+0.6
	1.2nm,0.3s,baz=151,slow=6.4,SNR=14						
AAK				S	S	10 36 01.1	-0.9
	0.9nm,0.3s,baz=316,slow=22,SNR=20						
TKM2	Tokmak 2	7.05	31	⇑P	Pn	10 34 56.1	+0.1
	5.6nm,0.7s						
MKAR	Makanchi Array	13.08	38	P	Pn	10 36 07.0	-4.4
	0.0nm,0.3s,baz=216,slow=8.2,SNR=2.8						
CMAR	Chiang Mai Arr	30.93	119	LR	LR	10 52 12.4	
	comp=Z,46nm,19.0s,baz=182,slow=40						
WRA	Warramunga Arr	82.47	122	P	P	10 45 09.3	-0.1
	0.5nm,1.1s,baz=325,slow=4.7,SNR=5.3						
ASAR	Alice Springs	84.75	125	P	P	10 45 20.6	-0.3
	0.1nm,0.7s,baz=329,slow=6.9,SNR=2.9						

ISCJB 17 10:45:58.3±0.4, 20.06S±0.03×69.00W±0.04, h90km±3km, mb4.7/69, Error ellipse: s-maj=7.5km s-min=4.7km az=153.2
GUC 17 10:46:00.2±0.4, 20.18S×69.31W, h100km±4km, ML5.1
BJI 17 10:46:00.0, 20.10S×68.60W, h96km, mB5.0/6
IDC 17 10:46:00.6±0.5, 20.16S×69.07W, h99km±3km, mb4.1/13, mb1 4.4/16, mb1mx4.3/21, mbtmp4.5/16, MS2.9/4, Ms1 3.0/4, ms1mx2.9/23, Error ellipse: s-maj=14.2km s-min=12.4km az=63.0
NEIC 17 10:46:00.8±0.2, 20.19S×69.03W, mb4.7/55, Error ellipse: s-maj=7.8km s-min=4.8km az=75.0
NEIC Felt [III] at Alto Hospicio, Iquique and Pozo Almonte and [II] at Arica, Huara and Pica.
ISC 17 10:46:00.1±0.3, 20.15S±0.03×69.17W±0.05, h99km±2km, h98km:pP-P, n447, σ1.39/484, mb4.6/68, 166C-158D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	Humberstone	0.68	259	⇑iP	Pn	10 46 16.8	-0.6
HMBC				iS	Sn	10 46 29.2	-1.2
HMBC				AML	AML	10 46 30.6	
	comp=E,123μm,0.2s						
HMBC	Humberstone	0.68	259	⇑iP	Pn	10 46 16.8	-0.6
HMBC				iS	Sn	10 46 29.2	-1.2
PSGC	Pisagua	1.05	301	⇑iP	Pn	10 46 20.7	-0.4
PSGC				eS	Sn	10 46 36.3	-0.6
PSGC				AML	AML	10 46 39.3	
	comp=N,39μm,0.7s						
PSGC	Pisagua	1.05	301	⇑iP	Pn	10 46 20.7	-0.4
PSGC				eS	Sn	10 46 36.3	-0.6
MNMC	Minimini	1.09	339	⇑iP	Pn	10 46 22.3	+0.5
MNMC				iS	Sn	10 46 39.0	+1.0
MNMC				AML	AML	10 46 42.1	
	comp=N,80μm,0.2s						
MNMC	Minimini	1.09	339	⇑iP	Pn	10 46 22.3	+0.5
MNMC				iS	Sn	10 46 39.0	+1.0
PATCX	Punta Patache	1.14	234	⇑iP	Pn	10 46 21.5	-0.6
PATCX				eS	Sn	10 46 37.2	-1.3
PATCX				AML	AML	10 46 38.7	
	comp=N,31μm,0.1s						
PB09	Plate Boundary	1.64	182	⇓iP	Pn	10 46 28.7	+0.5
PB09				iS	Sn	10 46 50.7	+1.1
PB09				AML	AML	10 46 56.0	
	comp=N,53μm,0.4s						
PB09	Plate Boundary	1.64	182	⇓iP	Pn	10 46 28.7	+0.5
PB09				iS	Sn	10 46 50.7	+1.1
PB07	Plate Boundary	1.70	203	eP	Pn	10 46 28.8	-0.3
PB07				iS	Sn	10 46 50.9	-0.1
PB07				AML	AML	10 46 56.7	
	comp=E,22μm,0.5s						
PB07	Plate Boundary	1.70	203	eP	Pn	10 46 28.8	-0.3
PB07				iS	Sn	10 46 50.9	-0.1
PB04	Plate Boundary	2.12	188	eP	Pn	10 46 37.2	+2.9
PB04				iS	Sn	10 47 05.6	+5.2
PB04				AML	AML	10 47 22.2	
	comp=E,8μm,0.3s						
PB04	Plate Boundary	2.12	188	eP	Pn	10 46 37.2	+2.9
PB04				iS	Sn	10 47 05.6	+5.2
LVC	Limon Verde	2.46	174	eP	Pn	10 46 39.9	+0.9
LVC				iS	Sn	10 47 10.4	+1.7
LVC	Limon Verde	2.46	174	eP	Pn	10 46 39.9	+0.9
LVC				ePn	Pn	10 46 40.0	+1.0
LVC				eSn	Sn	10 47 08.6	-0.1
LVC				iS	Sn	10 47 10.4	+1.7
PB06	Plate Boundary	2.57	188	⇓eP	Pn	10 46 39.6	-0.7
PB06				iS	Sn	10 47 10.4	-0.6
PB06				AML	AML	10 47 17.9	
	comp=E,11μm,0.2s						
PB06	Plate Boundary	2.57	188	⇓eP	Pn	10 46 39.6	-0.7
PB06				iS	Sn	10 47 10.4	-0.6
LPAZ	La Paz	3.97	15	P	Pn	10 47 01.3	+1.8
	comp=E,29nm,0.3s,baz=188,slow=8.1,SNR=310						
LPAZ				S	Sn	10 47 46.7	+1.4
	comp=E,12nm,0.3s,baz=196,slow=16,SNR=2.0						
LPAZ				LR	LR	10 49 05.7	
	comp=E,253nm,21.2s,baz=214,slow=47						
ARE	Arequipa	4.28	329	eP	Pn	10 47 03.0	-0.4
ARE				i		10 47 08.5	
ARE				iS	Sn	10 47 57.2	+4.8
SIV	San Ignacio	8.74	63	P	Pn	10 48 02.5	-1.4
	comp=E,8.4nm,0.3s,baz=265,slow=11,SNR=93						
SIV				S	Sn	10 49 33.4	-7.3
	comp=E,0.8nm,0.3s,baz=219,slow=20,SNR=0.7						
LCO	Las Campanas	8.93	189	ePn	Pn	10 48 02.4	-4.1
LCO				Sn	Sn	10 49 37.8	-7.7
NNA	Nana	10.96	317	Pn	Pn	10 48 36.8	+2.8
CFAA	Coronel Fontan	11.44	176	P	Pn	10 48 37.4	-3.0
	comp=E,0.3nm,0.3s,baz=345,slow=14,SNR=12						
CFAA				S	Sn	10 50 38.6	-7.5
	comp=E,0.2nm,0.3s,baz=227,slow=19,SNR=2.3						
CFAA				LR	LR	10 53 11.0	
	comp=E,10nm,21.5s,baz=76,slow=38						
CPUP	Villa Florida	12.50	122	P	Pn	10 48 52.9	-1.6
	comp=E,3.6nm,0.3s,baz=291,slow=12,SNR=46						
CPUP				LR	LR	10 53 39.2	
	comp=E,98nm,18.3s,baz=270,slow=37						
SAML	Samuel	12.55	28	ePn	Pn	10 48 51.1	-4.1
H03N1	Juan Fernandez	15.82	211	T	T	11 06 11.3	
	baz=31,slow=75,SNR=48						
H03N2	Juan Fernandez	15.83	211	T	T	11 06 15.0	
	baz=31,slow=75,SNR=38						
H03N3	Juan Fernandez	15.84	211	T	T	11 06 10.9	
	baz=31,slow=75,SNR=53						
TRQA	Tornquist	18.91	162	eP	P	10 50 12.3	-0.7
	comp=E,17nm,0.5s						
BB16B	Bebedouro	19.30	96	⇑iP	P	10 50 15.6	-1.8
BB16B				i		10 50 19.4	
BB16B				i		10 50 21.2	
BB16B				i		10 50 24.6	
BB16B				i		10 50 26.3	
PLCA	Paso Flores	20.55	183	P	P	10 50 31.7	+0.9
	comp=E,23nm,0.8s,baz=11,slow=11,SNR=20						
PLCA	Paso Flores	20.55	183	eP	P	10 50 31.3	+0.4
	comp=E,30nm,0.9s						
PLCA				P	Pn	10 50 31.7	-2.2
BDFB	Brasilia	20.62	81	P	P	10 50 31.5	-0.4
	comp=E,5.5nm,0.4s,baz=266,slow=10,SNR=12						
BDFB				LR	LR	11 00 03.5	
	comp=E,72nm,18.2s,baz=258,slow=41						
OTAV	Otavalo	22.21	335	eP	P	10 50 51.7	+2.6
	comp=E,10nm,1.0s						
SDV	Santo Domingo	28.89	357	eP	P	10 51 49.2	-0.8
	comp=E,13nm,1.3s						
RCBR	Riachuelo	35.31	71	P	P	10 52 47.2	+1.1
	comp=E,3.7nm,0.6s,baz=267,slow=5.5,SNR=5.4						
OBIP	Obispado Ponce	38.04	4	eP	P	10 53 07.9	-1.1
	comp=E,60nm,1.1s						
CELP	Cerrillos	38.07	4	eP	P	10 53 08.3	-1.0
CELP				epP	pP	10 53 32.8	+0.8
CELP				ePcP	PcP	10 55 22.1	-0.6
034A	Hebbronville	54.96	328	⇓P	P	10 55 22.3	+1.2
	baz=55						
934A	Benavides	55.32	328	⇑P	P	10 55 25.0	+1.3
	baz=56						
933A	Laredo	55.71	327	⇑P	P	10 55 27.5	+1.0
	baz=56						
KMSC	Kings Mountain	56.19	348	eP	P	10 55 30.2	+0.4
	comp=E,7.1nm,0.8s						
KMSC	Kings Mountain	56.19	348	⇓P	P	10 55 30.5	+0.7
	baz=57						
833A	Chaparral WMA,	56.35	328	⇓P	P	10 55 31.8	+0.8
	baz=57,SNR=9.0						
537A	Green Hill Far	56.36	332	⇑P	P	10 55 32.5	+1.4
	baz=57						
734A	La Parita Cree	56.37	329	⇓P	P	10 55 32.4	+1.2
	baz=57						
635A	Leesville	56.45	330	⇑P	P	10 55 32.8	+1.1
	baz=57						
832A	Faith Ranch, C	56.61	327	⇑P	P	10 55 34.1	+1.1
	baz=57						
733A	Divot King Ran	56.63	328	⇓P	P	10 55 34.3	+1.2
	baz=57						
732A	Laxson Ranch,	56.97	328	⇓P	P	10 55 36.1	+0.6
	baz=57,SNR=5.5						
633A	Saathoff Ranch	57.18	329	⇓P	P	10 55 37.7	+0.8
	baz=58						
534A	Blanco	57.31	330	⇓P	P	10 55 38.3	+0.4
	baz=58						
SWET	Sewanee	57.31	344	eP	P	10 55 37.3	-0.5
	comp=E,5.8nm,0.5s						
632A	Uvalde	57.52	328	⇓P	P	10 55 40.1	+0.8
	baz=58						
533A	Kerrville	57.62	329	⇑P	P	10 55 40.8	+0.8
	baz=58						
OXF	Oxford	57.67	340	eP	P	10 55 39.7	-0.6

comp=E,33nm,1.1s
631A Perdido Creek 57.83 328 ⇓P P 10 55 42.0 +0.5
baz=58,SNR=5.9
434A Burnet 57.88 330 ⇓P P 10 55 42.3 +0.5
baz=58
335A Moody 57.88 331 ⇓P P 10 55 42.4 +0.6
baz=58
433A Art 58.21 330 ⇓P P 10 55 44.5 +0.4
baz=59,SNR=5.3
334A Lometa 58.30 331 ⇑P P 10 55 45.1 +0.3
baz=59
JCT Junction City 58.32 329 ⇓P P 10 55 45.5 +0.5
baz=59
531A Rocksprings 58.43 328 ⇑P P 10 55 46.6 +0.9
baz=59,SNR=5.5
WHTX Lake Whitney 58.50 332 ⇑P P 10 55 46.3 +0.2
baz=59
333A Richland Sprin 58.64 330 ⇑P P 10 55 47.0 -0.1
baz=59
432A Menard 58.65 329 ⇓P P 10 55 47.7 +0.5
baz=59,SNR=12
234A Clairette 58.82 331 ⇓P P 10 55 49.0 +0.7
baz=59,SNR=6.2
530A J-C Ranch, Com 58.82 327 ⇑P P 10 55 49.2 +0.8
baz=59,SNR=10
431A Sonora 58.88 328 ⇑P P 10 55 49.3 +0.4
baz=59,SNR=6.2
332A Millersview 59.04 330 ⇑P P 10 55 50.4 +0.5
baz=59,SNR=7.6
MIAR Mount Ida 59.14 337 eP P 10 55 50.4 -0.1
comp=E,7.6nm,0.7s
233A Rising Star 59.18 331 ⇓P P 10 55 51.5 +0.7
baz=60,SNR=6.4
529A Stev Forest Ra 59.25 327 ⇑P P 10 55 52.5 +1.0
baz=60,SNR=5.3
134A White-Moore Ra 59.27 332 ⇓P P 10 55 52.0 +0.6
baz=60
430A Baggett Ranch, 59.28 328 ⇑P P 10 55 52.3 +0.6
baz=60,SNR=6.0
331A San Angelo 59.31 329 ⇓P P 10 55 52.0 +0.2
baz=60,SNR=6.3
TXAR Lajitas Array 59.39 325 P P 10 55 52.7 +0.3
comp=E,1.1nm,0.6s,baz=151,slow=8.0,SNR=28
232A Coleman 59.41 330 ⇓P P 10 55 53.0 +0.4
baz=60,SNR=6.2
429A Davenport Ranc 59.48 327 ⇑P P 10 55 53.7 +0.6
baz=60,SNR=14
Z35A Perchaven, San 59.55 333 ⇓P P 10 55 54.1 +0.8
baz=60
133A Hamilton Ranch 59.68 331 ⇓P P 10 55 55.0 +0.7
baz=60
330A Mertzon 59.76 328 ⇑P P 10 55 54.9 0.0
baz=60
Z34A Collier Ranch, 59.88 332 ⇓P P 10 55 56.2 +0.6
baz=60
ABTX Abilene, Hawle 60.03 330 eP P 10 55 57.3 +0.6
ABTX Abilene, Hawle 60.03 330 ⇓P P 10 55 57.2 +0.6
baz=60,SNR=5.1
PBMO Poplar Bluff 60.08 340 eP P 10 55 56.9 0.0
comp=E,18nm,0.6s
230A Sterling City 60.12 329 ⇑P P 10 55 58.3 +1.0
baz=60
Z33A Whitaker Ranch 60.18 332 ⇓P P 10 55 58.4 +0.7
baz=60,SNR=6.2
329A Wagon Wheel Ra 60.22 328 ⇑P P 10 55 58.4 +0.3
baz=61,SNR=8.2
Y34A Reagan Ranch, 60.31 333 ⇓P P 10 55 59.0 +0.5
baz=61
131A Roby 60.42 330 ⇓P P 10 56 00.0 +0.7
baz=61
Z32A Haskell 60.52 331 ⇓P P 10 56 00.6 +0.5
baz=61
229A Bryant Ranch, 60.52 328 ⇑P P 10 56 00.7 +0.6
baz=61
130A Snyder 60.63 329 ⇓P P 10 56 01.2 +0.4
baz=61,SNR=5.0
Y33A Hilltop Ranch, 60.73 332 ⇓P P 10 56 01.9 +0.5
baz=61
Z31A Sharp Cattle R 60.84 330 ⇑P P 10 56 02.7 +0.5
baz=61
X34A Smith Ranch, M 60.89 333 ⇓P P 10 56 02.8 +0.3
baz=61
228A UT Block 9, Go 61.04 328 ⇓P P 10 56 04.2 +0.6
baz=61
Y32A R-V Farms, Ver 61.09 331 ⇓P P 10 56 04.5 +0.7
baz=62
129A Stewart Farms, 61.09 329 ⇓P P 10 56 04.6 +0.7
baz=62
X33A Lawton 61.12 333 ⇓P P 10 56 04.6 +0.5
baz=62
TUL1 Tulsa 61.19 335 ⇑P P 10 56 05.0 +0.5
baz=62
BLO Bloomington 61.20 345 eP P 10 56 04.2 -0.3
comp=E,13nm,0.6s
Z30A Sanderson Ranc 61.27 330 ⇓P P 10 56 05.7 +0.5
baz=62,SNR=6.4
X32A Elmer 61.37 332 ⇑P P 10 56 06.5 +0.8
baz=62
128A Castleberry Fa 61.39 328 ⇑P P 10 56 06.2 +0.2
baz=62
Y31A Rekieta Farm, 61.42 331 ⇓P P 10 56 06.5 +0.4
baz=62
ACSO Alum Creek Sta 61.43 348 eP P 10 56 06.2 +0.2
comp=E,22nm,1.0s
Z29A Hungry Hill Ra 61.53 329 ⇑P P 10 56 07.0 +0.1
baz=62
W33A Caddo, Fort Co 61.63 333 ⇑P P 10 56 08.4 +1.0
baz=62,SNR=7.8
Y30A Stafford Cattl 61.65 330 ⇓P P 10 56 08.1 +0.4
baz=62
226B Tecolote Peak, 61.81 326 ⇑P P 10 56 09.8 +1.0
baz=62
V34A Guthrie 61.81 334 ⇓P P 10 56 08.9 +0.2
baz=62
X31A McDonald Ranch 61.85 331 ⇓P P 10 56 09.3 +0.3
baz=62,SNR=7.3
Z28A Tucker Farm, M 61.88 329 ⇓P P 10 56 09.6 +0.3
baz=62
W32A Sentinel 61.94 332 ⇓P P 10 56 09.9 +0.3
baz=62,SNR=7.4
Y29A Porterfield Fa 62.00 330 ⇓P P 10 56 10.6 +0.5
baz=62
X30A Coker Ranch, T 62.11 331 ⇓P P 10 56 11.0 +0.2
baz=62
V33A Lossen Ranch, 62.12 333 ⇑P P 10 56 11.1 +0.3
baz=62
225A Deer Hill, Car 62.18 326 ⇑P P 10 56 11.8 +0.4
baz=62,SNR=6.3
W31A Holland Ranch, 62.30 332 ⇑P P 10 56 12.1 +0.1
baz=63
Z27A Tatum 62.31 328 ⇓P P 10 56 12.2 0.0
baz=63
ALLY Alegheny Colle 62.32 351 eP P 10 56 12.4 +0.5
comp=E,20nm,0.7s
V32A Arapaho 62.36 333 ⇓P P 10 56 12.8 +0.4
baz=63
SFIN Scholer Farm 62.49 345 eP P 10 56 12.3 -0.8
comp=E,22nm,0.6s
SFIN epP pP 10 56 36.6 -1.0
SFIN Scholer Farm 62.49 345 ⇑P P 10 56 12.3 -0.8
baz=63,SNR=6.0
X29A Tulia 62.49 330 ⇓P P 10 56 13.2 -0.2
baz=63
125A Gardner Draw, 62.52 327 ⇑P P 10 56 13.7 0.0
baz=63
MSTX Muleshoe 62.62 329 eP P 10 56 14.4 +0.2
comp=E,11nm,0.9s
MSTX Muleshoe 62.62 329 ⇑P P 10 56 14.6 +0.3
baz=63,SNR=7.5
Z26A Caprock 62.66 327 ⇑P P 10 56 14.8 +0.3
baz=63
Y27A Causey 62.74 328 ⇑P P 10 56 15.2 +0.1
baz=63
V31A Spring Creek L 62.75 332 ⇓P P 10 56 15.3 +0.3
baz=63
ERPA Erie 62.76 351 eP P 10 56 15.5 +0.7
comp=E,50nm,0.8s
X28A Dimmitt 62.79 330 ⇓P P 10 56 15.8 +0.4
baz=63
W29A Amraillo 63.02 330 ⇑P P 10 56 17.2 +0.3
baz=63
Z25A Roswell 63.04 327 ⇑P P 10 56 17.2 +0.1
baz=63
T33A Patterson Ranc 63.19 334 ⇑P P 10 56 17.9 +0.1
baz=64
U31A Nine Bar Ranch 63.26 333 ⇑P P 10 56 19.0 +0.7
baz=64
X27A F and S Farms, 63.32 329 ⇓P P 10 56 19.3 +0.4
baz=64
Z24A Sheeppen Canyo 63.41 326 ⇑P P 10 56 20.0 +0.4
baz=64,SNR=7.1
Y25A Mesa, Roswell 63.53 327 ⇓P P 10 56 20.3 0.0
baz=64
X26A CR and CF Fran 63.59 328 ⇓P P 10 56 21.3 +0.6
baz=64
W27A Bowe Ranch, En 63.64 329 ⇓P P 10 56 21.4 +0.4
baz=64
T31A Randall Ranch, 63.80 333 ⇑P P 10 56 22.6 +0.8
baz=64
319A Douglas 64.07 322 ⇓P P 10 56 25.5 +1.6
baz=64,SNR=11
121A Cookes Peak, D 64.10 324 ⇓P P 10 56 25.6 +1.5
baz=64
V27A Dan Oppiter Fa 64.10 330 ⇑P P 10 56 24.7 +0.8
baz=64
R33A Olander Ranch, 64.14 335 ⇑P P 10 56 24.4 +0.3
baz=64
Z22A Elephant Butte 64.20 325 ⇑P P 10 56 26.1 +1.4
baz=65,SNR=8.3
Y23A Lovelace Mesa, 64.24 326 ⇑P P 10 56 26.3 +1.3
baz=65
W25A X Bar L Ranch, 64.45 328 ⇓P P 10 56 26.9 +0.7
baz=65
R32A Long Quarter, 64.52 335 ⇑P P 10 56 27.2 +0.6
baz=65
V26A Tequesquite Ra 64.58 329 ⇑P P 10 56 27.5 +0.4
baz=65,SNR=5.3
Q33A Connelly Farm, 64.67 336 ⇑P P 10 56 28.3 +0.8
baz=65
R31A Burdett 64.74 334 ⇓P P 10 56 29.1 +1.1
baz=65
T28A Walsh 64.88 331 ⇓P P 10 56 29.3 +0.2
baz=65
W24A Lazy 6 Ranch, 64.91 328 ⇓P P 10 56 30.2 +0.8
baz=65
Q32A Meitler Ranch, 64.95 335 ⇑P P 10 56 29.6 +0.3
baz=65
V25A Rancho No Teng 65.02 329 ⇑P P 10 56 30.9 +0.8
baz=65
U26A Atchley Ranch, 65.05 330 ⇓P P 10 56 31.1 +0.9
baz=65,SNR=7.2
T27A Campo 65.11 331 ⇑P P 10 56 31.2 +0.7
baz=66
S28A Manter 65.17 332 ⇓P P 10 56 31.5 +0.6
baz=66,SNR=5.3
ANMO Albuquerque 65.24 327 eP P 10 56 32.6 +1.1
comp=E,70nm,2.9s
W23A Werner Place, 65.25 327 ⇑P P 10 56 32.8 +1.2
baz=66
V24A Rampart Ranch, 65.25 328 ⇑P P 10 56 32.6 +1.0
baz=66
Q31A Ellis 65.30 334 ⇓P P 10 56 32.4 +0.8
baz=66
U25A Circle Dot Ran 65.37 329 ⇓P P 10 56 33.3 +1.0
baz=66,SNR=7.4
P32A Huiting Farm, 65.51 335 ⇓P P 10 56 33.5 +0.5
baz=66
T26A Comanche Natio 65.61 330 ⇑P P 10 56 34.8 +1.0
baz=66
Q30A Quinter 65.61 334 ⇑P P 10 56 34.6 +0.9
baz=66,SNR=5.0
V23A Ortiz Mt. (NFS 65.72 328 ⇓P P 10 56 35.9 +1.3
baz=66
P31A Stockton 65.73 335 ⇓P P 10 56 35.0 +0.7
baz=66
R28A Tribune 65.76 332 ⇑P P 10 56 35.2 +0.6
baz=66
S26A Kim 65.91 331 ⇑P P 10 56 36.9 +1.2
baz=66,SNR=7.8
O32A Brockman Farm, 65.94 336 ⇓P P 10 56 35.8 +0.1
baz=66
T25A Trinidad 65.96 330 ⇓P P 10 56 37.2 +1.1
baz=66
P30A Selden 66.10 334 ⇓P P 10 56 37.8 +1.0
baz=66
R27A Eads 66.15 332 ⇓P P 10 56 38.5 +1.3
baz=66
U23A El Rito 66.19 328 ⇓P P 10 56 38.6 +1.0
baz=66
V22A San Miguel Ran 66.22 327 ⇑P P 10 56 39.4 +1.5
baz=67,SNR=7.4
T24B San Luis 66.36 329 ⇑P P 10 56 40.3 +1.5
baz=67
S25A Robets Cordova 66.39 330 ⇑P P 10 56 40.0 +1.1
baz=67
R26A Arlington 66.45 331 ⇓P P 10 56 39.9 +0.8
baz=67
O30A MW Ranch, Wils 66.56 335 ⇓P P 10 56 40.7 +1.0
baz=67
214A Organ Pipe Nat 66.57 320 ⇓P P 10 56 42.0 +2.1
baz=67,SNR=7.9
KSCO Kaye Shedlock' 66.67 332 eP P 10 56 42.0 +1.5
comp=E,16nm,1.1s
KSCO Kaye Shedlock' 66.67 332 ⇑P P 10 56 41.6 +1.1
baz=67
R25A Fountain Ranch 66.71 330 ⇓P P 10 56 41.9 +1.0
baz=67
S24A Houchin Ranch, 66.74 329 ⇑P P 10 56 42.5 +1.5
baz=67
X18A Snowflake 66.78 324 ⇓P P 10 56 43.1 +1.7
baz=67
BGNE Belgrade 66.88 337 eP P 10 56 42.2 +0.5
BGNE Belgrade 66.88 337 ⇓P P 10 56 42.4 +0.7
baz=67
Q26A Hugo 66.99 331 ⇓P P 10 56 44.1 +1.5
baz=67
W18A Petrified Fore 67.11 325 ⇑P P 10 56 44.8 +1.4
baz=68
R24A Sanders Place, 67.17 330 ⇑P P 10 56 45.1 +1.3
baz=68,SNR=5.2
O28A Krutsinger Ran 67.23 333 ⇑P P 10 56 45.3 +1.4
baz=68
Q25A Bedland, Calha 67.32 331 ⇓P P 10 56 45.9 +1.2
baz=68
P26A Davis Ranch, A 67.44 332 ⇓P P 10 56 46.8 +1.4
baz=68
R23A Moffat 67.47 329 ⇑P P 10 56 47.1 +1.2
baz=68
X16A Lo Mia Camp, P 67.54 323 ⇓P P 10 56 48.4 +2.3
baz=68,SNR=6.8
O27A Beecher Island 67.58 333 ⇓P P 10 56 47.6 +1.3
baz=68
N28A Pribbeno Ranch 67.60 334 ⇓P P 10 56 47.5 +1.2
baz=68
S22A 4UR Ranch, Cre 67.61 328 ⇑P P 10 56 48.2 +1.5
baz=68
Z14A Wintersburg 67.64 321 ⇓P P 10 56 48.2 +1.6
baz=68
113A Mohawk Valley, 67.71 320 ⇓P P 10 56 48.9 +1.8
baz=68
P25A Willow Gulch B 67.77 331 ⇓P P 10 56 49.2 +1.7
baz=68,SNR=5.0
Q24A Divide 67.77 330 ⇓P P 10 56 49.1 +1.4
baz=68
L31A Butterfield Fa 67.80 337 ⇑P P 10 56 48.4 +0.9
baz=68,SNR=5.8
L30A Spencer Herefo 67.94 336 ⇑P P 10 56 49.6 +1.2
baz=68
O26A Horse Wrangler 67.98 332 ⇓P P 10 56 50.0 +1.2
baz=68
MVCO Mesa Verde 68.03 327 eP P 10 56 50.9 +1.6
comp=E,48nm,2.1s
MVCO Mesa Verde 68.03 327 ⇑P P 10 56 50.7 +1.4
baz=68,SNR=5.4
Y14A Wickenburg 68.09 322 ⇑P P 10 56 51.4 +2.0
baz=68,SNR=8.7
O25A Wiggins 68.23 332 ⇑P P 10 56 51.3 +1.0
baz=69
LIC Lamto 68.26 74 eP P 10 56 48.5 -2.4
comp=E,36nm,1.3s
WUAZ Wupatki 68.30 324 eP P 10 56 52.8 +1.9
comp=E,11nm,0.9s
WUAZ Wupatki 68.30 324 ⇓P P 10 56 53.2 +2.3
baz=69,SNR=9.0
L29A Maesberg Ranch 68.33 335 ⇑P P 10 56 51.5 +0.7
baz=69
ECSD EROS Data Cent 68.38 339 eP P 10 56 50.8 -0.2
comp=E,7.7nm,1.1s
ECSD EROS Data Cent 68.38 339 ⇓P P 10 56 51.1 +0.1
baz=69
TIC Toumodi 68.44 74 eP P 10 56 52.0 0.0
comp=E,4.2nm,0.3s
K30A Basset 68.52 336 ⇑P P 10 56 52.8 +0.8
baz=69,SNR=5.9
SPMN St. Paul 68.53 342 ⇑P P 10 56 52.0 +0.1
baz=69
KIC Kosan Boka 68.57 74 eP P 10 56 52.1 -0.8
comp=E,32nm,1.0s
DBIC Dimbokro 68.59 74 P P 10 56 52.4 -0.6
comp=E,4.2nm,0.6s,baz=194,slow=6.5,SNR=5.0
DBIC pP pP 10 57 18.1 +0.2
comp=E,8.5nm,0.9s,baz=227,slow=6.1,SNR=4.4
DBIC sP sP 10 57 28.5 -0.1
comp=E,5.5nm,0.7s,baz=226,slow=4.4,SNR=3.2
ISCO Idaho Springs 68.66 331 eP P 10 56 54.5 +1.2
comp=E,4.7nm,1.0s
ISCO Idaho Springs 68.66 331 ⇑P P 10 56 53.9 +0.7
baz=69
SMCO Snowmass 68.80 329 eP P 10 56 56.2 +1.9
Y12C Blythe 68.85 321 ⇑P P 10 56 56.0 +1.8
baz=69
K29A Lazy Trails An 68.87 336 ⇑P P 10 56 55.4 +1.3
baz=69,SNR=9.4
PDMCI Parker Dam,Lak 69.01 321 ⇑P P 10 56 57.2 +2.1
baz=69
P22A Eagle 69.03 330 ⇑P P 10 56 56.8 +1.4
baz=69
J30A Dallas 69.04 337 ⇑P P 10 56 55.7 +0.5
baz=69,SNR=6.8
O23A Lake Granby, G 69.12 331 ⇓P P 10 56 57.6 +1.5
baz=70
N24A Carr 69.15 332 ⇓P P 10 56 57.7 +1.6
baz=70
K28A Ten Mile Ranch 69.23 335 ⇓P P 10 56 57.8 +1.4
baz=70
BC3 Big Chuckawall 69.35 320 ⇓P P 10 56 59.6 +2.3
baz=70,SNR=11
O22A Kremmling 69.38 330 ⇑P P 10 56 58.9 +1.3
baz=70,SNR=6.1
MONP Monument Peak 69.42 319 ⇑P P 10 57 00.1 +2.2
baz=70
J29A Okreek 69.42 336 ⇑P P 10 56 58.2 +0.7
baz=70
W13A Hualapai Mount 69.42 322 ⇓P P 10 57 00.0 +2.1
baz=70,SNR=8.1
BAR Barrett 69.43 318 eP P 10 57 00.1 +2.3
U15A North Rim 69.47 324 ⇓P P 10 57 00.8 +2.5
baz=70,SNR=10.0
IRM Iron Mountain 69.51 320 ⇓P P 10 57 00.7 +2.4
baz=70,SNR=6.6
K27A Flueckinger Fa 69.57 335 ⇓P P 10 57 00.2 +1.6
baz=70
M24A Cheyenne 69.64 332 ⇓P P 10 57 00.8 +1.7
baz=70,SNR=5.6
N23A Red Feather La 69.68 331 ⇑P P 10 57 01.0 +1.5
baz=70
J28A Allard Ranch, 69.78 336 ⇑P P 10 57 00.9 +1.1
baz=70,SNR=14
N22A Wattenberg Ran 69.84 331 ⇑P P 10 57 02.2 +1.8
baz=70
BELC Belle Mtn. Jos 69.91 320 ⇓P P 10 57 03.0 +2.1
baz=70,SNR=5.6
PFO Pinyon Flat Ob 69.92 319 eP P 10 57 03.2 +2.3
comp=E,6.7nm,1.0s
PFO Pinyon Flat Ob 69.92 319 ⇑P P 10 57 03.0 +2.0
baz=70,SNR=5.8
I29A Vivian Onida 69.94 337 ⇑P P 10 57 01.2 +0.5
baz=70
J27A Elkhorn Farm, 69.94 335 ⇓P P 10 57 02.4 +1.6
baz=70,SNR=12
QSPA South Pole Qui 70.03 180 eP P 10 57 02.0 +0.8
comp=E,4.5nm,0.9s
QSPA eS pP 10 57 26.9 +0.8
M23A Laramie 70.04 332 ⇑P P 10 57 02.9 +1.3
baz=70
O20A White River Ci 70.16 329 eP P 10 57 04.1 +1.8
comp=E,5.9nm,0.9s
O20A White River Ci 70.16 329 ⇑P P 10 57 03.7 +1.4
baz=70
K25A Mack Ranch, Ha 70.17 333 ⇓P P 10 57 04.0 +1.7
baz=70
GMRC Granite Mounta 70.24 321 ⇓P P 10 57 05.1 +2.2
baz=71,SNR=14
I28A Midland 70.25 336 ⇓P P 10 57 03.4 +0.9
baz=71
M22A Cedar Creek Ra 70.39 331 ⇑P P 10 57 07.0 +3.3
baz=71
J26A Sides Ranch, S 70.42 334 ⇑P P 10 57 05.1 +1.4
baz=71,SNR=5.2
H29A Onida 70.42 337 ⇓P P 10 57 04.3 +0.7
baz=71
G30A Faulkton 70.47 338 ⇑P P 10 57 05.0 +1.1
baz=71
SRU San Rafael 70.51 327 eP P 10 57 06.2 +1.7
comp=E,7.9nm,0.8s
I27A Quinn 70.64 335 ⇓P P 10 57 05.9 +0.9
baz=71
H28A Mission Ridge 70.76 337 ⇓P P 10 57 06.5 +0.9
baz=71,SNR=6.3
G29A Hoven 70.80 337 ⇑P P 10 57 07.0 +1.1
baz=71
TUQ Turquoise Moun 70.85 321 ⇑P P 10 57 08.6 +2.0
baz=71
CCUT Cedar City 70.88 324 eP P 10 57 09.4 +2.6
comp=E,13nm,0.8s
I26A New Underwood 70.93 335 ⇑P P 10 57 07.9 +1.1
baz=71
MVU Marysvale 70.94 325 eP P 10 57 09.1 +1.9
comp=E,7.7nm,0.8s
K23A Bowen Ranch, D 71.03 332 ⇓P P 10 57 09.0 +1.5
baz=71
F30A Leola 71.04 338 ⇑P P 10 57 08.1 +0.8
baz=71
G28A Parade 71.06 337 ⇑P P 10 57 08.8 +1.3
baz=71
BFSC Mount Baldy Ra 71.09 319 ⇑P P 10 57 10.4 +2.4
baz=71
ARUT Antelope Range 71.09 324 eP P 10 57 10.4 +2.5
comp=E,257nm,0.8s
J24A Dixon Ranch, L 71.09 333 ⇑P P 10 57 09.8 +2.0
baz=72
H27A Howes 71.13 336 ⇑P P 10 57 08.5 +0.6
baz=72,SNR=6.3
SHPR Sheep Range 71.15 322 eP P 10 57 10.4 +2.1
GSC Goldstone 71.28 320 eP P 10 57 11.3 +2.1
comp=E,3.3nm,0.7s
GSC Goldstone 71.28 320 ⇓P P 10 57 11.2 +2.1
baz=72
F29A Eureka 71.32 338 ⇑P P 10 57 09.8 +0.8
baz=72
MWC Mount Wilson 71.32 319 eP P 10 57 11.8 +2.3
comp=E,23nm,1.4s
K22A Casper 71.35 332 ⇓P P 10 57 10.9 +1.5
baz=72
SHOC Shoshone 71.38 321 ⇑P P 10 57 11.9 +2.3
baz=72
RSSD Black Hills 71.48 334 eP P 10 57 11.3 +1.1
comp=E,4.3nm,0.8s
I24A Kuemmerle Ranc 71.51 334 ⇑P P 10 57 11.8 +1.4
baz=72
E30A Jud 71.58 339 ⇑P P 10 57 11.5 +0.9
baz=72
K21A Alcova 71.66 331 ⇓P P 10 57 12.8 +1.4
baz=72,SNR=11
F28A McLaughlin 71.68 337 ⇑P P 10 57 12.3 +1.1
baz=72
G27A Dupree 71.70 336 ⇓P P 10 57 12.1 +0.7
baz=72,SNR=6.7
H25A Fruitdale 71.72 335 ⇓P P 10 57 12.8 +1.3
baz=72
EDW2 Edwards Air Fo 71.72 319 ⇓P P 10 57 13.6 +1.9
baz=72
MPU Maple Canyon 71.76 327 eP P 10 57 14.3 +2.3
comp=E,9.6nm,1.0s
G26A Maurine 71.89 336 ⇑P P 10 57 13.0 +0.6
baz=72,SNR=7.5
E29A Napoleon 71.89 338 ⇓P P 10 57 13.2 +0.8
baz=72
J22A Midwest 71.94 332 ⇓P P 10 57 14.1 +1.2
baz=72
LRMC Laurel Mountai 71.94 320 ⇑P P 10 57 14.9 +1.9
baz=72
D30A Buchanan 72.06 339 ⇓P P 10 57 14.0 +0.6
baz=72,SNR=9.6
JLU Jordanelle 72.10 327 eP P 10 57 16.1 +2.0
comp=E,9.4nm,1.1s
FURC Furnace Creek, 72.11 321 ⇑P P 10 57 15.8 +2.0
baz=72,SNR=7.8
G25A Newell 72.12 335 ⇓P P 10 57 14.7 +0.8
baz=72
F27A Lemmon 72.15 337 ⇑P P 10 57 14.7 +0.7
baz=72,SNR=5.2
AGMN Agassiz Nation 72.20 342 eP P 10 57 14.7 +0.4
comp=E,14nm,0.8s

H24A Dirks Ranch, A 72.20 334 ⇑P P 10 57 15.1 +0.7
baz=73,SNR=6.8
E28A Huff 72.27 338 ⇓P P 10 57 15.7 +1.0
baz=73,SNR=5.5
J21A Lysite 72.31 332 ⇓P P 10 57 16.5 +1.3
baz=73
I22A 9 Mile Ranch, 72.32 333 ⇑P P 10 57 16.3 +1.1
baz=73,SNR=5.4
F26A Lodgepole 72.38 336 ⇑P P 10 57 16.3 +0.9
baz=73,SNR=13
ARVC Arvin 72.40 319 ⇑P P 10 57 17.4 +1.7
baz=73
E27A Carson 72.46 337 ⇑P P 10 57 16.5 +0.7
baz=73
C30A Mose, Pekin 72.49 340 ⇓P P 10 57 16.7 +0.7
baz=73,SNR=8.1
DUG Dugway 72.50 326 eP P 10 57 18.5 +2.1
comp=E,8.5nm,1.0s
DUG Dugway 72.50 326 ⇑P P 10 57 18.3 +2.0
baz=73,SNR=5.7
ISA Isabella 72.53 320 eP P 10 57 18.9 +2.3
ISA Isabella 72.53 320 ⇓P P 10 57 18.9 +2.3
baz=73,SNR=8.3
I21A Big Trails, Te 72.61 332 ⇑P P 10 57 18.1 +1.2
baz=73,SNR=7.9
G24A Alzada 72.63 335 ⇑P P 10 57 18.3 +1.4
baz=73
R11A Troy Canyon, C 72.68 323 eP P 10 57 19.8 +2.2
comp=E,3.4nm,0.7s
R11A Troy Canyon, C 72.68 323 ⇑P P 10 57 19.6 +2.1
baz=73,SNR=7.6
F25A Bowman 72.75 336 ⇓P P 10 57 18.7 +1.2
baz=73
D28A Regan 72.75 338 ⇓P P 10 57 18.7 +1.1
baz=73
E26A Carlson Angus 72.82 337 ⇑P P 10 57 19.2 +1.1
baz=73
PDAR Pinedale Array 72.82 330 P P 10 57 18.3 0.0
comp=E,1.5nm,0.9s,baz=116,slow=6.8,SNR=8.5
G23A Biddle 72.92 334 ⇓P P 10 57 19.5 +0.8
baz=73,SNR=5.9
J19A Crowheart 72.97 331 ⇑P P 10 57 20.2 +1.1
baz=73
F24A Ekalaka 73.06 335 ⇑P P 10 57 20.4 +0.9
baz=73,SNR=11
B30A Myrvik Farm, E 73.10 340 ⇓P P 10 57 20.0 +0.4
baz=74,SNR=8.2
BGU Big Grassy Mou 73.15 327 eP P 10 57 21.9 +1.7
comp=E,2.0nm,0.9s
H21A Big Horn, Sher 73.15 333 ⇓P P 10 57 21.0 +0.9
baz=74
E25A Miller Ranch, 73.20 336 ⇑P P 10 57 21.3 +1.0
baz=74
D26A Manning 73.28 337 ⇓P P 10 57 21.8 +1.1
baz=74
G22A Birney 73.31 334 ⇑P P 10 57 22.0 +1.0
baz=74
F23A Volborg 73.35 334 ⇑P P 10 57 22.2 +1.1
baz=74,SNR=5.7
TPH Tonopah 73.42 322 eP P 10 57 23.8 +1.9
comp=E,3.8nm,0.8s
B29A Wagenman Farm, 73.44 340 ⇑P P 10 57 22.5 +0.9
baz=74,SNR=12
H20A Greybull 73.45 332 ⇑P P 10 57 22.6 +0.7
baz=74
A30A Hoffart Farm, 73.52 340 ⇑P P 10 57 22.5 +0.5
baz=74,SNR=5.6
I19A Meeteetse 73.55 331 ⇓P P 10 57 23.8 +1.2
baz=74
AHID Auburn Hatcher 73.56 329 eP P 10 57 23.9 +1.4
comp=E,7.9nm,0.9s
E24A Baker 73.60 336 ⇓P P 10 57 23.9 +1.3
baz=74,SNR=5.8
HVU Hansel Valley 73.65 327 eP P 10 57 24.4 +1.3
comp=E,9.6nm,1.1s
G21A Lodge Grass 73.70 333 ⇑P P 10 57 24.1 +0.8
baz=74
D25A Fairfield 73.71 336 ⇑P P 10 57 24.6 +1.4
baz=74
F22A Rosebud 73.74 334 ⇓P P 10 57 24.3 +0.8
baz=74
B28A Dugan Ranch, T 73.76 339 ⇓P P 10 57 24.4 +1.0
baz=74,SNR=8.1
A29A Manning Farm, 73.80 340 ⇓P P 10 57 24.2 +0.6
baz=74,SNR=21
C26A Wahner Farm, P 73.83 338 ⇓P P 10 57 25.1 +1.2
baz=74
REDW Red Top Meadow 73.89 330 eP P 10 57 26.1 +1.5
comp=E,90nm,2.9s
ULM Lac du Bonnet 73.96 343 P P 10 57 24.2 -0.3
comp=E,9.0nm,0.6s,baz=153,slow=6.2,SNR=21
LOHW Long Hollow 73.96 330 eP P 10 57 26.5 +1.6
comp=E,40nm,2.5s
B27A Peters Farms, 74.03 338 ⇑P P 10 57 26.5 +1.5
baz=74
TPAW Teton Pass 74.03 330 eP P 10 57 27.2 +1.7
comp=E,58nm,2.8s
H19A Powell 74.04 332 ⇓P P 10 57 26.7 +1.4
baz=74
D24A Glendive 74.07 336 ⇑P P 10 57 26.8 +1.5
baz=74
G20A Bridger 74.13 332 ⇓P P 10 57 26.8 +1.0
baz=74
A28A Rude Farm, Bot 74.13 339 ⇑P P 10 57 26.4 +0.8
baz=74
C25A Freed Ranch, W 74.16 337 ⇓P P 10 57 27.2 +1.4
baz=74,SNR=5.2
FXWY Fox Creek 74.18 330 eP P 10 57 27.9 +1.6
comp=E,58nm,2.6s
I17A Pilgrim Ck. 74.18 330 ⇑P P 10 57 28.5 +2.2
baz=74,SNR=9.1
NVAR Mina Array Bea 74.28 322 P P 10 57 28.6 +1.6
comp=E,2.8nm,0.8s,baz=164,slow=6.7,SNR=18
NVAR sP sP 10 58 03.9 +1.0
comp=E,1.2nm,0.7s,baz=155,slow=12,SNR=3.3
IMW Indian Meadow 74.34 330 eP P 10 57 28.7 +1.5
comp=E,7.1nm,1.1s
H18A Shoshone NF, C 74.35 331 ⇓P P 10 57 28.4 +1.2
baz=75,SNR=8.2
B26A Jensen Ranch, 74.35 338 ⇓P P 10 57 28.3 +1.4
baz=75
FLWY Flagg Ranch 74.36 330 eP P 10 57 29.5 +2.2
C24A Savage 74.45 336 ⇓P P 10 57 28.7 +1.3
baz=75
D23A Lindsay 74.46 335 ⇑P P 10 57 29.3 +1.8
baz=75,SNR=6.3
F20A Billings 74.56 333 ⇑P P 10 57 29.4 +1.2
baz=75
E21A Keefer Ranch, 74.69 334 ⇓P P 10 57 30.3 +1.3
baz=75
SCHQ Schefferville 74.70 1 P P 10 57 29.0 +0.3
comp=E,8.2nm,0.8s,baz=212,slow=6.1,SNR=9.5
A26A Wade Farm, Ken 74.72 338 ⇑P P 10 57 30.2 +1.2
baz=75
D22A Cohagen 74.82 335 ⇑P P 10 57 31.1 +1.4
baz=75,SNR=6.3
YMR Madison River 74.94 330 eP P 10 57 33.1 +2.5
comp=E,8.5nm,1.0s
F19A Roth Farm, Mol 74.94 332 ⇓P P 10 57 31.7 +1.3
baz=75,SNR=6.1
C23A Lambert 74.96 336 ⇑P P 10 57 31.7 +1.3
baz=75
D21A La Casta Ranch 75.08 334 ⇑P P 10 57 32.6 +1.4
baz=76,SNR=8.2
E20A Meyer Farm, Mu 75.11 333 ⇑P P 10 57 32.5 +1.2
baz=76,SNR=8.6
A25A Svangstu Ranch 75.14 338 ⇑P P 10 57 32.5 +1.1
baz=76
DGMT Dagmar 75.14 337 eP P 10 57 33.1 +1.7
comp=E,95nm,2.1s
DGMT Dagmar 75.14 337 ⇑P P 10 57 32.5 +1.1
baz=76
C22A Vida 75.19 335 ⇑P P 10 57 32.9 +1.1
baz=76,SNR=5.3
E19A Rath Farm, Rou 75.35 333 ⇓P P 10 57 34.2 +1.4
baz=76,SNR=9.7
B23A Brockton 75.43 336 ⇑P P 10 57 34.8 +1.7
baz=76,SNR=6.4
A24A Westby 75.45 337 ⇑P P 10 57 34.8 +1.6
baz=76,SNR=5.2
D20A Manuel Ranch, 75.57 334 ⇑P P 10 57 35.3 +1.3
baz=76,SNR=9.3
B22A Reddig Ranch S 75.69 336 ⇓P P 10 57 36.2 +1.6
baz=76
C21A Desert Coulee 75.73 335 ⇑P P 10 57 36.3 +1.4
baz=76
HLID Hailey 75.77 328 eP P 10 57 37.7 +2.3
comp=E,6.6nm,0.9s
HLID Hailey 75.77 328 ⇑P P 10 57 37.6 +2.3
baz=76,SNR=14
MCMT McKenzie Canyo 75.94 330 eP P 10 57 38.3 +2.0
comp=E,2.3nm,1.0s
MCMT ePcP PcP 10 57 49.1 +0.8
D19A Cripps Ranch, 75.94 333 ⇑P P 10 57 37.5 +1.4
baz=76,SNR=7.2
C20A Veseth Ranch, 76.01 334 ⇑P P 10 57 38.0 +1.5
baz=76
B21A Ellsworth Farm 76.19 335 ⇑P P 10 57 39.2 +1.7
baz=77
A22A Carney Farms, 76.22 336 ⇑P P 10 57 39.2 +1.6
baz=77,SNR=8.1
MFID Camas Ranch 76.38 327 eP P 10 57 40.6 +1.8
comp=E,10nm,1.4s
C19A Slack Wire Ran 76.46 334 ⇓P P 10 57 40.1 +1.1
baz=77,SNR=5.2
B20A Solberg Farm, 76.60 335 ⇑P P 10 57 41.2 +1.5
baz=77
HRY Holter Researc 76.88 331 eP P 10 57 43.8 +2.4
A20A Cobblestone Ra 76.91 335 ⇓P P 10 57 42.7 +1.2
baz=77,SNR=5.5
EGMT Eagleton 76.98 333 eP P 10 57 43.2 +1.2
comp=E,8.9nm,0.9s
EGMT Eagleton 76.98 333 ⇑P P 10 57 43.3 +1.3
baz=77
B19A Brinkman Farms 76.99 334 ⇓P P 10 57 43.4 +1.5
baz=77,SNR=7.5
TORD Torodi Ar. Bea 77.14 71 P P 10 57 42.4 -1.1
comp=E,1μm,1.0s,baz=250,slow=5.1,SNR=41
TORD pP pP 10 58 08.7 -0.2
comp=E,7.5nm,0.6s,baz=252,slow=4.9,SNR=9.8
TORD sP sP 10 58 19.3 -0.2
comp=E,4.8nm,0.8s,baz=254,slow=5.4,SNR=3.2
A19A Klindworth Far 77.28 334 ⇑P P 10 57 44.9 +1.3
baz=78
MSO Missoula 77.93 330 ⇓P P 10 57 49.7 +2.3
baz=78
N02D Trinity Center 78.51 322 ⇓P P 10 57 52.0 +1.4
baz=79
M04C Macdoel 78.53 323 ⇑P P 10 57 52.1 +1.3
baz=79
JTMT Jette 78.77 331 eP P 10 57 52.9 +0.9
comp=E,2.2nm,0.9s
JTMT epP pP 10 58 16.3 -1.1
F10A Beach Ranch, E 78.90 328 eP P 10 57 50.5 -2.2
comp=E,98nm,2.8s
J05D Fort Rock, OR 79.17 324 ⇓P P 10 57 55.9 +1.6
baz=80
J04D Umpqua Nationa 79.63 324 ⇓P P 10 57 58.6 +1.8
baz=80
E09A Wood Farm, Sta 79.73 328 eP P 10 57 59.6 +2.6
comp=E,55nm,2.5s
I05D Terrebonne, OR 79.92 325 ⇓P P 10 58 00.5 +2.3
baz=80
HAWA Hanford 80.35 327 eP P 10 58 02.5 +2.1
comp=E,5.4nm,0.8s
G05D Wamic, OR 80.50 326 ⇑P P 10 58 03.6 +2.3
baz=81
I03D Drain, OR 80.61 323 ⇓P P 10 58 04.5 +2.7
baz=81
EDM Edmonton 82.44 335 eP P 10 58 11.2 -0.1
EDM epP pP 10 58 36.0 -1.0
BOSA Boshof 84.30 118 P P 10 58 21.3 -0.4
comp=E,2.3nm,0.8s,baz=248,slow=6.4,SNR=4.0
BOSA pP pP 10 58 46.1 +1.2
comp=E,2.4nm,0.6s,baz=195,slow=1.6,SNR=2.3
ESDC Sonseca Array 85.05 45 P P 10 58 25.1 +0.1
comp=E,0.2nm,0.3s,baz=258,slow=6.4,SNR=4.1
YKA Yellowknife Ar 89.84 341 P P 10 58 47.8 +0.5
comp=E,7.2nm,0.6s,baz=134,slow=4.7,SNR=202
YKA pP pP 10 59 14.2 +0.9
comp=E,2.2nm,0.7s,baz=134,slow=4.7,SNR=5.2
YKA sP sP 10 59 23.8 0.0
comp=E,3.4nm,0.8s,baz=134,slow=4.6,SNR=4.4
INK Inuvik 99.59 340 P Pdif 10 59 32.5 +0.8
comp=E,0.5nm,0.8s,baz=126,slow=3.9,SNR=5.2
KBZ Khabaz 119.46 50 PKP PKPdf 11 04 39.0 +0.8
comp=E,1.6nm,0.7s,baz=180,slow=3.0,SNR=4.1
H11S2 WAKE ISLAND Hy127.45 278 T T 13 24 43.3
baz=104,slow=72,SNR=1029
H11S1 WAKE ISLAND Hy127.46 278 T T 13 24 42.6
baz=104,slow=72,SNR=200
H11S3 WAKE ISLAND Hy127.47 278 T T 13 24 44.6
baz=104,slow=72,SNR=726
H11N3 WAKE ISLAND Hy127.50 280 T T 13 24 46.4
baz=104,slow=75,SNR=108
H11N2 WAKE ISLAND Hy127.51 280 T T 13 24 48.5
baz=104,slow=75,SNR=77
H11N1 WAKE ISLAND Hy127.52 280 T T 13 24 49.3
baz=104,slow=75,SNR=72
ASAR Alice Springs 130.98 208 PKP PKPdf 11 05 01.0 -0.1
comp=E,1.0nm,0.6s,baz=126,slow=1.8,SNR=20
ASAR pPKP pPKPdf 11 05 28.3 +0.1
comp=E,0.2nm,0.5s,baz=125,slow=1.4,SNR=1.8
WRA Warramunga Arr 133.98 211 PKhKP PKPpre 11 04 55.8
comp=E,0.1nm,0.5s,baz=126,slow=2.6,SNR=7.3
WRA PKP PKPdf 11 05 07.2 +0.5
comp=E,1.4nm,0.7s,baz=158,slow=1.7,SNR=20
WRA pPKP pPKPdf 11 05 33.5 -0.4
comp=E,0.4nm,0.6s,baz=157,slow=1.7,SNR=2.4
BVAR Borovoye Array 134.82 34 PKP PKPdf 11 05 08.9 +1.7
comp=E,0.4nm,0.4s,baz=289,slow=4.4,SNR=3.6
ZALV Zalesovo Beam 140.84 24 PKhKP PKPpre 11 05 11.8
comp=E,0.6nm,0.5s,baz=26,slow=3.7,SNR=3.5
ZALV PKP PKPdf 11 05 18.5 +0.2
comp=E,3.5nm,0.7s,baz=302,slow=2.8,SNR=12
ZALV pPKP pPKPdf 11 05 45.9 +0.5
comp=E,0.9nm,0.6s,baz=329,slow=2.6,SNR=3.2
ZALV sPKP 11 05 57.0
comp=E,2.3nm,0.7s,baz=304,slow=2.8,SNR=3.7
KSH Kashi 144.43 49 ePKP PKPdf 11 05 24.8 -0.5
KSH esPKP 11 05 58.9
KSH PKS PKSdf 11 08 58.3 -2.6
KSH SKKS 11 15 19.5
KSH SS SS 11 27 15.1 -5.8
KSH AMB AMB
KSH LR LR
comp=E,61nm,3.8s
KSH LR LR
comp=E,55nm,4.2s
KSH LR LR
comp=E,25nm,4.1s
KSH LR LR
comp=E,140nm,5.4s
MKAR Makanchi Array 144.68 35 PKP PKPbc 11 05 24.7 +0.3
comp=E,3.2nm,0.6s,baz=316,slow=2.5,SNR=19
MKAR pPKP pPKPdf 11 05 52.2 -0.3
comp=E,0.8nm,0.5s,baz=343,slow=3.8,SNR=2.9
WMQ Urumqi 149.50 34 ePKPbc PKPbc 11 05 37.4 -0.7
WMQ PKS PP 11 09 10.9 -0.2
WMQ PP PP 11 09 16.5 +5.4
WMQ SKS SKSdf 11 12 33.0 +1.2
WMQ SS SS 11 28 19.0 +1.9
WMQ AMB AMB
WMQ LR LR
comp=E,23nm,11.6s
WMQ LR LR
comp=E,41nm,19.6s
WMQ LR LR
comp=E,55nm,20.2s
WMQ LR LR
comp=E,23nm,24.2s
USRK Ussuriysk Arra 150.24 328 PKPbc PKPbc 11 05 40.7 +0.9
comp=E,6.0nm,0.7s,baz=19,slow=1.8,SNR=17
USRK pPKPbc pPKPbc 11 06 07.6 +0.8
comp=E,2.1nm,0.8s,baz=14,slow=2.3,SNR=2.8
MJAR Matsushiro Arr 151.03 310 PKPbc PKPbc 11 05 42.7 +0.8
comp=E,4.0nm,0.7s,baz=81,slow=1.9,SNR=11
SONM Songino Array 152.15 6 PKP PKPdf 11 05 38.7 +1.2
comp=E,0.9nm,0.8s,baz=271,slow=1.7,SNR=7.2
SONM PKPbc PKiKP 11 05 45.0 +0.5
comp=E,3.5nm,0.5s,baz=271,slow=1.0,SNR=48
SONM pPKPbc pPKPbc 11 06 11.5 +0.2
comp=E,1.0nm,0.5s,baz=290,slow=1.1,SNR=3.6
ULN Ulaanbaatar 152.18 5 ePKPbc PKPbc 11 05 44.6 +0.2
ULN ePKPab PKPab 11 05 55.7 +1.4
HHC Hu-ho-hao-te 159.36 358 ePKP PKPdf 11 05 42.9 -4.4
HHC sPKP 11 06 21.1
HHC PKS PKSdf 11 09 15.1 -5.8
HHC SKS SKSdf 11 12 39.0 -5.0
HHC SKKS SKKSac 11 16 42.5 -3.8
HHC SS SS 11 30 00.3 -2.4
HHC AMB AMB
comp=E,200nm,9.9s
LZH Lanzhou 162.98 20 ePKP PKPdf 11 05 50.0 -1.4
LZH pPKP pPKPdf 11 06 15.3 -3.4
LZH sPKP 11 06 27.1
LZH LR LR
comp=E,170nm,18.2s
LZH LR LR
comp=E,200nm,17.6s
LZH LR LR
comp=E,200nm,19.8s
NJ2 Nanjing 166.13 330 ePKP PKPdf 11 05 53.1 -0.9
CD2 Chengdu 167.53 29 PKP PKPdf 11 05 53.1 -2.1
KMI Kunming 171.04 55 PKP PKPdf 11 05 56.4 -1.3

ISCJB **17** *10:49:16.5±0.4, 36°.36N±0°.06×137°.2E±0°.1, h256km±3km, mb3.4/7, Error ellipse: s-maj=15.6km s-min=7.6km az=23.7*
IDC **17** *10:49:16.9±0.8, 36°.33N×137°.11E, h247km±6km, mb3.2/7, mb1 3.5/9, mb1mx3.1/29, mbtmp3.8/9, Error ellipse: s-maj=30.8km s-min=13.5km az=90.0*
JMA **17** *10:49:17.2±0.1, 36°.33N×137°.29E, h253km±1km, M3.0*
ISC 17 10:49:17.5±0.8, 36°.34N±0°.07×137°.25E±0°.09, h251km±6km, n24, σ0°.52/30, mb3.4/7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.13	156	P	Pn	10 49 49.9	0.0
JGN				S	S	10 50 15.2	-0.1
JKG	Kaga	0.74	265	P	Pn	10 49 51.8	+0.6
MAT	Matsushiro	0.80	75	P	Pn	10 49 51.7	+0.2
MAT				S	S	10 50 18.1	-0.2
MAT	Matsushiro	0.80	75	P	Pn	10 49 51.8	+0.2
MAT				S	S	10 50 18.2	-0.1
MJAR	Matsushiro Arr	0.80	75	P	Pn	10 49 51.5	-0.1
	4.6nm,0.3s,baz=253,slow=7.7,SNR=60						
MJAR				S	S	10 50 18.9	+0.5
	0.8nm,0.3s,baz=30,slow=13,SNR=14						
JSZ	Suzu	1.11	5	S	S	10 50 21.1	-0.1
JYN	Shimob	1.35	128	P	Pn	10 49 54.6	-0.2
JWT	Wachi	1.84	235	P	Pn	10 49 58.6	0.0
JOD2	Odawara 2	1.84	125	P	Pn	10 49 58.9	+0.3
JSD	Sado	1.87	25	P	Pn	10 49 58.9	+0.1
JIE	Ise	2.00	193	P	Pn	10 50 00.4	+0.4
JIE				S	S	10 50 33.0	-0.5
JNS	Sasagawa	2.21	48	P	Pn	10 50 02.0	+0.1
JWY	Kouya	2.52	213	P	Pn	10 50 05.6	+0.6
JFT	Otama	2.74	64	P	Pn	10 50 06.9	-0.2
JWZ	Kozaga	3.08	205	P	Pn	10 50 10.8	-0.1
JWZ				S	S	10 50 52.7	-0.4
ASAJ	Asahikawa	8.77	26	P	Pn	10 51 18.7	-1.7
	2.6nm,0.3s,baz=247,slow=7.7,SNR=19						
USRK	Ussuriysk Arra	8.82	335	P	Pn	10 51 20.6	-0.3
	0.6nm,0.3s,baz=145,slow=12,SNR=12						
WRA	Warramunga Arr	56.05	183	P	P	10 58 29.9	-0.6
	1.3nm,0.4s,baz=360,slow=7.6,SNR=53						
INK	Inuvik	56.51	26	P	P	10 58 33.7	+0.5
	0.4nm,0.5s,baz=273,slow=3.6,SNR=4.6						
ASAR	Alice Springs	59.77	184	P	P	10 58 56.0	-0.3
	0.3nm,0.3s,baz=358,slow=5.9,SNR=12						
ARCES	ARCESS Array B	63.44	339	P	P	10 59 19.7	-0.5
	2.4nm,0.9s,baz=55,slow=7.8,SNR=2.2						
FINES	FINESS Array B	67.83	331	P	P	10 59 47.7	-0.5
	1.0nm,0.8s,baz=27,slow=13,SNR=2.6						
NVAR	Mina Array Bea	78.05	51	P	P	11 00 49.7	+0.9
	0.3nm,0.5s,baz=280,slow=5.4,SNR=3.1						
TXAR	Lajitas Array	93.16	50	P	P	11 02 03.9	+0.4
	0.1nm,0.6s,baz=305,slow=3.2,SNR=2.6						

IDC 17 10:52:29.8±3.1, 53°.52N×87°.84E, h0km, mb1 3.0/1, mb1mx2.8/37, mbtmp3.0/1, ML2.8/1, Error ellipse: s-maj=27.5km s-min=15.4km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.84	285	i		11 04 51.6	
	baz=99,slow=339,SNR=7.4						
ZALV	Zalesovo Beam	1.84	285	Pn	Pn	10 53 01.9	-0.7
	1.9nm,0.3s,baz=102,slow=15,SNR=21						
ZALV				Lg	Lg	10 53 28.3	
	5.8nm,0.3s,baz=101,slow=25,SNR=18						
MKAR	Makanchi Array	7.61	210	Pn	Pn	10 54 24.1	+2.1
	0.2nm,0.3s,baz=29,slow=13,SNR=8.4						
MKAR				Sn	Sn	10 55 46.0	-2.9
	0.0nm,0.3s,baz=32,slow=19,SNR=2.3						
MKAR				Lg	Lg	10 56 32.1	
	0.1nm,0.3s,baz=33,slow=33,SNR=9.3						

IDC **17** *10:59:21.7±1.0, 39°.47N×73°.86E, h0km, mb3.7/9, mb1 3.8/13, mb1mx3.6/42, mbtmp3.6/13, ML3.1/5, MS2.5/2, Ms1 2.5/2, ms1mx2.3/46, Error ellipse: s-maj=17.4km s-min=15.9km az=54.0*
BJI **17** *10:59:22.3, 39°.72N×73°.72E, h4km, ML3.3/4*
KRNET **17** *10:59:23.5±0.1, 39°.68N×73°.86E, h3km, mb4.3*
NNC **17** *10:59:30.0±2.4, 39°.95N×73°.95E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=20.3km s-min=11.2km az=1.0*
ISC 17 10:59:23.7±0.8, 39°.69N±0°.05×73°.82E±0°.03, h10km±4km, n50, σ1°.76/60, mb3.6/10, 21C-14D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.40	323	i P	Pg	10 59 30.3	-1.4
	baz=321						
SFK				eS	Sg	10 59 36.7	-0.3
	baz=321						
OHH	Osh	1.15	317	⇓i P	Pn	10 59 47.0	+1.1
	baz=316						
OHH				⇓eS	Sn	11 00 05.0	+3.3
	baz=316						
DRK	Karamyk	1.57	263	eP	Pn	10 59 53.0	+1.0
	baz=264						
DRK				eS	Sg	11 00 17.1	+2.7
	baz=264						
KSH	Kashi	1.67	95	Pg	Pn	10 59 48.6	-4.6
KSH				Sg	Sn	11 00 06.5	-8.3
KSH				smax	smax		
	comp=N,610nm,0.3s						
KSH				smax	smax		
	comp=E,740nm,0.4s						
ARSB	Arslanbob	1.75	339	i P	Pb	10 59 55.8	-0.2
	baz=338						
AML	Almayashu	2.44	358	P	Pb	11 00 08.3	+0.4
	SNR=85						
AML	Almayashu	2.44	358	⇑i P	Pb	11 00 08.2	+0.4
	baz=357						
AML				⇑i S	Sg	11 00 41.8	-0.2
	baz=357						
UCH	Uchtor	2.58	12	P	Pb	11 00 09.8	-0.6
	SNR=129						
UCH	Uchtor	2.58	12	⇑i P	Pb	11 00 10.1	-0.3
	baz=11						
UCH				⇑i S	Sb	11 00 44.7	+2.3
	baz=11						
KZA	Kyzart	2.62	24	P	Pb	11 00 10.6	-0.3
	SNR=55						
KZA	Kyzart	2.62	24	⇑i P	Pb	11 00 10.6	-0.3
	baz=23						
KZA				⇑i S	Sb	11 00 45.0	+1.7
	baz=23						
EKS2	Erkin-Say	2.96	359	P	Pb	11 00 16.6	0.0
	SNR=41						
EKS2	Erkin-Say	2.96	359	⇓i P	Pb	11 00 16.0	-0.7
	baz=359						
EKS2				⇓i S	Sb	11 00 54.8	+1.8
	baz=359						
AAK	Ala-Archa	2.98	10	⇓Pn	Pb	11 00 15.5	-1.4
	20nm,0.8s						
AAK				⇓Pg	Pg	11 00 20.4	-0.4
	31nm,0.5s						
AAK				⇑Lg	Lg	11 00 55.4	
	120nm,0.6s						
AAK	Ala-Archa	2.98	10	P	Pb	11 00 16.8	-0.2
	SNR=15						
AAK	Ala-Archa	2.98	10	Pn	Pb	11 00 15.6	-1.4
	5.5nm,0.3s,baz=173,slow=9.7,SNR=57						
AAK				Lg	Lg	11 00 55.3	
	15nm,0.3s,baz=339,slow=17,SNR=13						
AAK				LR	LR	11 01 39.4	
	comp=Z,58nm,19.8s,baz=248,slow=43						
AAK	Ala-Archa	2.98	10	⇓i P	Pb	11 00 17.0	0.0
	baz=9.0						
AAK				⇓i S	Sb	11 00 55.0	+1.5
	baz=9.0						
KBK	Karagaybulak	3.08	16	P	Pb	11 00 17.4	-1.3
	SNR=65						

KBK Karagaybulak 3.08 16 ⇑iP Pb 11 00 18.1 -0.6
baz=15
KBK ⇑iS Sb 11 00 58.3 +1.9
baz=15
ULHL Ulahol 3.14 35 P Pb 11 00 18.2 -1.5
SNR=7.9
ULHL Ulahol 3.14 35 ⇑iP Pb 11 00 17.0 -2.7
baz=34
ULHL ⇑iS Sb 11 00 59.0 +0.8
baz=34
CHMS Chumysh 3.38 12 P Pb 11 00 21.9 -1.8
SNR=12
TKM2 Tokmak 2 3.49 22 ⇓Pn Pb 11 00 22.9 -2.8
4.7nm,0.4s
TKM2 ⇑Pg Pg 11 00 27.9 -2.7
16nm,0.5s
TKM2 ⇑Lg Lg 11 01 08.3
29nm,0.5s
TKM2 Tokmak 2 3.49 22 P Pb 11 00 23.1 -2.6
SNR=14
USP Ospenovka 3.61 8 P Pb 11 00 24.8 -2.8
SNR=13
KK31 Karatay Array 4.22 325 ⇓Pn Pn 11 00 31.4 +3.4
3.1nm,0.3s,baz=134,slow=13,SNR=112
KK31 ⇑Pg Pg 11 00 41.7 -2.7
4.2nm,0.3s,baz=153,slow=18,SNR=42
KK31 ⇑Sn Sb 11 01 24.6 -4.4
17nm,0.5s,baz=136,slow=25,SNR=3.2
KK31 ⇑Lg Lg 11 01 38.8
35nm,0.6s
KNDC Almaty 4.24 33 ⇓Pg Pg 11 00 43.0 -1.9
KNDC ⇑Lg Lg 11 01 38.0
PDGK Podgornoye 5.59 48 ⇑Pn Pn 11 00 49.9 +3.1
PDGK ⇑Pg Pg 11 01 09.0 -1.8
PDGK ⇓Lg Lg 11 02 17.9
OTUK Ortayu 8.61 353 ⇑Lg Lg 11 03 54.9
MKAR Makanchi Array 9.40 38 Pn Pn 11 01 43.5 +4.3
0.1nm,0.3s,baz=214,slow=16,SNR=3.8
MKAR Lg Lg 11 04 14.2
0.1nm,0.3s,baz=208,slow=26,SNR=2.6
KURK Kurchatov 11.53 15 ⇓Lg Lg 11 05 26.1
10.0nm,1.1s
IAKL Akhelmad 12.25 260 eP Pn 11 02 18.4 -0.1
ISFR Sfrayin 12.69 263 eP Pn 11 02 24.3 -0.2
BVAR Borovoye Array 13.54 351 Pn Pn 11 02 37.1 +1.3
0.2nm,0.3s,baz=159,slow=14,SNR=4.6
BVAR Lg Lg 11 06 29.3
0.5nm,0.3s,baz=188,slow=28,SNR=4.4
BRVK Borovoye 13.59 351 ⇓Lg Lg 11 06 30.7
9.9nm,0.9s
AB31 Akbulak array 13.75 319 ⇑Sn Sn 11 05 09.7 -1.5
1.6nm,0.7s,baz=122,slow=24,SNR=6.2
AKTO Aktyubinsk 15.46 319 Pn Pn 11 03 02.5 +0.8
0.1nm,0.3s,baz=117,slow=16,SNR=3.6
AKTO Sn Sn 11 05 48.4 -4.4
0.0nm,0.3s,baz=41,slow=14,SNR=1.2
ZALV Zalesovo Beam 16.09 24 Pn Pn 11 03 10.0 +0.1
0.1nm,0.3s,baz=214,slow=12,SNR=2.5
LZH Lanzhou 23.91 89 eP P 11 04 35.6 -2.3
LZH pP pP 11 04 40.8 -0.1
LZH sP sP 11 04 43.4 +1.2
LZH pmax pmax
comp=Z,15nm,1.0s
SONM Songino Array 24.75 60 P P 11 04 45.7 +0.3
comp=Z,0.7nm,0.8s,baz=265,slow=12,SNR=7.8
FINES FINESS Array B 36.18 323 P P 11 06 27.6 +1.6
comp=Z,1.0nm,0.6s,baz=126,slow=9.2,SNR=6.5
QIZ Qiongzhong 37.20 113 P P 11 06 31.8 -3.4
QIZ S S 11 12 16.5 -5.6
QIZ LR LR
comp=Z,330nm,3.9s
ARCES ARCESS Array B 39.11 335 P P 11 06 52.6 +1.8
comp=Z,3.1nm,0.8s,baz=93,slow=8.5,SNR=7.2
NOA NORSAR Array B 43.24 321 P P 11 07 25.8 +1.0
comp=Z,0.7nm,0.6s,baz=180,slow=10,SNR=3.0
JOW Kunigami 46.65 89 LR LR 11 28 07.0
comp=Z,5.9nm,20.7s,baz=338,slow=37
TORD Torodi Ar. Bea 68.01 269 P P 11 10 23.2 -0.2
comp=Z,0.6nm,0.5s,baz=54,slow=5.0,SNR=7.7
ILAR Eielson Array 71.09 17 P P 11 10 41.1 -0.6
comp=Z,0.4nm,0.8s,baz=328,slow=4.9,SNR=5.1
YKA Yellowknife Ar 77.93 4 P P 11 11 21.6 +0.2
comp=Z,0.2nm,0.4s,baz=349,slow=5.5,SNR=6.3
WRA Warramunga Arr 81.86 124 P P 11 11 42.3 -1.0
comp=Z,0.3nm,0.7s,baz=325,slow=4.9,SNR=5.5
ASAR Alice Springs 84.32 127 P P 11 11 55.2 -0.8
comp=Z,0.3nm,0.7s,baz=321,slow=6.2,SNR=4.3

IDC 17 11:18:31.7±3.1, 54.22N×87.18E, h0km, mb1 3.1/1, mb1mx2.9/29, mbtmp3.1/1, ML2.9/1, Error ellipse: s-maj=26.8km s-min=16.7km az=61.0
NNC 17 11:18:39.0±4.2, 54.24N×86.67E, h34km±48km, mb3.2, mpv2.8, Error ellipse: s-maj=29.6km s-min=20.7km az=56.0
ISC 17 11:18:38.1±3.5, 54.3N±0.2×86.7E±0.2, h35km, n6, σ0s82/9, 5C-3D, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.18 254 i 11 28 05.4
baz=80,slow=337,SNR=4.4
ZALV Zalesovo Beam 1.18 254 Pg Pn 11 18 57.3 -0.7
3.9nm,0.3s,baz=77,slow=13,SNR=16
ZALV Lg Lg 11 19 17.0
2.7nm,0.3s,baz=76,slow=25,SNR=11
ZALV Rg Rg 11 19 26.6
3.6nm,0.3s,baz=95,slow=27,SNR=2.6
KURK Kurchatov 6.11 237 ⇓Pn Pn 11 20 06.3 +0.4
2.1nm,1.2s
KURK ⇑Sn Sn 11 21 15.3 +0.9
0.6nm,0.7s
KURK ⇓Lg Lg 11 21 51.5
MK31 Makanchi Array 8.02 202 ⇑Pn Pn 11 20 31.7 -0.3
0.1nm,0.4s,baz=28,slow=14,SNR=9.2
MK31 ⇑Sn Sn 11 22 01.5 +0.1
0.7nm,0.8s
MK31 ⇑Lg Lg 11 22 49.5
2.0nm,0.9s
MKAR Makanchi Array 8.02 202 Pn Pn 11 20 31.2 -0.8
0.2nm,0.3s,baz=24,slow=12,SNR=11
MKAR Sn Sn 11 22 01.6 +0.1
0.1nm,0.3s,baz=38,slow=28,SNR=4.8
MKAR Lg Lg 11 22 46.5
0.0nm,0.3s,baz=18,slow=30,SNR=3.6
VOSK Vostochnaya 9.52 267 ⇑Pn Pn 11 20 53.4 +0.9
VOSK ⇓Sn Sn 11 22 37.2 -1.0

ISCJB 17 11:21:28.1±0.4, 50.18N±0.03×18.94E±0.03, h0km, Error ellipse: s-maj=4.5km s-min=2.6km az=9.0
CSEM 17 11:21:28.3±0.4, 50.27N×19.00E, h1km, ML2.8/4, Error ellipse: s-maj=10.5km s-min=3.6km az=2.0
PRU 17 11:21:29.5, 50.24N×19.00E, h0km
IDC 17 11:21:30.0±2.5, 50.06N×19.05E, h0km, mb1 3.4/3, mb1mx3.0/24, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=47.6km s-min=12.3km az=138.0
ISC 17 11:21:28.7±0.7, 50.19N±0.04×19.02E±0.02, h0km, n30, σ0s92/49, Poland

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CHZP Chorzow 0.10 349 ePg Pg 11 21 31.7 +1.1
CHZP eSg Sg 11 21 33.7 +1.7
OJC Ojcow 0.50 86 ePg Pg 11 21 38.3 +0.1
OJC eSg Sg 11 21 45.0 +0.3
OJC Ojcow 0.50 86 ePg Pg 11 21 38.3 +0.1
OJC eSg Sg 11 21 45.0 +0.3
OKC Ostrava-Krasne 0.67 238 ePG Pb 11 21 42.8 -0.4
OKC eSG Sb 11 21 52.8 -0.2
14nm,0.4s
OKC Ostrava-Krasne 0.67 238 Pg Pb 11 21 42.8 -0.4
OKC Sg Sb 11 21 52.8 -0.2
14nm,0.4s
MORC Moravsky Berou 1.04 247 ePg Pg 11 21 48.8 +0.2
MORC eSg Sg 11 22 03.2 +1.1
NIE Niedzica 1.14 132 ePg Pb 11 21 51.5 +0.3
NIE eSg Sb 11 22 07.4 +0.8
NIE Niedzica 1.14 132 ePg Pb 11 21 51.5 +0.3
NIE eSg Sb 11 22 07.4 +0.8
STHS Stebnicka Huta 1.63 117 ePN Pb 11 22 00.4 +0.4
STHS eSN Sb 11 22 20.9 +0.1
STHS Stebnicka Huta 1.63 117 ePn Pb 11 22 00.4 +0.4
STHS eSn Sb 11 22 20.9 +0.1
VYHS Vyhne 1.70 184 ePN Pn 11 21 59.5 -0.1
VYHS eSN Sn 11 22 21.6 -0.5
VYHS Vyhne 1.70 184 ePn Pn 11 21 59.5 -0.1
VYHS eSn Sn 11 22 21.6 -0.5
DPC Dobruska-Polom 1.74 276 ePG Pn 11 22 00.1 -0.1
DPC eSG Sb 11 22 24.0 +0.1
47nm,0.4s
DPC Dobruska-Polom 1.74 276 Pg Pn 11 22 00.1 -0.1
DPC Sg Sb 11 22 24.0 +0.1
47nm,0.4s
VRAC Vranov 1.81 242 Pn Pn 11 22 01.4 +0.3
1.4nm,0.3s,baz=68,slow=13,SNR=6.2
VRAC Lg Lg 11 22 25.7
1.3nm,0.3s,baz=124,slow=20,SNR=2.8
VRAC Vranov 1.81 242 ePn Pn 11 22 01.3 +0.3
VRAC eSg Sn 11 22 25.1 +0.4
KSP Ksiaz 1.86 292 ePg Pg 11 22 05.7 +1.4
KSP eSg Sg 11 22 28.9 +0.5
CRVS Cervenica-Dubn 2.05 128 ePN Pn 11 22 05.0 +0.7
CRVS eSN Sn 11 22 31.3 +0.7
CRVS Cervenica-Dubn 2.05 128 ePn Pn 11 22 05.0 +0.7
CRVS eSn Sn 11 22 31.3 +0.7
KOLS Kolonicke sedl 2.46 120 e Pg 11 22 18.5 +2.7
KOLS Kolonicke sedl 2.46 120 eSN Sn 11 22 39.4 -1.4
KOLS Kolonicke sedl 2.46 120 eSn Sn 11 22 39.4 -1.4
PRU Pruhonice 2.89 268 eSG Sg 11 23 01.4 -0.2
3.0nm,0.4s
PRU Pruhonice 2.89 268 Sg Sg 11 23 01.4 -0.2
3.0nm,0.4s
KHC Kasperske Hory 3.69 255 eSG Sg 11 23 26.7 -0.6
5.9nm,0.6s
KHC Kasperske Hory 3.69 255 Sg Sg 11 23 26.7 -0.6
5.9nm,0.6s
GERES GERESS Array B 3.72 251 Pn Pn 11 22 27.8 +0.3
0.3nm,0.3s,baz=65,slow=14,SNR=2.4
GERES Pg Pb 11 22 37.6 +2.3
0.2nm,0.3s,baz=66,slow=17,SNR=4.5
GERES Lg Lg 11 23 26.5
0.7nm,0.3s,baz=69,slow=25,SNR=10
CLL Collm 3.98 289 eSg Sg 11 23 37.0 +0.4
FINES FINESS Array B 11.95 17 Pn Pn 11 24 17.2 -2.8
0.1nm,0.3s,baz=186,slow=13,SNR=2.8
ARCES ARCESS Array B 19.66 7 Pn P 11 25 58.0 -0.7
0.1nm,0.3s,baz=188,slow=12,SNR=2.9

ISCJB 17 11:39:14.9±0.7, 23.60S±0.08×179.3E±0.1, h537km, mb3.8/10, Error ellipse: s-maj=14.9km s-min=10.2km az=12.6
IDC 17 11:39:17.4±3.3, 23.70S×179.23E, h556km±37km, mb3.4/10, mb1 3.6/12, mb1mx3.3/34, mbtmp4.3/12, Error ellipse: s-maj=27.5km s-min=23.3km az=145.0
ISC 17 11:39:15.8±0.8, 23.75S±0.10×179.3E±0.1, h537km, n32, σ1s09/32, mb3.9/10, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 12.01 275 P P 11 41 56.0 +1.5
0.7nm,0.3s,baz=93,slow=6.6,SNR=8.7
URZ Urewera 14.59 187 P P 11 42 21.8 +0.8
0.8nm,0.3s,baz=331,slow=3.3,SNR=7.1
URZ S S 11 44 52.0 -1.7
0.4nm,0.3s,baz=42,slow=23,SNR=1.2
ARMA Armidale 25.51 249 P P 11 44 03.5 +1.6
baz=32,SNR=14
EIDS Eidsvold 25.74 261 P P 11 44 04.2 +0.4
baz=32,SNR=5.7
MGCD Mangrove Creek 26.48 243 P P 11 44 12.1 +1.9
baz=33,SNR=10
RMQ Roma 27.80 258 P P 11 44 23.3 +1.4
baz=34,SNR=9.2
CNB Canberra Magne 28.41 239 P P 11 44 28.9 +1.7
baz=35,SNR=7.4
CMSA Cobar Meteorol 30.71 248 P P 11 44 47.7 +0.6
baz=37,SNR=13
QLP Quilpie 31.84 257 P P 11 44 56.7 -0.1
baz=38,SNR=33
TOO Toolangi 32.03 237 P P 11 44 59.4 +1.1
baz=39,SNR=5.3
MTSU Mount Surprise 33.13 273 P P 11 45 08.0 +0.2
baz=38,SNR=11
PMG Port Moresby 33.88 289 P P 11 45 13.5 -0.6
7.5nm,0.6s,baz=78,slow=9.3,SNR=5.7
STKA Stephens Creek 34.22 248 P P 11 45 17.3 +0.5
2.9nm,0.5s,baz=97,slow=10,SNR=12
STKA Stephens Creek 34.22 248 P P 11 45 17.1 +0.2
baz=41,SNR=6.6
HTT Hallett 36.59 245 P P 11 45 36.8 +0.2
baz=43,SNR=7.9
BBOO Buckleboo 38.95 247 P P 11 45 55.4 -0.4
baz=45,SNR=10
ASAR Alice Springs 41.47 261 P P 11 46 15.3 -0.8
2.4nm,0.6s,baz=93,slow=6.8,SNR=71
WRA Warramunga Arr 41.82 266 P P 11 46 17.6 -1.2
1.9nm,0.3s,baz=89,slow=5.9,SNR=282
FORT Forrest 45.80 250 P P 11 46 48.8 -0.8
baz=52,SNR=9.6
WRKA Warakurna 46.28 257 P P 11 46 52.6 -0.7
baz=52,SNR=48
KLBR Kellerberrin 54.49 247 P P 11 47 52.4 -0.8
baz=61,SNR=4.7
MEEK Meekatharra 54.58 253 P P 11 47 52.5 -1.4
baz=61,SNR=3.8
MORW Morawa 56.36 250 P P 11 48 05.5 -0.8
baz=63,SNR=3.4
MJAR Matsushiro Arr 71.44 326 P P 11 49 41.0 -1.0
1.0nm,0.6s,baz=164,slow=5.2,SNR=4.6
PETK Petropavlovsk- 78.82 347 P P 11 50 22.4 -0.3
5.5nm,0.9s,baz=130,slow=7.8,SNR=3.0
CMAR Chiang Mai Arr 88.91 291 P P 11 51 14.4 +0.9
0.3nm,0.4s,baz=130,slow=2.2,SNR=4.2
SEY Seymchan 89.00 348 P P 11 51 12.2 -0.6
1.5nm,0.9s,baz=153,slow=9.0,SNR=4.9
TXAR Lajitas Array 90.86 58 P P 11 51 23.7 +1.3
0.2nm,0.7s,baz=231,slow=6.6,SNR=2.9
ILAR Eielson Array 92.03 14 P P 11 51 24.6 -2.2
0.6nm,0.9s,baz=204,slow=5.9,SNR=3.9
ARCES ARCESS Array B 131.62 348 PKP PKPdf 11 57 26.1 -0.6
7.9nm,1.2s,baz=54,slow=2.3,SNR=9.3
AKASG Malin Array Be 144.52 327 PKP PKPdf 11 57 49.5 -1.3
0.8nm,0.5s,baz=43,slow=4.0,SNR=12
BRTR Keskin Array B 147.01 307 PKPbc PKPdf 11 57 57.2 +1.6
1.2nm,0.7s,baz=85,slow=4.6,SNR=4.6

NIED 17 11:39:00, 28.10N×140.40E, h380km, Mw4.5 Best double couple: M0 6.19000×10^15 NP1:φs 356.00000°, δ39.00000°, λ-76.00000°. NP2:φs 158.00000°, δ53.00000°, λ-101.00000°.
ISCJB 17 11:39:25.9±0.3, 27.99N±0.03×139.97E±0.04, h436km±2km, mb4.3/86, Error ellipse: s-maj=6.2km s-min=4.5km az=178.5
MOS 17 11:39:26.2±0.8, 27.92N×139.87E, h442km, mb4.5/49, Error ellipse: s-maj=11.3km s-min=5.4km az=116.2
IDC 17 11:39:26.4±0.4, 27.96N×139.98E, h428km±4km, mb3.7/24, mb1 3.8/31, mb1mx3.8/35, mbtmp4.5/31, Error ellipse: s-maj=9.6km s-min=7.4km az=83.0
BJI 17 11:39:26.9, 27.89N×140.17E, h475km, mB4.8/31, mb4.6/55
NEIC 17 11:39:27.8±0.6, 27.95N×139.93E, h444km±6km, mb4.6/26, MW4.5(NIED), Error ellipse: s-maj=9.4km s-min=7.8km az=149.0
JMA 17 11:39:27.3±0.1, 28.14N×140.45E, h443km, M4.0
ISC 17 11:39:27.1±0.5, 28.04N±0.05×139.92E±0.06, h436km±4km, n249, σ1s43/292, mb4.4/86, 8C-9D, Bonin Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CBIJ Chichi jima 2.21 114 P P 11 40 26.8 -0.8
CBIJ S S 11 41 13.1 -3.5
CBIJ Chichi jima 2.21 114 ePn P 11 40 26.7 -0.8
CBIJ eSn S 11 41 13.4 -3.2
JCJ Chichijima 2.21 114 P P 11 40 26.8 -0.8
392nm,0.3s,baz=336,slow=1.9,SNR=93
JCJ S S 11 41 13.2 -3.4
693nm,0.3s,baz=310,slow=23,SNR=14
JHHJ Haha-jima-NKT 2.44 124 P P 11 40 28.4 -0.7
JHHJ S S 11 41 17.2 -2.1
JHCJ Hachijojimakas 5.02 359 P P 11 40 51.6 +0.8
JHCJ S S 11 41 56.0 -3.2
JHJ2 Mitsune 5.06 359 P P 11 40 52.0 +0.9
JHJ2 eS S 11 42 00.0 +0.1
BSO1 Boso 1 6.66 8 P P 11 41 08.4 +1.2
BSO1 eS S 11 42 28.9 -0.2
BSO3 Boso 3 6.76 4 P P 11 41 09.5 +0.9
BSO3 S S 11 42 30.1 -1.5
JIE Ise 6.91 337 P P 11 41 13.3 +2.8
JKN2 Miekihoku 6.93 334 P P 11 41 14.8 +4.1
BSO4 Boso 4 6.94 3 P P 11 41 11.0 +0.3
BSO4 S S 11 42 34.1 -1.3
JOD2 Odawara 2 7.24 355 P P 11 41 15.2 +1.2
JOD2 S S 11 42 41.3 -0.3
JNY Yasuok 7.51 347 P P 11 41 18.4 +1.4
JEG Eigenji 7.69 338 P P 11 41 22.3 +3.4
JTO Tosashimizu 7.80 310 P P 11 41 23.2 +3.0
JHU Hanno 7.81 356 P P 11 41 19.6 -0.6
JHU eS S 11 42 48.6 -4.3
JRY Ryogami san 8.01 354 P P 11 41 22.4 +0.1
JRY eS S 11 42 55.3 -1.5
JYT Yasato 8.17 2 P P 11 41 24.9 +0.9
JYT eS S 11 42 55.9 -4.2
JAG Ashikaga 8.38 357 P P 11 41 25.4 -0.9
JAG S S 11 43 00.5 -3.7
MJAR Matsushiro Arr 8.61 351 P P 11 41 28.5 -0.3
MJAR S S 11 43 07.6 -1.3
MJAR pmax pmax
comp=Z,2.0nm,0.3s
MJAR smax smax
comp=N,1.0nm,0.3s
MJAR Matsushiro Arr 8.61 351 P P 11 41 28.5 -0.3
comp=N,2.3nm,0.3s,baz=173,slow=11,SNR=26
MJAR S S 11 43 07.6 -1.3
comp=N,1.3nm,0.3s,baz=172,slow=17,SNR=6.5
MAJO Matsushiro 8.61 351 iP P 11 41 32.7 +3.9
MAJO Matsushiro 8.61 351 eP P 11 41 31.2 +2.4
MAT Matsushiro 8.61 351 P P 11 41 28.8 0.0
MAT S S 11 43 07.8 -1.2
JNU Nakatsue 9.30 305 P P 11 41 38.4 +2.0
comp=N,2.5nm,0.3s,baz=4.5,slow=4.7,SNR=22
JNU Nakatsue 9.30 305 eP P 11 41 39.4 +2.9
JOW Kunigami 10.42 266 P P 11 41 50.2 +1.4
comp=N,1.3nm,0.3s,baz=97,slow=9.9,SNR=14
JOW Kunigami 10.42 266 eP P 11 41 51.9 +3.1
KSRS Korea Array 13.78 316 P P 11 42 26.2 +0.9
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS Korea Array 13.78 316 P P 11 42 26.2 +0.9
comp=Z,0.8nm,0.3s,baz=128,slow=10,SNR=17
ERM Erimo 14.20 10 ⇓iP P 11 42 32.0 +2.4
ERM pmax pmax
comp=Z,37nm,1.3s
ERM Erimo 14.20 10 eP P 11 42 31.8 +2.1
ASAJ Asahikawa 16.19 7 P P 11 42 53.2 +2.2
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 16.19 7 P P 11 42 53.2 +2.2
comp=Z,0.6nm,0.3s,baz=197,slow=17,SNR=3.4
YHNB Yeheng 16.96 263 eP P 11 42 59.2 -0.3
comp=Z,225nm,2.0s
USRK Ussuriysk Arra 17.34 341 P P 11 43 04.5 +1.3
comp=Z,3.1nm,0.3s,baz=155,slow=10,SNR=46
MDJ Mudanjiang 18.50 336 P P 11 43 16.3 +1.2
MDJ pmax pmax
comp=Z,23nm,1.2s
MDJ pmax pmax
comp=Z,160nm,4.8s
MDJ Mudanjiang 18.50 336 eP P 11 43 16.3 +1.2
comp=Z,40nm,1.3s
NJ2 Nanjing 18.67 288 eP P 11 43 20.5 +3.6
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
SNY Shenyang 19.16 320 ⇓P P 11 43 22.3 +0.9
SNY pmax pmax
comp=Z,96nm,0.6s
QZH Quanzhou 19.34 266 ⇓iP P 11 43 24.8 +1.5
CN2 Changchun 19.57 327 eP P 11 43 26.8 +1.6
CN2 pmax pmax
comp=Z,60nm,0.8s
CN2 pmax pmax
comp=Z,100nm,4.0s
HABR Khabarovsk 20.75 351 deP P 11 43 37.3 +1.5
HABR eS S 11 46 53.7 -4.8
HABR e 11 47 25.3
HABR e 11 53 57.7
HABR pmax pmax
comp=N,13nm,1.3s
HABR pmax pmax
comp=Z,35nm,1.3s
HABR pmax pmax
comp=E,5.0nm,0.9s
HABR MLR MLR
comp=Z,44nm,15.0s
KLR Kul'dur 22.08 346 eP P 11 43 45.1 -2.8
WHN Wuhan 22.43 283 P P 11 43 52.1 +0.7
WHN pmax pmax
comp=Z,22nm,0.5s
BJT Baijiatuau 22.96 308 eP P 11 43 55.9 -0.1
BJT pmax pmax
comp=Z,8.0nm,0.4s
BJT Baijiatuau 22.96 308 eP P 11 43 55.9 -0.1
comp=Z,7.6nm,0.4s
BJI Beijing 22.96 308 P P 11 43 55.8 -0.2
BJI pmax pmax
comp=Z,11nm,0.9s
HIA Hailar 26.26 329 eP P 11 44 26.2 +0.8
HIA pmax pmax
comp=Z,36nm,0.6s
HIA Hailar 26.26 329 eP P 11 44 26.2 +0.8
comp=Z,36nm,0.6s
HHC Hu-ho-hao-te 26.53 306 eP P 11 44 28.8 +0.9
HHC PcP PcP 11 47 32.4 -6.6
HHC PcS PcS 11 51 18.3 -2.4
HHC ScS ScS 11 54 21.3 -7.0
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,430nm,5.5s
ENH Enshi 26.64 282 eP P 11 44 29.5 +0.6
comp=Z,4.7nm,0.6s
XAN Xi'an 27.17 290 P P 11 44 33.8 +0.2
XAN pmax pmax
comp=Z,4.0nm,0.5s
QIZ Qiongzhong 28.94 259 P P 11 44 54.5 +5.2
QIZ pP pP 11 46 16.8 +10
QIZ S S 11 49 09.4 +1.2
QIZ pmax pmax
comp=Z,380nm,3.4s
GYA Guiyang 29.56 275 ⇑iP P 11 44 55.3 +0.5
GYA pP PP 11 46 22.5 +10
GYA PcP PcP 11 47 50.0 +3.1
GYA S S 11 49 15.4 -2.6
GYA ScP ScP 11 50 43.8 -3.0
GYA ScS ScS 11 54 38.8 -4.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,4.9s
LZH Lanzhou 31.48 294 P P 11 45 12.1 +0.8
LZH pP PP 11 46 35.5 +1.8
LZH PP pP 11 46 40.0 +11
LZH sP sP 11 47 33.0 +13
LZH eS S 11 49 41.3 -6.2
LZH sS sS 11 52 18.3 +6.8
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,92nm,4.2s
CD2 Chengdu 31.53 284 P P 11 45 13.9 +2.1
CD2 pP PP 11 46 40.0 +5.8
CD2 PP pP 11 46 42.9 +13
CD2 S S 11 49 44.3 -3.9
CD2 sS sS 11 52 18.9 +6.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.4s
ULN Ulaanbaatar 32.27 317 eP P 11 45 19.2 +1.3
ULN pmax pmax
comp=Z,33nm,0.7s
ULN Ulaanbaatar 32.27 317 eP P 11 45 19.2 +1.3
comp=Z,32nm,0.7s
SONM Songino Array 32.65 316 P P 11 45 22.1 +0.9
SONM 11 47 54.3
SONM pmax pmax
comp=Z,18nm,0.9s
SONM pmax pmax
comp=Z,1.0nm,0.7s

SONM pmax pmax
comp=N,1.0nm,0.7s
SONM Songino Array 32.65 316 P P 11 45 22.1 +0.9
comp=N,18nm,0.9s,baz=132,slow=9.5,SNR=122
SONM PcP **PcP** **11 47 54.3 -0.6**
comp=N,0.8nm,0.7s,baz=123,slow=2.4,SNR=4.6
SONM ScP **ScP** **11 50 55.9 -0.9**
comp=N,0.6nm,0.7s,baz=147,slow=4.8,SNR=6.2
KMI Kunming 33.30 274 ⇓P P 11 45 28.1 +0.9
KMI pmax pmax
comp=N,17nm,0.9s
YAK Yakutsk 34.67 352 eP P 11 45 37.4 -0.5
YAK pmax pmax
comp=Z,17nm,0.9s
YAK Yakutsk 34.67 352 eP P 11 45 38.6 +0.6
comp=Z,18nm,0.8s
GTA Gaotai 34.98 299 eP P 11 45 41.4 +0.3
GTA pP **PP** **11 47 07.4 -5.1**
GTA sP sP 11 48 01.8 +11
GTA pmax pmax
comp=Z,13nm,1.0s
ZAK Zakamensk 35.59 319⇑iP P 11 45 46.1 +0.1
ZAK pmax pmax
comp=Z,17nm,1.1s
SEY Seymchan 35.84 10 P P 11 45 49.2 +1.4
SEY pmax pmax
comp=Z,2.0nm,0.6s
SEY Seymchan 35.84 10 P P 11 45 49.2 +1.4
comp=Z,2.3nm,0.6s,baz=186,slow=8.5,SNR=18
TLY Talaya 35.95 321 eP P 11 45 50.2 +1.3
TLY pmax pmax
comp=Z,14nm,0.7s
TLY Talaya 35.95 321 eP P 11 45 48.1 -0.8
comp=Z,19nm,0.9s
MOY Mondy 37.43 320 eP P 11 46 02.2 +0.9
CHTO Chiang Mai 38.56 265 eP P 11 46 11.4 +0.5
comp=Z,3.8nm,0.8s
CMAR Chiang Mai Arr 38.69 265 P P 11 46 12.6 +0.7
comp=Z,2.2nm,0.8s,baz=51,slow=8.7,SNR=18
CMAR PcP **PcP** **11 48 13.2 -0.2**
comp=Z,1.8nm,0.8s,baz=115,slow=0.7,SNR=8.8
LSA Lhasa 42.49 284 eP P 11 46 44.7 +1.7
LSA pmax pmax
comp=Z,2.0nm,0.4s
LSA Lhasa 42.49 284 eP P 11 46 44.7 +1.7
comp=Z,2.0nm,0.4s
BILL Bilibino 43.02 14⇑eP P 11 46 46.6 +0.7
BILL eS **S** **11 52 40.6 +2.3**
BILL pmax pmax
comp=Z,8.0nm,0.9s
BILL Bilibino 43.02 14 eP P 11 46 47.3 +1.4
comp=Z,4.6nm,0.8s
KULM Kulim 43.59 246 P P 11 46 51.5 +0.3
comp=Z,6.2nm,0.7s
TIXI Tiksi 44.09 355⇓iP P 11 46 54.6 +0.3
TIXI pmax pmax
comp=Z,9.0nm,0.8s
TIXI Tiksi 44.09 355 eP P 11 46 54.5 +0.2
comp=Z,8.5nm,0.8s
WMQ Urumqi 44.40 305 P P 11 46 57.5 +0.2
WMQ pP **PcP** **11 48 32.0 -0.1**
WMQ PcP pP 11 48 33.4 +13
WMQ PP **PP** **11 48 50.3 +1.2**
WMQ PcS **PcS** **11 52 26.0 -0.2**
WMQ S S 11 52 51.3 -7.6
WMQ ScS ScS 11 55 58.3 -8.3
WMQ pmax pmax
comp=Z,24nm,1.2s
WMQ pmax pmax
comp=Z,1μm,4.0s
KNRA Kununurra 44.78 195 P P 11 47 00.0 -0.3
baz=53,SNR=20
TAPN Taplejung 45.94 282 eP P 11 47 09.6 -0.1
TAPN Taplejung 45.94 282 eP P 11 47 09.6 -0.1
ODAN Odare 46.33 281 eP P 11 47 12.4 -0.2
ODAN Odare 46.33 281 eP P 11 47 12.4 -0.2
PSI Prapat 46.45 245 P P 11 47 13.4 -0.1
PSI 11 48 40.3
PSI pmax pmax
comp=Z,6.0nm,0.7s
PSI pmax pmax
comp=Z,3.0nm,0.4s
PSI Prapat 46.45 245 P P 11 47 13.4 -0.1
comp=Z,6.2nm,0.7s,baz=75,slow=3.5,SNR=7.4
PSI PcP **PcP** **11 48 40.3 +0.5**
comp=Z,2.5nm,0.4s,baz=294,slow=4.5,SNR=5.6
RAMN Ramite 46.99 282 eP P 11 47 18.2 +0.5
comp=Z,36nm,0.9s
RAMN Ramite 46.99 282 eP P 11 47 18.2 +0.5
GAMB Gambell 47.18 27 eP P 11 47 19.6 +1.4
comp=Z,55nm,2.7s
JIRN Jiri 47.18 283 eP P 11 47 20.5 +1.3
comp=Z,48nm,0.7s
JIRN Jiri 47.18 283 eP P 11 47 20.5 +1.3
GUN Gumba 47.39 283 eP P 11 47 21.9 +1.1
comp=Z,52nm,0.8s
GUN Gumba 47.39 283 eP P 11 47 21.9 +1.1
ZAA0 Zalesovo Array 47.47 319 eP P 11 47 20.4 -0.2
ZAA0 ePcP **PcP** **11 48 42.5 -0.2**
ZALV Zalesovo Beam 47.47 319 P P 11 47 20.4 -0.1
ZALV 11 48 42.3
ZALV pmax pmax
comp=Z,11nm,0.5s
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 47.47 319 P P 11 47 20.4 -0.1
comp=Z,11nm,0.5s,baz=100,slow=6.8,SNR=69
ZALV PcP **PcP** **11 48 42.3 -0.3**
comp=Z,2.4nm,0.6s,baz=98,slow=3.0,SNR=5.8
PKI Pulchoki 47.87 283 eP P 11 47 24.0 -0.4
PKI Pulchoki 47.87 283 eP P 11 47 25.0 +0.6
PKI Pulchoki 47.87 283 eP P 11 47 25.0 +0.6
PKIN Phulchoki 47.88 283 eP P 11 47 25.0 +0.6
KKN Kakani 47.93 283 eP P 11 47 25.0 +0.2
KKN Kakani 47.93 283 eP P 11 47 25.0 +0.2
KKN Kakani 47.93 283 eP P 11 47 25.0 +0.2
WRAB Tennant Creek 47.99 187 eP P 11 47 24.3 -0.6
WRAB pmax pmax
comp=Z,2.0nm,0.4s
WRAB Tennant Creek 47.99 187 eP P 11 47 24.3 -0.6
comp=Z,2.4nm,0.4s
WRA Warramunga Arr 48.00 187 P P 11 47 24.0 -1.0
WRA 11 48 45.8
WRA *PP **pP** **11 48 49.5 -0.9**
WRA pmax pmax
comp=Z,6.0nm,0.6s
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA pmax pmax
comp=N,1.0nm,0.7s
WRA Warramunga Arr 48.00 187 P P 11 47 24.0 -1.0
comp=N,5.7nm,0.6s,baz=4.0,slow=7.7,SNR=54
WRA PcP **PcP** **11 48 45.8 +0.8**
comp=N,2.8nm,0.7s,baz=357,slow=3.6,SNR=13
WRA pP **pP** **11 48 49.5 -0.9**
comp=N,1.4nm,0.7s,baz=9.2,slow=8.6,SNR=3.7
WRA ScP **ScP** **11 51 56.0 -1.2**
comp=N,0.8nm,0.7s,baz=4.7,slow=4.7,SNR=6.6
DMN Daman 48.12 283 eP P 11 47 27.0 +0.7
DMN Daman 48.12 283 eP P 11 47 27.0 +0.7
MK31 Makanchi Array 48.33 309 eP P 11 47 27.7 +0.5
MK31 e 11 48 46.1
MK31 Makanchi Array 48.33 309 eP P 11 47 27.7 +0.5
MK31 ePcP **PcP** **11 48 46.0 +0.1**
MKAR Makanchi Array 48.33 309 P P 11 47 27.8 +0.6
MKAR 11 48 46.0
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 48.33 309 P P 11 47 27.8 +0.6
comp=Z,8.5nm,0.7s,baz=93,slow=9.1,SNR=108
MKAR PcP **PcP** **11 48 46.0 0.0**
comp=Z,4.0nm,0.8s,baz=86,slow=6.2,SNR=9.6
GKN Gorkha 48.43 284 eP P 11 47 28.8 +0.3
GKN Gorkha 48.43 284 eP P 11 47 28.8 +0.3
NVS Novosibirsk 48.53 320 eP P 11 47 28.8 +0.3
NVS pmax pmax
comp=Z,20nm,0.7s
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,12nm,0.6s

DANN Dangsing 49.10 284 eP P 11 47 34.5 +0.9
comp=E,45nm,0.9s
DANN Dangsing 49.10 284 eP P 11 47 34.5 +0.9
KOLN Koldanda 49.38 284 eP P 11 47 36.0 +0.4
comp=E,28nm,0.9s
KOLN Koldanda 49.38 284 eP P 11 47 36.0 +0.4
KURK Kurchatov 50.90 314 P P 11 47 46.1 0.0
KURK pmax pmax
comp=Z,44nm,1.5s
KURK Kurchatov 50.90 314 eP P 11 47 46.2 0.0
ASAR Alice Springs 51.73 187 P P 11 47 51.4 -1.2
ASAR 11 48 59.6
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 51.73 187 P P 11 47 51.4 -1.2
comp=Z,1.9nm,0.6s,baz=16,slow=14,SNR=24
ASAR PcP **PcP** **11 48 59.6 +0.8**
comp=Z,2.5nm,0.8s,baz=6.5,slow=4.1,SNR=13
ASAR ScP **ScP** **11 52 11.1 -2.0**
comp=Z,0.3nm,0.7s,baz=9.5,slow=5.1,SNR=5.1
ULHL Ulahol 52.83 303 P P 11 48 01.9 +1.2
SNR=9.1
ULHL Ulahol 52.83 303 iP P 11 48 01.8 +1.2
TKM2 Tokmak 2 53.23 304 P P 11 48 04.8 +1.3
SNR=15
TKM2 Tokmak 2 53.23 304 eP P 11 48 04.8 +1.3
TKM2 pmax pmax
comp=Z,15nm,1.0s
TKM2 Tokmak 2 53.23 304 eP P 11 48 04.8 +1.3
comp=Z,15nm,1.0s
KSH Kashi 53.37 300 eP P 11 48 08.8 +4.3
KSH ePP PP 11 50 18.3 +8.0
KSH S **S** **11 54 57.6 -5.1**
KSH pmax pmax
comp=Z,12nm,0.7s
KZA Kyzart 53.58 303 P P 11 48 03.0 -3.3
SNR=12
KZA Kyzart 53.58 303 iP P 11 48 03.0 -3.3
KBK Karagaybulak 53.74 304 P P 11 48 08.4 +1.3
SNR=17
KBK Karagaybulak 53.74 304 iP P 11 48 08.4 +1.3
CHMS Chumysh 53.84 304 P P 11 48 08.6 +0.9
SNR=6.4
CHMS Chumysh 53.84 304 iP P 11 48 08.5 +0.9
USP Ospenovka 53.99 305 P P 11 48 09.6 +0.9
SNR=10.0
USP Ospenovka 53.99 305 iP P 11 48 09.6 +0.9
AAK Ala-Archa 54.07 304 P P 11 48 10.1 +0.7
SNR=11
AAK Ala-Archa 54.07 304 eP P 11 48 10.3 +0.8
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 54.07 304 eP P 11 48 10.2 +0.8
comp=Z,10nm,0.9s
UCH Uchtor 54.11 304 P P 11 48 11.8 +1.7
SNR=28
UCH Uchtor 54.11 304 iP P 11 48 11.7 +1.7
EKS2 Erkin-Say 54.59 304 P P 11 48 13.9 +0.8
SNR=11
EKS2 Erkin-Say 54.59 304 eP P 11 48 13.9 +0.8
EKS2 pmax pmax
comp=Z,8.0nm,0.8s
EKS2 Erkin-Say 54.59 304 eP P 11 48 13.9 +0.8
comp=Z,8.1nm,0.8s
AML Almayashu 54.72 304 P P 11 48 15.9 +1.6
SNR=28
AML Almayashu 54.72 304 iP P 11 48 15.9 +1.6
PPLA Purkeypile 55.39 31 eP P 11 48 20.0 +1.7
comp=Z,0.8nm,0.3s
PPLA ePcP **PcP** **11 49 13.8 +1.3**
BVA0 Borovoye Array 55.99 317 iP P 11 48 23.2 +0.6
BVA0 pmax pmax
comp=Z,36nm,0.6s
BVAR Borovoye Array 55.99 317 P P 11 48 23.0 +0.4
BVAR pmax pmax
comp=Z,47nm,0.5s
BVAR Borovoye Array 55.99 317 P P 11 48 23.0 +0.4
comp=Z,47nm,0.5s,baz=96,slow=7.5,SNR=230
BRVK Borovoye 56.05 317 P P 11 48 23.3 +0.3
BRVK pmax pmax
comp=Z,61nm,0.7s
BRVK Borovoye 56.05 317 eP P 11 48 22.8 -0.2
comp=Z,46nm,0.7s
RC01 Rabbit Creek A 56.42 33 eP P 11 48 26.0 +0.6
comp=Z,5.6nm,0.4s
KK31 Karatay Array 56.91 305 iP P 11 48 29.8 +0.7
KK31 pmax pmax
comp=Z,17nm,0.5s
KKAR Karatay Array 56.91 305 eP P 11 48 30.0 +0.9
KKAR Karatay Array 56.91 305 eP P 11 48 30.0 +0.9
ILAR Eielson Array 57.86 29 P P 11 48 35.0 -0.2
comp=Z,0.4nm,0.3s,baz=250,slow=5.5,SNR=23
BMRM Bremner River 58.91 33 eP P 11 48 43.7 +1.1
comp=Z,6.4nm,0.5s
STKA Stephens Creek 59.60 178 P P 11 48 46.8 -0.6
STKA pmax pmax
comp=Z,2.0nm,0.4s
STKA Stephens Creek 59.60 178 P P 11 48 46.8 -0.6
comp=Z,2.1nm,0.4s,baz=20,slow=6.5,SNR=12
STKA Stephens Creek 59.60 178 eP P 11 48 47.3 -0.1
SVE Sverdlovsk 61.26 322⇓eP P 11 48 59.2 +1.0
SVE pmax pmax
comp=Z,28nm,1.0s
ARU Arti 62.45 322diP P 11 49 06.3 +0.3
ARU 11 51 28.3
ARU S **S** **11 56 53.7 -4.3**
ARU pmax pmax
comp=Z,31nm,1.0s
ARU Arti 62.45 322 eP P 11 49 06.3 +0.3
comp=Z,31nm,1.0s
AB31 Akbulak array 63.00 314 iP P 11 49 09.8 +0.1
AB31 pmax pmax
comp=Z,6.0nm,0.3s
ABKAR Akbulak array 63.00 314 eP P 11 49 09.9 +0.2
INK Inuvik 63.01 25 P P 11 49 09.7 +0.3
INK pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 63.01 25 P P 11 49 09.7 +0.3
comp=Z,1.1nm,0.6s,baz=306,slow=6.4,SNR=12
SIT Sitka 64.17 37 P P 11 49 13.5 -3.5
SIT pmax pmax
comp=Z,58nm,1.2s
SIT Sitka 64.17 37 P P 11 49 13.5 -3.5
comp=Z,58nm,1.2s
PRGR Permogore 67.72 329⇓iP P 11 49 39.6 +0.3
PRGR pmax pmax
comp=Z,8.0nm,0.4s
TMCR Tamitsa 70.09 333 eP P 11 49 53.8 +0.2
TMCR pmax pmax
comp=Z,31nm,1.1s
KLMR Klimovskoe 70.76 329 eP P 11 49 56.6 -1.1
KLMR pmax pmax
comp=Z,6.0nm,0.6s
KEV Kevo 71.43 340 eP P 11 50 02.0 +0.5
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 71.43 340 ep P 11 50 02.0 +0.5
comp=Z,2.1nm,0.4s
RES Resolute Bay 71.61 13 P P 11 50 02.9 +0.4
baz=322,slow=6.4,SNR=1.2
ARCES ARCESS Array B 71.99 340 P P 11 50 05.5 +0.7
ARCES pmax pmax
comp=Z,10.0nm,0.6s
ARCES ARCESS Array B 71.99 340 P P 11 50 05.5 +0.7
comp=Z,10nm,0.6s,baz=70,slow=8.2,SNR=43
ARE0 ARCESS Array S 71.99 340 eP P 11 50 05.5 +0.6
YKA Yellowknife Ar 72.27 28 P P 11 50 06.7 +0.2
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 72.27 28 P P 11 50 06.7 +0.2
comp=Z,3.3nm,0.6s,baz=295,slow=5.7,SNR=62
JOF Joensuu 73.35 333 eP P 11 50 12.7 -0.1
JOF pmax pmax
comp=Z,10.0nm,0.5s
JOF Joensuu 73.35 333 ep P 11 50 12.7 -0.1
comp=Z,9.9nm,0.5s
OBN Obninsk 74.61 325⇑eP P 11 50 20.6 +0.5
OBN 11 50 33.0
OBN pmax pmax
comp=Z,40nm,1.2s
VSR Storozhevoye 74.95 320c iP P 11 50 22.3 +0.2
VSR pmax pmax
comp=Z,36nm,1.0s
VORD Divnogorie 74.98 320 eP P 11 50 21.0 -1.3

VORD pmax pmax
comp=N,10.0nm,1.1s
VORD pmax pmax
comp=E,10.0nm,1.1s
VORD pmax pmax
comp=Z,10.0nm,1.1s
ZEI Tsey 75.63 311 eP P 11 50 25.2 -1.2
ZEI pmax pmax
comp=Z,12nm,0.7s
KAF Kangasniemi 75.75 334 eP P 11 50 26.4 0.0
KAF pmax pmax
comp=Z,7.0nm,0.4s
KAF Kangasniemi 75.75 334 ep P 11 50 26.4 0.0
comp=Z,7.0nm,0.4s
KBZ Khabaz 75.90 312 P P 11 50 28.4 +0.9
KBZ pmax pmax
comp=Z,28nm,0.8s
KBZ Khabaz 75.90 312 P P 11 50 28.4 +0.9
comp=Z,28nm,0.8s,baz=95,slow=3.7,SNR=76
KIV Kislovodsk 75.94 312 eP P 11 50 28.3 +0.3
KIV pmax pmax
comp=Z,25nm,0.9s
KIV Kislovodsk 75.94 312 eP P 11 50 28.7 +0.8
comp=Z,21nm,0.8s
GNI Garni 76.17 308ceP P 11 50 30.1 +0.7
GNI pmax pmax
comp=Z,18nm,1.3s
GNI Garni 76.17 308 P P 11 50 30.6 +1.2
comp=Z,2.7nm,0.5s,baz=109,slow=4.8,SNR=3.7
FIA1 FINESS Array S 76.21 333 eP P 11 50 29.0 0.0
FINES FINESS Array B 76.21 333 P P 11 50 28.9 0.0
FINES pmax pmax
comp=Z,14nm,0.6s
FINES FINESS Array B 76.21 333 P P 11 50 28.9 0.0
comp=Z,14nm,0.6s,baz=84,slow=5.0,SNR=107
KULLO Kullorsuaq 77.03 5 iP P 11 50 33.9 +0.7
KULLO pmax pmax
comp=Z,9.0nm,0.8s
KULLO Kullorsuaq 77.03 5 iP P 11 50 33.9 +0.7
comp=Z,9.0nm,0.8s
NEW Newport 77.56 42 P P 11 50 37.7 +0.9
NEW pmax pmax
comp=Z,1.0nm,0.5s
NEW Newport 77.56 42 P P 11 50 37.6 +0.9
comp=Z,1.2nm,0.5s,baz=294,slow=5.4,SNR=4.8
ANN Anapa 78.92 315 eP P 11 50 44.4 +0.4
ANN pmax pmax
comp=Z,61nm,1.4s
SUMG Summit 79.65 360 iP P 11 50 49.0 +1.0
SUMG pmax pmax
comp=Z,4.0nm,0.7s
SUMG Summit 79.65 360 iP P 11 50 49.0 +1.0
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 80.67 323 P P 11 50 52.8 -0.4
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 80.67 323 P P 11 50 52.8 -0.4
comp=Z,2.7nm,0.5s,baz=46,slow=5.5,SNR=19
AK01 Malin Array Si 80.68 323 eP P 11 50 53.0 -0.3
KIEV Kiev 80.68 323⇑eP P 11 50 52.5 -0.7
KIEV Kiev 80.68 323 eP P 11 50 52.5 -0.7
comp=Z,20nm,1.2s
AK02 Malin Array Si 80.70 323 eP P 11 50 53.1 -0.3
NVAR Mina Array Bea 81.50 51 P P 11 50 58.9 +0.8
comp=Z,1.3nm,0.6s,baz=292,slow=5.6,SNR=14
NVAR pP **pP** **11 52 34.2 -1.0**
comp=Z,0.3nm,0.6s,baz=289,slow=5.8,SNR=2.9
SUW Suwalki 81.80 328 eP P 11 50 58.1 -0.9
SUW pmax pmax
comp=Z,37nm,1.1s
SUW Suwalki 81.80 328 eP P 11 50 58.1 -0.9
comp=Z,37nm,1.1s
NB2 NORSAR Subarra 81.99 337 P P 11 50 59.2 -0.7
comp=Z,5.0nm,0.6s,baz=47,slow=5.1
NOA NORSAR Array B 81.99 337 P P 11 50 59.1 -0.8
NOA pmax pmax
comp=Z,6.0nm,0.6s
NOA NORSAR Array B 81.99 337 P P 11 50 59.1 -0.8
comp=Z,6.4nm,0.6s,baz=47,slow=4.9,SNR=25
RAYN Ar Rayn 82.93 293 eP P 11 51 06.2 +0.7
comp=Z,35nm,0.8s
HVU Hansel Valley 83.47 46 eP P 11 51 09.8 +1.8
HVU pmax pmax
comp=Z,5.0nm,0.7s
HVU Hansel Valley 83.47 46 eP P 11 51 09.8 +1.8
comp=Z,4.5nm,0.7s
IMW Indian Meadow 83.48 43 eP P 11 51 10.2 +2.0
BRTR Keskin Array B 83.89 312 P P 11 51 09.8 -0.3
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 83.89 312 P P 11 51 09.8 -0.3
comp=Z,4.0nm,0.7s,baz=98,slow=4.0,SNR=24
BUR08 Bucovina Ar. S 84.58 322 eP P 11 51 13.0 -0.3
SFJD Kangerlussuaq 84.93 4 P P 11 51 14.7 +0.3
SFJD pmax pmax
comp=Z,9.0nm,0.8s
SFJD Kangerlussuaq 84.93 4 iP P 11 51 14.6 +0.2
comp=Z,8.3nm,0.8s
SFJD Kangerlussuaq 84.93 4 P P 11 51 14.7 +0.2
comp=Z,9.3nm,0.8s,baz=30,slow=3.4,SNR=5.8
PDAR Pinedale Array 84.94 44 P P 11 51 15.8 +0.5
comp=Z,1.1nm,1.0s,baz=294,slow=2.2,SNR=5.9
CRVS Cervenica-Dubn 85.80 324 eP P 11 51 17.8 -1.3
CRVS Cervenica-Dubn 85.80 324 eP P 11 51 17.8 -1.3
MORC Moravsky Berou 87.19 327 eP P 11 51 25.4 -0.3
MORC pmax pmax
comp=Z,2.0nm,0.7s
MORC Moravsky Berou 87.19 327 eP P 11 51 25.4 -0.3
comp=Z,1.5nm,0.7s
CLL Collm 88.24 330 eP P 11 51 30.0 -0.6
CLL Collm 88.24 330 eP P 11 51 30.0 -0.6
GERES GERESS Array B 89.66 328 P P 11 51 36.6 -0.7
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 89.66 328 P P 11 51 36.6 -0.7
comp=Z,0.9nm,0.6s,baz=46,slow=3.9,SNR=6.6
ANMO Albuquerque 91.39 49ceP P 11 51 46.9 +1.1
ANMO pmax pmax
comp=Z,21nm,1.7s
STU Stuttgart 91.77 330 eP P 11 51 47.1 +0.1
STU pmax pmax
comp=Z,12nm,1.0s
STU Stuttgart 91.77 330 eP P 11 51 47.1 +0.1
comp=Z,12nm,1.0s
TXAR Lajitas Array 96.63 52 P P 11 52 10.6 +1.0
comp=Z,0.4nm,0.7s,baz=292,slow=2.2,SNR=5.2
TXAR pP **pP** **11 53 47.8 -1.5**
comp=Z,0.2nm,0.7s,baz=328,slow=3.2,SNR=2.8
TORD Torodi Ar. Bea 122.45 310 PKP PKPdf 11 57 31.9 -0.7
comp=Z,1.3nm,0.6s,baz=30,slow=0.8,SNR=18
TORD PP **PP** **11 59 10.8 -4.3**
comp=Z,0.6nm,0.8s,baz=43,slow=6.2,SNR=3.4
LPAZ La Paz 151.58 72 PKIKP PKPbc 11 58 33.1 +0.7
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 151.58 72 PKPbc PKPbc 11 58 33.1 +0.7
comp=Z,2.6nm,0.8s,baz=11,slow=1.5,SNR=11
PLCA Paso Flores 151.99 125 PKIKP PKPbc 11 58 32.4 +0.5
PLCA pmax pmax
comp=Z,3.0nm,1.0s
PLCA Paso Flores 151.99 125 PKPbc PKPbc 11 58 32.4 +0.5
comp=Z,2.5nm,1.0s,baz=230,slow=4.1,SNR=6.1

ISCJB 17 11:53:19.7±0.8, 5°55S±0°05×128°9E±0°1, h350km, mb3.2/1, Error ellipse: s-maj=15.3km s-min=6.2km az=9.7
IDC 17 11:53:24.0±4.0, 5°67S×128°94E, h375km±47km, mb2.7/1, mb1 3.4/3, mb1mx2.8/24, mbtmp4.1/3, Error ellipse: s-maj=99.4km s-min=14.8km az=70.0
ISC 17 11:53:21.1±1.1, 5°57S±0°07×129°1E±0°2, h350km, n11, σ1§28/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.09**	**50**	P	**Pn**	**11 54 32.7**	**+1.6**
	baz=4.5,SNR=50						
FAKI				S	**S**	**11 55 25.3**	**-2.2**
	baz=4.5,SNR=4.8						
SWI	**Sorong**	**5.14**	**25**	P	**Pn**	**11 54 43.1**	**+0.7**
	baz=5.4,SNR=9.9						
SWI				S	**S**	**11 55 46.5**	**-1.6**
	baz=5.4,SNR=6.4						
SOEI	**Soe**	**6.35**	**229**	P	Pn	11 54 51.7	-4.4
	baz=6.0,SNR=3.3						
MTN	**Manton Dam**	**7.50**	**165**	P	**Pn**	**11 55 08.5**	**-0.8**
	baz=7.8,SNR=12						

MTN S S 11 56 37.2 -0.3
baz=7.8,SNR=3.7
KDU Kakadu 7.81 155 P Pn 11 55 13.6 +0.5
baz=8.2,SNR=6.5
KNRA Kununurra 10.05 182 P Pn 11 55 38.4 -1.3
baz=10,SNR=16
WRA Warramunga Arr 15.16 161 P P 11 56 38.9 +1.2
0.9nm,0.3s,baz=341,slow=12,SNR=26
WRA S S 11 59 19.3 -1.2
0.1nm,0.3s,baz=332,slow=21,SNR=2.5
QIS Mount Isa 18.05 147 P P 11 57 14.7 +5.9
baz=18,SNR=5.0
ASAR Alice Springs 18.57 166 P P 11 57 15.5 +1.2
2.1nm,0.3s,baz=342,slow=12,SNR=246
ASAR S S 12 00 27.5 -0.2
0.1nm,0.3s,baz=344,slow=22,SNR=7.1
WRKA Warakurna 19.37 182 P P 11 57 22.6 -0.1
baz=20,SNR=13
MKAR Makanchi Array 66.55 327 P P 12 03 34.9 +0.4
0.2nm,0.4s,baz=116,slow=8.1,SNR=3.5

CSEM 17 11:59:59.7,43.11N×2.06W,h0km,ML1.4,Mining explosion. After MDD,Spain
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ELIZ Elizondo 0.39 83 Pg Pg 12 00 06.9 -0.4
SNR=7.9
ELIZ Lg Lg 12 00 12.5
SNR=7.9
ELIZ Elizondo 0.39 83 Pg Pg 12 00 06.6 -0.7
5.7nm,0.3s,SNR=9.1
ELIZ Lg Lg 12 00 12.4
14nm,0.2s,SNR=14
IUSE Utxeti 0.41 114 Pg Pg 12 00 06.8 -0.9
SNR=7.9
IUSE Lg Lg 12 00 12.5
4.9nm,0.1s,SNR=7.9
IUSE Utxeti 0.41 114 Pg Pg 12 00 06.7 -1.0
SNR=7.9
IUSE Lg Lg 12 00 13.0
6.4nm,0.2s,SNR=7.9
EALK Alkurruntz 0.42 75 Pg Pg 12 00 06.9 -0.8
SNR=7.9
EALK Lg Lg 12 00 14.7
20nm,0.2s,SNR=7.9
EALK Alkurruntz 0.42 75 Pg Pg 12 00 07.5 -0.2
4.6nm,0.3s,SNR=39
EALK Lg Lg 12 00 13.1
23nm,0.2s,SNR=34
IUNC Unciti 0.55 131 Pg Pg 12 00 09.9 -0.4
SNR=7.9
IUNC Lg Lg 12 00 17.7
5.6nm,0.2s,SNR=7.9
IELO Elcoad 0.66 114 Pg Pg 12 00 11.6 -0.9
SNR=7.9
IELO Lg Lg 12 00 21.5
SNR=7.9
IELO Elcoad 0.66 114 Pg Pg 12 00 11.7 -0.8
SNR=7.9
IELO Lg Lg 12 00 21.0
3.2nm,0.2s,SNR=7.9
IEPA Eparoz 0.67 120 Pg Pg 12 00 12.5 -0.2
SNR=7.9
IEPA Lg Lg 12 00 24.8
SNR=7.9
IEPA Eparoz 0.67 120 Pg Pg 12 00 11.6 -1.1
SNR=7.9
IEPA Lg Lg 12 00 21.6
4.0nm,0.2s,SNR=7.9
ATE Arette 0.99 91 Pg Pg 12 00 18.0 -0.8
SNR=7.9
ATE Lg Lg 12 00 31.6
4.8nm,0.3s,SNR=7.9
ATE Arette 0.99 91 Pg Pg 12 00 17.6 -1.2
SNR=7.9
ATE Lg Lg 12 00 32.2
4.4nm,0.2s,SNR=7.9
ELAN Lanestosa 1.01 277 Pg Pg 12 00 19.2 +0.1
SNR=7.9
ELAN Lg Lg 12 00 33.8
1.1nm,0.2s,SNR=7.9
ELAN Lanestosa 1.01 277 Pg Pg 12 00 18.3 -0.8
3.7nm,0.9s,SNR=6.9
ELAN Lg Lg 12 00 32.9
2.4nm,0.2s,SNR=6.2

DJA 17 12:08:16.8±2.9,9°S±24°×10°7E±°,h10km,M3.9/8, MLv3.9/8,South of Jawa
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CISI Cisompet, Garu 1.79 27 P Pn 12 08 46.0 -1.8
CNJI Cibinong 1.84 4 P Pn 12 08 47.8 -0.7
CMJI Cimerak 1.98 46 P Pn 12 08 50.8 +0.4
SKJI Sukabumi 2.19 348 P Pb 12 08 55.1 -1.4
LEM Lembang 2.40 15 P Pn 12 08 55.6 -0.8
KPJI Karang Pucung 2.64 47 P Pn 12 08 59.2 -0.2
CGJI Cibinong 2.84 333 P Pn 12 09 00.4 -1.9

MEX 17 12:33:36.2±0.4,18.22N×103.13W,h9km±11km,MD3.6, Near coast of Michoacan
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MMIG Aquila 0.21 288 iP Pg 12 33 40.3 -0.2
MMIG eS Sg 12 33 43.2 -0.3
R15V 1.24 320 eP Pn 12 33 56.0 -3.9
R15V eS Sb 12 34 11.6 -4.6
EZ5V 1.33 340 iP Pn 12 33 56.7 -4.6
EZ5V iS Sb 12 34 14.4 -4.6
SFJM Santa Fe 2.25 2 iP Pn 12 34 09.9 -4.0
ARIG Puente Sto Nin 2.65 88 iP Pn 12 34 15.6 -3.6
ARIG eS Sn 12 34 47.7 -3.7

MOS 17 12:38:27.7±2.1,50.96N×98.70E,h5km,mb4.4/1,Error ellipse: s-maj=45.2km s-min=14.2km az=137.8, Tuva-Buryatia-Mongolia border region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MOY Mondy 1.60 63 ePN Pb 12 38 57.5 -0.5
MOY e 12 39 19.1
MOY pmax pmax
comp=Z,78nm,0.4s
MOY smax smax
comp=N,491nm,0.4s
ORL Orlik 1.73 23 ePN Pn 12 38 58.8 +0.2
ORL e 12 39 21.2
ORL pmax pmax
comp=Z,71nm,0.2s
ORL smax smax
comp=N,258nm,0.6s
ARS Arshan 2.52 66 ePN Pn 12 39 11.3 +1.9
ARS e 12 39 46.4
ARS pmax pmax
comp=Z,43nm,0.3s
ARS smax smax
comp=N,485nm,0.4s
TLY Talaya 3.19 75 ePN Pn 12 39 18.6 +0.1
TLY e 12 39 25.5
TLY e 12 40 07.2
TLY pmax pmax
comp=Z,19nm,0.4s
TLY smax smax
comp=N,224nm,0.7s
IRK Irkutsk 3.70 68 ePN Pb 12 39 33.6 0.0
IRK e 12 40 21.6
IRK pmax pmax
comp=Z,63nm,0.1s
IRK smax smax
comp=E,375nm,0.4s
TRG Tyrgan 5.07 66 ePN Pn 12 39 44.3 -0.1
TRG e 12 39 59.7
TRG e 12 41 05.4
TRG pmax pmax
comp=Z,9.0nm,0.4s
TRG smax smax
comp=N,73nm,1.1s
OGRR Ongureny 6.08 60 ePN Pn 12 39 59.7 +1.5
OGRR e 12 40 17.8
OGRR e 12 41 34.3
OGRR pmax pmax
comp=Z,11nm,0.5s
OGRR smax smax
comp=E,129nm,1.1s
SYVR Suvo 7.43 64 eP Pb 12 40 38.9 +1.8
SYVR pmax pmax
comp=Z,9.0nm,1.6s

ISCJB 17 12:53:14.3±1.1,32.83N±0.06×140.7E±0.1,h85km±9km, mb3.1/3,Error ellipse: s-maj=16.7km s-min=8.7km az=20.6
JMA 17 12:53:15.8±0.1,32.90N×140.75E,h52km±4km,M3.2
IDC 17 12:53:17.9±3.7,33.08N×140.82E,h124km±34km,mb2.9/3, mb1 3.0/5,mb1mx2.9/26,mbtmp3.4/5,Error ellipse: s-maj=58.2km s-min=29.1km az=61.0
ISC 17 12:53:13.9±1.7,32.78N±0.09×140.8E±0.1,h69km±14km, n20,σ1§50/26,mb3.4/3,Southeast of Honshu
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JHJ2 Mitsune 0.86 293 P Pn 12 53 31.3 +0.7
JHJ2 S Sn 12 53 42.7 -0.3
JHCJ Hachijojimakas 0.86 290 P Pn 12 53 31.3 +0.6
JHCJ S Sn 12 53 42.0 -1.1
BSO1 Boso 1 1.88 6 eS Sn 12 54 06.7 +0.8
JKO Kozu shima 1.95 316 P Pn 12 53 46.0 +1.1
BSO2 Boso 2 1.97 360 eS Sn 12 54 10.0 +1.6
BSO3 Boso 3 2.03 354 P Pn 12 53 46.7 +1.0
BSO3 S Sn 12 54 10.6 +0.7
JIM2 Oshima 3 2.23 331 P Pn 12 53 49.4 +0.7
JIM2 eS Sn 12 54 14.5 -0.7
JIZS Izushimoda 2.49 322 P Pn 12 53 53.6 +1.4
JOD2 Odawara 2 2.84 331 P Pn 12 53 57.8 +0.8
SHZ3 Shizuoka 3 3.11 318 P Pn 12 54 03.4 +2.8
JYN Shimob 3.28 327 P Pn 12 54 05.3 +2.4
JHU Hanno 3.30 339 P Pn 12 54 04.3 +1.1
JHU eS Sn 12 54 39.6 -1.7
JNY Yasuok 3.52 318 P Pn 12 54 09.0 +2.7
JRY Ryogami san 3.58 335 P Pn 12 54 08.8 +1.8
JHO Hitachi 3.83 358 P Pn 12 54 10.7 +0.3
JHO S Sn 12 54 51.8 -2.3
MJAR Matsushiro Arr 4.30 331 P Pn 12 54 17.5 +0.6
0.7nm,0.3s,baz=159,slow=15,SNR=7.8
MJAR S Sn 12 55 05.8 -0.1
0.4nm,0.3s,baz=106,slow=24,SNR=2.1
ASAJ Asahikawa 11.41 7 P Pn 12 55 52.5 -1.5
0.3nm,0.3s,baz=204,slow=12,SNR=4.9
SONM Songino Array 29.93 310 P P 12 59 11.1 -4.2
0.1nm,0.6s,baz=113,slow=9.6,SNR=3.0
MKAR Makanchi Array 46.04 306 P P 13 01 29.2 -1.4
0.3nm,0.5s,baz=91,slow=8.3,SNR=5.7
WRA Warramunga Arr 52.78 188 P P 13 02 22.7 +0.7
0.3nm,0.8s,baz=6.8,slow=7.5,SNR=2.9

NIED 17 12:56:00,24.10N×126.60E,h14km,Mw4.0 Best double couple: Mo1.19000×10^15 NP1:φs20.00000°,δ55.00000°, λ42.00000°. NP2:φs263.00000°,δ57.00000°,λ137.00000°.
IDC 17 12:56:16.1±0.8,24.33N×126.49E,h0km,mb3.9/12, mb1 4.0/13,mb1mx3.9/25,mbtmp3.9/13,ML2.9/2,Error ellipse: s-maj=26.5km s-min=15.6km az=74.0
ISCJB 17 12:56:17.0±1.3,24.27N±0.04×126.60E±0.03,h21km±9km, mb3.7/12,Error ellipse: s-maj=8.1km s-min=4.1km az=153.4
JMA 17 12:56:17.5±0.3,24.14N×126.56E,h67km,M4.3
ISC 17 12:56:16.5±2.0,24.27N±0.06×126.58E±0.04,h6km±12km, n38,σ1§18/50,mb4.0/12,Ryukyu Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JOGS Gusukube 1.17 295 P Pg 12 56 38.9 -0.1
JOGS eS Sb 12 56 54.2 -0.4
JMJ Miyako jima 2 1.29 295 P Pn 12 56 40.7 -0.3
JMJ eS Sg 12 56 57.6 -0.3
JIKM Ikemajima 1.37 299 P Pn 12 56 41.6 -0.6
JIKM eS Sn 12 57 00.1 -0.6
JIRB Irabujima 1.39 294 P Pn 12 56 41.5 -1.0
JIRB eS Sn 12 57 00.7 -0.5
JTJ Tarama 1.75 283 P Pn 12 56 46.4 -0.9
JKE Kume jima 2 2.06 5 P Pn 12 56 51.6 0.0
JISG Ishigakijimahi 2.09 279 P Pn 12 56 50.7 -1.3
JJT2 Tamagusuku 2 2.14 29 P Pn 12 56 53.6 +0.8
JIJ Ishigaki jima 2.22 273 P Pn 12 56 52.7 -1.2
JKRS Kuro-shima 2.34 270 P Pn 12 56 54.9 -0.6
JAGN Aguni-jima 2.38 14 P Pn 12 56 57.8 +1.7
HATJ Hateruma jima 2.54 266 P Pn 12 56 57.0 -1.2
JNTH Nagotoyohara 2.59 30 P Pn 12 56 59.9 +0.9
IRIF Iriomote-Funau 2.60 272 P Pn 12 56 57.8 -1.2
JOW Kunigami 2.98 31 P Pn 12 57 05.3 +1.0
JOW eS Sn 12 57 39.7 -0.6
JOW Kunigami 2.98 31 Pn Pn 12 57 05.2 +0.9
0.7nm,0.3s,baz=198,slow=13,SNR=38
JOW Sn Sn 12 57 39.0 -1.3
2.0nm,0.3s,baz=261,slow=30,SNR=3.9
JIH Iheya 3.02 24 P Pn 12 57 05.9 +1.0
JIH eS Sn 12 57 41.1 -0.4
YOJ Yonaguni jima 3.26 274 P Pn 12 57 08.6 +0.5
JYNG Yonagunijimaku 3.32 274 P Pn 12 57 08.4 -0.5
JOKE Okinoerabujima 3.56 30 P Pn 12 57 13.7 +1.3
JOKE eS Sn 12 57 53.9 -0.9
JTK Tokunoshima 4.10 31 P Pn 12 57 20.5 +0.8
JTK eS Sn 12 58 07.0 -1.0
JMZ Minamidaito 2 4.49 69 P Pn 12 57 24.4 -0.6
JMZ eS Sn 12 58 13.8 -3.7
JAMN Amaminishikomi 4.59 30 P Pn 12 57 26.6 +0.1
JAMN eS Sn 12 58 18.4 -1.7
JAM Amami Oshima 4.94 33 P Pn 12 57 31.3 +0.1
JAM eS Sn 12 58 25.0 -3.7
JTAJ Takarajima 5.40 25 P Pn 12 57 38.0 +0.4
JNU Nakatsue 9.59 22 Pn Pn 12 58 36.5 +1.3
0.5nm,0.3s,baz=166,slow=8.3,SNR=6.6
CMAR Chiang Mai Arr 26.35 263 P P 13 01 54.2 +0.7
0.7nm,0.3s,baz=67,slow=7.9,SNR=5.3
SONM Songino Array 28.45 331 P P 13 02 11.5 -0.8
1.1nm,0.4s,baz=143,slow=11,SNR=24
MKAR Makanchi Array 41.77 314 P P 13 04 05.8 -0.8
0.8nm,0.6s,baz=99,slow=11,SNR=14
ZALV Zalesovo Beam 42.94 325 P P 13 04 15.2 -0.8
1.6nm,0.5s,baz=114,slow=7.7,SNR=10.0
WRA Warramunga Arr 44.59 170 P P 13 04 30.2 +0.6
1.4nm,0.6s,baz=351,slow=8.6,SNR=5.3
ASAR Alice Springs 48.18 171 P P 13 04 59.0 +1.2
0.2nm,0.6s,baz=352,slow=13,SNR=8.3
STKA Stephens Creek 57.65 165 P P 13 06 08.5 +0.9
1.3nm,0.8s,baz=27,slow=14,SNR=2.2
KBZ Khabaz 69.24 310 P P 13 07 25.6 +1.3
1.5nm,0.8s,baz=127,slow=1.3,SNR=4.2
FINES FINESS Array B 73.83 331 P P 13 07 51.3 -0.3
0.7nm,0.6s,baz=59,slow=5.4,SNR=5.1
AKASG Malin Array Be 76.04 319 P P 13 08 04.7 0.0
0.5nm,0.4s,baz=56,slow=6.3,SNR=10
BRTR Keskin Array B 77.05 308 P P 13 08 11.5 +0.7
1.8nm,0.8s,baz=76,slow=5.2,SNR=7.9
YKA Yellowknife Ar 80.92 24 P P 13 08 32.2 +0.8
0.1nm,0.7s,baz=310,slow=4.8,SNR=4.3

IDC 17 13:10:00.7±1.4,22.77N×124.35E,h0km,mb3.3/3, mb1 3.3/4,mb1mx3.2/25,mbtmp3.2/4,ML2.3/1,Error ellipse: s-maj=40.0km s-min=25.5km az=89.0
JMA 17 13:10:05.1±0.3,22.89N×124.11E,h47km,M3.7
ISC 17 13:10:02.5±3.4,22.88N±0.07×124.22E±0.05,h14km±22km, n17,σ1§03/27,mb3.1/3,Southeast of Taiwan
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HATJ Hateruma jima 1.24 342 P Pb 13 10 25.8 +0.2
HATJ S Sb 13 10 40.8 -0.6
JKRS Kuro-shima 1.37 352 P Pb 13 10 28.5 +0.6
JKRS eS Sb 13 10 45.6 +0.3
JIJ Ishigaki jima 1.48 357 P Pb 13 10 29.6 -0.2
JIJ S Sn 13 10 47.2 -0.7
IRIF Iriomote-Funau 1.52 343 P Pn 13 10 29.9 +0.6
IRIF eS Sn 13 10 48.2 -0.7
JISG Ishigakijimahi 1.71 3 P Pn 13 10 32.7 +0.9
JISG eS Sn 13 10 53.9 +0.5
JTJ Tarama 1.81 14 P Pb 13 10 34.7 -0.7
JTJ eS Sb 13 10 57.3 -0.7
YOJ Yonaguni jima 1.93 325 P Pn 13 10 35.7 +0.8
YOJ eS Sn 13 10 57.4 -1.6
JYNG Yonagunijimaku 1.96 324 P Pn 13 10 35.8 +0.5
JYNG eS Sn 13 10 57.8 -1.8
JIRB Irabujima 2.13 24 P Pb 13 10 39.5 -1.4
JIRB eS Sn 13 11 05.4 +1.5
JMJ Miyako jima 2 2.17 27 eS Sb 13 11 07.1 -1.1
JOGS Gusukube 2.17 30 eS Sb 13 11 08.0 -0.2
JIKM Ikemajima 2.25 25 eS Sb 13 11 09.2 -1.3
JKE Kume jima 2 4.15 34 eS Sn 13 11 54.6 +0.8
JOW Kunigami 5.39 42 Pn Pn 13 11 23.6 +1.1
0.2nm,0.3s,baz=319,slow=27,SNR=5.2
JOW Sn Sn 13 12 23.4 -1.0
0.2nm,0.3s,baz=90,slow=19,SNR=2.1
MKAR Makanchi Array 41.21 316 P P 13 17 48.4 +1.5
0.1nm,0.4s,baz=106,slow=8.9,SNR=4.4
WRA Warramunga Arr 43.69 166 P P 13 18 06.5 -0.7
0.7nm,1.0s,baz=347,slow=8.9,SNR=4.4
ASAR Alice Springs 47.21 168 P P 13 18 34.2 -0.8
0.1nm,0.5s,baz=354,slow=8.5,SNR=4.2

NEIC 17 13:32:15.7±0.4,1.33N×98.34E,mb4.3/5,Error ellipse: s-maj=9.8km s-min=7.6km az=55.0
IDC 17 13:32:16.0±0.8,1.42N×98.39E,h62km±6km,mb3.9/20, mb1 3.9/21,mb1mx3.9/31,mbtmp4.1/21,Error ellipse: s-maj=13.3km s-min=8.5km az=105.0
ISCJB 17 13:32:16.2±0.6,1.36N±0.04×98.36E±0.04,h83km±3km, mb4.1/25,Error ellipse: s-maj=8.2km s-min=4.5km az=39.7
DJA 17 13:32:17.1±0.5,1°N±3°×9°8E±°,h63km±9km,M4.3/9, MLv4.3/9
KLM 17 13:32:19.9,1.50N×98.54E,h127km,mb4.3,ML3.9
ISC 17 13:32:16.5±0.6,1.41N±0.04×98.38E±0.04,h66km±5km, n60,σ1§33/72,mb4.2/25,3C-2D,Northern Sumatera
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GSI Gunungsitoli 0.81 262 P Pn 13 32 33.5 +1.0
GSI S Sn 13 32 46.0 +1.7
GSI Gunungsitoli 0.81 262 ePn Pn 13 32 33.4 +1.0
MNSI Mandailing Nat 1.35 117 P Pn 13 32 40.4 +1.1
MNSI S Sn 13 32 57.7 +1.3
PSI Prapat 1.48 21 P Pn 13 32 40.9 -0.4
43nm,0.3s,baz=180,slow=10,SNR=90
PSI S Sn 13 32 56.4 -3.4
72nm,0.3s,baz=144,slow=19,SNR=21
PSI LR LR 13 33 26.3
comp=Z,288nm,19.8s,baz=227,slow=51
TSI Tuntungan 2.08 5 P Pn 13 32 51.4 +2.2
KCSI Kotacane, Aceh 2.18 344 P Pn 13 32 51.0 +0.5
KCSI S Sn 13 33 18.6 +2.1
TPTI 2.19 327 P Pn 13 32 52.0 +1.3
TPTI S Sn 13 33 19.7 +2.9
SNSI Sinabang, Aceh 2.28 296 P Pn 13 32 52.8 +1.0
SNSI S Sn 13 33 18.4 -0.5
BKNI Bangkinang 2.87 112 P Pn 13 33 00.8 +0.9
BKNI Bangkinang 2.87 112 ePn Pn 13 33 00.2 +0.4
PDSI Padang 3.11 138 P Pn 13 33 05.1 +1.9
PDSI S Sn 13 33 40.0 +0.8
FRIM Kepong 3.71 61 ⇑P Pn 13 33 13.5 +2.1
IPM Ipoh 4.03 41 ePn Pn 13 33 18.2 +2.4
IPM Ipoh 4.03 41 ⇑P Pn 13 33 18.7 +2.9
KULM Kulim 4.47 30 ePn Pn 13 33 23.5 +1.8
KULM Kulim 4.47 30 ⇓P Pn 13 33 23.8 +2.1
KGM Kluang 4.97 83 ⇓P Pn 13 33 29.8 +1.2
MYKOM Kota Tinggi 5.48 86 ⇑P Pn 13 33 37.6 +2.1
CMAR Chiang Mai Arr 16.95 2 P Pn 13 36 09.9 +0.6
0.3nm,0.3s,baz=187,slow=12,SNR=4.1
H08S2 Diego Garcia H 27.35 250 T T 14 05 31.4
baz=72,slow=75,SNR=31
H08S3 Diego Garcia H 27.35 250 T T 14 05 36.9
baz=72,slow=75,SNR=64
H08S1 Diego Garcia H 27.36 250 T T 14 05 36.8
baz=72,slow=75,SNR=36
TAPN Taplejung 27.75 339 eP P 13 38 01.2 +1.8
8.7nm,0.3s
GUN Gumba 28.94 337 eP P 13 38 10.6 +0.6
11nm,0.6s
GUN Gumba 28.94 337 eP P 13 38 10.6 +0.6
LSA Lhasa 28.96 347 eP P 13 38 09.9 -0.4
3.1nm,0.4s
GKN Gorkha 29.53 335 eP P 13 38 15.9 +0.8
5.3nm,0.4s
KOLN Koldanda 29.79 333 eP P 13 38 18.3 +0.9
21nm,0.6s
KOLN Koldanda 29.79 333 eP P 13 38 18.3 +0.9
DANN Dangsing 30.21 334 eP P 13 38 21.7 +0.4
8.4nm,0.4s
NWAO Narrogin (SRO) 38.52 154 P P 13 39 34.2 +1.7
5.9nm,0.8s,baz=315,slow=13,SNR=3.7
WRA Warramunga Arr 41.15 123 P P 13 39 53.0 -1.7
1.0nm,0.3s,baz=307,slow=8.7,SNR=24
WRA PcP PcP 13 41 53.1 0.0
0.6nm,0.5s,baz=308,slow=2.5,SNR=6.3
ASAR Alice Springs 42.59 128 P P 13 40 04.5 -1.8
0.3nm,0.4s,baz=293,slow=7.0,SNR=12
ASAR PcP PcP 13 41 57.9 +0.1
0.9nm,0.8s,baz=302,slow=2.9,SNR=7.0
AS31 Alice Springs 42.59 128 eP P 13 40 04.5 -1.9
KSAR Wonju Array Be 44.98 34 P P 13 40 25.2 -0.1
KSRS Korea Array 45.01 34 P P 13 40 25.2 -0.3
1.0nm,0.6s,baz=220,slow=8.7,SNR=4.7
TKM2 Tokmak 2 46.08 337 eP P 13 40 34.9 +0.7
2.1nm,0.5s
AAK Ala-Archa 46.28 336 P P 13 40 35.8 +0.1
0.7nm,0.4s,baz=162,slow=9.6,SNR=4.0
AAK PcP PcP 13 42 11.1 +0.9
0.3nm,0.3s,baz=202,slow=0.3,SNR=3.9
SONM Songino Array 46.76 7 P P 13 40 39.9 +0.6
1.4nm,0.4s,baz=190,slow=9.5,SNR=26
SONM PcP PcP 13 42 12.3 +0.6
0.8nm,0.6s,baz=184,slow=3.7,SNR=6.2
SONM pPcP 13 42 28.3
0.6nm,0.7s,baz=191,slow=2.9,SNR=4.6
ULN Ulaanbaatar 46.88 8 eP P 13 40 40.4 +0.1
1.3nm,0.5s
MKAR Makanchi Array 47.33 345 P P 13 40 43.9 +0.2
2.8nm,0.4s,baz=160,slow=8.2,SNR=52
MKAR pP pP 13 40 59.0 -1.4
2.8nm,0.7s,baz=162,slow=8.4,SNR=6.9
KURK Kurchatov 51.90 344 eP P 13 41 18.4 +0.2
0.9nm,0.3s
USRK Ussuriysk Arra 51.98 30 P P 13 41 19.9 +0.9
3.7nm,0.8s,baz=233,slow=8.6,SNR=5.3
STKA Stephens Creek 52.63 133 P P 13 41 23.1 -1.0
1.4nm,0.8s,baz=311,slow=7.0,SNR=4.1
ZAA0 Zalesovo Array 53.54 350 eP P 13 41 30.4 0.0
ZALV Zalesovo Beam 53.54 350 P P 13 41 30.4 +0.1
5.7nm,0.3s,baz=171,slow=7.5,SNR=35
ZALV pP pP 13 41 45.0 -2.4
2.3nm,0.5s,baz=165,slow=6.2,SNR=4.5
ABKAR Akbulak array 57.89 331 eP P 13 42 01.2 -0.4
1.6nm,0.6s
KBZ Khabaz 64.69 319 P P 13 42 46.7 -0.9
1.4nm,0.9s,baz=187,slow=11,SNR=3.9
BRTR Keskin Array B 69.84 312 P P 13 43 19.0 -1.5
1.7nm,0.7s,baz=137,slow=6.7,SNR=6.0
AKASG Malin Array Be 75.81 322 P P 13 43 54.3 -1.2
1.1nm,0.5s,baz=91,slow=4.6,SNR=6.4
MLR Muntele Rosu 76.73 316 P P 13 44 00.4 -0.6
0.6nm,0.9s,baz=117,slow=6.8,SNR=3.6
FINES FINESS Array B 80.36 332 P P 13 44 20.2 -0.2
2.1nm,0.4s,baz=110,slow=6.2,SNR=25
ARCES ARCESS Array B 82.73 340 P P 13 44 32.7 -0.1
1.1nm,0.4s,baz=111,slow=4.0,SNR=17
ARCES pP pP 13 44 50.9 -0.2
2.3nm,0.8s,baz=97,slow=5.3,SNR=0.9
GERES GERESS Array B 85.43 319 P P 13 44 46.9 -0.2
0.5nm,0.6s,baz=69,slow=5.4,SNR=5.6
HFS Hagfors 86.13 330 P P 13 44 49.7 -0.5
1.8nm,0.5s,baz=98,slow=3.1,SNR=12
HFS pP pP 13 45 08.6 +0.2
0.9nm,0.5s,baz=11,slow=3.0,SNR=1.6
SPITS Spitsbergen Ar 86.98 348 P P 13 44 54.0 -0.1
3.3nm,0.6s,baz=113,slow=11,SNR=7.3
NOA NORSAR Array B 87.39 331 P P 13 44 56.6 +0.2
0.9nm,0.7s,baz=94,slow=5.3,SNR=3.5
NVAR Mina Array Bea 127.91 36 PKP PKPdf 13 51 16.9 +1.3
0.2nm,0.4s,baz=294,slow=0.9,SNR=3.7
TXAR Lajitas Array 142.86 33 PKP PKPdf 13 51 41.5 -1.9
0.3nm,0.7s,baz=343,slow=1.9,SNR=3.7
CPUP Villa Florida 145.95 221 PKPbc PKPab 13 51 49.8 -0.2
1.1nm,0.4s,baz=111,slow=2.7,SNR=4.8

SKO 17 13:33:00.3,41.34N×22.70E,h24km,M0.9,ML1.0,

Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.10	259	*i* Pg	Pb	13 33 05.4	+0.5
VAY				*i* Sg	Sb	13 33 07.8	-0.1
VAY				*e*Lg	Lg	13 33 08.2	
	comp=E,13nm,0.3s						
VAY				*e*Lg	Lg	13 33 08.3	
	comp=N,18nm,0.5s						
SKO	Skopje	1.14	304	*e*Pg	Pb	13 33 22.4	+1.1
SKO				*e*Sg	Sb	13 33 36.9	+1.2
SKO				*e*Lg	Lg	13 33 37.2	
	comp=E,11nm,0.3s						
SKO				*e*Lg	Lg	13 33 37.5	
	comp=N,15nm,0.4s						

NIED 17 13:37:00, 48.°10N×155.°00E, h11km, Mw4.4 Best double couple: $M_0$5.13000×10^15 NP1:ϕ_s213.00000°, δ41.00000°, λ40.00000°. NP2:ϕ_s91.00000°, δ65.00000°, λ124.00000°.

ISCJB 17 13:37:50.7±0.4, 48.°17N±0.°03×154.°40E±0.°05, h46km±3km, mb4.4/71, MS3.7/12, Error ellipse: s-maj=7.8km s-min=2.4km az=135.5

KRSC 17 13:37:50.2±2.0, 48.°03N×156.°02E, h15km±6km, ML5.0

MOS 17 13:37:50.9±1.1, 48.°19N×154.°43E, h52km, mb4.5/29, Error ellipse: s-maj=9.6km s-min=5.2km az=81.0

SKHL 17 13:37:51.3±0.8, 48.°02N×154.°73E, h71km±4km, mb5.3/1, msh5.2/2

NEIC 17 13:37:52.5±0.3, 48.°19N×154.°24E, mb4.7/31, Error ellipse: s-maj=7.7km s-min=4.5km az=144.0

IDC 17 13:37:52.7±0.7, 48.°26N×154.°20E, h50km±6km, mb3.9/24, mb1 4.2/28, mb1mx4.1/34, mbtmp4.2/28, MS3.5/13, Ms1 3.5/13, ms1mx3.2/33, Error ellipse: s-maj=16.2km s-min=10.6km az=142.0

BJI 17 13:37:53.0, 48.°33N×154.°43E, h59km, mB4.8/8, mb4.4/27, Ms4.7/7, Ms7 4.5/6

ISC 17 13:37:53.2±0.5, **48.°18N**±0.°05×**154.°41E**±0.°05, **h55**km±2km, **h54km:pP-P, n301,** σ1§**42**/343, **mb4.5**/71, **MS3.7**/12, **15C-11D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.74	23	*e*PN	Pn	13 38 30.7	-4.0
SKR				*i* S	Sn	13 39 02.0	-4.6
SKR				pmax	pmax		
	comp=N,150nm,0.5s						
SKR				pmax	pmax		
	comp=Z,540nm,0.5s						
SKR				smax	smax		
	comp=E,1μm,0.5s						
SKR	Severo-Kuril's	2.74	23	*e*P	Pn	13 38 33.6	-1.1
SKR				*e*S	Sn	13 39 04.8	-1.8
SKR	Severo-Kuril's	2.74	23	*e*P	Pn	13 38 33.7	-1.0
SKR				AMB	AMB	13 38 36.4	
	comp=E,150nm,0.5s						
SKR				AMB	AMB	13 38 36.4	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	13 38 36.4	
	comp=E,540nm,0.5s						
SKR				*e*S	Sn	13 39 05.1	-1.5
SKR				A	A	13 39 15.4	
	comp=E,570nm,0.5s						
SKR				A	A	13 39 15.4	
	comp=E,1μm,0.5s						
SKR				A	A	13 39 15.4	
	comp=E,230nm,0.5s						
PAU	Pauzhetka	3.64	24	PN	Pn	13 38 47.1	+0.1
PAU				S	Sn	13 39 28.7	+0.1
PAU	Pauzhetka	3.64	24	*e*P	Pn	13 38 47.1	+0.1
PAU				*e*S	Sn	13 39 28.7	+0.1
PAU	Pauzhetka	3.64	24	*e*P	Pn	13 38 47.1	+0.1
PAU				AMB	AMB	13 38 56.0	
	comp=E,814nm,0.8s						
PAU				*e*S	Sn	13 39 28.7	+0.1
PAU				A	A	13 39 44.7	
	comp=E,327nm,0.6s						
PAU				A	A	13 39 44.7	
	comp=E,265nm,0.6s						
MIPR	Malaya Ipel'ka	4.37	19	*e*P	Pn	13 38 57.6	+0.6
ASAK	Asacha	4.77	27	*e*P	Pn	13 39 02.3	-0.2
ASAK				*e*S	Sn	13 39 55.9	-0.5
MTVR	Mutnovka	4.94	28	*e*P	Pn	13 39 04.3	-0.6
MTVR				*e*S	Sn	13 39 58.5	-2.3
RUS	Russkaya	5.00	30	PN	Pn	13 39 03.9	-1.7
RUS	Russkaya	5.00	30	*e*P	Pn	13 39 03.9	-1.7
RUS				*e*S	Sn	13 39 57.7	-4.4
APC	Apacha	5.07	19	*e*P	Pn	13 39 08.1	+1.6
APC				S	Sn	13 40 06.8	+3.2
PETK	Petropavlovsk-	5.36	22	PN	Pn	13 39 11.4	+0.8
PETK				pmax	pmax		
	comp=Z,13nm,0.3s						
PETK				MLR	MLR		
	comp=Z,15nm,28.6s						
PETK	Petropavlovsk-	5.36	22	P	Pn	13 39 11.3	+0.8
	comp=Z,13nm,0.3s,baz=187,slow=13,SNR=160						
PETK				LR	LR	13 41 27.9	
	comp=Z,453nm,20.7s,baz=192,slow=40						
KUR	Kuril'sk	5.38	239⇓	*i*PN	Pn	13 39 13.2	+2.4
KUR				*i*		13 40 16.0	
KUR				pmax	pmax		
	comp=E,47nm,0.4s						
KUR				pmax	pmax		
	comp=Z,250nm,0.7s						
KUR				pmax	pmax		
	comp=N,45nm,0.4s						
KUR				pmax	pmax		
	comp=Z,18μm,0.8s						
KUR				pmax	pmax		
	comp=Z,526nm,5.1s						
KUR				pmax	pmax		
	comp=N,315nm,1.9s						
KUR				pmax	pmax		
	comp=E,2μm,2.1s						
KUR				MLR	MLR		
	comp=Z,922nm,5.0s						
KUR	Kuril'sk	5.38	239	*e*P	Pn	13 39 13.0	+2.2
KUR				AMB	AMB	13 39 16.3	
	comp=Z,110nm,0.8s						
KUR				AMB	AMB	13 39 16.3	
	comp=Z,190nm,0.8s						
KUR				AMB	AMB	13 39 16.3	
	comp=Z,540nm,0.8s						
KUR				AMB	AMB	13 39 29.7	
	comp=Z,530nm,5.0s						
KUR				*e*S	Sn	13 40 14.0	+2.7
KUR				A	A	13 40 20.6	
	comp=Z,2μm,2.0s						
KUR				A	A	13 40 27.4	
	comp=Z,160nm,0.6s						
KUR				A	A	13 40 27.4	
	comp=Z,150nm,0.6s						
KUR				AMS	AMS	13 40 34.8	
	comp=Z,900nm,5.0s						
PET	Petropavlovsk	5.55	28⇑	*i*PN	Pn	13 39 12.8	-0.3
PET				*e*S	Sn	13 40 15.1	-0.4
PET				smax	smax		
	comp=E,305nm,0.6s						
PET				smax	smax		
	comp=N,289nm,0.5s						
PET				MLR	MLR		
	comp=Z,500nm,20.0s						
PET	Petropavlovsk	5.55	28	*e*P	Pn	13 39 12.5	-0.6
PET				*e*S	Sn	13 40 13.2	-2.3
PET	Petropavlovsk	5.55	28	*e*P	Pn	13 39 11.8	-1.3
	comp=Z,56nm,0.6s						
PET	Petropavlovsk	5.55	28	*e*P	Pn	13 39 12.3	-0.8
PET				AMB	AMB	13 39 21.0	
	comp=Z,78nm,0.7s						
PET				*e*S	Sn	13 40 13.9	-1.6
PET				A	A	13 40 32.0	
	comp=Z,296nm,0.8s						
PET				A	A	13 40 32.0	
	comp=Z,317nm,0.8s						
UGLR	Uglovaya	5.76	27	*e*P	Pn	13 39 16.1	-0.1
UGLR				*e*S	Sn	13 40 19.5	-1.4
KOK	Koryaka	5.78	26	*e*P	Pn	13 39 17.5	+1.1
KOK				*e*S	Sn	13 40 22.1	+0.8
AVH	Avacha	5.79	27	*e*P	Pn	13 39 17.1	+0.7
AVH				*e*S	Sn	13 40 22.2	+0.8
SMAR	Somma	5.80	27	P	Pn	13 39 17.5	+0.7
KRER	Koryakskii	5.82	27	*e*P	Pn	13 39 17.5	+0.4
KRER				*e*S	Sn	13 40 21.3	-1.2
KRX	Arik	5.84	26	*e*P	Pn	13 39 18.0	+0.7
KRX				*e*S	Sn	13 40 22.4	-0.5
SDLR	Sedlovina	5.84	27	*e*P	Pn	13 39 17.0	-0.2
SDLR				*e*S	Sn	13 40 20.7	-2.2
GNL	Ganaly	5.96	21	*e*P	Pn	13 39 20.0	+1.2
GNL				*e*S	Sn	13 40 25.9	+0.2
SPN	Mys Shipunski	6.08	34	*e*S	Sn	13 40 23.7	-4.9
KII	Karymskiy	6.67	26	P	Pn	13 39 29.7	+1.2
SHO	Shikotan	6.81	234	*e*P	Pn	13 39 29.6	-0.8
SHO				*e*S	Sn	13 40 43.5	-3.0
SHO				A	A	13 41 02.8	
	comp=Z,199nm,0.8s						
YUK	Yuzh-Kuril'sk	7.24	238	*i* PN	Pn	13 39 35.3	-1.0
YUK				pmax	pmax		
	comp=Z,173nm,0.9s						
YUK				pmax	pmax		
	comp=N,49nm,0.2s						
YUK				pmax	pmax		
	comp=E,99nm,0.9s						
YUK	Yuzh-Kuril'sk	7.24	238	*e*P	Pn	13 39 35.3	-1.0
YUK				AMB	AMB	13 39 38.0	
	comp=E,100nm,0.9s						
YUK				AMB	AMB	13 39 38.0	
	comp=E,173nm,0.9s						
YUK				*e*S	Sn	13 40 55.9	-1.2
YUK				A	A	13 41 03.5	
	comp=E,528nm,6.0s						
YUK				A	A	13 41 03.5	
	comp=E,772nm,6.0s						
JRA	Rausu	7.73	240	P	Pn	13 39 44.0	+1.1
NEM2	Nemuro 2	7.74	235	P	Pn	13 39 41.1	-2.0
NEM2				*e*S	Sn	13 41 04.3	-4.9
TUMR	Tumrok	7.95	24	*e*P	Pn	13 39 46.5	+0.4
YSS	Yuzh-Sakhalins	7.98	266⇑	*e*PN	Pn	13 39 49.4	+3.0
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS	Yuzh-Sakhalins	7.98	266	*e*P	Pn	13 39 49.6	+3.2
	comp=Z,25nm,0.6s						
YSS	Yuzh-Sakhalins	7.98	266	*e*P	Pn	13 39 49.0	+2.6
YSS				AMB	AMB	13 39 51.9	
	comp=Z,20nm,0.6s						
YSS				*e*S	Sn	13 41 14.0	-1.2
YSS				A	A	13 41 17.7	
	comp=Z,70nm,0.8s						
TYV	Tymovskoe	8.11	294	*e*P	Pn	13 39 50.0	+1.9
TYV				AMB	AMB	13 39 53.5	
	comp=Z,26nm,1.0s						
JNK	Nakash	8.17	239	P	Pn	13 39 49.3	+0.2
JNK				*e*S	Sn	13 41 19.8	-0.1
ESO	Esso	8.20	17	PN	Pn	13 39 50.7	+1.4
ESO	Esso	8.20	17	*e*P	Pn	13 39 50.7	+1.4
UGL	Uglegorsk	8.23	281	*e*P	Pn	13 39 52.0	+2.2
JTKR	Abashiri--Toko	8.43	244	P	Pn	13 39 53.9	+1.4
JAK	Akkeshi	8.56	236	P	Pn	13 39 52.7	-1.6
JAK				*e*S	Sn	13 41 24.6	-4.7
JMP	Maruseppu	8.74	246	P	Pn	13 39 59.3	+2.5
JSE	Soyaes	8.76	253	P	Pn	13 40 00.7	+3.6
JAR	Ashorobuto	8.90	241	P	Pn	13 40 00.2	+1.2
JAR				*e*S	Sn	13 41 38.7	+1.0
JWK2	Keihoku	9.06	256	P	Pn	13 40 06.5	+5.4
JOB	Onbets	9.10	238	P	Pn	13 40 01.5	-0.3
JOB				*e*S	Sn	13 41 38.9	-3.8
JKA	Kamikawa-asahi	9.15	248	*e*P	Pn	13 40 04.5	+2.1
ASAJ	Asahikawa	9.15	248	PN	Pn	13 40 04.5	+2.1
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,54nm,19.0s						
ASAJ	Asahikawa	9.15	248	P	Pn	13 40 05.7	+3.3
ASAJ	Asahikawa	9.15	248	P	Pn	13 40 04.5	+2.1
	comp=Z,1.2nm,0.3s,baz=79,slow=13,SNR=23						
ASAJ				LR	LR	13 44 04.5	
	comp=Z,54nm,19.0s,baz=2.0,slow=41						
ASAJ	Asahikawa	9.15	248	*e*P	Pn	13 40 05.9	+3.5
JKK2	Kamakawa 2	9.18	246	P	Pn	13 40 05.1	+2.2
KBTR	Krutoberegovo	9.55	30	PN	Pn	13 40 06.5	-1.4
KBTR	Krutoberegovo	9.55	30	*e*P	Pn	13 40 06.4	-1.4
JCH	Churui	9.55	238	P	Pn	13 40 06.6	-1.3
JCH				*e*S	Sn	13 41 48.3	-5.5
JBT2	Biratori 2	10.03	242	P	Pn	13 40 15.2	+0.7
BKI	Bering	10.04	41	S	Sn	13 41 54.0	-12
JEM	Erimo	10.06	236	P	Pn	13 40 13.7	-1.1
JNBK	Urakawa-nobuka	10.11	239	P	Pn	13 40 13.6	-2.0
JNB	Noboribetsu	11.00	244	P	Pn	13 40 27.7	-0.1
JKB	Kayabe	11.36	241	P	Pn	13 40 30.0	-2.6
JKB				*e*S	Sn	13 42 29.1	-8.7
FX1	Attu Island--F	12.82	61	S	Sn	13 43 02.4	-11
	comp=Z,6.3nm,0.3s,baz=24,slow=20,SNR=5.5						
OFUJ	Ofunato	12.94	230	*e*S	Sn	13 43 06.6	-10
JRG	Rokugo	13.25	234	P	Pn	13 40 54.2	-4.3
JRG				*e*S	Sn	13 43 15.0	-9.1
JIO	Ouri	13.58	229	P	Pn	13 40 58.1	-4.8
EKMR	Ekimchan	14.45	298	*e*P	Pn	13 41 13.5	-1.0
EKMR				AMB	AMB	13 41 20.8	
	comp=Z,8.0nm,0.5s						
SEY	Seymchan	14.83	356	P	Pn	13 41 19.3	-0.1
	comp=Z,0.2nm,0.3s,baz=198,slow=20,SNR=4.6						
SEY	Seymchan	14.83	356	*e*P	Pn	13 41 18.9	-0.5
KLR	Kul'dur	14.99	282	*e*P	P	13 41 26.2	+0.3
KLR	Kul'dur	14.99	282	*e*rx	rx	13 41 26.2	
USRK	Ussuriysk Arra	16.01	264	P	Pn	13 41 34.4	-0.3
	comp=Z,0.3nm,0.3s,baz=54,slow=9.2,SNR=5.3						
MAJO	Matsushiro	16.65	232	*e*P	Pn	13 41 40.3	-2.5
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MAJO	Matsushiro	16.65	232	*e*P	Pn	13 41 40.3	-2.5
	comp=Z,6.0nm,0.6s						
MJAR	Matsushiro Arr	16.65	232	P	Pn	13 41 40.0	-2.7
MJAR				MLR	MLR		
	comp=Z,15nm,28.6s						
MJAR	Matsushiro Arr	16.65	232	P	Pn	13 41 40.0	-2.7
	comp=Z,0.2nm,0.3s,baz=29,slow=12,SNR=16						
MJAR				LR	LR	13 49 02.1	
	comp=Z,108nm,18.9s,baz=55,slow=40						
BMKR	Bomnak	17.17	302	*e*P	Pn	13 41 48.9	-0.1
BMKR				AMB	AMB	13 41 52.0	
	comp=Z,3.0nm,0.7s						
ZEA	Zeya	17.93	298	*e*P	Pn	13 42 00.5	+2.2
ZEA				AMB	AMB	13 42 03.4	
	comp=Z,11nm,0.9s						
KROS	Kirovskiy	18.19	300	*e*P	P	13 41 58.0	-3.2
KROS				AMB	AMB	13 42 03.1	
	comp=Z,2.0nm,0.5s						
KROS				*e*rx	rx	13 42 12.7	
YAK	Yakutsk	19.64	324	*e*P	P	13 42 16.5	-0.4
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,16nm,1.2s						
YAK	Yakutsk	19.64	324	*e*P	P	13 42 16.5	-0.4
CLNS	Chul'man	19.81	307	*e*P	Pn	13 42 21.9	+1.0
CLNS				pmax	pmax		
	comp=Z,17nm,1.0s						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
BILL	Bilibino	20.80	13⇑	*e*P	P	13 42 27.2	-2.3
BILL				*e**PP	pP	13 42 42.4	+0.6
BILL				*e**SP	sP	13 42 49.2	+0.4
BILL				*e*		13 46 31.6	
BILL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BILL	Bilibino	20.80	13	*e*P	P	13 42 26.5	-3.0
	comp=Z,5.8nm,0.6s						
KSRS	Korea Array	22.08	251	P	P	13 42 43.3	-0.2
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,94nm,19.2s						
KSRS	Korea Array	22.08	251	P	P	13 42 43.2	-0.2
	comp=Z,2.4nm,0.8s,baz=38,slow=11,SNR=7.4						
KSRS				LR	LR	13 50 56.2	
	comp=Z,94nm,19.2s,baz=50,slow=36						
KSAR	Wonju Array Be	22.11	251	P	P	13 42 43.3	-0.5
KSAR	Wonju Array Be	22.11	251	P	P	13 42 43.2	-0.5
KSAR	Wonju Array Be	22.11	251	*e*P	P	13 42 43.3	-0.5
JCJ	Chichijima	23.11	209	LR	LR	13 50 29.0	
	comp=Z,32nm,20.6s,baz=64,slow=33						
GAMB	Gambell	24.15	37	*e*P	P	13 43 03.9	+0.2
	comp=Z,9.6nm,0.7s						
TIK	Tiksi	26.35	342	*e*P	P	13 43 23.9	+0.4
TIXI	Tiksi	26.36	342	*e*P	P	13 43 23.9	+0.2
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	Tiksi	26.36	342	P	P	13 43 25.1	+1.5
	comp=Z,3.5nm,0.8s						
H11N2	WAKE ISLAND Hy	30.13	156	T	T	14 16 07.1	
	baz=344,slow=76,SNR=137						
H11N1	WAKE ISLAND Hy	30.14	156	T	T	14 15 41.8	
	baz=344,slow=76,SNR=258						
H11N3	WAKE ISLAND Hy	30.14	156	T	T	14 16 08.3	
	baz=344,slow=76,SNR=112						
HHC	Hu-ho-hao-te	31.09	273	*e*P	P	13 44 05.8	-0.4
HHC				pP	pP	13 44 20.6	+0.5
HHC				sP	sP	13 44 27.6	+1.1
HHC				PP	PP	13 45 14.3	-2.7
HHC				S	S	13 49 04.8	-2.9
HHC				sS	sS	13 49 28.8	-2.4
HHC				SS	SnSn	13 50 49.8	-3.2
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				LR	LR		
	comp=Z,330nm,12.6s						
HHC				LR	LR		
	comp=Z,320nm,12.5s						
HHC				LR	LR		
	comp=Z,220nm,12.3s						
H11S1	WAKE ISLAND Hy	31.24	157	T	T	14 16 57.8	
	baz=347,slow=78,SNR=2647						
H11S3	WAKE ISLAND Hy	31.25	157	T	T	14 16 60.0	
	baz=347,slow=78,SNR=3098						
H11S2	WAKE ISLAND Hy	31.26	157	T	T	14 16 54.1	
	baz=347,slow=78,SNR=2384						
NJ2	Nanjing	31.27	252	*e*P	P	13 44 09.8	+2.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ULN	Ulaanbaatar	31.28	287	*e*P	P	13 44 07.1	-0.8
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ULN	Ulaanbaatar	31.28	287	*e*P	P	13 44 07.1	-0.8
SONM	Songino Array	31.71	288	P	P	13 44 10.8	-0.9
	comp=Z,0.4nm,0.9s,baz=60,slow=8.7,SNR=3.3						
TLY	Talaya	32.33	296	*e*P	P	13 44 19.0	+2.1
TLY				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,25nm,7.0s						
PPLA	Purkeypile	32.52	43	*e*P	P	13 44 19.9	+1.4
KTH	Kantishna Hill	33.11	42	*e*P	P	13 44 24.2	+0.7
	comp=Z,22nm,1.2s						
COLD	Coldfoot	33.66	35	*e*P	P	13 44 28.7	+0.5
	comp=Z,7.3nm,0.8s						
COLD				*e*		13 44 41.5	
MCK	McKinley	33.99	42	*e*P	P	13 44 30.8	-0.4
MCK				pmax	pmax		
	comp=Z,12nm,1.1s						
MCK	McKinley	33.99	42	*e*P	P	13 44 30.8	-0.4
	comp=Z,12nm,1.1s						
MCK	McKinley	33.99	42	*e*P	P	13 44 30.8	-0.4
COLA	College	34.47	40	*e*P	P	13 44 33.9	-1.4
COLA				pmax	pmax		
	comp=Z,104nm,1.0s						
COLA	College	34.47	40	*e*P	P	13 44 35.9	+0.7
	comp=Z,23nm,0.9s						
COLA	College	34.47	40	*e*P	P	13 44 33.9	-1.4
ILAR	Eielson Array	34.88	40	P	P	13 44 38.7	-0.1
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,43nm,20.3s						
ILAR	Eielson Array	34.88	40	P	P	13 44 38.7	-0.1
	comp=Z,4.0nm,0.8s,baz=248,slow=6.9,SNR=31						
ILAR				LR	LR	13 58 04.9	
	comp=Z,43nm,20.3s,baz=286,slow=35						
EGAK	Eagle	37.34	40	*e*P	P	13 44 59.4	-0.3
	comp=Z,16nm,0.9s						
LZH	Lanzhou	38.73	271	*e*P	P	13 45 13.3	+1.2
LZH				pP	pP	13 45 24.4	-1.8
LZH				sP	sP	13 45 31.1	-1.6
LZH				*e*S	S	13 51 04.3	-1.0
LZH				sS	sS	13 51 30.1	+0.9
LZH				SS	SS	13 53 45.0	-12
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				LR	LR		
	comp=Z,490nm,12.9s						
LZH				LR	LR		
	comp=Z,540nm,13.2s						
LZH				LR	LR		
	comp=Z,690nm,14.2s						
INK	Inuvik	39.97	33	*e*P	P	13 45 22.6	+0.8
INK				pmax	pmax		
	comp=Z,21nm,1.4s						
INK	Inuvik	39.97	33	P	P	13 45 22.7	+0.9
	comp=Z,6.7nm,0.6s,baz=299,slow=6.8,SNR=72						
INK	Inuvik	39.97	33	*e*P	P	13 45 22.6	+0.8
	comp=Z,21nm,1.4s						
INK	Inuvik	39.97	33	*e*P	P	13 45 22.6	+0.8
CD2	Chengdu	41.88	265	*e*P	P	13 45 39.3	+1.3
CD2				pP	pP	13 45 56.1	+3.8
CD2				sP	sP	13 46 04.3	+5.6
CD2				PP	PnPn	13 47 20.1	-0.9
CD2				PcP	PcP	13 47 35.1	+2.3
CD2				PcS	PcS	13 51 25.3	+0.7
CD2				S	S	13 51 51.5	-0.6
CD2				sS	sS	13 52 20.4	+4.2
CD2				SS	SS	13 54 54.0	-6.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.6s						
ZALV	Zalesovo Beam	42.50	305	P	P	13 45 41.3	-1.4
ZALV						13 47 34.1	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV				MLR	MLR		
	comp=Z,83nm,19.2s						
ZALV	Zalesovo Beam	42.50	305	P	P	13 45 41.3	-1.4
	comp=Z,1.0nm,0.5s,baz=52,slow=7.0,SNR=6.4						
ZALV				PcP	PcP	13 47 34.1	-0.3
	comp=Z,1.7nm,0.7s,baz=67,slow=3.7,SNR=7.7						
ZALV				LR	LR	14 03 11.4	
	comp=Z,83nm,19.2s,baz=68,slow=36						
GYA	Guiyang	42.89	257	*e*P	P	13 45 48.8	+2.5
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WMQ	Urumqi	45.24	291	*e*P	P	13 46 06.3	+1.4
WMQ				pP	pP	13 46 18.6	-0.7
WMQ				sP	sP	13 46 23.9	-1.8
WMQ				PcS	PcS	13 51 39.3	+1.4
WMQ				S	S	13 52 41.5	+0.6
WMQ				sS	sS	13 53 02.4	-2.8
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
QIZ	Qiongzhong	46.22	247	P	P	13 46 15.3	+2.5
QIZ				pP	pP	13 46 30.3	+3.1
QIZ				sP	sP	13 46 38.1	+4.5
QIZ				S	S	13 52 57.9	+2.6
QIZ				sS	sS	13 53 24.8	+5.1
QIZ				ScS	ScS	13 56 05.3	+2.1
QIZ				LR	LR		
	comp=Z,360nm,4.0s						
KMI	Kunming	46.37	259	P	P	13 46 18.3	+4.1
KMI				pmax	pmax		
	comp=Z,2.0nm,1.6s						
MKAR	Makanchi Array	47.08	297	P	P	13 46 17.9	-1.3
MKAR						13 47 50.7	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,15nm,28.6s						
MKAR	Makanchi Array	47.08	297	P	P	13 46 17.9	-1.3
	comp=Z,0.7nm,0.7s,baz=68,slow=8.1,SNR=7.2						
MKAR				PcP	PcP	13 47 50.7	+0.3
	comp=Z,0.4nm,0.6s,baz=56,slow=5.5,SNR=3.6						
MKAR				LR	LR	14 07 35.1	
	comp=Z,51nm,19.1s,baz=354,slow=38						
KURK	Kurchatov	47.31	303	P	P	13 46 20.4	-0.6
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	Kurchatov	47.31	303	P	P	13 46 20.4	-0.6
	comp=Z,2.3nm,0.8s						
KURK	Kurchatov	47.31	303	*e*P	P	13 46 20.4	-0.6
RES	Resolute Bay	49.20	19	*e*P	P	13 46 35.4	+0.3

YKA Yellowknife Ar 49.25 38 P P 13 46 36.3 +0.6
YKA *PP pP 13 46 49.8 -0.5
YKA pmax pmax
comp=Z,5.0nm,0.9s
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 49.25 38 P P 13 46 36.3 +0.6
comp=Z,5.2nm,0.9s,baz=298,slow=7.6,SNR=55
YKA pP pP 13 46 49.8 -0.5
comp=Z,2.3nm,0.9s,baz=298,slow=7.5,SNR=6.7
BRVK Borovoye 50.67 309 eP P 13 46 45.3 -1.4
BRVK pmax pmax
comp=Z,2.0nm,0.9s
BRVK Borovoye 50.67 309 eP P 13 46 45.3 -1.4
CMAR Chiang Mai Arr 53.56 256 P P 13 47 08.3 -0.2
CMAR 13 48 16.2
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 53.56 256 P P 13 47 08.3 -0.2
comp=Z,1.3nm,0.7s,baz=29,slow=7.4,SNR=8.3
CMAR PcP PcP 13 48 16.2 +1.6
comp=Z,0.8nm,0.6s,baz=0.1,slow=3.8,SNR=4.2
AAK Ala-Archa 53.99 296 eP P 13 47 11.1 -0.5
AAK pmax pmax
comp=Z,2.0nm,1.0s
AAK Ala-Archa 53.99 296 eP P 13 47 11.1 -0.5
ARU Arti 54.56 317 d iP P 13 47 13.6 -1.7
ARU 13 48 13.2
ARU 13 49 15.1
ARU S S 13 54 50.1 -0.1
ARU SS SS 13 58 33.2 +0.5
ARU pmax pmax
comp=Z,15nm,2.5s
KSH Kashi 54.92 292 eP P 13 47 25.9 +7.5
KSH epP pP 13 47 42.8 +10
KSH esP sP 13 47 47.8 +8.4
ARCES ARCESS Array B 56.79 341 LR LR 14 15 50.6
comp=Z,72nm,19.4s,baz=12,slow=40
BLMT Blacktail Moun 57.25 53 P P 13 47 35.8 +0.8
comp=Z,2.0nm,0.2s
JTMT Jette 57.45 53 eP P 13 47 37.3 +1.0
comp=Z,2.7nm,1.0s
ABKAR Akbulak array 58.19 310 eP P 13 47 40.0 -1.2
comp=Z,1.9nm,0.6s
AKTO Aktyubinsk 58.43 312 PcP PcP 13 48 33.4 +0.3
comp=Z,1.1nm,0.7s,baz=99,slow=1.9,SNR=4.9
FFC Flin Flon 59.08 41 eP P 13 47 48.3 +1.0
SUMG Summit 59.21 4 eP P 13 47 48.7 +0.2
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 59.21 4 eP P 13 47 48.6 +0.2
comp=Z,7.5nm,0.8s
LRM Limekiln Ridge 59.64 54 eP P 13 47 52.2 +0.6
comp=Z,34nm,1.0s
HLID Hailey 59.98 57 eP P 13 47 55.0 +1.1
comp=Z,1.5nm,1.0s
NVAR Mina Array Bea 61.00 64 P P 13 48 01.9 +0.9
comp=Z,2.7nm,0.7s,baz=294,slow=7.3,SNR=8.1
TPH Tonopah 61.88 63 eP P 13 48 07.4 +0.5
TPH pmax pmax
comp=Z,4.0nm,1.0s
TPH Tonopah 61.88 63 eP P 13 48 07.4 +0.5
comp=Z,4.3nm,1.0s
FINES FINESS Array B 63.12 335 P P 13 48 12.6 -1.9
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,15nm,28.6s
FINES FINESS Array B 63.12 335 P P 13 48 12.6 -1.9
comp=Z,2.0nm,0.6s,baz=40,slow=6.4,SNR=12
FINES LR LR 14 17 35.7
comp=Z,106nm,19.2s,baz=272,slow=38
PDAR Pinedale Array 63.20 55 P P 13 48 16.3 +0.6
comp=Z,2.0nm,0.8s,baz=307,slow=1.9,SNR=15
ULM Lac du Bonnet 64.87 42 P P 13 48 25.9 -0.3
ULM pmax pmax
comp=Z,3.0nm,0.7s
ULM Lac du Bonnet 64.87 42 P P 13 48 25.9 -0.3
comp=Z,2.6nm,0.7s,baz=339,slow=6.8,SNR=4.1
SRU San Rafael 65.11 59 eP P 13 48 28.7 +0.5
SRU pmax pmax
comp=Z,5.0nm,1.0s
SRU San Rafael 65.11 59 eP P 13 48 28.7 +0.5
comp=Z,4.9nm,1.0s
NOA NORSAR Array B 67.16 342 P P 13 48 38.8 -2.0
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 67.16 342 P P 13 48 38.8 -2.0
comp=Z,0.9nm,0.7s,baz=26,slow=6.1,SNR=3.9
HFS Hagfors 67.42 340 P P 13 48 41.1 -1.3
HFS pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 67.42 340 P P 13 48 41.1 -1.3
comp=Z,1.4nm,0.6s,baz=35,slow=5.4,SNR=6.6
WRAB Tennant Creek 70.14 200 eP P 13 48 59.7 0.0
WRAB pmax pmax
comp=Z,2.0nm,0.7s
WRAB Tennant Creek 70.14 200 eP P 13 48 59.6 0.0
comp=Z,1.7nm,0.7s
WRA Warramunga Arr 70.15 200 P P 13 48 59.5 -0.3
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 70.15 200 P P 13 48 59.5 -0.3
comp=Z,2.3nm,0.7s,baz=15,slow=6.3,SNR=15
AKASG Malin Array Be 70.84 327 P P 13 49 01.7 -2.0
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG MLR MLR
comp=Z,16nm,28.6s
AKASG Malin Array Be 70.84 327 P P 13 49 01.7 -2.0
comp=Z,1.1nm,0.5s,baz=32,slow=6.2,SNR=5.6
AKASG LR LR 14 21 07.6
comp=Z,48nm,21.1s,baz=35,slow=37
SCHQ Schefferville 71.65 24 P P 13 49 08.6 +0.1
comp=Z,3.4nm,0.7s,baz=303,slow=4.7,SNR=6.3
ASAR Alice Springs 73.85 200 P P 13 49 22.4 +0.5
ASAR *PP pP 13 49 35.7 -1.6
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 73.85 200 P P 13 49 22.4 +0.5
comp=Z,0.7nm,0.7s,baz=14,slow=4.8,SNR=11
ASAR pP pP 13 49 35.7 -1.6
comp=Z,1.1nm,0.6s,baz=14,slow=5.4,SNR=6.9
STHS Stebnicka Huta 74.72 330 eP P 13 49 27.2 +0.5
STHS Stebnicka Huta 74.72 330 eP P 13 49 27.2 +0.5
KOLS Kolonicke sedl 74.79 330 eP P 13 49 27.3 +0.1
KOLS Kolonicke sedl 74.79 330 eP P 13 49 27.3 +0.1
BURAR Bucovina Array 74.87 327⇓iP P 13 49 27.6 -0.2
EKA Eskdalemuir Ar 75.15 347 P P 13 49 28.7 -0.4
EKA pmax pmax
comp=Z,4.0nm,0.5s
EKA Eskdalemuir Ar 75.15 347 P P 13 49 28.7 -0.4
comp=Z,3.8nm,0.5s,baz=19,slow=5.3,SNR=26
TESR Tescani 75.27 326⇑iP P 13 49 29.6 -0.4
TRPA Tarpa 75.38 329⇓iP P 13 49 31.0 +0.4
DPC Dobruska-Polom 75.44 334 eP P 13 49 31.2 +0.3
DPC Dobruska-Polom 75.44 334 eP P 13 49 31.2 +0.3
CLL Collm 75.52 336⇓iP P 13 49 31.0 -0.3
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 75.52 336⇓iP P 13 49 31.0 -0.3
comp=Z,9.0nm,0.9s
CLL Collm 75.52 336 eP P 13 49 31.0 -0.3
KRLC Kraliky 75.55 333 eP P 13 49 31.6 +0.1
KRLC Kraliky 75.55 333 eP P 13 49 31.6 +0.1
VRI Vrincioaia 75.78 325⇓iP P 13 49 33.6 +0.7
TXAR Lajitas Array 76.03 62 P P 13 49 35.1 +0.4
TXAR *PP pP 13 49 49.8 -0.4
TXAR pmax pmax
comp=Z,3.0nm,0.8s
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 76.03 62 P P 13 49 35.1 +0.4
comp=Z,2.6nm,0.8s,baz=301,slow=4.5,SNR=25
TXAR pP pP 13 49 49.8 -0.4
comp=Z,0.7nm,0.5s,baz=305,slow=5.6,SNR=4.2
PRU Pruhonice 76.28 335 eP P 13 49 35.6 -0.1
PRU Pruhonice 76.28 335 eP P 13 49 35.6 -0.1
PRU Pruhonice 76.28 335 eP P 13 49 35.6 -0.1
VRAC Vranov 76.28 333⇓iP P 13 49 36.5 +0.8
VYHS Vyhne 76.30 331 eP P 13 49 36.3 +0.5

VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 76.30 331 eP P 13 49 36.3 +0.5
MLR Muntele Rosu 76.39 325 P P 13 49 36.5 0.0
MLR pmax pmax
comp=Z,1.0nm,0.7s
MLR Muntele Rosu 76.39 325⇑iP P 13 49 36.8 +0.2
MLR Muntele Rosu 76.39 325 P P 13 49 36.5 0.0
comp=Z,0.7nm,0.7s,baz=60,slow=8.1,SNR=5.3
DRGR 76.47 328⇑iP P 13 49 36.9 0.0
VOIR 76.78 326⇑iP P 13 49 39.4 +0.7
MALT Malatya 76.82 313⇑iP P 13 49 40.7 +1.6
ARR Arges 76.99 326⇑iP P 13 49 41.0 +1.1
KHC Kasperske Hory 77.33 335 eP P 13 49 41.4 -0.2
KHC Kasperske Hory 77.33 335 eP P 13 49 41.4 -0.2
KHC Kasperske Hory 77.33 335 eP P 13 49 41.4 -0.2
GERES GERESS Array B 77.55 335 P P 13 49 41.5 -1.5
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,59nm,18.7s
GERES GERESS Array B 77.55 335 P P 13 49 41.5 -1.5
comp=Z,1.8nm,0.7s,baz=12,slow=5.0,SNR=13
GERES LR LR 14 26 48.6
comp=Z,58nm,18.7s,baz=317,slow=38
GZR Gura Zlata 77.65 327⇓iP P 13 49 43.3 -0.2
BZS Buzias 77.87 328⇑iP P 13 49 44.6 -0.1
MEM Membach 77.91 340 P P 13 49 45.2 +0.4
BRTR Keskin Array B 77.94 317 P P 13 49 44.5 -0.9
BRTR pmax pmax
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 77.94 317 P P 13 49 44.5 -0.9
comp=Z,6.0nm,1.0s,baz=68,slow=3.7,SNR=19
BCLA Clavier 78.25 340 P P 13 49 46.7 0.0
PKSM Moragy 78.37 330⇑iP P 13 49 47.0 -0.4
JMB Yambol 78.69 323⇑iP P 13 49 50.0 +0.7
BAIF Baives 78.83 341 eP P 13 49 49.6 -0.3
BAIF Baives 78.83 341 eP P 13 49 49.6 -0.3
BAIF Baives 78.83 341 eP P 13 49 49.6 -0.3
KBA Koelnbreinsper 79.25 334⇓iP P 13 49 53.2 +0.7
comp=Z,9.7nm,0.7s
WTTA Wattenberg 79.57 335⇑iP P 13 49 54.7 +0.5
comp=Z,22nm,1.4s
MOTA Moosalm 79.64 336⇑iP P 13 49 54.7 +0.1
comp=Z,20nm,1.2s
CDF Champ du Feu 79.66 338 eP P 13 49 54.3 -0.3
comp=Z,15nm,1.0s
CDF Champ du Feu 79.66 338 eP P 13 49 54.3 -0.3
CDF pmax pmax
comp=Z,15nm,1.0s
CDF Champ du Feu 79.66 338 eP P 13 49 54.3 -0.3
comp=Z,15nm,1.0s
VTS Vitosha 79.90 326⇑iP P 13 49 56.1 +0.1
PAGF Fort de Pagny 79.90 339 eP P 13 49 56.0 +0.3
comp=Z,7.3nm,0.8s
PAGF Fort de Pagny 79.90 339 eP P 13 49 56.0 +0.3
comp=Z,7.3nm,0.8s
FETA Feichten 80.04 336⇓iP P 13 49 57.1 +0.3
comp=Z,8.5nm,1.1s
HAU Haudompre 80.26 339 eP P 13 49 57.5 -0.2
HAU eR
comp=Z,146nm,21.0s
HAU Haudompre 80.26 339 eP P 13 49 57.5 -0.2
HAU Haudompre 80.26 339 eP P 13 49 57.5 -0.2
HINF Hinteralfeld 80.32 338 eP P 13 49 57.7 -0.4
HINF Hinteralfeld 80.32 338 eP P 13 49 57.7 -0.4
HINF Hinteralfeld 80.32 338 eP P 13 49 57.7 -0.4
SFTF Sexfontaines 80.39 340 eP P 13 49 58.3 -0.1
SFTF Sexfontaines 80.39 340 eP P 13 49 58.3 -0.1
DAVOX Davos/Dischmat 80.50 336 P P 13 49 59.4 +0.2
DAVOX pmax pmax
comp=Z,6.0nm,0.9s
DAVOX Davos/Dischmat 80.50 336 P P 13 49 59.4 +0.2
comp=Z,5.8nm,0.9s,baz=34,slow=7.3,SNR=6.9
STKA Stephens Creek 80.52 191 LR LR 14 28 36.9
comp=Z,19nm,18.6s,baz=24,slow=38
TUE Stuetta 80.92 336 eP P 13 50 01.3 -0.2
comp=Z,9.5nm,0.8s
FLN La Foliniere 81.02 343 eP P 13 50 01.4 -0.3
FLN eR
comp=Z,140nm,17.8s
FLN La Foliniere 81.02 343 eP P 13 50 01.4 -0.3
FLN La Foliniere 81.02 343 eP P 13 50 01.4 -0.3
LDF La Druitiere 81.11 343 eP P 13 50 01.7 -0.5
LDF La Druitiere 81.11 343 eP P 13 50 01.7 -0.5
LDF La Druitiere 81.11 343 eP P 13 50 01.7 -0.5
GRR Gorron 81.45 344 eP P 13 50 03.9 -0.1
GRR Gorron 81.45 344 eP P 13 50 03.9 -0.1
GRR Gorron 81.45 344 eP P 13 50 03.9 -0.1
LOR Lormes 81.54 340 eP P 13 50 04.3 -0.2
comp=Z,9.9nm,0.7s
LOR eR
comp=Z,144nm,19.8s
LOR Lormes 81.54 340 eP P 13 50 04.3 -0.2
LOR pmax pmax
comp=Z,10.0nm,0.7s
LOR Lormes 81.54 340 eP P 13 50 04.3 -0.2
comp=Z,9.9nm,0.7s
CABF La Chapelle 81.63 339 eP P 13 50 05.2 +0.1
CABF La Chapelle 81.63 339 eP P 13 50 05.2 +0.1
CABF La Chapelle 81.63 339 eP P 13 50 05.2 +0.1
SSF Saint Saulge 81.81 340 eP P 13 50 05.8 -0.2
comp=Z,16nm,1.0s
SSF Saint Saulge 81.81 340 eP P 13 50 05.8 -0.2
SSF pmax pmax
comp=Z,16nm,1.0s
SSF Saint Saulge 81.81 340 eP P 13 50 05.8 -0.2
comp=Z,16nm,1.0s
SGMF Saint Gilles 81.89 345 eP P 13 50 06.5 +0.2
comp=Z,12nm,0.8s
SGMF Saint Gilles 81.89 345 eP P 13 50 06.5 +0.2
SGMF pmax pmax
comp=Z,12nm,0.8s
SGMF Saint Gilles 81.89 345 eP P 13 50 06.5 +0.2
comp=Z,12nm,0.8s
ROSF Rostrenen 81.94 345 eP P 13 50 05.7 -0.9
ROSF Rostrenen 81.94 345 eP P 13 50 05.7 -0.9
ROSF Rostrenen 81.94 345 eP P 13 50 05.7 -0.9
AVF Avril sur Loir 82.10 340 eP P 13 50 07.4 -0.1
comp=Z,5.5nm,0.6s
AVF Avril sur Loir 82.10 340 eP P 13 50 07.4 -0.1
AVF pmax pmax
comp=Z,6.0nm,0.6s
AVF Avril sur Loir 82.10 340 eP P 13 50 07.4 -0.1
comp=Z,5.5nm,0.6s
SMF Signal de Mont 82.13 340 eP P 13 50 07.6 -0.1
SMF Signal de Mont 82.13 340 eP P 13 50 07.6 -0.1
SMF Signal de Mont 82.13 340 eP P 13 50 07.6 -0.1
LPL La Plagne 82.49 338 eP P 13 50 10.3 +0.5
comp=Z,26nm,1.1s
LPL La Plagne 82.49 338 eP P 13 50 10.3 +0.5
LPL pmax pmax
comp=Z,26nm,1.1s
LPL La Plagne 82.49 338 eP P 13 50 10.3 +0.5
comp=Z,26nm,1.1s
LPG La Plagne 82.50 338 eP P 13 50 10.7 +0.7
comp=Z,36nm,1.2s
LPG La Plagne 82.50 338 eP P 13 50 10.7 +0.7
LPG pmax pmax
comp=Z,36nm,1.2s
LPG La Plagne 82.50 338 eP P 13 50 10.7 +0.7
comp=Z,36nm,1.2s
MMAI Mount Meron Ar 82.52 312 P P 13 50 10.3 +0.4
comp=Z,0.8nm,0.3s,baz=32,slow=6.0,SNR=4.8
TCF Toulx Ste Croi 82.83 341 eP P 13 50 11.4 +0.1
TCF Toulx Ste Croi 82.83 341 eP P 13 50 11.4 +0.1
TCF Toulx Ste Croi 82.83 341 eP P 13 50 11.4 +0.1
MFF Saint Martin d 83.03 343 eP P 13 50 12.4 +0.1
comp=Z,9.2nm,0.7s
MFF Saint Martin d 83.03 343 eP P 13 50 12.4 +0.1
MFF pmax pmax
comp=Z,9.0nm,0.7s
MFF Saint Martin d 83.03 343 eP P 13 50 12.4 +0.1
comp=Z,9.2nm,0.7s
RAYN Ar Rayn 84.50 299 eP P 13 50 20.1 -0.2
comp=Z,10.0nm,0.9s
TORD Torodi Ar. Bea 114.30 331 PKP PKPdf 13 56 25.1 -1.7
comp=Z,0.4nm,0.8s,baz=0.0,slow=2.9,SNR=3.0
H03N2 Juan Fernandez 137.87 90 T T 16 30 26.9
baz=307,slow=75,SNR=50
H03N1 Juan Fernandez 137.89 90 T T 16 30 25.4
baz=307,slow=75,SNR=70
H03N3 Juan Fernandez 137.89 90 T T 16 30 32.3
baz=307,slow=75,SNR=53

IDC 17 13:40:08.8±1.9, 2.34N×127.28E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=156.7km s-min=23.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.20	163	P	P	13 45 18.7	+1.1
	0.6nm,0.3s,baz=340,slow=10,SNR=24						
ASAR	Alice Springs	26.64	166	P	P	13 45 49.8	+0.3
	0.3nm,0.4s,baz=349,slow=7.2,SNR=14						
STKA	Stephens Creek	36.64	159	P	P	13 47 15.3	-1.9
	0.6nm,0.4s,baz=354,slow=9.2,SNR=3.9						
MKAR	Makanchi Array	59.00	325	P	P	13 50 10.7	+0.1
	0.3nm,0.5s,baz=116,slow=8.2,SNR=7.0						

DDA 17 13:48:58.3, 39.65N×29.45E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DURS	Dursunbey	0.75	267	iP	Pg	13 49 12.5	-0.4
DURS				iS	Sb	13 49 24.2	-0.2
BORA	Eskisehir	0.81	73	iP	Pg	13 49 13.2	-0.8
BORA				iS	Sb	13 49 26.3	+0.2

NIED 17 13:58:00, 42.30N×142.50E, h65km, Mw3.8 Best double couple: M0 4.87000×10^14 NP1: φs 182.00000°, δ 30.00000°, λ 65.00000°. NP2: φs 30.00000°, δ 63.00000°, λ 104.00000°.
ISCJB 17 13:58:34.6±0.4, 42.21N±0.04×142.49E±0.04, h77km±3km, mb3.5/9, Error ellipse: s-maj=6.4km s-min=4.7km az=146.4
JMA 17 13:58:35.2±0.1, 42.26N×142.51E, h74km±2km, M3.5
JMA Felt I J1.
IDC 17 13:58:36.6±2.4, 42.29N×142.45E, h78km±19km, mb3.3/9, mb1 3.4/10, mb1mx3.3/26, mbtmp3.5/10, Error ellipse: s-maj=25.0km s-min=15.0km az=132.0
ISC 17 13:58:35.8±0.7, 42.23N±0.04×142.49E±0.04, h71km±6km, n26, σ0.79/42, mb3.6/9, 6C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.20	75	⇑P	Pn	13 58 45.9	-0.7
JNBK				eS	Sn	13 58 54.0	-0.5
JEM	Erimo	0.54	113	⇑P	Pn	13 58 49.1	0.0
JEM				eS	Sn	13 58 59.6	+0.7
JBT2	Biratori 2	0.56	351	⇓P	Pn	13 58 48.4	-0.9
JBT2				eS	Sn	13 58 58.3	-0.9
JCH	Churui	0.76	59	⇑P	Pn	13 58 50.9	-0.5
JCH				eS	Sn	13 59 02.2	-0.8
JFR	Furan	0.94	5	⇑P	Pn	13 58 52.8	-0.8
JFR				eS	Sn	13 59 05.6	-1.3
JEW	Eniwo	0.98	309	⇓P	Pn	13 58 54.0	-0.1
JEW				eS	Sn	13 59 08.0	+0.3
JNB	Noboribetsu	1.10	283	⇓P	Pn	13 58 54.5	-1.1
JNB				eS	Sn	13 59 09.2	-1.2
JKB	Kayabe	1.13	253	⇓P	Pn	13 58 55.6	-0.4
JKB				eS	Sn	13 59 10.7	-0.4
JOB	Onbets	1.20	55	⇑P	Pn	13 58 57.0	+0.1
JOB				eS	Sn	13 59 13.3	+0.6
JAB	Ashibetsu	1.29	351	P	Pn	13 58 58.0	-0.1
JAB				eS	Sn	13 59 15.9	+1.1
JOT	Ohata	1.37	232	⇓P	Pn	13 58 58.9	-0.2
JOT				eS	Sn	13 59 16.4	-0.1
JAR	Ashorobuto	1.43	41	⇑P	Pn	13 58 59.1	-0.7
JAR				eS	Sn	13 59 17.6	-0.3
JYM2	Yakumo 2	1.58	267	⇓P	Pn	13 59 01.3	-0.5
JHR	Hokuryu	1.61	340	P	Pn	13 59 02.8	+0.5
JHR				eS	Sn	13 59 24.1	+1.8
JKK2	Kamakawa 2	1.66	7	P	Pn	13 59 02.8	-0.1
JKK2				eS	Sn	13 59 23.6	+0.2
ASAJ	Asahikawa	1.89	2	P	Pn	13 59 06.4	+0.4
	26nm,0.3s,baz=249,slow=12,SNR=365						
ASAJ				S	Sn	13 59 28.9	0.0
	23nm,0.3s,baz=353,slow=28,SNR=15						
KSRS	Korea Array	12.16	252	P	Pn	14 01 28.4	+2.3
	0.1nm,0.3s,baz=66,slow=14,SNR=2.8						
SONM	Songino Array	25.95	295	P	P	14 04 01.1	-0.4
	0.5nm,0.7s,baz=79,slow=8.7,SNR=5.3						
ZALV	Zalesovo Beam	39.20	308	P	P	14 05 56.0	-0.6
	1.2nm,0.4s,baz=92,slow=7.2,SNR=9.4						
MKAR	Makanchi Array	42.25	298	P	P	14 06 21.5	-0.4
	1.0nm,0.8s,baz=79,slow=9.8,SNR=7.7						
CMAR	Chiang Mai Arr	43.80	251	P	P	14 06 34.7	0.0
	0.3nm,0.5s,baz=40,slow=7.2,SNR=2.9						
ILAR	Eielson Array	44.72	35	P	P	14 06 41.5	0.0
	0.9nm,0.9s,baz=272,slow=6.6,SNR=7.3						
INK	Inuvik	49.42	29	P	P	14 07 17.7	-0.2
	0.4nm,0.4s,baz=310,slow=7.6,SNR=7.3						
YKA	Yellowknife Ar	58.94	32	P	P	14 08 27.1	0.0
	0.1nm,0.5s,baz=300,slow=6.2,SNR=4.8						
WRA	Warramunga Arr	62.31	189	P	P	14 08 50.2	-0.4
	0.2nm,0.6s,baz=5.8,slow=6.7,SNR=6.1						
WRA				pP	pP	14 09 10.3	+1.2
	0.4nm,0.9s,baz=6.3,slow=6.8,SNR=5.3						
FINES	FINESS Array B	64.63	332	P	P	14 09 04.6	-0.8
	0.7nm,0.5s,baz=60,slow=6.6,SNR=8.3						

MAN 17 14:02:25, 15.07N×119.86E, h0km, mb4.7, ML3.6, MS3.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.71	4	eP	Pb	14 02 39.5	-0.7
SCZP				eS	Sg	14 02 48.6	+0.8
BOLP	Bolinao	1.31	2	eP	Pb	14 02 50.5	0.0
LUBP	Lubang	1.38	164	eP	Pn	14 02 51.5	0.0
BCPH	Baguio City Da	1.48	28	⇑iP	Pn	14 02 52.3	-0.9
BCPH				iS	Sg	14 03 11.2	-1.8
CAUP	Cauayan	2.65	45	eP	Pn	14 03 10.5	+1.5
ABRA	Dolores	2.69	17	eP	Pn	14 03 11.5	+1.9
APYP	Conner	3.08	25	eP	Pn	14 03 16.5	+1.6

KRSC 17 14:39:06.6±1.5, 49.08N×156.91E, h10km±5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.68	343	P	Pb	14 39 37.2	-0.5
SKR				S	Sb	14 39 58.9	0.0
PAU	Pauzhetka	2.39	359	P	Pb	14 39 47.9	-1.8
PAU				S	Sb	14 40 17.7	-1.5
MTVR	Mutnovka	3.50	13	P	Pn	14 40 04.5	+3.2
MTVR				S	Sb	14 40 47.4	-4.2
RUS	Russkaya	3.51	16	S	Sn	14 40 45.5	+2.8
PET	Petropavlovsk	4.10	15	S	Sn	14 40 59.7	+2.5
AVH	Avacha	4.35	15	P	Pn	14 40 16.0	+3.2
KOK	Koryaka	4.36	14	P	Pn	14 40 17.2	+4.3
SMAR	Somma	4.36	15	P	Pn	14 40 17.6	+4.5
SDLR	Sedlovina	4.38	16	P	Pn	14 40 16.5	+3.1
KRER	Koryakskii	4.39	15	P	Pn	14 40 18.3	+4.8
KRX	Arik	4.42	14	P	Pn	14 40 17.9	+4.0
GNL	Ganaly	4.67	8	P	Pn	14 40 20.6	+3.4

ISCJB 17 14:43:20.4±1.7, 37.3N±0.1×35.91E±0.08, h15km, Error ellipse: s-maj=17.1km s-min=7.0km az=160.4
DDA 17 14:43:20.3, 37.53N×35.78E, h7km, MD2.7
ISC 17 14:43:19.7±1.9, 37.3N±0.1×35.88E±0.06, h15km, n3, σ0.76/6, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.16	344	ePG	Pg	14 43 23.5	-0.4
KOZT				eSG	Sb	14 43 28.2	+0.5
ANDN	Andirin	0.45	55	iP	Pg	14 43 28.4	-0.4
ANDN				iS	Sb	14 43 37.0	+0.9
GULE	Gulek	0.88	268	iP	Pg	14 43 37.0	+0.1
GULE				iS	Sn	14 43 50.0	-0.5

WEL 17 14:44:57.8±0.6, 38.12S×176.00E, h191km±4km, ML3.7/17, 3C-5D, Error ellipse: s-maj=3.5km s-min=3.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLZ	Tolley Road	0.41	240	PN	Pn	14 45 23.9	+0.3
TLZ				SN	Sn	14 45 44.4	+0.9

URZ	Urewera	0.89	99	⇓PN	Pn	14 45 25.5	-0.4
URZ				SN	Sn	14 45 45.9	-1.6
URZ				AML	AML	14 45 49.7	
HIZ	Hauiti	0.98	246	PN	Pn	14 45 26.4	-0.1
TWVZ	Taurewa	1.04	205	PN	Pn	14 45 26.9	-0.2
OTVZ	Oturere	1.07	194	PN	Pn	14 45 27.3	0.0
OTVZ				SN	Sn	14 45 49.7	-0.6
NGZ	Ngauruhoe	1.10	196	PN	Pn	14 45 27.3	-0.2
BKZ	Black Stump Fm	1.11	160	⇑PN	Pn	14 45 27.3	-0.2
BKZ				SN	Sn	14 45 48.5	-2.2
WPVZ	Whakapapa	1.14	198	PN	Pn	14 45 27.4	-0.3
NMHZ	Naumai	1.16	147	PN	Pn	14 45 28.8	+0.8
RAHZ	Arahi	1.17	133	⇑PN	Pn	14 45 28.6	+0.7
RAHZ				SN	Sn	14 45 50.7	-0.6
RAGZ	Rawiri	1.18	109	PN	Pn	14 45 28.3	+0.3
RAGZ				SN	Sn	14 45 50.6	-0.8
MWZ	Matawai	1.23	101	⇓PN	Pn	14 45 28.3	-0.1
MWZ				SN	Sn	14 45 50.6	-1.5
SNGZ	Shannon Statio	1.24	122	PN	Pn	14 45 28.9	+0.4
WNVZ	Wahianoa	1.25	194	PN	Pn	14 45 28.4	-0.3
MOVZ	Moawhango	1.30	188	PN	Pn	14 45 28.4	-0.6
MTVZ	Mangateitei	1.33	198	PN	Pn	14 45 28.8	-0.4
BHHZ	Black Hill Sta	1.37	178	PN	Pn	14 45 29.0	-0.6
MCHZ	McNeill Hill	1.43	158	PN	Pn	14 45 30.6	+0.5
HAZ	Te Kaha	1.46	76	⇓PN	Pn	14 45 29.6	-0.8
RIGZ	Rimuhau	1.51	113	PN	Pn	14 45 31.0	+0.2
KRHZ	Kereru	1.55	169	PN	Pn	14 45 30.9	-0.3
KNZ	Kokohu	1.55	125	PN	Pn	14 45 31.7	+0.2
CNGZ	Carnagh Statio	1.78	102	PN	Pn	14 45 34.2	+0.8
PUZ	Puketiti	1.79	89	PN	Pn	14 45 33.3	-0.2
PNHZ	Pukenui	1.80	175	PN	Pn	14 45 32.9	-0.7
KAHZ	Kahuranaki	1.81	158	PN	Pn	14 45 33.8	+0.1
WAZ	Wanganui	1.81	205	PN	Pn	14 45 33.0	-0.7
MHGZ	Mahia Peninsul	1.82	125	PN	Pn	14 45 34.1	+0.4
TSZ	Takapari Road	1.94	181	PN	Pn	14 45 34.1	-0.8
WPHZ	Waipukurau	1.97	170	PN	Pn	14 45 34.7	-0.6
PXZ	Pawanui	2.02	161	PN	Pn	14 45 35.4	-0.4
PXZ				AML	AML	14 46 44.0	
DVHZ	Dannevirke	2.18	177	PN	Pn	14 45 36.4	-1.2
PRHZ	Porangahau	2.20	167	PN	Pn	14 45 37.3	-0.5
POWZ	Post Office Ro	2.27	184	PN	Pn	14 45 37.1	-1.5
ANWZ	Angora Road	2.37	171	⇓PN	Pn	14 45 38.8	-0.7
PRWZ	Pori Road	2.43	180	⇓PN	Pn	14 45 39.2	-1.1
MRZ	Mangatainoka R	2.56	187	⇑PN	Pn	14 45 39.9	-1.8
TIWZ	Tintock	2.65	182	PN	Pn	14 45 41.3	-1.6
OGWZ	Otaki Gorge	2.77	193	PN	Pn	14 45 42.4	-1.8
HOWZ	Holdsworth Sta	2.80	187	PN	Pn	14 45 42.4	-2.2
KIW	Kapiti Island	2.86	197	PN	Pn	14 45 43.0	-2.3
TMWZ	Te Maipa	2.98	182	PN	Pn	14 45 44.6	-2.2
MTW	Mount Morrison	3.06	187	PN	Pn	14 45 45.0	-2.6
CAW	Cannon Point	3.07	193	PN	Pn	14 45 45.4	-2.4
DUWZ	D'Urville Isla	3.12	210	PN	Pn	14 45 45.9	-2.5
TRWZ	Traveller	3.28	184	PN	Pn	14 45 47.7	-2.6
WEL	Wellington	3.30	196	PN	Pn	14 45 47.7	-2.8
MSWZ	Moikau Station	3.34	190	PN	Pn	14 45 48.2	-2.8
TCW	Tory Channel	3.36	203	PN	Pn	14 45 48.6	-2.6
PLWZ	Palliser	3.49	189	PN	Pn	14 45 49.7	-3.2
TUWZ	Tuamarina	3.66	205	PN	Pn	14 45 51.8	-3.2
NNZ	Nelson	3.69	212	PN	Pn	14 45 52.2	-3.1
QRZ	Quartz Range	3.81	224	PN	Pn	14 45 52.3	-4.5
BSWZ	Blackbirch Sta	3.94	204	PN	Pn	14 45 55.3	-3.2
KHZ	Kahutara	4.68	203	AML	AML	14 46 58.8	
MQZ	McQueen's Vall	6.13	203	SN	Sn	14 47 26.4	-10

ISCJB 17 15:14:16.8±0.3, 59.°44N±0.°03×152.°53W±0.°07, h82km±4km, mb3.4/1, Error ellipse: s-maj=6.4km s-min=4.2km az=42.5
NEIC 17 15:14:18.8, 59.°45N×152.°58W, h72km, MG3.0(AEIC), After AEIC.
IDC 17 15:14:21.1±6.0, 59.°63N×152.°15W, h98km±59km, mb2.9/1, mb1 3.3/5, mb1mx3.0/29, mbtmp3.5/5, ML3.7/4, Error ellipse: s-maj=49.9km s-min=26.6km az=39.0
ISC 17 15:14:17.5±0.9, 59.°43N±0.°04×152.°51W±0.°04, h75km±7km, n69, σ0°.95/79, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.43	301	P	Pn	15 14 30.4	+0.2
OPT				S	Sn	15 14 39.6	-0.1
AUP	Augustine Pinn	0.47	262	P	Pn	15 14 31.1	+0.5
AUL	Augustine Lava	0.48	264	P	Pn	15 14 31.0	+0.4
AUL				S	Sn	15 14 40.7	+0.5
AUI	Augustine Isla	0.48	259	P	Pn	15 14 30.9	+0.2
AUI				S	Sn	15 14 39.5	-0.8
AUH	Augustine H	0.48	262	P	Pn	15 14 31.2	+0.5
AUH				S	Sn	15 14 39.6	-0.9
HOM	Homer	0.49	62	P	Pn	15 14 31.5	+0.8
HOM				S	Sn	15 14 41.9	+1.4
ILW	Iliamna West	0.71	333	P	Pn	15 14 33.1	0.0
ILW				S	Sn	15 14 44.4	-0.2
BRLK	Bradley Lake	0.89	67	P	Pn	15 14 35.2	+0.3
MCNL	McNeil River	0.97	256	P	Pn	15 14 35.6	-0.3
MCNL				S	Sn	15 14 49.0	-0.6
RSO	Redoubt South	1.04	353	eP	Pn	15 14 37.1	+0.1
RDN	Redoubt North	1.09	353	P	Pn	15 14 37.8	+0.2
NCT	North Crescent	1.15	350	P	Pn	15 14 38.4	+0.1
DFR	Drift River	1.17	356	P	Pn	15 14 38.7	+0.2
KAHC	Katmai Hardscr	1.51	240	P	Pn	15 14 42.9	0.0
SLKM	Skilak Lake	1.58	46	P	Pn	15 14 44.5	+0.8
KDAK	Kodiak Island	1.65	181	P	Pn	15 14 45.0	+0.3
SEW	Seward	1.69	65	P	Pn	15 14 46.8	+1.7
CKL	Chakachamna La	1.77	3	P	Pn	15 14 47.0	+0.7
KVTA	Katmai Vly 10	1.79	235	P	Pn	15 14 47.0	+0.5
KABR	Katmai Barrier	1.83	226	P	Pn	15 14 47.7	+0.6
KCE	Katmai Mt Cerb	1.83	231	P	Pn	15 14 48.1	+1.1
SPBG	Spurr Blockage	1.84	2	P	Pn	15 14 47.9	+0.7
BGL	Barrier Glacie	1.84	2	P	Pn	15 14 48.0	+0.8
CGLM	Capps Glacier	1.90	7	P	Pn	15 14 48.9	+0.9
KELA	Mount Kelaz	1.95	241	P	Pn	15 14 48.9	+0.2
STLK	Strandline Lak	2.10	9	P	Pn	15 14 51.6	+0.9
RC01	Rabbit Creek A	2.16	39	eP	Pn	15 14 52.2	+0.8
RC01				eS	Sn	15 15 17.5	+0.2
SUA	Susitna One	2.22	22	P	Pn	15 14 53.3	+1.0
OHAK	Old Harbor	2.25	191	P	Pn	15 14 52.5	-0.1
SVW2	Sparrevohn	2.27	319	P	Pn	15 14 52.7	-0.2
PWL	Port Wells	2.53	54	P	Pn	15 14 56.5	+0.1
SKT	Skwentna	2.60	10	P	Pn	15 14 58.8	+1.4
PMR	Palmer	2.74	36	P	Pn	15 14 59.2	+0.1
SII	Sitkinak Islan	3.02	198	P	Pn	15 15 02.9	-0.1
GLI	Glacier Island	3.07	59	P	Pn	15 15 02.8	-0.9
JPK	Jack Peak	3.37	59	P	Pn	15 15 07.8	+0.1
PPLA	Purkeypile	3.48	2	P	Pn	15 15 11.0	+1.6
SCM	Sheep Creek Mo	3.51	44	P	Pn	15 15 09.8	+0.1
VLZ	Valdez	3.52	58	P	Pn	15 15 09.6	-0.1
SGAM	Sherman Glacie	3.82	71	P	Pn	15 15 14.3	+0.4
KLU	Klutina	3.86	55	P	Pn	15 15 14.6	0.0
TT01	Tatalina	3.88	335	P	Pn	15 15 14.8	+0.1
TRF	Thorofare Moun	4.17	14	eP	Pn	15 15 19.9	+1.1
KTH	Kantishna Hill	4.21	10	eP	Pn	15 15 20.6	+1.4
BMRM	Bremner River	4.24	65	eP	Pn	15 15 20.2	+0.6
RND	Reindeer	4.36	22	P	Pn	15 15 21.7	+0.5
DHY	Denali Highway	4.42	32	P	Pn	15 15 22.9	+0.7
MCK	McKinley	4.64	20	eP	Pn	15 15 26.0	+0.9
PAX	Paxson	4.92	41	eP	Pn	15 15 29.1	+0.2
BWN	Browne	4.97	16	P	Pn	15 15 30.8	+1.2
PS10	TAPS Pump St10	5.15	36	P	Pn	15 15 32.2	+0.2
WRH	Wood River Hil	5.47	20	P	Pn	15 15 36.7	+0.4
MENT	Mentasta	5.51	47	eP	Pn	15 15 39.2	+2.2
HDA	Harding Lake	5.64	25	P	Pn	15 15 39.4	+0.7
CCB	Clear Creek Bu	5.68	21	P	Pn	15 15 39.4	+0.2
MLY	Manley	5.68	8	P	Pn	15 15 40.0	+0.7
CHX	Chaix Hills	5.79	79	P	Pn	15 15 42.9	+2.0
COLA	College	5.88	20	eP	Pn	15 15 41.9	0.0
MDM	Murphy Dome	5.90	18	P	Pn	15 15 42.7	+0.5
IL1	Eielson Array	5.97	24	P	Pn	15 15 43.5	+0.3
ILAR	Eielson Array	5.97	24	P	Pn	15 15 43.0	-0.2
	2.3nm,0.3s,baz=212,slow=14,SNR=88						
ILAR				S	Sn	15 16 47.6	-2.4
	0.5nm,0.3s,baz=200,slow=24,SNR=4.2						
SCRK	Sand Creek	6.10	38	P	Pn	15 15 44.9	-0.1
IM04	Indian Mountai	6.59	355	eP	Pn	15 15 51.9	+0.2
IM3	Indian Mountai	6.60	356	P	Pn	15 15 52.0	+0.2
COLD	Coldfoot	7.89	7	eP	Pn	15 16 09.7	+0.3
	2.7nm,0.4s						
DLBC	Dease Lake	11.64	85	P	Pn	15 17 02.1	+1.6
	0.9nm,0.3s,baz=262,slow=6.5,SNR=24						
DLBC				S	Sn	15 19 04.3	-4.3
	baz=165,slow=20,SNR=2.1						
INK	Inuvik	12.15	35	P	Pn	15 17 07.4	0.0
	0.1nm,0.3s,baz=252,slow=12,SNR=4.5						
YKA	Yellowknife Ar	18.47	64	P	Pn	15 18 28.0	+0.1
	0.1nm,0.3s,baz=275,slow=9.8,SNR=14						
SONM	Songino Array	55.33	306	P	P	15 23 44.2	+1.0
	0.2nm,0.5s,baz=32,slow=8.5,SNR=3.9						

IDC 17 15:16:45.7±2.2, 9.°69S×75.°05W, h0km, mb3.5/5, mb1 3.8/8, mb1mx3.7/23, mbtmp3.5/8, ML3.2/3, MS3.0/4, Ms1 3.0/4, ms1mx2.8/26, Error ellipse: s-maj=104.6km s-min=23.1km az=36.0
ISCJB 17 15:16:47.7±1.2, 10.°0S±0.°4×75.°2W±0.°3, h33km, mb3.6/5, MS3.3/1, Error ellipse: s-maj=65.1km s-min=10.7km az=39.6
ISC 17 15:16:50.0±1.3, 9.°9S±0.°3×75.°2W±0.°3, h35km, n9, σ1°.36/8, mb3.6/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	4.17	311	Pn	Pn	15 17 50.3	-1.2
	0.6nm,0.3s,baz=149,slow=8.5,SNR=3.1						
ATAH				Pg		15 17 57.1	
	7.2nm,0.3s,baz=166,slow=8.0,SNR=23						
ATAH				Lg	Lg	15 18 50.2	
	7.2nm,0.3s,baz=41,slow=19,SNR=2.9						
ATAH				LR	LR	15 19 22.6	
	comp=Z,71nm,19.5s,baz=135,slow=38						
LPAZ	La Paz	9.38	133	Pn	Pn	15 19 03.5	+0.2
	0.1nm,0.3s,baz=315,slow=10.0,SNR=2.9						
LPAZ				Lg	Lg	15 21 37.9	
	0.2nm,0.3s,baz=205,slow=15,SNR=4.3						
LPAZ				LR	LR	15 22 13.0	
	comp=Z,26nm,20.9s,baz=292,slow=35						
SIV	San Ignacio	15.05	115	Pn	Pn	15 20 18.7	-1.5
	0.2nm,0.3s,baz=311,slow=11,SNR=3.1						
SIV				Lg	Lg	15 24 37.4	
	0.3nm,0.3s,baz=0.0,slow=20,SNR=3.5						
SIV				LR	LR	15 26 21.7	
	comp=Z,163nm,18.9s,baz=280,slow=38						
BDFB	Brasilia	27.11	105	LR	LR	15 34 00.9	
	comp=Z,86nm,19.2s,baz=204,slow=38						
TXAR	Lajitas Array	47.67	326	P	P	15 25 23.6	+0.3
	0.3nm,0.5s,baz=146,slow=9.8,SNR=2.5						
PDAR	Pinedale Array	61.07	332	P	P	15 27 02.9	+2.2
	0.5nm,0.9s,baz=134,slow=3.9,SNR=4.9						
NVAR	Mina Array Bea	62.64	323	P	P	15 27 11.7	+0.3
	0.3nm,0.6s,baz=138,slow=8.2,SNR=3.2						
YKA	Yellowknife Ar	78.31	342	P	P	15 28 45.6	-0.5
	0.3nm,0.7s,baz=142,slow=6.6,SNR=6.5						
TORD	Torodi Ar. Bea	79.69	75	P	P	15 28 55.0	+0.2
	0.9nm,0.9s,baz=279,slow=5.9,SNR=4.5						

ISCJB 17 15:25:38.1±0.6, 25.°12N±0.°05×141.°25E±0.°08, h150km, mb3.5/10, Error ellipse: s-maj=10.9km s-min=5.7km az=22.2
IDC 17 15:25:38.6±1.2, 25.°08N×141.°24E, h146km±12km, mb3.3/10, mb1 3.6/14, mb1mx3.3/50, mbtmp3.9/14, Error ellipse: s-maj=23.6km s-min=12.3km az=90.0
JMA 17 15:25:40.6±0.2, 25.°29N×140.°60E, h47km, M4.9
ISC 17 15:25:39.5±0.8, 25.°16N±0.°07×141.°2E±0.°1, h150km, n36, σ1°.52/41, mb3.4/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.69	30	P	Pn	15 26 12.1	+1.0
JHHJ				eS	Sn	15 26 35.3	0.0
CBIJ	Chichi jima	2.10	24	P	Pn	15 26 17.0	+1.2
CBIJ				eS	Sn	15 26 43.9	+0.1
JCJ	Chichijima	2.10	24	P	Pn	15 26 17.2	+1.4
	198nm,0.3s,baz=37,slow=10,SNR=73						
JCJ				S	Sn	15 26 44.2	+0.4
	188nm,0.3s,baz=242,slow=23,SNR=18						
JHCJ	Hachijojimakas	7.98	351	P	Pn	15 27 34.4	+1.8
JHJ2	Mitsune	8.02	351	P	Pn	15 27 33.9	+0.8
BSO1	Boso 1	9.46	359	P	Pn	15 27 51.3	-0.5
BSO3	Boso 3	9.63	356	P	Pn	15 27 53.1	-1.1
BSO3				S	Sn	15 29 43.4	+2.7
BSO4	Boso 4	9.82	356	P	Pn	15 27 56.5	-0.5
TATJ	Tateyama 2	9.90	354	P	Pn	15 27 58.4	+0.2
JOD2	Odawara 2	10.24	350	P	Pn	15 28 02.3	-0.3
JOD2				eS	Sn	15 29 51.1	-4.8
JYN	Shimob	10.56	348	P	Pn	15 28 08.1	+1.2
JHU	Hanno	10.79	351	P	Pn	15 28 08.1	-1.7
JRY	Ryogami san	11.00	350	P	Pn	15 28 11.3	-1.4
JRY				S	Sn	15 30 11.8	-2.6
JYT	Yasato	11.06	356	P	Pn	15 28 13.2	-0.3
JYT				eS	Sn	15 30 10.1	-5.7
JAG	Ashikaga	11.33	353	P	Pn	15 28 13.9	-3.1
JAG				S	Sn	15 30 15.1	-7.1
JHO	Hitachi	11.43	357	P	Pn	15 28 15.8	-2.4
JNG	Nsakai	11.53	347	P	Pn	15 28 19.0	-0.6
MJAR	Matsushiro Arr	11.64	348	P	Pn	15 28 20.2	-0.8
	1.1nm,0.3s,baz=245,slow=8.4,SNR=8.7						
KSRS	Korea Array	16.70	320	P	Pn	15 29 26.1	+1.4
	0.1nm,0.3s,baz=138,slow=10,SNR=3.1						
ASAJ	Asahikawa	18.94	3	P	Pn	15 29 50.9	-0.3
	0.5nm,0.3s,baz=221,slow=6.7,SNR=10						
CMAR	Chiang Mai Arr	39.71	269	P	P	15 32 57.9	+0.4
	0.5nm,0.7s,baz=53,slow=7.3,SNR=4.2						
WRA	Warramunga Arr	45.34	189	P	P	15 33 41.5	-1.2
	2.7nm,0.3s,baz=7.3,slow=8.9,SNR=186						
TAPN	Taplejung	47.75	285	eP	P	15 34 03.3	+1.3
JIRN	Jiri	49.03	286	eP	P	15 34 13.4	+1.6
	3.6nm,0.3s						
ASAR	Alice Springs	49.06	189	P	P	15 34 09.8	-1.7
	0.2nm,0.3s,baz=7.6,slow=4.4,SNR=22						
GUN	Gumba	49.25	286	eP	P	15 34 15.3	+1.8
DMN	Daman	49.98	286	eP	P	15 34 20.2	+1.3
DANN	Dangsing	51.02	287	eP	P	15 34 28.2	+1.5
	4.2nm,0.3s						
MKAR	Makanchi Array	51.07	311	P	P	15 34 27.1	+0.6
	0.1nm,0.3s,baz=98,slow=6.0,SNR=5.5						
KOLN	Koldanda	51.26	286	eP	P	15 34 29.7	+1.2
STKA	Stephens Creek	56.72	180	P	P	15 35 06.6	-0.9
	2.4nm,0.6s,baz=5.8,slow=7.4,SNR=9.0						
BVAR	Borovoye Array	58.90	318	P	P	15 35 22.5	-0.1
	0.4nm,0.5s,baz=96,slow=8.9,SNR=2.4						
ILAR	Eielson Array	59.81	28	P	P	15 35 29.3	+0.7
	0.3nm,0.9s,baz=269,slow=6.2,SNR=3.4						
YKA	Yellowknife Ar	74.24	28	P	P	15 37 01.1	+1.5
	0.1nm,0.4s,baz=294,slow=5.8,SNR=4.2						
FINES	FINESS Array B	79.30	334	P	P	15 37 26.9	-1.2
	1.1nm,0.4s,baz=80,slow=5.0,SNR=18						
NOA	NORSAR Array B	85.08	338	P	P	15 37 56.4	-1.8
	0.5nm,0.6s,baz=46,slow=4.5,SNR=3.0						

IDC 17 15:30:48.4±1.4, 12.°40N×144.°33E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/23, Error ellipse: s-maj=60.4km s-min=23.8km az=93.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	26.67	144	LR	LR	15 44 22.5	
	comp=Z,33nm,21.9s,baz=320,slow=30						
WRA	Warramunga Arr	33.61	197	P	P	15 37 30.2	-0.6
	0.5nm,0.5s,baz=21,slow=9.9,SNR=6.1						
ASAR	Alice Springs	37.27	196	P	P	15 38 02.7	+0.4
	0.4nm,0.5s,baz=20,slow=10,SNR=7.5						
MKAR	Makanchi Array	61.98	317	P	P	15 41 10.0	-0.5
	0.1nm,0.5s,baz=101,slow=7.5,SNR=4.3						
ILAR	Eielson Array	69.86	25	P	P	15 42 00.9	+0.1
	0.3nm,0.7s,baz=248,slow=5.8,SNR=3.7						
BVAR	Borovoye Array	70.53	322	P	P	15 42 05.5	+0.3
	0.5nm,0.4s,baz=102,slow=8.1,SNR=4.8						

ISCJB 17 15:38:28.9±0.4, 14.°98N±0.°06×91.°85W±0.°04, h172km±3km, mb4.2/9, Error ellipse: s-maj=10.7km s-min=4.3km az=26.3
NEIC 17 15:38:29.7±0.5, 14.°98N×91.°82W, h167km±7km, mb4.5/9, MD4.4(MEX), Error ellipse: s-maj=11.8km s-min=7.9km az=216.0
IDC 17 15:38:30.0±1.0, 15.°09N×91.°46W, h155km±9km, mb3.6/5, mb1 3.8/8, mb1mx3.5/25, mbtmp4.0/8, Error ellipse: s-maj=26.4km s-min=13.5km az=73.0
MEX 17 15:38:30.4±0.6, 15.°07N×91.°81W, h180km±5km, MD4.4
CASC 17 15:38:33.9±2.0, 14.°72N×91.°62W, h146km±18km, MD3.9
ISC 17 15:38:30.0±0.7, 14.°98N±0.°06×91.°86W±0.°04, h171km±5km, n47, σ1°.66/63, mb4.3/9, 2C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.40	259	iP	Pn	15 38 53.3	-0.1
THIG				iS	Sn	15 39 12.1	+0.8
THIG		0.40	259	iP	Pn	15 38 53.3	-0.1
THIG				iS	Sn	15 39 12.1	+0.8
JAT	Jato	0.70	162	⇑iP	Pn	15 38 55.3	+0.5
CCIG	Comitan	1.32	348	iP	Pn	15 38 59.2	-0.5
CCIG				iS	Sn	15 39 21.0	-1.8
CCIG	Comitan	1.32	348	iP	Pn	15 38 59.2	-0.5
CCIG				iS	Sn	15 39 21.0	-1.8
APG	El Apazote	1.35	89	P	Pn	15 38 54.4	-5.7
	177nm,0.3s,baz=283,slow=22,SNR=1370						
APG				S	Sn	15 39 14.8	-8.3
	61nm,0.3s,baz=93,slow=19,SNR=12						
PCIG		1.50	299	iP	Pn	15 39 01.6	+0.4
PCIG				eS	Sn	15 39 25.0	-0.3
PCIG		1.50	299	iP	Pn	15 39 01.6	+0.4
PCIG				eS	Sn	15 39 25.0	-0.3
NBG	Las Nubes	1.52	105	⇓eP	Pn	15 39 01.7	0.0
MRL	Marmol	2.10	88	⇑eP	Pn	15 39 06.9	-0.9
MRL				eS	Sn	15 39 36.2	-0.7
RBDL	Robledal	2.27	112	eP	Pn	15 39 08.8	-1.0
RTR	El Retiro	2.40	116	eP	Pn	15 39 10.7	-0.6
SBLS	San Blas	2.45	117	eP	Pn	15 39 11.8	-0.1
SBLS				eS	Sn	15 39 41.6	-2.7
SNJE	San Jose	2.45	117	eP	Pn	15 39 11.3	-0.6
SNJE				eS	Sn	15 39 40.4	-3.8
CMIG	Matias Romero	3.58	306	iP	Pn	15 39 25.6	+0.1
CMIG				iS	Sn	15 40 07.7	-1.3
CMIG	Matias Romero	3.58	306	iP	Pn	15 39 25.6	+0.1
CMIG				iS	Sn	15 40 07.7	-1.3
HUIG	Huatulco	4.17	281	iP	Pn	15 39 32.9	-0.2
HUIG				iS	Sn	15 40 17.4	-5.0
HUIG	Huatulco	4.17	281	iP	Pn	15 39 32.9	-0.2
HUIG				iS	Sn	15 40 17.4	-5.0
OXX	Oaxaca	5.12	295	iP	Pn	15 39 45.1	-0.5
OXX	Oaxaca	5.12	295	iP	Pn	15 39 45.1	-0.5
VHO	Vista Hermosa	5.13	295	iP	Pn	15 39 44.7	-1.0
VHO				iS	Sn	15 40 43.4	-1.5
VHO	Vista Hermosa	5.13	295	iP	Pn	15 39 44.7	-1.0
VHO				iS	Sn	15 40 43.4	-1.5
PNIG	Pinotepa	6.20	284	iP	Pn	15 39 59.8	+0.2
PNIG				iS	Sn	15 41 07.6	-2.4
PNIG	Pinotepa	6.20	284	iP	Pn	15 39 59.8	+0.2
PNIG				iS	Sn	15 41 07.6	-2.4
TEIG	Tepich	6.23	33	P	Pn	15 39 56.4	-3.6
	15nm,0.3s,baz=28,slow=3.1,SNR=19						
TEIG				S	Sn	15 41 03.8	-7.0
	baz=315,slow=20,SNR=4.6						
TEIG	Tepich	6.23	33	ePn	Pn	15 39 57.4	-2.6
	94nm,0.4s						
JTS	JuntasAbangare	8.20	124	P	Pn	15 40 23.4	-2.7
	2.1nm,0.3s,baz=327,slow=15,SNR=6.1						
JTS				S	Sn	15 41 51.2	-6.5
	0.8nm,0.3s,baz=202,slow=16,SNR=2.1						
JTS	JuntasAbangare	8.20	124	eP	Pn	15 40 26.2	+0.1
MTDJ	Mount Denham	14.10	75	P	P	15 41 46.1	+1.1
JCT	Junction City	17.06	336	P	P	15 42 18.2	+0.6
TXAR	Lajitas Array	17.97	325	P	Pn	15 42 32.0	+2.6
	0.2nm,0.3s,baz=151,slow=12,SNR=8.7						
OTAV	Otavalo	19.76	137	eP	P	15 42 47.5	0.0
	3.8nm,0.8s						
GOGA	Godfrey	19.86	21	eP	P	15 42 49.0	+1.1
	9.6nm,0.5s						
SDDR	Presa de Saban	20.07	76	eP	P	15 42 51.1	+0.8
	14nm,0.9s						
SDV	Santo Domingo	21.62	104	eP	P	15 43 04.9	-2.2
	11nm,0.6s						
TKL	Tuckaleechee C	21.83	18	P	P	15 43 09.2	+0.4
	10nm,0.8s,baz=193,slow=11,SNR=7.2						
SIUC	Southern Illin	22.76	5	eP	P	15 43 18.1	+0.4
	76nm,1.0s						
OLIL	Olney	23.89	7	eP	P	15 43 28.4	+0.5
	34nm,0.6s						
NVAR	Mina Array Bea	33.00	320	P	P	15 44 53.5	+4.3
	1.5nm,0.6s,baz=130,slow=8.4,SNR=15						
NVAR				pP	pP	15 45 27.6	+2.5
	0.6nm,0.7s,baz=130,slow=9.3,SNR=5.1						
NVAR				ScP	ScP	15 51 00.5	+3.3
	0.6nm,0.7s,baz=104,slow=3.8,SNR=4.7						
SAML	Samuel	37.06	128	eP	P	15 45 22.0	-1.9
	7.6nm,1.1s						
LPAZ	La Paz	38.92	142	P	P	15 45 40.8	+0.7
	2.6nm,0.6s,baz=314,slow=7.1,SNR=13						
LPAZ	La Paz	38.92	142	eP	P	15 45 40.6	+0.5
	2.4nm,0.7s						
YKA	Yellowknife Ar	50.11	346	P	P	15 47 07.9	+0.6
	1.5nm,0.6s,baz=148,slow=7.6,SNR=33						
YKA				pP	pP	15 47 45.7	-0.1
	0.7nm,0.8s,baz=147,slow=7.6,SNR=5.3						
ILAR	Eielson Array	61.99	337	P	P	15 48 32.3	+0.6
	0.2nm,0.5s,baz=102,slow=5.3,SNR=6.3						
WRA	Warramunga Arr	135.76	257	PKP	PKPdf	15 57 33.4	+2.3
	0.2nm,0.5s,baz=90,slow=3.5,SNR=7.0						
ASAR	Alice Springs	136.12	251	PKP	PKPdf	15 57 34.0	+2.3
	0.2nm,0.7s,baz=91,slow=2.3,SNR=4.7						
CMAR	Chiang Mai Arr	145.11	342	PKPbc	PKPbc	15 57 47.7	-0.1
	0.7nm,0.5s,baz=330,slow=3.7,SNR=6.3						

NEIC 17 15:55:16.5, 32.°42N×115.°24W, h4km, ML3.8(ECX), After ECX.
ECX 17 15:55:16.5±0.4, 32.°42N×115.°24W, h4km, MD3.7, ML3.8
ISC 17 15:55:15.5±1.0, 32.°36N±0.°03×115.°26W±0.°04, h11km±8km, n26, σ1°.35/29, 7C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.07	331	⇑eP	Pg	15 55 17.6	-0.2
RDX	Rancho Dawling	0.72	234	⇓eP	Pg	15 55 30.1	+0.7
RDX				eS	Sb	15 55 40.5	+0.3
RDX				⇑e		15 55 42.2	
	comp=E,2μm,0.5s						
RMX	La Rumorosa	0.73	290	⇑eP	Pg	15 55 29.6	-0.1
RMX				eS	Sg	15 55 39.8	+0.5
ECBX	El Chinero	0.90	168	eP	Pg	15 55 32.5	-0.4
ECBX				eS	Sg	15 55 45.7	+1.1
ECBX				⇑e		15 55 47.6	
	comp=E,2μm,0.5s						
CBX	Cerro Bola	1.19	268	⇑eP	Pb	15 55 37.9	-0.3
CBX				eS	Sg	15 55 54.1	+0.3
ZAX	El Zacaton	1.20	226	⇑eP	Pn	15 55 38.2	-0.2
ZAX				eS	Sn	15 55 55.3	+0.5
ECNX	Esteban Cantu	1.33	239	⇑eP	Pn	15 55 40.5	+0.3
214A	Organ Pipe Nat	2.12	100	ePn	Pn	15 55 48.7	-2.3
LDFC	Landfair	2.72	3	ePn	Pb	15 56 04.2	-0.1
GSC	Goldstone	3.21	337	ePn	Pn	15 56 15.5	-1.4
OSI	Osito Adit	3.66	309	ePn	Pn	15 56 23.0	-2.8
SHPR	Sheep Range	4.14	1	ePn	Pn	15 56 18.3	-0.6
ISA	Isabella	4.24	322	ePn	Pb	15 56 28.8	-1.4
WUAZ	Wupatki	4.51	45	ePn	Pn	15 56 25.1	+1.0
W18A	Petrified Fore	5.37	58	ePn	Pn	15 56 36.4	+0.7
	comp=E,17nm,0.7s						
CCUT	Cedar City	5.41	16	ePn	Pn	15 56 42.2	+5.8
	comp=E,30nm,1.0s						
ARUT	Antelope Range	5.62	15	Pn	Pn	15 56 46.3	+7.1
	comp=E,198nm,0.5s						
TPH	Tonopah	5.93	345	ePg	Pg	15 57 12.4	+3.4
	comp=E,10nm,0.7s						
R11A	Troy Canyon, C	5.98	358	Pn	Pn	15 56 46.5	+2.2
	comp=E,9.1nm,0.8s						
R11A				ePg	Pg	15 57 10.4	+0.3
121A	Cookes Peak, D	6.32	86	Pn	Pn	15 56 48.0	-0.9
	comp=E,6.7nm,0.3s						
MVU	Marysvale	6.62	21	ePn	Pn	15 56 53.8	+0.8
	comp=E,11nm,0.8s						
MVU				ePg	Pg	15 57 21.2	-1.0
MVCO	Mesa Verde	7.38	47	ePn	Pn	15 57 05.0	+1.6
	comp=E,9.2nm,0.6s						
TMUT	Trail Mountain	7.67	24	ePg	Pg	15 57 41.3	-1.0
	comp=E,5.7nm,0.6s						
SRU	San Rafael	7.76	28	Pn	Pn	15 57 10.5	+1.9
	comp=E,12nm,0.8s						
PV01	Paradox Valley	7.95	42	ePg	Pg	15 57 42.4	-5.3
	comp=E,967nm,0.8s						
PV04	Paradox Valley	7.95	39	ePn	Pn	15 57 14.3	+3.1

KRSC 17 16:00:29.6±1.1, 55.°23N×157.°59E, h4km±11km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESO	Esso	0.94	42	eP	Pg	16 00 47.5	-0.2
ESO				eS	Sg	16 01 00.1	+0.1
TUMR	Tumrok	1.47	87	eP	Pn	16 00 55.8	-1.1
TUMR				eS	Sb	16 01 15.4	-1.2
KOZ	Kozyrevsk	1.54	56	eP	Pb	16 00 58.6	-0.1
KOZ				eS	Sg	16 01 20.0	+0.8
GNL	Ganaly	1.55	172	eP	Pn	16 00 57.2	-0.8
KMNR	Kamenistaya	1.60	69	eP	Pn	16 00 59.2	+0.5
KMNR				eS	Sg	16 01 21.2	0.0
KII	Karymskiy	1.61	137	eP	Pn	16 00 58.6	-0.2
KII				eS	Sn	16 01 20.2	+0.1
SRDR	Sredninnyy	1.63	47	eP	Pn	16 00 59.5	+0.5
SRDR				eS	Sb	16 01 21.4	+0.3
KPT	Kopyto	1.67	63	P	Pb	16 01 00.8	-0.2
KRX	Arik	1.97	161	eP	Pn	16 01 04.9	+1.0
KRX				eS	Sb	16 01 31.1	-0.1
KOK	Koryaka	2.03	162	eP	Pb	16 01 06.0	-1.1
KRER	Koryakskii	2.04	160	eP	Pb	16 01 06.3	-1.1
AVH	Avacha	2.08	161	eP	Pb	16 01 07.2	-0.7
SMAR	Somma	2.09	160	eP	Pb	16 01 07.1	-1.2
SDLR	Sedlovina	2.09	158	eP	Pn	16 01 06.6	+1.1
UGLR	Uglovaya	2.15	160	eP	Pn	16 01 07.6	+1.4
PET	Petropavlovsk	2.29	164	P	Pn	16 01 09.4	+1.3
PET				S	Sb	16 01 38.9	-1.2
APC	Apacha	2.32	186	eP	Pn	16 01 10.1	+1.7
APC				eS	Sb	16 01 40.2	-0.6
MTVR	Mutnovka	2.77	172	eP	Pn	16 01 16.7	+1.9
ASAK	Asacha	2.85	176	P	Pb	16 01 18.8	-2.3

KRSC 17 16:07:07.2±1.3, 55.22N×157.64E, h2km±11km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESO	Esso	0.93	40	iP	Pg	16 07 25.2	+0.1
ESO				eS	Sg	16 07 37.8	+0.7
TUMR	Tumrok	1.44	86	P	Pn	16 07 33.4	-0.9
TUMR				eS	Sb	16 07 53.0	-0.6
KOZ	Kozyrevsk	1.52	55	eP	Pg	16 07 36.5	+0.1
KOZ				eS	Sg	16 07 57.8	+1.7
GNL	Ganaly	1.54	173	eP	Pn	16 07 34.9	-0.8
GNL				eS	Sn	16 07 55.6	-0.7
KMNR	Kamenistaya	1.57	69	eP	Pb	16 07 37.1	0.0
KMNR				eS	Sg	16 07 58.9	+0.9
KII	Karymskiy	1.58	138	P	Pn	16 07 35.9	-0.4
SRDR	Sredninnyy	1.61	46	eP	Pn	16 07 37.1	+0.5
SRDR				eS	Sg	16 07 59.2	+0.2
KPT	Kopyto	1.65	62	eP	Pn	16 07 37.5	+0.3
KPT				eS	Sb	16 07 59.8	+0.2
KRX	Arik	1.95	162	P	Pb	16 07 42.6	-1.1
KRX				eS	Sb	16 08 08.6	0.0
KOK	Koryaka	2.02	163	P	Pb	16 07 43.8	-0.8
KRER	Koryakskii	2.02	161	P	Pb	16 07 43.9	-1.0
AVH	Avacha	2.06	161	P	Pb	16 07 45.0	-0.4
SMAR	Somma	2.07	160	iP	Pb	16 07 44.8	-1.0
SDLR	Sedlovina	2.08	159	eP	Pn	16 07 44.4	+1.3
UGLR	Uglovaya	2.13	161	P	Pb	16 07 45.3	-1.3
PET	Petropavlovsk	2.28	164	P	Pn	16 07 47.3	+1.6
APC	Apacha	2.32	187	eP	Pb	16 07 48.1	-1.5
APC				eS	Sb	16 08 18.4	-0.2
BDR	Baidarnaya	2.42	55	P	Pb	16 07 50.1	-1.4
MTVR	Mutnovka	2.76	173	P	Pb	16 07 55.1	-2.3
ASAK	Asacha	2.84	177	P	Pb	16 07 56.8	-1.9

IDC 17 16:29:00.5±3.0, 0.49S×132.77E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/19, Error ellipse: s-maj=158.0km s-min=28.3km az=74.0

ISC 17 16:29:06.3±1.3, 0.5S±0.1×132.75E±0.09, h32km, n12, σ1§43/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	1.53	257	P	Pn	16 29 31.8	+0.4
	baz=1.6,SNR=104						
SWI				S	Sb	16 29 54.5	+1.3
	baz=1.6,SNR=5.5						
FAKI	Fak Fak	2.43	192	P	Pn	16 29 45.1	+1.2
	baz=2.2,SNR=128						
PALU	Palau	8.01	12	S	Sb	16 32 53.5	-5.8
	baz=8.3,SNR=4.1						
KDU	Kakadu	12.08	181	P	Pn	16 31 56.3	-0.1
	baz=12,SNR=16						
MTN	Manton Dam	12.34	187	P	Pn	16 31 59.0	-1.0
	baz=12,SNR=25						
MTN				S	Sn	16 34 15.6	-0.9
	baz=12,SNR=5.8						
KNRA	Kununurra	15.56	194	P	Pn	16 32 41.3	-2.2
	baz=15,SNR=20						
WRA	Warramunga Arr	19.36	175	P	P	16 33 28.7	-0.7
	0.1nm,0.3s,baz=355,slow=12,SNR=9.9						
WRA				S	S	16 36 54.9	-12
	0.0nm,0.3s,baz=355,slow=24,SNR=3.0						
RABL	Rabaul	19.73	101	P	Pn	16 33 36.6	+1.4
	baz=20,SNR=4.0						
ASAR	Alice Springs	23.03	177	P	P	16 34 07.7	-1.3
	0.5nm,0.3s,baz=355,slow=10,SNR=25						
WRKA	Warakurna	24.74	190	P	P	16 34 27.0	+1.9
	baz=25,SNR=3.6						
HNR	Honiara	28.47	109	LR	LR	16 45 55.1	
	comp=Z,44nm,19.4s,baz=116,slow=36						
MKAR	Makanchi Array	64.49	324	P	P	16 39 39.0	-1.0
	0.2nm,0.5s,baz=122,slow=7.9,SNR=3.5						

IDC 17 16:32:45.4±3.6, 24.55N×95.35E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.1/39, mbtmp3.2/3, MS3.9/1, Ms1 3.9/1, ms1mx2.7/20, Error ellipse: s-maj=349.7km s-min=27.1km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	3.31	289	ePG	Pn	16 33 38.0	-0.8
SHL				eSG	Sn	16 33 55.0	-24
PSI	Prapat	21.89	170	LR	LR	16 45 43.9	
	comp=Z,335nm,20.4s,baz=242,slow=35						
MKAR	Makanchi Array	24.54	338	P	P	16 38 06.7	0.0
	0.1nm,0.5s,baz=161,slow=9.2,SNR=3.2						
WRA	Warramunga Arr	58.27	136	P	P	16 42 41.8	-0.4
	0.3nm,0.5s,baz=324,slow=7.3,SNR=9.3						
ASAR	Alice Springs	60.78	139	P	P	16 42 59.8	+0.3
	0.3nm,0.5s,baz=321,slow=7.0,SNR=12						

MEX 17 16:51:36.3±0.7, 19.04N×104.13W, h11km±7km, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		0.19	45	iP	Pg	16 51 39.5	-1.1
R15V				iS	Sg	16 51 43.4	0.0
EZ5V		0.66	48	iP	Pg	16 51 47.1	-2.4
EZ5V				eS	Sg	16 51 56.8	-1.7
CJM	Chamela	0.98	298	iP	Pg	16 51 52.6	-2.7
CJM				eS	Sg	16 52 04.6	-3.5
MMIG	Aquila	1.05	135	iP	Pb	16 51 53.4	-3.0
MMIG				eS	Sb	16 52 06.6	-3.6

IDC 17 17:12:30.2±11.0, 3.18S×100.76E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/38, mbtmp3.1/3, Error ellipse: s-maj=381.1km s-min=30.7km az=62.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.75	120	P	P	17 19 40.6	+0.8
	0.1nm,0.5s,baz=297,slow=9.9,SNR=5.6						
ASAR	Alice Springs	37.95	125	P	P	17 19 48.9	-1.2
	0.2nm,0.8s,baz=299,slow=8.0,SNR=4.1						
SONM	Songino Array	51.04	5	P	P	17 21 34.2	-0.1
	0.2nm,0.8s,baz=178,slow=6.9,SNR=3.3						

IDC 17 17:22:36.5±0.7, 15.78S×167.33E, h0km, mb4.4/16, mb1 4.5/18, mb1mx4.3/40, mbtmp4.4/18, ML4.5/2, MS3.8/16, Ms1 3.8/16, ms1mx3.6/34, Error ellipse: s-maj=21.8km s-min=16.9km az=114.0

NEIC 17 17:22:38.5±4.6, 15.74S×167.39E, h12km±28km, mb4.7/5, Error ellipse: s-maj=13.1km s-min=9.2km az=76.0

ISCJB 17 17:22:41.3±0.4, 15.82S±0.06×167.09E±0.08, h39km, mb4.4/19, MS3.7/13, Error ellipse: s-maj=11.7km s-min=8.4km az=175.5

ISC 17 17:22:42.4±0.5, 15.83S±0.06×167.3E±0.1, h39km, n47, σ1§19/44, mb4.6/20, MS3.8/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.26	187	ePn	Pn	17 24 11.9	-0.5
	48nm,0.2s						
DZM				eSn	Sn	17 25 19.5	-3.2
	101nm,0.2s						
DZM				eLR	LR	17 25 41.0	
	1μm,23.6s						
DZM	Mont Dzumac	6.26	187	Pn	Pn	17 24 11.0	-1.4
	14nm,0.3s,baz=350,slow=8.5,SNR=121						
DZM				Sn	Sn	17 25 22.6	-0.1
	8.2nm,0.3s,baz=342,slow=19,SNR=4.3						
DZM				LR	LR	17 26 30.1	
	comp=Z,2μm,18.6s,baz=11,slow=37						
HNR	Honiara	9.59	311	Pn	Pn	17 24 56.4	-1.6
	4.2nm,0.3s,baz=180,slow=5.1,SNR=3.7						
HNR				LR	LR	17 28 15.6	
	comp=Z,819nm,21.4s,baz=156,slow=35						
MSVF	Nonsavu	10.46	102	eP	Pn	17 25 17.1	+7.0
	85nm,1.0s						
EIDS	Eidsvold	17.89	235	eP	P	17 26 51.5	+2.9
RAO	Raoul Island	19.07	137	LR	LR	17 33 03.8	
	comp=Z,269nm,20.1s,baz=311,slow=33						
AFI	Afiamalu	20.31	87	LR	LR	17 33 10.1	
	comp=Z,301nm,20.0s,baz=34,slow=31						
CTA	Charters Tower	20.47	255	P	P	17 27 17.4	+0.5
	10nm,0.8s,baz=77,slow=14,SNR=14						
CTAO	Charters Tower	20.47	255	eP	Pn	17 27 18.2	-1.1
	8.5nm,0.8s						
URZ	Urewera	23.96	161	P	P	17 27 53.3	+0.3
	18nm,0.8s,baz=266,slow=1.3,SNR=7.8						
URZ				LR	LR	17 36 28.6	
	comp=Z,320nm,18.3s,baz=356,slow=35						
STKA	Stephens Creek	28.32	231	P	P	17 28 34.1	+1.6
	1.3nm,0.5s,baz=68,slow=8.5,SNR=3.7						
STKA				LR	LR	17 39 33.3	
	comp=Z,237nm,18.8s,baz=51,slow=36						
WRA	Warramunga Arr	31.61	258	P	P	17 29 00.5	-1.4
	1.0nm,0.8s,baz=85,slow=8.6,SNR=14						
WRA				LR	LR	17 40 42.0	
	comp=Z,350nm,21.9s,baz=110,slow=34						
RAR	Rarotonga	31.63	105	LR	LR	17 40 10.5	
	comp=Z,60nm,21.7s,baz=277,slow=33						
AS31	Alice Springs	32.33	251	eP	P	17 29 07.3	-0.9
ASAR	Alice Springs	32.33	251	P	P	17 29 07.5	-0.7
	3.1nm,0.7s,baz=75,slow=9.1,SNR=49						
ASAR				ScP	ScP	17 35 40.1	+3.7
	0.3nm,0.8s,baz=76,slow=3.9,SNR=3.6						
ASAR				LR	LR	17 41 29.5	
	comp=Z,266nm,20.1s,baz=76,slow=35						
PPT2	Papeete2	41.27	99	eS	S	17 36 50.4	+14
	62nm,24.0s						
PPT2				eLR	LR	17 42 17.3	
	230nm,23.5s						
PPT	Papeete	41.27	99	LR	LR	17 45 43.6	
	comp=Z,45nm,19.9s,baz=254,slow=34						
BATI	Baumata	42.83	272	LR	LR	17 47 13.9	
	comp=Z,202nm,21.5s,slow=34						
MJAR	Matsushiro Arr	58.89	333	P	P	17 32 36.3	-1.2
	3.0nm,0.9s,baz=174,slow=8.0,SNR=5.7						
MJAR				LR	LR	17 56 09.9	
	comp=Z,26nm,21.6s,baz=210,slow=34						
KSRS	Korea Array	64.67	326	P	P	17 33 16.6	+0.3
	1.9nm,0.8s,baz=136,slow=6.2,SNR=4.4						
KSRS				LR	LR	17 58 53.7	
	comp=Z,40nm,21.7s,baz=150,slow=34						
KSAR	Wonju Array Be	64.68	326	P	P	17 33 16.6	+0.2
USRK	Ussuriysk Arra	67.88	333	P	P	17 33 37.4	+0.7
	4.8nm,0.8s,baz=155,slow=5.8,SNR=6.3						
PETK	Petropavlovsk-	69.15	354	P	P	17 33 44.5	0.0
	12nm,0.9s,baz=157,slow=5.8,SNR=6.4						
PETK				LR	LR	17 57 08.6	
	comp=Z,76nm,21.9s,baz=144,slow=30						
QSPA	South Pole Qui	74.20	180	eP	P	17 34 16.2	+1.2
	14nm,1.0s						
CMAR	Chiang Mai Arr	75.43	294	P	P	17 34 23.1	+0.3
	0.8nm,0.8s,baz=120,slow=3.9,SNR=8.4						
ULN	Ulaanbaatar	83.04	324	eP	P	17 35 04.4	+0.5
	14nm,1.0s						
SONM	Songino Array	83.40	324	P	P	17 35 06.2	+0.5
	6.2nm,1.0s,baz=151,slow=5.9,SNR=38						
SONM				LR	LR	18 12 33.9	
	comp=Z,44nm,18.9s,baz=146,slow=36						
BILL	Bilibino	83.64	360	eP	P	17 35 06.1	-0.2
	450nm,3.0s						
LSA	Lhasa	86.17	302	eP	P	17 35 21.2	+0.6
	6.0nm,1.2s						
ILAR	Eielson Array	87.56	18	P	P	17 35 25.2	-0.7
	1.6nm,0.5s,baz=236,slow=5.0,SNR=53						
NVAR	Mina Array Bea	87.96	49	P	P	17 35 28.6	-0.1
	0.3nm,0.6s,baz=198,slow=5.4,SNR=3.2						
TIXI	Tiksi	91.05	349	eP	P	17 35 42.4	+0.3
	3.6nm,1.0s						
MK31	Makanchi Array	98.02	316	eP	P	17 36 14.4	-0.2
MKAR	Makanchi Array	98.02	316	P	P	17 36 14.5	-0.2
	0.9nm,0.6s,baz=86,slow=6.3,SNR=8.9						
MKAR				PP	PP	17 40 14.8	+0.7
	0.4nm,0.9s,baz=128,slow=7.9,SNR=3.6						
MKAR				LR	LR	18 20 33.0	
	comp=Z,29nm,20.4s,baz=352,slow=36						
ZAA0	Zalesovo Array	98.30	324	eP	P	17 36 15.1	-0.6
ZALV	Zalesovo Beam	98.30	324	P	P	17 36 15.2	-0.5
	1.9nm,0.8s,baz=108,slow=4.8,SNR=10						
YKA	Yellowknife Ar	98.50	27	P	P	17 36 15.9	-0.4
	0.9nm,0.9s,baz=254,slow=4.6,SNR=10						
ARCES	ARCESS Array B	121.32	345	PKP	PKPdf	17 41 29.9	-0.8
	1.5nm,0.4s,baz=65,slow=1.8,SNR=41						
RAYN	Ar Rayn	124.97	288	ePKPdf	PKPdf	17 41 40.1	+1.0
FINES	FINESS Array B	126.75	338	PKP	PKPdf	17 41 42.3	+0.9
	1.5nm,0.8s,baz=116,slow=3.2,SNR=3.4						
AKASG	Malin Array Be	131.66	325	PKP	PKPdf	17 41 51.8	+0.8
	0.3nm,0.4s,baz=61,slow=2.0,SNR=5.2						
BRTR	Keskin Array B	133.25	310	PKP	PKPdf	17 41 54.8	+0.2
	0.7nm,0.7s,baz=103,slow=4.3,SNR=3.9						
GERES	GERESS Array B	140.63	332	PKP	PKPdf	17 42 09.1	+1.2
	0.5nm,0.6s,baz=82,slow=1.9,SNR=6.2						
TUE	Stuetta	144.35	334	ePKPdf	PKPab	17 42 11.4	-1.3
KEST	Kesra	152.07	319	PKPbc	PKPbc	17 42 34.1	0.0
	2.0nm,0.7s,baz=170,slow=2.6,SNR=5.3						
ESDC	Sonseca Array	155.05	344	PKPab	PKPab	17 42 55.1	-0.9
	0.3nm,0.4s,baz=15,slow=3.1,SNR=3.1						
TORD	Torodi Ar. Bea	165.81	261	PKP	PKPdf	17 42 43.9	-0.2
	0.2nm,0.7s,baz=23,slow=1.1,SNR=2.7						
TORD				PKPab	PKPab	17 43 42.1	-1.5
	1.3nm,0.8s,baz=94,slow=4.0,SNR=5.6						

IDC 17 17:41:36.3±1.6, 6.13S×154.64E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/28, mbtmp3.3/4, ML3.8/1, Error ellipse: s-maj=51.7km s-min=25.4km az=120.0

ISC 17 17:41:44.4±1.5, 6.3S±0.3×154.6E±0.2, h61km, n18, σ0§72/21, mb3.2/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.03	247	Pn	Pn	17 43 37.4	-1.1
	7.6nm,0.3s,baz=41,slow=10.0,SNR=36						
PMG				Sn	Sn	17 45 08.9	+1.1
	2.5nm,0.3s,baz=76,slow=19,SNR=5.0						
WRA	Warramunga Arr	23.94	233	P	P	17 46 52.9	-0.3
	0.4nm,0.5s,baz=57,slow=9.8,SNR=9.1						
WRA				PcP	PcP	17 50 35.3	+0.8
	0.4nm,0.4s,baz=54,slow=2.7,SNR=12						
ASAR	Alice Springs	26.39	227	P	P	17 47 15.5	+0.1
	0.3nm,0.7s,baz=57,slow=9.1,SNR=8.9						
ASAR				PcP	PcP	17 50 41.1	+1.3
	0.6nm,0.7s,baz=66,slow=2.4,SNR=9.3						
SONM	Songino Array	68.52	327	P	P	17 52 41.5	+0.9
	0.2nm,0.4s,baz=144,slow=5.8,SNR=11						
TAPN	Taplejung	72.70	301	eP	P	17 53 07.1	+0.3
	4.4nm,0.6s						
ODAN	Odare	72.84	300	eP	P	17 53 07.9	+0.4
	13nm,0.8s						
RAMN	Ramite	73.54	300	eP	P	17 53 12.1	+0.5
JIRN	Jiri	74.09	301	eP	P	17 53 15.3	+0.3
	3.0nm,0.5s						
GUN	Gumba	74.42	301	eP	P	17 53 17.7	+0.8
PKI	Pulchoki	74.73	301	eP	P	17 53 18.5	-0.2
PKIN	Phulchoki	74.74	301	eP	P	17 53 18.6	-0.1
KKN	Kakani	74.90	301	eP	P	17 53 19.6	+0.1
DMN	Daman	75.00	301	eP	P	17 53 20.7	+0.6
GKN	Gorkha	75.50	301	eP	P	17 53 23.1	+0.2
KOLN	Koldanda	76.33	300	eP	P	17 53 27.6	-0.1
DANN	Dangsing	76.34	301	eP	P	17 53 27.5	-0.3
	9.2nm,1.0s						
MKAR	Makanchi Array	82.61	319	P	P	17 53 59.9	-1.3
	0.2nm,0.8s,baz=116,slow=3.4,SNR=2.6						
TORD	Torodi Ar. Bea	152.47	286	PKPbc	PKPbc	18 01 34.3	-0.6
	0.6nm,0.6s,baz=94,slow=3.3,SNR=3.9						

MEX 17 17:50:52.5±0.4, 15.71N×100.02W, h16km±999km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	1.35	350	iP	Pn	17 51 12.4	-4.3
CAIG				iS	Sn	17 51 29.1	-5.3
ARIG	Puente Sto Nin	2.58	353	iP	Pn	17 51 31.1	-2.5
ARIG				iS	Sn	17 52 01.4	-3.3
PLIG	Platanillo	2.71	10	iP	Pn	17 51 33.4	-2.2
PLIG				iS	Sn	17 52 03.7	-4.6

IDC 17 17:56:24.5±3.2, 32.87S×178.65W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/32, mbtmp3.9/4, ML3.3/1, MS4.5/1, Ms1 4.5/1, ms1mx3.1/23, Error ellipse: s-maj=64.4km s-min=46.4km az=112.0

ISCJB 17 17:56:26.0±2.3, 33.12S±0.09×178.5W±0.3, h32km, mb3.9/3, Error ellipse: s-maj=42.5km s-min=10.4km az=11.5

ISC 17 17:56:26.3±2.7, 33.1S±0.1×178.3W±0.4, h32km, n11, σ1§14/14, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	5.66	214	PN	Pn	17 57 49.4	+1.2
HAZ				SN	Sn	17 58 54.0	+1.9
CNGZ	Carnagh Statio	6.10	207	PN	Pn	17 57 53.4	-0.7
MWZ	Matawai	6.25	212	PN	Pn	17 57 56.9	+0.6
MWZ				SN	Sn	17 59 05.9	-0.7
URZ	Urewera	6.38	215	Pn	Pn	17 57 58.8	+0.7
	0.7nm,0.3s,baz=259,slow=4.9,SNR=9.4						
URZ				Sn	Sn	17 59 08.5	-1.4
	2.6nm,0.3s,baz=264,slow=23,SNR=6.3						
URZ	Urewera	6.38	215	PN	Pn	17 57 58.7	+0.7
URZ				SN	Sn	17 59 07.9	-1.9
SNGZ	Shannon Statio	6.70	211	PN	Pn	17 58 03.7	+1.2
DZM	Mont Dzumac	17.43	305	LR	LR	18 04 42.4	
	comp=Z,2μm,20.4s,baz=45,slow=29						
CTA	Charters Tower	34.11	283	P	P	18 03 07.9	-0.4
	1.4nm,0.5s,baz=94,slow=12,SNR=3.5						
ASAR	Alice Springs	42.82	270	P	P	18 04 21.5	+0.1
	0.7nm,0.6s,baz=111,slow=7.7,SNR=22						
WRA	Warramunga Arr	44.05	275	P	P	18 04 31.4	+0.1
	1.9nm,0.8s,baz=114,slow=8.0,SNR=25						
FINES	FINESS Array B	147.58	338	PKPbc	PKPab	18 16 08.4	-0.3
	1.5nm,0.8s,baz=27,slow=3.4,SNR=3.7						

IDC 17 18:00:21.4±5.2, 20.66S×173.53E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/28, mbtmp3.8/4, ML3.1/1, MS3.7/12, Ms1 3.7/12, ms1mx3.5/24, Error ellipse: s-maj=215.0km s-min=42.1km az=150.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.75	257	ePn	Pn	18 02 00.2	-1.7
	2.1nm,0.2s						
DZM				eSn	Sn	18 03 06.6	-13
	2.9nm,0.3s						
DZM				eLR	LR	18 03 50.4	
	2μm,25.3s						
DZM	Mont Dzumac	6.75	257	Pn	Pn	18 02 00.4	-1.5
	0.4nm,0.3s,baz=74,slow=3.2,SNR=9.2						
DZM				Sn	Sn	18 03 06.3	-13
	0.1nm,0.3s,baz=144,slow=19,SNR=2.4						
RAO	Raoul Island	11.54	139	LR	LR	18 05 41.6	
	comp=Z,81nm,21.5s,baz=318,slow=28						
AFI	Afiamalu	15.55	67	LR	LR	18 08 38.9	
	comp=Z,303nm,21.4s,baz=233,slow=32						
URZ	Urewera	17.81	171	LR	LR	18 09 29.5	
	comp=Z,361nm,20.9s,baz=4.5,slow=31						
RAR	Rarotonga	24.94	96	LR	LR	18 12 51.2	
	comp=Z,161nm,20.3s,baz=274,slow=30						
PMG	Port Moresby	27.77	290	LR	LR	18 15 35.2	
	comp=Z,181nm,19.7s,baz=88,slow=33						
STKA	Stephens Creek	30.63	242	LR	LR	18 17 57.7	
	comp=Z,211nm,18.8s,baz=53,slow=34						
PPT2	Papeete2	34.95	91	eLR	LR	18 16 21.3	
	378nm,29.0s						
PPT	Papeete	34.95	91	LR	LR	18 19 49.3	
	comp=Z,65nm,18.9s,baz=229,slow=33						
WRA	Warramunga Arr	36.70	264	P	P	18 07 30.1	-0.4
	1.4nm,0.9s,baz=95,slow=8.6,SNR=8.2						
ASAR	Alice Springs	36.74	258	P	P	18 07 30.9	+0.1
	2.9nm,0.9s,baz=86,slow=9.1,SNR=21						
NWAO	Narrogin (SRO)	51.18	244	LR	LR	18 30 55.0	
	comp=Z,180nm,18.8s,baz=90,slow=36						
VNDA	Vanda	57.19	183	LR	LR	18 33 40.5	
	comp=Z,57nm,19.6s,baz=313,slow=35						
MJAR	Matsushiro Arr	65.96	329	LR	LR	18 35 29.6	
	comp=Z,26nm,21.3s,baz=200,slow=32						
PETK	Petropavlovsk-	74.73	350	LR	LR	18 39 14.6	
	comp=Z,70nm,19.8s,baz=113,slow=31						
CMAR	Chiang Mai Arr	82.77	293	P	P	18 12 49.1	+1.3
	0.5nm,0.9s,baz=136,slow=3.3,SNR=4.2						
TXAR	Lajitas Array	93.93	60	LR	LR	18 48 46.7	
	comp=Z,60nm,19.0s,baz=0.0,slow=31						
GERES	GERESS Array B	147.57	335	PKPbc	PKPdf	18 20 06.0	+1.0
	0.9nm,0.7s,baz=15,slow=4.3,SNR=6.4						

IDC 17 18:00:27.6±15.0, 0.99S×130.28E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.3/32, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=306.1km s-min=179.8km az=110.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.25	168	P	P	18 04 53.7	-0.1
	0.2nm,0.3s,baz=350,slow=11,SNR=7.5						
ASAR	Alice Springs	22.82	171	P	P	18 05 32.2	-0.1
	0.7nm,0.5s,baz=348,slow=9.6,SNR=16						
STKA	Stephens Creek	32.53	162	P	P	18 07 00.4	+0.1
	1.8nm,0.7s,baz=328,slow=12,SNR=3.0						

ISCJB 17 18:01:50.0±0.3, 67.06N±0.02×20.83E±0.06, h0km, Error ellipse: s-maj=3.7km s-min=2.4km az=15.5

UPP 17 18:01:50.5, 67.06N×20.96E, h0km, ML1.6, Mining explosion.

HEL 17 18:01:51.3±0.1, 67.08N×20.64E, h0km, ML2.2, ML1.6(UPP), Explosion

CSEM 17 18:01:51.3±0.2, 67.09N×20.86E, h2km, ML1.6, Error ellipse: s-maj=6.2km s-min=4.2km az=97.0, Mining explosion.

NAO 17 18:01:52.6±0.9, 67.15N×21.53E, ML2.3

IDC 17 18:01:52.7±1.0, 67.10N×21.17E, h0km, mb1 2.8/3, mb1mx2.7/33, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=17.6km s-min=8.5km az=114.0

BER 17 18:01:54.8±4.3, 67.15N×21.22E, h0km, ML2.0, ML2.3(NAO), Suspected explosion

ISC 17 18:01:51.1±0.7, 67.09N±0.02×20.91E±0.02, h0km, n90, σ1§25/133, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.56	49	iP	Pg	18 02 01.4	-0.4
MASU	Masugnsbyn	0.56	49	P	Pg	18 02 01.4	-0.4
MASU	Masugnsbyn	0.56	49	P	Pg	18 02 01.4	-0.4
ERTU	Ertsjaerv	0.74	136	iP	Pg	18 02 03.7	-1.5
ERTU	Ertsjaerv	0.74	136	P	Pg	18 02 03.7	-1.5
ERTU	Ertsjaerv	0.74	136	P	Pg	18 02 03.7	-1.5
KUA	Kurravaara	0.89	346	eP	Pg	18 02 07.6	-0.5
KUA	Kurravaara	0.89	346	P	Pg	18 02 07.6	-0.5
KUA	Kurravaara	0.89	346	P	Pg	18 02 07.6	-0.5
HARU	Harads	0.93	178	eP	Pg	18 02 07.3	-1.6
HARU	Harads	0.93	178	P	Pg	18 02 07.3	-1.6
HARU	Harads	0.93	178	P	Pg	18 02 07.3	-1.6
SALU	Saltoluokta	0.98	288	eP	Pg	18 02 09.6	-0.2
SALU	Saltoluokta	0.98	288	P	Pg	18 02 09.6	-0.2

SALU Saltoluokta 0.98 288 P Pg 18 02 09.6 -0.2
LANU Lannavaara 1.05 23 eP Pg 18 02 10.5 -0.6
LANU eS Sb 18 02 25.9 -0.4
LANU Lannavaara 1.05 23 P Pg 18 02 10.4 -0.6
LANU S Sb 18 02 25.8 -0.4
LANU Lannavaara 1.05 23 P Pg 18 02 10.1 -1.0
KALU Kalix 1.58 140 eP Pn 18 02 18.9 -1.3
KALU Kalix 1.58 140 P Pn 18 02 18.9 -1.3
KALU Kalix 1.58 140 P Pn 18 02 18.9 -1.3
SJUU Sjulsmark 1.62 170 eP Pn 18 02 19.5 -1.2
SJUU Sjulsmark 1.62 170 P Pn 18 02 19.5 -1.2
SJUU Sjulsmark 1.62 170 P Pn 18 02 19.5 -1.2
HEF Hetta 1.69 37 eP Pn 18 02 22.1 +0.3
HEF eS Sg 18 02 45.5 +0.3
HEF MSG 18 02 52.1
comp=Z,14nm,0.1s
HEF Hetta 1.69 37 P Pn 18 02 22.0 +0.3
HEF S Sg 18 02 45.4 +0.3
LILU Lilltraesk 1.87 194 eP Pn 18 02 23.8 -0.4
LILU Lilltraesk 1.87 194 P Pn 18 02 23.8 -0.4
LILU Lilltraesk 1.87 194 P Pn 18 02 23.8 -0.4
KIF Kilpisjarvi 1.92 359 Pn Pb 18 02 26.3 -0.6
KIF Lg Lg 18 02 53.4
KIF Kilpisjarvi 1.92 359 Pn Pb 18 02 26.3 -0.6
KIF Lg Lg 18 02 53.4
KIF Kilpisjarvi 1.92 359 Pn Pb 18 02 26.3 -0.6
KIF Lg Lg 18 02 53.4
KIF Kilpisjarvi 1.92 359 Pn Pb 18 02 26.3 -0.6
KIF Lg Lg 18 02 53.4
KIF Kilpisjarvi 1.92 359 eP Pb 18 02 26.4 -0.5
KIF eS Sb 18 02 51.2 -0.2
KIF MSG 18 03 00.7
comp=Z,22nm,0.1s
KIF Kilpisjarvi 1.92 359 P Pb 18 02 26.3 -0.6
KIF S Sb 18 02 51.2 -0.2
KIF Lg Lg 18 02 53.4
SNR=90
KTK1 Kautokeino 2.12 23 eSg Sg 18 02 59.9 +0.9
KTK1 IAML 18 03 04.6
comp=N,20nm,0.1s
SGF Sodankyl 2.21 78 eP Pn 18 02 29.9 +0.9
SGF eS Sb 18 02 58.6 -1.1
SGF Sodankyl 2.21 78 P Pn 18 02 29.8 +0.9
SGF S Sb 18 02 58.6 -1.1
BURU Burvik 2.53 175 eP Pn 18 02 33.3 +0.1
BURU Burvik 2.53 175 P Pn 18 02 33.3 +0.1
BURU Burvik 2.53 175 P Pn 18 02 33.3 +0.1
MOR8 Moi Rana 2.74 253 eSg Sg 18 03 19.4 +0.4
MOR8 Moi Rana 2.74 253 eSg Sg 18 03 19.4 +0.4
SNR=90
OUL Oulu 2.86 132 ePB Pb 18 02 42.6 -0.4
OUL eSB Sb 18 03 20.2 +1.8
OUL Oulu 2.86 132 Pb Pb 18 02 42.5 -0.4
OUL Sb Sb 18 03 20.2 +1.8
ARA0 ARCESS Array S 2.99 33 Pn Pn 18 02 39.5 -0.1
baz=199,slow=14
ARA0 ARCESS Array S 2.99 33 Pn Pn 18 02 39.5 -0.1
baz=199,slow=14
ARA0 ARCESS Array S 2.99 33 Pn Pn 18 02 39.5 -0.1
baz=199,slow=14
ARA0 ARCESS Array S 2.99 33 Pn Pn 18 02 39.5 -0.1
baz=199,slow=14
ARA0 ARCESS Array S 2.99 33 eP Pn 18 02 40.1 +0.4
ARA0 eS Sn 18 03 17.2 +1.0
ARA0 ARCESS Array S 2.99 33 Pn Pn 18 02 39.5 -0.1
SNR=50
ARA0 ARCESS Array S 2.99 33 P Pn 18 02 40.0 +0.4
ARA0 S Sn 18 03 17.1 +1.0
ARCES ARCESS Array B 2.99 33 Pn Pn 18 02 40.1 +0.4
comp=N,0.3nm,0.3s,baz=212,slow=13,SNR=24
ARCES Sn Sn 18 03 17.9 +1.8
comp=N,0.9nm,0.3s,baz=216,slow=23,SNR=16
VRF Varrio 3.42 75 eP Pn 18 02 46.7 +1.1
VRF eS Sn 18 03 28.8 +2.1
VRF Varrio 3.42 75 P Pn 18 02 46.6 +1.1
VRF S Sn 18 03 28.8 +2.1
MSF Maaselka 3.47 106 eP Pn 18 02 48.8 +2.6
MSF eS Sn 18 03 29.8 +1.8
MSF Maaselka 3.47 106 P Pn 18 02 48.7 +2.6
MSF S Sn 18 03 29.7 +1.8
KEV Kevo 3.50 37 ePB Pb 18 02 52.3 -1.4
KEV eS Sn 18 03 29.5 +1.0
KEV Kevo 3.50 37 Pb Pb 18 02 52.3 -1.4
KEV S Sn 18 03 29.5 +1.0
KU6 Riekki 3.75 102 eP Pn 18 02 52.6 +2.5
KU6 eS Sn 18 03 36.0 +1.3
KU6 Riekki 3.75 102 P Pn 18 02 52.5 +2.5
KU6 S Sn 18 03 36.0 +1.3
HUSU Husum 3.83 191 eP Pn 18 02 51.0 -0.2
HUSU eS Sn 18 03 35.4 -1.5
HUSU Husum 3.83 191 P Pn 18 02 51.0 -0.2
KJN Kajaani 4.13 134 eP Pn 18 02 56.2 +0.8
KJN eS Sn 18 03 44.6 +0.3
KJN Kajaani 4.13 134 P Pn 18 02 56.1 +0.8
KJN S Sn 18 03 44.6 +0.3
VAF Ylistaro 4.14 169 eP Pn 18 02 55.8 +0.5
VAF eS Sn 18 03 43.3 -1.0
VAF Ylistaro 4.14 169 P Pn 18 02 55.8 +0.5
APA0 Apatity Array 4.70 78 Pn Pn 18 03 01.4 -1.7
baz=288,slow=12
APA0 Apatity Array 4.70 78 Pn Pn 18 03 01.4 -1.7
baz=288,slow=12
APA0 Apatity Array 4.70 78 Pn Pn 18 03 01.4 -1.7
baz=288,slow=12
APA0 Apatity Array 4.70 78 Pn Pn 18 03 01.4 -1.7
baz=288,slow=12
APA0 Apatity Array 4.70 78 Pn Pn 18 03 01.4 -1.7
SNR=50
SUF Sumiainen 4.92 151 eP Pn 18 03 08.3 +2.1
SUF eS Sn 18 04 03.4 -0.4
SUF Sumiainen 4.92 151 P Pn 18 03 08.3 +2.1
SUF S Sn 18 04 03.4 -0.4
KEF Keuruu 5.23 159 eP Pn 18 03 12.2 +1.8
KEF eS Sn 18 04 09.8 -1.5
KEF Keuruu 5.23 159 P Pn 18 03 12.2 +1.8
KEF S Sn 18 04 09.8 -1.5
KAF Kangasniemi 5.51 153 eP Pn 18 03 15.5 +1.2
KAF eS Sn 18 04 16.6 -1.6
KAF Kangasniemi 5.51 153 P Pn 18 03 15.4 +1.2
KAF S Sn 18 04 16.6 -1.6
FIA0 FINESS Array S 6.10 156 Pn Pn 18 03 23.9 +1.6
baz=348,slow=14
FIA0 Sn Sn 18 04 32.7 0.0
baz=348,slow=28
FIA0 FINESS Array S 6.10 156 Pn Pn 18 03 23.9 +1.6
baz=348,slow=14
FIA0 Sn Sn 18 04 32.7 0.0
baz=348,slow=28
FIA0 FINESS Array S 6.10 156 Pn Pn 18 03 23.9 +1.6
baz=348,slow=14
FIA0 Sn Sn 18 04 32.7 0.0
baz=348,slow=28
FIA0 FINESS Array S 6.10 156 Pn Pn 18 03 23.9 +1.6
baz=348,slow=14
FIA0 Sn Sn 18 04 32.7 0.0
baz=348,slow=28
FIA0 FINESS Array S 6.10 156 Pn Pn 18 03 24.0 +1.6
SNR=50
FIA0 Sn Sn 18 04 32.7 0.0
SNR=50
FINES FINESS Array B 6.10 156 Pn Pn 18 03 23.6 +1.3
comp=N,0.1nm,0.3s,baz=347,slow=12,SNR=3.7
FINES Sn Sn 18 04 33.4 +0.7
comp=N,0.3nm,0.3s,baz=348,slow=21,SNR=7.5
NOA NORSAR Array B 7.41 219 Pn Pn 18 03 43.1 +2.8
comp=N,0.1nm,0.3s,baz=27,slow=20,SNR=3.0
NOA Sn Sn 18 05 02.0 -2.9
comp=N,0.1nm,0.3s,baz=288,slow=16,SNR=2.6
HFS Hagfors 7.68 208 Pn Pn 18 03 45.0 +0.9
baz=18,slow=12
HFS Sn Sn 18 05 13.6 +1.9
baz=27,slow=28
HFS Hagfors 7.68 208 Pn Pn 18 03 45.0 +0.9
baz=18,slow=12
HFS Sn Sn 18 05 13.6 +1.9
baz=27,slow=28
HFS Hagfors 7.68 208 Pn Pn 18 03 45.0 +0.9
baz=18,slow=12
HFS Sn Sn 18 05 13.6 +1.9
baz=27,slow=28
HFS Hagfors 7.68 208 Pn Pn 18 03 45.0 +0.9
baz=18,slow=12
HFS Sn Sn 18 05 13.6 +1.9
baz=27,slow=28
HFS Hagfors 7.68 208 Pn Pn 18 03 45.0 +0.9
SNR=50
HFS Sn Sn 18 05 13.6 +1.9
SNR=50

MEX 17 18:10:39.5±0.4, 16.54N×99.49W, h16km±999km, MD3.6, Near coast of Guerrero

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
ACX Acapulco 0.48 312 iP Pg 18 10 43.0 -6.2
ACX eS Sg 18 10 49.4 -6.4
CAIG El Cayaco 0.90 304 iP Pb 18 10 53.2 -3.6
CAIG eS Sb 18 11 04.9 -3.6
TLIG Tlapa 1.34 41 iP Pn 18 11 00.6 -3.2
TLIG eS Sn 18 11 15.6 -5.8
MEIG Mezcala 1.38 355 iP Pn 18 11 00.1 -4.1
MEIG eS Sn 18 11 16.6 -5.7
PLIG Platanillo 1.84 360 iP Pn 18 11 07.6 -3.0
PLIG iS Sn 18 11 28.8 -4.8
ARIG Puente Sto Nin 1.91 335 iP Pn 18 11 08.8 -2.7
ARIG eS Sn 18 11 30.8 -4.4
ZIIG Zihuatanejo 2.17 299 iP Pn 18 11 11.6 -3.4
ZIIG iS Sn 18 11 37.8 -3.7

IDC 17 18:13:00.3±1.9, 55.05S×27.58W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.6/16, mbtmp4.0/1, Error ellipse: s-maj=102.7km s-min=69.0km az=139.0, South Sandwich Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
TORD Torodi Ar. Bea 72.29 30 P P 18 24 27.4 0.0
0.9nm,0.7s,baz=200,slow=6.8,SNR=10
ILAR Eielson Array 149.27 313 PKPbc PKPbc 18 32 48.8 -0.5
2.2nm,0.8s,baz=128,slow=1.8,SNR=22
SONM Songino Array 150.87 85 PKPbc PKPbc 18 32 53.6 -0.3
0.7nm,0.8s,baz=217,slow=2.6,SNR=7.1

IDC 17 18:14:12.3±8.1, 7.06S×129.90E, h136km±84km, mb3.2/1, mb1 3.3/4, mb1mx3.0/28, mbtmp3.6/4, Error ellipse: s-maj=71.6km s-min=28.0km az=34.0, Banda Sea

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
BATI Baumata 6.92 243 P Pn 18 15 53.0 +1.7
2.5nm,0.3s,baz=65,slow=0.9,SNR=4.1
BATI S Sn 18 17 08.7 0.0
6.6nm,0.3s,baz=34,slow=22,SNR=14
WRA Warramunga Arr 13.52 162 P Pn 18 17 16.8 -1.9
0.5nm,0.3s,baz=339,slow=13,SNR=12
WRA S Sn 18 19 41.2 -6.9
0.6nm,0.3s,baz=334,slow=24,SNR=6.8
ASAR Alice Springs 16.96 167 P Pn 18 18 02.5 +1.0
0.3nm,0.3s,baz=346,slow=8.9,SNR=17
MKAR Makanchi Array 68.22 327 P P 18 24 58.0 -0.2
0.3nm,0.4s,baz=133,slow=7.5,SNR=6.0

WEL 17 18:26:03.9±0.1, 38.65S×178.08E, h30km±1km, ML3.5/4, 5C-4D, Error ellipse: s-maj=2.0km s-min=0.9km az=90.0, Off east coast of North Island

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CNGZ Carnagh Statio 0.19 32 ⇓P* Pb 18 26 10.3 +0.3
CNGZ S* Sb 18 26 16.7 +2.7
RIGZ Rimuhau 0.25 257 ⇓P* Pb 18 26 10.1 -0.7
RIGZ S* Sb 18 26 15.7 +0.3
PRGZ Paritu Road 0.31 209 ⇑P* Pb 18 26 11.0 -0.5
PRGZ S* Sn 18 26 17.9 -0.3
KNZ Kokohu 0.49 220 ⇓P* Pb 18 26 13.4 -0.7
KNZ S* Sn 18 26 21.9 -0.5
MHGZ Mahia Peninsul 0.52 195 ⇓P* Pb 18 26 14.3 -0.4
MHGZ S* Sn 18 26 23.3 0.0
MWZ Matawai 0.53 306 ⇑P* Pb 18 26 14.5 -0.3
MWZ AML AML 18 26 24.1
MWZ AML AML 18 26 24.2
MWZ AML AML 18 26 24.2
MWZ AML AML 18 26 24.2
RAGZ Rawiri 0.54 286 ⇑P* Pb 18 26 14.7 -0.4
PUZ Puketiti 0.59 14 ⇑P* Pb 18 26 15.7 -0.1
PUZ AML AML 18 26 26.3
PUZ AML AML 18 26 32.4
SNGZ Shannon Statio 0.59 257 ⇑P* Pb 18 26 15.5 -0.4
SNGZ S* Sn 18 26 25.4 +0.3
WHHZ Waihua 0.79 237 PN Pn 18 26 18.6 -0.4
RAHZ Arahi 0.82 251 PN Pn 18 26 19.0 -0.5
RAHZ SN Sn 18 26 31.2 +0.5
URZ Urewera 0.85 297 PN Pn 18 26 19.3 -0.6
URZ AML AML 18 26 32.3
URZ AML AML 18 26 34.6
HAZ Te Kaha 0.92 345 PN Pn 18 26 20.2 -0.6
NMHZ Naumai 1.09 245 PN Pn 18 26 23.4 +0.2
RRRZ Republican Roa 1.27 284 PN Pn 18 26 23.1 -2.5
CKHZ Cape Kidnapper 1.27 217 PN Pn 18 26 25.1 -0.6
MCHZ McNeill Hill 1.34 233 PN Pn 18 26 26.3 -0.3
BKZ Black Stump Fm 1.34 247 PN Pn 18 26 26.5 -0.2
BKZ AML AML 18 26 56.9
BKZ AML AML 18 27 04.9
BHHZ Black Hill Sta 1.78 241 PN Pn 18 26 32.3 -0.5
PNHZ Pukenui 1.93 228 PN Pn 18 26 33.9 -0.8
PRHZ Porangahau 1.96 214 PN Pn 18 26 32.0 -3.2
WNVZ Wahianoa 2.05 250 PN Pn 18 26 36.4 -0.2
WPVZ Whakapapa 2.05 253 PN Pn 18 26 36.7 +0.2
MTVZ Mangateitei 2.16 249 PN Pn 18 26 38.1 +0.1
DVHZ Dannevirke 2.22 221 PN Pn 18 26 36.9 -1.7
PRWZ Pori Road 2.51 220 PN Pn 18 26 39.9 -2.8
MRZ Mangatainoka R 2.79 223 PN Pn 18 26 44.1 -2.4
HOWZ Holdsworth Sta 2.99 221 PN Pn 18 26 46.6 -2.8
OGWZ Otaki Gorge 3.12 225 PN Pn 18 26 48.2 -2.9

IDC 17 18:38:15.9±1.8, 19.20S×176.88W, h0km, mb4.0/6, mb1 4.4/6, mb1mx3.9/30, mbtmp4.0/6, MS3.4/7, Ms1 3.4/7, ms1mx3.2/29, Error ellipse: s-maj=113.0km s-min=21.5km az=149.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AFI Afiamalu 7.18 44 LR LR 18 42 14.1
comp=Z,144nm,20.1s,baz=246,slow=33
RAO Raoul Island 10.06 185 LR LR 18 44 03.1
comp=Z,495nm,20.9s,baz=320,slow=34
DZM Mont Dzumac 15.87 257 LR LR 18 47 19.1
comp=Z,217nm,20.3s,baz=29,slow=34
URZ Urewera 19.70 194 LR LR 18 49 32.6
comp=Z,174nm,21.7s,baz=25,slow=34
HNR Honiara 24.43 290 LR LR 18 51 52.8
comp=Z,48nm,18.9s,baz=141,slow=33
PPT Papeete 25.95 91 LR LR 18 51 00.1
comp=Z,32nm,20.5s,baz=314,slow=29
STKA Stephens Creek 39.31 243 P P 18 45 47.4 +0.5
6.9nm,1.3s,baz=72,slow=6.4,SNR=2.3
STKA LR LR 19 00 39.4
comp=Z,70nm,18.2s,baz=20,slow=34
WRA Warramunga Arr 45.84 261 P P 18 46 40.1 0.0
0.4nm,0.7s,baz=97,slow=8.7,SNR=6.6
ASAR Alice Springs 45.86 255 P P 18 46 39.6 -0.7
1.0nm,0.8s,baz=98,slow=8.2,SNR=16
NVAR Mina Array Bea 79.36 43 P P 18 50 24.9 +0.8
1.1nm,0.8s,baz=231,slow=8.8,SNR=6.9
TXAR Lajitas Array 85.47 57 P P 18 50 55.2 -0.9
0.4nm,0.6s,baz=245,slow=5.4,SNR=4.3
ILAR Eielson Array 86.82 12 P P 18 51 01.9 +0.1
4.1nm,1.3s,baz=207,slow=5.8,SNR=4.5
GERES GERESS Array B 149.21 346 PKPbc PKPbc 18 58 05.8 -0.8
0.4nm,0.6s,baz=18,slow=3.5,SNR=2.9

*TIR **17** 18:38:29.8, 40.13N×19.87E, h11km, ML3.5*
*IDC **17** 18:38:37.3±1.8, 40.27N×19.73E, h0km, mb3.4/8, mb1 3.5/11, mb1mx3.4/39, mbtmp3.4/11, ML3.2/5, Error ellipse: s-maj=30.7km s-min=18.6km az=32.0*
*SOF **17** 18:38:38.5, 40.05N×19.65E, h10km, MD2.9*
*ATH **17** 18:38:38.3, 40.14N×19.71E, h12km±1km, MD3.7/38*
*SKO **17** 18:38:38.6, 40.13N×19.61E, h0km, M2.8, ML3.4*
*THE **17** 18:38:39.6, 40.16N×19.72E, h0km±2km, ML3.3/6, Error ellipse: s-maj=2.7km s-min=1.2km az=279.0*
*PDG **17** 18:38:39.0±0.6, 40.16N×19.68E, h4km±1km, ML3.3/9, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
*CSEM **17** 18:38:39.1±0.1, 40.14N×19.69E, h2km, ML3.5, Error ellipse: s-maj=4.3km s-min=2.4km az=61.0*
ISC 17 18:38:38.7±1.0, 40.14N±0.01×19.74E±0.02, h7km±7km, n206, σ1.50/275, mb3.5/7, 20C-8D, Albania

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res
SRN Sarande 0.33 142 iPG Pg 18 38 44.6 -0.6
SRN iSG Sg 18 38 49.5 -0.1
SRN Sarande 0.33 142 iPg Pg 18 38 44.6 -0.6
SRN iSg Sg 18 38 49.5 -0.1
VLO Vlora 0.37 331 iPG Pb 18 38 47.6 0.0
VLO iSG Sb 18 38 55.6 +2.0
VLO Vlora 0.37 331 iPg Pb 18 38 47.6 0.0
VLO iSg Sb 18 38 55.7 +2.0
KEK Kerkira 0.43 173 P Pg 18 38 47.3 +0.2
KEK S Sb 18 38 55.0 -0.3
KEK Kerkira 0.43 173 ePB Pg 18 38 47.5 +0.4
KEK Kerkira 0.43 173 P Pg 18 38 47.3 +0.2
KEK S Sb 18 38 55.0 -0.3
IGT Igoumenitsa 0.76 143 P Pg 18 38 52.7 -0.7
IGT S Sg 18 39 02.3 -1.0
IGT Igoumenitsa 0.76 143 ePB Pg 18 38 52.5 -0.9
IGT eSB Sg 18 39 03.9 +0.6
IGT Igoumenitsa 0.76 143 P Pg 18 38 52.7 -0.7
IGT S Sg 18 39 02.3 -1.0
IGT eSb Sg 18 39 03.9 +0.6
KBN Korca 0.94 59 iSG Sg 18 39 07.1 -1.8
KBN iPG Pg 18 38 55.8 -1.0
KBN Korca 0.94 59 iSg Sg 18 39 07.1 -1.8
JAN Janina 0.99 119 P Pg 18 38 57.1 -0.6
JAN S Sn 18 39 13.2 0.0
JAN Janina 0.99 119 ePB Pg 18 38 57.3 -0.4
JAN eSB Sg 18 39 11.0 +0.5
JAN Janina 0.99 119 P Pg 18 38 57.1 -0.6
JAN eSb Sg 18 39 11.0 +0.5
JAN S Sn 18 39 13.2 0.0
FNA Florina 1.41 62 P Pn 18 39 04.2 -0.5
FNA S Sg 18 39 25.6 +1.7
FNA Florina 1.41 62 ePG Pn 18 39 04.3 -0.5
FNA eSB Sg 18 39 24.7 +0.8
FNA Florina 1.41 62 P Pn 18 39 04.2 -0.5
FNA eSb Sg 18 39 24.7 +0.8
FNA S Sg 18 39 25.6 +1.7
DSL Palaion Diasel 1.46 133 P Pb 18 39 06.5 +0.4
DSL S Sg 18 39 27.5 +2.0
DSL Palaion Diasel 1.46 133 P Pb 18 39 06.5 +0.4
DSL S Sg 18 39 27.5 +2.0
LKD2 Lefkada island 1.53 152 P Pb 18 39 07.8 +0.4
LKD2 S Sg 18 39 29.4 +1.5
LKD2 Lefkada island 1.53 152 ePB Pb 18 39 07.7 +0.4
LKD2 eSB Sg 18 39 28.4 +0.5
LKD2 Lefkada island 1.53 152 ePb Pb 18 39 07.7 +0.4
LKD2 eSb Sg 18 39 28.4 +0.5
LKD2 S Sg 18 39 29.4 +1.5
KZN Kozani 1.57 83 P Pb 18 39 08.0 -0.1
KZN S Sg 18 39 29.6 +0.5
KZN Kozani 1.57 83 ePB Pb 18 39 08.4 +0.3
KZN Kozani 1.57 83 P Pb 18 39 08.0 -0.1
KZN Kozani 1.57 83 ePb Pb 18 39 08.4 +0.3
KZN S Sg 18 39 29.6 +0.5
PHP Peshkopia 1.63 19 iPN Pb 18 39 09.0 -0.1
PHP iSN Sg 18 39 40.9 +10
PHP Peshkopia 1.63 19 iPn Pb 18 39 09.0 -0.1
PHP iSn Sg 18 39 40.9 +10
THL Klokotos Trika 1.85 107 P Pb 18 39 12.3 -0.5
THL S Sg 18 39 38.0 -0.1
THL Klokotos Trika 1.85 107 ePN Pb 18 39 12.3 -0.5
THL Klokotos Trika 1.85 107 P Pb 18 39 12.3 -0.5
THL S Sg 18 39 38.0 -0.1
ULC Ulcinj 1.86 349⇓iPn Pn 18 39 12.1 +1.2
ULC eSn Sg 18 39 39.6 +1.2
ULC Ulcinj 1.86 349⇓iPn Pn 18 39 12.1 +1.2
ULC eSn Sg 18 39 39.6 +1.2
PE1 Pezze di Greco 1.88 291 ePn Pn 18 39 15.4 +0.6
PDO Prodromos 1.91 143 P Pn 18 39 12.4 +0.8
PDO S Sb 18 39 38.3 +0.5
PDO Prodromos 1.91 143 ePN Pn 18 39 12.8 +1.2
PDO Prodromos 1.91 143 P Pn 18 39 12.4 +0.8
PDO Prodromos 1.91 143 ePn Pn 18 39 12.8 +1.2
PDO S Sb 18 39 38.3 +0.5
TAR1 Taranto 1.91 282 ePn Pg 18 39 17.2 +1.8
EVR Evrytania 2.02 127 P Pb 18 39 15.3 -0.5
EVR S Sb 18 39 42.0 +0.9
EVR Evrytania 2.02 127 ePG Pb 18 39 15.4 -0.4
EVR Evrytania 2.02 127 P Pb 18 39 15.3 -0.5
EVR S Sb 18 39 42.0 +0.9
VLS Valsamata 2.07 161 P Pn 18 39 14.0 +0.1
VLS S Sg 18 39 46.4 +1.1
VLS Valsamata 2.07 161 ePN Pn 18 39 15.3 +1.4
VLS Valsamata 2.07 161 P Pn 18 39 14.0 +0.1
VLS Valsamata 2.07 161 ePn Pn 18 39 15.3 +1.4
DRME Dracevica, Mon 2.08 349⇑iPn Pn 18 39 15.0 +1.0
DRME eSn Sg 18 39 44.9 -0.8
DRME Dracevica, Mon 2.08 349⇑iPn Pn 18 39 15.0 +1.0
DRME eSn Sg 18 39 44.9 -0.8
LIT Litokhoron 2.11 90 P Pb 18 39 17.8 +0.5
LIT Litokhoron 2.11 90 ePN Pn 18 39 16.3 +1.8
LIT Litokhoron 2.11 90 ePn Pn 18 39 16.3 +1.8
LIT Litokhoron 2.11 90 P Pb 18 39 17.8 +0.5
MAKR Makrakomi, Fth 2.17 121 ePN Pb 18 39 17.6 -0.7
MAKR Makrakomi, Fth 2.17 121 ePn Pb 18 39 17.6 -0.7
SKO Skopje 2.24 35 P Pn 18 39 17.3 +1.2
SKO S Sb 18 39 48.1 +0.8
SKO Skopje 2.24 35 iPn Pn 18 39 17.8 +1.7
SKO eSn Sg 18 39 50.0 -0.6
SKO eLg Lg 18 39 51.9
comp=E,556nm,1.0s
SKO eLg Lg 18 39 52.0
comp=N,289nm,0.9s
SKO Skopje 2.24 35 P Pn 18 39 17.3 +1.2
SKO Skopje 2.24 35 iPn Pn 18 39 17.8 +1.7
SKO S Sb 18 39 48.1 +0.8
SKO eSn Sg 18 39 49.9 -0.6
SKO eLg Lg 18 39 52.0
comp=N,289nm,0.9s
BUM Brajici-Budva 2.25 344⇑iPn Pn 18 39 17.9 +1.6
BUM eSn Sb 18 39 49.2 +1.5
BUM Brajici-Budva 2.25 344⇑iPn Pn 18 39 17.9 +1.6
BUM eSn Sb 18 39 49.2 +1.5
AGG Agios Georgios 2.30 118 P Pn 18 39 18.9 +1.9
AGG Agios Georgios 2.30 118 ePN Pb 18 39 19.2 -1.3
AGG Agios Georgios 2.30 118 P Pn 18 39 18.9 +1.9
AGG Agios Georgios 2.30 118 ePn Pb 18 39 19.2 -1.3
PDG Podgorica 2.31 351⇓iPn Pn 18 39 19.0 +1.8
PDG eSn Sb 18 39 50.9 +1.4
TTG Podgorica 2.31 351⇓iPn Pn 18 39 19.0 +1.8
TTG eSn Sb 18 39 50.9 +1.4
EFP Efpalio 2.40 135 ePN Pn 18 39 20.1 +1.7
EFP Efpalio 2.40 135 ePn Pn 18 39 20.1 +1.7
PVY Plav 2.46 4⇑iPn Pb 18 39 21.6 -1.6
PVY eSn Sb 18 39 53.8 +0.1
PVY Plav 2.46 4⇑iPn Pb 18 39 21.6 -1.6
PVY eSn Sb 18 39 53.8 +0.1
VAY Valandovo 2.46 60 P Pn 18 39 20.3 +1.2
VAY Valandovo 2.46 60 iP Pn 18 39 20.8 +1.7
VAY Valandovo 2.46 60 iPn Pn 18 39 21.0 +1.9
VAY eSn Sg 18 39 57.2 -0.4
VAY eLg Lg 18 40 03.8
comp=N,112nm,0.8s
VAY eLg Lg 18 40 05.1
comp=E,120nm,1.0s
VAY Valandovo 2.46 60 iP Pn 18 39 20.8 +1.7
VAY eLg Lg 18 40 03.7
comp=E,112nm,0.8s
RLS Riolos of Patr 2.48 147 ePN Pn 18 39 21.0 +1.5
RLS Riolos of Patr 2.48 147 ePn Pn 18 39 21.0 +1.5
HCY Herceg Novi 2.48 338⇑iPn Pn 18 39 21.0 +1.4
HCY eSn Sb 18 39 54.8 +0.4
HCY Herceg Novi 2.48 338⇑iPn Pn 18 39 21.0 +1.4
HCY eSn Sb 18 39 54.8 +0.4
TIP Timpagrande 2.49 248 P Pn 18 39 21.2 +1.5
TIP Timpagrande 2.49 248 P Pn 18 39 21.2 +1.5
KALE Kalithea 2.56 132 ePN Pn 18 39 22.7 +2.1
KALE Kalithea 2.56 132 ePn Pn 18 39 22.7 +2.1
LAKA Lakka 2.58 137 ePN Pn 18 39 22.7 +1.8
LAKA Lakka 2.58 137 ePn Pn 18 39 22.7 +1.8
HORT Hortiatis 2.61 79 ePN Pn 18 39 23.0 +1.7

HORT	Hortiatis	2.61	79	ePn	Pn	18 39 23.0	+1.7
KNT	Kendrikon	2.61	66	P	Pn	18 39 23.0	+1.7
KNT	Kendrikon	2.61	66	ePN	Pn	18 39 23.8	+2.5
KNT				eSN	Sn	18 39 55.9	+2.6
KNT	Kendrikon	2.61	66	P	Pn	18 39 23.0	+1.7
KNT	Kendrikon	2.61	66	ePn	Pn	18 39 23.8	+2.5
KNT				eSn	Sn	18 39 55.9	+2.6
AXAR	Agios Charalam	2.65	120	ePB	Pn	18 39 23.2	+1.4
AXAR	Agios Charalam	2.65	120	ePb	Pn	18 39 23.2	+1.4
DRO	Drossia	2.67	144	ePB	Pn	18 39 23.0	+0.8
DRO	Drossia	2.67	144	ePb	Pn	18 39 23.0	+0.8
NKME	Niksic	2.69	348	⇓/Pn	Pn	18 39 24.4	+2.0
NKME				eSn	Sb	18 39 59.9	-0.4
NKME	Niksic	2.69	348	⇓/Pn	Pn	18 39 24.4	+2.0
NKME				eSn	Sb	18 39 59.9	-0.4
BEY	Berane	2.73	2	⇑/Pn	Pn	18 39 24.8	+1.8
BEY				eSn	Sb	18 40 00.6	-0.9
IVA	Berane	2.73	2	⇑/Pn	Pn	18 39 24.8	+1.8
IVA				eSn	Sb	18 40 00.6	-0.9
DSF	Desfina	2.77	128	ePN	Pn	18 39 24.9	+1.3
DSF	Desfina	2.77	128	ePn	Pn	18 39 24.9	+1.3
XOR	Xorichti	2.78	105	P	Pn	18 39 25.0	+1.4
XOR	Xorichti	2.78	105	ePN	Pn	18 39 25.2	+1.6
XOR	Xorichti	2.78	105	ePn	Pn	18 39 25.2	+1.6
XOR	Xorichti	2.78	105	P	Pn	18 39 25.0	+1.4
CDT	Castel del Mon	2.80	291	ePn	Pn	18 39 26.3	+2.4
CDT				Sn	Sb	18 40 02.2	-1.2
KLV	Kalavryta, Ach	2.82	137	ePB	Pn	18 39 26.2	+2.0
KLV	Kalavryta, Ach	2.82	137	ePb	Pn	18 39 26.2	+2.0
NEO	Neokhori	2.82	106	ePN	Pn	18 39 25.9	+1.8
NEO	Neokhori	2.82	106	ePn	Pn	18 39 25.9	+1.8
SOH	Sokhos	2.84	75	ePN	Pn	18 39 26.1	+1.6
SOH				eSN	Sn	18 40 01.0	+2.0
SOH	Sokhos	2.84	75	ePn	Pn	18 39 26.1	+1.6
SOH				eSn	Sn	18 40 01.0	+2.0
PLG	Polygyros	2.85	84	ePN	Pn	18 39 25.7	+1.1
PLG	Polygyros	2.85	84	ePn	Pn	18 39 25.7	+1.1
LKR	Lokris	2.94	119	ePN	Pn	18 39 27.6	+1.9
LKR	Lokris	2.94	119	ePn	Pn	18 39 27.6	+1.9
SMIA	Simia	2.97	114	ePN	Pn	18 39 27.5	+1.3
SMIA	Simia	2.97	114	ePn	Pn	18 39 27.5	+1.3
GUR	Goura	3.00	137	ePN	Pn	18 39 28.4	+1.7
GUR	Goura	3.00	137	ePn	Pn	18 39 28.4	+1.7
AMT	Artemida-Makis	3.03	149	ePN	Pn	18 39 28.0	+1.0
AMT	Artemida-Makis	3.03	149	ePn	Pn	18 39 28.0	+1.0
PAIG	Paliouri	3.04	93	ePN	Pn	18 39 29.0	+1.9
PAIG	Paliouri	3.04	93	ePn	Pn	18 39 29.0	+1.9
SKIA	Skiathos	3.04	108	ePN	Pn	18 39 28.7	+1.5
SKIA	Skiathos	3.04	108	ePn	Pn	18 39 28.7	+1.5
KKB	Krupnik	3.06	55	i P	Pn	18 39 30.1	+2.6
KKB				eS	Sn	18 40 07.8	+3.4
KKB	Krupnik	3.06	55	i P	Pn	18 39 30.1	+2.6
KKB				eS	Sn	18 40 07.8	+3.4
SRS	Serrai	3.09	70	ePB	Pn	18 39 30.3	+2.4
SRS	Serrai	3.09	70	ePb	Pn	18 39 30.3	+2.4
UPM	Unac-Piva	3.12	349	⇑/Pn	Pn	18 39 29.4	+0.9
UPM				eSn	Sn	18 40 09.8	+3.8
UPM	Unac-Piva	3.12	349	⇑/Pn	Pn	18 39 29.4	+0.9
UPM				eSn	Sn	18 40 09.8	+3.8
SJES	Sjenica	3.12	3	ePn	Pn	18 39 30.5	+2.1
STON	Ston	3.12	331	ePn	Pn	18 39 27.5	-0.9
STON				Sn	Sn	18 40 04.8	-1.0
STON	Ston	3.12	331	ePn	Pn	18 39 27.4	-0.9
STON				Sn	Sn	18 40 04.8	-1.0
OUR	Ouranopolis	3.26	85	ePN	Pn	18 39 31.7	+1.6
OUR	Ouranopolis	3.26	85	ePn	Pn	18 39 31.7	+1.6
LTK	Loutraki	3.29	129	ePN	Pn	18 39 32.1	+1.5
LTK	Loutraki	3.29	129	ePn	Pn	18 39 32.1	+1.5
MRKA	Markates	3.31	114	ePN	Pn	18 39 32.0	+1.1
MRKA	Markates	3.31	114	ePn	Pn	18 39 32.0	+1.1
AOS	Alonnisos	3.34	106	ePN	Pn	18 39 33.2	+1.9
AOS	Alonnisos	3.34	106	ePn	Pn	18 39 33.2	+1.9
MMB	Musomiste	3.35	63	i P	Pn	18 39 33.5	+2.0
MMB				eS	Sn	18 40 13.6	+2.0
MMB	Musomiste	3.35	63	⇑/P	Pn	18 39 33.2	+1.7
MMB	Musomiste	3.35	63	i P	Pn	18 39 33.5	+2.0
MMB				eS	Sn	18 40 13.6	+2.0
NVR	Nevrokopi	3.36	68	ePN	Pn	18 39 34.1	+2.5
NVR	Nevrokopi	3.36	68	ePn	Pn	18 39 34.1	+2.5
ITM	Ithomi	3.42	149	ePN	Pn	18 39 33.8	+1.4
ITM	Ithomi	3.42	149	ePn	Pn	18 39 33.8	+1.4
IVAS	Ivanjica	3.44	5	ePn	Pn	18 39 33.5	+0.7
VTS	Vitosha	3.58	46	i P	Pn	18 39 37.2	+2.5
VTS	Vitosha	3.58	46	⇑/P	Pb	18 39 39.0	-3.4
VTS	Vitosha	3.58	46	i P	Pn	18 39 37.2	+2.5
PYL	PYLOS	3.60	153	ePN	Pn	18 39 36.7	+1.8
PYL	PYLOS	3.60	153	ePn	Pn	18 39 36.7	+1.8
KAVA	Kavala	3.74	75	ePN	Pn	18 39 38.9	+2.1
KAVA	Kavala	3.74	75	ePn	Pn	18 39 38.9	+2.1
DID	Didima	3.80	133	ePN	Pn	18 39 39.0	+1.4
DID	Didima	3.80	133	ePn	Pn	18 39 39.0	+1.4
GRUS	Gruza	3.81	11	ePn	Pn	18 39 42.0	+4.2
DIVS	Divibare	3.96	3	i Pn	Pn	18 39 40.3	+0.4
BOLS	Boljevac	4.04	23	ePn	Pn	18 39 41.2	+0.3
RZN	Rozhen	4.08	66	i P	Pn	18 39 44.7	+3.1
RZN	Rozhen	4.08	66	i P	Pn	18 39 44.7	+3.1
TRUS	Trudelj	4.11	7	ePn	Pn	18 39 40.8	-1.1
VLI	Veliai	4.24	143	ePN	Pn	18 39 45.9	+2.2
VLI	Veliai	4.24	143	ePn	Pn	18 39 45.9	+2.2
MPEP	Malo Peshtene	4.39	42	i P	Pn	18 39 51.0	+5.3
MPEP	Malo Peshtene	4.39	42	i P	Pn	18 39 51.0	+5.3
TEKS	Tekeris	4.41	358	ePn	Pn	18 39 45.0	-1.0
KYTH	Kithira	4.65	145	ePN	Pn	18 39 51.8	+2.5
KYTH	Kithira	4.65	145	ePn	Pn	18 39 51.8	+2.5
ALN	Alexandroupoli	4.87	79	ePN	Pn	18 39 54.6	+2.3
ALN	Alexandroupoli	4.87	79	ePn	Pn	18 39 54.6	+2.3
FGSL	Fruska Gora	5.01	1	ePn	Pn	18 39 53.7	-0.6
UDBI	Udbina	5.28	327	i Pn	Pn	18 39 59.4	+1.4
UDBI				Sn	Sn	18 40 59.1	+0.1
UDBI	Udbina	5.28	327	i Pn	Pn	18 39 59.3	+1.4
UDBI				Sn	Sn	18 40 59.1	+0.1
BZS	Buzias	5.64	14	⇑/P	Pn	18 40 04.3	+1.4
JMB	Yambol	5.66	64	⇑/P	Pn	18 40 03.7	+0.6
NVLJ	Novalja	5.70	322	ePn	Pn	18 40 02.9	-0.9
NVLJ				Sn	Sn	18 41 08.3	-1.0
NVLJ	Novalja	5.70	322	ePn	Pn	18 40 02.8	-0.9
NVLJ				Sn	Sn	18 41 08.3	-1.0
GZR	Gura Zlata	5.70	22	⇑/P	Pn	18 40 06.4	+2.6
BOJS	Bojanci	6.29	330	i Pn	Pn	18 40 12.4	+0.6
BOJS				eSn	Sn	18 41 23.1	-0.7
IDI	Anoyia	6.34	138	Pn	Pn	18 40 13.6	+1.0
	comp=E,0.4nm,0.3s,baz=108,slow=20,SNR=2.3						
IDI				Sn	Sn	18 41 21.3	-3.9
	comp=E,0.8nm,0.3s,baz=78,slow=19,SNR=4.7						
INCR	INCERC-Sediu C	6.41	46	⇓/P	Pn	18 40 21.4	+7.9
VISS	Visnje	6.70	329	ePn	Pn	18 40 17.8	+0.4
VISS				i Sn	Sn	18 41 32.8	-1.2
MLR	Muntele Rosu	7.03	38	⇑/P	Pn	18 40 26.6	+4.5
MLR	Muntele Rosu	7.03	38	Pn	Pn	18 40 22.1	+0.1
	baz=225,slow=14						
JAVS	Javornik	7.09	326	i Pn	Pn	18 40 22.8	-0.1
JAVS				i Sn	Sn	18 41 42.7	-1.0
PERS	Pernice	7.31	334	i Pn	Pn	18 40 25.6	-0.3
PERS				eSn	Sn	18 41 46.0	-3.0
PLOR	Plostina	7.63	39	⇑/P	Pn	18 40 34.4	+4.2
VRI	Vrincioaia	7.68	40	⇑/P	Pn	18 40 35.4	+4.5
MOTA	Moosalm	9.53	322	⇓/Pn	Pn	18 40 56.1	-0.2
MOTA	Moosalm	9.53	322	Pn	Pn	18 40 56.1	-0.2
GERES	GERESS Array B	9.71	336	Pn	Pn	18 40 56.9	-1.9
	comp=E,0.1nm,0.3s,baz=162,slow=14,SNR=4.7						
ONI	Oni	17.96	74	P	P	18 42 51.8	+2.4
HFS	Hagfors	20.37	351	P	P	18 43 14.8	-0.7
	comp=E,1.4nm,0.6s,baz=162,slow=11,SNR=5.5						
EKA	Eskdalemuir Ar	21.48	323	P	P	18 43 27.3	-0.4
	comp=E,1.9nm,1.0s,baz=121,slow=8.0,SNR=4.0						
NB2	NORSAR Subarra	21.57	349	P	P	18 43 27.4	-1.2
	comp=Z,1.6nm,0.8s,baz=160,slow=11						
NB2	NORSAR Subarra	21.57	349	P	P	18 43 27.4	-1.2
	comp=Z,1.6nm,0.8s,SNR=3.5						
NOA	NORSAR Array B	21.57	349	P	P	18 43 27.5	-1.1
	comp=Z,0.7nm,0.5s,baz=161,slow=11,SNR=3.7						
FINES	FINESS Array B	21.68	8	P	P	18 43 27.6	-2.1
	comp=Z,0.9nm,0.7s,baz=189,slow=26,SNR=3.1						
MKAR	Makanchi Array	44.82	60	P	P	18 46 50.5	-2.7
	comp=Z,0.6nm,0.7s,baz=270,slow=6.1,SNR=9.1						
ZALV	Zalesovo Beam	44.86	49	P	P	18 46 51.6	-1.7
	comp=Z,0.9nm,0.6s,baz=283,slow=9.2,SNR=4.4						
SONM	Songino Array	59.69	51	P	P	18 48 44.5	+0.7
	comp=Z,0.2nm,0.6s,baz=283,slow=13,SNR=2.7						
YKA	Yellowknife Ar	71.34	339	P	P	18 49 57.7	-0.9
	comp=Z,0.2nm,0.8s,baz=45,slow=6.2,SNR=3.1						

IDC 17 18:44:57.4±7.7,25°.50S×179°.86W,h461km±56km,mb3.4/4, mb1 3.5/6,mb1mx3.2/36,mbtmp4.3/6,Error ellipse: s-maj=108.6km s-min=26.0km az=42.0

ISC 17 18:45:01.3±3.9,25°.95S±0°.4×179°.8E±0°.4,h475km,n19, σ0s.74/19,mb3.9/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	12.50	190	P	P	18 47 45.1	0.0
	1.5nm,0.3s,baz=294,slow=3.0,SNR=6.1						
DZM	Mont Dzumac	12.80	285	P	P	18 47 48.9	+0.1
	0.6nm,0.3s,baz=96,slow=13,SNR=11						
EIDS	Eidsvold	25.88	265	P	P	18 49 55.1	+1.0
	baz=28,SNR=10.0						
RMQ	Roma	27.83	262	P	P	18 50 13.1	+1.8
	baz=30,SNR=29						
CMSA	Cobar Meteorol	30.35	251	P	P	18 50 33.8	+0.6
	baz=32,SNR=6.2						
QLP	Quilpie	31.84	261	P	P	18 50 46.5	+0.4
	baz=34,SNR=13						
MTSU	Mount Surprise	33.72	276	P	P	18 51 03.3	+1.0
	baz=35,SNR=5.3						
STKA	Stephens Creek	33.84	251	P	P	18 51 03.5	+0.3
	1.8nm,0.5s,baz=104,slow=10,SNR=9.9						
STKA	Stephens Creek	33.84	251	P	P	18 51 03.5	+0.3
	baz=36,SNR=8.6						
HTT	Hallett	36.12	248	P	P	18 51 22.3	+0.1
	baz=38,SNR=4.5						
QIS	Mount Isa	37.22	270	P	P	18 51 31.5	0.0
	baz=39,SNR=3.2						
ASAR	Alice Springs	41.57	263	P	P	18 52 06.5	-0.2
	3.9nm,0.4s,baz=94,slow=7.7,SNR=177						
WRA	Warramunga Arr	42.13	268	P	P	18 52 10.6	-0.6
	2.1nm,0.5s,baz=103,slow=7.9,SNR=47						
WRKA	Warakurna	46.25	259	P	P	18 52 42.4	-0.8
	baz=48,SNR=5.3						
KDU	Kakadu	46.33	277	P	P	18 52 43.0	-0.8
	baz=48,SNR=6.9						
MTN	Manton Dam	47.47	276	P	P	18 52 52.4	0.0
	baz=49,SNR=5.0						
KNRA	Kununurra	48.53	272	P	P	18 53 00.5	+0.1
	baz=50,SNR=5.3						
MORW	Morawa	56.03	251	P	P	18 53 53.3	-1.0
	baz=58,SNR=3.4						
QSPA	South Pole Qui	64.15	180	P	P	18 54 48.4	+0.4
	0.5nm,0.5s,baz=51,slow=0.9,SNR=5.3						

ISCJB 17 18:49:22.0±0.6,26°.66N±0°.08×125°.85E±0°.08, h168km±6km,mb2.9/5,Error ellipse: s-maj=17.0km s-min=5.3km az=140.8

IDC 17 18:49:22.8±2.2,26°.77N×125°.89E,h162km±23km,mb2.8/5, mb1 3.0/6,mb1mx2.8/45,mbtmp3.2/6,Error ellipse: s-maj=33.8km s-min=16.4km az=68.0

JMA 17 18:49:23.5±0.4,26°.64N×125°.85E,h163km,M3.6

ISC 17 18:49:22.7±0.9,26°.73N±0°.10×125°.83E±0°.08,h164km±9km, n23,σ1s.07/31,mb3.0/5,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.95	115	P	Pn	18 49 49.2	+0.8
JKE				eS	Sn	18 50 08.3	+0.2
JAGN	Aguni-jima	1.28	96	P	Pn	18 49 51.7	+0.6
JAGN				eS	Sn	18 50 12.9	-0.1
JJT2	Tamagusuku 2	1.82	108	P	Pn	18 49 57.8	+1.1
JIKM	Ikemajima	1.87	196	eS	Sn	18 50 23.5	-0.4
JIH	Iheya	1.94	80	P	Pn	18 49 58.8	+0.9
JIH				eS	Sn	18 50 24.2	-1.0
JNTH	Nagotoyohara	1.98	95	P	Pn	18 49 59.3	+0.9
JNTH				eS	Sn	18 50 24.8	-1.1
JIRB	Irabujima	1.98	197	P	Pn	18 49 58.3	-0.2
JIRB				eS	Sn	18 50 24.7	-1.4
JOGS	Gusukube	1.99	191	eS	Sn	18 50 25.5	-0.9
JOW	Kunigami	2.19	87	P	Pn	18 50 01.5	+0.7
JOW				eS	Sn	18 50 29.1	-1.3
JOW	Kunigami	2.19	87	P	Pn	18 50 01.6	+0.7
	3.8nm,0.3s,baz=159,slow=26,SNR=73						
JOW				S	Sn	18 50 29.0	-1.3
	3.3nm,0.3s,baz=132,slow=24,SNR=22						
JTJ	Tarama	2.31	206	eS	Sn	18 50 31.2	-1.7
JISG	Ishigakijimahi	2.53	213	P	Pn	18 50 04.9	0.0
JISG				eS	Sn	18 50 35.1	-2.4
JOKE	Okinoerabujima	2.53	75	P	Pn	18 50 05.1	+0.3
JTK	Tokunoshima	2.98	69	P	Pn	18 50 10.2	-0.1
IRIF	Iriomote-Funau	3.04	219	P	Pn	18 50 12.8	+1.7
JAMN	Amaminishikomi	3.34	62	P	Pn	18 50 14.5	-0.3
JAM	Amami Oshima	3.75	63	P	Pn	18 50 19.4	-0.7
JMZ	Minamidaito 2	4.93	99	P	Pn	18 50 35.2	-0.2
SONM	Songino Array	26.00	329	P	P	18 54 42.1	+1.7
	0.3nm,0.5s,baz=139,slow=10,SNR=5.2						
MKAR	Makanchi Array	39.60	312	P	P	18 56 37.1	-0.9
	0.1nm,0.6s,baz=98,slow=10.0,SNR=3.8						
WRA	Warramunga Arr	47.12	169	P	P	18 57 38.0	-0.4
	0.2nm,0.5s,baz=351,slow=8.4,SNR=2.9						
ASAR	Alice Springs	50.70	170	P	P	18 58 07.0	+1.3
	0.2nm,0.4s,baz=358,slow=14,SNR=11						
YKA	Yellowknife Ar	78.97	24	P	P	19 01 08.0	+0.1
	0.1nm,0.5s,baz=302,slow=5.1,SNR=3.6						

IGQ 17 18:53:45±0.7,3°.92S×79°.50W,h13km±95km,Mb4.3,1C-2D, Error ellipse: s-maj=7.0km s-min=3.5km az=98.8,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	Macas	2.10	38	P	Pn	18 54 19.8	-0.3
MACE	Macas	2.10	38	S	Sn	18 54 44.7	-1.7
IGUA	Igualata	2.56	20	P	Pn	18 54 26.1	-0.9
ARRY	Arrayan	2.62	24	P	Pn	18 54 27.8	+0.3
PAT1	Patacocha	2.62	24	P	Pn	18 54 27.7	0.0
BBIL	Ulba Tungurahu	2.65	22	⇓P	Pn	18 54 27.2	-0.8
JUI6	Juive	2.69	23	P	Pn	18 54 28.6	+0.3
ULBA	Ulba	2.69	24	P	Pn	18 54 28.6	+0.2
BULB	Ulba Tungurahu	2.70	24	⇑P	Pn	18 54 28.6	0.0
PISA	Pisayambo	3.05	21	P	Pn	18 54 33.6	-0.1
PECV	Mancha de Ca P	3.17	350	P	Pn	18 54 35.5	+0.9
CAMI	Rancho Maria	3.37	17	P	Pn	18 54 37.4	-0.6
TAMB	Tambo	3.40	19	P	Pn	18 54 37.1	-1.3
VC1	Cotopaxi 1	3.44	19	P	Pn	18 54 38.0	-0.9
JUA2	San Juan 2	3.79	14	P	Pn	18 54 45.9	+2.2
TERV	Terraza Guagua	3.83	14	P	Pn	18 54 45.4	+1.0
GGP	Refugio Guagua	3.83	14	P	Pn	18 54 44.8	+0.3
MAG1	Magdalena	3.83	356	P	Pn	18 54 42.6	-1.1
PINO	Pino	3.84	13	P	Pn	18 54 44.5	-0.1
OTAV	Otavalo	4.26	14	⇓P	Pn	18 54 49.8	-0.4

IDC 17 19:09:47.4±1.1,1°.68S×99°.27E,h0km,mb3.7/10, mb1 3.9/11,mb1mx3.7/43,mbtmp3.7/11,ML3.0/1,Error ellipse: s-maj=41.7km s-min=18.8km az=53.0

ISCJB 17 19:09:51.3±0.6,1°.50S±0°.06×99°.47E±0°.06,h30km, mb3.8/9,Error ellipse: s-maj=10.7km s-min=6.6km az=136.9

DJA 17 19:09:57.0±0.6,1°S±5°×10°0E±°,h61km±8km,M4.0/12, mb4.0/7,mB4.9/1,MLv4.0/12,Mw(mB)4.2/1

ISC 17 19:09:53.4±0.8,1°.42S±0°.08×99°.60E±0°.09,h30km,n29, σ1s.36/23,mb4.0/9,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.00	59	P	Pn	19 10 12.4	+0.9
PDSI				S	Sn	19 10 24.8	+0.2
SDSI	Sungai Dareh	1.89	75	P	Pn	19 10 19.3	-4.4
MNSI	Mandailing Nat	2.20	359	P	Pn	19 10 29.0	+1.0
BKNI	Bangkinang	2.26	40	P	Pn	19 10 31.0	+2.3
MASI	Maura Aman, Be	3.14	123	P	Pn	19 10 42.2	+1.3
GSI	Gunungsitoli	3.38	323	P	Pn	19 10 45.3	+1.1
PSI	Prapat	4.25	351	Pn	Pn	19 10 55.2	-1.1
	0.9nm,0.3s,baz=116,slow=16,SNR=3.7						
LHSI	Lahat	4.59	121	P	Pn	19 11 01.6	+0.8
KCSI	Kotacane, Aceh	5.24	340	P	Pn	19 11 11.9	+2.1
	19nm,0.7s,0.1nm						
TPRI	Tanjung Pinang	5.45	65	P	Pn	19 11 10.4	-2.2
	28nm,1.0s,0.2nm						
MDSI	Maura Dua	5.49	124	P	Pn	19 11 14.8	+1.6
	11nm,1.2s,0.1nm						
KASI	Kota Agung	6.36	130	P	Pn	19 11 26.8	+1.6
	20nm,0.6s,0.1nm						
CMAR	Chiang Mai Arr	19.77	358	P	P	19 14 20.9	-0.3
	0.6nm,0.6s,baz=187,slow=11,SNR=7.4						
H08S2	Diego Garcia H	27.71	256	T	T	19 44 05.6	
	baz=79,slow=76,SNR=83						
H08S3	Diego Garcia H	27.71	256	T	T	19 44 05.9	
	baz=79,slow=76,SNR=67						
H08S1	Diego Garcia H	27.73	256	T	T	19 44 07.0	
	baz=79,slow=76,SNR=76						
H01W3	Cape Leeuwin H	35.94	159	T	T	19 54 38.4	
	baz=334,slow=76,SNR=14						
H01W2	Cape Leeuwin H	35.96	159	T	T	19 54 39.4	
	baz=334,slow=76,SNR=16						
H01W1	Cape Leeuwin H	35.96	159	T	T	19 54 39.6	
	baz=334,slow=76,SNR=15						
WRA	Warramunga Arr	38.63	121	P	P	19 17 13.3	-1.1
	0.6nm,0.7s,baz=303,slow=9.1,SNR=6.9						
ASAR	Alice Springs	39.91	126	P	P	19 17 25.0	-0.1
	0.5nm,0.8s,baz=295,slow=7.4,SNR=5.8						
SONM	Songino Array	49.41	6	P	P	19 18 41.1	+0.5
	0.2nm,0.4s,baz=187,slow=10,SNR=5.5						
SONM				PcP	PcP	19 20 02.2	-0.5
	0.6nm,0.7s,baz=180,slow=4.3,SNR=4.9						
MKAR	Makanchi Array	50.37	345	P	P	19 18 47.6	-0.2
	0.9nm,0.5s,baz=156,slow=9.2,SNR=18						
USRK	Ussuriysk Arra	53.84	29	P	P	19 19 15.2	+1.6
	0.9nm,0.6s,baz=104,slow=3.2,SNR=4.1						
ZALV	Zalesovo Beam	56.53	350	P	P	19 19 32.8	0.0
	1.1nm,0.5s,baz=180,slow=7.4,SNR=6.6						
KBZ	Khabaz	67.61	319	P	P	19 20 46.1	-1.3
	1.0nm,0.6s,baz=146,slow=9.9,SNR=5.4						
BRTR	Keskin Array B	72.64	312	P	P	19 21 16.4	-2.2
	0.5nm,0.6s,baz=130,slow=5.6,SNR=3.3						
FINES	FINESS Array B	83.42	332	P	P	19 22 17.8	+0.1
	0.9nm,0.4s,baz=107,slow=6.4,SNR=6.2						
TXAR	Lajitas Array	144.48	36	PKP	PKPbc	19 29 27.2	+0.9
	0.7nm,0.4s,baz=229,slow=1.6,SNR=12						

IDC 17 19:12:03.0±0.5,8°.86S×157°.28E,h0km,mb4.5/17, mb1 4.6/20,mb1mx4.5/34,mbtmp4.5/20,ML4.0/3,MS3.8/6, Ms1 3.8/6,ms1mx3.4/30,Error ellipse: s-maj=17.1km s-min=15.0km az=113.0

ISCJB 17 19:12:04.2±0.3,8°.82S±0°.04×157°.28E±0°.04,h17km, mb4.8/49,MS3.9/3,Error ellipse: s-maj=6.1km s-min=6.1km az=152.9

MOS 17 19:12:05.8±1.2,8°.86S×157°.28E,h30km,mb4.9/24,Error ellipse: s-maj=10.0km s-min=9.1km az=95.1

BJI 17 19:12:05.4,8°.37S×157°.26E,h13km,mB5.0/7,mb4.9/33, Ms4.9/3,Ms7 4.6/3

NEIC 17 19:12:06.3±2.9,8°.87S×157°.28E,h22km±20km,mb4.9/15, Error ellipse: s-maj=10.3km s-min=7.7km az=166.0

ISC 17 19:12:05.7±0.4,8°.83S±0°.06×157°.34E±0°.06,h17km,n151, σ1s.21/150,mb4.9/49,MS4.0/3,2C-1D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.64	103	P	Pn	19 12 46.8	-0.8
HNR						19 13 20.1	
HNR				pmax	pmax		
	comp=Z,27nm,0.3s						
HNR				smax	smax		
	comp=N,133nm,0.3s						
HNR				MLR	MLR		
	comp=Z,943nm,20.5s						
HNR	Honiara	2.64	103	Pn	Pn	19 12 46.8	-0.8
	comp=Z,27nm,0.3s,baz=199,slow=8.3,SNR=26						
HNR				Sn	Sn	19 13 20.1	+0.9
	comp=Z,133nm,0.3s,baz=213,slow=21,SNR=7.3						
HNR				LR	LR	19 13 57.2	
	comp=Z,943nm,20.5s,baz=330,slow=42						
RABL	Rabaul	6.91	312	P	Pn	19 13 51.2	+4.9
	baz=6.6,SNR=7.1						
PMG	Port Moresby	10.07	266	LR	LR	19 17 25.5	
	comp=Z,167nm,20.3s,baz=96,slow=32						
COEN	Coen	14.79	249	P	Pn	19 15 33.6	-0.7
	comp=Z,169nm,1.2s						
COEN	Coen	14.79	249	P	P	19 15 42.5	+2.4
	baz=14,SNR=4.1						
CTA	Charters Tower	15.50	223	P	Pn	19 15 43.4	-0.3
CTA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CTA	Charters Tower	15.50	223	Pn	Pn	19 15 43.4	-0.3
	comp=Z,0.8nm,0.3s,baz=25,slow=14,SNR=4.2						
CTAO	Charters Tower	15.50	223	eP	Pn	19 15 44.3	+0.6
CTAO				pmax	pmax		
	comp=Z,38nm,1.4s						
CTAO	Charters Tower	15.50	223	eP	Pn	19 15 44.3	+0.6
	comp=Z,38nm,1.4s						
MTSU	Mount Surprise	15.67	233	P	P	19 15 52.3	+2.4
	baz=16,SNR=5.3						
DZM	Mont Dzumac	15.81	147	eP	P	19 15 49.9	-1.6
	comp=Z,71nm,1.4s						
DZM				eLR	LR	19 19 31.6	
	comp=Z,520nm,26.1s						
DZM	Mont Dzumac	15.81	147	Pn	P	19 15 49.1	+1.4
	comp=Z,0.2nm,0.3s,baz=335,slow=9.4,SNR=5.4						
DZM				LR	LR	19 20 30.8	
	comp=Z,382nm,20.7s,baz=306,slow=32						
EIDS	Eidsvold	17.49	199	eP	P	19 16 10.7	+0.6
	comp=Z,28nm,1.3s						
JAY	Jayapura	17.70	290	P	Pn	19 16 11.5	-0.2
	baz=17,SNR=5.4						
RMQ	Roma	19.35	204	P	Pn	19 16 32.5	+0.8
	baz=19,SNR=11						
QIS	Mount Isa	20.71	234	P	Pn	19 16 46.6	-1.3
	baz=21,SNR=14						
QLP	Quilpie	21.59	213	P	P	19 16 55.8	+1.0
	baz=22,SNR=13						
ARMA	Armidale	22.13	193	eP	P	19 17 03.1	+2.4
	comp=Z,38nm,1.1s						
ARMA	Armidale	22.13	193	P	P	19 17 04.6	+3.9
	baz=22,SNR=5.0						
WRAB	Tennant Creek	24.82	241	eP	P	19 17 24.5	-2.8
WRAB				pmax	pmax		
	comp=Z,22nm,0.9s						
WRAB	Tennant Creek	24.82	241	eP	P	19 17 24.5	-2.8
	comp=Z,22nm,0.9s						
WRA	Warramunga Arr	24.83	241	P	P	19 17 25.2	-2.2
WRA						19 21 04.2	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA				MLR	MLR		
	comp=Z,16nm,28.6s						
WRA	Warramunga Arr	24.83	241	P	P	19 17 25.2	-2.2
	comp=Z,1.0nm,0.4s,baz=304,slow=9.2,SNR=4.6						
WRA				PcP	PcP	19 21 04.2	+0.5
	comp=Z,0.9nm,0.5s,baz=65,slow=3.0,SNR=11						
WRA				LR	LR	19 26 39.3	
	comp=Z,460nm,20.1s,baz=65,slow=35						
CMSA	Cobar Meteorol	25.06	204	P	P	19 17 29.4	+0.1
	baz=25,SNR=22						
ASAR	Alice Springs	26.84	234	P	P	19 17 43.0	-2.6
ASAR						19 21 09.6	
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR				MLR	MLR		
	comp=Z,16nm,28.6s						
ASAR	Alice Springs	26.84	234	P	P	19 17 43.0	-2.6
	comp=Z,3.1nm,0.9s,baz=62,slow=9.4,SNR=14						
ASAR				PcP	PcP	19 21 09.6	+1.4
	comp=Z,0.9nm,0.9s,baz=89,slow=2.8,SNR=4.3						
ASAR				LR	LR	19 27 52.8	
	comp=Z,394nm,19.1s,baz=50,slow=36						
STKA	Stephens Creek	27.20	210	P	P	19 17 48.4	-0.3
STKA				pmax	pmax		
	comp=Z,17nm,0.7s						
STKA				MLR	MLR		
	comp=Z,16nm,28.6s						
STKA	Stephens Creek	27.20	210	P	P	19 17 48.4	-0.3
	comp=Z,16nm,0.7s,baz=34,slow=14,SNR=27						
STKA				LR	LR	19 28 05.2	
	comp=Z,263nm,20.9s,baz=25,slow=35						
STKA	Stephens Creek	27.20	210	P	P	19 17 48.8	+0.1
	baz=27,SNR=23						
PALU	Palau	27.89	304	P	P	19 17 55.3	+0.3
	baz=28,SNR=4.2						
KNRA	Kununurra	28.72	254	P	P	19 18 01.9	-0.6
	baz=28,SNR=7.7						
WRKA	Warakurna	32.01	236	P	P	19 18 30.0	-1.5
	baz=32,SNR=13						
MMRI	Maumere	34.69	268	eP	P	19 18 54.4	-0.5
	comp=Z,64nm,1.3s						
MBWA	Marble Bar	38.23	247	eP	P	19 19 23.8	-1.4
MEEK	Meekatharra	40.70	239	P	P	19 19 45.0	-0.8

baz=40,SNR=12
JAGI Jajag, Banyuwa 42.68 267 eP P 19 19 59.6 -2.5
comp=Z,102nm,1.4s
JAGI Jajag, Banyuwa 42.68 267 P P 19 19 59.4 -2.7
baz=42,SNR=6.1
NWAO Narrogin (SRO) 44.09 231 P P 19 20 12.4 -0.8
NWAO pmax pmax
comp=Z,8.0nm,0.9s
NWAO Narrogin (SRO) 44.09 231 P P 19 20 12.4 -0.8
comp=Z,8.1nm,0.9s,baz=63,slow=6.8,SNR=3.1
MJAR Matsushiro Arr 48.58 339 P P 19 20 46.9 -1.5
MJAR pmax pmax
comp=Z,12nm,1.1s
MJAR Matsushiro Arr 48.58 339 P P 19 20 46.9 -1.5
comp=Z,12nm,1.1s,baz=172,slow=8.6,SNR=7.0
MAJO Matsushiro 48.59 339 eP P 19 20 51.1 +2.7
MAJO pmax pmax
comp=Z,86nm,1.4s
JNU Nakatsue 48.74 330 P P 19 20 49.6 -0.1
comp=Z,18nm,1.0s,baz=161,slow=6.1,SNR=4.7
CISI Cisompet, Garu 49.01 268 eP P 19 20 50.8 -1.3
comp=Z,124nm,1.5s
PPT2 Papeete2 52.26 105 eLR LR 19 36 27.9
comp=Z,139nm,28.2s
KSRS Korea Array 53.65 331 P P 19 21 26.8 +0.4
KSRS pmax pmax
comp=Z,30nm,1.2s
KSRS Korea Array 53.65 331 P P 19 21 26.8 +0.4
comp=Z,30nm,1.2s,baz=152,slow=8.4,SNR=18
KSAR Wonju Array Be 53.66 331 P P 19 21 26.8 +0.3
KSAR Wonju Array Be 53.66 331 P P 19 21 26.8 +0.3
WHN Wuhan 56.87 315 P P 19 21 50.3 +0.5
USRK Ussuriysk Arra 57.56 339 P P 19 21 55.2 +0.7
comp=Z,8.7nm,1.1s,baz=129,slow=7.6,SNR=8.0
MDJ Mudanjiang 58.81 337 eP P 19 22 04.1 +0.9
comp=Z,11nm,1.1s
HABR Khabarovsk 60.35 343 eP P 19 22 13.1 -0.6
HABR 19 22 55.5
HABR e 19 24 28.4
HABR ePPP PPP 19 25 54.4
HABR pmax pmax
comp=Z,19nm,1.3s
HABR pmax pmax
comp=Z,664nm,3.5s
PETK Petropavlovsk- 61.70 0 P P 19 22 22.3 -0.5
PETK pmax pmax
comp=Z,10.0nm,1.0s
PETK Petropavlovsk- 61.70 0 P P 19 22 22.2 -0.5
comp=Z,9.5nm,1.0s,baz=172,slow=8.4,SNR=8.0
BJT Baijiatuau 61.73 325 eP P 19 22 23.1 -0.2
BJT Baijiatuau 61.73 325 eP P 19 22 23.1 -0.2
SRDT SRDT 62.17 291 P P 19 22 28.3 +1.6
comp=Z,32nm,1.2s
NANT Nan 62.23 297 P P 19 22 27.7 +0.6
comp=Z,32nm,0.9s,comp=Z,433nm
XAN Xi'an 62.63 316 P P 19 22 29.1 -0.4
XAN pmax pmax
comp=Z,4.0nm,1.5s
XAN pmax pmax
comp=Z,25nm,5.9s
KHLT Khaolaem Dam 62.80 292 P P 19 22 32.4 +1.5
comp=Z,4.8nm,1.8s
KMI Kunming 62.97 304 ⇑P P 19 22 32.6 +0.5
KMI pmax pmax
comp=Z,19nm,1.6s
CMAR Chiang Mai Arr 63.67 296 P P 19 22 37.0 +0.3
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 63.67 296 P P 19 22 37.0 +0.3
comp=Z,2.5nm,0.8s,baz=125,slow=5.2,SNR=24
CMMT Chiang Mai 63.79 296 P P 19 22 38.1 +0.7
comp=Z,15nm,1.9s
CHTO Chiang Mai 63.79 296 eP P 19 22 37.7 +0.2
CHTO pmax pmax
comp=Z,21nm,1.5s
CHTO Chiang Mai 63.79 296 P P 19 22 38.2 +0.8
comp=Z,51nm,1.9s
CHTO Chiang Mai 63.79 296 eP P 19 22 37.7 +0.2
comp=Z,21nm,1.5s
CMAI Chiengmai2 64.09 297 P P 19 22 40.8 +1.2
comp=Z,53nm,1.3s
LZH Lanzhou 67.25 315 eP P 19 23 00.8 +1.1
LZH pP pP 19 23 06.3 +1.1
LZH sP sP 19 23 08.5 +1.2
LZH pmax pmax
comp=Z,61nm,1.2s
SEY Seymchan 71.65 358 eP P 19 23 24.1 -2.0
GTA Gaotai 71.66 316 eP P 19 23 28.0 +1.1
GTA pP pP 19 23 35.3 +2.8
GTA sP sP 19 23 38.8 +4.3
GTA pmax pmax
comp=Z,27nm,1.2s
ULN Ulaanbaatar 71.80 327 eP P 19 23 28.7 +1.1
ULN pmax pmax
comp=Z,27nm,1.4s
ULN Ulaanbaatar 71.80 327 eP P 19 23 28.7 +1.1
comp=Z,27nm,1.4s
SONM Songino Array 72.13 327 P P 19 23 30.7 +1.2
SONM pmax pmax
comp=Z,6.0nm,1.1s
SONM Songino Array 72.13 327 P P 19 23 30.7 +1.2
comp=Z,5.6nm,1.1s,baz=137,slow=5.3,SNR=31
SHL Shillong 72.22 300 ⇑iP P 19 23 31.0 +0.4
YAK Yakutsk 73.85 347 eP P 19 23 39.0 -0.2
YAK pmax pmax
comp=Z,16nm,1.0s
LSA Lhasa 74.22 304 eP P 19 23 43.2 +0.5
LSA pmax pmax
comp=Z,9.0nm,1.0s
LSA Lhasa 74.22 304 eP P 19 23 43.2 +0.5
comp=Z,9.2nm,1.0s
ZAK Zakamensk 75.28 328 eP P 19 23 47.6 -0.3
ZAK pmax pmax
comp=Z,47nm,1.2s
TLY Talaya 75.82 329 eP P 19 23 51.4 +0.5
TLY pmax pmax
comp=Z,16nm,1.6s
TLY Talaya 75.82 329 eP P 19 23 51.1 +0.2
comp=Z,5.1nm,0.9s
TAPN Taplejung 76.33 301 eP P 19 23 55.0 +0.3
comp=Z,48nm,1.2s
TAPN Taplejung 76.33 301 eP P 19 23 55.0 +0.3
ODAN Odare 76.46 300 eP P 19 23 55.5 +0.1
comp=Z,66nm,1.2s
ODAN Odare 76.46 300 eP P 19 23 55.5 +0.1
BILL Bilibino 76.94 3 ⇓iP P 19 23 57.3 +0.4
BILL e 19 24 05.1
BILL iS S 19 33 55.9 +12
BILL pmax pmax
comp=Z,16nm,1.2s
BILL Bilibino 76.94 3 eP P 19 23 56.9 0.0
comp=Z,14nm,1.2s
RAMN Ramite 77.16 300 eP P 19 23 59.3 0.0
comp=Z,24nm,1.1s
RAMN Ramite 77.16 300 eP P 19 23 59.3 0.0
MOY Mondy 77.19 328 eP P 19 23 59.7 +0.9
JIRN Jiri 77.72 301 eP P 19 24 02.5 -0.1
comp=Z,25nm,1.0s
JIRN Jiri 77.72 301 eP P 19 24 02.5 -0.1
GUN Gumba 78.05 301 eP P 19 24 04.6 +0.2
comp=Z,39nm,1.0s
GUN Gumba 78.05 301 eP P 19 24 04.6 +0.2
PKI Pulchoki 78.35 300 eP P 19 24 05.8 -0.3
comp=Z,52nm,1.3s
PKI Pulchoki 78.35 300 eP P 19 24 05.8 -0.3
PKI Pulchoki 78.35 300 eP P 19 24 05.8 -0.3
PKIN Phulchoki 78.37 300 eP P 19 24 05.7 -0.4
comp=Z,25nm,1.0s
KKN Kakani 78.53 301 eP P 19 24 06.8 -0.1
comp=Z,19nm,0.9s
KKN Kakani 78.53 301 eP P 19 24 06.8 -0.1
KKN Kakani 78.53 301 eP P 19 24 06.8 -0.1
DMN Daman 78.62 300 eP P 19 24 07.7 +0.2
comp=Z,90nm,1.2s
DMN Daman 78.62 300 eP P 19 24 07.7 +0.2
GKN Gorkha 79.13 301 eP P 19 24 09.9 -0.2
comp=Z,108nm,1.2s
GKN Gorkha 79.13 301 eP P 19 24 09.9 -0.2
KOLN Koldanda 79.95 300 eP P 19 24 14.3 -0.4
comp=Z,42nm,0.9s
KOLN Koldanda 79.95 300 eP P 19 24 14.3 -0.4
DANN Dangsing 79.97 301 eP P 19 24 14.2 -0.7
comp=Z,51nm,1.2s
DANN Dangsing 79.97 301 eP P 19 24 14.2 -0.7
QSPA South Pole Qui 81.16 180 eP P 19 24 20.0 -0.3
comp=Z,31nm,1.1s
WMQ Urumqi 81.75 317 P P 19 24 24.0 +0.3
WMQ pmax pmax
comp=Z,22nm,1.6s
HYB Hyderabad 82.06 289 iP P 19 24 26.5 +0.6
TIXI Tiksi 82.50 351 eP P 19 24 25.7 -1.3
TIXI pmax pmax
comp=Z,9.0nm,1.7s
MCK McKinley 82.90 21 eP P 19 24 28.6 -0.6
MCK pmax pmax
comp=Z,23nm,1.3s
MCK McKinley 82.90 21 eP P 19 24 28.6 -0.6
comp=Z,23nm,1.3s
COLA College 83.96 21 eP P 19 24 27.4 -7.2
COLA pmax pmax
comp=Z,30nm,1.3s
ILAR Eielson Array 84.24 21 P P 19 24 35.5 -0.6
ILAR pmax pmax
comp=Z,1.0nm,0.4s
ILAR Eielson Array 84.24 21 P P 19 24 35.5 -0.6
comp=Z,0.8nm,0.4s,baz=260,slow=5.4,SNR=34
MK31 Makanchi Array 86.31 318 eP P 19 24 45.9 -1.0
MK31 Makanchi Array 86.31 318 eP P 19 24 45.9 -1.0
MKAR Makanchi Array 86.31 318 P P 19 24 46.8 -0.1
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 86.31 318 P P 19 24 46.8 -0.1
comp=Z,1.2nm,0.4s,baz=99,slow=7.5,SNR=26
ZALV Zalesovo Beam 87.00 326 P P 19 24 48.5 -1.5
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 87.00 326 P P 19 24 48.5 -1.5
comp=Z,0.8nm,0.4s,baz=106,slow=5.4,SNR=6.9
KSH Kashi 88.97 310 eP P 19 25 02.0 +2.1
KSH pmax pmax
comp=Z,10.0nm,1.5s
KURK Kurchatov 89.71 321 eP P 19 25 02.8 -0.1
KURK Kurchatov 89.71 321 eP P 19 25 02.8 -0.1
AAK Ala-Archa 90.69 313 eP P 19 25 07.0 -1.0
AAK pmax pmax
comp=Z,6.0nm,1.4s
NVAR Mina Array Bea 91.03 51 P P 19 25 10.6 +0.8
comp=Z,1.7nm,1.0s,baz=251,slow=7.0,SNR=7.6
BRVK Borovoye 95.22 323 eP P 19 25 26.5 -1.9
BRVK pmax pmax
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 96.86 28 P P 19 25 35.3 -0.3
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 96.86 28 P P 19 25 35.3 -0.3
comp=Z,0.5nm,0.8s,baz=264,slow=4.7,SNR=12
PDAR Pinedale Array 98.20 48 P P 19 25 42.2 -0.3
comp=Z,0.4nm,0.8s,baz=262,slow=1.8,SNR=3.2
FINES FINESS Array B 116.55 336 PKIKP PKPdf 19 30 46.8 -1.7
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 116.55 336 PKP PKPdf 19 30 46.8 -1.7
comp=Z,1.0nm,0.8s,baz=96,slow=1.9,SNR=7.3
AKASG Malin Array Be 120.38 325 PKIKP PKPdf 19 30 56.8 +0.6
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 120.38 325 PKP PKPdf 19 30 56.8 +0.6
comp=Z,0.5nm,0.5s,baz=45,slow=1.9,SNR=3.0
KOLS Kolonicke sedl 125.17 325 ePKIKP PKPdf 19 31 11.4 +5.9
KOLS Kolonicke sedl 125.17 325 e PKPdf 19 31 11.4 +5.9
CRVS Cervenica-Dubn 125.65 326 ePKIKP PKPdf 19 31 09.0 +2.6
CRVS Cervenica-Dubn 125.65 326 e PKPdf 19 31 09.0 +2.6
LPAZ La Paz 128.54 119 PKIKP PKPdf 19 31 13.9 +0.3
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 128.54 119 PKP PKPdf 19 31 13.9 +0.3
comp=Z,0.8nm,0.5s,baz=130,slow=1.2,SNR=4.6
GERES GERESS Array B 129.81 329 PKP PKPdf 19 31 14.6 +0.1
comp=Z,0.3nm,0.4s,baz=70,slow=1.6,SNR=5.6
ESDC Sonseca Array 145.03 334 PKPbc PKPab 19 31 42.3 +0.3
comp=Z,4.6nm,1.1s,baz=30,slow=3.4,SNR=11
BDFB Brasilia 145.04 134 PKIKP PKPdf 19 31 43.3 -0.1
BDFB pmax pmax
comp=Z,9.0nm,0.8s
BDFB Brasilia 145.04 134 PKPbc PKPdf 19 31 43.3 -0.1
comp=Z,9.3nm,0.8s,baz=234,slow=4.3,SNR=13
TORD Torodi Ar. Bea 155.72 282 PKPbc PKPdf 19 32 08.2 +8.4
comp=Z,2.0nm,1.0s,baz=86,slow=0.7,SNR=7.5

IDC 17 19:14:06.2±2.1, 1°.44N×126°.49E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/34, mbtmp3.4/3, Error ellipse: s-maj=182.5km s-min=26.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.60	160	P	P	19 19 08.9	+0.3
	0.7nm,0.5s,baz=339,slow=11,SNR=5.4						
ASAR	Alice Springs	25.98	164	P	P	19 19 40.6	-0.2
	0.2nm,0.4s,baz=342,slow=9.8,SNR=2.6						
MKAR	Makanchi Array	59.30	326	P	P	19 24 09.8	-0.1
	0.2nm,0.4s,baz=122,slow=8.4,SNR=5.6						

IDC 17 19:26:34.9±5.1, 22°.12S×174°.78W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/27, mbtmp3.7/5, Error ellipse: s-maj=279.6km s-min=28.9km az=153.0
ISCJB 17 19:26:38.6±5.0, 22°S±2°×174°.9W±1°.0, h33km, mb3.7/5, Error ellipse: s-maj=280.9km s-min=25.5km az=153.3
ISC 17 19:26:40.3±4.1, 22°S±1°×174°.8W±0°.7, h33km, n7, σ1s.30/7, mb3.5/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	47.06	258	P	P	19 35 08.9	-0.3
	0.6nm,1.0s,baz=99,slow=7.4,SNR=5.8						
WRA	Warramunga Arr	47.32	263	P	P	19 35 10.3	-0.9
	0.3nm,0.5s,baz=95,slow=8.3,SNR=11						
NVAR	Mina Array Bea	80.14	42	P	P	19 38 48.4	+0.9
	0.4nm,0.7s,baz=238,slow=9.8,SNR=3.7						
CMAR	Chiang Mai Arr	93.39	288	P	P	19 39 54.4	+1.6
	1.3nm,0.8s,baz=109,slow=2.9,SNR=9.3						
YKA	Yellowknife Ar	96.67	24	P	P	19 40 05.1	-1.6
	0.2nm,0.7s,baz=255,slow=4.4,SNR=3.4						
AKASG	Malin Array Be	145.72	333	PKPbc	PKPdf	19 46 15.2	0.0
	0.9nm,0.7s,baz=43,slow=4.2,SNR=4.0						
BRTR	Keskin Array B	150.02	313	PKPbc	PKPbc	19 46 27.7	-0.2
	0.7nm,0.7s,baz=141,slow=5.7,SNR=5.4						

ISCJB 17 19:38:03.5±0.1, 29°.89S±0°.02×177°.78W±0°.03, h33km, mb5.8/194, MS5.5/213, Error ellipse: s-maj=3.8km s-min=2.0km az=35.2
BJI 17 19:38:03.3, 29°.72S×177°.37W, h43km, mB6.0/33, mb5.6/47, Ms6.6/58, Ms7 5.4/55
NEIC 17 19:38:05.0±0.0, 28°.95S×177°.42W, h50km Best double couple: NP1:φs35.00000°, δ68.00000°, λ101.00000°. NP2:φs186.00000°, δ23.00000°, λ63.00000°. Principal axes: T 0.9600, Plg64.0000°, Azm323.0000°; N 0.1900, Plg10.0000°, Azm211.0000°; P -1.1500, Plg23.0000°, Azm116.0000°;
GCMT 17 19:38:06.3±0.1, 29°.66S×177°.33W, h48km, MW5.9/129, Moment Tensor Solution. s129,c274; s122,c331; Duration: 2s.2 Moment tensor: Scale 10^18Nm; Mrr0.73±.01; Mθθ-0.06±.01; Mφφ-0.66±.01; Mrθ0.21±.01; Mθφ-0.29±.01; Mφr0.38±.01; Best double couple: M0 0.86900×10^18 NP1:φs26.00000°, δ60.00000°, λ94.00000°. NP2:φs197.00000°, δ30.00000°, λ82.00000°. Principal axes: T 0.8460, Plg75.0000°, Azm308.0000°; N 0.0480, Plg4.0000°, Azm204.0000°; P -0.8930, Plg15.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
IDC 17 19:38:07.0±0.9, 29°.59S×177°.77W, h45km±7km, mb5.4/23, mb1 5.4/23, mb1mx5.3/33, mbtmp5.6/23, MS5.4/25, Ms1 5.4/25, ms1mx5.3/28 Error ellipse: s-maj=13.2km s-min=12.3km az=168.0
MOS 17 19:38:06.8±0.9, 29°.52S×177°.82W, h51km, mb6.0/49, MS5.5/64, Error ellipse: s-maj=10.2km s-min=7.6km az=87.1
NEIC 17 19:38:06.3±0.7, 29°.76S×177°.84W, h45km±5km, mb5.8/147, MS5.5/151, MW5.9, MW6.0, MW5.9, Error ellipse: s-maj=5.5km s-min=3.6km az=142.0, Moment Tensor Solution. s38 Moment tensor: Scale 10^17Nm; Mrr6.22; Mθθ1.03; Mφφ-7.24; Mrθ2.02; Mθφ-2.40; Mφr1.51; Best double couple: M0 7.60000×10^17 NP1:φs178.00000°, δ40.00000°, λ64.00000°. NP2:φs30.00000°, δ55.00000°, λ110.00000°. Principal axes: T 6.9500, Plg72.0000°, Azm350.0000°; N 1.2300, Plg15.0000°, Azm198.0000°; P -8.1600, Plg7.0000°, Azm106.0000°;
NEIC 17 19:38:23.2±0.0, 29°.37S×177°.54W, h48km, Moment Tensor Solution. s127 Moment tensor: Scale 10^17Nm; Mrr8.20; Mθθ-0.95; Mφφ-7.24; Mrθ1.03; Mθφ-2.78; Mφr2.15; Best double couple: M0 8.60000×10^17 NP1:φs199.00000°, δ37.00000°, λ88.00000°. NP2:φs22.00000°, δ53.00000°, λ92.00000°. Principal axes: T 8.5400, Plg81.0000°, Azm300.0000°; N 0.1000, Plg1.0000°, Azm201.0000°; P -8.6300, Plg8.0000°, Azm110.0000°;
ISC 17 19:38:05.1±0.2, 29°.75S±0°.03×177°.68W±0°.04, h39km±2km, h39km:pP-P, n1464, σ1s.43/1380, mb5.8/191, MS5.5/220, 174C-210D, Kermadec Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 0.54 337 P Pn 19 38 17.1 +0.8
14µm,0.3s,baz=292,slow=1.6,SNR=197
RIZ Raoul Island 0.55 336 ⇓PN Pn 19 38 17.1 +0.6
RIZ SN Sn 19 38 26.7 +2.3
MXZ Matakaoa Point 8.48 202 PN Pn 19 40 03.6 -1.7
MXZ SN Sn 19 41 40.9 +1.2
HAZ Te Kaha 8.83 204 PN Pn 19 40 08.8 -1.3
KUZ Kuaotunu 8.90 217 ePN Pn 19 40 2.16 +6.6
PUZ Puketiti 8.96 201 PN Pn 19 40 09.7 -2.2
PUZ SN Sn 19 41 50.5 -1.1
WCZ Waipu Caves 9.12 225 PN Pn 19 40 20.8 +6.8
OUZ Omahuta 9.17 231 eP Pn 19 40 21.3 +6.6
380nm,0.5s
OUZ Omahuta 9.17 231 PN Pn 19 40 23.5 +8.8
CNGZ Carnagh Statio 9.36 200 PN Pn 19 40 15.3 -2.0
CNGZ SN Sn 19 42 03.3 +2.1
MWZ Matawai 9.44 204 PN Pn 19 40 15.6 -2.9
MWZ SN Sn 19 42 04.1 +0.7
URZ Urewera 9.53 206 P Pn 19 40 18.6 -1.1
6.1nm,0.3s,baz=276,slow=3.8,SNR=40
URZ S Sn 19 42 04.5 -0.8
98nm,0.3s,baz=7.6,slow=23,SNR=13
URZ Urewera 9.53 206 eP Pn 19 40 18.1 -1.6
244nm,0.8s
URZ S Sn 19 42 04.5 -0.8
URZ Urewera 9.53 206 PN Pn 19 40 17.7 -2.0
URZ SN Sn 19 42 05.4 0.0
RAGZ Rawiri 9.62 204 ePN Pn 19 40 19.7 -1.3
RAGZ SN Sn 19 42 08.2 +0.3
MHGZ Mahia Peninsul 10.06 200 PN Pn 19 40 23.8 -3.2
MHGZ SN Sn 19 42 19.0 +0.5
RAHZ Arahi 10.12 204 PN Pn 19 40 24.7 -3.0
NMHZ Naumai 10.38 205 PN Pn 19 40 27.6 -3.8
BKZ Black Stump Fm 10.55 206 PN Pn 19 40 30.1 -3.6
KAHZ Kahuranaki 10.97 203 PN Pn 19 40 35.3 -4.2
BHHZ Black Hill Sta 11.00 206 PN Pn 19 40 36.8 -3.1
KRHZ Kereru 11.02 205 PN Pn 19 40 36.1 -3.9
WNVZ Wahianoa 11.04 208 PN Pn 19 40 40.0 -0.6
PXZ Pawanui 11.19 202 PN Pn 19 40 38.7 -3.7
PNHZ Pukenui 11.32 205 PN Pn 19 40 40.7 -3.5
PRHZ Porangahau 11.48 202 PN Pn 19 40 47.9 +1.5
DVHZ Dannevirke 11.67 204 PN Pn 19 40 45.4 -3.6
ANWZ Angora Road 11.71 203 PN Pn 19 40 47.0 -2.4
POWZ Post Office Ro 11.89 205 PN Pn 19 40 51.7 -0.3
PRWZ Pori Road 11.96 204 PN Pn 19 40 50.4 -2.6
BFZ Birch Farm 11.98 203 PN Pn 19 40 54.2 +0.9
MRZ Mangatainoka R 12.20 205 PN Pn 19 40 50.2 -6.0
HOWZ Holdsworth Sta 12.43 205 PN Pn 19 40 53.0 -6.4
TMWZ Te Maipa 12.48 203 PN Pn 19 40 54.1 -6.0
OGWZ Otaki Gorge 12.49 206 PN Pn 19 40 54.1 -6.1
MSVF Nonsavu 12.58 341 Pn Pn 19 41 04.0 +2.4
2µm,0.9s,SNR=57
MSVF Nonsavu 12.58 341 eP Pn 19 41 02.8 +1.2
MSVF pmax pmax
comp=Z,2µm,1.8s
MSVF Nonsavu 12.58 341 eP Pn 19 41 02.8 +1.2
comp=Z,2µm,1.8s
KIW Kapiti Island 12.63 207 PN Pn 19 40 56.3 -5.8
MTW Mount Morrison 12.66 204 PN Pn 19 40 56.2 -6.3
PAWZ Paruwai Farm 12.89 204 PN Pn 19 41 01.6 -4.0
MSWZ Moikau Station 12.98 204 PN Pn 19 41 04.5 -2.3
SNZO South Karori 13.09 206 eP Pn 19 41 04.4 -3.9
comp=Z,89nm,0.6s
PLWZ Palliser 13.11 204 PN Pn 19 41 08.0 -0.8
TCW Tory Channel 13.18 208 PN Pn 19 41 04.0 -5.5
CTZ Chatham Island 13.98 177 PN Pn 19 41 18.9 -1.7
THZ Tophouse 14.21 210 PN Pn 19 41 20.0 -3.6
KHZ Kahutara 14.49 207 eP Pn 19 41 22.7 -4.6
comp=Z,301nm,0.7s
KHZ Kahutara 14.49 207 PN Pn 19 41 27.4 0.0
OXZ Oxford 15.85 208 PN Pn 19 41 42.4 -2.9
MQZ McQueen's Vall 15.93 206 PN Pn 19 41 39.1 -7.0
DZM Mont Dzumac 16.19 294 eP P 19 41 57.8 +5.2
comp=Z,1µm,1.4s
DZM eLQ LQ 19 45 05.1
comp=Z,17µm,25.8s
DZM eLR LR 19 45 45.9
comp=Z,73µm,25.1s
DZM Mont Dzumac 16.19 294 P P 19 41 54.7 +2.1
comp=Z,3.3nm,0.3s,baz=109,slow=14,SNR=11
DZM LR LR 19 46 48.4
comp=Z,42µm,20.5s,baz=129,slow=32
RPZ Rata Peaks 16.59 210 eP P 19 41 54.9 +0.3
comp=Z,92nm,0.5s
RPZ Rata Peaks 16.59 210 PN Pn 19 41 55.4 +0.8
AFI Afiamalu 16.68 20 eP Pn 19 41 47.7 -8.3
AFI pmax pmax
comp=Z,365nm,1.0s
AFI Afiamalu 16.68 20 P Pn 19 41 47.5 -8.5
comp=Z,3.3nm,0.3s,baz=39,slow=14,SNR=4.4
AFI S Sn 19 44 41.0 -19
comp=Z,18nm,0.3s,baz=222,slow=23,SNR=6.7
AFI Afiamalu 16.68 20 eP Pn 19 41 47.7 -8.3
comp=Z,365nm,1.0s
AFI S Sn 19 44 41.0 -19
FOZ Fox Glacier 17.09 213 PN Pn 19 41 58.7 -2.1
LBZ Lake Benmore 17.50 210 PN Pn 19 42 04.4 -1.6
ODZ Otahua Downs 17.84 208 eP Pn 19 42 08.9 -1.2
comp=Z,87nm,0.6s
JCZ Jackson Bay 17.91 213 PN Pn 19 42 07.4 -3.7
RAR Rarotonga 18.25 66 eP P 19 42 13.1 -2.0
RAR pmax pmax
comp=Z,1µm,1.7s
RAR Rarotonga 18.25 66 P P 19 42 12.6 -2.5
comp=Z,18nm,0.3s,baz=270,slow=5.5,SNR=19
RAR S Sn 19 45 15.9 -22
comp=Z,5.5nm,0.3s,baz=90,slow=16,SNR=9.1
RAR LR LR 19 47 32.6
comp=Z,11µm,21.1s,baz=269,slow=31
RAR Rarotonga 18.25 66 eP P 19 42 13.1 -2.0
comp=Z,1µm,1.7s
RAR S Sn 19 45 15.9 -22
WKZ Wanaka 18.36 211 PN P 19 42 13.3 -3.1
WHZ Wether Hill Ro 19.67 211 eP P 19 42 29.1 -1.5
comp=Z,59nm,0.4s
LHI Lord Howe Isla 20.09 259 ⇓P Pn 19 42 40.0 +2.7
baz=21,SNR=14
TBI Tubuai 25.99 83 eT T 20 10 05.0
comp=Z,249nm,0.4s
ARMA Armidale 26.53 261 eP P 19 43 42.9 +3.6
comp=Z,227nm,1.0s
ARMA Armidale 26.53 261 P P 19 43 44.0 +4.8
baz=27,SNR=106
CNB Canberra Magne 28.26 250 ⇑P P 19 43 57.5 +2.9
baz=29,SNR=29
PAE Paea 28.32 71 eP P 19 43 55.6 +0.4
comp=Z,43nm,1.3s
PAE Paea 28.32 71 eT T 20 13 02.0
comp=Z,59nm,0.3s
PPT2 Papeete2 28.36 71 eP P 19 43 56.4 +0.8
comp=Z,133nm,1.3s
PPT2 eS S 19 48 36.5 -3.4
comp=Z,5µm,27.8s
PPT2 eLR LR 19 51 09.7
comp=Z,30µm,26.0s,baz=235
PPT2 Papeete2 28.36 71 eT T 20 13 05.8
comp=Z,39nm,0.3s
PPT Papeete 28.37 71 LR LR 19 52 14.1
comp=Z,7µm,21.3s,baz=244,slow=30
MILA Mila 28.53 246 P P 19 44 00.9 +3.9
baz=29,SNR=20
TVO Taravao 28.53 72 eP P 19 43 57.6 +0.5
comp=Z,23nm,1.0s
TVO Taravao 28.53 72 eT T 20 13 18.0

comp=Z,11nm,0.3s
CAN Canberra 28.55 250 eP P 19 44 00.7 +3.5
CAN pmax pmax
comp=Z,153nm,1.1s
CAN MLR MLR
comp=Z,8µm,19.0s
CAN Canberra 28.55 250 eP P 19 44 00.7 +3.5
comp=Z,153nm,1.1s
CAN LR LR
comp=Z,8µm,19.0s
TIAR Tiarei 28.56 71 eP P 19 43 58.0 +0.6
comp=Z,28nm,0.8s
TIAR Tiarei 28.56 71 eT T 20 13 20.6
comp=Z,8.5nm,0.3s
YNG Young 29.04 252 ⇓P P 19 44 04.7 +3.2
baz=30,SNR=20
HNR Honiara 29.10 309 LR LR 19 53 41.7
comp=Z,7µm,21.9s,baz=148,slow=32
MEH Mehetia 29.47 73 eT T 20 14 27.8
comp=Z,46nm,0.3s
RMQ Roma 29.72 268 P P 19 44 12.0 +4.4
baz=31,SNR=34
MOO Moorlands 30.86 236 P P 19 44 20.4 +2.9
baz=32,SNR=10
TAU Tasmania Unive 30.88 235 P P 19 44 19.9 +2.3
comp=Z,439nm,0.9s,SNR=6.2
TAU Tasmania Unive 30.88 235 eP P 19 44 19.0 +1.4
TAU pmax pmax
comp=Z,80nm,1.0s
TAU MLR MLR
comp=Z,13µm,20.0s
TAU Tasmania Unive 30.88 235 eP P 19 44 19.0 +1.4
comp=Z,80nm,1.0s
TAU LR LR
comp=Z,13µm,20.0s
CMSA Cobar Meteorol 31.48 257 P P 19 44 26.2 +3.1
baz=32,SNR=205
TOO Toolangi 31.48 246 P P 19 44 26.0 +2.9
baz=32,SNR=21
TARA Tarawa 32.21 342 PFAKE 19 44 40.0 +10
TARA LR LR
comp=Z,8µm,21.0s
QLP Quilpie 33.63 266 P P 19 44 44.3 +2.3
baz=34,SNR=44
CTA Charters Tower 33.98 278 P P 19 44 47.2 +2.1
CTA pmax pmax
comp=Z,181nm,0.7s
CTA Charters Tower 33.98 278 P P 19 44 47.2 +2.1
comp=Z,181nm,0.7s,baz=102,slow=11,SNR=80
CTAO Charters Tower 33.98 278 PFAKE 19 45 00.0 +15
CTAO LR LR
comp=Z,15µm,19.0s
STKA Stephens Creek 34.90 256 P P 19 44 55.7 +2.8
STKA pmax pmax
comp=Z,124nm,0.7s
STKA MLR MLR
comp=Z,18nm,28.6s
STKA Stephens Creek 34.90 256 P P 19 44 55.7 +2.8
comp=Z,124nm,0.7s,baz=100,slow=11,SNR=338
STKA LR LR 19 58 20.1
comp=Z,11µm,18.2s,baz=88,slow=35
STKA Stephens Creek 34.90 256 eP P 19 44 55.2 +2.2
comp=Z,33nm,0.8s
STKA Stephens Creek 34.90 256 ⇓P P 19 44 55.5 +2.6
baz=36,SNR=331
MTSU Mount Surprise 36.45 280 P P 19 45 09.2 +2.8
baz=37,SNR=28
HTT Hallett 36.96 253 P P 19 45 12.7 +2.1
baz=38,SNR=112
XMAS Kiritimati 37.06 35 eP P 19 45 11.8 +0.3
comp=Z,140nm,1.1s
XMAS LR LR
comp=Z,6µm,22.0s
RABL Rabaul 38.21 306 ⇑P P 19 45 21.3 +0.1
baz=39,SNR=3.6
PMG Port Moresby 38.59 294c iP P 19 45 25.4 +1.0
PMG pmax pmax
comp=Z,83nm,1.7s
PMG Port Moresby 38.59 294 LR LR 19 58 39.6
comp=Z,9µm,21.4s,baz=128,slow=32
PMG Port Moresby 38.59 294 eP P 19 45 25.1 +0.6
comp=Z,54nm,1.1s
PMG Port Moresby 38.59 294 P P 19 45 27.0 +2.5
baz=39,SNR=5.0
RKT Rikitea 38.64 91 eS S 19 51 15.7 -3.0
comp=Z,2µm,34.0s
RKT eLQ LQ 19 54 15.8
comp=Z,4µm,24.0s
RKT eLR LR 19 55 44.9
comp=Z,19µm,29.0s,baz=256
RKT Rikitea 38.64 91 eT T 20 25 50.8
comp=Z,6.3nm,0.3s
COEN Coen 39.37 285 eP P 19 45 32.7 +1.7
comp=Z,678nm,1.0s
COEN Coen 39.37 285 P P 19 45 33.2 +2.2
baz=40,SNR=17
BBOO Buckleboo 39.42 253 eP P 19 45 32.1 +0.9
comp=Z,2µm,0.7s
BBOO Buckleboo 39.42 253 P P 19 45 32.4 +1.1
baz=40,SNR=84
QIS Mount Isa 39.55 273 P P 19 45 33.8 +1.3
baz=40,SNR=11
PTCN Pitcairn Islan 42.27 96 PFAKE 19 46 10.0 +15
PTCN LR LR
comp=Z,9µm,22.0s
MANU Manus Island 43.13 303 P P 19 46 02.5 +0.6
baz=44,SNR=5.9
ASAR Alice Springs 43.43 266 P P 19 46 05.2 +0.9
ASAR 19 47 55.0
ASAR pmax pmax
comp=Z,82nm,0.6s
ASAR pmax pmax
comp=Z,9.0nm,0.5s
ASAR pmax pmax
comp=N,8.0nm,1.0s
ASAR pmax pmax
comp=Z,1.0nm,0.4s
ASAR MLR MLR
comp=Z,16µm,18.2s
ASAR Alice Springs 43.43 266 P P 19 46 05.2 +0.9
comp=Z,82nm,0.6s,baz=103,slow=6.3,SNR=248
ASAR PcP PcP 19 47 55.0 +2.8
comp=Z,8.8nm,0.5s,baz=118,slow=4.1,SNR=5.1
ASAR ScP ScP 19 51 40.9 +0.4
comp=Z,8.1nm,1.0s,baz=117,slow=4.5,SNR=5.7
ASAR PKiKP PKiKP 19 54 54.1 -0.7
comp=Z,0.5nm,0.4s,baz=113,slow=1.5,SNR=6.1
ASAR LR LR 20 03 59.4
comp=Z,16µm,18.2s,baz=108,slow=36
WRAB Tennant Creek 44.35 271 P P 19 46 12.3 +0.5
comp=Z,2µm,1.0s
WRAB Tennant Creek 44.35 271 eP P 19 46 12.2 +0.5
WRAB pmax pmax
comp=Z,357nm,0.9s
WRAB MLR MLR
comp=Z,6µm,22.0s
WRAB Tennant Creek 44.35 271 eP P 19 46 12.2 +0.5
comp=Z,357nm,0.9s
WRAB LR LR
comp=Z,6µm,22.0s
WRA Warramunga Arr 44.36 271 P P 19 46 12.1 +0.3
WRA S S 19 52 40.3 -3.4
WRA pmax pmax
comp=Z,227nm,0.6s
WRA pmax pmax
comp=N,3.0nm,0.6s
WRA smax smax
comp=N,9.0nm,0.9s
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA MLR MLR
comp=Z,5µm,18.3s
WRA Warramunga Arr 44.36 271 P P 19 46 12.1 +0.3
comp=Z,227nm,0.6s,baz=111,slow=7.6,SNR=356
WRA ScP ScP 19 51 44.5 +0.2
comp=Z,2.5nm,0.6s,baz=106,slow=3.6,SNR=4.2
WRA S S 19 52 40.2 -3.4
comp=Z,9.2nm,0.9s,baz=108,slow=14,SNR=5.6
WRA PKiKP PKiKP 19 54 55.4 -0.3
comp=Z,0.9nm,0.5s,baz=98,slow=0.3,SNR=7.8
WRA LR LR 20 03 38.4
comp=Z,5µm,18.3s,baz=110,slow=35
DRV Dumont d'Urvil 44.85 202 P P 19 45 58.0 -17
DRV S S 19 52 39.0 -10
DRV L L 19 56 00.0
DRV SS SS 19 56 11.0 -0.2
DRV R R 19 58 00.0

FORT Forrest 46.49 254 eP P 19 46 28.0 -0.4
comp=Z,190nm,0.7s
FORT Forrest 46.49 254 P P 19 46 28.9 +0.4
baz=47,SNR=42
JAY Jayapura 47.85 296 P P 19 46 39.4 +0.1
comp=Z,50nm,1.1s
GENI Genyem 48.23 296 P P 19 46 42.3 +0.2
comp=Z,134nm,1.2s,comp=Z,2µm
SBA Scott Base 48.70 184 eP P 19 46 49.6 +4.6
SBA MLR MLR
comp=Z,3µm,21.0s
SBA Scott Base 48.70 184 eP P 19 46 49.6 +4.6
SBA LR LR
comp=Z,3µm,21.0s
VNDA Vanda 48.77 186 eP P 19 46 50.3 +4.8
VNDA pmax pmax
comp=Z,93nm,1.4s
VNDA Vanda 48.77 186 P P 19 46 48.6 +3.1
comp=Z,11nm,0.5s,baz=11,slow=6.6,SNR=18
VNDA LR LR 20 04 20.8
comp=Z,2µm,20.9s,baz=26,slow=32
VNDA Vanda 48.77 186 eP P 19 46 50.3 +4.8
comp=Z,93nm,1.4s
MTN Manton Dam 50.16 278 P P 19 46 57.3 +0.3
baz=51,SNR=22
KNRA Kununurra 50.94 274 P P 19 47 03.6 +0.8
baz=52,SNR=55
WAKE Wake Island 51.03 341 PFAKE 19 47 20.0 +17
WAKE LR LR
comp=Z,5µm,20.0s
PUH Pauahi 53.42 27 eP P 19 47 22.1 +0.9
comp=Z,673nm,1.1s
POHA Pohakuloa 53.65 26 eP P 19 47 23.8 +0.7
comp=Z,299nm,1.1s
POHA LR LR
comp=Z,4µm,21.0s
KIP Kipapa 54.28 23 eP P 19 47 28.3 +1.0
KIP pmax pmax
comp=Z,246nm,1.1s
KIP Kipapa 54.28 23 eP P 19 47 28.3 +1.0
comp=Z,246nm,1.1s
FAKI Fak Fak 54.38 290 eP P 19 47 28.2 -0.1
comp=Z,158nm,1.1s
FAKI Fak Fak 54.38 290 P P 19 47 28.6 +0.3
baz=55,SNR=21
RKGY Rocky Gully 54.67 247 P P 19 47 30.5 +0.3
baz=55,SNR=5.2
KLBR Kellerberrin 54.83 251 P P 19 47 31.3 -0.1
baz=56,SNR=58
NWAO Narrogin (SRO) 54.89 249 P P 19 47 31.4 -0.5
NWAO pmax pmax
comp=Z,58nm,1.2s
NWAO Narrogin (SRO) 54.89 249 P P 19 47 31.4 -0.5
comp=Z,58nm,1.2s,baz=124,slow=9.0,SNR=11
NWAO Narrogin (SRO) 54.89 249 P P 19 47 31.4 -0.5
NWAO LR LR
comp=Z,1.0nm,20.0s
CASY Casey 55.84 208 eP P 19 47 39.1 +1.0
comp=Z,210nm,0.9s
CASY LR LR
comp=Z,2µm,20.0s
GUMO Guam 56.22 315 PFAKE 19 47 50.0 +8.6
GUMO LR LR
comp=Z,3µm,20.0s
SWI Sorong 56.37 291 ⇓P P 19 47 42.8 +0.2
baz=57,SNR=5.7
MBWA Marble Bar 56.58 263 eP P 19 47 43.7 -0.4
comp=Z,134nm,1.1s
MBWA LR LR
comp=Z,7µm,19.0s
MORW Morawa 56.99 253 P P 19 47 46.7 -0.2
baz=58,SNR=94
MIDW Midway 57.64 0 PFAKE 19 48 00.0 +8.8
MIDW LR LR
comp=Z,6µm,21.0s
BATI Baumata 57.85 277 P P 19 47 54.1 +1.0
comp=Z,97nm,0.8s,baz=142,slow=1.6,SNR=32
BATI LR LR 20 13 27.0
comp=Z,20µm,18.4s,baz=142,slow=37
MMRI Maumere 59.84 278 eP P 19 48 07.0 +0.1
comp=Z,456nm,1.3s
QSPA South Pole Qui 60.36 180 P P 19 48 12.7 +2.8
comp=Z,38nm,0.8s,baz=24,slow=1.7,SNR=93
QSPA South Pole Qui 60.36 180 eP P 19 48 12.8 +2.8
comp=Z,268nm,0.8s
QSPA LR LR
comp=Z,3µm,22.0s
TNTI Ternate 60.48 290 eP P 19 48 11.2 -0.2
comp=Z,340nm,1.1s
GIRL Giralia 60.74 259 ⇓P P 19 48 13.9 +0.9
baz=62,SNR=9.0
WSI Waingapu 61.02 275 P P 19 48 15.4 +0.5
baz=62,SNR=7.9
LUWI Luwuk 63.29 285 eP P 19 48 30.5 +0.3
comp=Z,311nm,1.0s
LUWI Luwuk 63.29 285 P P 19 48 30.9 +0.7
baz=64,SNR=5.5
KAPI Kappang 63.77 280 P P 19 48 33.1 -0.3
comp=Z,326nm,0.8s,SNR=6.8
KAPI Kappang 63.77 280 eP P 19 48 33.1 -0.3
comp=Z,833nm,1.5s
KAPI LR LR
comp=Z,2µm,22.0s
DAV Davao City (W) 65.61 294 eP P 19 48 46.2 +0.8
DAV LR LR
comp=Z,1µm,22.0s
JAGI Jajag, Banyuwa 66.91 273 eP P 19 48 52.9 -0.9
comp=Z,372nm,1.0s
CBIJ Chichi jima 68.35 322 P P 19 49 02.3 -0.1
JCJ Chichijima 68.35 322 P P 19 49 02.3 -0.1
comp=Z,64nm,0.4s,baz=270,slow=20,SNR=6.4
JCJ LR LR 20 13 13.2
comp=Z,2µm,21.8s,baz=140,slow=31
RCP Roxas 70.53 296⇓eP P 19 49 16.3 +0.1
SMRI Semarang 70.82 273 eP P 19 49 18.6 +0.5
comp=Z,116nm,0.9s
SMRI Semarang 70.82 273 P P 19 49 19.2 +1.1
baz=72,SNR=4.5
SDKM Sandakan 71.59 288 ⇓P P 19 49 22.6 -0.2
SDKM Sandakan 71.59 288 ⇑P P 19 49 23.1 +0.3
KKM Kota Kinabalu 72.62 288 eP P 19 49 28.8 -0.2
comp=Z,410nm,1.4s
KKM LR LR
comp=Z,1µm,20.0s
KKM Kota Kinabalu 72.62 288 ⇑P P 19 49 29.7 +0.7
PMSA Palmer Station 72.74 156 PFAKE 19 49 40.0 +11
PMSA LR LR
comp=Z,2µm,22.0s
CISI Cisompet, Garu 72.86 271 eP P 19 49 30.0 -0.4
comp=Z,366nm,1.0s
CISI Cisompet, Garu 72.86 271 P P 19 49 30.0 -0.4
baz=74,SNR=16
MAW Mawson 73.01 200 P P 19 49 32.6 +2.3
MAW pmax pmax
comp=Z,95nm,0.8s
MAW MLR MLR
comp=Z,18nm,28.6s
MAW Mawson 73.01 200 P P 19 49 32.6 +2.3
comp=Z,95nm,0.8s,baz=156,slow=7.2,SNR=9.8
MAW LR LR 20 20 31.4
comp=Z,3µm,20.4s,baz=118,slow=35
XMI Christmas Isla 73.34 267 P P 19 49 33.9 +0.7
baz=74,SNR=6.4
XMIS Christmas Isla 73.36 267 eP P 19 49 32.8 -0.5
comp=Z,306nm,0.9s
XMIS Christmas Isla 73.36 267 P P 19 49 33.9 +0.6
baz=74,SNR=7.2
LEM Lembang 73.38 272 ⇑P P 19 49 34.3 +0.7
baz=74,SNR=33
BTM Bintulu 73.72 283 ⇓P P 19 49 36.0 +0.6
KSM Kuching 75.18 280 eP P 19 49 43.9 0.0
comp=Z,210nm,1.2s
KSM LR LR
comp=Z,2µm,20.0s
KSM Kuching 75.18 280 ⇓P P 19 49 44.6 +0.8
JOW Kunigami 76.44 312 P P 19 49 51.6 +0.9
comp=Z,5.3nm,0.8s,baz=147,slow=2.8,SNR=5.2
JOW LR LR 20 18 43.4
comp=Z,157nm,21.8s,baz=134,slow=32
SYO Syowa Base 77.81 193⇓eP P 19 49 58.0 +0.2
MJAR Matsushiro Arr 77.87 325 P P 19 49 58.5 0.0
MJAR pmax pmax
comp=Z,68nm,1.0s
MJAR MLR MLR
comp=Z,681nm,18.1s
MJAR Matsushiro Arr 77.87 325 P P 19 49 58.5 0.0
comp=Z,68nm,1.0s,baz=167,slow=5.6,SNR=69

MJAR LR LR 20 25 00.3
comp=Z,681nm,18.1s,baz=75,slow=36
MAJO Matsushiro 77.87 325c iP P 19 49 58.5 -0.1
MAJO pmax pmax
comp=Z,822nm,1.3s
MAJO Matsushiro 77.87 325 eP P 19 49 57.8 -0.8
comp=Z,107nm,1.0s
MAJO LR LR
comp=Z,2µm,19.0s
MAT Matsushiro 77.87 325 P P 19 49 57.8 -0.8
MAT S S 19 59 44.6 -4.1
TWG Pinlang 78.72 304 eP P 19 50 01.9 -1.6
comp=Z,121nm,0.6s
SNAA Sanae 78.80 178 P P 19 50 04.7 +1.4
SNAA Sanae 78.80 178 eP P 19 50 04.3 +1.0
SNAA pmax pmax
comp=Z,61nm,0.8s
SNAA Sanae 78.80 178 eP P 19 50 04.3 +1.0
comp=Z,60nm,0.8s
VNA3 Neumayer Olymp 78.93 176 P P 19 50 05.1 +1.1
JNU Nakatsue 79.26 318 P P 19 50 07.2 +0.9
comp=Z,61nm,0.9s,baz=210,slow=5.0,SNR=13
JNU Nakatsue 79.26 318 eP P 19 50 06.7 +0.4
comp=Z,84nm,1.4s
TPUB Ta-pu 79.34 305 eP P 19 50 05.6 -1.4
comp=Z,51nm,0.7s
VNA2 Neumayer--Watz 79.37 177 P P 19 50 07.8 +1.4
baz=170,slow=4.5
SSLB Suanglung 79.42 305 eP P 19 50 06.0 -1.4
comp=Z,31nm,0.6s
NVL N'lazarevskaya 79.54 183⇓iP P 19 50 09.4 +2.1
NVL eS S 20 00 02.6 -3.1
NVL pmax pmax
comp=Z,2µm,17.1s
VNA1 Neumayer--Stat 79.60 176 P P 19 50 09.0 +1.4
YHNB Yeheng 79.67 306 PFAKE 19 50 20.0 +11
YHNB LR LR
comp=Z,3µm,22.0s
TATO Taipei 79.79 306 PFAKE 19 50 20.0 +11
TATO LR LR
comp=Z,3µm,22.0s
ERM Erimo 80.02 331 P P 19 50 14.4 +4.2
comp=Z,450nm,0.8s,SNR=7.1
ERM Erimo 80.02 331 eP P 19 50 11.2 +1.0
ERM pmax pmax
comp=Z,89nm,1.3s
ERM Erimo 80.02 331 eP P 19 50 13.0 +2.8
comp=Z,72nm,0.9s
ERM LR LR
comp=Z,5µm,20.0s
COCO West Island 80.19 262 PFAKE 19 50 20.0 +8.2
COCO LR LR
comp=Z,3µm,20.0s
H06S1 SOCORRO T 80.32 62 T T 21 18 12.5
SNR=5.4
H06E1 SOCORRO T-PHAS 80.37 62 T T 21 18 37.1
SNR=16
YUK Yuzh-Kuril'sk 80.65 334 iP P 19 50 09.5 -4.0
YUK iS S 20 00 13.8 -3.9
BTDF Bukit Timah Da 80.74 277 ⇓P P 19 50 15.8 +1.1
baz=82,SNR=12
H03N3 Juan Fernandez 80.78 123 T T 21 19 52.3
baz=246,slow=79,SNR=38
H03N2 Juan Fernandez 80.78 123 T T 21 19 56.5
baz=246,slow=79,SNR=83
H03N1 Juan Fernandez 80.79 123 T T 21 19 56.7
baz=246,slow=79,SNR=36
PAF Port-aux-Franc 80.83 218 PFAKE 19 50 30.0 +15
PAF LR LR
comp=Z,3µm,20.0s
PAF Port-aux-Franc 80.83 218 P P 19 50 00.0 -15
PAF Port-aux-Franc 80.83 218 S S 20 00 01.0 -19
PAF L L 20 12 00.0
PAF R R 20 16 00.0
KUR Kuril'sk 80.95 336c iP P 19 50 07.0 -8.0
KUR i 19 53 18.2
KUR i PPP PPP 19 55 08.9
KUR i S S 20 00 22.9 +2.1
KUR pmax pmax
comp=E,24nm,1.1s
KUR pmax pmax
comp=Z,37nm,1.1s
KUR pmax pmax
comp=N,9.0nm,1.1s
KUR pmax pmax
comp=Z,7µm,4.8s
KUR MLR MLR
comp=N,2µm,20.0s
KUR MLR MLR
comp=E,1µm,20.0s
KUR MLR MLR
comp=Z,902nm,20.0s
ADK Adak 81.28 1 PFAKE 19 50 30.0 +13
ADK LR LR
comp=Z,6µm,22.0s
QZH Quanzhou 81.82 305⇑iP P 19 50 20.9 +0.8
QZH S S 20 00 26.9 -3.8
QZH pmax pmax
comp=Z,130nm,1.0s
QZH LR LR
comp=Z,3µm,22.0s
ASAJ Asahikawa 82.00 332 P P 19 50 22.8 +2.1
ASAJ pmax pmax
comp=Z,84nm,0.8s
ASAJ Asahikawa 82.00 332 P P 19 50 22.8 +2.1
comp=Z,84nm,0.8s,baz=219,slow=9.2,SNR=39
ASAJ Asahikawa 82.00 332 eP P 19 50 22.0 +1.3
comp=Z,54nm,1.0s
DLV T Lat 82.22 288 eP P 19 50 23.5 +0.8
comp=Z,146nm,1.3s
BKNI Bangkinang 82.59 275 eP P 19 50 23.9 -0.7
comp=Z,351nm,1.2s
BKNI Bangkinang 82.59 275 P P 19 50 24.8 +0.3
baz=84,SNR=8.6
FX1 Attu Island--F 82.67 354 LR LR 20 20 33.9
comp=Z,3µm,21.6s,baz=198,slow=31
PLCA Paso Flores 82.74 133 P P 19 50 27.2 +2.2
comp=Z,11nm,0.7s,baz=217,slow=8.1,SNR=25
PLCA PKPPKP P'P'df 20 16 53.0 -5.0
comp=Z,3.1nm,1.0s,baz=54,slow=7.7,SNR=3.0
PLCA LR LR 20 18 23.6
comp=Z,4µm,21.7s,baz=276,slow=29
AIS Amsterdam Isla 82.77 231 P P 19 50 14.0 -11
AIS SS SS 20 06 32.0 +29
AIS R 20 17 00.0
TJN Taejon 83.60 318 eP P 19 50 29.9 +0.7
UNV Unalaska Valle 83.81 7 eP P 19 50 29.5 -0.3
comp=Z,132nm,1.2s
BSC Santa Cruz Isl 83.82 45 ⇓P P 19 50 32.1 +1.7
baz=84,SNR=11
SCI San Clemente I 83.82 47 ⇓P P 19 50 31.5 +1.1
baz=84
SSE Sheshan 83.89 311 P P 19 50 31.3 +0.5
SSE sP sP 19 50 48.3 +1.0
SSE pmax pmax
comp=Z,24nm,0.9s
SSE pmax pmax
comp=Z,600nm,6.4s
SSE LR LR
comp=Z,850nm,23.1s
SSE LR LR
comp=Z,510nm,23.4s
SSE LR LR
comp=Z,1µm,24.0s
LPIG La Paz 83.95 58 LR LR 20 18 54.8
comp=Z,1µm,21.3s,baz=226,slow=29
KSRS Korea Array 84.04 319 P P 19 50 33.0 +1.6
KSRS pmax pmax
comp=Z,46nm,0.9s
KSRS MLR MLR
comp=Z,1µm,19.6s
KSRS Korea Array 84.04 319 P P 19 50 33.0 +1.6
comp=Z,46nm,0.9s,baz=141,slow=5.5,SNR=54
KSRS LR LR 20 25 18.3
comp=Z,1µm,19.6s,baz=134,slow=34
KSAR Wonju Array Be 84.05 319 P P 19 50 33.0 +1.6
KSAR Wonju Array Be 84.05 319 P P 19 50 33.0 +1.6
SBC Santa Barbara 84.07 45 ⇓P P 19 50 33.4 +1.8
baz=84
CIS Catalina Islan 84.20 46 ⇓P P 19 50 33.4 +1.1
baz=84
YSS Yuzh-Sakhalins 84.29 334αeP P 19 50 33.2 +0.8
YSS e*SP sP 19 50 46.0 -2.9
YSS eS S 20 00 56.0 +1.2
YSS ePPS PPS 20 02 06.0
YSS pmax pmax

comp=N,60nm,1.0s
YSS pmax pmax
comp=E,60nm,1.0s
YSS pmax pmax
comp=Z,170nm,1.0s
YSS pmax pmax
comp=Z,1µm,8.0s
YSS MLR MLR
comp=N,1µm,18.0s
YSS MLR MLR
comp=E,900nm,18.0s
YSS MLR MLR
comp=Z,2µm,18.0s
YSS Yuzh-Sakhalins 84.29 334 *e*P **P 19 50 32.8 +0.5**
comp=Z,400nm,1.4s
YSS LR LR
comp=Z,2µm,22.0s
FMP Fort Macarthur 84.47 46 ⇓P **P 19 50 35.0 +1.4**
baz=85
SMMC Simmler 84.48 44 ⇓P **P 19 50 35.7 +2.0**
baz=85
SAO San Andreas Ge 84.61 42 *e*P **P 19 50 35.9 +1.6**
SAO pmax pmax
comp=Z,193nm,1.8s
SAO San Andreas Ge 84.61 42 *e*P **P 19 50 35.9 +1.6**
comp=Z,193nm,1.8s
IPM Ipoh 84.67 278 *e*P **P 19 50 34.4 -0.9**
comp=Z,107nm,0.9s
109C Camp Elliot, M 84.68 47 ⇑P **P 19 50 36.2 +1.5**
baz=85
INCN Inchon 84.79 319 PFAKE 19 50 50.0 +15
INCN LR LR
comp=Z,1µm,20.0s
OSI Osito Adit 84.79 45 *e*P **P 19 50 37.2 +1.8**
comp=Z,60nm,1.0s
OSI Osito Adit 84.79 45 ⇓P **P 19 50 36.6 +1.3**
baz=85
DECC Green Verdugo 84.80 46 ⇓P **P 19 50 36.5 +1.1**
baz=85
BAR Barrett 84.82 48 *e*P **P 19 50 37.1 +1.6**
comp=Z,626nm,1.8s
PASC Pasadena Art C 84.83 46 *e*P **P 19 50 37.4 +1.8**
comp=Z,64nm,1.1s
MWC Mount Wilson 84.95 46 *e*P **P 19 50 37.5 +1.2**
MWC pmax pmax
comp=Z,63nm,1.1s
MWC Mount Wilson 84.95 46 *e*P **P 19 50 37.5 +1.2**
comp=Z,63nm,1.1s
PET Petropavlovsk 84.97 346 *e*P **P 19 50 37.1 +1.4**
PET *e* 19 54 01.3
PET *e*S **S 20 01 06.4 +5.1**
PET *e*PS **PnS 20 02 06.6 +5.7**
PET *e*PPS PPS 20 02 28.2
PET pmax pmax
comp=Z,1µm,10.7s
PET MLR MLR
comp=Z,2µm,20.0s
QIZ Qiongzhong 84.97 295 P **P 19 50 35.8 -0.7**
QIZ S **S 20 01 03.8 +0.9**
QIZ pmax pmax
comp=Z,860nm,13.2s
QIZ LR LR
comp=Z,1µm,16.5s
QIZ LR LR
comp=Z,490nm,22.4s
QIZ LR LR
comp=Z,2µm,35.8s
QIZ Qiongzhong 84.97 295 PFAKE 19 50 50.0 +13
QIZ LR LR
comp=Z,1µm,20.0s
ARVC Arvin 85.07 45 ⇓P **P 19 50 38.2 +1.6**
baz=85,SNR=5.8
MURC Murrieta 85.08 47 ⇓P **P 19 50 38.5 +1.7**
baz=85
MONP Monument Peak 85.12 48 ⇑P **P 19 50 38.6 +1.3**
baz=86
BFSC Mount Baldy Ra 85.21 46 ⇑P **P 19 50 38.6 +1.1**
baz=86
HOPS Hopland 85.23 40 *e*P **P 19 50 39.0 +1.7**
comp=Z,80nm,1.0s
PEA0B Petropavlovsk- 85.25 345 *e*P **P 19 50 37.8 +0.6**
PETK Petropavlovsk- 85.25 345 P **P 19 50 37.9 +0.7**
PETK pmax pmax
comp=Z,49nm,0.7s
PETK MLR MLR
comp=Z,17nm,28.6s
PETK Petropavlovsk- 85.25 345 P **P 19 50 37.9 +0.7**
comp=Z,49nm,0.7s,baz=140,slow=7.7,SNR=25
PETK LR LR 20 22 12.6
comp=Z,1µm,21.8s,baz=168,slow=31
VES Vestal, Richgr 85.39 44 ⇑P **P 19 50 39.4 +1.2**
baz=86,SNR=16
KULM Kulim 85.40 279 *e*P **P 19 50 38.9 +0.1**
comp=Z,116nm,1.1s
KULM LR LR
comp=Z,2µm,22.0s
EDW2 Edwards Air Fo 85.42 45 ⇑P **P 19 50 40.3 +1.8**
baz=86,SNR=54
SWSC Sam W. Stewart 85.56 48 ⇓P **P 19 50 40.7 +1.5**
baz=86
PFO Pinyon Flat Ob 85.56 47 P **P 19 50 41.2 +1.9**
comp=Z,225nm,1.2s,SNR=17
PFO Pinyon Flat Ob 85.56 47 *e*P **P 19 50 40.9 +1.6**
PFO pmax pmax
comp=Z,45nm,1.1s
PFO MLR MLR
comp=Z,2µm,20.0s
PFO Pinyon Flat Ob 85.56 47 P **P 19 50 41.0 +1.6**
comp=Z,34nm,1.0s,baz=263,slow=3.7,SNR=27
PFO Pinyon Flat Ob 85.56 47 *e*P **P 19 50 40.9 +1.6**
comp=Z,45nm,1.1s
PFO LR LR
comp=Z,2µm,20.0s
KIPM Iron Peak 85.58 39 *e*P **P 19 50 40.7 +1.4**
comp=Z,192nm,1.6s
RCTC Rector, Farmer 85.61 44 ⇓P **P 19 50 40.7 +1.4**
baz=86
ISA Isabella 85.64 45 *e*P **P 19 50 41.3 +1.7**
ISA pmax pmax
comp=Z,168nm,1.5s
ISA Isabella 85.64 45 *e*P **P 19 50 41.3 +1.7**
comp=Z,168nm,1.5s
ISA Isabella 85.64 45 ⇓P **P 19 50 41.1 +1.5**
baz=86,SNR=58
PSI Prapat 85.65 276 P **P 19 50 39.1 -1.1**
baz=86,SNR=43
BBRC Big Bear Solar 85.69 46 ⇑P **P 19 50 41.3 +1.2**
baz=86
LRMC Laurel Mountai 86.00 45 ⇓P **P 19 50 42.7 +1.3**
baz=86,SNR=26
VLA Vladivostok 86.03 326*c i*P **P 19 50 42.4 +1.2**
VLA pmax pmax
comp=Z,62nm,1.3s
SDPT Sand Point 86.03 10 *e*P **P 19 50 40.7 -0.2**
comp=Z,204nm,1.0s
NJ2 Nanjing 86.04 310 *e*P **P 19 50 42.8 +1.3**
NJ2 pP **pP 19 50 53.3 -0.4**
NJ2 sP **sP 19 50 56.1 -2.0**
NJ2 PP **PP 19 54 02.9 +0.5**
NJ2 S **SKKSac 20 01 12.5 +0.7**
NJ2 sS **sS 20 01 31.5 -1.5**
NJ2 pmax pmax
comp=Z,70nm,1.0s
NJ2 pmax pmax
comp=Z,940nm,11.7s
NJ2 LR LR
comp=Z,1µm,26.0s
NJ2 LR LR
comp=Z,1µm,24.3s
NJ2 LR LR
comp=Z,2µm,21.2s
RRX Edison Barstow 86.04 46 ⇓P **P 19 50 42.9 +1.4**
baz=86
GSI Gunungsitoli 86.08 274 *e*P **P 19 50 43.0 +0.8**
comp=Z,221nm,1.0s
CMB Columbia Colle 86.09 42 *e*P **P 19 50 42.9 +1.1**
CMB pmax pmax
comp=Z,73nm,1.1s
CMB Columbia Colle 86.09 42 *e*P **P 19 50 42.9 +1.1**
comp=Z,73nm,1.1s
BELC Belle Mtn. Jos 86.10 47 ⇑P **P 19 50 43.9 +1.9**
baz=86
KHMM Horse Mountain 86.20 38 *e*P **P 19 50 44.5 +2.2**
comp=Z,65nm,1.1s
BC3 Big Chuckawall 86.23 48 ⇑P **P 19 50 44.4 +1.8**
baz=87
GLA Glamis 86.26 48 *e*P **P 19 50 45.0 +2.3**
GLA pmax pmax
comp=Z,302nm,1.8s
GLA Glamis 86.26 48 *e*P **P 19 50 45.0 +2.3**
comp=Z,302nm,1.8s
GLA Glamis 86.26 48 ⇓P **P 19 50 44.5 +1.9**
baz=87
HEC Hector,Ludlow 86.42 46 ⇓P **P 19 50 44.8 +1.3**
baz=87,SNR=40
GSC Goldstone 86.43 46 *e*P **P 19 50 45.2 +1.7**
GSC pmax pmax
comp=Z,103nm,1.2s
GSC Goldstone 86.43 46 *e*P **P 19 50 45.2 +1.7**
comp=Z,103nm,1.2s
GSC Goldstone 86.43 46 ⇓P **P 19 50 44.9 +1.4**
baz=87,SNR=67
WDC Whiskeytown Da 86.63 39 *e*P **P 19 50 45.7 +1.4**
WDC pmax pmax
comp=Z,80nm,1.2s
WDC Whiskeytown Da 86.63 39 *e*P **P 19 50 45.6 +1.4**
comp=Z,80nm,1.2s
TIN Tinemaha 86.71 44 ⇓P **P 19 50 46.4 +1.5**
baz=87
MLAC Mammoth Lakes 86.73 43 ⇓P **P 19 50 47.0 +1.9**
baz=87
IRM Iron Mountain 86.75 47 ⇓P **P 19 50 47.0 +2.0**
baz=87
113A Mohawk Valley, 86.77 49 ⇑P **P 19 50 46.8 +1.7**
baz=87
USRK Ussuriysk Arra 86.78 326 P **P 19 50 46.1 +1.3**
comp=Z,52nm,0.9s,baz=145,slow=3.2,SNR=40
USRK LR LR 20 25 53.1
comp=Z,1µm,20.0s,baz=133,slow=33
GMRC Granite Mounta 86.82 47 ⇑P **P 19 50 46.9 +1.4**
baz=87,SNR=34
N02D Trinity Center 86.82 38 ⇓P **P 19 50 47.4 +2.1**
baz=87
Y12C Blythe 86.89 48 ⇓P **P 19 50 47.7 +2.0**
baz=87
214A Organ Pipe Nat 86.91 50 *e*P **P 19 50 47.7 +1.8**
comp=Z,328nm,1.9s
214A Organ Pipe Nat 86.91 50 ⇓P **P 19 50 47.5 +1.6**
baz=87
WAKR Walker 86.96 42 *e*P **P 19 50 47.4 +1.2**
comp=Z,189nm,1.5s
M02C Callahan 87.03 38 ⇑P **P 19 50 48.3 +2.0**
baz=87
TUQ Turquoise Moun 87.07 46 ⇓P **P 19 50 48.3 +1.6**
baz=87,SNR=32
SHOC Shoshone 87.14 46 ⇓P **P 19 50 48.3 +1.4**
baz=88,SNR=13
FURC Furnace Creek, 87.16 45 ⇑P **P 19 50 48.4 +1.6**
baz=88,SNR=7.0
L02D Cave Junction, 87.18 37 ⇓P **P 19 50 49.7 +2.8**
baz=88
GRAC Grapevine Rang 87.19 44 ⇑P **P 19 50 49.3 +2.2**
baz=88,SNR=7.4
CHGN Chignik 87.27 11 *e*P **P 19 50 45.9 -1.0**
YBH Yreka Blue Hor 87.35 38 *e*P **P 19 50 47.9 0.0**
YBH pmax pmax
comp=Z,31nm,1.1s
YBH Yreka Blue Hor 87.35 38 *e*P **P 19 50 47.9 0.0**
comp=Z,31nm,1.1s
PAYG Puerto Ayora 87.40 89 PFAKE 19 51 00.0 +11
PAYG LR LR
comp=Z,3µm,21.0s
PDMCI Parker Dam,Lak 87.48 48 ⇑P **P 19 50 50.0 +1.5**
baz=88
NVAR Mina Array Bea 87.57 43 P **P 19 50 50.4 +1.3**
comp=Z,44nm,1.0s,baz=221,slow=7.8,SNR=123
NVAR PKPKPP P'P'df 20 16 48.9 +6.5
comp=Z,1.1nm,0.8s,baz=119,slow=2.9,SNR=6.7
NVAR LR LR 20 26 41.0
comp=Z,3µm,18.0s,baz=127,slow=33
Z14A Wintersburg 87.68 49 ⇓P **P 19 50 51.7 +2.2**
baz=88
CHBT CHBT 87.76 286 P **P 19 50 51.5 +1.2**
comp=Z,62nm,1.0s,comp=Z,1µm
HUMO Hull Mountain 87.83 37 *e*P **P 19 50 51.8 +1.7**
comp=Z,113nm,1.5s
M04C Macdoel 87.85 38 ⇓P **P 19 50 52.1 +1.8**
baz=88
TPH Tonopah 87.98 43 *e*P **P 19 50 52.4 +1.3**
TPH pmax pmax
comp=Z,128nm,1.4s
TPH Tonopah 87.98 43 *e*P **P 19 50 52.4 +1.3**
comp=Z,128nm,1.4s
Y14A Wickenburg 88.00 49 ⇑P **P 19 50 52.7 +1.6**
baz=88
W13A Hualapai Mount 88.15 47 ⇓P **P 19 50 53.4 +1.4**
baz=88
WHN Wuhan 88.18 307 P **P 19 50 52.5 +0.6**
WHN PP **PP 19 54 23.6 +3.9**
WHN SS SS 20 07 21.6 -2.1
WHN pmax pmax
comp=Z,58nm,0.8s
WHN LR LR
comp=Z,3µm,21.0s
WHN LR LR
comp=Z,310nm,17.7s
WHN LR LR
comp=Z,3µm,18.9s
SHPR Sheep Range 88.23 46 *e*P **P 19 50 53.9 +1.6**
comp=Z,206nm,1.7s
MDJ Mudanjiang 88.25 325 P **P 19 50 52.9 +1.0**
MDJ pP **pP 19 51 01.9 -2.2**
MDJ sP **sP 19 51 05.8 -2.8**
MDJ PP **PP 19 54 20.5 +0.5**
MDJ S **S 20 01 35.8 +2.2**
MDJ sS **sS 20 01 52.8 -1.1**
MDJ pmax pmax
comp=Z,64nm,1.3s
MDJ LR LR
comp=Z,930nm,16.3s
MDJ LR LR
comp=Z,680nm,18.6s
MDJ LR LR
comp=Z,2µm,23.3s
MDJ Mudanjiang 88.25 325 *e*P **P 19 50 53.0 +1.0**
comp=Z,70nm,1.0s
MDJ LR LR
comp=Z,1µm,20.0s
I03D Drain, OR 88.40 36 ⇓P **P 19 50 54.5 +1.9**
baz=89
TUC Tucson 88.49 51 PFAKE 19 51 10.0 +16
TUC LR LR
comp=Z,1µm,22.0s
DL2 Dalian 88.67 317 P **P 19 50 55.3 +1.3**
DL2 S **S 20 01 39.6 +1.9**
DL2 pmax pmax
comp=Z,95nm,1.2s
DL2 pmax pmax
comp=Z,600nm,4.5s
DL2 LR LR
comp=Z,640nm,23.7s
DL2 LR LR
comp=Z,430nm,21.8s
DL2 LR LR
comp=Z,630nm,26.9s
J04D Umpqua Nationa 88.72 37 ⇓P **P 19 50 56.3 +1.8**
baz=89
MOD Modoc 88.77 39 *e*P **P 19 50 55.4 +0.7**
comp=Z,80nm,1.5s
SURT Suratani 88.83 281 P **P 19 50 58.1 +2.7**
comp=Z,22nm,1.0s,comp=Z,335nm
I04A Tendick Farm, 88.95 37 ⇑P **P 19 50 56.2 +0.9**
baz=89
PATY Pattaya 89.07 285 P **P 19 50 58.7 +2.2**
comp=Z,25nm,0.8s,comp=Z,603nm
LCO Las Campanas 89.09 123 *e*P **P 19 50 58.2 +1.4**
comp=Z,33nm,1.4s
LCO LR LR
comp=Z,3µm,22.0s
R11A Troy Canyon, C 89.14 44 *e*P **P 19 50 57.2 +0.7**
comp=Z,80nm,1.8s
R11A Troy Canyon, C 89.14 44 ⇓P **P 19 50 57.8 +1.3**
baz=90
J05D Fort Rock, OR 89.21 37 ⇑P **P 19 50 58.3 +1.6**
baz=90
X16A Lo Mia Camp, P 89.31 49 ⇓P **P 19 50 59.1 +1.7**
baz=90
SNY Shenyang 89.47 320 ⇓P **P 19 50 58.8 +1.1**
SNY S **S 20 01 47.5 +2.3**
SNY LR LR
comp=Z,250nm,17.1s
SNY LR LR
comp=Z,190nm,11.7s
SNY LR LR
comp=Z,200nm,12.6s
BMN Battle Mountai 89.52 42 *e*P **P 19 50 59.3 +1.1**
BMN pmax pmax
comp=Z,126nm,1.6s
BMN Battle Mountai 89.52 42 *e*P **P 19 50 59.3 +1.1**
comp=Z,126nm,1.6s
TRQA Tornquist 89.69 135 *e*P **P 19 51 01.3 +2.1**
comp=Z,55nm,1.5s
TRQA LR LR
comp=Z,3µm,22.0s
KDAK Kodiak Island 89.71 13 PFAKE 19 51 10.0 +12
KDAK LR LR
comp=Z,3µm,20.0s
TIA Tai'an 89.73 313 ⇑P **P 19 50 59.9 +0.7**
TIA PP **PP 19 54 29.9 -2.2**
TIA SKS **SKSac 20 01 27.9 +1.3**
TIA S **ScS 20 01 53.6 +1.4**
TIA LR LR
comp=Z,1µm,19.0s
TIA LR LR
comp=Z,960nm,19.0s
TIA LR LR
comp=Z,2µm,18.4s
PINOR Pine Mountain 89.76 37 *e*P **P 19 51 00.4 +1.3**
comp=Z,71nm,1.1s
CN2 Changchun 89.80 323 *e*P **P 19 51 00.3 +1.1**
CN2 PP **PP 19 54 31.4 -1.0**
CN2 *e*S **S 20 01 45.8 -2.3**
CN2 pmax pmax
comp=Z,50nm,1.2s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,700nm,19.0s
HOPE Hope Point 89.85 158 PFAKE 19 51 10.0 +10
HOPE LR LR
comp=Z,2µm,21.0s
I05D Terrebonne, OR 89.88 37 ⇓P **P 19 51 01.5 +1.8**
baz=90
U15A North Rim 89.99 47 ⇑P **P 19 51 02.7 +2.0**
baz=90,SNR=72
CCUT Cedar City 90.00 46 *e*P **P 19 51 02.6 +1.9**
comp=Z,289nm,2.1s
WUAZ Wupatki 90.02 48 *e*P **P 19 51 03.0 +2.3**
comp=Z,98nm,1.2s
WUAZ LR LR
comp=Z,2µm,22.0s
WUAZ Wupatki 90.02 48 ⇓P **P 19 51 02.6 +1.9**
baz=90,SNR=41
WVOR Wild Horse Val 90.04 39 *e*P **P 19 51 01.7 +1.1**
WVOR pmax pmax
comp=Z,155nm,1.8s
WVOR MLR MLR
comp=Z,3µm,19.0s
WVOR Wild Horse Val 90.04 39 *e*P **P 19 51 01.7 +1.1**
comp=Z,155nm,1.8s
WVOR LR LR
comp=Z,3µm,19.0s
ARUT Antelope Range 90.10 46 *e*P **P 19 51 02.6 +1.6**
ARUT pmax pmax
comp=Z,2µm,1.6s
ARUT Antelope Range 90.10 46 *e*P **P 19 51 02.6 +1.6**
comp=Z,2µm,1.6s
F04D Rainier, OR 90.25 35 ⇓P **P 19 51 03.6 +2.3**
baz=91
X18A Snowflake 90.37 50 ⇑P **P 19 51 04.3 +1.9**
baz=91,SNR=19
VFP Flag Point 90.49 36 P **P 19 51 04.3 +1.6**
G05D Wamic, OR 90.52 36 ⇑P **P 19 51 04.3 +1.7**
baz=91
LVP Lakeview Peak 90.54 35 P **P 19 51 04.5 +1.7**
KLR Kul'dur 90.62 330 *e*P P 19 51 00.0 -2.9
KLR *e*S **S 20 01 50.5 -5.0**
KLR *e* 20 08 07.5
KLR pmax pmax
comp=Z,140nm,1.6s
KLR MLR MLR
comp=E,1µm,20.5s
FL2 Flat Top 2 90.66 35 P **P 19 51 05.3 +1.9**
121A Cookes Peak, D 90.67 52 *e*P **P 19 51 05.9 +2.1**
comp=E,233nm,1.8s
121A Cookes Peak, D 90.67 52 ⇓P **P 19 51 05.5 +1.7**
baz=91
NLWA Neilton Lookou 90.76 33 *e*P **P 19 51 05.5 +1.8**
comp=E,39nm,1.1s
NLWA LR LR
comp=Z,2µm,22.0s
TDL Tradedollar La 90.83 35 P **P 19 51 05.6 +1.4**
W18A Petrified Fore 90.86 49 *e*P **P 19 51 07.5 +2.8**
comp=Z,93nm,1.1s
W18A Petrified Fore 90.86 49 ⇑P **P 19 51 06.4 +1.8**
baz=91,SNR=11
SLVN Son La 90.91 294 *e*P **P 19 51 05.6 +0.5**
comp=Z,53nm,1.4s
SRDT SRDT 91.25 286 P **P 19 51 08.5 +1.8**
comp=Z,140nm,0.9s,comp=Z,4µm
MVU Marysvale 91.30 46 *e*P **P 19 51 08.6 +1.8**
comp=Z,26nm,1.1s
LON Longmire 91.31 35 *e*P **P 19 51 07.3 +1.0**
LON pmax pmax
comp=Z,28nm,1.5s
LON Longmire 91.31 35 *e*P **P 19 51 07.3 +1.0**
comp=Z,28nm,1.5s
ENH Enshi 91.47 304 *e*P **P 19 51 08.8 +1.4**
comp=Z,44nm,1.1s
ENH LR LR
comp=Z,305nm,19.0s
GYA Guiyang 91.47 300 ⇑*i*P **P 19 51 08.3 +0.7**
GYA pP **pP 19 51 20.6 +0.8**
GYA PP **PP 19 54 49.8 +3.6**
GYA SKS **SKSac 20 01 38.8 +1.5**
GYA SS **SS 20 08 14.3 +2.5**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA LR LR
comp=Z,850nm,20.6s
GYA LR LR
comp=Z,790nm,21.0s
GYA LR LR
comp=Z,980nm,20.4s
TRW Toppenish Ridg 91.63 36 P **P 19 51 09.1 +1.4**
Z22A Elephant Butte 91.65 52 ⇑P **P 19 51 09.9 +1.5**
baz=92
UTTA Uttaradit 91.77 289 P **P 19 51 11.2 +2.2**
comp=Z,5.5nm,1.0s,comp=Z,51nm
TXAR Lajitas Array 91.80 57 P **P 19 51 10.6 +1.5**
TXAR 20 08 29.8
TXAR pmax pmax
comp=Z,19nm,1.0s
TXAR MLR MLR
comp=Z,885nm,21.9s
TXAR Lajitas Array 91.80 57 P **P 19 51 10.6 +1.5**
comp=Z,18nm,1.0s,baz=206,slow=5.4,SNR=44
TXAR PKKPbc **PKKPbc 20 08 29.8 +2.4**
comp=Z,0.4nm,0.5s,baz=35,slow=3.3,SNR=5.4
TXAR LR LR 20 23 32.8
comp=Z,885nm,21.9s,baz=0.0,slow=30
MNTX Cornudas Mount 91.87 54 *e*P **P 19 51 10.3 +1.0**
comp=Z,26nm,1.1s
MNTX LR LR
comp=Z,740nm,19.0s
KHLT Khaolaem Dam 91.92 286 P **P 19 51 11.2 +1.4**
comp=Z,15nm,1.2s,comp=Z,284nm
CRZF Crozet Islands 91.94 212 P P 19 50 56.0 -13
CRZF PP PP 19 54 28.0 -20
CRZF S SKSac 20 01 32.0 -7.3
CRZF R 20 21 00.0
DUG Dugway 91.97 44 *e*P **P 19 51 10.6 +1.0**
DUG pmax pmax
comp=Z,49nm,1.6s
DUG MLR MLR
comp=Z,2µm,19.0s
DUG Dugway 91.97 44 *e*P **P 19 51 10.6 +1.0**
comp=Z,50nm,1.6s
DUG LR LR
comp=Z,2µm,19.0s
DUG Dugway 91.97 44 ⇓P **P 19 51 10.9 +1.2**
baz=92
LENM Lemitar 92.16 52 *e*P **P 19 51 12.3 +1.6**
comp=Z,30nm,1.1s
RSO Redoubt South 92.18 12 *e*P **P 19 51 09.9 -0.3**
comp=Z,108nm,1.2s
LAZ Ladron 92.18 51 *e*P **P 19 51 12.6 +1.7**
comp=Z,114nm,1.8s
HAWA Hanford 92.22 36 *e*P **P 19 51 11.7 +1.3**

comp=Z,43nm,1.2s
HAWA LR LR
comp=Z,2µm,20.0s
MFID Camas Ranch 92.24 40 eP P 19 51 11.7 +0.9
comp=Z,41nm,1.0s
NLU North Lily Min 92.27 44 eP P 19 51 12.8 +1.6
comp=Z,46nm,1.5s
BGU Big Grassy Mou 92.29 43 eP P 19 51 11.9 +0.8
comp=Z,20nm,1.5s
BMO Blue Mountains 92.36 38 eP P 19 51 11.8 +0.5
comp=Z,114nm,1.9s
BMO LR LR
comp=Z,2µm,22.0s
LPM Los Pinos Moun 92.47 52 eP P 19 51 14.0 +1.8
comp=Z,124nm,1.8s
225A Deer Hill, Car 92.50 54 ⇓P P 19 51 13.5 +1.1
baz=93
MPU Maple Canyon 92.58 45 eP P 19 51 13.8 +1.3
comp=Z,52nm,1.5s
BJT Baijiatuau 92.65 315 eP P 19 51 13.5 +0.9
BJT pmax pmax
comp=Z,57nm,0.9s
BJT MLR MLR
comp=Z,2µm,22.0s
BJT Baijiatuau 92.65 315 eP P 19 51 13.5 +0.9
comp=Z,57nm,0.9s
BJT LR LR
comp=Z,2µm,22.0s
Y23A Lovelace Mesa, 92.66 52 ⇓P P 19 51 14.5 +1.4
baz=93,SNR=13
BJI Beijing 92.66 315 P P 19 51 13.3 +0.7
BJI sP sP 19 51 26.3 -2.9
BJI S SKKSac 20 02 07.0 +6.0
BJI pmax pmax
comp=Z,57nm,0.9s
BJI pmax pmax
comp=Z,730nm,7.3s
BJI LR LR
comp=Z,1µm,21.5s
BJI LR LR
comp=Z,1µm,23.5s
BJI LR LR
comp=Z,3µm,35.0s
SRU San Rafael 92.72 46 eP P 19 51 14.3 +1.1
SRU pmax pmax
comp=Z,73nm,1.4s
SRU San Rafael 92.72 46 eP P 19 51 14.3 +1.1
comp=Z,73nm,1.4s
Z24A Sheeppen Canyo 92.80 53 ⇓P P 19 51 15.1 +1.4
baz=93,SNR=13
SPUT South Promonto 92.87 43 eP P 19 51 15.1 +1.3
comp=Z,52nm,1.1s
WTV Waterville 92.88 35 P P 19 51 14.4 +0.8
MVCO Mesa Verde 92.89 48 eP P 19 51 15.2 +1.0
comp=Z,7.0nm,0.4s
MVCO LR LR
comp=Z,1µm,22.0s
MVCO Mesa Verde 92.89 48 ⇑P P 19 51 15.1 +1.0
baz=93,SNR=6.4
125A Gardner Draw, 92.92 54 ⇓P P 19 51 14.8 +0.6
baz=93,SNR=12
CTU Camp Tracy 92.92 44 eP P 19 51 15.4 +1.3
comp=Z,12nm,1.0s
LAMP Lampang 92.92 290 P P 19 51 16.5 +2.2
comp=Z,7.4nm,1.1s,comp=Z,66nm
X23A Hourglass Bar 92.93 52 ⇑P P 19 51 15.4 +1.1
baz=93
ANMO Albuquerque 92.95 51 eP P 19 51 15.6 +1.2
ANMO pmax pmax
comp=Z,133nm,1.8s
ANMO MLR MLR
comp=Z,2µm,21.0s
ANMO Albuquerque 92.95 51 eP P 19 51 15.6 +1.2
comp=Z,133nm,1.8s
ANMO LR LR
comp=Z,2µm,21.0s
HVU Hansel Valley 92.97 43 eP P 19 51 15.4 +1.1
HVU pmax pmax
comp=Z,70nm,1.2s
HVU Hansel Valley 92.97 43 eP P 19 51 15.3 +1.1
comp=Z,70nm,1.2s
JLU Jordanelle 93.05 44 eP P 19 51 17.1 +2.4
comp=Z,38nm,1.3s
DAU Daniels Canyon 93.05 44 eP P 19 51 16.3 +1.5
DAU pmax pmax
comp=Z,157nm,2.1s
DAU Daniels Canyon 93.05 44 eP P 19 51 16.3 +1.5
comp=Z,157nm,2.1s
Y24A Capitan 93.08 52 ⇓P P 19 51 15.8 +0.8
baz=93,SNR=27
HLID Hailey 93.13 41 eP P 19 51 16.2 +1.3
comp=Z,32nm,1.1s
HLID LR LR
comp=Z,2µm,19.0s
HLID Hailey 93.13 41 ⇑P P 19 51 16.6 +1.7
baz=94
PAYA Payao 93.14 290 P P 19 51 18.1 +2.7
comp=Z,6.2nm,1.0s
V22A San Miguel Ran 93.20 50 ⇓P P 19 51 16.4 +0.9
baz=94,SNR=6.4
Z25A Roswell 93.22 53 ⇓P P 19 51 16.9 +1.3
baz=94,SNR=16
529A Stev Forest Ra 93.29 57 ⇑P P 19 51 16.2 +0.3
baz=94,SNR=11
PV04 Paradox Valley 93.32 47 eP P 19 51 16.8 +0.9
GAMB Gambell 93.33 3 eP P 19 51 16.1 +1.0
comp=Z,71nm,1.1s
NNA Nana 93.33 106 PFAKE 19 51 30.0 +14
NNA LR LR
comp=Z,2µm,22.0s
TCUT Toone Canyon 93.38 44 eP P 19 51 16.9 +0.6
comp=Z,133nm,1.5s
PV01 Paradox Valley 93.38 48 eP P 19 51 16.8 +0.4
comp=Z,2µm,1.1s
X24A Lazy VL Ranch, 93.44 52 ⇑P P 19 51 16.5 -0.1
baz=94
CMAR Chiang Mai Arr 93.45 289 P P 19 51 18.1 +1.3
CMAR 19 55 03.7
CMAR pmax pmax
comp=Z,7.0nm,0.9s
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR pmax pmax
comp=Z,1.0nm,0.9s
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR MLR MLR
comp=Z,575nm,19.2s
CMAR Chiang Mai Arr 93.45 289 P P 19 51 18.1 +1.3
comp=Z,6.5nm,0.9s,baz=129,slow=3.6,SNR=23
CMAR PP PP 19 55 03.7 +2.0
comp=Z,3.0nm,0.8s,baz=137,slow=6.0,SNR=6.6
CMAR PKiKP PKiKP 19 56 04.3 +1.4
comp=Z,1.2nm,0.9s,baz=210,slow=1.3,SNR=4.2
CMAR PKKPbc PKKPbc 20 08 24.9 +2.4
comp=Z,1.5nm,0.7s,baz=288,slow=4.1,SNR=9.5
CMAR LR LR 20 36 21.7
comp=Z,575nm,19.2s,baz=158,slow=37
U22A Llaves 93.50 50 ⇓P P 19 51 17.5 +0.6
baz=94
HWUT Hardware Ranch 93.58 43 eP P 19 51 16.9 -0.2
comp=Z,34nm,1.4s
HWUT LR LR
comp=Z,2µm,22.0s
V23A Ortiz Mt. (NFS 93.59 51 ⇑P P 19 51 17.4 +0.1
baz=94
Y25A Mesa, Roswell 93.59 53 ⇑P P 19 51 18.4 +1.1
baz=94,SNR=34
CMMT Chiang Mai 93.62 289 P P 19 51 17.8 +0.2
comp=Z,49nm,1.2s,comp=Z,570nm
CHTO Chiang Mai 93.63 289 eP P 19 51 14.0 -3.6
CHTO pmax pmax
comp=Z,38nm,1.4s
CHTO MLR MLR
comp=Z,1µm,21.0s
CHTO Chiang Mai 93.63 289 P P 19 51 17.8 +0.2
comp=Z,55nm,1.5s,comp=Z,2µm
CHTO Chiang Mai 93.63 289 eP P 19 51 14.0 -3.6
comp=Z,38nm,1.4s
CHTO LR LR
comp=Z,1µm,21.0s
TIY Taiyuan 93.65 312 eP P 19 51 19.5 +2.2
TIY SKS SKSac 20 01 51.1 +2.3
TIY pmax pmax
comp=Z,51nm,0.9s
CPRX Cap Rock 93.68 54 eP P 19 51 19.4 +1.8
comp=Z,3.6nm,0.8s
KMI Kunming 93.78 297 P P 19 51 19.8 +1.3
KMI pP pP 19 51 29.8 -0.9
KMI sP sP 19 51 36.1 +1.0
KMI PP PP 19 55 08.6 +4.1
KMI SKS SKSac 20 01 51.3 +0.9
KMI S S 20 02 23.4 -2.0
KMI sS sS 20 02 43.1 -2.7
KMI SS SS 20 08 43.3 -1.9
KMI pmax pmax
comp=Z,11nm,1.0s
KMI pmax pmax
comp=Z,400nm,5.3s
KMI LR LR
comp=Z,700nm,18.5s
KMI LR LR
comp=Z,870nm,17.4s
KMI LR LR
comp=Z,1µm,19.0s
429A Davenport Ranc 93.79 57 ⇓P P 19 51 18.8 +0.6
baz=94,SNR=47
W24A Lazy 6 Ranch, 93.81 51 ⇑P P 19 51 19.5 +1.2
baz=94,SNR=13
U23A El Rito 93.91 50 ⇓P P 19 51 20.1 +1.3
baz=94
PMR Palmer 93.91 13 eP P 19 51 18.0 +0.2
PMR pmax pmax
comp=Z,53nm,1.3s
PMR Palmer 93.91 13 eP P 19 51 18.0 +0.2
comp=Z,53nm,1.3s
530A J-C Ranch, Com 93.94 58 ⇓P P 19 51 19.9 +1.0
baz=94,SNR=7.7
X25A Clemmons Ranch 93.94 52 ⇑P P 19 51 19.8 +0.9
baz=94,SNR=16
XAN Xi'an 93.94 307 P P 19 51 19.3 +0.5
XAN pP pP 19 51 30.8 -0.2
XAN sP sP 19 51 36.5 +1.1
XAN PP PP 19 55 07.8 +2.4
XAN SKS SKSac 20 01 48.0 -2.5
XAN S S 20 02 21.8 -4.3
XAN pmax pmax
comp=Z,6.0nm,1.2s
XAN pmax pmax
comp=Z,140nm,8.2s
XAN LR LR
comp=Z,790nm,25.6s
XAN LR LR
comp=Z,400nm,18.4s
832A Faith Ranch, C 93.98 60 ⇓P P 19 51 19.7 +0.7
baz=94
LVC Limon Verde 94.00 119 eP P 19 51 21.9 +2.2
comp=Z,18nm,1.0s
LVC LR LR
comp=Z,2µm,21.0s
WRAK Wrangell Islan 94.06 23 eP P 19 51 20.7 +2.1
comp=Z,44nm,1.0s
WRAK LR LR
comp=Z,1µm,21.0s
228A UT Block 9, Go 94.09 55 ⇑P P 19 51 19.8 +0.2
baz=94,SNR=6.7
CMAI Chiengmai2 94.10 290 P P 19 51 18.7 -1.3
comp=Z,116nm,0.7s,comp=Z,5µm
631A Perdido Creek 94.12 59 ⇑P P 19 51 20.1 +0.5
baz=94
933A Laredo 94.16 61 ⇓P P 19 51 21.1 +1.3
baz=94
329A Wagon Wheel Ra 94.19 56 ⇑P P 19 51 20.4 +0.4
baz=94,SNR=10
V24A Rampart Ranch, 94.19 51 ⇓P P 19 51 21.3 +1.2
baz=94,SNR=6.8
Y26A Elida 94.19 53 ⇑P P 19 51 21.0 +1.0
baz=94,SNR=6.4
DIV Divide 94.21 15 eP P 19 51 20.4 +1.1
comp=Z,19nm,0.9s
732A Laxson Ranch, 94.21 59 ⇓P P 19 51 20.0 0.0
baz=94
S22A 4UR Ranch, Cre 94.29 49 ⇑P P 19 51 21.9 +1.3
baz=95
Z27A Tatum 94.29 54 ⇓P P 19 51 20.8 +0.3
baz=95,SNR=7.2
034A Hebbronville 94.32 61 ⇓P P 19 51 22.2 +1.6
baz=95,SNR=9.5
BMRM Bremner River 94.33 15 eP P 19 51 20.5 +0.7
comp=Z,72nm,1.2s
430A Baggett Ranch, 94.36 57 ⇑P P 19 51 21.5 +0.8
baz=95
T23A Casias Ranch, 94.41 50 ⇑P P 19 51 22.6 +1.4
baz=95
128A Castleberry Fa 94.43 55 ⇓P P 19 51 21.3 +0.1
baz=95,SNR=15
833A Chaparral WMA, 94.43 60 ⇓P P 19 51 21.4 +0.3
baz=95,SNR=6.6
W25A X Bar L Ranch, 94.46 52 ⇓P P 19 51 22.0 +0.7
baz=95,SNR=21
531A Rocksprings 94.53 58 ⇑P P 19 51 22.3 +0.7
baz=95,SNR=25
X26A CR and CF Fran 94.55 53 ⇓P P 19 51 22.2 +0.5
baz=95,SNR=9.1
AHID Auburn Hatcher 94.56 43 eP P 19 51 22.8 +1.2
comp=Z,119nm,1.5s
AHID LR LR
comp=Z,2µm,19.0s
229A Bryant Ranch, 94.57 56 ⇑P P 19 51 22.2 +0.5
baz=95
Y27A Causey 94.63 54 ⇓P P 19 51 22.7 +0.6
baz=95,SNR=13
NEW Newport 94.68 36 eP P 19 51 21.5 -0.3
NEW pmax pmax
comp=Z,7.0nm,1.1s
NEW MLR MLR
comp=Z,2µm,20.0s
NEW Newport 94.68 36 eP P 19 51 21.5 -0.3
comp=Z,7.4nm,1.1s
NEW LR LR
comp=Z,2µm,20.0s
NEW Newport 94.68 36 ⇓P P 19 51 23.6 +1.8
baz=95
V25A Rancho No Teng 94.70 51 ⇑P P 19 51 23.4 +1.0
baz=95,SNR=12
035A Encino 94.70 62 ⇑P P 19 51 23.2 +0.9
baz=95
733A Divot King Ran 94.71 60 ⇑P P 19 51 23.2 +0.8
baz=95
934A Benavides 94.72 61 ⇑P P 19 51 22.8 +0.4
baz=95
330A Mertzon 94.73 57 ⇓P P 19 51 23.4 +0.9
baz=95
O20A White River Ci 94.75 46 eP P 19 51 21.9 -0.6
comp=Z,11nm,0.9s
O20A White River Ci 94.75 46 ⇑P P 19 51 24.5 +2.0
baz=95
632A Uvalde 94.75 59 ⇓P P 19 51 23.3 +0.7
baz=95,SNR=7.3
431A Sonora 94.76 57 ⇑P P 19 51 23.1 +0.5
baz=95
MCMT McKenzie Canyo 94.80 40 eP P 19 51 23.8 +1.1
S23A Nye Farm, Mont 94.81 49 ⇑P P 19 51 24.1 +1.2
baz=95
T24B San Luis 94.86 50 ⇓P P 19 51 24.6 +1.4
baz=95,SNR=5.4
Z28A Tucker Farm, M 94.86 54 ⇓P P 19 51 23.9 +0.8
baz=95
W26A Owens Ranch, T 94.87 52 ⇓P P 19 51 23.8 +0.7
baz=95,SNR=8.7
129A Stewart Farms, 94.88 55 ⇑P P 19 51 24.0 +0.9
baz=95
MSTX Muleshoe 94.95 54 eP P 19 51 24.4 +0.9
comp=Z,46nm,1.1s
MSTX Muleshoe 94.95 54 ⇓P P 19 51 23.9 +0.4
baz=95,SNR=19
834A Tilden 94.97 61 ⇓P P 19 51 25.1 +1.6
baz=95
230A Sterling City 95.03 56 ⇑P P 19 51 23.8 0.0
baz=95,SNR=5.7
X27A F and S Farms, 95.09 53 ⇓P P 19 51 24.6 +0.4
baz=95,SNR=7.1
N20A Spence Gulch, 95.14 45 ⇑P P 19 51 25.6 +1.3
baz=96
U25A Circle Dot Ran 95.15 51 ⇑P P 19 51 25.0 +0.5
baz=96,SNR=11
SDCO Great Sand Dun 95.16 49 eP P 19 51 25.8 +1.3
comp=Z,50nm,1.8s
SDCO LR LR
comp=Z,1µm,20.0s
KVTX Kingsville 95.17 61 PFAKE 19 51 40.0 +16
KVTX LR LR
comp=Z,1µm,21.0s
633A Saathoff Ranch 95.18 59 ⇓P P 19 51 25.4 +0.9
baz=96
R23A Moffat 95.19 49 ⇑P P 19 51 26.0 +1.3
baz=96
331A San Angelo 95.22 57 ⇓P P 19 51 25.3 +0.6
baz=96
V26A Tequesquite Ra 95.24 52 ⇑P P 19 51 25.8 +1.0
baz=96
JCT Junction City 95.25 58 eP P 19 51 25.5 +0.7
JCT pmax pmax
comp=Z,22nm,1.1s
JCT MLR MLR
comp=Z,2µm,22.0s
JCT Junction City 95.25 58 eP P 19 51 25.5 +0.7
comp=Z,22nm,1.1s
JCT LR LR
comp=Z,2µm,22.0s
JCT Junction City 95.25 58 ⇑P P 19 51 25.1 +0.3
baz=96,SNR=5.2
S24A Houchin Ranch, 95.29 49 ⇓P P 19 51 26.6 +1.4
baz=96
TNA Tin City 95.30 4 eP P 19 51 24.7 +0.6
comp=Z,75nm,1.1s
Z29A Hungry Hill Ra 95.33 55 ⇓P P 19 51 25.6 +0.4
baz=96,SNR=12
734A La Parita Cree 95.33 60 ⇓P P 19 51 26.4 +1.2
baz=96
KTH Kantishna Hill 95.38 12 eP P 19 51 23.6 -1.1
comp=Z,23nm,1.0s
P22A Eagle 95.38 47 ⇓P P 19 51 26.3 +0.8
baz=96
TRF Thorofare Moun 95.40 12 eP P 19 51 24.7 -0.2
comp=Z,28nm,0.8s
SEY Seymchan 95.41 347 iP P 19 51 24.9 +0.2
MSO Missoula 95.43 38 ⇓P P 19 51 27.6 +2.2
baz=96
432A Menard 95.46 58 ⇓P P 19 51 26.0 +0.2
baz=96,SNR=8.9
BW06 Boulder Array 95.47 43 eP P 19 51 25.9 +0.1
comp=Z,25nm,1.4s
BW06 e 19 51 44.2
BW06 LR LR
comp=Z,2µm,21.0s
PDAR Pinedale Array 95.47 43 P P 19 51 26.1 +0.3
comp=Z,9.4nm,1.1s,baz=205,slow=3.5,SNR=35
PDAR PKKPbc PKKPbc 20 08 18.9 +0.4
comp=Z,3.1nm,0.7s,baz=84,slow=4.9,SNR=18
PDAR PKPPKP P'P'df 20 16 33.7 +5.8
comp=Z,0.4nm,1.0s,baz=126,slow=3.8,SNR=4.2
PDAR LR LR 20 31 54.4
comp=Z,1µm,18.0s,baz=240,slow=34
130A Snyder 95.51 56 ⇑P P 19 51 26.0 +0.1
baz=96
T25A Trinidad 95.55 50 ⇓P P 19 51 27.3 +1.0
baz=96
I17A Pilgrim Ck. 95.55 42 ⇑P P 19 51 28.4 +2.3
baz=96
U26A Atchley Ranch, 95.59 51 ⇑P P 19 51 26.9 +0.4
baz=96
QLMT Earthquake Lak 95.60 41 eP P 19 51 28.5 +2.2
comp=Z,4.6nm,1.1s
LRM Limekiln Ridge 95.63 40 eP P 19 51 27.9 +1.5
comp=Z,71nm,1.1s
231A Bronte 95.63 56 ⇓P P 19 51 26.8 +0.3
baz=96
X28A Dimmitt 95.65 53 ⇓P P 19 51 27.2 +0.5
baz=96
Y29A Porterfield Fa 95.67 54 ⇑P P 19 51 27.5 +0.7
baz=96,SNR=6.8
R24A Sanders Place, 95.69 49 ⇓P P 19 51 28.1 +1.3
baz=96
Z30A Sanderson Ranc 95.75 55 ⇓P P 19 51 27.6 +0.5
baz=96,SNR=7.4
332A Millersview 95.76 57 ⇑P P 19 51 27.6 +0.5
baz=96,SNR=6.8
YMR Madison River 95.77 41 eP P 19 51 29.5 +2.4
comp=Z,38nm,1.2s
O22A Kremmling 95.83 47 ⇓P P 19 51 28.9 +1.3
baz=96
H17A Grant Village 95.83 42 eP P 19 51 29.6 +2.2
comp=Z,17nm,1.1s
H17A Grant Village 95.83 42 ⇑P P 19 51 29.6 +2.2
baz=96
P23A Jefferson 95.84 48 ⇓P P 19 51 29.6 +1.9
baz=96
CHMT Chamberlain Mo 95.86 38 eP P 19 51 27.5 +0.1
comp=Z,25nm,1.8s
V27A Dan Oppiter Fa 95.87 52 ⇓P P 19 51 28.9 +1.3
baz=96
735A Kenedy 95.90 60 ⇓P P 19 51 28.5 +0.8
baz=96
MCK McKinley 95.90 12 eP P 19 51 26.8 -0.2
MCK pmax pmax
comp=Z,37nm,1.2s
MCK McKinley 95.90 12 eP P 19 51 26.8 -0.2
comp=Z,37nm,1.2s
433A Art 95.91 58 ⇓P P 19 51 27.9 +0.1
baz=96,SNR=13
X29A Tulia 95.96 54 ⇓P P 19 51 29.7 +1.7
baz=96
131A Roby 95.96 56 ⇑P P 19 51 28.7 +0.7
baz=96
YNR Norris Junctio 95.96 41 eP P 19 51 29.4 +1.4
comp=Z,49nm,1.7s
BOZ Bozeman (W) 95.98 40 eP P 19 51 29.1 +1.2
BOZ pmax pmax
comp=Z,32nm,1.3s
BOZ MLR MLR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 95.98 40 eP P 19 51 29.1 +1.2
comp=Z,32nm,1.3s
BOZ LR LR
comp=Z,2µm,19.0s
CD2 Chengdu 95.98 302 ⇑P P 19 51 29.9 +1.7
CD2 pP pP 19 51 41.0 +0.6
CD2 sP sP 19 51 45.1 +0.3
CD2 PP PP 19 55 25.3 +4.0
CD2 SKS SKSac 20 02 02.3 +0.7
CD2 S S 20 02 42.8 -1.1
CD2 sS sS 20 03 01.5 -2.9
CD2 SS SS 20 09 18.3 +2.3
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,430nm,7.0s
CD2 LR LR
comp=Z,650nm,17.6s
CD2 LR LR
comp=Z,1µm,24.5s
CD2 LR LR
comp=Z,1µm,24.5s
HHC Hu-ho-hao-te 95.98 314 eP P 19 51 29.6 +1.6
HHC pP pP 19 51 40.9 +0.7
HHC sP sP 19 51 46.6 +1.9
HHC SKS SKSac 20 01 59.3 -2.0
HHC S S 20 02 43.3 -0.4
HHC sS sS 20 02 59.5 -4.6
HHC pmax pmax
comp=Z,22nm,1.4s
HHC pmax pmax
comp=Z,540nm,8.9s
HHC LR LR
comp=Z,1µm,18.9s
HHC LR LR
comp=Z,2µm,18.3s
HHC LR LR
comp=Z,4µm,18.2s
534A Blanco 96.00 59 ⇓P P 19 51 29.1 +0.9
baz=96
HYT Haines Junctio 96.01 19 eP P 19 51 31.4 +3.8
W28A Vega 96.04 53 ⇑P P 19 51 29.8 +1.4
baz=96
J19A Crowheart 96.06 43 ⇓P P 19 51 29.4 +1.0
baz=96
Q24A Divide 96.06 48 ⇓P P 19 51 30.4 +1.7
baz=96
232A Coleman 96.09 57 ⇓P P 19 51 29.1 +0.5
baz=96,SNR=9.7
T26A Comanche Natio 96.12 51 ⇑P P 19 51 30.3 +1.5
baz=96
635A Leesville 96.20 60 ⇓P P 19 51 30.3 +1.2
baz=96
AMTX Amarillo 96.20 53 eP P 19 51 29.6 +0.4
comp=Z,14nm,1.1s
AMTX Amarillo 96.20 53 ⇓P P 19 51 30.0 +0.8
baz=96
ISCO Idaho Springs 96.22 48 PFAKE 19 51 40.0 +11
ISCO LR LR
comp=Z,1µm,21.0s

ISCO Idaho Springs 96.22 48 ⇑P P 19 51 30.8 +1.3
baz=96
Y30A Stafford Cattl 96.22 55 ⇓P P 19 51 30.0 +0.8
baz=96
U27A Thompson Grove 96.23 52 ⇑P P 19 51 29.5 +0.2
baz=96
N22A Wattenberg Ran 96.25 46 ⇓P P 19 51 30.8 +1.3
baz=97
O23A Lake Granby, G 96.26 47 ⇓P P 19 51 31.1 +1.6
baz=97
333A Richland Sprin 96.28 58 ⇑P P 19 51 30.0 +0.5
baz=97
V28A Channing 96.28 52 ⇑P P 19 51 30.7 +1.2
baz=97
W29A Amraillo 96.35 53 ⇓P P 19 51 30.8 +1.0
baz=97
HIA Hailar 96.36 324 eP P 19 51 30.1 +0.7
HIA pmax pmax
comp=Z,13nm,1.1s
HIA MLR MLR
comp=Z,2µm,20.0s
HIA Hailar 96.36 324 eP P 19 51 30.1 +0.7
comp=Z,13nm,1.1s
HIA LR LR
comp=Z,2µm,20.0s
S26A Kim 96.44 50 ⇓P P 19 51 30.8 +0.6
baz=97
Z31A Sharp Cattle R 96.47 55 ⇓P P 19 51 31.1 +0.8
baz=97
ABTX Abilene, Hawle 96.47 56 ⇑P P 19 51 31.1 +0.7
baz=97
M22A Cedar Creek Ra 96.50 46 ⇑P P 19 51 32.2 +1.7
baz=97
HRY Holter Researc 96.51 39 eP P 19 51 31.5 +1.3
comp=Z,3.3nm,0.7s
H18A Shoshone NF, C 96.53 42 ⇑P P 19 51 32.6 +2.1
baz=97
X30A Coker Ranch, T 96.54 54 ⇓P P 19 51 31.5 +0.8
baz=97
I19A Meeteetse 96.54 43 ⇓P P 19 51 32.1 +1.5
baz=97
434A Burnet 96.55 58 ⇑P P 19 51 31.2 +0.4
baz=97
U28A Mallet 96.62 52 ⇓P P 19 51 31.8 +0.7
baz=97
N23A Red Feather La 96.62 46 ⇓P P 19 51 32.2 +1.1
baz=97
Q25A Bedland, Calha 96.62 49 ⇓P P 19 51 32.3 +1.2
baz=97
T27A Campo 96.64 51 ⇓P P 19 51 32.2 +1.0
baz=97
J20A Shoshoni 96.69 43 ⇓P P 19 51 32.8 +1.5
baz=97
233A Rising Star 96.70 57 ⇓P P 19 51 32.2 +0.8
baz=97
Y31A Rekieta Farm, 96.72 55 ⇓P P 19 51 32.3 +0.8
baz=97
K21A Alcova 96.78 44 ⇓P P 19 51 33.6 +1.8
baz=97
DOT Dot Lake 96.81 14 eP P 19 51 31.5 +0.4
comp=Z,20nm,0.9s
V29A Stinnett 96.83 53 ⇓P P 19 51 33.7 +1.7
baz=97
334A Lometa 96.84 58 ⇓P P 19 51 32.5 +0.5
baz=97
H19A Powell 96.92 42 ⇑P P 19 51 34.4 +2.2
baz=97
Z32A Haskell 96.94 56 ⇓P P 19 51 34.2 +1.8
baz=97
L22A Ellis Ranch, M 96.95 45 ⇑P P 19 51 34.7 +2.2
baz=97
133A Hamilton Ranch 96.99 57 ⇓P P 19 51 33.8 +1.1
baz=97
P25A Willow Gulch B 97.00 48 ⇓P P 19 51 34.7 +1.9
baz=97
I20A Worland 97.00 43 ⇓P Pdif 19 51 34.4 +1.7
baz=97
RLMT Red Lodge 97.01 42 PFAKE 19 51 40.0 +7.2
RLMT LR LR
comp=Z,2µm,19.0s
J21A Lysite 97.07 44 ⇓P Pdif 19 51 34.5 +1.3
baz=97
M23A Laramie 97.08 46 ⇓P Pdif 19 51 34.3 +1.1
baz=97
T28A Walsh 97.09 51 ⇓P Pdif 19 51 34.4 +1.2
baz=97
Q26A Hugo 97.11 49 ⇓P Pdif 19 51 34.7 +1.4
baz=97
COLA College 97.14 12 eP P 19 51 32.3 -0.2
COLA pmax pmax
comp=Z,17nm,0.8s
COLA MLR MLR
comp=Z,2µm,20.0s
COLA College 97.14 12 eP P 19 51 32.3 -0.2
comp=Z,17nm,0.8s
COLA LR LR
comp=Z,2µm,20.0s
GCMT Greycliff 97.17 41 eP Pdif 19 51 35.4 +2.0
comp=Z,6.5nm,1.2s
IM04 Indian Mountai 97.17 10 eP P 19 51 32.7 0.0
ILAR Eielson Array 97.23 13 P P 19 51 32.7 -0.3
ILAR 19 55 33.8
ILAR pmax pmax
comp=Z,6.0nm,0.8s
ILAR pmax pmax
comp=Z,5.0nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR MLR MLR
comp=Z,303nm,18.3s
ILAR Eielson Array 97.23 13 P P 19 51 32.6 -0.3
comp=Z,6.3nm,0.8s,baz=219,slow=5.1,SNR=54
ILAR PP PP 19 55 33.8 +3.6
comp=Z,4.5nm,1.0s,baz=231,slow=7.1,SNR=4.7
ILAR PKKP PKKPbc 20 08 14.7 +0.4
comp=Z,1.2nm,0.7s,baz=6.8,slow=3.0,SNR=10
ILAR LR LR 20 33 46.3
comp=Z,302nm,18.3s,baz=222,slow=34
K22A Casper 97.24 45 eP Pdif 19 51 34.7 +0.9
comp=Z,9.8nm,0.8s
K22A Casper 97.24 45 ⇓P Pdif 19 51 35.3 +1.5
baz=98
R27A Eads 97.24 50 ⇓P Pdif 19 51 34.8 +0.9
baz=98
234A Clairette 97.25 57 ⇓P Pdif 19 51 34.7 +0.7
baz=98
N24A Carr 97.26 47 ⇑P Pdif 19 51 35.9 +1.9
baz=98
X31A McDonald Ranch 97.27 54 ⇓P P 19 51 34.2 +0.3
baz=98
V30A Spur Ranch, Mi 97.35 53 ⇓P Pdif 19 51 35.8 +1.4
baz=98
JTS JuntasAbangare 97.37 82 PFAKE 19 51 50.0 +15
JTS LR LR
comp=Z,2µm,21.0s
H20A Greybull 97.39 43 ⇑P Pdif 19 51 35.8 +1.4
baz=98
I21A Big Trails, Te 97.42 43 ⇓P Pdif 19 51 35.5 +0.9
baz=98
Z33A Whitaker Ranch 97.45 56 ⇓P Pdif 19 51 35.6 +0.8
baz=98
L23A Garrett 97.45 46 ⇓P Pdif 19 51 35.8 +0.9
baz=98
W31A Holland Ranch, 97.58 54 ⇑P Pdif 19 51 36.3 +1.0
baz=98
F19A Roth Farm, Mol 97.62 41 ⇓P Pdif 19 51 37.5 +2.1
baz=98
M24A Cheyenne 97.64 46 ⇑P Pdif 19 51 37.1 +1.4
baz=98
G20A Bridger 97.68 42 ⇓P Pdif 19 51 37.4 +1.7
baz=98
J22A Midwest 97.69 44 ⇑P Pdif 19 51 37.2 +1.4
baz=98
K23A Bowen Ranch, D 97.85 45 ⇓P Pdif 19 51 37.7 +1.2
baz=98
R28A Tribune 97.93 50 ⇓P Pdif 19 51 37.6 +0.7
baz=98
I22A 9 Mile Ranch, 97.95 44 ⇓P Pdif 19 51 38.3 +1.4
baz=98
W32A Sentinel 98.04 54 ⇑P Pdif 19 51 38.5 +1.1
baz=98
OTAV Otavalo 98.13 94 PFAKE 19 51 50.0 +11
OTAV LR LR
comp=Z,2µm,22.0s
LPAZ La Paz 98.15 114 LR LR 20 28 00.4
comp=Z,853nm,21.1s,baz=227,slow=30
BILL Bilibino 98.23 354 ⇑P P 19 51 37.2 -0.1
BILL *SP sP 19 51 52.0 -2.0
BILL 19 55 39.0
BILL eSP SP 20 04 23.6 -2.1
BILL pmax pmax
comp=Z,9.0nm,1.3s
BILL MLR MLR
comp=Z,1µm,20.0s
BILL Bilibino 98.23 354 eP P 19 51 37.0 -0.3
comp=Z,16nm,1.3s
BILL LR LR
comp=Z,1µm,20.0s
DAWY Dawson 98.23 16 eP Pdif 19 51 38.6 +1.0
K24A Anderson Ranch 98.33 45 ⇑P Pdif 19 51 40.6 +1.9
baz=99
EGMT Eagleton 98.42 39 PFAKE 19 51 50.0 +11
EGMT LR LR
comp=Z,2µm,19.0s
H22A Clearmont 98.42 43 ⇑P Pdif 19 51 40.7 +1.7
baz=99
R29A Marienthal 98.43 51 ⇓P Pdif 19 51 40.6 +1.5
baz=99
EGAK Eagle 98.43 15 eP Pdif 19 51 39.9 +1.5
comp=Z,14nm,1.3s
EGAK LR LR
comp=Z,1µm,19.0s
LZH Lanzhou 98.56 307 P P 19 51 31.5 -8.3
LZH pP PcP 19 51 39.8 -0.1
LZH sP sP 19 51 42.8 -14
LZH PP PP 19 55 33.0 -8.2
LZH Lanzhou 98.56 307 SKS SKSac 20 02 19.3 +4.4
LZH Lanzhou 98.56 307 S S 20 02 58.9 -7.1
LZH Lanzhou 98.56 307 sS sS 20 03 17.3 -9.2
LZH Lanzhou 98.56 307 SS SS 20 09 45.8 -6.7
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,93nm,4.0s
LZH LR LR
comp=N,1µm,18.2s
LZH LR LR
comp=E,2µm,18.6s
LZH LR LR
comp=Z,2µm,19.4s
C19A Slack Wire Ran 98.64 39 ⇓P Pdif 19 51 42.2 +2.4
baz=99
J24A Dixon Ranch, L 98.75 45 ⇓P Pdif 19 51 42.4 +1.9
baz=99
X34A Smith Ranch, M 98.78 55 ⇑P Pdif 19 51 42.2 +1.5
baz=99
D20A Manuel Ranch, 98.79 40 ⇑P Pdif 19 51 43.1 +2.6
baz=99
K25A Mack Ranch, Ha 98.86 46 ⇓P Pdif 19 51 43.3 +2.3
baz=99
R30A Dighton 98.94 51 ⇓P Pdif 19 51 42.7 +1.4
baz=99
B19A Brinkman Farms 99.11 39 ⇓P Pdif 19 51 44.4 +2.5
baz=99
F22A Rosebud 99.13 42 ⇓P Pdif 19 51 43.6 +1.6
baz=100
OGNE Ogallala 99.15 48 PFAKE 19 51 50.0 +7.7
OGNE LR LR
comp=Z,2µm,20.0s
TEIG Tepich 99.27 72 PFAKE 19 52 00.0 +17
TEIG LR LR
comp=Z,967nm,22.0s
J25A Sunshine Ranch 99.31 45 ⇑P Pdif 19 51 44.5 +1.5
baz=100
Q30A Quinter 99.33 50 ⇑P Pdif 19 51 44.8 +1.7
baz=100
G23A Biddle 99.33 43 ⇓P Pdif 19 51 44.9 +1.9
baz=100
K26A Motz Farm, Whi 99.34 46 ⇑P Pdif 19 51 44.9 +1.8
baz=100
A19A Klindworth Far 99.49 39 ⇓P Pdif 19 51 45.9 +2.3
baz=100
RSSD Black Hills 99.56 44 eP Pdif 19 51 44.4 +0.2
RSSD pmax pmax
comp=Z,23nm,1.1s
RSSD Black Hills 99.56 44 eP Pdif 19 51 44.4 +0.2
comp=Z,23nm,1.1s
H24A Dirks Ranch, A 99.58 44 ⇑P Pdif 19 51 45.5 +1.4
baz=100
P30A Selden 99.60 50 ⇓P Pdif 19 51 45.9 +1.6
baz=100
F23A Volborg 99.60 43 ⇑P Pdif 19 51 46.0 +1.9
baz=100
LAO LASA Array 99.65 41 PFAKE 19 52 00.0 +16
LAO LR LR
comp=Z,2µm,21.0s
I25A Rochford 99.69 45 ⇓P Pdif 19 51 46.1 +1.4
baz=100
NATX Nacogdoches 99.70 59 PFAKE 19 52 00.0 +15
NATX LR LR
comp=Z,1µm,19.0s
J26A Sides Ranch, S 99.72 46 ⇓P Pdif 19 51 46.3 +1.5
baz=100
A20A Cobblestone Ra 99.91 39 ⇓P Pdif 19 51 47.3 +1.9
baz=100
G24A Alzada 99.97 43 ⇑P Pdif 19 51 47.5 +1.6
baz=100
H25A Fruitdale 100.09 44 ⇑P Pdif 19 51 47.4 +1.0
baz=100
I26A New Underwood 100.23 45 ⇑P Pdif 19 51 48.6 +1.6
baz=101
F24A Ekalaka 100.23 43 ⇓P Pdif 19 51 49.2 +2.2
baz=101
J27A Elkhorn Farm, 100.36 46 ⇑P Pdif 19 51 49.3 +1.7
baz=101
YAK Yakutsk 100.75 338 eP Pdif 19 51 49.5 +0.8
YAK pmax pmax
comp=Z,15nm,1.2s
YAK Yakutsk 100.75 338 PFAKE 19 52 00.0 +11
YAK LR LR
comp=Z,2µm,22.0s
F25A Bowman 100.86 43 ⇑Pdiff Pdif 19 51 51.9 +2.2
baz=101
J28A Allard Ranch, 100.93 46 ⇓Pdiff Pdif 19 51 52.3 +2.2
baz=101
G26A Maurine 101.05 44 ⇓Pdiff Pdif 19 51 52.7 +2.2
baz=101
K29A Lazy Trails An 101.17 47 ⇑Pdiff Pdif 19 51 53.8 +2.6
baz=102
BCIP Isla Barro Col 101.26 86 PFAKE 19 52 00.0 +7.8
BCIP LR LR
comp=Z,1µm,21.0s
I28A Midland 101.26 46 ⇓Pdiff Pdif 19 51 53.9 +2.3
baz=102
F26A Lodgepole 101.29 44 ⇓Pdiff Pdif 19 51 53.6 +2.0
baz=102
B23A Brockton 101.31 40 ⇑Pdiff Pdif 19 51 54.3 +2.7
baz=102
G27A Dupree 101.50 44 ⇑Pdiff Pdif 19 51 54.1 +1.5
baz=102
DGMT Dagmar 101.77 41 PFAKE 19 52 10.0 +16
DGMT LR LR
comp=Z,2µm,21.0s
MIAR Mount Ida 101.83 57 PFAKE 19 52 10.0 +16
MIAR LR LR
comp=Z,1µm,22.0s
KSU1 Kansas State U 101.83 52 PFAKE 19 52 10.0 +16
KSU1 LR LR
comp=Z,1µm,19.0s
ULN Ulaanbaatar 102.48 318 eP Pdif 19 51 50.8 -6.2
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN MLR MLR
comp=Z,1µm,20.0s
ULN Ulaanbaatar 102.48 318 eP Pdif 19 51 50.8 -6.2
comp=Z,3.9nm,0.8s
ULN LR LR
comp=Z,1µm,20.0s
SONM Songino Array 102.85 318 PKiKP PKiKP 19 56 18.2 -0.6
comp=Z,1.3nm,0.8s,baz=138,slow=1.5,SNR=3.8
SONM PKKPbc PKKPbc 20 07 58.6 +1.0
comp=Z,1.3nm,0.6s,baz=273,slow=2.8,SNR=12
GTA Gaotai 102.96 308 eP Pdif 19 51 54.9 -4.4
GTA pP 19 52 05.3
GTA sP 19 52 09.3
GTA PP PP 19 56 10.1 -4.4
GTA Gaotai 102.96 308 SS SS 20 10 50.3 -3.3
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA pmax pmax
comp=Z,190nm,7.6s
GTA LR LR
comp=Z,1µm,19.0s
GTA LR LR
comp=N,830nm,19.2s
GTA LR LR
comp=E,620nm,18.5s
INK Inuvik 103.08 15 P Pdif 19 51 58.1 -0.8
INK 19 56 15.2
INK pmax pmax
comp=Z,5.0nm,1.1s
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 103.08 15 P Pdif 19 51 58.1 -0.8
comp=Z,5.1nm,1.1s,baz=197,slow=5.8,SNR=9.0
INK PP PP 19 56 15.2 +0.8
comp=Z,5.2nm,1.0s,baz=248,slow=7.6,SNR=3.6
A26A Wade Farm, Ken 103.21 41 ⇓Pdiff Pdif 19 52 02.1 +2.1
baz=104
DGAR Diego Garcia 103.29 253 PFAKE 19 52 10.0 +8.8
DGAR LR LR
comp=Z,2µm,21.0s
ECSD EROS Data Cent 104.01 48 PFAKE 19 52 20.0 +16
ECSD LR LR
comp=Z,1µm,20.0s
YKA Yellowknife Ar 104.74 25 Pdiff Pdif 19 52 06.8 +0.4
comp=Z,1.0nm,1.0s,baz=240,slow=4.0,SNR=10
YKA PKiKP PKiKP 19 56 21.5 -0.1
comp=Z,0.8nm,0.6s,baz=260,slow=1.5,SNR=16
YKA PKKPbc PKKPbc 20 07 49.9 -2.3
comp=Z,0.5nm,0.6s,baz=33,slow=2.7,SNR=10
YKA PKKP PKKPab 20 08 06.8 +0.7
comp=Z,4.6nm,0.9s,baz=47,slow=4.1,SNR=15
YKA PKPPKP P'P'df 20 16 18.7 +10
comp=Z,0.4nm,0.8s,baz=42,slow=2.1,SNR=5.4
LSA Lhasa 105.00 296 eP Pdif 19 52 09.5 +0.5
LSA pmax pmax
comp=Z,5.0nm,1.1s
LSA MLR MLR
comp=Z,816nm,22.0s
LSA Lhasa 105.00 296 ePdif Pdif 19 52 09.5 +0.5
comp=Z,5.3nm,1.1s
LSA LR LR
comp=Z,816nm,22.0s
BRAL Brewton 105.14 63 PFAKE 19 56 40.0
BRAL LR LR
comp=Z,1µm,19.0s
SCIA State Center 105.42 50 PFAKE 19 56 40.0
SCIA LR LR
comp=Z,1µm,19.0s
ZAK Zakamensk 105.87 319 eP Pdif 19 52 05.1 -6.8
ZAK pmax pmax
comp=Z,3.0nm,1.3s
FFC Flin Flon 106.11 36 PFAKE 19 56 40.0
FFC LR LR
comp=Z,2µm,22.0s
SAML Samuel 106.25 111 PFAKE 19 56 40.0
SAML LR LR
comp=Z,2µm,20.0s
TLY Talaya 106.26 321 eP Pdif 19 52 11.6 -1.9
TLY e 20 02 54.3
TLY ePS PS 20 06 40.4 +43
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,695nm,20.0s
TLY Talaya 106.26 321 PFAKE 19 56 40.0
TLY LR LR
comp=Z,1µm,21.0s
AGMN Agassiz Nation 106.55 44 PFAKE 19 56 40.0
AGMN LR LR
comp=Z,2µm,20.0s
TAPN Taplejung 106.73 292 eP PKiKP 19 56 26.1 -0.7
comp=Z,46nm,1.3s
TAPN Taplejung 106.73 292 eP PKiKP 19 56 26.1 -0.7
ODAN Odare 106.78 292 eP PKiKP 19 56 27.4 +0.5
comp=Z,20nm,0.7s
ODAN Odare 106.78 292 eP PKiKP 19 56 27.4 +0.5
ULM Lac du Bonnet 107.39 42 PKKP PKKPab 20 07 57.5 +2.5
comp=Z,7.0nm,0.9s,baz=69,slow=5.6,SNR=6.9
MTDJ Mount Denham 107.40 79 PFAKE 19 56 40.0
MTDJ LR LR
comp=Z,2µm,21.0s
RAMN Ramite 107.46 291 eP PKiKP 19 56 28.4 +0.3
comp=Z,17nm,0.7s
RAMN Ramite 107.46 291 eP PKiKP 19 56 28.4 +0.3
TIXI Tiksi 107.71 345 ePKiKP PKiKP 19 56 26.2 -0.7
TIXI LR LR
comp=Z,1µm,20.0s
JFWS Jewell Farm 107.83 50 PFAKE 19 56 40.0
JFWS LR LR
comp=Z,1µm,19.0s
RER Riviere de l'E 107.85 232 PFAKE 19 56 40.0
RER LR LR
comp=Z,2µm,20.0s
JIRN Jiri 108.08 292 eP PKiKP 19 56 28.9 -0.5
comp=Z,7.2nm,0.4s
GUN Gumba 108.44 292 eP PKiKP 19 56 29.9 -0.2
comp=Z,30nm,1.2s
GUN Gumba 108.44 292 eP PKiKP 19 56 29.9 -0.2
PKI Pulchoki 108.68 292 eP PKiKP 19 56 29.9 -0.6
comp=Z,17nm,0.8s
PKI Pulchoki 108.68 292 eP PKiKP 19 56 29.9 -0.6
PKIN Phulchoki 108.69 292 eP PKiKP 19 56 29.9 -0.6
comp=Z,6.0nm,0.4s
KKN Kakani 108.87 292 eP PKiKP 19 56 30.4 -0.3
comp=Z,32nm,1.1s
KKN Kakani 108.87 292 eP PKiKP 19 56 30.4 -0.3
GOGA Godfrey 108.90 62 PFAKE 19 56 40.0
GOGA LR LR
comp=Z,1µm,22.0s
DMN Daman 108.94 291 eP PKiKP 19 56 30.6 -0.3
comp=Z,40nm,1.3s
DMN Daman 108.94 291 eP PKiKP 19 56 30.6 -0.3
EYMN Ely 109.06 45 PFAKE 19 56 40.0
EYMN LR LR
comp=Z,2µm,20.0s
SDV Santo Domingo 109.12 91 PFAKE 19 56 40.0
SDV LR LR
comp=Z,2µm,21.0s
GKN Gorkha 109.48 292 eP PKiKP 19 56 32.1 +0.3
comp=Z,6.1nm,0.5s
GKN Gorkha 109.48 292 eP PKiKP 19 56 32.1 +0.3
COWI Conover 109.83 48 PFAKE 19 56 40.0
COWI LR LR
comp=Z,2µm,21.0s
HYB Hyderabad 110.15 279 iP PKiKP 19 56 30.5 -2.6
HYB ePP PP 19 57 04.0 -3.6
HYB e 20 06 40.0
GTBY Guantanamo Bay 110.20 78 PFAKE 19 56 50.0
GTBY LR LR
comp=Z,831nm,20.0s
KOLN Koldanda 110.22 291 eP PKiKP 19 56 32.8 -0.5
comp=Z,13nm,0.8s
KOLN Koldanda 110.22 291 eP PKiKP 19 56 32.8 -0.5
DANN Dangsing 110.33 292 eP PKiKP 19 56 33.1 -0.4
comp=Z,36nm,1.1s
DANN Dangsing 110.33 292 eP PKiKP 19 56 33.1 -0.4
ACSO Alum Creek Sta 111.84 55 PFAKE 19 56 50.0
ACSO LR LR
comp=Z,1µm,19.0s
AAM Ann Arbor 112.10 53 PFAKE 19 56 50.0
AAM LR LR
comp=Z,1µm,19.0s
BLA Blacksburg 112.64 59 PFAKE 19 56 50.0
BLA LR LR
comp=Z,1µm,21.0s
WMQ Urumqi 113.04 308 ePdif Pdif 19 52 45.3 +1.3
WMQ PP PP 19 57 32.4 +4.5
WMQ Urumqi 113.04 308 SKS SKSdf 20 03 46.0 -0.9
WMQ Urumqi 113.04 308 SS SS 20 13 09.8 +0.2
WMQ AMB AMB
comp=Z,460nm,5.6s
WMQ LR LR
comp=N,730nm,25.2s
WMQ LR LR
comp=E,2µm,25.4s
WMQ LR LR
comp=Z,2µm,25.2s
SDDR Presa de Saban 113.07 81 PFAKE 19 56 50.0
SDDR LR LR
comp=Z,2µm,22.0s
KRAR Krasnoyarsk 113.82 322 i PKIKP PKiKP 19 56 39.2 +0.3
CNNC Cliffs of the 113.86 62 PFAKE 19 56 50.0
CNNC LR LR
comp=Z,1µm,21.0s
GRTK Grand Turk 114.24 78 PFAKE 19 56 50.0 +9.3
GRTK LR LR
comp=Z,757nm,22.0s

ERPA Erie 114.61 54 PFAKE 19 56 50.0 +9.1
ERPA LR LR
comp=Z,1µm,20.0s
ABPO Ambohimpanom 115.01 227 PFAKE 19 56 50.0 +7.3
ABPO LR LR
comp=Z,2µm,21.0s
CBN Corbin 115.25 59 PFAKE 19 56 50.0 +7.8
CBN LR LR
comp=Z,1µm,19.0s
SUR Sutherland 115.77 197 ePKPdf PKPdf 19 56 44.7 +0.9
SUR LR LR
comp=Z,2µm,21.0s
BINY Binghamton 117.47 55 PFAKE 19 57 00.0 +14
BINY LR LR
comp=Z,2µm,20.0s
MK31 Makanchi Array 117.57 310 i PKIKP PKPdf 19 56 45.8 -0.7
MK31 pmax pmax
comp=Z,18nm,0.8s
MKAR Makanchi Array 117.57 310 PKIKP PKPdf 19 56 46.1 -0.4
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 117.57 310 PKP PKPdf 19 56 46.0 -0.4
comp=Z,11nm,0.7s,baz=234,slow=1.5,SNR=71
MKAR PKKPbc PKKPbc 20 07 10.1 +0.7
comp=Z,1.1nm,0.6s,baz=267,slow=3.3,SNR=11
MKAR PKKP PKKPdf 20 07 25.1 -13
comp=Z,1.6nm,0.8s,baz=283,slow=4.0,SNR=7.3
ZALV Zalesovo Beam 117.73 319 PKIKP PKPdf 19 56 45.5 -1.0
ZALV pmax pmax
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 117.73 319 PKP PKPdf 19 56 45.5 -1.0
comp=Z,9.8nm,0.7s,baz=157,slow=1.3,SNR=45
BOSA Boshof 117.97 203 PKIKP PKPdf 19 56 48.0 -0.1
BOSA pmax pmax
comp=Z,6.0nm,0.6s
BOSA pmax pmax
comp=Z,5.0nm,1.0s
BOSA Boshof 117.97 203 PKP PKPdf 19 56 48.0 -0.1
comp=Z,6.2nm,0.6s,baz=212,slow=1.2,SNR=18
BOSA PKKPbc PKKPbc 20 07 10.3 +2.5
comp=Z,5.1nm,1.0s,baz=44,slow=7.4,SNR=3.9
GRGR Grenville 118.44 92 PFAKE 19 57 00.0 +11
GRGR LR LR
comp=Z,2µm,22.0s
MSEY Mahe Island 118.67 245 PFAKE 19 57 00.0 +10
MSEY LR LR
comp=Z,1µm,19.0s
NVS Novosibirsk 118.83 319 i PKIKP PKPdf 19 56 47.8 -0.8
NVS e 20 03 42.7
NVS pmax pmax
comp=Z,45nm,1.2s
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=E,19nm,1.1s
LONY Lake Ozonia 119.10 53 PFAKE 19 57 00.0 +11
LONY LR LR
comp=Z,2µm,20.0s
NCB Newcomb 119.19 54 PFAKE 19 57 00.0 +10
NCB LR LR
comp=Z,5µm,19.0s
FDF Fort de France 120.04 90 PFAKE 19 57 00.0 +7.9
FDF LR LR
comp=Z,1µm,20.0s
KSH Kashi 120.15 301 PKP PKPdf 19 56 52.8 +1.0
KSH esPKP 19 57 07.1
KSH SKKS 20 05 11.5
KSH SS SS 20 14 45.5 +2.9
KSH AMB AMB
comp=Z,48nm,4.9s
KSH LR LR
comp=Z,230nm,9.3s
KSH LR LR
comp=Z,180nm,7.1s
KSH LR LR
comp=Z,880nm,20.6s
ULHL Ulahol 120.64 304 P PKPdf 19 56 53.5 +0.7
SNR=19
BBGH Gun Hill 120.72 92 PFAKE 19 57 10.0 +17
BBGH LR LR
comp=Z,3µm,21.0s
ANWB Willy Bob 120.73 86 PFAKE 19 57 10.0 +17
ANWB LR LR
comp=Z,955nm,20.0s
KURK Kurchatov 120.80 314 ePKIKP PKPdf 19 56 52.1 -0.4
KURK MLR MLR
comp=Z,539nm,22.0s
KURK Kurchatov 120.80 314 ePKPdf PKPdf 19 56 52.1 -0.4
KURK LR LR
comp=Z,539nm,22.0s
LBNH Lisbon 120.86 54 PFAKE 19 57 10.0 +17
LBNH LR LR
comp=Z,1µm,19.0s
TKM2 Tokmak 2 121.25 305 P PKPdf 19 56 53.7 -0.2
SNR=35
TKM2 Tokmak 2 121.25 305 PKIKP PKPdf 19 56 53.5 -0.4
TKM2 pmax pmax
comp=Z,35nm,1.1s
TKM2 Tokmak 2 121.25 305 PFAKE 19 57 10.0 +16
TKM2 LR LR
comp=Z,1µm,22.0s
KZA Kyzart 121.31 304 P PKPdf 19 56 55.2 +0.8
SNR=62
KBK Karagaybulak 121.66 304 P PKPdf 19 56 54.7 0.0
SNR=27
CHMS Chumysh 121.88 305 P PKPdf 19 56 54.7 -0.2
SNR=28
UCH Uchtor 121.88 304 P PKPdf 19 56 56.1 +0.6
SNR=68
FRU Bishkek 121.94 304 ePKIKP PKPdf 19 56 54.0 -1.0
FRU pmax pmax
comp=Z,90nm,1.8s
AAK Ala-Archa 121.98 304 P PKPdf 19 56 55.7 +0.3
SNR=24
AAK Ala-Archa 121.98 304c i PKIKP PKPdf 19 56 55.6 +0.3
AAK Ala-Archa 121.98 304 ePKPdf PKPdf 19 56 55.3 0.0
AAK LR LR
comp=Z,1µm,22.0s
USP Ospenovka 122.11 305 P PKPdf 19 56 55.4 0.0
SNR=34
AML Almayashu 122.45 303 P PKPdf 19 56 57.2 +0.7
SNR=78
EKS2 Erkin-Say 122.50 304 P PKPdf 19 56 56.8 +0.6
SNR=55
EKS2 Erkin-Say 122.50 304 ePKIKP PKPdf 19 56 56.6 +0.3
EKS2 MLR MLR
comp=Z,967nm,22.0s
EKS2 Erkin-Say 122.50 304 ePKPdf PKPdf 19 56 56.5 +0.3
EKS2 LR LR
comp=Z,967nm,22.0s
PKME Peaks-Kenny Pk 122.90 53 PFAKE 19 57 10.0 +13
PKME LR LR
comp=Z,3µm,20.0s
BBSR BB Station 123.39 69 PFAKE 19 57 10.0 +12
BBSR LR LR
comp=Z,2µm,20.0s
KK31 Karatay Array 124.95 304 i PKIKP PKPdf 19 57 00.7 -0.1
KK31 pmax pmax
comp=Z,34nm,0.7s
KKAR Karatay Array 124.95 304 ePKIKP PKPdf 19 57 00.8 0.0
KKAR Karatay Array 124.95 304 ePKPdf PKPdf 19 57 00.8 0.0
SCHQ Schefferville 125.57 42 PKP PKPdf 19 57 02.2 +0.6
comp=Z,13nm,1.0s,baz=292,slow=2.2,SNR=6.2
BVA0 Borovoye Array 126.13 316 i PKIKP PKPdf 19 57 02.1 -0.6
BVA0 pmax pmax
comp=Z,72nm,0.9s
BRVK Borovoye 126.20 316 ePKIKP PKPdf 19 57 03.0 +0.2
BRVK MLR MLR
comp=Z,1µm,21.0s
BRVK Borovoye 126.20 316 ePKPdf PKPdf 19 57 03.0 +0.2
BRVK LR LR
comp=Z,1µm,21.0s
KULLO Kullorsuaq 126.42 17 i PKIKP PKPdf 19 57 02.7 +0.1
KULLO pmax pmax
comp=Z,14nm,1.1s
KULLO MLR MLR
comp=Z,1µm,21.0s
KULLO Kullorsuaq 126.42 17 i P PKPdf 19 57 02.7 +0.1
comp=Z,14nm,1.0s
comp=Z,1µm,21.0s
LSZ Lusaka 128.75 213 ePKIKP PKPdf 19 57 10.4 +1.4
LSZ MLR MLR
comp=Z,1µm,20.0s
LSZ Lusaka 128.75 213 ePKPdf PKPdf 19 57 10.4 +1.4
LSZ LR LR
comp=Z,1µm,20.0s
RCBR Riachuelo 129.04 128 PFAKE 19 57 20.0 +10
RCBR LR LR
comp=Z,2µm,21.0s
TSUM Tsumeb 129.16 199 ePKPdf PKPdf 19 57 10.7 +0.9
TSUM LR LR
comp=Z,2µm,19.0s
ILULI Ilulissat 130.25 22 i PKIKP PKPdf 19 57 10.5 +0.5
ILULI pmax pmax
comp=Z,22nm,1.0s
ILULI MLR MLR
comp=Z,2µm,24.0s
ILULI Ilulissat 130.25 22 i P PKPdf 19 57 10.5 +0.5
comp=Z,22nm,1.0s
comp=Z,2µm,24.0s
KBS Kingsbay 130.55 358 eP PKPdf 19 57 14.3 +3.9
KBS ePP PP 19 59 25.8 +0.1
KBS IAMs_20 IAMs_20 20 43 35.5
comp=Z,1µm,22.5s
KBS Kingsbay 130.55 358 PFAKE 19 57 20.0 +10
KBS LR LR
comp=Z,1µm,22.0s
SPA0 Spitsbergen Ar 131.07 356 eP PKPdf 19 57 12.2 +0.7
SFJD Kangerlussuaq 131.29 25 i PKIKP PKPdf 19 57 12.4 +0.3
SFJD pmax pmax
comp=Z,6.0nm,1.5s
SFJD MLR MLR
comp=Z,1µm,19.0s
SFJD Kangerlussuaq 131.29 25 i P PKPdf 19 57 12.4 +0.3
comp=Z,6.4nm,1.4s
comp=Z,1µm,19.0s
SFJD Kangerlussuaq 131.29 25 PFAKE 19 57 20.0 +7.9
SFJD LR LR
comp=Z,2µm,21.0s
SVE Sverdlovsk 131.57 321⇓i PKIKP PKPdf 19 57 12.9 0.0
SVE pmax pmax
comp=Z,36nm,0.9s
DAG Danmarks Havn 131.87 6⇑i PKIKP PKPdf 19 57 12.2 -0.7
DAG pmax pmax
comp=Z,8.0nm,0.8s
DAG MLR MLR
comp=Z,1µm,26.0s
DAG Danmarks Havn 131.87 6⇑i P PKPdf 19 57 12.2 -0.7
comp=Z,11nm,0.8s
comp=Z,870nm,26.0s
SUMG Summit 132.00 15 i PKIKP PKPdf 19 57 15.3 +1.5
SUMG pmax pmax
comp=Z,17nm,1.1s
SUMG Summit 132.00 15 i P PKPdf 19 57 15.3 +1.5
comp=Z,17nm,1.1s
comp=Z,1µm,30.0s
SUMG Summit 132.00 15 ePKPdf PKPdf 19 57 14.9 +1.1
HATD Hatta, Dubai 132.28 278⇑i PKiKP PKPdf 19 57 15.7 +0.4
SNR=15
AB31 Akbulak array 132.70 311 i PKIKP PKPdf 19 57 14.5 -0.8
AB31 pmax pmax
comp=Z,12nm,0.8s
ABKAR Akbulak array 132.70 311 ePKPpre PKPpre 19 57 01.1
ABKAR ePKPdf PKPdf 19 57 15.7 +0.5
NAZ Nazwa, Dubai 132.74 278⇓i PKiKP PKiKP 19 57 17.7 +0.5
SNR=7.7
ARU Arti 132.76 321 i PKIKP PKPdf 19 57 15.2 0.0
ARU 19 59 36.6
ARU Arti 132.76 321 ePKPdf PKPdf 19 57 14.7 -0.5
ARU LR LR
comp=Z,2µm,22.0s
ASUD Al Ashush, Dub 132.91 277⇑i PKiKP PKiKP 19 57 17.7 +0.1
SNR=9.1
AKTO Aktyubinsk 133.87 313 PKIKP PKPdf 19 57 15.0 -2.5
AKTO pmax pmax
comp=Z,26nm,0.8s
SHEL Horse Pasture 133.90 169 PFAKE 19 57 30.0 +11
SHEL LR LR
comp=Z,959nm,19.0s
KMBO Kilima Mbogo 134.69 234 PKHKP PKPpre 19 57 12.7
KMBO 19 57 21.6
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO pmax pmax
comp=Z,10.0nm,0.9s
KMBO pmax pmax
comp=N,5.0nm,0.8s
KMBO Kilima Mbogo 134.69 234 PKhKP PKPpre 19 57 12.7
comp=N,0.8nm,0.6s,baz=63,slow=13,SNR=3.9
KMBO PKP PKiKP 19 57 21.6 -0.3
comp=N,10nm,0.9s,baz=21,slow=2.0,SNR=19
KMBO SKPbc SKPbc 20 00 48.0 +0.5
comp=N,5.4nm,0.8s,baz=46,slow=3.2,SNR=10
KMBO Kilima Mbogo 134.69 234 PKPpre PKPpre 19 57 12.7
KMBO ePKPdf PKiKP 19 57 21.6 -0.3
KMBO SKPbc SKPbc 20 00 48.0 +0.5
KMBO LR LR
comp=Z,1µm,20.0s
LVZ Lovozero 137.31 343 i PKIKP PKPdf 19 57 25.2 +1.8
LVZ Lovozero 137.31 343 ePKPdf PKPdf 19 57 23.2 -0.2
LVZ LR LR
comp=Z,2µm,22.0s
PRGR Permogore 137.39 331 ePKIKP PKPdf 19 57 21.6 -2.0
PRGR pmax pmax
comp=Z,49nm,0.7s
KEV Kevo 137.55 348 ePKHKP PKPpre 19 57 16.5
KEV pmax pmax
comp=Z,5.0nm,0.3s
KEV Kevo 137.55 348 ep PKPpre 19 57 16.5
comp=Z,4.9nm,0.3s
KEV Kevo 137.55 348 PFAKE 19 57 40.0 +16
KEV LR LR
comp=Z,2µm,22.0s
APA Apatity 137.88 343⇓i PKIKP PKPdf 19 57 27.0 +2.6
APA i 20 00 11.8
APA i 20 04 31.0
APA i PS PS 20 10 41.0 +0.1
ARCES ARCESS Array B 138.01 348 PKHKP PKPpre 19 57 16.2
ARCES 19 57 24.3
ARCES pmax pmax
comp=Z,9.0nm,0.6s
ARCES pmax pmax
comp=Z,37nm,0.6s
ARCES ARCESS Array B 138.01 348 PKhKP PKPpre 19 57 16.2
comp=Z,8.9nm,0.6s,baz=1.6,slow=2.0,SNR=29
ARCES PKP PKPdf 19 57 24.3 -0.3
comp=Z,36nm,0.6s,baz=48,slow=1.3,SNR=25
ARE0 ARCESS Array S 138.01 348 eP PKPdf 19 57 23.5 -1.1
ARE0 ePP PP 20 00 12.5 -0.6
ARE0 ARCESS Array S 138.01 348 ePKPdf PKPpre 19 57 19.5
H10S3 ASCENSION HYDR138.19 154 T T 22 32 51.3
baz=204,slow=74,SNR=1039
H10S2 ASCENSION HYDR138.19 154 T T 22 32 51.2
baz=204,slow=74,SNR=1192
H10S1 ASCENSION HYDR138.21 154 T T 22 32 52.5
baz=204,slow=74,SNR=1103
TMCR Tamitsa 138.87 337 ePKIKP PKPdf 19 57 26.8 +0.6
TMCR e 20 00 19.5
TMCR pmax pmax
comp=Z,79nm,1.5s
TRO Tromso 138.96 351 e PKPpre 19 57 21.2
ASCN Ascension 139.24 154 PFAKE 19 57 40.0 +11
ASCN LR LR
comp=Z,1µm,19.0s
H10N3 ASCENSION HYDR139.27 154 T T 22 34 10.3
baz=204,slow=75,SNR=349
H10N1 ASCENSION HYDR139.28 154 T T 22 33 47.6
baz=204,slow=75,SNR=264
H10N2 ASCENSION HYDR139.29 154 T T 22 34 09.5
baz=204,slow=75,SNR=293
KLMR Klimovskoe 140.32 332 ePKIKP PKPdf 19 57 25.7 -3.3
KLMR e 20 00 24.2
KLMR pmax pmax
comp=Z,93nm,1.3s
KLMR MLR MLR
comp=Z,3µm,20.0s
STEI Steigen 141.02 352 eP PKPdf 19 57 26.9 -3.2
RAYN Ar Rayn 141.08 271 ePKPpre PKPpre 19 57 26.0
MAK Makhachkala 141.74 303 ePKIKP PKPdf 19 57 33.6 +1.5
MAK e 20 00 40.9
MAK ePPP PPP 20 03 41.0
MAK e 20 04 37.7
MAK eSS SS 20 18 58.2 -8.1
MAK eSSS SSS 20 24 19.5
MAK pmax pmax
comp=Z,122nm,1.1s
JOF Joensuu 141.92 339 ep PKPpre 19 57 27.5
comp=Z,42nm,0.6s
BORG Borgarnes 141.97 16 PFAKE 19 57 40.0 +8.1
BORG LR LR
comp=Z,2µm,19.0s
MOR8 Moi Rana 142.80 352 eP PKPpre 19 57 29.1
DGRG David-gareji 143.45 301 P PKPbc 19 57 33.7 +1.1
VRHR Novokhopersk 143.85 317 ePKHKP PKPpre 19 57 32.1
VRHR pmax pmax
comp=N,9.0nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,80nm,0.9s
VRHR MLR MLR
comp=N,760nm,26.0s
VRHR MLR MLR
comp=E,2µm,26.0s
VRHR MLR MLR
comp=Z,2µm,26.0s
DUS Dusheti 143.89 302 P PKPdf 19 57 36.5 +0.4
TBLG Delisi 143.90 301 P PKPbc 19 57 34.5 +0.6
MOS Moscow 143.95 326 ePKIKP PKPab 19 57 33.2 +0.2
MOS e 19 57 52.2
MOS e 20 00 50.0
MOS pmax pmax
comp=Z,99nm,0.9s
MOS MLR MLR
comp=Z,2µm,22.0s
GNI Garni 144.01 298 ePKIKP PKPbc 19 57 35.2 +0.7
GNI MLR MLR
comp=Z,2µm,21.0s
GNI Garni 144.01 298 ePKPdf PKPbc 19 57 35.2 +0.7
GNI LR LR
comp=Z,2µm,21.0s
KAF Kangasniemi 144.03 341 ePKIKP PKPab 19 57 33.2 +0.1
KAF pmax pmax
comp=Z,12nm,0.3s
KAF Kangasniemi 144.03 341 ep PKPab 19 57 33.2 +0.1
comp=Z,12nm,0.3s
ZEI Tsey 144.39 303 i PKIKP PKPdf 19 57 37.6 +0.5
ZEI pmax pmax
comp=Z,50nm,0.8s
PUL Pulkovo 144.53 336d i PKIKP PKPbc 19 57 35.7 +0.5
FINES FINESS Array B 144.63 340 PKIKP PKPab 19 57 35.3 -0.1
FINES pmax pmax
comp=Z,178nm,0.8s
FINES FINESS Array B 144.63 340 PKP PKPab 19 57 35.2 -0.1
comp=Z,178nm,0.8s,baz=64,slow=4.4,SNR=367
GOF Gofitskoye 144.63 307 ePKIKP PKPbc 19 57 36.3 +0.2
GOF pmax pmax
comp=Z,200nm,1.2s
NSS Namsos 144.67 353 eP PKPab 19 57 35.7 +0.3
CLDR Caldiran 144.70 297 eP PKPdf 19 57 38.1 +0.3
ONI Oni 144.75 303 P PKPdf 19 57 37.7 +0.1
OBN Obninsk 144.79 326α i PKIKP PKPab 19 57 35.9 -0.2
OBN e 19 57 56.2
OBN e 20 04 14.3
OBN e 20 13 30.2
OBN eSSS SSS 20 25 10.9
OBN pmax pmax
comp=Z,315nm,1.6s
OBN MLR MLR
comp=Z,1µm,28.0s
OBN Obninsk 144.79 326 ePKPdf PKPab 19 57 36.2 0.0
OBN LR LR
comp=Z,1µm,22.0s
AKH Akhalkalaki 144.86 301 P PKPdf 19 57 38.1 +0.2
DYDN Diyadin 144.86 297 i P PKPdf 19 57 38.3 +0.3
HAKT HAKKARI 144.91 294 i P PKPbc 19 57 38.0 +0.5
KBZ Khabaz 144.98 305 PKIKP PKPbc 19 57 37.5 +0.3
KBZ pmax pmax
comp=Z,45nm,0.9s
KBZ Khabaz 144.98 305 PKP PKPbc 19 57 37.5 +0.3
comp=Z,45nm,0.8s,baz=152,slow=3.2,SNR=40
CUKT Cukurca 144.99 293 eP PKPdf 19 57 38.5 +0.2
VOR Voronezh 145.01 319 PKIKP PKPbc 19 57 36.0 -1.0
VOR pmax pmax
comp=Z,300nm,1.4s
DIGO Kars 145.04 299 i P PKPbc 19 57 37.9 0.0
KIV Kislovodsk 145.09 305 i PKIKP PKPbc 19 57 37.6 -0.1
KIV eSS SS 20 19 41.4 -3.6
KIV eSSS SSS 20 25 15.1
KIV pmax pmax
comp=Z,77nm,1.0s
KIV MLR MLR
comp=Z,2µm,22.0s
KIV Kislovodsk 145.09 305 ePKPdf PKPbc 19 57 37.6 -0.1
KIV LR LR
comp=Z,2µm,22.0s
KIV Kislovodsk 145.09 305 i PKPdf PKPbc 19 57 38.0 +0.3
SNR=13
TVAN Van 145.12 296 i P PKPab 19 57 38.7 +0.4
VSR Storozhevoye 145.24 319 ePKIKP PKPbc 19 57 36.9 -0.9
VSR pmax pmax
comp=N,30nm,1.0s
VSR pmax pmax
comp=E,50nm,1.0s
VSR pmax pmax
comp=Z,140nm,1.0s
VSR MLR MLR
comp=N,810nm,20.0s
VSR MLR MLR
comp=E,900nm,20.0s
VSR MLR MLR
comp=Z,2µm,20.0s
KARS Kars 145.25 299 eP PKPdf 19 57 39.6 +1.0
VORD Divnogorie 145.27 318 ePKP2 PKPbc 19 57 36.8 -1.1
VORD pmax pmax
comp=N,130nm,0.8s
VORD pmax pmax
comp=E,210nm,0.8s
VORD pmax pmax
comp=Z,90nm,0.8s
VORD MLR MLR
comp=Z,1µm,20.0s
VORD MLR MLR
comp=N,800nm,20.0s
VORD MLR MLR
comp=E,610nm,20.0s
AGRB Hanur-Agry 145.39 298 eP PKPab 19 57 40.1 +1.0
GEVA Gevas 145.40 295 i P PKPdf 19 57 39.3 +0.3
TUTA Tutak 145.54 297 i P PKPdf 19 57 39.2 -0.1
SIRT Sirnak 145.91 294 eP PKPab 19 57 41.3 +0.2
SIRN S˜–rnak 145.94 294 i P PKPdf 19 57 39.8 0.0
TATV Tatvan 146.02 296 i P PKPdf 19 57 40.0 -0.1
ARTV Artvin 146.06 300 i P PKPab 19 57 41.9 +0.3
DAGI Agillar 146.08 300 i P PKPdf 19 57 39.5 -0.5
TBLU Trondheim 146.10 354 eP PKPdf 19 57 38.2 -1.0
HOMI Horasan 146.19 298 i P PKPbc 19 57 42.1 +0.6
DDEM Demirkent 146.22 300 i P PKPbc 19 57 41.1 -0.3
DBOC Borcka 146.23 301 i P PKPdf 19 57 39.2 -0.9
DBAD Bademkaya 146.25 300 i P PKPdf 19 57 40.3 0.0
ERZM Erzurum 146.62 298 i P PKPbc 19 57 42.7 0.0
EZM Erzurum 146.62 298 eP PKPbc 19 57 43.5 +0.7
BTMT Batman 146.64 295 eP PKPbc 19 57 43.1 +0.5
VSU Vasula 146.74 337c i PKIKP PKPdf 19 57 40.3 0.0
PZAR Pazar-Rize 146.83 301 eP PKPbc 19 57 42.7 -0.2
SVAN Silvan-Diyarba 146.87 295 eP PKPab 19 57 44.7 0.0
BNGB Bingˆ¶l 147.23 297 eP PKPab 19 57 46.0 -0.1
MARD Mardin 147.24 294 i P PKPbc 19 57 44.7 +0.3
SOC Sochi 147.27 305d ePKHKP PKPdf 19 57 40.1 -1.6
SOC i 19 57 43.9
SOC ePPP PPP 20 04 27.0
SOC eSS SS 20 20 05.8 -3.7
SOC eSSS SSS 20 25 40.6
SOC pmax pmax
comp=Z,8.0nm,0.6s
SOC pmax pmax
comp=Z,89nm,0.9s
SOC MLR MLR
comp=Z,1µm,21.0s
DOMB Dombas 147.40 354 eP PKPbc 19 57 44.3 +0.4
DOMB IAmb IAmb 19 57 46.1
comp=Z,90nm,1.2s
BAYT Ayd˜–ntepe-Bay 147.50 299 eP PKPab 19 57 46.9 -0.3
MAZI Mazidag 147.50 294 eP PKPab 19 57 48.4 +1.1
KTUT Trabzon 147.70 301 eP PKPbc 19 57 46.6 +1.2
MACK Trabzon 147.71 300 i P PKPbc 19 57 46.5 +1.1
DYBB Diyarbakir 147.72 295 eP PKPbc 19 57 46.9 +1.3
DIYA Diyarbakir 147.74 295 i P PKPbc 19 57 45.4 -0.2
EUZM Uzumlu 147.92 298 i P PKPbc 19 57 47.8 +1.6
HCB Kahramanmara¯ 147.93 294 i P PKPab 19 57 52.9 +4.0
GUMT Gumushane 147.99 300 eP PKPab 19 57 48.5 -0.7
FOO Floro 148.10 358 eP PKPbc 19 57 46.2 +0.5
NB2 NORSAR Subarra148.15 352 PKP PKPbc 19 57 46.3 +0.3

comp=Z,219nm,0.8s,baz=14,slow=2.9
NB2 NORSAR Subarra148.15 352 PKP PKPbc 19 57 46.3 +0.3
baz=14,slow=2.9
NOA NORSAR Array B 148.15 352 PKIKP PKPdf 19 57 43.0 +0.3
NOA 19 57 46.1
NOA pmax pmax
comp=Z,194nm,0.9s
NOA pmax pmax
comp=Z,204nm,0.9s
NOA NORSAR Array B 148.15 352 PKP PKPdf 19 57 43.0 +0.3
comp=Z,194nm,0.9s,baz=14,slow=4.4,SNR=190
NOA PKPbc PKPbc 19 57 46.0 +0.1
comp=Z,204nm,0.9s,baz=13,slow=4.4,SNR=283
KELT Kelkit 148.20 299 iP PKPbc 19 57 48.5 +1.5
PTK Pertek 148.24 297 eP PKPab 19 57 49.1 -1.1
NC602 NORSAR Array S 148.40 351 eP PKPbc 19 57 46.2 -0.4
HYA Hoyanger 148.47 356 eP PKPbc 19 57 47.4 +0.7
HYA IAmb IAmb 19 57 48.1
comp=Z,174nm,1.0s
ESPY Espiye-Giresun 148.49 301 eP PKPbc 19 57 46.2 -1.3
ANN Anapa 148.56 308 iPKP2 PKPbc 19 57 47.7 +0.2
ANN pmax pmax
comp=Z,193nm,1.0s
ANN MLR MLR
comp=N,1μm,20.0s
ANN MLR MLR
comp=Z,1μm,20.0s
ELZG Elazig 148.59 296 iP PKPbc 19 57 49.8 +1.8
SUE Sulen 148.65 358 eP PKPbc 19 57 48.2 +1.0
ILIC ilic-Erzincan 148.81 298 eP PKPab 19 57 52.1 -0.4
GRSN GIRESUNGRSN 148.83 301 iP PKPbc 19 57 48.3 -0.1
KEMA Kemaliye 148.89 298 iP PKPbc 19 57 50.0 +1.3
SUSE Susehri 148.99 299 iP PKPdf 19 57 46.5 +1.6
MALT Malatya 149.04 296 eP PKPbc 19 57 50.6 +1.5
MALT Malatya 149.04 296 ⇓PKP2 PKPbc 19 57 50.9 +1.8
MALT Malatya 149.04 296 ⇓iP PKPbc 19 57 50.9 +1.8
IDID Didziasalis 149.06 333 eP PKPbc 19 57 49.3 +0.9
IDID AMB AMB 19 57 50.8
comp=Z,80nm,1.0s
ISAL Salakas 149.12 333 eP PKPbc 19 57 49.5 +0.9
ISAL AMB AMB 19 57 51.0
comp=Z,91nm,0.9s
MICGM Minsk 149.16 331 ⇑iP PKPbc 19 57 47.0 -1.7
MNK Minsk 149.18 331 ⇑iPKIKP PKPbc 19 57 47.0 -1.8
MNK pmax pmax
comp=Z,25μm,1.0s
ATAB Bozova 149.21 294 iP PKPbc 19 57 50.1 +0.6
IIGN Ignalina 149.24 333 eP PKPbc 19 57 49.3 +0.4
IIGN AMB AMB 19 57 50.8
comp=Z,131nm,0.9s
RUND Rundenannen 149.27 357 eP PKPbc 19 57 48.6 -0.2
OSL Oslo 149.28 352 eP PKPbc 19 57 49.5 +0.6
OSL IAmb IAmb 19 57 50.1
comp=Z,146nm,0.9s
BER Bergen 149.30 357 eP PKPbc 19 57 49.7 +0.9
NACGM Naroch 149.34 332 eP PKPdf 19 57 42.0 -2.7
AKCD Akcadag 149.44 296 iP PKPbc 19 57 51.1 +1.0
LRW Lerwick 149.52 3 eP PKPbc 19 57 49.6 +0.2
RSDY Resadiye-TOKAT 149.62 300 eP PKPbc 19 57 51.9 +1.5
KONO Kongsberg 149.70 353 ePKP2 PKPbc 19 57 50.3 +0.5
KONO MLR MLR
comp=Z,1μm,20.0s
KONO Kongsberg 149.70 353 eP PKPbc 19 57 50.4 +0.5
KONO Kongsberg 149.70 353 ePKPbc PKPbc 19 57 50.3 +0.5
KONO LR LR
comp=Z,1μm,20.0s
ODD1 Odda 149.70 356 eP PKPbc 19 57 50.5 +0.6
ODD1 IAmb IAmb 19 57 51.6
comp=Z,215nm,0.8s
DARE Darende-Malaty 149.75 296 eP PKPdf 19 57 47.4 +1.3
GZT Gaziantep 149.80 294 iP PKPbc 19 57 52.2 +1.1
SVSK Karacayir 149.95 299 eP PKPbc 19 57 52.1 +1.0
KUZU Kuzuini 150.23 293 iP PKPbc 19 57 53.5 +1.5
KMRS Kahramanmaras 150.31 294 eP PKPbc 19 57 53.3 +1.2
KVT Kavak 150.46 302 eP PKPbc 19 57 53.9 +1.5
KMY Karmoy 150.47 357 eP PKPbc 19 57 52.9 +1.2
KMY IAmb IAmb 19 57 54.4
comp=Z,2μm,1.8s
KAMA Osmaniye 150.52 294 iP PKPbc 19 57 53.6 +0.9
HAVZ Havza 150.70 302 iP PKPbc 19 57 53.8 +0.9
ANDN Andirin 150.75 295 iP PKPbc 19 57 54.4 +1.1
SIM Simferopol' 150.75 310c iPKIKP PKPbc 19 57 52.7 -0.2
SIM pmax pmax
comp=Z,144nm,0.8s
FKH Fakeheh 150.83 288 eP PKPbc 19 57 54.9 +1.4
DIKM Dikmen 150.91 303 eP PKPbc 19 57 51.7 -1.7
AKASG Malin Array Be 150.95 324 PKIKP PKPdf 19 57 46.7 -0.7
AKASG pmax pmax
comp=Z,11nm,1.0s
AKASG pmax pmax
comp=Z,116nm,0.6s
AKASG Malin Array Be 150.95 324 PKP PKPdf 19 57 46.7 -0.7
comp=Z,11nm,1.0s,baz=45,slow=1.2,SNR=21
AKASG PKPbc PKPbc 19 57 52.9 -0.3
comp=Z,116nm,0.6s,baz=47,slow=3.0,SNR=292
KIEV Kiev 150.96 324 ePKIKP PKPbc 19 57 53.4 +0.2
KIEV MLR MLR
comp=Z,1μm,22.0s
KIEV Kiev 150.96 324 ePKPbc PKPbc 19 57 53.4 +0.2
KIEV LR LR
comp=Z,1μm,22.0s
BNN Bunyan 150.99 297 eP PKPbc 19 57 54.8 +1.0
KOZT Kozan 151.16 294 eP PKPbc 19 57 55.1 +1.0
HOMB Homborsund 151.17 353 eP PKPbc 19 57 54.3 +1.0
MLA1 Latheron 151.18 6 eP PKPbc 19 57 52.9 -0.5
SNART Snartemo 151.22 355 eP PKPbc 19 57 54.6 +1.0
SNART IAmb IAmb 19 57 56.2
comp=Z,200nm,1.1s
BOYT Boyabat 151.22 303 iP PKPbc 19 57 55.3 +1.2
CEYT Ceyhan 151.27 293 eP PKPbc 19 57 55.8 +1.4
RCY Rachaya 151.29 286 eP PKPbc 19 57 56.1 +1.4
SUW Suwalki 151.42 334 ePKIKP PKPdf 19 57 48.2 +0.2
SUW Suwalki 151.42 334 ePKP PKPbc 19 57 54.6 +0.5
SUW Suwalki 151.42 334 ePKPdf PKPdf 19 57 48.2 +0.2
SUW ePKPbc PKPbc 19 57 54.7 +0.5
BHL Bhannes 151.45 287 eP PKPbc 19 57 56.2 +1.2
MVH1 Achvaich 151.47 7⇑eP PKPbc 19 57 53.8 -0.3
CORM Corum 151.69 300 eP PKPbc 19 57 56.9 +1.5
BZK Bozkurt 151.74 304 eP PKPbc 19 57 56.4 +1.1
KAC Achnashellach 151.75 9⇑eP PKPbc 19 57 55.3 +0.5
AVNT Avonos 151.76 297 iP PKPbc 19 57 56.3 +0.6
KARA Karaisali 151.80 294 eP PKPbc 19 57 56.6 +1.0
KPL Plockton 151.86 9 eP PKPbc 19 57 55.5 +0.5
MCD Coleburn Disti 151.90 6 eP PKPbc 19 57 55.1 0.0
KAST KASTAMONU 151.92 303 iP PKPbc 19 57 56.6 +0.8
MDO Dochfour 151.93 8 eP PKPbc 19 57 54.1 -1.1
CDAG Cicekdag 151.99 299 iP PKPbc 19 57 56.4 +0.3
GULE Gulek 152.02 294 iP PKPbc 19 57 57.6 +1.3
KSB Sheil Bridge 152.02 9⇑eP PKPbc 19 57 55.4 0.0
MME1 Meikle Cairn 152.20 6⇑eP PKPbc 19 57 55.7 -0.2
MERS Mersin 152.26 293 eP PKPbc 19 57 57.4 +0.7
CANT Cankiri 152.35 302 eP PKPbc 19 57 55.6 -1.2
BRTR Keskin Array B 152.53 300 PKIKP PKPdf 19 57 50.1 -0.3
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR pmax pmax
comp=Z,44nm,0.9s
BRTR Keskin Array B 152.53 300 PKP PKPdf 19 57 50.1 -0.3
comp=Z,3.7nm,0.9s,baz=132,slow=1.8,SNR=16
BRTR PKPbc PKPbc 19 57 57.5 +0.1
comp=Z,44nm,0.9s,baz=138,slow=4.6,SNR=56
KIZK Mersin 152.60 293 iP PKPbc 19 57 57.0 -0.4
DRUM Mains of Drumt 152.64 6 eP PKPbc 19 57 55.1 -1.6
EREN Erenkoy 152.64 291 eP PKPbc 19 57 58.7 +1.2
MUD Monsted U'grnd 152.87 352 iPKIKP PKPbc 19 57 59.0 +1.7
MUD pmax pmax
comp=Z,75nm,1.0s
MUD Monsted U'grnd 152.87 352 iP PKPbc 19 57 59.0 +1.7
comp=Z,75nm,1.0s
SAFT Safranbolu 152.88 303 eP PKPbc 19 57 58.6 +0.7
SULT Sultanhani-AKS 152.89 296 eP PKPbc 19 57 57.9 -0.2
BBAL Bala 152.96 299 iP PKPbc 19 57 58.7 +0.4
AFSR Af¸ar-Bala (A 153.01 299 eP PKPbc 19 57 57.5 -0.8
BSD Bornholm Skovb 153.09 344 ⇑iPKIKP PKPbc 19 57 58.3 +0.5
BSD pmax pmax
comp=Z,120nm,0.9s
BSD MLR MLR
comp=Z,1μm,22.0s
BSD Bornholm Skovb 153.09 344 ⇑iP PKPbc 19 57 58.3 +0.5
comp=Z,118nm,0.8s
comp=Z,1μm,22.0s
COP Copenhagen 153.09 347 ⇑iPKIKP PKPbc 19 57 58.6 +0.8
COP pmax pmax
comp=Z,95nm,0.8s
COP MLR MLR
comp=Z,850nm,27.0s
COP Copenhagen 153.09 347 ⇑iP PKPbc 19 57 58.6 +0.8
comp=Z,95nm,0.7s
comp=Z,850nm,27.0s
ANTO Ankara 153.14 300 eP PKPbc 19 57 59.5 +0.9
ANTO Ankara 153.14 300 ePKIKP PKPdf 19 57 50.4 -0.8
ANTO MLR MLR
comp=Z,873nm,21.0s
ANTO Ankara 153.14 300 ⇓iP PKPbc 19 57 58.7 +0.1
ANTO Ankara 153.14 300 ePKPdf PKPdf 19 57 50.4 -0.8
ANTO ePKPbc PKiKP 19 57 59.4 +0.6
ANTO LR LR
comp=Z,873nm,21.0s
EAB Aberfoyle 153.15 8⇑eP PKPbc 19 57 58.0 +0.1
LOD Lodumlu 153.15 300 eP PKPbc 19 58 00.3 +1.7
LFK Lefkose 153.18 290 eP PKPbc 19 57 59.8 +1.0
KIS Kishinev 153.21 317 ePKIKP PKPdf 19 57 50.0 -0.9
KIS i 19 58 06.0
KIS e 19 58 12.0
KIS e 20 01 40.0
KIS ePPS PPS 20 14 46.0
KIS MLR MLR
comp=Z,1μm,22.0s
KIS MLR MLR
comp=Z,1μm,22.0s
KIS Kishinev 153.21 317 ePKP PKPdf 19 57 50.0 -0.9
KIS Kishinev 153.21 317 ePP PP 20 01 40.0 -3.9
AYK Aydincik 153.28 292 iP PKPdf 19 57 53.0 +1.7
CSS Prodhromos 153.36 289 eP PKPbc 19 57 59.8 +0.6
CSS Prodhromos 153.36 289 ePKPbc PKPbc 19 57 58.7 -0.5
CSS LR LR
comp=Z,452nm,20.0s
MAMC Mammari 153.44 290 P PKPbc 19 58 00.3 +1.0
BCAM Yenicaga 153.45 303 iP PKPbc 19 57 58.7 -0.6
LLD Lille Linde 153.47 347 iPKIKP PKPbc 19 57 59.7 +1.1
LLD pmax pmax
comp=Z,27nm,0.8s
LLD Lille Linde 153.47 347 iP PKPbc 19 57 59.7 +1.1
comp=Z,27nm,0.7s
PGBU Glenifferbraes 153.50 9 eP PKPbc 19 57 58.7 0.0
ERMK Ermenek 153.57 293 iP PKPbc 19 58 01.1 +1.3
LEF Lefka 153.71 290 eP PKPbc 19 58 00.6 +0.7
SZAC Souni-Zanaja 153.73 289 P PKPbc 19 58 00.1 +0.1
LADK Ladik-KONYA 153.79 297 eP PKPbc 19 57 59.5 -0.6
LEOM Leova 153.81 317 ⇓PKIKP PKPbc 19 58 00.6 +0.9
LEOM Leova 153.81 317 ⇓iP PKPbc 19 58 00.6 +0.9
KONT Konya--Tatoy 153.83 296 eP PKPbc 19 57 59.9 -0.2
KDHN Kadinhani 153.92 298 iP PKPbc 19 58 00.1 -0.3
ALFC Alevga 153.95 290 P PKPbc 19 58 00.2 -0.2
BEL Belsk 154.02 333 ePKIKP PKPbc 19 58 01.4 +1.4
BEL Belsk 154.02 333 ePKP PKPbc 19 58 01.4 +1.4
KIZT Kizilcal 154.03 298 eP PKPbc 19 58 01.1 +0.5
GKP Gorka Klasztor 154.09 339 ePKIKP PKPdf 19 57 50.3 -1.6
GKP Gorka Klasztor 154.09 339 ePKP PKPdf 19 57 50.3 -1.6
LVV L'vov 154.09 327 ePKIKP PKPbc 19 58 00.3 +0.1
LVV e 19 58 15.9
TLCR 154.09 314 ⇑PKIKP PKPbc 19 58 00.7 +0.4
TLCR 154.09 314 ⇑iP PKPbc 19 58 00.7 +0.4
GAZI Gazipasa 154.09 292 iP PKPbc 19 58 00.2 -0.5
ESK Eskdalemuir 154.14 7 ePKIKP PKPbc 19 58 01.9 +1.8
ESK e 19 58 13.6
ESK MLR MLR
comp=Z,2μm,20.0s
ESK Eskdalemuir 154.14 7 ePKPbc PKPbc 19 58 01.9 +1.8
ESK ePKPab PKPab 19 58 13.6 -0.3
ESK LR LR
comp=Z,2μm,20.0s
MDUB Mudurnu 154.18 302 eP PKPbc 19 58 00.7 -0.2
SVRH Sivrihisar-ESK 154.19 300 eP PKPbc 19 58 01.1 +0.2
BTAS Taskesti 154.30 303 iP PKPbc 19 58 00.9 -0.1
CFR Carcaliu 154.52 314 ⇓PKIKP PKPdf 19 57 51.7 -1.1
CFR Carcaliu 154.52 314 ⇓iP PKPdf 19 57 51.7 -1.1
TIRR Tirgusor 154.68 313 ePKIKP PKPbc 19 58 01.9 +0.3
TIRR Tirgusor 154.68 313 ⇓iP PKPbc 19 58 02.4 +0.8
TIRR Tirgusor 154.68 313 ePKPdf PKPbc 19 58 01.9 +0.3
SEYT Eskypehyr 154.68 300 iP PKPdf 19 57 53.5 +0.1
GULT Gulveren 154.69 302 eP PKPbc 19 58 01.1 -0.8
TESR Tescani 154.73 318 ⇓iP PKPbc 19 58 02.1 +0.4
KWP Kalwaria Pacla 154.84 328 ⇓PKIKP PKPbc 19 58 03.1 +1.3
KWP Kalwaria Pacla 154.84 328 ⇓iP PKPbc 19 58 03.1 +1.3
KWP Kalwaria Pacla 154.84 328 PFAKE 19 58 00.0 -1.8
KWP LR LR
comp=Z,3μm,22.0s
HARR Harsova 154.88 313 ⇓PKIKP PKPbc 19 58 03.1 +1.1
HARR Harsova 154.88 313 ⇓iP PKPbc 19 58 03.1 +1.1
BUR08 Bucovina Ar. S 154.89 322 ePKPdf PKPdf 19 57 54.5 +1.0
BUR08 ePKPbc PKiKP 19 58 03.2 +1.1
BURAR Bucovina Array 154.90 322 ⇑PKIKP PKPdf 19 57 55.8 +2.4
BURAR Bucovina Array 154.90 322 ⇑iP PKPdf 19 57 55.8 +2.4
VRI Vrincioaia 155.03 317 ⇑PKIKP PKPdf 19 58 03.3 +10
VRI Vrincioaia 155.03 317 ⇑iP PKPdf 19 58 03.3 +10
PLOR Plostina 155.09 317 ⇓PKIKP PKPdf 19 58 01.9 +8.2
PLOR Plostina 155.09 317 ⇓iP PKPdf 19 58 01.9 +8.2
SHUT Suhut-Afyon 155.12 298 eP PKPdf 19 57 54.0 0.0
BSEG Bad Segeberg 155.14 349 ePKPdf PKPdf 19 57 54.1 +0.7
BSEG epPKPdf pPKPdf 19 58 02.7 -3.3
BSEG ePKPab PKPab 19 58 18.8 +0.7
PSN Preselentsi 155.16 311 ⇓PKIKP PKPdf 19 58 02.9 +9.1
PSN Preselentsi 155.16 311 eP PKPab 19 58 23.2 +4.5
PSN Preselentsi 155.16 311 ⇓iP PKPdf 19 58 02.9 +9.1
CAVI Cavuskoy 155.25 302 eP PKPab 19 58 18.2 -1.0
ADVT Abdulvahap 155.26 303 eP PKPab 19 58 14.7 -4.5
ISP Isparta 155.29 296 PFAKE 19 58 10.0 -10
ISP LR LR
comp=Z,1μm,21.0s
PGOR Pogoanele 155.36 315 ⇓iP PKPdf 19 58 04.6 +11
KOLS Kolonicke sedl 155.53 327 ePKIKP PKPdf 19 57 54.2 +0.1
KOLS Kolonicke sedl 155.53 327 ePKP PKPdf 19 57 54.2 +0.1
KOLS e 19 58 22.6
LIC Lamto 155.59 162 ePKIKP PKPdf 19 57 56.4 +1.1
comp=Z,32nm,1.1s
LIC eR
comp=Z,2μm,23.0s
LIC Lamto 155.59 162 ePKIKP PKPdf 19 57 56.4 +1.1
comp=Z,74nm,0.9s
LIC Lamto 155.59 162 ePKPdf PKPdf 19 57 56.4 +1.1
STHS Stebnicka Huta 155.66 329 ePKIKP PKPdf 19 57 55.1 +0.8
STHS e 19 58 06.9
STHS Stebnicka Huta 155.66 329 ePKP PKPdf 19 57 55.1 +0.8
STHS e 19 58 06.9
STHS e 19 58 22.8
OJC Ojcow 155.67 332 ePKIKP PKPdf 19 57 58.5 +4.2
OJC Ojcow 155.67 332 ePKPdf PKPdf 19 57 58.5 +4.2
OJC ePKPab PKPab 19 58 22.4 +1.8
OJC L L 21 04 04.0
comp=Z,2μm,21.0s
MLR Muntele Rosu 155.69 317 ⇓PKIKP PKPdf 19 57 54.6 0.0
MLR Muntele Rosu 155.69 317 ⇓iP PKPdf 19 57 54.6 0.0
UZH Uzhgorod 155.73 327 ePKIKP PKPdf 19 57 59.5 +5.1
UZH e 19 58 17.0
UZH i 19 58 20.5
UZH e 20 02 03.0
UZH e 20 21 36.0
UZH MLR MLR
comp=N,700nm,21.0s
UZH MLR MLR
comp=E,700nm,21.0s
UZH MLR MLR
comp=Z,380nm,21.0s
DOPR Dopca 155.76 318 ⇑iP PKPdf 19 57 55.5 +0.9
RUE Ruedersdorf 155.76 343 ePKPdf PKPdf 19 57 54.4 +0.2
ULDT Uludag 155.78 303 iP PKPdf 19 58 00.3 +5.3
KIC Kosan Boka 155.80 163 ePKIKP PKPdf 19 57 56.1 +0.5
comp=Z,69nm,0.9s
PRD Provadia 155.89 311 ⇓PKIKP PKPdf 19 58 05.1 +10
SULR 155.93 315 ⇑iP PKPab 19 58 20.0 -1.9
CRVS Cervenica-Dubn 155.93 328 ePKIKP PKPdf 19 57 55.4 +0.7
CRVS Cervenica-Dubn 155.93 328 ePKP PKPdf 19 57 55.4 +0.7
CRVS e 19 58 22.8
TRPA Tarpa 155.96 325 ⇓iP PKPdf 19 58 05.0 +10
TRPA Tarpa 155.96 325 ⇓e PKPab 19 58 23.9 +2.0
CTYL Yal??k??y-??at 155.96 306 eP PKPab 19 58 20.6 -1.6
TIC Toumodi 156.00 162 ePKIKP PKPdf 19 57 56.7 +0.9
comp=Z,12nm,0.2s
DBIC Dimbokro 156.07 162 PKIKP PKPdf 19 57 55.2 -0.7
DBIC pmax pmax
comp=Z,13nm,1.1s
DBIC pmax pmax
comp=Z,11nm,0.9s
DBIC pmax pmax
comp=N,7.0nm,1.0s
DBIC Dimbokro 156.07 162 PKP PKPdf 19 57 55.1 -0.7
comp=N,13nm,1.1s,baz=172,slow=2.1,SNR=7.0
DBIC PKPbc PKPdf 19 58 02.3 +6.4
comp=N,11nm,0.9s,baz=174,slow=2.4,SNR=9.3
DBIC SKKPbc 20 08 26.6
comp=N,7.0nm,1.0s,baz=347,slow=4.4,SNR=3.8
DBIC Dimbokro 156.07 162 PKP PKPdf 19 57 55.1 -0.7
DBIC ePKPdf PKPdf 19 57 56.8 +0.9
DBIC PKPbc PKPbc 19 58 02.3
DBIC SKKPbc 20 08 26.6
NIE Niedzica 156.07 330 ePKIKP PKPdf 19 57 59.6 +4.7
NIE MLR MLR
comp=Z,2μm,20.7s
NIE Niedzica 156.07 330 ePKPdf PKPdf 19 57 59.6 +4.7
NIE L L 21 09 06.0
comp=Z,2μm,20.7s
VOIR 156.25 318 ⇑PKIKP PKPdf 19 57 59.5 +4.2
VOIR 156.25 318 ⇑iP PKPdf 19 57 59.5 +4.2
KSP Ksiaz 156.47 337 ePKIKP PKPdf 19 57 56.0 +0.7
KSP e 19 58 05.5
KSP Ksiaz 156.47 337 ePKP PKPdf 19 57 56.3 +1.0
NRDL Niedersach Rie 156.56 348 epPKPdf pPKPdf 19 58 05.9 -1.9
NRDL ePKPab PKPab 19 58 24.2 0.0
OKC Ostrava-Krasne 156.63 334 ePKIKP PKPdf 19 57 56.3 +0.8
OKC e 19 58 06.8
OKC e 20 01 58.2
OKC MLR MLR
comp=Z,2μm,23.9s
OKC Ostrava-Krasne 156.63 334 ePKPDF PKPdf 19 57 56.3 +0.8
OKC ex x 19 58 06.8
OKC ePKPAB PKPab 19 58 27.1 +2.4
OKC ePP PP 20 01 58.2 -4.4
OKC ex x 20 28 38.7
OKC AMS AMS 21 04 00.0
comp=Z,2μm,23.9s
EDC Edincik 156.65 304 eP PKPdf 19 57 53.6 -2.2
JMB Yambol 156.74 310 eP PKPab 19 58 26.2 +0.7
SZH Strazhica 156.81 312 eP PKPab 19 58 26.6 +0.8
UPC Upice 156.85 337 ePKIKP PKPdf 19 57 56.6 +0.8
UPC e 19 58 07.4
UPC Upice 156.85 337 ePKPDF PKPdf 19 57 56.6 +0.8
UPC ex x 19 58 07.4
UPC ePKPAB PKPab 19 58 26.4 +0.8
DPC Dobruska-Polom 156.88 337 ePKIKP PKPdf 19 57 56.7 +0.8
DPC e 19 58 07.6
DPC Dobruska-Polom 156.88 337 ePKPDF PKPdf 19 57 56.7 +0.8
DPC ex x 19 58 07.6
DPC ePKPAB PKPab 19 58 26.9 +1.1
DPC ex x 20 28 26.5
MORC Moravsky Berou 156.91 334 ⇑PKIKP PKPdf 19 57 57.1 +1.1
MORC Moravsky Berou 156.91 334 ⇑iP PKPdf 19 57 57.0 +1.1
MORC Moravsky Berou 156.91 334 ePKPdf PKPdf 19 57 57.1 +1.1
KRLC Kraliky 156.94 336 ePKIKP PKPdf 19 57 56.7 +0.7
KRLC e 19 58 07.5
KRLC Kraliky 156.94 336 ePKPDF PKPdf 19 57 56.7 +0.7
KRLC ex x 19 58 07.5
KRLC ePKPAB PKPab 19 58 26.8 +0.7
ZIMR 156.99 313 ⇑PKP2 PKPab 19 58 28.4 +1.9
ZIMR 156.99 313 ⇑iP PKPab 19 58 28.4 +1.9
CLL Collm 157.03 343 ⇓iPKIKP PKPdf 19 57 57.5 +1.5
CLL i 19 58 07.3
CLL pmax pmax
comp=Z,63nm,1.9s
CLL pmax pmax
comp=Z,33nm,0.9s
CLL pmax pmax
comp=Z,118nm,1.2s
CLL MLR MLR
comp=Z,1μm,20.3s
CLL Collm 157.03 343 epPKPdf pPKPdf 19 58 07.6 -1.0
CLL ePKPab PKPab 19 58 27.0 +0.6
CLL Collm 157.03 343 ⇓iPKPdf PKPdf 19 57 57.5 +1.5
comp=Z,63nm,1.9s
CLL iPKPdiff PKPdf 19 58 07.3 +11
comp=Z,33nm,0.9s
CLL ipPKPdf pPKPdf 19 58 10.2 +1.6
CLL iPKPab PKPab 19 58 28.7 +2.3
comp=Z,118nm,1.2s
CLL ePP PP 20 02 02.0 -2.6
comp=Z,500nm,22.1s
CLL ePPP PPP 20 05 44.0
CLL ePPPP 20 08 00.0
CLL ePSKS 20 12 26.0
CLL ePPS PPS 20 15 18.0
CLL e 20 16 56.0
CLL eSS SS 20 22 00.0 +5.1
CLL ePSS PSS 20 22 53.0
CLL eSSS SSS 20 28 24.0
CLL e 20 30 30.0
CLL eSSSS 20 38 00.0
CLL LmV 21 24 00.0
comp=Z,1μm,20.3s
IBBN Ibbenburen 157.11 351 ePKPab PKPab 19 58 27.2 +0.6
AKHS Akhisar 157.12 300 iP PKPdf 19 57 53.3 -3.2
CLZ Clausthal 157.13 347 ePKPdf PKPdf 19 57 54.8 -1.4
CLZ epPKPdf pPKPdf 19 58 07.7 -1.1
CLZ ePKPab PKPab 19 58 27.3 +0.5
BRG Berggiesshubel 157.17 341 ePKP PKPdf 19 57 56.0 -0.2
comp=Z,51nm,1.6s
BRG i 19 58 06.5
comp=Z,23nm,1.1s
BRG i 19 58 27.5
comp=Z,58nm,0.9s
BRG PP PP 20 01 58.9 -6.5
BRG i 20 15 16.0
comp=Z,2μm,23.4s
comp=N,1μm,21.6s
comp=E,1μm,21.6s
BRG Berggiesshubel 157.17 341 ePKIKP PKPdf 19 57 56.0 -0.2
BRG i 19 58 06.5
BRG i 20 15 16.0
BRG pmax pmax
comp=Z,4.0nm,1.6s
BRG pmax pmax
comp=Z,51nm,1.1s
BRG pmax pmax
comp=Z,23nm,0.9s
BRG MLR MLR
comp=Z,58μm,23.4s
BRG MLR MLR
comp=N,2μm,21.6s
BRG MLR MLR
comp=E,1μm,21.6s
BRG Berggiesshubel 157.17 341 ePKPdf PKPdf 19 57 56.1 -0.1
BRG ePKPab PKPab 19 58 28.5 +1.5
PSZ Piszkesteto 157.37 328 ePKIKP PKPdf 19 57 56.1 -0.5
PSZ MLR MLR
comp=Z,2μm,20.0s
PSZ Piszkesteto 157.37 328 ⇑iP PKPab 19 58 29.0 +0.9
PSZ Piszkesteto 157.37 328 ePKPdf PKPdf 19 57 56.1 -0.5
PSZ LR LR
comp=Z,2μm,20.0s
PSZ Piszkesteto 157.37 328 ⇓e PKPab 19 58 30.0 +1.9
VYHS Vyhne 157.41 331 ePKIKP PKPdf 19 57 56.3 -0.3
VYHS e 19 58 07.8
VYHS Vyhne 157.41 331 ePKP PKPdf 19 57 56.3 -0.3
VYHS e 19 58 07.8
VYHS e 19 58 31.0
WTSB Winterswijk 157.56 353 ePKPdf PKPdf 19 57 55.7 -0.9
WTSB ePKPab PKPab 19 58 28.6 0.0
GZR Gura Zlata 157.59 320 ⇓PKIKP PKPdf 19 57 56.7 -0.3
GZR Gura Zlata 157.59 320 ⇓iP PKPdf 19 57 56.7 -0.3
VRAC Vranov 157.65 335 ⇑PKP2 PKPab 19 58 29.5 +0.3
VRAC Vranov 157.65 335 ⇑iP PKPab 19 58 29.5 +0.3
PRA Prague 157.73 339 PKPDF PKPdf 19 57 58.0 +1.1
PRA PKPAB PKPab 19 58 31.0 +1.6
PRU Pruhonice 157.77 339 ePKIKP PKPdf 19 57 57.4 +0.4
PRU e 19 58 07.0
PRU MLR MLR
comp=Z,2μm,24.5s
PRU Pruhonice 157.77 339 ePKPDF PKPdf 19 57 57.4 +0.4
PRU ex x 19 58 07.0
PRU ePKPAB PKPab 19 58 30.3 +0.7
PRU ex x 20 02 00.0
PRU ex x 20 28 23.4
PRU AMS AMS 21 04 30.0
comp=Z,2μm,24.5s
SMOL Smolenice 157.97 332 e PKPdf 19 58 10.2 +13
SMOL Smolenice 157.97 332 ePKP PKPab 19 58 31.8 +1.2
MOX Moxa 157.99 344 ePKPab PKPab 19 58 30.6 0.0
MOX eL L 20 39 46.0
comp=N,216nm,19.4s

TANN Tannenbergstha 157.99 343 ePKPdf PKPdf 19 57 59.9 +2.6
TANN ePKPab PKPab 19 58 30.8 +0.2
BUG Bochum--Univer 158.02 352 ePKPdf PKPdf 19 57 57.8 +0.6
BUG ePKPab PKPab 19 58 30.4 -0.2
TREC Trest 158.06 336 ePKIKP PKPdf 19 57 57.7 +0.3
TREC Trest 158.06 336 ePKPDF PKPdf 19 57 57.7 +0.3
TREC ePKPAB PKPab 19 58 33.7 +2.8
BZS Buzias 158.09 322 ⇑PKIKP PKPdf 19 57 57.4 -0.1
BZS Buzias 158.09 322 ⇑iP PKPdf 19 57 57.4 -0.1
PLD Plovdiv 158.16 310 eP PKPab 19 58 31.5 -0.1
NKC Novy Kostel 158.16 342 ePKP2 PKPab 19 58 31.9 +0.6
NKC Novy Kostel 158.16 342 ePKPAB PKPab 19 58 31.9 +0.6
UBBA Unterbreizbach 158.18 347 ePKPab PKPab 19 58 31.2 0.0
PGB Panagyurishte 158.30 312 eP PKPab 19 58 33.5 +1.2
RZN Rozhen 158.33 309 iP PKPab 19 58 34.5 +1.8
PKSG 158.44 329 ⇑e PKPab 19 58 34.8 +2.2
CSKK Csˇ‡kako 158.52 329 ⇓epPKPdf PKPab 19 58 35.1 +2.1
ROTZ Rotzenmuhle 158.65 342 ePKPab PKPab 19 58 34.0 +0.6
PKST T"s 158.70 329 ⇑e PKPab 19 58 35.7 +1.9
PKS2 Kecel 158.72 326 ⇑e PKPab 19 58 36.3 +2.5
BEBN Eben Emael 158.82 354 PKPab PKPab 19 58 33.7 -0.4
KHC Kasperske Hory 158.83 339 ePKIKP PKPdf 19 57 58.6 +0.3
KHC e 19 58 11.1
KHC e 19 58 34.8
KHC MLR MLR
comp=Z,2μm,23.1s
KHC Kasperske Hory 158.83 339 ePKPDF PKPdf 19 57 58.6 +0.3
KHC epPKP pPKPdf 19 58 11.1 +0.2
KHC ePKPAB PKPab 19 58 34.8 +0.5
KHC ex x 19 58 51.7
KHC AMS AMS 21 06 30.0
comp=Z,2μm,23.1s
KHC Kasperske Hory 158.83 339 ePKPdf PKPdf 19 57 58.4 +0.1
HGN Heimansgroeve 158.83 354 ePKPdf PKPdf 19 57 57.8 -0.3
HGN ePKPab PKPab 19 58 34.1 0.0
HGN ePP PP 20 02 13.3 -1.0
HGN ePPP PPP 20 05 48.9
HGN eSKSP 20 12 12.8
VTS Vitosha 158.89 313 P PKPab 19 58 35.4 +0.4
VTS Vitosha 158.89 313 eP PKPab 19 58 36.4 +1.4
VTS Vitosha 158.89 313 ⇓PKP2 PKPab 19 58 34.6 -0.4
VTS Vitosha 158.89 313 iP PKPab 19 58 37.0 +2.0
VTS Vitosha 158.89 313 ⇓iP PKPab 19 58 34.5 -0.4
GRF Grafenberg Arr 158.97 344 ePKPab PKPab 19 58 35.8 +1.0
GRF eL L 20 29 10.9
comp=N,244nm,21.8s
MEM Membach 158.98 353 PKPab PKPab 19 58 34.9 +0.1
SOP Sopron 158.99 332 ⇓e PKPab 19 58 37.3 +2.3
WET Wettzell 159.03 340 ePKPab PKPab 19 58 35.8 +0.7
TNS Taunus Mts 159.03 349 ePKPab PKPab 19 58 35.4 +0.3
GEC2 GERESS Array S 159.04 339 ePKPdf PKPdf 19 57 57.8 -0.9
GEC2 ePKPab PKPab 19 58 36.3 +1.0
GERES GERESS Array B 159.04 339 PKIKP PKPdf 19 57 58.5 -0.2
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES pmax pmax
comp=Z,17nm,0.8s
GERES GERESS Array B 159.04 339 PKP PKPdf 19 57 58.5 -0.2
comp=Z,3.4nm,0.8s,baz=107,slow=1.4,SNR=24
GERES PKPab PKPab 19 58 37.7 +2.4
comp=Z,16nm,0.8s,baz=326,slow=3.9,SNR=15
MMB Musomiste 159.04 310 ⇓PKP2 PKPab 19 58 35.6 +0.1
MMB Musomiste 159.04 310 iP PKPab 19 58 36.1 +0.6
MMB Musomiste 159.04 310 ⇓iP PKPab 19 58 35.6 +0.1
CONA Conrad Observa 159.06 334 ⇑iPKPdf PKPdf 19 57 59.3 +0.6
comp=Z,10nm,1.2s
CONA ⇑iPKPab PKPab 19 58 36.2 +0.7
comp=Z,63nm,1.2s,SNR=5.1
PKS9 Tamasi 159.09 328 ⇑e PKPab 19 58 37.2 +1.7
PKSM Moragy 159.20 327 ⇓PKIKP PKPdf 19 57 58.7 -0.1
PKSM Moragy 159.20 327 ⇓iP PKPdf 19 57 58.7 -0.1
PKSM Moragy 159.20 327 ⇓ePKPdf PKPdf 19 57 58.6 -0.2
SNF Seneffe 159.21 356 PKPab PKPab 19 58 36.1 +0.4
BCLA Clavier 159.23 355 PKPab PKPab 19 58 35.9 +0.1
KKB Krupnik 159.33 311 iP PKPab 19 58 38.0 +1.2
SANT Santorini 159.54 295 PFAKE 19 58 10.0 +10
SANT LR LR
comp=Z,949nm,20.0s
GIVF Givet 159.58 355 ePKIKP PKPdf 19 57 58.5 -0.6
GIVF Givet 159.58 355 ePKIKP PKPdf 19 57 58.5 -0.6
GIVF Givet 159.58 355 ePKPdf PKPdf 19 57 58.5 -0.6
DOU Dourbes 159.60 356 PKPab PKPab 19 58 37.6 +0.1
BAIF Baives 159.66 357 ePKIKP PKPdf 19 57 59.6 +0.4
comp=Z,67nm,1.4s
BAIF Baives 159.66 357 ePKIKP PKPdf 19 57 59.6 +0.4
BAIF Baives 159.66 357 ePKPdf PKPdf 19 57 59.6 +0.4
MOA Molln 159.72 336 ⇑iPKPdf PKPdf 19 57 58.2 -1.2
comp=Z,8.7nm,1.5s
MOA ⇑iPKPab PKPab 19 58 37.5 -0.7
comp=Z,48nm,1.2s,SNR=6.2
KNT Kendrikon 159.79 310 P PKPab 19 58 39.0 +0.2
KNT Kendrikon 159.79 310 PKP2 PKPab 19 58 39.0 +0.2
KNT Kendrikon 159.79 310 P PKPab 19 58 39.0 +0.2
WLF Walferdange 159.90 353 PKPab PKPab 19 58 39.4 +0.5
WLF Walferdange 159.90 353 ePKIKP PKPdf 19 57 57.7 -1.8
WLF MLR MLR
comp=Z,2μm,21.0s
WLF Walferdange 159.90 353 ePKPab PKPab 19 58 39.5 +0.7
WLF Walferdange 159.90 353 ePKPdf PKPdf 19 57 57.7 -1.8
WLF LR LR
comp=Z,2μm,21.0s
VAY Valandovo 159.93 311 P PKPab 19 58 39.1 -0.3
VAY Valandovo 159.93 311 PKP2 PKPab 19 58 39.1 -0.3
VAY Valandovo 159.93 311 eP PKPab 19 58 38.2 -1.2
VAY Valandovo 159.93 311 P PKPab 19 58 39.1 -0.3
STU Stuttgart 160.29 346 ePKPab PKPab 19 58 41.9 +1.3
RJOB Jochberg 160.30 339 ePKPab PKPab 19 58 42.1 +1.3
SKO Skopje 160.33 313 P PKPab 19 58 43.5 +2.4
SKO Skopje 160.33 313 PKP2 PKPab 19 58 43.5 +2.4
SKO Skopje 160.33 313 eP PKPab 19 58 39.2 -1.9
SKO Skopje 160.33 313 P PKPab 19 58 43.5 +2.4
LANF Langenberg 160.34 349 PKP PKPab 19 58 40.6 -0.2
FUR Furstenfeldbru 160.36 342 ePKPab PKPab 19 58 41.9 +0.9
SOKA Soboth 160.41 333 ⇑iPKPdf PKPdf 19 57 59.6 -0.7
comp=Z,12nm,1.3s
SOKA ⇑iPKPab PKPab 19 58 42.0 +0.7
comp=Z,56nm,1.2s,SNR=5.6
KBA Koelnbreinsper 160.70 337 ⇑iPKPdf PKPdf 19 57 59.9 -0.8
comp=Z,15nm,1.1s
KBA ⇑iPKPab PKPab 19 58 42.1 -0.6
comp=Z,38nm,0.9s
BFO Black Forest 160.88 348 ePKPdf PKPdf 19 57 59.7 -1.0
BFO MLR MLR
comp=Z,2μm,22.0s
BFO Black Forest 160.88 348 ePKPab PKPab 19 58 43.4 +0.2
BFO Black Forest 160.88 348 ePKPdf PKPdf 19 57 59.7 -1.0
BFO LR LR
comp=Z,2μm,22.0s
FLN La Foliniere 160.89 6 ePKIKP PKPdf 19 58 01.0 +0.4
comp=Z,129nm,1.4s
FLN eR
comp=Z,2μm,22.2s
FLN La Foliniere 160.89 6 ePKIKP PKPdf 19 58 01.0 +0.4
FLN La Foliniere 160.89 6 ePKPdf PKPdf 19 58 01.0 +0.4
ROSF Rostrenen 160.95 12 ePKIKP PKPdf 19 58 01.1 +0.4
comp=Z,72nm,1.4s
ROSF Rostrenen 160.95 12 ePKIKP PKPdf 19 58 01.1 +0.4
ROSF Rostrenen 160.95 12 ePKPdf PKPdf 19 58 01.1 +0.4
MYKA Terra Mystica 160.98 335 ⇑iPKPab PKPab 19 58 45.0 +1.3
comp=Z,48nm,1.0s,SNR=5.5
WATA Walderalm 161.03 340 ⇑iPKPab PKPab 19 58 44.3 +0.2
comp=Z,30nm,0.6s,SNR=10
PAGF Fort de Pagny 161.04 353 ePKIKP PKPdf 19 58 01.3 +0.5
comp=Z,12nm,1.1s
PAGF Fort de Pagny 161.04 353 ePKPdf PKPdf 19 58 01.3 +0.5
WTTA Wattenberg 161.08 340 ⇑iPKPdf PKPdf 19 58 01.4 +0.3
comp=Z,18nm,1.4s
WTTA ⇑iPKPab PKPab 19 58 45.4 +1.0
comp=Z,62nm,0.8s,SNR=8.2
LDF La Druitiere 161.09 5 ePKIKP PKPdf 19 58 01.0 +0.2
comp=Z,41nm,1.0s
LDF La Druitiere 161.09 5 ePKIKP PKPdf 19 58 01.0 +0.2
LDF La Druitiere 161.09 5 ePKPdf PKPdf 19 58 01.0 +0.2
PHP Peshkopia 161.12 314 P PKPab 19 58 46.1 +1.5
PHP Peshkopia 161.12 314 PKP2 PKPab 19 58 46.1 +1.5
PHP Peshkopia 161.12 314 P PKPab 19 58 46.1 +1.5
RETA Reutte 161.12 342 iPKPab PKPab 19 58 45.1 +0.7
comp=Z,89nm,1.1s,SNR=12
LJU Ljubljana 161.13 333 iPKPdf PKPdf 19 58 02.0 +1.0
SGMF Saint Gilles 161.14 10 ePKIKP PKPdf 19 58 00.9 0.0
comp=Z,72nm,1.3s
SGMF Saint Gilles 161.14 10 ePKIKP PKPdf 19 58 00.9 0.0
SGMF Saint Gilles 161.14 10 ePKPdf PKPdf 19 58 00.9 0.0

MEZF Maizieres J'vi 161.16 354 ePKIKP PKPdf 19 58 01.6 +0.7
comp=Z,39nm,0.9s
MEZF Maizieres J'vi 161.16 354 ePKPdf PKPdf 19 58 01.6 +0.7
MOTA Moosalm 161.16 341 ⇓iPKPdf PKPdf 19 58 00.4 -0.8
comp=Z,9.9nm,0.9s
MOTA ⇓iPKPab PKPab 19 58 45.0 +0.4
comp=Z,108nm,1.1s,SNR=9.6
ECH Echery 161.19 350 ePKIKP PKPdf 19 58 00.9 -0.1
ECH MLR MLR
comp=Z,1μm,19.0s
ECH Echery 161.19 350 PKP PKPab 19 58 46.9 +2.4
ECH Echery 161.19 350 ePKPdf PKPdf 19 58 00.8 -0.1
ECH LR LR
comp=Z,1μm,19.0s
GRR Gorron 161.23 7 ePKIKP PKPdf 19 58 01.4 +0.4
comp=Z,49nm,1.1s
GRR Gorron 161.23 7 ePKIKP PKPdf 19 58 01.4 +0.4
GRR Gorron 161.23 7 ePKPdf PKPdf 19 58 01.4 +0.4
ABTA Abfaltersbach 161.27 338 ⇑iPKPdf PKPdf 19 58 00.8 -0.4
comp=Z,11nm,1.0s
ABTA ⇑iPKPab PKPab 19 58 45.1 +0.1
comp=Z,56nm,1.4s
BOJS Bojanci 161.27 331 ePKPdf PKPdf 19 58 02.1 +1.0
BOJS ePKPab PKPab 19 58 47.1 +2.1
CADS Cadrg 161.28 335 ePKPdf PKPdf 19 57 59.9 -1.3
THEF They Montfort 161.33 352 PKP PKPab 19 58 46.5 +1.4
QUIF Quistinic 161.37 12 ePKIKP PKPdf 19 58 01.5 +0.4
comp=Z,31nm,1.1s
QUIF Quistinic 161.37 12 ePKIKP PKPdf 19 58 01.5 +0.4
QUIF Quistinic 161.37 12 ePKPdf PKPdf 19 58 01.5 +0.4
SFTF Sexfontaines 161.45 354 ePKIKP PKPdf 19 58 01.8 +0.6
comp=Z,126nm,1.3s
SFTF Sexfontaines 161.45 354 ePKPdf PKPdf 19 58 01.8 +0.6
HAU Haudompre 161.51 351 ePKIKP PKPdf 19 58 01.4 +0.1
comp=Z,50nm,1.4s
HAU eR
comp=Z,1μm,22.2s
HAU Haudompre 161.51 351 ePKIKP PKPdf 19 58 01.4 +0.1
HAU Haudompre 161.51 351 ePKPdf PKPdf 19 58 01.4 +0.1
DAVA Damuels 161.53 344 ⇑iPKPdf PKPdf 19 58 02.2 +0.6
comp=Z,13nm,1.3s
DAVA ⇑iPKPab PKPab 19 58 46.7 +0.4
comp=Z,62nm,1.1s,SNR=7.0
MOF Molkenrain 161.55 350 PKP PKPab 19 58 45.5 -0.7
FETA Feichten 161.56 342 ⇑iPKPdf PKPdf 19 58 00.9 -0.7
comp=Z,20nm,1.2s
FETA ⇑iPKPab PKPab 19 58 47.3 +0.9
comp=Z,63nm,1.1s,SNR=6.0
HINF Hinteralfeld 161.62 350 ePKIKP PKPdf 19 58 01.5 0.0
comp=Z,50nm,1.5s
HINF Hinteralfeld 161.62 350 ePKIKP PKPdf 19 58 01.5 0.0
HINF Hinteralfeld 161.62 350 ePKPdf PKPdf 19 58 01.5 0.0
LOMF Lomont 162.08 350 PKP PKPab 19 58 48.8 +0.3
TUE Stuetta 162.43 344 ePKPdf PKPdf 19 58 02.4 -0.2
TUE LR LR
comp=Z,2μm,22.0s
LOR Lormes 162.47 357 ePKIKP PKPdf 19 58 02.9 +0.6
comp=Z,31nm,1.1s
LOR eR
comp=Z,3μm,22.8s
LOR Lormes 162.47 357 ePKIKP PKPdf 19 58 02.9 +0.6
LOR Lormes 162.47 357 ePKPdf PKPdf 19 58 02.9 +0.6
HYF Humbligny 162.50 359 ePKIKP PKPdf 19 58 03.3 +0.9
HYF Humbligny 162.50 359 ePKPdf PKPdf 19 58 03.3 +0.9
SSF Saint Saulge 162.69 357 ePKIKP PKPdf 19 58 03.0 +0.5
comp=Z,48nm,1.1s
SSF Saint Saulge 162.69 357 ePKIKP PKPdf 19 58 03.0 +0.5
SSF Saint Saulge 162.69 357 ePKPdf PKPdf 19 58 03.0 +0.5
CABF La Chapelle 162.91 351 ePKIKP PKPdf 19 58 03.7 +0.8
comp=Z,127nm,1.3s
CABF La Chapelle 162.91 351 ePKIKP PKPdf 19 58 03.7 +0.8
CABF La Chapelle 162.91 351 ePKPdf PKPdf 19 58 03.7 +0.8
AVF Avril sur Loir 162.97 358 ePKIKP PKPdf 19 58 03.0 +0.2
comp=Z,39nm,1.3s
AVF Avril sur Loir 162.97 358 ePKIKP PKPdf 19 58 03.0 +0.2
AVF Avril sur Loir 162.97 358 ePKPdf PKPdf 19 58 03.0 +0.2
MFF Saint Martin d 163.06 6 ePKIKP PKPdf 19 58 03.7 +0.8
comp=Z,58nm,1.2s
MFF Saint Martin d 163.06 6 ePKIKP PKPdf 19 58 03.7 +0.8
MFF Saint Martin d 163.06 6 ePKPdf PKPdf 19 58 03.7 +0.8
SMF Signal de Mont 163.09 356 ePKIKP PKPdf 19 58 03.1 +0.1
comp=Z,74nm,1.5s
SMF Signal de Mont 163.09 356 ePKIKP PKPdf 19 58 03.1 +0.1
SMF Signal de Mont 163.09 356 ePKPdf PKPdf 19 58 03.1 +0.1
BGF Bois d'Agland 163.21 359 ePKIKP PKPdf 19 58 02.6 -0.5
comp=Z,47nm,1.2s
BGF Bois d'Agland 163.21 359 ePKIKP PKPdf 19 58 02.6 -0.5
BGF Bois d'Agland 163.21 359 ePKPdf PKPdf 19 58 02.6 -0.5
TOA0 Torodi Ar. Sit 163.47 178 ePKPdf PKPdf 19 58 04.5 +0.3
TOA0 ePKPab PKPab 19 58 55.0 -0.2
TORD Torodi Ar. Bea 163.47 178 PKP PKPdf 19 58 04.5 +0.3
comp=Z,16nm,1.1s,baz=341,slow=0.4,SNR=40
TORD PKPab PKPab 19 58 56.6 +1.4
comp=Z,26nm,0.9s,baz=178,slow=3.1,SNR=16
TORD SKKPbc 20 07 52.0
comp=Z,5.7nm,1.1s,baz=5.6,slow=3.9,SNR=5.2
TCF Toulx Ste Croi 163.49 0 ePKIKP PKPdf 19 58 03.9 +0.5
comp=Z,86nm,1.5s
TCF Toulx Ste Croi 163.49 0 ePKIKP PKPdf 19 58 03.9 +0.5
TCF Toulx Ste Croi 163.49 0 ePKPdf PKPdf 19 58 03.9 +0.5
AGO Saint Agoulin 163.71 358 PKP PKPab 19 58 55.6 0.0
PLDF La Plantade 163.77 357 PKP PKPab 19 58 56.8 +0.8
LPL La Plagne 163.88 349 ePKIKP PKPdf 19 58 04.5 +0.5
comp=Z,19nm,0.9s
LPL La Plagne 163.88 349 ePKIKP PKPdf 19 58 04.5 +0.5
LPL La Plagne 163.88 349 ePKPdf PKPdf 19 58 04.5 +0.5
LPG La Plagne 163.90 349 ePKIKP PKPdf 19 58 04.6 +0.5
comp=Z,30nm,1.0s
LPG La Plagne 163.90 349 ePKIKP PKPdf 19 58 04.6 +0.5
LPG La Plagne 163.90 349 ePKPdf PKPdf 19 58 04.6 +0.5
PYM Petit Puy Mans 164.02 358 PKP PKPab 19 58 57.0 -0.1
VLC Villacollemand 164.25 338 PFAKE 19 58 20.0 +16
VLC LR LR
comp=Z,1μm,22.0s
BNI Bardonecchia 164.34 348 ePKIKP PKPdf 19 58 07.8 +3.5
BNI MLR MLR
comp=Z,2μm,22.0s
BNI Bardonecchia 164.34 348 ePKPdf PKPdf 19 58 07.8 +3.5
BNI LR LR
comp=Z,2μm,22.0s
SSB Saint Sauveur 164.40 354 PFAKE 19 58 20.0 +16
SSB LR LR
comp=Z,1μm,21.0s
RJF Les Rejaudoux 164.46 2 ePKIKP PKPdf 19 58 05.0 +0.7
comp=Z,42nm,1.2s
RJF eR
comp=Z,2μm,21.5s
RJF Les Rejaudoux 164.46 2 ePKIKP PKPdf 19 58 05.0 +0.7
RJF Les Rejaudoux 164.46 2 ePKPdf PKPdf 19 58 05.0 +0.7
LBL Lubilhac 164.53 358 PKP PKPab 19 58 59.8 +0.5
ORIF Oris-en-Rattie 164.60 350 ePKIKP PKPdf 19 58 05.1 +0.6
comp=Z,76nm,1.5s
ORIF eR
comp=Z,2μm,21.5s
ORIF Oris-en-Rattie 164.60 350 ePKIKP PKPdf 19 58 05.1 +0.6
ORIF Oris-en-Rattie 164.60 350 ePKPdf PKPdf 19 58 05.1 +0.6
MBDF Montbardon 164.64 348 ePKIKP PKPdf 19 58 04.9 +0.3
comp=Z,30nm,1.0s
MBDF Montbardon 164.64 348 ePKIKP PKPdf 19 58 04.9 +0.3
MBDF Montbardon 164.64 348 ePKPdf PKPdf 19 58 04.9 +0.3
LFF La Frestale 164.78 4 ePKIKP PKPdf 19 58 05.5 +1.0
LFF La Frestale 164.78 4 ePKIKP PKPdf 19 58 05.5 +1.0
LFF La Frestale 164.78 4 ePKPdf PKPdf 19 58 05.5 +1.0
VIVF Saint-Julien-l 164.81 354 ePKIKP PKPdf 19 58 05.3 +0.7
comp=Z,121nm,1.6s
VIVF Saint-Julien-l 164.81 354 ePKIKP PKPdf 19 58 05.3 +0.7
VIVF Saint-Julien-l 164.81 354 ePKPdf PKPdf 19 58 05.3 +0.7
TIP Timpagrande 164.84 312 PFAKE 19 58 20.0 +15
TIP LR LR
comp=Z,956nm,21.0s
CAF Calviac 164.85 1 ePKIKP PKPdf 19 58 05.5 +0.9
comp=Z,28nm,1.1s
CAF Calviac 164.85 1 ePKIKP PKPdf 19 58 05.5 +0.9
CAF Calviac 164.85 1 ePKPdf PKPdf 19 58 05.5 +0.9
CUC Castrocucco 164.95 316 PFAKE 19 58 20.0 +15
CUC LR LR
comp=Z,2μm,22.0s
AUTN L'Aution 165.21 345 PKP PKPab 19 59 03.3 +0.7
TOUF Mont Tournerai 165.23 346 PKP PKPab 19 59 02.5 -0.1
MVIF Mont Vial 165.37 346 PKP PKPab 19 59 03.7 +0.6
PCAB Cabril 165.42 32 ePKPdf PKPdf 19 58 06.3 +1.1
REVF Revere 165.47 345 PKP PKPab 19 59 02.9 -0.6
CALN Calern 165.56 347 PKP PKPab 19 59 05.5 +1.5
SMRF Simiane la Rot 165.57 351 ePKIKP PKPdf 19 58 06.1 +0.8

SMRF Simiane la Rot 165.57 351 ePKPdf PKPdf 19 58 06.1 +0.8
LASF Ste Croix 165.65 356 ePKIKP PKPdf 19 58 06.2 +0.9
comp=Z,90nm,1.4s
LASF Ste Croix 165.65 356 ePKPdf PKPdf 19 58 06.2 +0.9
FRF La Foret Royal 165.79 347 ePKIKP PKPdf 19 58 05.8 +0.4
FRF La Foret Royal 165.79 347 ePKIKP PKPdf 19 58 05.8 +0.4
FRF La Foret Royal 165.79 347 ePKPdf PKPdf 19 58 05.8 +0.4
POLO Lamas de Olo 165.79 33 ePKPdf PKPdf 19 58 07.3 +1.7
POLO Lamas de Olo 165.79 33 ePKPab PKPab 19 59 05.6 +0.5
PVRL Vila Real 165.90 33 ePKPdf PKPdf 19 58 07.7 +2.0
PVRL Vila Real 165.90 33 ePKPab PKPab 19 59 06.5 +1.0
PBRG Braganca 165.91 29 ePKPab PKPab 19 59 05.4 -0.1
CEL Celeste 165.91 311 PFAKE 19 58 20.0 +14
CEL LR LR
comp=Z,1μm,22.0s
LMR La Mourre 166.03 347 ePKIKP PKPdf 19 58 06.0 +0.4
LMR La Mourre 166.03 347 ePKIKP PKPdf 19 58 06.0 +0.4
LMR La Mourre 166.03 347 ePKPdf PKPdf 19 58 06.0 +0.4
PGF Pioggiola 166.14 339 ePKIKP PKPdf 19 58 05.9 0.0
PGF Pioggiola 166.14 339 ePKIKP PKPdf 19 58 05.9 0.0
PGF Pioggiola 166.14 339 ePKPdf PKPdf 19 58 05.9 0.0
PVIS Viseu 166.25 35 ePKPdf PKPdf 19 58 07.3 +1.3
PVIS Viseu 166.25 35 ePKPab PKPab 19 59 07.6 +0.5
MVO Moncorvo 166.31 31 ePKPdf PKPdf 19 58 07.8 +1.8
MVO Moncorvo 166.31 31 ePKPab PKPab 19 59 08.0 +0.7
MTLF Montolieu 166.43 0 ePKIKP PKPdf 19 58 06.6 +0.6
comp=Z,103nm,1.7s
MTLF Montolieu 166.43 0 ePKIKP PKPdf 19 58 06.6 +0.6
MTLF Montolieu 166.43 0 ePKPdf PKPdf 19 58 06.6 +0.6
EPF Esparros 166.65 6 ePKIKP PKPdf 19 58 07.2 +1.0
comp=Z,28nm,0.9s
EPF Esparros 166.65 6 ePKIKP PKPdf 19 58 07.2 +1.0
EPF Esparros 166.65 6 ePKPdf PKPdf 19 58 07.2 +1.0
MTE Manteigas 166.66 35 ePKPdf PKPdf 19 58 08.9 +2.6
MTE Manteigas 166.66 35 ePKPab PKPab 19 59 09.1 +0.2
MTE Manteigas 166.66 35 ePKPdf PKPdf 19 58 08.3 +2.0
MTE LR LR
comp=Z,2μm,19.0s
ETSF Etsaut 166.67 9 ePKIKP PKPdf 19 58 07.4 +1.2
comp=Z,29nm,1.1s
ETSF Etsaut 166.67 9 ePKIKP PKPdf 19 58 07.4 +1.2
ETSF Etsaut 166.67 9 ePKPdf PKPdf 19 58 07.4 +1.2
PTOM Tomar 166.78 39 ePKPdf PKPdf 19 58 09.6 +3.3
PTOM Tomar 166.78 39 ePKPab PKPab 19 59 09.3 -0.1
LIS Lisbon 166.97 44 eP PKPdf 19 58 08.2 +1.7
LIS AMS AMS 21 11 21.6
comp=Z,1μm,25.7s
LIS Lisbon 166.97 44 ePKIKP PKPdf 19 58 08.1 +1.7
PCBR Castelo Branco 167.12 36 ePKPdf PKPdf 19 58 08.6 +2.0
PMTG Montargil 167.27 40 ePKPab PKPab 19 59 11.8 +0.2
PMRV Marv??o 167.47 37 ePKPdf PKPdf 19 58 08.7 +1.8
PMRV Marv??o 167.47 37 ePKPab PKPab 19 59 13.1 +0.6
EVOP Sao Brissos 167.70 42 ePKIKP PKPdf 19 58 08.4 +1.4
EVOP Sao Brissos 167.70 42 ePKPdf PKPdf 19 58 08.4 +1.4
PNCL Nicolau / Gran 167.73 44 ePKPdf PKPdf 19 58 09.1 +2.1
PNCL Nicolau / Gran 167.73 44 ePKPab PKPab 19 59 15.6 +1.9
EVO Evora 167.76 42 ePKIKP PKPdf 19 58 08.4 +1.3
comp=Z,106nm,1.5s
EVO eR
comp=Z,2μm,20.8s
EVO Evora 167.76 42 ePKPdf PKPdf 19 58 08.9 +1.8
WDD Wield Dalam 168.07 304 PFAKE 19 58 20.0 +13
WDD LR LR
comp=Z,2μm,20.0s
MESJ Messejana 168.09 45 eP PKPdf 19 58 08.5 +1.2
MESJ AMS AMS 21 11 23.1
comp=Z,979nm,20.0s
MESJ Messejana 168.09 45 ePKPdf PKPdf 19 58 10.0 +2.7
MESJ Messejana 168.09 45 ePKIKP PKPdf 19 58 08.5 +1.2
MORF Marmelete 168.15 48 eP PKPdf 19 58 08.7 +1.3
MORF AMS AMS 21 14 31.1
comp=Z,2μm,19.8s
MORF Marmelete 168.15 48 ePKPdf PKPdf 19 58 08.3 +0.8
MORF Marmelete 168.15 48 ePKIKP PKPdf 19 58 08.7 +1.3
PCVE Castro Verde 168.33 45 ePKPdf PKPdf 19 58 09.4 +1.9
PBAR Barrancos 168.56 40 PKPdf PKPdf 19 58 08.3 +0.7
PBAR Barrancos 168.56 40 ePKPab PKPab 19 59 17.8 +0.5
VSL Villasalto 168.68 331 PFAKE 19 58 20.0 +12
VSL LR LR
comp=Z,2μm,22.0s
PAB San Pablo 168.79 28 ePKIKP PKPdf 19 58 09.2 +1.3
PAB MLR MLR
comp=Z,3μm,20.0s
PAB San Pablo 168.79 28 ePKPdf PKPdf 19 58 09.2 +1.3
PAB LR LR
comp=Z,3μm,20.0s
ESDC Sonseca Array 168.83 26 PKP PKPdf 19 58 08.2 +0.4
comp=Z,11nm,1.1s,baz=347,slow=2.6,SNR=25
ESDC PKPab PKPab 19 59 18.6 +0.1
comp=Z,7.1nm,0.9s,baz=326,slow=4.3,SNR=7.9
ESDC PP PP 20 03 07.8 +0.5
comp=Z,0.7nm,0.6s,baz=352,slow=5.9,SNR=7.0
ESDC SKKPbc 20 07 31.8
comp=Z,2.1nm,0.9s,baz=82,slow=1.6,SNR=5.4
RTC Rabat Centre 171.12 59 PFAKE 19 58 20.0 +11
RTC LR LR
comp=Z,2μm,20.0s
KEST Kesra 171.60 317 PKP PKPdf 19 58 10.6 +1.0
comp=Z,2.8nm,0.8s,baz=310,slow=8.1,SNR=8.3
KEST PKPab PKPab 19 59 31.1 +0.1
comp=Z,17nm,1.2s,baz=300,slow=18,SNR=5.8
KEST Kesra 171.60 317 ePKPdf PKPdf 19 58 09.7 +0.1
KEST PKP 19 58 10.6
KEST PKPab PKPab 19 59 31.1 +0.1
TAM Tamanrasset 172.50 203 ePKIKP PKPdf 19 58 11.3 +0.9
TAM MLR MLR
comp=Z,2μm,21.0s
TAM Tamanrasset 172.50 203 ePKPdf PKPdf 19 58 11.3 +0.9
TAM LR LR
comp=Z,2μm,21.0s

NOU **17** *19:39:06.5±1.0, 14.°27S×167.°95E, h30km, MD4.0, ML3.6*
IDC **17** *19:39:11.8±1.2, 14.°77S×167.°10E, h128km±6km, mb3.7/8, mb1 4.0/10, mb1mx3.8/40, mbtmp4.3/10, Error ellipse: s-maj=24.6km s-min=16.1km az=89.0*
ISCJB **17** *19:39:12.6±0.9, 14.°75S±0.°05×167.°1E±0.°1, h150km, mb3.8/7, Error ellipse: s-maj=17.2km s-min=5.6km az=162.7*
ISC 17 19:39:13.2±2.4, 14.°7S±0.°1×167.°1E±0.°3, h150km, n15, σ1§82/16, mb4.0/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.31	185	P	Pn	19 40 57.7	+0.2
	32nm,0.3s,baz=42,slow=16,SNR=115						
DZM				S	Sn	19 42 18.6	-0.8
	25nm,0.3s,baz=118,slow=14,SNR=5.1						
NOUC	Port Laguerre	7.35	186	eP	Pn	19 40 58.6	+0.6
NOUC				AMP		19 42 09.9	
	comp=Z,64nm,2.1s						
NOUC				eS	Sn	19 42 21.1	+0.9
BAYA	Yate Dam	7.37	181	eP	Pn	19 40 57.6	-0.6
LASL	Noumea	7.46	184	eP	Pn	19 41 00.6	+1.2
MVNO	Noumea	7.51	184	eP	Pn	19 41 00.8	+0.8
MVNO				eS	Sn	19 42 25.7	+1.7
HNR	Honiara	8.74	306	P	Pn	19 41 16.9	+0.3
	comp=Z,22nm,0.3s,baz=260,slow=5.0,SNR=12						
HNR				S	Sn	19 42 55.0	+1.2
	comp=Z,13nm,0.3s,baz=68,slow=16,SNR=3.5						
CTA	Charters Tower	20.56	252	P	Pn	19 43 41.7	-2.6
	comp=Z,8.8nm,0.8s,baz=78,slow=13,SNR=9.8						
WRA	Warramunga Arr	31.64	256	P	P	19 45 22.0	-0.4
	comp=Z,2.3nm,0.9s,baz=86,slow=9.2,SNR=14						
ASAR	Alice Springs	32.49	249	P	P	19 45 29.9	+0.1
	comp=Z,1.7nm,0.6s,baz=65,slow=10,SNR=31						
ASAR				pP	pP	19 45 56.8	-5.0
	comp=Z,1.2nm,0.8s,baz=75,slow=9.6,SNR=2.4						
BATI	Baumata	42.58	271	P	P	19 46 55.5	+0.8
	comp=Z,15nm,0.8s,baz=222,slow=1.6,SNR=6.0						
MJAR	Matsushiro Arr	57.83	333	pP	pP	19 49 20.6	-3.6
	comp=Z,4.6nm,1.0s,baz=146,slow=6.7,SNR=7.3						
CMAR	Chiang Mai Arr	74.78	294	P	P	19 50 39.2	+1.8
	comp=Z,0.4nm,0.7s,baz=128,slow=5.6,SNR=4.9						
CMAR				pP	pP	19 51 11.8	-2.3
	comp=Z,2.1nm,1.0s,baz=121,slow=4.7,SNR=8.3						
SONM	Songino Array	82.40	324	P	P	19 51 21.3	+2.8
	comp=Z,0.2nm,0.5s,baz=131,slow=5.4,SNR=2.7						
SONM				pP	pP	19 51 50.5	-5.5
	comp=Z,1.0nm,0.9s,baz=130,slow=5.8,SNR=6.3						
MKAR	Makanchi Array	97.08	316	P	Pdif	19 52 28.6	+0.2
	comp=Z,0.3nm,0.6s,baz=85,slow=6.3,SNR=5.2						
MKAR				pP	pP	19 53 02.6	-3.7

	comp=Z,1.0nm,0.8s,baz=92,slow=5.0,SNR=6.9						
YKA	Yellowknife Ar	97.65	27	P	Pdif	19 52 30.2	-0.1
	comp=Z,0.7nm,0.8s,baz=242,slow=5.1,SNR=4.8						

CSEM 17 19:42:16.7, 37.°93N×29.°17E, h9km, MD2.1, After DDA

DDA 17 19:42:16.7, 37.°93N×29.°17E, h9km, MD2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHAL	Karahalli	0.51	30	iP	Pg	19 42 26.2	-0.6
KHAL				iS	Sg	19 42 34.3	+0.7
KHAL	Karahalli	0.51	30	iP	Pg	19 42 26.2	-0.6
KHAL				iS	Sg	19 42 34.3	+0.7
MANT	Manisa	0.74	319	iP	Pg	19 42 31.2	-0.1
MANT				iS	Sg	19 42 41.5	+0.4
MANT	Manisa	0.74	319	iP	Pg	19 42 31.2	-0.1
MANT				iS	Sg	19 42 41.5	+0.4
GOLH	Golhisar	0.76	156	iP	Pg	19 42 31.2	-0.4
GOLH				iS	Sb	19 42 43.3	+0.4
GOLH	Golhisar	0.76	156	iP	Pg	19 42 31.2	-0.4
GOLH				iS	Sb	19 42 43.3	+0.3
AYDN	Tasoluk	1.05	256	iP	Pg	19 42 37.1	0.0
AYDN				iS	Sg	19 42 50.4	-0.5
AYDN	Tasoluk	1.05	256	iP	Pg	19 42 37.1	0.0
AYDN				iS	Sg	19 42 50.4	-0.6

IDC 17 20:02:33.7±1.0, 6.°27S×148.°24E, h0km, mb4.0/8, mb1 4.1/11, mb1mx3.9/28, mbtmp4.0/11, ML3.7/3, Error ellipse: s-maj=37.5km s-min=15.5km az=104.0
ISCJB 17 20:02:39.8±0.6, 6.°26S±0.°05×147.°86E±0.°10, h51km, mb4.0/9, Error ellipse: s-maj=14.1km s-min=7.6km az=9.0
NEIC 17 20:02:40.5±2.6, 6.°35S×148.°14E, h49km±25km, mb4.5/1, Error ellipse: s-maj=26.5km s-min=20.5km az=115.0

ISC 17 20:02:41.3±0.7, 6.°27S±0.°07×148.°0E±0.°1, h51km, n34, σ1.°41/32, mb4.1/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.24	195	Pn	Pn	20 03 28.0	-1.7
	17nm,0.3s,baz=59,slow=6.4,SNR=46						
PMG				Sn	Sn	20 04 07.0	0.0
	45nm,0.3s,baz=155,slow=17,SNR=4.7						
PMG	Port Moresby	3.24	195	P	Pn	20 03 28.8	-0.8
	baz=3.2,SNR=82						
RABL	Rabaul	4.61	64	P	Pn	20 03 53.7	+5.2
	baz=5.0,SNR=16						
COEN	Coen	9.01	212	P	Pn	20 04 47.9	-1.0
	baz=8.9,SNR=7.1						
MTSU	Mount Surprise	12.34	197	P	Pn	20 05 34.0	-0.5
	baz=12,SNR=5.5						
CTA	Charters Tower	13.85	187	Pn	Pn	20 05 51.5	-3.5
	0.1nm,0.3s,baz=63,slow=2.9,SNR=3.1						
CTAO	Charters Tower	13.85	187	eP	Pn	20 05 55.4	+0.4
	1.5nm,0.6s						
QIS	Mount Isa	16.39	209	P	Pn	20 06 28.1	+0.1
	baz=16,SNR=10						
KDU	Kakadu	16.61	246	P	Pn	20 06 31.0	+0.2
	baz=16,SNR=6.1						
MTN	Manton Dam	17.89	247	P	P	20 06 49.9	+3.2
	baz=18,SNR=5.0						
WRA	Warramunga Arr	19.02	223	P	P	20 06 57.1	-2.0
	0.7nm,0.3s,baz=139,slow=10,SNR=33						
EIDS	Eidsvold	19.22	172	P	Pn	20 07 02.2	-0.4
	baz=19,SNR=4.6						
RMQ	Roma	20.12	178	P	Pn	20 07 12.4	-0.9
	baz=20,SNR=11						
QLP	Quilpie	20.52	190	P	P	20 07 15.8	+0.3
	baz=21,SNR=37						
KNRA	Kununurra	21.08	242	P	P	20 07 20.9	-0.6
	baz=21,SNR=5.0						
KNRA				S	S	20 10 49.5	-24
	baz=21,SNR=14						
ASAR	Alice Springs	22.00	217	P	P	20 07 30.5	-0.9
	9.7nm,0.7s,baz=51,slow=8.9,SNR=83						
ASAR				S	S	20 11 33.4	+1.9
	0.7nm,0.6s,baz=30,slow=24,SNR=4.1						
BATI	Baumata	24.42	259	P	P	20 07 57.2	+1.8
	9.1nm,0.6s,baz=335,slow=4.0,SNR=5.6						
CMSA	Cobar Meteorol	25.24	185	P	P	20 08 04.2	+1.6
	baz=25,SNR=5.4						
STKA	Stephens Creek	26.18	192	P	P	20 08 10.9	-0.3
	3.2nm,0.6s,baz=1.9,slow=8.5,SNR=16						
STKA	Stephens Creek	26.18	192	P	P	20 08 10.9	-0.3
	baz=26,SNR=13						
WRKA	Warakurna	26.56	223	P	P	20 08 13.4	-1.4
	baz=26,SNR=42						
HTT	Hallett	28.32	196	P	P	20 08 35.3	+4.9
	baz=28,SNR=3.1						
NFK	Norfolk Island	29.45	143	S	S	20 13 34.8	+3.5
	baz=30,SNR=3.2						
MBWA	Marble Bar	31.14	239	eP	P	20 08 54.8	-0.7
	9.6nm,1.0s						
MEEK	Meekatharra	34.57	231	P	P	20 09 25.0	-0.4
	baz=34,SNR=6.8						
KLBR	Kellerberrin	37.89	224	P	P	20 09 52.9	-0.8
	baz=38,SNR=7.7						
PETK	Petropavlovsk-	59.71	7	P	P	20 12 41.5	+0.9
	3.8nm,0.9s,baz=174,slow=14,SNR=3.6						
SONM	Songino Array	65.13	330	P	P	20 13 19.1	+2.0
	0.4nm,0.7s,baz=127,slow=4.0,SNR=5.2						
MKAR	Makanchi Array	78.35	320	P	P	20 14 35.5	-0.9
	0.2nm,0.4s,baz=97,slow=8.9,SNR=8.2						
ZALV	Zalesovo Beam	79.78	328	P	P	20 14 43.1	-0.9
	0.6nm,0.4s,baz=116,slow=6.7,SNR=3.5						
ILAR	Eielson Array	85.33	23	P	P	20 15 10.3	-2.3
	0.4nm,0.6s,baz=257,slow=4.9,SNR=6.5						
SAML	Samuel	145.41	116	ePKPdf	PKPbc	20 22 14.1	-0.7
TORD	Torodi Ar. Bea	146.14	284	PKPbc	PKPbc	20 22 17.3	+0.3
	1.4nm,0.5s,baz=69,slow=3.7,SNR=39						
BDFB	Brasilia	153.05	144	PKPbc	PKPbc	20 22 34.2	-0.2
	1.9nm,0.4s,baz=117,slow=1.1,SNR=3.4						

IDC 17 20:24:53.4±1.1, 1.°55S×99.°30E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.8/40, mbtmp3.8/12, ML3.5/2, Error ellipse: s-maj=52.0km s-min=16.6km az=55.0
ISCJB 17 20:24:56.3±0.6, 1.°54S±0.°06×99.°31E±0.°06, h30km, mb3.9/10, Error ellipse: s-maj=10.2km s-min=6.4km az=39.8
DJA 17 20:24:56.3±0.5, 2°S±3°×9°9E±°, h10km, M4.2/14, mb4.3/11, MLv4.2/14

ISC 17 20:24:58.1±0.7, 1.°48S±0.°08×99.°44E±0.°08, h30km, n37, σ1.°27/31, mb4.0/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.17	61	P	Pb	20 25 18.7	-1.0
PDSI				S	Sb	20 25 35.2	+0.7
SDSI	Sungai Dareh	2.06	75	P	Pb	20 25 34.3	-0.5
MNSI	Mandailing Nat	2.27	3	P	Pn	20 25 35.4	+1.8
MNSI				S	Sn	20 25 49.4	-11
BKNI	Bangkinang	2.41	42	P	Pb	20 25 40.1	-0.6
MASI	Maura Aman, Be	3.24	121	P	Pn	20 25 49.3	+2.3
PSI	Prapat	4.29	353	Pn	Pn	20 25 59.3	-2.2
	0.9nm,0.3s,baz=135,slow=2.9,SNR=3.2						
KCSI	Kotacane, Aceh	5.25	341	P	Pn	20 26 16.1	+1.5
	17nm,0.7s,0.1nm						
MDSI	Maura Dua	5.59	122	P	Pn	20 26 21.5	+2.2
	18nm,0.9s,0.1nm						
TPRI	Tanjung Pinang	5.62	65	P	Pn	20 26 20.7	+1.1
	37nm,0.9s,0.2nm						
LWLI	Liwa	5.79	127	P	Pn	20 26 23.8	+1.6
	48nm,0.6s,0.2nm						
KASI	Kota Agung	6.45	129	P	Pn	20 26 31.8	+0.8
	23nm,0.9s,0.2nm						
CGJI	Cibinong	8.05	129	P	Pn	20 26 50.9	-2.2
	21nm,1.1s						
CNJI	Cibinong	9.60	127	P	Pn	20 27 12.3	-2.0
	31nm,1.2s						
CISI	Cisompet, Garu	10.29	126	P	Pn	20 27 22.0	-1.9
CMAR	Chiang Mai Arr	19.82	359	P	P	20 29 26.6	+0.1
	0.1nm,0.3s,baz=188,slow=9.9,SNR=7.2						
H08S2	Diego Garcia H	27.54	256	T	T	20 58 33.3	
	baz=78,slow=76,SNR=111						
H08S3	Diego Garcia H	27.55	256	T	T	20 58 33.7	
	baz=78,slow=76,SNR=119						
H08S1	Diego Carcia H	27.56	256	T	T	20 58 34.6	
	baz=78,slow=76,SNR=102						
TAPN	Taplejung	30.81	339	eP	P	20 31 12.9	+1.1
	5.7nm,0.8s						
JIRN	Jiri	31.66	337	eP	P	20 31 20.3	+1.0
	7.6nm,0.8s						
GUN	Gumba	32.00	337	eP	P	20 31 23.0	+0.7
	6.1nm,0.6s						
GKN	Gorkha	32.59	335	eP	P	20 31 31.3	+4.1
KOLN	Koldanda	32.83	334	eP	P	20 31 36.9	+7.4
	5.1nm,0.6s						
H01W3	Cape Leeuwin H	35.94	159	T	T	21 09 53.3	
	baz=334,slow=75,SNR=15						
H01W2	Cape Leeuwin H	35.95	159	T	T	21 09 54.6	
	baz=334,slow=75,SNR=19						
H01W1	Cape Leeuwin H	35.96	159	T	T	21 09 52.3	
	baz=334,slow=75,SNR=14						
WRA	Warramunga Arr	38.73	121	P	P	20 32 19.9	0.0
	0.9nm,0.7s,baz=302,slow=9.2,SNR=13						
WRA				PcP	PcP	20 34 32.3	+0.8
	0.2nm,0.7s,baz=313,slow=2.5,SNR=5.1						
ASAR	Alice Springs	40.00	126	P	P	20 32 30.9	+0.4
	0.4nm,0.5s,baz=303,slow=7.5,SNR=8.9						
AAK	Ala-Archa	49.34	336	P	P	20 33 44.5	-0.4
	0.6nm,0.4s,baz=153,slow=0.7,SNR=3.0						
SONM	Songino Array	49.49	6	P	P	20 33 46.2	+0.3
	0.4nm,0.5s,baz=192,slow=9.1,SNR=6.9						
MKAR	Makanchi Array	50.39	345	P	P	20 33 53.3	+0.7
	2.5nm,0.5s,baz=157,slow=8.3,SNR=46						
ZALV	Zalesovo Beam	56.56	350	P	P	20 34 38.0	+0.2
	1.5nm,0.3s,baz=171,slow=6.0,SNR=14						
BVAR	Borovoye Array	59.51	340	P	P	20 34 57.9	-0.5
	0.8nm,0.7s,baz=142,slow=12,SNR=5.3						
KBZ	Khabaz	67.56	319	P	P	20 35 51.5	-0.3
	1.5nm,0.8s,baz=161,slow=8.5,SNR=4.3						
FINES	FINESS Array B	83.40	332	P	P	20 37 21.5	-0.8
	0.7nm,0.5s,baz=97,slow=4.6,SNR=6.9						
GERES	GERESS Array B	88.30	319	P	P	20 37 47.5	+0.6
	0.4nm,0.8s,baz=222,slow=3.6,SNR=3.8						
TXAR	Lajitas Array	144.62	36	PKP	PKPdf	20 44 32.8	+0.1
	1.1nm,0.6s,baz=273,slow=1.2,SNR=12						

MEX 17 20:34:42.7±0.6, 17.°80N×99.°23W, h5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	Mezcala	0.39	289	iP	Pg	20 34 49.5	-1.0
MEIG				eS	Sg	20 34 55.4	-0.3
PLIG	Platanillo	0.64	336	iP	Pg	20 34 55.1	-0.1
PLIG				iS	Sg	20 35 03.9	+0.1
TLIG	Tlapa	0.67	110	iP	Pg	20 34 54.5	-1.3
TLIG				eS	Sg	20 35 04.2	-0.5
YAIG	Yautepec	1.07	8	iP	Pg	20 35 00.8	-2.7
YAIG				iS	Sg	20 35 14.3	-3.1
ACX	Acapulco	1.10	213	iP	Pg	20 34 57.3	-6.6
ACX				iS	Sg	20 35 12.2	-6.0
ARIG	Puente Sto Nin	1.17	294	iP	Pg	20 35 01.6	-3.6
ARIG				eS	Sg	20 35 17.7	-2.7
CAIG	El Cayaco	1.24	233	iP	Pg	20 35 03.7	-2.8
CAIG				eS	Sg	20 35 19.1	-3.6
PNIG	Pinotepa	1.75	143	eP	Pn	20 35 10.7	-3.2
PNIG				iS	Sn	20 35 32.6	-4.0
TPIG	Tehuac#an	1.88	71	iP	Pn	20 35 12.8	-2.9
TPIG				iS	Sn	20 35 35.7	-4.3
ZIIG	Zihuatanejo	2.14	265	iP	Pn	20 35 16.6	-2.5
ZIIG				eS	Sn	20 35 42.0	-4.1
MMIG	Aquila	3.95	278	iP	Pn	20 35 42.3	-1.7

ISCJB 17 20:42:37.5±1.5, 30.°92S±0.°06×177.°8W±0.°3, h10km, mb4.2/5, Error ellipse: s-maj=34.5km s-min=5.7km az=10.2
IDC 17 20:42:39.1±0.9, 30.°66S×177.°92W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/28, mbtmp4.2/5, Error ellipse: s-maj=27.5km s-min=19.3km az=98.0

ISC 17 20:42:40.0±1.0, 30.°75S±0.°06×178.°0W±0.°2, h10km, n28, σ1.°78/23, mb4.2/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.50	2	Pn	Pg	20 43 07.5	-1.2
	245nm,0.3s,baz=109,slow=12,SNR=5.3						
RAO				Sn	Sg	20 43 26.6	-1.5
	798nm,0.3s,baz=44,slow=22,SNR=10						
HAZ	Te Kaha	7.82	206	PN	Pn	20 44 33.5	-0.4
HAZ				SN	Sn	20 46 02.9	+0.5
CNGZ	Carnagh Statio	8.33	201	PN	Pn	20 44 39.6	-1.3
URZ	Urewera	8.52	207	Pn	Pn	20 44 41.5	-1.9
	0.7nm,0.3s,baz=278,slow=5.7,SNR=13						
URZ				Sn	Sn	20 46 15.9	-3.7
	5.5nm,0.3s,baz=79,slow=23,SNR=11						
URZ	Urewera	8.52	207	SN	Sn	20 46 17.4	-2.2
RIGZ	Rimuhau	8.68	203	PN	Pn	20 44 45.2	-0.5
SNGZ	Shannon Statio	8.89	204	PN	Pn	20 44 47.2	-1.3
SNGZ				SN	Sn	20 46 25.9	-2.9
CTA	Charters Tower	33.88	280	P	P	20 49 24.7	+1.6
	1.9nm,0.5s,baz=108,slow=9.4,SNR=6.4						
STKA	Stephens Creek	34.42	257	P	P	20 49 29.9	+2.1
	4.0nm,0.7s,baz=100,slow=11,SNR=6.2						
ASAR	Alice Springs	43.12	267	P	P	20 50 41.0	+0.2
	1.5nm,0.6s,baz=104,slow=7.3,SNR=20						
WRA	Warramunga Arr	44.14	272	P	P	20 50 49.1	+0.1
	1.5nm,0.4s,baz=110,slow=8.1,SNR=68						
QSPA	South Pole Qui	59.36	180	P	P	20 52 44.3	+2.1
	1.0nm,0.5s,baz=37,slow=0.3,SNR=8.6						
H03N3	Juan Fernandez	80.44	123	T	T	22 24 08.3	
	baz=239,slow=75,SNR=65						
H03N2	Juan Fernandez	80.45	123	T	T	22 24 06.5	
	baz=239,slow=75,SNR=32						
H03N1	Juan Fernandez	80.46	123	T	T	22 24 11.9	
	baz=239,slow=75,SNR=41						
MKAR	Makanchi Array	118.02	310	PKP	PKPdf	21 01 25.5	-1.3
	0.1nm,0.5s,baz=60,slow=3.5,SNR=3.9						
H10S3	ASCENSION HYDR	37.40	155	T	T	23 36 13.8	
	baz=205,slow=75,SNR=19						
H10S2	ASCENSION HYDR	37.40	155	T	T	23 36 17.2	
	baz=205,slow=75,SNR=20						
H10S1	ASCENSION HYDR	37.41	155	T	T	23 36 25.1	
	baz=205,slow=75,SNR=18						
H10N3	ASCENSION HYDR	38.48	155	T	T	23 37 34.0	
	baz=204,slow=75,SNR=27						
H10N1	ASCENSION HYDR	38.49	155	T	T	23 37 36.8	
	baz=204,slow=75,SNR=27						
H10N2	ASCENSION HYDR	38.50	155	T	T	23 37 35.0	
	baz=204,slow=75,SNR=25						
FINES	FINESS Array B	145.48	340	PKPbc	PKPab	21 02 16.7	-1.2
	3.3nm,0.5s,baz=81,slow=2.9,SNR=24						
NOA	NORSAR Array B	149.10	351	PKPbc	PKPbc	21 02 27.4	-0.5
	1.0nm,0.7s,baz=16,slow=4.1,SNR=2.7						
AKASG	Malin Array Be	151.59	322	PKPbc	PKPbc	21 02 33.2	-1.0
	1.8nm,0.5s,baz=50,slow=3.5,SNR=7.5						
MMAI	Mount Meron Ar	151.64	283	PKPbc	PKPbc	21 02 37.0	+2.0
	1.3nm,0.5s,baz=82,slow=6.0,SNR=5.0						
BRTR	Keskin Array B	152.79	298	PKPbc	PKPbc	21 02 39.6	+2.2
	0.5nm,0.4s,baz=131,slow=3.2,SNR=5.0						
TORD	Torodi Ar. Bea	162.48	179	PKPab	PKPab	21 03 30.9	+0.7
	0.5nm,0.5s,baz=166,slow=4.1,SNR=9.3						

IDC 17 20:50:13.7±1.4, 8.°83S×157.°35E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/27, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=44.6km s-min=24.7km az=11.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.63	103	Pn	Pn	20 50 57.1	-0.3
	11nm,0.3s,baz=222,slow=15,SNR=3.0						
HNR				Sn	Sn	20 51 30.7	+0.6
	25nm,0.3s,baz=327,slow=9.6,SNR=5.4						
WRA	Warramunga Arr	24.84	241	P	P	20 55 37.9	-0.2
	1.1nm,0.9s,baz=65,slow=9.5,SNR=7.3						
SONM	Songino Array	72.14	327	P	P	21 01 42.1	+1.8
	0.4nm,0.7s,baz=142,slow=5.4,SNR=4.8						
MKAR	Makanchi Array	86.32	318	P	P	21 02 55.9	-1.8
	0.3nm,0.7s,baz=98,slow=5.0,SNR=4.6						

ISCJB 17 21:19:12.0±0.5, 29.°94N±0.°07×129.°94E±0.°09, h20km±5km, mb3.6/4, Error ellipse: s-maj=16.0km s-min=5.1km az=41.3
JMA 17 21:19:12.2, 29.°98N×129.°92E, h7km±1km, M3.2
JMA Felt III J1.
IDC 17 21:19:16.5±3.3, 29.°79N×129.°74E, h39km±35km, mb3.5/4, mb1 3.5/6, mb1mx3.2/40, mbtmp3.5/6, ML2.2/2, Error ellipse: s-maj=49.8km s-min=21.3km az=82.0

ISC 17 21:19:12.1±0.9, 29.°90N±0.°06×129.°99E±0.°07, h13km±6km, n12, σ1.°07/17, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.11	240	P	Pg	21 19 15.2	0.0
JNN				S	Sg	21 19 17.8	+0.3
JYAK	Yakushimahirau	0.56	53	P	Pg	21 19 23.4	+0.2
JYAK				S	Sg	21 19 31.1	+0.4
JKC	Kuchinoerabu	0.59	18	P	Pg	21 19 22.7	-0.9
JKC				S	Sg	21 19 30.3	-1.2
JTAJ	Takarajima	1.01	223	P	Pn	21 19 32.1	+0.1
JTAJ				S	Sn	21 19 45.9	-0.2
JTN	Tanegashima 3	1.14	48	P	Pb	21 19 33.2	-0.6
JTN				S	Sb	21 19 49.0	+0.5
JNU	Nakatsue	3.30	13	Pn	Pb	21 20 07.3	-3.3
	1.0nm,0.3s,baz=192,slow=12,SNR=18						
JNU				Sn	Sb	21 20 53.8	+3.0
	0.8nm,0.3s,baz=338,slow=19,SNR=2.0						
JOW	Kunigami	3.41	207	Pn	Pn	21 20 04.9	-0.1
	0.2nm,0.3s,baz=54,slow=14,SNR=2.5						
SONM	Songino Array	25.49	321	P	P	21 24 41.3	+1.0
	0.9nm,0.8s,baz=137,slow=7.3,SNR=8.3						
MKAR	Makanchi Array	40.37	308	P	P	21 26 48.5	-1.1
	0.4nm,0.8s,baz=93,slow=11,SNR=4.7						
BVAR	Borovoye Array	48.65	316	P	P	21 27 56.0	+0.3
	3.0nm,0.7s,baz=94,slow=9.3,SNR=22						
WRA	Warramunga Arr	49.73	175	P	P	21 28 04.0	-0.2
	0.6nm,0.8s,baz=350,slow=8.7,SNR=4.9						
ONI	Oni	68.09	307	P	P	21 30 11.9	+0.1

IDC 17 22:33:05.0±3.0, 28.°67S×62.°50E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.5/37, mbtmp4.0/3, Error ellipse: s-maj=89.5km s-min=44.3km az=52.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	58.62	41	P	P	22 43 04.0	-0.1
	0.9nm,0.3s,baz=235,slow=7.6,SNR=3.9						
ASAR	Alice Springs	63.42	104	P	P	22 43 36.9	0.0
	0.8nm,0.7s,baz=242,slow=6.5,SNR=8.7						
WRA	Warramunga Arr	65.19	100	P	P	22 43 48.6	0.0
	1.1nm,0.8s,baz=248,slow=5.8,SNR=10						
YKA	Yellowknife Ar	146.12	358	PKPbc	PKPdf	22 52 45.5	+0.1
	0.4nm,0.5s,baz=349,slow=3.4,SNR=10						

KRSC 17 23:01:21.6±1.4, 51.°06N×157.°92E, h44km±14km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.81	301	iP	Pn	23 01 38.4	+1.8
PAU				iS	Sn	23 01 49.9	+2.5
SKR	Severo-Kuril's	1.20	252	eP	Pn	23 01 42.8	+0.9
SKR				eS	Sn	23 01 57.2	+0.2
ASAK	Asacha	1.32	360	eP	Pn	23 01 44.9	+1.1
ASAK				eS	Sn	23 02 01.0	+0.7
MIPR	Malaya Ipel'ka	1.42	330	P	Pn	23 01 47.2	+2.3
RUS	Russkaya	1.42	15	eP	Pn	23 01 46.5	+1.5
RUS				eS	Sn	23 02 03.3	+0.8
MTVR	Mutnovka	1.43	6	eP	Pn	23 01 46.9	+1.6
MTVR				eS	Sn	23 02 04.7	+1.6
PET	Petropavlovsk	2.02	13	P	Pn	23 01 55.4	+2.3
PET				eS	Sn	23 02 19.1	+2.0
UGLR	Uglovaya	2.22	14	P	Pn	23 01 59.2	+3.1
AVH	Avacha	2.27	13	P	Pn	23 01 59.5	+2.9
AVH				S	Sn	23 02 26.8	+3.4
SMAR	Somma	2.27	14	P	Pn	23 01 59.9	+3.0
KOK	Koryaka	2.28	11	P	Pn	23 01 59.5	+2.7
SDLR	Sedlovina	2.30	15	P	Pn	23 01 59.3	+2.1
SDLR				S	Sn	23 02 26.2	+1.9
KRX	Arik	2.34	11	P	Pn	23 02 01.2	+3.4
KRX				S	Sn	23 02 29.5	+4.0
GNL	Ganaly	2.64	0	P	Pn	23 02 04.8	+3.0

TRN 17 23:30:03.9, 14.°44N×60.°66W, h77km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLB	Belfond	0.71	212	eP	Pn	23 30 21.6	+2.0
SLB				eS	Sn	23 30 34.2	+3.1
MCLT	Moule a Chique	0.77	201	eP	Pn	23 30 20.3	+0.1
MCLT				eS	Sn	23 30 32.6	+0.3
SSV	Crater Summit	1.22	205	eP	Pn	23 30 27.0	+1.3
SSV				eS	Sn	23 30 43.5	+1.5
BHS	Barnard House	1.22	202	eP	Pn	23 30 27.4	+1.8
BHS				eS	Sn	23 30 43.5	+1.7
SVV	Soufriere Volc	1.24	206	eP	Pn	23 30 27.4	+1.6
SVV				eS	Sn	23 30 43.4	+1.2
SVB	Belmont	1.29	207	eP	Pn	23 30 27.4	+0.9
SVB				eS	Sn	23 30 45.4	+1.8
FCV	Fort Charlotte	1.40	204	eP	Pn	23 30 28.6	+0.8
FCV				eS	Sn	23 30 47.0	+1.2
PHG	Guadaloupe-2	1.84	329	eP	Pn	23 30 35.0	+1.2
DOG	Dongo Capester	1.84	330	eP	Pn	23 30 34.8	+1.1
ECG	Echelle	1.86	329	eP	Pn	23 30 35.3	+1.1
BCG	Bois Riant Cap	1.89	331	eP	Pn	23 30 35.1	+0.8
MLG	Mont-d'or	1.91	328	eP	Pn	23 30 36.1	+1.4
SSG	Sans Toucher	1.92	329	eP	Pn	23 30 35.6	+0.7
LZG	Guadaloupe-1	2.01	328	eP	Pn	23 30 37.6	+1.6
SEG	Port Louis	2.12	337	eP	Pn	23 30 38.4	+1.0

ISCJB 17 23:39:56.8±0.5, 51.°8N±0.°1×176.°90W±0.°04, h95km±4km, mb3.9/8, Error ellipse: s-maj=17.1km s-min=3.8km az=172.9
IDC 17 23:39:57.4±4.8, 52.°01N×176.°88W, h84km±59km, mb3.5/8, mb1 3.8/10, mb1mx3.4/43, mbtmp3.9/10, ML3.6/2, Error ellipse: s-maj=40.8km s-min=30.6km az=15.0
NEIC 17 23:39:59.2, 51.°73N×176.°88W, h70km, mb4.2/6, After AEIC.

ISC 17 23:39:57.3±1.0, 51.°8N±0.°1×176.°88W±0.°04, h88km±8km, n53, σ1.°25/52, mb4.0/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	0.18	44	P	Pn	23 40 08.8	-1.2
ADK				S	Sn	23 40 17.5	-1.9
KOKL	Mount Kliuchef	1.75	70	P	Pn	23 40 26.9	+0.7
KOKL				S	Sn	23 40 47.5	-0.6
KOFP	Korovin Flat P	1.80	72	P	Pn	23 40 27.6	+0.8
CERAA	Semis' Rag'd T	2.14	275	P	Pn	23 40 31.4	+0.2
CERAA				S	Sn	23 40 57.3	+0.2
CEAP	Semis' Anvil P	2.21	278	P	Pn	23 40 32.6	+0.4
CEAP				S	Sn	23 40 58.1	-0.7
CESW	Semis' Southwe	2.21	275	P	Pn	23 40 32.2	0.0
CETU	Semis' Tuman	2.26	277	P	Pn	23 40 33.0	+0.2
CETU				S	Sn	23 41 01.3	+1.3
AMKA	Amchitka	2.41	262	ePn	Pn	23 40 35.8	+1.0
AMKA				eSn	Sn	23 41 03.9	+0.2
LSPA	Little Sitkin	2.83	276	P	Pn	23 40 41.1	+0.8
LSPA				S	Sn	23 41 14.7	+1.2
LSNW	Little Sitkin	2.86	276	P	Pn	23 40 41.3	+0.5
LSSA	Little Sitkin	2.86	276	P	Pn	23 40 41.5	+0.6
LSSA				S	Sn	23 41 16.0	+1.5
NIKH	Nikolski High	5.07	73	P	Pn	23 41 11.1	+0.4
OKSP	Okmok Steeple	5.46	71	P	Pn	23 41 18.5	+2.4
OKFG	Magazine Ridge	5.71	70	P	Pn	23 41 22.4	+2.9
FX1	Attu Island--F	6.21	284	P	Pn	23 41 26.1	-0.1
	5.1nm,0.3s,baz=59,slow=18,SNR=3.4						
FX1				S	Sn	23 42 34.0	-1.7
	4.2nm,0.3s,baz=66,slow=18,SNR=2.7						
MSOM	Makushin Julie	6.37	67	P	Pn	23 41 30.1	+1.7
UNV	Unalaska Valle	6.63	68	P	Pn	23 41 33.7	+1.7
SPIA	Saint Paul Isl	6.67	33	P	Pn	23 41 33.3	+0.9
AKUT	Akutan	7.12	66	ePn	Pn	23 41 41.2	+2.6
SSLW	Shishaldin Wes	8.22	63	P	Pn	23 41 55.0	+1.3
FALS	False Pass	8.64	64	ePn	Pn	23 42 01.3	+2.0
SDPT	Sand Point	10.40	63	ePn	Pn	23 42 23.5	+0.3
GAMB	Gambell	12.36	11	ePn	Pn	23 42 50.8	+1.1
OHAK	Old Harbor	14.72	59	ePn	P	23 43 23.4	-1.1
SVW2	Sparrevohn	14.97	43	ePn	Pn	23 43 24.5	+0.6
SEW	Seward	17.38	51	ePn	P	23 43 54.6	+0.7
	104nm,1.3s						
RC01	Rabbit Creek A	17.55	47	ePn	Pn	23 43 57.4	+1.4
KTH	Kantishna Hill	18.07	39	ePn	Pn	23 44 02.6	+0.4
	12nm,0.8s						
TRF	Thorofare Moun	18.27	40	eP	Pn	23 44 07.3	+2.6
	17nm,1.0s						
DIV	Divide	19.40	49	eP	Pn	23 44 17.9	-0.2
RAGM	Ragged Mountai	19.76	52	eP	P	23 44 19.6	-0.3
	179nm,0.5s						

SEY	Seymchan	19.78	316	P	P	23 44 19.4	-0.6
	0.2nm,0.3s,baz=77,slow=19,SNR=5.5						
PAX	Paxson	20.09	44	eP	Pn	23 44 25.5	-0.5
	28nm,1.6s						
ILAR	Eielson Array	20.20	38	P	P	23 44 22.9	-1.7
	0.2nm,0.3s,baz=238,slow=9.6,SNR=19						
COLD	Coldfoot	20.32	30	ePn	P	23 44 26.4	+0.6
DOT	Dot Lake	20.91	43	eP	P	23 44 33.5	+1.3
	3.1nm,0.6s						
INK	Inuvik	26.46	35	P	P	23 45 24.4	-1.1
	0.6nm,0.4s,baz=295,slow=15,SNR=4.3						
YKA	Yellowknife Ar	34.10	47	P	P	23 46 30.9	-2.0
	0.3nm,0.3s,baz=280,slow=8.1,SNR=4.5						
H11N2	WAKE ISLAND Hy	34.40	208	T	T	00 23 14.0	
	baz=20,slow=76,SNR=102						
H11N3	WAKE ISLAND Hy	34.41	208	T	T	00 23 14.9	
	baz=20,slow=76,SNR=130						
H11N1	WAKE ISLAND Hy	34.42	208	T	T	00 23 15.6	
	baz=20,slow=76,SNR=144						
H11S1	WAKE ISLAND Hy	35.62	207	T	T	00 24 42.7	
	baz=18,slow=78,SNR=113						
H11S2	WAKE ISLAND Hy	35.63	207	T	T	00 24 43.8	
	baz=18,slow=78,SNR=78						
H11S3	WAKE ISLAND Hy	35.63	207	T	T	00 24 43.6	
	baz=18,slow=78,SNR=74						
NEW	Newport	37.63	71	P	P	23 47 03.7	+0.4
	3.3nm,0.5s,baz=297,slow=8.3,SNR=9.1						
NVAR	Mina Array Bea	42.32	85	P	P	23 47 43.0	+0.6
	0.9nm,0.6s,baz=290,slow=7.9,SNR=9.9						
BW06	Boulder Array	45.05	74	eP	P	23 48 04.8	+0.5
	1.4nm,0.4s						
PDAR	Pinedale Array	45.05	74	P	P	23 48 04.0	-0.3
	2.9nm,0.5s,baz=316,slow=3.1,SNR=29						
TXAR	Lajitas Array	57.41	83	P	P	23 49 36.8	+0.1
	0.6nm,0.6s,baz=308,slow=5.6,SNR=13						
SCHQ	Schefferville	58.96	39	P	P	23 49 46.3	-0.7
	1.3nm,0.6s,baz=297,slow=14,SNR=3.5						
H03N2	Juan Fernandez	120.10	107	T	T	02 10 31.6	
	baz=315,slow=75,SNR=24						
H03N1	Juan Fernandez	120.11	107	T	T	02 10 32.6	
	baz=315,slow=75,SNR=29						
H03N3	Juan Fernandez	120.12	107	T	T	02 10 32.2	
	baz=315,slow=75,SNR=30						

IDC 17 23:51:39.8±11.0, 48.71S×124.18E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/22, mbtmp3.3/2, Error ellipse: s-maj=838.8km s-min=69.4km az=98.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.67	328	T	T	00 11 52.5	
	baz=159,slow=79,SNR=17						
H01W2	Cape Leeuwin H	15.68	328	T	T	00 11 55.5	
	baz=159,slow=79,SNR=16						
H01W3	Cape Leeuwin H	15.69	328	T	T	00 11 52.7	
	baz=159,slow=79,SNR=16						
ASAR	Alice Springs	26.15	21	P	P	23 57 15.4	-0.3
	0.3nm,0.4s,baz=199,slow=8.7,SNR=6.3						
WRA	Warramunga Arr	29.84	19	P	P	23 57 48.5	-0.2
	0.7nm,1.1s,baz=179,slow=8.4,SNR=2.5						
YKA	Yellowknife Ar	145.38	44	PKPbc	PKPbc	00 11 17.8	-0.5
	0.5nm,0.6s,baz=269,slow=3.6,SNR=11						

DJA 18 00:07:43.9±0.3, 1°N±3°×11°8E±°, h10km, M4.1/17, mb4.2/8, MLv4.0/17, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGKI	Sangatta, Kali	1.35	187	S	Sb	00 08 25.6	-1.1
SMKI	Samarinda	1.37	204	P	Pb	00 08 09.5	-0.2
SMKI				S	Sb	00 08 25.4	-2.0
MPSI	Mapaga	2.19	103	P	Pn	00 08 18.3	-2.1
BKB	Balikpapan	2.24	203	P	Pn	00 08 19.3	-1.8
MTKI	Muara Teweh, K	3.36	239	P	Pn	00 08 36.3	-0.2
APSI	Ampana	4.25	114	P	Pn	00 08 48.9	+0.1
TTSI	Tana Toraja	4.36	152	P	Pn	00 08 51.2	+1.0
BBKI	Banjar Baru	5.16	214	P	Pn	00 09 00.2	-1.1
	28nm,1.6s,0.3nm						
SPSI	Sidrap Palu	5.16	157	P	Pn	00 09 00.6	-0.7
	20nm,0.4s,0.1nm						
GTOI	Gorontalo	5.25	92	P	Pn	00 09 00.5	-2.0
	30nm,0.8s,0.2nm						
LUWI	Luwuk	5.34	110	P	Pn	00 09 03.8	0.0
	42nm,1.1s,0.2nm						
BNSI	Bone	5.69	156	P	Pn	00 09 08.9	+0.3
	16nm,0.7s,0.1nm						
BKSI	Bulukumba	6.54	159	P	Pn	00 09 20.6	+0.3

ISCJB ***18*** *00:10:27.6±0.3, 8.38S±0.04×123.83E±0.05, h200km, mb3.8/7, Error ellipse: s-maj=7.4km s-min=4.5km az=143.2*
NEIC ***18*** *00:10:27.6±0.8, 8.18S×123.92E, h173km±10km, mb4.2/2, Error ellipse: s-maj=19.4km s-min=8.2km az=48.0*
IDC ***18*** *00:10:28.1±1.2, 8.28S×123.88E, h180km±14km, mb3.8/6, mb1 3.9/8, mb1mx3.5/33, mbtmp4.2/8, Error ellipse: s-maj=33.0km s-min=11.2km az=63.0*
DJA ***18*** *00:10:40.0±0.7, 8°S±6°×12°3E±°, h128km±7km, M4.3/12, mb4.3/6, mB4.5/1, MLv4.2/12, Mw(mB)3.7/1*
ISC 18 00:10:29.2±0.5, 8.34S±0.05×123.83E±0.06, h200km, n50, σ1s44/51, mb3.9/7, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.60	259	P	Pn	00 11 01.6	-2.2
MMRI				S	Sn	00 11 19.4	-11
MMRI	Maumere	1.60	259	eP	Pn	00 11 01.1	-2.6
MMRI				eSn	Sn	00 11 27.0	-3.6
BATI	Baumata	1.86	185	P	Pn	00 11 04.8	-1.6
	239nm,0.3s,baz=351,slow=5.0,SNR=118						
BATI				S	Sn	00 11 32.9	-2.5
	111nm,0.3s,baz=100,slow=19,SNR=9.7						
BASI	Baing, Sumba	3.71	240	P	Pn	00 11 26.7	-0.7
WSI	Waingapu	3.73	249	P	Pn	00 11 26.3	-1.3
WSI	Waingapu	3.73	249	P	Pn	00 11 25.9	-1.7
	baz=3.8,SNR=4.9						
BKSI	Bulukumba	4.75	309	P	Pn	00 11 36.5	-3.9
BNSI	Bone	5.39	316	P	Pn	00 11 46.7	-1.9
TWSI	Taliwang, Sumb	6.88	266	P	Pn	00 12 05.7	-2.2
	3μm,0.7s,19nm						
LUWI	Luwuk	7.33	352	S	Sn	00 13 36.1	-0.8
	baz=7.6,SNR=3.2						
MTN	Manton Dam	8.46	123	P	Pn	00 12 26.3	-2.2
	baz=8.2,SNR=40						
MTN				S	Sn	00 13 55.5	-8.2
	baz=8.2,SNR=14						
KNRA	Kununurra	8.74	147	P	Pn	00 12 30.0	-2.1
	baz=8.6,SNR=66						
KNRA				S	Sn	00 14 03.3	-7.0
	baz=8.6,SNR=9.9						
KDU	Kakadu	9.53	118	P	Pn	00 12 39.6	-2.9
	baz=9.3,SNR=91						
JAGI	Jajag, Banyuwa	9.57	269	P	Pn	00 12 35.3	-7.7
	baz=9.7,SNR=4.1						
FAKI	Fak Fak	9.96	58	P	Pn	00 12 46.6	-1.5
	baz=9.9,SNR=5.9						
UGM	Wanagama	13.18	271	P	P	00 13 32.4	+0.4
	baz=13,SNR=3.9						
WRA	Warramunga Arr	15.38	140	P	Pn	00 13 55.3	-0.8
	1.1nm,0.3s,baz=316,slow=13,SNR=13						
WRA				S	S	00 16 38.8	-8.3
	1.1nm,0.3s,baz=314,slow=24,SNR=6.5						
WRAB	Tennant Creek	15.38	140	ePn	P	00 13 56.6	+0.3
	3.0nm,0.4s						
WRAB				eSn	S	00 16 36.3	-11
WRKA	Warakurna	17.14	166	P	Pn	00 14 21.9	+4.7
	baz=17,SNR=7.5						
AS31	Alice Springs	18.04	149	eP	Pn	00 14 28.8	+1.0
AS31				eS	S	00 17 43.6	+1.6
ASAR	Alice Springs	18.04	149	P	P	00 14 26.4	+0.9
	0.8nm,0.3s,baz=329,slow=12,SNR=23						
ASAR				S	S	00 17 44.5	+2.4
	0.4nm,0.3s,baz=314,slow=20,SNR=7.1						
MEEK	Meekatharra	18.86	195	P	Pn	00 14 38.3	+1.0
	baz=19,SNR=9.2						
MEEK				S	S	00 18 07.0	+8.9
	baz=19,SNR=3.6						
QIS	Mount Isa	19.49	130	P	Pn	00 14 43.9	-1.1
	baz=19,SNR=15						
COEN	Coen	19.78	108	P	P	00 14 45.5	+1.1
	baz=20,SNR=25						
COEN				S	S	00 18 25.1	+8.7
	baz=20,SNR=4.2						
GUMO	Guam	30.19	44	eP	P	00 16 20.1	-0.9
CMAR	Chiang Mai Arr	36.22	317	P	P	00 17 13.6	+0.3
	1.2nm,0.3s,baz=139,slow=7.0,SNR=2.9						
PATS	Pohnpei	37.55	67	P	P	00 17 28.7	+4.2
	baz=38,SNR=4.0						
MJAR	Matsushiro Arr	46.65	16	P	P	00 18 37.8	+0.1
	0.7nm,0.3s,baz=191,slow=8.8,SNR=4.0						
ODAN	Odare	49.73	316	eP	P	00 19 01.9	+0.2
	5.7nm,0.6s						
ODAN	Odare	49.73	316	eP	P	00 19 01.9	+0.2
TAPN	Taplejung	49.82	317	eP	P	00 19 04.1	+1.6
	5.6nm,0.4s						
RAMN	Ramite	50.33	315	eP	P	00 19 07.0	+0.8
	6.6nm,0.4s						
JIRN	Jiri	51.06	316	eP	P	00 19 13.0	+1.2
	2.9nm,0.3s						
GUN	Gumba	51.43	316	eP	P	00 19 15.3	+0.8
	4.7nm,0.4s						
PKI	Pulchoki	51.55	315	eP	P	00 19 15.3	-0.1
	8.3nm,0.4s						
PKIN	Phulchoki	51.56	315	eP	P	00 19 16.3	+0.9
	3.1nm,0.3s						
KKN	Kakani	51.77	315	eP	P	00 19 17.1	+0.2
KKN	Kakani	51.77	315	eP	P	00 19 17.1	+0.2
DMN	Daman	51.78	315	eP	P	00 19 16.9	-0.1
	3.0nm,0.4s						
GKN	Gorkha	52.35	315	eP	P	00 19 21.7	+0.6
	8.4nm,0.3s						
USRK	Ussuriysk Arra	52.82	7	P	P	00 19 24.4	+0.5
	1.8nm,0.7s,baz=206,slow=7.1,SNR=4.8						
KOLN	Koldanda	52.94	314	eP	P	00 19 25.4	-0.1
	2.7nm,0.3s						
DANN	Dangsing	53.17	315	eP	P	00 19 28.3	+1.0
	11nm,0.5s						
DANN	Dangsing	53.17	315	eP	P	00 19 28.3	+1.0
SONM	Songino Array	58.02	346	P	P	00 20 01.8	+0.6
	1.2nm,0.7s,baz=163,slow=7.7,SNR=12						
MK31	Makanchi Array	66.16	330	eP	P	00 20 56.1	+0.9
MKAR	Makanchi Array	66.16	330	P	P	00 20 56.4	+1.1
	1.6nm,0.5s,baz=132,slow=7.4,SNR=58						
MKAR				PcP	PcP	00 21 25.3	+1.5
	0.5nm,0.6s,baz=155,slow=4.5,SNR=4.2						
ZALV	Zalesovo Beam	70.23	337	P	P	00 21 20.4	+0.1
	1.1nm,0.4s,baz=135,slow=5.2,SNR=7.3						
RAYN	Ar Rayn	82.72	295	eP	P	00 22 32.5	+1.3
	5.4nm,0.8s						
TORD	Torodi Ar. Bea	123.04	280	PKP	PKPdf	00 29 04.1	+1.3
	0.4nm,0.7s,baz=66,slow=1.5,SNR=4.7						

MEX 18 00:11:03.2±0.5, 15.89N×96.48W, h16km±13km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.38	108	iP	Pg	00 11 09.8	-1.2
HUIG				eS	Sg	00 11 15.1	-1.2
VHO	Vista Hermosa	1.21	348	iP	Pn	00 11 21.5	-4.2
VHO				eS	Sb	00 11 35.5	-6.0
OXX	Oaxaca	1.21	349	iP	Pn	00 11 22.1	-3.7
OXX				eS	Sb	00 11 37.0	-4.7
PNIG	Pinotepa	1.66	288	iP	Pn	00 11 29.0	-2.7
PNIG				eS	Sn	00 11 47.0	-5.8

NIED ***18*** *01:13:00, 42.60N×131.10E, h660km, Mw6.9 Best double couple: $M_0$2.58000×10^19 NP1:ϕ_s113.00000°, δ9.00000°, λ-155.00000°. NP2:ϕ_s358.00000°, δ86.00000°, λ-81.00000°.*
BJI ***18*** *01:13:15.3, 42.73N×130.91E, h568km, mB6.9/45, mb6.6/74*
ISCJB ***18*** *01:13:15.9±0.1, 42.64N±0.01×130.53E±0.01, h549km±2km, mb6.1/561, Error ellipse: s-maj=1.9km s-min=1.4km az=160.2*
MOS ***18*** *01:13:16.6±0.9, 42.60N×130.65E, h567km, mb6.3/134, Error ellipse: s-maj=6.0km s-min=3.6km az=114.7 Broadband fault plane solution: P waves. NP1: ϕ_s169.00000°, δ84.00000°, λ79.00000°. NP2:ϕ_s56.00000°, δ16.00000°, λ156.00000°. Principal axes: T Plg49.0000°, Azm63.0000°; N Plg14.0000°, Azm171.0000°; P Plg37.0000°, Azm272.0000°;*
JMA ***18*** *01:13:16.4±0.3, 42.62N×131.06E, h619km, M6.8*
JMA Felt II J1.
LDG ***18*** *01:13:17.2±0.2, 42.61N×130.73E, h580km, Mb5.9/45, Ms5.8/12, Error ellipse: s-maj=13.5km s-min=8.2km az=115.0*
NEIC ***18*** *01:13:17.0±0.0, 42.56N×130.84E, h562km Best double couple: NP1:ϕ_s175.00000°, δ87.00000°, λ79.00000°. NP2:ϕ_s72.00000°, δ11.00000°, λ166.00000°. Principal axes: T 2.3000, Plg46.0000°, Azm74.0000°; N -0.0100, Plg10.0000°, Azm176.0000°; P -2.2800, Plg41.0000°, Azm275.0000°;*
SKHL ***18*** *01:13:17.8±0.5, 42.65N×130.74E, h578km±6km, mb6.9/6, mbh6.8/4, Ms6.3/2, msh7.2/5*
IDC ***18*** *01:13:18.3±0.2, 42.59N×130.60E, h572km±2km, mb5.5/70, mb1 5.6/73, mb1mx5.6/73, mbtmp6.4/73, Error ellipse: s-maj=4.3km s-min=3.6km az=94.0*
NEIC ***18*** *01:13:19.5±2.7, 42.59N×130.70E, h578km±3km, mb6.3/291, ME6.5, MW6.8, MW6.8, MW6.9, Error ellipse: s-maj=9.4km s-min=8.8km az=106.0, Moment Tensor Solution. s173 Moment tensor: Scale 10^19Nm; M_{rr}0.19; $M_{\theta\theta}$0.35; $M_{\phi\phi}$-0.55; $M_{r\theta}$0.34; $M_{\theta\phi}$-0.52; $M_{\phi r}$-2.61; Best double couple: $M_0$2.70000×10^19 NP1:ϕ_s172.00000°, δ87.00000°, λ77.00000°. NP2:ϕ_s69.00000°, δ14.00000°, λ167.00000°. Principal axes: T 2.6200, Plg46.0000°, Azm68.0000°; N 0.2000, Plg13.0000°, Azm172.0000°; P -2.8200, Plg40.0000°, Azm274.0000°; Depth from broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Recorded [2 JMA] in southeastern Hokkaido and [1 JMA] in northern and southern Hokkaido, Japan. Also recorded [2 JMA] in Aomori, Ishikawa, Iwate, Miyagi and Saitama; [1 JMA] in Akita, Chiba, Fukui, Fukushima, Gumma, Ibaraki, Kanagawa and Tokyo, Honshu.
GCMT ***18*** *01:13:19.5±0.1, 42.48N×130.66E, h579km, MW6.9/136, Moment Tensor Solution. s136,c359; s127,c273; Duration: 6s7 Moment tensor: Scale 10^19Nm; M_{rr}0.27±.01; $M_{\theta\theta}$0.19±.01; $M_{\phi\phi}$-0.45±.01; $M_{r\theta}$0.23±.01; $M_{\theta\phi}$-0.59±.01; $M_{\phi r}$-2.50±.01; Best double couple: $M_0$2.60900×10^19 NP1:ϕ_s175.00000°, δ87.00000°, λ76.00000°. NP2:ϕ_s71.00000°, δ15.00000°, λ166.00000°. Principal axes: T 2.5650, Plg47.0000°, Azm70.0000°; N 0.0880, Plg14.0000°, Azm176.0000°; P -2.6530, Plg40.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*
NEIC ***18*** *01:13:31.5±0.0, 42.27N×130.68E, h575km, Moment Tensor Solution. s114 Moment tensor: Scale 10^19Nm; M_{rr}0.23; $M_{\theta\theta}$0.19; $M_{\phi\phi}$-0.43; $M_{r\theta}$0.23; $M_{\theta\phi}$-0.45; $M_{\phi r}$-2.22; Best double couple: $M_0$2.30000×10^19 NP1:ϕ_s174.00000°, δ86.00000°, λ78.00000°. NP2:ϕ_s68.00000°, δ13.00000°, λ164.00000°. Principal axes: T 2.2500, Plg47.0000°, Azm71.0000°; N 0.1000, Plg12.0000°, Azm174.0000°; P -2.3500, Plg40.0000°, Azm275.0000°;*
ISC 18 01:13:18.4±0.2, 42.60N±0.02×130.70E±0.02, h574km±1km, h573km:pP-P, n2634, σ1s52/3556, mb6.2/571, 280C-552D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLA	Vladivostok	1.01	59d	iP	P	01 14 26.8	-0.1
VLA				iS	S	01 15 22.5	-0.5
USRK	Ussuriysk Arra	1.85	30	P	P	01 14 29.5	0.0
	4μm,0.3s,baz=207,slow=1.8,SNR=9644						
USRK				S	S	01 15 27.5	-0.3
	baz=228,slow=11,SNR=9.1						
MDJ	Mudanjiang	2.17	339	P	P	01 14 31.4	+0.6
MDJ				S	S	01 15 30.8	+0.6
MDJ				ScP	ScP	01 23 22.3	+2.5
MDJ				PcS	PcS	01 24 15.4	+0.7
MDJ				ScS	ScS	01 26 50.3	-1.6
MDJ				pmax	pmax		
	comp=Z,3μm,0.8s						
MDJ				pmax	pmax		
	comp=Z,79μm,9.4s						
MDJ	Mudanjiang	2.17	339	eP	P	01 14 31.0	+0.2
MDJ				eS	S	01 15 27.3	-2.9
CN2	Changchun	4.02	289	⇑iP	P	01 14 42.1	+0.1
CN2				eS	S	01 15 50.0	-0.4
CN2				ScS	ScS	01 26 50.5	-2.4
CN2				pmax	pmax		
	comp=Z,22μm,0.6s						
SNY	Shenyang	5.34	264	⇑P	P	01 14 53.3	+0.9
SNY				S	S	01 16 07.0	-2.4
SNY				ScS	ScS	01 26 52.8	-1.3
SNY				pmax	pmax		
	comp=Z,24μm,1.9s						
SNY				pmax	pmax		
	comp=Z,173μm,14.9s						
KS01	Wonju Array Si	5.55	204	eP	P	01 14 54.2	-0.2
KSRS	Korea Array	5.57	203	P	P	01 14 54.7	+0.2
	1μm,0.3s,baz=19,slow=8.5,SNR=2923						
KSRS				S	S	01 16 11.4	-1.5
	baz=20,slow=14,SNR=1.1						
KSRS				ScP	ScP	01 23 21.8	+0.2
	0.8nm,0.3s,baz=62,slow=1.8,SNR=6.8						
KSRS				P3KPbc		01 51 36.7	
	0.2nm,0.3s,baz=146,slow=1.9,SNR=3.3						
KS15	Wonju Array Si	5.59	204	eP	P	01 14 54.7	0.0
KS15				eS	S	01 16 11.4	-1.9
KS15				eScP	ScP	01 23 21.8	+0.2
INCN	Inchon	5.99	213	eP	P	01 14 58.2	0.0
INCN				eS	S	01 16 20.1	+0.3
JOSM	Okushiri--Mats	6.52	92	P	P	01 15 00.8	-2.0
JOSM				S	S	01 16 24.5	-3.8
HABR	Khabarovsk	6.62	26d	iP	P	01 15 04.0	+0.5
HABR				eS	S	01 16 29.5	-0.2
HABR				pmax	pmax		
	comp=N,4μm,0.9s						
HABR				pmax	pmax		
	comp=E,4μm,0.9s						
HABR				MLR	MLR		
	comp=Z,18μm,16.0s						
KLR	Kul'dur	6.67	6	eP	P	01 14 59.8	-4.2
KLR				eS	S	01 16 26.5	-4.2
KLR				pmax	pmax		
	comp=N,25μm,7.0s						
KLR				pmax	pmax		
	comp=Z,39μm,7.0s						
SAI	Saigo	6.71	161	P	P	01 15 04.2	-0.5
SAI				eS	S	01 16 30.9	-0.7
JHG	Hegura jima	6.72	133	⇓P	P	01 15 04.0	-0.8
JHG				S	S	01 16 29.7	-2.1
JSH	Shimam	6.89	87	⇓P	P	01 15 04.0	-2.2
JSK	Shakotan	7.21	81	⇓P	P	01 15 07.2	-1.9
JSZ	Suzu	7.25	133	⇓P	P	01 15 08.6	-1.1
JIW	Iwasaki	7.26	103	⇓P	P	01 15 07.6	-2.1
JSR	Shiriuchi	7.31	95	⇓P	P	01 15 08.1	-2.1
JOG2	Oga 2	7.36	108	⇓P	P	01 15 08.7	-2.0
JSD	Sado	7.36	126	⇓P	P	01 15 08.4	-2.3
JTB	Tobi-shima	7.52	114	⇓P	P	01 15 09.8	-2.4
JGT	Gotsu	7.67	170	⇓P	P	01 15 13.2	-0.6
JKG	Kaga	7.67	144	P	P	01 15 12.1	-1.6
JKB	Kayabe	7.70	92	⇓P	P	01 15 11.2	-2.7
JKB				S	S	01 16 42.1	-6.4
JKY	Yasaka	7.76	152	⇓P	P	01 15 13.6	-1.0
JOT	Ohata	7.80	96	⇓P	P	01 15 11.8	-3.1
JOT				eS	S	01 16 43.6	-6.8
DL2	Dalian	7.81	245	⇑iP	P	01 15 15.1	+0.1
DL2				sP	S	01 16 45.3	-5.3
DL2				S	S	01 16 51.1	+0.5
DL2				ScS	ScS	01 26 53.8	-3.4
DL2				pmax	pmax		
	comp=Z,19μm,0.8s						
DL2				pmax	pmax		
	comp=Z,73μm,6.4s						
JHS	Saijyo	7.82	165	⇓P	P	01 15 14.8	-0.5
JHS				S	S	01 16 50.1	-0.9
JAH	Hinai	7.85	105	⇓P	P	01 15 12.6	-2.8
JEW	Eniwo	7.92	85	⇓P	P	01 15 13.8	-2.2
JYA	Atsumi	7.94	117	⇓P	P	01 15 13.2	-3.1
JJN	Nakama	7.94	131	⇓P	P	01 15 14.2	-2.1
JTM	Tenmabayashi	7.97	100	⇓P	P	01 15 13.3	-3.2
JYG	Yagishiri	8.01	73	⇓P	P	01 15 14.9	-1.9
JAD	Aida	8.12	159	⇓P	P	01 15 17.3	-0.8
JHIK	Hikimi	8.12	173	⇓P	P	01 15 17.0	-1.1
JTU	Tsushima	8.13	188	⇑P	P	01 15 18.1	-0.1
JHR	Hokuryu	8.14	78	⇓P	P	01 15 16.3	-1.8
JHR				S	S	01 16 52.1	-4.2
JNS	Sasagawa	8.14	123	P	P	01 15 15.3	-2.9
JRG	Rokugo	8.17	110	⇓P	P	01 15 15.6	-2.9
JFM	Mihama	8.17	148	P	P	01 15 17.4	-1.2
JWT	Wachi	8.17	152	⇓P	P	01 15 17.8	-0.8
JYK	Kaneyama	8.20	113	⇓P	P	01 15 16.0	-2.8
JKS	Kasai	8.27	156	P	P	01 15 18.8	-0.7
JSS	Shosan	8.30	74	⇓P	P	01 15 18.5	-1.2
JHK	Hiroka	8.33	127	P	P	01 15 17.2	-2.9
MAJO	Matsushiro	8.38	134	eP	P	01 15 17.7	-2.9
MAJO				eS	S	01 16 56.0	-4.8
MAJO	Matsushiro	8.38	134	eP	P	01 15 17.7	-2.9
MAJO				eS	S	01 16 56.0	-4.8
MAJO				eScP	ScP	01 23 23.9	-0.3
MAT	Matsushiro	8.38	134	P	P	01 15 17.9	-2.7
MAT				S	S	01 16 56.3	-4.5
MAT	Matsushiro	8.38	134	P	P	01 15 17.8	-2.8
MJAR	Matsushiro Arr	8.38	134	P	P	01 15 18.0	-2.7
	comp=Z,345nm,0.3s,baz=314,slow=9.3,SNR=1076						
MJAR				S	S	01 16 55.9	-4.9
	comp=Z,24nm,0.3s,baz=326,slow=12,SNR=3.5						
MJAR				ScP	ScP	01 23 23.9	-0.3
	comp=Z,0.6nm,0.3s,baz=312,slow=1.0,SNR=7.5						
MJAR				P3KPbc		01 51 32.5	
	baz=214,slow=2.3,SNR=4.6						
JANG	Nango	8.42	102	P	P	01 15 17.1	-3.8
JKZ	Kuzumaki	8.42	105	⇓P	P	01 15 17.6	-3.4
JNG	Nsakai	8.42	135	⇓P	P	01 15 18.6	-2.6
JAB	Ashibetsu	8.49	80	⇓P	P	01 15 19.5	-2.0
JMIK	Miki	8.49	155	P	P	01 15 20.8	-1.0
JWK2	Keihoku	8.52	68	⇓P	P	01 15 21.2	-0.6
JWK2				S	S	01 17 00.2	-2.9
JKD	Kudamatsu	8.59	173	⇓P	P	01 15 22.1	-0.6
JOM	Ohasama	8.59	108	P	P	01 15 19.1	-3.5
JBT2	Biratori 2	8.60	85	⇓P	P	01 15 19.7	-2.9
JJS	Sakaide	8.60	162	⇓P	P	01 15 21.6	-1.2
JFY	Yanaizu	8.64	124	⇓P	P	01 15 20.2	-3.0
JOU	Okura	8.69	116	⇓P	P	01 15 20.6	-3.1
JMK	Ichinoseki	8.77	111	⇓P	P	01 15 20.9	-3.5
JMK				eS	S	01 16 59.9	-7.9
JKT	Katashina	8.79	129	P	P	01 15 21.6	-3.2
ASAJ	Asahikawa	8.80	76	⇓P	P	01 15 22.5	-2.1
ASAJ	Asahikawa	8.80	76	P	P	01 15 22.6	-1.9
	comp=Z,1μm,0.3s,baz=262,slow=9.1,SNR=654						
ASAJ				S	S	01 17 01.3	-6.9
	comp=Z,49nm,0.3s,baz=209,slow=10,SNR=21						
ASAJ				ScS	ScS	01 26 58.5	0.0
	comp=Z,0.4nm,0.3s,baz=143,slow=33,SNR=6.1						
ASAJ	Asahikawa	8.80	76	eP	P	01 15 22.4	-2.1
ASAJ				eS	S	01 17 03.4	-4.8
JAJ2	Tsuna	8.80	157	⇓P	P	01 15 23.2	-1.6
JTH	Tanohata	8.82	104	⇓P	P	01 15 20.9	-3.9
JHE	Heguri	8.84	152	⇓P	P	01 15 23.6	-1.6
JNT	Takato	8.85	137	P	P	01 15 22.6	-2.8
JSE	Soyaes	8.92	71	⇓P	P	01 15 24.5	-1.2
JNBK	Urakawa-nobuka	8.92	88	⇓P	P	01 15 22.7	-3.1
MIYJ	Miyakonagasawa	8.92	106	⇓P	P	01 15 22.0	-3.9
JFT	Otama	8.96	121	⇓P	P	01 15 23.1	-3.3
JET	Tanbara	9.00	167	P	P	01 15 25.5	-1.3
OFUJ	Ofunato	9.03	109	⇓P	P	01 15 22.8	-4.1
JSB	Shiboa	9.05	125	P	P	01 15 24.2	-3.1
JIO	Ouri	9.11	114	⇓P	P	01 15 23.5	-4.2
JNA	Nagahama	9.14	171	P	P	01 15 27.3	-0.9
JRY	Ryogami san	9.14	133	⇓P	P	01 15 24.1	-4.1
JRY				S	S	01 17 10.5	-4.2
JAG	Ashikaga	9.15	129	⇓P	P	01 15 24.4	-3.8
JFI	Itaya	9.16	182	⇑P	P	01 15 28.3	-0.2
JMN	Monobe	9.21	163	⇓P	P	01 15 27.9	-1.0
JWY	Kouya	9.21	154	P	P	01 15 27.3	-1.6
ERM	Erimo	9.25	89	P	P	01 15 26.4	-2.7
	comp=Z,218μm,0.5s						
ERM	Erimo	9.25	89c	iP	P	01 15 26.6	-2.5
ERM	Erimo	9.25	89	eP	P	01 15 26.6	-2.5
ERM				eS	S	01 17 09.8	-6.5
JEM	Erimo	9.25	89	P	P	01 15 26.2	-2.9
JAI	Aioi	9.28	160	P	P	01 15 28.3	-1.2
JMP	Maruseppu	9.34	77	⇓P	P	01 15 27.9	-2.1
JCH	Churui	9.34	86	⇓P	P	01 15 26.5	-3.5
JCH				S	S	01 17 09.8	-8.2
JYN	Shimob	9.35	137	⇓P	P	01 15 26.8	-3.5

JYZW Yoshizawa 9.37 142 P P 01 15 27.1 -3.3
JKN2 Miekihoku 9.42 151 P P 01 15 28.3 -2.7
JIE Ise 9.45 148 ⇓P P 01 15 29.2 -2.0
JIE S S 01 17 14.7 -5.5
JKU Kubokawa 9.46 168 P P 01 15 30.0 -1.4
JNU Nakatsue 9.47 179 P P 01 15 31.1 -0.4
comp=Z,106nm,0.3s,baz=21,slow=7.9,SNR=426
JNU S S 01 17 20.9 +0.2
baz=346,slow=4.2,SNR=4.1
JNU ScP ScP 01 23 25.8 +0.3
comp=Z,2.4nm,0.3s,baz=23,slow=3.0,SNR=6.9
JNU ScS ScS 01 27 01.1 +1.0
comp=Z,0.4nm,0.3s,baz=74,slow=19,SNR=4.1
UWA2 Uwa jima 2 9.50 170 ⇓P P 01 15 30.7 -1.1
ONAJ Iwakimizuishiy 9.51 122 ⇓P P 01 15 27.3 -4.5
MRT2 Murotomisaki 2 9.59 162 ⇓P P 01 15 31.1 -1.6
YSS Yuzh-Sakhalins 9.61 59κ iP P 01 15 31.4 -1.2
YSS i *SP S 01 17 16.0 -6.8
YSS pmax pmax
comp=N,21μm,6.0s
YSS pmax pmax
comp=E,32μm,6.0s
YSS pmax pmax
comp=Z,50μm,6.0s
YSS pmax pmax
comp=Z,9μm,0.8s
YSS pmax pmax
comp=N,4μm,1.0s
YSS pmax pmax
comp=E,3μm,0.5s
YSS MLR MLR
comp=Z,36μm,13.0s
YSS MLR MLR
comp=N,28μm,14.0s
YSS Yuzh-Sakhalins 9.61 59 eP P 01 15 31.1 -1.5
YSS eS S 01 17 19.3 -3.6
JAR Ashorobuto 9.61 81 ⇓P P 01 15 30.3 -2.4
JHO Hitachi 9.68 125 ⇓P P 01 15 28.6 -4.9
JTKR Abashiri--Toko 9.73 77 ⇓P P 01 15 32.1 -1.7
JTKR S S 01 17 20.0 -5.1
JOD2 Odawara 2 9.81 136 P P 01 15 31.8 -3.1
JOD2 S S 01 17 19.6 -7.4
JTO Tosashimizu 9.87 170 ⇓P P 01 15 34.0 -1.5
JTO S S 01 17 24.5 -3.4
JWZ Kozaga 9.88 155 ⇓P P 01 15 33.2 -2.4
JWZ S S 01 17 22.5 -5.7
JIU2 Izumi 2 10.04 179 ⇓P P 01 15 36.9 -0.3
HIA Hailar 10.13 315 eP P 01 15 37.6 -0.2
HIA eS S 01 17 33.3 +0.9
HIA Hailar 10.13 315 eP P 01 15 37.6 -0.2
HIA eS S 01 17 33.2 +0.9
JHD Hondo 10.13 183 P P 01 15 38.2 +0.1
TTO1 TONANKAI O.B.S 10.16 150 P P 01 15 36.5 -1.6
UGL Uglegorsk 10.23 47κ iP P 01 15 38.1 -0.7
UGL i S S 01 17 25.0 -9.2
UGL pmax pmax
comp=N,680nm,0.6s
UGL pmax pmax
comp=E,2μm,0.6s
UGL pmax pmax
comp=Z,7μm,0.6s
UGL pmax pmax
comp=N,8μm,6.0s
UGL pmax pmax
comp=Z,29μm,6.0s
UGL pmax pmax
comp=E,26μm,8.0s
UGL smax smax
comp=N,76μm,8.0s
UGL smax smax
comp=E,127μm,8.0s
UGL smax smax
comp=N,3μm,1.0s
UGL smax smax
comp=Z,2μm,1.0s
UGL smax smax
comp=E,4μm,0.9s
JAK Akkeshi 10.30 83 ⇓P P 01 15 36.4 -3.2
JNK Nakash 10.30 80 P P 01 15 37.4 -2.2
JTSN Tsuno 10.36 176 ⇓P P 01 15 39.2 -1.2
JZO Okuchi 10.44 180 ⇓P P 01 15 41.2 -0.1
JRA Rausu 10.61 78 P P 01 15 41.5 -1.1
JSJ Shimokoshiki 10.93 184 P P 01 15 46.0 -0.2
JSJ S S 01 17 50.9 +3.2
NEM2 Nemuro 2 11.05 81 ⇓P P 01 15 44.5 -2.7
NEM2 S S 01 17 41.1 -8.4
YUK Yuzh-Kuril'sk 11.14 77d iP P 01 15 47.0 -1.1
YUK i S S 01 17 48.1 -3.1
YUK pmax pmax
comp=Z,62μm,2.1s
YUK pmax pmax
comp=N,6μm,0.4s
YUK pmax pmax
comp=E,4μm,0.4s
YUK pmax pmax
comp=Z,16μm,0.4s
YUK MLR MLR
comp=Z,86μm,15.0s
YUK MLR MLR
comp=N,105μm,15.0s
YUK MLR MLR
comp=E,83μm,15.0s
BJI Beijing 11.22 262 P P 01 15 48.8 -0.2
BJI S S 01 17 45.8 -7.0
BJI ScS ScS 01 27 03.3 +0.2
BJI pmax pmax
comp=E,27μm,3.8s
BJT Baijiatuau 11.23 262 eP P 01 15 48.1 -1.0
BJT eS S 01 17 51.4 -1.7
BJT Baijiatuau 11.23 262 eP P 01 15 48.1 -1.0
BJT eS S 01 17 51.4 -1.7
BSO1 Boso 1 11.29 131 P P 01 15 46.0 -3.2
JHJ2 Mitsune 11.89 140 eP P 01 15 53.5 -2.5
JHJ2 eS S 01 17 57.8 -7.9
TIA Tai'an 12.28 243 ⇓P P 01 15 59.3 -0.6
TIA sP sP 01 17 54.6
TIA S S 01 18 05.1 -7.7
TIA ScS ScS 01 27 04.3 -1.3
TIA pmax pmax
comp=E,2μm,1.6s
TIA pmax pmax
comp=E,29μm,4.0s
KUR Kuril'sk 12.66 72d iP P 01 16 02.8 -0.8
KUR i S S 01 18 17.6 -1.9
KUR pmax pmax
comp=N,1μm,0.4s
KUR pmax pmax
comp=E,1μm,0.4s
KUR pmax pmax
comp=Z,6μm,0.4s
KUR pmax pmax
comp=Z,15μm,2.3s
KUR smax smax
comp=N,292μm,4.3s
KUR smax smax
comp=E,162μm,4.3s
KUR MLR MLR
comp=N,85μm,18.0s
KUR MLR MLR
comp=E,51μm,18.0s
KUR MLR MLR
comp=Z,65μm,18.0s
OKH Okha 13.65 32 i P P 01 16 13.0 -0.6
OKH i S S 01 18 33.8 -3.7
OKH pmax pmax
comp=Z,43μm,8.0s
OKH MLR MLR
comp=Z,28μm,16.0s
SSE Sheshan 13.77 217 P P 01 16 14.3 -0.9
SSE S S 01 18 40.6 +0.1
SSE ScS ScS 01 27 06.3 -2.8
SSE pmax pmax
comp=Z,3μm,1.2s
SSE pmax pmax
comp=Z,10μm,3.4s
NJ2 Nanjing 14.12 226 eP P 01 16 17.1 -1.6
NJ2 S S 01 18 39.0 -7.7
NJ2 ScP ScP 01 23 32.9 +0.6
NJ2 pmax pmax
comp=Z,4μm,1.2s
NJ2 pmax pmax
comp=Z,15μm,8.7s
HHC Hu-ho-hao-te 14.40 269⇓iP P 01 16 21.0 -0.5
HHC S S 01 18 47.0 -4.8
HHC pmax pmax
comp=Z,1μm,1.0s
HHC pmax pmax
comp=Z,84μm,5.7s
CLNS Chul'man 14.73 347 eP P 01 16 23.5 -0.9
CLNS eS S 01 18 51.2 -5.7
CLNS pmax pmax
comp=Z,2μm,1.4s
CLNS pmax pmax
comp=N,2μm,1.5s
CLNS smax smax
comp=E,2μm,1.6s
CLNS smax smax
comp=N,4μm,1.4s
TIY Taiyuan 14.79 257⇓iP P 01 16 25.3 -0.1
TIY S S 01 19 01.8 +3.1
TIY pmax pmax
comp=N,5μm,0.7s
TIY pmax pmax
comp=N,12μm,3.8s
CIT Chita 14.93 315 eP P 01 16 25.8 -0.7
CIT eS S 01 19 05.1 +4.4
CIT pmax pmax
comp=Z,31μm,1.2s
BTO Baotou 15.60 270 eP P 01 16 32.8 -0.4
BTO pmax pmax
comp=Z,610nm,0.4s
JOW Kunigami 15.86 188 P P 01 16 33.7 -2.1
comp=Z,6.1nm,0.3s,baz=93,slow=9.2,SNR=27
JOW S S 01 19 08.8 -7.9
comp=Z,16nm,0.3s,baz=342,slow=19,SNR=38
JOW ScP ScP 01 23 35.9 +0.2
comp=Z,1.6nm,0.3s,baz=347,slow=0.8,SNR=14
JOW ScS ScS 01 27 15.6 +0.7
comp=Z,0.1nm,0.3s,baz=240,slow=29,SNR=10
JOW Kunigami 15.86 188 eP P 01 16 34.8 -1.0
comp=Z,306nm,1.0s
JOW eS S 01 19 08.0 -8.7
JOW eScP ScP 01 23 37.0 +1.4
ULN Ulaanbaatar 17.44 296d iP P 01 16 50.6 +0.6
ULN pmax pmax
comp=Z,7μm,2.5s
ULN Ulaanbaatar 17.44 296 eP P 01 16 50.8 +0.7
comp=Z,18μm,1.0s
WHN Wuhan 17.77 233⇓iP P 01 16 52.8 -0.3
WHN sP sP 01 19 05.6 -8.6
WHN S S 01 19 44.6 -3.2
WHN pmax pmax
comp=Z,7μm,0.7s
SONA0 Songino Array 17.87 295 eP P 01 16 54.3 +0.3
SONA0 eS S 01 19 52.4 +3.2
SONA0 eScP ScP 01 23 39.7 +0.1
SONM Songino Array 17.87 295 P P 01 16 54.3 +0.3
comp=Z,150nm,0.3s,baz=107,slow=9.2,SNR=896
SONM S S 01 19 52.4 +3.2
baz=92,slow=25,SNR=2.1
SONM ScP ScP 01 23 39.7 +0.1
comp=Z,7.1nm,0.3s,baz=117,slow=2.1,SNR=5.7
SONM P3KPbc 01 51 01.4
comp=Z,0.0nm,0.3s,baz=236,slow=3.7,SNR=3.5
SONM P3KP 01 51 50.8
comp=Z,0.0nm,0.3s,baz=210,slow=3.2,SNR=3.8
CBIJ Chichi jima 18.09 145 eP P 01 16 52.9 -3.1
comp=Z,4μm,0.9s
CBIJ eS S 01 19 47.8 -5.2
CBIJ eScP ScP 01 23 39.5 -0.7
CBIJ eScS ScS 01 27 24.1 +2.5
JCJ Chichijima 18.09 145 P P 01 16 53.5 -2.5
comp=Z,571nm,0.3s,baz=320,slow=5.1,SNR=107
JCJ S S 01 19 49.7 -3.3
comp=Z,330nm,0.3s,baz=287,slow=19,SNR=8.7
JCJ ScP ScP 01 23 39.8 -0.4
baz=200,slow=4.1
JCJ ScS ScS 01 27 21.7 +0.1
comp=Z,26nm,0.3s,baz=309,slow=20,SNR=12
CBI Chichi jima 18.09 145 eP P 01 16 53.5 -2.6
CBI eS S 01 19 49.7 -3.4
CBI eScP ScP 01 23 39.8 -0.4
CBI eScS ScS 01 27 21.7 +0.1
XAN Xi'an 19.07 251 P P 01 17 04.8 -0.2
XAN pmax pmax
comp=Z,10μm,11.7s
TATO Taipei 19.15 206 eP P 01 17 06.8 +1.1
comp=Z,2μm,1.4s
SKR Severo-Kuril's 19.16 56 eP P 01 17 01.2 -4.2
SKR pmax pmax
comp=N,1μm,1.0s
SKR pmax pmax
comp=E,1μm,1.0s
SKR pmax pmax
comp=Z,2μm,1.0s
SKR pmax pmax
comp=N,17μm,14.0s
SKR pmax pmax
comp=E,20μm,14.0s
SKR pmax pmax
comp=Z,27μm,14.0s
SKR MLR MLR
comp=N,41μm,14.0s
SKR MLR MLR
comp=E,27μm,14.0s
SKR MLR MLR
comp=Z,73μm,14.0s
YOJ Yonaguni jima 19.18 202 eP P 01 17 05.0 -1.0
YOJ pmax pmax
comp=Z,926nm,0.7s
YOJ Yonaguni jima 19.18 202 eP P 01 17 05.0 -1.0
comp=Z,926nm,0.7s
YOJ eScP ScP 01 23 43.0 +0.3
YAK Yakutsk 19.47 359 eP P 01 17 07.3 -0.8
YAK eS S 01 20 12.3 -1.9
YAK pmax pmax
comp=Z,4μm,1.0s
YAK pmax pmax
comp=N,2μm,1.1s
YAK pmax pmax
comp=E,591nm,0.9s
YAK smax smax
comp=N,6μm,1.6s
YAK smax smax
comp=E,21μm,1.9s
YAK Yakutsk 19.47 359 eP P 01 17 07.4 -0.7
comp=E,4μm,0.8s
YAK eS S 01 20 17.1 +3.0
YAK eScP ScP 01 23 42.4 -0.3
YHNB Yeheng 19.47 206 eP P 01 17 09.7 +0.9
comp=E,1μm,0.8s
NACB Ninganchiao 19.87 205 eP P 01 17 11.2 -1.0
comp=E,483nm,1.0s
NACB eScP ScP 01 23 46.2 +1.9
IRK Irkutsk 20.21 308 eP P 01 17 15.0 0.0
IRK pmax pmax
comp=Z,10μm,1.2s
QZH Quanzhou 20.25 213⇓iP P 01 17 14.8 -0.8
QZH sP sP 01 19 34.3 -7.4
QZH S S 01 20 26.0 -1.5
QZH pmax pmax
comp=Z,2μm,0.8s
QZH pmax pmax
comp=Z,25μm,9.9s
ZAK Zakamensk 20.33 302⇓iP P 01 17 17.1 +0.9
ZAK pmax pmax
comp=Z,6μm,1.2s
TLY Talaya 20.42 306 P P 01 17 18.4 +1.5
comp=Z,47μm,1.0s
TLY Talaya 20.42 306d iP P 01 17 17.9 +1.0
TLY eS S 01 20 32.3 +2.6
TLY MLR MLR
comp=Z,17μm,15.0s
TLY Talaya 20.42 306 eP P 01 17 18.1 +1.2
comp=Z,9μm,1.0s
SSLB Suanglung 20.43 206 eP P 01 17 17.5 +0.1
comp=Z,696nm,0.7s
SSLB eS S 01 20 36.1 +5.5
SSLB eScP ScP 01 23 45.7 -0.1
SSLB eScS ScS 01 27 28.2 -1.4
PETK Petropavlovsk- 20.82 50 P P 01 17 19.7 -0.7
PETK S S 01 20 38.3 +2.4
PETK pmax pmax
comp=Z,140nm,0.8s
PETK smax smax
comp=N,39nm,0.8s
PETK Petropavlovsk- 20.82 50 P P 01 17 19.7 -0.7
comp=N,140nm,0.8s,baz=228,slow=6.0,SNR=90
PETK S S 01 20 38.2 +2.4
comp=N,39nm,0.8s,baz=174,slow=14,SNR=1.8
PETK ScP ScP 01 23 46.1 0.0
comp=N,162nm,0.9s,baz=199,slow=4.1,SNR=9.7
PEA2 Petropavlovsk- 20.82 50 eP P 01 17 19.8 -0.7
PEA2 eS S 01 20 38.2 +2.3
PEA2 eScP ScP 01 23 46.1 0.0
ENH Enshi 20.97 241 eP P 01 17 21.5 -0.7
comp=N,948nm,0.6s
PET Petropavlovsk 21.34 51c iP P 01 17 23.9 -1.2
PET e*SP sP 01 19 52.6 -1.2
PET eS S 01 20 42.9 -1.1
PET e 01 27 31.8
PET pmax pmax
comp=Z,16μm,9.1s
PET pmax pmax
comp=Z,2μm,1.1s
PET pmax pmax
comp=Z,21μm,14.7s
PET MLR MLR
comp=Z,23μm,12.0s
PET MLR MLR
comp=Z,21μm,15.0s
PET Petropavlovsk 21.34 51 eP P 01 17 25.6 +0.6
comp=Z,2μm,1.1s
PET eScP ScP 01 23 49.9 +2.5
LZH Lanzhou 21.71 262 ⇓P P 01 17 29.8 +0.9
LZH sP sP 01 20 01.4 +3.3
LZH S S 01 20 48.0 -2.8
LZH ScS ScS 01 27 34.3 -0.1
LZH pmax pmax
comp=Z,4μm,1.4s
LZH pmax pmax
comp=Z,30μm,8.6s
MOY Mondy 22.02 305 eP P 01 17 31.8 +0.5
MOY pmax pmax
comp=Z,3μm,1.5s
GTA Gaotai 23.46 273 ⇓P P 01 17 45.3 +0.9
GTA sP sP 01 20 12.3 -4.9
GTA S S 01 21 24.9 +6.8
GTA ScP ScP 01 23 58.8 +5.3
GTA PcS PcS 01 24 51.3 +1.9
GTA ScS ScS 01 27 41.8 +0.8
GTA pmax pmax
comp=Z,2μm,1.2s
GTA pmax pmax
comp=Z,16μm,4.7s
SEY Seymchan 23.99 25 P P 01 17 48.8 +0.2
comp=Z,831nm,1.0s,baz=217,slow=8.2,SNR=298
SEY S S 01 21 26.6 +1.1
comp=Z,689nm,1.4s,baz=37,slow=19,SNR=12
SEY ScP ScP 01 23 54.9 +0.6
comp=Z,587nm,0.8s,baz=192,slow=5.1,SNR=18
SEY P3KPbc 01 50 40.9
comp=Z,0.8nm,0.2s,baz=71,slow=9.7,SNR=2.9
GZH Guangzhou 24.23 222 P P 01 17 44.6 -6.6
GZH S S 01 21 21.3 -9.0
GZH LR LR
comp=N,72μm,11.6s
GZH LR LR
comp=E,72μm,7.9s
CD2 Chengdu 24.43 250⇓iP P 01 17 52.4 -0.6
CD2 sP sP 01 20 24.8 -2.8
CD2 PcP PcP 01 21 11.8 +0.3
CD2 S S 01 21 34.3 +0.9
CD2 PcS PcS 01 24 50.8 -1.4
CD2 ScS ScS 01 27 44.8 -0.2
CD2 pmax pmax
comp=E,730nm,0.8s
CD2 pmax pmax
comp=E,26μm,9.4s
HKC Hong Kong Obse 24.50 219⇓iP P 01 17 54.0 +0.5
HKC i S S 01 21 36.0 +1.5
SGCP Mt. Cagua 25.37 199 eP P 01 18 01.2 -0.1
GYA Guiyang 25.40 238⇓iP P 01 18 00.4 -1.2
GYA sP sP 01 20 39.8 +1.7
GYA PcP PcP 01 21 13.3 -0.6
GYA S S 01 21 48.5 -0.3
GYA ScP ScP 01 23 57.3 -1.9
GYA PcS PcS 01 24 55.0 -0.3
GYA pmax pmax
comp=E,2μm,0.7s
GYA pmax pmax
comp=E,13μm,12.7s
APYP Conner 25.94 201 eP P 01 18 05.3 -1.0
CVP Callao Caves 25.95 200 eP P 01 18 04.8 -1.6
SIPP Brgy, Tapao 26.10 203⇓iP P 01 18 00.9 -6.8
ABRA Dolores 26.29 202 eP P 01 18 09.9 +0.5
SZP Santa 26.45 202 eP P 01 18 10.9 +0.1
comp=E,816nm,0.9s
SZP eScP ScP 01 24 03.0 +0.8
SZP eScS ScS 01 27 57.8 +3.9
CAUP Cauayan 26.68 199 eP P 01 18 15.0 +2.2
BCPH Baguio City Da 27.53 201⇓iP P 01 18 20.2 -0.3
KRAR Krasnoyarsk 27.68 312 i P P 01 18 20.9 -0.1
BOLP Bolinao 27.72 203 eP P 01 18 21.8 -0.1
BALP Baler 27.89 199 eP P 01 18 23.1 -0.4
SCZP Santa Cruz 28.29 202 eP P 01 18 26.1 -0.8
KMI Kunming 28.84 242 ⇓P P 01 18 31.5 -0.4
KMI sP sP 01 21 09.9 -0.9
KMI S S 01 22 40.1 -2.6
KMI ScP ScP 01 24 12.3 +2.4
KMI ScS ScS 01 28 05.0 -0.4
KMI pmax pmax
comp=E,2μm,1.0s
KMI pmax pmax
comp=E,17μm,7.7s
TIXI Tiksi 29.14 359c iP P 01 18 32.5 -1.0
TIXI pmax pmax
comp=Z,595nm,0.8s
TIXI Tiksi 29.14 359 eP P 01 18 32.8 -0.7
comp=Z,469nm,0.7s
TIXI eS S 01 22 47.7 +2.2
QIZ Qiongzhong 29.39 223 P P 01 18 37.6 +1.2
QIZ sP sP 01 21 15.3 -0.2
QIZ S S 01 22 50.1 -0.7
QIZ ScS ScS 01 28 07.6 0.0
QIZ pmax pmax
comp=Z,380nm,1.3s
QIZ pmax pmax
comp=Z,11μm,12.5s
QIZ Qiongzhong 29.39 223 eP P 01 18 37.2 +0.8
QIZ epP pP 01 20 09.5 +0.5
QIZ eScP ScP 01 24 12.7 +1.2
PVCP Virac 29.45 193⇓eP P 01 18 37.2 +0.3
GQP Guinayangan 29.47 196⇑eP P 01 18 37.5 +0.3
LQP Lukban 29.47 198⇓eP P 01 18 39.6 +2.3
TGY Tagaytay City 29.62 199 P P 01 18 39.0 +0.5
TGY S S 01 22 54.8 +0.3
TGY pmax pmax
comp=Z,944nm,0.6s
TGY smax smax
comp=N,121nm,0.4s
TGY Tagaytay City 29.62 199 P P 01 18 39.0 +0.5
comp=N,944nm,0.6s,baz=19,slow=0.5,SNR=40
TGY S S 01 22 54.8 +0.3
comp=N,121nm,0.4s,baz=198,slow=19,SNR=1.4
TGY ScP ScP 01 24 12.1 -0.1
comp=N,2μm,1.1s,baz=315,slow=2.9,SNR=8.2
FX1 Attu Island--F 29.94 55 P P 01 18 41.4 +0.7
FX1 01 21 25.9
FX1 S S 01 22 59.1 +0.7
FX1 pmax pmax
comp=Z,767nm,0.3s
FX1 smax smax
comp=N,238nm,0.9s
FX1 Attu Island--F 29.94 55 P P 01 18 41.4 +0.7
comp=N,767nm,0.3s,baz=236,slow=8.0,SNR=153
FX1 PcP PcP 01 21 25.9 +1.3
comp=N,130nm,0.5s,baz=315,slow=2.9,SNR=4.3
FX1 S S 01 22 59.1 +0.7
comp=N,238nm,0.9s,baz=217,slow=20,SNR=6.6
FX1 ScP ScP 01 24 13.2 +0.6
comp=N,565nm,0.6s,baz=329,slow=2.5,SNR=20
SMY Shemya 30.50 55 eP P 01 18 46.4 +1.0
SMY eS S 01 23 11.8 +4.8
SMY Shemya 30.50 55 eP P 01 18 46.4 +1.0
SMY eS S 01 23 11.8 +4.8
SMY eScP ScP 01 24 15.8 +1.3
SLVN Son La 30.87 235 eP P 01 18 49.0 -0.1
comp=N,660nm,0.9s
SLVN epP PP 01 20 27.2 -2.0
SLVN eS S 01 23 15.9 +2.4
WMQ Urumqi 31.11 287 P P 01 18 51.5 +0.6
WMQ PP pP 01 20 23.1 -1.3
WMQ sP sP 01 21 24.3 -6.6

WMQ PcP PcP 01 21 30.1 +2.0
WMQ S S 01 23 20.8 +4.0
WMQ ScP ScP 01 24 19.3 +2.4
WMQ PcS PcS 01 25 14.3 +1.2
WMQ ScS ScS 01 28 19.4 +3.8
WMQ pmax pmax
comp=N,260nm,0.6s
GUMO Guam 31.40 153 P P 01 18 53.7 +0.1
comp=N,7µm,0.8s
GUMO S S 01 23 20.9 -0.7
GUMO Guam 31.40 153 eP P 01 18 53.7 +0.1
comp=N,7µm,1.3s
GUMO eS S 01 23 25.2 +3.6
RCP Roxas 31.69 195⇑eP P 01 18 56.6 +0.5
BILL Bilibino 31.70 25c iP P 01 18 56.1 +0.6
BILL iS S 01 23 25.4 +0.4
BILL pmax pmax
comp=Z,2µm,1.2s
BILL Bilibino 31.70 25 eP P 01 18 56.2 +0.7
comp=Z,1µm,0.8s
BILL eS S 01 23 26.2 +1.2
PLP Palo 31.71 191⇓eP P 01 18 56.2 -0.1
ZAA1 Zalesovo Array 32.02 307 eP P 01 18 58.1 -0.3
ZAA1 ePcP PcP 01 21 29.8 -0.4
ZAA1 eS S 01 23 29.8 -0.5
ZAA1 eScP ScP 01 24 20.0 +0.3
ZAA1 eSKKSdf SKKSdf 01 50 10.2 +13
ZALV Zalesovo Beam 32.02 307 P P 01 18 58.1 -0.3
comp=Z,539nm,0.7s,baz=101,slow=9.3,SNR=346
ZALV PcP PcP 01 21 29.8 -0.4
comp=Z,89nm,0.7s,baz=132,slow=2.1,SNR=2.6
ZALV S S 01 23 29.8 -0.5
comp=Z,29nm,0.6s,baz=92,slow=8.7,SNR=1.8
ZALV ScP ScP 01 24 20.0 +0.4
comp=Z,541nm,0.7s,baz=100,slow=3.1,SNR=18
ZALV P3KPbc 01 50 10.2
comp=Z,0.5nm,0.4s,baz=263,slow=2.5,SNR=2.1
GUIM Jordan 32.63 195 eP P 01 19 04.5 +0.4
LLP Lapu-Lapu 32.70 192⇓eP P 01 19 04.3 -0.4
LLP eS S 01 23 39.3 -2.1
NVS Novosibirsk 32.98 308⇓iP P 01 19 06.4 -0.1
NVS e 01 21 29.7
NVS eS S 01 23 45.3 +0.6
NVS pmax pmax
comp=E,3µm,1.3s
NVS pmax pmax
comp=Z,4µm,1.3s
NVS pmax pmax
comp=N,922nm,1.6s
NVS smax smax
comp=E,3µm,2.4s
SCPH Surigao 33.01 189⇓eP P 01 19 06.6 -0.7
AMKA Amchitka 33.74 58 eP P 01 19 13.4 +0.5
AMKA eS S 01 23 56.7 +0.4
SNPH Sibulan 33.77 193 eP P 01 19 09.3 -4.4
LSA Lhasa 34.13 261 P P 01 19 18.3 +1.2
LSA pP PP 01 20 57.3 -2.4
LSA S S 01 24 05.9 +2.3
LSA pmax pmax
comp=E,570nm,1.1s
LSA pmax pmax
comp=E,22µm,11.6s
MK31 Makanchi Array 34.23 294 iP P 01 19 17.1 -0.1
MK31 pmax pmax
comp=Z,2µm,0.9s
MK32 Makanchi Array 34.23 294 eP P 01 19 17.1 -0.1
MK32 ePcP PcP 01 21 36.7 -0.1
MK32 eS S 01 24 05.6 +1.7
MK32 eScP ScP 01 24 28.8 +1.1
MK32 eSKKSdf SKKSdf 01 50 03.3 +6.3
MKAR Makanchi Array 34.23 294 P P 01 19 17.1 -0.1
comp=Z,576nm,0.6s,baz=85,slow=9.3,SNR=1611
MKAR PcP PcP 01 21 36.7 -0.1
comp=Z,84nm,0.6s,baz=64,slow=3.5,SNR=4.5
MKAR S S 01 24 05.6 +1.7
comp=Z,31nm,0.8s,baz=89,slow=15,SNR=2.1
MKAR ScP ScP 01 24 28.8 +1.1
comp=Z,54nm,0.7s,baz=74,slow=4.2,SNR=4.2
MKAR P3KPbc 01 50 03.3
comp=Z,4.1nm,0.5s,baz=254,slow=4.0,SNR=35
MKAR P4KPbc 01 57 36.1
comp=Z,1.2nm,0.7s,baz=79,slow=5.3,SNR=7.5
MKAR Makanchi Array 34.23 294 eP P 01 19 17.7 +0.6
MKAR Makanchi Array 34.23 294 ⇓P P 01 19 17.9 +0.7
baz=34
CGP Cagayan de Oro 34.42 191⇓eP P 01 19 18.5 -0.5
UBPT Khong Chiam 34.79 226 P P 01 19 22.4 +0.2
comp=Z,2µm,1.2s,comp=Z,33µm
PAYA Payao 34.83 238 P P 01 19 22.5 0.0
comp=Z,1µm,0.8s,comp=Z,9µm
CMAI Chiengmai2 34.93 240 P P 01 19 23.3 -0.2
comp=Z,2µm,0.9s,comp=Z,30µm
PALU Palau 35.27 174 ⇑P P 01 19 27.3 +1.2
baz=35,SNR=69
LAMP Lampang 35.61 237 P P 01 19 29.0 +0.1
comp=Z,1µm,0.9s,comp=Z,11µm
UTTA Uttaradit 35.63 235 P P 01 19 28.9 -0.2
comp=Z,327nm,0.8s,comp=Z,3µm
CTBH Cotabato--PC H 35.70 191 eP P 01 19 31.2 +1.6
CMMT Chiang Mai 35.82 238 P P 01 19 30.3 -0.4
comp=Z,3µm,0.8s,comp=Z,43µm
CHTO Chiang Mai 35.82 238 eP P 01 19 31.0 +0.3
CHTO pmax pmax
comp=Z,2µm,0.8s
CHTO Chiang Mai 35.82 238 P P 01 19 30.3 -0.4
comp=Z,13µm,1.0s,comp=Z,149µm
CHTO Chiang Mai 35.82 238 eP P 01 19 31.0 +0.3
comp=Z,2µm,0.8s
KURK Kurchatov 35.99 301 P P 01 19 31.0 -0.7
comp=Z,15µm,0.7s
KURK Kurchatov 35.99 301 P P 01 19 31.2 -0.5
KURK pmax pmax
comp=Z,5µm,1.4s
KURK Kurchatov 35.99 301 eP P 01 19 31.8 +0.1
comp=Z,7µm,1.5s
SHL Shillong 35.99 254⇓iP P 01 19 33.0 +0.7
SHL ix x 01 24 30.0
CM31 Chiang Mai Arr 36.09 238 eP P 01 19 32.4 -0.5
CM31 ePcP PcP 01 21 42.4 -0.4
CM31 eS S 01 24 34.8 +2.6
CM31 eSKKSdf SKKSdf 01 49 56.3 -6.1
CMAR Chiang Mai Arr 36.09 238 P P 01 19 32.4 -0.5
comp=Z,927nm,1.0s,baz=32,slow=7.3,SNR=657
CMAR PcP PcP 01 21 42.3 -0.5
comp=Z,24nm,0.4s,baz=9.0,slow=2.8,SNR=4.6
CMAR ScP ScP 01 24 34.8 -0.1
comp=Z,149nm,0.9s,baz=2.5,slow=2.5,SNR=14
CMAR P3KPbc 01 49 56.3
comp=Z,4.6nm,0.8s,baz=234,slow=5.1,SNR=15
DLV T Lat 36.14 219 eP P 01 19 34.5 +0.9
comp=Z,837nm,1.1s
DLV ePcP PcP 01 21 44.6 +1.4
ADK Adak 36.19 57 eP P 01 19 33.2 0.0
ADK pmax pmax
comp=Z,3µm,1.3s
ADK Adak 36.19 57 eP P 01 19 33.2 0.0
comp=Z,3µm,1.3s
PBKT Sadao Pong 36.29 233 P P 01 19 34.0 -0.5
comp=Z,987nm,0.8s,comp=Z,19µm
KDM Kudat 37.59 203 ⇑P P 01 19 47.3 +2.1
UMPA Umpang Tak 37.84 236 P P 01 19 53.6 +6.3
TAPN Taplejung 37.95 261 eP P 01 19 49.1 +0.8
comp=Z,706nm,0.3s
TAPN Taplejung 37.95 261 eP SKKSdf 01 49 51.6 -7.0
comp=Z,18nm,0.7s
H11N2 WAKE ISLAND Hy 38.04 115 P P 01 19 48.3 -0.3
baz=288,slow=7.2,SNR=115
H11N1 WAKE ISLAND Hy 38.05 115 P P 01 19 48.3 -0.3
baz=288,slow=7.2,SNR=52
H11N3 WAKE ISLAND Hy 38.05 115 P P 01 19 48.4 -0.3
baz=288,slow=7.2,SNR=131
WAKE Wake Island 38.19 116 eP P 01 19 49.9 -0.1
comp=Z,762nm,0.8s
WAKE eScP ScP 01 24 42.9 0.0
ODAN Odare 38.46 260 eP P 01 19 52.9 +0.5
ODAN Odare 38.46 260 eP SKKSdf 01 49 47.6 -11
comp=Z,45nm,0.7s
CHBT CHBT 38.58 228 P P 01 19 53.3 +0.1
comp=Z,1µm,1.1s,comp=Z,21µm
KKM Kota Kinabalu 38.60 203 eP P 01 19 54.4 +0.8
comp=Z,426nm,0.9s
KKM eScP ScP 01 24 44.5 -0.1
KKM Kota Kinabalu 38.60 203 ⇓P P 01 19 54.1 +0.6
baz=39,SNR=33
KKM Kota Kinabalu 38.60 203 ⇓P P 01 19 54.3 +0.8
SDKM Sandakan 38.71 202 ⇑P P 01 19 55.1 +0.8
GAMB Gambell 38.74 37 eP P 01 19 54.5 +0.6
comp=Z,2µm,1.5s
GAMB eScP ScP 01 24 46.3 +2.1
H11S1 WAKE ISLAND Hy 38.78 117 P P 01 19 54.7 +0.1
baz=275,slow=3.9,SNR=80
H11S3 WAKE ISLAND Hy 38.78 117 P P 01 19 54.6 +0.1
baz=275,slow=3.9,SNR=46
AAA Alma-Ata 38.78 290 eP P 01 19 55.5 +0.9
AAA e 01 21 34.4
AAA eS S 01 25 16.8 +5.2
AAA eSS SS 01 28 14.5 -18
AAA pmax pmax
comp=Z,34µm,12.6s
AAA smax smax
comp=E,19µm,13.0s
AAA MLR MLR
comp=Z,32µm,14.0s
H11S2 WAKE ISLAND Hy 38.79 117 P P 01 19 54.7 0.0
baz=275,slow=3.9,SNR=54
MYLDM Lahad Datu 38.81 200 eP P 01 19 56.9 +1.8
comp=Z,815nm,1.3s
MYLDM eScP ScP 01 24 45.4 +0.2
MYLDM Lahad Datu 38.81 200 ⇑P P 01 19 57.3 +2.3
JIRN Jiri 38.88 262 eP P 01 19 56.5 +0.5
JIRN Jiri 38.88 262 eP SKKSdf 01 49 45.6 -12
comp=Z,40nm,0.7s
GUN Gumba 38.97 263 eP P 01 19 56.9 +0.3
GUN Gumba 38.97 263 eP SKKSdf 01 49 46.5 -11
comp=Z,34nm,0.9s
RAMN Ramite 38.98 261 eP P 01 19 56.9 +0.2
RAMN Ramite 38.98 261 eP SKKSdf 01 49 45.4 -12
comp=Z,40nm,0.8s
SGSI Sangihe 39.02 188 P P 01 19 56.9 +0.1
comp=Z,1µm,0.7s,comp=Z,12µm
KHLT Khaolaem Dam 39.10 235 P P 01 19 57.6 +0.2
comp=Z,709nm,1.0s,comp=Z,10µm
SRDT SRDT 39.13 234 P P 01 19 57.4 -0.2
comp=Z,3µm,1.3s,comp=Z,53µm
PATY Pattaya 39.26 230 P P 01 19 59.2 +0.6
comp=Z,303nm,1.2s,comp=Z,3µm
SPIA Saint Paul Isl 39.43 47 eP P 01 20 00.4 +1.0
comp=Z,9µm,1.7s
SPIA eScP ScP 01 24 50.3 +3.3
KKN Kakani 39.47 263 eP P 01 20 00.3 -0.2
KKN Kakani 39.47 263 eP SKKSdf 01 49 44.0 -13
comp=Z,34nm,0.8s
PKI Pulchoki 39.50 263 eP P 01 20 00.9 0.0
PKI Pulchoki 39.50 263 eP SKKSdf 01 49 43.2 -14
comp=Z,26nm,0.8s
PKIN Phulchoki 39.51 263 eP P 01 20 01.1 +0.2
comp=Z,9µm,0.8s
PKIN Phulchoki 39.51 263 eP SKKSdf 01 49 43.8 -13
comp=Z,11nm,0.5s
ULHL Ulahol 39.61 289 P P 01 20 02.4 +0.9
SNR=39
ULHL Ulahol 39.61 289 iP P 01 20 02.3 +0.9
DMN Daman 39.70 263 eP P 01 20 02.6 +0.2
DMN Daman 39.70 263 eP SKKSdf 01 49 43.4 -13
comp=Z,36nm,0.9s
TSM Tawau 39.82 200 ⇑P P 01 20 02.9 -0.3
GKN Gorkha 39.83 264 eP P 01 20 03.4 +0.1
GKN Gorkha 39.83 264 eP SKKSdf 01 49 42.7 -14
comp=Z,29nm,0.7s
TKM2 Tokmak 2 39.83 290 P P 01 20 04.0 +0.7
SNR=120
TKM2 Tokmak 2 39.83 290 iP P 01 20 03.9 +0.7
TKM2 pmax pmax
comp=Z,2µm,0.6s
TKM2 Tokmak 2 39.83 290 eP P 01 20 04.0 +0.7
comp=Z,4µm,1.1s
DANN Dangsing 40.28 265 eP P 01 20 07.8 +0.7
DANN Dangsing 40.28 265 eP SKKSdf 01 49 39.2 -17
comp=Z,46nm,0.7s
KZA Kyzart 40.36 289 P P 01 20 08.8 +1.1
SNR=40
KZA Kyzart 40.36 289 iP P 01 20 08.7 +1.1
KBK Karagaybulak 40.37 290 P P 01 20 08.2 +0.7
SNR=39
CHMS Chumysh 40.39 290 P P 01 20 07.6 +0.1
SNR=353
CHMS Chumysh 40.39 290 iP P 01 20 07.6 +0.1
USP Ospenovka 40.48 291 P P 01 20 08.3 +0.1
SNR=28
USP Ospenovka 40.48 291 iP P 01 20 08.3 +0.1
TNA Tin City 40.50 34 eP P 01 20 09.1 +1.2
comp=Z,2µm,0.9s
TNA eS S 01 25 39.1 +3.4
FRU Bishkek 40.54 290d iP P 01 20 09.6 +0.9
FRU i 01 22 01.4
FRU eS S 01 25 43.2 +6.1
FRU e 01 28 45.0
FRU e 01 28 56.0
FRU pmax pmax
comp=Z,5µm,2.4s
FRU smax smax
comp=E,10µm,4.4s
BVA0 Borovoye Array 40.68 306 iP P 01 20 09.1 -0.4
BVA0 pmax pmax
comp=Z,3µm,1.5s
BVAR Borovoye Array 40.68 306 P P 01 20 09.4 -0.2
comp=Z,634nm,0.6s,baz=84,slow=7.6,SNR=856
BVAR PcP PcP 01 21 57.4 +0.5
comp=Z,317nm,0.6s,baz=92,slow=2.7,SNR=5.7
BVAR ScP ScP 01 24 51.4 -0.7
comp=Z,111nm,0.8s,baz=75,slow=4.3,SNR=4.1
BVAR S S 01 25 37.7 -1.1
comp=Z,95nm,1.0s,baz=87,slow=7.4,SNR=2.9
BVAR ScS ScS 01 29 09.6 +0.6
comp=Z,39nm,0.9s,baz=79,slow=8.0,SNR=5.1
BVAR P3KPbc 01 49 36.8
comp=Z,0.9nm,0.5s,baz=219,slow=3.8,SNR=5.3
BVAR PKP2ab 01 53 33.3
comp=Z,3.6nm,1.1s,baz=242,slow=3.2,SNR=4.0
BVAR P4KPbc 01 58 05.3
comp=Z,5.4nm,0.8s,baz=96,slow=4.5,SNR=13
AAK Ala-Archa 40.69 290 P P 01 20 10.0 0.0
comp=Z,8µm,0.9s
AAK Ala-Archa 40.69 290 P P 01 20 10.3 +0.2
SNR=880
AAK Ala-Archa 40.69 290 P P 01 20 10.0 0.0
comp=Z,631nm,0.6s,baz=70,slow=7.9,SNR=36
AAK PP PcP 01 21 56.1 -1.2
comp=Z,214nm,1.0s,baz=33,slow=9.5,SNR=2.4
AAK S S 01 25 43.1 +3.5
comp=Z,40nm,0.8s,baz=242,slow=16,SNR=3.5
AAK ScS ScS 01 29 10.0 +0.1
comp=Z,38nm,0.9s,baz=50,slow=23,SNR=9.2
AAK P3KPbc 01 49 38.0
comp=Z,5.3nm,0.8s,baz=227,slow=8.5,SNR=9.9
AAK P4KPbc 01 58 05.2
comp=Z,3.5nm,0.9s,baz=114,slow=16,SNR=5.3
AAK Ala-Archa 40.69 290 eP P 01 20 10.2 +0.2
comp=Z,1µm,0.8s
AAK ePcP PcP 01 21 56.1 -1.2
AAK eS S 01 25 43.1 +3.5
AAK eScS ScS 01 29 10.0 +0.1
AAK eSKKSdf SKKSdf 01 49 38.0 -15
KOLN Koldanda 40.72 264 eP P 01 20 10.8 +0.4
KOLN Koldanda 40.72 264 eP SKKSdf 01 49 38.4 -17
comp=Z,18nm,0.8s
BRVK Borovoye 40.73 306 P P 01 20 09.8 -0.1
comp=Z,10µm,1.3s
BRVK Borovoye 40.73 306 P P 01 20 09.4 -0.6
BRVK pmax pmax
comp=Z,4µm,1.3s
BRVK Borovoye 40.73 306 eP P 01 20 09.8 -0.1
comp=Z,2µm,1.1s
KSH Kashi 40.78 285 iP P 01 20 14.8 +4.1
KSH pP PcP 01 21 55.6 -2.0
KSH esP sP 01 23 00.5 +5.5
KSH eScP ScP 01 24 52.1 -0.8
KSH S S 01 25 46.8 +6.0
KSH PcS PcS 01 25 50.1 +0.4
KSH sS sS 01 28 52.9 +10
KSH pmax pmax
comp=Z,330nm,1.0s
UCH Uchtor 40.82 289 P P 01 20 11.9 +0.5
SNR=467
UCH Uchtor 40.82 289 iP P 01 20 11.9 +0.5
EKS2 Erkin-Say 41.18 290 P P 01 20 13.9 +0.1
SNR=660
EKS2 Erkin-Say 41.18 290 eP P 01 20 14.1 +0.2
EKS2 pmax pmax
comp=Z,848nm,0.8s
EKS2 Erkin-Say 41.18 290 eP P 01 20 14.1 +0.2
comp=Z,848nm,0.8s
BOK Bokaro 41.38 258 eP P 01 20 15.3 -0.2
BOK AMB AMB 01 20 21.3
comp=Z,3µm,0.6s
AML Almayashu 41.42 289 P P 01 20 16.7 +0.6
SNR=33
TNTI Ternate 41.75 185 eP P 01 20 17.5 -0.9
comp=Z,469nm,0.7s
UNV Unalaska Valle 41.99 52 eP P 01 20 18.4 -1.4
comp=Z,383nm,0.7s
UNV eScP ScP 01 24 56.6 -0.7
UNV eS S 01 25 57.4 -0.1
BTM Bintulu 42.27 207 ⇓P P 01 20 22.3 -0.2
LGTI Lohaghat 42.27 269 ex P 01 20 29.1 +6.7
LGTI ex x 01 20 33.2
AKUT Akutan 42.36 51 eP P 01 20 21.4 -1.3
comp=Z,1µm,1.2s
AKUT eScP ScP 01 24 57.8 -0.9
PATS Pohnpei 43.16 138 ⇓P P 01 20 30.0 +0.5
baz=43,SNR=43
SBUM Sibu 43.26 208 eP P 01 20 30.9 +0.7
comp=Z,963nm,0.8s
SBUM eScP ScP 01 25 03.2 +0.2
SBUM Sibu 43.26 208 ⇓P P 01 20 31.9 +1.7
SWI Sorong 43.27 179 ⇑P P 01 20 29.9 -0.4
baz=43,SNR=3.3
KK31 Karatay Array 43.28 292 iP P 01 20 29.8 -0.3
KK31 pmax pmax
comp=Z,468nm,0.6s
KKAR Karatay Array 43.28 292 eP P 01 20 30.1 0.0
KKAR Karatay Array 43.28 292 eP P 01 20 30.1 0.0
DDI Dehra Dun 43.43 271 eP P 01 20 31.7 +0.2
DDI AMB AMB 01 20 37.6
comp=Z,3µm,0.2s
FALS False Pass 43.56 50 eP P 01 20 31.6 -0.4
comp=Z,1µm,0.6s
FALS ePcP PcP 01 22 06.2 -0.3
FALS eScP ScP 01 25 05.0 +1.4
FALS eS S 01 26 20.7 +0.9
SDNR Sundarnagar 43.63 274 eP P 01 20 33.0 0.0
SDNR ex x 01 26 20.0
SURT Suratani 43.65 229 P P 01 20 33.6 +0.3
comp=Z,677nm,1.2s,comp=Z,10µm
SMLA Simla 43.67 273 eP P 01 20 33.3 0.0
SMLA AMB AMB 01 20 38.7
comp=Z,11µm,1.2s
DHRM DHARAMSHALA 43.75 275 eP P 01 20 33.7 -0.5
DHRM AMB AMB 01 20 39.4
comp=Z,4µm,1.4s
DGPR DIGLIPUR 43.84 239 eP P 01 20 34.3 -0.5
DLH Dalhousie 43.85 275 eP P 01 20 35.0 +0.1
DLH ex x 01 25 05.0
LUWI Luwuk 44.03 191 eP P 01 20 34.2 -2.0
comp=Z,1µm,1.4s
LUWI eScP ScP 01 25 04.4 -1.8
LUWI eS S 01 26 23.1 -4.3
MIDW Midway 44.03 92 eP P 01 20 36.8 +0.7
comp=Z,1µm,0.8s
MIDW eScP ScP 01 25 08.1 +2.0
BHK Bhakra 44.08 274 eP P 01 20 36.0 -0.5
BHK ex x 01 21 33.2
KTGM Kuala Trenggan 44.44 221 ⇓P P 01 20 40.9 +1.5
SMKI Samarinda 44.54 199 P P 01 20 42.6 +2.5
comp=Z,926nm,1.4s,comp=Z,14µm
SRPI Serui, Papua 44.55 172 P P 01 20 41.3 +1.1
comp=Z,613nm,1.0s
SANI Sanana 44.65 187 P P 01 20 38.9 -2.0
comp=Z,537nm,0.7s,comp=Z,6µm
PKDT Phuket 44.78 229 P P 01 20 42.7 +0.7
comp=Z,2µm,1.2s,comp=Z,32µm
KSM Kuching 44.84 210 eP P 01 20 42.8 +0.4
comp=Z,679nm,0.7s
KSM eScP ScP 01 25 09.2 -0.4
KSM Kuching 44.84 210 ⇑P P 01 20 42.5 0.0
baz=45,SNR=62
KSM Kuching 44.84 210 ⇓P P 01 20 43.4 +1.0
SMPI Sarmi 44.97 169 P P 01 20 44.7 +1.3
comp=Z,2µm,0.9s,comp=Z,18µm
SDPT Sand Point 45.09 49 eP P 01 20 42.2 -1.6
comp=Z,808nm,1.0s
SDPT eScP ScP 01 25 07.3 -2.7
SDPT eS S 01 26 42.2 +0.8
SDPT eScS ScS 01 29 36.0 -0.8
PBA Port Blair 45.12 238 eP P 01 20 43.2 -1.3
FAKI Fak Fak 45.33 178 P P 01 20 45.8 -0.4
comp=Z,428nm,0.9s,comp=Z,4µm
FAKI Fak Fak 45.33 178 eP P 01 20 46.0 -0.2
comp=Z,331nm,0.9s
FAKI eScP ScP 01 25 09.7 -1.9
FAKI eS S 01 26 43.6 -2.1
FAKI Fak Fak 45.33 178 ⇑P P 01 20 45.4 -0.7
baz=46,SNR=54
FAKI ⇑pP pP 01 22 32.1 +3.0
baz=46
BKB Balikpapan 45.41 200 P P 01 20 47.2 +0.5
comp=Z,2µm,1.1s,comp=Z,23µm
SVE Sverdlovsk 45.43 313c iP P 01 20 46.6 +0.3
SVE e 01 22 30.3
SVE eS S 01 26 45.6 -0.5
SVE e 01 29 33.8
SVE pmax pmax
comp=Z,6µm,1.5s
SVE pmax pmax
comp=Z,8µm,11.9s
SVE smax smax
comp=N,21µm,12.2s
SVE smax smax
comp=E,12µm,14.8s
MTKI Muara Teweh, K 45.63 202 P P 01 20 48.3 -0.1
comp=E,2µm,0.7s,comp=E,26µm
KULM Kulim 45.72 224 eP P 01 20 49.9 +0.8
comp=E,997nm,0.9s
KULM eScP ScP 01 25 13.1 -0.2
KULM Kulim 45.72 224 ⇑P P 01 20 50.8 +1.6
STKI Sintang 45.74 207 P P 01 20 50.1 +0.8
comp=E,973nm,0.9s,comp=E,18µmcomp=E,35µm
NLAI Namlea 45.74 185 P P 01 20 49.6 +0.3
comp=E,725nm,1.2s,comp=E,7µm
GENI Genyem 45.80 167 P P 01 20 51.2 +1.5
comp=E,511nm,1.6s,comp=E,10µmcomp=E,19µm
JAY Jayapura 45.81 166 P P 01 20 50.9 +1.0
comp=E,342nm,1.1s,comp=E,11µm
JAY Jayapura 45.81 166 ⇑P P 01 20 50.8 +0.9
baz=46,SNR=78
CHGN Chignik 46.00 47 eP P 01 20 50.2 -0.4
CHGN eScP ScP 01 25 13.4 -0.3
KMPI Kaimana, Papua 46.13 176 P P 01 20 52.0 -0.2
comp=E,2µm,0.7s,comp=E,22µm
IPM Ipoh 46.22 223 eP P 01 20 52.6 -0.3
comp=E,510nm,0.7s
IPM eScP ScP 01 25 14.9 -0.5
IPM Ipoh 46.22 223 ⇑P P 01 20 53.8 +0.8
SVW2 Sparrevohn 46.37 40 eP P 01 20 55.1 +1.7
comp=E,2µm,1.2s
SVW2 eScP ScP 01 25 16.8 +1.5
TTSI Tana Toraja 46.49 195 P P 01 20 54.7 -0.2
comp=E,298nm,1.0s,comp=E,3µm
ARU Arti 46.64 313 P P 01 20 55.4 -0.1
comp=E,16µm,1.4s
ARU Arti 46.64 313d iP P 01 20 55.2 -0.3
ARU 01 22 17.7
ARU *PP pP 01 22 38.4 -0.7
ARU 01 22 53.8
ARU *SP sP 01 23 39.0 -3.7
ARU S S 01 27 04.7 +1.8
ARU 01 29 43.5
ARU *SS sS 01 30 09.9 -0.7
ARU SS SS 01 30 37.8 -0.6
ARU pmax pmax
comp=Z,855nm,0.6s
ARU Arti 46.64 313 eP P 01 20 55.5 0.0
comp=Z,10µm,1.6s
KWAJ Kwajalein Atol 46.69 125 eP P 01 20 57.9 +1.5
KWAJ pmax pmax
comp=Z,845nm,0.8s
KWAJ Kwajalein Atol 46.69 125 eP P 01 20 57.9 +1.5
comp=Z,845nm,0.8s
SOKR Solikamsk 46.78 318d iP P 01 20 56.3 -0.2
SOKR *PP pP 01 22 41.4 +1.3
SOKR S S 01 27 04.3 -0.4
SOKR *SS ScS 01 29 44.7 -3.1
SOKR pmax pmax
comp=Z,3µm,1.6s
SOKR MLR MLR
comp=Z,10µm,17.0s

BNDI Bandanaira 46.91 181 P P 01 20 57.9 -0.2
comp=Z,1µm,0.7s,comp=Z,11µm
MANU Manus Island 46.92 157 ⇓P P 01 20 58.9 +0.7
baz=47,SNR=19
FRIM Kepong 46.99 222 ⇑P P 01 20 59.5 +0.8
VIS Vishakhapatnam 47.11 253 eP P 01 20 58.7 -0.9
MYKOM Kota Tinggi 47.21 218 eP P 01 21 00.9 +0.5
comp=Z,612nm,1.0s
MYKOM epP pP 01 22 46.4 +1.9
MYKOM eScP ScP 01 25 17.1 -2.4
MYKOM Kota Tinggi 47.21 218 ⇓P P 01 21 01.5 +1.1
KGM Kluang 47.25 219 ⇑P P 01 21 01.9 +1.2
SPSI Sidrap Palu 47.40 195 P P 01 21 00.3 -1.4
comp=Z,169nm,0.9s,comp=Z,3µm
CAST Castle Rocks 47.48 37 eP P 01 21 03.2 +1.5
comp=Z,1µm,0.8s
CAST epP pP 01 22 48.5 +2.6
CAST eScP ScP 01 25 24.9 +5.0
COLD Coldfoot 47.50 31 eP P 01 21 02.8 +1.0
comp=Z,1µm,0.8s
COLD eScP ScP 01 25 24.6 +4.7
COLD eS S 01 27 19.3 +4.8
PPLA Purkeypile 47.55 37 eP P 01 21 04.0 +1.6
comp=Z,3µm,1.4s
PPLA epP pP 01 22 48.0 +1.4
BTDF Bukit Timah Da 47.62 218 ⇑P P 01 21 04.2 +0.8
baz=48,SNR=44
TPRI Tanjung Pinang 47.68 217 P P 01 21 04.7 +0.8
comp=Z,835nm,1.1s,comp=Z,22µm
LHMI Lhok Sumawe 47.75 228 P P 01 21 06.6 +2.2
comp=Z,932nm,1.7s,comp=Z,30µmcomp=Z,126µm
LHMI Lhok Sumawe 47.75 228 eP P 01 21 06.3 +2.0
comp=Z,1µm,1.3s
LHMI eScP ScP 01 25 22.8 +1.0
LHMI eS S 01 27 23.7 +4.4
LHMI Lhok Sumawe 47.75 228 ⇑P P 01 21 06.5 +2.1
baz=48,SNR=17
BNSI Bone 47.76 194 P P 01 21 03.5 -0.9
comp=Z,431nm,1.3s,comp=Z,5µm
RSO Redoubt South 47.86 41 eP P 01 21 06.0 +1.2
RSO eS S 01 27 24.9 +4.8
BHPL Bhopal 47.88 264 eP P 01 21 03.5 -1.8
BHPL AMB AMB 01 21 09.6
comp=Z,2µm,1.4s
KBL Kabul 47.93 282 ⇓P P 01 21 05.4 -0.4
baz=48
KTH Kantishna Hill 47.96 36 eP P 01 21 06.7 +1.3
comp=Z,5µm,1.2s
KTH epP pP 01 22 52.5 +2.7
NGP Nagpur 47.97 260 eP P 01 21 04.8 -1.2
NGP ⇑ex x 01 27 27.0
SPU Mount Spurr 48.01 39 eP P 01 21 07.1 +1.3
SPU epP pP 01 22 52.0 +1.7
SPU eScP ScP 01 25 23.2 +0.9
AB31 Akbulak array 48.01 304 iP P 01 21 05.5 -0.4
AB31 pmax pmax
comp=Z,699nm,0.3s
ABKAR Akbulak array 48.01 304 eP P 01 21 05.8 -0.2
ABKAR Akbulak array 48.01 304 ⇓P P 01 21 05.9 0.0
baz=48
CMBY CAMPBELL BAY 48.02 233 eP P 01 21 06.9 +0.5
BBKI Banjar Baru 48.05 202 P P 01 21 06.2 -0.4
comp=Z,2µm,1.1s,comp=Z,18µm
SII Sitkinak Islan 48.19 46 eP P 01 21 07.3 +0.2
comp=Z,1µm,0.6s
SII ePcP PcP 01 22 25.4 +2.3
SII eScP ScP 01 25 25.3 +2.2
SII eS S 01 27 27.4 +3.1
TRF Thorofare Moun 48.26 36 eP P 01 21 08.4 +0.7
comp=Z,1µm,1.1s
TRF ePcP PcP 01 22 25.8 +2.4
TRF epP pP 01 22 54.2 +1.8
TRF eScP ScP 01 25 23.3 -0.2
TRF eS S 01 27 31.3 +5.9
PBKI Pangkalan Bun 48.27 206 P P 01 21 09.6 +1.3
comp=Z,494nm,1.0s,comp=Z,11µm
TSI Tuntungan 48.32 225 P P 01 21 09.7 +1.1
comp=Z,583nm,1.3s,comp=Z,18µm
KAPI Kappang 48.42 195 P P 01 21 08.0 -1.4
comp=Z,2µm,0.6s,SNR=85
KAPI Kappang 48.42 195 P P 01 21 08.4 -1.0
comp=Z,454nm,0.5s,baz=27,slow=7.8,SNR=28
KAPI ScP ScP 01 25 24.4 -0.2
comp=Z,281nm,1.1s,baz=27,slow=4.5,SNR=3.9
KAPI S S 01 27 24.7 -3.8
comp=Z,19nm,0.7s,baz=135,slow=17,SNR=5.9
KAPI Kappang 48.42 195 eP P 01 21 08.4 -1.0
comp=Z,274nm,0.6s
KAPI eScP ScP 01 25 23.2 -1.4
KAPI eS S 01 27 27.2 -1.2
OHAK Old Harbor 48.47 45 eP P 01 21 09.2 +0.1
comp=Z,2µm,1.1s
OHAK ePcP PcP 01 22 27.0 +3.0
OHAK eScP ScP 01 25 27.4 +3.2
OHAK eS S 01 27 29.2 +1.2
BKSI Bulukumba 48.66 194 P P 01 21 09.9 -1.2
comp=Z,439nm,0.6s,comp=Z,6µm
KDAK Kodiak Island 48.67 44 P P 01 21 10.0 -0.6
comp=Z,12µm,0.8s
KDAK Kodiak Island 48.67 44 eP P 01 21 10.7 +0.1
KDAK e 01 22 26.6
KDAK eS S 01 27 32.7 +2.0
KDAK pmax pmax
comp=Z,1µm,0.6s
KDAK Kodiak Island 48.67 44 eP P 01 21 10.7 +0.1
comp=Z,1µm,0.6s
KDAK ePcP PcP 01 22 26.6 +1.8
KDAK eScP ScP 01 25 26.6 +1.5
KDAK eS S 01 27 32.7 +2.0
KCSI Kotacane, Aceh 48.72 226 P P 01 21 10.0 -1.6
comp=Z,218nm,1.3s,comp=Z,7µm
PSI Prapat 48.73 224 P P 01 21 11.5 -0.3
comp=Z,426nm,0.8s,baz=22,slow=8.4,SNR=14
PSI pP pP 01 22 59.6 +2.8
comp=Z,329nm,0.9s,baz=24,slow=7.5,SNR=7.0
PSI ScP ScP 01 25 26.0 -0.2
comp=Z,232nm,1.0s,baz=22,slow=4.5,SNR=11
PSI S S 01 27 33.6 +0.7
comp=Z,6.7nm,0.5s,baz=294,slow=19,SNR=4.8
PSI P4KPbc 01 58 41.6
comp=Z,3.5nm,0.4s,baz=292,slow=1.5,SNR=4.8
PSI Prapat 48.73 224 ⇑P P 01 21 11.6 -0.3
baz=49,SNR=122
AKTO Aktyubinsk 48.77 306 P P 01 21 10.9 -0.6
AKTO S S 01 27 32.1 -0.4
AKTO pmax pmax
comp=Z,217nm,0.4s
AKTO pmax pmax
comp=N,104nm,0.8s
AKTO smax smax
comp=N,143nm,1.1s
AKTO Aktyubinsk 48.77 306 P P 01 21 10.9 -0.6
comp=N,217nm,0.4s,baz=86,slow=7.8,SNR=162
AKTO ScP ScP 01 25 25.1 -0.6
comp=N,104nm,0.8s,baz=90,slow=6.1,SNR=3.8
AKTO S S 01 27 32.1 -0.4
comp=N,143nm,1.1s,baz=63,slow=18,SNR=3.5
AKTO P4KPbc 01 58 37.4
comp=N,8.6nm,0.8s,baz=80,slow=12,SNR=12
MCK McKinley 48.78 36 eP P 01 21 12.1 +0.7
MCK e*PP pP 01 22 58.8 +2.4
MCK pmax pmax
comp=Z,2µm,1.0s
MCK McKinley 48.78 36 eP P 01 21 12.1 +0.7
comp=Z,2µm,1.0s
MCK epP pP 01 22 58.8 +2.4
MCK eScP ScP 01 25 26.1 +0.7
DSRI Dabo 48.91 216 P P 01 21 14.5 +1.5
comp=Z,628nm,0.9s,comp=Z,9µm
COLA College 48.95 34 eP P 01 21 13.9 +1.4
COLA e*PP pP 01 23 00.0 +2.4
COLA pmax pmax
comp=Z,3µm,0.8s
COLA College 48.95 34 eP P 01 21 13.9 +1.4
comp=Z,3µm,0.8s
COLA epP pP 01 22 60.0 +2.4
RC01 Rabbit Creek A 49.12 39 eP P 01 21 14.2 +0.3
comp=Z,2µm,1.1s
RC01 eScP ScP 01 25 28.2 +1.3
RC01 eS S 01 27 38.7 +1.8
TPTI 49.26 227 P P 01 21 14.2 -1.4
comp=Z,477nm,1.3s,comp=Z,34µm
PMR Palmer 49.26 38 eP P 01 21 15.1 +0.2
PMR e*PP pP 01 23 02.0 +1.8
PMR eS S 01 27 39.0 +0.3
PMR pmax pmax
comp=Z,2µm,1.2s
PMR Palmer 49.26 38 eP P 01 21 15.1 +0.2
comp=Z,2µm,1.2s
PMR epP pP 01 23 02.0 +1.8
PMR eScP ScP 01 25 29.4 +1.9
PMR eS S 01 27 39.0 +0.3
ILAR Eielson Array 49.37 34 P P 01 21 15.8 0.0
comp=Z,680nm,0.7s,baz=285,slow=6.5,SNR=2738
ILAR PcP PcP 01 22 27.3 0.0
comp=Z,102nm,0.8s,baz=280,slow=4.1,SNR=2.0
ILAR PP pP 01 23 03.8 +2.7
comp=Z,151nm,0.9s,baz=276,slow=7.4,SNR=5.1
ILAR ScP ScP 01 25 27.8 -0.2
comp=Z,43nm,0.7s,baz=284,slow=3.5,SNR=5.6
ILAR S S 01 27 38.6 -1.6
comp=Z,44nm,1.1s,baz=290,slow=8.5,SNR=2.5
ILAR PKPPKP P'P'df 01 51 30.1 -33
comp=Z,2.5nm,1.1s,baz=140,slow=0.9,SNR=4.8
ILAR PKP2ab 01 52 54.8
comp=Z,1.1nm,0.9s,baz=86,slow=1.8,SNR=4.2
ILAR P4KPbc 01 58 40.9
comp=Z,1.9nm,1.4s,baz=291,slow=3.6,SNR=4.5
ILB Eielson Array 49.37 34 eP P 01 21 15.8 0.0
ILB ePcP PcP 01 22 27.3 0.0
ILB epP pP 01 23 03.8 +2.7
ILB eScP ScP 01 25 27.8 -0.2
ILB eS S 01 27 38.6 -1.6
ILB eP'P'ab P'P'ab 01 52 54.8 -2.3
BSSI Bau Bau, Buton 49.40 193 P P 01 21 16.2 -0.3
comp=Z,518nm,1.2s,comp=Z,10µm
SEW Seward 49.54 40 eP P 01 21 17.2 +0.2
comp=Z,2µm,0.9s
SEW epP pP 01 23 03.5 +1.1
SEW eScP ScP 01 25 30.0 +1.2
SEW eS S 01 27 48.3 +5.8
TPI Tanjungpandan 49.73 211 P P 01 21 20.0 +1.0
comp=Z,710nm,0.9s,comp=Z,10µmcomp=Z,63µm
RGRI Rengat 49.79 218 P P 01 21 20.8 +1.3
comp=Z,1µm,0.9s,comp=Z,22µm
BKNI Bangkinang 49.80 220 P P 01 21 20.2 +0.6
comp=Z,2µm,0.9s,comp=Z,19µmcomp=Z,80µm
BKNI Bangkinang 49.80 220 eP P 01 21 19.9 +0.4
comp=Z,2µm,1.1s
BKNI eScP ScP 01 25 30.1 -0.5
BKNI Bangkinang 49.80 220 ⇓P P 01 21 20.6 +1.0
baz=50,SNR=14
MNSI Mandailing Nat 50.11 222 P P 01 21 20.9 -0.9
comp=Z,464nm,0.6s,comp=Z,10µm
SAUI Saumlaki 50.34 179 P P 01 21 25.1 +1.6
comp=Z,2µm,1.0s,comp=Z,32µm
SAUI Saumlaki 50.34 179 eP P 01 21 23.8 +0.4
comp=Z,935nm,0.7s
SAUI eScP ScP 01 25 33.6 +0.8
SAUI eS S 01 27 46.9 -7.6
JMBI JAMBI 50.35 216 P P 01 21 25.9 +2.4
comp=Z,3µm,0.8s,comp=Z,30µmcomp=Z,70µm
SNSI Sinabang, Aceh 50.43 227 P P 01 21 24.1 0.0
comp=Z,1µm,1.6s,comp=Z,22µm
RABL Rabaul 50.48 152 P P 01 21 25.9 +1.4
baz=51,SNR=16
PAX Paxson 50.49 36 eP P 01 21 24.3 +0.3
PAX e 01 22 33.4
PAX eS S 01 28 01.7 +6.1
PAX pmax pmax
comp=Z,1µm,1.3s
PAX Paxson 50.49 36 eP P 01 21 24.3 +0.3
comp=Z,1µm,1.3s
PAX ePcP PcP 01 22 33.4 +1.8
PAX eScP ScP 01 25 35.2 +2.2
PAX eS S 01 28 01.6 +6.1
HYB Hyderabad 50.71 257 ⇓iP P 01 21 24.0 -2.2
HYB epP pP 01 23 12.0 -0.6
HYB esP sP 01 24 22.0 +7.0
HYB eScP ScP 01 25 34.5 -0.1
HYB e 01 26 18.0
HYB eS S 01 27 59.0 -0.6
HYB eScS ScS 01 30 13.0 -3.2
HYB esS sS 01 31 14.0 +2.6
HYB e 01 31 59.0
HYB Hyderabad 50.71 257 eP P 01 21 26.5 +0.2
HYB AMB AMB 01 21 31.9
comp=Z,1µm,0.6s
SDSI Sungai Dareh 50.72 219 P P 01 21 26.7 +0.4
comp=Z,1µm,1.1s,comp=Z,19µm
DOT Dot Lake 50.88 35 eP P 01 21 26.8 0.0
comp=Z,2µm,0.7s
DOT epP pP 01 23 14.2 +1.0
DOT eScP ScP 01 25 36.1 +1.5
BWJI Bawean 50.94 203 P P 01 21 28.7 +0.9
comp=Z,806nm,0.9s,comp=Z,7µm
DIV Divide 50.94 38 eP P 01 21 28.1 +0.8
comp=Z,1µm,1.0s
DIV epP pP 01 23 15.1 +1.4
DIV eScP ScP 01 25 38.9 +3.9
DIV eS S 01 28 05.8 +4.2
PMBI Palembang 51.03 214 eP P 01 21 29.4 +0.9
comp=Z,2µm,1.0s
PMBI eScP ScP 01 25 36.1 +0.3
PMBI Palembang 51.03 214 ⇑P P 01 21 30.8 +2.3
baz=51
MID Middleton Isla 51.25 41 eP P 01 21 30.7 +1.3
MID pmax pmax
comp=Z,2µm,1.0s
MID Middleton Isla 51.25 41 eP P 01 21 30.6 +1.3
comp=Z,2µm,1.0s
PRGR Permogore 51.48 323 ⇓iP P 01 21 30.5 -0.5
PRGR e 01 22 35.6
PRGR iS S 01 28 08.8 +0.3
PRGR e 01 30 15.9
PRGR pmax pmax
comp=Z,2µm,0.7s
BMRM Bremner River 51.53 38 eP P 01 21 32.4 +0.9
comp=Z,2µm,0.9s
BMRM ePcP PcP 01 22 38.4 +2.9
BMRM eScP ScP 01 25 40.1 +2.6
BMRM eS S 01 28 13.5 +4.0
MMRI Maumere 51.57 191 P P 01 21 30.4 -1.9
comp=Z,1µm,0.7s,comp=Z,11µmcomp=Z,20µm
MMRI Maumere 51.57 191 eP P 01 21 30.6 -1.8
comp=Z,772nm,0.8s
MMRI eScP ScP 01 25 35.5 -2.6
MMRI eS S 01 28 08.6 -2.4
MMPI Merauke 51.59 168 P P 01 21 34.1 +1.7
comp=Z,1µm,0.6s,comp=Z,30µm
RAGM Ragged Mountai 51.70 39 eP P 01 21 34.2 +1.4
comp=Z,3µm,0.9s
EGAK Eagle 51.71 33 eP P 01 21 33.1 +0.5
comp=Z,2µm,0.6s
EGAK epP pP 01 23 21.1 +1.6
EGAK eS S 01 28 14.7 +3.1
KMMI Kalianget 51.72 201 P P 01 21 33.5 +0.1
comp=Z,511nm,1.1s,comp=Z,11µmcomp=Z,56µm
GRJI Gresik 52.00 203 P P 01 21 35.3 -0.1
comp=Z,1µm,0.7s,comp=Z,10µm
TBJI Tambak Boyo 52.10 204 P P 01 21 36.2 +0.1
comp=Z,1µm,1.1s,comp=Z,16µm
MASI Maura Aman, Be 52.31 217 P P 01 21 38.2 +0.5
comp=Z,1µm,1.5s,comp=Z,18µm
ABJI Asem Bagus 52.36 201 P P 01 21 37.3 -0.7
comp=Z,512nm,1.4s,comp=Z,11µm
LHSI Lahat 52.36 215 P P 01 21 38.6 +0.6
comp=Z,1µm,1.2s,comp=Z,23µmcomp=Z,50µm
SRBI Singaraja 52.39 199 P P 01 21 37.4 -0.8
comp=Z,1µm,1.0s,comp=Z,13µm
MDRS Chennai 52.44 251 eP P 01 21 39.8 +1.1
MDRS Chennai 52.44 251 iP P 01 21 45.5 +6.9
MDRS iS S 01 28 34.2 +12
MDRS ex x 01 31 50.2
MDRS ex x 01 35 26.2
MDRS ex x 01 38 10.2
BLJI Banyuglugur 52.48 202 P P 01 21 37.9 -0.9
comp=Z,711nm,0.6s,comp=Z,9µm
HOPEN Hopen 52.50 343 eP P 01 21 38.6 +0.4
HOPEN IAMs_20 IAMs_20 01 52 59.6
comp=Z,11µm,19.6s
DAWY Dawson 52.68 34 eP P 01 21 40.1 +0.4
DAWY eS S 01 28 28.8 +4.1
MDSI Maura Dua 52.68 214 P P 01 21 40.0 -0.3
comp=Z,1µm,0.8s,comp=Z,18µm
NGJI Ngawi 52.73 204 P P 01 21 41.2 +0.5
comp=Z,1µm,0.9s,comp=Z,16µm
KLI Kotabumi 52.75 213 P P 01 21 40.3 -0.5
comp=Z,3µm,0.8s,comp=Z,30µm
SMRI Semarang 52.75 206 P P 01 21 41.3 +0.5
comp=Z,1µm,1.2s,comp=Z,19µm
SMRI Semarang 52.75 206 eP P 01 21 40.9 +0.1
comp=Z,569nm,0.8s
SMRI eS S 01 28 24.1 -2.6
SMRI Semarang 52.75 206 ⇓P P 01 21 41.4 +0.5
baz=53,SNR=4.7
BATI Baumata 52.95 189 P P 01 21 41.5 -0.6
comp=Z,1µm,0.5s,baz=316,slow=0.5,SNR=14
BATI ScP ScP 01 25 43.1 -1.0
comp=Z,948nm,1.3s,baz=57,slow=3.2,SNR=5.9
BATI S S 01 28 24.5 -4.7
comp=Z,677nm,0.9s,baz=69,slow=22,SNR=46
JAGI Jajag, Banyuwa 53.03 201 P P 01 21 40.2 -2.5
comp=Z,343nm,0.8s,comp=Z,5µm
JAGI Jajag, Banyuwa 53.03 201 eP P 01 21 41.8 -0.9
comp=Z,248nm,0.8s
MNAI Manna 53.08 215 eP P 01 21 43.3 +0.1
comp=Z,4µm,2.1s
MNAI eS S 01 28 33.4 +2.3
IGBI Denpasar 53.11 199 P P 01 21 40.7 -2.6
comp=Z,914nm,0.8s,comp=Z,9µmcomp=Z,13µm
INK Inuvik 53.24 27 eP P 01 21 44.1 +0.6
INK eS S 01 28 34.2 +2.5
INK e 01 30 34.9
INK pmax pmax
comp=Z,962nm,0.8s
INK Inuvik 53.24 27 P P 01 21 44.0 +0.5
comp=Z,678nm,0.7s,baz=308,slow=7.0,SNR=1554
INK ScP ScP 01 25 45.4 +0.7
comp=Z,67nm,0.7s,baz=306,slow=3.8,SNR=4.3
INK S S 01 28 32.2 +0.5
comp=Z,124nm,1.1s,baz=107,slow=19,SNR=14
INK ScS ScS 01 30 32.5 +0.1
comp=Z,36nm,1.0s,baz=176,slow=30,SNR=13
INK PKPPKP P'P'df 01 51 22.3 -35
comp=Z,2.0nm,0.9s,baz=82,slow=6.4,SNR=3.6
INK P4KPbc 01 58 57.3
comp=Z,6.6nm,0.8s,baz=303,slow=3.2,SNR=12
INK Inuvik 53.24 27 eP P 01 21 44.1 +0.6
comp=Z,962nm,0.8s
INK eScP ScP 01 25 44.9 +0.2
INK eS S 01 28 34.2 +2.5
INK eScS ScS 01 30 34.9 +2.5
SPA0 Spitsbergen Ar 53.33 346 eP P 01 21 45.2 +1.1
SPA0 eS S 01 28 33.5 +0.8
SPA0 Spitsbergen Ar 53.33 346 eP P 01 21 44.1 +0.1
SPA0 eScP ScP 01 25 45.6 +0.6
SPA0 eS S 01 28 32.6 -0.1
SPITS Spitsbergen Ar 53.33 346 P P 01 21 44.1 +0.1
SPITS S S 01 28 32.6 -0.1
SPITS pmax pmax
comp=Z,157nm,0.6s
SPITS pmax pmax
comp=N,273nm,1.1s
SPITS smax smax
comp=N,26nm,1.0s
SPITS Spitsbergen Ar 53.33 346 P P 01 21 44.1 +0.1
comp=N,157nm,0.6s,baz=90,slow=7.2,SNR=10.0
SPITS ScP ScP 01 25 45.6 +0.6
comp=N,273nm,1.1s,baz=97,slow=6.8,SNR=5.3
SPITS S S 01 28 32.6 -0.1
comp=N,26nm,1.0s,baz=78,slow=27,SNR=1.4
BASI Baing, Sumba 53.38 192 P P 01 21 42.2 -3.0
comp=N,610nm,1.0s,comp=N,7µm
POO Poona 53.41 262 eP P 01 21 45.3 -0.2
POO AMB AMB 01 21 49.1
comp=Z,2µm,0.7s
IMYA Miami 53.42 288 eP P 01 21 46.1 +0.5
LVZ Lovozero 53.50 332 P P 01 21 44.4 -1.0
comp=Z,3µm,0.7s,SNR=30
LVZ Lovozero 53.50 332 ⇓iP P 01 21 44.2 -1.2
LVZ pmax pmax
comp=Z,598nm,1.0s
LVZ Lovozero 53.50 332 eP P 01 21 45.2 -0.2
comp=Z,977nm,1.4s
LEM Lembang 53.50 209 ⇓P P 01 21 46.7 +0.4
baz=54,SNR=57
KPJI Karang Pucung 53.51 207 P P 01 21 44.7 -1.5
UGM Wanagama 53.54 205 eP P 01 21 45.2 -1.2
comp=Z,1µm,0.9s
UGM eS S 01 28 38.5 +1.4
BHJ Bhuj 53.59 269 eP P 01 21 47.2 +0.5
KBS Kingsbay 53.63 348 eP P 01 21 46.3 +0.2
KBS pmax pmax
comp=Z,670nm,1.1s
KBS Kingsbay 53.63 348 eP P 01 21 46.6 +0.5
KBS eS S 01 28 38.2 +1.6
KBS IAMs_20 IAMs_20 01 52 58.1
comp=Z,13µm,20.2s
KBS Kingsbay 53.63 348 eP P 01 21 46.3 +0.2
comp=Z,670nm,1.1s
TMCR Tamitsa 53.76 327 ⇓iP P 01 21 46.9 -0.3
TMCR e 01 23 56.6
TMCR eS S 01 28 43.1 +4.5
TMCR pmax pmax
comp=Z,2µm,1.0s
ISRO Mashad 53.88 289 eP P 01 21 49.1 +0.4
PMG Port Moresby 53.90 160 P P 01 21 48.6 -0.3
PMG S S 01 28 41.5 -0.2
PMG pmax pmax
comp=Z,265nm,0.5s
PMG pmax pmax
comp=N,113nm,0.8s
PMG smax smax
comp=N,12nm,0.6s
PMG Port Moresby 53.90 160 P P 01 21 48.6 -0.3
comp=N,265nm,0.5s,baz=358,slow=9.6,SNR=124
PMG ScP ScP 01 25 47.5 -0.7
comp=N,113nm,0.8s,baz=0.9,slow=2.7,SNR=5.7
PMG S S 01 28 41.5 -0.2
comp=N,12nm,0.6s,baz=278,slow=12,SNR=5.4
PMG Port Moresby 53.90 160 eP P 01 21 48.7 -0.3
comp=N,323nm,0.6s
PMG epP pP 01 23 39.8 +2.5
PMG eScP ScP 01 25 47.6 -0.7
PMG eS S 01 28 41.5 -0.2
PMG Port Moresby 53.90 160 ⇑P P 01 21 48.7 -0.3
baz=54,SNR=19
ABKT Alibek 54.01 291 P P 01 21 49.1 -0.4
comp=N,11µm,0.7s
IMOG Moghan 54.07 289 eP P 01 21 50.5 +0.2
CISI Cisompet, Garu 54.11 208 eP P 01 21 48.0 -2.4
comp=N,364nm,0.6s
CISI eScP ScP 01 25 48.5 -0.8
CISI eS S 01 28 42.5 -2.1
HSP Hornsund 54.13 345 eP P 01 21 50.0 +0.4
HSPB Hornsund (broa 54.14 345 eP P 01 21 50.0 +0.3
HSPB IAmb IAmb 01 21 55.7
comp=Z,10µm,1.3s
HSPB IVmB_BB 01 21 55.7
comp=Z,12µm,1.3s
HSPB IAMs_20 IAMs_20 01 50 47.0
comp=Z,9µm,20.5s
IPAY Payeh 54.14 289 eP P 01 21 50.8 +0.1
IKRD Kardeh 54.31 290 eP P 01 21 48.2 -3.7
KLMR Klimovskoe 54.50 323 diP P 01 21 51.7 -0.8
KLMR e 01 24 04.5
KLMR eS S 01 28 46.0 -2.5
KLMR pmax pmax
comp=Z,3µm,1.3s
KLMR pmax pmax
comp=Z,4µm,8.7s
BJO Bjornoya 54.77 342 eP P 01 21 54.4 +0.2
BJO eS S 01 28 50.4 -1.2
HYT Haines Junctio 54.79 37 eP P 01 21 58.3 +3.6
ALE Alert 54.96 2 P P 01 21 55.3 -0.1
comp=Z,3µm,1.6s
KEV Kevo 55.15 336 eP P 01 21 57.0 +0.1
KEV pmax pmax
comp=Z,3µm,1.2s
KEV Kevo 55.15 336 ep P 01 21 56.6 -0.3
comp=Z,193nm,0.3s
KEV Kevo 55.15 336 eP P 01 21 57.0 +0.1
comp=Z,3µm,1.2s
GOA Goa 55.39 259 eP P 01 22 00.1 +0.8
IDAH Dahanechah 55.44 285 eP P 01 21 60.0 +0.1
ARA0 ARCESS Array S 55.72 336 eP P 01 22 00.5 -0.4
ARA0 ePP PP 01 24 13.8 +0.4
ARA0 eScP ScP 01 25 56.6 +1.0
ARA0 eS S 01 29 03.5 -0.1
ARCES ARCESS Array B 55.72 336 P P 01 22 00.5 -0.4
ARCES 01 24 13.8
ARCES S S 01 29 03.6 -0.4
ARCES pmax pmax
comp=Z,198nm,0.5s

ARCES pmax pmax
comp=Z,57nm,0.7s
ARCES pmax pmax
comp=N,74nm,0.8s
ARCES smax smax
comp=N,16nm,0.7s
ARCES ARCESS Array B 55.72 336 P P 01 22 00.5 -0.4
comp=N,198nm,0.5s,baz=64,slow=9.2,SNR=494
ARCES PP **PP 01 24 13.8 +0.3**
comp=N,57nm,0.7s,baz=60,slow=7.4,SNR=2.9
ARCES ScP **ScP 01 25 56.6 +1.0**
comp=N,74nm,0.8s,baz=54,slow=6.2,SNR=4.5
ARCES S **S 01 29 03.5 -0.4**
comp=N,16nm,0.7s,baz=36,slow=17,SNR=3.9
ARCES PKPPKP P'P'df 01 51 27.8 -26
comp=N,5.8nm,0.9s,baz=237,slow=3.1,SNR=3.6
ARCES P4KPbc 01 59 11.6
comp=N,4.3nm,0.9s,baz=60,slow=7.2,SNR=5.1
ARE0 ARCESS Array S 55.72 336 eP **P 01 22 00.5 -0.3**
ARE0 eS **S 01 29 02.0 -2.1**
TARA Tarawa 55.77 126 eP **P 01 22 03.3 +1.2**
comp=N,2μm,1.0s
TARA epP **pP 01 23 51.6 +0.2**
ITEG Tejag 56.15 286 eP **P 01 22 04.8 +0.1**
IKOO Kooshah 56.22 285 eP **P 01 22 05.3 +0.1**
PALK Pallekele 56.24 246 P P 01 22 05.0 -0.3
comp=N,4μm,1.0s,SNR=99
PALK Pallekele 56.24 246 P P 01 22 04.8 -0.5
PALK 01 25 59.5
PALK S **S 01 29 12.5 +0.1**
PALK smax smax
comp=N,33nm,1.0s
PALK Pallekele 56.24 246 P P 01 22 04.8 -0.5
comp=N,1μm,0.9s,baz=43,slow=7.3,SNR=11
PALK ScP **ScP 01 25 59.5 +0.7**
comp=N,76nm,0.8s,baz=54,slow=3.5,SNR=2.5
PALK S **S 01 29 12.5 +0.1**
comp=N,33nm,1.0s,baz=193,slow=19,SNR=4.2
PALK Pallekele 56.24 246 eP **P 01 22 05.5 +0.2**
comp=N,754nm,0.9s
PALK eScP **ScP 01 26 01.6 +2.7**
PALK eS **S 01 29 15.7 +3.3**
PALK Pallekele 56.24 246⇓iP **P 01 22 05.2 -0.1**
SNR=160
MNGI Mangalore 56.37 256 eP9 P 01 21 59.1 -7.0
MNGI eS **S 01 29 10.3 -3.5**
KTK1 Kautokeino 56.68 336 eP **P 01 22 07.1 -0.3**
KTK1 eS **S 01 29 15.5 -0.9**
JOF Joensuu 57.01 327 eP **P 01 22 09.6 -0.2**
JOF pmax pmax
comp=Z,420nm,0.4s
JOF Joensuu 57.01 327 ep **P 01 22 09.6 -0.2**
comp=Z,420nm,0.4s
COEN Coen 57.44 166 eP **P 01 22 13.8 +0.5**
comp=Z,6μm,1.5s
COEN epP **pP 01 24 07.5 +3.7**
COEN eScP **ScP 01 26 03.4 -0.5**
COEN Coen 57.44 166 ⇑P **P 01 22 13.4 0.0**
baz=58,SNR=296
I43RU DUBNA INFRASON57.45 319 P P 01 22 13.2 +0.3
baz=85,slow=10.0
SIT Sitka 57.53 40 eP **P 01 22 15.4 +2.0**
SIT pmax pmax
comp=Z,2μm,1.1s
SIT Sitka 57.53 40 eP **P 01 22 15.3 +2.0**
comp=Z,2μm,1.1s
XMIS Christmas Isla 57.59 210 eP **P 01 22 12.7 -1.7**
comp=Z,2μm,0.8s
TRO Tromso 57.60 337 eP **P 01 22 13.0 -0.7**
IGLO Ghaloghah 57.68 292 eP **P 01 22 13.7 -1.5**
MOS Moscow 57.74 318κ iP **P 01 22 14.4 -0.4**
MOS e*PP **pP 01 24 08.9 +3.6**
MOS e 01 24 35.8
MOS i S **S 01 29 28.4 -1.8**
MOS e 01 31 02.2
MOS eSS **SS 01 33 31.6 -1.0**
MOS pmax pmax
comp=Z,3μm,1.3s
MOS pmax pmax
comp=Z,9μm,2.0s
MOS smax smax
comp=N,17μm,3.3s
MOS smax smax
comp=E,17μm,3.7s
MOS MLR MLR
comp=Z,16μm,15.0s
TRD Trivandrum 57.92 250 eP **P 01 22 17.4 +0.6**
VRHR Novokhopersk 57.93 312 eP **P 01 22 14.3 -1.9**
VRHR e*PP **pP 01 24 06.3 -0.5**
VRHR e 01 24 35.1
VRHR eS **S 01 29 29.1 -3.7**
VRHR e 01 31 06.7
VRHR pmax pmax
comp=N,760nm,0.6s
VRHR pmax pmax
comp=E,810nm,0.6s
VRHR pmax pmax
comp=Z,2μm,0.6s
VRHR pmax pmax
comp=E,1μm,1.0s
VRHR pmax pmax
comp=Z,770nm,1.0s
VRHR pmax pmax
comp=N,460nm,0.9s
VRHR smax smax
comp=N,8μm,1.8s
VRHR smax smax
comp=E,8μm,1.8s
VRHR smax smax
comp=Z,1μm,1.8s
IANJ Anjilo 58.17 291 eP **P 01 22 18.8 +0.3**
HNR Honiara 58.28 145 eP **P 01 22 19.6 +0.6**
HNR pmax pmax
comp=Z,1μm,0.6s
HNR Honiara 58.28 145 eP **P 01 22 19.6 +0.6**
comp=Z,1μm,0.6s
MAK Makhachkala 58.52 301d iP **P 01 22 19.7 -0.6**
MAK e 01 23 04.8
MAK i *PP **pP 01 24 07.2 -4.0**
MAK e 01 24 36.2
MAK e*SP sP 01 25 05.8 -6.7
MAK e 01 26 08.3
MAK eS **S 01 29 37.3 -3.2**
MAK e 01 31 11.8
MAK eSS **SS 01 33 41.1 -4.4**
MAK pmax pmax
comp=Z,1μm,1.1s
MAK pmax pmax
comp=Z,6μm,1.8s
MAK pmax pmax
comp=E,3μm,1.5s
MAK pmax pmax
comp=N,1μm,0.6s
MAK smax smax
comp=E,7μm,3.5s
MAK smax smax
comp=N,22μm,5.8s
MAK MLR MLR
comp=Z,36μm,19.0s
MAK MLR MLR
comp=E,23μm,15.0s
MAK MLR MLR
comp=N,14μm,13.0s
OBN Obninsk 58.57 318 P P 01 22 19.7 -0.7
comp=N,7μm,1.0s
OBN Obninsk 58.57 318d iP **P 01 22 19.4 -1.0**
OBN e 01 22 58.8
OBN e*PP **pP 01 24 09.5 -1.8**
OBN e 01 24 38.1
OBN eSP 01 25 08.8
OBN i S **S 01 29 38.6 -2.1**
OBN pmax pmax
comp=Z,3μm,1.7s
OBN MLR MLR
comp=Z,14μm,18.0s
OBN Obninsk 58.57 318 P P 01 22 19.7 -0.7
comp=Z,1μm,0.8s,baz=56,slow=1.7,SNR=26
OBN S **S 01 29 38.9 -1.8**
comp=Z,44nm,0.5s,baz=280,slow=20,SNR=4.5
OBN Obninsk 58.57 318 eP **P 01 22 19.4 -1.0**
comp=Z,3μm,1.5s
OBN eS **S 01 29 38.9 -1.8**
IALA Alasht 58.60 292 eP **P 01 22 20.7 -0.7**
IPRN Peran 58.84 292 eP **P 01 22 22.5 -0.3**
ILAS Lasjerd 58.88 291 eP **P 01 22 23.7 +0.5**

IFIR Firoozkooh 58.88 291 eP **P 01 22 23.6 +0.3**
VOR Voronezh 58.93 313 eP **P 01 22 21.0 -1.9**
VOR eS **S 01 29 45.0 -0.4**
VOR pmax pmax
comp=Z,4μm,2.0s
PUL Pulkovo 59.04 325d iP **P 01 22 23.0 -0.5**
PUL pmax pmax
comp=Z,1μm,0.6s
IBAF Bafgh 59.12 286 eP **P 01 22 24.3 -0.5**
RES Resolute Bay 59.14 13 P P 01 22 24.0 +0.1
RES S **S 01 29 46.3 -1.1**
RES pmax pmax
comp=Z,917nm,0.8s
RES pmax pmax
comp=N,108nm,0.7s
RES smax smax
comp=N,35nm,1.0s
RES Resolute Bay 59.14 13 P P 01 22 23.9 +0.1
comp=N,917nm,0.8s,baz=310,slow=7.3,SNR=1507
RES ScP **ScP 01 26 10.6 0.0**
comp=N,108nm,0.7s,baz=319,slow=5.1,SNR=6.2
RES S **S 01 29 46.3 -1.1**
comp=N,35nm,1.0s,baz=68,slow=20,SNR=9.7
RES PKPPKP P'P'df 01 51 26.4 -22
comp=N,2.4nm,1.0s,baz=115,slow=4.5,SNR=4.7
RES Resolute Bay 59.14 13 eP **P 01 22 24.1 +0.1**
comp=N,937nm,0.8s
RES eScP **ScP 01 26 11.3 +0.7**
RES eS **S 01 29 46.6 -0.8**
VSR Storozhevoye 59.21 313d iP **P 01 22 24.0 -0.8**
VSR e*PP **pP 01 24 16.5 +0.4**
VSR e 01 24 44.6
VSR eS **S 01 29 47.0 -1.9**
VSR e 01 31 16.3
VSR eSS **SS 01 33 54.1 -1.7**
VSR pmax pmax
comp=Z,2μm,0.9s
VSR pmax pmax
comp=N,670nm,0.8s
VSR pmax pmax
comp=E,730nm,0.8s
VSR pmax pmax
comp=N,3μm,1.3s
VSR pmax pmax
comp=E,3μm,1.3s
VSR pmax pmax
comp=Z,4μm,1.3s
VSR pmax pmax
comp=N,1μm,1.3s
VSR pmax pmax
comp=E,1μm,1.3s
VSR pmax pmax
comp=Z,1μm,1.3s
VSR smax smax
comp=N,8μm,1.7s
VSR smax smax
comp=Z,2μm,1.6s
VSR smax smax
comp=E,3μm,1.3s
WRAK Wrangell Islan 59.27 40 eP **P 01 22 26.9 +1.8**
comp=E,1μm,1.0s
VORD Divnogorie 59.27 313 eP **P 01 22 23.9 -1.3**
VORD e*PP **pP 01 24 16.5 0.0**
VORD e 01 24 44.8
VORD eS **S 01 29 46.8 -2.9**
VORD e 01 31 16.0
VORD pmax pmax
comp=N,400nm,0.7s
VORD pmax pmax
comp=E,520nm,0.7s
VORD pmax pmax
comp=Z,1μm,0.7s
VORD pmax pmax
comp=N,640nm,1.2s
VORD pmax pmax
comp=E,1μm,1.2s
VORD pmax pmax
comp=Z,2μm,1.2s
VORD pmax pmax
comp=N,480nm,1.5s
VORD pmax pmax
comp=E,1μm,1.5s
VORD pmax pmax
comp=Z,1μm,1.5s
VORD smax smax
comp=N,8μm,1.6s
VORD smax smax
comp=Z,1μm,1.6s
VORD smax smax
comp=E,2μm,1.5s
DLBC Dease Lake 59.27 37 P P 01 22 25.6 +0.4
comp=E,366nm,0.8s,baz=306,slow=6.1,SNR=11
DLBC S **S 01 29 55.3 +5.6**
comp=E,15nm,1.1s,baz=220,slow=25,SNR=5.4
DLBC Dease Lake 59.27 37 eP **P 01 22 26.9 +1.7**
DAG Danmarks Havn 59.33 352⇓iP **P 01 22 25.3 +0.1**
DAG i S **S 01 29 48.6 -1.2**
DAG pmax pmax
comp=Z,260nm,0.8s
DAG MLR MLR
comp=Z,5μm,22.0s
DAG Danmarks Havn 59.33 352⇓iP **P 01 22 25.3 +0.1**
comp=Z,342nm,0.8s
DAG i 01 22 48.6
DAG i S **S 01 29 48.6 -1.2**
comp=Z,4μm,22.0s
CRAG Craig 59.39 41 eP **P 01 22 27.8 +1.8**
comp=Z,1μm,0.9s
KAF Kangasniemi 59.41 328 eP **P 01 22 25.2 -0.7**
KAF pmax pmax
comp=Z,363nm,0.4s
KAF Kangasniemi 59.41 328 ep **P 01 22 25.2 -0.7**
comp=Z,363nm,0.4s,baz=46,slow=6.2
ICHK Chekchek 59.58 287 eP **P 01 22 27.3 -0.6**
STEI Steigen 59.70 337 eP **P 01 22 27.1 -0.6**
STEI IAmb IAmb 01 22 33.8
comp=Z,2μm,1.1s
FIA0 FINESS Array S 59.87 327 eP **P 01 22 28.3 -0.7**
FIA0 eS **S 01 29 54.6 -2.3**
FIA0 FINESS Array S 59.87 327 eP **P 01 22 28.3 -0.7**
FIA0 eS **S 01 29 54.6 -2.3**
FINES FINESS Array B 59.87 327 P P 01 22 28.3 -0.7
comp=Z,609nm,0.5s,baz=45,slow=7.1,SNR=1942
FINES S **S 01 29 54.6 -2.3**
comp=Z,240nm,1.2s,baz=61,slow=16,SNR=7.9
FINES PKPPKP P'P'df 01 51 17.8 -30
comp=Z,4.8nm,0.7s,baz=236,slow=2.5,SNR=10.0
FINES P4KPbc 01 59 22.5
comp=Z,1.2nm,0.9s,baz=60,slow=3.4,SNR=2.7
IMEH Mehriz 59.91 286 eP **P 01 22 29.2 -0.9**
IVRN Varamin 59.93 291 eP **P 01 22 29.8 -0.2**
LOF Lofoten 60.06 337 eP **P 01 22 28.9 -1.3**
LOF IAmb IAmb 01 22 36.6
comp=Z,486nm,1.1s
GOF Gofitskoye 60.19 305⇓iP **P 01 22 31.2 -0.2**
GOF eS **S 01 30 04.4 +3.0**
GOF pmax pmax
comp=Z,2μm,1.0s
GOF smax smax
comp=E,2μm,1.6s
GOF smax smax
comp=N,633nm,1.0s
IGZV Ghazvin 60.21 294 eP **P 01 22 32.0 0.0**
ISAD Sadrabad 60.27 287 eP **P 01 22 31.9 -0.6**
IMHD Mahdasht 60.28 293 eP **P 01 22 32.6 +0.2**
DGRG David-gareji 60.66 301 P P 01 22 34.2 -0.5
IZEF Zefreh 60.67 289 eP **P 01 22 35.0 -0.2**
GUDG Gudauri 60.68 302 P P 01 22 34.0 -1.0
DUS Dusheti 60.74 302 P P 01 22 35.2 -0.1
IBND Bandar-abas 60.77 282 eP **P 01 22 34.7 -0.8**
IBND eP **P 01 22 34.9 -0.7**
QAM Ghamsar 60.81 290 eP **P 01 22 35.8 -0.2**
SEAG Tbilisi Sea 60.85 301 P P 01 22 35.6 -0.3
ZEI Tsey 60.87 303 eP **P 01 22 34.5 -1.7**
ZEI e*PP **pP 01 24 27.2 -1.2**
ZEI eS **S 01 30 11.9 +1.6**
ZEI e 01 31 27.0
ZEI pmax pmax
comp=Z,983nm,1.0s
ZEI pmax pmax
comp=Z,10μm,10.9s
TBLG Delisi 60.91 301 P P 01 22 35.9 -0.4
IRAZ Razeghan 60.94 293 eP **P 01 22 36.5 -0.3**
IKLH Kolahrood 60.96 290 eP **P 01 22 37.0 -0.1**
KBZ Khabaz 60.98 304 P P 01 22 36.3 -0.3

KBZ S **S 01 30 11.3 +0.1**
KBZ pmax pmax
comp=Z,327nm,0.6s
KBZ smax smax
comp=N,26nm,0.9s
KBZ Khabaz 60.98 304 P P 01 22 36.3 -0.3
comp=N,327nm,0.6s,baz=48,slow=7.4,SNR=170
KBZ S **S 01 30 11.3 +0.1**
comp=N,26nm,0.9s,baz=230,slow=18,SNR=2.7
MOR8 Moi Rana 61.08 335 eP **P 01 22 35.0 -1.9**
MOR8 IAmb IAmb 01 22 41.5
comp=Z,2μm,1.1s
ISRB Sarab 61.13 296 eP **P 01 22 37.6 -0.4**
ONI Oni 61.25 303 P P 01 22 38.6 +0.1
KONS Konsvik 61.27 336 eP **P 01 22 38.2 +0.1**
KONS IAmb IAmb 01 22 43.9
comp=Z,863nm,1.3s
IHRS Heris 61.27 297 eP **P 01 22 38.1 -0.9**
FLOS Flostrand 61.30 336 eP **P 01 22 37.4 -0.9**
FLOS IAmb IAmb 01 22 43.4
comp=Z,617nm,0.5s
VSU Vasula 61.31 324d iP **P 01 22 38.0 -0.5**
VSU pmax pmax
comp=Z,3μm,1.0s
STOK Stokkvaagen 61.41 336 eP **P 01 22 38.0 -1.0**
GNI Garni 61.77 300 P P 01 22 41.8 -0.3
GNI S **S 01 30 24.2 +2.8**
GNI pmax pmax
comp=Z,132nm,0.5s
GNI smax smax
comp=N,26nm,0.9s
GNI Garni 61.77 300 P P 01 22 41.8 -0.3
comp=N,132nm,0.5s,baz=305,slow=4.8,SNR=5.5
GNI S **S 01 30 24.2 +2.8**
comp=N,26nm,0.9s,baz=114,slow=20,SNR=1.7
GNI Garni 61.77 300 eP **P 01 22 43.0 +0.9**
comp=N,1μm,1.0s
GNI eS **S 01 30 24.2 +2.8**
GNI Garni 61.77 300 i P **P 01 22 42.4 +0.4**
SNR=74
IPIR Pirpir 61.79 290 eP **P 01 22 42.0 -0.5**
BANOM Banah 61.83 280 ⇑P **P 01 22 42.6 +0.1**
SNR=768
WBK Wadi Bani Khal 61.85 276 ⇓P **P 01 22 43.5 +0.7**
SNR=626
IFTB Fath-abad 61.87 297 eP **P 01 22 42.8 -0.1**
AKH Akhalkalaki 61.87 302 P P 01 22 42.9 +0.2
IPAR Pars 61.89 286 eP **P 01 22 43.1 -0.1**
ITBZ Tabriz 61.91 297 eP **P 01 22 42.6 -0.5**
IMRD Marand 61.94 298 eP **P 01 22 42.7 -0.5**
CHVG Ch'k'valeri 62.03 303 P P 01 22 43.1 -0.4
OPA Opana 62.09 85 eP **P 01 22 45.9 +1.7**
OPA Opana 62.09 85 eP **P 01 22 45.9 +1.7**
ISRV Sarvestan 62.11 285 eP **P 01 22 44.6 -0.1**
KIP Kipapa 62.25 86⇓iP **P 01 22 45.7 +0.5**
KIP pmax pmax
comp=Z,2μm,1.0s
SMDO Samad 62.26 277 ⇓P **P 01 22 45.9 +0.5**
SNR=632
WRAB Tennant Creek 62.31 176 P P 01 22 44.0 -1.5
comp=Z,2μm,0.5s
WRAB Tennant Creek 62.31 176 eP **P 01 22 44.8 -0.7**
WRAB pmax pmax
comp=Z,214nm,0.6s
WRAB Tennant Creek 62.31 176 eP **P 01 22 44.8 -0.7**
comp=Z,214nm,0.6s
WRAB eScP **ScP 01 26 24.8 -0.6**
WRA Warramunga Arr 62.32 176 P P 01 22 44.7 -0.8
comp=Z,206nm,0.6s,baz=352,slow=7.0,SNR=569
WRA PcP **PcP 01 23 19.6 +0.9**
comp=Z,76nm,0.6s,baz=352,slow=4.7,SNR=7.2
WRA pP **pP 01 24 37.5 -1.2**
comp=Z,22nm,0.8s,baz=4.9,slow=6.7,SNR=1.5
WRA ScP **ScP 01 26 24.7 -0.7**
comp=Z,70nm,0.9s,baz=356,slow=4.8,SNR=5.7
WRA S **S 01 30 26.0 -2.2**
comp=Z,35nm,0.8s,baz=357,slow=12,SNR=6.6
WRA PKPPKP **P'P'df 01 51 35.6 -4.3**
comp=Z,8.3nm,0.9s,baz=143,slow=2.3,SNR=6.2
UOSS Wadi Hilu 62.48 279 P P 01 22 46.0 -0.7
comp=Z,16μm,0.6s
HOQ Hoqain 62.49 278 P P 01 22 47.1 +0.3
SNR=690
DIGO Kars 62.49 301 i P **P 01 22 46.6 -0.2**
KARS Kars 62.56 301 eP **P 01 22 47.3 +0.1**
HATD Hatta, Dubai 62.60 279 i P **P 01 22 47.7 +0.2**
SNR=1746
JMDO Jabal Madar 62.64 276 P P 01 22 48.1 +0.3
SNR=902
ASHO Ashiyiah 62.74 279 P P 01 22 48.8 +0.3
SNR=640
COCO West Island 62.75 218 P P 01 22 49.0 +0.7
comp=Z,7μm,0.8s,SNR=8.2
COCO West Island 62.75 218 eP **P 01 22 49.1 +0.7**
COCO e*PP **pP 01 24 43.9 +2.2**
COCO pmax pmax
comp=Z,994nm,0.8s
COCO West Island 62.75 218 eP **P 01 22 49.1 +0.8**
comp=Z,994nm,0.8s
COCO epP **pP 01 24 43.9 +2.2**
DYDN Diyadin 62.78 300 i P **P 01 22 49.0 +0.3**
NAZ Nazwa, Dubai 62.85 280⇑iP **P 01 22 49.0 -0.1**
SNR=178
CLDR Caldiran 62.85 299 eP **P 01 22 49.6 +0.4**
IBZA Bozab 62.87 293 eP **P 01 22 48.6 -0.8**
NSS Namsos 62.96 335 eP **P 01 22 48.2 -0.9**
NSS eS **S 01 30 32.9 -1.8**
ARTV Artvin 62.98 302 i P **P 01 22 49.9 0.0**
KULLO Kullorsuaq 62.99 2⇑iP **P 01 22 48.6 -0.5**
KULLO i S **S 01 30 30.1 -4.7**
KULLO pmax pmax
comp=Z,360nm,0.9s
KULLO MLR MLR
comp=Z,8μm,19.0s
KULLO Kullorsuaq 62.99 2⇑iP **P 01 22 48.6 -0.5**
comp=Z,364nm,0.9s
KULLO i S **S 01 30 30.1 -4.7**
comp=Z,8μm,18.0s
SOC Sochi 62.99 305d iP **P 01 22 48.8 -0.9**
SOC i *PP **pP 01 24 41.0 -2.0**
SOC i 01 25 16.3
SOC e*SP **sP 01 25 41.9 -1.7**
SOC i 01 27 01.8
SOC i S **S 01 30 32.7 -3.1**
SOC i 01 31 43.9
SOC i SS SS 01 35 02.1 +7.3
SOC pmax pmax
comp=Z,4μm,2.0s
SOC pmax pmax
comp=Z,1μm,1.0s
YKA Yellowknife Ar 62.99 28 P P 01 22 49.6 +0.3
comp=Z,330nm,0.6s,baz=311,slow=6.8,SNR=3677
YKA PP **PP 01 25 16.4 -0.8**
comp=Z,38nm,0.9s,baz=310,slow=8.4,SNR=3.0
YKA S **S 01 30 37.9 +2.7**
comp=Z,17nm,1.1s,baz=311,slow=11,SNR=4.2
YKA PKKP **PKKPdf 01 43 15.8 -2.4**
comp=Z,0.5nm,0.8s,baz=142,slow=6.3,SNR=4.0
YKA SKKS SKKSdf 01 49 18.7 -10
comp=Z,0.6nm,0.6s,baz=132,slow=2.3,SNR=6.6
YKA PKPPKP P'P'df 01 51 33.3 -9.4
comp=Z,3.4nm,0.6s,baz=149,slow=2.5,SNR=17
YKA P4KPbc 01 59 34.9
comp=Z,0.1nm,0.6s,baz=309,slow=2.2,SNR=2.8
YKB5 Yellowknife Ar 62.99 28 eP **P 01 22 49.6 +0.3**
YKB5 ePP **PP 01 25 16.4 -0.8**
YKB5 eS **S 01 30 37.9 +2.7**
YKB5 ePKKPdf **PKKPdf 01 43 15.8 -2.4**
YKB5 eSKKSdf SKKSdf 01 49 18.7 -10
JMIC Jan Mayen 63.00 346 eP **P 01 22 51.2 +1.9**
JMIC eS **S 01 30 34.9 -0.2**
JMIC Jan Mayen 63.00 346 P P 01 22 49.3 0.0
comp=Z,400nm,0.8s,baz=134,slow=6.0,SNR=4.3
JMIC S **S 01 30 38.9 +3.9**
comp=Z,33nm,0.4s,baz=172,slow=12,SNR=1.8
DAGI Agillar 63.04 302 i P **P 01 22 49.9 -0.3**
FAQ Al Faqa, Dubai 63.05 280 i P **P 01 22 50.1 -0.3**
SNR=610
DBOC Borcka 63.05 302 i P **P 01 22 49.9 -0.3**
MICGM Minsk 63.11 320⇓iP **P 01 22 48.0 -2.2**
MNK Minsk 63.13 320d iP **P 01 22 48.0 -2.4**
MNK e*PP **pP 01 24 41.0 -2.7**
MNK e 01 25 16.0
MNK eSP 01 25 42.0
MNK ePPP PPP 01 26 54.0

MNK eS S 01 30 34.0 -3.2
MNK e 01 31 40.0
MNK pmax pmax
comp=Z,2μm,0.9s
MNK pmax pmax
comp=N,1μm,0.8s
MNK pmax pmax
comp=E,1μm,1.1s
MNK pmax pmax
comp=Z,17μm,8.0s
MNK pmax pmax
comp=Z,8μm,10.0s
MNK smax smax
comp=N,37μm,8.0s
MNK smax smax
comp=E,63μm,8.0s
MNK smax smax
comp=N,28μm,11.0s
IDID Didziasalis 63.16 322 eP P 01 22 50.4 -0.1
IDID AMB AMB 01 22 56.5
comp=Z,521nm,1.4s
AGRB Hanur-Agry 63.20 300 eP P 01 22 51.8 +0.4
ARQ Araqi 63.21 278 P P 01 22 51.8 +0.3
SNR=585
DBAD Bademkaya 63.22 302 iP P 01 22 50.8 -0.5
ILIN Lien 63.22 294 eP P 01 22 50.8 -0.8
DDEM Demirkent 63.25 302 iP P 01 22 51.1 -0.5
IKOM Komasi 63.28 293 eP P 01 22 50.6 -1.3
ISAL Salakas 63.28 322 eP P 01 22 51.4 +0.1
ISAL AMB AMB 01 22 57.5
comp=Z,805nm,1.4s
ASUD Al Ashush, Dub 63.31 280 iP P 01 22 52.1 +0.1
SNR=2238
ASUD iP P 01 22 52.3 +0.3
SNR=2063
IIGN Ignalina 63.37 322 eP P 01 22 51.3 -0.6
IIGN AMB AMB 01 22 56.2
comp=Z,584nm,0.9s
NACGM Naroch 63.39 321 eP P 01 22 49.0 -3.0
TUTA Tutak 63.42 300 iP P 01 22 52.7 -0.1
TVAN Van 63.53 299 iP P 01 22 53.7 +0.1
PZAR Pazar-Rize 63.62 303 eP P 01 22 53.9 +0.1
HOMI Horasan 63.63 301 iP P 01 22 54.4 +0.2
ANN Anapa 63.66 308 iP P 01 22 52.3 -1.6
ANN i 01 23 20.2
ANN i*PP pP 01 24 46.7 -0.8
ANN i 01 25 25.3
ANN i 01 27 09.2
ANN iS S 01 30 42.8 -1.1
ANN i 01 31 47.6
ANN pmax pmax
comp=N,530nm,1.6s
ANN pmax pmax
comp=Z,3μm,1.6s
ANN pmax pmax
comp=E,1μm,1.6s
BBB Bella Bella 63.69 42 P P 01 22 54.5 +0.6
comp=E,583nm,0.9s,baz=315,slow=7.2,SNR=12
BBB pP pP 01 24 48.6 +1.0
comp=E,123nm,0.9s,baz=300,slow=7.4,SNR=4.6
BBB S S 01 30 46.5 +2.6
comp=E,14nm,1.1s,baz=279,slow=19,SNR=5.1
IDHR Dehrash 63.74 294 eP P 01 22 53.8 -1.0
IGHG Ghaleghazi 63.83 293 eP P 01 22 54.9 -0.6
GEVA Gevas 63.88 299 iP P 01 22 55.8 +0.1
HAKT HAKKARI 63.88 298 iP P 01 22 55.3 -0.5
HLK Haleakala 63.96 85 eP P 01 22 57.9 +1.3
HKL Haleakala 63.98 85 eP P 01 22 58.1 +1.3
HKL Haleakala 63.98 85 eP P 01 22 58.1 +1.3
CTA Charters Tower 64.01 164 P P 01 22 56.3 -0.1
CTA S S 01 30 47.8 -0.8
CTA pmax pmax
comp=Z,242nm,0.7s
CTA smax smax
comp=N,10.0nm,0.9s
CTA Charters Tower 64.01 164 P P 01 22 56.3 -0.1
comp=N,242nm,0.7s,baz=342,slow=7.2,SNR=27
CTA S S 01 30 47.8 -0.8
comp=N,10nm,0.9s,baz=339,slow=8.6,SNR=9.2
CTA PKPPKP P'P'df 01 51 37.2 -0.1
comp=N,7.1nm,1.0s,baz=180,slow=3.0,SNR=3.0
CTAO Charters Tower 64.01 164 eP P 01 22 56.2 -0.1
CTAO e*PP pP 01 24 51.2 +0.8
CTAO pmax pmax
comp=Z,312nm,0.8s
CTAO Charters Tower 64.01 164 eP P 01 22 56.2 -0.1
comp=Z,312nm,0.8s
CTAO epP pP 01 24 51.2 +0.8
ERZM Erzurum 64.05 301 iP P 01 22 57.1 +0.2
EZM Erzurum 64.05 301 eP P 01 22 57.5 +0.6
CUKT Cukurca 64.13 298 eP P 01 22 56.7 -0.5
MBWA Marble Bar 64.24 191 eP P 01 22 57.4 -0.4
comp=Z,286nm,1.1s
MBWA epP pP 01 24 57.2 +5.3
MBWA eS S 01 30 54.1 +2.8
TATV Tatvan 64.28 299 iP P 01 22 58.1 -0.1
TBLU Trondheim 64.39 334 eP P 01 22 56.4 -1.8
TBLU epP pP 01 24 50.5 -1.7
TBLU eS S 01 30 49.7 -2.4
VRTB Varto-Mus 64.42 300 eP P 01 22 58.7 -0.4
KTUT Trabzon 64.43 303 eP P 01 22 57.0 -1.9
MACK Trabzon 64.46 303 iP P 01 22 58.6 -0.5
KOPT Kop Dagi 64.53 302 iP P 01 23 00.4 +0.5
BAYT Ayd¯-ntepe-Bay 64.54 302 eP P 01 22 59.9 +0.1
AKASG Malin Array Be 64.72 316 P P 01 22 59.4 -1.1
AKASG *PP pP 01 24 53.3 -1.3
AKASG 01 25 30.5
AKASG S S 01 30 53.2 -3.1
AKASG pmax pmax
comp=Z,443nm,0.5s
AKASG pmax pmax
comp=Z,34nm,0.6s
AKASG smax smax
comp=N,70nm,0.9s
AKASG Malin Array Be 64.72 316 P P 01 22 59.4 -1.1
comp=N,443nm,0.5s,baz=51,slow=6.5,SNR=790
AKASG pP pP 01 24 53.3 -1.3
comp=N,36nm,0.5s,baz=52,slow=7.4,SNR=1.5
AKASG PP PP 01 25 30.5 -1.8
comp=N,34nm,0.6s,baz=49,slow=8.0,SNR=4.3
AKASG S S 01 30 53.2 -3.1
comp=N,70nm,0.9s,baz=52,slow=12,SNR=12
AKASG PKPPKP P'P'df 01 51 30.6 -10
comp=N,3.5nm,0.9s,baz=250,slow=3.2,SNR=6.9
AKASG P4KPbc 01 59 44.6
comp=N,0.1nm,0.3s,baz=48,slow=4.8,SNR=2.6
AKBB Malin Array Si 64.72 316 eP P 01 22 59.4 -1.1
AKBB e*PP pP 01 24 53.3 -1.3
AKBB e 01 25 30.5
AKBB eS S 01 30 53.2 -3.1
AKBB Malin Array Si 64.72 316 eP P 01 22 59.4 -1.1
AKBB epP pP 01 24 53.3 -1.3
AKBB ePP PP 01 25 30.5 -1.8
AKBB eS S 01 30 53.2 -3.1
KIEV Kiev 64.73 316 eP P 01 22 59.5 -1.0
KIEV e 01 23 26.3
KIEV pmax pmax
comp=Z,3μm,1.6s
KIEV Kiev 64.73 316 eP P 01 22 59.5 -1.0
comp=Z,3μm,1.6s
KIEV ePcP PcP 01 23 26.2 -2.0
SIRT Sirnak 64.74 298 eP P 01 23 01.3 +0.3
SIRN S¯-rnak 64.76 298 iP P 01 23 00.7 -0.5
KKH Kailua Kona 64.81 86 eP P 01 23 02.9 +1.3
KKH Kailua Kona 64.81 86 eP P 01 23 02.9 +1.3
SUMG Summit 64.87 356 iP P 01 23 02.1 +0.5
SUMG iS S 01 30 57.3 -1.1
SUMG pmax pmax
comp=Z,540nm,1.0s
SUMG MLR MLR
comp=Z,9μm,20.0s
SUMG Summit 64.87 356 iP P 01 23 02.1 +0.5
comp=Z,539nm,1.0s
SUMG iS S 01 30 57.3 -1.1
SUMG i 01 34 21.8
comp=Z,9μm,19.0s
SUMG Summit 64.87 356 eP P 01 23 02.5 +0.9
comp=Z,861nm,1.1s
GUMT Gumushane 64.92 303 eP P 01 23 02.1 0.0
BTMT Batman 64.96 300 eP P 01 23 02.4 0.0
BNGB Bing¨¶l 65.01 301 eP P 01 23 02.7 0.0
POHA Pohakuloa 65.10 86 eP P 01 23 05.1 +1.4
comp=Z,4μm,0.8s
ESPY Espiye-Giresun 65.12 303 eP P 01 23 01.9 -1.3
SVAN Silvan-Diyarba 65.17 300 eP P 01 23 02.4 -1.2
EUZM Uzumlu 65.22 302 iP P 01 23 04.0 -0.1
KELT Kelkit 65.23 302 iP P 01 23 04.2 0.0
ERZN Erzincan 65.27 302 eP P 01 23 03.6 -0.8
BEST Besiri 65.27 299 iP P 01 23 04.7 +0.3
GRSN GIRESUNGRSN 65.39 304 iP P 01 23 03.5 -1.5
HFS Hagfors 65.41 331 P P 01 23 03.6 -1.1
HFS 01 23 31.7
HFS S S 01 31 03.2 -1.1
HFS pmax pmax
comp=Z,517nm,0.5s
HFS smax smax
comp=N,16nm,0.7s
HFS Hagfors 65.41 331 P P 01 23 03.6 -1.1
comp=N,516nm,0.5s,baz=52,slow=5.9,SNR=15
HFS PcP PcP 01 23 31.7 +0.7
comp=N,288nm,0.6s,baz=54,slow=5.8,SNR=4.2
HFS S S 01 31 03.2 -1.1
comp=N,16nm,0.7s,baz=114,slow=20,SNR=2.9
UWE Uwekahuna 65.49 86 eP P 01 23 07.4 +1.4
SIM Simferopol' 65.50 309c iP P 01 23 04.6 -0.9
SIM e 01 23 31.0
SIM e*PP pP 01 24 59.0 -1.1
SIM e 01 25 47.0
SIM iS S 01 31 04.0 -1.8
SIM eSS SS 01 35 41.0 +7.7
SIM pmax pmax
comp=Z,952nm,0.8s
PUH Pauahi 65.57 86 eP P 01 23 07.8 +1.2
SUW Suwalki 65.59 322 eP P 01 23 04.8 -1.1
SUW e 01 23 33.1
SUW e*PP pP 01 25 03.3 +2.8
SUW eS S 01 31 04.4 -2.2
SUW e 01 32 04.3
SUW pmax pmax
comp=Z,2μm,1.4s
SUW Suwalki 65.59 322 eP P 01 23 04.8 -1.1
SUW ePcP PcP 01 23 33.1 +1.3
SUW epP pP 01 25 03.2 +2.8
SUW eS S 01 31 04.3 -2.3
SUW eScS SKSac 01 32 04.3 -0.7
SUW e 01 39 36.4
SUW LMZ LR 01 50 35.3
SUW Suwalki 65.59 322 eP P 01 23 04.8 -1.1
comp=Z,946nm,1.0s
STCH Steam Cracks 65.63 86 eP P 01 23 08.1 +1.2
DOMB Dombas 65.65 334 eP P 01 23 06.1 -0.1
DOMB IAmb IAmb 01 23 12.0
comp=Z,195nm,0.8s
NB2 NORSAR Subarra 65.65 332 P P 01 23 05.3 -0.9
comp=Z,1μm,1.1s,baz=41,slow=6.5
NB2 NORSAR Subarra 65.65 332 P P 01 23 05.3 -0.9
baz=41,slow=6.5
NB200 NORSAR Array S 65.65 332 eP P 01 23 05.7 -0.6
NB200 epP pP 01 25 01.4 +0.6
NB200 ePP PP 01 25 39.6 -0.5
NB200 eS S 01 31 07.9 +0.7
NOA NORSAR Array B 65.65 332 P P 01 23 05.7 -0.6
NOA *PP pP 01 25 01.4 +0.6
NOA 01 25 39.6
NOA S S 01 31 07.9 +0.7
NOA pmax pmax
comp=Z,264nm,0.7s
NOA pmax pmax
comp=Z,270nm,1.1s
NOA smax smax
comp=N,10.0nm,0.8s
NOA NORSAR Array B 65.65 332 P P 01 23 05.7 -0.6
comp=N,264nm,0.7s,baz=42,slow=6.2,SNR=478
NOA pP pP 01 25 01.4 +0.6
comp=N,54nm,0.9s,baz=47,slow=6.6,SNR=2.3
NOA PP PP 01 25 39.6 -0.5
comp=N,270nm,1.1s,baz=46,slow=8.6,SNR=3.6
NOA S S 01 31 07.9 +0.7
comp=N,10nm,0.8s,baz=50,slow=12,SNR=2.8
NOA PKPPKP P'P'df 01 51 33.3 -5.2
comp=N,2.9nm,0.9s,baz=221,slow=4.1,SNR=4.0
NOA P4KPbc 01 59 43.3
comp=N,0.5nm,0.7s,baz=47,slow=5.0,SNR=3.3
MOL Molde 65.75 335 eP P 01 23 06.4 -0.3
MOL eS S 01 31 09.4 +1.3
NC602 NORSAR Array S 65.75 332 eP P 01 23 05.7 -1.1
SUSE Susehri 65.85 303 iP P 01 23 07.0 -1.0
PTK Pertek 65.88 301 eP P 01 23 08.4 +0.1
MARD Mardin 65.93 299 iP P 01 23 08.2 -0.3
DYBB Diyarbakir 65.96 300 eP P 01 23 08.6 0.0
DIYA Diyarbakir 65.99 300 iP P 01 23 08.4 -0.4
AS12 Alice Springs 66.00 177 eP P 01 23 08.7 -0.2
AS12 epP pP 01 25 04.2 +0.3
AS12 eS S 01 31 09.5 -2.7
ASAR Alice Springs 66.00 177 P P 01 23 08.7 -0.2
ASAR *PP pP 01 25 04.2 +0.3
ASAR S S 01 31 09.5 -2.7
ASAR pmax pmax
comp=Z,115nm,0.7s
ASAR smax smax
comp=N,7.0nm,0.9s
ASAR Alice Springs 66.00 177 P P 01 23 08.7 -0.2
comp=N,115nm,0.7s,baz=358,slow=5.4,SNR=357
ASAR pP pP 01 25 04.2 +0.3
comp=N,20nm,0.8s,baz=356,slow=5.5,SNR=1.2
ASAR S S 01 31 09.5 -2.7
comp=N,7.4nm,0.9s,baz=330,slow=11,SNR=4.0
ASAR PKPPKP P'P'df 01 51 27.8 -6.0
comp=N,4.8nm,0.8s,baz=153,slow=3.4,SNR=6.4
MAZI Mazidag 66.05 299 eP P 01 23 08.9 -0.4
ILIC ilic-Erzincan 66.07 302 eP P 01 23 12.5 +3.1
KEMA Kemaliye 66.23 302 iP P 01 23 10.0 -0.2
KBSD Kabsdagh 66.26 299 eP P 01 23 10.1 -0.4
KBSD AML AML 01 23 14.6
comp=N,583nm,0.7s
KBSD AML AML 01 23 23.0
comp=E,248nm,0.6s
RSDY Resadiye-TOKAT 66.28 304 eP P 01 23 10.1 -0.4
ELZG Elazig 66.37 301 iP P 01 23 11.7 +0.4
HCB Kahramanmara¯ 66.47 300 iP P 01 23 22.7 +11
OSL Oslo 66.61 332 eP P 01 23 11.8 -0.3
OSL IAmb IAmb 01 23 17.7
comp=Z,801nm,0.5s
KVT Kavak 66.66 305 eP P 01 23 13.0 +0.1
SORM Soroca 66.73 315 ⇑P P 01 23 11.8 -1.3
SORM Soroca 66.73 315⇑iP P 01 23 11.8 -1.3
SVSK Karacayir 66.77 303 eP P 01 23 13.6 +0.1
DIKM Dikmen 66.79 306 eP P 01 23 13.5 -0.1
MALT Malatya 66.83 301 eP P 01 23 14.2 +0.1
MALT Malatya 66.83 301 ⇑P P 01 23 13.9 -0.2
MALT Malatya 66.83 301⇑iP P 01 23 13.9 -0.2
TOKA Tokat 66.85 304 iP P 01 23 13.6 -0.5
HAVZ Havza 66.86 305 iP P 01 23 14.3 +0.2
SFNV Sufian 66.89 299 eP P 01 23 14.5 +0.2
SFNV AML AML 01 23 19.6
comp=Z,237nm,0.5s
URFA Urfa 67.11 300 eP P 01 23 15.8 +0.1
BOYT Boyabat 67.14 306 iP P 01 23 15.7 -0.1
AKCD Akcadag 67.16 301 iP P 01 23 16.1 0.0
KIS Kishinev 67.19 313κ iP P 01 23 15.0 -0.9
KIS i*PP pP 01 25 10.0 -1.3
KIS i 01 26 01.0
KIS iPPP PPP 01 27 42.0
KIS iS S 01 31 22.0 -3.7
KIS i 01 31 54.0
KIS i 01 32 15.0
KIS iSSS SSS 01 39 08.0
KIS pmax pmax
comp=N,990nm,2.0s
KIS pmax pmax
comp=E,1μm,2.0s
KIS pmax pmax
comp=Z,2μm,2.0s
KIS pmax pmax
comp=N,3μm,11.0s
KIS pmax pmax
comp=E,3μm,11.0s
KIS pmax pmax
comp=Z,8μm,11.0s
KIS pmax pmax
comp=Z,9μm,12.0s
KIS pmax pmax
comp=Z,4μm,16.0s
KIS pmax pmax
comp=Z,4μm,16.0s
KIS smax smax
comp=N,3μm,2.0s
KIS smax smax
comp=E,3μm,2.5s
KIS smax smax
comp=E,20μm,13.0s
KIS smax smax
comp=N,12μm,13.0s
KIS MLR MLR
comp=Z,10μm,17.0s
KIS MLR MLR
comp=N,6μm,16.0s
KIS MLR MLR
comp=E,9μm,18.0s
KIS MLR MLR
comp=Z,10μm,18.0s
KIS Kishinev 67.19 313⇓iP P 01 23 15.1 -0.9
KIS Kishinev 67.19 313 iP P 01 23 15.0 -0.9
comp=Z,2μm,2.0s
KIS ipP pP 01 25 10.0 -1.3
KIS Kishinev 67.19 313 iPP PP 01 26 01.0 +7.4
comp=Z,4μm,16.0s
KONO Kongsberg 67.21 332 eP P 01 23 15.5 -0.3
KONO pmax pmax
comp=Z,430nm,1.0s
KONO Kongsberg 67.21 332 eP P 01 23 14.7 -1.1
KONO epP pP 01 25 11.2 0.0
KONO eS S 01 31 23.3 -2.2
KONO Kongsberg 67.21 332 eP P 01 23 15.5 -0.3
comp=Z,430nm,1.0s
HYA Hoyanger 67.22 334 eP P 01 23 15.2 -0.6
HYA IAmb IAmb 01 23 21.7
comp=Z,664nm,0.5s
HYA eS S 01 31 25.6 +0.1
FOO Floro 67.26 335 eP P 01 23 15.5 -0.5
DARE Darende-Malaty 67.28 302 eP P 01 23 17.0 +0.3
BZK Bozkurt 67.35 307 eP P 01 23 16.8 -0.2
ATAB Bozova 67.42 301 iP P 01 23 17.8 +0.2
KAST KASTAMONU 67.68 306 iP P 01 23 18.9 -0.2
CTKT Corum 67.69 305 iP P 01 23 19.1 -0.2
MNKR ALMNKUR 67.72 299 eP P 01 23 17.6 -1.8
MNKR AML AML 01 23 21.4
comp=E,642nm,0.5s
MNKR AML AML 01 23 23.2
comp=N,594nm,0.6s
IAS Iasi 67.74 314 ⇓P P 01 23 18.4 -0.9
IAS Iasi 67.74 314⇓iP P 01 23 18.4 -0.9
SUE Sulen 67.76 335 eP P 01 23 19.0 -0.1
LEOM Leova 67.83 313 ⇓P P 01 23 18.9 -0.9
LEOM Leova 67.83 313⇓iP P 01 23 18.9 -0.9
OCP Olym-Cheeka Pk 67.84 44 eP P 01 23 21.1 +1.2
LVV L'vov 67.87 318 eP P 01 23 20.0 0.0
LVV e 01 23 48.2
LVV ePPP PPP 01 27 51.2
LVV eS S 01 31 33.8 +0.3
LVV e 01 32 19.4
LVV eSS SS 01 36 17.8 +8.4
LVV smax smax
comp=N,5μm,2.5s
LVV MLR MLR
comp=E,7μm,15.0s
LVV MLR MLR
comp=Z,6μm,15.0s
LVV MLR MLR
comp=N,3μm,14.0s
TOS Tosya 67.90 306 eP P 01 23 21.2 +0.7
KSRV Kasrt alli 67.94 299 eP P 01 23 20.5 -0.2
KSRV AML AML 01 23 25.0
comp=E,1μm,0.6s
KSRV AML AML 01 23 26.4
comp=N,199nm,0.6s
GZT Gaziantep 67.96 301 iP P 01 23 21.1 +0.1
YOZ Yozgat 67.97 304 eP P 01 23 21.1 0.0
ODD1 Odda 68.03 333 eP P 01 23 20.8 -0.1
ODD1 IAmb IAmb 01 23 26.9
comp=Z,527nm,0.4s
RUND Rundenannen 68.06 334 eP P 01 23 19.9 -1.1
ASK Askoy 68.06 334⇓iP P 01 23 21.8 +0.9
CORM Corum 68.06 305 eP P 01 23 21.7 +0.1
BER Bergen 68.09 334 eP P 01 23 19.3 -1.4
BER epP pP 01 25 19.3 +2.4
BER eS S 01 31 35.1 -0.6
BEL Belsk 68.10 321 eP P 01 23 21.4 0.0
BEL e 01 23 48.8
BEL e 01 26 06.7
BEL eS S 01 31 35.2 -0.9
BEL e 01 32 26.9
BEL eSS SS 01 36 09.5 -3.2
BEL pmax pmax
comp=Z,5μm,1.4s
BEL Belsk 68.10 321 eP P 01 23 21.4 0.0
BEL e 01 23 48.7
BEL ePP PP 01 26 06.7 +5.5
BEL eS S 01 31 35.2 -0.9
BEL eScS ScS 01 32 26.9 +1.6
BEL esS sS 01 35 01.0 -1.8
BEL eSS SS 01 36 09.5 -3.2
BEL e 01 40 29.0
BEL LMZ LR 01 53 30.0
BNN Bunyan 68.12 303 eP P 01 23 21.7 -0.3
KMRS Kahramanmaras 68.28 301 eP P 01 23 22.7 -0.1
TLCR 68.33 312 ⇓P P 01 23 22.0 -0.8
TLCR 68.33 312⇓iP P 01 23 22.0 -0.8
CANT Cankiri 68.41 306 eP P 01 23 23.5 0.0
BSD Bornholm Skovb 68.44 326⇓iP P 01 23 22.4 -0.9
BSD i 01 23 50.6
BSD iS S 01 31 35.0 -4.8
BSD pmax pmax
comp=Z,830nm,0.9s
BSD MLR MLR
comp=Z,8μm,12.0s
BSD Bornholm Skovb 68.44 326⇓iP P 01 23 22.4 -0.9
comp=Z,831nm,0.9s
BSD i 01 23 50.6
BSD iS S 01 31 35.0 -4.8
comp=Z,8μm,12.0s
BLS5 Blasjo 68.45 333 eP P 01 23 23.4 0.0
GIUM Giurgiulesti 68.47 312⇓iP P 01 23 23.2 -0.5
ILULI Ilulissat 68.50 1⇑iP P 01 23 23.1 -0.3
ILULI pmax pmax
comp=Z,410nm,0.8s
ILULI MLR MLR
comp=Z,6μm,19.0s
ILULI Ilulissat 68.50 1⇑iP P 01 23 23.1 -0.3
comp=Z,409nm,0.8s
comp=Z,5μm,19.0s
RBK Rabkut 68.52 274 ⇓P P 01 23 23.7 -0.9
SNR=201
CDAG Cicekdag 68.56 304 iP P 01 23 24.1 -0.4
SAFT Safranbolu 68.57 307 eP P 01 23 24.5 0.0
ANDN Andirin 68.59 302 iP P 01 23 23.6 -1.1
ELDT Eldivan 68.60 306 iP P 01 23 24.3 -0.5
HOMB Homborsund 68.61 331 eP P 01 23 23.7 -0.6
KUZU Kuzuini 68.62 301 iP P 01 23 24.6 -0.3
KAMA Osmaniye 68.63 301 iP P 01 23 24.1 -0.9
KWP Kalwaria Pacla 68.65 318 eP P 01 23 24.7 0.0
KWP e 01 23 51.8
KWP e*PP pP 01 25 20.8 0.0
KWP eS S 01 31 41.0 -1.5
KWP e 01 32 27.2
KWP pmax pmax
comp=Z,5μm,1.8s
KWP Kalwaria Pacla 68.65 318 eP P 01 23 24.7 0.0
KWP e 01 23 51.7
KWP epP pP 01 25 20.8 0.0
KWP eS S 01 31 41.0 -1.5
KWP eScS SKSac 01 32 27.2 -1.2
KWP esS sS 01 35 13.2 +3.6
KWP eSS SS 01 36 13.3 -7.9
KWP e 01 40 33.4
KWP LMZ LR 01 51 50.5
KWP Kalwaria Pacla 68.65 318⇓iP P 01 23 24.6 -0.1
TESR Tescani 68.66 314⇓iP P 01 23 23.9 -0.9
BURAR Bucovina Array 68.70 316 ⇓P P 01 23 24.7 -0.5
BURAR Bucovina Array 68.70 316⇓iP P 01 23 24.7 -0.5
CFR Carcaliu 68.70 312 ⇑P P 01 23 24.1 -1.1
CFR Carcaliu 68.70 312⇑iP P 01 23 24.0 -1.1
GKP Gorka Klasztor 68.74 324 eP P 01 23 24.8 -0.3
GKP e 01 23 46.0
GKP e*PP pP 01 25 20.1 -1.1
GKP eS S 01 31 41.7 -1.6
GKP e 01 32 30.4
GKP pmax pmax
comp=Z,700nm,0.9s
GKP MLR MLR
comp=Z,15μm,17.4s

GKP Gorka Klasztor 68.74 324 eP P 01 23 24.8 -0.3
GKP ePcP PcP 01 23 45.9 +0.8
GKP epP pP 01 25 20.1 -1.1
GKP eS S 01 31 41.6 -1.7
GKP eScS ScS 01 32 30.4 +0.2
GKP esS sS 01 35 10.0 -0.5
GKP eSS SS 01 36 09.7 -13
GKP e 01 40 46.8
GKP LMZ LR 01 54 49.2
AVNT Avonos 68.78 303 i P P 01 23 25.5 -0.5
NLWA Neilton Lookou 68.81 45 eP P 01 23 27.4 +1.5
comp=Z,892nm,1.0s
NLWA epP pP 01 25 23.7 +1.7
PETR Petresti 68.85 313⇓iP P 01 23 26.5 +0.5
BLN Blyn Mountain 68.88 44 eP P 01 23 27.5 +1.3
BR101 Keskin Array S 68.94 305 eP P 01 23 26.2 -0.7
BR101 epP pP 01 25 23.2 +0.1
BR101 ePP PP 01 26 08.1 -0.8
BR101 eS S 01 31 46.3 -0.2
BR101 eP'P'df P'P'df 01 51 22.1 -11
BRTR Keskin Array B 68.94 305 P P 01 23 26.2 -0.7
BRTR *PP pP 01 25 23.2 +0.1
BRTR 01 26 08.1
BRTR S S 01 31 46.3 -0.2
BRTR pmax pmax
comp=Z,174nm,0.5s
BRTR pmax pmax
comp=Z,88nm,0.9s
BRTR smax smax
comp=N,4.0nm,0.8s
BRTR Keskin Array B 68.94 305 P P 01 23 26.2 -0.7
comp=N,174nm,0.5s,baz=69,slow=3.6,SNR=251
BRTR pP pP 01 25 23.2 +0.1
comp=N,50nm,1.0s,baz=68,slow=3.5,SNR=2.4
BRTR PP PP 01 26 08.1 -0.8
comp=N,88nm,0.9s,baz=79,slow=7.4,SNR=3.3
BRTR S S 01 31 46.3 -0.2
comp=N,3.9nm,0.8s,baz=126,slow=4.1,SNR=3.1
BRTR PKPPKP P'P'df 01 51 22.1 -11
comp=N,5.8nm,0.9s,baz=214,slow=2.5,SNR=6.2
TIRR Tirgusor 69.01 311 eP P 01 23 26.7 -0.3
TIRR e 01 23 53.6
TIRR eS S 01 31 47.3 +0.6
TIRR pmax pmax
comp=Z,508nm,1.2s
TIRR Tirgusor 69.01 311⇓iP P 01 23 26.2 -0.8
TIRR Tirgusor 69.01 311 eP P 01 23 26.7 -0.3
comp=Z,508nm,1.2s
TIRR ePcP PcP 01 23 53.6 +7.2
TIRR eS S 01 31 47.3 +0.6
SNART Snartemo 69.02 332 eP P 01 23 26.5 -0.3
SNART IAmb IAmb 01 23 32.2
KMY Karmoy 69.02 333⇓iP P 01 23 26.6 -0.1
KMY IAmb IAmb 01 23 33.4
comp=Z,848nm,1.3s
KMY eS S 01 31 45.1 -1.2
KMY eSS SS 01 36 27.4 +1.1
VRI Vrincioaia 69.03 313⇓iP P 01 23 26.9 -0.2
VRI Vrincioaia 69.03 313⇓iP P 01 23 26.9 -0.2
COP Copenhagen 69.03 328⇓iP P 01 23 26.7 -0.2
COP i 01 23 53.7
COP i S S 01 31 44.8 -1.8
COP pmax pmax
comp=Z,490nm,0.8s
COP MLR MLR
comp=Z,3μm,19.0s
COP Copenhagen 69.03 328⇓iP P 01 23 26.7 -0.2
comp=Z,488nm,0.7s
COP i 01 23 53.7
COP i S S 01 31 44.8 -1.8
comp=Z,3μm,18.0s
PLOR Plostina 69.08 313 ⇓P P 01 23 27.0 -0.4
PLOR Plostina 69.08 313⇓iP P 01 23 27.0 -0.4
EFOR EFORIE 69.13 311⇓iP P 01 23 27.3 -0.4
BCAM Yenicaga 69.20 307 i P P 01 23 27.8 -0.6
GRER 69.21 313⇓iP P 01 23 29.1 +0.9
KDZE Karadeniz Ereo 69.26 307 eP P 01 23 25.3 -3.3
ABTO Aybut 69.28 275 ⇓P P 01 23 28.4 -0.8
SNR=232
JCW Jim Creek 69.28 43 eP P 01 23 29.7 +1.1
B06A Marblemount 69.29 43 eP P 01 23 29.3 +0.8
comp=Z,1μm,0.8s
CEYT Ceyhan 69.31 302 eP P 01 23 29.1 +0.2
MANR Mangalia 69.32 311⇑iP P 01 23 28.7 -0.1
KOLS Kolonicke sedl 69.32 318 eP P 01 23 27.8 -1.0
KOLS pmax pmax
comp=Z,562nm,1.8s
KOLS Kolonicke sedl 69.32 318 eP P 01 23 27.8 -1.0
KOLS ePP PP 01 26 09.3 -2.4
KOLS eS S 01 31 46.0 -4.3
KOLS eSCS SKKSac 01 32 33.7 +0.1
KOLS esS sS 01 35 23.1 +5.2
KOLS e 01 40 38.8
KOLS e 01 50 43.8
KOLS e 01 51 25.4
NIG Nigde 69.34 303 eP P 01 23 31.4 +1.9
ANTO Ankara 69.36 305 eP P 01 23 29.4 +0.1
ANTO Ankara 69.36 305 ⇓P P 01 23 29.0 -0.3
ANTO Ankara 69.36 305⇓iP P 01 23 29.0 -0.3
ANTO Ankara 69.36 305 eP P 01 23 29.0 -0.3
comp=Z,1μm,0.9s
BBAL Bala 69.37 305 i P P 01 23 28.8 -0.6
LOD Lodumlu 69.37 305 eP P 01 23 29.1 -0.2
LLD Lille Linde 69.37 328 i P P 01 23 28.5 -0.4
LLD Lille Linde 69.37 328 i P P 01 23 28.5 -0.4
AFSR Af¯ar-Bala (A 69.46 305 eP P 01 23 29.6 -0.3
BTCH Batrach 69.46 300 eP P 01 23 29.9 -0.1
BTCH AML AML 01 23 33.9
comp=N,638nm,0.7s
BTCH AML AML 01 23 42.9
comp=E,518nm,0.9s
STHS Stebnicka Huta 69.50 319 eP P 01 23 29.7 -0.2
STHS pmax pmax
comp=Z,340nm,0.9s
STHS Stebnicka Huta 69.50 319 eP P 01 23 29.7 -0.2
STHS eS S 01 31 54.4 +2.0
STHS eSCS ScS 01 32 35.9 -0.7
AMRR Amara 69.50 312 ⇓P P 01 23 29.9 0.0
AMRR Amara 69.50 312⇓iP P 01 23 29.9 0.0
PGOR Pogoanele 69.50 313⇓iP P 01 23 30.0 +0.1
UZH Uzhgorod 69.51 318 eP P 01 23 30.4 +0.5
UZH i 01 25 26.6
UZH e 01 27 56.2
UZH i S S 01 31 52.8 +0.4
UZH i 01 32 25.8
UZH e 01 32 37.6
UZH e 01 36 34.6
E03A Lebam 69.52 45 eP P 01 23 31.6 +1.6
comp=Z,2μm,0.8s
MSAB Monastry St. A 69.57 311⇓iP P 01 23 30.1 -0.2
KARA Karaisali 69.59 302 eP P 01 23 30.5 -0.1
ISR Istrita 69.61 313 ⇓P P 01 23 30.8 +0.2
ISR Istrita 69.61 313⇓iP P 01 23 30.8 +0.2
PSN Preselentsi 69.63 311 ⇓P P 01 23 30.7 0.0
PSN Preselentsi 69.63 311⇓iP P 01 23 30.6 -0.1
OJC Ojcow 69.66 320⇓iP P 01 23 30.6 -0.1
OJC e 01 23 49.2
OJC i *PP pP 01 25 26.7 -0.6
OJC i 01 26 15.9
OJC i S S 01 31 51.6 -2.4
OJC i 01 32 36.9
OJC i SS SS 01 36 41.0 +4.5
OJC MLR MLR
comp=Z,13μm,15.8s
OJC Ojcow 69.66 320 i P P 01 23 30.6 -0.1
OJC ePcP PcP 01 23 49.2 +0.1
OJC e 01 23 57.9
OJC i pP pP 01 25 26.7 -0.6
OJC i PP PP 01 26 15.9 +1.4
OJC i S S 01 31 51.6 -2.4
OJC i SKSac ScS 01 32 36.9 -0.8
OJC i sS sS 01 35 21.5 -0.4
OJC i SS SS 01 36 41.0 +4.5
OJC L L 01 59 23.0
comp=Z,13μm,15.8s
OJC Ojcow 69.66 320 eP P 01 23 30.6 -0.1
comp=Z,822nm,0.8s
OJC ePcP PcP 01 23 57.1 +8.0
DOPR Dopca 69.68 314⇓iP P 01 23 31.0 0.0
MLR Muntele Rosu 69.69 314 P P 01 23 30.5 -0.7
MLR S S 01 31 51.7 -3.1
MLR pmax pmax
comp=Z,45nm,0.5s
MLR smax smax
comp=N,2.0nm,0.9s
MLR Muntele Rosu 69.69 314⇓iP P 01 23 30.8 -0.4
MLR Muntele Rosu 69.69 314 P P 01 23 30.5 -0.7
comp=N,44nm,0.5s,baz=79,slow=3.8
MLR S S 01 31 51.7 -3.1
comp=N,1.9nm,0.9s,baz=111,slow=18,SNR=1.9
MLR PKPPKP P'P'df 01 51 25.9 -6.2
comp=N,3.3nm,1.2s,baz=269,slow=6.0,SNR=3.5
MUD Monsted U'grnd 69.72 330 i P P 01 23 31.1 +0.2
MUD i S S 01 31 52.4 -2.0
MUD pmax pmax
comp=Z,430nm,0.9s
MUD MLR MLR
comp=Z,9μm,13.0s
MUD Monsted U'grnd 69.72 330 i P P 01 23 31.1 +0.2
comp=Z,431nm,0.8s
MUD i S S 01 31 52.4 -2.0
comp=Z,9μm,12.0s
TRPA Tarpa 69.72 317⇓iP P 01 23 31.2 +0.1
TRPA Tarpa 69.72 317⇓e P 01 23 31.0 -0.1
C05A Tolt Reservoir 69.73 43 eP P 01 23 32.3 +1.0
CRVS Cervenica-Dubn 69.74 318 eP P 01 23 30.8 -0.5
CRVS pmax pmax
comp=Z,360nm,1.3s
CRVS Cervenica-Dubn 69.74 318 eP P 01 23 30.8 -0.5
CRVS e 01 26 11.8
CRVS eS S 01 31 51.9 -3.2
CRVS eSCS SKSac 01 32 36.4 -0.3
CRVS esS sS 01 35 24.7 +1.6
CRVS e 01 40 27.2
CRVS e 01 50 37.0
CRVS e 01 51 24.7
BMW Boistfort Moun 69.75 45 eP P 01 23 32.7 +1.3
BMW Boistfort Moun 69.75 45 eP P 01 23 32.7 +1.3
BSTP Nigde 69.75 303 i P P 01 23 32.3 +0.5
GULE Gulek 69.75 302 i P P 01 23 32.1 +0.2
WRDH Warideh 69.82 300 eP P 01 23 31.0 -1.1
WRDH AML AML 01 23 44.4
comp=E,330nm,0.7s
WRDH AML AML 01 23 53.3
comp=N,261nm,0.6s
EDM Edmonton 69.84 35 eP P 01 23 32.4 +0.5
EDM Edmonton 69.84 35 eP P 01 23 32.4 +0.5
ARNB Al Arnab 69.88 300 eP P 01 23 32.1 -0.4
ARNB AML AML 01 23 38.0
comp=N,1μm,0.6s
ARNB AML AML 01 23 38.6
comp=E,581nm,0.6s
D05A Enumclaw 69.92 44 eP P 01 23 33.8 +1.5
comp=E,1μm,0.9s
SECR 69.92 313⇑iP P 01 23 32.1 -0.3
F03A Seaside 69.93 46 eP P 01 23 33.8 +1.4
comp=E,4μm,1.7s
F03A epP pP 01 25 31.4 +2.3
MDUB Mudurnu 69.94 307 eP P 01 23 32.4 -0.3
NIE Niedzica 69.95 319⇓iP P 01 23 32.8 +0.2
NIE i *PP pP 01 25 30.2 +1.0
NIE i 01 26 20.6
NIE i S S 01 31 56.7 -0.8
NIE i 01 32 38.9
NIE i SS SS 01 36 46.5 +5.4
NIE Niedzica 69.95 319 i P P 01 23 32.8 +0.2
NIE e 01 24 00.2
NIE i pP pP 01 25 30.2 +1.0
NIE i PP PP 01 26 20.6 +3.6
NIE i S S 01 31 56.7 -0.8
NIE i SKSac SKKSac 01 32 38.9 +0.5
NIE i sS sS 01 35 27.1 +1.5
NIE i SS SS 01 36 46.5 +5.4
NIE L L 01 52 04.0
comp=E,8μm,16.8s
SULT Sultanhani-AKS 69.97 304 eP P 01 23 32.6 -0.3
BTAS Taskesti 69.99 307 i P P 01 23 32.5 -0.5
PLAR PLOIESTI 70.02 313⇓iP P 01 23 32.9 -0.1
SULR 70.05 313⇓iP P 01 23 32.9 -0.2
MDB Medias 70.09 315 ⇑P P 01 23 33.6 +0.2
MDB Medias 70.09 315⇑iP P 01 23 33.6 +0.2
F04D Rainier, OR 70.12 45 ⇑P P 01 23 34.9 +1.3
baz=70
CJR Cluj-Napoca 70.12 316 ⇑P P 01 23 33.8 +0.1
CJR Cluj-Napoca 70.12 316⇑iP P 01 23 33.8 +0.1
MERS Mersin 70.17 302 eP P 01 23 33.6 -0.5
BIDA Albida 70.19 300 eP P 01 23 34.3 +0.1
BIDA AML AML 01 23 38.5
comp=N,510nm,0.6s
BIDA AML AML 01 23 41.8
comp=E,784nm,0.6s
EIDS Eidsvold 70.20 160 eP P 01 23 35.6 +1.4
comp=E,253nm,0.6s
VOIR 70.20 314 ⇓P P 01 23 33.6 -0.6
VOIR 70.20 314⇓iP P 01 23 33.6 -0.6
SOFL Sornfelli, Far 70.25 340 eP P 01 23 33.0 -1.1
SOFL AMB AMB 01 23 40.3
comp=Z,877nm,1.3s
INCR INCERC-Sediu C 70.25 313⇓iP P 01 23 34.3 -0.1
BTMR Bucharest-Geot 70.29 313⇓iP P 01 23 34.7 +0.1
LRW Lerwick 70.29 337 eP P 01 23 34.5 +0.2
LRW AMB AMB 01 23 40.3
comp=Z,758nm,1.1s
BAPR Bucharest-Chil 70.30 313⇓iP P 01 23 34.8 +0.2
SPNC Sapanca-Adapaz 70.32 307 eP P 01 23 34.7 -0.2
GULT Gulveren 70.36 307 eP P 01 23 34.7 -0.5
PRD Provadia 70.38 311 ⇓P P 01 23 35.0 -0.1
BUC1 Bucharest 70.39 313 ⇓P P 01 23 35.4 +0.2
BUC1 Bucharest 70.39 313⇓iP P 01 23 35.4 +0.2
SVRH Sivrihisar-ESK 70.39 306 eP P 01 23 34.7 -0.7
CIOR Ciorogarla 70.40 313⇓iP P 01 23 34.4 -0.9
SILT Sile 70.41 308 eP P 01 23 35.1 -0.2
HAWK Haweek 70.44 299 eP P 01 23 35.0 -0.8
HAWK AML AML 01 23 39.6
comp=N,344nm,0.7s
HAWK AML AML 01 23 42.4
comp=E,300nm,0.7s
B08A Colville Reser 70.47 42 eP P 01 23 36.2 +0.5
comp=E,514nm,1.0s
ARR Arges 70.47 314⇓iP P 01 23 35.9 +0.2
RAC Raciborz 70.50 321 eP P 01 23 35.9 +0.2
RAC e*PP pP 01 25 33.4 +0.7
RAC eS S 01 32 01.9 -1.7
RAC MLR MLR
comp=Z,10μm,18.6s
F04A Amboy 70.53 45 eP P 01 23 37.0 +1.0
comp=Z,944nm,0.9s
DRGR 70.53 316 ⇓P P 01 23 35.7 -0.4
DRGR 70.53 316⇓iP P 01 23 35.7 -0.4
KIZT Kizilcal 70.53 305 eP P 01 23 35.6 -0.7
LTY Liberty 70.54 43 eP P 01 23 36.6 +0.5
comp=Z,374nm,0.5s
G03D McMinnville, O 70.56 46 ⇓P P 01 23 37.5 +1.4
baz=70
G03D ⇑S S 01 32 07.9 +3.5
baz=70
FKH Fakeheh 70.61 299 eP P 01 23 36.2 -0.6
HRT Hereke 70.61 308 eP P 01 23 36.2 -0.5
KDHN Kadinhani 70.62 305 i P P 01 23 36.3 -0.5
KIZK Mersin 70.65 302 i P P 01 23 36.3 -0.6
LADK Ladik-KONYA 70.67 304 eP P 01 23 36.3 -0.8
OKC Ostrava-Krasne 70.69 321⇓iP P 01 23 36.7 -0.2
OKC e*PP pP 01 25 35.0 +1.1
OKC e 01 26 27.8
OKC eS S 01 32 03.8 -2.0
OKC MLR MLR
comp=Z,7μm,13.8s
OKC Ostrava-Krasne 70.69 321⇓iP P 01 23 36.7 -0.2
OKC ex x 01 24 04.5
OKC epP pP 01 25 35.0 +1.1
OKC ePP PP 01 26 27.8 +4.6
OKC eS S 01 32 03.8 -2.0
OKC eXS sS 01 35 36.6 +2.1
OKC eSKKP 01 45 53.2
OKC ex x 01 50 33.1
OKC ePKPPKP P'P'df 01 51 22.2 -7.9
OKC AMS AMS 01 56 20.0
comp=Z,7μm,13.8s
KLYT Kilyos 70.70 309 eP P 01 23 36.6 -0.4
SFJD Kangerlussuaq 70.73 1 i P P 01 23 36.6 -0.1
SFJD pmax pmax
comp=Z,300nm,0.9s
SFJD MLR MLR
comp=Z,3μm,18.0s
SFJD Kangerlussuaq 70.73 1 i P P 01 23 36.6 -0.1
comp=Z,297nm,0.9s
comp=Z,3μm,18.0s
SFJD Kangerlussuaq 70.73 1 P P 01 23 36.6 -0.1
comp=Z,173nm,0.6s,baz=5.4,slow=5.5,SNR=18
SFJD S S 01 32 03.6 -1.9
comp=Z,35nm,1.0s,baz=253,slow=22,SNR=18
SFJD Kangerlussuaq 70.73 1 eP P 01 23 36.6 -0.1
comp=Z,796nm,1.1s
SFJD eS S 01 32 03.6 -1.9
SEYT Eskypehyr 70.75 306 i P P 01 23 36.4 -1.1
BORA Eskisehir 70.75 307 i P P 01 23 36.7 -0.8
BORG Borgarnes 70.76 348 P P 01 23 39.5 +2.5
comp=Z,2μm,1.0s,SNR=15
BORG Borgarnes 70.76 348 P P 01 23 37.7 +0.7
BORG S SKiKP 01 32 13.3 -4.4
BORG pmax pmax
comp=Z,135nm,1.0s
BORG smax smax
comp=N,14nm,1.0s
BORG Borgarnes 70.76 348 P P 01 23 37.7 +0.7
comp=N,135nm,1.0s,baz=12,slow=5.0,SNR=9.2
BORG S SKiKP 01 32 13.3 -4.4
comp=N,14nm,1.0s,baz=283,slow=16,SNR=2.0
BORG Borgarnes 70.76 348 eP P 01 23 39.3 +2.3
comp=N,405nm,1.1s
LIKS Likavka 70.78 320 eP P 01 23 39.3 +1.9
LIKS Likavka 70.78 320 eP P 01 23 39.3 +1.9
RUE Ruedersdorf 70.78 325 eP P 01 23 37.0 -0.3
comp=N,2μm,1.7s
ISK Istanbul-Kandi 70.81 308 P P 01 23 37.3 -0.4
ISK Istanbul-Kandi 70.81 308 P S 01 32 05.5 -1.8
ISK Istanbul-Kandi 70.81 308 eP P 01 23 37.2 -0.5
ASR Mount Adams--S 70.81 45 eP P 01 23 38.9 +1.1
ADVT Abdulvahap 70.82 307 eP P 01 23 37.3 -0.5
KONT Konya--Tatoy 70.83 304 eP P 01 23 37.5 -0.5
KSP Ksiaz 70.84 322⇓iP P 01 23 37.7 0.0
KSP e*PP pP 01 25 35.2 +0.4
KSP e 01 26 23.2
KSP eS S 01 32 05.8 -1.6
KSP Ksiaz 70.84 322 eP P 01 23 37.8 0.0
KSP e 01 24 05.2
KSP epP pP 01 25 35.6 +0.8
KSP ePP PP 01 26 24.8 +0.3
KSP eS S 01 32 06.0 -1.4
KSP eScS SKKSac 01 32 45.3 +0.3
KSP esS sS 01 35 33.2 -3.1
KSP eSS SS 01 36 41.6 -13
KSP LMZ LR 01 54 15.7
LOT Lotru 70.87 315⇓iP P 01 23 37.7 -0.5
BGKT Bogazkoy 70.90 309 eP P 01 23 37.7 -0.6
CAVI Cavuskoy 70.91 307 eP P 01 23 38.1 -0.3
COR Corvallis 70.95 47 eP P 01 23 39.9 +1.4
COR pmax pmax
comp=Z,1μm,0.8s
COR Corvallis 70.95 47 eP P 01 23 39.9 +1.4
comp=Z,1μm,0.8s
CTYL Yal??k??y-??at 70.99 309 eP P 01 23 38.3 -0.4
MORC Moravsky Berou 71.02 321 eP P 01 23 38.7 -0.2
MORC pmax pmax
comp=Z,2μm,1.6s
MORC Moravsky Berou 71.02 321⇓iP P 01 23 39.0 +0.1
MORC Moravsky Berou 71.02 321 eP P 01 23 38.7 -0.2
comp=Z,2μm,1.6s
MORC ePcP PcP 01 24 03.9 +9.0
CTKS Kestanelik-??a 71.02 309 eP P 01 23 38.3 -0.6
DEV Deva 71.03 315 ⇓P P 01 23 38.9 -0.1
DEV Deva 71.03 315⇓iP P 01 23 38.9 -0.1
RAYN Ar Rayn 71.07 285 P P 01 23 39.3 -0.3
comp=Z,1.0nm,1.0s
RAYN Ar Rayn 71.07 285 eP P 01 23 39.0 -0.7
comp=Z,17μm,1.5s
VT2 Vantage 2 71.08 43 eP P 01 23 40.1 +0.9
ELBA Catalca 71.12 309 i P P 01 23 38.6 -1.0
GEMT Gemlik 71.14 308 eP P 01 23 39.1 -0.5
QASN Qassioun 71.14 298 eP P 01 23 36.5 -3.4
QASN AML AML 01 23 42.8
comp=N,388nm,0.7s
QASN AML AML 01 23 46.2
comp=E,281nm,0.6s
TOTH TOTAH 71.15 298 eP P 01 23 39.7 -0.2
TOTH AML AML 01 23 44.0
comp=E,407nm,0.7s
TOTH AML AML 01 23 51.7
comp=N,152nm,0.7s
KRLC Kraliky 71.16 322⇓iP P 01 23 39.7 0.0
KRLC e*PP pP 01 25 38.5 +1.6
KRLC e 01 26 32.6
KRLC eS S 01 32 10.0 -1.1
KRLC Kraliky 71.16 322⇓iP P 01 23 39.7 0.0
KRLC ex x 01 24 07.1
KRLC epP pP 01 25 38.5 +1.6
KRLC ePP PP 01 26 32.6 +5.4
KRLC eS S 01 32 10.0 -1.1
KRLC ex x 01 50 32.3
KRLC ePKPPKP P'P'df 01 51 24.8 -4.5
KRLC ex x 01 51 30.6
KRLC ex x 01 54 04.4
DPC Dobruska-Polom 71.18 322⇓iP P 01 23 40.1 +0.3
DPC e 01 23 58.6
DPC e*PP pP 01 25 38.5 +1.5
DPC e 01 26 32.0
DPC eS S 01 32 10.9 -0.4
DPC Dobruska-Polom 71.18 322⇓iP P 01 23 40.1 +0.3
DPC ePCP PcP 01 23 58.6 +3.0
DPC ex x 01 24 08.5
DPC epP pP 01 25 38.5 +1.5
DPC ePP PP 01 26 32.0 +4.7
DPC eS S 01 32 10.9 -0.4
DPC eXS sS 01 35 42.7 +2.3
DPC eSKKP 01 45 54.2
DPC ex x 01 50 31.2
DPC ePKPPKP P'P'df 01 51 24.7 -4.6
DPC ex x 01 51 30.0
DPC Dobruska-Polom 71.18 322 eP P 01 23 40.1 +0.3
comp=N,8μm,1.3s
DPC epP pP 01 25 39.1 +2.1
PSZ Piszkesteto 71.18 318 ⇓P P 01 23 39.8 0.0
PSZ Piszkesteto 71.18 318⇓iP P 01 23 39.8 0.0
PSZ Piszkesteto 71.18 318 eP P 01 23 39.8 0.0
comp=N,799nm,1.2s
PSZ Piszkesteto 71.18 318⇓e P 01 23 40.0 +0.1
SLVT Silivri 71.19 309 eP P 01 23 39.9 -0.1
ZIMR 71.20 312 ⇓P P 01 23 39.1 -0.8
ZIMR 71.20 312⇓iP P 01 23 39.1 -0.8
UPC Upice 71.21 322⇓iP P 01 23 40.0 +0.1
UPC e*PP pP 01 25 36.3 -0.8
UPC e 01 26 28.4
UPC eS S 01 32 13.9 +2.4
UPC Upice 71.21 322⇓iP P 01 23 40.0 +0.1
UPC ex x 01 24 07.6
UPC epP pP 01 25 36.3 -0.8
UPC ePP PP 01 26 28.4 +0.9
UPC eS S 01 32 13.9 +2.4
UPC ex x 01 50 31.0
UPC ePKPPKP P'P'df 01 51 24.4 -4.8
UPC ex x 01 51 29.8
EREN Erenkoy 71.23 301 eP P 01 23 39.5 -0.8
ARMT Armutlu 71.25 308 eP P 01 23 39.6 -0.7
VYHS Vyhne 71.30 319 eP P 01 23 40.3 -0.2
VYHS pmax pmax
comp=Z,308nm,1.3s
VYHS Vyhne 71.30 319 eP P 01 23 40.3 -0.2
VYHS eS S 01 32 09.1 -3.5
VYHS eSCS SKKSac 01 32 48.5 -0.1
VYHS esS sS 01 35 52.7 +11
VYHS e 01 40 49.7
VYHS e 01 50 31.0
VYHS e 01 51 20.6
BHL Bhannes 71.31 299 eP P 01 23 39.6 -1.3
JMB Yambol 71.31 311 P P 01 23 38.8 -1.8
JMB Yambol 71.31 311 ⇓P P 01 23 39.1 -1.5
JMB Yambol 71.31 311⇓iP P 01 23 39.1 -1.5
ERMK Ermenek 71.32 303 i P P 01 23 40.0 -1.0
PHSR Pinarhisar 71.32 310 eP P 01 23 40.6 -0.1
DPW Davenport 71.35 42 eP P 01 23 41.9 +1.0
DPW Davenport 71.35 42 eP P 01 23 41.9 +1.0
ULDT Uludag 71.36 308 i P P 01 23 40.8 -0.4
MDNY Mudanya-Bursa 71.36 308 eP P 01 23 40.4 -0.5
E07A Sunnyside 71.43 43 eP P 01 23 42.1 +0.8
comp=Z,809nm,1.0s
BRBR Barbar 71.43 298 eP P 01 23 41.3 -0.5
BRBR AML AML 01 23 52.1

comp=N,208nm,0.7s
BRBR AML AML 01 23 53.4
comp=E,151nm,0.6s
GZR Gura Zlata 71.43 315 ⇓P P 01 23 41.0 -0.4
GZR Gura Zlata 71.43 315 ⇓iP P 01 23 41.0 -0.4
OD2 Odessa Site #2 71.43 42 eP P 01 23 42.0 +0.7
RCY Rachaya 71.45 299 eP P 01 23 41.1 -0.7
H04A Detroit Lake 71.48 46 eP P 01 23 42.3 +0.6
comp=E,695nm,0.8s
ALT Altintas 71.48 306 P P 01 23 41.2 -0.6
ALT Altintas 71.48 306 eP P 01 23 41.3 -0.6
I03D Drain, OR 71.51 47 ⇑P P 01 23 43.4 +1.6
baz=71
CRLT Corlu 71.53 309 eP P 01 23 42.3 +0.3
SHUT Suhut-Afyon 71.54 306 eP P 01 23 42.0 -0.3
D08A Wollman Farm, 71.56 43 eP P 01 23 42.8 +0.8
comp=E,483nm,0.6s
ORLT Orhaneli 71.56 308 eP P 01 23 41.2 -1.0
G05D Wamic, OR 71.56 45 ⇑P P 01 23 43.3 +1.2
baz=71
ASF Jabal al Asfar 71.59 297 P P 01 23 42.1 -0.5
ASF 01 26 31.5
ASF S **S 01 32 16.5 -0.1**
ASF pmax pmax
comp=Z,313nm,0.8s
ASF pmax pmax
comp=Z,316nm,1.2s
ASF smax smax
comp=N,3.0nm,1.0s
ASF Jabal al Asfar 71.59 297 P P 01 23 42.1 -0.5
comp=N,313nm,0.8s,baz=14,slow=5.4,SNR=11
ASF PP **PP 01 26 31.5 +0.1**
comp=N,316nm,1.2s,baz=23,slow=7.7,SNR=6.5
ASF S **S 01 32 16.5 -0.1**
comp=N,2.9nm,1.0s,baz=38,slow=18,SNR=2.2
ASF PKPPKP P'P'df 01 51 22.4 -6.4
comp=N,44nm,1.3s,baz=227,slow=0.6,SNR=21
NEW Newport 71.61 41 P P 01 23 42.8 +0.5
NEW S **S 01 32 17.9 +1.7**
NEW pmax pmax
comp=Z,284nm,0.8s
NEW smax smax
comp=N,4.0nm,1.0s
NEW Newport 71.61 41 P P 01 23 42.8 +0.5
comp=N,284nm,0.8s,baz=304,slow=6.3,SNR=11
NEW S **S 01 32 17.9 +1.7**
comp=N,3.7nm,0.9s,baz=66,slow=20,SNR=6.1
NEW Newport 71.61 41 eP P 01 23 43.0 +0.7
comp=N,464nm,0.9s
NEW Newport 71.61 41 ⇑P P 01 23 43.1 +0.8
baz=71,SNR=522
TVSB Tavsanli 71.61 307 eP P 01 23 42.3 -0.3
EDRB Edirne 71.62 310 P P 01 23 42.0 -0.5
EDRB Edirne 71.62 310 eP P 01 23 42.3 -0.1
SRE Strehaia 71.69 314 ⇓P P 01 23 42.8 0.0
SRE Strehaia 71.69 314 ⇓iP P 01 23 42.8 0.0
HAWA Hanford 71.70 43 eP P 01 23 43.7 +0.8
comp=N,742nm,0.7s
VRAC Vranov 71.79 321 P P 01 23 43.4 +0.1
VRAC S **SKiKP 01 32 19.1 -0.6**
VRAC pmax pmax
comp=Z,525nm,1.0s
VRAC smax smax
comp=N,7.0nm,1.0s
VRAC Vranov 71.79 321 ⇓iP P 01 23 43.5 +0.1
VRAC Vranov 71.79 321 P P 01 23 43.4 +0.1
comp=N,525nm,1.0s,baz=50,slow=7.1,SNR=16
VRAC S **SKiKP 01 32 19.1 -0.6**
comp=N,7.1nm,1.0s,baz=140,slow=23,SNR=7.0
VRAC PKPPKP P'P'df 01 51 19.8 -8.4
comp=N,5.4nm,1.0s,baz=202,slow=6.7,SNR=5.8
LFK Lefkose 71.80 301 eP P 01 23 42.9 -0.8
BRG Berggiesshubel 71.87 323 ⇓iP P 01 23 43.5 -0.2
comp=N,184nm,0.7s
BRG i 01 23 48.0
comp=N,1µm,1.6s
BRG PCP PcP 01 24 04.0 +5.4
comp=N,161nm,1.0s
BRG i 01 24 11.5
comp=N,181nm,0.8s
BRG pP **pP 01 25 42.0 +0.7**
BRG sP sP 01 26 34.0 -6.7
BRG PP **PP 01 26 37.0 +3.9**
BRG S **SKiKP 01 32 20.0 +0.2**
BRG SKKS **S 01 32 22.0 +3.1**
BRG sS **sS 01 35 48.0 -0.5**
BRG PKPPKP P'P'df 01 51 17.8 -10
comp=N,49nm,1.9s
BRG e 01 51 27.3
comp=N,36nm,1.8s
BRG SKPPKP 01 53 21.6
comp=N,19nm,1.7s
comp=Z,18µm,14.1s
comp=N,13µm,15.5s
comp=E,11µm,15.5s
BRG Berggiesshubel 71.87 323 ⇓iP P 01 23 43.5 -0.2
BRG 01 24 04.0
BRG Berggiesshubel 71.87 323 eP P 01 23 43.5 -0.2
comp=Z,1µm,1.6s
BZS Buzias 71.88 316 ⇓P P 01 23 43.2 -0.7
BZS Buzias 71.88 316 ⇓iP P 01 23 43.2 -0.7
TCHB Talchebab 71.88 298 eP P 01 23 44.0 -0.2
BUD Budapest 71.90 318 ⇓e P 01 23 44.1 +0.1
G06A Carlson Farm, 71.92 45 eP P 01 23 45.3 +1.0
comp=Z,1µm,1.4s
GAZI Gazipasa 71.95 303 iP P 01 23 42.1 -2.4
I04A Tendick Farm, 71.95 47 ⇑P P 01 23 45.4 +0.9
baz=72
MRMT Marmara Adasi 71.95 309 eP P 01 23 43.9 -0.6
SMOL Smolenice 71.95 320 eP P 01 23 44.9 +0.6
SMOL Smolenice 71.95 320 eP P 01 23 44.9 +0.6
CLL Collm 71.96 324 ⇓iP P 01 23 44.0 -0.3
CLL e*PP **pP 01 25 41.0 -0.8**
CLL eS **S 01 32 18.0 -1.9**
CLL e 01 32 56.0
CLL pmax pmax
comp=Z,2µm,1.4s
CLL Collm 71.96 324 eP P 01 23 43.9 -0.3
comp=Z,2µm,1.4s
CLL Collm 71.96 324 ⇓iP P 01 23 44.0 -0.3
comp=Z,138nm,0.6s
CLL ⇑iP(2) 01 23 45.4
comp=Z,455nm,0.7s
CLL ePmax 01 23 45.0
CLL ePlp 01 23 47.0
comp=Z,3µm,28.3s
CLL ⇑iPmax 01 23 48.3
comp=Z,2µm,1.4s
CLL e 01 24 02.0
CLL i 01 24 11.7
comp=Z,400nm,0.7s
CLL i 01 24 13.4
comp=Z,539nm,0.9s
CLL epP **pP 01 25 41.0 -0.8**
CLL ePP **PP 01 26 35.0 +1.2**
CLL esP **sP 01 26 41.0 -3.3**
CLL ePPP PPP 01 28 24.0
CLL eS **S 01 32 18.0 -1.9**
comp=N,14µm,19.1s
CLL eS **S 01 32 18.0 -1.9**
comp=E,21µm,26.4s
CLL eSKSac **SKSac 01 32 48.0 -5.3**
CLL eScS **ScS 01 32 56.0 0.0**
CLL e(sS) 01 35 42.0
CLL esSKSac **sSKSac 01 36 40.0 -3.5**
CLL eSS SS 01 37 23.0 +12
CLL esSS 01 40 36.0
CLL eSSS SSS 01 41 18.0
CLL eSSSS 01 43 42.0
CLL e 01 50 26.0
CLL iPKPPKP P'P'df 01 51 17.8 -10
comp=Z,40nm,1.5s
CLL iPKPPKPbc **P'P'bc 01 51 26.5 +1.3**
comp=Z,12nm,1.0s
CLL eSKPPKPdf 01 54 05.0
CLL eSKPPKPbc 01 54 10.0
CLL Collm 71.96 324 eP P 01 23 43.7 -0.5
comp=Z,744nm,0.5s
RMGR Halanga-Turnu 71.97 314 ⇑iP P 01 23 43.6 -0.8
EDC Edincik 71.97 308 eP P 01 23 44.2 -0.3
TIM Timisoara 72.00 316 ⇓P P 01 23 44.6 0.0
TIM Timisoara 72.00 316 ⇓iP P 01 23 44.6 0.0
KBO Bosley Butte 72.01 49 eP P 01 23 46.3 +1.4
comp=Z,749nm,0.9s
KBO epP **pP 01 25 45.3 +2.8**

ISP Isparta 72.03 305 P P 01 23 43.8 -1.2
ISP Isparta 72.03 305 eP P 01 23 44.1 -0.9
ISP Isparta 72.03 305 eP P 01 23 43.6 -1.4
ISP pmax pmax
comp=Z,2µm,1.6s
ISP Isparta 72.03 305 ⇓iP P 01 23 43.8 -1.2
ISP Isparta 72.03 305 eP P 01 23 43.6 -1.4
comp=Z,2µm,1.6s
MMAI Mount Meron Ar 72.03 298 P P 01 23 44.9 -0.2
comp=Z,400nm,0.8s,baz=53,slow=5.4,SNR=13
MMAI PP **PP 01 26 34.7 -0.4**
comp=Z,32nm,0.9s,baz=27,slow=7.1,SNR=2.1
MMAI PKPPKP P'P'df 01 51 22.4 -5.6
comp=Z,6.1nm,0.9s,baz=224,slow=2.3,SNR=6.3
MAMC Mammari 72.06 301 P P 01 23 44.0 -1.1
DURS Dursunbey 72.10 307 iP P 01 23 44.2 -1.1
CSS Prodhromos 72.12 301 P P 01 23 44.6 -0.9
CSS Prodhromos 72.12 301 P P 01 23 44.3 -1.2
CSS Prodhromos 72.12 301 eP P 01 23 44.9 -0.7
SART Tekirdag 72.14 309 iP P 01 23 45.4 -0.2
AKDN Akdeniz- K˜-br 72.14 302 eP P 01 23 45.5 0.0
NAQL Naqoura 72.14 299 eP P 01 23 45.0 -0.6
RKY Sarkoy-Tekirda 72.14 309 eP P 01 23 45.5 -0.1
I05D Terrebonne, OR 72.16 46 ⇑P P 01 23 46.7 +1.0
baz=72
BCK Bucak 72.22 305 eP P 01 23 45.2 -0.9
PRA Prague 72.23 323 ⇓P P 01 23 46.0 +0.2
PRA pP **pP 01 25 45.0 +1.5**
PRA PP PP 01 26 42.0 +5.9
PRA PKPPKP P'P'df 01 51 18.0 -9.4
PRU Pruhonice 72.24 323 ⇓iP P 01 23 45.9 0.0
PRU e*PP **pP 01 25 45.0 +1.4**
PRU e 01 26 40.8
PRU eS **S 01 32 23.4 +0.3**
PRU MLR MLR
comp=Z,14µm,13.3s
PRU Pruhonice 72.24 323 ⇓iP P 01 23 45.9 0.0
PRU ex x 01 24 13.5
PRU epP **pP 01 25 45.0 +1.4**
PRU ePP **PP 01 26 40.8 +4.6**
PRU eS **S 01 32 23.4 +0.3**
PRU ex x 01 35 43.2
PRU eSKKP 01 45 59.5
PRU ex x 01 50 26.7
PRU ePKPPKP P'P'df 01 51 17.1 -10
PRU ex x 01 51 25.4
PRU ex x 01 54 04.3
PRU AMS AMS 01 57 50.0
comp=Z,14µm,13.3s
KRBG Karabiga-Canak 72.26 309 eP P 01 23 45.9 -0.3
NOUC Port Laguerre 72.28 145 eP P 01 23 46.3 -0.1
PKSG 72.28 319 ⇓e P 01 23 46.0 -0.1
BANR Banloc 72.29 316 ⇓iP P 01 23 46.8 +0.6
KHAL Karahalli 72.29 306 iP P 01 23 45.6 -0.9
LEF Lefka 72.30 302 eP P 01 23 45.3 -1.2
TREC Trest 72.31 322 ⇓iP P 01 23 46.3 0.0
TREC e*PP **pP 01 25 45.7 +1.6**
TREC e 01 26 40.8
TREC eS **S 01 32 22.7 -1.2**
TREC MLR MLR
comp=Z,11µm,15.8s
TREC Trest 72.31 322 ⇓iP P 01 23 46.3 0.0
TREC ex x 01 24 14.2
TREC epP **pP 01 25 45.7 +1.6**
TREC ePP **PP 01 26 40.8 +4.0**
TREC eS **S 01 32 22.7 -1.2**
TREC eXS **sS 01 35 50.3 -3.6**
TREC ex x 01 46 03.0
TREC ex x 01 50 28.3
TREC ePKPPKP P'P'df 01 51 17.6 -10
TREC ex x 01 51 26.3
TREC AMS AMS 01 58 50.0
comp=Z,11µm,15.8s
DZM Mont Dzumac 72.31 145 eP P 01 23 48.1 +1.4
comp=Z,2µm,1.4s
DZM epP **pP 01 25 43.6 -1.0**
comp=Z,300nm,1.2s
DZM Mont Dzumac 72.31 145 P P 01 23 47.6 +1.0
comp=Z,564nm,0.9s,baz=359,slow=7.2,SNR=32
DZM S **S 01 32 28.4 +3.9**
comp=Z,6.7nm,0.9s,baz=128,slow=19,SNR=6.4
E09A Wood Farm, Sta 72.32 43 eP P 01 23 47.3 +0.9
comp=Z,707nm,0.9s
CSKK Cs˜‡kako 72.36 319 ⇓e P 01 23 45.7 -0.9
FCC Fort Churchill 72.39 23 eP P 01 23 46.6 +0.1
FCC pmax pmax
comp=Z,2µm,1.3s
FCC Fort Churchill 72.39 23 eP P 01 23 46.6 +0.1
comp=Z,2µm,1.3s
L02D Cave Junction, 72.39 49 ⇑P P 01 23 48.2 +1.3
baz=72
BALB Balikesir 72.42 308 eP P 01 23 46.6 -0.5
MLA1 Latheron 72.44 337 eP P 01 23 46.9 +0.1
BIGH Upper Bighouse 72.44 337 eP P 01 23 46.7 -0.1
BIGH AMB AMB 01 23 52.8
comp=Z,1µm,1.5s
HUMO Hull Mountain 72.45 48 eP P 01 23 48.2 +1.0
comp=Z,872nm,1.6s
ALFC Alevga 72.46 302 P P 01 23 45.2 -2.3
NORM Noumea 72.47 145 eP P 01 23 48.6 +1.2
J04D Umpqua Nationa 72.49 47 ⇓P P 01 23 49.0 +1.3
baz=72
PKS2 Kecel 72.50 318 ⇓e P 01 23 46.9 -0.5
KDZ Kurdzhali 72.50 311 ⇑P P 01 23 47.7 +0.1
KDZ Kurdzhali 72.50 311 ⇑iP P 01 23 47.7 +0.1
BALY Balya 72.50 308 iP P 01 23 47.3 -0.4
SZAC Souni-Zanaja 72.54 301 P P 01 23 46.7 -1.2
PKST T˜s 72.54 319 ⇓e P 01 23 47.1 -0.6
WALA Waterton Lakes 72.56 39 eP P 01 23 48.6 +0.7
comp=Z,1µm,1.3s
WALA epP **pP 01 25 48.2 +2.4**
BAYA Yate Dam 72.57 145 eP P 01 23 49.7 +1.6
LPK Lapseki 72.58 309 eP P 01 23 48.0 0.0
PLD Plovdiv 72.59 311 P P 01 23 47.6 -0.5
PLD Plovdiv 72.59 311 P S 01 32 23.8 -3.5
DGAR Diego Garcia 72.61 242 P P 01 23 48.5 0.0
comp=Z,20µm,0.7s,SNR=24
DGAR Diego Garcia 72.61 242 d iP P 01 23 46.9 -1.6
ALN Alexandroupoli 72.65 310 P P 01 23 47.8 -0.6
ALN Alexandroupoli 72.65 310 eP P 01 23 48.2 -0.2
ALN Alexandroupoli 72.65 310 eP P 01 23 47.6 -0.8
KORT Korkueli 72.66 304 iP P 01 23 47.3 -1.5
CLZ Clausthal 72.68 326 eP P 01 23 48.6 +0.1
comp=Z,2µm,1.6s
ENEZ Enez 72.69 310 eP P 01 23 48.5 -0.1
KULA Kula-Manisa 72.69 307 P P 01 23 48.0 -0.8
KULA Kula-Manisa 72.69 307 P S 01 32 24.1 -4.6
KULA Kula-Manisa 72.69 307 eP P 01 23 48.2 -0.6
AKMC Akamas 72.71 302 P P 01 23 47.1 -1.8
GELI Tayfur-Gelibol 72.73 309 eP P 01 23 48.7 -0.2
G08A Pilot Rock 72.75 44 eP P 01 23 49.9 +0.8
comp=Z,277nm,0.9s
H08N2 Diego Garcia H 72.75 244 P P 01 23 49.2 +0.2
baz=354,slow=1.9,SNR=134
H08N1 Diego Carcia H 72.76 244 P P 01 23 49.2 +0.2
baz=354,slow=1.9,SNR=161
PINOR Pine Mountain 72.77 46 eP P 01 23 50.3 +1.3
comp=Z,661nm,0.8s
PINOR epP **pP 01 25 48.9 +2.0**
MANT Manisa 72.77 307 iP P 01 23 48.5 -1.0
H08N3 Diego Garcia H 72.78 244 P P 01 23 50.0 +0.9
baz=354,slow=1.9,SNR=116
PPCY Paphos 72.80 302 P P 01 23 47.9 -1.4
TANN Tannenbergstha 72.85 324 eP P 01 23 49.2 -0.3
comp=Z,791nm,1.7s
PKS9 Tamasi 72.89 318 ⇓e P 01 23 49.0 -0.7
FRB Frobisher Bay 72.90 9 P P 01 23 49.4 +0.1
FRB S **S 01 32 28.8 -1.0**
FRB pmax pmax
comp=Z,532nm,0.5s
FRB smax smax
comp=N,69nm,1.0s
FRB Frobisher Bay 72.90 9 P P 01 23 49.4 +0.1
comp=N,532nm,0.5s,baz=359,slow=6.4,SNR=13
FRB S **S 01 32 28.8 -1.0**
comp=N,68nm,1.0s,baz=330,slow=12,SNR=16
J05D Fort Rock, OR 72.93 47 ⇑P P 01 23 51.6 +1.4
baz=73
SOP Sopron 72.95 320 ⇓e P 01 23 50.4 +0.4
AKHS Akhisar 72.96 307 iP P 01 23 49.6 -0.6
AKS Akhisar 72.96 307 eP P 01 23 49.9 -0.3
PKSM Moragy 72.98 318 ⇓P P 01 23 49.5 -0.7
PKSM Moragy 72.98 318 ⇓iP P 01 23 49.5 -0.7

PKSM Moragy 72.98 318 ⇓e P 01 23 49.3 -0.9
NKC Novy Kostel 72.99 324 ⇓iP P 01 23 50.2 0.0
NKC e*PP **pP 01 25 48.5 +0.2**
NKC e 01 26 41.7
NKC eS **S 01 32 30.6 -0.8**
NKC MLR MLR
comp=Z,10µm,13.8s
NKC Novy Kostel 72.99 324 ⇓iP P 01 23 50.2 0.0
NKC ex x 01 24 18.7
NKC epP **pP 01 25 48.5 +0.2**
NKC ePP **PP 01 26 41.7 -0.8**
NKC eS **S 01 32 30.6 -0.8**
NKC ex x 01 35 47.8
NKC ex x 01 46 08.2
NKC ex x 01 51 14.9
NKC ePKPPKP **P'P'df 01 51 21.6 -4.5**
NKC ex x 01 51 30.3
NKC ex x 01 54 01.1
NKC AMS AMS 01 59 00.0
comp=Z,10µm,13.8s
GOLH Golhisar 72.99 305 iP P 01 23 49.4 -1.2
MVH1 Achvaich 73.00 337 eP P 01 23 50.1 0.0
MCD Coleburn Disti 73.01 336 eP P 01 23 49.8 -0.4
MOX Moxa 73.05 324 eP P 01 23 50.3 -0.2
comp=Z,791nm,1.4s
FORT Forrest 73.06 182 eP P 01 23 50.6 -0.1
comp=Z,626nm,0.7s
VTS Vitosha 73.09 313 P P 01 23 50.7 -0.4
VTS Vitosha 73.09 313 P SKiKP 01 32 27.7 +5.6
VTS Vitosha 73.09 313 eP P 01 23 51.3 +0.2
VTS Vitosha 73.09 313 ⇓P P 01 23 50.9 -0.2
VTS Vitosha 73.09 313 ⇓iP P 01 23 50.9 -0.2
K04D Chiloquin, OR 73.10 47 ⇑P P 01 23 52.3 +1.2
baz=73
ELL Elmali 73.10 304 eP P 01 23 50.4 -0.8
CONA Conrad Observa 73.11 320 iP P 01 23 51.6 +0.5
comp=Z,2µm,2.3s,SNR=299
MME1 Meikle Cairn 73.15 336 eP P 01 23 50.0 -1.0
F10A Beach Ranch, E 73.15 42 eP P 01 23 52.0 +0.7
comp=Z,473nm,0.9s
F10A epP **pP 01 25 51.6 +2.2**
FFC Flin Flon 73.16 29 P P 01 23 51.0 -0.1
comp=Z,6µm,1.2s
YBH Yreka Blue Hor 73.17 49 eP P 01 23 52.8 +1.3
YBH e*PP **pP 01 25 51.2 +1.5**
YBH pmax pmax
comp=Z,1µm,1.7s
YBH Yreka Blue Hor 73.17 49 P P 01 23 51.9 +0.4
comp=Z,154nm,0.6s,baz=341,slow=7.3,SNR=40
YBH Yreka Blue Hor 73.17 49 eP P 01 23 52.8 +1.3
comp=Z,1µm,1.7s
YBH epP **pP 01 25 51.2 +1.5**
EZN Ezine 73.20 309 eP P 01 23 51.1 -0.4
SMTH Samothraki Isl 73.22 310 P P 01 23 50.4 -1.3
SMTH Samothraki Isl 73.22 310 P SKiKP 01 32 26.4 +4.3
SMTH Samothraki Isl 73.22 310 eP P 01 23 50.5 -1.3
KHC Kasperske Hory 73.29 322 ⇓iP P 01 23 51.9 -0.1
KHC e*PP **pP 01 25 50.5 +0.3**
KHC e 01 26 46.4
KHC eS **S 01 32 35.3 +0.5**
KHC MLR MLR
comp=Z,13µm,17.8s
KHC Kasperske Hory 73.29 322 ⇓iP P 01 23 51.9 -0.1
KHC ex x 01 24 20.1
KHC epP **pP 01 25 50.5 +0.3**
KHC ePP **PP 01 26 46.4 +1.3**
KHC eS **S 01 32 35.3 +0.5**
KHC eXS **sS 01 36 01.7 -3.9**
KHC ex x 01 46 07.1
KHC ex x 01 50 21.7
KHC ex x 01 51 14.0
KHC ePKPPKP **P'P'df 01 51 24.1 -1.5**
KHC AMS AMS 01 55 40.0
comp=Z,13µm,17.8s
I07A Izee 73.30 45 eP P 01 23 53.5 +1.3
comp=Z,477nm,0.8s
M02C Callahan 73.32 49 ⇑P P 01 23 53.8 +1.5
baz=73
JTMT Jette 73.32 40 eP P 01 23 53.4 +1.0
JTMT epP **pP 01 25 51.9 +1.3**
AYVA Ayvalik 73.33 308 iP P 01 23 51.0 -1.3
DRUM Mains of Drumt 73.33 335 eP P 01 23 52.0 0.0
DRUM AMB AMB 01 23 57.7
comp=Z,673nm,1.1s
BOZC Bozcaada 73.34 309 iP P 01 23 51.5 -0.9
IBBN Ibbenburen 73.39 327 eP P 01 23 52.0 -0.4
comp=Z,1µm,1.4s
ROTZ Rotzenmuhle 73.44 324 eP P 01 23 53.1 +0.3
comp=Z,1µm,1.5s
KAVA Kavala 73.44 311 P P 01 23 52.4 -0.5
KAVA Kavala 73.44 311 P SKiKP 01 32 27.7 +5.3
KAVA Kavala 73.44 311 eP P 01 23 52.3 -0.6
GEC2 GERESS Array S 73.45 322 eP P 01 23 52.5 -0.5
GEC2 e*PP **pP 01 25 52.2 +1.0**
GEC2 e 01 26 45.9
GEC2 eS **S 01 32 36.3 -0.4**
GEC2 GERESS Array S 73.45 322 eP P 01 23 52.5 -0.5
GEC2 epP **pP 01 25 52.2 +1.0**
GEC2 ePP **PP 01 26 45.9 -0.6**
GEC2 eS **S 01 32 36.2 -0.4**
GEC2 ePKKPbc **PKKPbc 01 43 20.7 -0.5**
GEC2 eP'P'df **P'P'df 01 51 21.9 -3.5**
GERES GERESS Array B 73.45 322 P P 01 23 52.5 -0.5
GERES *PP **pP 01 25 52.2 +1.0**
GERES 01 26 45.9
GERES S **S 01 32 36.2 -0.4**
GERES pmax pmax
comp=Z,68nm,0.6s
GERES pmax pmax
comp=Z,68nm,1.0s
GERES smax smax
comp=N,4.0nm,1.0s
GERES GERESS Array B 73.45 322 P P 01 23 52.5 -0.5
comp=N,68nm,0.6s,baz=42,slow=4.9,SNR=213
GERES pP **pP 01 25 52.2 +1.0**
comp=N,26nm,0.9s,baz=52,slow=6.4,SNR=2.5
GERES PP **PP 01 26 45.9 -0.6**
comp=N,68nm,1.0s,baz=53,slow=10.0,SNR=3.5
GERES S **S 01 32 36.2 -0.4**
comp=N,4.3nm,1.0s,baz=70,slow=6.9,SNR=2.7
GERES PKKPbc **PKKPbc 01 43 20.7 -0.5**
comp=N,1.6nm,0.8s,baz=213,slow=3.4,SNR=3.8
GERES PKPPKP **P'P'df 01 51 21.9 -3.5**
comp=N,2.2nm,0.9s,baz=186,slow=1.8,SNR=3.5
MDO Dochfour 73.46 337 eP P 01 23 52.2 -0.5
MMB Musomiste 73.48 312 ⇓P P 01 23 53.3 +0.1
MMB Musomiste 73.48 312 ⇓iP P 01 23 53.3 +0.1
K05A Summer Lake 73.49 47 eP P 01 23 54.7 +1.3
comp=N,737nm,0.9s
AYDB Zeytinkoy-Aydi 73.53 306 eP P 01 23 53.3 -0.4
NVR Nevrokopi 73.57 311 P P 01 23 52.9 -0.8
NVR Nevrokopi 73.57 311 P SKiKP 01 32 27.7 +5.0
NVR Nevrokopi 73.57 311 eP P 01 23 53.1 -0.6
WET Wettzell 73.60 323 eP P 01 23 53.7 0.0
comp=Z,638nm,1.4s
PRK Paraskevi 73.61 308 P P 01 23 53.0 -0.9
PRK Paraskevi 73.61 308 P SKiKP 01 32 27.7 +5.0
PRK Paraskevi 73.61 308 eP P 01 23 53.2 -0.7
AKAS Kas 73.62 304 iP P 01 23 52.4 -1.8
M04C Macdoel 73.62 48 ⇑P P 01 23 55.3 +1.2
baz=73
FETY Fethiye 73.67 305 eP P 01 23 52.1 -2.2
KAC Achnashellach 73.68 337 eP P 01 23 53.6 -0.3
N02D Trinity Center 73.69 49 ⇓P P 01 23 55.9 +1.4
baz=73
BEHE Becsehely 73.71 319 ⇓e P 01 23 54.1 -0.3
AYDN Tasoluk 73.72 306 iP P 01 23 54.8 +0.1
BLCB Balcova 73.74 307 eP P 01 23 54.3 -0.3
ARSA Arzberg 73.75 320 iP P 01 23 54.7 +0.1
comp=Z,1µm,2.1s,SNR=137
DIVS Divibare 73.76 315 P P 01 23 54.0 -0.8
DIVS Divibare 73.76 315 P SKiKP 01 32 27.7 +4.7
LIA Limnos Island 73.80 309 P P 01 23 53.9 -1.0
LIA Limnos Island 73.80 309 P SKiKP 01 32 27.7 +4.7
LIA Limnos Island 73.80 309 eP P 01 23 54.0 -1.0
DALY Dalyan (Mu˘la 73.81 305 eP P 01 23 53.7 -1.4
YER Yerkesik 73.83 306 eP P 01 23 55.5 +0.2
SRS Serrai 73.88 311 P P 01 23 54.3 -1.1
SRS Serrai 73.88 311 P SKiKP 01 32 27.7 +4.6
SRS Serrai 73.88 311 eP P 01 23 54.6 -0.8
SIGR SIGRI 73.88 309 P P 01 23 54.7 -0.7
SIGR SIGRI 73.88 309 P SKiKP 01 32 27.7 +4.6
SIGR SIGRI 73.88 309 eP P 01 23 52.7 -2.7

SIGR	SIGRI	73.88	309	eP	P	01 23 54.6	-0.8
BMO	Blue Mountains	73.90	43	eP	P	01 23 56.5	+0.9
	comp=Z,510nm,0.8s						
MOA	Molln	73.91	321	i P	P	01 23 55.5	0.0
	comp=Z,1µm,2.3s,SNR=101						
KPL	Plockton	73.92	337	eP	P	01 23 55.3	0.0
KPL				AMB	AMB	01 24 01.4	
	comp=Z,667nm,1.3s						
GRF	Grafenberg Arr	73.92	324	eP	P	01 23 55.9	+0.4
	comp=Z,2µm,1.3s						
GRFO	Grafenberg	73.92	324	eP	P	01 23 55.9	+0.4
GRFO	Grafenberg	73.92	324	eP	P	01 23 55.9	+0.4
KSB	Sheil Bridge	73.96	337	eP	P	01 23 55.4	-0.2
WTSB	Winterswijk	74.03	328	eP	P	01 23 55.1	-1.0
	comp=Z,1µm,1.6s						
WTSB				eX		01 24 23.9	
	comp=Z,350nm,0.9s						
WDC	Whiskeytown Da	74.05	49	eP	P	01 23 57.2	+0.8
WDC				e*PP	pP	01 25 56.3	+1.4
WDC				pmax	pmax		
	comp=Z,384nm,0.8s						
WDC	Whiskeytown Da	74.05	49	eP	P	01 23 57.2	+0.8
	comp=Z,384nm,0.8s						
WDC				epP	pP	01 25 56.3	+1.4
KCPM	Cahto Peak	74.06	51	eP	P	01 23 57.7	+1.1
	comp=Z,1µm,1.8s						
KCPM				epP	pP	01 25 57.0	+1.9
MSO	Missoula	74.14	40	eP	P	01 23 57.5	+0.5
MSO				epP	pP	01 25 57.3	+1.8
MSO	Missoula	74.14	40	⇓P	P	01 23 57.5	+0.5
	baz=74,SNR=452						
ZEY	~zmir	74.15	307	i P	P	01 23 56.1	-0.9
MSVF	Nonsavu	74.18	133	P	P	01 23 59.7	+2.3
	comp=Z,4µm,1.2s						
OUR	Ouranopolis	74.19	310	P	P	01 23 56.3	-0.8
OUR	Ouranopolis	74.19	310	P	SKiKP	01 32 27.7	+4.1
OUR	Ouranopolis	74.19	310	eP	P	01 23 56.2	-1.0
OUR	Ouranopolis	74.19	310	eP	P	01 23 56.4	-0.7
ESY	Stoneypath	74.20	335	eP	P	01 23 55.7	-1.2
SOH	Sokhos	74.21	311	P	P	01 23 56.1	-1.2
SOH	Sokhos	74.21	311	P	SKiKP	01 32 27.7	+4.0
SOH	Sokhos	74.21	311	eP	P	01 23 56.2	-1.1
KNT	Kendrikon	74.23	312	P	P	01 23 56.7	-0.7
KNT	Kendrikon	74.23	312	P	SKiKP	01 32 27.1	+3.4
KNT	Kendrikon	74.23	312	eP	P	01 23 56.6	-0.8
BUG	Bochum--Univer	74.25	327	eP	P	01 23 56.7	-0.6
	comp=Z,1µm,1.5s						
MUKL	Al Mukalla	74.26	275	eP	P	01 23 57.9	0.0
VAY	Valandovo	74.30	312	P	P	01 23 56.6	-1.1
VAY	Valandovo	74.30	312	P	SKiKP	01 32 27.7	+4.0
VAY	Valandovo	74.30	312	eP	P	01 23 56.6	-1.1
	comp=Z,2µm,1.6s						
SMG	Samos	74.31	307	P	P	01 23 56.9	-1.0
SMG	Samos	74.31	307	P	SKiKP	01 32 27.7	+3.8
SMG	Samos	74.31	307	eP	P	01 23 56.8	-1.1
CHOS	Chios island	74.31	308	P	P	01 23 57.2	-0.8
CHOS	Chios island	74.31	308	P	SKiKP	01 32 27.7	+3.8
CHOS	Chios island	74.31	308	eP	P	01 23 56.4	-1.6
CHOS	Chios island	74.31	308	eP	P	01 23 57.1	-0.9
BDRM	Kayabasi	74.37	306	i P	P	01 23 57.9	-0.4
MOD	Modoc	74.38	47	eP	P	01 23 59.2	+0.8
	comp=Z,416nm,0.8s						
BISS	Bistriski jare	74.38	320	i P	P	01 23 58.0	-0.2
PERS	Pernice	74.39	320	eP	P	01 23 58.1	-0.2
PERS				i PcP	PcP	01 24 02.1	-7.5
PERS				eS	S	01 32 43.3	-3.6
PERS				eSKSac	SKSac	01 33 04.4	-7.4
SOKA	Soboth	74.40	320	⇓iP	P	01 23 58.2	-0.2
	comp=Z,1µm,1.4s,SNR=279						
EBL	Broad Law	74.45	335	eP	P	01 23 58.1	-0.3
BODT	Bodrum	74.46	306	eP	P	01 23 58.4	-0.4
PLG	Polygyros	74.46	311	P	P	01 23 57.8	-1.0
PLG	Polygyros	74.46	311	P	SKiKP	01 32 27.7	+3.6
PLG	Polygyros	74.46	311	eP	P	01 23 57.9	-0.9
EIL	Elat	74.47	296	P	P	01 23 58.6	-0.3
	comp=Z,615nm,1.0s,baz=23,slow=5.4,SNR=19						
EIL				PP	PP	01 26 57.5	+2.0
	comp=Z,125nm,1.1s,baz=72,slow=7.2,SNR=3.5						
SKO	Skopje	74.47	313	P	P	01 23 58.2	-0.5
SKO	Skopje	74.47	313	P	SKiKP	01 32 27.7	+3.7
SKO	Skopje	74.47	313	eP	P	01 23 57.3	-1.4
	comp=Z,2µm,1.8s						
HORT	Hortiatis	74.50	311	P	P	01 23 57.7	-1.3
HORT	Hortiatis	74.50	311	P	SKiKP	01 32 27.7	+3.5
HORT	Hortiatis	74.50	311	eP	P	01 23 57.5	-1.5
EAB	Aberfoyle	74.51	336	eP	P	01 23 58.1	-0.5
ARG	Arkhangelos	74.53	305	P	P	01 23 58.5	-0.6
ARG	Arkhangelos	74.53	305	eP	P	01 23 58.7	-0.4
GASB	Alder Springs	74.57	50	eP	P	01 24 01.1	+1.6
PLE	Pljevlja	74.61	315	⇓iP	P	01 23 59.6	0.0
SISC	Sisak	74.62	318	P	P	01 23 59.3	-0.1
PAIG	Paliouri	74.64	310	P	P	01 23 58.5	-1.2
PAIG	Paliouri	74.64	310	P	SKiKP	01 32 27.7	+3.4
PAIG	Paliouri	74.64	310	eP	P	01 23 58.3	-1.4
IVA	Berane	74.67	315	⇓iP	P	01 23 59.5	-0.4
RJOB	Jochberg	74.67	322	eP	P	01 23 59.9	+0.1
	comp=Z,927nm,1.3s						
TNS	Taunus Mts	74.70	326	eP	P	01 23 59.8	-0.1
	comp=Z,417nm,1.1s						
OBKA	Obir	74.75	320	i P	P	01 24 00.1	-0.2
	comp=Z,1µm,1.9s,SNR=83						
STKA	Stephens Creek	74.79	170	P	P	01 24 00.7	+0.3
STKA				S	S	01 32 51.7	+0.5
STKA				pmax	pmax		
	comp=Z,148nm,0.7s						
STKA				smax	smax		
	comp=N,10.0nm,0.9s						
STKA	Stephens Creek	74.79	170	P	P	01 24 00.7	+0.3
	comp=N,148nm,0.7s,baz=347,slow=6.1,SNR=300						
STKA				S	S	01 32 51.7	+0.5
	comp=N,9.9nm,0.9s,baz=218,slow=21,SNR=6.4						
HOPS	Hopland	74.82	51	eP	P	01 24 01.5	+0.8
	comp=N,410nm,0.8s						
HOPS				epP	pP	01 26 01.2	+1.6
PVY	Plav	74.83	314	⇓iP	P	01 24 00.3	-0.6
EKA	Eskdalemuir Ar	74.86	335	P	P	01 24 00.5	-0.1
EKA						01 26 57.0	
EKA				S	S	01 32 51.9	+0.4
EKA				pmax	pmax		
	comp=Z,118nm,0.4s						
EKA				pmax	pmax		
	comp=Z,41nm,0.6s						
EKA				smax	smax		
	comp=N,16nm,0.9s						
EKA	Eskdalemuir Ar	74.86	335	P	P	01 24 00.5	-0.1
	comp=N,118nm,0.4s,baz=34,slow=5.2,SNR=15						
EKA				PP	PP	01 26 57.0	-0.8
	comp=N,41nm,0.6s,baz=42,slow=7.6,SNR=4.0						
EKA				S	S	01 32 51.9	+0.4
	comp=N,16nm,0.9s,baz=26,slow=12,SNR=4.9						
PGBU	Glenifferbraes	74.87	336	eP	P	01 24 00.4	-0.2
PGBU				AMB	AMB	01 24 06.6	
	comp=Z,954nm,1.1s						
ESK	Eskdalemuir	74.89	335	P	P	01 24 00.2	-0.6
	comp=Z,3µm,0.5s						
ESK	Eskdalemuir	74.89	335	eP	P	01 24 00.4	-0.4
ESK				AMB	AMB	01 24 05.4	
	comp=Z,405nm,2.1s						
ESK	Eskdalemuir	74.89	335	eP	P	01 24 00.7	-0.1
ESK				pmax	pmax		
	comp=Z,913nm,1.4s						
ESK	Eskdalemuir	74.89	335	eP	P	01 24 00.7	-0.1
	comp=Z,913nm,1.4s						
WVOR	Wild Horse Val	74.90	46	eP	P	01 24 02.1	+0.8
WVOR				e*PP	pP	01 26 02.5	+2.3
WVOR				pmax	pmax		
	comp=Z,511nm,0.9s						
WVOR	Wild Horse Val	74.90	46	eP	P	01 24 02.1	+0.8
	comp=Z,511nm,0.9s						
WVOR				epP	pP	01 26 02.5	+2.3
KBA	Koelnbreinsper	74.90	321	i P	P	01 24 01.1	-0.1
	comp=Z,1µm,1.2s,SNR=333						
KBA				⇑iS	S	01 32 54.9	+2.2
	SNR=8.8						
XAL	Allendale	74.95	334	eP	P	01 24 00.8	-0.3
UPM	Unac-Piva	74.95	315	⇓iP	P	01 24 00.6	-1.0
A19A	Klindworth Far	74.96	36	⇓P	P	01 24 02.2	+0.8
	baz=75,SNR=782						
ECK	Cauldkaine Hil	74.98	335	eP	P	01 24 00.8	-0.5
VNDS	Vrh nad Dolski	74.98	320	eP	P	01 24 00.8	-0.7
AOS	Alonnisos	75.04	310	P	P	01 24 00.9	-1.0
AOS	Alonnisos	75.04	310	P	SKiKP	01 32 27.7	+2.8
AOS	Alonnisos	75.04	310	eP	P	01 24 01.4	-0.5
AOS	Alonnisos	75.04	310	eP	P	01 24 01.0	-1.0

FUR	Furstenfeldbru	75.04	323	eP	P	01 24 01.9	+0.1
	comp=Z,1µm,1.3s						
MYKA	Terra Mystica	75.09	321	⇓iP	P	01 24 01.5	-0.8
	comp=Z,919nm,1.9s,SNR=126						
LJU	Ljubljana	75.10	320	i P	P	01 24 01.4	-0.8
LJU				i PcP	PcP	01 24 05.5	-7.0
LJU				i pP	pP	01 26 01.0	-0.2
LJU				ePP	PP	01 26 59.7	-0.5
LJU				eS	S	01 32 57.3	+2.7
LJU				eSKSac	SKSac	01 33 13.9	-3.0
LJU				esS	sS	01 36 24.7	-1.9
LJU				eSS	SS	01 37 40.3	-18
VISS	Visnje	75.13	319	i P	P	01 24 01.6	-0.7
BOJS	Bojanci	75.14	319	i P	P	01 24 01.8	-0.6
BOJS				epP	pP	01 26 01.1	-0.3
BOJS				ePP	PP	01 27 00.9	+0.4
BOJS				eS	S	01 32 57.8	+2.9
BOJS				eSKSac	SKSac	01 33 14.9	-2.3
BOJS				esS	sS	01 36 27.4	+0.3
ARMA	Armidale	75.17	161	eP	P	01 24 04.5	+1.8
	comp=Z,465nm,1.1s						
NKY	Niksic	75.18	315	⇓iP	P	01 24 04.6	+1.8
LIT	Litokhoron	75.18	311	P	P	01 24 01.7	-1.1
LIT	Litokhoron	75.18	311	P	SKiKP	01 32 27.7	+2.5
LIT	Litokhoron	75.18	311	eP	P	01 24 01.5	-1.3
LIT	Litokhoron	75.18	311	eP	S	01 32 57.5	+1.9
EGMT	Eagleton	75.20	37	eP	P	01 24 03.5	+0.7
	comp=Z,1µm,0.9s						
EGMT	Eagleton	75.20	37	⇑P	P	01 24 03.5	+0.7
	baz=75,SNR=744						
PHP	Peshkopia	75.20	313	P	P	01 24 02.0	-0.9
PHP	Peshkopia	75.20	313	P	SKiKP	01 32 27.7	+2.5
BBOO	Buckleboo	75.21	175	eP	P	01 24 03.4	+0.7
	comp=Z,1µm,1.0s						
B19A	Brinkman Farms	75.23	36	⇓P	P	01 24 03.4	+0.5
	baz=75,SNR=297						
NKME	Niksic	75.23	315	eP	P	01 24 01.4	-1.6
SKIA	Skiathos	75.27	310	eP	P	01 24 01.8	-1.5
XOR	Xorichti	75.29	310	P	P	01 24 01.8	-1.6
XOR	Xorichti	75.29	310	P	SKiKP	01 32 23.1	-2.3
XOR	Xorichti	75.29	310	eP	P	01 24 01.8	-1.6
HGN	Heimansgroeve	75.31	327	eP	P	01 24 01.3	-1.9
	comp=Z,1µm,1.7s						
HGN				eX		01 24 30.3	
	comp=Z,162nm,0.8s						
HGN				epP	pP	01 26 02.3	0.0
HGN				eS	S	01 32 54.2	-2.8
PDG	Podgorica	75.31	315	P	P	01 24 02.6	-0.8
PDG	Podgorica	75.31	315	P	SKiKP	01 32 27.7	+2.5
TTG	Podgorica	75.31	315	eP	P	01 24 02.9	-0.5
NEO	Neokhori	75.31	310	P	P	01 24 01.8	-1.7
NEO	Neokhori	75.31	310	P	SKiKP	01 32 27.7	+2.3
NEO	Neokhori	75.31	310	eP	P	01 24 01.8	-1.7
FNA	Florina	75.33	312	P	P	01 24 02.3	-1.3
FNA	Florina	75.33	312	P	SKiKP	01 32 27.7	+2.3
ORV	Oroville	75.33	50	eP	P	01 24 03.8	+0.2
ORV	Oroville	75.33	50	eP	P	01 24 03.8	+0.2
A20A	Cobblestone Ra	75.35	36	⇓P	P	01 24 04.1	+0.5
	baz=75,SNR=336						
BEBN	Eben Emael	75.39	328	P	P	01 24 03.0	-0.7
	comp=Z,150nm,1.1s						
BEBN				E		01 24 31.5	
MEM	Membach	75.40	327	P	P	01 24 03.2	-0.5
	comp=Z,334nm,1.2s						
MEM				E		01 24 31.2	
MEM	Membach	75.40	327	eP	P	01 24 02.9	-0.8
MEM				pmax	pmax		
	comp=Z,576nm,1.0s						
MEM	Membach	75.40	327	eP	P	01 24 02.9	-0.8
	comp=Z,576nm,1.0s						
NSHM	Saint Helena R	75.41	51	eP	P	01 24 05.0	+0.9
JAVS	Javornik	75.43	320	i P	P	01 24 03.0	-1.2
JAVS				i PcP	PcP	01 24 07.2	-6.9
JAVS				epP	pP	01 26 01.1	-2.1
JAVS				ePP	PP	01 27 00.5	-2.5
JAVS				eS	S	01 32 54.3	-4.0
KZN	Kozani	75.44	312	P	P	01 24 02.9	-1.4
KZN	Kozani	75.44	312	P	SKiKP	01 32 27.7	+2.1
KZN	Kozani	75.44	312	eP	P	01 24 02.8	-1.5
KESW	Keswick, Cumbr	75.46	334	eP	P	01 24 03.9	-0.1
KESW				AMB	AMB	01 24 09.0	
	comp=Z,963nm,1.2s						
LMK	Market Rasen	75.48	332	eP	P	01 24 03.8	-0.2
LMK				AMB	AMB	01 24 08.5	
	comp=Z,979nm,1.0s						
STU	Stuttgart	75.49	324	eP	P	01 24 04.0	-0.3
	comp=Z,872nm,1.4s						
HPK	Haverah Park	75.50	333	eP	P	01 24 04.0	-0.2
HPK				AMB	AMB	01 24 09.7	
	comp=Z,785nm,1.5s						
APE	Apeiranthos	75.51	307	P	P	01 24 02.3	-2.4
APE	Apeiranthos	75.51	307	P	SKiKP	01 32 27.7	+1.9
APE	Apeiranthos	75.51	307	eP	P	01 24 01.9	-2.7
APE	Apeiranthos	75.51	307	d iP	P	01 24 02.6	-2.1
APE				pmax	pmax		
	comp=Z,699nm,0.6s						
APE	Apeiranthos	75.51	307	eP	P	01 24 02.6	-2.1
APE	Apeiranthos	75.51	307	⇓iP	P	01 24 02.8	-1.9
MCCM	Marconi Confer	75.51	51	eP	P	01 24 04.8	+0.3
	comp=Z,803nm,0.8s						
MCCM				epP	pP	01 26 05.2	+1.5
MRKA	Markates	75.52	309	eP	P	01 24 03.3	-1.4
DRME	Dracevica, Mon	75.52	314	⇓iP	P	01 24 04.1	-0.5
WATA	Walderalm	75.52	322	⇓iP	P	01 24 04.3	-0.3
	comp=Z,651nm,1.5s,SNR=62						
ABTA	Abfaltersbach	75.53	321	⇓iP	P	01 24 03.2	-1.4
	comp=Z,645nm,1.5s,SNR=99						
WTTA	Wattenberg	75.55	322	i P	P	01 24 04.7	-0.2
	comp=Z,1µm,1.6s,SNR=147						
KARP	Karpathos	75.56	305	P	P	01 24 03.8	-1.2
KARP	Karpathos	75.56	305	eP	P	01 24 03.9	-1.1
BUM	Brajici-Budva	75.59	315	⇓iP	P	01 24 04.4	-0.7
UDBI	Udbina	75.60	318	P	P	01 24 04.3	-0.8
ULC	Ulcinj	75.65	314	⇓iP	P	01 24 04.4	-0.9
B20A	Solberg Farm,	75.65	36	⇓P	P	01 24 05.4	+0.2
	baz=75,SNR=53						
A21A	Bergtoll Ranch	75.70	35	⇓P	P	01 24 06.0	+0.5
	baz=75						
HCY	Herceg Novi	75.70	315	eP	P	01 24 03.9	-1.7
MOTA	Moosalm	75.73	322	⇓iP	P	01 24 05.4	-0.4
	comp=Z,673nm,1.4s,SNR=182						
C19A	Slack Wire Ran	75.73	37	⇓P	P	01 24 06.6	+0.8
	baz=75,SNR=361						
GAL1	Galloway	75.74	335	eP	P	01 24 05.1	-0.4
GAL1				AMB	AMB	01 24 07.9	
	comp=Z,387nm,1.1s						
KBN	Korca	75.76	312	P	P	01 24 04.8	-1.2
KBN	Korca	75.76	312	P	SKiKP	01 32 27.7	+1.6
RETA	Reutte	75.78	323	i P	P	01 24 06.0	0.0
	comp=Z,2µm,2.7s,SNR=195						
PTL	Penteli	75.81	309	P	P	01 24 04.3	-2.0
PTL	Penteli	75.81	309	P	SKiKP	01 32 27.7	+1.5
PTL	Penteli	75.81	309	eP	P	01 24 04.5	-1.8
STON	Ston	75.81	316	P	P	01 24 04.4	-1.7
THL	Klokotos Trika	75.82	311	P	P	01 24 03.8	-2.5
THL	Klokotos Trika	75.82	311	P	SKiKP	01 32 27.7	+1.6
THL	Klokotos Trika	75.82	311	eP	P	01 24 03.7	-2.5
BCLA	Clavier	75.83	327	P	P	01 24 05.4	-0.7
	comp=Z,202nm,1.5s						
BCLA				E		01 24 33.9	
LCCM	Lewis and Clar	75.85	40	eP	P	01 24 07.4	+0.9
DLMT	Dillon	75.85	41	eP	P	01 24 07.8	+1.3
	comp=Z,5µm,1.8s						
DLMT				epP	pP	01 26 07.8	+1.9
LKR	Lokris	75.89	310	P	P	01 24 04.8	-1.9
LKR	Lokris	75.89	310	P	SKiKP	01 32 27.7	+1.4
LKR	Lokris	75.89	310	eP	P	01 24 04.8	-1.9
LKR	Lokris	75.89	310	eP	S	01 33 01.5	-1.7
UCC	Uccle	75.90	328	P	P	01 24 07.6	+1.1
LANF	Langenberg	75.92	325	eP	P	01 24 06.3	-0.4
LHO	Holmfirth	75.92	333	eP	P	01 24 06.2	-0.4
ATH	Athens Observa	75.95	309	P	P	01 24 05.5	-1.5
ATH	Athens Observa	75.95	309	P	SKiKP	01 32 27.7	+1.4
ATH	Athens Observa	75.95	309	eP	P	01 24 04.9	-2.1
AXAR	Agios Charalam	76.01	310	eP	P	01 24 05.7	-1.6
AXAR	Agios Charalam	76.01	310	eP	S	01 33 00.8	-3.7
NVLJ	Novalja	76.01	318	P	P	01 24 05.8	-1.4
AGG	Agios Georgios	76.01	310	P	P	01 24 05.1	-2.3
AGG	Agios Georgios	76.01	310	eP	P	01 24 05.1	-2.3
AGG	Agios Georgios	76.01	310	eP	S	01 33 01.0	-3.6
SANT	Santorini	76.02	307	P	P	01 24 04.8	-2.7
SANT	Santorini	76.02	307	P	SKiKP	01 32 27.7	+1.1
SANT	Santorini	76.02	307	eP	P	01 24 03.9	-3.6

SANT	Santorini	76.02	307	eP	P	01 24 06.0	-1.5
SANT	Santorini	76.02	307	eP	P	01 24 06.0	-1.5
	comp=Z,562nm,0.7s						
KBI1	Birley Grange	76.06	333	eP	P	01 24 06.6	-0.7
BKS	Berkeley--Byer	76.06	51	eP	P	01 24 08.5	+0.9
WLF	Walferdange	76.08	327	P	P	01 24 07.4	-0.1
	comp=Z,325nm,1.8s						
WLF				E		01 24 35.9	
WLF	Walferdange	76.08	327	eP	P	01 24 07.3	-0.2
WLF				pmax	pmax		
	comp=Z,309nm,1.0s						
WLF	Walferdange	76.08	327	eP	P	01 24 07.3	-0.2
WLF	Walferdange	76.08	327	eP	P	01 24 07.2	-0.2
	comp=Z,309nm,1.0s						
B21A	Ellsworth Farm	76.09	35	⇓P	P	01 24 08.3	+0.7
	baz=76,SNR=132						
BOZ	Bozeman (W)	76.10	40	eP	P	01 24 09.2	+1.3
BOZ				e*PP	pP	01 26 09.7	+2.4
BOZ				pmax	pmax		
	comp=Z,633nm,0.8s						
BOZ	Bozeman (W)	76.10	40	eP	P	01 24 09.2	+1.3
	comp=Z,633nm,0.8s						
BOZ				epP	pP	01 26 09.7	+2.4
A22A	Carney Farms,	76.12	35	⇓P	P	01 24 08.0	+0.2
	baz=76,SNR=496						
MCMT	McKenzie Canyo	76.12	41	eP	P	01 24 09.0	+0.8
MAKR	Makrakomi, Fth	76.13	310	eP	P	01 24 05.9	-2.2
MAKR	Makrakomi, Fth	76.13	310	eP	S	01 32 58.4	-7.5
FETA	Feichten	76.14	322	i P	P	01 24 07.8	-0.3
	comp=Z,1µm,2.8s,SNR=73						
SNF	Seneffe	76.16	328	P	P	01 24 07.3	-0.6
SNF				E		01 24 35.6	
NWAO	Narrogin (SRO)	76.17	192	P	P	01 24 08.0	-0.1
NWAO				*PP	pP	01 26 08.3	+0.6
NWAO				S	S	01 33 06.3	+0.3
NWAO				pmax	pmax		
	comp=Z,141nm,0.8s						
NWAO				smax	smax		
	comp=N,23nm,1.1s						
NWAO	Narrogin (SRO)	76.17	192	P	P	01 24 08.0	-0.1
	comp=N,141nm,0.8s,baz=10,slow=6.3,SNR=9.4						
NWAO				pP	pP	01 26 08.3	+0.6
	comp=N,48nm,0.9s,baz=18,slow=6.4,SNR=2.1						
NWAO				S	S	01 33 06.3	+0.3
	comp=N,23nm,1.1s,baz=150,slow=21,SNR=9.8						
BFO	Black Forest	76.20	325	P	P	01 24 07.9	-0.3
	comp=N,4µm,1.2s						
BFO	Black Forest	76.20	325	eP	P	01 24 08.0	-0.3
BFO				e*PP	pP	01 26 09.4	+1.7
BFO				pmax	pmax		
	comp=Z,571nm,0.8s						
BFO	Black Forest	76.20	325	eP	P	01 24 08.1	-0.2
	comp=Z,1µm,1.4s						
BFO	Black Forest	76.20	325	eP	P	01 24 08.0	-0.2
	comp=Z,571nm,0.8s						
BFO				epP	pP	01 26 09.4	+1.7
C20A	Veseth Ranch,	76.21	36	⇓P	P	01 24 09.0	+0.6
	baz=76,SNR=179						
BGMT	Barton Gulch	76.22	40	eP	P	01 24 09.7	+1.1
BDM	Black Diamond	76.22	51	eP	P	01 24 09.6	+1.0
NAIG	Nisos Aigina	76.22	309	eP	P	01 24 05.8	-2.7
D19A	Cripps Ranch,	76.23	37	⇑P	P	01 24 09.3	+0.7
	baz=76,SNR=580						
STR	Strasbourg	76.25	325	eP	P	01 24 08.1	-0.3
GIVF	Givet	76.27	328	⇓iP	P	01 24 07.7	-0.8
	comp=Z,261nm,0.6s						
GIVF	Givet	76.27	328	eP	P	01 24 07.7	-0.8
GIVF	Givet	76.27	328	eP	P	01 24 07.7	-0.8
HLID	Hailey	76.27	43	eP	P	01 24 10.2	+1.3
	comp=Z,347nm,0.8s						
HLID	Hailey	76.27	43	⇓P	P	01 24 10.4	+1.4
	baz=76,SNR=584						
DAVA	Damuels	76.32	323	i P	P	01 24 09.0	-0.1
	comp=Z,2µm,2.5s,SNR=208						
DSF	Desfina	76.33	310	P	P	01 24 06.6	-2.6
DSF	Desfina	76.33	310	P	SKiKP	01 32 27.7	+0.7
DSF	Desfina	76.33	310	eP	P	01 24 06.6	-2.6
DSF	Desfina	76.33	310	eP	S	01 33 03.1	-4.9
LTK	Loutraki	76.34	309	P	P	01 24 06.3	-2.9
LTK	Loutraki	76.34	309	eP	P	01 24 06.4	-2.8
DOU	Dourbes	76.36	328	P	P	01 24 08.3	-0.7
	comp=Z,208nm,1.6s						
DOU				E		01 24 38.5	
EVR	Evrytania	76.38	311	P	P	01 24 07.5	-2.0
EVR	Evrytania	76.38	311	P	SKiKP	01 32 27.7	+0.5
EVR	Evrytania	76.38	311	eP	P	01 24 07.7	-1.8
EVR	Evrytania	76.38	311	eP	S	01 33 07.7	-0.9
JAN	Janina	76.40	312	P	P	01 24 08.7	-0.8
JAN	Janina	76.40	312	P	SKiKP	01 32 27.7	+0.6
JAN	Janina	76.40	312	eP	P	01 24 08.2	-1.3
JAN	Janina	76.40	312	eP	S	01 33 08.9	+0.2
ZKR	Zakros	76.42	305	P	P	01 24 08.5	-1.2
ZKR	Zakros	76.42	305	eP	P	01 24 09.1	-0.6
STNC	Stoke	76.42	333	eP	P	01 24 08.9	-0.4
STNC				AMB	AMB	01 24 14.0	
	comp=Z,627nm,2.2s						
C21A	Desert Coulee	76.52	36	⇓P	P	01 24 10.4	+0.4
	baz=76,SNR=200						
MOMT	Monida	76.52	41	eP	P	01 24 11.7	+1.4
DID	Didima	76.54	309	P	P	01 24 06.7	-3.6
DID	Didima	76.54	309	eP	P	01 24 06.9	-3.4
DID	Didima	76.54	309	eP	S	01 33 08.2	-2.1
BAIF	Baives	76.55	328	⇓iP	P	01 24 09.2	-0.8
	comp=Z,498nm,1.1s						
BAIF				epP	pP	01 26 08.8	-0.8
BAIF	Baives	76.55	328	eP	P	01 24 09.2	-0.8
BAIF				e*PP	pP	01 26 08.8	-0.8
BAIF	Baives	76.55	328	eP	P	01 24 09.2	-0.8
BAIF				epP	pP	01 26 08.8	-0.8
WLS	Welschbruch	76.55	325	eP	P	01 24 09.7	-0.5
KALE	Kalithea	76.56	310	eP	P	01 24 08.2	-2.2
KALE	Kalithea	76.56	310	eP	S	01 33 05.0	-5.5
VLO	Vlora	76.57	313	P	P	01 24 10.8	+0.5
VLO	Vlora	76.57	313	P	SKiKP	01 32 27.7	+0.5
A23A	Redstone	76.58	34	⇑P	P	01 24 10.7	+0.4
	baz=76,SNR=177						
B22A	Reddig Ranch S	76.62	35	⇓P	P	01 24 11.1	+0.5
	baz=76,SNR=82						
D20A	Manuel Ranch,	76.62	37	⇑P	P	01 24 11.6	+0.9
	baz=76,SNR=480						
DSL	Palaion Diasel	76.63	311	P	P	01 24 09.4	-1.3
DSL	Palaion Diasel	76.63	311	eP	P	01 24 09.5	-1.3
DSL	Palaion Diasel	76.63	311	eP	S	01 33 09.3	-1.8
FUORN	Ofenpass-Fuorn	76.65	322	eP	P	01 24 11.0	-0.1
	comp=Z,1µm,1.4s						
EFP	Efpalio	76.67	310	P	P	01 24 09.5	-1.5
EFP	Efpalio	76.67	310	P	SKiKP	01 32 27.7	+0.2
EFP	Efpalio	76.67	310	eP	P	01 24 09.4	-1.5
EFP	Efpalio	76.67	310	eP	S	01 33 02.1	-9.3
NPS	Neapolis	76.68	306	P	P	01 24 09.5	-1.6
NPS	Neapolis	76.68	306	P	SKiKP	01 32 27.7	+0.1
NPS	Neapolis	76.68	306	eP	P	01 24 09.0	-2.1
NPS	Neapolis	76.68	306	eP	S	01 33 06.4	-5.4
DAVOX	Davos/Dischmat	76.70	323	P	P	01 24 11.1	-0.2
DAVOX				*PP	pP	01 26 12.0	+1.1
DAVOX				S	S	01 33 09.8	-2.2
DAVOX				pmax	pmax		
	comp=Z,192nm,0.5s						
DAVOX				smax	smax		
	comp=N,18nm,1.1s						
DAVOX	Davos/Dischmat	76.70	323	P	P	01 24 11.1	-0.2
	comp=N,192nm,0.5s,baz=43,slow=3.0						
DAVOX				pP	pP	01 26 12.0	+1.1
	comp=N,51nm,0.8s,baz=12,slow=6.0,SNR=1.8						
DAVOX				S	S	01 33 09.8	-2.2
	comp=N,18nm,1.1s,baz=305,slow=8.7,SNR=3.1						
DAVOX				PKKPbc	PKKPbc	01 43 15.1	+0.6
	comp=N,4.4nm,0.8s,baz=243,slow=2.3,SNR=3.9						
SRN	Sarande	76.71	312	P	P	01 24 09.9	-1.2
SRN	Sarande	76.71	312	P	SKiKP	01 32 27.7	+0.2
LAKA	Lakka	76.75	310	eP	P	01 24 09.6	-1.9
LAKA	Lakka	76.75	310	eP	S	01 33 04.3	-8.2
GUR	Goura	76.76	310	P	P	01 24 09.4	-2.1
GUR	Goura	76.76	310	P	SKiKP	01 32 27.7	-0.1
GUR	Goura	76.76	310	eP	P	01 24 09.5	-2.1
GUR	Goura	76.76	310	eP	S	01 33 09.9	-2.8
TPMT	Tepee Creek	76.77	40	eP	P	01 24 13.1	+1.4
IGT	Igoumenitsa	76.77	312	P	P	01 24 10.1	-1.5
IGT	Igoumenitsa	76.77	312	P	SKiKP	01 32 27.7	+0.1
IGT	Igoumenitsa	76.77	312	eP	P	01 24 10.0	-1.5
IGT	Igoumenitsa	76.77	312	eP	S	01 33 10.2	-2.4
MHC	Mount Hamilton	76.77	51	eP	P	01 24 12.5	+0.8
MHC	Mount Hamilton	76.77	51	eP	P	01 24 12.5	+0.8

ECH Echery 76.79 325 eP P 01 24 10.7 -0.8
KLV Kalavryta, Ach 76.79 310 P P 01 24 09.7 -2.0
KLV Kalavryta, Ach 76.79 310 P SKiKP 01 32 27.7 -0.1
KLV Kalavryta, Ach 76.79 310 eP P 01 24 09.8 -2.0
KLV Kalavryta, Ach 76.79 310 eP S 01 33 07.4 -5.6
QLMT Earthquake Lak 76.80 40 eP P 01 24 12.9 +1.1
QLMT epP pP 01 26 13.6 +2.0
E19A Rath Farm, Rou 76.81 38 ⇑P P 01 24 12.6 +0.9
baz=76,SNR=391
LAST Lasithi 76.83 306 P P 01 24 10.9 -1.1
LAST Lasithi 76.83 306 eP P 01 24 11.0 -1.1
WPM1 Penmaenmawr 76.84 334 eP P 01 24 11.6 0.0
ELSH Elham, Standar 76.84 330 eP P 01 24 10.7 -0.9
ELSH AMB AMB 01 24 15.0
comp=Z,1μm,0.8s
WME Myndd Eilian 76.85 334 eP P 01 24 11.2 -0.4
GCMT Greycliff 76.91 39 eP P 01 24 13.5 +1.1
B23A Brockton 76.92 34 ⇓P P 01 24 12.7 +0.5
baz=77,SNR=333
FOEL Foel Wylfa 76.92 333 eP P 01 24 11.9 -0.1
FOEL AMB AMB 01 24 16.6
comp=Z,831nm,2.5s
KEK Kerkira 76.94 312 P P 01 24 11.3 -1.1
KEK Kerkira 76.94 312 P SKiKP 01 32 27.7 -0.2
KEK Kerkira 76.94 312 eP P 01 24 11.6 -0.8
KEK Kerkira 76.94 312 eP S 01 33 15.5 +1.2
CRMT Chrome Mountai 76.94 39 eP P 01 24 13.5 +0.8
PDO Prodromos 76.95 311 P P 01 24 11.0 -1.4
PDO Prodromos 76.95 311 P SKiKP 01 32 27.7 -0.2
PDO Prodromos 76.95 311 eP P 01 24 11.1 -1.4
PDO Prodromos 76.95 311 eP S 01 33 11.0 -3.5
A24A Westby 76.97 34 ⇑P P 01 24 12.9 +0.5
baz=77,SNR=301
WLF1 Llynfaes 76.97 334 eP P 01 24 11.2 -1.1
WLF1 AMB AMB 01 24 17.7
comp=Z,486nm,1.4s
YHB Horse Butte 76.97 40 eP P 01 24 14.1 +1.3
CMB Columbia Colle 77.01 50 eP P 01 24 13.7 +0.8
CMB e*PP pP 01 26 13.9 +1.2
CMB pmax pmax
comp=Z,725nm,0.8s
CMB Columbia Colle 77.01 50 eP P 01 24 13.7 +0.8
comp=Z,725nm,0.8s
CMB epP pP 01 26 13.9 +1.2
YMV Mammoth Vault 77.05 40 eP P 01 24 14.3 +1.2
YMC Maple Creek 77.06 40 eP P 01 24 14.5 +1.2
YRC Rhoscolyn 77.06 334 eP P 01 24 12.1 -0.7
E20A Meyer Farm, Mu 77.07 37 ⇑P P 01 24 14.1 +1.0
baz=77,SNR=762
MOF Molkenrain 77.08 325 eP P 01 24 12.3 -0.8
IDI Anoyia 77.10 306 P P 01 24 11.5 -2.0
comp=Z,982nm,0.7s,baz=46,slow=9.2,SNR=9.0
IDI S S 01 33 08.6 -7.7
comp=Z,120nm,0.8s,baz=96,slow=13,SNR=18
C22A Vida 77.10 35 ⇓P P 01 24 13.5 +0.3
baz=77,SNR=288
DRO Drossia 77.11 310 P P 01 24 12.1 -1.3
DRO Drossia 77.11 310 P SKiKP 01 32 27.7 -0.5
DRO Drossia 77.11 310 eP P 01 24 12.1 -1.3
DRO Drossia 77.11 310 eP S 01 33 03.2 -13
YHH Holmes Hill 77.11 40 eP P 01 24 14.6 +0.9
LKD2 Lefkada island 77.11 311 P P 01 24 11.7 -1.7
LKD2 Lefkada island 77.11 311 P SKiKP 01 32 27.7 -0.5
LKD2 Lefkada island 77.11 311 eP P 01 24 12.0 -1.4
LKD2 Lefkada island 77.11 311 eP S 01 33 13.4 -2.8
PAGF Fort de Pagny 77.12 326 ⇓iP P 01 24 12.9 -0.3
comp=Z,317nm,0.9s
PAGF Fort de Pagny 77.12 326 eP P 01 24 12.9 -0.3
HLM1 Long Mynd 77.12 333 eP P 01 24 12.2 -1.0
HLM1 AMB AMB 01 24 17.5
comp=Z,330nm,2.5s
VLX Vlachokerasia 77.13 309 P P 01 24 11.3 -2.4
VLX Vlachokerasia 77.13 309 P SKiKP 01 32 27.7 -0.7
VLX Vlachokerasia 77.13 309 eP P 01 24 11.2 -2.4
VLX Vlachokerasia 77.13 309 eP S 01 33 14.7 -1.9
BDHA Al Bayda' 77.13 277 ⇓eP P 01 24 14.1 0.0
D21A La Casta Ranch 77.14 36 ⇑P P 01 24 14.0 +0.5
baz=77,SNR=186
YMR Madison River 77.15 40 eP P 01 24 14.9 +1.2
comp=Z,1μm,1.4s
YMR epP pP 01 26 15.8 +2.2
RLS Riolos of Patr 77.17 310 P P 01 24 12.5 -1.2
RLS Riolos of Patr 77.17 310 P SKiKP 01 32 27.7 -0.6
RLS Riolos of Patr 77.17 310 eP P 01 24 12.7 -1.0
RLS Riolos of Patr 77.17 310 eP S 01 33 11.5 -5.3
TUE Stuetta 77.18 323 eP P 01 24 13.9 0.0
comp=Z,384nm,0.7s
F19A Roth Farm, Mol 77.20 38 ⇓P P 01 24 14.7 +0.8
baz=77,SNR=615
YPM Purple Mountai 77.20 40 eP P 01 24 15.5 +1.4
SANA San'a 77.21 279 ⇓eP P 01 24 14.6 0.0
WAKR Walker 77.21 49 eP P 01 24 15.4 +1.2
HINF Hinteralfeld 77.23 325 ⇓iP P 01 24 12.9 -1.0
HINF Hinteralfeld 77.23 325 eP P 01 24 12.9 -1.0
HINF Hinteralfeld 77.23 325 eP P 01 24 12.9 -1.0
DGMT Dagmar 77.24 34 eP P 01 24 14.2 +0.3
comp=Z,1μm,1.1s
DGMT Dagmar 77.24 34 ⇑P P 01 24 14.5 +0.5
baz=77,SNR=259
YRE Yr Eifl 77.24 334 eP P 01 24 13.2 -0.6
YNR Norris Junctio 77.25 40 eP P 01 24 16.0 +1.7
comp=Z,896nm,1.7s
YNR epP pP 01 26 16.8 +2.6
VLI Veliai 77.26 308 P P 01 24 11.3 -2.9
VLI Veliai 77.26 308 P SKiKP 01 32 27.7 -0.8
VLI Veliai 77.26 308 eP P 01 24 11.5 -2.7
VLI Veliai 77.26 308 eP S 01 33 10.8 -7.0
THEF They Montfort 77.27 326 eP P 01 24 13.2 -0.9
SAO San Andreas Ge 77.28 52 eP P 01 24 14.7 +0.4
SAO e*PP pP 01 26 15.4 +1.1
SAO pmax pmax
comp=Z,267nm,0.8s
SAO San Andreas Ge 77.28 52 eP P 01 24 14.7 +0.4
comp=Z,268nm,0.8s
SAO epP pP 01 26 15.4 +1.1
HAU Haudompre 77.29 325 ⇓iP P 01 24 13.4 -0.8
comp=Z,281nm,0.8s
HAU epP pP 01 26 14.6 +0.5
HAU eR
comp=Z,10μm,20.8s
HAU Haudompre 77.29 325 eP P 01 24 13.4 -0.8
HAU e*PP pP 01 26 14.6 +0.5
HAU Haudompre 77.29 325 eP P 01 24 13.4 -0.8
HAU epP pP 01 26 14.6 +0.5
A25A Svangstu Ranch 77.31 33 ⇓P P 01 24 15.0 +0.7
baz=77,SNR=239
SIVA Sivas 77.33 306 P P 01 24 13.6 -1.0
SIVA Sivas 77.33 306 P SKiKP 01 32 27.7 -0.9
SIVA Sivas 77.33 306 eP P 01 24 13.7 -0.9
SIVA Sivas 77.33 306 eP S 01 33 09.9 -8.6
C23A Lambert 77.35 35 ⇑P P 01 24 15.2 +0.7
baz=77,SNR=251
HMNX Herstmonceux 77.36 330 eP P 01 24 14.2 -0.3
HMNX AMB AMB 01 24 18.5
comp=Z,2μm,1.0s
YFT Old Faithful 77.37 40 eP P 01 24 17.6 +2.6
comp=Z,444nm,0.7s
YFT epP pP 01 26 19.1 +4.2
MCID Moose Creek 77.40 41 eP P 01 24 17.0 +1.9
AMT Artemida-Makis 77.40 310 P P 01 24 13.0 -1.9
AMT Artemida-Makis 77.40 310 P SKiKP 01 32 27.7 -1.1
AMT Artemida-Makis 77.40 310 eP P 01 24 13.1 -1.9
AMT Artemida-Makis 77.40 310 eP S 01 33 16.2 -3.1
VAM Vamos 77.42 307 P P 01 24 11.4 -3.7
VAM Vamos 77.42 307 P SKiKP 01 32 27.7 -1.1
VAM Vamos 77.42 307 eP P 01 24 11.4 -3.7
VAM Vamos 77.42 307 eP S 01 33 12.6 -7.0
D22A Cohagen 77.43 36 ⇑P P 01 24 15.4 +0.3
baz=77,SNR=255
LBOS 77.44 277 ⇓eP P 01 24 15.8 -0.1
MEZF Maizieres J'vi 77.44 326 ⇓iP P 01 24 14.6 -0.3
comp=Z,4μm,1.6s
MEZF epP pP 01 26 16.7 +1.8
MEZF Maizieres J'vi 77.44 326 eP P 01 24 14.6 -0.3
MEZF epP pP 01 26 16.7 +1.8
YMP Mirror Lake Pl 77.47 40 eP P 01 24 16.9 +1.3
LKWY Lake 77.49 40 eP P 01 24 18.1 +2.4
LKWY Lake 77.49 40 eP P 01 24 18.1 +2.4
YLT Little Thumb C 77.50 40 eP P 01 24 18.4 +2.8
KYTH Kithira 77.51 308 P P 01 24 14.4 -1.2
KYTH Kithira 77.51 308 eP P 01 24 13.3 -2.3
KYTH Kithira 77.51 308 eP S 01 33 15.8 -4.7
E21A Keefer Ranch, 77.51 37 ⇓P P 01 24 16.1 +0.6
baz=77,SNR=69
YPP Pitchstone Pla 77.52 40 eP P 01 24 18.1 +2.2
ITM Ithomi 77.52 309 P P 01 24 13.7 -1.9
ITM Ithomi 77.52 309 P SKiKP 01 32 27.7 -1.2
ITM Ithomi 77.52 309 eP P 01 24 13.8 -1.9
ITM Ithomi 77.52 309 eP S 01 33 19.2 -1.4
H17A Grant Village 77.53 40 eP P 01 24 18.6 +2.8
comp=Z,738nm,0.8s
H17A epP pP 01 26 19.4 +3.5
H17A Grant Village 77.53 40 ⇑P P 01 24 18.5 +2.6
baz=77,SNR=600
WOL Wolverton 77.56 331 eP P 01 24 14.7 -0.8
WOL AMB AMB 01 24 18.9
comp=Z,842nm,0.8s
VLS Valsamata 77.58 311 P P 01 24 14.5 -1.5
VLS Valsamata 77.58 311 P SKiKP 01 32 27.7 -1.2
VLS Valsamata 77.58 311 eP P 01 24 14.4 -1.5
VLS Valsamata 77.58 311 eP S 01 33 15.2 -6.0
SWN1 Swindon 77.59 332 eP P 01 24 15.2 -0.5
SWN1 AMB AMB 01 24 20.1
comp=Z,1μm,1.4s
F20A Billings 77.60 38 ⇑P P 01 24 16.6 +0.6
baz=77,SNR=161
LOMF Lomont 77.60 325 eP P 01 24 15.0 -1.0
MCH1 Michaelchurch 77.60 333 eP P 01 24 15.3 -0.4
MCH1 AMB AMB 01 24 19.8
comp=Z,777nm,2.7s
DHBB Dhamar BB 77.61 278 eP P 01 24 16.6 -0.2
DHBB AMb AMB 01 24 18.9
comp=Z,2μm,1.4s
DSB Dublin 77.63 335 eP P 01 24 15.5 -0.4
comp=Z,2μm,2.2s
ANKY Antikythira Is 77.64 307 P P 01 24 14.5 -1.8
ANKY Antikythira Is 77.64 307 P SKiKP 01 32 27.7 -1.4
ANKY Antikythira Is 77.64 307 eP P 01 24 14.4 -1.8
ANKY Antikythira Is 77.64 307 eP S 01 33 17.2 -4.6
YMS Mount Sheridan 77.66 40 eP P 01 24 18.7 +2.0
MONM Monmouth 77.67 333 eP P 01 24 15.6 -0.5
MONM AMB AMB 01 24 20.2
comp=Z,879nm,2.5s
YTP The Promontory 77.67 40 eP P 01 24 18.6 +1.9
SFTF Sexfontaines 77.68 326 ⇓iP P 01 24 15.7 -0.6
comp=Z,1μm,1.0s
SFTF epP pP 01 26 20.0 +3.7
SFTF Sexfontaines 77.68 326 eP P 01 24 15.7 -0.6
SFTF epP pP 01 26 20.0 +3.7
OLDB Oldbury-Upon-S 77.73 332 eP P 01 24 15.2 -1.2
OLDB AMB AMB 01 24 19.6
comp=Z,581nm,2.5s
IMW Indian Meadow 77.73 41 eP P 01 24 18.6 +1.6
comp=Z,404nm,0.8s
H18A Shoshone NF, C 77.75 39 ⇓P P 01 24 17.9 +0.8
baz=78,SNR=428
A26A Wade Farm, Ken 77.78 33 ⇑P P 01 24 17.1 +0.3
baz=78,SNR=251
B25A Knox Farm, Ray 77.82 34 ⇑P P 01 24 18.1 +1.0
baz=78,SNR=252
PYL PYLOS 77.83 309 P P 01 24 15.1 -2.2
PYL PYLOS 77.83 309 P SKiKP 01 32 27.7 -1.6
PYL PYLOS 77.83 309 eP P 01 24 15.2 -2.1
PYL PYLOS 77.83 309 eP S 01 33 19.1 -4.6
D23A Lindsay 77.83 35 ⇓P P 01 24 18.3 +1.1
baz=78
LPW Lampeter 77.86 333 eP P 01 24 16.3 -0.8
LPW AMB AMB 01 24 21.4
comp=Z,3μm,2.1s
GVD Gavdhos 77.88 306 P P 01 24 16.5 -1.1
GVD Gavdhos 77.88 306 P SKiKP 01 32 27.7 -1.8
GVD Gavdhos 77.88 306 eP P 01 24 16.5 -1.1
GVD Gavdhos 77.88 306 eP S 01 33 18.7 -5.7
GVD Gavdhos 77.88 306 eP P 01 24 16.6 -1.1
comp=Z,1μm,0.7s
GVD eS S 01 33 24.6 +0.2
C24A Savage 77.89 35 ⇑P P 01 24 17.9 +0.5
baz=78,SNR=137
FXWY Fox Creek 77.89 41 eP P 01 24 19.3 +1.5
comp=Z,2μm,1.9s
FXWY epP pP 01 26 20.1 +2.1
ELK Elko 77.89 45 P P 01 24 18.8 +1.0
ELK *PP pP 01 26 18.9 +0.9
ELK S S 01 33 25.9 +1.1
ELK pmax pmax
comp=Z,180nm,0.9s
ELK smax smax
comp=N,5.0nm,1.0s
ELK Elko 77.89 45 P P 01 24 18.8 +1.0
comp=N,180nm,0.8s,baz=0.2,slow=4.5,SNR=7.7
ELK pP pP 01 26 18.9 +0.9
comp=N,143nm,0.9s,baz=0.3,slow=6.6,SNR=6.1
ELK S S 01 33 25.9 +1.1
comp=N,4.6nm,1.0s,baz=0.1,slow=15,SNR=7.9
ELK Elko 77.89 45 eP P 01 24 19.0 +1.1
comp=N,289nm,1.0s
ELK epP pP 01 26 19.4 +1.4
I17A Pilgrim Ck. 77.89 40 ⇓P P 01 24 19.8 +2.1
baz=78,SNR=803
NV01 Mina Array Sit 77.90 49 eP P 01 24 18.7 +0.8
NV01 epP pP 01 26 18.3 +0.3
NV01 eS S 01 33 26.6 +1.7
NV01 ePKKPbc PKKPbc 01 43 12.7 +1.0
NV01 eP'P'df P'P'df 01 50 59.9 -18
NVAR Mina Array Bea 77.90 49 P P 01 24 18.7 +0.8
comp=N,994nm,0.8s,baz=297,slow=5.0,SNR=2354
NVAR pP pP 01 26 18.3 +0.3
comp=N,184nm,0.8s,baz=286,slow=4.7,SNR=7.6
NVAR S S 01 33 26.6 +1.7
comp=N,2.3nm,0.8s,baz=246,slow=6.8,SNR=2.0
NVAR PKKPbc PKKPbc 01 43 12.7 +1.0
comp=N,0.8nm,0.5s,baz=133,slow=3.8,SNR=6.8
NVAR PKPPKP P'P'df 01 50 59.9 -18
comp=N,2.1nm,0.9s,baz=163,slow=3.4,SNR=3.0
SFD Strofades 77.99 310 eP P 01 24 17.8 -0.3
G20A Bridger 78.01 38 ⇑P P 01 24 18.5 +0.2
baz=78,SNR=266
TPAW Teton Pass 78.03 41 eP P 01 24 20.2 +1.6
comp=N,1μm,1.8s
TPAW epP pP 01 26 21.6 +2.8
F21A Absaloka Mine, 78.04 37 ⇑P P 01 24 18.8 +0.4
baz=78,SNR=82
A27A Ledoux Ranch, 78.05 32 ⇓P P 01 24 18.8 +0.6
baz=78
H19A Powell 78.08 39 ⇓P P 01 24 19.6 +1.0
baz=78,SNR=247
E22A Miles City 78.09 36 ⇓P P 01 24 18.9 +0.3
baz=78,SNR=108
LOHW Long Hollow 78.11 41 eP P 01 24 20.0 +1.1
comp=N,1μm,1.9s
LOHW epP pP 01 26 21.2 +2.0
B26A Jensen Ranch, 78.11 33 ⇑P P 01 24 19.2 +0.5
baz=78,SNR=19
MLAC Mammoth Lakes 78.16 49 eP P 01 24 20.9 +1.6
MLAC Mammoth Lakes 78.16 49 ⇓P P 01 24 20.8 +1.4
baz=78,SNR=166
SENIN Lac Senin/Sane 78.17 324 eP P 01 24 18.6 -0.6
REDW Red Top Meadow 78.17 41 eP P 01 24 20.7 +1.3
comp=N,419nm,1.0s
C25A Freed Ranch, W 78.23 34 ⇑P P 01 24 20.2 +1.0
baz=78,SNR=46
D24A Glendive 78.25 35 ⇑P P 01 24 19.9 +0.5
baz=78,SNR=204
NPI North Pocatell 78.26 43 eP P 01 24 21.0 +1.3
UDYN Al 'Udayn 78.31 278 ⇓eP P 01 24 20.2 -0.1
HVU Hansel Valley 78.40 43 eP P 01 24 21.6 +1.1
HVU pmax pmax
comp=Z,409nm,0.7s
HVU Hansel Valley 78.40 43 eP P 01 24 21.6 +1.1
comp=Z,408nm,0.7s
A28A Rude Farm, Bot 78.46 32 ⇑P P 01 24 21.0 +0.5
baz=78,SNR=139
F22A Rosebud 78.46 37 ⇑P P 01 24 21.1 +0.5
baz=78,SNR=128
VLC Villacollemand 78.46 321 eP P 01 24 21.4 +0.8
comp=Z,1μm,1.3s
G21A Lodge Grass 78.47 38 ⇑P P 01 24 21.1 +0.4
baz=78,SNR=56
B27A Peters Farms, 78.48 32 ⇓P P 01 24 21.0 +0.4
baz=78,SNR=102
CABF La Chapelle 78.50 325 ⇓iP P 01 24 20.1 -0.7
comp=Z,1μm,1.1s
CABF La Chapelle 78.50 325 eP P 01 24 20.1 -0.7
CABF La Chapelle 78.50 325 eP P 01 24 20.1 -0.7
AHID Auburn Hatcher 78.50 41 eP P 01 24 21.9 +0.9
PTU Portage 78.52 43 eP P 01 24 22.1 +1.1
MLI Malad Range 78.54 43 eP P 01 24 22.4 +1.1
I19A Meeteetse 78.55 39 ⇓P P 01 24 22.5 +1.2
baz=78,SNR=264
H01W3 Cape Leeuwin H 78.59 194 P P 01 24 23.3 +2.5
baz=27,slow=2.9,SNR=45
H01W1 Cape Leeuwin H 78.60 194 P P 01 24 23.0 +2.1
baz=27,slow=2.9,SNR=36
H01W2 Cape Leeuwin H 78.61 194 P P 01 24 23.4 +2.5
baz=27,slow=2.9,SNR=34
C26A Wahner Farm, P 78.61 33 ⇑P P 01 24 21.8 +0.5
baz=78,SNR=138
MTUT Morton Thiokol 78.61 43 eP P 01 24 22.8 +1.2
D25A Fairfield 78.65 34 ⇑P P 01 24 22.3 +0.8
baz=78,SNR=154
BEI Bear River Ran 78.65 42 eP P 01 24 23.0 +1.2
HEX Exmoor 78.66 333 eP P 01 24 20.7 -0.7
H20A Greybull 78.67 39 ⇑P P 01 24 22.2 +0.4
baz=78,SNR=264
TRBA At Turbah 78.68 278 ⇓eP P 01 24 22.4 -0.1
E24A Baker 78.70 35 ⇑P P 01 24 22.3 +0.5
baz=78,SNR=95
PTRM Twissleman Ran 78.77 52 eP P 01 24 23.4 +1.0
B28A Dugan Ranch, T 78.80 32 ⇓P P 01 24 22.7 +0.4
baz=78,SNR=428
LTU Little Mountai 78.81 43 eP P 01 24 23.2 +0.5
A29A Manning Farm, 78.84 31 ⇑P P 01 24 22.8 +0.3
baz=78,SNR=212
RCTC Rector, Farmer 78.87 51 ⇑P P 01 24 23.2 +0.4
baz=79,SNR=30
EPU East Promontor 78.87 43 eP P 01 24 23.9 +1.0
G22A Birney 78.88 37 ⇑P P 01 24 23.3 +0.4
baz=79,SNR=170
F23A Volborg 78.88 36 ⇓P P 01 24 23.3 +0.5
baz=79,SNR=234
HDU Hyde Park 78.89 43 eP P 01 24 24.3 +1.2
BGU Big Grassy Mou 78.90 44 eP P 01 24 24.2 +1.1
comp=Z,791nm,2.0s
BGU epP pP 01 26 24.9 +1.2
LOR Lormes 78.91 326 ⇓iP P 01 24 22.0 -0.9
comp=Z,858nm,0.7s
LOR epP pP 01 26 23.3 -0.1
LOR eR
comp=Z,8μm,17.8s
LOR Lormes 78.91 326 eP P 01 24 22.0 -0.9
LOR e*PP pP 01 26 23.3 -0.1
LOR Lormes 78.91 326 eP P 01 24 22.0 -0.9
LOR epP pP 01 26 23.3 -0.1
TIN Tinemaha 78.91 50 ⇓P P 01 24 24.5 +1.3
baz=79,SNR=233
WVUT Wellsville 78.94 43 eP P 01 24 24.3 +1.0
C27A Sayler Ranch, 78.94 33 ⇑P P 01 24 23.6 +0.5
baz=79,SNR=128
TIP Timpagrande 78.96 314 P P 01 24 22.8 -0.6
TIP Timpagrande 78.96 314 eP P 01 24 23.3 -0.1
comp=Z,311nm,1.1s
ULM Lac du Bonnet 78.97 28 P P 01 24 22.7 -0.4
ULM *PP pP 01 26 23.7 0.0
ULM S S 01 33 30.7 -4.4
ULM pmax pmax
comp=Z,261nm,0.6s
ULM smax smax
comp=N,19nm,1.0s
ULM Lac du Bonnet 78.97 28 P P 01 24 22.7 -0.4
comp=N,261nm,0.6s,baz=330,slow=6.0,SNR=409
ULM pP pP 01 26 23.7 0.0
comp=N,72nm,0.9s,baz=322,slow=7.8,SNR=1.8
ULM S S 01 33 30.7 -4.4
comp=N,19nm,1.0s,baz=252,slow=20,SNR=7.3
ULM PKPPKP P'P'df 01 51 00.3 -15
comp=N,3.3nm,0.8s,baz=183,slow=3.3,SNR=3.4
ULM Lac du Bonnet 78.97 28 eP P 01 24 22.5 -0.6
comp=N,3μm,1.8s
ULM epP pP 01 26 23.7 0.0
ULM eS S 01 33 30.7 -4.4
ULM eP'P'df P'P'df 01 51 00.3 -15
H21A Big Horn, Sher 79.00 38 ⇓P P 01 24 24.1 +0.5
baz=79,SNR=294
I20A Worland 79.02 39 ⇓P P 01 24 24.8 +1.2
baz=79,SNR=754
BMUT Black Mountain 79.04 42 eP P 01 24 25.1 +1.1
GZU Grizzly Peak 79.07 43 eP P 01 24 25.2 +1.0
LPL La Plagne 79.07 324 ⇓iP P 01 24 23.7 -0.3
comp=N,1μm,0.8s
LPL La Plagne 79.07 324 eP P 01 24 23.7 -0.3
LPL La Plagne 79.07 324 eP P 01 24 23.7 -0.3
LPG La Plagne 79.08 324 ⇓iP P 01 24 23.8 -0.3
comp=N,1μm,0.7s
LPG La Plagne 79.08 324 eP P 01 24 23.8 -0.3
LPG La Plagne 79.08 324 eP P 01 24 23.8 -0.3
D26A Manning 79.11 34 ⇑P P 01 24 24.5 +0.6
baz=79,SNR=193
J19A Crowheart 79.11 40 ⇑P P 01 24 25.1 +0.9
baz=79,SNR=393
E25A Miller Ranch, 79.13 35 ⇑P P 01 24 24.6 +0.5
baz=79,SNR=155
SMMC Simmler 79.14 52 ⇓P P 01 24 25.6 +1.3
baz=79,SNR=34
HWUT Hardware Ranch 79.14 43 eP P 01 24 25.7 +1.3
B29A Wagenman Farm, 79.17 31 ⇑P P 01 24 24.5 +0.3
baz=79,SNR=198
A30A Hoffart Farm, 79.18 30 ⇓P P 01 24 24.5 +0.3
baz=79,SNR=409
RSUT Red Spur Mount 79.19 42 eP P 01 24 26.0 +1.2
SNUT Stansbury Nort 79.20 44 eP P 01 24 25.9 +1.2
F24A Ekalaka 79.20 36 ⇑P P 01 24 25.1 +0.6
baz=79,SNR=219
SSF Saint Saulge 79.22 326 ⇓iP P 01 24 23.7 -0.8
comp=N,960nm,0.9s
SSF epP pP 01 26 24.8 -0.4
SSF Saint Saulge 79.22 326 eP P 01 24 23.7 -0.8
SSF e*PP pP 01 26 24.8 -0.4
SSF Saint Saulge 79.22 326 eP P 01 24 23.7 -0.8
SSF epP pP 01 26 24.8 -0.4
DYA Yadsworthy 79.23 332 AMB AMB 01 24 29.4
comp=Z,479nm,1.1s
NAIU Northern Antel 79.24 43 eP P 01 24 25.8 +0.9
PD31 Pinedale Array 79.25 41 eP P 01 24 25.4 +0.3
PD31 epP pP 01 26 25.9 +0.2
PD31 ePP PP 01 27 30.5 -4.1
PD31 eS S 01 33 39.2 +0.4
PD31 ePKKPbc PKKPbc 01 43 07.3 -1.6
PD31 eP'P'df P'P'df 01 51 11.3 -4.0
PDAR Pinedale Array 79.25 41 P P 01 24 25.4 +0.3
comp=Z,352nm,0.7s,baz=352,slow=1.8,SNR=641
PDAR pP pP 01 26 25.9 +0.2
comp=Z,47nm,0.9s,baz=294,slow=2.9,SNR=2.8
PDAR PP PP 01 27 30.5 -4.1
comp=Z,36nm,1.1s,baz=347,slow=3.5,SNR=1.9
PDAR S S 01 33 39.2 +0.4
comp=Z,2.5nm,0.9s,baz=290,slow=10,SNR=2.1
PDAR PKKPbc PKKPbc 01 43 07.3 -1.6
comp=Z,2.2nm,0.6s,baz=131,slow=5.2,SNR=12
PDAR PKPPKP P'P'df 01 51 11.3 -4.0
comp=Z,2.1nm,0.9s,baz=140,slow=4.5,SNR=4.3
MCU Monte Cristo P 79.27 43 eP P 01 24 26.3 +1.1
VES Vestal, Richgr 79.29 51 ⇓P P 01 24 25.0 0.0
baz=79,SNR=316
G23A Biddle 79.30 37 ⇓P P 01 24 25.3 +0.3
baz=79,SNR=103
H22A Clearmont 79.34 38 ⇓P P 01 24 25.9 +0.6
baz=79,SNR=158
CRGC Crocker Grade 79.34 52 eP P 01 24 26.7 +1.2
C28A Hausauer Farms 79.38 32 ⇓P P 01 24 26.2 +0.9
baz=79,SNR=214
SAIU Southern Antel 79.39 43 eP P 01 24 26.6 +0.9
FLN La Foliniere 79.40 330 ⇓iP P 01 24 24.4 -1.0
comp=Z,673nm,0.6s
FLN eR
comp=Z,10μm,21.2s
FLN La Foliniere 79.40 330 eP P 01 24 24.4 -1.0
FLN La Foliniere 79.40 330 eP P 01 24 24.4 -1.0
LDF La Druitiere 79.40 329 ⇓iP P 01 24 24.4 -1.0
comp=Z,541nm,0.6s
LDF La Druitiere 79.40 329 eP P 01 24 24.4 -1.0
LDF La Druitiere 79.40 329 eP P 01 24 24.4 -1.0
HYF Humbligny 79.40 327 ⇓iP P 01 24 25.4 -0.1
HYF Humbligny 79.40 327 eP P 01 24 25.4 -0.1
SMF Signal de Mont 79.41 326 ⇓iP P 01 24 24.7 -0.8
comp=Z,637nm,0.7s
SMF Signal de Mont 79.41 326 eP P 01 24 24.7 -0.8
SMF Signal de Mont 79.41 326 eP P 01 24 24.7 -0.8
D27A Center 79.42 33 ⇑P P 01 24 26.3 +0.7
baz=79,SNR=39
FPU Francis Peak 79.43 43 eP P 01 24 26.4 +0.3
GRAC Grapevine Rang 79.43 49 ⇑P P 01 24 27.3 +1.4
baz=79,SNR=557
R11A Troy Canyon, C 79.44 47 eP P 01 24 26.9 +0.9

comp=Z,265nm,1.0s
R11A Troy Canyon, C 79.44 47 ⇑P P 01 24 27.0 +0.9
baz=79,SNR=429
BNI Bardonecchia 79.46 323 eP P 01 24 25.4 -0.6
BNI pmax pmax
comp=Z,243nm,0.9s
BNI Bardonecchia 79.46 323 eP P 01 24 25.4 -0.6
comp=Z,243nm,0.9s
AVF Avril sur Loir 79.50 326 ⇓iP P 01 24 25.3 -0.6
comp=Z,1µm,0.8s
AVF Avril sur Loir 79.50 326 eP P 01 24 25.3 -0.6
AVF Avril sur Loir 79.50 326 eP P 01 24 25.3 -0.6
J20A Shoshoni 79.50 39 ⇓P P 01 24 26.9 +0.7
baz=79,SNR=201
I21A Big Trails, Te 79.52 39 ⇑P P 01 24 26.8 +0.5
baz=79,SNR=700
E26A Carlson Angus 79.54 34 ⇓P P 01 24 26.8 +0.5
baz=79,SNR=73
DUG Dugway 79.55 44 eP P 01 24 27.8 +1.2
DUG e*PP pP 01 26 29.1 +1.7
DUG pmax pmax
comp=Z,422nm,0.8s
DUG Dugway 79.55 44 eP P 01 24 27.8 +1.2
comp=Z,422nm,0.8s
DUG epP pP 01 26 29.1 +1.7
DUG Dugway 79.55 44 ⇓P P 01 24 27.7 +1.1
baz=79,SNR=679
F25A Bowman 79.56 35 ⇑P P 01 24 26.9 +0.5
baz=79,SNR=114
B30A Myrvik Farm, E 79.58 31 ⇓P P 01 24 26.5 +0.1
baz=79,SNR=426
HRU Hogsback Ridge 79.59 43 eP P 01 24 27.6 +0.8
GDM Grand'Maison 79.59 324 eP P 01 24 25.7 -1.0
FSU Fish Springs 79.60 45 eP P 01 24 28.0 +1.1
JDG Jersey Dam (Ga 79.61 331 eP P 01 24 25.5 -0.9
G24A Alzada 79.62 36 ⇓P P 01 24 26.7 0.0
baz=79,SNR=188
JDC Jersey Dam (Cr 79.62 331 eP P 01 24 25.6 -0.9
RBU Red Butte Cany 79.63 43 eP P 01 24 27.9 +0.9
JSA Saint Aubin 79.66 331 eP P 01 24 26.1 -0.7
JSA AMB AMB 01 24 30.9
comp=Z,791nm,1.1s
MBDF Montbardon 79.67 323 ⇓iP P 01 24 26.1 -1.0
comp=Z,947nm,0.7s
MBDF Montbardon 79.67 323 eP P 01 24 26.1 -1.0
MBDF Montbardon 79.67 323 eP P 01 24 26.1 -1.0
WOFM Oak Flat 79.72 51 eP P 01 24 27.4 -0.1
GRN Grenoble 79.72 324 eP P 01 24 26.9 -0.4
MHD Mile High Driv 79.72 43 eP P 01 24 28.5 +1.0
CTU Camp Tracy 79.72 43 eP P 01 24 28.2 +0.7
comp=Z,400nm,1.2s
CTU epP pP 01 26 28.9 +0.5
CWU Camp Williams 79.73 44 eP P 01 24 28.7 +1.2
D28A Regan 79.73 33 ⇓P P 01 24 27.9 +0.7
baz=79,SNR=265
ISA Isabella 79.76 51 eP P 01 24 27.5 -0.2
ISA e*PP pP 01 26 31.0 +2.4
ISA pmax pmax
comp=Z,263nm,0.8s
ISA Isabella 79.76 51 eP P 01 24 27.5 -0.2
comp=Z,263nm,0.8s
ISA epP pP 01 26 31.0 +2.4
ISA Isabella 79.76 51 ⇓P P 01 24 27.5 -0.2
baz=80,SNR=306
H23A Clabaugh Cattl 79.79 37 ⇑P P 01 24 28.1 +0.4
baz=80,SNR=43
WTU Western Traver 79.80 44 eP P 01 24 29.1 +1.2
J21A Lysite 79.80 39 ⇓P P 01 24 28.5 +0.6
baz=80,SNR=223
GMU Granite Mounta 79.81 43 eP P 01 24 28.9 +1.0
I22A 9 Mile Ranch, 79.82 38 ⇓P P 01 24 28.4 +0.5
baz=80,SNR=192
GRR Gorron 79.85 330 ⇓iP P 01 24 27.0 -0.7
comp=Z,324nm,0.4s
GRR Gorron 79.85 330 eP P 01 24 27.0 -0.7
GRR Gorron 79.85 330 eP P 01 24 27.0 -0.7
SURF Saint Ours 79.85 323 eP P 01 24 26.9 -1.2
BGF Bois d'Agland 79.89 326 ⇓iP P 01 24 27.3 -0.7
comp=Z,533nm,0.7s
BGF Bois d'Agland 79.89 326 eP P 01 24 27.3 -0.7
BGF Bois d'Agland 79.89 326 eP P 01 24 27.3 -0.7
RCJ Ross Creek 79.91 43 eP P 01 24 29.6 +1.1
SBC Santa Barbara 79.91 52 ⇓P P 01 24 29.3 +0.9
baz=80,SNR=48
ORIF Oris-en-Rattie 79.92 324 ⇓iP P 01 24 27.7 -0.6
comp=Z,338nm,0.7s
ORIF eR
comp=Z,11µm,17.5s
ORIF Oris-en-Rattie 79.92 324 eP P 01 24 27.7 -0.6
ORIF Oris-en-Rattie 79.92 324 eP P 01 24 27.7 -0.6
VAL Valentia 79.94 337 eP P 01 24 28.3 +0.2
VAL eS S 01 33 44.2 -0.7
ARVC Arvin 79.94 51 ⇑P P 01 24 28.7 +0.2
baz=80,SNR=122
JLU Jordanelle 79.94 43 eP P 01 24 29.7 +0.9
comp=Z,288nm,0.8s
JLU epP pP 01 26 31.3 +1.6
KLJ Keetly 79.95 43 eP P 01 24 29.8 +1.1
E27A Carson 79.95 34 ⇓P P 01 24 29.0 +0.7
baz=80,SNR=302
AUTN L'Aution 79.95 322 eP P 01 24 27.5 -1.2
F26A Lodgepole 79.95 35 ⇑P P 01 24 28.8 +0.3
baz=80,SNR=168
HLJ Hailstone 79.96 43 eP P 01 24 29.8 +1.0
LDJ Lady 79.98 43 eP P 01 24 30.2 +1.3
HTU Hoyt Peak 80.01 43 eP P 01 24 30.1 +1.0
TOUF Mont Tournerai 80.02 322 eP P 01 24 29.0 0.0
H24A Dirks Ranch, A 80.02 36 ⇓P P 01 24 28.7 -0.2
baz=80,SNR=214
PLDF La Plantade 80.05 326 eP P 01 24 28.0 -0.9
DCU Deer Creek Res 80.05 43 eP P 01 24 30.5 +1.3
SBF Sospel 80.05 322 ⇓iP P 01 24 27.9 -1.1
comp=Z,686nm,0.8s
SBF Sospel 80.05 322 eP P 01 24 27.9 -1.1
SBF Sospel 80.05 322 eP P 01 24 27.9 -1.1
HEB Heber 80.08 43 eP P 01 24 30.7 +1.3
CEL Celeste 80.09 313 eP P 01 24 28.5 -0.8
comp=Z,1µm,0.9s
CEL epP pP 01 26 31.7 +1.4
FURC Furnace Creek, 80.10 49 ⇑P P 01 24 30.6 +1.4
baz=80,SNR=495
NLU North Lily Min 80.11 44 eP P 01 24 29.9 +0.3
comp=Z,397nm,0.9s
NLU epP pP 01 26 32.4 +1.8
C30A Mose, Pekin 80.14 31 ⇑P P 01 24 29.1 -0.1
baz=80,SNR=109
WMUT West Mountain 80.14 44 eP P 01 24 30.9 +1.2
MVIF Mont Vial 80.15 322 eP P 01 24 28.9 -0.7
G25A Newell 80.16 36 ⇑P P 01 24 30.0 +0.4
baz=80,SNR=46
REVF Revere 80.18 322 eP P 01 24 28.4 -1.2
AGO Saint Agoulin 80.18 326 eP P 01 24 28.9 -0.7
DAU Daniels Canyon 80.18 43 eP P 01 24 31.1 +1.0
DAU Daniels Canyon 80.18 43 eP P 01 24 31.1 +1.0
E28A Huff 80.19 33 ⇑P P 01 24 30.0 +0.4
baz=80,SNR=55
J22A Midwest 80.20 38 ⇓P P 01 24 30.2 +0.3
baz=80,SNR=823
F27A Lemmon 80.21 34 ⇑P P 01 24 30.0 +0.3
baz=80,SNR=216
SSB Saint Sauveur 80.21 325 eP P 01 24 29.0 -0.8
D29A Pettibone, Tap 80.23 32 ⇓P P 01 24 29.9 +0.2
baz=80,SNR=139
I23A Meade Ranch, G 80.23 37 ⇓P P 01 24 30.2 +0.1
baz=80,SNR=11
BSC Santa Cruz Isl 80.28 53 ⇑P P 01 24 30.5 +0.2
baz=80,SNR=19
MPU Maple Canyon 80.29 44 eP P 01 24 31.4 +0.9
comp=Z,360nm,0.9s
MPU epP pP 01 26 33.2 +1.6
LRMC Laurel Mountai 80.34 50 ⇑P P 01 24 31.4 +0.7
baz=80,SNR=262
PGF Pioggiola 80.34 320 ⇓iP P 01 24 29.6 -1.0
comp=Z,644nm,1.0s
PGF Pioggiola 80.34 320 eP P 01 24 29.6 -1.0
PGF Pioggiola 80.34 320 eP P 01 24 29.6 -1.0
OSI Osito Adit 80.37 52 eP P 01 24 31.2 +0.5
comp=Z,925nm,0.8s
OSI Osito Adit 80.37 52 ⇑P P 01 24 31.6 +0.8
baz=80,SNR=25
TCF Toulx Ste Croi 80.37 327 eP P 01 24 30.1 -0.5
comp=Z,986nm,0.8s
TCF epP pP 01 26 31.5 -0.2
TCF Toulx Ste Croi 80.37 327 eP P 01 24 30.1 -0.5
TCF e*PP pP 01 26 31.5 -0.2
TCF Toulx Ste Croi 80.37 327 eP P 01 24 30.1 -0.5
TCF epP pP 01 26 31.5 -0.2
CALN Calern 80.38 322 eP P 01 24 29.0 -1.8
G26A Maurine 80.43 35 ⇑P P 01 24 31.4 +0.4
baz=80,SNR=375
K21A Alcova 80.44 39 ⇑P P 01 24 31.7 +0.4
baz=80,SNR=596
PYM Petit Puy Mans 80.48 326 eP P 01 24 30.3 -0.9
VIVF Saint-Julien-l 80.49 324 ⇓iP P 01 24 30.7 -0.5
comp=Z,2µm,1.2s
VIVF Saint-Julien-l 80.49 324 eP P 01 24 30.7 -0.5
VIVF Saint-Julien-l 80.49 324 eP P 01 24 30.7 -0.5
D30A Buchanan 80.52 32 ⇑P P 01 24 31.2 0.0
baz=80,SNR=273
H25A Fruitdale 80.54 36 ⇑P P 01 24 31.7 +0.2
baz=80,SNR=131
LEVU Levan 80.58 44 eP P 01 24 31.0 -1.0
SGMF Saint Gilles 80.59 330 ⇓iP P 01 24 31.1 -0.5
comp=Z,749nm,0.7s
SGMF Saint Gilles 80.59 330 eP P 01 24 31.1 -0.5
SGMF Saint Gilles 80.59 330 eP P 01 24 31.1 -0.5
EDW2 Edwards Air Fo 80.60 51 ⇑P P 01 24 32.8 +0.7
baz=80,SNR=543
E29A Napoleon 80.61 33 ⇑P P 01 24 31.9 +0.1
baz=80,SNR=366
AGMN Agassiz Nation 80.61 29 eP P 01 24 31.1 -0.7
comp=Z,687nm,1.1s
AGMN Agassiz Nation 80.61 29 ⇓P P 01 24 31.4 -0.3
baz=80,SNR=292
J23A Dilts Ranch, B 80.63 38 ⇑P P 01 24 32.1 0.0
baz=80,SNR=31
G27A Dupree 80.64 35 ⇑P P 01 24 32.3 +0.3
baz=80,SNR=181
FRF La Foret Royal 80.64 322 ⇓iP P 01 24 30.7 -1.3
comp=Z,293nm,0.9s
FRF La Foret Royal 80.64 322 eP P 01 24 30.7 -1.3
FRF La Foret Royal 80.64 322 eP P 01 24 30.7 -1.3
I24A Kuemmerle Ranc 80.69 37 ⇓P P 01 24 32.6 +0.2
baz=80,SNR=263
F28A McLaughlin 80.73 34 ⇓P P 01 24 33.0 +0.5
baz=80,SNR=70
RSSD Black Hills 80.74 37 eP P 01 24 33.2 +0.4
RSSD pmax pmax
comp=Z,3µm,1.6s
RSSD Black Hills 80.74 37 eP P 01 24 33.2 +0.4
comp=Z,3µm,1.6s
K22A Casper 80.77 39 eP P 01 24 33.0 0.0
comp=Z,3µm,2.1s
K22A epP pP 01 26 35.0 +0.8
K22A ePP PP 01 27 50.8 +3.9
K22A Casper 80.77 39 ⇓P P 01 24 32.9 0.0
baz=80,SNR=127
ROSF Rostrenen 80.78 331 ⇓iP P 01 24 32.1 -0.5
comp=Z,1µm,0.7s
ROSF Rostrenen 80.78 331 eP P 01 24 32.1 -0.5
ROSF Rostrenen 80.78 331 eP P 01 24 32.1 -0.5
LBL Lubilhac 80.79 325 eP P 01 24 32.2 -0.6
SMRF Simiane la Rot 80.79 323 ⇓iP P 01 24 32.2 -0.6
comp=Z,418nm,1.0s
SMRF Simiane la Rot 80.79 323 eP P 01 24 32.2 -0.6
SHOC Shoshone 80.83 49 ⇑P P 01 24 34.2 +1.1
baz=81,SNR=275
DECC Green Verdugo 80.85 52 ⇓P P 01 24 33.9 +0.6
baz=81,SNR=60
LMR La Mourre 80.88 322 ⇓iP P 01 24 32.3 -0.9
comp=Z,1µm,1.1s
LMR La Mourre 80.88 322 eP P 01 24 32.3 -0.9
LMR La Mourre 80.88 322 eP P 01 24 32.3 -0.9
H26A Fairpoint 80.89 36 ⇑P P 01 24 33.8 +0.5
baz=81,SNR=122
OSPF L'Ospedale 80.94 320 eP P 01 24 32.9 -0.7
FRNF Fournols 80.95 326 eP P 01 24 33.4 -0.2
I25A Rochford 80.95 36 ⇑P P 01 24 34.3 +0.5
baz=81,SNR=518
E30A Jud 80.96 32 ⇓P P 01 24 33.8 +0.3
baz=81,SNR=345
GSC Goldstone 80.97 50 eP P 01 24 35.1 +1.1
GSC Goldstone 80.97 50 eP P 01 24 35.1 +1.1
GSC Goldstone 80.97 50 ⇓P P 01 24 34.8 +0.9
baz=81,SNR=484
PASC Pasadena Art C 80.99 52 eP P 01 24 34.0 0.0
comp=Z,452nm,0.8s
PASC epP pP 01 26 36.2 +0.8
SHPR Sheep Range 81.01 48 eP P 01 24 35.7 +1.5
SHPR epP pP 01 26 37.7 +2.0
MWC Mount Wilson 81.03 51 eP P 01 24 34.8 +0.4
MWC e*PP pP 01 26 36.7 +0.9
MWC pmax pmax
comp=Z,523nm,0.9s
MWC Mount Wilson 81.03 51 eP P 01 24 34.8 +0.4
comp=Z,523nm,0.9s
MWC epP pP 01 26 36.7 +0.9
MFF Saint Martin d 81.05 328 ⇓iP P 01 24 33.7 -0.3
comp=Z,2µm,1.1s
MFF Saint Martin d 81.05 328 eP P 01 24 33.7 -0.3
MFF Saint Martin d 81.05 328 eP P 01 24 33.7 -0.3
J24A Dixon Ranch, L 81.09 37 ⇓P P 01 24 34.6 +0.2
baz=81,SNR=153
QUIF Quistinic 81.09 331 ⇓iP P 01 24 33.7 -0.5
comp=Z,330nm,0.5s
QUIF Quistinic 81.09 331 eP P 01 24 33.7 -0.5
QUIF Quistinic 81.09 331 eP P 01 24 33.7 -0.5
K23A Bowen Ranch, D 81.10 38 ⇓P P 01 24 34.3 -0.3
baz=81,SNR=79
MVU Marysvale 81.12 45 eP P 01 24 36.3 +1.5
comp=Z,1µm,1.3s
MVU epP pP 01 26 38.7 +2.4
F29A Eureka 81.14 33 ⇑P P 01 24 34.9 +0.4
baz=81,SNR=385
RRX Edison Barstow 81.16 50 ⇓P P 01 24 36.1 +1.2
baz=81,SNR=64
H27A Howes 81.18 35 ⇓P P 01 24 35.4 +0.7
baz=81,SNR=116
CCUT Cedar City 81.22 46 eP P 01 24 36.4 +1.0
comp=Z,152nm,0.7s
CCUT epP pP 01 26 35.9 -1.0
LCHF La Chataignera 81.23 329 eP P 01 24 34.4 -0.5
BFSC Mount Baldy Ra 81.25 51 ⇓P P 01 24 35.7 +0.3
baz=81,SNR=336
FMP Fort Macarthur 81.26 52 ⇓P P 01 24 35.9 +0.6
baz=81,SNR=30
L22A Ellis Ranch, M 81.29 39 ⇑P P 01 24 36.4 +0.7
baz=81,SNR=135
G28A Parade 81.31 34 ⇑P P 01 24 36.0 +0.5
baz=81,SNR=287
I26A New Underwood 81.33 36 ⇓P P 01 24 36.5 +0.9
baz=81,SNR=166
N20A Spence Gulch, 81.35 41 ⇓P P 01 24 37.1 +1.1
baz=81,SNR=1000
TUQ Turquoise Moun 81.37 49 ⇓P P 01 24 37.3 +1.2
baz=81,SNR=1000
CIS Catalina Islan 81.41 52 ⇑P P 01 24 36.3 +0.1
baz=81,SNR=92
J25A Sunshine Ranch 81.42 37 ⇑P P 01 24 36.4 +0.2
baz=81,SNR=84
RJF Les Rejaudoux 81.45 326 ⇓iP P 01 24 35.8 -0.3
comp=Z,2µm,1.1s
RJF eR
comp=Z,7µm,20.2s
RJF Les Rejaudoux 81.45 326 eP P 01 24 35.8 -0.3
RJF Les Rejaudoux 81.45 326 eP P 01 24 35.8 -0.3
F30A Leola 81.46 33 ⇓P P 01 24 36.3 +0.1
baz=81,SNR=159
LASF Ste Croix 81.46 324 ⇓iP P 01 24 35.8 -0.4
comp=Z,1µm,1.2s
LASF Ste Croix 81.46 324 eP P 01 24 35.8 -0.4
K24A Anderson Ranch 81.50 38 ⇓P P 01 24 36.3 -0.3
baz=81,SNR=43
CAF Calviac 81.53 326 ⇓iP P 01 24 36.7 +0.1
comp=Z,2µm,1.1s
CAF Calviac 81.53 326 eP P 01 24 36.7 +0.1
CAF Calviac 81.53 326 eP P 01 24 36.7 +0.1
SRU San Rafael 81.53 44 eP P 01 24 37.5 +0.6
SRU e*PP pP 01 26 40.3 +1.8
SRU pmax pmax
comp=Z,399nm,0.7s
SRU San Rafael 81.53 44 eP P 01 24 37.5 +0.6
comp=Z,399nm,0.7s
SRU epP pP 01 26 40.3 +1.8
L23A Garrett 81.57 39 ⇑P P 01 24 36.9 -0.1
baz=81,SNR=379
HEC Hector,Ludlow 81.58 50 ⇑P P 01 24 38.1 +1.0
baz=81,SNR=134
H28A Mission Ridge 81.59 34 ⇓P P 01 24 37.5 +0.7
baz=81,SNR=1000
G29A Hoven 81.62 34 ⇑P P 01 24 37.4 +0.3
baz=81,SNR=206
SCI San Clemente I 81.63 53 ⇓P P 01 24 37.6 +0.4
baz=81,SNR=35
I27A Quinn 81.64 35 ⇑P P 01 24 38.1 +0.9
baz=81,SNR=420
BBRC Big Bear Solar 81.66 51 ⇑P P 01 24 38.3 +0.7
baz=81,SNR=212
M22A Cedar Creek Ra 81.71 40 ⇓P P 01 24 38.3 +0.5
baz=81,SNR=295
SCHQ Schefferville 81.79 10 P P 01 24 37.8 +0.1
comp=Z,217nm,0.7s,baz=360,slow=5.8,SNR=153
SCHQ S S 01 34 02.7 -0.9
comp=Z,14nm,0.8s,baz=159,slow=17,SNR=13
SCHQ PKKPbc PKKPbc 01 43 01.0 -2.6
comp=Z,7.3nm,0.6s,baz=143,slow=3.1,SNR=7.5
SCHQ PKPPKP P'P'df 01 51 09.9 -0.2
comp=Z,9.5nm,1.0s,baz=33,slow=4.5,SNR=4.8
J26A Sides Ranch, S 81.81 37 ⇓P P 01 24 39.2 +1.1
baz=82,SNR=989
O20A White River Ci 81.89 42 eP P 01 24 39.5 +0.8
comp=Z,741nm,0.7s
O20A epP pP 01 26 41.3 +0.8
O20A White River Ci 81.89 42 ⇑P P 01 24 39.4 +0.7
baz=82,SNR=567
KNB Kanab 81.91 46 eP P 01 24 40.6 +1.8
KNB pmax pmax
comp=Z,3µm,1.9s
KNB Kanab 81.91 46 eP P 01 24 40.6 +1.8
comp=Z,3µm,1.9s
H29A Onida 81.97 34 ⇓P P 01 24 39.2 +0.4
baz=82,SNR=362
MURC Murrieta 81.97 51 ⇓P P 01 24 39.5 +0.5
baz=82,SNR=253
L24A Wheatland 81.98 38 ⇓P P 01 24 39.7 +0.7
baz=82,SNR=25
G30A Faulkton 81.99 33 ⇓P P 01 24 39.0 +0.2
baz=82,SNR=328
GMRC Granite Mounta 81.99 50 eP P 01 24 40.3 +1.0
GMRC Granite Mounta 81.99 50 ⇑P P 01 24 40.3 +1.0
baz=82,SNR=809
K25A Mack Ranch, Ha 82.01 37 ⇑P P 01 24 39.8 +0.6
baz=82,SNR=90
DGR Domenigoni Val 82.05 51 eP P 01 24 39.9 +0.5
M23A Laramie 82.06 39 ⇓P P 01 24 40.3 +0.7
baz=82,SNR=357
LFF La Frestale 82.07 327 ⇓iP P 01 24 39.4 +0.2
comp=Z,1µm,0.6s
LFF La Frestale 82.07 327 eP P 01 24 39.4 +0.2
LFF La Frestale 82.07 327 eP P 01 24 39.4 +0.2
I28A Midland 82.08 35 ⇑P P 01 24 39.9 +0.5
baz=82,SNR=559
LDFC Landfair 82.08 49 eP P 01 24 40.4 +0.7
comp=Z,810nm,0.8s
N22A Wattenberg Ran 82.24 40 ⇓P P 01 24 41.7 +1.1
baz=82,SNR=258
K26A Motz Farm, Whi 82.25 37 ⇑P P 01 24 41.0 +0.6
baz=82,SNR=133
PHWY Pilot Hill 82.32 39 eP P 01 24 41.3 +0.3
comp=Z,1µm,1.5s
J27A Elkhorn Farm, 82.32 36 ⇓P P 01 24 41.7 +1.1
baz=82,SNR=323
L25A Engebretsen Ra 82.33 38 ⇑P P 01 24 41.6 +0.8
baz=82,SNR=6.0
SNDA J Saunders Pla 82.34 51 eP P 01 24 42.0 +0.9
MSEY Mahe Island 82.35 257 P P 01 24 41.1 -0.1
comp=Z,4µm,0.9s,SNR=16
MSEY Mahe Island 82.35 257 eP P 01 24 41.7 +0.5
MSEY pmax pmax
comp=Z,665nm,0.9s
MSEY Mahe Island 82.35 257 eP P 01 24 41.7 +0.5
comp=Z,665nm,0.9s
MSEY Mahe Island 82.35 257 iP P 01 24 41.7 +0.5
SNR=48
BELC Belle Mtn. Jos 82.37 50 ⇑P P 01 24 41.7 +0.6
baz=82,SNR=737
PFO Pinyon Flat Ob 82.39 51 P P 01 24 41.0 -0.3
comp=Z,4µm,0.8s
PFO Pinyon Flat Ob 82.39 51 P P 01 24 41.7 +0.4
PFO *PP pP 01 26 44.5 +1.3
PFO S S 01 34 09.1 -1.6
PFO pmax pmax
comp=Z,582nm,0.9s
PFO smax smax
comp=N,3.0nm,0.9s
PFO Pinyon Flat Ob 82.39 51 P P 01 24 41.7 +0.4
comp=N,582nm,0.9s,baz=318,slow=5.2,SNR=15
PFO pP pP 01 26 44.5 +1.3
comp=N,150nm,1.1s,baz=306,slow=5.4,SNR=3.1
PFO S S 01 34 09.1 -1.6
comp=N,2.7nm,0.9s,baz=303,slow=17,SNR=14
PFO Pinyon Flat Ob 82.39 51 eP P 01 24 41.8 +0.4
comp=N,659nm,0.9s
PFO epP pP 01 26 45.6 +2.4
PFO eS S 01 34 09.0 -1.6
PFO Pinyon Flat Ob 82.39 51 ⇓P P 01 24 41.8 +0.5
baz=82,SNR=552
N23A Red Feather La 82.41 40 ⇑P P 01 24 42.5 +1.0
baz=82,SNR=352
I29A Vivian Onida 82.42 34 ⇓P P 01 24 41.5 +0.4
baz=82,SNR=153
M24A Cheyenne 82.48 39 ⇑P P 01 24 43.0 +1.3
baz=82,SNR=272
J28A Allard Ranch, 82.51 35 ⇓P P 01 24 42.4 +0.8
baz=82,SNR=204
VSL Villasalto 82.52 318 eP P 01 24 41.6 0.0
comp=N,1µm,1.4s
VSL ePP PP 01 28 06.7 +5.8
109C Camp Elliot, M 82.54 52 ⇓P P 01 24 42.3 +0.5
baz=82,SNR=69
NEE2 Needles Airpor 82.59 49 ⇓P P 01 24 42.8 +0.7
baz=82
WDD Wield Dalam 82.60 313 eP P 01 24 42.1 +0.1
comp=N,2µm,0.9s
U15A North Rim 82.63 46 ⇓P P 01 24 44.3 +1.7
baz=82,SNR=1000
BRSD Miller 82.63 33 eP P 01 24 42.5 +0.4
comp=N,2µm,0.6s
BRSD epP pP 01 26 45.2 +1.0
BRSD Miller 82.63 33 ⇑P P 01 24 42.5 +0.4
baz=82,SNR=438
K27A Flueckinger Fa 82.66 36 ⇓P P 01 24 42.9 +0.5
baz=82,SNR=157
O22A Kremmling 82.69 41 ⇓P P 01 24 43.6 +0.7
baz=82,SNR=422
PV09 Paradox Valley 82.70 43 eP P 01 24 44.4 +1.4
IRM Iron Mountain 82.73 50 ⇑P P 01 24 44.2 +1.3
baz=82,SNR=1000
W13A Hualapai Mount 82.75 48 ⇓P P 01 24 44.2 +1.1
baz=82,SNR=587
MTLF Montolieu 82.76 325 ⇓iP P 01 24 42.4 -0.4
comp=N,726nm,1.2s
MTLF Montolieu 82.76 325 eP P 01 24 42.4 -0.4
MTLF Montolieu 82.76 325 eP P 01 24 42.4 -0.4
L26A Underwood Farm 82.82 37 ⇓P P 01 24 44.0 +0.7
baz=82,SNR=49
PV10 Paradox Valley 82.85 43 eP P 01 24 45.4 +1.8
M25A Palm-Egli Farm 82.86 38 ⇓P P 01 24 44.9 +1.3
baz=83,SNR=68
J29A Okreek 82.91 35 ⇑P P 01 24 44.1 +0.5
baz=83,SNR=343
BC3 Big Chuckawall 82.93 50 ⇓P P 01 24 44.8 +0.8
baz=83,SNR=610
MONP Monument Peak 82.94 51 ⇑P P 01 24 44.7 +0.6
baz=83,SNR=314
BAR Barrett 82.94 52 eP P 01 24 44.0 +0.1
comp=N,446nm,0.9s
BAR epP pP 01 26 46.9 +0.8
LRDF Laroque-de-Fa 82.95 324 eP P 01 24 43.0 -0.7
O23A Lake Granby, G 82.96 40 ⇓P P 01 24 45.7 +1.5
baz=83,SNR=1000
N24A Carr 82.96 39 ⇓P P 01 24 45.3 +1.2
baz=83,SNR=109
K28A Ten Mile Ranch 83.03 36 ⇑P P 01 24 45.2 +0.9
baz=83,SNR=121
P22A Eagle 83.03 41 ⇓P P 01 24 45.6 +1.1
baz=83,SNR=336
PV05 Paradox Valley 83.04 43 eP P 01 24 46.0 +1.4
PV05 epP pP 01 26 49.1 +2.3
L27A T5 Ranch, Ells 83.12 37 ⇑P P 01 24 45.4 +0.7
baz=83,SNR=53
SJAF Saint Jean de 83.17 324 eP P 01 24 43.4 -1.4
PDMCI Parker Dam,Lak 83.20 49 ⇑P P 01 24 46.2 +1.1
baz=83,SNR=770
CRR Carrizo Plain 83.25 51 eP P 01 24 46.0 +0.9
FILF Fillols 83.25 324 eP P 01 24 44.4 -0.9
M26A McRoberts Ranc 83.25 38 ⇑P P 01 24 46.7 +1.3
baz=83,SNR=92

SMCO Snowmass 83.25 41 eP P 01 24 47.0 +1.2
comp=N,543nm,0.8s
SMCO epP pP 01 26 50.0 +1.9
SWSC Sam W. Stewart 83.26 51 ⇑P P 01 24 46.0 +0.6
baz=83,SNR=89
J30A Dallas 83.33 34 ⇑P P 01 24 46.3 +0.7
baz=83,SNR=654
N25A Grover 83.34 39 ⇓P P 01 24 47.0 +1.1
baz=83,SNR=68
Y12C Blythe 83.39 50 ⇓P P 01 24 47.3 +1.2
baz=83,SNR=809
YUH Yuha Desert 83.40 51 eP P 01 24 46.8 +0.7
ISCO Idaho Springs 83.42 40 eP P 01 24 47.5 +0.9
ISCO pmax pmax
comp=Z,361nm,0.8s
ISCO Idaho Springs 83.42 40 eP P 01 24 47.5 +0.9
comp=Z,361nm,0.8s
ISCO Idaho Springs 83.42 40 ⇑P P 01 24 47.7 +1.2
baz=83,SNR=623
O24A Longmont 83.43 40 ⇑P P 01 24 47.6 +1.2
baz=83,SNR=78
K29A Lazy Trails An 83.44 35 ⇓P P 01 24 47.2 +1.0
baz=83,SNR=403
L28A Connealy Angus 83.54 36 ⇑P P 01 24 47.4 +0.6
baz=83
M27A Reverse DX Ran 83.54 37 ⇑P P 01 24 47.5 +0.7
baz=83,SNR=61
MLS Moulis 83.55 325 eP P 01 24 45.8 -0.9
VALF Valcebollere 83.61 324 eP P 01 24 46.6 -0.6
P23A Jefferson 83.65 41 ⇓P P 01 24 49.1 +1.4
baz=83,SNR=348
N26A Koester Ranch, 83.72 38 ⇑P P 01 24 48.7 +0.9
baz=83,SNR=86
GLA Glamis 83.73 50 eP P 01 24 49.0 +1.1
GLA e*PP pP 01 26 53.9 +3.5
GLA pmax pmax
comp=Z,557nm,0.8s
GLA Glamis 83.73 50 eP P 01 24 49.0 +1.1
comp=Z,557nm,0.8s
GLA epP pP 01 26 53.9 +3.5
GLA Glamis 83.73 50 ⇑P P 01 24 49.0 +1.1
baz=84,SNR=210
MELF Melles 83.76 325 eP P 01 24 47.6 -0.2
EPF Esparros 83.80 326 ⇓iP P 01 24 47.1 -0.9
comp=Z,131nm,0.7s
EPF Esparros 83.80 326 eP P 01 24 47.1 -0.9
EPF Esparros 83.80 326 eP P 01 24 47.1 -0.9
WUAZ Wupatki 83.80 46 eP P 01 24 49.9 +1.5
comp=Z,484nm,0.8s
WUAZ epP pP 01 26 53.3 +2.4
WUAZ Wupatki 83.80 46 ⇑P P 01 24 49.8 +1.5
baz=84,SNR=484
K30A Basset 83.81 35 ⇓P P 01 24 49.0 +0.9
baz=84,SNR=328
O25A Wiggins 83.88 39 ⇑P P 01 24 49.4 +0.8
baz=84,SNR=77
LABF Labassere 83.90 326 eP P 01 24 48.5 0.0
L29A Maesberg Ranch 83.94 36 ⇑P P 01 24 49.4 +0.6
baz=84,SNR=241
P24A Kohler Place, 83.98 40 ⇓P P 01 24 50.4 +1.2
baz=84,SNR=89
RESF Ens 83.98 326 eP P 01 24 49.2 +0.2
MVCO Mesa Verde 84.01 44 eP P 01 24 50.5 +1.1
comp=Z,429nm,0.8s
MVCO epP pP 01 26 53.1 +1.1
MVCO Mesa Verde 84.01 44 ⇓P P 01 24 50.4 +0.9
baz=84,SNR=284
Q23A Hartsel 84.02 41 ⇑P P 01 24 50.4 +0.8
baz=84,SNR=31
N27A Anderson Farm, 84.05 38 ⇓P P 01 24 50.2 +0.9
baz=84,SNR=248
VIEF Viey 84.05 326 eP P 01 24 46.6 -2.7
Y14A Wickenburg 84.09 49 ⇑P P 01 24 50.8 +1.2
baz=84,SNR=225
M28A Bar X Bar Ranc 84.10 37 ⇓P P 01 24 50.3 +0.7
baz=84,SNR=156
O26A Horse Wrangler 84.15 39 ⇑P P 01 24 50.5 +0.6
baz=84,SNR=183
ECSD EROS Data Cent 84.16 32 eP P 01 24 49.9 +0.1
comp=Z,618nm,0.9s
ECSD EROS Data Cent 84.16 32 ⇑P P 01 24 49.8 +0.1
baz=84,SNR=435
OGNE Ogallala 84.17 37 ⇓P P 01 24 50.6 +0.7
baz=84,SNR=275
ORDF Ordiarp 84.17 327 eP P 01 24 49.6 -0.2
ATE Arette 84.18 326 eP P 01 24 50.4 +0.6
OSSF Osses 84.27 327 eP P 01 24 48.8 -1.4
ETSF Etsaut 84.28 326 ⇓iP P 01 24 50.5 +0.1
comp=Z,274nm,0.6s
ETSF Etsaut 84.28 326 eP P 01 24 50.5 +0.1
ETSF Etsaut 84.28 326 eP P 01 24 50.5 +0.1
Q24A Divide 84.30 40 ⇓P P 01 24 51.5 +0.6
baz=84,SNR=211
P25A Willow Gulch B 84.33 39 ⇓P P 01 24 51.7 +0.8
baz=84,SNR=282
SPMN St. Paul 84.34 29 eP P 01 24 50.3 -0.2
comp=Z,252nm,0.7s
SPMN ePP PP 01 28 14.0 -1.1
SPMN St. Paul 84.34 29 ⇓P P 01 24 50.4 -0.2
baz=84,SNR=130
LARF Larrau 84.34 327 eP P 01 24 51.1 +0.4
M29A Burnside Ranch 84.36 36 ⇑P P 01 24 51.2 +0.4
baz=84,SNR=90
L30A Spencer Herefo 84.36 35 ⇑P P 01 24 51.2 +0.4
baz=84,SNR=262
SJPF Ste Jean 84.37 327 ⇓iP P 01 24 50.9 +0.1
comp=Z,396nm,1.2s
SJPF Ste Jean 84.37 327 eP P 01 24 50.9 +0.1
SJPF Ste Jean 84.37 327 eP P 01 24 50.9 +0.1
S22A 4UR Ranch, Cre 84.44 42 ⇓P P 01 24 52.9 +1.3
baz=84,SNR=296
113A Mohawk Valley, 84.54 50 ⇑P P 01 24 52.6 +0.8
baz=84,SNR=377
L31A Butterfield Fa 84.55 35 ⇑P P 01 24 52.3 +0.6
baz=84,SNR=226
Z14A Wintersburg 84.56 49 ⇓P P 01 24 52.9 +1.0
baz=84,SNR=113
O27A Beecher Island 84.57 38 ⇑P P 01 24 52.4 +0.5
baz=84,SNR=38
R23A Moffat 84.58 41 ⇓P P 01 24 53.5 +1.3
baz=84,SNR=263
X16A Lo Mia Camp, P 84.59 47 ⇓P P 01 24 53.8 +1.6
baz=84,SNR=1000
N28A Pribbeno Ranch 84.60 37 ⇑P P 01 24 52.5 +0.5
baz=84,SNR=101
M30A Dale-Ortello V 84.64 36 ⇑P P 01 24 52.4 +0.4
baz=84,SNR=50
P26A Davis Ranch, A 84.68 39 ⇑P P 01 24 53.1 +0.6
baz=84,SNR=239
Q25A Bedland, Calha 84.77 40 ⇑P P 01 24 53.5 +0.5
baz=84,SNR=102
S23A Nye Farm, Mont 84.88 42 ⇑P P 01 24 55.0 +1.3
baz=85,SNR=51
N29A Votaw Ranch, W 84.89 37 ⇑P P 01 24 54.0 +0.6
baz=85,SNR=176
R24A Sanders Place, 84.90 41 ⇓P P 01 24 54.6 +0.9
baz=85,SNR=238
O28A Krutsinger Ran 84.94 38 ⇑P P 01 24 54.3 +0.6
baz=85,SNR=63
W18A Petrified Fore 84.97 46 eP P 01 24 55.6 +1.5
comp=Z,1µm,1.9s
W18A epP pP 01 27 00.3 +3.3
W18A ePP PP 01 28 25.8 +5.0
W18A Petrified Fore 84.97 46 ⇓P P 01 24 55.5 +1.5
baz=85,SNR=57
P27A Ficken Ranch, 85.04 38 ⇓P P 01 24 54.7 +0.5
baz=85,SNR=165
Q26A Hugo 85.11 39 ⇓P P 01 24 55.1 +0.5
baz=85,SNR=86
N30A Hueftle Ranch, 85.14 36 ⇑P P 01 24 55.2 +0.6
baz=85,SNR=38
M31A Lambtecht Ranc 85.18 35 ⇓P P 01 24 55.1 +0.4
baz=85,SNR=146
X18A Snowflake 85.31 46 ⇓P P 01 24 57.0 +1.3
baz=85,SNR=380
S24A Houchin Ranch, 85.32 41 ⇑P P 01 24 56.8 +1.0
baz=85,SNR=239
R25A Fountain Ranch 85.36 40 ⇑P P 01 24 56.3 +0.5
baz=85,SNR=224
O29A 4D Ranch, Culb 85.38 37 ⇓P P 01 24 56.3 +0.5
baz=85,SNR=264
T23A Casias Ranch, 85.39 42 ⇓P P 01 24 57.5 +1.3
baz=85,SNR=382
P28A Saint Francis 85.40 38 ⇓P P 01 24 56.5 +0.5
baz=85,SNR=174
KEST Kesra 85.44 316 P P 01 24 55.9 -0.2
comp=Z,12nm,0.7s,baz=86,slow=1.3,SNR=52
KEST pP pP 01 26 58.8 -0.5
comp=Z,26nm,1.1s,baz=223,slow=4.7,SNR=2.3
KEST PP PP 01 28 22.2 -2.2
comp=Z,31nm,1.2s,baz=345,slow=6.7,SNR=3.0
KEST S SKSac 01 34 24.7 -2.4
comp=Z,9.4nm,1.2s,baz=18,slow=20,SNR=7.7
KEST Kesra 85.44 316 eP P 01 24 55.7 -0.5
KEST ePP PP 01 28 21.8 -2.6
KSCO Kaye Shedlock' 85.45 39 eP P 01 24 57.3 +1.0
comp=Z,1µm,1.1s
KSCO epP pP 01 27 00.4 +1.0
KSCO ePP PP 01 28 28.3 +3.9
KSCO Kaye Shedlock' 85.45 39 ⇓P P 01 24 56.9 +0.6
baz=85,SNR=115
BGNE Belgrade 85.47 35 ⇓P P 01 24 56.6 +0.4
baz=85,SNR=151
U22A Llaves 85.49 43 ⇓P P 01 24 58.0 +1.4
baz=85,SNR=46
FURI Furi 85.53 278 eP P 01 24 58.9 +1.7
comp=Z,689nm,1.1s
FURI Furi 85.53 278 P P 01 24 58.5 +1.3
FURI S S 01 34 33.0 -9.1
N31A Bailey Ranch, 85.61 35 ⇑P P 01 24 57.1 +0.3
baz=85,SNR=17
R26A Arlington 85.64 40 ⇓P P 01 24 57.8 +0.6
baz=85,SNR=427
O30A MW Ranch, Wils 85.67 37 ⇓P P 01 24 57.5 +0.4
baz=85,SNR=90
S25A Robets Cordova 85.68 41 ⇓P P 01 24 57.6 +0.2
baz=85
214A Organ Pipe Nat 85.68 50 ⇑P P 01 24 58.2 +0.9
baz=85,SNR=154
T24B San Luis 85.69 42 ⇑P P 01 24 59.2 +1.5
baz=85,SNR=160
CMAH Djebel Manchou 85.72 318 P P 01 24 54.3 -3.2
P29A Atwood 85.75 37 ⇓P P 01 24 58.1 +0.5
baz=86,SNR=71
Q28A Sharon Springs 85.78 38 ⇓P P 01 24 58.3 +0.6
baz=86,SNR=203
V22A San Miguel Ran 85.83 43 ⇑P P 01 24 59.5 +1.3
baz=86,SNR=136
U23A El Rito 85.86 43 ⇑P P 01 24 59.8 +1.5
baz=86,SNR=186
CAEH 'Ain El Ouahch 85.88 318 P P 01 24 58.1 0.0
N32A Stulken Farm, 85.94 35 ⇓P P 01 24 58.6 +0.2
baz=86,SNR=40
R27A Eads 85.96 39 ⇑P P 01 24 59.3 +0.6
baz=86,SNR=482
ABSA Djebel Ababsia 85.96 317 P P 01 24 57.2 -1.5
O31A Woolen Ranch, 86.01 36 ⇑P P 01 24 58.8 0.0
baz=86,SNR=107
P30A Selden 86.10 37 ⇑P P 01 24 59.7 +0.5
baz=86,SNR=251
T25A Trinidad 86.10 41 ⇓P P 01 25 00.1 +0.7
baz=86,SNR=357
S26A Kim 86.17 40 ⇑P P 01 25 00.0 +0.3
baz=86,SNR=147
CKFL Kef-Lekhel 86.24 318 P P 01 24 59.6 -0.4
U24A Moreno Valley 86.25 42 ⇑P P 01 25 01.9 +1.6
baz=86
Q29A Oakley 86.31 38 ⇓P P 01 25 00.8 +0.5
baz=86,SNR=343
V23A Ortiz Mt. (NFS 86.32 43 ⇑P P 01 25 02.7 +2.1
baz=86,SNR=117
O32A Brockman Farm, 86.37 35 ⇓P P 01 25 00.2 -0.2
baz=86,SNR=37
R28A Tribune 86.37 39 ⇓P P 01 25 01.1 +0.5
baz=86,SNR=325
S27A Las Animas 86.39 40 ⇑P P 01 25 01.2 +0.4
baz=86,SNR=49
TAU Tasmania Unive 86.43 168 P P 01 25 02.9 +2.6
comp=Z,754nm,1.1s,SNR=9.4
TAU Tasmania Unive 86.43 168 eP P 01 25 02.1 +1.8
TAU e*PP pP 01 27 05.0 +1.0
TAU Tasmania Unive 86.43 168 eP P 01 25 02.1 +1.8
TAU epP pP 01 27 05.0 +1.0
CASM Ain Smara 86.47 318 P P 01 24 59.7 -1.3
T26A Comanche Natio 86.47 41 ⇓P P 01 25 01.5 +0.3
baz=86,SNR=292
P31A Stockton 86.50 36 ⇑P P 01 25 01.4 +0.3
baz=86,SNR=278
DFRA Djebel Bou Aff 86.54 319 P P 01 25 00.5 -0.9
Q30A Quinter 86.58 37 ⇑P P 01 25 01.9 +0.5
baz=86,SNR=273
R29A Marienthal 86.61 38 ⇑P P 01 25 02.2 +0.5
baz=86,SNR=209
CTEI Djebel Teioual 86.66 318 P P 01 25 02.3 +0.3
U25A Circle Dot Ran 86.69 42 ⇑P P 01 25 03.0 +0.7
baz=86,SNR=362
P32A Huiting Farm, 86.76 36 ⇑P P 01 25 02.3 0.0
baz=86,SNR=125
V24A Rampart Ranch, 86.80 42 ⇓P P 01 25 04.2 +1.4
baz=86,SNR=238
W23A Werner Place, 86.80 43 ⇑P P 01 25 04.4 +1.6
baz=86,SNR=132
ANMO Albuquerque 86.81 44 P P 01 25 03.9 +1.1
comp=Z,87nm,0.9s,baz=322,slow=5.3,SNR=12
ANMO pP pP 01 27 06.7 +0.1
comp=Z,18nm,0.8s,baz=319,slow=5.6,SNR=2.6
ANMO S SKSac 01 34 38.1 +2.5
comp=Z,6.6nm,1.0s,baz=274,slow=16,SNR=12
ANMO PKKPbc PKKPbc 01 42 51.4 -0.4
comp=Z,6.3nm,0.9s,baz=171,slow=5.8,SNR=7.7
ANMO Albuquerque 86.81 44 eP P 01 25 04.8 +1.9
comp=Z,527nm,1.5s
ANMO epP pP 01 27 08.4 +1.9
ANMO ePP PP 01 28 40.8 +5.4
LAZ Ladron 86.89 45 eP P 01 25 04.9 +1.7
LAZ epP pP 01 27 09.6 +2.6
LAZ ePP PP 01 28 39.9 +3.8
Q31A Ellis 86.92 37 ⇓P P 01 25 03.3 +0.3
baz=87,SNR=47
S28A Manter 86.94 39 ⇓P P 01 25 04.0 +0.8
baz=87,SNR=686
T27A Campo 86.97 40 ⇑P P 01 25 04.2 +0.7
baz=87,SNR=146
U26A Atchley Ranch, 87.02 41 ⇓P P 01 25 04.5 +0.7
baz=87,SNR=273
SCIA State Center 87.03 31 eP P 01 25 04.0 +0.5
comp=Z,6µm,2.1s
SCIA epP pP 01 27 08.2 +1.0
SCIA ePP PP 01 28 33.8 -2.9
V25A Rancho No Teng 87.03 42 ⇑P P 01 25 05.0 +1.2
baz=87,SNR=184
SET Setif 87.05 319 P P 01 25 04.0 +0.2
R30A Dighton 87.12 38 ⇑P P 01 25 04.4 +0.4
baz=87,SNR=177
W24A Lazy 6 Ranch, 87.14 43 ⇓P P 01 25 06.0 +1.6
baz=87,SNR=151
CKHR Kef el Ahmar 87.14 318 P P 01 25 03.5 -0.8
LENM Lemitar 87.15 45 eP P 01 25 06.0 +1.6
LENM epP pP 01 27 10.8 +2.5
LENM ePP PP 01 28 39.8 +1.7
T28A Walsh 87.22 40 ⇑P P 01 25 04.9 +0.4
baz=87,SNR=112
LPM Los Pinos Moun 87.22 44 eP P 01 25 06.5 +1.7
LPM epP pP 01 27 09.7 +1.1
LPM ePP PP 01 28 38.8 +0.2
X23A Hourglass Bar 87.23 44 ⇑P P 01 25 06.6 +1.8
baz=87,SNR=53
Y22D IRIS PASSCAL I 87.25 45 ⇑P P 01 25 06.7 +1.9
baz=87,SNR=16
JFWS Jewell Farm 87.25 29 eP P 01 25 04.7 +0.2
JFWS e 01 28 43.0
JFWS pmax pmax
comp=Z,624nm,0.8s
JFWS Jewell Farm 87.25 29 eP P 01 25 04.7 +0.2
comp=Z,624nm,0.8s
JFWS ePP PP 01 28 43.0 +4.6
S29A Ulysses 87.28 39 ⇑P P 01 25 05.5 +0.7
baz=87,SNR=217
Q32A Meitler Ranch, 87.30 36 ⇑P P 01 25 05.2 +0.4
baz=87,SNR=283
P33A Williams Farm, 87.30 35 ⇑P P 01 25 05.1 +0.3
baz=87,SNR=79
BNM Barren Site 87.34 44 eP P 01 25 07.0 +1.6
BNM epP pP 01 27 11.8 +2.5
BNM ePP PP 01 28 43.8 +4.1
U27A Thompson Grove 87.44 40 ⇓P P 01 25 06.5 +0.8
baz=87,SNR=390
R31A Burdett 87.45 37 ⇓P P 01 25 05.8 +0.3
baz=87,SNR=137
V26A Tequesquite Ra 87.47 41 ⇑P P 01 25 06.5 +0.7
baz=87,SNR=251
S30A Montezuma 87.56 38 ⇑P P 01 25 06.9 +0.8
baz=87,SNR=527
T29A Hugoton 87.57 39 ⇓P P 01 25 06.9 +0.8
baz=87,SNR=59
W25A X Bar L Ranch, 87.60 42 ⇑P P 01 25 07.6 +1.1
baz=87,SNR=151
Q33A Connelly Farm, 87.61 36 ⇑P P 01 25 06.7 +0.4
baz=87,SNR=299
X24A Lazy VL Ranch, 87.63 43 ⇑P P 01 25 08.4 +1.7
baz=87,SNR=19
PBRG Braganca 87.63 330 eP P 01 25 05.6 -0.7
comp=Z,225nm,1.4s
PBRG epP pP 01 27 09.7 -0.6
PBRG Braganca 87.63 330 ePP PP 01 28 44.5 +3.1
PBRG eSKS SKSac 01 34 39.3 -0.7
ABA Alger-Bouzarea 87.70 321 P P 01 25 04.9 -1.8
R32A Long Quarter, 87.70 37 ⇓P P 01 25 07.1 +0.4
baz=87,SNR=75
U28A Mallet 87.76 40 ⇓P P 01 25 07.6 +0.5
baz=88,SNR=294
Y23A Lovelace Mesa, 87.81 44 ⇓P P 01 25 09.0 +1.4
baz=88,SNR=338
Z22A Elephant Butte 87.87 45 ⇑P P 01 25 09.2 +1.5
baz=88,SNR=531
AKET Djebel Ketaf 87.90 320 P P 01 25 08.6 +0.7
V27A Dan Oppiter Fa 87.97 41 ⇓P P 01 25 09.0 +0.9
baz=88,SNR=148
121A Cookes Peak, D 88.00 46 ⇓P P 01 25 09.9 +1.5
baz=88,SNR=150
T30A Plains 88.01 39 ⇑P P 01 25 09.2 +0.9
baz=88,SNR=103
S31A Mullinville 88.02 38 ⇑P P 01 25 09.0 +0.7
baz=88,SNR=226
ADJB Djebel Djouab 88.03 320 P P 01 25 07.6 -0.8
KSU1 Kansas State U 88.05 35 eP P 01 25 08.8 +0.5
comp=Z,666nm,0.8s
KSU1 epP pP 01 27 14.8 +2.4
KSU1 ePP PP 01 28 45.1 +0.4
KSU1 Kansas State U 88.05 35 ⇓P P 01 25 08.7 +0.4
baz=88,SNR=186
W26A Owens Ranch, T 88.05 42 ⇓P P 01 25 09.8 +1.3
baz=88,SNR=84
X25A Clemmons Ranch 88.05 43 ⇓P P 01 25 09.9 +1.3
baz=88,SNR=329
319A Douglas 88.08 48 ⇓P P 01 25 10.0 +1.2
baz=88
R33A Olander Ranch, 88.12 36 ⇓P P 01 25 09.2 +0.6
baz=88,SNR=98
Y24A Capitan 88.13 44 ⇑P P 01 25 10.1 +1.1
baz=88,SNR=174
U29A Oasis Ranch, S 88.15 39 ⇑P P 01 25 09.6 +0.6
baz=88,SNR=40
PCAB Cabril 88.19 330 eP P 01 25 08.5 -0.4
comp=Z,252nm,1.5s
S32A Newby Ranch, P 88.20 37 ⇑P P 01 25 09.9 +0.9
baz=88,SNR=97
EMHD Djebel Mahouad 88.22 320 P P 01 25 09.0 -0.3
V28A Channing 88.27 40 ⇓P P 01 25 10.2 +0.7
baz=88,SNR=82
MVO Moncorvo 88.30 329 eP P 01 25 09.1 -0.4
comp=Z,283nm,1.3s
MVO epP pP 01 27 11.5 -2.2
MVO eSKS SKSac 01 34 44.6 +0.7
T31A Randall Ranch, 88.36 38 ⇑P P 01 25 10.7 +0.9
baz=88,SNR=351
ESDC Sonseca Array 88.38 327 P P 01 25 09.2 -0.7
comp=Z,75nm,0.7s,baz=22,slow=4.3,SNR=131
ESDC pP pP 01 27 13.5 -0.6
comp=Z,6.2nm,0.7s,baz=4.1,slow=5.0,SNR=1.8
ESDC SKiKP SKiKP 01 32 44.9 -1.9
comp=Z,11nm,1.1s,baz=33,slow=3.9,SNR=4.2
ESDC S SKSac 01 34 43.5 -0.9
comp=Z,1.7nm,0.9s,baz=12,slow=5.7,SNR=3.0
ESDC PKKPbc PKKPbc 01 42 47.8 -0.2
comp=Z,7.9nm,0.9s,baz=233,slow=1.8,SNR=10
ESDC SKKPbc SKKPbc 01 45 32.2 +4.7
comp=Z,2.2nm,0.8s,baz=242,slow=1.8,SNR=5.0
ESDC SKKS SKKSdf 01 49 06.0 +12
comp=Z,0.7nm,0.7s,baz=191,slow=1.3,SNR=3.3
ESDC PKPPKP P'P'df 01 50 54.1 -4.2
comp=Z,0.5nm,0.6s,baz=207,slow=3.1,SNR=5.9
U30A WK&E Inc. Balk 88.38 39 ⇓P P 01 25 10.9 +1.0
baz=88,SNR=168
POLO Lamas de Olo 88.40 330 eP P 01 25 09.8 -0.2
comp=Z,133nm,1.0s
POLO epP pP 01 27 13.3 -0.9
POLO Lamas de Olo 88.40 330 ePP PP 01 28 51.3 +3.8
POLO eSKS SKSac 01 34 44.2 -0.4
W27A Bowe Ranch, En 88.41 41 ⇑P P 01 25 11.1 +0.9
baz=88
PVRL Vila Real 88.45 330 eP P 01 25 09.8 -0.4
comp=Z,190nm,1.5s
X26A CR and CF Fran 88.45 42 ⇑P P 01 25 11.4 +1.0
baz=88,SNR=166
V29A Stinnett 88.50 40 ⇑P P 01 25 11.4 +0.8
baz=88,SNR=74
Y25A Mesa, Roswell 88.51 43 ⇓P P 01 25 11.7 +1.0
baz=88,SNR=268
T32A Huddler Ranch, 88.63 37 ⇑P P 01 25 12.1 +1.0
baz=88,SNR=90
Z24A Sheeppen Canyo 88.64 44 ⇓P P 01 25 12.8 +1.4
baz=88,SNR=150
PAB San Pablo 88.64 327 eP P 01 25 11.3 +0.2
PAB pmax pmax
comp=Z,137nm,1.0s
PAB San Pablo 88.64 327 eP P 01 25 11.3 +0.2
comp=Z,137nm,1.0s
W28A Vega 88.67 41 ⇑P P 01 25 12.5 +1.1
baz=88,SNR=40
S33A Kaszmaul Farm, 88.70 37 ⇑P P 01 25 12.5 +1.1
baz=88,SNR=36
X27A F and S Farms, 88.73 42 ⇑P P 01 25 12.9 +1.2
baz=88,SNR=36
EBNR Beni Rached 88.81 321 P P 01 25 11.0 -1.0
U31A Nine Bar Ranch 88.88 39 ⇑P P 01 25 13.7 +1.4
baz=89,SNR=58
PTO Porto 88.90 330 eP P 01 25 12.6 +0.4
comp=Z,159nm,2.6s
Y26A Elida 88.95 43 ⇑P P 01 25 13.6 +0.8
baz=89,SNR=51
V30A Spur Ranch, Mi 88.99 39 ⇓P P 01 25 13.6 +0.8
baz=89,SNR=21
ECHA Ech Chlef 89.00 321 P P 01 25 12.0 -0.7
PVIS Viseu 89.01 330 eP P 01 25 12.4 -0.4
comp=Z,200nm,1.7s
Z25A Roswell 89.01 44 ⇓P P 01 25 14.6 +1.6
baz=89,SNR=402
SADO Sadowa 89.02 21 P P 01 25 11.9 -0.8
comp=Z,23nm,0.6s,baz=314,slow=3.4,SNR=5.9
SADO S SKSac 01 34 47.3 -0.5
comp=Z,18nm,1.1s,baz=65,slow=9.4,SNR=7.7
T33A Patterson Ranc 89.02 37 ⇓P P 01 25 13.8 +1.0
baz=89,SNR=93
W29A Amraillo 89.05 40 ⇓P P 01 25 13.9 +0.8
baz=89,SNR=46
MTE Manteigas 89.15 329 eP P 01 25 13.3 -0.2
comp=Z,278nm,1.4s
MTE epP pP 01 27 17.6 -0.3
MTE eSKS SKSac 01 34 50.1 +1.2
MTE Manteigas 89.15 329 eP P 01 25 12.3 -1.2
comp=Z,205nm,1.0s
AMTX Amarillo 89.23 41 ⇓P P 01 25 15.1 +1.1
baz=89
U32A Winter Ranch, 89.26 38 ⇓P P 01 25 15.2 +1.2
baz=89,SNR=24
X28A Dimmitt 89.27 41 ⇑P P 01 25 15.0 +0.8
baz=89,SNR=34
EANR 'Ain N'Sour 89.29 321 P P 01 25 13.3 -0.9
Y27A Causey 89.31 42 ⇓P P 01 25 15.0 +0.6
baz=89,SNR=103
V31A Spring Creek L 89.37 39 ⇓P P 01 25 16.3 +1.7
baz=89,SNR=168
Z26A Caprock 89.39 43 ⇓P P 01 25 15.6 +0.9
baz=89,SNR=373
MSTX Muleshoe 89.43 42 eP P 01 25 15.3 +0.4
comp=Z,1µm,1.8s
MSTX ePP PP 01 28 56.7 +0.8
MSTX Muleshoe 89.43 42 ⇓P P 01 25 15.4 +0.4
baz=89,SNR=60
W30A Crocket Farms 89.51 40 ⇓P P 01 25 16.4 +1.1
baz=89
125A Gardner Draw, 89.53 44 ⇓P P 01 25 16.6 +1.2
baz=89,SNR=240
X29A Tulia 89.57 41 ⇓P P 01 25 16.5 +0.9
baz=89,SNR=141
PCBR Castelo Branco 89.61 329 eP P 01 25 14.7 -0.8
comp=Z,134nm,1.3s
U33A Lingo Farm, Me 89.62 37 ⇑P P 01 25 16.6 +1.0
baz=89,SNR=91

ETRT Tiaret 89.66 321 P P 01 25 15.4 -0.6
Z27A Tatum 89.74 43 ⇑P P 01 25 17.1 +0.7
baz=90,SNR=439
Y28A McKinney Farm, 89.74 42 ⇑P P 01 25 17.0 +0.7
baz=90,SNR=89
V32A Arapaho 89.78 38 ⇑P P 01 25 17.8 +1.3
baz=90,SNR=68
W31A Holland Ranch, 89.81 39 ⇑P P 01 25 17.7 +1.1
baz=90,SNR=101
PCAS Casmilo, Conde 89.81 330 eP P 01 25 16.8 +0.4
comp=Z,162nm,1.2s
PCAS eSKS SKSac 01 34 51.4 -1.2
U34A Anderson Ranch 89.87 37 eP P 01 25 18.1 +1.2
comp=Z,495nm,0.8s
U34A epP pP 01 27 23.2 +1.8
U34A ePP PP 01 28 58.8 -0.3
U34A Anderson Ranch 89.87 37 ⇓P P 01 25 18.0 +1.2
baz=90,SNR=130
225A Deer Hill, Car 89.88 44 ⇑P P 01 25 18.5 +1.4
baz=90,SNR=408
MNTX Cornudas Mount 89.92 45 eP P 01 25 18.5 +1.4
comp=Z,159nm,0.8s
MNTX epP pP 01 27 23.4 +1.6
PMRV Marv??o 89.94 329 eP P 01 25 17.0 -0.1
comp=Z,144nm,1.2s
PMRV epP pP 01 27 20.7 -1.0
PMRV Marv??o 89.94 329 ePP PP 01 29 02.4 +2.9
PMRV eSKS SKSac 01 34 54.8 +1.4
X30A Coker Ranch, T 89.97 40 ⇓P P 01 25 17.8 +0.4
baz=90,SNR=73
V33A Lossen Ranch, 90.05 38 ⇓P P 01 25 18.4 +0.8
baz=90,SNR=46
Y29A Porterfield Fa 90.06 41 ⇓P P 01 25 18.7 +0.9
baz=90,SNR=151
RAR Rarotonga 90.09 119 eP P 01 25 18.3 +0.4
RAR pmax pmax
comp=Z,1µm,2.5s
RAR Rarotonga 90.09 119 P P 01 25 18.6 +0.8
comp=Z,30nm,0.7s,baz=270,slow=4.2,SNR=7.0
RAR Rarotonga 90.09 119 eP P 01 25 18.2 +0.4
comp=Z,1µm,2.5s
PTOM Tomar 90.16 330 eP P 01 25 17.3 -0.7
comp=Z,179nm,1.1s
PTOM Tomar 90.16 330 ePP PP 01 29 04.2 +3.0
Z28A Tucker Farm, M 90.17 42 ⇓P P 01 25 19.0 +0.6
baz=90,SNR=40
127A Arkansas Junct 90.18 43 ⇑P P 01 25 19.1 +0.6
baz=90
W32A Sentinel 90.18 39 ⇓P P 01 25 19.6 +1.3
baz=90,SNR=140
PTN Potsdam (NY) 90.22 18 eP P 01 25 17.8 -0.4
PTN pmax pmax
comp=Z,2µm,2.0s
PTN Potsdam (NY) 90.22 18 eP P 01 25 17.8 -0.4
comp=Z,2µm,2.0s
X31A McDonald Ranch 90.24 40 ⇑P P 01 25 19.6 +1.0
baz=90,SNR=260
V34A Guthrie 90.38 37 eP P 01 25 20.2 +1.1
comp=Z,1µm,1.7s
V34A epP pP 01 27 26.0 +2.1
V34A ePP PP 01 29 02.1 -0.9
V34A Guthrie 90.38 37 ⇓P P 01 25 20.3 +1.1
baz=90,SNR=82
Y30A Stafford Cattl 90.42 41 ⇑P P 01 25 20.4 +0.9
baz=90,SNR=174
PESTR Estremoz 90.50 329 eP P 01 25 18.7 -1.0
comp=Z,108nm,2.0s
PESTR eSKS SKSac 01 34 54.8 -1.8
W33A Caddo, Fort Co 90.52 38 ⇓P P 01 25 21.4 +1.5
baz=90,SNR=130
Z29A Hungry Hill Ra 90.53 42 ⇑P P 01 25 21.0 +1.0
baz=90,SNR=562
PMTG Montargil 90.57 329 eP P 01 25 19.1 -0.8
comp=Z,152nm,1.9s
PMTG Montargil 90.57 329 ePP PP 01 29 06.2 +1.9
PMTG eSKS SKSac 01 34 56.1 -0.8
SFIN Scholer Farm 90.60 28 eP P 01 25 19.9 -0.2
comp=Z,718nm,1.4s
SFIN ePP PP 01 29 04.9 +0.4
SFIN Scholer Farm 90.60 28 ⇓P P 01 25 20.4 +0.4
baz=90,SNR=68
Y31A Rekieta Farm, 90.66 40 ⇓P P 01 25 21.1 +0.6
baz=90,SNR=44
128A Castleberry Fa 90.66 43 ⇓P P 01 25 21.3 +0.7
baz=90,SNR=190
PKME Peaks-Kenny Pk 90.72 14 eP P 01 25 20.1 -0.3
comp=Z,869nm,2.0s
X32A Elmer 90.74 39 ⇓P P 01 25 21.7 +0.9
baz=90,SNR=269
W34A Bridge Creek, 90.76 38 eP P 01 25 22.4 +1.5
comp=Z,527nm,1.1s
W34A epP pP 01 27 27.4 +1.8
W34A ePP PP 01 29 09.4 +3.3
W34A Bridge Creek, 90.76 38 ⇓P P 01 25 21.9 +1.0
baz=90,SNR=65
Z30A Sanderson Ranc 90.79 41 ⇓P P 01 25 21.7 +0.6
baz=90,SNR=509
URZ Urewera 90.87 145 P P 01 25 20.4 -0.7
comp=Z,146nm,1.0s,baz=3.7,slow=4.2,SNR=16
URZ pP pP 01 27 29.6 +3.6
comp=Z,72nm,1.0s,baz=344,slow=3.1,SNR=6.4
URZ Urewera 90.87 145 eP P 01 25 20.1 -1.0
comp=Z,248nm,1.2s
URZ epP pP 01 27 26.8 +0.9
PBAR Barrancos 90.89 328 eP P 01 25 21.9 +0.5
comp=Z,184nm,2.8s
PBAR epP pP 01 27 25.0 -1.2
PBAR eSKS SKSac 01 34 59.2 +0.5
EVO Evora 90.96 329 eP P 01 25 17.8 -3.9
comp=Z,155nm,1.3s
EVO eR
comp=Z,8µm,19.8s
EVO Evora 90.96 329 eP P 01 25 20.9 -0.8
comp=Z,119nm,1.8s
EVO epP pP 01 27 28.7 +2.2
EVO Evora 90.96 329 ePP PP 01 29 10.0 +2.6
129A Stewart Farms, 90.96 42 ⇓P P 01 25 22.4 +0.4
baz=91,SNR=173
SLM Saint Louis 91.00 31 eP P 01 25 22.7 +0.8
SLM pmax pmax
comp=Z,264nm,1.0s
SLM Saint Louis 91.00 31 eP P 01 25 22.7 +0.8
comp=Z,264nm,1.0s
EVOP Sao Brissos 91.00 329 eP P 01 25 17.8 -4.1
EVOP Sao Brissos 91.00 329 eP P 01 25 17.8 -4.1
X33A Lawton 91.01 39 ⇑P P 01 25 22.8 +0.7
baz=91,SNR=107
228A UT Block 9, Go 91.01 43 ⇑P P 01 25 23.0 +0.7
baz=91,SNR=107
Y32A R-V Farms, Ver 91.01 40 ⇑P P 01 25 22.8 +0.7
baz=91,SNR=194
PMAFR Mafra 91.06 330 eP P 01 25 21.7 -0.5
comp=Z,280nm,0.9s
PMAFR Mafra 91.06 330 ePP PP 01 29 11.6 +3.4
PMAFR eSKS SKSac 01 34 53.6 -6.1
TUL1 Tulsa 91.08 36 ⇓P P 01 25 23.2 +0.9
baz=91,SNR=124
LIS Lisbon 91.22 330 eP P 01 25 23.4 +0.4
LIS eS SKSac 01 35 00.5 -0.1
LIS AMS AMS 02 03 38.0
comp=N,6µm,20.1s
LIS Lisbon 91.22 330 eP P 01 25 23.3 +0.4
LIS eS SKSac 01 35 00.4 -0.1
MMNY Mt. Morris Dam 91.24 21 eP P 01 25 22.7 -0.3
comp=N,452nm,0.8s
Z31A Sharp Cattle R 91.24 40 ⇑P P 01 25 23.7 +0.5
baz=91,SNR=178
X34A Smith Ranch, M 91.26 38 ⇑P P 01 25 24.4 +1.2
baz=91,SNR=98
WVL Waterville 91.33 14 eP P 01 25 23.7 +0.4
comp=N,289nm,1.2s
PBEJ Beja 91.34 328 eP P 01 25 23.1 -0.4
comp=N,138nm,1.5s
BKZ Black Stump Fm 91.38 146 eP P 01 25 23.7 +0.2
BKZ epP pP 01 27 29.8 +1.3
Y33A Hilltop Ranch, 91.39 39 ⇓P P 01 25 24.5 +0.7
baz=91,SNR=134
130A Snyder 91.43 41 ⇓P P 01 25 24.7 +0.6
baz=91,SNR=178
PNCL Nicolau / Gran 91.52 329 eP P 01 25 24.6 +0.3
comp=N,133nm,1.6s
PNCL Nicolau / Gran 91.52 329 ePP PP 01 29 13.2 +1.5
PNCL eSKS SKSac 01 35 00.7 -1.5
229A Bryant Ranch, 91.52 42 ⇓P P 01 25 25.1 +1.0
baz=91,SNR=274
Z32A Haskell 91.57 40 ⇓P P 01 25 25.4 +0.7
baz=91,SNR=224
EMMW East Machias 91.57 13 eP P 01 25 25.3 +0.9
comp=N,573nm,1.9s
ALLY Alegheny Colle 91.64 23 eP P 01 25 25.0 +0.2
comp=N,2µm,1.9s
ALLY ePP PP 01 29 12.8 +0.3
MESJ Messejana 91.64 329 eP P 01 25 25.3 +0.4
MESJ eS SKSac 01 35 02.5 -0.4
MESJ AMS AMS 02 10 50.7
comp=Z,5µm,18.5s
MESJ Messejana 91.64 329 eP P 01 25 25.3 +0.4
MESJ epP pP 01 27 28.9 -0.8
MESJ Messejana 91.64 329 ePP PP 01 29 16.1 +3.4
MESJ Messejana 91.64 329 eP P 01 25 25.2 +0.4
MESJ eS SKSac 01 35 02.4 -0.4
ACCN Adirondack Com 91.64 18 eP P 01 25 24.9 +0.1
comp=Z,685nm,1.9s
ACCN ePP PP 01 29 21.2 +8.7
131A Roby 91.65 41 ⇓P P 01 25 25.9 +0.8
baz=91,SNR=80
OLIL Olney 91.71 29 eP P 01 25 24.1 -1.0
comp=Z,180nm,0.8s
OLIL ePP PP 01 29 09.8 -3.4
PCVE Castro Verde 91.75 328 eP P 01 25 26.0 +0.6
comp=Z,137nm,2.6s
PCVE eSKS SKSac 01 35 01.8 -1.7
PVAQ Vaqueiros 91.83 328 eP P 01 25 24.9 -0.9
comp=Z,110nm,1.4s
PVAQ epP pP 01 27 29.3 -1.3
PVAQ Vaqueiros 91.83 328 ePP PP 01 29 16.0 +1.9
PVAQ eSKS SKSac 01 35 06.1 +2.2
329A Wagon Wheel Ra 91.83 43 ⇑P P 01 25 26.8 +0.8
baz=92,SNR=428
Y34A Reagan Ranch, 91.83 38 ⇑P P 01 25 26.6 +0.7
baz=92,SNR=61
BLO Bloomington 91.88 28 eP P 01 25 26.1 +0.1
BLO e*PP pP 01 27 31.5 +0.7
BLO e 01 29 13.5
BLO pmax pmax
comp=Z,194nm,0.6s
BLO Bloomington 91.88 28 eP P 01 25 26.1 +0.1
comp=Z,194nm,0.6s
BLO epP pP 01 27 31.5 +0.7
BLO ePP PP 01 29 13.5 -0.9
Z33A Whitaker Ranch 91.92 40 ⇓P P 01 25 26.9 +0.6
baz=92,SNR=88
230A Sterling City 91.93 42 ⇓P P 01 25 27.3 +0.8
baz=92,SNR=303
FFD Franklin Falls 91.99 16 eP P 01 25 27.6 +1.2
comp=Z,570nm,1.8s
FFD ePP PP 01 29 18.3 +3.1
PBDV Barranco-do-Ve 92.05 328 eP P 01 25 28.1 +1.3
comp=Z,138nm,2.5s
PBDV epP pP 01 27 34.5 +2.8
PBDV Barranco-do-Ve 92.05 328 ePP PP 01 29 18.3 +2.4
PBDV eSKS SKSac 01 35 03.2 -2.1
ABTX Abilene, Hawle 92.05 41 eP P 01 25 27.6 +0.7
comp=Z,308nm,0.8s
ABTX ePP PP 01 29 15.0 -1.1
ABTX Abilene, Hawle 92.05 41 ⇓P P 01 25 27.6 +0.7
baz=92,SNR=174
PTEO Sao Teotonio 92.09 329 eP P 01 25 27.3 +0.3
comp=Z,206nm,1.8s
SIUC Southern Illin 92.19 31 eP P 01 25 27.9 +0.5
comp=Z,296nm,0.7s
SIUC epP pP 01 27 34.0 +1.7
SIUC esP sP 01 28 28.4 -1.3
SIUC ePP PP 01 29 12.1 -4.9
Z34A Collier Ranch, 92.25 39 ⇑P P 01 25 28.3 +0.5
baz=92,SNR=86
MORF Marmelete 92.27 329 eP P 01 25 28.2 +0.2
MORF eS SKSac 01 35 06.6 +0.1
MORF AMS AMS 02 11 01.3
comp=Z,5µm,18.0s
MORF Marmelete 92.27 329 eP P 01 25 27.7 -0.2
comp=Z,159nm,2.1s
MORF epP pP 01 27 32.6 -0.2
MORF Marmelete 92.27 329 ePP PP 01 29 19.6 +2.0
MORF eSKS SKSac 01 35 04.5 -2.0
MORF Marmelete 92.27 329 eP P 01 25 28.1 +0.2
MORF eS SKSac 01 35 06.6 +0.1
231A Bronte 92.29 41 ⇑P P 01 25 28.4 +0.4
baz=92,SNR=105
330A Mertzon 92.29 42 ⇑P P 01 25 28.6 +0.4
baz=92,SNR=228
133A Hamilton Ranch 92.41 40 ⇓P P 01 25 29.1 +0.5
baz=92,SNR=91
PFVI Vila Bisbo 92.49 329 eP P 01 25 29.6 +0.8
comp=Z,152nm,1.4s
PFVI Vila Bisbo 92.49 329 ePP PP 01 29 21.8 +2.5
PFVI eSKS SKSac 01 35 07.0 -0.6
USIN University of 92.54 29 eP P 01 25 29.6 +0.5
comp=Z,122nm,0.9s
USIN ePP PP 01 29 23.6 +4.0
PBMO Poplar Bluff 92.55 32 eP P 01 25 29.3 +0.2
comp=Z,284nm,0.8s
BFZ Birch Farm 92.56 147 eP P 01 25 27.3 -1.5
BFZ epP pP 01 27 35.1 +1.2
429A Davenport Ranc 92.56 43 ⇓P P 01 25 29.7 +0.3
baz=92,SNR=217
Z35A Perchaven, San 92.59 38 ⇑P P 01 25 29.8 +0.4
baz=92,SNR=84
232A Coleman 92.65 41 ⇑P P 01 25 30.3 +0.6
baz=92,SNR=128
LTX Lajitas 92.69 45 eP P 01 25 30.4 +0.4
LTX e*PP pP 01 27 35.6 +0.7
LTX e 01 29 20.7
LTX e 01 35 08.3
LTX Lajitas 92.69 45 eP P 01 25 30.4 +0.4
LTX epP pP 01 27 35.6 +0.7
LTX ePP PP 01 29 20.7 -0.6
LTX eSKSac SKSac 01 35 08.3 -0.9
LTX ePKKPdf PKKPbc 01 42 37.0 -0.2
LTX eP'P'df P'P'df 01 50 40.9 -10
TXAR Lajitas Array 92.69 45 P P 01 25 30.4 +0.4
comp=Z,174nm,0.8s,baz=290,slow=2.8,SNR=698
TXAR pP pP 01 27 35.6 +0.7
comp=Z,57nm,0.9s,baz=295,slow=3.9,SNR=6.3
TXAR PP PP 01 29 20.7 -0.6
comp=Z,12nm,0.8s,baz=282,slow=4.5,SNR=2.6
TXAR S SKSac 01 35 08.3 -0.9
comp=Z,1.7nm,0.8s,baz=323,slow=7.3,SNR=2.3
TXAR PKKPbc PKKPbc 01 42 37.0 -0.2
comp=Z,4.9nm,0.7s,baz=166,slow=6.4,SNR=11
TXAR SKKPbc SKKPbc 01 45 22.2 +4.1
comp=Z,4.9nm,0.9s,baz=142,slow=6.3,SNR=6.6
TXAR PKPPKP P'P'df 01 50 40.9 -10
comp=Z,1.0nm,0.8s,baz=164,slow=2.9,SNR=5.0
331A San Angelo 92.74 42 ⇑P P 01 25 30.5 +0.4
baz=92,SNR=148
430A Baggett Ranch, 92.77 43 ⇑P P 01 25 30.7 +0.4
baz=92,SNR=371
WCI Wyandotte Cave 92.80 28 eP P 01 25 31.1 +0.8
WCI e 01 29 20.8
WCI pmax pmax
comp=Z,224nm,0.7s
WCI Wyandotte Cave 92.80 28 eP P 01 25 31.1 +0.8
comp=Z,224nm,0.7s
WCI ePP PP 01 29 20.8 -0.8
529A Stev Forest Ra 92.80 44 ⇓P P 01 25 31.3 +0.8
baz=92,SNR=146
134A White-Moore Ra 92.83 39 ⇑P P 01 25 31.2 +0.7
baz=93,SNR=70
233A Rising Star 92.90 40 ⇑P P 01 25 31.6 +0.8
baz=93,SNR=157
QUA2 Belchertown 92.99 17 eP P 01 25 32.2 +1.3
comp=Z,425nm,1.8s
QUA2 ePP PP 01 29 27.0 +4.2
KHZ Kahutara 93.00 150 eP P 01 25 31.0 +0.3
comp=Z,98nm,1.1s
332A Millersview 93.02 41 ⇑P P 01 25 32.0 +0.6
baz=93,SNR=153
LPIG La Paz 93.05 53 P P 01 25 32.0 +0.4
comp=Z,209nm,0.8s,baz=306,slow=5.9,SNR=24
LPIG pP pP 01 27 39.3 +2.7
comp=Z,27nm,0.3s,baz=343,slow=6.1,SNR=2.4
LPIG S SKSac 01 35 10.8 -0.2
comp=Z,26nm,0.3s,baz=145,slow=4.5,SNR=2.1
WES Weston 93.10 16 eP P 01 25 31.7 +0.2
WES pmax pmax
comp=Z,351nm,1.3s
WES Weston 93.10 16 eP P 01 25 31.7 +0.2
comp=Z,351nm,1.3s
135A Vickery Place, 93.16 39 ⇓P P 01 25 32.6 +0.6
baz=93,SNR=39
431A Sonora 93.16 42 ⇓P P 01 25 32.4 +0.3
baz=93,SNR=126
MIAR Mount Ida 93.19 35 eP P 01 25 32.9 +0.8
MIAR e*PP pP 01 27 38.3 +1.3
MIAR e 01 29 24.1
MIAR pmax pmax
comp=Z,177nm,0.8s
MIAR Mount Ida 93.19 35 eP P 01 25 32.9 +0.8
comp=Z,177nm,0.8s
MIAR epP pP 01 27 38.3 +1.3
MIAR ePP PP 01 29 24.1 -0.6
530A J-C Ranch, Com 93.23 43 ⇑P P 01 25 33.3 +0.8
baz=93,SNR=339
RPZ Rata Peaks 93.24 152 eP P 01 25 33.0 +1.2
comp=Z,870nm,2.4s
234A Clairette 93.28 40 ⇓P P 01 25 33.0 +0.5
baz=93,SNR=67
KMBO Kilima Mbogo 93.30 271 P P 01 25 32.8 -0.4
KMBO *PP pP 01 27 39.0 +0.8
KMBO 01 29 27.1
KMBO S SKSac 01 35 14.0 +0.9
KMBO 01 42 36.6
KMBO pmax pmax
comp=Z,385nm,0.9s
KMBO pmax pmax
comp=Z,65nm,1.0s
KMBO smax smax
comp=N,1.0nm,0.7s
KMBO Kilima Mbogo 93.30 271 P P 01 25 32.8 -0.4
comp=N,385nm,0.9s,baz=43,slow=6.7,SNR=228
KMBO pP pP 01 27 39.0 +0.8
comp=N,26nm,0.9s,baz=70,slow=5.1,SNR=4.5
KMBO PP PP 01 29 27.1 -0.1
comp=N,65nm,1.0s,baz=38,slow=9.5,SNR=4.1
KMBO S SKSac 01 35 14.0 +0.9
comp=N,1.0nm,0.7s,baz=53,slow=20,SNR=4.3
KMBO PKKPbc PKKPbc 01 42 36.6 +1.3
comp=N,4.0nm,0.8s,baz=238,slow=4.2,SNR=4.8
KMBO Kilima Mbogo 93.30 271 eP P 01 25 33.3 +0.1
comp=N,425nm,0.9s
KMBO epP pP 01 27 41.0 +2.8
KMBO ePP PP 01 29 27.8 +0.6
KMBO eSKSac SKSac 01 35 14.0 +0.9
KMBO ePKKPdf PKKPbc 01 42 36.6 +1.3
432A Menard 93.41 42 ⇓P P 01 25 33.6 +0.4
baz=93,SNR=64
333A Richland Sprin 93.43 41 ⇓P P 01 25 33.8 +0.5
baz=93,SNR=102
AIS Amsterdam Isla 93.48 219 P P 01 25 09.0 -24
AIS PP pP 01 27 14.0 -24
AIS S SKSac 01 34 51.0 -21
AIS SS SS 01 42 33.0 +5.1
AIS R 01 49 00.0
DCZ Deep Cove 93.52 155 eP P 01 25 32.6 -0.5
comp=N,47nm,1.0s
WHTX Lake Whitney 93.61 39 eP P 01 25 36.2 +2.2
comp=N,190nm,0.8s
WHTX ePP PP 01 29 32.0 +3.9
WHTX Lake Whitney 93.61 39 ⇓P P 01 25 34.6 +0.5
baz=93,SNR=76
531A Rocksprings 93.62 43 ⇓P P 01 25 34.6 +0.4
baz=93,SNR=105
JCT Junction City 93.73 42 eP P 01 25 35.9 +1.2
JCT e 01 29 27.4
JCT pmax pmax
comp=Z,217nm,0.8s
JCT Junction City 93.73 42 eP P 01 25 35.9 +1.2
comp=Z,217nm,0.8s
JCT ePP PP 01 29 27.4 -1.7
JCT Junction City 93.73 42 ⇓P P 01 25 35.2 +0.5
baz=94,SNR=110
334A Lometa 93.78 40 ⇑P P 01 25 35.2 +0.3
baz=94,SNR=46
PMOR Pomariorio Ree 93.83 107 eP P 01 25 37.3 +2.1
PMOR epP pP 01 27 41.6 +1.3
comp=Z,524nm,1.4s
433A Art 93.85 41 ⇓P P 01 25 35.5 +0.3
baz=94,SNR=44
PAL Palisades 93.85 18 eP P 01 25 35.0 +0.1
PAL e 01 29 27.5
PAL pmax pmax
comp=Z,970nm,2.3s
PAL Palisades 93.85 18 eP P 01 25 35.0 +0.1
comp=Z,970nm,2.3s
PAL ePP PP 01 29 27.5 -2.0
LUPA Lehigh Univers 93.89 20 eP P 01 25 35.2 +0.1
comp=Z,104nm,2.2s
LUPA ePP PP 01 29 28.7 -1.1
CPNY Central Park 94.05 19 eP P 01 25 38.3 +2.5
comp=Z,453nm,1.8s
CPNY ePP PP 01 29 34.2 +3.3
VAH Vaihoa 94.18 107 eP P 01 25 38.8 +2.1
comp=Z,51nm,0.9s
VAH epP pP 01 27 42.5 +0.6
comp=Z,249nm,1.4s
434A Burnet 94.20 41 ⇓P P 01 25 37.2 +0.4
baz=94,SNR=31
335A Moody 94.21 40 ⇓P P 01 25 36.9 +0.1
baz=94,SNR=5.9
631A Perdido Creek 94.21 43 ⇑P P 01 25 37.0 +0.2
baz=94,SNR=189
ODZ Otahua Downs 94.27 153 eP P 01 25 38.3 +1.9
comp=Z,600nm,2.4s
PPT Papeete 94.40 110 P P 01 25 39.8 +2.1
PPT pmax pmax
comp=Z,79nm,1.0s
PPT Papeete 94.40 110 P P 01 25 39.8 +2.1
comp=Z,78nm,1.0s,baz=270,slow=1.0,SNR=4.6
PPT2 Papeete2 94.41 110 eP P 01 25 40.3 +2.4
comp=Z,113nm,1.0s
PPT2 epP pP 01 27 44.5 +1.5
comp=Z,133nm,1.3s
533A Kerrville 94.44 42 ⇑P P 01 25 38.0 +0.1
baz=94,SNR=45
PAE Paea 94.46 110 eP P 01 25 40.1 +2.1
PAE epP pP 01 27 44.4 +1.3
comp=Z,20nm,1.3s
MDT Midelt 94.49 324 P P 01 25 37.7 -0.5
comp=Z,102nm,0.8s,baz=37,slow=5.2,SNR=13
MDT PP PP 01 29 25.8 -9.1
comp=Z,60nm,1.2s,baz=51,slow=6.5,SNR=4.6
MDT S SKSac 01 35 16.8 -1.9
comp=Z,4.1nm,1.0s,baz=338,slow=5.4,SNR=1.9
MDT PKKPbc PKKPbc 01 42 33.8 +1.0
comp=Z,6.9nm,0.9s,baz=175,slow=3.7,SNR=4.3
632A Uvalde 94.53 42 ⇓P P 01 25 38.7 +0.4
baz=94,SNR=45
435B Jarrell 94.55 40 ⇓P P 01 25 38.7 +0.3
baz=94
TIAR Tiarei 94.55 110 eP P 01 25 40.7 +2.3
comp=Z,30nm,0.9s
TIAR epP pP 01 27 44.8 +1.2
comp=Z,57nm,1.2s
534A Blanco 94.75 41 ⇑P P 01 25 39.2 -0.1
baz=94,SNR=55
TVO Taravao 94.77 110 eP P 01 25 42.0 +2.5
comp=Z,39nm,1.0s
TVO Taravao 94.77 110 ePP PP 01 29 37.4 -1.0
comp=Z,65nm,1.3s
MAUS Longido 94.79 271 iP P 01 25 39.5 -0.4
633A Saathoff Ranch 94.87 42 ⇑P P 01 25 40.6 +0.7
baz=95,SNR=50
436A Wall Ranch, Ga 94.94 40 ⇓P P 01 25 40.9 +0.8
baz=95,SNR=9.9
732A Laxson Ranch, 95.08 43 ⇑P P 01 25 41.4 +0.7
baz=95,SNR=76
NATX Nacogdoches 95.08 37 eP P 01 25 41.8 +1.1
comp=Z,965nm,1.8s
NATX epP pP 01 27 46.5 +0.7
535A Dale 95.19 41 ⇓P P 01 25 41.6 +0.3
baz=95
634A China Grove, S 95.34 41 ⇓P P 01 25 42.4 +0.5
baz=95
536A Bastrop 95.39 40 ⇓P P 01 25 42.8 +0.7
baz=95,SNR=8.2
733A Divot King Ran 95.42 43 ⇓P P 01 25 43.0 +0.7
baz=95,SNR=34
832A Faith Ranch, C 95.44 43 ⇓P P 01 25 43.2 +0.8
baz=95,SNR=67
635A Leesville 95.62 41 ⇑P P 01 25 43.8 +0.6
baz=95
MEH Mehetia 95.66 109 eP P 01 25 45.6 +2.2
comp=Z,60nm,1.2s
MEH epP pP 01 27 49.9 +1.2
comp=Z,40nm,1.2s
734A La Parita Cree 95.68 42 ⇓P P 01 25 44.2 +0.8
baz=95,SNR=7.3

833A Chaparral WMA, 95.70 43 ⇑P P 01 25 44.4 +0.8
baz=95,SNR=24
537A Green Hill Far 95.74 40 ⇓P P 01 25 44.6 +0.9
baz=96,SNR=14
636A Smothers Creek 95.89 40 ⇓P P 01 25 45.4 +1.0
baz=96,SNR=16
JSRW J. Sargeant Re 95.95 22 eP P 01 25 45.5 +1.0
TKL Tuckaleechee C 95.98 28 P P 01 25 44.4 -0.3
TKL 01 29 42.0
TKL S SKSac 01 35 26.5 +0.3
TKL pmax pmax
comp=Z,41nm,0.8s
TKL pmax pmax
comp=Z,36nm,0.9s
TKL Tuckaleechee C 95.98 28 P P 01 25 44.4 -0.3
comp=Z,41nm,0.8s,baz=19,slow=2.4,SNR=9.0
TKL PP PP 01 29 42.0 -4.0
comp=Z,36nm,0.9s,baz=304,slow=5.0,SNR=3.5
TKL S SKSac 01 35 26.5 +0.3
comp=Z,15nm,0.8s,baz=328,slow=23,SNR=12
TKL Tuckaleechee C 95.98 28 eP P 01 25 44.9 +0.2
538A Harpers Horsep 96.01 39 ⇓P P 01 25 46.0 +1.1
baz=96
735A Kenedy 96.04 41 ⇓P P 01 25 46.4 +1.3
baz=96,SNR=14
HKT Hockley 96.07 39 eP P 01 25 49.2 +4.1
HKT pmax pmax
comp=Z,124nm,1.6s
HKT Hockley 96.07 39 eP P 01 25 49.2 +4.1
comp=Z,124nm,1.6s
834A Tilden 96.28 42 ⇓P P 01 25 47.2 +1.1
baz=96,SNR=13
933A Laredo 96.34 43 ⇓P P 01 25 47.8 +1.4
baz=96,SNR=18
835A Beeville 96.50 42 ⇓P P 01 25 48.6 +1.4
baz=96,SNR=15
934A Benavides 96.73 43 ⇑Pdiff P 01 25 49.5 +1.4
baz=96
034A Hebbronville 97.09 43 ⇓Pdiff Pdif 01 25 51.4 +1.6
baz=97
KMSC Kings Mountain 97.27 26 ⇑Pdiff Pdif 01 25 51.0 +0.6
baz=97
936A North Padre Is 97.48 42 ⇓Pdiff P 01 25 52.9 +1.4
baz=97
035A Encino 97.48 43 ⇑Pdiff P 01 25 53.2 +1.6
baz=97
OPO Ambohidratompo 97.72 252 P Pdif 01 25 52.1 -0.8
comp=Z,72nm,0.9s,baz=43,slow=4.5,SNR=8.8
OPO PP PP 01 30 00.5 -0.3
comp=Z,23nm,1.0s,baz=40,slow=7.7,SNR=4.0
DODT Dodoma, Tanzan 97.79 269 i P Pdif 01 25 49.7 -3.5
035Z Hargill 97.89 43 ⇑Pdiff P 01 25 54.7 +1.3
baz=98
ABPO Ambohimpanom 97.99 252 eP Pdif 01 25 52.6 -1.4
ABPO e 01 30 01.9
ABPO pmax pmax
comp=Z,98nm,0.9s
ABPO Ambohimpanom 97.99 252 ePdif Pdif 01 25 52.6 -1.4
comp=Z,98nm,0.9s
ABPO ePP PP 01 30 01.9 -1.0
PMAR Madeira 99.36 333 eP Pdif 01 26 01.4 +1.3
PMOZ Porto Moniz, M 99.37 333 eP Pdif 01 26 03.0 +3.0
PMOZ eSKS SKSac 01 35 48.9 +5.5
TIGA Tifton 99.87 29 ⇓Pdiff Pdif 01 26 03.1 +1.0
baz=100
MZM Mzuzu 102.54 266 i P Pdif 01 26 09.8 -4.3
PAF Port-aux-Franc 105.81 216 Pdif Pdif 01 26 10.0 -18
PAF PP PKiKP 01 30 41.0 +4.4
PAF SKKS 01 35 42.0
PAF SS SS 01 45 22.0 +5.0
PAF R 01 48 00.0
CMIG Matias Romero 107.29 46 Pdiff Pdif 01 26 35.2 -0.1
comp=Z,6.3nm,0.8s,baz=14,slow=4.2,SNR=4.0
CMIG PKiKP PKiKP 01 30 40.6 +0.2
comp=Z,6.8nm,0.8s,baz=328,slow=4.0,SNR=4.1
CMIG PP PP 01 31 10.3 +0.3
comp=Z,36nm,1.1s,baz=303,slow=5.4,SNR=6.5
TOA0 Torodi Ar. Sit 107.47 307 ePdif Pdif 01 26 36.8 +0.7
TOA0 ePKiKP PKiKP 01 30 40.7 -0.1
TOA0 ePP PP 01 31 06.5 -5.0
TOA0 ePKKPbc PKKPbc 01 41 54.2 -1.5
TOA0 ePKKPab PKKPab 01 42 13.5 -1.6
TORD Torodi Ar. Bea 107.47 307 Pdiff Pdif 01 26 36.8 +0.7
comp=Z,3.2nm,0.7s,baz=18,slow=4.5,SNR=25
TORD PKiKP PKiKP 01 30 40.7 -0.2
comp=Z,6.8nm,0.5s,baz=41,slow=1.8,SNR=11
TORD PP PP 01 31 06.5 -5.0
comp=Z,47nm,0.7s,baz=27,slow=7.0,SNR=10
TORD PKKPbc PKKPbc 01 41 54.2 -1.5
comp=Z,24nm,0.9s,baz=264,slow=2.5,SNR=10
TORD PKKPab PKKPab 01 42 13.5 -1.6
comp=Z,20nm,1.0s,baz=233,slow=4.2,SNR=6.7
TORD SKKPbc SKKPbc 01 44 40.5 -0.3
comp=Z,8.0nm,0.9s,baz=233,slow=2.3,SNR=3.2
TEIG Tepich 107.89 38 Pdiff Pdif 01 26 39.1 +1.2
comp=Z,7.3nm,0.8s,baz=357,slow=2.0,SNR=2.6
TEIG PKiKP PKiKP 01 30 41.7 +0.2
comp=Z,22nm,1.1s,baz=45,slow=2.9,SNR=2.9
TEIG PP PP 01 31 10.1 -4.0
comp=Z,24nm,0.9s,baz=6.3,slow=9.2,SNR=4.0
TEIG PKKPbc PKKPbc 01 41 54.5 -0.2
comp=Z,26nm,0.8s,baz=160,slow=4.4,SNR=6.3
TEIG PKKPab PKKPab 01 42 11.1 -2.7
comp=Z,43nm,0.9s,baz=180,slow=4.0,SNR=8.2
TEIG Tepich 107.89 38 ePKiKP PKiKP 01 30 42.3 +0.8
TEIG ePP PP 01 31 08.9 -5.1
RKT Rikitea 108.34 105 ePdif Pdif 01 26 40.3 +0.6
comp=Z,1μm,29.3s
LSZ Lusaka 109.33 267 Pdiff Pdif 01 26 43.8 -0.6
comp=Z,6.0nm,0.9s,baz=70,slow=6.5,SNR=4.3
LSZ PKiKP PKiKP 01 30 44.7 +0.3
comp=Z,5.5nm,0.5s,baz=53,slow=4.4,SNR=8.2
LSZ PKKPbc PKKPbc 01 41 50.4 +0.7
comp=Z,15nm,0.8s,baz=195,slow=6.3,SNR=5.3
LSZ PKKPab PKKPdf 01 42 01.4 -2.7
comp=Z,1.7nm,0.4s,baz=213,slow=21,SNR=5.5
APG El Apazote 111.32 43 PP PP 01 31 36.0 -2.9
comp=Z,27nm,0.8s,baz=326,slow=4.6,SNR=6.1
APG PKKPbc PKKPbc 01 41 40.5 -3.6
comp=Z,10nm,0.7s,baz=135,slow=4.3,SNR=12
MATP Matopo 112.35 262 Pdiff Pdif 01 26 56.5 -1.3
comp=Z,9.1nm,0.8s,baz=49,slow=4.3,SNR=9.1
MATP PKiKP PKiKP 01 30 49.7 -0.4
comp=Z,22nm,0.5s,baz=53,slow=1.0,SNR=21
MATP PP PP 01 31 46.1 -1.0
comp=Z,91nm,0.9s,baz=41,slow=9.4,SNR=9.0
CRZF Crozet Islands 112.84 227 Pdif Pdif 01 26 39.0 -20
CRZF SKKS 01 31 28.0
CRZF R 01 39 00.0
BBTS Babate 115.55 325 PKP PKPdf 01 30 55.7 -0.5
comp=Z,81nm,1.0s,baz=356,slow=1.9,SNR=6.6
BBTS PP PP 01 32 06.0 -1.9
comp=Z,184nm,1.1s,baz=173,slow=1.1,SNR=6.3
DBIC Dimbokro 116.47 309 Pdiff Pdif 01 27 15.8 -0.4
comp=Z,2.0nm,1.0s,baz=335,slow=1.8,SNR=2.0
DBIC PKP PKPdf 01 30 57.3 -0.7
comp=Z,20nm,0.5s,baz=32,slow=2.2,SNR=20
DBIC PP PP 01 32 12.7 -2.0
comp=Z,63nm,0.7s,baz=17,slow=10,SNR=8.7
DBIC PKKPbc PKKPbc 01 41 23.6 -3.0
comp=Z,15nm,1.0s,baz=207,slow=2.9,SNR=4.8
TIC Toumodi 116.59 309 ePKIKP PKPdf 01 30 58.0 -0.3
comp=Z,36nm,0.3s
KIC Kosan Boka 116.66 309 ePKIKP PKPdf 01 30 58.2 -0.2
comp=Z,72nm,0.8s
LIC Lamto 116.93 309 ePKIKP PKPdf 01 30 57.9 -1.0
comp=Z,41nm,0.6s
LIC eR
comp=Z,3μm,22.5s
LIC Lamto 116.93 309 ePKIKP PKPdf 01 30 58.5 -0.4
comp=Z,102nm,0.8s
LIC Lamto 116.93 309 ePKPdf PKPdf 01 30 57.9 -1.0
LBTB Lobatse 117.27 260 PKP PKPdf 01 30 59.0 -0.3
comp=Z,53nm,0.5s,baz=86,slow=1.0,SNR=15
LBTB PP PP 01 32 19.2 -2.0
comp=Z,93nm,1.1s,baz=60,slow=6.6,SNR=5.2
LBTB PKKPbc PKKPbc 01 41 24.7 +1.1
comp=Z,21nm,0.6s,baz=270,slow=2.9,SNR=8.5
LBTB PKKPab PKKPab 01 41 30.5 +1.3
comp=Z,124nm,0.8s,baz=250,slow=4.9,SNR=42
LRS Lares 117.29 19 ePKPdf PKPdf 01 30 58.6 -1.0
LRS ePP PP 01 32 16.4 -3.2
LSP Las Mesas 117.34 19 ePKPdf PKPdf 01 30 59.9 +0.2
LSP ePP PP 01 32 24.9 +4.9
CELP Cerrillos 117.56 19 ePKPdf PKPdf 01 30 59.2 -0.9
CELP ePP PP 01 32 20.4 -1.0
OBIP Obispado Ponce 117.58 19 ePKPdf PKPdf 01 31 00.2 +0.1
OBIP ePP PP 01 32 20.7 -0.8
SJG San Juan 117.62 18 PKIKP PKPdf 01 30 59.6 -0.5
SJG 01 32 19.6
SJG pmax pmax
comp=Z,17nm,0.4s
SJG pmax pmax
comp=Z,67nm,0.8s
SJG San Juan 117.62 18 PKP PKPdf 01 30 59.6 -0.5
comp=Z,17nm,0.4s,baz=150,slow=3.6,SNR=8.9
SJG PP PP 01 32 19.6 -2.2
comp=Z,67nm,0.8s,baz=329,slow=6.8,SNR=6.6
SJG SKP 01 33 41.6
comp=Z,22nm,0.4s,baz=80,slow=5.0,SNR=3.7
SJG San Juan 117.62 18 ePKPdf PKPdf 01 31 00.7 +0.5
SJG ePP PP 01 32 21.2 -0.6
SJG eSKPdf SKiKP 01 33 41.6 -0.1
HUMP Col San Antoni 117.66 18 ePKPdf PKPdf 01 31 00.0 -0.2
HUMP ePP PP 01 32 16.2 -5.8
SACV Santiago Islan 118.03 332 ePKPdf PKPdf 01 31 00.7 -0.4
SACV ePP PP 01 32 21.1 -3.7
JTS JuntasAbangare 118.08 41 PKP PKPdf 01 31 00.7 -0.5
comp=Z,9.1nm,0.3s,baz=278,slow=4.0,SNR=7.1
JTS SKP 01 33 42.5
comp=Z,29nm,1.0s,baz=301,slow=6.9,SNR=3.6
JTS PKKPbc PKKPbc 01 41 21.8 +0.6
comp=Z,12nm,0.9s,baz=104,slow=8.3,SNR=2.6
JTS JuntasAbangare 118.08 41 ePKPdf PKPdf 01 31 01.1 -0.1
JTS eSKPdf SKPdf 01 33 42.5 0.0
JTS ePKKPbc PKKPbc 01 41 21.8 +0.6
BOSA Boshof 119.62 257 PKP PKPdf 01 31 03.2 -0.6
comp=Z,45nm,0.8s,baz=67,slow=2.3,SNR=18
BOSA PKKPab PKKPbc 01 41 17.0 +1.7
comp=Z,74nm,0.9s,baz=237,slow=2.9,SNR=19
BOSA SKKPbc SKKPbc 01 44 08.0 0.0
comp=Z,17nm,1.0s,baz=211,slow=2.7,SNR=4.1
BOSA Boshof 119.62 257 ePKPdf PKPdf 01 31 04.8 +1.0
BOSA ePKKPbc PKKPbc 01 41 17.0 +1.7
TSUM Tsumeb 119.63 271 PKP PKPdf 01 31 03.4 -0.7
comp=Z,20nm,0.5s,baz=70,slow=2.0,SNR=11
TSUM PP PP 01 32 32.4 -4.8
comp=Z,34nm,1.0s,baz=37,slow=6.8,SNR=5.0
TSUM PKKPab PKKPbc 01 41 17.2 +1.9
comp=Z,24nm,0.9s,baz=255,slow=3.5,SNR=7.2
TSUM Tsumeb 119.63 271 ePKPdf PKPdf 01 31 04.1 0.0
TSUM ePP PP 01 32 32.8 -4.4
TSUM ePKKPbc PKKPbc 01 41 17.2 +1.9
SEG Port Louis 120.22 14 eP PKPdf 01 31 05.2 0.0
LZG Guadaloupe-1 120.43 14 eP PKPdf 01 31 05.1 -0.5
BCG Bois Riant Cap 120.51 14 eP PKPdf 01 31 04.8 -1.0
MLG Mont-d'or 120.52 14 eP PKPdf 01 31 05.1 -0.8
FNG Fond-Bernard 120.53 14 eP PKPdf 01 31 05.4 -0.5
CRG Carmichael 120.54 14 eP PKPdf 01 31 06.3 +0.3
MAW Mawson 121.08 204 PKP PKPdf 01 31 04.9 -0.3
comp=Z,144nm,0.9s,baz=5.8,slow=2.1,SNR=12
MAW SKP 01 33 46.3
comp=Z,142nm,0.9s,baz=325,slow=2.6,SNR=7.2
BBL Barber's Block 121.09 14 eP PKPdf 01 31 07.3 +0.4
GRM Grahamstown 121.35 252 i P PKPdf 01 31 06.6 -0.2
VNDA Vanda 121.39 172 PKP PKPdf 01 31 05.2 -0.4
comp=Z,28nm,0.8s,baz=296,slow=2.9,SNR=16
VNDA SKP 01 33 46.7
comp=Z,37nm,1.1s,baz=338,slow=5.4,SNR=3.6
FDF Fort de France 121.92 14 eP PKPdf 01 31 08.5 0.0
WIN Windhoek 122.04 268 i P PP 01 32 53.3 -0.2
ZAM Aeronautique 122.09 13 eP PKPdf 01 31 09.9 +1.1
MVM Montagne Vaucl 122.14 13 eP PKPdf 01 31 09.2 +0.3
BIM Bigot 122.14 13 eP PKPdf 01 31 10.6 +1.7
SUR Sutherland 124.89 256 PKP PKPdf 01 31 12.8 -1.1
comp=Z,51nm,0.9s,baz=228,slow=1.7,SNR=4.4
SUR PKKPab PKKPab 01 40 57.2 +1.3
comp=Z,48nm,0.9s,baz=110,slow=0.7,SNR=13
SUR SKKPbc SKKPbc 01 43 50.4 -0.5
comp=Z,4.1nm,0.6s,baz=268,slow=5.8,SNR=3.2
SUR Sutherland 124.89 256 ePKPdf PKPdf 01 31 13.7 -0.2
SDV Santo Domingo 125.18 26 ePKPdf PKPdf 01 31 14.6 -0.4
SDV ePP PP 01 33 13.8 +1.1
PCRV Puerto La Cruz 125.63 19 PKP PKPdf 01 31 13.7 -2.0
comp=Z,54nm,0.6s,baz=65,slow=1.9,SNR=9.2
PCRV PP PP 01 33 15.8 +0.4
comp=Z,31nm,1.0s,baz=313,slow=9.6,SNR=4.2
PCRV SKPbc SKiKP 01 33 41.9 -16
comp=Z,44nm,0.6s,baz=282,slow=6.3,SNR=8.6
ROSC El Rosal 127.58 32 PKP PKPdf 01 31 19.7 -0.2
comp=Z,99nm,0.8s,baz=304,slow=3.6,SNR=16
ROSC PP PP 01 33 29.1 +0.3
comp=Z,63nm,1.1s,baz=38,slow=2.2,SNR=3.6
ROSC SKPbc SKiKP 01 33 46.8 -16
comp=Z,67nm,0.5s,baz=315,slow=1.4,SNR=10
SYO Syowa Base 129.37 208 ⇓i P PKSab 01 34 49.0 +3.1
RPN Rapa Nui 129.39 93 PKP PKPdf 01 31 23.3 +0.9
comp=Z,92nm,0.6s,baz=285,slow=4.7,SNR=6.5
RPN SKPbc SKPbc 01 33 51.2 +0.3
comp=Z,1μm,1.2s,baz=313,slow=5.7,SNR=17
OTAV Otavalo 129.94 39 ePKPdf PKPdf 01 31 25.8 +1.3
QSPA South Pole Qui 132.34 180 PKhKP PKPpre 01 31 11.5
comp=Z,17nm,0.9s,baz=299,slow=0.8,SNR=16
QSPA PKP PKPdf 01 31 26.5 -0.3
comp=Z,66nm,0.8s,baz=312,slow=2.2,SNR=22
QSPA SKPbc SKPbc 01 33 58.7 -1.5
comp=Z,2μm,1.3s,baz=332,slow=2.1,SNR=43
ATAH Atahualpa 136.34 44 PKhKP PKPpre 01 31 26.8
comp=Z,37nm,0.8s,baz=275,slow=1.8,SNR=18
ATAH PKP PKPdf 01 31 35.4 -1.0
comp=Z,28nm,0.8s,baz=233,slow=2.5,SNR=6.5
ATAH SKPbc SKPbc 01 34 14.9 -0.2
comp=Z,172nm,0.7s,baz=333,slow=3.6,SNR=14
NVL N'lazarevskaya 138.98 206 ⇑i PKIKP PKPdf 01 31 34.0 -4.9
NVL ePS 01 45 18.7
NVL e 01 52 16.7
NNA Nana 141.24 46 ePKHKP PKPpre 01 31 38.8
NNA e 01 31 42.3
NNA Nana 141.24 46 ePKPpre PKPpre 01 31 38.8
NNA ePKPdf PKPdf 01 31 42.3 -2.5
RCBR Riachuelo 141.50 338 PKP PKPdf 01 31 43.2 -2.0
comp=Z,124nm,0.9s,baz=9.4,slow=4.4,SNR=19
RCBR SKKPbc SKKPbc 01 42 47.7 -0.4
comp=Z,62nm,1.1s,baz=230,slow=6.8,SNR=10.0
RCBR Riachuelo 141.50 338 ePKPdf PKPdf 01 31 42.9 -2.3
SNAA Sanae 143.20 203 P SKKPbc 01 42 42.1 -3.6
SNAA Sanae 143.20 203 PKP PKPab 01 31 44.3 -0.4
comp=Z,427nm,0.9s,baz=189,slow=2.8,SNR=324
SNAA SKPbc SKPbc 01 34 30.2 -0.8
comp=Z,184nm,1.2s,baz=67,slow=1.7,SNR=6.3
SNAA SKKPbc SKKPab 01 42 41.8 -2.4
comp=Z,13nm,0.7s,baz=274,slow=3.8,SNR=18
SNAA Sanae 143.20 203 ePKPpre PKPdf 01 31 44.1 -2.5
SAML Samuel 144.33 24 ePKPbc PKPbc 01 31 49.9 -0.1
VNA2 Neumayer--Watz 144.84 202 P SKKPbc 01 42 35.7 -3.2
baz=302,slow=5.4
VNA1 Neumayer--Stat 145.24 203 P SKKPbc 01 42 34.6 -2.6
VNA3 Neumayer Olymp 145.30 201 P SKKPbc 01 42 33.5 -3.6
LPAZ La Paz 149.22 37 PKP PKPdf 01 31 58.8 -0.2
comp=Z,123nm,0.8s,baz=8.3,slow=4.4,SNR=41
LPAZ PKPbc PKPbc 01 32 04.2 +0.3
comp=Z,378nm,0.8s,baz=18,slow=5.4,SNR=134
SIV San Ignacio 151.62 24 PKP PKPdf 01 32 02.2 +0.3
comp=Z,39nm,1.0s,baz=359,slow=1.1,SNR=37
SIV PKPbc PKPbc 01 32 08.5 -0.2
comp=Z,140nm,0.6s,baz=339,slow=1.9,SNR=74
SIV PKPab PKPab 01 32 19.3 -0.8
comp=Z,108nm,0.7s,baz=337,slow=5.9,SNR=9.2
SIV PP PP 01 35 53.9 +0.2
comp=Z,42nm,0.8s,baz=22,slow=4.7,SNR=5.1
BDFB Brasilia 153.11 357 PKIKP PKPdf 01 32 04.2 0.0
BDFB 01 32 26.3
BDFB pmax pmax
comp=Z,96nm,1.0s
BDFB pmax pmax
comp=Z,60nm,0.6s
BDFB Brasilia 153.11 357 PKP PKPdf 01 32 04.2 0.0
comp=Z,96nm,1.0s,baz=8.6,slow=0.8,SNR=51
BDFB PKPab PKPab 01 32 26.3 -0.2
comp=Z,60nm,0.6s,baz=354,slow=2.5,SNR=8.9
LVC Limon Verde 154.22 45 ePKPdf PKPdf 01 32 07.7 +1.9
LVC ePKPab PKPab 01 32 33.1 +1.7
AZAP Zapla 157.50 40 i P PKPdf 01 32 08.9 -1.1
AZAP i S PKPab 01 32 49.7 +4.2
AZAP IAML 01 32 52.7
comp=Z,157nm,0.7s
ASTB Santa Barbara 157.54 39 i P PKPdf 01 32 08.8 -1.1
ASTB i S PKPab 01 32 49.9 +4.3
ALOL LOMAS DE OLMED 157.66 38 i P PKPdf 01 32 09.0 -0.9
ALOL i S PKPab 01 32 50.1 +4.2
SLA San Lorenzo 157.71 42 i P PKPdf 01 32 07.5 -2.6
SLA i S PKPab 01 32 47.5 +1.2
SLA IAML 01 32 54.9
comp=Z,36nm,0.6s
LCO Las Campanas 158.05 59 ePKPdf PKPdf 01 32 11.9 +1.3
LCO ePKPab PKPab 01 32 50.2 +2.3
BB16B Bebedouro 158.49 358 (P) PKPdf 01 32 04.6 -6.3
BB16B e 01 32 11.9
BB16B i 01 32 47.9
BB16B i 01 32 58.1
BB16B i 01 33 06.2
CYA Choya 160.56 49 i P PKPdf 01 32 12.7 -0.4
CYA i S PKPab 01 32 57.2 -1.4
CYA IAML 01 33 03.5
comp=Z,206nm,0.8s
CFAA Coronel Fontan 161.37 60 PKP PKPdf 01 32 13.0 -0.8
comp=Z,3.6nm,0.8s,baz=298,slow=2.9,SNR=14
CFAA PKPab PKPab 01 33 02.3 +0.2
comp=Z,25nm,0.8s,baz=310,slow=4.8,SNR=20
CPUP Villa Florida 162.49 25 PKIKP PKPdf 01 32 14.7 -0.3
CPUP 01 33 06.4
CPUP 01 36 54.4
CPUP pmax pmax
comp=Z,30nm,0.9s
CPUP pmax pmax
comp=Z,39nm,0.7s
CPUP pmax pmax
comp=Z,17nm,0.8s
CPUP Villa Florida 162.49 25 PKP PKPdf 01 32 14.7 -0.3
comp=Z,30nm,0.9s,baz=346,slow=2.1,SNR=16
CPUP PKPab PKPab 01 33 06.4 -0.4
comp=Z,39nm,0.7s,baz=333,slow=5.1,SNR=11
CPUP PP PP 01 36 54.4 +1.9
comp=Z,16nm,0.8s,baz=353,slow=6.6,SNR=3.0
USHA Ushuaia 162.49 141 PKP PKPdf 01 32 14.8 +0.7
comp=Z,24nm,1.0s,baz=230,slow=0.5,SNR=5.6
USHA PKPab PKPab 01 33 06.2 -0.1
comp=Z,55nm,1.1s,baz=223,slow=4.4,SNR=6.8
PLCA Paso Flores 164.01 90 PKIKP PKPdf 01 32 15.8 -0.3
PLCA 01 33 13.5
PLCA pmax pmax
comp=Z,30nm,1.0s
PLCA pmax pmax
comp=Z,152nm,0.9s
PLCA Paso Flores 164.01 90 PKP PKPdf 01 32 15.8 -0.3
comp=Z,30nm,1.0s,baz=264,slow=2.2,SNR=9.3
PLCA PKPab PKPab 01 33 13.4 -0.2
comp=Z,152nm,0.9s,baz=279,slow=5.3,SNR=19
PLCA Paso Flores 164.01 90 ePKPdf PKPdf 01 32 16.8 +0.6
PLCA ePKPab PKPab 01 33 15.1 +1.4
EFI East Falkland 169.15 150 ePKIKP PKPdf 01 32 19.1 -0.3
EFI e 01 33 34.7
EFI East Falkland 169.15 150 ePKPdf PKPdf 01 32 19.1 -0.3
EFI ePKPab PKPab 01 33 34.6 -1.1
TRQA Tornquist 169.31 69 ePKPdf PKPdf 01 32 19.5 -0.6
TRQA ePKPab PKPab 01 33 38.0 +0.9
TRQA ePP PP 01 37 34.6 +6.3

CSEM 18 01:30:48.8, 44°.20N×19°.84E, h0km, ML1.5, After BEO
BEO 18 01:30:48.8±0.3, 44°.20N×19°.84E, h0km, ML1.5/8,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	Divibare	0.15	133	ePg	Pg	01 30 51.2	-0.6
DIVS	Divibare	0.15	133	ePg	Pg	01 30 51.2	-0.6
TRUS	Trudelj	0.41	86	ePg	Pg	01 30 55.0	-1.7
TRUS				eSg	Sg	01 31 00.8	-1.2
TRUS	Trudelj	0.41	86	ePg	Pg	01 30 55.0	-1.7
TRUS				eSg	Sg	01 31 00.8	-1.2
TEKS	Tekeris	0.41	328	ePg	Pg	01 30 56.5	-0.3
TEKS				eSg	Sg	01 31 02.2	-0.1
TEKS	Tekeris	0.41	328	ePg	Pg	01 30 56.5	-0.3
TEKS				eSg	Sg	01 31 02.2	-0.1
BBLS	Lazići	0.46	223	ePg	Pg	01 30 57.3	-0.4
BBLS				eSg	Sg	01 31 02.0	-1.7
BBLS	Lazići	0.46	223	ePg	Pg	01 30 57.3	-0.4
BBLS				eSg	Sg	01 31 02.0	-1.7
IVAS	Ivanjica	0.66	160	ePg	Pg	01 31 00.8	-0.8
IVAS				eSg	Sg	01 31 10.4	+0.1
IVAS	Ivanjica	0.66	160	ePg	Pg	01 31 00.8	-0.8
IVAS				eSg	Sg	01 31 10.4	+0.1
GRUS	Gruza	0.70	116	ePg	Pg	01 31 01.6	-0.7
GRUS				eSg	Sg	01 31 11.2	-0.3
GRUS	Gruza	0.70	116	ePg	Pg	01 31 01.6	-0.7
GRUS				eSg	Sg	01 31 11.2	-0.3
FGSL	Fruska Gora	0.96	359	ePg	Pg	01 31 06.8	-0.4
FGSL				eSg	Sg	01 31 19.0	-0.7
FRGS	Fruska Gora	0.96	359	ePg	Pg	01 31 06.8	-0.5
FRGS				eSg	Sg	01 31 19.0	-0.7
SELS	Selova	1.35	136	ePg	Pg	01 31 13.8	-0.9
SELS				eSg	Sb	01 31 32.7	-0.2

MEX 18 01:31:36.0±0.4, 19°.05N×105°.17W, h5km, MD3.7, 1D,
Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		1.13	84	i P	Pg	01 31 54.4	-3.4
R15V				eS	Sg	01 32 08.6	-3.9
EZ5V		1.54	74	i P	Pn	01 32 01.3	-3.3
EZ5V				eS	Sn	01 32 20.4	-4.8
MMIG	Aquila	1.89	113	⇓i P	Pn	01 32 05.5	-3.4
MMIG				eS	Sn	01 32 29.0	-4.1

CSEM 18 02:25:00.3±0.1, 46°.32N×14°.27E, h20km, ML1.9/11, Error ellipse: s-maj=3.5km s-min=2.4km az=172.0
VIE 18 02:25:00.3±0.3, 46°.30N×14°.31E, h12km±5km, ML1.6/2, Error ellipse: s-maj=1.2km s-min=0.9km az=145.0 8 km NNW of Kranj
LJU 18 02:25:00.8, 46°.30N×14°.32E, h5km, ML1.2, 7C-3D,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOZS	Mozjanca	0.09	94	i Pg	Pg	02 25 03.1	+0.3
MOZS				i Sg	Sg	02 25 05.2	+1.0
	comp=Z,57nm,0.1s						
MOZS	Mozjanca	0.09	94	i Pg	Pg	02 25 03.1	+0.3
MOZS				i Sg	Sg	02 25 05.2	+1.0
	comp=Z,57nm,0.1s						
GORS	Gorjuse	0.22	274	i Pg	Pg	02 25 05.0	-0.3
GORS				i Sg	Sg	02 25 08.8	+0.4
	comp=Z,7.0nm,0.1s						
GORS	Gorjuse	0.22	274	i Pg	Pg	02 25 05.0	-0.3
GORS				i Sg	Sg	02 25 08.8	+0.4
	comp=Z,7.0nm,0.1s						
CRNS	Crni Vrh	0.22	190	i Pg	Pg	02 25 05.1	-0.1
CRNS				i Sg	Sg	02 25 09.1	+0.8
	comp=Z,25nm,0.1s						
OBKA	Obir	0.27	38	⇓i Pg	Pg	02 25 06.2	0.0
OBKA				⇓i Sg	Sg	02 25 10.3	+0.5
	comp=Z,14nm,0.2s						
OBKA	Obir	0.27	38	Pg	Pg	02 25 06.2	+0.1
OBKA				Sg	Sg	02 25 10.3	+0.5
	comp=Z,14nm,0.2s						
LJU	Ljubljana	0.30	150	i Pg	Pg	02 25 07.0	+0.4
LJU				i Sg	Sg	02 25 11.2	+0.7
	comp=Z,18nm,0.1s						
LJU	Ljubljana	0.30	150	i Pg	Pg	02 25 07.0	+0.4
LJU				i Sg	Sg	02 25 11.2	+0.7
	comp=Z,18nm,0.1s						
VNDS	Vrh nad Dolski	0.33	126	⇑i Pg	Pg	02 25 07.7	+0.3
VNDS				i Sg	Sg	02 25 12.4	+0.6
	comp=Z,6.0nm,0.2s						
VOJS	Vojsko	0.40	228	i Pg	Pg	02 25 08.0	-0.7
VOJS				i Sg	Sg	02 25 15.1	+0.9
VOJS	Vojsko	0.40	228	i Pg	Pg	02 25 08.0	-0.7
VOJS				i Sg	Sg	02 25 15.1	+1.0
CADS	Cadrg	0.41	260	i Pg	Pg	02 25 08.6	-0.2
CADS				i Sg	Sg	02 25 14.7	+0.5
	comp=Z,4.0nm,0.1s						
CADS	Cadrg	0.41	260	i Pg	Pg	02 25 08.6	-0.2
CADS				i Sg	Sg	02 25 14.7	+0.5
	comp=Z,4.0nm,0.1s						
JAVS	Javornik	0.44	203	i Pg	Pg	02 25 09.0	-0.5
JAVS				i Sg	Sg	02 25 16.5	+1.1
	comp=Z,6.0nm,0.1s						
JAVS	Javornik	0.44	203	i Pg	Pg	02 25 09.0	-0.5
JAVS				i Sg	Sg	02 25 16.5	+1.1
	comp=Z,6.0nm,0.1s						

DRE Drenchia 0.48 255⇑ePg Pg 02 25 09.9 -0.3
DRE eSg Sg 02 25 17.2 +0.6
DRE Drenchia 0.48 255 eP Pg 02 25 09.9 -0.3
DRE eSg Sg 02 25 17.2 +0.6
PDKS Podkum 0.53 116⇑iPg Pg 02 25 11.3 +0.2
PDKS iSg Sg 02 25 19.1 +1.1
PDKS Podkum 0.53 116⇑iPg Pg 02 25 11.3 +0.2
PDKS iSg Sg 02 25 19.1 +1.0
ROBS Robic 0.56 265 iSg Sb 02 25 20.2 -1.2
ROBS Robic 0.56 265 iSg Sg 02 25 20.2 +1.2
CEY Cerknica 0.57 172 iPg Pg 02 25 11.8 0.0
CEY iSg Sg 02 25 19.5 +0.3
comp=Z,4.0nm,0.1s
CEY Cerknica 0.57 172 iPg Pg 02 25 11.8 0.0
CEY iSg Sg 02 25 19.5 +0.3
comp=Z,4.0nm,0.1s
SABO M.te Sabotino 0.59 237⇑ePg Pg 02 25 11.4 -0.9
SABO eSg Sg 02 25 19.8 -0.1
SABO M.te Sabotino 0.59 237 eP Pg 02 25 11.4 -0.8
SABO eSg Sg 02 25 19.8 -0.2
ACOM Acomizza, Ital 0.61 294⇑ePg Pg 02 25 12.6 -0.2
ACOM eSg Sg 02 25 21.1 +0.2
ACOM Acomizza, Ital 0.61 294 eP Pg 02 25 12.6 -0.2
ACOM eSg Sg 02 25 21.0 +0.1
VISS Visnje 0.62 144 iPg Pg 02 25 13.1 +0.4
VISS iSg Sg 02 25 21.6 +0.8
comp=Z,2.0nm,0.1s
VISS Visnje 0.62 144 iPg Pg 02 25 13.1 +0.4
VISS iSg Sg 02 25 21.5 +0.8
comp=Z,2.0nm,0.1s
SOKA Soboth 0.62 52⇓iPg Pg 02 25 12.8 -0.2
SOKA ⇑iSg Sg 02 25 21.3 +0.1
comp=Z,4.1nm,0.2s
SOKA Soboth 0.62 52 Pg Pg 02 25 12.8 -0.2
SOKA Sg Sg 02 25 21.3 +0.1
comp=Z,4.1nm,0.2s
PERS Pernice 0.65 58 iSg Sg 02 25 21.9 +0.1
PERS Pernice 0.65 58 iSg Sg 02 25 22.0 +0.1
KNDS Knezji Dol 0.77 177 iSg Sg 02 25 26.6 +0.7
KNDS Knezji Dol 0.77 177 iSg Sg 02 25 26.6 +0.7
LEGS Legarje 0.78 116 iPg Pb 02 25 16.7 -0.2
LEGS iSg Sb 02 25 27.0 -0.9
LEGS Legarje 0.78 116 iPg Pb 02 25 16.7 -0.2
LEGS iSg Sb 02 25 27.0 -0.8
SKDS Skadanscina 0.78 196 iPg Pg 02 25 15.1 -0.8
SKDS iSg Sg 02 25 26.8 +0.8
SKDS Skadanscina 0.78 196 iPg Pg 02 25 15.1 -0.8
SKDS iSg Sg 02 25 26.8 +0.7
DOBS Dobrina 0.81 100 iPg Pg 02 25 16.6 0.0
DOBS iSg Sb 02 25 28.8 0.0
comp=Z,3.0nm,0.1s
DOBS Dobrina 0.81 100 iPg Pg 02 25 16.5 0.0
DOBS iSg Sb 02 25 28.8 0.0
comp=Z,3.0nm,0.1s
GBRS Gornja Briga 0.84 156 iSg Sg 02 25 28.8 +0.7
comp=Z,3.0nm,0.1s
CRES Cresnjev 0.93 120 iPg Pb 02 25 19.1 -0.3
CRES iSg Sg 02 25 31.1 +0.4
CRES Cresnjev 0.93 120 iPg Pb 02 25 19.1 -0.3
CRES iSg Sg 02 25 31.1 +0.4
GOLS Golise 0.95 107 iPg Pg 02 25 19.1 -0.1
GOLS iSg Sb 02 25 33.3 +0.4
GOLS Golise 0.95 107 iPg Pg 02 25 19.1 -0.1
GOLS iSg Sb 02 25 33.3 +0.4
GCIS Gornji Cirnik 1.01 115 iPg Pb 02 25 21.2 +0.4
GCIS iSg Sb 02 25 34.3 -0.1
GCIS Gornji Cirnik 1.01 115 iPg Pb 02 25 21.2 +0.4
GCIS iSg Sb 02 25 34.3 -0.1
BOJS Bojanci 1.03 140 iPg Pb 02 25 21.2 +0.1
comp=Z,2.0nm,0.1s
BOJS Bojanci 1.03 140 iPg Pb 02 25 21.2 +0.1
comp=Z,2.0nm,0.1s
NVLJ Novalja 1.78 167 Sg Sg 02 25 57.8 -0.2

IDC 18 03:04:27.0±13.0, 1.68S×69.17E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/26, mbtmp3.4/4, Error ellipse: s-maj=408.0km s-min=34.8km az=69.0, Carlsberg Ridge

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

H08N2 Diego Garcia H 4.97 158 Pn Pn 03 05 40.4 -2.2
baz=318,slow=15,SNR=6.2
H08N2 T T 03 10 56.0
baz=325,slow=75,SNR=575
H08N3 Diego Garcia H 4.98 159 Pn Pn 03 05 40.7 -2.2
baz=318,slow=15,SNR=3.9
H08N3 T T 03 10 56.8
baz=325,slow=75,SNR=792
H08N1 Diego Carcia H 4.99 158 Pn Pn 03 05 40.6 -2.4
baz=318,slow=15,SNR=5.4
H08N1 T T 03 10 54.8
baz=325,slow=75,SNR=657
H08S3 Diego Garcia H 6.77 151 T T 03 13 30.5
baz=295
H08S1 Diego Garcia H 6.78 151 T T 03 13 27.3
baz=295
H08S2 Diego Garcia H 6.79 151 T T 03 13 28.6
baz=295
MKAR Makanchi Array 49.63 12 P P 03 13 19.2 -1.1
0.3nm,0.7s,baz=189,slow=9.4,SNR=3.0
SONM Songino Array 59.02 28 P P 03 14 29.9 +1.1
0.4nm,1.0s,baz=225,slow=7.0,SNR=3.1
WRA Warramunga Arr 66.12 111 P P 03 15 16.8 +0.1
0.7nm,0.7s,baz=287,slow=6.0,SNR=9.3
ASAR Alice Springs 66.25 115 P P 03 15 17.3 -0.2
0.3nm,0.7s,baz=291,slow=6.3,SNR=5.6

CSEM 18 03:10:39.1, 38.06N×26.21W, h1km, ML2.9, After PDA
PDA 18 03:10:39.1±1.1, 38.06N×26.21W, h1km±4km, MD3.6, ML2.9, Error ellipse: s-maj=6.8km s-min=1.3km az=38.0, Azores Islands

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

PSET Sete Cidades 0.45 122 eP Pg 03 10 47.1 -0.7
PSET eS Sg 03 10 53.9 +0.2
PSET A A 03 11 00.0
765nm,0.5s
PSET Sete Cidades 0.45 122 eP Pg 03 10 47.1 -0.7
PSET eS Sg 03 10 53.9 +0.2
PDA Ponta Delgada 0.53 126 eP Pg 03 10 48.5 -0.8
PDA eS Sg 03 10 56.2 0.0
PDA A A 03 10 58.8
362nm,0.2s
PDA Ponta Delgada 0.53 126 eP Pg 03 10 48.5 -0.8
PDA eS Sg 03 10 56.2 0.0
GRON Grota Negra 0.61 119 eP Pg 03 10 50.9 +0.1
GRON eS Sb 03 11 00.5 -1.2
GRON A A 03 11 03.7
114nm,0.2s
BART Pico Bartolome 0.87 109 eP Pg 03 10 53.1 -2.8
BART eS Sg 03 11 04.6 -2.6
BART A A 03 11 09.3
100nm,0.2s
BART Pico Bartolome 0.87 109 eP Pg 03 10 53.1 -2.8
BART eS Sg 03 11 04.6 -2.6
PSCM Serra do Cume 0.96 312 eP Pg 03 10 54.7 -2.8
PSCM eS Sg 03 11 06.4 -3.6
PSCM A A 03 11 07.2
262nm,0.3s
PSCM Serra do Cume 0.96 312 eP Pg 03 10 54.7 -2.8
PSCM eS Sg 03 11 06.4 -3.6
ADH Angra Heroismo 1.00 306 eP Pg 03 10 55.5 -2.8
ADH eS Sg 03 11 07.4 -3.9
ADH A A 03 11 08.6
120nm,0.2s
ADH Angra Heroismo 1.00 306 eP Pg 03 10 55.5 -2.8
ADH eS Sg 03 11 07.4 -3.9
PSMA Santa Maria 1.37 141 eP Pn 03 11 00.3 -5.0
PSMA eS Sg 03 11 16.4 -6.6
PSMA A A 03 11 17.9
90nm,0.2s
PSMN Pico do Norte, 1.39 139 eP Pn 03 11 00.9 -4.8
PSMN eS Sg 03 11 16.6 -7.3
PSMN A A 03 11 18.1
62nm,0.6s
PSMN Pico do Norte, 1.39 139 eP Pn 03 11 00.9 -4.8
PSMN eS Sg 03 11 16.6 -7.3
TOPO Topo 1.45 292 eP Pn 03 11 02.0 -4.5
TOPO eS Sg 03 11 18.3 -7.5
TOPO Topo 1.45 292 eP Pn 03 11 02.0 -4.5
TOPO eS Sg 03 11 18.3 -7.5
PMAN Manadas 1.59 292 eS Sn 03 11 21.9 -7.6
PMAN A A 03 11 24.3
51nm,0.2s
PMAN Manadas 1.59 292 eS Sn 03 11 21.9 -7.6
ROSA Rosais 1.73 293 eP Pn 03 11 05.6 -4.7
ROSA eS Sn 03 11 25.2 -7.9
ROSA A A 03 11 26.5
46nm,0.2s
ROSA Rosais 1.73 293 eP Pn 03 11 05.6 -4.7
ROSA eS Sn 03 11 25.2 -7.9
PICO Pico 1.80 285 eP Pn 03 11 06.6 -4.8
PICO eS Sn 03 11 27.0 -8.0
PICO Pico 1.80 285 eP Pn 03 11 06.6 -4.8
PICO eS Sn 03 11 27.0 -8.0
CALA Caldeira 2.03 286 eS Sn 03 11 32.6 -8.1
CALA Caldeira 2.03 286 eS Sn 03 11 32.6 -8.1

IDC 18 03:41:10.4±3.1, 64.00N×23.26W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/30, mbtmp3.4/3, MS3.7/1, Ms1 3.7/1, ms1mx3.1/35, Error ellipse: s-maj=76.2km s-min=21.5km az=161.0, Iceland region

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

BORG Borgarnes 1.13 47 Pn Pg 03 41 31.9 -0.1
118nm,0.3s,baz=220,slow=7.3,SNR=68
BORG Sn Sn 03 41 50.1 +0.5
47nm,0.3s,baz=330,slow=6.1,SNR=3.6
SFJD Kangerlussuaq 11.70 297 LR LR 03 47 52.6
comp=Z,327nm,19.2s,baz=174,slow=34
ILAR Eielson Array 45.06 330 P P 03 49 28.8 +1.4
0.2nm,0.6s,baz=30,slow=7.8,SNR=7.5
PDAR Pinedale Array 51.08 289 P P 03 50 12.5 -2.0
0.7nm,0.9s,baz=48,slow=7.4,SNR=4.6
MKAR Makanchi Array 55.18 54 P P 03 50 45.8 +1.4
0.7nm,1.0s,baz=318,slow=5.8,SNR=4.5

IDC 18 03:41:26.6±1.2, 8.86S×157.70E, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.1/18, mbtmp3.9/9, Error ellipse: s-maj=44.5km s-min=20.9km az=129.0
ISCJB 18 03:41:28.0±0.9, 8.9S±0.2×157.6E±0.2, h17km, mb3.8/9, Error ellipse: s-maj=36.8km s-min=17.1km az=38.7
ISC 18 03:41:29.4±1.1, 8.9S±0.2×157.7E±0.2, h12km, n12, σ0.72/9, mb4.0/9, Bougainville - Solomon Islands region

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

WRA Warramunga Arr 25.11 241 P P 03 46 53.9 +0.3
3.4nm,0.8s,baz=67,slow=9.3,SNR=35
ASAR Alice Springs 27.09 234 P P 03 47 10.9 -0.6
0.7nm,0.8s,baz=59,slow=8.9,SNR=7.2
STKA Stephens Creek 27.34 211 P P 03 47 13.6 +0.1
2.1nm,0.7s,baz=29,slow=13,SNR=2.9
H11S3 WAKE ISLAND Hy 28.61 18 T T 04 16 05.5
baz=200,slow=78,SNR=19
H11S2 WAKE ISLAND Hy 28.61 18 T T 04 16 05.6
baz=200,slow=78,SNR=28
H11S1 WAKE ISLAND Hy 28.63 18 T T 04 16 03.9
baz=200,slow=78,SNR=13
CMAR Chiang Mai Arr 64.00 295 P P 03 52 02.8 +0.3
1.7nm,0.3s,baz=125,slow=6.1,SNR=4.8
SONM Songino Array 72.36 327 P P 03 52 55.2 +0.6
0.3nm,0.8s,baz=131,slow=6.5,SNR=3.5
ILAR Eielson Array 84.16 21 P P 03 53 58.4 -1.0
1.1nm,0.9s,baz=250,slow=4.9,SNR=10
MKAR Makanchi Array 86.58 318 P P 03 54 11.3 -0.5
0.3nm,0.6s,baz=103,slow=5.5,SNR=5.3
NVAR Mina Array Bea 90.79 51 P P 03 54 33.3 +1.0
0.9nm,0.9s,baz=243,slow=6.0,SNR=5.7
YKA Yellowknife Ar 96.74 28 P P 03 54 58.5 -0.3
0.2nm,0.6s,baz=259,slow=5.0,SNR=3.4

IDC 18 03:46:09.2±0.7, 8.73S×157.66E, h0km, mb4.4/13, mb1 4.5/15, mb1mx4.3/29, mbtmp4.3/15, ML3.5/2, Error ellipse: s-maj=25.7km s-min=17.5km az=121.0
ISCJB 18 03:46:10.8±0.3, 8.65S±0.05×157.56E±0.05, h16km, mb4.7/27, MS4.8/1, Error ellipse: s-maj=8.6km s-min=6.6km az=142.8
BJI 18 03:46:11.7, 8.13S×157.71E, h10km, mB5.2/7, mb4.8/20, Ms5.0/1, Ms7 4.7/1
NEIC 18 03:46:16.7±1.2, 8.80S×157.66E, h56km±12km, mb5.0/11, Error ellipse: s-maj=11.7km s-min=6.5km az=162.0
ISC 18 03:46:11.9±0.4, 8.72S±0.08×157.71E±0.06, h16km, n70, σ1.31/72, mb4.8/27, Bougainville - Solomon Islands region

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

HNR Honiara 2.32 108 Pn Pb 03 46 52.5 -0.9
HNR Sn Sg 03 47 25.9 -0.8
COEN Coen 15.16 249 ePn P 03 49 48.7 -1.9
DZM Mont Dzumac 15.71 149 Pn Pn 03 49 53.7 +0.9
0.1nm,0.3s,baz=24,slow=12,SNR=4.4
CTA Charters Tower 15.82 223 Pn Pn 03 49 54.7 +0.6
0.2nm,0.3s,baz=40,slow=15,SNR=2.6
CTAO Charters Tower 15.82 223 Pn Pn 03 49 54.8 +0.7
RMQ Roma 19.60 205 P Pn 03 50 41.6 +0.6
baz=20,SNR=7.7
QIS Mount Isa 21.07 234 P P 03 50 56.7 +1.1
baz=21,SNR=6.7
MSVF Nonsavu 21.72 116 eP P 03 51 03.7 +1.1
375nm,2.9s
QLP Quilpie 21.88 214 P P 03 51 06.8 +2.6
baz=22,SNR=7.4
KDU Kakadu 25.10 259 P P 03 51 36.5 +0.3
baz=25,SNR=3.9
WRAB Tennant Creek 25.19 241 P P 03 51 36.6 -0.3
56nm,0.8s,SNR=7.4
WRAB Tennant Creek 25.19 241 eP P 03 51 36.4 -0.6
9.8nm,0.9s
WRA Warramunga Arr 25.20 241 P P 03 51 36.3 -0.7
8.4nm,1.0s,baz=66,slow=9.1,SNR=31
WRA PcP PcP 03 55 10.3 -0.4
1.8nm,0.8s,baz=70,slow=2.2,SNR=10
CMSA Cobar Meteorol 25.30 205 P P 03 51 38.0 +0.2
baz=26,SNR=7.9
ASAR Alice Springs 27.19 234 P P 03 51 54.0 -1.1
1.6nm,0.8s,baz=64,slow=8.7,SNR=14
ASAR PcP PcP 03 55 15.3 -0.1
1.1nm,0.8s,baz=60,slow=2.7,SNR=5.8
STKA Stephens Creek 27.48 211 P P 03 51 57.0 -0.4
5.0nm,0.8s,baz=34,slow=13,SNR=8.5
STKA Stephens Creek 27.48 211 P P 03 52 00.2 +2.7
baz=28,SNR=6.2
H11S3 WAKE ISLAND Hy 28.46 18 T T 04 20 38.8
baz=198
H11S2 WAKE ISLAND Hy 28.46 18 T T 04 20 38.8
baz=198
H11S1 WAKE ISLAND Hy 28.48 18 T T 04 20 38.2
baz=198
H11N1 WAKE ISLAND Hy 29.67 18 T T 04 22 23.8
baz=190
H11N3 WAKE ISLAND Hy 29.68 18 T T 04 22 23.8
baz=190
H11N2 WAKE ISLAND Hy 29.69 18 T T 04 22 23.8
baz=190
WRKA Warakurna 32.37 236 P P 03 52 39.6 -1.4
baz=33,SNR=6.7
JAGI Jajag, Banyuwa 43.05 267 eP P 03 54 08.9 -2.4
25nm,0.8s
JNU Nakatsue 48.82 330 P P 03 54 56.6 0.0
15nm,0.9s,baz=158,slow=11,SNR=4.1
KSRS Korea Array 53.73 331 P P 03 55 33.2 -0.2
1.2nm,0.6s,baz=143,slow=7.5,SNR=4.2
KSAR Wonju Array Be 53.74 331 P P 03 55 33.2 -0.2
GYA Guiyang 60.63 307 P P 03 56 24.8 +2.2
GYA PP PP 03 58 41.0 +4.6
GYA ScP ScP 04 01 03.3 -4.5
GYA S S 04 04 36.3 -2.4
GYA SS SS 04 08 37.4 -0.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,550nm,19.6s
GYA LR LR
comp=E,490nm,20.0s
GYA LR LR
comp=Z,520nm,19.0s
XAN Xi'an 62.81 315 P P 03 56 36.5 -0.5
XAN pP pP 03 56 44.5 +2.3
KMI Kunming 63.20 304 P P 03 56 41.3 +1.3
KMI pmax pmax
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 63.95 295 P P 03 56 44.5 -0.3
4.2nm,0.7s,baz=124,slow=5.1,SNR=18
SONM Songino Array 72.24 326 P P 03 57 37.2 +0.7
1.2nm,0.8s,baz=134,slow=5.6,SNR=12
SHL Shillong 72.48 300 ex P 03 57 39.0 +0.6
PMR Palmer 81.31 23 eP P 03 58 27.2 0.0
7.6nm,0.8s
CAST Castle Rocks 81.37 20 eP P 03 58 27.5 0.0
12nm,0.7s
KTH Kantishna Hill 81.86 21 eP P 03 58 29.3 -0.8
13nm,0.8s
TRF Thorofare Moun 82.02 21 eP P 03 58 30.6 -0.6
174nm,2.4s
MCK McKinley 82.67 21 eP P 03 58 33.9 -0.4
31nm,0.9s
COLA College 83.73 20 eP P 03 58 38.9 -0.8
16nm,0.8s
ILAR Eielson Array 84.01 21 P P 03 58 40.3 -0.9
5.8nm,1.1s,baz=269,slow=4.3,SNR=30
DOT Dot Lake 84.41 22 eP P 03 58 43.7 +0.4
14nm,0.9s
MK31 Makanchi Array 86.47 318 eP P 03 58 53.8 -0.2
MKAR Makanchi Array 86.47 318 P P 03 58 53.3 -0.7
0.9nm,0.6s,baz=98,slow=5.9,SNR=16
G03D McMinnville, O 88.49 44 P P 03 59 02.7 -1.0
baz=89
I04A Tendick Farm, 88.75 45 P P 03 59 04.3 -0.7
baz=89
J05D Fort Rock, OR 89.47 46 P P 03 59 08.6 +0.1
baz=90
ISA Isabella 90.05 54 P P 03 59 12.1 +0.8
baz=90
EDW2 Edwards Air Fo 90.29 55 P P 03 59 13.6 +1.2
baz=90
BFSC Mount Baldy Ra 90.45 56 P P 03 59 14.4 +1.1
baz=91
TIN Tinemaha 90.50 53 P P 03 59 15.1 +1.7
baz=91
LRMC Laurel Mountai 90.64 54 P P 03 59 15.3 +1.1
baz=91
NVAR Mina Array Bea 90.69 51 P P 03 59 15.5 +1.0
3.5nm,0.8s,baz=245,slow=7.3,SNR=27
TPH Tonopah 91.46 52 P P 03 59 18.9 +0.9
4.5nm,1.0s
FURC Furnace Creek, 91.47 53 P P 03 59 18.6 +0.8
baz=92
SHOC Shoshone 91.84 54 P P 03 59 20.3 +0.7
baz=92
TUQ Turquoise Moun 92.06 55 P P 03 59 21.1 +0.4
baz=92
GMRC Granite Mounta 92.17 55 P P 03 59 22.5 +1.3
baz=92
R11A Troy Canyon, C 92.78 52 eP P 03 59 26.1 +2.0
4.0nm,1.1s
R11A Troy Canyon, C 92.78 52 P P 03 59 25.5 +1.4
baz=93
HLID Hailey 94.41 47 P P 03 59 32.2 +0.8
baz=95
DUG Dugway 95.16 50 P P 03 59 35.6 +0.7
baz=95
BVAR Borovoye Array 95.28 323 P P 03 59 34.8 -0.2
0.3nm,0.4s,baz=84,slow=4.5,SNR=3.1
YKA Yellowknife Ar 96.60 28 P P 03 59 40.8 0.0
0.5nm,0.6s,baz=262,slow=4.7,SNR=13
PDAR Pinedale Array 97.86 48 P P 03 59 47.3 0.0
0.8nm,0.8s,baz=244,slow=1.1,SNR=5.8
AKASG Malin Array Be 120.50 325 PKP PKPdf 04 05 02.7 0.0
0.2nm,0.3s,baz=68,slow=1.4,SNR=2.6
BDFB Brasilia 144.86 133 PKP PKPab 04 05 48.0 -0.4
11nm,0.8s,baz=214,slow=2.3,SNR=17
ESDC Sonseca Array 145.09 335 PKPbc PKPbc 04 05 47.7 -0.8
0.2nm,0.3s,baz=13,slow=3.6,SNR=4.2
TAM Tamanrasset 149.87 301 ePKPbc PKPbc 04 06 02.9 +0.5
TORD Torodi Ar. Bea 156.05 283 PKP PKPdf 04 06 06.0 -0.6
0.6nm,0.8s,baz=101,slow=1.5,SNR=3.2
TORD PKPbc PKPbc 04 06 18.6
0.5nm,0.7s,baz=90,slow=3.7,SNR=3.4

IDC 18 04:13:48.9±0.6, 11.98N×142.59E, h0km, mb4.1/17, mb1 4.2/17, mb1mx4.1/30, mbtmp4.1/17, MS3.9/1, Ms1 3.9/1, ms1mx2.9/40, Error ellipse: s-maj=23.5km s-min=13.9km az=93.0
NEIC 18 04:13:53.0±3.9, 11.96N×142.56E, h27km±28km, mb4.7/5, Error ellipse: s-maj=10.6km s-min=8.1km az=86.0
ISCJB 18 04:13:53.2±0.4, 11.90N±0.06×142.52E±0.08, h42km, mb4.2/22, MS3.7/1, Error ellipse: s-maj=11.6km s-min=9.3km az=6.9
ISC 18 04:13:55.0±0.5, 11.92N±0.08×142.50E±0.08, h42km, n28, σ1.22/25, mb4.2/22, South of Mariana Islands

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

GUMO Guam 2.85 54 Pn Pn 04 14 35.9 -2.1
GUMO eS Sn 04 15 14.4 +3.4
SSLB Suanglung 23.62 303 eP P 04 19 03.0 +0.5
6.9nm,0.7s
JNU Nakatsue 23.64 335 LR LR 04 26 52.1
comp=Z,276nm,21.2s,baz=266,slow=33
H11N1 WAKE ISLAND Hy 24.69 69 T T 04 45 01.6
baz=258
H11N2 WAKE ISLAND Hy 24.70 69 T T 04 44 51.3
baz=258
H11N3 WAKE ISLAND Hy 24.71 69 T T 04 44 51.3
baz=258
MJAR Matsushiro Arr 24.82 352 P P 04 19 11.3 -2.0
26nm,1.2s,baz=166,slow=9.8,SNR=4.0
CTA Charters Tower 32.02 173 P P 04 20 18.7 +1.0
1.1nm,0.4s,baz=353,slow=8.1,SNR=2.2
WRAB Tennant Creek 32.65 194 eP P 04 20 22.9 -0.3
3.9nm,0.4s
WRA Warramunga Arr 32.66 194 P P 04 20 22.9 -0.4
4.3nm,0.5s,baz=16,slow=9.5,SNR=19
USRK Ussuriysk Arra 33.41 346 P P 04 20 29.8 +0.2
2.0nm,0.6s,baz=171,slow=8.1,SNR=8.6
ASAR Alice Springs 36.35 193 P P 04 20 55.7 +0.5
1.9nm,0.6s,baz=18,slow=12,SNR=40
BJT Baijiatuan 36.38 325 P P 04 20 55.7 +0.4
8.1nm,0.6s
CMAR Chiang Mai Arr 42.45 284 P P 04 21 47.0 +0.8
1.4nm,0.4s,baz=79,slow=5.6,SNR=4.3
STKA Stephens Creek 43.56 181 P P 04 21 54.3 -0.5
1.6nm,0.7s,baz=335,slow=5.2,SNR=2.9
PSI Prapat 44.09 262 P P 04 21 59.4 -0.3
3.1nm,0.3s,baz=72,slow=5.8,SNR=5.6
MSVF Nonsavu 45.83 129 eP P 04 22 14.7 +1.3
3.9nm,0.5s
SONM Songino Array 46.81 327 P P 04 22 21.2 +0.4
0.4nm,0.5s,baz=144,slow=7.6,SNR=6.8
MKAR Makanchi Array 61.10 317 P P 04 24 05.7 +0.7
0.5nm,0.6s,baz=87,slow=10,SNR=7.3
RAR Rarotonga 65.56 120 P P 04 24 33.0 -1.8
8.5nm,0.6s
BVAR Borovoye Array 69.81 322 P P 04 25 00.6 -0.4
1.4nm,0.6s,baz=108,slow=6.9,SNR=6.2
ILAR Eielson Array 71.06 25 P P 04 25 06.7 -1.8
0.7nm,1.0s,baz=245,slow=4.6,SNR=11
INK Inuvik 76.78 22 P P 04 25 41.6 -0.2
0.5nm,0.7s,baz=210,slow=4.4,SNR=2.7
YKA Yellowknife Ar 85.39 27 P P 04 26 27.8 0.0
0.4nm,0.4s,baz=283,slow=5.1,SNR=16
RES Resolute Bay 86.69 13 P P 04 26 33.9 0.0
0.7nm,0.6s,baz=329,slow=19,SNR=13
NVAR Mina Array Bea 89.76 51 P P 04 26 50.4 +0.8
0.8nm,0.8s,baz=270,slow=5.4,SNR=5.7
FINES FINESS Array B 91.68 334 P P 04 26 57.8 +0.1
0.7nm,0.6s,baz=91,slow=7.6,SNR=4.5
LPAZ La Paz 150.00 102 PKPbc PKPbc 04 33 42.7 0.0
1.7nm,0.8s,baz=239,slow=3.9,SNR=4.3

IDC 18 04:15:33.2±1.3, 8.77S×157.64E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/5, ML3.9/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/28, Error ellipse: s-maj=66.3km s-min=24.8km az=129.0
ISCJB 18 04:15:34.8±1.2, 8.8S±0.3×157.7E±0.3, h17km, mb3.8/5, MS3.7/2, Error ellipse: s-maj=57.0km s-min=17.8km az=38.6
ISC 18 04:15:35.8±1.2, 8.9S±0.3×157.6E±0.4, h17km, n7, σ1.38/6, mb4.0/5, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
CTA Charters Tower 15.62 223 Pn P 04 19 18.6 -0.8
0.3nm,0.3s,baz=43,slow=14,SNR=2.5
WRA Warramunga Arr 25.02 241 P P 04 21 00.6 +1.4
2.0nm,0.6s,baz=67,slow=9.7,SNR=9.2
WRA LR LR 04 30 12.9
comp=Z,124nm,19.9s,baz=345,slow=35
STKA Stephens Creek 27.26 211 P P 04 21 18.9 -0.4
2.6nm,0.7s,baz=35,slow=14,SNR=3.6
ILAR Eielson Array 84.22 21 P P 04 28 04.8 -1.2
0.5nm,0.6s,baz=249,slow=4.7,SNR=10
MKAR Makanchi Array 86.55 318 P P 04 28 18.1 0.0
0.1nm,0.6s,baz=107,slow=6.2,SNR=3.2
YBH Yreka Blue Hor 88.26 47 LR LR 04 59 17.8
comp=Z,47nm,20.4s,baz=218,slow=30
NVAR Mina Array Bea 90.88 51 P P 04 28 40.3 +1.2
0.6nm,0.8s,baz=244,slow=5.5,SNR=3.7

CSEM 18 04:27:51.4±0.1, 37.25N×27.55E, h5km, MD2.4, Error ellipse: s-maj=4.4km s-min=2.6km az=130.0
ISK 18 04:27:51.1, 37.21N×27.58E, h6km, MD2.4
DDA 18 04:27:50.6, 37.26N×27.58E, h7km, MD2.2, Turkey

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
BDRM Kayabasi 0.23 209 iP Pg 04 27 55.5 +0.4
BDRM iS Sg 04 27 58.8 +0.6
BDRM Kayabasi 0.23 209 iP Pg 04 27 55.5 +0.4
BDRM iS Sg 04 27 58.8 +0.7
BODT Bodrum 0.29 228 ePG Pg 04 27 56.5 0.0
BODT eSG Sg 04 28 00.9 +0.5
BODT Bodrum 0.29 228 ePg Pg 04 27 56.5 +0.1
BODT eSg Sg 04 28 00.9 +0.5
AYDN Tasoluk 0.46 31 iP Pb 04 28 00.5 -0.7
AYDN iS Sg 04 28 06.7 +0.8
AYDN Tasoluk 0.46 31 iP Pb 04 28 00.5 -0.7
AYDN iS Sg 04 28 06.7 +0.9
YER Yerkesik 0.57 103 ePG Pb 04 28 03.1 +0.1
YER eSG Sb 04 28 10.8 -0.7
YER Yerkesik 0.57 103 ePg Pb 04 28 03.2 +0.1
YER eSg Sb 04 28 10.8 -0.7
AYDB Zeytinkoy-Aydi 0.73 20 ePG Pb 04 28 06.4 +0.6
AYDB Zeytinkoy-Aydi 0.73 20 ePg Pb 04 28 06.4 +0.6
FETY Fethiye 1.36 117 ePN Pg 04 28 17.0 +0.4
FETY Fethiye 1.36 117 ePn Pg 04 28 17.0 +0.3
KULA Kula-Manisa 1.51 34 ePN Pg 04 28 20.1 +0.3
KULA Kula-Manisa 1.51 34 ePn Pg 04 28 20.1 +0.3

BJI 18 04:35:05.9, 12.89N×50.85E, h10km, mb4.4/12, Ms7 4.0/1
CSEM 18 04:35:08.7±0.2, 13.33N×50.84E, h2km, mb4.1/24, Error ellipse: s-maj=10.8km s-min=6.6km az=168.0
ISCJB 18 04:35:08.2±0.4, 13.31N±0.06×50.80E±0.04, h12km, mb4.2/34, MS4.0/15, Error ellipse: s-maj=9.4km s-min=5.0km az=172.2
IDC 18 04:35:08.4±0.7, 13.30N×50.94E, h0km, mb4.0/16, mb1 4.1/17, mb1mx4.0/28, mbtmp4.0/17, ML3.5/1, MS4.0/15, Ms1 4.0/15, ms1mx3.7/48, Error ellipse: s-maj=18.3km s-min=15.8km az=114.0
MOS 18 04:35:08.0±1.1, 13.26N×50.91E, h10km, mb4.5/24, Error ellipse: s-maj=12.9km s-min=7.8km az=79.7
NEIC 18 04:35:09.9±0.4, 13.23N×50.99E, h10km, mb4.4/5, Error ellipse: s-maj=11.0km s-min=8.9km az=131.0
DHMR 18 04:35:12.1±1.2, 13.43N×50.44E, h12km±229km, ML3.7
ISC 18 04:35:10.4±0.5, 13.30N±0.08×50.80E±0.06, h12km, n149, σ1§38/145, mb4.2/34, MS3.9/15, 6C, Eastern Gulf of Aden

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MUKL Al Mukalla 2.07 305 iP Pn 04 35 42.4 -2.5
MUKL AML AML 04 36 07.8
comp=N,999nm,0.5s
BDHA Al Bayda' 5.13 278 iP Pn 04 36 26.1 -1.2
BDHA iS Sn 04 37 23.4 -3.2
BDHA Al Bayda' 5.13 278 iP Pn 04 36 26.1 -1.2
BDHA iS Sn 04 37 23.4 -3.2
LBOS 5.42 277 iP Pn 04 36 30.6 -0.8
LBOS iS Sn 04 37 31.9 -2.1
TRBA At Turbah 6.50 270 iP Pn 04 36 44.5 -1.7
TRBA At Turbah 6.50 270 iP Pn 04 36 44.5 -1.7
KMBO Kilima Mbogo 19.64 224 eP P 04 39 39.1 -0.4
KMBO pmax pmax
comp=Z,45nm,2.0s
KMBO Kilima Mbogo 19.64 224 P Pn 04 39 40.7 -0.2
comp=Z,0.1nm,0.3s,baz=41,slow=9.8,SNR=11
KMBO LR LR 04 47 05.5
comp=Z,754nm,18.9s,baz=50,slow=36
KMBO Kilima Mbogo 19.64 224 eP P 04 39 39.0 -0.4
comp=Z,45nm,2.0s
KMBO Kilima Mbogo 19.64 224 eP P 04 39 39.1 -0.4
comp=Z,45nm,2.0s
EIL Elat 21.92 320 P P 04 40 07.3 +3.6
comp=Z,1.8nm,0.7s,baz=108,slow=9.6,SNR=2.9
EIL LR LR 04 48 02.6
comp=Z,283nm,19.9s,baz=138,slow=35
ASF Jabal al Asfar 22.69 328 P P 04 40 13.7 +1.6
ASF pmax pmax
comp=Z,1.0nm,0.4s
ASF Jabal al Asfar 22.69 328 P P 04 40 13.7 +1.6
comp=Z,0.6nm,0.4s,baz=152,slow=0.6,SNR=3.0
KBL Kabul 26.84 35 eP P 04 40 51.5 +0.4
KBL pmax pmax
comp=Z,3.0nm,0.4s
KBL Kabul 26.84 35 eP P 04 40 51.5 +0.4
comp=Z,2.6nm,0.4s
KBL Kabul 26.84 35 eP P 04 40 51.5 +0.4
comp=Z,2.6nm,0.4s
GNI Garni 27.27 350 P P 04 40 56.8 +2.0
GNI pmax pmax
comp=Z,2.0nm,0.4s
GNI Garni 27.27 350 P P 04 40 56.8 +2.0
comp=Z,2.2nm,0.4s,baz=27,slow=4.5,SNR=3.3
H08N2 Diego Garcia H 27.98 133 T T 05 10 06.5
baz=313,slow=76,SNR=29
H08N3 Diego Garcia H 27.99 133 T T 05 10 05.3
baz=313,slow=76,SNR=33
H08N1 Diego Garcia H 28.00 133 T T 05 10 04.0
baz=313,slow=76,SNR=30
BRTR Keskin Array B 30.35 333 P P 04 41 22.5 +0.2
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR MLR MLR
comp=Z,16nm,28.6s
BRTR Keskin Array B 30.35 333 P P 04 41 22.5 +0.2
comp=Z,0.5nm,0.8s,baz=139,slow=9.3,SNR=3.2
BRTR LR LR 04 53 55.2
comp=Z,102nm,18.9s,baz=116,slow=37
BRTR Keskin Array B 30.35 333 P P 04 41 22.5 +0.2
comp=Z,16nm,28.6s
KBZ Khabaz 31.07 349 P P 04 41 28.9 +0.6
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ MLR MLR
comp=Z,479nm,19.9s
KBZ Khabaz 31.07 349 P P 04 41 28.9 +0.6
comp=Z,3.4nm,0.8s,baz=166,slow=11,SNR=7.3
KBZ LR LR 04 56 08.3
comp=Z,479nm,19.9s,baz=151,slow=40
PYUN Piuthan 33.39 59 eP P 04 41 48.6 -0.6
comp=Z,55nm,0.8s
PYUN Piuthan 33.39 59 eP P 04 41 48.6 -0.6
PYUN Piuthan 33.39 59 eP P 04 41 48.6 -0.6
KOLN Koldanda 33.80 60 eP P 04 41 51.8 -0.9
comp=Z,112nm,1.4s
KOLN Koldanda 33.80 60 eP P 04 41 51.8 -0.9
KOLN Koldanda 33.80 60 eP P 04 41 51.8 -0.9
DANN Dangsing 34.12 59 eP P 04 41 54.7 -0.9
comp=Z,128nm,1.2s
DANN Dangsing 34.12 59 eP P 04 41 54.7 -0.9
DANN Dangsing 34.12 59 eP P 04 41 54.7 -0.9
GKN Gorkha 34.74 60 eP P 04 42 00.1 -0.8
comp=Z,86nm,1.3s
GKN Gorkha 34.74 60 eP P 04 42 00.1 -0.8
GKN Gorkha 34.74 60 eP P 04 42 00.1 -0.8
DMN Daman 35.02 61 eP P 04 42 02.8 -0.6
comp=Z,82nm,1.3s
DMN Daman 35.02 61 eP P 04 42 02.8 -0.6
DMN Daman 35.02 61 eP P 04 42 02.8 -0.6
KKN Kakani 35.22 60 eP P 04 42 04.0 -1.1
comp=Z,80nm,1.1s
KKN Kakani 35.22 60 eP P 04 42 04.0 -1.1
KKN Kakani 35.22 60 eP P 04 42 04.0 -1.1
KKN Kakani 35.22 60 eP P 04 42 04.0 -1.1
PKIN Phulchoki 35.26 61 eP P 04 42 03.7 -1.8
PKI Pulchoki 35.26 61 eP P 04 42 04.0 -1.6
comp=Z,12nm,0.5s
PKI Pulchoki 35.26 61 eP P 04 42 04.0 -1.6
PKI Pulchoki 35.26 61 eP P 04 42 04.0 -1.6
PKI Pulchoki 35.26 61 eP P 04 42 04.0 -1.6
PKI Pulchoki 35.26 61 eP P 04 42 04.0 -1.6
AAK Ala-Archa 35.70 31⇑iP P 04 42 10.3 +1.4
AAK pmax pmax
comp=Z,21nm,1.2s
AAK Ala-Archa 35.70 31 LR LR 04 58 47.3
comp=Z,221nm,20.3s,baz=256,slow=40
AAK Ala-Archa 35.70 31 eP P 04 42 08.4 -0.5
comp=Z,16nm,1.4s
AAK Ala-Archa 35.70 31 eP P 04 42 08.4 -0.5
comp=Z,16nm,1.4s
GUN Gumba 35.76 61 eP P 04 42 08.6 -1.3
comp=Z,82nm,1.1s
GUN Gumba 35.76 61 eP P 04 42 08.6 -1.3
GUN Gumba 35.76 61 eP P 04 42 08.6 -1.3
JIRN Jiri 35.95 61 eP P 04 42 10.1 -1.5
comp=Z,54nm,1.2s
JIRN Jiri 35.95 61 eP P 04 42 10.1 -1.5
JIRN Jiri 35.95 61 eP P 04 42 10.1 -1.5
RAMN Ramite 36.12 62 eP P 04 42 11.8 -1.0
comp=Z,58nm,1.3s
RAMN Ramite 36.12 62 eP P 04 42 11.8 -1.0
RAMN Ramite 36.12 62 eP P 04 42 11.8 -1.0
LSZ Lusaka 36.15 219 LR LR 04 57 43.5
comp=Z,361nm,18.5s,baz=122,slow=37
ABKAR Akbulak array 36.63 10 eP P 04 42 15.9 -0.7
comp=Z,9.1nm,1.2s
ABKAR Akbulak array 36.63 10 eP P 04 42 15.9 -0.7
comp=Z,9.1nm,1.2s
ODAN Odare 36.78 63 eP P 04 42 17.9 -0.6
ODAN Odare 36.78 63 eP P 04 42 17.9 -0.6
ODAN Odare 36.78 63 eP P 04 42 17.9 -0.6
TAPN Taplejung 37.17 62 eP P 04 42 20.7 -1.2
comp=Z,41nm,1.0s
TAPN Taplejung 37.17 62 eP P 04 42 20.7 -1.2
TAPN Taplejung 37.17 62 eP P 04 42 20.7 -1.2
VRHR Novokhopersk 38.42 351 eP P 04 42 30.9 -0.8
VRHR pmax pmax
comp=N,5.0nm,0.7s
VRHR pmax pmax
comp=E,3.0nm,0.7s
VRHR pmax pmax
comp=Z,6.0nm,0.7s
VRHR Novokhopersk 38.42 351 eP P 04 42 30.9 -0.8
VORD Divnogorie 38.71 348 eP P 04 42 32.9 -1.2
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,5.0nm,0.8s
VORD Divnogorie 38.71 348 eP P 04 42 32.9 -1.2
VSR Storozhevoye 38.97 348 eP P 04 42 35.6 -0.7
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,5.0nm,0.9s
VSR pmax pmax
comp=Z,7.0nm,0.9s
VSR Storozhevoye 38.97 348 eP P 04 42 35.6 -0.7
SHL Shillong 40.46 66 ex P 04 42 47.0 -2.4
KIEV Kiev 41.22 339 iP P 04 42 54.6 -0.4
KIEV Kiev 41.22 339 iP P 04 42 54.6 -0.4
AKASG Malin Array Be 41.22 339 P P 04 42 54.3 -0.7
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG MLR MLR
comp=Z,16nm,28.6s
AKASG Malin Array Be 41.22 339 P P 04 42 54.3 -0.7
comp=Z,1.5nm,0.7s,baz=147,slow=7.4,SNR=9.3
AKASG LR LR 05 00 55.6
comp=Z,83nm,20.6s,baz=60,slow=38
AKASG Malin Array Be 41.22 339 P P 04 42 54.3 -0.7
comp=Z,16nm,28.6s
MK31 Makanchi Array 42.57 32 eP P 04 43 05.6 -0.6
MK31 Makanchi Array 42.57 32 eP P 04 43 05.6 -0.6
MK31 Makanchi Array 42.57 32 eP P 04 43 05.6 -0.6
MKAR Makanchi Array 42.57 32 P P 04 43 05.6 -0.6
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR MLR MLR
comp=Z,16nm,28.6s
MKAR Makanchi Array 42.57 32 P P 04 43 05.6 -0.6
comp=Z,1.5nm,0.5s,baz=220,slow=8.6,SNR=38
MKAR LR LR 05 03 31.7
comp=Z,105nm,18.6s,baz=198,slow=40
MKAR Makanchi Array 42.57 32 P P 04 43 05.6 -0.6
comp=Z,16nm,28.6s
BRVK Borovoye 42.59 17⇑iP P 04 43 06.1 -0.1
BRVK pmax pmax
comp=Z,8.0nm,1.4s
BRVK Borovoye 42.59 17 iP P 04 43 06.1 -0.1
comp=Z,8.0nm,1.4s
BVAR Borovoye Array 42.59 17 LR LR 05 02 33.0
comp=Z,236nm,21.0s,baz=220,slow=39
KOLS Kolonicke sedl 42.61 332 eP P 04 43 08.3 +1.8
KOLS Kolonicke sedl 42.61 332 eP P 04 43 08.3 +1.8
KOLS Kolonicke sedl 42.61 332 eP P 04 43 08.3 +1.8
CRVS Cervenica-Dubn 42.96 332 eP P 04 43 10.7 +1.4
CRVS Cervenica-Dubn 42.96 332 eP P 04 43 10.7 +1.4
CRVS Cervenica-Dubn 42.96 332 eP P 04 43 10.7 +1.4
KEST Kesra 43.40 308 P P 04 43 16.2 +3.1
comp=Z,1.1nm,0.8s,baz=124,slow=3.6,SNR=2.7
ARU Arti 43.45 6c iP P 04 43 11.8 -1.3
ARU 04 44 52.4
ARU S S 04 49 40.4 -0.8
ARU pmax pmax
comp=Z,11nm,2.5s
ARU Arti 43.45 6 iP P 04 43 11.8 -1.3
comp=Z,11nm,2.5s
ARU S S 04 49 40.4 -0.8
TAM Tamanrasset 43.92 289 eP P 04 43 19.3 +1.7
TAM pmax pmax
comp=Z,4.0nm,1.0s
TAM Tamanrasset 43.92 289 eP P 04 43 19.3 +1.7
comp=Z,4.3nm,1.0s
TAM Tamanrasset 43.92 289 eP P 04 43 19.3 +1.7
comp=Z,4.2nm,1.0s
VYHS Vyhne 43.93 330 eP P 04 43 22.9 +5.7
VYHS Vyhne 43.93 330 eP P 04 43 22.9 +5.7
LBTB Lobatse 45.33 213 P P 04 43 29.1 +0.4
LBTB pmax pmax
comp=Z,7.0nm,1.0s
LBTB MLR MLR
comp=Z,16nm,28.6s
LBTB Lobatse 45.33 213 P P 04 43 29.1 +0.4
comp=Z,6.7nm,1.0s,baz=70,slow=4.4,SNR=4.8
LBTB LR LR 05 01 53.2
comp=Z,264nm,21.4s,baz=76,slow=35
LBTB Lobatse 45.33 213 P P 04 43 29.1 +0.4
comp=Z,16nm,28.6s
CMAR Chiang Mai Arr 46.49 77 P P 04 43 37.0 -0.9
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 46.49 77 P P 04 43 37.0 -0.9
comp=Z,1.5nm,0.5s,baz=275,slow=8.8,SNR=16
TOA0 Torodi Ar. Sit 47.73 276 eP P 04 43 49.6 +1.9
TOA0 Torodi Ar. Sit 47.73 276 eP P 04 43 49.6 +1.9
TORD Torodi Ar. Bea 47.73 276 P P 04 43 48.5 +0.8
comp=Z,1.2nm,0.9s,baz=87,slow=7.6,SNR=8.2
KLMR Klimovskoe 48.18 353 eP P 04 43 47.8 -2.6
KLMR pmax pmax
comp=Z,21nm,1.5s
KLMR Klimovskoe 48.18 353 eP P 04 43 47.8 -2.6
comp=Z,21nm,1.5s
BOSA Boshof 48.44 210 P P 04 43 53.4 +0.4
BOSA pmax pmax
comp=Z,3.0nm,0.7s
BOSA MLR MLR
comp=Z,16nm,28.6s
BOSA Boshof 48.44 210 P P 04 43 53.4 +0.4
comp=Z,3.1nm,0.7s,baz=26,slow=7.3,SNR=5.2
BOSA LR LR 05 06 12.8
comp=Z,214nm,18.9s,baz=66,slow=38
BOSA Boshof 48.44 210 P P 04 43 53.4 +0.4
comp=Z,16nm,28.6s
NVS Novosibirsk 48.56 24 eP P 04 43 51.8 -1.7
NVS pmax pmax
comp=N,15nm,1.7s
NVS pmax pmax
comp=Z,22nm,1.7s
NVS Novosibirsk 48.56 24 eP P 04 43 51.8 -1.7
ZALV Zalesovo Beam 48.60 26 P P 04 43 52.0 -1.8
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 48.60 26 P P 04 43 52.0 -1.8
comp=Z,1.6nm,0.7s,baz=232,slow=8.4,SNR=8.5
ZALV Zalesovo Beam 48.60 26 P P 04 43 52.0 -1.8
comp=Z,2.0nm,0.7s
GTA Gaotai 50.27 50 eP P 04 44 06.8 -0.2
GTA pP pP 04 44 12.9 +2.1
GTA sP sP 04 44 16.6 +4.4
GTA pmax pmax
comp=Z,2.0nm,1.0s
FINES FINESS Array B 51.28 345 P P 04 44 13.1 -0.9
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES MLR MLR
comp=Z,16nm,28.6s
FINES FINESS Array B 51.28 345 P P 04 44 13.1 -0.9
comp=Z,0.7nm,0.6s,baz=142,slow=12,SNR=3.9
FINES LR LR 05 09 48.9
comp=Z,110nm,20.0s,baz=92,slow=40
FINES FINESS Array B 51.28 345 P P 04 44 13.1 -0.9
comp=Z,16nm,28.6s
ESDC Sonseca Array 54.62 309 P P 04 44 39.6 +0.4
comp=Z,1.1nm,0.7s,baz=91,slow=6.4,SNR=6.7
NOA NORSAR Array B 55.60 338 LR LR 05 12 22.4
comp=Z,75nm,19.3s,baz=130,slow=40
SONM Songino Array 57.35 41 P P 04 44 58.7 0.0
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 57.35 41 P P 04 44 58.7 0.0
comp=Z,1.0nm,0.6s,baz=253,slow=6.7,SNR=9.7
ULN Ulaanbaatar 57.78 41ceP P 04 45 02.1 +0.4
ULN pmax pmax
comp=Z,7.0nm,1.7s
ULN Ulaanbaatar 57.78 41 eP P 04 45 02.1 +0.4
comp=Z,7.0nm,1.7s
ARCES ARCESS Array B 58.42 350 LR LR 05 13 25.9
comp=Z,228nm,18.6s,baz=156,slow=39
TIXI Tiksi 73.70 19⇑iP P 04 46 43.6 -0.2
TIXI pmax pmax
comp=Z,6.0nm,1.6s
TIXI Tiksi 73.70 19 iP P 04 46 43.6 -0.2
comp=Z,6.0nm,1.6s
MAW Mawson 81.17 175 LR LR 05 17 17.2
comp=Z,186nm,21.2s,baz=73,slow=31
SEY Seymchan 83.46 27 iP P 04 47 37.7 0.0
SEY Seymchan 83.46 27 iP P 04 47 37.7 0.0
BILL Bilibino 86.88 20 eP P 04 47 54.7 -0.1
BILL e*PP PP 04 51 12.3 -4.8
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,2µm,21.0s
BILL Bilibino 86.88 20 eP P 04 47 54.7 -0.1
comp=Z,4.0nm,1.0s
WRA Warramunga Arr 88.54 111 P P 04 48 02.6 -1.1
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 88.54 111 P P 04 48 02.5 -1.1
comp=Z,0.9nm,0.6s,baz=296,slow=4.2,SNR=13
WRAB Tennant Creek 88.55 111ceP P 04 48 08.4 +4.7
WRAB pmax pmax
comp=Z,22nm,2.5s
ASAR Alice Springs 89.09 114 P P 04 48 05.1 -1.2
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 89.09 114 P P 04 48 05.0 -1.2
comp=Z,0.7nm,0.8s,baz=299,slow=5.0,SNR=5.3
NVAR Mina Array Bea 127.54 349 PKP PKPdf 04 54 17.5 +1.3
comp=Z,0.5nm,0.7s,baz=101,slow=1.0,SNR=5.2

ISCJB 18 04:35:33.7±0.9, 35.25N±0.06×23.39E±0.06, h22km±6km, Error ellipse: s-maj=11.3km s-min=4.3km az=37.9
CSEM 18 04:35:33.1±0.4, 35.23N×23.35E, h10km, MD3.7, Error ellipse: s-maj=11.7km s-min=4.0km az=39.0
ATH 18 04:35:34.1, 35.29N×23.47E, h30km±1km, MD3.7/32
THE 18 04:35:34.9, 35.28N×23.45E, h21km±2km, ML3.0/2, Error ellipse: s-maj=2.5km s-min=0.7km az=67.0
ISC 18 04:35:35.1±1.3, 35.30N±0.05×23.45E±0.04, h27km±12km, n84, σ0§99/94, Crete

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
ANKY Antikythira Is 0.58 348 P Pb 04 35 46.4 -0.4
ANKY S Sb 04 35 55.0 +0.2
ANKY Antikythira Is 0.58 348 ePN Pb 04 35 46.8 0.0
ANKY eSN Sn 04 35 56.1 -0.2
ANKY Antikythira Is 0.58 348 P Pb 04 35 46.4 -0.4
ANKY Antikythira Is 0.58 348 ePn Pb 04 35 46.8 0.0
ANKY S Sb 04 35 55.0 +0.2
ANKY eSn Sn 04 35 56.1 -0.2
VAM Vamos 0.62 79 P Pb 04 35 46.6 -0.8
VAM S Sb 04 35 56.5 +0.7
VAM Vamos 0.62 79 ePN Pb 04 35 46.8 -0.6
VAM eSN Sb 04 35 55.9 +0.1
VAM Vamos 0.62 79 P Pb 04 35 46.6 -0.8
VAM eSn Sb 04 35 55.9 +0.1
VAM S Sb 04 35 56.5 +0.7
GVD Gavdhos 0.69 131 P Pb 04 35 47.5 -1.0
GVD Gavdhos 0.69 131 ePG Pb 04 35 47.8 -0.8
GVD Gavdhos 0.69 131 ePN Pb 04 35 47.6 -1.0
GVD Gavdhos 0.69 131 P Pb 04 35 47.5 -1.0
GVD Gavdhos 0.69 131 ePg Pb 04 35 47.8 -0.8
KYTH Kithira 1.04 341 P Pn 04 35 53.6 -0.4
KYTH Kithira 1.04 341 ePN Pn 04 35 53.5 -0.4
KYTH Kithira 1.04 341 P Pn 04 35 53.6 -0.4
SIVA Sivas 1.15 104 P Pn 04 35 54.8 -0.5
SIVA Sivas 1.15 104 ePN Pb 04 35 57.3 +1.1
SIVA Sivas 1.15 104 ePN Pn 04 35 55.4 +0.1
SIVA Sivas 1.15 104 P Pn 04 35 54.8 -0.5
SIVA Sivas 1.15 104 ePn Pn 04 35 55.4 +0.1
VLI Veliai 1.48 344 P Pn 04 35 59.9 -0.1
VLI S Sn 04 36 18.2 -0.2
VLI Veliai 1.48 344 ePN Pb 04 36 01.1 -0.9
VLI Veliai 1.48 344 P Pn 04 35 59.9 -0.1
VLI Veliai 1.48 344 ePn Pb 04 36 01.1 -0.9
VLI S Sn 04 36 18.2 -0.2
LAST Lasithi 1.66 94 ePN Pn 04 36 03.3 +0.8
LAST Lasithi 1.66 94 ePn Pn 04 36 03.3 +0.8
NPS Neapolis 1.77 90 ePN Pn 04 36 03.8 -0.1
NPS Neapolis 1.77 90 ePn Pn 04 36 03.8 -0.1
SANT Santorini 1.95 56 ePN Pn 04 36 09.9 -0.1
SANT Santorini 1.95 56 ePn Pn 04 36 09.9 -0.1
PYL PYLOS 2.12 320 ePB Pn 04 36 10.3 +1.6
PYL PYLOS 2.12 320 ePb Pn 04 36 10.3 +1.6
DID Didima 2.21 356 P Pn 04 36 10.0 -0.1
DID Didima 2.21 356 ePN Pn 04 36 11.1 +1.0
DID Didima 2.21 356 P Pn 04 36 10.0 -0.1
DID Didima 2.21 356 ePn Pn 04 36 11.1 +1.0
VLX Vlachokerasia 2.25 338 ePB Pb 04 36 12.9 -2.1
VLX Vlachokerasia 2.25 338 ePb Pb 04 36 12.9 -2.1
ITM Ithomi 2.25 327 ePN Pn 04 36 11.5 +0.9
ITM Ithomi 2.25 327 ePn Pn 04 36 11.5 +0.9
ZKR Zakros 2.27 94 ePN Pb 04 36 13.6 -1.8
ZKR Zakros 2.27 94 ePB Pn 04 36 12.3 +1.5
ZKR Zakros 2.27 94 ePb Pn 04 36 12.3 +1.5
ZKR Zakros 2.27 94 ePn Pb 04 36 13.6 -1.8
APE Apeiranthos 2.44 43 ePN Pb 04 36 16.9 -1.4
APE Apeiranthos 2.44 43 ePN Pn 04 36 14.2 +1.0
APE Apeiranthos 2.44 43 ePn Pn 04 36 14.2 +1.0
NAIG Nisos Aigina 2.46 1 ePN Pn 04 36 14.0 +0.6
NAIG Nisos Aigina 2.46 1 ePn Pn 04 36 14.0 +0.6
AMT Artemida-Makis 2.64 328 ePB Pn 04 36 18.1 +2.2
AMT Artemida-Makis 2.64 328 ePb Pn 04 36 18.1 +2.2
LTK Loutraki 2.75 352 ePN Pn 04 36 18.5 +1.1
LTK Loutraki 2.75 352 ePn Pn 04 36 18.5 +1.1
GUR Goura 2.78 342 P Pn 04 36 17.9 0.0
GUR Goura 2.78 342 ePN Pn 04 36 18.0 0.0
GUR Goura 2.78 342 ePn Pn 04 36 18.0 0.0
KLV Kalavryta, Ach 2.94 339 ePN Pn 04 36 20.9 +0.9
KLV Kalavryta, Ach 2.94 339 ePn Pn 04 36 20.9 +0.9
DRO Drossia 3.00 333 ePN Pn 04 36 22.0 +1.1
DRO Drossia 3.00 333 ePn Pn 04 36 22.0 +1.1
KARP Karpathos 3.04 84 ePN Pn 04 36 22.7 +1.3
KARP Karpathos 3.04 84 ePn Pn 04 36 22.7 +1.3
LAKA Lakka 3.17 338 ePN Pn 04 36 25.1 +1.9
LAKA Lakka 3.17 338 ePn Pn 04 36 25.1 +1.9

DSF Desfina 3.20 347 ePN Pn 04 36 23.5 -0.1
DSF Desfina 3.20 347 ePn Pn 04 36 23.5 -0.1
KALE Kalithea 3.27 342 ePN Pn 04 36 25.5 +0.9
KALE Kalithea 3.27 342 ePn Pn 04 36 25.5 +0.9
EFP Efpalio 3.36 339 ePN Pn 04 36 27.0 +1.2
EFP Efpalio 3.36 339 ePn Pn 04 36 27.0 +1.2
MRKA Markates 3.41 2 ePN Pn 04 36 26.4 -0.1
MRKA Markates 3.41 2 ePn Pn 04 36 26.4 -0.1
SMIA Simia 3.58 357 ePN Pn 04 36 29.5 +0.6
SMIA Simia 3.58 357 ePn Pn 04 36 29.5 +0.6
PDO Prodromos 3.77 332 ePN Pn 04 36 32.5 +1.1
PDO Prodromos 3.77 332 ePn Pn 04 36 32.5 +1.1
AGG Agios Georgios 3.83 347 ePN Pn 04 36 32.4 +0.2
AGG Agios Georgios 3.83 347 ePn Pn 04 36 32.4 +0.2
EVR Evrytania 3.85 341 ePN Pn 04 36 33.7 +1.1
EVR Evrytania 3.85 341 ePn Pn 04 36 33.7 +1.1
MAKR Makrakomi, Fth 3.86 345 ePN Pn 04 36 33.7 +1.0
MAKR Makrakomi, Fth 3.86 345 ePn Pn 04 36 33.7 +1.0
SKIA Skiathos 3.87 0 ePN Pn 04 36 34.0 +1.3
SKIA Skiathos 3.87 0 ePn Pn 04 36 34.0 +1.3

IDC 18 04:43:14.6±2.1, 21.33S×69.55W, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=56.0km s-min=48.7km az=1.0, Northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 5.20 15 Pn Pn 04 44 33.8 -0.7
1.2nm,0.3s,baz=194,slow=6.3,SNR=21
SIV San Ignacio 9.63 58 Pn Pn 04 45 35.8 +1.1
0.3nm,0.3s,baz=268,slow=10.0,SNR=3.3
H03N1 Juan Fernandez 14.64 213 T T 05 03 45.3
baz=28
H03N2 Juan Fernandez 14.65 213 T T 05 03 38.8
baz=28
H03N3 Juan Fernandez 14.66 213 T T 05 03 44.7
baz=28
TORD Torodi Ar. Bea 77.86 71 P P 04 55 14.2 -0.5
0.7nm,0.8s,baz=252,slow=5.4,SNR=16
YKA Yellowknife Ar 90.83 341 P P 04 56 19.1 -0.3
0.4nm,0.7s,baz=133,slow=4.7,SNR=9.4
MKAR Makanchi Array 145.84 35 PKPbc PKPab 05 02 56.5 +0.2
0.3nm,0.7s,baz=286,slow=2.1,SNR=4.3

ISCJB 18 04:48:40.5±0.7, 63.62N±0.05×23.34W±0.07, h10km, mb3.4/5, Error ellipse: s-maj=7.8km s-min=4.1km az=157.9
IDC 18 04:48:40.6±1.2, 63.68N×23.03W, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.3/60, mbtmp3.5/5, Error ellipse: s-maj=28.9km s-min=19.5km az=162.0
REY 18 04:48:42.0, 63.66N×23.42W, h14km
ISC 18 04:48:42.0±0.9, 63.67N±0.06×23.13W±0.05, h10km, n24, σ1.08/44, mb3.3/5, Iceland region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IRNE Reykjanes 0.24 52 P Pg 04 48 48.7 +1.8
baz=64
IRNE S Sg 04 48 53.8 +3.6
baz=64
INYL Nylenda 0.35 30 P Pb 04 48 49.9 -0.4
baz=44
INYL S Sb 04 48 56.2 +0.3
baz=44
IGRV Grindav??k 0.35 58 P Pb 04 48 50.5 +0.1
baz=65
IGRV S Sb 04 48 57.0 +1.0
baz=65
IVOG Vogar 0.44 47 P Pb 04 48 51.7 -0.2
baz=55
IVOG S Sb 04 48 59.4 +0.8
baz=55
IKRI Krysuvik 0.51 66 P Pb 04 48 53.0 -0.1
baz=69
IKRI S Sb 04 49 01.4 +0.9
baz=69
IVOS Vogsosar 0.66 73 P Pb 04 48 55.5 0.0
baz=75
IVOS S Sn 04 49 05.7 -2.0
baz=75
IKAS Kald??rsel 0.67 58 P Pb 04 48 55.3 -0.4
baz=62
IKAS S Sn 04 49 06.1 -1.9
baz=62
ISAN Sandskeio 0.79 60 P Pb 04 48 57.7 -0.1
baz=63
ISAN S Sn 04 49 09.8 -1.2
baz=63
IKUD Kuludalsa 0.85 40 P Pb 04 48 58.1 -0.8
baz=45
IKUD S Sn 04 49 10.7 -1.9
baz=45
IBJA Bjarnastaoir 0.85 70 P Pb 04 48 58.6 -0.3
baz=72
IBJA S Sn 04 49 11.7 -0.9
baz=72
IKRO Krokur 0.99 63 P Pn 04 49 01.0 -0.9
baz=66
IKRO S Sn 04 49 15.3 -0.5
baz=66
IHEI Heioarbar 0.99 57 P Pg 04 49 00.1 -0.9
baz=60
IHEI S Sn 04 49 15.5 -0.5
baz=60
ISOL Solvholt 1.00 74 P Pb 04 49 00.7 -0.8
baz=75
ISOL S Sn 04 49 15.8 -0.5
baz=75
IASM Asmuli 1.13 81 P Pn 04 49 02.9 -0.9
baz=81
IASM S Sn 04 49 19.4 0.0
baz=81
ISAU Saurbar 1.24 74 P Pb 04 49 04.7 -0.9
baz=75
ISAU S Sn 04 49 22.8 +0.5
baz=75
BORG Borgarnes 1.34 35 Pn Pn 04 49 05.7 -1.0
100nm,0.3s,baz=230,slow=8.5,SNR=5.6
BORG Sn Sn 04 49 23.4 -1.1
256nm,0.3s,baz=68,slow=18,SNR=11
IASB `sbjarnarst 1.34 35 P Pn 04 49 05.7 -1.0
baz=39
IASB S Sg 04 49 24.0 -1.0
baz=39
IHAU Haukadalur 1.43 77 P Pb 04 49 07.8 -1.0
baz=77
IHAU S Sg 04 49 27.9 -0.2
baz=77
IMID Miomork 1.45 89 P Pb 04 49 08.4 -0.6
baz=89
SCHQ Schefferville 23.57 268 P P 04 53 51.6 -0.8
2.3nm,0.8s,baz=32,slow=7.3,SNR=5.3
GERES GERESS Array B 24.80 109 P P 04 54 03.6 -0.3
0.1nm,0.3s,baz=320,slow=5.8,SNR=3.4
YKA Yellowknife Ar 38.05 311 P P 04 56 00.6 +0.6
0.2nm,0.6s,baz=46,slow=9.1,SNR=5.5
YKA PcP PcP 04 58 15.8 +0.9
0.1nm,0.6s,baz=36,slow=3.2,SNR=4
ILAR Eielson Array 45.37 330 P P 04 57 00.9 +1.1
0.2nm,0.5s,baz=30,slow=7.0,SNR=6.0
ILAR PcP PcP 04 58 39.3 +0.3
0.4nm,1.0s,baz=13,slow=3.1,SNR=3.5
PDAR Pinedale Array 51.24 290 P P 04 57 45.4 -0.4
2.5nm,1.2s,baz=67,slow=6.9,SNR=7.1

BER 18 04:50:49.5±3.3, 72.07N×1.85E, h15km±296km, ML2.4(NAO)
NAO 18 04:50:52.6±8.1, 72.24N×3.21E, ML2.4, Norwegian Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SPA0 Spitsbergen Ar 6.83 23 Pn Pn 04 52 31.6 -2.3
baz=213,slow=14
SPA0 Spitsbergen Ar 6.83 23 Pn Pn 04 52 31.6 -2.3
baz=213,slow=14
SPA0 Spitsbergen Ar 6.83 23 Pn Pn 04 52 31.6 -2.3
baz=213,slow=14
SPA0 Spitsbergen Ar 6.83 23 Pn Pn 04 52 31.6 -2.3
baz=213,slow=14
ARA0 ARCESS Array S 7.78 100 Pn Pn 04 52 46.8 -0.1
baz=287,slow=11
ARA0 Sn Sn 04 54 12.1 -3.5
baz=291,slow=22
ARA0 ARCESS Array S 7.78 100 Pn Pn 04 52 46.8 -0.1
baz=287,slow=11
ARA0 Sn Sn 04 54 12.1 -3.5
baz=291,slow=22
ARA0 ARCESS Array S 7.78 100 Pn Pn 04 52 46.8 -0.1
baz=287,slow=11
ARA0 Sn Sn 04 54 12.1 -3.5
baz=291,slow=22
ARA0 ARCESS Array S 7.78 100 Pn Pn 04 52 46.8 -0.1
baz=287,slow=11
ARA0 Sn Sn 04 54 12.1 -3.5
baz=291,slow=22

ISCJB 18 04:52:03.9±0.4, 13.16N±0.06×50.88E±0.04, h16km, mb4.3/54, MS3.9/8, Error ellipse: s-maj=8.3km s-min=5.1km az=4.1
IDC 18 04:52:03.3±0.6, 13.22N×50.91E, h0km, mb4.2/26, mb1 4.3/27, mb1mx4.3/36, mbtmp4.2/27, ML3.4/1, MS3.8/4, Ms1 3.7/4, ms1mx3.2/43, Error ellipse: s-maj=14.8km s-min=14.4km az=141.0
MOS 18 04:52:03.2±1.2, 13.19N×50.94E, h10km, mb4.6/38, Error ellipse: s-maj=9.6km s-min=5.4km az=98.7
NEIC 18 04:52:04.9±0.4, 13.16N×50.92E, h10km, mb4.4/12, Error ellipse: s-maj=9.2km s-min=8.6km az=131.0
BJI 18 04:52:04.9, 13.40N×51.10E, h10km, mB4.9/4, mb4.5/14, Ms4.9/2, M7 4.6/2
CSEM 18 04:52:04.9±0.2, 13.19N×50.89E, h10km, mb4.3/40, Error ellipse: s-maj=9.5km s-min=6.2km az=2.0
DHMR 18 04:52:07.6±14.0, 13.48N×50.53E, h2km±476km, ML3.4
ISC 18 04:52:05.5±0.5, 13.08N±0.07×50.83E±0.05, h16km, n231, σ1.30/237, mb4.3/54, MS3.8/8, 17C-15D, Eastern Gulf of Aden

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MUKL Al Mukalla 2.23 309 iP Pn 04 52 38.6 -3.2
MUKL e 04 52 38.8
baz=2.5,slow=1.3
MUKL AML AML 04 53 09.2
comp=E,451nm,0.5s
BDHA Al Bayda' 5.19 281 iP Pn 04 53 22.3 -0.5
BDHA iS Sn 04 54 20.3 -2.3
BDHA Al Bayda' 5.19 281 iP Pn 04 53 22.3 -0.5
BDHA iS Sn 04 54 20.3 -2.3
LBOS 5.48 279 iP Pn 04 53 26.4 -0.5
LBOS iS Sn 04 54 27.8 -1.9
RAYN Ar Rayn 11.55 335 ePn Pn 04 54 50.6 +0.7
comp=E,16nm,1.1s
RAYN Ar Rayn 11.55 335 ePn Pn 04 54 50.6 +0.7
comp=E,16nm,1.1s
KMBO Kilima Mbogo 19.50 225 P Pn 04 56 34.5 +0.8
comp=E,0.1nm,0.3s,baz=33,slow=11,SNR=5.2
KMBO Kilima Mbogo 19.50 225 eP Pn 04 56 34.6 +0.8
comp=E,32nm,1.9s
KMBO Kilima Mbogo 19.50 225 eP Pn 04 56 34.6 +0.8
comp=E,32nm,1.9s
EIL Elat 22.12 321 P P 04 56 59.9 -0.5
comp=E,2.2nm,0.6s,baz=151,slow=5.4,SNR=5.1
ASF Jabal al Asfar 22.90 328 P P 04 57 10.8 +2.0
ASF pmax pmax
comp=Z,3.0nm,0.8s
ASF Jabal al Asfar 22.90 328 P P 04 57 10.8 +2.0
comp=Z,3.4nm,0.8s,baz=131,slow=8.1,SNR=7.4
MMAI Mount Meron Ar 24.34 327 P P 04 57 23.8 +1.0
comp=Z,0.5nm,0.3s,baz=160,slow=13,SNR=3.1
MMAI LR LR 05 08 20.6
comp=Z,73nm,20.9s,baz=100,slow=40
KBL Kabul 27.01 35 eP P 04 57 48.7 +1.5
KBL pmax pmax
comp=Z,11nm,0.9s
KBL Kabul 27.01 35 eP P 04 57 48.7 +1.5
comp=Z,11nm,0.9s
KBL Kabul 27.01 35 eP P 04 57 48.7 +1.5
comp=Z,11nm,0.9s
GNI Garni 27.50 350 P P 04 57 51.5 +0.1
GNI pmax pmax
comp=Z,16nm,0.8s
GNI Garni 27.50 350 P P 04 57 51.5 +0.1
comp=Z,16nm,0.8s,baz=51,slow=2.1,SNR=7.6
GNI Garni 27.50 350 P P 04 57 53.3 +1.9
comp=Z,22nm,0.9s
H08N2 Diego Garcia H 27.81 133 T T 05 26 56.2
baz=313,slow=76,SNR=16
H08N3 Diego Garcia H 27.82 133 T T 05 26 55.8
baz=313,slow=76,SNR=14
H08N1 Diego Carcia H 27.83 133 T T 05 26 57.9
baz=313,slow=76,SNR=15
ZEI Tsey 30.21 350 eP P 04 58 13.1 -2.4
ZEI pmax pmax
comp=Z,6.0nm,1.1s
BRTR Keskin Array B 30.57 333 P P 04 58 18.2 -0.5
BRTR 05 01 17.5
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 30.57 333 P P 04 58 18.2 -0.5
comp=Z,1.6nm,1.0s,baz=161,slow=8.6,SNR=7.5
BRTR PcP PcP 05 01 17.5 +0.2
comp=Z,0.5nm,0.5s,baz=141,slow=4.7,SNR=5.4
KBZ Khabaz 31.30 349 P P 04 58 25.0 +0.2
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KBZ MLR MLR
comp=Z,16nm,28.6s
KBZ Khabaz 31.30 349 P P 04 58 25.0 +0.2
comp=Z,10nm,0.9s,baz=165,slow=8.8,SNR=19
KBZ LR LR 05 13 12.4
comp=Z,192nm,22.0s,baz=134,slow=41
KBZ Khabaz 31.30 349 P P 04 58 25.0 +0.2
comp=Z,16nm,28.6s
KIV Kislovodsk 31.56 349 eP P 04 58 28.3 +1.0
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,135nm,15.0s
KIV Kislovodsk 31.56 349 eP P 04 58 28.2 +1.0
comp=Z,9.6nm,0.8s
KIV Kislovodsk 31.56 349 eP P 04 58 28.2 +1.0
comp=Z,9.6nm,0.8s
PYUN Piuthan 33.48 58 eP P 04 58 44.4 -0.1
comp=Z,54nm,0.8s
PYUN Piuthan 33.48 58 eP P 04 58 44.4 -0.1
PYUN Piuthan 33.48 58 eP P 04 58 44.4 -0.1
KOLN Koldanda 33.88 59 eP P 04 58 47.6 -0.4
comp=Z,35nm,0.9s
KOLN Koldanda 33.88 59 eP P 04 58 47.6 -0.4
KOLN Koldanda 33.88 59 eP P 04 58 47.6 -0.4
DANN Dangsing 34.21 58 eP P 04 58 49.7 -1.2
comp=Z,72nm,0.9s
DANN Dangsing 34.21 58 eP P 04 58 49.7 -1.2
DANN Dangsing 34.21 58 eP P 04 58 49.7 -1.2
KKAR Karatay Array 34.41 26 eP P 04 58 53.1 +0.9
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 34.41 26 eP P 04 58 53.1 +0.9
comp=Z,1.4nm,0.6s
KKAR Karatay Array 34.41 26 eP P 04 58 53.1 +0.9
comp=Z,1.0nm,0.6s
GKN Gorkha 34.83 59 eP P 04 58 55.3 -0.9
comp=Z,36nm,0.9s
GKN Gorkha 34.83 59 eP P 04 58 55.3 -0.9
GKN Gorkha 34.83 59 eP P 04 58 55.3 -0.9
DMN Daman 35.10 60 eP P 04 58 58.1 -0.5
comp=Z,34nm,0.9s
DMN Daman 35.10 60 eP P 04 58 58.1 -0.5
DMN Daman 35.10 60 eP P 04 58 58.1 -0.5
KKN Kakani 35.30 60 eP P 04 58 59.7 -0.6
comp=Z,37nm,0.8s
KKN Kakani 35.30 60 eP P 04 58 59.7 -0.6
KKN Kakani 35.30 60 eP P 04 58 59.7 -0.6
KKN Kakani 35.30 60 eP P 04 58 59.7 -0.6
PKIN Phulchoki 35.34 61 eP P 04 59 00.3 -0.4
PKI Pulchoki 35.35 61 eP P 04 59 00.1 -0.7
comp=Z,20nm,0.9s
PKI Pulchoki 35.35 61 eP P 04 59 00.3 -0.5
PKI Pulchoki 35.35 61 eP P 04 59 00.3 -0.5
PKI Pulchoki 35.35 61 eP P 04 59 00.3 -0.5
GUN Gumba 35.85 60 eP P 04 59 04.1 -1.0
comp=Z,52nm,0.9s
GUN Gumba 35.85 60 eP P 04 59 04.1 -1.0
GUN Gumba 35.85 60 eP P 04 59 04.1 -1.0
AAK Ala-Archa 35.88 30 eP P 04 59 04.8 -0.2
AAK pmax pmax
comp=Z,6.0nm,1.1s
AAK Ala-Archa 35.88 30 P P 04 59 04.4 -0.6
comp=Z,3.6nm,0.9s,baz=232,slow=10,SNR=9.6
AAK Ala-Archa 35.88 30 eP P 04 59 04.8 -0.2
comp=Z,5.9nm,1.1s
AAK Ala-Archa 35.88 30 eP P 04 59 04.8 -0.2
comp=Z,6.0nm,1.1s
JIRN Jiri 36.04 61 eP P 04 59 05.7 -1.1
comp=Z,37nm,1.0s
JIRN Jiri 36.04 61 eP P 04 59 05.7 -1.1
JIRN Jiri 36.04 61 eP P 04 59 05.7 -1.1
RAMN Ramite 36.20 62 eP P 04 59 07.0 -1.0
comp=Z,17nm,1.0s
RAMN Ramite 36.20 62 eP P 04 59 07.0 -1.0
RAMN Ramite 36.20 62 eP P 04 59 07.0 -1.0
ABKAR Akbulak array 36.85 10 eP P 04 59 12.1 -0.9
comp=Z,4.4nm,0.9s
ABKAR ePcP PcP 05 01 34.6 0.0
ABKAR Akbulak array 36.85 10 eP P 04 59 12.1 -0.9
comp=Z,4.4nm,0.9s
ODAN Odare 36.85 63 eP P 04 59 12.1 -1.5
ODAN Odare 36.85 63 eP P 04 59 12.1 -1.5
ODAN Odare 36.85 63 eP P 04 59 12.1 -1.5
TAPN Taplejung 37.25 62 eP P 04 59 14.1 -3.0
comp=Z,18nm,0.8s
TAPN Taplejung 37.25 62 eP P 04 59 14.1 -3.0
TAPN Taplejung 37.25 62 eP P 04 59 14.1 -3.0
CFR Carcaliu 37.37 333 ⇓P P 04 59 18.0 +0.6
CFR Carcaliu 37.37 333 ⇓iP P 04 59 18.0 +0.6
CFR Carcaliu 37.37 333 P P 04 59 18.0 +0.6
VTS Vitosha 37.89 326 ⇑P P 04 59 23.5 +1.4
VTS Vitosha 37.89 326 ⇑iP P 04 59 23.5 +1.4
VTS Vitosha 37.89 326 P P 04 59 23.5 +1.4
VRI Vrincioaia 38.52 333 ⇓P P 04 59 29.3 +2.1
VRI Vrincioaia 38.52 333 ⇓iP P 04 59 29.3 +2.1
VRI Vrincioaia 38.52 333 P P 04 59 29.3 +2.1
PLOR Plostina 38.55 333 ⇑P P 04 59 27.8 +0.3
PLOR Plostina 38.55 333 ⇑iP P 04 59 27.8 +0.3
PLOR Plostina 38.55 333 P P 04 59 27.8 +0.3
MLR Muntele Rosu 38.59 332 ⇑P P 04 59 30.3 +2.3
MLR Muntele Rosu 38.59 332 ⇑iP P 04 59 30.3 +2.3
VRHR Novokhopersk 38.65 351 eP P 04 59 27.3 -0.8
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,7.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR Novokhopersk 38.65 351 eP P 04 59 27.3 -0.8
VORD Divnogorie 38.93 348 eP P 04 59 28.8 -1.7
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,20nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 38.93 348 eP P 04 59 28.8 -1.7
VOIR 38.97 331 ⇓P P 04 59 31.9 +0.8
VOIR 38.97 331 ⇓iP P 04 59 31.9 +0.8
VOIR 38.97 331 P P 04 59 31.9 +0.8
TESR Tescani 39.06 333 ⇓iP P 04 59 31.8 +0.1
ARR Arges 39.12 330 ⇑iP P 04 59 32.0 -0.3
VSR Storozhevoye 39.20 348 eP P 04 59 30.9 -1.8
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,7.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 39.20 348 eP P 04 59 30.9 -1.8
GZR Gura Zlata 40.05 329 ⇓P P 04 59 40.9 +0.8
GZR Gura Zlata 40.05 329 ⇓iP P 04 59 40.9 +0.8
GZR Gura Zlata 40.05 329 P P 04 59 40.9 +0.8
BURAR Bucovina Array 40.53 333 ⇑P P 04 59 44.6 +0.5
BURAR Bucovina Array 40.53 333 ⇑iP P 04 59 44.6 +0.5
CJR Cluj-Napoca 40.60 331 ⇑P P 04 59 48.0 +3.5
CJR Cluj-Napoca 40.60 331 ⇑iP P 04 59 48.0 +3.5
BZS Buzias 40.79 328 ⇓P P 04 59 45.4 -0.7
BZS Buzias 40.79 328 ⇓iP P 04 59 45.4 -0.7
BZS Buzias 40.79 328 P P 04 59 45.4 -0.7
BANR Banloc 40.88 328 ⇑iP P 04 59 39.0 -7.8
DRGR 41.08 330 ⇓P P 04 59 48.5 0.0
DRGR 41.08 330 ⇓iP P 04 59 48.5 0.0
DRGR 41.08 330 P P 04 59 48.5 0.0
KIEV Kiev 41.44 339 eP P 04 59 50.8 -0.6
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 41.44 339 eP P 04 59 50.8 -0.6
comp=Z,7.6nm,0.9s
KIEV Kiev 41.44 339 eP P 04 59 50.8 -0.6
comp=Z,8.0nm,0.9s
AKASG Malin Array Be 41.44 339 P P 04 59 50.3 -1.1
AKASG 05 01 48.8
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 41.44 339 P P 04 59 50.3 -1.1
comp=Z,4.4nm,0.8s,baz=149,slow=7.2,SNR=22
AKASG PcP PcP 05 01 48.8 -0.3
comp=Z,0.3nm,0.4s,baz=139,slow=2.2,SNR=4.9
TRPA Tarpa 42.12 332 ⇓iP P 04 59 57.6 +0.7
PKSM Moragy 42.74 327 ⇑P P 05 00 02.4 +0.4
PKSM Moragy 42.74 327 ⇑iP P 05 00 02.4 +0.4
PKSM Moragy 42.74 327 P P 05 00 02.4 +0.4
MK31 Makanchi Array 42.74 32 eP P 05 00 01.5 -0.6
MK31 Makanchi Array 42.74 32 eP P 05 00 01.5 -0.6
MK31 Makanchi Array 42.74 32 eP P 05 00 01.5 -0.6
MKAR Makanchi Array 42.74 32 P P 05 00 01.2 -1.0
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 42.74 32 P P 05 00 01.1 -1.0
comp=Z,2.3nm,0.7s,baz=223,slow=8.1,SNR=28
BRVK Borovoye 42.80 17 ceP P 05 00 01.9 -0.5
BRVK pmax pmax
comp=Z,4.0nm,1.1s
BRVK Borovoye 42.80 17 eP P 05 00 01.7 -0.7
comp=Z,8.3nm,1.4s
BRVK Borovoye 42.80 17 eP P 05 00 01.7 -0.7
comp=Z,8.3nm,1.4s
BVAR Borovoye Array 42.80 17 P P 05 00 01.4 -1.0
BVAR 05 01 54.2
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 42.80 17 P P 05 00 01.4 -1.0
comp=Z,2.2nm,0.7s,baz=200,slow=7.9,SNR=15
BVAR PcP PcP 05 01 54.2 +0.6
comp=Z,3.7nm,0.9s,baz=176,slow=4.5,SNR=10
KOLS Kolonicke sedl 42.83 332 eP P 05 00 04.6 +1.9
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 42.83 332 eP P 05 00 04.6 +1.9
KOLS Kolonicke sedl 42.83 332 eP P 05 00 04.6 +1.9
comp=Z,5.0nm,1.0s
KWP Kalwaria Pacla 43.15 333 ⇑P P 05 00 05.2 -0.1
KWP Kalwaria Pacla 43.15 333 ⇑iP P 05 00 05.2 -0.1
KWP Kalwaria Pacla 43.15 333 P P 05 00 05.2 -0.1
CRVS Cervenica-Dubn 43.17 332 eP P 05 00 06.0 +0.5
CRVS pmax pmax
comp=Z,4.0nm,1.1s
CRVS Cervenica-Dubn 43.17 332 eP P 05 00 06.0 +0.5
CRVS Cervenica-Dubn 43.17 332 eP P 05 00 06.0 +0.5
comp=Z,4.0nm,1.1s
OBN Obninsk 43.40 348 eP P 05 00 06.9 -0.3
OBN e 05 01 52.3
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,133nm,17.0s
OBN Obninsk 43.40 348 eP P 05 00 06.9 -0.3
comp=Z,6.0nm,1.1s
KEST Kesra 43.56 309 P P 05 00 10.0 +1.0
comp=Z,1.3nm,1.0s,baz=313,slow=16,SNR=3.0
KEST Kesra 43.56 309 P P 05 00 10.0 +1.0
STHS Stebnicka Huta 43.64 332 eP P 05 00 10.3 +1.0
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 43.64 332 eP P 05 00 10.3 +1.0
STHS Stebnicka Huta 43.64 332 eP P 05 00 10.3 +1.0
comp=Z,4.0nm,0.9s
ARU Arti 43.67 6 d iP P 05 00 09.7 +0.3
ARU 05 01 47.3

ARU S S 05 06 41.2 +2.7
ARU SS SS 05 10 00.3 +6.4
ARU pmax pmax
comp=Z,7.0nm,1.2s
ARU Arti 43.67 6 i P P 05 00 09.7 +0.3
comp=Z,7.0nm,1.2s
TAM Tamanrasset 44.02 289 eP P 05 00 14.8 +1.9
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM Tamanrasset 44.02 289 eP P 05 00 14.8 +1.9
comp=Z,7.1nm,0.9s
TAM Tamanrasset 44.02 289 eP P 05 00 14.8 +1.9
comp=Z,7.0nm,0.9s
VYHS Vyhne 44.14 330 eP P 05 00 13.2 -0.2
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 44.14 330 eP P 05 00 13.2 -0.2
VYHS Vyhne 44.14 330 eP P 05 00 13.2 -0.2
comp=Z,2.0nm,1.0s
LBTB Lobatse 45.15 213 P P 05 00 23.7 +1.9
LBTB pmax pmax
comp=Z,3.0nm,0.8s
LBTB Lobatse 45.15 213 P P 05 00 23.7 +1.9
comp=Z,3.2nm,0.8s,baz=51,slow=6.0,SNR=5.7
KRLC Kraliky 46.20 330 eP P 05 00 29.3 -0.4
KRLC Kraliky 46.20 330 eP P 05 00 29.3 -0.4
KRLC ex x 05 00 39.4
KRLC Kraliky 46.20 330 eP P 05 00 29.3 -0.4
CMAR Chiang Mai Arr 46.51 77 P P 05 00 32.4 -0.2
CMAR pmax pmax
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 46.51 77 P P 05 00 32.4 -0.2
comp=Z,10nm,0.9s,baz=274,slow=9.0,SNR=39
DPC Dobruska-Polom 46.60 330 eP P 05 00 31.5 -1.4
DPC Dobruska-Polom 46.60 330 eP P 05 00 31.5 -1.4
DPC ex x 05 00 41.7
DPC Dobruska-Polom 46.60 330 eP P 05 00 31.5 -1.4
GERES GERESS Array B 47.00 327 P P 05 00 35.1 -1.0
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 47.00 327 P P 05 00 35.1 -1.0
comp=Z,0.9nm,0.9s,baz=140,slow=10,SNR=6.2
TOA0 Torodi Ar. Sit 47.79 276 eP P 05 00 43.3 +0.7
TOA0 Torodi Ar. Sit 47.79 276 eP P 05 00 43.3 +0.7
TORD Torodi Ar. Bea 47.79 276 P P 05 00 42.5 -0.1
comp=Z,1.7nm,0.9s,baz=87,slow=6.4,SNR=11
DAVOX Davos/Dischmat 48.00 323 P P 05 00 42.2 -1.8
DAVOX pmax pmax
comp=Z,3.0nm,0.9s
DAVOX Davos/Dischmat 48.00 323 P P 05 00 42.2 -1.8
comp=Z,3.1nm,0.9s,baz=164,slow=20,SNR=2.8
BOSA Boshof 48.26 211 P P 05 00 47.8 +1.7
BOSA pmax pmax
comp=Z,4.0nm,1.0s
BOSA MLR MLR
comp=Z,16nm,28.6s
BOSA Boshof 48.26 211 P P 05 00 47.8 +1.7
comp=Z,3.8nm,1.0s,baz=45,slow=9.3,SNR=3.7
BOSA LR LR 05 21 11.8
comp=Z,141nm,18.3s,baz=49,slow=36
BOSA Boshof 48.26 211 P P 05 00 47.8 +1.7
comp=Z,16nm,28.6s
KLMR Klimovskoe 48.41 353 eP P 05 00 43.7 -3.0
KLMR pmax pmax
comp=Z,14nm,1.0s
PRGR Permogore 48.63 357 eP P 05 00 45.9 -2.4
PRGR pmax pmax
comp=Z,9.0nm,0.6s
PRGR Permogore 48.63 357 eP P 05 00 45.9 -2.4
comp=Z,9.0nm,0.6s
NVS Novosibirsk 48.76 24 eP P 05 00 48.0 -1.4
NVS eS S 05 07 56.2 +4.6
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=Z,12nm,1.5s
NVS smax smax
comp=E,16nm,1.8s
NVS Novosibirsk 48.76 24 eP P 05 00 48.0 -1.4
ZALV Zalesovo Beam 48.79 26 P P 05 00 47.8 -1.9
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 48.79 26 P P 05 00 47.8 -1.9
comp=Z,3.5nm,0.8s,baz=232,slow=7.2,SNR=14
BFO Black Forest 49.69 324 i P P 05 00 57.0 +0.2
BFO Black Forest 49.69 324 i P P 05 00 57.0 +0.2
GTA Gaotai 50.39 49 eP P 05 01 01.9 -0.5
GTA pP pP 05 01 06.5 -1.0
GTA sP sP 05 01 09.8 +0.4
GTA pmax pmax
comp=Z,3.0nm,1.0s
FINES FINESS Array B 51.51 345 P P 05 01 08.8 -1.4
FINES pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 51.51 345 P P 05 01 08.8 -1.4
comp=Z,3.9nm,0.9s,baz=159,slow=5.7,SNR=8.0
HFS Hagfors 54.31 338 P P 05 01 29.8 -1.1
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS MLR MLR
comp=Z,16nm,28.6s
HFS Hagfors 54.31 338 P P 05 01 29.8 -1.1
comp=Z,1.6nm,0.7s,baz=140,slow=9.4,SNR=3.3
HFS LR LR 05 28 46.6
comp=Z,114nm,18.8s,baz=312,slow=41
HFS Hagfors 54.31 338 P P 05 01 29.8 -1.1
comp=Z,16nm,28.6s
ESDC Sonseca Array 54.79 309 P P 05 01 35.0 +0.2
comp=Z,4.3nm,0.9s,baz=89,slow=6.6,SNR=14
ZAK Zakamensk 56.44 38 eP P 05 01 45.3 -1.3
ZAK pmax pmax
comp=Z,1.0nm,2.2s
ZAK Zakamensk 56.44 38 eP P 05 01 45.3 -1.3
comp=Z,1.0nm,2.2s
SONM Songino Array 57.50 41 P P 05 01 53.7 -0.5
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 57.50 41 P P 05 01 53.7 -0.5
comp=Z,2.6nm,0.9s,baz=243,slow=6.4,SNR=23
ULN Ulaanbaatar 57.93 41 P P 05 01 57.1 -0.2
ULN pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 57.93 41 P P 05 01 57.0 -0.2
comp=Z,2.4nm,0.9s
ULN Ulaanbaatar 57.93 41 P P 05 01 57.0 -0.2
comp=Z,2.4nm,0.9s
CN2 Changchun 69.99 48 eP P 05 03 16.4 -0.1
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,400nm,12.0s
CN2 LR LR
comp=Z,400nm,12.0s
CN2 LR LR
comp=Z,400nm,11.0s
KSAR Wonju Array Be 71.95 55 P P 05 03 26.2 -2.3
KSAR Wonju Array Be 71.95 55 P P 05 03 26.2 -2.3
KSAR Wonju Array Be 71.95 55 P P 05 03 26.2 -2.3
KSRS Korea Array 71.98 55 P P 05 03 26.2 -2.5
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS Korea Array 71.98 55 P P 05 03 26.2 -2.5
comp=Z,1.5nm,0.8s,baz=268,slow=7.3,SNR=3.6
YAK Yakutsk 73.32 29 eP P 05 03 36.9 +0.8
YAK pmax pmax
comp=Z,9.0nm,0.5s
YAK Yakutsk 73.32 29 eP P 05 03 36.9 +0.8
comp=Z,9.0nm,0.5s
KLR Kul'dur 74.31 42 eP P 05 03 36.0 -6.2
SEY Seymchan 83.65 27 P P 05 04 32.6 -0.6
SEY pmax pmax
comp=Z,6.0nm,0.9s
SEY Seymchan 83.65 27 P P 05 04 32.5 -0.6
comp=Z,5.9nm,0.9s,baz=289,slow=3.7,SNR=14
BILL Bilibino 87.09 20 eP P 05 04 50.2 0.0
BILL e*PP PP 05 08 12.2 -1.1
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,1μm,20.0s
BILL Bilibino 87.09 20 eP P 05 04 50.2 0.0
comp=Z,5.0nm,1.0s
WRA Warramunga Arr 88.43 111 eP P 05 04 57.4 -0.2
WRA pmax pmax
comp=Z,5.0nm,1.1s
WRA Warramunga Arr 88.43 111 P P 05 04 57.4 -0.2
comp=Z,4.8nm,1.1s,baz=297,slow=3.7,SNR=20
WRAB Tennant Creek 88.44 111 eP P 05 04 58.0 +0.3
WRAB pmax pmax
comp=Z,9.0nm,1.1s
WRAB Tennant Creek 88.44 111 eP P 05 04 58.0 +0.3
comp=Z,9.0nm,1.1s
WRAB Tennant Creek 88.44 111 eP P 05 04 58.0 +0.3
comp=Z,9.0nm,1.1s
ASAR Alice Springs 88.97 114 P P 05 05 00.4 +0.2
ASAR pmax pmax
comp=Z,3.0nm,0.9s
ASAR Alice Springs 88.97 114 P P 05 05 00.3 +0.2
comp=Z,2.8nm,0.9s,baz=294,slow=4.4,SNR=15
FRB Frobisher Bay 90.64 337 P P 05 05 05.9 -1.2
FRB pmax pmax
comp=Z,4.0nm,1.0s
FRB Frobisher Bay 90.64 337 P P 05 05 05.8 -1.2
comp=Z,4.0nm,1.0s,baz=52,slow=2.7,SNR=4.1
YKA Yellowknife Ar 103.81 353 Pdiff Pdif 05 06 05.4 -1.3
comp=Z,0.2nm,0.8s,baz=14,slow=5.2,SNR=3.9
PDAR Pinedale Array 121.59 343 PKP PKPdf 05 10 59.3 +0.1
comp=Z,0.6nm,0.9s,baz=64,slow=3.4,SNR=3.6
NVAR Mina Array Bea 127.76 349 PKP PKPdf 05 11 12.8 +1.7
comp=Z,1.9nm,0.9s,baz=11,slow=1.4,SNR=11
TXAR Lajitas Array 131.17 330 PKIKP PKPdf 05 11 18.4 +0.7
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 131.17 330 PKP PKPdf 05 11 18.4 +0.7
comp=Z,0.7nm,1.0s,baz=106,slow=2.0,SNR=4.9

IDC 18 04:55:25.3±19.0, 19.17S×70.28W, h96km±120km, mb3.2/5, mb1 3.5/6, mb1mx3.3/18, mbtmp3.6/6, ML4.5/2, Error ellipse: s-maj=254.5km s-min=26.4km az=25.0
ISC 18 04:55:15.9±1.8, 19.8S±0.3×70.6W±0.2, h35km, n7, σ0.23/6, mb3.5/5, Near coast of northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 4.21 34 P Pn 04 56 18.2 0.0
106nm,0.3s,baz=286,slow=8.3,SNR=1800
SIV San Ignacio 9.80 69 P Pn 04 57 38.6 +4.1
0.8nm,0.3s,baz=275,slow=8.5,SNR=8.1
SIV S Sn 04 59 05.5 -18
0.1nm,0.3s,baz=180,slow=20,SNR=3.7
BDFB Brasilia 21.87 83 P P 05 00 05.8 -0.2
0.8nm,0.4s,baz=254,slow=10,SNR=4.1
TXAR Lajitas Array 58.38 326 P P 05 05 08.0 -0.1
0.2nm,0.8s,baz=149,slow=9.3,SNR=3.2
PDAR Pinedale Array 71.89 331 P P 05 06 35.8 +0.1
0.3nm,0.6s,baz=133,slow=7.7,SNR=3.9
TORD Torodi Ar. Bea 78.27 71 P P 05 07 13.1 +0.2
1.2nm,0.6s,baz=262,slow=4.8,SNR=31
YKA Yellowknife Ar 89.10 341 P P 05 08 07.0 -0.1
0.2nm,0.4s,baz=134,slow=4.6,SNR=11

MAN 18 05:04:08, 18.14N×120.53E, h32km, mb3.9, ML2.7, MS2.4, 1C-1D, Luzon

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PIP Pasuquin 0.20 25 ⇑iP Pn 05 04 16.3 +1.4
PIP eS Sn 05 04 21.7 +2.5
SIPP Brgy, Tapao 0.22 198 ⇓iP Pn 05 04 16.6 +1.4
SIPP i S Sn 05 04 22.5 +2.8
ABRA Dolores 0.52 160 eP Pn 05 04 20.2 +1.0
ABRA eS Sn 05 04 28.6 +1.7
APYP Conner 0.73 112 eP Pb 05 04 22.6 +0.2
APYP eS Sn 05 04 33.6 +1.4
SGCP Mt. Cagua 1.45 86 eP Sn 05 04 50.5 +0.7

ISCJB 18 05:16:58.5±1.2, 54.1S±0.1×141.1E±, h10km, mb3.9/6, MS3.8/4, Error ellipse: s-maj=94.7km s-min=14.9km az=178.4
IDC 18 05:16:58.9±0.8, 54.08S×141.02E, h0km, mb3.9/6, mb1 4.1/6, mb1mx4.0/16, mbtmp4.0/6, MS3.9/4, Ms1 3.9/4, ms1mx3.5/20, Error ellipse: s-maj=62.4km s-min=18.1km az=89.0
ISC 18 05:17:00.1±0.8, 54.1S±0.1×141.1E±0.4, h10km, n24, σ0.80/21, mb4.0/6, MS3.8/4, West of Macquarie Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 22.20 1 P P 05 21 56.9 +0.4
8.9nm,1.1s,baz=184,slow=12,SNR=5.8
STKA LR LR 05 29 37.4
comp=Z,410nm,18.2s,baz=188,slow=34
VNDA Vanda 24.70 169 LR LR 05 31 29.2
comp=Z,423nm,18.1s,baz=324,slow=35
H01W1 Cape Leeuwin H 26.89 305 T T 05 50 40.8
baz=142,slow=74,SNR=7.6
H01W2 Cape Leeuwin H 26.89 305 T T 05 50 40.9
baz=142,slow=74,SNR=9.9
H01W3 Cape Leeuwin H 26.91 305 T T 05 50 43.8
baz=142,slow=74,SNR=7.3
ASAR Alice Springs 30.85 347 P P 05 23 16.6 +0.1
1.0nm,0.8s,baz=164,slow=10,SNR=9.5
ASAR PcP PcP 05 26 12.8 -0.4
0.4nm,0.5s,baz=184,slow=2.8,SNR=5.3
ASAR LR LR 05 34 02.4
comp=Z,189nm,20.1s,baz=174,slow=33
WRA Warramunga Arr 34.47 349 P P 05 23 47.8 -0.3
2.1nm,1.0s,baz=169,slow=7.8,SNR=15
WRA PcP PcP 05 26 23.1 0.0
1.1nm,0.8s,baz=179,slow=2.6,SNR=10.0
QSPA South Pole Qui 36.03 180 P P 05 24 01.6 +0.4
1.6nm,0.8s,baz=255,slow=0.4,SNR=6.9
SNAA Sanae 51.99 194 P P 05 26 09.3 +0.4
0.8nm,0.9s,baz=192,slow=13,SNR=4.0
AFI Afiamalu 54.39 61 LR LR 05 45 31.6
comp=Z,67nm,19.6s,baz=79,slow=32
CMAR Chiang Mai Arr 80.77 320 P P 05 29 15.2 +1.5
0.9nm,0.3s,baz=182,slow=5.0,SNR=6.2
NVAR Mina Array Bea 125.82 72 PKP PKPdf 05 36 02.8 +1.1
0.4nm,0.6s,baz=223,slow=4.7,SNR=4.1
TORD Torodi Ar. Bea 128.20 234 PKP PKPdf 05 36 05.6 -1.0
0.6nm,0.9s,baz=98,slow=2.4,SNR=3.1
YKA Yellowknife Ar 141.55 46 PKP PKPdf 05 36 28.6 -1.4
0.1nm,0.4s,baz=240,slow=2.5,SNR=3.7
FINES FINESS Array B 145.93 309 PKPbc PKPbc 05 36 38.0 -0.4
1.3nm,0.8s,baz=116,slow=3.2,SNR=3.4
TREC Trest 146.65 284 eP PKPab 05 36 41.7 -0.5
TREC ex x 05 36 47.3
DPC Dobruska-Polom 146.69 287 eP PKPab 05 36 42.1 -0.3
DPC ex x 05 36 47.9
DPC ex x 05 36 51.6
GERES GERESS Array B 147.46 283 PKPbc PKPbc 05 36 42.1 -1.3
1.0nm,0.7s,baz=139,slow=3.0,SNR=10
PRU Pruhonice 147.53 285 eP PKPbc 05 36 43.6 +0.2
KHC Kasperske Hory 147.67 283 eP PKPab 05 36 45.2 -1.0
KHC ex x 05 36 51.9
ARCES ARCESS Array B 147.77 324 PKPbc PKPbc 05 36 42.7 -0.8
3.5nm,0.9s,baz=116,slow=2.8,SNR=6.2
SPITS Spitsbergen Ar 149.30 341 PKPbc PKPbc 05 36 47.4 +0.1
6.1nm,0.7s,baz=88,slow=9.2,SNR=9.2
RES Resolute Bay 150.06 26 PKPbc PKPbc 05 36 49.3 +0.2
2.1nm,0.8s,baz=186,slow=2.8,SNR=9.4
ESDC Sonseca Array 152.44 253 PKPbc PKPbc 05 36 56.5 +0.6
1.3nm,0.7s,baz=94,slow=1.3,SNR=8.6

ISCJB 18 05:22:46.4±0.7, 63.59N±0.05×23.37W±0.08, h10km, mb3.3/5, MS3.5/3, Error ellipse: s-maj=8.1km s-min=4.2km az=155.5
REY 18 05:22:46.8, 63.60N×23.54W, h12km
IDC 18 05:22:47.7±1.1, 63.78N×23.15W, h0km, mb3.3/5, mb1 3.7/5, mb1mx3.3/30, mbtmp3.3/5, MS3.6/5, Ms1 3.6/5, ms1mx3.0/40, Error ellipse: s-maj=25.3km s-min=20.4km az=143.0
ISC 18 05:22:48.9±0.8, 63.73N±0.07×23.21W±0.05, h10km, n28, σ1.11/42, mb3.4/5, MS3.3/3, Iceland region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IRNE Reykjanes 0.24 68 P Pg 05 22 54.7 +0.9
baz=59
IRNE S Sg 05 23 01.0 +3.9
baz=59
INYL Nylenda 0.32 40 P Pb 05 22 56.1 -0.6
baz=43
INYL S Sb 05 23 03.3 +1.3
baz=43
IGRV Grindav??k 0.36 68 P Pg 05 22 56.6 +0.6
baz=61
IGRV S Sb 05 23 04.3 +1.3
baz=61
IVOG Vogar 0.44 56 P Pg 05 22 57.8 +0.4
baz=53
IVOG S Sb 05 23 06.5 +1.3
baz=53
IKRI Krysuvik 0.53 73 P Pg 05 22 59.1 0.0
baz=66
IKRI S Sb 05 23 08.6 +0.8
baz=66
IKAS Kald??rsel 0.67 63 P Pg 05 23 01.7 -0.1
baz=60
IKAS S Sb 05 23 13.2 +1.2
baz=60
IVOS Vogsosar 0.68 79 P Pg 05 23 01.5 -0.5
baz=72
IVOS S Sb 05 23 12.7 +0.5
baz=72
ISAN Sandskeio 0.80 65 P Pg 05 23 03.7 -0.6
baz=61
ISAN S Sb 05 23 16.6 +1.0
baz=61
IKUD Kuludalsa 0.84 44 P Pg 05 23 04.2 -0.8
baz=45
IKUD S Sn 05 23 17.8 -1.2
baz=45
IBJA Bjarnastaoir 0.87 75 P Pg 05 23 04.6 -1.0
baz=70
IBJA S Sb 05 23 18.3 +0.5
baz=70
IHEI Heioarbar 0.99 60 P Pg 05 23 06.6 -1.3
baz=58
IHEI S Sn 05 23 22.5 -0.3
baz=58
IKRO Krokur 0.99 67 P Pg 05 23 06.9 -1.1
baz=64
IKRO S Sn 05 23 22.5 -0.5
baz=64
ISOL Solvholt 1.02 78 P Pg 05 23 06.7 -1.8
baz=73
ISOL S Sb 05 23 22.0 -0.2
baz=73
IASM Asmuli 1.16 84 S Sb 05 23 25.6 -0.3
baz=78
ISAU Saurbar 1.27 77 P Pn 05 23 10.7 -1.9
baz=73
ISAU S Sb 05 23 28.9 -0.2
baz=73
BORG Borgarnes 1.31 38 Pn Pn 05 23 11.9 -1.4
76nm,0.3s,baz=221,slow=4.9,SNR=64
BORG Sn Sg 05 23 32.0 +0.9
71nm,0.3s,baz=338,slow=13,SNR=19
IASB `sbjarnarst 1.31 38 P Pn 05 23 11.8 -1.5
baz=39
IASB S Sg 05 23 30.8 -0.4
baz=39
IHAU Haukadalur 1.46 79 P Pn 05 23 13.9 -1.3
baz=75
IHAU S Sn 05 23 34.4 +0.1
baz=75
SFJD Kangerlussuaq 11.84 298 LR LR 05 29 36.7
comp=Z,285nm,18.7s,baz=81,slow=34
FRB Frobisher Bay 19.75 291 LR LR 05 34 28.7
comp=Z,165nm,19.3s,baz=100,slow=36
ESDC Sonseca Array 26.66 145 LR LR 05 38 37.2
comp=Z,90nm,19.0s,baz=240,slow=36
YKA Yellowknife Ar 37.99 311 P P 05 30 06.8 +0.4
0.2nm,0.7s,baz=43,slow=9.2,SNR=5.8
YKA PcP PcP 05 32 22.2 +0.6
0.2nm,0.8s,baz=50,slow=3.0,SNR=5.3
IDI Anoyia 40.70 111 LR LR 05 48 48.3
comp=Z,41nm,19.0s,baz=301,slow=38
ILAR Eielson Array 45.30 330 P P 05 31 05.8 -0.4
0.3nm,0.7s,baz=30,slow=6.9,SNR=6.6
ILAR PcP PcP 05 32 46.1 +0.5
0.3nm,0.7s,baz=9.9,slow=4.2,SNR=4.8
ASF Jabal al Asfar 48.50 101 LR LR 05 54 43.6
comp=Z,94nm,18.9s,baz=134,slow=40
PDAR Pinedale Array 51.19 289 P P 05 31 52.1 -0.1
0.6nm,0.8s,baz=70,slow=9.6,SNR=5.2
TORD Torodi Ar. Bea 53.44 149 P P 05 32 09.3 +0.5
0.3nm,0.7s,baz=341,slow=9.0,SNR=3.2
TXAR Lajitas Array 59.94 276 P P 05 32 55.7 +0.6
0.4nm,0.8s,baz=47,slow=5.3,SNR=3.5

IDC 18 05:27:54.9±2.2, 4.26N×127.23E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/36, mbtmp3.5/3, Error ellipse: s-maj=160.7km s-min=26.1km az=66.0, Talaud Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 25.05 164 P P 05 33 21.2 +0.1
0.8nm,0.6s,baz=344,slow=10,SNR=11
ASAR Alice Springs 28.51 167 P P 05 33 52.1 -0.2
0.6nm,1.1s,baz=344,slow=9.6,SNR=2.9
MKAR Makanchi Array 57.41 325 P P 05 37 45.4 0.0
0.3nm,0.5s,baz=120,slow=7.6,SNR=6.2

REY 18 05:37:01.8, 63.61N×23.39W, h10km, ML3.9, ML3.4
IDC 18 05:37:03.0±0.8, 63.74N×23.21W, h0km, mb3.4/9, mb1 3.7/10, mb1mx3.5/31, mbtmp3.4/10, ML3.1/1, MS3.7/20, Ms1 3.7/20, ms1mx3.5/35, Error ellipse: s-maj=21.3km s-min=15.7km az=3.0
ISCJB 18 05:37:03.7±0.8, 63.82N±0.04×23.27W±0.07, h9km±3km, mb3.9/17, MS3.6/16, Error ellipse: s-maj=7.0km s-min=4.5km az=156.0
CSEM 18 05:37:04.5±0.4, 63.87N×23.18W, h2km, ML3.4, Error ellipse: s-maj=10.8km s-min=6.0km az=142.0
ISC 18 05:37:05.8±1.0, 63.75N±0.05×22.97W±0.04, h17km±5km, n93, σ1.99/93, mb3.9/17, MS3.6/16, Iceland region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IRNE Reykjanes 0.14 61 P Pg 05 37 08.6 -1.2
baz=56
IRNE S Sg 05 37 14.0 +1.7
baz=56
INYL Nylenda 0.25 25 P Pg 05 37 10.1 -1.2
INYL Nylenda 0.25 25 P Pg 05 37 10.1 -1.2
baz=38
INYL S Sg 05 37 16.8 +1.7
baz=38
IGRV Grindav??k 0.25 65 P Pg 05 37 10.4 -1.0
IGRV S Sb 05 37 17.1 +1.1
IGRV Grindav??k 0.25 65 P Pg 05 37 10.4 -1.0
baz=59
IGRV S Sb 05 37 17.1 +1.1
baz=59
IVOG Vogar 0.34 49 P Pg 05 37 11.9 -1.0
IVOG Vogar 0.34 49 P Pg 05 37 11.9 -1.0
baz=51
IVOG S Sb 05 37 20.0 +1.5
baz=51
IKRI Krysuvik 0.42 72 P Pg 05 37 13.1 -1.2
IKRI S Sb 05 37 21.7 +0.9
IKRI Krysuvik 0.42 72 P Pg 05 37 13.1 -1.2
baz=65
IKRI S Sb 05 37 21.7 +0.9
baz=65
IKAS Kald??rsel 0.57 61 S Sb 05 37 26.6 +1.6
IKAS Kald??rsel 0.57 61 S Sb 05 37 26.6 +1.6
baz=58
IVOS Vogsosar 0.57 79 P Pg 05 37 15.4 -1.8
IVOS S Sb 05 37 25.8 +0.6
IVOS Vogsosar 0.57 79 P Pg 05 37 15.4 -1.8
baz=72
IVOS S Sb 05 37 25.8 +0.6
baz=72
ISAN Sandskeio 0.69 63 P Pg 05 37 18.0 -1.4
ISAN S Sb 05 37 30.3 +1.6
ISAN Sandskeio 0.69 63 P Pg 05 37 18.0 -1.3
baz=60
ISAN S Sb 05 37 30.3 +1.6
baz=60
IKUD Kuludalsa 0.75 40 P Pg 05 37 18.3 -2.1
IKUD Kuludalsa 0.75 40 S Sn 05 37 31.5 -1.0
baz=43
IKUD P Pg 05 37 18.3 -2.1
baz=43
IBJA Bjarnastaoir 0.77 75 S Sb 05 37 31.7 +0.9
IBJA Bjarnastaoir 0.77 75 S Sb 05 37 31.7 +0.9
baz=69
IHEI Heioarbar 0.89 59 S Sn 05 37 36.1 +0.1

IHEI Heioarbar 0.89 59 S Sn 05 37 36.1 +0.1
baz=57
IKRO Krokur 0.89 66 S Sb 05 37 35.3 +0.9
IKRO Krokur 0.89 66 S Sb 05 37 35.3 +0.9
baz=63
ISOL Solvholt 0.92 78 S Sg 05 37 35.1 -0.5
ISOL Solvholt 0.92 78 P Pg 05 37 20.8 -2.8
baz=73
ISOL S Sg 05 37 35.1 -0.5
baz=73
IASM Asmuli 1.05 84 S Sg 05 37 39.4 -0.5
IASM Asmuli 1.05 84 P Pg 05 37 23.0 -3.1
baz=79
IASM S Sg 05 37 39.4 -0.5
baz=79
ISAU Saurbar 1.16 77 S Sb 05 37 42.4 +0.4
ISAU Saurbar 1.16 77 P Pb 05 37 24.9 -2.5
baz=73
ISAU S Sb 05 37 42.4 +0.4
baz=73
BORG Borgarnes 1.23 35 Pn Pb 05 37 27.0 -1.6
128nm,0.3s,baz=218,slow=10,SNR=10
BORG Sn Sn 05 37 46.5 +2.1
423nm,0.3s,baz=42,slow=18,SNR=18
IASB `sbjarnarst 1.23 35 P Pb 05 37 26.1 -2.5
IASB S Sn 05 37 44.4 -0.1
IASB `sbjarnarst 1.23 35 P Pb 05 37 26.1 -2.5
baz=38
IASB S Sn 05 37 44.4 -0.1
baz=38
IHAU Haukadalur 1.35 79 S Sb 05 37 47.8 +0.2
IHAU Haukadalur 1.35 79 S Sb 05 37 47.8 +0.2
baz=75
SFJD Kangerlussuaq 11.92 298 LR LR 05 43 53.6
comp=Z,632nm,19.9s,baz=87,slow=35
EKA Eskdalemuir Ar 13.06 121 Pn Pn 05 40 09.7 -0.7
baz=326,slow=14,SNR=3.2
NOA NORSAR Array B 15.96 84 LR LR 05 47 02.1
comp=Z,31nm,19.9s,baz=295,slow=37
HFS Hagfors 17.45 85 LR LR 05 47 08.6
comp=Z,175nm,20.0s,baz=283,slow=34
QUIF Quistinic 19.24 136 eP Pn 05 41 31.6 +1.7
FLN La Foliniere 19.37 130 eP Pn 05 41 37.6 +6.1
LDF La Druitiere 19.63 130 eP Pn 05 41 38.4 +3.7
126nm,1.5s
FRB Frobisher Bay 19.84 291 LR LR 05 48 38.3
comp=Z,303nm,19.8s,baz=24,slow=35
BAIF Baives 19.99 121 eP Pn 05 41 43.5 +4.7
19nm,0.9s
MFF Saint Martin d 21.36 133 eP P 05 41 54.4 +2.4
30nm,1.1s
MFF Saint Martin d 21.36 133 eP P 05 41 54.4 +2.4
29nm,1.1s
MEZF Maizieres J'vi 21.58 122 eP P 05 42 00.3 +6.0
SFTF Sexfontaines 21.82 122 eP P 05 42 01.1 +4.2
SFTF Sexfontaines 21.82 122 eP P 05 42 01.1 +4.2
LOR Lormes 22.16 125 eP P 05 42 03.8 +3.2
LOR Lormes 22.16 125 eP P 05 42 03.8 +3.2
SSF Saint Saulge 22.21 126 eP P 05 42 05.1 +4.0
70nm,1.6s
SSF Saint Saulge 22.21 126 eP P 05 42 05.1 +4.0
69nm,1.6s
FINES FINESS Array B 22.25 73 P P 05 42 03.3 +1.9
4.3nm,1.0s,baz=316,slow=5.3,SNR=5.9
AVF Avril sur Loir 22.39 127 eP P 05 42 05.7 +2.7
48nm,1.5s
AVF Avril sur Loir 22.39 127 eP P 05 42 05.7 +2.7
47nm,1.5s
BGF Bois d'Agland 22.41 128 eP P 05 42 04.8 +1.5
61nm,1.3s
BGF Bois d'Agland 22.41 128 eP P 05 42 04.8 +1.5
60nm,1.3s
TCF Toulx Ste Croi 22.42 129 eP P 05 42 05.3 +1.9
121nm,1.8s
TCF Toulx Ste Croi 22.42 129 eP P 05 42 05.3 +1.9
120nm,1.8s
HAU Haudompre 22.48 121 eP P 05 42 07.6 +3.6
HAU Haudompre 22.48 121 eP P 05 42 07.6 +3.6
CLL Collm 22.61 106 e(P) P 05 42 09.0 +3.7
comp=Z,19nm,1.6s
CLL i 05 42 20.2
comp=Z,12nm,1.2s
SMF Signal de Mont 22.69 126 eP P 05 42 05.7 -0.5
comp=Z,48nm,1.4s
NKC Novy Kostel 23.18 109 eP P 05 42 21.1 +10
NKC ex x 05 42 27.9
BRG Berggiesshubel 23.33 106 eP P 05 42 14.0 +1.2
comp=Z,5.3nm,1.0s
BRG e 05 42 17.6
comp=Z,11nm,1.3s
BRG e 05 42 22.7
comp=Z,5.9nm,1.0s
CABF La Chapelle 23.54 123 eP P 05 42 17.7 +2.7
CABF La Chapelle 23.54 123 eP P 05 42 17.7 +2.7
SCHQ Schefferville 23.64 268 LR LR 05 49 46.5
comp=Z,172nm,21.7s,baz=58,slow=32
KHC Kasperske Hory 24.49 109 eP P 05 42 25.9 +2.0
KHC ex x 05 42 29.9
KHC ex x 05 42 35.2
KHC Kasperske Hory 24.49 109 P P 05 42 25.9 +2.0
DPC Dobruska-Polom 24.74 104 eP P 05 42 28.3 +2.2
DPC Dobruska-Polom 24.74 104 P P 05 42 28.3 +2.2
GERES GERESS Array B 24.77 110 P P 05 42 28.1 +1.7
comp=Z,0.7nm,0.8s,baz=318,slow=7.7,SNR=4.8
GERES LR LR 05 52 19.9
comp=Z,174nm,19.6s,baz=354,slow=37
DAVOX Davos/Dischmat 24.86 118 LR LR 05 51 13.8
comp=Z,226nm,21.1s,baz=326,slow=34
TREC Trest 25.18 107 eP P 05 42 32.7 +2.7
TREC ex x 05 42 40.6
TREC Trest 25.18 107 P P 05 42 32.7 +2.7
VRAC Vranov 25.64 106 LR LR 05 52 44.1
comp=Z,121nm,20.1s,baz=316,slow=37
RES Resolute Bay 25.82 325 LR LR 05 52 42.3
comp=Z,146nm,18.2s,baz=60,slow=36
ESDC Sonseca Array 26.62 146 LR LR 05 52 45.2
comp=Z,183nm,19.3s,baz=280,slow=35
AKASG Malin Array Be 30.16 91 LR LR 05 55 26.1
comp=Z,100nm,18.9s,baz=20,slow=36
MLR Muntele Rosu 32.63 100 LR LR 05 57 50.3
comp=Z,26nm,19.2s,baz=13,slow=38
KEST Kesra 34.26 129 LR LR 05 56 51.5
comp=Z,42nm,20.3s,baz=288,slow=35
YKA Yellowknife Ar 38.05 311 P P 05 44 20.6 -2.2
comp=Z,0.3nm,0.8s,baz=46,slow=8.7,SNR=4.8
YKA PcP PcP 05 46 36.9 -0.7
comp=Z,0.2nm,0.7s,baz=39,slow=3.1,SNR=2.8
ULM Lac du Bonnet 39.59 286 LR LR 05 59 15.2
comp=Z,154nm,19.5s,baz=24,slow=34
BRTR Keskin Array B 40.63 99 LR LR 06 04 28.2
comp=Z,58nm,18.4s,baz=346,slow=40
KBZ Khabaz 41.52 86 LR LR 06 01 44.0
comp=Z,147nm,21.6s,baz=327,slow=36
ILAR Eielson Array 45.34 330 P P 05 45 22.4 +0.1
comp=Z,0.3nm,0.6s,baz=22,slow=6.9,SNR=6.4
ILAR PcP PcP 05 47 01.0 -0.5
comp=Z,0.2nm,0.8s,baz=316,slow=3.8,SNR=4.3
TKL Tuckaleechee C 45.85 262 LR LR 06 03 53.0
comp=Z,123nm,18.4s,baz=4.0,slow=35
PDAR Pinedale Array 51.28 290 P P 05 46 07.6 -1.1
comp=Z,1.1nm,0.9s,baz=69,slow=8.1,SNR=7.3
PDAR LR LR 06 07 11.0
comp=Z,88nm,19.4s,baz=52,slow=35
TORD Torodi Ar. Bea 53.41 150 P P 05 46 23.2 -1.2
comp=Z,0.4nm,1.0s,baz=341,slow=8.0,SNR=2.3
MKAR Makanchi Array 55.22 54 P P 05 46 38.7 +1.3
comp=Z,0.4nm,0.8s,baz=322,slow=6.9,SNR=3.7
NVAR Mina Array Bea 58.53 294 P P 05 47 00.9 -0.3
comp=Z,0.4nm,0.7s,baz=72,slow=9.5,SNR=4.2
NVAR LR LR 06 11 58.3
comp=Z,222nm,18.5s,baz=328,slow=36
TXAR Lajitas Array 60.04 276 P P 05 47 11.0 -0.6
comp=Z,0.3nm,0.8s,baz=22,slow=5.2,SNR=3.9
TXAR LR LR 06 11 52.8
comp=Z,81nm,19.7s,baz=0.0,slow=35

ISCJB 18 05:50:53.5±0.6, 6°.90N±0°.07×73°.04W±0°.08, h163km±8km, mb3.5/5, Error ellipse: s-maj=16.3km s-min=7.5km az=40.5
FUNV 18 05:50:55.0, 6°.78N×73°.09W, h157km, MW3.6
IDC 18 05:50:55.4±2.4, 6°.69N×73°.22W, h173km±18km, mb3.2/5, mb1 3.4/6, mb1mx3.1/23, mbtmp3.7/6, Error ellipse: s-maj=55.0km s-min=22.4km az=96.0
ISC 18 05:50:54.0±0.9, 6°.86N±0°.07×73°.03W±0°.08, h159km±9km, n20, σ1°.17/25, mb3.7/5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.22	35	⇑iP	Pn	05 51 23.2	+1.4
ROSC	El Rosal	2.38	213	P	Pn	05 51 35.4	+0.9
	29nm,0.3s,baz=281,slow=21,SNR=95						
ROSC				S	Sn	05 52 03.8	-1.9
	19nm,0.3s,baz=105,slow=16,SNR=9.8						
VIGV	El Vigia	2.56	40	eP	Pn	05 51 37.7	+1.3
SOCV	Socops	2.57	57	eP	Pn	05 51 37.3	+0.8
SOCV				eS	Sn	05 52 08.6	-0.7
ELOV	Elorza	3.52	88	eP	Pn	05 51 49.3	+1.0
VIRV	Villa del Rosa	3.67	10	eP	Pn	05 51 50.1	-0.1
VIRV				eS	Sn	05 52 33.1	-1.0
QARV	Quebrada Arrib	4.14	36	eP	Pn	05 51 57.6	+1.2
SANV	Sanarito	4.34	53	eP	Pn	05 51 59.4	+0.4
SANV				eS	Sn	05 52 47.9	-1.8
CURV	Curarigua	4.36	44	eP	Pn	05 52 00.0	+0.8
CURV				eS	Sn	05 52 47.8	-2.3
DABV	Dabajuro	4.67	30	eP	Pn	05 52 04.2	+0.9
SIQV	Siquisique	4.93	40	eP	Pn	05 52 06.8	+0.2
MONV	Montecano	5.89	31	eP	Pn	05 52 19.4	0.0
TURV	Turiamo	6.25	55	eP	Pn	05 52 24.8	+0.8
TXAR	Lajitas Array	36.51	312	P	P	05 57 44.8	+0.5
	0.1nm,0.4s,baz=120,slow=8.4,SNR=3.0						
ULM	Lac du Bonnet	47.28	340	P	P	05 59 11.2	0.0
	1.1nm,0.4s,baz=141,slow=5.9,SNR=4.2						
SCHQ	Schefferville	48.09	5	P	P	05 59 18.7	+1.3
	2.5nm,0.9s,baz=196,slow=7.4,SNR=4.0						
PDAR	Pinedale Array	48.10	324	P	P	05 59 18.1	+0.1
	0.3nm,0.5s,baz=118,slow=9.3,SNR=2.9						
YKA	Yellowknife Ar	63.26	340	P	P	06 01 05.5	+0.2
	0.6nm,0.6s,baz=134,slow=6.7,SNR=22						
ASAR	Alice Springs	149.21	234	PKPbc	PKPbc	06 10 23.3	-1.4
	0.4nm,0.8s,baz=127,slow=3.9,SNR=4.5						
WRA	Warramunga Arr	150.44	241	PKPbc	PKPbc	06 10 26.4	-1.3
	0.3nm,0.4s,baz=108,slow=2.6,SNR=15						

CSEM 18 06:15:06.7±0.4, 38°.14N×20°.21E, h2km, ML2.9, Error ellipse: s-maj=8.2km s-min=4.8km az=66.0
ATH 18 06:15:06.1, 38°.14N×20°.10E, h18km±1km, MD3.5/20
THE 18 06:15:07.1, 38°.18N×20°.25E, h0km±2km, ML2.6/4, Error ellipse: s-maj=2.5km s-min=1.0km az=229.0
ISC 18 06:15:06.0±1.5, 38°.16N±0°.04×20°.15E±0°.05, h12km±8km, n57, σ1°.00/88, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.35	87	P	Pg	06 15 12.8	-0.3
VLS				S	Sg	06 15 16.5	-1.3
VLS	Valsamata	0.35	87	ePB	Pg	06 15 12.7	-0.3
VLS	Valsamata	0.35	87	P	Pg	06 15 12.8	-0.3
VLS				S	Sg	06 15 16.5	-1.3
KFL	Anninata	0.51	95	P	Pg	06 15 15.5	-0.5
KFL				S	Sg	06 15 21.3	-1.4
KFL	Anninata	0.51	95	P	Pg	06 15 15.5	-0.5
KFL				S	Sg	06 15 21.3	-1.4
LKD2	Lefkada island	0.75	32	P	Pb	06 15 19.6	-1.4
LKD2				S	Sb	06 15 30.8	-0.4
LKD2	Lefkada island	0.75	32	ePN	Pb	06 15 20.9	-0.1
LKD2				eSN	Sg	06 15 32.3	+2.0
LKD2	Lefkada island	0.75	32	P	Pb	06 15 20.9	-0.1
LKD2				S	Sb	06 15 30.8	-0.4
LKD2				eSn	Sg	06 15 32.3	+2.0
PDO	Prodromos	0.93	61	P	Pb	06 15 22.6	-1.4
PDO				S	Sb	06 15 35.0	-1.3
PDO	Prodromos	0.93	61	ePN	Pb	06 15 24.4	+0.4
PDO				eSN	Sn	06 15 37.9	-0.2
PDO	Prodromos	0.93	61	P	Pb	06 15 22.6	-1.4
PDO	Prodromos	0.93	61	ePn	Pb	06 15 24.4	+0.4
PDO				S	Sb	06 15 36.3	0.0
PDO				eSn	Sn	06 15 37.9	-0.2
RLS	Riolos of Patr	1.05	95	ePN	Pg	06 15 27.0	+0.8
RLS				eSN	Sg	06 15 41.2	+1.4
RLS	Riolos of Patr	1.05	95	ePn	Pg	06 15 27.0	+0.8
RLS				eSn	Sg	06 15 41.2	+1.4
PVO	Paravola	1.18	67	P	Pn	06 15 27.2	-1.1
PVO				S	Sn	06 15 44.2	-0.1
PVO	Paravola	1.18	67	P	Pn	06 15 27.2	-1.1
PVO				S	Sn	06 15 44.2	-0.1
DSL	Palaion Diasel	1.23	37	P	Pn	06 15 28.7	-0.4
DSL				S	Sg	06 15 46.5	+0.9
DSL	Palaion Diasel	1.23	37	ePN	Pb	06 15 29.4	+0.3
DSL				eSN	Sg	06 15 47.2	+1.6
DSL	Palaion Diasel	1.23	37	P	Pb	06 15 29.5	+0.3
DSL				S	Sg	06 15 46.5	+0.9
DSL				eSn	Sg	06 15 47.2	+1.6
DRO	Drossia	1.25	99	P	Pn	06 15 29.4	0.0
DRO	Drossia	1.25	99	ePN	Pg	06 15 30.4	+0.3
DRO				eSN	Sg	06 15 48.4	+2.0
DRO	Drossia	1.25	99	P	Pn	06 15 29.4	0.0
DRO	Drossia	1.25	99	ePn	Pg	06 15 30.4	+0.3
DRO				eSn	Sg	06 15 48.4	+2.0
IGT	Igoumenitsa	1.38	6	P	Pg	06 15 32.8	+0.2
IGT				S	Sg	06 15 51.6	+1.1
IGT	Igoumenitsa	1.38	6	ePN	Pg	06 15 32.8	+0.2
IGT				eSN	Sg	06 15 51.9	+1.4
IGT	Igoumenitsa	1.38	6	P	Pg	06 15 32.8	+0.2
IGT				S	Sg	06 15 51.6	+1.1
AMT	Artemida-Makis	1.39	116	ePN	Pg	06 15 32.7	+0.1
AMT				eSN	Sg	06 15 52.1	+1.5
AMT	Artemida-Makis	1.39	116	ePn	Pg	06 15 32.7	+0.1
AMT				eSn	Sg	06 15 52.1	+1.5
EFP	Efpalio	1.41	78	ePN	Pg	06 15 33.3	+0.2
EFP				eSN	Sg	06 15 53.2	+1.7
EFP	Efpalio	1.41	78	ePn	Pg	06 15 33.3	+0.2
EFP				eSn	Sg	06 15 53.2	+1.7
LAKA	Lakka	1.45	86	ePN	Pg	06 15 33.9	+0.1
LAKA	Lakka	1.45	86	ePn	Pg	06 15 33.9	+0.1
EVR	Evrytania	1.51	59	ePN	Pb	06 15 34.7	+0.7
EVR	Evrytania	1.51	59	ePn	Pb	06 15 34.7	+0.7
KEK	Kerkira	1.58	350	ePN	Pb	06 15 35.3	+0.2
KEK	Kerkira	1.58	350	ePn	Pb	06 15 35.3	+0.2
KLV	Kalavryta, Ach	1.59	93	P	Pn	06 15 34.4	+0.4
KLV				S	Sb	06 15 56.0	+0.7
KLV	Kalavryta, Ach	1.59	93	ePN	Pb	06 15 36.0	+0.7
KLV	Kalavryta, Ach	1.59	93	P	Pn	06 15 34.4	+0.4
KLV	Kalavryta, Ach	1.59	93	ePn	Pb	06 15 36.0	+0.7
KLV				S	Sb	06 15 56.0	+0.7
KALE	Kalithea	1.59	81	ePN	Pb	06 15 36.0	+0.7
KALE	Kalithea	1.59	81	ePn	Pb	06 15 36.0	+0.7
ITM	Ithomi	1.72	124	ePN	Pb	06 15 38.2	+0.7
ITM	Ithomi	1.72	124	ePn	Pb	06 15 38.2	+0.7
GUR	Goura	1.75	97	ePN	Pb	06 15 38.2	+0.1
GUR	Goura	1.75	97	ePn	Pb	06 15 38.2	+0.1
MAKR	Makrakomi, Fth	1.78	61	ePN	Pb	06 15 39.1	+0.6
MAKR	Makrakomi, Fth	1.78	61	ePn	Pb	06 15 39.1	+0.6
AGG	Agios Georgios	1.92	63	P	Pb	06 15 40.0	-1.0
AGG	Agios Georgios	1.92	63	ePN	Pb	06 15 40.6	-0.4
AGG	Agios Georgios	1.92	63	P	Pb	06 15 40.0	-1.0
AGG	Agios Georgios	1.92	63	ePn	Pb	06 15 40.6	-0.4
THL	Klokotos Trika	2.03	45	ePN	Pb	06 15 42.2	-0.6
THL	Klokotos Trika	2.03	45	ePn	Pb	06 15 42.2	-0.6
DID	Didima	2.53	104	ePB	Pb	06 15 49.5	-1.9
DID	Didima	2.53	104	ePb	Pb	06 15 49.5	-1.9
STON	Ston	5.06	339	Sn	Sn	06 17 17.9	-2.3

MAN 18 06:48:48, 17°.93N×120°.45E, h42km, mb4.0, ML2.8, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.38	138	eP	Pn	06 48 59.0	+1.7
ABRA				eS	Sn	06 49 06.9	+3.1
PIP	Pasuquin	0.42	23	⇑iP	Pn	06 48 59.0	+1.1
PIP				eS	Sn	06 49 08.2	+3.3
APYP	Conner	0.76	95	eP	Pn	06 49 04.1	+1.8
APYP				eS	Sn	06 49 14.6	+1.8

IDC 18 08:20:13.4±1.5, 8°.87S×157°.73E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.9/25, mbtmp3.8/8, MS2.9/3, Ms1 2.9/3, ms1mx2.6/26, Error ellipse: s-maj=54.2km s-min=24.7km az=141.0
ISCJB 18 08:20:14.9±1.2, 8°.8S±0°.3×157°.6E±0°.2, h17km, mb3.7/8, MS2.1, Error ellipse: s-maj=46.4km s-min=19.3km az=139.1
ISC 18 08:20:16.2±1.5, 8°.9S±0°.3×157°.7E±0°.3, h17km, n11, σ0°.80/8, mb3.8/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.28	104	LR	LR	08 21 36.9	
	comp=Z,96nm,21.8s,baz=8.0,slow=37						
PMG	Port Moresby	10.43	266	LR	LR	08 26 20.0	
	comp=Z,87nm,21.2s,baz=90,slow=35						
WRA	Warramunga Arr	25.13	241	P	P	08 25 40.5	-0.1
	1.7nm,0.5s,baz=71,slow=9.1,SNR=5.1						
ASAR	Alice Springs	27.11	234	P	P	08 25 58.1	-0.5
	0.5nm,0.9s,baz=66,slow=9.2,SNR=4.5						
MJAR	Matsushiro Arr	48.75	339	LR	LR	08 45 52.7	
	comp=Z,26nm,20.9s,baz=295,slow=32						
CMAR	Chiang Mai Arr	64.01	295	P	P	08 30 50.1	+0.7
	0.8nm,0.3s,baz=144,slow=5.9,SNR=5.2						
SONM	Songino Array	72.36	327	P	P	08 31 41.5	+0.1
	0.3nm,0.7s,baz=142,slow=4.9,SNR=4.0						
ILAR	Eielson Array	84.15	21	P	P	08 32 44.9	-1.2
	0.7nm,0.7s,baz=248,slow=5.4,SNR=10						
MKAR	Makanchi Array	86.58	318	P	P	08 32 58.4	-0.3
	0.2nm,0.6s,baz=103,slow=5.5,SNR=3.7						
NVAR	Mina Array Bea	90.78	51	P	P	08 33 20.1	+1.0
	0.8nm,0.9s,baz=245,slow=6.4,SNR=4.7						
YKA	Yellowknife Ar	96.73	28	P	P	08 33 45.5	0.0
	0.2nm,0.8s,baz=266,slow=4.2,SNR=3.1						

IDC 18 08:20:19.0±2.1, 9°.41S×129°.09E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=127.6km s-min=26.6km az=65.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	Manton Dam	3.96	150	P	Pn	08 21 24.7	+3.7
	baz=4.9,SNR=11						
MTN				S	Sg	08 22 23.7	-2.7
	baz=4.9,SNR=7.1						
KDU	Kakadu	4.65	135	P	Pn	08 21 31.8	+1.1
	baz=5.5,SNR=17						
KNRA	Kununurra	6.24	183	P	Pn	08 21 56.8	+4.4
	baz=7.4,SNR=5.6						
KNRA				S	Sn	08 23 14.0	+10
	baz=7.4,SNR=15						
WSI	Waingapu	8.67	268	P	Pn	08 22 16.9	-8.9
	baz=8.8,SNR=3.2						
WRA	Warramunga Arr	11.64	155	Pn	Pn	08 23 06.2	-0.3
	0.6nm,0.3s,baz=334,slow=14,SNR=26						
WRA				Sn	Sn	08 25 20.1	+2.8
	1.0nm,0.3s,baz=331,slow=22,SNR=10						
ASAR	Alice Springs	14.91	163	Pn	Pn	08 23 50.5	-0.7
	0.2nm,0.3s,baz=336,slow=9.5,SNR=21						
ASAR				Sn	Sn	08 26 39.0	+1.8
	0.3nm,0.3s,baz=346,slow=26,SNR=6.1						
WRKA	Warakurna	15.56	183	P	Pn	08 23 59.9	-0.1
	baz=17,SNR=7.4						
MKAR	Makanchi Array	69.75	328	P	P	08 31 31.1	+0.1
	0.4nm,0.9s,baz=112,slow=6.6,SNR=3.4						

IDC 18 08:38:36.0±2.0, 8°.86S×127°.81E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.3/19, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=139.6km s-min=29.0km az=62.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.70	151	Pn	Pn	08 41 38.0	-0.1
	0.1nm,0.3s,baz=322,slow=14,SNR=8.4						
WRA				Sn	Sn	08 44 03.0	+2.6
	0.1nm,0.3s,baz=333,slow=22,SNR=4.9						
ASAR	Alice Springs	15.84	159	Pn	Pn	08 42 20.0	-0.6
	0.1nm,0.3s,baz=333,slow=9.6,SNR=6.4						
MKAR	Makanchi Array	68.62	328	P	P	08 49 41.1	+0.1
	0.2nm,0.4s,baz=133,slow=7.6,SNR=3.9						

ISCJB 18 08:40:03.8±0.8, 0°.63N±0°.07×120°.54E±0°.04, h55km, Error ellipse: s-maj=9.7km s-min=6.2km az=176.6
DJA 18 08:40:03.2±0.6, 1°N±5°×12°0E±°, h55km±7km, M4.4/11, mb4.4/2, mB4.6/1, MLv4.4/11, Mw(mB)3.8/1
KLM 18 08:40:53.3, 6°.49N×117°.72E, h57km, mb4.3, ML3.0
ISC 18 08:40:02.7±1.8, 0°.8N±0°.1×120°.52E±0°.04, h55km, n13, σ1°.05/16, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.79	232	P	Pn	08 40 18.6	+0.9
MPSI				S	Sn	08 40 29.8	+1.1
MRSI	Marisa	1.46	104	P	Pn	08 40 27.0	+0.2
MRSI				S	Sn	08 40 44.8	-0.1
APSI	Ampana	2.06	147	P	Pn	08 40 35.9	+1.0
APSI				S	Sn	08 40 59.6	+0.1
GTOI	Gorontalo	2.50	94	P	Pn	08 40 40.1	-0.8
LUWI	Luwuk	2.92	129	P	Pn	08 40 46.2	-0.5
LUWI				S	Sn	08 41 22.2	+1.7
KMSI	Cibinong	3.47	94	P	Pn	08 40 58.7	+4.5
KMSI				P	Sn	08 41 44.6	+10
SMKI	Samarinda	3.54	249	P	Sn	08 41 37.2	+1.4
TTSI	Tana Toraja	3.91	190	P	Pn	08 40 59.5	-0.7
BKB	Balikpapan	4.17	240	P	Sn	08 41 51.2	-0.1
BKB				S	Sn	08 41 49.5	-1.8
MYLDM	Lahad Datu	4.74	335	⇑P	Pn	08 41 18.3	+6.2
SPSI	Sidrap Palu	4.81	189	P	Pn	08 41 11.6	-1.1
BNSI	Bone	5.21	185	P	Pn	08 41 17.5	-0.5
	39nm,0.8s,638nm0.1nm						
BKSI	Bulukumba	6.12	184	P	Pn	08 41 29.7	-0.8

DJA 18 08:41:39.2±0.8, 8°S±4°×10°8E±°, h26km±6km, M3.8/9, MLv3.8/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.86	12	P	Pb	08 41 54.6	-1.0
CISI				S	Sb	08 42 04.3	-2.4
CMJI	Cimerak	1.01	53	P	Pb	08 41 56.6	-1.1
CMJI				S	Sb	08 42 08.2	-2.7
CNJI	Cibinong	1.20	335	P	Pn	08 42 00.0	-0.3
CNJI				S	Sn	08 42 13.9	-1.8
LEM	Lembang	1.56	359	P	Pb	08 42 08.6	+0.9
LEM				S	Sb	08 42 28.7	+1.5
KPJI	Karang Pucung	1.66	50	P	Pb	08 42 08.8	-0.3
KPJI				S	Sb	08 42 29.6	-0.1
SKJI	Sukabumi	1.75	322	P	Pn	08 42 09.3	+1.4
SKJI				S	Sn	08 42 29.8	+0.3
CGJI	Cibinong	2.62	312	P	Pn	08 42 20.9	+1.0
CGJI				S	Sn	08 42 48.8	-2.1
UGM	Wanagama	2.90	81	P	Pn	08 42 24.3	+0.6
PWJI	Pagerwojo	4.14	85	P	Pn	08 42 41.0	+0.2
PWJI				S	Sn	08 43 27.5	-0.9

IDC 18 08:41:57.4±4.1, 6°.73S×128°.31E, h384km±79km, mb3.3/1, mb1 3.0/4, mb1mx2.7/20, mbtmp3.8/4, Error ellipse: s-maj=90.9km s-min=53.5km az=92.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.75	233	P	Pn	08 43 25.4	-1.3
	5.0nm,0.3s,baz=90,slow=7.1,SNR=3.4						
BATI				S	S	08 44 28.1	-11
	7.0nm,0.3s,baz=59,slow=22,SNR=9.1						
WRA	Warramunga Arr	14.38	157	P	P	08 45 04.3	+0.5
	0.2nm,0.3s,baz=341,slow=12,SNR=7.5						
WRA				S	S	08 47 28.1	-10
	0.6nm,0.3s,baz=337,slow=22,SNR=11						
ASAR	Alice Springs	17.68	163	P	P	08 45 41.0	+1.7
	0.2nm,0.3s,baz=343,slow=12,SNR=17						
ASAR				S	S	08 48 42.7	-0.4
	0.1nm,0.3s,baz=350,slow=25,SNR=4.2						
STKA	Stephens Creek	27.92	155	P	P	08 47 13.6	-0.5
	1.0nm,0.4s,baz=340,slow=8.0,SNR=7.7						

ISCJB 18 08:58:00.7±0.5, 19°.69S±0°.08×173°.01W±0°.07, h33km, mb4.5/15, Error ellipse: s-maj=13.2km s-min=8.3km az=146.8
IDC 18 08:58:00.5±1.0, 19°.42S×173°.54W, h0km, mb4.3/11, mb1 4.5/13, mb1mx4.4/23, mbtmp4.3/13, ML4.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/26, Error ellipse: s-maj=38.2km s-min=16.8km az=142.0

NEIC **18** *08:58:04.0±1.6,20°.32S×173°.01W,h43km±15km,mb4.8/5, Error ellipse: s-maj=29.4km s-min=11.1km az=170.0*
ISC 18 08:58:03.4±0.8,19°.7S±0°.1×173°.2W±0°.1,h25km,n42, σ1§32/37,mb4.5/15,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	3.19	79	P	Pn	08 58 45.6	-6.4
	baz=2.7,SNR=12						
NIUE				S	Sn	08 59 17.2	-12
	baz=2.7,SNR=12						
AFI	Afiamalu	5.93	14	Pn	Pn	08 59 25.1	-4.7
	8.3nm,0.3s,baz=192,slow=3.1,SNR=7.6						
AFI				Sn	Sn	09 00 22.0	-15
	9.5nm,0.3s,baz=108,slow=20,SNR=2.0						
AFI	Afiamalu	5.93	14	ePn	Pn	08 59 23.5	-6.2
AFI				eSn	Sn	09 00 35.3	-1.7
MSVF	Nonsavu	8.48	282	ePn	Pn	09 00 10.8	+6.0
	32nm,1.2s						
RAR	Rarotonga	12.71	99	Pn	Pn	09 00 57.2	-5.5
	6.2nm,0.3s,baz=270,slow=2.3,SNR=6.4						
DZM	Mont Dzumac	19.13	259	eP	Pn	09 02 26.5	+0.7
	38nm,1.1s						
DZM	Mont Dzumac	19.13	259	P	P	09 02 23.3	-1.6
	1.0nm,0.3s,baz=94,slow=21,SNR=15						
DZM	Mont Dzumac	19.13	259	eP	Pn	09 02 25.6	-0.2
DZM				eS	S	09 06 02.4	+2.0
URZ	Urewera	20.30	202	P	Pn	09 02 39.6	+0.1
	6.0nm,0.6s,baz=283,slow=3.8,SNR=6.6						
URZ				S	S	09 06 23.1	-0.9
	4.4nm,0.8s,baz=330,slow=20,SNR=3.8						
PPT2	Papeete2	22.52	89	eLR	LR	09 08 22.3	
	77nm,21.2s						
PPT	Papeete	22.52	88	LR	LR	09 10 19.0	
	comp=Z,104nm,18.7s,baz=218,slow=32						
MGCD	Mangrove Creek	34.46	240	P	P	09 04 50.2	+1.0
	baz=35,SNR=5.7						
CNB	Canberra Magne	36.39	237	P	P	09 05 06.6	+0.6
	baz=37,SNR=5.4						
RABL	Rabaul	37.07	290	S	S	09 11 00.1	+3.4
	baz=38,SNR=3.4						
CTAO	Charters Tower	38.02	262	eP	P	09 05 18.5	-1.4
	5.1nm,0.4s						
CMSA	Cobar Meteorol	38.65	244	P	P	09 05 24.4	-0.7
	baz=39,SNR=14						
PMG	Port Moresby	39.58	279	P	P	09 05 30.2	-2.8
	3.9nm,0.5s,baz=121,slow=5.9,SNR=2.9						
PMG	Port Moresby	39.58	279	eP	P	09 05 33.0	0.0
TOO	Toolangi	39.99	235	P	P	09 05 36.5	+0.3
	baz=40,SNR=5.3						
MTSU	Mount Surprise	40.10	265	P	P	09 05 36.0	-1.4
	baz=41,SNR=7.1						
COEN	Coen	42.02	271	eP	P	09 05 52.0	-1.2
	45nm,0.8s						
COEN	Coen	42.02	271	P	P	09 05 52.1	-1.0
	baz=42,SNR=16						
STKA	Stephens Creek	42.16	244	P	P	09 05 53.2	-0.9
	2.1nm,0.5s,baz=94,slow=8.6,SNR=8.6						
STKA	Stephens Creek	42.16	244	P	P	09 05 53.8	-0.4
	baz=43,SNR=4.8						
AS31	Alice Springs	49.05	255	eP	P	09 06 47.8	-1.1
ASAR	Alice Springs	49.05	255	P	P	09 06 47.8	-1.0
	10.0nm,0.9s,baz=98,slow=8.0,SNR=83						
WRAB	Tennant Creek	49.13	260	eP	P	09 06 47.4	-2.1
	4.5nm,0.8s						
WRA	Warramunga Arr	49.14	260	P	P	09 06 47.7	-1.9
	3.2nm,0.5s,baz=97,slow=8.7,SNR=67						
WRKA	Warakurna	53.98	253	P	P	09 07 24.7	-1.0
	baz=54,SNR=24						
KNRA	Kununurra	55.18	264	P	P	09 07 33.4	-1.0
	baz=56,SNR=3.9						
SOEI	Soe	60.96	270	eP	P	09 08 16.1	+0.9
	6.7nm,0.5s						
SOEI	Soe	60.96	270	P	P	09 08 16.0	+0.9
	baz=61,SNR=3.4						
MJAR	Matsushiro Arr	72.33	321	P	P	09 09 26.6	-0.5
	22nm,1.2s,baz=143,slow=4.7,SNR=4.4						
NVAR	Mina Array Bea	77.43	41	P	P	09 09 57.4	+0.6
	0.8nm,0.8s,baz=220,slow=8.0,SNR=5.5						
TXAR	Lajitas Array	82.89	56	P	P	09 10 28.1	+1.7
	0.7nm,1.0s,baz=238,slow=5.2,SNR=5.8						
COLA	College	86.54	11	eP	P	09 10 44.4	+0.6
	1.7nm,0.6s						
ILAR	Eielson Array	86.62	11	P	P	09 10 44.1	-0.1
	0.9nm,0.6s,baz=227,slow=5.9,SNR=30						
YKA	Yellowknife Ar	93.97	23	P	P	09 11 18.4	-0.3
	0.4nm,0.8s,baz=238,slow=4.4,SNR=6.8						
CMAR	Chiang Mai Arr	94.09	288	P	P	09 11 21.3	+1.0
	0.8nm,0.3s,baz=94,slow=3.2,SNR=4.3						
AKASG	Malin Array Be	144.32	335	PKP	PKPdf	09 17 36.5	-0.7
	0.1nm,0.2s,baz=38,slow=4.0,SNR=4.4						
BRTR	Keskin Array B	149.48	317	PKPbc	PKPbc	09 17 52.1	+1.2
	1.1nm,0.7s,baz=116,slow=3.7,SNR=6.6						
GERES	GERESS Array B	150.39	351	PKPbc	PKPbc	09 17 53.2	+0.5
	0.5nm,0.6s,baz=19,slow=6.2,SNR=2.5						

IDC **18** *09:13:53.7±3.3,53°.58N×87°.78E,h0km,mb1 3.0/1, mb1mx2.8/28,mbtmp3.0/1,ML3.0/1,Error ellipse: s-maj=39.0km s-min=18.0km az=87.0*
ISC 18 09:13:58.5±4.1,53°.6N±0°.1×87°.8E±0°.2,h35km,n5,σ1§00/7, 5C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.78	283	i		09 26 00.5	
	baz=100,slow=344,SNR=0.4						
ZALV	Zalesovo Beam	1.78	283	Pn	Pn	09 14 26.0	-0.8
	3.6nm,0.3s,baz=96,slow=15,SNR=20						
ZALV				Sn	Sn	09 14 49.8	+1.6
	3.7nm,0.3s,baz=98,slow=28,SNR=14						
KURK	Kurchatov	6.32	247	⇑Pn	Pn	09 15 34.0	+4.9
	0.7nm,0.7s						
KURK				⇑Sn	Sn	09 16 39.3	-0.6
	0.5nm,0.6s						
KURK				⇑Lg	Lg	09 17 12.3	
	3.2nm,0.7s						
MK31	Makanchi Array	7.65	209	⇑Pn	Pn	09 15 47.3	-0.1
	0.2nm,0.5s,baz=29,slow=12,SNR=11						
MK31				⇑Sn	Sn	09 17 12.8	0.0
	1.2nm,0.8s,baz=30,slow=25,SNR=5.0						
MK31				⇓Lg	Lg	09 17 51.6	
	2.8nm,0.8s,baz=39,slow=29,SNR=6.7						
MKAR	Makanchi Array	7.65	209	Pn	Pn	09 15 47.9	+0.5
	0.2nm,0.3s,baz=30,slow=14,SNR=16						
MKAR				Sn	Sn	09 17 12.8	0.0
	0.1nm,0.3s,baz=30,slow=27,SNR=8.1						
MKAR				Lg	Lg	09 17 55.7	
	0.1nm,0.3s,baz=25,slow=31,SNR=7.8						

ISCJB **18** *09:25:45.3±0.9,42°.8N±0°.2×130°.9E±0°.2,h550km,mb2.9/3, Error ellipse: s-maj=24.7km s-min=16.8km az=162.4*
IDC **18** *09:25:46.5±1.3,42°.47N×130°.85E,h573km±18km,mb2.3/3, mb1 2.6/6,mb1mx2.4/27,mbtmp3.4/6,Error ellipse: s-maj=45.4km s-min=19.6km az=164.0*
ISC 18 09:25:46.2±1.0,42°.7N±0°.2×130°.8E±0°.1,h550km,n7, σ0§93/6,mb2.8/3,Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	Ussuriysk Arra	1.69	30	P	P	09 26 57.9	+3.5
	2.0nm,0.3s,baz=210,slow=3.7,SNR=64						
KSRS	Korea Array	5.73	204	P	P	09 27 22.5	+0.1
	0.8nm,0.3s,baz=18,slow=8.8,SNR=15						
ASAJ	Asahikawa	8.68	77	P	P	09 27 50.3	-0.2
	0.4nm,0.3s,baz=271,slow=16,SNR=3.4						
SONM	Songino Array	17.90	295	P	P	09 29 24.1	+1.0
	0.1nm,0.3s,baz=98,slow=7.6,SNR=7.0						
MKAR	Makanchi Array	34.26	294	P	P	09 31 45.6	-0.9
	0.2nm,0.7s,baz=82,slow=10,SNR=4.0						
ILAR	Eielson Array	49.21	34	P	P	09 33 44.6	+0.7
	0.4nm,0.6s,baz=288,slow=8.9,SNR=9.6						
YKA	Yellowknife Ar	62.83	28	P	P	09 35 17.5	-0.4
	0.2nm,0.5s,baz=312,slow=5.9,SNR=7.9						

NIED **18** *09:44:00,46°.80N×153°.00E,h17km,Mw4.0 Best double couple: M0 1.10000×10^15 NP1:φs216.00000°,δ44.00000°, λ176.00000°. NP2:φs310.00000°,δ87.00000°,λ46.00000°.*
ISCJB **18** *09:44:01.7±0.4,46°.74N±0°.05×152°.92E±0°.06,h40km, mb3.9/21,MS3.2/2,Error ellipse: s-maj=9.0km s-min=3.5km az=140.3*
JMA **18** *09:44:02.1±0.8,46°.83N×153°.00E,h30km,M4.4*
SKHL **18** *09:44:03.4±0.4,46°.64N×153°.17E,h74km±8km,mb4.7/9*
MOS **18** *09:44:05.0±1.2,46°.87N×152°.79E,h67km,mb4.1/13,Error ellipse: s-maj=12.1km s-min=8.0km az=66.3*
BJI **18** *09:44:05.4,47°.10N×152°.94E,h78km,mB4.6/6,mb3.4/10, Ms4.1/2,Ms7 3.8/2*
IDC **18** *09:44:08.1±2.4,46°.87N×152°.75E,h80km±21km,mb3.6/19, mb1 3.8/24,mb1mx3.8/33,mbtmp4.0/24,MS3.4/2, Ms1 3.4/2,ms1mx2.7/35,Error ellipse: s-maj=17.8km s-min=11.7km az=136.0*
ISC 18 09:44:03.1±0.6,46°.69N±0°.07×153°.02E±0°.06,h40km,n108, σ1§68/109,mb3.9/21,1C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.88	250	i PN	Pn	09 45 03.4	+3.3
KUR				eS	Sn	09 45 44.8	+0.4
KUR	Kuril'sk	3.88	250	eP	Pn	09 45 01.5	+1.4
KUR				AMB	AMB	09 45 03.6	
	18nm,0.1s						
KUR				AMB	AMB	09 45 03.6	
	27nm,0.1s						
KUR				AMB	AMB	09 45 03.6	
	101nm,0.1s						
KUR				eS	Sn	09 45 44.8	+0.4
KUR				A	A	09 45 54.0	
	290nm,0.6s						
KUR				A	A	09 45 54.0	
	130nm,0.6s						
SKR	Severo-Kuril's	4.49	26	ePN	Pn	09 45 08.7	+0.2
SKR				eS	Sn	09 45 55.5	-3.9
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,80nm,0.5s						
SKR				smax	smax		
	comp=E,150nm,0.5s						
SKR	Severo-Kuril's	4.49	26	eP	Pn	09 45 08.7	+0.2
SKR				AMB	AMB	09 45 13.5	
	comp=E,80nm,0.5s						
SKR				eS	Sn	09 45 55.5	-3.9
SKR				A	A	09 46 09.7	
	comp=E,80nm,0.5s						
SKR				A	A	09 46 09.7	
	comp=E,150nm,0.5s						
PAU	Pauzhetka	5.39	26	eS	Sn	09 46 21.9	+0.3
YUK	Yuzh-Kuril'sk	5.70	245	d iPN	Pn	09 45 27.1	+2.0
YUK				i S	Sn	09 46 30.2	+1.0
YUK				pmax	pmax		
	comp=N,41nm,0.4s						
YUK				pmax	pmax		
	comp=E,28nm,0.4s						
YUK				pmax	pmax		
	comp=Z,106nm,0.4s						
YUK				smax	smax		
	comp=N,171nm,0.8s						
YUK				smax	smax		
	comp=E,289nm,0.8s						
YUK	Yuzh-Kuril'sk	5.70	245	eP	Pn	09 45 27.1	+2.0
YUK				AMB	AMB	09 45 28.5	
	comp=E,42nm,0.4s						
YUK				AMB	AMB	09 45 28.5	
	comp=E,28nm,0.4s						
YUK				AMB	AMB	09 45 28.5	
	comp=E,110nm,0.4s						
YUK				eS	Sn	09 46 30.2	+1.0
YUK				A	A	09 46 54.2	
	comp=E,171nm,0.8s						
YUK				A	A	09 46 54.2	
	comp=E,289nm,0.8s						
NEM2	Nemuro 2	6.13	240	P	Pn	09 45 30.5	-0.6
NEM2				eS	Sn	09 46 35.2	-4.8
JRA	Rausu	6.21	247	P	Pn	09 45 34.2	+2.0
JNK	Nakash	6.64	245	P	Pn	09 45 39.3	+1.2
JNK				eS	Sn	09 46 51.5	-0.9
JAK	Akkeshi	6.97	241	P	Pn	09 45 42.0	-0.6
JAK				eS	Sn	09 46 56.5	-4.1
JTKR	Abashiri--Toko	6.97	250	P	Pn	09 45 44.7	+2.1
YSS	Yuzh-Sakhalins	7.04	276	⇑ePN	Pn	09 45 47.0	+3.4
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS	Yuzh-Sakhalins	7.04	276	eP	Pn	09 45 47.0	+3.4
YSS				AMB	AMB	09 45 49.0	
	comp=Z,20nm,1.0s						
YSS				erx	rx	09 45 52.1	
YSS				eS	Sn	09 47 03.5	+1.1
YSS				A	A	09 47 06.0	
	comp=Z,20nm,0.8s						
PETK	Petropavlovsk-	7.10	23	PN	Pn	09 45 46.7	+2.4
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	Petropavlovsk-	7.10	23	P	Pn	09 45 46.7	+2.4
	comp=Z,0.6nm,0.3s,baz=184,slow=14,SNR=8.5						
PET	Petropavlovsk	7.31	28	eS	Sn	09 47 06.7	-2.0
PET				A	A	09 47 30.1	
	comp=Z,40nm,0.6s						
PET				A	A	09 47 30.1	
	comp=Z,50nm,0.6s						
JMP	Maruseppu	7.31	252	P	Pn	09 45 50.1	+2.7
JAR	Ashorobuto	7.38	246	P	Pn	09 45 49.8	+1.6
JAR				eS	Sn	09 47 10.2	-0.5
JOB	Onbets	7.55	243	P	Pn	09 45 51.4	+0.9
JOB				eS	Sn	09 47 11.8	-3.0
UGL	Uglegorsk	7.74	292	eP	Pn	09 45 56.0	+2.9
UGL				AMB	AMB	09 45 57.0	
	comp=Z,37nm,0.7s						
UGL				erx	rx	09 46 04.6	
JKA	Kamikawa-asahi	7.77	254	eP	Pn	09 45 56.7	+3.1
JKK2	Kamakawa 2	7.77	252	P	Pn	09 45 56.3	+2.7
ASAJ	Asahikawa	7.77	254	PN	Pn	09 45 56.7	+3.1
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	Asahikawa	7.77	254	P	Pn	09 45 57.0	+3.4
ASAJ	Asahikawa	7.77	254	P	Pn	09 45 56.6	+3.1
	comp=Z,1.7nm,0.3s,baz=80,slow=19,SNR=20						
JCH	Churui	8.00	243	P	Pn	09 45 56.4	-0.3
JCH				eS	Sn	09 47 21.0	-4.8
TYV	Tymovskoe	8.01	305	eP	Pn	09 45 58.8	+1.9
TYV				AMB	AMB	09 46 02.2	
	comp=Z,18nm,1.0s						
TYV				AMB	AMB	09 46 02.2	
	comp=Z,35nm,1.0s						
ERM	Erimo	8.47	240	ePN	Pn	09 46 04.0	+0.8
ERM	Erimo	8.47	240	eP	Pn	09 46 04.0	+0.8
JNBK	Urakawa-nobuka	8.56	243	P	Pn	09 46 03.6	-0.8
JNBK				eS	Sn	09 47 34.7	-4.9
JYM2	Yakumo 2	10.14	248	P	Pn	09 46 25.6	-0.4
NKL	Nikolayevsk	10.24	314	eP	Pn	09 46 29.0	+1.7
NKL				AMB	AMB	09 46 31.5	
	comp=Z,110nm,1.1s						
NKL				AMB	AMB	09 46 31.5	
	comp=Z,17nm,1.1s						
NKL				AMB	AMB	09 46 31.5	
	comp=Z,28nm,1.1s						
NKL				AMS	AMS	09 51 08.0	
	comp=Z,300nm,14.0s						
JTM	Tenmabayashi	10.46	240	P	Pn	09 46 28.5	-2.0
JTM				eS	Sn	09 48 17.0	-9.3
JRG	Rokugo	11.62	236	P	Pn	09 46 44.1	-2.2
JRG				eS	Sn	09 48 44.6	-10
EKMR	Ekimchan	14.40	304	eP	Pn	09 47 22.6	-1.5
EKMR				AMB	AMB	09 47 30.0	
	comp=Z,4.0nm,0.6s						
USRK	Ussuriysk Arra	14.96	268	P	Pn	09 47 32.0	+0.3
	comp=Z,0.3nm,0.3s,baz=70,slow=13,SNR=5.7						
MJAR	Matsushiro Arr	14.99	233	P	P	09 47 36.6	-0.4
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	14.99	233	P	P	09 47 36.6	-0.4
	comp=Z,0.6nm,0.3s,baz=47,slow=9.5,SNR=9.9						
SEY	Seymchan	16.28	359	P	Pn	09 47 50.2	+1.7
	comp=Z,0.4nm,0.3s,baz=172,slow=13,SNR=9.4						
BMKR	Bomnak	17.22	307	eP	Pn	09 47 58.9	-1.5
KROS	Kirovskiy	18.19	305	eP	P	09 48 09.5	-2.7
KROS				AMB	AMB	09 48 11.5	
	comp=Z,4.0nm,0.7s						
KSRS	Korea Array	20.71	253	P	P	09 48 41.7	+1.8
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,52nm,18.4s						
KSRS	Korea Array	20.71	253	P	P	09 48 41.6	+1.8
	comp=Z,3.2nm,0.8s,baz=58,slow=9.5,SNR=8.3						
KSRS				LR	LR	09 55 52.0	
	comp=Z,52nm,18.4s,baz=120,slow=34						
HIA	Hailar	22.32	289	⇓iP	P	09 48 55.5	-1.6
HIA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HIA	Hailar	22.32	289	eP	P	09 48 55.5	-1.6
BILL	Bilibino	22.46	13	eP	P	09 48 59.9	+1.5
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
H11N2	WAKE ISLAND Hy	29.20	152	T	T	10 21 24.6	
	baz=342,slow=76,SNR=823						
H11N1	WAKE ISLAND Hy	29.21	152	T	T	10 21 25.7	
	baz=342,slow=76,SNR=634						
H11N3	WAKE ISLAND Hy	29.22	152	T	T	10 21 25.8	
	baz=342,slow=76,SNR=461						
H11S1	WAKE ISLAND Hy	30.29	154	T	T	10 22 46.6	
	baz=343,slow=77,SNR=1021						
H11S3	WAKE ISLAND Hy	30.30	154	T	T	10 22 46.4	
	baz=343,slow=77,SNR=1089						
H11S2	WAKE ISLAND Hy	30.31	154	T	T	10 22 45.6	
	baz=343,slow=77,SNR=782						
ULN	Ulaanbaatar	30.85	289	⇓eP	P	09 50 13.8	-1.6
ULN	Ulaanbaatar	30.85	289	eP	P	09 50 13.8	-1.6
SONM	Songino Array	31.29	289	P	P	09 50 19.1	-0.2
SONM						09 53 12.4	
SONM				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SONM	Songino Array	31.29	289	P	P	09 50 19.1	-0.2
	comp=Z,1.4nm,1.1s,baz=76,slow=9.1,SNR=2.7						
SONM				PcP	PcP	09 53 12.4	-0.2
	comp=Z,0.3nm,0.7s,baz=90,slow=2.9,SNR=2.7						
XAN	Xi'an	35.44	265	P	P	09 50 54.8	-0.7
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	Eielson Array	36.63	39	eP	P	09 51 06.1	+0.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	Eielson Array	36.63	39	P	P	09 51 06.1	+0.9
	comp=Z,0.9nm,0.9s,baz=258,slow=6.8,SNR=8.4						
INK	Inuvik	41.73	32	P	P	09 51 49.3	+1.6
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	Inuvik	41.73	32	P	P	09 51 49.3	+1.6
	comp=Z,1.6nm,0.7s,baz=298,slow=7.1,SNR=11						
ZALV	Zalesovo Beam	42.59	306	PcP	PcP	09 53 46.5	0.0
	comp=Z,0.5nm,0.5s,baz=98,slow=5.1,SNR=3.1						
ZALV				LR	LR	10 10 50.1	
	comp=Z,67nm,18.5s,baz=62,slow=38						
MKAR	Makanchi Array	46.91	297	P	P	09 52 27.8	-1.6
MKAR						09 54 01.1	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	46.91	297	P	P	09 52 27.8	-1.6
	comp=Z,1.0nm,0.8s,baz=68,slow=7.3,SNR=10						
MKAR				PcP	PcP	09 54 01.1	-0.4
	comp=Z,0.4nm,0.5s,baz=67,slow=3.4,SNR=5.4						
BVAR	Borovoye Array	50.84	309	PcP	PcP	09 54 14.6	-1.1
	comp=Z,0.6nm,0.6s,baz=64,slow=3.4,SNR=2.8						
RES	Resolute Bay	50.91	18	P	P	09 52 59.0	-0.6
RES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
RES	Resolute Bay	50.91	18	P	P	09 52 59.0	-0.6
	comp=Z,0.5nm,0.7s,baz=4.0,slow=18,SNR=3.4						
RES	Resolute Bay	50.91	18	eP	P	09 52 59.0	-0.6
YKA	Yellowknife Ar	51.01	37	P	P	09 53 01.2	+0.7
	comp=Z,0.4nm,0.7s,baz=296,slow=6.8,SNR=5.6						
YKA				PcP	PcP	09 54 15.5	-0.5
	comp=Z,0.4nm,0.8s,baz=296,slow=4.7,SNR=6.4						
CMAR	Chiang Mai Arr	52.29	256	eP	P	09 53 11.6	+0.9
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	Chiang Mai Arr	52.29	256	P	P	09 53 11.4	+0.8
	comp=Z,1.6nm,0.6s,baz=40,slow=7.3,SNR=7.8						
CMAR	Chiang Mai Arr	52.29	256	eP	P	09 53 11.6	+0.9
AAK	Ala-Archa	53.80	296	P	P	09 53 20.2	-1.5
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	Ala-Archa	53.80	296	P	P	09 53 20.2	-1.5
	comp=Z,0.5nm,0.4s,baz=37,slow=11,SNR=3.5						
NVAR	Mina Array Bea	62.52	62	P	P	09 54 24.6	+1.7
	comp=Z,0.5nm,0.7s,baz=270,slow=8.2,SNR=3.9						
FINES	FINESS Array B	64.06	335	P	P	09 54 31.2	-1.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	64.06	335	P	P	09 54 31.1	-1.1
	comp=Z,2.2nm,0.5s,baz=47,slow=7.9,SNR=16						
FINES	FINESS Array B	64.06	335	eP	P	09 54 30.9	-1.4
OBN	Obninsk	65.32	326	eP	P	09 54 40.2	-0.4
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
OBN	Obninsk	65.32	326	eP	P	09 54 40.2	-0.4
NB2	NORSAR Subarra	68.26	341	P	P	09 54 58.2	-1.1
	comp=Z,1.5nm,0.6s,baz=28,slow=6.2						
NOA	NORSAR Array B	68.26	341	eP	P	09 54 58.5	-0.8
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	NORSAR Array B	68.26	341	P	P	09 54 58.5	-0.8
	comp=Z,3.4nm,0.8s,baz=28,slow=6.3,SNR=9.8						
WRA	Warramunga Arr	68.44	199	eP	P	09 55 02.1	+1.3
WRA	Warramunga Arr	68.44	199	P	P	09 55 00.8	0.0
	comp=Z,0.4nm,0.5s,baz=19,slow=6.9,SNR=9.2						
WRA	Warramunga Arr	68.44	199	eP	P	09 55 02.1	+1.3
HFS	Hagfors	68.48	339	P	P	09 54 59.7	-1.0
HFS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HFS	Hagfors	68.48	339	P	P	09 54 59.7	-1.0
	comp=Z,5.7nm,0.7s,baz=65,slow=7.0,SNR=16						
AKASG	Malin Array Be	71.56	326	P	P	09 55 18.3	-1.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	71.56	326	P	P	09 55 18.2	-1.4
	comp=Z,1.1nm,0.3s,baz=33,slow=6.2,SNR=14						
ASAR	Alice Springs	72.13	198	P	P	09 55 24.9	+1.5
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	72.13	198	P	P	09 55 24.9	+1.5
	comp=Z,1.1nm,0.6s,baz=11,slow=5.3,SNR=26						
STHS	Stebnicka Huta	75.53	330	eP	P	09 55 42.5	-0.6
STHS	Stebnicka Huta	75.53	330	eP	P	09 55 42.5	-0.6
KOLS	Kolonicke sedl	75.58	329	eP	P	09 55 42.0	-1.4
KOLS	Kolonicke sedl	75.58	329	eP	P	09 55 42.0	-1.4
CRVS	Cervenica-Dubn	75.89	329	eP	P	09 55 44.5	-0.6
CRVS	Cervenica-Dubn	75.89	329	eP	P	09 55 44.5	-0.6
MLR	Muntele Rosu	77.07	325	P	P	09 55 51.4	-0.7
	comp=Z,0.4nm,0.6s,baz=337,slow=13,SNR=3.8						
TXAR	Lajitas Array	77.58	60	P	P	09 55 56.3	+1.2
	comp=Z,0.3nm,0.6s,baz=288,slow=5.3,SNR=5.0						
BRTR	Keskin Array B	78.38	317	P	P	09 55 59.2	-0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	78.38	317	P	P	09 55 59.2	-0.3
	comp=Z,1.0nm,0.8s,baz=46,slow=7.2,SNR=5.5						
TORD	Torodi Ar. Bea	115.11	329	PKP	PKPdf	10 02 39.5	-0.7
	comp=Z,0.2nm,0.7s,baz=328,slow=2.2,SNR=3.0						
H03N2	Juan Fernandez	138.82	90	T	T	12 38 45.8	
	baz=304,slow=75,SNR=44						
H03N1	Juan Fernandez	138.83	90	T	T	12 38 44.6	
	baz=304,slow=75,SNR=48						
H03N3	Juan Fernandez	138.83	90	T	T	12 38 46.3	
	baz=304,slow=75,SNR=42						
CFAA	Coronel Fontan	145.07	79	PKPbc	PKPbc	10 03 34.7	-0.7
	comp=Z,0.1nm,0.5s,baz=299,slow=4.0,SNR=3.7						

SKO 18 10:15:32.6,41°.65N×22°.39E,h22km,M1.0,ML1.6, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.35	158	ePg	Pb	10 15 40.2	0.0
VAY				i Sg	Sb	10 15 45.9	+0.6
VAY				eLg	Lg	10 15 46.2	
	comp=N,26nm,0.6s						
VAY				eLg	Lg	10 15 46.2	
	comp=E,14nm,0.2s						
SKO	Skopje	0.78	295	ePg	Pn	10 15 48.7	+0.4
SKO				eSg	Sn	10 15 58.7	-0.7
SKO				eLg	Lg	10 15 59.0	
	comp=N,14nm,0.3s						
SKO				eLg	Lg	10 16 02.3	
	comp=E,10nm,0.4s						

ISK **18** *10:17:00.8,37°.14N×27°.88E,h5km,MD2.5*
ISCJB **18** *10:17:02.5±0.7,37°.19N±0°.05×27°.88E±0°.04,h0km,Error ellipse: s-maj=6.9km s-min=4.5km az=160.6*
CSEM **18** *10:17:02.3±0.3,37°.17N×27°.89E,h1km,MD2.5,Error*

ellipse: s-maj=6.4km s-min=4.2km az=158.0,Mining explosion.
DDA 18 10:17:04.0,37.°34N×27.°60E,h7km,MD2.5
ISC 18 10:17:02.2±1.2,37.°16N±0.°04×27.°87E±0.°03,h0km,n10, σ1.°03/18,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.33**	**95**	ePG	**Pg**	**10 17 08.2**	**-0.3**
YER				eSG	**Sg**	**10 17 14.1**	**+1.3**
YER	**Yerkesik**	**0.33**	**95**	ePg	**Pg**	**10 17 08.2**	**-0.3**
YER				eSg	**Sg**	**10 17 14.1**	**+1.3**
BDRM	**Kayabasi**	**0.36**	**254**	iP	**Pg**	**10 17 09.2**	**+0.2**
BDRM				iS	**Sb**	**10 17 15.8**	**-1.8**
BDRM	**Kayabasi**	**0.36**	**254**	iP	**Pg**	**10 17 09.2**	**+0.2**
BDRM				iS	**Sb**	**10 17 15.8**	**-1.8**
BODT	**Bodrum**	**0.46**	**258**	ePG	**Pg**	**10 17 11.0**	**-0.1**
BODT				eSG	**Sg**	**10 17 18.6**	**+1.6**
BODT	**Bodrum**	**0.46**	**258**	ePg	**Pg**	**10 17 11.0**	**-0.1**
BODT				eSg	**Sg**	**10 17 18.6**	**+1.6**
AYDN	**Tasoluk**	**0.50**	**1**	iP	**Pg**	**10 17 11.8**	**0.0**
AYDN				iS	**Sg**	**10 17 18.7**	**+0.5**
AYDN	**Tasoluk**	**0.50**	**1**	iP	**Pg**	**10 17 11.8**	**0.0**
AYDN				iS	**Sg**	**10 17 18.7**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**1**	ePG	**Pg**	**10 17 17.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**1**	ePg	**Pg**	**10 17 17.4**	**+0.2**

DDA 18 10:18:14.2,37.°09N×27.°50E,h42km,MD2.6
CSEM 18 10:18:19.5±0.4,37.°15N×27.°88E,h1km,MD2.5,Error ellipse: s-maj=8.3km s-min=6.6km az=31.0,Mining explosion.
ISK 18 10:18:19.2,37.°15N×27.°87E,h14km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.33**	**93**	ePG	Pg	10 18 25.7	-0.3
YER				eSG	Sb	10 18 32.0	-0.2
YER	**Yerkesik**	**0.33**	**93**	ePg	Pg	10 18 25.7	-0.3
YER				eSg	Sb	10 18 32.0	-0.1
BODT	**Bodrum**	**0.46**	**259**	ePG	Pg	10 18 28.2	-0.2
BODT				eSG	Sb	10 18 36.3	+0.5
BODT	**Bodrum**	**0.46**	**259**	ePg	Pg	10 18 28.2	-0.2
BODT				eSg	Sb	10 18 36.3	+0.5
AYDN	**Tasoluk**	**0.51**	**0**	iP	Pg	10 18 29.0	-0.4
AYDN				iS	Sg	10 18 36.2	0.0
AYDN	**Tasoluk**	**0.51**	**0**	iP	Pg	10 18 29.0	-0.3
AYDN				iS	Sg	10 18 36.2	0.0
DALY	**Dalyan (Mu¯la**	**0.71**	**118**	ePG	Pb	10 18 33.8	+0.5
DALY	**Dalyan (Mu¯la**	**0.71**	**118**	ePg	Pb	10 18 33.8	+0.5
AYDB	**Zeytinkoy-Aydi**	**0.79**	**1**	ePG	Pg	10 18 34.2	-0.6
AYDB				eSG	Sn	10 18 47.2	-0.8
AYDB	**Zeytinkoy-Aydi**	**0.79**	**1**	ePg	Pg	10 18 34.3	-0.5
AYDB				eSg	Sn	10 18 47.2	-0.8
FETY	**Fethiye**	**1.10**	**118**	ePN	Pg	10 18 41.0	+0.6
FETY	**Fethiye**	**1.10**	**118**	ePn	Pg	10 18 41.0	+0.5

FUNV 18 10:41:03.8,10.°21N×74.°00W,h35km,MW3.7,2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**1.59**	**79**	⇓iP	Pn	10 41 29.0	-0.5
VIRV				eS	Sn	10 41 47.2	-1.7
CAPV	**Capacho**	**2.86**	**144**	eP	Pn	10 41 45.6	-1.6
VIGV	**El Vigia**	**2.93**	**117**	eP	Pn	10 41 47.4	-0.6
VIGV				eS	Sn	10 42 19.3	-2.7
DABV	**Dabajuro**	**3.38**	**78**	eP	Pn	10 41 53.3	-0.8
DABV				eS	Sn	10 42 29.7	-3.4
QARV	**Quebrada Arrib**	**3.42**	**90**	eP	Pn	10 41 54.0	-0.7
SOCV	**Socops**	**3.64**	**121**	eP	Pn	10 41 56.6	-1.2
SOCV				eS	Sn	10 42 35.8	-3.8
CURV	**Curarigua**	**3.98**	**92**	eP	Pn	10 42 01.2	-1.3
CURV				eS	Sn	10 42 43.4	-4.6
SIQV	**Siquisique**	**4.15**	**84**	eP	Pn	10 42 03.2	-1.5
SIQV				eS	Sn	10 42 47.0	-5.1
MONV	**Montecano**	**4.32**	**66**	eP	Pn	10 42 05.5	-1.6
MONV				eS	Sn	10 42 51.5	-4.7
SANV	**Sanarito**	**4.45**	**99**	eP	Pn	10 42 07.9	-1.1
SANV				eS	Sn	10 42 55.0	-4.8
BAUV	**El Baul**	**6.01**	**102**	⇓iP	Pn	10 42 27.9	-2.4
BAUV				eS	Sn	10 43 30.2	-7.7

IDC 18 10:41:40.6±2.0,1.°31N×125.°98E,h0km,mb3.0/3, mb1 3.3/3,mb1mx3.2/21,mbtmp3.1/3,Error ellipse: s-maj=191.2km s-min=25.3km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.65**	**159**	P	P	10 46 43.1	-0.4
	0.5nm,0.7s,baz=338,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**25.99**	**163**	P	P	10 47 15.6	+0.3
	0.1nm,0.3s,baz=344,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**59.13**	**326**	P	P	10 51 43.1	0.0
	0.1nm,0.3s,baz=119,slow=8.2,SNR=3.5						

HEL 18 10:54:19.4±0.3,59.°32N×27.°34E,h0km,ML1.8,Explosion
NAO 18 10:54:20.4±1.0,59.°30N×26.°83E,ML2.5
BER 18 10:54:20.9±2.8,59.°33N×26.°99E,h0km,ML2.5(NAO), Suspected explosion
UPP 18 10:54:23.3,59.°25N×26.°69E,h0km,ML1.5,Suspected Mining explosion.
CSEM 18 10:54:20.7±0.4,59.°33N×27.°11E,h2km,ML2.5,Error ellipse: s-maj=9.7km s-min=6.7km az=114.0,Mining explosion.,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.89**	**193**	Pg	Pg	10 54 36.7	-1.0
VSU				Lg	Lg	10 54 47.7	
VSU	**Vasula**	**0.89**	**193**	Pg	Pg	10 54 36.7	-1.0
VSU				Lg	Lg	10 54 47.7	
VSU	**Vasula**	**0.89**	**193**	Pg	Pg	10 54 36.7	-1.0
VSU				Lg	Lg	10 54 47.7	
VSU	**Vasula**	**0.89**	**193**	Pg	Pg	10 54 36.7	-1.0
VSU				Lg	Lg	10 54 47.7	
VSU	**Vasula**	**0.89**	**193**	Pg	Pg	10 54 36.7	-1.0
VSU				Lg	Lg	10 54 47.7	
	SNR=93						
VJF	**Virojoki**	**1.24**	**10**	eP	Pg	10 54 43.4	-1.0
VJF				eSB	Sg	10 55 00.2	-0.2
VJF				MSG		10 55 00.5	
	comp=Z,7.1nm,0.1s						
VJF	**Virojoki**	**1.24**	**10**	P	Pg	10 54 43.3	-1.1
VJF				Sb	Sg	10 55 00.2	-0.2
PVF	**Pernaja**	**1.38**	**333**	eP	Pn	10 54 46.1	-0.7
PVF				MSG	S	10 55 04.0	-1.0
	comp=Z,5.6nm,0.2s						
PVF				eS	S	10 55 04.0	-1.0
PVF	**Pernaja**	**1.38**	**333**	P	Pn	10 54 46.1	-0.8
PVF				S	Sg	10 55 04.0	-0.9
SRPE	**Suurupi**	**1.41**	**277**	eP	Pn	10 54 46.5	-0.8
SRPE				eSB	Sb	10 55 06.0	+0.1
SRPE	**Suurupi**	**1.41**	**277**	P	Pn	10 54 46.4	-0.9
SRPE				Sb	Sb	10 55 06.0	0.0
MEF	**Metsahovi**	**1.64**	**304**	eP	Pn	10 54 50.9	+0.4
MEF				eSG	Sb	10 55 12.4	-0.3
MEF				MSG		10 55 12.4	
	comp=Z,12nm,0.2s						
MEF	**Metsahovi**	**1.64**	**304**	P	Pn	10 54 50.9	+0.4
MEF				Sg	Sn	10 55 12.4	+0.3
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	Pn	10 54 58.3	+0.3
	baz=166,slow=18						
FIA0				Lg	Lg	10 55 29.2	
	baz=168,slow=28						
FIA0				Rg	Rg	10 55 39.7	
	baz=168,slow=37						
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	Pn	10 54 58.3	+0.3
	baz=166,slow=18						
FIA0				Lg	Lg	10 55 29.2	
	baz=168,slow=28						
FIA0				Rg	Rg	10 55 39.7	
	baz=168,slow=37						
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	Pn	10 54 58.3	+0.3
	baz=166,slow=18						
FIA0				Lg	Lg	10 55 29.2	
	baz=168,slow=28						
FIA0				Rg	Rg	10 55 39.7	
	baz=168,slow=37						
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	Pn	10 54 58.3	+0.3
	baz=166,slow=18						
FIA0				Lg	Lg	10 55 29.2	
	baz=168,slow=28						
FIA0				Rg	Rg	10 55 39.7	
	baz=168,slow=37						
FIA0	**FINESS Array S**	**2.19**	**347**	ePn	Pn	10 54 58.5	+0.5
FIA0				ePB	Pb	10 54 59.7	-1.2
FIA0				eSB	Sb	10 55 27.6	-0.8
FIA0				eSG	Sg	10 55 29.1	-1.7
FIA0				MSG		10 55 29.7	
	comp=Z,8.1nm,0.3s						
FIA0	**FINESS Array S**	**2.19**	**347**	P	Pn	10 54 58.4	+0.4
FIA0	**FINESS Array S**	**2.19**	**347**	Pb	Pb	10 54 59.7	-1.2
FIA0				Sb	Sb	10 55 27.6	-0.8
FIA0				Sg	Sg	10 55 29.1	-1.8
KAF	**Kangasniemi**	**2.82**	**352**	eP	Pn	10 55 07.8	+1.0
KAF				ePB	Pb	10 55 10.5	-1.3
KAF				eSG	Sb	10 55 47.8	+1.0
KAF				MSG		10 55 49.2	
	comp=Z,11nm,0.4s						
KAF	**Kangasniemi**	**2.82**	**352**	P	Pn	10 55 07.7	+0.9
KEF	**Keuruu**	**3.06**	**340**	eP	Pn	10 55 11.8	+1.8
KEF				ePB	Pb	10 55 14.4	-1.3
KEF				eSG	Sb	10 55 55.0	+1.5
KEF				MSG		10 55 55.5	
	comp=Z,3.6nm,0.3s						
KEF	**Keuruu**	**3.06**	**340**	P	Pn	10 55 11.7	+1.7
RAF	**Rauma**	**3.17**	**305**	eP	Pn	10 55 13.5	+2.0
RAF	**Rauma**	**3.17**	**305**	P	Pn	10 55 13.5	+2.0
SUF	**Sumiainen**	**3.44**	**353**	eP	Pn	10 55 16.4	+1.2
SUF	**Sumiainen**	**3.44**	**353**	P	Pn	10 55 16.3	+1.1
AAL	**Aland**	**3.70**	**286**	eS	Sn	10 56 02.9	-0.1
AAL	**Aland**	**3.70**	**286**	S	Sn	10 56 02.9	-0.1
ISAL	**Salakas**	**3.80**	**188**	eP	Sb	10 56 14.7	-0.3
IIGN	**Ignalina**	**4.02**	**187**	eP	Sb	10 56 17.6	-3.5
IDID	**Didziasalis**	**4.03**	**183**	eP	Sb	10 56 18.7	-2.7
JOF	**Joensuu**	**4.14**	**28**	eP	Pn	10 55 25.9	+1.0
JOF				eS	Sn	10 56 13.3	-0.4
JOF	**Joensuu**	**4.14**	**28**	P	Pn	10 55 25.8	+1.0
JOF				S	Sn	10 56 13.3	-0.4
VAF	**Ylistaro**	**4.30**	**332**	eP	Pn	10 55 29.0	+2.0
VAF				eSG	Sg	10 56 34.7	-4.1
VAF	**Ylistaro**	**4.30**	**332**	P	Pn	10 55 29.0	+1.9
MICGM	**Minsk**	**4.86**	**175**	e	Sb	10 56 49.0	+3.7
UMAU	**Umeaa**	**5.51**	**329**	P	Pn	10 55 44.7	+1.1
UMAU				S	Sn	10 56 48.4	+1.1
BURU	**Burvik**	**5.93**	**335**	P	Pn	10 55 49.7	+0.3
BREU	**Bredtraesk**	**6.12**	**322**	P	Pn	10 55 52.5	+0.4
SJUU	**Sjulsmark**	**6.71**	**340**	P	Pn	10 56 01.5	+1.4
KALU	**Kalix**	**6.78**	**347**	P	Pn	10 56 01.9	+0.8
HFS	**Hagfors**	**6.83**	**283**	Lg	Lg	10 57 49.6	
	baz=107,slow=37						
HFS	**Hagfors**	**6.83**	**283**	Lg	Lg	10 57 49.6	
	baz=107,slow=37						
HFS	**Hagfors**	**6.83**	**283**	Lg	Lg	10 57 49.6	
	baz=107,slow=37						
HFS	**Hagfors**	**6.83**	**283**	Lg	Lg	10 57 49.6	
	baz=107,slow=37						
HFS	**Hagfors**	**6.83**	**283**	Lg	Lg	10 57 49.6	
	SNR=7.0						
LILU	**Lilltraesk**	**6.87**	**334**	P	Pn	10 56 02.6	+0.3
HARU	**Harads**	**7.41**	**340**	P	Pn	10 56 10.9	+1.2
ERTU	**Ertsjaerv**	**7.59**	**345**	P	Pn	10 56 12.2	0.0
NB2	**NORSAR Subarra**	**8.11**	**289**	Pn	Pn	10 56 17.9	-1.5
NB2	**NORSAR Subarra**	**8.11**	**289**	Pn	Pn	10 56 17.9	-1.5
NB2	**NORSAR Subarra**	**8.11**	**289**	Pn	Pn	10 56 17.9	-1.5
NB2	**NORSAR Subarra**	**8.11**	**289**	Pn	Pn	10 56 17.9	-1.5
NB2	**NORSAR Subarra**	**8.11**	**289**	Pn	Pn	10 56 17.9	-1.5
NB2	**NORSAR Subarra**	**8.11**	**289**	Pn	Pn	10 56 17.9	-1.5
MASU	**Masugnsbyn**	**8.47**	**347**	P	Pn	10 56 24.6	+0.3
NIKU	**Nikkaluokta**	**9.29**	**341**	P	Pn	10 56 34.6	-0.8
ARA0	**ARCESS Array S**	**10.27**	**357**	Pn	Pn	10 56 47.3	-1.6
	baz=173,slow=14						
ARA0				Sn	Sn	10 58 35.4	-9.2
	baz=173,slow=22						
ARA0	**ARCESS Array S**	**10.27**	**357**	Pn	Pn	10 56 47.3	-1.6
	baz=173,slow=14						
ARA0				Sn	Sn	10 58 35.4	-9.2
	baz=173,slow=22						
ARA0	**ARCESS Array S**	**10.27**	**357**	Pn	Pn	10 56 47.3	-1.6
	baz=173,slow=14						
ARA0				Sn	Sn	10 58 35.4	-9.2
	baz=173,slow=22						
ARA0	**ARCESS Array S**	**10.27**	**357**	Pn	Pn	10 56 47.3	-1.6
	baz=173,slow=14						
ARA0				Sn	Sn	10 58 35.4	-9.2
	baz=173,slow=22						
ARA0	**ARCESS Array S**	**10.27**	**357**	Pn	Pn	10 56 47.3	-1.6
	SNR=1.2						

JMA 18 11:04:28.3±0.3,43.°38N×147.°07E,h39km±5km,M3.3
ISCJB 18 11:04:30.0±1.3,43.°48N±0.°08×146.°97E±0.°10, h33km±27km,Error ellipse: s-maj=16.3km s-min=6.8km az=139.4
SKHL 18 11:04:30.5±0.5,43.°45N×146.°94E,h30km±1km,mb4.2/3
ISC 18 11:04:30.5±2.2,43.°5N±0.°1×146.°95E±0.°10,h31km±11km, n11,σ0.°71/19,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.40**	**348**	eP	**Pb**	**11 04 39.1**	**-0.3**
SHO				AMB	AMB	11 04 40.0	
	186nm,0.4s						
SHO				eS	**Sb**	**11 04 46.0**	**+0.5**
SHO				A	A	11 04 47.0	
	4μm,0.5s						
NEM2	**Nemuro 2**	**0.89**	**263**	P	**Pn**	**11 04 45.7**	**-1.0**
NEM2				eS	**Sn**	**11 04 58.7**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**0.96**	**305**	eP	**Pn**	**11 04 47.1**	**-0.7**
YUK				AMB	AMB	11 04 52.0	
	77nm,0.2s						
YUK				AMB	AMB	11 04 52.0	
	74nm,0.2s						
YUK				AMB	AMB	11 04 52.0	
	190nm,0.2s						
YUK				eS	**Sn**	**11 04 59.5**	**-0.9**
YUK				A	A	11 05 04.1	
	364nm,0.6s						
YUK				A	A	11 05 04.1	
	574nm,0.6s						
JRA	**Rausu**	**1.40**	**290**	P	**Pn**	**11 04 53.6**	**-0.2**
JNK	**Nakash**	**1.62**	**274**	P	**Pn**	**11 04 56.3**	**-0.6**
JNK				eS	**Sn**	**11 05 16.6**	**-0.2**
JAK	**Akkeshi**	**1.72**	**254**	P	**Pn**	**11 04 57.4**	**-0.8**
JAK				eS	**Sn**	**11 05 18.8**	**-0.2**
KUR	**Kuril'sk**	**1.87**	**20**	eP	**Pn**	**11 05 00.5**	**+0.2**
KUR				AMB	AMB	11 05 01.1	
	13nm,0.2s						
KUR				AMB	AMB	11 05 01.1	
	11nm,0.2s						
KUR				AMB	AMB	11 05 01.1	
	32nm,0.2s						
KUR				eS	**Sn**	**11 05 22.7**	**-0.1**
KUR				A	A	11 05 23.2	
	60nm,0.3s						
KUR				A	A	11 05 23.2	
	102nm,0.3s						
JTKR	**Abashiri--Toko**	**2.26**	**284**	P	**Pn**	**11 05 06.4**	**+0.8**
JAR	**Ashorobuto**	**2.33**	**267**	P	**Pn**	**11 05 06.9**	**+0.3**
JAR				eS	**Sn**	**11 05 35.1**	**+1.1**
JOB	**Onbets**	**2.35**	**257**	P	**Pn**	**11 05 07.1**	**+0.2**
JOB				eS	**Sn**	**11 05 35.5**	**+0.9**
JMP	**Maruseppu**	**2.65**	**283**	P	**Pn**	**11 05 12.1**	**+1.0**

IDC 18 11:10:40.7±2.7,7.°27S×128.°34E,h0km,mb2.9/1, mb1 3.1/3,mb1mx3.0/19,mbtmp2.9/3,ML3.1/2,Error ellipse: s-maj=284.2km s-min=33.6km az=65.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.88**	**156**	Pn	Pn	11 13 59.1	+0.2
	0.1nm,0.3s,baz=334,slow=14,SNR=6.6						
WRA				Sn	Sn	11 16 18.0	-16
	0.2nm,0.3s,baz=341,slow=20,SNR=8.8						
ASAR	**Alice Springs**	**17.16**	**162**	P	Pn	11 14 42.0	-0.2
	0.1nm,0.3s,baz=341,slow=9.4,SNR=7.6						
MKAR	**Makanchi Array**	**67.55**	**328**	P	P	11 21 39.0	0.0
	0.1nm,0.3s,baz=120,slow=8.7,SNR=2.3						

IDC 18 11:12:20.7±2.7,54.°25N×86.°17E,h0km,mb1 3.3/1, mb1mx2.9/43,mbtmp3.3/1,ML3.2/1,Error ellipse: s-maj=20.1km s-min=11.6km az=53.0
ISC 18 11:12:24.4±5.0,54.°2N±0.°2×86.°5E±0.°2,h35km,n5,σ1.°79/6, 5C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**254**	i		11 18 30.0	
	baz=68,slow=348,SNR=0.4						
ZALV	**Zalesovo Beam**	**1.03**	**254**	Pg	Pn	11 12 36.1	-6.2
	2.8nm,0.3s,baz=68,slow=16,SNR=21						
ZALV				Lg	Lg	11 12 49.5	
	12nm,0.3s,baz=71,slow=31,SNR=28						
KURK	**Kurchatov**	**5.97**	**237**	⇑Pn	**Pn**	**11 13 48.9**	**-1.2**
	0.3nm,0.4s						
KURK				⇓Sn	**Sn**	**11 14 59.1**	**+1.9**
	0.4nm,0.5s						
KURK				⇑Lg	Lg	11 15 28.6	
	1.7nm,0.8s						
MK31	**Makanchi Array**	**7.92**	**201**	⇑Pn	**Pn**	**11 14 17.8**	**+0.8**
	0.5nm,0.5s,baz=25,slow=12,SNR=24						
MK31				⇑Sn	**Sn**	**11 15 45.0**	**-0.3**
	0.4nm,0.6s,baz=22,slow=26,SNR=4.3						
MK31				⇑Lg	Lg	11 16 28.8	
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**7.92**	**201**	Pn	**Pn**	**11 14 17.9**	**+0.9**
	0.3nm,0.3s,baz=24,slow=13,SNR=22						
MKAR				Sn	**Sn**	**11 15 43.6**	**-1.8**
	0.2nm,0.3s,baz=22,slow=25,SNR=4.7						
MKAR				Lg	Lg	11 16 29.8	
	0.1nm,0.3s,baz=23,slow=30,SNR=4.0						

WEL 18 11:23:40.2±0.4,45.°75S×165.°82E,h5km,ML3.5/9,2C-3D, Error ellipse: s-maj=4.6km s-min=2.1km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.98**	**74**	⇓P*	Pg	11 23 59.0	+0.1
DCZ				AML	AML	11 23 59.3	
DCZ				S*	Sg	11 24 11.9	+0.2
DCZ				AML	AML	11 24 12.2	
DCZ				AML	AML	11 24 12.2	
WHZ	**Wether Hill Ro**	**1.50**	**96**	PN	Pn	11 24 07.2	-0.6
WHZ				SN	Sn	11 24 27.6	-0.1
WHZ				AML	AML	11 24 32.3	
MLZ	**Mavora Lakes**	**1.70**	**77**	⇓PN	Pn	11 24 10.2	-0.5
MLZ				eSN	Sn	11 24 30.9	-2.0
MLZ				AML	AML	11 24 34.5	
MSZ	**Milford Sound**	**1.84**	**55**	PN	Pn	11 24 11.5	-1.0
MSZ				eSN	Sn	11 24 34.1	-2.0
MSZ				AML	AML	11 24 38.8	
MSZ				AML	AML	11 24 38.8	
MSZ				AML	AML	11 24 49.8	
APZ	**The Paps**	**1.85**	**126**	⇓PN	Pn	11 24 11.7	-1.0
SYZ	**Scrubby Hill**	**2.44**	**110**	PN	Pn	11 24 20.1	-0.5
WKZ	**Wanaka**	**2.44**	**69**	PN	Pn	11 24 21.7	+0.9
WKZ				AML	AML	11 24 54.0	
WKZ				AML	AML	11 24 55.4	
EAZ	**Earnscleugh**	**2.51**	**79**	PN	Pn	11 24 22.2	+0.5
EAZ				AML	AML	11 24 53.9	
EAZ				AML	AML	11 24 54.2	
TUZ	**Tuapeka**	**2.67**	**96**	PN	Pn	11 24 23.7	-0.2
JCZ	**Jackson Bay**	**2.68**	**52**	AML	AML	11 25 02.7	
JCZ				AML	AML	11 25 06.4	
LBZ	**Lake Benmore**	**3.38**	**68**	⇑PN	Pn	11 24 33.2	-0.5
LBZ				AML	AML	11 25 15.0	
ODZ	**Otahua Downs**	**3.47**	**80**	⇑PN	Pn	11 24 34.0	-0.9
FOZ	**Fox Glacier**	**3.52**	**53**	PN	Pn	11 24 35.4	-0.2
RPZ	**Rata Peaks**	**4.25**	**63**	PN	Pn	11 24 44.2	-1.5
RPZ				AML	AML	11 25 21.1	
RPZ				AML	AML	11 25 34.1	

IDC 18 11:30:47.6±1.8,13.°79N×92.°81E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.4/27,mbtmp3.5/4,ML3.6/1,MS2.4/1, Ms1 2.6/1,ms1mx2.3/44,Error ellipse: s-maj=61.6km s-min=27.0km az=67.0
ISCJB 18 11:30:50.3±0.9,14.°1N±0.°1×93.°04E±0.°06,h32km,mb3.7/3, Error ellipse: s-maj=15.5km s-min=8.4km az=0.4
ISC 18 11:30:52.9±1.1,14.°0N±0.°1×93.°04E±0.°07,h32km,n8, σ1.°55/9,mb3.7/3,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.21**	**51**	Pn	**Pn**	**11 32 38.0**	**+1.8**
	0.3nm,0.3s,baz=242,slow=13,SNR=4.3						
CMAR				Sn	**Sn**	**11 33 55.0**	**-2.1**
	0.3nm,0.3s,baz=239,slow=28,SNR=9.5						
CMAR				LR	LR	11 35 51.2	
	comp=Z,33nm,21.0s,baz=230,slow=40						
VIS	**Vishakhapatnam**	**10.06**	**293**	iP	**Pn**	**11 33 13.3**	**-1.9**
VIS				iS	**Sn**	**11 35 08.1**	**+0.9**
VIS				iS	**Sn**	**11 35 08.5**	**+1.4**
VIS				ex	x	11 35 14.0	
	comp=E,9.8nm,0.3s						
VIS				ex	x	11 35 14.6	
	comp=N,15nm,0.5s						
H08S3	**Diego Garcia H**	**29.61**	**225**	T	T	12 07 46.8	
	baz=38						
H08S2	**Diego Garcia H**	**29.62**	**225**	T	T	12 07 46.3	
	baz=38,slow=74,SNR=2.7						
H08S1	**Diego Garcia H**	**29.63**	**225**	T	T	12 07 48.2	
	baz=38,slow=74,SNR=3.2						
MKAR	**Makanchi Array**	**33.94**	**347**	P	**P**	**11 37 33.6**	**+0.4**
	comp=N,1.0nm,1.0s,baz=163,slow=8.9,SNR=6.2						
WRA	**Warramunga Arr**	**52.78**	**129**	P	**P**	**11 40 05.1**	**-0.4**
	comp=N,0.2nm,0.3s,baz=303,slow=9.5,SNR=10						
WRA				PcP	**PcP**	**11 41 15.0**	**+0.3**
	comp=N,0.4nm,1.1s,baz=326,slow=3.4,SNR=6.3						
ASAR	**Alice Springs**	**54.73**	**133**	P	**P**	**11 40 19.7**	**+0.1**
	comp=N,0.4nm,0.4s,baz=309,slow=7.1,SNR=13						

MAN 18 11:40:07,6.°13N×123.°47E,h34km,mb4.1,ML2.9,MS2.6, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.48**	**92**	⇓iP	Pb	11 40 35.4	+1.3
GSPH				eS	Sb	11 40 56.4	+3.8
PAGZ	**Pagadian**	**1.71**	**357**	eP	Pn	11 40 35.0	+0.6
PAGZ				eS	Sn	11 40 55.9	+0.7
IPIL	**Ipil**	**1.87**	**332**	eP	Pn	11 40 37.7	+1.1
IPIL				eS	Sn	11 40 59.7	+0.6

IDC 18 11:40:42.1±8.3,20.°99S×66.°63W,h200km±55km,mb3.0/3, mb1 3.2/4,mb1mx3.1/20,mbtmp3.5/4,Error ellipse: s-maj=100.2km s-min=29.7km az=22.0,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.88**	**343**	P	Pn	11 41 55.5	-0.4
	0.6nm,0.3s,baz=149,slow=4.6,SNR=18						
LPAZ				S	Sn	11 42 54.2	+0.2
	0.1nm,0.3s,baz=106,slow=14,SNR=1.9						
TXAR	**Lajitas Array**	**61.46**	**323**	P	P	11 50 38.3	+0.4
	0.1nm,0.7s,baz=130,slow=11,SNR=3.4						
TORD	**Torodi Ar. Bea**	**75.18**	**69**	P	P	11 52 03.4	+0.2
	0.6nm,0.3s,baz=261,slow=5.3,SNR=11						
YKA	**Yellowknife Ar**	**91.43**	**340**	P	P	11 53 24.1	-1.0
	0.1nm,0.4s,baz=130,slow=4.9,SNR=5.6						
MKAR	**Makanchi Array**	**143.96**	**37**	PKP	PKPbc	11 59 52.3	+0.1
	0.5nm,0.6s,baz=322,slow=3.5,SNR=7.1						

IDC 18 11:57:38.3±1.1,14.°09N×92.°83E,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.4/50,mbtmp3.4/6,ML3.6/1,Error ellipse: s-maj=45.2km s-min=21.7km az=45.0
ISCJB 18 11:57:41.1±1.0,14.°5N±0.°1×93.°3E±0.°1,h30km,mb3.5/5, Error ellipse: s-maj=19.1km s-min=13.0km az=150.2
ISC 18 11:57:43.1±1.2,14.°4N±0.°2×93.°3E±0.°1,h30km,n9,σ1.°15/6, mb3.6/5,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.76**	**53**	Pn	Pn	11 59 27.0	+6.6
	0.2nm,0.3s,baz=239,slow=16,SNR=3.0						
CMAR				Sn	**Sn**	**12 00 36.0**	**-0.4**

0.1nm,0.3s,baz=242,slow=30,SNR=4.7
H08S3 Diego Garcia H 30.09 225 T T 12 35 28.8
baz=42,slow=76,SNR=7.2
H08S2 Diego Garcia H 30.09 224 T T 12 35 27.7
baz=42,slow=76,SNR=7.1
H08S1 Diego Garcia H 30.11 225 T T 12 35 30.0
baz=42,slow=76,SNR=4.7
MKAR Makanchi Array 33.53 346 P P 12 04 21.0 +0.9
0.3nm,0.7s,baz=171,slow=8.6,SNR=4.7
WRA Warramunga Arr 52.92 129 P P 12 06 57.2 +0.3
1.0nm,0.9s,baz=311,slow=7.7,SNR=6.1
ASAR Alice Springs 54.90 133 P P 12 07 11.3 -0.1
0.3nm,0.7s,baz=311,slow=6.8,SNR=3.8
BRTR Keskin Array B 57.61 308 P P 12 07 29.1 -1.5
0.6nm,0.8s,baz=107,slow=6.6,SNR=4.4
GERES GERESS Array B 72.41 317 P P 12 09 07.5 +0.8
0.3nm,0.5s,baz=90,slow=2.9,SNR=2.8

ISCJB 18 11:58:18.9±0.7, 56°.5S±0°.1×140°.7W±0°.2, h10km, mb4.5/7, MS4.2/16, Error ellipse: s-maj=18.0km s-min=14.8km az=8.2
IDC 18 11:58:19.5±0.7, 56°.48S×140°.72W, h0km, mb4.4/6, mb1 4.6/6, mb1mx4.3/15, mbtmp4.4/6, MS4.1/16, Ms1 4.1/16, ms1mx4.0/20, Error ellipse: s-maj=38.3km s-min=19.9km az=179.0
GCMT 18 11:58:21.0±0.3, 56°.77S×140°.82W, h17km±1km, MW5.1/73, Moment Tensor Solution. s31,c37; s73,c109; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.95±.22; Mθθ4.92±.22; Mφφ-2.98±.17; Mrθ1.43±.42; Mrφ2.60±.13; Mθφ2.01±.48; Best double couple: M0 5.44700×10^16 NP1:φs214.00000°, δ78.00000°, λ-146.00000°. NP2: φs116.00000°, δ57.00000°, λ-14.00000°. Principal axes: T 6.1790, Plg14.0000°, Azm341.0000°; N -1.4740, Plg54.0000°, Azm231.0000°; P -4.7150, Plg32.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 18 11:58:21.1±0.5, 56°.67S×140°.71W, h10km, mb4.9/2 Error ellipse: s-maj=19.7km s-min=12.1km az=2.0
ISC 18 11:58:20.7±0.7, 56°.5S±0°.1×140°.7W±0°.1, h10km, n47, σ1§16/17, mb4.6/7, MS4.2/16, Pacific-Antarctic Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SBA Scott Base 27.78 201 P P 12 04 06.7 -2.5
VNDA Vanda 28.70 202 LR LR 12 12 48.8
comp=Z,479nm,20.2s,baz=78,slow=30
RKT Rikitea 33.61 10 eLQ LQ 12 12 32.5
585nm,28.2s
RKT eLR LR 12 13 56.1
2µm,28.8s,baz=185
RKT Rikitea 33.61 10 eT T 12 40 18.3
1.2nm,0.2s
QSPA South Pole Qui 33.66 180 P P 12 05 01.9 +0.7
12nm,1.0s,baz=83,slow=2.9,SNR=16
QSPA South Pole Qui 33.66 180 eP P 12 05 01.7 +0.4
24nm,1.3s
TBI Tubuai 33.73 345 eT T 12 40 24.2
10nm,0.3s
PMSA Palmer Station 36.22 135 P P 12 05 22.0 -1.2
MEH Mehetia 38.96 349 eT T 12 46 56.5
7.4nm,0.2s
TVO Taravao 39.19 347 eT T 12 47 13.3
1.0nm,0.3s
PPT2 Papeete2 39.42 347 eS S 12 11 50.4 -1.9
184nm,25.5s
PPT2 eLR LR 12 16 24.3
2µm,28.0s,baz=176
PPT Papeete 39.44 347 LR LR 12 18 59.9
comp=Z,389nm,18.4s,baz=180,slow=32
VAH Vaihoa 41.52 350 eT T 12 50 08.6
11nm,0.2s
H03N3 Juan Fernandez 47.48 88 T T 12 57 52.9
baz=220,slow=76,SNR=44
H03N2 Juan Fernandez 47.49 88 T T 12 57 55.9
baz=220,slow=76,SNR=99
H03N1 Juan Fernandez 47.50 88 T T 12 57 56.7
baz=220,slow=76,SNR=51
DZM Mont Dzumac 51.57 289 eLR LR 12 22 10.4
114nm,21.0s
TRQA Tornquist 53.38 105 eP P 12 07 40.4 +0.3
MAW Mawson 54.98 191 LR LR 12 28 22.5
comp=Z,305nm,20.4s,baz=150,slow=33
STKA Stephens Creek 57.46 260 P P 12 08 10.7 +1.1
2.7nm,0.8s,baz=152,slow=7.7,SNR=3.3
STKA LR LR 12 27 49.0
comp=Z,276nm,21.6s,baz=145,slow=31
LVC Limon Verde 61.43 88 eP P 12 08 38.2 +0.8
9.1nm,0.9s
CPUP Villa Florida 64.88 100 P P 12 08 59.7 -0.2
2.6nm,0.6s,baz=186,slow=8.1,SNR=5.4
CPUP LR LR 12 32 39.0
comp=Z,78nm,19.3s,baz=207,slow=32
NNA Nana 65.75 74 LR LR 12 31 00.6
comp=Z,198nm,19.0s,baz=204,slow=30
LPAZ La Paz 66.96 85 P P 12 09 15.3 +1.2
6.0nm,1.1s,baz=213,slow=4.5,SNR=13
LPAZ LR LR 12 31 17.2
comp=Z,84nm,20.3s,baz=209,slow=30
ASAR Alice Springs 68.10 260 P P 12 09 21.8 +1.2
3.1nm,1.0s,baz=144,slow=6.8,SNR=18
ASAR LR LR 12 34 43.3
comp=Z,155nm,21.7s,baz=154,slow=32
ATAH Atahualpa 69.00 70 LR LR 12 31 19.7
comp=Z,30nm,21.6s,baz=216,slow=29
H01W1 Cape Leeuwin H 69.22 238 T T 13 25 43.2
baz=145,slow=76,SNR=20
H01W2 Cape Leeuwin H 69.22 238 T T 13 25 33.1
baz=145,slow=76,SNR=25
H01W3 Cape Leeuwin H 69.23 238 T T 13 25 40.6
baz=145,slow=76,SNR=21
NWAO Narrogin (SRO) 69.34 242 LR LR 12 32 29.3
comp=Z,81nm,18.3s,baz=155,slow=30
WRA Warramunga Arr 70.85 263 P P 12 09 37.2 -0.4
2.4nm,0.9s,baz=147,slow=5.7,SNR=14
WRA LR LR 12 36 25.5
comp=Z,137nm,21.0s,baz=160,slow=32
PMG Port Moresby 72.36 280 LR LR 12 36 39.0
comp=Z,84nm,20.4s,baz=46,slow=32
BDFB Brasilia 78.59 101 LR LR 12 40 35.0
comp=Z,92nm,19.7s,baz=211,slow=32
TXAR Lajitas Array 91.09 32 LR LR 12 43 53.2
comp=Z,82nm,19.9s,baz=0.0,slow=30
BOSA Boshof 94.39 168 LR LR 12 50 08.2
comp=Z,128nm,19.4s,baz=181,slow=33
NVAR Mina Array Bea 96.46 18 LR LR 12 46 13.8
comp=Z,178nm,19.8s,baz=170,slow=30
H10S3 ASCENSION HYDR101.17 125 T T 14 05 34.7
baz=207,slow=74,SNR=8.2
H10S2 ASCENSION HYDR101.17 126 T T 14 05 35.3
baz=207,slow=74,SNR=5.1
H10S1 ASCENSION HYDR101.18 125 T T 14 05 37.6
baz=207,slow=74,SNR=10
H10N3 ASCENSION HYDR102.22 125 T T 14 06 54.8
baz=206,slow=75,SNR=12
H10N1 ASCENSION HYDR102.23 125 T T 14 06 58.9
baz=206,slow=75,SNR=11
H10N2 ASCENSION HYDR102.24 125 T T 14 06 58.5
baz=206,slow=75,SNR=9.9
ILAR Eielson Array 121.04 357 PKP PKPdf 12 17 11.7 -0.1
0.8nm,0.9s,baz=202,slow=2.2,SNR=7.4
ESDC Sonseca Array 147.23 102 PKPbc PKPbc 12 18 03.7 +0.2
0.4nm,0.4s,baz=243,slow=3.0,SNR=4.3
MKAR Makanchi Array 152.04 268 PKPbc PKPbc 12 18 14.5 -0.7
0.7nm,0.9s,baz=130,slow=2.3,SNR=4.3
ZALV Zalesovo Beam 154.27 284 PKPab PKPab 12 18 35.1 +1.3
0.6nm,0.3s,baz=132,slow=6.0,SNR=2.5
BVAR Borovoye Array 161.81 272 PKPab PKPab 12 19 06.3 -0.3
0.4nm,0.6s,baz=124,slow=4.4,SNR=2.3

IDC 18 12:04:51.9±3.0, 54°.24N×87°.00E, h0km, mb1 3.0/1, mb1mx2.8/54, mbtmp3.0/1, ML3.0/1, Error ellipse: s-maj=26.6km s-min=15.7km az=63.0
ISC 18 12:04:57.9±5.6, 54°.3N±0°.2×86°.3E±0°.3, h35km, n5, σ1§24/6, 4C-1D, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 0.95 247 i 12 14 09.6
baz=79,slow=341,SNR=0.7
ZALV Zalesovo Beam 0.96 247 Pg Pn 12 05 15.9 +1.2
2.4nm,0.3s,baz=72,slow=13,SNR=21
ZALV Lg Lg 12 05 34.6
2.3nm,0.3s,baz=74,slow=27,SNR=6.6

KURK Kurchatov 5.93 235 ⇑Pn Pn 12 06 21.3 -1.7
0.6nm,0.7s
KURK ⇑Lg Lg 12 08 07.9
1.3nm,0.7s
MK31 Makanchi Array 7.97 200 ⇑Pn Pn 12 06 50.9 -0.3
0.1nm,0.3s,baz=26,slow=13,SNR=14
MK31 ⇓Sn Sn 12 08 20.3 +0.3
0.3nm,0.5s,baz=28,slow=28,SNR=2.8
MK31 ⇑Lg Lg 12 09 07.1
1.0nm,0.7s
MKAR Makanchi Array 7.97 200 Pn Pn 12 06 51.3 +0.2
0.2nm,0.3s,baz=25,slow=13,SNR=17
MKAR Sn Sn 12 08 20.3 +0.3
0.1nm,0.3s,baz=22,slow=28,SNR=5.9
MKAR Lg Lg 12 09 06.2
0.0nm,0.3s,baz=18,slow=32,SNR=2.3

DDA 18 12:10:40.7, 38°.32N×37°.88E, h7km, MD2.7
ISC 18 12:10:33.6±3.0, 38°.1N±0°.1×37°.63E±0°.09, h11km, n4, σ1§32/8, Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AKCD Akcadag 0.33 44 i P Pb 12 10 42.0 +0.4
AKCD i S Sg 12 10 44.0 -0.9
DARE Darende-Malaty 0.53 348 ePG Pg 12 10 43.0 -0.8
DARE eSG Sb 12 10 53.8 +1.2
MALT Malatya 0.68 68 ePG Pn 12 10 49.1 -0.1
MALT eSG Sb 12 10 56.2 -0.8
KEMA Kemaliye 1.39 29 i P Pg 12 11 02.0 +1.7
KEMA i S Sb 12 11 15.9 -1.4

IDC 18 12:14:42.3±2.8, 7°.45S×125°.91E, h480km±45km, mb2.8/3, mb1 3.1/6, mb1mx2.9/21, mbtmp3.9/6, Error ellipse: s-maj=85.4km s-min=20.6km az=52.0, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BATI Baumata 3.52 219 P P 12 15 56.5 +0.9
17nm,0.3s,baz=62,slow=2.5,SNR=20
BATI S S 12 16 55.2 0.0
8.7nm,0.3s,baz=51,slow=18,SNR=13
WRA Warramunga Arr 14.87 147 P P 12 17 50.0 -1.5
0.8nm,0.3s,baz=326,slow=12,SNR=34
WRA S S 12 20 24.6 -3.0
0.0nm,0.3s,baz=316,slow=22,SNR=5.2
ASAR Alice Springs 17.86 155 P P 12 18 23.2 +0.8
0.9nm,0.3s,baz=336,slow=8.6,SNR=36
SONM Songino Array 57.69 345 P P 12 23 45.4 -0.8
0.3nm,0.6s,baz=157,slow=7.9,SNR=3.5
MKAR Makanchi Array 66.44 329 P P 12 24 43.7 +0.5
0.4nm,0.7s,baz=124,slow=6.9,SNR=6.5
ZALV Zalesovo Beam 70.25 336 P P 12 25 05.9 -0.3
0.9nm,0.6s,baz=134,slow=4.2,SNR=3.0

IDC 18 12:22:17.4±1.7, 10°.93N×86°.71W, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/24, mbtmp3.9/9, ML3.0/1, Error ellipse: s-maj=51.7km s-min=16.9km az=30.0
ISCJB 18 12:22:20.9±1.6, 11°.0N±0°.3×86°.7W±0°.2, h31km, mb3.9/8, Error ellipse: s-maj=43.7km s-min=7.7km az=33.7
ISC 18 12:22:22.0±1.6, 10°.9N±0°.3×86°.7W±0°.2, h31km, n16, σ0§92/14, mb3.9/8, Off coast of Costa Rica

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JTS JuntasAbangare 1.87 110 Pn Pn 12 22 50.8 -1.1
16nm,0.3s,baz=312,slow=18,SNR=30
JTS Sn Sn 12 23 14.3 -0.1
20nm,0.3s,baz=342,slow=20,SNR=16
JTS LR LR 12 23 43.4
comp=Z,246nm,18.8s,baz=194,slow=47
APG El Apazote 5.44 318 Pn Pn 12 23 39.8 -1.4
0.5nm,0.3s,baz=126,slow=10,SNR=5.7
PCRV Puerto La Cruz 21.74 90 P P 12 27 12.3 +1.2
5.8nm,0.7s,baz=247,slow=7.7,SNR=2.7
TXAR Lajitas Array 24.18 322 P P 12 27 37.5 +1.7
1.3nm,0.9s,baz=138,slow=9.6,SNR=10
TKL Tuckaleechee C 24.75 6 P P 12 27 40.3 -0.6
1.7nm,0.5s,baz=203,slow=15,SNR=2.1
NVAR Mina Array Bea 39.30 320 P P 12 29 48.9 +0.4
0.7nm,0.4s,baz=132,slow=5.4,SNR=16
NVAR PcP PcP 12 31 56.5 -0.4
0.3nm,0.7s,baz=134,slow=5.2,SNR=3.3
ULM Lac du Bonnet 39.91 351 P P 12 29 53.9 +0.8
1.1nm,0.4s,baz=162,slow=11,SNR=2.8
H03N2 Juan Fernandez 44.75 171 T T 13 17 49.2
baz=348
H03N1 Juan Fernandez 44.76 171 T T 13 17 47.8
baz=348
H03N3 Juan Fernandez 44.77 171 T T 13 17 49.7
baz=348
SCHQ Schefferville 46.52 16 P P 12 30 46.0 -0.4
2.1nm,0.6s,baz=234,slow=14,SNR=4.2
YKA Yellowknife Ar 55.25 345 P P 12 31 51.5 -0.4
0.5nm,0.7s,baz=141,slow=7.2,SNR=13
YKA PcP PcP 12 32 52.3 -0.2
0.3nm,0.5s,baz=145,slow=4.2,SNR=10.0
ILAR Eielson Array 67.68 336 P P 12 33 16.3 +0.4
1.6nm,1.0s,baz=145,slow=4.4,SNR=19
ASAR Alice Springs 139.34 246 PKP PKPdf 12 41 53.0 +5.9
0.3nm,0.5s,baz=106,slow=2.0,SNR=3.3
WRA Warramunga Arr 139.50 252 PKP PKPdf 12 41 54.3 +6.9
0.4nm,0.7s,baz=93,slow=3.0,SNR=3.0
CMAR Chiang Mai Arr 150.26 349 PKPbc PKPbc 12 42 10.7 -0.3
0.7nm,0.3s,baz=341,slow=3.3,SNR=4.5

MOS 18 12:24:33.9±1.1, 55°.36N×110°.30E, h14km, mb4.3/1, Error ellipse: s-maj=18.2km s-min=9.6km az=76.0
BYKL 18 12:24:34.6±0.2, 55°.34N×110°.25E
ISC 18 12:24:33.5±0.7, 55°.41N±0°.02×110°.35E±0°.02, h4km, n39, σ2§15/78, 7C-2D, Lake Baykal region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NIZ Nizh Angarsk 0.58 309 ePG Pb 12 24 46.2 -0.1
NIZ e 12 24 54.7
NIZ pmax pmax
comp=Z,90nm,0.2s
NIZ smax smax
comp=N,721nm,0.2s
NIZ Nizh Angarsk 0.58 309⇑iPg Pb 12 24 46.3 -0.1
NIZ ePb Pn 12 24 52.7 +4.1
NIZ eSg Sb 12 24 54.0 -1.0
NIZ Pmax
comp=N,74nm,0.1s
NIZ Smax
comp=N,706nm,0.3s
KMO Kumora 0.68 45 ePG Pb 12 24 48.3 +0.4
KMO e 12 24 58.3
KMO pmax pmax
comp=Z,444nm,0.4s
KMO smax smax
comp=N,585nm,0.9s
KMO Kumora 0.68 45⇓iPg Pb 12 24 48.4 +0.5
KMO eSg Sb 12 24 58.4 +0.7
KMO Pmax
comp=N,444nm,0.3s
KMO Smax
comp=N,597nm,1.0s
YLYR Ulyunkhan 0.71 139⇑iPG Pg 12 24 47.3 +0.1
YLYR e 12 24 56.2
YLYR pmax pmax
comp=Z,213nm,0.1s
YLYR smax smax
comp=N,613nm,0.4s
YLYR Ulyunkhan 0.71 139⇓iPg Pg 12 24 47.3 +0.1
comp=N,196nm,0.3s
YLYR ⇑iPg Pg 12 24 47.3 +0.1
comp=N,185nm,0.3s
YLYR ⇑iPg Pg 12 24 47.3 +0.1
comp=N,304nm,0.3s
YLYR i Sg Sg 12 24 56.4 0.0
YLYR Pmax
comp=N,252nm,0.3s
YLYR Smax
comp=N,789nm,0.6s
YOA Uoyan 1.06 47⇑iPG Pn 12 24 55.7 +0.5
YOA i 12 25 11.7
YOA pmax pmax
comp=Z,347nm,0.2s
YOA smax smax
comp=N,1µm,0.3s

YOA Uoyan 1.06 47⇑iPg Pn 12 24 55.7 +0.5
YOA eSg Sn 12 25 10.9 +0.5
YOA Pmax
comp=N,345nm,0.2s
YOA Smax
comp=N,1µm,0.5s
SYVR Suvo 1.77 187 ePN Pn 12 25 05.3 +0.4
SYVR e 12 25 28.7
SYVR pmax pmax
comp=Z,105nm,0.3s
SYVR smax smax
comp=N,472nm,0.5s
SYVR Suvo 1.77 187⇑iPg Pn 12 25 05.4 +0.5
SYVR eSg Sb 12 25 28.4 -0.7
SYVR e 12 25 31.4
SYVR Pmax
comp=N,103nm,0.4s
SYVR max
comp=N,492nm,1.1s
SVKR Severomuysk 1.95 67 ePn Pg 12 25 10.5 -0.3
SVKR ePg Pb 12 25 11.3 +1.7
SVKR eSg Sg 12 25 37.5 +1.5
SVKR Pmax
comp=N,126nm,0.4s
SVKR Smax
comp=N,1µm,0.4s
OGRR Ongureny 2.39 223 ePN Pb 12 25 15.1 -2.0
OGRR e 12 25 17.9
OGRR e 12 25 47.2
OGRR pmax pmax
comp=Z,50nm,0.3s
OGRR smax smax
comp=E,536nm,0.2s
OGRR Ongureny 2.39 223 ePn Pn 12 25 14.8 +1.4
OGRR ePg Pb 12 25 16.5 -0.6
OGRR e 12 25 43.5
OGRR i Sg Sb 12 25 47.2 +0.3
OGRR Pmax
comp=E,60nm,0.2s
OGRR Smax
comp=E,529nm,0.2s
BOD Bodaibo 3.15 38 ePn Pn 12 25 26.4 +2.6
BOD ePg Pg 12 25 31.6 -2.2
BOD eSn Sn 12 26 04.7 +2.9
BOD eSg Sg 12 26 14.1 -0.4
BOD Pmax
comp=E,30nm,0.4s
BOD Smax
comp=E,104nm,0.6s
TRG Tyrgan 3.55 223 ePN Pn 12 25 28.0 -1.4
TRG eS Sn 12 26 08.4 -3.4
TRG eS Sb 12 26 21.8 +1.4
TRG smax smax
comp=E,128nm,0.4s
TRG Tyrgan 3.55 223 ePn Pn 12 25 31.0 +1.6
TRG ePg Pb 12 25 36.5 -0.4
TRG e 12 26 12.2
TRG eSg Sb 12 26 21.7 +1.4
TRG eSgSg Sg 12 26 26.8 -0.7
TRG Pmax
comp=E,10.0nm,0.4s
TRG max
comp=E,129nm,0.4s
CIT Chita 3.90 149 eSg Sb 12 26 33.3 +3.1
CIT Smax
comp=E,203nm,0.2s
UUDB Ulan-Yde 3.90 205 ePg Pb 12 25 42.3 -0.4
UUDB e 12 25 47.1
UUDB eSg Sb 12 26 32.7 +2.5
UUDB max
comp=E,25nm,0.7s
UUDB Smax
comp=E,92nm,0.9s
VTMR Vitim 4.21 16 eSg Sg 12 26 48.1 -0.5
HRMR Khuramsha 4.30 209 ePn Pn 12 25 40.4 +0.7
HRMR ePg Pb 12 25 49.6 0.0
HRMR eSg Sb 12 26 45.4 +3.6
HRMR Pmax
comp=E,32nm,0.5s
HRMR Smax
comp=E,268nm,0.6s
CRS Chara 4.67 68 ePN Pg 12 26 02.7 -0.3
CRS e 12 27 01.6
CRS pmax pmax
comp=Z,34nm,1.0s
CRS smax smax
comp=E,105nm,1.3s
CRS Chara 4.67 68 ePn Pn 12 25 45.5 +0.7
CRS ePg Pg 12 25 59.9 -3.1
CRS e 12 26 02.7
CRS eSg Sg 12 27 02.0 -1.5
CRS max
comp=E,5.0nm,0.6s
CRS Smax
comp=E,104nm,1.4s
IRK Irkutsk 4.80 231 ePN Pb 12 26 00.4 +2.3
IRK e 12 27 01.2
IRK pmax pmax
comp=Z,116nm,0.1s
IRK smax smax
comp=N,330nm,0.9s
IRK Irkutsk 4.80 231 eSg Sb 12 26 59.8 +3.6
IRK e 12 27 02.3
IRK max
comp=N,325nm,1.2s
LSTR Listvyanka 4.83 225 ePn Pn 12 25 46.1 -0.9
LSTR ePg Pb 12 25 58.5 -0.2
LSTR e 12 26 42.4
LSTR eSg Sb 12 27 01.0 +3.8
LSTR Pmax
comp=N,4.0nm,0.6s
LSTR Smax
comp=N,64nm,1.2s
TLY Talaya 5.47 230 ePN Pn 12 25 55.7 -0.1
TLY e 12 26 11.4
TLY eS Sn 12 26 56.1 -3.0
TLY e 12 27 20.3
TLY pmax pmax
comp=Z,60nm,0.3s
TLY smax smax
comp=E,76nm,0.7s
TLY Talaya 5.47 230 ePn Pn 12 25 55.7 -0.1
TLY ePg Pb 12 26 10.6 +1.0
TLY eSn Sn 12 26 56.1 -3.0
TLY eSg Sb 12 27 20.4 +4.9
TLY Pmax
comp=E,5.0nm,0.4s
TLY Smax
comp=E,76nm,1.0s
KHNR Khani 5.59 70 eSg Sg 12 27 30.6 -2.3
TUP Tupik 5.63 96 ePN Pn 12 25 59.4 +1.5
TUP e 12 26 16.1
TUP eS Sn 12 27 02.8 -0.2
TUP e 12 27 29.8
TUP pmax pmax
comp=Z,10.0nm,0.5s
TUP smax smax
comp=N,45nm,1.2s
TUP Tupik 5.63 96 ePn Pn 12 25 59.0 +1.1
TUP ePg Pb 12 26 15.7 +3.4
TUP eSg Sg 12 27 30.5 -3.6
TUP Pmax
comp=N,8.0nm,0.5s
TUP Smax
comp=N,54nm,1.1s
KPC Khapcheranga 5.85 167 ePN Pn 12 26 01.4 +0.4
KPC e 12 26 18.9
KPC eS Sn 12 27 04.5 -4.0
KPC e 12 27 33.9
KPC pmax pmax
comp=Z,3.0nm,0.5s
KPC smax smax
comp=E,55nm,1.2s
KPC Khapcheranga 5.85 167 ePn Pn 12 26 01.1 +0.1
KPC ePg Pb 12 26 18.5 +2.4
KPC eSn Sn 12 27 04.1 -4.4
KPC eSg Sg 12 27 33.9 -7.4
KPC Pmax
comp=E,3.0nm,0.6s
KPC Smax
comp=E,53nm,1.3s
ARS Arshan 5.87 237 ePN Pn 12 26 01.5 +0.3
ARS eS Sn 12 27 07.1 -1.8
ARS eS Sb 12 27 32.2 +5.3

ARS				smax	smax		
	comp=E,169nm,0.3s						
ARS	Arshan	5.87	237	ePn	Pn	12 26 02.0	+0.8
ARS				e		12 26 21.0	
ARS				eSn	Sn	12 27 05.7	-3.2
ARS				eSg	Sb	12 27 32.0	+5.1
ARS				max			
	comp=E,12nm,0.5s						
ARS				Smax			
	comp=E,173nm,1.0s						
YKLR	Yuktali	6.45	75	eSg	Sg	12 27 55.7	-4.8
ZAK	Zakamensk	6.61	223	eSg	Sb	12 27 56.0	+7.8
ZAK				Smax			
	comp=E,24nm,1.0s						
MOY	Mondy	6.72	240	ePn	Pn	12 26 14.8	+1.8
MOY				ePg	Pb	12 26 33.5	+2.6
MOY				e		12 27 28.8	
MOY				eSg	Sb	12 27 58.9	+7.4
MOY				Pmax			
	comp=E,4.0nm,0.9s						
MOY				Smax			
	comp=E,57nm,1.8s						
ORL	Orlik	6.85	249	ePN	Pn	12 26 16.3	+1.5
ORL				e		12 26 37.9	
ORL				e		12 28 05.6	
ORL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ORL				smax	smax		
	comp=N,97nm,1.1s						
ORL	Orlik	6.85	249	ePn	Pn	12 26 16.6	+1.8
ORL				e		12 27 32.5	
ORL				eSg	Sg	12 28 05.6	-7.7
ORL				max			
	comp=N,4.0nm,1.1s						
ORL				Smax			
	comp=N,97nm,1.7s						

ISCJB 18 12:34:19.7±0.4,0.99N±0.05×122.19E±0.05,h44km, mb3.8/7,Error ellipse: s-maj=7.7km s-min=5.5km az=136.4
DJA 18 12:34:23.7±0.4,1°N±3°×12°2E±°,h29km±5km,M4.6/20, mb4.9/11,mB5.0/8,MLv4.8/20,Mw(mB)4.4/8
KLM 18 12:34:25.8,0.80N×121.88E,h70km,mb4.6,ML4.6,MS5.7
IDC 18 12:34:27.8±7.9,0.72N×122.27E,h125km±74km,mb3.4/7, mb1 3.5/7,mb1mx3.4/24,mbtmp3.8/7,Error ellipse: s-maj=130.4km s-min=15.0km az=65.0
ISC 18 12:34:20.1±0.6,0.99N±0.07×122.18E±0.07,h44km,n45, σ2.29/37,mb3.8/7,6C-3D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.56	205	P	Pn	12 34 33.9	+2.1
GTOI	Gorontalo	0.90	113	P	Pn	12 34 38.6	+2.2
KMSI	Cibinong	1.85	103	P	Pn	12 34 55.9	+6.6
APSI	Ampana	1.96	196	P	Pn	12 34 50.9	0.0
LUWI	Luwuk	2.10	164	P	Pn	12 34 54.8	+1.9
LUWI	Luwuk	2.10	164	P	Pn	12 34 54.7	+1.9
	baz=2.2,SNR=290						
LUWI				S	Sn	12 35 23.0	+5.3
	baz=2.2,SNR=9.9						
MPSI	Mapaga	2.37	254	P	Pn	12 34 58.5	+2.0
TTSI	Tana Toraja	4.65	210	P	Pn	12 35 29.4	+1.6
SANI	Sanana	4.86	128	P	Pn	12 35 31.4	+0.7
TSM	Tawau	5.41	307	⇑P	Pn	12 35 40.6	+2.2
SPSI	Sidrap Palu	5.48	206	P	Pn	12 35 40.9	+1.7
	105nm,0.6s,1μm0.4nm						
LBMI	Labuha	5.56	107	P	Pn	12 35 44.8	+4.4
	78nm,0.9s,942nm0.3nm						
BNSI	Bone	5.74	201	P	Pn	12 35 45.0	+2.2
	198nm,0.7s,2μm0.9nm						
GSPH	General Santos	5.77	29	⇓iP	Pn	12 35 47.8	+4.4
NLAI	Namlea	6.47	130	P	Pn	12 35 56.8	+4.0
	76nm,0.9s,2μm0.4nm						
BKSI	Bulukumba	6.59	198	P	Pn	12 35 56.7	+2.1
	51nm,0.9s,491nm0.2nm						
SDKM	Sandakan	6.79	313	⇓P	Pn	12 36 00.7	+3.3
KKM	Kota Kinabalu	7.79	310	P	Pn	12 36 15.5	+4.4
	baz=7.7,SNR=13						
KKM	Kota Kinabalu	7.79	310	⇑P	Pn	12 36 14.7	+3.6
BBKI	Banjar Baru	8.56	239	P	Pn	12 36 23.8	+2.2
	39nm,0.8s,0.3nm						
BTM	Bintulu	9.35	284	⇓P	Pn	12 36 34.0	+1.6
SBUM	Sibu	10.06	278	⇑P	Pn	12 36 40.2	-1.9
FAKI	Fak Fak	10.79	111	P	Pn	12 36 53.2	+1.1
	baz=5.2						
SOEI	Soe	10.87	169	S	Sn	12 39 02.4	+8.6
	baz=11,SNR=4.6						
JAGI	Jajag, Banyuwa	12.34	220	P	Pn	12 37 16.1	+2.8
MTN	Manton Dam	16.36	147	P	Pn	12 38 07.9	+1.1
	baz=16,SNR=7.1						
KNRA	Kununurra	17.79	159	P	Pn	12 38 24.0	-0.6
	baz=18,SNR=9.8						
FITZ	Fitzroy Crossi	19.27	170	P	P	12 38 39.4	-1.8
	baz=19,SNR=22						
KTGM	Kuala Trenggan	19.49	283	⇑P	Pn	12 38 45.4	+0.2
FRIM	Kepong	20.66	277	⇑P	Pn	12 38 57.9	-1.2
IPM	Ipoh	21.41	280	⇑P	P	12 39 07.1	+2.6
PDSI	Padang	21.80	265	P	P	12 39 08.7	0.0
WRA	Warramunga Arr	23.98	151	P	P	12 39 27.7	-3.0
	1.4nm,0.5s,baz=324,slow=11,SNR=27						
WRA				PcP	PcP	12 43 09.0	-3.3
	0.3nm,0.8s,baz=326,slow=1.7,SNR=2.9						
WRKA	Warakurna	26.54	168	P	P	12 39 51.0	-3.0
	baz=27,SNR=18						
WRKA				S	S	12 44 10.7	-15
	baz=27,SNR=4.9						
ASAR	Alice Springs	27.03	156	P	P	12 39 56.5	-1.9
	0.5nm,0.6s,baz=344,slow=14,SNR=14						
ASAR				PcP	PcP	12 43 16.3	-2.8
	0.7nm,0.4s,baz=344,slow=2.0,SNR=8.6						
MEEK	Meekatharra	27.68	187	P	P	12 40 00.3	-3.8
	baz=28,SNR=5.8						
MORW	Morawa	30.46	191	P	P	12 40 25.1	-3.6
	baz=31,SNR=3.6						
BLDU	Ballidu	31.85	189	P	P	12 40 37.2	-3.9
	baz=32,SNR=9.9						
STKA	Stephens Creek	37.51	152	P	P	12 41 27.1	-2.7
	2.0nm,0.8s,baz=338,slow=14,SNR=2.4						
HTT	Hallett	37.69	157	P	P	12 41 30.2	-1.3
	baz=38,SNR=3.6						
SONM	Songino Array	48.63	346	P	P	12 43 01.1	+1.3
	0.8nm,0.8s,baz=164,slow=9.5,SNR=9.4						
MKAR	Makanchi Array	57.35	328	P	P	12 44 04.6	+0.7
	0.6nm,0.4s,baz=127,slow=8.7,SNR=17						
ZALV	Zalesovo Beam	61.08	336	P	P	12 44 29.7	+0.2
	0.7nm,0.3s,baz=160,slow=4.6,SNR=2.7						
BVAR	Borovoye Array	67.22	329	P	P	12 45 11.5	+1.7
	0.5nm,0.5s,baz=116,slow=9.9,SNR=3.1						
TORD	Torodi Ar. Bea	119.36	286	PKP	PKPdf	12 53 02.8	-3.0
	0.5nm,0.4s,baz=72,slow=1.7,SNR=12						

WEL 18 13:04:22.7±0.3,37.31S×177.75E,h100km±3km,ML3.7/6, 6C-2D,Error ellipse: s-maj=2.5km s-min=2.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.45	176	⇑PN	Pn	13 04 37.7	-0.4
HAZ				SN	Sn	13 04 49.4	-0.3
MXZ	Matakaoa Point	0.52	120	⇑PN	Pn	13 04 38.1	-0.5
MXZ				SN	Sn	13 04 50.9	+0.4
MXZ				AML	AML	13 04 51.2	
MXZ				AML	AML	13 04 51.2	
MXZ				AML	AML	13 04 51.3	
PUZ	Puketiti	0.87	152	⇑PN	Pn	13 04 41.2	-0.5
PUZ				AML	AML	13 04 57.5	
PUZ				AML	AML	13 05 03.5	
TWGZ	Tauwhareparae	0.89	168	⇑PN	Pn	13 04 42.5	+0.5
MWZ	Matawai	1.04	189	⇑PN	Pn	13 04 43.4	-0.2
MWZ				SN	Sn	13 04 59.8	+0.4
MWZ				AML	AML	13 05 00.7	
MWZ				AML	AML	13 05 00.8	
MWZ				AML	AML	13 05 00.8	
URZ	Urewera	1.08	208	⇑PN	Pn	13 04 43.7	-0.2
URZ				AML	AML	13 05 00.9	
URZ				AML	AML	13 05 01.2	
OPRZ	Ohinepanea	1.09	240	PN	Pn	13 04 44.1	+0.1
RAGZ	Rawiri	1.22	192	PN	Pn	13 04 45.9	+0.2
CNGZ	Carnagh Station	1.23	163	PN	Pn	13 04 45.9	+0.1
RIGZ	Rimuhau	1.40	179	PN	Pn	13 04 47.5	-0.3
RRRZ	Republican Roa	1.42	223	PN	Pn	13 04 48.1	+0.1
SNGZ	Shannon Statio	1.51	192	PN	Pn	13 04 49.1	0.0
PRGZ	Paritu Road	1.62	176	PN	Pn	13 04 50.0	-0.4
RAHZ	Arahi	1.69	198	PN	Pn	13 04 51.3	-0.1
KNZ	Kokohu	1.71	182	PN	Pn	13 04 50.8	-0.7
KUZ	Kuaotunu	1.71	288	⇓PN	Pn	13 04 51.6	0.0
TOZ	Tahuroa Road	1.83	256	PN	Pn	13 04 53.7	+0.6
MHGZ	Mahia Peninsul	1.85	176	PN	Pn	13 04 52.9	-0.5
NMHZ	Naumai	1.94	202	PN	Pn	13 04 54.7	+0.2
MKAZ	Moumakai	2.07	275	⇓PN	Pn	13 04 56.8	+0.6
BKZ	Black Stump Fm	2.10	208	PN	Pn	13 04 56.2	-0.5
MCHZ	McNeill Hill	2.29	201	PN	Pn	13 04 58.3	-0.7
KRVZ	Karewarewa	2.44	222	PN	Pn	13 05 01.5	+0.4
BHHZ	Black Hill Sta	2.55	211	PN	Pn	13 05 01.9	-0.6
KRHZ	Kereru	2.57	204	PN	Pn	13 05 01.3	-1.5
KAHZ	Kahuranaki	2.58	195	PN	Pn	13 05 01.5	-1.3
MOVZ	Moawhango	2.62	216	PN	Pn	13 05 02.6	-0.9
WNVZ	Wahianoa	2.63	219	ePN	Pn	13 05 03.2	-0.5
MTVZ	Mangateitei	2.74	220	PN	Pn	13 05 04.7	-0.4
PXZ	Pawanui	2.81	194	AML	AML	13 05 01.1	
PXZ				PN	Pn	13 05 03.6	-2.2
PXZ				AML	AML	13 05 38.8	
MRZ	Mangatainoka R	3.75	206	AML	AML	13 05 40.4	
MRZ				AML	AML	13 05 43.0	
HOWZ	Holdsworth Sta	3.98	205	PN	Pn	13 05 18.2	-3.4

ISCJB 18 13:25:50.4±0.8,14.1N±0.1×93.12E±0.08,h32km, mb3.7/10,MS3.9/2,Error ellipse: s-maj=15.9km s-min=10.6km az=157.0
IDC 18 13:25:52.1±0.9,14.05N×93.04E,h29km±5km,mb3.5/10, mb1 3.6/11,mb1mx3.5/29,mbtmp3.6/11,MS3.7/3, Ms1 3.7/3,ms1mx2.9/41,Error ellipse: s-maj=29.4km s-min=17.2km az=50.0
ISC 18 13:25:52.4±0.9,14.1N±0.1×93.0E±0.1,h32km,n16, σ0.82/18,mb3.7/10,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.16	52	Pn	Pn	13 27 36.4	+1.4
	baz=239,slow=16,SNR=2.6						
CMAR				Sn	Sn	13 28 54.2	-1.1
	0.2nm,0.3s,baz=242,slow=26,SNR=4.5						
PALK	Pallekele	13.86	242	LR	LR	13 34 25.3	
	comp=Z,220nm,21.7s,baz=61,slow=37						
H08S3	Diego Garcia H	29.67	225	T	T	14 02 49.7	
	baz=45,slow=74,SNR=4.8						
H08S2	Diego Garcia H	29.68	225	T	T	14 02 52.5	
	baz=45,slow=74,SNR=7.6						
H08S1	Diego Garcia H	29.69	225	T	T	14 02 50.3	
	baz=45						
MKAR	Makanchi Array	33.84	347	P	P	13 32 32.8	+1.0
	0.4nm,0.8s,baz=170,slow=6.8,SNR=6.4						
MKAR				pP	pP	13 32 41.6	+0.5
	1.5nm,0.8s,baz=161,slow=8.6,SNR=14						
ZALV	Zalesovo Beam	40.30	353	P	P	13 33 25.8	-0.7
	0.7nm,0.4s,baz=134,slow=8.3,SNR=3.0						
BVAR	Borovoye Array	42.81	340	P	P	13 33 46.2	-0.9
	0.3nm,0.5s,baz=163,slow=5.4,SNR=2.6						
WRA	Warramunga Arr	52.87	129	P	P	13 35 04.7	-0.8
	0.4nm,0.7s,baz=308,slow=8.0,SNR=6.8						
WRA				PcP	PcP	13 36 15.0	+0.5
	0.2nm,0.8s,baz=318,slow=3.3,SNR=2.9						
ASAR	Alice Springs	54.82	133	P	P	13 35 19.5	-0.2
	0.3nm,0.6s,baz=306,slow=6.8,SNR=14						
BRTR	Keskin Array B	57.66	308	P	P	13 35 40.5	+0.5
	0.4nm,0.6s,baz=115,slow=6.8,SNR=3.5						
BRTR				pP	pP	13 35 49.3	-0.5
	1.3nm,0.8s,baz=116,slow=8.4,SNR=6.8						
PETK	Petropavlovsk-	63.70	37	LR	LR	14 06 31.7	
	comp=Z,44nm,21.0s,baz=65,slow=38						
FINES	FINESS Array B	66.76	331	P	P	13 36 39.8	-0.6
	0.8nm,0.7s,baz=98,slow=7.2,SNR=3.5						
FINES				pP	pP	13 36 49.7	-0.7
	1.0nm,0.6s,baz=126,slow=9.3,SNR=2.4						
FINES				LR	LR	14 07 58.0	
	comp=Z,107nm,18.1s,baz=271,slow=38						
GERES	GERESS Array B	72.53	317	P	P	13 37 16.8	+0.4
	0.4nm,0.4s,baz=70,slow=9.5,SNR=4.8						
GERES				pP	pP	13 37 25.9	-0.6
	1.0nm,0.6s,baz=73,slow=7.3,SNR=3.9						
HFS	Hagfors	72.59	329	P	P	13 37 16.5	+0.1
	0.9nm,0.6s,baz=99,slow=8.9,SNR=3.2						
HFS				pP	pP	13 37 25.4	-1.1
	1.8nm,0.8s,baz=120,slow=10,SNR=2.0						
TORD	Torodi Ar. Bea	88.12	283	P	P	13 38 41.4	+0.7
	1.5nm,1.2s,baz=79,slow=27.5,SNR=3.9						

DJA 18 13:26:56.5±0.7,8°S±4°×10°7E±°,h30km±10km,M3.5/9, MLv3.5/9
ISCJB 18 13:26:57.9±0.7,8.16S±0.06×106.89E±0.06,h46km,Error ellipse: s-maj=9.6km s-min=6.8km az=141.1
ISC 18 13:26:58.7±1.5,8.14S±0.06×106.89E±0.06,h46km,n13, σ0.72/15,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	0.85	16	P	Pn	13 27 13.2	-1.1
CISI	Cisompet, Garu	1.08	58	P	Pn	13 27 16.7	-0.8
CISI				S	Sn	13 27 30.9	-0.5
CISI	Cisompet, Garu	1.08	58	P	Pn	13 27 17.2	-0.3
	baz=9.0,SNR=46						
SKJI	Sukabumi	1.17	344	P	Pn	13 27 18.3	-0.4
LEM	Lembang	1.49	29	P	Pn	13 27 23.8	+0.7
LEM				S	Sn	13 27 42.8	+1.4
LEM	Lembang	1.49	29	P	Pn	13 27 24.1	+1.0
	baz=9.3,SNR=28						
DBJI	Dramaga	1.58	355	P	Pn	13 27 24.0	-0.2
CMJI	Cimerak	1.58	77	P	Pn	13 27 24.3	0.0
CMJI				S	Sn	13 27 43.1	-0.5
CGJI	Cibinong	1.92	322	P	Pn	13 27 28.7	-0.2
KPJI	Karang Pucung	2.17	69	P	Pn	13 27 32.5	+0.1
XMI	Christmas Isla	2.59	207	P	Pn	13 27 38.3	+0.2
	baz=11,SNR=8.3						
XMIS	Christmas Isla	2.63	208	P	Pn	13 27 38.6	-0.1
	baz=11,SNR=30						
UGM	Wanagama	3.60	87	S	Pn	13 27 56.6	+4.5
	baz=6.3,SNR=4.3						

JMA 18 13:32:39.7,32.85N×130.14E,h12km±1km,M1.4,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUR	Ureshino	0.29	327	P	Pg	13 32 45.8	+0.1
JUR				eS	Sg	13 32 49.9	+0.2
JTA	Tamana	0.35	71	P	Pg	13 32 46.5	-0.3
JTA				S	Sg	13 32 51.2	-0.3
NGSJ	Nagasakinomoza	0.36	233	P	Pg	13 32 46.7	-0.2
NGSJ				S	Sg	13 32 51.8	+0.1
JHD	Hondo	0.38	180	P	Pg	13 32 47.6	+0.2
JHD				S	Sg	13 32 53.0	+0.5
JIU2	Izumi 2	0.65	118	P	Pg	13 32 52.0	-0.3
JIU2				S	Sg	13 33 00.9	+0.1

ISCJB 18 13:38:20.0±0.5,6.27N±0.05×125.8E±0.1,h200km, mb3.0/3,Error ellipse: s-maj=17.2km s-min=5.7km az=165.3
MAN 18 13:38:21,6.17N×125.71E,h173km,mb4.4,ML3.3,MS3.2
IDC 18 13:38:22.2±8.1,6.37N×126.00E,h191km±78km,mb2.8/3, mb1 3.2/4,mb1mx2.9/25,mbtmp3.7/4,Error ellipse: s-maj=80.4km s-min=22.0km az=70.0
DJA 18 13:38:55.8±0.6,3°N±32°×12°6E±°,h32km±38km,M4.5/8, mb4.7/4,mB5.3/4,MLv4.3/8,Mw(mB)4.7/4
ISC 18 13:38:22.3±0.8,6.33N±0.06×125.9E±0.1,h200km,n18, σ1.75/18,mb3.0/3,3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.73	32	eP	Pn	13 38 48.6	-1.8
MATI				eS	Sn	13 39 09.3	-3.0
GSPH	General Santos	0.94	255	⇓iP	Pn	13 38 47.0	-4.8
GSPH				iS	Sn	13 39 06.1	-8.5
KCP	Kidapawan	1.03	311	⇓eP	Pn	13 38 49.6	-2.7
BUKP	Musuan	1.74	333	eP	Pn	13 38 57.2	-1.0
BUKP				eS	Sn	13 39 24.4	-1.9
CGP	Cagayan de Oro	2.41	331	⇓eP	Pn	13 39 04.1	-1.1
CGP				eS	Sn	13 39 37.3	-1.5
BUTP	Butuan	2.64	355	eP	Pn	13 39 08.4	+0.7
SGSI	Sangihe	2.64	187	P	Pn	13 39 04.2	-3.6
PAGZ	Pagadian	2.89	302	eP	Pn	13 39 08.8	-1.8
TNTI	Ternate	5.72	165	P	Pn	13 39 43.7	-2.2
GTOI	Gorontalo	6.33	207	P	Pn	13 39 52.3	-1.5
LBMI	Labuha	7.11	167	P	Pn	13 40 01.9	-2.1
SANI	Sanana	8.32	179	P	Pn	13 40 15.1	-4.7
	61nm,0.8s,3μm0.5nm						
NLAI	Namlea	9.58	173	P	Pn	13 40 32.9	-3.2
	80nm,0.7s,2μm0.3nm						
BATI	Baumata	16.57	188	P	P	13 42 03.6	+1.0
	2.6nm,0.3s,baz=18,slow=20,SNR=4.4						
BATI				S	S	13 45 08.0	+2.2
	0.9nm,0.3s,baz=313,slow=19,SNR=7.9						
WRA	Warramunga Arr	27.40	162	P	P	13 43 49.9	+0.5
	0.1nm,0.4s,baz=343,slow=9.2,SNR=5.4						
ASAR	Alice Springs	30.83	166	P	P	13 44 20.7	+1.0
	0.5nm,0.5s,baz=345,slow=7.3,SNR=21						
MKAR	Makanchi Array	54.95	325	P	P	13 47 33.8	+1.2
	0.1nm,0.3s,baz=118,slow=7.7,SNR=6.1						
MKAR				PcP	PcP	13 48 32.7	+0.8
	0.4nm,0.6s,baz=112,slow=3.8,SNR=5.3						
TORD	Torodi Ar. Bea	121.27	289	PKP	PKPdf	13 56 53.7	+1.2
	0.2nm,0.3s,baz=93,slow=1.6,SNR=5.1						

KRNET 18 13:46:46.1±0.1,41.18N×73.79E,h2km,mb3.5
NNC 18 13:46:48.8±3.5,41.27N×73.71E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=28.8km s-min=17.6km az=161.0
ISC 18 13:46:45.9±1.2,41.15N±0.03×73.80E±0.03,h3km±12km, n34,σ0.49/50,21C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	0.64	286	⇓iP	Pg	13 46 58.0	-0.2
	baz=283						
ARLS	Aral	0.81	29	⇓iP	Pg	13 47 02.0	+0.6
	baz=31						
ARLS				⇓iS	Sg	13 47 12.1	+0.2
	baz=31						
AML	Almayashu	0.98	355	P	Pg	13 47 04.8	0.0
	SNR=134						
AML	Almayashu	0.98	355	⇑iP	Pg	13 47 04.4	-0.3
	baz=356						
AML				⇑iS	Sg	13 47 17.3	-0.2
	baz=356						
OHH	Osh	0.99	231	eP	Pn	13 47 06.6	-0.2
	baz=230						
SFK	Sufi-Kurgan	1.16	191	eP	Pg	13 47 07.3	-0.8
	baz=191						
SFK				eS	Sg	13 47 23.5	+0.4
	baz=191						
UCH	Uchtor	1.20	26	P	Pb	13 47 09.6	0.0
	SNR=18						
UCH	Uchtor	1.20	26	⇑iP	Pb	13 47 09.5	0.0
	baz=27						
UCH				⇑iS	Sg	13 47 24.7	+0.2
	baz=27						
KZA	Kyzart	1.43	49	P	Pb	13 47 13.8	+0.6
	SNR=23						
KZA	Kyzart	1.43	49	⇑iP	Pb	13 47 13.5	+0.2
	baz=50						
KZA				⇑iS	Sb	13 47 32.1	0.0
	baz=50						
EKS2	Erkin-Say	1.51	359	P	Pb	13 47 14.6	0.0
	SNR=26						
EKS2	Erkin-Say	1.51	359	⇑iP	Pb	13 47 14.3	-0.3
	baz=360						
EKS2				⇑iS	Sn	13 47 33.5	-0.7
	baz=360						
EKS	Erkin-Say	1.52	360	iP	Pb	13 47 14.7	0.0
	baz=360						
ARK	Arkit	1.53	296	eP	Pb	13 47 14.8	-0.1
	baz=295						
AAK	Ala-Archa	1.57	19	⇓P	Pb	13 47 16.0	+0.1
	7.1nm,0.3s						
AAK				S	Sb	13 47 36.0	0.0
	36nm,0.4s						
AAK	Ala-Archa	1.57	19	P	Pb	13 47 16.1	+0.1
	SNR=30						
AAK	Ala-Archa	1.57	19	⇑iP	Pb	13 47 15.9	0.0
	baz=20						
AAK				⇑iS	Sb	13 47 35.9	0.0
	baz=20						
KBK	Karagaybulak	1.73	29	P	Pg	13 47 18.9	-0.1
	SNR=20						
KBK	Karagaybulak	1.73	29	⇑iP	Pg	13 47 19.5	+0.5
	baz=30						
KBK				⇑iS	Sg	13 47 41.6	+0.1
	baz=30						
FRU	Bishkek	1.79	20	eP	Pg	13 47 20.0	-0.1
	baz=20						
FRU				eS	Sg	13 47 43.5	+0.2
	baz=20						
CHMS	Chumysh	1.98	21	P	Pg	13 47 23.3	-0.4
	SNR=9.5						
CHMS	Chumysh	1.98	21	⇑iP	Pg	13 47 23.1	-0.6
	baz=21						
CHMS				⇑iS	Sb	13 47 48.1	+0.6
	baz=21						
TRKS	Terek-Say	2.04	282	⇓iP	Pb	13 47 23.0	-0.6
	baz=279						
BOOM	Boomskoye usch	2.08	49	eP	Pg	13 47 25.4	-0.4
	baz=50						
BOOM				eS	Sg	13 47 53.1	+0.3
	baz=50						
ULHL	Ulahol	2.13	58	P	Pg	13 47 26.3	-0.3
	SNR=80						
USP	Ospenovka	2.18	14	P	Pg	13 47 26.8	-0.7
	SNR=45						
TKM2	Tokmak 2	2.22	36	⇑Pn	Pg	13 47 27.8	-0.5
	5.5nm,0.3s						
TKM2				⇑Sn	Sg	13 47 56.2	-0.8
	43nm,0.6s						
TKM2	Tokmak 2	2.22	36	P	Pg	13 47 27.8	-0.5
	SNR=36						
TKM2	Tokmak 2	2.22	36	⇑iP	Pg	13 47 27.6	-0.7
	baz=37						
TKM2				⇑iS	Sb	13 47 55.6	+1.0
	baz=37						
DRK	Karamyk	2.27	223	eP	Pb	13 47 27.5	-0.1
	baz=222						
DRK				eS	Sb	13 47 57.5	+1.4
	baz=222						
BTK	Batken	2.52	245	eP	Pg	13 47 33.9	-0.3
	baz=245						
BTK				eS	Sg	13 48 07.4	+0.6
	baz=245						
KNDC	Almaty	3.13	48	⇑Pg	Pb	13 47 42.4	+0.2
KNDC				⇓Lg	Lg	13 48 26.7	
KK31	Karatay Array	3.13	310	⇑Pg	Pb	13 47 43.1	+0.9
	2.1nm,0.3s,baz=126,slow=17,SNR=12						
KK31				⇓Lg	Lg	13 48 24.1	
	14nm,0.5s,baz=127,slow=30,SNR=16						
PDGK	Podgornoye	4.75	61	⇑Pg	Pb	13 48 09.6	-0.1
PDGK				⇓Lg	Lg	13 49 15.5	

IDC 18 13:47:15.2±1.3,4.10N×126.58E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.5/23,mbtmp3.5/5,MS3.6/1,Ms1 3.6/1, ms1mx2.5/28,Error ellipse: s-maj=129.4km s-min=19.9km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.08	163	P	P	13 52 41.0	-0.6
	1.9nm,0.9s,baz=343,slow=10,SNR=14						
ASAR	Alice Springs	28.51	166	P	P	13 53 12.3	-0.2
	0.4nm,0.7s,baz=342,slow=6.7,SNR=6.9						
STKA	Stephens Creek	38.52	159	P	P	13 54 40.3	+0.7
	1.0nm,0.6s,baz=331,slow=10,SNR=2.5						
DZM	Mont Dzumac	46.87	125	LR	LR	14 13 02.1	
	comp=Z,76nm,20.9s,baz=242,slow=33						
SONM	Songino Array	46.90	341	P	P	13 55 48.1	+0.5
	0.1nm,0.5s,baz=145,slow=7.1,SNR=2.8						
MKAR	Makanchi Array	57.17	325	P	P	13 57 03.5	-0.5
	0.3nm,0.6s,baz=119,slow=8.2,SNR=7.4						

IDC 18 13:48:36.1±5.9,35.66N×136.27E,h177km±98km,mb2.8/3, mb1 3.0/3,mb1mx2.7/46,mbtmp3.3/3,Error ellipse: s-maj=145.9km s-min=22.7km az=57.0
ISCJB 18 13:48:37.6±0.8,36.2N±0.2×137.5E±0.2,h250km,mb2.9/3, Error ellipse: s-maj=21.4km s-min=17.7km az=168.2
JMA 18 13:48:38.9±0.4,36.03N×137.61E,h246km±4km,M2.5
ISC 18 13:48:38.6±1.0,36.2N±0.2×137.6E±0.2,h250km,n9, σ0.57/12,mb2.9/3,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAT	Matsushiro	0.61	56	P	Pn	13 49 12.0	+0.2
MAT				eS	S	13 49 38.4	+0.5
MAT	Matsushiro	0.61	56	P	Pn	13 49 12.0	+0.2
MJAR	Matsushiro Arr	0.61	57	P	Pn	13 49 12.0	+0.2
	4.5nm,0.3s,baz=233,slow=6.0,SNR=58						
MJAR				S	S	13 49 38.1	+0.1
	0.3nm,0.3s,baz=260,slow=20,SNR=3.7						
JYN	Shimob	1.06	132	P	Pn	13 49 13.3	-0.7
JRY	Ryogami san	1.09	100	P	Pn	13 49 14.5	+0.4
JRY				eS	S	13 49 41.4	-0.7
JAG	Ashikaga	1.53	81	P	Pn	13 49 16.8	-0.3
MKAR	Makanchi Array	41.95	302	P	P	13 56 04.2	-0.7
	0.2nm,0.8s,baz=84,slow=7.9,SNR=2.4						
WRA	Warramunga Arr	55.93	184	P	P	13 57 51.4	+0.5
	0.3nm,0.3s,baz=0.1,slow=7.6,SNR=9.8						
ASAR	Alice Springs	59.65	184	P	P	13 58 17.5	+0.8
	0.2nm,0.7s,baz=8.2,slow=14,SNR=3.9						

NEIC 18 13:54:32.4, 53.24N×167.34W, h14km, ML3.5(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKFG	Magazine Ridge	0.39	297	P	Pb	13 54 41.5	+0.3
OKFG				S	Sb	13 54 47.5	+0.5
MSOM	Makushin Julie	0.62	22	P	Pg	13 54 44.6	0.0
MREP	Makushin Rep't	0.67	31	P	Pb	13 54 46.1	0.0
MSW	Makushin Switc	0.75	26	P	Pg	13 54 46.6	-0.5
MCIR	Makushin Cirqu	0.76	20	P	Pg	13 54 47.1	-0.2
UNV	Unalaska Valle	0.79	39	P	Pg	13 54 46.8	-0.9
UNV				S	Sg	13 54 57.8	-0.3
NIKH	Nikolski High	0.95	254	P	Pb	13 54 49.6	-1.1
NIKH				S	Sb	13 55 02.1	-1.2
AKRB	Akutan Reef Bi	1.17	40	P	Pn	13 54 53.8	-0.7
AKRB				S	Sb	13 55 09.8	+0.2
ZRO	Akutan Zero	1.18	43	P	Pn	13 54 53.7	-0.9
AKGG	Akutan Green G	1.25	39	P	Pn	13 54 55.0	-0.6
AKGG				S	Sb	13 55 11.7	-0.2
AKUT	Akutan	1.29	45	P	Pn	13 54 55.1	-1.0
AKUT				S	Sb	13 55 11.5	-1.5
WESE	West Dahl East	2.04	52	P	Pn	13 55 06.5	-0.1
WESN	West Dahl Nort	2.10	50	P	Pn	13 55 07.7	+0.3
SSLW	Shishaldin Wes	2.44	50	P	Pn	13 55 12.1	+0.1
SSLN	Shishaldin Nor	2.52	50	P	Pn	13 55 13.9	+0.8
FALS	False Pass	2.82	53	P	Pn	13 55 17.6	+0.5
DRIA	Deer Island	3.45	58	P	Pn	13 55 25.7	-0.1
DTNA	Dutton South F	3.55	55	P	Pn	13 55 27.9	+0.8
HAG	Hague Volcano	3.80	55	P	Pn	13 55 32.0	+1.3
KOFP	Korovin Flat P	4.22	259	P	Pn	13 55 37.4	+1.0
SPIA	Saint Paul Isl	4.29	338	P	Pn	13 55 36.8	-0.4
SDPT	Sand Point	4.54	59	P	Pn	13 55 41.3	+0.6
ADK	Adak	5.86	260	P	Pn	13 56 00.6	+1.7

IDC 18 14:02:05.2±2.3, 22.88S×171.07E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/22, mbtmp3.9/7, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/22, Error ellipse: s-maj=107.3km s-min=25.9km az=164.0
ISCJB 18 14:02:09.9±1.3, 22.6S±0.4×170.82E±0.10, h31km, mb3.9/6, MS3.4/1, Error ellipse: s-maj=59.8km s-min=12.9km az=179.2
ISC 18 14:02:11.2±1.8, 22.5S±0.6×170.9E±0.1, h31km, n9, σ1.08/10, mb4.0/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.12	275	Pn	Pn	14 03 12.6	+0.4
	7.1nm,0.3s,baz=120,slow=6.6,SNR=110						
DZM				Sn	Sn	14 03 58.7	-0.8
	5.4nm,0.3s,baz=131,slow=23,SNR=10						
DZM				LR	LR	14 04 41.0	
	comp=Z,174nm,19.5s,baz=33,slow=36						
CTA	Charters Tower	23.06	271	P	P	14 07 15.2	+0.9
	4.6nm,0.9s,baz=82,slow=7.1,SNR=2.8						
ASAR	Alice Springs	33.98	261	P	P	14 08 51.9	-0.4
	1.2nm,0.7s,baz=83,slow=9.0,SNR=19						
WRA	Warramunga Arr	34.10	267	P	P	14 08 52.1	-1.2
	0.2nm,0.3s,baz=97,slow=8.5,SNR=9.8						
CMAR	Chiang Mai Arr	81.22	294	P	P	14 14 26.4	+1.8
	0.6nm,0.4s,baz=139,slow=5.0,SNR=6.2						
NVAR	Mina Array Bea	89.80	48	P	P	14 15 06.9	-0.3
	0.6nm,0.8s,baz=238,slow=9.2,SNR=3.5						
NVAR				LR	LR	14 48 23.7	
	comp=Z,15nm,19.4s,baz=34,slow=31						
SONM	Songino Array	90.71	323	P	P	14 15 11.1	+0.1
	0.7nm,0.7s,baz=134,slow=4.6,SNR=7.5						
BRG	Berggiesshubel	146.43	333	e(P)	PKPab	14 21 48.7	-1.2
	4.3nm,1.0s						
BRG				e		14 21 52.9	
	3.9nm,0.9s						
GERES	GERESS Array B	148.05	331	PKPbc	PKPbc	14 21 53.2	-0.5
	1.6nm,0.7s,baz=29,slow=3.0,SNR=8.7						

IDC 18 14:35:19.3±0.8, 31.48S×178.11W, h0km, mb4.5/7, mb1 4.7/8, mb1mx4.3/20, mbtmp4.5/8, ML4.4/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/20, Error ellipse: s-maj=25.0km s-min=20.4km az=112.0
ISCJB 18 14:35:20.1±1.2, 31.84S±0.05×177.8W±0.2, h33km, mb4.6/7, Error ellipse: s-maj=24.0km s-min=6.1km az=11.0
NEIC 18 14:35:23.9±4.0, 31.57S×178.07W, h34km±27km, mb4.9/2, Error ellipse: s-maj=22.5km s-min=13.6km az=115.0
ISC 18 14:35:24.0±0.8, 31.63S±0.07×178.1W±0.1, h35km, n42, σ1.44/41, mb4.7/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.38	5	Pn	Pn	14 35 59.1	-1.5
	98nm,0.3s,baz=240,slow=20,SNR=2.7						
RAO				Sn	Sn	14 36 26.1	-2.4
	231nm,0.3s,baz=102,slow=23,SNR=4.2						
RAO				LR	LR	14 36 44.4	
	comp=Z,342nm,21.7s,baz=317,slow=38						
HAZ	Te Kaha	6.97	208	PN	Pn	14 37 02.0	-1.6
HAZ				SN	Sn	14 38 21.4	-0.3
PUZ	Puketiti	7.08	204	PN	Pn	14 37 02.8	-2.4
PUZ				SN	Sn	14 38 22.1	-2.2
CNGZ	Carnagh Statio	7.46	203	PN	Pn	14 37 08.3	-2.1
MWZ	Matawai	7.57	207	ePN	Pn	14 37 10.7	-1.2
URZ	Urewera	7.68	209	PN	Pn	14 37 11.1	-2.2
	0.6nm,0.3s,baz=277,slow=5.3,SNR=2.4						
URZ				Sn	Sn	14 38 38.4	-0.7
	3.5nm,0.3s,baz=95,slow=22,SNR=8.6						
URZ	Urewera	7.68	209	ePn	Pn	14 37 11.9	-1.4
URZ				Sn	Sn	14 38 38.4	-0.7
URZ	Urewera	7.68	209	PN	Pn	14 37 10.7	-2.6
URZ				SN	Sn	14 38 38.4	-0.7
OUZ	Omahuta	7.78	240	ePn	Pn	14 37 18.8	+4.1
	21nm,0.5s						
OUZ	Omahuta	7.78	240	PN	Pn	14 37 20.5	+5.8
SNGZ	Shannon Statio	8.04	206	ePN	Pn	14 37 16.2	-2.1
RMQ	Roma	29.32	272	P	P	14 41 27.4	+4.0
	baz=28,SNR=4.3						
CMSA	Cobar Meteorol	30.73	261	P	P	14 41 37.7	+1.8
	baz=30,SNR=20						
QLP	Quilpie	33.15	269	P	P	14 41 58.5	+1.3
	baz=32,SNR=3.5						
CTA	Charters Tower	33.90	281	P	P	14 42 05.2	+1.4
	8.8nm,0.8s,baz=116,slow=10,SNR=8.8						
STKA	Stephens Creek	34.10	259	P	P	14 42 06.5	+1.0
	4.9nm,0.7s,baz=103,slow=11,SNR=14						
STKA				LR	LR	14 53 47.6	
	comp=Z,53nm,21.2s,baz=24,slow=32						
STKA	Stephens Creek	34.10	259	P	P	14 42 07.0	+1.6
	baz=33,SNR=11						
BBOO	Buckleboo	38.54	256	P	P	14 42 43.1	-0.2
	baz=38,SNR=4.9						
COEN	Coen	39.51	287	P	P	14 42 52.7	+1.1
	baz=39,SNR=9.7						
AS31	Alice Springs	42.94	268	eP	P	14 43 18.9	-0.8
ASAR	Alice Springs	42.94	268	P	P	14 43 19.8	0.0
	5.7nm,0.7s,baz=105,slow=7.6,SNR=129						
WRAB	Tennant Creek	44.03	274	eP	P	14 43 28.2	-0.4
	23nm,1.0s						
WRA	Warramunga Arr	44.04	273	P	P	14 43 28.6	0.0
	11nm,0.7s,baz=112,slow=8.0,SNR=177						
WRKA	Warakurna	47.22	264	P	P	14 43 52.8	-0.9
	baz=46,SNR=4.2						
MTN	Manton Dam	50.07	280	P	P	14 44 16.5	+0.8
	baz=49,SNR=3.4						
KNRA	Kununurra	50.69	275	P	P	14 44 20.6	+0.2
	baz=50,SNR=15						
FITZ	Fitzroy Crossi	52.25	271	P	P	14 44 24.7	-7.3
	baz=51,SNR=3.4						
QSPA	South Pole Qui	58.48	180	P	P	14 45 19.2	+2.8
	2.9nm,0.7s,baz=50,slow=1.4,SNR=26						
QSPA	South Pole Qui	58.48	180	eP	P	14 45 18.5	+2.1
	9.8nm,0.8s						
H03N3	Juan Fernandez	80.08	123	T	T	16 16 29.5	
	baz=237,slow=75,SNR=17						
H03N2	Juan Fernandez	80.09	123	T	T	16 16 29.6	
	baz=237,slow=75,SNR=7.3						
H03N1	Juan Fernandez	80.10	123	T	T	16 16 30.8	
	baz=237,slow=75,SNR=16						
PETK	Petropavlovsk-	86.97	346	P	P	14 48 07.0	+1.9
	9.8nm,1.0s,baz=168,slow=6.7,SNR=4.8						
NVAR	Mina Array Bea	89.22	43	P	P	14 48 16.8	+0.3
	0.3nm,0.7s,baz=214,slow=6.2,SNR=2.9						
MKAR	Makanchi Array	118.47	310	PKP	PKPdf	14 54 06.7	-1.0
	0.3nm,0.6s,baz=172,slow=0.7,SNR=6.0						
KBZ	Khabaz	145.68	302	PKPbc	PKPbc	14 54 59.0	+0.1
	1.4nm,0.8s,baz=109,slow=7.2,SNR=4.0						
FINES	FINESS Array B	146.25	339	PKPbc	PKPbc	14 54 59.5	-0.6
	6.9nm,0.7s,baz=70,slow=4.6,SNR=20						
NB2	NORSAR Subarra	149.95	351	PKP	PKPbc	14 55 09.6	-0.4
	comp=Z,1.6nm,0.7s,baz=20,slow=2.9						
NOA	NORSAR Array B	149.95	351	PKPbc	PKPbc	14 55 09.9	-0.1
	comp=Z,2.2nm,0.8s,baz=17,slow=4.3,SNR=8.3						
AKASG	Malin Array Be	152.19	321	PKPbc	PKPbc	14 55 14.9	-0.6
	comp=Z,1.0nm,0.5s,baz=50,slow=2.1,SNR=8.5						
BRTR	Keskin Array B	153.06	296	PKPbc	PKPbc	14 55 17.4	-0.6
	comp=Z,0.7nm,0.6s,baz=143,slow=4.3,SNR=4.5						
TORD	Torodi Ar. Bea	161.60	179	PKPab	PKPab	14 56 07.2	+0.7
	comp=Z,1.3nm,0.9s,baz=185,slow=4.2,SNR=6.8						

IDC 18 14:39:11.3±13.0, 31.76S×178.45W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/18, mbtmp3.8/4, Error ellipse: s-maj=239.3km s-min=42.4km az=91.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	7.44	208	Pn	Pn	14 41 00.3	-0.8
	baz=24,slow=20,SNR=2.3						
URZ				Sn	Sn	14 42 26.0	-0.3
	0.7nm,0.3s,baz=73,slow=19,SNR=6.5						
STKA	Stephens Creek	33.82	259	P	P	14 45 56.7	+1.4
	2.0nm,0.7s,baz=97,slow=8.3,SNR=3.9						
ASAR	Alice Springs	42.67	269	P	P	14 47 09.5	-0.5
	0.5nm,0.5s,baz=106,slow=7.5,SNR=7.8						
WRA	Warramunga Arr	43.78	274	P	P	14 47 18.6	-0.5
	1.0nm,0.6s,baz=113,slow=7.9,SNR=9.8						

IDC 18 15:00:54.1±2.1, 30.98S×178.84W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/22, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=56.3km s-min=38.3km az=133.0
ISC 18 15:01:02.5±2.3, 31.5S±0.1×178.9W±0.4, h61km, n6, σ1.91/7, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	7.48	205	Pn	Pn	15 02 51.0	+2.2
	0.5nm,0.3s,baz=37,slow=15,SNR=21						
URZ				Sn	Sn	15 04 09.5	-2.6
	0.3nm,0.3s,baz=323,slow=20,SNR=3.7						
STKA	Stephens Creek	33.48	259	P	P	15 07 36.9	+0.9
	1.4nm,0.7s,baz=117,slow=9.0,SNR=2.8						
ASAR	Alice Springs	42.29	269	P	P	15 08 50.0	-0.3
	0.4nm,0.4s,baz=107,slow=7.2,SNR=20						
WRA	Warramunga Arr	43.38	274	P	P	15 08 58.8	-0.4
	0.4nm,0.5s,baz=112,slow=8.0,SNR=15						
FINES	FINESS Array B	145.92	339	PKPbc	PKPbc	15 20 33.2	-1.1
	1.4nm,0.8s,baz=66,slow=4.8,SNR=9.8						
BRTR	Keskin Array B	152.43	296	PKPbc	PKPbc	15 20 51.1	-0.7
	0.4nm,0.4s,baz=124,slow=3.7,SNR=3.2						

IDC 18 15:47:35.1±1.8, 35.14S×179.73W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/27, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=45.4km s-min=34.8km az=133.0
ISC 18 15:47:36.8±1.8, 35.3S±0.2×179.2W±0.3, h47km, n9, σ1.52/12, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	3.43	217	PN	Pn	15 48 30.1	+2.3
HAZ	Te Kaha	3.45	225	ePN	Pn	15 48 29.6	+1.6
MWZ	Matawai	4.00	221	PN	Pn	15 48 36.7	+1.0
MWZ				SN	Sn	15 49 21.5	+0.1
URZ	Urewera	4.18	225	Pn	Pn	15 48 38.8	+0.8
	1.4nm,0.3s,baz=90,slow=9.1,SNR=31						
URZ				Sn	Sn	15 49 24.0	-1.7
	1.3nm,0.3s,baz=72,slow=20,SNR=3.3						
URZ	Urewera	4.18	225	PN	Pn	15 48 38.6	+0.5
URZ				SN	Sn	15 49 23.6	-2.1
ASAR	Alice Springs	42.13	273	P	P	15 55 25.0	+0.3
	0.3nm,0.7s,baz=117,slow=7.2,SNR=12						
WRA	Warramunga Arr	43.56	278	P	P	15 55 37.1	+0.8
	0.3nm,0.4s,baz=118,slow=7.6,SNR=20						
FINES	FINESS Array B	149.35	336	PKPbc	PKPab	16 07 23.6	-0.9
	1.3nm,0.8s,baz=56,slow=3.5,SNR=3.3						
DBIC	Dimbokro	150.99	168	PKPbc	PKPab	16 07 30.9	-1.6
	2.7nm,0.7s,baz=165,slow=17,SNR=3.6						

IDC 18 15:54:54.5±8.2, 26.33S×28.28E, h0km, mb1 2.5/1, mb1mx2.5/25, mbtmp2.5/1, ML2.5/1, Error ellipse: s-maj=78.7km s-min=52.7km az=139.0
PRE 18 15:54:55.8±1.2, 26.22S×27.95E, h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OBSV	Observatory	0.12	74	eP	Pg	15 54 57.2	-1.2
OBSV				eS	Sg	15 55 00.2	+0.1
OBSV				AML	AML	15 55 10.3	
	comp=Z,25nm,0.1s						
BFSD	Buffelsfontein	1.22	238	eP	Pg	15 55 18.3	-1.2
BFSD				eS	Sb	15 55 36.1	-0.2
BFSD				AML	AML	15 55 47.2	
	comp=Z,10nm,0.2s						
LBTB	Lobatse	2.44	299	eP	Pn	15 55 37.2	+0.4
LBTB				eS	Sn	15 56 07.5	+0.2
LBTB				AML	AML	15 56 28.1	
	comp=Z,5.4nm,0.6s						
SWZ	Schweizer	2.53	247	eP	Pn	15 55 39.3	+1.2
SWZ				eS	Sn	15 56 09.7	0.0
SWZ				AML	AML	15 56 31.3	
	comp=Z,6.2nm,0.2s						
BOSA	Boshof	3.38	224	eP	Pn	15 55 50.6	+0.8
BOSA				eS	Sn	15 56 30.4	-0.2
BOSA				AML	AML	15 56 50.8	
	comp=Z,4.2nm,0.5s						
BOSA	Boshof	3.38	224	Pn	Pn	15 55 50.6	+0.8
	comp=Z,0.3nm,0.3s,baz=54,slow=16,SNR=4.5						
BOSA				Lg	Lg	15 56 46.6	
	comp=Z,1.0nm,0.3s,baz=151,slow=20,SNR=11						
I47ZA	BOSHOF INFRASO	3.40	225	i		16 16 30.0	
	baz=51,slow=313,SNR=5.5						
I35NA	TSUMEB INFRASO	11.85	304	i		17 07 30.0	
	baz=127,slow=318,SNR=1.7						

DJA 18 16:01:08.4±1.0, 1°N±7°×12°3E±°, h10km, M3.5/5, MLv3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.74	177	P	Pg	16 01 19.0	-3.7
GTOI				S	Sg	16 01 30.1	-2.3
KMSI	Cibinong	1.29	128	P	Pn	16 01 30.2	-2.3
MRSI	Marisa	1.36	229	P	Pn	16 01 31.0	-2.5
MRSI				S	Sb	16 01 49.8	-1.8
LUWI	Luwuk	2.41	185	P	Pn	16 01 47.6	-0.4
APSI	Ampana	2.63	210	P	Pb	16 01 54.5	-1.2

ISCJB 18 16:02:15.5±1.3, 1.19S±0.09×100.07E±0.09, h33km, mb3.1/3, Error ellipse: s-maj=16.1km s-min=8.9km az=42.7
IDC 18 16:02:16.6±5.7, 0.13S×101.39E, h0km, mb3.2/3, mb1 3.3/3, mb1mx3.1/24, mbtmp3.2/3, Error ellipse: s-maj=315.8km s-min=29.8km az=54.0
DJA 18 16:02:17.3±1.4, 1°S±10°×10°0E±°, h10km, M3.5/4, MLv3.5/4
ISC 18 16:02:18.0±1.8, 1.1S±0.2×100.2E±0.2, h35km, n7, σ0.97/7, mb3.1/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDSI	Padang	0.36	60	P	Pn	16 02 22.1	-4.7
PDSI				S	Sn	16 02 26.3	-6.5
SDSI	Sungai Dareh	1.29	83	P	Pn	16 02 39.4	-0.1
SDSI				S	Sn	16 02 56.1	+0.5
BKNI	Bangkinang	1.67	32	P	Pn	16 02 43.8	-0.9
MNSI	Mandailing Nat	1.96	343	P	Pn	16 02 47.8	-0.9
MNSI				S	Sn	16 03 13.4	+1.3
WRA	Warramunga Arr	38.33	122	P	P	16 09 35.5	-0.3
	0.1nm,0.3s,baz=298,slow=11,SNR=4.5						
ASAR	Alice Springs	39.67	127	P	P	16 09 46.9	-0.1
	0.2nm,0.8s,baz=304,slow=8.5,SNR=4.3						
MKAR	Makanchi Array	50.20	344	P	P	16 11 09.9	-0.5
	0.3nm,0.6s,baz=158,slow=8.8,SNR=4.4						

IDC 18 16:10:59.2±2.1, 9.52S×123.37E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.4/20, mbtmp3.6/3, ML3.5/2, MS4.3/1, Ms1 4.3/1, ms1mx2.9/30, Error ellipse: s-maj=210.3km s-min=31.9km az=55.0
ISCJB 18 16:11:06.4±0.7, 9.5S±0.1×123.87E±0.06, h75km, mb3.6/1, Error ellipse: s-maj=19.5km s-min=5.5km az=22.5
DJA 18 16:11:11.1±1.1, 9°S±9°×12°4E±°, h43km±43km, M3.4/4, MLv3.4/4
ISC 18 16:11:07.7±1.0, 9.27S±0.10×123.88E±0.06, h75km, n13, σ2.11/15, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	Soe	0.61	142	P	Pn	16 11 25.3	+3.1
SOEI	Soe	0.61	142	P	Pn	16 11 24.9	+2.8
	baz=0.6,SNR=235						
BATI	Baumata	0.95	193	P	Pn	16 11 27.6	+1.7
BATI				S	Sn	16 11 40.3	+0.8
MMRI	Maumere	1.74	291	P	Pn	16 11 37.0	+1.0
MMRI				S	Sn	16 11 57.8	+0.2
WSI	Waingapu	3.56	263	S	Sn	16 12 39.9	-1.6
	baz=3.3,SNR=4.7						
KNRA	Kununurra	7.95	144	P	Pn	16 13 00.1	-0.4
	baz=7.8,SNR=28						
KNRA				S	Sn	16 14 20.4	-8.6
	baz=7.8,SNR=7.6						
MTN	Manton Dam	7.95	117	P	Pn	16 13 02.3	+1.7
	baz=8.0,SNR=16						
MTN				S	Sn	16 14 25.7	-3.3
	baz=8.0,SNR=6.2						
KDU	Kakadu	9.09	113	P	Pn	16 13 17.9	+1.8
	baz=9.2,SNR=6.1						
KDU				S	Sn	16 14 54.9	-2.0
	baz=9.2,SNR=6.8						
FAKI	Fak Fak	10.44	53	P	Pn	16 13 43.5	+8.9
	baz=11,SNR=3.5						
WRA	Warramunga Arr	14.65	138	Pn	Pn	16 14 28.5	-2.6
	0.2nm,0.3s,baz=311,slow=15,SNR=14						
WRA				Sn	Sn	16 17 00.1	-12
	0.2nm,0.3s,baz=310,slow=18,SNR=5.0						
ASAR	Alice Springs	17.23	147	P	Pn	16 15 03.5	0.0
	0.3nm,0.3s,baz=319,slow=12,SNR=34						
ASAR				S	Sn	16 18 00.9	-14
	0.3nm,0.3s,baz=318,slow=22,SNR=13						
JAY	Jayapura	18.02	69	LR	LR	16 23 29.7	
	comp=Z,965nm,18.8s,baz=194,slow=40						
MKAR	Makanchi Array	66.99	330	P	P	16 21 53.7	+1.1
	0.5nm,0.5s,baz=141,slow=7.5,SNR=6.1						

IDC 18 16:11:25.6±5.5, 26.32S×28.47E, h0km, mb1 2.5/2, mb1mx2.5/26, mbtmp2.4/2, ML2.1/2, Error ellipse: s-maj=42.6km s-min=26.3km az=76.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBTB	Lobatse	2.90	296	Pn	Pn	16 12 12.0	-1.2
	0.3nm,0.3s,baz=121,slow=18,SNR=5.4						
LBTB				Lg	Lg	16 12 58.3	
	0.7nm,0.3s,baz=197,slow=18,SNR=6.7						
BOSA	Boshof	3.66	231	Pn	Pn	16 12 25.4	+1.7
	0.1nm,0.3s,baz=51,slow=14,SNR=2.9						
BOSA				Lg	Lg	16 13 20.7	
	0.5nm,0.3s,baz=156,slow=19,SNR=6.7						
I47ZA	BOSHOF INFRASO	3.68	231	i		16 36 40.0	
	baz=54,slow=315,SNR=10						
I35NA	TSUMEB INFRASO	12.30	303	i		17 26 50.0	
	baz=125,slow=313,SNR=1.3						

NOU 18 16:12:07.8±0.5, 20.55S×170.21E, h30km, MD3.5
IDC 18 16:12:07.7±1.2, 22.08S×170.30E, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.2/18, mbtmp4.1/10, ML5.5/2, MS3.6/3, Ms1 3.6/3, ms1mx3.0/32, Error ellipse: s-maj=34.6km s-min=21.2km az=158.0
ISCJB 18 16:12:09.0±2.3, 22.2S±0.1×170.30E±0.04, h22km±17km, mb4.2/13, MS3.9/2, Error ellipse: s-maj=20.5km s-min=6.5km az=179.4
NEIC 18 16:12:11.6±4.4, 22.19S×170.32E, h27km±32km, mb4.6/4, Error ellipse: s-maj=21.7km s-min=12.1km az=194.0
ISC 18 16:12:10.7±4.6, 22.2S±0.1×170.27E±0.09, h19km±19km, n32, σ0.89/40, mb4.0/13, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BAYA	Yate Dam	3.14	270	eP	Pn	16 12 58.9	-0.3
BAYA				eS	Sn	16 13 36.6	+0.3
PLUM	Mont Dore	3.37	268	eP	Pn	16 13 01.9	-0.4
PLUM				eS	Sn	16 13 42.7	+0.8
LASL	Noumea	3.46	268	eP	Pn	16 13 03.3	-0.3
LASL				eS	Sn	16 13 43.9	-0.3
NORM	Noumea	3.51	268	eP	Pn	16 13 03.8	-0.5
NORM				eS	Sn	16 13 45.5	0.0
MVNO	Noumea	3.55	268	eP	Pn	16 13 04.5	-0.4
MVNO				eS	Sn	16 13 46.0	-0.4
DZM	Mont Dzumac	3.55	271	Pn	Pn	16 13 05.2	+0.2
	72nm,0.3s,baz=125,slow=13,SNR=4596						
DZM				Sn	Sn	16 13 46.7	+0.1
	36nm,0.3s,baz=112,slow=21,SNR=11						
DZM				LR	LR	16 14 22.3	
	comp=Z,394nm,20.6s,baz=38,slow=38						
DZM	Mont Dzumac	3.55	271	ePn	Pn	16 13 04.6	-0.4
DZM				eSn	Sn	16 13 45.7	-0.8
DZM				Sn	Sn	16 13 46.7	+0.1
NOUC	Port Laguerre	3.68	270	eP	Pn	16 13 06.3	-0.4
NOUC				eS	Sn	16 13 49.9	+0.3
NOUC				AMP		16 13 55.0	
	comp=Z,78nm,5.6s						
RAO	Raoul Island	12.76	126	Pn	P	16 15 12.3	+1.1
	comp=Z,127nm,0.3s,baz=41,slow=19,SNR=4.9						
RAO	Raoul Island	12.76	126	Pn	Pn	16 15 11.3	+0.1
CTA	Charters Tower	22.50	271	P	P	16 17 10.9	+1.5
	comp=Z,4.9nm,0.8s,baz=96,slow=15,SNR=3.6						
CTAO	Charters Tower	22.50	271	P	P	16 17 10.5	+1.1
	comp=Z,13nm,1.0s						
STKA	Stephens Creek	27.24	243	P	P	16 17 54.2	+0.4
	comp=Z,1.5nm,0.5s,baz=71,slow=11,SNR=6.4						
ASAR	Alice Springs	33.48	260	P	P	16 18 48.0	-1.0
	comp=Z,0.8nm,0.8s,baz=75,slow=8.7,SNR=5.8						
WRA	Warramunga Arr	33.56	267	P	P	16 18 48.1	-1.7
	comp=Z,1.1nm,0.8s,baz=96,slow=8.5,SNR=3.6						
BATI	Baumata	46.14	277	LR	LR	16 39 29.4	
	comp=Z,198nm,18.1s,baz=250,slow=36						
MJAR	Matsushiro Arr	65.79	332	P	P	16 22 54.0	-0.6
	comp=Z,1.8nm,0.5s,baz=166,slow=6.9,SNR=9.8						
MAJO	Matsushiro	65.79	332	P	P	16 22 54.0	-0.6
	comp=Z,18nm,1.1s						
JNU	Nakatsue	66.61	325	P	P	16 22 59.5	-0.6
	comp=Z,6.6nm,1.1s,baz=150,slow=14,SNR=6.2						
QSPA	South Pole Qui	67.89	180	eP	P	16 23 06.8	-1.1
	comp=Z,6.3nm,1.3s						
KSRS	Korea Array	71.46	326	P	P	16 23 30.5	+0.5
	comp=Z,1.3nm,0.9s,baz=109,slow=3.4,SNR=3.8						
KSAR	Wonju Array Be	71.47	326	P	P	16 23 30.5	+0.4
YSS	Yuzh-Sakhalins	73.16	341	P	P	16 24 40.8	+0.9
	comp=Z,5.3nm,0.8s						
CMAR	Chiang Mai Arr	80.59	294	P	P	16 24 24.4	+1.9
	comp=Z,0.6nm,0.6s,baz=135,slow=4.3,SNR=6.5						
CHTO	Chiang Mai	80.75	295	P	P	16 24 25.4	+2.1
SONM	Songino Array	90.14	323	P	P	16 25 09.2	-0.5
	comp=Z,0.9nm,0.9s,baz=134,slow=5.5,SNR=6.9						

BBB Bella Bella 91.40 33 LR LR 17 00 17.3
comp=Z,25nm,19.7s,baz=204,slow=32
ILAR Eielson Array 92.74 17 P **P** **16 25 19.4 -1.7**
comp=Z,0.5nm,1.0s,baz=232,slow=5.0,SNR=4.2
CLL Collm 145.97 334 *e*PKPbc **PKPbc** **16 31 49.9 0.0**
comp=Z,10.0nm,1.5s
CLL *i* PKiKP **PKiKP** **16 31 53.4 +1.0**
EKA Eskdalemuir Ar 146.52 353 PKPbc **PKPdf** **16 31 49.2 +0.1**
comp=Z,0.4nm,0.3s,baz=356,slow=2.5,SNR=6.7
GERES GERESS Array B 147.52 331 PKPbc **PKPbc** **16 31 52.9 -0.7**
comp=Z,0.5nm,0.5s,baz=38,slow=5.0,SNR=4.7
DAVOX Davos/Dischmat 150.77 332 PKPbc **PKPbc** **16 32 01.8 -0.3**
comp=Z,1.9nm,0.3s,baz=79,slow=5.2,SNR=3.9

IDC 18 16:12:11.3±1.1, 17°.51S×174°.57W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/20, mbtmp3.9/6, ML3.6/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/35, Error ellipse: s-maj=49.2km s-min=23.9km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.48	37	Pn	Pn	16 13 19.3	-1.2
	3.0nm,0.3s,baz=80,slow=3.5,SNR=4.1						
AFI				LR	LR	16 14 45.2	
	comp=Z,82nm,21.8s,baz=109,slow=34						
AFI				T	T	16 18 03.7	
	5.2nm,0.3s,baz=128,slow=6.9,SNR=5.3						
DZM	Mont Dzumac	18.43	253	*e*LR	LR	16 21 04.2	
	174nm,24.9s						
DZM	Mont Dzumac	18.43	253	LR	LR	16 22 54.6	
	comp=Z,34nm,21.0s,baz=56,slow=35						
PPT2	Papeete2	23.83	94	*e*LR	LR	16 23 08.5	
	106nm,26.0s						
PPT	Papeete	23.83	94	LR	LR	16 24 12.2	
	comp=Z,47nm,19.2s,baz=235,slow=30						
WRA	Warramunga Arr	48.30	259	P	P	16 20 54.0	-0.8
	0.6nm,0.7s,baz=95,slow=7.1,SNR=4.5						
ASAR	Alice Springs	48.41	254	P	P	16 20 55.4	-0.3
	2.5nm,0.7s,baz=88,slow=8.2,SNR=12						
QSPA	South Pole Qui	72.55	180	P	P	16 23 40.2	+0.1
	2.2nm,0.9s,baz=58,slow=3.2,SNR=3.6						
NVAR	Mina Array Bea	76.64	42	P	P	16 24 03.9	-0.5
	0.4nm,0.6s,baz=231,slow=10,SNR=3.7						
ILAR	Eielson Array	84.72	12	P	P	16 24 47.3	+0.6
	0.6nm,1.0s,baz=230,slow=6.2,SNR=7.0						
H03N2	Juan Fernandez	85.09	123	T	T	17 58 38.2	
	baz=255,slow=74						
H03N3	Juan Fernandez	85.09	123	T	T	17 58 38.0	
	baz=255						
H03N1	Juan Fernandez	85.11	123	T	T	17 58 38.8	
	baz=255,slow=74						
BRTR	Keskin Array B	147.02	318	PKPbc	PKPbc	16 31 56.7	+0.2
	0.8nm,0.8s,baz=132,slow=3.5,SNR=5.8						

NNC 18 16:18:28.4±5.3, 39°.87N×76°.90E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=45.8km s-min=34.9km az=9.0
ISC 18 16:18:53.2±3.7, 41°.6N±0°.3×76°.7E±0°.1, h35km, n11, σ1§95/7, 5C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	0.70	332	P	**Pn**	**16 19 07.7**	**+0.8**
	SNR=9.1						
KZA	Kyzart	1.16	293	P	**Pn**	**16 19 11.2**	**-2.2**
	SNR=12						
TKM2	Tokmak 2	1.53	328	⇓Pn	**Pn**	**16 19 16.1**	**-2.1**
	5.9nm,0.6s						
TKM2				⇓Lg	Lg	16 20 13.5	
	34nm,0.8s						
TKM2	Tokmak 2	1.53	328	P	Pn	16 19 22.3	+4.1
	SNR=5.8						
KNDC	Almaty	1.60	7	⇓Lg	Lg	16 20 14.4	
	39nm,0.6s						
KBK	Karagaybulak	1.65	309	P	**Pn**	**16 19 21.3**	**+1.4**
	SNR=20						
AAK	Ala-Archa	1.92	302	⇑Pn	**Pn**	**16 19 23.7**	**+0.1**
	4.2nm,0.6s						
AAK				⇑Lg	Lg	16 20 17.6	
	25nm,0.7s						
EKS2	Erkin-Say	2.40	297	P	**Pn**	**16 19 31.9**	**+1.8**
	SNR=7.4						
PDGK	Podgornoye	2.68	50	⇓Pn	Pn	16 19 31.9	-1.9
PDGK				⇑Lg	Lg	16 20 31.1	
KK31	Karatay Array	4.81	290	⇓Pg	Pn	16 20 13.1	+10
	0.4nm,0.5s,baz=125,slow=15,SNR=4.2						
KK31				⇓Lg	Lg	16 21 36.0	
	4.9nm,0.7s,baz=131,slow=27,SNR=4.5						
MK31	Makanchi Array	6.55	36	⇑Pn	**Pn**	**16 20 27.1**	**+0.1**
	0.3nm,0.6s,baz=201,slow=12,SNR=6.3						
MK31				⇑Lg	Lg	16 22 36.3	
	1.8nm,0.7s,baz=217,slow=32						

KRNET 18 16:19:14.8±0.1, 39°.21N×77°.48E, h6km, mb3.7, 4C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.18	286	*e*P	Pn	16 20 07.5	+1.9
	baz=286						
SFK				*e*S	Sn	16 20 47.1	+3.1
	baz=286						
KBK	Karagaybulak	3.95	332	⇑/P	Pn	16 20 20.5	+4.4
	baz=332						
KBK				⇑/S	Sb	16 21 10.2	-3.0
	baz=332						
TKM2	Tokmak 2	3.98	340	⇑/P	Pb	16 20 21.3	-4.2
	baz=340						
TKM2				⇑/S	Sb	16 21 10.2	-3.9
	baz=340						

ISCJB 18 16:21:03.0±0.8, 4°.61S±0°.04×77°.04W±0°.04, h117km±7km, mb4.6/73, Error ellipse: s-maj=8.2km s-min=5.2km az=146.0
NEIC 18 16:21:04.2±0.3, 4°.53S×77°.00W, mb4.7/54, Error ellipse: s-maj=10.0km s-min=5.5km az=64.0
IDC 18 16:21:04.3±0.6, 4°.61S×77°.26W, h115km±6km, mb4.1/14, mb1 4.2/18, mb1mx4.2/25, mbtmp4.5/18, MS3.4/1, Ms1 3.4/1, ms1mx2.7/36, Error ellipse: s-maj=13.3km s-min=8.6km az=98.0
BJI 18 16:21:09.0, 4°.60S×76°.80W, h115km, mB5.2/1
ISC 18 16:21:03.9±0.4, 4°.69S±0°.05×77°.08W±0°.08, h115km±3km, h115km:pP-P, n454, σ0§87/480, mb4.6/73, 149C-168D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.76	208	P	**Pn**	**16 21 48.6**	**+1.4**
	28nm,0.3s,baz=22,slow=9.4,SNR=140						
ATAH				S	**Sn**	**16 22 21.1**	**+0.5**
	74nm,0.3s,baz=150,slow=18,SNR=25						
ATAH				LR	LR	16 22 37.1	
	comp=Z,596nm,18.1s,baz=280,slow=34						
OTAV	Otavalo	5.09	344	*e*Pn	**Pn**	**16 22 18.7**	**+0.2**
OTAV				*e*Sn	Sn	16 23 04.8	-12
NNA	Nana	7.25	178	P	**Pn**	**16 22 48.2**	**+0.8**
	6.7nm,0.3s,baz=324,slow=8.7,SNR=9.5						
NNA				S	**Sn**	**16 24 03.4**	**-4.8**
	15nm,0.3s,baz=41,slow=22,SNR=11						
NNA	Nana	7.25	178	*e*Pn	Pn	16 22 46.6	-0.7
NNA				*e*Sn	Sn	16 24 01.6	-6.6
ROSC	El Rosal	9.88	16	*e*Pn	Pn	16 23 31.4	+8.2
SAML	Samuel	14.43	108	*e*Pn	**Pn**	**16 24 19.9**	**-3.0**
SAML				*e*Sn	Sn	16 26 50.6	-12
LPAZ	La Paz	14.49	143	P	**Pn**	**16 24 23.4**	**-0.8**
	0.1nm,0.3s,baz=322,slow=11,SNR=3.9						
LPAZ				S	**S**	**16 27 12.1**	**-4.3**
	0.2nm,0.3s,baz=193,slow=18,SNR=1.7						
SDV	Santo Domingo	14.94	25	*e*Pn	Pn	16 24 25.9	-3.6
SDV				*e*Sn	Sn	16 27 06.3	-8.6
PCRV	Puerto La Cruz	19.28	40	P	**Pn**	**16 25 22.8**	**+0.7**
	4.5nm,0.3s,baz=227,slow=1.0,SNR=12						
SIV	San Ignacio	19.32	127	P	**Pn**	**16 25 23.2**	**+0.7**
	1.2nm,0.3s,baz=322,slow=9.8,SNR=17						
LVC	Limon Verde	19.49	157	*e*P	**Pn**	**16 25 25.5**	**+0.9**
	19nm,0.8s						
MTDJ	Mount Denham	22.78	359	*e*P	**P**	**16 25 57.5**	**+0.5**
	34nm,0.6s						
APG	El Apazote	23.64	326	P	**P**	**16 26 01.5**	**-3.7**
	4.9nm,0.7s,baz=124,slow=5.0,SNR=5.5						
SDDR	Presa de Saban	24.21	13	P	**P**	**16 26 05.9**	**-4.2**
	13nm,0.7s						
GTBY	Guantanamo Bay	24.54	4	P	**P**	**16 26 11.8**	**-1.2**
	41nm,0.7s						
LCO	Las Campanas	24.93	167	P	**P**	**16 26 14.6**	**-2.2**
SMN1	Samana, DR	24.95	18	*e*P	**P**	**16 26 18.6**	**+1.9**
LRS	Lares	24.97	24	*e*P	**P**	**16 26 17.9**	**+0.9**
AGPR	Aguadilla, PR	25.02	23	P	**P**	**16 26 13.2**	**-4.2**
	115nm,1.2s						
AOPR	Arecibo Observ	25.06	24	*e*P	**P**	**16 26 17.8**	**+0.1**
	29nm,0.9s						
SJG	San Juan	25.09	25	P	**P**	**16 26 18.5**	**+0.5**
	25nm,0.2s,baz=174,slow=8.2,SNR=7.3						
SJG	San Juan	25.09	25	*e*P	**P**	**16 26 13.9**	**-4.2**
	17nm,0.7s						
CBYP	Canovanas	25.36	26	*e*P	**P**	**16 26 21.1**	**+0.6**
	11nm,0.8s						
TEIG	Tepich	27.10	336	P	**P**	**16 26 35.6**	**-0.5**
	7.9nm,0.6s,baz=163,slow=11,SNR=3.5						
TEIG	Tepich	27.10	336	P	**P**	**16 26 35.6**	**-0.5**
	28nm,1.0s						
CFAA	Coronel Fontan	28.03	164	P	**P**	**16 26 46.5**	**+2.2**
	0.2nm,0.4s,baz=342,slow=6.4,SNR=3.1						
CPUP	Villa Florida	28.63	141	P	**P**	**16 26 51.8**	**+2.0**
	0.9nm,0.4s,baz=54,slow=1.0,SNR=2.9						
BDFB	Brasilia	30.56	113	P	**P**	**16 27 09.0**	**+1.9**
	3.6nm,0.8s,baz=263,slow=11,SNR=4.0						
BB16B	Bebedouro	32.08	123	*e*P	**P**	**16 27 20.1**	**-0.1**
BB16B				*i*		16 27 24.5	
PLCA	Paso Flores	36.36	172	P	**P**	**16 27 58.5**	**+1.5**
	3.8nm,0.5s,baz=343,slow=9.7,SNR=13						
034A	Hebbronville	37.86	328	⇓P	**P**	**16 28 10.3**	**+0.6**
	baz=38						
934A	Benavides	38.20	328	⇑P	**P**	**16 28 13.5**	**+0.9**
	baz=38						
933A	Laredo	38.61	328	⇓P	**P**	**16 28 16.4**	**+0.3**
	baz=39						
834A	Tilden	38.64	329	⇑P	**P**	**16 28 17.2**	**+0.9**
	baz=39						
LRAL	Lakeview Retre	38.68	347	*e*P	**P**	**16 28 14.4**	**-2.2**
	20nm,1.0s						
735A	Kenedy	38.86	330	⇑P	**P**	**16 28 19.1**	**+1.0**
	baz=39						
636A	Smothers Creek	39.02	332	⇓P	**P**	**16 28 20.2**	**+0.8**
	baz=39						
734A	La Parita Cree	39.23	329	⇑P	**P**	**16 28 21.7**	**+0.5**
	baz=39						
KMSC	Kings Mountain	39.83	355	*e*P	**P**	**16 28 24.5**	**-1.5**
	21nm,1.0s						
KMSC	Kings Mountain	39.83	355	⇓P	**P**	**16 28 25.4**	**-0.6**
	baz=40						
732A	Laxson Ranch,	39.87	328	⇑P	**P**	**16 28 27.0**	**+0.6**
	baz=40						
633A	Saathoff Ranch	40.04	329	⇑P	**P**	**16 28 28.2**	**+0.3**
	baz=40						
534A	Blanco	40.16	331	⇓P	**P**	**16 28 29.0**	**+0.1**
	baz=40						
632A	Uvalde	40.39	329	⇓P	**P**	**16 28 31.8**	**+0.9**
	baz=40,SNR=5.7						
335A	Moody	40.70	333	⇑P	**P**	**16 28 34.0**	**+0.7**
	baz=41						
434A	Burnet	40.70	332	⇓P	**P**	**16 28 33.6**	**+0.2**
	baz=41						
631A	Perdido Creek	40.73	328	⇓P	**P**	**16 28 33.7**	**+0.1**
	baz=41,SNR=11						
433A	Art	41.05	331	⇑P	**P**	**16 28 36.6**	**+0.4**
	baz=41,SNR=5.9						
334A	Lometa	41.12	332	⇓P	**P**	**16 28 37.1**	**+0.3**
	baz=41,SNR=6.3						
JCT	Junction City	41.18	330	⇑P	**P**	**16 28 37.9**	**+0.5**
	baz=41						
531A	Rocksprings	41.31	329	⇑P	**P**	**16 28 39.1**	**+0.7**
	baz=41,SNR=6.3						
WHTX	Lake Whitney	41.32	333	⇑P	**P**	**16 28 38.7**	**+0.3**
	baz=41						
333A	Richland Sprin	41.47	331	⇓P	**P**	**16 28 39.9**	**+0.2**
	baz=42						
432A	Menard	41.50	330	⇑P	**P**	**16 28 40.4**	**+0.5**
	baz=42						
530A	J-C Ranch, Com	41.72	328	⇓P	**P**	**16 28 42.3**	**+0.6**
	baz=42						
431A	Sonora	41.76	329	⇑P	**P**	**16 28 42.5**	**+0.5**
	baz=42,SNR=7.5						
332A	Millersview	41.89	330	⇑P	**P**	**16 28 43.3**	**+0.2**
	baz=42,SNR=7.3						
233A	Rising Star	42.00	332	⇑P	**P**	**16 28 44.4**	**+0.4**
	baz=42						
MIAR	Mount Ida	42.02	340	P	**P**	**16 28 40.8**	**-3.2**
	6.6nm,1.0s						
134A	White-Moore Ra	42.09	333	⇓P	**P**	**16 28 45.2**	**+0.5**
	baz=42						
430A	Baggett Ranch,	42.16	328	⇑P	**P**	**16 28 46.2**	**+0.8**
	baz=42						
331A	San Angelo	42.17	330	⇓P	**P**	**16 28 45.9**	**+0.5**
	baz=42						
529A	Stev Forest Ra	42.17	327	⇑P	**P**	**16 28 46.2**	**+0.7**
	baz=42						
232A	Coleman	42.25	331	⇓P	**P**	**16 28 46.7**	**+0.7**
	baz=42						
Z35A	Perchaven, San	42.37	335	⇑P	**P**	**16 28 47.4**	**+0.5**
	baz=42						
429A	Davenport Ranc	42.38	328	⇓P	**P**	**16 28 47.9**	**+0.7**
	baz=42						
TXAR	Lajitas Array	42.38	325	P	**P**	**16 28 45.0**	**-2.2**
	1.3nm,0.7s,baz=120,slow=6.4,SNR=8.1						
TXAR				PcP	**PcP**	**16 30 38.4**	**-0.2**
	1.0nm,0.8s,baz=145,slow=4.6,SNR=4.3						
133A	Hamilton Ranch	42.50	332	⇓P	**P**	**16 28 48.6**	**+0.6**
	baz=43						
231A	Bronte	42.62	330	⇑P	**P**	**16 28 49.1**	**+0.1**
	baz=43						
330A	Mertzon	42.62	329	⇓P	**P**	**16 28 49.6**	**+0.5**
	baz=43						
Z34A	Collier Ranch,	42.69	334	⇓P	**P**	**16 28 49.9**	**+0.4**
	baz=43						
ABTX	Abilene, Hawle	42.86	332	⇑P	**P**	**16 28 51.3**	**+0.5**
	baz=43						
230A	Sterling City	42.98	329	⇑P	**P**	**16 28 52.0**	**+0.1**
	baz=43,SNR=6.0						
Z33A	Whitaker Ranch	43.00	333	⇓P	**P**	**16 28 52.9**	**+0.8**
	baz=43,SNR=9.8						
329A	Wagon Wheel Ra	43.11	328	⇑P	**P**	**16 28 53.3**	**+0.3**
	baz=43						
Y34A	Reagan Ranch,	43.12	335	⇓P	**P**	**16 28 53.2**	**+0.2**
	baz=43,SNR=5.9						
131A	Roby	43.25	331	⇑P	**P**	**16 28 54.6**	**+0.5**
	baz=43						
Z32A	Haskell	43.34	332	⇑P	**P**	**16 28 55.3**	**+0.6**
	baz=43						
130A	Snyder	43.47	330	⇓P	**P**	**16 28 56.5**	**+0.6**
	baz=44						
Z31A	Sharp Cattle R	43.66	332	⇓P	**P**	**16 28 57.9**	**+0.5**
	baz=44,SNR=5.8						
SIUC	Southern Illin	43.68	346	*e*P	P	16 28 52.6	-4.8
	20nm,0.5s						
X34A	Smith Ranch, M	43.71	335	⇑P	**P**	**16 28 58.2**	**+0.5**
	baz=44,SNR=8.1						
Y32A	R-V Farms, Ver	43.91	333	⇑P	**P**	**16 28 59.7**	**+0.4**
	baz=44						
228A	UT Block 9, Go	43.92	328	⇑P	**P**	**16 28 59.9**	**+0.4**
	baz=44						
X33A	Lawton	43.94	334	⇑P	**P**	**16 28 60.0**	**+0.4**
	baz=44,SNR=5.2						
Z30A	Sanderson Ranc	44.11	331	⇑P	**P**	**16 29 01.1**	**+0.1**
	baz=44,SNR=5.7						
X32A	Elmer	44.19	333	⇓P	**P**	**16 29 01.9**	**+0.4**
	baz=44,SNR=5.1						
Y31A	Rekieta Farm,	44.25	332	⇓P	**P**	**16 29 02.8**	**+0.7**
	baz=44,SNR=5.8						
128A	Castleberry Fa	44.26	329	⇓P	**P**	**16 29 02.6**	**+0.4**
	baz=44						
Z29A	Hungry Hill Ra	44.38	330	⇓P	**P**	**16 29 03.6**	**+0.4**
	baz=44						
W33A	Caddo, Fort Co	44.45	335	⇑P	**P**	**16 29 03.9**	**+0.3**
	baz=44,SNR=6.1						
Y30A	Stafford Cattl	44.48	331	⇑P	**P**	**16 29 04.5**	**+0.6**
	baz=44,SNR=6.9						
X31A	McDonald Ranch	44.67	333	⇑P	**P**	**16 29 06.0**	**+0.5**
	baz=45,SNR=5.3						
W32A	Sentinel	44.76	334	⇑P	**P**	**16 29 06.6**	**+0.5**
	baz=45,SNR=11						
Y29A	Porterfield Fa	44.84	331	⇓P	**P**	**16 29 07.1**	**+0.3**
	baz=45,SNR=8						
X30A	Coker Ranch, T	44.94	332	⇓P	**P**	**16 29 07.9**	**+0.4**
	baz=45,SNR=8.5						
V33A	Lossen Ranch,	44.94	335	⇓P	**P**	**16 29 07.9**	**+0.4**
	baz=45						
ACSO	Alum Creek Sta	45.03	354	P	**P**	**16 29 05.8**	**-2.4**
W31A	Holland Ranch,	45.12	333	⇓P	**P**	**16 29 08.9**	**0.0**
	baz=45						
225A	Deer Hill, Car	45.12	326	⇑P	**P**	**16 29 10.0**	**+0.8**
	baz=45						
U34A	Anderson Ranch	45.17	337	*e*P	**P**	**16 29 09.1**	**-0.2**
	20nm,0.8s						
U34A	Anderson Ranch	45.17	337	⇓P	**P**	**16 29 09.8**	**+0.5**
	baz=45						
V32A	Arapaho	45.18	335	⇑P	**P**	**16 29 09.7**	**+0.3**
	baz=45,SNR=6.4						
Z27A	Tatum	45.19	329	⇑P	**P**	**16 29 09.8**	**+0.2**
	baz=45,SNR=13						
CPRX	Cap Rock	45.31	328	*e*P	**P**	**16 29 10.3**	**-0.3**
	2.8nm,0.6s						
X29A	Tulia	45.33	331	⇓P	**P**	**16 29 10.8**	**+0.1**
	baz=45						
U33A	Lingo Farm, Me	45.40	336	⇓P	**P**	**16 29 11.1**	**0.0**
	baz=46						
125A	Gardner Draw,	45.45	327	⇑P	**P**	**16 29 12.0**	**+0.3**
	baz=46,SNR=7.2						
MSTX	Muleshoe	45.48	330	*e*P	**P**	**16 29 11.6**	**-0.3**
	9.8nm,0.8s						
MSTX	Muleshoe	45.48	330	⇓P	**P**	**16 29 12.2**	**+0.3**
	baz=46						
V31A	Spring Creek L	45.57	334	⇓P	**P**	**16 29 13.2**	**+0.7**
	baz=46						
Y27A	Causey	45.61	329	⇑P	**P**	**16 29 13.2**	**+0.3**
	baz=46						
AMTX	Amarillo	45.67	331	*e*P	**P**	**16 29 12.0**	**-1.4**
	14nm,0.8s						
AMTX	Amarillo	45.67	331	⇓P	**P**	**16 29 13.6**	**+0.2**
	baz=46						
U32A	Winter Ranch,	45.72	335	⇑P	**P**	**16 29 13.9**	**+0.3**
	baz=46						
W29A	Amraillo	45.85	332	⇓P	**P**	**16 29 14.9**	**+0.1**
	baz=46						
Z25A	Roswell	45.95	327	⇓P	**P**	**16 29 16.3**	**+0.6**
	baz=46,SNR=7.0						
Y26A	Elida	45.98	329	⇓P	**P**	**16 29 15.9**	**0.0**
	baz=46,SNR=5.4						
T33A	Patterson Ranc	46.01	336	⇓P	**P**	**16 29 16.3**	**+0.4**
	baz=46						
X27A	F and S Farms,	46.18	330	⇑P	**P**	**16 29 17.6**	**+0.2**
	baz=46						
W28A	Vega	46.23	331	⇓P	**P**	**16 29 18.2**	**+0.5**
	baz=46						
Z24A	Sheeppen Canyo	46.34	327	⇓P	**P**	**16 29 19.1**	**+0.3**
	baz=46,SNR=7.1						
S33A	Kaszmaul Farm,	46.36	337	⇓P	**P**	**16 29 19.1**	**+0.5**
	baz=46						
T32A	Huddler Ranch,	46.37	336	⇑P	**P**	**16 29 19.5**	**+0.7**
	baz=46						
Y25A	Mesa, Roswell	46.43	328	⇑P	**P**	**16 29 19.5**	**+0.1**
	baz=46						
X26A	CR and CF Fran	46.46	329	⇑P	**P**	**16 29 19.8**	**+0.1**
	baz=46						
W27A	Bowe Ranch, En	46.49	330	⇑P	**P**	**16 29 20.3**	**+0.5**
	baz=47,SNR=15						
Y24A	Capitan	46.83	327	⇑P	**P**	**16 29 23.0**	**+0.4**
	baz=47						
W26A	Owens Ranch, T	46.86	330	⇑P	**P**	**16 29 23.1**	**+0.4**
	baz=47						
S31A	Mullinville	46.98	336	⇑P	**P**	**16 29 24.1**	**+0.6**
	baz=47,SNR=5.1						
121A	Cookes Peak, D	47.13	324	⇑P	**P**	**16 29 26.0**	**+1.1**
	baz=47						
KSU1	Kansas State U	47.17	339	*e*P	**P**	**16 29 23.8**	**-1.1**
	7.2nm,0.5s						
KSU1	Kansas State U	47.17	339	⇑P	**P**	**16 29 24.8**	**-0.1**
	baz=47						
Y23A	Lovelace Mesa,	47.17	327	⇓P	**P**	**16 29 25.8**	**+0.5**
	baz=47,SNR=7.8						
Z22A	Elephant Butte	47.18	325	⇑P	**P**	**16 29 26.1**	**+0.9**
	baz=47						
319A	Douglas	47.22	322	⇓P	**P**	**16 29 26.5**	**+0.9**
	baz=47						
W25A	X Bar L Ranch,	47.31	329	⇑P	**P**	**16 29 26.5**	**+0.2**
	baz=47,SNR=5.8						
X24A	Lazy VL Ranch,	47.32	328	⇑P	**P**	**16 29 26.9**	**+0.5**
	baz=47						
R32A	Long Quarter,	47.36	337	⇓P	**P**	**16 29 27.0**	**+0.6**
	baz=47						
T29A	Hugoton	47.36	334	⇓P	**P**	**16 29 27.2**	**+0.7**
	baz=47						
S30A	Montezuma	47.41	335	⇑P	**P**	**16 29 27.3**	**+0.5**
	baz=48						
V26A	Tequesquite Ra	47.43	330	⇓P	**P**	**16 29 27.5**	**+0.3**
	baz=48,SNR=13						
U27A	Thompson Grove	47.47	332	⇓P	**P**	**16 29 27.7**	**+0.3**
	baz=48,SNR=6.6						
Q33A	Connelly Farm,	47.52	338	⇓P	**P**	**16 29 27.8**	**+0.2**
	baz=48						
R31A	Burdett	47.57	336	⇓P	**P**	**16 29 28.6**	**+0.6**
	baz=48						
S29A	Ulysses	47.67	334	⇑P	**P**	**16 29 29.8**	**+0.9**
	baz=48,SNR=8.2						
T28A	Walsh	47.70	333	⇓P	**P**	**16 29 29.6**	**+0.4**
	baz=48						
X23A	Hourglass Bar	47.73	327	⇓P	**P**	**16 29 29.8**	**+0.2**
	baz=48						
Q32A	Meitler Ranch,	47.79	337	⇑P	**P**	**16 29 30.1**	**+0.3**
	baz=48						
W24A	Lazy 6 Ranch,	47.80	328	⇓P	**P**	**16 29 30.5**	**+0.4**
	baz=48,SNR=9.2						
P33A	Williams Farm,	47.86	338	⇑P	**P**	**16 29 30.0**	**-0.2**
	baz=48						
R30A	Dighton	47.87	335	⇑P	**P**	**16 29 31.1**	**+0.7**
	baz=48,SNR=7.2						
V25A	Rancho No Teng	47.88	330	⇑P	**P**	**16 29 30.9**	**+0.3**
	baz=48,SNR=14						
U26A	Atchley Ranch,	47.88	331	⇑P	**P**	**16 29 30.9**	**+0.2**
	baz=48,SNR=11						
T27A	Campo	47.94	332	⇑P	**P**	**16 29 31.6**	**+0.6**
	baz=48,SNR=10						
S28A	Manter	47.99	333	⇑P	**P**	**16 29 31.7**	**+0.3**
	baz=48						
V24A	Rampart Ranch,	48.12	329	⇓P	**P**	**16 29 33.0**	**+0.4**
	baz=48,SNR=16						
Q31A	Ellis	48.13	337	⇑P	**P**	**16 29 32.6**	**+0.2**
	baz=48						
W23A	Werner Place,	48.15	328	⇑P	**P**	**16 29 33.4**	**+0.5**
	baz=48,SNR=6.2						
ANMO	Albuquerque	48.16	327	*e*P	**P**	**16 29 32.9**	**0.0**
	12nm,0.8s						
U25A	Circle Dot Ran	48.22	330	⇑P	**P**	**16 29 33.9**	**+0.6**
	baz=48,SNR=8.6						
R29A	Marienthal	48.35	335	⇑P	**P**	**16 29 34.7**	**+0.6**
	baz=48,SNR=6.1						
P32A	Huiting Farm,	48.36	338	⇑P	**P**	**16 29 34.1**	**0.0**
	baz=48						
T26A	Comanche Natio	48.44	332	⇑P	**P**	**16 29 35.4**	**+0.5**
	baz=48						
Q30A	Quinter	48.44	336	⇑P	**P**	**16 29 35.4**	**+0.7**
	baz=48,SNR=6.1						
S27A	Las Animas	48.52	333	⇑P	**P**	**16 29 35.9**	**+0.3**
	baz=49,SNR=5.7						
P31A	Stockton	48.57	337	⇑P	**P**	**16 29 36.0**	**+0.3**
	baz=49						
R28A	Tribune	48.58	334	⇓P	**P**	**16 29 36.2**	**+0.4**
	baz=49						
V23A	Ortiz Mt. (NFS	48.61	328	⇑P	**P**	**16 29 36.7**	**+0.3**
	baz=49						
U24A	Moreno Valley	48.66	329	⇓P	**P**	**16 29 37.3**	**+0.5**
	baz=49						
Q29A	Oakley	48.68	335	⇓P	**P**	**16 29 37.5**	**+0.8**
	baz=49						
S26A	Kim	48.74	332	⇓P	**P**	**16 29 38.1**	**+1.0**
	baz=49,SNR=14						
T25A	Trinidad	48.80	331	⇓P	**P**	**16 29 38.7**	**+0.9**
	baz=49,SNR=7.1						
P30A	Selden	48.93	336	⇓P	**P**	**16 29 39.3**	**+0.8**
	baz=49						
R27A	Eads	48.97	333	⇑P	**P**	**16 29 39.3**	**+0.5**
	baz=49,SNR=7.7						
U23A	El Rito	49.06	329	⇓P	**P**	**16 29 40.6**	**+0.8**
	baz=49						
O31A	Woolen Ranch,	49.09	337	⇓P	**P**	**16 29 39.9**	**+0.2**
	baz=49						
V22A	San Miguel Ran	49.13	328	⇑P	**P**	**16 29 41.3**	**+1.0**
	baz=49,SNR=7.7						
Q28A	Sharon Springs	49.18	334	⇓P	**P**	**16 29 41.1**	**+0.6**
	baz=49						
T24B	San Luis	49.22	330	⇑P	**P**	**16 29 41.8**	**+0.8**
	baz=49						
S25A	Robets Cordova	49.23	331	⇓P	**P**	**16 29 41.6**	**+0.7**
	baz=49,SNR=9.9						
P29A	Atwood	49.26	336	⇓P	**P**	**16 29 41.5**	**+0.4**
	baz=49						
R26A	Arlington	49.28	333	⇑P	**P**	**16 29 41.6**	**+0.3**
	baz=49,SNR=12						
O30A	MW Ranch, Wils	49.40	337	⇑P	**P**	**16 29 42.5**	**+0.4**
	baz=50						

U22A Llaves 49.45 328 ⇓P P 16 29 43.5 +0.7
baz=50,SNR=7.1
R25A Fountain Ranch 49.54 332 ⇓P P 16 29 43.8 +0.5
baz=50
P28A Saint Francis 49.58 335 ⇑P P 16 29 44.2 +0.7
baz=50
S24A Houchin Ranch, 49.59 331 ⇓P P 16 29 44.4 +0.6
baz=50,SNR=5.4
O29A 4D Ranch, Culb 49.65 336 ⇓P P 16 29 44.6 +0.6
baz=50,SNR=6.4
BGNE Belgrade 49.76 339 ⇑P P 16 29 45.1 +0.3
baz=50
Q26A Hugo 49.81 333 ⇑P P 16 29 46.1 +0.7
baz=50
X18A Snowflake 49.81 324 ⇓P P 16 29 46.2 +0.7
baz=50
214A Organ Pipe Nat 49.84 319 ⇑P P 16 29 45.8 +0.3
baz=50
P27A Ficken Ranch, 49.91 334 ⇑P P 16 29 46.8 +0.7
baz=50
M31A Lambtecht Ranc 50.00 338 ⇓P P 16 29 47.2 +0.6
baz=50
R24A Sanders Place, 50.00 331 ⇓P P 16 29 47.9 +1.1
baz=50
O28A Krutsinger Ran 50.05 335 ⇑P P 16 29 47.7 +0.7
baz=50
W18A Petrified Fore 50.11 325 ⇓P P 16 29 48.8 +1.1
baz=50
Q25A Bedland, Calha 50.14 332 ⇓P P 16 29 48.3 +0.4
baz=50
N29A Votaw Ranch, W 50.17 337 ⇑P P 16 29 48.4 +0.5
baz=50
P26A Davis Ranch, A 50.26 334 ⇑P P 16 29 49.0 +0.3
baz=50
R23A Moffat 50.32 330 ⇓P P 16 29 50.0 +0.6
baz=50
O27A Beecher Island 50.40 335 ⇓P P 16 29 50.6 +0.9
baz=50
N28A Pribbeno Ranch 50.42 336 ⇓P P 16 29 50.5 +0.7
baz=50
S22A 4UR Ranch, Cre 50.48 329 ⇑P P 16 29 51.3 +0.7
baz=50,SNR=5.8
P25A Willow Gulch B 50.59 333 ⇑P P 16 29 51.8 +0.6
baz=51,SNR=9.4
Q24A Divide 50.60 332 ⇓P P 16 29 52.2 +0.7
baz=51
X16A Lo Mia Camp, P 50.62 323 ⇓P P 16 29 52.3 +0.7
baz=51
L31A Butterfield Fa 50.68 339 ⇓P P 16 29 51.7 0.0
baz=51,SNR=5.4
M29A Burnside Ranch 50.73 337 ⇑P P 16 29 52.2 +0.1
baz=51
L30A Spencer Herefo 50.80 338 ⇑P P 16 29 53.2 +0.6
baz=51
O26A Horse Wrangler 50.80 334 ⇓P P 16 29 53.3 +0.5
baz=51
N27A Anderson Farm, 50.94 335 ⇑P P 16 29 54.4 +0.7
baz=51
MVCO Mesa Verde 50.94 328 ⇑P P 16 29 54.4 +0.4
baz=51
M28A Bar X Bar Ranc 50.96 337 ⇑P P 16 29 54.2 +0.4
baz=51
113A Mohawk Valley, 50.98 320 ⇑P P 16 29 54.8 +0.7
baz=51
O25A Wiggins 51.05 333 ⇑P P 16 29 55.0 +0.3
baz=51
N26A Koester Ranch, 51.24 335 ⇑P P 16 29 57.0 +0.9
baz=51
P23A Jefferson 51.25 331 ⇓P P 16 29 57.3 +0.9
baz=51
Y14A Wickenburg 51.26 321 ⇓P P 16 29 56.1 -0.1
baz=51
ECSD EROS Data Cent 51.33 342 eP P 16 29 54.7 -1.8
11nm,0.7s
ECSD EROS Data Cent 51.33 342 ⇓P P 16 29 55.5 -1.0
baz=51,SNR=8.2
WUAZ Wupatki 51.34 324 eP P 16 29 57.0 +0.1
15nm,1.0s
WUAZ epP pP 16 30 24.7 +0.6
WUAZ Wupatki 51.34 324 ⇑P P 16 29 57.8 +0.9
baz=51,SNR=11
M27A Reverse DX Ran 51.48 336 ⇑P P 16 29 58.3 +0.5
baz=52
ISCO Idaho Springs 51.48 332 eP P 16 29 57.9 -0.2
3.7nm,0.8s
ISCO Idaho Springs 51.48 332 ⇓P P 16 29 58.6 +0.5
baz=52
N25A Grover 51.61 334 ⇑P P 16 29 59.3 +0.5
baz=52
PV01 Paradox Valley 51.67 328 eP P 16 29 59.4 0.0
M26A McRoberts Ranc 51.74 335 ⇑P P 16 29 59.7 0.0
baz=52
P22A Eagle 51.87 331 ⇓P P 16 30 01.1 +0.2
baz=52,SNR=6.1
PV05 Paradox Valley 51.91 328 eP P 16 30 01.0 -0.1
J30A Dallas 51.91 339 ⇓P P 16 30 00.6 -0.3
baz=52,SNR=6.3
O23A Lake Granby, G 51.95 332 ⇓P P 16 30 02.0 +0.4
baz=52,SNR=14
N24A Carr 51.97 333 ⇓P P 16 30 01.9 +0.4
baz=52
PV04 Paradox Valley 52.04 328 eP P 16 30 02.5 +0.5
K28A Ten Mile Ranch 52.08 337 ⇑P P 16 30 02.7 +0.6
baz=52
PV10 Paradox Valley 52.09 328 P P 16 30 02.2 -0.4
M25A Palm-Egli Farm 52.10 334 ⇑P P 16 30 03.3 +0.9
baz=52
L26A Underwood Farm 52.19 336 ⇓P P 16 30 03.6 +0.6
baz=52
PDMCI Parker Dam,Lak 52.20 321 ⇑P P 16 30 04.0 +0.8
baz=52
O22A Kremmling 52.21 332 ⇑P P 16 30 03.4 -0.1
baz=52
J29A Okreek 52.28 339 ⇑P P 16 30 03.6 0.0
baz=52,SNR=5.1
SWSC Sam W. Stewart 52.41 318 ⇓P P 16 30 05.9 +1.2
baz=52
N23A Red Feather La 52.51 333 ⇓P P 16 30 05.8 +0.2
baz=53
U15A North Rim 52.51 324 ⇑P P 16 30 06.6 +0.9
baz=53
W13A Hualapai Mount 52.57 322 ⇑P P 16 30 07.1 +1.0
baz=53
J28A Allard Ranch, 52.63 338 ⇓P P 16 30 06.6 +0.3
baz=53
N22A Wattenberg Ran 52.67 332 ⇓P P 16 30 07.5 +0.7
baz=53
IRM Iron Mountain 52.76 320 ⇓P P 16 30 08.0 +0.7
baz=53
K26A Motz Farm, Whi 52.78 336 ⇓P P 16 30 08.0 +0.6
baz=53
J27A Elkhorn Farm, 52.78 337 ⇓P P 16 30 08.1 +0.7
baz=53
I29A Vivian Onida 52.81 339 ⇑P P 16 30 07.3 -0.2
baz=53
I28A Midland 53.10 338 ⇑P P 16 30 09.7 +0.1
baz=53,SNR=5.4
BELC Belle Mtn. Jos 53.20 319 ⇑P P 16 30 11.4 +0.7
baz=53
KNB Kanab 53.22 324 eP P 16 30 11.4 +0.6
37nm,2.0s
J26A Sides Ranch, S 53.25 336 ⇓P P 16 30 10.7 -0.1
baz=53,SNR=6.9
G30A Faulkton 53.38 341 ⇓P P 16 30 11.2 -0.5
baz=54,SNR=11
SRU San Rafael 53.42 328 eP P 16 30 12.5 +0.3
6.2nm,1.1s
GMRC Granite Mounta 53.48 320 ⇑P P 16 30 13.5 +0.9
baz=54
I27A Quinn 53.49 338 ⇑P P 16 30 13.0 +0.5
baz=54
J25A Sunshine Ranch 53.61 336 ⇑P P 16 30 13.9 +0.5
baz=54
L22A Ellis Ranch, M 53.63 333 ⇑P P 16 30 13.9 +0.1
baz=54
G29A Hoven 53.70 340 ⇓P P 16 30 14.1 +0.2
baz=54
I26A New Underwood 53.77 337 ⇓P P 16 30 15.0 +0.5
baz=54
CCUT Cedar City 53.90 324 eP P 16 30 15.9 0.0
4.4nm,0.9s
MVU Marysvale 53.91 326 eP P 16 30 16.6 +0.7
5.1nm,1.0s
HEC Hector,Ludlow 53.94 320 ⇓P P 16 30 16.8 +0.8
baz=54
F30A Leola 53.97 341 ⇓P P 16 30 15.8 -0.1
baz=54
TUQ Turquoise Moun 54.06 321 ⇑P P 16 30 17.5 +0.6
baz=54
I25A Rochford 54.10 336 ⇓P P 16 30 17.8 +0.7
baz=54,SNR=6.3
ARUT Antelope Range 54.10 325 P P 16 30 18.1 +0.8
42nm,0.4s
K22A Casper 54.16 333 ⇓P P 16 30 18.2 +0.6
baz=54
F29A Eureka 54.23 341 ⇑P P 16 30 17.5 -0.3
baz=54
RSSD Black Hills 54.31 336 eP P 16 30 17.8 -0.9
6.1nm,0.8s
RSSD ePcP PcP 16 31 18.4 -3.0
K21A Alcova 54.48 333 ⇑P P 16 30 20.0 +0.1
baz=54
E30A Jud 54.53 342 ⇑P P 16 30 19.5 -0.4
baz=55,SNR=6.9
GSC Goldstone 54.53 320 eP P 16 30 21.2 +0.9
5.4nm,0.9s
GSC Goldstone 54.53 320 ⇑P P 16 30 21.0 +0.8
baz=55
H25A Fruitdale 54.55 337 ⇑P P 16 30 20.7 +0.5
baz=55
G26A Maurine 54.74 338 ⇑P P 16 30 21.2 -0.3
baz=55,SNR=5.8
J22A Midwest 54.75 334 ⇑P P 16 30 21.9 +0.1
baz=55,SNR=13
DAU Daniels Canyon 54.75 328 eP P 16 30 22.2 +0.1
2.6nm,0.5s
DAU epP pP 16 30 49.9 +0.3
DAU ePcP PcP 16 31 23.1 -0.2
E29A Napoleon 54.82 341 ⇓P P 16 30 21.6 -0.4
baz=55,SNR=5.2
G25A Newell 54.96 337 ⇓P P 16 30 23.5 +0.3
baz=55
D30A Buchanan 55.02 342 ⇓P P 16 30 23.3 -0.2
baz=55,SNR=7.1
F27A Lemmon 55.02 339 ⇓P P 16 30 23.5 -0.1
baz=55
H24A Dirks Ranch, A 55.03 336 ⇓P P 16 30 23.3 -0.4
baz=55
EDW2 Edwards Air Fo 55.04 319 ⇑P P 16 30 24.4 +0.5
baz=55
J21A Lysite 55.13 333 ⇓P P 16 30 24.9 +0.3
baz=55,SNR=6.1
I22A 9 Mile Ranch, 55.14 334 ⇑P P 16 30 24.6 +0.1
baz=55,SNR=7.2
E28A Huff 55.17 340 ⇓P P 16 30 24.9 +0.3
baz=55
LRMC Laurel Mountai 55.21 320 ⇓P P 16 30 26.0 +0.8
baz=55
D29A Pettibone, Tap 55.24 341 ⇑P P 16 30 24.8 -0.3
baz=55
F26A Lodgepole 55.24 338 ⇓P P 16 30 25.3 +0.2
baz=55
AGMN Agassiz Nation 55.28 345 eP P 16 30 24.1 -1.1
16nm,0.7s
AGMN epP pP 16 30 51.9 -0.9
AGMN esP sP 16 31 07.7 +2.2
AGMN ePcP PcP 16 31 24.3 -0.4
AGMN Agassiz Nation 55.28 345 ⇓P P 16 30 24.6 -0.7
baz=55,SNR=9.6
FURC Furnace Creek, 55.30 321 ⇑P P 16 30 26.9 +1.3
baz=55
TCUT Toone Canyon 55.35 329 eP P 16 30 26.3 +0.1
7.9nm,0.6s
TCUT ePcP PcP 16 31 23.6 -1.8
J20A Shoshoni 55.42 333 ⇑P P 16 30 27.2 +0.6
baz=56,SNR=10.0
DUG Dugway 55.43 327 eP P 16 30 26.5 -0.2
4.2nm,0.8s
DUG Dugway 55.43 327 ⇑P P 16 30 27.2 +0.5
baz=56
I21A Big Trails, Te 55.43 334 ⇑P P 16 30 26.4 -0.3
baz=56,SNR=6.1
C30A Mose, Pekin 55.47 343 ⇑P P 16 30 26.6 0.0
baz=56
F25A Bowman 55.59 338 ⇓P P 16 30 28.0 +0.3
baz=56
BW06 Boulder Array 55.66 331 eP P 16 30 27.2 -1.2
3.3nm,0.9s
D28A Regan 55.67 341 ⇑P P 16 30 28.0 -0.2
baz=56,SNR=5.5
E26A Carlson Angus 55.69 339 ⇑P P 16 30 28.7 +0.3
baz=56
R11A Troy Canyon, C 55.73 324 eP P 16 30 29.8 +0.8
6.0nm,1.3s
R11A Troy Canyon, C 55.73 324 ⇑P P 16 30 29.8 +0.8
baz=56
G23A Biddle 55.74 336 ⇓P P 16 30 28.9 +0.1
baz=56
J19A Crowheart 55.80 332 ⇓P P 16 30 29.1 -0.3
baz=56,SNR=5.9
ISA Isabella 55.83 319 eP P 16 30 29.5 -0.1
3.7nm,1.0s
ISA Isabella 55.83 319 ⇓P P 16 30 30.3 +0.8
baz=56
F24A Ekalaka 55.90 337 ⇓P P 16 30 30.1 +0.2
baz=56
I20A Worland 55.91 333 ⇑P P 16 30 30.2 +0.2
baz=56
H21A Big Horn, Sher 55.97 335 ⇑P P 16 30 30.5 0.0
baz=56
E25A Miller Ranch, 56.06 338 ⇑P P 16 30 31.1 +0.1
baz=56
B30A Myrvik Farm, E 56.10 343 ⇓P P 16 30 30.9 -0.3
baz=56,SNR=11
G22A Birney 56.13 335 ⇓P P 16 30 31.5 0.0
baz=56
D26A Manning 56.16 339 ⇑P P 16 30 32.1 +0.4
baz=56
F23A Volborg 56.18 336 ⇓P P 16 30 32.2 +0.4
baz=56
H20A Greybull 56.27 334 ⇓P P 16 30 32.6 0.0
baz=56
B29A Wagenman Farm, 56.41 342 ⇑P P 16 30 33.9 +0.5
baz=56,SNR=19
E24A Baker 56.45 338 ⇑P P 16 30 33.8 +0.1
baz=56
G21A Lodge Grass 56.52 335 ⇓P P 16 30 34.6 +0.3
baz=57
A30A Hoffart Farm, 56.53 343 ⇓P P 16 30 34.2 -0.1
baz=57,SNR=8.1
TPH Tonopah 56.54 322 P P 16 30 34.9 +0.2
F22A Rosebud 56.57 336 ⇑P P 16 30 34.9 +0.3
baz=57
D25A Fairfield 56.58 339 ⇑P P 16 30 35.1 +0.5
baz=57,SNR=6.3
B28A Dugan Ranch, T 56.71 342 ⇑P P 16 30 35.9 +0.4
baz=57
C26A Wahner Farm, P 56.73 340 ⇓P P 16 30 36.0 +0.3
baz=57
A29A Manning Farm, 56.79 343 ⇓P P 16 30 36.0 0.0
baz=57,SNR=6.2
LOHW Long Hollow 56.80 331 eP P 16 30 35.4 -1.1
35nm,2.5s
H19A Powell 56.86 333 ⇓P P 16 30 37.0 +0.3
baz=57
D24A Glendive 56.92 338 ⇓P P 16 30 37.4 +0.4
baz=57,SNR=5.8
G20A Bridger 56.95 334 ⇓P P 16 30 36.9 -0.5
baz=57
E22A Miles City 56.98 337 ⇓P P 16 30 37.8 +0.3
baz=57
I17A Pilgrim Ck. 57.02 332 ⇑P P 16 30 38.1 +0.1
baz=57
ULM Lac du Bonnet 57.08 346 P P 16 30 36.7 -1.4
12nm,0.8s,baz=160,slow=9.6,SNR=15
A28A Rude Farm, Bot 57.09 342 ⇑P P 16 30 38.2 +0.1
baz=57
H18A Shoshone NF, C 57.17 333 ⇓P P 16 30 39.5 +0.4
baz=57
NVAR Mina Array Bea 57.42 322 P P 16 30 41.1 +0.1
3.2nm,0.8s,baz=138,slow=7.3,SNR=17
NVAR PcP PcP 16 31 33.6 0.0
1.5nm,0.8s,baz=111,slow=4.9,SNR=4.3
A27A Ledoux Ranch, 57.43 341 ⇑P P 16 30 41.1 +0.5
baz=58
E21A Keefer Ranch, 57.52 336 ⇓P P 16 30 41.8 +0.5
baz=58
A26A Wade Farm, Ken 57.64 341 ⇓P P 16 30 42.6 +0.5
baz=58
D22A Cohagen 57.66 337 ⇓P P 16 30 42.6 +0.4
baz=58,SNR=8.5
F19A Roth Farm, Mol 57.76 334 ⇓P P 16 30 43.0 -0.1
baz=58,SNR=7.7
C23A Lambert 57.81 338 ⇑P P 16 30 43.6 +0.2
baz=58,SNR=5.2
D21A La Casta Ranch 57.91 336 ⇓P P 16 30 44.4 +0.4
baz=58,SNR=7.3
E20A Meyer Farm, Mu 57.93 335 ⇑P P 16 30 44.4 +0.2
baz=58,SNR=5.4
DGMT Dagmar 58.01 339 ⇓P P 16 30 45.4 +0.7
baz=58
GCMT Greycliff 58.03 334 eP P 16 30 44.6 -0.4
GCMT epP pP 16 31 13.3 +0.6
C22A Vida 58.03 337 ⇓P P 16 30 45.2 +0.4
baz=58,SNR=6.3
A25A Svangstu Ranch 58.04 340 ⇓P P 16 30 45.1 +0.3
baz=58
BMN Battle Mountai 58.06 325 eP P 16 30 45.3 0.0
6.2nm,0.9s
E19A Rath Farm, Rou 58.17 335 ⇓P P 16 30 45.9 +0.1
baz=58,SNR=5.3
B23A Brockton 58.30 339 ⇑P P 16 30 47.2 +0.6
baz=58,SNR=15
A24A Westby 58.33 339 ⇓P P 16 30 47.3 +0.4
baz=58,SNR=7.9
D20A Manuel Ranch, 58.40 336 ⇓P P 16 30 47.3 -0.1
baz=58,SNR=9.3
B22A Reddig Ranch S 58.53 338 ⇓P P 16 30 48.8 +0.4
baz=59
C21A Desert Coulee 58.57 337 ⇓P P 16 30 49.2 +0.6
baz=59
HLID Hailey 58.65 329 eP P 16 30 49.0 -0.4
3.8nm,1.0s
HLID epP pP 16 31 17.4 +0.2
HLID Hailey 58.65 329 ⇑P P 16 30 49.9 +0.5
baz=59
A23A Redstone 58.67 339 ⇓P P 16 30 49.8 +0.6
baz=59
D19A Cripps Ranch, 58.76 335 ⇓P P 16 30 50.1 +0.1
baz=59
MCMT McKenzie Canyo 58.78 331 eP P 16 30 50.1 -0.3
C20A Veseth Ranch, 58.84 336 ⇑P P 16 30 50.6 +0.1
baz=59
B21A Ellsworth Farm 59.03 337 ⇑P P 16 30 52.3 +0.6
baz=59
A22A Carney Farms, 59.08 338 ⇓P P 16 30 52.8 +0.7
baz=59,SNR=8.5
C19A Slack Wire Ran 59.28 335 ⇓P P 16 30 53.6 0.0
baz=59,SNR=9.0
MFID Camas Ranch 59.29 328 eP P 16 30 53.8 +0.1
14nm,0.8s
MFID epP pP 16 31 20.6 -1.0
B20A Solberg Farm, 59.43 337 ⇓P P 16 30 54.7 +0.2
baz=60
A20A Cobblestone Ra 59.75 337 ⇓P P 16 30 56.9 +0.2
baz=60
EGMT Eagleton 59.81 335 eP P 16 30 56.7 -0.4
11nm,1.1s
EGMT Eagleton 59.81 335 ⇓P P 16 30 57.1 0.0
baz=60
B19A Brinkman Farms 59.81 336 ⇓P P 16 30 57.5 +0.4
baz=60
SCHQ Schefferville 59.92 7 P P 16 30 57.8 +0.1
4.8nm,1.1s,baz=222,slow=4.7,SNR=3.6
SCHQ pP pP 16 31 22.6 -3.0
4.5nm,0.7s,baz=227,slow=6.7,SNR=5.7
A19A Klindworth Far 60.11 336 ⇓P P 16 30 59.4 +0.2
baz=60,SNR=11
WVOR Wild Horse Val 60.17 326 eP P 16 30 59.5 -0.3
5.3nm,0.9s
MSO Missoula 60.76 332 eP P 16 31 02.9 -0.8
17nm,1.4s
MSO Missoula 60.76 332 ⇓P P 16 31 03.9 +0.2
baz=61
M04C Macdoel 61.62 323 ⇑P P 16 31 09.6 0.0
baz=62
K05A Summer Lake 61.64 325 eP P 16 31 10.2 +0.4
9.8nm,0.9s
N02D Trinity Center 61.66 322 ⇑P P 16 31 10.0 +0.1
baz=62
F10A Beach Ranch, E 61.77 329 eP P 16 31 10.6 +0.1
77nm,2.6s
BSMT Bassoo Peak 61.90 332 eP P 16 31 11.6 +0.1
M02C Callahan 62.00 322 ⇓P P 16 31 11.7 -0.4
baz=62
K04D Chiloquin, OR 62.08 324 ⇓P P 16 31 12.5 -0.1
baz=62
J05D Fort Rock, OR 62.18 325 ⇓P P 16 31 13.7 +0.3
baz=62
G08A Pilot Rock 62.21 328 eP P 16 31 13.3 -0.2
4.6nm,1.0s
WALA Waterton Lakes 62.39 334 eP P 16 31 13.2 -1.4
J04D Umpqua Nationa 62.66 324 ⇓P P 16 31 16.9 +0.2
baz=63
FFC Flin Flon 62.73 344 eP P 16 31 15.7 -0.9
76nm,2.6s
L02D Cave Junction, 62.90 323 ⇑P P 16 31 18.2 +0.1
baz=63
SFER Spokane School 62.97 331 eP P 16 31 20.0 +1.6
I04A Tendick Farm, 63.17 325 ⇑P P 16 31 18.6 -1.2
baz=63
NEW Newport 63.30 331 eP P 16 31 19.9 -0.7
58nm,2.4s
NEW Newport 63.30 331 ⇓P P 16 31 20.4 -0.1
baz=63
G05D Wamic, OR 63.45 327 ⇓P P 16 31 22.3 +0.6
baz=64
I03D Drain, OR 63.66 324 ⇓P P 16 31 23.1 +0.1
baz=64
FCC Fort Churchill 64.70 350 eP P 16 31 27.4 -2.0
CDMR Cedar Moraine 65.07 328 eP P 16 31 32.8 +0.7
EDM Edmonton 65.28 337 eP P 16 31 31.8 -1.6
LIC Lamto 72.75 82 eP P 16 32 21.4 +1.1
22nm,1.0s
TIC Toumodi 72.80 82 eP P 16 32 21.9 +1.2
5.1nm,0.2s
YKA Yellowknife Ar 72.84 343 P P 16 32 19.3 -0.6
2.7nm,0.5s,baz=136,slow=6.0,SNR=6.5
DBIC Dimbokro 72.97 82 P P 16 32 22.7 +1.1
9.8nm,0.7s,baz=246,slow=5.7,SNR=17
KIC Kosan Boka 73.05 82 eP P 16 32 23.4 +1.3
25nm,0.7s
DLBC Dease Lake 75.72 334 eP P 16 32 36.4 -0.4
ESDC Sonseca Array 80.11 49 P P 16 33 02.6 +1.1
1.2nm,0.5s,baz=255,slow=5.6,SNR=8.5
TORD Torodi Ar. Bea 80.17 76 P P 16 33 03.0 +0.8
5.7nm,0.9s,baz=277,slow=5.1,SNR=29
TORD pP pP 16 33 32.2 +0.7
1.1nm,0.4s,baz=285,slow=5.5,SNR=2.3
SNAA Sanae 80.63 162 eP P 16 33 04.2 +0.5
13nm,0.8s
SUMG Summit 80.96 11 iP P 16 33 06.1 +0.4
8.9nm,0.9s
SUMG Summit 80.96 11 eP P 16 33 05.6 -0.1
12nm,0.9s
INK Inuvik 82.57 342 eP P 16 33 13.4 -0.2
16nm,1.0s
EGAK Eagle 83.50 337 eP P 16 33 18.2 -0.3
15nm,1.2s
MENT Mentasta 83.77 335 eP P 16 33 19.2 -0.9
EKA Eskdalemuir Ar 84.78 33 P P 16 33 25.1 -0.1
1.9nm,0.6s,baz=255,slow=4.9,SNR=5.7
TAM Tamanrasset 85.00 67 eP P 16 33 29.3 +2.0
2.2nm,0.8s
QSPA South Pole Qui 85.39 180 eP P 16 33 29.3 +1.0
QSPA epP pP 16 33 54.9 -3.0
ILAR Eielson Array 85.76 336 P P 16 33 29.2 -0.7
2.5nm,0.9s,baz=140,slow=3.6,SNR=19
COLA College 86.18 336 P P 16 33 31.5 -0.5
MCK McKinley 86.26 335 eP P 16 33 32.1 -0.4
8.1nm,1.0s
DAG Danmarks Havn 87.64 11 iP P 16 33 39.1 +0.2
3.4nm,1.1s
COLD Coldfoot 87.84 338 eP P 16 33 40.6 +0.6
9.1nm,1.0s
ABKAR Akbulak array 122.63 32 ePKPdf PKPdf 16 39 46.4 +0.3
ABKAR ePKPdf PKPdf 16 40 18.6 +1.3
ZALV Zalesovo Beam 128.72 14 PKP PKPdf 16 39 57.8 +0.1
2.6nm,0.5s,baz=250,slow=3.0,SNR=10
ZALV pPKP pPKPdf 16 40 29.3 +0.4
2.1nm,0.5s,baz=354,slow=1.4,SNR=3.5
MK31 Makanchi Array 134.42 20 ePKPdf PKPdf 16 40 08.4 -0.3
MKAR Makanchi Array 134.42 20 PKP PKPdf 16 40 08.7 0.0
1.4nm,0.6s,baz=289,slow=2.9,SNR=29
MKAR pPKP pPKPdf 16 40 40.2 +0.3
0.8nm,0.6s,baz=48,slow=3.4,SNR=4.2
AAK Ala-Archa 134.56 30 ePKPdf PKPdf 16 40 09.7 +0.4
SONM Songino Array 136.92 357 PKP PKPdf 16 40 13.9 +0.4
1.3nm,0.8s,baz=354,slow=0.4,SNR=6.7
SONM pPKP pPKPdf 16 40 44.4 -0.3
1.3nm,0.9s,baz=311,slow=1.1,SNR=4.4
ASAR Alice Springs 138.68 226 PKhKP PKPpre 16 40 09.1
0.5nm,0.7s,baz=136,slow=2.7,SNR=12

ASAR				PKP	PKPdf	16 40 16.9	-0.5
	0.8nm,0.8s,baz=137,slow=1.7,SNR=7.3						
ASAR				pPKP	pPKPdf	16 40 45.0	-3.5
	1.0nm,0.8s,baz=127,slow=2.4,SNR=4.1						
KSRS	**Korea Array**	**140.18**	**328**	PKP	**PKPdf**	**16 40 19.5**	**-0.1**
	1.9nm,0.8s,baz=11,slow=2.7,SNR=4.5						
KSAR	**Wonju Array Be**	**140.21**	**328**	PKP	**PKPdf**	**16 40 19.5**	**-0.1**
WRAB	**Tennant Creek**	**140.59**	**231**	ePKPdf	**PKPdf**	**16 40 19.6**	**-1.3**
WRA	**Warramunga Arr**	**140.59**	**231**	PKhKP	PKPpre	16 40 12.2	
	0.6nm,0.7s,baz=134,slow=2.8,SNR=9.0						
WRA				PKP	**PKPdf**	**16 40 20.5**	**-0.4**
	0.9nm,0.5s,baz=118,slow=1.9,SNR=17						
WRA				pPKP	pPKPdf	16 40 48.6	-3.5
	1.4nm,0.8s,baz=133,slow=1.7,SNR=4.8						
GTA	**Gaotai**	**145.33**	**4**	ePKPbc	**PKPbc**	**16 40 28.5**	**-0.3**
LZH	**Lanzhou**	**148.75**	**359**	ePKPbc	**PKPbc**	**16 40 39.5**	**+0.9**
LZH				pPKP	**pPKPdf**	**16 41 08.1**	**+2.2**
LZH				sPKP		16 41 24.8	
DANN	**Dangsing**	**150.25**	**36**	eP	**PKPbc**	**16 40 43.4**	**+0.7**
	51nm,0.9s						
XAN	**Xi'an**	**150.27**	**350**	PKPbc	**PKPbc**	**16 40 41.8**	**-0.5**
XAN				pPKP	**pPKPdf**	**16 41 09.5**	**+1.2**
KOLN	**Koldanda**	**150.59**	**37**	eP	**PKPbc**	**16 40 43.5**	**+0.1**
	16nm,0.7s						
GKN	**Gorkha**	**151.02**	**35**	eP	**PKPbc**	**16 40 44.8**	**+0.5**
	49nm,0.7s						
KKN	**Kakani**	**151.54**	**34**	eP	**PKPbc**	**16 40 46.1**	**+0.5**
	24nm,0.7s						
DMN	**Daman**	**151.59**	**35**	eP	**PKPbc**	**16 40 46.0**	**+0.2**
	12nm,0.5s						
PKIN	**Phulchoki**	**151.78**	**34**	eP	**PKPbc**	**16 40 46.9**	**+0.7**
	5.0nm,0.5s						
GUN	**Gumba**	**151.78**	**33**	eP	**PKPbc**	**16 40 46.7**	**+0.4**
	32nm,1.0s						
PKI	**Pulchoki**	**151.79**	**34**	eP	**PKPbc**	**16 40 46.2**	**-0.1**
	14nm,0.7s						
JIRN	**Jiri**	**152.15**	**33**	eP	**PKPbc**	**16 40 47.3**	**+0.1**
	9.9nm,0.6s						
LSA	**Lhasa**	**152.75**	**23**	ePKPdf	**PKPdf**	**16 40 42.1**	**+0.7**
LSA				ePKPbc	**PKiKP**	**16 40 49.2**	**+0.4**
RAMN	**Ramite**	**152.93**	**33**	eP	**PKPbc**	**16 40 48.9**	**+0.1**
	22nm,0.6s						
TAPN	**Taplejung**	**153.20**	**31**	eP	**PKPbc**	**16 40 49.8**	**+0.3**
	7.2nm,0.6s						
ODAN	**Odare**	**153.43**	**32**	eP	**PKPbc**	**16 40 49.9**	**0.0**
	8.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**165.78**	**16**	PKP	**PKPdf**	**16 40 56.0**	**-0.1**
	0.6nm,0.8s,baz=343,slow=1.6,SNR=6.5						
CMAR				pPKP	**pPKPdf**	**16 41 27.3**	**-0.2**
	1.0nm,1.0s,baz=276,slow=1.8,SNR=5.0						
CMAR				PKPab	**PKPab**	**16 41 55.2**	**-0.5**
	1.2nm,0.6s,baz=330,slow=5.3,SNR=13						
CMAR				pPKPab	**pPKPab**	**16 42 26.2**	**+0.5**
	0.7nm,0.8s,baz=326,slow=6.3,SNR=3.6						

*ISCJB **18** 16:23:06.7±0.6, 26.59S±0.06×179.0E±0.1, h550km, mb3.6/11, Error ellipse: s-maj=14.2km s-min=7.2km az=175.7*
*IDC **18** 16:23:07.4±2.3, 26.69S×178.99E, h548km±28km, mb3.2/11, mb1 3.3/12, mb1mx3.3/19, mbtmp4.1/12, Error ellipse: s-maj=30.6km s-min=14.8km az=161.0*
ISC 18 16:23:07.1±0.7, 26.70S±0.08×179.1E±0.1, h550km, n35, σ0.83/38, mb3.6/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**11.08**	**185**	PN	**P**	**16 25 36.3**	**+0.4**
URZ	**Urewera**	**11.65**	**188**	P	**P**	**16 25 41.7**	**-0.1**
	5.6nm,0.3s,baz=284,slow=3.2,SNR=42						
URZ				S	**S**	**16 27 48.5**	**-0.6**
	1.2nm,0.3s,baz=84,slow=22,SNR=11						
URZ	**Urewera**	**11.65**	**188**	SN	**S**	**16 27 48.1**	**-1.0**
MWZ	**Matawai**	**11.68**	**186**	PN	**P**	**16 25 42.7**	**+0.6**
MWZ				SN	**S**	**16 27 48.4**	**-1.4**
QRZ	**Quartz Range**	**15.10**	**199**	PN	**P**	**16 26 19.6**	**+2.2**
THZ	**Tophouse**	**15.87**	**197**	PN	**P**	**16 26 26.0**	**+0.8**
THZ				SN	**S**	**16 29 07.9**	**+0.8**
KHZ	**Kahutara**	**16.33**	**195**	PN	**P**	**16 26 29.8**	**+0.3**
OXZ	**Oxford**	**17.55**	**197**	PN	**P**	**16 26 41.6**	**+0.9**
MGCD	**Mangrove Creek**	**25.04**	**248**	P	**P**	**16 27 50.6**	**+2.4**
	baz=32,SNR=5.2						
CTA	**Charters Tower**	**30.78**	**275**	P	**P**	**16 28 37.5**	**-0.9**
	1.7nm,0.4s,baz=95,slow=10.0,SNR=4.4						
STKA	**Stephens Creek**	**32.99**	**252**	P	**P**	**16 28 57.7**	**+0.6**
	1.4nm,0.4s,baz=91,slow=11,SNR=10						
STKA	**Stephens Creek**	**32.99**	**252**	P	**P**	**16 28 57.9**	**+0.8**
	baz=40,SNR=8.2						
HTT	**Hallett**	**35.23**	**249**	P	**P**	**16 29 16.7**	**+0.8**
	baz=42,SNR=7.5						
BBOO	**Buckleboo**	**37.65**	**250**	P	**P**	**16 29 35.7**	**0.0**
	baz=44,SNR=7.3						
ASAR	**Alice Springs**	**40.83**	**264**	P	**P**	**16 30 01.4**	**-0.1**
	1.3nm,0.4s,baz=99,slow=7.7,SNR=81						
ASAR				S	**S**	**16 35 32.5**	**-1.0**
	1.7nm,1.0s,baz=101,slow=17,SNR=9.5						
WRA	**Warramunga Arr**	**41.47**	**270**	P	**P**	**16 30 05.9**	**-0.7**
	0.5nm,0.5s,baz=107,slow=6.1,SNR=20						
FORT	**Forrest**	**44.61**	**252**	P	**P**	**16 30 30.8**	**-0.2**
	baz=51,SNR=11						
WRKA	**Warakurna**	**45.48**	**260**	P	**P**	**16 30 37.4**	**-0.3**
	baz=52,SNR=22						
ASAJ	**Asahikawa**	**77.99**	**334**	P	**P**	**16 34 09.5**	**+0.9**
	5.6nm,1.0s,baz=148,slow=9.5,SNR=2.7						
KSRS	**Korea Array**	**79.87**	**321**	P	**P**	**16 34 19.2**	**+0.5**
	1.1nm,0.6s,baz=158,slow=7.8,SNR=3.0						
PETK	**Petropavlovsk-**	**81.62**	**347**	P	**P**	**16 34 27.5**	**0.0**
	2.3nm,0.8s,baz=154,slow=5.6,SNR=5.6						
USRK	**Ussuriysk Arra**	**82.67**	**328**	P	**P**	**16 34 33.5**	**+0.5**
	1.1nm,0.5s,baz=141,slow=5.7,SNR=5.1						
NVAR	**Mina Array Bea**	**87.33**	**44**	P	**P**	**16 34 56.3**	**+0.2**
	1.4nm,1.1s,baz=217,slow=7.4,SNR=4.9						
CMAR	**Chiang Mai Arr**	**89.72**	**291**	P	**P**	**16 35 06.7**	**-0.7**
	0.2nm,0.9s,baz=80,slow=6.5,SNR=2.3						
ILAR	**Eielson Array**	**94.94**	**14**	P	**P**	**16 35 29.4**	**-0.7**
	0.2nm,0.7s,baz=213,slow=4.3,SNR=3.7						
FINES	**FINESS Array B**	**140.80**	**340**	PKhKP	PKPpre	16 41 27.4	
	0.9nm,0.5s,baz=45,slow=4.2,SNR=10						
NB2	**NORSAR Subarra**	**144.69**	**350**	PKP	**PKPdf**	**16 41 40.8**	**0.0**
	comp=Z,4.3nm,0.9s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**144.69**	**350**	PKP	PKPbc	16 41 41.3	+0.1
	comp=Z,3.5nm,0.9s,baz=17,slow=4.7,SNR=12						
HFS	**Hagfors**	**145.10**	**347**	PKPbc	**PKPbc**	**16 41 42.1**	**-0.2**
	comp=Z,5.6nm,0.5s,baz=71,slow=2.3,SNR=46						
AKASG	**Malin Array Be**	**146.81**	**324**	PKPbc	**PKPbc**	**16 41 47.5**	**0.0**
	comp=Z,2.1nm,0.6s,baz=44,slow=3.9,SNR=18						
MMAI	**Mount Meron Ar**	**147.98**	**290**	PKPbc	**PKPbc**	**16 41 51.9**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=67,slow=6.4,SNR=3.9						
BRTR	**Keskin Array B**	**148.50**	**303**	PKPbc	**PKPbc**	**16 41 52.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=139,slow=3.2,SNR=4.3						
EKA	**Eskdalemuir Ar**	**151.34**	**3**	PKPbc	**PKPbc**	**16 41 58.5**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=339,slow=2.7,SNR=6.9						
EKA				PKPab	**PKPab**	**16 42 08.7**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=315,slow=2.2,SNR=4.5						
MLR	**Muntele Rosu**	**151.52**	**318**	PKPbc	**PKPbc**	**16 41 59.1**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=346,slow=4.2,SNR=1.9						
GERES	**GERESS Array B**	**155.14**	**337**	PKPab	**PKPab**	**16 42 26.0**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=19,slow=6.2,SNR=3.6						

*ISCJB **18** 16:30:46.5±0.3, 0.33N±0.06×122.09E±0.05, h190km±4km, mb4.3/7, Error ellipse: s-maj=9.9km s-min=8.0km az=10.1*
*DJA **18** 16:30:48.0±0.5, 0.N±5×122.2E±, h170km±6km, M4.2/15, mb4.3/3, mB4.6/1, MLv4.1/15, Mw(mB)3.9/1*
*IDC **18** 16:30:49.6±6.5, 0.30N×122.19E, h209km±67km, mb3.4/6, mb1 3.5/6, mb1mx3.2/23, mbtmp4.0/6, Error ellipse: s-maj=43.0km s-min=11.8km az=63.0*
ISC 18 16:30:47.2±0.8, 0.31N±0.07×122.09E±0.06, h183km±6km, n34, σ0.76/35, mb3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.22**	**319**	P	**Pn**	**16 31 11.1**	**-0.4**
MRSI				S	**Sn**	**16 31 29.1**	**-1.1**
GTOI	**Gorontalo**	**0.98**	**71**	P	**Pn**	**16 31 15.3**	**+0.3**
APSI	**Ampana**	**1.29**	**200**	P	**Pn**	**16 31 17.9**	**+0.4**
LUWI	**Luwuk**	**1.51**	**153**	P	**Pn**	**16 31 19.4**	**-0.1**
KMSI	**Cibinong**	**1.91**	**82**	P	**Pn**	**16 31 25.3**	**+1.8**
KMSI				S	**Sn**	**16 31 53.5**	**+1.8**
MPSI	**Mapaga**	**2.19**	**271**	P	**Pn**	**16 31 26.7**	**+0.2**
TTSI	**Tana Toraja**	**4.03**	**214**	P	**Pn**	**16 31 49.8**	**+1.0**
SANI	**Sanana**	**4.55**	**121**	P	**Pn**	**16 31 55.2**	**-0.3**
SPSI	**Sidrap Palu**	**4.84**	**209**	P	**Pn**	**16 32 00.2**	**+1.1**
SMKI	**Samarinda**	**4.94**	**261**	P	**Pn**	**16 32 01.1**	**+0.7**
BNSI	**Bone**	**5.08**	**203**	P	**Pn**	**16 32 03.6**	**+1.3**
	32nm,0.8s,0.1nm						
TNTI	**Ternate**	**5.30**	**85**	P	**Pn**	**16 32 05.4**	**+0.3**
	79nm,0.8s,0.3nm						
LBMI	**Labuha**	**5.50**	**100**	P	**Pn**	**16 32 07.4**	**-0.3**
BKSI	**Bulukumba**	**5.93**	**199**	P	Pn	16 32 20.3	+6.9
JMBI	**JAMBI**	**18.54**	**264**	P	Pn	16 34 59.8	+7.1
WRA	**Warramunga Arr**	**23.44**	**150**	P	**P**	**16 35 39.5**	**-0.7**
	1.6nm,0.7s,baz=326,slow=11,SNR=58						
ASAR	**Alice Springs**	**26.46**	**155**	P	**P**	**16 36 07.0**	**-0.5**
	1.2nm,0.5s,baz=343,slow=14,SNR=36						
ASAR				PcP	**PcP**	**16 39 26.8**	**-1.1**
	0.4nm,0.3s,baz=344,slow=2.1,SNR=16						
CMAR	**Chiang Mai Arr**	**29.01**	**310**	P	**P**	**16 36 31.3**	**+1.1**
	0.5nm,0.6s,baz=137,slow=6.9,SNR=6.4						
STKA	**Stephens Creek**	**36.96**	**152**	P	**P**	**16 37 38.5**	**-0.4**
	1.6nm,0.4s,baz=321,slow=11,SNR=7.6						
ODAN	**Odare**	**42.53**	**311**	eP	**P**	**16 38 25.4**	**+0.1**
TAPN	**Taplejung**	**42.56**	**312**	eP	**P**	**16 38 25.7**	**+0.1**
	5.9nm,0.7s						
RAMN	**Ramite**	**43.18**	**311**	eP	**P**	**16 38 30.9**	**+0.4**
	9.6nm,0.6s						
JIRN	**Jiri**	**43.86**	**311**	eP	**P**	**16 38 36.3**	**+0.2**
	8.3nm,0.4s						
GUN	**Gumba**	**44.23**	**311**	eP	**P**	**16 38 39.1**	**+0.2**
	14nm,0.5s						
PKI	**Pulchoki**	**44.40**	**311**	eP	**P**	**16 38 40.2**	**-0.1**
PKIN	**Phulchoki**	**44.41**	**311**	eP	**P**	**16 38 39.5**	**-0.9**
	3.2nm,0.5s						
KKN	**Kakani**	**44.61**	**311**	eP	**P**	**16 38 41.4**	**-0.5**
	4.0nm,0.5s						
DMN	**Daman**	**44.65**	**311**	eP	**P**	**16 38 41.5**	**-0.7**
	4.2nm,0.5s						
GKN	**Gorkha**	**45.21**	**311**	eP	**P**	**16 38 46.4**	**-0.1**
	4.9nm,0.4s						
KOLN	**Koldanda**	**45.88**	**310**	eP	**P**	**16 38 51.9**	**0.0**
	6.3nm,0.6s						
DANN	**Dangsing**	**46.05**	**311**	eP	**P**	**16 38 53.2**	**-0.1**
	8.5nm,0.5s						
ASAJ	**Asahikawa**	**47.29**	**20**	P	**P**	**16 39 01.7**	**-0.5**
	1.9nm,0.8s,baz=142,slow=14,SNR=2.7						
SONM	**Songino Array**	**49.26**	**346**	P	**P**	**16 39 17.6**	**+0.2**
	2μm,0.3s,baz=166,slow=9.0,SNR=41						
MKAR	**Makanchi Array**	**57.87**	**329**	P	**P**	**16 40 19.7**	**-0.2**
	1.5nm,0.3s,baz=125,slow=8.6,SNR=43						

*IDC **18** 16:36:47.1±1.8, 15.55S×166.52E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/34, mbtmp4.0/9, ML4.4/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/37, Error ellipse: s-maj=57.5km s-min=22.7km az=135.0*
*ISCJB **18** 16:36:50.9±0.7, 15.46S±0.05×166.2E±0.1, h29km, mb4.0/10, MS3.3/3, Error ellipse: s-maj=16.4km s-min=6.8km az=170.2*
*NEIC **18** 16:36:53.2±0.8, 15.39S×166.13E, h35km, mb4.1/4, Error ellipse: s-maj=20.4km s-min=15.1km az=119.0*
ISC 18 16:36:52.3±0.8, 15.42S±0.07×166.3E±0.1, h29km, n27, σ1.58/26, mb3.9/9, MS3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.62**	**179**	ePn	**Pn**	**16 38 29.9**	**+2.1**
	132nm,0.8s						
DZM				eSn	**Sn**	**16 39 41.5**	**-0.8**
	31nm,0.3s						
DZM				eLR	LR	16 40 10.3	
	262nm,25.5s						
DZM	**Mont Dzumac**	**6.62**	**179**	Pn	**Pn**	**16 38 30.0**	**+2.2**
	14nm,0.3s,baz=18,slow=19,SNR=178						
DZM				Sn	**Sn**	**16 39 41.6**	**-0.8**
	1.4nm,0.3s,baz=127,slow=20,SNR=1.7						
DZM				LR	LR	16 40 39.3	
	comp=Z,187nm,21.1s,baz=32,slow=36						
DZM	**Mont Dzumac**	**6.62**	**179**	ePn	**Pn**	**16 38 29.5**	**+1.8**
	73nm,0.6s						
DZM				eSn	**Sn**	**16 39 38.3**	**-4.1**
DZM				Sn	**Sn**	**16 39 41.6**	**-0.8**
NOUC	**Port Laguerre**	**6.65**	**180**	eP	**Pn**	**16 38 30.5**	**+2.5**
NOUC				eS	**Sn**	**16 39 42.3**	**-0.6**
LASL	**Noumea**	**6.78**	**178**	eP	**Pn**	**16 38 32.1**	**+2.2**
HNR	**Honiara**	**8.60**	**313**	LR	LR	16 41 55.2	
	comp=Z,130nm,21.1s,baz=282,slow=35						
PMG	**Port Moresby**	**19.63**	**285**	LR	LR	16 48 22.9	
	comp=Z,131nm,18.1s,baz=60,slow=35						
PMG	**Port Moresby**	**19.63**	**285**	eP	**P**	**16 41 18.2**	**-0.5**
	10nm,1.0s						
CTA	**Charters Tower**	**19.65**	**253**	P	**Pn**	**16 41 21.3**	**+0.7**
	0.7nm,0.3s,baz=74,slow=13,SNR=8.6						
CTAO	**Charters Tower**	**19.65**	**253**	eP	**Pn**	**16 41 21.1**	**+0.6**
	7.0nm,0.7s						
AFI	**Afiamalu**	**21.25**	**89**	LR	LR	16 48 40.6	
	comp=Z,41nm,20.6s,baz=94,slow=34						
STKA	**Stephens Creek**	**27.84**	**230**	P	**P**	**16 42 39.6**	**+0.2**
	1.6nm,0.7s,baz=74,slow=7.4,SNR=5.1						
STKA	**Stephens Creek**	**27.84**	**230**	eP	**P**	**16 42 36.8**	**-2.6**
	1.6nm,1.3s						
WRAB	**Tennant Creek**	**30.75**	**257**	eP	**P**	**16 43 04.4**	**-1.0**
	5.8nm,1.2s						
WRA	**Warramunga Arr**	**30.76**	**257**	P	**P**	**16 43 04.7**	**-0.8**
	1.8nm,0.9s,baz=82,slow=7.0,SNR=17						
ASAR	**Alice Springs**	**31.56**	**250**	P	**P**	**16 43 12.3**	**-0.3**
	3.4nm,0.7s,baz=72,slow=10,SNR=73						
ASAR				LR	LR	16 54 44.5	
	comp=Z,68nm,21.6s,baz=84,slow=34						
PPT2	**Papeete2**	**42.28**	**99**	eLR	LR	16 56 37.2	
	98nm,26.8s						
KSRS	**Korea Array**	**63.79**	**327**	P	**P**	**16 47 22.6**	**+0.8**
	0.7nm,0.6s,baz=149,slow=6.9,SNR=2.9						
KSAR	**Wonju Array Be**	**63.80**	**327**	P	**P**	**16 47 22.6**	**+0.7**
PETK	**Petropavlovsk-**	**68.65**	**354**	LR	LR	17 12 31.2	
	comp=Z,48nm,21.9s,baz=109,slow=31						
CMAR	**Chiang Mai Arr**	**74.39**	**295**	P	**P**	**16 48 29.1**	**+1.1**
	1.1nm,0.9s,baz=131,slow=4.5,SNR=12						
YAK	**Yakutsk**	**82.42**	**344**	P	**P**	**16 49 10.3**	**-1.0**
SONM	**Songino Array**	**82.50**	**324**	P	**P**	**16 49 13.1**	**+0.8**
	1.4nm,0.8s,baz=154,slow=8.0,SNR=12						
ILAR	**Eielson Array**	**87.47**	**18**	P	**P**	**16 49 35.5**	**-1.2**
	0.4nm,0.8s,baz=256,slow=5.0,SNR=4.3						
MKAR	**Makanchi Array**	**97.06**	**316**	P	Pdif	16 50 22.8	+1.0
	0.9nm,0.6s,baz=96,slow=6.1,SNR=15						
YKA	**Yellowknife Ar**	**98.58**	**27**	P	**P**	**16 50 27.9**	**-0.2**
	0.1nm,0.2s,baz=254,slow=4.5,SNR=3.6						
ARCES	**ARCESS Array B**	**120.68**	**345**	PKP	**PKPdf**	**16 55 40.8**	**-0.1**
	2.7nm,0.9s,baz=64,slow=4.2,SNR=3.2						

LJU 18 16:47:32.2, 46.39N×15.07E, h0km Rockburst, Northwestern Balkan Peninsula

*TIR **18** 16:47:33.6±2.5, 39.80N×20.70E, h7km±857km, ML2.3*
*CSEM **18** 16:47:37.9±0.2, 39.79N×20.67E, h10km, ML3.0, Error ellipse: s-maj=4.4km s-min=3.3km az=74.0*
*ATH **18** 16:47:37.6, 39.81N×20.67E, h20km±1km, MD3.3/12*
*SKO **18** 16:47:38.8, 39.76N×20.64E, h13km, M2.2, ML2.8*
THE 18 16:47:38.0, 39.80N×20.67E, h2km±1km, ML3.0/6, 2C, Error ellipse: s-maj=1.2km s-min=0.3km az=254.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.20**	**137**	P	Pg	16 47 42.5	+0.5
JAN				S	Sg	16 47 44.8	+0.2
JAN	**Janina**	**0.20**	**137**	⇑iPB	Pg	16 47 42.6	+0.6
JAN				eSB	Sg	16 47 46.7	+2.1
JAN	**Janina**	**0.20**	**137**	⇑iPb	Pg	16 47 42.6	+0.6
JAN				eSb	Sg	16 47 46.7	+2.1
IGT	**Igoumenitsa**	**0.38**	**224**	P	Pg	16 47 45.1	-0.2
IGT				S	Sg	16 47 51.0	+0.8
IGT	**Igoumenitsa**	**0.38**	**224**	ePB	Pg	16 47 45.3	0.0
IGT				eSB	Sb	16 47 52.3	-1.5
IGT	**Igoumenitsa**	**0.38**	**224**	ePb	Pg	16 47 45.3	0.0
IGT				S	Sg	16 47 51.0	+0.8
IGT				eSb	Sb	16 47 52.3	-1.5
SRN	**Sarande**	**0.52**	**279**	iPG	Pg	16 47 48.1	+0.1
SRN				iSG	Sb	16 47 56.8	-1.1
SRN	**Sarande**	**0.52**	**279**	P	Pg	16 47 47.9	-0.1
SRN				S	Sg	16 47 55.5	+0.7
SRN	**Sarande**	**0.52**	**279**	iPg	Pg	16 47 48.1	+0.1
	SNR=90						
SRN				S	Sg	16 47 55.5	+0.7
SRN				iSg	Sb	16 47 56.8	-1.2
	SNR=90						
KEK	**Kerkira**	**0.68**	**263**	P	Pg	16 47 50.4	-0.7
KEK				S	Sg	16 48 00.8	+0.9
KEK	**Kerkira**	**0.68**	**263**	ePB	Pg	16 47 50.5	-0.6
KEK				eSN	Sg	16 48 00.8	+0.9
KEK	**Kerkira**	**0.68**	**263**	P	Pg	16 47 50.4	-0.7
KEK				S	Sg	16 48 00.8	+0.9
DSL	**Palaion Diasel**	**0.74**	**154**	P	Pg	16 47 51.8	-0.6
DSL				S	Sg	16 48 02.7	+0.6
DSL	**Palaion Diasel**	**0.74**	**154**	ePN	Pg	16 47 51.8	-0.6
DSL	**Palaion Diasel**	**0.74**	**154**	P	Pg	16 47 51.8	-0.6
DSL				S	Sg	16 48 02.7	+0.6
KBN	**Korca**	**0.82**	**6**	iPG	Pg	16 47 53.8	-0.1
KBN				iSG	Sb	16 48 06.6	-0.2
KBN	**Korca**	**0.82**	**6**	P	Pg	16 47 53.4	-0.5
KBN				S	Sg	16 48 05.3	+0.6
KBN	**Korca**	**0.82**	**6**	P	Pg	16 47 53.4	-0.5
KBN	**Korca**	**0.82**	**6**	iPg	Pg	16 47 53.8	-0.1
	SNR=91						
KBN				S	Sg	16 48 05.3	+0.6
KBN				iSg	Sb	16 48 06.6	-0.3
	SNR=91						
KZN	**Kozani**	**0.98**	**59**	P	Pg	16 47 56.3	-0.7
KZN				S	Sb	16 48 10.7	-0.7
KZN	**Kozani**	**0.98**	**59**	ePN	Pg	16 47 56.3	-0.7
KZN				eSN	Sg	16 48 10.6	+0.8
KZN	**Kozani**	**0.98**	**59**	P	Pg	16 47 56.3	-0.7
KZN				S	Sb	16 48 10.7	-0.7
LKD2	**Lefkada island**	**1.01**	**181**	P	Pg	16 47 56.8	-0.7
LKD2	**Lefkada island**	**1.01**	**181**	ePN	Pg	16 47 57.9	+0.4
LKD2	**Lefkada island**	**1.01**	**181**	P	Pg	16 47 56.8	-0.7
LKD2	**Lefkada island**	**1.01**	**181**	ePn	Pg	16 47 57.9	+0.4
THL	**Klokotos Trika**	**1.06**	**103**	P	Pg	16 47 57.8	-0.6
THL	**Klokotos Trika**	**1.06**	**103**	ePN	Pg	16 47 57.3	-1.1
THL				eSN	Sg	16 48 12.3	+0.1
THL	**Klokotos Trika**	**1.06**	**103**	ePn	Pg	16 47 57.3	-1.1
THL	**Klokotos Trika**	**1.06**	**103**	P	Pg	16 47 57.8	-0.6
THL				eSn	Sg	16 48 12.3	+0.1
FNA	**Florina**	**1.12**	**29**	P	Pg	16 47 58.9	-0.6
FNA				S	Sb	16 48 15.5	+0.2
FNA	**Florina**	**1.12**	**29**	ePN	Pg	16 47 59.0	-0.5
FNA	**Florina**	**1.12**	**29**	ePn	Pg	16 47 59.0	-0.5
FNA				S	Sb	16 48 15.5	+0.2
VLO	**Vlora**	**1.12**	**307**	iPG	Pn	16 48 10.5	+10
EVR	**Evrytania**	**1.25**	**135**	P	Pg	16 48 01.2	-0.9
EVR				S	Sb	16 48 19.5	+0.3
EVR	**Evrytania**	**1.25**	**135**	ePN	Pg	16 48 00.8	-1.3
EVR	**Evrytania**	**1.25**	**135**	ePn	Pg	16 48 00.8	-1.3
EVR	**Evrytania**	**1.25**	**135**	P	Pg	16 48 01.2	-0.9
EVR				S	Sb	16 48 19.5	+0.3
PDO	**Prodromos**	**1.27**	**162**	P	Pg	16 48 01.8	-0.5
PDO				S	Sn	16 48 20.1	-0.3
PDO	**Prodromos**	**1.27**	**162**	ePN	Pg	16 48 02.3	0.0
PDO	**Prodromos**	**1.27**	**162**	P	Pg	16 48 01.8	-0.5
PDO	**Prodromos**	**1.27**	**162**	ePn	Pg	16 48 02.3	0.0
PDO				S	Sn	16 48 20.1	-0.3
LIT	**Litokhoron**	**1.43**	**77**	P	Pn	16 48 04.6	-0.5
LIT				S	Sb	16 48 24.3	+0.1
LIT	**Litokhoron**	**1.43**	**77**	P	Pn	16 48 04.6	-0.5
LIT				S	Sb	16 48 24.3	+0.1
AGG	**Agios Georgios**	**1.50**	**121**	P	Pn	16 48 05.3	-0.8
AGG	**Agios Georgios**	**1.50**	**121**	P	Pn	16 48 05.3	-0.8
VLS	**Valsamata**	**1.63**	**182**	P	Pn	16 48 07.3	-0.4
VLS	**Valsamata**	**1.63**	**182**	ePN	Pn	16 48 03.2	-4.5
VLS	**Valsamata**	**1.63**	**182**	ePn	Pn	16 48 03.2	-4.5
VLS	**Valsamata**	**1.63**	**182**	P	Pn	16 48 07.3	-0.4
EFP	**Efpalio**	**1.68**	**145**	ePN	Pn	16 48 08.6	+0.2
EFP	**Efpalio**	**1.68**	**145**	ePn	Pn	16 48 08.6	+0.2
DRO	**Drossia**	**2.02**	**156**	ePB	Pn	16 48 12.3	-0.9
DRO	**Drossia**	**2.02**	**156**	ePb	Pn	16 48 12.3	-0.9
VAY	**Valandovo**	**2.09**	**43**	iPn	Pn	16 48 14.3	+0.1
VAY				iSn	Sn	16 48 41.9	+1.0
VAY				eLg	Lg	16 48 50.4	
	comp=N,38nm,0.6s						
VAY				eLg	Lg	16 48 51.9	
	comp=E,56nm,1.0s						
VAY	**Valandovo**	**2.09**	**43**	iPn	Pn	16 48 14.2	0.0
VAY				iSn	Sn	16 48 41.8	+1.0
VAY				eLg	Lg	16 48 50.3	
	comp=E,38nm,0.6s						
KLV	**Kalavryta, Ach**	**2.10**	**146**	ePN	Pn	16 48 14.8	+0.4
KLV	**Kalavryta, Ach**	**2.10**	**146**	ePn	Pn	16 48 14.8	+0.4
PLG	**Polygyros**	**2.20**	**74**	ePB	Pn	16 48 15.3	-0.4
PLG	**Polygyros**	**2.20**	**74**	ePb	Pn	16 48 15.3	-0.4
SKO	**Skopje**	**2.24**	**15**	iPn	Pn	16 48 17.0	+0.8
SKO				iSn	Sn	16 48 44.5	0.0
SKO				eLg	Lg	16 48 50.4	
	comp=E,110nm,1.3s						
SKO				eLg	Lg	16 48 52.7	
	comp=N,100nm,1.4s						
SKO	**Skopje**	**2.24**	**15**	iPn	Pn	16 48 17.0	+0.8
SKO				iSn	Sn	16 48 44.5	-0.1
SKO				eLg	Lg	16 48 50.4	
	comp=N,110nm,1.3s						
GUR	**Goura**	**2.27**	**145**	ePB	Pn	16 48 16.6	-0.2
GUR	**Goura**	**2.27**	**145**	ePb	Pn	16 48 16.6	-0.2
AMT	**Artemida-Makis**	**2.41**	**160**	ePB	Pn	16 48 19.3	+0.8
AMT	**Artemida-Makis**	**2.41**	**160**	ePb	Pn	16 48 19.3	+0.8
PYL	**PYLOS**	**3.02**	**164**	ePN	Pn	16 48 25.6	-1.3
PYL	**PYLOS**	**3.02**	**164**	ePn	Pn	16 48 25.6	-1.3
DID	**Didima**	**3.05**	**138**	ePN	Pn	16 48 26.7	-0.6
DID	**Didima**	**3.05**	**138**	ePn	Pn	16 48 26.7	-0.6
IVAS	**Ivanjica**	**3.79**	**354**	ePn	Pn	16 48 37.5	-0.1
STON	**Ston**	**3.79**	**325**	ePn	Pn	16 48 34.6	-2.9
STON				Sn	Sn	16 49 16.6	-6.1
STON	**Ston**	**3.79**	**325**	ePn	Pn	16 48 34.5	-3.0
STON				Sn	Sn	16 49 16.6	-6.1
GRUS	**Gruza**	**4.08**	**0**	ePn	Pn	16 48 40.8	-0.7
BBLS	**Lazići**	**4.17**	**347**	ePn	Pn	16 48 42.0	-0.8
DIVS	**Divibare**	**4.32**	**353**	iPn	Pn	16 48 43.7	-1.2
TEKS	**Tekeris**	**4.82**	**350**	iPn	Pn	16 48 50.2	-1.4
FGSL	**Fruska Gora**	**5.39**	**353**	ePn	Pn	16 48 57.9	-1.6
UDBI	**Udbina**	**5.96**	**324**	ePn	Pn	16 49 06.2	-1.3
UDBI				Sn	Sn	16 50 11.7	-4.7
UDBI	**Udbina**	**5.96**	**324**	ePn	Pn	16 49 06.1	-1.3
UDBI				Sn	Sn	16 50 11.6	-4.8
NVLJ	**Novalja**	**6.42**	**320**	ePn	Pn	16 49 11.1	-2.4
NVLJ				Sn	Sn	16 50 19.2	-8.1
NVLJ	**Novalja**	**6.42**	**320**	ePn	Pn	16 49 11.0	-2.5

*IDC **18** 16:57:03.4±0.9, 34.66N×73.17E, h0km, mb3.7/7, mb1 3.9/11, mb1mx3.6/41, mbtmp3.7/11, ML3.5/4, MS3.0/3, Ms1 3.0/3, ms1mx2.7/39, Error ellipse: s-maj=25.2km s-min=18.3km az=56.0*
*ISCJB **18** 16:57:04.7±0.6, 34.73N±0.05×73.37E±0.09, h22km, mb3.5/7, MS3.2/1, Error ellipse: s-maj=12.0km s-min=4.3km az=154.5*
*NDI **18** 16:57:05.5±1.4, 34.22N×72.61E, h10km, ML3.9*
*NNC **18** 16:57:15.7±6.4, 34.97N×73.14E, h117km±62km, mb3.3, mpv3.9, Error ellipse: s-maj=55.4km s-min=46.2km az=114.0*
ISC 18 16:57:07.3±0.7, 34.70N±0.06×73.33E±0.09, h22km, n36, σ2.21/36, mb3.7/7, 4C-5D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.08**	**134**	eP	Pb	16 57 58.0	-3.5
DLH				ex	**Sb**	**16 58 40.0**	**+1.3**
DHRM	**DHARAMSHALA**	**3.48**	**134**	eP	**Pn**	**16 58 02.0**	**+1.6**
DHRM				eS	**Sn**	**16 58 43.6**	**+2.5**
DHRM				eS	**Sb**	**16 58 44.7**	**-5.6**
DHRM				AML	AML	16 58 54.8	
	comp=N,665nm,0.4s						
DHRM				AML	AML	16 58 55.1	
	comp=E,382nm,0.4s						
BHK	**Bhakra**	**4.18**	**141**	ex	**Sb**	**16 59 14.2**	**+4.1**
SDNR	**Sundarnagar**	**4.42**	**135**	eP	**Pn**	**16 58 14.0**	**+1.0**
SDNR				ex	**Sb**	**16 59 21.0**	**+4.0**
SMLA	**Simla**	**4.81**	**137**	eP	**Pn**	**16 58 19.6**	**+1.3**
SMLA				eS	**Sn**	**16 59 14.2**	**+0.9**
SMLA				AML	AML	16 59 35.8	
	comp=N,263nm,0.5s						
SMLA				AML	AML	16 59 37.4	
	comp=E,294nm,0.6s						
NDI	**New Delhi**	**6.85**	**150**	ex	**Pb**	**16 59 03.0**	**-2.7**
AAK	**Ala-Archa**	**7.97**	**6**	⇓Pn	Pn	16 59 06.6	+4.7
	comp=E,2.9nm,0.9s						
AAK				⇑Sn	**Sn**	**17 00 32.1**	**+0.7**
	comp=E,5.2nm,1.0s						
AAK	**Ala-Archa**	**7.97**	**6**	Pn	Pn	16 59 06.4	+4.4
	comp=E,0.4nm,0.3s,baz=166,slow=12,SNR=9.6						
AAK				Sn	**Sn**	**17 00 31.5**	**0.0**

baz=180,slow=19,SNR=2.7
AAK LR LR 17 02 21.3
comp=E,59nm,18.4s,baz=274,slow=40
AJM Ajmer 8.27 172 eP Pn 16 59 00.0 -6.0
TKM2 Tokmak 2 8.39 11 ⇓Pn Pn 16 59 11.9 +4.1
comp=E,4.4nm,0.9s
TKM2 ⇓Sn Sn 17 00 42.2 +0.2
comp=E,4.8nm,0.8s
KK31 Karatay Array 8.67 346 ⇓Pn Pn 16 59 12.9 +1.5
comp=E,6.3nm,0.5s,baz=171,slow=13,SNR=164
KK31 ⇑Sn Sn 17 00 48.8 +0.3
comp=E,2.8nm,0.5s,baz=166,slow=23,SNR=5.4
DANN Dangsing 10.92 123 eP Pn 16 59 40.1 -2.4
comp=E,11nm,0.4s
KOLN Koldanda 11.17 125 eP Pn 16 59 44.3 -1.6
comp=E,8.3nm,0.3s
GKN Gorkha 11.74 122 eP Pn 16 59 51.5 -2.1
comp=E,19nm,0.4s
DMN Daman 12.31 122 eP Pn 16 59 58.2 -3.3
KKN Kakani 12.32 121 eP Pn 16 59 58.6 -3.0
comp=E,30nm,0.9s
PKIN Phulchoki 12.53 121 eP Pn 17 00 02.0 -2.6
comp=E,12nm,0.4s
PKI Pulchoki 12.54 121 eP Pn 17 00 02.3 -2.5
comp=E,14nm,0.5s
GUN Gumba 12.68 119 eP Pn 17 00 03.2 -3.4
JIRN Jiri 13.05 119 eP Pn 17 00 08.7 -3.0
comp=E,28nm,0.5s
MKAR Makanchi Array 13.84 27 Pn Pn 17 00 23.4 +1.3
comp=E,0.0nm,0.3s,baz=207,slow=14,SNR=5.3
MKAR LR LR 17 06 18.1
comp=E,50nm,20.2s,baz=201,slow=40
AB31 Akbulak array 17.58 330 ⇑P Pn 17 01 08.8 -2.0
comp=E,0.5nm,0.4s,baz=148,slow=12,SNR=3.7
BVA0 Borovoye Array 18.44 354 ⇓P P 17 01 16.0 -5.1
comp=E,2.0nm,0.8s,baz=247,slow=40,SNR=7.5
BVAR Borovoye Array 18.44 354 P Pn 17 01 21.4 +0.1
comp=E,0.3nm,0.3s,baz=151,slow=9.1,SNR=7.2
AKTO Aktyubinsk 19.29 329 ⇑P P 17 01 30.1 -0.3
comp=E,8.9nm,1.1s
AKTO Aktyubinsk 19.29 329 P P 17 01 29.6 -0.9
comp=E,0.4nm,0.3s,baz=135,slow=10.0,SNR=14
ZALV Zalesovo Beam 20.87 19 P P 17 01 47.5 -0.2
comp=E,2.8nm,0.4s,baz=215,slow=10.0,SNR=8.0
ONI Oni 24.54 298 P P 17 02 29.1 +3.7
SONM Songino Array 27.87 52 P P 17 02 56.5 +1.1
comp=E,0.3nm,0.9s,baz=266,slow=11,SNR=4.7
CMAR Chiang Mai Arr 27.93 119 P P 17 02 56.7 +0.7
comp=E,3.2nm,1.0s,baz=298,slow=8.4,SNR=11
AKASG Malin Array Be 35.55 310 P P 17 04 00.3 -2.3
comp=E,0.1nm,0.4s,baz=83,slow=7.3,SNR=4.1
NOA NORSAR Array B 46.95 324 LR LR 17 25 28.8
comp=E,24nm,18.3s,baz=5.0,slow=36
TORD Torodi Ar. Bea 67.61 271 P P 17 08 02.7 0.0
comp=E,0.3nm,0.4s,baz=46,slow=5.1,SNR=4.9
WRA Warramunga Arr 79.42 123 P P 17 09 12.0 0.0
comp=E,0.7nm,0.7s,baz=322,slow=5.2,SNR=6.0
ASAR Alice Springs 81.67 126 P P 17 09 24.1 +0.1
comp=E,0.5nm,0.7s,baz=308,slow=5.2,SNR=5.1
YKA Yellowknife Ar 82.93 4 P P 17 09 28.9 -1.1
comp=E,0.2nm,0.4s,baz=350,slow=4.9,SNR=4.6

IDC 18 16:57:28.8±0.8, 17.°56S×174.°76W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/21, mbtmp4.0/11, MS3.8/15, Ms1 3.8/15, ms1mx3.6/33, Error ellipse: s-maj=39.3km s-min=19.0km az=147.0
ISCJB 18 16:57:39.7±0.5, 17.°5S±0.°2×174.°9W±0.°1, h100km, mb4.3/27, Error ellipse: s-maj=26.0km s-min=9.0km az=155.2
NEIC 18 16:57:39.4±2.0, 17.°58S×174.°80W, h87km±17km, mb4.7/17, Error ellipse: s-maj=23.4km s-min=9.5km az=150.0
ISC 18 16:57:41.2±0.7, 17.°5S±0.°2×174.°9W±0.°1, h100km, n91, σ1s02/58, mb4.6/28, 3C-1D, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 4.70 40 Pn Pn 16 58 35.2 -15
9.9nm,0.3s,baz=181,slow=21,SNR=9.7
AFI Sn Sn 16 59 26.6 -17
baz=22,slow=19,SNR=1.9
AFI LR LR 17 00 02.8
comp=Z,632nm,19.6s,baz=154,slow=33
AFI T T 17 03 18.8
9.4nm,0.3s,baz=74,slow=23,SNR=4.7
AFI Afiamalu 4.70 40 ePn Pn 16 58 34.4 -16
AFI Sn Sn 16 59 26.6 -17
AFI T T 17 03 18.8
MSVF Nonsavu 6.72 267 ePn Pn 16 59 17.0 -0.4
RAR Rarotonga 14.73 107 LR LR 17 05 10.2
comp=Z,281nm,21.7s,baz=264,slow=32
DZM Mont Dzumac 18.12 253 eP Pn 17 01 55.8 +9.3
43nm,1.2s
DZM eLR LR 17 06 07.9
1μm,25.4s
URZ Urewera 21.80 197 LR LR 17 09 41.5
comp=Z,293nm,19.2s,baz=16,slow=34
PAE Paea 24.13 94 eT T 17 27 09.3
3.1nm,0.3s
PPT2 Papeete2 24.14 94 eLR LR 17 08 25.5
1μm,26.5s
PPT2 Papeete2 24.14 94 eT T 17 27 11.2
3.8nm,0.2s
PPT Papeete 24.14 94 LR LR 17 09 29.0
comp=Z,205nm,20.0s,baz=271,slow=30
TVO Taravao 24.44 94 eT T 17 27 32.0
1.2nm,0.3s
TBI Tubuai 24.51 108 eT T 17 27 27.1
3.8nm,0.2s
MEH Mehetia 25.56 95 eT T 17 28 55.7
15nm,0.2s
VAH Vaihoa 26.26 89 eT T 17 29 52.7
9.1nm,0.2s
CTA Charters Tower 36.80 260 P P 17 04 40.5 +0.8
4.7nm,0.8s,baz=106,slow=15,SNR=2.4
CTAO Charters Tower 36.80 260 P P 17 04 38.5 -1.2
22nm,1.4s
PMG Port Moresby 37.71 277 LR LR 17 17 30.3
comp=Z,139nm,19.8s,baz=106,slow=32
RKT Rikitea 37.77 105 eLR LR 17 14 46.0
662nm,27.0s
RKT Rikitea 37.77 105 eT T 17 44 02.1
2.8nm,0.2s
H11S2 WAKE ISLAND Hy 40.12 332 T T 17 47 57.3
baz=209,SNR=5.4
H11S3 WAKE ISLAND Hy 40.13 332 T T 17 47 59.9
baz=209,SNR=4.8
H11S1 WAKE ISLAND Hy 40.13 332 T T 17 48 01.2
baz=209
H11N3 WAKE ISLAND Hy 41.11 333 T T 17 49 12.6
baz=155,slow=77,SNR=34
H11N1 WAKE ISLAND Hy 41.12 333 T T 17 49 12.9
baz=155,slow=77,SNR=68
H11N2 WAKE ISLAND Hy 41.13 333 T T 17 49 15.1
baz=155,slow=77,SNR=44
STKA Stephens Creek 41.74 242 P P 17 05 27.2 +6.6
6.5nm,1.0s,baz=46,slow=8.8,SNR=5.9
STKA LR LR 17 19 55.3
comp=Z,166nm,21.9s,baz=49,slow=32
WRAB Tennant Creek 47.97 259 P P 17 06 07.1 -3.1
16nm,1.5s
WRA Warramunga Arr 47.98 259 P P 17 06 10.6 +0.3
0.5nm,0.7s,baz=95,slow=8.1,SNR=3.5
WRA LR LR 17 24 48.2
comp=Z,246nm,21.5s,baz=160,slow=34
AS01 Alice Springs 48.06 254 eP P 17 06 12.1 +1.2
ASAR Alice Springs 48.10 254 P P 17 06 11.1 -0.1
7.1nm,0.8s,baz=86,slow=8.8,SNR=12
ASAR PcP PcP 17 07 38.6 +1.1
0.7nm,0.8s,baz=96,slow=5.7,SNR=2.9
ASAR LR LR 17 25 02.3
comp=Z,151nm,20.5s,baz=91,slow=34
BATI Baumata 59.88 268 LR LR 17 32 27.7
comp=Z,297nm,18.8s,baz=256,slow=35
NWAO Narrogin (SRO) 62.33 242 LR LR 17 33 21.2
comp=Z,81nm,18.3s,baz=76,slow=34
MJAR Matsushiro Arr 69.67 321 LR LR 17 39 45.7
comp=Z,10nm,18.0s,baz=155,slow=36
QSPA South Pole Qui 72.51 180 P P 17 08 57.2 +0.2
2.5nm,0.9s,baz=37,slow=3.4,SNR=7.1
QSPA South Pole Qui 72.51 180 eP P 17 08 56.6 -0.4
128nm,2.8s
KMRM Mail Ridge 74.63 38 eP P 17 09 09.9 +0.3
39nm,1.5s
DGR Domenigoni Val 75.06 47 eP P 17 09 16.1 +3.8
ISA Isabella 75.18 45 eP P 17 09 13.0 +0.1
8.3nm,1.5s
BBRC Big Bear Solar 75.46 47 eP P 17 09 17.4 +2.6
WAKR Walker 76.19 42 eP P 17 09 18.7 -0.2
KSRS Korea Array 76.69 317 LR LR 17 38 51.2
comp=Z,42nm,18.0s,baz=128,slow=32
NV01 Mina Array Sit 76.88 42 eP P 17 09 22.1 -0.6
NVAR Mina Array Bea 76.88 42 P P 17 09 22.8 +0.1
1.8nm,0.9s,baz=230,slow=9.3,SNR=8.4
NVAR LR LR 17 34 20.7
comp=Z,93nm,20.1s,baz=112,slow=29
TPH Tonopah 77.37 43 eP P 17 09 25.6 +0.1
3.0nm,1.0s
CCUT Cedar City 79.66 45 eP P 17 09 37.8 -0.3
CCUT ePcP PcP 17 09 45.3 -0.3
KNB Kanab 79.75 46 eP P 17 09 37.5 -1.0
81nm,2.8s
ELK Elko 80.13 42 P P 17 09 40.5 0.0
1.1nm,0.8s,baz=191,slow=5.8,SNR=3.9
G08A Pilot Rock 80.50 36 eP P 17 09 40.0 -2.3
HLID Hailey 82.19 40 eP P 17 09 52.0 +0.7
8.8nm,1.5s
SRU San Rafael 82.37 45 eP P 17 09 52.3 -0.1
14nm,1.6s
MNTX Cornudas Mount 82.65 54 eP P 17 09 53.7 -0.1
48nm,3.0s
TXAR Lajitas Array 82.99 56 P P 17 09 56.6 +0.9
0.9nm,0.9s,baz=228,slow=6.6,SNR=5.6
TXAR LR LR 17 38 05.2
comp=Z,50nm,21.9s,baz=0.0,slow=29
TNA Tin City 83.02 3 eP P 17 09 55.3 +0.5
17nm,1.4s
PV09 Paradox Valley 83.02 46 eP P 17 09 55.9 0.0
PV04 Paradox Valley 83.13 46 eP P 17 09 55.6 -0.7
PV01 Paradox Valley 83.23 47 eP P 17 09 57.0 0.0
ANMO Albuquerque 83.27 50 P P 17 09 57.3 +0.1
2.4nm,0.9s,baz=248,slow=2.7,SNR=5.2
ANMO Albuquerque 83.27 50 eP P 17 09 54.7 -2.5
6.8nm,1.3s
MCK McKinley 83.49 11 P P 17 09 57.0 -0.4
10nm,1.1s
MCMT McKenzie Canyo 83.82 39 eP P 17 09 59.1 -0.7
FXWY Fox Creek 84.32 41 eP P 17 10 00.7 -1.7
16nm,1.9s
BSMT Bassoo Peak 84.33 36 eP P 17 09 57.2 -5.1
IMW Indian Meadow 84.50 41 eP P 17 10 03.4 0.0
9.8nm,1.3s
COLA College 84.73 11 eP P 17 10 02.2 -1.3
50nm,0.3s
FLWY Flagg Ranch 84.75 41 eP P 17 10 03.6 -0.9
20nm,1.4s
ILAR Eielson Array 84.82 12 P P 17 10 04.0 -0.1
2.0nm,0.9s,baz=233,slow=6.1,SNR=19
IL1 Eielson Array 84.82 12 eP P 17 10 03.6 -0.5
WALA Waterton Lakes 85.48 35 P P 17 10 04.2 -3.7
0.3nm,1.4s
DAWY Dawson 85.85 15 eP P 17 10 08.4 -0.9
KULM Kulim 86.30 277 P P 17 10 08.7 -3.9
BILL Bilibino 86.44 353 eP P 17 10 12.7 +0.7
7.1nm,1.1s
RSSD Black Hills 89.00 43 P P 17 10 23.2 -1.9
INK Inuvik 90.69 14 eP P 17 10 32.0 -0.1
CMAR Chiang Mai Arr 91.92 289 P P 17 10 40.1 +1.1
0.5nm,0.8s,baz=86,slow=4.6,SNR=3.4
YKA Yellowknife Ar 92.63 24 P P 17 10 41.3 +0.1
0.1nm,0.5s,baz=239,slow=4.0,SNR=3.5
ULM Lac du Bonnet 96.49 39 LR LR 17 46 54.5
comp=Z,99nm,18.9s,baz=271,slow=31
AKASG Malin Array Be 141.71 335 PKhKP PKPpre 17 16 58.2
0.1nm,0.2s,baz=60,slow=1.5,SNR=5.8
CLL Collm 145.73 351 ⇓iPKPbc PKPab 17 17 09.1 +0.3
comp=Z,14nm,0.9s
CLL ⇑i(PKiKP) 17 17 15.5
comp=Z,13nm,1.0s
CLL i 17 17 24.5
UPC Upice 145.97 348 ePKP PKPab 17 17 09.8 0.0
UPC ex x 17 17 17.3
BRG Berggiesshubel 146.00 350 eP PKPab 17 17 10.6 +0.7
comp=Z,14nm,1.3s
BRG e 17 17 16.6
comp=Z,13nm,1.2s
DPC Dobruska-Polom 146.05 347 ePKP PKPab 17 17 10.2 0.0
OKC Ostrava-Krasne 146.11 345 ePKP PKPab 17 17 11.4 +1.1
OKC ex x 17 17 17.3
KRLC Kraliky 146.21 346 ePKP PKPab 17 17 11.6 +0.8
KRLC ex x 17 17 17.8
MORC Moravsky Berou 146.31 345 ePKPbc PKPab 17 17 10.5 -0.8
PRU Pruhonice 146.75 349 ePKP PKPab 17 17 13.0 +0.2
PRU ex x 17 17 18.8
BRTR Keskin Array B 146.83 318 PKPbc PKPab 17 17 13.8 +0.1
comp=Z,3.1nm,0.9s,baz=135,slow=2.6,SNR=15
KHC Kasperske Hory 147.75 350 ePKP PKPab 17 17 15.6 -1.3
KHC ex x 17 17 23.7
KHC Kasperske Hory 147.75 350 ePKPbc PKPab 17 17 13.8 -3.1
GERES GERESS Array B 148.00 349 PKPbc PKPab 17 17 16.6 -1.4
comp=Z,2.3nm,0.8s,baz=28,slow=3.2,SNR=14
DAVA Damuels 150.08 353 ⇑iPKiKP PKiKP 17 17 21.7 +0.4
comp=Z,10nm,1.1s
FETA Feichten 150.24 352 ⇑iPKiKP PKiKP 17 17 21.6 0.0

IDC 18 16:58:37.9±15.0, 17.°25S×179.°28W, h650km±173km, mb3.3/3, mb1 3.5/4, mb1mx2.9/38, mbtmp4.4/4, Error ellipse: s-maj=116.8km s-min=105.5km az=91.0
ISC 18 16:58:24.3±3.3, 17.°4S±0.°6×178.°2W±0.°5, h539km, n12, σ1s23/11, mb4.0/3, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 15.21 250 P P 17 01 38.4 +2.1
0.3nm,0.3s,baz=68,slow=16,SNR=4.6
QLP Quilpie 35.93 249 P P 17 04 38.7 -0.9
baz=34,SNR=4.4
STKA Stephens Creek 39.08 241 P P 17 05 05.2 0.0
1.8nm,0.4s,baz=89,slow=10,SNR=11
HTT Hallett 41.60 239 P P 17 05 25.2 -0.3
baz=40,SNR=3.4
BBOO Buckleboo 43.85 241 P P 17 05 42.4 -0.6
baz=42,SNR=9.9
WRA Warramunga Arr 44.95 259 P P 17 05 50.2 -1.5
1.6nm,0.5s,baz=93,slow=6.9,SNR=40
ASAR Alice Springs 45.15 254 P P 17 05 52.4 -0.9
10nm,0.4s,baz=90,slow=7.6,SNR=207
MTN Manton Dam 49.04 268 P P 17 06 21.7 -0.8
baz=47,SNR=3.0
WRKA Warakurna 50.22 252 P P 17 06 30.3 -0.8
baz=48,SNR=11
KNRA Kununurra 50.77 264 P P 17 06 34.3 -0.9
baz=48,SNR=4.1
BRTR Keskin Array B 144.58 315 PKP PKPbc 17 17 01.0 +0.8
0.4nm,0.6s,baz=114,slow=3.1,SNR=3.6
GERES GERESS Array B 147.18 345 PKPbc PKPbc 17 17 08.2 +1.1
0.5nm,0.6s,baz=33,slow=5.1,SNR=4.7

ISCJB 18 17:02:37.6±0.3, 40.°20S±0.°03×173.°75E±0.°04, h168km±3km, mb4.0/6, Error ellipse: s-maj=5.8km s-min=3.2km az=32.3
WEL 18 17:02:38.7±0.2, 40.°17S×173.°80E, h168km±1km, ML5.0/21, Error ellipse: s-maj=1.2km s-min=0.5km az=90.0, reported intensity MM 4.
WEL Felt from Taranaki to Marlborough, and from Nelson to Wairarapa, maximum.
NEIC 18 17:02:38.4, 40.°17S×173.°78E, h170km, MG5.0(WEL), After WEL.
NEIC Felt [IV] in the Wellington area.
IDC 18 17:02:39.6±0.7, 39.°96S×173.°92E, h160km±6km, mb3.8/6, mb1 4.0/7, mb1mx3.8/18, mbtmp4.3/7, Error ellipse: s-maj=18.4km s-min=11.0km az=154.0
ISC 18 17:02:39.3±0.7, 40.°19S±0.°04×173.°79E±0.°04, h167km±4km, n220, σ1s35/221, mb4.0/6, 26C-23D, Cook Strait

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DUWZ D'Urville Isla 0.62 171 ⇓PN Pn 17 03 02.8 -0.4
DUWZ SN Sn 17 03 19.7 -2.0
DUWZ D'Urville Isla 0.62 171 Pn Pn 17 03 02.8 -0.4
DUWZ Sn Sn 17 03 19.3 -2.4
NMEZ Namu Road 0.78 5 ⇑PN Pn 17 03 03.4 -0.7
NMEZ SN Sn 17 03 21.5 -1.7
LREZ Lake Rotokare 0.87 33 ⇑PN Pn 17 03 04.1 -0.7
LREZ SN Sn 17 03 22.8 -1.5
DFE Dawson Falls 0.89 16 PN Pn 17 03 04.2 -0.8
DFE Dawson Falls 0.89 16 Pn Pn 17 03 04.0 -1.0
KHEZ Kahui Hut 0.91 11 ⇑PN Pn 17 03 04.5 -0.7
KHEZ SN Sn 17 03 22.9 -2.1
NWEZ Newall Road 0.92 4 ⇑PN Pn 17 03 04.6 -0.5
NWEZ SN Sn 17 03 23.5 -1.4
NWEZ Newall Road 0.92 4 Pn Pn 17 03 04.6 -0.5
NEZ North Egmont 0.95 14 ⇓PN Pn 17 03 04.4 -1.0
NEZ North Egmont 0.95 14 Pn Pn 17 03 04.5 -1.0
PKE Pukeiti 1.00 9 PN Pn 17 03 05.0 -0.8
PKE Pukeiti 1.00 9 Pn Pn 17 03 05.0 -0.8
WAZ Wanganui 1.01 65 ⇑PN Pn 17 03 05.8 0.0
WAZ Wanganui 1.01 65 Pn Pn 17 03 05.8 0.0
DREZ Durham Road 1.05 18 ⇑PN Pn 17 03 05.4 -0.7
DREZ Durham Road 1.05 18 Pn Pn 17 03 05.4 -0.7
NNZ Nelson 1.07 197 PN Pn 17 03 05.7 -0.6
NNZ Nelson 1.07 197 Pn Pn 17 03 05.4 -0.8
KIW Kapiti Island 1.08 129 PN Pn 17 03 06.0 -0.4
KIW AML AML 17 03 26.2
KIW AML AML 17 03 26.6
KIW Kapiti Island 1.08 129 Pn Pn 17 03 06.0 -0.4
TCW Tory Channel 1.09 160 ⇓PN Pn 17 03 06.2 -0.2
TCW AML AML 17 03 26.2
TCW AML AML 17 03 26.4
TCW Tory Channel 1.09 160 Pn Pn 17 03 06.2 -0.2
QRZ Quartz Range 1.16 236 ⇑PN Pn 17 03 06.0 -1.0
QRZ Quartz Range 1.16 236 Pn Pn 17 03 05.6 -1.4
MHEZ Mangahewa 1.18 20 ⇓PN Pn 17 03 06.8 -0.5
MHEZ Mangahewa 1.18 20 Pn Pn 17 03 06.8 -0.5
OGWZ Otaki Gorge 1.22 121 PN Pn 17 03 07.3 -0.3
OGWZ Otaki Gorge 1.22 121 Pn Pn 17 03 07.3 -0.3
TUWZ Tuamarina 1.25 175 ⇓PN Pn 17 03 07.2 -0.5
TUWZ AML AML 17 03 28.6
TUWZ AML AML 17 03 28.8
TUWZ Tuamarina 1.25 175 Pn Pn 17 03 07.2 -0.5
VRZ Vera Road 1.30 35 PN Pn 17 03 07.3 -1.0
VRZ Vera Road 1.30 35 Pn Pn 17 03 07.1 -1.2
SNZO South Karori 1.32 149 ePn Pn 17 03 07.8 -0.5
WEL Wellington 1.32 146 ⇓PN Pn 17 03 08.1 -0.3
WEL AML AML 17 03 29.5
WEL AML AML 17 03 30.3
WEL Wellington 1.32 146 Pn Pn 17 03 08.2 -0.3
CAW Cannon Point 1.33 134 PN Pn 17 03 08.3 -0.3
CAW AML AML 17 03 30.6
CAW AML AML 17 03 32.3
CAW Cannon Point 1.33 134 Pn Pn 17 03 08.3 -0.3
MRZ Mangatainoka R 1.44 110 PN Pn 17 03 09.1 -0.5
MRZ AML AML 17 03 33.1
MRZ AML AML 17 03 37.0
MRZ Mangatainoka R 1.44 110 Pn Pn 17 03 08.9 -0.7
BHW Baring Head 1.47 146 PN Pn 17 03 09.4 -0.4
BHW AML AML 17 03 31.9
BHW AML AML 17 03 32.5
BHW Baring Head 1.47 146 Pn Pn 17 03 09.4 -0.4
HOWZ Holdsworth Sta 1.49 119 ⇑PN Pn 17 03 09.7 -0.4
HOWZ Holdsworth Sta 1.49 119 Pn Pn 17 03 09.7 -0.4
PKVZ Pokaka 1.50 54 ⇑PN Pn 17 03 09.4 -0.8
PKVZ Pokaka 1.50 54 Pn Pn 17 03 09.4 -0.8
MTVZ Mangateitei 1.52 59 ⇑PN Pn 17 03 09.6 -0.8
MTVZ Mangateitei 1.52 59 Pn Pn 17 03 09.6 -0.8
POWZ Post Office Ro 1.52 98 PN Pn 17 03 09.9 -0.5
POWZ Post Office Ro 1.52 98 Pn Pn 17 03 09.9 -0.5
BSWZ Blackbirch Sta 1.52 178 PN Pn 17 03 10.2 -0.2
BSWZ AML AML 17 03 34.7
BSWZ AML AML 17 03 35.2
BSWZ Blackbirch Sta 1.52 178 Pn Pn 17 03 10.2 -0.2
CMWZ Cape Campbell 1.59 169 PN Pn 17 03 11.5 +0.4
CMWZ AML AML 17 03 37.6
CMWZ AML AML 17 03 37.8
TRVZ Turoa 1.62 57 ⇑PN Pn 17 03 10.6 -1.1
TRVZ Turoa 1.62 57 Pn Pn 17 03 10.6 -1.1
MTW Mount Morrison 1.62 127 ⇓PN Pn 17 03 11.0 -0.3
MTW AML AML 17 03 34.1
MTW AML AML 17 03 35.4
MTW Mount Morrison 1.62 127 Pn Pn 17 03 11.0 -0.3
WNVZ Wahianoa 1.63 59 ⇑PN Pn 17 03 10.9 -0.8
WNVZ Wahianoa 1.63 59 Pn Pn 17 03 10.9 -0.8
DRZ Dome Shelter 1.64 57 ⇑PN Pn 17 03 11.0 -0.9
FWVZ Far West T-bar 1.65 56 PN Pn 17 03 10.7 -1.2
FWVZ Far West T-bar 1.65 56 Pn Pn 17 03 10.7 -1.2
MSWZ Moikau Station 1.65 138 ⇓PN Pn 17 03 11.3 -0.4
MSWZ AML AML 17 03 35.1
MSWZ AML AML 17 03 35.7
MSWZ Moikau Station 1.65 138 Pn Pn 17 03 11.3 -0.4
WHVZ Whangaehu Hut 1.65 57 PN Pn 17 03 10.9 -1.1
TSZ Takapari Road 1.67 86 ⇑PN Pn 17 03 11.2 -0.7
TSZ AML AML 17 03 36.7
TSZ AML AML 17 03 38.5
TSZ Takapari Road 1.67 86 Pn Pn 17 03 11.2 -0.7
WPVZ Whakapapa 1.67 55 ⇑PN Pn 17 03 11.1 -1.0
WPVZ Whakapapa 1.67 55 Pn Pn 17 03 11.1 -1.0
COVZ Chateau Observ 1.67 54 PN Pn 17 03 11.0 -1.1
TWVZ Taurewa 1.69 49 PN Pn 17 03 11.1 -1.2
TWVZ Taurewa 1.69 49 Pn Pn 17 03 11.1 -1.2
MOVZ Moawhango 1.70 63 ⇑PN Pn 17 03 11.1 -1.2
MOVZ Moawhango 1.70 63 Pn Pn 17 03 11.1 -1.2
TIWZ Tintock 1.70 111 PN Pn 17 03 11.9 -0.3
TIWZ AML AML 17 03 36.7
TIWZ AML AML 17 03 37.3
TIWZ Tintock 1.70 111 Pn Pn 17 03 11.9 -0.3
PRWZ Pori Road 1.70 103 PN Pn 17 03 12.1 -0.2
TUVZ Tukino 1.70 58 ⇑PN Pn 17 03 11.7 -0.8
TUVZ Tukino 1.70 58 Pn Pn 17 03 11.7 -0.8
THZ Tophouse 1.71 203 ⇓PN Pn 17 03 11.6 -0.8
THZ Tophouse 1.71 203 Pn Pn 17 03 11.6 -0.8
PAWZ Paruwai Farm 1.72 134 ⇓PN Pn 17 03 12.0 -0.3
PAWZ AML AML 17 03 37.1
PAWZ AML AML 17 03 37.4
PAWZ Paruwai Farm 1.72 134 Pn Pn 17 03 12.1 -0.3
PAWZ Sn Sn 17 03 35.3 -2.8
NGZ Ngauruhoe 1.72 55 ⇑PN Pn 17 03 11.6 -1.0
NGZ Ngauruhoe 1.72 55 Pn Pn 17 03 11.6 -1.0
WTVZ West Tongariro 1.75 53 ⇑PN Pn 17 03 11.9 -1.1
WTVZ West Tongariro 1.75 53 Pn Pn 17 03 11.9 -1.1
OTVZ Oturere 1.77 55 PN Pn 17 03 12.3 -0.8
OTVZ Oturere 1.77 55 Pn Pn 17 03 12.3 -0.8
PLWZ Palliser 1.77 142 ⇓PN Pn 17 03 12.5 -0.5
PLWZ Palliser 1.77 142 Pn Pn 17 03 12.5 -0.5
KRVZ Karewarewa 1.80 53 ⇑PN Pn 17 03 12.3 -1.1
KRVZ Karewarewa 1.80 53 Pn Pn 17 03 12.3 -1.1
DVHZ Dannevirke 1.82 94 ⇑PN Pn 17 03 12.8 -0.6
DVHZ Dannevirke 1.82 94 Pn Pn 17 03 12.8 -0.6
TMWZ Te Maipa 1.84 121 ⇓PN Pn 17 03 13.4 -0.3
TMWZ Te Maipa 1.84 121 Pn Pn 17 03 13.4 -0.3
HIZ Hauiti 1.86 27 ⇑PN Pn 17 03 12.7 -1.3
HIZ Hauiti 1.86 27 Pn Pn 17 03 12.7 -1.3
PNHZ Pukenui 1.87 82 PN Pn 17 03 13.3 -0.8
PNHZ Pukenui 1.87 82 Pn Pn 17 03 13.3 -0.8
TRWZ Traveller 1.88 131 ⇓PN Pn 17 03 13.8 -0.3
TRWZ AML AML 17 03 41.3
TRWZ AML AML 17 03 41.8
TRWZ Traveller 1.88 131 Pn Pn 17 03 13.8 -0.3
BHHZ Black Hill Sta 1.88 69 PN Pn 17 03 12.7 -1.5
BHHZ Black Hill Sta 1.88 69 Pn Pn 17 03 12.9 -1.4
KATZ Kakaramea 1.90 51 PN Pn 17 03 13.6 -0.9
KATZ Kakaramea 1.90 51 Pn Pn 17 03 13.6 -0.9
BFZ Birch Farm 1.94 106 PN Pn 17 03 14.3 -0.5
BFZ Birch Farm 1.94 106 Pn Pn 17 03 13.9 -0.8
CPWZ Castlepoint 1.97 112 ⇓PN Pn 17 03 15.3 +0.2
RITZ Rihia Road 2.00 53 PN Pn 17 03 14.9 -0.7
RITZ Rihia Road 2.00 53 Pn Pn 17 03 14.9 -0.7
RATZ Rangitukua 2.02 50 PN Pn 17 03 15.0 -0.7
RATZ Rangitukua 2.02 50 Pn Pn 17 03 15.0 -0.7
WPHZ Waipukurau 2.03 87 ⇓PN Pn 17 03 15.3 -0.5
WPHZ Waipukurau 2.03 87 Pn Pn 17 03 15.3 -0.5
KRHZ Kereru 2.05 75 ⇑PN Pn 17 03 15.2 -0.9
ANWZ Angora Road 2.07 98 PN Pn 17 03 15.9 -0.3
WATZ Wairara 2.11 46 ⇓PN Pn 17 03 16.0 -0.7
WATZ Wairara 2.11 46 Pn Pn 17 03 16.0 -0.7
DSZ Denniston Nort 2.17 223 ⇓PN Pn 17 03 16.4 -1.0
DSZ Denniston Nort 2.17 223 Pn Pn 17 03 16.4 -1.0
PRHZ Porangahau 2.18 93 ⇓PN Pn 17 03 17.0 -0.4
PRHZ Porangahau 2.18 93 Pn Pn 17 03 17.1 -0.4
KHZ Kahutara 2.23 185 PN Pn 17 03 17.7 -0.4
KHZ AML AML 17 03 47.1
KHZ AML AML 17 03 47.1
KHZ Kahutara 2.23 185 ePn Pn 17 03 17.7 -0.4
TLZ Tolley Road 2.30 37 PN Pn 17 03 17.6 -1.4
MCHZ McNeill Hill 2.36 73 PN Pn 17 03 19.0 -0.6
MCHZ McNeill Hill 2.36 73 Pn Pn 17 03 19.0 -0.6
PXZ Pawanui 2.36 87 PN Pn 17 03 18.7 -0.8
PXZ AML AML 17 03 50.3
PXZ AML AML 17 03 51.5

PXZ AML AML 17 03 51.5
PXZ AML AML 17 03 51.7
PXZ Pawanui 2.36 87 Pn **Pn 17 03 18.8 -0.7**
KAHZ Kahuranaki 2.40 82 PN **Pn 17 03 19.5 -0.6**
KAHZ Kahuranaki 2.40 82 Pn **Pn 17 03 19.5 -0.6**
NMHZ Naumai 2.57 66 PN **Pn 17 03 21.5 -0.6**
NMHZ Naumai 2.57 66 Pn **Pn 17 03 21.6 -0.5**
GRRZ Galatos Road 2.57 45 PN **Pn 17 03 21.2 -1.0**
CKHZ Cape Kidnapper 2.58 79 PN **Pn 17 03 21.4 -0.8**
CKHZ Cape Kidnapper 2.58 79 Pn **Pn 17 03 21.6 -0.6**
HRRZ Handcock Road 2.64 48 PN **Pn 17 03 21.8 -1.1**
UTU Utuhina 2.74 44 PN **Pn 17 03 23.1 -1.1**
TOZ Tahuroa Road 2.79 29 PN **Pn 17 03 23.1 -1.7**
TOZ Tahuroa Road 2.79 29 Pn **Pn 17 03 23.2 -1.6**
RRRZ Republican Roa 2.81 50 PN **Pn 17 03 23.3 -1.7**
LTZ Lake Taylor 2.83 203 ⇓PN **Pn 17 03 24.0 -1.3**
LTZ Lake Taylor 2.83 203 Pn **Pn 17 03 24.0 -1.3**
RAHZ Arahi 2.84 65 PN **Pn 17 03 24.2 -1.2**
TARZ Mount Tarawera 2.87 48 PN **Pn 17 03 24.6 -1.2**
WHHZ Waihua 2.88 68 ⇓PN **Pn 17 03 24.8 -1.1**
SNGZ Shannon Statio 3.08 64 PN **Pn 17 03 26.9 -1.5**
OPRZ Ohinepanea 3.18 43 *e*PN **Pn 17 03 28.1 -1.5**
OPRZ Ohinepanea 3.18 43 Pn **Pn 17 03 28.1 -1.5**
KBAZ Karaka Road Bo 3.21 16 PN **Pn 17 03 29.8 -0.1**
KNZ Kokohu 3.22 70 PN **Pn 17 03 28.3 -1.7**
KNZ Kokohu 3.22 70 Pn **Pn 17 03 28.3 -1.7**
URZ Urewera 3.22 54 PN **Pn 17 03 27.6 -2.4**
URZ AML AML 17 04 06.1
URZ AML AML 17 04 06.4
URZ Urewera 3.22 54 P **Pn 17 03 27.6 -2.4**
24nm,0.3s,baz=246,slow=4.6,SNR=153
URZ S **Sn 17 04 04.9 -4.5**
80nm,0.3s,baz=97,slow=17,SNR=24
URZ Urewera 3.22 54 *e*Pn **Pn 17 03 27.2 -2.8**
URZ S **Sn 17 04 04.9 -4.5**
MKAZ Moumakai 3.26 20 PN **Pn 17 03 30.0 -0.6**
MKAZ Moumakai 3.26 20 Pn **Pn 17 03 29.8 -0.7**
WTAZ Waiatarua 3.31 11 *e*PN **Pn 17 03 31.1 -0.1**
MHGZ Mahia Peninsul 3.34 73 PN **Pn 17 03 30.3 -1.3**
MHGZ Mahia Peninsul 3.34 73 Pn **Pn 17 03 30.3 -1.3**
ETAZ East Tamaki Re 3.35 16 PN **Pn 17 03 31.3 -0.4**
OXZ Oxford 3.40 202 PN **Pn 17 03 30.2 -2.1**
PRGZ Paritu Road 3.40 70 PN **Pn 17 03 30.8 -1.6**
RIGZ Rimuhau 3.41 66 PN **Pn 17 03 30.7 -1.8**
MWZ Matawai 3.44 59 PN **Pn 17 03 30.6 -2.3**
MWZ AML AML 17 04 13.3
MWZ AML AML 17 04 13.3
MWZ AML AML 17 04 22.7
MWZ AML AML 17 04 22.7
MWZ Matawai 3.44 59 Pn **Pn 17 03 30.8 -2.1**
CRLZ Canterbury Las 3.50 194 ⇓PN **Pn 17 03 31.4 -2.1**
CRLZ Canterbury Las 3.50 194 Pn **Pn 17 03 31.4 -2.1**
MQZ McQueen's Vall 3.62 193 ⇑PN **Pn 17 03 32.5 -2.5**
MQZ McQueen's Vall 3.62 193 Pn **Pn 17 03 32.5 -2.5**
WVZ Waitaha Valley 3.68 217 PN **Pn 17 03 34.0 -1.9**
KUZ Kuaotunu 3.75 24 PN **Pn 17 03 35.8 -1.0**
CNGZ Carnagh Statio 3.82 65 PN **Pn 17 03 36.0 -1.7**
TWGZ Tauwhareparae 3.82 60 PN **Pn 17 03 35.8 -2.0**
HAZ Te Kaha 3.94 53 ⇑PN **Pn 17 03 36.3 -3.0**
PUZ Puketiti 4.06 60 ⇓PN **Pn 17 03 38.2 -2.6**
PUZ AML AML 17 04 27.4
PUZ AML AML 17 04 27.8
PUZ Puketiti 4.06 60 Pn **Pn 17 03 38.2 -2.6**
RPZ Rata Peaks 4.07 209 PN **Pn 17 03 39.3 -1.6**
RPZ Rata Peaks 4.07 209 *e*Pn **Pn 17 03 39.2 -1.6**
MXZ Matakaoa Point 4.39 55 PN **Pn 17 03 42.7 -2.3**
MXZ AML AML 17 04 34.9
MXZ AML AML 17 04 36.8
MXZ Matakaoa Point 4.39 55 Pn **Pn 17 03 42.7 -2.3**
FOZ Fox Glacier 4.56 221 PN Pn 17 03 43.5 -3.6
FOZ Fox Glacier 4.56 221 Pn Pn 17 03 43.6 -3.5
LBZ Lake Benmore 4.98 211 *e*PN **Pn 17 03 50.3 -2.3**
LBZ Lake Benmore 4.98 211 Pn **Pn 17 03 50.4 -2.3**
ODZ Otahua Downs 5.38 205 ⇑PN **Pn 17 03 55.8 -2.1**
ODZ Otahua Downs 5.38 205 *e*Pn **Pn 17 03 55.8 -2.1**
104nm,0.4s
JCZ Jackson Bay 5.39 222 ⇓PN **Pn 17 03 55.3 -2.9**
JCZ Jackson Bay 5.39 222 Pn **Pn 17 03 55.3 -2.9**
WKZ Wanaka 5.83 216 PN Pn 17 04 00.5 -3.3
WKZ Wanaka 5.83 216 Pn Pn 17 04 00.5 -3.3
EAZ Earnscleugh 6.03 212 PN Pn 17 04 02.9 -3.5
EAZ Earnscleugh 6.03 212 Pn **Pn 17 04 03.5 -2.9**
HHSZ Highcliff Hill 6.16 201 PN **Pn 17 04 06.9 -1.2**
MSZ Milford Sound 6.24 222 PN **Pn 17 04 06.6 -2.5**
MSZ Milford Sound 6.24 222 Pn **Pn 17 04 06.4 -2.7**
TUZ Tuapeka 6.52 206 PN **Pn 17 04 10.7 -2.1**
TUZ Tuapeka 6.52 206 Pn **Pn 17 04 10.8 -2.1**
MLZ Mavora Lakes 6.61 217 PN **Pn 17 04 13.3 -0.8**
WHZ Wether Hill Ro 7.13 215 PN Pn 17 04 17.5 -3.4
WHZ Wether Hill Ro 7.13 215 Pn Pn 17 04 17.5 -3.4
DCZ Deep Cove 7.19 221 PN Pn 17 04 17.7 -4.1
DCZ Deep Cove 7.19 221 Pn Pn 17 04 17.7 -4.1
SYZ Scrubby Hill 7.19 207 *e*PN **Pn 17 04 19.6 -2.1**
SYZ Scrubby Hill 7.19 207 Pn **Pn 17 04 19.6 -2.1**
ASAR Alice Springs 37.30 284 P **P 17 09 36.4 +1.0**
0.6nm,0.3s,baz=119,slow=6.7,SNR=18
ASAR pP **pP 17 10 10.7 -0.3**
0.9nm,0.9s,baz=113,slow=6.4,SNR=3.2
WRA Warramunga Arr 39.25 289 P **P 17 09 52.5 +0.9**
0.7nm,0.4s,baz=126,slow=8.3,SNR=22
WRA pP **pP 17 10 27.6 0.0**
0.8nm,0.7s,baz=126,slow=7.9,SNR=3.4
QSPA South Pole Qui 49.94 180 P **P 17 11 18.4 +2.6**
1.9nm,0.3s,baz=31,slow=5.9,SNR=55
QSPA pP **pP 17 11 55.0 +1.7**
2.2nm,0.6s,baz=302,slow=1.8,SNR=3.7
JNU Nakatsue 83.04 325 P **P 17 14 46.5 +0.7**
18nm,1.1s,baz=121,slow=5.9,SNR=3.4
KSRS Korea Array 87.98 325 P **P 17 15 11.7 +1.7**
1.5nm,0.7s,baz=151,slow=5.1,SNR=5.3
KSAR Wonju Array Be 87.99 325 P **P 17 15 11.7 +1.7**
CMAR Chiang Mai Arr 90.70 294 P **P 17 15 24.6 +1.4**
0.7nm,0.6s,baz=149,slow=3.5,SNR=8.3
KMBO Kilima Mbogo 122.92 235 PKP **PKPdf 17 21 17.3 +1.0**
0.7nm,0.4s,baz=212,slow=13,SNR=2.7
KBZ Khabaz 143.74 292 PKhKP PKPpre 17 21 50.6
1.2nm,0.8s,baz=126,slow=4.3,SNR=4.1
ARCES ARCESS Array B 146.19 341 PKPbc **PKPbc 17 21 58.1 -0.6**
1.8nm,0.7s,baz=48,slow=1.3,SNR=9.2
ARCES pPKPbc pPKPbc 17 22 39.7 -2.4
6.9nm,1.0s,baz=58,slow=3.4,SNR=2.2
BRTR Keskin Array B 149.63 282 pPKPbc pPKPbc 17 22 49.2 -3.3
0.8nm,0.6s,baz=123,slow=4.6,SNR=4.3
AKASG Malin Array Be 153.25 305 PKPab **PKPab 17 22 28.9 -0.4**
1.0nm,0.7s,baz=65,slow=4.4,SNR=5.5
HFS Hagfors 156.49 335 PKPab **PKPab 17 22 42.7 -0.1**
0.9nm,0.4s,baz=76,slow=6.3,SNR=4.4

IDC 18 17:13:31.9±2.0, 17.°56S×174.°79W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.1/20, mbtmp4.0/9, MS3.8/14, Ms1 3.8/14, ms1mx3.5/29, Error ellipse: s-maj=116.1km s-min=21.9km az=151.0
ISCJB 18 17:13:34.4±0.7, 17.°1S±0.°2×174.°6W±0.°1, h10km, mb4.2/13, MS3.8/13, Error ellipse: s-maj=27.1km s-min=8.2km az=141.6
NEIC 18 17:13:35.7±4.8, 17.°06S×174.°63W, h10km±29km, mb4.8/2, Error ellipse: s-maj=28.9km s-min=9.9km az=145.0
ISC 18 17:13:35.7±0.7, 17.°1S±0.°2×174.°6W±0.°1, h10km, n55, σ1°52/32, mb4.1/13, MS3.8/13, 1C-1D, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 4.20 41 Pn **Pn 17 14 38.8 -1.1**
7.1nm,0.3s,baz=175,slow=5.2,SNR=8.2
AFI Sn **Sn 17 15 30.8 +1.8**
2.0nm,0.3s,baz=52,slow=19,SNR=2.4
MSVF Nonsavu 7.04 264 *e*P **Pn 17 15 20.2 +1.3**
43nm,1.1s
DZM Mont Dzumac 18.52 252 *e*P Pn 17 17 58.4 +5.8
33nm,1.2s
DZM *e*LR LR 17 22 09.0
987nm,25.3s
DZM Mont Dzumac 18.52 252 P **P 17 17 50.0 -2.4**
0.1nm,0.3s,baz=72,slow=17,SNR=2.2
DZM LR LR 17 23 41.1
comp=Z,536nm,20.9s,baz=72,slow=33
URZ Urewera 22.28 197 LR LR 17 25 34.8
comp=Z,260nm,19.1s,baz=24,slow=33
PAE Paea 23.89 95 *e*T T 17 43 00.6
3.0nm,0.3s
PPT2 Papeete2 23.89 95 *e*LQ LQ 17 23 24.0
253nm,25.0s
PPT2 *e*LR LR 17 24 27.4
820nm,26.5s,baz=260
PPT Papeete 23.89 95 LR LR 17 25 32.3
comp=Z,157nm,20.1s,baz=274,slow=30
TVO Taravao 24.19 95 *e*T T 17 43 23.0
1.5nm,0.3s
MEH Mehetia 25.32 96 *e*T T 17 44 49.1
13nm,0.2s
HNR Honiara 25.90 284 LR LR 17 27 45.0
comp=Z,408nm,20.7s,baz=104,slow=33
VAH Vaihoa 25.97 90 *e*T T 17 45 36.1
7.2nm,0.2s
RKT Rikitea 37.61 106 *e*LR LR 17 30 48.4
616nm,29.0s
RKT Rikitea 37.61 106 *e*T T 18 00 06.7
2.5nm,0.4s
H11S2 WAKE ISLAND Hy 39.88 332 T T 18 04 09.4
baz=156,SNR=4.7
H11S3 WAKE ISLAND Hy 39.89 332 T T 18 04 02.7
baz=156,slow=74,SNR=6.6
H11S1 WAKE ISLAND Hy 39.89 332 T T 18 04 10.1
baz=156,slow=74
H11N3 WAKE ISLAND Hy 40.86 333 T T 18 05 16.2
baz=155,slow=78,SNR=48
H11N1 WAKE ISLAND Hy 40.87 333 T T 18 05 16.5
baz=155,slow=78,SNR=97
H11N2 WAKE ISLAND Hy 40.88 333 T T 18 05 17.5
baz=155,slow=78,SNR=50
STKA Stephens Creek 42.19 241 P **P 17 21 29.9 +1.1**
2.2nm,0.9s,baz=91,slow=12,SNR=3.3
STKA LR LR 17 35 57.8
comp=Z,102nm,21.7s,baz=35,slow=32
WRAB Tennant Creek 48.33 258 *e*P P 17 22 12.1 -5.8
WRA Warramunga Arr 48.34 258 P P 17 22 13.1 -4.8
0.8nm,1.0s,baz=95,slow=9.3,SNR=5.1
WRA LR LR 17 41 01.3
comp=Z,149nm,20.9s,baz=200,slow=34
AS31 Alice Springs 48.49 253 *e*P P 17 22 14.3 -4.8
ASAR Alice Springs 48.49 253 P P 17 22 14.4 -4.7
2.7nm,0.9s,baz=88,slow=7.1,SNR=23
ASAR LR LR 17 40 31.8
comp=Z,94nm,21.8s,baz=87,slow=34
JCJ Chichijima 60.74 316 LR LR 17 46 16.4
comp=Z,69nm,18.6s,baz=325,slow=32
MJAR Matsushiro Arr 69.52 321 LR LR 17 50 30.1
comp=Z,18nm,21.1s,baz=180,slow=32
QSPA South Pole Qui 72.94 180 *e*P **P 17 25 05.5 +0.4**
22nm,2.3s
YBH Yreka Blue Hor 75.66 37 P **P 17 25 22.0 +0.7**
2.3nm,0.6s,baz=207,slow=16,SNR=4.2
NVAR Mina Array Bea 76.37 42 P **P 17 25 26.1 +0.5**
1.3nm,0.8s,baz=230,slow=9.4,SNR=9.1
NVAR LR LR 17 51 10.4
comp=Z,79nm,20.8s,baz=116,slow=29
ELK Elko 79.63 42 P **P 17 25 43.7 0.0**
0.5nm,0.5s,baz=146,slow=3.6,SNR=2.9
TXAR Lajitas Array 82.53 56 P **P 17 25 59.0 -0.2**
0.9nm,0.9s,baz=230,slow=5.9,SNR=5.3
TXAR LR LR 17 56 14.3
comp=Z,36nm,19.1s,baz=0.0,slow=31
PV01 Paradox Valley 82.74 47 *e*P **P 17 26 00.4 +0.2**
116nm,0.6s
ILAR Eielson Array 84.35 12 P **P 17 26 07.2 -0.4**
3.9nm,1.2s,baz=212,slow=6.4,SNR=8.1
H03N2 Juan Fernandez 85.33 123 T T 18 59 58.5
baz=252,slow=74,SNR=15
H03N3 Juan Fernandez 85.33 123 T T 18 59 58.0
baz=252,slow=74,SNR=6.3
H03N1 Juan Fernandez 85.35 123 T T 18 59 59.0
baz=252,slow=74,SNR=8.4
BILL Bilibino 86.06 353 *e*P **P 17 26 16.0 -0.1**
6.8nm,1.1s
INK Inuvik 90.21 14 P **P 17 26 35.8 0.0**
1.2nm,1.0s,baz=184,slow=10.0,SNR=2.4
CMAR Chiang Mai Arr 92.06 289 LR LR 18 05 18.9
comp=Z,20nm,20.3s,baz=140,slow=34
YKA Yellowknife Ar 92.13 24 P **P 17 26 44.5 -0.4**
0.1nm,0.6s,baz=236,slow=4.4,SNR=3.5
SONM Songino Array 95.35 318 LR LR 18 11 53.0
comp=Z,28nm,18.2s,baz=144,slow=37
ULM Lac du Bonnet 95.99 39 LR LR 18 05 21.0
comp=Z,65nm,19.2s,baz=292,slow=32
CLL Collm 145.35 352 ⇓*i*PKPbc **PKPbc 17 33 12.4 -1.2**
comp=Z,8.0nm,0.9s
CLL ⇑*i*(PKiKP) 17 33 19.0
comp=Z,48nm,1.9s
UPC Upice 145.62 348 *e*PKP **PKPdf 17 33 13.2 -1.1**
UPC *e*pPKP **PKiKP 17 33 20.6 +2.3**
BRG Berggiesshubel 145.64 350 *e*P **PKPab 17 33 14.1 -0.7**
comp=Z,19nm,1.6s
BRG *e* 17 33 20.7
comp=Z,31nm,1.8s
DPC Dobruska-Polom 145.70 348 *e*PKP **PKPab 17 33 14.7 -0.4**
DPC *e*pPKP **PKiKP 17 33 21.6 +3.1**
OKC Ostrava-Krasne 145.77 345 *e*PKP **PKPab 17 33 16.1 +0.8**
KRLC Kraliky 145.87 347 *e*PKP **PKPdf 17 33 13.1 -1.7**
KRLC *e*pPKP **pPKPdf 17 33 16.4 -1.8**
KRLC *e*x x 17 33 22.5
PRU Pruhonice 146.39 349 *e*PKP **PKPbc 17 33 16.2 -0.6**
PRU *e*pPKP **PKiKP 17 33 22.6 +2.7**
BRTR Keskin Array B 146.71 318 PKPbc **PKPbc 17 33 17.4 -0.9**
comp=Z,1.8nm,0.9s,baz=140,slow=2.9,SNR=10
TREC Trest 146.88 348 *e*PKP **PKPab 17 33 18.2 -1.4**
TREC *e*x x 17 33 25.1
KHC Kasperske Hory 147.38 350 *e*PKP **PKPbc 17 33 18.8 -1.0**
KHC *e*pPKP **PKiKP 17 33 25.9 +3.9**
KHC Kasperske Hory 147.38 350 *e*PKPbc **PKPbc 17 33 19.1 -0.7**
GERES GERESS Array B 147.64 350 PKPbc **PKPbc 17 33 19.5 -1.0**
comp=Z,1.1nm,0.8s,baz=10,slow=1.5,SNR=8.0

IDC 18 17:29:24.9±6.9, 7.°65S×122.°55E, h581km±18km, mb3.1/1, mb1 3.1/4, mb1mx2.5/40, mbtmp3.8/4, Error ellipse: s-maj=213.2km s-min=103.7km az=58.0, Flores Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BATI Baumata 2.77 157 P P 17 30 41.4 +0.1
1.9nm,0.3s,baz=270,slow=3.0,SNR=5.8
BATI S S 17 31 43.8 +0.4
1.8nm,0.3s,baz=301,slow=2.9,SNR=5.2
WRA Warramunga Arr 16.73 138 P P 17 32 50.0 0.0
0.4nm,0.3s,baz=317,slow=10,SNR=57
ASAR Alice Springs 19.30 147 P P 17 33 13.1 -0.2
0.5nm,0.3s,baz=325,slow=8.9,SNR=59
STKA Stephens Creek 29.93 146 P P 17 34 47.1 0.0
1.7nm,0.5s,baz=323,slow=9.2,SNR=9.1

IDC 18 17:30:26.5±1.9, 31.°41S×178.°24W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/19, mbtmp4.0/5, ML3.6/1, Error ellipse: s-maj=45.2km s-min=32.0km az=53.0
ISCJB 18 17:30:29.1±1.6, 31.°34S±0.°09×178.°2W±0.°3, h35km, mb4.0/4, Error ellipse: s-maj=35.5km s-min=10.9km az=13.7
ISC 18 17:30:30.4±1.5, 31.°4S±0.°1×178.°2W±0.°3, h35km, n10, σ1°71/7, mb4.0/4, Kermadec Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 2.13 6 Sn **Sn 17 31 27.2 -1.4**
148nm,0.3s,baz=18,slow=20,SNR=3.5
URZ Urewera 7.89 208 Pn **Pn 17 32 20.2 -2.4**
0.9nm,0.3s,baz=349,slow=16,SNR=8.8
URZ Sn Sn 17 33 43.5 -7.2
2.7nm,0.3s,baz=356,slow=20,SNR=10
STKA Stephens Creek 34.13 258 P **P 17 37 12.8 +0.7**
0.7nm,0.5s,baz=104,slow=14,SNR=4.4
ASAR Alice Springs 42.92 268 P **P 17 38 26.4 +0.5**
1.1nm,0.4s,baz=107,slow=7.4,SNR=27
WRA Warramunga Arr 44.00 273 P **P 17 38 35.6 +1.0**
1.3nm,0.3s,baz=111,slow=8.1,SNR=62
QSPA South Pole Qui 58.74 180 P **P 17 40 26.0 +1.5**
1.0nm,0.6s,baz=90,slow=9.1,SNR=9.4
H03N3 Juan Fernandez 80.25 123 T T 19 11 38.7
baz=245
H03N2 Juan Fernandez 80.25 123 T T 19 11 40.0
baz=245
H03N1 Juan Fernandez 80.26 123 T T 19 11 39.6
baz=245
FINES FINESS Array B 146.01 339 PKPbc **PKPab 17 50 06.3 0.0**
2.2nm,0.8s,baz=64,slow=3.2,SNR=6.1

IDC 18 17:30:50.7±4.7, 46.°83N×152.°75E, h0km, mb3.4/05, mb1 3.6/6, mb1mx3.4/25, mbtmp3.4/6, ML1.8/1, Error ellipse: s-maj=116.7km s-min=33.4km az=159.0
ISCJB 18 17:30:55.0±1.9, 46.°7N±0.°3×153.°1E±0.°3, h56km, mb3.5/6, Error ellipse: s-maj=44.4km s-min=8.0km az=143.3
SKHL 18 17:30:56.2±1.3, 46.°70N×152.°87E, h82km±3km, mb4.2/1
MOS 18 17:30:57.9±1.7, 47.°06N×152.°69E, h63km, mb4.0/4, Error ellipse: s-maj=32.3km s-min=17.0km az=71.1
ISC 18 17:30:56.9±2.2, 46.°7N±0.°3×153.°1E±0.°2, h56km, n22, σ1°14/18, mb3.7/6, 1C, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 3.90 250 *c i*PN **Pn 17 31 55.5 +1.2**
KUR *i* S **Sn 17 32 39.6 +0.8**
KUR pmax pmax
comp=Z,23nm,0.4s
KUR pmax pmax
comp=E,9.0nm,0.2s
KUR pmax pmax
comp=N,11nm,0.4s
KUR smax smax
comp=N,71nm,0.5s
KUR smax smax
comp=E,19nm,0.5s
KUR Kuril'sk 3.90 250 *e*P **Pn 17 31 55.5 +1.2**
KUR AMB AMB 17 31 56.7
comp=E,11nm,0.3s
KUR AMB AMB 17 31 56.7
comp=E,9.0nm,0.3s
KUR AMB AMB 17 31 56.7
comp=E,23nm,0.3s
KUR *e*S **Sn 17 32 39.0 +0.2**
KUR A A 17 32 50.2
comp=E,71nm,0.5s
KUR A A 17 32 50.2
comp=E,19nm,0.5s
SKR Severo-Kuril's 4.48 26 *e*PN **Pn 17 32 03.5 +1.3**
SKR Severo-Kuril's 4.48 26 *e*P **Pn 17 32 03.5 +1.3**
SKR *e*rx rx 17 32 45.0
PETK Petropavlovsk- 7.09 23 Pn **Pn 17 32 36.4 -1.6**
comp=E,0.1nm,0.3s,baz=182,slow=15,SNR=4.6
MYR Moyori 8.25 241 *e*P **Pn 17 32 52.3 -1.6**
MYR *e*S Sn 17 34 20.3 -5.3
H11N2 WAKE ISLAND Hy 29.18 152 T T 18 08 23.0
baz=338,slow=74,SNR=18
H11N1 WAKE ISLAND Hy 29.19 153 T T 18 08 31.2
baz=338
H11N3 WAKE ISLAND Hy 29.19 152 T T 18 08 21.4
baz=338,slow=74,SNR=12
H11S1 WAKE ISLAND Hy 30.26 154 T T 18 09 45.3
baz=344,slow=77,SNR=21
H11S3 WAKE ISLAND Hy 30.27 154 T T 18 09 47.0
baz=344,slow=77,SNR=17
H11S2 WAKE ISLAND Hy 30.28 154 T T 18 09 47.2
baz=344,slow=77,SNR=18
ZAK Zakamensk 32.67 295 *e*P **P 17 37 23.9 +0.3**
ZAK pmax pmax
comp=Z,2.0nm,1.3s
ZAK Zakamensk 32.67 295 *e*P **P 17 37 23.9 +0.3**
MKAR Makanchi Array 46.94 297 P **P 17 39 20.7 -1.1**
comp=Z,0.1nm,0.5s,baz=70,slow=8.1,SNR=2.6
YKA Yellowknife Ar 51.00 37 P **P 17 39 53.4 +0.9**
comp=Z,0.1nm,0.5s,baz=293,slow=6.4,SNR=2.8
FINES FINESS Array B 64.08 335 P **P 17 41 23.5 -1.0**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 64.08 335 P **P 17 41 23.5 -1.0**
comp=Z,0.7nm,0.6s,baz=40,slow=7.4,SNR=4.5
NOA NORSAR Array B 68.28 341 P **P 17 41 51.3 -0.2**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 68.28 341 P **P 17 41 51.2 -0.2**
comp=Z,0.9nm,0.8s,baz=27,slow=6.4,SNR=3.2
BRTR Keskin Array B 78.41 317 P **P 17 42 52.9 +1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 78.41 317 P **P 17 42 52.9 +1.3**
comp=Z,0.5nm,0.8s,baz=52,slow=4.2,SNR=3.0

DJA 18 17:52:26.6±1.5, 0.°S±16.°×13.°3E±.°, h20km±23km, M3.6/4, MLv3.6/4, Irian Jaya region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SWI Sorong 1.58 249 P Pn 17 52 52.9 -0.6
SWI S Sn 17 53 13.9 +0.5
FAKI Fak Fak 2.65 191 P Pn 17 53 08.1 -0.1
BAKI Biak 3.48 105 P Pn 17 53 19.7 0.0

WEL 18 17:58:01.3±0.3, 37.°57S×176.°15E, h264km±2km, ML4.0/17, 12C-1D, Error ellipse: s-maj=4.2km s-min=3.5km az=0.0, North Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 1.03 132 ⇑PN Pn 17 58 38.0 +0.1
URZ SN S 17 59 06.8 -0.1
URZ AML AML 17 59 07.0
HAZ Te Kaha 1.31 99 ⇑PN Pn 17 58 39.5 -0.1
HAZ SN S 17 59 09.2 -0.7
MWZ Matawai 1.33 125 ⇑PN Pn 17 58 39.9 0.0
MWZ SN S 17 59 09.7 -0.6
MWZ AML AML 17 59 11.4
MWZ AML AML 17 59 13.0
MWZ AML AML 17 59 13.1
SNGZ Shannon Statio 1.53 143 PN Pn 17 58 41.3 +0.1
RAHZ Arahi 1.54 152 PN Pn 17 58 41.5 +0.2
TWGZ Tauwhareparae 1.57 113 PN Pn 17 58 42.2 +0.6
KRVZ Karewarewa 1.58 194 PN Pn 17 58 41.9 +0.2
TWVZ Taurewa 1.60 200 PN Pn 17 58 42.0 +0.2
WTVZ West Tongariro 1.61 196 PN Pn 17 58 42.0 +0.1
NMHZ Naumai 1.61 161 PN Pn 17 58 42.3 +0.5
BKZ Black Stump Fm 1.62 170 ⇑PN Pn 17 58 41.6 -0.2
BKZ AML AML 17 59 13.4
BKZ AML AML 17 59 13.6
OTVZ Oturere 1.64 193 PN Pn 17 58 42.5 +0.3
NGZ Ngauruhoe 1.66 195 PN Pn 17 58 42.5 +0.2
COVZ Chateau Observ 1.70 196 ⇑PN Pn 17 58 42.6 0.0
WPVZ Whakapapa 1.70 196 PN Pn 17 58 42.7 +0.1
RIGZ Rimuhau 1.71 132 PN Pn 17 58 42.5 0.0
MXZ Matakaoa Point 1.72 91 PN Pn 17 58 42.7 +0.2
WHHZ Waihua 1.73 151 PN Pn 17 58 42.6 0.0
TUVZ Tukino 1.74 193 PN Pn 17 58 43.0 +0.1
PUZ Puketiti 1.75 107 PN Pn 17 58 43.0 +0.1
PUZ AML AML 17 59 18.5
DRZ Dome Shelter 1.77 195 PN Pn 17 58 43.4 +0.1
WHVZ Whangaehu Hut 1.77 194 PN Pn 17 58 43.2 0.0
TRVZ Turoa 1.79 195 PN Pn 17 58 43.4 0.0
WNVZ Wahianoa 1.81 194 ⇑PN Pn 17 58 43.4 -0.1
PKVZ Pokaka 1.83 200 ⇑PN Pn 17 58 43.5 -0.1
MOVZ Moawhango 1.86 189 ⇑PN Pn 17 58 43.3 -0.5
KNZ Kokohu 1.88 141 PN Pn 17 58 43.4 -0.4
MTVZ Mangateitei 1.89 196 PN Pn 17 58 44.0 -0.1
BHHZ Black Hill Sta 1.92 182 PN Pn 17 58 43.8 -0.5
MCHZ McNeill Hill 1.92 167 PN Pn 17 58 44.2 0.0
KRHZ Kereru 2.08 175 PN Pn 17 58 44.9 -0.8
MHGZ Mahia Peninsul 2.10 139 PN Pn 17 58 45.3 -0.5
CKHZ Cape Kidnapper 2.21 161 PN Pn 17 58 46.3 -0.5
KAHZ Kahuranaki 2.30 166 PN Pn 17 58 47.0 -0.7
PNHZ Pukenui 2.34 179 PN Pn 17 58 47.0 -1.1
WAZ Wanganui 2.37 202 ⇑PN Pn 17 58 47.7 -0.6
TSZ Takapari Road 2.49 183 PN Pn 17 58 48.1 -1.4
TSZ AML AML 17 58 50.4
TSZ AML AML 17 59 27.0
WPHZ Waipukurau 2.50 175 PN Pn 17 58 48.5 -1.1
PXZ Pawanui 2.52 167 ⇑PN Pn 17 58 48.6 -1.1
PXZ AML AML 17 59 30.3
PXZ AML AML 17 59 33.2
PXZ AML AML 17 59 53.7
PRHZ Porangahau 2.72 172 PN Pn 17 58 50.6 -1.1
DVHZ Dannevirke 2.73 180 PN Pn 17 58 50.0 -1.8
POWZ Post Office Ro 2.84 176 PN Pn 17 58 51.0 -1.9
ANWZ Angora Road 2.90 175 ⇑PN Pn 17 58 52.1 -1.4
PRWZ Pori Road 2.99 183 PN Pn 17 58 53.0 -1.5
BFZ Birch Farm 3.11 179 PN Pn 17 58 53.8 -2.0
MRZ Mangatainoka R 3.12 188 PN Pn 17 58 53.6 -2.3
MRZ AML AML 17 59 38.2
MRZ AML AML 17 59 38.4
TIWZ Tintock 3.21 184 PN Pn 17 58 54.7 -2.2
TIWZ AML AML 17 59 40.5
TIWZ AML AML 17 59 40.6

OGWZ Otaki Gorge 3.33 193 PN Pn 17 58 55.9 -2.2
HOWZ Holdsworth Sta 3.36 188 PN Pn 17 58 55.8 -2.7
KIW Kapiti Island 3.43 196 PN Pn 17 58 56.8 -2.4
KIW AML AML 17 59 42.8
KIW AML AML 17 59 44.3
TMWZ Te Maipa 3.54 183 PN Pn 17 58 57.8 -2.6
MTW Mount Morrison 3.62 188 PN Pn 17 58 58.4 -3.0
MTW AML AML 17 59 55.4
CAW Cannon Point 3.63 193 PN Pn 17 58 58.7 -2.8
CAW AML AML 17 59 47.7
CAW AML AML 17 59 47.8
DUWZ D'Urville Isla 3.66 207 PN Pn 17 58 59.3 -2.5
TRWZ Traveller 3.84 185 PN Pn 17 59 01.0 -2.9
TRWZ AML AML 17 59 53.9
PAWZ Paruwai Farm 3.85 188 PN Pn 17 59 00.8 -3.1
PAWZ AML AML 17 59 54.8
WEL Wellington 3.86 196 PN Pn 17 59 01.1 -2.9
MSWZ Moikau Station 3.91 190 PN Pn 17 59 01.4 -3.2
MSWZ AML AML 17 59 02.8
MSWZ AML AML 17 59 52.7
TCW Tory Channel 3.92 201 PN Pn 17 59 02.0 -2.7
TCW AML AML 17 59 53.0
TCW AML AML 17 59 53.0
PLWZ Palliser 4.06 189 PN Pn 17 59 02.9 -3.5
TUWZ Tuamarina 4.22 203 PN Pn 17 59 05.1 -3.1
TUWZ AML AML 17 59 06.1
TUWZ AML AML 17 59 06.2
NNZ Nelson 4.23 210 ⇓PN Pn 17 59 05.0 -3.3
QRZ Quartz Range 4.30 220 PN Pn 17 59 05.4 -3.7
BSWZ Blackbirch Sta 4.50 202 PN Pn 17 59 08.3 -3.1
THZ Tophouse 4.88 210 PN Pn 17 59 11.9 -4.2
KHZ Kahutara 5.24 202 PN Pn 17 59 16.8 -3.5
KHZ AML AML 18 01 47.5
DSZ Denniston Nort 5.35 217 PN Pn 17 59 17.1 -4.7
LTZ Lake Taylor 5.99 208 PN Pn 17 59 24.9 -4.7
OXZ Oxford 6.55 207 PN Pn 17 59 31.0 -5.4
MQZ McQueen's Vall 6.68 202 PN Pn 17 59 32.6 -5.4
WVZ Waitaha Valley 6.88 215 PN Pn 17 59 35.4 -5.1
RPZ Rata Peaks 7.26 211 PN Pn 17 59 39.7 -5.5
FOZ Fox Glacier 7.75 217 PN Pn 17 59 44.9 -6.4
LBZ Lake Benmore 8.17 212 ePN Pn 17 59 51.3 -5.3
ODZ Otahua Downs 8.54 207 PN Pn 17 59 56.8 -4.5
JCZ Jackson Bay 8.58 218 PN Pn 17 59 55.6 -6.3
WKZ Wanaka 9.02 214 ⇑PN Pn 18 00 01.3 -6.1

DDA 18 18:00:47.6, 39.°34N×33.°20E, h4km, ML3.9
ISK 18 18:00:47.4, 39.°34N×33.°17E, h5km, MD3.3
CSEM 18 18:00:48.6±0.1, 39.°34N×33.°18E, h2km, MD3.3, Error ellipse: s-maj=4.1km s-min=3.6km az=10.0
ISC 18 18:00:48.3±1.0, 39.°35N±0.°02×33.°20E±0.°02, h7km±8km, n99, σ1§28/114, Turkey

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AFSR Af_ar-Bala (A 0.14 316 PG Pg 18 00 50.7 -0.6
AFSR Af_ar-Bala (A 0.14 316 i Pg Pg 18 00 50.7 -0.6
BBAL Bala 0.21 344 i P Pg 18 00 52.1 -0.4
BBAL i S Sg 18 00 55.6 +0.3
BBAL Bala 0.21 344 i P Pg 18 00 52.1 -0.4
BBAL i S Sg 18 00 55.6 +0.3
ANTO Ankara 0.61 329 PG Pb 18 01 00.6 -0.8
ANTO eSG Sb 18 01 09.7 -0.5
ANTO Ankara 0.61 329 i Pg Pb 18 01 00.6 -0.8
ANTO eSg Sb 18 01 09.7 -0.5
LOD Lodumlu 0.64 329 PG Pg 18 00 60.0 -0.7
LOD Lodumlu 0.64 329 i Pg Pg 18 01 00.0 -0.7
CDAG Cicekdag 0.95 73 i P Pg 18 01 05.4 -1.2
CDAG i S Sg 18 01 19.5 +0.6
CDAG Cicekdag 0.95 73 i P Pg 18 01 05.4 -1.2
CDAG i S Sg 18 01 19.5 +0.6
KIZT Kizilcal 1.12 246 PN Pb 18 01 09.1 -1.1
KIZT Kizilcal 1.12 246 i Pn Pb 18 01 09.1 -1.1
ELDT Eldivan 1.16 9 i P Pg 18 01 10.1 -0.4
ELDT i S Sn 18 01 26.7 -0.6
ELDT Eldivan 1.16 9 i P Pg 18 01 10.1 -0.4
ELDT i S Sn 18 01 26.7 -0.6
SULT Sultanhani-AKS 1.17 168 ePN Pn 18 01 10.9 -0.3
SULT Sultanhani-AKS 1.17 168 ePn Pn 18 01 10.9 -0.3
KDHN Kadinhani 1.18 226 i P Pn 18 01 10.5 -0.9
KDHN i S Sn 18 01 26.9 -0.8
KDHN Kadinhani 1.18 226 i P Pn 18 01 10.5 -0.9
KDHN i S Sn 18 01 26.9 -0.8
CANT Cankiri 1.30 14 ePN Pg 18 01 12.8 -0.5
SVRH Sivrihisar-ESK 1.30 275 ePN Pb 18 01 12.5 -0.7
SVRH Sivrihisar-ESK 1.30 275 ePn Pb 18 01 12.5 -0.7
LADK Ladik-KONYA 1.31 210 ePN Pg 18 01 13.2 -0.4
LADK Ladik-KONYA 1.31 210 ePn Pg 18 01 13.2 -0.4
CORM Corum 1.38 53 ePN Pb 18 01 13.5 -0.7
CORM Corum 1.38 53 ePn Pb 18 01 13.5 -0.7
AVNT Avonos 1.41 113 i P Pb 18 01 14.7 -0.4
AVNT Avonos 1.41 113 i P Pb 18 01 14.7 -0.4
AVNT i S Sg 18 01 35.5 +1.9
KONT Konya--Tatoy 1.54 205 ePN Pg 18 01 16.6 -1.3
KONT Konya--Tatoy 1.54 205 ePn Pg 18 01 16.6 -1.3
NIG Nigde 1.66 138 ePN Pb 18 01 18.9 -0.4
NIG Nigde 1.66 138 ePn Pb 18 01 18.9 -0.4
YOZ Yozgat 1.67 79 ePN Pb 18 01 18.7 -0.8
YOZ Yozgat 1.67 79 ePn Pb 18 01 18.7 -0.8
BCAM Yenicaga 1.71 330 i P Pb 18 01 19.5 -0.6
BCAM i S Sg 18 01 44.3 +1.1
BCAM Yenicaga 1.71 330 i P Pb 18 01 19.5 -0.6
BCAM i S Sg 18 01 44.3 +1.1
TOS Tosya 1.80 20 ePN Pb 18 01 21.2 -0.6
TOS Tosya 1.80 20 ePn Pb 18 01 21.2 -0.6
SEYT Eskypehyr 1.83 276 i P Pb 18 01 21.0 -1.1
SEYT Eskypehyr 1.83 276 i P Pb 18 01 21.0 -1.1
SEYT i S Sg 18 01 50.4 +3.4
MDUB Mudurnu 1.91 307 ePN Pb 18 01 22.1 -1.4
MDUB Mudurnu 1.91 307 ePn Pb 18 01 22.1 -1.4
SAFT Safranbolu 1.93 349 ePN Pb 18 01 23.1 -0.8
SAFT Safranbolu 1.93 349 ePn Pb 18 01 23.1 -0.8
BTAS Taskesti 2.09 307 i P Pg 18 01 27.7 -0.6
BTAS Taskesti 2.09 307 i P Pg 18 01 27.6 -0.6
BTAS i S Sg 18 01 57.3 +2.0
BNN Bunyan 2.12 103 ePN Pb 18 01 25.9 -1.3
BNN Bunyan 2.12 103 ePn Pb 18 01 25.9 -1.3
BORA Eskisehir 2.19 285 i P Pn 18 01 23.9 -1.3
BORA Eskisehir 2.19 285 i P Pn 18 01 23.9 -1.3
BORA i S Sg 18 01 58.9 +0.4
SHUT Suhut-Afyon 2.21 250 ePN Pn 18 01 26.2 +0.7
SHUT Suhut-Afyon 2.21 250 ePn Pn 18 01 26.2 +0.7
GULT Gulveren 2.33 299 ePN Pn 18 01 28.3 +1.1
GULT Gulveren 2.33 299 ePn Pn 18 01 28.3 +1.1
KDZE Karadeniz Ereo 2.38 326 ePN Pn 18 01 29.3 +1.5
KDZE Karadeniz Ereo 2.38 326 ePn Pn 18 01 29.3 +1.5
ALT Altintas 2.42 264 ePN Pn 18 01 29.6 +1.2
ALT Altintas 2.42 264 ePn Pn 18 01 29.6 +1.2
BOYT Boyabat 2.45 32 i P Pn 18 01 28.9 +0.1
BOYT Boyabat 2.45 32 i P Pn 18 01 28.9 +0.1
KARA Karaisali 2.54 144 ePN Pn 18 01 31.7 +1.7
KARA Karaisali 2.54 144 ePn Pn 18 01 31.7 +1.7
ISP Isparta 2.59 235 ePN Pn 18 01 32.3 +1.6
ISP Isparta 2.59 235 ePn Pn 18 01 32.3 +1.6
HAVZ Havza 2.59 47 i P Pb 18 01 33.7 -1.4
HAVZ Havza 2.59 47 i P Pb 18 01 33.7 -1.4
HAVZ i S Sg 18 02 10.6 -1.0
BZK Bozkurt 2.68 13 ePN Pn 18 01 33.1 +1.1
BZK Bozkurt 2.68 13 ePn Pn 18 01 33.1 +1.1
MERS Mersin 2.69 157 ePN Pn 18 01 34.1 +2.1
MERS Mersin 2.69 157 ePn Pn 18 01 34.1 +2.1
CAVI Cavuskoy 2.72 289 ePN Pn 18 01 34.4 +1.9
CAVI Cavuskoy 2.72 289 ePn Pn 18 01 34.4 +1.9
KOZT Kozan 2.78 131 ePN Pn 18 01 34.8 +1.5
KOZT Kozan 2.78 131 ePn Pn 18 01 34.8 +1.5
KVT Kavak 2.79 51 ePN Pn 18 01 35.8 +2.4
KVT Kavak 2.79 51 ePn Pn 18 01 35.8 +2.4
DIKM Dikmen 2.79 34 ePN Pn 18 01 34.4 +1.0
DIKM Dikmen 2.79 34 ePn Pn 18 01 34.4 +1.0
ADVT Abdulvahap 2.87 293 ePN Pn 18 01 35.8 +1.2
ADVT Abdulvahap 2.87 293 ePn Pn 18 01 35.8 +1.2
TVSB Tavsanli 2.90 273 ePN Pn 18 01 36.5 +1.5
TVSB Tavsanli 2.90 273 ePn Pn 18 01 36.5 +1.5
IZI Iznik 3.03 290 ePN Pn 18 01 37.5 +0.7
IZI Iznik 3.03 290 ePn Pn 18 01 37.5 +0.7
KHL Karahalli 3.04 252 ePN Pn 18 01 37.9 +0.9
KHL Karahalli 3.04 252 ePn Pn 18 01 37.9 +0.9
SILT Sile 3.27 305 ePN Pn 18 01 41.6 +1.7
SILT Sile 3.27 305 ePn Pn 18 01 41.6 +1.7
RSDY Resadiye-TOKAT 3.35 70 ePN Pn 18 01 43.4 +2.3
RSDY Resadiye-TOKAT 3.35 70 ePn Pn 18 01 43.4 +2.3
DARE Darende-Malaty 3.43 102 ePN Pn 18 01 44.0 +1.8
DARE Darende-Malaty 3.43 102 ePn Pn 18 01 44.1 +1.8
KMRS Kahramanmaras 3.44 121 ePN Pn 18 01 44.7 +2.3
KMRS Kahramanmaras 3.44 121 ePn Pn 18 01 44.7 +2.3
ARMT Armutlu 3.55 291 ePN Pn 18 01 45.8 +1.9
ARMT Armutlu 3.55 291 ePn Pn 18 01 45.8 +1.9
ISK Istanbul-Kandi 3.60 300 ePN Pn 18 01 46.5 +1.9
ISK Istanbul-Kandi 3.60 300 ePn Pn 18 01 46.5 +1.9
KLYT Kilyos 3.71 302 ePN Pn 18 01 48.5 +2.5
KLYT Kilyos 3.71 302 ePn Pn 18 01 48.5 +2.5

IDC 18 18:19:08.0±2.4, 3.°43S×128.°48E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=178.7km s-min=29.6km az=68.0
ISCJB 18 18:19:08.7±1.0, 3.°51S±0.°07×128.°67E±0.°08, h10km, mb3.2/1, Error ellipse: s-maj=13.3km s-min=9.1km az=32.7
DJA 18 18:19:11.5±0.4, 3.°S±4.°×12.°9E±.°, h10km, M3.0/5, MLv3.0/5
ISC 18 18:19:07.9±1.2, 3.°4S±0.°1×128.°59E±0.°09, h10km, n7, σ1§25/6, Seram

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
MSAI Masohi 0.34 84 P Pg 18 19 15.3 +0.6
MSAI S Sg 18 19 18.8 -0.4
NLAI Namlea 1.50 275 P Pg 18 19 42.1 +5.5
BNDI Bandanaira 1.73 131 P Pn 18 19 37.7 -0.4
LBMI Labuha 2.94 338 P Pb 18 19 59.3 -1.1
WRA Warramunga Arr 17.39 162 P P 18 23 11.5 -0.7
0.1nm,0.3s,baz=343,slow=12,SNR=6.3
ASAR Alice Springs 20.81 166 P Pn 18 23 51.2 -0.8
0.4nm,0.5s,baz=351,slow=11,SNR=13
MKAR Makanchi Array 64.45 327 P P 18 29 46.2 +1.5
0.2nm,0.8s,baz=110,slow=6.6,SNR=3.2

IDC 18 18:32:17.0±0.7, 40.°46N×78.°84E, h0km, mb4.0/14, mb1 4.2/19, mb1mx4.0/31, mbtmp4.1/19, ML3.6/5, MS3.0/6, Ms1 3.0/6, ms1mx2.8/46, Error ellipse: s-maj=15.3km s-min=12.1km az=41.0
KRNET 18 18:32:17.2±0.1, 40.°46N×78.°83E, h3km, mb4.9
ISCJB 18 18:32:17.1±0.2, 40.°38N±0.°02×78.°89E±0.°04, h10km, mb4.0/20, MS3.8/4, Error ellipse: s-maj=4.5km s-min=3.2km az=155.9
BJI 18 18:32:17.4, 40.°46N×78.°66E, h12km, mB4.3/9, mb4.0/23, ML4.3/9, Ms4.0/7, Ms7 3.7/5
MOS 18 18:32:20.8±1.5, 40.°59N×78.°90E, h33km, mb4.3/16, Error ellipse: s-maj=9.9km s-min=5.5km az=116.0
NNC 18 18:32:21.6±2.5, 40.°73N×78.°68E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=22.3km s-min=13.0km az=157.0
ISC 18 18:32:18.7±0.4, 40.°48N±0.°03×78.°80E±0.°03, h10km, n114, σ1§69/126, mb4.0/20, MS3.5/5, 17C-8D, Southern Xinjiang

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KSH Kashi 2.38 247 ePn Pg 18 33 03.8 -0.4
KSH Sn Sg 18 33 38.6 +3.6
KSH smax smax
comp=N,1μm,0.7s
KSH smax smax
comp=E,1μm,1.0s
ANVS Anan'yevo 2.46 340⇓iP Pn 18 33 01.7 +2.7
baz=340
ANVS ⇓eS Sb 18 33 35.3 +1.9
baz=340
ULHL Ulahol 2.62 313 P Pn 18 33 03.6 +2.4
SNR=176
ULHL Ulahol 2.62 313 i PN Pn 18 33 03.6 +2.4
ULHL Ulahol 2.62 313⇑iP Pn 18 33 03.3 +2.1
baz=313
ULHL ⇑iS Sn 18 33 36.7 +3.6
baz=313
PDGK Podgornoye 2.89 10 ⇑Pn Pn 18 33 07.5 +2.7
PDGK ⇑Lg Lg 18 33 45.8
BOOM Boomskoye usch 2.94 314 eP Pn 18 33 08.6 +2.9
baz=314
BOOM eS Sb 18 33 46.9 -0.6
baz=314
KNDC Almaty 3.06 334 ⇑Pn Pn 18 33 09.6 +2.4
KNDC ⇑Lg Lg 18 33 53.9
AAA Alma-Ata 3.12 334 ePN Pb 18 33 13.7 -0.5
AAA eS Sb 18 33 54.3 +2.0
AAA pmax pmax
comp=Z,976nm,0.5s
KZA Kyzart 3.12 302 P Pn 18 33 10.2 +1.9
SNR=29
KZA Kyzart 3.12 302 i PN Pn 18 33 10.2 +1.9
TKM2 Tokmak 2 3.42 317 ⇓Pn Pn 18 33 14.6 +2.2
comp=Z,25nm,0.5s
TKM2 ⇓Pg Pb 18 33 18.8 -0.8
comp=Z,130nm,0.7s
TKM2 ⇑Lg Lg 18 34 03.8
comp=Z,514nm,0.7s
TKM2 Tokmak 2 3.42 317 P Pn 18 33 14.8 +2.5
SNR=74
TKM2 Tokmak 2 3.42 317 PN Pn 18 33 14.5 +2.2
TKM2 pmax pmax
comp=Z,169nm,0.9s
KBK Karagaybulak 3.62 308 P Pn 18 33 17.5 +2.5
SNR=24
KBK Karagaybulak 3.62 308 i PN Pn 18 33 17.5 +2.5
UCH Uchtor 3.67 300 P Pn 18 33 17.5 +1.5
SNR=24
UCH Uchtor 3.67 300 i PN Pn 18 33 17.4 +1.5
AAK Ala-Archa 3.88 305 ⇑Pn Pn 18 33 21.1 +2.5
comp=Z,6.8nm,0.7s
AAK ⇑Pg Pb 18 33 27.0 -0.4
comp=Z,97nm,0.6s
AAK ⇓Lg Lg 18 34 16.8
comp=Z,475nm,1.0s
AAK Ala-Archa 3.88 305 P Pn 18 33 20.9 +2.3
SNR=14
AAK Ala-Archa 3.88 305 PN Pn 18 33 22.0 +3.4
AAK 18 34 16.0
AAK pmax pmax
comp=Z,1.0nm,0.3s
AAK pmax pmax
comp=Z,17nm,0.3s
AAK MLR MLR
comp=Z,45nm,21.4s
AAK Ala-Archa 3.88 305 Pn Pn 18 33 22.0 +3.4
comp=Z,1.0nm,0.3s,baz=119,slow=14,SNR=22
AAK Pg Pb 18 33 27.6 +0.2
comp=Z,16nm,0.3s,baz=132,slow=16,SNR=124
AAK Lg Lg 18 34 16.0
comp=Z,2.5nm,0.3s,baz=98,slow=31,SNR=11
AAK LR LR 18 34 16.7
comp=Z,45nm,21.4s,baz=97,slow=30
FRU Bishkek 3.92 308 ePN Pn 18 33 20.0 +1.0
FRU i S Sb 18 34 17.0 +1.6
FRU pmax pmax
comp=Z,460nm,2.0s
FRU smax smax
comp=E,1μm,1.8s
CHMS Chumysh 3.94 311 P Pb 18 33 28.1 -0.2
SNR=53
AML Almayashu 4.19 295 P Pn 18 33 25.1 +2.2
SNR=23
AML Almayashu 4.19 295 i PN Pn 18 33 25.2 +2.2
USP Ospenovka 4.25 312 P Pb 18 33 33.3 -0.2
SNR=37
EKS2 Erkin-Say 4.36 302 P Pn 18 33 28.8 +3.7
SNR=12
EKS2 Erkin-Say 4.36 302 i PN Pn 18 33 28.7 +3.7
KK31 Karatay Array 6.73 296 ⇓Pg Pb 18 34 18.2 +2.5
comp=E,15nm,0.6s,baz=115,slow=14,SNR=4.7
KK31 ⇑Lg Lg 18 35 45.3
comp=E,45nm,0.7s
KK31 Karatay Array 6.73 296 PN Pb 18 34 18.2 +2.5
KK31 pmax pmax
comp=Z,29nm,0.8s
MK31 Makanchi Array 6.80 21 Pn Pn 18 33 59.9 +1.3
comp=Z,6.4nm,0.5s,baz=202,slow=12,SNR=619
MK31 Sn Sn 18 35 15.5 -0.5
comp=Z,42nm,0.7s,baz=202,slow=26,SNR=4.1
MK31 ⇑Lg Lg 18 35 52.0
comp=Z,21nm,0.6s,baz=204,slow=26,SNR=4.0
MK31 Makanchi Array 6.80 21 PN Pn 18 33 59.8 +1.3
MK31 18 35 15.4
MK31 pmax pmax
comp=Z,5.0nm,0.3s
MK31 smax smax
comp=N,42nm,0.7s
MKAR Makanchi Array 6.80 21 PN Pn 18 34 00.2 +1.7
MKAR 18 35 16.2
MKAR pmax pmax
comp=Z,7.0nm,0.3s
MKAR smax smax
comp=N,5.0nm,0.3s
MKAR MLR MLR
comp=Z,15nm,28.6s
MKAR Makanchi Array 6.80 21 Pn Pn 18 34 00.2 +1.7
comp=Z,6.6nm,0.3s,baz=201,slow=12,SNR=698
MKAR Sn Sn 18 35 16.2 +0.2
comp=Z,4.7nm,0.3s,baz=205,slow=24,SNR=7.2
MKAR Lg Lg 18 35 55.3
comp=Z,5.6nm,0.3s,baz=208,slow=24,SNR=6.0
MKAR LR LR 18 35 59.8
comp=Z,27nm,20.8s,baz=199,slow=33
WMQ Urumqi 7.40 60 Pn Pn 18 34 09.3 +2.5
WMQ Sn Sn 18 35 32.4 +1.5
WMQ smax smax
comp=Z,100nm,0.9s
WMQ smax smax
comp=Z,180nm,0.9s
CHCP Chirah Chowk 8.12 215 P Pn 18 34 17.6 +1.0
DLH Dalhousie 8.24 197 ex Sn 18 35 49.0 -2.7
DLH eS Sn 18 35 50.0 -1.7
DHRM DHARAMSHALA 8.45 195 eP3 18 34 22.2
DHRM eS Sn 18 35 53.0 -4.0
DHRM AML AML 18 36 09.8
comp=N,93nm,0.4s
DHRM AML AML 18 36 10.0
comp=E,83nm,0.1s
CEP Cherat 8.62 222 P Pn 18 34 24.3 +0.7
CEP S Sn 18 35 58.0 -3.0
OTUK Ortayu 9.04 331 ⇑Pn Pn 18 34 28.8 -0.4
OTUK ⇑Lg Lg 18 36 57.2
SMLA Simla 9.42 189 eP Pn 18 34 33.0 -1.4
SMLA eS Sn 18 36 11.5 -8.9
SMLA AML AML 18 36 24.4
comp=N,69nm,0.8s
SMLA AML AML 18 36 24.5
comp=E,91nm,0.4s
DDI Dehra Dun 10.15 184 eP Pn 18 34 43.0 -1.5
DDI ex x 18 36 26.8
KURK Kurchatov 10.24 359 Pn Pn 18 34 41.0 -4.6
KURK Lg Lg 18 37 38.1
NDI New Delhi 11.84 187 eP Pn 18 35 06.0 -1.5
DANN Dangsing 12.77 160 eP Pn 18 35 19.8 -0.7
comp=E,16nm,0.5s
KOLN Koldanda 13.28 161 eP Pn 18 35 26.2 -1.2
comp=E,11nm,0.5s
GKN Gorkha 13.34 157 eP Pn 18 35 27.1 -1.1
comp=E,9.6nm,0.5s
KKN Kakani 13.74 155 eP Pn 18 35 32.9 -0.8
comp=E,12nm,0.6s
BVA0 Borovoye Array 13.80 338 P Pn 18 35 32.6 -1.6
comp=E,8.9nm,0.8s,baz=151,slow=11,SNR=51
BVA0 Borovoye Array 13.80 338 i P Pn 18 35 32.6 -1.6
BVA0 pmax pmax
comp=Z,20nm,1.2s
BVAR Borovoye Array 13.80 338 P Pn 18 35 33.1 -1.1
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR MLR MLR
comp=Z,15nm,28.6s
BVAR Borovoye Array 13.80 338 Pn Pn 18 35 33.1 -1.1
comp=Z,0.7nm,0.3s,baz=152,slow=13,SNR=55
BVAR Lg Lg 18 39 30.9
comp=Z,0.2nm,0.3s,baz=146,slow=26,SNR=5.6
BVAR LR LR 18 41 00.1
comp=Z,200nm,21.7s,baz=128,slow=38
GUN Gumba 13.83 153 eP Pn 18 35 35.1 +0.1
comp=Z,22nm,0.7s
DMN Daman 13.85 156 eP Pn 18 35 34.8 -0.5
comp=Z,9.3nm,0.6s
BRVK Borovoye 13.86 338⇓iP Pn 18 35 33.8 -1.2
BRVK MLR MLR
comp=Z,506nm,9.0s
PKIN Phulchoki 13.97 155 eP Pn 18 35 36.4 -0.6
comp=Z,12nm,0.5s
PKI Pulchoki 13.98 155 eP Pn 18 35 36.5 -0.7
comp=Z,20nm,0.6s
ZALV Zalesovo Beam 14.08 15 Pn Pn 18 35 37.5 -0.5
comp=Z,0.9nm,0.3s,baz=196,slow=14,SNR=25
ZALV Lg Lg 18 39 47.3
comp=Z,0.3nm,0.3s,baz=202,slow=26,SNR=2.7
JIRN Jiri 14.16 152 eP Pn 18 35 40.3 +0.6
comp=Z,29nm,0.6s
NVS Novosibirsk 14.67 10⇑iP Pn 18 35 46.2 +0.1
NVS e 18 38 30.2
RAMN Ramite 14.96 152 eP Pn 18 35 49.1 -1.3
comp=Z,54nm,0.9s
TAPN Taplejung 15.02 148 eP Pn 18 35 50.8 -0.5
comp=Z,21nm,1.0s
ODAN Odare 15.33 150 eP Pn 18 35 53.4 -2.0
comp=Z,38nm,1.0s
AB31 Akbulak array 15.96 310 ⇑P Pn 18 36 01.0 -2.2
comp=Z,3.0nm,0.8s,baz=114,slow=13,SNR=26
AB31 Akbulak array 15.96 310 i P Pn 18 36 00.5 -2.7
AB31 pmax pmax
comp=Z,2.0nm,0.5s
GTA Gaotai 16.15 87 eP Pn 18 36 07.1 +1.3
GTA pP pP 18 36 12.8 +0.9
GTA sP sP 18 36 15.8 +2.6
GTA pmax pmax
comp=Z,4.0nm,0.9s
BHPL Bhopal 17.22 184 eP Pn 18 36 18.6 -0.8
BHPL eS Sn 18 39 22.9 -8.1
AKTO Aktyubinsk 17.60 311 P Pn 18 36 20.2 -3.7
AKTO Aktyubinsk 17.60 311 P Pn 18 36 22.5 -1.4
AKTO MLR MLR
comp=Z,15nm,28.6s
AKTO Aktyubinsk 17.60 311 Pn Pn 18 36 22.5 -1.4
comp=Z,0.1nm,0.3s,baz=107,slow=13,SNR=7.0
AKTO Lg Lg 18 41 32.1
comp=Z,0.1nm,0.3s,baz=353,slow=17,SNR=3.0
AKTO LR LR 18 43 53.2
comp=Z,50nm,19.0s,baz=77,slow=40
ZAK Zakamensk 19.75 52 eP P 18 36 49.1 +0.5
ZAK pmax pmax
comp=Z,4.0nm,1.4s
LZH Lanzhou 20.12 95 eP P 18 36 51.1 -1.7
LZH pmax pmax
comp=Z,16nm,1.0s
SVE Sverdlovsk 20.18 330 eP P 18 36 53.5 +0.3
SVE pmax pmax
comp=Z,20nm,1.4s
ARU Arti 20.73 327c iP P 18 36 59.0 -0.1
ARU 18 37 16.7
ARU S S 18 40 45.4 -5.0
ARU SS SnSn 18 41 07.7 -2.2
ARU pmax pmax
comp=Z,13nm,1.0s
SONM Songino Array 21.04 60 P P 18 37 04.2 +1.5
SONM pmax pmax
comp=Z,11nm,0.7s
SONM Songino Array 21.04 60 P P 18 37 04.2 +1.5
comp=Z,11nm,0.7s,baz=254,slow=11,SNR=89
ULN Ulaanbaatar 21.48 60⇓eP P 18 37 09.0 +1.5
ULN pmax pmax
comp=Z,5.0nm,1.5s
XAN Xi'an 24.74 95 P P 18 37 42.3 +2.0
XAN pP pP 18 37 51.9 +8.5
XAN pmax pmax
comp=Z,1.0nm,0.7s
XAN pmax pmax
comp=Z,42nm,5.6s
XAN LR LR
comp=Z,79nm,13.3s
CMAR Chiang Mai Arr 27.96 136 P P 18 38 09.4 0.0
comp=Z,0.3nm,0.5s,baz=314,slow=9.7,SNR=6.5
PRGR Permogore 29.19 328 P P 18 38 17.4 -2.5
PRGR pmax pmax
comp=Z,16nm,0.7s
QIZ Qiongzhong 34.12 120 P P 18 39 05.4 +1.7
QIZ S S 18 44 28.9 -0.8
BRTR Keskin Array B 34.27 284 P P 18 39 06.0 +1.0
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 34.27 284 P P 18 39 06.0 +1.0
comp=Z,2.1nm,0.8s,baz=94,slow=8.6,SNR=10
AKASG Malin Array Be 35.55 304 LR LR 18 56 23.8
comp=Z,45nm,18.8s,baz=285,slow=41
FINES FINESS Array B 37.90 322 P P 18 39 35.5 -0.1

FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	37.90	322	P	P	18 39 35.5	-0.1
	comp=Z,3.6nm,0.8s,baz=93,slow=7.6,SNR=8.9						
KSRS	Korea Array	37.92	78	P	P	18 39 37.1	+1.0
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KSRS	Korea Array	37.92	78	P	P	18 39 37.1	+1.0
	comp=Z,0.9nm,0.5s,baz=288,slow=10,SNR=3.9						
TIXI	Tiksi	39.79	22	⇑iP	P	18 39 50.8	-0.5
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TIXI				MLR	MLR		
	comp=Z,49nm,16.0s						
ARCES	ARCESS Array B	40.04	334	P	P	18 39 52.1	-1.3
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,64nm,18.2s						
ARCES	ARCESS Array B	40.04	334	P	P	18 39 52.1	-1.3
	comp=Z,2.4nm,0.7s,baz=102,slow=8.4,SNR=7.6						
ARCES				LR	LR	18 54 56.5	
	comp=Z,64nm,18.2s,baz=311,slow=34						
KOLS	Kolonicke sedl	40.23	302	eP	P	18 39 55.9	+0.6
KOLS	Kolonicke sedl	40.23	302	eP	P	18 39 55.9	+0.6
STHS	Stebnicka Huta	40.81	303	eP	P	18 40 00.0	-0.1
STHS	Stebnicka Huta	40.81	303	eP	P	18 40 00.0	-0.1
NB2	NORSAR Subarra	45.06	321	P	P	18 40 33.6	-0.8
	comp=Z,6.3nm,1.2s,baz=87,slow=7.9						
NOA	NORSAR Array B	45.06	321	P	P	18 40 33.8	-0.6
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA	NORSAR Array B	45.06	321	P	P	18 40 33.8	-0.6
	comp=Z,1.8nm,1.0s,baz=86,slow=7.8,SNR=3.9						
GERES	GERESS Array B	45.77	303	P	P	18 40 40.7	+0.5
	comp=Z,0.3nm,0.5s,baz=75,slow=8.6,SNR=3.1						
BILL	Bilibino	52.28	28	eP	P	18 41 29.1	-0.7
BILL				e		18 42 38.2	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.5s						
BILL				MLR	MLR		
	comp=Z,1μm,24.0s						
ILAR	Eielson Array	69.16	19	P	P	18 43 23.6	-1.2
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	Eielson Array	69.16	19	P	P	18 43 23.6	-1.2
	comp=Z,1.9nm,0.8s,baz=318,slow=5.2,SNR=22						
TORD	Torodi Ar. Bea	71.82	272	P	P	18 43 43.4	+1.5
	comp=Z,1.1nm,0.8s,baz=40,slow=4.9,SNR=6.3						
KDAK	Kodiak Island	73.08	26	iP	P	18 43 50.4	+1.8
YKA	Yellowknife Ar	76.81	6	P	P	18 44 09.2	-0.9
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	76.81	6	P	P	18 44 09.2	-0.9
	comp=Z,2.4nm,0.7s,baz=344,slow=5.6,SNR=51						
WRA	Warramunga Arr	79.23	128	P	P	18 44 24.1	0.0
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	Warramunga Arr	79.23	128	P	P	18 44 24.1	0.0
	comp=Z,1.4nm,1.0s,baz=330,slow=5.5,SNR=10						
SCHQ	Schefferville	80.61	341	P	P	18 44 30.0	-1.3
	comp=Z,4.5nm,1.0s,baz=68,slow=11,SNR=2.7						
ASAR	Alice Springs	81.83	131	P	P	18 44 37.8	-0.3
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	Alice Springs	81.83	131	P	P	18 44 37.8	-0.3
	comp=Z,1.2nm,1.0s,baz=324,slow=5.9,SNR=8.4						
ULM	Lac du Bonnet	89.53	357	P	P	18 45 14.6	-1.4
ULM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULM	Lac du Bonnet	89.53	357	P	P	18 45 14.6	-1.4
	comp=Z,1.7nm,0.7s,baz=322,slow=19,SNR=2.9						

DDA 18 18:52:28.9,37°.14N×27°.48E,h7^{km},MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.08	200	i P	Pg	18 52 30.1	-0.9
BDRM				i S	Sg	18 52 33.6	+1.2
AYDN	Tasoluk	0.61	31	i P	Pg	18 52 41.0	+0.2
AYDN				i S	Sn	18 52 52.8	-1.5

*KRSC **18** 19:15:55.4±0.7, 55°.20N×160°.35E, h-2^{km}±4^{km}, ML3.9*
*IDC **18** 19:15:55.7±1.9, 55°.23N×160°.32E, h0^{km}, mb3.1/2, mb1 3.2/3, mb1mx3.1/27, mbtmp3.1/3, MS3.1/2, ML2.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/18, Error ellipse: s-maj=59.8km s-min=28.0km az=139.0*
*MOS **18** 19:15:56.1±0.9, 55°.23N×160°.33E, h13^{km}, mb4.2/1, Error ellipse: s-maj=24.7km s-min=10.5km az=86.8*
*ISCJB **18** 19:15:57.0±0.5, 55°.19N±0°.02×160°.35E±0°.06, h5^{km}±4^{km}, mb3.0/2, MS3.2/1, Error ellipse: s-maj=5.7km s-min=2.6km az=9.2*
ISC 18 19:15:56.6±1.0,**55°.20N**±0°.02×**160°.36E**±0°.03,**h10**^{km}±7^{km}, **n46**,σ1^{s}19/67,**Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	Kizimen	0.09	203	P	Pg	19 15 58.4	-0.7
TUMR	Tumrok	0.15	305	P	Pg	19 15 59.9	0.0
KMNR	Kamenistaya	0.56	353	eP	Pb	19 16 08.0	-0.6
KMNR				S	Sb	19 16 17.6	+0.8
BZMR	Bezymyannaya	0.74	6	P	Pb	19 16 11.4	-0.3
BZMR				S	Sn	19 16 23.2	-1.5
KIRR	Kirishev	0.76	359	P	Pb	19 16 11.1	-0.8
KIRR				S	Sn	19 16 23.8	-1.3
BZGR	Bezymyannyi-Gr	0.77	14	P	Pg	19 16 11.1	-0.3
BZGR				S	Sn	19 16 23.5	-1.8
BZWR	Bezymyannyi-We	0.77	6	eP	Pn	19 16 12.6	-1.1
BZWR				S	Sn	19 16 25.5	0.0
KPT	Kopyto	0.77	354	eP	Pb	19 16 12.3	+0.1
KPT				S	Sn	19 16 24.9	-0.5
KOZ	Kozyrevsk	0.91	343	eP	Pb	19 16 13.4	-0.6
KOZ				S	Sn	19 16 27.5	-1.1
KOZR	Kozyr	0.91	343	PN	Pb	19 16 13.4	-0.6
KOZR				S	Sn	19 16 27.5	-1.1
MKZ	Mys Kozlova	1.02	128	PN	Pg	19 16 15.2	-1.0
MKZ				S	Sb	19 16 30.4	+0.6
MKZ	Mys Kozlova	1.02	128	P	Pg	19 16 15.2	-1.0
MKZ				S	Sb	19 16 30.3	+0.5
KRSR	Krestovskiy	1.03	7	S	Sn	19 16 30.5	-1.2
KLY	Klyuchi	1.13	8	PN	Pn	19 16 18.2	-0.3
KLY				S	Sn	19 16 36.1	+2.1
KLY	Klyuchi	1.13	8	eP	Pn	19 16 18.2	-0.3
KLY				S	Sn	19 16 36.1	+2.1
SRDR	Sredinnyy	1.18	342	P	Pb	19 16 17.9	-1.2
SRDR				S	Sn	19 16 34.6	-0.8
ESO	Esso	1.19	308	PN	Pb	19 16 17.5	-1.8
ESO				S	Sn	19 16 34.8	-0.8
ESO	Esso	1.19	308	eP	Pb	19 16 17.4	-1.8
ESO				eS	Sn	19 16 34.8	-0.8
KII	Karymskiy	1.28	205	eP	Pg	19 16 21.0	-0.1
BDR	Baidarnaya	1.46	19	eP	Pg	19 16 24.1	-0.4
BDR				S	Sg	19 16 45.7	+2.4
SMKR	Semkarok	1.52	24	eP	Pg	19 16 25.1	+0.6
SMKR				eS	Sg	19 16 48.0	+2.5
SRKR	Sorokina	1.53	17	eP	Pb	19 16 24.5	-0.6
SRKR				eS	Sg	19 16 46.4	+0.7
KBTR	Krutoberegovo	1.72	53	PN	Pn	19 16 26.2	-0.4
KBTR				S	Sb	19 16 49.9	-0.1
KBTR	Krutoberegovo	1.72	53	P	Pn	19 16 26.2	-0.4
KBTR				S	Sb	19 16 49.9	-0.1
GNL	Ganaly	2.06	224	eP	Pn	19 16 32.4	+1.0
KRX	Arik	2.10	209	eP	Pb	19 16 33.4	-1.4
SDLR	Sedlovina	2.11	205	eP	Pb	19 16 34.0	-0.9
SDLR				eS	Sg	19 17 03.3	-1.0
SPN	Mys Shipunski	2.11	185	S	Sb	19 17 00.0	-1.2
NLC	Nalytchevo	2.12	197	PN	Pb	19 16 33.8	-1.2
NLC				S	Sb	19 17 02.5	+1.2
NLC	Nalytchevo	2.12	197	P	Pb	19 16 33.8	-1.2
NLC				S	Sb	19 17 02.5	+1.2
KRER	Koryakskii	2.12	207	eP	Pb	19 16 34.6	-0.6
SMAR	Somma	2.14	206	eP	Pn	19 16 33.5	+0.9
AVH	Avacha	2.16	207	P	Pb	19 16 34.8	-0.9
KOK	Koryaka	2.16	209	eP	Pb	19 16 34.4	-1.4
UGLR	Uglovaya	2.19	205	P	Pb	19 16 35.9	-0.4
PET	Petropavlovsk	2.40	205	PN	Pn	19 16 37.6	+1.7
PET	Petropavlovsk	2.40	205	P	Pn	19 16 37.6	+1.7
PETK	Petropavlovsk-	2.61	218	PN	Pn	19 16 39.4	+0.5
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	Petropavlovsk-	2.61	218	Pn	Pn	19 16 39.4	+0.5
	comp=Z,1.6nm,0.3s,baz=42,slow=6.7,SNR=17						
APC	Apacha	2.96	221	P	Pn	19 16 45.3	+1.8
MTVR	Mutnovka	3.01	206	P	Pb	19 16 48.1	-2.2
ASAK	Asacha	3.17	208	P	Pn	19 16 49.4	+2.8
ASAJ	Asahikawa	15.92	233	LR	LR	19 25 28.4	
	comp=Z,38nm,19.4s,baz=352,slow=36						
KSRS	Korea Array	28.21	245	LR	LR	19 33 15.8	
	comp=Z,60nm,18.2s,baz=352,slow=37						
YKA	Yellowknife Ar	41.52	44	P	P	19 23 44.1	+0.5
	comp=Z,0.1nm,0.7s,baz=299,slow=8.5,SNR=3.3						
MKAR	Makanchi Array	47.41	294	P	P	19 24 31.0	+0.2
	comp=Z,0.3nm,0.7s,baz=58,slow=8.1,SNR=4.5						

*IDC **18** 19:21:00.1±1.9, 21°.55N×121°.19E, h0^{km}, mb3.4/3, mb1 3.5/3, mb1mx3.2/43, mbtmp3.2/3, MS3.2/1, Ms1 3.4/1, ms1mx2.6/29, Error ellipse: s-maj=170.8km s-min=24.9km az=66.0*
*TAP **18** 19:21:03.8, 21°.69N×121°.07E, h41^{km}, ML3.7, C*
*ISCJB **18** 19:21:04.7±0.8, 21°.68N±0°.06×121°.13E±0°.03, h39^{km}±7^{km}, mb3.3/3, MS3.0/1, Error ellipse: s-maj=9.6km s-min=4.8km az=169.5*
*JMA **18** 19:21:12.4±0.1, 22°.46N×121°.42E, h0^{km}±3^{km}, M3.6*
ISC 18 19:21:05.3±1.2,**21°.68N**±0°.08×**121°.08E**±0°.04,**h34**^{km}±2^{km}, **n53**,σ1^{s}07/67,**mb3.2**/3,**10D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	Hengchuen, Pin	0.27	323	⇓iP	Pn	19 21 12.3	-0.4
	baz=307						
TSEB				iS	Sb	19 21 19.1	+1.2
	baz=307						
TWK1	Hengchun	0.36	316	⇓iP	Pb	19 21 13.1	-0.9
	baz=311						
TWK1				S	Sb	19 21 19.9	0.0
	baz=311						
HEN	Hengchun	0.45	316	⇓iP	Pb	19 21 14.7	-0.6
	baz=315						
HEN				iS	Sn	19 21 22.3	-0.2
	baz=315						
LAY	Lan-yu	0.56	51	P	Pn	19 21 16.2	-0.8
	baz=52						
LAY				eS	Sb	19 21 25.1	0.0
	baz=52						
TAW	Tawu	0.69	346	⇓iP	Pn	19 21 17.6	-1.2
	baz=357						
TAW				S	Sn	19 21 27.5	-0.9
	baz=357						
EAST	Anshuo	0.73	343	⇓iP	Pn	19 21 18.3	-1.1
	baz=355						
EAST				eS	Sn	19 21 28.2	-1.1
	baz=355						
SCZT	Fangliau	0.81	328	⇓iP	Pn	19 21 20.4	0.0
	baz=318						
ECL	Taimali	0.92	353	⇓iP	Pn	19 21 20.1	-1.8
	baz=4.0						
ECL				eS	Sn	19 21 31.4	-2.5
	baz=4.0						
TWP	Hsiaoliuchiu	0.94	315	eP	Pn	19 21 21.7	-0.4
	baz=304						
TTN	Taitung	1.07	3	eP	Pn	19 21 22.9	-1.0
	baz=4.0						
TWG	Pinlang	1.13	360	⇓iP	Pn	19 21 22.9	-2.0
	baz=360						
SSD	Sandimen	1.14	339	eP	Pn	19 21 24.6	-0.3
	baz=349						
SGLT	Jiouru	1.17	332	eP	Pb	19 21 26.4	-0.8
	baz=343						
TWM1	Shoushan	1.29	332	eP	Pn	19 21 28.1	+1.0
	baz=316						
CHKT	Chengkung	1.44	11	P	Pn	19 21 27.6	-1.4
	baz=2.0						
CHKT				eS	Sn	19 21 46.3	-0.4
	baz=2.0						
SGST	Jiashian	1.47	342	eP	Pb	19 21 31.1	-1.1
	baz=342						
ELDTW	Lidau	1.50	358	eP	Pn	19 21 28.8	-1.2
	baz=7.0						
CHN3	Shinhua	1.54	335	eP	Pn	19 21 31.4	+1.0
	baz=321						
CHN1	Nanshi	1.58	341	⇓iP	Pn	19 21 31.8	+0.7
	baz=341						
WTP	Ta-pu	1.62	345	⇓iP	Pn	19 21 32.2	+0.7
	baz=345						
TWK	Hsinying	1.67	341	eP	Pn	19 21 32.7	+0.4
	baz=341						
TWF1	Yuli	1.68	7	eP	Pn	19 21 31.0	-1.3
	baz=7.0						
SCLT	Jiali	1.70	331	eP	Pn	19 21 31.6	-1.0
	baz=318						
CHN4	Tsaushan	1.72	345	eP	Pn	19 21 33.6	+0.6
	baz=345						
YUS	Yu-Shan	1.80	356	eP	Pn	19 21 36.3	+1.7
	baz=346						
EHY	Hungye	1.83	7	eP	Pn	19 21 34.7	+0.2
	baz=7.0						
ALS	Alishan	1.84	352	eP	Pn	19 21 36.3	+1.4
	baz=352						
CHY	Chiayi	1.91	342	eP	Pn	19 21 37.2	+1.7
	baz=328						
CHN5	Tsauling	1.94	349	eP	Pn	19 21 36.6	+0.5
	baz=349						
WGK	Gukeng	2.05	347	eP	Pn	19 21 37.7	+0.2
	baz=347						
ESL	Shilin	2.15	9	eP	Pn	19 21 38.0	-0.9
	baz=9.0						
SMLT	Sun Moon Lake	2.20	356	eP	Pn	19 21 40.4	+0.8
	baz=356						
TYC	Yuchr	2.22	355	P	Pn	19 21 41.1	+1.3
	baz=355						
TYC				eS	Sn	19 22 08.8	+2.7
	baz=355						
TWD	Chiawan	2.44	11	eP	Pn	19 21 42.8	0.0
	baz=11						
WHF	Hehuan Shan	2.46	4	eP	Pn	19 21 44.0	+0.5
	baz=13						
TWQ1	Liyutan	2.67	354	eP	Pn	19 21 45.9	-0.1
	baz=343						
NNS	Nan Shan	2.76	6	eP	Pn	19 21 49.6	+2.2
	baz=16						
ENA	Nanau	2.80	12	eP	Pn	19 21 48.2	+0.4
	baz=2.0						
ENTT	Nioudou	2.98	9	eP	Pn	19 21 50.8	+0.5
	baz=18						
NSK	Sanguang	2.99	5	eP	Pn	19 21 51.5	+1.0
	baz=352						
TWC	Suao	3.00	14	eP	Pn	19 21 50.6	+0.1
	baz=4.0						
HATJ	Hateruma jima	3.45	46	P	Pn	19 21 58.2	+1.5
HATJ				eS	Sn	19 22 36.4	-0.1
IRIF	Iriomote-Funau	3.60	42	P	Pn	19 21 59.3	+0.6
IRIF				eS	Sn	19 22 39.9	-0.2
KNM	Kinmen	3.65	319	eP	Pn	19 21 59.1	-0.4
	baz=315						
JKRS	Kuro-shima	3.71	46	P	Pn	19 22 01.3	+1.0
JKRS				eS	Sn	19 22 42.8	-0.1
JIJ	Ishigaki jima	3.89	46	P	Pn	19 22 03.6	+0.9
JIJ				eS	Sn	19 22 46.1	-1.1
JISG	Ishigakijimahi	4.15	45	P	Pn	19 22 06.9	+0.6
JISG				eS	Sn	19 22 53.9	+0.2
JTJ	Tarama	4.45	48	P	Pn	19 22 11.2	+0.7
JTJ				eS	Sn	19 23 01.1	0.0
CMAR	Chiang Mai Arr	21.04	265	LR	LR	19 35 06.6	
	comp=Z,60nm,20.6s,baz=176,slow=40						
SONM	Songino Array	28.64	339	P	P	19 27 00.0	+1.1
	4μm,0.7s,baz=144,slow=10.0,SNR=5.9						
MKAR	Makanchi Array	40.09	318	P	P	19 28 38.6	+0.9
	0.2nm,0.6s,baz=108,slow=9.6,SNR=5.2						
ZALV	Zalesovo Beam	42.30	329	P	P	19 28 56.7	+1.0
	0.5nm,0.3s,baz=132,slow=9.9,SNR=3.6						
ASAR	Alice Springs	46.77	164	P	P	19 29 30.2	-1.5
	0.1nm,0.4s,baz=348,slow=8.4,SNR=2.7						

*IDC **18** 19:28:13.2±2.9, 0°.15S×132°.95E, h0^{km}, mb3.4/2, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=157.5km s-min=26.1km az=74.0*
*ISCJB **18** 19:28:16.2±1.5, 0°.2S±0°.1×132°.83E±0°.10, h33^{km}, mb3.4/2, Error ellipse: s-maj=19.1km s-min=14.1km az=177.6*
*DJA **18** 19:28:18.2±1.4, 0°S±16°×13°3E±°, h10^{km}, M4.0/6, mb4.4/3, mB4.6/1, MLv3.8/6, Mw(mB)3.8/1*
ISC 18 19:28:18.4±1.7,**0°.2S**±0°.1×**132°.8E**±0°.1,**h35**^{km},**n7**,σ1^{s}58/8, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	1.65	247	P	Pn	19 28 42.6	-2.3
SWI				S	Sn	19 29 04.8	-0.1
FAKI	Fak Fak	2.75	191	P	Pn	19 28 59.0	-1.0
MSAI	Masohi	4.95	231	P	Pn	19 29 32.5	+2.2
BNDI	Bandanaira	5.16	214	P	Pn	19 29 33.8	+0.6
	63nm,1.0s,0.4nm						
WRA	Warramunga Arr	19.68	176	P	P	19 32 43.8	-0.8
	0.1nm,0.3s,baz=355,slow=12,SNR=5.8						
ASAR	Alice Springs	23.35	177	P	P	19 33 24.2	+0.4
	1.2nm,0.7s,baz=0.9,slow=11,SNR=11						
MKAR	Makanchi Array	64.24	324	P	P	19 38 50.5	+0.5
	0.3nm,0.7s,baz=110,slow=8.3,SNR=4.0						

*ISCJB **18** 19:38:40.7±0.5, 20°.16N±0°.07×145°.1E±0°.1, h150^{km}, mb4.1/23, Error ellipse: s-maj=15.3km s-min=8.9km az=168.8*
*IDC **18** 19:38:42.8±2.6, 20°.14N×145°.10E, h156^{km}±23^{km}, mb3.8/21, mb1 3.9/24, mb1mx3.8/34, mbtmp4.2/24, Error ellipse: s-maj=15.7km s-min=10.7km az=104.0*
ISC 18 19:38:42.1±0.6,**20°.14N**±0°.08×**145°.1E**±0°.1,**h150**^{km},**n34**, σ1^{s}17/31,**mb4.0**/23,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	7.40	340	P	Pn	19 40 27.1	-0.4
	8.5nm,0.3s,baz=268,slow=18,SNR=6.4						
JCJ				S	Sn	19 41 47.7	-2.6
	13nm,0.3s,baz=307,slow=20,SNR=4.5						
MJAR	Matsushiro Arr	17.40	341	P	P	19 42 34.6	-0.2
	1.0nm,0.3s,baz=165,slow=10,SNR=15						
JNU	Nakatsue	18.07	319	P	Pn	19 42 44.3	+0.5
	0.3nm,0.3s,baz=125,slow=16,SNR=2.5						
H11S3	WAKE ISLAND Hy	20.48	91	T	T	20 04 24.9	
	baz=276						
H11S1	WAKE ISLAND Hy	20.49	91	T	T	20 04 16.0	
	baz=276						
H11S2	WAKE ISLAND Hy	20.50	91	T	T	20 04 24.9	
	baz=276						
H11N1	WAKE ISLAND Hy	20.54	87	T	T	20 04 44.5	
	baz=276						
H11N2	WAKE ISLAND Hy	20.54	87	T	T	20 04 26.3	
	baz=276						
H11N3	WAKE ISLAND Hy	20.55	87	T	T	20 04 26.3	
	baz=276						
KSRS	Korea Array	22.80	323	P	P	19 43 33.4	+1.4
	3.0nm,0.6s,baz=153,slow=9.0,SNR=11						
ASAJ	Asahikawa	23.99	356	P	P	19 43 44.6	+1.9
	4.0nm,0.8s,baz=205,slow=10,SNR=8.5						
PETK	Petropavlovsk-	34.33	14	P	P	19 45 15.1	+0.9
	3.5nm,0.8s,baz=231,slow=9.1,SNR=3.3						
FX1	Attu Island--F	39.23	27	P	P	19 45 56.7	+1.0
	30nm,0.9s,baz=323,slow=15,SNR=2.6						
WRA	Warramunga Arr	41.20	195	P	P	19 46 12.8	+0.6
	1.4nm,0.4s,baz=16,slow=8.7,SNR=57						
SONM	Songino Array	41.64	321	P	P	19 46 16.9	+1.2
	4μm,0.5s,baz=126,slow=6.6,SNR=21						
SEY	Seymchan	43.05	5	P	P	19 46 27.9	+1.2
	1.7nm,0.5s,baz=198,slow=7.4,SNR=10						
CMAR	Chiang Mai Arr	43.45	276	P	P	19 46 32.3	+1.8
	0.7nm,0.5s,baz=88,slow=5.6,SNR=9.8						
ASAR	Alice Springs	44.88	195	P	P	19 46 42.1	+0.3
	0.4nm,0.4s,baz=12,slow=6.6,SNR=14						
STKA	Stephens Creek	51.83	184	P	P	19 47 33.2	-1.6
	0.5nm,0.4s,baz=356,slow=11,SNR=3.4						
ZALV	Zalesovo Beam	56.51	322	P	P	19 48 07.4	-1.0
	1.1nm,0.5s,baz=127,slow=9.3,SNR=4.7						
ZALV				PcP	PcP	19 49 02.8	-0.6
	0.6nm,0.3s,baz=105,slow=4.9,SNR=2.2						
MKAR	Makanchi Array	57.03	313	P	P	19 48 12.9	+0.5
	0.8nm,0.6s,baz=88,slow=8.4,SNR=30						
MKAR				PcP	PcP	19 49 05.7	0.0
	0.3nm,0.5s,baz=79,slow=4.8,SNR=4.2						
ILAR	Eielson Array	62.63	27	P	P	19 48 49.5	-0.7
	2.7nm,0.8s,baz=257,slow=5.3,SNR=24						
INK	Inuvik	68.29	23	P	P	19 49 26.6	0.0
	2.7nm,0.5s,baz=296,slow=7.2,SNR=14						
YKA	Yellowknife Ar	77.00	28	P	P	19 50 18.2	+0.2
	2.2nm,0.5s,baz=291,slow=5.5,SNR=33						
ARCES	ARCESS Array B	80.94	342	P	P	19 50 39.2	-0.2
	9.6nm,1.1s,baz=82,slow=9.0,SNR=12						
JOF	Joensuu	82.46	335	eP	P	19 50 46.5	-1.0
	2.7nm,0.3s						
NVAR	Mina Array Bea	82.73	52	P	P	19 50 49.0	-0.7
	1.5nm,0.8s,baz=278,slow=6.2,SNR=11						
ELK	Elko	84.13	49	P	P	19 50 57.4	+0.6
	1.6nm,0.9s,baz=280,slow=1.4,SNR=7.1						
KBZ	Khabaz	84.70	315	P	P	19 50 58.2	-1.0
	0.9nm,0.7s,baz=153,slow=2.3,SNR=3.9						
KAF	Kangasniemi	84.86	336	eP	P	19 50 58.7	-1.0
FINES	FINESS Array B	85.32	335	P	P	19 51 00.8	-1.3
	4.6nm,0.4s,baz=82,slow=4.4,SNR=65						
NOA	NORSAR Array B	91.01	339	P	P	19 51 27.4	-1.8
	0.4nm,0.5s,baz=56,slow=8.0,SNR=3.4						
BRTR	Keskin Array B	92.67	314	P	P	19 51 35.7	-1.7
	0.6nm,0.8s,baz=72,slow=4.9,SNR=3.5						
LPAZ	La Paz	148.28	89	PKPbc	PKPbc	19 58 11.2	-1.0
	1.0nm,0.5s,baz=270,slow=2.0,SNR=3.1						

NNC 18 19:40:50.3±7.8,**39°.34N×74°.90E,h0**^{km}**,mb2.9,mpv2.5, 7C-1D,Error ellipse: s-maj=61.2km s-min=42.5km az=145.0,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	3.30	355	⇓Pn	Pb	19 41 47.6	-2.5
	3.3nm,0.9s						
AAK				⇑Lg	Lg	19 42 37.0	
	2.5nm,0.8s						
TKM2	Tokmak 2	3.62	8	⇑Pn	Pn	19 41 44.7	-3.2
	0.4nm,0.3s						
TKM2				⇑Sn	Sn	19 42 32.8	+1.3
	2.3nm,0.7s						
TKM2				⇑Lg	Lg	19 42 44.1	
	2.5nm,0.7s						
KK31	Karatay Array	5.01	320	⇑Pn	Pn	19 42 04.2	-2.6
	0.1nm,0.2s,baz=129,slow=14,SNR=3.6						
KK31				⇑Sn	Sn	19 43 05.1	-0.3
	0.4nm,0.5s,baz=131,slow=23						
KK31				⇑Lg	Lg	19 43 32.1	
	0.4nm,0.5s,baz=138,slow=31						

KRNET 18 19:41:43.4±0.1,**39°.14N×75°.20E,h3**^{km}**,mb3.6,1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.58	304	eP	Pn	19 42 12.9	+0.4
	baz=304						
SFK				eS	Sg	19 42 35.3	+0.8
	baz=304						
OHH	Osh	2.32	307	eP	Pb	19 42 26.6	+0.6
	baz=307						
OHH				eS	Sg	19 42 58.2	+0.3
	baz=307						
ARSB	Arslanbob	2.77	323	eP	Pg	19 42 35.5	-0.9
	baz=323						
ARSB				eS	Sg	19 43 13.2	+0.9
	baz=323						
ARLS	Aral	2.80	346	⇓iP	Pb	19 42 35.2	+1.0
	baz=346						

*IDC **18** 19:47:37.0±0.7, 34°.87S×108°.38W, h0^{km}, mb4.2/8, mb1 4.5/8, mb1mx4.3/17, mbtmp4.2/8, MS4.6/15, Ms1 4.5/15, ms1mx4.5/16, Error ellipse: s-maj=27.2km s-min=24.0km az=65.0*
*ISCJB **18** 19:47:37.7±0.6, 35°.0S±0°.1×108°.5W±0°.2, h10^{km}, mb4.5/19, MS4.6/14, Error ellipse: s-maj=19.6km s-min=15.5km az=146.2*
*GCMT **18** 19:47:39.1±0.1, 35°.03S×108°.26W, h20^{km}, MW5.4/116, Moment Tensor Solution. s92,c146; s116,c221; Duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.16±.02; $M_{\theta\theta}$-0.46±.02; $M_{\phi\phi}$0.62±.02; $M_{r\theta}$-0.09±.04; $M_{r\phi}$-1.44±.02; $M_{\theta\phi}$-0.35±.04; Best double couple: $M_0$1.58200×10^{17} NP1:ϕ_s10.00000°, δ87.00000°, λ-14.00000°. NP2:ϕ_s101.00000°, δ76.00000°, λ-177.00000°. Principal axes: T 1.6500, Plg8.0000°, Azm56.0000°; N -0.1340, Plg76.0000°, Azm179.0000°; P -1.5150, Plg11.0000°, Azm324.0000°; nsta1 refers to*

body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **18** 19:47:39.1±0.5, 35°.03S×108°.40W, h10km, mb4.8/11 Error ellipse: s-maj=21.2km s-min=14.9km az=77.0*

ISC 18 19:47:38.8±0.7, 35°.05S±0°.2×108°.5W±0°.1, h10km, n52, σ1s.40/33, mb4.7/18, MS4.6/14, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	7.84	355	LR	LR	19 51 53.9	
	comp=Z,4µm,20.4s,baz=165,slow=33						
RKT	Rikitea	25.87	290	eLQ	LQ	19 58 30.5	
	1µm,29.8s						
RKT				eLR	LR	19 59 36.3	
	894nm,27.0s						
RKT	Rikitea	25.87	290	eT	T	20 19 51.1	
	1.7nm,0.3s						
PLCA	Paso Flores	30.38	112	P	P	19 53 51.6	+0.6
	5.8nm,1.1s,baz=246,slow=9.2,SNR=3.1						
PLCA				LR	LR	20 02 11.5	
	comp=Z,530nm,21.9s,baz=278,slow=29						
MEH	Mehetia	38.98	286	eT	T	20 36 11.0	
	37nm,0.3s						
TVO	Taravao	39.97	285	eT	T	20 37 24.9	
	1.4nm,0.2s						
TIAR	Tiarei	40.17	285	eT	T	20 37 39.9	
	5.0nm,0.3s						
PPT2	Papeete2	40.34	285	eS	S	20 01 23.4	-1.4
	160nm,25.8s						
PPT2				eLQ	LQ	20 04 36.8	
	4µm,28.2s						
PPT2				eLR	LR	20 06 16.6	
	1µm,23.0s,baz=115						
PPT	Papeete	40.35	285	LR	LR	20 07 26.3	
	comp=Z,807nm,18.5s,baz=120,slow=29						
LPAZ	La Paz	40.57	73	P	P	19 55 17.2	-2.2
	4.5nm,0.8s,baz=249,slow=3.6,SNR=15						
LPAZ				LR	LR	20 08 07.2	
	comp=Z,460nm,18.2s,baz=231,slow=30						
CPUP	Villa Florida	44.49	93	LR	LR	20 11 42.8	
	comp=Z,502nm,18.1s,baz=238,slow=33						
ROSC	El Rosal	51.04	46	LR	LR	20 14 09.1	
	comp=Z,749nm,21.8s,baz=202,slow=31						
QSPA	South Pole Qui	55.23	180	P	P	19 57 13.4	+1.5
	3.8nm,0.9s,baz=119,slow=7.7,SNR=6.8						
VNDA	Vanda	56.08	195	LR	LR	20 16 22.0	
	comp=Z,252nm,18.4s,baz=100,slow=31						
BDFB	Brasilia	57.17	87	LR	LR	20 19 50.4	
	comp=Z,492nm,18.8s,baz=218,slow=34						
TXAR	Lajitas Array	64.12	5	P	P	19 58 14.1	+0.8
	0.2nm,0.4s,baz=185,slow=8.1,SNR=3.2						
TXAR				LR	LR	20 22 24.8	
	comp=Z,128nm,18.1s,baz=0.0,slow=33						
PFO	Pinyon Flat Ob	68.62	353	eP	P	19 58 43.8	+1.7
ISA	Isabella	70.88	351	eP	P	19 58 57.7	+1.8
	13nm,1.2s						
UALR	University of	71.02	14	eP	P	19 58 57.4	+0.7
	63nm,1.0s						
SHPR	Sheep Range	71.38	354	eP	P	19 59 01.9	+2.9
	9.9nm,1.2s						
TPH	Tonopah	73.12	353	P	P	19 59 10.8	+1.3
	11nm,1.1s						
NVAR	Mina Array Bea	73.59	352	P	P	19 59 11.6	-0.6
	3.0nm,0.9s,baz=186,slow=7.3,SNR=16						
NVAR				LR	LR	20 25 19.7	
	comp=Z,252nm,19.0s,baz=183,slow=31						
DZM	Mont Dzumac	73.78	254	eS	SKiKP	20 08 42.2	-1.2
	391nm,25.4s						
DZM	Mont Dzumac	73.78	254	eLR	LR	20 21 44.9	
	1µm,30.4s						
WAKR	Walker	73.80	351	eP	P	19 59 15.5	+2.0
	3.5nm,1.3s						
DAU	Daniels Canyon	75.05	358	eP	P	19 59 21.3	+0.5
	17nm,1.1s						
BMN	Battle Mountai	75.45	353	eP	P	19 59 23.6	+0.6
	11nm,1.1s						
MOD	Modoc	77.25	351	eP	P	19 59 33.2	+0.1
	12nm,1.1s						
BW06	Boulder Array	77.37	359	eP	P	19 59 33.0	-0.8
	6.5nm,1.0s						
MAW	Mawson	77.54	177	LR	LR	20 30 45.2	
	comp=Z,311nm,18.9s,baz=188,slow=33						
WVOR	Wild Horse Val	77.58	352	eP	P	19 59 37.1	+2.2
	8.6nm,1.0s						
HLID	Hailey	78.34	356	eP	P	19 59 39.7	+0.6
	14nm,1.2s						
RSSD	Black Hills	78.82	3	P	P	19 59 43.5	+1.6
ULM	Lac du Bonnet	85.58	8	P	P	20 00 16.9	0.0
	4.3nm,1.0s,baz=185,slow=9.8,SNR=3.1						
STKA	Stephens Creek	86.42	233	LR	LR	20 32 48.2	
	comp=Z,531nm,19.5s,baz=159,slow=31						
SCHQ	Schefferville	96.35	23	LR	LR	20 37 47.6	
	comp=Z,436nm,21.0s,baz=228,slow=31						
ASAR	Alice Springs	96.93	235	LR	LR	20 38 15.0	
	comp=Z,380nm,21.8s,baz=147,slow=31						
YKA	Yellowknife Ar	97.25	357	P	P	20 01 09.7	-1.3
	0.3nm,0.6s,baz=169,slow=4.7,SNR=6.0						
WRA	Warramunga Arr	99.14	238	P	Pdif	20 01 20.7	-0.1
	0.2nm,0.7s,baz=133,slow=4.6,SNR=3.0						
WRA				LR	LR	20 42 16.7	
	comp=Z,621nm,18.6s,baz=145,slow=33						
H01W1	Cape Leeuwin H	99.86	214	T	T	21 53 48.4	
	baz=142						
H01W2	Cape Leeuwin H	99.87	214	T	T	21 53 30.2	
	baz=142						
H01W3	Cape Leeuwin H	99.88	214	T	T	21 53 46.5	
	baz=142						
FINES	FINESS Array B	141.03	33	PKhKP	PKPpre	20 07 03.3	
	0.8nm,0.7s,baz=263,slow=6.6,SNR=2.5						
AKASG	Malin Array Be	145.79	49	PKPbc	PKPdf	20 07 15.0	-2.2
	3.0nm,0.9s,baz=279,slow=3.5,SNR=14						
ANTO	Ankara	149.07	69	ePKPbc	PKPbc	20 07 26.2	-1.1
BRTR	Keskin Array B	149.72	70	PKPbc	PKPdf	20 07 26.2	+2.0
	1.5nm,0.8s,baz=243,slow=0.8,SNR=8.5						
CMAR	Chiang Mai Arr	150.59	243	PKPbc	PKPbc	20 07 31.1	-0.4
	3.7nm,0.9s,baz=188,slow=1.5,SNR=16						
ULN	Ulaanbaatar	150.63	307	ePKPbc	PKPbc	20 07 30.7	-0.2
CHTO	Chiang Mai	150.81	244	ePKPbc	PKPbc	20 07 31.7	-0.3
SONM	Songino Array	151.07	307	PKPbc	PKPbc	20 07 30.1	-1.8
	3.0nm,1.0s,baz=139,slow=2.2,SNR=15						
SONM				PKPab	PKPab	20 07 38.9	-0.7
	3.5nm,0.9s,baz=134,slow=2.1,SNR=13						
ZALV	Zalesovo Beam	158.83	338	PKPab	PKPab	20 08 13.1	+0.9
	0.6nm,0.3s,baz=28,slow=9.8,SNR=3.4						
MKAR	Makanchi Array	165.64	329	PKPab	PKPab	20 08 43.2	+0.9
	0.5nm,0.9s,baz=35,slow=5.3,SNR=4.4						

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*ISCJB **18** 20:09:29.8±0.3, 13°.75N±0°.03×120°.52E±0°.04, h107km±3km, mb4.3/30, Error ellipse: s-maj=7.3km s-min=5.0km az=165.6*

*MAN **18** 20:09:30, 13°.75N×120°.50E, h85km, mb5.0, ML3.9, MS4.0*

*MOS **18** 20:09:30.0±0.9, 13°.83N×120°.84E, h119km, mb4.2/16, Error ellipse: s-maj=19.5km s-min=7.0km az=122.0*

*IDC **18** 20:09:30.1±0.5, 13°.80N×120°.74E, h106km±4km, mb3.6/14, mb1 3.8/14, mb1mx3.6/25, mbtmp4.0/14, Error ellipse: s-maj=19.7km s-min=10.2km az=80.0*

ISC 18 20:09:30.2±0.5, 13°.72N±0°.03×120°.49E±0°.05, h104km±3km, n93, σ1s.50/112, mb4.4/30, 8C-5D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.24	273	eP	Pn	20 09 45.1	+0.1
LUBP				eS	Sn	20 09 54.6	-1.6
PGP	Puerto Galera	0.50	116⇑	iP	Pn	20 09 45.0	-1.5
PGP				iS	Sn	20 09 56.5	-2.2
TGY	Tagaytay City	0.57	49	P	Pn	20 09 47.4	+0.3
TGY				S	Sn	20 09 59.4	-0.3
TGY				pmax	pmax		
	comp=Z,885nm,0.3s						
TGY	Tagaytay City	0.57	49	P	Pn	20 09 47.4	+0.3
	comp=Z,884nm,0.3s,baz=236,slow=1.1,SNR=52						
TGY				S	Sn	20 09 59.4	-0.3
	comp=Z,6µm,0.3s,baz=323,slow=20,SNR=154						
TGY	Tagaytay City	0.57	49⇑	eP	Pn	20 09 47.2	+0.1
TGY				eS	Sn	20 09 59.3	-0.5
LQP	Lukban	1.09	69⇓	eP	Pn	20 09 52.2	+0.1
SJMP	San Jose	1.39	154	eP	Pn	20 09 56.1	+0.7
SJMP				eS	Sn	20 10 10.1	-4.5
BUSP	Coron	1.73	190	eP	Pn	20 09 59.8	+0.2
BUSP				eS	Sn	20 10 14.0	-8.0
GQP	Guinayangan	1.91	84⇑	eP	Pn	20 10 02.9	+1.1
GQP				eS	Sn	20 10 26.9	+1.0
PCPH	Palayan	1.92	18⇓	eP	Pn	20 10 01.0	-1.0
PCPH				eS	Sn	20 10 25.1	-1.1
OTRP	Odiongan	2.01	132	eP	Pn	20 10 03.6	+0.4
OTRP				eS	Sn	20 10 27.3	-1.0
SCZP	Santa Cruz	2.12	345	eP	Pn	20 10 03.6	-0.9
AUQP	San Andres	2.16	100	eP	Pn	20 10 07.6	+2.5
BALP	Baler	2.27	27	eP	Pn	20 10 07.3	+0.9
BALP				eS	Sn	20 10 32.6	-1.5
BOLP	Bolinao	2.70	348	eP	Pn	20 10 13.0	+0.8
ENPP	El Nido	2.71	203	eP	Pn	20 10 13.0	+0.7
RCP	Roxas	3.07	134⇑	eP	Pn	20 10 18.1	+0.9
CAUP	Cauayan	3.45	22	eP	Pn	20 10 23.7	+1.6
PVCP	Virac	3.56	92⇑	eP	Pn	20 10 24.8	+1.1
GUIM	Jordan	3.70	146	eP	Pn	20 10 27.2	+1.8
ABRA	Dolores	3.91	3	eP	Pn	20 10 28.5	+0.2
APYP	Conner	4.18	10	eP	Pn	20 10 33.3	+1.3
CMAR	Chiang Mai Arr	21.23	286	P	P	20 14 11.2	+3.2
CMAR				*SP	sP	20 14 42.6	+1.7
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	Chiang Mai Arr	21.23	286	P	P	20 14 11.2	+3.2
	comp=Z,3.2nm,0.8s,baz=99,slow=8.0,SNR=32						
CMAR				sP	sP	20 14 42.5	+1.7
	comp=Z,1.6nm,0.9s,baz=95,slow=9.4,SNR=3.3						
BATI	Baumata	23.98	172	P	P	20 14 36.3	+1.0
	comp=Z,4.5nm,0.4s,baz=66,slow=1.5,SNR=4.2						
SHL	Shillong	29.34	298	ex	P	20 15 26.5	+2.9
TAPN	Taplejung	33.44	299	eP	P	20 16 01.5	+1.8
	comp=Z,22nm,0.6s						
ODAN	Odare	33.57	298	eP	P	20 16 02.6	+1.8
	comp=Z,66nm,0.7s						
RAMN	Ramite	34.27	298	eP	P	20 16 09.0	+2.1
	comp=Z,52nm,0.7s						
JIRN	Jiri	34.82	299	eP	P	20 16 13.6	+1.8
	comp=Z,48nm,0.6s						
GUN	Gumba	35.16	299	eP	P	20 16 16.3	+1.7
	comp=Z,54nm,0.7s						
PKI	Pulchoki	35.46	298	eP	P	20 16 18.5	+1.3
	comp=Z,31nm,0.9s						
PKIN	Phulchoki	35.48	298	eP	P	20 16 18.7	+1.4
	comp=Z,13nm,0.8s						
KKN	Kakani	35.63	299	eP	P	20 16 19.7	+1.2
	comp=Z,29nm,0.9s						
DMN	Daman	35.73	298	eP	P	20 16 20.7	+1.3
	comp=Z,30nm,1.0s						
ULN	Ulaanbaatar	35.83	344⇓	iP	P	20 16 20.6	+0.7
ULN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SONM	Songino Array	35.98	344	P	P	20 16 21.7	+0.6
	comp=Z,5µm,0.6s,baz=163,slow=10.0,SNR=62						
WRAB	Tennant Creek	36.12	158	iP	P	20 16 23.8	+1.4
WRA	Warramunga Arr	36.12	158	P	P	20 16 21.4	-1.0
WRA				*PP	pP	20 16 44.8	-1.3
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	Warramunga Arr	36.12	158	P	P	20 16 21.4	-1.0
	comp=Z,0.2nm,0.3s,baz=336,slow=9.4,SNR=11						
WRA				pP	pP	20 16 44.8	-1.3
	comp=Z,1.8nm,0.8s,baz=336,slow=9.6,SNR=9.7						
GKN	Gorkha	36.24	299	eP	P	20 16 24.6	+1.0
	comp=Z,30nm,1.0s						
KOLN	Koldanda	37.06	298	eP	P	20 16 31.8	+1.1
	comp=Z,12nm,0.8s						
DANN	Dangsing	37.08	299	eP	P	20 16 32.0	+1.1
	comp=Z,9.2nm,0.4s						
ZAK	Zakamensk	39.16	343	eP	P	20 16 48.2	+0.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	Alice Springs	39.41	160	P	P	20 16 50.8	+0.7
ASAR				*PP	pP	20 17 13.6	-0.4
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	39.41	160	P	P	20 16 50.8	+0.7
	comp=Z,0.2nm,0.3s,baz=337,slow=6.6,SNR=6.6						
ASAR				pP	pP	20 17 13.6	-0.4
	comp=Z,0.8nm,0.6s,baz=339,slow=7.3,SNR=5.9						
ASAR				sP	sP	20 17 26.4	+0.5
	comp=Z,1.1nm,0.8s,baz=335,slow=8.2,SNR=4.2						
MK31	Makanchi Array	45.90	324	iP	P	20 17 43.5	+1.2
MK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	Makanchi Array	45.90	324	P	P	20 17 43.6	+1.3
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	Makanchi Array	45.90	324	P	P	20 17 43.6	+1.3
	comp=Z,4.5nm,0.7s,baz=130,slow=9.0,SNR=61						
ULHL	Ulahol	47.56	315	P	P	20 17 57.7	+2.0
	SNR=9.4						
ULHL	Ulahol	47.56	315	iP	P	20 17 57.7	+2.0
TKM2	Tokmak 2	48.27	316	P	P	20 18 02.7	+1.6
	SNR=6.9						
TKM2	Tokmak 2	48.27	316	iP	P	20 18 02.7	+1.6
KBK	Karagaybulak	48.61	315	P	P	20 18 05.8	+2.2
	SNR=9.6						
KBK	Karagaybulak	48.61	315	iP	P	20 18 05.8	+2.2
YAK	Yakutsk	48.69	6	eP	P	20 18 02.9	-0.8
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
UCH	Uchtor	48.74	315	P	P	20 18 07.5	+2.4
	SNR=9.2						
UCH	Uchtor	48.74	315	iP	P	20 18 07.4	+2.4
CHMS	Chumysh	48.87	316	P	P	20 18 06.7	+1.2
	SNR=5.9						
CHMS	Chumysh	48.87	316	iP	P	20 18 06.6	+1.2
AAK	Ala-Archa	48.91	315⇑	iP	P	20 18 08.9	+3.0
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ZALV	Zalesovo Beam	48.95	333	eP	P	20 18 05.9	+0.1
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	Zalesovo Beam	48.95	333	P	P	20 18 05.1	-0.7
	comp=Z,2.2nm,0.4s,baz=116,slow=6.8,SNR=7.8						
AML	Almayashu	49.28	314	P	P	20 18 10.8	+1.8
	SNR=9.4						
AML	Almayashu	49.28	314	iP	P	20 18 10.8	+1.8
EKS2	Erkin-Say	49.41	315	P	P	20 18 11.8	+2.0
	SNR=8.9						
EKS2	Erkin-Say	49.41	315	iP	P	20 18 11.7	+2.0
KURK	Kurchatov	50.06	326	P	P	20 18 15.4	+1.1
KURK				pmax	pmax		
	comp=Z,18nm,0.9s						
KK31	Karatay Array	51.82	314	iP	P	20 18 28.8	+1.1
KK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BVA0	Borovoye Array	55.64	326	iP	P	20 18 55.8	+0.5
BVA0				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BRVK	Borovoye	55.71	326c	iP	P	20 18 56.8	+1.0
BRVK				pmax	pmax		
	comp=Z,15nm,1.1s						
TIXI	Tiksi	58.12	3⇓	iP	P	20 19 11.4	-1.1
TIXI				pmax	pmax		
	comp=Z,10.0nm,3.1s						
AB31	Akbulak array	60.59	319	iP	P	20 19 30.4	+0.5
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BILL	Bilibino	61.75	18⇓	iP	P	20 19 37.1	-0.3
BILL				e*PP	PP	20 21 53.4	-0.9
BILL				pmax	pmax		
	comp=Z,6.0nm,1.8s						
SVE	Sverdlovsk	62.28	328	eP	P	20 19 41.4	+0.3
SVE				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARU	Arti	63.25	327c	iP	P	20 19 47.4	-0.2
ARU						20 22 11.7	
ARU				S	S	20 28 06.2	-5.0
ARU				pmax	pmax		
	comp=Z,14nm,2.5s						
KBZ	Khabaz	71.72	312	P	P	20 20 41.1	0.0
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	Khabaz	71.72	312	P	P	20 20 41.1	0.0
	comp=Z,1.7nm,0.9s,baz=66,slow=6.3,SNR=4.6						
KIV	Kislovodsk	71.86	312	eP	P	20 20 43.1	+0.9
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
OBN	Obninsk	75.40	324	P	P	20 21 02.1	-0.3
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ILAR	Eielson Array	78.82	26	P	P	20 21 19.4	-2.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	78.82	26	P	P	20 21 19.4	-2.1
	comp=Z,0.5nm,0.9s,baz=279,slow=4.3,SNR=5.2						
BRTR	Keskin Array B	78.98	308	eP	P	20 21 23.4	+0.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	Keskin Array B	78.98	308	P	P	20 21 23.1	+0.1
	comp=Z,1.0nm,0.7s,baz=135,slow=5.4,SNR=8.6						
ARCES	ARCESS Array B	78.99	339	P	P	20 21 21.9	-0.4
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	ARCESS Array B	78.99	339	P	P	20 21 21.9	-0.4
	comp=Z,2.7nm,0.8s,baz=67,slow=6.6,SNR=8.7						
FINES	FINESS Array B	80.17	331	P	P	20 21 28.6	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	80.17	331	P	P	20 21 28.6	-0.2
	comp=Z,1.6nm,1.0s,baz=88,slow=5.9,SNR=4.6						
AKASG	Malin Array Be	80.31	320	P	P	20 21 29.1	-0.7
	comp=Z,0.2nm,0.4s,baz=66,slow=4.8,SNR=3.9						
KMBO	Kilima Mbogo	83.70	267	eP	P	20 21 47.4	-1.1
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	87.15	333	eP	P	20 22 03.5	-1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	87.15	333	P	P	20 22 03.0	-1.5
	comp=Z,0.9nm,0.7s,baz=55,slow=2.1,SNR=4.0						
YKA	Yellowknife Ar	92.83	22	P	P	20 22 30.5	-0.4
	comp=Z,0.3nm,0.6s,baz=306,slow=4.2,SNR=5.4						

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*ISCJB **18** 20:56:32.4±0.3, 23°.10S±0°.03×68°.34W±0°.03, h113km±2km, mb4.8/81, Error ellipse: s-maj=6.6km s-min=3.5km az=42.9*

*SJA **18** 20:56:32.1±0.6, 22°.91S×68°.33W, h123km±9km, ML4.2, MW5.6*

*GUC **18** 20:56:33.4±0.5, 23°.07S×68°.51W, h115km±2km, ML5.6*

*NEIC **18** 20:56:33.4, 23°.07S×68°.51W, h115km, mb5.0/52, After GUC.*

NEIC Felt [III] at Calama, Ollague and San Pedro de Atacama; [II] at Antofagasta, Maria Elena, Mejillones, Sierra Gorda and Tocopilla.

*GCMT **18** 20:56:33.6±0.2, 23°.20S×68°.39W, h131km±1km, MW5.2/100, Moment Tensor Solution. s76,c107; s100,c167; Duration: 1s.0 Moment tensor: Scale 10^{17} Nm; Mrr-0.53±.02; Mθθ0.02±.02; Mφφ0.51±.02; Mrθ0.52±.01; Mrφ-0.54±.02; Mθφ-0.07±.02; Best double couple: M0 0.91700×10^{17} NP1:φs297.00000°, δ67.00000°, λ-126.00000°. NP2:φs179.00000°, δ42.00000°, λ-36.00000°. Principal axes: T 0.9480, Plg14.0000°, Azm53.0000°; N -0.0620, Plg33.0000°, Azm314.0000°; P -0.8860, Plg53.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **18** 20:56:34.0±0.3, 22°.98S×68°.19W, h115km±2km, mb4.6/20, mb1 4.7/23, mb1mx4.7/25, mbtmp5.0/23, MS3.7/9, Ms1 3.7/9, ms1mx3.5/25 Error ellipse: s-maj=12.6km s-min=9.7km az=75.0*

*MOS **18** 20:56:34.7±1.5, 22°.91S×68°.16W, h125km, mb5.3/15, Error ellipse: s-maj=12.6km s-min=7.3km az=106.1*

*BJI **18** 20:56:35.0, 22°.90S×68°.00W, h110km, mB5.2/18*

ISC 18 20:56:33.8±0.2, 23°.06S±0°.04×68°.34W±0°.04, h114km±1km, h114km:pP-P, n570, σ1s.12/675, mb4.9/81, 111C-106D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.69	310⇓	iP	Pn	20 56 52.3	-0.5
LVC				iS	Sn	20 57 06.3	-0.8
LVC				iS	Sn	20 57 06.3	-0.8
LVC	Limon Verde	0.69	310⇓	iP	Pn	20 56 52.3	-0.5
LVC				iS	Sn	20 57 06.3	-0.8
LVC	Limon Verde	0.69	310	iP	Pn	20 56 52.3	-0.5
LVC				eS	Sn	20 57 07.0	-0.1
PB06	Plate Boundary	1.19	287⇑	iP	Pn	20 56 56.7	-0.9
PB06				iS	Sn	20 57 13.9	-1.6
PB06				AML	AML	20 57 16.6	
	comp=N,134µm,0.5s						
PB06	Plate Boundary	1.19	287⇑	iP	Pn	20 56 56.7	-0.9
PB06				iS	Sn	20 57 13.9	-1.6
PB04	Plate Boundary	1.33	306⇑	iP	Pn	20 57 03.8	+4.9
PB04				iS	Sn	20 57 26.4	+8.6
PB04				AML	AML	20 57 35.6	
	comp=E,48µm,0.6s						
PB04	Plate Boundary	1.33	306⇑	iP	Pn	20 57 03.8	+4.9
PB04				iS	Sn	20 57 26.4	+8.6
PB09	Plate Boundary	1.51	326⇓	iP	Pn	20 57 01.2	0.0
PB09				iS	Sn	20 57 22.0	+0.1
PB09				AML	AML	20 57 25.8	
	comp=N,110µm,0.2s						
PB09	Plate Boundary	1.51	326⇓	iP	Pn	20 57 01.2	0.0
PB09				iS	Sn	20 57 22.0	+0.1
PB07	Plate Boundary	1.96	312⇓	iP	Pn	20 57 05.9	-0.7
PB07				iS	Sn	20 57 30.1	-1.5
PB07				AML	AML	20 57 32.6	
	comp=N,48µm,0.8s						
PB07	Plate Boundary	1.96	312⇓	iP	Pn	20 57 05.9	-0.7
PB07				iS	Sn	20 57 30.1	-1.5
PB10	Plate Boundary	2.09	257⇑	iP	Pn	20 57 06.2	-1.9
PB10				iS	Sn	20 57 31.4	-2.9
PB10				AML	AML	20 57 49.4	
	comp=N,130µm,0.5s						
PB01	Plate Boundary	2.27	332⇓	iP	Pn	20 57 09.8	-0.7
PB01				iS	Sn	20 57 38.2	-0.5
PB01				AML	AML	20 57 44.7	
	comp=E,20µm,0.4s						
PB01	Plate Boundary	2.27	332⇓	iP	Pn	20 57 09.8	-0.7
PB01				iS	Sn	20 57 38.2	-0.5
PATCX	Punta Patache	2.80	323	AML	AML	20 57 56.7	
	comp=N,24µm,0.3s						
HMBC	Humberstone	3.12	332	AML	AML	20 58 31.1	
	comp=N,20µm,0.5s						
AZAP	Zapla	3.21	112	iP	Pn	20 57 23.5	+0.6
AZAP				eS	Sn	20 58 01.8	+0.9
AZAP				AML	AML	20 58 07.9	
	comp=Z,494nm,0.8s						
ASTB	Santa Barbara	3.64	105	eP	Pn	20 57 29.7	+1.1
ALOL	LOMAS DE OLMED	4.08	101	iP	Pn	20 57 34.1	-0.2
AHML	Horco Molle	4.60	144	eP	Pn	20 57 42.0	+0.7
AHML				eS	Sn	20 58 34.9	+1.1
AHML				AML	AML	20 58 35.9	
	comp=Z,141nm,0.6s						
LCO	Las Campanas	6.29	199	ePn	Pn	20 57 59.1	-5.3
LPAZ	La Paz	6.74	2	P	Pn	20 58 10.7	-0.1
	comp=Z,23nm,0.3s,baz=173,slow=7.9,SNR=256						
LPAZ				S	Sn	20 59 11.4	-16
	comp=Z,5.0nm,0.3s,baz=197,slow=15,SNR=4.7						
ARE	Arequipa	7.21	335	eP	Pn	20 58 13.0	-3.8
ARE				eS	Sn	20 59 29.0	-8.4
ARE	Arequipa	7.21	335	eP	Pn	20 58 13.0	-3.8
ARE				i		20 58 47.0	
ARE				eS	Sn	20 59 29.0	-8.4
CFAA	Coronel Fontan	8.51	179	P	Pn	20 58 30.2	-4.0
	comp=Z,4.4nm,0.3s,baz=352,slow=13,SNR=222						
CFAA				S	Sn	20 59 58.7	-10
	comp=Z,2.8nm,0.3s,baz=347,slow=18,SNR=2.1						
CFAA				LR	LR	21 02 12.0	
	comp=Z,98nm,20.0s,baz=2.5,slow=39						
SIV	San Ignacio	9.81	46	P	Pn	20 58 47.5	-4.4
	comp=Z,38nm,0.3s,baz=243,slow=12,SNR=206						
CPUP	Villa Florida	10.52	110	P	Pn	20 58 58.9	-2.5
	comp=Z,2.0nm,0.3s,baz=280,slow=12,SNR=26						
CPUP				LR	LR	21 03 12.8	
	comp=Z,429nm,21.6s,baz=270,slow=38						
NNA	Nana	13.67	322	P	P	20 59 48.3	+0.3
	comp=Z,1.0nm,0.3s,baz=118,slow=15,SNR=3.2						
H03N1	Juan Fernandez	13.91	220	P	Pn	20 59 42.5	-3.2
	baz=24,slow=14,SNR=51						
H03N1				T	T	21 12 12.1	
	baz=38,slow=74						
H03N2	Juan Fernandez	13.92	220	P	Pn	20 59 42.9	-3.0
	baz=24,slow=14,SNR=52						
H03N2				T	T	21 12 06.5	
	baz=38,slow=74						
H03N3	Juan Fernandez	13.93	220	P	Pn	20 59 42.7	-3.3
	baz=24,slow=14,SNR=41						
H03N3				T	T	21 12 17.8	
	baz=38						
SAML	Samuel	14.88	20	ePn	Pn	20 59 54.3	-4.2
TRQA	Tornquist	15.91	161	ePn	Pn	21 00 07.0	-4.2

comp=Z,314nm,1.1s
PLCA Paso Flores 17.72 186 P P 21 00 32.1 -0.5
comp=Z,2.3nm,0.3s,baz=0.3,slow=12,SNR=38
BB16B Bebedouro 18.42 87⇑iP P 21 00 38.2 -2.2
BB16B i 21 00 42.3
BB16B i 21 00 45.7
BB16B e 21 00 48.5
ATAH Atahualpa 18.56 327 P Pn 21 00 47.3 +3.4
comp=Z,0.5nm,0.3s,baz=154,slow=8.1,SNR=8.0
BDFB Brasilia 20.53 73 P P 21 01 01.2 -2.2
comp=Z,93nm,0.7s,baz=232,slow=13,SNR=113
BDFB LR LR 21 09 49.1
comp=Z,307nm,20.8s,baz=258,slow=39
OTAV Otavalo 25.16 336 eP P 21 01 50.2 +1.0
comp=Z,6.1nm,0.8s
EFI East Falkland 29.65 167 eP P 21 02 25.3 -3.0
EFI pmax pmax
comp=Z,56nm,0.8s
EFI East Falkland 29.65 167 eP P 21 02 25.3 -3.0
comp=Z,56nm,0.8s
USHA Ushuaia 31.73 180 P P 21 02 46.2 -0.4
comp=Z,10nm,0.6s,baz=355,slow=5.3,SNR=4.2
SDV Santo Domingo 31.83 356 eP P 21 02 45.8 -2.4
comp=Z,14nm,0.8s
RCBR Riachuelo 35.64 66 P P 21 03 18.7 -2.4
comp=Z,42nm,0.8s,baz=234,slow=14,SNR=19
RCBR Riachuelo 35.64 66 eP P 21 03 18.1 -3.0
FDF Fort de France 38.22 11 eP P 21 03 40.8 -1.9
FDF pmax pmax
comp=Z,145nm,0.7s
FDF Fort de France 38.22 11 eP P 21 03 40.8 -1.9
comp=Z,145nm,0.7s
HOPE Hope Point 39.26 151 P P 21 03 51.6 +0.6
comp=Z,1.0nm,1.0s,SNR=12
HOPE Hope Point 39.26 151 eP P 21 03 51.7 +0.6
comp=Z,211nm,0.8s
OBIP Obispado Ponce 40.89 3 eP P 21 04 02.6 -2.3
comp=Z,39nm,0.6s
CPD Cerro la Pandu 40.91 4 eP P 21 04 02.6 -2.5
CPD pmax pmax
comp=Z,26nm,0.6s
CPD Cerro la Pandu 40.91 4 eP P 21 04 02.6 -2.5
comp=Z,26nm,0.6s
CELP Cerrillos 40.92 3 eP P 21 04 02.8 -2.3
SJG San Juan 40.98 3 eP P 21 04 02.8 -2.7
SJG pmax pmax
comp=Z,47nm,0.9s
SJG San Juan 40.98 3 P P 21 04 02.8 -2.7
comp=Z,54nm,0.7s,baz=255,slow=7.2,SNR=21
SJG San Juan 40.98 3 eP P 21 04 02.8 -2.7
comp=Z,46nm,0.9s
ANWB Willy Bob 40.98 10 eP P 21 04 01.6 -4.1
comp=Z,117nm,0.6s
LSP Las Mesas 41.00 2 P P 21 04 02.9 -2.9
HUMP Col San Antoni 41.02 4 eP P 21 04 10.6 +4.6
comp=Z,27nm,1.1s
HUMP ePP PP 21 05 45.0 +2.0
LRS Lares 41.13 2 eP P 21 04 03.6 -3.2
CBYP Canovanas 41.15 4 eP P 21 04 02.5 -4.6
comp=Z,28nm,0.8s
SMRT St. Maarten 41.18 8 eP P 21 04 04.0 -3.2
comp=Z,50nm,1.0s
AOPR Arecibo Observ 41.18 2 eP P 21 04 11.6 +4.3
comp=Z,27nm,0.6s
PMSA Palmer Station 41.80 177 P P 21 04 12.3 +0.6
comp=Z,31nm,0.8s,baz=9.3,slow=4.4,SNR=6.2
APG El Apazote 43.59 328 P P 21 04 24.2 -2.9
comp=Z,5.2nm,0.7s,baz=176,slow=8.6,SNR=5.8
TEIG Tepich 47.22 334 eP P 21 04 54.2 -1.2
comp=Z,34nm,1.0s
H06E1 SOCORRO T-PHAS58.82 311 T T 22 08 53.0
SNR=9.4
HKT Hockley 58.96 332 P P 21 06 22.4 +1.1
HKT e*PP pP 21 06 48.2 -0.6
HKT Hockley 58.96 332 P P 21 06 22.4 +1.1
HKT epP pP 21 06 48.2 -0.6
KMSC Kings Mountain 59.18 348 esP sP 21 07 03.9 +1.0
NATX Nacogdoches 60.05 334 esP sP 21 07 10.8 +1.8
TKL Tuckaleechee C 60.20 346 eP P 21 06 29.3 -0.4
TKL e*PP pP 21 06 57.3 -0.1
TKL e*SP sP 21 07 08.3 -1.6
TKL Tuckaleechee C 60.20 346 eP P 21 06 29.3 -0.4
TKL epP pP 21 06 57.3 -0.1
TKL esP sP 21 07 08.3 -1.6
SNAA Sanae 60.64 161⇓iP P 21 06 31.4 -0.9
SNAA Sanae 60.64 161 eP P 21 06 31.5 -0.9
SNAA pmax pmax
comp=Z,82nm,1.0s
SNAA Sanae 60.64 161 P P 21 06 32.0 -0.3
comp=Z,24nm,0.7s,baz=286,slow=7.9,SNR=167
SNAA Sanae 60.64 161 eP P 21 06 31.5 -0.9
comp=Z,82nm,1.0s
OXF Oxford 60.66 340 eP P 21 06 38.3 +5.5
OXF e 21 07 12.6
OXF Oxford 60.66 340 eP P 21 06 38.3 +5.5
OXF epP pP 21 06 59.6 -1.0
OXF e 21 07 12.6
RKT Rikitea 60.77 256 eS S 21 14 47.1 +4.6
comp=Z,464nm,24.2s
JCT Junction City 61.21 329 eP P 21 06 35.7 -1.0
JCT e*PP pP 21 07 03.5 -1.0
JCT e*SP sP 21 07 17.3 +0.3
JCT Junction City 61.21 329 eP P 21 06 35.7 -1.0
JCT epP pP 21 07 03.5 -1.0
JCT esP sP 21 07 17.3 +0.3
530A J-C Ranch, Com 61.68 328 ⇓P P 21 06 40.0 +0.1
baz=62,SNR=5.8
UALR University of 61.87 338 epP pP 21 07 09.0 +0.1
UALR esP sP 21 07 21.6 +0.3
332A Millersview 61.94 330 ⇑P P 21 06 41.4 -0.2
baz=62,SNR=5.7
233A Rising Star 62.08 331 ⇓P P 21 06 42.4 -0.2
baz=62,SNR=7.6
529A Stev Forest Ra 62.10 327 ⇑P P 21 06 43.7 +1.0
baz=62,SNR=8.5
MIAR Mount Ida 62.11 337 eP P 21 06 40.2 -2.4
MIAR e*PP pP 21 07 10.7 +0.3
MIAR e*SP sP 21 07 22.8 -0.1
MIAR Mount Ida 62.11 337 eP P 21 06 40.2 -2.4
MIAR epP pP 21 07 10.7 +0.3
MIAR esP sP 21 07 22.8 -0.1
TXAR Lajitas Array 62.21 325 P P 21 06 43.0 -0.5
comp=Z,0.4nm,0.5s,baz=152,slow=7.9,SNR=2.6
TXAR pP pP 21 07 12.2 +0.9
comp=Z,1.6nm,0.7s,baz=149,slow=8.6,SNR=5.7
232A Coleman 62.31 330 ⇑P P 21 06 44.2 +0.1
baz=63,SNR=7.4
ABTX Abilene, Hawle 62.93 330 P P 21 06 48.1 -0.1
ABTX epP pP 21 07 15.5 -0.6
Z33A Whitaker Ranch 63.10 332 ⇓P P 21 06 49.2 -0.1
baz=64
Y34A Reagan Ranch, 63.24 333 ⇓P P 21 06 50.3 +0.1
baz=64,SNR=5.6
WCI Wyandotte Cave 63.26 344 epP pP 21 07 15.3 -2.8
SIUC Southern Illin 63.56 342 esP sP 21 07 32.9 +0.4
SSPA Standing Stone 63.99 352 esP sP 21 07 36.6 +1.3
Y32A R-V Farms, Ver 64.00 331 ⇑P P 21 06 55.5 +0.3
baz=64
TUL1 Tulsa 64.15 335 P P 21 06 55.9 -0.1
TUL1 epP pP 21 07 23.9 -0.1
TUL1 esP sP 21 07 37.2 +0.7
Z30A Sanderson Ranc 64.17 330 ⇓P P 21 06 56.9 +0.5
baz=64
128A Castleberry Fa 64.26 328 ⇑P P 21 06 57.2 +0.2
baz=65
ACSO Alum Creek Sta 64.43 348 eP P 21 06 53.9 -3.9
W33A Caddo, Fort Co 64.56 333 ⇓P P 21 06 58.1 -0.7
baz=65,SNR=5.7
X31A McDonald Ranch 64.77 331 ⇓P P 21 07 00.0 -0.2
baz=65,SNR=5.8
W32A Sentinel 64.87 332 ⇑P P 21 07 01.1 +0.3
baz=65
MNTX Cornudas Mount 64.98 325 eP P 21 07 00.9 -0.7
MNTX epP pP 21 07 29.4 -0.3
225A Deer Hill, Car 65.02 326 ⇓P P 21 07 02.6 +0.5
baz=65
Z27A Tatum 65.18 328 ⇑P P 21 07 02.5 -0.5
baz=66,SNR=5.2
NVL N'lazarevskaya 65.19 159 iP P 21 07 03.5 +1.1
U34A Anderson Ranch 65.29 334 esP sP 21 07 44.6 +0.7
BINY Binghamton 65.32 354 P P 21 07 03.8 +0.2
BINY epP pP 21 07 33.1 +1.4
BINY esP sP 21 07 44.3 +0.3
MSTX Muleshoe 65.50 329 eP P 21 07 05.3 +0.2
MSTX epP pP 21 07 33.1 0.0
MSTX Muleshoe 65.50 329 ⇑P P 21 07 05.4 +0.4
baz=66,SNR=6.0
Y27A Causey 65.62 329 ⇓P P 21 07 05.6 -0.2
baz=66,SNR=5.8
Z25A Roswell 65.89 327 ⇑P P 21 07 08.2 +0.6
baz=66
W29A Amarillo 65.93 330 ⇑P P 21 07 08.0 +0.2
baz=66
Y26A Elida 65.97 328 ⇑P P 21 07 09.1 +1.0
baz=66
Z24A Sheeppen Canyo 66.26 327 ⇓P P 21 07 10.3 +0.3
baz=67,SNR=5.5
Y25A Mesa, Roswell 66.40 327 ⇓P P 21 07 11.0 +0.2
baz=67
X26A CR and CF Fran 66.47 329 ⇓P P 21 07 11.0 -0.3
baz=67,SNR=5.3
X25A Clemmons Ranch 66.87 328 ⇑P P 21 07 14.6 +0.8
baz=67
W26A Owens Ranch, T 66.89 329 ⇑P P 21 07 14.8 +0.9
baz=67
121A Cookes Peak, D 66.90 324 eP P 21 07 14.3 +0.2
comp=Z,6.1nm,1.1s
121A Cookes Peak, D 66.90 324 ⇑P P 21 07 15.4 +1.3
baz=67
Z22A Elephant Butte 67.03 325 ⇑P P 21 07 16.1 +1.3
baz=67,SNR=12
Y23A Lovelace Mesa, 67.09 326 ⇑P P 21 07 16.5 +1.2
baz=68
QSPA South Pole Qui 67.14 180 P P 21 07 15.4 +0.2
comp=Z,107nm,0.6s,baz=172,slow=0.8,SNR=760
U28A Mallet 67.23 331 ⇓P P 21 07 16.8 +0.8
baz=68
KSU1 Kansas State U 67.26 336 epP pP 21 07 42.8 -1.4
KSU1 esP sP 21 07 57.0 +0.4
W25A X Bar L Ranch, 67.32 328 ⇓P P 21 07 16.5 -0.2
baz=68,SNR=6.4
V26A Tequesquite Ra 67.47 329 ⇑P P 21 07 17.8 +0.2
baz=68,SNR=5.4
U27A Thompson Grove 67.54 330 ⇓P P 21 07 18.9 +0.9
baz=68
BNM Barren Site 67.55 326 epP pP 21 07 47.9 +1.4
PTN Potsdam (NY) 67.58 355 esP sP 21 08 00.4 +2.0
LONY Lake Ozonia 67.59 355 eP P 21 07 17.9 0.0
LONY epP pP 21 07 46.8 +0.6
X23A Hourglass Bar 67.67 327 ⇑P P 21 07 19.8 +0.8
baz=68
LPM Los Pinos Moun 67.68 326 eP P 21 07 20.6 +1.6
LPM epP pP 21 07 48.4 +1.2
LPM esP sP 21 07 58.9 -0.7
R31A Burdett 67.69 334 ⇓P P 21 07 19.6 +0.8
baz=68
W24A Lazy 6 Ranch, 67.78 328 ⇓P P 21 07 19.9 +0.3
baz=68
S29A Ulysses 67.78 332 ⇑P P 21 07 19.5 0.0
baz=68,SNR=5.2
V25A Rancho No Teng 67.90 329 ⇓P P 21 07 20.7 +0.3
baz=68
Q32A Meitler Ranch, 67.91 335 ⇓P P 21 07 20.3 +0.2
baz=68
U26A Atchley Ranch, 67.94 330 ⇑P P 21 07 20.8 +0.2
baz=68,SNR=6.0
LAZ Ladron 68.01 326 epP pP 21 07 50.8 +1.5
T27A Campo 68.02 331 ⇑P P 21 07 22.0 +1.0
baz=68
ANMO Albuquerque 68.09 327ceP P 21 07 22.3 +0.7
ANMO pmax pmax
comp=Z,44nm,1.2s
S28A Manter 68.09 332 ⇑P P 21 07 21.9 +0.5
baz=68
W23A Werner Place, 68.11 327 ⇓P P 21 07 22.7 +1.0
baz=68
V24A Rampart Ranch, 68.12 328 ⇑P P 21 07 22.9 +1.1
baz=68
U25A Circle Dot Ran 68.25 329 ⇓P P 21 07 22.4 -0.1
baz=69,SNR=5.1
LIC Lamto 68.32 73 eP P 21 07 22.2 -1.0
comp=Z,38nm,0.8s,baz=248
LIC Lamto 68.32 73 eP P 21 07 22.0 -1.2
comp=Z,57nm,0.8s
LIC Lamto 68.32 73 eP P 21 07 22.2 -1.0
comp=Z,38nm,0.8s
TUC Tucson 68.39 322 eP P 21 07 24.7 +1.4
TUC e*PP pP 21 07 53.0 +1.3
TUC Tucson 68.39 322 eP P 21 07 24.7 +1.4
TUC epP pP 21 07 53.0 +1.3
T26A Comanche Natio 68.51 330 ⇑P P 21 07 25.1 +1.0
baz=69,SNR=6.0
TIC Toumodi 68.53 73 eP P 21 07 23.4 -1.1
comp=Z,49nm,0.9s
Q30A Quinter 68.56 334 ⇓P P 21 07 25.8 +1.6
baz=69,SNR=5.1
V23A Ortiz Mt. (NFS 68.59 328 ⇓P P 21 07 25.6 +0.9
baz=69
KIC Kosan Boka 68.64 73 eP P 21 07 24.1 -1.1
comp=Z,103nm,0.8s
DBIC Dimbokro 68.68 73 eP P 21 07 24.4 -1.0
DBIC Dimbokro 68.68 73 eP P 21 07 24.4 -1.0
DBIC pmax pmax
comp=Z,52nm,0.9s
DBIC Dimbokro 68.68 73 P P 21 07 24.9 -0.6
comp=Z,51nm,0.9s,baz=210,slow=6.5,SNR=45
DBIC LR LR 21 36 08.1
comp=Z,92nm,21.0s,baz=222,slow=35
DBIC Dimbokro 68.68 73 eP P 21 07 24.4 -1.0
comp=Z,52nm,0.9s
P31A Stockton 68.68 335 ⇓P P 21 07 25.6 +0.6
baz=69,SNR=5.3
JFWS Jewell Farm 68.69 343 eP P 21 07 23.8 -1.0
JFWS e*PP pP 21 07 51.8 -1.4
JFWS pmax pmax
comp=Z,8.0nm,0.7s
JFWS Jewell Farm 68.69 343 eP P 21 07 23.8 -1.0
comp=Z,8.3nm,0.7s
JFWS epP pP 21 07 51.8 -1.4
S26A Kim 68.82 331 ⇓P P 21 07 26.6 +0.6
baz=69,SNR=7.8
R27A Eads 69.07 332 ⇓P P 21 07 28.2 +0.7
baz=70
V22A San Miguel Ran 69.08 327 ⇓P P 21 07 29.2 +1.5
baz=70,SNR=6.3
T24B San Luis 69.25 329 ⇓P P 21 07 29.8 +1.0
baz=70
S25A Robets Cordova 69.29 330 ⇑P P 21 07 29.6 +0.7
baz=70
214A Organ Pipe Nat 69.30 320 eP P 21 07 30.1 +1.2
comp=Z,7.3nm,1.1s
214A epP pP 21 07 58.5 +1.2
214A Organ Pipe Nat 69.30 320 ⇓P P 21 07 30.2 +1.2
baz=70,SNR=6.3
R26A Arlington 69.37 331 ⇓P P 21 07 29.8 +0.4
baz=70,SNR=5.8
X18A Snowflake 69.59 324 ⇑P P 21 07 32.3 +1.4
baz=70
KSCO Kaye Shedlock' 69.59 332 epP pP 21 07 59.8 +0.7
KSCO esP sP 21 08 12.7 +1.2
R25A Fountain Ranch 69.62 330 ⇓P P 21 07 31.6 +0.7
baz=70
S24A Houchin Ranch, 69.64 329 ⇑P P 21 07 31.3 +0.1
baz=70,SNR=6.8
BGNE Belgrade 69.85 337 eP P 21 07 32.3 +0.2
BGNE epP pP 21 08 00.8 +0.3
BGNE esP sP 21 08 13.3 +0.5
BGNE Belgrade 69.85 337 ⇓P P 21 07 32.4 +0.2
baz=70,SNR=5.9
SDCO Great Sand Dun 69.86 329 eP P 21 07 33.4 +0.9
SDCO epP pP 21 08 00.8 -0.2
SDCO esP sP 21 08 14.8 +1.5
Q26A Hugo 69.91 331 ⇓P P 21 07 33.8 +1.1
baz=70
R24A Sanders Place, 70.06 330 ⇑P P 21 07 34.8 +1.1
baz=70
M31A Lambtecht Ranc 70.10 336 ⇓P P 21 07 34.0 +0.4
baz=70
O28A Krutsinger Ran 70.17 333 ⇑P P 21 07 34.7 +0.6
baz=71
X16A Lo Mia Camp, P 70.32 323 ⇓P P 21 07 36.6 +1.3
baz=71,SNR=5.7
P26A Davis Ranch, A 70.36 332 ⇑P P 21 07 36.1 +0.7
baz=71
R23A Moffat 70.36 329 ⇓P P 21 07 36.3 +0.7
baz=71
113A Mohawk Valley, 70.44 320 ⇓P P 21 07 37.6 +1.7
baz=71,SNR=5.3
S22A 4UR Ranch, Cre 70.49 328 ⇓P P 21 07 36.8 +0.3
baz=71
O27A Beecher Island 70.52 333 ⇑P P 21 07 37.2 +1.0
baz=71,SNR=6.0
Q24A Divide 70.68 330 ⇓P P 21 07 38.2 +0.7
baz=71,SNR=7.1
P25A Willow Gulch B 70.68 331 ⇓P P 21 07 38.3 +0.9
baz=71,SNR=8.1
MVCO Mesa Verde 70.89 327 ⇓P P 21 07 39.1 +0.3
baz=71,SNR=7.2
OGNE Ogallala 70.96 334 eP P 21 07 39.7 +0.8
comp=Z,26nm,0.8s
WUAZ Wupatki 71.10 324 eP P 21 07 40.8 +0.7
WUAZ epP pP 21 08 09.6 +1.1
WUAZ Wupatki 71.10 324 ⇑P P 21 07 41.7 +1.7
baz=72,SNR=7.1
ECSD EROS Data Cent 71.36 339 epP pP 21 08 10.0 +0.3
comp=Z,6.9nm,0.9s
ECSD esP sP 21 08 21.3 -0.7
K30A Basset 71.49 336 ⇓P P 21 07 42.5 +0.4
baz=72,SNR=6.5
ISCO Idaho Springs 71.56 331 eP P 21 07 42.9 0.0
ISCO Idaho Springs 71.56 331 eP P 21 07 42.9 0.0
ISCO Idaho Springs 71.56 331 ⇑P P 21 07 43.4 +0.5
baz=72
Y12C Blythe 71.59 321 ⇓P P 21 07 44.4 +1.7
baz=72,SNR=7.7
PV01 Paradox Valley 71.64 328 eP P 21 07 44.6 +1.3
PV01 epP pP 21 08 13.0 +1.1
SMCO Snowmass 71.69 329 eP P 21 07 44.9 +1.1
PDMCI Parker Dam,Lak 71.76 321 ⇑P P 21 07 45.5 +1.8
baz=72
K29A Lazy Trails An 71.83 336 ⇓P P 21 07 44.3 +0.2
baz=72,SNR=5.3
PV05 Paradox Valley 71.86 327 epP pP 21 08 14.2 +1.1
P22A Eagle 71.92 330 ⇓P P 21 07 46.0 +1.0
baz=72
PV04 Paradox Valley 72.01 327 epP pP 21 08 15.2 +1.2
O23A Lake Granby, G 72.03 331 ⇑P P 21 07 46.3 +0.6
baz=72,SNR=6.3
L27A T5 Ranch, Ells 72.03 334 ⇓P P 21 07 46.4 +1.0
baz=72
PV10 Paradox Valley 72.06 327 epP pP 21 08 15.3 +1.0
PV10 esP sP 21 08 28.0 +1.3
BC3 Big Chuckawall 72.07 320 ⇑P P 21 07 47.0 +1.2
baz=72,SNR=9.1
N24A Carr 72.07 332 ⇓P P 21 07 47.1 +1.4
baz=72
MONP Monument Peak 72.11 319 ⇓P P 21 07 48.2 +2.0
baz=72
BAR Barrett 72.12 319 eP P 21 07 47.8 +1.8
BAR epP pP 21 08 16.1 +1.5
BAR esP sP 21 08 27.2 +0.4
K28A Ten Mile Ranch 72.19 335 ⇑P P 21 07 47.8 +1.5
baz=73
IRM Iron Mountain 72.24 321 ⇑P P 21 07 47.4 +0.7
baz=73,SNR=8.6
U15A North Rim 72.28 324 ⇑P P 21 07 49.1 +1.9
baz=73,SNR=7.2
O22A Kremmling 72.28 330 ⇓P P 21 07 48.0 +0.9
baz=73,SNR=7.2
J29A Okreek 72.39 336 ⇓P P 21 07 47.3 -0.1
baz=73,SNR=6.2
K27A Flueckinger Fa 72.52 334 ⇑P P 21 07 49.4 +1.1
baz=73
M24A Cheyenne 72.57 332 ⇓P P 21 07 49.9 +1.2
baz=73,SNR=5.9
N23A Red Feather La 72.59 331 ⇓P P 21 07 49.6 +0.6
baz=73,SNR=5.2
PFO Pinyon Flat Ob 72.63 319 eP P 21 07 50.8 +1.6
PFO Pinyon Flat Ob 72.63 319 eP P 21 07 50.8 +1.6
PFO Pinyon Flat Ob 72.63 319 ⇓P P 21 07 51.0 +1.8
baz=73
BELC Belle Mtn. Jos 72.63 320 ⇑P P 21 07 50.9 +1.7
baz=73
PHWY Pilot Hill 72.71 332 eP P 21 07 51.0 +1.3
PHWY epP pP 21 08 19.1 +0.9
J28A Allard Ranch, 72.74 336 ⇑P P 21 07 49.8 +0.3
baz=73,SNR=5.8
N22A Wattenberg Ran 72.75 331 ⇑P P 21 07 51.1 +1.2
baz=73
J27A Elkhorn Farm, 72.90 335 ⇑P P 21 07 51.2 +0.7
baz=73,SNR=6.5
M23A Laramie 72.96 331 ⇑P P 21 07 51.9 +0.9
baz=73
GMRC Granite Mounta 72.98 321 ⇑P P 21 07 52.6 +1.4
baz=73,SNR=9.1
KNB Kanab 73.00 324 eP P 21 07 53.8 +2.5
KNB Kanab 73.00 324 eP P 21 07 53.8 +2.5
O20A White River Ci 73.05 329 eP P 21 07 52.6 +1.1
O20A epP pP 21 08 20.8 +0.6
O20A White River Ci 73.05 329 ⇓P P 21 07 52.9 +1.3
baz=73,SNR=8.6
M22A Cedar Creek Ra 73.30 331 ⇓P P 21 07 54.3 +1.3
baz=74
SRU San Rafael 73.37 327 eP P 21 07 54.7 +1.2
SRU e*PP pP 21 08 22.7 +0.6
SRU San Rafael 73.37 327 eP P 21 07 54.7 +1.2
SRU epP pP 21 08 22.7 +0.6
J26A Sides Ranch, S 73.37 334 ⇓P P 21 07 54.7 +1.5
baz=74
HEC Hector,Ludlow 73.41 320 ⇑P P 21 07 55.3 +1.7
baz=74,SNR=6.2
I27A Quinn 73.60 335 ⇑P P 21 07 55.6 +1.1
baz=74
N20A Spence Gulch, 73.61 329 ⇑P P 21 07 56.0 +1.1
baz=74,SNR=5.8
CCUT Cedar City 73.68 324 eP P 21 07 57.3 +1.9
CCUT epP pP 21 08 26.2 +2.2
J25A Sunshine Ranch 73.73 334 ⇓P P 21 07 56.5 +1.1
baz=74,SNR=5.0
H28A Mission Ridge 73.73 336 ⇑P P 21 07 55.8 +0.6
baz=74
MVU Marysvale 73.78 326 eP P 21 07 57.3 +1.4
MVU epP pP 21 08 26.2 +1.6
BFSC Mount Baldy Ra 73.79 319 ⇑P P 21 07 56.9 +1.0
baz=74,SNR=6.7
ARUT Antelope Range 73.90 324 epP pP 21 08 26.4 +1.2
comp=Z,485nm,1.0s
SHPR Sheep Range 73.92 322 eP P 21 07 58.1 +1.4
comp=Z,13nm,1.5s
SHPR epP pP 21 08 27.1 +1.7
K23A Bowen Ranch, D 73.96 332 ⇓P P 21 07 58.1 +1.3
baz=74,SNR=5.8
GSC Goldstone 74.01 320 eP P 21 07 58.9 +1.7
GSC e*PP pP 21 08 27.0 +1.1
GSC Goldstone 74.01 320 eP P 21 07 58.9 +1.7
GSC epP pP 21 08 27.0 +1.1
GSC Goldstone 74.01 320 ⇓P P 21 07 58.6 +1.4
baz=74
F30A Leola 74.02 338 ⇓P P 21 07 57.5 +0.6
baz=74
I25A Rochford 74.22 334 ⇓P P 21 07 59.3 +1.0
baz=75,SNR=9.6
K22A Casper 74.27 332 eP P 21 07 59.7 +1.1
K22A epP pP 21 08 27.5 +0.2
RSSD Black Hills 74.43 334 eP P 21 08 00.7 +1.2
RSSD e*PP pP 21 08 28.3 0.0
RSSD Black Hills 74.43 334 eP P 21 08 00.7 +1.2
RSSD epP pP 21 08 28.3 0.0
I24A Kuemmerle Ranc 74.45 334 ⇑P P 21 08 00.4 +0.8
baz=75,SNR=5.9
K21A Alcova 74.57 331 ⇑P P 21 08 00.9 +0.5
baz=75,SNR=11
MPU Maple Canyon 74.61 327 eP P 21 08 02.4 +1.7
MPU epP pP 21 08 30.2 +0.7
LRMC Laurel Mountai 74.66 320 ⇓P P 21 08 02.1 +1.2
baz=75
DAU Daniels Canyon 74.72 327 eP P 21 08 02.4 +0.9
DAU e*PP pP 21 08 31.1 +0.9
DAU pmax pmax
comp=Z,23nm,1.2s
DAU Daniels Canyon 74.72 327 eP P 21 08 02.4 +0.9
comp=Z,23nm,1.2s
DAU epP pP 21 08 31.1 +0.9
BSC Santa Cruz Isl 74.83 318 ⇓P P 21 08 03.8 +1.9
baz=75
FURC Furnace Creek, 74.86 321 ⇑P P 21 08 03.7 +1.8
baz=75
SYO Syowa Base 74.86 159⇓iP P 21 08 00.0 -1.5
J22A Midwest 74.86 332 ⇓P P 21 08 02.3 +0.3
baz=75,SNR=6.2
JLU Jordanelle 74.96 327 eP P 21 08 04.5 +1.8
D30A Buchanan 75.05 339 ⇑P P 21 08 03.2 +0.4
baz=75
G25A Newell 75.08 335 ⇑P P 21 08 03.9 +0.8
baz=76
F27A Lemmon 75.12 336 ⇑P P 21 08 03.4 +0.1
baz=76,SNR=5.8
DAC Darwin (Calif) 75.15 321 eP P 21 08 05.0 +1.1

DAC e*PP pP 21 08 33.6 +0.9
DAC Darwin (Calif) 75.15 321 eP P 21 08 05.0 +1.1
DAC epP pP 21 08 33.6 +0.9
H24A Dirks Ranch, A 75.15 334 ⇑P P 21 08 03.4 -0.2
baz=76,SNR=6.2
J21A Lysite 75.23 332 ⇑P P 21 08 04.8 +0.6
baz=76,SNR=5.1
ISA Isabella 75.25 320 eP P 21 08 05.7 +1.4
ISA e*PP pP 21 08 34.2 +1.2
ISA Isabella 75.25 320 eP P 21 08 05.7 +1.4
ISA epP pP 21 08 34.2 +1.2
ISA Isabella 75.25 320 ⇓P P 21 08 05.7 +1.4
baz=76,SNR=12
I22A 9 Mile Ranch, 75.25 332 ⇓P P 21 08 04.6 +0.4
baz=76,SNR=5.3
F26A Lodgepole 75.34 336 ⇑P P 21 08 05.0 +0.4
baz=76,SNR=8.2
DUG Dugway 75.34 326 eP P 21 08 05.8 +1.0
DUG e*PP pP 21 08 34.3 +0.7
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG Dugway 75.34 326 eP P 21 08 05.8 +1.0
comp=Z,10.0nm,1.1s
DUG epP pP 21 08 34.3 +0.7
DUG Dugway 75.34 326 ⇑P P 21 08 06.2 +1.4
baz=76,SNR=8.6
H23A Clabaugh Cattl 75.34 334 ⇑P P 21 08 06.2 +1.6
baz=76
VNDA Vanda 75.41 190 P P 21 08 05.7 +1.1
comp=Z,7.3nm,0.8s,baz=351,slow=1.3,SNR=4.4
VNDA LR LR 21 39 31.4
comp=Z,104nm,20.9s,baz=146,slow=34
R11A Troy Canyon, C 75.47 323 eP P 21 08 06.3 +0.7
R11A epP pP 21 08 35.5 +1.0
R11A Troy Canyon, C 75.47 323 ⇓P P 21 08 07.0 +1.3
baz=76,SNR=7.4
C30A Mose, Pekin 75.48 339 ⇓P P 21 08 05.6 +0.4
baz=76
PPT2 Papeete2 75.48 257 eS S 21 17 40.8 +3.1
comp=Z,136nm,29.8s
PPT2 Papeete2 75.48 257 eLR LR 21 31 41.0
comp=Z,446nm,34.5s
PPT Papeete 75.48 257 LR LR 21 31 29.1
comp=Z,40nm,21.9s,baz=144,slow=28
J20A Shoshoni 75.52 331 ⇑P P 21 08 06.8 +1.0
baz=76
I21A Big Trails, Te 75.53 332 ⇓P P 21 08 06.0 +0.1
baz=76,SNR=12
G24A Alzada 75.58 335 ⇓P P 21 08 06.8 +0.8
baz=76
F25A Bowman 75.70 336 ⇓P P 21 08 07.5 +0.8
baz=76
CRGC Crocker Grade 75.72 319 eP P 21 08 11.7 +4.6
BW06 Boulder Array 75.72 330 eP P 21 08 06.6 -0.5
comp=Z,6.8nm,1.0s
D28A Regan 75.73 338 ⇓P P 21 08 07.5 +0.8
baz=76
VES Vestal, Richgr 75.73 320 ⇑P P 21 08 08.5 +1.6
baz=76
HWUT Hardware Ranch 75.78 328 eP P 21 08 08.2 +0.8
HWUT epP pP 21 08 36.4 +0.2
CER Ceres 75.81 120 eP P 21 08 07.4 -0.3
CER AMB AMB 21 08 08.5
comp=Z,33nm,2.2s
G23A Biddle 75.86 334 ⇓P P 21 08 07.8 +0.2
baz=76,SNR=7.7
J19A Crowheart 75.88 331 ⇓P P 21 08 08.7 +0.9
baz=76,SNR=8.6
SMMC Simmler 75.93 319 ⇑P P 21 08 09.8 +1.6
baz=76,SNR=5.6
D27A Center 75.99 337 ⇑P P 21 08 08.7 +0.5
baz=76
BGU Big Grassy Mou 76.00 327 epP pP 21 08 37.6 +0.2
I20A Worland 76.01 332 ⇑P P 21 08 09.4 +0.9
baz=76
F24A Ekalaka 76.02 335 ⇓P P 21 08 09.1 +0.6
baz=76,SNR=5.2
TIN Tinemaha 76.06 321 ⇑P P 21 08 10.9 +1.9
baz=76
B30A Myrvik Farm, E 76.09 340 ⇓P P 21 08 09.3 +0.6
baz=76
TPH Tonopah 76.19 322 eP P 21 08 10.8 +1.0
TPH pmax pmax
comp=Z,3.0nm,0.6s
TPH Tonopah 76.19 322 eP P 21 08 10.8 +1.0
comp=Z,2.7nm,0.6s
G22A Birney 76.25 333 ⇓P P 21 08 09.9 +0.1
baz=77
F23A Volborg 76.30 334 ⇑P P 21 08 10.2 +0.2
baz=77,SNR=6.2
H20A Greybull 76.38 332 ⇓P P 21 08 11.3 +0.7
baz=77
B29A Wagenman Farm, 76.43 339 ⇑P P 21 08 11.2 +0.6
baz=77
AHID Auburn Hatcher 76.44 329 eP P 21 08 11.5 +0.4
comp=Z,22nm,0.9s
AHID epP pP 21 08 40.7 +0.8
I19A Meeteetse 76.46 331 ⇑P P 21 08 12.1 +0.9
baz=77,SNR=7.2
HVU Hansel Valley 76.51 327 eP P 21 08 12.1 +0.7
HVU e*PP pP 21 08 40.4 +0.1
HVU Hansel Valley 76.51 327 eP P 21 08 12.1 +0.7
HVU epP pP 21 08 40.4 +0.1
A30A Hoffart Farm, 76.51 340 ⇑P P 21 08 11.7 +0.6
baz=77
E24A Baker 76.56 335 ⇓P P 21 08 12.2 +0.7
baz=77,SNR=7.1
G21A Lodge Grass 76.63 333 ⇓P P 21 08 12.7 +0.7
baz=77,SNR=6.5
D25A Fairfield 76.68 336 ⇓P P 21 08 12.6 +0.5
baz=77
F22A Rosebud 76.69 334 ⇑P P 21 08 12.5 +0.2
baz=77,SNR=5.7
B28A Dugan Ranch, T 76.75 339 ⇑P P 21 08 12.9 +0.5
baz=77
REDW Red Top Meadow 76.78 330 eP P 21 08 13.8 +0.7
C26A Wahner Farm, P 76.81 337 ⇑P P 21 08 13.7 +0.9
baz=77
SNOW Snow King Moun 76.81 330 eP P 21 08 14.9 +1.6
TPAW Teton Pass 76.93 330 eP P 21 08 15.2 +1.3
ULM Lac du Bonnet 76.96 342 P P 21 08 13.0 -0.5
comp=Z,5.5nm,0.6s,baz=154,slow=6.0,SNR=15
ULM LR LR 21 45 51.4
comp=Z,85nm,18.3s,baz=87,slow=38
D24A Glendive 77.03 336 ⇑P P 21 08 14.6 +0.5
baz=77,SNR=6.0
NVAR Mina Array Bea 77.05 322 P P 21 08 15.2 +0.6
comp=Z,1.8nm,0.8s,baz=161,slow=7.5,SNR=10
NVAR pP pP 21 08 44.7 +1.2
comp=Z,3.8nm,0.7s,baz=158,slow=5.8,SNR=8.5
NVAR sP sP 21 08 55.2 -0.5
comp=Z,3.6nm,0.8s,baz=166,slow=6.5,SNR=5.2
G20A Bridger 77.06 332 ⇓P P 21 08 14.3 -0.1
baz=77,SNR=9.3
FXWY Fox Creek 77.08 330 eP P 21 08 15.1 +0.4
I17A Pilgrim Ck. 77.08 330 ⇑P P 21 08 15.8 +1.1
baz=78,SNR=6.6
A28A Rude Farm, Bot 77.11 339 ⇓P P 21 08 15.0 +0.5
baz=78
IMW Indian Meadow 77.23 330 eP P 21 08 16.8 +1.2
H18A Shoshone NF, C 77.26 331 ⇓P P 21 08 16.3 +0.7
baz=78,SNR=14
SUR Sutherland 77.34 120 eP P 21 08 17.5 +1.0
TORD Torodi Ar. Bea 77.39 70 P P 21 08 16.0 -0.7
comp=Z,64nm,0.7s,baz=254,slow=4.7,SNR=334
TORD pP pP 21 08 45.9 +0.2
comp=Z,44nm,1.0s,baz=252,slow=5.5,SNR=6.0
LAO LASA Array 77.42 334 eP P 21 08 16.6 +0.3
RLMT Red Lodge 77.44 332 eP P 21 08 17.4 +0.7
RLMT epP pP 21 08 45.9 +0.4
H17A Grant Village 77.45 330 ⇑P P 21 08 18.2 +1.4
baz=78
F20A Billings 77.49 333 ⇑P P 21 08 17.2 +0.5
baz=78
WIN Windhoek 77.50 109 eP P 21 08 17.4 -0.2
WIN AMB AMB 21 08 17.8
comp=Z,7.0nm,1.8s
SCHQ Schefferville 77.58 1 P P 21 08 16.0 -0.9
comp=Z,2.8nm,0.7s,baz=186,slow=3.2,SNR=6.0
SCHQ pP pP 21 08 46.2 +0.3
comp=Z,7.2nm,0.7s,baz=201,slow=2.7,SNR=4.2
SCHQ sP sP 21 08 58.0 0.0
comp=Z,9.5nm,0.7s,baz=171,slow=4.8,SNR=3.8
YFT Old Faithful 77.61 330 eP P 21 08 19.4 +1.7
comp=Z,14nm,0.8s
YFT epP pP 21 08 48.6 +2.0
E21A Keefer Ranch, 77.64 334 ⇓P P 21 08 18.0 +0.5
baz=78,SNR=7.4
WAKR Walker 77.74 321 eP P 21 08 20.6 +2.1
WAKR epP pP 21 08 48.3 +0.9
YNR Norris Junctio 77.75 331 eP P 21 08 17.7 -0.7
comp=Z,19nm,1.1s
YNR epP pP 21 08 49.3 +2.0
D22A Cohagen 77.78 335 ⇑P P 21 08 19.3 +1.0
baz=78,SNR=6.4
YMR Madison River 77.84 330 eP P 21 08 21.1 +2.2
F19A Roth Farm, Mol 77.87 332 ⇑P P 21 08 19.6 +0.8
baz=78,SNR=7.5
C23A Lambert 77.92 336 ⇓P P 21 08 20.0 +1.0
baz=78
D21A La Casta Ranch 78.03 334 ⇓P P 21 08 20.7 +1.0
baz=78,SNR=5.5
E20A Meyer Farm, Mu 78.04 333 ⇑P P 21 08 20.6 +0.8
baz=78,SNR=7.6
DGMT Dagmar 78.11 337 P P 21 08 21.2 +1.2
DGMT epP pP 21 08 48.9 -0.1
DGMT Dagmar 78.11 337 ⇑P P 21 08 21.0 +1.0
baz=78
A25A Svangstu Ranch 78.11 337 ⇑P P 21 08 21.0 +1.0
baz=78
GCMT Greycliff 78.13 332 eP P 21 08 20.8 +0.4
C22A Vida 78.15 335 ⇓P P 21 08 21.3 +1.0
baz=78
QLMT Earthquake Lak 78.18 330 eP P 21 08 22.1 +1.3
comp=Z,0.9nm,0.8s
QLMT epP pP 21 08 51.2 +1.5
E19A Rath Farm, Rou 78.28 333 ⇓P P 21 08 22.0 +0.9
baz=79,SNR=12
B23A Brockton 78.40 336 ⇑P P 21 08 22.7 +1.0
baz=79,SNR=5.1
A24A Westby 78.42 337 ⇓P P 21 08 22.5 +0.7
baz=79
D20A Manuel Ranch, 78.52 333 ⇑P P 21 08 22.8 +0.4
baz=79,SNR=6.5
HLID Hailey 78.64 328 eP P 21 08 24.4 +1.1
comp=Z,19nm,0.8s
HLID epP pP 21 08 53.2 +1.0
HLID Hailey 78.64 328 ⇑P P 21 08 24.5 +1.2
baz=79,SNR=25
B22A Reddig Ranch S 78.64 335 ⇑P P 21 08 23.3 +0.3
baz=79
C21A Desert Coulee 78.69 335 ⇓P P 21 08 23.3 +0.1
baz=79
MCMT McKenzie Canyo 78.83 329 eP P 21 08 25.6 +1.2
comp=Z,4.2nm,0.8s
MCMT epP pP 21 08 54.4 +1.0
D19A Cripps Ranch, 78.88 333 ⇑P P 21 08 24.4 0.0
baz=79,SNR=5.6
BOZ Bozeman (W) 78.89 331 eP P 21 08 24.5 -0.1
BOZ e*PP pP 21 08 53.0 -0.6
BOZ pmax pmax
comp=Z,5.0nm,1.2s
BOZ Bozeman (W) 78.89 331 eP P 21 08 24.5 -0.1
comp=Z,4.8nm,1.2s
BOZ epP pP 21 08 53.0 -0.6
UPI Upington 79.05 116 eP P 21 08 26.1 +0.2
UPI AMB AMB 21 08 27.6
comp=Z,34nm,1.6s
TSUM Tsumeb 79.09 106 eP P 21 08 26.2 -0.1
B21A Ellsworth Farm 79.14 335 ⇓P P 21 08 26.3 +0.6
baz=80
A22A Carney Farms, 79.18 336 ⇓P P 21 08 26.5 +0.6
baz=80,SNR=5.0
MFID Camas Ranch 79.24 327 eP P 21 08 27.2 +0.8
comp=Z,18nm,1.4s
MFID epP pP 21 08 56.7 +1.3
LRM Limekiln Ridge 79.40 330 eP P 21 08 27.8 +0.4
comp=Z,86nm,1.3s
LRM epP pP 21 08 57.0 +0.5
C19A Slack Wire Ran 79.40 333 ⇑P P 21 08 27.8 +0.6
baz=80
HRY Holter Researc 79.80 331 eP P 21 08 30.7 +1.3
comp=Z,6.6nm,0.7s
HRY epP pP 21 08 59.0 +0.6
A20A Cobblestone Ra 79.86 335 ⇓P P 21 08 30.2 +0.5
baz=80,SNR=9.1
EGMT Eagleton 79.92 333 eP P 21 08 30.7 +0.6
comp=Z,23nm,1.2s
EGMT epP pP 21 08 59.0 -0.1
EGMT Eagleton 79.92 333 ⇓P P 21 08 30.5 +0.5
baz=80
B19A Brinkman Farms 79.93 334 ⇑P P 21 08 29.9 -0.1
baz=80,SNR=6.3
A19A Klindworth Far 80.23 334 ⇑P P 21 08 31.2 -0.4
baz=81,SNR=6.1
MOD Modoc 80.53 323 eP P 21 08 34.4 +0.8
MOD epP pP 21 09 03.1 +0.5
WDC Whiskeytown Da 80.92 321 eP P 21 08 34.4 -1.0
WDC e*PP pP 21 09 03.7 -0.8
WDC pmax pmax
comp=Z,6.0nm,0.7s
WDC Whiskeytown Da 80.92 321 eP P 21 08 34.4 -1.0
comp=Z,6.0nm,0.7s
WDC epP pP 21 09 03.7 -0.8
SLMT Seeley Lake 80.94 331 eP P 21 08 36.0 +0.4
comp=Z,9.2nm,1.2s
SLMT epP pP 21 09 05.0 +0.3
SLMT esP sP 21 09 18.2 +1.4
KIPM Iron Peak 80.96 320 eP P 21 08 36.5 +0.7
comp=Z,19nm,1.0s
KIPM epP pP 21 09 06.1 +1.1
BMO Blue Mountains 81.01 327 eP P 21 08 36.3 +0.3
comp=Z,18nm,1.1s
BMO epP pP 21 09 05.7 +0.6
N02D Trinity Center 81.27 321 ⇑P P 21 08 37.3 -0.1
baz=82
M04C Macdoel 81.31 323 ⇓P P 21 08 38.0 +0.4
baz=82
RUDU RUNDU 81.44 106 eP P 21 08 39.0 +0.1
RUDU AMB AMB 21 08 40.7
comp=Z,29nm,2.5s
M02C Callahan 81.62 322 ⇑P P 21 08 39.8 +0.5
baz=82
HVD Gariep Dam 81.71 120 eP P 21 08 39.6 -0.6
HVD AMB AMB 21 08 51.6
comp=Z,32nm,6.1s
YBH Yreka Blue Hor 81.76 322 eP P 21 08 38.9 -1.1
YBH e*PP pP 21 09 08.2 -0.9
YBH pmax pmax
comp=Z,6.0nm,0.8s
YBH Yreka Blue Hor 81.76 322 P P 21 08 39.2 -0.8
comp=Z,2.2nm,0.7s,baz=83,slow=7.1,SNR=9.2
YBH pP pP 21 09 08.6 -0.6
comp=Z,5.9nm,0.8s,baz=83,slow=6.5,SNR=7.6
YBH Yreka Blue Hor 81.76 322 eP P 21 08 38.9 -1.1
comp=Z,5.8nm,0.8s
YBH epP pP 21 09 08.2 -0.9
J05D Fort Rock, OR 81.97 324 ⇑P P 21 08 41.9 +0.8
baz=82
PINOR Pine Mountain 82.13 325 eP P 21 08 42.5 +0.9
comp=Z,12nm,0.8s
BOSA Boshof 82.25 118 eP P 21 08 42.4 -0.6
BOSA AMB AMB 21 08 43.4
comp=Z,28nm,1.6s
BOSA Boshof 82.25 118 eP P 21 08 42.4 -0.6
BOSA *PP pP 21 09 12.3 +0.1
BOSA pmax pmax
comp=Z,17nm,0.8s
BOSA Boshof 82.25 118 P P 21 08 42.5 -0.6
comp=Z,14nm,0.7s,baz=263,slow=3.2,SNR=22
BOSA pP pP 21 09 12.3 +0.1
comp=Z,15nm,1.0s,baz=260,slow=6.7,SNR=4.3
BOSA Boshof 82.25 118 eP P 21 08 42.4 -0.6
comp=Z,18nm,0.8s
BOSA epP pP 21 09 12.0 -0.2
BOSA pP pP 21 09 12.3 +0.1
MDT Midelt 82.34 50 P P 21 08 43.1 -0.1
comp=Z,8.7nm,0.9s,baz=242,slow=3.5,SNR=8.6
J04D Umpqua Nationa 82.42 324 ⇑P P 21 08 44.4 +0.9
baz=83
L02D Cave Junction, 82.55 322 ⇑P P 21 08 45.2 +1.3
baz=83
PBDV Barranco-do-Ve 82.63 44 eP P 21 08 45.4 +0.9
FFC Flin Flon 82.67 341 eP P 21 08 43.7 -0.5
FFC e*PP pP 21 09 11.9 -1.6
FFC Flin Flon 82.67 341 eP P 21 08 43.7 -0.5
FFC e 21 08 45.0
FFC epP pP 21 09 11.9 -1.6
MAW Mawson 82.69 163 P P 21 08 44.3 0.0
comp=Z,33nm,0.7s,baz=228,slow=6.5,SNR=4.4
PNCL Nicolau / Gran 82.76 43 eP P 21 08 45.7 +0.6
MESJ Messejana 82.80 44 eP P 21 08 46.1 +0.8
SWZ Schweizer 82.85 116 eP P 21 08 44.8 -1.4
SWZ AMB AMB 21 08 46.3
comp=Z,64nm,4.5s
PVAQ Vaqueiros 82.86 44 eP P 21 08 47.0 +1.3
I04A Tendick Farm, 82.95 324 ⇑P P 21 08 45.9 -0.1
baz=83
EVOP Sao Brissos 83.27 43 eP P 21 08 47.6 -0.1
EVOP Sao Brissos 83.27 43 eP P 21 08 47.6 -0.1
G05D Wamic, OR 83.33 325 ⇑P P 21 08 48.6 +0.7
baz=84
EVO Evora 83.34 43 eP P 21 08 47.6 -0.5
I03D Drain, OR 83.40 323 ⇓P P 21 08 49.0 +0.8
baz=84
PMTG Montargil 83.52 43 eP P 21 08 50.4 +1.4
PBAR Barrancos 83.75 44 eP P 21 08 51.4 +1.2
comp=Z,152nm,1.8s
LBTB Lobatse 83.89 114 eP P 21 08 50.6 -0.9
LBTB AMB AMB 21 08 52.6
comp=Z,30nm,2.4s
PCAS Casmilo, Conde 83.94 42 eP P 21 08 55.9 +4.8
FCC Fort Churchill 84.27 347 eP P 21 08 52.0 -0.3
FCC Fort Churchill 84.27 347 eP P 21 08 52.0 -0.3
comp=Z,0.1nm,0.6s
SEK Senekal 84.29 118 eP P 21 08 53.3 -0.3
SEK AMB AMB 21 08 54.0
comp=Z,30nm,0.9s
MTE Manteigas 84.73 42 eP P 21 08 55.3 +0.1
TAM Tamanrasset 85.05 63 eP P 21 08 57.1 -0.2
TAM e*PP pP 21 09 27.9 +1.2
TAM pmax pmax
comp=Z,34nm,1.4s
TAM Tamanrasset 85.05 63 eP P 21 08 57.1 -0.2
comp=Z,34nm,1.4s
TAM epP pP 21 09 27.9 +1.2
EDM Edmonton 85.39 335 eP P 21 08 57.7 -0.5
EDM e*PP pP 21 09 26.3 -1.2
EDM Edmonton 85.39 335 eP P 21 08 57.7 -0.5
EDM epP pP 21 09 26.3 -1.2
OBSV Observatory 85.49 116 eP P 21 08 57.9 -1.8
OBSV AMB AMB 21 08 58.5
comp=Z,23nm,3.8s
MVO Moncorvo 85.50 42 eP P 21 08 59.2 +0.2
ERPM east rand prop 85.57 117 eP P 21 08 59.9 -0.2
ERPM AMB AMB 21 09 01.0
comp=Z,26nm,5.2s
SLR Silverton 85.84 116 eP P 21 09 00.7 -0.6
SLR AMB AMB 21 09 02.1
comp=Z,27nm,5.2s
PAB San Pablo 86.25 44 eP P 21 09 02.8 0.0
PAB pmax pmax
comp=Z,14nm,0.8s
PAB San Pablo 86.25 44 eP P 21 09 02.8 0.0
comp=Z,14nm,0.8s
ESDC Sonseca Array 86.57 44 P P 21 09 04.3 -0.1
comp=Z,7.4nm,1.0s,baz=255,slow=4.0,SNR=16
ESDC pP pP 21 09 34.7 +1.0
comp=Z,3.2nm,0.9s,baz=247,slow=4.0,SNR=3.0
ESDC LR LR 21 46 16.7
comp=Z,40nm,20.2s,baz=255,slow=34
MSNA Messina 88.67 114 eP P 21 09 14.0 -0.8
MSNA AMB AMB 21 09 14.5
comp=Z,23nm,1.6s
LSZ Lusaka 89.94 106 eP P 21 09 22.6 +1.6
LSZ pmax pmax
comp=Z,14nm,1.1s
LSZ Lusaka 89.94 106 eP P 21 09 22.6 +1.6
comp=Z,14nm,1.1s
SJPF Ste Jean 90.17 42 eP P 21 09 21.8 +0.6
comp=Z,35nm,1.1s
SJPF Ste Jean 90.17 42 eP P 21 09 21.8 +0.6
SJPF pmax pmax
comp=Z,35nm,1.1s
SJPF Ste Jean 90.17 42 eP P 21 09 21.8 +0.6
comp=Z,35nm,1.1s
ETSF Etsaut 90.47 43 eP P 21 09 23.3 +0.6
ETSF Etsaut 90.47 43 eP P 21 09 23.3 +0.6
ETSF Etsaut 90.47 43 eP P 21 09 23.3 +0.6
LFF La Frestale 92.33 42 eP P 21 09 29.7 -1.4
comp=Z,146nm,1.5s
LFF La Frestale 92.33 42 eP P 21 09 29.7 -1.4
LFF pmax pmax
comp=Z,146nm,1.5s
LFF La Frestale 92.33 42 eP P 21 09 29.7 -1.4
comp=Z,146nm,1.5s
MFF Saint Martin d 92.65 40 eP P 21 09 33.2 +0.6
comp=Z,18nm,0.8s
MFF Saint Martin d 92.65 40 eP P 21 09 33.2 +0.6
MFF pmax pmax
comp=Z,18nm,0.8s
MFF Saint Martin d 92.65 40 eP P 21 09 33.2 +0.6
comp=Z,18nm,0.8s
YKA Yellowknife Ar 92.83 340 P P 21 09 32.8 -0.2
comp=Z,3.1nm,0.8s,baz=137,slow=4.6,SNR=50
YKA pP pP 21 10 02.1 -0.5
comp=Z,18nm,0.8s,baz=135,slow=4.6,SNR=24
YKA sP sP 21 10 15.6 +0.9
comp=Z,7.0nm,0.7s,baz=138,slow=4.4,SNR=5.4
GRR Gorron 93.16 38 eP P 21 09 37.6 +2.7
comp=Z,35nm,1.0s
GRR Gorron 93.16 38 eP P 21 09 37.6 +2.7
GRR pmax pmax
comp=Z,35nm,1.0s
GRR Gorron 93.16 38 eP P 21 09 37.6 +2.7
comp=Z,35nm,1.0s
KEST Kesra 93.82 53 P P 21 09 38.2 -0.2
comp=Z,2.3nm,0.9s,baz=199,slow=14,SNR=3.6
KEST LR LR 21 54 14.7
comp=Z,46nm,18.4s,baz=278,slow=37
AVF Avril sur Loir 94.83 41 eP P 21 09 43.4 +0.8
AVF Avril sur Loir 94.83 41 eP P 21 09 43.4 +0.8
AVF Avril sur Loir 94.83 41 eP P 21 09 43.4 +0.8
ORIF Oris-en-Rattie 95.51 43 eP P 21 09 46.0 +0.1
comp=Z,27nm,1.3s
ORIF Oris-en-Rattie 95.51 43 eP P 21 09 46.0 +0.1
ORIF pmax pmax
comp=Z,27nm,1.3s
ORIF Oris-en-Rattie 95.51 43 eP P 21 09 46.0 +0.1
comp=Z,27nm,1.3s
DLBC Dease Lake 95.83 332 P P 21 09 47.6 +0.6
comp=Z,1.4nm,0.4s,baz=174,slow=25,SNR=3.5
LPL La Plagne 96.32 43 eP P 21 09 49.9 +0.2
LPL La Plagne 96.32 43 eP P 21 09 49.9 +0.2
LPL La Plagne 96.32 43 eP P 21 09 49.9 +0.2
LPG La Plagne 96.33 43 eP P 21 09 49.8 0.0
comp=Z,11nm,1.0s
LPG La Plagne 96.33 43 eP P 21 09 49.8 0.0
LPG pmax pmax
comp=Z,11nm,1.0s
LPG La Plagne 96.33 43 eP P 21 09 49.8 0.0
comp=Z,11nm,1.0s
SUMG Summit 97.52 9 iP pP 21 10 24.5 0.0
comp=Z,5.8nm,1.1s
GERES GERESS Array B 102.01 42 PKPbc PKPbc 21 26 19.4 -0.9
comp=Z,0.5nm,0.7s,baz=106,slow=3.3,SNR=4.0
INK Inuvik 102.58 340 PKPbc PKPbc 21 26 17.1 -2.1
comp=Z,0.5nm,0.5s,baz=184,slow=1.5,SNR=3.5
ILAR Eielson Array 105.88 334 PKPbc PKPbc 21 26 05.8 -3.4
comp=Z,0.6nm,0.7s,baz=288,slow=3.9,SNR=4.6
DZM Mont Dzumac 110.32 234 eLR LR 21 47 41.0
comp=Z,138nm,35.9s
FINES FINESS Array B 112.06 31 PKPbc PKPbc 21 25 46.8 -2.3
comp=Z,1.2nm,0.6s,baz=158,slow=5.6,SNR=4.6
KIEV Kiev 112.18 43 iPKIKP PKiKP 21 14 54.5 -1.2
KAF Kangasniemi 112.26 30 ePKIKP PKiKP 21 14 55.5 0.0
KAF Kangasniemi 112.26 30 ep PKiKP 21 14 55.5 0.0
ARCES ARCESS Array B 112.72 22 PKPbc PKPbc 21 25 44.8 -2.3
comp=Z,7.1nm,1.1s,baz=72,slow=2.9,SNR=4.9
BRTR Keskin Array B 113.28 55 PKiKP PKiKP 21 14 57.7 -0.7
comp=Z,0.9nm,0.7s,baz=210,slow=2.7,SNR=3.8
BRTR pPKiKP pPKiKP 21 15 29.6 +0.3
comp=Z,1.1nm,0.8s,baz=298,slow=2.5,SNR=4.1
BRTR PKKPab PKKPab 21 25 51.4 +1.1
comp=Z,0.6nm,0.7s,baz=161,slow=3.7,SNR=5.1
ANN Anapa 116.85 50 iPKIKP PKPdf 21 15 05.3 +0.5
ANN e 21 15 36.1
ANN e 21 16 11.5
ANN ePPP PPP 21 18 43.8
ANN e 21 21 45.4
ANN eSS SS 21 32 15.1 +1.0
ANN eSSS SSS 21 36 26.7
ANN pmax pmax
comp=Z,24nm,1.2s
OBN Obninsk 117.06 39 ePKIKP PKPdf 21 15 01.4 -3.5
OBN pmax pmax
comp=Z,10.0nm,1.2s

TMCR Tamitsa 117.64 28 ePKIKP PKPdf 21 14 56.2 -10
TMCR pmax pmax
comp=Z,16nm,0.9s
STKA Stephens Creek 118.32 209 PKP PKPdf 21 15 08.2 0.0
comp=Z,3.6nm,0.8s,baz=277,slow=2.6,SNR=6.3
KIV Kislovodsk 120.53 52 ePKIKP PKPdf 21 15 11.9 -0.2
KIV pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 120.67 52 PKP PKPdf 21 15 12.7 +0.4
comp=Z,6.0nm,0.9s,baz=153,slow=0.7,SNR=7.1
KBZ pPKP pPKPdf 21 15 44.0 +0.9
comp=Z,4.1nm,0.9s,baz=42,slow=3.1,SNR=3.8
GNI Garni 121.79 56 PKP PKPdf 21 15 14.5 -0.2
comp=Z,3.4nm,0.7s,baz=146,slow=3.6,SNR=3.3
NWAO Narrogin (SRO) 124.07 186 PKP PKPdf 21 15 19.1 -0.1
comp=Z,4.5nm,0.7s
BILL Bilibino 124.16 338 i PKIKP PKPdf 21 15 18.6 +0.4
BILL pmax pmax
comp=Z,2.0nm,0.9s
H11S2 WAKE ISLAND Hy128.58 276 T T 23 36 00.2
baz=108,slow=73,SNR=314
H11S1 WAKE ISLAND Hy128.59 276 T T 23 35 55.3
baz=108,slow=73,SNR=147
H11S3 WAKE ISLAND Hy128.60 276 T T 23 36 01.8
baz=108,slow=73,SNR=165
H11N3 WAKE ISLAND Hy128.70 277 T T 23 36 13.3
baz=106,slow=75,SNR=138
H11N2 WAKE ISLAND Hy128.72 277 T T 23 36 10.4
baz=106,slow=75,SNR=122
H11N1 WAKE ISLAND Hy128.72 277 T T 23 36 10.2
baz=106,slow=75,SNR=102
AS31 Alice Springs 128.77 206 ePKPdf PKPdf 21 15 27.9 -0.7
ASAR Alice Springs 128.77 206 PKP PKPdf 21 15 28.1 -0.5
comp=Z,12nm,0.7s,baz=135,slow=2.0,SNR=98
ASAR pPKP pPKPdf 21 15 59.4 -0.1
comp=Z,1.8nm,0.7s,baz=146,slow=1.4,SNR=2.0
ARU Arti 129.13 35 i PKIKP PKPdf 21 15 28.7 +0.7
ARU 21 17 39.0
ARU SS SS 21 34 39.5 -9.0
TIXI Tiksi 130.40 353⇑i PKIKP PKPdf 21 15 30.0 0.0
TIXI pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 130.40 353 ePKPdf PKPdf 21 15 30.1 0.0
TIXI epPKPdf pPKPdf 21 15 59.9 -1.0
AKTO Aktyubinsk 130.43 43 SKPbc SKPbc 21 18 44.8 +0.9
comp=Z,5.8nm,1.0s,baz=297,slow=6.4,SNR=6.3
SEY Seymchan 131.74 336 PKP PKPdf 21 15 33.5 +0.8
comp=Z,8.2nm,0.9s,baz=86,slow=2.3,SNR=27
WRA Warramunga Arr 131.87 209 PKhKP PKPpre 21 15 18.2
comp=Z,0.4nm,0.7s,baz=194,slow=1.3,SNR=11
WRA PKP PKPdf 21 15 34.0 -0.4
comp=Z,11nm,0.7s,baz=167,slow=1.6,SNR=82
WRA pPKP pPKPdf 21 16 06.6 +1.2
comp=Z,1.7nm,0.6s,baz=152,slow=1.8,SNR=2.5
WRA SKPbc SKPab 21 18 51.1 +0.2
comp=Z,2.2nm,0.8s,baz=154,slow=3.4,SNR=5.5
WRAB Tennant Creek 131.87 209⇑i PKIKP PKPdf 21 15 34.2 -0.3
WRAB pmax pmax
comp=Z,35nm,0.7s
WRAB Tennant Creek 131.87 209 ePKPdf PKPdf 21 15 34.2 -0.3
BRVK Borovoye 136.69 36 i PKIKP PKPdf 21 15 44.0 +1.6
BVAR Borovoye Array 136.76 36 PKIKP PKPdf 21 15 43.0 +0.4
BVAR Borovoye Array 136.76 36 PKP PKPdf 21 15 42.9 +0.4
comp=Z,2.7nm,0.8s,baz=304,slow=3.4,SNR=4.2
ZAA0 Zalesovo Array 143.12 26 ePKPdf PKPbc 21 15 51.9 +0.7
ZALV Zalesovo Beam 143.12 26 PKP PKPbc 21 15 52.0 +0.7
comp=Z,11nm,0.7s,baz=285,slow=2.8,SNR=11
ZALV pPKP pPKPdf 21 16 26.1 +1.2
comp=Z,5.3nm,0.7s,baz=336,slow=3.3,SNR=3.0
AAK Ala-Archa 143.56 49 i PKIKP PKPdf 21 15 55.1 -0.3
AAK pmax pmax
comp=Z,26nm,1.7s
AAK Ala-Archa 143.56 49 PKP PKPbc 21 15 54.0 +0.9
comp=Z,4.3nm,0.8s,baz=276,slow=3.1,SNR=4.3
CLNS Chul'man 144.90 347 ePKIKP PKPbc 21 15 56.8 +0.3
CLNS pmax pmax
comp=Z,26nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS pmax pmax
comp=N,8.0nm,0.9s
BATI Baumata 144.91 201 PKPbc PKPbc 21 15 58.3 +0.6
comp=N,112nm,0.7s,baz=227,slow=1.6,SNR=49
SOEI Soe 145.13 202 ePKPbc PKPbc 21 15 58.9 +0.3
YSS Yuzh-Sakhalins 145.49 321⇑i PKP2 PKPab 21 15 59.0 0.0
YSS Yuzh-Sakhalins 145.49 321 ePKPdf PKPab 21 15 59.0 0.0
KSH Kashi 145.64 53 PKPbc PKPdf 21 15 59.1 +0.1
KSH esPKP 21 16 36.8
KSH PKS PKSdf 21 19 34.8 +0.2
KSH SKKS 21 26 02.8
KSH SS SS 21 38 05.3 -0.2
KSH AMB AMB
comp=N,70nm,6.1s
KSH LR LR
comp=N,61nm,5.3s
KSH LR LR
comp=N,71nm,4.0s
KSH LR LR
comp=N,110nm,5.7s
PALK Pallekele 146.36 113 i PKP2 PKPab 21 16 03.3 0.0
PALK Pallekele 146.36 113 PKPbc PKPbc 21 16 01.1 +0.2
comp=N,26nm,0.9s,baz=261,slow=1.7,SNR=7.8
MKAR Makanchi Array 146.56 38 PKPbc PKPdf 21 16 00.3 0.0
comp=N,14nm,0.7s,baz=319,slow=2.5,SNR=38
MKAR pPKPbc pPKPbc 21 16 31.4 -1.1
comp=N,8.7nm,0.8s,baz=320,slow=2.8,SNR=3.5
MMRI Maumere 146.84 199 ePKPdf PKPdf 21 16 01.3 -0.4
ASAJ Asahikawa 147.06 317 PKPbc PKPdf 21 16 02.1 +1.0
comp=N,18nm,0.7s,baz=269,slow=6.6,SNR=3.3
ASAJ pPKPbc pPKPbc 21 16 33.2 -0.8
comp=N,28nm,0.8s,baz=93,slow=1.2,SNR=6.7
ASAJ Asahikawa 147.06 317 ePKPdf PKPdf 21 16 01.0 -0.1
ASAJ epPKPdf pPKPdf 21 16 31.1 -1.0
FAKI Fak Fak 147.29 221 ePKPdf PKPdf 21 16 03.6 +1.2
HYB Hyderabad 148.47 94 i PKP PKPbc 21 16 08.0 0.0
HYB epPKP pPKPdf 21 16 37.0 +1.8
HYB esPKP 21 16 50.0
JAGI Jajag, Banyuwa 148.57 185 ePKPbc PKPbc 21 16 07.6 -0.7
HABR Khabarovsk 148.57 330 ePKIKP PKPbc 21 16 06.3 -0.9
HABR e 21 16 10.4
HABR ePPP PPP 21 22 56.8
HABR e 21 23 00.4
HABR eSS SS 21 38 38.4 +1.6
HABR pmax pmax
comp=N,10.0nm,0.9s
HABR pmax pmax
comp=E,6.0nm,0.9s
HABR pmax pmax
comp=Z,13nm,0.9s
CISI Cisompet, Garu 149.34 173 ePKPdf PKPdf 21 16 05.8 -0.1
CISI ePKPbc PKPbc 21 16 09.9 -0.4
KLR Kul'dur 149.45 334 ePKIKP PKPdf 21 16 02.0 -2.9
KLR e 21 16 35.8
KLR pmax pmax
comp=Z,43nm,1.4s
SMRI Semarang 150.05 178 ePKPbc PKPbc 21 16 12.5 +0.5
MOY Mondy 150.28 13 ePKIKP PKPdf 21 16 07.6 +1.4
MOY pmax pmax
comp=Z,48nm,2.4s
TLY Talaya 150.76 10 ePKPbc PKPbc 21 16 13.3 +0.7
TLY Talaya 150.76 10 ePKPbc PKPbc 21 16 13.3 +0.7
KAPI Kappang 151.00 197 ePKPbc PKPbc 21 16 14.8 +0.6
WMQ Urumqi 151.39 38 PKPbc PKPdf 21 16 08.9 +0.7
WMQ sPKP 21 16 46.3
WMQ PKS PKSdf 21 19 42.1 -0.7
WMQ PP PP 21 19 57.4 +3.4
WMQ SKS SKSdf 21 23 04.0 -1.3
WMQ SKKS SKKSac 21 26 36.1 +2.0
WMQ SS SS 21 39 11.3 +2.5
WMQ AMB AMB
comp=Z,40nm,10.2s
WMQ LR LR
comp=Z,82nm,26.2s
WMQ LR LR
comp=Z,70nm,23.0s
WMQ LR LR
comp=Z,76nm,21.2s
ZAK Zakamensk 151.95 11 ePKIKP PKPdf 21 16 10.1 +1.3
ZAK e 21 16 45.2
ZAK pmax pmax
comp=Z,5.0nm,1.8s
HIA Hailar 153.08 348 ePKIKP PKPbc 21 16 18.1 +0.2
HIA Hailar 153.08 348 ePKPbc PKPbc 21 16 18.1 +0.2
USRK Ussuriysk Arra 153.10 326 PKP PKPdf 21 16 11.0 +0.5
comp=Z,2.4nm,0.9s,baz=197,slow=2.0,SNR=4.9
USRK PKPbc PKPbc 21 16 18.0 0.0
comp=Z,5.2nm,0.9s,baz=25,slow=2.8,SNR=9.4
USRK PKPab PKPab 21 16 30.1 +0.1
comp=Z,1.7nm,0.7s,baz=31,slow=2.0,SNR=4.5
USRK pPKPbc pPKPbc 21 16 49.1 +0.3
comp=Z,7.8nm,0.9s,baz=355,slow=1.8,SNR=6.3
MJAR Matsushiro Arr 153.44 306 PKP PKPdf 21 16 11.7 +0.3
comp=Z,29nm,1.3s,baz=261,slow=1.5,SNR=4.5
MJAR PKPbc PKPbc 21 16 18.3 -0.7
comp=Z,3.8nm,0.8s,baz=118,slow=0.9,SNR=9.2
MJAR PKPab PKPab 21 16 32.0 +0.3
comp=Z,5.3nm,0.8s,baz=113,slow=2.2,SNR=9.9
MJAR pPKPbc pPKPbc 21 16 49.9 0.0
comp=Z,8.2nm,0.9s,baz=76,slow=0.5,SNR=7.2
MAJO Matsushiro 153.44 306 i PKIKP PKPbc 21 16 20.0 +0.9
LUWI Luwuk 153.71 206 ePKPbc PKPbc 21 16 20.9 +0.6
MDJ Mudanjiang 153.96 330 PKPbc PKPdf 21 16 11.9 +0.1
SONM Songino Array 154.92 8 PKP PKPdf 21 16 13.5 +0.3
comp=Z,3.2nm,0.8s,baz=276,slow=0.9,SNR=31
SONM PKPbc PKiKP 21 16 22.1 +0.1
comp=Z,1.8nm,0.7s,baz=353,slow=1.7,SNR=4.8
ULN Ulaanbaatar 154.98 7⇑i PKIKP PKPdf 21 16 14.8 +1.5
ULN pmax pmax
comp=Z,9.0nm,2.5s
ULN Ulaanbaatar 154.98 7 ePKPbc PKPdf 21 16 13.9 +0.5
PSI Prapat 156.38 147 PKPab PKPab 21 16 44.2 -0.6
comp=Z,20nm,0.8s,baz=241,slow=0.8,SNR=18
KSRS Korea Array 159.97 319 PKP PKPdf 21 16 18.4 -1.2
comp=Z,4.8nm,0.9s,baz=67,slow=1.7,SNR=10
KSRS pPKP pPKPdf 21 16 52.0 +1.3
comp=Z,4.9nm,1.0s,baz=23,slow=1.4,SNR=4.4
KSRS pPKPab pPKPab 21 17 30.1 +0.6
comp=Z,2.3nm,0.8s,baz=31,slow=4.6,SNR=2.8
KSAR Wonju Array Be 160.00 319 PKIKP PKPdf 21 16 18.4 -1.3
KSAR 21 16 52.1
KSAR Wonju Array Be 160.00 319 PKP PKPdf 21 16 18.4 -1.3
KSAR pPKP pPKPdf 21 16 52.0 +1.3
KSAR pPKPab pPKPab 21 17 30.1 +0.4
HHC Hu-ho-hao-te 162.26 0 ePKP PKPdf 21 16 23.8 +1.6
HHC sPKP 21 17 02.3
HHC PP PP 21 20 56.4 +3.3
HHC SS SS 21 41 02.1 -1.7
HHC AMB AMB
comp=Z,150nm,4.7s
BJI Beijing 162.65 348 PKP PKPdf 21 16 23.5 +1.1
LZH Lanzhou 165.35 26 ePKP PKPdf 21 16 23.8 -1.4
LZH PKPab PKPab 21 17 27.3 +3.8
LZH PP PP 21 21 09.1 -0.7
LZH SKKS 21 27 48.3
LZH eSS SS 21 41 38.1 +1.7
LZH AMB AMB
comp=Z,120nm,6.5s
LZH LR LR
comp=Z,430nm,19.0s
LZH LR LR
comp=Z,360nm,16.8s
LZH LR LR
comp=Z,490nm,19.7s
CMAR Chiang Mai Arr 167.25 109 PKP PKPdf 21 16 27.2 +0.3
comp=Z,1.4nm,1.0s,baz=284,slow=2.7,SNR=24
CMAR PKPab PKPab 21 17 31.9 -0.4
comp=Z,3.5nm,0.8s,baz=251,slow=5.5,SNR=10
CMAR PP PP 21 21 19.8 -1.2
comp=Z,0.6nm,0.8s,baz=269,slow=4.1,SNR=4.5
CD2 Chengdu 169.48 40 PKP PKPdf 21 16 26.4 -1.8
CD2 pPKP pPKPdf 21 16 57.3 -2.0
CD2 sPKP 21 17 09.1
CD2 PKS PKSdf 21 19 57.8 -3.0
CD2 PP PP 21 21 32.3 +1.1
CD2 SKS SKSdf 21 23 17.3 -4.3
CD2 SKKS SKKSac 21 28 06.5 -1.6
CD2 SS SS 21 42 16.8 -1.8
CD2 AMB AMB
comp=Z,180nm,6.2s
GYA Guiyang 174.34 52 i PKP PKPdf 21 16 31.3 +0.6
GYA pPKP pPKPdf 21 17 00.8 -1.0
GYA sPKP 21 17 14.0
GYA PKPab PKPab 21 18 02.6 -1.0
GYA PKS PKSdf 21 20 01.5 -1.6
GYA PP PP 21 21 57.8 +2.0
GYA AMB AMB
comp=Z,140nm,5.4s

JMA 18 20:56:37.8,32.07N×129.93E,h10km±1km,M0.9,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHD	Hondo	0.43	24	P	Pg	20 56 46.4	+0.1
JHD				eS	Sg	20 56 52.7	+0.7
JSJ	Shimokoshiki	0.43	205	eS	Sg	20 56 51.9	-0.1
JZO	Okuchi	0.57	83	P	Pg	20 56 49.1	+0.1
JZO				eS	Sg	20 56 56.7	+0.1
JSU	Suzuyama	0.72	141	P	Pg	20 56 51.2	-0.5
JSU				eS	Sg	20 57 00.8	-0.4
JIU2	Izumi 2	0.89	57	eS	Sg	20 57 06.0	-0.5

DSN 18 21:07:55.2±2.0,31.97N×49.70E,h13km,mb4.5/8,Ms5.2/8, Error ellipse: s-maj=3.2km s-min=0.9km az=247.0
IDC 18 21:08:08.9±0.7,30.83N×50.26E,h0km,mb4.3/29, mb1 4.4/32,mb1mx4.3/42,mbtmp4.3/32,ML3.5/3,MS3.6/5, Ms1 3.6/5,ms1mx3.2/41,Error ellipse: s-maj=16.7km s-min=12.4km az=173.0
BJI 18 21:08:10.0,30.83N×49.71E,h39km,mB5.0/8,mb4.6/21, Ms4.6/5,Ms7 4.3/4
THR 18 21:08:10.8±0.7,30.74N×50.24E,h14km,ML4.5
ISCJB 18 21:08:11.6±0.1,30.78N±0.02×50.23E±0.02,h30km, mb4.7/98,MS4.4/22,Error ellipse: s-maj=2.9km s-min=2.2km az=26.8
CSEM 18 21:08:11.5±0.1,30.80N×50.19E,h15km,mb4.6/69,Ms4.9, Error ellipse: s-maj=4.0km s-min=2.8km az=26.0
TEH 18 21:08:13.1,30.77N×50.19E,h15km,ML4.6
NEIC 18 21:08:13.2,30.76N×50.19E,h16km,mb4.9/49,MS4.7/14, MN4.6(TEH),After TEH.
MOS 18 21:08:16.0±1.0,30.92N×50.25E,h68km,mb4.9/44,Error ellipse: s-maj=7.1km s-min=3.6km az=125.0
ISC 18 21:08:13.2±0.3,30.86N±0.03×50.24E±0.03,h30km,n696, σ1§31/673,mb4.7/98,MS4.5/22,32C-12D,Northern and central Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SHGR Shooshtar-Gavs 1.75 316 ePg Pb 21 08 44.2 -0.5
SHGR Shooshtar-Gavs 1.75 316 ePg Pb 21 08 44.1 -0.5
SHGR AML AML 21 09 16.5
comp=N,2μm,0.6s
SHGR AML AML 21 09 22.4
comp=E,3μm,0.7s
IKAZ Kazeroun 1.75 128 ePg Pb 21 08 44.2 -0.7
IKAZ eSg Sb 21 09 07.6 +0.9
IKAZ e 21 09 12.5
comp=Z,76μm,0.2s
IKAZ Kazeroun 1.75 128 Pg Pb 21 08 44.2 -0.7
IKAZ Sg Sb 21 09 07.6 +0.9
IKAZ Kazeroun 1.75 128 ePg Pb 21 08 44.2 -0.7
IKAZ eSg Sb 21 09 07.6 +0.9
IPIR Pirpir 1.90 17 ePn Pb 21 08 46.2 -1.3
IPIR e 21 09 23.3
comp=Z,21μm,0.3s
IPIR Pirpir 1.90 17 Pn Pb 21 08 46.1 -1.3
IPIR Pirpir 1.90 17 Pn Pb 21 08 46.1 -1.3
IGAR Gharneh 2.17 45 ePn Pb 21 08 50.6 -1.4
IGAR e 21 09 26.1
comp=E,2μm,0.3s
IGAR Gharneh 2.17 45 ePn Pb 21 08 50.6 -1.4
SHI Shiraz 2.31 121 P Pb 21 08 58.6 +4.2
SHI Shiraz 2.31 121 e Sn 21 09 38.8 +2.2
comp=N,48μm,0.2s
SHI Shiraz 2.31 121 Pn Pb 21 08 58.6 +4.2
IPAR Pars 2.63 112 ePn Pn 21 08 56.0 +2.0
IPAR e 21 09 44.5
comp=Z,29μm,0.3s
IPAR Pars 2.63 112 Pn Pn 21 08 55.9 +2.0
IPAR Pars 2.63 112 Pn Pn 21 08 55.9 +2.0
IZEF Zefreh 2.70 41 ePn Pn 21 08 56.9 +2.0
IZEF e 21 09 54.5
comp=Z,6μm,0.5s
IZEF Zefreh 2.70 41 Pn Pn 21 08 56.8 +2.0
IZEF Zefreh 2.70 41 Pn Pn 21 08 56.8 +2.0
IKLH Kolahrood 2.70 25 ePn Pn 21 08 57.2 +2.3
IKLH e 21 09 56.9
comp=Z,37μm,0.8s
IKLH Kolahrood 2.70 25 Pn Pn 21 08 58.2 +3.3
IKLH Kolahrood 2.70 25 ePn Pn 21 08 57.2 +2.3
ISRV Sarvestan 2.89 120 ePn Pn 21 08 58.3 +0.8
ISRV e 21 10 15.1
comp=Z,48μm,0.5s
ISRV Sarvestan 2.89 120 Pn Pn 21 08 58.3 +0.8
ISRV Sarvestan 2.89 120 ePn Pn 21 08 58.3 +0.8
NASN Na'in 2.92 48 ePn Pn 21 09 00.3 +2.4
NASN Na'in 2.92 48 ePn Pn 21 09 00.3 +2.4
ISAD Sadrabad 3.13 70 ePn Pn 21 09 03.3 +2.6
ISAD e 21 09 42.6
comp=Z,33μm,0.3s
ISAD Sadrabad 3.13 70 Pn Pn 21 09 03.3 +2.6
ISAD Sadrabad 3.13 70 ePn Pn 21 09 03.3 +2.6
KFJS 3.33 217 P Pn 21 09 06.0 +2.7
KFJS 3.33 217 P Pn 21 09 05.6 +2.3
GHIR Ghir-Karzin 3.51 136 ePn Pn 21 09 06.0 +0.1
comp=Z,1μm,0.6s
GHIR Ghir-Karzin 3.51 136 ePn Pn 21 09 06.0 +0.1
GHIR AML AML 21 10 15.3
comp=N,1μm,0.5s
GHIR AML AML 21 10 24.6
comp=E,1μm,0.6s
ASAO Ashtian 3.68 357 ePn Pn 21 09 11.4 +3.1
ASAO Ashtian 3.68 357 ePn Pn 21 09 11.4 +3.1
GHVR GHOM 3.72 14 ePn Pn 21 09 11.7 +3.0
comp=E,170nm,0.7s
GHVR GHOM 3.72 14 ePn Pn 21 09 11.7 +3.0
GHVR AML AML 21 10 06.2
comp=E,170nm,0.7s
IMEH Mehriz 3.79 81 ePn Pn 21 09 11.5 +1.7
IMEH e 21 09 58.0
comp=Z,9μm,0.4s
IMEH Mehriz 3.79 81 Pn Pn 21 09 11.4 +1.7
IMEH Mehriz 3.79 81 ePn Pn 21 09 11.5 +1.7
ICHK Chekchek 3.81 68 ePn Pn 21 09 11.9 +1.8
ICHK e 21 09 59.1
comp=Z,17μm,0.4s
ICHK Chekchek 3.81 68 Pn Pn 21 09 11.9 +1.8
ICHK Chekchek 3.81 68 ePn Pn 21 09 11.9 +1.8
IVRN Varamin 4.31 16 ePn Pn 21 09 19.1 +2.2
IVRN e 21 11 26.5
comp=Z,16μm,1.0s
IVRN Varamin 4.31 16 Pn Pn 21 09 19.0 +2.2
IVRN Varamin 4.31 16 Pn Pn 21 09 19.0 +2.2
IRAZ Razeghan 4.54 357 ePn Pn 21 09 22.3 +2.2
IRAZ e 21 10 48.9
comp=Z,4μm,0.6s
IRAZ Razeghan 4.54 357 Pn Pn 21 09 22.2 +2.2
IRAZ Razeghan 4.54 357 Pn Pn 21 09 22.2 +2.2
DHR Dhahran 4.54 181 Pn Pb 21 09 27.9 -4.3
IBAF Bafgh 4.62 80 ePn Pn 21 09 22.4 +1.3
IBAF e 21 10 59.6
comp=Z,4μm,0.6s
IBAF Bafgh 4.62 80 Pn Pn 21 09 22.4 +1.3
IBAF Bafgh 4.62 80 ePn Pn 21 09 22.4 +1.3
IGHG Ghaleghazi 4.64 319 ePn Pn 21 09 22.7 +1.2
IGHG e 21 11 25.5
comp=Z,6μm,0.5s
IGHG Ghaleghazi 4.64 319 Pn Pn 21 09 22.7 +1.2
IGHG Ghaleghazi 4.64 319 ePn Pn 21 09 22.7 +1.2
IMHD Mahdasht 4.82 4 ePn Pn 21 09 25.6 +1.8
IMHD Mahdasht 4.82 4 ePn Pn 21 09 25.7 +1.8
IDMV Damavand 4.94 17 ePn Pn 21 09 27.6 +1.9
IDMV e 21 11 24.6
comp=Z,9μm,1.0s
IDMV Damavand 4.94 17 Pn Pn 21 09 27.5 +1.9
IDMV Damavand 4.94 17 Pn Pn 21 09 27.5 +1.9
DAMV Damavand 4.97 16 ePn Pn 21 09 28.4 +2.3
DAMV Damavand 4.97 16 ePn Pn 21 09 28.4 +2.3
IDHR Dehrash 5.02 321 ePn Pn 21 09 27.8 +1.1
IDHR e 21 10 39.5
comp=Z,2μm,0.3s
IDHR Dehrash 5.02 321 Pn Pn 21 09 27.9 +1.2
IDHR Dehrash 5.02 321 Pn Pn 21 09 27.9 +1.2
BOQSS 5.03 189 P Pn 21 09 28.0 +1.3
BOQSS S Sn 21 10 25.0 +1.2
BOQSS 5.03 189 P Pn 21 09 27.6 +0.9
ILAS Lasjerd 5.05 26 ePn Pn 21 09 29.0 +1.8
ILAS e 21 11 12.6
comp=Z,2μm,0.5s
ILAS Lasjerd 5.05 26 Pn Pn 21 09 28.9 +1.8
ILAS Lasjerd 5.05 26 ePn Pn 21 09 29.0 +1.8
IFIR Firoozkooh 5.21 23 ePn Pn 21 09 31.3 +1.9
IFIR e 21 09 53.1
comp=Z,993nm,0.1s
IFIR Firoozkooh 5.21 23 Pn Pn 21 09 31.2 +1.9
IFIR Firoozkooh 5.21 23 ePn Pn 21 09 31.3 +1.9
IGZV Ghazvin 5.51 360 ePn Pn 21 09 35.6 +2.1
IGZV e 21 11 22.0
comp=Z,3μm,0.9s
IGZV Ghazvin 5.51 360 Pn Pn 21 09 36.1 +2.7
IGZV Ghazvin 5.51 360 Pn Pn 21 09 36.1 +2.7
IANJ Anjilo 5.53 33 ePn Pn 21 09 35.1 +1.4
IANJ e 21 11 28.8
comp=Z,1μm,0.5s
IANJ Anjilo 5.53 33 ePn Pn 21 09 35.1 +1.4
IALA Alasht 5.63 22 ePn Pn 21 09 37.4 +2.2
IALA e 21 09 47.6
comp=Z,2μm,0.2s
IALA Alasht 5.63 22 Pn Pn 21 09 38.0 +2.8
IALA Alasht 5.63 22 Pn Pn 21 09 38.0 +2.8
IPRN Peran 5.64 18 ePn Pn 21 09 37.9 +2.7
KRBR Kerman 5.70 97 ePn Pn 21 09 37.1 +1.0
comp=Z,274nm,0.6s
KRBR Kerman 5.70 97 ePn Pn 21 09 37.1 +1.0
KRBR AML AML 21 10 45.9
comp=E,266nm,0.5s
KRBR AML AML 21 10 56.2
comp=N,274nm,0.6s
SLWS 6.05 177 P Pn 21 09 41.0 +0.3
SLWS S Sn 21 10 50.0 +1.1
SLWS 6.05 177 P Pn 21 09 41.3 +0.6
ASYS 6.15 238 P Pn 21 09 42.0 0.0
ASYS 6.15 238 S Sn 21 10 54.6 +3.2
ASYS 6.15 238 P Pn 21 09 42.3 +0.3
BNDS Bandar-Abbas 6.23 122 ePn Pn 21 09 43.6 +0.3
comp=N,235nm,0.4s
BNDS Bandar-Abbas 6.23 122 ePn Pn 21 09 43.6 +0.3
BNDS AML AML 21 10 55.5
comp=E,262nm,0.6s
BNDS AML AML 21 10 57.0
comp=N,235nm,0.4s
IGLO Ghaloghah 6.37 27 ePn Pn 21 09 48.2 +2.9
IGLO e 21 09 55.7
comp=Z,1μm,0.3s
IGLO Ghaloghah 6.37 27 Pn Pn 21 09 48.1 +2.9
TABS Tabas 6.46 63 ePn Pn 21 09 48.2 +1.9
TABS Tabas 6.46 63 ePn Pn 21 09 48.2 +1.9
BTHS 6.81 175 P Pn 21 09 51.0 -0.1
BTHS S Sn 21 11 07.0 -0.6
BTHS 6.81 175 P Pn 21 09 51.0 -0.1
ITEG Tejag 7.51 72 ePn Pn 21 10 01.7 +0.8
ITEG Tejag 7.51 72 ePn Pn 21 10 01.7 +0.8
NAZ Nazwa, Dubai 7.56 139 P Pn 21 10 01.3 -0.1
SNR=20
NAZ Nazwa, Dubai 7.56 139⇑i P Pn 21 10 01.3 -0.1
SNR=20
NAZ Nazwa, Dubai 7.56 139⇑i P Pn 21 10 01.3 -0.1
SNR=20
IKOO Kooshah 7.63 76 ePn Pn 21 10 03.3 +0.6
IKOO e 21 12 40.5
comp=Z,1μm,0.5s
IKOO Kooshah 7.63 76 Pn Pn 21 10 03.2 +0.6
IKOO Kooshah 7.63 76 ePn Pn 21 10 03.3 +0.6
ASUD Al Ashush, Dub 7.67 143 P Pn 21 10 03.1 +0.1
SNR=77
ASUD Al Ashush, Dub 7.67 143⇓i P Pn 21 10 03.1 +0.1
SNR=77
ASUD Al Ashush, Dub 7.67 143⇓i P Pn 21 10 03.1 +0.1
SNR=77
FAQ Al Faqa, Dubai 7.72 141 P Pn 21 10 03.1 -0.5
SNR=11
FAQ Al Faqa, Dubai 7.72 141⇑i P Pn 21 10 03.1 -0.4
SNR=11
FAQ Al Faqa, Dubai 7.72 141⇑i P Pn 21 10 03.1 -0.5
SNR=11
HATD Hatta, Dubai 7.96 138 P Pn 21 10 06.0 -0.9
SNR=24
HATD Hatta, Dubai 7.96 138⇓i P Pn 21 10 06.0 -0.8
SNR=24
HATD Hatta, Dubai 7.96 138⇓i P Pn 21 10 06.0 -0.9
SNR=24

ASHO Ashiyiah 8.03 139 P Pn 21 10 07.3 -0.6
SNR=8.6
ASHO Ashiyiah 8.03 139 P Pn 21 10 07.3 -0.6
SNR=8.6
CUKT Cukurca 8.41 321 eP Pn 21 10 13.6 +0.4
CUKT Cukurca 8.41 321 eP Pn 21 10 13.6 +0.4
RAYN Ar Rayn 8.44 211 ePn Pn 21 10 11.9 -1.6
RAYN eSn Sn 21 11 44.4 -3.4
RAYN Ar Rayn 8.44 211 ePn Pn 21 10 11.9 -1.6
RAYN eSn Sn 21 11 44.4 -3.4
ISFR Sfrayin 8.92 44 ePn Pn 21 10 21.9 +1.6
ISFR Sfrayin 8.92 44 ePn Pn 21 10 21.9 +1.6
SIRT Sirnak 9.25 318 eP Pn 21 10 21.0 -3.7
VANB Van 9.55 326 P Pn 21 10 30.1 +1.3
VANB Van 9.55 326 P Pn 21 10 30.1 +1.3
HOQ Hoqain 9.60 137 P Pn 21 10 34.8 +5.4
SNR=7.8
GNI Garni 10.29 336 eP Pn 21 10 45.3 +6.4
GNI Garni 10.29 336 P Pn 21 10 45.0 +6.0
GNI MLR MLR
comp=Z,15nm,28.6s
GNI Garni 10.29 336 Pn Pn 21 10 45.0 +6.0
comp=Z,0.2nm,0.3s,baz=224,slow=21,SNR=3.0
GNI LR LR 21 14 32.2
comp=Z,214nm,18.9s,baz=134,slow=37
GNI Garni 10.29 336 ePn Pn 21 10 42.0 +3.1
GNI Garni 10.29 336 ePn Pn 21 10 42.0 +3.1
SMDO Samad 10.43 136 P Pn 21 10 39.2 -1.7
SNR=16
MAZI Mazidag 10.44 312 eP Pn 21 10 51.0 +10
AGRB Hanur-Agry 10.52 328 eP Pn 21 10 56.9 +15
JMDO Jabal Madar 11.00 138 P Pn 21 10 49.6 +1.1
SNR=21
JMDO Jabal Madar 11.00 138 P Pn 21 10 49.6 +1.1
SNR=21
ASF Jabal al Asfar 11.46 280 Pn Pn 21 10 53.5 -1.4
comp=Z,0.5nm,0.3s,baz=27,slow=16,SNR=5.0
ASF Sn Sn 21 13 02.4 +0.4
comp=Z,0.4nm,0.3s,baz=65,slow=19,SNR=2.3
ASF Lg Lg 21 14 30.3
comp=Z,0.2nm,0.3s,baz=248,slow=19,SNR=2.3
TBLG Delisi 11.72 339 P Pn 21 10 57.0 -1.3
AKH Akhalkalaki 11.85 335 P Pn 21 10 55.2 -5.1
PTK Pertek 11.97 315 eP Pn 21 10 56.1 -5.9
PTK Pertek 11.97 315 P Pn 21 11 03.0 +1.0
PTK Pertek 11.97 315 P Pn 21 11 03.0 +1.0
MALT Malatya 12.24 311 eP Pn 21 10 55.8 -10
MALT Malatya 12.24 311 P Pn 21 11 07.6 +2.0
MALT Malatya 12.24 311 P Pn 21 11 07.6 +2.0
MALT Malatya 12.24 311 P Pn 21 11 07.6 +2.0
MAK Makhachkala 12.27 351 eP Pn 21 11 09.6 +3.8
MAK MLR MLR
comp=Z,557nm,15.0s
MAK Makhachkala 12.27 351 eP Pn 21 11 09.6 +3.8
comp=Z,557nm,15.0s
BAYT Ayd¯ntepe-Bay 12.56 322 eP Pn 21 10 58.9 -11
MMAI Mount Meron Ar 12.79 284 Pn Pn 21 11 13.0 0.0
comp=Z,0.3nm,0.3s,baz=122,slow=16,SNR=2.5
MMAI Sn Sn 21 13 36.1 +1.7
comp=Z,0.4nm,0.3s,baz=32,slow=8.7,SNR=3.2
MMAI Lg Lg 21 15 15.8
comp=Z,0.3nm,0.3s,baz=118,slow=21,SNR=2.5
HRFI Mount Harif 13.14 270 P Pn 21 11 21.2 +3.3
HRFI Mount Harif 13.14 270 P Pn 21 11 21.2 +3.3
EIL Elat 13.27 269 Pn Pn 21 11 24.2 +4.6
comp=Z,0.4nm,0.3s,baz=56,slow=10,SNR=4.3
EIL Lg Lg 21 15 30.1
comp=Z,0.3nm,0.3s,baz=302,slow=19,SNR=2.1
KZIT Kziot 13.61 274 P Pn 21 11 27.8 +3.6
KZIT Kziot 13.61 274 P Pn 21 11 27.8 +3.6
ABTO Aybut 13.73 168 P Pn 21 11 23.6 -2.4
SNR=16
RBK Rabkut 13.78 164 P Pn 21 11 30.3 +3.7
SNR=9.7
RBK Rabkut 13.78 164 P Pn 21 11 30.3 +3.7
SNR=9.7
KBZ Khabaz 14.10 338 LR LR 21 16 36.5
comp=Z,158nm,20.0s,baz=162,slow=36
BNN Bunyan 14.24 308 P Pn 21 11 34.7 +1.7
BNN Bunyan 14.24 308 P Pn 21 11 34.7 +1.7
CSS Prodhromos 14.78 291 P Pn 21 11 42.4 +2.3
CSS Prodhromos 14.78 291 P Pn 21 11 42.4 +2.3
SOC Sochi 15.20 330 eP P 21 11 48.1 -2.2
SOC e 21 14 36.6
SOC pmax pmax
comp=Z,20nm,0.6s
SOC MLR MLR
comp=Z,246nm,12.0s
GOF Gofitskoye 15.26 340 eP P 21 11 51.3 +0.3
GOF pmax pmax
comp=Z,21nm,1.4s
GOF Gofitskoye 15.26 340 eP P 21 11 51.3 +0.3
comp=Z,21nm,1.4s
BRTR Keskin Array B 16.16 308 P P 21 12 01.0 -0.3
BRTR MLR MLR
comp=Z,15nm,28.6s
BRTR Keskin Array B 16.16 308 Pn P 21 12 01.0 -0.3
comp=Z,0.1nm,0.3s,baz=126,slow=13,SNR=19
BRTR LR LR 21 19 58.6
comp=Z,167nm,18.2s,baz=109,slow=44
BRTR Keskin Array B 16.16 308 P P 21 12 01.0 -0.3
comp=Z,15nm,28.6s
KBL Kabul 16.25 72 ePn Pn 21 11 50.0 -9.5
KBL Kabul 16.25 72 ePn Pn 21 11 50.0 -9.5
ANTO Ankara 16.81 307 eP Pn 21 12 02.3 -4.1
ANTO pmax pmax
comp=Z,15nm,1.1s
ANTO Ankara 16.81 307 ePn Pn 21 12 02.3 -4.1
comp=Z,15nm,1.1s
ANTO Ankara 16.81 307 ePn Pn 21 12 02.3 -4.1
comp=Z,15nm,1.1s
ISP Isparta 17.69 298 P P 21 12 20.2 +2.1
ISP Isparta 17.69 298 P P 21 12 20.2 +2.1
ISP Isparta 17.69 298 P P 21 12 20.2 +2.1
ALT Altintas 18.39 302 P Pn 21 12 27.8 +1.8
ALT Altintas 18.39 302 P Pn 21 12 27.8 +1.8
KULA Kula-Manisa 19.29 299 P Pn 21 12 38.2 +1.3
KULA Kula-Manisa 19.29 299 P Pn 21 12 38.2 +1.3
ABKAR Akbulak array 19.79 19 eP P 21 12 40.9 0.0
ABKAR Akbulak array 19.79 19 eP P 21 12 40.9 0.0
KKAR Karatay Array 20.23 47 eP P 21 12 46.6 +0.8
KKAR Karatay Array 20.23 47 eP P 21 12 46.6 +0.8
KKAR Karatay Array 20.23 47 eP P 21 12 46.6 +0.8
AKTK Aktyubinsk 20.40 14 P P 21 12 48.2 +0.6
comp=Z,184nm,20.3s
AKTO Aktyubinsk 20.40 14 P P 21 12 48.2 +0.6
AKTO pmax pmax
comp=Z,4.0nm,0.7s
AKTO MLR MLR
comp=Z,184nm,20.3s
AKTO Aktyubinsk 20.40 14 P P 21 12 48.1 +0.6
comp=Z,3.9nm,0.7s,baz=202,slow=12,SNR=7.2
AKTO LR LR 21 22 39.1
comp=Z,184nm,20.2s,baz=171,slow=43
LAST Lasithi 21.18 288 P P 21 12 58.7 +2.4
LAST Lasithi 21.18 288 P P 21 12 58.7 +2.4
VRHR Novokhopersk 21.21 345 eP P 21 12 56.7 +0.5
VRHR pmax pmax
comp=N,40nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR pmax pmax
comp=Z,70nm,0.6s
VRHR Novokhopersk 21.21 345 eP P 21 12 56.7 +0.5
PSN Preselentsi 21.64 312 ⇓P P 21 13 02.8 +1.8
PSN Preselentsi 21.64 312⇓iP P 21 13 02.8 +1.8
PSN Preselentsi 21.64 312 P P 21 13 02.8 +1.8
IDI Anoyia 21.68 288 P P 21 13 03.1 +1.6
comp=Z,8.0nm,0.6s,baz=103,slow=9.5,SNR=9.7
VORD Divnogorie 21.68 341 eP P 21 13 00.4 -0.9
VORD pmax pmax
comp=N,100nm,0.9s
VORD pmax pmax
comp=E,70nm,0.9s
VORD pmax pmax
comp=Z,20nm,0.9s
VORD Divnogorie 21.68 341 eP P 21 13 00.4 -0.9
EDRB Edirne 21.80 307 P P 21 13 03.0 +0.3
EDRB Edirne 21.80 307 P P 21 13 03.0 +0.3
TIRR Tirgusor 21.89 314 eP P 21 13 03.6 0.0
TIRR pmax pmax
comp=Z,62nm,2.1s
TIRR Tirgusor 21.89 314 eP P 21 13 03.5 0.0
comp=Z,62nm,2.1s

TIRR Tirgusor 21.89 314 eP P 21 13 03.6 0.0
comp=Z,62nm,2.1s
VSR Storozhevoye 21.94 341 eP P 21 13 03.5 -0.6
VSR pmax pmax
comp=N,40nm,1.3s
VSR pmax pmax
comp=E,20nm,1.3s
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR Storozhevoye 21.94 341 eP P 21 13 03.5 -0.6
ALN Alexandroupoli 21.95 304 P P 21 13 06.2 +1.9
ALN Alexandroupoli 21.95 304 P P 21 13 06.2 +1.9
ALN Alexandroupoli 21.95 304 P P 21 13 06.2 +1.9
EKS2 Erkin-Say 22.15 51 eP P 21 13 06.5 -0.2
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 22.15 51 eP P 21 13 06.5 -0.2
comp=Z,10nm,0.8s
EKS2 Erkin-Say 22.15 51 eP P 21 13 06.5 -0.2
comp=Z,10nm,0.8s
GVD Gavdhos 22.30 287 eP P 21 13 05.7 -2.5
comp=Z,35nm,0.9s
GVD Gavdhos 22.30 287 eP P 21 13 05.7 -2.5
comp=Z,35nm,0.9s
CFR Carcaliu 22.43 316 P P 21 13 10.2 +0.8
CFR Carcaliu 22.43 316⇑iP P 21 13 10.8 +1.4
CFR Carcaliu 22.43 316 P P 21 13 10.2 +0.8
CFR Carcaliu 22.43 316 P P 21 13 10.2 +0.8
AAK Ala-Archa 22.63 52⇑eP P 21 13 14.6 +2.8
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 22.63 52 P P 21 13 13.3 +1.5
comp=Z,2.5nm,0.7s,baz=274,slow=8.7,SNR=6.7
AAK Ala-Archa 22.63 52 eP P 21 13 13.6 +1.8
comp=Z,8.1nm,0.8s
AAK Ala-Archa 22.63 52 eP P 21 13 13.6 +1.8
comp=Z,8.1nm,0.8s
KSH Kashi 22.68 61 P P 21 13 09.4 -2.9
KSH pmax pmax
comp=Z,17nm,0.9s
FRU Bishkek 22.79 52 eP P 21 13 14.0 +0.6
FRU Bishkek 22.79 52 eP P 21 13 14.0 +0.6
PETR Petresti 23.26 316 P P 21 13 18.4 +0.4
PETR Petresti 23.26 316 P P 21 13 18.4 +0.4
PLD Plovdiv 23.31 306 P P 21 13 19.7 +1.1
PLD Plovdiv 23.31 306 P P 21 13 19.7 +1.1
PLD Plovdiv 23.31 306 P P 21 13 19.7 +1.1
SULR 23.34 313 P P 21 13 20.5 +1.7
SULR 23.34 313 P P 21 13 20.5 +1.7
ISR Istrita 23.37 314 P P 21 13 19.3 +0.1
ISR Istrita 23.37 314 P P 21 13 19.3 +0.1
ISR Istrita 23.37 314 P P 21 13 19.3 +0.1
TKM2 Tokmak 2 23.49 52 eP P 21 13 21.2 +0.6
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
TKM2 Tokmak 2 23.49 52 eP P 21 13 21.2 +0.6
comp=Z,7.6nm,0.9s
TKM2 Tokmak 2 23.49 52 eP P 21 13 21.2 +0.6
comp=Z,7.6nm,0.9s
NDI New Delhi 23.50 88 eP P 21 13 22.5 +1.9
VRI Vrincioaia 23.64 316 ⇓P P 21 13 19.9 -1.9
VRI Vrincioaia 23.64 316⇓iP P 21 13 19.9 -1.9
VRI Vrincioaia 23.64 316 P P 21 13 24.2 +2.4
VRI Vrincioaia 23.64 316 P P 21 13 24.2 +2.4
PLOR Plostina 23.67 316 ⇑P P 21 13 24.0 +1.8
PLOR Plostina 23.67 316⇑iP P 21 13 24.0 +1.8
PLOR Plostina 23.67 316 P P 21 13 24.0 +1.8
SRS Serrai 23.78 303 P P 21 13 21.9 -1.3
SRS Serrai 23.78 303 P P 21 13 21.9 -1.3
SRS Serrai 23.78 303 P P 21 13 21.9 -1.3
SOH Sokhos 23.87 302 P P 21 13 25.6 +1.5
SOH Sokhos 23.87 302 P P 21 13 25.6 +1.5
SOH Sokhos 23.87 302 P P 21 13 25.6 +1.5
MLR Muntele Rosu 23.92 314 P P 21 13 26.8 +2.2
MLR pmax pmax
comp=Z,6.0nm,1.3s
MLR Muntele Rosu 23.92 314⇑iP P 21 13 27.5 +2.9
MLR Muntele Rosu 23.92 314 P P 21 13 26.8 +2.2
comp=Z,6.2nm,1.3s,baz=112,slow=4.3,SNR=13
MLR Muntele Rosu 23.92 314 P P 21 13 27.0 +2.4
MLR Muntele Rosu 23.92 314 P P 21 13 27.0 +2.4
HORT Hortiatis 24.00 301 P P 21 13 26.2 +0.9
HORT Hortiatis 24.00 301 P P 21 13 26.2 +0.9
TESR Tescani 24.02 317⇑iP P 21 13 25.3 -0.1
TESR Tescani 24.02 317 P P 21 13 25.9 +0.5
TESR Tescani 24.02 317 P P 21 13 25.9 +0.5
AGG Agios Georgios 24.22 297 P P 21 13 26.1 -1.2
AGG Agios Georgios 24.22 297 P P 21 13 26.1 -1.2
AGG Agios Georgios 24.22 297 P P 21 13 26.1 -1.2
FURI Furi 24.37 209 P P 21 13 32.6 +3.4
VOIR 24.45 314 ⇑P P 21 13 30.8 +1.4
VOIR 24.45 314⇑iP P 21 13 30.8 +1.4
VOIR 24.45 314 P P 21 13 31.3 +1.9
VOIR 24.45 314 P P 21 13 31.3 +1.9
VTS Vitosha 24.52 306 ⇑P P 21 13 30.2 0.0
VTS Vitosha 24.52 306⇑iP P 21 13 30.2 0.0
VTS Vitosha 24.52 306 P P 21 13 31.4 +1.2
VTS Vitosha 24.52 306 P P 21 13 30.2 0.0
ARR Arges 24.68 313⇑iP P 21 13 32.4 +0.9
ARR Arges 24.68 313 P P 21 13 33.4 +1.9
ARR Arges 24.68 313 P P 21 13 33.4 +1.9
LOT Lotru 25.26 313⇑iP P 21 13 37.8 +1.0
LOT Lotru 25.26 313 P P 21 13 38.3 +1.5
LOT Lotru 25.26 313 P P 21 13 38.3 +1.5
AKASG Malin Array Be 25.26 328 P P 21 13 36.6 0.0
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 25.26 328 P P 21 13 36.5 0.0
comp=Z,1.2nm,0.5s,baz=139,slow=9.3,SNR=15
KIEV Kiev 25.26 328 eP P 21 13 35.2 -1.4
KIEV pmax pmax
comp=Z,21nm,1.4s
KIEV Kiev 25.26 328 eP P 21 13 35.2 -1.4
comp=Z,20nm,1.4s
KIEV Kiev 25.26 328 eP P 21 13 35.2 -1.4
comp=Z,20nm,1.4s
FNA Florina 25.31 301 P P 21 13 37.9 +0.6
FNA Florina 25.31 301 P P 21 13 37.9 +0.6
FNA Florina 25.31 301 P P 21 13 37.9 +0.6
BUR01 Bucovina Ar. S 25.44 318 P P 21 13 39.8 +1.4
BUR01 Bucovina Ar. S 25.44 318 P P 21 13 39.8 +1.4
BURAR Bucovina Array 25.44 318 ⇑P P 21 13 39.0 +0.6
BURAR Bucovina Array 25.44 318⇑iP P 21 13 39.0 +0.6
BUR04 Bucovina Ar. S 25.44 318 eP P 21 13 39.3 +0.9
BUR04 Bucovina Ar. S 25.44 318 eP P 21 13 39.3 +0.9
LKD2 Lefkada island 25.46 296 P P 21 13 38.7 +0.1
LKD2 Lefkada island 25.46 296 P P 21 13 38.7 +0.1
SKO Skopje 25.58 304 P P 21 13 40.5 +0.9
SKO Skopje 25.58 304 P P 21 13 40.5 +0.9
SKO Skopje 25.58 304 P P 21 13 40.5 +0.9
DJES Djerdap 25.74 310 P P 21 13 41.6 +0.6
BOLS Boljevac 25.81 308 eP P 21 13 42.0 +0.4
OHR Ohrid 25.82 301 P P 21 13 39.5 -2.3
OHR Ohrid 25.82 301 P P 21 13 39.5 -2.3
OHR Ohrid 25.82 301 P P 21 13 39.5 -2.3
GZR Gura Zlata 25.86 312⇑iP P 21 13 43.8 +1.6
OBN Obninsk 26.13 342⇓eP P 21 13 45.1 +0.8
OBN pmax pmax
comp=Z,62nm,1.7s
OBN MLR MLR
comp=Z,97nm,16.0s
OBN Obninsk 26.13 342 P P 21 13 44.5 +0.2
comp=Z,12nm,0.5s,baz=345,slow=12,SNR=9.7
OBN Obninsk 26.13 342 eP P 21 13 41.9 -2.5
comp=Z,44nm,1.2s
OBN Obninsk 26.13 342 eP P 21 13 45.1 +0.8
comp=Z,97nm,16.0s
SELS Selova 26.18 306 iP P 21 13 46.1 +1.1
ARU Arti 26.22 10 diP P 21 13 45.5 +0.3
ARU S S 21 18 18.1 +2.8
ARU SS SnSn 21 19 15.2 -0.6
ARU pmax pmax
comp=Z,7.0nm,1.2s
ARU Arti 26.22 10 eP P 21 13 43.7 -1.5
comp=Z,7.2nm,0.9s
ARU Arti 26.22 10 iP P 21 13 45.5 +0.3
comp=Z,7.0nm,1.2s
MOS Moscow 26.42 344 eP P 21 13 47.1 +0.1
MOS e 21 14 45.7
MOS pmax pmax
comp=Z,40nm,1.0s
MOS Moscow 26.42 344 eP P 21 13 47.1 +0.1
comp=Z,40nm,1.0s

DRGR 26.52 315 ⇑P P 21 13 49.8 +1.7
DRGR 26.52 315⇑iP P 21 13 49.8 +1.7
DRGR 26.52 315 P P 21 13 49.9 +1.8
DRGR 26.52 315 P P 21 13 49.9 +1.8
BRVK Borovoye 26.55 28⇓eP P 21 13 49.6 +1.4
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK MLR MLR
comp=Z,110nm,16.0s
BRVK Borovoye 26.55 28 eP P 21 13 48.4 +0.2
comp=Z,8.4nm,1.0s
BRVK Borovoye 26.55 28 eP P 21 13 48.4 +0.2
comp=Z,8.4nm,1.0s
BVAR Borovoye Array 26.57 28 P P 21 13 49.6 +1.2
BVAR pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 26.57 28 P P 21 13 49.6 +1.2
comp=Z,5.2nm,0.9s,baz=218,slow=9.2,SNR=21
GRUS Gruza 26.67 307 P P 21 13 50.7 +1.3
GRUS Gruza 26.67 307 P P 21 13 50.7 +1.3
BZS Buzias 26.70 312 ⇑P P 21 13 50.3 +0.6
BZS Buzias 26.70 312⇑iP P 21 13 50.3 +0.6
BZS Buzias 26.70 312 P P 21 13 50.7 +1.0
BZS Buzias 26.70 312 P P 21 13 50.3 +0.6
IVAS Ivanjica 26.96 307 eP P 21 13 53.4 +1.3
TRUS Trudelj 26.99 308 eP P 21 13 53.3 +1.0
DIVS Divibare 27.23 308 eP P 21 13 55.1 +0.5
LVV L'vov 27.30 321 eP P 21 13 47.1 -7.9
BBLS Lazići 27.56 307 P P 21 13 57.2 -0.3
BBLS Lazići 27.56 307 P P 21 13 57.2 -0.3
FGSL Fruska Gora 27.71 310 eP P 21 14 00.1 +1.3
FRGS Fruska Gora 27.71 310 P P 21 13 59.5 +0.7
FRGS Fruska Gora 27.71 310 P P 21 13 59.5 +0.7
KOLS Kolonicke sedl 27.80 318 eP P 21 14 01.3 +1.7
KOLS pmax pmax
comp=Z,16nm,1.5s
KOLS Kolonicke sedl 27.80 318 P P 21 13 58.5 -1.1
KOLS Kolonicke sedl 27.80 318 eP P 21 14 01.2 +1.7
KOLS e 21 16 13.6
KOLS Kolonicke sedl 27.80 318 P P 21 13 58.5 -1.1
CRVS Cervenica-Dubn 28.25 318 eP P 21 14 05.7 +2.1
CRVS Cervenica-Dubn 28.25 318 eP P 21 14 05.7 +2.1
CRVS Cervenica-Dubn 28.25 318 eP P 21 14 05.7 +2.1
STHS Stebnicka Huta 28.63 319 eP P 21 14 09.7 +2.8
STHS Stebnicka Huta 28.63 319 eP P 21 14 09.7 +2.8
STHS Stebnicka Huta 28.63 319 eP P 21 14 09.7 +2.8
PSZ Piszkesteto 28.73 315 eP P 21 14 05.4 -2.5
PSZ pmax pmax
comp=Z,52nm,2.3s
PSZ Piszkesteto 28.73 315 eP P 21 14 05.4 -2.5
comp=Z,52nm,2.3s
PSZ Piszkesteto 28.73 315 eP P 21 14 05.4 -2.5
comp=Z,52nm,2.3s
PKSM Moragy 28.85 311 P P 21 14 08.4 -0.5
PKSM Moragy 28.85 311⇑iP P 21 14 09.2 +0.3
PKSM Moragy 28.85 311 P P 21 14 08.4 -0.5
PKSM Moragy 28.85 311 P P 21 14 08.4 -0.5
KURK Kurchatov 28.96 39 eP P 21 14 10.8 +1.0
KURK pmax pmax
comp=Z,7.0nm,1.1s
KURK MLR MLR
comp=Z,200nm,20.0s
KURK Kurchatov 28.96 39 eP P 21 14 10.8 +1.0
comp=Z,6.9nm,1.1s
KURK LR LR
comp=Z,200nm,20.0s
KURK Kurchatov 28.96 39 eP P 21 14 10.8 +1.0
comp=Z,6.8nm,1.1s
KOLN Koldanda 29.19 88 eP P 21 14 12.5 +0.1
comp=Z,46nm,1.5s
DANN Dangsing 29.19 86 eP P 21 14 13.2 +0.7
comp=Z,34nm,0.9s
DANN Dangsing 29.19 86 eP P 21 14 13.2 +0.7
comp=Z,34nm,0.9s
DANN Dangsing 29.19 86 eP P 21 14 13.2 +0.7
comp=Z,34nm,0.9s
MKAR Makanchi Array 29.35 48 P P 21 14 14.5 +1.1
MKAR pmax pmax
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 29.35 48 P P 21 14 14.4 +1.1
comp=Z,6.0nm,1.0s,baz=246,slow=6.3,SNR=31
VYHS Vyhne 29.62 315 eP P 21 14 16.7 +1.0
VYHS pmax pmax
comp=Z,40nm,2.9s
VYHS Vyhne 29.62 315 eP P 21 14 16.7 +1.0
VYHS Vyhne 29.62 315 eP P 21 14 16.7 +1.0
comp=Z,40nm,2.9s
GKN Gorkha 30.02 87 eP P 21 14 19.8 +0.1
comp=Z,18nm,0.9s
GKN Gorkha 30.02 87 eP P 21 14 19.8 +0.1
comp=Z,18nm,0.9s
GKN Gorkha 30.02 87 eP P 21 14 19.8 +0.1
comp=Z,18nm,0.9s
SUW Suwalki 30.23 328 eP P 21 14 20.4 -0.6
SUW pmax pmax
comp=Z,28nm,1.1s
SUW Suwalki 30.23 328 eP P 21 14 20.4 -0.6
comp=Z,28nm,1.1s
SUW Suwalki 30.23 328 eP P 21 14 20.4 -0.6
comp=Z,28nm,1.1s
JAVC Velka Javorina 30.47 315 P P 21 14 25.1 +1.8
JAVC Velka Javorina 30.47 315 P P 21 14 25.1 +1.8
JAVC Velka Javorina 30.47 315 P P 21 14 25.1 +1.8
SMOL Smolenice 30.48 315 eP P 21 14 24.8 +1.5
SMOL Smolenice 30.48 315 eP P 21 14 24.8 +1.5
SMOL Smolenice 30.48 315 eP P 21 14 24.8 +1.5
DMN Daman 30.52 87 eP P 21 14 24.4 +0.2
comp=Z,18nm,0.6s
DMN Daman 30.52 87 eP P 21 14 24.4 +0.2
comp=Z,18nm,0.6s
DMN Daman 30.52 87 eP P 21 14 24.4 +0.2
comp=Z,18nm,0.6s
KKN Kakani 30.63 87 eP P 21 14 25.4 +0.3
comp=Z,18nm,0.6s
KKN Kakani 30.63 87 eP P 21 14 25.4 +0.3
KKN pmax pmax
comp=Z,18nm,0.6s
KKN Kakani 30.63 87 eP P 21 14 25.4 +0.3
comp=Z,18nm,0.6s
KKN Kakani 30.63 87 eP P 21 14 25.4 +0.3
comp=Z,18nm,0.6s
SOP Sopron 30.71 313 P P 21 14 26.3 +1.0
SOP Sopron 30.71 313 P P 21 14 26.3 +1.0
SOP Sopron 30.71 313 P P 21 14 26.3 +1.0
PKIN Phulchoki 30.78 87 eP P 21 14 26.8 +0.3
comp=Z,12nm,0.5s
PKI Pulchoki 30.79 87 eP P 21 14 26.8 +0.1
comp=Z,18nm,0.5s
PKI Pulchoki 30.79 87 eP P 21 14 26.8 +0.1
PKI pmax pmax
comp=Z,18nm,0.5s
PKI Pulchoki 30.79 87 eP P 21 14 26.8 +0.1
comp=Z,18nm,0.5s
PKI Pulchoki 30.79 87 eP P 21 14 26.8 +0.1
comp=Z,18nm,0.5s
KLMR Klimovskoe 30.83 350 eP P 21 14 24.2 -2.0
KLMR pmax pmax
comp=Z,31nm,1.6s
PRGR Permogore 30.93 356 P P 21 14 25.6 -1.5
PRGR 21 15 43.6
PRGR pmax pmax
comp=Z,53nm,1.3s
PRGR pmax pmax
comp=Z,61nm,1.2s
PRGR Permogore 30.93 356 P P 21 14 25.6 -1.5
comp=Z,53nm,1.3s
GUN Gumba 31.11 86 eP P 21 14 29.8 +0.3
comp=Z,34nm,0.8s
GUN Gumba 31.11 86 eP P 21 14 29.8 +0.3
comp=Z,34nm,0.8s
GUN Gumba 31.11 86 eP P 21 14 29.8 +0.3
comp=Z,34nm,0.8s
ARSA Arzberg 31.22 312⇑iP P 21 14 31.2 +1.3
comp=Z,10nm,1.3s
ARSA Arzberg 31.22 312 P P 21 14 31.2 +1.3
comp=Z,10nm,1.3s
CONA Conrad Observa 31.23 313⇑iP P 21 14 30.3 +0.2
comp=Z,8.3nm,1.2s
CONA Conrad Observa 31.23 313 P P 21 14 30.3 +0.2
comp=Z,8.3nm,1.2s
VRAC Vranov 31.30 316 P P 21 14 31.5 +0.9
VRAC pmax pmax
comp=Z,1.0nm,0.5s
VRAC Vranov 31.30 316 P P 21 14 31.5 +0.9
comp=Z,1.0nm,0.5s,baz=116,slow=4.9,SNR=3.5

KRUC Moravsky 31.32 315 P P 21 14 31.5 +0.7
KRUC Moravsky 31.32 315 P P 21 14 31.5 +0.7
KRUC Moravsky 31.32 315 P P 21 14 31.5 +0.7
JIRN Jiri 31.44 87 eP P 21 14 32.7 +0.2
comp=Z,37nm,1.1s
JIRN Jiri 31.44 87 eP P 21 14 32.7 +0.2
comp=Z,37nm,1.1s
JIRN Jiri 31.44 87 eP P 21 14 32.7 +0.2
comp=Z,37nm,1.1s
KRLC Kraliky 31.50 317 eP P 21 14 33.3 +0.9
KRLC Kraliky 31.50 317 eP P 21 14 33.3 +0.9
KRLC epP pP 21 14 36.8 -4.4
KRLC Kraliky 31.50 317 eP P 21 14 33.3 +0.9
DPC Dobruska-Polom 31.89 317 eP P 21 14 34.2 -1.6
DPC Dobruska-Polom 31.89 317 eP P 21 14 34.2 -1.6
DPC ex x 21 14 39.3
DPC Dobruska-Polom 31.89 317 eP P 21 14 34.2 -1.6
TREC Trest 31.96 315 eP P 21 14 38.3 +1.9
TREC Trest 31.96 315 eP P 21 14 38.3 +1.9
TREC ex x 21 14 47.1
TREC Trest 31.96 315 eP P 21 14 38.3 +1.9
RAMN Ramite 31.98 88 eP P 21 14 36.7 -0.4
RAMN Ramite 31.98 88 eP P 21 14 36.7 -0.4
RAMN Ramite 31.98 88 eP P 21 14 36.7 -0.4
MOA Molln 32.22 312⇑iP P 21 14 39.6 +0.9
comp=Z,13nm,1.2s
MOA Molln 32.22 312 P P 21 14 39.6 +0.9
comp=Z,13nm,1.2s
KBA Koelnbreinsper 32.58 310 P P 21 14 42.7 +0.7
KBA Koelnbreinsper 32.58 310⇑iP P 21 14 43.3 +1.3
comp=Z,17nm,1.0s
KBA Koelnbreinsper 32.58 310 P P 21 14 42.7 +0.7
KBA Koelnbreinsper 32.58 310 P P 21 14 42.7 +0.7
ODAN Odare 32.68 88 eP P 21 14 43.6 +0.4
ODAN Odare 32.68 88 eP P 21 14 43.6 +0.4
ODAN Odare 32.68 88 eP P 21 14 43.6 +0.4
TAPN Taplejung 32.83 87 eP P 21 14 44.5 0.0
comp=Z,53nm,1.5s
TAPN Taplejung 32.83 87 eP P 21 14 44.5 0.0
comp=Z,53nm,1.5s
TAPN Taplejung 32.83 87 eP P 21 14 44.5 0.0
comp=Z,53nm,1.5s
GEC2 GERESS Array S 32.90 314 eP P 21 14 44.9 +0.2
GEC2 GERESS Array S 32.90 314 eP P 21 14 44.9 +0.2
GEC2 GERESS Array S 32.90 314 eP P 21 14 44.9 +0.2
GERES GERESS Array B 32.90 314 P P 21 14 44.7 0.0
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 32.90 314 P P 21 14 44.7 0.0
comp=Z,0.6nm,0.8s,baz=106,slow=8.4,SNR=8.3
ABTA Abfaltersbach 33.04 309 P P 21 14 47.0 +1.0
comp=Z,8.3nm,1.0s
KHC Kasperske Hory 33.07 314 eP P 21 14 46.4 +0.2
KHC pmax pmax
comp=Z,16nm,1.4s
KHC Kasperske Hory 33.07 314 eP P 21 14 46.6 +0.4
KHC epP pP 21 14 51.3 -3.6
KHC Kasperske Hory 33.07 314 eP P 21 14 46.4 +0.2
comp=Z,16nm,1.4s
KHC Kasperske Hory 33.07 314 eP P 21 14 46.4 +0.2
comp=Z,16nm,1.4s
WET Wettzell 33.51 314 P P 21 14 49.6 -0.4
WET Wettzell 33.51 314 P P 21 14 49.6 -0.4
WET Wettzell 33.51 314 P P 21 14 49.6 -0.4
NVS Novosibirsk 33.53 35 eP P 21 14 49.4 -0.6
NVS i 21 16 19.6
NVS pmax pmax
comp=Z,24nm,2.5s
NVS pmax pmax
comp=N,5.0nm,1.9s
NVS Novosibirsk 33.53 35 eP P 21 14 49.4 -0.6
comp=N,5.0nm,1.9s
WTTA Wattenberg 33.75 310 P P 21 14 52.7 +0.4
comp=N,13nm,1.0s
WATA Walderalm 33.81 310 P P 21 14 53.0 +0.2
comp=N,21nm,1.2s
ZAA0 Zalesovo Array 33.88 37 eP P 21 14 52.5 -0.5
ZAA0 e 21 16 42.1
ZAA0 Zalesovo Array 33.88 37 eP P 21 14 52.5 -0.5
ZALV Zalesovo Beam 33.88 37 P P 21 14 53.8 +0.8
ZALV pmax pmax
comp=Z,5.0nm,0.9s
ZALV Zalesovo Beam 33.88 37 P P 21 14 53.8 +0.8
comp=Z,5.1nm,0.8s,baz=241,slow=8.3,SNR=14
MOTA Moosalm 34.12 310⇑iP P 21 14 55.5 0.0
comp=Z,13nm,1.1s
MOTA Moosalm 34.12 310 P P 21 14 55.5 0.0
comp=Z,13nm,1.1s
CLL Collm 34.20 317 eP P 21 14 56.0 +0.1
CLL pmax pmax
comp=Z,14nm,1.5s
CLL Collm 34.20 317 e(P) P 21 14 56.0 +0.1
comp=Z,14nm,1.5s
CLL Collm 34.20 317 eP P 21 14 56.0 +0.1
comp=Z,14nm,1.5s
FUR Furstenfeldbru 34.23 312 P P 21 14 56.5 +0.3
FUR Furstenfeldbru 34.23 312 P P 21 14 56.5 +0.3
FUR Furstenfeldbru 34.23 312 P P 21 14 56.5 +0.3
FETA Feichten 34.29 309⇑iP P 21 14 57.4 +0.5
comp=Z,13nm,1.0s
FETA Feichten 34.29 309 P P 21 14 57.4 +0.5
comp=Z,13nm,1.0s
JOF Joensuu 34.30 345 ep P 21 14 54.6 -1.9
FINES FINESS Array B 34.45 340 P P 21 14 57.3 -0.6
comp=Z,16nm,1.1s,baz=149,slow=8.7,SNR=20
GRA2 Grafenberg Arr 34.62 314 P P 21 15 00.0 +0.5
GRA2 Grafenberg Arr 34.62 314 P P 21 15 00.0 +0.5
GRFO Grafenberg 34.71 314 P P 21 15 00.6 +0.3
GRFO Grafenberg 34.71 314 P P 21 15 00.6 +0.3
GRFO Grafenberg 34.71 314 P P 21 15 00.6 +0.3
DAVOX Davos/Dischmat 34.80 309 P P 21 15 02.5 +1.1
DAVOX pmax pmax
comp=Z,2.0nm,0.6s
DAVOX Davos/Dischmat 34.80 309 P P 21 15 02.5 +1.1
comp=Z,1.7nm,0.6s,baz=50,slow=7.9,SNR=4.1
DAVA Damuels 34.92 310⇑iP P 21 15 02.1 -0.3
comp=Z,18nm,1.1s
DAVA Damuels 34.92 310 P P 21 15 02.8 +0.5
DAVA Damuels 34.92 310 P P 21 15 02.8 +0.5
LSA Lhasa 35.21 81 eP P 21 15 05.7 +0.3
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 35.21 81 eP P 21 15 05.7 +0.3
comp=Z,4.0nm,0.8s
LSA Lhasa 35.21 81 eP P 21 15 05.7 +0.3
comp=Z,4.0nm,0.8s
CLZ Clausthal 35.92 317 P P 21 15 10.9 +0.1
CLZ Clausthal 35.92 317 P P 21 15 10.9 +0.1
CLZ Clausthal 35.92 317 P P 21 15 10.9 +0.1
SBF Sospel 36.02 303 eP P 21 15 11.8 0.0
comp=Z,74nm,1.2s
SBF Sospel 36.02 303 eP P 21 15 11.8 0.0
SBF pmax pmax
comp=Z,74nm,1.2s
SBF Sospel 36.02 303 eP P 21 15 11.8 0.0
comp=Z,74nm,1.2s
SBF Sospel 36.02 303 eP P 21 15 11.8 0.0
comp=Z,37nm,1.2s
SENIN Lac Senin/Sane 36.47 307 eP P 21 15 16.1 +0.4
SENIN Lac Senin/Sane 36.47 307 eP P 21 15 16.1 +0.4
MBDF Montbardon 36.60 305 eP P 21 15 16.7 -0.1
comp=Z,17nm,1.1s
MBDF Montbardon 36.60 305 eP P 21 15 16.7 -0.1
MBDF pmax pmax
comp=Z,17nm,1.1s
MBDF Montbardon 36.60 305 eP P 21 15 16.7 -0.1
comp=Z,17nm,1.1s
MBDF Montbardon 36.60 305 eP P 21 15 16.7 -0.1
comp=Z,8.6nm,1.1s
BNI Bardonecchia 36.70 305 eP P 21 15 17.2 -0.5
BNI pmax pmax
comp=Z,16nm,1.1s
BNI Bardonecchia 36.70 305 eP P 21 15 17.1 -0.5
comp=Z,16nm,1.1s
BNI Bardonecchia 36.70 305 eP P 21 15 17.2 -0.5
comp=Z,16nm,1.1s
LPG La Plagne 36.71 306 eP P 21 15 18.1 +0.2
comp=Z,33nm,1.3s
LPG La Plagne 36.71 306 eP P 21 15 18.1 +0.2
LPG pmax pmax
comp=Z,33nm,1.3s
LPG La Plagne 36.71 306 eP P 21 15 18.1 +0.2
comp=Z,33nm,1.3s
LPG La Plagne 36.71 306 eP P 21 15 18.1 +0.2
comp=Z,17nm,1.3s

LPL La Plagne 36.73 306 eP P 21 15 18.3 +0.3
comp=Z,36nm,1.2s
LPL La Plagne 36.73 306 eP P 21 15 18.3 +0.3
LPL pmax pmax
comp=Z,36nm,1.2s
LPL La Plagne 36.73 306 eP P 21 15 18.3 +0.3
comp=Z,36nm,1.2s
LPL La Plagne 36.73 306 eP P 21 15 18.3 +0.3
comp=Z,18nm,1.2s
CDF Champ du Feu 36.88 311 eP P 21 15 19.6 +0.6
CDF Champ du Feu 36.88 311 eP P 21 15 19.6 +0.6
CDF Champ du Feu 36.88 311 eP P 21 15 19.6 +0.6
CDF Champ du Feu 36.88 311 eP P 21 15 19.6 +0.6
HINF Hinteralfeld 37.03 310 eP P 21 15 20.0 -0.3
comp=Z,27nm,1.3s
HINF Hinteralfeld 37.03 310 eP P 21 15 20.0 -0.3
HINF pmax pmax
comp=Z,27nm,1.3s
HINF Hinteralfeld 37.03 310 eP P 21 15 20.0 -0.3
comp=Z,27nm,1.3s
HINF Hinteralfeld 37.03 310 eP P 21 15 20.0 -0.3
comp=Z,13nm,1.3s
CABF La Chapelle 37.34 308 eP P 21 15 22.7 -0.2
comp=Z,59nm,1.3s
CABF La Chapelle 37.34 308 eP P 21 15 22.7 -0.2
CABF pmax pmax
comp=Z,59nm,1.3s
CABF La Chapelle 37.34 308 eP P 21 15 22.7 -0.2
comp=Z,59nm,1.3s
CABF La Chapelle 37.34 308 eP P 21 15 22.7 -0.2
comp=Z,30nm,1.3s
HAU Haudompre 37.41 310 eP P 21 15 24.0 +0.6
HAU Haudompre 37.41 310 eP P 21 15 24.0 +0.6
HAU Haudompre 37.41 310 eP P 21 15 24.0 +0.6
HAU Haudompre 37.41 310 eP P 21 15 24.0 +0.6
OUL Oulu 37.42 343 P P 21 15 21.8 -1.4
OUL Oulu 37.42 343 P P 21 15 21.8 -1.4
OUL Oulu 37.42 343 P P 21 15 21.8 -1.4
PAGF Fort de Pagny 37.92 311 eP P 21 15 27.8 +0.1
comp=Z,2.4nm,0.8s
PAGF Fort de Pagny 37.92 311 eP P 21 15 27.8 +0.1
comp=Z,2.4nm,0.8s
PAGF Fort de Pagny 37.92 311 eP P 21 15 27.8 +0.1
comp=Z,1.2nm,0.8s
HFS Hagfors 38.03 331 P P 21 15 27.6 -0.9
baz=117,slow=12,SNR=1.9
SFTF Sexfontaines 38.30 310 eP P 21 15 31.3 +0.3
SFTF Sexfontaines 38.30 310 eP P 21 15 31.3 +0.3
SFTF Sexfontaines 38.30 310 eP P 21 15 31.3 +0.3
MEZF Maizieres J'vi 38.35 310 eP P 21 15 31.5 +0.2
MEZF Maizieres J'vi 38.35 310 eP P 21 15 31.5 +0.2
MEZF Maizieres J'vi 38.35 310 eP P 21 15 31.5 +0.2
SMF Signal de Mont 38.87 307 eP P 21 15 35.8 0.0
comp=Z,9.7nm,0.6s
SMF Signal de Mont 38.87 307 eP P 21 15 35.8 0.0
SMF pmax pmax
comp=Z,10.0nm,0.6s
SMF Signal de Mont 38.87 307 eP P 21 15 35.8 0.0
comp=Z,9.7nm,0.6s
SMF Signal de Mont 38.87 307 eP P 21 15 35.8 0.0
comp=Z,4.8nm,0.6s
LOR Lormes 38.94 308 eP P 21 15 36.1 -0.3
comp=Z,18nm,1.1s
LOR Lormes 38.94 308 eP P 21 15 36.1 -0.3
LOR pmax pmax
comp=Z,18nm,1.1s
LOR Lormes 38.94 308 eP P 21 15 36.1 -0.3
comp=Z,18nm,1.1s
LOR Lormes 38.94 308 eP P 21 15 36.1 -0.3
comp=Z,9.1nm,1.1s
SSF Saint Saulge 39.16 308 eP P 21 15 38.1 0.0
SSF Saint Saulge 39.16 308 eP P 21 15 38.1 0.0
SSF Saint Saulge 39.16 308 eP P 21 15 38.1 0.0
SSF Saint Saulge 39.16 308 eP P 21 15 38.1 0.0
BAIF Baives 39.19 313 eP P 21 15 38.4 0.0
BAIF Baives 39.19 313 eP P 21 15 38.4 0.0
BAIF Baives 39.19 313 eP P 21 15 38.4 0.0
BAIF Baives 39.19 313 eP P 21 15 38.4 0.0
AVF Avril sur Loir 39.23 308 eP P 21 15 39.1 +0.4
AVF Avril sur Loir 39.23 308 eP P 21 15 39.1 +0.4
AVF Avril sur Loir 39.23 308 eP P 21 15 39.1 +0.4
AVF Avril sur Loir 39.23 308 eP P 21 15 39.1 +0.4
BGF Bois d'Agland 39.55 307 eP P 21 15 42.1 +0.7
comp=Z,18nm,0.9s
BGF Bois d'Agland 39.55 307 eP P 21 15 42.1 +0.7
BGF pmax pmax
comp=Z,18nm,0.9s
BGF Bois d'Agland 39.55 307 eP P 21 15 42.1 +0.7
comp=Z,18nm,0.9s
BGF Bois d'Agland 39.55 307 eP P 21 15 42.1 +0.7
comp=Z,9.1nm,0.9s
NB2 NORSAR Subarra 39.55 331 P P 21 15 40.4 -0.9
comp=Z,8.3nm,1.2s,baz=123,slow=8.6
NB2 NORSAR Subarra 39.55 331 P P 21 15 40.4 -0.9
comp=Z,8.3nm,1.2s,SNR=5.5
NOA NORSAR Array B 39.55 331 P P 21 15 40.5 -0.9
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 39.55 331 P P 21 15 40.5 -0.9
comp=Z,2.4nm,0.9s,baz=123,slow=8.4,SNR=4.7
MTLF Montolieu 39.76 302 eP P 21 15 43.2 -0.1
comp=Z,32nm,1.5s
MTLF Montolieu 39.76 302 eP P 21 15 43.2 -0.1
MTLF pmax pmax
comp=Z,32nm,1.5s
MTLF Montolieu 39.76 302 eP P 21 15 43.2 -0.1
comp=Z,32nm,1.5s
MTLF Montolieu 39.76 302 eP P 21 15 43.2 -0.1
comp=Z,16nm,1.5s
CAF Calviac 39.95 304 eP P 21 15 44.8 0.0
CAF Calviac 39.95 304 eP P 21 15 44.8 0.0
CAF Calviac 39.95 304 eP P 21 15 44.8 0.0
CAF Calviac 39.95 304 eP P 21 15 44.8 0.0
TCF Toulx Ste Croi 39.96 307 eP P 21 15 45.1 +0.2
TCF Toulx Ste Croi 39.96 307 eP P 21 15 45.1 +0.2
TCF Toulx Ste Croi 39.96 307 eP P 21 15 45.1 +0.2
TCF Toulx Ste Croi 39.96 307 eP P 21 15 45.1 +0.2
ARCES ARCESS Array B 41.19 347 P P 21 15 54.8 +0.1
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 41.19 347 P P 21 15 54.8 +0.1
comp=Z,4.4nm,1.0s,baz=128,slow=7.9,SNR=5.1
LDF La Druitiere 41.76 310 eP P 21 15 59.7 0.0
LDF La Druitiere 41.76 310 eP P 21 15 59.7 0.0
LDF La Druitiere 41.76 310 eP P 21 15 59.7 0.0
LDF La Druitiere 41.76 310 eP P 21 15 59.7 0.0
ETSF Etsaut 41.79 301 eP P 21 15 59.7 -0.4
ETSF Etsaut 41.79 301 eP P 21 15 59.7 -0.4
ETSF Etsaut 41.79 301 eP P 21 15 59.7 -0.4
ETSF Etsaut 41.79 301 eP P 21 15 59.7 -0.4
FLN La Foliniere 42.02 310 eP P 21 16 01.6 -0.1
FLN La Foliniere 42.02 310 eP P 21 16 01.6 -0.1
FLN La Foliniere 42.02 310 eP P 21 16 01.6 -0.1
FLN La Foliniere 42.02 310 eP P 21 16 01.6 -0.1
SJPF Ste Jean 42.28 302 eP P 21 16 03.9 -0.1
SJPF Ste Jean 42.28 302 eP P 21 16 03.9 -0.1
SJPF Ste Jean 42.28 302 eP P 21 16 03.9 -0.1
SJPF Ste Jean 42.28 302 eP P 21 16 03.9 -0.1
TLY Talaya 44.06 46 eP P 21 16 09.9 -8.4
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY MLR MLR
comp=Z,172nm,18.0s
ESDC Sonseca Array 44.54 297 P P 21 16 21.5 -0.8
comp=Z,0.5nm,0.7s,baz=78,slow=7.9,SNR=3.3
CHTO Chiang Mai 45.48 93 eP P 21 16 30.0 0.0
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 45.48 93 eP P 21 16 30.0 0.0
comp=Z,9.2nm,0.9s
CHTO Chiang Mai 45.48 93 eP P 21 16 30.0 0.0
comp=Z,9.2nm,0.9s
ULN Ulaanbaatar 46.03 52 eP P 21 16 34.7 +0.6
ULN pmax pmax
comp=Z,17nm,1.1s
ULN Ulaanbaatar 46.03 52 eP P 21 16 34.6 +0.6
comp=Z,17nm,1.1s
ULN Ulaanbaatar 46.03 52 eP P 21 16 34.7 +0.6
comp=Z,17nm,1.1s
DSB Dublin 46.19 316 eP P 21 16 32.7 -2.4
KMI Kunming 46.37 84 P P 21 16 37.3 +0.1
KMI pmax pmax
comp=Z,15nm,1.0s
TOA0 Torodi Ar. Sit 47.94 260 eP P 21 16 49.5 +0.2

TOA0 Torodi Ar. Sit 47.94 260 eP P 21 16 49.5 +0.2
TORD Torodi Ar. Bea 47.94 260 P P 21 16 49.9 +0.7
comp=Z,3.7nm,0.8s,baz=54,slow=8.7,SNR=24
SLVN Son La 48.73 88 eP P 21 16 56.2 +0.8
comp=Z,72nm,2.5s
SLVN Son La 48.73 88 eP P 21 16 56.2 +0.8
comp=Z,72nm,2.5s
XAN Xi'an 49.04 70 P P 21 16 57.6 0.0
XAN pmax pmax
comp=Z,4.0nm,1.2s
GYA Guiyang 49.27 80 P P 21 17 01.4 +1.9
GYA pP pP 21 17 12.8 +4.2
GYA PP PP 21 18 55.0 +1.5
GYA S S 21 24 02.6 -1.4
GYA sS sS 21 24 21.4 +2.5
GYA SS SS 21 27 29.3 -6.2
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=Z,520nm,17.6s
GYA LR LR
comp=Z,450nm,18.0s
GYA LR LR
comp=Z,490nm,17.4s
ABPO Ambohimpanom 49.68 184 eP P 21 17 04.7 +2.1
ABPO pmax pmax
comp=Z,43nm,2.1s
ABPO Ambohimpanom 49.68 184 eP P 21 17 04.7 +2.1
comp=Z,43nm,2.1s
ABPO Ambohimpanom 49.68 184 eP P 21 17 04.7 +2.1
comp=Z,43nm,2.1s
SPITS Spitsbergen Ar 49.71 351 P P 21 17 01.7 -0.3
SPITS pmax pmax
comp=Z,20nm,1.3s
SPITS Spitsbergen Ar 49.71 351 P P 21 17 01.7 -0.3
comp=Z,20nm,1.3s,baz=134,slow=12,SNR=7.4
TSI Tuntungan 53.01 111 P P 21 17 25.7 -1.9
TSI Tuntungan 53.01 111 P P 21 17 25.7 -1.9
DBIC Dimbokro 56.79 257 P P 21 17 54.6 -0.4
DBIC pmax pmax
comp=Z,1.0nm,0.6s
DBIC Dimbokro 56.79 257 P P 21 17 54.6 -0.4
comp=Z,1.2nm,0.6s,baz=39,slow=22,SNR=4.0
TIXI Tiksi 57.46 22⇓iP P 21 17 59.1 +0.3
TIXI pmax pmax
comp=Z,8.0nm,2.5s
TIXI MLR MLR
comp=Z,95nm,22.0s
TIXI Tiksi 57.46 22 eP P 21 17 57.9 -1.0
comp=Z,8.5nm,1.0s
TIXI Tiksi 57.46 22 iP P 21 17 59.1 +0.3
comp=Z,95nm,22.0s
MYKOM Kota Tinggi 58.28 109 eP P 21 18 05.2 -0.2
comp=Z,95nm,1.7s
MYKOM LR LR
comp=Z,200nm,20.0s
MYKOM Kota Tinggi 58.28 109 eP P 21 18 05.2 -0.2
comp=Z,95nm,1.7s
YAK Yakutsk 58.37 33 eP P 21 18 03.7 -1.6
YAK pmax pmax
comp=Z,15nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK Yakutsk 58.37 33 eP P 21 18 05.4 0.0
comp=E,20nm,1.1s
YAK Yakutsk 58.37 33 eP P 21 18 05.4 0.0
comp=E,20nm,1.1s
SUMG Summit 60.49 340 eP P 21 18 18.4 -1.9
SUMG pmax pmax
comp=Z,146nm,2.9s
SUMG Summit 60.49 340 iP P 21 18 19.5 -0.8
comp=Z,6.5nm,1.0s
SUMG Summit 60.49 340 eP P 21 18 18.4 -1.9
comp=Z,146nm,2.9s
PMBI Palembang 61.81 113 eP P 21 18 28.2 -1.4
comp=Z,112nm,0.4s
PMBI Palembang 61.81 113 eP P 21 18 28.2 -1.4
comp=Z,112nm,0.4s
KSAR Wonju Array Be 62.91 61 P P 21 18 36.0 -0.7
KSAR Wonju Array Be 62.91 61 P P 21 18 36.0 -0.7
KSRS Korea Array 62.93 61 P P 21 18 36.0 -0.9
KSRS pmax pmax
comp=Z,5.0nm,0.9s
KSRS Korea Array 62.93 61 P P 21 18 36.0 -0.9
comp=Z,5.2nm,0.9s,baz=281,slow=7.6,SNR=9.5
KSRS Korea Array 62.93 61 P P 21 18 36.0 -0.9
comp=Z,5.0nm,0.9s
BOSA Boshof 63.76 204 eP P 21 18 43.2 +0.8
BOSA pmax pmax
comp=Z,73nm,2.1s
BOSA Boshof 63.76 204 P P 21 18 43.5 +1.1
comp=Z,5.2nm,0.8s,baz=53,slow=7.7,SNR=8.1
BOSA Boshof 63.76 204 eP P 21 18 43.2 +0.8
comp=Z,72nm,2.1s
BOSA Boshof 63.76 204 eP P 21 18 43.2 +0.8
comp=Z,72nm,2.1s
SBUM Sibu 64.83 103 PFAKE 21 19 00.0 +10
SBUM LR LR
comp=Z,100nm,18.0s
EUNU Eureka 66.80 353 P P 21 19 01.9 +0.4
EUNU Eureka 66.80 353 P P 21 19 01.9 +0.4
SEY Seymchan 68.21 29 P P 21 19 11.5 +1.0
SEY pmax pmax
comp=Z,3.0nm,0.9s
SEY Seymchan 68.21 29 P P 21 19 11.5 +1.0
comp=Z,3.4nm,0.9s,baz=269,slow=5.4,SNR=6.7
BILL Bilibino 70.67 21⇑eP P 21 19 26.5 +0.8
BILL e 21 19 50.9
BILL pmax pmax
comp=Z,8.0nm,1.4s
BILL MLR MLR
comp=Z,247nm,24.0s
ASAJ Asahikawa 70.81 50 P P 21 19 28.0 +1.1
ASAJ pmax pmax
comp=Z,8.0nm,1.0s
ASAJ Asahikawa 70.81 50 P P 21 19 28.0 +1.1
comp=Z,7.9nm,1.0s,baz=80,slow=17,SNR=3.0
RES Resolute Bay 72.27 351 eP P 21 19 36.1 +0.9
RES pmax pmax
comp=Z,54nm,2.7s
RES Resolute Bay 72.27 351 eP P 21 19 36.1 +0.9
comp=Z,54nm,2.7s
RES Resolute Bay 72.27 351 eP P 21 19 36.1 +0.9
comp=Z,54nm,2.7s
FRB Frobisher Bay 74.16 336 P P 21 19 47.4 +0.9
FRB Frobisher Bay 74.16 336 P P 21 19 47.4 +0.9
FRB Frobisher Bay 74.16 336 P P 21 19 47.4 +0.9
SCHQ Schefferville 79.05 328 P P 21 20 15.1 +0.7
comp=Z,6.6nm,0.9s,baz=38,slow=3.5,SNR=6.0
SCHQ Schefferville 79.05 328 eP P 21 20 14.3 -0.1
comp=Z,268nm,2.7s
SCHQ Schefferville 79.05 328 eP P 21 20 14.3 -0.1
comp=Z,268nm,2.7s
TNA Tin City 79.46 15 eP P 21 20 16.6 +0.3
comp=Z,86nm,2.8s
TNA Tin City 79.46 15 eP P 21 20 16.6 +0.3
comp=Z,86nm,2.8s
COLD Coldfoot 81.00 8 eP P 21 20 25.5 +0.9
comp=Z,11nm,1.2s
COLD Coldfoot 81.00 8 eP P 21 20 25.5 +0.9
comp=Z,11nm,1.2s
INK Inuvik 81.09 1 eP P 21 20 24.3 -0.8
INK pmax pmax
comp=Z,39nm,2.3s
INK Inuvik 81.09 1 P P 21 20 25.3 +0.2
comp=Z,2.4nm,0.9s,baz=7.3,slow=12,SNR=3.2
INK Inuvik 81.09 1 eP P 21 20 24.3 -0.8
comp=Z,39nm,2.3s
INK Inuvik 81.09 1 eP P 21 20 24.3 -0.8
comp=Z,39nm,2.3s
BATI Baumata 81.28 107 P P 21 20 26.9 -0.1
comp=Z,19nm,0.9s,baz=145,slow=5.9,SNR=5.5
ILAR Eielson Array 83.74 7 P P 21 20 39.3 +0.3
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR MLR MLR
comp=Z,46nm,19.9s
ILAR Eielson Array 83.74 7 P P 21 20 39.2 +0.3
comp=Z,1.6nm,1.0s,baz=331,slow=3.2,SNR=10.0
ILAR LR LR 22 04 19.4
comp=Z,46nm,19.9s,baz=357,slow=40
EGAK Eagle 84.26 5 P P 21 20 41.4 -0.2
EGAK Eagle 84.26 5 P P 21 20 41.4 -0.2
DAWY Dawson 85.09 4 eP P 21 20 45.8 -0.1

DAWY	Dawson	85.09	4	eP	P	21 20 45.8	-0.1
FCC	Fort Churchill	85.89	342	eP	P	21 20 49.8	-0.1
FCC	Fort Churchill	85.89	342	eP	P	21 20 49.8	-0.1
FCC	Fort Churchill	85.89	342	eP	P	21 20 49.8	-0.1
YKA	Yellowknife Ar	86.17	353	eP	P	21 20 51.7	+0.5
YKA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
YKA	Yellowknife Ar	86.17	353	P	P	21 20 51.7	+0.5
	comp=Z,3.2nm,1.1s,baz=9.7,slow=5.0,SNR=10						
YKB5	Yellowknife Ar	86.18	353	eP	P	21 20 50.8	-0.4
YKB5	Yellowknife Ar	86.18	353	eP	P	21 20 50.8	-0.4
SML	Sawmill	86.44	9	PFAKE		21 21 10.0	+17
SML				LR	LR		
	comp=Z,100nm,19.4s						
FFD	Franklin Falls	88.90	322	PFAKE		21 21 20.0	+15
FFD				LR	LR		
	comp=Z,1μm,19.9s						
WRA	Warramunga Arr	95.16	110	P	P	21 21 32.9	-1.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	95.16	110	P	P	21 21 32.9	-1.1
	comp=Z,0.5nm,0.8s,baz=313,slow=4.5,SNR=4.0						
FORT	Forrest	95.95	122	PFAKE		21 21 50.0	+13
FORT				LR	LR		
	comp=Z,400nm,21.9s						
SMRT	St. Maarten	99.59	298	PFAKE		21 22 10.0	+16
SMRT				LR	LR		
	comp=Z,300nm,18.4s						
SABA	Saba	99.97	297	PFAKE		21 22 10.0	+14
SABA				LR	LR		
	comp=Z,300nm,19.6s						
CBYP	Canovanas	101.56	299	PFAKE		21 22 20.0	+17
CBYP				LR	LR		
	comp=Z,200nm,21.1s						
YNR	Norris Junctio	102.80	346	PFAKE		21 22 20.0	+12
YNR				LR	LR		
	comp=Z,600nm,19.0s						
IMW	Indian Meadow	103.64	346	PFAKE		21 22 30.0	+18
IMW				LR	LR		
	comp=Z,200nm,18.4s						
RWWY	Rawlins	104.87	343	PFAKE		21 22 30.0	+12
RWWY				LR	LR		
	comp=Z,700nm,18.1s						
CTU	Camp Tracy	106.88	346	PFAKE		21 26 50.0	
CTU				LR	LR		
	comp=Z,200nm,21.2s						
DAC	Darwin (Calif)	112.25	349	PFAKE		21 27 00.0	
DAC				LR	LR		
	comp=Z,500nm,21.0s						

IDC 18 21:29:58.0±11.0,19°.60S×172°.89W,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.6/20,mbtmp3.6/3,MS3.1/4,Ms1 3.1/4, ms1mx2.8/32,Error ellipse: s-maj=495.7km s-min=39.6km az=142.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.76	11	LR	LR	21 34 01.9	
	comp=Z,40nm,18.8s,baz=38,slow=42						
URZ	Urewera	20.52	203	LR	LR	21 43 04.6	
	comp=Z,84nm,19.7s,baz=130,slow=38						
PPT	Papeete	22.19	89	LR	LR	21 42 15.7	
	comp=Z,31nm,19.4s,baz=174,slow=33						
ASAR	Alice Springs	49.40	255	P	P	21 38 49.6	-0.4
	1.2nm,0.8s,baz=91,slow=7.7,SNR=13						
WRA	Warramunga Arr	49.48	260	P	P	21 38 50.8	+0.2
	0.4nm,0.8s,baz=97,slow=6.2,SNR=3.2						
PFO	Pinyon Flat Ob	75.45	46	LR	LR	22 07 49.0	
	comp=Z,37nm,18.9s,baz=334,slow=30						
ILAR	Eielson Array	86.45	11	P	P	21 42 42.1	0.0
	0.4nm,0.9s,baz=224,slow=6.3,SNR=5.1						

ISCJB 18 21:31:56.5±0.6,27°.43N±0°.07×127°.70E±0°.08, h114km±5km,mb4.1/5,Error ellipse: s-maj=14.6km s-min=5.6km az=44.4
JMA 18 21:31:57.8±0.1,27°.49N×127°.64E,h99km±2km,M3.2
IDC 18 21:31:57.0±0.9,27°.42N×127°.67E,h105km±11km,mb3.1/4, mb1 3.4/4,mb1mx3.1/24,mbtmp3.5/4,MS3.0/1,Ms1 3.0/1, ms1mx2.6/37,Error ellipse: s-maj=39.0km s-min=23.8km az=64.0
ISC 18 21:31:57.4±0.8,27°.40N±0°.06×127°.74E±0°.06,h113km±7km, n19,σ1°.04/31,mb3.4/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	Iheya	0.42	150	P	Pn	21 32 14.0	-0.1
JIH				S	Sn	21 32 25.7	-0.9
JOW	Kunigami	0.74	139	P	Pn	21 32 16.8	+0.4
JOW				S	Sn	21 32 30.6	-0.1
JOW	Kunigami	0.74	139	P	Pn	21 32 16.9	+0.5
	29nm,0.3s,baz=168,slow=27,SNR=501						
JOW				S	Sn	21 32 30.7	0.0
	23nm,0.3s,baz=145,slow=29,SNR=27						
JOKE	Okinoerabujima	0.74	93	P	Pn	21 32 16.7	+0.3
JOKE				S	Sn	21 32 30.2	-0.6
JNTH	Nagotoyohara	0.91	164	P	Pn	21 32 18.6	+0.6
JNTH				S	Sn	21 32 33.5	+0.1
JAGN	Aguni-jima	0.92	209	P	Pn	21 32 17.7	-0.3
JAGN				S	Sn	21 32 33.1	-0.4
JTK	Tokunoshima	1.15	70	P	Pn	21 32 20.5	+0.1
JTK				S	Sn	21 32 36.9	-0.9
JJT2	Tamagusuku 2	1.25	179	P	Pn	21 32 22.6	+1.0
JJT2				S	Sn	21 32 41.0	+1.2
JKE	Kume jima 2	1.36	219	P	Pn	21 32 22.5	-0.3
JKE				S	Sn	21 32 41.5	-0.5
JAMN	Amaminishikomi	1.53	56	P	Pn	21 32 24.9	+0.2
JAMN				S	Sn	21 32 44.5	-1.0
JAM	Amami Oshima	1.94	58	P	Pn	21 32 30.4	+0.7
JAM				S	Sn	21 32 54.3	-0.1
JZK	Kikaishima	2.18	65	S	Sn	21 33 01.7	+1.7
JMZ	Minamidaito 2	3.49	116	P	Pn	21 32 49.8	-0.3
JMZ				S	Sn	21 33 27.6	-3.1
KSRS	Korea Array	10.03	1	LR	LR	21 38 16.8	
	comp=Z,84nm,18.3s,baz=140,slow=38						
SONM	Songino Array	26.34	326	P	P	21 37 24.5	+1.7
	2μm,0.3s,baz=140,slow=9.2,SNR=6.3						
MKAR	Makanchi Array	40.43	311	P	P	21 39 22.5	-2.2
	0.2nm,0.6s,baz=97,slow=9.9,SNR=5.9						
MKAR				PcP	PcP	21 41 25.4	0.0
	0.1nm,0.6s,baz=87,slow=3.7,SNR=3.6						
WRA	Warramunga Arr	47.49	172	P	P	21 40 22.0	+0.8
	0.4nm,0.7s,baz=353,slow=8.5,SNR=4.9						
INK	Inuvik	68.00	23	P	P	21 42 43.7	-0.3
	0.3nm,0.3s,baz=254,slow=7.4,SNR=3.4						
YKA	Yellowknife Ar	77.66	25	P	P	21 43 42.0	+0.8
	0.3nm,0.5s,baz=299,slow=5.1,SNR=4.7						

IDC 18 22:06:05.2±5.0,18°.79S×169°.22E,h0km,mb3.8/2, mb1 3.9/3,mb1mx3.6/36,mbtmp3.7/3,ML2.9/1,MS2.7/1, Ms1 2.7/1,ms1mx2.4/23,Error ellipse: s-maj=120.0km s-min=34.6km az=117.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.17	218	Pn	Pn	22 07 09.1	-1.3
	0.7nm,0.3s,baz=34,slow=18,SNR=13						
DZM				Sn	Sn	22 07 58.7	-1.3
	2.3nm,0.3s,baz=305,slow=23,SNR=6.0						
DZM				LR	LR	22 08 37.2	
	comp=Z,110nm,21.1s,baz=30,slow=36						
WRA	Warramunga Arr	32.89	262	P	P	22 12 41.4	0.0
	0.6nm,0.9s,baz=87,slow=8.2,SNR=4.2						
ASAR	Alice Springs	33.22	255	P	P	22 12 44.8	+0.6
	1.3nm,0.4s,baz=84,slow=8.7,SNR=29						
SONM	Songino Array	86.85	323	P	P	22 18 51.7	-0.2
	2μm,0.3s,baz=134,slow=5.1,SNR=5.0						

ISCJB 18 22:17:50.9±0.9,36°.96N±0°.07×27°.62E±0°.06,h5km±16km, Error ellipse: s-maj=12.2km s-min=7.8km az=175.7
ISK 18 22:17:50.8,37°.06N×27°.61E,h8km,MD2.7
CSEM 18 22:17:51.0±0.3,37°.00N×27°.59E,h10km,MD2.7,Error ellipse: s-maj=9.2km s-min=6.0km az=15.0
DDA 18 22:17:52.8,37°.08N×27°.45E,h7km,MD2.7
ISC 18 22:17:51.2±0.9,37°.07N±0°.06×27°.59E±0°.04,h15km±8km, n16,σ0°.26/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.12	267	iP	Pg	22 17 54.6	-0.1
BDRM				iS	Sb	22 17 57.5	-0.3
BDRM	Kayabasi	0.12	267	iP	Pg	22 17 54.6	-0.1
BDRM				iS	Sb	22 17 57.5	-0.3
BODT	Bodrum	0.23	268	ePG	Pg	22 17 56.0	-0.2
BODT				eSG	Sg	22 17 59.8	+0.2
BODT	Bodrum	0.23	268	ePg	Pg	22 17 56.0	-0.2
BODT				eSg	Sg	22 17 59.8	+0.2
YER	Yerkesik	0.56	83	ePG	Pg	22 18 01.9	-0.3
YER	Yerkesik	0.56	83	ePg	Pg	22 18 01.9	-0.3
AYDN	Tasoluk	0.63	21	iP	Pn	22 18 05.6	-0.1
AYDN				iS	Sn	22 18 15.8	+0.3
AYDN	Tasoluk	0.63	21	iP	Pn	22 18 05.6	-0.1
AYDN				iS	Sn	22 18 15.8	+0.3
DALY	Dalyan (Mu˘la	0.89	106	ePG	Pb	22 18 08.0	-0.3
DALY	Dalyan (Mu˘la	0.89	106	ePg	Pb	22 18 08.0	-0.3
AYDB	Zeytinkoy-Aydi	0.91	15	ePG	Pb	22 18 08.7	+0.1
AYDB	Zeytinkoy-Aydi	0.91	15	ePg	Pb	22 18 08.7	+0.1
FETY	Fethiye	1.27	110	ePN	Pb	22 18 15.3	+0.4
FETY	Fethiye	1.27	110	ePn	Pb	22 18 15.3	+0.4
ELL	Elmali	1.89	99	ePN	Pn	22 18 23.0	+0.1
ELL	Elmali	1.89	99	ePn	Pn	22 18 23.0	+0.1

CSEM 18 22:28:18.1±0.3,45°.22N×14°.58E,h15km,Error ellipse: s-maj=4.5km s-min=4.2km az=35.0,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	Knezji Dol	0.34	336	iSg	Sg	22 28 30.7	+0.5
KNDS	Knezji Dol	0.34	336	iSg	Sg	22 28 30.7	+0.5
GBRS	Gornja Briga	0.35	28	iPg	Pg	22 28 25.3	-0.2
GBRS				iSg	Sg	22 28 30.6	+0.1
SKDS	Skadanscina	0.52	310	iPg	Pg	22 28 28.1	-0.3
SKDS				iSg	Sb	22 28 36.1	-0.1
SKDS	Skadanscina	0.52	310	iPg	Pg	22 28 28.1	-0.3
SKDS				iSg	Sb	22 28 36.1	-0.2
CEY	Cerknica	0.53	349	iSg	Sb	22 28 36.8	0.0
CEY	Cerknica	0.53	349	iSg	Sb	22 28 36.8	0.0
BOJS	Bojanci	0.56	59	iSg	Sb	22 28 37.4	0.0
BOJS	Bojanci	0.56	59	iSg	Sb	22 28 37.4	0.0
VISS	Visnje	0.61	17	iPg	Pg	22 28 29.8	-0.5
VISS				iSg	Sg	22 28 38.7	+0.2
VISS	Visnje	0.61	17	iPg	Pg	22 28 29.8	-0.5
VISS				iSg	Sg	22 28 38.7	+0.2
NVLJ	Novalja	0.69	162	Sg	Sb	22 28 41.4	+0.4
NVLJ	Novalja	0.69	162	Sg	Sb	22 28 41.3	+0.3

BYKL 18 22:37:06.6±0.2,52°.50N×106°.06E,h14km±3km
MOS 18 22:37:07.1±1.2,52°.51N×106°.07E,h10km,mb4.2/1,Error ellipse: s-maj=37.9km s-min=26.2km az=56.3
ISC 18 22:37:05.5±1.1,52°.47N±0°.02×106°.14E±0°.02,h4km±10km, n27,σ1°.45/63,5C-3D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRG	Tyrgan	0.32	24	⇓iPg	Pb	22 37 13.1	-0.7
TRG				iSg	Sg	22 37 17.6	+1.7
TRG				Pmax			
	457nm,0.1s						
TRG				Smax			
	3μm,0.1s						
KAB	Kabansk	0.53	143	⇑iPG	Pb	22 37 17.6	+0.3
KAB				e		22 37 25.6	
KAB				pmax	pmax		
	comp=Z,500nm,0.2s						
KAB				smax	smax		
	comp=E,2μm,0.6s						
KAB	Kabansk	0.53	143	⇑iPg	Pb	22 37 17.7	+0.4
KAB				eSg	Sb	22 37 25.6	+0.3
KAB				Pmax			
	comp=E,493nm,0.1s						
KAB				Smax			
	comp=E,2μm,0.3s						
HRMR	Khuramsha	0.98	149	⇑iPg	Pn	22 37 25.4	-0.7
HRMR				eSg	Sn	22 37 38.8	-1.6
HRMR				eSb	Sb	22 37 41.4	+3.0
LSTR	Listvyanka	1.00	234	⇓iPg	Pg	22 37 25.0	+0.2
LSTR				ePb	Pn	22 37 27.4	+1.0
LSTR				eSg	Sg	22 37 37.7	-0.1
LSTR				iSb	Sn	22 37 42.0	+1.0
LSTR				max			
	comp=E,72nm,0.2s						
LSTR				max			
	comp=E,315nm,0.3s						
UUDB	Ulan-Yde	1.12	122	⇑iPg	Pn	22 37 27.9	0.0
UUDB				eSg	Sg	22 37 42.2	+0.9
UUDB				eSb	Sn	22 37 45.1	+1.3
UUDB				Pmax			
	comp=E,106nm,0.2s						
UUDB				max			
	comp=E,215nm,0.3s						
IRK	Irkutsk	1.17	260	ePG	Pn	22 37 28.0	-0.6
IRK				e		22 37 43.2	
IRK				pmax	pmax		
	comp=Z,84nm,0.1s						
IRK				smax	smax		
	comp=N,881nm,0.5s						
IRK	Irkutsk	1.17	260	ePg	Pb	22 37 27.7	-0.6
IRK				eSg	Sb	22 37 43.1	-0.6
IRK				Pmax			
	comp=N,83nm,0.2s						
IRK				Smax			
	comp=N,866nm,0.5s						
OGRR	Ongureny	1.47	36	ePG	Pb	22 37 33.1	-0.3
OGRR				e		22 37 53.2	
OGRR				pmax	pmax		
	comp=Z,59nm,0.2s						
OGRR				smax	smax		
	comp=E,167nm,0.2s						
OGRR	Ongureny	1.47	36	ePg	Pb	22 37 32.9	-0.5
OGRR				ePb	Pg	22 37 34.3	+0.7
OGRR				eSg	Sg	22 37 53.2	+0.5
OGRR				max			
	comp=E,59nm,0.3s						
OGRR				Smax			
	comp=E,168nm,0.3s						
TLY	Talaya	1.73	244	ePN	Pb	22 37 37.2	-0.7
TLY				e		22 38 00.0	
TLY				pmax	pmax		
	comp=Z,16nm,0.2s						
TLY				smax	smax		
	comp=N,264nm,0.4s						
TLY	Talaya	1.73	244	ePn	Pb	22 37 37.2	-0.7
TLY				⇓iPg	Pg	22 37 37.7	-1.0
TLY				eSg	Sb	22 37 59.7	-0.2
TLY				Pmax			
	comp=N,15nm,0.2s						
TLY				Smax			
	comp=N,264nm,0.4s						
MXMB	Maximikha	1.77	62	ePn	Pn	22 37 37.3	+0.4
MXMB				ePg	Pb	22 37 38.8	+0.3
MXMB				eSn	Sb	22 38 01.4	+0.4
MXMB				eSg	Sg	22 38 02.5	+0.2
MXMB				Pmax			
	comp=N,25nm,0.3s						
MXMB				Smax			
	comp=N,212nm,0.4s						
ARS	Arshan	2.35	258	ePN	Pb	22 37 48.5	0.0
ARS				e		22 38 18.4	
ARS				pmax	pmax		
	comp=Z,16nm,0.2s						
ARS				smax	smax		
	comp=E,388nm,0.3s						
ARS	Arshan	2.35	258	ePn	Pn	22 37 46.2	+1.2
ARS				⇑iPg	Pb	22 37 48.5	0.0
ARS				eSg	Sb	22 38 18.2	+0.3
ARS				Pmax			
	comp=E,16nm,0.2s						
ARS				Smax			
	comp=E,454nm,0.5s						
SYVR	Suvo	2.62	61	ePn	Pn	22 37 49.4	+0.9
SYVR				ePg	Pb	22 37 53.4	+0.5
SYVR				eSn	Sn	22 38 20.1	-0.6
SYVR				eSg	Sg	22 38 28.8	-0.7
SYVR				Pmax			
	comp=E,6.0nm,0.6s						
SYVR				Smax			
	comp=E,23nm,0.3s						
ZAK	Zakamensk	2.75	222	ePn	Pn	22 37 52.1	+1.6
ZAK				ePg	Pb	22 37 55.9	+0.6
ZAK				eSg	Sg	22 38 32.0	-1.8
ZAK				Pmax			
	comp=E,5.0nm,0.2s						
ZAK				Smax			
	comp=E,27nm,0.4s						
MOY	Mondy	3.28	258	ePn	Pn	22 37 57.4	-0.3
MOY				e		22 38 00.4	
MOY				ePg	Pb	22 38 03.5	-0.7
MOY				eSn	Sn	22 38 36.2	-1.0
MOY				eSg	Sb	22 38 46.2	+1.7
MOY				eSgSg	Sg	22 38 53.1	+2.4
MOY				Pmax			
	comp=E,6.0nm,0.3s						
MOY				max			
	comp=E,61nm,0.9s						
YLYR	Ulyunkhan	3.84	49	ePn	Pn	22 38 06.0	+0.7
YLYR				e		22 38 14.9	
YLYR				ePg	Pb	22 38 15.1	+1.3
YLYR				eSg	Sg	22 39 04.7	-4.0
YLYR				Pmax			
	comp=E,2.0nm,0.4s						
YLYR				Smax			
	comp=E,17nm,1.0s						
ORL	Orlik	3.87	274	ePn	Pn	22 38 07.3	+1.4
ORL				ePg	Pb	22 38 14.6	+0.3
ORL				eSn	Sn	22 38 49.2	-2.6
ORL				eSg	Sb	22 39 03.9	+2.4
ORL				Pmax			
	comp=E,5.0nm,0.6s						
ORL				Smax			
	comp=E,42nm,1.4s						
NIZ	Nizh Angarsk	3.87	30	ePn	Pn	22 38 07.3	+1.5
NIZ				ePg	Pb	22 38 15.9	+1.6
NIZ				eSn	Sn	22 38 50.5	-1.1
NIZ				eSg	Sg	22 39 06.8	-2.9
NIZ				Pmax			
	comp=E,4.0nm,0.4s						
NIZ				Smax			
	comp=E,18nm,0.3s						
KMO	Kumora	4.53	39	ePn	Pn	22 38 13.8	-1.1
KMO				e		22 39 10.6	
KMO				iSg	Sg	22 39 27.9	-3.1
KMO				Smax			
	comp=E,10.0nm,0.7s						
ULN	Ulaanbaatar	4.65	172	ePn	Pn	22 38 18.1	+1.5
ULN				ePg	Pb	22 38 30.6	+3.0
ULN				eSg	Sg	22 39 31.1	-3.6
KPC	Khapcheranga	4.81	123	ePn	Pn	22 38 18.6	-0.1
KPC				ePg	Pb	22 38 33.5	+3.2
KPC				e		22 38 38.1	
KPC				eSg	Sg	22 39 37.7	-2.2
KPC				max			
	comp=E,4.0nm,0.4s						
KPC				Smax			
	comp=E,15nm,1.1s						
BOD	Bodaibo	7.00	37	eSg	Sg	22 40 43.0	-7.1
BOD				Smax			
	comp=E,3.0nm,1.1s						
CRS	Chara	8.31	53	eSg	Sg	22 41 23.8	-8.2
CRS				e		22 41 33.3	
CRS				max			
	comp=E,5.0nm,1.1s						
TUP	Tupik	8.48	71	eSg	Sg	22 41 29.5	-7.9
TUP				Smax			
	comp=E,7.0nm,0.8s						

IDC 18 22:54:48.4±1.2,12°.15N×144°.02E,h0km,mb3.6/8, mb1 3.9/8,mb1mx3.7/25,mbtmp3.6/8,MS2.9/2,Ms1 2.9/2, ms1mx2.6/29,Error ellipse: s-maj=40.4km s-min=30.1km az=97.0
ISCJB 18 22:54:50.8±0.9,12°.1N±0°.2×143°.9E±0°.2,h26km,mb3.7/8, MS2.8/2,Error ellipse: s-maj=32.7km s-min=23.2km az=3.5
ISC 18 22:54:52.5±1.0,12°.1N±0°.2×144°.0E±0°.2,h26km,n10, σ0°.84/8,mb3.7/8,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	24.87	349	LR	LR	23 08 13.9	
	comp=Z,31nm,20.8s,baz=50,slow=32						
WRA	Warramunga Arr	33.25	197	P	P	23 01 27.6	-0.2
	0.5nm,0.5s,baz=20,slow=9.8,SNR=5.1						
USRK	Ussuriysk Arra	33.59	344	LR	LR	23 12 23.5	
	comp=Z,14nm,18.9s,baz=66,slow=31						
SONM	Songino Array	47.45	326	P	P	23 03 25.1	0.0
	0.2nm,0.5s,baz=151,slow=3.3,SNR=2.1						
MKAR	Makanchi Array	61.96	317	P	P	23 05 11.1	+0.8
	0.4nm,0.9s,baz=90,slow=7.8,SNR=3.2						
ILAR	Eielson Array	70.25	25	P	P	23 06 02.1	-1.0
	0.3nm,0.6s,baz=236,slow=6.1,SNR=3.7						
BVAR	Borovoye Array	70.55	322	P	P	23 06 04.2	-1.0
	0.4nm,0.4s,baz=113,slow=7.2,SNR=5.3						
YKA	Yellowknife Ar	84.54	27	P	P	23 07 23.3	+0.2
	0.4nm,0.8s,baz=288,slow=5.4,SNR=5.6						
NVAR	Mina Array Bea	88.49	51	P	P	23 07 44.0	+0.7
	0.2nm,0.3s,baz=271,slow=5.1,SNR=3.7						
FINES	FINESS Array B	92.12	335	P	P	23 07 59.9	+0.5
	0.9nm,0.7s,baz=91,slow=7.6,SNR=5.8						

IDC 18 22:59:03.7±1.4,43°.18N×46°.39E,h0km,mb3.1/3, mb1 3.2/5,mb1mx3.1/25,mbtmp3.1/5,ML0.2/1,Error ellipse: s-maj=21.2km s-min=18.5km az=74.0
MOS 18 22:59:10.7±1.1,43°.12N×46°.24E,h86km,mb4.2/1,Error ellipse: s-maj=11.0km s-min=6.8km az=19.0
ISCJB 18 22:59:11.1±0.3,43°.10N±0°.03×46°.20E±0°.03,h94km±3km, mb2.9/3,Error ellipse: s-maj=4.8km s-min=2.4km az=31.5
AZER 18 22:59:11.6±4.7,42°.84N×46°.15E,h25km,Error ellipse: s-maj=4.9km s-min=2.6km az=359.0
TIF 18 22:59:11.2,43°.05N×46°.22E,h36km±2km
CSEM 18 22:59:11.6±0.2,43°.13N×46°.24E,h89km±3km,mb4.2, Error ellipse: s-maj=5.3km s-min=3.3km az=27.0
ISC 18 22:59:11.2±0.8,43°.07N±0°.03×46°.19E±0°.02,h88km±5km, n94,σ1°.54/161,mb3.2/3,22C-27D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.40	176	iP	Pn	22 59 25.6	+0.4
BTLR				iS	Sn	22 59 35.6	+0.1
BTLR	Botlikh	0.40	176	iP	Pn	22 59 25.6	+0.4
BTLR				iS	Sn	22 59 35.6	+0.1
GRO	Groznyy	0.41	309	⇓iP	Pn	22 59 25.5	+0.4
GRO				iS	Sn	22 59 36.0	+0.6
GRO	Groznyy	0.41	309	iP	Pn	22 59 25.5	+0.4
GRO				iS	Sn	22 59 36.0	+0.6
DBC	Dubki	0.47	95	⇑iP	Pn	22 59 25.9	+0.2
DBC				iS	Sn	22 59 35.9	-0.5
DBC	Dubki	0.47	95	iP	Pn	22 59 25.9	+0.2
DBC				iS	Sn	22 59 35.9	-0.5
KRNR	Karanay	0.58	114	⇓iP	Pn	22 59 26.8	+0.2
KRNR				iS	Sn	22 59 37.8	-0.2
KRNR				pmax	pmax		
	comp=Z,143nm,0.2s						
KRNR	Karanay	0.58	114	iP	Pn	22 59 26.8	+0.2
	comp=Z,143nm,0.2s						
KRNR				iS	Sn	22 59 37.8	-0.2
XNZR	Khunzakh	0.65	144	P	Pn	22 59 28.5	+1.2
XNZR				S	Sn	22 59 40.5	+1.3
XNZR	Khunzakh	0.65	144	P	Pn	22 59 28.5	+1.2
XNZR				S	Sn	22 59 40.5	+1.3
BUJR	Buynaksk	0.72	109	⇓iP	Pn	22 59 27.5	-0.3
BUJR				iS	Sn	22 59 40.5	+0.4
BUJR				pmax	pmax		
	comp=Z,134nm,0.2s						
BUJR	Buynaksk	0.72	109	iP	Pn	22 59 27.5	-0.3
	comp=Z,134nm,0.2s						
BUJR				iS	Sn	22 59 40.5	+0.4
MAK	Makhachkala	0.97	96	eP	Pn	22 59 31.9	+1.5
MAK				eSG	Sn	22 59 47.0	+2.1
MAK	Makhachkala	0.97	96	eP	Pn	22 59 31.9	+1.5
MAK				eS	Sn	22 59 47.0	+2.1
VLKR	Vladikavkaz	1.11	269	eP	Pn	22 59 33.2	+1.1
VLKR				eS	Sn	22 59 48.4	+0.7
VLKR	Vladikavkaz	1.11	269	eP	Pn	22 59 33.2	+1.1
VLKR				eS	Sn	22 59 48.4	+0.7
KMKR	Kumukh	1.15	144	iP	Pn	22 59 35.0	+2.2
KMKR				eS	Sn	22 59 52.0	+3.0
KMKR				pmax	pmax		
	comp=Z,70nm,0.2s						
BTKR	Batakoyurt	1.24	285	⇓iP	Pn	22 59 35.1	+1.4
BTKR				iS	Sn	22 59 52.4	+1.8
BTKR	Batakoyurt	1.24	285	iP	Pn	22 59 35.1	+1.4

BTKR i S Sn 22 59 52.4 +1.8
TRKR Terskaya 1.25 302 ⇑ i P Pn **22 59 35.0 +1.3**
TRKR i S Sn 22 59 53.0 +2.4
TRKR Terskaya 1.25 302 i P Pn **22 59 35.0 +1.3**
TRKR i S Sn 22 59 53.0 +2.4
ARNR Ardon 1.40 275 ⇑ i P Pn **22 59 37.1 +1.5**
ARNR i S Sn 22 59 56.0 +2.0
ARNR Ardon 1.40 275 i P Pn **22 59 37.1 +1.5**
ARNR i S Sn 22 59 56.0 +2.0
LACR Lac 1.41 261 ⇓ i P Pn **22 59 36.1 +0.3**
LACR i S Sn 22 59 54.4 0.0
LACR Lac 1.41 261 i P Pn **22 59 36.1 +0.3**
LACR i S Sn 22 59 54.4 0.0
ZKTA Zakatala 1.46 167 ⇓P Pn **22 59 37.5 +1.0**
SNR=6.8
ZKTA ⇑S Sn 22 59 56.6 +1.1
DUS Dusheti 1.47 229 P Pn **22 59 38.2 +1.6**
DUS Dusheti 1.47 229 P Pn **22 59 38.2 +1.6**
DUS S Sn 22 59 59.6 +3.9
PRTR Priterechnaya 1.55 297 ⇑ i P Pn **22 59 38.9 +1.4**
PRTR i S Sn 22 59 59.6 +2.3
PRTR Priterechnaya 1.55 297 i P Pn **22 59 38.9 +1.4**
PRTR i S Sn 22 59 59.6 +2.3
KORR Kora 1.55 271 ⇑ i P Pn **22 59 38.5 +0.9**
KORR i S Sn 22 59 58.9 +1.4
KORR Kora 1.55 271 i P Pn **22 59 38.5 +0.9**
KORR i S Sn 22 59 58.9 +1.4
STDR Stavd-Durt 1.58 282 ⇑ i P Pn **22 59 39.4 +1.5**
STDR i S Sn 23 00 00.3 +2.2
STDR Stavd-Durt 1.58 282 i P Pn **22 59 39.4 +1.5**
SEAG Tbilisi Sea 1.66 219 P Pn 23 00 00.9 +22
ZEI Tsey 1.70 261 eP Pn **22 59 39.3 -0.4**
ZEI i S Sn **23 00 00.4 -0.8**
ZEI Tsey 1.70 261 eP Pn **22 59 39.3 -0.4**
TBLG Delisi 1.71 219 P Pn **22 59 40.7 +1.0**
TBLG Delisi 1.71 219 P Pn **22 59 40.7 +1.0**
TBLG S Sn **23 00 02.2 +1.0**
DGRG David-gareji 1.72 201 P Pn **22 59 41.4 +1.6**
DGRG David-gareji 1.72 201 P Pn **22 59 41.4 +1.6**
DGRG S Sn **23 00 04.6 +3.1**
LSNR Lesken 1.74 278 P Pn **22 59 41.1 +1.1**
LSNR S Sn **23 00 02.7 +0.9**
DIGR Digorskoe uzhe 1.92 266 ⇑ i P Pn **22 59 42.6 +0.1**
DIGR i S Sn **23 00 05.8 -0.5**
SEKA Sheki 2.00 158 ⇑P Pn **22 59 44.4 +0.8**
SNR=5.5
SEKA ⇑S Sn **23 00 08.7 +0.7**
SEKA Sheki 2.00 158 P Pn **22 59 44.3 +0.8**
SNR=5.5
SEKA S Sn **23 00 08.7 +0.7**
ONI Oni 2.07 258 P Pn **22 59 46.3 +2.0**
ONI Oni 2.07 258 P Pn **22 59 46.3 +2.0**
ONI S Sn **23 00 11.8 +2.3**
QZX Qazax, Azerbai 2.10 197 ⇑P Pn **22 59 45.1 +0.4**
QZX ⇓S Sn **23 00 10.4 +0.2**
QZX Qazax, Azerbai 2.10 197 P Pn **22 59 45.1 +0.4**
QZX S Sn **23 00 10.4 +0.2**
KUBR Kubataba 2.15 291 ⇑ eP Pn **22 59 46.1 +0.7**
KUBR eS Sn **23 00 10.8 -0.7**
MNGR Mingechevir, A 2.39 163 ⇑P Pn **22 59 49.9 +1.4**
MNGR ⇓S Sn **23 00 17.3 +0.3**
MNGR Mingechevir, A 2.39 163 P Pn **22 59 49.9 +1.4**
MNGR S Sn **23 00 17.3 +0.3**
GANJ Ganja 2.42 178 P Pn **22 59 49.4 +0.4**
SNR=18
GANJ ⇓S Sn **23 00 16.7 -1.2**
GANJ Ganja 2.42 178 P Pn **22 59 49.4 +0.4**
SNR=18
GANJ S Sn **23 00 16.7 -1.2**
QUBA Quba, Azerbaij 2.42 134 ⇑P Pn **22 59 51.8 +2.8**
QUBA ⇓S Sn **23 00 20.5 +2.6**
QUBA Quba, Azerbaij 2.42 134 P Pn **22 59 51.8 +2.8**
QUBA S Sn **23 00 20.5 +2.6**
PYA Pyatigorsk 2.47 294 ⇓ eP Pn **22 59 49.8 +0.2**
PYA eS Sn **23 00 17.2 -1.8**
KBZ Khabaz 2.49 287 P Pn **22 59 49.8 0.0**
KBZ 23 00 17.6
KBZ pmax pmax
comp=Z,4.0nm,0.3s
KBZ Khabaz 2.49 287 Pn Pn **22 59 49.8 0.0**
comp=Z,3.6nm,0.3s,baz=114,slow=5.8,SNR=295
KBZ Lg Lg 23 00 17.6
comp=Z,20nm,0.3s,baz=285,slow=17,SNR=36
NEY Neytrino 2.54 275 ⇑ eP Pn **22 59 51.2 +0.5**
NEY i S Sn **23 00 19.8 -1.2**
AKH Akhalkalaki 2.60 231 P Pn 22 59 58.1 +6.6
KIV Kislovodsk 2.70 290 ⇓ eP Pn **22 59 52.7 0.0**
KIV eS Sn **23 00 23.0 -1.6**
IML Ismayilli 2.72 146 ⇑P Pn **22 59 54.2 +1.2**
SNR=5.9
IML ⇓S Sn **23 00 27.1 +2.1**
IML Ismayilli 2.72 146 P Pn **22 59 54.2 +1.2**
SNR=5.9
IML S Sn **23 00 27.1 +2.1**
SIZA Siyzn 2.83 134 ⇓P Pn **22 59 56.8 +2.3**
SNR=3.2
SIZA ⇓S Sn **23 00 30.6 +2.7**
SIZA Siyzn 2.83 134 P Pn **22 59 56.8 +2.3**
SNR=3.2
SIZA S Sn **23 00 30.6 +2.7**
BRDA Brd 2.90 165 ⇓P Pn **22 59 57.5 +2.1**
BRDA ⇑S Sn **23 00 30.8 +1.5**
BRDA Brd 2.90 165 P Pn **22 59 57.5 +2.1**
BRDA S Sn **23 00 30.8 +1.5**
PQL Pirkuli 2.90 141 ⇓P Pn **22 59 57.0 +1.5**
SNR=8.0
PQL ⇑S Sn **23 00 31.6 +2.1**
PQL Pirkuli 2.90 141 P Pn **22 59 57.0 +1.5**
SNR=8.0
PQL S Sn **23 00 31.6 +2.1**
ATGJ Altiaghaj 3.01 136 ⇓P Pn **22 59 58.3 +1.3**
SNR=5.0
ATGJ ⇓S Sn **23 00 33.3 +1.1**
ATGJ Altiaghaj 3.01 136 P Pn **22 59 58.3 +1.3**
SNR=5.0
ATGJ S Sn **23 00 33.3 +1.1**
GOF Gofitskoye 3.02 312 eP Pn **22 59 57.9 +1.0**
GOF i S Sn 23 00 25.9 -6.2
GOF smax smax
comp=N,96nm,0.9s
GOF smax smax
comp=E,71nm,0.7s
CHVG Ch'k'valeri 3.03 265 P Sn **23 00 34.2 +1.7**
KDMR Kurdemir 3.08 150 ⇑P Pn **22 59 58.9 +1.2**
SNR=3.2
KDMR ⇑S Sn **23 00 34.6 +1.1**
GNI Garni 3.11 201 P Pn **22 59 59.1 +0.8**
GNI 23 00 32.6
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI smax smax
comp=N,2.0nm,0.3s
GNI Garni 3.11 201 Pn Pn **22 59 59.1 +0.8**
comp=N,0.6nm,0.3s,baz=304,slow=7.5,SNR=8.8
GNI Sn Sn **23 00 32.6 -2.0**
comp=N,2.1nm,0.3s,baz=148,slow=7.5,SNR=5.6
GLBA Clilabad 4.17 156 ⇓P Pn **23 00 13.1 +0.6**
SNR=3.3
GLBA ⇓S Sn **23 00 58.4 -1.6**
GLBA Clilabad 4.17 156 P Pn **23 00 13.1 +0.6**
SNR=3.3
GLBA S Sn **23 00 58.4 -1.6**
LRK Lerik 4.71 159 ⇑P Pn **23 00 20.7 +0.6**
LRK ⇓S Sn **23 01 11.9 -1.6**
LRK Lerik 4.71 159 P Pn **23 00 20.7 +0.6**
LRK S Sn **23 01 11.9 -1.6**
LKRN Lenkeran, Azer 4.78 155 ⇓P Pn **23 00 20.9 +0.2**
LKRN ⇓S Sn **23 01 10.7 -4.1**
LKRN Lenkeran, Azer 4.78 155 P Pn **23 00 20.9 +0.2**
LKRN S Sn **23 01 10.7 -4.1**
ANN Anapa 6.55 288 eP Pn **23 00 47.3 +2.4**
ANN e 23 02 03.9
ANN pmax pmax
comp=Z,13nm,0.6s
ANN smax smax
comp=E,9.0nm,0.7s
AKTO Aktyubinsk 10.95 44 ⇓Pn Pn **23 01 42.6 -2.2**
comp=E,1.3nm,0.8s
AKTO ⇑Sn Sn 23 03 37.2 -8.1
comp=E,1.1nm,0.7s
AKTO Aktyubinsk 10.95 44 Pn Pn **23 01 42.6 -2.2**
comp=E,0.2nm,0.3s,baz=232,slow=12,SNR=3.8
AKTO Sn Sn 23 03 34.7 -11
comp=E,0.1nm,0.3s,baz=42,slow=18,SNR=4.8
AKTO Aktyubinsk 10.95 44 Pn **Pn** **23 01 42.6 -2.2**
comp=E,1.3nm,0.8s
AKTO Sn Sn 23 03 37.2 -8.1
comp=E,1.1nm,0.7s
AB31 Akbulak array 11.36 52 ⇓Pn **Pn** **23 01 48.2 -2.2**
comp=E,0.4nm,0.5s,baz=242,slow=12
AB31 ⇓Sn Sn 23 03 48.2 -7.1
comp=E,1.3nm,0.5s,baz=246,slow=26
AB31 Akbulak array 11.36 52 Pn **Pn** **23 01 48.2 -2.2**
comp=E,0.4nm,0.5s
AB31 Sn Sn 23 03 48.2 -7.1
comp=E,1.3nm,0.5s
AAK Ala-Archa 20.72 81 i P **P** **23 03 45.5 +0.9**
FINES FINESS Array B 21.97 334 P **P** **23 03 57.7 +0.2**
comp=E,0.9nm,0.7s,baz=144,slow=12,SNR=5.7
KURK Kurchatov 23.30 60 i P **P** **23 04 10.2 -1.0**
MKAR Makanchi Array 25.69 69 P **P** **23 04 33.9 +1.0**
comp=E,0.1nm,0.5s,baz=270,slow=10,SNR=4.2
TORD Torodi Ar. Bea 48.47 246 P P 23 07 49.7 +4.7
comp=E,0.2nm,0.6s,baz=38,slow=8.2,SNR=2.9

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*IDC **18** 23:09:19.8±3.1, 8.73N×82.76W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/29, mbtmp4.0/6, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/37, Error ellipse: s-maj=99.6km s-min=17.9km az=27.0*
*ISCJB **18** 23:09:21.5±2.8, 8.8N±0.5×82.8W±0.2, h18km, mb3.9/5, MS3.2/1, Error ellipse: s-maj=78.4km s-min=14.4km az=17.0*
*NEIC **18** 23:09:25.2±2.3, 8.74N×82.82W, h35km, mb4.4/1, Error ellipse: s-maj=66.3km s-min=11.8km az=197.0*
ISC 18 23:09:23.0±3.1, 8.8N±0.6×82.9W±0.2, h18km, n15, σ1.12/10, mb4.0/5, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.55**	**306**	Pn	**Pn**	**23 10 04.5**	**+1.0**
	22nm,0.3s,baz=123,slow=11,SNR=38						
JTS				Pg	**Pb**	**23 10 06.4**	**-1.8**
	23nm,0.3s,baz=187,slow=4.1,SNR=36						
JTS				Lg	Lg	23 10 44.4	
	31nm,0.3s,baz=302,slow=19,SNR=6.4						
BCIP	**Isla Barro Col**	**3.01**	**83**	ePn	**Pn**	**23 10 10.2**	**+0.5**
SJG	**San Juan**	**18.69**	**59**	LR	LR	23 20 26.5	
	comp=Z,52nm,19.4s,baz=274,slow=36						
H06E1	**SOCORRO T-PHAS**	**28.97**	**293**	T	T	23 45 34.7	
	SNR=39						
H03N2	**Juan Fernandez**	**42.16**	**175**	T	T	00 01 35.8	
	baz=354						
H03N1	**Juan Fernandez**	**42.16**	**175**	T	T	00 01 35.1	
	baz=354						
H03N3	**Juan Fernandez**	**42.17**	**175**	T	T	00 01 36.1	
	baz=354						
ULM	**Lac du Bonnet**	**42.73**	**348**	P	**P**	**23 17 19.2**	**+0.2**
	6.0nm,0.9s,baz=172,slow=8.8,SNR=9.7						
ULM	**Lac du Bonnet**	**42.73**	**348**	eP	**P**	**23 17 18.7**	**-0.3**
	7.5nm,1.0s						
ELK	**Elko**	**42.87**	**323**	LR	LR	23 37 31.6	
	comp=Z,31nm,18.2s,baz=181,slow=39						
NVAR	**Mina Array Bea**	**43.42**	**318**	P	**P**	**23 17 26.5**	**+1.4**
	1.0nm,1.0s,baz=138,slow=8.2,SNR=4.9						
YKA	**Yellowknife Ar**	**58.36**	**343**	P	**P**	**23 19 17.0**	**+0.2**
	1.1nm,0.7s,baz=138,slow=7.1,SNR=21						
INK	**Inuvik**	**68.05**	**342**	P	**P**	**23 20 21.2**	**+0.2**
	baz=115,slow=5.3						
ILAR	**Eielson Array**	**71.18**	**336**	P	**P**	**23 20 41.2**	**+0.7**
	0.8nm,0.7s,baz=113,slow=4.8,SNR=14						
TORD	**Torodi Ar. Bea**	**82.78**	**78**	P	**P**	**23 21 45.5**	**-1.2**
	0.5nm,0.8s,baz=285,slow=5.7,SNR=3.0						

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*IDC **18** 23:15:04.3±0.9, 18.71N×145.75E, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.6/36, mbtmp3.5/7, Error ellipse: s-maj=42.7km s-min=22.9km az=107.0*
*ISCJB **18** 23:15:07.7±0.8, 18.7N±0.2×145.7E±0.3, h33km, mb3.5/7, Error ellipse: s-maj=40.0km s-min=19.6km az=15.3*
ISC 18 23:15:09.6±1.0, 18.7N±0.2×145.7E±0.3, h35km, n7, σ0.82/7, mb3.5/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.98**	**197**	P	**P**	**23 22 41.0**	**-0.1**
	0.4nm,0.4s,baz=18,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**43.65**	**196**	P	**P**	**23 23 11.1**	**+0.1**
	0.4nm,0.5s,baz=16,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**58.48**	**314**	P	**P**	**23 25 03.1**	**+0.9**
	0.1nm,0.5s,baz=94,slow=6.8,SNR=3.7						
ILAR	**Eielson Array**	**63.65**	**26**	P	**P**	**23 25 36.9**	**-0.1**
	0.3nm,0.7s,baz=257,slow=4.7,SNR=5.0						
YKA	**Yellowknife Ar**	**77.99**	**28**	P	**P**	**23 27 04.4**	**+0.3**
	0.2nm,0.7s,baz=294,slow=6.0,SNR=3.2						
NVAR	**Mina Array Bea**	**83.14**	**52**	P	**P**	**23 27 32.8**	**+0.3**
	0.4nm,0.6s,baz=282,slow=4.5,SNR=4.2						
FINES	**FINESS Array B**	**86.90**	**335**	P	**P**	**23 27 49.3**	**-1.3**
	0.6nm,0.6s,baz=112,slow=5.1,SNR=5.4						

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*IDC **18** 23:23:05.2±1.1, 56.36S×25.42W, h0km, mb4.1/3, mb1 4.1/4, mb1mx3.8/22, mbtmp3.9/4, ML3.1/1, Error ellipse: s-maj=46.7km s-min=29.0km az=37.0*
*ISCJB **18** 23:23:08.1±1.1, 56.4S±0.2×25.4W±0.3, h30km, mb4.0/3, Error ellipse: s-maj=44.5km s-min=18.2km az=148.0*
ISC 18 23:23:09.6±1.0, 56.4S±0.2×25.5W±0.3, h30km, n8, σ0.60/8, mb3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.04**	**157**	P	**P**	**23 27 18.1**	**+0.2**
	0.1nm,0.3s,baz=335,slow=18,SNR=4.6						
CPUP	**Villa Florida**	**37.77**	**309**	P	**P**	**23 30 22.3**	**-0.3**
	0.6nm,0.4s,baz=157,slow=13,SNR=2.4						
LPAZ	**La Paz**	**51.36**	**304**	P	**P**	**23 32 12.6**	**+0.6**
	5.1nm,0.4s,baz=85,slow=8.7,SNR=39						
TORD	**Torodi Ar. Bea**	**72.91**	**28**	P	**P**	**23 34 36.0**	**+0.4**
	0.6nm,0.7s,baz=197,slow=6.6,SNR=9.2						
YKA	**Yellowknife Ar**	**137.07**	**317**	PKP	**PKPdf**	**23 42 27.9**	**0.0**
	0.2nm,0.7s,baz=123,slow=2.3,SNR=4.8						
INK	**Inuvik**	**146.68**	**320**	PKPbc	**PKPbc**	**23 42 45.9**	**-0.8**
	1.6nm,0.9s,baz=88,slow=2.6,SNR=3.7						
SONM	**Songino Array**	**149.80**	**86**	PKPbc	**PKPbc**	**23 42 54.9**	**-0.7**
	0.4nm,0.7s,baz=217,slow=3.9,SNR=4.3						
ILAR	**Eielson Array**	**151.06**	**311**	PKPbc	**PKPbc**	**23 42 58.0**	**0.0**
	1.5nm,0.9s,baz=131,slow=1.6,SNR=13						

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*IDC **18** 23:24:06.1±1.7, 6.43N×127.32E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/23, mbtmp3.8/6, Error ellipse: s-maj=214.2km s-min=21.5km az=68.0*
ISC 18 23:24:12.8±1.7, 6.3N±0.5×127E±°, h47km, n7, σ0.81/7, mb3.7/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.04**	**165**	P	**P**	**23 29 51.8**	**+1.0**
	0.4nm,0.3s,baz=345,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**30.53**	**168**	P	**P**	**23 30 22.2**	**+0.3**
	0.2nm,0.4s,baz=348,slow=7.7,SNR=3.7						
STKA	**Stephens Creek**	**40.40**	**161**	P	**P**	**23 31 46.0**	**-0.5**
	1.0nm,0.5s,baz=327,slow=8.9,SNR=3.8						
MKAR	**Makanchi Array**	**55.72**	**324**	P	**P**	**23 33 44.8**	**+0.1**
	0.2nm,0.5s,baz=128,slow=7.6,SNR=7.3						
ARCES	**ARCESS Array B**	**88.18**	**340**	P	**P**	**23 36 58.6**	**+0.1**
	3.5nm,0.9s,baz=82,slow=6.5,SNR=4.1						
FINES	**FINESS Array B**	**89.78**	**332**	P	**P**	**23 37 06.5**	**+0.4**
	1.3nm,0.9s,baz=77,slow=7.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**122.53**	**290**	PKP	**PKPdf**	**23 43 03.1**	**-1.1**
	0.5nm,0.8s,baz=39,slow=2.8,SNR=3.4						

MEX 18 23:27:50.8±0.3, 16.97N×100.52W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.26**	**73**	i P	Pg	23 27 55.4	-0.5
CAIG				eS	Sg	23 27 59.3	+0.1
ACX	**Acapulco**	**0.65**	**99**	i P	Pg	23 28 03.2	-0.1
ACX				eS	Sb	23 28 13.8	-0.2
ZIIG	**Zihuatanejo**	**1.10**	**305**	i P	Pg	23 28 09.6	-2.3
ZIIG				eS	Sg	23 28 22.9	-3.3
ARIG	**Puente Sto Nin**	**1.31**	**7**	i P	Pn	23 28 12.2	-3.7
ARIG				eS	Sg	23 28 28.2	-5.0
PLIG	**Platanillo**	**1.71**	**34**	i P	Pn	23 28 18.6	-2.9
PLIG				eS	Sn	23 28 38.9	-5.0
TLIG	**Tlapa**	**1.96**	**72**	i P	Pn	23 28 22.4	-2.5
TLIG				i S	Sn	23 28 46.5	-3.5

IDC 18 23:32:18.8±3.3, 9.17N×82.60W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/22, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=87.6km s-min=23.8km az=15.0, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.57**	**296**	Pn	Pn	23 33 02.2	+0.4
	27nm,0.3s,baz=170,slow=3.6,SNR=38						
JTS				Pg	Pb	23 33 04.4	-1.5
	28nm,0.3s,baz=308,slow=23,SNR=38						
JTS				Sn	Sb	23 33 36.3	-1.8
	5.7nm,0.3s,baz=294,slow=20,SNR=2.6						
ULM	**Lac du Bonnet**	**42.41**	**347**	P	P	23 40 13.8	-1.2
	2.1nm,0.8s,baz=149,slow=5.9,SNR=2.6						
H03N2	**Juan Fernandez**	**42.52**	**175**	T	T	00 24 15.0	
	baz=356						
H03N1	**Juan Fernandez**	**42.52**	**175**	T	T	00 24 32.9	
	baz=356						
H03N3	**Juan Fernandez**	**42.54**	**175**	T	T	00 24 29.5	
	baz=356						
YKA	**Yellowknife Ar**	**58.06**	**343**	P	P	23 42 14.6	+1.1
	0.5nm,0.7s,baz=139,slow=7.3,SNR=12						
TORD	**Torodi Ar. Bea**	**82.45**	**78**	P	P	23 44 43.5	-0.3
	0.3nm,0.8s,baz=276,slow=5.7,SNR=2.6						

MEX 18 23:42:16.2±0.8, 15.93N×96.50W, h30km±18km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.41**	**113**	i P	Pb	23 42 23.2	-2.0
HUIG				i S	Sb	23 42 30.0	-1.4
VHO	**Vista Hermosa**	**1.16**	**349**	i P	Pn	23 42 33.7	-2.9
VHO				eS	Sn	23 42 48.6	-3.1
OXX	**Oaxaca**	**1.16**	**349**	i P	Pn	23 42 36.4	-0.4
OXX				eS	Sn	23 42 49.0	-2.8
PNIG	**Pinotepa**	**1.63**	**287**	i P	Pn	23 42 40.6	-2.4
PNIG				eS	Sn	23 43 01.2	-1.8
CMIG	**Matias Romero**	**1.93**	**53**	i P	Pn	23 42 45.5	-1.5
CMIG				eS	Sn	23 43 07.2	-3.1

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*NIED **18** 23:49:00, 46.70N×153.00E, h35km, Mw5.2 Best double couple: M0 7.99000×10^16 NP1: φs 237.00000°, δ 52.00000°, λ 131.00000°. NP2: φs 2.00000°, δ 53.00000°, λ 50.00000°.*
*JMA **18** 23:49:37.7±0.8, 46.68N×153.04E, h30km, M5.8*
*BJI **18** 23:49:39.9, 46.82N×152.69E, h58km, mB5.4/50, mb5.4/73, Ms4.9/75, Ms7 4.8/69*
*SKHL **18** 23:49:40.8±0.1, 46.47N×152.94E, h71km±6km, mb5.7/14, mbh6.0/4, Ms5.0/7*
*MOS **18** 23:49:40.3±0.9, 46.70N×152.60E, h48km, mb5.6/113, MS4.9/24, Error ellipse: s-maj=5.5km s-min=3.8km az=90.9*
*ISCJB **18** 23:49:40.6±0.3, 46.66N±0.02×152.58E±0.02, h50km±2km, mb5.3/409, MS4.8/60, Error ellipse: s-maj=3.3km s-min=1.7km az=163.2*
*IDC **18** 23:49:42.4±1.4, 46.73N×152.51E, h48km±12km, mb4.8/38, mb1 4.9/41, mb1mx4.9/42, mbtmp5.0/41, ML4.3/3, MS4.5/25, Ms1 4.5/25, ms1mx4.4/35, Error ellipse: s-maj=11.6km s-min=8.2km az=135.0*
*NEIC **18** 23:49:44.1±0.5, 46.70N×152.58E, h68km±4km, mb5.3/274, Error ellipse: s-maj=3.5km s-min=1.9km az=158.0*
*GCMT **18** 23:49:44.1±0.1, 46.67N×152.80E, h50km, MW5.3/111, Moment Tensor Solution. s101,c175; s111,c212; Duration: 1.1 Moment tensor: Scale 10^17 Nm; Mrr 1.11±.02; Mθθ -0.33±.02; Mφφ -0.78±.02; Mrθ 0.18±.01; Mrφ -0.60±.01; Mθφ 0.54±.01; Best double couple: M0 1.28600×10^17 NP1: φs 27.00000°, δ 58.00000°, λ 82.00000°. NP2: φs 223.00000°, δ 33.00000°, λ 103.00000°. Principal axes: T 1.2530, Plg75.0000°, Azm273.0000°; N 0.0670, Plg7.0000°, Azm32.0000°; P -1.3200, Plg13.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **18** 23:49:47.0, 47.85N×151.54E, h33km, mb5.7, MS4.8, Kuril Islands, Russia*
ISC 18 23:49:43.1±0.3, 46.65N±0.03×152.59E±0.03, h60km±2km, h59km:pP-P, n1602, σ1.06/1696, mb5.4/419, MS4.8/63, 346C-202D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.59**	**248**	d i PN	**Pn**	**23 50 36.8**	**+0.7**
KUR				i S	**Sn**	**23 51 18.8**	**+1.6**
KUR				pmax	pmax		
	comp=Z,2µm,0.5s						
KUR				pmax	pmax		
	comp=N,801nm,0.2s						
KUR				pmax	pmax		
	comp=E,577nm,0.2s						
KUR				smax	smax		
	comp=N,19µm,0.4s						
KUR				smax	smax		
	comp=E,7µm,0.4s						
KUR	**Kuril'sk**	**3.59**	**248**	eP	**Pn**	**23 50 36.8**	**+0.7**
KUR				AMB	AMB	23 50 39.4	
	comp=E,800nm,0.5s						
KUR				AMB	AMB	23 50 39.4	
	comp=E,600nm,0.5s						
KUR				AMB	AMB	23 50 39.4	
	comp=E,2µm,0.5s						
KUR				eS	**Sn**	**23 51 18.8**	**+1.6**
KUR				A	A	23 51 32.2	
	comp=E,58µm,2.0s						
KUR				A	A	23 51 32.2	
	comp=E,28µm,2.0s						
KUR				A	A	23 51 34.5	
	comp=E,19µm,0.5s						
KUR				A	A	23 51 34.5	
	comp=E,7µm,0.5s						
SKR	**Severo-Kuril's**	**4.67**	**29**	ePN	Pn	23 50 46.5	-4.4
SKR				eS	**Sn**	**23 51 42.5**	**-1.2**
SKR				pmax	pmax		
	comp=N,220nm,0.5s						
SKR				pmax	pmax		
	comp=Z,370nm,0.5s						
SKR				pmax	pmax		
	comp=E,90nm,0.3s						
SKR				smax	smax		
	comp=N,1µm,0.9s						
SKR				smax	smax		
	comp=E,1µm,0.5s						
SKR				smax	smax		
	comp=N,5µm,8.0s						
SKR				smax	smax		
	comp=E,8µm,8.0s						
SKR				MLR	MLR		
	comp=N,5µm,12.0s						
SKR				MLR	MLR		
	comp=E,5µm,12.0s						
SKR				MLR	MLR		
	comp=Z,5µm,12.0s						
SKR	**Severo-Kuril's**	**4.67**	**29**	eP	**Pn**	**23 50 50.9**	**0.0**
SKR				AMB	AMB	23 50 51.5	
	comp=Z,220nm,0.5s						
SKR				AMB	AMB	23 50 51.5	
	comp=Z,90nm,0.5s						
SKR				AMB	AMB	23 50 51.5	
	comp=Z,370nm,0.5s						
SKR				eS	**Sn**	**23 51 43.6**	**-0.1**
SKR				A	A	23 51 56.2	
	comp=Z,4µm,8.0s						
SKR				A	A	23 51 56.2	
	comp=Z,7µm,8.0s						
SKR				A	A	23 51 56.2	
	comp=Z,5µm,8.0s						
SKR				A	A	23 51 56.2	
	comp=Z,5µm,8.0s						
SKR				A	A	23 51 56.2	
	comp=Z,8µm,8.0s						
SKR				A	A	23 51 56.2	
	comp=Z,5µm,8.0s						
SKR				A	A	23 51 58.7	
	comp=Z,1µm,0.7s						
SKR				A	A	23 51 58.7	

comp=Z,1µm,0.7s
SKR A A 23 51 58.7
comp=Z,570nm,0.7s
SKR AMS AMS 23 53 00.0
comp=Z,5µm,12.0s
SKR AMS AMS 23 53 00.0
comp=Z,5µm,12.0s
SHO Shikotan 4.92 238 eP Pn 23 50 52.9 -1.6
SHO AMB AMB 23 51 05.2
comp=Z,110nm,0.5s
SHO eS Sn 23 51 46.9 -3.2
SHO A A 23 52 16.5
comp=Z,2µm,0.6s
YUK Yuzh-Kuril'sk 5.42 244c iPN Pn 23 51 02.3 +1.1
YUK iS Sn 23 52 04.1 +2.0
YUK pmax pmax
comp=Z,3µm,0.4s
YUK pmax pmax
comp=N,451nm,0.1s
YUK pmax pmax
comp=E,678nm,0.1s
YUK pmax pmax
comp=Z,4µm,2.7s
YUK smax smax
comp=E,16µm,1.0s
YUK smax smax
comp=N,25µm,2.5s
YUK MLR MLR
comp=Z,13µm,15.0s
YUK Yuzh-Kuril'sk 5.42 244 eP Pn 23 51 02.3 +1.1
YUK AMB AMB 23 51 04.8
comp=Z,451nm,0.4s
YUK AMB AMB 23 51 04.8
comp=Z,680nm,0.4s
YUK AMB AMB 23 51 04.8
comp=Z,3µm,0.4s
YUK AMB AMB 23 51 06.0
comp=Z,4µm,2.7s
YUK eS Sn 23 52 04.1 +2.0
YUK A A 23 52 24.2
comp=Z,5µm,0.7s
YUK A A 23 52 24.4
comp=Z,25µm,2.5s
YUK A A 23 52 24.4
comp=Z,16µm,2.5s
YUK AMS AMS 23 53 16.2
comp=Z,13µm,15.0s
PAU Pauzhetka 5.56 28 eP Pn 23 51 02.4 -0.8
PAU eS Sn 23 52 05.3 -0.4
NEM2 Nemuro 2 5.86 238 P Pn 23 51 05.4 -1.9
NEM2 eS Sn 23 52 10.6 -2.4
JRA Rausu 5.92 245 P Pn 23 51 09.3 +1.2
JNK Nakash 6.36 244 P Pn 23 51 14.5 +0.4
JNK eS Sn 23 52 26.0 +0.8
JTKR Abashiri--Toko 6.68 250 P Pn 23 51 19.9 +1.4
JAK Akkeshi 6.70 240 P Pn 23 51 17.2 -1.5
JAK eS Sn 23 52 31.1 -2.4
YSS Yuzh-Sakhalins 6.76 276κ ePN Pn 23 51 21.5 +1.9
YSS eS Sn 23 52 36.0 +0.9
YSS pmax pmax
comp=E,1µm,1.0s
YSS pmax pmax
comp=Z,960nm,1.0s
YSS pmax pmax
comp=N,490nm,0.9s
YSS MLR MLR
comp=E,6µm,15.0s
YSS MLR MLR
comp=Z,17µm,15.0s
YSS MLR MLR
comp=N,4µm,14.0s
YSS Yuzh-Sakhalins 6.76 276 ePn Pn 23 51 22.1 +2.5
YSS eSn Sn 23 52 34.3 -0.8
YSS Yuzh-Sakhalins 6.76 276 eP Pn 23 51 21.5 +1.9
YSS AMB AMB 23 51 27.1
comp=N,490nm,1.0s
YSS AMB AMB 23 51 27.1
comp=N,1µm,1.0s
YSS AMB AMB 23 51 27.1
comp=N,960nm,1.0s
YSS eS Sn 23 52 37.0 +1.9
YSS AMS AMS 23 53 58.0
comp=N,4µm,15.0s
YSS AMS AMS 23 53 58.0
comp=N,6µm,15.0s
YSS AMS AMS 23 53 58.0
comp=N,17µm,15.0s
JMP Maruseppu 7.02 251 P Pn 23 51 24.6 +1.4
JAR Ashorobuto 7.10 245 P Pn 23 51 24.6 +0.4
JAR eS Sn 23 52 45.8 +2.4
JSE Soyaes 7.20 260 P Pn 23 51 28.0 +2.5
PEA0 Petropavlovsk- 7.26 25 ePn Pn 23 51 26.7 +0.3
PETK Petropavlovsk- 7.26 25 P Pn 23 51 26.6 +0.2
comp=N,7.5nm,0.3s,baz=189,slow=14,SNR=16
PETK S Sn 23 53 01.5 +14
baz=184,slow=12,SNR=2.1
PETK LR LR 23 54 18.0
comp=N,2µm,20.6s,baz=204,slow=38
JOB Onbets 7.27 242 P Pn 23 51 26.5 0.0
JOB eS Sn 23 52 45.5 -2.1
HRK Horoka 7.42 248 eP Pn 23 51 29.6 +1.0
JKA Kamikawa-asahi 7.48 254 eP Pn 23 51 32.1 +2.7
ASAJ Asahikawa 7.48 254 PN Pn 23 51 32.1 +2.6
ASAJ S Sn 23 52 59.7 +6.9
ASAJ pmax pmax
comp=Z,33nm,0.3s
ASAJ smax smax
comp=N,8.0nm,0.3s
ASAJ Asahikawa 7.48 254 P Pn 23 51 32.0 +2.6
ASAJ Asahikawa 7.48 254 P Pn 23 51 32.1 +2.6
comp=N,33nm,0.3s,baz=73,slow=18,SNR=176
ASAJ S Sn 23 52 59.6 +6.9
comp=N,8.4nm,0.3s,baz=106,slow=19,SNR=1.6
ASAJ LR LR 23 54 17.3
comp=N,6µm,20.2s,baz=52,slow=37
ASAJ Asahikawa 7.48 254 ePn Pn 23 51 32.1 +2.6
ASAJ eSn Sn 23 52 54.7 +1.9
JKK2 Kamakawa 2 7.48 252 P Pn 23 51 31.3 +1.8
UGL Uglegorsk 7.49 293⇓ iPN Pn 23 51 33.0 +3.5
UGL eS Sn 23 52 55.0 +2.1
UGL pmax pmax
comp=N,224nm,1.0s
UGL pmax pmax
comp=E,292nm,1.0s
UGL pmax pmax
comp=Z,1µm,1.0s
UGL pmax pmax
comp=N,1µm,4.0s
UGL pmax pmax
comp=E,2µm,4.0s
UGL pmax pmax
comp=Z,4µm,4.0s
UGL smax smax
comp=N,2µm,8.0s
UGL smax smax
comp=E,4µm,8.0s
UGL smax smax
comp=Z,2µm,7.0s
UGL MLR MLR
comp=N,4µm,16.0s
UGL MLR MLR
comp=Z,7µm,16.0s
UGL MLR MLR
comp=E,8µm,18.0s
UGL Uglegorsk 7.49 293 eP Pn 23 51 32.8 +3.3
UGL AMB AMB 23 51 34.0
comp=E,224nm,1.0s
UGL AMB AMB 23 51 34.0
comp=E,292nm,1.0s
UGL AMB AMB 23 51 34.0
comp=E,1µm,1.0s
UGL AMB AMB 23 51 34.0
comp=E,1µm,4.0s
UGL AMB AMB 23 51 34.0
comp=E,2µm,4.0s
UGL AMB AMB 23 51 34.0
comp=E,4µm,4.0s
UGL eS Sn 23 52 55.0 +2.1
UGL A A 23 53 12.0
comp=E,2µm,8.0s
UGL A A 23 53 12.0
comp=E,4µm,8.0s
UGL AMS AMS 23 54 26.0
comp=E,4µm,16.0s
UGL AMS AMS 23 54 26.0
comp=E,8µm,16.0s
UGL AMS AMS 23 54 26.0
comp=E,7µm,16.0s
PET Petropavlovsk 7.49 29 ePN Pn 23 51 29.9 +0.4
PET pmax pmax
comp=Z,145nm,0.6s
PET MLR MLR
comp=Z,3µm,15.0s
PET Petropavlovsk 7.49 29 ePn Pn 23 51 29.3 -0.2
PET eSn Sn 23 52 50.6 -2.2
PET Petropavlovsk 7.49 29 eP Pn 23 51 28.6 -0.9
PET AMB AMB 23 51 49.9
comp=Z,148nm,0.7s
PET eS Sn 23 52 49.1 -3.8
PET A A 23 53 17.5
comp=Z,561nm,0.7s
PET AMS AMS 23 54 27.4
comp=Z,3µm,19.0s
JWK2 Keihoku 7.57 264 P Pn 23 51 34.9 +4.3
JCH Churui 7.72 242 P Pn 23 51 31.7 -1.0
JCH eS Sn 23 52 55.4 -3.2
TYV Tymovskoe 7.80 306 eP Pn 23 51 36.0 +2.2
TYV AMB AMB 23 51 39.2
comp=Z,130nm,0.8s
TYV AMB AMB 23 51 39.2
comp=Z,253nm,0.8s
TYV AMB AMB 23 51 41.0
comp=Z,2µm,10.0s
TYV eS Sn 23 53 03.0 +2.4
TYV A A 23 53 08.0
comp=Z,110nm,0.8s
TYV A A 23 53 14.0
comp=Z,1µm,5.0s
TYV A A 23 53 14.0
comp=Z,2µm,5.0s
TYV AMS AMS 23 54 30.0
comp=Z,7µm,16.0s
TYV AMS AMS 23 54 30.0
comp=Z,9µm,16.0s
JFR Furan 7.91 247 P Pn 23 51 36.3 +1.0
MYR Moyori 7.95 240 eP Pn 23 51 34.9 -1.0
JAB Ashibetsu 7.98 251 P Pn 23 51 38.8 +2.5
JEM Erimo 8.19 239 P Pn 23 51 39.0 -0.2
ERM Erimo 8.19 239 Pn Pn 23 51 39.5 +0.3
comp=Z,3µm,0.4s,SNR=28
ERM Erimo 8.19 239c iPN Pn 23 51 39.7 +0.5
ERM Erimo 8.19 239 ePn Pn 23 51 39.7 +0.5
ERM eSn Sn 23 53 08.6 -1.7
ERM Erimo 8.19 239 eP Pn 23 51 39.7 +0.5
JHR Hokuryu 8.21 253 P Pn 23 51 42.3 +2.9
JBT2 Biratori 2 8.25 246 P Pn 23 51 40.0 +0.1
JNBK Urakawa-nobuka 8.28 242 P Pn 23 51 38.5 -1.9
JNBK eS Sn 23 53 09.4 -3.0
JEW Eniwo 8.79 248 P Pn 23 51 48.1 +0.7
JSK Shakotan 9.19 253 P Pn 23 51 53.8 +0.9
OKH Okha 9.28 322 eP Pn 23 51 55.0 +1.0
OKH AMB AMB 23 51 57.0
comp=Z,1µm,2.0s
OKH AMB AMB 23 51 57.0
comp=Z,2µm,2.0s
OKH AMB AMB 23 51 57.0
comp=Z,4µm,2.0s
OKH AMB AMB 23 51 58.1
comp=Z,1µm,1.0s
OKH eS Sn 23 53 40.0 +3.2
OKH A A 23 53 44.4
comp=Z,3µm,11.0s
OKH A A 23 53 44.4
comp=Z,2µm,11.0s
OKH AMS AMS 23 55 53.2
comp=Z,4µm,15.0s
OKH AMS AMS 23 55 53.2
comp=Z,10µm,15.0s
OKH AMS AMS 23 55 53.2
comp=Z,6µm,15.0s
JKB Kayabe 9.56 244 P Pn 23 51 56.0 -1.8
JKB eS Sn 23 53 37.0 -6.6
JSH Shimam 9.80 250 P Pn 23 52 01.8 +0.7
JYM2 Yakumo 2 9.85 247 P Pn 23 52 01.4 -0.4
NKL Nikolayevsk 10.06 315 eP Pn 23 52 07.0 +2.3
NKL AMB AMB 23 52 08.5
comp=Z,1µm,2.0s
NKL AMB AMB 23 52 08.5
comp=Z,2µm,2.0s
NKL AMB AMB 23 52 08.5
comp=Z,2µm,2.0s
NKL AMB AMB 23 52 09.0
comp=Z,280nm,1.0s
NKL AMB AMB 23 52 09.0
comp=Z,470nm,1.0s
NKL eS Sn 23 54 05.0 +9.1
NKL A A 23 54 18.0
comp=Z,1µm,9.0s
NKL AMS AMS 23 56 38.0
comp=Z,5µm,16.0s
NKL AMS AMS 23 56 38.0
comp=Z,4µm,16.0s
NKL AMS AMS 23 56 38.0
comp=Z,10µm,16.0s
JSR Shiriuchi 10.14 244 P Pn 23 52 03.9 -1.9
JTM Tenmabayashi 10.19 239 P Pn 23 52 03.4 -3.1
JTM eS Sn 23 53 50.3 -8.8
JANG Nango 10.19 236 P Pn 23 52 02.5 -4.1
JANG eS Sn 23 53 48.6 -11
JTH Tanohata 10.29 233 P Pn 23 52 03.8 -4.1
JTH eS Sn 23 53 50.2 -12
JOSM Okushiri--Mats 10.44 249 P Pn 23 52 08.9 -1.0
OFUJ Ofunato 11.01 231 P Pn 23 52 13.2 -4.5
OFUJ eS Sn 23 54 07.9 -11
TEY Ternei 11.27 268 eP Pn 23 52 22.0 +0.8
TEY AMB AMB 23 52 26.5
comp=Z,400nm,0.6s
TEY AMB AMB 23 52 26.5
comp=Z,700nm,0.6s
TEY AMB AMB 23 52 26.5
comp=Z,220nm,0.9s
TEY AMB AMB 23 52 26.5
comp=Z,100nm,0.9s
TEY AMS AMS 23 56 00.0
comp=Z,5µm,20.0s
TEY AMS AMS 23 56 00.0
comp=Z,6µm,20.0s
JRG Rokugo 11.35 235 P Pn 23 52 19.2 -3.2
GRNR Gornyy 11.45 297 eP Pn 23 52 25.0 +1.3
GRNR AMB AMB 23 52 27.2
comp=Z,30nm,0.8s
JIO Ouri 11.64 229 P Pn 23 52 22.3 -4.0
JIO eS Sn 23 54 21.9 -13
HABR Khabarovsk 11.99 285 cPN Pn 23 52 34.2 +3.2
HABR pmax pmax
comp=N,8.0nm,0.6s
HABR pmax pmax
comp=E,208nm,1.2s
HABR pmax pmax
comp=Z,222nm,1.2s
HABR MLR MLR
comp=Z,5µm,16.0s
HABR Khabarovsk 11.99 285 eP Pn 23 52 34.2 +3.2
JYA Atsumi 12.43 234 P Pn 23 52 34.3 -2.8
JFK Kawauchi 12.71 227 eS Sn 23 54 49.3 -12
JFY Yanaizu 13.29 231 P Pn 23 52 45.7 -3.1
EKMR Ekimchan 14.18 304 eP Pn 23 52 59.0 -1.7
EKMR AMB AMB 23 53 07.4
comp=Z,50nm,0.5s
EKMR AMB AMB 23 53 07.4
comp=Z,110nm,0.5s
KLR Kul'dur 14.20 288 eP Pn 23 53 00.0 -1.0
KLR eS Sn 23 55 40.0 +3.1
KLR MLR MLR
comp=Z,9µm,12.0s
KLR Kul'dur 14.20 288 eP Pn 23 53 00.0 -1.0
KLR AMS AMS 00 01 33.5
comp=Z,9µm,12.0s
FX1 Attu Island--F 14.66 57 P Pn 23 53 03.9 -3.0
comp=Z,22nm,0.3s,baz=288,slow=7.4,SNR=30
FX1 S Sn 23 55 34.7 -13
comp=Z,7.6nm,0.3s,baz=255,slow=19,SNR=5.0
FX1 LR LR 23 57 56.2
comp=Z,1µm,21.5s,baz=266,slow=34
FX1 Attu Island--F 14.66 57 ePn Pn 23 53 04.1 -2.8
FX1 eSn Sn 23 55 33.4 -14
USRK Ussuriysk Arra 14.67 268 P Pn 23 53 07.5 +0.4
comp=Z,7.6nm,0.3s,baz=75,slow=14,SNR=82
USRK S S 23 55 56.1 -8.0
baz=83,slow=18,SNR=1.4
USRK LR LR 23 58 31.4
comp=Z,4µm,20.5s,baz=62,slow=36
MAJO Matsushiro 14.73 232⇓ eP Pn 23 53 06.3 -1.7
MAJO Matsushiro 14.73 232 ePn Pn 23 53 05.3 -2.6
MAJO Matsushiro 14.73 232 eP Pn 23 53 06.3 -1.7
MJAR Matsushiro Arr 14.73 232 P Pn 23 53 04.9 -3.1
MJAR pmax pmax
comp=Z,2.0nm,0.3s
MJAR MLR MLR
comp=Z,2µm,21.5s
MJAR Matsushiro Arr 14.73 232 P Pn 23 53 04.9 -3.1
comp=Z,2.2nm,0.3s,baz=26,slow=13,SNR=22
MJAR LR LR 23 59 02.1
comp=Z,2µm,21.4s,baz=55,slow=38
MAT Matsushiro 14.73 232 P Pn 23 53 04.7 -3.3
MAT eS Sn 23 55 47.4 -2.5
VLA Vladivostok 15.09 264c iP Pn 23 53 13.0 +0.5
VLA iS Sn 23 55 55.6 -2.8
VLA pmax pmax
comp=Z,206nm,1.2s
SMY Shemya 15.16 58 eP Pn 23 53 11.3 -2.1
SMY pmax pmax
comp=Z,139nm,0.7s
SMY Shemya 15.16 58 ePn Pn 23 53 11.3 -2.1
comp=Z,139nm,0.7s
MDJ Mudanjiang 16.21 271 P Pn 23 53 26.5 -0.2
MDJ sP sP 23 53 49.3 0.0
MDJ S Sn 23 56 23.8 -1.7
MDJ pmax pmax
comp=Z,81nm,1.3s
MDJ pmax pmax
comp=Z,320nm,4.6s
MDJ LR LR
comp=Z,640nm,13.8s
MDJ LR LR
comp=Z,740nm,18.7s
MDJ LR LR
comp=Z,1µm,18.7s
MDJ Mudanjiang 16.21 271 ePn Pn 23 53 26.6 -0.2
comp=Z,161nm,0.9s
SEY Seymchan 16.32 360 P Pn 23 53 28.9 +0.9
SEY Seymchan 16.32 360 P Pn 23 53 28.6 +0.5
comp=Z,7.4nm,0.3s,baz=174,slow=10,SNR=58
BMKR Bomnak 17.02 307 eP Pn 23 53 34.5 -2.2
BMKR AMB AMB 23 53 39.4
comp=Z,130nm,0.7s
ZEA Zeya 17.65 303 eP Pn 23 53 43.8 -0.7
ZEA AMB AMB 23 53 48.9
comp=Z,100nm,1.0s
ZEA AMB AMB 23 53 48.9
comp=Z,120nm,1.0s
ZEA AMB AMB 23 53 48.9
comp=Z,150nm,1.0s
ZEA AMB AMB 23 53 49.0
comp=Z,1µm,8.0s
ZEA AMB AMB 23 53 49.0
comp=Z,1µm,8.0s
ZEA eS Sn 23 56 50.0 -10
ZEA A A 23 57 14.0
comp=Z,500nm,9.0s
ZEA AMS AMS 00 00 55.0
comp=Z,3µm,16.0s
ZEA AMS AMS 00 00 55.0
comp=Z,4µm,16.0s
KROS Kirovskiy 17.98 305 eP P 23 53 45.5 -2.9
KROS AMB AMB 23 53 48.2
comp=Z,90nm,1.0s
KROS AMB AMB 23 53 48.2
comp=Z,250nm,1.0s
KROS AMB AMB 23 53 48.2
comp=Z,340nm,1.0s
CN2 Changchun 19.30 271 eP P 23 54 00.1 -2.8
CN2 epP pP 23 54 10.3 -5.5
CN2 esP sP 23 54 21.4 -2.0
CN2 eS S 23 57 26.8 -11
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 pmax pmax
comp=Z,300nm,7.0s
CN2 LR LR
comp=Z,2µm,16.0s
CN2 LR LR
comp=Z,1µm,16.0s
CN2 LR LR
comp=Z,3µm,16.0s
CLNS Chul'man 19.82 311 eP Pn 23 54 11.3 +0.8
CLNS pmax pmax
comp=Z,60nm,0.7s
CLNS pmax pmax
comp=N,35nm,0.8s
CLNS pmax pmax
comp=E,39nm,0.8s
CLNS MLR MLR
comp=Z,2µm,16.0s
CLNS MLR MLR
comp=E,4µm,16.0s
CLNS MLR MLR
comp=N,5µm,16.0s
YAK Yakutsk 20.22 328 eP Pn 23 54 14.2 -0.9
YAK e*PP pP 23 54 28.5 +2.8
YAK eS S 23 57 54.8 -1.2
YAK e 23 58 25.2
YAK e*SS sS 23 58 26.6 +9.4
YAK e 00 05 35.7
YAK pmax pmax
comp=Z,394nm,0.9s
YAK pmax pmax
comp=N,121nm,1.2s
YAK pmax pmax
comp=E,102nm,1.0s
YAK smax smax
comp=N,314nm,2.0s
YAK smax smax
comp=E,74nm,1.9s
YAK Yakutsk 20.22 328 eP P 23 54 13.3 +0.6
comp=E,584nm,0.7s
YAK Yakutsk 20.22 328 eP Pn 23 54 14.0 -1.1
KSRS Korea Array 20.42 252 P P 23 54 16.0 +0.8
comp=E,55nm,0.9s,baz=56,slow=11,SNR=35
KSRS S Sn 23 58 11.0 +3.9
comp=E,7.0nm,1.0s,baz=56,slow=22,SNR=3.9
KSRS PcP PcP 23 58 26.6 +1.4
comp=E,5.3nm,0.8s,baz=327,slow=2.1,SNR=6.5
KSRS LR LR 00 01 06.1
comp=E,2µm,20.9s,baz=87,slow=34
KSRS ScP ScP 00 01 57.1 +0.8
comp=E,1.7nm,0.7s,baz=196,slow=0.9,SNR=4.6
KSRS Korea Array 20.42 252 eP P 23 54 16.0 +0.8
KSAR Wonju Array Be 20.45 252 P P 23 54 16.0 +0.5
KSAR 23 58 26.6
KSAR Wonju Array Be 20.45 252 P P 23 54 16.0 +0.5
KSAR S Sn 23 58 11.0 +3.1
KSAR PcP PcP 23 58 26.6 +1.3
KSAR ScP ScP 00 01 57.1 +0.7
ADK Adak 20.63 64 eP P 23 54 15.4 -1.9
ADK pmax pmax
comp=Z,866nm,2.6s
ADK Adak 20.63 64 eP P 23 54 15.4 -1.9
comp=Z,866nm,2.6s
CBIJ Chichi jima 21.18 206 eP P 23 54 23.9 +0.6
comp=Z,180nm,1.0s
CBIJ S S 23 58 10.3 -5.3
JCJ Chichijima 21.18 206 P P 23 54 23.3 -0.1
comp=Z,82nm,0.6s,baz=263,slow=22,SNR=6.2
JCJ S S 23 58 10.3 -5.3
comp=Z,62nm,0.8s,baz=60,slow=20,SNR=2.5
JCJ LR LR 00 05 56.6
comp=Z,268nm,18.1s,baz=8.5,slow=46
INCN Inchon 21.26 254 eP P 23 54 24.6 +0.4
comp=Z,143nm,0.9s
SNY Shenyang 21.27 267 ⇑P P 23 54 23.5 -0.8
SNY S S 23 58 18.8 +1.5
SNY pmax pmax
comp=Z,170nm,0.6s
SNY pmax pmax
comp=Z,280nm,3.5s
SNY LR LR
comp=Z,3µm,18.2s
SNY LR LR
comp=Z,3µm,20.4s
JNU Nakatsue 21.36 238 P P 23 54 26.4 +1.0
comp=Z,43nm,0.6s,baz=49,slow=17,SNR=2.8
JNU LR LR 00 03 30.1
comp=Z,771nm,19.0s,baz=50,slow=39
JNU Nakatsue 21.36 238 eP P 23 54 26.5 +1.2
comp=Z,899nm,2.5s
TJN Taejon 21.41 250 iP P 23 54 26.5 +0.7

HIA Hailar 22.06 289 eP P 23 54 29.8 -2.9
HIA pmax pmax
comp=Z,70nm,0.9s
HIA Hailar 22.06 289 eP P 23 54 29.8 -2.9
comp=Z,70nm,0.9s
BILL Bilibino 22.57 13 eP P 23 54 37.4 -0.6
BILL e 23 54 48.2
BILL eS S 23 58 40.7 -0.2
BILL MLR MLR
comp=Z,2μm,17.0s
BILL Bilibino 22.57 13 eP P 23 54 37.6 -0.5
comp=Z,30nm,1.1s
BILL eS S 23 58 43.9 +2.9
BILL eScP ScP 00 02 01.6 +0.4
BILL Bilibino 22.57 13 eP P 23 54 37.4 -0.6
DL2 Dalian 23.89 262 ⇑P P 23 54 51.6 +0.6
DL2 pP pP 23 55 05.1 -0.3
DL2 S S 23 59 01.3 -1.6
DL2 pmax pmax
comp=Z,180nm,1.0s
DL2 pmax pmax
comp=Z,490nm,2.8s
DL2 LR LR
comp=Z,590nm,15.2s
DL2 LR LR
comp=Z,550nm,18.4s
SPIA Saint Paul Isl 24.92 51 eP P 23 55 00.3 +0.1
comp=Z,111nm,1.2s
CIT Chita 25.77 296 eP P 23 55 07.5 -0.6
CIT e 23 55 28.9
CIT e 23 55 56.5
GAMB Gambell 26.12 36 eP P 23 55 10.9 -0.1
comp=Z,17nm,0.8s
BJI Beijing 27.12 269 P P 23 55 20.9 +0.7
BJI S S 23 59 52.8 -1.3
BJI pmax pmax
comp=Z,170nm,0.8s
BJI pmax pmax
comp=Z,430nm,6.7s
BJI LR LR
comp=Z,1μm,15.3s
BJI LR LR
comp=Z,2μm,19.1s
BJI LR LR
comp=Z,2μm,21.1s
BJT Baijiatuau 27.13 269 eP P 23 55 21.2 +0.8
BJT pmax pmax
comp=Z,124nm,0.7s
BJT Baijiatuau 27.13 269 eP P 23 55 21.2 +0.8
comp=Z,124nm,0.7s
BJT Baijiatuau 27.13 269 eP P 23 55 21.2 +0.8
TIK Tiksi 27.45 344 eP P 23 55 21.9 -1.0
TIXI Tiksi 27.47 344⇓eP P 23 55 21.9 -1.1
TIXI pmax pmax
comp=Z,17nm,2.5s
TIXI MLR MLR
comp=Z,2μm,19.0s
TIXI Tiksi 27.47 344 eP P 23 55 21.0 -2.0
comp=Z,145nm,2.3s
TIXI ePcP PcP 23 58 40.2 +0.4
JOW Kunigami 27.57 233 P P 23 55 25.8 +1.3
comp=Z,1.9nm,0.5s,baz=332,slow=15,SNR=3.0
TNA Tin City 28.32 34 eP P 23 55 31.1 +0.5
comp=Z,19nm,1.0s
SSE Sheshan 28.73 248 P P 23 55 35.8 +1.2
SSE pP pP 23 55 53.5 +4.1
SSE S S 00 00 22.3 +2.8
SSE pmax pmax
comp=Z,22nm,0.9s
SSE pmax pmax
comp=Z,170nm,4.4s
SSE LR LR
comp=Z,670nm,20.2s
SSE LR LR
comp=Z,600nm,20.8s
SSE LR LR
comp=Z,810nm,20.3s
H11N2 WAKE ISLAND Hy 29.30 152 T T 00 27 00.3
baz=342,slow=76
H11N1 WAKE ISLAND Hy 29.31 152 T T 00 27 01.4
baz=342,slow=76
H11N3 WAKE ISLAND Hy 29.31 152 T T 00 27 01.4
baz=342,slow=76
HHC Hu-ho-hao-te 29.94 274 eP P 23 55 45.8 +0.3
HHC pP pP 23 56 02.8 +2.5
HHC PP PnPn 23 56 45.0 +1.1
HHC S S 00 00 38.4 -0.4
HHC sS sS 00 01 04.3 +0.4
HHC SS SnSn 00 02 14.8 -0.1
HHC pmax pmax
comp=Z,230nm,0.9s
HHC pmax pmax
comp=Z,310nm,4.6s
HHC LR LR
comp=Z,1μm,15.3s
HHC LR LR
comp=Z,2μm,17.8s
HHC LR LR
comp=Z,3μm,17.1s
H11S1 WAKE ISLAND Hy 30.38 153 T T 00 28 21.9
baz=343,slow=77
H11S3 WAKE ISLAND Hy 30.39 153 T T 00 28 20.4
baz=343,slow=77
H11S2 WAKE ISLAND Hy 30.39 153 T T 00 28 21.1
baz=343,slow=77
ULN Ulaanbaatar 30.59 289 eP P 23 55 50.1 -1.1
ULN pmax pmax
comp=Z,97nm,0.8s
ULN Ulaanbaatar 30.59 289 eP P 23 55 50.1 -1.1
comp=Z,97nm,0.8s
ULN Ulaanbaatar 30.59 289 eP P 23 55 50.1 -1.1
SONA1 Songino Array 31.02 289 eP P 23 55 54.0 -1.0
SONA1 ePcP PcP 23 58 50.1 +0.7
SONM Songino Array 31.03 289 P P 23 55 54.2 -0.8
comp=Z,13nm,0.8s,baz=76,slow=7.5,SNR=46
SONM PcP PcP 23 58 49.9 +0.5
comp=Z,6.1nm,0.9s,baz=121,slow=2.8,SNR=4.1
SONM ScP ScP 00 02 28.5 +1.5
comp=Z,1.8nm,0.7s,baz=113,slow=2.4,SNR=5.7
CHGN Chignik 31.38 54 eP P 23 55 56.6 -1.1
TLY Talaya 31.91 297 P P 23 56 02.8 +0.2
comp=Z,278nm,0.8s,SNR=14
TLY Talaya 31.91 297 eP P 23 56 02.0 -0.6
TLY e 23 57 03.7
TLY eS S 00 01 15.7 +6.6
TLY eSSS SSS 00 03 32.3
TLY pmax pmax
comp=Z,38nm,0.9s
TLY MLR MLR
comp=Z,3μm,16.0s
TLY Talaya 31.91 297 eP P 23 56 02.0 -0.6
comp=Z,33nm,0.8s
TLY ePcP PcP 23 58 52.8 +1.2
TLY Talaya 31.91 297 eP P 23 56 02.0 -0.6
ZAK Zakamensk 32.40 295⇑iP P 23 56 06.0 -1.0
ZAK pmax pmax
comp=Z,25nm,1.1s
MOY Mondy 33.53 298 eP P 23 56 16.2 -0.6
WHN Wuhan 33.56 255 ⇓P P 23 56 16.8 -0.3
WHN LR LR
comp=Z,700nm,12.4s
WHN LR LR
comp=Z,1μm,11.7s
WHN LR LR
comp=Z,2μm,17.2s
SSLB Suanglung 34.10 239 eP P 23 56 22.4 +0.4
comp=Z,157nm,2.1s
OHAK Old Harbor 34.12 52 eP P 23 56 20.8 -1.0
comp=Z,516nm,2.7s
YULB Yu-li 34.20 238 eP P 23 56 23.4 +0.6
comp=Z,18nm,0.9s
KDAK Kodiak Island 34.45 51 eP P 23 56 24.7 +0.2
KDAK pmax pmax
comp=Z,338nm,2.1s
KDAK Kodiak Island 34.45 51 eP P 23 56 24.7 +0.2
comp=Z,338nm,2.1s
KDAK Kodiak Island 34.45 51 eP P 23 56 24.7 +0.2
PPLA Purkeypile 34.48 42 eP P 23 56 26.4 +1.4
comp=Z,32nm,1.1s
CAST Castle Rocks 34.55 41 eP P 23 56 24.3 -1.2
comp=Z,9.4nm,0.9s
QZH Quanzhou 34.67 243⇑iP P 23 56 26.6 -0.2
QZH S S 00 01 53.8 +1.6
QZH pmax pmax
comp=Z,190nm,1.2s
QZH pmax pmax
comp=Z,820nm,7.7s
QZH LR LR
comp=Z,1μm,29.2s
TPUB Ta-pu 34.67 239 eP P 23 56 26.3 -0.6
comp=Z,68nm,0.8s
TWG Pinlang 34.78 238 eP P 23 56 27.4 -0.3
comp=Z,262nm,1.0s
KTH Kantishna Hill 35.07 41 eP P 23 56 30.9 +0.8
comp=Z,40nm,1.0s
XAN Xi'an 35.15 265 P P 23 56 30.8 -0.2
XAN pP pP 23 56 48.0 +2.1
XAN PP PP 23 57 55.1 +3.6
XAN S S 00 01 57.3 -2.3
XAN pmax pmax
comp=Z,24nm,0.7s
XAN pmax pmax
comp=Z,38nm,3.8s
XAN LR LR
comp=Z,620nm,17.4s
XAN LR LR
comp=Z,210nm,17.4s
XAN LR LR
comp=Z,380nm,18.5s
TRF Thorofare Moun 35.35 41 eP P 23 56 33.2 +0.6
comp=Z,20nm,0.6s
COLD Coldfoot 35.62 34 eP P 23 56 34.2 -0.3
comp=Z,20nm,0.7s
RC01 Rabbit Creek A 35.66 45 eP P 23 56 35.0 +0.1
comp=Z,33nm,1.1s
SEW Seward 35.86 46 eP P 23 56 35.3 -1.4
comp=Z,1μm,2.9s
PMR Palmer 35.92 44 eP P 23 56 38.2 +1.0
PMR pmax pmax
comp=Z,45nm,1.4s
PMR Palmer 35.92 44 eP P 23 56 38.2 +1.0
comp=Z,45nm,1.4s
MCK McKinley 35.96 40 eP P 23 56 38.7 +1.1
MCK pmax pmax
comp=Z,29nm,0.9s
MCK McKinley 35.96 40 eP P 23 56 38.6 +1.1
comp=Z,29nm,0.9s
MCK McKinley 35.96 40 eP P 23 56 38.7 +1.1
COLA College 36.44 38c iP P 23 56 42.1 +0.6
COLA pmax pmax
comp=Z,115nm,0.9s
COLA MLR MLR
comp=Z,3μm,21.0s
COLA College 36.44 38 eP P 23 56 42.0 +0.4
comp=Z,46nm,0.8s
COLA College 36.44 38 eP P 23 56 42.1 +0.6
IL1 Eielson Array 36.85 38 eP P 23 56 44.4 -0.8
ILAR Eielson Array 36.85 38 P P 23 56 45.1 0.0
ILAR pmax pmax
comp=Z,5.0nm,0.7s
ILAR MLR MLR
comp=Z,470nm,18.7s
ILAR Eielson Array 36.85 38 P P 23 56 45.1 0.0
comp=Z,5.1nm,0.7s,baz=263,slow=6.7,SNR=46
ILAR LR LR 00 14 24.8
comp=Z,470nm,18.7s,baz=291,slow=40
ENH Enshi 36.99 259 eP P 23 56 46.6 -0.1
comp=Z,27nm,1.0s
LZH Lanzhou 37.53 272 ⇑P P 23 56 52.3 +0.9
LZH pP pP 23 57 05.8 -0.6
LZH sP sP 23 57 14.3 +0.9
LZH PP PP 23 58 17.3 -0.5
LZH S S 00 02 34.8 -1.4
LZH pmax pmax
comp=Z,150nm,1.2s
LZH pmax pmax
comp=Z,410nm,4.2s
LZH LR LR
comp=Z,2μm,13.2s
LZH LR LR
comp=Z,2μm,14.8s
LZH LR LR
comp=Z,3μm,16.6s
PAX Paxson 37.55 41 eP P 23 56 51.6 +0.5
PAX pmax pmax
comp=Z,9.0nm,0.8s
PAX Paxson 37.55 41 eP P 23 56 51.6 +0.5
comp=Z,9.1nm,0.8s
DIV Divide 37.57 44 eP P 23 56 51.8 +0.5
comp=Z,26nm,0.7s
DOT Dot Lake 38.13 40 eP P 23 56 55.2 -0.8
comp=Z,14nm,0.8s
BMRM Bremner River 38.16 45 eP P 23 56 56.9 +0.7
comp=Z,36nm,1.0s
MENT Mentasta 38.35 41 eP P 23 56 58.3 +0.5
GTA Gaotai 38.63 279 eP P 23 57 00.8 +0.2
GTA pP pP 23 57 15.8 +0.1
GTA sP sP 23 57 23.4 +0.7
GTA PP PnPn 23 58 31.9 -0.4
GTA PcP PcP 23 59 12.9 +1.2
GTA S S 00 02 52.5 -0.2
GTA ScP ScP 00 02 56.8 +2.4
GTA sS sS 00 03 16.9 -1.4
GTA SS SS 00 05 32.6 -12
GTA pmax pmax
comp=Z,25nm,1.4s
GTA pmax pmax
comp=Z,320nm,5.5s
GTA LR LR
comp=Z,730nm,16.9s
GTA LR LR
comp=Z,770nm,14.3s
GTA LR LR
comp=Z,1μm,15.9s
EGAK Eagle 39.30 38 eP P 23 57 05.2 -0.4
comp=Z,26nm,0.8s
SZP Santa 39.30 233 eP P 23 57 05.9 -0.3
comp=Z,476nm,1.9s
DAWY Dawson 40.15 39 eP P 23 57 11.9 -0.9
CD2 Chengdu 40.51 265 ⇑P P 23 57 16.4 +0.2
CD2 pP pP 23 57 33.1 +1.7
CD2 sP sP 23 57 41.1 +2.8
CD2 PP PnPn 23 58 54.0 -0.6
CD2 PcP PcP 23 59 19.4 +1.7
CD2 PcS PcS 00 03 08.8 +0.3
CD2 S S 00 03 19.1 -1.8
CD2 sS sS 00 03 47.6 +1.0
CD2 SS SS 00 06 14.8 -7.4
CD2 pmax pmax
comp=Z,160nm,0.7s
CD2 pmax pmax
comp=Z,430nm,4.5s
CD2 LR LR
comp=Z,1μm,18.6s
CD2 LR LR
comp=Z,880nm,21.5s
CD2 LR LR
comp=Z,1μm,16.2s
GYA Guiyang 41.34 257⇑iP P 23 57 23.3 +0.2
GYA pP pP 23 57 38.5 +0.1
GYA PP PnPn 23 59 03.0 -1.5
GYA ScP ScP 00 03 05.8 +0.7
GYA S S 00 03 33.4 0.0
GYA sS sS 00 03 58.0 -1.2
GYA SS SS 00 06 32.8 -6.0
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,580nm,18.5s
GYA LR LR
comp=Z,520nm,19.0s
GYA LR LR
comp=Z,540nm,18.7s
HYT Haines Junctio 41.60 44 eP P 23 57 28.0 +3.1
INK Inuvik 41.93 32 eP P 23 57 28.1 +0.8
INK pmax pmax
comp=Z,21nm,0.6s
INK Inuvik 41.93 32 P P 23 57 27.8 +0.5
comp=Z,18nm,0.5s,baz=294,slow=6.7,SNR=123
INK Inuvik 41.93 32 eP P 23 57 28.1 +0.8
comp=Z,21nm,0.6s
INK Inuvik 41.93 32 eP P 23 57 28.1 +0.8
ZALV Zalesovo Beam 42.38 306 P P 23 57 29.3 -1.8
comp=Z,14nm,0.6s,baz=65,slow=6.3,SNR=54
ZALV PcP PcP 23 59 23.8 +0.4
comp=Z,17nm,0.6s,baz=64,slow=3.4,SNR=18
ZALV ScP ScP 00 03 09.8 +1.1
comp=Z,2.2nm,0.9s,baz=71,slow=6.2,SNR=3.0
NVS Novosibirsk 42.97 307⇓iP P 23 57 33.5 -2.4
NVS i 23 59 23.4
NVS eS S 00 03 52.7 -3.7
NVS pmax pmax
comp=Z,38nm,1.9s
NVS pmax pmax
comp=N,12nm,2.0s
NVS pmax pmax
comp=E,25nm,1.8s
NVS smax smax
comp=N,13nm,1.8s
NVS smax smax
comp=E,7.0nm,2.0s
QIZ Qiongzhong 44.48 246 P P 23 57 49.8 +1.4
QIZ S S 00 04 18.8 -0.4
QIZ LR LR
comp=E,590nm,20.2s
QIZ LR LR
comp=E,710nm,20.2s
WMQ Urumqi 44.63 291 P P 23 57 49.5 0.0
WMQ pP pP 23 58 04.8 0.0
WMQ sP sP 23 58 12.1 +0.4
WMQ PcP PcP 23 59 32.4 +1.2
WMQ PP PP 23 59 35.3 +1.0
WMQ ScP ScP 00 03 18.1 0.0
WMQ PcS PcS 00 03 24.1 -0.6
WMQ S S 00 04 19.8 -1.3
WMQ sS sS 00 04 46.3 -0.8
WMQ ScS ScS 00 07 39.3 -2.1
WMQ pmax pmax
comp=E,48nm,0.7s
WMQ pmax pmax
comp=E,280nm,5.8s
WMQ LR LR
comp=E,2μm,17.4s
WMQ LR LR
comp=E,2μm,16.0s
WMQ LR LR
comp=E,1μm,18.6s
KMI Kunming 44.87 259 P P 23 57 52.0 +0.2
KMI pP pP 23 58 10.8 +3.7
KMI PP PP 23 59 37.8 +0.4
KMI S S 00 04 22.6 -2.7
KMI pmax pmax
comp=E,46nm,1.2s
KMI pmax pmax
comp=E,350nm,5.9s
KMI LR LR
comp=E,730nm,18.1s
KMI LR LR
comp=E,240nm,17.5s
KMI LR LR
comp=E,530nm,20.9s
DLBC Dease Lake 45.92 46 P P 23 58 01.0 +1.5
comp=E,7.5nm,0.5s,baz=249,slow=4.0,SNR=25
DLBC Dease Lake 45.92 46 eP P 23 58 00.1 +0.6
MKAR Makanchi Array 46.67 297 P P 23 58 04.5 -1.0
comp=E,41nm,0.6s,baz=62,slow=6.3,SNR=206
MKAR PcP PcP 23 59 38.9 +0.6
comp=E,15nm,0.6s,baz=64,slow=5.5,SNR=8.0
MKAR ScP ScP 00 03 27.7 +1.3
comp=E,2.2nm,0.7s,baz=56,slow=3.1,SNR=4.8
SLVN Son La 46.67 254 eP P 23 58 06.8 +1.0
comp=E,34nm,0.9s
MK01 Makanchi Array 46.67 297 eP P 23 58 04.8 -0.7
MK01 ePcP PcP 23 59 39.1 +0.8
MK01 eScP ScP 00 03 29.1 +2.6
KURK Kurchatov 47.12 304 P P 23 58 07.6 -1.3
comp=E,259nm,0.8s,SNR=38
KURK Kurchatov 47.12 304 eP P 23 58 07.9 -1.0
KURK e 23 59 40.1
KURK pmax pmax
comp=Z,37nm,0.9s
KURK Kurchatov 47.12 304 eP P 23 58 07.9 -1.0
comp=Z,37nm,0.9s
KURK ePcP PcP 23 59 40.1 +0.4
KURK Kurchatov 47.12 304 eP P 23 58 07.9 -1.0
ALE Alert 49.88 6 P P 23 58 29.6 -0.1
comp=Z,149nm,0.6s,SNR=16
UBPT Khong Chiam 50.04 247 P P 23 58 33.5 +1.8
comp=Z,71nm,1.9s
BVAR Borovoye Array 50.65 309 P P 23 58 34.7 -1.1
BVAR 23 59 52.8
BVAR pmax pmax
comp=Z,19nm,0.5s
BVAR Borovoye Array 50.65 309 P P 23 58 34.7 -1.1
comp=Z,18nm,0.5s,baz=45,slow=7.2,SNR=116
BVAR PcP PcP 23 59 52.8 +0.3
comp=Z,15nm,0.5s,baz=93,slow=2.1,SNR=10
BRVK Borovoye 50.69 309 P P 23 58 35.6 -0.5
comp=Z,336nm,0.7s,SNR=22
BRVK Borovoye 50.69 309 eP P 23 58 35.6 -0.5
BRVK e 23 59 53.4
BRVK pmax pmax
comp=Z,34nm,0.6s
BRVK Borovoye 50.69 309 eP P 23 58 35.6 -0.5
comp=Z,34nm,0.6s
BRVK ePcP PcP 23 59 53.4 +0.8
BRVK Borovoye 50.69 309 eP P 23 58 35.6 -0.5
CMAI Chiengmai2 50.89 257 P P 23 58 39.4 +1.1
comp=Z,119nm,0.8s
RES Resolute Bay 51.05 18 eP P 23 58 38.5 0.0
RES pmax pmax
comp=Z,23nm,1.1s
RES Resolute Bay 51.05 18 P P 23 58 38.4 0.0
comp=Z,12nm,0.6s,baz=308,slow=2.6,SNR=27
RES Resolute Bay 51.05 18 eP P 23 58 38.5 0.0
comp=Z,23nm,1.1s
LOEI Loei 51.13 253 P P 23 58 38.6 -1.3
comp=Z,55nm,1.0s,comp=Z,3μm
YKA Yellowknife Ar 51.22 37 P P 23 58 40.2 +0.2
YKA 23 59 54.8
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 51.22 37 P P 23 58 40.2 +0.2
comp=Z,3.2nm,0.6s,baz=295,slow=7.0,SNR=57
YKA PcP PcP 23 59 54.8 +0.4
comp=Z,2.4nm,0.4s,baz=303,slow=3.6,SNR=11
YKB5 Yellowknife Ar 51.22 37 eP P 23 58 39.2 -0.8
YKB5 ePcP PcP 23 59 55.0 +0.6
UTTA Uttaradit 51.43 254 P P 23 58 43.3 +1.2
comp=Z,29nm,0.9s,comp=Z,198nm
LAMP Lampang 51.49 255 P P 23 58 44.0 +1.4
comp=Z,38nm,0.9s,comp=Z,295nm
CMMT Chiang Mai 51.74 256 P P 23 58 45.4 +0.9
comp=Z,123nm,1.3s,comp=Z,1μm
CHTO Chiang Mai 51.74 256 eP P 23 58 45.5 +1.0
CHTO pmax pmax
comp=Z,77nm,0.9s
CHTO Chiang Mai 51.74 256 P P 23 58 45.6 +1.0
comp=Z,432nm,1.3s,comp=Z,5μm
CHTO Chiang Mai 51.74 256 eP P 23 58 45.5 +1.0
comp=Z,78nm,0.9s
CMAR Chiang Mai Arr 52.00 256 P P 23 58 47.8 +1.4
comp=Z,28nm,0.8s,baz=35,slow=7.6,SNR=104
CMAR PcP PcP 00 00 00.0 +2.0
comp=Z,5.8nm,0.6s,baz=26,slow=3.0,SNR=4.7
CMAR ScP ScP 00 03 52.8 +3.2
comp=Z,0.7nm,0.3s,baz=13,slow=4.2,SNR=5.0
CMAR LR LR 00 23 50.2
comp=Z,680nm,18.1s,baz=56,slow=39
PBKT Sadao Pong 52.00 253 P P 23 58 47.5 +1.1
comp=Z,67nm,1.1s,comp=Z,962nm
SHL Shillong 52.01 268 eP P 23 58 46.5 -0.1
SHL AMB AMB 23 58 48.6
comp=Z,85nm,1.1s
KBS Kingsbay 52.54 351 eP P 23 58 49.1 -0.6
KBS pmax pmax
comp=Z,29nm,0.8s
KBS Kingsbay 52.54 351 eP P 23 58 49.6 -0.1
KBS eS S 00 06 09.6 -1.8
KBS Kingsbay 52.54 351 eP P 23 58 49.0 -0.6
comp=Z,29nm,0.8s
SPA0 Spitsbergen Ar 52.65 350 eP P 23 58 49.6 -0.8
ULHL Ulahol 52.68 295 P P 23 58 52.0 +0.6
SNR=14
ULHL Ulahol 52.68 295 iP P 23 58 52.0 +0.6
TKM2 Tokmak 2 52.72 296 P P 23 58 51.2 -0.5
SNR=45
TKM2 Tokmak 2 52.72 296 eP P 23 58 52.2 +0.5
TKM2 e 00 00 01.2
TKM2 pmax pmax
comp=Z,35nm,1.1s
TKM2 Tokmak 2 52.72 296 eP P 23 58 52.2 +0.5
comp=Z,35nm,1.1s
TKM2 ePcP PcP 00 00 01.2 +0.5
MHMT Maesarieng 52.87 257 P P 23 58 54.4 +1.6
comp=Z,46nm,1.1s,comp=Z,613nm

CHMS Chumysh 53.20 296 P P 23 58 54.6 -0.4
SNR=18
CHMS Chumysh 53.20 296 *i*P P 23 58 54.6 -0.4
USP Ospenovka 53.21 297 P P 23 58 54.7 -0.4
SNR=102
USP Ospenovka 53.21 297 *i*P P 23 58 54.7 -0.4
KBK Karagaybulak 53.27 296 P P 23 58 55.2 -0.5
SNR=46
KBK Karagaybulak 53.27 296 *i*P P 23 58 55.2 -0.5
FRU Bishkek 53.37 296 *e*P P 23 58 55.0 -1.3
FRU pmax pmax
comp=Z,60nm,1.6s
KZA Kyzart 53.39 295 P P 23 58 57.0 0.0
SNR=48
KZA Kyzart 53.39 295 *i*P P 23 58 56.9 0.0
AAK Ala-Archa 53.56 296 P P 23 58 57.3 -0.5
comp=Z,300nm,0.8s,SNR=52
AAK Ala-Archa 53.56 296 P P 23 58 57.8 -0.1
SNR=70
AAK Ala-Archa 53.56 296 *e*P P 23 58 58.1 +0.3
AAK *e* 00 00 04.7
AAK pmax pmax
comp=Z,41nm,0.8s
AAK Ala-Archa 53.56 296 P P 23 58 57.7 -0.1
comp=Z,37nm,0.8s,baz=90,slow=4.3,SNR=72
AAK Ala-Archa 53.56 296 *e*P P 23 58 58.1 +0.3
comp=Z,41nm,0.8s
AAK *e*PcP PcP 00 00 04.7 +0.8
AAK Ala-Archa 53.56 296 *e*P P 23 58 58.1 +0.3
SVE Sverdlovsk 53.66 317⇑*e*P P 23 58 57.2 -0.9
SVE *e*PPP PPP 00 02 12.6
SVE pmax pmax
comp=Z,54nm,1.1s
SVE MLR MLR
comp=Z,1μm,16.0s
TAPN Taplejung 53.75 273 *e*P P 23 59 00.4 +0.9
comp=Z,249nm,0.8s
UCH Uchtor 53.77 296 P P 23 58 59.8 +0.1
SNR=11
UCH Uchtor 53.77 296 *i*P P 23 58 59.8 +0.1
CHBT CHBT 53.94 248 P P 23 59 02.4 +1.8
comp=Z,128nm,1.4s,comp=Z,2μm
SOKR Solikamsk 53.94 321⇑*i*P P 23 59 00.9 +0.8
SOKR pmax pmax
comp=Z,10.0nm,1.1s
SOKR MLR MLR
comp=Z,2μm,23.0s
EKS2 Erkin-Say 53.99 297 P P 23 59 00.1 -0.7
SNR=97
EKS2 Erkin-Say 53.99 297 *e*P P 23 59 00.4 -0.5
EKS2 *e* 00 00 06.1
EKS2 pmax pmax
comp=Z,42nm,0.8s
EKS2 Erkin-Say 53.99 297 *e*P P 23 59 00.4 -0.5
comp=Z,42nm,0.8s
EKS2 *e*PcP PcP 00 00 06.1 +0.7
NLWA Neilton Lookou 54.23 56 *e*P P 23 59 03.7 +1.2
comp=Z,16nm,0.8s
ODAN Odare 54.28 273 *e*P P 23 59 04.3 +1.0
comp=Z,328nm,1.1s
AML Almayashu 54.33 296 P P 23 59 04.1 +0.4
SNR=39
AML Almayashu 54.33 296 *i*P P 23 59 04.1 +0.4
KSH Kashi 54.36 292 *e*P P 23 59 07.1 +3.4
KSH *e*sP sP 23 59 31.3 +5.0
KSH *e*PP PP 00 01 10.6 +4.8
KSH PcS PcS 00 04 06.0 -0.5
KSH S S 00 06 37.3 0.0
KSH pmax pmax
comp=Z,10.0nm,0.5s
KSH pmax pmax
comp=Z,220nm,3.2s
KSH LR LR
comp=Z,170nm,9.0s
KSH LR LR
comp=Z,550nm,13.3s
KSH LR LR
comp=Z,760nm,23.9s
JIRN Jiri 54.60 274 *e*P P 23 59 07.2 +1.4
comp=Z,622nm,0.8s
GUN Gumba 54.65 275 *e*P P 23 59 06.1 -0.1
comp=Z,250nm,0.7s
PATY Pattaya 54.75 250 P P 23 59 08.6 +2.1
comp=Z,16nm,0.9s,comp=Z,1μm
RAMN Ramite 54.76 273 *e*P P 23 59 07.5 +0.6
SRDT SRDT 54.83 252 P P 23 59 08.5 +1.3
comp=Z,126nm,0.8s
ARU Arti 54.84 317 P P 23 59 05.1 -1.6
comp=Z,324nm,0.4s,SNR=14
ARU Arti 54.84 317 *c* *i*P P 23 59 05.3 -1.4
ARU *PP pP 23 59 25.0 +2.5
ARU *e* 00 00 08.2
ARU 00 01 05.6
ARU S S 00 06 40.7 -2.4
ARU Arti 54.84 317 *e*P P 23 59 05.3 -1.4
comp=Z,38nm,1.0s
ARU Arti 54.84 317 *e*P P 23 59 05.4 -1.3
KHLT Khaolaem Dam 54.86 253 P P 23 59 09.0 +1.7
comp=Z,26nm,1.1s,comp=Z,373nm
B06A Marblemount 54.97 54 *e*P P 23 59 07.8 +0.1
comp=Z,10nm,0.8s
KKN Kakani 55.14 275 *e*P P 23 59 10.2 +0.7
comp=Z,426nm,0.8s
PKI Pulchoki 55.19 275 *e*P P 23 59 10.7 +0.7
comp=Z,400nm,1.1s
PKIN Phulchoki 55.19 275 *e*P P 23 59 11.0 +1.0
comp=Z,110nm,0.7s
DMN Daman 55.37 275 *e*P P 23 59 12.3 +1.0
comp=Z,738nm,1.0s
D05A Enumclaw 55.42 56 *e*P P 23 59 12.1 +1.0
comp=Z,18nm,0.8s
GKN Gorkha 55.45 276 *e*P P 23 59 12.6 +0.9
PHET Kaeng Krachan 55.56 251 P P 23 59 14.4 +2.0
comp=Z,314nm,0.9s,comp=Z,4μm
KKAR Karatay Array 55.73 299 *e*P P 23 59 12.4 -1.0
KKAR *e* 00 00 12.1
KKAR Karatay Array 55.73 299 *e*P P 23 59 12.4 -1.0
KKAR *e*PcP PcP 00 00 12.1 +0.1
LON Longmire 55.76 56 *e*P P 23 59 14.6 +1.0
LON pmax pmax
comp=Z,6.0nm,1.1s
LON Longmire 55.76 56 *e*P P 23 59 14.6 +1.0
comp=Z,5.5nm,1.1s
G03D McMinnville, O 55.78 58 ⇑P P 23 59 14.9 +1.3
baz=56
DANN Dangsing 55.83 277 *e*P P 23 59 15.7 +1.1
comp=Z,406nm,0.6s
F04A Amboy 55.87 57 *e*P P 23 59 15.3 +1.1
comp=Z,16nm,0.8s
PMG Port Moresby 56.01 186 P P 23 59 16.0 +0.5
PMG pmax pmax
comp=Z,8.0nm,1.2s
PMG Port Moresby 56.01 186 *e*P P 23 59 15.4 -0.1
comp=Z,13nm,1.0s
LTY Liberty 56.13 55 *e*P P 23 59 16.4 +0.2
comp=Z,6.6nm,0.7s
B08A Colville Reser 56.26 53 *e*P P 23 59 17.2 +0.2
comp=Z,90nm,2.3s
KOLN Koldanda 56.30 276 *e*P P 23 59 18.7 +0.8
comp=Z,555nm,0.9s
KEBM Edson Butte 56.47 61 *e*P P 23 59 19.6 +1.0
comp=Z,38nm,1.4s
I03D Drain, OR 56.59 60 ⇓P P 23 59 21.0 +1.7
baz=56
EDM Edmonton 56.64 46 *e*P P 23 59 19.7 -0.1
EDM Edmonton 56.64 46 *e*P P 23 59 19.7 -0.1
EDM Edmonton 56.64 46 *e*P P 23 59 19.7 -0.1
H04A Detroit Lake 56.71 58 *e*P P 23 59 20.8 +0.5
comp=Z,20nm,0.8s
LVZ Lovozero 56.72 336 *e*P P 23 59 19.9 -0.1
LVZ pmax pmax
comp=Z,265nm,1.8s
LVZ Lovozero 56.72 336 *e*P P 23 59 19.9 -0.1
comp=Z,265nm,1.8s
DAG Danmarks Havn 56.73 358⇑*i*P P 23 59 18.9 -1.1
DAG pmax pmax
comp=Z,13nm,0.9s
DAG Danmarks Havn 56.73 358⇑*i*P P 23 59 18.9 -1.1
comp=Z,15nm,0.9s
G05D Wamic, OR 56.90 57 ⇓P P 23 59 22.4 +0.8
baz=57
I04A Tendick Farm, 57.09 59 ⇑P P 23 59 24.8 +1.8
baz=57
C09A Chrisman Ranch 57.16 53 *e*P P 23 59 23.1 -0.3
comp=Z,12nm,0.9s
D08A Wollman Farm, 57.22 54 *e*P P 23 59 23.7 -0.2
comp=Z,22nm,1.5s
PRGR Permogore 57.26 327 *e*P P 23 59 21.9 -1.9
PRGR pmax pmax
comp=Z,86nm,0.7s
HAWA Hanford 57.26 55 *e*P P 23 59 23.7 -0.4
comp=Z,8.4nm,0.9s
APA Apatity 57.29 337⇓*i*P P 23 59 24.8 +0.8
BOK Bokaro 57.29 271 *e*P P 23 59 25.8 +1.1
BOK AMB AMB 23 59 26.3
comp=Z,90nm,1.0s
G06A Carlson Farm, 57.30 57 *e*P P 23 59 24.8 +0.3
comp=Z,96nm,2.5s
L02D Cave Junction, 57.32 61 ⇑P P 23 59 26.7 +2.0
baz=57
I05D Terrebonne, OR 57.40 58 ⇓P P 23 59 26.9 +1.6
baz=57
KULLO Kullorsuaq 57.42 9⇑*i*P P 23 59 23.6 -1.2
KULLO pmax pmax
comp=Z,46nm,0.8s
KULLO Kullorsuaq 57.42 9⇑*i*P P 23 59 23.6 -1.2
comp=Z,46nm,0.7s
NEW Newport 57.52 52 P P 23 59 26.6 +0.6
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW Newport 57.52 52 P P 23 59 26.6 +0.6
comp=Z,7.6nm,0.9s,baz=291,slow=6.6,SNR=8.3
NEW Newport 57.52 52 *e*P P 23 59 26.0 0.0
comp=Z,7.3nm,0.8s
NEW Newport 57.52 52 ⇓P P 23 59 26.6 +0.6
baz=57,SNR=7.3
LGTI Lohaghat 57.53 280 *e*x P 23 59 35.1 +8.8
J04D Umpqua Nationa 57.59 60 ⇑P P 23 59 28.2 +1.5
baz=57
ARA0 ARCESS Array S 57.83 341 *e*P P 23 59 27.4 -0.4
ARCES ARCESS Array B 57.83 341 P P 23 59 27.8 0.0
comp=Z,5.1nm,0.4s,baz=36,slow=7.5,SNR=32
ARCES PcP PcP 00 00 20.3 +0.6
comp=Z,11nm,0.8s,baz=27,slow=6.1,SNR=6.3
ARCES LR LR 00 30 03.4
comp=Z,658nm,18.0s,baz=32,slow=42
ARE0 ARCESS Array S 57.83 341 *e*P P 23 59 27.8 0.0
E09A Wood Farm, Sta 57.97 55 *e*P P 23 59 29.2 +0.1
comp=Z,11nm,0.8s
PINOR Pine Mountain 57.98 58 *e*P P 23 59 29.9 +0.7
comp=Z,10nm,0.9s
J05D Fort Rock, OR 58.08 59 ⇓P P 23 59 31.7 +1.6
baz=58
YBH Yreka Blue Hor 58.11 61 *e*P P 23 59 31.4 +1.1
YBH pmax pmax
comp=Z,92nm,3.0s
YBH Yreka Blue Hor 58.11 61 P P 23 59 31.6 +1.3
comp=Z,3.8nm,0.8s,baz=344,slow=7.6,SNR=6.7
YBH Yreka Blue Hor 58.11 61 *e*P P 23 59 31.4 +1.1
comp=Z,92nm,3.0s
K04D Chiloquin, OR 58.16 60 ⇑P P 23 59 31.4 +0.7
baz=58
ABKAR Akbulak array 58.22 310 *e*P P 23 59 30.1 -0.6
M02C Callahan 58.22 62 ⇓P P 23 59 33.0 +1.9
baz=58
G08A Pilot Rock 58.23 56 *e*P P 23 59 32.1 +1.0
comp=Z,8.1nm,0.9s
TMCR Tamitsa 58.26 332 *e*P P 23 59 29.1 -1.7
TMCR pmax pmax
comp=Z,37nm,1.2s
DHRM DHARAMSHALA 58.45 285 *e*P P 23 59 32.8 -0.2
SDNR Sundarnagar 58.47 284 *e*P P 23 59 33.6 +0.8
DDI Dehra Dun 58.47 282 *e*P P 23 59 33.2 +0.3
DLH Dalhousie 58.49 285 *e*P P 23 59 33.0 -0.2
N02D Trinity Center 58.56 62 ⇑P P 23 59 35.1 +1.7
baz=58
SMLA Simla 58.56 283 *e*P P 23 59 33.5 0.0
M04C Macdoel 58.60 61 ⇓P P 23 59 35.6 +1.8
baz=58
K05A Summer Lake 58.61 59 *e*P P 23 59 33.8 -0.1
I07A Izee 58.62 58 *e*P P 23 59 33.3 -0.6
comp=Z,114nm,2.9s
KTK1 Kautokeino 58.75 341 *e*P P 23 59 34.5 +0.3
KIPM Iron Peak 58.78 64 *e*P P 23 59 36.3 +1.3
WALA Waterton Lakes 58.78 50 *e*P P 23 59 35.1 +0.2
F10A Beach Ranch, E 58.80 55 *e*P P 23 59 35.5 +0.4
comp=Z,9.2nm,0.8s
BHK Bhakra 58.89 284 *e*P P 23 59 35.6 -0.2
WDC Whiskeytown Da 58.89 62 *e*P P 23 59 36.5 +0.9
WDC pmax pmax
comp=Z,5.0nm,0.9s
WDC Whiskeytown Da 58.89 62 *e*P P 23 59 36.5 +0.9
comp=Z,5.0nm,0.9s
BSMT Bassoo Peak 59.03 52 *e*P P 23 59 37.8 +1.0
SURT Suratani 59.06 248 P P 23 59 40.2 +3.1
comp=Z,22nm,1.0s,comp=Z,345nm
KAPI Kappang 59.09 219 *e*P P 23 59 37.9 +0.7
comp=Z,70nm,1.8s
BLMT Blacktail Moun 59.17 51 *e*P P 23 59 38.6 +0.9
TRO Tromso 59.17 343 *e*P P 23 59 36.1 -0.9
JTMT Jette 59.37 52 *e*P P 23 59 39.6 +0.6
BMO Blue Mountains 59.43 56 *e*P P 23 59 40.4 +1.0
comp=Z,7.1nm,0.8s
YBMT Yellow Bay 59.44 51 *e*P P 23 59 40.3 +0.8
MOD Modoc 59.45 60 *e*P P 23 59 39.1 -0.6
comp=Z,15nm,1.2s
SWMT Swartz Lake 59.66 52 *e*P P 23 59 41.5 +0.5
DGPR DIGLIPUR 59.79 257 *e*P P 23 59 42.1 0.0
KLMR Klimovskoe 60.01 329 *e*P P 23 59 41.2 -1.8
KLMR pmax pmax
comp=Z,28nm,0.8s
KLMR MLR MLR
comp=Z,727nm,20.0s
NDI New Delhi 60.07 281 *e*P P 23 59 45.0 +1.1
SLMT Seeley Lake 60.10 52 *e*P P 23 59 44.7 +0.6
MSO Missoula 60.11 52 *e*P P 23 59 44.3 +0.2
comp=Z,17nm,1.0s
MSO Missoula 60.11 52 ⇑P P 23 59 44.5 +0.4
baz=60,SNR=13
WVOR Wild Horse Val 60.12 59 *e*P P 23 59 44.8 +0.6
WVOR pmax pmax
comp=Z,10.0nm,0.8s
WVOR Wild Horse Val 60.12 59 *e*P P 23 59 44.8 +0.6
comp=Z,10nm,0.8s
CHMT Chamberlain Mo 60.43 52 *e*P P 23 59 46.6 +0.2
SUMG Summit 60.83 4 *i* P P 23 59 48.6 -0.3
SUMG pmax pmax
comp=Z,62nm,1.0s
SUMG Summit 60.83 4 *i* P P 23 59 48.6 -0.3
comp=Z,62nm,1.0s
SUMG Summit 60.83 4 *e*P P 23 59 48.6 -0.3
comp=Z,74nm,0.8s
COEN Coen 60.91 190 *e*P P 23 59 50.0 +0.4
comp=Z,464nm,1.9s
FFC Flin Flon 61.05 40 P P 23 59 50.9 +0.7
comp=Z,167nm,0.9s,SNR=12
FFC Flin Flon 61.05 40 *e*P P 23 59 50.8 +0.6
FFC pmax pmax
comp=Z,29nm,1.0s
FFC Flin Flon 61.05 40 *e*P P 23 59 50.8 +0.6
comp=Z,29nm,1.0s
FFC Flin Flon 61.05 40 *e*P P 23 59 50.8 +0.6
IPM Ipoh 61.11 243 *e*P P 23 59 51.3 +0.2
comp=Z,234nm,2.1s
MFID Camas Ranch 61.15 56 *e*P P 23 59 51.9 +0.7
comp=Z,7.1nm,0.8s
HRY Holter Researc 61.32 51 *e*P P 23 59 53.2 +0.8
STEI Steigen 61.34 343 *e*P P 23 59 51.4 -0.5
LOF Lofoten 61.50 344 *e*P P 23 59 52.1 -0.9
MYKOM Kota Tinggi 61.54 239 *e*P P 23 59 54.7 +0.7
comp=Z,137nm,1.6s
LRM Limekiln Ridge 61.54 52 *e*P P 23 59 54.6 +0.6
FCC Fort Churchill 61.55 33 *e*P P 23 59 53.0 -0.4
FCC Fort Churchill 61.55 33 *e*P P 23 59 53.0 -0.4
A19A Klindworth Far 61.55 48 ⇑P P 23 59 54.3 +0.5
baz=61,SNR=12
SOEI Soe 61.59 212 *e*P P 23 59 54.0 -0.4
comp=Z,27nm,0.9s
EGMT Eagleton 61.60 49 *e*P P 23 59 54.4 +0.3
comp=Z,32nm,1.1s
EGMT Eagleton 61.60 49 ⇑P P 23 59 54.6 +0.5
baz=61,SNR=9.5
B19A Brinkman Farms 61.75 48 ⇑P P 23 59 55.4 +0.4
baz=62
DLMT Dillon 61.75 53 *e*P P 23 59 54.6 -0.6
comp=Z,140nm,2.8s
CMB Columbia Colle 61.77 64 *e*P P 23 59 55.8 +0.4
CMB pmax pmax
comp=Z,38nm,2.0s
CMB Columbia Colle 61.77 64 *e*P P 23 59 55.8 +0.4
comp=Z,38nm,2.0s
KBL Kabul 61.77 291 *e*P P 23 59 55.2 -0.4
KBL pmax pmax
comp=Z,53nm,0.6s
KBL Kabul 61.77 291 *e*P P 23 59 55.2 -0.4
comp=Z,53nm,0.6s
HLID Hailey 61.86 55 *e*P P 23 59 55.6 -0.5
comp=Z,6.0nm,0.9s
HLID Hailey 61.86 55 ⇓P P 23 59 57.5 +1.4
baz=62
MCMT McKenzie Canyo 61.95 53 *e*P P 23 59 57.6 +0.9
A20A Cobblestone Ra 62.00 48 ⇓P P 23 59 57.3 +0.6
baz=62,SNR=17
WAKR Walker 62.06 63 *e*P P 23 59 57.7 +0.2
BOZ Bozeman (W) 62.10 52 *e*P P 23 59 57.6 0.0
BOZ pmax pmax
comp=Z,14nm,0.8s
BOZ Bozeman (W) 62.10 52 *e*P P 23 59 57.6 0.0
comp=Z,14nm,0.8s
BOZ Bozeman (W) 62.10 52 *e*P P 23 59 57.6 0.0
C19A Slack Wire Ran 62.15 49 ⇑P P 23 59 58.9 +1.1
baz=62,SNR=19
BMN Battle Mountai 62.19 60 *e*P P 23 59 58.9 +0.6
BMN pmax pmax
comp=Z,8.0nm,0.6s
BMN Battle Mountai 62.19 60 *e*P P 23 59 58.9 +0.6
comp=Z,7.7nm,0.6s
BATI Baumata 62.23 213 P P 23 59 59.3 +0.8
comp=Z,8.5nm,0.4s,baz=204,slow=11,SNR=4.0
B20A Solberg Farm, 62.23 48 ⇓P P 23 59 59.2 +0.9
baz=62
A21A Bergtoll Ranch 62.43 47 ⇓P P 00 00 00.0 +0.4
baz=62,SNR=34
D19A Cripps Ranch, 62.60 49 ⇑P P 00 00 01.2 +0.4
baz=62,SNR=6.8
C20A Veseth Ranch, 62.71 49 ⇑P P 00 00 02.4 +0.9
baz=62
QLMT Earthquake Lak 62.73 53 *e*P P 00 00 03.1 +1.2
B21A Ellsworth Farm 62.75 47 ⇑P P 00 00 02.4 +0.6
baz=62
NV01 Mina Array Sit 62.80 62 *e*P P 00 00 02.6 +0.2
NVAR Mina Array Bea 62.80 62 P P 00 00 03.4 +0.9
comp=Z,2.3nm,0.5s,baz=289,slow=7.7,SNR=8.2
NVAR LR LR 00 21 39.2
comp=Z,109nm,22.0s,baz=58,slow=30
A22A Carney Farms, 62.94 46 ⇓P P 00 00 02.9 -0.1
baz=63,SNR=40
MLAC Mammoth Lakes 62.98 63 ⇑P P 00 00 04.8 +1.1
baz=63
KONS Konsvik 63.00 343 *e*P P 00 00 02.7 -0.3
KONS IAmb IAmb 00 00 03.9
comp=Z,25nm,0.6s
MOR8 Moi Rana 63.01 342 *e*P P 00 00 01.6 -1.6
MOR8 IAmb IAmb 00 00 02.3
comp=Z,63nm,0.6s
D20A Manuel Ranch, 63.04 49 ⇑P P 00 00 04.7 +1.0
baz=63,SNR=18
GCMT Greycliff 63.07 51 *e*P P 00 00 03.8 -0.3
YMR Madison River 63.09 53 *e*P P 00 00 04.1 -0.1
comp=Z,12nm,0.8s
FLOS Flostrand 63.09 343 *e*P P 00 00 03.4 -0.2
C21A Desert Coulee 63.10 48 ⇓P P 00 00 04.8 +0.7
baz=63,SNR=9.9
E19A Rath Farm, Rou 63.10 50 ⇑P P 00 00 04.7 +0.5
baz=63,SNR=8.2
ILULI Ilulissat 63.14 9 *i* P P 00 00 03.6 -0.3
ILULI pmax pmax
comp=Z,42nm,0.8s
ILULI Ilulissat 63.14 9 *i* P P 00 00 03.6 -0.3
comp=Z,42nm,0.8s
ELK Elko 63.16 58 *e*P P 00 00 04.7 -0.2
ELK pmax pmax
comp=Z,5.0nm,0.8s
ELK Elko 63.16 58 *e*P P 00 00 04.7 -0.2
comp=Z,4.5nm,0.8s
STOK Stokkvaagen 63.16 343 *e*P P 00 00 03.9 -0.2
YNR Norris Junctio 63.21 52 *e*P P 00 00 05.2 0.0
comp=Z,8.2nm,0.9s
YFT Old Faithful 63.30 53 *e*P P 00 00 06.0 +0.3
comp=Z,13nm,1.0s
F19A Roth Farm, Mol 63.41 51 ⇓P P 00 00 07.2 +0.9
baz=63,SNR=14
E20A Meyer Farm, Mu 63.42 50 ⇓P P 00 00 07.3 +1.0
baz=63
LKWY Lake 63.46 52 *e*P P 00 00 08.4 +1.6
LKWY pmax pmax
comp=Z,12nm,0.9s
LKWY Lake 63.46 52 *e*P P 00 00 08.4 +1.6
comp=Z,12nm,0.9s
A23A Redstone 63.48 46 ⇓P P 00 00 06.9 +0.4
baz=63
H17A Grant Village 63.48 53 *e*P P 00 00 08.8 +1.9
comp=Z,9.9nm,0.8s
H17A Grant Village 63.48 53 ⇑P P 00 00 08.8 +1.9
baz=63,SNR=9.8
IMW Indian Meadow 63.60 53 *e*P P 00 00 08.4 +0.7
comp=Z,14nm,1.3s
FLWY Flagg Ranch 63.61 53 *e*P P 00 00 09.2 +1.4
comp=Z,110nm,2.5s
D21A La Casta Ranch 63.65 49 ⇓P P 00 00 08.5 +0.7
baz=63
TPH Tonopah 63.68 62 *e*P P 00 00 08.5 +0.2
TPH pmax pmax
comp=Z,9.0nm,0.9s
TPH Tonopah 63.68 62 *e*P P 00 00 08.5 +0.2
comp=Z,8.8nm,0.9s
PSI Prapat 63.71 244 P P 00 00 09.8 +1.2
PSI 00 00 45.2
PSI pmax pmax
comp=Z,14nm,0.4s
PSI Prapat 63.71 244 P P 00 00 09.8 +1.2
comp=Z,14nm,0.4s,baz=11,slow=4.1,SNR=18
PSI PcP PcP 00 00 45.2 +0.9
comp=Z,19nm,0.9s,baz=233,slow=4.7,SNR=5.6
FXWY Fox Creek 63.71 54 *e*P P 00 00 08.8 +0.3
comp=Z,5.2nm,0.9s
RLMT Red Lodge 63.72 51 *e*P P 00 00 09.1 +0.7
comp=Z,53nm,1.8s
B23A Brockton 63.75 46 ⇓P P 00 00 08.6 +0.2
baz=64,SNR=13
C22A Vida 63.77 47 ⇓P P 00 00 09.1 +0.5
baz=64
I17A Pilgrim Ck. 63.78 53 ⇓P P 00 00 10.9 +2.0
baz=64
H18A Shoshone NF, C 63.79 52 ⇑P P 00 00 10.1 +1.1
baz=64
TPAW Teton Pass 63.85 54 *e*P P 00 00 10.7 +1.3
comp=Z,15nm,0.8s
F20A Billings 63.87 50 ⇓P P 00 00 10.3 +1.0
baz=64
HVU Hansel Valley 63.93 56 *e*P P 00 00 10.5 +0.7
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU Hansel Valley 63.93 56 *e*P P 00 00 10.5 +0.7
comp=Z,9.2nm,0.9s
A24A Westby 63.93 46 ⇑P P 00 00 09.8 +0.3
baz=64,SNR=9.3
E21A Keefer Ranch, 63.95 49 ⇑P P 00 00 10.7 +1.0
baz=64
PUL Pulkovo 63.96 332 P P 00 00 09.4 -0.1
PUL pmax pmax
comp=Z,63nm,0.9s
LOHW Long Hollow 63.97 53 *e*P P 00 00 10.9 +0.8
comp=Z,8.9nm,1.0s
VES Vestal, Richgr 63.97 65 ⇑P P 00 00 10.0 +0.1
baz=64
FINES FINESS Array B 63.98 335 P P 00 00 08.5 -1.0
comp=Z,57nm,0.5s,baz=38,slow=7.0,SNR=448
FINES PcP PcP 00 00 44.4 -0.2
comp=Z,13nm,0.7s,baz=46,slow=4.0,SNR=5.3
FINES LR LR 00 30 42.0
comp=Z,841nm,18.7s,baz=89,slow=38
SNOW Snow King Moun 63.98 54 *e*P P 00 00 10.6 +0.4
comp=Z,11nm,0.8s
REDW Red Top Meadow 63.99 54 *e*P P 00 00 11.2 +0.9
comp=Z,21nm,1.1s
D22A Cohagen 64.01 48 ⇑P P 00 00 10.7 +0.5
baz=64,SNR=5.1
C23A Lambert 64.09 47 ⇓P P 00 00 11.2 +0.6
baz=64,SNR=6.4
DGMT Dagmar 64.14 46 *e*P P 00 00 11.3 +0.4
comp=Z,34nm,0.8s
DGMT Dagmar 64.14 46 ⇑P P 00 00 11.2 +0.3
baz=64,SNR=7.8
H19A Powell 64.16 52 ⇓P P 00 00 12.1 +0.8
baz=64
G20A Bridger 64.22 51 ⇑P P 00 00 12.0 +0.4
baz=64,SNR=5.3
AHID Auburn Hatcher 64.24 54 *e*P P 00 00 12.4 +0.5

comp=Z,11nm,0.9s
LAO LASA Array 64.30 49 eP P 00 00 11.9 -0.1
comp=Z,24nm,0.9s
BGU Big Grassy Mou 64.33 57 eP P 00 00 11.8 -0.7
comp=Z,37nm,2.7s
A25A Svangstu Ranch 64.36 45 ⇑P P 00 00 13.0 +0.7
baz=64
BKNI Bangkinang 64.38 240 eP P 00 00 14.4 +1.6
comp=Z,183nm,0.9s
F21A Absaloka Mine, 64.40 50 ⇓P P 00 00 13.2 +0.5
baz=64
ISA Isabella 64.46 64 eP P 00 00 11.9 -1.4
ISA pmax pmax
comp=Z,4.0nm,0.8s
ISA Isabella 64.46 64 eP P 00 00 11.9 -1.4
comp=Z,3.7nm,0.8s
ISA Isabella 64.46 64 ⇑P P 00 00 15.8 +2.5
baz=64
R11A Troy Canyon, C 64.49 61 eP P 00 00 13.4 -0.2
comp=Z,5.4nm,0.8s
R11A Troy Canyon, C 64.49 61 ⇓P P 00 00 15.6 +2.0
baz=64,SNR=13
D23A Lindsay 64.49 48 ⇑P P 00 00 14.2 +0.9
baz=64,SNR=5.1
I19A Meeteetse 64.57 52 ⇑P P 00 00 14.9 +0.9
baz=64
E22A Miles City 64.60 49 ⇓P P 00 00 14.4 +0.4
baz=64
DAC Darwin (Calif) 64.61 63 eP P 00 00 13.7 -0.7
DAC pmax pmax
comp=Z,81nm,3.0s
DAC Darwin (Calif) 64.61 63 eP P 00 00 13.7 -0.7
comp=Z,80nm,3.0s
C24A Savage 64.65 47 ⇑P P 00 00 14.9 +0.6
baz=64
HWUT Hardware Ranch 64.73 56 eP P 00 00 14.8 -0.3
comp=Z,7.7nm,0.8s
G21A Lodge Grass 64.75 50 ⇓P P 00 00 14.9 -0.1
baz=64
B25A Knox Farm, Ray 64.78 46 ⇑P P 00 00 15.7 +0.5
baz=64
PMBI Palembang 64.83 235 eP P 00 00 18.0 +2.2
comp=Z,430nm,1.5s
F22A Rosebud 64.88 49 ⇑P P 00 00 16.3 +0.5
baz=65,SNR=8.8
A26A Wade Farm, Ken 64.91 45 ⇓P P 00 00 16.0 +0.1
baz=65
DUG Dugway 64.93 57 eP P 00 00 16.9 +0.5
DUG pmax pmax
comp=Z,15nm,1.0s
DUG Dugway 64.93 57 eP P 00 00 16.9 +0.5
comp=Z,15nm,1.0s
DUG Dugway 64.93 57 ⇓P P 00 00 17.4 +1.1
baz=65,SNR=15
NSS Namsos 64.96 342 eP P 00 00 14.1 -1.8
D24A Glendive 64.98 47 ⇓P P 00 00 17.1 +0.6
baz=65,SNR=12
J19A Crowheart 65.05 53 ⇑P P 00 00 18.0 +0.9
baz=65,SNR=13
LRMC Laurel Mountai 65.07 64 ⇑P P 00 00 19.5 +2.2
baz=65
BW06 Boulder Array 65.10 54 eP P 00 00 17.4 -0.1
comp=Z,13nm,0.8s
PD31 Pinedale Array 65.10 54 eP P 00 00 17.6 +0.1
I20A Worland 65.10 52 ⇓P P 00 00 18.2 +0.8
baz=65
C25A Freed Ranch, W 65.11 46 ⇑P P 00 00 18.1 +0.8
baz=65
TCUT Toone Canyon 65.14 56 eP P 00 00 17.2 -0.7
comp=Z,9.9nm,0.9s
OBN Obninsk 65.19 325 P P 00 00 17.2 -0.3
comp=Z,270nm,0.6s,SNR=5.0
OBN Obninsk 65.19 325⇑eP P 00 00 16.9 -0.6
OBN e 00 00 28.6
OBN e 00 00 48.6
OBN eS S 00 08 45.1 -11
OBN pmax pmax
comp=Z,35nm,1.2s
OBN MLR MLR
comp=Z,535nm,14.0s
OBN Obninsk 65.19 325 eP P 00 00 16.5 -1.0
comp=Z,28nm,0.6s
CTU Camp Tracy 65.22 56 eP P 00 00 18.3 +0.1
comp=Z,7.7nm,1.0s
H21A Big Horn, Sher 65.23 51 ⇓P P 00 00 18.5 +0.3
baz=65,SNR=16
G22A Birney 65.24 50 ⇓P P 00 00 18.4 +0.2
baz=65,SNR=6.4
A27A Ledoux Ranch, 65.25 44 ⇓P P 00 00 19.0 +0.9
baz=65
SFJD Kangerlussuaq 65.31 10 i P P 00 00 17.3 -0.9
SFJD pmax pmax
comp=Z,23nm,1.0s
SFJD Kangerlussuaq 65.31 10 i P P 00 00 17.3 -0.9
comp=Z,23nm,0.9s
SFJD Kangerlussuaq 65.31 10 eP P 00 00 19.3 +1.1
comp=Z,30nm,0.9s
E24A Baker 65.36 48 ⇑P P 00 00 19.4 +0.5
baz=65
F23A Volborg 65.36 49 ⇓P P 00 00 19.3 +0.3
baz=65,SNR=11
JLU Jordanelle 65.45 56 eP P 00 00 19.7 -0.2
comp=Z,127nm,2.7s
D25A Fairfield 65.46 47 ⇓P P 00 00 20.0 +0.4
baz=65
NLU North Lily Min 65.52 57 eP P 00 00 20.9 +0.7
comp=Z,15nm,0.9s
J20A Shoshoni 65.52 52 ⇓P P 00 00 21.1 +0.9
baz=65,SNR=9.9
C26A Wahner Farm, P 65.61 46 ⇑P P 00 00 20.6 +0.2
baz=65,SNR=8.9
H22A Clearmont 65.62 50 ⇑P P 00 00 21.2 +0.5
baz=65
I21A Big Trails, Te 65.64 51 ⇑P P 00 00 21.4 +0.5
baz=65,SNR=13
DAU Daniels Canyon 65.69 56 eP P 00 00 21.1 -0.4
DAU Daniels Canyon 65.69 56 eP P 00 00 21.1 -0.4
GSI Gunungsitoli 65.72 244 eP P 00 00 21.5 0.0
comp=Z,143nm,1.6s
G23A Biddle 65.72 49 ⇑P P 00 00 21.6 +0.3
baz=65,SNR=6.0
GSC Goldstone 65.73 64 eP P 00 00 22.0 +0.5
GSC pmax pmax
comp=Z,8.0nm,0.9s
GSC Goldstone 65.73 64 eP P 00 00 22.0 +0.5
comp=Z,8.2nm,0.9s
GSC Goldstone 65.73 64 ⇑P P 00 00 22.2 +0.7
baz=66
MPU Maple Canyon 65.73 57 eP P 00 00 22.1 +0.4
comp=Z,12nm,0.8s
F24A Ekalaka 65.78 48 ⇓P P 00 00 21.7 +0.1
baz=66
E25A Miller Ranch, 65.86 47 ⇑P P 00 00 22.5 +0.3
baz=66
J21A Lysite 65.87 52 ⇓P P 00 00 23.3 +0.8
baz=66
RRX Edison Barstow 65.88 64 ⇓P P 00 00 23.5 +1.1
baz=66
SHPR Sheep Range 65.95 62 eP P 00 00 23.4 +0.3
VRHR Novokhopersk 65.98 320 eP P 00 00 20.0 -2.7
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.7s
VRHR pmax pmax
comp=Z,40nm,0.7s
VRHR MLR MLR
comp=N,760nm,23.0s
VRHR MLR MLR
comp=E,1µm,23.0s
VRHR MLR MLR
comp=Z,1µm,23.0s
C27A Sayler Ranch, 65.98 45 ⇓P P 00 00 23.6 +0.7
baz=66
B28A Dugan Ranch, T 66.02 44 ⇓P P 00 00 23.6 +0.5
baz=66,SNR=9.3
I22A 9 Mile Ranch, 66.02 51 ⇑P P 00 00 24.1 +0.8
baz=66,SNR=8.9
VSU Vasula 66.14 332c iP P 00 00 23.5 -0.1
VSU pmax pmax
comp=Z,154nm,0.8s
VSU MLR MLR
comp=Z,2µm,21.0s
ARUT Antelope Range 66.14 60 eP P 00 00 25.0 +0.8
ARUT Antelope Range 66.14 60 eP P 00 00 25.0 +0.8
G24A Alzada 66.14 49 ⇓P P 00 00 24.5 +0.5
baz=66,SNR=5.2

H23A Clabaugh Cattl 66.15 50 ⇑P P 00 00 24.1 0.0
baz=66
SCI San Clemente I 66.16 67 ⇓P P 00 00 26.2 +2.0
baz=66
TUQ Turquoise Moun 66.18 63 ⇓P P 00 00 25.2 +0.7
baz=66
IMYA Miami 66.20 298 eP P 00 00 25.6 +0.9
F25A Bowman 66.23 48 ⇑P P 00 00 25.3 +0.7
baz=66,SNR=5.5
A29A Manning Farm, 66.23 43 ⇑P P 00 00 24.5 +0.1
baz=66,SNR=9.7
CCUT Cedar City 66.34 60 eP P 00 00 25.8 +0.2
comp=Z,8.6nm,1.1s
ABKT Ailbek 66.35 301 P P 00 00 25.0 -0.4
comp=Z,365nm,0.6s,SNR=16
J22A Midwest 66.35 51 ⇑P P 00 00 26.5 +1.0
baz=66,SNR=8.4
E26A Carlson Angus 66.36 47 ⇓P P 00 00 26.0 +0.6
baz=66
IEMG Emamgholi 66.37 300 eP P 00 00 26.7 +0.8
D27A Center 66.39 46 ⇑P P 00 00 26.5 +1.0
baz=66
MVU Marysvale 66.39 59 eP P 00 00 25.3 -0.6
comp=Z,6.4nm,1.1s
TBLU Trondheim 66.44 342 eP P 00 00 24.4 -1.1
K21A Alcova 66.45 52 ⇑P P 00 00 26.7 +0.5
baz=66,SNR=12
TMUT Trail Mountain 66.45 57 eP P 00 00 27.5 +1.1
comp=Z,15nm,1.0s
H24A Dirks Ranch, A 66.47 49 ⇓P P 00 00 26.3 +0.2
baz=66,SNR=10
B29A Wagenman Farm, 66.49 44 ⇓P P 00 00 26.8 +0.7
baz=66,SNR=8.2
ISRO Mashad 66.61 299 eP P 00 00 29.1 +1.9
HYB Hyderabad 66.64 271 i P P 00 00 27.0 -0.5
A30A Hoffart Farm, 66.66 43 ⇑P P 00 00 27.9 +0.8
baz=66,SNR=6.4
CTA Charters Tower 66.67 186 P P 00 00 27.8 +0.4
CTA *PP pP 00 00 43.1 -0.5
CTA pmax pmax
comp=Z,5.0nm,0.9s
CTA Charters Tower 66.67 186 P P 00 00 27.8 +0.4
comp=Z,5.2nm,0.9s,baz=335,slow=9.3,SNR=3.2
CTA pP pP 00 00 43.1 -0.5
comp=Z,7.3nm,0.8s,baz=6.8,slow=9.7,SNR=3.2
F26A Lodgepole 66.68 47 ⇑P P 00 00 27.8 +0.4
baz=66,SNR=6.8
G25A Newell 66.75 48 ⇑P P 00 00 28.1 +0.2
baz=66
GMRC Granite Mounta 66.78 64 ⇑P P 00 00 29.9 +1.6
baz=67
D28A Regan 66.80 45 ⇓P P 00 00 28.7 +0.6
baz=66
IPAY Payeh 66.80 299 eP P 00 00 30.8 +2.3
ULM Lac du Bonnet 66.83 41 P P 00 00 28.0 -0.2
comp=Z,7.9nm,0.5s,baz=313,slow=7.0,SNR=18
ULM LR LR 00 33 33.5
comp=Z,167nm,18.3s,baz=318,slow=39
ULM Lac du Bonnet 66.83 41 eP P 00 00 27.7 -0.5
comp=Z,8.6nm,0.8s
E27A Carson 66.83 46 ⇑P P 00 00 28.5 +0.1
baz=66
K22A Casper 66.84 52 eP P 00 00 28.8 +0.2
comp=Z,13nm,0.9s
K22A Casper 66.84 52 ⇑P P 00 00 29.2 +0.6
baz=67
IAKL Akhelmad 66.84 299 eP P 00 00 29.6 +0.7
J23A Dilts Ranch, B 66.85 51 ⇓P P 00 00 29.0 +0.3
baz=67
IKRD Kardeh 66.87 299 eP P 00 00 25.8 -3.3
LDFC Landfair 66.92 63 eP P 00 00 28.1 -1.0
comp=Z,32nm,1.1s
VSR Storozhevoye 66.97 321 eP P 00 00 27.6 -1.4
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
VSR MLR MLR
comp=N,1µm,22.0s
VSR MLR MLR
comp=E,630nm,22.0s
VSR MLR MLR
comp=Z,2µm,22.0s
SRU San Rafael 66.97 57 eP P 00 00 29.7 +0.1
SRU pmax pmax
comp=Z,25nm,0.9s
SRU San Rafael 66.97 57 eP P 00 00 29.6 +0.1
comp=Z,24nm,0.9s
B30A Myrvik Farm, E 66.99 43 ⇓P P 00 00 29.6 +0.3
baz=67,SNR=15
F27A Lemmon 66.99 47 ⇑P P 00 00 29.7 +0.2
baz=67
ISFR Sfrayin 67.00 300 eP P 00 00 30.9 +1.1
KNB Kanab 67.02 60 eP P 00 00 29.3 -0.6
KNB pmax pmax
comp=Z,13nm,0.9s
KNB Kanab 67.02 60 eP P 00 00 29.2 -0.6
comp=Z,13nm,0.9s
I24A Kuemmerle Ranc 67.03 50 ⇑P P 00 00 30.4 +0.6
baz=67
H25A Fruitdale 67.05 49 ⇑P P 00 00 30.3 +0.5
baz=67
VORD Divnogorie 67.09 321 eP P 00 00 27.7 -2.1
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
VORD MLR MLR
comp=N,810nm,22.0s
VORD MLR MLR
comp=E,850nm,22.0s
VORD MLR MLR
comp=Z,1µm,22.0s
G26A Maurine 67.10 48 ⇑P P 00 00 30.8 +0.7
baz=67,SNR=9.4
N20A Spence Gulch, 67.11 54 ⇓P P 00 00 31.6 +1.2
baz=67,SNR=13
RSSD Black Hills 67.16 49 eP P 00 00 31.0 +0.3
RSSD pmax pmax
comp=Z,19nm,0.8s
RSSD Black Hills 67.16 49 eP P 00 00 31.0 +0.3
comp=Z,18nm,0.8s
E28A Huff 67.17 46 ⇓P P 00 00 30.8 +0.4
baz=67
K23A Bowen Ranch, D 67.25 51 ⇑P P 00 00 31.3 +0.1
baz=67
L22A Ellis Ranch, M 67.31 52 ⇑P P 00 00 32.8 +1.1
baz=67,SNR=8.0
D29A Pettibone, Tap 67.36 45 ⇓P P 00 00 31.9 +0.2
baz=67
J24A Dixon Ranch, L 67.38 50 ⇓P P 00 00 31.9 0.0
baz=67
G27A Dupree 67.38 47 ⇑P P 00 00 32.1 +0.3
baz=67
I25A Rochford 67.39 49 ⇓P P 00 00 32.1 0.0
baz=67
H26A Fairpoint 67.48 48 ⇓P P 00 00 32.8 +0.3
baz=67
IRM Iron Mountain 67.50 64 ⇓P P 00 00 34.5 +1.7
baz=67
BAR Barrett 67.54 66 eP P 00 00 30.8 -2.2
comp=Z,7.1nm,0.9s
O20A White River Ci 67.59 55 eP P 00 00 32.8 -0.6
comp=Z,184nm,2.8s
O20A White River Ci 67.59 55 ⇑P P 00 00 34.5 +1.1
baz=67
MOL Molde 67.61 343 eP P 00 00 33.5 +0.6
F28A McLaughlin 67.62 46 ⇑P P 00 00 33.8 +0.5
baz=67
M22A Cedar Creek Ra 67.65 53 ⇑P P 00 00 34.2 +0.4
baz=67
BC3 Big Chuckawall 67.65 64 ⇑P P 00 00 34.5 +0.7
baz=67
W13A Hualapai Mount 67.66 62 ⇓P P 00 00 34.8 +0.8
baz=67
U15A North Rim 67.73 60 ⇓P P 00 00 35.3 +0.8
baz=68,SNR=5.1
D30A Buchanan 67.73 44 ⇓P P 00 00 34.1 +0.1
baz=67,SNR=5.7
J25A Sunshine Ranch 67.79 50 ⇓P P 00 00 34.8 +0.2
baz=68
H27A Howes 67.82 48 ⇓P P 00 00 34.7 0.0
baz=68

I26A New Underwood 67.84 49 ⇑P P 00 00 35.0 +0.2
baz=68
PDMCI Parker Dam,Lak 68.03 63 ⇓P P 00 00 37.6 +1.6
baz=68
M23A Laramie 68.08 52 ⇓P P 00 00 36.6 0.0
baz=68
E30A Jud 68.09 45 ⇑P P 00 00 36.2 0.0
baz=68,SNR=5.0
G28A Parade 68.11 47 ⇑P P 00 00 36.5 +0.1
baz=68
F29A Eureka 68.11 46 ⇓P P 00 00 36.5 +0.1
baz=68
N22A Wattenberg Ran 68.13 53 ⇑P P 00 00 37.8 +0.8
baz=68
Y12C Blythe 68.17 64 ⇓P P 00 00 38.1 +1.2
baz=68
NB201 NORSAR Array S 68.18 341 eP P 00 00 36.3 -0.3
PV09 Paradox Valley 68.19 57 eP P 00 00 37.6 +0.3
NB2 NORSAR Subarra 68.21 341 P P 00 00 36.7 -0.1
comp=Z,59nm,0.7s,baz=26,slow=6.5
NB2 NORSAR Subarra 68.21 341 P P 00 00 36.7 -0.1
baz=26,slow=6.5
NOA NORSAR Array B 68.21 341 P P 00 00 36.4 -0.4
comp=Z,40nm,0.5s,baz=23,slow=6.8,SNR=246
NOA LR LR 00 34 47.5
comp=Z,511nm,18.7s,baz=25,slow=40
J26A Sides Ranch, S 68.23 50 ⇓P P 00 00 37.8 +0.6
baz=68
I27A Quinn 68.23 48 ⇑P P 00 00 37.8 +0.6
baz=68
AGMN Agassiz Nation 68.25 42 eP P 00 00 36.1 -1.1
comp=Z,17nm,1.0s
AGMN Agassiz Nation 68.25 42 ⇑P P 00 00 37.1 -0.1
baz=68,SNR=8.5
NBO02 NORSAR Array S 68.28 341 eP P 00 00 36.9 -0.3
WRAB Tennant Creek 68.29 198ceP P 00 00 37.5 -0.1
WRAB pmax pmax
comp=Z,14nm,0.7s
WRAB MLR MLR
comp=Z,290nm,18.0s
WRA Warramunga Arr 68.30 198 P P 00 00 37.2 -0.5
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA MLR MLR
comp=Z,113nm,19.8s
WRA Warramunga Arr 68.30 198 P P 00 00 37.2 -0.5
comp=Z,5.0nm,0.7s,baz=21,slow=6.9,SNR=31
WRA LR LR 00 31 03.3
comp=Z,113nm,19.8s,baz=10.0,slow=36
PV10 Paradox Valley 68.33 57 eP P 00 00 39.6 +1.4
H28A Mission Ridge 68.33 47 ⇓P P 00 00 38.0 +0.1
baz=68,SNR=16
N23A Red Feather La 68.35 53 ⇓P P 00 00 38.8 +0.5
baz=68,SNR=6.0
PV04 Paradox Valley 68.39 57 eP P 00 00 39.4 +0.9
NC602 NORSAR Array S 68.41 341 eP P 00 00 36.5 -1.4
GLA Glamis 68.44 64 eP P 00 00 38.2 -0.5
GLA pmax pmax
comp=Z,10.0nm,0.9s
GLA Glamis 68.44 64 eP P 00 00 38.2 -0.5
comp=Z,9.7nm,0.9s
GLA Glamis 68.44 64 ⇑P P 00 00 39.1 +0.4
baz=68
PV05 Paradox Valley 68.49 57 eP P 00 00 40.0 +0.8
F30A Leola 68.51 45 ⇓P P 00 00 39.0 +0.1
baz=68
O22A Kremmling 68.52 54 ⇑P P 00 00 40.0 +0.6
baz=68
M24A Cheyenne 68.57 52 ⇓P P 00 00 39.7 +0.2
baz=68
K26A Motz Farm, Whi 68.60 50 ⇓P P 00 00 39.8 +0.2
baz=68
IDID Didziasalis 68.65 330 eP P 00 00 39.6 +0.1
IDID AMB AMB 00 00 40.8
comp=Z,28nm,0.8s
ISAL Salakas 68.65 331 eP P 00 00 39.6 0.0
ISAL AMB AMB 00 00 40.9
comp=Z,15nm,0.8s
I28A Midland 68.73 48 ⇑P P 00 00 40.2 -0.1
baz=68
IDAH Dahanechah 68.74 295 eP P 00 00 41.8 +1.0
PV01 Paradox Valley 68.76 57 eP P 00 00 41.0 +0.2
H29A Onida 68.78 47 ⇑P P 00 00 40.5 -0.1
baz=68,SNR=6.2
P22A Eagle 68.79 55 ⇓P P 00 00 41.7 +0.7
baz=68
IIGN Ignalina 68.80 330 eP P 00 00 40.1 -0.3
IIGN AMB AMB 00 00 41.2
comp=Z,35nm,0.7s
J27A Elkhorn Farm, 68.83 49 ⇑P P 00 00 41.7 +0.7
baz=68
O23A Lake Granby, G 68.84 54 ⇑P P 00 00 42.3 +0.9
baz=69
MAK Makhachkala 68.87 311 eP P 00 00 41.7 +0.6
MAK e*PP pP 00 00 53.1 -4.3
MAK e*SP sP 00 00 57.9 -6.2
MAK e 00 01 08.2
MAK ePPP PPP 00 04 55.4
MAK S S 00 09 42.2 +1.8
MAK pmax pmax
comp=Z,43nm,0.5s
MAK MLR MLR
comp=Z,3µm,20.0s
WUAZ Wupatki 68.89 60 eP P 00 00 41.6 0.0
comp=Z,7.5nm,0.9s
WUAZ Wupatki 68.89 60 ⇓P P 00 00 42.5 +0.9
baz=69
MICGM Minsk 68.91 329 e P 00 00 40.0 -1.1
MNK Minsk 68.92 329 eP P 00 00 40.0 -1.2
G30A Faulkton 68.95 46 ⇑P P 00 00 41.5 -0.2
baz=69,SNR=9.6
SMCO Snowmass 68.96 55 eP P 00 00 41.8 -0.5
comp=Z,9.5nm,0.8s
NACGM Naroch 68.97 330 e P 00 00 38.0 -3.5
FOO Floro 68.98 344 eP P 00 00 42.2 +0.7
K27A Flueckinger Fa 69.09 50 ⇑P P 00 00 42.9 +0.2
baz=69
J28A Allard Ranch, 69.11 49 ⇓P P 00 00 43.2 +0.5
baz=69,SNR=5.7
POO Poona 69.11 275⇓iP P 00 00 43.5 +0.5
comp=Z,50nm,1.0s
HYA Hoyanger 69.16 343 eP P 00 00 42.7 +0.2
HYA IAmb IAmb 00 00 43.4
comp=Z,115nm,0.9s
I29A Vivian Onida 69.16 48 ⇓P P 00 00 43.4 +0.4
baz=69
ISCO Idaho Springs 69.29 54 eP P 00 00 43.7 -0.5
ISCO pmax pmax
comp=Z,8.0nm,0.9s
ISCO Idaho Springs 69.29 54 eP P 00 00 43.7 -0.5
comp=Z,8.0nm,0.9s
ISCO Idaho Springs 69.29 54 ⇑P P 00 00 45.4 +1.2
baz=69,SNR=7.4
113A Mohawk Valley, 69.29 64 ⇓P P 00 00 45.7 +1.8
baz=69
OSL Oslo 69.30 341 eP P 00 00 44.0 +0.5
OSL IAmb IAmb 00 00 44.4
comp=Z,78nm,0.9s
ITEG Tejag 69.33 296 eP P 00 00 45.6 +1.2
O24A Longmont 69.37 53 ⇓P P 00 00 46.0 +1.5
baz=69
MVCO Mesa Verde 69.44 57 eP P 00 00 44.8 -0.2
comp=Z,12nm,0.9s
MVCO Mesa Verde 69.44 57 ⇓P P 00 00 46.1 +1.0
baz=69
P23A Jefferson 69.46 54 ⇑P P 00 00 45.3 0.0
baz=69
IKOO Kooshah 69.49 296 eP P 00 00 46.2 +0.7
DZM Mont Dzumac 69.53 166 eLR LR 00 21 48.5
comp=Z,662nm,24.4s
DZM Mont Dzumac 69.53 166 P P 00 00 46.2 +0.9
comp=Z,5.1nm,1.0s,baz=52,slow=9.3,SNR=3.4
SUE Sulen 69.54 344 eP P 00 00 45.3 +0.4
BRSD Miller 69.54 46 eP P 00 00 44.2 -1.1
comp=Z,40nm,0.4s
J29A Okreek 69.58 48 ⇑P P 00 00 45.7 +0.1
baz=69,SNR=6.2
X16A Lo Mia Camp, P 69.60 61 ⇓P P 00 00 47.9 +1.8
baz=69,SNR=5.1
GOF Gofitskoye 69.64 315 eP P 00 00 45.5 -0.4
GOF pmax pmax
comp=Z,81nm,0.8s
KAD Karad 69.72 274 eP P 00 00 47.2 +0.4
KONO Kongsberg 69.82 341ceP P 00 00 46.5 -0.2
KONO pmax pmax
comp=Z,639nm,1.7s

KONO MLR MLR
comp=Z,3µm,17.0s
KONO Kongsberg 69.82 341 eP P 00 00 47.1 +0.5
KONO Kongsberg 69.82 341 eP P 00 00 46.5 -0.2
comp=Z,56nm,0.8s
IGLO Ghaloghah 69.83 302 eP P 00 00 48.4 +0.9
ASK Askoy 69.98 344 eP P 00 00 48.3 +0.6
RUND Rundenannen 70.01 343 eP P 00 00 47.4 -0.5
S22A 4UR Ranch, Cre 70.03 56 ⇑P P 00 00 50.4 +1.6
baz=70,SNR=16
BER Bergen 70.05 343 eP P 00 00 48.1 +0.1
K29A Lazy Trails An 70.05 48 ⇑P P 00 00 49.1 +0.6
baz=70,SNR=6.4
J30A Dallas 70.07 48 ⇑P P 00 00 49.2 +0.6
baz=70
Q24A Divide 70.13 54 ⇑P P 00 00 50.2 +0.8
baz=70
W18A Petrified Fore 70.14 60 eP P 00 00 48.3 -1.1
comp=Z,6.3nm,0.8s
ODD1 Odda 70.22 343 eP P 00 00 49.9 +0.7
ODD1 IAmb IAmb 00 00 50.2
comp=Z,79nm,0.8s
O26A Horse Wrangler 70.25 52 ⇓P P 00 00 50.8 +1.0
baz=70
N27A Anderson Farm, 70.27 51 ⇓P P 00 00 50.8 +0.9
baz=70
R23A Moffat 70.29 55 ⇓P P 00 00 51.0 +0.7
baz=70
P25A Willow Gulch B 70.29 53 ⇓P P 00 00 51.3 +1.1
baz=70
X18A Snowflake 70.42 60 ⇓P P 00 00 52.8 +1.7
baz=70
214A Organ Pipe Nat 70.44 64 ⇑P P 00 00 52.9 +1.9
baz=70
OGNE Ogallala 70.44 51 ⇑P P 00 00 51.4 +0.4
baz=70
L29A Maesberg Ranch 70.46 49 ⇑P P 00 00 51.4 +0.3
baz=70
M28A Bar X Bar Ranc 70.47 50 ⇓P P 00 00 51.5 +0.3
baz=70
K30A Basset 70.47 48 ⇑P P 00 00 51.4 +0.3
baz=70
EYMN Ely 70.48 40 eP P 00 00 50.0 -1.0
comp=Z,36nm,1.3s
IANJ Anjilo 70.50 301 eP P 00 00 53.1 +1.5
S23A Nye Farm, Mont 70.53 56 ⇓P P 00 00 52.8 +1.0
baz=70
KIV Kislovodsk 70.61 314 P P 00 00 52.8 +0.8
comp=Z,269nm,0.8s,SNR=22
KIV Kislovodsk 70.61 314 d iP P 00 00 52.8 +0.8
KIV e 00 01 12.0
KIV eS S 00 10 03.0 +1.9
KIV pmax pmax
comp=Z,28nm,0.6s
KIV MLR MLR
comp=Z,1µm,20.0s
KIV Kislovodsk 70.61 314 eP P 00 00 52.0 0.0
comp=Z,106nm,1.5s
KIV Kislovodsk 70.61 314 ⇑iP P 00 00 52.5 +0.6
SNR=34
R24A Sanders Place, 70.66 55 ⇑P P 00 00 53.6 +1.1
baz=70,SNR=7.4
Q25A Bedland, Calha 70.67 54 ⇑P P 00 00 53.4 +0.8
baz=70,SNR=8.2
KBZ Khabaz 70.67 314 P P 00 00 53.2 +1.0
KBZ pmax pmax
comp=Z,23nm,0.6s
KBZ Khabaz 70.67 314 P P 00 00 53.2 +1.0
comp=Z,23nm,0.6s,baz=109,slow=3.2,SNR=104
BLS5 Blasjo 70.70 342 eP P 00 00 52.2 +0.1
BLS5 IAmb IAmb 00 00 53.2
comp=Z,34nm,0.6s
P26A Davis Ranch, A 70.71 53 ⇓P P 00 00 53.3 +0.6
baz=70
SDCO Great Sand Dun 70.78 55 eP P 00 00 53.5 +0.2
comp=Z,42nm,2.2s
ZEI Tsey 70.85 312 eP P 00 00 52.1 -1.5
ZEI pmax pmax
comp=Z,29nm,0.9s
IPRN Peran 70.88 303 eP P 00 00 54.5 +0.7
SUW Suwalki 70.91 331 eP P 00 00 52.7 -0.7
SUW pmax pmax
comp=Z,89nm,1.1s
SUW Suwalki 70.91 331 eP P 00 00 52.8 -0.7
SUW Suwalki 70.91 331 eP P 00 00 52.7 -0.7
comp=Z,89nm,1.1s
S24A Houchin Ranch, 71.02 55 ⇓P P 00 00 55.6 +0.8
baz=71
IFIR Firoozkooh 71.06 302 eP P 00 00 56.9 +1.8
Q26A Hugo 71.06 53 ⇑P P 00 00 55.7 +0.9
baz=71
ILAS Lasjerd 71.12 302 eP P 00 00 56.7 +1.3
SEAG Tbilisi Sea 71.12 311 P P 00 01 00.2 +5.2
KMY Karmoy 71.14 343 eP P 00 00 55.5 +0.8
O28A Krutsinger Ran 71.16 51 ⇑P P 00 00 55.8 +0.4
baz=71
TBLG Delisi 71.18 311 P P 00 00 51.5 -3.8
ECSD EROS Data Cent 71.22 46 eP P 00 00 55.0 -0.6
comp=Z,30nm,1.1s
ECSD EROS Data Cent 71.22 46 eP P 00 00 55.4 -0.1
baz=71,SNR=13
ONI Oni 71.22 313 P P 00 00 56.5 +0.9
L31A Butterfield Fa 71.23 48 ⇑P P 00 00 55.8 +0.2
baz=71,SNR=5.9
V22A San Miguel Ran 71.25 57 ⇓P P 00 00 56.8 +0.6
baz=71
T24B San Luis 71.33 56 ⇑P P 00 00 57.4 +0.7
baz=71
U23A El Rito 71.38 57 ⇑P P 00 00 58.0 +1.1
baz=71,SNR=11
AKASG Malin Array Be 71.43 326 P P 00 00 55.9 -0.7
comp=Z,67nm,0.4s,baz=33,slow=6.3,SNR=287
AKASG LR LR 00 34 30.3
comp=Z,1µm,19.3s,baz=35,slow=38
TUC Tucson 71.44 63 eP P 00 00 56.3 -0.9
TUC pmax pmax
comp=Z,7.0nm,0.9s
TUC Tucson 71.44 63 eP P 00 00 56.3 -0.9
comp=Z,7.3nm,0.9s
KIEV Kiev 71.44 326 eP P 00 00 56.5 -0.2
KIEV pmax pmax
comp=Z,78nm,0.6s
KIEV Kiev 71.44 326 eP P 00 00 56.5 -0.2
comp=Z,78nm,0.6s
S25A Robets Cordova 71.44 55 ⇓P P 00 00 57.6 +0.4
baz=71
AK11 Malin Array Si 71.47 326 eP P 00 00 56.4 -0.5
KSCO Kaye Shedlock' 71.49 53 eP P 00 00 56.6 -0.8
comp=Z,14nm,0.6s
SNART Snartemo 71.53 342 eP P 00 00 57.8 +0.7
SNART IAmb IAmb 00 00 58.2
comp=Z,89nm,0.6s
R26A Arlington 71.54 54 ⇓P P 00 00 58.2 +0.5
baz=71,SNR=9.4
O29A 4D Ranch, Culb 71.68 51 ⇓P P 00 00 58.9 +0.4
baz=71
M31A Lambtecht Ranc 71.76 49 ⇑P P 00 00 58.8 -0.1
baz=72
V23A Ortiz Mt. (NFS 71.79 57 ⇓P P 00 01 00.7 +1.4
baz=72
CHVG Ch'k'valeri 71.82 313 P P 00 00 55.2 -3.9
T25A Trinidad 71.83 55 ⇓P P 00 01 00.4 +0.9
baz=72
R27A Eads 71.91 53 ⇑P P 00 01 00.0 +0.1
baz=72,SNR=5.1
SPMN St. Paul 71.94 43 eP P 00 00 59.1 -0.7
comp=Z,16nm,0.8s
SPMN St. Paul 71.94 43 ⇑P P 00 00 59.9 +0.1
baz=72
AS01 Alice Springs 71.99 198 eP P 00 01 00.6 +0.4
ASAR Alice Springs 72.00 198 P P 00 01 01.2 +0.9
comp=Z,7.4nm,0.6s,baz=12,slow=5.3,SNR=81
ASAR LR LR 00 32 57.6
comp=Z,122nm,19.7s,baz=12,slow=36
IGZV Ghazvin 72.00 304 eP P 00 01 02.0 +1.3
S26A Kim 72.01 54 ⇑P P 00 01 01.2 +0.6
baz=72
O30A MW Ranch, Wils 72.04 50 ⇓P P 00 01 00.7 +0.1
baz=72
AKH Akhalkalaki 72.06 312 P P 00 00 55.6 -5.2
IVRN Varamin 72.11 302 eP P 00 01 02.9 +1.8
BGNE Belgrade 72.14 48 ⇑P P 00 01 01.4 +0.3
baz=72
LAZ Ladron 72.18 59 eP P 00 01 02.1 +0.5
IBAF Bafgh 72.19 297 eP P 00 01 02.4 +0.7
ANMO Albuquerque 72.19 58 eP P 00 01 01.2 -0.6
ANMO pmax pmax
comp=Z,7.0nm,0.9s
ANMO Albuquerque 72.19 58 eP P 00 01 01.2 -0.6
comp=Z,6.5nm,0.9s
W23A Werner Place, 72.22 58 ⇓P P 00 01 03.0 +1.0
baz=72
IMHD Mahdasht 72.24 303 eP P 00 01 03.4 +1.5
T26A Comanche Natio 72.26 55 ⇑P P 00 01 02.5 +0.4
baz=72,SNR=10
GNI Garni 72.32 310 eP P 00 01 05.3 +2.9
GNI Garni 72.32 310 c iP P 00 01 04.4 +2.0
GNI pmax pmax
comp=Z,54nm,1.2s
GNI MLR MLR
comp=Z,1µm,19.0s
GNI Garni 72.32 310 eP P 00 01 03.5 +1.1
comp=Z,33nm,0.9s
GNI Garni 72.32 310 ⇓iP P 00 01 04.1 +1.7
SNR=14
PALK Pallekele 72.33 262 P P 00 01 03.6 +1.0
comp=Z,304nm,0.9s,SNR=6.5
PALK Pallekele 72.33 262 P P 00 01 03.3 +0.7
PALK pmax pmax
comp=Z,75nm,0.8s
PALK Pallekele 72.33 262 P P 00 01 03.3 +0.7
comp=Z,75nm,0.8s,baz=23,slow=4.3,SNR=23
PALK Pallekele 72.33 262 eP P 00 01 01.8 -0.7
comp=Z,43nm,0.8s
PALK Pallekele 72.33 262 ⇑iP P 00 01 03.5 +1.0
SNR=9.3
V24A Rampart Ranch, 72.33 57 ⇓P P 00 01 03.6 +1.0
baz=72
SOC Sochi 72.34 315 c iP P 00 01 01.5 -0.7
SOC e*PP PcP 00 01 24.1 +4.2
SOC ePPP PPP 00 05 20.7
SOC eS S 00 10 15.1 -5.7
SOC eSS SS 00 14 54.7 -4.2
SOC pmax pmax
comp=Z,26nm,0.6s
SOC MLR MLR
comp=Z,1µm,19.0s
U25A Circle Dot Ran 72.35 56 ⇑P P 00 01 03.5 +0.8
baz=72,SNR=6.6
P30A Selden 72.39 51 ⇓P P 00 01 02.7 0.0
baz=72,SNR=5.3
R28A Tribune 72.42 53 ⇑P P 00 01 03.7 +0.8
baz=72
ICHK Chekchek 72.44 298 eP P 00 01 03.8 +0.5
Q29A Oakley 72.47 52 ⇓P P 00 01 03.7 +0.5
baz=72
BSD Bornholm Skovb 72.51 336 ⇓iP P 00 01 03.1 +0.1
comp=Z,56nm,0.8s
comp=Z,620nm,28.0s
ANN Anapa 72.51 317 eP P 00 01 01.0 -2.2
ANN e*PP PcP 00 01 23.5 +2.9
ANN e 00 03 40.7
ANN e 00 10 58.9
ANN eSS SS 00 14 59.6 -1.8
ANN pmax pmax
comp=Z,58nm,1.3s
N32A Stulken Farm, 72.54 49 ⇑P P 00 01 03.9 +0.4
baz=72
X23A Hourglass Bar 72.61 58 ⇑P P 00 01 05.4 +1.1
baz=72
W24A Lazy 6 Ranch, 72.62 57 ⇑P P 00 01 06.3 +2.0
baz=72,SNR=13
V25A Rancho No Teng 72.63 56 ⇓P P 00 01 05.2 +0.9
baz=72
BNM Barren Site 72.65 59 eP P 00 01 02.7 -1.8
COP Copenhagen 72.67 338 iP P 00 01 04.2 +0.3
COP pmax pmax
comp=Z,41nm,0.8s
COP Copenhagen 72.67 338 iP P 00 01 04.2 +0.3
comp=Z,41nm,0.7s
comp=Z,430nm,28.0s
R29A Marienthal 72.72 52 ⇑P P 00 01 05.3 +0.6
baz=72,SNR=5.8
U26A Atchley Ranch, 72.73 55 ⇑P P 00 01 05.5 +0.5
baz=72
MUD Monsted U'grnd 72.80 340 iP P 00 01 05.3 +0.6
MUD pmax pmax
comp=Z,39nm,0.8s
MUD Monsted U'grnd 72.80 340 iP P 00 01 05.3 +0.6
comp=Z,39nm,0.8s
Q30A Quinter 72.82 51 ⇑P P 00 01 05.3 +0.1
baz=72
T27A Campo 72.83 54 ⇑P P 00 01 06.1 +0.6
baz=73
IRAZ Razeghan 72.86 303 eP P 00 01 07.1 +1.3
P31A Stockton 72.87 50 ⇑P P 00 01 05.6 +0.1
baz=73,SNR=7.1
S28A Manter 72.91 53 ⇑P P 00 01 06.5 +0.7
baz=73,SNR=6.6
IMEH Mehriz 72.91 298 eP P 00 01 06.1 -0.1
COWI Conover 72.93 40 eP P 00 01 04.3 -1.5
comp=Z,17nm,0.9s
319A Douglas 73.01 62 ⇑P P 00 01 08.1 +1.5
baz=73
LLD Lille Linde 73.04 338 iP P 00 01 06.5 +0.4
LLD Lille Linde 73.04 338 iP P 00 01 06.5 +0.4
Z22A Elephant Butte 73.08 59 ⇓P P 00 01 07.8 +0.7
baz=73
121A Cookes Peak, D 73.10 61 ⇓P P 00 01 08.0 +0.8
baz=73
ISAD Sadrabad 73.11 299 eP P 00 01 07.4 0.0
T28A Walsh 73.12 54 ⇑P P 00 01 07.6 +0.5
baz=73
V26A Tequesquite Ra 73.13 56 ⇓P P 00 01 07.5 +0.3
baz=73
Y23A Lovelace Mesa, 73.14 58 ⇑P P 00 01 08.9 +1.4
baz=73,SNR=10
QAM Ghamsar 73.15 301 eP P 00 01 08.5 +1.0
W25A X Bar L Ranch, 73.16 56 ⇑P P 00 01 08.7 +1.3
baz=73,SNR=11
P32A Huiting Farm, 73.21 50 ⇓P P 00 01 07.3 -0.2
baz=73
U27A Thompson Grove 73.23 55 ⇓P P 00 01 08.4 +0.6
baz=73
R30A Dighton 73.29 52 ⇓P P 00 01 08.2 +0.2
baz=73,SNR=5.2
S29A Ulysses 73.31 53 ⇓P P 00 01 09.0 +0.8
baz=73
GKP Gorka Klasztor 73.43 334 eP P 00 01 08.6 +0.1
GKP Gorka Klasztor 73.43 334 eP P 00 01 08.6 +0.1
CLDR Caldiran 73.49 310 eP P 00 01 12.1 +2.6
Y24A Capitan 73.51 58 ⇓P P 00 01 11.0 +1.4
baz=73,SNR=13
BEL Belsk 73.53 331 eP P 00 01 09.9 +0.8
BEL Belsk 73.53 331 eP P 00 01 09.8 +0.7
X25A Clemmons Ranch 73.53 57 ⇓P P 00 01 11.1 +1.4
baz=73
MLA1 Latheron 73.53 347 eP P 00 01 09.3 +0.2
SCHQ Schefferville 73.54 23 P P 00 01 08.4 -0.8
comp=Z,5.4nm,0.5s,baz=324,slow=5.0,SNR=20
SCHQ LR LR 00 37 41.5
comp=Z,228nm,19.0s,baz=342,slow=39
SCHQ Schefferville 73.54 23 eP P 00 01 08.9 -0.3
comp=Z,331nm,2.8s
T29A Hugoton 73.55 53 ⇓P P 00 01 10.5 +0.8
baz=73
S30A Montezuma 73.66 52 ⇑P P 00 01 10.3 0.0
baz=73
AGRB Hanur-Agry 73.66 311 eP P 00 01 10.5 +0.1
Q32A Meitler Ranch, 73.69 50 ⇑P P 00 01 10.4 0.0
baz=73
V27A Dan Oppiter Fa 73.70 55 ⇓P P 00 01 11.1 +0.5
baz=73
MBWA Marble Bar 73.74 212 eP P 00 01 10.6 0.0
comp=Z,181nm,2.6s
SORM Soroca 73.83 325 ⇑iP P 00 01 11.2 +0.3
SIM Simferopol' 73.91 319 eP P 00 01 12.0 +0.5
SIM pmax pmax
comp=Z,22nm,0.7s
SIM MLR MLR
comp=Z,530nm,16.0s
Y25A Mesa, Roswell 73.95 58 ⇓P P 00 01 12.9 +0.9
baz=74
Z24A Sheeppen Canyo 73.98 58 ⇓P P 00 01 13.5 +1.1
baz=74,SNR=5.1
X26A CR and CF Fran 74.01 57 ⇑P P 00 01 13.2 +0.8
baz=74
Q33A Connelly Farm, 74.07 50 ⇓P P 00 01 12.3 -0.3
baz=74,SNR=9.1
LVV L'vov 74.09 328 eP P 00 01 12.0 -0.5
VANB Van 74.17 310 eP P 00 01 15.5 +2.2
S31A Mullinville 74.20 52 ⇑P P 00 01 13.3 -0.1
baz=74
MCD Coleburn Disti 74.21 347 eP P 00 01 12.8 -0.1
SCIA State Center 74.24 45 eP P 00 01 13.2 -0.3
comp=Z,48nm,0.7s
EZM Erzurum 74.26 312 eP P 00 01 16.7 +2.8
Z25A Roswell 74.39 58 ⇓P P 00 01 15.5 +0.8
baz=74
W28A Vega 74.41 55 ⇓P P 00 01 15.5 +0.8
baz=74
MME1 Meikle Cairn 74.42 347 eP P 00 01 13.8 -0.5
S32A Newby Ranch, P 74.44 51 ⇓P P 00 01 14.8 0.0
baz=74
Y26A Elida 74.45 57 ⇓P P 00 01 15.8 +0.8
baz=74
IBND Bandar-abas 74.47 293 eP P 00 01 14.8 -0.2
IBND eP P 00 01 15.0 0.0
R33A Olander Ranch, 74.50 50 ⇑P P 00 01 14.8 -0.3
baz=74
BAYT Ayd¯–ntepe-Bay 74.52 313 eP P 00 01 14.5 -0.8
MDO Dochfour 74.52 347 eP P 00 01 14.6 -0.2
KIS Kishinev 74.56 324 ⇓iP P 00 01 16.0 +0.8
KIS e 00 01 25.0
KIS MLR MLR
comp=Z,1µm,17.0s
KIS MLR MLR
comp=E,600nm,16.0s
KIS Kishinev 74.56 324 ⇑iP P 00 01 15.4 +0.2
KIS Kishinev 74.56 324 ⇓iP P 00 01 16.0 +0.8
KIS eL L 00 27 38.0
KIS LRM MLR 00 37 00.0
comp=E,1µm,17.0s
KAC Achnashellach 74.60 348 eP P 00 01 14.6 -0.6
KSU1 Kansas State U 74.64 49 eP P 00 01 15.2 -0.5
comp=E,15nm,0.8s
KSU1 Kansas State U 74.64 49 ⇓P P 00 01 15.3 -0.5
baz=74
KWP Kalwaria Pacla 74.73 329 eP P 00 01 16.7 +0.6
KWP pmax pmax
comp=Z,169nm,1.0s
KWP Kalwaria Pacla 74.73 329 eP P 00 01 16.5 +0.3
KWP Kalwaria Pacla 74.73 329 ⇑iP P 00 01 16.5 +0.3
KWP Kalwaria Pacla 74.73 329 eP P 00 01 16.7 +0.6
comp=Z,169nm,1.0s
BSEG Bad Segeberg 74.79 338 eP P 00 01 16.5 +0.1
comp=Z,53nm,1.0s
GUMT Gumushane 74.80 313 eP P 00 01 19.3 +2.4
Z26A Caprock 74.83 58 ⇓P P 00 01 18.0 +0.9
baz=75
T32A Huddler Ranch, 74.83 52 ⇓P P 00 01 16.8 -0.2
baz=74
Y27A Causey 74.86 57 ⇑P P 00 01 18.1 +0.8
baz=75,SNR=10.0
JFWS Jewell Farm 74.89 43 eP P 00 01 16.3 -0.9
JFWS pmax pmax
comp=Z,33nm,1.6s
JFWS Jewell Farm 74.89 43 eP P 00 01 16.3 -0.9
comp=Z,33nm,1.6s
V30A Spur Ranch, Mi 74.90 54 ⇑P P 00 01 17.9 +0.4
baz=75
KSB Sheil Bridge 74.90 348 eP P 00 01 16.8 -0.2
IAS Iasi 74.91 325 ⇑iP P 00 01 17.6 +0.4
IPAR Pars 74.95 297 eP P 00 01 19.6 +1.4
AMTX Amarillo 74.98 55 eP P 00 01 17.7 -0.3
comp=Z,21nm,0.8s
AMTX Amarillo 74.98 55 ⇑P P 00 01 19.1 +1.1
baz=75
MSTX Muleshoe 75.02 56 eP P 00 01 17.4 -0.8
comp=Z,16nm,1.0s
CUKT Cukurca 75.05 309 eP P 00 01 19.6 +1.2
MNTX Cornudas Mount 75.13 60 eP P 00 01 19.2 +0.4
comp=Z,42nm,2.3s
RUE Ruedersdorf 75.15 335 eP P 00 01 18.2 -0.2
comp=Z,124nm,1.1s
RUE Ruedersdorf 75.15 335 eP P 00 01 18.3 -0.1
comp=Z,100nm,1.0s
225A Deer Hill, Car 75.17 59 ⇓P P 00 01 20.2 +1.0
baz=75
HLG Helgoland 75.17 339 eP P 00 01 18.8 +0.2
comp=Z,187nm,1.0s
LEOM Leova 75.21 324 ⇓iP P 00 01 19.9 +0.9
OJC Ojcow 75.24 331 eP P 00 01 19.0 -0.1
OJC pmax pmax
comp=Z,58nm,0.6s
OJC Ojcow 75.24 331 iP P 00 01 17.9 -1.2
OJC Ojcow 75.24 331 eP P 00 01 18.9 -0.1
comp=Z,58nm,0.6s
ISRV Sarvestan 75.24 297 eP P 00 01 20.1 +0.2
Z27A Tatum 75.24 57 ⇑P P 00 01 20.7 +1.2
baz=75,SNR=18
X29A Tulia 75.29 55 ⇑P P 00 01 20.7 +0.9
baz=75,SNR=8.0
BNGB Bing¨¶l 75.30 312 eP P 00 01 21.5 +1.7
V31A Spring Creek L 75.36 53 ⇓P P 00 01 21.0 +0.9
baz=75
GDL2 Guadalupe Moun 75.37 59 eP P 00 01 18.9 -1.4
U32A Winter Ranch, 75.38 52 ⇓P P 00 01 20.9 +0.7
baz=75
IDHR Dehrash 75.38 305 eP P 00 01 21.0 +0.6
BUR04 Bucovina Ar. S 75.47 326 eP P 00 01 20.8 +0.1
BURAR Bucovina Array 75.47 326 ⇑iP P 00 01 20.9 +0.3
SIRT Sirnak 75.48 310 eP P 00 01 20.1 -0.8
SVAN Silvan-Diyarba 75.65 311 eP P 00 01 21.6 -0.2
BANOM Banah 75.69 293 P P 00 01 22.6 +0.5
SNR=92
BANOM Banah 75.69 293 P P 00 01 23.0 +0.9
SNR=25
ESY Stoneypath 75.70 346 eP P 00 01 21.5 -0.1
EAB Aberfoyle 75.72 347 eP P 00 01 21.7 0.0
Y29A Porterfield Fa 75.73 56 ⇓P P 00 01 23.3 +1.0
baz=76
IKAZ Kazeroun 75.73 298 eP P 00 01 24.0 +1.4
W31A Holland Ranch, 75.73 54 ⇑P P 00 01 23.2 +1.0
baz=76
NIE Niedzica 75.74 330 ⇑iP P 00 01 22.0 0.0
NIE Niedzica 75.74 330 iP P 00 01 22.0 0.0
X30A Coker Ranch, T 75.75 55 ⇑P P 00 01 23.2 +0.8
baz=76
U33A Lingo Farm, Me 75.82 52 ⇓P P 00 01 23.1 +0.5
baz=76
TESR Tescani 75.82 325 ⇓iP P 00 01 22.8 +0.3
KSP Ksiaz 75.83 333 ⇑eP P 00 01 22.2 -0.3
KSP MLR MLR
comp=Z,8µm,20.7s
KSP Ksiaz 75.83 333 eP P 00 01 22.4 -0.1
V32A Arapaho 75.84 53 ⇑P P 00 01 23.9 +1.1
baz=76
RAC Raciborz 75.88 332 eP P 00 01 22.3 -0.5
RAC MLR MLR
comp=Z,1µm,18.6s
RSDY Resadiye-TOKAT 75.92 315 eP P 00 01 23.6 +0.4
KVT Kavak 76.01 316 eP P 00 01 23.6 -0.2
TLCR 76.02 323 ⇑iP P 00 01 24.6 +1.0
GIUM Giurgiulesti 76.03 323 ⇓iP P 00 01 24.7 +1.1
PTK Pertek 76.03 312 eP P 00 01 26.6 +2.5
TRPA Tarpa 76.05 328 ⇑iP P 00 01 25.1 +1.4
TRPA Tarpa 76.05 328 ⇑eP P 00 01 24.0 +0.3
BMR Baia Mare 76.08 327 ⇑iP P 00 01 25.0 +1.1
PGBU Gleniffebraes 76.11 347 eP P 00 01 24.0 +0.1
PGBU AMB AMB 00 01 26.9
comp=Z,100nm,1.7s
OKC Ostrava-Krasne 76.11 332 iP P 00 01 24.5 +0.4
OKC MLR MLR
comp=Z,800nm,18.9s
OKC Ostrava-Krasne 76.11 332 ⇑iP P 00 01 24.5 +0.4
OKC AMS AMS 00 39 10.0
comp=Z,800nm,18.9s
X31A McDonald Ranch 76.12 54 ⇓P P 00 01 25.2 +0.8
baz=76
U34A Anderson Ranch 76.13 51 eP P 00 01 23.9 -0.5
comp=Z,22nm,1.0s
U34A Anderson Ranch 76.13 51 ⇓P P 00 01 25.0 +0.6
baz=76
NRDL Niedersach Rie 76.15 337 eP P 00 01 24.0 -0.1
comp=Z,54nm,1.0s
Z29A Hungry Hill Ra 76.15 56 ⇑P P 00 01 25.6 +0.9
baz=76,SNR=6.1
Y30A Stafford Cattl 76.16 55 ⇓P P 00 01 25.9 +1.2
baz=76
128A Castleberry Fa 76.16 57 ⇑P P 00 01 25.9 +1.1
baz=76
V33A Lossen Ranch, 76.18 52 ⇓P P 00 01 25.1 +0.4
baz=76
UPC Upice 76.21 333 iP P 00 01 25.1 +0.5
UPC Upice 76.21 333 ⇑iP P 00 01 25.1 +0.5
PETR Petresti 76.23 324 ⇑iP P 00 01 26.9 +2.1
DPC Dobruska-Polom 76.25 333 eP P 00 01 25.3 +0.3

DPC pmax pmax
comp=Z,285nm,1.0s
DPC Dobruska-Polom 76.25 333⇑iP P 00 01 25.2 +0.3
DPC ex x 00 01 32.1
DPC AMS AMS 00 39 10.0
DPC Dobruska-Polom 76.25 333 eP P 00 01 25.3 +0.3
comp=Z,285nm,1.0s
WBK Wadi Bani Khal 76.30 288 P P 00 01 27.6 +2.0
SNR=14
WBK Wadi Bani Khal 76.30 288 P P 00 01 27.7 +2.1
SNR=13
CFR Carcaliu 76.31 323⇓iP P 00 01 25.8 +0.6
VRI Vrincioaia 76.32 324⇓iP P 00 01 26.1 +0.8
KRLC Kraliky 76.35 332 i P P 00 01 25.4 -0.1
KRLC Kraliky 76.35 332⇑iP P 00 01 25.4 -0.1
MORC Moravsky Berou 76.36 332 eP P 00 01 25.8 +0.3
MORC pmax pmax
comp=Z,68nm,0.9s
MORC Moravsky Berou 76.36 332⇑iP P 00 01 26.1 +0.5
MORC Moravsky Berou 76.36 332 eP P 00 01 25.8 +0.3
comp=Z,68nm,0.9s
PLOR Plostina 76.36 324⇑iP P 00 01 26.8 +1.2
ESK Eskdalemuir 76.38 346 P P 00 01 26.4 +0.9
comp=Z,172nm,0.6s,SNR=8.6
ESK Eskdalemuir 76.38 346 eP P 00 01 25.9 +0.5
ESK pmax pmax
comp=Z,71nm,1.3s
ESK Eskdalemuir 76.38 346 eP P 00 01 25.9 +0.5
comp=Z,71nm,1.3s
CLL Collm 76.41 335⇑iP P 00 01 25.2 -0.5
CLL eS S 00 11 08.0 +2.0
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL MLR MLR
comp=Z,600nm,18.2s
CLL Collm 76.41 335 eP P 00 01 25.1 -0.6
comp=Z,112nm,0.9s
CLL Collm 76.41 335⇑iP P 00 01 25.2 -0.5
comp=Z,111nm,0.9s
CLL eS S 00 11 08.0 +2.0
CLL ePS PnS 00 12 12.0 +22
CLL e(SS) 00 16 48.0
CLL e 00 20 36.0
CLL LmV 00 41 00.0
comp=Z,600nm,18.2s
CLL Collm 76.41 335 eP P 00 01 25.4 -0.4
comp=Z,107nm,0.7s
CLL Collm 76.41 335 eP P 00 01 25.2 -0.5
UOSS Wadi Hilu 76.44 292 P P 00 01 26.5 +0.1
comp=Z,914nm,0.8s,SNR=37
SVSK Karacayir 76.44 314 eP P 00 01 26.6 +0.5
Y31A Rekieta Farm, 76.45 55 ⇓P P 00 01 27.2 +0.8
baz=76
Z30A Sanderson Ranc 76.46 56 ⇓P P 00 01 27.4 +1.0
baz=76,SNR=8.5
228A UT Block 9, Go 76.47 58 ⇑P P 00 01 27.7 +1.2
baz=76
BRG Berggiesshubel 76.52 335 eP P 00 01 25.9 -0.5
comp=Z,37nm,1.1s
MAZI Mazidag 76.57 311 eP P 00 01 28.3 +1.3
HATD Hatta, Dubai 76.57 292⇑iP P 00 01 27.6 +0.5
SNR=102
SMDO Samad 76.58 289 P P 00 01 28.5 +1.2
SNR=14
SMDO Samad 76.58 289 P P 00 01 28.7 +1.4
SNR=15
V34A Guthrie 76.58 52 eP P 00 01 26.9 -0.1
comp=Z,28nm,1.1s
V34A Guthrie 76.58 52 ⇓P P 00 01 27.4 +0.3
baz=76
GRER 76.62 324⇓iP P 00 01 29.0 +2.0
FBE Freiberg 76.65 335 eP P 00 01 26.9 -0.2
comp=Z,75nm,1.0s
X32A Elmer 76.66 54 ⇑P P 00 01 28.1 +0.6
baz=76
CLZ Clausthal 76.66 337 eP P 00 01 27.5 +0.3
comp=Z,124nm,1.1s
HOQ Hoqain 76.69 290 P P 00 01 28.8 +1.0
SNR=29
HOQ Hoqain 76.69 290 P P 00 01 28.5 +0.7
SNR=39
ARMA Armidale 76.71 181 eP P 00 01 27.8 +0.2
comp=Z,143nm,2.1s
ASHO Ashiyiah 76.72 292 P P 00 01 28.7 +0.7
SNR=39
NAZ Nazwa, Dubai 76.76 292 i P P 00 01 28.5 +0.4
SNR=44
DOPR Dopca 76.77 325⇑iP P 00 01 29.0 +1.1
TIRR Tirgusor 76.78 323 eP P 00 01 27.0 -0.9
TIRR pmax pmax
comp=Z,30nm,0.9s
TIRR Tirgusor 76.78 323⇑iP P 00 01 28.4 +0.5
TIRR Tirgusor 76.78 323 eP P 00 01 27.0 -0.9
comp=Z,30nm,0.9s
HARR Harsova 76.79 323⇑iP P 00 01 29.1 +1.1
CJR Cluj-Napoca 76.84 327⇓iP P 00 01 29.4 +1.1
Y32A R-V Farms, Ver 76.88 54 ⇓P P 00 01 29.7 +0.9
baz=77
W34A Bridge Creek, 76.89 52 eP P 00 01 26.9 -1.8
comp=Z,16nm,1.0s
IBBN Ibbenburen 76.92 339 eP P 00 01 28.5 -0.1
comp=Z,91nm,1.0s
MLR Muntele Rosu 76.94 325⇑iP P 00 01 29.3 +0.3
MALT Malatya 76.96 313 eP P 00 01 31.4 +2.2
MALT Malatya 76.96 313⇑iP P 00 01 31.4 +2.2
FAQ Al Faqa, Dubai 76.97 292 i P P 00 01 29.5 +0.2
SNR=61
EFOR EFORIE 76.99 322⇑iP P 00 01 30.2 +1.1
Z31A Sharp Cattle R 76.99 55 ⇓P P 00 01 30.1 +0.7
baz=77,SNR=5.6
PGOR Pogoanele 77.00 324⇑iP P 00 01 30.8 +1.7
X33A Lawton 77.01 53 ⇑P P 00 01 30.3 +0.9
baz=77
MDB Medias 77.02 326⇑iP P 00 01 30.6 +1.3
229A Bryant Ranch, 77.03 57 ⇑P P 00 01 30.7 +1.1
baz=77
JMDO Jabal Madar 77.03 289 P P 00 01 30.9 +1.1
SNR=26
KESW Keswick, Cumbr 77.06 346 eP P 00 01 29.6 +0.3
VRAC Vranov 77.08 332⇑iP P 00 01 30.0 +0.5
AMRR Amara 77.10 323⇑iP P 00 01 31.3 +1.6
DRGR 77.11 327⇑iP P 00 01 30.7 +0.9
PRU Pruhonice 77.12 334 i P P 00 01 29.9 +0.1
PRU e 00 01 34.8
PRU MLR MLR
comp=Z,900nm,14.9s
PRU Pruhonice 77.12 334⇑iP P 00 01 29.9 +0.1
PRU ex x 00 01 34.8
PRU AMS AMS 00 39 00.0
comp=Z,900nm,14.9s
PSZ Piszkesteto 77.17 330 eP P 00 01 30.8 +0.6
PSZ pmax pmax
comp=Z,71nm,1.1s
PSZ Piszkesteto 77.17 330⇑iP P 00 01 30.8 +0.6
PSZ Piszkesteto 77.17 330 eP P 00 01 30.8 +0.6
comp=Z,71nm,1.1s
PSZ Piszkesteto 77.17 330⇑eP P 00 01 30.6 +0.4
MANR Mangalia 77.22 322⇑iP P 00 01 31.6 +1.2
ASUD Al Ashush, Dub 77.23 292⇑iP P 00 01 31.5 +0.7
SNR=39
DARE Darende-Malaty 77.24 313 eP P 00 01 32.6 +1.8
SECR 77.27 324⇑iP P 00 01 31.8 +1.1
329A Wagon Wheel Ra 77.28 58 ⇓P P 00 01 32.4 +1.3
baz=77
MSAB Monastry St. A 77.32 323⇑iP P 00 01 32.3 +1.3
131A Roby 77.33 56 ⇑P P 00 01 32.2 +0.9
baz=77
X34A Smith Ranch, M 77.33 53 ⇑P P 00 01 31.8 +0.6
baz=77
Y33A Hilltop Ranch, 77.33 54 ⇑P P 00 01 32.0 +0.8
baz=77
VOIR 77.34 325⇑iP P 00 01 32.7 +1.5
TANN Tannenbergstha 77.36 335 eP P 00 01 31.1 -0.1
comp=Z,34nm,1.1s
ARQ Araqi 77.38 291 P P 00 01 33.0 +1.3
SNR=20
WERD Werda 77.38 335 eP P 00 01 31.0 -0.2
comp=Z,52nm,1.2s
Z32A Haskell 77.38 55 ⇓P P 00 01 32.4 +0.9
baz=77
PLAR PLOIESTI 77.38 324⇑iP P 00 01 32.1 +0.8
CORM Corum 77.39 316 eP P 00 01 33.4 +1.8
MOX Moxa 77.40 336 eP P 00 01 31.2 -0.1
comp=Z,69nm,1.1s
MOX eL L 00 38 12.5
comp=Z,469nm,20.1s
HPK Haverah Park 77.40 345 eP P 00 01 31.6 +0.4
HPK AMB AMB 00 01 32.7
comp=Z,117nm,1.4s
URFA Urfa 77.42 312 eP P 00 01 33.7 +2.0
TREC Trest 77.44 333 i P P 00 01 31.5 -0.1
TREC MLR MLR
comp=Z,1μm,18.8s
TREC Trest 77.44 333⇑iP P 00 01 31.5 -0.1
TREC AMS AMS 00 40 40.0
comp=Z,1μm,18.8s
TUL1 Tulsa 77.45 51 eP P 00 01 31.6 -0.2
comp=Z,95nm,2.0s
TUL1 Tulsa 77.45 51 ⇑P P 00 01 32.4 +0.5
baz=77
SAFT Safranbolu 77.47 318 eP P 00 01 33.5 +1.6
WTSB Winterswijk 77.47 339 eP P 00 01 31.6 0.0
comp=Z,78nm,0.7s
SULR 77.49 324⇑iP P 00 01 33.0 +1.1
230A Sterling City 77.49 57 ⇑P P 00 01 33.3 +1.0
baz=77
WERN Wernitzgruen 77.50 335 eP P 00 01 31.9 0.0
comp=Z,61nm,0.9s
PSN Preselentsi 77.50 322⇑iP P 00 01 33.7 +1.7
MTUR Matau 77.51 325⇑iP P 00 01 33.1 +1.0
CANT Cankiri 77.53 317 eP P 00 01 33.9 +1.6
ARR Arges 77.56 325⇑iP P 00 01 34.3 +1.9
UBBA Unterbreizbach 77.69 337 eP P 00 01 32.8 0.0
comp=Z,115nm,1.8s
ABTX Abilene, Hawle 77.79 55 eP P 00 01 32.7 -1.1
comp=Z,8.9nm,0.8s
ABTX Abilene, Hawle 77.79 55 ⇓P P 00 01 34.5 +0.7
baz=78
DEV Deva 77.80 327⇑iP P 00 01 34.6 +1.0
330A Mertzon 77.81 57 ⇑P P 00 01 34.8 +0.8
baz=78
LOT Lotru 77.83 326⇑iP P 00 01 34.5 +0.5
BNN Bunyan 77.83 314 eP P 00 01 35.4 +1.3
BUG Bochum--Univer 77.84 339 eP P 00 01 33.6 -0.1
comp=Z,115nm,1.1s
LHO Holmfirth 77.84 345 eP P 00 01 33.7 -0.1
BUD Budapest 77.84 330⇑eP P 00 01 34.3 +0.5
MANZ Manzenberg 77.85 335 eP P 00 01 33.7 -0.2
comp=Z,43nm,1.0s
Y34A Reagan Ranch, 77.85 53 ⇑P P 00 01 34.6 +0.5
baz=78
TX31 Lajitas Ar. Si 77.85 60 eP P 00 01 33.9 -0.5
TXAR Lajitas Array 77.86 60 P P 00 01 34.7 +0.3
TXAR *PP pP 00 01 49.5 -1.4
TXAR pmax pmax
comp=Z,12nm,0.8s
TXAR Lajitas Array 77.86 60 P P 00 01 34.7 +0.3
comp=Z,12nm,0.8s,baz=297,slow=4.6,SNR=84
TXAR pP pP 00 01 49.5 -1.4
comp=Z,8.4nm,0.5s,baz=300,slow=4.4,SNR=12
231A Bronte 77.91 56 ⇓P P 00 01 35.2 +0.6
baz=78
429A Davenport Ranc 77.96 58 ⇑P P 00 01 35.7 +0.8
baz=78
ROTZ Rotzenmuhle 78.01 335 eP P 00 01 35.1 +0.3
comp=Z,64nm,1.0s
KBI1 Birley Grange 78.06 344 eP P 00 01 35.0 +0.1
529A Stev Forest Ra 78.14 59 ⇑P P 00 01 37.1 +1.2
baz=78
PKSG 78.14 330⇓eP P 00 01 36.5 +1.0
KHC Kasperske Hory 78.17 334 eP P 00 01 36.0 +0.3
KHC pmax pmax
comp=Z,75nm,0.9s
KHC Kasperske Hory 78.17 334⇑iP P 00 01 35.9 +0.3
KHC ex x 00 01 40.3
KHC AMS AMS 00 39 40.0
comp=Z,1μm,16.5s
KHC Kasperske Hory 78.17 334 eP P 00 01 36.0 +0.3
comp=Z,74nm,0.9s
KHC Kasperske Hory 78.17 334 eP P 00 01 36.0 +0.3
Z34A Collier Ranch, 78.20 54 ⇓P P 00 01 37.0 +0.9
baz=78
133A Hamilton Ranch 78.21 55 ⇓P P 00 01 36.9 +0.8
baz=78
CSKK Csˆ‡kako 78.21 330⇓eP P 00 01 36.8 +0.9
SLM Saint Louis 78.21 45 eP P 00 01 34.6 -1.4
SLM pmax pmax
comp=Z,26nm,1.0s
SLM Saint Louis 78.21 45 eP P 00 01 34.6 -1.4
comp=Z,26nm,1.0s
BRTR Keskin Array B 78.22 316 P P 00 01 37.2 +0.9
BRTR 00 04 33.8
BRTR pmax pmax
comp=Z,36nm,0.9s
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 78.22 316 P P 00 01 37.1 +0.9
comp=Z,36nm,0.9s,baz=77,slow=4.0,SNR=178
BRTR PP PP 00 04 33.8 +0.8
comp=Z,2.4nm,0.9s,baz=84,slow=4.3,SNR=3.3
NEF NEVSHA 78.22 322 P P 00 01 36.8 +0.8
PRD Provadia 78.22 322 P P 00 01 36.8 +0.8
430A Baggett Ranch, 78.23 58 ⇑P P 00 01 37.5 +1.1
baz=78
GZR Gura Zlata 78.26 326⇑iP P 00 01 36.6 +0.3
331A San Angelo 78.31 57 ⇓P P 00 01 37.6 +0.8
baz=78
232A Coleman 78.33 56 ⇓P P 00 01 37.9 +1.1
baz=78,SNR=7.1
KMRS Kahramanmaras 78.35 313 eP P 00 01 36.6 -0.3
GRF Grafenberg Arr 78.37 336 eP P 00 01 37.1 +0.4
comp=Z,129nm,0.9s
GRF eL L 00 42 33.8
comp=Z,430nm,20.3s
WET Wettzell 78.37 334 eP P 00 01 37.1 +0.3
comp=Z,83nm,1.0s
PKST Tˆ's 78.38 330⇓eP P 00 01 37.5 +0.7
GEC2 GERESS Array S 78.39 334 eP P 00 01 36.8 -0.2
comp=Z,42nm,1.1s
GERES GERESS Array B 78.39 334 P P 00 01 37.2 +0.2
GERES pmax pmax
comp=Z,25nm,0.8s
GERES MLR MLR
comp=Z,1μm,18.3s
GERES GERESS Array B 78.39 334 P P 00 01 37.2 +0.2
comp=Z,25nm,0.8s,baz=33,slow=5.6,SNR=181
GERES LR LR 00 40 10.0
comp=Z,1μm,18.3s,baz=41,slow=39
LOD Lodumlu 78.50 317 eP P 00 01 38.6 +0.9
ANTO Ankara 78.50 317 eP P 00 01 38.6 +0.9
ANTO Ankara 78.50 317 eP P 00 01 38.2 +0.5
ANTO pmax pmax
comp=Z,65nm,0.6s
ANTO Ankara 78.50 317⇑iP P 00 01 39.3 +1.6
ANTO Ankara 78.50 317 eP P 00 01 38.2 +0.5
comp=Z,65nm,0.6s
SOP Sopron 78.50 331⇑eP P 00 01 38.2 +0.7
BZS Buzias 78.51 327⇑iP P 00 01 38.2 +0.7
CONA Conrad Observa 78.52 332 i P P 00 01 38.2 +0.6
comp=Z,62nm,0.7s,SNR=35
TIM Timisoara 78.55 328⇑iP P 00 01 38.3 +0.5
Z35A Perchaven, San 78.60 53 ⇑P P 00 01 38.8 +0.5
baz=78
530A J-C Ranch, Com 78.64 58 ⇑P P 00 01 39.7 +1.1
baz=78
TNS Taunus Mts 78.65 337 eP P 00 01 38.3 0.0
comp=Z,73nm,0.8s
332A Millersview 78.65 56 ⇓P P 00 01 39.3 +0.6
baz=78
233A Rising Star 78.66 55 ⇓P P 00 01 39.4 +0.8
baz=78
431A Sonora 78.67 57 ⇓P P 00 01 39.6 +0.8
baz=78
FOEL Foel Wylfa 78.70 345 eP P 00 01 38.5 0.0
FOEL AMB AMB 00 01 39.3
comp=Z,57nm,2.0s
AFSR Af¯ar-Bala (A 78.71 317 eP P 00 01 39.1 +0.2
SRE Strehaia 78.71 326⇓iP P 00 01 40.7 +2.0
MDUB Mudurnu 78.76 318 eP P 00 01 40.0 +0.8
SZH Strazhica 78.78 323 P P 00 01 38.9 -0.2
STKA Stephens Creek 78.79 190 P P 00 01 40.0 +1.0
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 78.79 190 P P 00 01 40.0 +1.0
comp=Z,2.6nm,0.8s,baz=321,slow=9.0,SNR=4.7
STKA LR LR 00 34 26.0
comp=Z,167nm,21.8s,baz=21,slow=34
HGN Heimansgroeve 78.79 339 eP P 00 01 38.0 -1.0
comp=Z,127nm,1.1s
BEBN Eben Emael 78.82 339 P P 00 01 39.4 +0.2
comp=Z,38nm,1.1s
PKS9 Tamasi 78.88 330⇓eP P 00 01 39.6 +0.1
DSB Dublin 78.88 347 eP P 00 01 38.4 -1.0
comp=Z,88nm,1.5s
BANR Banloc 78.89 327⇑iP P 00 01 40.7 +1.1
KOZT Kozan 78.91 314 eP P 00 01 41.0 +1.1
MEM Membach 78.92 339 P P 00 01 39.7 0.0
comp=Z,81nm,1.2s
MEM Membach 78.92 339 eP P 00 01 39.4 -0.3
MEM pmax pmax
comp=Z,113nm,0.9s
MEM Membach 78.92 339 eP P 00 01 39.4 -0.3
comp=Z,113nm,0.9s
SILT Sile 78.92 320 eP P 00 01 40.7 +0.8
432A Menard 79.00 57 ⇓P P 00 01 41.2 +0.7
baz=79
SPNC Sapanca-Adapaz 79.00 319 eP P 00 01 39.6 -0.7
NIG Nigde 79.02 315 eP P 00 01 40.1 -0.7
PVL Pavlikeni 79.07 324 P P 00 01 40.9 +0.3
PKSM Moragy 79.07 329⇑iP P 00 01 40.1 -0.5
PKSM Moragy 79.07 329⇑eP P 00 01 39.9 -0.7
531A Rocksprings 79.09 58 ⇓P P 00 01 42.2 +1.2
baz=79,SNR=7.8
MOA Molln 79.10 333⇑iP P 00 01 40.7 -0.1
comp=Z,46nm,0.9s,SNR=18
234A Clairette 79.10 55 ⇑P P 00 01 41.9 +0.9
baz=79
KLYT Kilyos 79.10 320 eP P 00 01 40.1 -0.7
GULT Gulveren 79.11 319 eP P 00 01 40.6 -0.4
333A Richland Sprin 79.13 56 ⇓P P 00 01 42.1 +0.9
baz=79
OLIL Olney 79.17 44 eP P 00 01 40.6 -0.7
comp=Z,16nm,0.7s
JMB Yambol 79.17 322 P P 00 01 38.0 -3.2
JMB Yambol 79.17 322 P P 00 01 38.4 -2.8
JMB Yambol 79.17 322⇓iP P 00 01 38.8 -2.4
ARSA Arzberg 79.22 332⇑iP P 00 01 41.3 -0.1
comp=Z,46nm,1.1s,SNR=21
ISK Istanbul-Kandi 79.25 320 eP P 00 01 41.6 0.0
CTYL Yal??k??y-??at 79.25 321 eP P 00 01 40.1 -1.5
BCLA Clavier 79.26 339 P P 00 01 41.5 -0.1
comp=Z,52nm,1.2s
BGKT Bogazkoy 79.28 320 eP P 00 01 42.3 +0.5
JCT Junction City 79.28 57 eP P 00 01 41.4 -0.8
JCT pmax pmax
comp=Z,17nm,1.1s
JCT Junction City 79.28 57 eP P 00 01 41.4 -0.8
comp=Z,17nm,1.1s
JCT Junction City 79.28 57 ⇓P P 00 01 43.1 +1.0
baz=79
CEYT Ceyhan 79.31 313 eP P 00 01 43.8 +1.7
CTKS Kestanelik-??a 79.35 321 eP P 00 01 42.1 -0.1
SNF Seneffe 79.42 340 P P 00 01 42.9 +0.5
SIUC Southern Illin 79.43 45 eP P 00 01 41.7 -1.0
comp=Z,29nm,0.9s
SVRH Sivrihisar-ESK 79.43 318 eP P 00 01 43.4 +0.5
ADVT Abdulvahap 79.46 319 eP P 00 01 42.1 -0.7
PHSR Pinarhisar 79.46 321 eP P 00 01 42.1 -0.7
KARA Karaisali 79.46 314 eP P 00 01 44.2 +1.3
SULT Sultanhani-AKS 79.48 316 eP P 00 01 44.1 +1.0
433A Art 79.49 56 ⇑P P 00 01 43.9 +0.7
baz=79
WHTX Lake Whitney 79.49 54 eP P 00 01 41.9 -1.3
comp=Z,17nm,0.9s
WHTX Lake Whitney 79.49 54 ⇓P P 00 01 43.9 +0.8
baz=79
BEHE Becsehely 79.49 331⇑eP P 00 01 43.2 +0.3
MCH1 Michaelchurch 79.52 345 eP P 00 01 43.0 0.0
MCH1 AMB AMB 00 01 44.6
comp=Z,63nm,3.7s
334A Lometa 79.54 55 ⇓P P 00 01 44.1 +0.6
baz=79
PBMO Poplar Bluff 79.56 47 eP P 00 01 42.3 -1.2
comp=Z,88nm,1.7s
BLO Bloomington 79.57 43 eP P 00 01 43.2 -0.3
BLO pmax pmax
comp=Z,19nm,0.6s
BLO Bloomington 79.57 43 eP P 00 01 43.1 -0.3
comp=Z,18nm,0.6s
STRD Stroud 79.58 344 eP P 00 01 43.5 +0.3
CAVI Cavuskoy 79.60 319 eP P 00 01 43.1 -0.5
EDRB Edirne 79.61 322 P P 00 01 43.5 -0.1
EDRB Edirne 79.61 322 eP P 00 01 42.6 -1.0
631A Perdido Creek 79.63 58 ⇑P P 00 01 45.2 +1.2
baz=79,SNR=17
MONM Monmouth 79.64 345 eP P 00 01 43.6 +0.1
MONM AMB AMB 00 01 44.5
comp=Z,82nm,1.4s
RJOB Jochberg 79.65 334 eP P 00 01 44.2 +0.3
comp=Z,47nm,0.9s
IZI Iznik 79.65 319 eP P 00 01 43.6 -0.4
MIAR Mount Ida 79.67 50 eP P 00 01 44.1 0.0
MIAR pmax pmax
comp=Z,11nm,0.8s
MIAR Mount Ida 79.67 50 eP P 00 01 44.1 0.0
comp=Z,11nm,0.8s
GIVF Givet 79.67 340 eP P 00 01 43.7 -0.1
comp=Z,156nm,1.2s
GIVF Givet 79.67 340 eP P 00 01 43.7 -0.1
GIVF pmax pmax
comp=Z,156nm,1.2s
GIVF Givet 79.67 340 eP P 00 01 43.7 -0.1
comp=Z,156nm,1.2s
KOGS Kog 79.69 331 i P P 00 01 43.7 -0.2
GEMT Gemlik 79.70 320 eP P 00 01 43.1 -1.0
KIZT Kizilcal 79.72 317 eP P 00 01 45.5 +1.1
FUR Furstenfeldbru 79.72 335 eP P 00 01 44.4 +0.2
comp=Z,129nm,1.0s
DOU Dourbes 79.73 340 P P 00 01 44.1 0.0
comp=Z,35nm,1.8s
ARMT Armutlu 79.74 320 eP P 00 01 42.1 -2.3
WLF Walferdange 79.75 339 P P 00 01 45.0 +0.7
WLF Walferdange 79.75 339 eP P 00 01 43.9 -0.4
WLF pmax pmax
comp=Z,49nm,1.1s
WLF Walferdange 79.75 339 eP P 00 01 43.9 -0.4
comp=Z,49nm,1.1s
STU Stuttgart 79.77 336 eP P 00 01 44.5 +0.1
STU pmax pmax
comp=Z,71nm,0.9s
STU Stuttgart 79.77 336 eP P 00 01 44.4 +0.1
comp=Z,87nm,1.0s
STU Stuttgart 79.77 336 eP P 00 01 44.5 +0.1
comp=Z,71nm,0.9s
SWN1 Swindon 79.77 344 eP P 00 01 44.5 +0.2
SWN1 AMB AMB 00 01 46.0
comp=Z,183nm,1.4s
CRLT Corlu 79.78 321 eP P 00 01 43.6 -0.9
WOL Wolverton 79.85 344 eP P 00 01 44.7 0.0
WOL AMB AMB 00 01 45.5
comp=Z,121nm,1.7s
BAIF Baives 79.86 340⇑iP P 00 01 44.9 +0.1
comp=Z,136nm,1.1s
BAIF Baives 79.86 340⇑iP P 00 01 44.9 +0.1
BAIF pmax pmax
comp=Z,136nm,1.1s
BAIF Baives 79.86 340⇑iP P 00 01 44.9 +0.1
comp=Z,136nm,1.1s
SOKA Soboth 79.89 332⇑iP P 00 01 45.0 -0.1
comp=Z,105nm,1.1s,SNR=57
PERS Pernice 79.90 332 i P P 00 01 45.4 +0.2
434A Burnet 79.91 56 ⇓P P 00 01 46.1 +0.6
baz=80
LANF Langenberg 79.95 337 eP P 00 01 45.7 +0.3
632A Uvalde 80.02 58 ⇓P P 00 01 47.1 +1.1
baz=80
533A Kerrville 80.03 57 ⇓P P 00 01 47.1 +0.9
baz=80
LADK Ladik-KONYA 80.03 316 eP P 00 01 46.6 +0.5
MERS Mersin 80.04 314 eP P 00 01 46.8 +0.7
ERPA Erie 80.05 37 eP P 00 01 45.5 -0.5
comp=Z,46nm,0.6s
KBA Koelnbreinsper 80.07 333⇑iP P 00 01 46.4 +0.2
comp=Z,113nm,0.7s,SNR=59
PGB Panagyurishte 80.10 324 P P 00 01 46.6 +0.3
FORT Forrest 80.19 201 eP P 00 01 46.4 -0.2
comp=Z,52nm,0.7s
OBKA Obir 80.19 332⇓iP P 00 01 46.3 -0.6
comp=Z,31nm,0.9s,SNR=16
KONT Konya--Tatoy 80.23 316 eP P 00 01 47.2 0.0
PLD Plovdiv 80.25 323 P P 00 01 46.9 -0.2
PLD Plovdiv 80.25 323 P P 00 01 46.9 -0.2
MRMT Marmara Adasi 80.27 321 eP P 00 01 47.7 +0.4
ACSO Alum Creek Sta 80.32 40 eP P 00 01 47.0 -0.5
comp=Z,31nm,0.6s
KDZ Kurdzhali 80.33 323 P P 00 01 47.9 +0.3
KDZ Kurdzhali 80.33 323⇑iP P 00 01 48.2 +0.6

ALLY Alegheny Colle 80.37 37 eP P 00 01 47.8 +0.1
comp=Z,45nm,0.7s
MYKA Terra Mystica 80.38 333⇑iP P 00 01 46.4 -1.4
comp=Z,35nm,1.0s,SNR=14
MMNY Mt. Morris Dam 80.38 35 eP P 00 01 46.8 -0.9
comp=Z,56nm,0.8s
TVSB Tavsanli 80.38 319 eP P 00 01 46.1 -1.8
RKY Sarkoy-Tekirda 80.38 321 eP P 00 01 47.2 -0.7
WATA Walderalm 80.38 334⇑iP P 00 01 48.3 +0.5
comp=Z,196nm,1.1s,SNR=33
534A Blanco 80.38 56 ⇓P P 00 01 48.9 +0.8
baz=80
ALT Altintas 80.40 318 eP P 00 01 48.7 +0.6
633A Saathoff Ranch 80.41 57 ⇓P P 00 01 49.2 +1.0
baz=80
DIVS Divibare 80.41 327 P P 00 01 47.4 -0.6
BFO Black Forest 80.41 337 P P 00 01 47.9 0.0
comp=Z,457nm,0.9s,SNR=20
BFO Black Forest 80.41 337 eP P 00 01 48.3 +0.4
BFO pmax pmax
comp=Z,65nm,0.9s
BFO Black Forest 80.41 337 eP P 00 01 47.8 -0.1
comp=Z,84nm,1.0s
BFO Black Forest 80.41 337 eP P 00 01 48.3 +0.4
comp=Z,65nm,0.9s
WTTA Wattenberg 80.43 334⇑iP P 00 01 48.5 +0.3
comp=Z,118nm,0.8s,SNR=52
WCI Wyandotte Cave 80.43 43 eP P 00 01 48.0 -0.2
WCI pmax pmax
comp=Z,29nm,0.9s
WCI Wyandotte Cave 80.43 43 eP P 00 01 48.0 -0.2
comp=Z,29nm,0.9s
VTS Vitosha 80.45 325 P P 00 01 47.7 -0.6
VTS Vitosha 80.45 325 eP P 00 01 48.7 +0.3
VTS Vitosha 80.45 325 P P 00 01 47.8 -0.6
VTS Vitosha 80.45 325⇑iP P 00 01 48.5 +0.2
RETA Reutte 80.48 335⇑iP P 00 01 48.3 0.0
comp=Z,51nm,0.9s,SNR=20
732A Laxson Ranch, 80.49 58 ⇑P P 00 01 49.8 +1.2
baz=80
BBOO Buckleboo 80.49 194 eP P 00 01 48.9 +0.7
comp=Z,98nm,1.2s
MOTA Moosalm 80.51 335⇑iP P 00 01 48.6 0.0
comp=Z,149nm,1.0s,SNR=67
KRBG Karabiga-Canak 80.57 321 eP P 00 01 49.6 +0.8
RZN Rozhen 80.59 323 P P 00 01 49.4 +0.2
WLS Welschbruch 80.59 337 eP P 00 01 48.6 -0.3
SHUT Suhut-Afyon 80.60 318 eP P 00 01 50.3 +1.1
LJU Ljubljana 80.61 332 iP P 00 01 48.6 -0.4
CDF Champ du Feu 80.61 337⇑iP P 00 01 49.1 0.0
comp=Z,233nm,1.1s
CDF Champ du Feu 80.61 337⇑iP P 00 01 49.1 0.0
CDF pmax pmax
comp=Z,233nm,1.1s
CDF Champ du Feu 80.61 337⇑iP P 00 01 49.1 0.0
comp=Z,233nm,1.1s
ABTA Abfaltersbach 80.62 333⇑iP P 00 01 48.5 -0.6
comp=Z,38nm,1.0s,SNR=14
ALN Alexandroupoli 80.69 322 P P 00 01 50.0 +0.5
NCB Newcomb 80.73 32 eP P 00 01 49.6 -0.1
comp=Z,242nm,2.6s
ENEZ Enez 80.78 322 eP P 00 01 50.6 +0.7
436A Wall Ranch, Ga 80.78 55 ⇑P P 00 01 50.9 +0.8
baz=80
832A Faith Ranch, C 80.81 58 ⇑P P 00 01 51.9 +1.6
baz=81
LPK Lapseki 80.82 321 eP P 00 01 51.0 +0.8
ECH Echery 80.83 337 eP P 00 01 50.2 +0.1
BOJS Bojanci 80.85 331 iP P 00 01 49.6 -0.6
PAGF Fort de Pagny 80.89 338⇑iP P 00 01 50.9 +0.5
comp=Z,85nm,0.9s
PAGF Fort de Pagny 80.89 338⇑iP P 00 01 50.9 +0.5
comp=Z,85nm,0.9s
FETA Feichten 80.92 335⇑iP P 00 01 51.0 +0.2
comp=Z,55nm,1.1s,SNR=18
GELI Tayfur-Gelibol 80.92 321 eP P 00 01 50.5 -0.2
DAVA Damuels 80.92 335 iP P 00 01 50.9 0.0
comp=Z,70nm,0.9s,SNR=18
BALB Balikesir 80.93 320 eP P 00 01 49.2 -1.6
DRLN Deer Lake 80.97 19 eP P 00 01 49.2 -1.6
comp=Z,739nm,2.6s
MMB Musomiste 81.08 324 P P 00 01 52.3 +0.7
MMB Musomiste 81.08 324⇑iP P 00 01 52.0 +0.4
MDV Middlebury 81.09 32 eP P 00 01 49.7 -1.8
MEZF Maizieres J'vi 81.10 339⇑iP P 00 01 51.9 +0.4
comp=Z,242nm,1.0s
MEZF Maizieres J'vi 81.10 339⇑iP P 00 01 51.9 +0.4
comp=Z,242nm,1.0s
KKB Krupnik 81.11 324 P P 00 01 52.3 +0.6
THEF They Montfort 81.12 338 eP P 00 01 52.0 +0.3
536A Bastrop 81.15 55 ⇓P P 00 01 53.4 +1.3
baz=81
TRI Trieste 81.16 332 eP P 00 01 50.9 -0.9
TRI pmax pmax
comp=Z,38nm,0.8s
TRI Trieste 81.16 332 eP P 00 01 50.9 -0.9
comp=Z,38nm,0.8s
MOF Molkenrain 81.17 337 eP P 00 01 52.0 0.0
DYA Yadsworthy 81.19 345 eP P 00 01 52.3 +0.3
ISP Isparta 81.20 317 eP P 00 01 52.1 -0.3
ISP Isparta 81.20 317 eP P 00 01 52.9 +0.5
ISP pmax pmax
comp=Z,23nm,0.7s
ISP Isparta 81.20 317⇓iP P 00 01 52.9 +0.5
ISP Isparta 81.20 317 eP P 00 01 52.9 +0.5
comp=Z,22nm,0.7s
NATX Nacogdoches 81.21 53 eP P 00 01 51.7 -0.7
comp=Z,42nm,0.8s
NVR Nevrokopi 81.23 324 P P 00 01 52.3 -0.1
HAU Haudompre 81.23 338⇑iP P 00 01 52.2 -0.1
comp=Z,139nm,1.1s
HAU eR
comp=Z,848nm,20.8s
HAU Haudompre 81.23 338⇑iP P 00 01 52.2 -0.1
HAU pmax pmax
comp=Z,139nm,1.1s
HAU Haudompre 81.23 338⇑iP P 00 01 52.2 -0.1
comp=Z,139nm,1.1s
KAVA Kavala 81.25 323 P P 00 01 52.2 -0.2
KHL Karahalli 81.26 318 eP P 00 01 52.2 -0.5
SMTH Samothraki Isl 81.26 322 P P 00 01 52.0 -0.6
HINF Hinteralfeld 81.27 337⇑iP P 00 01 52.2 -0.3
comp=Z,68nm,1.0s
HINF Hinteralfeld 81.27 337⇑iP P 00 01 52.2 -0.3
HINF pmax pmax
comp=Z,68nm,1.0s
HINF Hinteralfeld 81.27 337⇑iP P 00 01 52.2 -0.3
comp=Z,68nm,1.0s
PLE Pljevlja 81.29 327⇓iP P 00 01 52.5 -0.3
PMOR Pomariorio Ree 81.30 123 eT T 01 31 08.1
comp=Z,89nm,0.2s
DAVOX Davos/Dischmat 81.38 335 LR LR 00 42 18.6
comp=Z,418nm,18.6s,baz=73,slow=39
SFTF Sexfontaines 81.38 339⇑iP P 00 01 53.2 +0.2
comp=Z,164nm,0.6s
SFTF Sexfontaines 81.38 339⇑iP P 00 01 53.2 +0.2
comp=Z,164nm,0.6s
FUORN Ofenpass-Fuorn 81.42 335 eP P 00 01 53.8 +0.2
comp=Z,67nm,1.0s
ACCN Adirondack Com 81.44 32 eP P 00 01 52.7 -0.7
comp=Z,24nm,1.1s
EZN Ezine 81.46 321 eP P 00 01 53.9 +0.4
BCK Bucak 81.46 317 eP P 00 01 52.7 -1.1
IVA Berane 81.50 327⇓iP P 00 01 54.2 +0.4
KULA Kula-Manisa 81.50 319 P P 00 01 53.9 0.0
KULA Kula-Manisa 81.50 319 eP P 00 01 54.4 +0.4
SRS Serrai 81.53 324 P P 00 01 53.2 -0.8
UPM Unac-Piva 81.58 328 eP P 00 01 50.1 -4.3
BINY Binghamton 81.58 34 eP P 00 01 52.4 -1.9
comp=Z,73nm,1.5s
636A Smothers Creek 81.61 56 ⇑P P 00 01 55.6 +1.1
baz=81
SKO Skopje 81.67 325 P P 00 01 54.2 -0.5
SKO Skopje 81.67 325 iP P 00 01 54.8 +0.1
comp=Z,131nm,1.2s
PVY Plav 81.71 327⇓iP P 00 01 53.4 -1.6
LOMF Lomont 81.71 337 eP P 00 01 55.4 +0.5
933A Laredo 81.72 58 ⇓P P 00 01 56.8 +1.6
baz=82,SNR=5.8
VAY Valandovo 81.77 324 P P 00 01 54.8 -0.4
VAY Valandovo 81.77 324 iP P 00 01 55.2 0.0
comp=Z,106nm,0.9s
KNT Kendrikon 81.78 324 P P 00 01 55.2 0.0
LFK Lefkose 81.78 314 eP P 00 01 56.1 +0.7
TUE Stuetta 81.81 335 eP P 00 01 56.0 +0.4

comp=Z,67nm,0.9s
OXF Oxford 81.85 47 eP P 00 01 55.4 -0.3
OXF pmax pmax
comp=Z,34nm,1.0s
OXF Oxford 81.85 47 eP P 00 01 55.4 -0.3
comp=Z,34nm,1.0s
SOH Sokhos 81.88 324 P P 00 01 54.0 -1.8
NKY Niksic 81.88 327⇓iP P 00 01 54.0 -1.9
LIA Limnos Island 81.89 322 P P 00 01 55.6 -0.2
OUR Ouranopolis 82.03 323 P P 00 01 56.0 -0.5
PDG Podgorica 82.11 327 P P 00 01 55.5 -1.4
TTG Podgorica 82.11 327⇓iP P 00 01 56.0 -0.9
FLN La Foliniere 82.12 342 eP P 00 01 56.8 -0.1
comp=Z,183nm,1.4s
FLN eR
comp=Z,731nm,22.5s
FLN La Foliniere 82.12 342 eP P 00 01 56.8 -0.1
FLN pmax pmax
comp=Z,183nm,1.4s
FLN La Foliniere 82.12 342 eP P 00 01 56.8 -0.1
comp=Z,183nm,1.4s
CSS Prodhromos 82.13 314 P P 00 01 56.9 -0.3
CSS Prodhromos 82.13 314 eP P 00 01 56.9 -0.3
CSS Prodhromos 82.13 314 eP P 00 01 57.2 0.0
comp=Z,19nm,0.7s
SSPA Standing Stone 82.15 36 eP P 00 01 55.6 -1.6
comp=Z,70nm,1.5s
SIGR SIGRI 82.17 321 P P 00 01 56.7 -0.6
LDF La Druitiere 82.21 342⇑iP P 00 01 57.3 -0.1
comp=Z,116nm,1.2s
LDF La Druitiere 82.21 342⇑iP P 00 01 57.3 -0.1
LDF pmax pmax
comp=Z,116nm,1.2s
LDF La Druitiere 82.21 342⇑iP P 00 01 57.3 -0.1
comp=Z,116nm,1.2s
KSPA Keystone Colle 82.22 34 eP P 00 01 56.6 -1.0
comp=Z,338nm,3.0s
PLG Polygyros 82.22 323 P P 00 01 57.0 -0.6
PHP Peshkopia 82.30 326 P P 00 01 57.2 -0.9
AYDB Zeytinkoy-Aydi 82.31 319 eP P 00 01 58.8 +0.5
BLCB Balcova 82.33 320 eP P 00 01 57.7 -0.5
ELL Elmali 82.36 317 eP P 00 01 58.2 -0.3
BUM Brajici-Budva 82.36 327⇓iP P 00 01 57.3 -1.1
HCY Herceg Novi 82.38 328⇓iP P 00 01 55.8 -2.6
PPT Papeete 82.39 125 LR LR 00 31 52.0
comp=Z,368nm,19.7s,baz=324,slow=31
PPT2 Papeete2 82.41 125 eS S 00 12 01.8 -8.5
comp=Z,2μm,38.5s
PPT2 Papeete2 82.41 125 eLR LR 00 27 44.9
comp=Z,1μm,24.5s,baz=325
PPT2 Papeete2 82.41 125 eT T 01 32 31.0
comp=Z,5.3nm,0.2s
PAE Paea 82.46 126 eT T 01 32 34.8
comp=Z,1.8nm,0.3s
034A Hebbronville 82.48 58 ⇑P P 00 02 00.8 +1.6
baz=82
SENIN Lac Senin/Sane 82.49 337 eP P 00 02 00.0 +0.9
PAIG Paliouri 82.50 323 P P 00 01 58.4 -0.6
TIAR Tiarei 82.51 125 eT T 01 32 38.4
comp=Z,4.2nm,0.2s
ULC Ulcinj 82.52 327⇓iP P 00 01 58.4 -0.7
LOR Lormes 82.55 339⇑iP P 00 01 59.3 +0.1
comp=Z,115nm,0.9s
LOR eR
comp=Z,1μm,22.5s
LOR Lormes 82.55 339⇑iP P 00 01 59.3 +0.1
LOR pmax pmax
comp=Z,115nm,0.9s
LOR Lormes 82.55 339⇑iP P 00 01 59.3 +0.1
comp=Z,115nm,0.9s
GRR Gorron 82.56 343⇑iP P 00 01 59.3 +0.1
comp=Z,190nm,1.1s
GRR Gorron 82.56 343⇑iP P 00 01 59.3 +0.1
GRR pmax pmax
comp=Z,190nm,1.1s
GRR Gorron 82.56 343⇑iP P 00 01 59.3 +0.1
comp=Z,190nm,1.1s
CABF La Chapelle 82.59 337⇑iP P 00 01 59.7 +0.2
comp=Z,66nm,0.9s
CABF La Chapelle 82.59 337⇑iP P 00 01 59.7 +0.2
CABF pmax pmax
comp=Z,66nm,0.9s
CABF La Chapelle 82.59 337⇑iP P 00 01 59.7 +0.2
comp=Z,66nm,0.9s
OG01 Vacheresse 82.69 337 eP P 00 02 00.5 +0.5
FNA Florina 82.71 325 P P 00 01 59.3 -0.9
YER Yerkesik 82.80 318 eP P 00 02 00.7 0.0
SSF Saint Saulge 82.83 339⇑iP P 00 02 00.7 +0.1
comp=Z,40nm,0.8s
SSF Saint Saulge 82.83 339⇑iP P 00 02 00.7 +0.1
SSF pmax pmax
comp=Z,40nm,0.8s
SSF Saint Saulge 82.83 339⇑iP P 00 02 00.7 +0.1
comp=Z,40nm,0.8s
FETY Fethiye 82.83 317 eP P 00 02 01.1 +0.3
LIT Litokhoron 82.84 324 P P 00 01 59.8 -1.0
HYF Humbligny 82.84 340 eP P 00 02 01.2 +0.5
HYF Humbligny 82.84 340 eP P 00 02 01.2 +0.5
DALY Dalyan (Mu¯la 82.89 318 eP P 00 01 59.7 -1.3
KZN Kozani 82.95 324 P P 00 02 00.5 -1.0
SGMF Saint Gilles 83.03 344 eP P 00 02 01.7 +0.1
comp=Z,118nm,1.1s
SGMF Saint Gilles 83.03 344 eP P 00 02 01.7 +0.1
SGMF pmax pmax
comp=Z,118nm,1.0s
SGMF Saint Gilles 83.03 344 eP P 00 02 01.7 +0.1
comp=Z,118nm,1.0s
RBK Rabkut 83.06 288 P P 00 02 03.0 +0.6
SNR=8.2
TZTN Tazewell 83.07 42 eP P 00 02 01.8 -0.3
comp=Z,13nm,0.8s
KBN Korca 83.08 325 P P 00 02 01.5 -0.6
ROSF Rostrenen 83.09 344 eP P 00 02 02.1 +0.2
comp=Z,169nm,1.1s
ROSF Rostrenen 83.09 344 eP P 00 02 02.1 +0.2
ROSF pmax pmax
comp=Z,169nm,1.1s
ROSF Rostrenen 83.09 344 eP P 00 02 02.1 +0.2
comp=Z,169nm,1.1s
AVF Avril sur Loir 83.12 339⇑iP P 00 02 02.4 +0.3
comp=Z,383nm,1.4s
AVF Avril sur Loir 83.12 339⇑iP P 00 02 02.4 +0.3
AVF pmax pmax
comp=Z,383nm,1.4s
AVF Avril sur Loir 83.12 339⇑iP P 00 02 02.4 +0.3
comp=Z,383nm,1.4s
SMF Signal de Mont 83.13 339⇑iP P 00 02 02.4 +0.2
comp=Z,398nm,1.2s
SMF Signal de Mont 83.13 339⇑iP P 00 02 02.4 +0.2
SMF Signal de Mont 83.13 339⇑iP P 00 02 02.4 +0.2
comp=Z,398nm,1.2s
XOR Xorichti 83.17 323 P P 00 02 01.5 -1.1
NEO Neokhori 83.21 323 P P 00 02 01.6 -1.2
BODT Bodrum 83.30 319 eP P 00 02 02.7 -0.5
MVL Millersville 83.31 36 eP P 00 02 02.7 -0.5
comp=Z,15nm,0.8s
LPL La Plagne 83.42 337 eP P 00 02 04.7 +0.7
comp=Z,52nm,0.7s
LPL La Plagne 83.42 337 eP P 00 02 04.7 +0.7
LPL pmax pmax
comp=Z,53nm,0.7s
LPL La Plagne 83.42 337 eP P 00 02 04.7 +0.7
comp=Z,52nm,0.7s
LPG La Plagne 83.44 337⇑iP P 00 02 04.9 +0.7
comp=Z,60nm,0.7s
LPG La Plagne 83.44 337⇑iP P 00 02 04.9 +0.7
LPG pmax pmax
comp=Z,60nm,0.7s
LPG La Plagne 83.44 337⇑iP P 00 02 04.9 +0.7
comp=Z,60nm,0.7s
BGF Bois d'Agland 83.46 340⇑iP P 00 02 04.1 +0.2
comp=Z,45nm,0.7s
BGF Bois d'Agland 83.46 340⇑iP P 00 02 04.1 +0.2
BGF pmax pmax
comp=Z,45nm,0.7s
BGF Bois d'Agland 83.46 340⇑iP P 00 02 04.1 +0.2
comp=Z,45nm,0.7s
QUIF Quistinic 83.47 344 eP P 00 02 04.6 +0.7
comp=Z,62nm,1.1s
QUIF Quistinic 83.47 344 eP P 00 02 04.6 +0.7
QUIF pmax pmax
comp=Z,62nm,1.1s
QUIF Quistinic 83.47 344 eP P 00 02 04.6 +0.7
comp=Z,62nm,1.1s
THL Klokotos Trika 83.49 324 P P 00 02 01.6 -2.5
MEH Mehetia 83.49 124 eT T 01 33 51.7

comp=Z,14nm,0.2s
VLC Villacollemand 83.61 334 eP P 00 02 05.2 +0.5
comp=Z,44nm,0.9s
ARG Arkhangelos 83.62 318 P P 00 02 04.6 -0.3
TKL Tuckaleechee C 83.69 43 eP P 00 02 03.8 -1.5
TKL Tuckaleechee C 83.69 43 eP P 00 02 03.8 -1.5
ABTO Aybut 83.77 289 P P 00 02 06.5 +0.5
SNR=17
PLDF La Plantade 83.82 339 eP P 00 02 05.7 -0.1
LKR Lokris 83.86 323 P P 00 02 04.6 -1.4
AGO Saint Agoulin 83.86 339 eP P 00 02 06.0 0.0
TCF Toulx Ste Croi 83.86 340 eP P 00 02 06.4 +0.4
comp=Z,131nm,1.3s
TCF Toulx Ste Croi 83.86 340 eP P 00 02 06.4 +0.4
TCF pmax pmax
comp=Z,131nm,1.3s
TCF Toulx Ste Croi 83.86 340 eP P 00 02 06.4 +0.4
comp=Z,131nm,1.3s
BNI Bardonecchia 83.87 336 eP P 00 02 06.3 +0.1
BNI pmax pmax
comp=Z,18nm,0.8s
BNI Bardonecchia 83.87 336 eP P 00 02 06.3 +0.1
comp=Z,18nm,0.8s
JAN Janina 83.88 325 P P 00 02 06.0 -0.2
BLA Blacksburg 83.94 40 eP P 00 02 05.2 -1.4
BLA pmax pmax
comp=Z,23nm,0.8s
BLA Blacksburg 83.94 40 eP P 00 02 05.2 -1.4
comp=Z,23nm,0.8s
PTL Penteli 84.00 322 P P 00 02 05.4 -1.4
SRN Sarande 84.02 325 P P 00 02 05.9 -0.9
APE Apeiranthos 84.09 320⇑iP P 00 02 06.5 -0.8
MFF Saint Martin d 84.10 341⇑iP P 00 02 07.3 +0.1
comp=Z,40nm,0.8s
MFF Saint Martin d 84.10 341⇑iP P 00 02 07.3 +0.1
MFF pmax pmax
comp=Z,40nm,0.8s
MFF Saint Martin d 84.10 341⇑iP P 00 02 07.3 +0.1
comp=Z,40nm,0.8s
MBDF Montbardon 84.14 336⇑iP P 00 02 07.7 +0.1
comp=Z,36nm,0.6s
MBDF Montbardon 84.14 336⇑iP P 00 02 07.7 +0.1
MBDF pmax pmax
comp=Z,36nm,0.6s
MBDF Montbardon 84.14 336⇑iP P 00 02 07.7 +0.1
comp=Z,36nm,0.6s
RAYN Ar Rayn 84.16 298 P P 00 02 08.0 +0.1
comp=Z,1.0nm,1.0s,SNR=55
RAYN Ar Rayn 84.16 298 eP P 00 02 08.2 +0.3
comp=Z,512nm,2.4s
PYM Petit Puy Mans 84.17 339 eP P 00 02 07.3 -0.3
IGT Igoumenitsa 84.19 325 P P 00 02 06.2 -1.5
ORIF Oris-en-Rattie 84.21 337⇑iP P 00 02 08.6 +0.7
comp=Z,94nm,0.9s
ORIF eR
comp=Z,888nm,22.2s
ORIF Oris-en-Rattie 84.21 337⇑iP P 00 02 08.6 +0.7
ORIF pmax pmax
comp=Z,94nm,0.9s
ORIF Oris-en-Rattie 84.21 337⇑iP P 00 02 08.6 +0.7
comp=Z,94nm,0.9s
SSB Saint Sauveur 84.23 338 eP P 00 02 08.4 +0.5
KEK Kerkira 84.25 325 P P 00 02 07.0 -1.0
DSF Desfina 84.25 323 P P 00 02 04.9 -3.3
LTK Loutraki 84.40 322 P P 00 02 06.6 -2.2
EFP Efpalio 84.50 323 P P 00 02 08.2 -1.1
VIVF Saint-Julien-l 84.59 338⇑iP P 00 02 10.4 +0.7
comp=Z,129nm,1.1s
VIVF Saint-Julien-l 84.59 338⇑iP P 00 02 10.4 +0.7
VIVF pmax pmax
comp=Z,129nm,1.1s
VIVF Saint-Julien-l 84.59 338⇑iP P 00 02 10.4 +0.7
comp=Z,129nm,1.1s
LBL Lubilhac 84.60 339 eP P 00 02 09.8 0.0
SAOF Saorge 84.60 335 eP P 00 02 09.1 -0.7
AUTN L'Aution 84.63 336 eP P 00 02 09.5 -0.7
JSRW J. Sargeant Re 84.64 38 eP P 00 02 09.8 -0.2
PDO Prodromos 84.65 324 P P 00 02 09.3 -0.8
TOUF Mont Tournerai 84.66 336 eP P 00 02 09.8 -0.5
LKD2 Lefkada island 84.70 324 P P 00 02 09.2 -1.1
DID Didima 84.72 322 P P 00 02 08.3 -2.2
KLV Kalavryta, Ach 84.72 323 P P 00 02 10.3 -0.2
GUR Goura 84.73 323 P P 00 02 08.7 -1.9
SBF Sospel 84.75 335⇑iP P 00 02 10.3 -0.3
comp=Z,207nm,1.1s
SBF Sospel 84.75 335⇑iP P 00 02 10.3 -0.3
SBF pmax pmax
comp=Z,207nm,1.1s
SBF Sospel 84.75 335⇑iP P 00 02 10.3 -0.3
comp=Z,207nm,1.1s
MVIF Mont Vial 84.80 336 eP P 00 02 10.8 -0.1
REVF Revere 84.88 335 eP P 00 02 11.0 -0.2
RJF Les Rejaudoux 84.95 340 eP P 00 02 11.2 -0.3
comp=Z,12nm,0.6s
RJF eR
comp=Z,1μm,21.5s
RJF Les Rejaudoux 84.95 340 eP P 00 02 11.2 -0.3
RJF pmax pmax
comp=Z,13nm,0.6s
RJF Les Rejaudoux 84.95 340 eP P 00 02 11.2 -0.3
comp=Z,12nm,0.6s
DRO Drossia 84.98 323 P P 00 02 11.5 -0.3
RLS Riolos of Patr 84.99 323 P P 00 02 11.2 -0.6
CALN Calern 85.01 336 eP P 00 02 12.0 0.0
SMRF Simiane la Rot 85.16 337⇑iP P 00 02 13.4 +0.8
comp=Z,101nm,1.1s
SMRF Simiane la Rot 85.16 337⇑iP P 00 02 13.4 +0.8
comp=Z,101nm,1.1s
CAF Calviac 85.18 339⇑iP P 00 02 12.9 +0.2
comp=Z,20nm,0.6s
CAF Calviac 85.18 339⇑iP P 00 02 12.9 +0.2
CAF pmax pmax
comp=Z,20nm,0.6s
CAF Calviac 85.18 339⇑iP P 00 02 12.9 +0.2
comp=Z,20nm,0.6s
KFL Anninata 85.23 324 P P 00 02 12.8 -0.2
KMSC Kings Mountain 85.25 42 eP P 00 02 12.9 -0.3
comp=Z,13nm,0.8s
KMSC Kings Mountain 85.25 42 ⇓P P 00 02 13.1 0.0
baz=85
VLS Valsamata 85.25 324 P P 00 02 12.1 -1.0
FRF La Foret Royal 85.25 336⇑iP P 00 02 13.0 0.0
comp=Z,147nm,1.4s
FRF La Foret Royal 85.25 336⇑iP P 00 02 13.0 0.0
FRF pmax pmax
comp=Z,147nm,1.4s
FRF La Foret Royal 85.25 336⇑iP P 00 02 13.0 0.0
comp=Z,147nm,1.4s
AMT Artemida-Makis 85.34 323 P P 00 02 13.1 -0.5
NWAO Narrogin (SRO) 85.39 209 P P 00 02 14.1 +0.6
NWAO pmax pmax
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 85.39 209 P P 00 02 14.1 +0.6
comp=Z,15nm,0.8s,baz=356,slow=3.6,SNR=10.0
ZKR Zakros 85.41 319 P P 00 02 13.0 -0.9
LFF La Frestale 85.48 340 eP P 00 02 13.9 -0.2
comp=Z,38nm,0.7s
LFF La Frestale 85.48 340 eP P 00 02 13.9 -0.2
LFF pmax pmax
comp=Z,38nm,0.7s
LFF La Frestale 85.48 340 eP P 00 02 13.9 -0.2
comp=Z,38nm,0.7s
PGF Pioggiola 85.49 334⇑iP P 00 02 14.2 -0.1
comp=Z,59nm,0.9s
PGF Pioggiola 85.49 334⇑iP P 00 02 14.2 -0.1
PGF pmax pmax
comp=Z,59nm,0.9s
PGF Pioggiola 85.49 334⇑iP P 00 02 14.2 -0.1
comp=Z,59nm,0.9s
LMR La Mourre 85.50 336⇑iP P 00 02 14.5 +0.3
comp=Z,270nm,1.3s
LMR La Mourre 85.50 336⇑iP P 00 02 14.5 +0.3
LMR pmax pmax
comp=Z,270nm,1.3s
LMR La Mourre 85.50 336⇑iP P 00 02 14.5 +0.3
comp=Z,270nm,1.3s
CUC Castrocucco 85.51 328 eP P 00 02 13.4 -1.0
comp=Z,22nm,1.1s
LASF Ste Croix 85.53 338⇑iP P 00 02 14.6 +0.2
comp=Z,76nm,1.3s
LASF Ste Croix 85.53 338⇑iP P 00 02 14.6 +0.2
comp=Z,76nm,1.3s
LEPF PUYLOUBIER 85.55 337 eP P 00 02 15.4 +0.9
ITM Ithomi 85.55 323 P P 00 02 13.0 -1.6
NPS Neapolis 85.56 319 P P 00 02 13.2 -1.5

GOGA Godfrey 85.67 44 eP P 00 02 14.8 -0.4
GOGA pmax pmax
comp=Z,76nm,1.9s
GOGA Godfrey 85.67 44 eP P 00 02 14.8 -0.4
comp=Z,76nm,1.9s
LAST Lasithi 85.70 319 P P 00 02 15.4 -0.1
PYL PYLOS 85.87 323 P P 00 02 14.7 -1.5
TIP Timpagrande 85.87 327 P P 00 02 15.9 -0.4
TIP Timpagrande 85.87 327 eP P 00 02 16.2 -0.1
comp=Z,49nm,1.1s
VAM Vamos 86.07 320 P P 00 02 14.7 -2.5
SIVA Sivas 86.12 319 P P 00 02 16.7 -0.8
OSPF L'Ospedale 86.24 333 eP P 00 02 18.2 +0.2
GVD Gavdhos 86.59 320 eP P 00 02 19.3 -0.5
comp=Z,352nm,1.9s
MTLF Montolieu 86.63 339⇑iP P 00 02 19.7 -0.1
comp=Z,29nm,1.0s
MTLF Montolieu 86.63 339⇑iP P 00 02 19.7 -0.1
MTLF pmax pmax
comp=Z,29nm,1.0s
MTLF Montolieu 86.63 339⇑iP P 00 02 19.7 -0.1
comp=Z,29nm,1.0s
CEL Celeste 87.00 327 eP P 00 02 20.4 -1.5
comp=Z,25nm,0.7s
TBI Tubuai 87.11 129 eT T 01 38 22.7
comp=Z,59nm,0.2s
TIGA Tifton 87.22 45 eP P 00 02 21.7 -1.2
comp=Z,56nm,0.9s
TIGA Tifton 87.22 45 ⇑P P 00 02 23.7 +0.8
baz=87
EPF Esparros 87.38 340⇑iP P 00 02 23.6 +0.1
comp=Z,10nm,0.6s
EPF Esparros 87.38 340⇑iP P 00 02 23.6 +0.1
EPF pmax pmax
comp=Z,10.0nm,0.6s
EPF Esparros 87.38 340⇑iP P 00 02 23.6 +0.1
comp=Z,10nm,0.6s
SJPF Ste Jean 87.66 341 eP P 00 02 24.3 -0.5
SJPF Ste Jean 87.66 341 eP P 00 02 24.3 -0.5
SJPF Ste Jean 87.66 341 eP P 00 02 24.3 -0.5
ETSF Etsaut 87.71 341⇑iP P 00 02 24.6 -0.6
comp=Z,20nm,0.7s
ETSF Etsaut 87.71 341⇑iP P 00 02 24.6 -0.6
ETSF pmax pmax
comp=Z,20nm,0.7s
ETSF Etsaut 87.71 341⇑iP P 00 02 24.6 -0.6
comp=Z,20nm,0.7s
PBRG Braganca 90.03 345 eP P 00 02 35.0 -1.1
POLO Lamas de Olo 90.64 345 eP P 00 02 37.8 -1.1
comp=Z,34nm,1.6s
MVO Moncorvo 90.71 345 eP P 00 02 38.7 -0.5
ES19 SONSECA Array 91.50 342 eP P 00 02 41.7 -1.3
MTE Manteigas 91.54 345 eP P 00 02 42.4 -0.7
comp=Z,44nm,1.0s
MTE Manteigas 91.54 345 eP P 00 02 42.1 -1.0
comp=Z,21nm,0.8s
ESDC Sonseca Array 91.52 P P 00 02 42.3 -0.8
comp=Z,6.8nm,0.9s,baz=7.3,slow=3.6,SNR=21
ESDC LR LR 00 47 39.6
comp=Z,325nm,21.4s,baz=45,slow=38
KEST Kesra 91.59 331 P P 00 02 43.9 +0.5
comp=Z,3.6nm,0.6s,baz=358,slow=0.7,SNR=27
KEST LR LR 00 48 49.8
comp=Z,117nm,18.2s,baz=338,slow=39
KEST Kesra 91.59 331 eP P 00 02 43.7 +0.3
PAB San Pablo 91.75 342 eP P 00 02 43.3 -0.8
PAB pmax pmax
comp=Z,280nm,3.0s
PAB San Pablo 91.75 342 eP P 00 02 43.3 -0.8
comp=Z,280nm,3.0s
PCAS Casmilo, Conde 92.05 346 eP P 00 02 44.9 -0.5
comp=Z,54nm,1.5s
PMTG Montargil 92.95 345 eP P 00 02 49.0 -0.6
comp=Z,38nm,1.3s
PESTR Estremoz 93.04 345 eP P 00 02 49.0 -1.0
PBAR Barrancos 93.61 344 eP P 00 02 51.8 -0.8
RKT Rikitea 95.25 118 eLR LR 00 33 33.4
comp=Z,947nm,32.5s,baz=320
TORD Torodi Ar. Bea 115.00 328 PKP PKPdf 00 08 17.0 -0.5
comp=Z,2.3nm,0.5s,baz=24,slow=1.7,SNR=36
TORD PP PP 00 09 07.3 -9.0
comp=Z,0.8nm,0.7s,baz=20,slow=3.5,SNR=3.1
TORD PKKPbc PKKPbc 00 18 52.1 +0.3
comp=Z,0.5nm,0.9s,baz=192,slow=1.6,SNR=4.9
DBIC Dimbokro 123.25 333 PKIKP PKPdf 00 08 33.1 -0.3
DBIC pmax pmax
comp=Z,9.0nm,0.7s
DBIC Dimbokro 123.25 333 PKP PKPdf 00 08 33.1 -0.3
comp=Z,9.2nm,0.7s,baz=26,slow=2.4,SNR=18
TIC Toumodi 123.33 333 ePKIKP PKPdf 00 08 33.3 -0.3
comp=Z,22nm,0.8s
KIC Kosan Boka 123.51 333 ePKIKP PKPdf 00 08 33.6 -0.3
comp=Z,21nm,0.9s
LIC Lamto 123.73 333⇑iPKIKP PKPdf 00 08 33.6 -0.7
comp=Z,16nm,0.8s
LIC eR
comp=Z,209nm,21.8s
LIC Lamto 123.73 333 ePKIKP PKPdf 00 08 33.4 -0.9
comp=Z,26nm,0.8s
LIC Lamto 123.73 333⇑iPKPdf PKPdf 00 08 33.6 -0.7
LSZ Lusaka 124.43 285 ePKIKP PKPdf 00 08 34.4 -1.3
LSZ Lusaka 124.43 285 ePKPdf PKPdf 00 08 34.4 -1.3
SAML Samuel 131.62 51 ePKPdf PKPdf 00 08 49.2 -0.1
LPAZ La Paz 134.71 62 PKIKP PKPdf 00 08 56.8 +1.0
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 134.71 62 PKP PKPdf 00 08 56.8 +1.0
comp=Z,1.9nm,0.8s,baz=47,slow=6.7,SNR=4.6
BOSA Boshof 135.45 275 PKHKP PKPpre 00 08 44.3
BOSA pmax pmax
comp=Z,3.0nm,0.9s
BOSA Boshof 135.45 275 PKhKP PKPpre 00 08 44.3
comp=Z,2.5nm,0.9s,baz=71,slow=2.1,SNR=4.4
QSPA South Pole Qui 136.38 180 PKhKP PKPpre 00 08 46.9
comp=Z,1.4nm,0.8s,baz=291,slow=1.1,SNR=9.2
QSPA PKP PKPdf 00 08 57.2 +0.5
comp=Z,5.8nm,0.7s,baz=286,slow=0.4,SNR=25
QSPA South Pole Qui 136.38 180 ePKPpre PKPpre 00 08 46.3
QSPA ePKPdf PKPdf 00 08 57.4 +0.8
H03N2 Juan Fernandez 139.11 90 T T 02 44 26.9
baz=304,slow=75,SNR=1071
H03N1 Juan Fernandez 139.12 90 T T 02 44 43.3
baz=304,slow=75,SNR=1236
H03N3 Juan Fernandez 139.12 90 T T 02 44 44.1
baz=304,slow=75,SNR=1182
BDFB Brasilia 144.64 36 PKIKP PKPab 00 09 11.9 0.0
BDFB pmax pmax
comp=Z,13nm,0.7s
BDFB Brasilia 144.64 36 PKP PKPab 00 09 11.9 0.0
comp=Z,12nm,0.7s,baz=320,slow=4.5,SNR=21
PLCA Paso Flores 148.56 95 PKP2 PKPbc 00 09 23.1 +0.4
PLCA pmax pmax
comp=Z,10.0nm,0.8s
PLCA Paso Flores 148.56 95 PKPbc PKPbc 00 09 23.1 +0.4
comp=Z,9.8nm,0.8s,baz=335,slow=10,SNR=6.2
CPUP Villa Florida 148.83 60 PKP2 PKPbc 00 09 24.0 +0.3
CPUP pmax pmax
comp=Z,9.0nm,0.7s
CPUP Villa Florida 148.83 60 PKPbc PKPbc 00 09 24.0 +0.3
comp=Z,8.6nm,0.7s,baz=288,slow=3.2,SNR=15
NVL N'lazarevskaya 149.39 204 ePKP2 PKPbc 00 09 24.6 +0.8
NVL pmax pmax
comp=Z,11nm,0.7s
SNAA Sanae 152.35 196 P PKPbc 00 09 30.7 -0.1
VNA2 Neumayer--Watz 153.81 195 P PKPbc 00 09 34.2 +0.2
baz=79,slow=1.7
VNA1 Neumayer--Stat 154.20 195 P PKPbc 00 09 35.0 +0.3

NIED 18 23:51:00,30°10N×131°40E,h23km,Mw4.6 Best double couple: M₀7.64000×10¹⁵ NP1:φs217.00000°,δ31.00000°,λ109.00000°. NP2:φs16.00000°,δ61.00000°,λ79.00000°.
IDC 18 23:51:33.5±0.8,30°20N×130°98E,h0km,mb4.2/11, mb1 4.4/12,mb1mx4.2/26,mbtmp4.2/12,ML2.9/2,Error ellipse: s-maj=33.2km s-min=16.0km az=86.0
JMA 18 23:51:36.1±0.2,30°12N×131°34E,h31km±2km,M4.4
JMA Felt I J1.
ISC 18 23:51:35.4±1.6,30°15N±0°04×131°20E±0°06,h15km±9km, n32,σ0°80/44,mb4.4/13,2C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	Tanegashima 3	0.54	339	⇓P	Pn	23 51 48.1	-0.5
JTN				eS	Sn	23 51 56.3	-1.2
JYAK	Yakushimahirau	0.61	279	P	Pn	23 51 49.7	+0.2
JYAK				eS	Sn	23 51 59.8	+0.7
JKC	Kuchinoerabu	0.93	290	P	Pn	23 51 54.8	+0.9
JKC				eS	Sn	23 52 08.9	+2.0
JTSR	Tashiro 2	1.04	347	⇑P	Pg	23 51 55.7	+0.1
JTSR				eS	Sn	23 52 10.2	+0.3
JNN	Nakanoshima	1.19	255	P	Pg	23 51 58.5	+0.1
JNN				eS	Sg	23 52 14.8	+0.8
JNAR	Kushima--Naru	1.38	2	P	Pn	23 52 00.2	+0.1
JNAR				S	Sn	23 52 18.0	0.0
JSU	Suzuyama	1.50	335	⇑P	Pn	23 52 02.2	+0.4
JSU				eS	Sb	23 52 21.9	+0.1
JTZ	Takazaki	1.75	357	P	Pn	23 52 05.8	+0.5
JTZ				eS	Sn	23 52 27.7	+0.4
JSJ	Shimokoshiki	1.99	320	P	Pn	23 52 09.1	+0.5
JSJ				eS	Sn	23 52 33.5	+0.3
JTAJ	Takarajima	2.00	241	P	Pb	23 52 10.3	-1.3
JTAJ				eS	Sb	23 52 35.9	-0.4
JZO	Okuchi	2.05	346	P	Pn	23 52 09.8	+0.4
JZO				eS	Sn	23 52 34.4	-0.4
JTSN	Tsuno	2.11	7	P	Pn	23 52 09.9	-0.3
JTSN				eS	Sn	23 52 36.3	+0.2
JZK	Kikaishima	2.12	211	P	Pn	23 52 11.4	+1.0
JNU	Nakatsue	2.98	355	Pn	Pn	23 52 23.2	+1.0
	4.9nm,0.3s,baz=156,slow=3.6,SNR=18						
JOW	Kunigami	4.19	219	Pn	Pn	23 52 37.8	-1.0
	0.8nm,0.3s,baz=150,slow=16,SNR=10						
JOW				Sn	Sn	23 53 26.6	-0.9
	6.8nm,0.3s,baz=130,slow=25,SNR=16						
KSRS	Korea Array	7.78	340	Pn	Pn	23 53 31.9	+3.8
	0.8nm,0.3s,baz=157,slow=15,SNR=6.9						
XAN	Xi'an	19.27	287	P	P	23 55 58.8	-0.7
BVAR	Borovoye Array	49.20	316	P	P	00 00 22.6	-0.3
	6.5nm,0.8s,baz=98,slow=10,SNR=2.9						
WRA	Warramunga Arr	49.89	176	P	P	00 00 28.6	+0.1
	0.7nm,0.9s,baz=356,slow=8.5,SNR=4.1						
ASAR	Alice Springs	53.57	177	P	P	00 00 57.0	+1.1
	6.8nm,0.6s,baz=12,slow=5.6,SNR=12						
STKA	Stephens Creek	62.47	170	P	P	00 01 59.7	+1.6
	2.3nm,0.7s,baz=44,slow=13,SNR=4.3						
ARCES	ARCESS Array B	67.33	338	P	P	00 02 29.1	-0.3
	2.2nm,0.8s,baz=74,slow=7.6,SNR=2.9						
JOF	Joensuu	67.90	331	ep	P	00 02 32.4	-0.7
	8.6nm,0.6s						
KAF	Kangasniemi	70.35	331	ep	P	00 02 47.6	-0.6
	7.6nm,0.8s						
FINES	FINESS Array B	70.75	331	P	P	00 02 50.0	-0.7
	6.9nm,0.6s,baz=83,slow=5.7,SNR=5.1						
YKA	Yellowknife Ar	73.87	26	P	P	00 03 09.6	+0.2
	0.5nm,0.8s,baz=301,slow=7.3,SNR=2.9						
AKASG	Malin Array Be	74.26	320	P	P	00 03 10.6	-1.2
	0.8nm,0.5s,baz=46,slow=6.7,SNR=3.4						
BRTR	Keskin Array B	76.69	308	P	P	00 03 26.2	0.0
	2.7nm,0.8s,baz=91,slow=5.4,SNR=3.7						
NB2	NORSAR Subarra	76.95	334	P	P	00 03 26.3	-0.9
	comp=Z,1.8nm,0.6s,baz=47,slow=5.9						
NB2	NORSAR Subarra	76.95	334	P	P	00 03 26.3	-0.9
	baz=47,slow=5.9						
NOA	NORSAR Array B	76.95	334	P	P	00 03 26.2	-0.9
	comp=Z,2.4nm,0.6s,baz=49,slow=5.6,SNR=4.4						
NVAR	Mina Array Bea	85.92	48	P	P	00 04 16.5	+1.2
	comp=Z,0.7nm,0.6s,baz=328,slow=3.2,SNR=3.1						

MEX 19 00:06:07.6±0.5,17°43N×94°78W,h153km±7km,MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.35	197	iP	Pn	00 06 27.3	-1.4
CMIG				iS	Sn	00 06 42.5	-2.4
OXX	Oaxaca	1.89	260	iP	Pn	00 06 44.8	+2.8
OXX				eS	Sn	00 07 11.0	+2.6
VHO	Vista Hermosa	1.90	260	iP	Pn	00 06 41.0	-1.1
VHO				iS	Sn	00 07 07.3	-1.3
HUIG	Huatulco	2.08	218	iP	Pn	00 06 42.5	-1.4
HUIG				iS	Sn	00 07 10.4	-1.5
PNIG	Pinotepa	3.37	253	iP	Pn	00 06 56.9	-2.9
PNIG				iS	Sn	00 07 38.0	-2.4

TIF 19 00:34:45.2,42°59N×43°45E,h16km,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.00	209	P	Pg	00 34 48.7	+0.6

ISCJB 19 00:34:59.9±0.4,40°04N±0°02×33°14E±0°02,h7km±3km, mb3.5/6,MS3.8/1,Error ellipse: s-maj=2.8km s-min=2.4km az=12.5
MOS 19 00:34:59.9±1.3,40°02N×33°23E,h15km,mb3.9/4,Error ellipse: s-maj=13.7km s-min=7.7km az=93.1
DDA 19 00:34:59.9,39°96N×33°15E,h17km,MD4.0
CSEM 19 00:35:00.4±0.1,40°02N×33°13E,h2km,ML4.1,Error ellipse: s-maj=2.3km s-min=1.9km az=4.0
IDC 19 00:35:00.0±0.7,40°08N×33°33E,h0km,mb3.6/7, mb1 3.6/13,mb1mx3.4/45,mbtmp3.5/13,ML3.2/6,MS3.7/1, Ms1 3.7/1,ms1mx2.8/39,Error ellipse: s-maj=14.5km s-min=6.1km az=59.0
ISK 19 00:35:00.2,40°00N×33°10E,h8km,ML4.1
ISC 19 00:35:00.8±1.0,40°00N±0°02×33°16E±0°02,h4km±8km, n240,σ1°00/281,mb3.5/6,6C-5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	Ankara	0.31	246	PG	Pg	00 35 06.4	-0.4
ANTO	Ankara	0.31	246	iPg	Pg	00 35 06.4	-0.4
LOD	Lodumlu	0.32	251	PG	Pg	00 35 06.5	-0.5
LOD				eSG	Sg	00 35 11.4	+0.1
LOD	Lodumlu	0.32	251	iPg	Pg	00 35 06.5	-0.5
LOD				eSg	Sg	00 35 11.4	+0.1
DAD	Ankara	0.33	255	iP	Pg	00 35 06.7	-0.4
DAD				iS	Sg	00 35 11.9	+0.5
DAD	Ankara	0.33	255	iP	Pg	00 35 06.7	-0.4
DAD				iS	Sg	00 35 11.9	+0.5
BBAL	Bala	0.45	184	iP	Pg	00 35 08.8	-0.7
BBAL				iS	Sg	00 35 15.5	+0.1
BBAL	Bala	0.45	184	iP	Pg	00 35 08.8	-0.7
BBAL				iS	Sg	00 35 15.5	+0.1
BRTR	Keskin Array B	0.46	126	P	Pg	00 35 08.2	-1.4
BRTR						00 35 15.3	
BRTR				pmax	pmax		
	comp=Z,291nm,0.3s						
BRTR				smax	smax		
	comp=N,1.0nm,0.3s						
BRTR	Keskin Array B	0.46	126	Pg	Pg	00 35 08.2	-1.4
	comp=N,291nm,0.3s,baz=356,slow=11,SNR=6489						
BRTR				Lg	Lg	00 35 15.3	
	comp=N,1μm,0.3s,baz=300,slow=25,SNR=182						
BRTR				LR	LR	00 35 29.6	
	comp=N,34μm,20.9s,baz=314,slow=69						
BRTR	Keskin Array B	0.46	126	P	Pg	00 35 08.2	-1.4
	comp=N,291nm,0.3s						
BRTR				S	Sg	00 35 15.3	-0.2
	comp=N,1.0nm,0.3s						
ELDT	Eldivan	0.53	22	iP	Pg	00 35 11.3	+0.2
ELDT				iS	Sg	00 35 19.5	+1.5
ELDT	Eldivan	0.53	22	iP	Pg	00 35 11.3	+0.2
ELDT				iS	Sg	00 35 19.5	+1.5
AFSR	Af˘ar-Bala (A	0.55	187	ePG	Pg	00 35 10.7	-0.7
AFSR				eSG	Sg	00 35 18.7	+0.2
AFSR	Af˘ar-Bala (A	0.55	187	ePg	Pg	00 35 10.7	-0.7
AFSR				eSg	Sg	00 35 18.7	+0.2
CANT	Cankiri	0.70	30	ePG	Pg	00 35 14.6	+0.3
CDAG	Cicekdag	1.00	111	iP	Pg	00 35 18.5	-1.5
CDAG				iS	Sg	00 35 33.2	+0.2
CDAG	Cicekdag	1.00	111	iP	Pg	00 35 18.5	-1.5
CDAG				iS	Sg	00 35 33.2	+0.2
CORM	Corum	1.14	80	ePN	Pg	00 35 21.9	-0.7
CORM	Corum	1.14	80	ePn	Pg	00 35 21.9	-0.7
BCAM	Yenicaga	1.17	315	iP	Pg	00 35 22.6	-0.6
BCAM				iS	Sb	00 35 39.6	+0.4
BCAM	Yenicaga	1.17	315	iP	Pg	00 35 22.6	-0.6
BCAM				iS	Sb	00 35 39.6	+0.4
TOS	Tosya	1.23	32	ePN	Pg	00 35 23.6	-0.7
TOS	Tosya	1.23	32	ePn	Pg	00 35 23.6	-0.7
SAFT	Safranbolu	1.29	344	ePN	Pn	00 35 25.0	-0.6
SAFT	Safranbolu	1.29	344	ePn	Pn	00 35 25.0	-0.6
SVRH	Sivrihisar-ESK	1.38	247	ePN	Pn	00 35 25.9	-0.9
SVRH	Sivrihisar-ESK	1.38	247	ePn	Pn	00 35 25.9	-0.9
CTKT	Corum	1.39	63	iP	Pn	00 35 26.5	-0.6
CTKT				iS	Sn	00 35 48.5	+2.4
CTKT	Corum	1.39	63	iP	Pn	00 35 26.5	-0.6
CTKT				iS	Sn	00 35 48.5	+2.4
KIZT	Kizilcal	1.49	222	ePN	Pn	00 35 28.1	-0.3
KIZT	Kizilcal	1.49	222	ePn	Pn	00 35 28.1	-0.3
MDUB	Mudurnu	1.58	288	ePN	Pn	00 35 29.4	-0.2
MDUB	Mudurnu	1.58	288	ePn	Pn	00 35 29.4	-0.2
KAST	KASTAMONU	1.60	21	iP	Pb	00 35 30.7	-0.2
KAST				iS	Sg	00 35 54.0	+1.8
KAST	KASTAMONU	1.60	21	iP	Pb	00 35 30.7	-0.2
KAST				iS	Sg	00 35 54.0	+1.8
KDHN	Kadinhani	1.68	209	iP	Pn	00 35 30.6	-0.4
KDHN				iS	Sb	00 35 54.0	+0.2
KDHN	Kadinhani	1.68	209	iP	Pn	00 35 30.6	-0.4
KDHN				iS	Sb	00 35 54.0	+0.2
YOZ	Yozgat	1.70	101	ePN	Pn	00 35 31.8	+0.5
YOZ	Yozgat	1.70	101	ePn	Pn	00 35 31.8	+0.5
BTAS	Taskesti	1.75	290	iP	Pn	00 35 31.6	-0.3
BTAS				iS	Sb	00 35 56.4	+0.6
BTAS	Taskesti	1.75	290	iP	Pn	00 35 31.6	-0.3
BTAS				iS	Sb	00 35 56.4	+0.6
AVNT	Avonos	1.79	132	iP	Pn	00 35 32.4	-0.1
AVNT				iS	Sb	00 35 57.4	+0.4
AVNT	Avonos	1.79	132	iP	Pn	00 35 32.4	-0.1
AVNT				iS	Sb	00 35 57.4	+0.4
SULT	Sultanhani-AKS	1.81	171	ePN	Pn	00 35 32.0	-0.8
SULT	Sultanhani-AKS	1.81	171	ePn	Pn	00 35 32.0	-0.8
SEYT	Eskypehyr	1.84	256	iP	Pn	00 35 32.2	-1.0
SEYT	Eskypehyr	1.84	256	iP	Pn	00 35 32.2	-1.0
KDZE	Karadeniz Ereo	1.86	316	ePN	Pn	00 35 32.8	-0.5
KDZE	Karadeniz Ereo	1.86	316	ePn	Pn	00 35 32.8	-0.5
LADK	Ladik-KONYA	1.90	199	ePN	Pn	00 35 33.2	-0.8
LADK	Ladik-KONYA	1.90	199	ePn	Pn	00 35 33.2	-0.8
BZK	Bozkurt	2.06	18	ePN	Pn	00 35 36.8	+0.7
BZK	Bozkurt	2.06	18	ePn	Pn	00 35 36.8	+0.7
GULT	Gulveren	2.07	283	ePN	Pn	00 35 36.2	-0.2
GULT	Gulveren	2.07	283	ePn	Pn	00 35 36.2	-0.2
BORA	Eskisehir	2.09	268	iP	Pn	00 35 35.6	-0.9
BORA	Eskisehir	2.09	268	iP	Pn	00 35 35.6	-0.9
BORA				iS	Sg	00 36 08.8	+1.0
KONT	Konya--Tatoy	2.14	197	ePN	Pn	00 35 37.6	+0.3
KONT	Konya--Tatoy	2.14	197	ePn	Pn	00 35 37.6	+0.3
NIG	Nigde	2.19	149	ePN	Pn	00 35 39.1	+1.0
NIG	Nigde	2.19	149	ePn	Pn	00 35 39.2	+1.0
GPA	Golpazari	2.21	279	ePN	Pn	00 35 38.2	0.0
HAVZ	Havza	2.23	60	iP	Pn	00 35 38.8	+0.4
HAVZ				iS	Sg	00 36 11.4	-0.9
HAVZ	Havza	2.23	60	iP	Pn	00 35 38.8	+0.4
HAVZ				iS	Sg	00 36 11.4	-0.9
SPNC	Sapanca-Adapaz	2.29	288	ePN	Pn	00 35 38.5	-0.8
SPNC	Sapanca-Adapaz	2.29	288	ePn	Pn	00 35 38.5	-0.8
DIKM	Dikmen	2.29	43	ePN	Pn	00 35 40.3	+1.0
DIKM	Dikmen	2.29	43	ePn	Pn	00 35 40.3	+1.0
BNN	Bunyan	2.37	118	ePN	Pn	00 35 41.3	+0.8
BNN	Bunyan	2.37	118	ePn	Pn	00 35 41.3	+0.8
KVT	Kavak	2.45	63	ePN	Pn	00 35 41.6	+0.1
KVT	Kavak	2.45	63	ePn	Pn	00 35 41.6	+0.1
SHUT	Suhut-Afyon	2.49	235	ePN	Pn	00 35 41.7	-0.4
SHUT	Suhut-Afyon	2.49	235	ePn	Pn	00 35 41.7	-0.4
ALT	Altintas	2.54	249	P	Pn	00 35 42.2	-0.6
ALT	Altintas	2.54	249	ePN	Pn	00 35 42.2	-0.6
ALT	Altintas	2.54	249	P	Pn	00 35 42.2	-0.6
CAVI	Cavuskoy	2.56	276	ePN	Pn	00 35 42.4	-0.5
CAVI	Cavuskoy	2.56	276	ePn	Pn	00 35 42.4	-0.5
TOKA	Tokat	2.56	82	iP	Pn	00 35 43.5	+0.4
TOKA				iS	Sb	00 36 20.0	+0.9
TOKA	Tokat	2.56	82	iP	Pn	00 35 43.5	+0.4
TOKA				iS	Sb	00 36 20.0	+0.9
ADVT	Abdulvahap	2.66	281	ePN	Pn	00 35 44.2	-0.1
ADVT	Abdulvahap	2.66	281	ePn	Pn	00 35 44.2	-0.1
HRT	Hereke	2.79	288	ePN	Pn	00 35 46.0	-0.2
HRT	Hereke	2.79	288	ePn	Pn	00 35 46.0	-0.2
IZI	Iznik	2.85	278	ePN	Pn	00 35 46.5	-0.5
IZI	Iznik	2.85	278	ePn	Pn	00 35 46.5	-0.5
TVSB	Tavsanli	2.91	260	ePN	Pn	00 35 47.3	-0.6
TVSB	Tavsanli	2.91	260	ePn	Pn	00 35 47.3	-0.6
SILT	Sile	2.92	294	ePN	Pn	00 35 47.6	-0.2
SILT	Sile	2.92	294	ePn	Pn	00 35 47.7	-0.2
SVSK	Karacayir	2.95	90	ePN	Pn	00 35 49.7	+1.4
SVSK	Karacayir	2.95	90	ePn	Pn	00 35 49.7	+1.4
GDZ	Gediz	2.99	254	iP	Pn	00 35 49.5	+0.5
GDZ	Gediz	2.99	254	iP	Pn	00 35 49.5	+0.5
GDZ				iS	Sg	00 36 35.9	-0.8
GULE	Gulek	2.99	154	iP	Pn	00 35 50.4	+1.4
GULE	Gulek	2.99	154	iP	Pn	00 35 50.4	+1.4
GULE				iS	Sb	00 36 33.3	+1.7
ISP	Isparta	2.99	224	P	Pn	00 35 48.5	-0.5
ISP	Isparta	2.99	224	ePN	Pn	00 35 48.8	-0.3
ISP	Isparta	2.99	224	⇓iP	Pn	00 35 48.7	-0.3
ISP	Isparta	2.99	224	P	Pn	00 35 48.5	-0.5
ISP	Isparta	2.99	224	ePn	Pn	00 35 48.8	-0.3
GEMT	Gemlik	3.07	279	ePN	Pn	00 35 50.4	+0.4
GEMT	Gemlik	3.07	279	ePn	Pn	00 35 50.4	+0.4
KARA	Karaisali	3.11	151	ePN	Pn	00 35 51.7	+1.2
KARA	Karaisali	3.11	151	ePn	Pn	00 35 51.7	+1.2
RSDY	Resadiye-TOKAT	3.21	81	ePN	Pn	00 35 53.0	+1.0
RSDY	Resadiye-TOKAT	3.21	81	ePn	Pn	00 35 53.0	+1.0
BCK	Bucak	3.23	219	ePN	Pn	00 35 52.4	+0.1
BCK	Bucak	3.23	219	ePn	Pn	00 35 52.4	+0.1
KOZT	Kozan	3.26	139	ePN	Pn	00 35 53.8	+1.1
KOZT	Kozan	3.26	139	ePn	Pn	00 35 53.8	+1.1
MDNY	Mudanya-Bursa	3.30	278	ePN	Pn	00 35 53.0	-0.1
MDNY	Mudanya-Bursa	3.30	278	ePn	Pn	00 35 53.0	-0.1
MERS	Mersin	3.30	161	ePN	Pn	00 35 54.1	+0.8
MERS	Mersin	3.30	161	ePn	Pn	00 35 54.1	+0.8
ISK	Istanbul-Kandi	3.31	290	P	Pn	00 35 52.9	-0.3
ISK	Istanbul-Kandi	3.31	290	ePN	Pn	00 35 52.7	-0.5
ISK	Istanbul-Kandi	3.31	290	P	Pn	00 35 52.9	-0.3
ARMT	Armutlu	3.34	281	ePN	Pn	00 35 52.8	-0.9
ARMT	Armutlu	3.34	281	ePn	Pn	00 35 52.8	-0.9
KLYT	Kilyos	3.38	293	ePN	Pn	00 35 54.1	-0.1
KLYT	Kilyos	3.38	293	ePn	Pn	00 35 54.1	-0.1
ANDN	Andirin	3.46	133	iP	Pn	00 35 57.6	+2.1
ANDN	Andirin	3.46	133	iP	Pn	00 35 57.6	+2.1
ANDN				iS	Sg	00 36 49.9	-2.1
BGKT	Bogazkoy	3.55	291	ePN	Pn	00 35 56.5	0.0
BGKT	Bogazkoy	3.55	291	ePn	Pn	00 35 56.5	0.0
CEYT	Ceyhan	3.61	145	ePN	Pn	00 35 58.3	+1.0
CEYT	Ceyhan	3.61	145	ePn	Pn	00 35 58.3	+1.0
DURS	Dursunbey	3.63	265	iP	Pb	00 36 06.8	+1.3
DURS				iS	Sg	00 36 58.2	+0.7
DARE	Darende-Malaty	3.64	112	ePN	Pn	00 35 59.5	+1.5
DARE	Darende-Malaty	3.64	112	ePn	Pn	00 35 59.5	+1.5
CTKS	Kestanelik-??a	3.75	291	ePN	Pn	00 35 58.7	-0.7
CTKS	Kestanelik-??a	3.75	291	ePn	Pn	00 35 58.7	-0.7
KULA	Kula-Manisa	3.79	248	P	Pn	00 36 00.1	+0.1
KULA	Kula-Manisa	3.79	248	ePN	Pn	00 36 00.3	+0.2
KULA	Kula-Manisa	3.79	248	P	Pn	00 36 00.1	+0.1
KMRS	Kahramanmaras	3.84	129	ePN	Pn	00 36 02.1	+1.5
KMRS	Kahramanmaras	3.84	129	ePn	Pn	00 36 02.1	+1.5
SLVT	Silivri	3.97	290	ePN	Pn	00 36 02.1	-0.2
SLVT	Silivri	3.97	290	ePn	Pn	00 36 02.1	-0.2
CTYL	Yal??k??y-??at	3.99	293	ePN	Pn	00 36 02.2	-0.4
CTYL	Yal??k??y-??at	3.99	293	ePn	Pn	00 36 02.2	-0.4
AKCD	Akcadag	4.07	113	iP	Pn	00 36 05.1	+1.2
AKCD	Akcadag	4.07	113	iP	Pn	00 36 05.1	+1.2
AKCD				iS	Sb	00 37 06.8	+4.1
EDC	Edincik	4.08	277	ePN	Pn	00 36 04.2	+0.5
EDC	Edincik	4.08	277	ePn	Pn	00 36 04.3	+0.5
BALB	Balikesir	4.08	267	ePN	Pn	00 36 04.2	+0.3
BALB	Balikesir	4.08	267	ePn	Pn	00 36 04.2	+0.3
ILIC	ilic-Erzincan	4.20	96	ePN	Pn	00 36 07.6	+1.9
ILIC	ilic-Erzincan	4.20	96	ePn	Pn	00 36 07.6	+1.9
CRLT	Corlu	4.29	287	ePN	Pn	00 36 07.3	+0.6
CRLT	Corlu	4.29	287	ePn	Pn	00 36 07.3	+0.6
MRMT	Marmara Adasi	4.30	280	ePN	Pn	00 36 07.4	+0.4
MRMT	Marmara Adasi	4.30	280	ePn	Pn	00 36 07.4	+0.4
MALT	Malatya	4.42	111	ePN	Pn	00 36 10.6	+1.8
MALT	Malatya	4.42	111	⇑iP	Pn	00 36 09.7	+1.0
MALT	Malatya	4.42	111	ePn	Pn	00 36 10.6	+1.9
YAL	Yalta	4.55	9	eP	Pn	00 36 09.6	-0.7
YAL				eS	Sn	00 37 01.7	-1.9
YAL	Yalta	4.55	9	eP	Pn	00 36 09.6	-0.7
YAL				eS	Sn	00 37 01.7	-1.9
SEV	Sevastopol'	4.56	5	eP	Pn	00 36 08.7	-1.8
SEV				eS	Sn	00 37 01.4	-2.5
SEV	Sevastopol'	4.56	5	eP	Pn	00 36 08.7	-1.8
SEV				eS	Sn	00 37 01.4	-2.5
AYDB	Zeytinkoy-Aydi	4.59	245	ePN	Pn	00 36 11.6	+0.6
AYDB	Zeytinkoy-Aydi	4.59	245	ePn	Pn	00 36 11.6	+0.6

ALU	Alushta	4.77	11	eP	Pn	00 36 12.2	-1.2
ALU				eS	Sn	00 37 05.7	-3.4
ALU	Alushta	4.77	11	eP	Pn	00 36 12.2	-1.2
ALU				eS	Sn	00 37 05.7	-3.4
SIM	Simferopol'	5.00	8	P	Pb	00 36 26.3	-2.5
SIM				pmax	pmax		
	comp=E,16μm,0.9s						
SIM				MLR	MLR		
	comp=E,90nm,1.2s						
SUDU	Sudak	5.08	15	eP	Pn	00 36 18.2	+0.7
SUDU				eS	Sn	00 37 16.6	0.0
SUDU	Sudak	5.08	15	eP	Pn	00 36 18.2	+0.7
SUDU				eS	Sn	00 37 16.6	0.0
EDRB	Edirne	5.20	293	P	Pn	00 36 18.3	-1.0
EDRB	Edirne	5.20	293	P	Pn	00 36 18.3	-1.0
PSN	Preselentsi	5.23	316	P	Pn	00 36 19.7	0.0
PSN	Preselentsi	5.23	316	⇓iP	Pn	00 36 20.0	+0.3
PSN	Preselentsi	5.23	316	P	Pn	00 36 19.7	0.0
FEO	Feodosiya	5.28	17	eP	Pn	00 36 20.3	-0.1
FEO				eS	Sn	00 37 20.1	-1.5
FEO	Feodosiya	5.28	17	eP	Pn	00 36 20.3	-0.1
FEO				eS	Sn	00 37 20.1	-1.5
PRK	Paraskevi	5.37	264	P	Pn	00 36 21.4	-0.2
PRK	Paraskevi	5.37	264	P	Pn	00 36 21.4	-0.2
PRD	Provadia	5.38	308	P	Pn	00 36 21.3	-0.4
PRD	Provadia	5.38	308	P	Pn	00 36 21.3	-0.4
SMG	Samos	5.44	247	P	Pn	00 36 21.7	-0.9
SMG	Samos	5.44	247	P	Pn	00 36 21.7	-0.9
ALN	Alexandroupoli	5.50	282	P	Pn	00 36 22.5	-0.9
ALN	Alexandroupoli	5.50	282	P	Pn	00 36 22.5	-0.9
TIRR	Tirgusor	5.68	323	⇓iP	Pn	00 36 26.5	+0.6
MSAB	Monastry St. A	5.70	318	⇑iP	Pn	00 36 25.5	-0.6
CHOS	Chios island	5.75	256	P	Pn	00 36 25.8	-1.1
CHOS	Chios island	5.75	256	P	Pn	00 36 25.8	-1.1
SMTH	Samothraki Isl	5.86	277	P	Pn	00 36 27.1	-1.2
SMTH	Samothraki Isl	5.86	277	P	Pn	00 36 27.1	-1.2
TLB	Topalu	5.95	322	⇓iP	Pn	00 36 29.6	0.0
LIA	Limnos Island	6.13	272	P	Pn	00 36 32.0	-0.1
LIA	Limnos Island	6.13	272	P	Pn	00 36 32.0	-0.1
SZH	Strazhica	6.33	303	P	Pn	00 36 33.5	-1.2
SZH	Strazhica	6.33	303	P	Pn	00 36 33.5	-1.2
CFR	Carcaliu	6.37	326	⇑iP	Pn	00 36 34.5	-0.8
RZN	Rozhen	6.62	288	P	Pn	00 36 38.1	-0.9
RZN	Rozhen	6.62	288	P	Pn	00 36 38.1	-0.9
MMAI	Mount Meron Ar	7.20	165	Pn	Pn	00 36 46.9	+0.2
	comp=E,1.5nm,0.3s,baz=4.4,slow=13,SNR=13						
MMB	Musomiste	7.33	286	P	Pn	00 36 49.7	+1.1
MMB	Musomiste	7.33	286	⇑iP	Pn	00 36 48.3	-0.3
MMB	Musomiste	7.33	286	P	Pn	00 36 49.7	+1.1
MLR	Muntele Rosu	7.64	318	Pn	Pn	00 36 54.5	+1.7
	comp=E,0.0nm,0.3s,baz=146,slow=18,SNR=2.0						
MLR				Sn	Sn	00 38 23.3	+3.4
	comp=E,0.1nm,0.3s,baz=133,slow=19,SNR=2.3						
VTS	Vitosha	7.93	292	P	Pn	00 37 06.0	+9.1
VTS	Vitosha	7.93	292	⇑iP	Pn	00 36 56.8	-0.1
TESR	Tescani	8.06	326	⇑iP	Pn	00 36 57.6	-0.9
IDI	Anoyia	8.07	237	Pn	Pn	00 36 59.8	+1.1
	comp=E,1.4nm,0.3s,baz=53,slow=13,SNR=11						
KBZ	Khabaz	8.17	60	Pn	Pn	00 36 59.8	-0.2
	comp=E,0.1nm,0.3s,baz=251,slow=10,SNR=4.8						
ONI	Oni	8.17	68	P	Pn	00 37 00.2	+0.1
ONI	Oni	8.17	68	P	Pb	00 37 22.0	-0.8
ONI	Oni	8.17	68	P	Pn	00 37 00.2	+0.1
ZEI	Tsey	8.54	67	eP	Pn	00 37 05.7	+0.4
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZEI	Tsey	8.54	67	eP	Pn	00 37 05.7	+0.4
	comp=Z,3.0nm,0.9s						
BURAR	Bucovina Array	9.53	326	⇑iP	Pn	00 37 19.2	+0.4
AKASG	Malin Array Be	11.06	347	P	Pn	00 37 35.6	-3.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	11.06	347	Pn	Pn	00 37 35.6	-3.9
	comp=Z,0.7nm,0.3s,baz=160,slow=12,SNR=4.0						
KOLS	Kolonicke sedl	11.84	323	eP	Pn	00 37 51.1	+0.9
KOLS	Kolonicke sedl	11.84	323	ePN	Pn	00 37 51.1	+0.9
KOLS	Kolonicke sedl	11.84	323	eP	Pn	00 37 51.1	+0.9
CRVS	Cervenica-Dubn	12.20	321	e	Pn	00 38 01.9	+6.7
STHS	Stebnicka Huta	12.66	322	eP	Pn	00 37 59.6	-1.9
STHS	Stebnicka Huta	12.66	322	eP	Pn	00 37 59.6	-1.9
STHS	Stebnicka Huta	12.66	322	eP	Pn	00 37 59.6	-1.9
GERES	GERESS Array B	16.44	309	Pn	P	00 38 53.8	-1.3
	comp=Z,0.0nm,0.3s,baz=130,slow=9.1,SNR=2.4						
AKTK	Aktyubinsk	20.29	51	P	P	00 39 37.0	-0.3
	comp=Z,4.0nm,0.7s						
AKTO	Aktyubinsk	20.29	51	P	P	00 39 37.0	-0.3
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKTO	Aktyubinsk	20.29	51	P	P	00 39 37.0	-0.3
	comp=Z,4.2nm,0.7s,baz=260,slow=12,SNR=19						
FINES	FINESS Array B	21.91	351	P	P	00 39 53.8	-0.8
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	21.91	351	P	P	00 39 53.8	-0.8
	comp=Z,2.0nm,1.0s,baz=159,slow=12,SNR=5.7						
HFS	Hagfors	23.55	335	P	P	00 40 11.2	-0.6
HFS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HFS	Hagfors	23.55	335	P	P	00 40 11.2	-0.6
	comp=Z,2.5nm,1.0s,baz=170,slow=8.8,SNR=1.9						
MKAR	Makanchi Array	35.85	63	P	P	00 42 01.0	-0.4
MKAR	Makanchi Array	35.85	63	P	P	00 42 01.0	-0.4
	comp=Z,0.3nm,0.6s,baz=280,slow=7.5,SNR=5.6						
MKAR	Makanchi Array	35.85	63	P	P	00 42 01.0	-0.4
ZALV	Zalesovo Beam	37.05	50	P	P	00 42 10.9	-0.6
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	37.05	50	P	P	00 42 10.9	-0.6
	comp=Z,0.6nm,0.6s,baz=262,slow=8.6,SNR=2.5						
TORD	Torodi Ar. Bea	38.47	235	P	P	00 42 25.6	+1.8
	comp=Z,1.1nm,0.9s,baz=37,slow=9.1,SNR=9.9						
YKA	Yellowknife Ar	74.61	345	P	P	00 46 40.4	-0.2
	comp=Z,0.2nm,0.5s,baz=26,slow=5.3,SNR=6.8						
PETK	Petropavlovsk-	75.63	31	LR	LR	01 22 58.2	
	comp=Z,52nm,20.2s,baz=57,slow=38						

ISCJB 19 00:35:10.9±0.6,55.89N±0.05×153.47W±0.08,h23km, mb3.9/13,Error ellipse: s-maj=7.7km s-min=5.6km az=142.1
IDC 19 00:35:11.7±1.7,56.15N×153.68W,h0km,mb3.8/13, mb1 3.9/14,mb1mx3.8/31,mbtmp3.8/14,ML3.2/1,MS2.4/1, Ms1 2.5/1,ms1mx2.4/42,Error ellipse: s-maj=41.3km s-min=23.1km az=5.0
NEIC 19 00:35:13.3,55.89N×153.47W,h21km,ML3.5(AEIC),After AEIC.
ISC 19 00:35:14.5±0.8,56.04N±0.07×153.59W±0.06,h23km,n48, σ1.08/46,mb4.0/13,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	Sitkinak Islan	0.61	328	P	Pb	00 35 26.9	+0.3
SII				S	Sn	00 35 38.2	+1.2
OHAK	Old Harbor	1.20	8	P	Pn	00 35 35.1	-0.6
OHAK				S	Sn	00 35 50.1	-1.1
KDAK	Kodiak Island	1.83	17	P	Pn	00 35 44.0	-0.5
KDAK				S	Sn	00 36 06.2	-0.7
PLK4	Peulik 4	2.20	317	P	Pn	00 35 49.4	-0.3
PLK3	Peulik 3	2.21	319	P	Pn	00 35 49.6	-0.1
PLK3				S	Sb	00 36 18.4	-2.2
KABR	Katmai Barrier	2.23	341	P	Pn	00 35 49.7	-0.3
PLK2	Peulik 2	2.29	320	P	Pn	00 35 50.9	+0.1
KCE	Katmai Mt Cerb	2.37	339	P	Pn	00 35 53.0	+1.0
KAKN	Katmai Knife C	2.40	341	P	Pn	00 35 52.1	-0.2
PLK1	Peulik 1	2.42	318	P	Pn	00 35 52.4	-0.1
KVTA	Katmai Vly 10	2.52	339	P	Pn	00 35 54.4	+0.3
KAPH	Katmai Pasha	2.59	351	P	Pn	00 35 54.8	-0.3
KELA	Mount Kelaz	2.67	335	P	Pn	00 35 56.0	-0.1
CHGN	Chignik	2.71	277	P	Pn	00 35 54.8	-1.7
KAHC	Katmai Hardscr	2.72	344	P	Pn	00 35 56.9	0.0
VNHG	Veniaminof 1	3.12	276	P	Pn	00 36 02.1	-0.3
BRLK	Bradley Lake	4.00	20	P	Pn	00 36 12.5	-1.9
RDWB	Redoubt West	4.48	5	P	Pn	00 36 20.7	-0.3
SEW	Seward	4.63	27	P	Pn	00 36 21.5	-1.4
PS4A	Pavlof South-4	4.73	265	P	Pn	00 36 21.8	-2.5
HAG	Hague Volcano	4.76	265	P	Pn	00 36 22.7	-2.1
SLKM	Skilak Lake	4.82	20	P	Pn	00 36 24.2	-1.4
DRIA	Deer Island	5.05	261	P	Pn	00 36 26.0	-2.7
SVW2	Sparrevohn	5.17	349	P	Pn	00 36 30.1	-0.4
SUA	Susitna One	5.63	14	P	Pn	00 36 36.0	-0.8
FALS	False Pass	5.72	262	P	Pn	00 36 35.9	-1.9
ILAR	Eielson Array	9.36	18	Pn	Pn	00 37 26.4	-1.3
	0.4nm,0.3s,baz=207,slow=14,SNR=20						
ILAR				Sn	Sn	00 39 06.7	-5.4
	0.2nm,0.3s,baz=209,slow=20,SNR=4.6						
ILAR				LR	LR	00 40 16.8	
	comp=Z,24nm,20.4s,baz=264,slow=33						
INK	Inuvik	15.35	29	Pn	Pn	00 38 50.8	+1.5
	0.1nm,0.3s,baz=225,slow=12,SNR=3.5						
YKA	Yellowknife Ar	20.67	56	P	P	00 39 53.0	+0.7
	0.6nm,0.7s,baz=269,slow=9.1,SNR=16						
RES	Resolute Bay	28.90	28	P	P	00 41 10.8	-0.2
	0.8nm,0.7s,baz=238,slow=9.5,SNR=3.2						
TXAR	Lajitas Array	44.04	106	P	P	00 43 21.5	+1.1
	0.3nm,0.8s,baz=316,slow=6.3,SNR=3.7						
DAG	Danmarks Havn	44.42	13	iP	P	00 43 22.7	0.0
	2.4nm,0.7s						
H11N2	WAKE ISLAND Hy	46.72	235	T	T	01 33 51.2	
	baz=31,slow=76,SNR=52						
H11N3	WAKE ISLAND Hy	46.72	235	T	T	01 33 51.6	
	baz=31,slow=76,SNR=67						
H11N1	WAKE ISLAND Hy	46.73	235	T	T	01 33 52.1	
	baz=31,slow=76,SNR=51						
H11S1	WAKE ISLAND Hy	47.87	235	T	T	01 35 18.9	
	baz=29,slow=77,SNR=170						
H11S2	WAKE ISLAND Hy	47.88	235	T	T	01 35 19.9	
	baz=29,slow=77,SNR=80						
H11S3	WAKE ISLAND Hy	47.89	235	T	T	01 35 19.9	
	baz=29,slow=77,SNR=65						
ARCES	ARCESS Array B	54.73	0	P	P	00 44 40.8	-0.5
	4.8nm,0.9s,baz=7.6,slow=8.2,SNR=3.3						
SONM	Songino Array	56.91	308	P	P	00 44 57.9	+0.5
	0.9nm,0.7s,baz=40,slow=7.1,SNR=9.9						
ZALV	Zalesovo Beam	60.41	325	P	P	00 45 22.0	+0.5
	0.9nm,0.7s,baz=35,slow=7.5,SNR=5.1						
NOA	NORSAR Array B	62.65	8	P	P	00 45 37.1	+0.6
	0.3nm,0.5s,baz=334,slow=4.5,SNR=2.4						
FINES	FINESS Array B	62.85	0	P	P	00 45 37.6	-0.2
	0.9nm,0.8s,baz=0.0,slow=8.3,SNR=2.9						
HFS	Hagfors	63.73	7	P	P	00 45 43.9	+0.3
	3.4nm,0.9s,baz=356,slow=4.6,SNR=5.5						
BVAR	Borovoye Array	65.44	333	P	P	00 45 54.8	-0.1
	0.9nm,0.7s,baz=19,slow=6.3,SNR=8.1						
EKA	Eskdalemuir Ar	66.40	18	P	P	00 46 01.6	+0.5
	0.7nm,0.7s,baz=354,slow=5.1,SNR=2.6						
MKAR	Makanchi Array	67.35	322	P	P	00 46 07.0	-0.3
	0.2nm,0.5s,baz=38,slow=6.5,SNR=9.1						
AKTO	Aktyubinsk	70.69	339	P	P	00 46 28.1	+0.1
	1.0nm,0.8s,baz=183,slow=3.2,SNR=4.2						

DDA 19 01:02:27.7,37.92N×29.17E,h7km,MD2.7
ISCJB 19 01:02:28.7±0.7,37.93N±0.03×29.14E±0.08,h10km,Error ellipse: s-maj=8.9km s-min=4.6km az=12.7
CSEM 19 01:02:29.0±0.4,37.95N×29.14E,h2km,MD2.5,Error ellipse: s-maj=12.5km s-min=7.7km az=103.0
ISK 19 01:02:30.6,37.92N×28.94E,h5km,MD2.5
ISC 19 01:02:29.1±1.1,37.97N±0.03×29.11E±0.05,h10km,n14, σ1.05/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	Cakiroluk	0.28	189	iP	Pg	01 02 34.5	-0.5
DNZL				iS	Sg	01 02 36.7	-2.1
DNZL	Cakiroluk	0.28	189	iP	Pg	01 02 34.5	-0.5
DNZL				iS	Sg	01 02 36.7	-2.1
KHAL	Karahalli	0.50	37	iP	Pg	01 02 37.6	-1.4
KHAL				iS	Sg	01 02 46.2	+0.5
KHAL	Karahalli	0.50	37	iP	Pg	01 02 37.6	-1.4
KHAL				iS	Sg	01 02 46.2	+0.5
KULA	Kula-Manisa	0.65	327	ePG	Pb	01 02 43.2	+0.6
KULA				eSG	Sb	01 02 52.5	+0.8
KULA	Kula-Manisa	0.65	327	ePg	Pb	01 02 43.2	+0.6
KULA				eSg	Sb	01 02 52.5	+0.8
AYDB	Zeytinkoy-Aydi	0.96	269	ePG	Pg	01 02 47.1	-0.5
AYDB	Zeytinkoy-Aydi	0.96	269	ePg	Pg	01 02 47.1	-0.5
YER	Yerkesik	1.06	218	ePG	Pg	01 02 49.2	-0.3
YER	Yerkesik	1.06	218	ePg	Pg	01 02 49.2	-0.3
DALY	Dalyan (Mu˘la	1.21	197	ePN	Pg	01 02 52.3	0.0
DALY	Dalyan (Mu˘la	1.21	197	ePn	Pg	01 02 52.3	0.0
FETY	Fethiye	1.33	181	ePN	Pg	01 02 55.8	+1.1
FETY	Fethiye	1.33	181	ePn	Pg	01 02 55.8	+1.1

IDC 19 01:02:40.8±20.0,23.67S×179.93W,h249km±193km, mb3.5/4,mb1 3.8/4,mb1mx3.5/16,mbtmp4.1/4,Error ellipse: s-maj=126.3km s-min=52.6km az=174.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	Quilpie	32.52	257	P	P	01 08 50.0	+1.4
	baz=34,SNR=5.7						
MTSU	Mount Surprise	33.80	273	P	P	01 09 03.5	+3.7
	baz=36,SNR=9.5						
STKA	Stephens Creek	34.87	248	P	P	01 09 08.8	-0.1
	2.2nm,0.5s,baz=92,slow=11,SNR=9.3						
STKA	Stephens Creek	34.87	248	P	P	01 09 09.1	+0.3
	baz=36,SNR=5.7						
ASAR	Alice Springs	42.14	260	P	P	01 10 09.1	-0.2
	0.9nm,0.4s,baz=92,slow=7.7,SNR=18						
WRA	Warramunga Arr	42.49	266	P	P	01 10 12.0	-0.1
	3.5nm,0.4s,baz=104,slow=8.2,SNR=16						
KDU	Kakadu	46.34	275	P	P	01 10 42.9	+0.4
	baz=49,SNR=3.9						
KDU				S	S	01 17 24.8	+14
	baz=49,SNR=4.9						
WRKA	Warakurna	46.95	257	P	P	01 10 45.7	-1.6
	baz=49,SNR=16						
MTN	Manton Dam	47.51	274	S	S	01 17 33.1	+5.9
	baz=50,SNR=3.6						
KNRA	Kununurra	48.76	270	P	P	01 11 01.2	+0.2
	baz=51,SNR=3.3						
TXAR	Lajitas Array	90.25	58	P	P	01 15 13.6	-0.1
	0.3nm,0.6s,baz=220,slow=5.5,SNR=4.0						
BRTR	Keskin Array B	147.49	307	PKPbc	PKPbc	01 21 55.2	-0.6
	0.4nm,0.5s,baz=65,slow=2.4,SNR=3.8						

IDC 19 01:04:17.7±1.0,56.12N×153.67W,h0km,mb3.9/15, mb1 4.1/17,mb1mx3.9/30,mbtmp3.9/17,ML3.3/2,MS3.6/6, Ms1 3.6/6,ms1mx3.1/38,Error ellipse: s-maj=30.0km s-min=15.0km az=24.0
ISCJB 19 01:04:19.2±0.3,56.07N±0.03×153.69W±0.06,h23km, mb4.0/34,MS3.5/4,Error ellipse: s-maj=7.4km s-min=4.3km az=157.0
NEIC 19 01:04:19.3,55.92N×153.50W,h21km,mb4.1/19, ML3.7(AEIC),After AEIC.
ISC 19 01:04:20.9±0.6,56.05N±0.06×153.69W±0.05,h23km,n82, σ1.08/83,mb4.1/34,MS3.4/4,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	Sitkinak Islan	0.58	332	P	Pn	01 04 32.5	-1.3
SII				S	Sn	01 04 43.5	+1.0
OHAK	Old Harbor	1.19	11	P	Pn	01 04 40.8	-1.4
OHAK				S	Sn	01 04 56.1	-1.5
KDAK	Kodiak Island	1.84	19	P	Pn	01 04 49.6	-1.4
KDAK				S	Sn	01 05 12.1	-1.4
PLK4	Peulik 4	2.16	318	P	Pn	01 04 55.4	-0.2
PLK3	Peulik 3	2.17	320	P	Pn	01 04 55.2	-0.3
PLK3				S	Sb	01 05 23.9	-2.0
KABR	Katmai Barrier	2.20	342	P	Pn	01 04 55.4	-0.7
PLK2	Peulik 2	2.24	321	P	Pn	01 04 56.6	0.0
KCE	Katmai Mt Cerb	2.34	340	P	Pn	01 04 58.7	+0.7
KAKN	Katmai Knife C	2.37	342	P	Pn	01 04 58.4	0.0
PLK1	Peulik 1	2.37	319	P	Pn	01 04 58.4	0.0
KAWH	Katmai	2.41	346	P	Pn	01 04 58.1	-0.9
KVTA	Katmai Vly 10	2.49	340	P	Pn	01 04 59.9	-0.1
KAPH	Katmai Pasha	2.58	352	P	Pn	01 05 01.4	+0.1
KELA	Mount Kelaz	2.64	336	P	Pn	01 05 01.7	-0.5
CHGN	Chignik	2.65	277	P	Pn	01 05 00.7	-1.5
KAHC	Katmai Hardscr	2.70	345	P	Pn	01 05 02.8	-0.2
VNHG	Veniaminof 1	3.07	275	P	Pn	01 05 07.9	-0.2
RSO	Redoubt South	4.45	6	ePn	Pn	01 05 27.5	+0.4
RDWB	Redoubt West	4.47	5	P	Pn	01 05 26.9	-0.5
SEW	Seward	4.64	27	P	Pn	01 05 27.1	-2.4
PS4A	Pavlof South-4	4.67	265	P	Pn	01 05 27.9	-2.1
DOL	Dolgoi Island	4.72	262	P	Pn	01 05 28.6	-2.1
DRIA	Deer Island	4.99	261	P	Pn	01 05 31.8	-2.6
SVW2	Sparrevohn	5.16	350	P	Pn	01 05 35.5	-1.1
RC01	Rabbit Creek A	5.46	21	P	Pn	01 05 38.9	-1.9
STLK	Strandline Lak	5.55	9	P	Pn	01 05 41.7	-0.3
SUA	Susitna One	5.64	15	P	Pn	01 05 42.0	-1.4
FALS	False Pass	5.66	262	P	Pn	01 05 42.2	-1.3
TRF	Thorofare Moun	7.62	12	ePn	Pn	01 06 10.7	+0.2
	16nm,0.9s						
TRF				eSn	Sn	01 07 36.5	+0.4
KTH	Kantishna Hill	7.65	9	ePn	Pn	01 06 12.3	+1.4
KTH				eSn	Sn	01 07 38.5	+1.7
UNV	Unalaska Valle	7.70	259	ePn	Pn	01 06 08.3	-3.2
MCK	McKinley	8.06	15	ePn	Pn	01 06 16.4	-0.1
MCK				eSn	Sn	01 07 44.0	-2.9
COLA	College	9.30	16	ePn	Pn	01 06 33.8	+0.5
ILAR	Eielson Array	9.36	18	Pn	Pn	01 06 33.1	-1.2
	0.4nm,0.3s,baz=205,slow=13,SNR=29						
ILAR				Sn	Sn	01 08 12.2	-6.6
	0.2nm,0.3s,baz=211,slow=22,SNR=4.4						
ILAR				LR	LR	01 10 42.4	
	comp=Z,332nm,20.5s,baz=222,slow=41						
IM04	Indian Mountai	9.96	360	ePn	Pn	01 06 41.5	-0.8
DLBC	Dease Lake	13.01	70	Pn	Pn	01 07 24.3	+0.1
	0.1nm,0.3s,baz=285,slow=16,SNR=2.4						
DLBC				LR	LR	01 12 09.2	
	comp=Z,189nm,19.1s,baz=288,slow=36						
INK	Inuvik	15.37	29	Pn	Pn	01 07 56.2	+0.3
	0.1nm,0.3s,baz=229,slow=11,SNR=8.1						
INK	Inuvik	15.37	29	ePn	Pn	01 07 55.7	-0.3
	8.3nm,1.2s						
YKW3	Yellowknife Ar	20.71	56	eP	P	01 08 59.2	0.0
	0.1nm,0.9s						
YKA	Yellowknife Ar	20.71	56	P	P	01 08 59.1	-0.1
	0.6nm,0.7s,baz=270,slow=9.3,SNR=18						
BILL	Bilibino	21.79	319	eP	P	01 09 11.7	+1.0
	3.8nm,0.6s						
B08A	Colville Reser	22.23	96	eP	P	01 09 16.3	+0.6
	7.2nm,1.1s						
H04A	Detroit Lake	22.88	106	eP	P	01 09 21.5	-1.1
	7.1nm,1.0s						
NEW	Newport	23.52	94	P	P	01 09 28.8	-0.2
	1.3nm,0.8s,baz=339,slow=9.2,SNR=5.0						
NEW				LR	LR	01 17 06.7	
	comp=Z,75nm,21.1s,baz=291,slow=33						
NEW	Newport	23.52	94	eP	P	01 09 29.0	0.0
	2.5nm,0.8s						
I07A	Izee	24.72	104	eP	P	01 09 41.2	+0.8
	83nm,2.9s						
K05A	Summer Lake	24.89	108	eP	P	01 09 43.5	+1.5
	70nm,2.3s						
WVOR	Wild Horse Val	26.30	106	eP	P	01 09 55.4	+0.7
	3.0nm,0.8s						
ELK	Elko	29.30	105	P	P	01 10 22.2	+0.6
	0.7nm,0.7s,baz=333,slow=2.3,SNR=3.9						
ELK				LR	LR	01 20 42.1	
	comp=Z,52nm,20.4s,baz=1.0,slow=34						
NVAR	Mina Array Bea	29.35	112	P	P	01 10 22.4	+0.3
	1.0nm,0.8s,baz=308,slow=8.7,SNR=5.7						
NVAR				LR	LR	01 20 18.4	
	comp=Z,131nm,19.2s,baz=36,slow=33						
DUG	Dugway	31.01	103	eP	P	01 10 37.5	+0.9
	2.4nm,1.1s						
AMTX	Amarillo	40.96	99	eP	P	01 12 02.4	+0.7
	8.0nm,0.9s						
MNTX	Cornudas Mount	41.33	105	eP	P	01 12 04.9	+0.2
	1.3nm,1.0s						
TXAR	Lajitas Array	44.09	106	P	P	01 12 27.6	+0.4
	1.0nm,0.8s,baz=308,slow=6.1,SNR=11						
SUMG	Summit	44.17	23	iP	P	01 12 35.5	+7.8
	2.6nm,0.8s						
DAG	Danmarks Havn	44.43	13	iP	P	01 12 28.8	-0.4
	4.1nm,0.9s						
SFJD	Kangerlussuaq	44.66	33	iP	P	01 12 33.5	+2.4
	6.6nm,0.8s						
H11N2	WAKE ISLAND Hy	46.68	235	T	T	02 02 52.4	
	baz=31,slow=76,SNR=71						
H11N3	WAKE ISLAND Hy	46.68	235	T	T	02 02 52.7	
	baz=31,slow=76,SNR=89						
H11N1	WAKE ISLAND Hy	46.70	235	T	T	02 02 53.7	
	baz=31,slow=76,SNR=51						
H11S1	WAKE ISLAND Hy	47.83	235	T	T	02 04 20.7	
	baz=29,slow=77,SNR=243						
H11S2	WAKE ISLAND Hy	47.84	235	T	T	02 04 21.7	
	baz=29,slow=77,SNR=140						
H11S3	WAKE ISLAND Hy	47.85	235	T	T	02 04 25.0	
	baz=29,slow=77,SNR=109						
ARCES	ARCESS Array B	54.72	0	P	P	01 13 48.6	+1.0
	4.2nm,0.9s,baz=6.7,slow=8.4,SNR=3.4						
ULN	Ulaanbaatar	56.55	307	eP	P	01 14 00.8	-0.5
	1.3nm,0.6s						
SONM	Songino Array	56.86	308	P	P	01 14 04.0	+0.5
	2.3nm,0.9s,baz=41,slow=6.6,SNR=22						
SONM				PcP	PcP	01 15 00.0	+1.1
	1.0nm,0.8s,baz=33,slow=1.8,SNR=3.9						
SONM				LR	LR	01 40 48.5	
	comp=Z,148nm,18.1s,baz=90,slow=38						
ZAA0	Zalesovo Array	60.36	325	eP	P	01 14 27.2	-0.4
ZALV	Zalesovo Beam	60.36	325	P	P	01 14 28.1	+0.5
	1.8nm,0.6s,baz=32,slow=8.7,SNR=10						
NOA	NORSAR Array B	62.64	8	P	P	01 14 43.0	0.0
	0.8nm,0.7s,baz=353,slow=6.7,SNR=3.6						
FINES	FINESS Array B	62.84	0	P	P	01 14 44.2	0.0
	0.8nm,0.7s,baz=4.6,slow=7.0,SNR=4.8						
KURK	Kurchatov	65.11	326	eP	P	01 14 58.7	-0.5
	0.8nm,0.7s						
BRVK	Borovoye	65.40	333	eP	P	01 15 00.8	-0.3
	2.5nm,0.8s						
EKA	Eskdalemuir Ar	66.40	18	P	P	01 15 07.8	+0.3
	0.6nm,0.6s,baz=212,slow=28,SNR=2.4						
MKAR	Makanchi Array	67.31	322	P	P	01 15 13.3	-0.2
	0.6nm,0.6s,baz=36,slow=7.3,SNR=9.9						
ABKAR	Akbulak array	71.38	337	eP	P	01 15 38.3	-0.2
	0.7nm,0.5s						
TKM2	Tokmak 2	72.97	324	eP	P	01 15 48.8	+0.3
	1.5nm,0.7s						
AAK	Ala-Archa	73.58	325	eP	P	01 15 52.1	+0.1
	1.3nm,0.7s						
AKASG	Malin Array Be	73.59	358	P	P	01 15 51.0	-0.6
	0.9nm,0.6s,baz=2.5,slow=6.0,SNR=6.8						
EKS2	Erkin-Say	73.79	326	eP	P	01 15 53.4	+0.2
	1.9nm,0.9s						
KKAR	Karatay Array	74.39	328	eP	P	01 15 56.8	+0.2
	1.9nm,0.8s						
GERES	GERESS Array B	74.94	9	P	P	01 15 59.2	-0.6
	0.4nm,0.7s,baz=343,slow=6.3,SNR=4.1						
CMAR	Chiang Mai Arr	84.17	294	P	P	01 16 50.2	0.0
	1.6nm,0.5s,baz=6.9,slow=5.7,SNR=8.1						

JMA 19 01:07:31.0±0.2,28.07N×140.62E,h356km,M3.8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.69	125	P	Pn	01 08 21.0	+0.1
CBIJ				S	S	01 09 00.1	-0.9
JHHJ	Haha-jima-NKT	2.00	136	P	Pn	01 08 23.0	+0.1
JHHJ				S	S	01 09 04.1	-0.4
BSO1	Boso 1	6.57	3	P	P	01 09 09.5	+0.5
BSO1				eS	S	01 10 26.1	-0.3

IDC 19 01:10:58.3±2.1,17.07S×175.21W,h0km,mb4.0/5, mb1 4.4/5,mb1mx4.0/18,mbtmp4.0/5,MS3.7/7,Ms1 3.7/7, ms1mx3.4/23,Error ellipse: s-maj=129.4km s-min=24.7km az=152.0
ISCJB 19 01:11:02.0±1.8,17.0S±0.7×175.4W±0.4,h33km,mb3.8/5, MS3.7/5,Error ellipse: s-maj=113.2km s-min=20.7km az=152.1
ISC 19 01:11:03.7±1.9,17.0S±0.7×175.3W±0.4,h35km,n27, σ0.93/8,mb3.8/5,MS3.7/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	15.27	108	LR	LR	01 19 04.2	
	comp=Z,84nm,21.1s,baz=267,slow=32						
DZM	Mont Dzumac	17.92	251	eLR	LR	01 19 30.1	
	643nm,25.2s						
DZM	Mont Dzumac	17.92	251	LR	LR	01 20 55.1	
	comp=Z,378nm,21.7s,baz=36,slow=33						
URZ	Urewera	22.20	196	LR	LR	01 23 08.9	
	comp=Z,216nm,18.1s,baz=22,slow=33						
PAE	Paea	24.57	95	eT	T	01 40 38.4	
	1.8nm,0.2s						
PPT2	Papeete2	24.57	95	eLR	LR	01 21 53.2	
	567nm,26.2s						
PPT2	Papeete2	24.57	95	eT	T	01 40 40.0	
	2.5nm,0.3s						
PPT	Papeete	24.57	95	LR	LR	01 22 47.1	
	comp=Z,174nm,21.9s,baz=252,slow=29						
HNR	Honiara	25.21	284	LR	LR	01 25 09.5	
	comp=Z,263nm,20.7s,baz=114,slow=34						

MEH	Mehetia	26.00	96	eT	T	01 42 24.3	
	12nm,0.2s						
VAH	Vaihoa	26.64	90	eT	T	01 43 23.5	
	6.2nm,0.3s						
RKT	Rikitea	38.29	106	eLR	LR	01 28 08.5	
	313nm,24.8s						
WRA	Warramunga Arr	47.71	258	P	P	01 19 36.9	-0.5
	0.8nm,0.9s,baz=90,slow=7.4,SNR=5.1						
ASAR	Alice Springs	47.88	253	P	P	01 19 39.0	+0.3
	1.1nm,0.8s,baz=89,slow=8.5,SNR=11						
JCJ	Chichijima	60.18	316	LR	LR	01 43 10.9	
	comp=Z,61nm,19.0s,baz=50,slow=32						
NVAR	Mina Array Bea	76.74	43	P	P	01 22 50.4	-1.5
	0.5nm,0.8s,baz=234,slow=7.3,SNR=3.3						
TXAR	Lajitas Array	83.02	57	P	P	01 23 26.9	+1.0
	0.8nm,0.9s,baz=218,slow=5.7,SNR=6.1						
TXAR				LR	LR	01 53 47.2	
	comp=Z,34nm,18.7s,baz=0.0,slow=31						
ILAR	Eielson Array	84.37	12	P	P	01 23 32.6	+0.7
	1.8nm,1.2s,baz=222,slow=4.2,SNR=4.2						
CLL	Collm	145.13	351	eP	PKPdf	01 30 37.0	-0.4
	comp=Z,4.0nm,0.9s						
CLL				i		01 30 43.8	
	comp=Z,13nm,1.3s						
UPC	Upice	145.36	347	eP	PKPab	01 30 45.4	+7.5
DPC	Dobruska-Polom	145.44	347	eP	PKPab	01 30 46.9	+8.7
OKC	Ostrava-Krasne	145.49	345	eP	PKPab	01 30 45.8	+7.5
KRLC	Kraliky	145.59	346	eP	PKPab	01 30 47.3	+8.5
PRU	Pruhonice	146.15	349	eP	PKPab	01 30 46.9	+6.1
BRTR	Keskin Array B	146.17	318	PKPbc	PKPab	01 30 41.9	+0.5
	comp=Z,1.6nm,1.1s,baz=113,slow=3.7,SNR=5.1						
KHC	Kasperske Hory	147.15	349	eP	PKPab	01 30 50.8	+6.0
GERES	GERESS Array B	147.40	349	PKPbc	PKPbc	01 30 43.8	-0.2
	comp=Z,0.2nm,0.6s,baz=357,slow=2.0,SNR=3.1						

ISCJB **19** *01:18:13.1±1.4, 40.56N±0.05×27.37E±0.06, h17km±14km, Error ellipse: s-maj=9.2km s-min=7.7km az=14.0*
DDA **19** *01:18:13.9, 40.51N×27.25E, h7km, MD2.7*
CSEM **19** *01:18:13.1±0.1, 40.57N×27.36E, h15km, MD1.8, Error ellipse: s-maj=1.7km s-min=1.3km az=4.0*
ISK **19** *01:18:13.0, 40.56N×27.36E, h14km, MD1.8*
ISC 19 01:18:13.0±1.1, **40.56N**±0.04×**27.38E**±0.03, **h18**km±3km, **n12**, σ0§**10**/18, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBG	Karabiga-Canak	0.17	200	ePG	Pg	01 18 17.6	0.0
KRBG				eSG	Sg	01 18 20.7	+0.1
KRBG	Karabiga-Canak	0.17	200	ePg	Pg	01 18 17.6	0.0
KRBG				eSg	Sg	01 18 20.7	+0.1
MRMT	Marmara Adasi	0.17	74	ePG	Pg	01 18 17.7	0.0
MRMT				eSG	Sg	01 18 20.7	-0.2
MRMT	Marmara Adasi	0.17	74	ePg	Pg	01 18 17.7	0.0
MRMT				eSg	Sg	01 18 20.7	-0.2
SART	Tekirdag	0.20	312	iP	Pg	01 18 18.1	+0.1
SART				iS	Sg	01 18 21.5	0.0
SART	Tekirdag	0.20	312	iP	Pg	01 18 18.1	+0.1
SART				iS	Sg	01 18 21.5	0.0
RKY	Sarkoy-Tekirda	0.20	311	ePG	Pb	01 18 17.8	0.0
RKY	Sarkoy-Tekirda	0.20	311	ePg	Pb	01 18 17.8	0.0
EDC	Edincik	0.43	119	ePG	Pb	01 18 22.1	0.0
EDC	Edincik	0.43	119	ePg	Pb	01 18 22.1	0.0
LPK	Lapseki	0.50	249	ePG	Pg	01 18 23.0	-0.1
LPK	Lapseki	0.50	249	ePg	Pg	01 18 23.0	-0.1

IDC 19 01:24:46.9±4.1, **11.52N×86.52W, h92**km±66km, **mb3.4**/3, **mb1 3.7**/3, **mb1mx3.2**/21, **mbtmp3.7**/3, **MS3.5**/2, **Ms1 3.6**/2, **ms1mx2.9**/19, **Error ellipse: s-maj=63.6km s-min=59.1km az=115.0, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS	JuntasAbangare	1.96	128	P	Pn	01 25 18.8	0.0
	18nm,0.3s,baz=305,slow=19,SNR=24						
JTS				S	Sn	01 25 53.5	+10
	18nm,0.3s,baz=266,slow=19,SNR=6.0						
TXAR	Lajitas Array	23.87	320	P	P	01 29 52.0	0.0
	1.0nm,0.7s,baz=135,slow=9.8,SNR=14						
NVAR	Mina Array Bea	39.00	319	LR	LR	01 50 18.6	
	comp=Z,61nm,18.0s,baz=82,slow=39						
ULM	Lac du Bonnet	39.38	351	P	P	01 32 06.2	-1.1
	2.1nm,0.7s,baz=173,slow=8.1,SNR=5.1						
YKA	Yellowknife Ar	54.75	344	P	P	01 34 07.3	+0.7
	0.3nm,0.6s,baz=136,slow=7.7,SNR=11						
ILAR	Eielson Array	67.23	336	LR	LR	02 09 22.3	
	comp=Z,37nm,19.1s,baz=290,slow=40						
WRA	Warramunga Arr	139.88	253	PKP	PKPdf	01 44 03.8	-1.5
	0.4nm,1.0s,baz=89,slow=2.0,SNR=3.8						

TIF 19 02:05:34.0, 42.57N×43.48E, h14km**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONI	Oni	0.03	317	P	Pg	02 05 37.0	+0.3
ONI	Oni	0.03	317	P	Pg	02 05 37.0	+0.4

MEX 19 02:05:59.3±0.4, **15.62N×96.76W, h6**km±10km, **MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.64	76	eP	Pg	02 06 10.8	-0.9
HUIG				eS	Sg	02 06 19.8	-0.2
VHO	Vista Hermosa	1.45	1	iP	Pn	02 06 22.2	-4.1
VHO				eS	Sn	02 06 40.1	-5.6
OXX	Oaxaca	1.46	1	iP	Pn	02 06 25.9	-0.5
OXX				eS	Sn	02 06 44.0	-2.0
PNIG	Pinotepa	1.53	300	iP	Pn	02 06 22.9	-4.3
PNIG				eS	Sn	02 06 42.4	-5.0
CMIG	Matias Romero	2.32	51	iP	Pn	02 06 34.3	-3.7
CMIG				eS	Sn	02 07 02.5	-4.3

MEX 19 02:12:48.1±0.3, **15.57N×96.76W, h8**km±10km, **MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.66	73	eP	Pg	02 12 59.6	-1.1
HUIG				eS	Sg	02 13 08.6	-0.7
VHO	Vista Hermosa	1.49	1	iP	Pn	02 13 11.4	-4.2
VHO				eS	Sn	02 13 29.9	-5.5
OXX	Oaxaca	1.50	1	iP	Pn	02 13 15.4	-0.3
OXX				eS	Sn	02 13 32.9	-2.8
PNIG	Pinotepa	1.55	302	iP	Pn	02 13 12.4	-3.7
PNIG				eS	Sn	02 13 31.3	-5.2
CMIG	Matias Romero	2.35	50	iP	Pn	02 13 23.4	-3.7
CMIG				eS	Sn	02 13 52.2	-4.0

BKK **19** *02:15:23.8±0.4, 13°N±3°×9°3E±°, h10km, M4.8/24, mB5.3/17, mb4.9/24, MLv5.0/15, Mw(mB)4.7/17*
IDC **19** *02:15:27.7±0.5, 12.91N×93.68E, h85km±3km, mb4.3/25, mb1 4.4/27, mb1mx4.3/32, mbtmp4.6/27, MS3.5/17, Ms1 3.5/17, ms1mx3.3/46, Error ellipse: s-maj=12.5km s-min=8.8km az=57.0*
ISCJB **19** *02:15:27.6±0.4, 12.92N±0.02×93.64E±0.02, h100km±3km, mb4.7/115, Error ellipse: s-maj=4.3km s-min=3.4km az=136.7*
MOS **19** *02:15:28.3±0.9, 12.92N×93.70E, h109km, mb4.9/67, Error ellipse: s-maj=8.4km s-min=3.9km az=118.7*
BJI **19** *02:15:28.5, 12.95N×93.59E, h109km, mB4.9/34, mb4.8/55*
NEIC **19** *02:15:29.9±0.6, 12.96N×93.66E, h106km±5km, mb4.8/58, Error ellipse: s-maj=6.1km s-min=3.5km az=55.0*
KLM **19** *02:15:29.0, 13.13N×93.76E, h78km, mb4.9, MS5.7*
DJA **19** *02:15:32.0±1.2, 13°N±4°×9°4E±1°4, h82km±9km, M5.1/17, mB5.4/10, mb5.0/17, MLv5.5/2, Mw(mB)4.8/10*
ISC 19 02:15:28.9±0.3, **12.96N**±0.03×**93.62E**±0.04, **h97**km±2km, **h96**km**:pP-P, n447,** σ1§**46**/519, **mb4.8**/115**, 42C-24D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	0.70	288	eP	Pn	02 15 43.3	-2.8
DGPR				eS	Sn	02 15 54.8	-4.2
DGPR				AML	AML	02 15 58.0	
	comp=E,23µm,0.8s						
DGPR				AML	AML	02 15 59.1	
	comp=N,19µm,0.4s						
PBA	Port Blair	1.56	214	eP	Pn	02 15 54.3	-1.5
PBA				eS	Sn	02 16 14.5	-1.6
PBA				AML	AML	02 16 21.4	
	comp=E,6µm,0.8s						
PBA				AML	AML	02 16 24.9	
	comp=N,8µm,0.6s						
KHLT	Khaolaem Dam	5.16	69	P	Pn	02 16 43.6	-0.2
	comp=N,44nm,0.7s,comp=N,0.1nm						
SRDT	SRDT	5.52	75	P	Pn	02 16 48.6	-0.1
	comp=N,157nm,0.7s,comp=N,4µmcomp=N,1.1nm						
PHET	Kaeng Krachan	5.86	90	P	Pn	02 16 53.1	-0.2
	comp=N,1µm,0.6s,comp=N,16µmcomp=N,5.6nm						
CMBY	CAMPBELL BAY	5.92	177	eP	Pn	02 16 56.7	+2.4
CMBY				ex	x	02 17 46.9	
SURT	Suratani	6.46	128	P	Pn	02 17 01.6	+0.2
	comp=N,55nm,0.8s,comp=N,496nmcomp=N,0.2nm						
MHMT	Maesarieng	6.64	38	P	Pn	02 17 03.0	-1.0
	comp=N,64nm,0.7s,comp=N,696nmcomp=N,0.3nm						
PATY	Pattaya	7.06	90	P	Pn	02 17 11.7	+2.0
	comp=N,16nm,0.5s,comp=N,3µmcomp=N,0.2nm						
CMAR	Chiang Mai Arr	7.49	42	P	Pn	02 17 15.5	-0.1
CMAR				S	Sn	02 18 36.5	-2.4
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
CMAR				smax	smax		
	comp=N,3.0nm,0.3s						
CMAR	Chiang Mai Arr	7.49	42	P	Pn	02 17 15.4	-0.1
	comp=N,9.9nm,0.3s,baz=233,slow=15,SNR=215						
CMAR				S	Sn	02 18 36.5	-2.4
	comp=N,3.2nm,0.3s,baz=233,slow=27,SNR=5.8						
CHTO	Chiang Mai	7.75	41	eP	Pn	02 17 18.8	-0.3
CHTO				e		02 18 39.9	
CHTO	Chiang Mai	7.75	41	P	Pn	02 17 19.1	0.0
	comp=N,371nm,0.8s,comp=N,4µmcomp=N,1.6nm						
CHTO	Chiang Mai	7.75	41	ePn	Pn	02 17 18.8	-0.3
CHTO				eSn	Sn	02 18 39.9	-5.3
CMMT	Chiang Mai	7.75	41	P	Pn	02 17 19.0	-0.1
	comp=N,118nm,0.9s,comp=N,2µmcomp=N,0.5nm						
PBKT	Sadao Pong	7.96	62	P	Pn	02 17 23.3	+1.4
	comp=N,36nm,0.8s,comp=N,21µmcomp=N,1.1nm						
LAMP	Lampang	8.00	46	P	Pn	02 17 22.9	+0.4
	comp=N,104nm,0.7s,comp=N,1µmcomp=N,0.4nm						
UTTA	Uttaradit	8.20	54	P	Pn	02 17 25.9	+0.7
	comp=N,6.8nm,0.9s,comp=N,112nmcomp=N,0.0nm						
LHMI	Lhok Sumawe	8.36	157	P	Pn	02 17 30.2	+2.8
	comp=N,164nm,1.0s						
LHMI	Lhok Sumawe	8.36	157	ePn	Pn	02 17 28.9	+1.5
LHMI				eSn	Sn	02 18 56.0	-4.1
LOEI	Loei	8.65	58	P	Pn	02 17 36.8	+5.4
CMAI	Chiengmai2	8.66	36	P	Pn	02 17 31.8	+0.1
	comp=N,33nm,0.7s,comp=N,2µmcomp=N,0.2nm						
PAYA	Payao	8.74	43	P	Pn	02 17 33.3	+0.7
	comp=N,39nm,0.8s,comp=N,599nmcomp=N,0.1nm						
KCSI	Kotacane, Aceh	10.24	156	P	Pn	02 17 55.2	+2.2
	comp=N,80nm,1.0s,comp=N,884nm						
KULM	Kulim	10.31	137	ePn	Pn	02 17 50.5	-3.4
KULM				eSn	Sn	02 19 40.4	-7.3
KULM	Kulim	10.31	137	⇓P	Pn	02 17 54.8	+0.8
VIS	Vishakhapatnam	10.99	297	eP	Pn	02 18 00.6	-2.6
VIS				eS	Sn	02 19 51.2	-13
VIS				AML	AML	02 19 57.0	
	comp=N,1µm,0.8s						
VIS				AML	AML	02 19 57.1	
	comp=E,991nm,0.6s						
IPM	Ipoh	11.16	138	ePn	Pn	02 18 04.7	-0.8
IPM	Ipoh	11.16	138	⇓P	Pn	02 18 04.4	-1.1
PSI	Prapat	11.38	152	P	Pn	02 18 09.5	+0.9
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,303nm,19.5s						
PSI	Prapat	11.38	152	P	Pn	02 18 09.5	+0.9
	comp=Z,1.2nm,0.3s,baz=338,slow=13,SNR=17						
PSI				LR	LR	02 22 23.0	
	comp=Z,303nm,19.5s,baz=326,slow=36						
PSI	Prapat	11.38	152	⇓P	Pn	02 18 10.1	+1.5
	baz=11,SNR=9.6						
FRIM	Kepong	12.49	140	⇑P	P	02 18 32.8	+1.7
SHL	Shillong	12.64	353	eP	Pn	02 18 22.8	-2.6
SHL				AMB	AMB	02 18 24.5	
	comp=Z,25nm,0.9s						
SHL				eS	Sn	02 20 33.1	-12
SLVN	Son La	12.87	48	ePn	Pn	02 18 29.4	+1.0
BOK	Bokaro	13.03	327	eP	Pn	02 18 28.4	-2.0
BOK				AMB	AMB	02 18 31.2	
	comp=Z,34nm,1.3s						
MDRS	Chennai	13.03	272	ex	Sn	02 20 45.2	-8.7
MNSI	Mandailing Nat	13.46	154	P	P	02 18 40.8	-1.1
	comp=Z,31nm,0.7s						
PALK	Pallekele	13.91	247	LR	LR	02 24 12.0	
	comp=Z,286nm,19.8s,baz=67,slow=38						
BKNI	Bangkinang	14.55	149	P	P	02 18 54.4	+0.3
	comp=Z,91nm,0.9s,comp=Z,19µm						
KMI	Kunming	14.84	34	P	P	02 18 59.8	+2.3
KMI				pmax	pmax		
	comp=Z,23nm,1.0s						
MYKOM	Kota Tinggi	15.03	137	eP	P	02 18 58.7	-0.6
	comp=Z,67nm,1.0s						
HYB	Hyderabad	15.20	289	eP	P	02 19 01.0	-0.3
HYB				eS	Sn	02 21 45.0	-1.4
HYB	Hyderabad	15.20	289	iP	P	02 19 01.0	-0.3
HYB				eS	Sn	02 21 45.0	-1.4
HYB	Hyderabad	15.20	289	ex	x	02 21 30.4	
HYB				AMB	AMB	02 21 34.0	
	comp=Z,39nm,2.3s						
HYB	Hyderabad	15.20	289	eP	P	02 19 01.0	-0.3
HYB				eS	Sn	02 21 45.0	-1.4
PDSI	Padang	15.37	153	P	Pn	02 19 01.7	+1.1
	comp=Z,49nm,1.0s,comp=Z,5µm						
NGP	Nagpur	16.12	302	eP	P	02 19 10.8	-0.7
NGP				ex	x	02 19 15.4	
	comp=Z,62nm,1.2s						
NGP				ex	x	02 21 54.8	
JIRN	Jiri	16.19	336	eP	Pn	02 19 10.7	-0.4
	comp=Z,96nm,0.4s						
PKI	Pulchoki	16.44	333	eP	Pn	02 19 14.3	+0.1
	comp=Z,113nm,0.4s						
PKIN	Phulchoki	16.45	333	eP	Pn	02 19 14.0	-0.3
	comp=Z,127nm,0.5s						
GUN	Gumba	16.54	335	eP	Pn	02 19 15.6	+0.2
	comp=Z,184nm,0.8s						
GUN	Gumba	16.54	335	eP	Pn	02 19 15.6	+0.2
	comp=Z,184nm,0.8s						
DMN	Daman	16.60	333	eP	Pn	02 19 15.9	-0.3
	comp=Z,140nm,0.7s						
DMN	Daman	16.60	333	eP	Pn	02 19 15.9	-0.3
	comp=Z,140nm,0.7s						
KKN	Kakani	16.68	333	eP	P	02 19 17.7	-0.2
	comp=Z,80nm,0.7s						
KKN	Kakani	16.68	333	eP	P	02 19 17.7	-0.2
KKN				pmax	pmax		
	comp=Z,80nm,0.7s						
KKN	Kakani	16.68	333	eP	P	02 19 17.7	-0.2
	comp=Z,80nm,0.7s						
LSA	Lhasa	16.81	353	P	Pn	02 19 17.5	-1.4
LSA	Lhasa	16.81	353	eP	Pn	02 19 17.5	-1.4
LSA				pmax	pmax		
	comp=Z,34nm,0.7s						
LSA	Lhasa	16.81	353	ePn	Pn	02 19 17.5	-1.4
	comp=Z,34nm,0.7s						
GKN	Gorkha	17.15	332	eP	Pn	02 19 22.7	-0.1
	comp=Z,121nm,0.4s						
KOLN	Koldanda	17.45	329	eP	Pn	02 19 26.8	+0.3
	comp=Z,151nm,0.6s						
KOLN	Koldanda	17.45	329	eP	Pn	02 19 26.8	+0.3
	comp=Z,151nm,0.6s						
DANN	Dangsing	17.86	331	eP	Pn	02 19 31.3	-0.2
	comp=Z,128nm,0.6s						
DANN	Dangsing	17.86	331	eP	Pn	02 19 31.3	-0.2
	comp=Z,128nm,0.6s						
MASI	Maura Aman, Be	18.15	151	P	Pn	02 19 37.0	+2.2
	comp=Z,190nm,0.7s,comp=Z,5µm						
GYA	Guiyang	18.17	40	⇑iP	Pn	02 19 35.5	+0.4
GYA				pP	pP	02 19 52.8	+0.4
GYA				sP	sP	02 20 08.4	+3.8
GYA				S	S	02 22 51.0	-6.2
GYA				sS	sS	02 23 18.6	-8.7
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.6s						
BHPL	Bhopal	18.46	306	eP	P	02 19 37.5	+0.3
BHPL				AMB	AMB	02 19 40.2	
	comp=Z,40nm,1.2s						
BHPL				ex	x	02 22 48.9	
KAD	Karad	19.25	285	eP	P	02 19 45.0	-1.0
KAD				ex	x	02 23 06.1	
MNAI	Manna	19.55	151	P	P	02 19 47.5	-1.7
MNAI	Manna	19.55	151	⇑P	P	02 19 47.1	-2.1
	baz=20,SNR=14						
KSM	Kuching	20.09	123	eP	P	02 19 55.2	+0.2
	comp=Z,22nm,0.8s						
KSM	Kuching	20.09	123	⇑P	P	02 19 55.5	+0.5
CD2	Chengdu	20.16	26	P	P	02 19 56.4	+0.7
CD2				pP	pP	02 20 16.5	+2.3
CD2				PP	PnPn	02 20 21.5	+4.2
CD2				sP	sP	02 20 30.4	+4.0
CD2				S	S	02 23 32.1	-4.8
CD2				sS	sS	02 24 02.6	-4.9
CD2				SS	SnSn	02 24 08.5	+6.0
CD2				pmax	pmax		
	comp=Z,150nm,0.6s						
CD2				pmax	pmax		
	comp=Z,170nm,5.5s						
MDSI	Maura Dua	20.26	148	P	P	02 19 54.6	-2.3
LGTI	Lohaghat	20.57	325	ex	Pn	02 20 08.6	+5.4
LWLI	Liwa	20.66	149	P	Pn	02 20 03.8	-0.6
	comp=Z,89nm,0.8s						
SBUM	Sibu	21.16	118	eP	P	02 20 07.5	+0.9
	comp=Z,169nm,2.2s						
STKI	Sintang	21.86	125	P	P	02 20 16.0	+2.0
	comp=Z,48nm,0.5s						
NDI	New Delhi	21.86	318	eP	P	02 20 15.0	+1.1
NDI				eS	S	02 24 10.0	+0.1
AJM	Ajmer	22.32	310	eP9	P	02 20 20.0	+1.2
AJM				eS	S	02 24 15.0	-2.9
DDI	Dehra Dun	22.48	323	eP	P	02 20 21.6	+1.1
DDI				AMB	AMB	02 20 23.8	
	comp=Z,222nm,0.5s						
ENH	Enshi	22.63	38	eP	P	02 20 21.1	-0.9
	comp=Z,11nm,0.6s						
KKM	Kota Kinabalu	23.31	105	eP	P	02 20 29.6	+0.8
	comp=Z,36nm,1.0s						
SMLA	Simla	23.59	323	eP	P	02 20 31.1	+0.1
SMLA				AMB	AMB	02 20 32.9	
	comp=Z,71nm,1.1s						
SMLA				ex	x	02 24 51.3	
SDNR	Sundarnagar	23.98	323	eP	P	02 20 36.6	+2.0
LZH	Lanzhou	24.80	20	eP	P	02 20 43.3	+1.2
LZH				pP	pP	02 21 05.6	+2.1
LZH				sP	sP	02 21 19.3	+4.4
LZH				pmax	pmax		
	comp=Z,75nm,1.0s						
LZH				pmax	pmax		
	comp=Z,380nm,5.0s						
LZH				LR	LR		
	comp=Z,170nm,17.7s						
LZH				LR	LR		
	comp=Z,160nm,15.3s						
LZH				LR	LR		
	comp=Z,140nm,18.0s						
DHRM	DHARAMSHALA	24.91	323	eP	P	02 20 44.3	+0.9
DHRM				AMB	AMB	02 20 44.7	
	comp=Z,102nm,2.3s						
XAN	Xi'an	25.18	31	P	P	02 20 44.4	-1.1
XAN				pP	pP	02 21 06.3	-0.6
XAN				S	S	02 24 57.3	-6.4
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,19nm,5.0s						
XAN				LR	LR		
	comp=Z,38nm,15.4s						
XAN				LR	LR		
	comp=Z,41nm,12.3s						
GTA	Gaotai	26.91	11	P	P	02 21 02.6	+1.5
GTA				pP	pP	02 21 25.9	+3.2
GTA				sP	sP	02 21 39.8	+5.8
GTA				pmax	pmax		
	comp=Z,29nm,1.1s						
SGKI	Sangatta, Kali	27.30	118	P	P	02 21 16.6	+12
NJ2	Nanjing	29.94	46	eP	P	02 21 27.6	-0.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MRSI	Marisa	30.69	112	P	P	02 21 43.1	+8.3
KSH	Kashi	30.70	333	P	P	02 21 34.1	-0.7
KSH				esP	sP	02 22 11.8	+4.0
KSH				S	S	02 26 25.3	-5.4
KSH				PcS	PcS	02 28 11.8	-2.8
KSH				SS	SnSn	02 28 15.4	-3.6
KSH				pmax	pmax		
	comp=Z,53nm,0.7s						
KSH				LR	LR		
	comp=Z,130nm,5.1s						
KSH				LR	LR		
	comp=Z,82nm,5.5s						
KSH				LR	LR		
	comp=Z,68nm,10.2s						
WMQ	Urumqi	31.17	352	P	P	02 21 40.5	+1.7
WMQ				PP	PnPn	02 22 45.9	+1.4
WMQ				S	S	02 26 39.9	+2.1
WMQ				PcS	PcS	02 28 16.4	+0.6
WMQ				SS	SnSn	02 28 30.4	+0.2
WMQ				ScS	ScS	02 32 04.6	+1.3
WMQ				pmax	pmax		
	comp=Z,26nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.6s						
WMQ				LR	LR		
	comp=Z,110nm,22.8s						
WMQ				LR	LR		
	comp=Z,170nm,22.4s						
WMQ				LR	LR		
	comp=Z,83nm,21.4s						
KAPI	Kappang	31.51	123	eP	P	02 21 41.4	-0.6
	comp=Z,43nm,1.1s						
HHC	Hu-ho-hao-te	31.92	26	eP	P	02 21 47.8	+2.3
HHC				PP	PP	02 22 58.3	-1.1
HHC				S	S	02 26 50.1	+0.4
HHC				sS	sS	02 27 33.3	+5.8
HHC				SS	SnSn	02 28 50.1	+1.6
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
HHC				LR	LR		
	comp=Z,200nm,16.3s						
HHC				LR	LR		
	comp=Z,260nm,15.5s						
HHC				LR	LR		
	comp=Z,200nm,15.5s						
ULHL	Ulahol	32.85	336	P	ScP	02 28 14.7	+2.8
	SNR=8.1						
ULHL	Ulahol	32.85	336	P	P	02 21 54.8	+1.1
	SNR=7.2						
ULHL	Ulahol	32.85	336	iP	P	02 21 54.8	+1.1
KZA	Kyzart	33.12	335	P	ScP	02 28 15.9	+2.8
	SNR=7.6						
KZA	Kyzart	33.12	335	P	P	02 21 57.5	+1.2
	SNR=12						
KZA	Kyzart	33.12	335	iP	P	02 21 57.5	+1.2
BJT	Baijiatuau	33.47	32	eP	P	02 21 59.9	+1.0
BJT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BJT	Baijiatuau	33.47	32	eP	P	02 21 59.9	+1.0
	comp=Z,8.2nm,0.5s						
BJI	Beijing	33.49	32	P	P	02 22 00.1	+1.1
BJI				pP	pP	02 22 21.5	+0.5
BJI				sP	sP	02 22 33.8	+1.7
BJI				S	S	02 27 05.9	-7.9
BJI				sS	sS	02 27 54.0	+2.3
BJI				ScS	ScS	02 32 10.0	-5.1
BJI				pmax	pmax		
	comp=Z,15nm,0.6s						
BJI				pmax	pmax		
	comp=Z,160nm,6.5s						
UCH	Uchtor	33.55	334	P	ScP	02 28 17.4	+2.7
	SNR=8.2						
UCH	Uchtor	33.55	334	P	P	02 22 01.1	+1.0
	SNR=13						
UCH	Uchtor	33.55	334	iP	P	02 22 01.1	+1.0
TKM2	Tokmak 2	33.67	336	P	ScP	02 28 17.0	+2.2
	SNR=6.1						
TKM2	Tokmak 2	33.67	336	P	P	02 22 02.0	+1.1
	SNR=19						
TKM2	Tokmak 2	33.67	336	eP	P	02 22 02.0	+1.1
TKM2				e		02 24 39.2	
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TKM2	Tokmak 2	33.67	336	eP	P	02 22 01.9	+1.1

comp=Z,10.0nm,0.6s
TKM2 ePcP PcP 02 24 39.2 +0.4
TKM2 eScP ScP 02 28 17.0 +2.2
KBK Karagaybulak 33.72 335 P P 02 22 03.0 +1.7
SNR=10
KBK Karagaybulak 33.72 335 i P P 02 22 02.9 +1.7
AML Almayashu 33.83 333 P ScP 02 28 17.8 +2.2
SNR=6.8
AML Almayashu 33.83 333 P P 02 22 03.9 +1.4
SNR=38
AML Almayashu 33.83 333 i P P 02 22 03.8 +1.4
AAK Ala-Archa 33.89 334 P ScP 02 28 18.0 +2.5
SNR=12
AAK Ala-Archa 33.89 334 P P 02 22 04.5 +1.7
SNR=21
AAK Ala-Archa 33.89 334 eP P 02 22 04.4 +1.7
AAK 02 24 40.7
AAK pmax pmax
comp=Z,22nm,1.1s
AAK Ala-Archa 33.89 334 P P 02 22 04.3 +1.7
comp=Z,12nm,0.9s,baz=154,slow=7.4,SNR=41
AAK PcP PcP 02 24 40.7 +1.4
comp=Z,4.1nm,0.7s,baz=173,slow=6.4,SNR=4.8
AAK Ala-Archa 33.89 334 eP P 02 22 04.4 +1.7
comp=Z,22nm,1.1s
AAK PcP PcP 02 24 40.7 +1.4
AAK ePcP PcP 02 24 41.1 +1.8
AAK eScP ScP 02 28 17.9 +2.5
CHMS Chumysh 34.08 335 P P 02 22 05.3 +1.1
SNR=16
CHMS Chumysh 34.08 335 i P P 02 22 05.3 +1.1
EKS2 Erkin-Say 34.22 334 P ScP 02 28 19.3 +2.7
SNR=7.9
EKS2 Erkin-Say 34.22 334 P P 02 22 07.3 +1.8
SNR=41
EKS2 Erkin-Say 34.22 334 eP P 02 22 07.2 +1.7
EKS2 e 02 24 41.8
EKS2 pmax pmax
comp=Z,21nm,0.8s
EKS2 Erkin-Say 34.22 334 eP P 02 22 07.2 +1.7
comp=Z,21nm,0.8s
EKS2 ePcP PcP 02 24 41.8 +1.5
EKS2 eScP ScP 02 28 19.5 +2.9
USP Ospenovka 34.41 335 P P 02 22 08.3 +1.2
SNR=42
USP Ospenovka 34.41 335 i P P 02 22 08.2 +1.2
MKAR Makanchi Array 35.05 346 P P 02 22 12.9 +0.5
MKAR 02 24 43.3
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR pmax pmax
comp=N,1.0nm,0.9s
MKAR Makanchi Array 35.05 346 P P 02 22 12.9 +0.5
comp=N,5.2nm,0.5s,baz=164,slow=7.9,SNR=78
MKAR PcP PcP 02 24 43.3 +0.9
comp=N,2.3nm,0.7s,baz=134,slow=3.0,SNR=5.6
MKAR ScP ScP 02 28 20.0 +0.6
comp=N,1.1nm,0.9s,baz=122,slow=2.9,SNR=5.0
MKAR LR LR 02 41 47.7
comp=N,49nm,18.0s,baz=169,slow=45
KKAR Karatay Array 36.05 331 eP P 02 22 22.0 +0.9
KKAR Karatay Array 36.05 331 eP P 02 22 22.0 +0.9
KKAR eScP ScP 02 28 24.7 +1.6
SONM Songino Array 36.37 15 P P 02 22 24.5 +0.7
SONM 02 24 47.7
SONM pmax pmax
comp=Z,10.0nm,0.9s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=N,1.0nm,0.7s
SONM MLR MLR
comp=Z,69nm,20.2s
SONM Songino Array 36.37 15 P P 02 22 24.5 +0.7
comp=Z,9.6nm,0.9s,baz=200,slow=7.1,SNR=66
SONM PcP PcP 02 24 47.7 +1.3
comp=Z,1.2nm,0.7s,baz=204,slow=2.7,SNR=3.7
SONM ScP ScP 02 28 25.9 +1.6
comp=Z,1.0nm,0.7s,baz=202,slow=3.0,SNR=7.4
SONM LR LR 02 39 08.0
comp=Z,69nm,20.2s,baz=173,slow=39
ULN Ulaanbaatar 36.56 15⇓eP P 02 22 26.0 +0.5
ULN pmax pmax
comp=Z,11nm,0.8s
ULN MLR MLR
comp=Z,68nm,21.0s
ULN Ulaanbaatar 36.56 15 eP P 02 22 25.6 +0.1
comp=Z,10nm,0.9s
HATD Hatta, Dubai 37.26 294⇑i P P 02 22 34.5 +2.9
SNR=16
NAZ Nazwa, Dubai 37.71 294 i P P 02 22 37.7 +2.3
SNR=9.8
FAQ Al Faqa, Dubai 37.72 294 i P P 02 22 38.0 +2.5
SNR=9.6
ASUD Al Ashush, Dub 37.94 293 i P P 02 22 40.2 +2.9
SNR=16
ZAK Zakamensk 38.14 10⇓i P P 02 22 39.9 +1.1
ZAK e 02 24 52.7
ZAK pmax pmax
comp=Z,6.0nm,1.0s
MOY Mondy 39.06 7 eP P 02 22 48.2 +1.7
KSAR Wonju Array Be 39.09 45 P P 02 22 46.4 -0.4
KSAR Wonju Array Be 39.09 45 P P 02 22 46.4 -0.4
KSRS Korea Array 39.12 45 P P 02 22 46.4 -0.6
KSRS pmax pmax
comp=Z,4.0nm,0.5s
KSRS MLR MLR
comp=Z,37nm,21.7s
KSRS Korea Array 39.12 45 P P 02 22 46.4 -0.6
comp=Z,3.5nm,0.5s,baz=240,slow=8.5,SNR=12
KSRS LR LR 02 40 23.8
comp=Z,37nm,21.7s,baz=238,slow=38
TLY Talaya 39.46 10 eP P 02 22 52.1 +2.4
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY MLR MLR
comp=Z,61nm,19.0s
TLY Talaya 39.46 10 eP P 02 22 51.4 +1.8
comp=Z,9.6nm,0.9s
KURK Kurchatov 39.59 345 eP P 02 22 51.4 +0.7
KURK e 02 28 38.0
KURK pmax pmax
comp=Z,15nm,1.2s
KURK Kurchatov 39.59 345 eP P 02 22 51.4 +0.7
comp=Z,15nm,1.2s
KURK eScP ScP 02 28 38.0 +1.8
CN2 Changchun 41.11 36 eP P 02 23 04.1 +0.7
CN2 pmax pmax
comp=Z,10.0nm,0.9s
ZALV Zalesovo Beam 41.48 352 P P 02 23 06.8 +0.6
ZALV pmax pmax
comp=Z,38nm,0.5s
ZALV MLR MLR
comp=Z,15nm,28.6s
ZALV Zalesovo Beam 41.48 352 P P 02 23 06.8 +0.6
comp=Z,38nm,0.5s,baz=177,slow=8.8,SNR=234
ZALV LR LR 02 41 19.1
comp=Z,43nm,19.1s,baz=85,slow=37
MBWA Marble Bar 42.52 143 eP P 02 23 13.4 -1.7
comp=Z,11nm,0.8s
NVS Novosibirsk 42.57 351⇓i P P 02 23 15.2 +0.1
NVS i 02 23 36.9
NVS eS S 02 29 26.4 -4.0
NVS pmax pmax
comp=N,14nm,0.8s
NVS pmax pmax
comp=Z,21nm,0.8s
NVS pmax pmax
comp=E,11nm,1.0s
NVS smax smax
comp=N,17nm,2.8s
NVS smax smax
comp=E,33nm,3.2s
BVAR Borovoye Array 44.05 340 P P 02 23 27.0 -0.1
BVAR 02 25 11.7
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 44.05 340 P P 02 23 27.0 -0.1
comp=Z,4.6nm,0.6s,baz=142,slow=8.8,SNR=32
BVAR PcP PP 02 25 11.7 +0.2
comp=Z,2.6nm,0.6s,baz=146,slow=4.8,SNR=6.6
BRVK Borovoye 44.11 340 eP P 02 23 27.7 +0.2
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 44.11 340 eP P 02 23 27.7 +0.2
comp=Z,9.8nm,0.8s
FITZ Fitzroy Crossi 44.17 134 ⇑P P 02 23 27.3 -1.1
baz=44
USRK Ussuriysk Arra 45.20 39 P P 02 23 36.0 -0.3
comp=Z,1.0nm,0.6s,baz=260,slow=5.8,SNR=4.9
ABKAR Akbulak array 45.58 329 eP P 02 23 40.3 +1.1
ABKAR eScP ScP 02 29 01.9 +1.5
ABKAR Akbulak array 45.58 329 P P 02 23 40.4 +1.2
baz=46
MEEK Meekatharra 46.26 148 ⇓P P 02 23 43.4 -1.4
baz=46,SNR=13
RAYN Ar Rayn 46.70 290 eP P 02 23 49.3 +0.8
comp=Z,5.1nm,0.8s
MORW Morawa 47.07 153 P P 02 23 50.4 -0.7
baz=47,SNR=6.4
AKTO Aktyubinsk 47.29 330 P P 02 23 53.1 +0.4
AKTO pmax pmax
comp=Z,16nm,0.6s
AKTO MLR MLR
comp=Z,53nm,19.1s
AKTO Aktyubinsk 47.29 330 P P 02 23 53.1 +0.4
comp=Z,16nm,0.6s,baz=122,slow=8.2,SNR=79
AKTO LR LR 02 45 35.9
comp=Z,52nm,19.1s,slow=38
BLDU Ballidu 48.69 153 ⇓P P 02 24 02.5 -1.1
baz=49,SNR=5.4
KLBR Kellerberrin 49.99 153 ⇑P P 02 24 12.4 -1.1
baz=50,SNR=10
SVE Sverdlovsk 50.52 337⇑i P P 02 24 18.1 +0.9
SVE pmax pmax
comp=Z,30nm,0.8s
GNI Garni 50.61 312 eP P 02 24 20.7 +2.3
GNI pmax pmax
comp=Z,60nm,1.2s
GNI Garni 50.61 312 LR LR 02 48 13.2
comp=Z,43nm,20.3s,baz=99,slow=39
GNI Garni 50.61 312 eP P 02 24 20.7 +2.3
comp=Z,60nm,1.2s
GNI Garni 50.61 312⇑i P P 02 24 20.9 +2.5
SNR=18
WRKA Warakurna 50.70 138 P P 02 24 18.0 -1.0
baz=51,SNR=19
NWAO Narrogin (SRO) 50.90 154 P P 02 24 19.0 -1.3
NWAO pmax pmax
comp=Z,14nm,0.5s
NWAO Narrogin (SRO) 50.90 154 P P 02 24 19.0 -1.3
comp=Z,14nm,0.5s,baz=330,slow=7.7,SNR=13
ARU Arti 51.05 336d i P P 02 24 21.4 +0.3
ARU 02 26 14.3
ARU S S 02 31 38.9 +7.8
ARU SS SS 02 34 59.9 -7.4
ARU pmax pmax
comp=Z,27nm,1.7s
ARU Arti 51.05 336 eP P 02 24 21.2 +0.1
comp=Z,12nm,0.7s
WRA Warramunga Arr 51.72 129 P P 02 24 25.5 -1.2
WRA *PP pP 02 24 47.7 -2.4
WRA 02 25 38.3
WRA pmax pmax
comp=Z,6.0nm,0.7s
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA pmax pmax
comp=N,1.0nm,0.6s
WRA Warramunga Arr 51.72 129 P P 02 24 25.5 -1.2
comp=N,6.2nm,0.7s,baz=308,slow=8.0,SNR=47
WRA pP pP 02 24 47.7 -2.4
comp=N,1.8nm,0.7s,baz=307,slow=8.3,SNR=4.6
WRA PcP PcP 02 25 38.3 -0.7
comp=N,1.3nm,0.5s,baz=320,slow=3.2,SNR=8.8
WRA ScP ScP 02 29 26.1 -0.9
comp=N,0.6nm,0.6s,baz=318,slow=3.9,SNR=5.3
WRAB Tennant Creek 51.72 129 eP P 02 24 26.1 -0.6
WRAB pmax pmax
comp=Z,8.0nm,0.7s
WRAB Tennant Creek 51.72 129 eP P 02 24 26.1 -0.6
comp=Z,8.1nm,0.7s
ZEI Tsey 52.06 315 eP P 02 24 29.8 +0.6
ZEI pmax pmax
comp=Z,19nm,0.8s
RKGY Rocky Gully 52.26 156 ⇓P P 02 24 29.6 -0.8
baz=52,SNR=8.2
KBZ Khabaz 53.06 315 P P 02 24 37.5 +1.2
KBZ pmax pmax
comp=Z,5.0nm,0.7s
KBZ pmax pmax
comp=N,3.0nm,0.9s
KBZ Khabaz 53.06 315 P P 02 24 37.5 +1.2
comp=N,5.4nm,0.7s,baz=112,slow=7.6,SNR=22
KBZ ScP ScP 02 29 33.5 +1.0
comp=N,2.6nm,0.8s,baz=150,slow=6.4,SNR=4.9
KIV Kislovodsk 53.28 316d i P P 02 24 39.3 +1.2
KIV e 02 26 35.2
KIV pmax pmax
comp=Z,51nm,1.0s
KIV Kislovodsk 53.28 316 eP P 02 24 39.1 +1.1
comp=Z,37nm,0.8s
KIV Kislovodsk 53.28 316⇑i P P 02 24 39.4 +1.4
SNR=22
GOF Gofitskoye 53.41 317 eP P 02 24 40.2 +1.3
GOF pmax pmax
comp=Z,35nm,0.8s
ASPA Alice Springs 53.64 133 ⇑P P 02 24 39.8 -1.0
baz=54
ASAR Alice Springs 53.64 133 P P 02 24 39.8 -1.0
ASAR 02 25 45.6
ASAR pmax pmax
comp=Z,4.0nm,0.4s
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR pmax pmax
comp=N,1.0nm,0.6s
ASAR MLR MLR
comp=Z,16nm,28.6s
ASAR Alice Springs 53.64 133 P P 02 24 39.8 -1.0
comp=Z,4.3nm,0.4s,baz=308,slow=6.8,SNR=111
ASAR PcP PcP 02 25 45.6 -0.5
comp=Z,1.2nm,0.6s,baz=318,slow=4.3,SNR=4.8
ASAR ScP ScP 02 29 33.5 -1.8
comp=Z,0.7nm,0.6s,baz=313,slow=4.7,SNR=5.5
ASAR LR LR 02 48 54.4
comp=Z,46nm,20.7s,baz=336,slow=38
AS19 Alice Springs 53.70 133 ⇓P P 02 24 40.6 -0.7
baz=54
FORT Forrest 54.66 143 eP P 02 24 47.7 -0.4
comp=Z,32nm,1.1s
YAK Yakutsk 55.38 20 P P 02 24 52.8 0.0
YAK pmax pmax
comp=Z,14nm,0.7s
COEN Coen 55.91 117 eP P 02 24 56.0 -1.3
MMAI Mount Meron Ar 56.48 301 LR LR 02 53 05.2
comp=Z,46nm,18.8s,baz=70,slow=40
VRHR Novokhopersk 56.53 323 eP P 02 25 00.4 -0.8
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
EIL Elat 56.57 297 LR LR 02 53 40.4
comp=Z,31nm,18.6s,baz=106,slow=40
EIL Elat 56.57 297 ⇓P P 02 25 02.5 +0.6
baz=57,SNR=4.2
KMBO Kilima Mbogo 57.62 260 P P 02 25 11.5 +1.7
KMBO pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 57.62 260 P P 02 25 11.5 +1.7
comp=Z,0.8nm,0.7s,baz=46,slow=12,SNR=4.5
KMBO Kilima Mbogo 57.62 260 eP P 02 25 11.3 +1.4
comp=Z,1.8nm,0.8s
PMG Port Moresby 57.63 110⇑eP P 02 25 10.0 +0.5
PMG pmax pmax
comp=Z,20nm,2.5s
VORD Divnogorie 57.85 323 eP P 02 25 09.5 -1.0
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 58.01 323 eP P 02 25 10.5 -1.1
VSR pmax pmax
comp=N,7.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
CSS Prodhromos 58.40 303 eP P 02 25 14.1 -0.6
comp=Z,2.3nm,0.8s
BRTR Keskin Array B 58.80 309 P P 02 25 17.2 -0.3
BRTR *PP pP 02 25 40.2 -1.2
BRTR pmax pmax
comp=Z,16nm,0.7s
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR MLR MLR
comp=Z,16nm,28.6s
BRTR Keskin Array B 58.80 309 P P 02 25 17.2 -0.3
comp=Z,16nm,0.7s,baz=114,slow=7.4,SNR=120
BRTR pP pP 02 25 40.2 -1.2
comp=Z,6.1nm,0.8s,baz=124,slow=6.7,SNR=4.6
BRTR ScP ScP 02 29 59.8 +1.8
comp=Z,0.4nm,1.0s,baz=89,slow=6.2,SNR=3.6
BRTR LR LR 02 53 50.8
comp=Z,28nm,18.1s,baz=94,slow=39
ANTO Ankara 59.47 309 eP P 02 25 22.6 +0.6
ANTO pmax pmax
comp=Z,9.0nm,0.7s
ANTO Ankara 59.47 309 eP P 02 25 22.6 +0.6
comp=Z,9.4nm,0.7s
PRGR Permogore 59.51 336 eP P 02 25 21.1 -0.7
PRGR pmax pmax
comp=Z,27nm,0.6s
OBN Obninsk 60.85 326d i P P 02 25 30.9 -0.1
OBN i 02 26 14.5
OBN e 02 27 49.2
OBN eS S 02 34 04.7 +24
OBN pmax pmax
comp=Z,19nm,1.2s
OBN MLR MLR
comp=Z,53nm,17.0s
OBN Obninsk 60.85 326 LR LR 02 54 23.4
comp=Z,50nm,18.1s,baz=83,slow=38
KLMR Klimovskoe 61.69 333 eP P 02 25 35.7 -0.9
KLMR pmax pmax
comp=Z,12nm,0.9s
TIXI Tiksi 62.38 12d i P P 02 25 40.8 -0.3
TIXI pmax pmax
comp=Z,35nm,1.2s
TIXI MLR MLR
comp=Z,45nm,17.0s
TIXI Tiksi 62.38 12 eP P 02 25 40.2 -0.8
comp=Z,36nm,1.2s
QLP Quilpie 62.95 129 ⇓P P 02 25 45.9 +0.2
baz=63,SNR=9.6
HTT Hallett 63.18 138 ⇓P P 02 25 46.7 -0.4
baz=63,SNR=3.6
TIRR Tirgusor 63.36 313 eP P 02 25 47.7 -0.4
TIRR pmax pmax
comp=Z,18nm,0.9s
TIRR Tirgusor 63.36 313⇑i P P 02 25 48.7 +0.6
TIRR Tirgusor 63.36 313 eP P 02 25 47.7 -0.4
comp=Z,18nm,0.9s
TLB Topalu 63.64 313 ⇓P P 02 25 49.9 0.0
TLB Topalu 63.64 313⇓i P P 02 25 49.8 -0.1
CFR Carcaliu 63.66 314 ⇑P P 02 25 50.6 +0.6
CFR Carcaliu 63.66 314⇑i P P 02 25 50.6 +0.6
MSAB Monastry St. A 63.73 313⇑i P P 02 25 51.2 +0.7
TMCR Tamitsa 63.78 336 eP P 02 25 50.5 +0.1
TMCR pmax pmax
comp=Z,24nm,1.1s
AKASG Malin Array Be 63.90 320 P P 02 25 50.6 -0.9
AKASG *PP pP 02 26 12.4 -3.3
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 63.90 320 P P 02 25 50.6 -0.9
comp=Z,3.3nm,0.7s,baz=88,slow=5.0,SNR=18
AKASG pP pP 02 26 12.4 -3.3
comp=Z,2.7nm,0.7s,baz=96,slow=6.5,SNR=4.9
KIEV Kiev 63.91 320 eP P 02 25 51.2 -0.4
KIEV pmax pmax
comp=Z,32nm,1.9s
KIEV Kiev 63.91 320 eP P 02 25 51.2 -0.4
comp=Z,32nm,1.9s
STKA Stephens Creek 64.02 135 P P 02 25 51.3 -1.3
STKA pmax pmax
comp=Z,4.0nm,0.7s
STKA Stephens Creek 64.02 135 P P 02 25 51.3 -1.3
comp=Z,4.1nm,0.7s,baz=312,slow=7.4,SNR=14
STKA Stephens Creek 64.02 135 ⇓P P 02 25 52.0 -0.5
baz=64,SNR=5.7
PETK Petropavlovsk- 64.23 37 LR LR 02 57 39.7
comp=Z,47nm,18.2s,baz=76,slow=39
JMB Yambol 64.45 311 ⇑P P 02 25 53.2 -2.0
JMB Yambol 64.45 311⇑i P P 02 25 53.2 -2.0
SEY Seymchan 64.56 26⇑i P P 02 25 54.5 -1.1
VRI Vrincioaia 64.74 315 ⇑P P 02 25 58.6 +1.5
VRI Vrincioaia 64.74 315⇑i P P 02 25 58.6 +1.5
PLOR Plostina 64.79 315 ⇑P P 02 25 58.9 +1.4
PLOR Plostina 64.79 315⇑i P P 02 25 58.9 +1.4
TESR Tescani 64.88 315⇑i P P 02 25 58.4 +0.4
MLR Muntele Rosu 65.23 314 ⇑P P 02 26 01.7 +1.2
MLR Muntele Rosu 65.23 314⇑i P P 02 26 01.7 +1.2
PUL Pulkovo 65.55 330 P P 02 26 02.8 +0.8
PUL pmax pmax
comp=Z,27nm,0.8s
VOIR 65.85 314 ⇑P P 02 26 05.0 +0.6
VOIR 65.85 314⇑i P P 02 26 05.0 +0.6
GVD Gavdhos 65.97 302 eP P 02 26 05.0 -0.3
comp=Z,17nm,0.7s
BURAR Bucovina Array 65.99 316 ⇑P P 02 26 06.4 +1.1
BURAR Bucovina Array 65.99 316⇑i P P 02 26 06.4 +1.1
JOF Joensuu 66.08 334 eP P 02 26 05.8 +0.5
JOF pmax pmax
comp=Z,16nm,0.7s
JOF Joensuu 66.08 334 ep P 02 26 05.8 +0.5
comp=Z,16nm,0.7s
ARR Arges 66.14 314⇓i P P 02 26 06.3 +0.1
RMQ Roma 66.39 127 ⇑P P 02 26 08.3 +0.3
baz=66,SNR=5.6
MMB Musomiste 66.50 310 ⇑P P 02 26 08.3 -0.2
MMB Musomiste 66.50 310⇑i P P 02 26 08.3 -0.2
CMSA Cobar Meteorol 66.70 133 ⇑P P 02 26 09.7 -0.2
baz=67,SNR=11
VSU Vasula 67.00 328 P P 02 26 11.0 -0.3
VSU pmax pmax
comp=Z,13nm,0.6s
LVV L'vov 67.04 319 eP P 02 26 11.9 +0.1
DRGR 67.60 315 ⇑P P 02 26 16.5 +1.0
DRGR 67.60 315⇑i P P 02 26 16.5 +1.0
KWP Kalwaria Pacla 67.88 318 eP P 02 26 16.8 -0.2
KWP pmax pmax
comp=Z,14nm,0.9s
KWP Kalwaria Pacla 67.88 318 eP P 02 26 17.3 +0.2
KWP e 02 26 33.2
KWP e 02 26 39.1
KWP Kalwaria Pacla 67.88 318⇓i P P 02 26 17.5 +0.4
KWP Kalwaria Pacla 67.88 318 eP P 02 26 16.8 -0.2
comp=Z,14nm,0.9s
KWP epP pP 02 26 32.6 -8.8
FINES FINESS Array B 68.01 331 P P 02 26 17.7 +0.1
FINES *PP pP 02 26 40.1 -2.0
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES MLR MLR
comp=Z,60nm,19.1s
FINES FINESS Array B 68.01 331 P P 02 26 17.7 +0.1
comp=Z,7.1nm,0.7s,baz=112,slow=7.3,SNR=33
FINES pP pP 02 26 40.1 -2.0
comp=Z,6.2nm,0.7s,baz=110,slow=6.4,SNR=7.2
FINES LR LR 02 58 52.7
comp=Z,60nm,19.1s,baz=271,slow=38
UZH Uzhgorod 68.05 317 eP P 02 26 25.2 +7.1
UZH i 02 26 42.0
KAF Kangasniemi 68.07 332 eP P 02 26 18.5 +0.5
KAF pmax pmax
comp=Z,7.0nm,0.8s
KAF Kangasniemi 68.07 332 ep P 02 26 18.5 +0.5
comp=Z,7.2nm,0.8s
KOLS Kolonicke sedl 68.09 318 eP P 02 26 19.0 +0.6
KOLS pmax pmax
comp=Z,5.0nm,1.3s
KOLS Kolonicke sedl 68.09 318 eP P 02 26 19.0 +0.6

SUW	**Suwalki**	**68.13**	**323**	*e*P	**P**	**02 26 18.1**	**-0.4**
SUW				*e*		02 26 40.6	
SUW	**Suwalki**	**68.13**	**323**	*e*P	**P**	**02 26 18.1**	**-0.4**
SUW				*e*		02 26 34.3	
SUW				*e*		02 26 40.6	
SUW	**Suwalki**	**68.13**	**323**	*e*P	**P**	**02 26 18.3**	**-0.2**
	comp=Z,54nm,1.1s						
CRVS	**Cervenica-Dubn**	**68.62**	**318**	*e*P	**P**	**02 26 22.3**	**+0.6**
CRVS				pmax	pmax		
	comp=Z,12nm,1.1s						
CRVS	**Cervenica-Dubn**	**68.62**	**318**	*e*P	**P**	**02 26 22.3**	**+0.6**
STHS	**Stebnicka Huta**	**68.80**	**318**	*e*P	**P**	**02 26 22.9**	**0.0**
STHS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STHS	**Stebnicka Huta**	**68.80**	**318**	*e*P	**P**	**02 26 22.9**	**0.0**
NIE	**Niedzica**	**69.41**	**318**	*e*P	**P**	**02 26 27.4**	**+0.8**
NIE	**Niedzica**	**69.41**	**318**	*e*P	**P**	**02 26 27.4**	**+0.8**
PSZ	**Piszkesteto**	**69.59**	**316**	*e*P	**P**	**02 26 28.1**	**+0.3**
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PSZ	**Piszkesteto**	**69.59**	**316**	*e*P	**P**	**02 26 28.1**	**+0.3**
	comp=Z,4.4nm,0.8s						
OJC	**Ojcow**	**69.80**	**319**	*e*P	**P**	**02 26 29.1**	**+0.1**
OJC	**Ojcow**	**69.80**	**319**	*e*P	**P**	**02 26 29.1**	**+0.1**
KEV	**Kevo**	**69.90**	**340**	*e*P	**P**	**02 26 29.1**	**-0.1**
KEV				pmax	pmax		
	comp=Z,16nm,0.9s						
KEV	**Kevo**	**69.90**	**340**	*e*p	**P**	**02 26 29.1**	**-0.1**
	comp=Z,16nm,0.9s						
TOO	**Toolangi**	**69.95**	**138**	P	**P**	**02 26 30.6**	**+0.5**
	baz=70,SNR=3.9						
ARCES	**ARCESS Array B**	**70.34**	**340**	P	**P**	**02 26 32.5**	**+0.6**
ARCES				*PP	**pP**	**02 26 55.5**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,16nm,28.6s						
ARCES	**ARCESS Array B**	**70.34**	**340**	P	**P**	**02 26 32.5**	**+0.6**
	comp=Z,5.8nm,0.8s,baz=92,slow=5.0,SNR=14						
ARCES				pP	**pP**	**02 26 55.5**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=108,slow=7.4,SNR=2.3						
ARCES				LR	LR	03 02 51.7	
	comp=Z,55nm,18.3s,baz=154,slow=40						
PKSM	**Moragy**	**70.38**	**315**	⇑P	**P**	**02 26 32.9**	**+0.4**
PKSM	**Moragy**	**70.38**	**315**	⇑*i*P	**P**	**02 26 32.9**	**+0.4**
LSZ	**Lusaka**	**70.56**	**249**	*e*P	**P**	**02 26 35.2**	**+0.9**
LSZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LSZ	**Lusaka**	**70.56**	**249**	*e*P	**P**	**02 26 35.2**	**+0.9**
	comp=Z,4.3nm,1.0s						
OKC	**Ostrava-Krasne**	**70.84**	**318**	*i*P	**P**	**02 26 35.9**	**+0.6**
OKC	**Ostrava-Krasne**	**70.84**	**318**	*i*P	**P**	**02 26 35.9**	**+0.6**
MORC	**Moravsky Berou**	**71.23**	**318**	*e*P	**P**	**02 26 38.2**	**+0.5**
MORC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MORC	**Moravsky Berou**	**71.23**	**318**	*e*P	**P**	**02 26 38.2**	**+0.5**
	comp=Z,7.7nm,1.0s						
BILL	**Bilibino**	**71.59**	**22**	⇑*e*P	**P**	**02 26 39.6**	**+0.1**
BILL				*e**PP	**PcP**	**02 26 53.7**	**-4.5**
BILL				pmax	pmax		
	comp=Z,11nm,1.5s						
BILL	**Bilibino**	**71.59**	**22**	*e*P	**P**	**02 26 39.1**	**-0.3**
	comp=Z,4.4nm,0.8s						
KRLC	**Kraliky**	**71.73**	**319**	*i*P	**P**	**02 26 41.2**	**+0.5**
KRLC				*e*		02 27 03.3	
KRLC	**Kraliky**	**71.73**	**319**	*i*P	**P**	**02 26 41.2**	**+0.5**
KRLC				*e*pP	**pP**	**02 27 03.3**	**-2.1**
DPC	**Dobruska-Polom**	**72.03**	**319**	*i*P	**P**	**02 26 43.4**	**+0.9**
DPC				*e*		02 27 05.3	
DPC	**Dobruska-Polom**	**72.03**	**319**	*i*P	**P**	**02 26 43.4**	**+0.9**
DPC				*e*pP	**pP**	**02 27 05.3**	**-1.9**
DPC	**Dobruska-Polom**	**72.03**	**319**	*e*P	**P**	**02 26 43.1**	**+0.5**
KSP	**Ksiaz**	**72.06**	**319**	*e*P	**P**	**02 26 43.2**	**+0.6**
KSP				*e**PP	**pP**	**02 27 05.9**	**-1.4**
KSP	**Ksiaz**	**72.06**	**319**	*e*P	**P**	**02 26 43.4**	**+0.8**
KSP				*e*		02 26 58.2	
KSP				*e*		02 27 05.6	
UPC	**Upice**	**72.23**	**319**	*i*P	**P**	**02 26 45.0**	**+1.3**
UPC	**Upice**	**72.23**	**319**	*i*P	**P**	**02 26 45.0**	**+1.3**
SOKA	**Soboth**	**72.87**	**315**	⇓*i*P	**P**	**02 26 48.1**	**+0.4**
	comp=Z,9.2nm,1.3s						
PRU	**Pruhonice**	**73.17**	**319**	*i*P	**P**	**02 26 50.0**	**+0.8**
PRU				*e*		02 27 12.3	
PRU	**Pruhonice**	**73.17**	**319**	*i*P	**P**	**02 26 50.0**	**+0.8**
PRU				*e*pP	**pP**	**02 27 12.3**	**-1.7**
BRG	**Berggiesshubel**	**73.55**	**319**	*e*P	**P**	**02 26 52.0**	**+0.5**
	comp=Z,7.8nm,0.9s						
BRG				*e*		02 27 07.8	
	comp=Z,3.6nm,0.8s						
BRG				*e*pP	**pP**	**02 27 14.5**	**-1.7**
	comp=Z,7.1nm,0.8s						
BRG	**Berggiesshubel**	**73.55**	**319**	*e*P	**P**	**02 26 52.0**	**+0.5**
BRG				*e*		02 27 07.8	
BRG				pmax	pmax		
	comp=Z,37nm,0.9s						
BRG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**73.73**	**317**	P	**P**	**02 26 52.8**	**+0.1**
GERES				*PP	**pP**	**02 27 15.5**	**-2.0**
GERES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GERES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GERES	**GERESS Array B**	**73.73**	**317**	P	**P**	**02 26 52.8**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=87,slow=5.8,SNR=62						
GERES				pP	**pP**	**02 27 15.4**	**-2.0**
	comp=Z,6.7nm,0.7s,baz=88,slow=6.0,SNR=13						
KHC	**Kasperske Hory**	**73.81**	**318**	*i*P	**P**	**02 26 52.9**	**-0.2**
KHC				*e*		02 27 12.9	
KHC	**Kasperske Hory**	**73.81**	**318**	*i*P	**P**	**02 26 52.9**	**-0.2**
KHC				*e*x	x	02 27 12.9	
KHC	**Kasperske Hory**	**73.81**	**318**	*e*P	**P**	**02 26 53.2**	**+0.2**
	comp=Z,4.1nm,0.9s						
NB2	**NORSAR Subarra**	**75.08**	**330**	P	**P**	**02 26 59.7**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=91,slow=5.6						
NOA	**NORSAR Array B**	**75.08**	**330**	P	**P**	**02 26 59.7**	**-0.5**
NOA				*PP	**pP**	**02 27 22.6**	**-2.4**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,28nm,19.1s						
NOA	**NORSAR Array B**	**75.08**	**330**	P	**P**	**02 26 59.7**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=91,slow=5.7,SNR=9.6						
NOA				pP	**pP**	**02 27 22.6**	**-2.4**
	comp=Z,2.2nm,0.7s,baz=90,slow=5.8,SNR=5.3						
NOA				LR	LR	03 03 15.8	
	comp=Z,28nm,19.1s,baz=90,slow=38						
WTTA	**Wattenberg**	**75.18**	**316**	⇑*i*P	**P**	**02 27 00.8**	**-0.4**
	comp=Z,3.3nm,0.5s						
RETA	**Reutte**	**75.76**	**316**	⇓*i*P	**P**	**02 27 04.0**	**-0.4**
	comp=Z,4.5nm,0.6s						
FETA	**Feichten**	**75.81**	**316**	⇑*i*P	**P**	**02 27 04.6**	**-0.2**
	comp=Z,5.3nm,1.0s						
DAVA	**Damuels**	**76.37**	**316**	⇑*i*P	**P**	**02 27 07.9**	**0.0**
	comp=Z,4.8nm,0.7s						
STU	**Stuttgart**	**76.71**	**317**	*e*P	**P**	**02 27 08.6**	**-1.1**
STU				pmax	pmax		
	comp=Z,12nm,0.7s						
STU	**Stuttgart**	**76.71**	**317**	*e*P	**P**	**02 27 08.6**	**-1.1**
	comp=Z,12nm,0.7s						
BOSA	**Boshof**	**77.89**	**237**	P	**P**	**02 27 17.2**	**+0.5**
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BOSA	**Boshof**	**77.89**	**237**	P	**P**	**02 27 17.2**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=79,slow=4.5,SNR=12						
KEST	**Kesra**	**77.95**	**304**	P	**P**	**02 27 17.1**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=341,slow=0.9,SNR=7.0						
CDF	**Champ du Feu**	**78.02**	**317**	*e*P	**P**	**02 27 16.3**	**-0.8**
CDF	**Champ du Feu**	**78.02**	**317**	*e*P	**P**	**02 27 16.3**	**-0.8**
CDF	**Champ du Feu**	**78.02**	**317**	*e*P	**P**	**02 27 16.3**	**-0.8**
HINF	**Hinteralfeld**	**78.36**	**317**	*e*P	**P**	**02 27 17.9**	**-1.0**
HINF	**Hinteralfeld**	**78.36**	**317**	*e*P	**P**	**02 27 17.9**	**-1.0**
HINF	**Hinteralfeld**	**78.36**	**317**	*e*P	**P**	**02 27 17.9**	**-1.0**
HAU	**Haudompre**	**78.68**	**317**	*e*P	**P**	**02 27 19.9**	**-0.7**
HAU				*e*R			
	comp=Z,102nm,17.5s						
HAU	**Haudompre**	**78.68**	**317**	*e*P	**P**	**02 27 19.9**	**-0.7**
HAU	**Haudompre**	**78.68**	**317**	*e*P	**P**	**02 27 19.9**	**-0.7**
LPG	**La Plagne**	**78.70**	**314**	*e*P	**P**	**02 27 21.0**	**-0.1**
	comp=Z,10nm,0.6s						
LPG	**La Plagne**	**78.70**	**314**	*e*P	**P**	**02 27 21.0**	**-0.1**
LPG				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LPG	**La Plagne**	**78.70**	**314**	*e*P	**P**	**02 27 21.0**	**-0.1**
	comp=Z,10nm,0.6s						
LPL	**La Plagne**	**78.71**	**314**	*e*P	**P**	**02 27 20.9**	**-0.2**
	comp=Z,15nm,0.6s						
LPL	**La Plagne**	**78.71**	**314**	*e*P	**P**	**02 27 20.9**	**-0.2**
LPL				pmax	pmax		
	comp=Z,15nm,0.6s						
LPL	**La Plagne**	**78.71**	**314**	*e*P	**P**	**02 27 20.9**	**-0.2**
	comp=Z,15nm,0.6s						
BNI	**Bardonecchia**	**78.81**	**314**	*e*P	**P**	**02 27 21.9**	**+0.3**
BNI				pmax	pmax		
	comp=Z,15nm,1.2s						
BNI	**Bardonecchia**	**78.81**	**314**	*e*P	**P**	**02 27 21.9**	**+0.3**
	comp=Z,15nm,1.2s						
FRF	**La Foret Royal**	**79.02**	**312**	*e*P	**P**	**02 27 22.2**	**-0.4**
FRF	**La Foret Royal**	**79.02**	**312**	*e*P	**P**	**02 27 22.2**	**-0.4**
FRF	**La Foret Royal**	**79.02**	**312**	*e*P	**P**	**02 27 22.2**	**-0.4**
CABF	**La Chapelle**	**79.02**	**315**	*e*P	**P**	**02 27 22.3**	**-0.3**
	comp=Z,10nm,0.8s						
CABF	**La Chapelle**	**79.02**	**315**	*e*P	**P**	**02 27 22.3**	**-0.3**
CABF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CABF	**La Chapelle**	**79.02**	**315**	*e*P	**P**	**02 27 22.3**	**-0.3**
	comp=Z,10nm,0.8s						
ORIF	**Oris-en-Rattie**	**79.39**	**314**	*e*P	**P**	**02 27 24.2**	**-0.5**
ORIF				*e*R			
	comp=Z,91nm,19.5s						
ORIF	**Oris-en-Rattie**	**79.39**	**314**	*e*P	**P**	**02 27 24.2**	**-0.5**
ORIF	**Oris-en-Rattie**	**79.39**	**314**	*e*P	**P**	**02 27 24.2**	**-0.5**
GIVF	**Givet**	**79.41**	**319**	*e*P	**P**	**02 27 24.3**	**-0.3**
GIVF	**Givet**	**79.41**	**319**	*e*P	**P**	**02 27 24.3**	**-0.3**
GIVF	**Givet**	**79.41**	**319**	*e*P	**P**	**02 27 24.3**	**-0.3**
SFTF	**Sexfontaines**	**79.52**	**317**	*e*P	**P**	**02 27 25.4**	**+0.2**
SFTF	**Sexfontaines**	**79.52**	**317**	*e*P	**P**	**02 27 25.4**	**+0.2**
BAIF	**Baives**	**79.81**	**319**	*e*P	**P**	**02 27 26.6**	**-0.1**
	comp=Z,12nm,0.9s						
BAIF	**Baives**	**79.81**	**319**	*e*P	**P**	**02 27 26.6**	**-0.1**
BAIF				pmax	pmax		
	comp=Z,12nm,0.9s						
BAIF	**Baives**	**79.81**	**319**	*e*P	**P**	**02 27 26.6**	**-0.1**
	comp=Z,12nm,0.9s						
VIVF	**Saint-Julien-l**	**80.25**	**314**	*e*P	**P**	**02 27 28.8**	**-0.4**
VIVF	**Saint-Julien-l**	**80.25**	**314**	*e*P	**P**	**02 27 28.8**	**-0.4**
VIVF	**Saint-Julien-l**	**80.25**	**314**	*e*P	**P**	**02 27 28.8**	**-0.4**
LOR	**Lormes**	**80.44**	**316**	*e*P	**P**	**02 27 29.5**	**-0.7**
	comp=Z,6.7nm,0.7s						
LOR				*e*R			
	comp=Z,64nm,17.0s						
LOR	**Lormes**	**80.44**	**316**	*e*P	**P**	**02 27 29.5**	**-0.7**
LOR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LOR	**Lormes**	**80.44**	**316**	*e*P	**P**	**02 27 29.5**	**-0.7**
	comp=Z,6.7nm,0.7s						
SMF	**Signal de Mont**	**80.55**	**316**	*e*P	**P**	**02 27 30.0**	**-0.8**
	comp=Z,11nm,0.7s						
SMF	**Signal de Mont**	**80.55**	**316**	*e*P	**P**	**02 27 30.0**	**-0.8**
SMF				pmax	pmax		
	comp=Z,11nm,0.7s						
SMF	**Signal de Mont**	**80.55**	**316**	*e*P	**P**	**02 27 30.0**	**-0.8**
	comp=Z,11nm,0.7s						
SSF	**Saint Saulge**	**80.72**	**316**	*e*P	**P**	**02 27 31.1**	**-0.5**
SSF	**Saint Saulge**	**80.72**	**316**	*e*P	**P**	**02 27 31.1**	**-0.5**
SSF	**Saint Saulge**	**80.72**	**316**	*e*P	**P**	**02 27 31.1**	**-0.5**
AVF	**Avril sur Loir**	**80.86**	**316**	*e*P	**P**	**02 27 31.4**	**-1.0**
	comp=Z,11nm,0.9s						
AVF	**Avril sur Loir**	**80.86**	**316**	*e*P	**P**	**02 27 31.4**	**-1.0**
AVF				pmax	pmax		
	comp=Z,11nm,0.9s						
AVF	**Avril sur Loir**	**80.86**	**316**	*e*P	**P**	**02 27 31.4**	**-1.0**
	comp=Z,11nm,0.9s						
TCF	**Toulx Ste Croi**	**81.72**	**316**	*e*P	**P**	**02 27 36.7**	**-0.3**
TCF	**Toulx Ste Croi**	**81.72**	**316**	*e*P	**P**	**02 27 36.7**	**-0.3**
TCF	**Toulx Ste Croi**	**81.72**	**316**	*e*P	**P**	**02 27 36.7**	**-0.3**
TNA	**Tin City**	**81.78**	**25**	*e*P	**P**	**02 27 36.9**	**+0.1**
	comp=Z,5.3nm,1.0s						
CAF	**Calviac**	**82.06**	**314**	*e*P	**P**	**02 27 38.8**	**-0.1**
CAF	**Calviac**	**82.06**	**314**	*e*P	**P**	**02 27 38.8**	**-0.1**
CAF	**Calviac**	**82.06**	**314**	*e*P	**P**	**02 27 38.8**	**-0.1**
DAG	**Danmarks Havn**	**82.42**	**348**	*i* P	**P**	**02 27 39.6**	**-0.4**
DAG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DAG	**Danmarks Havn**	**82.42**	**348**	*i* P	**P**	**02 27 39.6**	**-0.4**
	comp=Z,2.5nm,1.0s						
DAG				*e*		02 28 02.3	
LDF	**La Druitiere**	**82.85**	**318**	*e*P	**P**	**02 27 42.4**	**-0.4**
	comp=Z,10.0nm,0.7s						
LDF	**La Druitiere**	**82.85**	**318**	*e*P	**P**	**02 27 42.4**	**-0.4**
LDF				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LDF	**La Druitiere**	**82.85**	**318**	*e*P	**P**	**02 27 42.4**	**-0.4**
	comp=Z,10.0nm,0.7s						
MFF	**Saint Martin d**	**83.26**	**316**	*e*P	**P**	**02 27 44.4**	**-0.6**
	comp=Z,11nm,0.9s						
MFF	**Saint Martin d**	**83.26**	**316**	*e*P	**P**	**02 27 44.4**	**-0.6**
MFF				pmax	pmax		
	comp=Z,11nm,0.9s						
MFF	**Saint Martin d**	**83.26**	**316**	*e*P	**P**	**02 27 44.4**	**-0.6**
	comp=Z,11nm,0.9s						
ESK	**Eskdalemuir**	**83.30**	**325**	*e*P	**P**	**02 27 45.3**	**+0.3**
ESK				pmax	pmax		
	comp=Z,18nm,1.3s						
ESK	**Eskdalemuir**	**83.30**	**325**	*e*P	**P**	**02 27 45.3**	**+0.3**
	comp=Z,18nm,1.3s						
TAM	**Tamanrasset**	**83.35**	**292**	*e*P	**P**	**02 27 46.9**	**+0.8**
TAM				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TAM	**Tamanrasset**	**83.35**	**292**	*e*P	**P**	**02 27 46.9**	**+0.8**
	comp=Z,5.4nm,1.2s						
TAM				*e*pP	pP	02 28 03.4	-7.9
SGMF	**Saint Gilles**	**84.51**	**318**	*e*P	**P**	**02 27 50.7**	**-0.6**
SGMF	**Saint Gilles**	**84.51**	**318**	*e*P	**P**	**02 27 50.7**	**-0.6**
SGMF	**Saint Gilles**	**84.51**	**318**	*e*P	**P**	**02 27 50.7**	**-0.6**
SJPF	**Ste Jean**	**84.75**	**313**	*e*P	**P**	**02 27 51.8**	**-0.8**
SJPF	**Ste Jean**	**84.75**	**313**	*e*P	**P**	**02 27 51.8**	**-0.8**
SJPF	**Ste Jean**	**84.75**	**313**	*e*P	**P**	**02 27 51.8**	**-0.8**
QUIF	**Quistinic**	**84.98**	**318**	*e*P	**P**	**02 27 52.9**	**-0.7**
QUIF	**Quistinic**	**84.98**	**318**	*e*P	**P**	**02 27 52.9**	**-0.7**
QUIF	**Quistinic**	**84.98**	**318**	*e*P	**P**	**02 27 52.9**	**-0.7**
ESDC	**Sonseca Array**	**87.57**	**310**	P	**P**	**02 28 06.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=63,slow=4.5,SNR=7.7						
TORD	**Torodi Ar. Bea**	**88.94**	**283**	P	**P**	**02 28 13.5**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=82,slow=3.7,SNR=6.0						
TORD				pP	**pP**	**02 28 36.2**	**-2.8**
	comp=Z,4.7nm,1.0s,baz=85,slow=4.4,SNR=12						
TORD				PP	**PP**	**02 31 42.9**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=66,slow=7.6,SNR=4.6						
SUMG	**Summit**	**89.10**	**347**	*i* P	**P**	**02 28 14.3**	**+0.7**
SUMG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SUMG	**Summit**	**89.10**	**347**	*i* P	**P**	**02 28 14.3**	**+0.7**
	comp=Z,6.7nm,0.8s						
SUMG				*i*		02 28 36.6	
SUMG	**Summit**	**89.10**	**347**	*e*P	**P**	**02 28 14.6**	**+1.1**
	comp=Z,20nm,1.4s						
MCK	**McKinley**	**90.02**	**23**	*e*P	**P**	**02 28 18.6**	**+1.0**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MCK	**McKinley**	**90.02**	**23**	*e*P	**P**	**02 28 18.6**	**+1.0**
	comp=Z,4.2nm,0.7s						
ILAR	**Eielson Array**	**90.25**	**22**	P	**P**	**02 28 18.2**	**-0.4**
ILAR						02 31 53.4	
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**90.25**	**22**	P	**P**	**02 28 18.2**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=297,slow=4.1,SNR=13						
ILAR				pP	**pP**	**02 28 41.5**	**-2.6**
	comp=Z,1.7nm,0.7s,baz=293,slow=4.0,SNR=8.3						
ILAR				PP	**PP**	**02 31 53.4**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=301,slow=7.8,SNR=6.0						
KULLO	**Kullorsuaq**	**90.74**	**353**	*i* P	**P**	**02 28 21.9**	**+1.2**
KULLO				pmax	pmax		
	comp=Z,23nm,0.8s						
KULLO	**Kullorsuaq**	**90.74**	**353**	*i* P	**P**	**02 28 21.9**	**+1.2**
	comp=Z,23nm,0.7s						
KULLO				*i*		02 28 45.0	
LIC	**Lamto**	**96.99**	**278**	*e*P	**P**	**02 28 47.7**	**-2.9**
	comp=Z,6.7nm,0.9s						
LIC	**Lamto**	**96.99**	**278**	*e*P	**P**	**02 28 47.7**	**-2.9**
	comp=Z,6.7nm,0.9s						
YKA	**Yellowknife Ar**	**101.62**	**13**	P	**Pdif**	**02 29 10.1**	**-0.1**
YKA						02 33 18.6	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**101.62**	**13**	P	**Pdif**	**02 29 10.1**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=328,slow=4.0,SNR=6.8						
YKA				PP	**PP**	**02 33 18.6**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=334,slow=7.6,SNR=8.8						
BW06	**Boulder Array**	**120.61**	**20**	*e*PKPdf	**PKPdf**	**02 34 10.3**	**+0.2**
NVAR	**Mina Array Bea**	**120.79**	**29**	PKP	**PKPdf**	**02 34 12.0**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=336,slow=2.0,SNR=3.1						
NVAR				SKP		02 37 39.8	
	comp=Z,0.4nm,0.3s,baz=343,slow=2.8,SNR=5.0						
DUG	**Dugway**	**121.69**	**24**	*e*PKIKP	**PKPdf**	**02 34 13.6**	**+1.4**
DUG	**Dugway**	**121.69**	**24**	*e*PKPdf	**PKPdf**	**02 34 13.6**	**+1.4**
ANMO	**Albuquerque**	**128.69**	**21**	*e*PKIKP	**PKPdf**	**02 34 26.9**	**+1.1**
ANMO	**Albuquerque**	**128.69**	**21**	*e*PKPdf	**PKPdf**	**02 34 26.9**	**+1.1**
TXAR	**Lajitas Array**	**134.76**	**21**	PKP	**PKPdf**	**02 34 37.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=89,slow=4.9,SNR=5.2						
TXAR				SKPbc	**SKPbc**	**02 38 00.5**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=343,slow=1.9,SNR=11						
SDDR	**Presa de Saban**	**144.94**	**335**	*e*PKPdf	**PKPdf**	**02 34 56.2**	**+0.3**
TRQA	**Tornquist**	**146.89**	**217**	*e*PKPbc	**PKPbc**	**02 35 00.6**	**0.0**
PLCA	**Paso Flores**	**149.05**	**204**	PKP2	**PKPbc**	**02 35 06.7**	**+0.4**
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PLCA	**Paso Flores**	**149.05**	**204**	PKPbc	**PKPbc**	**02 35 06.7**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=188,slow=3.0,SNR=6.0						
CPUP	**Villa Florida**	**149.67**	**240**	PKP2	**PKPbc**	**02 35 08.5**	**+0.4**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CPUP	**Villa Florida**	**149.67**	**240**	PKPbc	**PKPbc**	**02 35 08.5**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=86,slow=3.8,SNR=4.0						
SDV	**Santo Domingo**	**153.24**	**323**	*e*PKPbc	**PKPbc**	**02 35 16.9**	**0.0**
CFAA	**Coronel Fontan**	**155.05**	**219**	PKPab	**PKPab**	**02 35 35.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=149,slow=3.9,SNR=4.9						

*IDC **19** 02:32:07.0±1.0, 21°.68S×170°.00E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/35, mbtmp3.8/7, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/26, Error ellipse: s-maj=33.4km s-min=23.7km az=153.0*

*ISCJB **19** 02:32:10.5±1.0, 21°.7S±0°.2×170°.01E±0°.08, h36km, mb3.8/6, MS3.1/2, Error ellipse: s-maj=31.4km s-min=9.0km az=171.2*

ISC 19 02:32:12.3±1.0**, 21°.7S**±0°.2×**170°.0E**±0°.1**, h36km, n16, σ0s.74**/16**, mb3.9**/6**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.93**	**260**	*e*P	**Pn**	**02 32 56.9**	**+0.6**
BAYA				*e*S	**Sn**	**02 33 30.3**	**0.0**
DZM	**Mont Dzumac**	**3.33**	**263**	Pn	**Pn**	**02 33 02.3**	**+0.4**
	8.2nm,0.3s,baz=148,slow=11,SNR=90						
DZM				Sn	**Sn**	**02 33 40.1**	**-0.2**
	5.5nm,0.3s,baz=288,slow=20,SNR=4.1						
NOUC	**Port Laguerre**	**3.46**	**262**	*e*P	**Pn**	**02 33 03.7**	**+0.1**
NOUC				*e*S	**Sn**	**02 33 43.5**	**+0.1**
URZ	**Urewera**	**17.62**	**161**	LR	LR	02 41 19.7	
	comp=Z,148nm,20.3s,baz=6.0,slow=31						
STKA	**Stephens Creek**	**27.24**	**242**	P	**P**	**02 37 52.4**	**-0.7**
	2.0nm,0.6s,baz=85,slow=7.5,SNR=5.2						
ASAR	**Alice Springs**	**33.31**	**260**	P	**P**	**02 38 46.1**	**-0.8**
	0.5nm,0.7s,baz=88,slow=8.9,SNR=4.4						
WRA	**Warramunga Arr**	**33.34**	**266**	P	**P**	**02 38 46.3**	**-0.9**
	0.4nm,0.4s,baz=99,slow=8.4,SNR=8.7						
JCJ	**Chichijima**	**55.47**	**330**	LR	LR	03 03 05.2	
	comp=Z,28nm,20.0s,baz=51,slow=34						
TGY	**Tagaytay City**	**59.85**	**302**	LR	LR	03 04 18.4	
	comp=Z,9.7nm,19.9s,slow=32						
QSPA	**South Pole Qui**	**68.38**	**180**	P	**P**	**02 43 10.6**	**+0.5**
	2.4nm,0.8s,baz=183,slow=0.3,SNR=10.0						
SONM	**Songino Array**	**89.60**	**323**	P	**P**	**02 45 07.7**	**+1.5**
	0.7nm,0.8s,baz=114,slow=3.5,SNR=7.4						
ILAR	**Eielson Array**	**92.35**	**17**	P	**P**	**02 45 17.2**	**-1.3**
	0.2nm,0.5s,baz=222,slow=4.9,SNR=3.8						
BRG	**Berggiesshubel**	**145.37**	**333**	*e*PKP	**PKPab**	**02 51 46.8**	**+0.6**
	5.1nm,0.9s						
CLL	**Collm**	**145.43**	**334**	*e*PKP	**PKPab**	**02 51 47.0**	**+0.5**
	comp=Z,8.0nm,1.2s						
EKA	**Eskdalemuir Ar**	**146.01**	**353**	PKPbc	**PKPbc**	**02 51 47.6**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=7.3,slow=3.1,SNR=16						
GERES	**GERESS Array B**	**146.97**	**331**	PKPbc	**PKPbc**	**02 51 51.3**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=33,slow=3.8,SNR=13						

*IDC **19** 02:38:15.9±1.5, 14°.85S×173°.84W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.7/7, Error ellipse: s-maj=103.6km s-min=20.8km az=147.0*

*ISCJB **19** 02:38:23.8±1.4, 15°.0S±0°.6×173°.9W±0°.4, h73km, mb3.5/7, Error ellipse: s-maj=95.2km s-min=18.7km az=146.1*

ISC 19 02:38:25.3±1.5**, 15°.0S**±0°.6×**173°.9W**±0°.4**, h73km, n7, σ0s.32**/7**, mb3.7**/7**, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.88**	**239**	P	**P**	**02 46 24.6**	**-0.2**
	1.2nm,0.6s,baz=69,slow=8.6,SNR=3.2						
WRA	**Warramunga Arr**	**49.52**	**256**	P	**P**	**02 47 09.6**	**+0.5**
	0.5nm,0.6s,baz=90,slow=7.2,SNR=4.7						
ASAR	**Alice Springs**	**49.84**	**252**	P	**P**	**02 47 11.2**	**-0.1**
	1.1nm,0.4s,baz=86,slow=8.4,SNR=27						
NVAR	**Mina Array Bea**	**74.30**	**42**	P	**P**	**02 49 55.2**	**+0.1**
	1.2nm,0.8s,baz=234,slow=8.8,SNR=7.5						
TXAR	**Lajitas Array**	**80.73**	**56**	P	**P**	**02 50 31.3**	**+0.2**
	0.3nm,0.9s,baz=231,slow=5.7,SNR=3.3						
ILAR	**Eielson Array**	**82.11**	**11**	P	**P**	**02 50 37.3**	**-0.1**
	0.2nm,0.7s,baz=227,slow=6.8,SNR=5.9						
YKA	**Yellowknife Ar**	**89.88**	**24**	P	**P**	**02 51 15.6**	**-0.2**
	0.2nm,0.8s,baz=238,slow=4.5,SNR=4.6						

KRSC 19 02:38:30.2±1.1**, 52°.80N×159°.81E, h60km**±10km**, ML3.7, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.32**	**23**	*e*P	Pn	02 38 42.1	+1.6
SPN				*e*S	Sn	02 38 48.9	+1.0
NLC	**Nalytchevo**	**0.46**	**323**	*e*P	Pn	02 38 43.0	+1.3
NLC				*e*S	Sn	02 38 50.1	0.0
UGLR	**Uglovaya**	**0.72**	**305**	*e*P	Pn	02 38 46.4	+1.6
UGLR				*e*S	Sn	02 38 56.7	+1.1
SDLR	**Sedlovina**	**0.73**	**311**	*e*P	Pn	02 38 46.3	+1.3
SDLR				*e*S	Sn	02 38 56.8	+0.9
PET	**Petropavlovsk**	**0.73**	**288**	*i* P	Pn	02 38 45.9	+1.1
PET				*i* S	Sn	02 38 55.6	+0.1
SMAR	**Somma**	**0.76**	**307**	*e*P	Pn	02 38 46.5	+1.0
AVH	**Avacha**	**0.80**	**306**	*i* P	Pn	02 38 47.4	+1.7
AVH				*e*S	Sn	02 38 58.7	+1.6
KRER	**Koryakskii**	**0.81**	**308**	*i* P	Pn	02 38 47.6	+1.5
KRER				*i* S	Sn	02 38 59.3	+1.5
KOK	**Koryaka**	**0.86**	**305**	*i* P	Pn	02 38 48.1	+1.5
KOK				*i* S	Sn	02 38 59.7	+1.1
RUS	**Russkaya**	**0.87**	**245**	*e*P	Pn	02 38 48.0	+1.4
RUS				*e*S	Sn	02 38 59.1	+0.5
KRX	**Arik**	**0.90**	**309**	*i* P	Pn	02 38 48.3	+1.2
KRX				*e*S	Sn	02 39 00.2	+0.7
MTVR	**Mutnovka**	**1.04**	**253**	*e*P	Pn	02 38 50.4	+1.4
MTVR				*e*S	Sn	02 39 03.6	+0.7
ASAK	**Asacha**	**1.24**	**251**	*i* P	Pn	02 38 53.5	+2.0
ASAK				*e*S	Sn	02 39 09.2	+1.8
KII	**Karymskiy**	**1.25**	**350**	*e*P	Pn	02 38 53.5	+1.8
KII				*e*S	Sn	02 39 09.4	+1.7
GNL	**Ganaly**	**1.44**	**309**	*e*P	Pn	02 38 55.9	+1.8
GNL				*e*S	Sn	02 39 15.4	+3.3
APC	**Apacha**	**1.61**	**275**	*e*P	Pn	02 38 58.5	+2.2
APC				*e*S	Sn	02 39 18.3	+2.2
MKZ	**Mys Kozlova**	**2.10**	**32**	*e*P	Pn	02 39 06.1	+3.2
MKZ				*e*S	Sn	02 39 29.7	+1.9
PAU	**Pauzhetka**	**2.28**	**235**	*e*P	Pn	02 39 08.5	+3.1
PAU				*e*S	Sn	02 39 34.6	+2.2
TUMR	**Tumrok**	**2.49**	**4**	*e*P	Pn	02 39 11.7	+3.2
ESO	**Esso**	**3.19**	**349**	*e*P	Pn	02 39 19.8	+1.9
KBTR	**Krutoberegovo**	**3.84**	**26**	*e*P	Pn	02 39 31.2	+4.6
KBTR				*e*S	Sn	02 40 14.7	+4.3
BKI	**Bering**	**4.36**	**54**	*e*S	Sn	02 40 22.2	-1.0

*ISCJB **19** 02:43:31.1±0.5, 45°.48N±0°.10×142°.5E±0°.1, h306km±6km, mb3.1/4, Error ellipse: s-maj=16.3km s-min=11.5km*

az=29.1

JMA 19 02:43:31.8±0.3, 45.°50N×142.°41E, h302km±3km, M2.8

IDC 19 02:43:32.2±0.6, 45.°48N×142.°34E, h300km±22km, mb2.9/4, mb1 3.1/6, mb1mx2.8/46, mbtmp3.0/6, Error ellipse: s-maj=51.5km s-min=15.9km az=166.0

ISC 19 02:43:31.8±0.8, 45.°39N±0.°09×142.°42E±0.°09, h304km±7km, n22, σ1s12/29, mb3.0/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.38**	**259**	P	**Pn**	**02 44 10.6**	**0.0**
JWK2				eS	**S**	**02 44 40.3**	**-1.1**
JSE	**Soyaes**	**0.45**	**165**	P	**Pn**	**02 44 10.8**	**0.0**
JSE				eS	**S**	**02 44 40.7**	**-1.1**
JRR	**Rishiri**	**0.82**	**253**	P	**Pn**	**02 44 11.9**	**+0.1**
JSS	**Shosan**	**1.07**	**202**	P	**Pn**	**02 44 13.5**	**+0.5**
ASAJ	**Asahikawa**	**1.28**	**174**	P	**Pn**	**02 44 14.8**	**+0.7**
ASAJ	**Asahikawa**	**1.28**	**174**	P	**Pn**	**02 44 14.6**	**+0.5**
	6.2nm,0.3s,baz=344,slow=23,SNR=24						
ASAJ				S	**S**	**02 44 48.7**	**+0.8**
	0.7nm,0.3s,baz=204,slow=20,SNR=8.6						
JKK2	**Kamakawa 2**	**1.54**	**171**	P	**Pn**	**02 44 16.6**	**+0.9**
JKK2				eS	**S**	**02 44 51.8**	**+1.2**
JMP	**Maruseppu**	**1.54**	**154**	P	**Pn**	**02 44 16.5**	**+0.8**
JHR	**Hokuryu**	**1.72**	**197**	P	**Pn**	**02 44 18.0**	**+1.1**
JTKR	**Abashiri--Toko**	**1.77**	**143**	P	**Pn**	**02 44 18.2**	**+1.0**
JAR	**Ashorobuto**	**2.31**	**155**	P	**Pn**	**02 44 22.7**	**+1.2**
JAR				eS	**S**	**02 45 03.0**	**+1.8**
JCH	**Churui**	**2.86**	**166**	P	**Pn**	**02 44 25.8**	**-0.7**
JCH				eS	**S**	**02 45 06.9**	**-3.3**
JAK	**Akkeshi**	**2.90**	**145**	P	**Pn**	**02 44 27.3**	**+0.4**
JNBK	**Urakawa-nobuka**	**3.12**	**175**	P	**Pn**	**02 44 29.9**	**+0.9**
NEM2	**Nemuro 2**	**3.13**	**129**	P	**Pn**	**02 44 28.5**	**-0.6**
NEM2				eS	**S**	**02 45 13.0**	**-1.9**
JKB	**Kayabe**	**3.64**	**197**	P	**Pn**	**02 44 34.1**	**-0.3**
USRK	**Ussuriysk Arra**	**7.52**	**265**	P	**Pn**	**02 45 19.6**	**+0.2**
	0.5nm,0.3s,baz=75,slow=12,SNR=10.0						
SEY	**Seymchan**	**18.48**	**14**	P	**P**	**02 47 25.6**	**-0.3**
	0.3nm,0.3s,baz=196,slow=8.5,SNR=11						
SONM	**Songino Array**	**24.73**	**289**	P	**P**	**02 48 26.0**	**0.0**
	1.0nm,0.3s,baz=89,slow=8.7,SNR=21						
MKAR	**Makanchi Array**	**40.83**	**294**	P	**P**	**02 50 43.8**	**-0.4**
	0.2nm,0.4s,baz=82,slow=8.1,SNR=6.2						
ILAR	**Eielson Array**	**42.19**	**37**	P	**P**	**02 50 54.9**	**+0.1**
	0.2nm,0.4s,baz=275,slow=10.0,SNR=6.4						
YKA	**Yellowknife Ar**	**56.29**	**33**	P	**P**	**02 52 41.4**	**+0.7**
	0.5nm,0.5s,baz=306,slow=6.9,SNR=14						

IDC 19 02:49:41.7±2.6, 18.°81N×95.°44W, h0km, mb3.9/3, mb1 4.1/7, mb1mx3.8/25, mbtmp3.9/7, ML3.7/4, MS3.0/5, Ms1 3.0/5, ms1mx2.7/32, Error ellipse: s-maj=59.3km s-min=24.0km az=32.0

MEX 19 02:49:47.2±0.5, 19.°02N×95.°67W, h30km±18km, MD4.3

NEIC 19 02:49:47.2, 19.°02N×95.°67W, h30km, mb3.9/12, MD4.3(MEX), After MEX.

ISC 19 02:49:42.2±1.6, 18.°91N±0.°04×95.°68W±0.°03, h0km±11km, n44, σ1s70/48, mb4.0/9, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVIG	**Laguna Verde**	**1.07**	**319**	iP	**Pg**	**02 50 02.9**	**+0.2**
LVIG				eS	**Sg**	**02 50 14.7**	**-2.0**
LVIG	**Laguna Verde**	**1.07**	**319**	iP	**Pg**	**02 50 02.9**	**+0.2**
LVIG				eS	**Sg**	**02 50 14.7**	**-2.0**
TUIG	**Tuzandepetl**	**1.48**	**126**	iP	**Pb**	**02 50 10.9**	**+0.4**
TUIG				eS	**Sn**	**02 50 28.8**	**-1.1**
TUIG	**Tuzandepetl**	**1.48**	**126**	iP	**Pb**	**02 50 10.9**	**+0.4**
TUIG				eS	**Sn**	**02 50 28.8**	**-1.1**
TPIG	**Tehuac#an**	**1.67**	**253**	iP	**Pb**	**02 50 13.9**	**0.0**
TPIG				iS	**Sn**	**02 50 32.9**	**-2.1**
TPIG	**Tehuac#an**	**1.67**	**253**	iP	**Pb**	**02 50 13.9**	**0.0**
TPIG				iS	**Sn**	**02 50 32.9**	**-2.1**
CMIG	**Matias Romero**	**1.96**	**157**	eP	**Pn**	**02 50 17.3**	**+0.6**
CMIG				iS	**Sn**	**02 50 41.6**	**-0.4**
CMIG	**Matias Romero**	**1.96**	**157**	eP	**Pn**	**02 50 17.3**	**+0.6**
CMIG				iS	**Sn**	**02 50 41.6**	**-0.4**
VHO	**Vista Hermosa**	**2.08**	**209**	iP	**Pb**	**02 50 20.5**	**-0.5**
VHO				eS	**Sn**	**02 50 45.2**	**-0.1**
VHO	**Vista Hermosa**	**2.08**	**209**	iP	**Pb**	**02 50 20.5**	**-0.5**
VHO				eS	**Sn**	**02 50 45.2**	**-0.1**
PCIG		**3.96**	**143**	eP	**Pn**	**02 50 45.0**	**+0.8**
PCIG				iS	**Sn**	**02 51 30.9**	**-0.4**
PCIG		**3.96**	**143**	eP	**Pn**	**02 50 45.0**	**+0.8**
PCIG				iS	**Sn**	**02 51 30.9**	**-0.4**
SCIG	**Sabancuy**	**4.25**	**88**	eP	**Pn**	**02 50 48.6**	**+0.4**
SCIG				iS	**Sn**	**02 51 36.3**	**-2.4**
SCIG	**Sabancuy**	**4.25**	**88**	eP	**Pn**	**02 50 48.6**	**+0.4**
SCIG				iS	**Sn**	**02 51 36.3**	**-2.4**
APG	**El Apazote**	**6.32**	**127**	Pn	Pn	02 51 12.7	-4.2
	2.6nm,0.3s,baz=300,slow=16,SNR=55						
APG				Sn	Sn	02 52 19.7	-10
	15nm,0.3s,baz=138,slow=16,SNR=14						
APG				LR	LR	02 54 06.7	
	comp=Z,78nm,21.6s,baz=306,slow=44						
TEIG	**Tepich**	**7.10**	**78**	Pn	**Pn**	**02 51 25.7**	**-1.7**
	14nm,0.3s,baz=299,slow=1.5,SNR=85						
TEIG				Sn	Sn	02 52 38.9	-10
	40nm,0.3s,baz=356,slow=22,SNR=10						
TEIG				LR	LR	02 54 39.8	
	comp=Z,127nm,21.2s,baz=298,slow=43						
TEIG	**Tepich**	**7.10**	**78**	ePn	**Pn**	**02 51 26.8**	**-0.6**
	53nm,0.4s						
TEIG				eSn	Sn	02 52 39.7	-9.2
JCT	**Junction City**	**12.12**	**343**	ePn	**Pn**	**02 52 37.6**	**+1.5**
TXAR	**Lajitas Array**	**12.68**	**326**	Pn	Pn	02 52 48.2	+4.3
	0.0nm,0.3s,baz=148,slow=14,SNR=2.6						
LPIG	**La Paz**	**14.56**	**293**	LR	LR	02 58 52.9	
	comp=Z,39nm,21.1s,baz=152,slow=37						
MNTX	**Cornudas Mount**	**15.45**	**327**	eP	**P**	**02 53 24.0**	**-2.3**
	0.7nm,0.7s						
UALR	**University of**	**16.08**	**10**	eP	**P**	**02 53 34.8**	**+1.6**
	24nm,1.1s						
AMTX	**Amarillo**	**16.78**	**343**	eP	**P**	**02 53 44.1**	**+3.0**
TUL1	**Tulsa**	**16.94**	**360**	eP	**P**	**02 53 45.0**	**+2.3**
	22nm,1.0s						
BCIP	**Isla Barro Col**	**18.15**	**120**	eP	Pn	02 53 49.5	-6.3
	64nm,1.2s						
ANMO	**Albuquerque**	**18.62**	**331**	P	**Pn**	**02 54 04.0**	**+2.4**
	0.1nm,0.3s,baz=131,slow=11,SNR=5.3						
ANMO	**Albuquerque**	**18.62**	**331**	eP	**Pn**	**02 54 03.5**	**+1.8**
	1.3nm,0.7s						
TKL	**Tuckaleechee C**	**19.73**	**30**	P	**Pn**	**02 54 18.1**	**+3.3**
	0.4nm,0.3s,baz=198,slow=13,SNR=4.4						
SDCO	**Great Sand Dun**	**20.64**	**337**	eP	**P**	**02 54 24.4**	**+0.8**
	4.1nm,1.5s						
WCI	**Wyandotte Cave**	**20.92**	**21**	eP	Pn	02 54 27.6	-1.3
	16nm,0.9s						
PFO	**Pinyon Flat Ob**	**23.63**	**312**	LR	LR	03 04 27.7	
	comp=Z,82nm,20.4s,baz=140,slow=37						
ROSC	**El Rosal**	**25.08**	**121**	LR	LR	03 05 52.0	
	comp=Z,46nm,21.9s,baz=340,slow=39						
OTAV	**Otavalo**	**25.10**	**136**	eP	**P**	**02 55 04.8**	**-4.5**
	4.4nm,1.1s						
BW06	**Boulder Array**	**26.53**	**337**	eP	**P**	**02 55 24.6**	**+2.8**
	5.5nm,1.4s						
NVAR	**Mina Array Bea**	**27.66**	**319**	P	**P**	**02 55 34.1**	**+2.0**
	1.0nm,0.9s,baz=130,slow=9.5,SNR=6.1						
HLID	**Hailey**	**29.20**	**331**	eP	**P**	**02 55 48.3**	**+2.7**
	0.8nm,0.8s						
SCHQ	**Schefferville**	**42.06**	**25**	P	**P**	**02 57 34.6**	**-0.9**
	3.1nm,0.9s,baz=239,slow=16,SNR=3.4						
SAML	**Samuel**	**42.34**	**128**	eP	P	02 57 34.0	-4.3
	1.6nm,0.9s						
YKA	**Yellowknife Ar**	**45.49**	**348**	P	**P**	**02 58 03.0**	**+0.1**
	0.9nm,0.6s,baz=152,slow=7.7,SNR=25						
YKA	**Yellowknife Ar**	**45.49**	**348**	P	**P**	**02 58 03.0**	**+0.1**
LCO	**Las Campanas**	**53.40**	**153**	eP	P	02 58 57.5	-6.6
	9.1nm,0.9s						
TRQA	**Tornquist**	**64.91**	**151**	eP	P	03 00 18.7	-4.7
	24nm,1.4s						
KMBO	**Kilima Mbogo**	**130.62**	**75**	ePKPdf	**PKPdf**	**03 08 54.5**	**-1.9**
FORT	**Forrest**	**138.82**	**245**	ePKPdf	**PKPdf**	**03 09 10.2**	**-0.7**

ISCJB 19 02:59:28.8±0.9, 5.°2S±0.°1×153.°2E±0.°1, h56km, mb3.9/7, Error ellipse: s-maj=19.6km s-min=11.7km az=44.0

IDC 19 02:59:30.1±5.2, 5.°14S×153.°22E, h51km±45km, mb3.8/7, mb1 3.9/8, mb1mx3.7/19, mbtmp4.0/8, ML2.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/25, Error ellipse: s-maj=31.8km s-min=24.7km az=53.0

ISC 19 02:59:30.6±1.0, 5.°2S±0.°1×153.°3E±0.°1, h56km, n10, σ0s90/12, mb4.0/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.37**	**235**	P	**Pn**	**03 01 16.3**	**+0.7**
	1.1nm,0.3s,baz=29,slow=10,SNR=8.2						
PMG				S	**Sn**	**03 02 37.3**	**-0.7**
	2.4nm,0.3s,baz=3.4,slow=17,SNR=4.3						
PMG				LR	LR	03 04 12.5	
	comp=Z,176nm,20.4s,baz=26,slow=38						
HNR	**Honiara**	**7.89**	**123**	LR	LR	03 04 28.6	
	comp=Z,97nm,18.1s,baz=327,slow=38						
DZM	**Mont Dzumac**	**21.12**	**144**	P	**P**	**03 04 11.0**	**0.0**
	4.5nm,0.5s,baz=335,slow=20,SNR=10						
WRA	**Warramunga Arr**	**23.55**	**230**	P	**P**	**03 04 35.7**	**-0.5**
	3.2nm,0.6s,baz=54,slow=10.0,SNR=46						
WRA				PcP	**PcP**	**03 08 21.0**	**+0.6**
	0.5nm,0.7s,baz=51,slow=2.5,SNR=4.2						
ASAR	**Alice Springs**	**26.20**	**223**	P	**P**	**03 04 59.5**	**-0.7**
	0.6nm,0.6s,baz=55,slow=8.8,SNR=9.9						
ASAR				PcP	**PcP**	**03 08 27.4**	**+1.2**
	0.3nm,0.6s,baz=50,slow=2.9,SNR=4.3						
CMAR	**Chiang Mai Arr**	**58.43**	**295**	P	**P**	**03 09 22.3**	**+1.1**
	1.2nm,0.4s,baz=120,slow=4.8,SNR=5.8						
SONM	**Songino Array**	**66.86**	**328**	P	**P**	**03 10 16.9**	**-0.1**
	0.4nm,0.5s,baz=134,slow=5.0,SNR=8.9						
MKAR	**Makanchi Array**	**80.88**	**319**	P	**P**	**03 11 38.5**	**-0.4**
	1.5nm,0.8s,baz=94,slow=6.6,SNR=19						
ZALV	**Zalesovo Beam**	**81.69**	**326**	P	**P**	**03 11 41.6**	**-1.3**
	0.7nm,0.3s,baz=124,slow=4.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.84**	**288**	PKPbc	**PKPbc**	**03 19 17.2**	**-0.8**
	1.2nm,0.4s,baz=73,slow=2.3,SNR=28						

IDC 19 03:05:57.5±2.4, 21.°66S×170.°01E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/17, mbtmp3.8/1, ML3.7/4, MS3.8/4, Ms1 3.8/4, ms1mx3.2/33, Error ellipse: s-maj=92.1km s-min=25.4km az=151.0

ISCJB 19 03:05:59.0±1.2, 21.°8S±0.°3×170.°10E±0.°10, h25km, mb3.7/5, MS3.8/4, Error ellipse: s-maj=47.0km s-min=9.0km az=168.4

NOU 19 03:05:58.1±0.6, 20.°91S×170.°15E, h30km, MD3.4, ML2.9

ISC 19 03:06:01.1±1.6, 21.°7S±0.°4×170.°1E±0.°2, h25km, n14, σ0s78/15, mb3.7/5, MS3.8/4, 1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.98**	**262**	eS	**Sn**	**03 07 22.1**	**+0.5**
NORM	**Noumea**	**3.35**	**261**	eP	**Pn**	**03 06 51.6**	**-0.3**
NORM				eS	**Sn**	**03 07 30.3**	**-0.6**
DZM	**Mont Dzumac**	**3.37**	**264**	Pn	**Pn**	**03 06 52.5**	**+0.3**
	10nm,0.3s,baz=125,slow=22,SNR=146						
DZM				Sn	**Sn**	**03 07 30.7**	**-0.9**
	31nm,0.3s,baz=90,slow=19,SNR=18						
NOUC	**Port Laguerre**	**3.51**	**263**	eP	**Pn**	**03 06 54.0**	**0.0**
NOUC				eS	**Sn**	**03 07 36.1**	**+1.4**
NOUC				AMP		03 07 43.6	
	comp=Z,61nm,1.7s						
STKA	**Stephens Creek**	**27.26**	**242**	P	**P**	**03 11 43.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=90,slow=12,SNR=4.8						
STKA				LR	LR	03 21 53.4	
	comp=Z,168nm,19.3s,baz=39,slow=35						
ASAR	**Alice Springs**	**33.36**	**260**	P	**P**	**03 12 37.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=87,slow=9.5,SNR=4.3						
ASAR				LR	LR	03 26 32.5	
	comp=Z,103nm,18.5s,baz=95,slow=37						
WRA	**Warramunga Arr**	**33.39**	**266**	P	**P**	**03 12 36.6**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=100,slow=8.2,SNR=5.8						
VNDA	**Vanda**	**55.97**	**182**	LR	LR	03 36 24.1	
	comp=Z,107nm,19.4s,baz=284,slow=33						
SONM	**Songino Array**	**89.67**	**323**	P	**P**	**03 18 57.6**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=134,slow=4.2,SNR=9.2						
ILAR	**Eielson Array**	**92.39**	**17**	P	**P**	**03 19 08.0**	**-1.0**
	comp=Z,0.3nm,0.9s,baz=222,slow=4.9,SNR=3.4						
TXAR	**Lajitas Array**	**97.28**	**61**	LR	LR	03 55 14.9	
	comp=Z,38nm,19.7s,baz=0.0,slow=30						
KRLC	**Kraliky**	**144.76**	**330**	eP	**PKPab**	**03 25 35.0**	**+0.5**
CLL	**Collm**	**145.50**	**334**	⇓iPKP	**PKPdf**	**03 25 37.4**	**+0.6**
	comp=Z,11nm,1.1s						
GERES	**GERESS Array B**	**147.05**	**331**	PKPbc	**PKPbc**	**03 25 42.3**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=50,slow=1.5,SNR=7.7						

IDC 19 03:11:24.4±3.1, 13.°48N×90.°89W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/21, mbtmp3.4/4, ML4.3/2, MS3.2/6, Ms1 3.2/6, ms1mx3.0/24, Error ellipse: s-maj=64.4km s-min=30.6km az=127.0

ISCJB 19 03:11:36.9±0.8, 14.°16N±0.°06×91.°21W±0.°06, h80km±8km, mb3.6/3, Error ellipse: s-maj=12.3km s-min=7.6km az=43.5

CASC 19 03:11:36.8±2.7, 13.°86N×91.°22W, h18km±12km, MD3.8, ML3.8

ISC 19 03:11:38.0±1.1, 14.°08N±0.°07×91.°24W±0.°07, h74km±9km, n27, σ1s41/30, mb3.5/3, 3C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	**Jato**	**0.46**	**302**	⇑iP	**Pn**	**03 11 49.9**	**-0.9**
PCG	**Pacaya**	**0.69**	**63**	eP	**Pn**	**03 11 52.6**	**-0.7**
NBG	**Las Nubes**	**1.00**	**59**	⇓eP	**Pn**	**03 11 57.4**	**+0.4**
NBG				eS	**Sn**	**03 12 14.4**	**+3.3**
APG	**El Apazote**	**1.19**	**39**	Pn	Pn	03 11 54.4	-4.9
	38nm,0.3s,baz=218,slow=19,SNR=328						
APG				Sn	**Sn**	**03 12 14.2**	**-1.0**
	107nm,0.3s,baz=161,slow=18,SNR=15						
APG				LR	LR	03 12 40.3	
	comp=Z,559nm,19.7s,baz=188,slow=48						
RBDL	**Robledal**	**1.50**	**88**	⇓iP	**Pn**	**03 12 02.0**	**-1.3**
RTR	**El Retiro**	**1.56**	**96**	iP	**Pn**	**03 12 02.9**	**-1.1**
SBLS	**San Blas**	**1.58**	**98**	⇓iP	**Pn**	**03 12 03.2**	**-1.3**
SBLS				eS	**Sn**	**03 12 23.7**	**-0.7**
SNJE	**San Jose**	**1.60**	**97**	iP	**Pn**	**03 12 03.3**	**-1.3**
SNJE				eS	**Sn**	**03 12 24.3**	**-0.4**
MRL	**Marmol**	**1.79**	**57**	⇑iP	**Pn**	**03 12 06.5**	**-0.6**
MRL				⇑eP	**Pn**	**03 12 07.4**	**+0.3**
BOQS	**Boqueron**	**1.93**	**100**	⇓iP	**Pn**	**03 12 07.7**	**-1.3**
BOQS				eS	**Sn**	**03 12 32.6**	**0.0**
SNET	**Serv Nac Est T**	**1.99**	**101**	iP	**Pn**	**03 12 08.3**	**-1.4**
SNET				eS	**Sn**	**03 12 32.9**	**-0.9**
SNET				AML	AML	03 12 42.9	
	comp=Z,1μm,0.2s						
LBRS	**Las Brisas**	**2.16**	**99**	iP	**Pn**	**03 12 10.5**	**-1.4**
LFRS	**El Faro**	**2.16**	**102**	iP	**Pn**	**03 12 10.9**	**-1.1**
SNVI	**San Vicente**	**2.38**	**101**	eP	**Pn**	**03 12 14.1**	**-0.8**
SNVI				eS	**Sn**	**03 12 45.9**	**+2.7**
VSM	**San Miguel**	**2.95**	**102**	eP	**Pn**	**03 12 22.3**	**-0.5**
CNCH	**Conchagua**	**3.40**	**103**	eP	**Pn**	**03 12 29.0**	**+0.1**
TEIG	**Tepich**	**6.74**	**24**	Pn	**Pn**	**03 13 12.7**	**-1.6**
	comp=Z,28nm,0.3s,baz=244,slow=1.5,SNR=147						
TEIG				Sn	**Sn**	**03 14 27.8**	**-1.7**
	baz=319,slow=20,SNR=2.5						
TEIG				LR	LR	03 16 31.6	
	comp=Z,144nm,20.3s,baz=34,slow=43						
TXAR	**Lajitas Array**	**19.05**	**325**	P	**Pn**	**03 15 55.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=152,slow=12,SNR=6.4						
LPIG	**La Paz**	**20.57**	**302**	LR	LR	03 23 12.5	
	comp=Z,35nm,20.2s,baz=182,slow=33						
TKL	**Tuckaleechee C**	**22.51**	**16**	LR	LR	03 26 13.6	
	comp=Z,75nm,19.8s,baz=314,slow=39						
ANMO	**Albuquerque**	**24.91**	**329**	LR	LR	03 27 59.0	
	comp=Z,20nm,18.1s,baz=220,slow=39						
NVAR	**Mina Array Bea**	**34.08**	**320**	P	**P**	**03 18 17.6**	**+1.9**
	comp=Z,1.8nm,0.8s,baz=134,slow=8.8,SNR=9.6						
SCHQ	**Schefferville**	**44.90**	**20**	LR	LR	03 39 37.5	
	comp=Z,71nm,18.2s,baz=98,slow=37						
YKA	**Yellowknife Ar**	**51.12**	**346**	P	**P**	**03 20 31.7**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=147,slow=7.6,SNR=8.5						
ILAR	**Eielson Array**	**63.06**	**337**	P	**P**	**03 21 58.9**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=123,slow=4.4,SNR=3.0						
NOA	**NORSAR Array B**	**83.72**	**29**	LR	LR	04 00 16.3	
	comp=Z,21nm,18.3s,baz=10.0,slow=35						
CMAR	**Chiang Mai Arr**	**146.15**	**342**	PKPbc	**PKPdf**	**03 31 08.5**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=322,slow=2.7,SNR=4.4						

DJA 19 03:26:42.1±1.7, 10°S±5°×11°4E±°, h29km±20km, M3.6/8, MLv3.6/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.50**	**11**	P	Pn	03 27 07.1	0.0
JAGI				S	Sn	03 27 26.5	+0.8
GMJI	**Gumukmas**	**1.72**	**346**	P	Pn	03 27 09.8	-0.2
GMJI				S	Sn	03 27 31.8	+0.8
SRBI	**Singaraja**	**2.29**	**36**	P	Pn	03 27 18.0	+0.1
PWJI	**Pagerwojo**	**2.79**	**313**	P	Pn	03 27 24.4	-0.5
UGM	**Wanagama**	**3.87**	**301**	P	Pn	03 27 39.0	-0.7

IDC 19 03:27:34.0±2.0, 3.°53N×122.°56E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/24, mbtmp3.5/3, Error ellipse: s-maj=326.6km s-min=25.9km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.04**	**154**	P	P	03 33 09.6	+0.4
	0.4nm,0.4s,baz=334,slow=9.4,SNR=8.7						
ASAR	**Alice Springs**	**29.21**	**158**	P	P	03 33 37.1	-0.5
	0.2nm,0.5s,baz=331,slow=7.4,SNR=4.7						
MKAR	**Makanchi Array**	**55.41**	**327**	P	P	03 37 10.2	0.0
	0.2nm,0.4s,baz=128,slow=8.8,SNR=6.9						

IDC 19 03:36:32.5±1.5, 5.°99N×125.°17E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/25, mbtmp3.7/6, Error ellipse: s-maj=194.5km s-min=18.4km az=66.0

ISCJB 19 03:36:35.3±1.4, 6.°23N±0.°06×126.°27E±0.°06, h28km±11km, mb3.6/6, Error ellipse: s-maj=12.5km s-min=8.0km az=137.6

MAN 19 03:36:36, 6.°42N×126.°38E, h22km, mb4.6, ML3.5, MS3.4

ISC 19 03:36:36.2±1.7, 6.°27N±0.°08×126.°23E±0.°08, h30km±12km, n14, σ1s35/18, mb3.7/6, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.67**	**2**	eP	**Pb**	**03 36 48.6**	**-0.7**
MATI				eS	**Sb**	**03 36 57.7**	**-0.7**
DMPH	**Davao City--Mi**	**1.08**	**318**	⇑eP	**Pb**	**03 36 56.6**	**+0.4**
DMPH				eS	**Sb**	**03 37 11.3**	**+1.4**
GSPH	**General Santos**	**1.29**	**262**	⇑iP	**Pn**	**03 36 57.8**	**-0.5**
GSPH				iS	**Sn**	**03 37 13.8**	**-0.8**
KCP	**Kidapawan**	**1.35**	**303**	⇓eP	**Pn**	**03 36 59.9**	**+0.9**
KCP				eS	**Sn**	**03 37 16.5**	**+0.6**
BUKP	**Musuan**	**1.97**	**324**	eP	**Pn**	**03 37 08.8**	**+1.2**
BUKP				eS	**Sb**	**03 37 34.3**	**-1.3**
CGP	**Cagayan de Oro**	**2.65**	**325**	⇓eP	Pb	03 37 35.2	+12
CGP				eS	**Sn**	**03 37 49.9**	**+1.9**
PAGZ	**Pagadian**	**3.23**	**299**	eP	Pn	03 37 28.8	+4.0
WRA	**Warramunga Arr**	**27.25**	**163**	P	**P**	**03 42 18.7**	**+0.8**
	0.6nm,0.6s,baz=344,slow=9.7,SNR=5.7						
ASAR	**Alice Springs**	**30.69**	**166**	P	**P**	**03 42 49.7**	**+1.2**
	0.5nm,0.6s,baz=348,slow=8.5,SNR=7.1						
STKA	**Stephens Creek**	**40.67**	**160**	P	**P**	**03 44 15.6**	**+1.7**
	2.4nm,0.8s,baz=329,slow=11,SNR=5.0						
SONM	**Songino Array**	**44.74**	**341**	P	**P**	**03 44 47.4**	**+0.4**
	0.3nm,0.8s,baz=159,slow=9.3,SNR=2.7						
MKAR	**Makanchi Array**	**55.20**	**325**	P	**P**	**03 46 05.3**	**-1.0**
	0.9nm,0.6s,baz=121,slow=7.2,SNR=13						
BVAR	**Borovoye Array**	**64.93**	**327**	P	**P**	**03 47 10.4**	**-2.5**
	0.6nm,0.6s,baz=103,slow=6.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**121.63**	**290**	PKP	**PKPdf**	**03 55 26.9**	**-1.2**
	0.5nm,0.7s,baz=75,slow=1.9,SNR=5.8						

DDA 19 04:04:58.3, 39.°97N×33.°19E, h11km, MD3.0

CSEM 19 04:04:58.6±0.2, 39.°98N×33.°18E, h5km, MD2.8, Error ellipse: s-maj=4.5km s-min=3.3km az=141.0

ISK 19 04:04:57.9, 39.°98N×33.°17E, h6km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.31**	**250**	ePG	Pg	04 05 04.9	+0.8
ANTO	**Ankara**	**0.31**	**250**	ePg	Pg	04 05 04.9	+0.8
LOD	**Lodumlu**	**0.33**	**255**	ePG	Pg	04 05 04.8	+0.4
LOD				eSG	Sg	04 05 09.5	+0.7
LOD	**Lodumlu**	**0.33**	**255**	ePg	Pg	04 05 04.8	+0.4
LOD				eSg	Sg	04 05 09.5	+0.7
DAD	**Ankara**	**0.33**	**258**	iP	Pb	04 05 05.5	-0.8
DAD				iS	Sg	04 05 10.1	+1.2
DAD	**Ankara**	**0.33**	**258**	iP	Pb	04 05 05.5	-0.9
DAD				iS	Sg	04 05 10.1	+1.2
BBAL	**Bala**	**0.43**	**185**	iP	Pg	04 05 06.9	+0.4
BBAL				iS	Sb	04 05 14.0	-1.1
BBAL	**Bala**	**0.43**	**185**	iP	Pg	04 05 06.9	+0.4
BBAL				iS	Sb	04 05 14.0	-1.1
AFSR	**Af˘ar-Bala (A**	**0.53**	**189**	ePG	Pg	04 05 08.7	+0.4
AFSR				eSG	Sb	04 05 16.9	-1.0
AFSR	**Af˘ar-Bala (A**	**0.53**	**189**	ePg	Pg	04 05 08.7	+0.3
AFSR				eSg	Sb	04 05 16.9	-1.0
ELDT	**Eldivan**	**0.55**	**21**	iP	Pg	04 05 09.3	+0.5
ELDT				iS	Sb	04 05 17.6	-0.9
ELDT	**Eldivan**	**0.55**	**21**	iP	Pg	04 05 09.3	+0.5
ELDT				iS	Sb	04 05 17.6	-0.9
CANT	**Cankiri**	**0.72**	**28**	ePG	Pg	04 05 12.3	+0.5
CANT				eSG	Sb	04 05 22.7	-0.4
CDAG	**Cicekdag**	**0.99**	**110**	iP	Pg	04 05 16.9	-0.2
CDAG				iS	Sg	04 05 30.3	+0.3
CDAG	**Cicekdag**	**0.99**	**110**	iP	Pg	04 05 16.9	-0.2
CDAG				iS	Sg	04 05 30.3	+0.3
CORM	**Corum**	**1.14**	**79**	ePN	Pg	04 05 19.8	-0.1
CORM	**Corum**	**1.14**	**79**	ePn	Pg	04 05 19.8	-0.1
TOS	**Tosya**	**1.24**	**31**	ePN	Pg	04 05 21.7	-0.2
TOS	**Tosya**	**1.24**	**31**	ePn	Pg	04 05 21.7	-0.2
SVRH	**Sivrihisar-ESK**	**1.38**	**248**	ePN	Pg	04 05 24.6	+0.1
SVRH	**Sivrihisar-ESK**	**1.38**	**248**	ePn	Pg	04 05 24.6	+0.1
MDUB	**Mudurnu**	**1.59**	**289**	ePN	Pn	04 05 27.3	+0.6
MDUB	**Mudurnu**	**1.59**	**289**	ePn	Pn	04 05 27.3	+0.5
KDHN	**Kadinhani**	**1.67**	**210**	iP	Pg	04 05 29.9	-0.2
KDHN				iS	Sg	04 05 53.1	+1.3
KDHN	**Kadinhani**	**1.67**	**210**	iP	Pg	04 05 29.9	-0.2
KDHN				iS	Sg	04 05 53.1	+1.3
YOZ	**Yozgat**	**1.69**	**101**	ePN	Pn	04 05 28.4	+0.3
YOZ	**Yozgat**	**1.69**	**101**	ePn	Pn	04 05 28.4	+0.3
SULT	**Sultanhani-AKS**	**1.79**	**171**	ePN	Pn	04 05 30.1	+0.6
SULT	**Sultanhani-AKS**	**1.79**	**171**	ePn	Pn	04 05 30.1	+0.6
BOYT	**Boyabat**	**1.95**	**42**	iP	Pb	04 05 34.1	+0.1
BOYT	**Boyabat**	**1.95**	**42**	iP	Pb	04 05 34.1	+0.1
BOYT				iS	Sg	04 06 02.2	+1.3
GULT	**Gulveren**	**2.09**	**283**	ePN	Pn	04 05 34.2	+0.7
GULT	**Gulveren**	**2.09**	**283**	ePn	Pn	04 05 34.3	+0.8
BORA	**Eskisehir**	**2.09**	**268**	iP	Pn	04 05 33.9	+0.3
BORA	**Eskisehir**	**2.09**	**268**	iP	Pn	04 05 33.9	+0.3
BORA				iS	Sg	04 06 06.1	+0.7
HAVZ	**Havza**	**2.23**	**60**	iP	Pb	04 05 37.9	-0.8
HAVZ				iS	Sb	04 06 07.8	+1.3
HAVZ	**Havza**	**2.23**	**60**	iP	Pb	04 05 37.9	-0.8
HAVZ				iS	Sb	04 06 07.8	+1.3
BNN	**Bunyan**	**2.35**	**118**	ePN	Pn	04 05 38.1	+0.8
BNN	**Bunyan**	**2.35**	**118**	ePn	Pn	04 05 38.1	+0.8

INMG 19 04:13:08.5±0.7, 33.°39N×4.°28W, h0km, ML2.9, Error ellipse: s-maj=6.7km s-min=3.6km az=52.0

IGIL 19 04:13:08.8, 33.°11N×4.°52W, h0km, ML3.0

MDD 19 04:13:09.2±0.7, 33.°43N×4.°14W, h0km, mb4.3/13, Error ellipse: s-maj=9.5km s-min=4.8km az=109.0, PRXIMO

ISCJB 19 04:13:10.2±0.5, 33.°61N±0.°03×4.°40W±0.°04, h10km, Error ellipse: s-maj=4.7km s-min=3.3km az=33.2

CSEM 19 04:13:11.2±0.3, 33.°56N×4.°33W, h10km, MD3.4, Error ellipse: s-maj=6.6km s-min=4.4km az=125.0

CNRM 19 04:13:11.8, 33.°37N×4.°16W, h7km, MD3.4

ISC 19 04:13:08.8±0.8, 33.°44N±0.°03×4.°26W±0.°04, h10km, n83, σ1s25/144, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZFT	**Errachidia**	**1.40**	**183**	P	**Pn**	**04 13 34.0**	**-0.7**
ZFT				S	**Sn**	**04 13 52.5**	**-0.8**
ZFT	**Errachidia**	**1.40**	**183**	P	**Pn**	**04 13 34.0**	**-0.7**
ZFT				S	**Sn**	**04 13 52.5**	**-0.8**
TOU	**Touzarine**	**1.58**	**15**	P	**Pn**	**04 13 37.0**	**0.0**
TOU				S	**Sn**	**04 13 58.0**	**+0.5**
TOU	**Touzarine**	**1.58**	**15**	eP	**Pn**	**04 13 37.0**	**0.0**
TOU				iS	**Sn**	**04 13 58.0**	**+0.5**
KIB	**El Ksiba**	**1.72**	**241**	P	**Pg**	**04 13 41.5**	**-0.4**
KIB				S	**Sb**	**04 14 03.0**	**+0.6**
KIB	**El Ksiba**	**1.72**	**241**	iP	**Pg**	**04 13 41.5**	**-0.4**
KIB				iS	**Sb**	**04 14 03.0**	**+0.6**
ZAI	**Zaio**	**1.98**	**39**	P	**Pb**	**04 13 46.0**	**+1.0**
ZAI				S	**Sb**	**04 14 11.0**	**+1.3**
ZAI	**Zaio**	**1.98**	**39**	P	**Pb**	**04 13 46.0**	**+1.0**
ZAI				S	**Sb**	**04 14 11.0**	**+1.3**
EMEL	**Melilla**	**2.15**	**30**	P	**Pn**	**04 13 46.0**	**+1.3**
	29nm,0.1s,SNR=7.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EMEL				S	Sn	04 14 09.9	-1.5
	49nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**2.15**	**30**	P	**Pn**	**04 13 46.0**	**+1.3**
	29nm,0.1s,SNR=7.9						
EMLI				S	**Sn**	**04 14 09.9**	**-1.6**
	49nm,0.1s,SNR=7.9						
TZC	**Tazercounte**	**2.28**	**236**	P	**Pb**	**04 13 49.0**	**-1.1**
TZC				S	**Sn**	**04 14 16.0**	**+1.1**
TZC	**Tazercounte**	**2.28**	**236**	*i* P	**Pb**	**04 13 49.0**	**-1.1**
TZC				*i* S	**Sn**	**04 14 16.0**	**+1.1**
EMIJ	**Mijas**	**3.15**	**352**	P	**Pn**	**04 13 58.8**	**+0.3**
	2.0nm,0.2s,SNR=8.3						
EMIJ				S	**Sn**	**04 14 34.5**	**-1.6**
	10nm,0.4s						
EMIJ	**Mijas**	**3.15**	**352**	P	**Pn**	**04 13 58.8**	**+0.3**
	2.0nm,0.2s,SNR=8.3						
EMIJ				S	**Sn**	**04 14 34.5**	**-1.6**
	10nm,0.4s						
EGUA	**Guajares**	**3.43**	**9**	P	**Pn**	**04 14 01.4**	**-1.0**
	3.1nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**04 14 40.1**	**-3.1**
	3.4nm,0.2s,SNR=4.0						
EGUA	**Guajares**	**3.43**	**9**	P	**Pn**	**04 14 01.4**	**-1.0**
	3.1nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**04 14 40.1**	**-3.1**
	3.4nm,0.2s,SNR=4.0						
EBER	**Berja**	**3.63**	**18**	P	**Pn**	**04 14 04.1**	**-1.2**
	7.4nm,0.3s,SNR=13						
EBER				S	**Sn**	**04 14 45.8**	**-2.4**
	22nm,0.6s,SNR=5.2						
EBER	**Berja**	**3.63**	**18**	P	**Pn**	**04 14 04.1**	**-1.2**
	7.4nm,0.3s,SNR=13						
EBER				S	**Sn**	**04 14 45.8**	**-2.4**
	22nm,0.6s,SNR=5.2						
ESPR	**Espera**	**3.66**	**340**	P	**Pn**	**04 14 07.9**	**+2.4**
	0.7nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.66**	**340**	P	**Pn**	**04 14 07.9**	**+2.4**
	0.7nm,0.1s,SNR=7.9						
OUK	**Oukaimeden**	**3.78**	**235**	P	Pn	04 14 11.0	+3.6
OUK				S	**Sn**	**04 14 53.0**	**+0.9**
OUK	**Oukaimeden**	**3.78**	**235**	*e*P	Pn	04 14 11.0	+3.6
OUK				*e*S	**Sn**	**04 14 53.0**	**+0.9**
GORA	**Gorafe**	**4.15**	**14**	P	**Pn**	**04 14 14.8**	**+2.4**
	4.4nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**4.15**	**14**	P	**Pn**	**04 14 14.8**	**+2.4**
	4.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.46**	**12**	P	**Pn**	**04 14 18.4**	**+1.8**
	2.3nm,0.2s,SNR=39						
EQES				S	**Sn**	**04 15 09.5**	**+0.9**
	4.7nm,0.3s,SNR=8.3						
EQES	**Quesada**	**4.46**	**12**	P	**Pn**	**04 14 18.4**	**+1.8**
	2.3nm,0.2s,SNR=39						
EQES				S	**Sn**	**04 15 09.5**	**+0.9**
	4.7nm,0.3s,SNR=8.3						
ECAB	**El Cabril**	**4.72**	**349**	P	**Pn**	**04 14 22.4**	**+2.2**
	3.7nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**04 15 14.8**	**-0.2**
	1.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.72**	**349**	P	**Pn**	**04 14 22.4**	**+2.2**
	3.7nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**04 15 14.8**	**-0.2**
	1.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.74**	**336**	P	**Pn**	**04 14 20.4**	**0.0**
	4.2nm,0.1s,SNR=36						
EMIN				S	**Sn**	**04 15 15.0**	**-0.5**
	1.7nm,0.2s						
EMIN	**Mina Concepcio**	**4.74**	**336**	P	**Pn**	**04 14 20.4**	**0.0**
	4.2nm,0.1s,SNR=36						
EMIN				S	**Sn**	**04 15 15.0**	**-0.5**
	1.7nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.84**	**323**	*e*Pn	**Pn**	**04 14 22.1**	**+0.4**
PBDV				*e*Sn	**Sn**	**04 15 17.1**	**-0.7**
PBDV	**Barranco-do-Ve**	**4.84**	**323**	P	**Pn**	**04 14 22.1**	**+0.4**
PBDV				S	**Sn**	**04 15 17.1**	**-0.7**
PBDV	**Barranco-do-Ve**	**4.84**	**323**	P	**Pn**	**04 14 22.1**	**+0.4**
PBDV				S	**Sn**	**04 15 17.1**	**-0.7**
EGRO	**El Granado**	**4.86**	**328**	P	**Pn**	**04 14 22.6**	**+0.6**
	4.6nm,0.1s,SNR=11						
EGRO				S	**Sn**	**04 15 17.9**	**-0.4**
	8.4nm,0.3s						
EGRO	**El Granado**	**4.86**	**328**	P	**Pn**	**04 14 22.6**	**+0.6**
	4.6nm,0.1s,SNR=11						
EGRO				S	**Sn**	**04 15 17.9**	**-0.4**
	8.4nm,0.3s						
PVAQ	**Vaqueiros**	**4.86**	**325**	*e*Pn	**Pn**	**04 14 22.4**	**+0.4**
PVAQ				*e*Sn	**Sn**	**04 15 17.7**	**-0.6**
PVAQ				A	A	04 15 20.4	
	12nm,0.6s						
PVAQ	**Vaqueiros**	**4.86**	**325**	P	**Pn**	**04 14 22.4**	**+0.4**
PVAQ				S	**Sn**	**04 15 17.7**	**-0.6**
	12nm,0.6s						
PVAQ	**Vaqueiros**	**4.86**	**325**	P	**Pn**	**04 14 22.4**	**+0.4**
PVAQ				S	**Sn**	**04 15 17.7**	**-0.6**
	12nm,0.6s						
PCVE	**Castro Verde**	**5.20**	**325**	*e*Pn	**Pn**	**04 14 27.5**	**+0.9**
PCVE				*e*Sn	**Sn**	**04 15 26.4**	**-0.2**
PCVE				A	A	04 15 28.7	
	7.6nm,0.9s						
PCVE	**Castro Verde**	**5.20**	**325**	P	**Pn**	**04 14 27.5**	**+0.9**
PCVE				S	**Sn**	**04 15 26.4**	**-0.2**
	7.6nm,0.9s						
PCVE	**Castro Verde**	**5.20**	**325**	P	**Pn**	**04 14 27.5**	**+0.9**
PCVE				S	**Sn**	**04 15 26.4**	**-0.2**
	7.6nm,0.9s						
PBAR	**Barrancos**	**5.24**	**335**	*e*Pn	**Pn**	**04 14 27.4**	**+0.2**
PBAR				*e*Sn	**Sn**	**04 15 26.5**	**-1.1**
PBAR				A	A	04 15 30.6	
	12nm,0.8s						
PBAR	**Barrancos**	**5.24**	**335**	P	**Pn**	**04 14 27.4**	**+0.2**
PBAR				S	**Sn**	**04 15 26.5**	**-1.1**
	12nm,0.8s						
PBAR	**Barrancos**	**5.24**	**335**	P	**Pn**	**04 14 27.4**	**+0.2**
PBAR				S	**Sn**	**04 15 26.5**	**-1.1**
	12nm,0.8s						
PFVI	**Vila Bisbo**	**5.25**	**316**	P	**Pn**	**04 14 29.7**	**+2.4**
	SNR=7.9						
PFVI				S	**Sn**	**04 15 25.8**	**-2.0**
	SNR=7.9						
PFVI	**Vila Bisbo**	**5.25**	**316**	P	**Pn**	**04 14 29.7**	**+2.4**
	SNR=7.9						
PFVI				S	**Sn**	**04 15 25.8**	**-2.0**
	SNR=7.9						
MORF	**Marmelete**	**5.27**	**318**	*e*P	**Pn**	**04 14 28.3**	**+0.7**
MORF				*e*S	**Sn**	**04 15 26.3**	**-2.1**
MORF				AML	AML	04 15 30.5	
	comp=N,27nm,0.4s						
MESJ	**Messejana**	**5.45**	**325**	*e*P	**Pn**	**04 14 30.5**	**+0.4**
MESJ				*e*S	**Sn**	**04 15 31.1**	**-1.7**
MESJ				AML	AML	04 15 34.5	
	comp=N,13nm,0.4s						
MESJ	**Messejana**	**5.45**	**325**	*e*Pn	**Pn**	**04 14 30.6**	**+0.5**
MESJ				*e*Sn	**Sn**	**04 15 32.6**	**-0.2**
MESJ	**Messejana**	**5.45**	**325**	P	**Pn**	**04 14 30.6**	**+0.5**
MESJ				S	**Sn**	**04 15 32.6**	**-0.2**
MESJ	**Messejana**	**5.45**	**325**	P	**Pn**	**04 14 30.6**	**+0.5**
MESJ				S	**Sn**	**04 15 32.6**	**-0.2**
ETOB	**Tobarra**	**5.64**	**22**	P	**Pn**	**04 14 33.8**	**+1.0**
	comp=N,2.2nm,0.2s,SNR=16						
ETOB				S	**Sn**	**04 15 33.8**	**-3.9**
	SNR=7.9						
ETOB	**Tobarra**	**5.64**	**22**	P	**Pn**	**04 14 33.8**	**+1.0**
	comp=N,2.2nm,0.2s,SNR=16						
ETOB				S	**Sn**	**04 15 33.8**	**-3.9**
	SNR=7.9						
EBAD	**Badajoz**	**5.75**	**338**	P	**Pn**	**04 14 34.6**	**+0.3**
	comp=N,3.4nm,0.1s,SNR=33						
EBAD				S	**Sn**	**04 15 38.5**	**-1.9**
	comp=N,4.2nm,0.3s						
EBAD	**Badajoz**	**5.75**	**338**	P	**Pn**	**04 14 34.6**	**+0.3**
	comp=N,3.4nm,0.1s,SNR=33						
EBAD				S	**Sn**	**04 15 38.5**	**-1.9**
	comp=N,4.2nm,0.3s						
PNCL	**Nicolau / Gran**	**5.81**	**325**	*e*Pn	**Pn**	**04 14 35.5**	**+0.4**
PNCL				*e*Sn	**Sn**	**04 15 40.8**	**-0.9**
PNCL				A	A	04 15 44.7	
	comp=N,7.2nm,0.5s						
PNCL	**Nicolau / Gran**	**5.81**	**325**	*e*Pn	**Pn**	**04 14 35.5**	**+0.4**
PNCL				*e*Sn	**Sn**	**04 15 40.8**	**-0.9**
	comp=N,7.2nm,0.5s						
EVO	**Evora**	**5.92**	**330**	*e*Pn	**Pn**	**04 14 37.0**	**+0.4**
EVO				*e*Sn	**Sn**	**04 15 43.7**	**-0.8**
EVO				A	A	04 15 46.6	
	comp=N,5.4nm,0.1s						
EVO	**Evora**	**5.92**	**330**	P	**Pn**	**04 14 37.0**	**+0.4**
EVO				S	**Sn**	**04 15 43.7**	**-0.8**
	comp=N,5.4nm,0.1s						
EVO	**Evora**	**5.92**	**330**	P	**Pn**	**04 14 37.0**	**+0.4**
EVO				S	**Sn**	**04 15 43.7**	**-0.8**
	comp=N,5.4nm,0.1s						
PESTR	**Estremoz**	**6.05**	**335**	*e*Pn	**Pn**	**04 14 38.9**	**+0.5**
PESTR				*e*Sn	**Sn**	**04 15 45.6**	**-2.1**
PESTR	**Estremoz**	**6.05**	**335**	*e*Pn	**Pn**	**04 14 38.9**	**+0.5**
PESTR				*e*Sn	**Sn**	**04 15 45.6**	**-2.1**
ESDC	**Sonseca Array**	**6.23**	**2**	P	**Pn**	**04 14 42.1**	**+1.2**
	comp=N,1.0nm,0.2s,baz=192,slow=13,SNR=9.6						
ESDC	**Sonseca Array**	**6.23**	**2**	P	**Pn**	**04 14 42.1**	**+1.2**
	comp=N,1.0nm,0.2s,SNR=9.6						
PMTG	**Montargil**	**6.47**	**331**	*e*Pn	**Pn**	**04 14 44.5**	**+0.4**
PMTG				*e*Sn	**Sn**	**04 15 56.6**	**-1.3**
PMTG	**Montargil**	**6.47**	**331**	*e*Pn	**Pn**	**04 14 44.5**	**+0.4**
PMTG				*e*Sn	**Sn**	**04 15 56.6**	**-1.3**
PMRV	**Marv??o**	**6.49**	**338**	*e*Pn	**Pn**	**04 14 45.1**	**+0.7**
PMRV				*e*Sn	**Sn**	**04 15 57.8**	**-0.7**
PMRV	**Marv??o**	**6.49**	**338**	P	**Pn**	**04 14 45.1**	**+0.7**
PMRV				S	**Sn**	**04 15 57.8**	**-0.7**
PMRV	**Marv??o**	**6.49**	**338**	P	**Pn**	**04 14 45.1**	**+0.7**
PMRV				S	**Sn**	**04 15 57.8**	**-0.7**
PCAS	**Casmilo, Conde**	**7.42**	**334**	*e*Pn	**Pn**	**04 14 57.9**	**+0.7**
PCAS	**Casmilo, Conde**	**7.42**	**334**	*e*Pn	**Pn**	**04 14 57.9**	**+0.7**
MTE	**Manteigas**	**7.43**	**340**	*e*Pn	**Pn**	**04 14 58.4**	**+1.1**
MTE	**Manteigas**	**7.43**	**340**	P	**Pn**	**04 14 58.4**	**+1.1**
MTE	**Manteigas**	**7.43**	**340**	P	**Pn**	**04 14 58.4**	**+1.1**
MVO	**Moncorvo**	**8.02**	**345**	*e*Pn	**Pn**	**04 15 06.6**	**+1.1**
MVO	**Moncorvo**	**8.02**	**345**	P	**Pn**	**04 15 06.5**	**+1.1**
	comp=N,2.1nm,0.4s,SNR=7.0						
MVO	**Moncorvo**	**8.02**	**345**	P	**Pn**	**04 15 06.5**	**+1.1**
	comp=N,2.1nm,0.4s,SNR=7.0						
POLO	**Lamas de Olo**	**8.40**	**341**	*e*Pn	**Pn**	**04 15 11.9**	**+1.1**
POLO	**Lamas de Olo**	**8.40**	**341**	*e*Pn	**Pn**	**04 15 11.9**	**+1.1**
ECAL	**Calabor**	**8.71**	**348**	P	**Pn**	**04 15 15.8**	**+0.9**
	comp=N,0.1nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**8.71**	**348**	P	**Pn**	**04 15 15.8**	**+0.9**
	comp=N,0.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**8.94**	**341**	P	**Pn**	**04 15 18.7**	**+0.7**
	comp=N,2.6nm,0.2s,SNR=6.2						
ELOB	**Lobios**	**8.94**	**341**	P	**Pn**	**04 15 18.7**	**+0.7**
	comp=N,2.6nm,0.2s,SNR=6.2						

MAN 19 04:15:15, 9.25N×126.21E, h30km, mb4.4, ML3.2, MS3.0, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.89**	**307**	*e*P	Pn	04 15 31.4	0.0
SCPH				*e*S	Sb	04 15 44.8	+1.4
BIPH	**Bislig**	**1.07**	**172**	⇑*e*P	Pn	04 15 32.9	-1.1
BIPH				*e*S	Sn	04 15 43.5	-4.4
MSLP	**Maasin**	**1.59**	**303**	*e*P	Pb	04 15 43.0	-0.9
MSLP				*e*S	Sn	04 16 00.9	+0.1
CGP	**Cagayan de Oro**	**1.69**	**242**	⇓*i*P	Pn	04 15 42.0	-0.6
CGP				*i* S	Sn	04 16 04.3	+1.0
BUKP	**Musuan**	**1.77**	**220**	*e*P	Pb	04 15 45.8	-1.2
BUKP				*e*S	Sb	04 16 09.1	+0.1
PLP	**Palo**	**2.25**	**328**	⇓*e*P	Pn	04 15 51.9	+1.6
PLP				*e*S	Sn	04 16 18.6	+1.4
PAGZ	**Pagadian**	**3.13**	**244**	*e*P	Pn	04 16 05.0	+2.7

DJA 19 04:23:23.1±1.2, 0°S±4°×12°3E±°, h10km, M3.4/4, MLv3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.98**	**198**	P	Pg	04 23 40.5	-1.4
LUWI				S	Sg	04 23 53.4	-1.2
LUWI	**Luwuk**	**0.98**	**198**	P	Pg	04 23 40.2	-1.7
	284nm,0.7s,14μm						
MRSI	**Marisa**	**1.28**	**297**	P	Pn	04 23 45.6	-1.5
MRSI				S	Sb	04 24 02.3	-1.5
MRSI	**Marisa**	**1.28**	**297**	P	Pn	04 23 45.8	-1.3
	321nm,0.6s,7μm						
APSI	**Ampana**	**1.64**	**241**	P	Pb	04 23 53.4	0.0
APSI				S	Sn	04 24 13.4	+0.3
APSI	**Ampana**	**1.64**	**241**	P	Pn	04 23 50.5	-1.5
	182nm,0.3s,6μm						
MPSI	**Mapaga**	**3.21**	**278**	P	Pn	04 24 13.0	-0.7
MPSI	**Mapaga**	**3.21**	**278**	P	Pn	04 24 12.8	-0.9

IDC 19 04:31:12.2±2.2, 28.47N×52.79E, h0km, mb3.8/7, mb1 3.7/8, mb1mx3.5/28, mbtmp3.7/8, ML3.0/1, MS4.0/2, Ms1 4.0/2, ms1mx2.8/38, Error ellipse: s-maj=52.6km s-min=25.9km az=139.0
OMAN 19 04:31:24.6±35.0, 28.56N×53.01E, h200km±10km, Error ellipse: s-maj=10.8km s-min=4.4km az=253.0
ISC 19 04:31:14.2±0.8, 28.4N±0.1×52.7E±0.1, h16km, n13, σ1s55/12, mb3.6/7, 3C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**4.02**	**127**	⇑P	**Pb**	**04 32 25.1**	**+0.4**
BANOM				⇑S	**Sb**	**04 33 15.3**	**+2.2**
ASHO	**Ashiyiah**	**4.74**	**140**	⇓P	**Pb**	**04 32 36.3**	**-0.8**
ASHO				⇓S	**Sb**	**04 33 31.9**	**-2.0**
SMDO	**Samad**	**7.15**	**137**	⇑P	Pn	04 33 06.5	+8.2
BRTR	**Keskin Array B**	**19.40**	**311**	P	**P**	**04 35 38.6**	**-1.1**
	0.0nm,0.3s,baz=138,slow=13,SNR=4.6						
PALK	**Pallekele**	**33.75**	**123**	LR	LR	04 52 11.9	
	comp=Z,145nm,18.1s,baz=160,slow=37						
ZALV	**Zalesovo Beam**	**34.65**	**34**	P	**P**	**04 38 00.9**	**-1.8**
	0.3nm,0.3s,baz=212,slow=7.8,SNR=2.8						
FINES	**FINESS Array B**	**37.52**	**339**	P	**P**	**04 38 27.2**	**0.0**
	0.6nm,0.5s,baz=146,slow=10,SNR=4.5						
HFS	**Hagfors**	**41.24**	**331**	P	**P**	**04 38 57.3**	**-1.0**
	3.6nm,1.1s,baz=150,slow=10.0,SNR=4.4						
ARCES	**ARCESS Array B**	**44.09**	**347**	P	**P**	**04 39 22.4**	**+1.2**
	5.3nm,1.1s,baz=149,slow=9.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**49.71**	**263**	P	**P**	**04 40 07.5**	**+1.6**
	0.3nm,0.4s,baz=56,slow=8.6,SNR=13						
DBIC	**Dimbokro**	**58.42**	**260**	P	**P**	**04 41 09.2**	**-0.3**
	1.7nm,0.8s,baz=46,slow=6.9,SNR=4.3						
BATI	**Baumata**	**78.46**	**108**	LR	LR	05 21 15.3	
	comp=Z,141nm,18.0s,slow=38						
YKA	**Yellowknife Ar**	**88.87**	**354**	P	**P**	**04 44 09.0**	**+1.6**
	0.1nm,0.6s,baz=12,slow=5.6,SNR=2.2						

ISCJB 19 04:33:21.6±0.7, 8.7N±0.2×82.6W±0.1, h13km, mb4.0/12, Error ellipse: s-maj=28.9km s-min=8.6km az=38.8
IDC 19 04:33:22.1±2.5, 8.68N×82.72W, h0km, mb3.9/4, mb1 4.2/6, mb1mx3.8/22, mbtmp4.0/6, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/31, Error ellipse: s-maj=81.3km s-min=18.1km az=29.0
NEIC 19 04:33:26.4±1.4, 8.45N×82.97W, h40km±12km, mb4.1/8, Error ellipse: s-maj=22.5km s-min=10.0km az=216.0
ISC 19 04:33:23.1±0.8, 8.6N±0.1×82.7W±0.1, h13km, n19, σ1s16/20, mb4.1/12, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.78**	**308**	Pn	**Pn**	**04 34 08.7**	**+1.3**
	17nm,0.3s,baz=229,slow=4.0,SNR=26						
JTS				Sn	**Sn**	**04 34 42.0**	**+1.2**
	10nm,0.3s,baz=294,slow=20,SNR=7.5						
JTS				Lg	Lg	04 34 48.9	
	17nm,0.3s,baz=320,slow=23,SNR=9.2						
BCIP	**Isla Barro Col**	**2.90**	**78**	*e*Pn	**Pb**	**04 34 14.6**	**-0.2**
APG	**El Apazote**	**9.91**	**311**	Pn	**Pn**	**04 35 43.1**	**-2.4**
	0.4nm,0.3s,baz=153,slow=16,SNR=5.7						
APG				LR	LR	04 40 03.2	
	comp=Z,51nm,20.1s,baz=12,slow=41						
SAML	**Samuel**	**26.11**	**131**	*e*P	**P**	**04 38 57.4**	**+0.4**
	12nm,1.8s						
MNTX	**Cornudas Mount**	**31.20**	**321**	*e*P	**P**	**04 39 41.2**	**-0.9**
	3.5nm,1.4s						
LVC	**Limon Verde**	**33.83**	**157**	*e*P	**P**	**04 40 05.7**	**+0.2**
	2.0nm,0.7s						
ULM	**Lac du Bonnet**	**42.95**	**348**	P	**P**	**04 41 20.8**	**-0.9**
	5.7nm,0.9s,baz=156,slow=8.0,SNR=9.0						
HLID	**Hailey**	**44.48**	**327**	*e*P	**P**	**04 41 33.5**	**-0.9**
	2.8nm,1.1s						
BOZ	**Bozeman (W)**	**44.53**	**331**	*e*P	**P**	**04 41 34.0**	**-0.7**
	3.4nm,1.2s						
WVOR	**Wild Horse Val**	**46.17**	**323**	*e*P	**P**	**04 41 48.7**	**+1.0**
	2.2nm,0.9s						
NEW	**Newport**	**49.04**	**330**	*e*P	**P**	**04 42 09.4**	**-0.4**
	1.7nm,1.0s						
YKA	**Yellowknife Ar**	**58.59**	**343**	P	**P**	**04 43 20.2**	**+0.8**
	1.6nm,0.9s,baz=139,slow=6.9,SNR=26						
SUMG	**Summit**	**69.22**	**13**	*i* P	**P**	**04 44 30.6**	**+0.9**
	4.0nm,1.0s						
SUMG	**Summit**	**69.22**	**13**	*e*P	**P**	**04 44 30.3**	**+0.5**
	10nm,1.2s						
ASCN	**Ascension**	**70.06**	**102**	*e*P	**P**	**04 44 34.2**	**-1.3**
ILAR	**Eielson Array**	**71.42**	**336**	P	**P**	**04 44 43.9**	**+1.0**
	0.6nm,0.7s,baz=115,slow=4.8,SNR=10						
TORD	**Torodi Ar. Bea**	**82.69**	**78**	P	**P**	**04 45 48.8**	**+1.6**
	0.5nm,0.9s,baz=273,slow=4.2,SNR=2.9						
ASAR	**Alice Springs**	**141.90**	**242**	PKP	**PKPdf**	**04 52 54.8**	**-0.8**
	0.4nm,0.7s,baz=131,slow=2.7,SNR=3.5						
WRA	**Warramunga Arr**	**142.44**	**248**	PKP	**PKPdf**	**04 52 55.3**	**-1.3**
	0.2nm,0.7s,baz=124,slow=2.2,SNR=3.4						

AZER 19 04:36:27.6±0.5, 42.65N×43.01E, h38km±54km, Error ellipse: s-maj=112.0km s-min=15.7km az=307.0
DDA 19 04:36:27.6, 42.44N×43.31E, h5km, MD3.1
TIF 19 04:36:27.3, 42.54N×43.46E, h9km±1km
CSEM 19 04:36:29.2±0.6, 42.47N×43.37E, h2km, MD3.1, 2C-6D, Error ellipse: s-maj=12.8km s-min=5.6km az=171.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.13**	**28**	P	Pg	04 36 29.4	-2.6
GUDG	**Gudauri**	**0.82**	**90**	P	Pg	04 36 42.0	-3.3
GUDG	**Gudauri**	**0.82**	**90**	P	Pg	04 36 42.0	-3.3
GUDG				S	Sg	04 36 54.0	-2.1
DUS	**Dusheti**	**1.06**	**111**	P	Pb	04 36 50.1	-0.3
DUS	**Dusheti**	**1.06**	**111**	P	Pb	04 36 50.1	-0.3
DUS				S	Sb	04 37 05.0	+0.2
AKH	**Akhalkalaki**	**1.06**	**175**	P	Pg	04 36 49.1	-0.8
AKH	**Akhalkalaki**	**1.06**	**175**	P	Pg	04 36 49.1	-0.8
AKH				S	Sb	04 37 04.7	-0.5
TBLG	**Delisi**	**1.26**	**126**	P	Pg	04 36 51.8	-1.6
TBLG	**Delisi**	**1.26**	**126**	P	Pg	04 36 51.8	-1.6
TBLG				S	Sg	04 37 09.0	-0.8
KZR	**Kazreti**	**1.34**	**144**	P	Pg	04 36 52.4	-2.6
KZR	**Kazreti**	**1.34**	**144**	P	Pg	04 36 52.4	-2.6
KZR				S	Sg	04 37 11.0	-1.5
ARTV	**Artvin**	**1.68**	**220**	*i* P	Pn	04 36 59.4	-0.5
ARTV				*i* S	Sb	04 37 22.7	-0.2
ARTV	**Artvin**	**1.68**	**220**	*i* P	Pn	04 36 59.4	-0.5
ARTV				*i* S	Sb	04 37 22.7	-0.2
DBOC	**Borcka**	**1.70**	**229**	*i* P	Pn	04 36 58.9	-1.0
DBOC				*i* S	Sb	04 37 23.3	+0.3
DBOC	**Borcka**	**1.70**	**229**	*i* P	Pn	04 36 58.9	-1.0
DBOC				*i* S	Sb	04 37 23.3	+0.3
DAGI	**Agillar**	**1.77**	**218**	*i* P	Pn	04 37 01.0	+0.1
DAGI				*i* S	Sn	04 37 24.2	+0.1
EAK	**Akyaka**	**1.79**	**174**	*i* P	Pn	04 37 01.0	-0.4
EAK				*i* S	Sb	04 37 26.4	+0.3
EAK	**Akyaka**	**1.79**	**174**	*i* P	Pn	04 37 01.0	-0.4
EAK				*i* S	Sb	04 37 26.4	+0.3
DGRG	**David-gareji**	**1.81**	**124**	P	Pg	04 37 01.7	+0.2
DGRG	**David-gareji**	**1.81**	**124**	P	Pg	04 37 01.7	+0.2
DGRG				S	Sg	04 37 27.0	-0.5
DBAD	**Bademkaya**	**1.92**	**221**	*i* P	Pn	04 37 03.1	+0.1
DBAD				*i* S	Sb	04 37 29.9	+0.4
DBAD	**Bademkaya**	**1.92**	**221**	*i* P	Pn	04 37 03.1	+0.1
DBAD				*i* S	Sb	04 37 29.9	+0.3
DDEM	**Demirkent**	**1.99**	**218**	*i* P	Pn	04 37 04.2	+0.2
DDEM				*i* S	Sg	04 37 33.0	-0.4
DDEM	**Demirkent**	**1.99**	**218**	*i* P	Pn	04 37 04.2	+0.2
DDEM				*i* S	Sg	04 37 33.0	-0.4
DIGO	**Kars**	**2.06**	**180**	*i* P	Pn	04 37 05.7	+0.6
DIGO				*i* S	Sg	04 37 35.5	-0.4
DIGO	**Kars**	**2.06**	**180**	*i* P	Pn	04 37 05.7	+0.5
DIGO				*i* S	Sg	04 37 35.5	-0.3
QZX	**Qazax, Azerbai**	**2.06**	**133**	⇓P	Pn	04 37 04.3	-0.6
QZX				⇑S	Sb	04 37 33.1	-0.3
QZX	**Qazax, Azerbai**	**2.06**	**133**	P	Pn	04 37 04.3	-0.6
QZX				S	Sb	04 37 33.1	-0.4
ZKTA	**Zakatala**	**2.56**	**108**	⇓P	Pn	04 37 13.2	+1.4
ZKTA				⇓S	Sb	04 37 48.5	+0.6
GANJ	**Ganja**	**2.87**	**128**	⇑P	Pn	04 37 17.9	+1.9
GANJ				⇓S	Sb	04 37 54.9	-2.0
GANJ	**Ganja**	**2.87**	**128**	P	Pn	04 37 17.9	+1.9
GANJ				S	Sb	04 37 54.9	-1.9
SEKA	**Sheki**	**3.13**	**113**	⇓P	Pn	04 37 20.4	+0.8
SEKA				⇓S	Sb	04 38 01.5	-2.7
SEKA	**Sheki**	**3.13**	**113**	P	Pn	04 37 20.4	+0.8
SEKA				S	Sb	04 38 01.5	-2.8

MEX 19 04:39:02.0±0.4, 17.01N×100.53W, h2km±10km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.26**	**81**	*i* P	Pg	04 39 06.6	-0.4
CAIG				*i* S	Sg	04 39 10.7	+0.4
ACX	**Acapulco**	**0.66**	**102**	*i* P	Pb	04 39 16.3	0.0
ACX				*e*S	Sg	04 39 24.9	-1.0
ZIIG	**Zihuatanejo**	**1.07**	**304**	*i* P	Pg	04 39 20.0	-2.5
ZIIG				*e*S	Sg	04 39 34.4	-2.1
MEIG	**Mezcala**	**1.26**	**44**	*i* P	Pg	04 39 22.9	-3.4
MEIG				*e*S	Sg	04 39 38.8	-4.0
ARIG	**Puente Sto Nin**	**1.28**	**8**	*i* P	Pg	04 39 22.8	-3.8
ARIG				*e*S	Sg	04 39 39.8	-3.4
PLIG	**Platanillo**	**1.69**	**35**	*i* P	Pn	04 39 29.8	-2.9
PLIG				*e*S	Sn	04 39 49.5	-5.6
TLIG	**Tlapa**	**1.96**	**73**	*i* P	Pn	04 39 33.6	-2.8
TLIG				*e*S	Sn	04 39 56.8	-5.0

DJA 19 04:40:32.1±0.6, 4°S±4°×12°3E±°, h10km, M3.8/9, MLv3.8/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**2.01**	**198**	P	Pn	04 41 12.5	+1.8
LUWI	**Luwuk**	**2.55**	**350**	P	Pn	04 41 13.8	+0.3
LUWI				S	Sn	04 41 44.8	+0.1
APSI	**Ampana**	**3.07**	**329**	P	Pn	04 41 21.2	+0.5
SANI	**Sanana**	**3.16**	**62**	P	Pn	04 41 20.1	-1.8
BNSI	**Bone**	**3.20**	**255**	P	Pn	04 41 21.5	-1.0
TTSI	**Tana Toraja**	**3.42**	**279**	P	Pn	04 41 25.7	+0.1
SPSI	**Sidrap Palu**	**3.46**	**263**	P	Pn	04 41 26.6	+0.6
SPSI				S	Sn	04 42 06.9	-0.1
BKSI	**Bulukumba**	**3.54**	**240**	P	Pn	04 41 28.0	+0.9
BKSI				S	Sn	04 42 08.5	-0.5
MRSI	**Marisa**	**4.22**	**342**	P	Pn	04 41 37.1	+0.6

ISCJB 19 04:52:38.2±0.5, 46.30N±0.03×14.31E±0.03, h13km±5km, Error ellipse: s-maj=4.4km s-min=3.3km az=170.3
VIE 19 04:52:38.3±0.3, 46.29N×14.32E, h10km±7km, mb0.5/1, ML1.6/2, Error ellipse: s-maj=1.2km s-min=0.8km az=142.0 6 km NNW of Kranj
CSEM 19 04:52:38.5±0.1, 46.29N×14.31E, h10km, ML1.7/5, Error ellipse: s-maj=1.8km s-min=1.2km az=163.0
LJU 19 04:52:38.5, 46.30N×14.31E, h7km, ML1.0
ISC 19 04:52:38.6±1.1, 46.29N±0.02×14.31E±0.02, h10km±7km, n30, σ0s41/50, 4C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOZS	**Mozjanca**	**0.09**	**89**	*i* Pg	**Pg**	**04 52 41.0**	**-0.1**
MOZS				*i* Sg	**Sg**	**04 52 42.9**	**0.0**
	comp=Z,79nm,0.1s						
MOZS	**Mozjanca**	**0.09**	**89**	*i* Pg	**Pg**	**04 52 41.0**	**-0.1**
MOZS				*i* Sg	**Sg**	**04 52 42.9**	**0.0**
	comp=Z,79nm,0.1s						
CRNS	**Crni Vrh**	**0.21**	**190**	*i* Pg	**Pg**	**04 52 43.0**	**0.0**
CRNS				*i* Sg	**Sg**	**04 52 46.8**	**+0.8**
GORS	**Gorjuse**	**0.22**	**277**	*i* Sg	**Sg**	**04 52 46.4**	**0.0**
GORS	**Gorjuse**	**0.22**	**277**	*i* Sg	**Sg**	**04 52 46.4**	**0.0**
OBKA	**Obir**	**0.27**	**37**	⇑*i*Pg	**Pg**	**04 52 44.0**	**-0.1**
OBKA				⇓*i*Sg	**Sg**	**04 52 48.2**	**+0.4**
	comp=Z,7.0nm,0.1s						
OBKA	**Obir**	**0.27**	**37**	Pg	**Pg**	**04 52 44.0**	**-0.1**
OBKA				Sg	**Sg**	**04 52 48.2**	**+0.4**
	comp=Z,7.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.33**	**125**	*i* Pg	**Pg**	**04 52 45.5**	**+0.3**
VNDS				*i* Sg	**Sg**	**04 52 50.1**	**+0.6**
	comp=Z,4.0nm,0.1s						
VOJS	**Vojsko**	**0.40**	**229**	*i* Pg	**Pg**	**04 52 46.0**	**-0.4**
VOJS				*i* Sg	**Sg**	**04 52 51.8**	**+0.2**
	comp=Z,2.0nm,0.1s						

VOJS	**Vojsko**	**0.40**	**229**	*i* Pg	**Pg**	**04 52 46.0**	**-0.4**
VOJS				*i* Sg	**Sg**	**04 52 51.8**	**+0.2**
	comp=Z,2.0nm,0.1s						
CADS	**Cadrg**	**0.41**	**261**	*i* Pg	**Pg**	**04 52 46.5**	**0.0**
CADS				*i* Sg	**Sg**	**04 52 52.7**	**+0.8**
CADS	**Cadrg**	**0.41**	**261**	*i* Pg	**Pg**	**04 52 46.5**	**0.0**
CADS				*i* Sg	**Sg**	**04 52 52.7**	**+0.8**
JAVS	**Javornik**	**0.43**	**204**	*i* Pg	**Pg**	**04 52 46.8**	**-0.3**
JAVS	**Javornik**	**0.43**	**204**	*i* Pg	**Pg**	**04 52 46.8**	**-0.3**
DRE	**Drenchia**	**0.48**	**256**	⇑*e*Pg	**Pg**	**04 52 48.0**	**0.0**
DRE				*e*Sg	**Sg**	**04 52 55.3**	**+1.0**
DRE	**Drenchia**	**0.48**	**256**	*e*P	**Pg**	**04 52 48.0**	**0.0**
DRE				*e*Sg	**Sg**	**04 52 55.2**	**+1.0**
PDKS	**Podkum**	**0.53**	**116**	*e*Pg	**Pg**	**04 52 49.1**	**+0.2**
PDKS	**Podkum**	**0.53**	**116**	*e*Pg	**Pg**	**04 52 49.1**	**+0.2**
CEY	**Cerknica**	**0.56**	**172**	*i* Pg	**Pg**	**04 52 49.7**	**+0.2**
CEY				*i* Sg	**Sg**	**04 52 57.3**	**+0.5**
	comp=Z,5.0nm,0.1s						
CEY	**Cerknica**	**0.56**	**172**	*i* Pg	**Pg**	**04 52 49.7**	**+0.2**
CEY				*i* Sg	**Sg**	**04 52 57.3**	**+0.5**
	comp=Z,5.0nm,0.1s						
SABO	**M.te Sabotino**	**0.59**	**238**	⇓*e*Pg	**Pg**	**04 52 49.4**	**-0.5**
SABO				*e*Sg	**Sg**	**04 52 57.5**	**-0.1**
SABO	**M.te Sabotino**	**0.59**	**238**	*e*P	**Pg**	**04 52 49.4**	**-0.5**
SABO				*e*Sg	**Sg**	**04 52 57.5**	**-0.1**
ACOM	**Acomizza, Ital**	**0.61**	**295**	*e*Pg	**Pg**	**04 52 50.7**	**+0.2**
ACOM				*e*Sg	**Sg**	**04 52 58.9**	**+0.4**
ACOM	**Acomizza, Ital**	**0.61**	**295**	*e*P	**Pg**	**04 52 50.7**	**+0.2**
ACOM				*e*Sg	**Sg**	**04 52 58.9**	**+0.4**
VISS	**Visnje**	**0.61**	**143**	*i* Sg	**Sb**	**04 52 59.4**	**-0.6**
VISS	**Visnje**	**0.61**	**143**	*i* Sg	**Sb**	**04 52 59.4**	**-0.6**
SOKA	**Soboth**	**0.63**	**52**	⇑*i*Pg	**Pg**	**04 52 50.7**	**-0.1**
SOKA				⇑*i*Sg	**Sg**	**04 52 59.2**	**+0.1**
	comp=Z,1.4nm,0.1s						
SOKA	**Soboth**	**0.63**	**52**	Pg	**Pg**	**04 52 50.7**	**-0.1**
SOKA				Sg	**Sg**	**04 52 59.2**	**+0.1**
	comp=Z,1.4nm,0.1s						
GOLS	**Golise**	**0.95**	**107**	*i* Pg	**Pg**	**04 52 56.9**	**0.0**
GOLS	**Golise**	**0.95**	**107**	*i* Pg	**Pg**	**04 52 56.9**	**0.0**

ISCJB 19 05:06:23.2±0.4, 4°.86N±0°.04×127°.01E±0°.07, h81km, mb4.1/15, Error ellipse: s-maj=10.1km s-min=6.1km az=176.0

IDC 19 05:06:26.6±7.3, 4°.83N×127°.01E, h97km±69km, mb3.9/15, mb1 4.0/15, mb1mx3.7/49, mbtmp4.2/15, Error ellipse: s-maj=40.3km s-min=14.3km az=72.0

DJA 19 05:06:27.5±1.0, 5°N±8°×12°7E±°, h82km±25km, M4.5/7, mb4.4/5, mB4.9/2, MLv4.6/7, Mw(mB)4.2/2

ISC 19 05:06:24.8±0.6, 4°.85N±0°.07×126°.95E±0°.09, h81km, n23, σ0§70/25, mb4.2/15, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.83**	**231**	P	**Pn**	**05 06 55.4**	**+0.9**
SGSI				S	**Sn**	**05 07 17.2**	**+0.2**
TNTI	**Ternate**	**4.07**	**174**	P	**Pn**	**05 07 25.4**	**+0.6**
TNTI				S	**Sn**	**05 08 11.1**	**-0.2**
LBMI	**Labuha**	**5.48**	**174**	P	**Pn**	**05 07 44.0**	**0.0**
	60nm,0.8s,2μm0.9nm						
MRSI	**Marisa**	**6.63**	**229**	P	**Pn**	**05 08 00.4**	**+0.8**
	40nm,0.5s,0.2nm						
SANI	**Sanana**	**6.92**	**188**	P	**Pn**	**05 08 02.1**	**-1.5**
	15nm,1.2s,903nm0.3nm						
SWI	**Sorong**	**7.12**	**143**	P	**Pn**	**05 08 06.9**	**+0.5**
	32nm,0.6s,0.2nm						
FAKI	**Fak Fak**	**9.36**	**145**	P	**Pn**	**05 08 37.8**	**+0.9**
WRA	**Warramunga Arr**	**25.69**	**164**	P	**P**	**05 11 46.7**	**-0.7**
	4.2nm,0.7s,baz=342,slow=10,SNR=25						
ASAR	**Alice Springs**	**29.15**	**167**	P	**P**	**05 12 18.5**	**+0.1**
	0.6nm,0.4s,baz=18,slow=12,SNR=14						
STKA	**Stephens Creek**	**39.10**	**160**	P	**P**	**05 13 44.4**	**+0.1**
	3.8nm,0.4s,baz=337,slow=8.6,SNR=20						
USRK	**Ussuriysk Arra**	**39.44**	**6**	P	**P**	**05 13 46.9**	**0.0**
	0.9nm,0.6s,baz=195,slow=8.1,SNR=3.3						
SONM	**Songino Array**	**46.31**	**341**	P	**P**	**05 14 43.6**	**+1.0**
	2.6nm,0.8s,baz=156,slow=7.8,SNR=25						
MKAR	**Makanchi Array**	**56.77**	**325**	P	**P**	**05 16 00.8**	**+0.3**
	1.6nm,0.5s,baz=111,slow=7.4,SNR=33						
ZALV	**Zalesovo Beam**	**59.70**	**333**	P	**P**	**05 16 20.7**	**-0.1**
	1.2nm,0.3s,baz=108,slow=5.9,SNR=5.9						
BVAR	**Borovoye Array**	**66.51**	**327**	P	**P**	**05 17 06.6**	**+0.8**
	4.9nm,0.7s,baz=120,slow=8.8,SNR=23						
AKTO	**Aktyubinsk**	**72.92**	**321**	P	**P**	**05 17 45.8**	**+0.4**
	2.6nm,0.6s,baz=122,slow=7.7,SNR=8.3						
ILAR	**Eielson Array**	**84.00**	**25**	P	**P**	**05 18 45.8**	**-0.2**
	1.1nm,0.7s,baz=249,slow=5.7,SNR=4.5						
ARCES	**ARCESS Array B**	**89.48**	**340**	P	**P**	**05 19 12.0**	**-0.5**
	1.8nm,0.8s,baz=89,slow=5.2,SNR=6.0						
BRTR	**Keskin Array B**	**89.48**	**310**	P	**P**	**05 19 12.1**	**-1.2**
	0.6nm,0.8s,baz=90,slow=2.8,SNR=4.3						
FINES	**FINESS Array B**	**90.95**	**332**	P	**P**	**05 19 19.4**	**-0.1**
	1.0nm,0.8s,baz=93,slow=4.0,SNR=4.8						
AKASG	**Malin Array Be**	**91.17**	**321**	P	**P**	**05 19 20.4**	**-0.4**
	1.3nm,0.7s,baz=66,slow=5.0,SNR=4.7						
YKA	**Yellowknife Ar**	**98.39**	**24**	P	**P**	**05 19 53.1**	**-0.5**
	0.2nm,0.6s,baz=295,slow=4.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**122.77**	**289**	PKP	**PKPdf**	**05 25 13.3**	**+0.9**
	0.4nm,0.7s,baz=72,slow=1.5,SNR=4.9						

MEX 19 05:06:50.5±0.4, 17°.09N×99°.49W, h20km±6km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.41**	**238**	*i* P	Pb	05 07 01.1	-0.3
ACX				*e*S	Sn	05 07 07.4	-1.1
CAIG	**El Cayaco**	**0.74**	**267**	*i* P	Pb	05 07 02.4	-2.4
CAIG				*i* S	Sb	05 07 12.0	-2.5
MEIG	**Mezcala**	**0.84**	**352**	*i* P	Pb	05 07 03.4	-3.2
MEIG				*e*S	Sb	05 07 13.8	-3.7
TLIG	**Tlapa**	**1.00**	**62**	*i* P	Pb	05 07 06.4	-3.0
TLIG				*e*S	Sb	05 07 18.3	-3.9
PLIG	**Platanillo**	**1.29**	**359**	*i* P	Pn	05 07 10.3	-3.4
PLIG				*e*P	Pb	05 07 10.7	-3.6
PLIG				*i* S	Sn	05 07 26.3	-4.2
ARIG	**Puente Sto Nin**	**1.44**	**326**	*i* P	Pn	05 07 12.3	-3.3
ARIG				*i* S	Sn	05 07 30.1	-3.8
PNIG	**Pinotepa**	**1.48**	**118**	*i* P	Pn	05 07 13.6	-2.4
PNIG				*i* S	Sn	05 07 30.2	-4.6
ZIIG	**Zihuatanejo**	**1.96**	**286**	*i* P	Pn	05 07 20.1	-2.4
ZIIG				*i* S	Sn	05 07 42.4	-4.1

IDC 19 05:09:37.4±2.1, 2°.72N×127°.92E, h240km±18km, mb3.1/5, mb1 3.2/5, mb1mx3.1/22, mbtmp3.6/5, Error ellipse: s-maj=111.7km s-min=11.2km az=71.0

ISC 19 05:09:38.1±0.8, 2°.74N±0°.08×128°.1E±0°.1, h250km, n17, σ1§18/21, mb3.6/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**6.98**	**144**	P	**Pn**	**05 11 16.3**	**-2.3**
	baz=8.3,SNR=6.6						
PALU	**Palau**	**7.82**	**54**	P	Pn	05 11 25.9	-3.3
	baz=8.9,SNR=5.2						
PALU				S	**S**	**05 12 59.5**	**+0.9**
	baz=8.9,SNR=7.7						
MTN	**Manton Dam**	**15.77**	**169**	P	**Pn**	**05 13 06.8**	**-0.8**
	baz=17,SNR=7.1						
KDU	**Kakadu**	**15.93**	**164**	P	**Pn**	**05 13 08.6**	**-0.9**
	baz=17,SNR=5.7						
KNRA	**Kununurra**	**18.31**	**178**	P	**Pn**	**05 13 35.9**	**-1.6**
	baz=19,SNR=11						
WRA	**Warramunga Arr**	**23.36**	**165**	P	**P**	**05 14 24.5**	**-0.1**
	1.0nm,0.4s,baz=343,slow=10.0,SNR=7.6						
WRA				S	**S**	**05 18 20.4**	**+1.7**
	1.1nm,0.7s,baz=340,slow=14,SNR=9.5						
WRA				ScP	**ScP**	**05 21 18.7**	**+0.5**
	0.6nm,0.8s,baz=340,slow=3.5,SNR=4.7						
ASAR	**Alice Springs**	**26.85**	**168**	P	**P**	**05 14 56.2**	**+0.2**
	0.7nm,0.4s,baz=354,slow=8.1,SNR=8.2						
ASAR				PcP	**PcP**	**05 18 12.3**	**+0.5**
	0.6nm,0.5s,baz=344,slow=2.0,SNR=8.3						
ASAR				S	**S**	**05 19 15.6**	**+1.8**
	1.8nm,0.9s,baz=350,slow=18,SNR=13						
ASAR				ScP	**ScP**	**05 21 29.3**	**+1.2**
	0.3nm,0.7s,baz=353,slow=3.2,SNR=4.3						
WRKA	**Warakurna**	**27.61**	**180**	P	**P**	**05 15 04.5**	**+1.7**
	baz=28,SNR=6.9						
BLDU	**Ballidu**	**34.91**	**197**	P	P	05 16 08.8	+2.5
	baz=35,SNR=4.5						
KLBR	**Kellerberrin**	**35.54**	**195**	P	P	05 16 14.1	+2.4
	baz=36,SNR=5.1						
BBOO	**Buckleboo**	**36.15**	**169**	P	**P**	**05 16 17.9**	**+1.1**
	baz=37,SNR=8.7						
STKA	**Stephens Creek**	**36.74**	**161**	P	**P**	**05 16 22.6**	**+0.8**
	1.0nm,0.4s,baz=2.8,slow=9.5,SNR=5.1						
STKA	**Stephens Creek**	**36.74**	**161**	P	**P**	**05 16 22.6**	**+0.8**
	baz=38,SNR=4.9						
SONM	**Songino Array**	**48.67**	**341**	P	**P**	**05 17 56.6**	**-0.7**
	0.2nm,0.6s,baz=159,slow=9.3,SNR=2.6						
MKAR	**Makanchi Array**	**59.15**	**325**	P	**P**	**05 19 12.6**	**-0.2**
	0.3nm,0.5s,baz=117,slow=8.5,SNR=5.5						
MKAR				PcP	**PcP**	**05 19 58.1**	**-0.4**
	0.5nm,0.8s,baz=108,slow=4.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**124.53**	**288**	PKP	**PKPdf**	**05 28 08.9**	**+0.2**
	0.4nm,0.6s,baz=75,slow=1.8,SNR=4.0						
CFAA	**Coronel Fontan**	**147.42**	**154**	PKPbc	**PKPbc**	**05 28 53.2**	**0.0**
	0.3nm,0.5s,baz=228,slow=2.2,SNR=5.4						

ISCJB 19 05:12:42.9±0.5, 55°.88N±0°.04×153°.48W±0°.07, h23km, mb4.0/19, MS3.7/8, Error ellipse: s-maj=7.3km s-min=3.9km az=143.5

IDC 19 05:12:43.3±1.2, 56°.03N×153°.83W, h0km, mb4.0/18, mb1 4.1/19, mb1mx4.0/32, mbtmp3.9/19, ML3.7/1, MS3.8/11, Ms1 3.8/11, ms1mx3.4/48, Error ellipse: s-maj=30.2km s-min=17.3km az=16.0

NEIC 19 05:12:45.8, 55°.88N×153°.50W, h25km, ML4.0(AEIC), After AEIC.

ISC 19 05:12:46.1±0.6, 55°.94N±0°.07×153°.56W±0°.05, h23km, n87, σ1§35/75, mb4.1/19, MS3.8/8, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.29**	**7**	P	**Pn**	**05 13 07.5**	**-1.2**
OHAK				S	**Sn**	**05 13 24.0**	**-1.3**
KDAK	**Kodiak Island**	**1.92**	**16**	P	**Pn**	**05 13 16.4**	**-1.0**
KDAK				S	**Sn**	**05 13 39.2**	**-1.6**
PLK4	**Peulik 4**	**2.29**	**319**	P	**Pn**	**05 13 21.5**	**-0.9**
PLK3	**Peulik 3**	**2.30**	**321**	P	**Pn**	**05 13 22.0**	**-0.5**
PLK3				S	**Sn**	**05 13 50.7**	**+0.6**
KABR	**Katmai Barrier**	**2.33**	**341**	P	**Pn**	**05 13 21.6**	**-1.4**
PLK2	**Peulik 2**	**2.37**	**321**	P	**Pn**	**05 13 23.4**	**-0.2**
KAKN	**Katmai Knife C**	**2.50**	**342**	P	**Pn**	**05 13 25.0**	**-0.4**
PLBL	**Peulik Blue Cr**	**2.51**	**316**	P	**Pn**	**05 13 25.7**	**+0.2**
KVTA	**Katmai Vly 10**	**2.62**	**340**	P	**Pn**	**05 13 26.5**	**-0.5**
KAPH	**Katmai Pasha**	**2.70**	**351**	P	**Pn**	**05 13 27.5**	**-0.6**
CHGN	**Chignik**	**2.74**	**280**	P	**Pn**	**05 13 27.4**	**-1.1**
KELA	**Mount Kelaz**	**2.77**	**336**	P	**Pn**	**05 13 28.6**	**-0.5**
KAHC	**Katmai Hardscr**	**2.83**	**345**	P	**Pn**	**05 13 29.5**	**-0.4**
MCNL	**McNeil River**	**3.28**	**353**	P	**Pn**	**05 13 36.5**	**+0.4**
SDPT	**Sand Point**	**3.96**	**264**	P	**Pn**	**05 13 44.1**	**-1.2**
SDPT				S	**Sn**	**05 14 26.9**	**-4.1**
RSO	**Redoubt South**	**4.55**	**5**	*e*Pn	**Pn**	**05 13 52.7**	**-1.0**
RDWB	**Redoubt West**	**4.58**	**4**	P	**Pn**	**05 13 53.0**	**-0.9**
PS4A	**Pavlof South-4**	**4.74**	**266**	P	**Pn**	**05 13 54.7**	**-1.3**
HAG	**Hague Volcano**	**4.77**	**266**	P	**Pn**	**05 13 55.4**	**-1.1**
SLKM	**Skilak Lake**	**4.91**	**20**	P	**Pn**	**05 13 56.8**	**-1.6**
DT1	**Dutton Round H**	**5.02**	**264**	P	**Pn**	**05 13 58.5**	**-1.5**
DRIA	**Deer Island**	**5.05**	**262**	P	**Pn**	**05 13 58.8**	**-1.5**
SVW2	**Sparrevohn**	**5.28**	**349**	P	**Pn**	**05 14 02.7**	**-0.8**
RC01	**Rabbit Creek A**	**5.54**	**20**	P	**Pn**	**05 14 05.3**	**-1.7**
PWL	**Port Wells**	**5.64**	**27**	P	**Pn**	**05 14 06.7**	**-1.8**
STLK	**Strandline Lak**	**5.65**	**8**	P	**Pn**	**05 14 08.2**	**-0.4**
FALS	**False Pass**	**5.72**	**263**	P	**Pn**	**05 14 08.5**	**-1.0**
SUA	**Susitna One**	**5.73**	**14**	P	**Pn**	**05 14 08.5**	**-1.2**
PMR	**Palmer**	**6.12**	**20**	*e*Pn	**Pn**	**05 14 14.2**	**-0.7**
	113nm,1.3s						
SSLW	**Shishaldin Wes**	**6.13**	**263**	P	**Pn**	**05 14 14.2**	**-1.1**
EYAK	**Cordova Ski Ar**	**6.19**	**39**	P	**Pn**	**05 14 13.8**	**-2.1**
WESN	**West Dahl Nort**	**6.45**	**262**	P	**Pn**	**05 14 18.6**	**-1.0**
WESE	**West Dahl East**	**6.48**	**261**	P	**Pn**	**05 14 18.9**	**-1.1**
GOAT	**Goat Mountain**	**6.58**	**41**	P	**Pn**	**05 14 20.1**	**-1.3**
SCM	**Sheep Creek Mo**	**6.73**	**26**	P	**Pn**	**05 14 22.2**	**-1.2**
KLU	**Klutina**	**6.84**	**32**	P	**Pn**	**05 14 23.6**	**-1.4**
BMRM	**Bremner River**	**6.89**	**39**	P	**Pn**	**05 14 24.1**	**-1.5**
PPLA	**Purkeypile**	**7.01**	**5**	*e*Pn	**Pn**	**05 14 29.1**	**+1.8**
	44nm,1.0s						
TT01	**Tatalina**	**7.10**	**351**	P	**Pn**	**05 14 27.8**	**-0.6**
TRF	**Thorofare Moun**	**7.71**	**11**	*e*Pn	**Pn**	**05 14 37.6**	**+0.6**
	82nm,1.4s						
KTH	**Kantishna Hill**	**7.75**	**9**	*e*Pn	**Pn**	**05 14 37.7**	**+0.2**
	41nm,1.0s						
UNV	**Unalaska Valle**	**7.75**	**260**	P	**Pn**	**05 14 35.0**	**-2.3**
RND	**Reindeer**	**7.86**	**16**	P	**Pn**	**05 14 38.0**	**-0.8**
MCK	**McKinley**	**8.15**	**15**	*e*Pn	**Pn**	**05 14 44.3**	**+1.4**
	20nm,0.9s						
PAX	**Paxson**	**8.16**	**27**	P	**Pn**	**05 14 41.8**	**-1.3**
COLA	**College**	**9.39**	**15**	*e*Pn	**Pn**	**05 14 59.6**	**-0.2**
	14nm,0.9s						
COLA				*e*Sn	**Sn**	**05 16 44.0**	**-0.5**
ILAR	**Eielson Array**	**9.45**	**18**	Pn	**Pn**	**05 14 58.6**	**-2.0**
	0.8nm,0.3s,baz=206,slow=14,SNR=53						
ILAR				Sn	Sn	05 16 38.6	-7.3
	0.5nm,0.3s,baz=211,slow=24,SNR=4.2						
ILAR				LR	LR	05 19 08.8	
	comp=Z,708nm,19.2s,baz=213,slow=41						
H02S1	**DAWSON INLET T**	**12.53**	**94**	T	T	05 28 31.0	
	SNR=13						
DLBC	**Dease Lake**	**12.99**	**69**	Pn	**Pn**	**05 15 50.0**	**+1.0**
	0.2nm,0.3s,baz=267,slow=9.2,SNR=7.1						
DLBC				Sn	**Sn**	**05 18 08.2**	**-4.5**
	0.1nm,0.3s,baz=211,slow=18,SNR=3.4						
DLBC				LR	LR	05 20 16.4	
	comp=Z,464nm,19.0s,baz=266,slow=35						
BBB	**Bella Bella**	**15.37**	**94**	LR	LR	05 21 01.5	
	comp=Z,169nm,18.6s,baz=268,slow=32						
YKA	**Yellowknife Ar**	**20.72**	**56**	P	**P**	**05 17 25.3**	**+0.9**
	1.6nm,0.8s,baz=270,slow=9.7,SNR=24						
NEW	**Newport**	**23.44**	**94**	LR	LR	05 25 54.2	
	comp=Z,96nm,19.1s,baz=291,slow=34						
YBH	**Yreka Blue Hor**	**24.53**	**112**	LR	LR	05 25 47.3	
	comp=Z,247nm,18.5s,baz=316,slow=32						
SEY	**Seymchan**	**27.60**	**307**	P	**P**	**05 18 29.8**	**-1.3**
	0.7nm,0.3s,baz=108,slow=5.7,SNR=5.0						
PETK	**Petropavlovsk-**	**27.96**	**285**	LR	LR	05 30 04.3	
	comp=Z,83nm,20.2s,baz=74,slow=38						
RES	**Resolute Bay**	**28.98**	**28**	P	**P**	**05 18 44.2**	**+0.9**
	0.6nm,0.4s,baz=253,slow=10.0,SNR=3.9						
ELK	**Elko**	**29.21**	**105**	LR	LR	05 29 07.2	
	comp=Z,131nm,18.8s,baz=0.0,slow=34						
NVAR	**Mina Array Bea**	**29.25**	**112**	P	**P**	**05 18 49.0**	**+2.7**
	0.3nm,0.6s,baz=319,slow=9.3,SNR=4.9						
NVAR				LR	LR	05 28 36.2	
	comp=Z,215nm,18.8s,baz=56,slow=32						
ULM	**Lac du Bonnet**	**34.22**	**75**	LR	LR	05 33 03.3	
	comp=Z,197nm,18.9s,baz=272,slow=36						
FRB	**Frobisher Bay**	**40.34**	**43**	LR	LR	05 37 44.8	
	comp=Z,411nm,18.5s,baz=334,slow=37						
TXAR	**Lajitas Array**	**43.99**	**106**	P	**P**	**05 20 54.1**	**+2.5**
	0.8nm,1.0s,baz=319,slow=5.8,SNR=5.8						
SUMG	**Summit**	**44.24**	**23**	*i* P	**P**	**05 20 53.2**	**-0.2**
	9.7nm,0.8s						
DAG	**Danmarks Havn**	**44.52**	**13**	*i* P	**P**	**05 20 54.7**	**-0.4**
	5.2nm,0.9s						
SPITS	**Spitsbergen Ar**	**45.99**	**3**	P	**P**	**05 21 07.5**	**+0.7**
	0.8nm,0.3s,baz=18,slow=6.4,SNR=17						
SCHQ	**Schefferville**	**46.14**	**53**	LR	LR	05 42 55.5	
	comp=Z,162nm,18.8s,baz=316,slow=39						
H11N2	**WAKE ISLAND Hy**	**46.67**	**236**	T	T	06 11 23.7	
	baz=31,slow=76,SNR=128						
H11N3	**WAKE ISLAND Hy**	**46.68**	**236**	T	T	06 11 24.2	
	baz=31,slow=76,SNR=102						
H11N1	**WAKE ISLAND Hy**	**46.69**	**236**	T	T	06 11 25.1	
	baz=31,slow=76,SNR=108						
H11S1	**WAKE ISLAND Hy**	**47.83**	**235**	T	T	06 12 50.5	
	baz=29,slow=77,SNR=429						
H11S2	**WAKE ISLAND Hy**	**47.84**	**235**	T	T	06 12 51.5	
	baz=29,slow=77,SNR=205						
H11S3	**WAKE ISLAND Hy**	**47.84**	**235**	T	T	06 12 51.8	
	baz=29,slow=77,SNR=164						
ARCES	**ARCESS Array B**	**54.83**	**0**	P	**P**	**05 22 13.8**	**+0.2**
	7.4nm,1.1s,baz=23,slow=7.3,SNR=8.1						
SONM	**Songino Array**	**56.99**	**308**	P	**P**	**05 22 30.6**	**+1.0**
	2.5nm,0.9s,baz=45,slow=5.8,SNR=18						
ZALV	**Zalesovo Beam**	**60.50**	**325**	P	**P**	**05 22 53.7**	**0.0**
	1.1nm,0.4s,baz=48,slow=9.1,SNR=5.0						
NB2	**NORSAR Subarra**	**62.74**	**8**	P	**P**	**05 23 09.2**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=351,slow=6.9						
NOA	**NORSAR Array B**	**62.74**	**8**	P	**P**	**05 23 09.5**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=351,slow=6.6,SNR=4.9						
FINES	**FINESS Array B**	**62.95**	**0**	P	**P**	**05 23 10.4**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=15,slow=8.1,SNR=5.0						
HFS	**Hagfors**	**63.83**	**7**	P	**P**	**05 23 16.6**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=36,slow=5.5,SNR=13						
EKA	**Eskdalemuir Ar**	**66.49**	**18**	P	**P**	**05 23 33.9**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=350,slow=7.9,SNR=3.4						
MKAR	**Makanchi Array**	**67.44**	**322**	P	**P**	**05 23 39.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=36,slow=7.0,SNR=8.0						
AKASG	**Malin Array Be**	**73.70**	**358**	P	**P**	**05 24 17.3**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=1.3,slow=5.6,SNR=4.8						
GERES	**GERESS Array B**	**75.04**	**9**	P	**P**	**05 24 24.7**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=344,slow=4.3,SNR=4.6						
CMAR	**Chiang Mai Arr**	**84.28**	**295**	P	**P**	**05 25 14.3**	**-1.7**
	comp=Z,1.6nm,0.3s,baz=14,slow=5.2,SNR=7.6						
BRTR	**Keskin Array B**	**84.50**	**354**	P	**P**	**05 25 18.4**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=12,slow=7.4,SNR=2.8						
H03N2	**Juan Fernandez**	**109.19**	**121**	T	T	07 29 27.8	
	baz=326						
H03N1	**Juan Fernandez**	**109.20**	**121**	T	T	07 29 30.7	
	baz=326,slow=74						
H03N3	**Juan Fernandez**	**109.21**	**121**	T	T	07 29 31.7	
	baz=326,slow=74						

IDC 19 05:18:16.4±1.9, 1°.43N×125°.96E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, MS4.3/1, Ms1 4.3/1, ms1mx2.9/17, Error ellipse: s-maj=171.4km s-min=24.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.78**	**159**	P	P	05 23 19.4	-1.3
	1.1nm,0.5s,baz=338,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**26.12**	**163**	P	P	05 23 53.4	+1.1
	0.4nm,0.4s,baz=351,slow=15,SNR=6.8						
SONM	**Songino Array**	**49.23**	**343**	LR	LR	05 49 14.0	
	comp=Z,271nm,18.3s,baz=60,slow=38						
MKAR	**Makanchi Array**	**59.01**	**326**	P	P	05 28 18.0	-0.1
	0.3nm,0.4s,baz=111,slow=6.9,SNR=7.8						

IDC 19 05:21:57.9±9.5, 23°.48S×179°.82W, h461km±89km, mb3.6/5, mb1 3.7/6, mb1mx3.4/20, mbtmp4.5/6, Error ellipse: s-maj=73.8km s-min=21.0km az=47.0

ISC 19 05:22:00.9±2.3, 23°.6S±0°.1×179°.5W±0°.3, h536km, n10, σ0§54/10, mb4.2/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.86**	**190**	P	**P**	**05 25 08.8**	**-0.1**
	2.0nm,0.3s,baz=70,slow=2.6,SNR=6.4						
URZ				S	**S**	**05 27 43.9**	**0.0**
	1.0nm,0.3s,baz=15,slow=20,SNR=5.7						
CTA	**Charters Tower**	**31.92**	**270**	P	**P**	**05 27 42.7**	**-0.1**
	9.8nm,0.4s,baz=96,slow=12,SNR=18						
MTSU	**Mount Surprise**	**34.17**	**272**	P	**P**	**05 28 01.9**	**+0.1**
	baz=2.4,SNR=5.4						
STKA	**Stephens Creek**	**35.23**	**248**	P	**P**	**05 28 11.2**	**+0.7**
	1.0nm,0.4s,baz=101,slow=12,SNR=5.2						
COEN	**Coen**	**36.51**	**279**	P	**P**	**05 28 21.3**	**0.0**
	baz=3.8,SNR=4.6						
ASAR	**Alice Springs**	**42.51**	**260**	P	**P**	**05 29 09.3**	**-0.2**
	1.7nm,0.4s,baz=98,slow=7.9,SNR=23						
WRA	**Warramunga Arr**	**42.87**	**266**	P	**P**	**05 29 11.3**	**-1.0**
	3.1nm,0.4s,baz=93,slow=8.5,SNR=71						
QSPA	**South Pole Qui**	**66.44**	**180**	P	P	05 32 01.0	+4.1
	4.1nm,0.6s,baz=16,slow=0.3,SNR=17						
AKASG	**Malin Array Be**	**144.99**	**328**	PKP	**PKPab**	**05 40 38.2**	**-0.3**
	0.6nm,0.4s,baz=38,slow=4.2,SNR=5.3						
BRTR	**Keskin Array B**	**147.77**	**308**	PKPbc	**PKPab**	**05 40 50.8**	**+0.6**
	0.6nm,0.6s,baz=74,slow=3.6,SNR=4.0						

ISCJB 19 05:22:15.9±0.8, 41°.47S±0°.09×86°.96W±0°.10, h10km, mb4.4/11, MS4.4/21, Error ellipse: s-maj=14.1km s-min=9.1km az=27.1

IDC 19 05:22:15.8±1.4, 41°.36S×87°.08W, h0km, mb4.1/6, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, ML3.6/2, MS4.4/24, Ms1 4.3/24, ms1mx4.3/24, Error ellipse: s-maj=28.2km s-min=26.7km az=8.0

GCMT 19 05:22:17.4±0.2, 41°.46S×86°.99W, h16km, MW5.3/101, Moment Tensor Solution. s75,c113; s101,c181; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.10±.02; $M_{\theta\theta}$0.28±.02; $M_{\phi\phi}$-0.17±.02; $M_{r\theta}$0.07±.05; $M_{r\phi}$-1.06±.02; $M_{\theta\phi}$0.08±.05; Best double couple: $M_0$1.09000×10^{17} NP1:ϕ_s264.00000°, δ86.00000°, λ-175.00000°. NP2:ϕ_s174.00000°, δ85.00000°, λ-4.00000°. Principal axes: T 1.1360, Plg0.0000°, Azm39.0000°; N -0.0910, Plg83.0000°, Azm306.0000°; P -1.0440, Plg7.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 19 05:22:17.4±1.1, 41°.44S×87°.05W, h10km, mb4.7/8 Error ellipse: s-maj=19.8km s-min=12.8km az=56.0

ISC 19 05:22:17.9±0.8, 41°.4S±0°.1×86°.99W±0°.07, h10km, n41, σ1§18/25, mb4.4/11, MS4.5/21, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**11.59**	**116**	*e*P	**Pn**	**05 25 03.6**	**+0.3**
COYC	**Coyhaique**	**11.59**	**116**	*e*P	**Pn**	**05 25 03.6**	**+0.3**
CHRN	**Cochrane**	**11.69**	**124**	*e*P	**Pn**	**05 25 03.5**	**-1.1**
CHRN	**Cochrane**	**11.69**	**124**	*e*P	**Pn**	**05 25 03.5**	**-1.1**
PLCA	**Paso Flores**	**12.43**	**92**	Pn	**Pn**	**05 25 16.0**	**+1.2**
	0.1nm,0.3s,baz=262,slow=14,SNR=2.4						
PLCA				Sn	**Sn**	**05 27 34.8**	**+1.5**
	0.1nm,0.3s,baz=283,slow=12,SNR=3.0						
PLCA				LR	LR	05 28 55.3	
	comp=Z,2μm,19.2s,baz=262,slow=32						
CFAA	**Coronel Fontan**	**17.95**	**63**	Pn	**Pn**	**05 26 27.4**	**-0.1**
	0.3nm,0.3s,baz=226,slow=11,SNR=42						
CFAA				Sn	**Sn**	**05 29 49.6**	**+2.0**
	0.0nm,0.3s,baz=18,slow=20,SNR=1.7						
CFAA				LR	LR	05 31 55.8	
	comp=Z,300nm,21.7s,baz=230,slow=32						
LCO	**Las Campanas**	**18.14**	**52**	*e*P	**P**	**05 26 31.0**	**+0.5**
	68nm,1.4s						
USHA	**Ushuaia**	**18.17**	**144**	LR	LR	05 32 14.3	
	comp=Z,2μm,19.5s,baz=284,slow=33						
TRQA	**Tornquist**	**19.50**	**88**	*e*P	**Pn**	**05 26 46.8**	**+0.4**
	113nm,1.5s						
RPN	**Rapa Nui**	**23.25**	**301**	LR	LR	05 34 01.7	
	comp=Z,2μm,21.8s,baz=119,slow=30						
LVC	**Limon Verde**	**24.14**	**45**	*e*P	**P**	**05 27 34.8**	**+0.4**
	97nm,1.5s						
PMSA	**Palmer Station**	**26.83**	**158**	LR	LR	05 36 04.5	
	comp=Z,143nm,18.3s,baz=308,slow=31						
CPUP	**Villa Florida**	**28.69**	**68**	P	**P**	**05 28 14.2**	**-0.8**
	3.4nm,0.8s,baz=205,slow=8.2,SNR=4.3						
CPUP				LR	LR	05 38 51.0	
	comp=Z,2μm,19.4s,baz=221,slow=35						
LPAZ	**La Paz**	**29.87**	**39**	P	**P**	**05 28 25.3**	**-1.0**
	1.4nm,0.7s,baz=207,slow=9.6,SNR=6.5						
LPAZ				LR	LR	05 38 11.7	
	comp=Z,574nm,19.5s,baz=193,slow=32						
NNA	**Nana**	**30.65**	**20**	LR	LR	05 37 36.3	
	comp=Z,934nm,18.2s,baz=195,slow=30						
SIV	**San Ignacio**	**33.80**	**49**	LR	LR	05 41 35.5	
	comp=Z,1μm,21.4s,baz=214,slow=34						
ATAH	**Atahualpa**	**34.99**	**15**	P	**P**	**05 29 10.1**	**-0.8**
	2.0nm,0.6s,baz=195,slow=9.6,SNR=4.4						
ATAH				LR	LR	05 39 56.0	
	comp=Z,1μm,21.8s,baz=206,slow=30						
SAML	**Samuel**	**38.59**	**40**	*e*P	**P**	**05 29 40.8**	**-0.3**
	13nm,1.4s						
OTAV	**Otavalo**	**42.19**	**13**	*e*P	**P**	**05 30 13.2**	**+1.8**
	10nm,1.4s						
BDFB	**Brasilia**	**42.28**	**64**	P	**P**	**05 30 11.7**	**-0.1**
	8.4nm,0.8s,baz=226,slow=6.2,SNR=14						
BDFB				LR	LR	05 46 57.7	
	comp=Z,1μm,21.4s,baz=221,slow=35						
RKT	**Rikitea**	**43.89**	**279**	*e*S	**S**	**05 36 58.1**	**+2.2**
	271nm,30.5s						
RKT				*e*LQ	LQ	05 40 37.1	
	749nm,28.5s						
RKT				*e*LR	LR	05 42 46.4	
	833nm,28.2s,baz=124						
ROSC	**El Rosal**	**47.49**	**17**	LR	LR	05 48 55.2	
	comp=Z,584nm,20.1s,baz=201,slow=34						
QSPA	**South Pole Qui**	**48.81**	**180**	P	**P**	**05 31 02.9**	**-0.1**
	0.7nm,0.9s,baz=100,slow=6.1,SNR=2.7						
QSPA	**South Pole Qui**	**48.81**	**180**	*e*P	**P**	**05 31 04.1**	**+1.1**
	7.9nm,1.4s						
JTS	**JuntasAbangare**	**51.49**	**3**	P	**P**	**05 31 22.6**	**-1.1**
	17nm,0.4s,baz=229,slow=11						
JTS	**JuntasAbangare**	**51.49**	**3**	*e*P	**P**	**05 31 22.4**	**-1.3**
	32nm,0.8s						
SDV	**Santo Domingo**	**52.27**	**21**	*e*P	**P**	**05 31 28.7**	**-1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	22nm,1.5s						
VNDA	**Vanda**	**54.24**	**194**	LR	LR	05 50 24.9	
	comp=Z,436nm,21.1s,baz=119,slow=31						
APG	**El Apazote**	**56.24**	**356**	LR	LR	05 50 12.8	
	comp=Z,200nm,21.5s,baz=178,slow=30						
PPT2	**Papeete2**	**58.12**	**274**	eS	**S**	**05 40 15.1**	**+1.9**
	152nm,26.2s						
PPT2				eLQ	LQ	05 46 56.6	
	1µm,32.0s						
PPT2				eLR	LR	05 49 10.8	
	614nm,26.8s						
PPT	**Papeete**	**58.13**	**274**	LR	LR	05 48 31.7	
	comp=Z,64nm,21.8s,baz=152,slow=27						
MAW	**Mawson**	**68.92**	**168**	LR	LR	06 01 26.8	
	comp=Z,371nm,19.8s,baz=200,slow=34						
TXAR	**Lajitas Array**	**72.08**	**345**	P	**P**	**05 33 41.2**	**-1.0**
	0.4nm,0.7s,baz=167,slow=7.8,SNR=5.4						
TXAR				LR	LR	05 59 33.6	
	comp=Z,148nm,19.6s,baz=0.0,slow=31						
NVAR	**Mina Array Bea**	**84.46**	**336**	LR	LR	06 04 38.9	
	comp=Z,74nm,18.7s,baz=214,slow=30						
BOSA	**Boshof**	**86.34**	**125**	LR	LR	06 07 27.3	
	comp=Z,319nm,20.0s,baz=222,slow=31						
DZM	**Mont Dzumac**	**87.29**	**243**	eLR	LR	06 02 55.5	
	841nm,28.9s						
DBIC	**Dimbokro**	**88.50**	**80**	LR	LR	06 09 57.0	
	comp=Z,115nm,21.6s,baz=216,slow=32						
ULM	**Lac du Bonnet**	**91.63**	**354**	LR	LR	06 14 18.2	
	comp=Z,80nm,18.1s,baz=173,slow=34						
STKA	**Stephens Creek**	**94.41**	**220**	LR	LR	06 09 38.8	
	comp=Z,306nm,20.8s,baz=166,slow=30						
SCHQ	**Schefferville**	**97.42**	**12**	LR	LR	06 15 33.1	
	comp=Z,135nm,18.7s,baz=286,slow=33						
TORD	**Torodi Ar. Bea**	**97.59**	**79**	LR	LR	06 15 20.9	
	comp=Z,108nm,21.4s,baz=245,slow=33						

IDC 19 05:24:51.7±0.8, 61°.02N×28°.13W, h0km, mb3.7/12, mb1 3.9/14, mb1mx3.7/53, mbtmp3.8/14, ML3.7/2, MS3.4/8, Ms1 3.4/8, ms1mx3.0/46, Error ellipse: s-maj=23.9km s-min=14.4km az=3.0

ISCJB 19 05:24:52.2±0.4, 61°.18N±0°.06×28°.3W±0°.1, h10km, mb4.0/23, MS3.7/7, Error ellipse: s-maj=8.8km s-min=6.6km az=22.0

NEIC 19 05:24:53.9±0.8, 61°.15N×28°.28W, h10km, mb4.3/3, Error ellipse: s-maj=18.2km s-min=9.5km az=51.0

CSEM 19 05:24:56.3±0.5, 61°.18N×28°.25W, h30km, mb4.4/10, Ms3.1, Error ellipse: s-maj=20.3km s-min=10.6km az=50.0

ISC 19 05:24:53.3±0.6, 61°.04N±0°.09×28°.18W±0°.07, h10km, n73, σ1§42/68, mb4.0/23, MS3.2/7, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**4.86**	**37**	Pn	**Pn**	**05 26 05.2**	**-1.2**
	3.9nm,0.3s,baz=273,slow=5.7,SNR=16						
BORG				Sn	**Sn**	**05 27 03.2**	**+0.6**
	2.7nm,0.3s,baz=94,slow=23,SNR=7.9						
BORG	**Borgarnes**	**4.86**	**37**	ePn	**Pn**	**05 26 04.7**	**-1.7**
BORG	**Borgarnes**	**4.86**	**37**	ePn	**Pn**	**05 26 04.7**	**-1.7**
SUMG	**Summit**	**12.24**	**345**	iP	**Pn**	**05 27 48.9**	**+1.1**
	7.4nm,0.9s						
SUMG	**Summit**	**12.24**	**345**	ePn	**Pn**	**05 27 48.6**	**+0.9**
	8.4nm,0.9s						
SUMG	**Summit**	**12.24**	**345**	ePn	**Pn**	**05 27 48.6**	**+0.9**
	8.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**14.32**	**102**	Pn	**Pn**	**05 28 14.6**	**-1.4**
	baz=294,slow=12,SNR=3.5						
NOA	**NORSAR Array B**	**18.88**	**73**	LR	LR	05 35 33.6	
	comp=Z,60nm,19.1s,baz=285,slow=34						
HFS	**Hagfors**	**20.34**	**74**	LR	LR	05 36 17.4	
	comp=Z,95nm,20.0s,baz=332,slow=34						
BAIF	**Baives**	**21.12**	**107**	eP	**P**	**05 29 40.2**	**+2.3**
	19nm,0.8s						
BAIF	**Baives**	**21.12**	**107**	eP	**P**	**05 29 40.2**	**+2.3**
	19nm,0.8s						
BAIF	**Baives**	**21.12**	**107**	eP	**P**	**05 29 40.2**	**+2.3**
	9.3nm,0.8s						
SCHQ	**Schefferville**	**21.18**	**270**	P	**P**	**05 29 38.2**	**-0.4**
	8.4nm,1.1s,baz=53,slow=17,SNR=4.6						
GIVF	**Givet**	**21.38**	**106**	eP	**P**	**05 29 42.9**	**+2.2**
GIVF	**Givet**	**21.38**	**106**	eP	**P**	**05 29 42.9**	**+2.2**
GIVF	**Givet**	**21.38**	**106**	eP	**P**	**05 29 42.9**	**+2.2**
MFF	**Saint Martin d**	**21.73**	**119**	eP	**P**	**05 29 46.1**	**+1.6**
	102nm,1.5s						
MFF	**Saint Martin d**	**21.73**	**119**	eP	**P**	**05 29 46.1**	**+1.6**
	102nm,1.5s						
MFF	**Saint Martin d**	**21.73**	**119**	eP	**P**	**05 29 46.1**	**+1.6**
	51nm,1.5s						
SFTF	**Sexfontaines**	**22.82**	**109**	eP	**P**	**05 29 57.2**	**+1.0**
	16nm,0.8s						
SFTF	**Sexfontaines**	**22.82**	**109**	eP	**P**	**05 29 57.2**	**+1.0**
	16nm,0.8s						
SFTF	**Sexfontaines**	**22.82**	**109**	eP	**P**	**05 29 57.2**	**+1.0**
	8.0nm,0.8s						
PAGF	**Fort de Pagny**	**22.89**	**108**	eP	**P**	**05 29 58.3**	**+1.5**
PAGF	**Fort de Pagny**	**22.89**	**108**	eP	**P**	**05 29 58.3**	**+1.5**
PAGF	**Fort de Pagny**	**22.89**	**108**	eP	**P**	**05 29 58.3**	**+1.5**
SSF	**Saint Saulge**	**22.98**	**113**	eP	**P**	**05 29 59.2**	**+1.5**
SSF	**Saint Saulge**	**22.98**	**113**	eP	**P**	**05 29 59.2**	**+1.5**
SSF	**Saint Saulge**	**22.98**	**113**	eP	**P**	**05 29 59.2**	**+1.5**
LOR	**Lormes**	**22.98**	**112**	eP	**P**	**05 29 58.3**	**+0.5**
LOR				eR			
	125nm,19.8s						
LOR	**Lormes**	**22.98**	**112**	eP	**P**	**05 29 58.3**	**+0.5**
LOR	**Lormes**	**22.98**	**112**	eP	**P**	**05 29 58.3**	**+0.5**
TCF	**Toulx Ste Croi**	**23.00**	**116**	eP	**P**	**05 29 59.5**	**+1.5**
TCF	**Toulx Ste Croi**	**23.00**	**116**	eP	**P**	**05 29 59.5**	**+1.5**
TCF	**Toulx Ste Croi**	**23.00**	**116**	eP	**P**	**05 29 59.5**	**+1.5**
BGF	**Bois d'Agland**	**23.07**	**115**	eP	**P**	**05 29 59.1**	**+0.4**
	49nm,1.2s						
BGF	**Bois d'Agland**	**23.07**	**115**	eP	**P**	**05 29 59.1**	**+0.4**
	49nm,1.2s						
BGF	**Bois d'Agland**	**23.07**	**115**	eP	**P**	**05 29 59.1**	**+0.4**
	24nm,1.2s						
AVF	**Avril sur Loir**	**23.11**	**114**	eP	**P**	**05 30 00.9**	**+1.8**
	27nm,1.2s						
AVF	**Avril sur Loir**	**23.11**	**114**	eP	**P**	**05 30 00.9**	**+1.8**
	27nm,1.2s						
AVF	**Avril sur Loir**	**23.11**	**114**	eP	**P**	**05 30 00.9**	**+1.8**
	14nm,1.2s						
HAU	**Haudompre**	**23.57**	**108**	eP	**P**	**05 30 06.0**	**+2.2**
	16nm,1.0s						
HAU				eR			
	109nm,21.8s						
HAU	**Haudompre**	**23.57**	**108**	eP	**P**	**05 30 06.0**	**+2.2**
HAU	**Haudompre**	**23.57**	**108**	eP	**P**	**05 30 06.0**	**+2.2**
	7.9nm,1.0s						
CDF	**Champ du Feu**	**23.71**	**106**	eP	**P**	**05 30 06.4**	**+1.2**
CDF	**Champ du Feu**	**23.71**	**106**	eP	**P**	**05 30 06.4**	**+1.2**
CDF	**Champ du Feu**	**23.71**	**106**	eP	**P**	**05 30 06.4**	**+1.2**
CAF	**Calviac**	**24.01**	**118**	eP	**P**	**05 30 10.4**	**+2.4**
	18nm,1.0s						
CAF	**Calviac**	**24.01**	**118**	eP	**P**	**05 30 10.4**	**+2.4**
	18nm,1.0s						
CAF	**Calviac**	**24.01**	**118**	eP	**P**	**05 30 10.4**	**+2.4**
	8.8nm,1.0s						
FINES	**FINESS Array B**	**25.48**	**65**	P	**P**	**05 30 20.3**	**-0.8**
	0.8nm,0.6s,baz=302,slow=8.0,SNR=3.9						
ESDC	**Sonseca Array**	**26.10**	**134**	LR	LR	05 40 13.0	
	comp=Z,64nm,18.5s,baz=45,slow=35						
GERES	**GERESS Array B**	**26.47**	**98**	LR	LR	05 40 23.0	
	comp=Z,84nm,19.2s,baz=312,slow=35						
VRAC	**Vranov**	**27.55**	**95**	LR	LR	05 41 47.3	
	comp=Z,66nm,18.9s,baz=350,slow=37						
ULM	**Lac du Bonnet**	**37.97**	**285**	P	**P**	**05 32 11.0**	**+0.2**
	2.1nm,0.7s,baz=51,slow=7.8,SNR=3.9						
ULM				LR	LR	05 46 57.5	
	comp=Z,121nm,18.9s,baz=4.5,slow=35						
YKA	**Yellowknife Ar**	**38.02**	**311**	P	**P**	**05 32 11.3**	**+0.3**
	1.1nm,0.7s,baz=52,slow=9.0,SNR=21						
INK	**Inuvik**	**40.26**	**326**	P	**P**	**05 32 29.1**	**-0.6**
	1.3nm,0.8s,baz=32,slow=9.7						
IDI	**Anoyia**	**42.13**	**103**	LR	LR	05 51 37.8	
	comp=Z,32nm,19.9s,baz=317,slow=38						
BRTR	**Keskin Array B**	**42.83**	**91**	P	**P**	**05 32 51.8**	**+0.5**
	0.6nm,0.8s,baz=346,slow=9.4,SNR=4.0						
ILAR	**Eielson Array**	**46.44**	**329**	P	**P**	**05 33 19.8**	**+0.2**
	0.9nm,0.8s,baz=33,slow=7.5,SNR=11						
ILAR				PcP	**PcP**	**05 34 53.8**	**-0.3**
	0.5nm,0.7s,baz=19,slow=3.8,SNR=7.7						
ABKAR	**Akbulak array**	**47.90**	**62**	eP	**P**	**05 33 32.3**	**+1.1**
	2.8nm,1.1s						
ABKAR	**Akbulak array**	**47.90**	**62**	eP	**P**	**05 33 32.3**	**+1.1**
	2.8nm,1.1s						
BVAR	**Borovoye Array**	**49.27**	**52**	LR	LR	05 52 58.7	
	comp=Z,60nm,21.1s,baz=46,slow=34						
TORD	**Torodi Ar. Bea**	**52.52**	**142**	P	**P**	**05 34 05.6**	**-0.9**
	0.3nm,0.7s,baz=339,slow=9.2,SNR=2.5						
MSTX	**Muleshoe**	**53.61**	**276**	eP	**P**	**05 34 13.4**	**-1.1**
	13nm,1.2s						
MSTX	**Muleshoe**	**53.61**	**276**	eP	**P**	**05 34 13.4**	**-1.1**
	13nm,1.2s						
KURK	**Kurchatov**	**54.20**	**49**	eP	**P**	**05 34 17.3**	**-1.2**
	2.4nm,1.2s						
KURK	**Kurchatov**	**54.20**	**49**	eP	**P**	**05 34 17.3**	**-1.2**
	2.4nm,1.2s						
NVAR	**Mina Array Bea**	**57.32**	**291**	P	**P**	**05 34 41.4**	**0.0**
	0.4nm,0.7s,baz=57,slow=5.5,SNR=4.1						
TXAR	**Lajitas Array**	**57.84**	**273**	P	**P**	**05 34 45.2**	**+0.2**
	0.6nm,0.8s,baz=77,slow=3.9,SNR=2.6						
MKAR	**Makanchi Array**	**58.81**	**49**	P	**P**	**05 34 51.5**	**0.0**
	0.9nm,0.6s,baz=344,slow=5.0,SNR=12						
SONM	**Songino Array**	**65.45**	**32**	P	**P**	**05 35 36.4**	**+0.3**
	0.4nm,1.0s,baz=328,slow=5.1,SNR=3.1						
CMAR	**Chiang Mai Arr**	**90.22**	**49**	P	**P**	**05 37 54.2**	**+0.2**
	0.9nm,0.3s,baz=308,slow=5.1,SNR=4.3						
WRA	**Warramunga Arr**	**137.13**	**25**	PKP	**PKPdf**	**05 44 16.7**	**+0.4**
	0.3nm,0.8s,baz=345,slow=2.1,SNR=3.3						

SKHL 19 05:34:16.0±0.6, 46°.50N×152°.93E, h73km±7km, mb5.0/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.76**	**252**	eP	Pn	05 35 11.4	-0.1
KUR				AMB	AMB	05 35 11.7	
	23nm,0.2s						
KUR				AMB	AMB	05 35 11.7	
	18nm,0.2s						
KUR				AMB	AMB	05 35 11.7	
	36nm,0.2s						
KUR				AMB	AMB	05 35 12.3	
	780nm,3.0s						
KUR				eS	Sn	05 35 52.5	-2.0
KUR				A	A	05 35 54.3	
	81nm,0.3s						
KUR				A	A	05 35 54.3	
	86nm,0.3s						
KUR				A	A	05 35 57.5	
	740nm,5.0s						
KUR				A	A	05 35 57.5	
	550nm,5.0s						
SKR	**Severo-Kuril's**	**4.69**	**26**	eP	Pn	05 35 24.0	-0.2
SKR				AMB	AMB	05 35 31.5	
	817nm,1.0s						
SKR				eS	Sn	05 36 15.5	-1.7
SKR				A	A	05 37 06.6	
	176nm,0.8s						
SHO	**Shikotan**	**5.05**	**241**	eP	Pn	05 35 29.9	+0.8
SHO				AMB	AMB	05 35 31.2	
	99nm,0.7s						
SHO				eS	Sn	05 36 24.1	-2.0
SHO				A	A	05 36 53.6	
	159nm,0.7s						
MYR	**Moyori**	**8.09**	**242**	eP	Pn	05 36 09.9	-0.7

GUC 19 05:39:30.0±0.6, 22°.28S×69°.03W, h107km±4km, ML3.5, 4C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**0.42**	**272**	⇑eP	Pn	05 39 52.1	+6.2
PB04				eS	Sn	05 40 08.8	+11
PB04				AML	AML	05 40 11.8	
	comp=N,820nm,0.1s						
PB09	**Plate Boundary**	**0.52**	**338**	⇓eP	Pn	05 39 47.3	+0.4
PB09				eS	Sn	05 40 00.5	+0.9
PB09				AML	AML	05 40 01.1	
	comp=N,8µm,0.2s						
PB06	**Plate Boundary**	**0.65**	**229**	⇓eP	Pn	05 39 48.3	+0.5
PB06				eS	Sn	05 40 01.9	+0.6
PB06				AML	AML	05 40 02.6	
	comp=N,2µm,0.4s						
PB07	**Plate Boundary**	**0.96**	**305**	⇑eP	Pn	05 39 51.6	+0.8
PB07				eS	Sn	05 40 07.2	+0.7
PB07				AML	AML	05 40 08.2	
	comp=E,1µm,0.1s						
PB01	**Plate Boundary**	**1.30**	**341**	⇑eP	Pn	05 39 54.8	+0.4
PB01				eS	Sn	05 40 13.5	+0.6
PB01				AML	AML	05 40 15.2	
	comp=E,754nm,0.2s						
PATCX	**Punta Patache**	**1.79**	**324**	eP	Pn	05 40 00.1	-0.2
PATCX				eS	Sn	05 40 24.2	+0.8
PATCX				AML	AML	05 40 30.8	
	comp=N,171nm,0.2s						
PB10	**Plate Boundary**	**1.86**	**228**	eP	Pn	05 40 01.7	+0.6
HMBC	**Humberstone**	**2.15**	**338**	⇑eP	Pn	05 40 04.5	-0.4
HMBC				eS	Sn	05 40 31.5	-0.1
MNMC	**Minimini**	**3.18**	**350**	⇓eP	Pn	05 40 18.3	-0.4
MNMC				AML	AML	05 40 59.3	
	comp=E,190nm,0.1s						

MEX 19 05:42:03.9±0.4, 17°.02N×100°.52W, h3km±9km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.24**	**84**	iP	Pg	05 42 08.3	-0.3
CAIG				iS	Sg	05 42 12.1	+0.3
ACX	**Acapulco**	**0.65**	**103**	iP	Pb	05 42 17.6	-0.4
ACX				eS	Sb	05 42 26.6	-0.9
ZIIG	**Zihuatanejo**	**1.07**	**303**	iP	Pg	05 42 21.9	-2.7
ZIIG				iS	Sg	05 42 36.4	-2.1
MEIG	**Mezcala**	**1.24**	**44**	iP	Pg	05 42 24.7	-3.2
MEIG				eS	Sg	05 42 39.8	-4.4
ARIG	**Puente Sto Nin**	**1.26**	**7**	iP	Pg	05 42 24.7	-3.5
ARIG				eS	Sg	05 42 40.4	-4.2
PLIG	**Platanillo**	**1.67**	**35**	iP	Pn	05 42 31.0	-3.3
PLIG				iS	Sn	05 42 51.5	-4.9
TLIG	**Tlapa**	**1.94**	**74**	iP	Pn	05 42 35.2	-2.8
TLIG				iS	Sn	05 42 57.9	-5.2

MEX 19 06:13:22.9±0.4, 16°.96N×100°.54W, h4km±7km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.27**	**71**	iP	Pg	06 13 27.9	-0.2
CAIG				eS	Sg	06 13 31.6	-0.2
ACX	**Acapulco**	**0.65**	**98**	iP	Pb	06 13 37.3	+0.3
ACX				eS	Sb	06 13 45.9	-0.5
ZIIG	**Zihuatanejo**	**1.10**	**306**	iP	Pg	06 13 41.3	-2.7
ZIIG				iS	Sg	06 13 54.9	-3.4
MEIG	**Mezcala**	**1.30**	**42**	iP	Pg	06 13 44.3	-3.7
MEIG				eS	Sg	06 14 00.5	-4.5
ARIG	**Puente Sto Nin**	**1.33**	**8**	iP	Pn	06 13 44.5	-3.9
ARIG				eS	Sg	06 14 01.3	-4.5
PLIG	**Platanillo**	**1.73**	**34**	iP	Pn	06 13 50.9	-3.2
PLIG				eS	Sn	06 14 12.4	-4.4
TLIG	**Tlapa**	**1.98**	**72**	iP	Pn	06 13 53.1	-4.3
TLIG				eS	Sn	06 14 18.4	-4.3

MEX 19 06:17:31.3±0.3, 16°.97N×100°.54W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.27**	**74**	iP	Pg	06 17 36.2	-0.3
CAIG				iS	Sg	06 17 40.1	0.0
ACX	**Acapulco**	**0.66**	**99**	iP	Pb	06 17 45.6	+0.3
ACX				eS	Sb	06 17 54.3	-0.5
ZIIG	**Zihuatanejo**	**1.09**	**305**	iP	Pg	06 17 49.4	-2.8
ZIIG				eS	Sg	06 18 03.4	-3.0
ARIG	**Puente Sto Nin**	**1.31**	**8**	iP	Pn	06 17 52.6	-3.8
ARIG				eS	Sg	06 18 08.3	-5.3
PLIG	**Platanillo**	**1.72**	**35**	iP	Pn	06 17 58.7	-3.3
PLIG				eS	Sn	06 18 20.6	-4.0
TLIG	**Tlapa**	**1.97**	**72**	iP	Pn	06 18 02.9	-2.6
TLIG				eS	Sn	06 18 26.3	-4.5

IDC 19 06:29:04.8±0.8, 40°.12S×46°.25E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/36, mbtmp4.0/7, MS3.4/3, Ms1 3.3/4, ms1mx3.1/32, Error ellipse: s-maj=47.2km s-min=18.6km az=33.0

ISCJB 19 06:29:05.1±0.8, 40°.2S±0°.2×46°.2E±0°.2, h10km, mb3.9/6, MS3.2/4, Error ellipse: s-maj=41.0km s-min=15.6km az=33.8

ISC 19 06:29:06.3±0.9, 40°.1S±0°.3×46°.2E±0°.2, h10km, n14, σ1§22/9, mb4.0/6, MS3.2/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOSA	**Boshof**	**20.73**	**297**	P	**P**	**06 33 48.1**	**+1.0**
	4.4nm,0.8s,baz=134,slow=10,SNR=7.4						
BOSA				LR	LR	06 40 13.3	
	comp=Z,95nm,18.8s,baz=218,slow=32						
LBTB	**Lobatse**	**22.93**	**305**	P	**P**	**06 34 12.5**	**+1.7**
	6.3nm,0.7s,baz=150,slow=8.7,SNR=11						
LBTB				LR	LR	06 41 20.5	
	comp=Z,74nm,20.0s,baz=158,slow=32						
LSZ	**Lusaka**	**29.35**	**322**	LR	LR	06 46 27.6	
	comp=Z,58nm,18.6s,baz=135,slow=36						
KMBO	**Kilima Mbogo**	**39.67**	**346**	LR	LR	06 51 53.4	
	comp=Z,56nm,18.7s,baz=94,slow=34						
QSPA	**South Pole Qui**	**50.07**	**180**	P	**P**	**06 38 00.7**	**-0.3**
	1.4nm,0.9s,baz=240,slow=5.2,SNR=4.0						
H01W2	**Cape Leeuwin H**	**52.93**	**107**	T	T	07 35 32.7	
	baz=243,slow=75,SNR=9.4						
H01W3	**Cape Leeuwin H**	**52.94**	**107**	T	T	07 35 32.6	
	baz=243,slow=75,SNR=7.8						
H01W1	**Cape Leeuwin H**	**52.95**	**107**	T	T	07 35 36.3	
	baz=243,slow=75,SNR=9.3						
TORD	**Torodi Ar. Bea**	**67.22**	**312**	P	**P**	**06 39 59.7**	**-1.2**
	0.6nm,0.8s,baz=140,slow=4.7,SNR=2.3						
ASAR	**Alice Springs**	**73.45**	**107**	P	**P**	**06 40 39.3**	**+0.1**
	0.9nm,0.8s,baz=222,slow=6.1,SNR=8.1						
STKA	**Stephens Creek**	**73.95**	**118**	P	**P**	**06 40 42.3**	**+0.3**
	1.0nm,0.6s,baz=193,slow=4.9,SNR=4.0						
WRA	**Warramunga Arr**	**76.02**	**104**	P	**P**	**06 40 55.1**	**+1.0**
	1.4nm,0.9s,baz=225,slow=4.7,SNR=7.7						
TXAR	**Lajitas Array**	**153.14**	**256**	PKPbc	**PKPbc**	**06 49 04.5**	**0.0**
	0.7nm,0.8s,baz=135,slow=4.7,SNR=11						
YKA	**Yellowknife Ar**	**154.81**	**339**	PKPab	**PKPab**	**06 49 20.4**	**-1.5**
	0.4nm,1.0s,baz=32,slow=3.6,SNR=3.7						

DJA 19 06:31:59.2±1.0, 5°S±4°×10°3E±°, h20km, M3.7/7, MLv3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.02**	**25**	P	Pb	06 32 16.9	-1.3
MNAI				S	Sb	06 32 30.6	-0.5
LWLI	**Liwa**	**1.55**	**80**	P	Pn	06 32 23.9	-1.9
LHSI	**Lahat**	**1.76**	**34**	P	Pn	06 32 29.2	+0.6
MDSI	**Maura Dua**	**1.83**	**64**	P	Pn	06 32 30.2	+0.7
MDSI				S	Sb	06 32 53.6	-0.8
KASI	**Kota Agung**	**1.97**	**97**	P	Pn	06 32 32.1	+0.6
KASI				S	Sn	06 32 56.4	+0.8
KLI	**Kotabumi**	**2.36**	**80**	P	Pn	06 32 37.1	+0.3
CGJI	**Cibinong**	**3.41**	**113**	P	Pn	06 32 51.6	+0.3
CGJI				S	Sn	06 33 30.2	-1.0

IDC 19 06:35:34.1±3.5, 54°.65N×164°.03E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.1/27, mbtmp3.2/3, ML2.2/1, Error ellipse: s-maj=185.1km s-min=26.1km az=152.0

KRSC 19 06:35:37.8±0.8, 55°.83N×162°.19E, h57km±16km, ML3.7

ISCJB 19 06:35:39.2±0.4, 55°.84N±0°.02×162°.23E±0°.05, h43km, mb3.0/2, Error ellipse: s-maj=3.9km s-min=3.0km az=164.7

ISC 19 06:35:40.3±1.0, 55°.89N±0°.03×162°.21E±0°.04, h43km, n39, σ1§20/62, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.80**	**280**	eP	**Pn**	**06 35 54.2**	**-1.0**
ZLN				eS	**Sn**	**06 36 05.7**	**-0.4**
SMKR	**Semkarok**	**0.81**	**330**	iP	**Pn**	**06 35 54.7**	**-0.6**
SMKR				iS	**Sn**	**06 36 06.8**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**0.85**	**274**	eP	**Pn**	**06 35 54.7**	**-1.3**
BZGR				eS	**Sn**	**06 36 06.3**	**-1.1**
BDR	**Baidarnaya**	**0.88**	**321**	iP	**Pn**	**06 35 55.8**	**-0.5**
BDR				iS	**Sn**	**06 36 08.5**	**+0.5**
SRKR	**Sorokina**	**0.96**	**323**	iP	**Pn**	**06 35 56.9**	**-0.5**
SRKR				eS	**Sn**	**06 36 11.5**	**+1.6**
BZWR	**Bezymyannyi-We**	**0.97**	**275**	eP	**Pn**	**06 35 55.9**	**-1.7**
BZWR				eS	**Sn**	**06 36 09.5**	**-0.7**
BZMR	**Bezymyannaya**	**0.97**	**273**	eP	**Pn**	**06 35 56.2**	**-1.4**
BZMR				eS	**Sn**	**06 36 09.5**	**-0.7**
KLY	**Klyuchi**	**0.97**	**297**	iP	**Pn**	**06 35 55.0**	**-2.4**
KLY				iS	**Sn**	**06 36 07.2**	**-2.8**
KRSR	**Krestovskiy**	**0.98**	**290**	eP	**Pn**	**06 35 55.8**	**-1.9**
KRSR				iS	**Sn**	**06 36 08.5**	**-1.9**
KIRR	**Kirishev**	**1.05**	**274**	iS	**Sn**	**06 36 12.5**	**+0.2**
KMNR	**Kamenistaya**	**1.12**	**264**	iP	**Pn**	**06 35 59.2**	**-0.4**
KMNR				eS	**Sn**	**06 36 14.0**	**+0.1**
KPT	**Kopyto**	**1.12**	**275**	eP	**Pn**	**06 35 58.8**	**-0.8**
KPT				eS	**Sn**	**06 36 13.5**	**-0.4**
TUMR	**Tumrok**	**1.32**	**243**	eP	**Pn**	**06 36 01.8**	**-0.5**
TUMR				eS	**Sn**	**06 36 18.4**	**-0.4**
KOZ	**Kozyrevsk**	**1.32**	**278**	eP	**Pn**	**06 36 02.5**	**+0.2**
KOZ				eS	**Sn**	**06 36 20.0**	**+1.3**
MKZ	**Mys Kozlova**	**1.36**	**192**	eP	**Pn**	**06 36 01.8**	**-1.0**
MKZ				eS	**Sn**	**06 36 18.0**	**-1.7**
SRDR	**Sredinnyy**	**1.46**	**288**	iP	**Pn**	**06 36 04.4**	**+0.2**
SRDR				eS	**Sn**	**06 36 23.2**	**+1.1**
ESO	**Esso**	**1.98**	**272**	eP	**Pn**	**06 36 11.4**	**+0.2**
ESO				eS	**Sn**	**06 36 35.1**	**+0.3**
BKI	**Bering**	**2.25**	**106**	eP	**Pn**	**06 36 14.4**	**-0.5**
BKI				eS	**Sn**	**06 36 41.1**	**-0.3**
KII	**Karymskiy**	**2.45**	**222**	eP	**Pn**	**06 36 18.6**	**+0.8**
KII				eS	**Sn**	**06 36 47.6**	**+1.2**
SPN	**Mys Shipunski**	**3.07**	**205**	eS	**Sn**	**06 37 00.6**	**-1.2**
NLC	**Nalytchevo**	**3.19**	**213**	eP	**Pn**	**06 36 27.1**	**-0.8**
NLC				eS	**Sn**	**06 37 03.5**	**-1.2**
SDLR	**Sedlovina**	**3.25**	**218**	eP	**Pn**	**06 36 28.5**	**-0.4**
SDLR				eS	**Sn**	**06 37 05.5**	**-0.9**
KRX	**Arik**	**3.27**	**221**	eP	**Pn**	**06 36 29.4**	**+0.2**
KRX				eS	**Sn**	**06 37 06.7**	**-0.2**
KRER	**Koryakskii**	**3.28**	**219**	eP	**Pn**	**06 36 29.4**	**+0.1**
SMAR	**Somma**	**3.29**	**218**	eP	**Pn**	**06 36 29.4**	**-0.1**
GNL	**Ganaly**	**3.31**	**230**	eP	**Pn**	**06 36 29.8**	**+0.2**
AVH	**Avacha**	**3.32**	**219**	eP	**Pn**	**06 36 30.0**	**+0.3**
AVH				iS	**Sn**	**06 37 08.2**	**+0.3**
KOK	**Koryaka**	**3.33**	**220**	eP	**Pn**	**06 36 30.0**	**+0.1**
UGLR	**Uglovaya**	**3.33**	**218**	eP	**Pn**	**06 36 29.6**	**-0.3**
UGLR				eS	**Sn**	**06 37 07.4**	**-0.9**
PET	**Petropavlovsk**	**3.54**	**217**	eS	**Sn**	**06 37 12.1**	**-1.2**
PETK	**Petropavlovsk-**	**3.83**	**225**	Pn	**Pn**	**06 36 37.7**	**+1.0**
	0.7nm,0.3s,baz=71,slow=14,SNR=3.7						
PETK				Sn	**Sn**	**06 37 25.6**	**+5.1**
	1.0nm,0.3s,baz=71,slow=18,SNR=3.2						
RUS	**Russkaya**	**4.09**	**214**	eP	**Pn**	**06 36 41.3**	**+1.1**
RUS				eS	**Sn**	**06 37 24.9**	**-1.8**
MTVR	**Mutnovka**	**4.15**	**216**	eP	**Pn**	**06 36 41.7**	**+0.5**
MTVR				eS	**Sn**	**06 37 27.7**	**-0.8**
ASAK	**Asacha**	**4.33**	**218**	eP	**Pn**	**06 36 44.8**	**+0.8**
ILAR	**Eielson Array**	**26.01**	**49**	P	**P**	**06 41 08.8**	**0.0**
	0.3nm,0.9s,baz=270,slow=9.6,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**36.27**	**173**	T	T	07 21 14.7	
	baz=3.3						
H11N3	**WAKE ISLAND Hy**	**36.29**	**173**	T	T	07 21 26.6	
	baz=3.3						
H11N1	**WAKE ISLAND Hy**	**36.29**	**173**	T	T	07 21 15.7	
	baz=3.3						
YKA	**Yellowknife Ar**	**40.29**	**45**	P	**P**	**06 43 13.4**	**+0.7**
	0.3nm,0.6s,baz=299,slow=7.6,SNR=4.1						

MAN 19 06:43:52, 11°.54N×122°.16E, h1km, mb4.7, ML3.6, MS3.6, 1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCP	**Roxas**	**0.57**	**88**	⇓eP	Pg	06 44 03.8	+0.8
OTRP	**Odiongan**	**0.83**	**350**	eP	Pb	06 44 08.9	-0.3
OTRP				eS	Sb	06 44 21.0	+0.1
GUIM	**Jordan**	**1.00**	**155**	eP	Pn	06 44 13.3	+0.1
GUIM				eS	Sn	06 44 29.0	+1.0
CUYO	**Cuyo Island**	**1.31**	**239**	eP	Pg	06 44 17.4	+0.1
CUYO				eS	Sg	06 44 29.2	-5.2
SJMP	**San Jose**	**1.37**	**312**	eP	Pb	06 44 18.8	+0.3
BUSP	**Coron**	**1.98**	**284**	eP	Pb	06 44 28.3	-0.5
LLP	**Lapu-Lapu**	**2.15**	**124**	eP	Pg	06 44 33.6	+0.4
LLP				eS	Sb	06 44 59.7	+0.7
TBP	**Tagbilaran**	**2.48**	**138**	eP	Pg	06 44 39.7	0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	2.87	320	eP	Pn	06 44 40.4	+1.4

MAN 19 06:52:56, 9.37N×126.23E, h28km, mb4.5, ML3.4, MS3.3, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.72	236	eP	Pn	06 53 11.7	+1.3
BUTP				eS	Sb	06 53 17.1	-2.4
SCPH	Surigao	0.84	299	⇓iP	Pn	06 53 11.7	-0.2
SCPH				iS	Sb	06 53 23.0	+0.1
BIPH	Bislig	1.19	174	⇓iP	Pn	06 53 16.2	-0.5
BIPH				iS	Sn	06 53 30.9	-1.0
MSLP	Maasin	1.55	300	eP	Pb	06 53 23.2	-0.8
MSLP				eS	Sn	06 53 38.6	-2.3
CGP	Cagayan de Oro	1.77	239	⇑iP	Pn	06 53 25.6	+0.9
CGP				iS	Sn	06 53 47.2	+0.9
BUKP	Musuan	1.88	218	eP	Pb	06 53 28.7	-1.0
BUKP				eS	Sn	06 53 46.7	-2.5
PLP	Palo	2.17	326	⇓eP	Pn	06 53 31.1	+0.8
PLP				eS	Sn	06 53 58.0	+1.7
TBP	Tagbilaran	2.36	278	eP	Pn	06 53 34.3	+1.5
TBP				iS	Sn	06 54 02.9	+2.0
MATI	Mati	2.41	179	eP	Pn	06 53 35.4	+1.8
PAGZ	Pagadian	3.19	242	eP	Pn	06 53 46.3	+1.9
PAGZ				eS	Sn	06 54 08.9	-13
GUIM	Jordan	3.80	290	eP	Pn	06 53 55.1	+2.5
RCP	Roxas	4.06	303	⇑eP	Pn	06 53 58.4	+2.1

IDC 19 06:55:34.6±1.0, 56.00S×27.82W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.9/16, mbtmp4.2/3, Error ellipse: s-maj=44.0km s-min=31.1km az=91.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	46.61	183	P	P	07 04 04.5	+0.8
	3.1nm,0.7s,baz=214,slow=3.6,SNR=3.2						
LPAZ	La Paz	50.06	306	P	P	07 04 32.3	+0.6
	0.4nm,0.3s,baz=94,slow=6.9,SNR=5.0						
TORD	Torodi Ar. Bea	73.19	30	P	P	07 07 07.9	+0.9
	3.5nm,0.6s,baz=200,slow=6.4,SNR=33						
YKA	Yellowknife Ar	135.90	318	PKP	PKPdf	07 14 54.1	-1.6
	0.1nm,0.3s,baz=136,slow=1.9,SNR=6.3						
ILAR	Eielson Array	149.82	312	PKPbc	PKPbc	07 15 23.2	-1.7
	0.7nm,0.8s,baz=135,slow=4.3,SNR=6.4						
SONM	Songino Array	151.08	87	PKPbc	PKPbc	07 15 27.4	-1.3
	0.5nm,0.5s,baz=216,slow=4.3,SNR=9.0						

KRNET 19 07:02:16.7±0.1, 41.11N×74.48E, h4km, mb2.4
NNC 19 07:02:18.4±0.8, 41.14N×74.41E, h0km, mb2.6, mpv2.3, Error ellipse: s-maj=5.6km s-min=5.0km az=125.0
KNET 19 07:02:18.7±0.5, 41.22N×74.48E, h0km, ml1.6, Error ellipse: s-maj=3.8km s-min=2.4km az=25.0
ISC 19 07:02:15.3±1.8, 41.05N±0.07×74.48E±0.04, h6km±14km, n20, σ0.64/36, 23C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	Aral	0.82	352	iP	Pg	07 02 31.3	+0.3
	baz=351						
ARLS				iS	Sb	07 02 41.9	-1.5
	baz=351						
ARSB	Arslanbob	1.17	284	eP	Pb	07 02 38.5	+0.5
	baz=281						
ARSB				eS	Sb	07 02 53.9	+0.5
	baz=281						
UCH	Uchtor	1.17	1	⇑P	Pb	07 02 38.7	+0.3
	2.6nm,0.2s,SNR=17						
UCH				⇑S	Sb	07 02 54.0	-0.1
	18nm,0.3s						
UCH	Uchtor	1.17	1	⇑iP	Pb	07 02 38.6	+0.3
	baz=1.0						
UCH				⇑iS	Sb	07 02 53.9	-0.1
	baz=1.0						
KZA	Kyzart	1.18	29	⇑P	Pg	07 02 38.3	+0.4
	2.3nm,0.2s,SNR=5.7						
KZA	Kyzart	1.18	29	⇑iP	Pg	07 02 38.1	+0.2
	baz=31						
KZA				⇑iS	Sg	07 02 53.2	0.0
	baz=31						
AML	Almayashu	1.23	331	⇑P	Pn	07 02 39.7	+0.1
	6.6nm,0.1s,SNR=36						
AML				⇓S	Sb	07 02 55.7	+0.2
	11nm,0.1s						
AML	Almayashu	1.23	331	⇓iP	Pn	07 02 39.6	+0.1
	baz=330						
AML				⇓iS	Sb	07 02 55.4	-0.1
	baz=330						
AAK	Ala-Archa	1.58	0	⇑P	Pg	07 02 46.1	+0.5
	1.1nm,0.3s						
AAK				⇑S	Sg	07 03 06.5	+0.3
	2.5nm,0.2s						
AAK	Ala-Archa	1.58	0	⇑P	Pg	07 02 46.1	+0.5
	3.0nm,0.2s,SNR=8.0						
AAK				⇓S	Sg	07 03 06.6	+0.5
	8.1nm,0.2s						
AAK	Ala-Archa	1.58	0	⇑iP	Pg	07 02 46.2	+0.5
	baz=0.0						
AAK				⇑iS	Sg	07 03 06.4	+0.3
	baz=0.0						
EKS2	Erkin-Say	1.69	342	⇑P	Pg	07 02 48.0	+0.2
	1.8nm,0.1s,SNR=14						
EKS2	Erkin-Say	1.69	342	⇑iP	Pg	07 02 47.9	+0.2
	baz=342						
EKS2				⇑iS	Sg	07 03 09.9	+0.2
	baz=342						
EKS	Erkin-Say	1.70	342	eP	Pg	07 02 48.8	+0.9
	baz=342						
EKS				eS	Sb	07 03 08.5	-0.2
	baz=342						
ULHL	Ulahol	1.78	47	⇑P	Pb	07 02 48.8	+0.3
	baz=49						
ULHL				⇑iS	Sb	07 03 11.0	-0.1
	baz=49						
TKM2	Tokmak 2	2.04	24	⇓Pn	Pb	07 02 53.4	+0.4
	0.8nm,0.4s						
TKM2				⇑Sn	Sg	07 03 20.1	-0.9
	2.0nm,0.4s						
TKM2	Tokmak 2	2.04	24	⇑iP	Pg	07 02 53.8	-0.7
	baz=24						
TKM2				⇑iS	Sg	07 03 19.7	-1.3
	baz=24						
USP	Ospenovka	2.21	0	⇓P	Pg	07 02 57.2	-0.5
	3.1nm,0.2s,SNR=5.8						
TRKS	Terek-Say	2.56	282	⇓iP	Pg	07 03 04.6	+0.1
	baz=279						
TRKS				⇓eS	Sg	07 03 37.4	-0.3
	baz=279						
KK31	Karatay Array	3.60	306	⇑Pg	Pg	07 03 22.3	-2.0
	0.9nm,0.8s,baz=125,slow=15,SNR=4.9						
KK31				⇑Lg	Lg	07 04 08.2	
	1.2nm,0.6s,baz=125,slow=29,SNR=4.6						

NEIC 19 07:17:15.4, 66.24N×142.19W, h21km, ML3.8(AEIC), After AEIC., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FYU	Fort Yukon	1.27	286	P	Pn	07 17 38.0	+0.2
FYU				S	Sb	07 17 54.8	+0.5
BM3	Burnt Mountain	1.52	322	P	Pn	07 17 41.0	-0.4
EGAK	Eagle	1.53	163	P	Pn	07 17 41.3	-0.1
EGAK				S	Sb	07 18 01.7	-0.3
SCRK	Sand Creek	2.40	199	P	Pn	07 17 54.2	+0.6
IL1	Eielson Array	2.45	235	P	Pn	07 17 54.1	+0.1
DAWY	Dawson	2.48	150	P	Pn	07 17 54.3	-0.3
DAWY				S	Sn	07 18 24.7	+0.3
DOT	Dot Lake	2.72	198	ePn	Pn	07 17 58.2	+0.3
DOT				ePg	Pb	07 18 06.3	+2.9
COLA	College	2.73	242	P	Pn	07 17 57.9	+0.1
MDM	Murphy Dome	2.82	246	P	Pn	07 17 59.0	-0.2
CCB	Clear Creek Bu	2.84	238	P	Pn	07 17 58.9	-0.5
WRH	Wood River Hil	3.04	237	P	Pn	07 18 02.2	-0.1
BCA3	Beaver Creek A	3.19	177	P	Pn	07 18 04.7	+0.3
COLD	Coldfoot	3.33	291	ePn	Pn	07 18 07.1	+0.9
COLD				ePg	Pb	07 18 15.7	+2.1
MENT	Mentasta	3.38	192	P	Pn	07 18 07.2	+0.3
PAX	Paxson	3.58	205	P	Pn	07 18 10.9	+1.2
MCK	McKinley	3.81	232	ePn	Pn	07 18 13.1	+0.2
RND	Reindeer	4.02	228	P	Pn	07 18 16.5	+0.7
HARP	HAARP	4.06	200	P	Pn	07 18 18.2	+1.9
IM3	Indian Mountai	4.71	272	P	Pn	07 18 25.3	+0.2
IM04	Indian Mountai	4.72	272	ePn	Pn	07 18 25.9	+0.6

BJI 19 07:17:55.0, 66.40N×141.60W, h5km, mB4.9/3, mb4.7/6, Ms4.7/3, Ms7 4.3/3
ISCJB 19 07:18:03.5±0.2, 66.25N±0.02×142.31W±0.04, h10km, mb4.1/32, MS3.5/7, Error ellipse: s-maj=3.3km s-min=2.3km az=179.8
IDC 19 07:18:04.3±0.5, 66.25N×142.05W, h0km, mb4.0/14, mb1 4.3/17, mb1mx4.0/51, mbtmp4.1/17, ML4.4/3, MS3.3/8, Ms1 3.4/8, ms1mx3.0/43, Error ellipse: s-maj=11.0km s-min=9.3km az=11.0
NEIC 19 07:18:04.6, 66.24N×142.20W, h15km, mb4.0/12, MW4.2, ML4.4(AEIC), MW4.3(OTT), Moment Tensor Solution. s15 Moment tensor: Scale 10^{15}Nm; M_{rr}0.08; $M_{\theta\theta}$-1.65; $M_{\phi\phi}$1.58; $M_{r\theta}$0.33; $M_{r\phi}$1.86; $M_{\theta\phi}$0.35; Best double couple: $M_0$2.50000×10^{15} NP1:ϕ_s339.00000°, δ80.00000°, λ175.00000°. NP2:ϕ_s70.00000°, δ85.00000°, λ10.00000°. Principal axes: T 2.5100, Plg10.0000°, Azm294.0000°; N 0.0000, Plg78.0000°, Azm96.0000°; P -2.5100, Plg3.0000°, Azm204.0000°; After AEIC.
PGC 19 07:18:07.3±5.6, 66.32N×141.14W, h1km, ML4.4/1, Mw4.3, 263km northwest of Dawson, Yt Alaska
ISC 19 07:18:04.2±0.4, 66.24N±0.03×142.18W±0.04, h10km, n253, σ1.47/233, mb4.1/32, MS3.5/7, 67C-88D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FYU	Fort Yukon	1.27	286	P	Pn	07 18 27.0	-0.9
FYU				S	Sb	07 18 43.7	-0.8
BM05	Burnt Mountain	1.53	323	P	Pn	07 18 30.6	-0.9
BM05				S	Sb	07 18 51.0	-0.9
EGAK	Eagle	1.53	163	P	Pn	07 18 30.9	-0.5
EGAK				S	Sb	07 18 51.5	-0.4
SCRK	Sand Creek	2.40	199	P	Pn	07 18 43.8	+0.3
ILAR	Eielson Array	2.45	235	Pn	Pn	07 18 44.0	-0.2
	66nm,0.3s,baz=46,slow=13,SNR=58						
ILAR				Pg	Pg	07 18 49.9	-1.2
	124nm,0.3s,baz=53,slow=17,SNR=33						
ILAR				LR	LR	07 19 16.8	
	comp=Z,938nm,19.9s,baz=196,slow=29						
ILAR				Lg	Lg	07 19 19.8	
	785nm,0.3s,baz=48,slow=30,SNR=36						
DAWY	Dawson	2.48	150	⇑P	Pn	07 18 44.9	+0.3
DAWY				⇓Sg	Sb	07 19 20.1	+0.8
DAWY	Dawson	2.48	150	P	Pn	07 18 44.8	+0.2
PS08	TAPS Pump Stn8	2.58	231	P	Pn	07 18 45.7	-0.3
DOT	Dot Lake	2.72	198	P	Pn	07 18 48.3	+0.4
COLA	College	2.73	242	P	Pn	07 18 47.8	-0.1
COLA				ePg	Pg	07 18 54.4	-1.9
COLA				eSn	Sb	07 19 27.3	+0.9
RIDG	Independ'e Rid	2.75	205	P	Pn	07 18 48.9	+0.5
MDM	Murphy Dome	2.82	246	P	Pn	07 18 48.7	-0.6
CCB	Clear Creek Bu	2.84	238	P	Pn	07 18 48.8	-0.7
DDM	Donnelly Dome	2.92	214	P	Pn	07 18 48.8	-1.8
PS06	TAPS Pump Stn6	3.11	266	P	Pn	07 18 52.8	-0.3
PS10	TAPS Pump St10	3.22	210	P	Pn	07 18 55.0	+0.3
COLD	Coldfoot	3.33	291	P	Pn	07 18 56.8	+0.5
MENT	Mentasta	3.38	192	P	Pn	07 18 57.1	+0.2
PAX	Paxson	3.58	205	P	Pn	07 19 00.5	+0.9
BWN	Browne	3.71	239	P	Pn	07 18 60.0	-1.4
MLY	Manley	3.75	255	P	Pn	07 19 00.6	-1.4
MCK	McKinley	3.82	232	P	Pn	07 19 02.5	-0.4
DHY	Denali Highway	3.88	218	P	Pn	07 19 05.0	+1.0
RND	Reindeer	4.03	228	P	Pn	07 19 06.0	+0.2
HARP	HAARP	4.06	200	P	Pn	07 19 07.8	+1.5
WANC	Wrangell North	4.33	192	P	Pn	07 19 11.7	+1.3
PS11	TAPS Pump St11	4.42	201	P	Pn	07 19 12.7	+1.5
KTH	Kantishna Hill	4.60	238	P	Pn	07 19 12.9	-0.8
IM3	Indian Mountai	4.71	272	P	Pn	07 19 15.1	-0.1
IM04	Indian Mountai	4.73	272	ePn	Pn	07 19 15.6	+0.2
GLB	Gilahina Butte	4.87	189	P	Pn	07 19 18.7	+1.2
SCM	Sheep Creek Mo	4.97	209	P	Pn	07 19 20.3	+1.5
KLU	Klutina	5.04	201	P	Pn	07 19 21.4	+1.6
BALM	Baldy	5.22	181	P	Pn	07 19 23.3	+0.9
DIV	Divide	5.37	199	P	Pn	07 19 25.8	+1.5
BMRM	Bremner River	5.40	193	P	Pn	07 19 26.0	+1.3
PPLA	Purkeypile	5.46	237	P	Pn	07 19 24.9	-0.7
JPK	Jack Peak	5.56	203	P	Pn	07 19 28.7	+1.8
PMR	Palmer	5.58	217	P	Pn	07 19 28.1	+1.0
GOAT	Goat Mountain	5.79	193	P	Pn	07 19 32.2	+2.1
GLI	Glacier Island	5.81	204	P	Pn	07 19 31.9	+1.6
HYT	Haines Junctio	5.82	157	⇑Pn	Pn	07 19 33.2	+2.7
HYT				⇓Sg	Sg	07 21 06.2	-4.6
HYT	Haines Junctio	5.82	157	ePn	Pn	07 19 33.1	+2.6
HYT				eSg	Sg	07 21 06.6	-4.3
SKT	Skwentna	5.92	228	P	Pn	07 19 32.0	+0.2
SGAM	Sherman Glacie	5.92	195	P	Pn	07 19 34.0	+2.2
EYAK	Cordova Ski Ar	5.93	197	P	Pn	07 19 34.3	+2.4
PWL	Port Wells	6.06	210	P	Pn	07 19 35.6	+1.9
SUA	Susitna One	6.10	222	P	Pn	07 19 36.1	+1.7
RC01	Rabbit Creek A	6.16	217	P	Pn	07 19 37.1	+2.0
STLK	Strandline Lak	6.38	226	P	Pn	07 19 39.2	+1.0
WHY	Whitehorse	6.48	146	⇓Pn	Pn	07 19 39.0	-0.6
WHY				⇑Sg	Sg	07 21 28.2	-3.8
WHY	Whitehorse	6.48	146	P	Pn	07 19 38.9	-0.7
SPBG	Spurr Blockage	6.73	227	P	Pn	07 19 45.1	+2.2
SLKM	Skilak Lake	6.79	216	P	Pn	07 19 44.6	+0.9
TT01	Tatalina	6.83	247	P	Pn	07 19 43.0	-1.2
SEW	Seward	6.98	211	ePn	Pn	07 19 46.5	+0.3
	86nm,1.1s						
SEW				eSn	Sb	07 21 21.2	-7.3
RSO	Redoubt South	7.49	224	ePn	Pn	07 19 55.4	+1.9
	309nm,0.6s						
SVW2	Sparrevohn	7.87	235	P	Pn	07 19 58.4	-0.1
DLBC	Dease Lake	9.63	139	⇓Pn	Pn	07 20 22.9	+0.1
DLBC	Dease Lake	9.63	139	Pn	Pn	07 20 22.1	-0.6
	3.9nm,0.3s,baz=325,slow=9.4,SNR=53						
DLBC				Sn	Sn	07 22 21.4	+10
	0.8nm,0.3s,baz=124,slow=9.1,SNR=3.9						
DLBC				Lg	Lg	07 23 07.3	
	2.6nm,0.3s,baz=98,slow=22,SNR=10						
DLBC				LR	LR	07 24 47.5	
	comp=Z,103nm,18.9s,baz=345,slow=42						
DLBC	Dease Lake	9.63	139	ePn	Pn	07 20 23.7	+1.0
DLBC				Lg	Lg	07 23 07.3	
TNA	Tin City	10.52	278	ePn	Pn	07 20 36.0	+1.3
GALN	Gameti Lake	10.63	90	⇓Pn	Pn	07 20 33.2	-3.1
GALN				⇓Sn	Sn	07 22 25.8	-9.5
CTLN	Castor Lake	11.04	87	⇑Pn	Pn	07 20 38.0	-3.9
CTLN				⇓Sn	Sn	07 22 33.5	-12
FNBB	Fort Nelson	11.46	121	⇓Pn	Pn	07 20 47.3	-0.4
YKW3	Yellowknife Ar	12.41	94	⇑P	Pn	07 20 57.0	-3.6
YKW3				⇑S	Sn	07 23 05.1	-14
YKA	Yellowknife Ar	12.45	95	Pn	Pn	07 20 57.5	-3.6
	1.5nm,0.3s,baz=295,slow=13,SNR=59						
YKA				Sn	Sn	07 23 07.5	-12
	1.7nm,0.3s,baz=296,slow=23,SNR=4.9						
YKA				Lg	Lg	07 24 32.0	
	baz=319,slow=26,SNR=2.1						
RES	Resolute Bay	17.37	41	P	Pn	07 22 02.6	-3.5
	0.6nm,0.3s,baz=251,slow=12,SNR=12						
RES				S	Sn	07 25 04.5	-15
	0.2nm,0.3s,baz=207,slow=16,SNR=3.1						
RES	Resolute Bay	17.37	41	ePn	Pn	07 22 02.9	-3.2
	4.7nm,0.5s						
RES				S	Sn	07 25 04.5	-15
EDM	Edmonton	19.28	119	eP	Pn	07 22 30.3	+0.7
BILL	Bilibino	19.63	299	eP	Pn	07 22 33.0	-0.8
	4.2nm,0.8s						
NEW	Newport	22.26	132	P	P	07 23 02.4	+1.4
	1.6nm,0.5s,baz=8.3,slow=8.2,SNR=7.1						
NEW				LR	LR	07 32 13.2	
	comp=Z,43nm,18.7s,baz=328,slow=38						
NEW	Newport	22.26	132	⇓P	P	07 23 03.0	+1.9
	baz=22						
FFC	Flin Flon	22.45	101	eP	P	07 23 01.5	-1.4
	6.4nm,0.8s						
WALA	Waterton Lakes	22.58	126	eP	P	07 23 03.1	-1.4
	0.1nm,0.6s						
MSO	Missoula	24.53	129	⇑P	P	07 23 24.5	+0.9
	baz=24						
CHMT	Chamberlain Mo	24.67	127	eP	P	07 23 25.4	+0.3
	2.5nm,0.9s						
I05D	Terrebonne, OR	24.70	142	⇑P	P	07 23 25.9	+0.7
	baz=25						
I03D	Drain, OR	24.83	146	⇑P	P	07 23 28.1	+1.9
	baz=25						
EGMT	Eagleton	24.88	121	eP	P	07 23 25.2	-1.5
	8.2nm,0.8s						
EGMT	Eagleton	24.88	121	⇓P	P	07 23 28.1	+1.3
	baz=25,SNR=7.8						
I04A	Tendick Farm,	24.96	145	⇑P	P	07 23 29.1	+1.7
	baz=25						
A21A	Bergtoll Ranch	25.06	116	⇓P	P	07 23 29.3	+1.0
	baz=25						
HRY	Holter Researc	25.31	126	eP	P	07 23 31.0	+0.3
	8.5nm,0.6s						
J04D	Umpqua Nationa	25.55	144	⇓P	P	07 23 34.5	+1.5
	baz=26						
J05D	Fort Rock, OR	25.72	143	⇓P	P	07 23 37.0	+2.5
	baz=26						
C20A	Veseth Ranch,	25.75	119	⇑P	P	07 23 35.1	+0.5
	baz=26						
D19A	Cripps Ranch,	25.92	121	⇓P	P	07 23 36.6	+0.5
	baz=26						
B23A	Brockton	26.21	114	⇓P	P	07 23 41.3	+2.5
	baz=26						
C22A	Vida	26.49	116	⇑P	P	07 23 42.4	+1.1
	baz=26						
C23A	Lambert	26.70	115	⇑P	P	07 23 42.2	-1.0
	baz=27						
D22A	Cohagen	26.89	117	⇑P	P	07 23 46.8	+1.9
	baz=27						
F19A	Roth Farm, Mol	27.03	123	⇓P	P	07 23 47.3	+1.0
	baz=27						
SEY	Seymchan	27.13	294	P	P	07 23 47.8	+1.0
	0.4nm,0.3s,baz=66,slow=19,SNR=3.2						
MOD	Modoc	27.25	143	eP	P	07 23 50.4	+2.1
	2.8nm,0.6s						
HLID	Hailey	27.32	132	eP	P	07 23 49.2	+0.3
	1.7nm,0.8s						
HLID	Hailey	27.32	132	⇑P	P	07 23 50.5	+1.6
	baz=27						
G20A	Bridger	27.84	122	⇑P	P	07 23 53.2	-0.3
	baz=28						
I17A	Pilgrim Ck.	28.20	127	⇓P	P	07 23 59.5	+2.7
	baz=28,SNR=8.8						
F23A	Volborg	28.39	118	⇓P	P	07 24 00.0	+1.7
	baz=28						
I19A	Meeteetse	28.61	124	⇓P	P	07 24 01.5	+1.0
	baz=28						
H21A	Big Horn, Sher	28.76	121	⇓P	P	07 24 02.2	+0.4
	baz=29						
J19A	Crowheart	29.28	125	⇑P	P	07 24 05.8	-0.6
	baz=29						
FRB	Frobisher Bay	29.59	60	P	P	07 24 08.7	+0.1
	1.0nm,0.5s,baz=300,slow=11,SNR=5.3						
ELK	Elko	29.67	136	P	P	07 24 12.3	+2.4
	1.4nm,0.8s,baz=277,slow=11,SNR=6.5						
ELK				LR	LR	07 36 12.6	
	comp=Z,52nm,20.3s,baz=359,slow=37						
J21A	Lysite	29.75	123	⇑P	P	07 24 11.5	+0.9
	baz=30						
G26A	Maurine	29.77	115	⇓P	P	07 24 10.8	+0.2
	baz=30						
G27A	Dupree	29.94	114	⇓P	P	07 24 13.5	+1.4
	baz=30						
K21A	Alcova	30.45	124	⇓P	P	07 24 18.0	+1.2
	baz=30						
J24A	Dixon Ranch, L	30.72	120	⇑P	P	07 24 20.8	+1.6
	baz=31						
DUG	Dugway	30.88	133	⇓P	P	07 24 22.6	+2.0
	baz=31,SNR=8.7						
I27A	Quinn	31.02	116	⇓P	P	07 24 23.0	+1.3
	baz=31						
NVAR	Mina Array Bea	31.03	142	P	P	07 24 24.6	+2.7
	4.1nm,0.6s,baz=334,slow=8.3,SNR=49						
G30A	Faulkton	31.20	111	⇓P	P	07 24 25.8	+2.7
	baz=31						
J26A	Sides Ranch, S	31.30	118	⇓P	P	07 24 25.4	+1.3
	baz=31						
I28A	Midland	31.40	115	⇓P	P	07 24 26.3	+1.3
	baz=31						
I29A	Vivian Onida	31.70	114	⇓P	P	07 24 29.9	+2.3
	baz=32						
N20A	Spence Gulch,	31.72	126	⇑P	P	07 24 29.9	+1.9
	baz=32,SNR=5.6						
J27A	Elkhorn Farm,	31.74	116	⇑P	P	07 24 29.4	+1.3
	baz=32						
R11A	Troy Canyon, C	31.81	138	⇓P	P	07 24 31.2	+2.4
	baz=32						
J28A	Allard Ranch,	31.88	115	⇑P	P	07 24 30.6	+1.5
	baz=32						
K27A	Flueckinger Fa	32.14	117	⇑P	P	07 24 32.4	+0.9
	baz=32						
J29A	Okreek	32.23	114	⇓P	P	07 24 33.3	+1.1
	baz=32						
N22A	Wattenberg Ran	32.35	124	⇓P	P	07 24 34.5	+0.9
	baz=32						
O20A	White River Ci	32.36	127	⇑P	P	07 24 32.2	-1.4
	baz=32						
K28A	Ten Mile Ranch	32.44	116	⇓P	P	07 24 35.6	+1.4
	baz=32						
SRU	San Rafael	32.57	131	eP	P	07 24 35.9	+0.4
	2.6nm,0.6s						
J30A	Dallas	32.60	113	⇑P	P	07 24 37.3	+1.8
	baz=32						
L27A	T5 Ranch, Ells	32.65	118	⇑P	P	07 24 37.1	+1.1
	baz=33						
DAG	Danmarks Havn	33.06	21	iP	P	07 24 39.6	+0.5
	2.3nm,0.8s						
O23A	Lake Granby, G	33.06	124	⇑P	P	07 24 41.5	+1.7
	baz=33						
K30A	Basset	33.12	114	⇓P	P	07 24 41.9	+1.8
	baz=33						
P22A	Eagle	33.33	125	⇑P	P	07 24 43.4	+1.2
	baz=33						
ISCO	Idaho Springs	33.53	124	⇑P	P	07 24 45.9	+1.9
	baz=33						
L30A	Spencer Herefo	33.71	115	⇓P	P	07 24 46.9	+1.7
	baz=34						
M29A	Burnside Ranch	33.80	116	⇑P	P	07 24 46.9	+0.9
	baz=34						
P23A	Jefferson	33.84	124	⇓P	P	07 24 49.1	+2.4
	baz=34,SNR=7.8						
L31A	Butterfield Fa	33.84	114	⇓P	P	07 24 49.0	+2.6
	baz=34						
PV01	Paradox Valley	34.08	129	eP	P	07 24 48.6	0.0
	261nm,0.9s						
N28A	Pribbeno Ranch	34.15	118	⇓P	P	07 24 50.6	+1.4
	baz=34						
O27A	Beecher Island	34.26	120	⇓P	P	07 24 51.7	+1.6
	baz=34						
N29A	Votaw Ranch, W	34.37	117	⇑P	P	07 24 52.6	+1.7
	baz=34						
GSC	Goldstone	34.37	142	⇑P	P	07 24 53.5	+2.4
	baz=34						
P26A	Davis Ranch, A	34.52	121	⇓P	P	07 24 53.7	+1.3
	baz=34						
O28A	Krutsinger Ran	34.57	119	⇑P	P	07 24 54.1	+1.3
	baz=34						
R23A	Moffat	34.91	125	⇓P	P	07 24 58.0	+2.1
	baz=35,SNR=8.6						
O29A	4D Ranch, Culb	34.92	118	⇓P	P	07 24 57.0	+1.3
	baz=35						
MVCO	Mesa Verde	34.94	129	⇑P	P	07 24 57.3	+1.1
	baz=35						
S22A	4UR Ranch, Cre	34.99	127	⇓P	P	07 24 58.0	+1.4
	baz=35						
R24A	Sanders Place,	35.11	124	⇓P	P	07 24 58.3	+0.7
	baz=35						
O30A	MW Ranch, Wils	35.14	117	⇓P	P	07 24 58.9	+1.3
	baz=35						
GMRC	Granite Mounta	35.16	140	⇓P	P	07 25 01.8	+3.9
	baz=35						
SPITS	Spitsbergen Ar	35.23	8	P	P	07 24 59.5	+1.5
	7.3nm,0.9s,baz=27,slow=9.7,SNR=5.5						
S23A	Nye Farm, Mont	35.29	126	⇑P	P	07 25 01.3	+2.1
	baz=35						
P29A	Atwood	35.33	118	⇑P	P	07 25 00.5	+1.2
	baz=35						
SDCO	Great Sand Dun	35.42	125	eP	P	07 25 01.1	+0.8
	0.9nm,0.6s						
R25A	Fountain Ranch	35.47	123	⇑P	P	07 25 02.2	+1.6
	baz=35						
FMP	Fort Macarthur	35.52	144	⇓P	P	07 25 07.8	+7.0
	baz=36						
S24A	Houchin Ranch,	35.61	125	⇓P	P	07 25 03.2	+1.2
	baz=36						
P30A	Selden	35.63	117	⇓P	P	07 25 03.2	+1.4
	baz=36						
WUAZ	Wupatki	35.64	134	⇑P	P	07 25 04.3	+2.2
	baz=36						
BELC	Belle Mtn. Jos	35.81	141	⇓P	P	07 25 08.7	+5.2
	baz=36						

S25A	Robets Cordova	35.85	124	⇓P	P	07 25 05.6	+1.6
	baz=36						
Q29A	Oakley	35.95	119	⇑P	P	07 25 05.9	+1.3
	baz=36						
P31A	Stockton	35.96	117	⇓P	P	07 25 05.9	+1.2
	baz=36						
T24B	San Luis	36.08	126	⇑P	P	07 25 08.1	+2.1
	baz=36						
P32A	Huiting Farm,	36.16	116	⇑P	P	07 25 07.5	+1.2
	baz=36						
S26A	Kim	36.22	123	⇑P	P	07 25 08.5	+1.5
	baz=36						
U22A	Llaves	36.23	128	⇓P	P	07 25 09.0	+1.8
	baz=36						
BC3	Big Chuckawall	36.28	141	⇑P	P	07 25 11.6	+4.1
	baz=36						
SCHQ	Schefferville	36.39	71	P	P	07 25 10.2	+2.1
	2.1nm,0.8s,baz=318,slow=14,SNR=3.5						
U23A	El Rito	36.49	127	⇓P	P	07 25 12.1	+2.7
	baz=36,SNR=6.9						
T26A	Comanche Natio	36.58	123	⇑P	P	07 25 12.0	+1.9
	baz=36						
V22A	San Miguel Ran	36.64	128	⇓P	P	07 25 12.4	+1.7
	baz=37						
X16A	Lo Mia Camp, P	36.65	135	⇑P	P	07 25 13.6	+2.9
	baz=37						
R30A	Dighton	36.73	119	⇓P	P	07 25 13.0	+1.7
	baz=37						
T27A	Campo	36.98	122	⇑P	P	07 25 15.3	+1.9
	baz=37						
X18A	Snowflake	36.98	133	⇑P	P	07 25 16.4	+2.9
	baz=37						
Q33A	Connelly Farm,	36.99	115	⇓P	P	07 25 14.8	+1.4
	baz=37						
R31A	Burdett	37.00	118	⇑P	P	07 25 14.7	+1.2
	baz=37						
U25A	Circle Dot Ran	37.01	125	⇑P	P	07 25 15.4	+1.7
	baz=37,SNR=7.1						
V23A	Ortiz Mt. (NFS	37.02	127	⇑P	P	07 25 16.4	+2.4
	baz=37,SNR=6.0						
S29A	Ulysses	37.03	120	⇓P	P	07 25 15.2	+1.4
	baz=37						
U26A	Atchley Ranch,	37.23	124	⇑P	P	07 25 17.3	+1.6
	baz=37						
V24A	Rampart Ranch,	37.34	126	⇓P	P	07 25 19.5	+2.9
	baz=37						
V25A	Rancho No Teng	37.45	125	⇓P	P	07 25 19.6	+2.0
	baz=37						
U27A	Thompson Grove	37.52	123	⇓P	P	07 25 19.6	+1.6
	baz=37						
R33A	Olander Ranch,	37.54	116	⇑P	P	07 25 19.1	+1.1
	baz=37						
W23A	Werner Place,	37.57	128	⇓P	P	07 25 21.0	+2.4
	baz=38						
ANMO	Albuquerque	37.67	128	eP	P	07 25 19.4	0.0
	2.7nm,0.8s						
S32A	Newby Ranch, P	37.73	117	⇑P	P	07 25 21.5	+1.7
	baz=38						
T30A	Plains	37.75	120	⇓P	P	07 25 22.3	+2.4
	baz=38						
V26A	Tequesquite Ra	37.76	124	⇓P	P	07 25 21.6	+1.5
	baz=38,SNR=6.3						
W24A	Lazy 6 Ranch,	37.76	127	⇑P	P	07 25 22.1	+1.9
	baz=38						
W25A	X Bar L Ranch,	38.07	126	⇑P	P	07 25 24.3	+1.6
	baz=38						
T32A	Huddler Ranch,	38.20	118	⇑P	P	07 25 23.3	-0.4
	baz=38						
V28A	Channing	38.33	123	⇓P	P	07 25 26.9	+2.0
	baz=38						
214A	Organ Pipe Nat	38.58	138	⇓P	P	07 25 30.2	+3.3
	baz=38						
W27A	Bowe Ranch, En	38.67	124	⇑P	P	07 25 28.7	+1.0
	baz=39						
Y23A	Lovelace Mesa,	38.73	128	⇑P	P	07 25 30.6	+2.3
	baz=39						
Y24A	Capitan	38.93	128	⇑P	P	07 25 32.6	+2.6
	baz=39						
X27A	F and S Farms,	39.04	124	⇑P	P	07 25 32.7	+1.9
	baz=39						
Z22A	Elephant Butte	39.07	130	⇓P	P	07 25 33.3	+2.1
	baz=39						
Y25A	Mesa, Roswell	39.18	127	⇓P	P	07 25 34.0	+2.0
	baz=39						
U34A	Anderson Ranch	39.37	117	⇓P	P	07 25 34.2	+0.8
	baz=39						
X28A	Dimmitt	39.46	123	⇓P	P	07 25 36.1	+1.7
	baz=39						
121A	Cookes Peak, D	39.49	131	⇑P	P	07 25 37.6	+2.9
	baz=39						
W31A	Holland Ranch,	39.63	120	⇓P	P	07 25 37.5	+1.8
	baz=40						
V33A	Lossen Ranch,	39.65	118	⇑P	P	07 25 37.1	+1.4
	baz=40						
X29A	Tulia	39.70	123	⇓P	P	07 25 37.9	+1.6
	baz=40						
Y27A	Causey	39.72	125	⇑P	P	07 25 38.1	+1.6
	baz=40						
Z25A	Roswell	39.76	127	⇓P	P	07 25 38.0	+1.1
	baz=40						
MSTX	Muleshoe	39.77	124	⇓P	P	07 25 38.0	+1.1
	baz=40						
V34A	Guthrie	39.91	117	⇓P	P	07 25 37.2	-0.8
	baz=40						
Z26A	Caprock	40.01	126	⇓P	P	07 25 41.0	+2.1
	baz=40						
X31A	McDonald Ranch	40.12	121	⇓P	P	07 25 41.4	+1.6
	baz=40						
319A	Douglas	40.12	134	⇓P	P	07 25 42.4	+2.5
	baz=40						
Y29A	Porterfield Fa	40.24	123	⇓P	P	07 25 42.0	+1.2
	baz=40						
TUL1	Tulsa	40.47	115	⇓P	P	07 25 43.2	+0.6
	baz=40						
Z29A	Hungry Hill Ra	40.77	124	⇓P	P	07 25 46.2	+0.9
	baz=41						
225A	Deer Hill, Car	40.80	128	⇑P	P	07 25 47.2	+1.6
	baz=41						
Z32A	Haskell	41.49	121	⇑P	P	07 25 52.2	+1.1
	baz=41						
Z33A	Whitaker Ranch	41.76	120	⇓P	P	07 25 54.6	+1.3
	baz=42						
133A	Hamilton Ranch	42.32	121	⇑P	P	07 25 59.0	+1.2
	baz=42						
231A	Bronte	42.45	123	⇓P	P	07 25 59.8	+0.9
	baz=42						
233A	Rising Star	42.87	121	⇑P	P	07 26 03.2	+0.9
	baz=43						
332A	Millersview	43.15	122	⇓P	P	07 26 05.6	+1.0
	baz=43						
430A	Baggett Ranch,	43.20	125	⇑P	P	07 26 05.8	+0.8
	baz=43						
334A	Lometa	43.72	121	⇑P	P	07 26 10.2	+1.0
	baz=44						
TXAR	Lajitas Array	43.74	128	P	P	07 26 11.4	+2.0
	1.1nm,0.8s,baz=350,slow=6.3,SNR=15						
TXAR				LR	LR	07 45 04.3	
	comp=Z,59nm,20.9s,baz=0.0,slow=37						
433A	Art	43.95	122	⇑P	P	07 26 12.5	+1.4
	baz=44						
JCT	Junction City	43.96	123	⇓P	P	07 26 12.4	+1.2
	baz=44						
531A	Rocksprings	44.00	124	⇓P	P	07 26 12.7	+1.3
	baz=44						
OXF	Oxford	44.10	109	eP	P	07 26 13.1	+0.9
	24nm,0.8s						
434A	Burnet	44.18	121	⇑P	P	07 26 13.9	+1.1
	baz=44						
632A	Uvalde	44.86	124	⇑P	P	07 26 19.8	+1.5
	baz=45						
633A	Saathoff Ranch	45.11	123	⇓P	P	07 26 21.9	+1.6
	baz=45						
733A	Divot King Ran	45.75	123	⇓P	P	07 26 27.1	+1.8
	baz=46						
832A	Faith Ranch, C	45.92	124	⇑P	P	07 26 28.4	+1.7
	baz=46						
JOF	Joensuu	51.05	4	eP	P	07 27 09.4	+3.6
	1.4nm,0.6s						
NOA	NORSAR Array B	51.51	16	P	P	07 27 12.2	+2.9
	0.5nm,0.6s,baz=349,slow=7.6,SNR=2.6						
FINES	FINESS Array B	52.33	7	P	P	07 27 18.6	+3.3
	2.2nm,0.4s,baz=1.7,slow=6.4,SNR=26						
MJAR	Matsushiro Arr	53.07	278	LR	LR	07 51 57.2	
	comp=Z,49nm,19.4s,baz=235,slow=38						
SONM	Songino Array	54.84	310	P	P	07 27 36.2	+2.1
	0.3nm,0.7s,baz=34,slow=5.4,SNR=3.2						
EKA	Eskdalemuir Ar	54.87	27	P	P	07 27 34.5	+0.5
	1.8nm,0.6s,baz=323,slow=6.4,SNR=6.8						
HHC	Hu-ho-hao-te	59.36	302	eP	P	07 28 05.9	-0.3
HHC				PP	PP	07 30 18.8	+2.0
HHC				S	S	07 36 13.6	-0.9
HHC				ScS	ScS	07 37 53.8	-2.3
HHC				SS	SS	07 40 09.5	+1.0
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,49nm,5.7s						
HHC				LR	LR		
	comp=N,210nm,15.5s						
HHC				LR	LR		
	comp=E,250nm,15.9s						
HHC				LR	LR		
	comp=Z,130nm,15.5s						
MKAR	Makanchi Array	62.25	327	P	P	07 28 27.5	+1.9
	0.1nm,0.4s,baz=36,slow=7.0,SNR=4.4						
MKAR				LR	LR	07 57 22.9	
	comp=Z,18nm,19.4s,baz=212,slow=38						
AKASG	Malin Array Be	63.20	6	P	P	07 28 32.5	+0.7
	0.5nm,0.3s,baz=355,slow=6.6,SNR=12						
ABKAR	Akbulak array	63.59	344	eP	P	07 28 34.2	-0.3
	0.4nm,0.4s						
GERES	GERESS Array B	63.77	18	LR	LR	07 59 20.1	
	comp=Z,46nm,19.1s,baz=68,slow=39						
NJ2	Nanjing	64.58	292	eP	P	07 28 39.1	-2.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KSH	Kashi	70.55	330	eP	P	07 29 20.6	+1.6
CMAR	Chiang Mai Arr	84.15	303	P	P	07 30 36.1	+0.9
	1.0nm,0.3s,baz=356,slow=4.9,SNR=6.2						

CSEM 19 07:34:42.1±0.7, 42°.70N×43°.36E, h2km, MD2.9, Error ellipse: s-maj=26.8km s-min=9.2km az=156.0
TIF 19 07:34:42.3, 42°.54N×43°.48E, h10km±1km
DDA 19 07:34:45, 42°.73N×42°.33E, h7km, MD2.9
ISC 19 07:34:41.5±4.3, 42°.7N±0°.3×43°.3E±0°.1, h10km, n9, σ0.28/16, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONI	Oni	0.13	129	P	Pg	07 34 44.9	+0.3
ONI	Oni	0.13	129	P	Pg	07 34 44.9	+0.3
ONI				S	Sg	07 34 46.4	-0.4
ARTV	Artvin	1.81	215	iP	Pb	07 35 14.7	-0.2
ARTV	Artvin	1.81	215	iP	Pb	07 35 14.7	-0.2
ARTV				iS	Sn	07 35 36.4	+0.3
DAGI	Agillar	1.91	214	iP	Pb	07 35 16.3	-0.2
DAGI				iS	Sb	07 35 40.3	-0.1
DBAD	Bademkaya	2.05	217	iP	Pb	07 35 18.7	-0.2
DBAD				iS	Sb	07 35 44.3	-0.2
DBAD	Bademkaya	2.05	217	iP	Pb	07 35 18.7	-0.2
DBAD				iS	Sb	07 35 44.3	-0.2
DDEM	Demirkent	2.13	214	iP	Pb	07 35 20.0	-0.3
DDEM				iS	Sb	07 35 47.1	+0.3
DDEM	Demirkent	2.13	214	iP	Pb	07 35 20.0	-0.3
DDEM				iS	Sb	07 35 47.1	+0.3

TIF 19 07:35:42.7, 42°.56N×43°.45E, h11km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONI	Oni	0.04	358	P	Pg	07 35 45.3	+0.4
ONI	Oni	0.04	358	P	Pg	07 35 45.3	+0.4

DDA 19 07:51:03.9, 39°.66N×29°.43E, h7km, MD2.7
CSEM 19 07:51:03.9±0.4, 39°.68N×29°.45E, h1km, MD2.7, Error ellipse: s-maj=9.8km s-min=5.9km az=87.0, Mining explosion.
ISCJB 19 07:51:04.0±0.6, 39°.68N±0°.03×29°.42E±0°.06, h0km, Error ellipse: s-maj=6.3km s-min=4.0km az=177.1
ISC 19 07:51:04.5±1.1, 39°.68N±0°.02×29°.47E±0°.04, h0km, n14, σ0.98/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.23	182	ePG	Pg	07 51 08.9	0.0
TVSB				eSG	Sg	07 51 12.7	+0.9
TVSB	Tavsanli	0.23	182	ePg	Pg	07 51 08.9	0.0
TVSB				eSg	Sg	07 51 12.7	+0.9
ULDT	Uludag	0.53	331	iP	Pg	07 51 14.3	-0.4
ULDT				iS	Sg	07 51 22.6	+0.9
ULDT	Uludag	0.53	331	iP	Pg	07 51 14.3	-0.4
ULDT				iS	Sg	07 51 22.6	+0.9
GDZ	Gediz	0.59	179	iP	Pg	07 51 13.6	-2.2
GDZ				iS	Sg	07 51 24.3	+0.9
GDZ	Gediz	0.59	179	iP	Pg	07 51 13.6	-2.2
GDZ				iS	Sg	07 51 24.3	+0.9
IZI	Iznik	0.66	360	ePG	Pg	07 51 15.9	-1.3
IZI	Iznik	0.66	360	ePg	Pg	07 51 15.9	-1.3
BORA	Eskisehir	0.78	75	iP	Pg	07 51 19.5	0.0
BORA				iS	Sb	07 51 32.1	-0.1
BORA	Eskisehir	0.78	75	iP	Pg	07 51 19.5	0.0
BORA				iS	Sb	07 51 32.1	-0.1
SEYT	Eskypehyr	1.07	98	iP	Pg	07 51 24.1	-1.0
SEYT	Eskypehyr	1.07	98	iP	Pg	07 51 24.1	-1.0
SEYT				iS	Sn	07 51 43.4	+0.7
KHAL	Karahalli	1.30	179	iP	Pg	07 51 29.5	0.0
KHAL				iS	Sg	07 51 46.3	-0.1
KHAL	Karahalli	1.30	179	iP	Pg	07 51 29.5	0.0
KHAL				iS	Sg	07 51 46.3	-0.1

MEX 19 07:51:07.7±0.4, 16°.89N×100°.31W, h15km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.16	16	iP	Pg	07 51 11.0	-0.8
CAIG				eS	Sg	07 51 14.1	-0.4
ACX	Acapulco	0.44	93	iP	Pb	07 51 17.9	+0.8
ACX				eS	Sb	07 51 24.1	+0.5
MEIG	Mezcala	1.22	33	iP	Pn	07 51 26.4	-4.0
MEIG				eS	Sb	07 51 40.9	-5.5
ZIIG	Zihuatanejo	1.31	303	iP	Pn	07 51 28.5	-3.0
ZIIG				eS	Sb	07 51 44.1	-4.6
ARIG	Puente Sto Nin	1.38	359	iP	Pn	07 51 28.7	-3.8
ARIG				eS	Sn	07 51 44.9	-5.7
PLIG	Platanillo	1.68	27	iP	Pn	07 51 33.4	-3.4
PLIG				eS	Sn	07 51 53.3	-4.8
TLIG	Tlapa	1.80	68	iP	Pn	07 51 35.2	-3.2
TLIG				eS	Sn	07 51 57.1	-4.0

IDC 19 07:59:31.0±2.9, 54°.55N×86°.51E, h0km, mb1 3.1/2, mb1mx2.9/41, mbtmp3.1/2, ML3.1/2, Error ellipse: s-maj=27.3km s-min=15.6km az=52.0
ISC 19 07:59:39.7±3.4, 54°.4N±0°.2×85°.9E±0°.2, h35km, n6, σ1.70/6, 3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.77	237	i		08 08 20.0	
	baz=55,slow=300,SNR=0.8						
ZALV	Zalesovo Beam	0.77	237	Pg	Pn	07 59 51.4	-2.6
	6.5nm,0.3s,baz=55,slow=16,SNR=35						
ZALV				Lg	Lg	08 00 09.9	
	6.6nm,0.3s,baz=53,slow=29,SNR=4.8						
KURK	Kurchatov	5.76	234	⇓Pn	Pn	08 01 03.0	+0.4
	0.9nm,1.1s						
KURK				⇓Sn	Sn	08 02 08.4	+1.0
	2.0nm,1.1s						
KURK				⇓Lg	Lg	08 02 39.8	
	3.0nm,1.1s						
MK31	Makanchi Array	7.92	198	Pn	Pn	08 01 31.9	-0.5
	0.2nm,0.4s,baz=25,slow=12,SNR=32						
MKAR	Makanchi Array	7.92	198	Pn	Pn	08 01 31.8	-0.6
	0.4nm,0.3s,baz=24,slow=13,SNR=31						
BVAR	Borovoye Array	9.31	268	Pn	Pn	08 01 51.4	+0.2
	0.1nm,0.3s,baz=66,slow=15,SNR=2.6						

IDC 19 08:00:24.1±0.9, 30°.19N×131°.27E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.6/38, mbtmp3.6/9, ML2.5/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/27, Error ellipse: s-maj=32.1km s-min=17.4km az=81.0
ISCJB 19 08:00:27.0±1.0, 30°.10N±0°.03×131°.36E±0°.06, h30km±6km, mb3.5/8, Error ellipse: s-maj=8.5km s-min=5.7km az=11.9
JMA 19 08:00:27.6±0.2, 30°.12N×131°.33E, h27km±2km, M3.4
ISC 19 08:00:27.8±1.7, 30°.12N±0°.04×131°.30E±0°.07, h26km±11km, n24, σ0.77/33, mb3.4/8, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTN	Tanegashima 3	0.60	332	P	Pb	08 00 39.6	-0.1
JTN				eS	Sb	08 00 47.9	+0.1
JYAK	Yakushimahirau	0.69	280	P	Pb	08 00 41.1	-0.2
JYAK				eS	Sb	08 00 50.9	+0.4
JKC	Kuchinoerabu	1.01	290	P	Pn	08 00 46.4	0.0
JKC				eS	Sn	08 01 00.2	+0.4
JTSR	Tashiro 2	1.09	343	P	Pn	08 00 47.3	-0.2
JTSR				eS	Sb	08 01 01.9	0.0
JNN	Nakanoshima	1.27	258	P	Pb	08 00 50.6	-0.4
JNN				eS	Sb	08 01 07.7	+0.7
JNAR	Kushima--Naru	1.40	359	P	Pn	08 00 52.1	+0.4
JNAR				eS	Sb	08 01 10.1	-0.6
JSU	Suzuyama	1.56	332	P	Pn	08 00 53.9	0.0
JSU				eS	Sn	08 01 13.9	+0.6
JTZ	Takazaki	1.78	354	P	Pn	08 00 57.7	+0.7
JSJ	Shimokoshiki	2.06	319	P	Pn	08 01 00.6	-0.2
JSJ				eS	Sn	08 01 25.7	-0.1
JTAJ	Takarajima	2.07	243	P	Pn	08 01 02.3	+1.5
JZO	Okuchi	2.10	343	P	Pn	08 01 01.6	+0.3
JZO				eS	Sn	08 01 27.3	+0.6
JTSN	Tsuno	2.12	5	P	Pn	08 01 02.1	+0.5
JNU	Nakatsue	3.01	353	Pn	Pn	08 01 14.4	+0.5
	2.6nm,0.3s,baz=296,slow=3.0,SNR=9.5						
JNU				Sn	Sn	08 01 48.0	-1.2
	1.8nm,0.3s,baz=173,slow=17,SNR=3.6						
JOW	Kunigami	4.22	220	Pn	Pn	08 01 30.5	0.0
	0.2nm,0.3s,baz=142,slow=20,SNR=6.1						
JOW				Sn	Sn	08 02 16.7	-2.3
	0.6nm,0.3s,baz=213,slow=28,SNR=11						
KSRS	Korea Array	7.83	340	LR	LR	08 04 56.0	
	comp=Z,61nm,21.3s,baz=162,slow=35						
USRK	Ussuriysk Arra	14.06	2	LR	LR	08 09 12.5	
	comp=Z,61nm,20.1s,baz=187,slow=38						
SONM	Songino Array	26.05	320	P	P	08 05 58.6	-0.5
	0.3nm,0.4s,baz=139,slow=10,SNR=6.3						
MKAR	Makanchi Array	41.13	308	P	P	08 08 09.4	-0.3
	0.3nm,0.5s,baz=90,slow=11,SNR=5.0						
BVAR	Borovoye Array	49.28	316	P	P	08 09 14.2	-0.1
	0.5nm,0.3s,baz=105,slow=10,SNR=3.9						
WRA	Warramunga Arr	49.86	176	P	P	08 09 19.0	0.0
	0.3nm,0.8s,baz=352,slow=7.7,SNR=3.9						
ASAR	Alice Springs	53.54	177	P	P	08 09 48.0	+1.5
	0.2nm,0.5s,baz=8.4,slow=13,SNR=4.3						
FINES	FINESS Array B	70.82	331	P	P	08 11 41.3	-0.5
	1.5nm,0.6s,baz=84,slow=6.5,SNR=11						
YKA	Yellowknife Ar	73.86	26	P	P	08 11 59.3	-0.7
	0.3nm,1.0s,baz=300,slow=4.9,SNR=4.4						
NVAR	Mina Array Bea	85.88	48	P	P	08 13 06.9	+1.1
	0.5nm,0.7s,baz=297,slow=6.0,SNR=4.8						

IDC 19 08:01:41.8±2.8, 54°.29N×86°.64E, h0km, mb1 3.3/2, mb1mx3.0/41, mbtmp3.3/2, ML3.2/2, Error ellipse: s-maj=23.6km s-min=11.8km az=60.0
ISC 19 08:01:46.6±3.4, 54°.4N±0°.2×86°.4E±0°.2, h35km, n6, σ2.09/9, 6C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.03	247	i		08 10 10.0	
	baz=70,slow=346,SNR=1.3						
ZALV	Zalesovo Beam	1.03	247	Pg	Pn	08 02 01.6	-3.0
	4.0nm,0.3s,baz=68,slow=16,SNR=11						
ZALV				Lg	Lg	08 02 20.0	
	5.1nm,0.3s,baz=70,slow=30,SNR=5.0						
KURK	Kurchatov	6.00	236	⇑Pn	Pn	08 03 13.6	+0.8
KURK				⇑Sn	Sn	08 04 23.3	+3.1
KURK				⇑Lg	Lg	08 04 54.3	
MK31	Makanchi Array	8.02	201	⇑Pn	Pn	08 03 39.4	-1.1
	2.3nm,0.9s,baz=26,slow=13,SNR=8.5						
MK31				⇑Sn	Sn	08 05 09.2	-0.7
	0.5nm,0.5s,baz=24,slow=24,SNR=12						
MK31				⇑Lg	Lg	08 05 55.6	
	6.5nm,0.8s,baz=27,slow=29,SNR=6.0						
MKAR	Makanchi Array	8.02	201	Pn	Pn	08 03 39.5	-1.0
	0.2nm,0.3s,baz=24,slow=13,SNR=9.5						
MKAR				Sn	Sn	08 05 09.9	0.0
	0.5nm,0.3s,baz=20,slow=26,SNR=14						
MKAR				Lg	Lg	08 05 56.0	
	0.1nm,0.3s,baz=8.5,slow=25,SNR=7.2						
BVAR	Borovoye Array	9.61	269	Pn	Pn	08 04 03.8	+1.5
	0.3nm,0.3s,baz=79,slow=15,SNR=5.7						
BVAR				Sn	Sn	08 05 47.6	-1.4
	0.3nm,0.3s,baz=73,slow=22,SNR=8.4						

IDC 19 08:13:50.2±3.1, 54°.24N×87°.08E, h0km, mb1 3.1/1, mb1mx2.8/35, mbtmp3.1/1, ML3.2/1, 1C-2D, Error ellipse: s-maj=27.3km s-min=15.9km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.36	259	i		08 23 00.0	
	baz=78,slow=351,SNR=1.1						
ZALV	Zalesovo Beam	1.36	259	Pg	Pg	08 14 14.8	-1.5
	2.4nm,0.3s,baz=77,slow=15,SNR=13						
ZALV				Lg	Lg	08 14 34.2	
	2.9nm,0.3s,baz=76,slow=27,SNR=6.3						
MK31	Makanchi Array	8.05	204	⇓Pn	Pn	08 15 49.2	+0.8
	0.3nm,0.5s,baz=30,slow=14,SNR=24						
MK31				⇑Sn	Sn	08 17 18.6	-1.5
	0.3nm,0.6s,baz=32,slow=26,SNR=5.9						
MK31				⇓Lg	Lg	08 18 02.2	
	0.8nm,0.7s						
MKAR	Makanchi Array	8.05	204	Pn	Pn	08 15 49.8	+1.4
	0.3nm,0.3s,baz=20,slow=11,SNR=19						
MKAR				Sn	Sn	08 17 19.3	-0.8
	0.2nm,0.3s,baz=24,slow=26,SNR=6.3						
MKAR				Lg	Lg	08 18 06.4	
	0.1nm,0.3s,baz=21,slow=29,SNR=3.2						

IDC 19 08:30:33.3±1.5, 58°.45S×25°.87W, h0km, mb4.2/3, mb1 4.2/3, mb1mx3.9/19, mbtmp4.2/3, Error ellipse: s-maj=59.2km s-min=43.3km az=173.0
ISC 19 08:30:35.0±0.9, 58°.4S±0°.2×25°.8W±0°.3, h10km, n16, σ0.43/9, mb4.5/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	14.50	159	P	P	08 34 06.6	-0.1
VNA2	Neumayer--Watz	14.71	156	P	P	08 34 09.2	+0.2
	baz=317,slow=14						
SNAA	Sanae	16.27	154	P	P	08 34 30.7	+4.3
H10S2	ASCENSION HYDR	50.10	14	T	T	09 33 55.6	
	baz=188,slow=75,SNR=10						
H10S3	ASCENSION HYDR	50.10	14	T	T	09 34 01.8	
	baz=188,slow=75,SNR=8.3						
H10S1	ASCENSION HYDR	50.11	14	T	T	09 34 02.0	
	baz=188,slow=75,SNR=8.3						
H10N1	ASCENSION HYDR	51.22	15	T	T	09 35 23.1	
	baz=195						
H10N3	ASCENSION HYDR	51.22	14	T	T	09 35 21.9	
	baz=195,slow=74,SNR=8.0						
H10N2	ASCENSION HYDR	51.23	14	T	T	09 35 23.4	
	baz=195,slow=74,SNR=4.7						
LPAZ	La Paz	52.35	305	P	P	08 39 47.8	+0.2
	0.7nm,0.5s,baz=169,slow=5.2,SNR=3.9						
DBIC	Dimbokro	67.06	23	P	P	08 41 27.8	-0.4
	1.6nm,0.4s,baz=186,slow=6.0,SNR=4.0						
TORD	Torodi Ar. Bea	74.80	28	P	P	08 42 15.7	+0.6
	2.1nm,0.4s,baz=197,slow=6.3,SNR=44						
FINES	FINESS Array B	126.15	28	PKP	PKPdf	08 49 35.4	-0.5
	1.0nm,0.6s,baz=174,slow=3.8,SNR=5.7						
YKA	Yellowknife Ar	138.41	316	PKP	PKPdf	08 49 59.3	+0.3
	1.2nm,0.6s,baz=130,slow=2.4,SNR=44						
SONM	Songino Array	150.08	90	PKPbc	PKPbc	08 50 24.8	-0.1
	1.7nm,0.7s,baz=222,slow=3.3,SNR=13						
ILAR	Eielson Array	152.20	308	PKPbc	PKPbc	08 50 28.8	-0.4
	1.1nm,0.6s,baz=163,slow=1.1,SNR=14						

DDA 19 08:35:34.7, 39°.37N×33°.22E, h7km, MD2.7
CSEM 19 08:35:34.5±0.1, 39°.38N×33°.19E, h8km, MD2.7, Error ellipse: s-maj=4.3km s-min=2.4km az=155.0
ISCJB 19 08:35:35.1±0.8, 39°.39N±0°.05×33°.20E±0°.06, h10km, Error ellipse: s-maj=8.1km s-min=6.1km az=145.3
ISC 19 08:35:34.8±1.1, 39°.36N±0°.05×33°.20E±0°.04, h10km, n9, σ0.48/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af-ar-Bala (A**	**0.13**	**311**	*e*PG	**Pg**	**08 35 37.1**	**-0.8**
AFSR	**Af-ar-Bala (A**	**0.13**	**311**	*e*Pg	**Pg**	**08 35 37.1**	**-0.8**
BBAL	**Bala**	**0.19**	**342**	*i* P	**Pg**	**08 35 38.9**	**0.0**
BBAL				*i* S	**Sg**	**08 35 42.1**	**+0.4**
BBAL	**Bala**	**0.19**	**342**	*i* P	**Pg**	**08 35 38.9**	**0.0**
BBAL				*i* S	**Sg**	**08 35 42.1**	**+0.4**
ANTO	**Ankara**	**0.59**	**328**	*e*PG	Pn	08 35 56.0	+6.5
CDAG	**Cicekdag**	**0.94**	**74**	*i* P	**Pg**	**08 35 52.6**	**-0.4**
CDAG				*i* S	**Sg**	**08 36 05.5**	**+0.2**
CDAG	**Cicekdag**	**0.94**	**74**	*i* P	**Pg**	**08 35 52.6**	**-0.4**
CDAG				*i* S	**Sg**	**08 36 05.5**	**+0.2**
KDHN	**Kadinhani**	**1.19**	**225**	*i* P	**Pb**	**08 35 57.7**	**+0.2**
KDHN				*i* S	**Sg**	**08 36 13.6**	**+0.5**
KDHN	**Kadinhani**	**1.19**	**225**	*i* P	**Pb**	**08 35 57.7**	**+0.2**
KDHN				*i* S	**Sg**	**08 36 13.6**	**+0.5**

*IDC **19** 08:36:49.3±3.5, 12°.48N×125°.89E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/37, mbtmp3.3/3, MS2.0/1, Ms1 2.0/1, ms1mx2.0/20, Error ellipse: s-maj=269.4km s-min=25.8km az=65.0*

*ISCJB **19** 08:36:51.3±1.1, 12°.80N±0°.06×125°.10E±0°.08, h33km, mb3.4/3, Error ellipse: s-maj=11.5km s-min=7.2km az=150.5*

*MAN **19** 08:36:52, 12°.72N×124°.92E, h24km, mb4.9, ML3.9, MS4.0*

ISC 19 08:36:50.6±1.3, 12°.73N±0°.07×125°.08E±0°.08, h33km, n11, σ1°.64/13, mb3.4/3, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.46**	**242**	*e*P	**Pb**	**08 37 00.8**	**+0.2**
CNP				*e*S	**Sn**	**08 37 08.9**	**+1.0**
BESP	**Borongan**	**1.18**	**162**	*e*P	**Pb**	**08 37 12.8**	**+0.3**
PVCP	**Virac**	**1.25**	**314**	⇑*e*P	**Pn**	**08 37 12.0**	**+0.3**
PVCP				*e*S	**Sn**	**08 37 28.0**	**+0.6**
PLP	**Palo**	**1.56**	**184**	⇓*e*P	**Pb**	**08 37 18.7**	**-0.2**
PLP				*e*S	**Sb**	**08 37 38.1**	**-0.1**
RCP	**Roxas**	**2.56**	**243**	⇑*e*P	**Pn**	**08 37 32.0**	**+2.2**
RCP				*e*S	**Sb**	**08 38 03.8**	**-3.2**
MSLP	**Maasin**	**2.59**	**185**	*e*P	**Pb**	**08 37 33.9**	**-2.5**
GUIM	**Jordan**	**3.21**	**230**	*e*P	**Pb**	**08 37 40.7**	**+1.9**
TGY	**Tagaytay City**	**4.25**	**289**	LR	LR	08 39 49.8	
	comp=Z,18nm,21.6s,baz=123,slow=36						
WRA	**Warramunga Arr**	**33.72**	**164**	P	**P**	**08 43 28.2**	**-0.9**
	0.3nm,0.6s,baz=345,slow=9.1,SNR=7.9						
ASAR	**Alice Springs**	**37.19**	**167**	P	**P**	**08 43 59.0**	**+0.1**
	0.3nm,0.3s,baz=349,slow=7.5,SNR=16						
MKAR	**Makanchi Array**	**49.38**	**322**	P	P	08 45 45.8	+8.7
	0.1nm,0.4s,baz=107,slow=6.4,SNR=2.5						

*IDC **19** 08:46:29.8±3.5, 43°.89N×86°.80E, h0km, mb3.3/1, mb1 3.6/3, mb1mx3.3/33, mbtmp3.4/3, ML3.0/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/29, Error ellipse: s-maj=68.4km s-min=26.1km az=29.0*

*NNC **19** 08:46:35.2±1.6, 43°.84N×86°.31E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=12.6km s-min=7.4km az=103.0*

ISC 19 08:46:32.5±1.9, 43°.7N±0°.1×86°.9E±0°.1, h29km, n8, σ1°.00/10, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.46**	**315**	⇑Pn	**Pn**	**08 47 38.8**	**+0.6**
	1.5nm,0.5s,baz=136,slow=14,SNR=199						
MK31				⇓Sn	**Sn**	**08 48 29.0**	**-0.1**
	3.0nm,0.3s,baz=128,slow=15,SNR=6.7						
MK31				⇑Lg	Lg	08 48 45.6	
	4.6nm,0.3s,baz=134,slow=28,SNR=8.2						
MKAR	**Makanchi Array**	**4.46**	**315**	Pn	**Pn**	**08 47 38.9**	**+0.7**
	1.2nm,0.3s,baz=138,slow=14,SNR=153						
MKAR				Sn	**Sn**	**08 48 29.8**	**+0.7**
	5.0nm,0.3s,baz=131,slow=22,SNR=9.1						
MKAR				Lg	Lg	08 48 44.2	
	4.9nm,0.3s,baz=130,slow=29,SNR=11						
PDGK	**Podgornoye**	**5.38**	**268**	⇑Pn	**Pn**	**08 47 51.9**	**+1.1**
PDGK				⇑Pg	**Pb**	**08 48 04.6**	**-1.1**
PDGK				⇓Sn	**Sn**	**08 48 51.3**	**-0.4**
PDGK				⇓Lg	Lg	08 49 13.0	
TKM2	**Tokmak 2**	**8.25**	**268**	⇑Pn	**Pn**	**08 48 31.8**	**+1.3**
	0.8nm,0.7s						
TKM2				⇓Lg	Lg	08 50 45.1	
	4.3nm,1.1s						
AAK	**Ala-Archa**	**9.10**	**267**	LR	LR	08 52 25.4	
	comp=Z,34nm,21.0s,baz=28,slow=39						
ZALV	**Zalesovo Beam**	**10.33**	**353**	Pn	**Pn**	**08 48 57.6**	**-1.0**
	0.4nm,0.3s,baz=165,slow=12,SNR=7.4						
TGY	**Tagaytay City**	**41.46**	**125**	LR	LR	09 11 36.1	
	comp=Z,22nm,21.2s,baz=116,slow=36						
YKA	**Yellowknife Ar**	**72.74**	**10**	P	**P**	**08 57 58.0**	**+0.5**
	0.2nm,0.6s,baz=340,slow=6.0,SNR=6.2						

*ISCJB **19** 09:03:16.5±0.6, 21°.64N±0°.07×143°.2E±0°.2, h311km, mb3.6/16, Error ellipse: s-maj=20.8km s-min=9.3km az=175.3*

*IDC **19** 09:03:16.2±1.7, 21°.62N×143°.14E, h290km±16km, mb3.3/15, mb1 3.5/17, mb1mx3.4/36, mbtmp4.0/17, Error ellipse: s-maj=17.1km s-min=10.2km az=85.0*

ISC 19 09:03:18.1±0.7, 21°.69N±0°.09×143°.2E±0°.2, h311km, n21, σ0°.93/23, mb3.5/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.46**	**351**	P	**Pn**	**09 04 40.5**	**-0.7**
	25nm,0.3s,baz=292,slow=23,SNR=7.6						
JCJ				S	**S**	**09 05 45.8**	**-2.6**
	30nm,0.3s,baz=264,slow=22,SNR=9.1						
MJAR	**Matsushiro Arr**	**15.42**	**345**	P	**P**	**09 06 40.2**	**+1.2**
	1.0nm,0.3s,baz=168,slow=10,SNR=9.4						
KSRS	**Korea Array**	**20.51**	**323**	P	**P**	**09 07 33.5**	**+0.2**
	1.5nm,0.7s,baz=145,slow=8.5,SNR=5.3						
SONM	**Songino Array**	**39.33**	**320**	P	**P**	**09 10 19.0**	**+1.1**
	0.1nm,0.4s,baz=138,slow=6.0,SNR=3.3						
CMAR	**Chiang Mai Arr**	**41.55**	**274**	P	**P**	**09 10 36.6**	**+0.4**
	1.1nm,0.5s,baz=96,slow=6.1,SNR=5.0						
WRA	**Warramunga Arr**	**42.26**	**192**	P	**P**	**09 10 40.8**	**-1.1**
	0.9nm,0.5s,baz=17,slow=8.7,SNR=26						
ASAR	**Alice Springs**	**45.97**	**192**	P	**P**	**09 11 09.9**	**-1.1**
	0.3nm,0.5s,baz=16,slow=12,SNR=13						
STKA	**Stephens Creek**	**53.28**	**182**	P	**P**	**09 12 05.0**	**-0.6**
	0.5nm,0.4s,baz=315,slow=7.1,SNR=3.3						
ZALV	**Zalesovo Beam**	**54.20**	**322**	P	**P**	**09 12 11.7**	**-0.3**
	0.7nm,0.5s,baz=93,slow=7.4,SNR=3.8						
ZALV				PcP	**PcP**	**09 13 11.2**	**-0.9**
	1.0nm,0.4s,baz=83,slow=4.6,SNR=4.4						
MKAR	**Makanchi Array**	**54.68**	**313**	P	**P**	**09 12 15.9**	**+0.3**
	0.6nm,0.6s,baz=89,slow=9.6,SNR=11						
MKAR				PcP	**PcP**	**09 13 14.2**	**+0.1**
	0.4nm,0.4s,baz=76,slow=4.6,SNR=7.7						
ILAR	**Eielson Array**	**62.06**	**27**	P	**P**	**09 13 05.7**	**-0.3**
	0.2nm,0.4s,baz=268,slow=5.4,SNR=8.2						
BVAR	**Borovoye Array**	**62.66**	**319**	P	**P**	**09 13 10.5**	**+0.4**
	3.4nm,0.3s,baz=104,slow=8.0,SNR=14						
YKA	**Yellowknife Ar**	**76.48**	**28**	P	**P**	**09 14 34.3**	**+0.6**
	0.7nm,0.6s,baz=292,slow=5.9,SNR=20						
ARCES	**ARCESS Array B**	**78.92**	**341**	P	**P**	**09 14 47.8**	**+0.7**
	2.4nm,0.5s,baz=71,slow=8.3,SNR=21						
JOF	**Joensuu**	**80.31**	**334**	*e*p	**P**	**09 14 54.0**	**-0.6**
	2.6nm,0.3s						
KBZ	**Khabaz**	**82.36**	**314**	P	**P**	**09 15 06.7**	**+1.0**
	1.6nm,0.8s,baz=172,slow=5.4,SNR=4.6						
KAF	**Kangasniemi**	**82.72**	**335**	*e*p	P	09 15 14.4	+7.3
	0.9nm,0.4s						
NVAR	**Mina Array Bea**	**83.17**	**51**	P	**P**	**09 15 10.9**	**+0.6**
	0.8nm,0.7s,baz=274,slow=6.1,SNR=7.3						
FINES	**FINESS Array B**	**83.18**	**334**	P	**P**	**09 15 09.0**	**-0.5**
	2.0nm,0.5s,baz=80,slow=4.6,SNR=19						
PLCA	**Paso Flores**	**145.77**	**131**	PKPbc	**PKPab**	**09 22 22.0**	**-0.1**
	1.3nm,0.6s,baz=253,slow=2.7,SNR=11						
LPAZ	**La Paz**	**149.97**	**85**	PKPbc	**PKPbc**	**09 22 34.3**	**+0.9**
	1.8nm,0.6s,baz=328,slow=2.1,SNR=11						

MAN 19 09:07:42, 6°.99N×125°.97E, h31km, mb3.8, ML2.6, MS2.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.29**	**99**	*e*P	Pn	09 07 52.0	+1.9
MATI				*e*S	Sn	09 07 57.0	+1.6
DMPH	**Davao City--Mi**	**0.47**	**281**	⇑*e*P	Pn	09 07 54.0	+1.4
DMPH				*e*S	Sn	09 08 01.9	+2.1
BUKP	**Musuan**	**1.26**	**315**	*e*P	Pn	09 08 04.3	+0.8
BUKP				*e*S	Sn	09 08 20.0	+0.5

*KRNET **19** 09:22:20.9±0.1, 41°.66N×75°.89E, h4km, mb4.0*

*KNET **19** 09:22:22.8±0.5, 41°.75N×75°.84E, h7km±4km, ml3.2, Error ellipse: s-maj=3.5km s-min=1.9km az=160.0*

*NNC **19** 09:22:23.9±0.9, 41°.74N×75°.76E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=5.8km s-min=3.8km az=0.0*

*IDC **19** 09:22:24.1±1.6, 41°.86N×75°.79E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/35, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=24.2km s-min=12.3km az=4.0*

*MOS **19** 09:22:27.6±1.2, 41°.86N×75°.61E, h26km, mb4.0/4, Error ellipse: s-maj=10.7km s-min=6.9km az=115.1*

ISC 19 09:22:25.5±1.1, 41°.82N±0°.03×75°.76E±0°.02, h8km±7km, n70, σ1°.48/98, mb3.6/7, 23C-32D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.46**	**304**	⇓P	**Pg**	**09 22 34.0**	**-0.6**
	1μm,0.3s,SNR=2444						
KZA				⇓S	**Sg**	**09 22 42.3**	**+1.8**
	794nm,0.3s						
KZA	**Kyzart**	**0.46**	**304**	*i* PG	**Pg**	**09 22 33.6**	**-0.9**
KZA	**Kyzart**	**0.46**	**304**	⇑*i*P	**Pg**	**09 22 33.9**	**-0.6**
	baz=312						
KZA				⇑*i*S	**Sg**	**09 22 42.1**	**+1.5**
	baz=312						
ULHL	**Ulahol**	**0.56**	**40**	P	**Pg**	**09 22 34.0**	**-2.3**
	79nm,0.2s,SNR=522						
ULHL				⇑S	**Sg**	**09 22 42.7**	**-0.9**
	1μm,0.3s						
ULHL	**Ulahol**	**0.56**	**40**	⇑*i*P	**Pg**	**09 22 34.0**	**-2.3**
	baz=24						
ULHL				⇑*i*S	**Sg**	**09 22 42.1**	**-1.5**
	baz=24						
BOOM	**Boomskoye usch**	**0.68**	**11**	*e*P	**Pg**	**09 22 38.0**	**-0.7**
	baz=3.0						
BOOM				*e*S	**Sb**	**09 22 49.2**	**-0.3**
	baz=3.0						
UCH	**Uchtor**	**1.01**	**294**	⇓P	**Pg**	**09 22 43.5**	**-1.5**
	44nm,0.2s,SNR=116						
UCH	**Uchtor**	**1.01**	**294**	*i* PG	**Pg**	**09 22 43.5**	**-1.5**
UCH	**Uchtor**	**1.01**	**294**	⇓*i*P	**Pg**	**09 22 43.5**	**-1.5**
	baz=300						
UCH				⇓*i*S	**Sg**	**09 22 58.8**	**+0.6**
	baz=300						
KBK	**Karagaybulak**	**1.03**	**324**	⇓P	**Pg**	**09 22 44.8**	**-0.5**
	181nm,0.2s,SNR=281						
KBK				⇓S	**Sn**	**09 23 01.0**	**-0.2**
	902nm,0.4s						
KBK	**Karagaybulak**	**1.03**	**324**	*i* PG	**Pg**	**09 22 44.5**	**-0.8**
KBK	**Karagaybulak**	**1.03**	**324**	⇑*i*P	**Pg**	**09 22 44.8**	**-0.5**
	baz=325						
KBK				⇑*i*S	**Sb**	**09 23 00.6**	**+1.1**
	baz=325						
ARLS	**Aral**	**1.07**	**273**	*i* P	**Pg**	**09 22 43.3**	**-2.8**
	baz=280						
TKM2	**Tokmak 2**	**1.10**	**354**	⇑P	**Pg**	**09 22 45.8**	**-1.0**
	71nm,0.3s						
TKM2				⇓S	**Sb**	**09 23 02.8**	**+1.1**
	59nm,0.5s						
TKM2	**Tokmak 2**	**1.10**	**354**	P	**Pg**	**09 22 45.8**	**-1.0**
	152nm,0.2s,SNR=402						
TKM2				⇑S	**Sn**	**09 23 03.0**	**-0.2**
	168nm,0.1s						
TKM2	**Tokmak 2**	**1.10**	**354**	*i* PG	**Pg**	**09 22 45.8**	**-1.0**
TKM2				*i* S	**Sb**	**09 23 02.8**	**+1.1**
TKM2	**Tokmak 2**	**1.10**	**354**	⇓*i*P	**Pg**	**09 22 45.8**	**-1.0**
	baz=350						
TKM2				⇓*i*S	**Sb**	**09 23 02.6**	**+0.9**
	baz=350						
AAK	**Ala-Archa**	**1.24**	**311**	⇑P	**Pg**	**09 22 48.2**	**-1.1**
	134nm,0.3s						
AAK				⇓S	**Sn**	**09 23 06.5**	**+0.1**
	76nm,0.6s						
AAK	**Ala-Archa**	**1.24**	**311**	⇑P	**Pg**	**09 22 48.2**	**-1.1**
	196nm,0.2s,SNR=296						
AAK	**Ala-Archa**	**1.24**	**311**	PG	**Pg**	**09 22 48.0**	**-1.3**
AAK				S	**Sn**	**09 23 06.8**	**+0.4**
AAK	**Ala-Archa**	**1.24**	**311**	Pg	**Pg**	**09 22 48.3**	**-1.1**
	87nm,0.3s,baz=120,slow=11,SNR=923						
AAK				LR	LR	09 22 49.2	
	comp=Z,15nm,18.4s,baz=158,slow=20						
AAK				Lg	Lg	09 23 06.3	
	29nm,0.3s,baz=114,slow=9.4,SNR=17						
AAK	**Ala-Archa**	**1.24**	**311**	⇑*i*P	**Pg**	**09 22 48.3**	**-1.0**
	baz=314						
AAK				⇑*i*S	**Sn**	**09 23 06.8**	**+0.4**
	baz=314						
FRU	**Bishkek**	**1.32**	**320**	⇓*i*PG	**Pn**	**09 22 50.0**	**-0.3**
FRU				*i* S	**Sn**	**09 23 10.0**	**+1.8**
FRU				pmax	pmax		
	comp=Z,140nm,1.4s						
FRU				pmax	pmax		
	comp=E,380nm,1.8s						
FRU	**Bishkek**	**1.32**	**320**	⇓*i*P	**Pn**	**09 22 50.0**	**-0.3**
	baz=322						
CHMS	**Chumysh**	**1.39**	**328**	⇓P	**Pn**	**09 22 51.0**	**-0.3**
	comp=E,73nm,0.4s,SNR=35						
CHMS	**Chumysh**	**1.39**	**328**	*i* PG	**Pn**	**09 22 51.1**	**-0.3**
CHMS	**Chumysh**	**1.39**	**328**	⇓*i*P	**Pn**	**09 22 51.0**	**-0.3**
	baz=328						
CHMS				⇓*i*S	**Sg**	**09 23 11.6**	**+1.3**
	baz=328						
AML	**Almayashu**	**1.57**	**282**	⇓P	**Pn**	**09 22 53.3**	**-0.8**
	comp=E,148nm,0.4s,SNR=175						
AML	**Almayashu**	**1.57**	**282**	*i* PG	**Pn**	**09 22 53.3**	**-0.8**
AML	**Almayashu**	**1.57**	**282**	*i* PG	**Pn**	**09 22 53.4**	**-0.7**
AML	**Almayashu**	**1.57**	**282**	⇓*i*P	**Pn**	**09 22 53.3**	**-0.8**
	baz=287						
AML				⇓*i*S	**Sb**	**09 23 15.9**	**+0.6**
	baz=287						
KNDC	**Almaty**	**1.66**	**32**	⇓Pn	**Pn**	**09 22 55.4**	**+0.4**
KNDC				⇑Sn	**Sg**	**09 23 19.0**	**+0.3**
EKS	**Erkin-Say**	**1.69**	**301**	*e*P	**Pb**	**09 22 56.5**	**-0.5**
	baz=304						
EKS				*e*S	**Sg**	**09 23 23.1**	**+3.2**
	baz=304						
AAA	**Alma-Ata**	**1.69**	**31**	*e*PN	**Pn**	**09 22 54.5**	**-1.0**
AAA				*e*S	**Sn**	**09 23 17.6**	**+0.2**
EKS2	**Erkin-Say**	**1.69**	**300**	⇓P	**Pn**	**09 22 56.2**	**+0.6**
	comp=E,139nm,0.4s,SNR=353						
EKS2	**Erkin-Say**	**1.69**	**300**	*i* PN	**Pn**	**09 22 56.2**	**+0.6**
EKS2	**Erkin-Say**	**1.69**	**300**	⇓*i*P	**Pb**	**09 22 56.4**	**-0.6**
	baz=303						
EKS2				⇑*i*S	**Sg**	**09 23 20.7**	**+0.7**
	baz=303						
ANVS	**Anan'yevo**	**1.71**	**55**	⇓*i*P	**Pn**	**09 22 54.4**	**-1.4**
	baz=49						
USP	**Ospenovka**	**1.72**	**328**	⇓P	**Pb**	**09 22 56.8**	**-0.6**
	comp=E,56nm,0.2s,SNR=94						
USP	**Ospenovka**	**1.72**	**328**	*i* PN	**Pb**	**09 22 56.8**	**-0.6**
USP	**Ospenovka**	**1.72**	**328**	⇓*i*P	**Pb**	**09 22 56.7**	**-0.6**
	baz=328						
USP				⇓*i*S	**Sg**	**09 23 21.9**	**+1.2**
	baz=328						
ARSB	**Arslanbob**	**2.14**	**258**	*e*P	**Pn**	**09 23 01.5**	**-0.2**
	baz=262						
ARSB				*e*S	**Sn**	**09 23 30.1**	**+1.5**
	baz=262						
KSH	**Kashi**	**2.31**	**176**	Pn	**Pg**	**09 23 09.4**	**-0.3**
KSH				Sn	**Sg**	**09 23 44.0**	**+4.3**
KSH				smax	smax		
	comp=N,250nm,0.7s						
KSH				smax	smax		
	comp=E,380nm,0.7s						
SFK	**Sufi-Kurgan**	**2.49**	**224**	*e*P	**Pn**	**09 23 04.1**	**-2.5**
	baz=229						
SFK				*e*S	**Sn**	**09 23 36.5**	**-0.7**
	baz=229						
OHH	**Osh**	**2.59**	**241**	*e*P	**Pn**	**09 23 09.1**	**+1.2**
	baz=245						
OHH				*e*S	**Sb**	**09 23 45.0**	**+0.6**
	baz=245						
ARK	**Arkit**	**2.84**	**271**	*e*P	**Pb**	**09 23 14.5**	**-2.0**
	baz=274						
PDGK	**Podgornoye**	**3.14**	**60**	⇑Pn	**Pn**	**09 23 15.1**	**-0.1**
PDGK				⇓Sn	**Sn**	**09 23 56.0**	**+3.2**
TRKS	**Terek-Say**	**3.47**	**267**	*i* P	**Pb**	**09 23 27.0**	**-0.4**
	baz=268						
TRKS				*e*S	**Sg**	**09 24 15.0**	**-2.0**
	baz=268						
KK31	**Karatay Array**	**4.09**	**290**	⇓Pg	**Pb**	**09 23 37.9**	**+0.2**
	comp=E,8.3nm,0.6s,baz=114,slow=15,SNR=81						
KK31				⇑Lg	Lg	09 24 34.3	
	comp=E,13nm,0.5s,baz=109,slow=26,SNR=7.5						
KK31	**Karatay Array**	**4.09**	**290**	*i* PN	**Pb**	**09 23 36.9**	**-0.9**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MK31	**Makanchi Array**	**6.83**	**41**	⇑Pn	Pn	09 24 09.3	+3.3
	comp=Z,0.6nm,0.3s,baz=216,slow=14,SNR=26						
MK31				⇓Pg	Pb	09 24 29.2	+4.8
	comp=Z,0.8nm,0.3s,baz=93,slow=9.2,SNR=5.4						
MK31				⇑Lg	Lg	09 26 00.7	
	comp=Z,5.8nm,0.7s,baz=217,slow=27,SNR=4.9						
MK31	**Makanchi Array**	**6.83**	**41**	*e*PN	Pn	09 24 10.0	+4.0
MK31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MKAR	**Makanchi Array**	**6.83**	**41**	Pn	**Pn**	**09 24 06.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=221,slow=14,SNR=19						
MKAR				Lg	Lg	09 25 57.5	
	comp=Z,0.9nm,0.3s,baz=216,slow=27,SNR=6.0						
OTUK	**Ortayu**	**6.86**	**340**	⇑Pn	**Pn**	**09 24 08.7**	**+2.2**
OTUK				⇓Lg	Lg	09 26 02.9	
BVA0	**Borovoye Array**	**11.78**	**344**	Pn	**Pn**	**09 25 14.5**	**+0.8**
	baz=145,slow=14,SNR=4.3						
BVA0				⇓Lg	Lg	09 28 35.2	
	comp=Z,5.1nm,0.8s,baz=154,slow=27,SNR=4.6						
BVAR	**Borovoye Array**	**11.78**	**344**	Lg	Lg	09 28 32.8	
	comp=Z,0.2nm,0.3s,baz=162,slow=29,SNR=3.4						
BRVK	**Borovoye**	**11.83**	**344**	Pn	**Pn**	**09 25 14.5**	**+0.1**
BRVK				⇓Lg	Lg	09 28 38.4	
	comp=Z,11nm,0.9s						
AB31	**Akbulak array**	**13.33**	**309**	Pn	**Pn**	**09 25 35.0**	**0.0**
	comp=Z,1.2nm,0.7s,baz=112,slow=13,SNR=11						
AB31	**Akbulak array**	**13.33**	**309**	*i* P	**Pn**	**09 25 34.9**	**0.0**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**14.99**	**311**	⇑Pn	**Pn**	**09 25 57.6**	**0.0**
	comp=Z,4.4nm,1.3s						
AKTO	**Aktyubinsk**	**14.99**	**311**	*i* P	**Pn**	**09 25 59.4**	**+1.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTO	**Aktyubinsk**	**14.99**	**311**	Pn	**Pn**	**09 25 58.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=126,slow=12,SNR=5.4						
ARU	**Arti**	**18.37**	**329**	P	**Pn**	**09 26 40.3**	**-0.1**
ARU				S	**Sn**	**09 30 07.0**	**+1.4**
TLY	**Talaya**	**21.38**	**53**	*e*P	**P**	**09 27 16.7**	**+3.3**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**22.45**	**64**	P	**P**	**09 27 28.1**	**+3.1**
	comp=Z,0.2nm,0.5s,baz=263,slow=12,SNR=4.8						
ULN	**Ulaanbaatar**	**22.89**	**64**	*e*P	**P**	**09 27 32.0**	**+2.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
KIV	**Kislovodsk**	**24.24**	**286**	⇓*e*P	**P**	**09 27 40.6**	**-2.3**
KIV				*e*S	**S**	**09 31 56.2**	**-5.4**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KIV				MLR	MLR		
	comp=Z,23nm,16.0s						
TIXI	**Tiksi**	**39.44**	**23**	⇑*e*P	**P**	**09 29 55.4**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**69.51**	**269**	P	**P**	**09 33 35.9**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=39,slow=5.3,SNR=2.8						
YKA	**Yellowknife Ar**	**75.70**	**5**	P	**P**	**09 34 09.4**	**-1.6**
	comp=Z,0.2nm,0.8s,baz=342,slow=5.9,SNR=4.0						

IDC 19 09:37:11.1±3.5, 53°.58N×87°.94E, h0km, mb1 2.9/1, mb1mx2.8/41, mbtmp2.9/1, ML2.9/1, 2C-4D, Error ellipse: s-maj=42.0km s-min=18.8km az=87.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**283**	*i*		09 49 40.0	
	baz=101,slow=349,SNR=12						
ZALV	**Zalesovo Beam**	**1.89**	**283**	Pn	Pn	09 37 43.6	-1.0
	3.3nm,0.3s,baz=102,slow=15,SNR=29						
ZALV				Sn	Sb	09 38 10.0	-0.5
	4.8nm,0.3s,baz=105,slow=24,SNR=17						
KURK	**Kurchatov**	**6.41**	**247**	⇑Pn	Pn	09 38 48.4	+1.7
	0.5nm,0.6s						
KURK				⇑Sn	Sn	09 39 56.2	-4.3
	0.8nm,0.9s						
KURK				⇓Lg	Lg	09 40 28.3	
	6.0nm,1.5s						
MK31	**Makanchi Array**	**7.70**	**210**	⇓Pn	Pn	09 39 05.6	+1.2
	0.1nm,0.2s,baz=30,slow=13,SNR=22						
MK31				⇓Sn	Sn	09 40 33.1	+0.8
	0.5nm,0.6s,baz=32,slow=26,SNR=4.5						
MK31				⇓Lg	Lg	09 41 12.1	
	4.4nm,1.2s,baz=30,slow=30,SNR=3.7						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	09 39 05.7	+1.3
	0.2nm,0.3s,baz=27,slow=14,SNR=17						
MKAR				Sn	Sn	09 40 32.4	+0.1
	0.1nm,0.3s,baz=32,slow=25,SNR=6.7						
MKAR				Lg	Lg	09 41 15.9	
	0.1nm,0.3s,baz=29,slow=30,SNR=6.6						

*AWI **19** 09:40:38.8, 54°.93S×26°.24W*

*ISCJB **19** 09:40:58.0±1.6, 56°.38S±0°.07×26°.9W±0°.1, h94km±15km, mb4.8/22, Error ellipse: s-maj=14.8km s-min=7.8km az=41.2*

*IDC **19** 09:40:57.8±0.6, 56°.42S×26°.79W, h79km±5km, mb4.5/13, mb1 4.5/15, mb1mx4.3/28, mbtmp4.8/15, MS3.5/11, Ms1 3.5/11, ms1mx3.4/20, Error ellipse: s-maj=14.3km s-min=12.4km az=38.0*

*NEIC **19** 09:40:59.5±1.4, 56°.42S×26°.82W, h95km±13km, mb4.9/7, Error ellipse: s-maj=10.1km s-min=7.6km az=219.0*

ISC 19 09:40:58.3±0.6, 56°.44S±0°.08×26°.82W±0°.07, h84km±4km, h83km:pP-P, n77, σ0°.94/101, mb4.9/22, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.92**	**287**	*e*Pn	**Pn**	**09 42 24.8**	**+1.5**
	48nm,0.8s						
HOPE				*e*Sn	**Sn**	**09 43 29.7**	**+0.1**
VNA1	**Neumayer--Stat**	**16.36**	**158**	P	**P**	**09 44 46.1**	**+2.3**
VNA3	**Neumayer Olymp**	**16.55**	**160**	P	**P**	**09 44 46.6**	**+0.6**
VNA2	**Neumayer--Watz**	**16.75**	**158**	P	**P**	**09 44 48.4**	**+0.2**
	baz=320,slow=13						
SNAA	**Sanae**	**18.30**	**156**	P	**P**	**09 45 05.1**	**-0.2**
SNAA	**Sanae**	**18.30**	**156**	P	**P**	**09 45 05.1**	**-0.2**
	1.3nm,0.3s,baz=297,slow=11,SNR=36						
SNAA				S	S	09 48 20.1	-9.1
	0.2nm,0.3s,baz=237,slow=17,SNR=3.3						
SNAA				LR	LR	09 50 57.9	
	comp=Z,38nm,21.4s,baz=28,slow=33						
SNAA	**Sanae**	**18.30**	**156**	*e*P	**P**	**09 45 05.3**	**0.0**
SNAA				*e*S	**Sn**	**09 48 29.9**	**0.0**
PMSA	**Palmer Station**	**19.80**	**230**	P	**Pn**	**09 45 23.1**	**-0.7**
	4.6nm,0.3s,baz=74,slow=8.3,SNR=9.2						
PMSA				LR	LR	09 52 06.8	
	comp=Z,125nm,18.2s,baz=126,slow=34						
PLCA	**Paso Flores**	**32.27**	**280**	P	**P**	**09 47 17.3**	**-1.5**
	1.2nm,0.8s,baz=157,slow=12,SNR=4.4						
PLCA				PcP	**PcP**	**09 50 04.5**	**-0.5**
	1.9nm,0.7s,baz=118,slow=2.3,SNR=4.7						
PLCA				LR	LR	10 00 58.8	
	comp=Z,67nm,18.4s,baz=94,slow=37						
QSPA	**South Pole Qui**	**33.81**	**180**	P	**P**	**09 47 32.5**	**+0.5**
	43nm,0.6s,baz=208,slow=1.7,SNR=448						
QSPA				PcP	**PcP**	**09 50 08.6**	**-0.3**
	3.9nm,0.5s,baz=210,slow=4.8,SNR=6.3						
CPUP	**Villa Florida**	**37.22**	**311**	P	**P**	**09 48 01.1**	**-0.3**
	2.2nm,0.4s,baz=133,slow=7.1,SNR=6.9						
CPUP				PcP	**PcP**	**09 50 19.3**	**-0.1**
	2.7nm,0.5s,baz=114,slow=2.2,SNR=4.4						
CPUP				LR	LR	10 04 20.4	
	comp=Z,51nm,18.1s,baz=169,slow=38						
CFAA	**Coronel Fontan**	**37.90**	**293**	P	**P**	**09 48 05.2**	**-2.0**
	0.5nm,0.5s,baz=139,slow=6.9,SNR=7.1						
CFAA				PcP	**PcP**	**09 50 21.3**	**-0.2**
	1.0nm,0.7s,baz=180,slow=2.0,SNR=6.7						
SUR	**Sutherland**	**40.55**	**74**	P	**P**	**09 48 29.3**	**0.0**
	8.6nm,0.9s,baz=313,slow=23,SNR=3.0						
BDFB	**Brasilia**	**43.80**	**330**	P	**P**	**09 48 56.5**	**+0.7**
	2.7nm,0.5s,baz=141,slow=5.5,SNR=4.9						
LVC	**Limon Verde**	**45.67**	**300**	*e*P	**P**	**09 49 10.8**	**0.0**
	13nm,0.5s						
LVC				*e*pP	**pP**	**09 49 32.3**	**+1.2**
LVC				*e*PcP	**PcP**	**09 50 48.3**	**+0.8**
BOSA	**Boshof**	**45.87**	**75**	P	**P**	**09 49 11.8**	**-0.4**
	6.9nm,0.9s,baz=212,slow=7.3,SNR=8.0						

BOSA LR LR 10 05 16.8
comp=Z,115nm,19.3s,baz=204,slow=32
VNDA Vanda 46.19 183 P P 09 49 14.7 +0.8
17nm,0.8s,baz=178,slow=8.3,SNR=15
VNDA LR LR 10 06 52.6
comp=Z,56nm,19.1s,baz=240,slow=34
H10S2 ASCENSION HYDR48.32 16 T T 10 42 16.2
baz=189,slow=74,SNR=110
H10S3 ASCENSION HYDR48.32 16 T T 10 42 16.6
baz=189,slow=74,SNR=84
H10S1 ASCENSION HYDR48.33 16 T T 10 42 17.6
baz=189,slow=74,SNR=103
H10N1 ASCENSION HYDR49.44 16 T T 10 43 40.5
baz=188,slow=75,SNR=27
H10N3 ASCENSION HYDR49.44 16 T T 10 43 40.4
baz=188,slow=75,SNR=51
H10N2 ASCENSION HYDR49.45 16 T T 10 43 41.8
baz=188,slow=75,SNR=64
TSUM Tsumeb 49.70 60 P P 09 49 41.4 -0.4
8.1nm,0.9s,baz=199,slow=6.9,SNR=11
TSUM Tsumeb 49.70 60 eP P 09 49 41.8 0.0
6.7nm,0.7s
LPAZ La Paz 50.77 305 P P 09 49 50.9 +0.4
21nm,0.5s,baz=143,slow=5.4,SNR=84
LPAZ LR LR 10 10 35.1
comp=Z,24nm,21.2s,baz=102,slow=35
SAML Samuel 55.22 315 eP P 09 50 21.9 -0.6
12nm,1.0s
SAML epP pP 09 50 42.3 -1.0
LSZ Lusaka 58.33 68 eP P 09 50 44.7 0.0
8.4nm,0.7s
LSZ epP pP 09 51 09.2 +3.6
ATAH Atahualpa 63.57 300 P P 09 51 21.7 +1.3
7.7nm,0.8s,baz=108,slow=6.6,SNR=3.7
LIC Lamto 64.97 24 eP pP 09 51 53.7 +3.3
49nm,1.2s
KIC Kosan Boka 65.17 24 eP pP 09 51 54.9 +3.2
17nm,0.9s
TIC Toumodi 65.38 24 eP pP 09 51 56.3 +3.2
8.5nm,0.2s
DBIC Dimbokro 65.44 24 LR LR 10 14 14.4
comp=Z,57nm,19.4s,baz=146,slow=30
OTAV Otavalo 70.04 303 eP P 09 52 02.6 +0.9
13nm,0.7s
TOA0 Torodi Ar. Sit 73.30 29 eP P 09 52 20.5 0.0
TORD Torodi Ar. Bea 73.30 29 P P 09 52 20.9 +0.4
3.6nm,0.6s,baz=199,slow=6.4,SNR=38
TORD pP pP 09 52 40.6 -1.7
7.4nm,0.7s,baz=197,slow=6.6,SNR=10
TORD LR LR 10 18 44.2
comp=Z,40nm,20.2s,baz=285,slow=31
PCRV Puerto La Cruz 73.38 321 P P 09 52 21.9 +0.9
26nm,0.6s,baz=168,slow=2.6,SNR=17
SDV Santo Domingo 74.43 315 eP P 09 52 27.0 -0.4
20nm,0.7s
KMBO Kilima Mbogo 74.99 69 LR LR 10 25 23.5
comp=Z,56nm,18.1s,baz=88,slow=36
APG El Apazote 88.61 300 P P 09 53 37.6 -4.4
14nm,0.7s,baz=149,slow=5.9,SNR=14
STKA Stephens Creek 91.48 170 P P 09 53 55.2 +0.1
3.9nm,0.6s,baz=157,slow=4.4,SNR=7.4
STKA PP PP 09 57 33.2 +0.3
1.5nm,0.3s,baz=176,slow=7.3,SNR=4.3
TEIG Tepich 92.10 304 P P 09 53 58.2 +0.4
41nm,0.8s,baz=72,slow=0.6,SNR=33
TEIG Tepich 92.10 304 eP P 09 53 58.3 +0.4
27nm,0.5s
PPT Papeete 92.13 233 LR LR 10 30 06.4
comp=Z,31nm,18.4s,baz=140,slow=32
ASAR Alice Springs 98.56 162 P P 09 54 26.7 -0.9
4.5nm,0.3s,baz=183,slow=4.1,SNR=25
WRA Warramunga Arr 102.27 162 P Pdif 09 54 43.2 -0.9
0.7nm,0.8s,baz=192,slow=4.3,SNR=8.8
WRAB Tennant Creek 102.28 162 ePdif Pdif 09 54 43.8 -0.4
SCHQ Schefferville 115.61 336 PKP PKPdf 09 59 31.6 +2.3
2.0nm,0.7s,baz=215,slow=8.0,SNR=3.8
ULM Lac du Bonnet 120.67 316 PKP PKPdf 09 59 37.4 -1.8
1.6nm,0.5s,baz=156,slow=3.9,SNR=7.6
NOA NORSAR Array B120.90 20 PKP PKPdf 09 59 43.5 +4.1
0.5nm,0.6s,baz=207,slow=1.9,SNR=2.9
NVAR Mina Array Bea 121.74 293 PKP PKPdf 09 59 42.1 +0.1
0.7nm,0.6s,baz=155,slow=3.2,SNR=7.7
FINES FINESS Array B 124.63 28 PKP PKPdf 09 59 45.6 -0.8
2.2nm,0.6s,baz=132,slow=2.1,SNR=8.2
FINES pPKP pPKPdf 10 00 08.5 -1.3
1.8nm,0.7s,baz=204,slow=4.2,SNR=2.7
CMAR Chiang Mai Arr 124.74 110 PKP PKPdf 09 59 46.6 -1.4
0.9nm,0.3s,baz=229,slow=3.3,SNR=6.0
CMAR pPKP pPKPdf 10 00 10.6 -0.9
1.1nm,0.3s,baz=225,slow=3.7,SNR=2.9
CHMT Chamberlain Mo 125.57 303 ePKPdf PKPdf 09 59 49.2 +0.2
AKTO Aktyubinsk 127.40 53 PKhKP PKPpre 09 59 48.6
0.8nm,0.7s,baz=45,slow=1.4,SNR=2.6
ABKAR Akbulak array 127.42 55 ePKPdf PKPdf 09 59 51.7 -0.4
ARCES ARCESS Array B 131.23 22 PKP PKPdf 09 59 58.2 -0.6
4.2nm,0.9s,baz=254,slow=0.9,SNR=5.0
BVAR Borovoye Array 134.82 58 PKP PKPdf 10 00 05.9 -0.1
0.5nm,0.5s,baz=224,slow=4.1,SNR=3.7
BVAR pPKP pPKPdf 10 00 28.7 -0.8
0.9nm,0.7s,baz=241,slow=1.5,SNR=3.0
YKA Yellowknife Ar 136.60 318 PKhKP PKPpre 09 59 54.7
0.2nm,0.7s,baz=127,slow=3.3,SNR=6.2
YKA PKP PKPdf 10 00 08.6 -0.4
2.3nm,0.6s,baz=126,slow=2.4,SNR=63
ZALV Zalesovo Beam 142.36 64 PKP PKPdf 10 00 20.8 +1.0
1.6nm,0.5s,baz=243,slow=0.7,SNR=7.6
DAWY Dawson 147.20 311 ePKPdf PKPdf 10 00 28.5 +0.5
DAWY ePKPbc PKPbc 10 00 29.6 -0.8
DAWY ePKPab PKPab 10 00 32.3 0.0
EGAK Eagle 148.15 312 ePKPbc PKPbc 10 00 32.9 0.0
EGAK ePKPab PKPab 10 00 36.3 +0.3
MENT Mentasta 148.70 308 ePKPdf PKPdf 10 00 30.3 -0.1
MENT ePKPbc PKPbc 10 00 34.5 +0.1
MENT ePKPab PKPab 10 00 38.3 -0.1
DIV Divide 149.04 304 ePKPdf PKPdf 10 00 31.1 +0.1
DIV ePKPbc PKPbc 10 00 35.5 +0.2
DIV ePKPab PKPab 10 00 39.6 -0.3
DOT Dot Lake 149.05 310 ePKPdf PKPdf 10 00 31.7 +0.8
DOT ePKPbc PKPbc 10 00 35.2 0.0
DOT ePKPab PKPab 10 00 39.8 0.0
PAX Paxson 149.47 308 ePKPdf PKPdf 10 00 32.0 +0.3
PAX ePKPbc PKPbc 10 00 36.5 +0.1
PAX ePKPab PKPab 10 00 41.2 -0.4
ILAR Eielson Array 150.53 311 PKPbc PKPbc 10 00 38.0 -0.7
12nm,0.7s,baz=104,slow=1.0,SNR=63
SONM Songino Array 150.55 87 PKPbc PKPbc 10 00 39.0 -0.5
5.4nm,0.7s,baz=221,slow=3.3,SNR=52
SONM pPKPbc pPKPbc 10 01 01.1 -1.6
2.4nm,0.6s,baz=213,slow=2.5,SNR=4.1
RC01 Rabbit Creek A 150.86 303 ePKPbc PKPbc 10 00 40.2 +0.6
RC01 ePKPab PKPab 10 00 47.6 +0.3
ULN Ulaanbaatar 150.93 87 ePKPdf PKPdf 10 00 34.8 +0.2
ULN ePKPbc PKPbc 10 00 39.7 -0.7
ULN ePKPab PKPab 10 00 47.2 -1.0
COLA College 150.95 311 ePKPbc PKPbc 10 00 38.9 -0.7
COLA ePKPab PKPab 10 00 48.0 +0.5
MCK McKinley 151.18 309 ePKPdf PKPdf 10 00 34.5 +0.2
MCK ePKPbc PKPbc 10 00 39.5 -0.7
MCK ePKPab PKPab 10 00 48.0 -0.6
OHAK Old Harbor 151.32 294 ePKPbc PKPbc 10 00 40.8 0.0
TRF Thorofare Moun 151.71 308 ePKPdf PKPdf 10 00 36.4 +1.1
TRF ePKPbc PKPbc 10 00 41.0 -0.7
TRF ePKPab PKPab 10 00 50.7 -0.2
KTH Kantishna Hill 152.00 308 ePKPbc PKPbc 10 00 42.0 -0.2
KTH ePKPab PKPab 10 00 52.6 +0.5
COLD Coldfoot 152.24 316 ePKPbc PKPbc 10 00 42.8 +0.2
COLD ePKPab PKPab 10 00 52.9 0.0
IM04 Indian Mountai 153.56 313 ePKPbc PKPbc 10 00 45.4 -0.2
IM04 ePKPab PKPab 10 00 58.7 +0.2

ISCJB 19 09:41:46.6±1.1, 9.2S±0.1×112.42E±0.04, h35km, Error ellipse: s-maj=15.3km s-min=5.0km az=174.9
DJA 19 09:41:49.0±0.9, 9.S±5×11.2E±, h26km±9km, M4.0/20, MLv4.0/20
ISC 19 09:41:45.7±1.5, 9.3S±0.1×112.41E±0.04, h35km, n21, σ2§00/25, South of Java

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PWJI Pagerwojo 1.43 335 P Pn 09 42 08.6 -0.5
GMJI Gumukmas 1.46 44 P Pn 09 42 09.2 -0.4
GMJI S Sn 09 42 25.5 -2.0
JAGI Jajag, Banyuwa 1.92 64 P Pn 09 42 16.9 +1.0
JAGI S Sn 09 42 37.7 -1.2
JAGI Jajag, Banyuwa 1.92 64 P Pn 09 42 17.0 +1.0
baz=1.8,SNR=16
JAGI S Sn 09 42 37.7 -1.2
baz=1.8,SNR=15
BLJI Banyuglugur 1.96 37 P Pn 09 42 17.8 +1.4
WOJI Wonogiri, Jawa 2.08 315 P Pn 09 42 19.3 +1.1
NGJI Ngawi 2.16 334 P Pn 09 42 22.7 +3.5
UGM Wanagama 2.33 307 P Pn 09 42 23.1 +1.4
UGM Wanagama 2.33 307 P Pn 09 42 22.8 +1.2
baz=2.1,SNR=50
UGM S Sn 09 42 49.2 +0.1
baz=2.1,SNR=7.5
ABJI Asem Bagus 2.36 50 P Pn 09 42 24.5 +2.6
TBJI Tambak Boyo 2.55 347 P Pn 09 42 24.4 -0.2
KMMI Kalianget 2.73 34 P Pn 09 42 27.7 +0.6
SMRI Semarang 2.98 319 P Pn 09 42 32.7 +2.1
SMRI Semarang 2.98 319 P Pn 09 42 32.7 +2.1
baz=2.7,SNR=5.0
SRBI Singaraja 3.03 66 P Pn 09 42 33.5 +2.3
KPJI Karang Pucung 3.97 300 P Pn 09 42 46.9 +2.8
CMJI Cimerak 4.21 291 P Pn 09 42 48.7 +1.3
CISI Cisompet, Garu 4.87 291 P Pn 09 42 58.8 +2.2
CISI Cisompet, Garu 4.87 291 P Pn 09 42 58.4 +1.7
baz=4.7,SNR=3.4
XMI Christmas Isla 6.72 260 S Sn 09 44 33.0 -4.3
baz=6.8,SNR=3.9
XMIS Christmas Isla 6.76 260 P Pn 09 43 25.2 +2.7
baz=6.8,SNR=5.8
XMIS S Sn 09 44 35.2 -3.0
baz=6.8,SNR=5.0

SJA 19 09:49:35.2±1.2, 33.01S×72.24W, h39km±78km, MD3.6, ML3.1
GUC 19 09:49:42.2±0.5, 32.63S×71.65W, h14km±3km, MD3.7, ML3.3
ISC 19 09:49:40.8±1.7, 32.70S±0.03×71.76W±0.08, h19km±4km, n22, σ1§37/35, 3D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IHA Instituto Hidr 0.34 163⇓eP Pn 09 49 50.5 -0.2
IHA iS Sn 09 49 56.4 -0.7
ROCH El Roble 0.69 114⇓iP Pg 09 49 54.7 +0.2
ROCH eS Sb 09 50 03.9 +0.4
JACH Jahuel 0.99 89 eP Pb 09 49 58.6 -0.7
PEL Peldehue 1.01 116 eP Pb 09 49 59.1 -0.5
PEL eS Sb 09 50 12.8 +0.2
PEL AML AML 09 50 14.9
comp=E,2µm,0.2s
SAN Santiago 1.19 130 eP Pb 09 50 02.8 -0.1
SAN iS Sn 09 50 18.4 +0.2
CLCH Cerro Calan 1.24 124⇓eP Pn 09 50 03.4 +0.2
CLCH eS Sb 09 50 19.3 -0.1
ANTU Antumapu 1.29 133 eP Pb 09 50 04.4 0.0
ANTU eS Sb 09 50 20.9 +0.3
ANTU AML AML 09 50 27.3
comp=E,367nm,0.3s
LNV Longovilo 1.29 167 eP Pg 09 50 05.2 -0.6
LNV iS Sb 09 50 20.8 +0.2
CHCH Chadas Angostu 1.54 143 eP Pb 09 50 08.7 -0.1
CHCH iS Sb 09 50 29.2 +1.2
CMCH Combarbala 1.65 23 eP Pn 09 50 09.0 +0.2
CMCH iS Sn 09 50 29.1 -0.4
CMCH AML AML 09 50 34.3
comp=N,1µm,0.7s
CACH El Canelo 1.72 146 eP Pb 09 50 12.1 +0.3
CACH iS Sg 09 50 35.1 -1.2
LMEL Las Melosas 1.74 132 eP Pb 09 50 11.6 -0.6
LMEL eS Sb 09 50 34.2 +0.5
LMEL AML AML 09 50 37.4
comp=N,441nm,0.2s
AUSP Uspallata 2.06 77 eP Pb 09 50 16.7 -1.1
RTLS Leoncito 2.27 67 eP Pb 09 50 20.5 -0.8
RTLS eP Pb 09 50 20.5 -0.8
ASAL Salagasta 2.47 88 eP Pn 09 50 20.2 +0.1
AAGR Agrelo 2.50 100 eP Pn 09 50 21.6 +1.1
RTLL Cerro Villicun 3.11 65 eP Pn 09 50 31.2 +2.4
RTLL eS Sb 09 51 12.5 -0.5
CFAA Coronel Fontan 3.18 71 eP Pn 09 50 32.3 +2.5
AMOG MOGNA 3.29 59 eP Pn 09 50 33.7 +2.4
AVFE Valle Fertil 4.20 62 eP Pn 09 50 47.5 +3.7
AVFE eS Sb 09 51 40.6 -3.8
AVFE AML AML 09 51 44.4
comp=Z,15nm,0.3s
AGUA GUANDACOL 4.25 42 eP Pn 09 50 47.7 +3.0
ACHE Chepes 4.60 72 eP Pn 09 50 51.9 +2.6

KRNET 19 10:07:12.9±0.1, 41.70N×75.77E, h1km, mb3.9, 3D, Kyrgyzstan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BOOM Boomskoye usch 0.80 9 eP Pg 10 07 28.8 +0.2
baz=9.0
BOOM eS Sg 10 07 40.0 +0.7
baz=9.0
ARLS Aral 1.10 279 iP Pg 10 07 33.8 -0.4
baz=279
ARLS ⇓iS Sg 10 07 49.1 +0.5
baz=279
FRU Bishkek 1.43 323⇓iP Pb 10 07 40.4 0.0
baz=323
EKS Erkin-Say 1.77 304 iP Pg 10 07 47.1 +0.1
baz=304
ANVS Anan'yevo 1.78 52⇓iP Pn 10 07 44.9 -0.2
baz=52
ARSB Arslanbob 2.13 261 eP Pg 10 07 55.6 +1.6
baz=261
ARSB eS Sg 10 08 25.2 +3.4
baz=261
SFK Sufi-Kurgan 2.41 226 eP Pg 10 08 00.2 +0.8
baz=227
SFK eS Sg 10 08 33.7 +2.9
baz=227
OHH Osh 2.54 244 eP Pg 10 08 02.6 +0.8
baz=244
OHH eS Sg 10 08 37.8 +2.9
baz=244
ARK Arkit 2.85 273 eP Pg 10 08 10.0 +2.2
baz=273
ARK eS Sg 10 08 49.6 +4.7
baz=273
TRKS Terek-Say 3.48 269 eP Pg 10 08 21.0 +1.1
baz=268
TRKS eS Sg 10 09 08.9 +3.8
baz=268

KNET 19 10:08:13.5±0.5, 41.75N×75.83E, h13km±2km, ml3.1, Error ellipse: s-maj=3.9km s-min=2.4km az=163.0
NNC 19 10:08:14.4±0.9, 41.74N×75.81E, h0km, mb3.8, mpv3.8, Error ellipse: s-maj=5.7km s-min=3.7km az=1.0
MOS 19 10:08:17.0±1.0, 41.79N×75.69E, h26km, mb4.0/4, Error ellipse: s-maj=13.1km s-min=7.7km az=114.1
ISC 19 10:08:15.9±1.1, 41.84N±0.03×75.79E±0.03, h7km±8km, n42, σ1§12/52, mb3.8/3, 18C-15D, Kyrgyzstan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KZA Kyzart 0.47 301 ⇓P Pg 10 08 24.5 -0.6
911nm,0.3s,SNR=1126
KZA ⇑S Sg 10 08 33.1 +1.8
448nm,0.1s
KZA Kyzart 0.47 301 iPG Pg 10 08 24.3 -0.8
ULHL Ulahol 0.53 39 P Pg 10 08 24.6 -1.6
65nm,0.1s,SNR=271
ULHL ⇑S Sg 10 08 33.3 +0.1
817nm,0.3s
UCH Uchtor 1.03 293 ⇓P Pg 10 08 34.0 -1.7
48nm,0.2s,SNR=186
UCH Uchtor 1.03 293 iPG Pg 10 08 33.9 -1.8
KBK Karagaybulak 1.03 323 P Pg 10 08 35.4 -0.4
291nm,0.1s,SNR=754
KBK ⇑S Sn 10 08 51.5 -0.2
694nm,0.2s
KBK Karagaybulak 1.03 323 iPG Pg 10 08 35.3 -0.4
TKM2 Tokmak 2 1.09 353 ⇑P Pg 10 08 36.1 -0.8
62nm,0.3s
TKM2 ⇓S Sn 10 08 53.4 0.0
48nm,0.5s
TKM2 Tokmak 2 1.09 353 ⇓P Pg 10 08 36.4 -0.6
200nm,0.3s,SNR=332
TKM2 ⇑S Sn 10 08 53.6 +0.3
266nm,0.1s
TKM2 Tokmak 2 1.09 353 iPG Pg 10 08 36.1 -0.8
TKM2 iS Sn 10 08 53.3 0.0
AAK Ala-Archa 1.25 310 ⇓P Pn 10 08 38.8 -1.2
121nm,0.3s
AAK ⇓S Sn 10 08 57.9 +0.9
41nm,0.3s
AAK Ala-Archa 1.25 310 P Pn 10 08 38.7 -1.2
228nm,0.2s,SNR=607
AAK ⇓S Sn 10 08 57.4 +0.3
120nm,0.2s
AAK Ala-Archa 1.25 310 PG Pn 10 08 38.9 -1.0
AAK S Sb 10 08 55.3 -0.9
FRU Bishkek 1.32 319⇓iPG Pn 10 08 40.4 -0.4
FRU iS Sg 10 09 00.0 +1.6
FRU pmax pmax
comp=Z,100nm,1.6s
FRU pmax pmax
comp=E,320nm,1.8s
CHMS Chumysh 1.39 327 ⇓P Pn 10 08 41.6 -0.2
comp=E,60nm,0.2s,SNR=56
CHMS Chumysh 1.39 327 iPG Pn 10 08 41.6 -0.2
AML Almayashu 1.59 281 ⇓P Pn 10 08 43.8 -1.0
comp=E,70nm,0.2s,SNR=162
AML Almayashu 1.59 281 iP* Pn 10 08 43.8 -1.0
KNDC Almaty 1.63 32 ⇑Pn Pn 10 08 45.1 0.0
KNDC ⇓Sn Sg 10 09 09.8 +1.4
AAA Alma-Ata 1.67 30 ePN Pn 10 08 45.1 -0.5
AAA eS Sb 10 09 08.2 -0.1
EKS2 Erkin-Say 1.71 300 iPN Pn 10 08 46.8 +0.6
USP Ospenovka 1.72 327 P Pb 10 08 47.2 -0.5
comp=E,43nm,0.2s,SNR=61
USP Ospenovka 1.72 327 iPN Pb 10 08 47.3 -0.5
KSH Kashi 2.32 176 Pn Pg 10 08 59.8 -0.6
KSH Sn Sg 10 09 31.8 +1.3
KSH smax smax
comp=N,240nm,0.6s
KSH smax smax
comp=E,330nm,0.6s
PDGK Podgornoye 3.11 60 ⇑Pn Pn 10 09 05.7 +0.4
PDGK ⇑Sn Sb 10 09 46.2 -3.4
KK31 Karatay Array 4.11 290 ⇑Pg Pb 10 09 30.0 +1.5
comp=E,4.6nm,0.5s,baz=120,slow=12,SNR=60
KK31 ⇑Lg Lg 10 10 25.6
comp=E,17nm,0.6s,baz=107,slow=28,SNR=6.9
KK31 Karatay Array 4.11 290 iPN Pb 10 09 28.2 -0.3
KK31 pmax pmax
comp=Z,8.0nm,0.4s
KK31 pmax pmax
comp=N,8.0nm,0.3s
MK31 Makanchi Array 6.80 41 ⇑Pn Pn 10 09 57.7 +1.6
comp=N,1.3nm,0.6s,baz=217,slow=14,SNR=24
MK31 ⇑Lg Lg 10 11 46.3
comp=N,3.9nm,0.6s,baz=218,slow=26,SNR=4.4
MK31 Makanchi Array 6.80 41 iPN Pn 10 10 00.6 +4.5
OTUK Ortayu 6.86 340 ⇑Pn Pn 10 09 57.6 +0.7
OTUK ⇑Lg Lg 10 11 53.0
KURK Kurchatov 9.10 11 ⇓Pg Pn 10 11 01.3 +34
comp=N,1.2nm,0.7s
KURK ⇑Lg Lg 10 13 00.4
comp=N,9.2nm,1.0s
BVA0 Borovoye Array 11.77 344 ⇓Lg Lg 10 14 27.8
comp=N,7.9nm,1.3s,baz=153,slow=22,SNR=3.6
BRVK Borovoye 11.82 344 ⇑Lg Lg 10 14 29.1
comp=N,13nm,1.1s
AB31 Akbulak array 13.34 309 ⇓Pn Pn 10 11 27.0 +1.4
comp=N,0.8nm,0.6s,baz=119,slow=13,SNR=7.8
AB31 Akbulak array 13.34 309 iP Pn 10 11 26.9 +1.4
AB31 pmax pmax
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 15.00 311 ⇓Pn Pn 10 11 46.9 -1.2
comp=Z,2.6nm,1.2s
AKTO Aktyubinsk 15.00 311 P Pn 10 11 40.6 -7.5
AKTO pmax pmax
comp=Z,3.0nm,1.2s
TLY Talaya 21.35 53 eP P 10 13 05.7 +2.2
TLY pmax pmax
comp=Z,4.0nm,2.6s
ULN Ulaanbaatar 22.87 64 eP P 10 13 19.5 -0.4
ULN pmax pmax
comp=Z,15nm,5.0s
KIV Kislovodsk 24.26 286⇑eP P 10 13 32.9 -0.6
KIV eS S 10 17 51.5 -0.9
KIV pmax pmax
comp=Z,33nm,2.5s
KIV MLR MLR
comp=Z,34nm,18.0s
TIXI Tiksi 39.42 24⇑iP P 10 15 45.6 -0.3
TIXI pmax pmax
comp=Z,5.0nm,2.1s
SEY Seymchan 47.92 37 eP P 10 16 55.4 +1.0

IDC 19 10:12:15.8±1.1, 27.41N×53.77E, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.4/46, mbtmp3.5/8, Error ellipse: s-maj=35.1km s-min=24.1km az=167.0
ISCJB 19 10:12:17.1±0.6, 27.48N±0.06×53.67E±0.10, h16km, mb3.6/7, Error ellipse: s-maj=14.2km s-min=6.5km az=150.1
CSEM 19 10:12:25.0±1.3, 27.17N×53.64E, h30km, ML3.8, Error ellipse: s-maj=29.8km s-min=20.5km az=172.0
OMAN 19 10:12:25.4±0.0, 27.23N×53.90E, h168km±65km, Error ellipse: s-maj=24.2km s-min=12.9km az=235.0
DSN 19 10:12:28.8±0.2, 27.20N×54.20E, h30km, mb2.9/5, ML3.8/4, Error ellipse: s-maj=6.4km s-min=4.4km az=272.0
ISC 19 10:12:18.5±0.8, 27.43N±0.08×53.69E±0.08, h16km, n34, σ1§87/39, mb3.7/7, 6C-9D, Southern Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BANOM Banah 2.77 122 ⇑P Pb 10 13 07.7 0.0
SNR=7.5
BANOM Banah 2.77 122 P Pb 10 13 07.7 0.0
SNR=7.5
NAZ Nazwa, Dubai 3.01 144 P Pb 10 13 09.3 -2.4
SNR=7.6
NAZ Nazwa, Dubai 3.01 144⇑eP Pb 10 13 09.3 -2.4
SNR=7.6
ASUD Al Ashush, Dub 3.16 152 P Pn 10 13 11.5 +3.9
SNR=8.8
ASUD Al Ashush, Dub 3.16 152⇓eP Pn 10 13 11.5 +3.9
SNR=8.8
FAQ Al Faqa, Dubai 3.17 147 P Pn 10 13 10.9 +3.1
SNR=10
FAQ Al Faqa, Dubai 3.17 147⇓eP Pn 10 13 10.9 +3.1
SNR=10
HATD Hatta, Dubai 3.40 139 P Pn 10 13 13.3 +2.4
HATD Hatta, Dubai 3.40 139 ⇓P Pn 10 13 13.3 +2.4
ASHO Ashiyiah 3.47 142 P Pn 10 13 14.6 +2.7
SNR=18
ASHO Ashiyiah 3.47 142 P Pn 10 13 14.6 +2.7
SNR=18
ARQ Araqi 4.81 147 ⇓S Sn 10 14 27.2 +1.4
ARQ Araqi 4.81 147 S Sn 10 14 27.2 +1.4
HOQ Hoqain 5.04 139 ⇓P Pn 10 13 35.6 +2.2
HOQ ⇓S Sn 10 14 31.9 +0.6
HOQ Hoqain 5.04 139 P Pn 10 13 35.6 +2.2
HOQ S Sn 10 14 31.9 +0.6
SMDO Samad 5.87 137 P Pn 10 13 47.5 +2.5
SNR=26
SMDO Samad 5.87 137 P Pn 10 13 47.5 +2.5
SNR=26
JMDO Jabal Madar 6.44 141 ⇓P Pn 10 13 54.0 +1.3
JMDO ⇑S Sn 10 15 05.0 -0.8
JMDO ⇑S Sn 10 15 05.3 -0.5
JMDO Jabal Madar 6.44 141 P Pn 10 13 54.0 +1.3
JMDO S Sn 10 15 05.0 -0.8
WBK Wadi Bani Khal 6.78 134 ⇑P Pn 10 13 58.8 +1.4
WBK ⇑S Sn 10 15 11.2 -3.1
WBK Wadi Bani Khal 6.78 134 P Pn 10 13 58.8 +1.4
WBK S Sn 10 15 11.2 -3.1
RBK Rabkut 9.89 177 ⇓P Pn 10 14 41.8 +1.7
RBK Rabkut 9.89 177 P Pn 10 14 41.8 +1.7
ABTO Aybut 10.04 182 ⇓P Pn 10 14 43.2 +1.1
SNR=6.1
ABTO Aybut 10.04 182 P Pn 10 14 43.2 +1.1
SNR=6.1
BRTR Keskin Array B 20.67 311 P P 10 16 58.7 +0.9
0.6nm,0.8s,baz=132,slow=14,SNR=3.5
MKAR Makanchi Array 29.64 42 P P 10 18 23.9 +0.6
0.4nm,0.7s,baz=232,slow=7.1,SNR=3.5
ZALV Zalesovo Beam 34.98 32 P P 10 19 08.0 -1.9
1.2nm,0.6s,baz=246,slow=7.8,SNR=5.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
SONM	Songino Array	45.45	49	P	P	10 20 36.4	-0.5
	0.8nm,0.8s,baz=271,slow=10,SNR=6.0						
TORD	Torodi Ar. Bea	50.46	264	P	P	10 21 16.0	+0.1
	0.6nm,0.6s,baz=58,slow=6.6,SNR=4.1						
YKA	Yellowknife Ar	89.90	355	P	P	10 25 16.4	-0.1
	0.2nm,0.9s,baz=12,slow=3.8,SNR=4.3						
WRA	Warramunga Arr	91.12	112	P	P	10 25 22.8	-0.1
	0.4nm,0.9s,baz=315,slow=3.8,SNR=3.5						
ASAR	Alice Springs	92.54	115	P	P	10 25 28.8	-0.7
	0.2nm,0.7s,baz=318,slow=4.8,SNR=4.1						

IDC 19 10:27:19.9±2.4, 51.23N×178.86W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.6/49, mbtmp3.7/8, ML3.0/1, Error ellipse: s-maj=63.7km s-min=17.0km az=179.0
ISCJB 19 10:27:23.6±0.8, 51.02N±0.08×179.12W±0.05, h45km, mb3.6/7, Error ellipse: s-maj=11.8km s-min=4.2km az=1.0
NEIC 19 10:27:23.8, 51.07N×179.09W, h20km, ML3.5(AEIC), After AEIC.
ISC 19 10:27:25.5±1.0, 51.2N±0.1×179.13W±0.04, h45km, n39, σ0§70/34, mb3.6/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	Gareloi Lava P	0.65	20	P	Pn	10 27 38.0	-0.5
GAEA	Gareloi East	0.68	21	P	Pn	10 27 38.2	-0.6
TASE	Tanaga Southea	0.97	44	P	Pn	10 27 42.2	-0.6
TAFL	Tanaga Flats	0.98	51	P	Pn	10 27 42.1	-0.8
TANO	Tanaga North	0.99	39	P	Pn	10 27 42.7	-0.3
AMKA	Amchitka	1.01	284	P	Pn	10 27 41.5	-1.8
AMKA				S	Sn	10 27 57.0	+0.6
TAFP	Tanaga Falls P	1.04	43	P	Pn	10 27 43.1	-0.4
TAFP				S	Sn	10 27 56.9	-0.1
CERAA	Semis' Rag'd T	1.06	316	P	Pn	10 27 44.0	+0.1
CERB	Semis' Cerberu	1.10	316	P	Pn	10 27 44.6	+0.1
CERB				S	Sn	10 27 60.0	+1.4
CESW	Semis' Southwe	1.11	313	P	Pn	10 27 44.6	0.0
CEAP	Semis' Anvil P	1.18	317	P	Pn	10 27 45.9	+0.3
CETU	Semis' Tuman	1.19	314	P	Pn	10 27 45.8	+0.1
KIKV	Kanaga Island	1.43	58	P	Pn	10 27 48.5	-0.5
KIRH	Kanaga Island	1.48	59	P	Pn	10 27 49.4	-0.2
LSPA	Little Sitkin	1.65	300	P	Pn	10 27 52.2	+0.2
ADK	Adak	1.69	63	P	Pn	10 27 52.0	-0.6
ADK				S	Sn	10 28 13.8	+0.7
ADAG	Mount Adagdak	1.78	61	P	Pn	10 27 54.1	+0.3
ETKA	Kagalaska Isla	1.84	66	P	Pn	10 27 54.7	0.0
GSCK	Great Sitkin C	2.04	64	P	Pn	10 27 57.6	+0.2
GSTD	Great Sitkin T	2.07	63	P	Pn	10 27 58.1	+0.3
GSMY	Great Sitkin M	2.12	64	P	Pn	10 27 58.2	-0.2
KOFP	Korovin Flat P	3.33	68	P	Pn	10 28 16.9	+1.9
FX1	Attu Island--F	5.07	293	Pn	Pn	10 28 39.2	+0.3
	1.8nm,0.3s,baz=69,slow=4.5,SNR=7.8						
FX1				Sn	Sn	10 29 42.8	+6.8
	0.9nm,0.3s,baz=308,slow=19,SNR=2.4						
ILAR	Eielson Array	21.55	38	P	P	10 32 10.3	-0.3
	0.3nm,0.4s,baz=241,slow=8.3,SNR=11						
H11N2	WAKE ISLAND Hy	33.24	205	T	T	11 09 14.6	
	baz=16,slow=76,SNR=37						
H11N3	WAKE ISLAND Hy	33.24	204	T	T	11 09 14.4	
	baz=16,slow=76,SNR=27						
H11N1	WAKE ISLAND Hy	33.25	205	T	T	11 09 16.0	
	baz=16,slow=76,SNR=30						
H11S1	WAKE ISLAND Hy	34.46	204	T	T	11 10 46.1	
	baz=16,slow=76,SNR=29						
H11S2	WAKE ISLAND Hy	34.47	204	T	T	11 10 47.7	
	baz=16,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy	34.47	204	T	T	11 10 47.4	
	baz=16,slow=76,SNR=22						
YKA	Yellowknife Ar	35.54	46	P	P	10 34 17.6	-0.1
	0.5nm,0.5s,baz=279,slow=9.0,SNR=9.7						
SONM	Songino Array	46.56	297	P	P	10 35 49.5	+0.8
	0.5nm,0.8s,baz=58,slow=8.7,SNR=3.7						
ARCES	ARCESS Array B	58.28	350	P	P	10 37 14.0	-1.0
	2.7nm,0.8s,baz=30,slow=7.5,SNR=3.2						
TXAR	Lajitas Array	58.89	81	P	P	10 37 20.4	+0.5
	0.2nm,0.6s,baz=318,slow=5.4,SNR=3.6						
MKAR	Makanchi Array	60.01	308	P	P	10 37 27.1	-0.2
	0.4nm,0.3s,baz=51,slow=6.3,SNR=17						
AKASG	Malin Array Be	75.70	342	P	P	10 39 05.1	-0.6
	0.2nm,0.3s,baz=21,slow=7.3,SNR=4.2						
H03N2	Juan Fernandez	121.28	106	T	T	12 59 19.1	
	baz=315,slow=75,SNR=18						
H03N1	Juan Fernandez	121.30	106	T	T	12 59 21.9	
	baz=315,slow=75,SNR=16						
H03N3	Juan Fernandez	121.30	106	T	T	12 59 20.2	
	baz=315,slow=75,SNR=14						

IDC 19 10:35:55.7±3.5, 54.18N×87.25E, h0km, mb1 2.5/1, mb1mx2.5/47, mbtmp2.5/1, ML2.6/1, Error ellipse: s-maj=29.4km s-min=17.8km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.45	262	i		10 45 45.8	
	baz=82,slow=352						
ZALV	Zalesovo Beam	1.45	262	Pg	Pn	10 36 21.9	-1.3
	2.3nm,0.3s,baz=83,slow=16,SNR=24						
ZALV				Lg	Lg	10 36 41.8	
	1.8nm,0.3s,baz=78,slow=27,SNR=9.2						
MKAR	Makanchi Array	8.04	205	Pn	Pn	10 37 55.0	+1.3
	0.1nm,0.3s,baz=28,slow=14,SNR=4.5						
MKAR				Lg	Lg	10 40 12.5	
	0.1nm,0.3s,baz=24,slow=30,SNR=3.8						

CSEM 19 10:37:09.2±0.1, 42.95N×19.00E, h2km, ML3.1, Error ellipse: s-maj=3.7km s-min=2.7km az=106.0
BEO 19 10:37:09.6±0.2, 42.90N×19.03E, h8km±2km, ML2.7/1
PDG 19 10:37:09.3±0.2, 42.93N×19.01E, h14km, MD3.1/8, ML3.1/10, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0
SKO 19 10:37:10.1, 42.96N×18.90E, h0km, M2.2, ML2.8
ISC 19 10:37:09.6±0.8, 42.95N±0.02×19.00E±0.02, h10km±6km, n70, σ1§09/114, 24C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKY	Niksic	0.14	182	⇑iPg	Pg	10 37 12.5	-0.4
NKY				eSg	Sg	10 37 14.8	-0.4
NKY	Niksic	0.14	182	⇑iPg	Pg	10 37 12.5	-0.4
NKY				eSg	Sg	10 37 14.8	-0.4
NKME	Niksic	0.19	191	⇑iPg	Pg	10 37 13.1	-0.5
NKME				eSg	Sg	10 37 15.9	-0.5
NKME	Niksic	0.19	191	⇑iPg	Pg	10 37 13.1	-0.5
NKME				eSg	Sg	10 37 15.9	-0.5
UPM	Unac-Piva	0.26	344	⇑iPg	Pg	10 37 15.2	+0.2
UPM				eSg	Sg	10 37 19.9	+1.3
UPM	Unac-Piva	0.26	344	⇑iPg	Pg	10 37 15.2	+0.2
UPM				eSg	Sg	10 37 19.9	+1.3
PLE	Pljevlja	0.47	37	⇑iPg	Pg	10 37 18.9	+0.1
PLE				eSg	Sb	10 37 26.6	-0.5
PLE	Pljevlja	0.47	37	⇑iPg	Pg	10 37 18.9	+0.1
PLE				eSg	Sb	10 37 26.6	-0.5
TREB	Trebinje	0.53	244	ePg	Pg	10 37 19.2	-0.8
TREB				eSg	Sg	10 37 26.9	-0.1
TREB	Trebinje	0.53	244	ePg	Pg	10 37 19.2	-0.8
TREB				eSg	Sg	10 37 26.9	-0.1
PDG	Podgorica	0.56	160	⇑iPg	Pg	10 37 18.9	-1.5
PDG				i Sg	Sg	10 37 26.5	-1.2
PDG	Podgorica	0.56	160	⇑iPg	Pg	10 37 18.9	-1.5
PDG				i Sg	Sg	10 37 26.5	-1.2
TTG	Podgorica	0.56	160	⇑iPg	Pg	10 37 18.9	-1.5
TTG				eSg	Sg	10 37 27.5	-0.2
HCY	Herceg Novi	0.63	217	⇓iPg	Pg	10 37 20.6	-1.2
HCY				eSg	Sg	10 37 30.6	+0.6
HCY	Herceg Novi	0.63	217	⇓iPg	Pg	10 37 20.6	-1.2
HCY				eSg	Sg	10 37 30.6	+0.6
BUM	Brajici-Budva	0.66	187	⇑iPg	Pg	10 37 21.1	-1.2
BUM				eSg	Sg	10 37 31.0	+0.1
BUM	Brajici-Budva	0.66	187	⇑iPg	Pg	10 37 21.1	-1.2
BUM				eSg	Sg	10 37 31.0	+0.1
BEY	Berane	0.66	97	⇓iPg	Pg	10 37 21.9	-0.5
BEY				eSg	Sb	10 37 32.0	-0.5
IVA	Berane	0.66	97	⇓iPg	Pg	10 37 21.9	-0.5
IVA				eSg	Sb	10 37 32.0	-0.5
SJES	Sjenica	0.78	66	ePg	Pg	10 37 24.5	-0.1
SJES				eSg	Sg	10 37 34.8	+0.1
DRME	Dracevica, Mon	0.78	170	⇓iPg	Pg	10 37 23.0	-1.6
DRME				eSg	Sb	10 37 35.6	-0.2
DRME	Dracevica, Mon	0.78	170	⇓iPg	Pg	10 37 23.0	-1.6
DRME				eSg	Sb	10 37 35.6	-0.2
PVY	Plav	0.79	117	⇑iPg	Pg	10 37 24.0	-0.9
PVY				eSg	Sb	10 37 36.2	-0.1
PVY	Plav	0.79	117	⇑iPg	Pg	10 37 24.0	-0.9
PVY				eSg	Sb	10 37 36.2	-0.1
BBLS	Lazići	0.96	18	ePg	Pg	10 37 27.9	-0.2
BBLS	Lazići	0.96	18	ePg	Pg	10 37 27.9	-0.2
STON	Ston	0.96	266	ePg	Pg	10 37 26.6	-1.5
STON				Sg	Sb	10 37 42.1	+1.1
STON	Ston	0.96	266	ePg	Pg	10 37 27.1	-0.9
STON				eSg	Sb	10 37 41.9	+0.9
STON	Ston	0.96	266	ePg	Pg	10 37 27.1	-0.9
STON				eSg	Sb	10 37 41.9	+0.9
ULC	Ulcinj	1.00	170	⇓iPg	Pg	10 37 27.7	-1.2
ULC				eSg	Sb	10 37 43.1	+0.7
ULC	Ulcinj	1.00	170	⇓iPg	Pg	10 37 27.7	-1.2
ULC				eSg	Sb	10 37 43.1	+0.7
IVAS	Ivanjica	1.05	53	ePg	Pg	10 37 29.2	-0.5
IVAS				eSg	Sg	10 37 42.7	-0.6
IVAS	Ivanjica	1.05	53	ePg	Pg	10 37 29.2	-0.5
IVAS				eSg	Sg	10 37 42.7	-0.6
DIVS	Divibare	1.35	32	⇑iPg	Pn	10 37 34.9	+0.3
DIVS				eSg	Sg	10 37 54.1	+1.0
DIVS	Divibare	1.35	32	⇑iPg	Pn	10 37 34.9	+0.3
DIVS				eSg	Sg	10 37 54.1	+1.0
GRUS	Gruza	1.56	53	⇑iPn	Pn	10 37 37.6	+0.2
GRUS				eSn	Sg	10 37 59.3	-0.5
GRUS	Gruza	1.56	53	⇑iPn	Pn	10 37 37.6	+0.2
GRUS				eSn	Sg	10 37 59.3	-0.5
SELS	Selova	1.57	80	ePn	Pn	10 37 37.5	-0.1
SELS	Selova	1.57	80	ePn	Pn	10 37 37.5	-0.1
TRUS	Trudelj	1.63	38	ePn	Pn	10 37 37.6	-0.7
TRUS	Trudelj	1.63	38	ePn	Pn	10 37 37.6	-0.7
SKO	Skopje	2.05	118	ePn	Pb	10 37 47.2	+0.3
SKO				eSn	Sg	10 38 14.6	-0.9
SKO				eLg	Lg	10 38 16.6	
	comp=E,47nm,1.0s						
SKO				eLg	Lg	10 38 22.1	
	comp=N,41nm,0.4s						
SKO	Skopje	2.05	118	ePn	Pb	10 37 47.2	+0.3
SKO				eSn	Sg	10 38 14.6	-0.9
SKO				eLg	Lg	10 38 16.6	
	comp=N,47nm,1.0s						
BLY	Banja Luka	2.23	324	ePn	Pb	10 37 49.5	-0.4
FGSL	Fruska Gora	2.28	15	ePn	Pn	10 37 47.1	-0.2
FRGS	Fruska Gora	2.28	15	ePn	Pn	10 37 47.1	-0.2
ZAPS	Zavoj	2.68	82	⇑iPn	Pn	10 37 54.1	+1.3
ZAPS				eSn	Sn	10 38 25.8	+0.5
VAY	Valandovo	3.12	120	ePn	Pn	10 38 01.7	+3.0
VAY				eSn	Sn	10 38 39.2	+3.2
VAY				eLg	Lg	10 38 43.9	
	comp=E,15nm,0.6s						
VAY				eLg	Lg	10 38 44.7	
	comp=N,15nm,0.6s						
VAY	Valandovo	3.12	120	ePn	Pn	10 38 01.7	+3.0
VAY				eSn	Sn	10 38 39.2	+3.2
VAY				eLg	Lg	10 38 44.7	
	comp=N,15nm,0.6s						
BZS	Buzias	3.26	34	ePn	Pn	10 38 00.2	-0.5
BZS	Buzias	3.26	34	⇓iP	Pn	10 38 00.6	-0.1
BZS	Buzias	3.26	34	S	Sn	10 38 39.1	-0.4
BZS	Buzias	3.26	34	ePn	Pn	10 38 00.2	-0.5
PKSM	Moragy	3.27	356	⇑iPn	Pn	10 38 00.9	+0.1
PKSM	Moragy	3.27	356	⇑iP	Pn	10 38 01.0	+0.1
PKSM	Moragy	3.27	356	S	Sn	10 38 38.5	-1.3
PKSM	Moragy	3.27	356	⇑e	Pn	10 38 01.0	+0.1
PKSM				e		10 38 42.4	
PKSM	Moragy	3.27	356	⇑ePn	Pn	10 38 01.0	+0.1
PKSM				eSn	Sn	10 38 42.4	+2.6
NVLJ	Novalja	3.40	300	ePn	Pn	10 38 04.7	+2.1
NVLJ				Sn	Sb	10 38 48.5	-2.7
NVLJ	Novalja	3.40	300	ePn	Pn	10 38 04.7	+2.1
NVLJ				Sn	Sb	10 38 48.5	-2.7
GZR	Gura Zlata	3.65	47	⇓iP	Pn	10 38 06.2	0.0
GZR	Gura Zlata	3.65	47	S	Sn	10 38 48.9	-0.4
PKS9	Tamasi	3.67	352	e	Pn	10 38 07.0	+0.6
PKS9	Tamasi	3.67	352	ePn	Pn	10 38 07.0	+0.6
PKSG		4.46	355	e	Pn	10 38 17.4	+0.2
PKSG		4.46	355	ePn	Pn	10 38 17.4	+0.2
PSZ	Piszkesteto	5.00	7	⇓iP	Pn	10 38 25.0	+0.2
PSZ	Piszkesteto	5.00	7	S	Sn	10 39 20.7	-2.0
PSZ	Piszkesteto	5.00	7	⇓e	Pn	10 38 25.0	+0.2
PSZ	Piszkesteto	5.00	7	⇓ePn	Pn	10 38 25.0	+0.2
PSZ				eSn	Sn	10 39 20.6	-2.1

IDC 19 10:38:24.7±1.6, 5.68S×146.55E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.3/29, mbtmp3.4/4, ML3.3/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/13, Error ellipse: s-maj=69.9km s-min=28.0km az=112.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.75	171	Pn	Pn	10 39 24.6	+0.7
	9.2nm,0.3s,baz=162,slow=8.9,SNR=25						
PMG				Sn	Sn	10 40 02.2	-6.7
	11nm,0.3s,baz=162,slow=20,SNR=5.0						
PMG				LR	LR	10 41 05.2	
	comp=Z,210nm,18.1s,baz=18,slow=43						
HNR	Honiara	13.79	106	LR	LR	10 46 15.2	
	comp=Z,49nm,19.9s,baz=170,slow=34						
WRA	Warramunga Arr	18.49	219	P	P	10 42 42.0	-0.6
	0.1nm,0.3s,baz=42,slow=12,SNR=9.9						
ASAR	Alice Springs	21.63	213	P	P	10 43 16.5	-0.3
	0.2nm,0.5s,baz=53,slow=9.6,SNR=5.4						
STKA	Stephens Creek	26.47	189	LR	LR	10 55 21.3	
	comp=Z,38nm,19.7s,baz=12,slow=38						
ILAR	Eielson Array	85.37	23	P	P	10 51 03.7	0.0
	0.4nm,0.8s,baz=254,slow=5.9,SNR=5.8						
TORD	Torodi Ar. Bea	144.57	285	PKP	PKPdf	10 58 03.9	-0.5
	1.2nm,0.8s,baz=80,slow=3.6,SNR=6.7						

IDC 19 10:58:17.0±3.8, 53.63N×88.18E, h0km, mb1 3.0/2, mb1mx2.8/40, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=44.2km s-min=19.7km az=88.0
ISC 19 10:58:21.0±4.9, 53.7N±0.1×88.2E±0.3, h35km, n5, σ1§61/7, 1C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.03	280	i		11 11 50.0	
	baz=96,slow=352,SNR=13						
ZALV	Zalesovo Beam	2.03	280	Pn	Pn	10 58 51.8	-0.9
	3.4nm,0.3s,baz=100,slow=14,SNR=74						
ZALV				Sn	Sn	10 59 18.6	+1.9
	4.8nm,0.3s,baz=101,slow=24,SNR=20						
KURK	Kurchatov	6.59	247	Pn	Pn	10 59 54.3	-0.9
KURK				Lg	Lg	11 01 40.0	
MK31	Makanchi Array	7.84	211	⇓Pn	Pn	11 00 13.1	+0.6
	0.4nm,0.6s,baz=28,slow=13,SNR=18						
MK31				⇓Sn	Sn	11 01 38.1	-1.9
	1.6nm,1.1s,baz=34,slow=24,SNR=2.7						
MK31				⇑Lg	Lg	11 02 16.6	
	6.0nm,1.4s,baz=31,slow=31,SNR=5.2						
MKAR	Makanchi Array	7.84	211	Pn	Pn	11 00 13.2	+0.7
	0.2nm,0.3s,baz=31,slow=14,SNR=13						
MKAR				Sn	Sn	11 01 40.9	+0.9
	0.1nm,0.3s,baz=32,slow=23,SNR=5.8						
MKAR				Lg	Lg	11 02 24.1	
	0.1nm,0.3s,baz=33,slow=32,SNR=6.7						

BUC 19 11:01:10.7±0.6, 46.16N×25.77E, h25km±3km, MD2.1/1, 6C-4D, Error ellipse: s-maj=5.6km s-min=2.4km az=342.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOPR	Dopca	0.33	234	⇓iP	Pb	11 01 18.5	+0.2
DOPR	Dopca	0.33	234	⇓iP	Pb	11 01 18.5	+0.2
MLR	Muntele Rosu	0.68	170	⇑iP	Pn	11 01 24.9	0.0
MLR	Muntele Rosu	0.68	170	⇑iP	Pn	11 01 24.9	0.0
PLOR	Plostina	0.69	117	⇑iP	Pn	11 01 24.5	-0.4
PLOR	Plostina	0.69	117	⇑iP	Pn	11 01 24.5	-0.4
VRI	Vrincioaia	0.73	114	⇑iP	Pn	11 01 25.9	+0.5
VRI	Vrincioaia	0.73	114	⇑iP	Pn	11 01 25.9	+0.5
VOIR		0.88	215	⇓iP	Pn	11 01 27.9	+0.3
VOIR		0.88	215	⇓iP	Pn	11 01 27.9	+0.3

IDC 19 11:05:47.6±3.7, 4.70S×130.89E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/43, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=266.6km s-min=30.6km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.52	168	Pn	Pn	11 09 29.8	+1.8
	0.2nm,0.3s,baz=349,slow=11,SNR=10						
WRA				Sn	Sn	11 12 11.3	-10
	0.1nm,0.3s,baz=340,slow=22,SNR=5.2						
ASAR	Alice Springs	19.08	172	P	P	11 10 11.2	-0.8
	0.2nm,0.3s,baz=347,slow=11,SNR=32						
MKAR	Makanchi Array	66.81	326	P	P	11 16 41.2	0.0
	0.3nm,0.7s,baz=117,slow=7.9,SNR=4.5						

IDC 19 11:09:11.7±58.0, 20.40S×179.74W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/38, mbtmp3.6/3, MS3.9/1, Ms1 3.9/1, ms1mx3.6/33, Error ellipse: s-maj=1051.0km s-min=157.8km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.36	244	P	P	11 16 16.9	-0.8
	0.6nm,0.6s,baz=94,slow=12,SNR=2.8						
JAY	Jayapura	42.47	290	LR	LR	11 32 36.8	
	comp=Z,178nm,21.1s,baz=107,slow=33						
ASAR	Alice Springs	42.95	257	P	P	11 17 12.6	-0.2
	0.8nm,0.6s,baz=101,slow=5.7,SNR=17						
WRA	Warramunga Arr	42.99	262	P	P	11 17 13.4	+0.3
	0.2nm,0.3s,baz=94,slow=7.7,SNR=18						

IDC 19 11:09:34.7±1.9, 1.82N×127.24E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/47, mbtmp3.5/4, Error ellipse: s-maj=160.2km s-min=23.7km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.72	162	P	P	11 14 39.0	+0.5
	0.9nm,0.4s,baz=341,slow=11,SNR=10						
ASAR	Alice Springs	26.15	166	P	P	11 15 10.7	-0.3
	0.2nm,0.5s,baz=349,slow=7.8,SNR=4.1						
STKA	Stephens Creek	36.17	159	P	P	11 16 38.6	-0.6
	0.7nm,0.5s,baz=350,slow=12,SNR=3.8						
MKAR	Makanchi Array	59.41	326	P	P	11 19 39.2	+0.1
	0.2nm,0.4s,baz=125,slow=8.0,SNR=5.0						

ISCJB 19 11:12:47.1±0.6, 60.63S±0.10×25.4W±0.3, h19km, mb4.2/7, Error ellipse: s-maj=21.2km s-min=9.9km az=147.5
IDC 19 11:12:47.8±0.8, 60.22S×25.44W, h0km, mb4.3/7, mb1 4.3/7, mb1mx4.1/31, mbtmp4.3/7, MS2.9/1, Ms1 2.9/1, ms1mx2.9/21, Error ellipse: s-maj=26.4km s-min=21.9km az=5.0
NEIC 19 11:12:53.0±0.6, 60.24S×25.49W, h35km, mb4.3/2, Error ellipse: s-maj=21.9km s-min=17.6km az=188.0
ISC 19 11:12:49.7±0.7, 60.6S±0.1×25.5W±0.1, h19km, n25, σ1§49/21, mb4.3/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.27	152	P	Pn	11 15 43.4	+0.3
VNA3	Neumayer Olymp	12.42	156	P	Pn	11 15 44.9	-0.2
VNA3	Neumayer Olymp	12.42	156	S	Sn	11 17 47.3	-16
VNA2	Neumayer--Watz	12.67	152	P	Pn	11 15 47.8	-0.8
	baz=315,slow=14						
SNAA	Sanae	14.26	150	P	Pn	11 16 09.7	-0.6
SNAA	Sanae	14.26	150	S	Sn	11 18 35.0	-13
SNAA	Sanae	14.26	150	Pn	Pn	11 16 09.7	-0.6
	2.2nm,0.3s,baz=314,slow=14,SNR=124						
SNAA				Sn	Sn	11 18 34.8	-13
	0.2nm,0.3s,baz=18,slow=20,SNR=3.3						
SNAA				LR	LR	11 20 08.1	
	comp=Z,55nm,21.4s,baz=20,slow=30						
SNAA	Sanae	14.26	150	ePn	Pn	11 16 09.4	-0.8
	13nm,0.4s						
SNAA				Sn	Sn	11 18 34.8	-13
QSPA	South Pole Qui	29.64	180	P	P	11 18 58.6	+4.9
	6.9nm,0.8s,baz=207,slow=2.2,SNR=43						
QSPA	South Pole Qui	29.64	180	eP	P	11 18 58.3	+4.6
	3.6nm,0.6s						
PLCA	Paso Flores	33.89	285	P	P	11 19 30.4	-0.7
	2.7nm,0.8s,baz=144,slow=8.5,SNR=7.1						
CFAA	Coronel Fontan	40.30	296	P	P	11 20 24.6	-0.9
	0.5nm,0.6s,baz=158,slow=5.4,SNR=9.0						
LBTB	Lobatse	49.67	68	P	P	11 21 38.5	-1.6
	2.3nm,0.8s,baz=190,slow=12,SNR=3.5						
LPAZ	La Paz	53.78	306	P	P	11 22 11.3	-0.2
	1.2nm,0.5s,baz=108,slow=5.0,SNR=9.4						
DBIC	Dimbokro	68.99	22	P	P	11 23 53.2	-0.4
	3.1nm,0.7s,baz=190,slow=7.2,SNR=3.8						
DBIC	Dimbokro	68.99	22	eP	P	11 23 53.2	-0.4
	1.0nm,0.4s						
TORD	Torodi Ar. Bea	76.64	27	P	P	11 24 39.0	+0.1
	4.5nm,0.5s,baz=201,slow=6.3,SNR=88						
BUR08	Bucovina Ar. S	115.42	35	ePKPdf	PKPdf	11 31 29.0	0.0
FINES	FINESS Array B	127.97	29	PKP	PKPdf	11 31 52.5	-0.1
	2.5nm,0.7s,baz=36,slow=2.6,SNR=6.5						
BRVK	Borovoye	136.32	60	ePKPdf	PKPdf	11 32 13.4	+4.9
BVAR	Borovoye Array	136.34	61	PKP	PKPdf	11 32 11.5	+2.8
	13nm,1.3s,baz=173,slow=3.6,SNR=4.9						
YKA	Yellowknife Ar	140.08	314	PKP	PKPdf	11 32 16.0	+0.8
	0.3nm,0.7s,baz=133,slow=2.4,SNR=4.8						
DLBC	Dease Lake	143.61	301	PKP	PKPdf	11 32 21.6	-0.1
	2.1nm,0.8s,baz=270,slow=1.0,SNR=3.9						
SONM	Songino Array	149.83	93	PKPbc	PKPbc	11 32 37.3	-0.2
	1.5nm,0.9s,baz=228,slow=1.4,SNR=6.3						
ILAR	Eielson Array	153.65	305	PKPbc	PKPbc	11 32 46.5	+1.1
	1.1nm,0.8s,baz=140,slow=2.8,SNR=9.1						

BJI 19 11:13:16.2, 21.83S×174.42W, h10km, mB6.0/53, mb5.5/50, Ms5.6/64, Ms7 5.4/61
IDC 19 11:13:17.4±0.5, 21.97S×174.98W, h0km, mb4.9/25, mb1 5.0/27, mb1mx4.9/42, mbtmp4.9/27, ML5.2/2, MS5.3/26, Ms1 5.4/26, ms1mx5.2/35, Error ellipse: s-maj=19.6km s-min=12.6km az=154.0
NEIC 19 11:13:19.8±0.2, 21.84S×175.12W, h10km, mb5.4/122, MS5.5/150, MW5.7, Error ellipse: s-maj=8.2km s-min=4.2km az=140.0
GCMT 19 11:13:19.8±0.1, 22.07S×174.32W, h25km, MW5.8/124, Moment Tensor Solution. s106,c216; s124,c350; Duration: 1§9 Moment tensor: Scale 10^{17} Nm; M_{rr}4.14±.05; $M_{\theta\theta}$-0.97±.04; $M_{\phi\phi}$-3.17±.04; $M_{r\theta}$1.72±.09; $M_{r\phi}$-2.30±.03; $M_{\theta\phi}$3.85±.10; Best double couple: $M_0$6.08300×10^{17} NP1:ϕ_s26.00000°, δ67.00000°, λ85.00000°. NP2:ϕ_s219.00000°, δ23.00000°, λ102.00000°. Principal axes: T 5.8680, Plg68.0000°, Azm287.0000°; N 0.4280, Plg5.0000°, Azm28.0000°; P -6.2980, Plg22.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
ISCJB 19 11:13:19.8±2.4, 21.97S±0.05×175.10W±0.03, h21km±17km, mb5.3/196, MS5.5/216 Error ellipse: s-maj=9.2km s-min=3.8km az=159.6
SZGRF 19 11:13:20.7, 22.26S×174.09W, h33km, Tonga Islands region
NEIC 19 11:13:22.0±0.0, 21.73S×175.21W, h15km Best double couple: NP1:ϕ_s18.00000°, δ58.00000°, λ86.00000°. NP2:ϕ_s204.00000°, δ31.00000°, λ95.00000°. Principal axes: T 4.3200, Plg76.0000°, Azm278.0000°; N 1.5100, Plg2.0000°, Azm19.0000°; P -5.8300, Plg13.0000°, Azm110.0000°;
MOS 19 11:13:22.6±1.4, 21.91S×175.21W, h39km, mb5.5/52, MS5.5/39 Error ellipse: s-maj=10.3km s-min=7.6km az=60.4
ISC 19 11:13:20.3±0.4, 21.93S±0.05×175.06W±0.05, h16km±1km, h16km:pP-P, n973, σ1§41/906, mb5.3/196, MS5.5/216, 61C-32D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.72	302	Pn	Pn	11 15 20.3	+8.2
	4μm,1.3s,SNR=52						
RAO	Raoul Island	7.74	199	eP	Pn	11 15 12.9	+0.7
RAO						11 16 36.6	
RAO	Raoul Island	7.74	199	Pn	Pn	11 15 12.4	+0.2
	135nm,0.3s,baz=60,slow=20,SNR=3.5						
RAO				Sn	Sn	11 16 36.6	-2.9
	287nm,0.3s,baz=218,slow=22,SNR=12						

RAO Raoul Island 7.74 199 ePn Pn 11 15 12.9 +0.7
RAO Sn Sn 11 16 36.6 -2.9
AFI Afiamalu 8.56 22 eP Pn 11 15 16.6 -7.1
AFI Afiamalu 8.56 22 ePn Pn 11 15 16.6 -7.1
AFI eSn Sn 11 16 46.3 -14
RAR Rarotonga 14.24 90 Pn Pn 11 16 30.2 -11
7.2nm,0.3s,baz=270,slow=8.5,SNR=20
OUZ Omahuta 16.56 214 ePn P 11 17 15.6 +1.3
203nm,1.6s
DZM Mont Dzumac 17.16 266 eP P 11 17 25.5 +4.3
204nm,1.4s
DZM eLR LR 11 21 28.7
26µm,22.1s
DZM Mont Dzumac 17.16 266 P P 11 17 25.3 +4.1
0.5nm,0.3s,baz=90,slow=9.8,SNR=12
NOUC Port Laguerre 17.29 266 eP P 11 17 27.8 +5.3
URZ Urewera 17.62 201 P P 11 17 25.6 -0.4
1.8nm,0.3s,baz=254,slow=4.2,SNR=11
URZ S Sn 11 20 26.2 -15
1.9nm,0.3s,baz=109,slow=21,SNR=7.0
URZ Urewera 17.62 201 ePn P 11 17 27.0 +1.0
55nm,1.0s
URZ S Sn 11 20 26.1 -15
BKZ Black Stump Fm 18.64 201 ePn Pn 11 17 38.4 +0.6
56nm,1.1s
BFZ Birch Farm 20.10 200 eP Pn 11 17 56.0 +0.9
87nm,0.9s
SNZO South Karori 21.17 202 eP P 11 18 05.5 +0.7
23nm,0.7s
SNZO LR LR
comp=Z,11µm,19.0s
TBI Tubuai 23.66 98 eT T 11 41 55.2
comp=Z,12nm,0.3s
PAE Paea 24.33 84 eP P 11 18 32.9 -4.6
comp=Z,12nm,1.1s
PAE Paea 24.33 84 eT T 11 42 49.2
comp=Z,35nm,0.4s
PPT2 Papeete2 24.35 84 eP P 11 18 33.5 -4.3
comp=Z,95nm,1.2s
PPT2 eS S 11 22 46.8 -10
comp=Z,3µm,25.9s
PPT2 eLQ LQ 11 23 07.0
comp=Z,14µm,28.0s
PPT2 eLR LR 11 24 20.0
comp=Z,21µm,25.5s,baz=253
PPT2 Papeete2 24.35 84 eT T 11 42 51.6
comp=Z,18nm,0.4s
PPT Papeete 24.36 84 P P 11 18 35.3 -2.5
comp=Z,80nm,0.9s,baz=172,slow=1.5,SNR=5.7
PPT LR LR 11 25 34.9
comp=Z,8µm,21.1s,baz=260,slow=30
TIAR Tiarei 24.57 84 eP P 11 18 35.4 -4.3
comp=Z,17nm,0.9s
TIAR Tiarei 24.57 84 eT T 11 43 07.4
comp=Z,4.1nm,0.4s
RPZ Rata Peaks 24.60 205 eP P 11 18 41.8 +2.1
comp=Z,531nm,2.1s
TVO Taravao 24.61 85 eP P 11 18 35.4 -4.7
comp=Z,86nm,1.8s
TVO Taravao 24.61 85 eT T 11 43 09.8
comp=Z,3.4nm,0.3s
MEH Mehetia 25.68 86 eP P 11 18 46.0 -3.8
comp=Z,78nm,1.6s
MEH Mehetia 25.68 86 eT T 11 44 30.0
comp=Z,20nm,0.2s
TARA Tarawa 25.95 332 PFAKE 11 19 00.0 +7.8
TARA LR LR
comp=Z,19µm,20.0s
PMOR Pomariorio Ree 26.64 80 eP P 11 18 54.8 -3.6
comp=Z,105nm,1.3s
VAH Vaihoa 26.81 80 eP P 11 18 56.2 -3.7
comp=Z,59nm,1.1s
VAH Vaihoa 26.81 80 eT T 11 45 56.7
comp=Z,4.4nm,0.2s
HNR Honiara 27.03 293 LR LR 11 28 13.2
comp=Z,6µm,21.8s,baz=132,slow=33
XMAS Kiritimati 29.39 38 PFAKE 11 19 40.0 +17
XMAS LR LR
comp=Z,7µm,19.0s
ARMA Armidale 30.98 247 eP P 11 19 39.5 +2.4
comp=Z,59nm,1.5s
ARMA Armidale 30.98 247 ⇓P P 11 19 35.6 -1.6
baz=31,SNR=4.0
EIDS Eidsvold 31.16 257 eP P 11 19 39.7 +1.1
comp=Z,42nm,1.3s
EIDS Eidsvold 31.16 257 ⇓P P 11 19 36.2 -2.4
baz=31
MGCD Mangrove Creek 31.90 242 ⇑P P 11 19 47.0 +2.0
baz=32
RMQ Roma 33.24 255 ⇓P P 11 19 58.1 +1.2
baz=33,SNR=20
CNB Canberra Magne 33.77 239 ⇑P P 11 20 01.3 -0.2
baz=34
CAN Canberra 34.06 239 PFAKE 11 20 20.0 +16
CAN LR LR
comp=Z,9µm,19.0s
TAOE Nuku Hiva Isla 35.97 74 eT T 11 57 26.3
comp=Z,86nm,0.3s
CTA Charters Tower 36.10 266 P P 11 20 22.0 +0.3
CTA pmax pmax
comp=Z,25nm,0.7s
CTA MLR MLR
comp=Z,17nm,28.6s
CTA Charters Tower 36.10 266 P P 11 20 21.9 +0.3
comp=Z,25nm,0.7s,baz=103,slow=10,SNR=20
CTA LR LR 11 34 38.5
comp=Z,5µm,18.1s,baz=98,slow=35
CTA Charters Tower 36.10 266 ⇑P P 11 20 21.8 +0.1
baz=36
CTAO Charters Tower 36.10 266 eP P 11 20 22.0 +0.3
CTAO pmax pmax
comp=Z,45nm,1.0s
CTAO MLR MLR
comp=Z,4µm,20.0s
CTAO Charters Tower 36.10 266 eP P 11 20 22.0 +0.3
comp=Z,45nm,1.0s
CTAO LR LR
comp=Z,4µm,20.0s
CMSA Cobar Meteorol 36.18 246 ⇑P P 11 20 21.9 -0.3
baz=36,SNR=19
RKT Rikitea 36.96 100 eS S 11 26 05.9 -7.9
comp=Z,1µm,26.2s
RKT eLQ LQ 11 28 44.3
comp=Z,2µm,29.5s
RKT eLR LR 11 30 12.8
comp=Z,14µm,27.0s,baz=265
RKT Rikitea 36.96 100 eT T 11 58 32.2
comp=Z,5.1nm,0.4s
QLP Quilpie 37.30 255 ⇑P P 11 20 31.3 -0.5
baz=37,SNR=26
TOO Toolangi 37.34 236 P P 11 20 32.9 +0.9
baz=38,SNR=5.2
TAU Tasmania Unive 37.61 227 eP P 11 20 34.8 +0.5
TAU pmax pmax
comp=Z,32nm,1.2s
TAU MLR MLR
comp=Z,6µm,20.0s
TAU Tasmania Unive 37.61 227 eP P 11 20 34.8 +0.5
comp=Z,32nm,1.2s
TAU LR LR
comp=Z,6µm,20.0s
MTSU Mount Surprise 38.28 268 ⇑P P 11 20 41.0 +0.8
baz=38,SNR=6.9
PMG Port Moresby 38.34 283 c iP P 11 20 40.8 +0.1
PMG pmax pmax
comp=Z,74nm,1.7s
PMG Port Moresby 38.34 283 P P 11 20 40.5 -0.2
comp=Z,29nm,0.8s,baz=107,slow=11,SNR=15
PMG LR LR 11 34 43.4
comp=Z,8µm,18.9s,baz=136,slow=34
PMG Port Moresby 38.34 283 eP P 11 20 41.4 +0.7
comp=Z,259nm,1.9s
PMG Port Moresby 38.34 283 P P 11 20 41.4 +0.7
baz=38,SNR=7.1
STKA Stephens Creek 39.69 246 P P 11 20 51.1 -0.7
STKA pmax pmax
comp=Z,4.0nm,0.5s
STKA MLR MLR
comp=Z,17nm,28.6s
STKA Stephens Creek 39.69 246 P P 11 20 51.1 -0.7
comp=Z,3.5nm,0.5s,baz=90,slow=9.4,SNR=23
STKA LR LR 11 37 09.2
comp=Z,9µm,18.0s,baz=83,slow=36
STKA Stephens Creek 39.69 246 eP P 11 20 51.5 -0.3
comp=Z,4.5nm,1.1s
ARPS Mount Arapiles 40.04 239 ⇓P P 11 20 54.9 +0.2
baz=40,SNR=6.1
COEN Coen 40.42 274 eP P 11 20 58.4 +0.2
comp=Z,307nm,1.1s
COEN Coen 40.42 274 ⇑P P 11 20 57.5 -0.7
baz=40,SNR=21
PTCN Pitcairn Islan 41.21 103 PFAKE 11 21 20.0 +15
PTCN LR LR
comp=Z,5µm,21.0s
HTT Hallett 42.03 244 P P 11 21 11.0 -0.3
baz=42,SNR=10.0
QIS Mount Isa 42.16 263 ⇑P P 11 21 12.3 -0.2
baz=42,SNR=4.5
BBOO Buckleboo 44.41 245 eP P 11 21 29.8 -0.6
comp=Z,569nm,1.3s
BBOO Buckleboo 44.41 245 ⇑P P 11 21 29.8 -0.6
baz=44,SNR=6.1
WAKE Wake Island 44.70 335 PFAKE 11 21 40.0 +7.3
WAKE LR LR
comp=Z,10µm,19.0s
POHA Pohakuloa 45.62 26 PFAKE 11 21 50.0 +10
POHA LR LR
comp=Z,3µm,20.0s
KIP Kipapa 46.19 22 eP P 11 21 47.2 +2.7
KIP pmax pmax
comp=Z,37nm,0.8s
AS17 Alice Springs 46.80 258 ⇑P P 11 21 47.4 -2.1
baz=47
ASAR Alice Springs 46.88 258 P P 11 21 48.8 -1.4
ASAR S S 11 28 36.7 -4.0
ASAR pmax pmax
comp=Z,32nm,0.9s
ASAR pmax pmax
comp=N,1.0nm,0.7s
ASAR smax smax
comp=N,5.0nm,1.2s
ASAR MLR MLR
comp=Z,17nm,28.6s
ASAR Alice Springs 46.88 258 P P 11 21 48.8 -1.4
comp=Z,32nm,0.9s,baz=91,slow=7.8,SNR=132
ASAR ScP ScP 11 27 16.8 +0.6
comp=Z,0.8nm,0.7s,baz=108,slow=5.9,SNR=4.2
ASAR S S 11 28 36.6 -4.0
comp=Z,4.9nm,1.2s,baz=91,slow=15,SNR=9.5
ASAR LR LR 11 41 17.9
comp=Z,10µm,18.6s,baz=98,slow=36
WRAB Tennant Creek 47.13 263 P P 11 21 50.8 -1.3
comp=Z,136nm,1.2s,SNR=14
WRAB Tennant Creek 47.13 263 c iP P 11 21 50.6 -1.5
WRAB pmax pmax
comp=Z,92nm,1.2s
WRAB Tennant Creek 47.13 263 eP P 11 21 50.6 -1.5
comp=Z,28nm,1.0s
WRAB LR LR
comp=Z,8µm,21.0s
WRA Warramunga Arr 47.13 263 P P 11 21 50.8 -1.4
WRA S S 11 28 41.1 -3.2
WRA pmax pmax
comp=Z,15nm,0.9s
WRA smax smax
comp=N,7.0nm,1.3s
WRA Warramunga Arr 47.13 263 P P 11 21 50.8 -1.4
comp=N,15nm,0.9s,baz=95,slow=7.7,SNR=65
WRA S S 11 28 41.0 -3.2
comp=N,6.5nm,1.3s,baz=99,slow=13,SNR=6.9
WRA LR LR 11 40 36.6
comp=N,7µm,19.9s,baz=110,slow=35
MIDW Midway 49.90 357 PFAKE 11 22 20.0 +6.9
MIDW LR LR
comp=Z,6µm,20.0s
KDU Kakadu 50.73 271 ⇓P P 11 22 19.3 -0.4
baz=50,SNR=6.7
FORT Forrest 51.27 248 eP P 11 22 23.1 -0.6
comp=Z,70nm,0.8s
FORT Forrest 51.27 248 P P 11 22 23.1 -0.6
baz=51,SNR=25
WRKA Warakurna 51.73 255 P P 11 22 25.7 -1.5
baz=52,SNR=61
WRKA P P 11 22 25.7 -1.5
baz=52,SNR=42
DRV Dumont d'Urvil 52.96 201 P P 11 22 23.0 -13
DRV PP PP 11 24 24.0 -11
DRV S S 11 29 50.0 -14
DRV L L 11 35 00.0
DRV R R 11 39 00.0
KNRA Kununurra 53.31 266 ⇓P P 11 22 38.3 -0.7
baz=53,SNR=34
FITZ Fitzroy Crossi 55.56 263 eP P 11 22 54.9 -0.5
comp=Z,61nm,1.3s
FITZ Fitzroy Crossi 55.56 263 ⇓P P 11 22 55.1 -0.2
baz=55,SNR=20
SBA Scott Base 56.65 185 eP P 11 23 02.2 0.0
SBA pmax pmax
comp=Z,603nm,2.0s
SBA MLR MLR
comp=Z,3µm,19.0s
SBA Scott Base 56.65 185 eP P 11 23 02.2 0.0
comp=Z,603nm,2.0s
SBA LR LR
comp=Z,3µm,19.0s
VNDA Vanda 56.76 186 LR LR 11 48 22.5
comp=Z,1µm,18.1s,baz=12,slow=37
NLAI Namlea 59.05 280 P P 11 23 20.4 +0.3
comp=Z,44nm,1.6s,comp=Z,1µm
SOEI Soe 59.29 272 P P 11 23 23.3 +1.5
comp=Z,118nm,1.3s,comp=Z,2µm
SOEI Soe 59.29 272 eP P 11 23 23.4 +1.5
comp=Z,129nm,1.1s
SOEI Soe 59.29 272 ⇑P P 11 23 22.9 +1.0
baz=59,SNR=10
RPN Rapa Nui 59.42 109 LR LR 11 44 57.8
comp=Z,4µm,18.2s,baz=244,slow=32
BATI Baumata 59.70 271 P P 11 23 26.2 +1.6
comp=Z,39nm,1.2s
BATI Baumata 59.70 271 P P 11 23 24.8 +0.3
comp=Z,39nm,0.7s,baz=233,slow=2.8,SNR=7.3
KLBR Kellerberrin 59.95 245 P P 11 23 26.3 +0.2
baz=60,SNR=8.0
MEEK Meekatharra 60.05 251 ⇓P P 11 23 26.8 -0.1
baz=60,SNR=5.5
RKGY Rocky Gully 60.18 242 ⇑P P 11 23 29.0 +1.4
baz=60
NWAO Narrogin (SRO) 60.19 244 P P 11 23 28.1 +0.4
NWAO pmax pmax
comp=Z,15nm,1.1s
NWAO Narrogin (SRO) 60.19 244 P P 11 23 28.1 +0.4
comp=Z,15nm,1.1s,baz=84,slow=9.2,SNR=2.4
MBWA Marble Bar 60.23 257 eP P 11 23 27.6 -0.4
comp=Z,40nm,1.1s
MBWA LR LR
comp=Z,5µm,19.0s
TNTI Ternate 60.48 284 eP P 11 23 30.4 +0.5
comp=Z,96nm,1.1s
BLDU Balludu 60.99 246 P P 11 23 33.1 -0.1
baz=61,SNR=8.8
MMRI Maumere 61.55 272 eP P 11 23 37.0 -0.2
comp=Z,33nm,0.9s
MORW Morawa 61.83 248 P P 11 23 38.9 0.0
baz=62,SNR=6.7
CASY Casey 63.86 206 PFAKE 11 24 00.0 +8.3
CASY LR LR
comp=Z,2µm,19.0s
LUWI Luwuk 63.89 280 P P 11 23 53.7 +0.9
comp=Z,61nm,1.5s,comp=Z,2µm
LUWI Luwuk 63.89 280 eP P 11 23 53.2 +0.5
comp=Z,131nm,1.3s
LUWI Luwuk 63.89 280 P P 11 23 53.3 +0.5
baz=64,SNR=8.9
JCJ Chichijima 63.93 318 LR LR 11 48 47.4
comp=Z,3µm,19.7s,baz=150,slow=33
DAV Davao City (W) 64.90 289 PFAKE 11 24 10.0 +11
DAV LR LR
comp=Z,3µm,19.0s
BNSI Bone 65.04 275 P P 11 24 00.4 +0.1
comp=Z,28nm,1.8s,comp=Z,814nm
KAPI Kappang 65.14 275 PFAKE 11 24 10.0 +9.0
KAPI LR LR
comp=Z,2µm,20.0s
MPSI Mapaga 67.07 280 P P 11 24 13.9 +0.5
comp=Z,16nm,1.6s,comp=Z,501nm
QSPA South Pole Qui 68.15 180 LR LR 11 54 02.7
comp=Z,2µm,18.2s,baz=37,slow=36
QSPA South Pole Qui 68.15 180 eP P 11 24 20.3 +0.8
comp=Z,199nm,1.5s
JAGI Jajag, Banyuwa 69.11 269 P P 11 24 25.7 -0.5
comp=Z,46nm,1.2s,comp=Z,997nm
JAGI Jajag, Banyuwa 69.11 269 eP P 11 24 24.9 -1.4
comp=Z,29nm,1.0s
JAGI Jajag, Banyuwa 69.11 269 ⇓P P 11 24 25.1 -1.1
baz=69
GMJI Gumukmas 69.84 269 P P 11 24 30.6 -0.1
comp=Z,37nm,1.1s
PWJI Pagerwojo 71.45 269 P P 11 24 40.2 -0.3
comp=Z,37nm,1.1s
UGM Wanagama 72.67 268 P P 11 24 48.2 +0.2
comp=Z,99nm,1.7s
UGM Wanagama 72.67 268 ⇑P P 11 24 48.1 +0.2
baz=72
MJAR Matsushiro Arr 73.00 322 P P 11 24 49.5 +0.2
MJAR pmax pmax
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 73.00 322 P P 11 24 49.5 +0.2
comp=Z,4.3nm,0.7s,baz=165,slow=6.2,SNR=10.0
MAJO Matsushiro 73.00 322 eP P 11 24 51.5 +2.2
MAJO pmax pmax
comp=Z,63nm,1.2s
MAJO Matsushiro 73.00 322 PFAKE 11 25 00.0 +11
MAJO LR LR
comp=Z,2µm,22.0s
MAT Matsushiro 73.00 322 P P 11 24 48.9 -0.4
MAT S SKiKP 11 34 21.8 0.0
JOW Kunigami 73.19 309 LR LR 11 52 42.8
comp=Z,95nm,21.4s,baz=128,slow=32
ADK Adak 73.51 359 eP P 11 24 52.9 +1.1
ADK pmax pmax
comp=Z,21nm,0.6s
ADK MLR MLR
comp=Z,3µm,19.0s
ADK Adak 73.51 359 eP P 11 24 52.9 +1.1
comp=Z,21nm,0.6s
ADK LR LR
comp=Z,3µm,19.0s
KPJI Karang Pucung 74.36 268 P P 11 24 58.8 +1.0
comp=Z,30nm,1.6s,comp=Z,2µm
ERM Erimo 74.44 329 PFAKE 11 25 10.0 +12
ERM LR LR
comp=Z,2µm,20.0s
CMJI Cimerak 74.64 268 P P 11 24 59.1 -0.3
comp=Z,51nm,1.5s
KUR Kuril'sk 74.89 334 ⇓iP P 11 24 57.7 -2.4
KUR eS S 11 34 38.4 +1.9
KUR pmax pmax
comp=N,188nm,1.3s
KUR pmax pmax
comp=E,44nm,1.3s
KUR pmax pmax
comp=Z,54nm,1.3s
FX1 Attu Island--F 75.20 353 LR LR 11 50 10.2
comp=Z,1µm,21.4s,baz=146,slow=29
LEM Lembang 75.75 268 P P 11 25 06.7 +0.7
comp=Z,80nm,1.1s,comp=Z,2µm
ASAJ Asahikawa 76.31 330 P P 11 25 09.5 +1.2
ASAJ pmax pmax
comp=Z,35nm,1.0s
ASAJ Asahikawa 76.31 330 P P 11 25 09.5 +1.2
comp=Z,35nm,1.0s,baz=232,slow=15,SNR=8.5
ASAJ Asahikawa 76.31 330 eP P 11 25 09.5 +1.2
comp=Z,38nm,1.3s
BSC Santa Cruz Isl 76.64 45 P P 11 25 12.0 +1.6
baz=77
CIS Catalina Islan 77.09 46 P P 11 25 16.2 +3.3
baz=77
YHNB Yeheng 77.18 303 PFAKE 11 25 30.0 +16
YHNB LR LR
comp=Z,2µm,20.0s
SMMC Simmler 77.21 43 P P 11 25 16.6 +3.0
baz=77
SAO San Andreas Ge 77.23 42 eP P 11 25 16.1 +2.5
SAO pmax pmax
comp=Z,29nm,1.0s
SAO San Andreas Ge 77.23 42 eP P 11 25 16.1 +2.5
comp=Z,29nm,1.0s
TATO Taipei 77.25 304 PFAKE 11 25 30.0 +16
TATO LR LR
comp=Z,3µm,22.0s
CGJI Cibinong 77.61 268 P P 11 25 16.1 -0.3
comp=Z,48nm,1.2s,comp=Z,3µm
HOPS Hopland 77.70 39 eP P 11 25 15.6 -0.7
comp=Z,37nm,1.1s
MWC Mount Wilson 77.81 45 eP P 11 25 20.2 +3.0
MWC pmax pmax
comp=Z,13nm,1.0s
MWC Mount Wilson 77.81 45 eP P 11 25 20.2 +3.0
comp=Z,13nm,1.0s
BAR Barrett 77.82 47 P P 11 25 19.2 +2.1
comp=Z,45nm,1.9s
ARVC Arvin 77.85 44 P P 11 25 18.8 +1.6
baz=78
MURC Murrieta 78.01 46 P P 11 25 19.6 +1.5
baz=78
KIPM Iron Peak 78.01 38 eP P 11 25 18.9 +0.7
comp=Z,34nm,1.3s
PET Petropavlovsk 78.06 344 eP P 11 25 17.8 0.0
PET e 11 28 14.5
PET eS S 11 35 09.5 -1.5
PET ePS PnS 11 35 44.1 -8.7
PET eSS SS 11 40 15.0 +1.8
PET pmax pmax
comp=Z,900nm,6.9s
PET pmax pmax
comp=Z,700nm,11.4s
PET MLR MLR
comp=Z,2µm,19.0s
PET MLR MLR
comp=Z,2µm,15.0s
PET Petropavlovsk 78.06 344 PFAKE 11 25 30.0 +12
PET LR LR
comp=Z,2µm,20.0s
MONP Monument Peak 78.12 47 P P 11 25 20.2 +1.2
baz=78
VES Vestal, Richgr 78.13 43 P P 11 25 18.2 -0.4
baz=78
PETK Petropavlovsk- 78.38 344 P P 11 25 19.0 -0.7
PETK pmax pmax
comp=Z,12nm,0.8s
PETK Petropavlovsk- 78.38 344 P P 11 25 18.9 -0.7
comp=Z,12nm,0.8s,baz=124,slow=6.5,SNR=15
PETK LR LR 11 56 40.1
comp=Z,920nm,19.2s,baz=155,slow=33
ISA Isabella 78.41 44 eP P 11 25 22.7 +2.3
ISA pmax pmax
comp=Z,22nm,1.3s
ISA Isabella 78.41 44 eP P 11 25 22.6 +2.3
comp=Z,22nm,1.3s
ISA Isabella 78.41 44 P P 11 25 22.0 +1.7
baz=79
YSS Yuzh-Sakhalins 78.42 332 ⇑eP P 11 25 21.0 +1.0
YSS e 11 25 31.0
YSS eS S 11 35 17.0 +1.9
YSS ePPS PPS 11 36 05.0
YSS pmax pmax
comp=Z,70nm,1.0s
YSS MLR MLR
comp=Z,2µm,17.0s
YSS MLR MLR
comp=N,2µm,18.0s
YSS MLR MLR
comp=E,2µm,17.0s
YSS Yuzh-Sakhalins 78.42 332 eP P 11 25 21.2 +1.2
comp=E,90nm,1.1s
YSS LR LR
comp=Z,989nm,20.0s
PFO Pinyon Flat Ob 78.51 47 eP P 11 25 21.8 +0.7
PFO pmax pmax
comp=Z,5.0nm,1.1s
PFO MLR MLR
comp=Z,2µm,19.0s
PFO Pinyon Flat Ob 78.51 47 P P 11 25 21.7 +0.6
comp=Z,1.4nm,0.6s,baz=259,slow=4.1,SNR=6.1
PFO Pinyon Flat Ob 78.51 47 eP P 11 25 21.8 +0.7
comp=Z,5.0nm,1.1s
PFO LR LR
comp=Z,2µm,19.0s
SWSC Sam W. Stewart 78.57 48 P P 11 25 23.6 +2.4
baz=79
KHMM Horse Mountain 78.58 37 eP P 11 25 24.2 +2.9
comp=Z,22nm,1.0s
CMB Columbia Colle 78.69 41 eP P 11 25 20.6 -1.2
CMB pmax pmax
comp=Z,22nm,1.0s
CMB Columbia Colle 78.69 41 eP P 11 25 20.6 -1.2
comp=Z,22nm,1.0s
OHCM Honcut 78.86 39 eP P 11 25 25.0 +2.4
PMSA Palmer Station 78.88 156 LR LR 11 52 33.4
comp=Z,2µm,20.2s,baz=250,slow=30
BELC Belle Mtn. Jos 79.05 47 P P 11 25 25.1 +1.0
baz=79

WDC Whiskeytown Da 79.06 38 eP P 11 25 23.7 0.0
WDC pmax pmax
comp=Z,32nm,1.1s
WDC Whiskeytown Da 79.06 38 eP P 11 25 23.7 0.0
comp=Z,32nm,1.1s
KASI Kota Agung 79.11 268 P P 11 25 25.6 +0.9
comp=Z,73nm,1.0s
BC3 Big Chuckawall 79.22 47 P P 11 25 25.7 +0.7
baz=79
N02D Trinity Center 79.23 38 P P 11 25 26.0 +1.3
baz=79
GSC Goldstone 79.28 45 eP P 11 25 27.2 +2.0
GSC pmax pmax
comp=Z,55nm,1.8s
GSC Goldstone 79.28 45 eP P 11 25 27.2 +2.0
comp=Z,55nm,1.8s
GSC Goldstone 79.28 45 P P 11 25 26.3 +1.1
baz=80
GLA Glamis 79.30 48 eP P 11 25 26.9 +1.6
GLA pmax pmax
comp=Z,41nm,1.4s
GLA Glamis 79.30 48 eP P 11 25 26.9 +1.6
comp=Z,41nm,1.4s
GLA Glamis 79.30 48 P P 11 25 26.5 +1.2
baz=80
HEC Hector,Ludlow 79.31 46 P P 11 25 26.6 +1.3
baz=80
DAC Darwin (Calif) 79.35 44 eP P 11 25 28.9 +3.2
DAC pmax pmax
comp=Z,61nm,2.0s
DAC Darwin (Calif) 79.35 44 eP P 11 25 28.9 +3.2
comp=Z,61nm,2.0s
MLAC Mammoth Lakes 79.39 42 P P 11 25 27.6 +1.6
baz=80
MTUM Tungsten Hills 79.39 43 eP P 11 25 28.5 +2.7
M02C Callahan 79.42 37 P P 11 25 26.3 +0.5
baz=80
QZH Quanzhou 79.49 302⇑iP P 11 25 26.3 -0.1
QZH pmax pmax
comp=Z,70nm,1.2s
QZH pmax pmax
comp=Z,910nm,4.9s
QZH LR LR
comp=Z,2μm,14.8s
QZH LR LR
comp=Z,1μm,11.4s
QZH LR LR
comp=Z,3μm,20.7s
L02D Cave Junction, 79.52 36 P P 11 25 26.8 +0.6
baz=80
WAKR Walker 79.56 41 eP P 11 25 26.2 -0.6
KEBM Edson Butte 79.61 35 eP P 11 25 24.9 -1.9
comp=Z,58nm,1.4s
IRM Iron Mountain 79.72 47 P P 11 25 26.9 -0.6
baz=80
YBH Yreka Blue Hor 79.73 37 eP P 11 25 27.0 -0.5
YBH pmax pmax
comp=Z,29nm,1.1s
YBH Yreka Blue Hor 79.73 37 eP P 11 25 27.0 -0.5
comp=Z,29nm,1.1s
GMRC Granite Mounta 79.73 46 P P 11 25 28.8 +1.1
baz=80
MDSI Maura Dua 79.78 269 P P 11 25 28.1 -0.2
comp=Z,29nm,1.0s,comp=Z,658nm
KSRS Korea Array 79.78 317 P P 11 25 28.1 +0.3
comp=Z,4.4nm,1.1s,baz=131,slow=6.4,SNR=7.7
KSRS LR LR 11 55 05.1
comp=Z,2μm,21.8s,baz=130,slow=31
KSAR Wonju Array Be 79.80 317 P P 11 25 28.1 +0.2
KSAR Wonju Array Be 79.80 317 P P 11 25 28.1 +0.2
113A Mohawk Valley, 79.88 49 P P 11 25 29.1 +0.7
baz=80
Y12C Blythe 79.91 47 P P 11 25 29.3 +0.8
baz=80
GRAC Grapevine Rang 79.93 43 P P 11 25 30.0 +1.4
baz=80
FURC Furnace Creek, 79.94 44 P P 11 25 30.2 +1.6
baz=80
SHOC Shoshone 79.98 45 P P 11 25 29.8 +0.9
baz=80
214A Organ Pipe Nat 80.10 50 eP P 11 25 30.1 +0.5
comp=Z,47nm,1.6s
214A Organ Pipe Nat 80.10 50 P P 11 25 29.9 +0.3
baz=80
HUMO Hull Mountain 80.17 36 eP P 11 25 29.5 -0.3
comp=Z,28nm,1.2s
NVAR Mina Array Bea 80.21 42 P P 11 25 29.2 -1.1
comp=Z,2.1nm,0.7s,baz=224,slow=8.7,SNR=14
NVAR LR LR 11 55 55.8
comp=Z,3μm,18.6s,baz=122,slow=32
M04C Macdoel 80.25 37 P P 11 25 30.9 +0.6
baz=80
LDFC Landfair 80.27 46 eP P 11 25 32.9 +2.3
comp=Z,39nm,1.1s
NV11 Mina Array Sit 80.31 42 eP P 11 25 30.0 -0.7
PDMCI Parker Dam,Lak 80.48 47 P P 11 25 32.5 +0.9
baz=81
INCN Inchon 80.62 317 PFAKE 11 25 40.0 +7.7
INCN LR LR
comp=Z,2μm,21.0s
I03D Drain, OR 80.69 35 P P 11 25 34.2 +1.7
baz=81
SSE Sheshan 80.71 309 P P 11 25 33.5 +0.6
SSE sP sP 11 25 38.1 -2.0
SSE S S 11 35 40.3 +0.2
SSE pmax pmax
comp=Z,9.0nm,1.0s
SSE pmax pmax
comp=Z,680nm,11.4s
SSE LR LR
comp=Z,790nm,24.0s
SSE LR LR
comp=Z,680nm,24.0s
SSE LR LR
comp=Z,1μm,20.5s
Z14A Wintersburg 80.78 49 P P 11 25 34.2 +1.0
baz=81
Y14A Wickenburg 81.06 48 P P 11 25 34.5 -0.3
baz=81
J04D Umpqua Nationa 81.06 36 P P 11 25 34.8 0.0
baz=81
SHPR Sheep Range 81.07 45 eP P 11 25 35.1 +0.2
W13A Hualapai Mount 81.11 47 P P 11 25 35.5 +0.3
baz=81
MOD Modoc 81.20 38 eP P 11 25 34.6 -0.8
comp=Z,21nm,0.9s
I04A Tendick Farm, 81.26 36 P P 11 25 36.3 +0.7
baz=82
K05A Summer Lake 81.40 37 eP P 11 25 35.2 -1.3
comp=Z,54nm,1.1s
USHA Ushuaia 81.42 146 LR LR 11 57 25.3
comp=Z,2μm,18.1s,baz=231,slow=33
J05D Fort Rock, OR 81.57 37 P P 11 25 37.8 +0.4
baz=82
KDAK Kodiak Island 81.60 12 PFAKE 11 25 50.0 +13
KDAK LR LR
comp=Z,3μm,20.0s
USRK Ussuriysk Arra 81.70 325 P P 11 25 38.5 +0.7
comp=Z,26nm,1.1s,baz=117,slow=3.0,SNR=28
USRK LR LR 12 00 37.1
comp=Z,1μm,18.4s,baz=123,slow=35
TUC Tucson 81.73 50 eP P 11 25 39.7 +1.3
TUC pmax pmax
comp=Z,35nm,1.6s
TUC MLR MLR
comp=Z,3μm,22.0s
TUC Tucson 81.73 50 eP P 11 25 39.7 +1.3
comp=Z,35nm,1.6s
TUC LR LR
comp=Z,3μm,22.0s
G03D McMinnville, O 81.76 34 P P 11 25 40.0 +1.9
baz=82
R11A Troy Canyon, C 81.87 43 P P 11 25 39.0 -0.2
baz=82
BMN Battle Mountai 82.10 41 eP P 11 25 40.9 +0.6
BMN pmax pmax
comp=Z,32nm,1.4s
BMN Battle Mountai 82.10 41 eP P 11 25 40.9 +0.6
comp=Z,32nm,1.4s
PINOR Pine Mountain 82.11 36 eP P 11 25 39.2 -0.8
comp=Z,46nm,1.1s
I05D Terrebonne, OR 82.20 36 P P 11 25 41.7 +1.1
baz=82
319A Douglas 82.33 52 P P 11 25 42.1 +0.5
baz=82
X16A Lo Mia Camp, P 82.40 48 P P 11 25 42.4 +0.4
baz=83

WVOR Wild Horse Val 82.50 38 eP P 11 25 41.6 -0.7
WVOR pmax pmax
comp=Z,26nm,1.1s
WVOR MLR MLR
comp=Z,4μm,19.0s
WVOR Wild Horse Val 82.50 38 eP P 11 25 41.6 -0.7
comp=Z,26nm,1.1s
WVOR LR LR
comp=Z,4μm,19.0s
E03A Lebam 82.51 33 eP P 11 25 49.4 +7.3
comp=Z,53nm,1.0s
VFP Flag Point 82.78 35 P P 11 25 43.4 -0.3
LVP Lakeview Peak 82.78 34 P P 11 25 43.7 +0.1
CCUT Cedar City 82.84 45 eP P 11 25 44.5 +0.2
comp=Z,36nm,1.4s
FL2 Flat Top 2 82.90 34 P P 11 25 44.3 0.0
NJ2 Nanjing 82.91 309 eP P 11 25 45.3 +0.9
NJ2 S S 11 36 03.0 +0.2
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
NJ2 LR LR
comp=Z,2μm,28.4s
NJ2 LR LR
comp=Z,3μm,25.5s
NJ2 LR LR
comp=Z,7μm,30.9s
U15A North Rim 82.92 46 P P 11 25 45.0 +0.2
baz=83
ARUT Antelope Range 82.93 45 eP P 11 25 46.5 +1.9
ARUT pmax pmax
comp=Z,349nm,1.1s
ARUT Antelope Range 82.93 45 eP P 11 25 46.5 +1.9
comp=Z,349nm,1.1s
NLWA Neilton Lookou 82.94 32 eP P 11 25 45.8 +1.5
comp=Z,31nm,1.1s
NLWA LR LR
comp=Z,2μm,19.0s
I07A Izee 83.04 37 eP P 11 25 44.5 -0.6
comp=Z,29nm,1.1s
WUAZ Wupatki 83.05 47 eP P 11 25 46.5 +1.2
comp=Z,37nm,1.4s
WUAZ LR LR
comp=Z,2μm,19.0s
WUAZ Wupatki 83.05 47 P P 11 25 45.9 +0.6
baz=83
HABR Khabarovsk 83.06 329deP P 11 25 43.8 -1.0
HABR e*PP pP 11 25 53.6 +3.5
HABR e*SP sP 11 25 57.7 +5.7
HABR e 11 28 53.7
HABR eS S 11 36 00.8 -2.7
HABR SS SS 11 41 24.1 -4.0
HABR eSSS SSS 11 44 53.5
HABR pmax pmax
comp=N,13nm,1.3s
HABR pmax pmax
comp=E,12nm,1.3s
HABR pmax pmax
comp=Z,44nm,1.9s
HABR MLR MLR
comp=Z,2μm,19.0s
H03N2 Juan Fernandez 83.06 123 T T 12 57 43.4
baz=245,slow=73,SNR=28
H03N3 Juan Fernandez 83.06 123 T T 12 57 42.9
baz=245,slow=73,SNR=25
H03N1 Juan Fernandez 83.07 123 T T 12 57 41.3
baz=245,slow=73,SNR=25
G06A Carlson Farm, 83.17 35 eP P 11 25 44.5 -1.1
VTHM Trough 83.17 35 P P 11 25 45.5 -0.1
MDJ Mudanjiang 83.28 324 P P 11 25 47.8 +1.7
MDJ pP pP 11 25 51.0 -0.4
MDJ sP sP 11 25 52.3 -1.0
MDJ S SKKSac 11 36 11.8 -0.1
MDJ pmax pmax
comp=Z,40nm,0.9s
MDJ pmax pmax
comp=Z,910nm,6.8s
MDJ LR LR
comp=Z,650nm,25.8s
MDJ LR LR
comp=Z,640nm,23.0s
MDJ LR LR
comp=Z,1μm,21.5s
MDJ Mudanjiang 83.28 324 eP P 11 25 47.0 +0.9
comp=Z,47nm,1.1s
MDJ LR LR
comp=Z,2μm,21.0s
OSD Olympics--Snow 83.31 32 P P 11 25 46.9 +0.4
ELK Elko 83.50 41 eP P 11 25 48.4 +0.8
ELK pmax pmax
comp=Z,10.0nm,1.0s
ELK Elko 83.50 41 eP P 11 25 48.4 +0.8
comp=Z,10nm,1.0s
X18A Snowflake 83.50 49 P P 11 25 48.4 +0.6
baz=84
LON Longmire 83.54 34 eP P 11 25 47.0 -0.5
LON pmax pmax
comp=Z,26nm,1.1s
LON Longmire 83.54 34 eP P 11 25 47.0 -0.5
comp=Z,26nm,1.1s
COCO West Island 83.81 259 eP P 11 25 50.4 +0.9
COCO MLR MLR
comp=Z,4μm,19.0s
COCO West Island 83.81 259 eP P 11 25 50.4 +0.9
COCO LR LR
comp=Z,4μm,19.0s
QIZ Qiongzhong 83.94 293 P P 11 25 50.8 +0.7
QIZ sP sP 11 25 55.3 -2.0
QIZ PP PP 11 29 03.4 -0.6
QIZ S S 11 36 14.4 +0.6
QIZ pmax pmax
comp=Z,700nm,9.1s
QIZ LR LR
comp=Z,570nm,16.7s
QIZ LR LR
comp=Z,1μm,25.0s
QIZ Qiongzhong 83.94 293 PFAKE 11 26 00.0 +10
QIZ LR LR
comp=Z,2μm,20.0s
W18A Petrified Fore 83.96 49 P P 11 25 51.9 +1.8
baz=84
PGC Sidney 84.00 32 eP P 11 25 49.6 0.0
comp=Z,3.2nm,1.1s
121A Cookes Peak, D 84.01 52 P P 11 25 51.7 +1.3
baz=84
MVU Marysvale 84.13 45 eP P 11 25 50.6 -0.4
comp=Z,89nm,2.1s
BBB Bella Bella 84.39 27 LR LR 12 00 14.4
comp=Z,1μm,18.0s,baz=248,slow=33
E07A Sunnyside 84.44 35 eP P 11 25 51.8 -0.2
comp=Z,54nm,1.1s
LTY Liberty 84.47 34 eP P 11 25 51.6 -0.6
comp=Z,35nm,1.2s
CMW Cultus Mountai 84.50 32 P P 11 25 52.5 +0.1
HAWA Hanford 84.50 35 eP P 11 25 52.3 0.0
comp=Z,48nm,1.2s
HAWA LR LR
comp=Z,3μm,20.0s
DL2 Dalian 84.66 316⇑iP P 11 25 54.1 +0.9
DL2 S S 11 36 16.8 -3.3
DL2 pmax pmax
comp=Z,36nm,1.1s
DL2 pmax pmax
comp=Z,690nm,7.9s
DL2 LR LR
comp=Z,360nm,21.3s
DL2 LR LR
comp=Z,390nm,24.0s
DL2 LR LR
comp=Z,570nm,24.8s
DUG Dugway 84.69 43 eP P 11 25 54.8 +1.2
DUG pmax pmax
comp=Z,33nm,1.8s
DUG MLR MLR
comp=Z,2μm,19.0s
DUG Dugway 84.69 43 eP P 11 25 54.8 +1.2
comp=Z,33nm,1.8s
DUG LR LR
comp=Z,2μm,19.0s
MFID Camas Ranch 84.73 39 eP P 11 25 53.1 -0.5
comp=Z,24nm,1.1s
BMO Blue Mountains 84.75 37 eP P 11 25 52.6 -1.2
comp=Z,15nm,1.0s
BMO LR LR
comp=Z,3μm,19.0s
ETW Entiat 84.87 34 P P 11 25 54.0 -0.3
PAYG Puerto Ayora 84.89 89 PFAKE 11 26 10.0 +15

PAYG LR LR
comp=Z,3μm,20.0s
Z22A Elephant Butte 84.97 51 P P 11 25 54.9 -0.3
baz=85
CN2 Changchun 85.12 321 eP P 11 25 56.3 +0.9
CN2 epP pP 11 26 01.1 +0.3
CN2 esP sP 11 26 03.6 +0.9
CN2 eS S 11 36 24.3 -0.1
CN2 pmax pmax
comp=Z,60nm,1.5s
CN2 pmax pmax
comp=Z,1μm,4.0s
CN2 LR LR
comp=Z,900nm,21.0s
CN2 LR LR
comp=Z,500nm,21.0s
CN2 LR LR
comp=Z,600nm,18.0s
KLR Kul'dur 85.17 328 eP P 11 25 52.7 -2.9
KLR eS S 11 36 22.5 -2.2
KLR e 11 37 27.0
KLR pmax pmax
comp=Z,240nm,2.8s
KLR pmax pmax
comp=Z,2μm,10.0s
TMUT Trail Mountain 85.22 44 eP P 11 25 55.8 -0.7
comp=Z,50nm,1.1s
RC01 Rabbit Creek A 85.22 12 eP P 11 25 55.1 -0.4
comp=Z,54nm,1.3s
E09A Wood Farm, Sta 85.32 35 eP P 11 25 59.0 +2.6
comp=Z,37nm,1.2s
MPU Maple Canyon 85.34 44 eP P 11 25 57.7 +0.7
comp=Z,27nm,1.3s
MNTX Cornudas Mount 85.37 53 eP P 11 25 58.1 +1.1
comp=Z,8.5nm,1.0s
MNTX LR LR
comp=Z,1μm,19.0s
Y22D IRIS PASSCAL I 85.41 51 P P 11 25 57.5 +0.1
baz=86
LENM Lemitar 85.42 51 eP P 11 25 59.5 +2.1
LAZ Ladron 85.42 50 eP P 11 25 58.2 +0.8
comp=Z,30nm,1.7s
GAMB Gambell 85.46 1 eP P 11 25 57.2 +0.5
comp=Z,91nm,1.5s
F10A Beach Ranch, E 85.49 36 eP P 11 25 58.5 +1.1
comp=Z,41nm,1.0s
WHN Wuhan 85.50 305 P P 11 25 58.5 +0.8
WHN SKS SKSac 11 36 17.8 -4.7
WHN S S 11 36 28.4 -0.4
WHN LR LR
comp=Z,2μm,19.1s
WHN LR LR
comp=Z,4μm,21.6s
WHN LR LR
comp=Z,3μm,17.6s
TXAR Lajitas Array 85.54 56 P P 11 25 57.7 -0.3
comp=Z,1.7nm,0.9s,baz=217,slow=6.1,SNR=16
TXAR LR LR 11 58 18.5
comp=Z,1μm,19.0s,baz=0.0,slow=32
SRU San Rafael 85.56 45 eP P 11 25 56.2 -1.9
SRU pmax pmax
comp=Z,143nm,2.1s
SRU San Rafael 85.56 45 eP P 11 25 56.2 -1.9
comp=Z,143nm,2.1s
HVU Hansel Valley 85.61 42 eP P 11 25 58.6 +0.4
HVU pmax pmax
comp=Z,176nm,2.9s
HVU Hansel Valley 85.61 42 eP P 11 25 58.6 +0.4
comp=Z,176nm,2.9s
CTU Camp Tracy 85.64 43 eP P 11 26 00.3 +1.9
comp=Z,12nm,1.1s
HLID Hailey 85.64 39 eP P 11 25 58.1 -0.3
comp=Z,22nm,1.2s
HLID LR LR
comp=Z,2μm,20.0s
HLID Hailey 85.64 39 P P 11 25 57.9 -0.4
baz=86
RAGM Ragged Mountai 85.67 15 eP P 11 25 57.9 0.0
comp=Z,184nm,0.7s
LPM Los Pinos Moun 85.74 51 eP P 11 26 00.1 +1.1
JLU Jordanelle 85.78 43 eP P 11 25 59.4 +0.2
comp=Z,56nm,2.0s
PMR Palmer 85.80 12 eP P 11 25 58.0 -0.4
PMR pmax pmax
comp=Z,20nm,1.2s
PMR Palmer 85.80 12 eP P 11 25 58.0 -0.4
comp=Z,20nm,1.2s
DAU Daniels Canyon 85.80 43 eP P 11 25 59.3 -0.1
DAU Daniels Canyon 85.80 43 eP P 11 25 59.3 -0.1
MVCO Mesa Verde 85.91 47 eP P 11 26 01.7 +1.8
comp=Z,35nm,1.6s
MVCO LR LR
comp=Z,2μm,20.0s
MVCO Mesa Verde 85.91 47 P P 11 25 59.4 -0.5
baz=86
SYO Syowa Base 85.92 192⇓ePcP PcP 11 26 03.0 +1.1
WRAK Wrangell Islan 85.96 22 PFAKE 11 26 10.0 +11
WRAK LR LR
comp=Z,1μm,20.0s
Y23A Lovelace Mesa, 85.97 51 P P 11 25 59.0 -1.1
baz=86
225A Deer Hill, Car 85.98 53 P P 11 25 59.1 -1.2
baz=86
MNSI Mandailing Nat 85.99 272 P P 11 26 01.1 +0.6
comp=Z,39nm,1.0s,comp=Z,3μm
C09A Chrisman Ranch 86.06 34 eP P 11 26 03.5 +3.4
TCUT Toone Canyon 86.09 43 eP P 11 26 01.8 +1.1
comp=Z,58nm,1.4s
PV10 Paradox Valley 86.15 46 eP P 11 26 01.6 +0.5
comp=Z,85nm,0.9s
Z24A Sheeppen Canyo 86.17 52 P P 11 26 00.5 -0.7
baz=86
ANMO Albuquerque 86.18 50 eP P 11 26 00.9 -0.3
ANMO pmax pmax
comp=Z,41nm,1.4s
ANMO MLR MLR
comp=Z,2μm,19.0s
ANMO Albuquerque 86.18 50 P P 11 26 00.7 -0.6
comp=Z,5.9nm,0.9s,baz=211,slow=6.0,SNR=8.4
ANMO Albuquerque 86.18 50 eP P 11 26 00.9 -0.3
comp=Z,40nm,1.4s
ANMO LR LR
comp=Z,2μm,19.0s
PV04 Paradox Valley 86.25 46 eP P 11 26 04.0 +2.5
TIA Tai'an 86.27 311 P P 11 26 01.6 +0.2
TIA S S 11 36 28.4 -7.8
TIA pmax pmax
comp=Z,930nm,10.4s
TIA LR LR
comp=Z,920nm,20.2s
TIA LR LR
comp=Z,840nm,23.0s
TIA LR LR
comp=Z,1μm,23.5s
PLCA Paso Flores 86.29 133 P P 11 26 00.5 -1.2
comp=Z,5.5nm,1.1s,baz=253,slow=6.6,SNR=3.9
PLCA LR LR 11 58 19.4
comp=Z,2μm,18.3s,baz=250,slow=31
PV01 Paradox Valley 86.34 46 eP P 11 26 02.4 +0.4
comp=Z,2μm,1.6s
V22A San Miguel Ran 86.35 49 P P 11 26 02.1 0.0
baz=86
GDL2 Guadalupe Moun 86.37 53 eP P 11 26 03.8 +1.6
Y24A Capitan 86.41 51 P P 11 26 02.0 -0.4
baz=87
SNAA Sanae 86.49 178 P P 11 26 02.3 +0.3
SNAA Sanae 86.49 178 eP P 11 26 01.7 -0.3
SNAA pmax pmax
comp=Z,86nm,1.4s
SNAA Sanae 86.49 178 eP P 11 26 01.7 -0.3
comp=Z,86nm,1.4s
W23A Werner Place, 86.51 50 P P 11 26 02.7 -0.1
baz=87
VNA3 Neumayer Olymp 86.52 175 P P 11 26 00.4 -1.7
U22A Llaves 86.62 49 P P 11 26 03.9 +0.5
baz=87
Z25A Roswell 86.62 52 P P 11 26 03.0 -0.4
baz=87
X24A Lazy VL Ranch, 86.72 51 P P 11 26 03.3 -0.6
baz=87
V23A Ortiz Mt. (NFS 86.77 49 P P 11 26 04.6 +0.5
baz=87
Y25A Mesa, Roswell 86.95 52 P P 11 26 04.3 -0.7
baz=87
NEW Newport 86.95 35 eP P 11 26 04.2 -0.3
NEW pmax pmax
comp=Z,21nm,1.5s

NEW				MLR	MLR		
	comp=Z,2μm,19.0s						
NEW	Newport	86.95	35	eP	P	11 26 04.2	-0.3
	comp=Z,20nm,1.5s						
NEW				LR	LR		
	comp=Z,2μm,19.0s						
NEW	Newport	86.95	35	P	P	11 26 04.2	-0.3
	baz=87						
529A	Stev Forest Ra	87.02	56	P	P	11 26 05.0	-0.3
	baz=87						
U23A	El Rito	87.06	49	P	P	11 26 05.7	+0.2
	baz=87						
W24A	Lazy 6 Ranch,	87.06	50	P	P	11 26 05.3	-0.3
	baz=87						
Z26A	Caprock	87.16	53	P	P	11 26 05.6	-0.4
	baz=87						
AHID	Auburn Hatcher	87.19	41	eP	P	11 26 06.5	+0.5
	comp=Z,1.1nm,0.5s						
AHID				LR	LR		
	comp=Z,3μm,19.0s						
X25A	Clemmons Ranch	87.26	51	P	P	11 26 06.5	+0.1
	baz=87						
KTH	Kantishna Hill	87.28	11	eP	P	11 26 03.5	-2.3
	comp=Z,194nm,2.3s						
MCMT	McKenzie Canyo	87.29	39	eP	P	11 26 08.4	+1.9
	comp=Z,2.6nm,1.1s						
TRF	Thorofare Moun	87.30	11	eP	P	11 26 06.4	+0.4
	comp=Z,251nm,2.2s						
S22A	4UR Ranch, Cre	87.32	47	P	P	11 26 06.9	0.0
	baz=88						
127A	Arkansas Junct	87.34	53	P	P	11 26 05.5	-1.3
	baz=88						
PSI	Prapat	87.34	274	P	P	11 26 05.7	-1.6
PSI				pmax	pmax		
	comp=Z,37nm,1.1s						
PSI	Prapat	87.34	274	P	P	11 26 05.7	-1.6
	comp=Z,37nm,1.1s,baz=136,slow=5.2,SNR=15						
PSI	Prapat	87.34	274	⇓P	P	11 26 07.0	-0.4
	baz=87,SNR=11						
TNA	Tin City	87.38	3	eP	P	11 26 06.4	+0.3
	comp=Z,57nm,1.9s						
V24A	Rampart Ranch,	87.41	50	P	P	11 26 07.1	-0.2
	baz=88						
429A	Davenport Ranc	87.50	56	P	P	11 26 06.3	-1.3
	baz=88						
Y26A	Elida	87.58	52	P	P	11 26 08.4	+0.3
	baz=88						
O20A	White River Ci	87.60	45	P	P	11 26 08.7	+0.6
	baz=88						
REDW	Red Top Meadow	87.67	41	eP	P	11 26 17.4	+9.0
	comp=Z,251nm,3.0s						
TPAW	Teton Pass	87.68	41	eP	P	11 26 12.1	+3.6
	comp=Z,159nm,3.0s						
530A	J-C Ranch, Com	87.71	56	P	P	11 26 09.5	+0.9
	baz=88						
FXWY	Fox Creek	87.72	41	eP	P	11 26 10.4	+1.9
	comp=Z,83nm,2.8s						
W25A	X Bar L Ranch,	87.74	51	P	P	11 26 07.8	-1.0
	baz=88						
Z27A	Tatum	87.75	53	P	P	11 26 09.3	+0.5
	baz=88						
MCK	McKinley	87.80	11	eP	P	11 26 07.9	-0.3
MCK				pmax	pmax		
	comp=Z,44nm,1.2s						
MCK	McKinley	87.80	11	eP	P	11 26 07.8	-0.3
	comp=Z,44nm,1.2s						
MSO	Missoula	87.82	37	eP	P	11 26 09.9	+1.1
	comp=Z,33nm,2.0s						
MSO	Missoula	87.82	37	P	P	11 26 10.1	+1.3
	baz=88						
329A	Wagon Wheel Ra	87.83	55	P	P	11 26 09.9	+0.8
	baz=88						
S23A	Nye Farm, Mont	87.87	48	P	P	11 26 10.4	+0.9
	baz=88						
X26A	CR and CF Fran	87.89	51	P	P	11 26 10.1	+0.6
	baz=88						
IMW	Indian Meadow	87.91	41	eP	P	11 26 13.1	+3.6
	comp=Z,44nm,2.0s						
V25A	Rancho No Teng	87.93	50	P	P	11 26 09.0	-0.7
	baz=88						
832A	Faith Ranch, C	87.95	59	P	P	11 26 09.7	0.0
	baz=88						
SMCO	Snowmass	87.95	46	eP	P	11 26 11.1	+1.1
	comp=Z,19nm,1.4s						
N20A	Spence Gulch,	87.95	44	P	P	11 26 09.6	-0.2
	baz=88						
BSMT	Bassoo Peak	87.95	36	eP	P	11 26 10.5	+0.9
LOHW	Long Hollow	87.96	41	eP	P	11 26 11.7	+2.0
	comp=Z,68nm,2.3s						
128A	Castleberry Fa	87.97	54	P	P	11 26 09.5	-0.3
	baz=88						
631A	Perdido Creek	87.97	57	P	P	11 26 08.5	-1.3
	baz=88						
T24B	San Luis	87.98	49	P	P	11 26 10.1	+0.1
	baz=88						
CHBT	CHBT	87.99	284	P	P	11 26 13.6	+3.4
	comp=Z,37nm,1.8s						
GSI	Gunungsitoli	88.04	272	eP	P	11 26 11.9	+1.4
	comp=Z,319nm,1.2s						
GSI	Gunungsitoli	88.04	272	⇑P	P	11 26 12.8	+2.3
	baz=88						
Y27A	Causey	88.05	52	P	P	11 26 09.8	-0.4
	baz=88						
430A	Baggett Ranch,	88.08	56	P	P	11 26 10.6	+0.3
	baz=88						
LRM	Limekiln Ridge	88.09	38	eP	P	11 26 12.2	+1.9
QLMT	Earthquake Lak	88.13	40	eP	P	11 26 11.4	+0.9
MENT	Mentasta	88.14	14	eP	P	11 26 09.2	-0.6
I17A	Pilgrim Ck.	88.14	41	P	P	11 26 11.4	+0.9
	baz=88						
BW06	Boulder Array	88.14	42	PFAKE		11 26 20.0	+9.4
BW06				LR	LR		
	comp=Z,2μm,20.0s						
732A	Laxson Ranch,	88.15	58	P	P	11 26 11.2	+0.6
	baz=88						
FLWY	Flagg Ranch	88.16	41	eP	P	11 26 11.5	+0.8
	comp=Z,14nm,1.2s						
933A	Laredo	88.21	59	P	P	11 26 10.8	-0.2
	baz=88						
R23A	Moffat	88.23	47	P	P	11 26 11.0	-0.2
	baz=88						
SDCO	Great Sand Dun	88.24	48	eP	P	11 26 11.2	-0.1
	comp=Z,13nm,1.5s						
SDCO				LR	LR		
	comp=Z,1μm,19.0s						
CHMT	Chamberlain Mo	88.26	37	eP	P	11 26 10.8	-0.2
P22A	Eagle	88.30	46	P	P	11 26 11.4	-0.1
	baz=88						
SLMT	Seeley Lake	88.31	37	eP	P	11 26 15.8	+4.6
DLBC	Dease Lake	88.32	22	P	P	11 26 10.9	+0.1
	comp=Z,3.3nm,0.9s,baz=224,slow=6.2,SNR=4.9						
DLBC	Dease Lake	88.32	22	eP	P	11 26 11.5	+0.6
531A	Rocksprings	88.33	57	P	P	11 26 11.1	-0.5
	baz=88						
U25A	Circle Dot Ran	88.35	50	P	P	11 26 10.8	-0.9
	baz=88						
MSTX	Muleshoe	88.38	52	eP	P	11 26 11.9	+0.1
	comp=Z,99nm,1.7s						
MSTX	Muleshoe	88.38	52	P	P	11 26 11.3	-0.4
	baz=88						
S24A	Houchin Ranch,	88.39	48	P	P	11 26 12.0	+0.1
	baz=88						
330A	Mertzon	88.40	55	P	P	11 26 12.0	+0.1
	baz=88						
SEY	Seymchan	88.41	346	⇑eP	P	11 26 10.5	-0.5
SEY	Seymchan	88.41	346	P	P	11 26 09.8	-1.2
	comp=Z,13nm,0.9s,baz=150,slow=5.8,SNR=32						
833A	Chaparral WMA,	88.43	59	P	P	11 26 11.9	0.0
	baz=89						
X27A	F and S Farms,	88.45	52	P	P	11 26 12.3	+0.2
	baz=89						
PAF	Port-aux-Franc	88.46	216	P	P	11 25 54.0	-18
PAF	Port-aux-Franc	88.46	216	S	S	11 36 38.0	-19
PAF				L	L	11 51 00.0	
PAF				R	R	11 57 00.0	
BOZ	Bozeman (W)	88.47	39	eP	P	11 26 13.9	+1.9
BOZ				pmax	pmax		
	comp=Z,29nm,1.7s						
BOZ				MLR	MLR		
	comp=Z,3μm,19.0s						
BOZ	Bozeman (W)	88.47	39	eP	P	11 26 13.9	+1.9
	comp=Z,29nm,1.7s						
BOZ				LR	LR		
	comp=Z,3μm,19.0s						
V26A	Tequesquite Ra	88.50	50	P	P	11 26 12.8	+0.5
	baz=89						
632A	Uvalde	88.63	57	P	P	11 26 13.1	+0.1
	baz=89						
W27A	Bowe Ranch, En	88.68	51	P	P	11 26 12.9	-0.2
	baz=89						
733A	Divot King Ran	88.68	58	P	P	11 26 13.9	+0.7
	baz=89						
DOT	Dot Lake	88.69	13	eP	P	11 26 12.3	-0.1
	comp=Z,21nm,1.0s						
T25A	Trinidad	88.70	49	P	P	11 26 13.1	-0.3
	baz=89						
J19A	Crowheart	88.72	42	P	P	11 26 12.5	-0.8
	baz=89						
O22A	Kremmling	88.73	46	P	P	11 26 12.6	-0.9
	baz=89						
R24A	Sanders Place,	88.75	48	P	P	11 26 13.4	-0.1
	baz=89						
U26A	Atchley Ranch,	88.81	50	P	P	11 26 13.6	-0.3
	baz=89						
BJT	Baijiatuau	88.84	314	PFAKE		11 26 20.0	+6.4
BJT				LR	LR		
	comp=Z,1μm,19.0s						
Z29A	Hungry Hill Ra	88.84	53	P	P	11 26 13.8	-0.1
	baz=89						
BJI	Beijing	88.84	314	P	P	11 26 14.3	+0.7
BJI				PP	PP	11 29 44.5	+1.2
BJI				pmax	pmax		
	comp=Z,32nm,2.0s						
BJI				pmax	pmax		
	comp=Z,750nm,8.1s						
BJI				LR	LR		
	comp=Z,720nm,20.0s						
BJI				LR	LR		
	comp=Z,440nm,21.0s						
BJI				LR	LR		
	comp=Z,810nm,24.2s						
S25A	Robets Cordova	88.93	48	P	P	11 26 14.3	-0.1
	baz=89						
HRY	Holter Researc	88.94	38	eP	P	11 26 14.7	+0.5
834A	Tilden	89.01	59	P	P	11 26 15.0	+0.3
	baz=89						
COLA	College	89.04	11	eP	P	11 26 12.8	-1.1
COLA				pmax	pmax		
	comp=Z,113nm,1.9s						
COLA				MLR	MLR		
	comp=Z,2μm,21.0s						
COLA	College	89.04	11	eP	P	11 26 12.8	-1.1
	comp=Z,113nm,1.9s						
COLA				LR	LR		
	comp=Z,2μm,21.0s						
JCT	Junction City	89.05	57	PFAKE		11 26 30.0	+15
JCT				LR	LR		
	comp=Z,2μm,19.0s						
IM04	Indian Mountai	89.11	9	eP	P	11 26 12.7	-1.7
N22A	Wattenberg Ran	89.11	45	P	P	11 26 15.6	+0.3
	baz=89						
ENH	Enshi	89.11	303	eP	P	11 26 16.8	+1.6
	comp=Z,30nm,1.3s						
ENH				LR	LR		
	comp=Z,1μm,21.0s						
ILAR	Eielson Array	89.12	12	P	P	11 26 13.0	-1.4
	comp=Z,4.9nm,1.0s,baz=222,slow=4.3,SNR=16						
ILAR				LR	LR	12 03 19.4	
	comp=Z,624nm,18.4s,baz=226,slow=34						
WALA	Waterton Lakes	89.14	35	eP	P	11 26 14.3	-0.7
	comp=Z,0.8nm,1.2s						
Y29A	Porterfield Fa	89.14	53	P	P	11 26 16.1	+0.8
	baz=89						
V27A	Dan Oppiter Fa	89.16	51	P	P	11 26 15.6	+0.2
	baz=89						
I19A	Meeteetse	89.17	41	P	P	11 26 15.6	+0.2
	baz=89						
ISCO	Idaho Springs	89.17	46	PFAKE		11 26 30.0	+14
ISCO				LR	LR		
	comp=Z,1μm,20.0s						
O23A	Lake Granby, G	89.17	46	P	P	11 26 15.3	-0.3
	baz=89						
432A	Menard	89.23	56	P	P	11 26 16.0	+0.3
	baz=89						
R25A	Fountain Ranch	89.27	48	P	P	11 26 15.3	-0.6
	baz=89						
Z30A	Sanderson Ranc	89.28	54	P	P	11 26 16.3	+0.3
	baz=89						
T26A	Comanche Natio	89.29	49	P	P	11 26 17.3	+1.2
	baz=89						
KVTX	Kingsville	89.29	60	PFAKE		11 26 30.0	+14
KVTX				LR	LR		
	comp=Z,880nm,19.0s						
M22A	Cedar Creek Ra	89.32	44	P	P	11 26 17.5	+1.3
	baz=90						
J20A	Shoshoni	89.37	42	P	P	11 26 15.7	-0.6
	baz=90						
PATY	Pattaya	89.38	284	P	P	11 26 20.3	+3.6
	comp=Z,18nm,1.1s						
X29A	Tulia	89.38	52	P	P	11 26 17.1	+0.6
	baz=90						
533A	Kerrville	89.47	57	P	P	11 26 16.7	-0.2
	baz=90						
U27A	Thompson Grove	89.48	50	P	P	11 26 16.5	-0.4
	baz=90						
332A	Millersview	89.49	56	P	P	11 26 17.4	+0.5
	baz=90						
H19A	Powell	89.51	41	P	P	11 26 17.5	+0.6
	baz=90						
RLMT	Red Lodge	89.58	40	PFAKE		11 26 30.0	+13
RLMT				LR	LR		
	comp=Z,1μm,20.0s						
S26A	Kim	89.59	49	P	P	11 26 17.8	+0.4
	baz=90						
AIS	Amsterdam Isla	89.60	229	P	P	11 26 04.0	-13
AIS	Amsterdam Isla	89.60	229	S	S	11 37 06.0	-2.1
AIS				R		11 55 00.0	
I20A	Worland	89.66	42	P	P	11 26 16.5	-1.0
	baz=90						
433A	Art	89.72	57	P	P	11 26 18.2	+0.1
	baz=90						
GYA	Guiyang	89.74	299	⇑iP	P	11 26 19.1	+0.7
GYA				PP	PP	11 29 54.3	+3.4
GYA				SKS	SKSac	11 36 48.0	-0.8
GYA				S	S	11 37 08.8	-1.1
GYA				SS	SS	11 43 08.5	+1.1
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.4s						
GYA				LR	LR		
	comp=Z,580nm,22.0s						
GYA				LR	LR		
	comp=Z,520nm,23.2s						
GYA				LR	LR		
	comp=Z,540nm,21.6s						
L22A	Ellis Ranch, M	89.74	44	P	P	11 26 19.3	+1.2
	baz=90						
SURT	Suratani	89.76	280	P	P	11 26 21.5	+2.9
	comp=Z,37nm,1.4s						
J21A	Lysite	89.77	42	P	P	11 26 19.4	+1.3
	baz=90						
PKDT	Phuket	89.79	279	P	P	11 26 21.5	+2.8
	comp=Z,69nm,1.3s						
T27A	Campo	89.85	50	P	P	11 26 20.2	+1.6
	baz=90						
534A	Blanco	89.89	58	P	P	11 26 19.8	+1.0
	baz=90						
R26A	Arlington	89.92	48	P	P	11 26 18.2	-0.8
	baz=90						
K22A	Casper	90.00	43	eP	P	11 26 27.3	+8.1
	comp=Z,19nm,1.4s						
K22A	Casper	90.00	43	P	P	11 26 20.4	+1.1
	baz=90						
P25A	Willow Gulch B	90.01	47	P	P	11 26 19.6	+0.2
	baz=90						
333A	Richland Sprin	90.05	56	P	P	11 26 20.6	+1.0
	baz=90						
DAWY	Dawson	90.10	15	eP	P	11 26 19.5	+0.5
I21A	Big Trails, Te	90.10	42	P	P	11 26 19.8	+0.1
	baz=90						
ABTX	Abilene, Hawle	90.11	55	eP	P	11 26 21.7	+1.9
	comp=Z,58nm,1.4s						
F19A	Roth Farm, Mol	90.16	40	P	P	11 26 20.5	+0.7
	baz=90						
N24A	Carr	90.16	46	P	P	11 26 20.4	+0.3
	baz=90						
Q26A	Hugo	90.17	48	P	P	11 26 20.4	+0.2
	baz=90						
Y31A	Rekieta Farm,	90.23	53	P	P	11 26 21.6	+1.3
	baz=90						
L23A	Garrett	90.26	44	P	P	11 26 21.1	+0.6
	baz=90						
TIY	Taiyuan	90.28	311	eP	P	11 26 21.9	+1.4
TIY				PP	PP	11 29 57.1	+2.2
TIY				SKS	SKSac	11 36 52.3	+1.0
TIY				S	S	11 37 12.3	-2.0
TIY				pmax	pmax		
	comp=Z,520nm,8.1s						
TIY				LR	LR		
	comp=Z,930nm,17.5s						
TIY				LR	LR		
	comp=Z,980nm,18.8s						
TIY				LR	LR		
	comp=Z,2μm,20.9s						
EGAK	Eagle	90.30	14	eP	P	11 26 20.2	+0.3
	comp=Z,39nm,1.4s						
EGAK				LR	LR		
	comp=Z,2μm,19.0s						
434A	Burnet	90.38	57	P	P	11 26 21.9	+0.7
	baz=90						
J22A	Midwest	90.41	43	P	P	11 26 22.3	+1.1
	baz=91						
233A	Rising Star	90.41	56	P	P	11 26 21.6	+0.3
	baz=91						
PHET	Kaeng Krachan	90.49	284	P	P	11 26 24.9	+3.0
	comp=Z,161nm,1.1s						
Z32A	Haskell	90.53	54	P	P	11 26 22.7	+1.0
	baz=91						
E19A	Rath Farm, Rou	90.57	39	P	P	11 26 22.5	+0.7
	baz=91						
334A	Lometa	90.63	56	P	P	11 26 23.1	+0.9
	baz=91						
133A	Hamilton Ranch	90.65	55	P	P	11 26 23.6	+1.2
	baz=91						
PBKT	Sadao Pong	90.67	287	P	P	11 26 24.9	+2.2
	comp=Z,54nm,1.4s						
BILL	Bilibino	90.75	353	⇑eP	P	11 26 21.2	-0.7
BILL				pmax	pmax		
	comp=Z,21nm,2.5s						
BILL	Bilibino	90.75	353	eP	P	11 26 21.9	0.0
	comp=Z,9.1nm,0.8s						
BILL				LR	LR		
	comp=Z,4μm,20.0s						
LOEI	Loei	90.77	288	P	P	11 26 23.5	+0.3
	comp=Z,26nm,2.0s						
COLD	Coldfoot	90.81	9	eP	P	11 26 22.9	+0.8
	comp=Z,8.9nm,1.0s						
EGMT	Eagleton	90.85	38	eP	P	11 26 23.2	+0.2
	comp=Z,80nm,2.2s						
EGMT				LR	LR		
	comp=Z,3μm,19.0s						
Y32A	R-V Farms, Ver	90.86	54	P	P	11 26 24.9	+1.6
	baz=91						
D19A	Cripps Ranch,	90.89	39	P	P	11 26 23.0	-0.1
	baz=91						
E20A	Meyer Farm, Mu	90.98	39	P	P	11 26 23.3	-0.3
	baz=91						
W31A	Holland Ranch,	91.01	52	P	P	11 26 24.2	+0.2
	baz=91						
Z33A	Whitaker Ranch	91.06	54	P	P	11 26 25.0	+0.8
	baz=91						
H22A	Clearmont	91.08	42	P	P	11 26 24.6	+0.5
	baz=91						
R28A	Tribune	91.08	49	P	P	11 26 23.8	-0.5
	baz=91						
C19A	Slack Wire Ran	91.09	38	P	P	11 26 24.0	-0.1
	baz=91						
X32A	Elmer	91.16	53	P	P	11 26 24.6	-0.1
	baz=91						
XAN	Xi'an	91.18	306	P	P	11 26 25.3	+0.5
XAN				pP	pP	11 26 32.8	+2.6
XAN				SKS	SKSac	11 36 57.3	+0.7
XAN				S	ScS	11 37 28.0	+2.2
XAN				SS	SS	11 43 29.0	+1.1
XAN				pmax	pmax		
	comp=Z,18nm,1.4s						
XAN				pmax	pmax		
	comp=Z,170nm,9.4s						
XAN				LR	LR		
	comp=Z,560nm,24.6s						
XAN				LR	LR		
	comp=Z,240nm,24.6s						
XAN				LR	LR		
	comp=Z,360nm,18.5s						
D20A	Manuel Ranch,	91.28	39	P	P	11 26 26.0	+1.1
	baz=92						
V31A	Spring Creek L	91.34	52	P	P	11 26 26.6	+1.1
	baz=92						
G22A	Birney	91.43	41	P	P	11 26 27.9	+2.1
	baz=92						
HIA	Hailar	91.46	323	eP	P	11 26 26.6	+0.9
HIA				pmax	pmax		
	comp=Z,17nm,1.1s						
HIA				MLR	MLR		
	comp=Z,1μm,21.0s						
HIA	Hailar	91.46	323	eP	P	11 26 26.6	+0.9
	comp=Z,16nm,1.1s						
HIA				LR	LR		
	comp=Z,1μm,21.0s						
SRDT	SRDT	91.48	285	P	P	11 26 29.7	+3.2
	comp=Z,112nm,1.1s						
UTTA	Uttaradit	91.49	288	P	P	11 26 29.0	+2.5
	comp=Z,9.7nm,1.1s						
W32A	Sentinel	91.50	53	P	P	11 26 26.7	+0.5
	baz=92						
B19A	Brinkman Farms	91.53	38	P	P	11 26 26.2	+0.1
	baz=92						
E21A	Keefer Ranch,	91.62	40	P	P	11 26 27.8	+1.2
	baz=92						
C20A	Veseth Ranch,	91.68	38	P	P	11 26 28.2	+1.4
	baz=92						
P28A	Saint Francis	91.68	48	P	P	11 26 28.1	+1.0
	baz=92						
K25A	Mack Ranch, Ha	91.69	44	P	P	11 26 28.3	+1.2
	baz=92						
336A	Riesel	91.73	57	P	P	11 26 28.2	+0.9
	baz=92						
F22A	Rosebud	91.73	41	P	P	11 26 28.0	+0.9
	baz=92						
X33A	Lawton	91.80	53	P	P	11 26 27.7	+0.1
	baz=92						
EDM	Edmonton	91.84	32	eP	P	11 26 26.0	-1.3
EDM	Edmonton	91.84	32	eP	P	11 26 26.0	-1.3
A19A	Klindworth Far	91.90	37	P	P	11 26 27.7	-0.1
	baz=92						
HKT	Hockley	91.93	59	P	P	11 26 30.0	+1.8
HKT				pmax	pmax		
	comp=Z,45nm,1.6s						
HKT	Hockley	91.93	59	P	P	11 26 30.0	+1.8
	comp=Z,45nm,1.6s						
D21A	La Casta Ranch	91.94	39	P	P	11 26 28.0	0.0
	baz=92						
OGNE	Ogallala	92.12	46	PFAKE		11 26 40.0	+11
OGNE				LR	LR		
	comp=Z,2μm,20.0s						
KHLT	Khaolaem Dam	92.13	285	P	P	11 26 31.9	+2.4
	comp=Z,13nm,1.3s						
R30A	Dighton	92.14	49	P	P	11 26 28.2	-0.9
	baz=92						
K26A	Motz Farm, Whi	92.18	45	P	P	11 26 30.1	+0.8
	baz=92						
LAO	LASA Array	92.21	40	eP	P	11 26 32.8	+3.6
	comp=Z,201nm,2.4s						
LAO				LR	LR		
	comp=Z,1μm,20.0s						
F23A	Volborg	92.22	41	P	P	11 26 30.2	+0.8
	baz=92						
E22A	Miles City	92.25	40	P	P	11 26 30.5	+1.0
	baz=92						
P29A	Atwood	92.26	48	P	P	11 26 29.6	-0.1
	baz=92						
C21A	Desert Coulee	92.27	39	P	P	11 26 29.7	+0.2
	baz=92						
H24A	Dirks Ranch, A	92.27	42	P	P	11 26 30.1	+0.5
	baz=92						
RSSD	Black Hills	92.30	43	eP	P	11 26 30.8	+0.8
RSSD				pmax	pmax		
	comp=Z,24nm,1.6s						
RSSD	Black Hills	92.30	43	eP	P	11 26 30.8	+0.8
	comp=Z,24nm,1.6s						
HHC	Hu-ho-hao-te	92.32	313	eP	P	11 26 31.3	+1.3
HHC				PP	PP	11 30 14.5	+3.5
HHC				SKS	SKSac	11 37 02.3	-0.6
HHC				S	S	11 37 31.3	-1.5
HHC				SS	SS	11 43 43.0	-1.1
HHC				pmax	pmax		
	comp=Z,41nm,1.1s						
HHC				pmax	pmax		
	comp=Z,840nm,5.8s						
HHC				LR	LR		
	comp=Z,2μm,19.0s						

HHC LR LR
comp=Z,2µm,19.2s
HHC LR LR
comp=Z,3µm,20.6s
X34A Smith Ranch, M 92.32 54 P P 11 26 30.4 +0.4
baz=92
A20A Cobblestone Ra 92.33 37 P P 11 26 29.8 0.0
baz=92
N28A Pribbeno Ranch 92.34 47 P P 11 26 29.8 -0.3
baz=92
KMI Kunming 92.44 296 P P 11 26 33.1 +2.0
KMI PP PP 11 30 12.9 +0.4
KMI SKS SKSac 11 37 03.5 -1.0
KMI S S 11 37 30.6 -4.2
KMI SS SS 11 43 47.0 +0.4
KMI pmax pmax
comp=Z,34nm,1.3s
KMI pmax pmax
comp=Z,450nm,7.6s
KMI LR LR
comp=Z,980nm,21.6s
KMI LR LR
comp=Z,2µm,19.7s
KMI LR LR
comp=Z,3µm,23.9s
D22A Cohagen 92.46 40 P P 11 26 31.2 +0.7
baz=93
Q30A Quinter 92.48 49 P P 11 26 31.2 +0.5
baz=93
LAMP Lampang 92.59 289 P P 11 26 34.1 +2.5
comp=Z,15nm,1.0s
B21A Ellsworth Farm 92.62 38 P P 11 26 31.3 +0.2
baz=93
R31A Burdett 92.67 50 P P 11 26 31.6 0.0
baz=93
PAYA Payao 92.70 290 P P 11 26 34.2 +2.1
comp=Z,12nm,1.0s
P30A Selden 92.71 48 P P 11 26 31.5 -0.3
baz=93
K27A Flueckinger Fa 92.79 45 P P 11 26 32.0 -0.1
baz=93
S32A Newby Ranch, P 92.83 50 P P 11 26 32.3 0.0
baz=93
F24A Ekalaka 92.87 41 P P 11 26 32.3 -0.1
baz=93
C22A Vida 92.93 39 P P 11 26 32.6 0.0
baz=93
A21A Bergtoll Ranch 92.96 38 P P 11 26 32.7 0.0
baz=93
NNA Nana 93.05 104 PFAKE 11 26 50.0 +16
NNA LR LR
comp=Z,3µm,21.0s
D23A Lindsay 93.05 40 P P 11 26 34.0 +0.8
baz=93
T33A Patterson Ranc 93.07 51 P P 11 26 33.5 +0.1
baz=93
CMAR Chiang Mai Arr 93.18 288 P P 11 26 35.9 +1.6
CMAR pmax pmax
comp=Z,20nm,1.0s
CMAR MLR MLR
comp=Z,741nm,18.5s
CMAR Chiang Mai Arr 93.18 288 P P 11 26 35.9 +1.6
comp=Z,20nm,1.0s,baz=118,slow=3.1,SNR=77
CMAR LR LR 12 08 43.2
comp=Z,741nm,18.5s,baz=120,slow=36
J27A Elkhorn Farm, 93.19 44 P P 11 26 34.0 +0.1
baz=93
G25A Newell 93.19 42 P P 11 26 34.5 +0.6
baz=93
CMMT Chiang Mai 93.30 289 P P 11 26 36.7 +1.8
comp=Z,46nm,1.5s
R32A Long Quarter, 93.30 50 P P 11 26 34.3 -0.2
baz=94
CHTO Chiang Mai 93.31 289 eP P 11 26 35.9 +1.0
CHTO pmax pmax
comp=Z,43nm,1.2s
CHTO MLR MLR
comp=Z,948nm,20.0s
CHTO Chiang Mai 93.31 289 P P 11 26 36.7 +1.8
comp=Z,160nm,1.5s
CHTO Chiang Mai 93.31 289 eP P 11 26 35.9 +1.0
comp=Z,43nm,1.2s
CHTO LR LR
comp=Z,948nm,20.0s
C23A Lambert 93.37 39 P P 11 26 34.7 +0.1
baz=94
TRQA Tornquist 93.40 133 PFAKE 11 26 50.0 +15
TRQA LR LR
comp=Z,1µm,19.0s
CMBY CAMPBELL BAY 93.52 276 eP P 11 26 37.9 +1.9
I27A Quinn 93.54 44 P P 11 26 36.4 +0.9
baz=94
D24A Glendive 93.55 40 P P 11 26 36.4 +1.0
baz=94
NATX Nacogdoches 93.58 57 PFAKE 11 26 50.0 +14
NATX LR LR
comp=Z,4µm,20.0s
CMAI Chiengmai2 93.63 290 P P 11 26 38.3 +1.7
comp=Z,30nm,1.4s
Q32A Meitler Ranch, 93.65 49 P P 11 26 36.2 +0.2
baz=94
L29A Maesberg Ranch 93.67 46 P P 11 26 36.3 +0.2
baz=94
G26A Maurine 93.75 42 P P 11 26 35.7 -0.7
baz=94
J28A Allard Ranch, 93.77 45 P P 11 26 37.7 +1.1
baz=94
H27A Howes 93.78 43 P P 11 26 36.7 +0.2
baz=94
B23A Brockton 93.81 39 P P 11 26 36.6 0.0
baz=94
E25A Miller Ranch, 93.82 41 P P 11 26 37.1 +0.3
baz=94
CD2 Chengdu 93.87 302 eP P 11 26 39.0 +1.7
CD2 pP pP 11 26 43.8 +1.1
CD2 sP sP 11 26 46.0 +1.4
CD2 PP PP 11 30 27.1 +3.7
CD2 SKS SKSac 11 37 12.1 +0.3
CD2 S S 11 37 45.5 -1.4
CD2 sS sS 11 37 53.1 -2.7
CD2 SS SS 11 44 07.8 +1.2
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,650nm,8.8s
CD2 LR LR
comp=Z,1µm,19.4s
CD2 LR LR
comp=Z,2µm,21.2s
CD2 LR LR
comp=Z,1µm,21.4s
JTS JuntasAbangare 93.87 81 PFAKE 11 26 50.0 +12
JTS LR LR
comp=Z,948nm,20.0s
MHMT Maesarieng 93.97 288 P P 11 26 40.5 +2.6
comp=Z,14nm,1.5s
F26A Lodgepole 93.97 42 P P 11 26 37.4 0.0
baz=94
I28A Midland 94.08 44 P P 11 26 39.0 +1.0
baz=94
K29A Lazy Trails An 94.08 45 P P 11 26 37.6 -0.4
baz=94
D25A Fairfield 94.17 41 P P 11 26 38.5 +0.2
baz=94
G27A Dupree 94.21 43 P P 11 26 38.1 -0.4
baz=94
DGMT Dagmar 94.27 39 eP P 11 26 37.8 -1.0
comp=Z,38nm,1.0s
DGMT LR LR
comp=Z,3µm,20.0s
DGMT Dagmar 94.27 39 P P 11 26 38.2 -0.5
baz=94
J29A Okreek 94.36 45 P P 11 26 40.1 +0.9
baz=94
E26A Carlson Angus 94.38 41 P P 11 26 39.5 +0.2
baz=94
F27A Lemmon 94.38 42 P P 11 26 39.5 +0.2
baz=94
YAK Yakutsk 94.47 337 eP P 11 26 38.1 -1.1
YAK e 11 30 26.1
YAK ePPP PPP 11 32 26.9
YAK eS SKSac 11 37 03.4 -10
YAK e 11 37 41.8
YAK eSS SS 11 44 05.5 -8.2
YAK eSSS SSS 11 47 47.8
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=Z,111nm,3.8s
YAK pmax pmax
comp=N,92nm,3.6s
YAK pmax pmax
comp=E,51nm,2.9s
YAK smax smax
comp=N,169nm,3.3s
YAK smax smax
comp=E,102nm,4.0s
YAK Yakutsk 94.47 337 PFAKE 11 26 50.0 +11
YAK LR LR
comp=Z,1µm,19.0s
TEIG Tepich 94.51 70 PFAKE 11 26 50.0 +10
TEIG LR LR
comp=Z,1µm,22.0s
K30A Basset 94.51 46 P P 11 26 40.5 +0.5
baz=95
A24A Westby 94.60 39 P P 11 26 40.3 +0.1
baz=95
I29A Vivian Onida 94.64 44 P P 11 26 40.5 0.0
baz=95
D26A Manning 94.65 41 P P 11 26 40.1 -0.4
baz=95
G28A Parade 94.72 43 P P 11 26 40.8 0.0
baz=95
J30A Dallas 94.87 45 P P 11 26 40.5 -1.1
baz=95
E27A Carson 94.91 42 P P 11 26 40.8 -0.9
baz=95
BGNE Belgrade 94.96 47 eP P 11 26 43.0 +1.0
comp=Z,24nm,0.8s
H29A Onida 94.97 44 P P 11 26 41.2 -0.8
baz=95
KSU1 Kansas State U 95.08 50 PFAKE 11 26 50.0 +7.4
KSU1 LR LR
comp=Z,2µm,19.0s
C26A Wahner Farm, P 95.22 40 P P 11 26 43.4 +0.4
baz=95
RIOE Riobamba 95.31 94 ⇓S S 11 38 05.7 +4.8
MIAR Mount Ida 95.51 55 PFAKE 11 27 00.0 +15
MIAR LR LR
comp=Z,2µm,19.0s
E28A Huff 95.52 42 P P 11 26 44.0 -0.4
baz=96
LVC Limon Verde 95.54 117 eP P 11 26 47.7 +2.2
comp=Z,33nm,1.6s
LVC LR LR
comp=Z,2µm,20.0s
BULB Ulba Tungurahu 95.63 94 S S 11 38 07.8 +4.1
F29A Eureka 95.74 43 P P 11 26 45.3 -0.2
baz=96
LZH Lanzhou 95.82 306 eP P 11 26 47.4 +1.1
LZH pP pP 11 26 51.1 -0.5
LZH sP sP 11 26 52.8 -0.7
LZH PP PP 11 30 45.0 +6.4
LZH SKS SKSac 11 37 23.5 +1.3
LZH eS S 11 38 02.5 -1.4
LZH sS sS 11 38 11.1 -1.7
LZH SS SS 11 44 39.4 +5.0
LZH pmax pmax
comp=Z,17nm,1.1s
LZH pmax pmax
comp=Z,100nm,4.5s
LZH LR LR
comp=Z,510nm,16.4s
LZH LR LR
comp=Z,830nm,15.5s
LZH LR LR
comp=Z,1µm,19.4s
OTAV Otavalo 96.22 92 PFAKE 11 27 00.0 +11
OTAV LR LR
comp=Z,2µm,22.0s
PBA Port Blair 96.29 280 eP P 11 26 51.0 +2.3
PBA AMS AMS 12 15 45.0
comp=Z,1µm,13.6s
E30A Jud 96.60 42 P P 11 26 49.0 -0.3
baz=97
DGPR DIGLIPUR 96.66 281 eP P 11 26 49.3 -0.9
DGPR AMS AMS 12 16 35.0
comp=Z,1µm,22.1s
YKA Yellowknife Ar 96.68 24 P P 11 26 48.4 -0.9
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 96.68 24 P P 11 26 48.4 -0.9
comp=Z,1.2nm,0.9s,baz=237,slow=4.1,SNR=21
YKA PP PP 11 30 39.1 -5.2
comp=Z,0.5nm,0.9s,baz=242,slow=8.0,SNR=3.9
ECSD EROS Data Cent 96.94 46 eP P 11 26 50.6 -0.4
comp=Z,261nm,2.8s
ECSD LR LR
comp=Z,2µm,19.0s
ECSD EROS Data Cent 96.94 46 P P 11 26 50.9 -0.1
baz=97
D30A Buchanan 96.95 42 P P 11 26 51.0 +0.1
baz=97
C30A Mose, Pekin 97.37 41 P P 11 26 52.3 -0.5
baz=98
A29A Manning Farm, 97.42 40 P P 11 26 51.9 -1.1
baz=98
A30A Hoffart Farm, 97.98 40 P P 11 26 55.4 -0.2
baz=98
BCIP Isla Barro Col 98.17 83 PFAKE 11 27 10.0 +13
BCIP LR LR
comp=Z,1µm,20.0s
ULN Ulaanbaatar 98.24 318 ⇑iP P 11 26 56.9 0.0
ULN pmax pmax
comp=Z,11nm,1.6s
ULN Ulaanbaatar 98.24 318 eP Pdif 11 26 57.3 +0.3
comp=Z,10nm,1.3s
ULN LR LR
comp=Z,1µm,22.0s
FFC Flin Flon 98.38 34 PFAKE 11 27 10.0 +13
FFC LR LR
comp=Z,1µm,20.0s
SCIA State Center 98.55 48 PFAKE 11 27 10.0 +12
SCIA LR LR
comp=Z,2µm,19.0s
SONM Songino Array 98.64 318 P Pdif 11 26 59.2 +0.5
comp=Z,1.0nm,1.0s,baz=113,slow=3.3,SNR=10
SONM LR LR 12 07 08.9
comp=Z,1µm,21.9s,baz=103,slow=33
LPAZ La Paz 98.98 112 LR LR 12 05 37.1
comp=Z,2µm,18.0s,baz=268,slow=32
AGMN Agassiz Nation 99.22 42 PFAKE 11 27 10.0 +8.9
AGMN LR LR
comp=Z,721nm,19.0s
BRAL Brewton 99.35 60 PFAKE 11 27 10.0 +7.9
BRAL LR LR
comp=Z,1µm,19.0s
ULM Lac du Bonnet 99.95 40 LR LR 12 08 03.9
comp=Z,3µm,19.0s,baz=246,slow=33
GTA Gaotai 100.00 308 eP Pdif 11 27 05.8 +0.8
GTA pP pP 11 27 09.8 -0.6
GTA sP sP 11 27 13.4 +1.1
GTA PP PP 11 31 11.9 +1.3
GTA SKS SKSac 11 37 43.1 -0.2
GTA S Sdif 11 38 36.8 -2.5
GTA SS SS 11 45 33.6 +0.5
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA pmax pmax
comp=Z,300nm,5.9s
GTA LR LR
comp=Z,690nm,18.8s
GTA LR LR
comp=Z,1µm,21.1s
GTA LR LR
comp=Z,2µm,21.6s
TIXI Tiksi 100.84 344 eP Pdif 11 27 07.0 -0.7
TIXI pmax pmax
comp=Z,2.0nm,1.2s
TIXI Tiksi 100.84 344 PFAKE 11 27 20.0 +12
TIXI LR LR
comp=Z,2µm,20.0s
JFWS Jewell Farm 100.96 48 PFAKE 11 27 20.0 +11
JFWS LR LR
comp=Z,2µm,19.0s
ZAK Zakamensk 101.48 320 eP Pdif 11 27 09.0 -2.2
ZAK pmax pmax
comp=Z,2.0nm,1.8s
TLY Talaya 101.72 321 PFAKE 11 27 20.0 +7.8
TLY LR LR
comp=Z,1µm,19.0s
SHL Shillong 101.78 293 eP Pdif 11 27 12.4 -0.8
SHL AMS AMS 12 24 51.5
comp=Z,474nm,16.7s
EYMN Ely 101.82 43 PFAKE 11 27 20.0 +7.3
EYMN LR LR
comp=Z,2µm,19.0s
GOGA Godfrey 103.00 59 PFAKE 11 27 30.0 +12
GOGA LR LR
comp=Z,2µm,19.0s
MTDJ Mount Denham 103.35 76 PFAKE 11 27 30.0 +10
MTDJ LR LR
comp=Z,882nm,20.0s
LSA Lhasa 103.68 297 PFAKE 11 27 30.0 +8.0
LSA LR LR
comp=Z,1µm,22.0s
ACSO Alum Creek Sta 105.34 52 PFAKE 11 31 50.0
ACSO LR LR
comp=Z,2µm,19.0s
AAM Ann Arbor 105.41 50 PFAKE 11 31 50.0
AAM LR LR
comp=Z,2µm,19.0s
NHSC New Hope 105.55 60 PFAKE 11 32 00.0
NHSC LR LR
comp=Z,1µm,22.0s
GTBY Guantanamo Bay 106.06 75 PFAKE 11 32 00.0
GTBY LR LR
comp=Z,530nm,20.0s
BOK Bokaro 106.43 289 eP Pdif 11 27 33.4 -0.3
BLA Blacksburg 106.47 56 PFAKE 11 32 00.0
BLA LR LR
comp=Z,2µm,19.0s
SAML Samuel 106.52 107 PFAKE 11 32 00.0
SAML LR LR
comp=Z,2µm,19.0s
SDV Santo Domingo 106.59 87 PFAKE 11 32 00.0
SDV LR LR
comp=Z,2µm,22.0s
VIS Vishakhapatnam 106.89 283 ex Pdif 11 27 39.7 +3.8
VIS AMS AMS 12 19 58.0
comp=Z,802nm,20.1s
DGAR Diego Garcia 107.74 254 PFAKE 11 32 00.0
DGAR LR LR
comp=Z,2µm,20.0s
CNNC Cliffs of the 107.94 59 PFAKE 11 32 00.0
CNNC LR LR
comp=Z,913nm,19.0s
ERPA Erie 108.00 51 PFAKE 11 32 00.0
ERPA LR LR
comp=Z,3µm,19.0s
CBN Corbin 109.06 56 PFAKE 11 32 00.0
CBN LR LR
comp=Z,2µm,19.0s
SDDR Presa de Saban 109.22 77 PFAKE 11 32 00.0
SDDR LR LR
comp=Z,1µm,21.0s
TRD Trivandrum 109.77 271⇓ex Pdif 11 27 56.9 +8.1
WMQ Urumqi 109.94 310 ePdif Pdif 11 27 45.9 -3.1
WMQ PP PP 11 32 24.1 0.0
WMQ SKS SKSdf 11 38 58.1 -4.4
WMQ S Sdif 11 39 56.1 -5.7
WMQ AMB AMB
comp=Z,380nm,5.0s
WMQ LR LR
comp=Z,750nm,16.8s
WMQ LR LR
comp=Z,1µm,20.4s
WMQ LR LR
comp=Z,2µm,23.0s
GRTK Grand Turk 110.08 74 PFAKE 11 32 00.0
GRTK LR LR
comp=Z,554nm,20.0s
BINY Binghamton 110.93 52 PFAKE 11 32 10.0
BINY LR LR
comp=Z,3µm,19.0s
HYB Hyderabad 111.14 281 eP PKiKP 11 31 52.7 -1.3
HYB AMS AMS 12 21 24.2
comp=Z,454nm,26.0s
LONY Lake Ozonia 112.36 49 PFAKE 11 32 10.0
LONY LR LR
comp=Z,2µm,19.0s
NCB Newcomb 112.51 50 PFAKE 11 32 10.0
NCB LR LR
comp=Z,2µm,19.0s
BHPL Bhopal 113.75 287 eP PKiKP 11 31 57.2 -1.6
LBNH Lisbon 114.19 50 PFAKE 11 32 10.0 +11
LBNH LR LR
comp=Z,3µm,19.0s
NVS Novosibirsk 114.32 322 ePKIKP PKPdf 11 31 53.0 -5.8
DDI Dehra Dun 114.82 294 eP PKPdf 11 31 59.9 -0.8
DDI AMS AMS 12 24 53.4
comp=Z,641nm,18.3s
SMLA Simla 115.73 295 eP PKPdf 11 32 02.3 0.0
SMLA AMS AMS 12 17 33.2
comp=Z,730nm,14.2s
POO Poona 115.75 281 eP PKPdf 11 32 02.9 +0.1
POO AMS AMS 12 21 53.2
comp=Z,838nm,16.5s
GRGR Grenville 115.99 87 PFAKE 11 32 20.0 +17
GRGR LR LR
comp=Z,716nm,20.0s
PKME Peaks-Kenny Pk 116.17 49 PFAKE 11 32 10.0 +7.3
PKME LR LR
comp=Z,2µm,20.0s
DHRM DHARAMSHALA 116.66 296 eP PKPdf 11 32 04.9 +0.5
DHRM AMS AMS 12 18 52.0
comp=Z,802nm,22.0s
KURK Kurchatov 116.91 317 ePKIKP PKPdf 11 32 03.5 -0.5
KURK Kurchatov 116.91 317 PFAKE 11 32 20.0 +16
KURK LR LR
comp=Z,621nm,19.0s
FDF Fort de France 117.25 84 PFAKE 11 32 20.0 +14
FDF LR LR
comp=Z,655nm,19.0s
ANWB Willy Bob 117.50 81 PFAKE 11 32 20.0 +14
ANWB LR LR
comp=Z,794nm,21.0s
KSH Kashi 117.96 304 ePKP PKPdf 11 32 08.0 +1.5
KSH PKS PKSdf 11 35 42.3 -1.0
KSH SKKS 11 40 21.6
KSH SS SS 11 49 40.1 +5.1
KSH AMB AMB
comp=Z,130nm,4.6s
KSH LR LR
comp=Z,100nm,11.3s
KSH LR LR
comp=Z,330nm,12.9s
KSH LR LR
comp=Z,550nm,22.1s
BBGH Gun Hill 118.25 86 PFAKE 11 32 20.0 +12
BBGH LR LR
comp=Z,2µm,20.0s
TKM2 Tokmak 2 118.55 308 PFAKE 11 32 20.0 +12
TKM2 LR LR
comp=Z,706nm,20.0s
AAK Ala-Archa 119.34 308 PFAKE 11 32 20.0 +11
AAK LR LR
comp=Z,858nm,19.0s
EKS2 Erkin-Say 119.87 308 PFAKE 11 32 20.0 +10
EKS2 LR LR
comp=Z,944nm,20.0s
BHJ Bhuj 120.70 285 eP PKPdf 11 32 10.2 -1.9
ABPO Ambohimpanom 121.98 229 PFAKE 11 32 30.0 +15
ABPO LR LR
comp=Z,2µm,19.0s
BRVK Borovoye 122.00 320⇓iPKIKP PKPdf 11 32 12.5 -1.2
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK Borovoye 122.00 320 PFAKE 11 32 30.0 +16
BRVK LR LR
comp=Z,1µm,19.0s
KBS Kingsbay 122.85 358 PFAKE 11 32 30.0 +15
KBS LR LR
comp=Z,743nm,19.0s
SFJD Kangerlussuaq 123.22 23 iPKIKP PKPdf 11 32 13.0 -2.6
SFJD MLR MLR
comp=Z,850nm,17.0s
SFJD Kangerlussuaq 123.22 23 iP PKPdf 11 32 13.0 -2.6
comp=Z,840nm,16.0s
SFJD Kangerlussuaq 123.22 23 PFAKE 11 32 30.0 +14
SFJD LR LR
comp=Z,1µm,19.0s
SUMG Summit 123.87 14 ePKIKP PKPdf 11 32 16.7 -0.6
SUMG Summit 123.87 14 iP PKPdf 11 32 20.3 +3.0
comp=Z,1µm,18.0s
SUMG Summit 123.87 14 ePKPdf PKPdf 11 32 16.7 -0.6

SUR Sutherland 123.91 196 PFAKE 11 32 30.0 +12
SUR LR LR
comp=Z,3μm,20.0s
MSEY Mahe Island 123.93 248 PFAKE 11 32 30.0 +11
MSEY LR LR
comp=Z,2μm,21.0s
ARU Arti 127.93 325 i PKIKP PKPdf 11 32 24.6 -0.4
ARU 11 39 21.6
ARU MLR MLR
comp=Z,2μm,21.0s
ARU Arti 127.93 325 ePKPdf PKPdf 11 32 25.5 +0.5
ARU LR LR
comp=Z,2μm,21.0s
KEV Kevo 130.36 350 PFAKE 11 32 40.0 +11
KEV LR LR
comp=Z,2μm,21.0s
LVZ Lovozero 130.46 346 PFAKE 11 32 40.0 +10
LVZ LR LR
comp=Z,1μm,20.0s
ARCES ARCESS Array B 130.79 351 PKIKP PKPdf 11 32 31.3 +1.2
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 130.79 351 PKP PKPdf 11 32 31.3 +1.2
comp=Z,2.0nm,0.7s,baz=29,slow=2.1,SNR=4.8
RCBR Riachuelo 131.40 120 PFAKE 11 32 50.0 +17
RCBR LR LR
comp=Z,1μm,19.0s
LSZ Lusaka 136.56 214 ePKIKP PKPdf 11 32 43.6 +0.9
LSZ MLR MLR
comp=Z,1μm,20.0s
LSZ Lusaka 136.56 214 ePKPdf PKPdf 11 32 43.6 +0.9
LSZ LR LR
comp=Z,1μm,20.0s
TSUM Tsumeb 137.29 198 PFAKE 11 33 00.0 +16
TSUM LR LR
comp=Z,2μm,20.0s
FINES FINESS Array B 137.88 345 PKIKP PKPdf 11 32 47.9 +4.4
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 137.88 345 PKP PKPdf 11 32 47.9 +4.4
comp=Z,4.7nm,0.9s,baz=85,slow=3.2,SNR=4.5
MAK Makhachkala 138.96 311 i PKIKP PKPdf 11 32 45.3 -0.8
MAK e 11 35 33.9
MAK ePPP PPP 11 38 37.2
MAK e 11 39 54.0
MAK eSS SS 11 53 50.9 -3.3
MAK eSSS SSS 11 59 09.1
MAK pmax pmax
comp=Z,156nm,1.4s
OBN Obninsk 139.30 332⇑i PKIKP PKPdf 11 32 44.6 -1.7
OBN i 11 39 52.1
OBN i SS SS 11 53 47.8 -9.1
OBN pmax pmax
comp=Z,40nm,1.7s
OBN Obninsk 139.30 332 PFAKE 11 33 00.0 +14
OBN LR LR
comp=Z,1μm,19.0s
NOA NORSAR Array B 140.68 355 PKIKP PKPdf 11 32 50.8 +2.1
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA NORSAR Array B 140.68 355 PKP PKPdf 11 32 50.8 +2.1
comp=Z,1.0nm,0.9s,baz=16,slow=4.6,SNR=6.0
SHEL Horse Pasture 140.91 164 PFAKE 11 33 00.0 +9.5
SHEL LR LR
comp=Z,1μm,19.0s
KMBO Kilima Mbogo 141.02 238 PFAKE 11 33 00.0 +8.9
KMBO LR LR
comp=Z,1μm,21.0s
GNI Garni 141.75 308 ePKIKP PKPdf 11 32 51.2 -0.3
GNI Garni 141.75 308 PFAKE 11 33 00.0 +8.5
GNI LR LR
comp=Z,789nm,20.0s
KIV Kislovodsk 141.92 314⇑i PKIKP PKPdf 11 32 53.9 +2.3
KIV e 11 35 58.1
KIV pmax pmax
comp=Z,27nm,1.9s
KIV Kislovodsk 141.92 314 PFAKE 11 33 00.0 +8.4
KIV LR LR
comp=Z,1μm,19.0s
KONO Kongsberg 142.17 356 PFAKE 11 33 00.0 +8.6
KONO LR LR
comp=Z,976nm,20.0s
RAYN Ar Rayn 142.64 280 ePKPdf PKPdf 11 32 54.2 +0.8
TVAN Van 143.19 305 i P PKPab 11 32 49.7 0.0
HAKT HAKKARI 143.20 304 i P PKPab 11 32 48.8 -1.1
NACGM Naroch 143.22 339 e PKPab 11 32 46.0 -3.0
ARTV Artvin 143.46 310 i P PKPab 11 32 50.8 +0.1
DAGI Agillar 143.50 310 i P PKPab 11 32 50.4 -0.4
GEVA Gevas 143.51 305 i P PKPab 11 32 50.2 -0.8
DBOC Borcka 143.58 311 i P PKPab 11 32 51.2 +0.1
SOC Sochi 144.03 315c i PKIKP PKPab 11 32 51.5 -1.1
SOC i 11 32 58.2
SOC ePPP PPP 11 39 20.4
SOC pmax pmax
comp=Z,6.0nm,0.5s
SOC pmax pmax
comp=Z,9.0nm,0.6s
SOC MLR MLR
comp=Z,1μm,22.0s
ASCN Ascension 144.80 145 PFAKE 11 33 10.0 +13
ASCN LR LR
comp=Z,1μm,21.0s
ANN Anapa 144.92 318c i PKIKP PKPab 11 32 55.5 -0.3
ANN pmax pmax
comp=Z,142nm,1.4s
SUW Suwalki 145.11 341 ePKIKP PKPbc 11 32 56.0 -0.1
SUW e 11 33 11.4
SUW Suwalki 145.11 341 ePKPdf PKPbc 11 32 56.0 -0.1
SUW e 11 33 11.3
SUW Suwalki 145.11 341 ePKPdf PKPbc 11 32 55.6 -0.5
MUD Monsted U'grnd 145.38 356 i PKHKP PKPpre 11 32 53.1
MUD MLR MLR
comp=Z,740nm,22.0s
MUD Monsted U'grnd 145.38 356 i P PKPbc 11 32 56.1 -0.8
comp=Z,970nm,20.0s
AKASG Malin Array Be 145.57 332 PKIKP PKPdf 11 32 56.5 -1.1
AKASG pmax pmax
comp=Z,34nm,1.0s
AKASG Malin Array Be 145.57 332 PKPbc PKPdf 11 32 56.5 -1.1
comp=Z,34nm,1.0s,baz=38,slow=3.4,SNR=74
AKBB Malin Array Si 145.57 332 ePKIKP PKPdf 11 32 57.4 -0.2
AKBB Malin Array Si 145.57 332 ePKPbc PKPdf 11 32 57.4 -0.2
AK01 Malin Array Si 145.58 332 ePKPbc PKPdf 11 32 57.3 -0.3
KIEV Kiev 145.58 332 ePKIKP PKPdf 11 32 57.3 -0.3
KIEV MLR MLR
comp=Z,1μm,20.0s
KIEV Kiev 145.58 332 ePKPbc PKPdf 11 32 57.3 -0.3
KIEV LR LR
comp=Z,1μm,20.0s
AK02 Malin Array Si 145.61 332 ePKPbc PKPdf 11 32 57.4 -0.2
COP Copenhagen 145.83 352 i PKIKP PKPdf 11 32 56.7 -1.1
COP MLR MLR
comp=Z,490nm,22.0s
COP Copenhagen 145.83 352 i P PKPdf 11 32 56.7 -1.1
comp=Z,490nm,22.0s
BSD Bornholm Skovb 146.03 350 i P PKPdf 11 32 53.1 -5.1
comp=Z,740nm,21.0s
ESK Eskdalemuir 146.10 8 PFAKE 11 33 10.0 +10
ESK LR LR
comp=Z,1μm,19.0s
HCB Kahramanmara¯ 146.17 305 i P PKPab 11 33 05.9 +5.1
LLD Lille Linde 146.20 353 i PKIKP PKPdf 11 32 57.6 -0.9
LLD Lille Linde 146.20 353 i P PKPdf 11 32 57.6 -0.9
KEMA Kemaliye 146.59 309 i P PKPab 11 33 02.4 0.0
SIM Simferopol' 146.84 321 ePKP2 PKPab 11 33 02.5 -0.6
SIM pmax pmax
comp=Z,36nm,1.2s
SIM MLR MLR
comp=Z,700nm,20.0s
MALT Malatya 146.98 307 ⇓PKP2 PKPab 11 33 04.5 +0.5
MALT Malatya 146.98 307⇓i P PKPab 11 33 04.5 +0.5
GKP Gorka Klasztor 147.33 346 ePKP2 PKPbc 11 33 03.6 +0.7
GKP Gorka Klasztor 147.33 346 ePKP PKPbc 11 33 03.5 +0.7
GKP e 11 33 18.4
GKP e 11 33 26.6
AKCD Akcadag 147.36 307 i P PKPbc 11 33 03.7 +0.1
ATAB Bozova 147.36 306 i P PKPbc 11 33 04.2 +0.7
BEL Belsk 147.72 342 ePKP2 PKPbc 11 33 04.5 +0.5
BEL Belsk 147.72 342 ePKP PKPbc 11 33 04.4 +0.5
BEL e 11 33 13.2
BEL e 11 33 20.6
BSEG Bad Segeberg 147.78 354 ePKPbc PKPbc 11 33 03.6 -0.4
HAVZ Havza 147.80 313 i P PKPbc 11 33 04.8 +0.2
GZT Gaziantep 147.94 306 i P PKPbc 11 33 05.8 +0.5

BOYT Boyabat 148.18 315 i P PKPbc 11 33 06.2 +0.6
LVV L'vov 148.35 336 i PKP2 PKPbc 11 33 05.4 -0.3
KIS Kishinev 148.41 328 ePKP2 PKPbc 11 33 06.0 0.0
KIS e 11 36 40.0
KIS MLR MLR
comp=Z,1μm,22.0s
KIS MLR MLR
comp=E,500nm,20.0s
KIS MLR MLR
comp=Z,1μm,22.0s
KIS Kishinev 148.41 328 ePKP PKPbc 11 33 06.0 0.0
KIS Kishinev 148.41 328 ePP PP 11 36 40.0 +5.3
KUZU Kuzuini 148.50 305 i P PKPbc 11 33 07.2 +0.6
CTKT Corum 148.63 313 i P PKPbc 11 33 07.2 +0.2
KAMA Osmaniye 148.67 306 i P PKPbc 11 33 06.9 -0.2
RUE Ruedersdorf 148.75 350 ePKPbc PKPbc 11 33 07.2 +0.5
RUE ePKPab PKPab 11 33 10.8 +0.5
ANDN Andirin 148.78 307 i P PKPbc 11 33 08.0 +0.6
KWP Kalwaria Pacla 148.99 337 ePKP2 PKPbc 11 33 07.0 -0.4
KWP MLR MLR
comp=Z,2μm,19.0s
KWP Kalwaria Pacla 148.99 337 ePKP PKPbc 11 33 07.6 +0.2
KWP e 11 33 32.5
KWP Kalwaria Pacla 148.99 337⇑i P PKPbc 11 33 08.4 +1.0
KWP Kalwaria Pacla 148.99 337 ePKPbc PKPbc 11 33 07.0 -0.4
KWP ePKPab PKPab 11 33 12.1 +0.6
KWP LR LR
comp=Z,2μm,19.0s
ILGA Ilgaz 149.14 315 i S PKPbc 11 33 08.3 -0.1
NRDL Niedersach Rie 149.23 354 ePKPbc PKPbc 11 33 07.3 -0.5
CDAG Cicekdag 149.37 312 i P PKPbc 11 33 08.8 0.0
OJC Ojcow 149.44 341 ePKP2 PKPbc 11 33 08.7 +0.2
OJC Ojcow 149.44 341 ePKP PKPbc 11 33 08.7 +0.2
IBBN Ibbenburen 149.60 357 ePKPbc PKPbc 11 33 08.4 -0.4
BUR08 Bucovina Ar. S 149.61 332 ePKPdf PKPdf 11 33 05.2 +0.6
BUR08 ePKPbc PKiKP 11 33 10.6 +0.4
BUR08 ePKPab PKPab 11 33 14.8 +0.6
ELDT Eldivan 149.61 314 i P PKPdf 11 33 04.8 0.0
BURAR Bucovina Array 149.62 332 ⇓PKP2 PKPbc 11 33 11.1 +1.9
BURAR Bucovina Array 149.62 332⇓i P PKPbc 11 33 11.1 +1.9
STHS Stebnicka Huta 149.68 339 ePKP2 PKPbc 11 33 09.6 +0.5
STHS Stebnicka Huta 149.68 339 ePKP PKPbc 11 33 09.6 +0.5
KOLS Kolonicke sedl 149.73 337 ePKP2 PKPbc 11 33 10.2 +0.9
KOLS Kolonicke sedl 149.73 337 ePKP PKPbc 11 33 10.2 +0.9
KSP Ksiaz 149.80 346 ePKP2 PKPbc 11 33 09.8 +0.4
KSP eSS SS 11 55 56.0 -0.7
KSP MLR MLR
comp=Z,6μm,20.7s
KSP Ksiaz 149.80 346 ePKP PKPbc 11 33 10.1 +0.7
KSP e 11 33 26.2
KSP e 11 33 34.7
TESR Tescani 149.81 329⇑i P PKPbc 11 33 09.4 -0.1
BRTR Keskin Array B 149.83 313 PKIKP PKPdf 11 33 04.0 -1.2
BRTR pmax pmax
comp=Z,19nm,1.1s
BRTR pmax pmax
comp=Z,11nm,0.8s
BRTR Keskin Array B 149.83 313 PKP PKPdf 11 33 04.0 -1.2
comp=Z,19nm,1.1s,baz=129,slow=1.8,SNR=4.1
BRTR PKPbc PKPbc 11 33 09.6 -0.4
comp=Z,11nm,0.8s,baz=124,slow=2.2,SNR=37
CLZ Clausthal 149.85 353 ePKPbc PKPbc 11 33 09.3 -0.2
ASF Jabal al Asfar 149.87 297 PKP2 PKPbc 11 33 10.8 +0.6
ASF pmax pmax
comp=Z,17nm,1.1s
ASF Jabal al Asfar 149.87 297 PKPbc PKPbc 11 33 10.8 +0.6
comp=Z,17nm,1.1s,baz=103,slow=0.6,SNR=15
UZH Uzhgorod 149.97 337⇓i PKP2 PKPbc 11 33 09.8 0.0
NIE Niedzica 149.98 340 ePKP2 PKPbc 11 33 10.0 +0.1
NIE Niedzica 149.98 340 ePKP PKPbc 11 33 10.0 +0.1
CLL Collm 150.01 350⇑ePKHKP PKPdf 11 33 05.0 +0.1
CLL i 11 33 14.3
CLL i 11 36 50.5
CLL pmax pmax
comp=Z,11nm,1.5s
CLL pmax pmax
comp=Z,64nm,1.7s
CLL pmax pmax
comp=Z,101nm,1.5s
CLL MLR MLR
comp=Z,900nm,19.3s
CLL Collm 150.01 350 ePKPbc PKPbc 11 33 09.4 -0.4
CLL Collm 150.01 350 ePKPdf PKPdf 11 33 05.0 +0.1
CLL ⇑i PKPbc PKPbc 11 33 09.9 +0.1
comp=Z,64nm,1.5s
CLL ePKPlp 11 33 12.0
comp=Z,700nm,20.8s
CLL ⇑i PKPab PKPab 11 33 14.3 -1.2
comp=Z,101nm,1.7s
CLL i pPKPab pPKPab 11 33 18.8 -2.1
CLL i 11 33 34.5
CLL i PP PP 11 36 50.5 +7.1
comp=Z,24nm,1.5s
CLL eSKSdf SKSdf 11 40 06.0 -6.1
CLL e 11 43 11.0
CLL e 11 44 06.0
CLL ePSKS 11 47 02.0
CLL e(SKKSdf) 11 48 55.0
CLL ePPS PPS 11 49 32.0
CLL e 11 49 59.0
CLL e 11 52 19.0
CLL eSS SS 11 55 56.0 -2.8
CLL ePSPS 11 57 04.0
CLL e 12 00 22.0
CLL eSSS SSS 12 01 42.0
CLL e 12 03 54.0
CLL e(SSSS) 12 05 18.0
CLL LmH 12 44 00.0
comp=N,500nm,18.7s
CLL LmH 12 44 00.0
comp=E,700nm,20.3s
CLL LmV 12 57 00.0
comp=Z,900nm,19.3s
CFR Carcaliu 150.01 326 ⇑PKP2 PKPbc 11 33 09.8 -0.2
CFR Carcaliu 150.01 326⇑i P PKPbc 11 33 09.8 -0.2
CRVS Cervenica-Dubn 150.04 338 ePKP2 PKPbc 11 33 10.2 +0.2
CRVS Cervenica-Dubn 150.04 338 ePKP PKPbc 11 33 10.2 +0.2
GULE Gulek 150.04 307 i P PKPbc 11 33 11.2 +0.5
UPC Upice 150.18 346 ePKIKP PKPbc 11 33 10.4 +0.1
UPC Upice 150.18 346⇑ePKP PKPbc 11 33 10.4 +0.1
UPC ex x 11 33 35.7
VRI Vrincioaia 150.24 329 ⇓PKIKP PKPbc 11 33 11.2 +0.6
VRI Vrincioaia 150.24 329⇓i P PKPbc 11 33 11.2 +0.6
DPC Dobruska-Polom 150.26 345 ePKIKP PKPbc 11 33 11.2 +0.7
DPC e 11 33 19.8
DPC Dobruska-Polom 150.26 345⇑ePKP PKPbc 11 33 11.2 +0.7
DPC ePKPAB PKPab 11 33 19.8 +3.1
DPC ex x 11 33 33.8
DPC AMS AMS 12 48 30.0
OKC Ostrava-Krasne 150.26 343 ePKIKP PKPbc 11 33 10.9 +0.4
OKC e 11 33 26.6
OKC e 11 55 57.0
OKC MLR MLR
comp=Z,800nm,18.7s
OKC Ostrava-Krasne 150.26 343⇑ePKP PKPbc 11 33 10.9 +0.4
OKC ex x 11 33 26.6
OKC ePP PP 11 36 39.8 -5.1
OKC eSS SS 11 55 57.0 -4.8
OKC AMS AMS 12 43 40.0
comp=Z,800nm,18.7s
BBAL Bala 150.26 313 i P PKPdf 11 33 05.3 -0.6
BRG Berggiesshubel 150.26 348 ePKP PKPbc 11 33 10.5 0.0
comp=Z,45nm,1.4s
BRG PP PP 11 36 44.0 -0.9
BRG SS SS 11 56 05.0 +3.3
comp=N,633nm,22.3s
comp=E,682nm,29.9s
comp=Z,982nm,20.9s
BRG Berggiesshubel 150.26 348 ePKIKP PKPbc 11 33 10.5 0.0
BRG 11 36 44.0
BRG SS SS 11 56 05.0 +3.3
BRG pmax pmax
comp=Z,3.0nm,1.4s
BRG MLR MLR
comp=N,45μm,22.3s
BRG MLR MLR
comp=E,633nm,29.9s
BRG MLR MLR
comp=Z,682nm,20.9s
BRG Berggiesshubel 150.26 348 ePKPbc PKPbc 11 33 10.2 -0.3
TRPA Tarpa 150.30 336⇑i P PKPbc 11 33 10.7 +0.1
ANTO Ankara 150.33 313 ePKIKP PKPbc 11 33 11.4 +0.3
ANTO e 11 33 17.4

ANTO MLR MLR
comp=Z,846nm,21.0s
ANTO Ankara 150.33 313⇓i P PKPbc 11 33 11.6 +0.5
ANTO Ankara 150.33 313 ePKPbc PKPbc 11 33 11.4 +0.3
ANTO ePKPab PKPab 11 33 17.4 0.0
ANTO LR LR
comp=Z,846nm,21.0s
BCAM Yenicaga 150.34 316 i P PKPdf 11 33 04.8 -1.1
TIRR Tirgusor 150.35 325 ePKIKP PKPdf 11 33 06.1 +0.5
TIRR e 11 33 19.1
TIRR Tirgusor 150.35 325⇓i P PKPbc 11 33 11.1 +0.2
TIRR Tirgusor 150.35 325 ePKPdf PKPdf 11 33 06.1 +0.5
TIRR ePKPbc PKiKP 11 33 11.3 -0.3
TIRR ePKPab PKPab 11 33 19.1 +1.9
MORC Moravsky Berou 150.48 343 ePKIKP PKPdf 11 33 06.4 +0.6
MORC e 11 33 18.6
MORC Moravsky Berou 150.48 343⇑i P PKPbc 11 33 11.4 +0.3
MORC Moravsky Berou 150.48 343 ePKPdf PKPdf 11 33 06.4 +0.6
MORC ePKPbc PKiKP 11 33 10.1 -1.0
MORC ePKPab PKPab 11 33 18.6 +1.0
BUG Bochum--Univer 150.49 357 ePKPbc PKPbc 11 33 10.3 -0.6
DOPR Dopca 150.80 330⇓i P PKPbc 11 33 13.3 +1.4
KIZK Mersin 150.82 306 i P PKPbc 11 33 10.5 -1.7
ISR Istrita 150.86 328 ⇑PKIKP PKPbc 11 33 13.0 +0.8
ISR Istrita 150.86 328⇑i P PKPbc 11 33 13.0 +0.8
MOX Moxa 150.87 351 ePKPbc PKPbc 11 33 11.5 -0.4
MLR Muntele Rosu 150.89 329⇑i P PKPbc 11 33 11.9 -0.4
MLR Muntele Rosu 150.89 329 PKPbc PKPbc 11 33 11.9 -0.4
comp=Z,10.0nm,1.2s,baz=13,slow=3.6,SNR=17
MLR PKPab PKPab 11 33 18.8 -0.8
comp=Z,4.3nm,1.0s,baz=334,slow=5.7,SNR=6.1
UBBA Unterbreizbach 150.90 353 ePKPbc PKPbc 11 33 11.3 -0.5
MMAI Mount Meron Ar 150.91 299 PKPbc PKPbc 11 33 14.0 +1.3
comp=Z,13nm,0.8s,baz=68,slow=4.6,SNR=15
MMAI PKPab PKPab 11 33 19.9 -0.1
comp=Z,58nm,0.9s,baz=64,slow=3.8,SNR=15
PRA Prague 150.94 347 ⇑PKP PKPbc 11 33 12.0 -0.1
PRA PKPAB PKPab 11 33 21.0 +1.6
PRA PP PP 11 36 46.0 -2.7
TANN Tannenbergstha 150.96 350 ePKPbc PKPbc 11 33 11.9 -0.3
PSN Preselentsi 150.99 324 ⇑PKIKP PKPbc 11 33 13.0 +0.6
PSN Preselentsi 150.99 324⇑i P PKPbc 11 33 13.0 +0.6
PRU Pruhonice 150.99 347 ePKIKP PKPbc 11 33 12.1 -0.1
PRU e 11 33 20.9
PRU e 11 36 46.7
PRU MLR MLR
comp=Z,2μm,19.6s
PRU Pruhonice 150.99 347⇑ePKP PKPbc 11 33 12.1 -0.1
PRU ePKPAB PKPab 11 33 20.9 +1.3
PRU ePP PP 11 36 46.7 -2.4
PRU ex x 11 47 05.8
PRU AMS AMS 12 43 30.0
comp=Z,2μm,19.6s
VRAC Vranov 151.16 344 ⇑PKIKP PKPbc 11 33 12.7 0.0
VRAC Vranov 151.16 344⇑i P PKPbc 11 33 12.6 -0.1
BTAS Taskesti 151.16 316 i P PKPbc 11 33 12.9 -0.1
DRGR 151.32 334 ⇓PKIKP PKPbc 11 33 13.3 +0.1
DRGR 151.32 334⇓i P PKPbc 11 33 13.3 +0.1
VOIR 151.35 330 ⇓PKIKP PKPbc 11 33 15.0 +1.7
VOIR 151.35 330⇓i P PKPbc 11 33 15.0 +1.7
MEM Membach 151.36 359 PKPbc PKPbc 11 33 13.2 +0.2
PSZ Piszkesteto 151.42 339 ePKIKP PKPdf 11 33 07.5 +0.2
PSZ e 11 33 13.7
PSZ e 11 33 21.3
PSZ MLR MLR
comp=Z,2μm,19.0s
PSZ Piszkesteto 151.42 339⇑i P PKPbc 11 33 13.4 0.0
PSZ Piszkesteto 151.42 339 ePKPdf PKPdf 11 33 07.5 +0.2
PSZ ePKPbc PKiKP 11 33 13.7 -0.2
PSZ ePKPab PKPab 11 33 21.3 -0.3
PSZ LR LR
comp=Z,2μm,19.0s
KDHN Kadinhani 151.43 311 i P PKPbc 11 33 12.9 -0.9
TREC Trest 151.44 345 ePKIKP PKPbc 11 33 13.4 +0.1
TREC MLR MLR
comp=Z,2μm,21.5s
TREC Trest 151.44 345⇑ePKP PKPbc 11 33 13.4 +0.1
TREC AMS AMS 12 42 30.0
comp=Z,2μm,21.5s
AYK Aydincik 151.55 306 i P PKPdf 11 33 01.3 -6.4
BCLA Clavier 151.56 360 PKPab PKPab 11 33 23.0 +1.0
ARR Arges 151.60 330⇑i P PKPbc 11 33 14.7 +0.8
TNS Taunus Mts 151.63 355 ePKPbc PKPbc 11 33 13.2 -0.6
ROTZ Rotzenmuhle 151.63 350 ePKPbc PKPbc 11 33 13.5 -0.2
ERMK Ermenek 151.67 307 i P PKPbc 11 33 14.5 0.0
PRD Provadia 151.74 324 ⇑PKIKP PKPbc 11 33 14.2 +0.1
GRFO Grafenberg 151.85 351 ePKIKP PKPdf 11 33 08.4 +0.6
GRFO e 11 33 14.9
GRFO e 11 33 23.9
GRFO Grafenberg 151.85 351 ePKPdf PKPdf 11 33 08.4 +0.6
GRFO ePKPbc PKiKP 11 33 14.9 +0.3
GRFO ePKPab PKPab 11 33 23.9 +0.7
BORA Eskisehir 151.88 315 i P PKPbc 11 33 14.2 -0.6
DOU Dourbes 151.89 0 PKPbc PKPbc 11 33 14.4 +0.2
EIL Elat 151.96 292 PKPbc PKPbc 11 33 15.5 +0.4
comp=Z,19nm,1.0s,baz=89,slow=1.9,SNR=15
CSS Prodhromos 151.97 304 ePKPbc PKPbc 11 33 15.9 +0.9
CSS LR LR
comp=Z,339nm,21.0s
KHC Kasperske Hory 152.00 348 ePKIKP PKPdf 11 33 07.5 -0.6
KHC i 11 33 15.1
KHC e 11 33 24.0
KHC e 11 36 50.7
KHC MLR MLR
comp=Z,1μm,16.4s
KHC Kasperske Hory 152.00 348 ePKPDF PKPdf 11 33 07.5 -0.6
KHC ⇑i PKP PKiKP 11 33 15.1 +0.1
KHC ePKPAB PKPab 11 33 24.0 +0.1
KHC ex x 11 33 45.0
KHC ePP PP 11 36 50.7 -4.2
KHC AMS AMS 12 43 40.0
comp=Z,1μm,16.4s
KHC Kasperske Hory 152.00 348 ePKPdf PKPdf 11 33 08.2 +0.1
KHC ePKPbc PKiKP 11 33 15.2 +0.1
KHC ePKPab PKPab 11 33 23.8 -0.2
SACV Santiago Islan 152.07 99 PFAKE 11 33 20.0 +4.2
SACV LR LR
comp=Z,690nm,19.0s
GEC2 GERESS Array S 152.25 348 ePKPbc PKPbc 11 33 14.7 -0.6
GERES GERESS Array B 152.25 348 PKIKP PKPdf 11 33 10.0 +1.4
GERES 11 33 25.4
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 152.25 348 PKP PKPdf 11 33 09.9 +1.4
comp=Z,0.6nm,0.8s,baz=108,slow=3.2,SNR=4.5
GERES PKPbc PKiKP 11 33 15.8 +0.2
comp=Z,1.5nm,0.7s,baz=90,slow=1.3,SNR=10
GERES PKPab PKPab 11 33 25.4 +0.3
comp=Z,4.9nm,0.8s,baz=35,slow=2.4,SNR=9.2
WLF Walferdange 152.31 358 PKPbc PKPbc 11 33 16.3 +1.1
WLF Walferdange 152.31 358 ePKIKP PKPdf 11 33 09.1 +0.6
WLF e 11 33 25.6
WLF MLR MLR
comp=Z,2μm,21.0s
WLF Walferdange 152.31 358 ePKPbc PKPbc 11 33 15.2 0.0
WLF Walferdange 152.31 358 ePKPdf PKPdf 11 33 09.1 +0.6
WLF ePKPab PKPab 11 33 25.6 +0.5
WLF LR LR
comp=Z,2μm,21.0s
WLF Walferdange 152.31 358 ePKPbc PKPbc 11 33 16.2 +1.0
GZR Gura Zlata 152.41 332 ⇑PKIKP PKPbc 11 33 15.0 -0.7
GZR Gura Zlata 152.41 332⇑i P PKPbc 11 33 15.0 -0.7
ELBA Catalca 152.44 319 i P PKPdf 11 33 07.0 -1.9
ULDT Uludag 152.59 317 i P PKPbc 11 33 15.9 -0.5
CONA Conrad Observa 152.62 344⇑i sPKPdf sPKPdf 11 33 14.4 -2.1
comp=Z,13nm,1.2s
BZS Buzias 152.72 334 ⇑PKIKP PKPbc 11 33 15.5 -0.8
BZS Buzias 152.72 334⇑i P PKPbc 11 33 15.5 -0.8
ISP Isparta 152.87 311 PFAKE 11 33 20.0 +3.0
ISP LR LR
comp=Z,807nm,20.0s
GDZ Gediz 152.94 315 i P PKPdf 11 33 09.6 -0.4
KHAL Karahalli 153.31 313 i P PKPdf 11 33 08.5 -2.0
PKSM Moragy 153.33 339 ⇓PKIKP PKPdf 11 33 11.2 +1.1
PKSM Moragy 153.33 339⇓i P PKPdf 11 33 11.2 +1.1
KORT Korkueli 153.38 310 i P PKPdf 11 33 17.5 -0.7
SART Tekirdag 153.47 320 i P PKPdf 11 33 08.9 -1.6
RJOB Jochberg 153.49 348 ePKPbc PKPbc 11 33 17.3 -0.7

BFO Black Forest 153.52 355 ePKPbc PKPbc 11 33 17.3 -0.7
BFO Black Forest 153.52 355 PFAKE 11 33 20.0 +2.0
BFO LR LR
comp=Z,1μm,20.0s
ECH Echery 153.71 357 PFAKE 11 33 20.0 +1.6
ECH LR LR
comp=Z,1μm,19.0s
SOKA Soboth 153.99 344⇑iPKPdf PKPdf 11 33 11.3 +0.1
comp=Z,18nm,1.7s
AKHS Akhisar 154.14 316 iP PKPdf 11 33 09.3 -2.3
WTTA Wattenberg 154.15 350⇑iPKPbc PKPbc 11 33 18.8 -0.8
comp=Z,29nm,1.6s
DAVA Damuels 154.39 352⇑iPKiKP PKiKP 11 33 20.2 0.0
comp=Z,8.1nm,1.1s
BOZC Bozcaada 154.67 320 iP PKPdf 11 33 09.9 -2.3
AYDN Tasoluk 154.76 314 iP PKPdf 11 33 09.9 -2.6
MSKU Masuku 155.08 201 PFAKE 11 33 30.0 -7.8
MSKU LR LR
comp=Z,2.0nm,22.0s
TUE Stuetta 155.26 353 PFAKE 11 33 20.0 +6.9
TUE LR LR
comp=Z,1μm,20.0s
LPL La Plagne 156.43 357 eP PKPdf 11 33 14.6 -0.1
LPL La Plagne 156.43 357 eP PKPdf 11 33 14.6 -0.1
LPL La Plagne 156.43 357 eP PKPdf 11 33 14.6 -0.1
SSB Saint Sauveur 156.71 1 PFAKE 11 33 30.0 -14
SSB LR LR
comp=Z,2μm,22.0s
BNI Bardonecchia 156.89 357 PFAKE 11 33 30.0 +15
BNI LR LR
comp=Z,2μm,20.0s
SANT Santorini 157.09 313 ePKPab PKPab 11 33 45.6 -0.5
SANT LR LR
comp=Z,577nm,19.0s
MBDF Montbardon 157.21 357 eP PKPdf 11 33 09.2 -6.4
comp=Z,16nm,0.8s
MBDF Montbardon 157.21 357 ePKIKP PKPdf 11 33 09.2 -6.4
MBDF Montbardon 157.21 357 eP PKPdf 11 33 09.2 -6.4
VLC Villacollemand 157.38 350 PFAKE 11 33 30.0 +14
VLC LR LR
comp=Z,2μm,20.0s
MTE Manteigas 158.75 27 PFAKE 11 33 30.0 +12
MTE LR LR
comp=Z,1μm,19.0s
CUC Castrocucco 159.75 335 PFAKE 11 33 30.0 +11
CUC LR LR
comp=Z,1μm,19.0s
TIP Timpagrande 160.06 332 PFAKE 11 33 30.0 +11
TIP LR LR
comp=Z,969nm,19.0s
PAB San Pablo 160.73 22 PFAKE 11 33 30.0 +10
PAB LR LR
comp=Z,1μm,21.0s
ESDC Sonseca Array 160.75 21 PKP PKPdf 11 33 20.8 +1.0
comp=Z,0.3nm,0.3s,baz=337,slow=1.7,SNR=5.2
CEL Celeste 161.19 332 PFAKE 11 33 30.0 +10
CEL LR LR
comp=Z,1μm,19.0s
LIC Lamto 161.65 147 eP PKPdf 11 33 16.2 -5.3
comp=Z,63nm,1.5s
KIC Kosan Boka 161.91 147 eP PKPdf 11 33 12.4 -9.3
comp=Z,158nm,2.1s
TIC Toumodi 162.01 146 eP PKPdf 11 33 12.6 -9.3
comp=Z,6.2nm,0.2s
VSL Villasalto 162.09 349 PFAKE 11 33 30.0 +8.8
VSL LR LR
comp=Z,1μm,19.0s
WDD Wield Dalam 163.79 331 PFAKE 11 33 30.0 +7.1
WDD LR LR
comp=Z,2μm,20.0s
RTC Rabat Centre 164.11 38 PFAKE 11 33 30.0 +6.8
RTC LR LR
comp=Z,2μm,20.0s
TOA0 Torodi Ar. Sit 170.73 160 ePKPdf PKPdf 11 33 27.5 -1.1
TORD Torodi Ar. Bea 170.73 160 PKP PKPdf 11 33 26.7 -1.9
comp=Z,4.9nm,1.2s,baz=172,slow=4.4,SNR=8.6
TORD PKPab PKPab 11 34 45.1 -1.0
comp=Z,1.7nm,0.8s,baz=196,slow=2.7,SNR=3.0
TAM Tamanrasset 178.99 328 ePKIKP PKPdf 11 33 31.9 +0.9
TAM MLR MLR
comp=Z,1μm,19.0s
TAM Tamanrasset 178.99 328 ePKPdf PKPdf 11 33 31.9 +0.9
TAM LR LR
comp=Z,1μm,19.0s

IDC 19 11:19:08.4±13.0, 14.40N×146.28E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/53, mbtmp3.6/3, Error ellipse: s-maj=387.0km s-min=50.5km az=177.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	19.99	75	T	T	11 44 27.6	
	baz=268,SNR=3.3						
H11S1	WAKE ISLAND Hy	20.00	75	T	T	11 44 36.1	
	baz=268						
H11S2	WAKE ISLAND Hy	20.00	76	T	T	11 44 33.5	
	baz=268,SNR=4.9						
H11N1	WAKE ISLAND Hy	20.39	72	T	T	11 44 56.1	
	baz=263,SNR=5.6						
H11N2	WAKE ISLAND Hy	20.40	72	T	T	11 44 59.3	
	baz=263						
H11N3	WAKE ISLAND Hy	20.41	72	T	T	11 44 57.9	
	baz=263						
MKAR	Makanchi Array	61.87	316	P	P	11 29 29.6	0.0
	0.2nm,0.3s,baz=84,slow=7.4,SNR=7.9						
ILAR	Eielson Array	67.25	25	P	P	11 30 04.0	-0.4
	1.4nm,1.1s,baz=254,slow=5.6,SNR=7.1						
YKA	Yellowknife Ar	81.51	28	P	P	11 31 28.0	+0.5
	0.1nm,0.4s,baz=284,slow=5.1,SNR=3.2						

DDA 19 11:20:34.4, 37.31N×26.84E, h7km, MD2.7
ISC 19 11:20:31.5±4.1, 37.2N±0.2×26.8E±0.1, h12km, n4, σ1§14/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BODT	Bodrum	0.43	103	eSG	Sg	11 20 44.5	-1.1
AYDN	Tasoluk	1.00	60	iP	Pb	11 20 51.5	+0.7
AYDN				iS	Sb	11 21 03.8	-0.2
ZEY	˜zmir	1.10	348	iP	Pb	11 20 53.1	+0.6
ZEY				iS	Sb	11 21 05.5	-1.3
AYDB	Zeytinkoy-Aydi	1.18	48	ePG	Pg	11 20 54.5	+0.3

IDC 19 11:25:44.8±0.7, 35.74N×57.62E, h0km, mb4.1/16, mb1 4.3/20, mb1mx4.1/42, mbtmp4.2/20, ML4.1/4, Error ellipse: s-maj=19.7km s-min=13.0km az=12.0
ISCJB 19 11:25:45.4±0.2, 35.86N±0.03×57.61E±0.02, h10km, mb4.2/29, MS3.6/1, Error ellipse: s-maj=4.3km s-min=2.8km az=171.3
CSEM 19 11:25:45.5±0.1, 35.81N×57.58E, h2km, mb4.2/24, Error ellipse: s-maj=5.0km s-min=3.5km az=172.0
THR 19 11:25:45.6±0.8, 35.72N×57.59E, h14km±8km, ML4.3
BJI 19 11:25:46.0, 35.70N×57.60E, h5km, mB4.5/2, mb4.1/3
TEH 19 11:25:47.0, 35.73N×57.63E, h6km, ML4.4
MOS 19 11:25:47.9±1.6, 35.97N×57.59E, h28km, mb4.4/19, Error ellipse: s-maj=6.6km s-min=5.7km az=76.7
NEIC 19 11:25:49.6±0.5, 35.80N×57.60E, h35km, mb4.5/10, ML4.3(THR), MN4.4(TEH), Error ellipse: s-maj=10.7km s-min=6.4km az=169.0
NNC 19 11:25:50.3±2.7, 36.40N×57.55E, h0km, mb4.2, Error ellipse: s-maj=29.3km s-min=21.5km az=35.0
ISC 19 11:25:46.4±0.4, 35.73N±0.03×57.65E±0.04, h10km, n254, σ1§26/255, mb4.2/29, 13C-11D, Northern and central Iran

Code Station Name Δ° AZ° Phase Op ID ISC Time h m s Res ISC
IAKL Akhelmad 1.25 46 e Sn 11 26 28.7 +1.4
comp=Z,37μm,0.2s
IAKL ePg Pn 11 26 08.8 -1.5
IKRD Kardeh 1.26 34 ePn Sn 11 26 20.5 -6.9
IKRD e 11 26 52.8
comp=Z,34μm,0.3s
IPAY Payeh 1.31 56 ePg Pn 11 26 10.2 -0.8
IPAY e 11 26 29.9
comp=Z,46μm,0.3s
IPAY Payeh 1.31 56 ePg Pn 11 26 10.2 -0.8
ISFR Sfrayin 1.35 12 ePg Pn 11 26 11.3 -0.3
ISFR e 11 26 40.1
comp=Z,65μm,0.3s
ISFR Sfrayin 1.35 12 ePg Pn 11 26 11.3 -0.3
IMOG Moghan 1.42 74 ePg Pn 11 26 12.8 +0.2
IMOG e 11 26 35.5
comp=Z,21μm,0.2s
IMOG Moghan 1.42 74 ePg Pn 11 26 12.8 +0.2
IQHU Qucahn 1.52 28 ePn Pn 11 26 14.0 +0.2
IQHU Qucahn 1.52 28 ePn Pn 11 26 14.0 +0.2
ISHV Shirvan 1.80 1 ePn Pn 11 26 19.0 +1.2
ISHV e 11 27 00.4
comp=Z,58μm,0.4s
ISHV Shirvan 1.80 1 ePn Pn 11 26 19.0 +1.2
IEMG Emamgholi 1.86 25 ePn Pn 11 26 19.6 +1.0
IEMG e 11 26 24.3
comp=Z,20μm,0.2s
IEMG Emamgholi 1.86 25 ePn Pn 11 26 19.7 +1.0
BJRD Bojnurd 1.97 354 eP Pn 11 26 21.6 +1.5
BJRD eSg Sg 11 26 50.8 +0.9
BJRD Bojnurd 1.97 354 ePg Pn 11 26 21.5 +1.5
BJRD eSg Sg 11 26 50.8 +0.9
BJRD Bojnurd 1.97 354 ePg Pn 11 26 21.5 +1.5
IMYA Miami 2.08 72 ePn Pb 11 26 24.0 -0.4
IMYA e 11 27 11.3
comp=Z,18μm,0.3s
IMYA Miami 2.08 72 ePn Pb 11 26 24.0 -0.4
TABS Tabas 2.12 192 ePg Pn 11 26 23.4 +1.3
comp=Z,1μm,0.5s
TABS Tabas 2.12 192 ePg Pn 11 26 23.4 +1.3
TABS AML AML 11 26 58.4
comp=E,1μm,0.5s
TABS AML AML 11 27 02.5
comp=N,2μm,0.8s
ASHT Ashkhabad 2.28 15 ⇓P Pg 11 26 30.2 0.0
ASHT ⇓S Sg 11 27 04.9 +5.0
ITEG Tejag 2.97 162 ePn Pn 11 26 34.9 +1.0
ITEG e 11 27 38.1
comp=Z,12μm,0.3s
ITEG Tejag 2.97 162 ePn Pn 11 26 34.9 +1.0
SHRT Shahrakht 3.01 133 eP Pn 11 26 35.7 +1.4
SHRT AML AML 11 27 33.4
comp=N,1μm,0.5s
SHRT AML AML 11 27 34.2
comp=E,1μm,0.5s
IANJ Anjilo 3.05 266 ePn Pn 11 26 35.5 +0.4
IANJ e 11 27 33.0
comp=Z,9μm,0.3s
IANJ Anjilo 3.05 266 ePn Pn 11 26 35.4 +0.4
IGLO Ghaloghah 3.18 285 ePn Pn 11 26 38.3 +1.6
IGLO e 11 26 50.1
comp=Z,13μm,0.3s
IKIA Kiasar 3.25 280 ePn Pn 11 26 38.3 +0.6
IKIA e 11 26 54.9
comp=Z,5μm,0.2s
IKIA Kiasar 3.25 280 ePn Pn 11 26 38.3 +0.6
IDAH Dahanechah 3.51 148 ePn Pn 11 26 42.3 +1.0
IDAH e 11 28 00.0
comp=Z,8μm,0.5s
IDAH Dahanechah 3.51 148 ePn Pn 11 26 42.3 +1.0
ILAS Lasjerd 3.84 266 ePn Pn 11 26 46.3 +0.5
ILAS e 11 28 08.8
comp=Z,7μm,0.3s
ILAS Lasjerd 3.84 266 ePn Pn 11 26 46.3 +0.5
IPRN Peran 4.33 278 ePn Pn 11 26 53.7 +1.2
IPRN e 11 28 15.8
comp=Z,6μm,0.4s
ICHK Chekchek 4.40 219 ePn Pn 11 26 53.6 +0.1
ICHK e 11 28 15.1
comp=Z,7μm,0.3s
ICHK Chekchek 4.40 219 ePn Pn 11 26 53.6 +0.1
IBAF Bafgh 4.48 203 ePn Pn 11 26 55.1 +0.5
IBAF e 11 28 30.9
comp=Z,8μm,0.4s
IBAF Bafgh 4.48 203 ePn Pn 11 26 55.1 +0.5
DAMV Damavand 4.62 270 eP Pn 11 26 56.8 +0.1
DAMV Damavand 4.62 270 ePn Pn 11 26 56.7 +0.1
DAMV Damavand 4.62 270 ePn Pn 11 26 56.7 +0.1
IVRN Varamin 4.89 263 ePn Pn 11 27 00.1 0.0
IVRN Varamin 4.89 263 ePn Pn 11 27 00.1 0.0
IZEF Zefreh 5.23 239 ePn Pn 11 27 05.3 +0.3
IZEF Zefreh 5.23 239 ePn Pn 11 27 05.3 +0.3
CHTH Charan 5.30 274 eP Pn 11 27 06.3 +0.4
CHTH Charan 5.30 274 eP Pn 11 27 06.3 +0.4
CHTH Charan 5.30 274 ePn Pn 11 27 06.4 +0.4
GHVR GHOM 5.35 258 eP Pn 11 27 07.2 +0.7
GHVR GHOM 5.35 258 eP Pn 11 27 07.2 +0.7
GHVR GHOM 5.35 258 ePn Pn 11 27 07.3 +0.8
ASAO Ashtian 6.36 261 ePN5 Pn 11 27 20.9 +0.5
KHMZ Khomeyn 6.63 255 ePN5 Pn 11 27 24.7 +0.5
IHRS Heris 8.87 290 ePn Pn 11 27 54.7 -0.1
IHRS Heris 8.87 290 ePn Pn 11 27 54.7 -0.1
GNI Garni 11.10 297 P Pn 11 28 22.3 -3.1
GNI pmax pmax
comp=Z,4.0nm,0.3s
GNI Garni 11.10 297 Pn Pn 11 28 22.3 -3.1
comp=Z,3.7nm,0.3s,baz=150,slow=16,SNR=2.2
DGRG David-gareji 11.17 304 P Pn 11 28 25.3 -0.9
DGRG David-gareji 11.17 304 P Pn 11 28 25.3 -0.9
TBLG Delisi 11.72 305 P Pn 11 28 25.0 -8.7
GUDG Gudauri 12.23 307 P Pn 11 28 38.8 -2.1
GUDG Gudauri 12.23 307 P Pn 11 28 38.8 -2.1
KK31 Karatay Array 12.37 50 ⇓P Pn 11 28 40.6 -1.9
comp=Z,4.9nm,0.7s,baz=239,slow=16,SNR=33
KK31 ⇑S Sn 11 31 00.6 +0.2
comp=Z,3.6nm,0.6s
KK31 Karatay Array 12.37 50 iP Pn 11 28 40.6 -1.9
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KK31 Karatay Array 12.37 50 P Pn 11 28 40.6 -1.9
comp=Z,4.9nm,0.7s,SNR=33
KK31 S Sn 11 31 00.6 +0.2
comp=Z,3.6nm,0.6s
KKAR Karatay Array 12.37 50 eP Pn 11 28 40.7 -1.8
KKAR e 11 31 00.9
KKAR pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 12.37 50 ePn Pn 11 28 40.7 -1.8
comp=Z,3.2nm,0.4s
KKAR eSn Sn 11 31 00.9 +0.5
KKAR Karatay Array 12.37 50 eP Pn 11 28 40.7 -1.8
comp=Z,3.0nm,0.4s
KKAR eS Sn 11 31 00.9 +0.5
AB31 Akbulak array 13.62 6 ⇑P Pn 11 28 55.5 -4.1
comp=Z,4.7nm,0.7s,baz=196,slow=13,SNR=29
AB31 ⇓S Sn 11 31 19.8 -11
comp=Z,2.9nm,0.7s,baz=192,slow=25,SNR=2.7
AB31 Akbulak array 13.62 6 iP Pn 11 28 55.5 -4.1
AB31 pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 13.62 6 ePn Pn 11 28 55.5 -4.1
comp=Z,5.1nm,0.6s
ABKAR eSn Sn 11 31 24.5 -6.4
ABKAR Akbulak array 13.62 6 ePn Pn 11 28 55.5 -4.1
comp=Z,5.1nm,0.6s
ABKAR eSn Sn 11 31 24.5 -6.4
KBZ Khabaz 13.86 310 Pn Pn 11 28 59.7 -3.2
comp=Z,0.2nm,0.3s,baz=128,slow=9.2,SNR=8.5
AML Almayashu 14.02 58 P Pn 11 29 03.9 -1.6
SNR=19
AML Almayashu 14.02 58 iP Pn 11 29 03.8 -1.6
KIV Kislovodsk 14.11 310⇓iP Pn 11 29 04.1 -2.3
KIV eS Sn 11 31 33.1 -10
KIV pmax pmax
comp=Z,16nm,1.2s
KIV MLR MLR
comp=Z,339nm,23.0s
KIV Kislovodsk 14.11 310 ePn Pn 11 29 04.3 -2.1
KIV Kislovodsk 14.11 310 ePn Pn 11 29 04.3 -2.1
EKS2 Erkin-Say 14.28 56 P Pn 11 29 09.4 +0.5
SNR=21
EKS2 Erkin-Say 14.28 56 iP Pn 11 29 09.3 +0.5
EKS2 Erkin-Say 14.28 56 ePn Pn 11 29 08.3 -0.5
comp=Z,12nm,0.8s
EKS2 Erkin-Say 14.28 56 ePn Pn 11 29 08.3 -0.5
comp=Z,12nm,0.8s
UCH Uchtor 14.62 59 P Pn 11 29 12.3 -1.5
SNR=13
UCH Uchtor 14.62 59 iP Pn 11 29 12.3 -1.5
AKTO Aktyubinsk 14.70 1 ⇑P Pn 11 29 10.6 -3.7
comp=Z,8.7nm,0.8s
AKTO ⇓S Sn 11 31 47.0 -10
comp=Z,5.9nm,0.8s
AKTO Aktyubinsk 14.70 1 P Pn 11 29 10.9 -3.4
AKTO 11 31 48.4
AKTO pmax pmax
comp=Z,2.0nm,0.3s
AKTO Aktyubinsk 14.70 1 Pn Pn 11 29 10.9 -3.4
comp=Z,1.5nm,0.3s,baz=174,slow=14,SNR=11
AKTO Sn Sn 11 31 48.4 -8.8
comp=Z,0.2nm,0.3s,baz=90,slow=20,SNR=2.2
AAK Ala-Archa 14.76 57 ⇑P Pn 11 29 14.7 -0.7
comp=Z,15nm,1.1s
AAK ⇑S Sn 11 32 00.8 +1.8
comp=Z,4.4nm,0.8s
AAK Ala-Archa 14.76 57 P Pn 11 29 14.8 -0.6
SNR=13
AAK Ala-Archa 14.76 57 eP Pn 11 29 14.8 -0.6
AAK e 11 31 56.3
AAK Ala-Archa 14.76 57 Pn Pn 11 29 14.6 -0.7
comp=Z,0.8nm,0.3s,baz=228,slow=8.3,SNR=25
AAK Ala-Archa 14.76 57 ePn Pn 11 29 14.8 -0.6
AAK eSn Sn 11 31 56.2 -2.8
AAK Ala-Archa 14.76 57 ePn Pn 11 29 14.8 -0.6
AAK eSn Sn 11 31 56.2 -2.8
FRU Bishkek 14.92 57 eP Pn 11 29 17.5 +0.1
FRU eS Sn 11 31 59.0 -3.7
FRU pmax pmax
comp=Z,22nm,1.8s
FRU smax smax
comp=N,47nm,1.7s
FRU pmax pmax
comp=E,130nm,2.1s
KBK Karagaybulak 15.08 57 P Pn 11 29 21.2 +1.5
SNR=12
KBK Karagaybulak 15.08 57 iP Pn 11 29 21.1 +1.5
KZA Kyzart 15.09 60 P Pn 11 29 19.8 -0.2
SNR=21
KZA Kyzart 15.09 60 iP Pn 11 29 19.8 -0.2
TKM2 Tokmak 2 15.62 57 P Pn 11 29 26.8 -0.1
SNR=5.0
TKM2 Tokmak 2 15.62 57 iP Pn 11 29 26.7 -0.1
TKM2 Tokmak 2 15.62 57 ePn Pn 11 29 26.7 -0.1
comp=E,6.4nm,0.9s
TKM2 eSn Sn 11 32 16.3 -3.7
TKM2 Tokmak 2 15.62 57 ePn Pn 11 29 26.7 -0.1
comp=E,6.4nm,0.9s
TKM2 eSn Sn 11 32 16.3 -3.7
ULHL Ulahol 15.84 60 P Pn 11 29 30.4 +0.7
SNR=7.4
RAYN Ar Rayn 16.09 224 ePn Pn 11 29 31.2 -1.7
comp=E,13nm,0.8s
RAYN Ar Rayn 16.09 224 ePn Pn 11 29 31.2 -1.7
comp=E,13nm,0.8s
OTUK Ortayu 16.56 36 ⇑P Pn 11 29 37.7 -1.0
PDGK Podgornoye 18.44 59 ⇑P Pn 11 30 04.2 +2.1
VRHR Novokhopersk 19.20 328 eP P 11 30 08.5 -1.8
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,7.0nm,0.6s
VRHR Novokhopersk 19.20 328 eP P 11 30 08.5 -1.8
BRTR Keskin Array B 19.39 289 P Pn 11 30 13.8 +0.1
comp=Z,0.2nm,0.3s,baz=105,slow=12,SNR=16
BRVK Borovoye 19.48 23 ⇑P P 11 30 13.4 0.0
comp=Z,1.5nm,0.4s
BRVK Borovoye 19.48 23 eP P 11 30 12.2 -1.2
BRVK pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 19.48 23 eP P 11 30 11.1 -2.2
comp=Z,13nm,0.9s
BRVK Borovoye 19.48 23 P P 11 30 13.4 0.0
comp=Z,1.5nm,0.4s
BVA0 Borovoye Array 19.49 24 ⇓P P 11 30 12.8 -0.7
comp=Z,1.0nm,0.3s,baz=209,slow=11,SNR=63
BVA0 Borovoye Array 19.49 24 iP P 11 30 13.3 -0.1
BVA0 pmax pmax
comp=Z,14nm,1.0s
BVA0 Borovoye Array 19.49 24 iP P 11 30 13.3 -0.1
comp=Z,14nm,1.0s
BVAR Borovoye Array 19.49 24 P P 11 30 13.7 +0.3
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 19.49 24 P P 11 30 13.7 +0.3
comp=Z,1.3nm,0.3s,baz=208,slow=11,SNR=36
VORD Divnogorie 20.16 325 eP Pn 11 30 22.7 0.0
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,7.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 20.39 325 eP P 11 30 22.4 -0.9
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 20.39 325 eP P 11 30 22.4 -0.9
ARU Arti 20.71 1 c iP P 11 30 26.7 0.0
ARU 11 30 42.1
ARU S S 11 34 18.1 +0.3
ARU SS PcP 11 34 36.7 +0.6
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 20.71 1 eP P 11 30 27.4 +0.7
comp=Z,36nm,1.1s
ARU Arti 20.71 1 iP P 11 30 26.7 0.0
comp=Z,20nm,1.0s
ARU S S 11 34 18.1 +0.3
ARU Arti 20.71 1 PcP PcP 11 34 36.7 +0.6
KURK Kurchatov 21.29 39 P P 11 30 35.9 +3.0
KURK Kurchatov 21.29 39 eP P 11 30 35.3 +2.3
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 21.29 39 eP P 11 30 33.9 +0.9
comp=Z,5.5nm,1.0s
KURK Kurchatov 21.29 39 eP P 11 30 33.9 +0.9
comp=Z,5.5nm,1.0s
MK31 Makanchi Array 21.48 51 ⇑P P 11 30 35.7 +0.5
comp=Z,5.7nm,0.8s,baz=238,slow=10,SNR=34
MK31 Makanchi Array 21.48 51 c eP P 11 30 35.6 +0.5
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 21.48 51 P P 11 30 35.7 +0.5
comp=Z,5.7nm,0.8s,SNR=34
MKAR Makanchi Array 21.48 51 P P 11 30 36.3 +1.1
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 21.48 51 P P 11 30 36.3 +1.1
comp=Z,3.1nm,0.6s,baz=242,slow=12,SNR=7.7
PYUN Piuthan 22.78 102 eP P 11 30 49.6 +0.2
comp=Z,20nm,0.7s
PYUN Piuthan 22.78 102 eP P 11 30 49.6 +0.2
PYUN Piuthan 22.78 102 eP P 11 30 49.6 +0.2
DANN Dangsing 23.28 101 eP P 11 30 54.9 +0.2
comp=Z,51nm,0.9s
DANN Dangsing 23.28 101 eP P 11 30 54.9 +0.2
DANN Dangsing 23.28 101 eP P 11 30 54.9 +0.2
KOLN Koldanda 23.41 103 eP P 11 30 55.7 -0.1
comp=Z,52nm,1.1s
KOLN Koldanda 23.41 103 eP P 11 30 55.7 -0.1
KOLN Koldanda 23.41 103 eP P 11 30 55.7 -0.1
TIRR Tirgusor 23.90 300⇓iP P 11 31 01.7 +1.5
PSN Preselentsi 23.93 298⇓iP P 11 31 01.3 +0.8
GKN Gorkha 24.13 101 eP P 11 31 04.2 +1.4
GKN Gorkha 24.13 101 eP P 11 31 04.2 +1.4
GKN Gorkha 24.13 101 eP P 11 31 04.2 +1.4
OBN Obninsk 24.21 330 eP P 11 31 02.7 -0.3
OBN e 11 31 30.5
OBN pmax pmax
comp=Z,36nm,1.4s
OBN MLR MLR
comp=Z,182nm,18.0s
OBN Obninsk 24.21 330 eP P 11 31 02.7 -0.3
comp=Z,36nm,1.4s
DMN Daman 24.68 101 eP P 11 31 09.3 +1.4
comp=Z,36nm,1.0s
DMN Daman 24.68 101 eP P 11 31 09.3 +1.4
DMN Daman 24.68 101 eP P 11 31 09.3 +1.4
KKN Kakani 24.74 101 eP P 11 31 09.5 +1.1
KKN Kakani 24.74 101 eP P 11 31 09.5 +1.1
KKN Kakani 24.74 101 eP P 11 31 09.5 +1.1
KKN Kakani 24.74 101 eP P 11 31 09.5 +1.1
PKIN Phulchoki 24.92 101 eP P 11 31 11.4 +1.3
comp=Z,17nm,0.6s
PKI Pulchoki 24.93 101 eP P 11 31 11.0 +0.7
comp=Z,52nm,1.0s
PKI Pulchoki 24.93 101 eP P 11 31 11.4 +1.1

PKI Pulchoki 24.93 101 eP P 11 31 11.4 +1.1
PKI Pulchoki 24.93 101 eP P 11 31 11.4 +1.1
GUN Gumba 25.16 100 eP P 11 31 13.5 +1.1
comp=Z,80nm,1.2s
GUN Gumba 25.16 100 eP P 11 31 13.5 +1.1
GUN Gumba 25.16 100 eP P 11 31 13.5 +1.1
AK02 Malin Array Si 25.34 315 eP P 11 31 13.0 -0.3
AK02 Malin Array Si 25.34 315 eP P 11 31 13.0 -0.3
AKASG Malin Array Be 25.35 315 P P 11 31 12.8 -0.6
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 25.35 315 P P 11 31 12.8 -0.6
comp=Z,4.5nm,0.6s,baz=119,slow=8.5,SNR=22
AKBB Malin Array Si 25.35 315 eP P 11 31 12.8 -0.6
AKBB Malin Array Si 25.35 315 eP P 11 31 12.8 -0.6
AKBB Malin Array Si 25.35 315 eP P 11 31 12.8 -0.6
AK01 Malin Array Si 25.35 315 eP P 11 31 12.7 -0.7
AK01 Malin Array Si 25.35 315 eP P 11 31 12.7 -0.7
KIEV Kiev 25.35 315 eP P 11 31 12.9 -0.5
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 25.35 315 eP P 11 31 12.9 -0.5
comp=Z,11nm,0.8s
KIEV Kiev 25.35 315 eP P 11 31 12.9 -0.5
comp=Z,11nm,0.8s
PLOR Plostina 25.41 303 ⇓/P P 11 31 16.7 +2.6
JIRN Jiri 25.52 100 eP P 11 31 17.0 +1.4
comp=Z,18nm,0.7s
JIRN Jiri 25.52 100 eP P 11 31 17.0 +1.4
JIRN Jiri 25.52 100 eP P 11 31 17.0 +1.4
MLR Muntele Rosu 25.82 302 P P 11 31 19.1 +1.2
MLR pmax pmax
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 25.82 302 ⇑/P P 11 31 21.2 +3.3
MLR Muntele Rosu 25.82 302 P P 11 31 19.1 +1.2
comp=Z,2.4nm,0.7s,baz=343,slow=3.1,SNR=13
RAMN Ramite 26.16 101 eP P 11 31 21.7 +0.4
comp=Z,72nm,0.9s
RAMN Ramite 26.16 101 eP P 11 31 21.7 +0.4
RAMN Ramite 26.16 101 eP P 11 31 21.7 +0.4
ZALV Zalesovo Beam 26.26 38 P P 11 31 22.0 +0.4
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 26.26 38 P P 11 31 22.0 +0.4
comp=Z,1.4nm,0.5s,baz=259,slow=8.3,SNR=8.0
VOIR 26.43 302 ⇑/P P 11 31 24.9 +1.5
IDI Anoyia 26.60 279 P P 11 31 25.0 0.0
comp=Z,8.8nm,1.1s,baz=155,slow=15,SNR=3.7
BURAR Bucovina Array 26.78 306 ⇓/P P 11 31 29.0 +2.5
ODAN Odare 26.83 101 eP P 11 31 29.1 +1.8
ODAN Odare 26.83 101 eP P 11 31 29.1 +1.8
ODAN Odare 26.83 101 eP P 11 31 29.1 +1.8
TAPN Taplejung 26.87 100 eP P 11 31 30.9 +3.1
comp=Z,23nm,1.0s
TAPN Taplejung 26.87 100 eP P 11 31 30.9 +3.1
TAPN Taplejung 26.87 100 eP P 11 31 30.9 +3.1
KLMR Klimovskoe 27.69 341 eP P 11 31 33.1 -1.3
KLMR pmax pmax
comp=Z,8.0nm,1.1s
KLMR Klimovskoe 27.69 341 eP P 11 31 33.1 -1.3
comp=Z,8.0nm,1.1s
FINES FINESS Array B 32.54 332 P P 11 32 16.9 -0.4
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 32.54 332 P P 11 32 16.9 -0.4
comp=Z,1.2nm,0.6s,baz=129,slow=11,SNR=6.0
GERES GERESS Array B 34.57 306 P P 11 32 36.6 +1.4
comp=Z,0.4nm,0.4s,baz=108,slow=9.4,SNR=3.6
CLL Collm 35.32 310 e(P) P 11 32 44.0 +2.4
TLY Talaya 36.21 49 eP P 11 32 50.5 +1.2
TLY pmax pmax
comp=Z,1.0nm,1.0s
TLY Talaya 36.21 49 eP P 11 32 50.5 +1.2
comp=Z,1.0nm,1.0s
ULN Ulaanbaatar 38.16 56 eP P 11 33 07.3 +1.3
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 38.16 56 eP P 11 33 07.3 +1.3
comp=Z,3.0nm,1.0s
NB2 NORSAR Subarra 38.66 326 P P 11 33 09.2 -0.8
comp=Z,4.3nm,0.9s,baz=110,slow=8.6
NB2 NORSAR Subarra 38.66 326 P P 11 33 09.2 -0.8
comp=Z,4.3nm,0.9s,SNR=9.3
NOA NORSAR Array B 38.66 326 P P 11 33 08.6 -1.4
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 38.66 326 P P 11 33 08.6 -1.4
comp=Z,2.5nm,0.8s,baz=112,slow=8.2,SNR=7.7
SBF Sospel 38.91 298 eP P 11 33 09.4 -2.9
comp=Z,124nm,1.0s
SBF Sospel 38.91 298 eP P 11 33 09.4 -2.9
comp=Z,124nm,1.0s
SBF Sospel 38.91 298 eP P 11 33 09.4 -2.9
comp=Z,124nm,1.0s
CMAR Chiang Mai Arr 40.26 104 P P 11 33 24.3 +0.6
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 40.26 104 P P 11 33 24.2 +0.6
comp=Z,2.4nm,0.6s,baz=295,slow=7.1,SNR=12
SMF Signal de Mont 41.20 302 eP P 11 33 30.7 -0.5
comp=Z,71nm,1.3s
SMF Signal de Mont 41.20 302 eP P 11 33 30.7 -0.5
SMF pmax pmax
comp=Z,71nm,1.3s
SMF Signal de Mont 41.20 302 eP P 11 33 30.7 -0.5
comp=Z,71nm,1.3s
SMF Signal de Mont 41.20 302 eP P 11 33 30.7 -0.5
comp=Z,71nm,1.3s
AVF Avril sur Loir 41.52 303 eP P 11 33 33.1 -0.7
comp=Z,17nm,0.9s
AVF Avril sur Loir 41.52 303 eP P 11 33 33.1 -0.7
AVF pmax pmax
comp=Z,17nm,0.9s
AVF Avril sur Loir 41.52 303 eP P 11 33 33.1 -0.7
comp=Z,17nm,0.9s
AVF Avril sur Loir 41.52 303 eP P 11 33 33.1 -0.7
comp=Z,17nm,0.9s
TCF Toulx Ste Croi 42.35 302 eP P 11 33 39.8 -0.9
comp=Z,22nm,1.0s
TCF Toulx Ste Croi 42.35 302 eP P 11 33 39.8 -0.9
TCF pmax pmax
comp=Z,22nm,1.0s
TCF Toulx Ste Croi 42.35 302 eP P 11 33 39.8 -0.9
comp=Z,22nm,1.0s
TCF Toulx Ste Croi 42.35 302 eP P 11 33 39.8 -0.9
comp=Z,22nm,1.0s
ETSF Etsaut 44.82 298 eP P 11 33 59.9 -0.7
comp=Z,14nm,0.7s
ETSF Etsaut 44.82 298 eP P 11 33 59.9 -0.7
ETSF pmax pmax
comp=Z,14nm,0.7s
ETSF Etsaut 44.82 298 eP P 11 33 59.9 -0.7
comp=Z,14nm,0.7s
ETSF Etsaut 44.82 298 eP P 11 33 59.9 -0.7
comp=Z,14nm,0.7s
HIA Hailar 46.47 53 eP P 11 34 16.6 +3.1
HIA Hailar 46.47 53 eP P 11 34 16.6 +3.1
ESDC Sonseca Array 48.07 294 P P 11 34 25.5 -0.7
comp=Z,0.3nm,0.3s,baz=60,slow=6.2,SNR=6.8
PSI Prapat 50.29 121 P P 11 34 43.0 -0.5
PSI pmax pmax
comp=Z,3.0nm,0.5s
PSI Prapat 50.29 121 P P 11 34 43.0 -0.5
comp=Z,2.9nm,0.5s,baz=338,slow=11,SNR=3.5
TIXI Tiksi 50.62 23 eP P 11 34 45.9 +0.8
TIXI pmax pmax
comp=Z,1.0nm,1.2s
TIXI Tiksi 50.62 23 eP P 11 34 45.9 +0.8
comp=Z,1.0nm,1.2s
TORD Torodi Ar. Bea 54.89 261 P P 11 35 16.1 -1.3
comp=Z,2.3nm,0.8s,baz=46,slow=6.1,SNR=4.7
ILAR Eielson Array 77.99 10 P P 11 37 43.7 -0.9
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 77.99 10 P P 11 37 43.6 -0.9
comp=Z,0.7nm,0.9s,baz=323,slow=4.8,SNR=6.2
YKA Yellowknife Ar 81.92 356 P P 11 38 05.4 -0.4
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 81.92 356 P P 11 38 05.4 -0.4
comp=Z,1.5nm,0.8s,baz=1.4,slow=6.2,SNR=34
WRA Warramunga Arr 91.20 114 P P 11 38 51.6 -0.4
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 91.20 114 P P 11 38 51.6 -0.4
comp=Z,1.2nm,0.7s,baz=318,slow=4.1,SNR=17

WRAB Tennant Creek 91.20 114 eP P 11 38 52.0 -0.1
WRAB Tennant Creek 91.20 114 eP P 11 38 52.0 -0.1
WRAB Tennant Creek 91.20 114 eP P 11 38 52.0 -0.1
ASAR Alice Springs 93.14 117 P P 11 39 01.5 +0.5
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 93.14 117 P P 11 39 01.5 +0.5
comp=Z,0.7nm,0.6s,baz=315,slow=4.9,SNR=6.4

IDC 19 11:30:23.8±2.3, 4.98S×129.00E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.1/35, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=152.5km s-min=30.6km az=68.0
ISCJB 19 11:30:28.3±0.9, 4.76S±0.07×130.72E±0.06, h35km, mb3.3/1, Error ellipse: s-maj=10.9km s-min=8.9km az=159.2
DJA 19 11:30:28.2±0.8, 5.S±9.×13.1E±., h78km, M3.2/3, MLv3.2/3
ISC 19 11:30:28.3±1.1, 4.86S±0.08×130.70E±0.07, h35km, n5, σ1?77/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.86	293	P	Pn	11 30 44.2	+0.2
BNDI				S	Sn	11 30 54.8	-0.5
FAKI	Fak Fak	2.47	39	P	Pn	11 31 07.3	+1.2
FAKI				S	Sn	11 31 33.1	-1.9
WRA	Warramunga Arr	15.41	167	Pn	P	11 34 06.8	-0.7
	0.0nm,0.3s,baz=340,slow=14,SNR=3.4						
WRA				Sn	Sn	11 36 51.1	-1.8
	0.1nm,0.3s,baz=341,slow=22,SNR=4.1						
ASAR	Alice Springs	18.95	171	P	Pn	11 34 49.4	+1.8
	0.1nm,0.3s,baz=348,slow=11,SNR=2.6						
MKAR	Makanchi Array	66.84	326	P	P	11 41 12.2	-4.5
	0.1nm,0.3s,baz=127,slow=7.0,SNR=4.4						

IDC 19 11:34:26.1±2.8, 54.15N×87.26E, h0km, mb1 3.2/2, mb1mx3.0/40, mbtmp3.2/2, ML3.2/2, Error ellipse: s-maj=26.6km s-min=13.9km az=68.0
ISC 19 11:34:31.7±3.5, 54.3N±0.2×86.9E±0.2, h35km, n6, σ0?99/8, 3C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.25	257	i		11 44 20.0	
	baz=80,slow=348,SNR=4.1						
ZALV	Zalesovo Beam	1.25	257	Pg	Pn	11 34 51.2	-1.4
	12nm,0.3s,baz=82,slow=16,SNR=81						
ZALV				Lg	Lg	11 35 11.7	
	3.9nm,0.3s,baz=79,slow=30,SNR=8.9						
KURK	Kurchatov	6.16	238	⇑Pn	Pn	11 36 00.3	+0.2
	2.4nm,1.1s						
KURK				⇑Sn	Sn	11 37 09.2	0.0
	2.8nm,1.2s						
KURK				⇓Lg	Lg	11 37 41.2	
	9.2nm,1.4s						
MK31	Makanchi Array	8.02	203	Pn	Pn	11 36 24.7	-0.9
	0.7nm,0.8s,baz=28,slow=14,SNR=32						
MK31				⇑Sn	Sn	11 37 55.2	+0.3
	0.8nm,0.6s,baz=18,slow=24,SNR=5.2						
MK31				⇓Lg	Lg	11 38 37.7	
	2.5nm,0.8s,baz=150,slow=30,SNR=3.6						
MKAR	Makanchi Array	8.02	203	Pn	Pn	11 36 24.5	-1.1
	0.3nm,0.3s,baz=27,slow=13,SNR=21						
MKAR				Sn	Sn	11 37 55.4	+0.4
	0.2nm,0.3s,baz=23,slow=25,SNR=5.4						
MKAR				Lg	Lg	11 38 38.8	
	0.0nm,0.3s,baz=24,slow=27,SNR=2.8						
BVAR	Borovoye Array	9.87	270	Pn	Pn	11 36 51.9	+1.0
	0.3nm,0.3s,baz=66,slow=15,SNR=3.7						

IGQ 19 11:37:26±0.3, 1.11S×79.54W, h4km±155km, Mb4.6, Error ellipse: s-maj=1.6km s-min=0.9km az=103.4
IDC 19 11:37:26.4±2.6, 0.95S×79.12W, h92km±25km, mb3.8/11, mb1 4.1/14, mb1mx3.9/34, mbtmp4.3/14, Error ellipse: s-maj=32.2km s-min=13.0km az=65.0
NEIC 19 11:37:27.2±0.3, 1.06S×79.18W, mb4.6/25, MD4.6(IGQ), Error ellipse: s-maj=11.1km s-min=4.9km az=64.0
NEIC Felt at Manta, Portoviejo and Quevedo.
ISC 19 11:37:27.3±0.5, 1.13S±0.04×79.43W±0.06, h105km±3km, h104km:pP-P, n419, σ1?40/443, mb4.4/34, 154C-179D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	0.87	114	⇓P	Pn	11 37 48.5	+1.2
PAST	Pastocalle	0.90	61	⇓P	Pn	11 37 47.4	-0.1
BBIL	Ulba Tungurahu	1.00	109	P	Pn	11 37 48.4	0.0
JUI6	Juive	1.01	107	⇓P	Pn	11 37 49.9	+1.4
RIOE	Riobamba	1.01	128	⇓P	Pn	11 37 49.7	+1.2
CAMI	Rancho Maria	1.03	64	⇓P	Pn	11 37 50.6	+1.7
ARRY	Arrayan	1.04	111	⇓P	Pn	11 37 49.5	+0.5
RUN5	Runtun	1.05	106	⇓P	Pn	11 37 49.3	+0.4
PISA	Pisayambo	1.05	86	⇑P	Pn	11 37 50.6	+1.5
BMOR	Cotopaxi Volca	1.05	68	P	Pn	11 37 50.1	+0.9
BRUN	Tungurahua Vol	1.06	106	P	Pn	11 37 50.7	+1.6
BULB	Ulba Tungurahu	1.07	107	P	Pn	11 37 50.5	+1.4
ULBA	Ulba	1.07	107	P	Pn	11 37 49.5	+0.2
MOV1	Cotopaxi Vol s	1.07	67	⇓P	Pn	11 37 50.6	+1.1
MAG1	Magdalena	1.10	342	⇓P	Pn	11 37 48.0	-1.2
BVC2	Cotopaxi Volca	1.12	65	⇓P	Pn	11 37 50.4	+0.4
VC1	Cotopaxi 1	1.14	65	P	Pn	11 37 51.6	+1.5
JAMA	Jama	1.16	318	P	Pn	11 37 48.6	-1.2
TERV	Terraza Guagua	1.26	41	P	Pn	11 37 52.5	+1.0
GGP	Refugio Guagua	1.26	41	⇓P	Pn	11 37 52.6	+1.1
PINO	Pino	1.27	41	⇓P	Pn	11 37 52.6	+0.9
ANTI	Antisana	1.44	62	P	Pn	11 37 54.3	+0.7
MACE	Macas	1.67	132	⇑P	Pn	11 37 57.8	+1.8
OTAV	Otavalo	1.67	36	ePn	Pn	11 37 55.9	-0.5
OTAV				eSn	Sn	11 38 18.5	+0.1
OTAV	Otavalo	1.67	36	⇓S	Sn	11 38 19.6	+1.2
OTAV	Otavalo	1.67	36	⇓P	Pn	11 37 56.4	0.0
CAYR	Refugio Cayamb	1.82	51	P	Pn	11 37 59.2	+0.8
LITE	Lita	2.20	29	⇓P	Pn	11 38 04.0	+1.2
ATAH	Atahualpa	6.06	170	P	Pn	11 38 56.0	+1.1
	11nm,0.3s,baz=9.6,slow=9.2,SNR=44						
ATAH				S	Sn	11 40 06.0	+3.0
	17nm,0.3s,baz=11,slow=20,SNR=6.1						
NNA	Nana	11.09	167	P	Pn	11 40 01.9	-1.0
	13nm,0.3s,baz=324,slow=11,SNR=14						
NNA				S	Sn	11 42 02.1	-2.9
	7.8nm,0.3s,baz=214,slow=20,SNR=7.2						
NNA	Nana	11.09	167	ePn	Pn	11 40 01.9	-1.0
NNA				eSn	Sn	11 42 04.0	-1.0
SDV	Santo Domingo	13.26	41	ePn	Pn	11 40 29.7	-2.0
SAML	Samuel	17.94	116	eP	P	11 41 27.5	-1.9
	13nm,0.6s						
LPAZ	La Paz	18.73	144	P	Pn	11 41 39.8	-0.4
	0.5nm,0.3s,baz=348,slow=7.9,SNR=11						
LPAZ	La Paz	18.73	144	eP	Pn	11 41 39.1	-1.2
	4.1nm,0.6s						
LPAZ				eS	S	11 45 05.2	-1.7
TEIG	Tepich	22.92	338	P	P	11 42 22.1	-0.5
	4.3nm,0.5s,baz=0.0,slow=20,SNR=6.9						
TEIG	Tepich	22.92	338	eP	P	11 42 23.3	+0.7
SIV	San Ignacio	23.36	130	P	P	11 42 25.6	-1.2
	2.4nm,0.8s,baz=324,slow=9.4,SNR=5.5						
LVC	Limon Verde	23.68	155	eP	P	11 42 29.0	-0.9
	13nm,0.8s						
034A	Hebbronville	33.61	328	⇓P	P	11 44 00.1	+2.3
	baz=34						
934A	Benavides	33.95	329	⇓P	P	11 44 03.4	+2.6
	baz=34						
835A	Beeville	34.16	330	⇑P	P	11 44 05.1	+2.5
	baz=34						
933A	Laredo	34.36	328	⇓P	P	11 44 06.5	+2.2
	baz=35						
636A	Smothers Creek	34.79	332	⇓P	P	11 44 09.9	+2.0
	baz=35						
734A	La Parita Cree	34.98	330	⇓P	P	11 44 11.6	+1.9
	baz=35						
833A	Chaparral WMA,	34.99	328	⇑P	P	11 44 11.5	+1.8
	baz=35						
635A	Leesville	35.05	331	⇓P	P	11 44 12.1	+1.9
	baz=35						
733A	Divot King Ran	35.26	329	⇑P	P	11 44 14.0	+2.0
	baz=36						
832A	Faith Ranch, C	35.27	328	⇓P	P	11 44 14.5	+2.3
	baz=36						
732A	Laxson Ranch,	35.62	328	⇑P	P	11 44 17.1	+1.9
	baz=36						
633A	Saathoff Ranch	35.80	330	⇑P	P	11 44 18.0	+1.4
	baz=36						
534A	Blanco	35.92	331	⇑P	P	11 44 18.8	+1.1
	baz=36						
KMSC	Kings Mountain	36.12	357	⇑P	P	11 44 19.0	-0.3
	baz=36						
632A	Uvalde	36.14	329	⇓P	P	11 44 21.1	+1.5
	baz=36						
533A	Kerrville	36.23	331	⇑P	P	11 44 21.9	+1.6
	baz=36						
434A	Burnet	36.47	332	⇓P	P	11 44 23.1	+0.7
	baz=37						
631A	Perdido Creek	36.48	328	⇓P	P	11 44 24.2	+1.7
	baz=37						
433A	Art	36.81	331	⇓P	P	11 44 27.0	+1.7
	baz=37,SNR=22						
334A	Lometa	36.89	333	⇓P	P	11 44 26.7	+0.8
	baz=37,SNR=5.1						
JCT	Junction City	36.94	330	eP	P	11 44 28.1	+1.8
	6.4nm,0.8s						
JCT	Junction City	36.94	330	⇓P	P	11 44 28.0	+1.6
	baz=37						
531A	Rocksprings	37.06	329	⇑P	P	11 44 29.1	+1.7
	baz=37,SNR=7.2						
WHTX	Lake Whitney	37.10	334	⇓P	P	11 44 29.0	+1.3
	baz=37						
333A	Richland Sprin	37.23	332	⇓P	P	11 44 30.0	+1.1
	baz=37,SNR=6.6						
432A	Menard	37.26	330	⇑P	P	11 44 30.6	+1.6
	baz=38						
234A	Clairette	37.41	333	⇓P	P	11 44 31.6	+1.2
	baz=38,SNR=5.7						
530A	J-C Ranch, Com	37.47	328	⇓P	P	11 44 32.8	+1.9
	baz=38						
431A	Sonora	37.51	329	⇑P	P	11 44 32.9	+1.6
	baz=38,SNR=6.0						
332A	Millersview	37.65	331	⇓P	P	11 44 34.0	+1.7
	baz=38,SNR=10						
233A	Rising Star	37.77	332	⇑P	P	11 44 34.8	+1.4
	baz=38,SNR=5.0						
134A	White-Moore Ra	37.87	334	⇑P	P	11 44 35.6	+1.4
	baz=38						
430A	Baggett Ranch,	37.92	329	⇑P	P	11 44 36.5	+1.8
	baz=38						
529A	Stev Forest Ra	37.92	327	⇑P	P	11 44 36.3	+1.6
	baz=38						
331A	San Angelo	37.92	330	⇓P	P	11 44 36.2	+1.5
	baz=38						
232A	Coleman	38.02	331	⇑P	P	11 44 36.7	+1.2
	baz=38,SNR=5.1						
429A	Davenport Ranc	38.13	328	⇓P	P	11 44 38.1	+1.6
	baz=38,SNR=5.1						
TXAR	Lajitas Array	38.14	325	P	P	11 44 37.6	+1.0
	0.7nm,0.9s,baz=148,slow=11,SNR=6.2						
TXAR				PcP	PcP	11 46 50.5	+1.0
	1.3nm,0.7s,baz=149,slow=5.8,SNR=16						
Z35A	Perchaven, San	38.17	336	⇑P	P	11 44 37.6	+0.9
	baz=38						
133A	Hamilton Ranch	38.28	333	⇓P	P	11 44 38.9	+1.3
	baz=38						
330A	Mertzon	38.38	329	⇓P	P	11 44 39.8	+1.3
	baz=39						
ABTX	Abilene, Hawle	38.62	332	⇑P	P	11 44 41.7	+1.2
	baz=39						
230A	Sterling City	38.73	330	⇓P	P	11 44 43.0	+1.5
	baz=39						
Z33A	Whitaker Ranch	38.78	334	⇑P	P	11 44 43.3	+1.4
	baz=39,SNR=6.0						
329A	Wagon Wheel Ra	38.86	329	⇑P	P	11 44 44.1	+1.6
	baz=39						
Y34A	Reagan Ranch,	38.92	335	⇓P	P	11 44 43.9	+0.9
	baz=39						
Z32A	Haskell	39.12	333	⇓P	P	11 44 46.1	+1.5
	baz=39,SNR=7.3						
229A	Bryant Ranch,	39.15	329	⇓P	P	11 44 46.3	+1.3
	baz=39						
130A	Snyder	39.23	331	⇓P	P	11 44 47.1	+1.4
	baz=39						
Y33A	Hilltop Ranch,	39.33	334	⇓P	P	11 44 47.7	+1.3
	baz=40						
Z31A	Sharp Cattle R	39.43	332	⇑P	P	11 44 48.8	+1.6
	baz=40,SNR=6.4						
228A	UT Block 9, Go	39.67	328	⇑P	P	11 44 50.7	+1.3
	baz=40						
Y32A	R-V Farms, Ver	39.69	334	⇑P	P	11 44 50.9	+1.6
	baz=40,SNR=8.4						
129A	Stewart Farms,	39.71	330	⇑P	P	11 44 51.1	+1.5
	baz=40						
X33A	Lawton	39.73	335	⇓P	P	11 44 51.2	+1.5
	baz=40						
Z30A	Sanderson Ranc	39.87	331	⇑P	P	11 44 52.7	+1.7
	baz=40,SNR=5.2						
TUL1	Tulsa	39.88	339	⇓P	P	11 44 52.5	+1.6
	baz=40						
X32A	Elmer	39.97	334	⇑P	P	11 44 53.1	+1.4
	baz=40,SNR=5.9						
128A	Castleberry Fa	40.02	329	⇓P	P	11 44 53.7	+1.5
	baz=40						
Y31A	Rekieta Farm,	40.02	333	⇓P	P	11 44 53.5	+1.4
	baz=40						
W34A	Bridge Creek,	40.03	336	⇓P	P	11 44 53.8	+1.6
	baz=40						
TRQA	Tornquist	40.10	158	eP	P	11 44 52.6	-0.1
	8.2nm,1.1s						
Z29A	Hungry Hill Ra	40.13	330	⇓P	P	11 44 54.5	+1.4
	baz=40						
PLCA	Paso Flores	40.24	170	P	P	11 44 54.8	+0.9
	2.7nm,1.0s,baz=336,slow=6.7,SNR=4.9						
Y30A	Stafford Cattl	40.25	332	⇑P	P	11 44 55.5	+1.4
	baz=40,SNR=5.3						
X31A	McDonald Ranch	40.45	334	⇑P	P	11 44 57.0	+1.3
	baz=41,SNR=5.9						
127A	Arkansas Junct	40.51	328	⇓P	P	11 44 57.6	+1.3
	baz=41						
W32A	Sentinel	40.55	335	⇓P	P	11 44 57.6	+1.1
	baz=41,SNR=7.7						
Y29A	Porterfield Fa	40.60	331	⇓P	P	11 44 59.0	+2.0
	baz=41						
X30A	Coker Ranch, T	40.71	332	⇑P	P	11 44 59.3	+1.5
	baz=41,SNR=6.8						
V33A	Lossen Ranch,	40.75	336	⇑P	P	11 44 59.3	+1.2
	baz=41						
225A	Deer Hill, Car	40.87	326	⇓P	P	11 45 01.0	+1.6
	baz=41,SNR=8.5						
W31A	Holland Ranch,	40.90	334	⇑P	P	11 45 00.5	+1.1
	baz=41						
Y28A	McKinney Farm,	40.92	331	⇑P	P	11 45 00.8	+1.1
	baz=41,SNR=5.2						
Z27A	Tatum	40.94	329	⇑P	P	11 45 00.8	+1.0
	baz=41,SNR=6.4						
V32A	Arapaho	40.97	335	⇓P	P	11 45 01.4	+1.4
	baz=41,SNR=9.5						
X29A	Tulia	41.09	332	⇑P	P	11 45 02.2	+1.2
	baz=41,SNR=5.5						
W30A	Crocket Farms	41.18	333	⇑P	P	11 45 03.1	+1.4
	baz=41						
MSTX	Muleshoe	41.23	330	eP	P	11 45 03.3	+1.0
	12nm,0.8s						
MSTX	Muleshoe	41.23	330	⇑P	P	11 45 03.2	+1.0
	baz=41,SNR=8.2						
Z26A	Caprock	41.30	328	⇓P	P	11 45 04.7	+1.9
	baz=42,SNR=18						
V31A	Spring Creek L	41.36	335	⇓P	P	11 45 04.7	+1.6
	baz=42						
Y27A	Causey	41.36	330	⇓P	P	11 45 04.4	+1.2
	baz=42,SNR=6.3						
X28A	Dimmitt	41.39	331	⇑P	P	11 45 04.8	+1.3
	baz=42						
AMTX	Amarillo	41.44	332	⇑P	P	11 45 05.3	+1.4
	baz=42						
U32A	Winter Ranch,	41.52	336	⇑P	P	11 45 05.4	+1.0
	baz=42						
Z25A	Roswell	41.70	327	⇑P	P	11 45 07.8	+1.7
	baz=42,SNR=8.9						
Y26A	Elida	41.73	329	⇓P	P	11 45 08.1	+1.8
	baz=42						
T33A	Patterson Ranc	41.83	337	⇑P	P	11 45 07.8	+0.9
	baz=42						
X27A	F and S Farms,	41.94	330	⇓P	P	11 45 09.2	+1.2
	baz=42						
Z24A	Sheeppen Canyo	42.09	327	⇑P	P	11 45 11.3	+2.0
	baz=42,SNR=11						
Y25A	Mesa, Roswell	42.18	328	⇑P	P	11 45 11.6	+1.6
	baz=42						
X26A	CR and CF Fran	42.22	330	⇑P	P	11 45 12.0	+1.8
	baz=42						
W27A	Bowe Ranch, En	42.25	331	⇑P	P	11 45 12.1	+1.6
	baz=42,SNR=6.8						
U30A	WK&E Inc. Balk	42.34	334	⇑P	P	11 45 13.1	+1.9
	baz=43						

V28A Channing 42.41 332 ⇓P P 11 45 13.1 +1.3
baz=43
T31A Randall Ranch, 42.42 336 ⇑P P 11 45 12.9 +1.2
baz=43
U29A Oasis Ranch, S 42.55 334 ⇓P P 11 45 14.7 +1.9
baz=43
Y24A Capitan 42.58 327 ⇓P P 11 45 15.3 +2.0
baz=43
W26A Owens Ranch, T 42.62 330 ⇑P P 11 45 15.0 +1.5
baz=43
S32A Newby Ranch, P 42.64 337 ⇑P P 11 45 14.9 +1.4
baz=43
R33A Olander Ranch, 42.81 338 ⇓P P 11 45 15.9 +1.0
baz=43
121A Cookes Peak, D 42.88 324 eP P 11 45 17.7 +2.0
5.6nm,1.0s
121A Cookes Peak, D 42.88 324 ⇑P P 11 45 18.1 +2.4
baz=43
Y23A Lovelace Mesa, 42.92 327 ⇑P P 11 45 17.7 +1.6
baz=43,SNR=8.2
Z22A Elephant Butte 42.93 325 ⇓P P 11 45 18.1 +2.0
baz=43,SNR=8.5
319A Douglas 42.98 321 ⇑P P 11 45 18.7 +2.2
baz=43
KSU1 Kansas State U 43.03 340 eP P 11 45 16.9 +0.3
10nm,0.6s
KSU1 Kansas State U 43.03 340 ⇓P P 11 45 17.0 +0.3
baz=43
W25A X Bar L Ranch, 43.07 330 ⇑P P 11 45 18.4 +1.2
baz=43
X24A Lazy VL Ranch, 43.07 328 ⇑P P 11 45 19.1 +1.9
baz=43
T29A Hugoton 43.15 334 ⇑P P 11 45 19.4 +1.7
baz=43
R32A Long Quarter, 43.18 338 ⇓P P 11 45 18.9 +1.1
baz=43
V26A Tequesquite Ra 43.19 331 ⇑P P 11 45 19.6 +1.5
baz=43,SNR=12
U27A Thompson Grove 43.23 332 ⇓P P 11 45 19.6 +1.2
baz=43
Q33A Connelly Farm, 43.37 339 ⇓P P 11 45 20.3 +1.0
baz=44
R31A Burdett 43.38 337 ⇑P P 11 45 20.9 +1.4
baz=44
S29A Ulysses 43.46 335 ⇓P P 11 45 22.1 +1.9
baz=44,SNR=5.3
T28A Walsh 43.48 333 ⇑P P 11 45 21.9 +1.5
baz=44
W24A Lazy 6 Ranch, 43.55 329 ⇑P P 11 45 22.7 +1.6
baz=44
Q32A Meitler Ranch, 43.62 338 ⇑P P 11 45 22.5 +1.2
baz=44
V25A Rancho No Teng 43.63 330 ⇑P P 11 45 23.5 +1.8
baz=44,SNR=8.4
U26A Atchley Ranch, 43.65 331 ⇑P P 11 45 23.6 +1.8
baz=44
R30A Dighton 43.68 336 ⇓P P 11 45 23.4 +1.6
baz=44,SNR=6.2
T27A Campo 43.71 333 ⇓P P 11 45 24.1 +1.9
baz=44
S28A Manter 43.77 334 ⇑P P 11 45 24.0 +1.3
baz=44
LAZ Ladron 43.87 326 eP P 11 45 25.3 +1.6
2.0nm,0.9s
LAZ epP pP 11 45 48.8 +0.8
V24A Rampart Ranch, 43.88 329 ⇑P P 11 45 25.3 +1.5
baz=44,SNR=9.6
W23A Werner Place, 43.90 328 ⇑P P 11 45 25.6 +1.6
baz=44,SNR=7.8
ANMO Albuquerque 43.90 327 eP P 11 45 25.8 +1.8
11nm,0.8s
ANMO epP pP 11 45 48.8 +0.5
Q31A Ellis 43.95 337 ⇑P P 11 45 25.4 +1.3
baz=44
U25A Circle Dot Ran 43.97 331 ⇓P P 11 45 26.3 +1.8
baz=44
P32A Huiting Farm, 44.19 339 ⇑P P 11 45 26.9 +1.0
baz=44
Q30A Quinter 44.25 337 ⇑P P 11 45 27.9 +1.5
baz=44
R28A Tribune 44.37 335 ⇓P P 11 45 28.8 +1.4
baz=45,SNR=5.8
V23A Ortiz Mt. (NFS 44.37 328 ⇓P P 11 45 29.1 +1.5
baz=45
P31A Stockton 44.39 338 ⇑P P 11 45 28.9 +1.3
baz=45
U24A Moreno Valley 44.41 330 ⇑P P 11 45 30.1 +2.0
baz=45
Q29A Oakley 44.48 336 ⇑P P 11 45 29.5 +1.2
baz=45
S26A Kim 44.51 333 ⇓P P 11 45 30.6 +2.0
baz=45
T25A Trinidad 44.56 331 ⇑P P 11 45 30.8 +1.6
baz=45
O32A Brockman Farm, 44.64 339 ⇓P P 11 45 30.2 +0.7
baz=45
P30A Selden 44.75 337 ⇓P P 11 45 31.7 +1.4
baz=45
R27A Eads 44.75 334 ⇑P P 11 45 31.7 +1.2
baz=45,SNR=9.2
U23A El Rito 44.82 329 ⇓P P 11 45 33.5 +2.3
baz=45,SNR=14
V22A San Miguel Ran 44.88 328 ⇓P P 11 45 33.6 +1.9
baz=45
O31A Woolen Ranch, 44.92 338 ⇑P P 11 45 32.8 +1.0
baz=45
T24B San Luis 44.98 330 ⇑P P 11 45 34.2 +1.6
baz=45
S25A Robets Cordova 44.99 332 ⇑P P 11 45 33.9 +1.4
baz=45
R26A Arlington 45.05 333 ⇓P P 11 45 34.5 +1.6
baz=45
P29A Atwood 45.07 336 ⇑P P 11 45 34.3 +1.4
baz=45
U22A Llaves 45.20 328 ⇑P P 11 45 36.1 +1.8
baz=45
O30A MW Ranch, Wils 45.22 338 ⇑P P 11 45 35.3 +1.2
baz=45
T23A Casias Ranch, 45.28 330 ⇓P P 11 45 36.9 +1.9
baz=46,SNR=5.0
R25A Fountain Ranch 45.31 332 ⇑P P 11 45 36.8 +1.8
baz=46
S24A Houchin Ranch, 45.35 331 ⇓P P 11 45 37.3 +1.8
baz=46
P28A Saint Francis 45.38 336 ⇓P P 11 45 37.0 +1.6
baz=46
O29A 4D Ranch, Culb 45.46 337 ⇑P P 11 45 37.8 +1.7
baz=46
X18A Snowflake 45.57 324 ⇓P P 11 45 39.1 +1.9
baz=46
SDCO Great Sand Dun 45.57 331 eP P 11 45 38.9 +1.6
3.3nm,0.6s
SDCO epP pP 11 46 02.1 +0.4
Q26A Hugo 45.59 334 ⇑P P 11 45 39.4 +2.2
baz=46
214A Organ Pipe Nat 45.62 319 ⇑P P 11 45 39.0 +1.6
baz=46
P27A Ficken Ranch, 45.71 335 ⇑P P 11 45 39.3 +1.2
baz=46
R24A Sanders Place, 45.77 332 ⇑P P 11 45 40.5 +1.9
baz=46
S23A Nye Farm, Mont 45.79 330 ⇓P P 11 45 40.9 +2.0
baz=46
O28A Krutsinger Ran 45.85 336 ⇓P P 11 45 40.9 +1.8
baz=46
Q25A Bedland, Calha 45.91 333 ⇓P P 11 45 41.5 +1.6
baz=46
N29A Votaw Ranch, W 45.99 338 ⇑P P 11 45 41.6 +1.4
baz=46
R23A Moffat 46.08 331 ⇓P P 11 45 43.3 +2.1
baz=46
O27A Beecher Island 46.20 335 ⇑P P 11 45 43.7 +1.8
baz=46
S22A 4UR Ranch, Cre 46.23 330 ⇑P P 11 45 44.5 +2.0
baz=46
N28A Pribbeno Ranch 46.24 337 ⇓P P 11 45 43.6 +1.5
baz=46,SNR=5.8
P25A Willow Gulch B 46.36 333 ⇓P P 11 45 44.9 +1.6
baz=47
X16A Lo Mia Camp, P 46.38 323 ⇑P P 11 45 45.6 +2.1
baz=47
L31A Butterfield Fa 46.54 340 ⇑P P 11 45 45.0 +0.6
baz=47,SNR=8.8
L30A Spencer Herefo 46.64 339 ⇑P P 11 45 46.5 +1.2
baz=47
OGNE Ogallala 46.65 336 ⇓P P 11 45 47.1 +1.7
baz=47
MVCO Mesa Verde 46.69 328 ⇓P P 11 45 47.5 +1.5
baz=47
O25A Wiggins 46.83 334 ⇓P P 11 45 48.4 +1.5
baz=47
P23A Jefferson 47.02 332 ⇑P P 11 45 50.5 +1.9
baz=47
Y14A Wickenburg 47.02 321 ⇑P P 11 45 49.9 +1.5
baz=47
WUAZ Wupatki 47.09 324 eP P 11 45 51.0 +1.9
12nm,0.9s
WUAZ Wupatki 47.09 324 ⇓P P 11 45 51.5 +2.4
baz=47
ECSD EROS Data Cent 47.24 343 ⇓P P 11 45 49.1 -0.8
baz=47
K30A Basset 47.24 340 ⇓P P 11 45 51.1 +1.1
baz=47
ISCO Idaho Springs 47.25 332 ⇓P P 11 45 51.9 +1.6
baz=48
SMCO Snowmass 47.41 331 eP P 11 45 53.5 +1.8
PV01 Paradox Valley 47.42 329 eP P 11 45 53.1 +1.5
K29A Lazy Trails An 47.57 339 ⇓P P 11 45 53.5 +1.0
baz=48
P22A Eagle 47.63 331 ⇓P P 11 45 55.1 +1.9
baz=48
O23A Lake Granby, G 47.72 333 ⇓P P 11 45 55.8 +1.8
baz=48,SNR=7.4
J30A Dallas 47.78 340 ⇓P P 11 45 54.4 +0.4
baz=48,SNR=9.5
K28A Ten Mile Ranch 47.91 338 ⇓P P 11 45 56.6 +1.5
baz=48,SNR=7.6
O22A Kremmling 47.98 332 ⇑P P 11 45 56.9 +1.0
baz=48,SNR=5.3
J29A Okreek 48.14 340 ⇑P P 11 45 57.6 +0.8
baz=48,SNR=7.6
K27A Flueckinger Fa 48.23 337 ⇓P P 11 45 59.1 +1.5
baz=48
U15A North Rim 48.26 324 ⇓P P 11 46 00.2 +2.0
baz=48
N23A Red Feather La 48.28 333 ⇑P P 11 45 59.5 +1.3
baz=48
W13A Hualapai Mount 48.33 322 ⇓P P 11 46 00.7 +2.0
baz=49
BC3 Big Chuckawall 48.42 319 ⇑P P 11 46 01.4 +2.1
baz=49
N22A Wattenberg Ran 48.44 333 ⇓P P 11 46 00.9 +1.5
baz=49
L25A Engebretsen Ra 48.45 336 ⇑P P 11 46 01.1 +1.8
baz=49
J28A Allard Ranch, 48.48 339 ⇓P P 11 46 00.6 +1.2
baz=49
IRM Iron Mountain 48.53 320 ⇓P P 11 46 01.9 +1.9
baz=49
BRSD Miller 48.60 341 eP P 11 45 59.9 -0.4
16nm,1.0s
BRSD Miller 48.60 341 ⇑P P 11 46 00.1 -0.2
baz=49
J27A Elkhorn Farm, 48.61 338 ⇓P P 11 46 02.2 +1.7
baz=49,SNR=7.3
O20A White River Ci 48.77 331 ⇓P P 11 46 03.2 +1.3
baz=49
I28A Midland 48.95 339 ⇓P P 11 46 03.9 +0.8
baz=49,SNR=8.8
M22A Cedar Creek Ra 48.98 333 ⇑P P 11 46 05.0 +1.4
baz=49
J26A Sides Ranch, S 49.07 337 ⇓P P 11 46 05.6 +1.6
baz=49,SNR=6.5
L23A Garrett 49.16 334 ⇓P P 11 46 05.9 +1.0
baz=49
SRU San Rafael 49.17 328 eP P 11 46 06.5 +1.5
3.5nm,0.9s
H29A Onida 49.17 340 ⇑P P 11 46 04.8 +0.1
baz=49
G30A Faulkton 49.27 342 ⇓P P 11 46 05.6 +0.1
baz=50,SNR=13
N20A Spence Gulch, 49.32 331 ⇓P P 11 46 07.4 +1.2
baz=50
I27A Quinn 49.33 339 ⇑P P 11 46 07.1 +1.1
baz=50,SNR=13
L22A Ellis Ranch, M 49.41 334 ⇓P P 11 46 08.7 +1.9
baz=50
J25A Sunshine Ranch 49.42 337 ⇓P P 11 46 08.2 +1.4
baz=50
H28A Mission Ridge 49.49 340 ⇓P P 11 46 07.6 +0.5
baz=50
G29A Hoven 49.58 341 ⇓P P 11 46 07.8 +0.1
baz=50
I26A New Underwood 49.60 338 ⇑P P 11 46 09.3 +1.3
baz=50
K23A Bowen Ranch, D 49.64 335 ⇑P P 11 46 09.8 +1.3
baz=50
CCUT Cedar City 49.65 324 eP P 11 46 11.1 +2.3
58nm,2.7s
MVU Marysvale 49.65 326 eP P 11 46 10.5 +1.8
BBRC Big Bear Solar 49.75 319 ⇑P P 11 46 11.8 +2.2
baz=50
G28A Parade 49.80 340 ⇑P P 11 46 10.0 +0.5
baz=50
H27A Howes 49.83 339 ⇑P P 11 46 10.8 +1.1
baz=50,SNR=8.2
F30A Leola 49.87 342 ⇓P P 11 46 10.0 +0.1
baz=50,SNR=5.3
I25A Rochford 49.92 337 ⇓P P 11 46 12.5 +1.9
baz=50
K22A Casper 49.95 334 ⇓P P 11 46 11.7 +0.8
baz=50
EYMN Ely 49.99 349 eP P 11 46 09.3 -1.6
1.0nm,0.3s
F29A Eureka 50.12 341 ⇓P P 11 46 12.1 +0.3
baz=50,SNR=5.3
RSSD Black Hills 50.12 337 eP P 11 46 13.6 +1.4
5.7nm,0.8s
BFSC Mount Baldy Ra 50.23 318 ⇓P P 11 46 15.4 +2.4
baz=50
K21A Alcova 50.26 333 ⇓P P 11 46 14.5 +1.3
baz=50
SHOC Shoshone 50.34 321 ⇓P P 11 46 15.7 +2.0
baz=51
H25A Fruitdale 50.38 338 ⇑P P 11 46 15.2 +1.3
baz=51,SNR=8.2
G27A Dupree 50.42 340 ⇓P P 11 46 14.8 +0.7
baz=51
E30A Jud 50.43 343 ⇑P P 11 46 14.4 +0.2
baz=51,SNR=5.3
F28A McLaughlin 50.45 341 ⇑P P 11 46 14.9 +0.6
baz=51,SNR=5.4
J22A Midwest 50.54 335 ⇑P P 11 46 16.2 +0.9
baz=51,SNR=6.7
G26A Maurine 50.58 339 ⇓P P 11 46 16.2 +0.8
baz=51
E29A Napoleon 50.72 342 ⇑P P 11 46 16.8 +0.4
baz=51,SNR=8.5
JLU Jordanelle 50.74 329 eP P 11 46 18.5 +1.6
28nm,2.1s
G25A Newell 50.80 338 ⇑P P 11 46 17.9 +0.9
baz=51
H24A Dirks Ranch, A 50.85 337 ⇓P P 11 46 18.5 +1.1
baz=51
F27A Lemmon 50.88 340 ⇑P P 11 46 18.4 +0.8
baz=51
J21A Lysite 50.91 334 ⇓P P 11 46 19.5 +1.4
baz=51
I22A 9 Mile Ranch, 50.93 335 ⇓P P 11 46 19.6 +1.4
baz=51
D30A Buchanan 50.94 343 ⇑P P 11 46 18.5 +0.5
baz=51
E28A Huff 51.05 341 ⇓P P 11 46 19.6 +0.8
baz=51,SNR=8.2
FURC Furnace Creek, 51.07 321 ⇓P P 11 46 21.4 +2.3
baz=51
F26A Lodgepole 51.09 339 ⇑P P 11 46 20.0 +0.8
baz=51,SNR=9.4
D29A Pettibone, Tap 51.14 342 ⇓P P 11 46 20.1 +0.6
baz=51
DUG Dugway 51.18 327 ⇓P P 11 46 21.8 +1.7
baz=51
J20A Shoshoni 51.20 333 ⇓P P 11 46 21.6 +1.4
baz=51,SNR=5.1
E27A Carson 51.21 340 ⇓P P 11 46 21.0 +0.9
baz=51,SNR=8.4
I21A Big Trails, Te 51.21 334 ⇓P P 11 46 21.4 +1.1
baz=51
AGMN Agassiz Nation 51.26 346 ⇓P P 11 46 20.2 -0.1
baz=51
G24A Alzada 51.28 338 ⇑P P 11 46 21.6 +0.9
baz=52,SNR=6.7
C30A Mose, Pekin 51.40 344 ⇓P P 11 46 21.7 +0.3
baz=52
H22A Clearmont 51.45 336 ⇓P P 11 46 23.0 +1.0
baz=52
R11A Troy Canyon, C 51.49 324 ⇓P P 11 46 24.1 +1.6
baz=52
E26A Carlson Angus 51.55 340 ⇓P P 11 46 23.6 +1.0
baz=52,SNR=8.3
G23A Biddle 51.56 337 ⇓P P 11 46 23.7 +1.0
baz=52
D28A Regan 51.56 342 ⇓P P 11 46 23.6 +1.0
baz=52,SNR=8.0
J19A Crowheart 51.57 333 ⇑P P 11 46 24.0 +1.1
baz=52
ISA Isabella 51.61 319 ⇑P P 11 46 25.7 +2.4
baz=52
I20A Worland 51.69 334 ⇑P P 11 46 24.9 +1.2
baz=52
F24A Ekalaka 51.73 338 ⇓P P 11 46 24.8 +0.7
baz=52
H21A Big Horn, Sher 51.76 335 ⇑P P 11 46 25.4 +1.0
baz=52
D27A Center 51.79 341 ⇑P P 11 46 25.2 +0.8
baz=52
E25A Miller Ranch, 51.91 339 ⇑P P 11 46 26.3 +1.0
baz=52,SNR=6.1
G22A Birney 51.93 336 ⇑P P 11 46 26.2 +0.6
baz=52
C28A Hausauer Farms 51.97 342 ⇓P P 11 46 26.4 +0.7
baz=52
F23A Volborg 52.00 337 ⇓P P 11 46 26.7 +0.7
baz=52,SNR=5.7
D26A Manning 52.03 340 ⇑P P 11 46 26.5 +0.4
baz=52
B30A Myrvik Farm, E 52.04 344 ⇓P P 11 46 26.3 +0.2
baz=52,SNR=5.7
H20A Greybull 52.06 334 ⇓P P 11 46 26.9 +0.4
baz=52
VES Vestal, Richgr 52.12 319 ⇓P P 11 46 29.2 +2.2
baz=52
I19A Meeteetse 52.14 333 ⇑P P 11 46 29.2 +2.0
baz=52
E24A Baker 52.28 338 ⇓P P 11 46 29.3 +1.2
baz=52
TPH Tonopah 52.30 322 eP P 11 46 30.2 +1.7
3.7nm,1.1s
C27A Sayler Ranch, 52.32 341 ⇑P P 11 46 29.4 +1.1
baz=52
B29A Wagenman Farm, 52.34 343 ⇓P P 11 46 29.2 +0.9
baz=52,SNR=16
F22A Rosebud 52.38 337 ⇑P P 11 46 29.7 +0.9
baz=53
D25A Fairfield 52.44 340 ⇓P P 11 46 30.8 +1.6
baz=53,SNR=5.4
A30A Hoffart Farm, 52.48 344 ⇓P P 11 46 29.8 +0.4
baz=53,SNR=9.2
C26A Wahner Farm, P 52.61 341 ⇑P P 11 46 31.3 +0.9
baz=53
B28A Dugan Ranch, T 52.62 343 ⇑P P 11 46 31.1 +0.7
baz=53
A29A Manning Farm, 52.72 344 ⇑P P 11 46 31.8 +0.7
baz=53,SNR=14
G20A Bridger 52.73 335 ⇓P P 11 46 32.0 +0.4
baz=53
D24A Glendive 52.76 339 ⇑P P 11 46 32.8 +1.2
baz=53,SNR=8.9
I17A Pilgrim Ck. 52.78 332 ⇓P P 11 46 33.4 +1.4
baz=53
E22A Miles City 52.80 337 ⇑P P 11 46 32.2 +0.3
baz=53
C25A Freed Ranch, W 52.90 340 ⇓P P 11 46 33.7 +1.1
baz=53
IMW Indian Meadow 52.94 332 eP P 11 46 34.2 +1.0
7.4nm,1.4s
H18A Shoshone NF, C 52.95 333 ⇓P P 11 46 34.5 +1.3
baz=53
A28A Rude Farm, Bot 53.00 343 ⇑P P 11 46 33.9 +0.6
baz=53
ULM Lac du Bonnet 53.09 347 P P 11 46 32.9 -0.9
8.6nm,0.5s,baz=159,slow=7.7,SNR=22
ULM PcP PcP 11 47 39.7 -1.2
1.8nm,0.4s,baz=114,slow=2.2,SNR=3.8
D23A Lindsay 53.13 338 ⇑P P 11 46 35.3 +1.0
baz=53,SNR=6.2
F20A Billings 53.17 335 ⇑P P 11 46 35.4 +0.7
baz=53
NVAR Mina Array Bea 53.18 322 P P 11 46 36.9 +1.8
2.9nm,0.7s,baz=140,slow=7.1,SNR=30
NVAR PcP PcP 11 47 42.3 +0.5
0.7nm,0.7s,baz=139,slow=4.4,SNR=3.8
D22A Cohagen 53.48 338 ⇓P P 11 46 38.0 +1.2
baz=54,SNR=6.3
A26A Wade Farm, Ken 53.53 342 ⇓P P 11 46 38.0 +0.9
baz=54
YMR Madison River 53.53 332 eP P 11 46 39.4 +1.9
66nm,2.4s
F19A Roth Farm, Mol 53.55 335 ⇓P P 11 46 38.4 +1.0
baz=54
C23A Lambert 53.66 339 ⇓P P 11 46 39.2 +1.1
baz=54,SNR=6.1
D21A La Casta Ranch 53.73 337 ⇑P P 11 46 40.3 +1.6
baz=54
E20A Meyer Farm, Mu 53.73 336 ⇑P P 11 46 40.0 +1.3
baz=54
C22A Vida 53.87 338 ⇓P P 11 46 40.8 +1.1
baz=54,SNR=11
DGMT Dagmar 53.87 340 ⇓P P 11 46 40.8 +1.1
baz=54
A25A Svangstu Ranch 53.91 341 ⇓P P 11 46 41.1 +1.2
baz=54
E19A Rath Farm, Rou 53.97 335 ⇑P P 11 46 41.9 +1.4
baz=54
B23A Brockton 54.15 339 ⇓P P 11 46 43.1 +1.4
baz=54,SNR=10
A24A Westby 54.19 340 ⇑P P 11 46 43.3 +1.3
baz=54,SNR=6.2
D20A Manuel Ranch, 54.20 336 ⇓P P 11 46 43.3 +1.1
baz=54,SNR=5.7
B22A Reddig Ranch S 54.37 338 ⇑P P 11 46 44.5 +1.2
baz=55
C21A Desert Coulee 54.39 337 ⇑P P 11 46 44.8 +1.3
baz=55,SNR=9.0
HLID Hailey 54.41 329 eP P 11 46 45.2 +1.4
18nm,2.1s
HLID Hailey 54.41 329 ⇑P P 11 46 45.4 +1.6
baz=55
A23A Redstone 54.52 340 ⇓P P 11 46 45.9 +1.5
baz=55
D19A Cripps Ranch, 54.56 336 ⇓P P 11 46 46.1 +1.3
baz=55,SNR=5.2
BOZ Bozeman (W) 54.58 333 eP P 11 46 45.5 +0.5
5.8nm,0.6s
BOZ epP pP 11 47 09.6 -0.7
BOZ esP sP 11 47 22.2 +0.3
C20A Veseth Ranch, 54.65 337 ⇑P P 11 46 46.8 +1.5
baz=55
B21A Ellsworth Farm 54.85 338 ⇓P P 11 46 48.3 +1.5
baz=55
A22A Carney Farms, 54.92 339 ⇓P P 11 46 48.4 +1.2
baz=55,SNR=7.7
MFID Camas Ranch 55.04 328 eP P 11 46 49.9 +1.6
8.7nm,1.1s
C19A Slack Wire Ran 55.09 336 ⇑P P 11 46 49.7 +1.1
baz=55
A21A Bergtoll Ranch 55.29 338 ⇑P P 11 46 51.3 +1.4
baz=56,SNR=6.7
HRY Holter Researc 55.48 333 eP P 11 46 52.5 +1.1
A20A Cobblestone Ra 55.57 338 ⇑P P 11 46 52.9 +0.9
baz=56
EGMT Eagleton 55.61 336 ⇑P P 11 46 53.0 +0.8
baz=56
A19A Klindworth Far 55.93 337 ⇓P P 11 46 55.3 +0.8
baz=56
MSO Missoula 56.53 332 ⇓P P 11 47 00.0 +1.1
baz=57
SCHQ Schefferville 56.73 9 P P 11 46 59.1 -0.9
2.6nm,0.8s,baz=190,slow=12,SNR=4.1
M04C Macdoel 57.38 323 ⇓P P 11 47 06.1 +1.1
baz=58
N02D Trinity Center 57.42 322 ⇑P P 11 47 04.9 -0.4
baz=58
M02C Callahan 57.76 322 ⇑P P 11 47 07.8 +0.2
baz=58
J05D Fort Rock, OR 57.93 325 ⇑P P 11 47 10.1 +1.2
baz=58
J04D Umpqua Nationa 58.41 324 ⇓P P 11 47 13.6 +1.3
baz=59
I05D Terrebonne, OR 58.65 326 ⇑P P 11 47 15.1 +1.4
baz=59
L02D Cave Junction, 58.66 323 ⇑P P 11 47 14.5 +0.7
baz=59
I04A Tendick Farm, 58.92 325 ⇑P P 11 47 16.0 +0.3

baz=59
NEW Newport 59.06 332 ⇓P P 11 47 17.7 +1.2
baz=59
LON Longmire 60.42 328 eP P 11 47 26.7 +0.9
1.4nm,0.6s
EDM Edmonton 61.10 337 eP P 11 47 30.2 -0.1
EDM epP pP 11 47 55.2 -0.9
YKA Yellowknife Ar 68.77 343 P P 11 48 19.3 -0.4
2.1nm,0.6s,baz=140,slow=5.8,SNR=67
ILAR Eielson Array 81.57 336 P P 11 49 33.0 -0.2
1.4nm,0.9s,baz=139,slow=3.6,SNR=11
TORD Torodi Ar. Bea 81.61 77 P P 11 49 33.8 -0.7
0.6nm,0.6s,baz=280,slow=6.0,SNR=11
IM04 Indian Mountai 84.69 337 eP P 11 49 49.1 -0.1
QSPA South Pole Qui 88.93 180 P P 11 50 11.4 +1.5
2.5nm,0.9s,baz=194,slow=1.7,SNR=13
QSPA South Pole Qui 88.93 180 eP P 11 50 11.2 +1.3
QSPA epP pP 11 50 36.8 -0.6
ZALV Zalesovo Beam 125.77 11 PKP PKPdf 11 56 16.0 -0.7
0.6nm,0.3s,baz=224,slow=7.7,SNR=4.7
MKAR Makanchi Array 131.79 17 PKP PKPdf 11 56 28.1 -0.4
0.7nm,0.9s,baz=318,slow=2.9,SNR=5.2
KSH Kashi 135.69 27 ePKP PKPdf 11 56 36.9 +0.8
KSH esPKP 11 57 14.8
KSRS Korea Array 135.93 328 PKP PKPdf 11 56 36.4 0.0
0.8nm,0.5s,baz=24,slow=1.8,SNR=3.8
KSAR Wonju Array Be 135.96 328 PKP PKPdf 11 56 36.4 -0.1
WMQ Urumqi 135.97 13 ePKP PKPdf 11 56 36.8 +0.4
WMQ LR LR
comp=N,250nm,21.0s
WMQ LR LR
comp=E,170nm,21.6s
WMQ LR LR
comp=Z,160nm,21.0s
HHC Hu-ho-hao-te 139.22 347 ePKP PKPdf 11 56 43.5 +0.9
HHC PP PP 11 59 41.6 +6.0
HHC SKS SKSdf 12 03 42.3 -1.5
HHC SKKS SKKSac 12 06 20.6 -0.5
HHC SS SS 12 17 48.3 +4.1
HHC LR LR
comp=N,250nm,19.6s
HHC LR LR
comp=E,280nm,19.0s
HHC LR LR
comp=Z,370nm,19.0s
ASAR Alice Springs 139.30 231 PKhKP PKPpre 11 56 36.3
0.3nm,0.4s,baz=131,slow=3.7,SNR=6.2
ASAR PKP PKPdf 11 56 42.9 -0.3
0.5nm,0.8s,baz=122,slow=2.7,SNR=6.4
WRA Warramunga Arr 140.83 236 PKhKP PKPpre 11 56 38.8
0.3nm,0.5s,baz=115,slow=2.3,SNR=11
WRA PKP PKPdf 11 56 45.8 -0.2
0.4nm,0.4s,baz=114,slow=2.2,SNR=10
NJ2 Nanjing 144.73 333 ePKP PKPbc 11 56 52.0 +0.4
LZH Lanzhou 145.08 355 PKPbc PKPbc 11 56 53.5 +0.3
LZH pPKP pPKPdf 11 57 23.0 +1.1
LZH sPKP 11 57 32.9
XAN Xi'an 146.34 347 PKPbc PKPdf 11 56 55.8 +0.5
PYUN Piuthan 148.34 31 eP PKPbc 11 57 02.5 0.0
18nm,0.4s
DANN Dangsing 148.52 29 eP PKPbc 11 57 03.4 +0.3
20nm,0.7s
KOLN Koldanda 148.92 30 eP PKPbc 11 57 03.7 -0.3
GKN Gorkha 149.23 28 eP PKPbc 11 57 04.6 -0.1
21nm,0.7s
KKN Kakani 149.71 28 eP PKPbc 11 57 05.8 -0.2
DMN Daman 149.78 28 eP PKPbc 11 57 06.1 -0.1
10nm,0.5s
GUN Gumba 149.88 27 eP PKPbc 11 57 06.6 +0.1
11nm,0.5s
PKIN Phulchoki 149.94 28 eP PKPbc 11 57 06.6 0.0
4.9nm,0.6s
PKI Pulchoki 149.96 28 eP PKPbc 11 57 06.2 -0.5
CD2 Chengdu 150.22 354 PKPbc PKPdf 11 57 00.5 -1.2
CD2 pPKP pPKPdf 11 57 28.8 -1.6
CD2 sPKP 11 57 39.9
CD2 PKS PKSdf 12 00 33.9 -2.8
CD2 PP PP 12 00 44.3 +3.4
CD2 SKS SKSdf 12 03 56.3 -4.1
CD2 SKKS SKKSac 12 07 21.4 -2.4
CD2 SS SS 12 19 51.3 +1.7
CD2 AMB AMB
comp=Z,120nm,5.2s
JIRN Jiri 150.24 26 eP PKPbc 11 57 07.4 0.0
4.8nm,0.4s
RAMN Ramite 151.03 26 eP PKPbc 11 57 08.4 -0.8
19nm,0.7s
TAPN Taplejung 151.16 24 eP PKPbc 11 57 09.3 -0.2
9.9nm,0.5s
ODAN Odare 151.45 25 eP PKPbc 11 57 09.9 -0.2
8.0nm,0.6s

KRSC 19 11:37:45.6±1.8, 48.25N×155.37E, h85km±23km, ML4.5
SKHL 19 11:37:45.8±0.5, 48.12N×155.61E, h57km±5km, mb5.4/1, msh5.2/1
MOS 19 11:37:46.3±1.9, 48.43N×154.97E, h33km, mb4.0/10, Error ellipse: s-maj=14.0km s-min=8.3km az=71.6
IDC 19 11:37:47.5±0.7, 48.41N×154.85E, h30km±5km, mb3.5/12, mb1 3.8/16, mb1mx3.6/44, mbtmp3.8/16, ML3.2/4, MS4.4/1, Ms1 4.4/1, ms1mx3.4/39, Error ellipse: s-maj=18.3km s-min=12.9km az=141.0
ISC 19 11:37:47.2±0.8, 48.31N±0.07×155.16E±0.07, h30km±6km, n84, σ1.53/90, mb3.8/15, 1C-1D, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SKR Severo-Kuril's 2.45 14 ePN Pn 11 38 20.9 -4.3
SKR eS Sn 11 38 50.4 -3.7
SKR pmax pmax
comp=N,80nm,0.4s
SKR pmax pmax
comp=Z,80nm,0.4s
SKR pmax pmax
comp=E,90nm,0.3s
SKR smax smax
comp=E,520nm,0.5s
SKR smax smax
comp=N,710nm,0.3s
SKR Severo-Kuril's 2.45 14 P Pn 11 38 25.1 -0.1
SKR S Sn 11 38 56.5 +2.4
SKR Severo-Kuril's 2.45 14 eP Pn 11 38 22.5 -2.7
SKR AMB AMB 11 38 23.0
comp=N,90nm,0.4s
SKR AMB AMB 11 38 23.0
comp=N,80nm,0.4s
SKR eS Sn 11 38 50.4 -3.7
SKR A A 11 38 58.0
comp=N,710nm,0.4s
SKR A A 11 38 58.0
comp=N,520nm,0.4s
SKR A A 11 38 58.0
comp=N,150nm,0.4s
PAU Pauzhetka 3.33 18 P Pn 11 38 38.1 +0.8
PAU S Sn 11 39 16.5 +0.7
PAU Pauzhetka 3.33 18 eP Pn 11 38 39.4 +2.1
PAU eS Sn 11 39 16.7 +0.9
ASAK Asacha 4.43 22 P Pn 11 38 54.1 +1.6
ASAK S Sn 11 39 44.3 +1.2
MTVR Mutnovka 4.60 24 P Pn 11 38 55.8 +1.0
MTVR S Sn 11 39 47.9 +0.6
RUS Russkaya 4.65 26 P Pn 11 38 55.1 -0.2
RUS S Sn 11 39 46.7 -1.5
APC Apacha 4.79 15 P Pn 11 38 59.8 +2.5
PETK Petropavlovsk- 5.06 18 PN Pn 11 39 02.4 +1.3
PETK pmax pmax
comp=Z,3.0nm,0.3s
PETK Petropavlovsk- 5.06 18 Pn Pn 11 39 02.4 +1.3
comp=Z,3.1nm,0.3s,baz=186,slow=14,SNR=21
PET Petropavlovsk 5.21 24 ePN Pn 11 39 04.0 +0.9
PET eS Sn 11 40 02.7 +0.6
PET smax smax
comp=E,109nm,0.7s
PET smax smax
comp=N,75nm,0.5s
PET Petropavlovsk 5.21 24 P Pn 11 39 03.8 +0.7
PET S Sn 11 40 02.4 +0.3
PET Petropavlovsk 5.21 24 eP Pn 11 39 04.0 +0.9
PET eS Sn 11 40 02.7 +0.6
PET A A 11 40 15.8
comp=N,75nm,0.6s
PET A A 11 40 15.8
comp=N,110nm,0.6s
UGLR Uglovaya 5.42 24 P Pn 11 39 07.9 +1.8
UGLR S Sn 11 40 08.7 +1.2
KOK Koryaka 5.45 23 P Pn 11 39 08.2 +1.8
AVH Avacha 5.45 23 P Pn 11 39 08.2 +1.7
SMAR Somma 5.46 24 P Pn 11 39 08.2 +1.4
KRER Koryakskii 5.49 23 P Pn 11 39 08.1 +1.0
SDLR Sedlovina 5.50 24 P Pn 11 39 08.0 +0.8
SDLR S Sn 11 40 08.8 -0.7
KRX Arik 5.51 22 P Pn 11 39 08.7 +1.3
NLC Nalytchevo 5.54 27 S Sn 11 40 08.1 -2.1
GNL Ganaly 5.67 17 P Pn 11 39 11.6 +2.2
KUR Kuril'sk 5.88 241 ⇓iPN Pn 11 39 13.8 +1.5
KUR iS Sn 11 40 20.5 +1.8
KUR pmax pmax
comp=Z,62nm,0.9s
KUR pmax pmax
comp=E,12nm,0.4s
KUR pmax pmax
comp=N,23nm,0.3s
KUR smax smax
comp=N,81nm,1.7s
KUR smax smax
comp=E,57nm,0.8s
KUR Kuril'sk 5.88 241 eP Pn 11 39 13.8 +1.5
KUR AMB AMB 11 39 14.4
comp=E,160nm,0.9s
KUR AMB AMB 11 39 19.1
comp=E,361nm,3.0s
KUR eS Sn 11 40 19.4 +0.7
KUR A A 11 40 28.7
comp=E,360nm,0.9s
KUR A A 11 40 28.7
comp=E,130nm,0.9s
KUR A A 11 40 33.4
comp=E,1μm,3.0s
KUR A A 11 40 33.4
comp=E,364nm,3.0s
SHO Shikotan 7.30 236 P Pn 11 39 30.9 -0.9
TUMR Tumrok 7.63 22 P Pn 11 39 38.1 +1.7
YSS Yuzh-Sakhalins 8.49 265 ePN Pn 11 39 52.0 +3.9
YSS Yuzh-Sakhalins 8.49 265 eP Pn 11 39 52.0 +3.9
YSS eS Sn 11 41 24.8 +1.9
JKA Kamikawa-asahi 9.67 249 eP Pn 11 40 06.1 +1.9
ASAJ Asahikawa 9.67 249 PN Pn 11 40 06.1 +1.9
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 9.67 249 Pn Pn 11 40 06.1 +1.9
comp=Z,1.1nm,0.3s,baz=80,slow=21,SNR=11
FX1 Attu Island--F 12.31 61 PN Pn 11 40 40.3 0.0
FX1 pmax pmax
comp=Z,1.0nm,0.3s
FX1 Attu Island--F 12.31 61 Pn Pn 11 40 40.3 0.0
comp=Z,1.4nm,0.3s,baz=234,slow=19,SNR=4.6
HABR Khabarovsk 13.37 278 ePN Pn 11 40 50.6 -4.2
HABR pmax pmax
comp=Z,11nm,2.3s
SEY Seymchan 14.73 355 Pn Pn 11 41 15.1 +1.8
comp=Z,0.1nm,0.3s,baz=191,slow=12,SNR=3.7
EKMR Ekimchan 14.84 297 eP Pn 11 41 14.5 -0.3
EKMR AMB AMB 11 41 19.5
comp=Z,3.0nm,0.4s
USRK Ussuriysk Arra 16.53 264 Pn Pn 11 41 34.2 -2.5
comp=Z,0.1nm,0.3s,baz=88,slow=13,SNR=2.3
BILL Bilibino 20.56 12⇑eP P 11 42 22.6 -0.6
BILL e 11 42 39.4
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL Bilibino 20.56 12 eP P 11 42 22.6 -0.6
KSRS Korea Array 22.60 251 P P 11 42 44.2 -1.1
KSRS pmax pmax
comp=Z,6.0nm,0.9s
KSRS Korea Array 22.60 251 P P 11 42 44.1 -1.1
comp=Z,5.8nm,0.9s,baz=49,slow=10,SNR=12
JNU Nakatsue 23.72 239 LR LR 11 53 00.4
comp=Z,1μm,20.7s,baz=126,slow=39
TIK Tiksi 26.38 342 eP P 11 43 19.6 -0.8
TIXI Tiksi 26.39 342 eP P 11 43 19.6 -0.9
TIXI pmax pmax
comp=Z,1.0nm,1.2s
H11N2 WAKE ISLAND Hy 30.05 158 T T 12 15 49.1
baz=345,slow=76,SNR=34
H11N1 WAKE ISLAND Hy 30.07 158 T T 12 15 43.7
baz=345,slow=76,SNR=58
H11N3 WAKE ISLAND Hy 30.07 157 T T 12 15 55.1
baz=345,slow=76,SNR=22
H11S1 WAKE ISLAND Hy 31.18 158 T T 12 17 04.3
baz=345,slow=76,SNR=370
H11S3 WAKE ISLAND Hy 31.19 159 T T 12 17 02.0
baz=345,slow=76,SNR=433
H11S2 WAKE ISLAND Hy 31.20 158 T T 12 17 05.6
baz=345,slow=76,SNR=384
ILAR Eielson Array 34.46 40 eP P 11 44 33.7 +1.8
ILAR Eielson Array 34.46 40 P P 11 44 31.6 -0.2
comp=Z,0.3nm,0.7s,baz=256,slow=7.8,SNR=4.5
ILAR Eielson Array 34.46 40 eP P 11 44 33.7 +1.8
MKAR Makanchi Array 47.46 297 eP P 11 46 16.5 -2.6
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.46 297 P P 11 46 16.5 -2.6
comp=Z,0.5nm,0.6s,baz=46,slow=4.0,SNR=5.2
KURK Kurchatov 47.66 303 eP P 11 46 18.9 -1.6
KURK pmax pmax
comp=Z,1.0nm,1.2s
KURK Kurchatov 47.66 303 eP P 11 46 18.9 -1.6
YKA Yellowknife Ar 48.84 38 P P 11 46 30.2 +0.8
YKA pmax pmax
comp=Z,1.0nm,1.1s
YKA Yellowknife Ar 48.84 38 P P 11 46 30.2 +0.8
comp=Z,1.2nm,1.1s,baz=293,slow=7.0,SNR=6.8
BVAR Borovoye Array 50.94 309 P P 11 46 43.5 -2.0
comp=Z,0.4nm,0.4s,baz=46,slow=7.3,SNR=3.8
BVAR pP pP 11 46 52.1 -2.4
comp=Z,0.4nm,0.5s,baz=54,slow=7.3,SNR=2.7
CMAR Chiang Mai Arr 54.08 257 eP P 11 47 08.9 -0.3
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 54.08 257 P P 11 47 08.9 -0.3
comp=Z,0.6nm,0.4s,baz=32,slow=7.4,SNR=5.3
AAK Ala-Archa 54.38 296 eP P 11 47 09.5 -1.9
AAK pmax pmax
comp=Z,4.0nm,1.2s
AAK Ala-Archa 54.38 296 eP P 11 47 09.5 -1.9
FINES FINESS Array B 63.21 335 P P 11 48 10.8 -1.3
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 63.21 335 P P 11 48 10.8 -1.3
comp=Z,1.0nm,0.8s,baz=34,slow=8.4,SNR=3.1
WRA Warramunga Arr 70.46 201 P P 11 48 57.6 -1.1
WRA *PP pP 11 49 08.3 +0.3
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 70.46 201 P P 11 48 57.6 -1.1
comp=Z,0.7nm,0.8s,baz=16,slow=6.3,SNR=4.8
WRA pP pP 11 49 08.3 +0.3
comp=Z,1.0nm,0.7s,baz=15,slow=6.2,SNR=8.2
ASAR Alice Springs 74.14 200 P P 11 49 20.9 +0.2
ASAR *PP pP 11 49 31.3 +1.3
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 74.14 200 P P 11 49 20.9 +0.2
comp=Z,0.4nm,0.9s,baz=9.8,slow=6.0,SNR=3.9
ASAR pP pP 11 49 31.3 +1.3
comp=Z,0.5nm,0.7s,baz=12,slow=5.5,SNR=4.6
TXAR Lajitas Array 75.52 62 P P 11 49 29.8 +0.9
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 75.52 62 P P 11 49 29.8 +0.9
comp=Z,0.6nm,0.6s,baz=300,slow=4.4,SNR=12
GERES GERESS Array B 77.64 335 eP P 11 49 40.8 +0.2
GERES GERESS Array B 77.64 335 P P 11 49 39.3 -1.3
comp=Z,0.4nm,0.5s,baz=9.5,slow=4.1,SNR=3.9
GERES GERESS Array B 77.64 335 eP P 11 49 40.8 +0.2
BRTR Keskin Array B 78.18 318 P P 11 49 43.9 +0.1
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BRTR Keskin Array B 78.18 318 P P 11 49 43.9 +0.1
comp=Z,1.0nm,1.0s,baz=30,slow=9.0,SNR=3.5
CRZF Crozet Islands 130.09 242 R 12 00 00.0
LPAZ La Paz 132.39 63 PKIKP PKPdf 11 57 01.8 +2.4
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 132.39 63 PKP PKPdf 11 57 01.8 +2.4
comp=Z,1.4nm,0.5s,baz=234,slow=3.9,SNR=8.3
H03N2 Juan Fernandez 137.37 90 T T 14 30 08.8
baz=308,slow=75,SNR=21
H03N1 Juan Fernandez 137.38 90 T T 14 30 15.7
baz=308,slow=75,SNR=18
H03N3 Juan Fernandez 137.38 90 T T 14 30 12.7
baz=308,slow=75,SNR=25

IDC 19 11:39:57.8±3.5, 54.57N×86.34E, h0km, mb1 2.9/1, mb1mx2.8/43, mbtmp2.9/1, ML2.9/1, Error ellipse: s-maj=25.9km s-min=14.1km az=46.0
ISC 19 11:39:58.8±5.0, 54.7N±0.2×86.8E±0.2, h35km, n5, σ1.23/6, 4C-2D, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.36 238 i 11 47 30.0
baz=57,slow=351,SNR=3.2
ZALV Zalesovo Beam 1.36 238 Pg Pn 11 40 17.6 -3.6
1.3nm,0.3s,baz=53,slow=15,SNR=15
ZALV Lg Lg 11 40 33.4
4.8nm,0.3s,baz=56,slow=27,SNR=21
KURK Kurchatov 6.35 235 ⇑Pn Pn 11 41 29.4 -0.3
2.2nm,1.3s
KURK ⇓Sn Sn 11 42 41.5 +0.5
2.7nm,1.3s
KURK ⇑Lg Lg 11 43 10.9
6.4nm,1.0s
MK31 Makanchi Array 8.39 202 ⇓Pn Pn 11 41 57.3 -0.5
0.4nm,0.6s,baz=28,slow=13,SNR=9.9
MK31 ⇑Sn Sn 11 43 29.7 -1.5
1.2nm,0.8s,baz=34,slow=26,SNR=3.9
MK31 ⇑Lg Lg 11 44 13.4
6.4nm,1.1s,baz=19,slow=30,SNR=3.8
MKAR Makanchi Array 8.39 202 Pn Pn 11 41 58.8 +0.9
0.2nm,0.3s,baz=22,slow=14,SNR=11
MKAR Sn Sn 11 43 32.1 +0.9
0.1nm,0.3s,baz=19,slow=28,SNR=5.8
MKAR Lg Lg 11 44 18.1
0.0nm,0.3s,baz=19,slow=32,SNR=5.9

IDC 19 11:44:44.2±0.6, 57.87S×25.24W, h0km, mb4.4/7, mb1 4.4/8, mb1mx4.1/26, mbtmp4.3/8, ML4.0/1, MS4.8/1, Ms1 4.9/1, ms1mx3.6/21, Error ellipse: s-maj=29.5km s-min=18.8km az=69.0
ISCJB 19 11:44:49.4±0.7, 58.05S±0.1×25.24W±0.3, h49km, mb4.4/9, MS4.8/1, Error ellipse: s-maj=29.0km s-min=9.5km az=151.6
NEIC 19 11:44:49.3±0.4, 57.89S×25.29W, h35km, mb4.7/2, Error ellipse: s-maj=18.9km s-min=9.4km az=66.0
AWI 19 11:45:16.2, 60.00S×24.43W
ISC 19 11:44:50.9±0.6, 58.05S±0.1×25.3W±0.2, h49km, n23, σ0.69/25, mb4.4/9, South Sandwich Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VNA1 Neumayer--Stat 14.62 157 P Pn 11 48 14.5 +0.1
VNA3 Neumayer Olymp 14.83 160 P Pn 11 48 17.2 0.0
VNA2 Neumayer--Watz 15.01 157 P Pn 11 48 19.0 -0.5
baz=320,slow=14
SNAA Sanae 16.56 155 P P 11 48 40.9 -0.3
SNAA Sanae 16.56 155 Pn P 11 48 39.9 -1.3
0.6nm,0.3s,baz=320,slow=14,SNR=33
SNAA Sn Sn 11 51 29.6 -12
0.0nm,0.3s,baz=340,slow=12,SNR=3.0
QSPA South Pole Qui 32.28 180 P P 11 51 15.8 +1.2
4.2nm,0.5s,baz=48,slow=1.4,SNR=37
PLCA Paso Flores 33.39 281 P P 11 51 24.2 -0.2
4.9nm,1.1s,baz=204,slow=4.0,SNR=5.5
CPUP Villa Florida 38.87 311 LR LR 12 08 21.7
comp=Z,1μm,18.8s,baz=216,slow=36
SBA Scott Base 44.23 184 eP P 11 52 54.0 -0.5
8.2nm,0.7s
VNDA Vanda 44.70 182 P P 11 52 59.4 +1.1
7.1nm,0.9s,baz=180,slow=4.8,SNR=4.7
BDFB Brasilia 45.55 329 P P 11 53 06.8 +0.9
1.3nm,0.4s,baz=76,slow=8.3,SNR=3.6
LPAZ La Paz 52.34 304 P P 11 53 57.5 -0.9
1.5nm,0.4s,baz=108,slow=4.5,SNR=12
LPAZ PcP PcP 11 55 09.4 +0.4
1.1nm,0.4s,baz=112,slow=2.9,SNR=3.1
SAML Samuel 56.90 314 eP P 11 54 29.8 -0.9
5.7nm,0.7s
TORD Torodi Ar. Bea 74.25 27 P P 11 56 23.2 +0.7
1.9nm,0.6s,baz=199,slow=6.4,SNR=21
ASAR Alice Springs 96.83 161 P P 11 58 16.1 -0.3
0.7nm,0.8s,baz=181,slow=4.1,SNR=7.5
ULM Lac du Bonnet 122.35 314 PKP PKPdf 12 03 38.6 -0.6
1.5nm,0.5s,baz=91,slow=3.5,SNR=3.7
CMAR Chiang Mai Arr 123.41 110 PKP PKPdf 12 03 42.4 +0.1
0.6nm,0.6s,baz=226,slow=3.8,SNR=4.3
FINES FINESS Array B 125.60 27 PKP PKPdf 12 03 44.3 -0.8
0.7nm,0.5s,baz=288,slow=5.4,SNR=5.2
MKAR Makanchi Array 136.49 72 PKP PKPdf 12 04 05.4 -0.8
0.5nm,0.9s,baz=219,slow=0.9,SNR=3.1
YKA Yellowknife Ar 138.29 316 PKP PKPdf 12 04 09.2 +0.2
1.3nm,0.8s,baz=131,slow=2.2,SNR=14
SONM Songino Array 149.76 88 PKPbc PKPbc 12 04 34.4 0.0
1.9nm,0.6s,baz=230,slow=3.3,SNR=22
DOT Dot Lake 150.67 307 ePKPdf PKPdf 12 04 30.4 +0.1
DOT ePKPbc PKiKP 12 04 36.8 +0.3
DOT ePKPab PKPab 12 04 43.6 +0.5
ILAR Eielson Array 152.16 309 PKPbc PKPbc 12 04 39.1 -0.1
1.9nm,0.5s,baz=138,slow=3.1,SNR=29

GUC 19 11:55:45.7±0.4, 21.36S×68.83W, h115km±3km, ML3.5, 5C, Chile-Bolivia border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PB09 Plate Boundary 0.57 221⇑iP Pn 11 56 04.4 +0.5
PB09 iS Sn 11 56 18.3 +0.8
PB09 AML AML 11 56 19.8
comp=N,2μm,0.3s
PB01 Plate Boundary 0.69 297 iP Pn 11 56 05.0 +0.4
PB01 iS Sn 11 56 19.4 +0.6
PB01 AML AML 11 56 20.5
comp=N,1μm,0.3s
PB07 Plate Boundary 1.05 250⇑iP Pn 11 56 08.8 +0.8
PB07 iS Sn 11 56 25.9 +1.0
PB07 AML AML 11 56 26.6
comp=N,898nm,0.3s
PATCX Punta Patache 1.35 293 iP Pn 11 56 12.3 +1.2
PATCX iS Sn 11 56 32.0 +1.5
PATCX AML AML 11 56 34.7
comp=E,1μm,0.4s
HMBC Humberstone 1.46 317⇑iP Pn 11 56 13.1 +0.5
HMBC iS Sn 11 56 34.0 +1.0
HMBC AML AML 11 56 35.7
comp=N,730nm,0.2s
PB06 Plate Boundary 1.50 207⇑iP Pn 11 56 13.6 +0.5
PB06 iS Sn 11 56 34.7 +0.9
PB06 AML AML 11 56 36.6
comp=N,712nm,0.2s
PSGC Pisagua 2.13 325⇑iP Pn 11 56 20.6 -0.2
PSGC iS Sn 11 56 48.0 +0.4
PSGC AML AML 11 56 51.7
comp=E,172nm,0.9s
MNMC Minimini 2.33 342 eP Pn 11 56 24.4 +0.8
MNMC iS Sn 11 56 50.4 +1.4
MNMC AML AML 11 56 57.7
comp=E,348nm,0.2s

IDC 19 11:58:05.3±2.9, 42.44N×126.32W, h0km, mb2.8/2, mb1 3.2/4, mb1mx3.1/44, mbtmp2.8/4, ML2.9/2, Error ellipse: s-maj=47.5km s-min=23.6km az=42.0, Off coast of Oregon

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
YBH Yreka Blue Hor 2.78 104 Pn Pn 11 58 50.9 -0.3
1.0nm,0.3s,baz=288,slow=11,SNR=26
YBH Sn Sn 11 59 26.2 +0.6
baz=274,slow=15,SNR=1.7
NVAR Mina Array Bea 7.31 121 Pn Pn 11 59 55.9 +2.3
0.0nm,0.3s,baz=281,slow=14,SNR=4.0
YKA Yellowknife Ar 21.25 15 P P 12 02 53.4 +0.7
0.4nm,0.8s,baz=205,slow=11,SNR=5.1
TXAR Lajitas Array 22.45 118 P P 12 03 04.5 -1.6
0.3nm,0.8s,baz=312,slow=8.4,SNR=2.8
H11N3 WAKE ISLAND Hy 59.97 270 T T 13 12 35.3
baz=49
H11N2 WAKE ISLAND Hy 59.97 270 T T 13 12 34.3
baz=49

H11N1 WAKE ISLAND Hy 59.98 270 T T 13 12 37.8
baz=49
H11S1 WAKE ISLAND Hy 60.87 269 T T 13 13 44.0
baz=50
H11S2 WAKE ISLAND Hy 60.88 269 T T 13 13 43.7
baz=50
H11S3 WAKE ISLAND Hy 60.89 269 T T 13 13 43.3
baz=50

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*ISCJB **19** 12:05:39.6±0.7, 22°.86N±0°.10×142°.8E±0°.2, h150km, mb3.5/11, Error ellipse: s-maj=22.9km s-min=13.6km az=176.1*
*IDC **19** 12:05:43.8±5.8, 22°.90N×142°.65E, h170km±54km, mb3.4/11, mb1 3.5/12, mb1mx3.3/38, mbtmp3.8/12, Error ellipse: s-maj=21.4km s-min=12.4km az=89.0*
ISC 19 12:05:41.8±0.8,**22°.8N**±0°.1×**142°.6E**±0°.2,**h150**km,**n14**, σ0s.98/14,**mb3.7**/11,**Volcano Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSRS Korea Array 19.30 322 P **P 12 09 57.1 +2.0**
0.3nm,0.3s,baz=146,slow=9.1,SNR=6.6
PETK Petropavlovsk- 32.34 17 P **P 12 11 57.7 +1.0**
1.6nm,0.8s,baz=270,slow=9.8,SNR=5.9
SONM Songino Array 38.14 320 P **P 12 12 46.4 -0.1**
1.2nm,0.8s,baz=126,slow=7.4,SNR=12
CMAR Chiang Mai Arr 41.00 272 P **P 12 13 11.0 +0.6**
0.6nm,0.4s,baz=64,slow=8.2,SNR=2.5
WRA Warramunga Arr 43.28 191 P **P 12 13 28.9 +0.2**
0.9nm,0.3s,baz=18,slow=8.9,SNR=61
ASAR Alice Springs 46.99 191 P **P 12 13 57.8 -0.3**
0.1nm,0.4s,baz=12,slow=6.8,SNR=8.2
ZALV Zalesovo Beam 53.00 321 P **P 12 14 41.5 -1.4**
0.7nm,0.3s,baz=110,slow=7.1,SNR=5.4
MKAR Makanchi Array 53.55 312 P **P 12 14 46.2 -0.9**
0.6nm,0.5s,baz=86,slow=9.8,SNR=19
MKAR PcP **PcP 12 15 51.7 -0.2**
0.3nm,0.5s,baz=94,slow=4.3,SNR=4.4
STKA Stephens Creek 54.41 181 P **P 12 14 53.6 +0.3**
0.7nm,0.6s,baz=319,slow=11,SNR=3.7
ILAR Eielson Array 61.27 27 P P 12 15 38.2 -2.6
0.3nm,0.6s,baz=262,slow=5.4,SNR=7.5
YKA Yellowknife Ar 75.70 28 P **P 12 17 09.9 -0.4**
0.5nm,0.6s,baz=293,slow=5.7,SNR=12
FINES FINESS Array B 81.94 334 P **P 12 17 43.1 -1.3**
0.6nm,0.3s,baz=75,slow=5.1,SNR=11
PLCA Paso Flores 146.89 130 PKPbc **PKPbc 12 25 07.1 +0.3**
1.8nm,1.1s,baz=225,slow=1.1,SNR=3.8
LPAZ La Paz 150.34 83 PKPbc **PKPbc 12 25 17.3 +0.3**
0.7nm,0.5s,baz=27,slow=6.8,SNR=4.3

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*IDC **19** 12:07:03.9±0.5, 15°.35S×173°.38W, h0km, mb4.6/23, mb1 4.8/23, mb1mx4.6/36, mbtmp4.6/23, MS4.7/24, Ms1 4.7/24, ms1mx4.6/28, Error ellipse: s-maj=22.3km s-min=13.3km az=141.0*
*GCMT **19** 12:07:05.1±0.2, 15°.08S×173°.08W, h30km, MW5.4/98, Moment Tensor Solution. s62,c93; s98,c168; Duration: 1s.2 Moment tensor: Scale 10^17Nm; Mrr0.97±.04; Mθθ-0.83±.03; Mφφ-0.14±.02; Mrθ-1.06±.05; Mrφ0.71±.02; Mθφ0.21±.04; Best double couple: Mo1.56900×10^17 NP1:φs286.00000°,δ68.00000°,λ74.00000°. NP2: φs143.00000°,δ27.00000°,λ124.00000°. Principal axes: T 1.4660, Plg64.0000°, Azm170.0000°; N 0.2060, Plg15.0000°, Azm292.0000°; P -1.6720, Plg21.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 12:07:05.1±0.2, 15°.51S×173°.32W, h10km, mb5.0/27 Error ellipse: s-maj=10.2km s-min=5.3km az=151.0*
*SZGRF **19** 12:07:06.8, 16°.47S×173°.56W, h33km, Tonga Islands*
*MOS **19** 12:07:08.4±1.6, 15°.16S×173°.63W, h30km, mb5.1/11, Error ellipse: s-maj=13.1km s-min=10.0km az=45.1*
*ISCJB **19** 12:07:08.7±0.2, 15°.40S±0°.06×173°.46W±0°.04, h42km, mb4.8/65, MS4.7/29, Error ellipse: s-maj=9.7km s-min=3.5km az=154.0*
*BJI **19** 12:07:09.3, 15°.31S×174°.12W, h19km, mB5.5/16, mb4.8/23, Ms5.1/11, Ms7 4.8/12*
ISC 19 12:07:10.0±0.4,**15°.37S**±0°.08×**173°.45W**±0°.06,**h42**km, **n562**,σ0s.83/552,**mb4.7**/65,**MS4.8**/29,**189C-171D,Tonga Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 2.17 48 eP Pn 12 07 34.2 -10
AFI e 12 08 07.0
AFI Afiamalu 2.17 48 ePn Pn 12 07 34.1 -10
AFI eSn **Sn 12 08 07.0 -2.5**
NIUE Niue 4.99 138 P Pn 12 08 18.2 -4.3
baz=5.0,SNR=43
MSVF Nonsavu 8.49 253 Pn Pn 12 09 21.2 +11
434nm,1.1s,SNR=14
MSVF Nonsavu 8.49 253 P **Pn 12 09 08.3 -2.2**
MSVF e 12 10 45.4
MSVF pmax pmax
comp=Z,173nm,1.3s
MSVF Nonsavu 8.49 253 Pn **Pn 12 09 08.3 -2.2**
comp=Z,173nm,1.3s
MSVF eSn **Sn 12 10 45.4 +0.3**
RAR Rarotonga 14.22 116 Pn Pn 12 10 21.5 -7.4
comp=Z,4.9nm,0.3s,baz=270,slow=5.8,SNR=6.2
RAO Raoul Island 14.42 196 LR LR 12 15 22.5
comp=Z,4μm,21.5s,baz=5.5,slow=34
DZM Mont Dzumac 20.17 248 eP Pn 12 11 44.2 +0.9
comp=Z,285nm,1.6s
DZM eLQ LQ 12 15 43.4
comp=Z,5μm,27.0s
DZM eLR LR 12 16 35.5
comp=Z,6μm,25.2s
DZM Mont Dzumac 20.17 248 P **P 12 11 40.3 -0.8**
comp=Z,14nm,0.7s,baz=79,slow=17,SNR=12
DZM LR LR 12 18 15.7
comp=Z,4μm,21.0s,baz=78,slow=33
PAE Paea 22.99 99 eT T 12 35 20.3
comp=Z,11nm,0.3s
PPT Papeete 22.99 99 LR LR 12 18 35.3
comp=Z,441nm,20.4s,baz=272,slow=30
PPT2 Papeete2 22.99 99 eLQ LQ 12 16 32.2
comp=Z,5μm,28.5s
PPT2 eLR LR 12 17 33.5
comp=Z,1μm,23.5s,baz=267
PPT2 Papeete2 22.99 99 eT T 12 35 21.0
comp=Z,16nm,0.3s
TIAR Tiarei 23.21 99 eT T 12 35 36.4
comp=Z,7.0nm,0.3s
TVO Taravao 23.31 99 eT T 12 35 44.3
comp=Z,5.9nm,0.3s
TBI Tubuai 23.96 113 eT T 12 36 38.5
comp=Z,44nm,0.3s
URZ Urewera 24.28 198 P **P 12 12 23.7 +0.4**
comp=Z,15nm,0.6s,baz=315,slow=3.0,SNR=13
URZ LR LR 12 20 31.3
comp=Z,4μm,21.2s,baz=22,slow=33
MEH Mehetia 24.44 99 eT T 12 37 09.2
comp=Z,18nm,0.3s
PMOR Pomariorio Ree 24.66 93 eP **P 12 12 25.8 -1.2**
comp=Z,113nm,1.0s
PMOR Pomariorio Ree 24.66 93 eT T 12 37 20.1
comp=Z,15nm,0.2s
VAH Vaihoa 24.90 93 eP **P 12 12 27.8 -1.4**
comp=Z,56nm,0.9s
VAH Vaihoa 24.90 93 eT T 12 37 38.5
comp=Z,14nm,0.2s
HNR Honiara 26.63 280 LR LR 12 21 40.4
comp=Z,734nm,21.7s,baz=123,slow=33
TAOE Nuku Hiva Isla 33.16 83 eT T 12 47 50.7
comp=Z,309nm,0.3s
ARMA Armidale 35.32 239 P **P 12 14 01.8 +0.3**
baz=36,SNR=9.1
RMQ Roma 36.87 246 P **P 12 14 15.7 +1.1**
baz=37,SNR=6.9
RKT Rikitea 37.05 108 eLQ LQ 12 22 29.2
comp=Z,767nm,24.2s
RKT eLR LR 12 23 54.6
comp=Z,673nm,28.0s
RKT Rikitea 37.05 108 eT T 12 52 59.6
comp=Z,14nm,0.4s
CTAO Charters Tower 38.61 257 eP **P 12 14 29.6 +0.2**
CTAO Charters Tower 38.61 257 eP **P 12 14 29.6 +0.2**
CNB Canberra Magne 38.73 232 P **P 12 14 30.5 +0.1**
baz=39,SNR=7.6
H11S2 WAKE ISLAND Hy 38.91 329 T T 12 55 40.4
baz=149,slow=76,SNR=19
H11S3 WAKE ISLAND Hy 38.92 329 T T 12 55 52.8
baz=149,slow=76,SNR=19
H11S1 WAKE ISLAND Hy 38.93 329 T T 12 55 54.6
baz=149,slow=76,SNR=19
CAN Canberra 39.02 232 eP **P 12 14 32.9 +0.2**
CAN pmax pmax
comp=Z,11nm,0.8s
CAN Canberra 39.02 232 eP **P 12 14 32.9 +0.2**
comp=Z,11nm,0.8s
H11N3 WAKE ISLAND Hy 39.86 330 T T 12 57 03.3
baz=149,slow=76,SNR=106
H11N1 WAKE ISLAND Hy 39.87 330 T T 12 57 04.9
baz=149,slow=76,SNR=97
H11N2 WAKE ISLAND Hy 39.88 330 T T 12 57 04.4
baz=149,slow=76,SNR=108
MTSU Mount Surprise 40.48 260 P **P 12 14 46.0 +0.9**
baz=41,SNR=13
CMSA Cobar Meteorol 40.53 239 P **P 12 14 45.4 +0.1**
baz=41,SNR=17
QLP Quilpie 40.89 247 P **P 12 14 48.8 +0.5**
baz=41,SNR=10
COEN Coen 41.94 266 eP **P 12 14 58.0 +1.0**
comp=Z,54nm,0.9s
COEN Coen 41.94 266 P **P 12 14 58.3 +1.2**
baz=42,SNR=10
TOO Toolangi 42.45 231 P **P 12 15 01.2 +0.2**
baz=43,SNR=8.1
STKA Stephens Creek 44.01 240 P **P 12 15 14.1 +0.4**
comp=Z,9.2nm,0.7s,baz=87,slow=9.1,SNR=38
STKA LR LR 12 31 25.0
comp=Z,1μm,20.4s,baz=88,slow=33
STKA Stephens Creek 44.01 240 P **P 12 15 14.0 +0.4**
baz=44,SNR=22
ARPS Mount Arapiles 44.98 233 P **P 12 15 21.2 0.0**
baz=46,SNR=9.5
HTT Hallett 46.52 238 P **P 12 15 33.8 +0.2**
baz=47,SNR=14
BBOO Buckleboo 48.79 240 P **P 12 15 51.1 0.0**
baz=49,SNR=16
WRAB Tennant Creek 49.80 257 P **P 12 15 58.2 -0.8**
comp=Z,55nm,0.5s,SNR=22
WRAB Tennant Creek 49.80 257 deP **P 12 15 58.0 -1.0**
WRAB pmax pmax
comp=Z,19nm,1.2s
WRA Warramunga Arr 49.81 257 P **P 12 15 57.8 -1.3**
comp=Z,3.8nm,0.5s,baz=91,slow=7.0,SNR=71
WRA LR LR 12 35 46.0
comp=Z,406nm,19.2s,baz=185,slow=34
ASAR Alice Springs 50.08 252 P **P 12 16 00.6 -0.5**
comp=Z,31nm,0.6s,baz=87,slow=8.3,SNR=391
ASAR LR LR 12 35 19.1
comp=Z,2μm,21.8s,baz=92,slow=34
KDU Kakadu 52.43 266 P **P 12 16 19.4 +0.6**
baz=53,SNR=4.0
MTN Manton Dam 53.69 265 P **P 12 16 28.4 +0.3**
baz=54,SNR=5.3
WRKA Warakurna 55.16 250 P **P 12 16 38.6 -0.1**
baz=56,SNR=54
FORT Forrest 55.39 243 P **P 12 16 40.0 -0.2**
baz=56,SNR=18
KNRA Kununurra 55.53 261 P **P 12 16 43.5 +2.1**
baz=56,SNR=5.2
FITZ Fitzroy Crossi 58.17 258 P P 12 17 07.8 +7.7
baz=59,SNR=4.4
JCJ Chichijima 60.30 314 LR LR 12 38 12.6
comp=Z,519nm,21.7s,baz=118,slow=31
SOEI Soe 60.88 267 P **P 12 17 17.8 -1.3**
comp=Z,41nm,1.0s
MBWA Marble Bar 63.33 254 eP **P 12 17 34.2 -1.0**
comp=Z,12nm,1.1s
VNDA Vanda 63.41 186 LR LR 12 40 06.0
comp=Z,388nm,21.8s,baz=0.5,slow=31
MEEK Meekatharra 63.78 248 P P 12 17 45.0 +6.7
baz=64,SNR=3.9
KLBR Kellerberrin 64.22 242 P **P 12 17 41.5 +0.6**
baz=65,SNR=6.4
LUWI Luwuk 64.48 276 P P 12 17 49.8 +6.9
baz=65,SNR=5.4
MJAR Matsushiro Arr 68.88 320 P **P 12 18 10.4 -0.1**
comp=Z,10nm,1.0s,baz=103,slow=0.7,SNR=6.2
MJAR LR LR 12 42 43.2
comp=Z,559nm,21.8s,baz=110,slow=31
JOW Kunigami 70.43 306 LR LR 12 44 12.1
comp=Z,32nm,20.3s,baz=117,slow=32
KIPM Iron Peak 71.94 38 eP **P 12 18 29.4 +0.1**
VES Vestal, Richgr 72.35 44 ⇑P **P 12 18 32.2 +0.5**
baz=72
MONP Monument Peak 72.58 48 ⇓P **P 12 18 33.8 +0.5**
baz=73
PETK Petropavlovsk- 72.58 342 P **P 12 18 33.4 +0.7**
comp=Z,4.6nm,0.9s,baz=126,slow=7.5,SNR=6.0
PETK LR LR 12 46 15.5
comp=Z,204nm,20.2s,baz=153,slow=32
ISA Isabella 72.66 44 ⇑P **P 12 18 34.6 +1.0**
baz=73
PFO Pinyon Flat Ob 72.93 47 LR LR 12 44 03.2
comp=Z,1μm,19.6s,baz=207,slow=30
LPIG La Paz 73.06 58 LR LR 12 43 40.9
comp=Z,609nm,18.7s,baz=255,slow=30
N02D Trinity Center 73.13 38 ⇓P **P 12 18 37.0 +0.7**
baz=73
M02C Callahan 73.30 37 ⇓P **P 12 18 38.1 +0.8**
baz=74
L02D Cave Junction, 73.35 36 ⇑P **P 12 18 38.4 +0.9**
baz=74
YSS Yuzh-Sakhalins 73.43 330 eP **P 12 18 39.0 +1.2**
YSS e 12 18 51.8
BELC Belle Mtn. Jos 73.46 47 ⇑P **P 12 18 39.1 +0.6**
baz=74
GSC Goldstone 73.60 45 ⇑P **P 12 18 39.5 +0.3**
baz=74
YBH Yreka Blue Hor 73.60 37 P **P 12 18 38.7 -0.3**
comp=Z,10nm,0.7s,baz=68,slow=1.8,SNR=55
YBH LR LR 12 45 19.2
comp=Z,847nm,19.2s,baz=241,slow=31
BC3 Big Chuckawall 73.67 47 ⇑P **P 12 18 40.4 +0.8**
baz=74
GMRC Granite Mounta 74.11 46 ⇑P **P 12 18 42.4 +0.2**
baz=74
M04C Macdoel 74.14 38 ⇑P **P 12 18 42.6 +0.3**
baz=74
IRM Iron Mountain 74.14 47 ⇓P **P 12 18 42.6 +0.3**
baz=74
SHOC Shoshone 74.28 45 ⇑P **P 12 18 44.0 +0.9**
baz=74
NVAR Mina Array Bea 74.33 42 P **P 12 18 43.4 -0.2**
comp=Z,4.6nm,0.7s,baz=227,slow=9.7,SNR=29
NVAR LR LR 12 44 27.2
comp=Z,1μm,20.3s,baz=115,slow=30
Y12C Blythe 74.38 48 ⇓P **P 12 18 44.0 +0.4**
baz=74
113A Mohawk Valley, 74.43 49 ⇓P **P 12 18 44.0 +0.1**
baz=75
I03D Drain, OR 74.48 35 ⇓P **P 12 18 44.7 +0.7**
baz=75
214A Organ Pipe Nat 74.73 50 ⇑P **P 12 18 46.3 +0.5**
baz=75
J04D Umpqua Nationa 74.89 36 ⇓P **P 12 18 47.2 +0.5**
baz=75
KDAK Kodiak Island 74.90 11 iP **P 12 18 46.9 +0.8**
PDMCI Parker Dam,Lak 74.93 47 ⇓P **P 12 18 47.5 +0.6**
baz=75
I04A Tendick Farm, 75.07 36 ⇑P **P 12 18 47.6 +0.1**
baz=75
Z14A Wintersburg 75.32 49 ⇑P **P 12 18 49.6 +0.5**
baz=76
J05D Fort Rock, OR 75.42 37 ⇑P **P 12 18 50.0 +0.3**
baz=76
G03D McMinnville, O 75.50 34 ⇓P **P 12 18 50.2 +0.3**
baz=76
W13A Hualapai Mount 75.52 47 ⇓P **P 12 18 50.7 +0.2**
baz=76
Y14A Wickenburg 75.56 48 ⇓P **P 12 18 51.0 +0.4**
baz=76
PINOR Pine Mountain 75.95 36 eP **P 12 18 52.2 -0.2**
comp=Z,23nm,0.7s
I05D Terrebonne, OR 76.01 36 ⇑P **P 12 18 53.3 +0.4**
baz=76
R11A Troy Canyon, C 76.07 43 ⇓P **P 12 18 53.8 +0.3**
baz=76
KSRS Korea Array 76.10 316 P **P 12 18 54.9 +1.4**
comp=Z,1.6nm,0.8s,baz=122,slow=4.6,SNR=5.1
KSRS LR LR 12 46 29.3
comp=Z,184nm,21.8s,baz=107,slow=31
KSAR Wonju Array Be 76.12 316 P **P 12 18 54.9 +1.3**
KSAR Wonju Array Be 76.12 316 P **P 12 18 54.9 +1.3**
G05D Wamic, OR 76.58 35 ⇓P **P 12 18 56.3 +0.2**
baz=77
X16A Lo Mia Camp, P 76.93 49 ⇑P **P 12 18 58.9 +0.4**
baz=77
319A Douglas 77.11 52 ⇑P **P 12 18 59.9 +0.4**
baz=77
CCUT Cedar City 77.14 45 eP **P 12 19 00.4 +0.8**
comp=Z,1.4nm,0.6s
U15A North Rim 77.31 46 ⇑P **P 12 19 01.2 +0.5**
baz=78
USRK Ussuriysk Arra 77.33 323 LR LR 12 46 33.3
comp=Z,600nm,22.0s,baz=115,slow=31
WUAZ Wupatki 77.51 48 ⇓P **P 12 19 02.1 +0.4**
baz=78
ELK Elko 77.59 41 P **P 12 19 01.8 -0.3**
comp=Z,4.8nm,1.0s,baz=200,slow=2.7,SNR=19
BBB Bella Bella 77.88 27 P **P 12 19 02.6 -0.4**
comp=Z,8.7nm,0.9s,baz=242,slow=7.6,SNR=3.6
X18A Snowflake 78.06 49 ⇓P **P 12 19 05.3 +0.5**
baz=78
W18A Petrified Fore 78.50 49 ⇓P **P 12 19 07.7 +0.5**
baz=79
121A Cookes Peak, D 78.76 52 eP **P 12 19 09.1 +0.4**
comp=Z,14nm,0.7s
121A Cookes Peak, D 78.76 52 ⇑P **P 12 19 09.4 +0.7**
baz=79
DUG Dugway 78.87 43 ⇓P **P 12 19 09.6 +0.6**
baz=79
MDJ Mudanjiang 78.97 322 P **P 12 19 11.1 +1.8**
MDJ pP **pP 12 19 20.6 -1.3**
MDJ sP **sP 12 19 24.5 -2.2**
MDJ pmax pmax
comp=Z,4.0nm,0.7s
MDJ pmax pmax
comp=Z,280nm,8.5s
MDJ LR LR
comp=Z,320nm,29.4s
MDJ LR LR
comp=Z,510nm,29.4s
MDJ LR LR
comp=Z,600nm,25.4s
PMR Palmer 79.10 12 eP **P 12 19 09.0 -0.6**
PMR pmax pmax
comp=Z,4.0nm,0.6s
PMR Palmer 79.10 12 eP **P 12 19 09.0 -0.6**
comp=Z,3.8nm,0.6s
TMUT Trail Mountain 79.48 44 eP **P 12 19 12.9 +0.3**
comp=Z,16nm,0.8s
BMRM Bremner River 79.50 14 eP **P 12 19 11.9 0.0**
comp=Z,14nm,0.7s
HLID Hailey 79.63 39 ⇑P **P 12 19 13.4 +0.2**
baz=80,SNR=48
Z22A Elephant Butte 79.70 51 ⇓P **P 12 19 14.3 +0.5**
baz=80
HVU Hansel Valley 79.71 42 eP **P 12 19 13.6 -0.1**
HVU pmax pmax
comp=Z,13nm,0.7s
HVU Hansel Valley 79.71 42 eP **P 12 19 13.6 -0.1**
comp=Z,13nm,0.7s
DAU Daniels Canyon 80.00 43 eP **P 12 19 16.0 +0.5**
DAU pmax pmax
comp=Z,7.0nm,1.0s
DAU Daniels Canyon 80.00 43 eP **P 12 19 15.9 +0.5**
comp=Z,6.6nm,1.0s
LAZ Ladron 80.07 50 eP **P 12 19 16.9 +1.0**
comp=Z,2.7nm,1.0s
NJ2 Nanjing 80.11 307 eP **P 12 19 16.3 +0.5**
NJ2 pmax pmax
comp=Z,20nm,1.2s
TCUT Toone Canyon 80.26 43 eP **P 12 19 16.9 +0.2**
comp=Z,37nm,0.7s
MVCO Mesa Verde 80.35 47 ⇓P **P 12 19 17.2 -0.1**
baz=80
KTH Kantishna Hill 80.59 10 eP **P 12 19 17.6 -0.1**
TRF Thorofare Moun 80.60 10 eP **P 12 19 17.6 -0.3**
comp=Z,9.2nm,0.7s
TXAR Lajitas Array 80.63 56 P **P 12 19 18.5 -0.4**
comp=Z,3.8nm,0.8s,baz=228,slow=3.2,SNR=37
TXAR LR LR 12 49 00.6
comp=Z,768nm,18.7s,baz=0.0,slow=31
Y23A Lovelace Mesa, 80.67 51 ⇑P **P 12 19 19.2 +0.1**
baz=81,SNR=8.3
NEW Newport 80.71 34 P **P 12 19 18.3 -0.5**
comp=Z,3.5nm,0.7s,baz=224,slow=5.1,SNR=14
NEW Newport 80.71 34 ⇓P **P 12 19 17.9 -0.8**
baz=81,SNR=5.8
PV01 Paradox Valley 80.73 46 eP **P 12 19 19.1 -0.2**
comp=Z,870nm,0.7s
TNA Tin City 80.79 2 eP **P 12 19 19.5 +0.8**
comp=Z,6.8nm,0.6s
ANMO Albuquerque 80.81 50 c iP **P 12 19 20.1 +0.3**
ANMO pmax pmax
comp=Z,18nm,0.8s
225A Deer Hill, Car 80.84 53 ⇑P **P 12 19 20.4 +0.3**
baz=81,SNR=24
V22A San Miguel Ran 80.91 49 ⇓P **P 12 19 20.5 +0.1**
baz=81,SNR=7.0
Z24A Sheeppen Canyo 80.94 52 ⇑P **P 12 19 20.5 -0.1**
baz=81,SNR=8.9
CN2 Changchun 81.03 320 eP **P 12 19 21.9 +1.4**
CN2 eS **S 12 29 27.0 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,300nm,20.0s
MCK McKinley 81.10 11 eP **P 12 19 20.0 -0.4**
MCK pmax pmax
comp=Z,18nm,0.7s
MCK McKinley 81.10 11 eP **P 12 19 20.0 -0.4**
comp=Z,18nm,0.7s
W23A Werner Place, 81.13 50 ⇑P **P 12 19 21.7 +0.2**
baz=81,SNR=17
Y24A Capitan 81.14 51 ⇑P **P 12 19 21.6 +0.1**
baz=81,SNR=19
U22A Llaves 81.15 49 ⇑P **P 12 19 22.0 +0.4**
baz=81
HYT Haines Junctio 81.19 17 eP **P 12 19 23.5 +2.4**
MCMT McKenzie Canyo 81.26 39 eP **P 12 19 22.2 +0.2**
comp=Z,5.4nm,0.7s
V23A Ortiz Mt. (NFS 81.36 49 ⇑P **P 12 19 23.8 +1.0**
baz=82,SNR=24
X24A Lazy VL Ranch, 81.41 51 ⇑P **P 12 19 22.8 -0.2**
baz=82
Z25A Roswell 81.41 52 ⇑P **P 12 19 23.2 +0.3**
baz=82,SNR=9.2
MENT Mentasta 81.43 13 eP **P 12 19 22.7 +0.5**
U23A El Rito 81.61 49 ⇓P **P 12 19 24.4 +0.3**
baz=82,SNR=11
CLNB Carlsbad 81.64 53 eP **P 12 19 24.3 +0.2**
comp=Z,1.5nm,0.6s
MSO Missoula 81.68 37 ⇑P **P 12 19 23.3 -0.7**
baz=82
DLBC Dease Lake 81.69 21 P **P 12 19 22.5 -1.2**
comp=Z,3.1nm,0.7s,baz=233,slow=8.4,SNR=8.6
Y25A Mesa, Roswell 81.70 52 ⇑P **P 12 19 24.5 0.0**
baz=82,SNR=13
W24A Lazy 6 Ranch, 81.70 50 ⇓P **P 12 19 24.5 0.0**
baz=82,SNR=17
S22A 4UR Ranch, Cre 81.78 47 ⇓P **P 12 19 25.6 +0.6**
baz=82,SNR=17
O20A White River Ci 81.89 45 ⇑P **P 12 19 25.6 +0.2**
baz=82
CPRX Cap Rock 81.96 53 eP **P 12 19 26.0 +0.1**
comp=Z,1.2nm,0.4s
Z26A Caprock 81.97 52 ⇑P **P 12 19 26.0 +0.1**
baz=82,SNR=37
X25A Clemmons Ranch 81.97 51 ⇓P **P 12 19 25.9 0.0**
baz=82
LRM Limekiln Ridge 82.02 38 eP **P 12 19 25.8 -0.2**
SWMT Swartz Lake 82.02 36 eP **P 12 19 26.6 +0.8**
V24A Rampart Ranch, 82.03 50 ⇑P **P 12 19 26.6 +0.3**
baz=82,SNR=10
T23A Casias Ranch, 82.03 48 ⇑P **P 12 19 26.7 +0.4**
baz=82,SNR=6.8
529A Stev Forest Ra 82.10 56 ⇑P **P 12 19 26.5 -0.1**
baz=82,SNR=11
CHMT Chamberlain Mo 82.13 37 eP **P 12 19 25.9 -0.6**
I17A Pilgrim Ck. 82.19 40 ⇑P **P 12 19 27.5 +0.6**
baz=82,SNR=14
N20A Spence Gulch, 82.20 44 ⇑P **P 12 19 27.5 +0.4**
baz=82
127A Arkansas Junct 82.21 53 ⇓P **P 12 19 27.0 -0.1**
baz=82,SNR=7.9

BW06 Boulder Array 82.27 42 eP P 12 19 27.2 -0.2
comp=Z,5.1nm,0.8s
U24A Moreno Valley 82.31 49 ⇓P P 12 19 28.3 +0.5
baz=82
COLA College 82.34 11 eP P 12 19 26.6 -0.3
COLA pmax pmax
comp=Z,83nm,0.8s
S23A Nye Farm, Mont 82.35 48 ⇓P P 12 19 28.6 +0.7
baz=82
Y26A Elida 82.36 52 ⇑P P 12 19 27.8 -0.1
baz=82,SNR=14
W25A X Bar L Ranch, 82.41 50 ⇑P P 12 19 28.1 -0.1
baz=82
ILAR Eielson Array 82.42 11 P P 12 19 26.5 -0.9
comp=Z,3.1nm,0.6s,baz=226,slow=5.7,SNR=52
ILAR LR LR 12 49 20.7
comp=Z,411nm,21.9s,baz=210,slow=31
H17A Grant Village 82.43 40 ⇑P P 12 19 29.4 +1.2
baz=83,SNR=13
SEY Seymchan 82.47 345 eP P 12 19 27.2 -0.4
SEY Seymchan 82.47 345 P P 12 19 28.1 +0.5
comp=Z,3.9nm,0.8s,baz=133,slow=6.5,SNR=21
T24B San Luis 82.52 48 ⇓P P 12 19 29.6 +0.7
baz=83,SNR=13
429A Davenport Ranc 82.55 56 ⇑P P 12 19 29.1 +0.2
baz=83,SNR=29
V25A Rancho No Teng 82.56 50 ⇓P P 12 19 29.2 +0.2
baz=83,SNR=21
Z27A Tatum 82.57 53 ⇓P P 12 19 28.6 -0.4
baz=83,SNR=7.2
228A UT Block 9, Go 82.58 54 ⇑P P 12 19 29.0 -0.1
baz=83
X26A CR and CF Fran 82.62 51 ⇑P P 12 19 29.1 -0.2
baz=83
P22A Eagle 82.66 46 ⇑P P 12 19 29.5 +0.1
baz=83,SNR=7.4
R23A Moffat 82.69 47 ⇓P P 12 19 29.9 +0.1
baz=83,SNR=12
SDCO Great Sand Dun 82.72 48 eP P 12 19 30.1 +0.1
comp=Z,6.8nm,1.0s
329A Wagon Wheel Ra 82.81 55 ⇑P P 12 19 30.2 -0.1
baz=83,SNR=6.1
530A J-C Ranch, Com 82.81 56 ⇑P P 12 19 30.2 0.0
baz=83
J19A Crowheart 82.83 42 ⇑P P 12 19 30.0 -0.2
baz=83,SNR=16
Y27A Causey 82.84 52 ⇓P P 12 19 30.3 -0.1
baz=83,SNR=12
QIZ Qiongzhong 82.85 292 P P 12 19 31.6 +1.0
128A Castleberry Fa 82.86 54 ⇑P P 12 19 30.7 +0.2
baz=83,SNR=23
W26A Owens Ranch, T 82.88 51 ⇓P P 12 19 31.0 +0.5
baz=83
S24A Houchin Ranch, 82.89 48 ⇓P P 12 19 31.3 +0.5
baz=83,SNR=13
U25A Circle Dot Ran 82.94 49 ⇓P P 12 19 31.4 +0.4
baz=83,SNR=23
O22A Kremmling 83.06 45 ⇑P P 12 19 31.6 0.0
baz=83,SNR=11
229A Bryant Ranch, 83.13 54 ⇑P P 12 19 32.2 +0.3
baz=83,SNR=6.7
430A Baggett Ranch, 83.14 56 ⇓P P 12 19 31.8 -0.2
baz=83
H18A Shoshone NF, C 83.14 40 ⇓P P 12 19 32.4 +0.6
baz=83,SNR=23
631A Perdido Creek 83.15 57 ⇑P P 12 19 31.8 -0.2
baz=83,SNR=17
V26A Tequesquite Ra 83.15 50 ⇓P P 12 19 32.1 +0.1
baz=83
MSTX Muleshoe 83.17 52 eP P 12 19 31.9 -0.3
MSTX Muleshoe 83.17 52 ⇓P P 12 19 32.2 +0.1
baz=83,SNR=6.9
P23A Jefferson 83.20 46 ⇑P P 12 19 33.1 +0.7
baz=83,SNR=5.9
X27A F and S Farms, 83.20 51 ⇑P P 12 19 32.4 +0.1
baz=83,SNR=6.2
R24A Sanders Place, 83.22 47 ⇑P P 12 19 33.0 +0.6
baz=83,SNR=12
832A Faith Ranch, C 83.23 58 ⇓P P 12 19 32.5 +0.1
baz=83,SNR=6.6
I19A Meeteetse 83.24 41 ⇑P P 12 19 32.6 +0.3
baz=83,SNR=9.9
T25A Trinidad 83.25 49 ⇑P P 12 19 32.8 +0.2
baz=83,SNR=11
129A Stewart Farms, 83.34 54 ⇓P P 12 19 32.9 -0.1
baz=84,SNR=5.7
W27A Bowe Ranch, En 83.39 51 ⇑P P 12 19 33.2 0.0
baz=84,SNR=22
732A Laxson Ranch, 83.39 58 ⇑P P 12 19 33.4 +0.2
baz=84
DAWY Dawson 83.40 14 eP P 12 19 32.6 +0.1
N22A Wattenberg Ran 83.41 45 ⇓P P 12 19 33.8 +0.4
baz=84,SNR=16
330A Mertzon 83.42 55 ⇑P P 12 19 33.1 -0.3
baz=84,SNR=5.4
U26A Atchley Ranch, 83.43 50 ⇓P P 12 19 33.5 0.0
baz=84,SNR=20
531A Rocksprings 83.45 56 ⇑P P 12 19 33.8 +0.2
baz=84,SNR=17
S25A Robets Cordova 83.45 48 ⇑P P 12 19 33.9 +0.3
baz=84,SNR=21
J20A Shoshoni 83.50 42 ⇓P P 12 19 34.0 +0.3
baz=84,SNR=22
Q24A Divide 83.50 47 ⇓P P 12 19 34.1 +0.1
baz=84
O23A Lake Granby, G 83.51 45 ⇓P P 12 19 34.3 +0.4
baz=84,SNR=11
ISCO Idaho Springs 83.54 46 ⇑P P 12 19 34.5 +0.4
baz=84,SNR=5.5
Y28A McKinney Farm, 83.55 52 ⇑P P 12 19 33.8 -0.2
baz=84,SNR=5.6
H19A Powell 83.56 40 ⇓P P 12 19 34.5 +0.6
baz=84,SNR=31
933A Laredo 83.56 59 ⇓P P 12 19 34.3 +0.2
baz=84,SNR=5.6
M22A Cedar Creek Ra 83.58 44 ⇓P P 12 19 34.2 -0.1
baz=84
431A Sonora 83.60 56 ⇓P P 12 19 34.0 -0.3
baz=84
RLMT Red Lodge 83.60 40 eP P 12 19 34.6 +0.4
comp=Z,10nm,0.8s
230A Sterling City 83.65 55 ⇑P P 12 19 34.5 0.0
baz=84
K21A Alcova 83.71 43 ⇓P P 12 19 34.6 -0.2
baz=84,SNR=9.0
Z29A Hungry Hill Ra 83.71 53 ⇑P P 12 19 34.6 -0.3
baz=84,SNR=5.5
833A Chaparral WMA, 83.72 59 ⇓P P 12 19 35.5 +0.6
baz=84
I20A Worland 83.75 41 ⇑P P 12 19 35.1 +0.3
baz=84,SNR=30
R25A Fountain Ranch 83.77 48 ⇑P P 12 19 35.1 0.0
baz=84,SNR=12
N23A Red Feather La 83.79 45 ⇓P P 12 19 35.7 +0.3
baz=84,SNR=13
632A Uvalde 83.83 57 ⇓P P 12 19 35.5 0.0
baz=84,SNR=5.6
X28A Dimmitt 83.83 52 ⇓P P 12 19 35.5 0.0
baz=84,SNR=14
V27A Dan Oppiter Fa 83.84 51 ⇑P P 12 19 36.0 +0.5
baz=84
T26A Comanche Natio 83.86 49 ⇑P P 12 19 35.1 -0.6
baz=84,SNR=8.2
034A Hebbronville 83.86 60 ⇓P P 12 19 36.1 +0.5
baz=84
J21A Lysite 83.91 42 ⇓P P 12 19 36.1 +0.3
baz=84,SNR=39
733A Divot King Ran 83.94 58 ⇑P P 12 19 36.1 +0.1
baz=84
L22A Ellis Ranch, M 83.97 44 ⇑P P 12 19 36.5 +0.4
baz=84,SNR=11
Y29A Porterfield Fa 83.97 53 ⇓P P 12 19 36.2 +0.1
baz=84,SNR=8.7
331A San Angelo 83.97 55 ⇓P P 12 19 35.7 -0.5
baz=84
130A Snyder 84.03 54 ⇑P P 12 19 36.5 0.0
baz=84
O24A Longmont 84.05 46 ⇑P P 12 19 36.9 +0.3
baz=84
H20A Greybull 84.09 41 ⇓P P 12 19 36.3 -0.2
baz=84,SNR=8.8
W28A Vega 84.11 51 ⇓P P 12 19 37.2 +0.3
baz=84
Q25A Bedland, Calha 84.12 47 ⇓P P 12 19 37.2 +0.3
baz=84
U27A Thompson Grove 84.12 50 ⇑P P 12 19 36.8 -0.1
baz=84,SNR=12
S26A Kim 84.13 49 ⇑P P 12 19 36.5 -0.5
baz=84,SNR=5.8
F19A Roth Farm, Mol 84.15 39 ⇑P P 12 19 37.0 +0.2
baz=84,SNR=31
JCT Junction City 84.17 56 ⇑P P 12 19 37.4 +0.1
baz=84
Z30A Sanderson Ranc 84.17 53 ⇑P P 12 19 37.2 0.0
baz=84,SNR=12
X29A Tulia 84.18 52 ⇑P P 12 19 37.4 +0.2
baz=84,SNR=8.0
K22A Casper 84.19 43 eP P 12 19 36.8 -0.4
comp=Z,15nm,0.9s
K22A Casper 84.19 43 ⇑P P 12 19 37.2 0.0
baz=84,SNR=7.7
M23A Laramie 84.20 44 ⇑P P 12 19 37.5 +0.1
baz=84
I21A Big Trails, Te 84.22 42 ⇓P P 12 19 37.3 0.0
baz=84,SNR=27
231A Bronte 84.30 55 ⇓P P 12 19 37.6 -0.2
baz=84,SNR=12
G20A Bridger 84.30 40 ⇓P P 12 19 37.8 +0.1
baz=84
633A Saathoff Ranch 84.31 58 ⇓P P 12 19 38.2 +0.3
baz=84
432A Menard 84.32 56 ⇑P P 12 19 37.7 -0.2
baz=84,SNR=12
834A Tilden 84.34 59 ⇑P P 12 19 38.6 +0.5
baz=84,SNR=8.3
AMTX Amarillo 84.36 52 ⇑P P 12 19 38.2 +0.1
baz=84
P25A Willow Gulch B 84.42 47 ⇓P P 12 19 38.7 +0.2
baz=85,SNR=14
R26A Arlington 84.43 48 ⇓P P 12 19 38.6 +0.1
baz=85,SNR=18
T27A Campo 84.45 49 ⇓P P 12 19 38.4 -0.2
baz=85,SNR=6.9
BILL Bilibino 84.47 352 ⇓eP P 12 19 37.3 -0.5
BILL e 12 22 51.0
BILL pmax pmax
comp=Z,5.0nm,1.2s
W29A Amraillo 84.48 51 ⇓P P 12 19 38.9 +0.2
baz=85,SNR=11
N24A Carr 84.49 45 ⇓P P 12 19 39.2 +0.5
baz=85
L23A Garrett 84.50 44 ⇑P P 12 19 38.7 -0.1
baz=85,SNR=23
131A Roby 84.51 54 ⇓P P 12 19 38.8 -0.1
baz=85,SNR=6.5
E19A Rath Farm, Rou 84.54 39 ⇓P P 12 19 39.1 +0.3
baz=85,SNR=21
U28A Mallet 84.54 50 ⇓P P 12 19 39.1 0.0
baz=85
332A Millersview 84.55 56 ⇑P P 12 19 39.0 -0.1
baz=85,SNR=12
J22A Midwest 84.56 42 ⇓P P 12 19 38.9 -0.1
baz=85,SNR=18
Y30A Stafford Cattl 84.57 53 ⇓P P 12 19 39.7 +0.5
baz=85
F20A Billings 84.61 40 ⇓P P 12 19 39.1 -0.1
baz=85,SNR=9.0
Q26A Hugo 84.64 47 ⇑P P 12 19 39.6 +0.1
baz=85
533A Kerrville 84.64 57 ⇓P P 12 19 39.8 +0.2
baz=85,SNR=16
O25A Wiggins 84.71 46 ⇑P P 12 19 40.2 +0.4
baz=85
EGMT Eagleton 84.73 37 eP P 12 19 39.4 -0.3
comp=Z,8.4nm,0.8s
EGMT Eagleton 84.73 37 ⇓P P 12 19 39.7 0.0
baz=85,SNR=11
H21A Big Horn, Sher 84.76 41 ⇓P P 12 19 40.1 +0.2
baz=85,SNR=11
I22A 9 Mile Ranch, 84.78 42 ⇑P P 12 19 40.4 +0.3
baz=85,SNR=13
M24A Cheyenne 84.80 45 ⇓P P 12 19 40.6 +0.2
baz=85
232A Coleman 84.81 55 ⇓P P 12 19 40.6 +0.1
baz=85,SNR=8.6
X30A Coker Ranch, T 84.81 52 ⇑P P 12 19 40.2 -0.1
baz=85,SNR=8.8
D19A Cripps Ranch, 84.83 38 ⇑P P 12 19 40.6 +0.4
baz=85,SNR=12
K23A Bowen Ranch, D 84.83 43 ⇑P P 12 19 40.4 0.0
baz=85,SNR=7.3
433A Art 84.84 56 ⇓P P 12 19 40.5 -0.1
baz=85,SNR=16
V29A Stinnett 84.87 51 ⇑P P 12 19 40.9 +0.2
baz=85
R27A Eads 84.89 48 ⇑P P 12 19 40.8 0.0
baz=85
T28A Walsh 84.92 49 ⇓P P 12 19 41.0 0.0
baz=85
G21A Lodge Grass 84.93 40 ⇑P P 12 19 41.2 +0.4
baz=85
Z31A Sharp Cattle R 84.94 54 ⇓P P 12 19 41.1 0.0
baz=85,SNR=22
E20A Meyer Farm, Mu 84.96 39 ⇓P P 12 19 41.5 +0.6
baz=85,SNR=23
L24A Wheatland 84.98 44 ⇓P P 12 19 41.4 +0.3
baz=85
C19A Slack Wire Ran 85.00 38 ⇑P P 12 19 41.7 +0.6
baz=85,SNR=16
P26A Davis Ranch, A 85.02 47 ⇑P P 12 19 41.9 +0.5
baz=85
534A Blanco 85.08 57 ⇑P P 12 19 42.0 +0.2
baz=85,SNR=16
ABTX Abilene, Hawle 85.08 54 eP P 12 19 41.5 -0.3
comp=Z,48nm,0.8s
ABTX Abilene, Hawle 85.08 54 ⇑P P 12 19 42.0 +0.3
baz=85,SNR=17
Y31A Rekieta Farm, 85.09 53 ⇓P P 12 19 42.3 +0.5
baz=85
333A Richland Sprin 85.13 56 ⇑P P 12 19 42.0 -0.1
baz=85,SNR=6.5
H22A Clearmont 85.18 41 ⇓P P 12 19 42.4 +0.3
baz=85
D20A Manuel Ranch, 85.24 39 ⇑P P 12 19 42.7 +0.5
baz=85,SNR=12
S28A Manter 85.26 49 ⇓P P 12 19 42.9 +0.3
baz=85
U29A Oasis Ranch, S 85.28 50 ⇓P P 12 19 43.5 +0.8
baz=85
M25A Palm-Egli Farm 85.31 45 ⇓P P 12 19 43.5 +0.6
baz=86
O26A Horse Wrangler 85.33 46 ⇓P P 12 19 43.6 +0.7
baz=86
K24A Anderson Ranch 85.35 44 ⇓P P 12 19 43.8 +0.8
baz=86
BJI Beijing 85.41 313 P P 12 19 44.5 +1.3
BJI pP pP 12 19 54.3 -1.6
BJI sP sP 12 19 57.8 -2.8
BJI S SKSac 12 30 02.4 -2.6
BJI pmax pmax
comp=Z,5.0nm,0.6s
B19A Brinkman Farms 85.42 37 ⇑P P 12 19 43.8 +0.7
baz=86
635A Leesville 85.42 58 ⇓P P 12 19 43.7 +0.3
baz=86
233A Rising Star 85.44 55 ⇑P P 12 19 43.8 +0.2
baz=86,SNR=11
V30A Spur Ranch, Mi 85.45 51 ⇓P P 12 19 44.2 +0.6
baz=86
Z32A Haskell 85.46 54 ⇑P P 12 19 44.2 +0.6
baz=86,SNR=52
G22A Birney 85.50 41 ⇓P P 12 19 44.0 +0.3
baz=86
434A Burnet 85.52 57 ⇓P P 12 19 43.9 0.0
baz=86,SNR=11
T29A Hugoton 85.53 50 ⇓P P 12 19 44.9 +0.9
baz=86
P27A Ficken Ranch, 85.56 47 ⇑P P 12 19 44.2 0.0
baz=86
X31A McDonald Ranch 85.56 52 ⇑P P 12 19 44.0 -0.1
baz=86,SNR=8.1
C20A Veseth Ranch, 85.61 38 ⇓P P 12 19 44.5 +0.4
baz=86
E21A Keefer Ranch, 85.62 39 ⇑P P 12 19 45.1 +0.9
baz=86
R28A Tribune 85.62 48 ⇑P P 12 19 44.5 +0.1
baz=86,SNR=14
133A Hamilton Ranch 85.64 55 ⇓P P 12 19 44.8 +0.2
baz=86,SNR=7.5
334A Lometa 85.73 56 ⇑P P 12 19 45.0 0.0
baz=86,SNR=9.3
Y32A R-V Farms, Ver 85.74 53 ⇑P P 12 19 45.3 +0.3
baz=86,SNR=13
A19A Klindworth Far 85.76 37 ⇑P P 12 19 44.9 0.0
baz=86,SNR=10
W31A Holland Ranch, 85.80 52 ⇑P P 12 19 45.6 +0.3
baz=86,SNR=12
S29A Ulysses 85.84 49 ⇑P P 12 19 46.2 +0.7
baz=86
O27A Beecher Island 85.89 47 ⇓P P 12 19 46.1 +0.4
baz=86
D21A La Casta Ranch 85.91 39 ⇓P P 12 19 46.1 +0.5
baz=86,SNR=6.6
B20A Solberg Farm, 85.95 37 ⇑P P 12 19 45.9 +0.2
baz=86,SNR=6.1
Z33A Whitaker Ranch 86.01 54 ⇑P P 12 19 46.7 +0.3
baz=86,SNR=14
X32A Elmer 86.02 53 ⇑P P 12 19 46.6 +0.2
baz=86,SNR=21
636A Smothers Creek 86.04 58 ⇓P P 12 19 47.5 +0.9
baz=86
234A Clairette 86.05 55 ⇑P P 12 19 46.9 +0.4
baz=86
435B Jarrell 86.06 57 ⇓P P 12 19 47.4 +0.8
baz=86
G23A Biddle 86.06 41 ⇑P P 12 19 46.9 +0.5
baz=86
V31A Spring Creek L 86.09 51 ⇓P P 12 19 47.9 +1.2
baz=86,SNR=5.3
N27A Anderson Farm, 86.10 46 ⇓P P 12 19 46.8 +0.1
baz=86
R29A Marienthal 86.14 49 ⇑P P 12 19 47.3 +0.4
baz=86
P28A Saint Francis 86.15 47 ⇑P P 12 19 47.3 +0.3
baz=86
C21A Desert Coulee 86.20 38 ⇓P P 12 19 47.6 +0.6
baz=86
A20A Cobblestone Ra 86.21 37 ⇓P P 12 19 47.3 +0.3
baz=86,SNR=14
536A Bastrop 86.24 58 ⇓P P 12 19 48.3 +0.8
baz=86
E22A Miles City 86.27 40 ⇑P P 12 19 47.8 +0.4
baz=86
F23A Volborg 86.28 41 ⇓P P 12 19 48.0 +0.5
baz=86
134A White-Moore Ra 86.29 55 ⇓P P 12 19 48.2 +0.5
baz=86
W32A Sentinel 86.30 52 ⇑P P 12 19 48.2 +0.4
baz=86,SNR=15
U31A Nine Bar Ranch 86.31 51 ⇓P P 12 19 48.4 +0.7
baz=86
S30A Montezuma 86.33 50 ⇓P P 12 19 48.2 +0.3
baz=86
O28A Krutsinger Ran 86.36 47 ⇓P P 12 19 48.1 +0.1
baz=86
335A Moody 86.36 56 ⇓P P 12 19 48.5 +0.4
baz=86
Y33A Hilltop Ranch, 86.38 53 ⇑P P 12 19 48.5 +0.4
baz=86
H24A Dirks Ranch, A 86.40 42 ⇓P P 12 19 48.1 0.0
baz=87,SNR=9.9
Q29A Oakley 86.44 48 ⇑P P 12 19 48.3 -0.1
baz=87
D22A Cohagen 86.45 39 ⇑P P 12 19 48.6 +0.4
baz=87,SNR=5.2
WHTX Lake Whitney 86.58 56 ⇑P P 12 19 49.3 +0.1
baz=87
I25A Rochford 86.62 43 ⇓P P 12 19 49.5 +0.2
baz=87
V32A Arapaho 86.67 52 ⇓P P 12 19 50.3 +0.7
baz=87
436A Wall Ranch, Ga 86.69 57 ⇓P P 12 19 50.4 +0.7
baz=87
Z34A Collier Ranch, 86.70 54 ⇑P P 12 19 50.2 +0.5
baz=87
T31A Randall Ranch, 86.71 50 ⇓P P 12 19 49.9 +0.2
baz=87
R30A Dighton 86.71 49 ⇓P P 12 19 49.8 +0.1
baz=87
G24A Alzada 86.74 41 ⇓P P 12 19 50.2 +0.5
baz=87
N28A Pribbeno Ranch 86.74 46 ⇑P P 12 19 50.1 +0.2
baz=87
P29A Atwood 86.75 48 ⇑P P 12 19 50.3 +0.4
baz=87
J26A Sides Ranch, S 86.76 44 ⇑P P 12 19 49.8 -0.1
baz=87
A21A Bergtoll Ranch 86.85 37 ⇑P P 12 19 50.5 +0.3
baz=87,SNR=10.0
537A Green Hill Far 86.85 58 ⇓P P 12 19 51.4 +0.9
baz=87,SNR=5.4
336A Riesel 86.86 56 ⇑P P 12 19 50.6 +0.1
baz=87
C22A Vida 86.89 39 ⇑P P 12 19 50.8 +0.5
baz=87
W33A Caddo, Fort Co 86.91 52 ⇓P P 12 19 51.2 +0.5
baz=87
F24A Ekalaka 86.94 41 ⇓P P 12 19 51.0 +0.3
baz=87
U32A Winter Ranch, 86.95 51 ⇑P P 12 19 51.2 +0.3
baz=87
H25A Fruitdale 86.96 42 ⇑P P 12 19 51.4 +0.5
baz=87
Q30A Quinter 87.02 48 ⇑P P 12 19 51.7 +0.5
baz=87
Y34A Reagan Ranch, 87.03 54 ⇑P P 12 19 51.8 +0.5
baz=87
S31A Mullinville 87.04 50 ⇓P P 12 19 51.7 +0.3
baz=87,SNR=6.6
K27A Flueckinger Fa 87.07 44 ⇓P P 12 19 51.9 +0.5
baz=87
B22A Reddig Ranch S 87.08 38 ⇑P P 12 19 51.6 +0.3
baz=87,SNR=6.7
HIA Hailar 87.14 323 eP P 12 19 50.5 -1.0
HIA pmax pmax
comp=Z,2.0nm,1.0s
X34A Smith Ranch, M 87.20 53 ⇓P P 12 19 52.9 +0.7
baz=87
HKT Hockley 87.20 58 eP P 12 19 51.9 -0.2
HKT pmax pmax
comp=Z,3.0nm,0.8s
Z35A Perchaven, San 87.21 54 ⇓P P 12 19 53.2 +1.0
baz=87
P30A Selden 87.21 48 ⇓P P 12 19 52.3 +0.2
baz=87
R31A Burdett 87.26 49 ⇓P P 12 19 52.5 +0.1
baz=87
V33A Lossen Ranch, 87.28 52 ⇑P P 12 19 53.0 +0.5
baz=87
T32A Huddler Ranch, 87.30 50 ⇑P P 12 19 53.0 +0.5
baz=87
C23A Lambert 87.34 39 ⇓P P 12 19 53.2 +0.6
baz=88
A22A Carney Farms, 87.44 38 ⇑P P 12 19 53.2 +0.2
baz=88
J27A Elkhorn Farm, 87.45 44 ⇑P P 12 19 53.5 +0.3
baz=88,SNR=7.4
S32A Newby Ranch, P 87.48 50 ⇑P P 12 19 53.8 +0.3
baz=88
H26A Fairpoint 87.50 42 ⇑P P 12 19 54.0 +0.6
baz=88
D24A Glendive 87.56 40 ⇓P P 12 19 54.5 +0.9
baz=88
337A Centerville 87.61 57 ⇓P P 12 19 55.3 +1.2
baz=88
I27A Quinn 87.75 43 ⇓P P 12 19 55.0 +0.4
baz=88
B23A Brockton 87.75 38 ⇓P P 12 19 55.1 +0.6
baz=88,SNR=7.1
T33A Patterson Ranc 87.77 51 ⇑P P 12 19 54.8 0.0
baz=88
P31A Stockton 87.83 48 ⇑P P 12 19 55.0 0.0
baz=88
G26A Maurine 87.89 42 ⇑P P 12 19 56.3 +1.1
baz=88
R32A Long Quarter, 87.91 49 ⇓P P 12 19 56.0 +0.5
baz=88
GYA Guiyang 87.99 298 P P 12 19 57.3 +1.1
GYA pP pP 12 20 07.8 -1.2
GYA PP PP 12 23 26.0 +2.7
GYA SKS SKSac 12 30 19.4 -2.4
GYA S S 12 30 36.6 -0.5
GYA sS sS 12 30 53.3 -5.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,490nm,20.5s
GYA LR LR
comp=Z,470nm,21.2s
GYA LR LR
comp=Z,420nm,19.6s
F26A Lodgepole 88.07 41 ⇑P P 12 19 56.6 +0.5

	baz=88						
D25A	Fairfield	88.20	40	⇓P	P	12 19 56.8	+0.1
	baz=88						
DGMT	Dagmar	88.23	39	eP	P	12 19 57.3	+0.6
	comp=Z,12nm,0.7s						
DGMT	Dagmar	88.23	39	⇑P	P	12 19 57.3	+0.6
	baz=88						
INK	Inuvik	88.25	14	P	P	12 19 56.6	+0.3
	comp=Z,2.2nm,0.7s,baz=180,slow=20						
G27A	Dupree	88.35	42	⇓P	P	12 19 57.7	+0.2
	baz=88						
K29A	Lazy Trails An	88.39	45	⇓P	P	12 19 58.0	+0.3
	baz=89						
R33A	Olander Ranch,	88.40	50	⇓P	P	12 19 58.2	+0.4
	baz=88						
E26A	Carlson Angus	88.46	41	⇓P	P	12 19 58.8	+0.9
	baz=89						
F27A	Lemmon	88.49	41	⇓P	P	12 19 58.6	+0.5
	baz=89						
A24A	Westby	88.54	38	⇑P	P	12 19 58.4	+0.2
	baz=89						
J29A	Okreek	88.64	44	⇓P	P	12 19 58.6	-0.2
	baz=89						
D26A	Manning	88.70	40	⇓P	P	12 19 59.9	+0.9
	baz=89						
B25A	Knox Farm, Ray	88.77	39	⇓P	P	12 19 59.8	+0.5
	baz=89						
HHC	Hu-ho-hao-te	88.97	313	eP	P	12 20 02.8	+2.3
HHC				PP	PP	12 23 35.0	+4.2
HHC				SKS	SKSac	12 30 27.6	+0.5
HHC				S	S	12 30 46.5	+0.7
HHC				sS	sS	12 31 04.1	-3.0
HHC				SS	SS	12 36 43.0	+3.3
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,300nm,5.5s						
HHC				LR	LR		
	comp=Z,230nm,17.3s						
HHC				LR	LR		
	comp=Z,310nm,18.2s						
HHC				LR	LR		
	comp=Z,510nm,17.8s						
A25A	Svangstu Ranch	89.08	38	⇓P	P	12 20 01.0	+0.3
	baz=89						
J30A	Dallas	89.17	45	⇑P	P	12 20 00.9	-0.4
	baz=89						
H29A	Onida	89.18	43	⇓P	P	12 20 01.2	-0.1
	baz=89						
C26A	Wahner Farm, P	89.24	40	⇓P	P	12 20 01.8	+0.3
	baz=89						
F28A	McLaughlin	89.27	42	⇑P	P	12 20 02.6	+0.9
	baz=89						
PLCA	Paso Flores	89.57	132	P	P	12 20 04.2	+0.8
	comp=Z,2.3nm,1.0s,baz=287,slow=13,SNR=2.8						
PLCA				LR	LR	12 52 39.9	
	comp=Z,299nm,18.9s,baz=269,slow=31						
F29A	Eureka	89.89	42	⇑P	P	12 20 05.0	+0.4
	baz=90						
YKA	Yellowknife Ar	90.08	23	P	P	12 20 05.0	0.0
	comp=Z,1.3nm,0.7s,baz=239,slow=4.8,SNR=36						
B28A	Dugan Ranch, T	90.55	40	⇓P	P	12 20 07.7	+0.1
	baz=91						
E30A	Jud	90.73	42	⇓P	P	12 20 08.6	0.0
	baz=91						
A28A	Rude Farm, Bot	90.79	39	⇑P	P	12 20 09.0	+0.3
	baz=91						
ECSD	EROS Data Cent	91.27	45	⇓P	P	12 20 11.1	0.0
	baz=91						
A29A	Manning Farm,	91.42	39	⇓P	P	12 20 11.8	+0.2
	baz=92						
C30A	Mose, Pekin	91.44	41	⇑P	P	12 20 12.6	+0.8
	baz=92						
CD2	Chengdu	91.75	301	P	P	12 20 14.3	+0.6
CD2				pP	pP	12 20 24.3	-2.2
CD2				sP	sP	12 20 27.9	-3.3
CD2				PP	PP	12 23 55.3	+2.2
CD2				SKS	SKSac	12 30 42.8	-0.7
CD2				S	S	12 31 09.6	-2.1
CD2				sS	sS	12 31 26.1	-7.0
CD2				SS	SS	12 37 20.3	0.0
CD2				pmax	pmax		
	comp=Z,160nm,5.6s						
CMAR	Chiang Mai Arr	92.56	288	P	P	12 20 19.1	+1.5
	comp=Z,2.7nm,0.3s,baz=116,slow=3.1,SNR=4.2						
CMAR				LR	LR	12 57 05.2	
	comp=Z,77nm,21.6s,baz=105,slow=32						
SYO	Syowa Base	92.62	191	⇑eP	P	12 20 16.2	-0.7
ULM	Lac du Bonnet	93.93	39	P	P	12 20 24.1	+0.9
	comp=Z,2.2nm,0.8s,baz=307,slow=4.3,SNR=3.9						
ULM				LR	LR	12 57 54.4	
	comp=Z,993nm,18.8s,baz=252,slow=32						
SONM	Songino Array	94.79	318	P	P	12 20 28.3	+0.9
	comp=Z,0.2nm,0.6s,baz=123,slow=5.3,SNR=3.1						
SONM				LR	LR	12 58 22.0	
	comp=Z,150nm,21.6s,baz=106,slow=32						
TIXI	Tiksi	94.96	344	eP	P	12 20 26.6	-0.8
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GTA	Gaotai	97.12	309	eP	Pdif	12 20 39.9	+1.6
GTA				pP	pP	12 20 50.0	-1.0
GTA				sP	sP	12 20 54.6	-1.1
GTA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TLY	Talaya	97.58	321	eP	P	12 20 39.8	0.0
TLY				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WMQ	Urumqi	106.81	312	ePdif	Pdif	12 21 21.3	+0.1
WMQ				PP	PP	12 25 49.8	+2.3
WMQ				S	Sdif	12 33 15.4	-4.0
WMQ				AMB	AMB		
	comp=Z,380nm,11.0s						
WMQ				LR	LR		
	comp=Z,190nm,22.4s						
WMQ				LR	LR		
	comp=Z,170nm,20.4s						
WMQ				LR	LR		
	comp=Z,250nm,21.8s						
MKAR	Makanchi Array	110.77	315	PKiKP	PKiKP	12 25 38.0	-0.4
	comp=Z,0.4nm,0.6s,baz=193,slow=0.8,SNR=6.4						
KSH	Kashi	115.42	307	ePKP	PKPdf	12 25 50.1	+2.4
KSH				PKS	PKSdf	12 29 26.5	+2.0
KSH				SKKS		12 33 47.6	
KSH				AMB	AMB		
	comp=Z,76nm,5.5s						
KSH				LR	LR		
	comp=Z,57nm,5.8s						
KSH				LR	LR		
	comp=Z,26nm,3.5s						
KSH				LR	LR		
	comp=Z,220nm,6.7s						
ARCES	ARCESS Array B	124.57	352	PKP	PKPdf	12 26 03.7	-0.5
	comp=Z,5.3nm,0.7s,baz=347,slow=1.3,SNR=14						
ABKAR	Akbulak array	125.16	320	ePKPdf	PKPdf	12 26 06.7	+0.8
PRGR	Permogore	126.09	338	ePKIKP	PKPdf	12 26 06.0	-1.3
PRGR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	FINESS Array B	131.90	348	PKP	PKPdf	12 26 19.7	+1.4
	comp=Z,2.3nm,0.7s,baz=48,slow=2.8,SNR=6.2						
MICGM	Minsk	137.57	342	eLR	LR	12 29 10.0	
AKASG	Malin Array Be	140.29	337	PKP	PKPdf	12 26 34.5	+0.3
	comp=Z,2.7nm,0.9s,baz=28,slow=2.1,SNR=8.7						
KIEV	Kiev	140.30	337	ePKIKP	PKPdf	12 26 34.4	+0.1
CLL	Collm	143.78	353	i PKIKP	PKPbc	12 26 38.7	+0.6
CLL				i		12 26 42.4	
CLL				pmax	pmax		
	comp=Z,24nm,0.9s						
CLL	Collm	143.78	353	i PKPdf	PKPbc	12 26 38.7	+0.6
	comp=Z,6.0nm,0.9s						
CLL				i PKiKP	PKiKP	12 26 42.4	-1.5
CLL				LmV		16 50 00.0	
	comp=Z,200nm,18.2s						
TSUM	Tsumeb	143.97	198	ePKPdf	PKPdf	12 26 41.4	-0.6
STHS	Stebnicka Huta	143.98	344	ePKIKP	PKPdf	12 26 40.8	-0.2
STHS	Stebnicka Huta	143.98	344	ePKP	PKPdf	12 26 40.8	-0.2
UPC	Upice	144.12	350	ePKIKP	PKPdf	12 26 44.1	+3.0
UPC	Upice	144.12	350	ePKP	PKPdf	12 26 44.1	+3.0
KOLS	Kolonicke sedl	144.13	342	ePKIKP	PKPdf	12 26 40.8	-0.4
KOLS	Kolonicke sedl	144.13	342	ePKP	PKPdf	12 26 40.8	-0.4
DPC	Dobruska-Polom	144.22	349	ePKIKP	PKPab	12 26 38.8	-0.4
DPC	Dobruska-Polom	144.22	349	ePKP	PKPab	12 26 38.8	-0.4
BURAR	Bucovina Array	144.32	338	⇑PKIKP	PKPdf	12 26 42.7	+1.0
BURAR	Bucovina Array	144.32	338	⇑iP	PKPdf	12 26 42.7	+1.0
OKC	Ostrava-Krasne	144.35	347	ePKIKP	PKPdf	12 26 41.3	-0.2
OKC	Ostrava-Krasne	144.35	347	ePKP	PKPdf	12 26 41.3	-0.2
UZH	Uzhgorod	144.39	342	⇑iPKIKP	PKPbc	12 26 40.0	-0.1
UZH				e		12 26 47.8	
MORC	Moravsky Berou	144.53	348	⇑PKIKP	PKPdf	12 26 42.3	+0.4
MORC	Moravsky Berou	144.53	348	⇑iP	PKPdf	12 26 42.3	+0.4
MORC	Moravsky Berou	144.53	348	ePKPdf	PKPdf	12 26 42.1	+0.2
TESR	Tescani	144.70	336	⇑iP	PKPdf	12 26 43.1	+0.8
TRPA	Tarpa	144.76	341	⇑iP	PKPdf	12 26 42.4	+0.1
MEM	Membach	144.84	1	PKP	PKPdf	12 26 42.9	+0.5
PRU	Pruhonice	144.86	351	ePKIKP	PKPdf	12 26 42.5	+0.1
PRU	Pruhonice	144.86	351	ePKP	PKPdf	12 26 42.5	+0.1
BCLA	Clavier	145.02	1	PKP	PKPdf	12 26 44.1	+1.4
CFR	Carcaliu	145.15	333	⇑PKIKP	PKPdf	12 26 44.1	+1.0
CFR	Carcaliu	145.15	333	⇑iP	PKPdf	12 26 44.0	+1.0
VRAC	Vranov	145.17	348	⇑PKIKP	PKPbc	12 26 41.0	-1.6
VRAC	Vranov	145.17	348	⇑iP	PKPbc	12 26 41.0	-1.6
VRI	Vrincioaia	145.20	335	⇑PKIKP	PKPdf	12 26 43.5	+0.3
VRI	Vrincioaia	145.20	335	⇑iP	PKPdf	12 26 43.5	+0.3
TNS	Taunus Mts	145.20	358	ePKPbc	PKPdf	12 26 43.1	0.0
PLOR	Plostina	145.24	335	⇑PKIKP	PKPdf	12 26 44.1	+0.8
PLOR	Plostina	145.24	335	⇑iP	PKPdf	12 26 44.1	+0.8
DOU	Dourbes	145.32	2	PKP	PKPdf	12 26 43.2	0.0
ROTZ	Rotzenmuhle	145.38	354	ePKPbc	PKPdf	12 26 44.0	+0.6
KMBO	Kilima Mbogo	145.51	244	ePKIKP	PKPab	12 26 46.9	+1.6
KMBO	Kilima Mbogo	145.51	244	PKPbc	PKPab	12 26 45.7	+0.4
	comp=Z,3.6nm,0.8s,baz=71,slow=4.5,SNR=7.1						
KMBO	Kilima Mbogo	145.51	244	ePKPbc	PKPab	12 26 46.9	+1.6
GRF	Grafenberg Arr	145.56	355	ePKPbc	PKPab	12 26 44.4	+0.3
TIRR	Tirgusor	145.59	332	⇑PKIKP	PKPab	12 26 44.9	+0.6
TIRR	Tirgusor	145.59	332	⇑iP	PKPab	12 26 44.8	+0.5
TIRR	Tirgusor	145.59	332	ePKPdf	PKPab	12 26 44.7	+0.4
HARR	Harsova	145.62	333	⇓PKIKP	PKPab	12 26 45.7	+1.2
HARR	Harsova	145.62	333	⇓iP	PKPab	12 26 45.7	+1.2
DOPR	Dopca	145.64	336	⇑iP	PKPab	12 26 45.8	+1.2
PSZ	Piszkesteto	145.72	344	⇑PKIKP	PKPab	12 26 45.6	+0.7
PSZ	Piszkesteto	145.72	344	⇑iP	PKPab	12 26 45.5	+0.7
PSZ	Piszkesteto	145.72	344	ePKPbc	PKPab	12 26 45.4	+0.6
SMOL	Smolenice	145.75	347	ePKIKP	PKPab	12 26 46.0	+1.1
SMOL	Smolenice	145.75	347	ePKP	PKPab	12 26 46.0	+1.1
WLF	Walferdange	145.79	0	PKP	PKPab	12 26 45.7	+0.8
WLF	Walferdange	145.79	0	ePKPbc	PKPab	12 26 45.5	+0.6
MLR	Muntele Rosu	145.82	335	⇑PKP2	PKPab	12 26 45.8	+0.4
MLR	Muntele Rosu	145.82	335	⇑iP	PKPab	12 26 45.8	+0.4
KHC	Kasperske Hory	145.84	352	ePKP2	PKPdf	12 26 44.1	-0.1
KHC	Kasperske Hory	145.84	352	ePKP	PKPab	12 26 45.3	+0.1
KHC				ex	x	12 27 01.8	
KHC	Kasperske Hory	145.84	352	ePKPbc	PKPab	12 26 45.4	+0.2
ISR	Istrita	145.88	334	⇑PKIKP	PKPab	12 26 46.3	+0.8
ISR	Istrita	145.88	334	⇑iP	PKPab	12 26 46.3	+0.8
DRGR		145.89	340	⇑PKP2	PKPab	12 26 45.5	0.0
DRGR		145.89	340	⇑iP	PKPab	12 26 45.5	0.0
WET	Wettzell	145.92	353	ePKPbc	PKPab	12 26 45.9	+0.4
GEC2	GERESS Array S	146.10	352	ePKPbc	PKPab	12 26 46.0	-0.3
GERES	GERESS Array B	146.10	352	PKPbc	PKPab	12 26 46.3	0.0
	comp=Z,4.6nm,0.7s,baz=24,slow=3.4,SNR=32						
BRTR	Keskin Array B	146.10	321	PKPbc	PKPab	12 26 47.1	+0.4
	comp=Z,13nm,0.7s,baz=112,slow=2.1,SNR=40						
MSAB	Monastry St. A	146.14	332	⇑iP	PKPab	12 26 47.4	+1.0
VOIR		146.22	336	⇓PKP2	PKPab	12 26 47.9	+1.1
VOIR		146.22	336	⇓iP	PKPab	12 26 47.9	+1.1
ARR	Arges	146.44	337	⇓iP	PKPbc	12 26 46.6	-0.1
ANTO	Ankara	146.52	322	ePKP2	PKPab	12 26 49.1	+0.9
ANTO	Ankara	146.52	322	⇑iP	PKPab	12 26 49.3	+1.1
ANTO	Ankara	146.52	322	ePKPbc	PKPab	12 26 49.1	+0.9
CONA	Conrad Observa	146.63	349	⇑iPKPbc	PKPdf	12 26 46.2	+0.6
	comp=Z,52nm,1.8s						
MOA	Molln	146.99	350	⇑iPKPbc	PKPbc	12 26 47.5	-0.7
	comp=Z,29nm,1.3s						
GZR	Gura Zlata	147.09	339	⇓PKP2	PKPbc	12 26 49.3	+0.7
GZR	Gura Zlata	147.09	339	⇓iP	PKPbc	12 26 49.3	+0.7
BFO	Black Forest	147.10	358	ePKP2	PKPbc	12 26 47.6	-0.9
BFO	Black Forest	147.10	358	ePKPbc	PKPbc	12 26 49.0	+0.5
BFO	Black Forest	147.10	358	ePKPab	PKPbc	12 26 47.6	-0.9
BZS	Buzias	147.29	340	⇓PKP2	PKPbc	12 26 49.7	+0.7
BZS	Buzias	147.29	340	⇓iP	PKPbc	12 26 49.7	+0.7
RJOB	Jochberg	147.31	352	ePKPbc	PKPbc	12 26 49.3	+0.2
PKSM	Moragy	147.62	344	⇓PKP2	PKPbc	12 26 50.2	+0.3
PKSM	Moragy	147.62	344	⇓iP	PKPbc	12 26 50.2	+0.3
WTTA	Wattenberg	147.92	353	⇑isPKPdf	PKPbc	12 26 51.2	+0.2
	comp=Z,20nm,0.7s						
DAVA	Damuels	148.05	356	⇑isPKPdf	PKPbc	12 26 52.0	+0.7
	comp=Z,18nm,1.0s						
MMB	Musomiste	149.94	334	⇓PKP2	PKPbc	12 26 56.6	+0.5
MMB	Musomiste	149.94	334	⇓iP	PKPbc	12 26 56.6	+0.5
ESDC	Sonseca Array	154.09	19	PKPbc	PKPbc	12 27 06.2	+0.6
	comp=Z,0.7nm,0.5s,baz=342,slow=2.0,SNR=4.3						
ESDC				PKPab	PKPab	12 27 19.0	-0.1
	comp=Z,0.3nm,0.3s,baz=343,slow=5.6,SNR=4.2						
DBIC	Dimbokro	165.86	126	PKP	PKPdf	12 27 09.6	-1.7
	comp=Z,3.1nm,0.8s,baz=96,slow=2.6,SNR=3.7						
DBIC				PKPab	PKPab	12 28 10.7	-0.3
	comp=Z,2.2nm,0.7s,baz=26,slow=1.8,SNR=3.5						
TORD	Torodi Ar. Bea	174.80	114	PKP	PKPdf	12 27 14.7	-1.5
	comp=Z,2.7nm,1.1s,baz=312,slow=2.5,SNR=9.1						
TORD				PKPab	PKPab	12 28 51.0	+0.4
	comp=Z,0.8nm,0.7s,baz=262,slow=3.6,SNR=3.6						

CSEM 19 12:24:38.3, 35.77N×24.29E, h30km, MD3.1, After ATH

ATH 19 12:24:38.3, 35.77N×24.29E, h30km±6km, MD3.1/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	Vamos	0.37	192	ePB	Pn	12 24 47.4	-0.2
VAM				eSB	Sn	12 24 53.3	-0.5
VAM	Vamos	0.37	192	ePb	Pn	12 24 47.4	-0.2
VAM				eSb	Sn	12 24 53.3	-0.5
ANKY	Antikythira Is	0.81	277	ePN	Pb	12 24 55.1	+1.2
ANKY				eSN	Sn	12 25 06.8	+2.1
ANKY	Antikythira Is	0.81	277	ePn	Pb	12 24 55.1	+1.2
ANKY				eSn	Sn	12 25 06.8	+2.1
KYTH	Kithira	1.14	297	ePN	Pb	12 24 59.4	0.0
KYTH	Kithira	1.14	297	ePn	Pb	12 24 59.4	0.0
LAST	Lasithi	1.15	122	ePN	Pb	12 25 00.1	+0.5
LAST				eSN	Sb	12 25 15.6	+1.4
LAST	Lasithi	1.15	122	ePn	Pb	12 25 00.1	+0.5
LAST				eSn	Sb	12 25 15.6	+1.4
NPS	Neapolis	1.19	115	ePN	Pb	12 25 00.5	+0.2
NPS	Neapolis	1.19	115	ePn	Pb	12 25 00.5	+0.2
VLI	Veliai	1.45	311	ePB	Pn	12 25 03.4	+1.0
VLI	Veliai	1.45	311	ePb	Pn	12 25 03.4	+1.0
DID	Didima	1.93	334	ePN	Pn	12 25 10.6	+1.5
DID	Didima	1.93	334	ePn	Pn	12 25 10.6	+1.5
GUR	Goura	2.67	325	ePN	Pn	12 25 21.3	+1.9
GUR	Goura	2.67	325	ePn	Pn	12 25 21.3	+1.9

IDC 19 12:28:17.7±1.3, 25.35S×66.14W, h0km, mb3.4/1, mb1 3.5/2, mb1mx3.3/21, mbtmp3.4/2, ML3.6/1, Error ellipse: s-maj=62.5km s-min=45.6km az=95.0
SJA 19 12:28:39.4±0.5, 24.38S×66.96W, h205km±24km, MD2.9, ML2.7
ISCJB 19 12:28:40.2±2.7, 24.2S±0.2×67.1W±0.2, h175km, mb3.0/1, Error ellipse: s-maj=43.6km s-min=13.4km az=43.0

ISC 19 12:28:39.1±1.4, 24.2S±0.2×67.2W±0.1, h175km, n9, σ1§19/12, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.63	110	eP	Pn	12 29 13.4	+1.3
SLA				eS	Sn	12 29 38.0	+0.4
AZAP	Zapla	1.94	92	eP	Pn	12 29 16.4	+1.0
AZAP				eS	Sn	12 29 44.4	+0.9
AZAP				AML	AML	12 29 47.0	
	comp=Z,34nm,0.7s						
ASTB	Santa Barbara	2.48	85	eP	Pn	12 29 22.5	+1.0
ALOL	LAS DE OLMED	2.96	84	eP	Pn	12 29 27.3	+0.2
ALOL				eP	Pn	12 29 27.3	+0.2
LPAZ	La Paz	7.89	353	Pn	Pn	12 30 32.8	+1.2
	comp=Z,0.2nm,0.3s,baz=159,slow=5.6,SNR=5.4						
TORD	Torodi Ar. Bea	76.79	69	P	P	12 40 09.4	-2.4
	comp=Z,0.2nm,0.5s,baz=250,slow=5.7,SNR=4.9						
ASAR	Alice Springs	128.23	205	PKP	PKPdf	12 47 24.9	-0.4
	comp=Z,0.1nm,0.4s,baz=128,slow=2.0,SNR=3.5						
WRA	Warramunga Arr	131.40	207	PKP	PKPdf	12 47 32.1	+0.7
	comp=Z,0.2nm,0.4s,baz=161,slow=1.6,SNR=8.1						
MKAR	Makanchi Array	146.76	40	PKPbc	PKPbc	12 48 00.7	+0.3
	comp=Z,0.4nm,0.6s,baz=329,slow=2.5,SNR=6.3						

IDC 19 12:35:06.5±50.0, 15.36S×172.00W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/31, mbtmp3.4/3, MS3.8/1, Ms1 3.8/1, ms1mx3.1/23, Error ellipse: s-maj=982.7km s-min=188.6km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.23	240	P	P	12 43 25.9	+0.1
	0.4nm,0.5s,baz=94,slow=14,SNR=2.9						
WRA	Warramunga Arr	51.17	257	P	P	12 44 11.9	+0.1
	0.3nm,0.8s,baz=92,slow=7.1,SNR=6.9						
WRA				LR	LR	13 04 27.5	
	comp=Z,96nm,19.0s,baz=335,slow=34						
ASAR	Alice Springs	51.41	252	P	P	12 44 13.2	-0.5
	1.6nm,0.5s,baz=89,slow=8.1,SNR=47						

CSEM 19 12:43:53.1, 36.97N×38.83E, h7km, MD3.3, After DDA

DDA 19 12:43:53.1, 36.97N×38.83E, h7km, MD3.3, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	Bozova	0.66	319	iP	Pg	12 44 05.6	-0.2
ATAB				iS	Sg	12 44 13.8	-0.6
ATAB	Bozova	0.66	319	iP	Pg	12 44 05.6	-0.2
ATAB				iS	Sg	12 44 13.8	-0.6
HCB	Kahramanmara~	0.94	66	iP	Pn	12 44 21.8	+9.1
HCB				iS	Sn	12 44 43.9	+18
GZT	Gaziantep	1.08	291	iP	Pn	12 44 14.6	-0.2
GZT				iS	Sn	12 44 29.7	-0.5
ELZG	Elazig	1.53	5	iP	Pn	12 44 21.5	+0.5
ELZG				iS	Sn	12 44 41.0	-0.3
ELZG	Elazig	1.53	5	iP	Pb	12 44 21.5	-0.4
ELZG				iS	Sn	12 44 41.0	-0.3
MARD	Mardin	1.59	77	iP	Pb	12 44 23.3	+0.2
MARD				iS	Sg	12 44 45.5	+0.9
BEST	Besiri	2.15	64	iP	Pg	12 44 34.1	-0.3
BEST				iS	Sn	12 44 53.1	-3.3

AZER 19 12:45:10.7±99.0, 42.48N×42.83E, h29km±199km, Error ellipse: s-maj=804.8km s-min=32.3km az=296.0
TIF 19 12:45:13.2, 42.55N×43.45E, h10km±1km
CSEM 19 12:45:14.3±0.1, 42.54N×43.42E, h2km, mb4.0, Error ellipse: s-maj=3.2km s-min=2.7km az=99.0
MOS 19 12:45:14.1±1.1, 42.56N×43.40E, h11km, mb4.0/1, Error ellipse: s-maj=8.7km s-min=5.6km az=79.0
DDA 19 12:45:19.0, 42.51N×43.19E, h33km, MD3.1

ISC 19 12:45:13.4±1.0, 42.52N±0.01×43.40E±0.02, h5km±8km, n73, σ0§89/127, 6C-16D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.08	27	PG	Pg	12 45 15.5	+0.2
ONI	Oni	0.08	27	P	Pg	12 45 15.5	+0.2
DIGR	Digorskoe uzhe	0.40	19	⇓iPG	Pg	12 45 21.2	-0.1
DIGR				iS	Sg	12 45 26.7	+0.1
DIGR	Digorskoe uzhe	0.40	19	iPg	Pg	12 45 21.2	-0.1
DIGR				iSg	Sg	12 45 26.7	+0.1
ZEI	Tsey	0.46	54	⇓iPG	Pg	12 45 22.1	-0.2
ZEI				iS	Sg	12 45 28.4	+0.2
LACR	Lac	0.73	65	iPG	Pg	12 45 27.1	-0.3
LACR				iS	Sg	12 45 37.3	+0.4
LACR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
LACR	Lac	0.73	65	iPg	Pg	12 45 27.1	-0.3
	comp=Z,10.0nm,0.3s						
LACR				iSg	Sg	12 45 37.3	+0.4
KORR	Kora	0.75	41	⇑iPG	Pb	12 45 28.1	-0.9
KORR				iS	Sb	12 45 38.2	-1.3
KORR	Kora	0.75	41	iPg	Pb	12 45 28.1	-0.9
KORR				iSg	Sb	12 45 38.2	-1.3
GUDG	Gudauri	0.80	93	P	Pg	12 45 28.2	-0.5
GUDG	Gudauri	0.80	93	P	Pg	12 45 28.2	-0.5
GUDG				S	Sg	12 45 39.7	+0.6
LSNR	Lesken	0.82	22	⇓iPG	Pb	12 45 29.3	-0.9
LSNR				iS	Sg	12 45 40.0	+0.2
NEY	Neytrino	0.89	326	iPG	Pg	12 45 29.9	-0.5
NEY				eS	Sg	12 45 41.3	-0.6
NEY	Neytrino	0.89	326	iPg	Pg	12 45 29.9	-0.5
NEY				eSg	Sg	12 45 41.3	-0.6
ARNR	Ardon	0.93	44	⇓iPG	Pb	12 45 31.9	-0.1
ARNR				eS	Sb	12 45 44.5	-0.1
ARNR	Ardon	0.93	44	iPg	Pb	12 45 31.9	-0.1
ARNR				eSg	Sb	12 45 44.5	-0.1
STDR	Stavd-Durt	0.98	29	⇓iPG	Pn	12 45 33.7	-0.1
STDR				eS	Sn	12 45 46.8	-1.3
STDR	Stavd-Durt	0.98	29	iPg	Pn	12 45 33.7	-0.1
STDR				eSg	Sn	12 45 46.8	-1.3
DUS	Dusheti	1.05	113	PG	Pb	12 45 34.2	0.0
DUS				S	Sn	12 45 50.1	+0.1
DUS	Dusheti	1.05	113	P	Pb	12 45 34.2	0.0
DUS	Dusheti	1.05	113	P	Pb	12 45 34.2	0.0
DUS				S	Sn	12 45 50.1	+0.1
VLKR	Vladikavkaz	1.08	60	ePG	Pg	12 45 33.6	-0.5
VLKR				eS	Sb	12 45 48.1	-0.9
VLKR	Vladikavkaz	1.08	60	ePg	Pg	12 45 33.6	-0.5
VLKR				eSg	Sb	12 45 48.1	-0.9
AKH	Akhalkalaki	1.11	177	PG	Pb	12 45 35.0	-0.2
AKH				S	Sn	12 45 51.2	-0.3
AKH	Akhalkalaki	1.11	177	P	Pb	12 45 35.0	-0.2
AKH	Akhalkalaki	1.11	177	P	Pb	12 45 35.0	-0.2
AKH				S	Sn	12 45 51.2	-0.3
BTKR	Batakoyurt	1.20	44	⇑iPG	Pn	12 45 38.1	+1.3
BTKR				eS	Sn	12 45 54.0	+0.5
BTKR	Batakoyurt	1.20	44	iPg	Pn	12 45 38.1	+1.3
BTKR				eSg	Sn	12 45 54.0	+0.5
TBLG	Delisi	1.27	128	PG	Pn	12 45 37.9	+0.1
TBLG				S	Sn	12 45 55.2	0.0
TBLG	Delisi	1.27	128	P	Pn	12 45 37.9	+0.1
TBLG	Delisi	1.27	128	P	Pn	12 45 37.9	+0.1
TBLG				S	Sn	12 45 55.2	0.0
KUBR	Kubataba	1.28	0	⇓ePG	Pn	12 45 38.2	+0.2
KUBR				eS	Sn	12 45 56.5	+0.9
KUBR	Kubataba	1.28	0	ePg	Pn	12 45 38.2	+0.2
KUBR				eSg	Sn	12 45 56.5	+0.9
SEAG	Tbilisi Sea	1.28	125	P	Pg	12 45 37.8	-0.3
SEAG	Tbilisi Sea	1.28	125	P	Pg	12 45 37.8	-0.3
SEAG				S	Sb	12 45 54.9	0.0
KZR	Kazreti	1.36	146	P	Pn	12 45 38.6	-0.6
KZR	Kazreti	1.36	146	P	Pn	12 45 38.6	-0.6
KZR				S	Sn	12 45 56.7	-0.5
PRTR	Priterechnaya	1.39	27	⇓iPG	Pg	12 45 40.8	+0.7
PRTR				eS	Sn	12 45 59.3	+1.1
PRTR	Priterechnaya	1.39	27	iPg	Pg	12 45 40.8	+0.7
PRTR				eSg	Sn	12 45 59.3	+1.1
KIV	Kislovodsk	1.53	340	dePG	Pb	12 45 41.7	-0.6
KIV				eS	Sn	12 46 01.6	-0.2
KIV				pmax	pmax		
	comp=Z,63nm,1.2s						
KIV	Kislovodsk	1.53	340	ePg	Pb	12 45 41.7	-0.6
	comp=Z,63nm,1.2s						
KIV				eSg	Sn	12 46 01.6	-0.2
PYA	Pyatigorsk	1.54	351	iPG	Pg	12 45 42.4	-0.5
PYA				eS	Sg	12 46 02.5	-0.3
PYA	Pyatigorsk	1.54	351	iPg	Pg	12 45 42.4	-0.5
PYA				eSg	Sg	12 46 02.5	-0.3
ARTV	Artvin	1.73	220	iP	Pb	12 45 45.6	-0.2
ARTV				iS	Sg	12 46 09.5	+0.5
ARTV	Artvin	1.73	220	iP	Pb	12 45 45.6	-0.2
ARTV				iS	Sg	12 46 09.5	+0.5
DBOC	Borcka	1.75	228	iP	Pn	12 45 45.0	+0.6
DBOC				iS	Sg	12 46 10.2	+0.7
DBOC	Borcka	1.75	228	iP	Pn	12 45 45.0	+0.6
DBOC				iS	Sg	12 46 10.2	+0.7
DGRG	David-gareji	1.81	125	PN	Pg	12 45 47.7	-0.5
DGRG				S	Sn	12 46 13.4	+1.7
DGRG	David-gareji	1.81	125	P	Pg	12 45 47.7	-0.5
DGRG	David-gareji	1.81	125	P	Pg	12 45 47.7	-0.5
DGRG				Sg	Sn	12 46 13.4	+1.7
DAGI	Agillar	1.82	218	iP	Pb	12 45 47.3	0.0
DAGI				iS	Sg	12 46 11.7	-0.1
DBAD	Bademkaya	1.97	221	iP	Pb	12 45 49.1	-0.7
DBAD				iS	Sg	12 46 16.3	-0.4
DBAD	Bademkaya	1.97	221	iP	Pb	12 45 49.1	-0.7
DBAD				iS	Sg	12 46 16.3	-0.4
DDEM	Demirkent	2.04	218	iP	Pn	12 45 50.8	-0.3
DDEM				iS	Sg	12 46 18.7	-0.3
DDEM	Demirkent	2.04	218	iP	Pb	12 45 50.8	-0.3
DDEM				iS	Sg	12 46 18.7	-0.3
QZX	Qazax, Azerbai	2.07	134	⇓P	Pb	12 45 50.4	-1.1
QZX				⇓S	Sg	12 46 19.3	-0.7
BTLR	Botlikh	2.09	85	diPN	Pg	12 45 52.4	-1.0

BTLR	Botlikh	2.09	85	i Pn	Pg	12 45 52.4	-1.0
DIGO	Kars	2.10	181	i P	Pb	12 45 52.1	-0.1
DIGO				i S	Sg	12 46 20.8	-0.1
DIGO	Kars	2.10	181	i P	Pb	12 45 52.1	-0.1
DIGO				i S	Sg	12 46 20.8	-0.1
ZKTA	Zakatala	2.55	109	⇑P	Pb	12 45 58.0	-1.7
ZKTA				⇑S	Sg	12 46 34.6	-0.7
GNI	Garni	2.57	156	ePN	Pb	12 45 59.2	-0.9
GNI	Garni	2.57	156	ePn	Pb	12 45 59.2	-0.9
GANJ	Ganja	2.88	130	⇑P	Pn	12 46 00.5	+0.5
GANJ				⇓S	Sb	12 46 41.2	+0.3
SOC	Sochi	2.90	293	ePN	Pn	12 46 02.6	+2.3
SOC				e		12 46 07.5	
SOC				e		12 46 38.8	
SOC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SOC				smax	smax		
	comp=N,4.0nm,0.4s						
SOC				smax	smax		
	comp=E,8.0nm,0.4s						
SOC	Sochi	2.90	293	ePn	Pn	12 46 02.6	+2.3
	comp=E,5.0nm,0.6s						
SOC	Sochi	2.90	293	ePb	Pg	12 46 07.5	-1.6
SOC				eSn	Sb	12 46 38.8	-2.7
SEKA	Sheki	3.12	114	⇑P	Pn	12 46 05.8	+2.4
SEKA				⇓S	Sb	12 46 48.1	+0.3
PQL	Pirkuli	4.25	112	⇓P	Pn	12 46 22.0	+3.0
ANN	Anapa	4.89	300	ePN	Pn	12 46 28.6	+1.0
ANN				eS	Sn	12 47 27.2	+2.6
ANN				pmax	pmax		
	comp=Z,29nm,1.5s						
ANN	Anapa	4.89	300	ePn	Pn	12 46 28.6	+1.0
	comp=Z,29nm,1.5s						
ANN				eSn	Sn	12 47 27.2	+2.6
GLBA	Clilabad	5.00	129	⇓P	Pn	12 46 30.8	+1.7
LRK	Lerik	5.39	134	⇓P	Pn	12 46 37.3	+2.7

ISCJB 19 12:59:09.3±1.3,67.80N±0.05×34.0E±0.2,h0km,Error ellipse: s-maj=11.1km s-min=6.9km az=178.0
HEL 19 12:59:10.1±0.4,67.77N×34.10E,h0km,ML2.0,Explosion
IDC 19 12:59:11.9±1.9,67.66N×33.92E,h0km,mb1 3.6/3,mb1mx3.0/42,mbtmp3.6/3,ML2.8/2,Error ellipse: s-maj=21.5km s-min=11.2km az=78.0
ISC 19 12:59:11.0±2.2,67.75N±0.06×33.9E±0.1,h0km,n10,σ0.87/16,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRF	Varrio	1.63	272	eP	Pn	12 59 40.3	-0.7
VRF				eS	Sn	13 00 02.5	-0.1
VRF				MSG		13 00 07.6	
	comp=Z,11nm,0.1s						
KU6	Riekki	2.35	224	eP	Pn	12 59 50.6	-0.2
KU6				eS	Sn	13 00 20.6	+0.4
MSF	Maaselka	2.67	228	eP	Pn	12 59 55.9	+0.7
MSF				eS	Sn	13 00 29.8	+1.7
SGF	Sodankyl	2.84	267	eP	Pn	12 59 57.1	-0.4
SGF				eS	Sn	13 00 32.0	-0.4
KEV	Kevo	3.21	312	eP	Pn	13 00 04.3	+1.7
KEV				eS	Sn	13 00 41.1	-0.4
ARCES	ARCESS Array B	3.55	304	Pn	Pn	13 00 07.9	+0.6
	comp=Z,0.7nm,0.3s,baz=118,slow=15,SNR=109						
ARCES				Sn	Sn	13 00 50.3	+0.4
	comp=Z,0.3nm,0.3s,baz=116,slow=26,SNR=2.6						
ARCES				Lg	Lg	13 01 06.8	
	comp=Z,2.2nm,0.3s,baz=116,slow=35,SNR=10						
HEF	Hetta	3.89	284	eP	Pn	13 00 12.2	+0.1
HEF				eS	Sn	13 00 57.8	-0.6
HEF				MSG		13 01 18.9	
	comp=Z,2.2nm,0.2s						
FINES	FINESS Array B	7.17	212	Pn	Pn	13 00 55.9	-1.0
	baz=31,slow=12,SNR=2.2						
FINES				Lg	Lg	13 02 50.8	
	comp=Z,0.2nm,0.3s,baz=26,slow=26,SNR=4.8						
I43RU	DUBNA INFRASON	11.18	171	i		14 12 40.0	
	baz=360,slow=342,SNR=0.4						
SPITS	Spitsbergen Ar	11.57	342	Pn	Pn	13 01 56.2	-0.9
	baz=164,slow=16,SNR=2.6						

IDC 19 12:59:40.7±1.5,14.02N×60.50W,h52km±8km,mb3.5/7,mb1 3.7/8,mb1mx3.4/41,mbtmp3.7/8,Error ellipse: s-maj=21.8km s-min=11.0km az=103.0
ISCJB 19 12:59:41.7±0.5,14.02N±0.02×60.50W±0.08,h73km±5km,mb3.6/7,Error ellipse: s-maj=12.8km s-min=2.9km az=178.3
TRN 19 12:59:42.2,14.02N×60.57W,h59km,MD3.9,M3.6(FDF)
ISC 19 12:59:42.3±1.0,14.03N±0.03×60.52W±0.08,h64km±7km,n46,σ0.98/61,mb3.8/7,4C-5D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H05S1	Guadeloupe/Mar	0.50	322	P	Pn	12 59 54.7	+0.1
H05S1				S	Sn	13 00 02.3	-1.3
MCLT	Moule a Chique	0.52	232	eP	Pn	12 59 54.7	-0.2
MCLT				eS	Sn	13 00 04.2	+0.2
SLB	Belfond	0.54	248	eP	Pn	12 59 55.9	+0.7
LPMF	Morne Lapointe	0.69	322	eP	Pn	12 59 57.3	+0.5
BIM	Bigot	0.72	312	⇑iP	Pn	12 59 56.5	-0.6
BIM				eS	Sn	13 00 08.5	+0.4
BVM	Bellevue	0.88	323	eP	Pn	13 00 00.1	+1.0
FDF	Fort de France	0.93	319	⇓iP	Pn	13 00 00.1	+0.4
FDF				eS	Sn	13 00 13.5	+1.0
BHS	Barnard House	0.94	219	eP	Pn	13 00 00.5	+0.7
BHS				eS	Sn	13 00 13.3	+0.7
SSV	Crater Summit	0.96	223	eP	Pn	13 00 01.0	+0.9
SVV	Soufriere Volc	0.98	224	eP	Pn	13 00 00.5	+0.2
SVV				eS	Sn	13 00 14.2	+0.5
SVB	Belmont	1.03	223	eP	Pn	13 00 01.4	+0.3
SVB				eS	Sn	13 00 15.6	+0.6
FCV	Fort Charlotte	1.12	219	eP	Pn	13 00 03.0	+0.9
FCV				eS	Sn	13 00 16.6	-0.2
DSHT	Scott's Head	1.44	325	eP	Pn	13 00 06.3	0.0
DBCT	Belle View Cho	1.47	327	eP	Pn	13 00 06.9	0.0
DLPL	La Plaine	1.47	332	eP	Pn	13 00 07.0	+0.2
DLPL				eS	Sn	13 00 25.5	+0.2
BBL	Barber's Block	1.75	328	⇓eP	Pn	13 00 11.3	+0.7
MGG	Marie-Galante	2.03	338	⇓iP	Pn	13 00 14.5	+0.2
TBG	Guadaloupe-3	2.11	329	eP	Pn	13 00 16.4	+1.0
GRW	Mount Saint Ca	2.16	211	⇑eP	Pn	13 00 17.2	+1.0
GRW				eS	Sn	13 00 41.8	-0.2
HMG	Houelmont	2.25	330	⇑eP	Pn	13 00 19.0	+1.7
PHG	Guadaloupe-2	2.25	331	eP	Pn	13 00 18.4	+0.9
SCG	Saint Claude	2.28	331	eP	Pn	13 00 19.3	+1.5
SCG				eS	Sn	13 00 47.4	+2.5
LKG	Breislack	2.29	331	eP	Pn	13 00 18.8	+0.8
TAG	Tarade	2.29	331	eP	Pn	13 00 19.1	+1.2
DEG	La Desirade	2.33	347	⇓iP	Pn	13 00 18.0	-0.4
DEG				eS	Sn	13 00 47.5	+1.5
H05N1	Guadeloupe/Mar	2.33	347	P	Pn	13 00 17.8	-0.6
H05N1				S	Sn	13 00 45.8	-0.2
LZG	Guadaloupe-1	2.42	330	eP	Pn	13 00 21.0	+1.4
SEG	Port Louis	2.54	338	⇓iP	Pn	13 00 22.4	+1.1
TOSP	Speyside	2.71	180	eP	Pn	13 00 25.5	+1.9
TOSP				eS	Sn	13 00 56.1	+0.8
TPR	Prospect	2.84	185	eP	Pn	13 00 25.7	+0.4
TPR	Prospect	2.84	185	e	Pn	13 00 49.1	+24
TPR				eS	Sn	13 00 58.3	-0.1
BOT	Bacolet	2.85	184	eP	Pn	13 00 26.5	+1.0
BOT				eS	Sn	13 00 59.4	+0.7
TRN	Trinidad (W)	3.47	194	⇑iP	Pn	13 00 35.5	+1.5
TRN				eS	Sn	13 01 13.1	-0.7
TCE	Chacachacare	3.52	200	eP	Pn	13 00 35.4	+0.7
TBH	Brigand Hill	3.56	189	eP	Pn	13 00 35.5	+0.2
TBH				eS	Sn	13 01 16.6	+0.4
PCRV	Puerto La Cruz	5.55	227	P	Pn	13 01 02.6	+0.1
	1.1nm,0.3s,baz=70,slow=2.3,SNR=6.3						
PCRV				S	Sn	13 02 02.5	-2.6
	1.2nm,0.3s,baz=180,slow=18,SNR=3.6						
APG	El Apazote	28.99	276	P	P	13 05 38.0	+1.5
	2.3nm,0.7s,baz=108,slow=20,SNR=5.9						
TXAR	Lajitas Array	42.63	298	P	P	13 07 33.2	+0.4
	0.1nm,0.5s,baz=116,slow=2.9,SNR=3.6						
ULM	Lac du Bonnet	46.14	329	P	P	13 07 58.6	-1.7
	1.7nm,0.5s,baz=131,slow=7.1,SNR=5.5						
H10S3	ASCENSION HYDR	50.91	114	T	T	14 04 02.6	
	baz=296,slow=74,SNR=15						
H10S1	ASCENSION HYDR	50.92	114	T	T	14 04 03.5	
	baz=296,slow=74,SNR=16						
H10S2	ASCENSION HYDR	50.93	114	T	T	14 04 01.8	
	baz=296,slow=74,SNR=12						
NVAR	Mina Array Bea	56.26	307	P	P	13 09 16.9	+0.4
	0.4nm,0.7s,baz=89,slow=6.9,SNR=3.7						
TORD	Torodi Ar. Bea	60.32	83	P	P	13 09 44.2	-0.8
	1.0nm,1.1s,baz=278,slow=6.5,SNR=2.9						
YKA	Yellowknife Ar	61.47	335	P	P	13 09 51.2	-0.8
	0.8nm,0.6s,baz=106,slow=7.5,SNR=21						
ILAR	Eielson Array	75.88	334	P	P	13 11 21.2	-0.4
	0.3nm,0.4s,baz=82,slow=4.5,SNR=7.3						

IDC 19 13:02:28.0±4.7,2.94S×140.68E,h0km,mb3.3/2,mb1 3.8/3,mb1mx3.3/28,mbtmp3.5/3,ML4.0/1,Error ellipse: s-maj=175.3km s-min=28.4km az=90.0
DJA 19 13:02:40.1±0.7,3°S±6°×14°0E±°,h40km±9km,M4.2/5,MLv4.2/5
ISC 19 13:02:38.5±1.1,3.17S±0.09×140.08E±0.10,h54km,n8,σ1.59/9,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	Genyem	0.58	9	P	Pn	13 02 51.8	+0.8
GENI				S	Sn	13 03 02.1	+2.1
JAY	Jayapura	0.90	44	P	Pn	13 02 55.8	+0.7
WAMI	Wamena	1.54	242	P	Pn	13 03 04.9	+1.2
WAMI				S	Sn	13 03 24.7	+2.1
SMPI	Sarmi	1.80	310	P	Pn	13 03 06.8	-0.4
SRPI	Serui, Papua	4.05	288	P	Pn	13 03 43.1	+5.1
WRA	Warramunga Arr	17.59	198	P	Pn	13 06 39.0	-1.1
	0.5nm,0.3s,baz=19,slow=12,SNR=29						
WRA				S	Sn	13 09 44.5	-11
	0.1nm,0.3s,baz=16,slow=24,SNR=4.5						
ASAR	Alice Springs	21.24	196	P	P	13 07 19.8	-0.5
	0.7nm,0.5s,baz=21,slow=9.4,SNR=32						
MKAR	Makanchi Array	70.99	322	P	P	13 13 49.1	-1.5
	0.2nm,0.7s,baz=116,slow=6.6,SNR=3.0						

IDC 19 13:02:52.6±1.4,6.93N×77.67W,h0km,mb3.2/1,mb1 3.4/2,mb1mx3.2/29,mbtmp3.3/2,ML1.9/1,Error ellipse: s-maj=62.7km s-min=35.4km az=51.0,Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	3.91	122	Pn	Pn	13 03 54.3	-0.2
	1.9nm,0.3s,baz=75,slow=20,SNR=2.2						
ROSC				Sn	Sn	13 04 35.6	-5.9
	1.6nm,0.3s,baz=273,slow=20,SNR=3.6						
YKA	Yellowknife Ar	61.67	342	P	P	13 13 12.0	-0.1
	0.2nm,0.5s,baz=134,slow=6.8,SNR=7.7						
ASAR	Alice Springs	145.42	238	PKPbc	PKPbc	13 22 32.8	-0.7
	0.4nm,0.8s,baz=126,slow=4.2,SNR=5.7						
WRA	Warramunga Arr	146.37	244	PKPbc	PKPdf	13 22 35.6	+0.4
	0.2nm,0.9s,baz=100,slow=4.6,SNR=3.3						

MAN 19 13:18:43,17.60N×122.36E,h25km,mb4.8,ML3.7,MS3.7,1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CVP	Callao Caves	0.52	281	⇓iP	Pn	13 18 54.3	-0.5
CVP				i S	Sb	13 19 01.7	+0.9
SGCP	Mt. Cagua	0.70	335	eP	Pn	13 18 57.6	+0.2
SGCP				eS	Sn	13 19 08.0	+0.6
CAUP	Cauayan	0.83	218	eP	Pn	13 18 59.7	+0.6
CAUP				eS	Sn	13 19 12.7	+2.2
APYP	Conner	1.09	284	eP	Pn	13 19 02.8	+0.1
APYP				eS	Sb	13 19 17.6	+0.5
ABRA	Dolores	1.57	272	eP	Pn	13 19 08.0	-1.3
PIP	Pasuquin	1.80	294	⇑eP	Pn	13 19 13.5	+1.0
BALP	Baler	2.00	202	eP	Pn	13 19 14.8	-0.3
BOLP	Bolinao	2.63	243	eP	Pn	13 19 25.2	+1.2

ISCJB 19 13:29:10.5±1.3,67.82N±0.04×34.2E±0.2,h0km,Error ellipse: s-maj=10.6km s-min=6.0km az=11.1
HEL 19 13:29:11.1±0.7,67.75N×34.36E,h0km,ML2.5,Explosion
KOLA 19 13:29:13.1,67.61N×34.22E,h0km
IDC 19 13:29:13.8±1.9,67.66N×33.72E,h0km,mb1 3.5/3,mb1mx3.0/40,mbtmp3.5/3,ML2.6/3,Error ellipse: s-maj=20.8km s-min=9.5km az=82.0
ISC 19 13:29:09.7±1.9,67.68N±0.05×34.46E±0.10,h0km,n12,σ1.58/22,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APA	Apatity	0.42	255	P	Pg	13 29 18.6	+0.9
APA				S	Sg	13 29 22.8	-0.3
APA0	Apatity Array	0.56	263	P	Pg	13 29 21.5	+1.0
APA0				S	Sg	13 29 27.5	-0.3
VRF	Varrio	1.85	274	eP	Pn	13 29 42.9	+0.3
VRF				eS	Sn	13 30 05.3	-1.4
VRF				MSG		13 30 08.7	
	comp=Z,26nm,0.2s						
KU6	Riekki	2.45	229	eP	Pn	13 29 52.0	+1.1
KU6				eS	Sb	13 30 24.3	-1.0
MSF	Maaselka	2.79	233	eP	Pn	13 29 57.1	+1.7
MSF				eS	Sn	13 30 31.2	+1.5
SGF	Sodankyl	3.05	269	eP	Pn	13 29 59.3	+0.2
SGF				eS	Sn	13 30 36.7	+0.4
KEV	Kevo	3.42	311	eP	Pn	13 30 05.5	+1.3
KEV				eS	Sn	13 30 44.8	-0.6
ARCES	ARCESS Array B	3.77	304	Pn	Pn	13 30 10.0	+1.0
	comp=Z,0.9nm,0.3s,baz=119,slow=14,SNR=109						
ARCES				Pg	Pb	13 30 18.0	+1.0
	comp=Z,1.4nm,0.3s,baz=118,slow=17,SNR=17						
ARCES				Sn	Sn	13 30 51.1	-2.9
	comp=Z,1.9nm,0.3s,baz=116,slow=27,SNR=11						
ARCES				Lg	Lg	13 31 03.8	
	comp=Z,6.8nm,0.3s,baz=117,slow=28,SNR=15						
HEF	Hetta	4.12	285	eP	Pn	13 30 13.9	+0.1
HEF				eS	Sn	13 31 01.0	-1.6
HEF				MSG		13 31 16.8	
	comp=Z,13nm,0.2s						
FINES	FINESS Array B	7.22	214	Pn	Pn	13 30 56.6	+0.3
	comp=Z,0.1nm,0.3s,baz=30,slow=12,SNR=5.5						
FINES				Sn	Sn	13 32 14.6	-4.3
	comp=Z,0.2nm,0.3s,baz=33,slow=22,SNR=3.5						
FINES				Lg	Lg	13 32 51.0	
	comp=Z,0.5nm,0.3s,baz=35,slow=27,SNR=5.9						
I43RU	DUBNA INFRASON	11.07	172	i		14 42 40.0	
	baz=358,slow=338,SNR=0.4						
SPITS	Spitsbergen Ar	11.71	342	Pn	Pn	13 31 56.3	-1.4
	baz=149,slow=20,SNR=5.2						

NEIC 19 13:31:11.4,19.48N×64.77W,h0km,MD3.5(RSPR),After RSPR.
RSPR 19 13:31:11.4,19.48N×64.77W,h0km±4km,MD3.5/3,6C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABV	Anegada	0.85	151	⇑eP	Pg	13 31 27.1	-0.7
ABV	Anegada	0.85	151	eS	Sb	13 31 40.1	-1.0
ABVI	Anegada Island	0.85	151	⇑eP	Pg	13 31 27.1	-0.6
ABVI				eS	Sb	13 31 40.1	-0.9
TBVI	Tortola	1.07	172	⇑eP	Pg	13 31 30.6	-1.3
TBVI				eS	Sg	13 31 45.2	-0.5
TBVI	Tortola	1.07	172	⇑eP	Pg	13 31 30.6	-1.3
TBVI				eS	Sg	13 31 45.2	-0.5
CBYP	Canovanas	1.58	221	⇑eP	Pn	13 31 37.9	-2.9
CBYP	Canovanas	1.58	221	⇑eP	Pn	13 31 37.9	-2.9
CBYP				eS	Sn	13 31 58.3	-3.7
CDVI	St. Croix	1.72	180	ePn	Pn	13 31 40.5	-2.1
CDVI				eSn	Sn	13 32 04.7	-0.5
CELP	Cerrillos	2.21	231	ePn	Pn	13 31 46.5	-2.8
CELP				eSn	Sn	13 32 16.2	-1.3
OBIP	Obispado Ponce	2.25	231	ePn	Pn	13 31 49.0	-0.9
OBIP				eSn	Sn	13 32 16.5	-1.9
LRS	Lares	2.29	239	ePn	Pn	13 31 49.8	-0.7
LRS				eSn	Sn	13 32 18.1	-1.5
ICMP	Isla Caja de M	2.30	227	ePn	Pn	13 31 48.8	-1.7
ICMP				eSn	Sn	13 32 18.7	-0.9
LSP	Las Mesas	2.55	240	Pn	Pn	13 31 52.9	-1.1
LSP				eSn	Sn	13 32 24.7	-1.1
SDDR	Presa de Saban	6.18	266	ePn	Pn	13 32 42.5	-1.5
SDDR				eSn	Sn	13 33 54.2	-1.3

IDC 19 13:35:08.3±12.0,51.79S×139.13E,h0km,mb3.5/3,mb1 3.7/4,mb1mx3.6/24,mbtmp3.4/4,Error ellipse: s-maj=322.1km s-min=68.5km az=123.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	19.98	6	P	Pn	13 39 44.1	+0.3
	baz=162,slow=9.6,SNR=2.5						
ASAR	Alice Springs	28.37	350	P	P	13 41 03.9	-0.2
	0.3nm,0.9s,baz=166,slow=10,SNR=5.0						
WRA	Warramunga Arr	32.01	351	P	P	13 41 34.6	-1.7
	0.4nm,1.0s,baz=172,slow=7.4,SNR=4.7						
CMAR	Chiang Mai Arr	78.24	321	P	P	13 47 10.3	+0.6
	0.4nm,0.3s,baz=176,slow=7.3,SNR=4.0						

ISC 19 13:39:27.7±1.3,45.22N±0.04×16.22E±0.06,h5km±12km,n7,σ0.67/12,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SISC	Sisak	0.27	23	ePg	Pg	13 39 32.9	0.0
SISC				Sg	Sg	13 39 37.3	+0.7
BOJS	Bojanci	0.74	293	i Pg	Pg	13 39 41.7	-0.1
BOJS				i Sg	Sg	13 39 51.9	+0.4
UDBI	Udbina	0.77	205	ePg	Pg	13 39 42.6	+0.3
UDBI				Sg	Sg	13 39 52.0	-0.3
GOLS	Golise	0.89	332	i Pg	Pn	13 39 46.3	-0.6
GOLS				i Sg	Sg	13 39 58.7	+0.8
LEGS	Legarje	0.96	319	i Sg	Sg	13 39 59.1	+0.4
VISS	Visnje	1.13	301	i Pg	Pb	13 39 49.0	-0.8
NVLJ	Novalja	1.16	236	ePg	Pn	13 39 50.3	-0.2
NVLJ				Sg	Sn	13 40 07.8	+0.9

IDC 19 13:43:32.4±2.0,9.89S×124.67E,h0km,mb3.4/1,mb1 3.9/3,mb1mx3.4/38,mbtmp3.6/3,ML3.7/2,Error ellipse: s-maj=34.8km s-min=15.6km az=164.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	1.04	252	Pg	Pn	13 43 54.3	0.0
	142nm,0.3s,baz=72,slow=2.5,SNR=349						
BATI				Lg	Lg	13 44 04.6	
	909nm,0.3s,baz=198,slow=19,SNR=116						
WRA	Warramunga Arr	13.68	138	Pn	Pn	13 46 47.1	-0.7
	0.4nm,0.3s,baz=318,slow=14,SNR=20						
WRA				Sn	Sn	13 49 11.8	-8.9
	0.5nm,0.3s,baz=316,slow=23,SNR=9.1						
ASAR	Alice Springs	16.30	148	Pn	Pn	13 47 22.3	-0.6
	0.3nm,0.3s,baz=321,slow=12,SNR=41						
ASAR				Sn	Sn	13 50 14.5	-10
	0.2nm,0.3s,baz=311,slow=21,SNR=7.4						
MKAR	Makanchi Array	67.90	330	P	P	13 54 32.8	-0.1
	0.2nm,0.7s,baz=120,slow=7.9,SNR=3.5						

ISCJB 19 13:46:17.5±0.4,9.36S±0.05×118.61E±0.03,h102km,mb3.7/3,Error ellipse: s-maj=6.9km s-min=3.7km az=18.3
DJA 19 13:46:19.7±0.3,9°S±4°×11°9E±°,h61km±9km,M4.3/14,mb4.5/5,mB4.9/3,MLv4.1/14,Mw(mB)4.2/3
IDC 19 13:46:20.4±8.7,8.28S×119.05E,h71km±82km,mb3.3/4,mb1 3.2/5,mb1mx3.1/39,mbtmp3.5/5,ML4.6/1,Error ellipse: s-maj=86.9km s-min=31.1km az=62.0
ISC 19 13:46:18.3±0.7,9.37S±0.06×118.62E±0.04,h102km,n29,σ2.03/33,mb3.7/3,1C,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.80	109	P	Pn	13 46 36.6	-0.3
WBSI				S	Sn	13 46 49.6	-1.3
WSI	Waingapu	1.68	100	P	Pn	13 46 47.5	+0.6
WSI				S	Sn	13 47 08.9	+0.3
WSI	Waingapu	1.68	100	P	Pn	13 46 47.4	+0.6
	baz=1.3,SNR=7.5						
BASI	Baing, Sumba	2.10	114	P	Pn	13 46 53.7	+1.5
BASI				S	Sn	13 47 19.9	+1.7
DNP	Denpasar	3.44	281	S	Sn	13 47 51.7	+1.8
SRBI	Singaraja	3.60	291	P	Pn	13 47 12.1	-0.1
SRBI				S	Sn	13 47 54.1	+0.2
MMRI	Maumere	3.65	79	P	Pn	13 47 14.3	+1.6
MMRI				S	Sn	13 47 57.0	+2.1
BKSI	Bulukumba	4.29	20	P	Pn	13 47 23.0	+1.6
BKSI				S	Sn	13 48 09.8	-0.7
BATI	Baumata	5.04	100	P	Pn	13 47 33.3	+1.7
	32nm,0.5s,1μm0.2nm						
BATI	Baumata	5.04	100	P	Pn	13 47 33.0	+1.4
	24nm,0.3s,baz=276,slow=3.0,SNR=6.5						
BATI				S	Sn	13 48 28.1	-0.5
	8.1nm,0.3s,baz=229,slow=20,SNR=4.4						
BLJI	Banyuglugur	5.23	288	P	Pn	13 47 33.9	-0.2
	92nm,0.8s,2μm0.4nm						
GMJI	Gumukmas	5.23	282	P	Pn	13 47 32.9	-1.3
	26nm,0.4s,1μm0.2nm						
SOEI	Soe	5.58	94	P	Pn	13 47 40.4	+1.4
	48nm,0.9s,0.2nm						
SOEI	Soe	5.58	94	P	Pn	13 47 40.3	+1.2
	baz=5.2,SNR=12						
TTSI	Tana Toraja	6.40	11	P	Pn	13 47 51.4	+1.4
UGM	Wanagama	8.14	280	P	Pn	13 48 15.0	+1.3
	baz=8.5,SNR=4.6						
UGM				S	Sn	13 49 41.0	-3.2
	baz=8.5,SNR=3.9						
FITZ	Fitzroy Crossi	11.03	143	S	Sn	13 50 47.6	-6.8
	baz=11,SNR=5.9						
KNRA	Kununurra	11.71	123	S	Sn	13 51 08.7	-2.3
	baz=11,SNR=4.3						
MTN	Manton Dam	12.75	107	P	Pn	13 49 15.9	0.0
	baz=12,SNR=4.3						
MTN				S	Sn	13 51 29.5	-6.8
	baz=12,SNR=4.7						
GIRL	Giralia	13.85	197	P	Pn	13 49 32.4	+2.1
	baz=14,SNR=7.8						
PMBI	Palembang	15.18	294	S	S	13 52 43.0	-2.2
	baz=16,SNR=3.7						
MEEK	Meekatharra	17.17	180	P	P	13 50 15.8	+3.9
	baz=17,SNR=5.4						
MEEK				⇑S	Sn	13 53 06.0	-17
	baz=17,SNR=4.0						
WRKA	Warakurna	18.10	151	S	S	13 53 37.4	-7.0
	baz=18,SNR=3.3						
WRA	Warramunga Arr	18.46	126	P	Pn	13 50 32.7	+5.2
	baz=305,slow=13,SNR=2.0						
MORW	Morawa	19.74	187	P	Pn	13 50 51.5	+9.0
	baz=20,SNR=4.4						
MORW				S	S	13 54 06.3	-11
	baz=20,SNR=6.3						
ASAR	Alice Springs	20.38	136	P	Pn	13 50 58.8	+8.7
	0.4nm,0.3s,baz=314,slow=15,SNR=3.2						
SONM	Songino Array	57.98	350	P	P	13 56 00.4	+0.1
	0.5nm,0.5s,baz=166,slow=8.6,SNR=4.9						
MKAR	Makanchi Array	64.62	333	P	P	13 56 44.6	-0.3
	0.4nm,0.6s,baz=151,slow=6.0,SNR=9.3						
ZALV	Zalesovo Beam	69.25	339	P	P	13 57 13.4	-0.7
	0.5nm,0.4s,baz=145,slow=5.3,SNR=2.8						

NEIC 19 13:46:43.6±0.4,56.45S×27.30W,h35km,mb4.9/2,Error ellipse: s-maj=16.5km s-min=11.5km az=48.0
ISCJB 19 13:46:50.2±0.7,56.6S±0.1×27.3W±0.2,h112km,mb4.3/8,Error ellipse: s-maj=20.5km s-min=14.4km az=139.6
IDC 19 13:46:50.1±5.7,56.53S×27.12W,h90km±50km,mb4.0/7,mb1 4.0/8,mb1mx3.9/22,mbtmp4.2/8,MS3.2/1,Ms1 3.2/1,ms1mx2.8/20,Error ellipse: s-maj=22.4km s-min=18.4km az=53.0
ISC 19 13:46:52.2±0.7,56.55S±0.1×27.3W±0.2,h112km,n16,σ0.85/19,mb4.2/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	18.31	155	P	P	13 50 56.1	-1.1
	0.2nm,0.3s,baz=309,slow=14,SNR=8.7						
SNAA				LR	LR	13 56 24.3	
	comp=Z,78nm,19.1s,baz=27,slow=31						
QSPA	South Pole Qui	33.71	180	P	P	13 53 22.8	+0.5
	2.3nm,0.6s,baz=226,slow=0.9,SNR=28						
QSPA				PcP	PcP	13 55 59.5	+0.4
	0.7nm,0.4s,baz=25,slow=1.2,SNR=9.0						
CPUP	Villa Florida	37.11	312	P	P	13 53 50.5	-1.1
	0.9nm,0.4s,baz=146,slow=10,SNR=3.7						
CPUP				PcP	PcP	13 56 09.8	+0.3
	1.0nm,0.5s,baz=34,slow=3.6,SNR=3.1						
LVC	Limon Verde	45.51	301	eP	P	13 54 59.0	-1.6
	4.8nm,0.3s						

BOSA Boshof 46.13 75 P P 13 55 04.6 -0.7
2.3nm,0.9s,baz=173,slow=7.7,SNR=3.6
LBTB Lobatse 49.19 73 P P 13 55 28.5 -0.4
3.2nm,0.8s,baz=203,slow=15,SNR=4.0
LPAZ La Paz 50.63 306 P P 13 55 41.7 +1.3
7.8nm,0.4s,baz=118,slow=4.9,SNR=50
LPAZ PcP PcP 13 56 57.6 +1.2
2.6nm,0.7s,baz=87,slow=3.6,SNR=5.1
LPAZ La Paz 50.63 306 eP P 13 55 40.0 -0.4
8.6nm,0.4s
LPAZ PcP PcP 13 56 57.6 +1.2
TORD Torodi Ar. Bea 73.50 29 P P 13 58 12.9 +0.5
1.7nm,0.4s,baz=200,slow=6.2,SNR=35
ASAR Alice Springs 98.53 163 P Pdif 14 00 17.7 -0.4
0.3nm,0.8s,baz=183,slow=4.2,SNR=6.7
WRA Warramunga Arr 102.25 162 P Pdif 14 00 34.8 +0.2
0.2nm,0.9s,baz=173,slow=7.6,SNR=2.8
NVAR Mina Array Bea 121.55 293 PKP PKPdf 14 05 32.2 +0.2
0.5nm,0.6s,baz=132,slow=2.6,SNR=3.4
FINES FINESS Array B 124.84 28 PKP PKPdf 14 05 37.5 +0.3
1.5nm,0.8s,baz=146,slow=3.7,SNR=6.3
YKA Yellowknife Ar 136.51 318 PKP PKPdf 14 05 59.3 +0.1
0.5nm,0.5s,baz=131,slow=2.2,SNR=16
ILAR Eielson Array 150.41 311 PKPbc PKPbc 14 06 29.1 +0.3
5.3nm,0.8s,baz=137,slow=4.6,SNR=58
SONM Songino Array 150.79 87 PKPbc PKPbc 14 06 30.2 -0.3
0.5nm,0.5s,baz=213,slow=4.1,SNR=9.5

ISCJB 19 13:49:42.4±1.2, 48.°5N±0.°1×155.°0E±0.°2, h65km±13km, mb3.1/5, Error ellipse: s-maj=28.4km s-min=6.2km az=43.4
KRSC 19 13:49:42.4±1.0, 48.°39N×156.°48E, h24km±10km, ML4.0
MOS 19 13:49:42.2±1.5, 48.°49N×154.°87E, h65km, mb4.3/1, Error ellipse: s-maj=31.9km s-min=10.5km az=67.4
IDC 19 13:49:44.6±3.4, 48.°41N×154.°89E, h70km±33km, mb3.1/5, mb1 3.4/7, mb1mx3.1/38, mbtmp3.5/7, ML3.2/2, Error ellipse: s-maj=38.9km s-min=21.8km az=139.0
ISC 19 13:49:43.1±1.9, 48.°4N±0.°2×155.°1E±0.°2, h57km±19km, n39, σ1.°59/40, mb3.3/5, 1C, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SKR Severo-Kuril's 2.37 15 ePN Pn 13 50 16.5 -3.0
SKR eS Sn 13 50 44.0 -3.3
SKR pmax pmax
comp=Z,80nm,0.5s
SKR smax smax
comp=N,150nm,0.5s
SKR smax smax
comp=E,90nm,0.5s
SKR Severo-Kuril's 2.37 15 P Pn 13 50 19.6 +0.1
SKR S Sn 13 50 49.1 +1.8
PAU Pauzhetka 3.25 19 PN Pn 13 50 33.5 +1.9
PAU S Sn 13 51 09.9 +0.9
PAU Pauzhetka 3.25 19 P Pn 13 50 33.5 +1.9
PAU S Sn 13 51 09.9 +0.9
ASAK Asacha 4.36 23 P Pn 13 50 47.8 +1.0
MTVR Mutnovka 4.52 24 P Pn 13 50 49.7 +0.6
MTVR S Sn 13 51 40.0 -0.5
RUS Russkaya 4.57 27 PN Pn 13 50 49.3 -0.4
RUS S Sn 13 51 39.5 -2.0
RUS Russkaya 4.57 27 P Pn 13 50 49.3 -0.4
RUS S Sn 13 51 39.4 -2.0
APC Apacha 4.70 15 P Pn 13 50 53.5 +2.0
PETK Petropavlovsk- 4.98 18 PN Pn 13 50 57.1 +1.8
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 4.98 18 P Pn 13 50 57.1 +1.8
comp=Z,0.8nm,0.3s,baz=174,slow=12,SNR=50
PET Petropavlovsk 5.13 25 ePN Pn 13 50 59.6 +2.2
PET eS Sn 13 51 56.3 +1.1
PET pmax pmax
comp=Z,5.0nm,0.5s
PET smax smax
comp=E,28nm,0.7s
PET smax smax
comp=N,23nm,0.5s
PET Petropavlovsk 5.13 25 P Pn 13 50 58.5 +1.1
PET S Sn 13 51 54.3 -0.9
UGLR Uglovaya 5.35 25 P Pn 13 51 01.2 +0.8
KOK Koryaka 5.37 23 P Pn 13 51 02.5 +1.8
AVH Avacha 5.37 24 P Pn 13 51 02.6 +1.9
SMAR Somma 5.39 24 P Pn 13 51 01.8 +0.7
KRER Koryakskii 5.41 24 P Pn 13 51 02.3 +0.9
SDLR Sedlovina 5.43 25 P Pn 13 51 02.1 +0.6
KRX Arik 5.43 23 P Pn 13 51 02.8 +1.2
NLC Nalytchevo 5.47 28 S Sn 13 52 00.7 -2.7
GNL Ganaly 5.58 17 P Pn 13 51 06.5 +2.9
KUR Kuril'sk 5.91 240 ⇑iPN Pn 13 51 07.7 -0.3
KUR iS Sn 13 52 14.1 -0.2
KUR pmax pmax
comp=Z,31nm,1.3s
KUR pmax pmax
comp=N,32nm,1.2s
KUR pmax pmax
comp=E,8.0nm,1.2s
KUR smax smax
comp=N,31nm,1.5s
KUR smax smax
comp=E,19nm,0.5s
ASAJ Asahikawa 9.68 248 PN Pn 13 51 59.5 -0.1
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 9.68 248 P Pn 13 51 59.5 -0.1
comp=Z,0.5nm,0.3s,baz=85,slow=23,SNR=5.0
KSRS Korea Array 22.61 251 P P 13 54 38.3 -0.6
comp=Z,0.8nm,0.5s,baz=51,slow=10.0,SNR=3.5
H11N2 WAKE ISLAND Hy 30.15 158 T T 14 27 27.4
baz=345,slow=76,SNR=17
H11N1 WAKE ISLAND Hy 30.16 158 T T 14 27 30.0
baz=345,slow=76,SNR=17
H11N3 WAKE ISLAND Hy 30.16 157 T T 14 27 35.3
baz=345,slow=76,SNR=9.6
H11S1 WAKE ISLAND Hy 31.27 158 T T 14 28 59.0
baz=345,slow=76,SNR=236
H11S3 WAKE ISLAND Hy 31.28 159 T T 14 28 55.5
baz=345,slow=76,SNR=266
H11S2 WAKE ISLAND Hy 31.29 158 T T 14 28 52.3
baz=345,slow=76,SNR=131
MKAR Makanchi Array 47.40 297 P P 13 58 10.3 -1.2
comp=Z,0.3nm,0.7s,baz=48,slow=4.3,SNR=5.0
WRA Warramunga Arr 70.54 201 P P 14 00 50.9 -0.9
comp=Z,0.4nm,0.9s,baz=16,slow=6.0,SNR=3.3
ASAR Alice Springs 74.22 200 P P 14 01 13.9 +0.2
comp=Z,0.3nm,0.9s,baz=14,slow=5.1,SNR=3.1
TXAR Lajitas Array 75.50 62 P P 14 01 22.7 +1.3
comp=Z,0.2nm,0.6s,baz=309,slow=5.0,SNR=3.5
H03N2 Juan Fernandez 137.39 90 T T 16 42 07.6
baz=308,slow=75,SNR=11
H03N1 Juan Fernandez 137.41 90 T T 16 42 08.8
baz=308,slow=75,SNR=8.3
H03N3 Juan Fernandez 137.41 90 T T 16 42 03.4
baz=308,slow=75,SNR=9.0

IDC 19 14:15:57.8±4.3, 3.°04S×102.°25E, h0km, mb3.2/4, mb1 3.3/4, mb1mx3.2/34, mbtmp3.2/4, Error ellipse: s-maj=182.1km s-min=24.0km az=56.0, Southern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 35.53 121 P P 14 22 56.4 -0.6
0.1nm,0.7s,baz=312,slow=11,SNR=3.4
ASAR Alice Springs 36.83 127 P P 14 23 08.4 +0.3
0.2nm,0.8s,baz=303,slow=7.6,SNR=5.1
SONM Songino Array 50.80 4 P P 14 25 00.7 +0.7
0.3nm,0.4s,baz=179,slow=9.3,SNR=5.0
MKAR Makanchi Array 52.66 343 P P 14 25 13.2 -0.7
0.2nm,0.8s,baz=143,slow=7.4,SNR=3.7

ISCJB 19 14:25:28.8±0.8, 40.°87N±0.°04×143.°25E±0.°07, h49km±12km, mb3.2/2, Error ellipse: s-maj=9.8km s-min=5.1km az=29.9
JMA 19 14:25:28.2±0.3, 40.°88N×143.°14E, h21km±5km, M3.3
IDC 19 14:25:32.0±4.5, 41.°23N×141.°99E, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.1/27, mbtmp3.3/4, ML2.6/2, Error ellipse: s-maj=90.8km s-min=27.3km az=112.0
ISC 19 14:25:29.4±2.2, 40.°85N±0.°06×143.°25E±0.°07, h38km±3km, n18, σ1.°03/26, 2C, Off east coast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JEM Erimo 1.17 357 P Pn 14 25 48.9 -0.3
JEM eS Sn 14 26 03.7 -0.2
JTH Tanohata 1.40 230 P Pn 14 25 52.1 -0.2
JANG Nango 1.40 251 ⇑P Pn 14 25 51.9 -0.6
JNBK Urakawa-nobuka 1.48 346 P Pn 14 25 53.8 +0.3
JTM Tenmabayashi 1.66 269 P Pn 14 25 55.6 -0.3
JTM eS Sn 14 26 15.5 -0.5
JOT Ohata 1.75 288 ⇑P Pn 14 25 56.6 -0.6
JOT eS Sn 14 26 16.9 -1.3
JCH Churui 1.77 3 P Pn 14 25 57.7 +0.3
JCH eS Sn 14 26 19.3 +0.7
JKB Kayabe 1.97 303 P Pn 14 25 59.7 -0.5
JKB eS Sn 14 26 23.0 -0.5
JOM Ohasama 2.04 228 P Pn 14 26 02.1 +1.0
JFR Furan 2.36 348 eS Sn 14 26 35.0 +1.6
JAK Akkeshi 2.40 26 P Pn 14 26 06.0 -0.1
JAK S Sn 14 26 32.9 -1.4
JEW Eniwo 2.40 327 P Pn 14 26 07.4 +1.2
JEW eS Sn 14 26 36.1 +1.8
JMK Ichinoseki 2.46 220 P Pn 14 26 08.3 +1.4
JAR Ashorobuto 2.48 9 P Pn 14 26 06.9 -0.3
JAR eS Sn 14 26 34.2 -2.0
ASAJ Asahikawa 3.30 352 Pn Pn 14 26 20.0 +1.5
0.4nm,0.3s,baz=187,slow=15,SNR=12
ASAJ Sn Sn 14 26 55.8 -0.7
0.5nm,0.3s,baz=240,slow=20,SNR=4.3
MJAR Matsushiro Arr 5.83 224 Pn Pn 14 26 55.6 +2.2
0.3nm,0.3s,baz=32,slow=13,SNR=5.7
ZALV Zalesovo Beam 40.51 309 P P 14 33 04.8 +0.4
0.3nm,0.3s,baz=86,slow=7.4,SNR=2.4
MKAR Makanchi Array 43.41 299 P P 14 33 27.4 -0.9
0.2nm,0.7s,baz=73,slow=7.9,SNR=3.9

GUC 19 15:01:25.7±0.3, 20.°90S×69.°10W, h103km±2km, ML3.7, 4C, Northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PB01 Plate Boundary 0.39 249 ⇑iP Pn 15 01 41.5 +0.3
PB01 iS Sn 15 01 53.4 +0.5
PB01 AML AML 15 01 54.9
comp=E,6μm,0.3s
PB09 Plate Boundary 0.90 189 ⇑iP Pn 15 01 46.1 +0.5
PB09 iS Sn 15 02 01.4 +0.9
PB09 AML AML 15 02 03.5
comp=N,3μm,0.4s
HMBC Humberstone 0.97 310 ⇑iP Pn 15 01 46.6 +0.4
HMBC iS Sn 15 02 02.4 +0.8
HMBC AML AML 15 02 03.1
comp=N,3μm,0.2s
PATCX Punta Patache 0.99 274 ⇑iP Pn 15 01 47.0 +0.6
PATCX iS Sn 15 02 02.8 +0.8
PATCX AML AML 15 02 04.5
comp=N,2μm,0.2s
PB07 Plate Boundary 1.10 222 iP Pn 15 01 48.0 +0.3
PB07 AML AML 15 02 04.6
comp=N,909nm,0.2s
PB07 iS Sn 15 02 05.2 +0.9
PB11 Plate Boundary 1.25 335 iP Pn 15 01 49.9 +0.5
PB11 iS Sn 15 02 08.3 +1.0
MNMC Minimini 1.82 345 eP Pn 15 01 57.3 +0.8
MNMC eS Sn 15 02 21.3 +1.3
MNMC AML AML 15 02 23.6
comp=N,737nm,0.2s
PB06 Plate Boundary 1.85 194 AML AML 15 02 21.5
comp=E,383nm,0.4s

ISCJB 19 15:02:36.6±0.9, 17.°8S±0.°2×178.°6W±0.°2, h579km, mb3.2/5, Error ellipse: s-maj=33.6km s-min=19.3km az=136.3
IDC 19 15:02:39.0±5.4, 17.°82S×178.°56W, h596km±69km, mb2.8/6, mb1 3.1/6, mb1mx2.8/28, mbtmp3.8/6, Error ellipse: s-maj=38.7km s-min=21.1km az=172.0
ISC 19 15:02:37.5±0.9, 17.°8S±0.°2×178.°6W±0.°2, h579km, n6, σ0.°59/8, mb3.2/5, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 20.78 190 P P 15 06 39.0 -0.1
6.4nm,1.0s,baz=0.0,slow=10,SNR=15
WRA Warramunga Arr 44.49 259 P P 15 09 59.0 +0.3
0.4nm,0.5s,baz=96,slow=7.1,SNR=24
WRA PcP PcP 15 11 28.7 -0.7
0.4nm,1.1s,baz=90,slow=3.8,SNR=4.6
ASAR Alice Springs 44.67 254 P P 15 10 00.6 +0.5
1.2nm,0.5s,baz=87,slow=9.1,SNR=53
ASAR PcP PcP 15 11 29.4 -0.5
0.2nm,0.8s,baz=102,slow=3.5,SNR=4.8
NVAR Mina Array Bea 79.43 44 P P 15 13 45.5 +0.7
0.3nm,0.7s,baz=234,slow=8.3,SNR=3.2
ILAR Eielson Array 85.77 13 P P 15 14 15.3 -0.5
0.2nm,0.4s,baz=215,slow=5.3,SNR=9.0
TXAR Lajitas Array 86.06 58 P P 15 14 18.0 -0.1
0.4nm,0.7s,baz=231,slow=6.2,SNR=6.0

MEX 19 15:08:44.1±0.7, 17.°36N×100.°24W, h10km, MD3.8, Guerrero

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CAIG El Cayaco 0.31 185 eP Pg 15 08 49.4 -1.0
CAIG iS Sg 15 08 54.8 +0.2
ACP2 Acapulco 0.59 145 eP Pg 15 08 52.6 -3.0
ACP2 eS Sg 15 09 00.5 -2.8
ACX Acapulco 0.61 143 eP Pg 15 08 54.5 -1.5
ACX iS Sg 15 09 02.5 -1.5
MEIG Mezcala 0.81 46 iP Pg 15 08 57.2 -2.8
MEIG eS Sg 15 09 08.5 -2.2
ARIG Puente Sto Nin 0.92 354 eP Pg 15 08 59.4 -2.5
ARIG iS Sg 15 09 11.7 -2.3
ZIIG Zihuatanejo 1.20 282 eP Pb 15 09 03.9 -3.0
ZIIG iS Sb 15 09 18.8 -3.6
PLIG Platanillo 1.24 34 eP Pn 15 09 04.5 -3.2
PLIG eS Sb 15 09 20.2 -3.8
TLIG Tlapa 1.61 83 iP Pn 15 09 09.3 -3.4
TLIG iS Sn 15 09 28.8 -5.0
YAIG Yautepec 1.86 37 iP Pn 15 09 13.0 -3.3
YAIG eS Sn 15 09 35.6 -4.5
PNIG Pinotepa 2.24 115 eP Pn 15 09 19.0 -2.3
PNIG eS Sn 15 09 45.6 -3.4

ISCJB 19 15:32:21.4±1.2, 49.°5S±0.°1×126.°2E±0.°4, h10km, mb3.5/4, Error ellipse: s-maj=34.2km s-min=18.8km az=179.8
IDC 19 15:32:21.7±1.4, 49.°45S×125.°81E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/26, mbtmp3.9/5, ML2.6/1, Error ellipse: s-maj=64.0km s-min=22.8km az=97.0
ISC 19 15:32:23.0±1.3, 49.°5S±0.°2×126.°0E±0.°3, h10km, n9, σ0.°73/6, mb3.6/4, Western Indian-Antarctic Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H01W1 Cape Leeuwin H 16.95 325 T T 15 53 41.4
baz=151,slow=75,SNR=12
H01W2 Cape Leeuwin H 16.95 325 T T 15 53 47.2
baz=151,slow=75,SNR=8.2
H01W3 Cape Leeuwin H 16.96 325 T T 15 53 47.8
baz=151,slow=75,SNR=11
NWAO Narrogin (SRO) 17.75 335 P P 15 36 30.8 -0.1
0.9nm,0.3s,baz=153,slow=12,SNR=10
STKA Stephens Creek 21.11 40 P P 15 37 07.5 -0.2
1.1nm,0.6s,baz=202,slow=5.4,SNR=3.2
ASAR Alice Springs 26.48 17 P P 15 38 00.5 +0.1
1.9nm,0.6s,baz=193,slow=8.6,SNR=64
WRA Warramunga Arr 30.20 16 P P 15 38 33.2 -0.3
0.3nm,0.5s,baz=195,slow=8.1,SNR=7.4
QSPA South Pole Qui 40.67 180 P P 15 40 02.8 -0.3
2.0nm,1.0s,baz=328,slow=2.7,SNR=4.0
YKA Yellowknife Ar 145.08 45 PKPbc PKPdf 15 52 00.4 +1.2
0.3nm,0.5s,baz=271,slow=4.0,SNR=8.3

ISCJB 19 15:43:38.6±0.6, 6.°80S±0.°04×129.°68E±0.°05, h139km, mb2.9/1, Error ellipse: s-maj=7.3km s-min=5.5km az=17.2
IDC 19 15:43:41.1±5.5, 6.°94S×129.°61E, h163km±52km, mb2.7/1, mb1 3.1/4, mb1mx2.8/30, mbtmp3.5/4, Error ellipse: s-maj=48.8km s-min=21.6km az=55.0
ISC 19 15:43:39.1±0.8, 6.°89S±0.°06×129.°72E±0.°07, h139km, n13, σ2.°10/19, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FAKI Fak Fak 4.68 33 P Pn 15 44 49.5 +1.3
baz=4.7,SNR=46
FAKI S Sn 15 45 39.4 -2.5
baz=4.7,SNR=5.9
MTN Manton Dam 6.07 167 P Pn 15 45 10.9 +4.2
baz=6.3,SNR=20
MTN S Sn 15 46 17.9 +2.7
baz=6.3,SNR=12
SOEI Soe 6.10 242 P Pn 15 45 09.1 +1.9
baz=6.0,SNR=4.7
SOEI S Sn 15 46 17.3 +1.2
baz=6.0,SNR=4.4
SWI Sorong 6.18 14 P Pn 15 45 08.7 +0.5
baz=6.2,SNR=4.0
KDU Kakadu 6.36 155 P Pn 15 45 15.2 +4.7
baz=6.6,SNR=35
KDU S Sn 15 46 24.0 +1.9
baz=6.6,SNR=7.3
BATI Baumata 6.84 241 P Pn 15 45 18.1 +1.2
7.2nm,0.3s,baz=122,slow=2.2,SNR=9.8
BATI S Sn 15 46 32.9 -0.7
4.3nm,0.3s,baz=164,slow=3.8,SNR=6.8
KNRA Kununurra 8.78 186 P Pn 15 45 44.5 +1.5
baz=8.9,SNR=8.9
KNRA S Sn 15 47 16.7 -3.8
baz=8.9,SNR=5.9
FITZ Fitzroy Crossi 11.83 199 P Pn 15 46 23.5 -0.1
baz=12,SNR=15
WRA Warramunga Arr 13.72 161 P Pn 15 46 48.7 +0.7
0.2nm,0.3s,baz=344,slow=13,SNR=14
WRA S Sn 15 49 15.4 -4.4
0.9nm,0.3s,baz=330,slow=23,SNR=12
COEN Coen 14.97 119 P P 15 47 11.2 +5.4
baz=15,SNR=8.5
ASAR Alice Springs 17.15 167 P Pn 15 47 31.2 +0.6
0.1nm,0.3s,baz=350,slow=10.0,SNR=17
ASAR S S 15 50 40.6 -1.2
0.2nm,0.3s,baz=353,slow=28,SNR=8.2
WRKA Warakurna 18.09 184 P Pn 15 47 43.6 +1.8
baz=18,SNR=7.7
WRKA S S 15 50 59.3 -1.3
baz=18,SNR=4.0
MKAR Makanchi Array 67.99 327 P P 15 54 22.5 -0.8
0.1nm,0.4s,baz=126,slow=7.6,SNR=4.7

MAN 19 15:45:00, 18.°20N×120.°60E, h27km, mb4.3, ML3.1, MS2.9, 2D, Luzon

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PIP Pasuquin 0.12 7 ⇓iP Pn 15 45 07.2 +1.0
PIP eS Sb 15 45 13.2 +4.6
SIPP Brgy, Tapao 0.31 206 ⇓iP Pb 15 45 06.2 -1.2
SIPP eS Sb 15 45 11.2 -1.2
ABRA Dolores 0.56 169 eP Pn 15 45 12.8 +0.6
ABRA eS Sb 15 45 19.6 +0.6
APYP Conner 0.70 119 eP Pn 15 45 14.7 +0.6
APYP eS Sn 15 45 25.9 +1.9

ISCJB 19 15:49:59.5±0.5, 19.°83S±0.°04×69.°06W±0.°08, h109km±6km, mb4.0/5, Error ellipse: s-maj=12.3km s-min=6.1km az=176.2
GUC 19 15:50:00.9±0.4, 19.°88S×69.°20W, h103km±3km, ML4.7
IDC 19 15:50:01.2±0.8, 19.°90S×68.°93W, h108km±6km, mb3.9/7, mb1 4.1/10, mb1mx3.8/32, mbtmp4.3/10, Error ellipse: s-maj=20.0km s-min=18.2km az=59.0
ISC 19 15:50:00.6±0.6, 19.°86S±0.°04×69.°12W±0.°08, h104km±5km, n30, σ0.°93/37, mb4.2/5, 6C-1D, Northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PB11 Plate Boundary 0.51 280 ⇑iP Pn 15 50 16.9 -0.1
PB11 iS Sn 15 50 29.2 -0.2
PB11 AML AML 15 50 29.8
comp=E,46μm,0.2s
HMBC Humberstone 0.83 240 ⇑iP Pn 15 50 19.5 -0.3
HMBC iS Sn 15 50 34.2 0.0
HMBC AML AML 15 50 36.8
comp=E,13μm,0.4s
MNMC Minimini 0.85 328 ⇑iP Pn 15 50 20.8 +0.7
MNMC iS Sn 15 50 35.6 +0.9
MNMC AML AML 15 50 36.1
comp=E,25μm,0.4s
PSGC Pisagua 0.98 285 ⇑iP Pn 15 50 21.1 -0.1
PSGC iS Sn 15 50 36.4 -0.3
PB01 Plate Boundary 1.23 196 ⇑iP Pn 15 50 24.4 +0.4
PB01 iS Sn 15 50 42.0 +0.3
PB01 AML AML 15 50 44.1
comp=N,23μm,0.4s
PATCX Punta Patache 1.36 225 ⇑iP Pn 15 50 25.5 -0.1
PATCX iS Sn 15 50 44.0 -0.4
PATCX AML AML 15 50 53.3
comp=E,7μm,0.5s
PB09 Plate Boundary 1.94 183 ⇓eP Pn 15 50 33.5 +0.8
PB09 iS Sn 15 50 58.2 +1.1
PB09 AML AML 15 51 03.3
comp=N,18μm,0.6s
PB07 Plate Boundary 2.00 201 iP Pn 15 50 33.9 +0.4
PB07 iS Sn 15 50 59.2 +0.7
PB07 AML AML 15 51 07.4
comp=E,6μm,0.4s
MACH Maria Elena 2.40 194 iP Pn 15 50 39.8 +0.9
MACH iS Sn 15 51 09.4 +1.3
LPAZ La Paz 3.67 15 P Pn 15 50 58.3 +2.3
comp=E,4.3nm,0.3s,baz=191,slow=7.0,SNR=57
SIV San Ignacio 8.57 65 P Pn 15 51 60.0 -2.0
comp=E,8.9nm,0.3s,baz=267,slow=11,SNR=122
CFAA Coronel Fontan 11.73 176 P Pn 15 52 43.8 -0.8
comp=E,0.0nm,0.3s,baz=152,slow=1.5,SNR=3.3
CPUP Villa Florida 12.62 123 P Pn 15 52 55.4 -1.0
comp=E,0.9nm,0.3s,baz=276,slow=12,SNR=18
BDFB Brasilia 20.53 82 P P 15 54 29.9 -1.1
comp=E,7.0nm,0.7s,baz=269,slow=12,SNR=8.1
PLCA Paso Flores 20.85 183 P P 15 54 34.3 +0.1
comp=E,4.2nm,0.8s,baz=356,slow=9.0,SNR=6.0
DBIC Dimbokro 68.47 74 P P 16 00 51.4 -0.7
comp=E,11nm,0.9s,baz=202,slow=7.9,SNR=11
ULM Lac du Bonnet 73.70 342 P P 16 01 22.6 -0.3
comp=E,1.1nm,0.6s,baz=344,slow=3.7,SNR=3.4
NVAR Mina Array Bea 74.08 322 P P 16 01 26.9 +1.2
comp=E,0.6nm,0.8s,baz=154,slow=8.0,SNR=4.2
TORD Torodi Ar. Bea 77.00 71 P P 16 01 41.2 -1.4
comp=E,3.2nm,0.7s,baz=253,slow=5.2,SNR=16
TORD pP pP 16 02 09.6 +0.4
comp=E,2.9nm,1.0s,baz=253,slow=5.1,SNR=3.5
YKA Yellowknife Ar 89.58 341 P P 16 02 46.6 +0.6
comp=E,1.4nm,0.8s,baz=134,slow=4.7,SNR=33
YKA pP pP 16 03 13.4 +0.2
comp=E,1.4nm,0.9s,baz=136,slow=4.7,SNR=6.9
H11S2 WAKE ISLAND Hy 127.46 278 T T 18 28 45.1
baz=102,slow=75,SNR=34
H11S1 WAKE ISLAND Hy 127.47 278 T T 18 28 46.6
baz=102,slow=75,SNR=36
H11S3 WAKE ISLAND Hy 127.48 278 T T 18 28 46.5
baz=102,slow=75,SNR=34
H11N3 WAKE ISLAND Hy 127.50 280 T T 18 28 43.9
baz=101,slow=74,SNR=21
H11N2 WAKE ISLAND Hy 127.51 280 T T 18 28 50.6
baz=101,slow=74,SNR=22
H11N1 WAKE ISLAND Hy 127.51 280 T T 18 28 54.7
baz=101,slow=74,SNR=8.0
ASAR Alice Springs 131.26 208 PKP PKPdf 16 09 02.0 +0.6
comp=E,0.2nm,0.9s,baz=135,slow=1.7,SNR=4.3
WRA Warramunga Arr 134.25 212 PKP PKPdf 16 09 06.5 -0.6
comp=E,0.5nm,0.7s,baz=150,slow=1.6,SNR=8.0
MKAR Makanchi Array 144.41 34 PKP PKPdf 16 09 24.9 +0.1
comp=E,0.2nm,0.6s,baz=290,slow=2.7,SNR=4.3
MKAR pPKP pPKPdf 16 09 54.3 +1.2
comp=E,0.3nm,0.7s,baz=319,slow=2.7,SNR=2.8
SONM Songino Array 151.85 6 PKPbc PKPbc 16 09 44.5 +1.1
comp=E,0.2nm,0.6s,baz=293,slow=1.5,SNR=2.5
SONM pPKPbc pPKPbc 16 10 13.1 +1.3
comp=E,0.4nm,0.6s,baz=306,slow=0.7,SNR=3.0

DMN 19 16:14:46.6±0.3, 31.°27N×83.°49E, h10km, Ml4.8/9, Error ellipse: s-maj=7.6km s-min=4.4km az=45.0
IDC 19 16:14:49.5±0.7, 30.°55N×83.°94E, h0km, mb4.0/18, mb1 4.1/21, mb1mx4.0/39, mbtmp3.9/21, ML3.8/3, MS3.9/22, Ms1 3.9/22, ms1mx3.8/31, Error ellipse: s-maj=22.8km

s-min=13.3km az=43.0
BJI 19 16:14:51.4, 30.68N×83.81E, h8km, mB4.6/16, mb4.2/26, Ms4.4/23, Ms7 4.1/22
MOS 19 16:14:51.6±1.8, 30.52N×83.69E, h22km, mb4.3/27, Error ellipse: s-maj=10.3km s-min=4.9km az=112.6
ISCJB 19 16:14:52.2±0.2, 30.70N±0.03×83.70E±0.03, h18km, mb4.0/40, MS3.8/29, Error ellipse: s-maj=5.0km s-min=3.0km az=137.6
NDI 19 16:14:55.0±2.9, 30.61N×83.87E, h33km, ML4.0, mb4.2(NEIC)
NEIC 19 16:14:55.8±0.6, 30.68N×83.85E, h43km±7km, mb4.2/8, Error ellipse: s-maj=10.2km s-min=5.2km az=55.0
ISC 19 16:14:52.8±0.3, 30.56N±0.03×83.71E±0.03, h18km, n143, σ2.04/145, mb4.2/40, MS3.9/29, 6C-2D, Xizang

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

DANN Dangsing 2.21 179 ePn Pb 16 15 31.5 -0.8
DANN Dangsing 2.21 179 ePn Pb 16 15 31.5 -0.8
GKN Gorkha 2.68 162 ePn Pb 16 15 38.0 -2.3
GKN Gorkha 2.68 162 ePn Pb 16 15 38.0 -2.3
KOLN Koldanda 2.78 182 ePn Pn 16 15 39.5 +2.8
KOLN Koldanda 2.78 182 ePn Pn 16 15 39.5 +2.8
KKN Kakani 3.09 153 ePn Pn 16 15 43.4 +2.6
KKN eSn Sb 16 16 25.7 +1.0
573nm,0.6s
KKN Kakani 3.09 153 eP Pn 16 15 43.4 +2.6
KKN e 16 16 25.7
KKN Kakani 3.09 153 ePn Pn 16 15 43.4 +2.6
KKN eSn Sb 16 16 25.7 +1.0
DMN Daman 3.19 157 ePn Pn 16 15 44.9 +2.6
DMN eSn Sb 16 16 27.9 +0.2
1μm,0.7s
DMN Daman 3.19 157 ePn Pn 16 15 44.9 +2.6
DMN eSn Sb 16 16 27.9 +0.2
LGTI Lohaghat 3.20 251 ex Pb 16 15 58.1 +9.1
LGTI ex x 16 16 48.2
GUN Gumba 3.25 144 ePn Pn 16 15 45.9 +2.6
GUN eSn Sb 16 16 29.3 -0.4
2μm,0.8s
GUN Gumba 3.25 144 ePn Pn 16 15 45.9 +2.6
GUN eSn Sb 16 16 29.3 -0.4
PKIN Phulchoki 3.32 153 ePn Pn 16 15 46.6 +2.5
PKIN eSn Sb 16 16 32.0 +0.4
628nm,0.5s
PKI Pulchoki 3.33 153 ePn Pn 16 15 46.6 +2.3
PKI eSn Sb 16 16 31.9 0.0
1μm,1.0s
PKI Pulchoki 3.33 153 eP Pn 16 15 46.6 +2.3
PKI e 16 16 31.9
PKI Pulchoki 3.33 153 ePn Pn 16 15 46.6 +2.3
PKI eSn Sb 16 16 31.9 0.0
PKI eSn Sb 16 16 32.0 0.0
JIRN Jiri 3.62 142 ePn Pn 16 15 50.6 +2.3
JIRN eSn Sb 16 16 37.6 -2.6
378nm,0.4s
JIRN Jiri 3.62 142 ePn Pn 16 15 50.6 +2.3
JIRN eSn Sb 16 16 37.6 -2.6
RAMN Ramite 4.41 144 ePn Pn 16 16 00.9 +1.9
RAMN eSn Sn 16 16 55.9 +5.9
718nm,0.8s
RAMN Ramite 4.41 144 ePn Pn 16 16 00.9 +1.9
RAMN eSn Sn 16 16 55.9 +5.9
TAPN Taplejung 4.75 131 ePn Pn 16 16 05.7 +1.9
TAPN eSn Sn 16 17 03.2 +4.7
997nm,1.4s
TAPN Taplejung 4.75 131 ePn Pn 16 16 05.7 +1.9
TAPN eSn Sn 16 17 03.2 +4.7
DDI Dehra Dun 4.88 269 eP Pn 16 16 09.5 +4.2
DDI eS Sn 16 17 01.7 +0.2
DDI AML AML 16 17 38.7
comp=N,341nm,0.2s
DDI AML AML 16 17 39.4
comp=E,338nm,0.9s
ODAN Odare 4.91 138 ePn Pn 16 16 07.8 +1.9
ODAN eSn Sn 16 17 08.3 +6.0
comp=E,169nm,0.4s
ODAN Odare 4.91 138 ePn Pn 16 16 07.8 +1.9
ODAN eSn Sn 16 17 08.3 +6.0
SMLA Simla 5.65 277 eP Pn 16 16 19.8 +3.9
SMLA eS Sn 16 17 18.5 -1.8
NDI New Delhi 5.95 253 eP3 Pn 16 16 25.0 +5.0
BHK Bhakra 6.32 280 ex Pg 16 16 56.5 +2.8
LSA Lhasa 6.51 96 Pn Pn 16 16 30.9 +2.9
LSA Sn Sn 16 17 45.3 +3.2
LSA LR LR
comp=E,4μm,12.0s
LSA LR LR
comp=E,3μm,10.2s
LSA Lhasa 6.51 96 eP Pn 16 16 30.0 +2.0
LSA Lhasa 6.51 96 ePn Pn 16 16 30.0 +2.0
DHRM DHARAMSHALA 6.55 287 eP Pn 16 16 30.4 +2.0
DHRM ex x 16 17 44.8
BOK Bokaro 7.01 163 eP Pn 16 16 35.9 +1.2
BOK ex x 16 17 54.5
SHL Shillong 8.77 123 eP Pn 16 16 57.0 -1.9
SHL ex x 16 19 28.0
AJM Ajmer 8.95 245 eP Pn 16 17 11.0 +10
BHPL Bhopal 9.20 219 eP Pn 16 17 05.8 +1.3
BHPL ex x 16 18 47.3
CHCP Chirah Chowk 9.38 292 P Pn 16 17 09.3 +2.3
NGP Nagpur 10.27 205 eP Pn 16 17 20.2 +1.0
NGP eS Sn 16 19 08.5 -5.4
CEP Cherat 10.51 291 P Pn 16 17 25.8 +3.2
CEP S Sn 16 19 17.0 -3.0
KBL Kabul 12.99 292 eP Pn 16 17 57.1 +0.5
KBL Kabul 12.99 292 ePn Pn 16 17 57.1 +0.5
WMQ Urumqi 13.61 12 P P 16 18 14.3 +0.5
WMQ sP 16 18 21.1
WMQ pP 16 18 21.1
WMQ PP PnPn 16 18 26.3 +13
WMQ S Sn 16 20 27.4 -8.2
WMQ sS S 16 20 39.3 -19
WMQ PcS PcS 16 27 31.3 +26
WMQ Urumqi 13.61 12 ScS ScS 16 31 02.0 +22
WMQ pmax pmax
comp=Z,12nm,1.0s
WMQ pmax pmax
comp=Z,130nm,4.0s
WMQ LR LR
comp=N,590nm,14.0s
WMQ LR LR
comp=E,2μm,14.0s
WMQ LR LR
comp=Z,250nm,22.0s
HYB Hyderabad 13.90 201 eP Pn 16 18 05.5 -3.5
HYB eS Sn 16 20 34.0 -9.0
HYB Hyderabad 13.90 201 i P Pn 16 18 05.5 -3.5
HYB eS Sn 16 20 34.0 -9.0
HYB Hyderabad 13.90 201 eP Pn 16 18 05.5 -3.5
HYB eS Sn 16 20 34.0 -9.0
TKM2 Tokmak 2 13.93 335 P Pn 16 18 07.0 -2.5
TKM2 pmax pmax
comp=Z,15nm,1.4s
TKM2 Tokmak 2 13.93 335 ePn Pn 16 18 06.2 -3.2
AAK Ala-Archa 14.12 331 Pn Pn 16 18 13.3 +1.3
comp=Z,0.3nm,0.3s,baz=205,slow=8.5,SNR=7.9
AAK Ala-Archa 14.12 331 ePn Pn 16 18 11.9 -0.2
FRU Bishkek 14.24 332 eP Pn 16 18 22.0 +1.2
FRU eS Sn 16 21 00.0 +9.0
FRU pmax pmax
comp=Z,33nm,1.9s
EKS2 Erkin-Say 14.45 329 eP Pn 16 18 17.1 +0.6
EKS2 Erkin-Say 14.45 329 ePn Pn 16 18 17.1 +0.6
GTA Gaotai 15.86 52 eP P 16 18 38.8 -0.1
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,100nm,6.7s
GTA LR LR
comp=Z,1μm,14.2s
GTA LR LR
comp=Z,590nm,11.9s
GTA LR LR
comp=Z,630nm,12.6s
MK31 Makanchi Array 16.24 357 ceP P 16 18 42.6 -0.4
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 16.24 357 ePn Pn 16 18 40.2 +0.2
MKAR Makanchi Array 16.24 357 P Pn 16 18 39.1 -0.9
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR MLR MLR
comp=Z,15nm,28.6s
MKAR Makanchi Array 16.24 357 Pn Pn 16 18 39.1 -0.9
comp=Z,0.5nm,0.3s,baz=167,slow=11,SNR=33
MKAR LR LR 16 26 10.7
comp=Z,302nm,18.1s,baz=166,slow=42
KK31 Karatay Array 16.35 324 i P Pn 16 18 39.3 -2.1
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 16.35 324 eP Pn 16 18 39.1 -2.2
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 16.35 324 ePn Pn 16 18 39.1 -2.2
comp=Z,2.8nm,0.5s
KMI Kunming 17.68 103 P Pn 16 18 56.6 -1.8
KMI PP PnPn 16 19 15.4 +6.5
KMI S Sn 16 22 09.9 -5.1
KMI pmax pmax
comp=Z,20nm,0.9s
KMI LR LR
comp=Z,500nm,11.8s
KMI LR LR
comp=Z,620nm,11.7s
KMI LR LR
comp=Z,950nm,11.7s
LZH Lanzhou 17.70 67 eP Pn 16 18 58.9 +0.4
LZH pmax pmax
comp=Z,17nm,1.0s
CHTO Chiang Mai 18.10 127 eP Pn 16 19 01.3 -2.1
CHTO pmax pmax
comp=Z,11nm,1.1s
CHTO Chiang Mai 18.10 127 eP Pn 16 19 01.3 -2.1
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 18.35 128 P P 16 19 03.6 -2.7
comp=Z,0.1nm,0.3s,baz=311,slow=12,SNR=15
CMAR LR LR 16 26 59.2
comp=Z,393nm,20.3s,baz=327,slow=40
KURK Kurchatov 20.49 351 c i P P 16 19 29.3 -0.2
KURK pmax pmax
comp=Z,20nm,1.0s
KURK Kurchatov 20.49 351 eP P 16 19 28.3 -1.3
comp=Z,20nm,1.0s
XAN Xi'an 21.58 74 P P 16 19 39.8 -1.7
XAN pP pP 16 19 50.5 +3.8
XAN sP sP 16 19 55.8 +6.8
XAN S S 16 23 44.4 +4.4
XAN pmax pmax
comp=Z,5.0nm,1.1s
XAN pmax pmax
comp=Z,26nm,5.0s
XAN LR LR
comp=Z,300nm,15.4s
XAN LR LR
comp=Z,64nm,15.4s
XAN LR LR
comp=Z,120nm,19.5s
HVS Khovu-Aksy 21.86 17⇓ i P P 16 19 46.7 +2.3
HVS pmax pmax
comp=Z,23nm,1.3s
ENH Enshi 22.23 84 eP P 16 19 47.4 -1.1
comp=Z,7.1nm,0.9s
ZALV Zalesovo Beam 23.38 2 P P 16 19 59.1 -1.2
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV MLR MLR
comp=Z,15nm,28.6s
ZALV Zalesovo Beam 23.38 2 P P 16 19 59.0 -1.2
comp=Z,6.3nm,0.7s,baz=187,slow=12,SNR=29
ZALV LR LR 16 29 55.2
comp=Z,150nm,20.8s,baz=252,slow=39
NVS Novosibirsk 24.27 359 eP P 16 20 07.5 -1.2
BVAR Borovoye Array 24.46 340 P P 16 20 10.4 -0.1
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 24.46 340 P P 16 20 10.4 -0.1
comp=Z,1.8nm,0.8s,baz=132,slow=10,SNR=9.5
SONM Songino Array 24.49 39 P P 16 20 10.5 -0.5
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM MLR MLR
comp=Z,15nm,28.6s
SONM Songino Array 24.49 39 P P 16 20 10.5 -0.5
comp=Z,2.4nm,0.7s,baz=228,slow=8.7,SNR=32
SONM LR LR 16 31 43.2
comp=Z,82nm,21.9s,baz=134,slow=42
BRVK Borovoye 24.52 340 eP P 16 20 12.7 +1.7
BRVK pmax pmax
comp=Z,10.0nm,2.5s
ZAK Zakamensk 24.64 31 eP P 16 20 11.9 -0.4
ZAK pmax pmax
comp=Z,2.0nm,1.3s
ULN Ulaanbaatar 24.86 39 eP P 16 20 14.3 -0.1
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 24.86 39 eP P 16 20 11.9 -2.5
comp=Z,3.1nm,0.6s
TLY Talaya 25.74 29 eP P 16 20 29.1 +7.0
TLY e 16 21 21.5
TLY eS S 16 24 46.4 -3.8
TLY pmax pmax
comp=Z,5.0nm,1.7s
TLY MLR MLR
comp=Z,228nm,15.0s
AB31 Akbulak array 25.91 323 ceP P 16 20 24.9 +1.2
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 25.91 323 eP P 16 20 24.4 +0.8
comp=Z,4.3nm,0.6s
QIZ Qiongzhong 26.29 110 P P 16 20 24.3 -3.1
QIZ S S 16 24 55.8 -3.6
QIZ LR LR
comp=Z,350nm,15.4s
AKTO Aktyubinsk 27.62 323 P P 16 20 40.8 +1.7
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 27.62 323 P P 16 20 40.8 +1.7
comp=Z,0.8nm,0.5s,baz=126,slow=10,SNR=4.1
MAK Makhachkala 31.29 303 eP P 16 21 24.1 +12
MAK MLR MLR
comp=Z,428nm,16.0s
ARU Arti 31.30 333 c i P P 16 21 12.4 +0.8
ARU 16 22 12.5
ARU S S 16 26 20.2 +2.8
ARU SS SnSn 16 27 59.3 -1.4
ARU pmax pmax
comp=Z,10.0nm,1.7s
ZEI Tsey 33.88 302 eP P 16 21 33.5 -1.1
ZEI pmax pmax
comp=Z,7.0nm,1.3s
KBZ Khabaz 34.73 304 P P 16 21 43.1 +1.4
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 34.73 304 P P 16 21 43.1 +1.4
comp=Z,3.6nm,0.8s,baz=136,slow=6.3,SNR=10.0
KIV Kislovodsk 34.92 304⇓ eP P 16 21 42.2 -1.3
KIV pmax pmax
comp=Z,4.0nm,0.8s
KIV MLR MLR
comp=Z,145nm,18.0s
KSRS Korea Array 37.03 67 LR LR 16 38 37.9
comp=Z,303nm,18.6s,baz=274,slow=39
VRHR Novokhopersk 37.21 316 eP P 16 22 06.1 +3.2
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 38.59 315 eP P 16 22 16.8 +2.2
VORD pmax pmax
comp=Z,5.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.9s
VSR Storozhevoye 38.74 315 eP P 16 22 17.5 +1.8
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR pmax pmax
comp=Z,5.0nm,0.8s
JOW Kunigami 39.08 84 LR LR 16 38 29.1
comp=Z,10nm,18.9s,baz=302,slow=36
JNU Nakatsue 39.90 74 LR LR 16 39 29.9
comp=Z,142nm,19.8s,baz=256,slow=37
USRK Ussuriysk Arra 40.15 56 P P 16 22 25.9 -1.7
comp=Z,1.6nm,0.9s,baz=256,slow=5.3,SNR=4.2
USRK LR LR 16 40 30.2
comp=Z,212nm,20.3s,baz=263,slow=38
OBN Obninsk 41.30 320⇑ eP P 16 22 39.9 +2.9
OBN e 16 24 12.5
OBN pmax pmax
comp=Z,5.0nm,1.2s
OBN MLR MLR
comp=Z,247nm,16.0s
BRTR Keskin Array B 41.49 297 P P 16 22 40.9 +1.9
BRTR pmax pmax
comp=Z,2.0nm,1.2s
BRTR MLR MLR
comp=Z,15nm,28.6s
BRTR Keskin Array B 41.49 297 P P 16 22 40.9 +1.9
comp=Z,2.2nm,1.1s,baz=120,slow=7.3,SNR=6.4
BRTR LR LR 16 42 32.9
comp=Z,75nm,19.6s,baz=82,slow=40
KLMR Klimovskoe 41.93 329 eP P 16 22 44.5 +2.5
KLMR pmax pmax
comp=Z,25nm,1.6s
YAK Yakutsk 43.21 30 eP P 16 22 53.1 +0.6
YAK pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 44.83 313 P P 16 23 06.5 +0.8
AKASG MLR MLR
comp=Z,16nm,28.6s
AKASG Malin Array Be 44.83 313 P P 16 23 06.5 +0.8
comp=Z,0.2nm,0.3s,baz=80,slow=7.3,SNR=5.8
AKASG LR LR 16 43 34.9
comp=Z,119nm,21.1s,baz=80,slow=38
MJAR Matsushiro Arr 45.31 67 LR LR 16 43 33.1
comp=Z,156nm,19.2s,baz=280,slow=38
TIXI Tiksi 47.74 18 eP P 16 23 27.9 -0.2
TIXI pmax pmax
comp=Z,4.0nm,0.7s
TIXI MLR MLR
comp=Z,85nm,16.0s
TIXI Tiksi 47.74 18 eP P 16 23 26.8 -1.4
comp=Z,3.7nm,0.6s
FINES FINESS Array B 48.27 327 P P 16 23 31.8 -0.6
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES MLR MLR
comp=Z,207nm,19.1s
FINES FINESS Array B 48.27 327 P P 16 23 31.8 -0.6
comp=Z,3.1nm,0.7s,baz=110,slow=9.2,SNR=10
FINES LR LR 16 45 26.3
comp=Z,207nm,19.1s,baz=92,slow=38
ARCES ARCESS Array B 50.69 337 P P 16 23 51.4 +0.6
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES MLR MLR
comp=Z,16nm,28.6s
ARCES ARCESS Array B 50.69 337 P P 16 23 51.4 +0.6
comp=Z,2.6nm,0.7s,baz=82,slow=8.7,SNR=5.2
ARCES LR LR 16 46 50.6
comp=Z,160nm,18.1s,baz=148,slow=38
SEY Seymchan 53.60 32 eP P 16 24 12.9 +0.4
GERES GERESS Array B 54.92 311 P P 16 24 24.9 +2.4
comp=Z,0.1nm,0.4s,baz=123,slow=6.4,SNR=3.4
GERES LR LR 16 50 53.1
comp=Z,102nm,18.2s,baz=92,slow=39
NB2 NORSAR Subarra 55.37 326 P P 16 24 24.7 -0.8
comp=Z,1.5nm,0.8s,baz=88,slow=7.4
NOA NORSAR Array B 55.37 326 P P 16 24 24.3 -1.2
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,16nm,28.6s
NOA NORSAR Array B 55.37 326 P P 16 24 24.2 -1.2
comp=Z,1.8nm,0.8s,baz=89,slow=6.9,SNR=5.6
NOA LR LR 16 50 54.9
comp=Z,114nm,18.5s,baz=85,slow=39
PETK Petropavlovsk- 56.84 44 LR LR 16 50 43.9
comp=Z,66nm,18.2s,baz=270,slow=38
BILL Bilibino 59.28 26⇑ eP P 16 24 55.5 +2.6
BILL pmax pmax
comp=Z,1.0nm,1.0s
BILL MLR MLR
comp=Z,330nm,21.0s
ESDC Sonseca Array 69.58 305 LR LR 17 04 27.7
comp=Z,27nm,19.1s,baz=145,slow=43
SUMG Summit 69.87 344 eP P 16 26 06.1 +3.6
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 69.87 344 i P P 16 26 06.1 +3.6
comp=Z,3.9nm,0.9s
WRA Warramunga Arr 69.93 129 P P 16 26 02.3 -0.8
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 69.93 129 P P 16 26 02.3 -0.8
comp=Z,2.1nm,0.9s,baz=323,slow=6.4,SNR=14
WRAB Tennant Creek 69.93 129 eP P 16 26 02.4 -0.7
WRAB pmax pmax
comp=Z,21nm,1.7s
WRAB Tennant Creek 69.93 129 eP P 16 26 01.9 -1.2
comp=Z,4.4nm,0.9s
ASAR Alice Springs 72.28 132 P P 16 26 16.4 -1.0
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR MLR MLR
comp=Z,77nm,18.1s
ASAR Alice Springs 72.28 132 P P 16 26 16.4 -1.0
comp=Z,0.6nm,0.9s,baz=321,slow=6.1,SNR=7.8
ASAR LR LR 17 01 21.6
comp=Z,77nm,18.1s,baz=264,slow=39
TORD Torodi Ar. Bea 76.64 277 P P 16 26 42.8 -0.1
comp=Z,1.2nm,0.8s,baz=53,slow=4.8,SNR=6.6
TORD LR LR 17 04 27.6
comp=Z,103nm,18.4s,baz=85,slow=39
ILAR Eielson Array 77.15 20 P P 16 26 43.8 -1.2
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 77.15 20 P P 16 26 43.8 -1.2
comp=Z,0.7nm,0.7s,baz=307,slow=3.7,SNR=8.1
BOSA Boshof 81.04 229 LR LR 16 59 51.5
comp=Z,82nm,20.3s,baz=62,slow=33
STKA Stephens Creek 82.87 133 P P 16 27 14.6 -1.6
STKA pmax pmax
comp=Z,1.0nm,0.7s
STKA MLR MLR
comp=Z,16nm,28.6s
STKA Stephens Creek 82.87 133 P P 16 27 14.6 -1.6
comp=Z,1.4nm,0.7s,baz=315,slow=7.1,SNR=2.9
STKA LR LR 17 10 55.2
comp=Z,40nm,18.7s,baz=211,slow=41
DBIC Dimbokro 85.42 275 LR LR 17 10 44.0
comp=Z,108nm,18.6s,baz=37,slow=39
YKA Yellowknife Ar 86.11 8 P P 16 27 31.0 -1.2
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 86.11 8 P P 16 27 31.0 -1.2
comp=Z,1.2nm,0.7s,baz=337,slow=5.0,SNR=17
ULM Lac du Bonnet 99.54 360 LR LR 17 16 17.1
comp=Z,34nm,20.0s,baz=34,slow=37

IDC 19 16:41:08.6±1.1, 8.75S×80.01W, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.6/41, mbtmp3.6/6, ML3.9/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/20, Error ellipse: s-maj=29.8km s-min=22.6km az=41.0
ISCJB 19 16:41:12.2±0.9, 8.79S±0.07×80.10W±0.08, h39km, mb3.4/4, MS3.4/2, Error ellipse: s-maj=12.4km s-min=8.9km az=157.0
ISC 19 16:41:14.3±0.9, 8.74S±0.08×80.0W±0.1, h39km, n21, σ0.93/10, mb3.4/4, Off coast of northern Peru

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

ATAH Atahualpa 2.26 46 Pn Pn 16 41 49.3 -0.3
71nm,0.3s,baz=238,slow=3.4,SNR=285
ATAH Sn Sn 16 42 17.5 +1.0
52nm,0.3s,baz=259,slow=22,SNR=4.2
NNA Nana 4.50 136 Pn Pn 16 42 19.7 -0.3
5.2nm,0.3s,baz=270,slow=9.1,SNR=8.5
NNA Sn Sn 16 43 12.2 +1.0
6.1nm,0.3s,baz=139,slow=17,SNR=3.6
LPAZ La Paz 13.82 124 LR LR 16 50 25.5
comp=Z,92nm,18.5s,baz=41,slow=40
ROSC El Rosal 14.65 23 LR LR 16 51 41.1
comp=Z,102nm,19.8s,baz=274,slow=43
PCRV Puerto La Cruz 24.24 40 LR LR 16 57 17.6
comp=Z,120nm,20.9s,baz=227,slow=40
H03N2 Juan Fernandez 24.61 178 T T 17 12 20.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=357,slow=76,SNR=134						
H03N1	Juan Fernandez	24.61	178	T	T	17 12 20.3	
	baz=357,slow=76,SNR=135						
H03N3	Juan Fernandez	24.62	178	T	T	17 12 21.2	
	baz=357,slow=76,SNR=198						
BDFB	Brasilia	32.00	106	LR	LR	17 01 03.5	
	comp=Z,103nm,21.3s,baz=259,slow=37						
TXAR	Lajitas Array	44.18	330	P	P	16 49 20.1	+0.4
	0.1nm,0.4s,baz=126,slow=12,SNR=2.0						
NVAR	Mina Array Bea	58.93	325	P	P	16 51 11.0	+1.0
	0.3nm,0.6s,baz=125,slow=7.8,SNR=3.3						
YKA	Yellowknife Ar	75.86	344	P	P	16 52 55.3	-1.0
	0.2nm,0.6s,baz=138,slow=6.0,SNR=7.3						
TORD	Torodi Ar. Bea	83.99	76	P	P	16 53 40.1	-1.2
	0.6nm,0.9s,baz=282,slow=7.2,SNR=2.7						
H11N3	WAKE ISLAND Hy	14.55	288	T	T	19 04 25.3	
	baz=89						
H11N2	WAKE ISLAND Hy	14.56	288	T	T	19 04 31.0	
	baz=89						
H11N1	WAKE ISLAND Hy	14.57	288	T	T	19 04 29.8	
	baz=89						
H11S2	WAKE ISLAND Hy	14.72	286	T	T	19 04 37.0	
	baz=80						
H11S1	WAKE ISLAND Hy	14.73	286	T	T	19 04 45.0	
	baz=80						
H11S3	WAKE ISLAND Hy	14.74	286	T	T	19 04 42.9	
	baz=80						
ASAR	Alice Springs	133.78	225	PKP	PKPdf	17 00 28.5	+0.5
	0.1nm,0.6s,baz=145,slow=1.9,SNR=3.5						
WRA	Warramunga Arr	135.77	230	PKP	PKPdf	17 00 32.0	+0.2
	0.2nm,0.5s,baz=120,slow=2.2,SNR=8.3						

KMA 19 17:08:25.1±0.8, 33.24N×127.03E, h34km±6km, 12C-6D, Error ellipse: s-maj=8.6km s-min=6.8km az=179.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSSGP	Seogwipo	0.45	272	⇑P	Pb	17 08 34.9	0.0
KSSGP				⇑S	Sn	17 08 42.6	+0.6
KSSGP	Seogwipo	0.45	272	⇑P	Pb	17 08 34.9	0.0
KSSGP				⇑S	Sn	17 08 42.6	+0.6
KSJJU	Jeju	0.45	295	⇓P	Pb	17 08 34.6	-0.4
KSJJU				⇑S	Sn	17 08 42.1	-0.1
KSJJU	Jeju	0.45	295	⇓P	Pb	17 08 34.6	-0.4
KSJJU				⇑S	Sn	17 08 42.1	-0.1
KSWAN	Wando	1.18	347	⇑S	Sn	17 09 00.4	+0.4
KSWAN	Wando	1.18	347	⇑P	Pn	17 08 45.1	-0.1
KSWAN				⇑S	Sn	17 09 00.4	+0.4
KSJDO	Jindo	1.36	334	⇑P	Pn	17 08 48.0	+0.3
KSJDO				⇓S	Sb	17 09 06.7	-0.4
KSKOH	Goheung	1.38	8	⇑P	Pn	17 08 47.6	-0.4
KSKOH	Goheung	1.38	8	⇑P	Pn	17 08 47.6	-0.4
KOHB	KOHEUNG	1.39	8	⇓P	Pn	17 08 47.5	-0.5
KOHB	KOHEUNG	1.39	8	⇓P	Pn	17 08 47.5	-0.5
KSTOY	TONGYEONG	1.98	36	⇓S	Sn	17 09 21.1	+1.3

*ISCJB **19** 17:29:14.3±0.9, 16.2S±0.2×69.6W±0.1, h213km, mb3.4/3, Error ellipse: s-maj=25.5km s-min=13.0km az=14.1*
*IDC **19** 17:29:15.1±1.2, 16.23S×69.65W, h194km±9km, mb3.2/3, mb1 3.4/5, mb1mx3.2/32, mbtmp3.7/5, Error ellipse: s-maj=28.8km s-min=21.7km az=19.0*
ISC 19 17:29:15.5±0.9, 16.1S±0.2×69.6W±0.1, h213km, n8, σ2§07/9, mb3.4/3, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.39	98	P	Pn	17 29 49.2	-0.9
	6.8nm,0.3s,baz=326,slow=7.1,SNR=157						
LPAZ				S	S	17 30 14.6	-2.3
	8.0nm,0.3s,baz=155,slow=25,SNR=6.8						
NNA	Nana	8.16	299	P	Pn	17 31 08.5	-2.4
	2.3nm,0.3s,baz=102,slow=14,SNR=3.6						
SIV	San Ignacio	8.16	90	P	Pn	17 31 10.1	-0.9
	0.7nm,0.3s,baz=284,slow=12,SNR=3.7						
PLCA	Paso Flores	24.57	182	P	P	17 34 15.7	-0.3
	2.2nm,0.8s,baz=4.0,slow=10.0,SNR=3.5						
TORD	Torodi Ar. Bea	76.20	72	P	P	17 40 42.4	+1.6
	0.5nm,0.7s,baz=259,slow=6.8,SNR=2.8						
YKA	Yellowknife Ar	85.91	341	P	P	17 41 33.2	+2.3
	0.3nm,0.8s,baz=138,slow=5.0,SNR=3.7						
WRA	Warramunga Arr	137.17	214	PKP	PKPdf	17 48 16.5	+2.3
	0.2nm,0.9s,baz=137,slow=1.8,SNR=5.0						
SONM	Songino Array	148.17	5	PKPbc	PKPab	17 48 39.3	-0.5
	0.2nm,0.3s,baz=314,slow=1.8,SNR=8.3						

IDC 19 17:31:28.7±3.1, 28.20S×177.02W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/24, mbtmp3.8/3, MS3.4/2, Ms1 3.4/2, ms1mx3.0/23, Error ellipse: s-maj=74.3km s-min=27.2km az=114.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.31	217	Pn	Pn	17 31 54.4	+0.1
	377nm,0.3s,baz=85,slow=8.2,SNR=17						
RAO				LR	LR	17 31 57.9	
	comp=Z,110nm,21.4s,baz=100,slow=22						
RAO				Sn	Sb	17 32 11.7	+0.1
	843nm,0.3s,baz=266,slow=23,SNR=9.4						
DZM	Mont Dzumac	16.17	288	LR	LR	17 40 38.0	
	comp=Z,157nm,18.4s,baz=188,slow=34						
STKA	Stephens Creek	35.87	254	P	P	17 38 30.8	+0.4
	1.8nm,0.9s,baz=90,slow=14,SNR=3.1						
ASAR	Alice Springs	44.14	264	P	P	17 39 38.9	-0.3
	0.5nm,0.5s,baz=95,slow=7.3,SNR=11						
WRA	Warramunga Arr	44.93	269	P	P	17 39 45.8	+0.2
	1.1nm,0.8s,baz=108,slow=7.9,SNR=10						
KSRS	Korea Array	83.25	319	LR	LR	18 18 58.0	
	comp=Z,18nm,19.0s,baz=168,slow=34						
AKASG	Malin Array Be	150.03	326	PKPbc	PKPbc	17 51 20.1	-0.7
	0.9nm,0.8s,baz=45,slow=2.8,SNR=5.1						

*ISCJB **19** 18:02:04.0±0.5, 67.06N±0.02×21.04E±0.10, h0km, Error ellipse: s-maj=5.7km s-min=3.1km az=10.3*
*UPP **19** 18:02:04.9, 67.07N×20.90E, h0km, ML1.9, Mining explosion.*
*HEL **19** 18:02:04.9, 67.06N×20.92E, h0km, ML1.8, Explosion*
*IDC **19** 18:02:04.1±0.8, 67.07N×20.82E, h0km, mb1 2.9/4, mb1mx2.8/40, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=13.9km s-min=6.4km az=115.0*
*CSEM **19** 18:02:05.0±0.3, 67.10N×20.97E, h2km, ML1.9, Error ellipse: s-maj=7.4km s-min=4.3km az=100.0, Mining explosion.*
*NAO **19** 18:02:06.0±1.0, 67.05N×21.16E, ML2.3*
*BER **19** 18:02:08.2±3.4, 66.98N×21.09E, h0km, ML1.7, ML2.3(NAO), Suspected explosion*
*KOLA **19** 18:02:09.5, 67.75N×20.88E, h0km*
ISC 19 18:02:04.6±0.7, 67.06N±0.02×20.96E±0.03, h0km, n74, σ1§36/104, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.57	45	iP	Pg	18 02 15.9	+0.4
MASU	Masugnsbyn	0.57	45	P	Pg	18 02 15.8	+0.4
MASU	Masugnsbyn	0.57	45	P	Pg	18 02 15.9	+0.4
ERTU	Ertsjaerv	0.70	135	iP	Pg	18 02 18.5	+0.5
ERTU	Ertsjaerv	0.70	135	P	Pg	18 02 18.5	+0.5
ERTU	Ertsjaerv	0.70	135	P	Pg	18 02 18.5	+0.5
HARU	Harads	0.90	179	eP	Pg	18 02 22.1	+0.4
HARU	Harads	0.90	179	P	Pg	18 02 22.1	+0.4
HARU	Harads	0.90	179	P	Pg	18 02 22.1	+0.4
KUA	Kurravaara	0.93	346	eP	Pg	18 02 21.9	-0.5
KUA	Kurravaara	0.93	346	P	Pg	18 02 21.9	-0.5
KUA	Kurravaara	0.93	346	P	Pg	18 02 21.9	-0.5
LANU	Lannavaara	1.07	21	eP	Pg	18 02 24.4	-0.6
LANU	Lannavaara	1.07	21	P	Pg	18 02 24.5	-0.6
LANU	Lannavaara	1.07	21	P	Pg	18 02 24.5	-0.6
KALU	Kalix	1.54	140	eP	Pn	18 02 33.5	+0.3
KALU	Kalix	1.54	140	P	Pn	18 02 33.5	+0.3
KALU	Kalix	1.54	140	P	Pn	18 02 33.5	+0.3
SJUU	Sjulsmark	1.58	170	eP	Pb	18 02 34.2	-0.3
SJUU	Sjulsmark	1.58	170	P	Pb	18 02 34.2	-0.3
SJUU	Sjulsmark	1.58	170	P	Pb	18 02 34.2	-0.3
HEF	Hetta	1.70	36	eP	Pn	18 02 35.4	-0.2
	baz=217						
HEF				eSG	Sn	18 02 58.0	0.0
HEF				MSG		18 02 58.0	
	comp=Z,6.2nm,0.2s						
HEF	Hetta	1.70	36	P	Pn	18 02 35.3	-0.2
HEF				Sg	Sn	18 02 58.0	0.0
	comp=Z,6.2nm,0.2s						
KIF	Kilpisjarvi	1.96	358	Pn	Pb	18 02 40.6	-0.5
KIF				Sn	Sg	18 03 07.6	+0.2
KIF	Kilpisjarvi	1.96	358	Pn	Pb	18 02 40.6	-0.5
KIF				Sn	Sg	18 03 07.6	+0.2
KIF	Kilpisjarvi	1.96	358	Pn	Pb	18 02 40.6	-0.5
KIF				Sn	Sg	18 03 07.6	+0.2
KIF	Kilpisjarvi	1.96	358	Pn	Pb	18 02 40.6	-0.5
KIF				Sn	Sg	18 03 07.6	+0.2
KIF	Kilpisjarvi	1.96	358	ePG	Pb	18 02 40.5	-0.5
	baz=178						
KIF				eSG	Sg	18 03 07.2	-0.2
KIF				MSG		18 03 07.2	
	comp=Z,5.2nm,0.2s						
KIF	Kilpisjarvi	1.96	358	Pg	Pb	18 02 40.5	-0.5
KIF				Sg	Sg	18 03 07.1	-0.2
	comp=Z,29nm,0.3s						
KIF				Sn	Sg	18 03 07.6	+0.2
	SNR=50						
KTK1	Kautokeino	2.14	23	eP	Pb	18 02 43.9	-0.3
KTK1				eS	Sb	18 03 11.2	-0.1
KTK1				IAML		18 03 17.9	
	comp=N,11nm,0.1s						
SGF	Sodankyl	2.20	77	MSG	Sg	18 03 14.3	-0.8
	comp=Z,29nm,0.3s						
SGF				eSG	Sg	18 03 14.3	-0.8
SGF	Sodankyl	2.20	77	Sg	Sg	18 03 14.3	-0.8
OUL	Oulu	2.82	132	ePB	Pb	18 02 54.1	-1.7
	baz=312						
OUL	Oulu	2.82	132	Pb	Pb	18 02 54.1	-1.7
ARA0	ARCESS Array S	3.01	32	Pn	Pn	18 02 54.1	+0.7
	baz=209,slow=14						
ARA0				Sn	Sn	18 03 32.7	+2.5
	baz=210,slow=28						
ARA0	ARCESS Array S	3.01	32	Pn	Pn	18 02 54.1	+0.7
	baz=209,slow=14						
ARA0				Sn	Sn	18 03 32.7	+2.5
	baz=210,slow=28						
ARA0	ARCESS Array S	3.01	32	Pn	Pn	18 02 54.1	+0.7
	baz=209,slow=14						
ARA0				Sn	Sn	18 03 32.7	+2.5
	baz=210,slow=28						
ARA0	ARCESS Array S	3.01	32	Pn	Pn	18 02 54.1	+0.7
	baz=209,slow=14						
ARA0				Sn	Sn	18 03 32.7	+2.5
	baz=210,slow=28						
ARA0	ARCESS Array S	3.01	32	eP	Pn	18 02 53.5	+0.1
	baz=210						
ARA0				eS	Sn	18 03 28.0	-2.1
ARA0				MSG		18 03 28.0	
	comp=Z,1.2nm,0.2s						
ARA0	ARCESS Array S	3.01	32	P	Pn	18 02 53.5	+0.1
ARA0	ARCESS Array S	3.01	32	Pn	Pn	18 02 54.1	+0.7
	SNR=50						
ARA0				S	Sn	18 03 28.0	-2.1
	comp=Z,1.2nm,0.2s						
ARA0				Sn	Sn	18 03 32.7	+2.5
	baz=210,slow=24,SNR=50						
ARCES	ARCESS Array B	3.01	32	Pn	Pn	18 02 54.0	+0.6
	comp=Z,0.6nm,0.3s,baz=214,slow=13,SNR=70						
ARCES				Sn	Sn	18 03 29.7	-0.4
	comp=Z,1.1nm,0.3s,baz=214,slow=22,SNR=11						
ARCES				Lg	Lg	18 03 39.5	
	comp=Z,1.4nm,0.3s,baz=214,slow=27,SNR=6.5						
UMAU	Umeaa	3.19	182	eP	Pn	18 02 57.2	+1.4
UMAU	Umeaa	3.19	182	P	Pn	18 02 57.2	+1.4
VRF	Varrio	3.41	74	ePB	Pb	18 03 04.8	-1.0
	baz=269						
VRF				MSG	Sg	18 03 53.0	-1.0
	comp=Z,0.8nm,0.2s						
VRF				eSG	Sg	18 03 53.0	-1.0
VRF	Varrio	3.41	74	Pb	Pb	18 03 04.8	-1.0
VRF				Sg	Sg	18 03 53.0	-1.0
MSF	Maaselka	3.44	106	eP	Pn	18 03 01.4	+2.1
MSF	Maaselka	3.44	106	P	Pn	18 03 01.4	+2.1
KEV	Kevo	3.51	37	eP	Pn	18 03 00.8	+0.5
KEV	Kevo	3.51	37	P	Pn	18 03 00.8	+0.5
KU6	Riekki	3.72	102	eP	Pn	18 03 06.0	+2.8
	baz=286						
KU6	Riekki	3.72	102	P	Pn	18 03 06.0	+2.8
HUSU	Husum	3.80	192	ePB	Pn	18 03 08.2	+3.9
HUSU				eS	Sn	18 03 51.5	+1.9
VAF	Ylistaro	4.10	169	eP	Pn	18 03 10.1	+1.8
VAF	Ylistaro	4.10	169	P	Pn	18 03 10.1	+1.8
APA0	Apatity Array	4.69	78	Pn	Pn	18 03 17.5	+1.0
	baz=252,slow=12						
APA0	Apatity Array	4.69	78	Pn	Pn	18 03 17.5	+1.0
	baz=252,slow=12						
APA0	Apatity Array	4.69	78	Pn	Pn	18 03 17.5	+1.0
	baz=252,slow=12						
APA0	Apatity Array	4.69	78	Pn	Pn	18 03 17.5	+1.0
	baz=252,slow=12						
APA0	Apatity Array	4.69	78	Pn	Pn	18 03 17.5	+1.0
	SNR=50						
APA0	Apatity Array	4.69	78	P	Pn	18 03 19.4	+2.9
APA0				S	Sn	18 04 11.9	+0.4
FINES	FINESS Array B	6.06	156	Pn	Pn	18 03 34.8	-0.5
	comp=Z,0.1nm,0.3s,baz=344,slow=12,SNR=8.1						
FINES				Pg	Pb	18 03 49.0	-1.8
	comp=Z,0.1nm,0.3s,baz=342,slow=14,SNR=6.2						
FINES				Sn	Sn	18 04 45.9	+0.7
	comp=Z,0.2nm,0.3s,baz=345,slow=26,SNR=4.3						
FINES				Lg	Lg	18 05 15.7	
	comp=Z,0.2nm,0.3s,baz=336,slow=27,SNR=3.5						
NB2	NORSAR Subarra	7.39	220	Pn	Pn	18 03 54.9	+1.4
	baz=22,slow=14						
NB2	NORSAR Subarra	7.39	220	Pn	Pn	18 03 54.9	+1.4
	baz=22,slow=14						
NB2	NORSAR Subarra	7.39	220	Pn	Pn	18 03 54.9	+1.4
	baz=22,slow=14						
NB2	NORSAR Subarra	7.39	220	Pn	Pn	18 03 54.9	+1.4
	baz=22,slow=14						
NB2	NORSAR Subarra	7.39	220	Pn	Pn	18 03 54.9	+1.4
	SNR=50						
NOA	NORSAR Array B	7.39	220	Pn	Pn	18 03 49.5	-4.0
	comp=Z,0.1nm,0.3s,baz=31,slow=12,SNR=2.2						
NOA				Sn	Sn	18 05 13.4	-4.6
	comp=Z,0.1nm,0.3s,baz=36,slow=23,SNR=2.4						
HFS	Hagfors	7.66	208	Pn	Pn	18 03 57.5	+0.3
	baz=15,slow=14						
HFS				Sn	Sn	18 05 22.5	-2.1
	baz=18,slow=28						
HFS	Hagfors	7.66	208	Pn	Pn	18 03 57.5	+0.3
	baz=15,slow=14						
HFS				Sn	Sn	18 05 22.5	-2.1
	baz=18,slow=28						
HFS	Hagfors	7.66	208	Pn	Pn	18 03 57.5	+0.3
	baz=15,slow=14						
HFS				Sn	Sn	18 05 22.5	-2.1
	baz=18,slow=28						
HFS	Hagfors	7.66	208	Pn	Pn	18 03 57.5	+0.3
	baz=15,slow=14						
HFS				Sn	Sn	18 05 22.5	-2.1
	baz=18,slow=28						
HFS	Hagfors	7.66	208	Pn	Pn	18 03 55.7	-1.5
	comp=Z,0.1nm,0.3s,baz=18,slow=14,SNR=3.5						
HFS				Sn	Sn	18 05 20.5	-4.1
	comp=Z,0.1nm,0.3s,baz=22,slow=28,SNR=2.7						
HFS	Hagfors	7.66	208	Pn	Pn	18 03 57.5	+0.3
	SNR=50						

IDC 19 18:13:40.2±3.7, 7.16S×147.72E, h106km±32km, mb3.3/3, mb1 3.3/5, mb1mx3.1/33, mbtmp3.5/5, MS3.2/1, Ms1 3.1/1, ms1mx2.4/14, Error ellipse: s-maj=64.1km s-min=30.9km az=118.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.30	194	P	Pn	18 14 17.5	+0.6
	3.8nm,0.3s,baz=0.5,slow=13,SNR=27						
PMG				S	Sn	18 14 45.5	+0.5
	6.5nm,0.3s,baz=15,slow=20,SNR=5.4						
WRA	Warramunga Arr	18.16	224	P	P	18 17 43.9	-0.7
	0.1nm,0.3s,baz=51,slow=10,SNR=11						
ASAR	Alice Springs	21.10	217	P	P	18 18 16.5	0.0
	0.6nm,0.4s,baz=51,slow=9.0,SNR=35						
STKA	Stephens Creek	25.24	192	P	P	18 18 57.0	+0.5
	0.9nm,0.3s,baz=12,slow=9.1,SNR=6.6						
STKA				LR	LR	18 28 55.2	
	comp=Z,56nm,19.1s,baz=205,slow=36						
ILAR	Eielson Array	86.27	23	P	P	18 26 09.6	-0.3
	0.3nm,0.6s,baz=252,slow=5.1,SNR=5.5						

*ISCJB **19** 18:23:41.9±0.3, 0.51N±0.03×122.23E±0.03, h123km±3km, mb4.3/25, Error ellipse: s-maj=5.7km s-min=4.5km az=160.8*
*NEIC **19** 18:23:42.0±0.3, 0.51N×122.30E, mb4.3/9, Error ellipse: s-maj=13.5km s-min=6.3km az=67.0*
*DJA **19** 18:23:43.2±0.3, 1°N±3°×12°2E±°, h96km±5km, M4.6/9, mb4.7/9, mB5.0/5, MLv4.6/9, Mw(mB)4.3/5*
*IDC **19** 18:23:44.5±2.9, 0.45N×122.23E, h136km±26km, mb3.8/13, mb1 3.9/13, mb1mx3.6/35, mbtmp4.2/13, MS3.2/2, Ms1 3.2/2, ms1mx2.6/30, Error ellipse: s-maj=27.0km s-min=10.8km az=64.0*
*MAN **19** 18:24:49, 5.51N×123.43E, h104km, mb5.0, ML3.9, MS4.0*
ISC 19 18:23:42.8±0.5, 0.54N±0.04×122.16E±0.04, h117km±5km, n130, σ1§48/139, mb4.3/25, 2C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.23	255	P	Pn	18 23 58.3	-0.8
MRSI				S	Sn	18 24 09.3	-2.1
TOLI	Toli-Toli	1.48	293	ePn	Pn	18 24 08.9	-0.9
TOLI				eSn	Sn	18 24 29.1	-1.2
APSI	Ampana	1.52	200	P	Pn	18 24 10.7	+0.4
APSI				S	Sn	18 24 37.7	+6.4
LUWI	Luwuk	1.68	159	P	Pn	18 24 14.1	+1.9
LUWI				S	Sn	18 24 37.8	+3.2
LUWI	Luwuk	1.68	159	ePn	Pn	18 24 11.7	-0.5
LUWI				eSn	Sn	18 24 33.6	-1.0
LUWI	Luwuk	1.68	159	P	Pn	18 24 12.1	-0.1
	baz=1.7,SNR=145						
LUWI				S	Sn	18 24 37.2	+2.5
	baz=1.7,SNR=12						
KMSI	Cibinong	1.82	89	P	Pn	18 24 13.7	-0.2
KMSI				S	Sn	18 24 38.0	+0.4
MPSI	Mapaga	2.27	265	P	Pn	18 24 20.0	+0.5
TTSI	Tana Toraja	4.26	213	P	Pn	18 24 47.2	+1.5
SANI	Sanana	4.61	124	P	Pn	18 24 48.0	-2.5
SANI				S	Sn	18 25 37.5	-5.6
SGKI	Sangatta, Kali	4.68	257	P	Pn	18 24 44.3	-7.1
SGKI				S	Sn	18 25 42.4	-2.3
SPSI	Sidrap Palu	5.07	208	P	Pn	18 24 57.7	+1.1
	228nm,0.5s,3µm						
BNSI	Bone	5.32	203	P	Pn	18 25 02.0	+2.0
	261nm,0.8s,2µm0.8nm						
LBMI	Labuha	5.47	102	P	Pn	18 25 00.8	-1.2
	52nm,0.6s,2µm						
BKB	Balikpapan	5.56	251	P	Pn	18 25 03.4	+0.2
KAPI	Kappang	6.01	204	ePn	Pn	18 25 10.6	+1.1
BKSI	Bulukumba	6.16	199	P	Pn	18 25 12.4	+1.0
	50nm,0.7s,658nm						
NLAI	Namlea	6.20	127	P	Pn	18 25 11.9	0.0
	39nm,0.5s,1µm						
CTBH	Cotabato--PC H	6.96	17	eP	Pn	18 25 21.4	-0.8
CTBH	Cotabato--PC H	6.96	17	iS	Sn	18 26 41.9	+1.9
DMPH	Davao City--Mi	7.31	27	⇑eP	Pn	18 25 30.7	+3.7
DMPH	Davao City--Mi	7.31	27	⇑eP	Sn	18 26 47.3	-1.2
PAGZ	Pagadian	7.37	9	eP	Pn	18 25 27.7	0.0
PAGZ				eS	Px	18 25 55.3	
MATI	Mati	7.57	33	eP	Pn	18 25 30.0	-0.4
MSAI	Masohi	7.79	120	P	Pn	18 25 33.7	+0.3
	8.5nm,0.8s						
BUKP	Musuan	7.85	22	eP	Pn	18 25 34.7	+0.4
BUKP				eS	Px	18 26 08.6	
BBKI	Banjar Baru	8.32	241	P	Pn	18 25 42.3	+1.6
	32nm,1.4s						
SOEI	Soe	10.44	168	P	Pn	18 26 13.3	+3.9
	53nm,1.1s						
SOEI	Soe	10.44	168	ePn	Pn	18 25 59.6	-10
SOEI	Soe	10.44	168	P	Pn	18 25 59.6	-10
	baz=10,SNR=21						
BATI	Baumata	10.78	172	LR	LR	18 31 40.4	
	comp=Z,150nm,18.4s,baz=322,slow=44						
GMJI	Gumukmas	12.33	225	P	P	18 26 46.0	+4.3
PWJI	Pagerwojo	13.37	230	P	P	18 26 51.2	-2.1
PALU	Palau	14.02	61	P	P	18 27 01.9	+1.4
	baz=14,SNR=3.2						
KPJI	Karang Pucung	15.34	239	P	P	18 27 17.6	+2.5
MTN	Manton Dam	16.00	146	P	P	18 27 23.0	+0.6
	baz=16,SNR=3.7						
KNRA	Kununurra	17.38	158	P	Pn	18 27 37.9	-0.3
	baz=17,SNR=11						
MBWA	Marble Bar	21.69	186	eP	P	18 28 22.2	-2.2
	8.9nm,0.7s						
QIZ	Qiongzhong	21.99	327	P	P	18 28 27.5	-0.1
CHBT	CHBT	23.10	302	P	P	18 28 41.5	+2.9
	34nm,1.2s						
PSI	Prapat	23.33	276	P	P	18 28 40.4	-0.6
	4.7nm,0.3s,baz=205,slow=6.9,SNR=5.7						
WRAB	Tennant Creek	23.59	150	eP	P	18 28 41.4	-1.7
	13nm,1.3s						
WRAB				epP	pP	18 29 08.2	+1.3
WRA	Warramunga Arr	23.59	150	P	P	18 28 41.6	-1.6
	4.4nm,0.9s,baz=323,slow=11,SNR=34						
WRA				PcP	PcP	18 32 23.9	-1.1
	0.9nm,0.5s,baz=328,slow=2.1,SNR=13						
WRKA	Warakurna	26.11	167	P	P	18 29 05.0	-0.9
	baz=26,SNR=32						
LOEI	Loei	26.59	311	P	P	18 29 09.9	-0.4
	127nm,0.9s						
ASAR	Alice Springs	26.63	155	P	P	18 29 09.8	-0.8
	1.0nm,0.7s,baz=336,slow=10,SNR=25						
ASAR				PcP	PcP	18 32 30.9	-0.9
	2.1nm,0.3s,baz=346,slow=2.1,SNR=37						
ASAR				ScP	ScP	18 35 58.8	-2.5
	0.4nm,0.6s,baz=342,slow=2.9,SNR=7.7						
QIS	Mount Isa	27.04	142	P	P	18 29 14.3	0.0
	baz=27,SNR=3.7						
MEEK	Meekatharra	27.23	187	P	P	18 29 14.9	-1.0
	baz=27,SNR=19						
CM31	Chiang Mai Arr	28.93	309	eP	P	18 29 33.5	+2.4
	2.3nm,0.6s						
CMAR	Chiang Mai Arr	28.93	309	P	P	18 29 33.5	+2.4
	2.4nm,0.8s,baz=137,slow=7.3,SNR=25						
CMAR				PcP	PcP	18 32 38.0	+0.5
	0.9nm,0.8s,baz=143,slow=2.5,SNR=7.9						
CMMT	Chiang Mai	29.13	310	P	P	18 29 34.9	+2.0
	16nm,1.1s						
CHTO	Chiang Mai	29.14	310	P	P	18 29 35.0	+2.1
	54nm,1.1s						
CHTO	Chiang Mai	29.14	310	eP	P	18 29 34.8	+1.8
	11nm,1.0s						
MHMT	Maesarieng	29.56	308	P	P	18 29 39.0	+2.3
	14nm,0.9s,156nm						
MORW	Morawa	30.01	191	P	P	18 29 39.8	-0.7
	baz=30,SNR=6.6						
BLDU	Ballidu	31.41	189	P	P	18 29 51.6	-1.2
	baz=31,SNR=15						
NWAO	Narrogin (SRO)	33.61	187	P	P	18 30 11.2	-0.7
	7.6nm,0.8s,baz=35,slow=13,SNR=5.3						
QLP	Quilpie	34.34	143	S	S	18 35 41.3	+3.7
	baz=34,SNR=3.7						
BBOO	Buckleboo	35.67	160	P	P	18 30 28.7	-1.0
	baz=36,SNR=7.2						
KSRS	Korea Array	37.12	8	LR	LR	18 47 53.4	
	comp=Z,25nm,18.6s,baz=304,slow=39						
STKA	Stephens Creek	37.12	152	P	P	18 30 41.6	-0.4
	4.3nm,0.8s,baz=320,slow=9.1,SNR=12						
STKA	Stephens Creek	37.12	152	P	P	18 30 41.7	-0.4
	baz=37,SNR=4.3						
HTT	Hallett	37.29	157	P	P	18 30 43.3	-0.2
	baz=37,SNR=6.3						
LSA	Lhasa	41.39	317	eP	P	18 31 20.3	+2.1
	5.0nm,0.6s						
PALK	Pallekele	41.87	280	P	P	18 31 22.0	+0.1
ODAN	Odare	42.44	311	eP	P	18 31 28.0	+1.5
	22nm,0.8s						
ODAN	Odare	42.44	311	eP	PcP	18 33 17.7	+0.1
	11nm,0.7s						
ODAN	Odare	42.44	311	eP	P	18 31 28.0	+1.5
TAPN	Taplejung	42.46	312	eP	P	18 31 28.3	+1.5
	14nm,0.6s						
TAPN	Taplejung	42.46	312	eP	PcP	18 33 16.3	-1.4
TAPN	Taplejung	42.46	312	eP	P	18 31 28.3	+1.5
RAMN	Ramite	43.09	311	eP	P	18 31 33.7	+1.9
	37nm,0.7s						
RAMN	Ramite	43.09	311	eP	PcP	18 33 20.1	+0.3
RAMN	Ramite	43.09	311	eP	P	18 31 33.7	+1.9
JIRN	Jiri	43.77	311	eP	P	18 31 38.9	+1.5
	29nm,0.7s						
JIRN	Jiri	43.77	311	eP	PcP	18 33 21.5	-0.7
JIRN	Jiri	43.77	311	eP	P	18 31 38.9	+1.5
GUN	Gumba	44.13	311	eP	P	18 31 41.7	+1.4
	48nm,0.7s						
GUN	Gumba	44.13	311	eP	PcP	18 33 22.2	-1.2

GUN	Gumba	44.13	311	eP	P	18 31 41.7	+1.4
PKI	Pulchoki	44.31	311	eP	P	18 31 42.7	+1.0
	12nm,0.6s						
PKI	Pulchoki	44.31	311	eP	PcP	18 33 23.5	-0.5
	11nm,0.7s						
PKI	Pulchoki	44.31	311	eP	P	18 31 43.0	+1.3
PKIN	Phulchoki	44.33	311	eP	P	18 31 43.0	+1.3
	7.0nm,0.6s						
PKIN	Phulchoki	44.33	311	eP	PcP	18 33 24.4	+0.4
KKN	Kakani	44.52	311	eP	P	18 31 44.3	+1.1
	24nm,0.8s						
KKN	Kakani	44.52	311	eP	PcP	18 33 24.5	-0.1
KKN	Kakani	44.52	311	eP	P	18 31 44.3	+1.1
DMN	Daman	44.56	310	eP	P	18 31 45.0	+1.4
	42nm,1.0s						
DMN	Daman	44.56	310	eP	PcP	18 33 24.6	-0.2
	11nm,0.8s						
DMN	Daman	44.56	310	eP	P	18 31 45.0	+1.4
GKN	Gorkha	45.12	311	eP	P	18 31 49.0	+1.1
	37nm,0.7s						
GKN	Gorkha	45.12	311	eP	PcP	18 33 25.9	-0.7
GKN	Gorkha	45.12	311	eP	P	18 31 49.0	+1.1
KOLN	Koldanda	45.80	310	eP	P	18 31 54.7	+1.4
	55nm,0.7s						
KOLN	Koldanda	45.80	310	eP	PcP	18 33 28.4	-0.6
KOLN	Koldanda	45.80	310	eP	P	18 31 54.7	+1.4
DANN	Dangsing	45.96	310	eP	P	18 31 56.0	+1.3
	68nm,0.6s						
DANN	Dangsing	45.96	310	eP	PcP	18 33 26.7	-3.0
	11nm,0.8s						
DANN	Dangsing	45.96	310	eP	P	18 31 56.0	+1.3
ULN	Ulaanbaatar	48.93	347	eP	P	18 32 17.7	+0.6
	2.5nm,0.9s						
SONM	Songino Array	49.06	346	P	P	18 32 19.0	+0.9
	2.2nm,0.7s,baz=162,slow=9.5,SNR=32						
MK31	Makanchi Array	57.72	329	eP	P	18 33 21.8	+0.5
MKAR	Makanchi Array	57.72	329	P	P	18 33 22.1	+0.8
	2.1nm,0.5s,baz=125,slow=8.4,SNR=46						
ULHL	Ulahol	58.48	321	P	P	18 33 25.4	-1.5
	SNR=5.2						
KZA	Kyzart	59.02	321	P	P	18 33 32.6	+1.7
	SNR=12						
TKM2	Tokmak 2	59.25	322	P	P	18 33 33.5	+1.3
	SNR=17						
TKM2	Tokmak 2	59.25	322	eP	P	18 33 33.2	+1.0
TKM2				epP	pP	18 34 01.8	+1.2
KBK	Karagaybulak	59.51	321	P	P	18 33 35.7	+1.7
	SNR=11						
UCH	Uchtor	59.56	320	P	P	18 33 36.6	+1.9
	SNR=13						
AAK	Ala-Archa	59.78	321	P	P	18 33 37.7	+1.8
	SNR=12						
AAK	Ala-Archa	59.78	321	eP	P	18 33 36.8	+0.9
AAK				epP	pP	18 34 05.6	+1.3
KBL	Kabul	59.95	310	eP	P	18 33 37.5	+0.2
	14nm,0.5s						
KBL				epP	pP	18 34 05.8	+0.2
AML	Almayashu	60.04	320	P	P	18 33 39.6	+1.7
	SNR=15						
USP	Ospenovka	60.11	321	P	P	18 33 39.0	+1.1
	SNR=14						
EKS2	Erkin-Say	60.25	321	P	P	18 33 40.5	+1.4
	SNR=15						
EKS2	Erkin-Say	60.25	321	eP	P	18 33 40.2	+1.2
EKS2				epP	pP	18 34 06.3	-1.1
ZALV	Zalesovo Beam	61.48	336	P	P	18 33 46.5	-0.4
	4.2nm,0.8s,baz=122,slow=5.6,SNR=24						
KURK	Kurchatov	62.10	330	eP	P	18 33 51.1	0.0
	8.4nm,0.9s						
KKAR	Karatay Array	62.56	320	eP	P	18 33 54.8	+4.3
BRVK	Borovoye	67.67	329	eP	P	18 34 26.7	-0.4
TIXI	Tiksi	71.13	2	eP	P	18 34 47.0	-1.1
ABKAR	Akbulak array	71.80	322	eP	P	18 34 52.0	-0.6
	3.3nm,0.8s						
ARU	Arti	75.24	329	eP	P	18 35 11.0	-1.6
KBZ	Khabaz	81.87	314	P	P	18 35 50.0	+0.8
	1.2nm,0.9s,baz=153,slow=5.0,SNR=4.1						
BRTR	Keskin Array B	88.52	310	P	P	18 36 21.5	-1.1
	1.0nm,0.8s,baz=116,slow=4.5,SNR=7.4						
ILAR	Eielson Array	89.93	25	P	P	18 36 26.4	-2.0
	0.2nm,0.6s,baz=258,slow=5.3,SNR=4.9						
QSPA	South Pole Qui	90.47	180	P	P	18 36 30.0	-1.1
TORD	Torodi Ar. Bea	119.46	285	PKP	PKPdf	18 42 18.1	-1.5
	1.4nm,0.6s,baz=83,slow=1.9,SNR=11						
SCHQ	Schefferville	124.32	6	PKP	PKPdf	18 42 27.1	-0.8
	2.7nm,0.8s,baz=220,slow=7.9,SNR=3.4						

MOS 19 18:25:31.8±1.6,42.45N×43.26E,h9km,mb3.9/1,Error ellipse: s-maj=20.6km s-min=7.6km az=73.9
TIF 19 18:25:33.5,42.55N×43.45E,h11km±3km
DDA 19 18:25:34.5,42.81N×42.24E,h4km,MD2.9
CSEM 19 18:25:34.6±0.2,42.58N×43.34E,h2km,mb3.9,Error ellipse: s-maj=5.6km s-min=2.8km az=128.0
ISC 19 18:25:34.3±1.0,42.56N±0.03×43.36E±0.03,h4km±8km, n32,σ0.52/57,4C,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.08	65	P	Pg	18 25 36.0	0.0
ONI	Oni	0.08	65	P	Pg	18 25 36.0	0.0
ONI				S	Sg	18 25 37.5	+0.3
DIGR	Digorskoe uzhe	0.38	26	iPG	Pg	18 25 41.4	-0.3
DIGR				iS	Sg	18 25 47.1	+0.3
DIGR	Digorskoe uzhe	0.38	26	iPg	Pg	18 25 41.4	-0.3
DIGR				iSg	Sg	18 25 47.1	+0.3
ZEI	Tsey	0.46	60	iPG	Pg	18 25 42.4	-0.9
ZEI				iS	Sg	18 25 48.7	-0.7
KORR	Kora	0.74	45	iPG	Pg	18 25 48.5	-0.1
KORR				eS	Sg	18 25 58.8	+0.5
KORR	Kora	0.74	45	iPg	Pg	18 25 48.5	-0.1
KORR				eSg	Sg	18 25 58.8	+0.5
LSNR	Lesken	0.80	25	iPG	Pg	18 25 49.6	-0.1
LSNR				eS	Sg	18 26 00.7	+0.6
LSNR	Lesken	0.80	25	iPg	Pg	18 25 49.6	-0.1
LSNR				eSg	Sg	18 26 00.7	+0.6
NEY	Neytrino	0.83	326	⇑ePG	Pg	18 25 50.1	-0.2
NEY				iS	Sg	18 26 01.5	+0.3
NEY	Neytrino	0.83	326	ePg	Pg	18 25 50.1	-0.2
NEY				iSg	Sg	18 26 01.5	+0.3
ARNR	Ardon	0.92	47	iPG	Pg	18 25 52.2	+0.1
ARNR				eS	Sg	18 26 04.7	+0.7
ARNR	Ardon	0.92	47	iPg	Pg	18 25 52.2	+0.1
ARNR				eSg	Sg	18 26 04.7	+0.7
STDR	Stavd-Durt	0.96	32	iPG	Pn	18 25 54.2	-0.5
STDR				eS	Sb	18 26 07.3	+0.6
STDR	Stavd-Durt	0.96	32	iPg	Pn	18 25 54.2	-0.5
STDR				eSg	Sb	18 26 07.3	+0.6
BTKR	Batakoyurt	1.19	47	iPG	Pn	18 25 58.3	+0.5
BTKR				eS	Sn	18 26 14.2	-0.3
BTKR	Batakoyurt	1.19	47	iPg	Pn	18 25 58.3	+0.5
BTKR				eSg	Sn	18 26 14.2	-0.3
KUBR	Kubataba	1.24	2	⇑ePG	Pn	18 25 57.3	-0.9
KUBR				iS	Sn	18 26 16.3	+0.5
KUBR	Kubataba	1.24	2	ePg	Pn	18 25 57.3	-0.9
KUBR				iSg	Sn	18 26 16.3	+0.5
KIV	Kislovodsk	1.48	341	⇑ePG	Pn	18 25 57.5	-4.3
KIV				i		18 26 22.8	
KIV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIV	Kislovodsk	1.48	341	iSg	Sg	18 26 22.8	+0.9
PYA	Pyatigorsk	1.49	352	⇑ePG	Pn	18 26 02.0	+0.1
PYA	Pyatigorsk	1.49	352	ePg	Pn	18 26 02.0	+0.1
ARTV	Artvin	1.74	218	iP	Pn	18 26 05.6	+0.1
ARTV				iS	Sb	18 26 29.2	0.0
ARTV	Artvin	1.74	218	iP	Pn	18 26 05.6	+0.1
ARTV				iS	Sb	18 26 29.2	0.0
DBOC	Borcka	1.75	227	iP	Pn	18 26 05.7	+0.2
DBOC				iS	Sb	18 26 29.3	+0.1
DBOC	Borcka	1.75	227	iP	Pn	18 26 05.7	+0.2
DBOC				iS	Sb	18 26 29.3	+0.1
DAGI	Agillar	1.83	217	iP	Pn	18 26 06.8	+0.2
DAGI				iS	Sb	18 26 31.9	+0.2
DBAD	Bademkaya	1.98	219	iP	Pn	18 26 09.6	+1.0
DBAD				iS	Sb	18 26 36.6	+0.7
DBAD	Bademkaya	1.98	219	iP	Pn	18 26 09.6	+1.0
DBAD				iS	Sb	18 26 36.6	+0.7
DDEM	Demirkent	2.05	216	iP	Pb	18 26 11.3	-0.9
DDEM				iS	Sb	18 26 38.7	+0.6
DDEM	Demirkent	2.05	216	iP	Pb	18 26 11.3	-0.9
DDEM				iS	Sb	18 26 38.7	+0.6

IDC 19 18:32:53.8±6.2,10.07S×159.93E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.5/25,mbtmp3.5/4,Error ellipse: s-maj=179.1km s-min=35.6km az=117.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.56	245	P	P	18 38 34.8	+1.0
	1.2nm,1.0s,baz=74,slow=9.7,SNR=6.2						
ASAR	Alice Springs	28.27	238	P	P	18 38 48.3	-0.9
	0.3nm,0.9s,baz=64,slow=9.2,SNR=4.0						
SONM	Songino Array	74.58	326	P	P	18 44 35.1	+0.3
	0.4nm,0.7s,baz=139,slow=5.4,SNR=5.2						
MKAR	Makanchi Array	88.93	318	P	P	18 45 50.0	-0.4
	0.2nm,0.5s,baz=89,slow=6.6,SNR=6.5						

ISCJB 19 18:53:39.4±0.7,33.35S±0.05×148.86E±0.06,h0km,Error ellipse: s-maj=6.9km s-min=6.7km az=140.6
AUST 19 18:53:42.0±0.9,33.47S×148.99E,h3km,Error ellipse: s-maj=1.2km s-min=1.0km az=351.0,Mining explosion.
IDC 19 18:53:44.1±8.8,32.97S×148.79E,h0km,mb1 3.2/3, mb1mx3.1/26,mbtmp3.0/3,ML2.9/3,Error ellipse: s-maj=142.1km s-min=46.4km az=171.0
ISC 19 18:53:40.5±1.0,33.38S±0.06×148.96E±0.05,h0km,n10, σ1.27/14,New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNG	Young	1.03	207	P	Pg	18 54 00.5	+0.3
	baz=1.0,SNR=24						
YNG				S	Sg	18 54 13.4	-0.1
	baz=1.0,SNR=16						
MGCD	Mangrove Creek	1.81	85	P	Pn	18 54 13.6	+0.6
	baz=1.8,SNR=216						
MGCD				S	Sb	18 54 38.0	+0.2
	baz=1.8,SNR=8.3						
CNB	Canberra Magne	1.96	170	P	Pn	18 54 14.2	-0.9
	baz=1.9,SNR=36						
CNB				S	Sn	18 54 40.6	+0.2
	baz=1.9,SNR=6.4						
MILA	Mila	3.67	178	P	Pn	18 54 38.8	+0.2
	baz=3.6,SNR=6.3						
STKA	Stephens Creek	6.39	282	Pn	Pn	18 55 16.7	+0.8
	0.1nm,0.3s,baz=110,slow=16,SNR=5.3						
STKA				Sn	Sn	18 56 26.8	-2.8
	0.5nm,0.3s,baz=204,slow=22,SNR=6.3						
STKA				Lg	Lg	18 57 01.6	
	0.2nm,0.3s,baz=12,slow=20,SNR=2.2						
STKA	Stephens Creek	6.39	282	P	Pn	18 55 17.1	+1.1
	baz=6.4,SNR=4.1						
ARPS	Mount Arapiles	6.74	238	P	Pn	18 55 22.1	+1.3
	baz=6.7,SNR=10						
ASAR	Alice Springs	16.37	302	Pn	Pn	18 57 31.5	-0.4
	0.1nm,0.3s,baz=124,slow=13,SNR=5.5						
FORT	Forrest	17.90	273	S	S	19 01 20.1	+2.0
	baz=18,SNR=5.1						
WRA	Warramunga Arr	18.67	312	P	P	18 57 59.3	-0.9
	0.0nm,0.3s,baz=140,slow=12,SNR=4.1						

DDA 19 19:11:58.8,39.05N×26.80E,h7km,MD2.9
CSEM 19 19:11:58.1±0.3,39.01N×26.73E,h8km,MD2.9,Error ellipse: s-maj=7.7km s-min=3.4km az=47.0
ISK 19 19:11:56.9,39.01N×26.72E,h6km,MD2.9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	Ayvalik	0.30	355	iP	Pb	19 12 04.1	-0.6
AYVA				iS	Sb	19 12 08.5	-1.3
AYVA	Ayvalik	0.30	355	iP	Pb	19 12 04.1	-0.5
AYVA				iS	Sb	19 12 08.5	-1.3
ZEY	˜zmir	0.79	193	iP	Pb	19 12 13.7	+0.6
ZEY				iS	Sn	19 12 27.3	+0.6
AKS	Akhisar	0.86	99	ePG	Pb	19 12 14.0	-0.3
AKS				eSG	Sb	19 12 26.0	-0.1
AKS	Akhisar	0.86	99	ePg	Pb	19 12 14.0	-0.3
AKS				eSg	Sb	19 12 26.0	-0.1
AKHS	Akhisar	0.86	99	iP	Pb	19 12 14.7	+0.4
AKHS				iS	Sb	19 12 26.4	+0.3
AKHS	Akhisar	0.86	99	iP	Pb	19 12 14.7	+0.4
AKHS				iS	Sb	19 12 26.4	+0.3
EZN	Ezine	0.87	339	ePG	Pb	19 12 14.4	0.0
EZN				eSG	Sb	19 12 26.0	-0.2
EZN	Ezine	0.87	339	ePg	Pb	19 12 14.4	0.0
EZN				eSg	Sb	19 12 26.0	-0.3
BOZC	Bozcaada	0.98	328	iP	Pn	19 12 18.0	+0.9
BOZC				iS	Sn	19 12 32.2	+0.8
BALY	Balya	1.01	43	iP	Pb	19 12 16.9	+0.1
BALY				iS	Sb	19 12 30.0	-0.4
BALY	Balya	1.01	43	iP	Pb	19 12 16.9	+0.1
BALY				iS	Sb	19 12 30.0	-0.4
BALB	Balikesir	1.09	55	ePN	Pb	19 12 18.3	0.0
BALB				eSN	Sn	19 12 33.7	-0.6
BALB	Balikesir	1.09	55	ePn	Pb	19 12 18.3	0.0
BALB				eSn	Sn	19 12 33.7	-0.6
LPK	Lapseki	1.36	1	ePN	Pb	19 12 22.7	-0.1
LPK	Lapseki	1.36	1	ePn	Pb	19 12 22.7	-0.1
GELI	Tayfur-Gelibol	1.40	352	ePN	Pn	19 12 23.1	+0.1
GELI	Tayfur-Gelibol	1.40	352	ePn	Pn	19 12 23.1	+0.2
AYDB	Zeytinkoy-Aydi	1.41	139	ePN	Pn	19 12 23.3	+0.1
AYDB	Zeytinkoy-Aydi	1.41	139	ePn	Pn	19 12 23.3	+0.1
KRBG	Karabiga-Canak	1.45	18	ePN	Pb	19 12 24.0	-0.3
KRBG	Karabiga-Canak	1.45	18	ePn	Pb	19 12 24.0	-0.3
KULA	Kula-Manisa	1.59	108	ePN	Pb	19 12 26.9	-0.1
KULA	Kula-Manisa	1.59	108	ePn	Pb	19 12 26.9	0.0
EDC	Edincik	1.60	33	ePN	Pb	19 12 26.5	-0.4
EDC	Edincik	1.60	33	ePn	Pb	19 12 26.5	-0.4
BNT	Bandirma	1.63	34	ePN	Pb	19 12 27.0	-0.4
BNT	Bandirma	1.63	34	ePn	Pb	19 12 27.0	-0.4
RKY	Sarkoy-Tekirda	1.71	12	ePN	Pb	19 12 28.8	-0.1
RKY	Sarkoy-Tekirda	1.71	12	ePn	Pb	19 12 28.8	0.0
MRMT	Marmara Adasi	1.73	23	ePN	Pb	19 12 29.0	-0.2
MRMT	Marmara Adasi	1.73	23	ePn	Pb	19 12 29.0	-0.1
ENEZ	Enez	1.78	346	ePN	Pb	19 12 29.6	-0.3
ENEZ	Enez	1.78	346	ePn	Pb	19 12 29.6	-0.3
SLVT	Silivri	2.49	27	ePN	Pn	19 12 39.8	+1.8
SLVT	Silivri	2.49	27	ePn	Pn	19 12 39.8	+1.8
CTKS	Kestanelik-??a	2.61	31	ePN	Pn	19 12 41.5	+1.9
CTKS	Kestanelik-??a	2.61	31	ePn	Pn	19 12 41.5	+1.9
ALT	Altintas	2.64	88	ePN	Pn	19 12 41.6	+1.5
ALT	Altintas	2.64	88	ePn	Pn	19 12 41.6	+1.5
EDRB	Edirne	2.83	0	ePN	Pn	19 12 44.3	+1.6
EDRB	Edirne	2.83	0	ePn	Pn	19 12 44.3	+1.6
BCK	Bucak	3.42	116	ePN	Pn	19 12 52.1	+1.3
BCK	Bucak	3.42	116	ePn	Pn	19 12 52.1	+1.3

IDC 19 19:12:33.4±2.0,5.41S×128.14E,h0km,mb3.4/1, mb1 3.5/3,mb1mx3.2/32,mbtmp3.3/3,ML3.3/2,Error ellipse: s-maj=128.7km s-min=29.6km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.66	158	Pn	Pn	19 16 17.2	+1.6
	0.1nm,0.3s,baz=336,slow=13,SNR=6.7						
WRA				Sn	Sn	19 18 58.5	-11
	0.0nm,0.3s,baz=337,slow=22,SNR=3.1						
ASAR	Alice Springs	18.98	164	P	P	19 16 56.0	-0.7
	0.2nm,0.3s,baz=348,slow=12,SNR=15						
MKAR	Makanchi Array	65.89	327	P	P	19 23 21.1	0.0
	0.2nm,0.4s,baz=114,slow=7.7,SNR=5.6						

SJA 19 19:30:52.5±0.7,23.84S×66.75W,h230km±8km,MD2.9, ML3.4
ISCJB 19 19:30:53.1±0.5,23.82S±0.05×66.83W±0.05,h214km±6km, mb3.4/2,Error ellipse: s-maj=8.7km s-min=5.7km az=42.0
IDC 19 19:30:53.0±2.0,23.77S×66.65W,h183km±18km,mb3.3/2, mb1 3.5/5,mb1mx3.3/27,mbtmp3.9/5,Error ellipse: s-maj=24.7km s-min=19.0km az=88.0
GUC 19 19:30:56.6±0.4,23.57S×67.22W,h230km,ML4.3
ISC 19 19:30:53.8±0.8,23.87S±0.06×66.82W±0.05,h206km±8km, n23,σ1.90/33,5C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.47	125	eP	Pn	19 31 29.6	+1.6
SLA				eS	S	19 31 56.1	+1.9
SLA				AML	AML	19 31 58.0	
	comp=Z,66nm,0.8s						
AZAP	Zapla	1.64	103	AML	AML	19 31 30.7	
	comp=Z,535nm,0.3s						
ASTB	Santa Barbara	2.14	93	eP	Pn	19 31 34.9	+0.5
LVC	Limon Verde	2.29	303	eP	Pn	19 31 37.4	+1.3
ALOL	LOMAS DE OLMED	2.61	89	eP	Pn	19 31 39.1	-0.2
ALOL				eP	Pn	19 31 39.1	-0.2
PB06	Plate Boundary	2.78	294	⇑iP	Pn	19 31 42.5	+1.1
PB06				iS	S	19 32 17.6	-0.3
PB06				AML	AML	19 32 19.7	
	comp=N,802nm,0.1s						
PB04	Plate Boundary	2.93	303	⇑iP	Pn	19 31 49.5	+6.6
PB04				iS	S	19 32 30.1	+9.4
PB09	Plate Boundary	3.04	312	eP	Pn	19 31 45.7	+1.3
PB09				iS	S	19 32 22.1	-1.3
PB09				AML	AML	19 32 25.9	
	comp=N,1μm,0.2s						
CEN1	Los Morros	3.13	278	eP	Pn	19 31 48.3	+2.9
CEN1				iS	S	19 32 27.5	+2.3
CEN1				AML	AML	19 32 31.0	
	comp=E,174nm,0.4s						
ANCH	Antofagasta	3.29	273	⇑iP	Pn	19 31 45.2	-1.9
ANCH				iS	S	19 32 24.9	-3.5
PB10	Plate Boundary	3.44	275	⇑iP	Pn	19 31 50.0	+1.1
PB10				iS	S	19 32 31.4	-0.2
PB07	Plate Boundary	3.54	306	⇑iP	Pn	19 31 50.7	+0.3
PB07				iS	S	19 32 32.1	-2.1
PB01	Plate Boundary	3.74	318	⇓eP	Pn	19 31 53.0	+0.3
PB01				iS	S	19 32 36.3	-2.2
ACLC	CERRO LA CRUZ	5.53	181	eP	Pn	19 32 16.4	+1.1
ACLC				eS	S	19 33 16.6	-2.9
AVFE	Valle Fertil	6.78	185	eP	Pn	19 32 31.2	-0.1
LPAZ	La Paz	7.64	351	P	Pn	19 32 42.2	-0.9
	comp=E,0.4nm,0.3s,baz=140,slow=6.4,SNR=6.6						
LPAZ				S	S	19 34 06.8	-3.1
	comp=E,0.1nm,0.3s,baz=334,slow=14,SNR=5.4						
CFAA	Coronel Fontan	7.80	189	P	Pn	19 32 45.1	+0.7
	comp=E,0.1nm,0.3s,baz=0.0,slow=10,SNR=5.7						
CFAA				S	S	19 34 08.7	-4.0
	comp=E,0.6nm,0.3s,baz=277,slow=14,SNR=15						
SIV	San Ignacio	9.52	36	P	Pn	19 33 04.2	-2.7
	comp=E,0.9nm,0.3s,baz=229,slow=12,SNR=15						
BDFB	Brasilia	19.49	69	P	P	19 35 05.2	-0.3
	comp=E,0.9nm,0.3s,baz=228,slow=14,SNR=7.4						
TXAR	Lajitas Array	63.67	324	P	P	19 41 04.5	+1.2
	comp=E,0.2nm,0.4s,baz=142,slow=4.7,SNR=4.0						
TORD	Torodi Ar. Bea	76.37	69	P	P	19 42 20.6	-0.2
	comp=E,1.3nm,0.5s,baz=252,slow=5.4,SNR=35						
WRA	Warramunga Arr	131.81	207	PKP	PKPdf	19 49 45.3	+2.2
	comp=E,0.2nm,0.6s,baz=158,slow=1.7,SNR=4.8						
MKAR	Makanchi Array	146.32	39	PKPbc	PKPab	19 50 12.7	+1.2
	comp=E,0.2nm,0.6s,baz=310,slow=3.2,SNR=6.7						

IDC 19 19:37:26.4±2.0,1.73N×126.46E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.4/32,mbtmp3.7/3,Error ellipse: s-maj=172.0km s-min=24.5km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.88	161	P	P	19 42 31.3	-0.5
	1.7nm,0.3s,baz=339,slow=11,SNR=55						
ASAR	Alice Springs	26.26	164	P	P	19 43 04.0	+0.4
	0.6nm,0.4s,baz=346,slow=12,SNR=12						
MKAR	Makanchi Array	59.05	326	P	P	19 47 28.2	-0.1
	0.4nm,0.6s,baz=119,slow=7.7,SNR=7.3						

NEIC 19 19:56:23.1,34.02N×117.18W,h7km,ML3.6(PAS),After PAS.,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	Pinyon Flat Ob	0.73	123	ePg	Pg	19 56 36.1	-1.2
PFO				eSg	Sg	19 56 45.1	-1.9
PASC	Pasadena Art C	0.84	281	ePg	Pg	19 56 37.6	-1.8
PASC				eSg	Sg	19 56 49.2	-1.1
GSC	Goldstone	1.32	14	ePn	Pn	19 56 46.8	-1.3
GSC				eSn	Sb	19 57 04.3	-1.4
BAR	Barrett	1.40	162	ePn	Pn	19 56 46.8	-2.3
BAR				eSn	Sb	19 57 04.8	-2.9
OSI	Osito Adit	1.41	296	ePn	Pn	19 56 47.7	-1.5
OSI				eSn	Sb	19 57 07.0	-1.0
ISA	Isabella	1.96	328	ePn	Pn	19 56 55.6	-1.2
ISA				eSn	Sb	19 57 23.1	-0.8
LDFC	Landfair	2.01	58	ePn	Pn	19 56 56.2	-1.4
LDFC				eSn	Sb	19 57 25.7	0.0
GLA	Glamis	2.19	115	ePn	Pn	19 56 58.0	-2.0
GLA				ePg	Pb	19 57 03.0	-0.1
GLA				eSn	Sn	19 57 23.0	-4.4
DAC	Darwin (Calif)	2.28	352	ePn	Pn	19 56 59.3	-2.2
SHPR	Sheep Range	2.99	33	ePn	Pn	19 57 10.8	-0.3
SHPR				eSg	Sg	19 57 56.8	-2.6
TPH	Tonopah	4.05	360	ePn	Pn	19 57 24.3	-1.5
TPH				eSg	Sg	19 58 30.9	-2.8
SAO	San Andreas Ge	4.43	309	ePn	Pn	19 57 29.0	-1.8
SAO				eSn	Sn	19 58 16.3	-6.3
NV11	Mina Array Sit	4.48	350	ePn	Pn	19 57 31.2	-0.3
NV11				ePg	Pg	19 57 47.2	-1.8
CCUT	Cedar City	4.70	40	ePn	Pn	19 57 34.9	+0.2
CCUT				eSn	Sn	19 58 29.5	-0.2
CMB	Columbia Colle	4.78	328	ePn	Pn	19 57 34.3	-1.2

KRNET 19 20:10:29.7±0.1,39.26N×74.10E,h1km,mb3.6
NNC 19 20:10:39.7±7.3,45.29N×72.97E,h0km,mb3.2,mpv2.9, Error ellipse: s-maj=82.7km s-min=63.6km az=52.0
ISC 19 20:10:30.4±1.8,39.24N±0.09×74.16E±0.07,h10km,n14, σ2.02/18,3C-6D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.93	327	eP	Pg	20 10 45.7	-2.6
	baz=329						
SFK				eS	Sg	20 10 59.2	-1.2
	baz=329						
OHH	Osh	1.67	321	eP	Pg	20 11 02.4	0.0
	baz=322						
OHH				eS	Sg	20 11 27.0	+3.0
	baz=322						
DRK	Karamyk	1.85	278	eP	Pg	20 11 04.8	-1.0
	baz=278						
DRK				eS	Sg	20 11 30.9	+1.1
	baz=278						
ARSB	Arslanbob	2.27	337	eP	Pg	20 11 13.0	-0.9
	baz=338						
ARSB				eS	Sg	20 11 45.2	+1.8
	baz=338						
AML	Almayashu	2.91	353	P	Pb	20 11 19.5	-3.1
	SNR=13						
UCH	Uchtor	3.00	5	P	Pn	20 11 19.7	+1.3
	SNR=11						
TRKS	Terek-Say	3.25	316	iP	Pn	20 11 31.6	-1.1
	baz=315						
TRKS				eS	Sg	20 12 16.3	+1.5
	baz=315						
AAK	Ala-Archa	3.40	4	⇓Pn	Pn	20 11 26.0	+2.4
	3.7nm,0.6s						
AAK				⇑Lg	Lg	20 12 10.6	
	10nm,0.9s						
EKS2	Erkin-Say	3.43	355	P	Pb	20 11 28.4	-2.9
	SNR=6.9						
KBK	Karagaybulak	3.47	10	P	Pn	20 11 26.5	+1.9
	SNR=6.5						
TKM2	Tokmak 2	3.84	16	⇓Pn	Pn	20 11 30.8	+1.1
	2.3nm,0.5s						
TKM2				⇑Lg	Lg	20 12 17.3	
	9.5nm,0.6s						
TKM2	Tokmak 2	3.84	16	P	Pn	20 11 31.0	+1.4
	SNR=8.7						
KK31	Karatay Array	4.74	326	Pn	Pn	20 11 45.1	+3.2
	0.6nm,0.5s,baz=130,slow=14,SNR=25						
KK31				⇓Pg	Pg	20 11 57.6	-3.6
	0.5nm,0.3s,baz=128,slow=16,SNR=2.9						
KK31				⇑Sn	Sn	20 12 39.6	+2.6
	0.5nm,0.3s,baz=121,slow=25						
KK31				⇓Lg	Lg	20 12 59.6	
	1.1nm,0.5s						
PDGK	Podgornoye	5.72	43	⇓Pg	Pb	20 12 09.7	-0.6
PDGK				⇓Lg	Lg	20 13 20.8	

ISCJB 19 20:19:47.9±0.9,61.11N±0.06×27.9W±0.2,h10km, mb3.9/20,MS3.3/15,Error ellipse: s-maj=14.3km

s-min=7.9km az=166.6
IDC **19** 20:19:47.1±1.4,60°.92N×28°.14W,h0km,mb3.6/8,mb1 3.8/10,mb1mx3.5/53,mbtmp3.7/10,ML3.7/2,MS3.3/17,Ms1 3.3/17,ms1mx3.1/53,Error ellipse: s-maj=32.7km s-min=23.6km az=33.0
CSEM **19** 20:19:49.4±1.6,61°.08N×27°.83W,h10km,mb4.2/11,Ms3.0,Error ellipse: s-maj=89.8km s-min=13.0km az=53.0
ISC 19 20:19:49.2±1.0,61°.04N±0°.09×27°.9W±0°.1,h10km,n63,σ0.76/50,mb4.1/20,MS3.2/15,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	Borgarnes	4.79	36	Pn	Pn	20 21 00.7	-0.7
	4.2nm,0.3s,baz=274,slow=5.4,SNR=18						
BORG				Sn	Sn	20 21 56.1	-0.8
	1.4nm,0.3s,baz=161,slow=20,SNR=13						
SFJD	Kangerlussuaq	11.55	311	LR	LR	20 26 22.0	
	comp=Z,233nm,18.0s,baz=147,slow=34						
SUMG	Summit	12.28	345	iP	Pn	20 22 44.6	+0.5
	4.1nm,0.8s						
SUMG	Summit	12.28	345	eP	Pn	20 22 44.6	+0.5
	4.1nm,0.8s						
EKA	Eskdalemuir Ar	14.20	103	Pn	Pn	20 23 10.0	-0.2
	baz=300,slow=8.6,SNR=3.4						
NOA	NORSAR Array B	18.77	73	LR	LR	20 30 18.4	
	comp=Z,56nm,18.2s,baz=295,slow=33						
QUIF	Quistinic	19.32	122	eP	Pn	20 24 16.6	+1.3
QUIF	Quistinic	19.32	122	eP	Pn	20 24 16.6	+1.3
GRR	Gorron	19.94	117	eP	Pn	20 24 22.3	-0.3
GRR	Gorron	19.94	117	eP	Pn	20 24 22.3	-0.3
HFS	Hagfors	20.22	74	LR	LR	20 31 13.3	
	comp=Z,82nm,18.8s,baz=266,slow=34						
BAIF	Baives	21.01	107	eP	P	20 24 34.0	+1.5
	60nm,1.3s						
BAIF	Baives	21.01	107	eP	P	20 24 34.0	+1.5
	30nm,1.3s						
GIVF	Givet	21.26	106	eP	P	20 24 36.1	+0.8
	37nm,1.1s						
GIVF	Givet	21.26	106	eP	P	20 24 36.1	+0.8
	18nm,1.1s						
SCHQ	Schefferville	21.31	271	LR	LR	20 31 06.7	
	comp=Z,62nm,21.5s,baz=42,slow=32						
MFF	Saint Martin d	21.63	119	eP	P	20 24 39.1	-0.1
	49nm,1.3s						
MFF	Saint Martin d	21.63	119	eP	P	20 24 39.1	-0.1
	25nm,1.3s						
SFTF	Sexfontaines	22.71	109	eP	P	20 24 50.2	-0.6
	20nm,0.9s						
SFTF	Sexfontaines	22.71	109	eP	P	20 24 50.2	-0.6
	10.0nm,0.9s						
PAGF	Fort de Pagny	22.77	108	eP	P	20 24 51.7	+0.2
	3.0nm,0.8s						
PAGF	Fort de Pagny	22.77	108	eP	P	20 24 51.7	+0.2
	1.5nm,0.8s						
SSF	Saint Saulge	22.86	113	eP	P	20 24 52.5	+0.1
SSF	Saint Saulge	22.86	113	eP	P	20 24 52.5	+0.1
LOR	Lormes	22.87	113	eP	P	20 24 51.6	-0.9
LOR				eR			
	129nm,22.0s						
LOR	Lormes	22.87	113	eP	P	20 24 51.6	-0.9
TCF	Toulx Ste Croi	22.89	116	eP	P	20 24 52.9	+0.2
	21nm,1.1s						
TCF	Toulx Ste Croi	22.89	116	eP	P	20 24 52.9	+0.2
	11nm,1.1s						
BGF	Bois d'Agland	22.96	115	eP	P	20 24 52.3	-1.1
	25nm,1.1s						
BGF	Bois d'Agland	22.96	115	eP	P	20 24 52.3	-1.1
	12nm,1.1s						
AVF	Avril sur Loir	23.00	114	eP	P	20 24 54.2	+0.3
	14nm,1.0s						
AVF	Avril sur Loir	23.00	114	eP	P	20 24 54.2	+0.3
	7.2nm,1.0s						
ARCES	ARCESS Array B	23.12	46	LR	LR	20 32 22.7	
	comp=Z,39nm,18.7s,baz=332,slow=32						
SMF	Signal de Mont	23.33	114	eP	P	20 24 56.1	-1.1
SMF	Signal de Mont	23.33	114	eP	P	20 24 56.1	-1.1
HAU	Haudompre	23.46	108	eP	P	20 24 58.8	+0.3
	17nm,1.1s						
HAU				eR			
	92nm,20.5s						
HAU	Haudompre	23.46	108	eP	P	20 24 58.8	+0.3
	8.4nm,1.1s						
CDF	Champ du Feu	23.60	106	eP	P	20 25 00.0	0.0
	32nm,1.6s						
CDF	Champ du Feu	23.60	106	eP	P	20 25 00.0	0.0
	16nm,1.6s						
HINF	Hinteralfeld	23.83	108	eP	P	20 25 02.0	-0.2
	9.1nm,0.8s						
HINF	Hinteralfeld	23.83	108	eP	P	20 25 02.0	-0.2
	4.6nm,0.8s						
CAF	Calviac	23.90	119	eP	P	20 25 02.9	+0.1
	19nm,1.1s						
CAF	Calviac	23.90	119	eP	P	20 25 02.9	+0.1
	9.4nm,1.1s						
CABF	La Chapelle	24.37	111	eP	P	20 25 07.3	0.0
CABF	La Chapelle	24.37	111	eP	P	20 25 07.3	0.0
FINES	FINESS Array B	25.37	65	P	P	20 25 16.3	+0.2
	1.8nm,0.8s,baz=290,slow=10.0,SNR=5.4						
DAVOX	Davos/Dischmat	25.99	106	LR	LR	20 33 54.9	
	comp=Z,47nm,21.3s,baz=158,slow=32						
GERES	GERESS Array B	26.35	99	LR	LR	20 36 31.7	
	comp=Z,66nm,18.4s,baz=286,slow=38						
RES	Resolute Bay	26.78	327	LR	LR	20 35 44.9	
	comp=Z,73nm,19.0s,baz=26,slow=36						
VRAC	Vranov	27.43	95	LR	LR	20 36 50.6	
	comp=Z,53nm,20.4s,baz=324,slow=37						
AKASG	Malin Array Be	32.64	82	P	P	20 26 20.1	-0.7
	0.8nm,0.8s,baz=320,slow=8.4,SNR=4.0						
SADO	Sadowa	33.87	265	LR	LR	20 38 43.3	
	comp=Z,71nm,21.8s,baz=11,slow=34						
ULM	Lac du Bonnet	38.08	285	LR	LR	20 41 44.1	
	comp=Z,103nm,18.8s,baz=36,slow=35						
BRTR	Keskin Array B	42.71	91	P	P	20 27 46.9	+0.7
	0.5nm,0.7s,baz=334,slow=6.9,SNR=3.1						
BRTR				LR	LR	20 46 16.2	
	comp=Z,22nm,20.4s,baz=285,slow=37						
KBZ	Khabaz	44.15	79	P	P	20 27 58.9	+1.4
	0.8nm,0.8s,baz=348,slow=9.3,SNR=3.0						
KBZ				LR	LR	20 46 04.4	
	comp=Z,31nm,18.5s,baz=2.5,slow=36						
ILAR	Eielson Array	46.51	329	P	P	20 28 15.9	-0.1
	0.5nm,0.7s,baz=30,slow=7.0,SNR=2.0						
ILAR				PcP	PcP	20 29 49.1	-1.1
	0.6nm,0.7s,baz=1.7,slow=3.4,SNR=8.6						
BVAR	Borovoye Array	49.18	52	LR	LR	20 47 45.3	
	comp=Z,34nm,19.6s,baz=40,slow=34						
TORD	Torodi Ar. Bea	52.44	143	P	P	20 29 00.5	-1.3
	0.4nm,0.8s,baz=337,slow=8.3,SNR=2.4						
DBIC	Dimbokro	56.93	152	LR	LR	20 50 44.7	
	comp=Z,36nm,19.6s,baz=124,slow=33						
TXAR	Lajitas Array	57.96	273	LR	LR	20 53 00.3	
	comp=Z,31nm,18.3s,baz=0.0,slow=34						
MKAR	Makanchi Array	58.73	49	P	P	20 29 47.0	+0.3
	0.8nm,0.6s,baz=337,slow=5.1,SNR=12						
AAK	Ala-Archa	59.19	57	P	P	20 29 51.8	+1.6
	0.8nm,0.8s,baz=0.0,slow=10,SNR=2.9						
LPIG	La Paz	65.56	276	LR	LR	20 57 28.7	
	comp=Z,50nm,18.1s,baz=36,slow=34						

NNC **19** 20:49:10.3±5.8,36°.89N×70°.80E,h159km±116km,mb2.8,mpv3.6,Error ellipse: s-maj=51.9km s-min=31.7km az=19.0
ISC 19 20:49:07.8±3.5,36°.8N±0°.2×70°.7E±0°.1,h88km,n10,σ0.96/14,5C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.86	23	P	Pn	20 50 33.4	+1.0
	SNR=58						
UCH	Uchtor	6.22	27	P	Pn	20 50 38.0	+0.5
	SNR=6.7						
KK31	Karatay Array	6.34	359	⇓P	Pn	20 50 40.4	+1.8
	2.7nm,0.5s,baz=170,slow=12						
KK31				⇓S	Sn	20 51 50.2	+0.7
	1.4nm,0.3s,baz=180,slow=21						
EKS2	Erkin-Say	6.37	21	P	Pn	20 50 40.0	+0.9
	SNR=7.6						
AAK	Ala-Archa	6.57	26	⇑P	Pn	20 50 42.0	+0.1
	1.9nm,0.5s						
AAK				⇑S	Sn	20 51 55.4	0.0
	3.6nm,0.7s						
AAK	Ala-Archa	6.57	26	P	Pn	20 50 42.5	+0.6
	SNR=5.3						
USP	Ospenovka	7.14	23	P	Pn	20 50 49.4	-0.1
	SNR=5.4						
TKM2	Tokmak 2	7.23	30	⇑P	Pn	20 50 50.5	-0.4
	3.2nm,0.6s						
TKM2				⇑S	Sn	20 52 11.8	+0.2
	1.6nm,0.8s						
TKM2	Tokmak 2	7.23	30	P	Pn	20 50 50.9	-0.1
	SNR=8.2						
AB31	Akbulak array	14.72	331	P	Pn	20 52 31.1	-0.3
	0.4nm,0.5s,baz=146,slow=12,SNR=30						
AB31				⇑S	Sn	20 55 11.5	-1.9
	0.6nm,0.7s,baz=0.0,slow=0.1,SNR=3.7						

ISCJB **19** 20:49:52.7±1.1,36°.19N±0°.06×141°.54E±0°.09,h26km,mb3.4/2,Error ellipse: s-maj=11.4km s-min=8.0km az=33.1
IDC **19** 20:49:52.1±1.6,36°.45N×141°.45E,h0km,mb3.2/2,mb1 3.5/3,mb1mx3.1/38,mbtmp3.2/3,ML2.7/1,Error ellipse: s-maj=33.5km s-min=28.0km az=148.0
JMA **19** 20:49:53.8±0.1,36°.17N×141°.36E,h52km±3km,M2.6
ISC 19 20:49:54.2±1.4,36°.24N±0°.05×141°.33E±0°.09,h26km,n11,σ0.71/13,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.66	216	P	Pb	20 50 06.6	-0.5
CHOJ				S	Sb	20 50 16.2	+0.2
JHO	Hitachi	0.72	301	P	Pn	20 50 08.5	-0.1
JYT	Yasato	0.92	269	P	Pn	20 50 11.1	-0.3
ONAJ	Iwakimizushiy	0.96	334	P	Pn	20 50 12.0	0.0
JFK	Kawauchi	1.18	342	P	Pb	20 50 16.2	+0.2
JFT	Otama	1.50	328	P	Pb	20 50 20.7	-0.7
JAG	Ashikaga	1.53	277	P	Pn	20 50 19.9	+0.1
MJAR	Matsushiro Arr	2.54	278	Pn	Pn	20 50 35.0	+1.3
	1.4nm,0.3s,baz=87,slow=9.4,SNR=19						
MJAR				Sn	Sb	20 51 09.8	0.0
	0.8nm,0.3s,baz=92,slow=23,SNR=3.7						
MAT	Matsushiro	2.54	278	P	Pn	20 50 35.2	+1.5
MAT				eS	Sb	20 51 09.4	-0.5
ILAR	Eielson Array	50.20	32	P	P	20 58 47.4	0.0
	0.3nm,0.7s,baz=251,slow=5.6,SNR=4.1						
WRA	Warramunga Arr	56.27	188	P	P	20 59 36.0	+3.5
	0.2nm,0.6s,baz=0.8,slow=7.7,SNR=6.4						

KRSC 19 20:54:11.0±0.7,55°.21N×166°.20E,h35km±10km,ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	Bering	0.13	267	eP	Pn	20 54 17.4	-1.6
BKI				eS	Sn	20 54 22.6	-3.0
TUMR	Tumrok	3.47	274	eP	Pn	20 55 06.0	+3.4
TUMR				eS	Sn	20 55 48.2	+5.7
NLC	Nalytchevo	4.52	246	eS	Sn	20 56 12.7	+4.7
SDLR	Sedlovina	4.71	249	eP	Pn	20 55 24.2	+4.6
SDLR				eS	Sn	20 56 18.4	+5.3
SMAR	Somma	4.76	249	eP	Pn	20 55 24.6	+4.1
KRER	Koryakskii	4.77	249	eP	Pn	20 55 25.2	+4.6
UGLR	Uglovaya	4.77	248	eP	Pn	20 55 25.3	+4.8
UGLR				eS	Sn	20 56 19.1	+4.5
AVH	Avacha	4.79	249	eP	Pn	20 55 25.6	+4.9
KRX	Arik	4.80	250	eP	Pn	20 55 25.5	+4.6
KRX				eS	Sn	20 56 20.1	+4.7
KOK	Koryaka	4.84	250	eP	Pn	20 55 25.9	+4.6
GNL	Ganaly	5.05	256	eP	Pn	20 55 29.1	+4.7
MTVR	Mutnovka	5.48	243	eP	Pn	20 55 35.3	+5.1
MTVR				eS	Sn	20 56 37.1	+5.0

ISCJB **19** 21:07:23.8±0.6,16°.89N±0°.04×120°.37E±0°.05,h26km±6km,mb3.7/9,MS3.1/3,Error ellipse: s-maj=8.6km s-min=5.2km az=23.3
MAN **19** 21:07:23,16°.92N×120°.34E,h11km,mb4.7,ML3.6,MS3.6
IDC **19** 21:07:29.9±3.1,16°.88N×120°.62E,h71km±31km,mb3.4/10,mb1 3.5/10,mb1mx3.3/55,mbtmp3.7/10,ML4.1/4,MS2.3/3,Ms1 3.3/3,ms1mx2.8/18,Error ellipse: s-maj=32.3km s-min=16.1km az=69.0
ISC 19 21:07:23.1±1.2,16°.94N±0°.03×120°.37E±0°.05,h13km±8km,n24,σ1.46/27,mb3.8/9,MS3.0/3,3C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.59	160	⇑iP	Pg	21 07 34.7	+0.1
BCPH				iS	Sg	21 07 43.2	+0.8
BOLP	Bolinao	0.70	219	eP	Pg	21 07 37.0	+0.3
BOLP				eS	Sg	21 07 45.5	-0.5
ABRA	Dolores	0.78	25	eP	Pb	21 07 38.2	-0.4
ABRA				eS	Sn	21 07 49.4	-2.1
SIPP	Brgy, Tapao	0.99	5	⇑iP	Pn	21 07 45.5	+2.8
SIPP				eS	Sn	21 08 00.5	+4.0
SCZP	Santa Cruz	1.23	201	eP	Pn	21 07 44.1	-1.9
APYP	Conner	1.24	42	eP	Pn	21 07 45.1	-1.1
CAUP	Cauayan	1.39	89	eP	Pg	21 07 50.2	+0.4
PIP	Pasuquin	1.40	10	⇑iP	Pb	21 07 48.5	-0.6
PIP				eS	Sg	21 08 08.5	+0.2
CVP	Callao Caves	1.58	61	eP	Pn	21 07 51.0	+0.1
CVP				eS	Sb	21 08 10.9	-1.3
BALP	Baler	1.66	136	eP	Pn	21 07 52.3	+0.4
TGY	Tagaytay City	2.87	169	P	Pb	21 08 14.2	0.0
	56nm,0.3s,baz=248,slow=6.4,SNR=4.1						
TGY				S	Sb	21 08 51.4	+2.1
	116nm,0.3s,baz=310,slow=17,SNR=2.4						
CMAR	Chiang Mai Arr	20.47	277	P	Pn	21 12 03.8	+0.9
	1.5nm,0.9s,baz=90,slow=8.3,SNR=7.6						
CMAR				LR	LR	21 19 52.4	
	comp=Z,65nm,18.1s,baz=121,slow=36						
KSRS	Korea Array	21.50	17	P	P	21 12 10.7	-1.0
	2.8nm,0.9s,baz=196,slow=10,SNR=5.8						
JCJ	Chichijima	22.58	60	LR	LR	21 20 31.9	
	comp=Z,53nm,20.6s,baz=323,slow=35						
SONM	Songino Array	32.89	343	P	P	21 13 58.3	+1.3
	0.9nm,0.7s,baz=160,slow=9.8,SNR=11						
WRA	Warramunga Arr	39.13	159	P	P	21 14 48.6	-2.0
	0.2nm,0.5s,baz=328,slow=10,SNR=5.0						
ASAR	Alice Springs	42.46	161	P	P	21 15 16.4	-1.7
	0.2nm,0.4s,baz=347,slow=7.8,SNR=3.7						
MKAR	Makanchi Array	43.28	322	P	P	21 15 26.4	+1.9
	0.4nm,0.7s,baz=112,slow=9.4,SNR=6.2						
ZALV	Zalesovo Beam	46.07	331	P	P	21 15 47.1	+0.5
	0.9nm,0.6s,baz=106,slow=9.6,SNR=5.9						
BVAR	Borovoye Array	52.95	325	LR	LR	21 41 37.7	
	comp=Z,28nm,18.2s,baz=106,slow=38						
RES	Resolute Bay	85.91	9	P	P	21 20 02.2	-0.1
	1.3nm,0.7s,baz=327,slow=4.7,SNR=5.8						
YKA	Yellowknife Ar	89.92	22	P	P	21 20 21.7	-0.1
	0.5nm,0.6s,baz=312,slow=4.4,SNR=16						
DAVOX	Davos/Dischmat	91.14	320	P	P	21 20 28.8	+0.7
	1.6nm,0.8s,baz=151,slow=11,SNR=2.5						
SYO	Syowa Base	102.40	201	⇓eP	Pdif	21 21 16.8	-1.4

BJI **19** 21:08:53.0,56°.90N×7°.60E,h10km,mB4.9/3,mb4.7/5,Ms4.5/1,Ms7 3.7/2
ISCJB **19** 21:08:54.2±0.1,56°.80N±0°.01×7°.51E±0°.02,h0km,mb3.9/14,MS3.3/6,Error ellipse: s-maj=2.0km s-min=1.6km az=26.2
MOS **19** 21:08:54.2±1.2,56°.88N×7°.40E,h10km,mb4.1/9,Error ellipse: s-maj=6.5km s-min=2.6km az=91.6
LDG **19** 21:08:56.8±0.2,56°.90N×7°.92E,h10km,Ml4.5/41,Error ellipse: s-maj=4.5km s-min=3.7km az=133.0
CSEM **19** 21:08:56.4±0.1,56°.84N×7°.51E,h1km,mb4.0/8,Error ellipse: s-maj=2.0km s-min=1.7km az=121.0,Suspected Mining explosion.
IDC **19** 21:08:57.0±0.8,56°.85N×7°.34E,h0km,mb3.7/9,mb1 3.9/17,mb1mx3.7/56,mbtmp3.8/17,ML4.3/9,MS3.0/8,Ms1 3.0/8,ms1mx2.7/45,Error ellipse: s-maj=13.3km s-min=7.1km az=99.0
NEIC **19** 21:08:57.1±0.2,56°.88N×7°.50E,h10km,mb4.4/4,Error ellipse: s-maj=3.4km s-min=2.5km az=126.0
NEIC Felt [III] at Holstebro, Lemvig, Nykobing and Thisted and [II] at Viborg, Denmark. Also felt at Alborg, Bjerringbro, Copenhagen, Hvide Sande, Randers, Thyboron and Ulfborg.
NAO **19** 21:08:58.7±3.9,56°.91N×7°.75E,ML3.5
BGR **19** 21:08:59.6±0.8,56°.88N×7°.59E,h10km,ML4.6/12,Error ellipse: s-maj=10.0km s-min=5.6km az=120.0
HEL **19** 21:09:00.6±0.2,56°.87N×7°.53E,h36km±2km,ML4.1,ML3.8(BER),ML3.2(UPP)
BER **19** 21:09:00.5±3.0,56°.87N×7°.48E,h10km,ML3.8,MW3.7,ML3.5(NAO)
UCC **19** 21:09:00.5,56°.82N×7°.29E,h10km,ML4.6
BGS **19** 21:09:01.0±1.7,56°.88N×7°.42E,h27km±19km,ML4.8
UPP **19** 21:09:03.2,56°.98N×8°.29E,h0km,ML3.2,Suspected Mining explosion.
PRU **19** 21:09:04.1,56°.58N×8°.06E,h10km,M4.4
BNS **19** 21:09:04.8±1.0,56°.60N×7°.20E,h30km,ML4.7
STR **19** 21:09:12.7±0.3,55°.79N×7°.43E,h10km,Ml4.6,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
ISC 19 21:08:56.2±0.4,56°.87N±0°.03×7°.68E±0°.03,h0km,n891,σ1.54/953,mb3.9/14,MS3.2/6,13C-21D,North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MUD	Monsted U'grnd	0.92	116	⇓iP	Pn	21 09 18.7	+2.3
MUD				i		21 09 24.0	
MUD	Monsted U'grnd	0.92	116	⇓eP	Pn	21 09 18.8	+2.3
MUD				eS	Sn	21 09 31.5	+1.2
MUD				IAML		21 09 34.1	
	comp=Z,8μm,0.5s						
MUD	Monsted U'grnd	0.92	116	⇓iP	Pn	21 09 18.7	+2.3
MUD				i		21 09 24.0	
MUD				iS	Sn	21 09 31.1	+0.8
MUD				eS	Sn	21 09 31.4	+1.2
MUD	Monsted U'grnd	0.92	116	⇓eP	Pn	21 09 18.8	+2.3
MUD				eS	Sn	21 09 31.5	+1.2
MUD				IAML		21 09 34.1	
	comp=Z,8μm,0.5s						
MUD	Monsted U'grnd	0.92	116	⇓eP	Pn	21 09 18.8	+2.3
MUD				eS	Sn	21 09 31.5	+1.2
MUD	Monsted U'grnd	0.92	116	P	Pn	21 09 18.7	+2.3
MUD				iS	Sn	21 09 31.2	+0.9
	SNR=108						
HOMB	Homborsund	1.47	17	eP	Pg	21 09 25.5	+1.1
HOMB				eS	Sn	21 09 46.2	+2.3
HOMB				IAML		21 09 47.2	
	comp=Z,2μm,0.4s						
HOMB	Homborsund	1.47	17	eP	Pg	21 09 25.5	+1.1
HOMB				eS	Sn	21 09 46.2	+2.3
HOMB				IAML		21 09 47.2	
	comp=Z,2μm,0.4s						
HOMB	Homborsund	1.47	17	P	Pg	21 09 25.4	+1.1
HOMB				S	Sn	21 09 46.1	+2.3
SNART	Snartemo	1.49	350	eP	Pg	21 09 25.4	+0.6
SNART				eS	Sn	21 09 45.7	+1.3
SNART				IAML		21 09 46.2	
	comp=Z,2μm,0.3s						
SNART	Snartemo	1.49	350	eP	Pg	21 09 25.4	+0.6
SNART				eS	Sn	21 09 45.7	+1.3
SNART				IAML		21 09 46.2	
	comp=Z,2μm,0.3s						
SNART	Snartemo	1.49	350	eP	Pg	21 09 25.4	+0.6
SNART				eS	Sn	21 09 45.7	+1.3
SNART	Snartemo	1.49	350	eP	Pg	21 09 25.4	+0.6
SNART				eS	Sn	21 09 45.7	+1.3
GID	Gilleleje	2.60	105	eP	Pb	21 09 43.1	-0.5
	SNR=94						
BLS5	Blasjo	2.64	346	eP	Pn	21 09 41.3	+1.3
BLS5				eS	Sn	21 10 14.1	+1.4
BLS5				IAML		21 10 26.3	
	comp=Z,1μm,0.4s						
BLS5	Blasjo	2.64	346	eP	Pn	21 09 41.3	+1.3
BLS5				eS	Sn	21 10 14.1	+1.4
BLS5				IAML		21 10 26.3	
	comp=Z,1μm,0.4s						
BLS5	Blasjo	2.64	346	P	Pn	21 09 41.3	+1.3
BLS5				S	Sn	21 10 14.1	+1.4
KMY	Karmoy	2.68	332	IAML		21 10 30.1	
	comp=Z,567nm,0.4s						
KMY	Karmoy	2.68	332	IAML		21 10 30.1	
	comp=Z,567nm,0.4s						
HLG	Helgoland	2.70	178	ePn	Pn	21 09 42.5	+1.7
HLG				eSn	Sn	21 10 13.1	-1.0
HLG				eSg	Sg	21 10 24.8	+2.0
HLG	Helgoland	2.70	178	P	Pn	21 09 42.7	+1.9
HLG				S	Sn	21 10 12.4	-1.7
HLG	Helgoland	2.70	178	Pn	Pn	21 09 42.5	+1.7
HLG				S	Sn	21 10 12.4	-1.7
HLG				Sn	Sn	21 10 13.1	-1.0
HLG				Sg	Sg	21 10 24.8	+2.0
FABU	Falkenberg	2.76	85	eP	Pn	21 09 43.9	+2.2
FABU				eS	Sn	21 10 14.1	-1.6
FABU	Falkenberg	2.76	85	P	Pn	21 09 43.8	+2.2
FABU				S	Sn	21 10 14.0	-1.6
FABU	Falkenberg	2.76	85	P	Pn	21 09 43.9	+2.2
FABU				S	Sn	21 10 14.1	-1.6
VANU	Vaenersborg	2.86	54	eP	Pn	21 09 44.8	+1.8
VANU	Vaenersborg	2.86	54	P	Pn	21 09 44.8	+1.8
VANU	Vaenersborg	2.86	54	P	Pn	21 09 44.8	+1.8
COP	Copenhagen	2.90	112	ePn	Pn	21 09 45.3	+1.6
COP				eSn	Sn	21 10 17.4	-1.7
COP	Copenhagen	2.90	112	P	Pn	21 09 45.2	+1.6
COP				S	Sn	21 10 17.3	-1.8
COP	Copenhagen	2.90	112	eP	Pn	21 09 45.2	+1.6
COP	Copenhagen	2.90	112	iP	Pn	21 09 45.1	+1.5
COP	Copenhagen	2.90	112	eP	Pn	21 09 45.2	+1.6
COP				eS	Sn	21 10 17.6	-1.6
COP	Copenhagen	2.90	112	P	Pn	21 09 45.2	+1.6
COP				S	Sn	21 10 17.3	-1.8
COP	Copenhagen	2.90	112	P	Pn	21 09 45.2	+1.6
COP				Sn	Sn	21 10 17.4	-1.7
KONO	Kongsberg	2.96	19	eP	Pn	21 09 45.4	+0.9
KONO	Kongsberg	2.96	19	eP	Pn	21 09 45.4	+0.9
KONO	Kongsberg	2.96	19	eP	Pn	21 09 45.3	+0.9
KONO				e		21 10 18.7	
KONO	Kongsberg	2.96	19	eP	Pn	21 09 45.4	+0.9
KONO				eP	Pn	21 09 45.5	+1.1
KONO				IAML		21 10 42.4	
	comp=Z,418nm,0.5s						
KONO	Kongsberg	2.96	19	eP	Pn	21 09 45.4	+0.9
KONO				eP	Pn	21 09 45.5	+1.1
KONO				IAML		21 10 42.4	
	comp=Z,418nm,0.5s						
KONO	Kongsberg	2.96	19	eP	Pn	21 09 45.3	+0.9
KONO				ePg	Pg	21 09 52.9	-0.1
KONO				eSn	Sn	21 10 18.7	-1.9
KONO	Kongsberg	2.96	19	ePn	Pn	21 09 45.3	+0.9
KONO	Kongsberg	2.96	19	eP	Pn	21 09 45.5	+1.1
	SNR=50						
KONO	Kongsberg	2.96	19	ePg	Pg	21 09 52.9	-0.1
KONO				eS	Sn	21 10 18.7	-1.9
ODD1	Odda	3.10	350	eP	Pn	21 09 47.5	+1.2
ODD1				IAML		21 10 44.6	
	comp=Z,664nm,0.4s						
ODD1	Odda	3.10	350	eP	Pn	21 09 47.5	+1.2
ODD1				IAML		21 10 44.6	
	comp=Z,664nm,0.4s						
ODD1	Odda	3.10	350	P	Pn	21 09 47.5	+1.2
BSEG	Bad Segeberg	3.31	152	ePn	Pn	21 09 50.7	+1.5
BSEG	Bad Segeberg	3.31	152	P	Pn	21 09 50.6	+1.5
BSEG	Bad Segeberg	3.31	152	P	Pn	21 09 50.6	+1.5
BSEG	Bad Segeberg	3.31	152	P	Pn	21 09 50.6	+1.5
GNOU	Gnosjoe	3.34	80	eP	Pn	21 09 51.6	+1.9
GNOU	Gnosjoe	3.34	80	P	Pn	21 09 51.5	+1.9
GNOU	Gnosjoe	3.34	80	P	Pn	21 09 51.6	+1.9
DEL	Delary	3.44	94	eP	Pn	21 09 53.4	+2.5
DEL	Delary	3.44	94	P	Pn	21 09 53.4	+2.5
DEL	Delary	3.44	94	P	Pn	21 09 53.4	+2.5
FKPU	Falk	3.50	66	P	Pn	21 09 54.7	+2.8
FKPU	Falk	3.50	66	P	Pn	21 09 54.7	+2.8
NASU	Vaermlandsnaes	3.59	53	eP	Pn	21 09 54.7	+1.7
NASU	Vaermlandsnaes	3.59	53	P	Pn	21 09 54.7	+1.7
NASU	Vaermlandsnaes	3.59	53	P	Pn	21 09 54.7	+1.7
FINU	Finntorp	3.59	43	eP	Pn	21 09 54.9	+1.9
FINU	Finntorp	3.59	43	P	Pn	21 09 54.9	+1.9
FINU	Finntorp	3.59	43	P	Pn	21 09 54.9	+1.9
BER	Bergen	3.73	342	P	Pn	21 09 55.9	+0.9
BER	Bergen	3.73	342	eP	Pn	21 09 55.8	+0.9
BER				IAML		21 11 04.3	
	comp=Z,419nm,0.4s						
BER	Bergen	3.73	342	eP	Pn	21 09 55.8	+0.9
BER				IAML		21 11 04.3	
	comp=Z,419nm,0.4s						
BER	Bergen	3.73	342	P	Pn	21 09 55.9	+0.9
BER	Bergen	3.73	342	P	Pn	21 09 55.8	+0.9
RUND	Rundenannen	3.75	342	eP	Pn	21 09 55.4	0.0
RUND	Rundenannen	3.75	342	P	Pn	21 09 55.4	0.0
RUND	Rundenannen	3.75	342	P	Pn	21 09 55.3	0.0
ASK	Askoy	3.85	341	eP	Pn	21 09 57.0	+0.5
ASK	Askoy	3.85	341	eP	Pn	21 09 57.0	+0.5
ASKU	Askersund	4.32	59	eP	Pn	21 10 05.0	+1.9

ASKU Askersund 4.32 59 P Pn 21 10 04.9 +1.9
ASKU Askersund 4.32 59 P Pn 21 10 05.0 +1.9
HYA Hoyanger 4.38 350 eP Pn 21 10 05.1 +1.2
HYA IAML 21 11 26.0
comp=Z,331nm,0.5s
HYA Hoyanger 4.38 350 eP Pn 21 10 05.1 +1.2
HYA IAML 21 11 26.0
comp=Z,331nm,0.5s
HYA Hoyanger 4.38 350 P Pn 21 10 05.0 +1.2
BSD Bornholm Skovb 4.43 110 ePn Pn 21 10 05.9 +1.4
BSD Bornholm Skovb 4.43 110 P Pn 21 10 04.3 -0.2
BSD Bornholm Skovb 4.43 110 eP Pn 21 10 06.1 +1.6
BSD Bornholm Skovb 4.43 110 i P Pn 21 10 06.1 +1.6
BSD Bornholm Skovb 4.43 110 eP Pn 21 10 06.0 +1.4
BSD eS Sn 21 10 53.2 -3.4
BSD Bornholm Skovb 4.43 110 P Pn 21 10 04.3 -0.2
BSD Bornholm Skovb 4.43 110 eP Pn 21 10 06.1 +1.6
SNR=49
BSD i S Sn 21 10 56.3 -0.4
comp=Z,216nm,0.6s,SNR=71
LNKU Linkoeping 4.43 69 eP Pn 21 10 07.1 +2.6
LNKU Linkoeping 4.43 69 P Pn 21 10 07.1 +2.6
LNKU Linkoeping 4.43 69 P Pn 21 10 07.1 +2.6
SUE Sulen 4.46 341 eP Pn 21 10 05.4 +0.4
SUE eS Sn 21 10 55.9 -1.6
SUE Sulen 4.46 341 eP Pn 21 10 05.4 +0.4
SUE eS Sn 21 10 55.9 -1.6
SUE Sulen 4.46 341 P Pn 21 10 05.3 +0.4
SUE S Sn 21 10 55.9 -1.6
BLEU Blekinge 4.53 94 eP Pn 21 10 08.1 +2.1
BLEU Blekinge 4.53 94 P Pn 21 10 08.0 +2.1
BLEU Blekinge 4.53 94 P Pn 21 10 08.1 +2.1
HFS Hagfors 4.54 41 Pn Pn 21 10 07.5 +1.4
baz=216,slow=18
HFS Sn Sn 21 10 55.3 -4.2
baz=222,slow=22
HFS Hagfors 4.54 41 Pn Pn 21 10 07.5 +1.4
baz=216,slow=18
HFS Sn Sn 21 10 55.3 -4.2
baz=222,slow=22
HFS Hagfors 4.54 41 Pn Pn 21 10 07.5 +1.4
baz=216,slow=18
HFS Sn Sn 21 10 55.3 -4.2
baz=222,slow=22
HFS Hagfors 4.54 41 P Pn 21 10 07.8 +1.7
HFS 21 10 56.8
HFS pmax pmax
comp=Z,26nm,0.3s
HFS smax smax
comp=N,52nm,0.3s
HFS MLR MLR
comp=Z,14nm,28.6s
HFS Hagfors 4.54 41 Pn Pn 21 10 07.5 +1.4
baz=216,slow=18
HFS Sn Sn 21 10 55.3 -4.2
baz=222,slow=22
HFS Hagfors 4.54 41 Pn Pn 21 10 07.8 +1.7
comp=Z,26nm,0.3s,baz=218,slow=13,SNR=2110
HFS Sn Sn 21 10 56.8 -2.7
comp=Z,52nm,0.3s,baz=226,slow=23,SNR=11
HFS Lg Lg 21 11 24.0
comp=Z,30nm,0.3s,baz=225,slow=29,SNR=3.6
HFS LR LR 21 11 56.4
comp=Z,58nm,19.8s,baz=241,slow=38
HFS Hagfors 4.54 41 eP Pn 21 10 07.5 +1.4
HFS eS Sn 21 10 55.3 -4.2
HFS Hagfors 4.54 41 P Pn 21 10 07.8 +1.7
comp=Z,26nm,0.3s
HFS S Sn 21 10 56.8 -2.7
comp=Z,14nm,28.6s
NB2 NORSAR Subarra 4.56 22 Pn Pn 21 10 07.0 +0.5
baz=205,slow=14
NB2 NORSAR Subarra 4.56 22 Pn Pn 21 10 07.0 +0.5
baz=205,slow=14
NB2 NORSAR Subarra 4.56 22 Pn Pn 21 10 07.0 +0.5
baz=205,slow=14
NB2 NORSAR Subarra 4.56 22 Pn Pn 21 10 07.0 +0.5
baz=205,slow=14
NB2 NORSAR Subarra 4.56 22 eP Pn 21 10 07.0 +0.5
NB2 NORSAR Subarra 4.56 22 P Pn 21 10 06.9 +0.5
NOA NORSAR Array B 4.56 22 P Pn 21 10 05.1 -1.3
NOA 21 10 58.5
NOA pmax pmax
comp=Z,8.0nm,0.3s
NOA smax smax
comp=N,20nm,0.3s
NOA NORSAR Array B 4.56 22 Pn Pn 21 10 05.1 -1.3
comp=N,7.9nm,0.3s,baz=180,slow=7.4,SNR=142
NOA Sn Sn 21 10 58.5 -1.7
comp=N,20nm,0.3s,baz=213,slow=23,SNR=4.7
NOA Lg Lg 21 11 22.6
comp=N,54nm,0.3s,baz=138,slow=24,SNR=7.0
IBBN Ibbenburen 4.58 179 ePn Pn 21 10 07.3 +0.7
IBBN eSn Sn 21 10 55.9 -4.5
IBBN Ibbenburen 4.58 179 P Pn 21 10 07.0 +0.4
IBBN Ibbenburen 4.58 179 P Pn 21 10 07.0 +0.4
IBBN Ibbenburen 4.58 179 Pn Pn 21 10 07.3 +0.7
IBBN Sn Sn 21 10 55.9 -4.5
NRDL Niedersach Rie 4.61 161 ePn Pn 21 10 07.8 +0.9
NRDL Niedersach Rie 4.61 161 Pn Pn 21 10 07.8 +0.9
NRAU Nora 4.74 52 eP Pn 21 10 10.8 +2.0
NRAU Nora 4.74 52 P Pn 21 10 10.7 +2.0
NRAU Nora 4.74 52 P Pn 21 10 10.8 +2.0
FOO Floro 4.93 345 eP Pn 21 10 12.0 +0.6
FOO Floro 4.93 345 eP Pn 21 10 12.0 +0.6
FOO Floro 4.93 345 P Pn 21 10 12.0 +0.6
WTSB Winterswijk 4.94 186 eP Pn 21 10 12.1 +0.5
WTSB eS Sn 21 11 03.3 -6.2
WTSB Winterswijk 4.94 186 P Pn 21 10 11.8 +0.2
WTSB Winterswijk 4.94 186 P Pn 21 10 11.8 +0.2
ASSE Asse, Remlinge 5.06 159 ePn Pn 21 10 13.6 +0.4
ASSE Asse, Remlinge 5.06 159 Pn Pn 21 10 13.6 +0.4
CLZ Clausthal 5.28 162 ePn Pn 21 10 16.5 +0.2
CLZ eSn Sn 21 11 13.0 -4.9
CLZ Clausthal 5.28 162 P Pn 21 10 16.8 +0.5
CLZ Clausthal 5.28 162 P Pn 21 10 16.8 +0.5
CLZ Clausthal 5.28 162 Pn Pn 21 10 16.5 +0.2
CLZ Clausthal 5.28 162 P Pn 21 10 16.8 +0.5
CLZ Sn Sn 21 11 13.0 -4.9
AKN Aaknes 5.33 357 eP Pn 21 10 17.7 +0.7
AKN Aaknes 5.33 357 eP Pn 21 10 17.7 +0.7
AKN Aaknes 5.33 357 eP Pn 21 10 17.7 +0.7
BUG Bochum--Univer 5.45 183 ePn Pn 21 10 18.6 +0.1
BUG eSn Sn 21 11 16.4 -5.5
BUG Bochum--Univer 5.45 183 P Pn 21 10 18.8 +0.2
BUG Bochum--Univer 5.45 183 P Pn 21 10 18.8 +0.2
BUG Bochum--Univer 5.45 183 P Pn 21 10 18.8 +0.2
GTTG Gvttingen 5.50 165 ePn Pn 21 10 20.0 +0.7
GTTG eSn Sn 21 11 19.1 -4.2
GTTG Gvttingen 5.50 165 Pn Pn 21 10 20.0 +0.7
LAUG Laupendahl 5.55 185 ePn Pn 21 10 20.3 +0.3
LAUG Laupendahl 5.55 185 Pn Pn 21 10 20.3 +0.3
DRUM Mains of Drumt 5.58 275 eP Pn 21 10 19.7 -0.6
DRUM eS Sn 21 11 16.0 -9.0
DRUM AML AML 21 11 20.6
comp=E,375nm,0.6s
DRUM AML AML 21 11 20.8
comp=N,408nm,0.5s
DRUM Mains of Drumt 5.58 275 eP Pn 21 10 19.7 -0.6
DRUM eS Sn 21 11 16.0 -9.0
DRUM AML AML 21 11 20.6
comp=E,375nm,0.6s
DRUM AML AML 21 11 20.8
comp=N,408nm,0.5s
DRUM Mains of Drumt 5.58 275 eP Pn 21 10 19.7 -0.6
DRUM eS Sn 21 11 16.0 -9.0
DRUM AML AML 21 11 20.6
comp=E,375nm,0.6s
DRUM AML AML 21 11 20.8
comp=N,408nm,0.5s
DRUM Mains of Drumt 5.58 275 eP Pn 21 10 19.7 -0.6
FALU Falun 5.59 46 eP Pn 21 10 22.1 +1.7
FALU eS Sn 21 11 20.7 -4.6
FALU Falun 5.59 46 P Pn 21 10 22.1 +1.7
FALU Falun 5.59 46 P Pn 21 10 22.1 +1.7
FALU S Sn 21 11 20.7 -4.6
LRW Lerwick 5.68 309 eP Pn 21 10 21.5 -0.2
LRW eS Sn 21 11 19.6 -8.0
LRW AML AML 21 11 34.1
comp=N,60nm,0.3s
LRW AML AML 21 11 41.3
comp=E,76nm,0.6s
LRW Lerwick 5.68 309 eP Pn 21 10 21.5 -0.2
LRW eS Sn 21 11 19.6 -8.0
LRW AML AML 21 11 34.1
comp=N,60nm,0.3s
LRW AML AML 21 11 41.3
comp=E,76nm,0.6s
LRW Lerwick 5.68 309 eP Pn 21 10 21.5 -0.2
LRW eP Pn 21 10 21.6 -0.2
LRW eS Sn 21 11 19.6 -8.0
LRW AML AML 21 11 34.1
comp=N,60nm,0.3s
LRW AML AML 21 11 41.3
comp=E,76nm,0.6s
LRW Lerwick 5.68 309 eP Pn 21 10 21.5 -0.2
LRW eP Pn 21 10 21.6 -0.2
LRW eS Sn 21 11 19.6 -8.0
LRW AML AML 21 11 34.1
comp=N,60nm,0.3s
LRW AML AML 21 11 41.3
comp=E,76nm,0.6s
LRW Lerwick 5.68 309 eP Pn 21 10 21.5 -0.2
LRW eS Sn 21 11 19.6 -8.0
LRW Lerwick 5.68 309 eP Pn 21 10 21.5 -0.2
LMK Market Rasen 5.73 237 eP Pn 21 10 22.4 +0.1
LMK eS Sn 21 11 20.4 -8.3
LMK AML AML 21 11 25.6
comp=N,1μm,0.3s
LMK AML AML 21 11 29.6
comp=E,894nm,0.3s
LMK Market Rasen 5.73 237 eP Pn 21 10 22.4 +0.1
LMK eS Sn 21 11 20.4 -8.3
LMK AML AML 21 11 25.6
comp=N,1μm,0.3s
LMK AML AML 21 11 29.6
comp=E,894nm,0.3s
LMK Market Rasen 5.73 237 eP Pn 21 10 22.4 +0.1
LMK eS Sn 21 11 20.4 -8.3
LMK AML AML 21 11 25.6
comp=N,1μm,0.3s
LMK AML AML 21 11 29.6
comp=E,894nm,0.3s
LMK Market Rasen 5.73 237 eP Pn 21 10 22.4 +0.1
LMK eS Sn 21 11 20.4 -8.3
LMK Market Rasen 5.73 237 eP Pn 21 10 22.4 +0.1
BACU Backbrunna 5.79 55 eP Pn 21 10 25.3 +2.1
BACU Backbrunna 5.79 55 P Pn 21 10 25.3 +2.1
BACU Backbrunna 5.79 55 P Pn 21 10 25.3 +2.1
ESY Stoneypath 5.80 265 eP Pn 21 10 22.8 -0.6
ESY Stoneypath 5.80 265 eP Pn 21 10 22.8 -0.6
ESY Stoneypath 5.80 265 eP Pn 21 10 22.8 -0.6
ESY Stoneypath 5.80 265 eP Pn 21 10 22.8 -0.6
ESY Stoneypath 5.80 265 eP Pn 21 10 22.8 -0.6
ESY Stoneypath 5.80 265 eP Pn 21 10 22.8 -0.6
ESY Stoneypath 5.80 265 P Pn 21 10 22.7 -0.6
MME1 Meikle Cairn 5.82 279 eP Pn 21 10 22.6 -1.1
MME1 Meikle Cairn 5.82 279 eP Pn 21 10 22.6 -1.1
MME1 Meikle Cairn 5.82 279 eP Pn 21 10 22.6 -1.1
MME1 Meikle Cairn 5.82 279 eP Pn 21 10 22.6 -1.1
MME1 Meikle Cairn 5.82 279 eP Pn 21 10 22.6 -1.1
HOBG Hohbusch 5.91 182 ePn Pn 21 10 25.1 +0.2
HOBG Hohbusch 5.91 182 Pn Pn 21 10 25.1 +0.2
XAL Allendale 5.93 254 eP Pn 21 10 24.2 -0.9
XAL Allendale 5.93 254 eP Pn 21 10 24.2 -0.9
XAL Allendale 5.93 254 eP Pn 21 10 24.2 -0.9
XAL Allendale 5.93 254 eP Pn 21 10 24.2 -0.9
XAL Allendale 5.93 254 eP Pn 21 10 24.2 -0.9
XAL Allendale 5.93 254 eP Pn 21 10 24.2 -0.9
BNS Bensberg 5.93 183 eSn Sn 21 11 27.5 -6.2
comp=E,504nm,0.4s
OSTU Oestervaala 5.98 52 eP Pn 21 10 27.5 +1.6
OSTU Oestervaala 5.98 52 P Pn 21 10 27.5 +1.6
OSTU Oestervaala 5.98 52 P Pn 21 10 27.5 +1.6
MCD Coleburn Disti 5.99 281 eP Pn 21 10 24.8 -1.1
MCD eS Sn 21 11 25.0 -10
MCD AML AML 21 11 43.5
comp=N,118nm,0.7s
MCD AML AML 21 11 43.8
comp=E,136nm,0.6s
MCD Coleburn Disti 5.99 281 eP Pn 21 10 24.8 -1.1
MCD eS Sn 21 11 25.0 -10
MCD AML AML 21 11 43.5
comp=N,118nm,0.7s
MCD AML AML 21 11 43.8
comp=E,136nm,0.6s
MCD Coleburn Disti 5.99 281 eP Pn 21 10 24.8 -1.1
MCD eS Sn 21 11 25.0 -10
MCD AML AML 21 11 43.5
comp=N,118nm,0.7s
MCD AML AML 21 11 43.8
comp=E,136nm,0.6s
MCD Coleburn Disti 5.99 281 eP Pn 21 10 24.8 -1.1
MCD eS Sn 21 11 25.0 -10
MCD AML AML 21 11 43.5
comp=N,118nm,0.7s
MCD AML AML 21 11 43.8
comp=E,136nm,0.6s
MCD Coleburn Disti 5.99 281 eP Pn 21 10 24.8 -1.1
UPP Uppsala 6.03 56 eP Pn 21 10 28.6 +2.1
UPP Uppsala 6.03 56 P Pn 21 10 28.6 +2.1
UPP Uppsala 6.03 56 P Pn 21 10 28.6 +2.1
EBL Broad Law 6.07 264 eP Pn 21 10 26.3 -0.9
EBL Broad Law 6.07 264 eP Pn 21 10 26.3 -0.9
EBL Broad Law 6.07 264 eP Pn 21 10 26.3 -0.9
EBL Broad Law 6.07 264 eP Pn 21 10 26.3 -0.9
EBL Broad Law 6.07 264 P Pn 21 10 26.2 -0.9
EDI Edinburgh 6.11 266 eP Pn 21 10 14.1 -14
EDI AML AML 21 11 26.8
comp=N,91nm,0.3s
EDI AML AML 21 11 40.5
comp=E,97nm,0.5s
EDI Edinburgh 6.11 266 eP Pn 21 10 14.1 -14
EDI AML AML 21 11 26.8
comp=N,91nm,0.3s
EDI AML AML 21 11 40.5
comp=E,97nm,0.5s
EDI Edinburgh 6.11 266 eP Pn 21 10 14.1 -14
EDI AML AML 21 11 26.8
comp=N,91nm,0.3s
EDI AML AML 21 11 40.5
comp=E,97nm,0.5s
NEUB Neuenburg 6.17 155 P Pn 21 10 28.1 -0.3
NEUB Neuenburg 6.17 155 P Pn 21 10 28.1 -0.3
HGN Heimansgroeve 6.21 190 eP Pn 21 10 28.9 -0.1
comp=E,3.4nm,0.1s
HGN eS Sn 21 11 32.8 -7.8
HGN Heimansgroeve 6.21 190 P Pn 21 10 29.0 -0.1
HGN Heimansgroeve 6.21 190 eP Pn 21 10 28.9 -0.1
comp=E,3.4nm,0.1s
UBBA Unterbreizbach 6.22 166 ePn Pn 21 10 29.0 -0.1
UBBA eSn Sn 21 11 34.2 -6.6
UBBA Unterbreizbach 6.22 166 Pn Pn 21 10 29.0 -0.1
EKA Eskdalemuir Ar 6.26 260 Pn Pn 21 10 28.5 -1.2
baz=75,slow=13,SNR=1593
EKA Sn Sn 21 11 33.8 -8.1
baz=73,slow=25,SNR=17
FLYU Flymyra 6.26 54 eP Pn 21 10 31.3 +1.6
FLYU Flymyra 6.26 54 P Pn 21 10 31.3 +1.6
FLYU Flymyra 6.26 54 P Pn 21 10 31.3 +1.6
DREG Dreilaegerbach 6.28 188 ePn Pn 21 10 29.9 -0.1
DREG Dreilaegerbach 6.28 188 Pn Pn 21 10 29.9 -0.1
ESK Eskdalemuir 6.29 260 eP Pn 21 10 29.0 -1.2
ESK eS Sn 21 11 33.0 -10
ESK AML AML 21 11 37.1
comp=N,84nm,0.2s
ESK AML AML 21 11 38.6
comp=E,136nm,0.4s
ESK Eskdalemuir 6.29 260 eP Pn 21 10 29.0 -1.2
ESK eS Sn 21 11 33.0 -10
ESK AML AML 21 11 37.1
comp=N,84nm,0.2s
ESK AML AML 21 11 38.6
comp=E,136nm,0.4s
ESK Eskdalemuir 6.29 260 eP Pn 21 10 28.8 -1.3
ESK eS Sn 21 11 33.7 -9.0
ESK pmax pmax
comp=Z,95nm,0.4s
ESK Eskdalemuir 6.29 260 eP Pn 21 10 29.0 -1.2
ESK eS Sn 21 11 33.0 -10
ESK AML AML 21 11 37.1
comp=N,84nm,0.2s
ESK AML AML 21 11 38.6
comp=E,136nm,0.4s
ESK Eskdalemuir 6.29 260 eP Pn 21 10 29.0 -1.2
ESK eS Sn 21 11 33.0 -10
ESK AML AML 21 11 37.1
comp=N,84nm,0.2s
ESK AML AML 21 11 38.6
comp=E,136nm,0.4s
ESK Eskdalemuir 6.29 260 ePn Pn 21 10 28.8 -1.3
comp=E,95nm,0.4s
ESK eS Sn 21 11 33.7 -9.0
ESK Eskdalemuir 6.29 260 eP Pn 21 10 29.0 -1.2
KLL Kalltalsperre 6.29 188 ePn Pn 21 10 30.0 -0.2
KLL Kalltalsperre 6.29 188 Pn Pn 21 10 30.0 -0.2
ECK Cauldkaine Hil 6.29 259 eP Pn 21 10 29.1 -1.1
ECK Cauldkaine Hil 6.29 259 eP Pn 21 10 29.1 -1.1
ECK Cauldkaine Hil 6.29 259 eP Pn 21 10 29.1 -1.1
ECK Cauldkaine Hil 6.29 259 eP Pn 21 10 29.1 -1.1
ECK Cauldkaine Hil 6.29 259 eP Pn 21 10 29.1 -1.1
STB Steinbach 6.31 185 ePn Pn 21 10 30.9 +0.5
STB Steinbach 6.31 185 Pn Pn 21 10 30.9 +0.5
MEM Membach 6.35 190 P Pn 21 10 31.2 +0.1
MEM Membach 6.35 190 P Pn 21 10 30.4 -0.6
MEM Membach 6.35 190 P Pn 21 10 30.4 -0.6
MEM Membach 6.35 190 P Pn 21 10 31.1 +0.1
CLL Collm 6.39 148 ePn Pn 21 10 31.8 +0.3
CLL Collm 6.39 148 eP Pn 21 10 34.0 +2.5
CLL e 21 11 40.0
CLL Collm 6.39 148 ePn Pn 21 10 34.0 +2.5
CLL e 21 10 40.0
CLL i 21 10 42.4
CLL eSn Sn 21 11 40.0 -5.1
CLL Lm MLR 21 12 24.0
comp=Z,100nm,19.9s
CLL Collm 6.39 148 P Pn 21 10 31.2 -0.3
CLL Collm 6.39 148 P Pn 21 10 31.2 -0.3
CLL Collm 6.39 148 Pn Pn 21 10 31.8 +0.3
IGGU Iggoen 6.40 47 eP Pn 21 10 32.9 +1.3
IGGU eS Sn 21 11 41.9 -3.5
IGGU Iggoen 6.40 47 P Pn 21 10 32.9 +1.3
IGGU Iggoen 6.40 47 P Pn 21 10 32.9 +1.3
IGGU S Sn 21 11 41.9 -3.5
KBI1 Birley Grange 6.41 239 eP Pn 21 10 31.2 -0.6
KBI1 Birley Grange 6.41 239 eP Pn 21 10 31.2 -0.6
KBI1 Birley Grange 6.41 239 eP Pn 21 10 31.2 -0.6
KBI1 Birley Grange 6.41 239 eP Pn 21 10 31.2 -0.6
BSTI Sart Tilman 6.42 192 P Pn 21 10 33.4 +1.4
BIGH Upper Bighouse 6.43 289 eP Pn 21 10 30.8 -1.2
BIGH eS Sn 21 11 35.3 -11
BIGH AML AML 21 11 53.4
comp=N,137nm,0.3s
BIGH AML AML 21 11 53.6
comp=E,160nm,0.5s
BIGH Upper Bighouse 6.43 289 eP Pn 21 10 30.8 -1.2
BIGH eS Sn 21 11 35.3 -11
BIGH AML AML 21 11 53.4
comp=N,137nm,0.3s
BIGH AML AML 21 11 53.6
comp=E,160nm,0.5s
BIGH Upper Bighouse 6.43 289 eP Pn 21 10 30.8 -1.2
BIGH eS Sn 21 11 35.3 -11
BIGH AML AML 21 11 53.4
comp=N,137nm,0.3s
BIGH AML AML 21 11 53.6
comp=E,160nm,0.5s
BIGH Upper Bighouse 6.43 289 eP Pn 21 10 30.8 -1.2
KOE Koeppel 6.46 180 ePn Pn 21 10 32.8 +0.3
KOE Koeppel 6.46 180 Pn Pn 21 10 32.8 +0.3
MVH1 Achvaich 6.50 284 eP Pn 21 10 32.0 -1.0
MVH1 Achvaich 6.50 284 eP Pn 21 10 32.0 -1.0
MVH1 Achvaich 6.50 284 eP Pn 21 10 32.0 -1.0
MVH1 Achvaich 6.50 284 eP Pn 21 10 32.0 -1.0
MVH1 Achvaich 6.50 284 eP Pn 21 10 32.0 -1.0
MVH1 Achvaich 6.50 284 eP Pn 21 10 32.0 -1.0
KESW Keswick, Cumbr 6.51 254 eP Pn 21 10 31.9 -1.3
KESW eS Sn 21 11 39.1 -8.9
KESW AML AML 21 11 42.5
comp=E,108nm,0.6s
KESW AML AML 21 11 42.8
comp=N,102nm,0.2s
KESW Keswick, Cumbr 6.51 254 eP Pn 21 10 31.9 -1.3
KESW eS Sn 21 11 39.1 -8.9
KESW AML AML 21 11 42.5
comp=E,108nm,0.6s
KESW AML AML 21 11 42.8
comp=N,102nm,0.2s
KESW Keswick, Cumbr 6.51 254 eP Pn 21 10 31.9 -1.3
KESW eS Sn 21 11 39.1 -8.9
KESW AML AML 21 11 42.5
comp=E,108nm,0.6s
KESW AML AML 21 11 42.8
comp=N,102nm,0.2s
KESW Keswick, Cumbr 6.51 254 eP Pn 21 10 31.9 -1.3
FORU Forsmark 6.51 53 eP Pn 21 10 34.6 +1.5
FORU Forsmark 6.51 53 P Pn 21 10 34.6 +1.5
FORU Forsmark 6.51 53 P Pn 21 10 34.6 +1.5
GKP Gorka Klasztor 6.57 119 P Pn 21 10 34.4 +0.5
GKP Gorka Klasztor 6.57 119 P Pn 21 10 34.4 +0.5
GKP Gorka Klasztor 6.57 119 P Pn 21 10 34.4 +0.5
MDO Dochfour 6.58 280 eP Pn 21 10 33.7 -0.4
MDO Dochfour 6.58 280 eP Pn 21 10 33.7 -0.4
MDO Dochfour 6.58 280 eP Pn 21 10 33.7 -0.4
MDO Dochfour 6.58 280 eP Pn 21 10 33.7 -0.4
MDO Dochfour 6.58 280 eP Pn 21 10 33.7 -0.4
HILG Hillesheim 6.62 186 ePn Pn 21 10 35.6 +0.9
HILG Hillesheim 6.62 186 Pn Pn 21 10 35.6 +0.9
GRAU Graesoe 6.65 54 eP Pn 21 10 36.3 +1.3
GRAU Graesoe 6.65 54 P Pn 21 10 36.3 +1.3
GRAU Graesoe 6.65 54 P Pn 21 10 36.3 +1.3
MOX Moxa 6.66 158 ePn Pn 21 10 35.1 -0.2
MOX Moxa 6.66 158 P Pn 21 10 35.2 0.0
MOX Moxa 6.66 158 P Pn 21 10 35.2 0.0
MOX Moxa 6.66 158 P Pn 21 10 35.2 0.0
TNS Taunus Mts 6.68 176 ePn Pn 21 10 36.1 +0.6
TNS eSn Sn 21 11 46.3 -6.0
TNS Taunus Mts 6.68 176 P Pn 21 10 36.3 +0.8
TNS Taunus Mts 6.68 176 P Pn 21 10 36.3 +0.8
TNS Taunus Mts 6.68 176 Pn Pn 21 10 36.1 +0.6
BGES Gesves 6.68 194 P Pn 21 10 36.3 +0.8
BGG Burgeitz 6.68 182 ePn Pn 21 10 37.4 +1.9
BGG Burgeitz 6.68 182 Pn Pn 21 10 37.4 +1.9
EAB Aberfoyle 6.69 269 eP Pn 21 10 34.9 -0.7
EAB Aberfoyle 6.69 269 eP Pn 21 10 34.9 -0.7
EAB Aberfoyle 6.69 269 eP Pn 21 10 34.9 -0.7
EAB Aberfoyle 6.69 269 eP Pn 21 10 34.9 -0.7
EAB Aberfoyle 6.69 269 P Pn 21 10 34.8 -0.7
PGBU Glenifferbraes 6.85 266 eP Pn 21 10 37.2 -0.6
PGBU AML AML 21 11 51.7
comp=E,106nm,0.6s
PGBU AML AML 21 11 51.8
comp=N,106nm,0.3s
PGBU Glenifferbraes 6.85 266 eP Pn 21 10 37.2 -0.6
PGBU AML AML 21 11 51.7
comp=E,106nm,0.6s
PGBU AML AML 21 11 51.8
comp=N,106nm,0.3s
PGBU Glenifferbraes 6.85 266 eP Pn 21 10 37.2 -0.6
PGBU AML AML 21 11 51.7
comp=E,106nm,0.6s
PGBU AML AML 21 11 51.8
comp=N,106nm,0.3s
PGBU Glenifferbraes 6.85 266 eP Pn 21 10 37.2 -0.6
comp=N,106nm,0.3s
HUDU Hudiksvall 6.86 41 eP Pn 21 10 39.4 +1.5
HUDU Hudiksvall 6.86 41 P Pn 21 10 39.4 +1.5
HUDU Hudiksvall 6.86 41 P Pn 21 10 39.4 +1.5
RCHB Rochefort 6.89 193 P Pn 21 10 38.3 0.0
RCHB Rochefort 6.89 193 P Pn 21 10 38.3 0.0
ELSH Elham, Standar 6.91 217 eP Pn 21 10 39.0 +0.4
ELSH AML AML 21 11 58.9
comp=N,128nm,0.5s
ELSH AML AML 21 12 12.1
comp=E,166nm,0.6s
ELSH Elham, Standar 6.91 217 eP Pn 21 10 39.0 +0.4
ELSH AML AML 21 11 58.9
comp=N,128nm,0.5s
ELSH AML AML 21 12 12.1
comp=E,166nm,0.6s
ELSH Elham, Standar 6.91 217 eP Pn 21 10 39.0 +0.4
ELSH AML AML 21 11 58.9
comp=N,128nm,0.5s
ELSH AML AML 21 12 12.1
comp=E,166nm,0.6s
ELSH Elham, Standar 6.91 217 eP Pn 21 10 39.0 +0.4
comp=E,166nm,0.6s
ARNU Arnoeviken 6.92 42 eP Pn 21 10 40.4 +1.6
ARNU Arnoeviken 6.92 42 P Pn 21 10 40.4 +1.6

ARNU	Arnoeviken	6.92	42	P	Pn	21 10 40.4	+1.6
GIVF	Givet	6.99	195	ePn	Pn	21 10 39.8	0.0
	SNR=1.0						
GIVF				eSn	Sn	21 11 52.5	-7.5
	comp=E,138nm,0.3s						
GIVF	Givet	6.99	195	eP	Pn	21 10 39.8	0.0
GIVF				e		21 11 52.5	
GIVF	Givet	6.99	195	ePn	Pn	21 10 39.8	0.0
GIVF				eSn	Sn	21 11 52.5	-7.5
GIVF	Givet	6.99	195	ePn	Pn	21 10 39.8	0.0
	SNR=1.0						
DOU	Dourbes	7.04	196	P	Pn	21 10 42.3	+1.9
DOU	Dourbes	7.04	196	P	Pn	21 10 42.2	+1.9
BRG	Berggiesshubel	7.06	146	PN	Pn	21 10 42.5	+1.9
BRG				i		21 10 50.3	
BRG	Berggiesshubel	7.06	146	P	Pn	21 10 42.5	+1.9
BRG						21 11 53.9	
BRG				smax	smax		
	comp=N,5.0nm,0.5s						
BRG	Berggiesshubel	7.06	146	P	Pn	21 10 42.2	+1.6
BRG	Berggiesshubel	7.06	146	P	Pn	21 10 42.2	+1.6
TANN	Tannenbergstha	7.06	154	ePn	Pn	21 10 40.3	-0.5
TANN				eSn	Sn	21 11 55.2	-6.6
TANN	Tannenbergstha	7.06	154	P	Pn	21 10 40.1	-0.7
TANN	Tannenbergstha	7.06	154	Pn	Pn	21 10 40.3	-0.5
KAC	Achnashellach	7.09	281	eP	Pn	21 10 40.1	-1.0
KAC	Achnashellach	7.09	281	eP	Pn	21 10 40.1	-1.0
KAC	Achnashellach	7.09	281	eP	Pn	21 10 40.1	-1.0
KAC	Achnashellach	7.09	281	eP	Pn	21 10 40.1	-1.0
KAC	Achnashellach	7.09	281	eP	Pn	21 10 40.1	-1.0
BAIF	Baives	7.13	198	ePn	Pn	21 10 42.6	+0.9
	SNR=1.0						
BAIF				eSn	Sn	21 11 55.6	-7.8
	comp=N,48nm,0.3s						
BAIF	Baives	7.13	198	eP	Pn	21 10 42.6	+0.9
BAIF				e		21 11 55.6	
BAIF	Baives	7.13	198	ePn	Pn	21 10 42.6	+0.9
BAIF				eSn	Sn	21 11 55.6	-7.8
BAIF	Baives	7.13	198	ePn	Pn	21 10 42.6	+0.9
	SNR=1.0						
KSB	Sheil Bridge	7.16	278	eP	Pn	21 10 41.1	-1.0
KSB	Sheil Bridge	7.16	278	eP	Pn	21 10 41.1	-1.0
KSB	Sheil Bridge	7.16	278	eP	Pn	21 10 41.1	-1.0
KSB	Sheil Bridge	7.16	278	eP	Pn	21 10 41.1	-1.0
KSB	Sheil Bridge	7.16	278	eP	Pn	21 10 41.1	-1.0
RUP	Ruppelstein	7.19	183	P	Pn	21 10 42.4	-0.2
AAL	Aland	7.24	58	eP	Pn	21 10 44.3	+1.1
AAL				eS	Sn	21 11 59.9	-6.1
AAL	Aland	7.24	58	P	Pn	21 10 44.2	+1.1
GAL1	Galloway	7.26	259	eP	Pn	21 10 42.1	-1.3
GAL1				eS	Sn	21 11 55.4	-11
GAL1				AML	AML	21 12 02.3	
	comp=E,46nm,0.6s						
GAL1				AML	AML	21 12 13.6	
	comp=N,72nm,0.4s						
GAL1	Galloway	7.26	259	eP	Pn	21 10 42.1	-1.3
GAL1				eS	Sn	21 11 55.4	-11
GAL1				AML	AML	21 12 02.3	
	comp=E,46nm,0.6s						
GAL1				AML	AML	21 12 13.6	
	comp=N,72nm,0.4s						
GAL1	Galloway	7.26	259	eP	Pn	21 10 42.1	-1.3
GAL1				eS	Sn	21 11 55.4	-11
GAL1				AML	AML	21 12 02.3	
	comp=E,46nm,0.6s						
GAL1				AML	AML	21 12 13.6	
	comp=N,72nm,0.4s						
GAL1	Galloway	7.26	259	eP	Pn	21 10 42.1	-1.3
GAL1				eS	Sn	21 11 55.4	-11
GAL1				AML	AML	21 12 02.3	
	comp=E,46nm,0.6s						
GAL1				AML	AML	21 12 13.6	
	comp=N,72nm,0.4s						
GAL1	Galloway	7.26	259	P	Pn	21 10 42.4	-1.0
GAL1	Galloway	7.26	259	P	Pn	21 10 42.4	-1.0
WLF	Walferdange	7.28	188	P	Pn	21 10 43.1	-0.6
WLF				pmax	pmax		
	comp=Z,8.0nm,0.4s						
WLF	Walferdange	7.28	188	Pn	Pn	21 10 43.1	-0.6
	comp=Z,8.2nm,0.4s						
WLF				eS	Sn	21 11 53.5	-14
WLF	Walferdange	7.28	188	P	Pn	21 10 43.1	-0.6
	comp=Z,8.0nm,0.4s						
KPL	Plockton	7.28	279	ePn	Pn	21 10 42.8	-0.8
KPL				eS	Sn	21 11 54.6	-12
KPL				AML	AML	21 12 15.2	
	comp=E,38nm,0.3s						
KPL				AML	AML	21 12 16.6	
	comp=N,48nm,0.4s						
KPL	Plockton	7.28	279	eP	Pn	21 10 42.8	-0.8
KPL				eS	Sn	21 11 54.6	-12
KPL				AML	AML	21 12 15.2	
	comp=E,38nm,0.3s						
KPL				AML	AML	21 12 16.6	
	comp=N,48nm,0.4s						
KPL	Plockton	7.28	279	eP	Pn	21 10 42.8	-0.8
KPL				eS	Sn	21 11 54.6	-12
KPL				AML	AML	21 12 15.2	
	comp=E,38nm,0.3s						
KPL				AML	AML	21 12 16.6	
	comp=N,48nm,0.4s						
KPL	Plockton	7.28	279	eP	Pn	21 10 42.8	-0.8
KPL				eS	Sn	21 11 54.6	-12
KPL				AML	AML	21 12 15.2	
	comp=E,38nm,0.3s						
KPL				AML	AML	21 12 16.6	
	comp=N,48nm,0.4s						
KPL	Plockton	7.28	279	P	Pn	21 10 43.4	-0.3
KPL	Plockton	7.28	279	eP	Pn	21 10 42.8	-0.8
TOD	Tromm	7.31	174	P	Pn	21 10 44.5	+0.3
SSW	Stow on the Wo	7.42	233	eP	Pb	21 11 04.3	-1.4
SSW	Stow on the Wo	7.42	233	eP	Pb	21 11 04.3	-1.4
SSW	Stow on the Wo	7.42	233	eP	Pb	21 11 04.3	-1.4
FOEL	Foel Wylfa	7.44	242	eP	Pn	21 10 45.1	-0.8
FOEL				eS	Sn	21 12 02.2	-8.7
FOEL				AML	AML	21 12 06.0	
	comp=E,123nm,0.5s						
FOEL				AML	AML	21 12 06.9	
	comp=N,268nm,0.5s						
FOEL	Foel Wylfa	7.44	242	eP	Pn	21 10 45.1	-0.8
FOEL				eS	Sn	21 12 02.2	-8.7
FOEL				AML	AML	21 12 06.0	
	comp=E,123nm,0.5s						
FOEL				AML	AML	21 12 06.9	
	comp=N,268nm,0.5s						
FOEL	Foel Wylfa	7.44	242	eP	Pn	21 10 45.1	-0.8
FOEL				eS	Sn	21 12 02.2	-8.7
FOEL				AML	AML	21 12 06.0	
	comp=E,123nm,0.5s						
FOEL				AML	AML	21 12 06.9	
	comp=N,268nm,0.5s						
FOEL	Foel Wylfa	7.44	242	eP	Pn	21 10 45.1	-0.8
	comp=N,268nm,0.5s						
GRA3	Grafenberg Arr	7.45	162	P	Pn	21 10 47.0	+1.0
GRA3	Grafenberg Arr	7.45	162	P	Pn	21 10 47.0	+1.0
GRA1	Grafenberg Arr	7.50	162	P	Pn	21 10 48.0	+1.3
GRA1	Grafenberg Arr	7.50	162	Pn	Pn	21 10 48.0	+1.3
GRF	Grafenberg Arr	7.50	162	ePn	Pn	21 10 48.0	+1.3
GRF	Grafenberg Arr	7.50	162	P	Pn	21 10 48.0	+1.3
GRFO	Grafenberg	7.50	162	P	Pn	21 10 48.1	+1.3
GRFO	Grafenberg	7.50	162	P	Pn	21 10 48.1	+1.3
GRFO	Grafenberg	7.50	162	P	Pn	21 10 48.1	+1.3
HLM1	Long Mynd	7.51	239	eP	Pn	21 10 46.1	-0.9
HLM1				eS	Sn	21 12 03.7	-9.1
HLM1				AML	AML	21 12 08.0	
	comp=N,151nm,0.5s						
HLM1				AML	AML	21 12 08.1	
	comp=E,191nm,0.4s						
HLM1	Long Mynd	7.51	239	eP	Pn	21 10 46.1	-0.9
HLM1				eS	Sn	21 12 03.7	-9.1
HLM1				AML	AML	21 12 08.0	
	comp=N,151nm,0.5s						
HLM1				AML	AML	21 12 08.1	
	comp=E,191nm,0.4s						
HLM1	Long Mynd	7.51	239	eP	Pn	21 10 46.1	-0.9
HLM1				eS	Sn	21 12 03.7	-9.1
HLM1				AML	AML	21 12 08.0	
	comp=N,151nm,0.5s						
HLM1				AML	AML	21 12 08.1	
	comp=E,191nm,0.4s						
HLM1	Long Mynd	7.51	239	eP	Pn	21 10 46.1	-0.9
GRA2	Grafenberg Arr	7.56	162	P	Pn	21 10 49.3	+1.7
GRA2	Grafenberg Arr	7.56	162	P	Pn	21 10 49.3	+1.7
WPM1	Penmaenmawr	7.57	246	eP	Pn	21 10 46.2	-1.5
WPM1	Penmaenmawr	7.57	246	eP	Pn	21 10 46.2	-1.5
WPM1	Penmaenmawr	7.57	246	eP	Pn	21 10 46.2	-1.5
WPM1	Penmaenmawr	7.57	246	eP	Pn	21 10 46.2	-1.5
WOL	Wolverton	7.64	227	eP	Pn	21 10 47.9	-0.8
WOL				AML	AML	21 12 14.3	
	comp=N,117nm,0.7s						
WOL				AML	AML	21 12 15.6	
	comp=E,129nm,0.6s						
WOL	Wolverton	7.64	227	eP	Pn	21 10 47.9	-0.8
WOL				AML	AML	21 12 14.3	
	comp=N,117nm,0.7s						
WOL				AML	AML	21 12 15.6	
	comp=E,129nm,0.6s						
WOL	Wolverton	7.64	227	eP	Pn	21 10 47.9	-0.8
WOL				AML	AML	21 12 14.3	
	comp=N,117nm,0.7s						
WOL				AML	AML	21 12 15.6	
	comp=E,129nm,0.6s						
WOL	Wolverton	7.64	227	eP	Pn	21 10 47.9	-0.8
	comp=E,129nm,0.6s						
STRD	Stroud	7.69	233	eP	Pn	21 10 48.9	-0.5
STRD				AML	AML	21 12 28.2	
	comp=E,186nm,0.7s						
STRD				AML	AML	21 12 32.1	
	comp=N,376nm,0.5s						
STRD	Stroud	7.69	233	eP	Pn	21 10 48.9	-0.5
STRD				AML	AML	21 12 28.2	
	comp=E,186nm,0.7s						
STRD				AML	AML	21 12 32.1	
	comp=N,376nm,0.5s						
STRD	Stroud	7.69	233	eP	Pn	21 10 48.9	-0.5
STRD				AML	AML	21 12 28.2	
	comp=E,186nm,0.7s						
STRD				AML	AML	21 12 32.1	
	comp=N,376nm,0.5s						
STRD	Stroud	7.69	233	eP	Pn	21 10 48.9	-0.5
	comp=N,376nm,0.5s						
WME	Myndd Eilian	7.70	248	eP	Pn	21 10 47.9	-1.6
WME	Myndd Eilian	7.70	248	eP	Pn	21 10 47.9	-1.6
WME	Myndd Eilian	7.70	248	eP	Pn	21 10 47.9	-1.6
WME	Myndd Eilian	7.70	248	eP	Pn	21 10 47.9	-1.6
SWN1	Swindon	7.73	230	eP	Pn	21 10 49.3	-0.5
SWN1				AML	AML	21 12 29.9	
	comp=E,200nm,0.5s						
SWN1				AML	AML	21 12 31.7	
	comp=N,244nm,0.4s						
SWN1	Swindon	7.73	230	eP	Pn	21 10 49.3	-0.5
SWN1				AML	AML	21 12 29.9	
	comp=E,200nm,0.5s						
SWN1				AML	AML	21 12 31.7	
	comp=N,244nm,0.4s						
SWN1	Swindon	7.73	230	eP	Pn	21 10 49.3	-0.5
SWN1				AML	AML	21 12 29.9	
	comp=E,200nm,0.5s						
SWN1				AML	AML	21 12 31.7	
	comp=N,244nm,0.4s						
SWN1	Swindon	7.73	230	P	Pn	21 10 48.8	-1.0
SWN1	Swindon	7.73	230	P	Pn	21 10 48.8	-1.0
GRB4	Grafenberg Arr	7.77	161	P	Pn	21 10 51.8	+1.3
GRB4	Grafenberg Arr	7.77	161	P	Pn	21 10 51.8	+1.3
WLF1	Llynfaes	7.80	248	eP	Pn	21 10 49.5	-1.4
WLF1				AML	AML	21 12 14.7	
	comp=N,72nm,0.4s						
WLF1				AML	AML	21 12 16.6	
	comp=E,68nm,0.5s						
WLF1	Llynfaes	7.80	248	eP	Pn	21 10 49.5	-1.4
WLF1				AML	AML	21 12 14.7	
	comp=N,72nm,0.4s						
WLF1				AML	AML	21 12 16.6	
	comp=E,68nm,0.5s						
WLF1	Llynfaes	7.80	248	eP	Pn	21 10 49.5	-1.4
WLF1				AML	AML	21 12 14.7	
	comp=N,72nm,0.4s						
WLF1				AML	AML	21 12 16.6	
	comp=E,68nm,0.5s						
WLF1	Llynfaes	7.80	248	eP	Pn	21 10 49.5	-1.4
	comp=E,68nm,0.5s						
KSP	Ksiaz	7.89	136	eP	Pn	21 10 52.7	+0.6
KSP	Ksiaz	7.89	136	ePn	Pn	21 10 52.8	+0.6
KSP				e		21 11 00.6	
KSP				ePg	Pg	21 11 29.1	+1.8
KSP				eSn	Sn	21 12 15.6	-6.5
KSP	Ksiaz	7.89	136	P	Pn	21 10 51.7	-0.5
KSP	Ksiaz	7.89	136	eP	Pn	21 10 52.7	+0.6
LANF	Langenberg	7.91	179	P	Pn	21 10 52.6	+0.3
LANF				S	Sn	21 12 15.4	-7.1
LANF	Langenberg	7.91	179	P	Pn	21 10 52.6	+0.3
MCH1	Michaelchurch	7.91	236	eP	Pn	21 10 51.0	-1.4
MCH1				eS	Sn	21 12 13.9	-8.6
MCH1				AML	AML	21 12 17.8	
	comp=N,223nm,0.6s						
MCH1				AML	AML	21 12 18.3	
	comp=E,177nm,0.3s						
MCH1	Michaelchurch	7.91	236	eP	Pn	21 10 51.0	-1.4
MCH1				eS	Sn	21 12 13.9	-8.6
MCH1				AML	AML	21 12 17.8	
	comp=N,223nm,0.6s						
MCH1				AML	AML	21 12 18.3	
	comp=E,177nm,0.3s						
MCH1	Michaelchurch	7.91	236	eP	Pn	21 10 51.0	-1.4
MCH1				eS	Sn	21 12 13.9	-8.6
MCH1				AML	AML	21 12 17.8	
	comp=N,223nm,0.6s						
MCH1				AML	AML	21 12 18.3	
	comp=E,177nm,0.3s						
MCH1	Michaelchurch	7.91	236	P	Pn	21 10 50.8	-1.6
MCH1	Michaelchurch	7.91	236	eP	Pn	21 10 51.0	-1.4
YRC	Rhoscolyn	7.92	248	eP	Pn	21 10 51.0	-1.4
YRC	Rhoscolyn	7.92	248	eP	Pn	21 10 51.0	-1.4
YRC	Rhoscolyn	7.92	248	eP	Pn	21 10 51.0	-1.4
YRC	Rhoscolyn	7.92	248	eP	Pn	21 10 51.0	-1.4
MONM	Monmouth	7.93	235	eP	Pn	21 10 51.4	-1.2
MONM				AML	AML	21 12 18.7	
	comp=N,180nm,0.6s						
MONM				AML	AML	21 12 19.1	
	comp=E,181nm,0.2s						
MONM	Monmouth	7.93	235	eP	Pn	21 10 51.4	-1.2
MONM				AML	AML	21 12 18.7	
	comp=N,180nm,0.6s						
MONM				AML	AML	21 12 19.1	
	comp=E,181nm,0.2s						
MONM	Monmouth	7.93	235	eP	Pn	21 10 51.4	-1.2
MONM				AML	AML	21 12 18.7	
	comp=N,180nm,0.6s						
MONM				AML	AML	21 12 19.1	
	comp=E,181nm,0.2s						
MONM	Monmouth	7.93	235	eP	Pn	21 10 51.4	-1.2
	comp=E,181nm,0.2s						
OLDB	Oldbury-Upon-S	7.94	233	eP	Pn	21 10 50.9	-1.9
OLDB				eS	Sn	21 12 13.6	-10
OLDB				AML	AML	21 12 19.2	
	comp=N,418nm,0.3s						
OLDB				AML	AML	21 12 44.6	
	comp=E,427nm,0.4s						
OLDB	Oldbury-Upon-S	7.94	233	eP	Pn	21 10 50.9	-1.9
OLDB				eS	Sn	21 12 13.6	-10
OLDB				AML	AML	21 12 19.2	
	comp=N,418nm,0.3s						
OLDB				AML	AML	21 12 44.6	
	comp=E,427nm,0.4s						
OLDB	Oldbury-Upon-S	7.94	233	eP	Pn	21 10 50.9	-1.9
OLDB				eS	Sn	21 12 13.6	-10
OLDB				AML	AML	21 12 19.2	
	comp=N,418nm,0.3s						
OLDB				AML	AML	21 12 44.6	
	comp=E,427nm,0.4s						
OLDB	Oldbury-Upon-S	7.94	233	eP	Pn	21 10 50.9	-1.9
GRB2	Grafenberg Arr	7.98	161	P	Pn	21 10 53.7	+0.3
GRB2	Grafenberg Arr	7.98	161	P	Pn	21 10 53.7	+0.3
YRE	Yr Eifl	7.99	246	eP	Pn	21 10 52.1	-1.3
YRE	Yr Eifl	7.99	246	eP	Pn	21 10 52.1	-1.3
YRE	Yr Eifl	7.99	246	eP	Pn	21 10 52.1	-1.3
YRE	Yr Eifl	7.99	246	eP	Pn	21 10 52.1	-1.3
BATH	Bath	8.00	231	eP	Pn	21 10 52.6	-1.0
BATH				eS	Sn	21 12 14.2	-11
BATH				AML	AML	21 12 23.2	
	comp=N,401nm,0.5s						
BATH				AML	AML	21 12 24.5	
	comp=E,400nm,0.6s						
BATH	Bath	8.00	231	eP	Pn	21 10 52.6	-1.0
BATH				eS	Sn	21 12 14.2	-11
BATH				AML	AML	21 12 23.2	
	comp=N,401nm,0.5s						
BATH				AML	AML	21 12 24.5	
	comp=E,400nm,0.6s						
BATH	Bath	8.00	231	eP	Pn	21 10 52.6	-1.0
BATH				eS	Sn	21 12 14.2	-11
BATH				AML	AML	21 12 23.2	
	comp=N,401nm,0.5s						
BATH				AML	AML	21 12 24.5	
	comp=E,400nm,0.6s						
BATH	Bath	8.00	231	eP	Pn	21 10 52.7	-1.0
PRU	Pruhonice	8.02	146	eP	Pn	21 10 55.5	+1.7
PRU				e		21 12 18.9	
PRU	Pruhonice	8.02	146	ePN	Pn	21 10 55.5	+1.7
PRU				eSN	Sn	21 12 18.9	-6.2
PRU	Pruhonice	8.02	146	P	Pn	21 10 54.3	+0.5
PRU	Pruhonice	8.02	146	P	Pn	21 10 54.3	+0.5
PRU	Pruhonice	8.02	146	Pn	Pn	21 10 55.5	+1.7
UPC	Upice	8.06	139	eP	Pn	21 10 54.7	+0.2
UPC	Upice	8.06	139	ePN	Pn	21 10 54.7	+0.2
UPC	Upice	8.06	139	Pn	Pn	21 10 54.7	+0.2
STU	Stuttgart	8.17	173	P	Pn	21 10 54.7	-1.2
STU				eS	Sn	21 12 26.2	-2.6
STU	Stuttgart	8.17	173	Pn	Pn	21 10 54.7	-1.2
STU				eS	Sn	21 12 26.2	-2.6
STU	Stuttgart	8.17	173	P	Pn	21 10 54.7	-1.2
STU				eS	Sn	21 12 26.2	-2.6
DPC	Dobruska-Polom	8.31	138	eP	Pn	21 10 58.2	+0.4
DPC	Dobruska-Polom	8.31	138	ePN	Pn	21 10 58.2	+0.4
DPC				ex	x	21 12 24.3	
DPC	Dobruska-Polom	8.31	138	P	Pn	21 10 58.0	+0.2
DPC	Dobruska-Polom	8.31	138	Pn	Pn	21 10 58.2	+0.4
LPW	Lampeter	8.33	240	eP	Pn	21 10 57.4	-0.8
LPW	Lampeter	8.33	240	eP	Pn	21 10 57.4	-0.8
LPW	Lampeter	8.33	240	eP	Pn	21 10 57.4	-0.8
LPW	Lampeter	8.33	240	eP	Pn	21 10 57.3	-0.8
WET	Wettzell	8.35	156	ePn	Pn	21 11 00.1	+1.7
WET	Wettzell	8.35	156	P	Pn	21 10 58.3	-0.1
WET	Wettzell	8.35	156	P	Pn	21 10 58.3	-0.1
WET	Wettzell	8.35	156	P	Pn	21 10 58.3	-0.1
WET	Wettzell	8.35	156	Pn	Pn	21 11 00.1	+1.7
RAF	Rauma	8.38	54	eP	Pn	21 10 59.0	+0.3
RAF				MPN		21 11 01.0	
	comp=Z,6.9nm,0.2s						
RAF				eS	Sn	21 12 27.2	-6.7
RAF	Rauma	8.38	54	P	Pn	21 10 59.0	+0.3
PAGF	Fort de Pagny	8.42	189	ePn	Pn	21 10 58.7	-0.6
PAGF				eSn	Sn	21 12 26.2	-8.8
	comp=Z,11nm,0.6s						
PAGF	Fort de Pagny	8.42	189	ePn	Pn	21 10 58.7	-0.6
PAGF				eSn	Sn	21 12 26.2	-8.8
PAGF	Fort de Pagny	8.42	189	ePn	Pn	21 10 58.7	-0.6
CDF	Champ du Feu	8.48	182	ePn	Pn	21 10 59.5	-0.8
	SNR=1.0						
CDF				eSn	Sn	21 12 27.8	-8.8
	comp=Z,26nm,0.4s						
CDF	Champ du Feu	8.48	182	eP	Pn	21 10 59.5	-0.8
CDF				e		21 12 27.8	
CDF	Champ du Feu	8.48	182	ePn	Pn	21 10 59.5	-0.8
CDF				eSn	Sn	21 12 27.8	-8.8
CDF	Champ du Feu	8.48	182	ePn	Pn	21 10 59.5	-0.8
	SNR=1.0						
KHC	Kasperske Hory	8.53	153	eP	Pn	21 11 00.0	-0.9
KHC				eS	Sn	21 12 31.8	-6.0
KHC				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KHC	Kasperske Hory	8.53	153	ePN	Pn	21 11 02.3	+1.4
KHC				eSN	Sn	21 12 30.3	-7.4
KHC				ex	x	21 12 45.0	
KHC	Kasperske Hory	8.53	153	ePn	Pn	21 10 60.0	-0.9
	comp=Z,6.9nm,0.4s						
KHC				eS	Sn	21 12 31.8	-6.0
KHC	Kasperske Hory	8.53	153	eP	Pn	21 11 00.0	-0.9
	comp=Z,7.0nm,0.4s						
KHC	Kasperske Hory	8.53	153	Pn	Pn	21 11 02.3	+1.4
MEZF	Maizieres J'vi	8.54	192	ePn	Pn	21 10 59.3	-1.6
	SNR=1.0						
MEZF				eSn	Sn	21 12 28.9	-9.0
	comp=Z,41nm,0.4s						
MEZF	Maizieres J'vi	8.54	192	ePn	Pn	21 10 59.3	-1.6
MEZF				eSn	Sn	21 12 28.9	-9.0
MEZF	Maizieres J'vi	8.54	192	ePn	Pn	21 10 59.3	-1.6
	SNR=1.0						
BFO	Black Forest	8.57	177	ePn	Pn	21 11 01.7	+0.3
BFO				eSn	Sn	21 12 30.3	-8.4
BFO	Black Forest	8.57	177	eP	Pn	21 11 01.6	+0.2
BFO				eS	Sn	21 12 32.2	-6.5
BFO				pmax	pmax		
	comp=Z,15nm,0.4s						
BFO	Black Forest	8.57	177	ePn	Pn	21 11 01.6	+0.2
	comp=Z,15nm,0.4s						
BFO				eS	Sn	21 12 32.2	-6.5
BFO	Black Forest	8.57	177	eP	Pn	21 11 01.6	+0.2
	comp=Z,15nm,0.4s						
ECH	Echery	8.68	182	eP	Pn	21 11 02.6	-0.3
ECH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ECH	Echery	8.68	182	ePn	Pn	21 11 02.6	-0.3
	comp=Z,8.2nm,0.8s						
ECH				eS	Sn	21 12 30.2	-11
ECH	Echery	8.68	182	eP	Pn	21 11 02.6	-0.3
	comp=Z,8.0nm,0.8s						
KRLC	Kraliky	8.70	138	eP	Pn	21 11 03.7	+0.5
KRLC	Kraliky	8.70	138	ePN	Pn	21 11 03.7	+0.5
KRLC	Kraliky	8.70	138	Pn	Pn	21 11 03.7	+0.5
THEF	They Montfort	8.72	188	P	Pn	21 11 03.9	+0.4
THEF	They Montfort	8.72	188	P	Pn	21 11 03.9	+0.4
GEC2	GERESS Array S	8.82	153	ePn	Pn	21 11 06.4	+1.4
GEC2	GERESS Array S	8.82	153	Pn	Pn	21 11 06.4	+1.4
GERES	GERESS Array B	8.82	153	P	Pn	21 11 05.9	+0.9
GERES						21 12 41.2	
GERES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GERES				smax	smax		
	comp=N,1.0nm,0.3s						
GERES	GERESS Array B	8.82	153	Pn	Pn	21 11 05.9	+0.9
	comp=N,2.1nm,0.3s,baz=344,slow=13,SNR=60						
GERES				Sn	Sn	21 12 41.2	-3.9
	comp=N,1.1nm,0.3s,baz=308,slow=17,SNR=2.8						
SFTF	Sexfontaines	8.83	192	ePn	Pn	21 11 04.5	-0.5
SFTF				eSn	Sn	21 12 36.0	-9.1
	comp=N,25nm,0.3s						
SFTF	Sexfontaines	8.83	192	ePn	Pn	21 11 04.5	-0.5
SFTF				eSn	Sn	21 12 36.0	-9.1
SFTF	Sexfontaines	8.83	192	ePn	Pn	21 11 04.5	-0.5
DSB	Dublin	8.85	252	ePn	Pn	21 11 04.0	-1.2
DSB				eS	Sn	21 12 36.2	-9.3
DSB	Dublin	8.85	252	ePn	Pn	21 11 04.0	-1.2
HEX	Exmoor	8.92	234	eP	Pn	21 11 04.7	-1.5
HEX	Exmoor	8.92	234	eP	Pn	21 11 04.7	-1.5
HEX	Exmoor	8.92	234	eP	Pn	21 11 04.7	-1.5
HEX	Exmoor	8.92	234	eP	Pn	21 11 04.7	-1.5
HEX	Exmoor	8.92	234	eP	Pn	21 11 04.7	-1.5
HAU	Haudompre	8.92	186	ePn	Pn	21 11 06.4	+0.2
HAU				eSn	Sn	21 12 38.2	-9.2
	comp=N,17nm,0.3s						
HAU	Haudompre	8.92	186	eP	Pn	21 11 06.4	+0.2
HAU				e		21 12 38.2	
HAU	Haudompre	8.92	186	ePn	Pn	21 11 06.4	+0.2
HAU				eSn	Sn	21 12 38.2	-9.2
HAU	Haudompre	8.92	186	ePn	Pn	21 11 06.4	+0.2
TREC	Trest	8.92	145	eP	Pn	21 11 07.4	+1.2
TREC	Trest	8.92	145	ePN	Pn	21 11 07.4	+1.2
TREC	Trest	8.92	145	Pn	Pn	21 11 07.4	+1.2
FELD	Feldberg im Sc	9.01	179	P	Pn	21 11 08.0	+0.4
MOF	Molkenrain	9.04	182	P	Pn	21 11 08.0	0.0
MOF	Molkenrain	9.04	182	P	Pn	21 11 08.0	0.0
HINF	Hinteralfeld	9.09	184	ePn	Pn	21 11 08.7	+0.2
	SNR=1.0						
HINF				eSn	Sn	21 12 42.2	-9.3
	comp=N,12nm,0.3s						
HINF	Hinteralfeld	9.09	184	eP	Pn	21 11 08.7	+0.2
HINF				e		21 12 42.2	
HINF	Hinteralfeld	9.09	184	ePn	Pn	21 11 08.7	+0.2
HINF				eSn	Sn	21 12 42.2	-9.3
HINF	Hinteralfeld	9.09	184	ePn	Pn	21 11 08.7	+0.2
	SNR=1.0						
SLE	Schleitheim	9.14	177	P	Pn	21 11 08.9	-0.3
SLE	Schleitheim	9.14	177	P	Pn	21 11 08.9	-0.3
SLE	Schleitheim	9.14	177	P	Pn	21 11 08.9	-0.3
SRPE	Suurupi	9.19	67	P	Pn	21 11 10.4	+0.5
SRPE	Suurupi	9.19	67	P	Pn	21 11 10.4	+0.5
MORC	Moravsky Berou	9.23	136	eP	Pn	21 11 09.9	-0.6
MORC				eS	Sn	21 12 49.0	-6.0
MORC				pmax	pmax		

comp=Z,4.0nm,0.5s
MORC Moravsky Berou 9.23 136 ePn Pn 21 11 09.9 -0.6
comp=Z,4.1nm,0.5s
MORC eS Sn 21 12 49.0 -6.0
MORC Moravsky Berou 9.23 136 eP Pn 21 11 09.9 -0.6
comp=Z,4.0nm,0.5s
SUW Suwalki 9.26 102 eP Pn 21 11 16.9 +6.1
SUW Suwalki 9.26 102 eP Pn 21 11 16.8 +6.0
SUW Suwalki 9.26 102 ePn Pn 21 11 11.6 +0.8
SUW Suwalki 9.26 102 ePn Pn 21 11 11.6 +0.8
VRAC Vranov 9.27 141 P Pn 21 11 12.8 +1.7
VRAC 21 12 52.0
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC smax smax
comp=N,1.0nm,0.3s
VRAC MLR MLR
comp=Z,77nm,19.1s
VRAC Vranov 9.27 141 Pn Pn 21 11 12.8 +1.7
comp=Z,0.8nm,0.3s,baz=320,slow=17,SNR=5.6
VRAC Sn Sn 21 12 52.0 -4.0
comp=Z,0.7nm,0.3s,baz=270,slow=20,SNR=2.4
VRAC LR LR 21 15 18.4
comp=Z,77nm,19.1s,baz=314,slow=41
VRAC Vranov 9.27 141 ePn Pn 21 11 12.2 +1.1
HTL Hartland 9.28 236 eP Pn 21 11 09.1 -2.0
HTL AML AML 21 12 49.8
comp=E,34nm,0.5s
HTL AML AML 21 12 51.1
comp=N,36nm,0.4s
HTL Hartland 9.28 236 eP Pn 21 11 09.1 -2.0
HTL AML AML 21 12 49.8
comp=E,34nm,0.5s
HTL AML AML 21 12 51.1
comp=N,36nm,0.4s
HTL Hartland 9.28 236 eP Pn 21 11 09.1 -2.0
HTL AML AML 21 12 49.8
comp=E,34nm,0.5s
HTL AML AML 21 12 51.1
comp=N,36nm,0.4s
HTL Hartland 9.28 236 eP Pn 21 11 09.1 -2.0
HTL AML AML 21 12 49.8
comp=E,34nm,0.5s
HTL AML AML 21 12 51.1
comp=N,36nm,0.4s
HTL Hartland 9.28 236 eP Pn 21 11 09.1 -2.0
comp=N,36nm,0.4s
MEF Metsahovi 9.35 62 eP Pn 21 11 11.9 -0.1
MEF MPN 21 11 13.9
comp=Z,16nm,0.2s
MEF Metsahovi 9.35 62 P Pn 21 11 12.0 -0.1
MEF Metsahovi 9.35 62 P Pn 21 11 12.0 -0.1
KRUC Moravsky 9.42 142 P Pn 21 11 13.8 +0.8
KRUC Moravsky 9.42 142 P Pn 21 11 13.8 +0.8
KRUC Moravsky 9.42 142 P Pn 21 11 13.8 +0.8
DYA Yadsworthy 9.43 232 eP Pn 21 11 10.8 -2.4
DYA eS Sn 21 12 48.9 -11
DYA AML AML 21 12 52.1
comp=E,26nm,0.3s
DYA AML AML 21 12 52.2
comp=N,40nm,0.4s
DYA Yadsworthy 9.43 232 eP Pn 21 11 10.8 -2.4
DYA eS Sn 21 12 48.9 -11
DYA AML AML 21 12 52.1
comp=E,26nm,0.3s
DYA AML AML 21 12 52.2
comp=N,40nm,0.4s
DYA Yadsworthy 9.43 232 eP Pn 21 11 10.8 -2.4
DYA eS Sn 21 12 48.9 -11
DYA AML AML 21 12 52.1
comp=E,26nm,0.3s
DYA AML AML 21 12 52.2
comp=N,40nm,0.4s
DYA Yadsworthy 9.43 232 eP Pn 21 11 10.8 -2.4
BOURR Bourrignon 9.50 182 P Pn 21 11 14.2 0.0
BOURR Bourrignon 9.50 182 P Pn 21 11 14.2 0.0
FLN La Foliniere 9.50 215 ePn Pn 21 11 12.5 -1.7
baz=32,SNR=1.0
FLN eSn Sn 21 12 52.1 -9.5
comp=N,96nm,0.4s
FLN La Foliniere 9.50 215 eP Pn 21 11 12.5 -1.7
FLN e 21 12 52.1
FLN La Foliniere 9.50 215 ePn Pn 21 11 12.5 -1.7
FLN eSn Sn 21 12 52.1 -9.5
FLN La Foliniere 9.50 215 ePn Pn 21 11 12.5 -1.7
SNR=1.0
LDF La Druitiere 9.54 213 ePn Pn 21 11 13.2 -1.5
SNR=1.0
LDF eSn Sn 21 12 53.0 -10
comp=N,89nm,0.5s
LDF La Druitiere 9.54 213 eP Pn 21 11 13.2 -1.5
LDF e 21 12 53.0
LDF La Druitiere 9.54 213 ePn Pn 21 11 13.2 -1.5
LDF eSn Sn 21 12 53.0 -10
LDF La Druitiere 9.54 213 ePn Pn 21 11 13.2 -1.5
SNR=1.0
LOMF Lomont 9.55 184 P Pn 21 11 14.5 -0.5
LOMF Lomont 9.55 184 P Pn 21 11 14.5 -0.5
DAVA Damuels 9.70 171 ⇓iPn Pn 21 11 17.1 +0.1
DAVA ⇓iSn Sn 21 13 01.7 -4.9
DAVA Damuels 9.70 171 P Pn 21 11 17.2 +0.2
DAVA Damuels 9.70 171 P Pn 21 11 17.2 +0.2
JSA Saint Aubin 9.71 222 eP Pn 21 11 15.3 -1.7
JSA eS Sn 21 12 55.2 -11
JSA AML AML 21 13 00.6
comp=N,75nm,0.6s
JSA AML AML 21 13 00.9
comp=E,62nm,0.6s
JSA Saint Aubin 9.71 222 eP Pn 21 11 15.3 -1.7
JSA eS Sn 21 12 55.2 -11
JSA AML AML 21 13 00.6
comp=N,75nm,0.6s
JSA AML AML 21 13 00.9
comp=E,62nm,0.6s
JSA Saint Aubin 9.71 222 eP Pn 21 11 15.3 -1.7
JSA eS Sn 21 12 55.2 -11
JSA AML AML 21 13 00.6
comp=N,75nm,0.6s
JSA AML AML 21 13 00.9
comp=E,62nm,0.6s
JSA Saint Aubin 9.71 222 P Pn 21 11 15.1 -1.9
JSA Saint Aubin 9.71 222 eP Pn 21 11 15.3 -1.7
VAF Ylistaro 9.72 44 P Pn 21 11 17.8 +0.8
VAF Ylistaro 9.72 44 eP Pn 21 11 18.2 +1.2
VAF MPN 21 11 20.6
comp=Z,16nm,0.2s
VAF Ylistaro 9.72 44 P Pn 21 11 17.8 +0.8
VAF Ylistaro 9.72 44 P Pn 21 11 18.2 +1.2
MOTA Moosalm 9.77 166 ⇑iPn Pn 21 11 18.2 +0.2
MOTA ⇓iSn Sn 21 13 05.3 -3.2
MOTA Moosalm 9.77 166 Pn Pn 21 11 18.2 +0.2
OJC Ojcow 9.81 128 eP Pn 21 11 17.4 -1.0
OJC Ojcow 9.81 128 eP Pn 21 11 17.4 -1.0
OJC Ojcow 9.81 128 P Pn 21 11 17.4 -1.0
OJC Ojcow 9.81 128 eP Pn 21 11 17.4 -1.0
MOR8 Moi Rana 9.87 16 eP Pn 21 11 22.1 +3.0
MOR8 IAML 21 14 30.3
comp=Z,87nm,0.8s
MOR8 Moi Rana 9.87 16 eP Pn 21 11 22.1 +3.0
MOR8 IAML 21 14 30.3
comp=Z,87nm,0.8s
MOR8 Moi Rana 9.87 16 P Pn 21 11 22.1 +3.0
MOA Molln 9.89 153 P Pn 21 11 21.1 +1.6
MOA Molln 9.89 153 P Pn 21 11 21.1 +1.6
LOR Lormes 9.90 195 ePn Pn 21 11 19.0 -0.7
baz=21,SNR=1.0
LOR eSn Sn 21 13 01.8 -10
comp=Z,44nm,0.2s
LOR Lormes 9.90 195 eP Pn 21 11 19.0 -0.7
LOR e 21 13 01.8
LOR Lormes 9.90 195 ePn Pn 21 11 19.0 -0.7
LOR eSn Sn 21 13 01.8 -10
LOR Lormes 9.90 195 ePn Pn 21 11 19.0 -0.7
SNR=1.0
WTTA Wattenberg 9.93 164 ⇑iPn Pn 21 11 20.7 +0.5
WTTA ⇓iSn Sn 21 13 07.9 -4.4
WTTA Wattenberg 9.93 164 Pn Pn 21 11 20.7 +0.5
GRR Gorron 9.95 215 ePn Pn 21 11 18.4 -1.9
SNR=1.0
GRR eSn Sn 21 13 02.6 -10
comp=Z,58nm,0.3s
GRR Gorron 9.95 215 eP Pn 21 11 18.4 -1.9
GRR e 21 13 02.6
GRR Gorron 9.95 215 ePn Pn 21 11 18.4 -1.9
GRR eSn Sn 21 13 02.6 -10
GRR Gorron 9.95 215 ePn Pn 21 11 18.4 -1.9
SNR=1.0
BNALP Bannalp 10.03 177 P Pn 21 11 21.8 +0.3
BNALP Bannalp 10.03 177 P Pn 21 11 21.8 +0.3
JAVC Velka Javorina 10.03 139 P Pn 21 11 23.2 +1.7
JAVC Velka Javorina 10.03 139 P Pn 21 11 23.2 +1.7
JAVC Velka Javorina 10.03 139 P Pn 21 11 23.2 +1.7
FETA Feichten 10.04 168 ⇑iPn Pn 21 11 21.9 +0.1
FETA ⇑iSn Sn 21 13 10.9 -4.3
FETA Feichten 10.04 168 Pn Pn 21 11 21.9 +0.1
HYF Humbligny 10.10 200 ePn Pn 21 11 22.0 -0.4
HYF eSn Sn 21 13 06.4 -10
HYF Humbligny 10.10 200 ePn Pn 21 11 22.0 -0.4
HYF eSn Sn 21 13 06.4 -10
HYF Humbligny 10.10 200 ePn Pn 21 11 22.0 -0.4
SSF Saint Saulge 10.16 196 ePn Pn 21 11 22.6 -0.6
SNR=1.0
SSF eSn Sn 21 13 07.6 -10
comp=Z,26nm,0.3s
SSF Saint Saulge 10.16 196 eP Pn 21 11 22.6 -0.6
SSF e 21 13 07.6
SSF Saint Saulge 10.16 196 ePn Pn 21 11 22.6 -0.6
SSF eSn Sn 21 13 07.6 -10
SSF Saint Saulge 10.16 196 ePn Pn 21 11 22.6 -0.6
SNR=1.0
DAVOX Davos/Dischmat 10.20 171 P Pn 21 11 24.2 +0.3
DAVOX 21 13 14.3
DAVOX pmax pmax
comp=Z,1.0nm,0.3s
DAVOX smax smax
comp=N,1.0nm,0.3s
DAVOX MLR MLR
comp=Z,68nm,18.9s
DAVOX Davos/Dischmat 10.20 171 Pn Pn 21 11 24.2 +0.3
comp=Z,0.5nm,0.3s,baz=37,slow=7.0,SNR=6.9
DAVOX Sn Sn 21 13 14.3 -4.7
comp=Z,1.1nm,0.3s,baz=236,slow=17,SNR=6.1
DAVOX LR LR 21 15 25.5
comp=Z,68nm,18.9s,baz=282,slow=38
KEF Keuruu 10.20 52 MPN Pn 21 11 26.3 +2.6
comp=Z,18nm,0.2s
CONA Conrad Observa 10.25 147 ⇑iPn Pn 21 11 25.8 +1.3
CONA Conrad Observa 10.25 147 Pn Pn 21 11 25.8 +1.3
CABF La Chapelle 10.32 186 ePn Pn 21 11 25.7 +0.2
SNR=1.0
CABF eSn Sn 21 13 11.6 -10
comp=Z,5.0nm,0.4s
CABF La Chapelle 10.32 186 eP Pn 21 11 25.7 +0.2
CABF La Chapelle 10.32 186 ePn Pn 21 11 25.7 +0.2
CABF eSn Sn 21 13 11.6 -10
CABF La Chapelle 10.32 186 ePn Pn 21 11 25.7 +0.2
SNR=1.0
VSU Vasula 10.32 73 Pn Pn 21 11 26.1 +0.7
VSU Vasula 10.32 73 Pn Pn 21 11 26.1 +0.7
VSU Vasula 10.32 73 Pn Pn 21 11 26.1 +0.7
VSU Vasula 10.32 73 eP Pn 21 11 25.9 +0.5
VSU Vasula 10.32 73 Pn Pn 21 11 26.1 +0.7
VSU Vasula 10.32 73 eP Pn 21 11 26.1 +0.7
VSU Vasula 10.32 73 eP Pn 21 11 25.9 +0.5
VSU Vasula 10.32 73 Pn Pn 21 11 26.1 +0.7
SNR=50
ISAL Salakas 10.35 89 eP Pn 21 11 26.4 +0.7
ISAL Salakas 10.35 89 eP Pn 21 11 26.4 +0.7
GIMEL St. Georges / 10.39 185 P Pn 21 11 24.6 -1.9
GIMEL St. Georges / 10.39 185 P Pn 21 11 24.6 -1.9
KBA Koelnbreinsper 10.41 158 P Pn 21 11 26.8 0.0
KBA Koelnbreinsper 10.41 158 P Pn 21 11 26.8 0.0
KBA Koelnbreinsper 10.41 158 P Pn 21 11 26.8 0.0
RENF Rennes 10.44 217 P Pn 21 11 24.6 -2.3
AVF Avril sur Loir 10.44 197 eSn Sn 21 13 14.5 -10
comp=Z,8.3nm,0.3s
AVF Avril sur Loir 10.44 197 eSn Sn 21 13 14.5 -10
IIGN Ignalina 10.46 91 eP Pn 21 11 28.6 +1.3
IIGN Ignalina 10.46 91 eP Pn 21 11 28.6 +1.3
FINES FINESS Array B 10.48 56 Pn Pn 21 11 28.6 +1.1
comp=Z,14nm,0.3s,baz=246,slow=13,SNR=468
FINES Sn Sn 21 13 17.8 -7.7
comp=Z,9.1nm,0.3s,baz=250,slow=20,SNR=11
FINES Lg Lg 21 14 29.4
comp=Z,3.5nm,0.3s,baz=242,slow=24,SNR=3.4
SMF Signal de Mont 10.51 195 ePn Pn 21 11 26.9 -1.2
SNR=1.0
SMF eSn Sn 21 13 16.1 -10
comp=Z,16nm,0.2s
SMF Signal de Mont 10.51 195 eP Pn 21 11 26.9 -1.2
SMF Signal de Mont 10.51 195 ePn Pn 21 11 26.9 -1.2
SMF eSn Sn 21 13 16.1 -10
SMF Signal de Mont 10.51 195 ePn Pn 21 11 26.9 -1.2
SNR=1.0
ABTA Abfaltersbach 10.57 162 ⇑iPn Pn 21 11 31.1 +2.2
ABTA Abfaltersbach 10.57 162 Pn Pn 21 11 31.1 +2.2
NIE Niedzica 10.63 129 P Pn 21 11 29.7 +0.1
NIE Niedzica 10.63 129 P Pn 21 11 29.7 +0.1
NIE Niedzica 10.63 129 P Pn 21 11 29.7 +0.1
SGMF Saint Gilles 10.63 220 ePn Pn 21 11 27.4 -2.3
SNR=1.0
SGMF eSn Sn 21 13 19.1 -10
comp=Z,42nm,0.4s
SGMF Saint Gilles 10.63 220 eP Pn 21 11 27.4 -2.3
SGMF e 21 13 19.1
SGMF Saint Gilles 10.63 220 ePn Pn 21 11 27.4 -2.3
SGMF eSn Sn 21 13 19.1 -10
SGMF Saint Gilles 10.63 220 ePn Pn 21 11 27.4 -2.3
SNR=1.0
BGF Bois d'Agland 10.75 198 ePn Pn 21 11 30.1 -1.2
SNR=1.0
BGF eSn Sn 21 13 22.0 -10
comp=Z,90nm,0.4s
BGF Bois d'Agland 10.75 198 eP Pn 21 11 30.1 -1.2
BGF e 21 13 22.0
BGF Bois d'Agland 10.75 198 ePn Pn 21 11 30.1 -1.2
BGF eSn Sn 21 13 22.0 -10
BGF Bois d'Agland 10.75 198 ePn Pn 21 11 30.1 -1.2
SNR=1.0
IDID Didziasalis 10.76 90 eP Pn 21 11 31.6 +0.3
IDID Didziasalis 10.76 90 eP Pn 21 11 31.6 +0.3
ARSA Arzberg 10.77 150 P Pn 21 11 32.2 +0.6
ARSA Arzberg 10.77 150 P Pn 21 11 32.2 +0.6
VYHS Vyhne 10.77 136 eP Pn 21 11 32.0 +0.5
VYHS Vyhne 10.77 136 ePN Pn 21 11 32.0 +0.5
VYHS e 21 13 21.9
VYHS Vyhne 10.77 136 eP Pn 21 11 32.0 +0.5
ROSF Rostrenen 10.83 222 ePn Pn 21 11 29.8 -2.5
SNR=1.0
ROSF eSn Sn 21 13 23.5 -11
comp=Z,32nm,0.3s
ROSF Rostrenen 10.83 222 eP Pn 21 11 29.8 -2.5
ROSF e 21 13 23.5
ROSF Rostrenen 10.83 222 ePn Pn 21 11 29.8 -2.5
ROSF eSn Sn 21 13 23.5 -11
ROSF Rostrenen 10.83 222 ePn Pn 21 11 29.8 -2.5
SNR=1.0
NACGM Naroch 10.90 92 eP Pn 21 11 31.0 -2.3
VJF Virojoki 10.95 62 eP Pn 21 11 32.4 -1.6
SUF Sumiainen 10.97 50 P Pn 21 11 34.2 0.0
SUF Sumiainen 10.97 50 MSN 21 13 34.2
comp=Z,20nm,0.2s
SUF Sumiainen 10.97 50 P Pn 21 11 34.2 0.0
SUF Sumiainen 10.97 50 P Pn 21 11 34.2 0.0
STHS Stebnicka Huta 11.03 127 eP Pn 21 11 35.5 +0.3
STHS Stebnicka Huta 11.03 127 ePN Pn 21 11 35.5 +0.3
STHS e 21 13 32.6
STHS Stebnicka Huta 11.03 127 eP Pn 21 11 35.5 +0.3
TCF Toulx Ste Croi 11.13 200 ePn Pn 21 11 36.0 -0.5
SNR=1.0
TCF eSn Sn 21 13 30.5 -11
comp=Z,14nm,0.3s
TCF Toulx Ste Croi 11.13 200 eP Pn 21 11 36.0 -0.5
TCF Toulx Ste Croi 11.13 200 ePn Pn 21 11 36.0 -0.5
TCF eSn Sn 21 13 30.5 -11
TCF Toulx Ste Croi 11.13 200 ePn Pn 21 11 36.0 -0.5
SNR=1.0
QUIF Quistinic 11.14 221 ePn Pn 21 11 34.7 -1.9
SNR=1.0
QUIF eSn Sn 21 13 31.0 -11
comp=Z,31nm,0.4s
QUIF Quistinic 11.14 221 eP Pn 21 11 34.7 -1.9
QUIF e 21 13 31.0
QUIF Quistinic 11.14 221 ePn Pn 21 11 34.7 -1.9
QUIF eSn Sn 21 13 31.0 -11
QUIF Quistinic 11.14 221 ePn Pn 21 11 34.7 -1.9
SNR=1.0
AGO Saint Agoulin 11.20 197 P Pn 21 11 37.7 +0.3
AGO Saint Agoulin 11.20 197 P Pn 21 11 37.7 +0.3
PLDF La Plantade 11.21 195 P Pn 21 11 37.2 -0.4
PLDF La Plantade 11.21 195 P Pn 21 11 37.2 -0.4
MFF Saint Martin d 11.36 208 ePn Pn 21 11 36.8 -2.9
SNR=1.0
MFF eSn Sn 21 13 35.9 -11
comp=Z,25nm,0.3s
MFF Saint Martin d 11.36 208 eP Pn 21 11 36.8 -2.9
MFF Saint Martin d 11.36 208 ePn Pn 21 11 36.8 -2.9
MFF eSn Sn 21 13 35.9 -11
MFF Saint Martin d 11.36 208 ePn Pn 21 11 36.8 -2.9
SNR=1.0
LPL La Plagne 11.39 183 ePn Pn 21 11 38.8 -1.4
LPL eSn Sn 21 13 37.1 -11
comp=Z,5.1nm,0.5s
LPL La Plagne 11.39 183 eP Pn 21 11 38.8 -1.4
LPL La Plagne 11.39 183 ePn Pn 21 11 38.8 -1.4
LPL eSn Sn 21 13 37.1 -11
LPL La Plagne 11.39 183 ePn Pn 21 11 38.8 -1.4
LPG La Plagne 11.41 183 ePn Pn 21 11 39.0 -1.5
LPG eSn Sn 21 13 38.0 -11
comp=Z,1.9nm,0.3s
LPG La Plagne 11.41 183 eP Pn 21 11 39.0 -1.5
LPG La Plagne 11.41 183 ePn Pn 21 11 39.0 -1.5
LPG eSn Sn 21 13 38.0 -11
LPG La Plagne 11.41 183 ePn Pn 21 11 39.0 -1.5
PYM Petit Puy Mans 11.51 197 P Pn 21 11 41.6 -0.2
PYM Petit Puy Mans 11.51 197 P Pn 21 11 41.6 -0.2
CRVS Cervenica-Dubn 11.51 128 eP Pn 21 11 42.3 +0.6
CRVS e 21 13 45.3
CRVS Cervenica-Dubn 11.51 128 P Pn 21 11 42.0 +0.3
CRVS Cervenica-Dubn 11.51 128 ePN Pn 21 11 42.3 +0.6
CRVS e 21 13 45.3
CRVS Cervenica-Dubn 11.51 128 eP Pn 21 11 42.3 +0.6
KWP Kalwaria Pacla 11.54 123 eP Pn 21 11 43.8 +1.8
KWP Kalwaria Pacla 11.54 123 ePn Pn 21 11 43.8 +1.8
KWP Kalwaria Pacla 11.54 123 eP Pn 21 11 43.8 +1.8
KOLS Kolonicke sedl 11.85 126 eP Pn 21 11 46.4 +0.2
KOLS Kolonicke sedl 11.85 126 P Pn 21 11 46.5 +0.2
KOLS Kolonicke sedl 11.85 126 ePN Pn 21 11 46.4 +0.2
KOLS e 21 13 52.2
KOLS Kolonicke sedl 11.85 126 P Pn 21 11 46.5 +0.2
LBL Lubilhac 11.98 195 P Pn 21 11 48.1 -0.1
LBL Lubilhac 11.98 195 P Pn 21 11 48.1 -0.1
ORIF Oris-en-Rattie 12.02 186 ePn Pn 21 11 47.6 -1.2
SNR=1.0
ORIF eSn Sn 21 13 52.2 -11
comp=Z,5.5nm,0.5s
ORIF Oris-en-Rattie 12.02 186 eP Pn 21 11 47.6 -1.2
ORIF Oris-en-Rattie 12.02 186 ePn Pn 21 11 47.6 -1.2
ORIF eSn Sn 21 13 52.2 -11
ORIF Oris-en-Rattie 12.02 186 ePn Pn 21 11 47.6 -1.2
SNR=1.0
OUL Oulu 12.04 39 P Pn 21 11 47.3 -1.4
OUL Oulu 12.04 39 eP Pn 21 11 47.4 -1.4
OUL Oulu 12.04 39 P Pn 21 11 47.3 -1.4
MBDF Montbardon 12.18 183 ePn Pn 21 11 49.9 -1.0
MBDF eSn Sn 21 13 55.9 -12
comp=Z,1.0nm,0.3s
MBDF Montbardon 12.18 183 eP Pn 21 11 49.9 -1.0
MBDF Montbardon 12.18 183 ePn Pn 21 11 49.9 -1.0
MBDF eSn Sn 21 13 55.9 -12
MBDF Montbardon 12.18 183 ePn Pn 21 11 49.9 -1.0
VIVF Saint-Julien-l 12.18 190 ePn Pn 21 11 50.7 -0.2
SNR=1.0
VIVF eSn Sn 21 13 55.9 -11
comp=Z,7.0nm,0.4s
VIVF Saint-Julien-l 12.18 190 eP Pn 21 11 50.7 -0.2
VIVF Saint-Julien-l 12.18 190 ePn Pn 21 11 50.7 -0.2
VIVF eSn Sn 21 13 55.9 -11
VIVF Saint-Julien-l 12.18 190 ePn Pn 21 11 50.7 -0.2
SNR=1.0
RJF Les Rejaudoux 12.21 201 ePn Pn 21 11 49.1 -2.1
SNR=1.0
RJF eSn Sn 21 13 56.6 -11
comp=Z,24nm,0.4s
RJF Les Rejaudoux 12.21 201 eP Pn 21 11 49.1 -2.1
RJF Les Rejaudoux 12.21 201 ePn Pn 21 11 49.1 -2.1
RJF eSn Sn 21 13 56.6 -11
RJF Les Rejaudoux 12.21 201 ePn Pn 21 11 49.1 -2.1
SNR=1.0
CAF Calviac 12.47 199 ePn Pn 21 11 53.7 -1.1
SNR=1.0
CAF eSn Sn 21 14 02.9 -12
comp=Z,9.5nm,0.4s
CAF Calviac 12.47 199 eP Pn 21 11 53.7 -1.1
CAF Calviac 12.47 199 ePn Pn 21 11 53.7 -1.1
CAF eSn Sn 21 14 02.9 -12
CAF Calviac 12.47 199 ePn Pn 21 11 53.7 -1.1
SNR=1.0
TRPA Tarpa 12.56 128 ⇓iP Pn 21 11 56.9 +0.8
PKSM Moragy 12.65 143 P Pn 21 11 58.1 +0.9
PKSM Moragy 12.65 143 ⇑iP Pn 21 11 59.3 +2.1
PKSM Moragy 12.65 143 P Pn 21 11 58.1 +0.9
PKSM Moragy 12.65 143 P Pn 21 11 58.1 +0.9
LFF La Frestale 12.72 203 ePn Pn 21 11 56.8 -1.3
SNR=1.0
LFF eSn Sn 21 14 08.0 -12
comp=Z,18nm,0.3s
LFF La Frestale 12.72 203 eP Pn 21 11 56.8 -1.3
LFF La Frestale 12.72 203 ePn Pn 21 11 56.8 -1.3
LFF eSn Sn 21 14 08.0 -12
LFF La Frestale 12.72 203 ePn Pn 21 11 56.8 -1.3
SNR=1.0
LASF Ste Croix 13.04 192 ePn Pn 21 12 01.9 -0.7
SNR=1.0
LASF Ste Croix 13.04 192 ePn Pn 21 12 01.9 -0.7
LASF Ste Croix 13.04 192 ePn Pn 21 12 01.9 -0.7
SNR=1.0
JOF Joensuu 13.26 53 P Pn 21 12 03.6 -1.9
JOF Joensuu 13.26 53 P Pn 21 12 03.6 -1.9
MSF Maaselka 13.59 40 P Pn 21 12 07.9 -2.0
MSF Maaselka 13.59 40 P Pn 21 12 07.9 -2.0
HEF Hetta 13.64 26 P Pn 21 12 09.6 -1.0
DRGR 13.69 131 P Pn 21 12 11.8 +0.4
DRGR 13.69 131 ⇑iP Pn 21 12 12.7 +1.3
DRGR 13.69 131 P Pn 21 12 11.8 +0.4
DRGR 13.69 131 P Pn 21 12 11.8 +0.4
SGF Sodankyl 13.70 32 P Pn 21 12 09.4 -2.0
SGF Sodankyl 13.70 32 P Pn 21 12 09.4 -2.0
MTLF Montolieu 13.99 197 ePn Pn 21 12 13.5 -2.0
MTLF eSn Sn 21 14 38.9 -12
comp=Z,1.0nm,0.2s
MTLF Montolieu 13.99 197 eP Pn 21 12 13.5 -2.0
MTLF Montolieu 13.99 197 ePn Pn 21 12 13.5 -2.0
MTLF eSn Sn 21 14 38.9 -12
MTLF Montolieu 13.99 197 ePn Pn 21 12 13.5 -2.0
KTK1 Kautokeino 14.02 24 eP Pn 21 12 15.9 +0.2
KTK1 Kautokeino 14.02 24 eP Pn 21 12 15.9 +0.2
KIEV Kiev 14.11 107 eP Pn 21 12 20.6 +3.4
KIEV Kiev 14.11 107 eP Pn 21 12 20.6 +3.4
KIEV Kiev 14.11 107 eP Pn 21 12 20.6 +3.4
AKASG Malin Array Be 14.12 107 Pn Pn 21 12 14.9 -2.3
comp=Z,0.7nm,0.3s,baz=306,slow=12,SNR=6.0
AKASG Sn Sn 21 14 44.2 -10
comp=Z,1.6nm,0.3s,baz=304,slow=23,SNR=5.0
AKASG Lg Lg 21 16 32.0
comp=Z,1.1nm,0.3s,baz=314,slow=29,SNR=4.7
BUR08 Bucovina Ar. S 14.12 123 ePn Pn 21 12 17.9 +0.6
BUR08 Bucovina Ar. S 14.12 123 ePn Pn 21 12 18.0 +0.6
BURAR Bucovina Array 14.15 123 ⇓P Pn 21 12 19.5 +1.7
BURAR Bucovina Array 14.15 123 ⇓iP Pn 21 12 19.5 +1.7
EPF Esparros 14.63 202 ePn Pn 21 12 22.0 -2.3
SNR=1.0
EPF eSn Sn 21 14 54.5 -13
comp=Z,8.8nm,0.3s
EPF Esparros 14.63 202 eP Pn 21 12 22.0 -2.3
EPF Esparros 14.63 202 ePn Pn 21 12 22.0 -2.3
EPF eSn Sn 21 14 54.5 -13
EPF Esparros 14.63 202 ePn Pn 21 12 22.0 -2.3
SNR=1.0
ATE Arette 14.80 205 Pn Pn 21 12 25.7 -0.9
ATE Sn Sn 21 14 57.5 -14
ATE Arette 14.80 205 Pn Pn 21 12 25.7 -0.9
EALK Alkurruntz 14.87 207 Pn Pn 21 12 26.1 -1.3
EALK Sn Sn 21 14 59.3 -13
EALK Alkurruntz 14.87 207 Pn Pn 21 12 26.1 -1.3
SJPF Ste Jean 14.90 206 ePn Pn 21 12 26.3 -1.6
SNR=1.0
SJPF eSn Sn 21 15 00.7 -13
comp=Z,4.6nm,0.4s
SJPF Ste Jean 14.90 206 eP Pn 21 12 26.3 -1.6

SJPF Ste Jean 14.90 206 ePn Pn 21 12 26.3 -1.6
SJPF eSn Sn 21 15 00.7 -13
SJPF Ste Jean 14.90 206 ePn Pn 21 12 26.3 -1.6
SNR=1.0
ELIZ Elizondo 14.93 207 Pn Pn 21 12 26.1 -2.2
ELIZ Elizondo 14.93 207 Pn Pn 21 12 26.1 -2.2
ELIZ Sn Sn 21 15 00.3 -14
ELIZ Elizondo 14.93 207 Pn Pn 21 12 26.1 -2.2
ARA0 ARCESS Array S 14.93 25 Pn Pn 21 12 25.2 -3.0
baz=213,slow=14
ARA0 ARCESS Array S 14.93 25 Pn Pn 21 12 25.2 -3.0
baz=213,slow=14
ARA0 ARCESS Array S 14.93 25 Pn Pn 21 12 25.2 -3.0
baz=213,slow=14
ARA0 ARCESS Array S 14.93 25 P Pn 21 12 25.2 -3.0
baz=213,slow=14
ARA0 ARCESS Array S 14.93 25 eP Pn 21 12 25.2 -3.0
ARCES ARCESS Array B 14.93 25 P Pn 21 12 25.7 -2.6
ARCES 21 15 05.4
ARCES pmax pmax
comp=Z,1.0nm,0.3s
ARCES smax smax
comp=N,1.0nm,0.3s
ARCES ARCESS Array B 14.93 25 Pn Pn 21 12 25.6 -2.6
comp=N,0.8nm,0.3s,baz=213,slow=13,SNR=46
ARCES Sn Sn 21 15 05.4 -8.8
comp=N,0.9nm,0.3s,baz=212,slow=22,SNR=3.9
ARCES Lg Lg 21 16 52.0
comp=N,0.8nm,0.3s,baz=229,slow=29,SNR=5.6
ETSF Etsaut 14.95 204 ePn Pn 21 12 26.2 -2.4
SNR=1.0
ETSF eSn Sn 21 15 01.9 -13
comp=N,3.6nm,0.3s
ETSF Etsaut 14.95 204 eP Pn 21 12 26.2 -2.4
ETSF Etsaut 14.95 204 ePn Pn 21 12 26.2 -2.4
ETSF eSn Sn 21 15 01.9 -13
ETSF Etsaut 14.95 204 ePn Pn 21 12 26.2 -2.4
SNR=1.0
CSOR Sort 15.11 199 Pn Pn 21 12 30.8 -0.1
CSOR Sn Sn 21 15 04.7 -14
CSOR Sort 15.11 199 Pn Pn 21 12 30.8 -0.1
ELAN Lanestosa 15.38 212 P Pn 21 12 32.3 -2.0
ELAN Sn Sn 21 15 10.5 -15
KEV Kevo 15.45 26 eP Pn 21 12 33.4 -1.7
KEV pmax pmax
comp=Z,12nm,1.0s
KEV Kevo 15.45 26 ePn Pn 21 12 33.4 -1.7
comp=Z,12nm,1.0s
TESR Tescani 15.62 124⇓iP Pn 21 12 39.1 +1.6
TESR Tescani 15.62 124 P Pn 21 12 37.2 -0.3
VOIR 15.75 129 ⇓P Pn 21 12 41.3 +2.1
VOIR 15.75 129⇓iP Pn 21 12 41.3 +2.1
JMIC Jan Mayen 15.76 340 LR LR 21 18 24.0
comp=Z,54nm,21.3s,baz=53,slow=36
APA0 Apatity Array 15.81 37 P Pn 21 12 39.5 -0.3
baz=230,slow=11
APA0 Apatity Array 15.81 37 P Pn 21 12 39.5 -0.3
baz=230,slow=11
APA0 Apatity Array 15.81 37 P Pn 21 12 39.5 -0.3
baz=230,slow=11
APA0 Apatity Array 15.81 37 P Pn 21 12 39.5 -0.3
baz=230,slow=11
APA0 Apatity Array 15.81 37 eP Pn 21 12 39.5 -0.3
EARI Arriondas 15.87 217 Pn Pn 21 12 39.0 -1.7
EARI Sn Sn 21 15 20.6 -17
EARI Arriondas 15.87 217 Pn Pn 21 12 39.0 -1.7
APA Apatity 15.93 37⇓iP Pn 21 12 39.2 -2.1
APA i 21 15 29.2
APA pmax pmax
comp=Z,28nm,0.4s
APA MLR MLR
comp=Z,54nm,1.2s
MLR Muntele Rosu 16.09 127 ⇓P Pn 21 12 44.8 +1.1
MLR Muntele Rosu 16.09 127⇓iP Pn 21 12 44.8 +1.1
VRI Vrincioaia 16.15 125 ⇑P P 21 12 46.7 -1.0
VRI Vrincioaia 16.15 125⇑iP P 21 12 46.7 -1.0
VRI Vrincioaia 16.15 125 P P 21 12 46.7 -1.0
OBN Obninsk 16.20 84⇑eP P 21 12 47.5 -0.7
OBN eS Sn 21 15 50.4 +5.3
OBN pmax pmax
comp=Z,52nm,1.4s
OBN MLR MLR
comp=Z,63nm,17.0s
OBN Obninsk 16.20 84 LR LR 21 19 23.9
comp=Z,79nm,18.9s,baz=272,slow=38
OBN Obninsk 16.20 84 ePn P 21 12 47.5 -0.7
comp=Z,20nm,0.6s
OBN Obninsk 16.20 84 eP P 21 12 47.5 -0.7
comp=Z,63nm,17.0s
TMCR Tamitsa 16.49 51 eP Pn 21 12 34.8 -14
TMCR pmax pmax
comp=Z,36nm,0.4s
LVZ Lovozero 16.50 37 eP Pn 21 12 47.2 -1.6
LVZ pmax pmax
comp=Z,14nm,0.6s
LVZ Lovozero 16.50 37 ePn Pn 21 12 47.2 -1.6
comp=Z,14nm,0.6s
EPON Pontenova 16.51 221 Pn Pn 21 12 49.5 +0.5
EPON Sn Sn 21 15 37.1 -16
EPON Pontenova 16.51 221 Pn Pn 21 12 49.5 +0.5
MOS Moscow 16.59 81 eP P 21 13 03.2 +11
MOS e 21 16 05.3
KLMR Klimovskoe 16.84 63 eP Pn 21 12 49.3 -3.7
KLMR pmax pmax
comp=Z,14nm,1.0s
CFR Carcaliu 17.31 124 P Pn 21 12 59.5 +0.5
CFR Carcaliu 17.31 124⇑iP P 21 13 03.2 +2.7
CFR Carcaliu 17.31 124 P Pn 21 12 59.5 +0.5
CFR Carcaliu 17.31 124 P Pn 21 12 59.5 +0.5
ECAL Calabor 17.59 218 Pn Pn 21 13 02.3 -0.3
ECAL Sn Sn 21 16 04.7 -14
ECAL Calabor 17.59 218 Pn Pn 21 13 02.3 -0.3
TLB Topalu 17.73 125 ⇓P P 21 13 07.4 +2.3
TLB Topalu 17.73 125⇓iP P 21 13 07.4 +2.3
TLB Topalu 17.73 125 P P 21 13 07.4 +2.3
TIRR Tirgusor 17.99 125 P P 21 13 07.8 +0.3
TIRR Tirgusor 17.99 125 P P 21 13 07.8 +0.3
TIRR Tirgusor 17.99 125 P P 21 13 07.8 +0.3
ESDC Sonseca Array 18.83 209 P Pn 21 13 17.8 0.0
comp=Z,0.3nm,0.3s,baz=21,slow=12,SNR=5.3
ESDC Sonseca Array 18.83 209 P Pn 21 13 17.8 0.0
ESDC Pn P 21 13 19.4 +2.0
ESDC Sn Sn 21 16 33.4 -16
VSR Storozhevoye 19.22 94 eP Pn 21 13 23.9 +1.5
VSR pmax pmax
comp=N,1.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,3.0nm,0.6s
VSR Storozhevoye 19.22 94 eP Pn 21 13 23.9 +1.5
VORD Divnogorie 19.41 94 eP P 21 13 22.0 -1.6
VORD pmax pmax
comp=N,7.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,3.0nm,0.9s
PRGR Permogore 19.76 60 P P 21 13 26.6 -0.8
PRGR eS Sn 21 17 11.7 +0.6
PRGR Permogore 19.76 60 P P 21 13 26.6 -0.8
PRGR eS Sn 21 17 11.7 +0.6
VRHR Novokhopersk 20.62 92 eP Pn 21 13 43.9 +4.8
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,6.0nm,0.6s
KEST Kesra 21.18 176 P P 21 13 43.1 +0.1
comp=Z,1.1nm,0.8s,baz=332,slow=15,SNR=3.6
BRTR Keskin Array B 24.11 124 P P 21 14 16.3 +2.8
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 24.11 124 P P 21 14 16.3 +2.8
comp=Z,1.6nm,0.9s,baz=310,slow=5.8,SNR=8.3
KIV Kislovodsk 25.46 105⇑eP P 21 14 28.6 +2.9
KIV e 21 14 58.2
KIV pmax pmax
comp=Z,8.0nm,1.2s
KIV MLR MLR
comp=Z,25nm,15.0s
KIV Kislovodsk 25.46 105 eP P 21 14 28.6 +2.9
KIV Kislovodsk 25.46 105 eP P 21 14 28.6 +2.9

comp=Z,8.0nm,1.2s
MDT Midelt 25.50 205 LR LR 21 26 17.2
comp=Z,48nm,19.6s,baz=340,slow=41
KBZ Khabaz 25.72 106 P P 21 14 31.5 +3.6
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 25.72 106 P P 21 14 31.5 +3.6
comp=Z,3.0nm,0.8s,baz=301,slow=7.7,SNR=8.2
ARU Arti 27.45 69 diP P 21 14 45.4 +2.0
ARU 21 15 26.9
ARU S S 21 19 29.3 +4.7
ARU SS SnSn 21 20 38.6 +5.4
ARU pmax pmax
comp=Z,7.0nm,2.5s
ARU Arti 27.45 69 P P 21 14 40.5 -2.9
comp=Z,5.4nm,0.6s
ARU Arti 27.45 69 iP P 21 14 45.4 +2.0
comp=Z,7.0nm,2.5s
SFJD Kangerlussuaq 28.13 315 LR LR 21 25 22.9
comp=Z,45nm,18.3s,baz=90,slow=35
ZALV Zalesovo Beam 41.72 60 P P 21 16 48.5 +2.1
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 41.72 60 P P 21 16 48.5 +2.1
comp=Z,2.1nm,0.7s,baz=312,slow=8.9,SNR=9.6
AAK Ala-Archa 43.65 79 P P 21 17 04.2 +1.8
AAK pmax pmax
comp=Z,1.0nm,0.5s
AAK Ala-Archa 43.65 79 P P 21 17 04.2 +1.8
comp=Z,0.7nm,0.5s,baz=5.0,slow=4.8,SNR=4.5
TORD Torodi Ar. Bea 43.88 188 P P 21 17 04.5 +0.2
comp=Z,1.4nm,0.8s,baz=355,slow=9.5,SNR=16
MKAR Makanchi Array 44.98 70 P P 21 17 14.5 +1.7
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 44.98 70 P P 21 17 14.5 +1.7
comp=Z,0.7nm,0.4s,baz=312,slow=6.7,SNR=21
TIXI Tiksi 45.36 22 eP P 21 17 16.8 +1.3
TIXI pmax pmax
comp=Z,2.0nm,1.2s
TIXI Tiksi 45.36 22 eP P 21 17 16.8 +1.3
TIXI Tiksi 45.36 22 eP P 21 17 16.8 +1.3
comp=Z,2.0nm,1.2s
WMQ Urumqi 49.79 69 eP P 21 17 50.3 -0.1
WMQ pP 21 17 54.8
WMQ sP 21 17 57.3
WMQ pmax pmax
comp=Z,6.0nm,0.8s
WMQ pmax pmax
comp=Z,110nm,4.6s
WMQ LR LR
comp=Z,26nm,18.0s
YKA Yellowknife Ar 52.84 330 P P 21 18 13.3 +0.4
comp=Z,0.2nm,0.7s,baz=38,slow=7.7,SNR=5.6
SONM Songino Array 55.84 54 P P 21 18 35.3 +0.2
SONM MLR MLR
comp=Z,15nm,28.6s
SONM Songino Array 55.84 54 P P 21 18 35.3 +0.2
comp=Z,0.3nm,0.7s,baz=272,slow=6.6,SNR=3.7
SONM LR LR 21 46 38.5
comp=Z,33nm,19.2s,baz=142,slow=40
SONM Songino Array 55.84 54 P P 21 18 35.3 +0.2
comp=Z,15nm,28.6s
HHC Hu-ho-hao-te 63.60 55 eP P 21 19 28.3 -0.3
HHC PP PP 21 21 49.3 +1.4
HHC PcS 21 24 07.0
HHC S S 21 27 58.8 -4.5
HHC ScS SKKSac 21 29 17.1 -6.0
HHC SS SS 21 32 07.3 -2.4
HHC pmax pmax
comp=Z,17nm,1.1s
HHC LR LR
comp=Z,140nm,16.5s
HHC LR LR
comp=Z,100nm,16.7s
HHC LR LR
comp=Z,120nm,17.5s
CD2 Chengdu 67.83 67 eP P 21 19 55.5 -0.5
CD2 pP pP 21 20 00.3
CD2 sP 21 20 02.5
CD2 PcP PcP 21 20 22.4 -0.2
CD2 PP PP 21 22 26.6 +1.5
CD2 PcS 21 24 25.9
CD2 S S 21 28 51.5 -3.7
CD2 sS sS 21 28 58.8
CD2 SKS SKiKP 21 29 50.6 -3.1
CD2 SS SS 21 33 13.8 -2.0
CD2 pmax pmax
comp=Z,100nm,6.2s

IDC 19 21:48:30.3±2.5, 19°.95S×70°.38W, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.5/22, mbtmp3.5/3, ML3.6/2, MS2.4/1, Ms1 2.5/1, ms1mx2.4/20, Error ellipse: s-maj=65.9km s-min=29.0km az=109.0
ISCJB 19 21:48:35.5±1.1, 19°.42S±0°.04×70°.65W±0°.09, h42km±14km, mb3.4/1, Error ellipse: s-maj=14.2km s-min=6.5km az=179.8
GUC 19 21:48:36.3±0.7, 19°.47S×70°.56W, h42km±2km, ML3.7
ISC 19 21:48:35.4±2.1, 19°.39S±0°.04×70°.76W±0°.1, h31km±12km, n16, σ0°.55/18, 2C-3D, Near coast of northern Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PSGC Pisagua 0.53 113⇓eP Pb 21 48 46.0 -0.3
PSGC eS Sb 21 48 53.5 -0.4
PSGC AML AML 21 48 54.4
comp=Z,4μm,0.4s
ARCH Arica 0.95 20 eP Pn 21 48 52.3 -0.3
ARCH eS Sn 21 49 05.8 +0.7
PB11 Plate Boundary 1.00 112⇓eP Pn 21 48 53.5 +0.1
PB11 eS Sn 21 49 05.9 -0.5
PB11 AML AML 21 49 10.1
comp=E,10μm,0.6s
MNMC Minimini 1.02 75⇓eP Pb 21 48 54.8 +0.2
MNMC eS Sb 21 49 08.5 +0.7
MNMC AML AML 21 49 09.6
comp=E,6μm,0.4s
HMBC Humberstone 1.13 141⇑eP Pn 21 48 55.0 -0.2
HMBC eS Sn 21 49 09.5 -0.2
HMBC AML AML 21 49 12.6
comp=N,3μm,0.5s
PATCX Punta Patache 1.49 162 eP Pn 21 49 00.1 0.0
PATCX eS Sn 21 49 18.5 -0.2
PATCX AML AML 21 49 23.1
comp=E,985nm,0.5s
PB01 Plate Boundary 1.97 147⇑eP Pn 21 49 07.2 +0.5
PB01 eS Sn 21 49 30.6 +0.2
PB01 AML AML 21 49 39.5
comp=N,518nm,0.3s
PB07 Plate Boundary 2.43 163 eP Pn 21 49 13.3 +0.3
PB07 AML AML 21 49 51.6
comp=E,365nm,0.7s
PB09 Plate Boundary 2.73 152 eP Pn 21 49 18.6 +1.4
PB09 AML AML 21 50 02.5
comp=N,2μm,0.6s
LPAZ La Paz 3.90 38 Pn Pn 21 49 38.4 +4.7
comp=N,0.5nm,0.3s,baz=212,slow=7.7,SNR=10
LPAZ Lg Lg 21 50 43.4
baz=49,slow=18,SNR=1.5
LPAZ LR LR 21 51 40.1
comp=N,42nm,18.2s,baz=258,slow=45
CPUP Villa Florida 14.07 122 Pn Pn 21 51 44.4 -8.2
comp=N,0.4nm,0.3s,baz=270,slow=20,SNR=3.3
H03N1 Juan Fernandez 15.82 206 T T 22 08 34.4
baz=31,slow=74,SNR=13
H03N2 Juan Fernandez 15.83 206 T T 22 08 36.4
baz=31,slow=74,SNR=9.7
H03N3 Juan Fernandez 15.84 206 T T 22 08 32.5
baz=31,slow=74,SNR=20
TORD Torodi Ar. Bea 78.20 71 P P 22 00 31.9 -0.5
comp=N,0.3nm,0.6s,baz=249,slow=6.4,SNR=5.5
MKAR Makanchi Array 144.82 33 PKPbc PKPab 22 08 08.2 0.0
comp=N,0.1nm,0.6s,baz=288,slow=4.8,SNR=2.7

IDC 19 21:54:39.9±5.8, 31°.15S×179°.13W, h156km±47km, mb4.3/5, mb1 4.4/6, mb1mx3.8/27, mbtmp4.7/6, Error ellipse: s-maj=40.7km s-min=19.6km az=44.0
ISCJB 19 21:54:41.6±1.6, 31°.33S±0°.06×179°.8W±0°.2, h145km, mb4.6/5, Error ellipse: s-maj=28.9km s-min=7.1km az=170.2
ISC 19 21:54:40.3±1.3, 31°.40S±0°.08×179°.2W±0°.2, h145km, n35, σ1°.96/34, mb4.6/5, Kermadec Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
MXZ Matakaoa Point 6.48 198 PN Pn 21 56 17.6 +4.3
MXZ SN Sn 21 57 27.9 +1.8
HAZ Te Kaha 6.80 200 PN Pn 21 56 21.2 +3.6
TWGZ Tauwhareparae 7.14 198 PN Pn 21 56 25.1 +2.9
TWGZ SN Sn 21 57 41.1 -1.0
CNGZ Carnagh Statio 7.38 196 PN Pn 21 56 27.5 +2.2
MWZ Matawai 7.42 200 PN Pn 21 56 27.5 +1.7
URZ Urewera 7.48 203 P Pn 21 56 29.2 +2.6
2.2nm,0.3s,baz=266,slow=2.9,SNR=14
URZ S Sn 21 57 48.0 -2.1
13nm,0.3s,baz=234,slow=24,SNR=16
URZ Urewera 7.48 203 PN Pn 21 56 28.7 +2.1
URZ SN Sn 21 57 49.5 -0.5
SNGZ Shannon Statio 7.88 200 PN Pn 21 56 33.1 +1.0
KNZ Kokohu 8.02 198 ePN Pn 21 56 36.5 +2.7
KAHZ Kahuranaki 8.96 200 PN Pn 21 56 46.3 -0.1
PXZ Pawanui 9.18 199 PN Pn 21 56 51.2 +1.8
WAZ Wanganui 9.58 208 PN Pn 21 56 57.2 +2.5
MRZ Mangatainoka R 10.15 203 PN Pn 21 56 59.5 -2.8
HOWZ Holdsworth Sta 10.39 203 PN Pn 21 57 01.9 -3.5
OGWZ Otaki Gorge 10.43 204 PN Pn 21 57 03.0 -3.0
TMWZ Te Maipa 10.46 201 PN Pn 21 57 05.9 -0.5
MTW Mount Morrison 10.63 202 PN Pn 21 57 06.6 -2.0
TRWZ Traveller 10.79 201 PN Pn 21 57 12.2 +1.5
PAWZ Paruwai Farm 10.85 202 PN Pn 21 57 11.7 +0.2
QLP Quilpie 32.23 269 P P 22 00 54.6 -0.3
baz=32,SNR=3.2
CTA Charters Tower 32.95 282 P P 22 01 01.4 +0.1
9.2nm,1.2s,baz=96,slow=10,SNR=3.3
STKA Stephens Creek 33.24 259 P P 22 01 03.8 +0.1
4.0nm,0.6s,baz=104,slow=11,SNR=11
STKA Stephens Creek 33.24 259 P P 22 01 04.0 +0.3
baz=33,SNR=10
HTT Hallett 35.23 255 P P 22 01 20.3 -0.5
baz=35,SNR=3.6
BBOO Buckleboo 37.70 256 P P 22 01 40.1 -1.6
baz=37,SNR=5.0
ASAR Alice Springs 42.02 269 P P 22 02 16.1 -1.6
6.3nm,0.4s,baz=105,slow=7.4,SNR=93
WRA Warramunga Arr 43.10 274 P P 22 02 24.6 -1.8
16nm,0.4s,baz=112,slow=8.0,SNR=510
MMPI Merauke 43.94 292 S S 22 08 58.8 +4.8
baz=44,SNR=4.0
WRKA Warakurna 46.33 264 P P 22 02 49.1 -2.7
baz=46,SNR=5.1
KNRA Kununurra 49.75 276 P P 22 03 16.6 -1.6
baz=50,SNR=7.7
QSPA South Pole Qui 58.71 180 P P 22 04 23.3 +0.9
6.2nm,0.8s,baz=286,slow=0.9,SNR=30
FINES FINESS Array B 145.71 339 PKPbc PKPdf 22 13 58.6 -2.0
0.6nm,0.7s,baz=64,slow=3.2,SNR=12
NOA NORSAR Array B 149.57 350 PKPbc PKPdf 22 14 09.1 +1.9
0.3nm,0.4s,baz=15,slow=4.1,SNR=2.8
HFS Hagfors 150.00 347 PKPbc PKPdf 22 14 09.9 +2.1
1.5nm,0.9s,baz=101,slow=1.5,SNR=6.5
TORD Torodi Ar. Bea 161.81 183 PKPab PKPab 22 15 08.7 -2.0
0.4nm,0.4s,baz=162,slow=4.4,SNR=12

IDC 19 22:31:30.8±0.8, 0°.21N×125°.97E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/34, mbtmp4.0/9, Error ellipse: s-maj=46.5km s-min=17.3km az=77.0
DJA 19 22:31:36.1±1.0, 0°N±8°×12°7E±°, h111km±13km, M3.9/9, mb4.3/1, mB4.6/1, MLv3.7/9, Mw(mB)3.8/1
ISCJB 19 22:31:37.6±0.5, 0°.21N±0°.06×126°.44E±0°.07, h73km, mb4.0/9, Error ellipse: s-maj=10.4km s-min=8.5km az=169.4
ISC 19 22:31:39.6±0.7, 0°.21N±0°.07×126°.50E±0°.07, h73km, n21, σ1°.38/18, mb4.0/9, Northern Molucca Sea

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
TNTI Ternate 1.04 57 P Pn 22 31 57.2 -1.5
LBMI Labuha 1.31 130 P Pn 22 32 01.0 -1.2
SANI Sanana 2.30 193 P Pn 22 32 15.9 +0.5
KMSI Cibinong 2.54 278 P Pn 22 32 11.3 -7.3
NLAI Namlea 3.48 170 P Pn 22 32 28.9 -2.5
LUWI Luwuk 3.92 252 P Pn 22 32 35.6 -1.8
MSAI Masohi 4.29 145 P Pn 22 32 41.0 -1.4
MRSI Marisa 4.56 273 P Pn 22 32 48.9 +2.7
SWI Sorong 4.88 103 P Pn 22 32 45.1 -5.4
APSI Ampana 4.97 257 P Pn 22 32 50.8 -1.0
MPSI Mapaga 6.60 271 P Pn 22 33 04.5 -10
WRA Warramunga Arr 21.45 159 P P 22 36 22.3 +0.2
2.4nm,0.5s,baz=336,slow=11,SNR=46
ASAR Alice Springs 24.80 164 P P 22 36 56.7 +1.8
2.2nm,0.7s,baz=342,slow=11,SNR=33
KSRS Korea Array 37.09 2 P P 22 38 43.5 +0.7
1.2nm,0.6s,baz=176,slow=9.5,SNR=5.8
USRK Ussuriysk Arra 44.07 6 P P 22 39 41.2 +0.8
3.7nm,0.6s,baz=178,slow=7.8,SNR=14
SONM Songino Array 50.55 343 P P 22 40 29.8 -1.0
0.7nm,0.6s,baz=161,slow=5.9,SNR=13
PETK Petropavlovsk- 58.77 21 P P 22 41 31.5 +1.5
2.0nm,0.6s,baz=199,slow=7.4,SNR=4.6
MKAR Makanchi Array 60.32 327 P P 22 41 39.6 -1.2
1.1nm,0.4s,baz=119,slow=8.4,SNR=42
MKAR PcP PcP 22 42 25.2 -0.2
0.7nm,0.6s,baz=114,slow=4.6,SNR=4.6
ZALV Zalesovo Beam 63.62 334 P P 22 42 01.4 -1.3
0.8nm,0.7s,baz=132,slow=6.0,SNR=3.0
SEY Seymchan 65.50 13 P P 22 42 16.0 +1.2
1.2nm,0.6s,baz=236,slow=6.4,SNR=6.5
TORD Torodi Ar. Bea 123.72 286 PKP PKPdf 22 50 30.6 +0.6
0.7nm,1.2s,baz=27,slow=2.3,SNR=2.9

WEL 19 22:34:58.3±1.0, 46°.33S×166°.12E, h5km, ML3.7/9, 2C, Error ellipse: s-maj=10.5km s-min=4.7km az=90.0, Off west coast of South Island

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res
DCZ Deep Cove 1.11 41 P* Pg 22 35 16.6 -3.0
DCZ S* Sg 22 35 30.9 -3.2
DCZ AML AML 22 35 33.1
WHZ Wether Hill Ro 1.34 72 P* Pn 22 35 22.3 -1.4
WHZ S* Sb 22 35 39.9 -1.5
WHZ AML AML 22 35 44.1
APZ The Paps 1.38 112 PN Pn 22 35 23.0 -1.3
APZ AML AML 22 35 45.1
APZ AML AML 22 35 56.7
MLZ Mavora Lakes 1.74 56 PN Pn 22 35 28.1 -1.1
MLZ AML AML 22 35 58.1
MLZ AML AML 22 36 01.4
MSZ Milford Sound 2.09 38 AML AML 22 36 11.3
MSZ AML AML 22 36 16.1
SYZ Scrubby Hill 2.10 97 ⇑PN Pn 22 35 33.6 -0.4
SYZ SN Sn 22 36 01.0 +0.5
SYZ AML AML 22 36 03.5
TUZ Tuapeka 2.47 83 PN Pn 22 35 38.7 -0.4
TUZ SN Sn 22 36 09.7 +0.1
EAZ Earnscleugh 2.48 65 ⇑PN Pn 22 35 39.0 -0.4
EAZ AML AML 22 36 18.4
EAZ AML AML 22 36 25.6
WKZ Wanaka 2.53 55 PN Pn 22 35 41.0 +1.0
WKZ AML AML 22 36 20.9
JCZ Jackson Bay 2.92 41 PN Pn 22 35 44.4 -1.2
JCZ AML AML 22 36 36.6
JCZ AML AML 22 36 38.0

SJA 19 22:57:38.9±0.8, 29°.36S×68°.86W, h3km±9km, ML3.5, San Juan Province

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AMOG MOGNA 1.61 169 eP Pb 22 58 09.6 +0.2
AMOG iS Sg 22 58 32.8 +1.9
ACLC CERRO LA CRUZ 1.67 93 eP Pg 22 58 11.0 -0.1
ACLC iS Sg 22 58 34.7 +1.8
AVFE Valle Fertil 1.78 137 eP Pb 22 58 12.5 +0.2
AVFE eS Sg 22 58 37.9 +1.5
AVFE AML AML 22 58 39.5
comp=Z,460nm,0.3s
RTLL Cerro Villicun 1.99 171 eP Pb 22 58 15.4 -0.5
APLL PUNTA DE LOS L 2.27 118 eP Pb 22 58 20.1 -0.6
CFAA Coronel Fontan 2.31 167 eP Pb 22 58 20.8 -0.4
RTLS Leoncito 2.46 189 eP Pb 22 58 23.4 -0.8
RTCV Cerro Valdivia 2.51 174 eP Pb 22 58 23.6 -1.2

CYA **Choya** 2.83 72 eP Pb 22 58 27.6 -2.5
CYA eP Pb 22 58 27.6 -2.5
ASAL Salagasta 3.23 180 eP Pb 22 58 33.9 -3.0
ARCO CERRO ARCO 3.48 181 eP Pn 22 58 36.6 +2.6
ARCO AML AML 22 59 31.9
comp=Z,84nm,0.6s
AAGR Agrelo 3.72 180 eP Pn 22 58 40.3 +3.0

MEX 19 23:00:55.5±1.1,16°.73N×94°.54W,h112km±10km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
CMIG	Matias Romero	0.49	318	eP	Pn	23 01 11.3	-1.2
CMIG				i S	Sn	23 01 23.2	-2.1
PCIG		1.63	128	eP	Pn	23 01 23.6	-0.3
PCIG				i S	Sn	23 01 44.9	-0.7
HUIG	Huatulco	1.78	238	eP	Pn	23 01 23.7	-2.1
HUIG				eS	Sn	23 01 48.3	-0.7
VHO	Vista Hermosa	2.13	280	i P	Pn	23 01 30.1	-0.4
VHO				i S	Sn	23 01 55.1	-2.1
CCIG	Comitan	2.35	100	eP	Pn	23 01 31.9	-1.3
CCIG				i S	Sn	23 02 01.4	-0.9
PNIG	Pinotepa	3.46	265	i P	Pn	23 01 45.8	-1.9
PNIG				i S	Sn	23 02 26.5	-1.5

ISCJB 19 23:29:01.1±0.7,32°.13N×0°.05×59°.26E±0°.05,h10km,Error ellipse: s-maj=7.1km s-min=5.8km az=141.0
THR 19 23:29:01.3±1.2,32°.09N×59°.27E,h18km±11km,ML3.5
CSEM 19 23:29:01.2±0.2,32°.12N×59°.27E,h2km,ML3.5,Error ellipse: s-maj=5.3km s-min=4.6km az=133.0
TEH 19 23:29:03.2,32°.17N×59°.21E,h6km,ML3.5
ISC 19 23:29:02.5±1.0,32°.11N±0°.04×59°.25E±0°.04,h10km,n22, σ1§03/28,Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
IKOO	Kooshah	0.38	326	eSg	Sg	23 29 14.3	-0.8
IKOO				ePg	Pg	23 29 08.6	-1.4
IKOO				e		23 29 14.5	
	comp=Z,90μm,0.1s						
IDAH	Dahanechah	0.81	40	ePg	Pg	23 29 17.7	-0.5
IDAH				e		23 29 22.7	
	comp=Z,18μm,0.1s						
IDAH				eSg	Sg	23 29 28.5	-0.3
IDAH	Dahanechah	0.81	40	ePg	Pg	23 29 17.7	-0.5
IDAH				eSg	Sg	23 29 28.5	-0.3
ITEG	Tejag	0.89	332	ePg	Pg	23 29 18.0	-1.7
ITEG				e		23 29 33.7	
	comp=Z,25μm,0.2s						
ITEG	Tejag	0.89	332	ePg	Pg	23 29 18.0	-1.7
SHRT	Shahrakht	1.76	29	ePg	Pn	23 29 34.1	+1.0
SHRT	Shahrakht	1.76	29	ePg	Pn	23 29 34.1	+1.0
TABS	Tabas	2.36	311	ePn	Pn	23 29 41.7	+0.3
TABS				eSg	Sb	23 30 15.9	+1.5
	comp=Z,171nm,0.8s						
TABS	Tabas	2.36	311	ePn	Pn	23 29 41.7	+0.3
TABS				eSg	Sb	23 30 15.9	+1.5
TABS				AML	AML	23 30 23.9	
	comp=N,171nm,0.8s						
ZHSF	Zahedan	2.81	152	ePn	Pn	23 29 46.7	-1.0
ZHSF	Zahedan	2.81	152	ePn	Pn	23 29 46.7	-1.0
KRBR	Kerman	3.01	226	ePn	Pn	23 29 51.0	+0.5
KRBR				eSg	Sb	23 30 35.5	+2.1
	comp=N,193nm,0.6s						
KRBR	Kerman	3.01	226	ePn	Pn	23 29 51.0	+0.5
KRBR				eSg	Sb	23 30 35.5	+2.1
KRBR				AML	AML	23 30 39.0	
	comp=E,189nm,0.4s						
KRBR				AML	AML	23 30 41.8	
	comp=N,193nm,0.6s						
IBAF	Bafgh	3.18	262	e	Sg	23 30 40.2	-4.4
	comp=Z,2μm,0.2s						
IMEH	Mehriz	4.02	261	ePn	Pn	23 30 04.5	+0.2
IMEH				e		23 31 12.2	
	comp=Z,867nm,0.2s						
IMEH	Mehriz	4.02	261	ePn	Pn	23 30 04.5	+0.2
ICHK	Chekchek	4.11	273	ePn	Pn	23 30 05.7	+0.1
ICHK				e		23 31 14.7	
	comp=Z,1μm,0.1s						
ICHK	Chekchek	4.11	273	ePn	Pn	23 30 05.7	+0.1
IZEF	Zefreh	5.90	279	ePn	Pn	23 30 30.4	+0.2
IZEF				e		23 32 19.6	
	comp=Z,134nm,0.2s						
IZEF	Zefreh	5.90	279	ePn	Pn	23 30 30.4	+0.2
IKLH	Kolahrood	6.58	283	ePn	Pn	23 30 39.4	-0.1
IKLH				e		23 32 44.5	
	comp=Z,140nm,0.5s						
IKLH	Kolahrood	6.58	283	ePn	Pn	23 30 39.4	-0.1

ECX 19 23:30:17.0±0.7,31°.40N×114°.39W,h12km,MD3.8,ML4.0
NEIC 19 23:30:18.3±0.7,31°.48N×114°.45W,h10km,ML4.0(ECX), Error ellipse: s-maj=9.3km s-min=5.7km az=172.0
NEIC Felt at El Golfo de Santa Clara, Sonora.
ISCJB 19 23:30:19.4±0.7,31°.53N±0°.05×114°.43W±0°.03,h33km±9km, Error ellipse: s-maj=7.6km s-min=4.2km az=0.7
ISC 19 23:30:20.4±1.1,31°.50N±0°.04×114°.49W±0°.03, h28km±11km,n57,σ1§42/72,21C-13D,Gulf of California

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ECBX	El Chinero	0.48	266	eP	Pb	23 30 29.3	-1.1
ECBX				eS	Sb	23 30 37.1	0.0
ECBX				⇓e		23 30 37.2	
	comp=E,5μm,0.5s						
ECBX	El Chinero	0.48	266	eP	Pb	23 30 29.3	-1.1
ECBX				eS	Sb	23 30 37.1	0.0
SPIG	San Pedro Mart	0.95	241	P	Pb	23 30 39.1	+0.6
SPIG				S	Sn	23 30 52.8	+1.8
SPIG				S	Sb	23 31 01.0	+10
CPBX	Cerro Prieto	1.14	323	eP	Pn	23 30 39.0	-1.5
CPBX				eS	Sb	23 30 56.2	+0.2
CPBX				⇑e		23 31 25.6	
	comp=N,10μm,0.5s						
CPBX	Cerro Prieto	1.14	323	eP	Pn	23 30 39.0	-1.5
CPBX				eS	Sb	23 30 56.2	+0.2
RDX	Rancho Dawling	1.30	289	ePN	Pn	23 30 42.1	-0.9
RDX				eS	Sb	23 31 00.9	+0.1
RDX				⇑e		23 31 03.1	
	comp=E,2μm,0.3s						
RDX				⇓e		23 31 12.7	
	comp=N,1μm,0.4s						
RDX	Rancho Dawling	1.30	289	ePn	Pn	23 30 42.1	-0.9
RDX				eS	Sb	23 31 00.9	+0.1
113A	Mohawk Valley,	1.40	26	⇑P	Pn	23 30 42.3	-1.9
	baz=1.4,SNR=95						
113A				⇑S	Sn	23 30 58.1	-3.6
	baz=1.4						
214A	Organ Pipe Nat	1.50	72	ePn	Pn	23 30 43.6	-1.9
214A	Organ Pipe Nat	1.50	72	P	Pn	23 30 43.8	-1.7
	baz=1.5,SNR=99						
214A				⇓S	Sn	23 31 01.4	-2.9
	baz=1.5						
ZAX	El Zacaton	1.52	271	ePN	Pn	23 30 45.5	-0.3
GLA	Glamis	1.57	350	ePn	Pn	23 30 45.1	-1.3
GLA				ePg	Pb	23 30 50.4	+1.6
GLA				eSg	Sb	23 31 13.6	+5.3
GLA	Glamis	1.57	350	P	Pn	23 30 45.2	-1.3
	baz=1.6,SNR=332						
GLA				⇑S	Sn	23 31 04.4	-1.6
	baz=1.6						
ECNX	Esteban Cantu	1.80	275	ePN	Pn	23 30 49.4	-0.4
ECNX	Esteban Cantu	1.80	275	ePn	Pn	23 30 49.4	-0.4
CBX	Cerro Bola	2.01	294	ePN	Pn	23 30 52.5	-0.1
CBX	Cerro Bola	2.01	294	ePn	Pn	23 30 52.5	-0.1
MONP	Monument Peak	2.14	311	⇑P	Pn	23 30 54.2	-0.3
	baz=2.2						
BAR	Barrett	2.19	303	ePn	Pn	23 30 54.0	-1.0
Y12C	Blythe	2.24	359	⇑P	Pn	23 30 54.5	-1.2
	baz=2.3						
Z14A	Wintersburg	2.27	35	⇓P	Pn	23 30 54.6	-1.4
	baz=2.3						
Z14A				⇓S	Sn	23 31 21.8	-1.3
	baz=2.3						
BC3	Big Chuckawall	2.29	340	⇓P	Pn	23 30 55.5	-1.0
	baz=2.3,SNR=13						
BC3				⇑S	Sn	23 31 22.4	-1.4
	baz=2.3						
109C	Camp Elliot, M	2.61	303	⇑P	Pn	23 31 00.7	0.0
	baz=2.7,SNR=12						
109C				⇑S	Sn	23 31 31.7	+0.2
	baz=2.7						
PFO	Pinyon Flat Ob	2.67	322	ePn	Pn	23 31 02.9	+1.2
IRM	Iron Mountain	2.71	348	⇑P	Pn	23 31 01.1	-1.0
	baz=2.7						
Y14A	Wickenburg	2.73	27	⇓P	Pn	23 31 01.1	-1.4
	baz=2.7						
BELC	Belle Mtn. Jos	2.79	333	⇑P	Pn	23 31 02.8	-0.6
	baz=2.8						
PDMCI	Parker Dam,Lak	2.80	6	⇑P	Pn	23 31 02.7	-0.7
	baz=2.8						
NEE2	Needles Airpor	3.26	358	⇑P	Pn	23 31 09.1	-0.5
	baz=3.3						
GMRC	Granite Mounta	3.41	344	⇓P	Pn	23 31 11.1	-0.8
	baz=3.5						
GMRC				⇓S	Sn	23 31 50.9	-0.6
	baz=3.5						
LDFC	Landfair	3.60	352	ePg	Pb	23 31 28.3	+4.8
HEC	Hector,Ludlow	3.66	336	⇓P	Pn	23 31 14.6	-0.6
	baz=3.7						
CIS	Catalina Islan	3.81	301	⇑P	Pn	23 31 16.7	-0.6
	baz=3.9						
X16A	Lo Mia Camp, P	3.88	41	⇑P	Pn	23 31 17.5	-0.8
	baz=3.9						
X16A				⇓S	Sn	23 32 02.2	-0.9
	baz=3.9						
HSIG		3.94	128	P	Pb	23 31 28.4	-0.8
HSIG				S	Sb	23 32 21.0	+4.5
MWC	Mount Wilson	4.04	313	ePg	Pb	23 31 36.1	+5.1
MWC				eSg	Sb	23 32 26.1	+6.6
TUQ	Turquoise Moun	4.10	343	⇑P	Pn	23 31 20.4	-0.9
	baz=4.1						
GSC	Goldstone	4.25	334	ePn	Pn	23 31 23.1	-0.3
GSC	Goldstone	4.25	334	⇑P	Pn	23 31 23.3	-0.1
	baz=4.3						
319A	Douglas	4.46	90	⇑P	Pn	23 31 26.1	-0.2
	baz=4.4						
WUAZ	Wupatki	4.78	32	ePn	Pn	23 31 31.0	+0.3
SHPR	Sheep Range	5.02	354	ePn	Pn	23 31 34.7	+0.7
U15A	North Rim	5.24	20	⇓P	Pn	23 31 38.3	+1.1
	baz=5.3						
ISA	Isabella	5.31	322	ePg	Pb	23 32 02.7	+10
W18A	Petrified Fore	5.37	47	ePn	Pn	23 31 38.7	-0.2
DAC	Darwin (Calif)	5.41	332	ePn	Pn	23 31 38.9	-0.5
121A	Cookes Peak, D	5.79	78	ePn	Pn	23 31 44.2	-0.5
121A	Cookes Peak, D	5.79	78	⇓P	Pn	23 31 44.6	0.0
	baz=5.7						
CCUT	Cedar City	6.10	8	ePn	Pn	23 31 50.4	+1.5
ARUT	Antelope Range	6.33	8	ePn	Pn	23 31 53.0	+1.0
Z22A	Elephant Butte	6.61	73	⇑P	Pn	23 31 55.6	-0.2
	baz=6.6						
R11A	Troy Canyon, C	6.89	353	ePn	Pn	23 32 00.6	+0.9
R11A	Troy Canyon, C	6.89	353	⇑P	Pn	23 32 01.0	+1.3
	baz=6.9						
TPH	Tonopah	6.93	342	Pn	Pn	23 31 59.9	-0.4
TPH				ePg	Pb	23 32 31.3	+11
MVCO	Mesa Verde	7.55	39	ePn	Pn	23 32 09.8	+1.0
MNTX	Cornudas Mount	7.78	86	ePn	Pn	23 32 09.9	-1.9
PV04	Paradox Valley	8.26	32	eP	Pn	23 32 20.5	+1.9

NNC 19 23:41:08.6±3.7,38°.72N×71°.49E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=27.8km s-min=17.2km az=177.0
IDC 19 23:41:09.1±5.0,38°.13N×71°.84E,h88km±38km,mb3.4/4, mb1 3.4/8,mb1mx3.1/42,mbtmp3.6/8,Error ellipse: s-maj=50.5km s-min=31.5km az=140.0
ISC 19 23:41:06.3±2.0,38°.7N±0°.1×71°.39E±0°.08,h10km,n13, σ2§77/17,mb3.8/4,6C-9D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
KK31	Karatay Array	4.50	352	⇑Pn	Pn	23 42 18.0	+3.5
	0.6nm,0.3s,baz=174,slow=12						
KK31				⇓Sn	Sn	23 43 12.3	+5.3
	1.8nm,0.3s,baz=167,slow=22						
KK31				⇓Lg	Lg	23 43 30.7	
	2.4nm,0.5s						
AAK	Ala-Archa	4.63	30	⇓Pn	Pn	23 42 19.2	+2.8
	1.2nm,0.5s						
AAK				⇓Pg	Pb	23 42 30.5	+2.9
	4.6nm,0.7s						
AAK				⇑Sn	Sn	23 43 11.0	+0.7
	4.5nm,0.7s						
AAK				⇑Lg	Lg	23 43 31.9	
	13nm,1.4s						
AAK	Ala-Archa	4.63	30	P	Pn	23 42 20.0	+3.5
	0.9nm,0.3s,baz=181,slow=5.4,SNR=14						
AAK				S	Sb	23 43 18.2	-5.3
	0.3nm,0.3s,baz=336,slow=20,SNR=2.7						
TKM2	Tokmak 2	5.33	35	⇑Pn	Pn	23 42 28.3	+2.2
	1.8nm,0.5s						
TKM2				⇑Pg	Pg	23 42 45.3	-3.0
	2.0nm,0.7s						
TKM2				⇓Sn	Sn	23 43 31.2	+3.5
	3.1nm,0.9s						
TKM2				⇑Lg	Lg	23 43 55.7	
	3.6nm,0.6s						
MKAR	Makanchi Array	11.42	41	P	Pn	23 43 51.5	+2.1
	0.1nm,0.3s,baz=236,slow=14,SNR=9.3						
AB31	Akbulak array	13.42	326	⇓Pn	Pn	23 44 15.5	-1.2
	0.1nm,0.4s,baz=155,slow=12,SNR=7.8						
AB31				⇓Sn	Sn	23 46 45.3	-0.5
	0.7nm,0.7s,baz=147,slow=23,SNR=3.4						
AKTO	Aktyubinsk	15.13	325	⇓Pn	P	23 44 44.4	-0.8
	3.7nm,1.1s						
AKTO				⇓Sn	Sn	23 47 26.9	-0.6
	0.9nm,0.8s						
AKTO	Aktyubinsk	15.13	325	P	P	23 44 44.9	-0.4
	0.2nm,0.3s,baz=114,slow=9.4,SNR=6.6						
ZALV	Zalesovo Beam	17.85	27	P	Pn	23 45 14.4	-0.2
	0.1nm,0.3s,baz=224,slow=8.1,SNR=4.8						
FINES	FINESS Array B	35.90	324	P	P	23 48 05.5	-0.7
	1.1nm,0.6s,baz=122,slow=9.4,SNR=7.4						
ARCES	ARCESS Array B	39.29	337	P	P	23 48 33.8	-1.1
	2.2nm,0.7s,baz=99,slow=7.5,SNR=8.9						
TORD	Torodi Ar. Bea	66.09	268	P	P	23 51 49.7	-4.1
	0.3nm,0.6s,baz=59,slow=6.2,SNR=6.2						
YKA	Yellowknife Ar	79.09	3	P	P	23 53 05.8	-4.6
	0.1nm,0.6s,baz=349,slow=5.6,SNR=3.1						

IDC 19 23:41:41.4±4.4,5°.89S×146°.43E,h55km±44km,mb3.1/3, mb1 3.4/5,mb1mx3.2/25,mbtmp3.4/5,ML3.2/2,MS3.0/1, Ms1 3.0/1,ms1mx2.5/9,Error ellipse: s-maj=42.9km s-min=33.2km az=121.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
PMG	Port Moresby	3.57	168	P	Pn	23 42 34.2	-0.1
	7.1nm,0.3s,baz=337,slow=15,SNR=11						
PMG				S	Sn	23 43 22.6	+7.4
	11nm,0.3s,baz=285,slow=20,SNR=3.5						
PMG				LR	LR	23 44 14.5	
	comp=Z,209nm,18.7s,baz=22,slow=43						
HNR	Honiara	13.85	106	P	Pn	23 44 56.4	+1.5
	55nm,0.3s,baz=286,slow=2.2,SNR=7.1						
WRA	Warramunga Arr	18.26	219	P	P	23 45 49.5	-1.1
	0.2nm,0.3s,baz=43,slow=12,SNR=11						
WRA				PcP	PcP	23 50 21.9	+0.7
	0.0nm,0.3s,baz=25,slow=1.8,SNR=5.2						
SONM	Songino Array	64.04	331	P	P	23 52 11.0	+1.4
	0.2nm,0.7s,baz=135,slow=4.9,SNR=3.8						
MKAR	Makanchi Array	77.06	321	P	P	23 53 27.8	-1.0
	0.1nm,0.6s,baz=113,slow=5.3,SNR=2.3						
ILAR	Eielson Array	85.60	23	P	P	23 54 12.2	-1.4
	0.4nm,0.7s,baz=257,slow=5.1,SNR=8.9						
TORD	Torodi Ar. Bea	144.52	284	PKP	PKPdf	00 01 12.3	-0.5
	1.4nm,0.8s,baz=74,slow=3.2,SNR=9.1						
DBIC	Dimbokro	151.45	273	PKPbc	PKPbc	00 01 30.5	+0.2
	2.3nm,0.7s,baz=78,slow=4.4,SNR=5.5						

IDC 19 23:46:32.6±1.6,18°.12S×70°.77W,h75km±7km,mb3.5/3, mb1 3.8/5,mb1mx3.5/23,mbtmp3.8/5,MS3.2/2,Ms1 3.3/2, ms1mx2.6/16,Error ellipse: s-maj=54.5km s-min=24.7km az=7.0,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
LPAZ	La Paz	3.11	55	P	Pn	23 47 21.5	+1.3
	2.6nm,0.3s,baz=257,slow=8.2,SNR=34						
LPAZ				S	Sn	23 47 54.9	-2.0
	1.1nm,0.3s,baz=119,slow=19,SNR=4.7						
NNA	Nana	8.46	315	P	Pn	23 48 38.4	+5.8
	2.2nm,0.3s,baz=137,slow=7.0,SNR=5.6						
NNA				S	Sn	23 50 13.3	+6.8
	1.5nm,0.3s,baz=198,slow=20,SNR=2.6						
SIV	San Ignacio	9.51	79	P	Pn	23 48 46.5	-0.4
	2.0nm,0.3s,baz=266,slow=11,SNR=16						
SIV				LR	LR	23 53 06.3	
	comp=Z,50nm,19.8s,baz=112,slow=41						
H03N1	Juan Fernandez	16.91	204	T	T	00 08 07.7	
	baz=26,slow=75,SNR=170						
H03N2	Juan Fernandez	16.92	204	T	T	00 08 07.1	
	baz=26,slow=75,SNR=170						
H03N3	Juan Fernandez	16.93	204	T	T	00 08 09.2	
	baz=26,slow=75,SNR=175						
TXAR	Lajitas Array	56.87	326	P	P	23 56 09.0	-0.9
	0.3nm,0.6s,baz=144,slow=6.3,SNR=4.6						
NVAR	Mina Array Bea	71.76	322	LR	LR	00 27 22.3	
	comp=Z,53nm,19.6s,baz=172,slow=34						
TORD	Torodi Ar. Bea	77.92	72	P	P	23 58 22.3	-0.7
	0.8nm,0.6s,baz=252,slow=5.0,SNR=14						
TORD				pP	pP	23 58 42.6	-0.5
	0.5nm,0.5s,baz=252,slow=5.7,SNR=3.7						
YKA	Yellowknife Ar	87.44	341	P	P	23 59 11.3	0.0
	0.9nm,0.7s,baz=135,slow=4.9,SNR=24						
YKA				pP	pP	23 59 31.5	-0.2
	0.2nm,0.6s,baz=135,slow=5.2,SNR=3.1						
H11N3	WAKE ISLAND Hy	125.64	282	T	T	02 23 29.1	
	baz=99,slow=74,SNR=4.5						
H11S2	WAKE ISLAND Hy	125.64	280	T	T	02 23 31.5	
	baz=99,slow=75,SNR=6.5						
H11S1	WAKE ISLAND Hy	125.65	280	T	T	02 23 30.8	
	baz=99,slow=75,SNR=4.6						
H11N2	WAKE ISLAND Hy	125.66	282	T	T	02 23 33.4	
	baz=99,slow=74,SNR=3.2						
H11N1	WAKE ISLAND Hy	125.66	282	T	T	02 23 29.5	
	baz=99,slow=74,SNR=4.5						
H11S3	WAKE ISLAND Hy	125.66	280	T	T	02 23 36.4	
	baz=99,slow=75,SNR=6.4						
WRA	Warramunga Arr	134.85	214	PKP	PKPdf	00 05 43.9	+0.2
	0.3nm,0.8s,baz=150,slow=2.0,SNR=2.8						
ZALV	Zalesovo Beam	139.57	22	PKP	PKPdf	00 05 52.6	+1.3
	0.6nm,0.6s,baz=333,slow=0.6,SNR=3.3						
SONM	Songino Array	150.28	4	PKPbc	PKPbc	00 06 16.4	+1.1
	0.3nm,0.6s,baz=313,slow=2.0,SNR=4.7						
SONM				PKPab	PKPab	00 06 20.7	-1.0
	0.3nm,0.8s,baz=311,slow=2.1,SNR=3.7						
SONM				pPKPbc	pPKPbc	00 06 36.5	-0.1
	0.3nm,0.6s,baz=331,slow=2.2,SNR=3.8						

CSEM 19 23:49:41.3,38°.44N×21°.90E,h8km,ML1.6/3,After THE
THE 19 23:49:41.3,38°.44N×21°.90E,h8km±1km,ML1.6/3,Error ellipse: s-maj=1.1km s-min=0.6km az=341.0,Greece

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
EFP	Efpalio	0.01	166	P	Pg	23 49 42.9	+0.1
EFP				S	Sg	23 49 43.7	0.0
EFP	Efpalio	0.01	166	P	Pg	23 49 42.9	+0.1
EFP				S	Sg	23 49 43.7	0.0
KALE	Kalithea	0.19	104	P	Pg	23 49 45.2	-0.2
KALE				S	Sg	23 49 48.6	+0.5
KALE	Kalithea	0.19	104	P	Pg	23 49 45.2	-0.2
KALE				S	Sg	23 49 48.6	+0.5
LAKA	Lakka	0.21	163	P	Pg	23 49 45.5	-0.1
LAKA	Lakka	0.21	163	P	Pg	23 49 45.5	-0.1
PVO	Paravola	0.34	301	P	Pg	23 49 48.2	+0.1
PVO	Paravola	0.34	301	P	Pg	23 49 48.2	+0.1
DSF	Desfina	0.49	93	P	Pg	23 49 50.2	-0.7
DSF				S	Sg	23 49 58.1	+0.6
DSF	Desfina	0.49	93	P	Pg	23 49 50.2	-0.7
DSF				S	Sg	23 49 58.1	+0.6
DRO	Drossia	0.51	197	P	Pg	23 49 50.7	-0.5
DRO				S	Sg	23 49 58.7	+0.8
DRO	Drossia	0.51	197	P	Pg	23 49 50.7	-0.5
DRO				S	Sg	23 49 58.7	+0.8

DDA 19 23:51:30.6,40°.86N×28°.67E,h7km,MD2.9
CSEM 19 23:51:30.2±0.1,40°.84N×28°.63E,h5km,MD2.9,Error ellipse: s-maj=3.0km s-min=2.4km az=47.0
ISK 19 23:51:29.6,40°.85N×28°.65E,h5km,MD2.9,Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ARMT	Armutlu	0.33	151	ePG	Pg	23 51 36.5	+0.5
ARMT				eSG	Sg	23 51 41.7	+1.3
ARMT	Armutlu	0.33	151	ePg	Pg	23 51 36.5	+0.5
ARMT				eSg	Sg	23 51 41.7	+1.3
ELBA	Catalca	0.34	330	i P	Pb	23 51 37.5	-0.7
ELBA				i S	Sb	23 51 42.8	-1.1
ELBA	Catalca	0.34	330	i P	Pb	23 51 37.5	-0.6
ELBA				i S	Sb	23 51 42.8	-1.1
BGKT	Bogazkoy	0.34	15	ePG	Pg	23 51 36.8	+0.6
BGKT				eSG	Sg	23 51 42.0	+1.3
BGKT	Bogazkoy	0.34	15	ePg	Pg	23 51 36.8	+0.6
BGKT				eSg	Sg	23 51 42.0	+1.3
ISK	Istanbul-Kandi	0.37	55	ePG	Pg	23 51 37.2	+0.4
ISK				eSG	Sg	23 51 42.6	+0.9
ISK	Istanbul-Kandi	0.37	55	ePg	Pg	23 51 37.2	+0.4
ISK				eSg	Sg	23 51 42.6	+0.9
CTKS	Kestanelik-??a	0.40	344	ePG	Pg	23 51 38.0	+0.7
CTKS				eSG	Sg	23 51 43.9	+1.4
CTKS	Kestanelik-??a	0.40	344	ePg	Pg	23 51 38.0	+0.7
CTKS				eSg	Sg	23 51 43.9	+1.4
KLYT	Kilyos	0.49	36	ePG	Pb	23 51 40.1	-0.7
KLYT	Kilyos	0.49	36	ePg	Pb	23 51 40.1	-0.7
SLVT	Silivri	0.50	318	ePG	Pb	23 51 40.6	-0.4
SLVT	Silivri	0.50	318	ePg	Pb	23 51 40.6	-0.4
MDNY	Mudanya-Bursa	0.52	160	ePG	Pg	23 51 40.0	+0.4
MDNY	Mudanya-Bursa	0.52	160	ePg	Pg	23 51 40.0	+0.5
GEMT	Gemlik	0.58	136	ePG	Pg	23 51 41.4	+0.6
GEMT	Gemlik	0.58	136	ePg	Pg	23 51 41.4	+0.6
CTYL	Yal??k??y-??at	0.68	336	ePG	Pg	23 51 42.9	+0.2
CTYL	Yal??k??y-??at	0.68	336	ePg	Pg	23 51 42.9	+0.2
CRLT	Corlu	0.75	292	ePG	Pg	23 51 44.4	+0.4
CRLT	Corlu	0.75	292	ePg	Pg	23 51 44.4	+0.4
HRT	Hereke	0.77	92	ePG	Pg	23 51 44.8	+0.4
HRT	Hereke	0.77	92	ePg	Pg	23 51 44.8	+0.3
EDC	Edincik	0.79	230	ePG	Pb	23 51 45.3	-0.5
EDC	Edincik	0.79	230	ePg	Pb	23 51 45.3	-0.5
SILT	Sile	0.81	68	ePG	Pb	23 51 45.6	-0.5
SILT	Sile	0.81	68	ePg	Pb	23 51 45.6	-0.5
IZI	Iznik	0.81	129	ePG	Pb	23 51 45.8	-0.5
IZI	Iznik	0.81	129	ePg	Pb	23 51 45.8	-0.5
ORLT	Orhaneli	0.83	167	ePG	Pg	23 51 45.8	+0.2
ORLT	Orhaneli	0.83	167	ePg	Pg	23 51 45.8	+0.2
MRMT	Marmara Adasi	0.84	253	ePG	Pg	23 51 46.3	+0.4
MRMT	Marmara Adasi	0.84	253	ePg	Pg	23 51 46.3	+0.4
ADVT	Abdulvahap	0.93	117	ePG	Pb	23 51 48.3	+0.1
ADVT	Abdulvahap	0.93	117	ePg	Pb	23 51 48.3	+0.2
KRBG	Karabiga-Canak	1.13	246	ePN	Pb	23 51 51.2	-0.1
KRBG	Karabiga-Canak	1.13	246	ePn	Pb	23 51 51.2	-0.1
RKY	Sarkoy-Tekirda	1.13	262	ePN	Pb	23 51 50.9	-0.6
RKY	Sarkoy-Tekirda	1.13	262	ePn	Pb	23 51 50.9	-0.5
PHSR	Pinarhisar	1.15	313	ePN	Pb	23 51 51.9	-0.1
PHSR	Pinarhisar	1.15	313	ePn	Pb	23 51 51.9	-0.1
BALB	Balikesir	1.35	206	ePN	Pb	23 51 55.6	+0.1
BALB	Balikesir	1.35	206	ePn	Pb	23 51 55.6	+0.1
GULT	Gulveren	1.48	106	ePN	Pb	23 51 57.6	-0.1
GULT	Gulveren	1.48	106	ePn	Pb	23 51 57.6	-0.1
LPK	Lapseki	1.52	252	ePN	Pb	23 51 58.0	-0.2
LPK	Lapseki	1.52	252	ePn	Pb	23 51 58.1	-0.2
TVSB	Tavsanli	1.53	156	ePN	Pb	23 51 58.2	+0.4
TVSB	Tavsanli	1.53	156	ePn	Pb	23 51 58.2	+0.4
BORA	Eskisehir	1.68	125	i P	Pg	23 52 02.4	+0.4
BORA				i S	Sg	23 52 24.2	+0.2
BORA	Eskisehir	1.68	125	i P	Pg	23 52 02.4	+0.3
BORA				i S	Sg	23 52 24.2	+0.2
EDRB	Edirne	1.75	305	ePN	Pb	23 52 01.8	-0.4
EDRB	Edirne	1.75	305	ePn	Pb	23 52 01.8	-0.4
GDZ	Gediz	1.87	160	i P	Pg	23 52 06.3	+0.6
GDZ	Gediz	1.87	160	i P	Pg	23 52 06.3	+0.5
GDZ				i S	Sg	23 52 31.8	+1.6
MDUB	Mudurnu	1.97	100	ePN	Pn	23 52 04.4	+0.6
MDUB	Mudurnu	1.97	100	ePn	Pn	23 52 04.4	+0.6
ALT	Altintas	2.12	148	ePN	Pn	23 52 06.9	+1.1
ALT	Altintas	2.12	148	ePn	Pn	23 52 06.9	+1.1

MEX 20 00:15:37.5±1.1,17°.11N×94°.46W,h145km±13km,MD3.6, Chiapas

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CMIG	Matias Romero	0.40	267	i P	Pn	00 15 56.9	-0.9
CMIG				eS	Sn	00 16 10.7	-2.6
PCIG		1.84	139	i P	Pn	00 16 11.7	+1.2
PCIG				i S	Sn	00 16 36.7	+1.0
HUIG	Huatulco	2.07	230	eP	Pn	00 16 11.3	-1.9
HUIG				i S	Sn	00 16 39.0	-1.5
VHO	Vista Hermosa	2.17	269	i P	Pn	00 16 12.7	-1.9
VHO				i S	Sn	00 16 41.8	-1.3
CCIG	Comitan	2.38	110	i P	Pn	00 16 15.5	-1.6
CCIG				i S	Sn	00 16 46.2	-1.3

WEL 20 00:39:36.8±1.0, 35°.59S×178°.59E, h202km±14km, ML3.5/9, Error ellipse: s-maj=27.1km s-min=19.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.99	186	PN	Pn	00 40 15.1	-0.2
MXZ				SN	S	00 40 44.9	+0.1
HAZ	Te Kaha	2.26	196	PN	Pn	00 40 18.0	-0.1
HAZ				SN	S	00 40 50.5	+0.5
PUZ	Puketiti	2.50	186	PN	Pn	00 40 20.5	-0.2
PUZ				eSN	S	00 40 55.5	+0.9
TWGZ	Tauwhareparae	2.63	190	PN	Pn	00 40 23.0	+0.7
MWZ	Matawai	2.87	197	PN	Pn	00 40 25.5	+0.4
CNGZ	Carnagh Statio	2.91	186	PN	Pn	00 40 25.7	+0.3
URZ	Urewera	2.92	203	PN	Pn	00 40 25.3	-0.2
RIGZ	Rimuhau	3.18	192	PN	Pn	00 40 28.5	-0.2
SNGZ	Shannon Statio	3.34	197	PN	Pn	00 40 30.6	0.0
KNZ	Kokohu	3.51	192	PN	Pn	00 40 31.8	-0.7
KRHZ	Kereru	4.42	203	PN	Pn	00 40 42.6	-1.2
PXZ	Pawanui	4.65	197	PN	Pn	00 40 45.0	-1.6
PNHZ	Pukenui	4.72	203	PN	Pn	00 40 45.9	-1.8
MRZ	Mangatainoka R	5.60	204	PN	Pn	00 40 56.0	-2.7
MRZ				SN	S	00 42 00.4	-3.0
HOWZ	Holdsworth Sta	5.83	204	PN	Pn	00 40 59.0	-2.8
KIW	Kapiti Island	6.01	208	AML	AML	00 41 03.2	
MTW	Mount Morrison	6.07	203	AML	AML	00 41 06.2	
TCW	Tory Channel	6.56	210	AML	AML	00 42 25.8	
KHZ	Kahutara	7.87	208	PN	Pn	00 41 24.7	-3.5

CSEM 20 00:40:54.5±0.1, 42°.53N×43°.38E, h2km, mb4.0, Error ellipse: s-maj=3.1km s-min=2.5km az=104.0
TIF 20 00:40:54.0, 42°.55N×43°.44E, h11km±1km
MOS 20 00:40:56.1±1.9, 42°.58N×43°.48E, h10km, mb4.0/1, Error ellipse: s-maj=13.3km s-min=5.9km az=74.8
ISC 20 00:40:54.7±0.9, 42°.52N±0°.02×43°.40E±0°.02, h6km±7km, n59, σ0°.61/101, 5C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONI	Oni	0.08	30	P	Pg	00 40 56.5	-0.1
ONI	Oni	0.08	30	P	Pg	00 40 56.5	-0.1
ONI				S	Sg	00 40 58.1	+0.2
DIGR	Digorskoe uzhe	0.40	20	i PG	Pg	00 41 01.9	-0.6
DIGR				i S	Sg	00 41 07.9	+0.1
DIGR	Digorskoe uzhe	0.40	20	i Pg	Pg	00 41 01.9	-0.6
DIGR				i Sg	Sg	00 41 07.9	+0.1
ZEI	Tsey	0.46	54	⇓i PG	Pg	00 41 03.0	-0.5
ZEI				i S	Sg	00 41 09.5	-0.1
ZEI	Tsey	0.46	54	i Pg	Pg	00 41 03.0	-0.5
ZEI				i Sg	Sg	00 41 09.5	-0.1
LACR	Lac	0.73	65	i PG	Pg	00 41 08.1	-0.6
LACR				i S	Sg	00 41 18.2	0.0
LACR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
LACR	Lac	0.73	65	i Pg	Pg	00 41 08.1	-0.6
	comp=Z,6.0nm,0.3s						
LACR				i Sg	Sg	00 41 18.2	0.0
KORR	Kora	0.75	41	i PG	Pg	00 41 08.9	-0.2
KORR				eS	Sg	00 41 19.5	+0.7
KORR	Kora	0.75	41	i Pg	Pg	00 41 08.9	-0.2
KORR				eSg	Sg	00 41 19.5	+0.7
GUDG	Gudauri	0.80	94	P	Pg	00 41 09.2	-0.8
GUDG	Gudauri	0.80	94	P	Pg	00 41 09.2	-0.8
GUDG				S	Sg	00 41 21.5	+1.1
LSNR	Lesken	0.82	22	i PG	Pg	00 41 10.3	-0.1
LSNR				eS	Sg	00 41 21.5	+0.4
LSNR	Lesken	0.82	22	i Pg	Pg	00 41 10.3	-0.1
LSNR				eSg	Sg	00 41 21.5	+0.4
NEY	Neytrino	0.88	326	⇑ePG	Pg	00 41 10.6	-1.0
NEY				eS	Sg	00 41 22.7	-0.3
NEY	Neytrino	0.88	326	ePg	Pg	00 41 10.6	-1.0
NEY				eSg	Sg	00 41 22.7	-0.3
ARNR	Ardon	0.93	44	i PG	Pb	00 41 12.9	-0.3
ARNR				eS	Sb	00 41 25.7	-0.1
ARNR	Ardon	0.93	44	i Pg	Pb	00 41 12.9	-0.3
ARNR				eSg	Sb	00 41 25.7	-0.1
STDR	Stavd-Durt	0.98	30	i PG	Pn	00 41 14.6	-0.4
STDR				i S	Sn	00 41 28.2	-1.0
STDR	Stavd-Durt	0.98	30	i Pg	Pn	00 41 14.6	-0.4
STDR				i Sg	Sn	00 41 28.2	-1.0
CHVG	Ch'k'valeri	0.99	282	P	Pg	00 41 13.7	+0.1
CHVG	Ch'k'valeri	0.99	282	P	Pg	00 41 13.7	+0.1
DUS	Dusheti	1.06	114	P	Pn	00 41 16.8	+0.6
DUS	Dusheti	1.06	114	P	Pn	00 41 16.8	+0.6
DUS				S	Sn	00 41 32.3	+1.0
VLKR	Vladikavkaz	1.08	60	ePG	Pg	00 41 15.3	-0.1
VLKR				eS	Sb	00 41 29.9	-0.3
VLKR	Vladikavkaz	1.08	60	ePg	Pg	00 41 15.3	-0.1
VLKR				eSg	Sb	00 41 29.9	-0.3
AKH	Akhalkalaki	1.11	176	P	Pg	00 41 15.9	-0.1
AKH	Akhalkalaki	1.11	176	P	Pg	00 41 15.9	-0.1
AKH				S	Sb	00 41 31.8	+0.5
BTKR	Batakoyurt	1.20	44	⇑i PG	Pn	00 41 19.0	+1.0
BTKR				eS	Sn	00 41 35.1	+0.5
BTKR	Batakoyurt	1.20	44	i Pg	Pn	00 41 19.0	+1.0
BTKR				eSg	Sn	00 41 35.1	+0.5
TBLG	Delisi	1.27	128	P	Pn	00 41 18.4	-0.7
TBLG	Delisi	1.27	128	P	Pn	00 41 18.4	-0.7
TBLG				S	Sn	00 41 36.1	-0.4
KUBR	Kubataba	1.28	0	⇑ePG	Pn	00 41 19.3	+0.1
KUBR				i S	Sn	00 41 37.7	+1.0
KUBR	Kubataba	1.28	0	ePg	Pn	00 41 19.3	+0.1
KUBR				i Sg	Sn	00 41 37.7	+1.0
SEAG	Tbilisi Sea	1.29	125	P	Pn	00 41 18.4	-0.9
SEAG	Tbilisi Sea	1.29	125	P	Pn	00 41 18.4	-0.9
SEAG				S	Sg	00 41 36.2	+0.1
KZR	Kazreti	1.37	146	P	Pn	00 41 19.1	-1.3
KZR	Kazreti	1.37	146	P	Pn	00 41 19.1	-1.3
KZR				S	Sb	00 41 38.5	0.0
PRTR	Priterechnaya	1.39	27	ePG	Pg	00 41 21.5	+0.2
PRTR				eS	Sg	00 41 40.5	+1.2
PRTR	Priterechnaya	1.39	27	ePg	Pg	00 41 21.5	+0.2
PRTR				eSg	Sg	00 41 40.5	+1.2
KIV	Kislovodsk	1.52	340	c i PG	Pn	00 41 22.6	0.0
KIV				i		00 41 42.2	
KIV				pmax	pmax		
	comp=Z,28nm,1.0s						
KIV				smax	smax		
	comp=Z,125nm,0.8s						
KIV	Kislovodsk	1.52	340	i Pg	Pn	00 41 22.6	0.0
	comp=Z,28nm,1.0s						
KIV				i Sg	Sn	00 41 42.2	-0.6
	comp=Z,125nm,0.8s						
PYA	Pyatigorsk	1.53	351	⇑ePG	Pb	00 41 23.0	-0.5
PYA				eS	Sb	00 41 43.3	+0.1
PYA	Pyatigorsk	1.53	351	ePg	Pb	00 41 23.0	-0.5
PYA				eSg	Sb	00 41 43.3	+0.1
TRKR	Terskaya	1.55	39	i PG	Pg	00 41 24.1	-0.2
TRKR				eS	Sg	00 41 44.9	+0.5
TRKR	Terskaya	1.55	39	i Pg	Pg	00 41 24.1	-0.2
TRKR				eSg	Sg	00 41 44.9	+0.5
ARTV	Artvin	1.73	220	i P	Pn	00 41 25.9	+0.4
ARTV				i S	Sb	00 41 49.1	+0.1
ARTV	Artvin	1.73	220	i P	Pn	00 41 25.9	+0.4
ARTV				i S	Sb	00 41 49.1	+0.1
DBOC	Borcka	1.75	228	i P	Pn	00 41 25.0	-0.6
DBOC				i S	Sn	00 41 50.6	-0.1
DBOC	Borcka	1.75	228	i P	Pn	00 41 25.0	-0.6
DBOC				i S	Sn	00 41 50.6	-0.1
DAGI	Agillar	1.82	218	i S	Sb	00 41 52.2	+0.6
DGRG	David-gareji	1.82	125	P	Pb	00 41 28.6	+0.2
DGRG	David-gareji	1.82	125	P	Pb	00 41 28.6	+0.2
DBAD	Bademkaya	1.97	221	i P	Pb	00 41 30.2	-0.8
DBAD	Bademkaya	1.97	221	i P	Pb	00 41 30.2	-0.8
DDEM	Demirkent	2.04	218	i P	Pb	00 41 30.6	+0.9
DDEM				i S	Sb	00 41 59.4	+1.4
DDEM	Demirkent	2.04	218	i P	Pn	00 41 30.6	+0.9
DDEM				i S	Sb	00 41 59.4	+1.4
GOF	Gofitskoye	2.55	354	ePN	Pg	00 41 43.5	0.0
GOF				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GNI	Garni	2.58	156	⇓i PN	Pb	00 41 41.5	+0.1

IDC 20 00:53:05.2±1.0, 1°.01N×127°.11E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/33, mbtmp3.9/5, MS3.4/3, Ms1 3.3/3, ms1mx2.8/26, Error ellipse: s-maj=82.4km s-min=13.0km az=71.0
ISCJB 20 00:53:12.6±0.7, 1°.06N±0°.06×127°.1E±0°.1, h72km, mb3.9/5, Error ellipse: s-maj=16.2km s-min=8.8km az=170.9
DJA 20 00:53:13.3±0.5, 1°N±3°×127°E±°, h15km±7km, M4.5/8, mb4.7/2, mB4.8/1, MLv4.4/8, Mw(mB)4.0/1
ISC 20 00:53:14.6±0.9, 1°.06N±0°.07×127°.2E±0°.1, h72km, n16, σ1°.93/14, mb4.0/5, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.32	153	P	Pn	00 53 21.9	-4.3
LBMI	Labuha	1.71	171	P	Pn	00 53 42.4	-0.1
LBMI				S	Sn	00 54 06.3	+2.7
SGSI	Sangihe	3.11	327	P	Pn	00 54 01.9	+0.5
KMSI	Cibinong	3.27	262	P	Pn	00 54 05.9	+2.3
SANI	Sanana	3.32	202	P	Pn	00 54 01.4	-2.9
NLAI	Namlea	4.27	182	P	Pn	00 54 16.8	-0.5
APSI	Ampana	5.90	251	P	Pn	00 54 38.3	-1.3
	51nm,0.8s,719nm0.3nm						
SPSI	Sidrap Palu	8.96	236	P	Pn	00 55 19.6	-1.8
WRA	Warramunga Arr	22.01	162	P	P	00 58 03.0	-0.2
	3.5nm,0.6s,baz=338,slow=11,SNR=54						
WRA				S	S	01 02 05.3	+3.3
	0.6nm,0.8s,baz=343,slow=17,SNR=2.9						
PMG	Port Moresby	22.42	118	LR	LR	01 09 27.7	
	comp=Z,60nm,19.0s,baz=239,slow=44						
PSI	Prapat	28.33	274	LR	LR	01 10 50.1	
	comp=Z,68nm,18.4s,baz=169,slow=38						
STKA	Stephens Creek	35.48	159	LR	LR	01 14 27.8	
	comp=Z,70nm,19.9s,baz=201,slow=36						
KSRS	Korea Array	36.22	1	P	P	01 00 09.3	-1.3
	0.7nm,0.4s,baz=178,slow=9.8,SNR=4.8						
SONM	Songino Array	49.97	342	P	P	01 02 01.6	+0.1
	0.7nm,0.6s,baz=155,slow=9.0,SNR=9.2						
MKAR	Makanchi Array	60.02	326	P	P	01 03 14.4	+0.4
	2.7nm,0.8s,baz=123,slow=8.3,SNR=31						
ZALV	Zalesovo Beam	63.18	333	P	P	01 03 33.8	-1.2
	0.7nm,0.7s,baz=134,slow=8.3,SNR=3.9						

IDC 20 00:59:53.0±3.0, 26°.15N×142°.58E, h53km±25km, mb3.1/4, mb1 3.3/4, mb1mx3.1/21, mbtmp3.4/4, Error ellipse: s-maj=55.2km s-min=27.4km az=91.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.01	340	P	Pn	01 00 10.9	0.0
	13nm,0.3s,baz=289,slow=23,SNR=5.8						
JCJ				S	Sn	01 00 28.2	+4.1
	44nm,0.3s,baz=293,slow=23,SNR=9.0						
WRA	Warramunga Arr	46.51	191	P	P	01 08 15.2	-0.1
	0.3nm,0.5s,baz=11,slow=8.7,SNR=7.4						
MKAR	Makanchi Array	51.35	310	P	P	01 08 51.0	-1.2
	0.2nm,0.6s,baz=86,slow=8.4,SNR=2.1						
YKA	Yellowknife Ar	72.81	28	P	P	01 11 15.3	-0.4
	0.1nm,0.5s,baz=273,slow=6.7,SNR=4.7						
FINES	FINESS Array B	78.95	334	P	P	01 11 51.6	+0.9
	0.8nm,0.6s,baz=47,slow=10,SNR=6.1						

ECX 20 01:12:48.7±0.4, 31°.67N×114°.09W, h15km, MD3.5, ML3.7, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ECBX	El Chinero	0.84	256	eP	Pb	01 13 04.0	-1.6
ECBX				eS	Sg	01 13 14.9	-1.2
ECBX				⇑e		01 13 21.7	
	comp=E,2μm,0.4s						
RDX	Rancho Dawling	1.59	280	ePN	Pn	01 13 16.2	-0.5
RDX				eS	Sn	01 13 36.9	-0.2
RDX				⇑e		01 14 00.6	
	comp=N,540nm,0.6s						
ZAX	El Zacaton	1.87	266	ePN	Pn	01 13 20.2	-0.1
ECNX	Esteban Cantu	2.13	270	eP	Pn	01 13 23.9	0.0
CBX	Cerro Bola	2.27	287	ePN	Pn	01 13 26.1	+0.2

ISCJB 20 01:22:59.5±0.6, 3°.86S±0°.04×141°.29E±0°.06, h33km, mb3.8/3, MS3.6/1, Error ellipse: s-maj=8.5km s-min=5.2km az=154.4
IDC 20 01:23:01.7±1.6, 3°.67S×141°.37E, h53km±15km, mb3.7/3, mb1 4.0/5, mb1mx3.5/24, mbtmp4.0/5, ML3.8/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/20, Error ellipse: s-maj=39.2km s-min=11.6km az=58.0
DJA 20 01:23:01.6±1.4, 4°S±6°×14°1E±°, h10km, M4.3/4, MLv4.3/4
ISC 20 01:23:01.5±0.8, 3°.75S±0°.06×141°.26E±0°.08, h35km, n18, σ2°.64/22, New Guinea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.35	336	P	Pn	01 23 23.5	-0.4
JAY	Jayapura	1.35	336	P	Pn	01 23 23.8	-0.1
	73nm,0.3s,baz=274,slow=0.0,SNR=43						
JAY				S	Sn	01 23 40.5	-0.1
	106nm,0.3s,baz=352,slow=0.8,SNR=15						
JAY	Jayapura	1.35	336	P	Pn	01 23 24.3	+0.4
	baz=1.3,SNR=6.5						
GENI	Genyem	1.59	316	P	Pn	01 23 27.7	+0.6
GENI				S	Sn	01 23 49.3	+2.8
SMPI	Sarmi	3.09	304	P	Pn	01 23 50.3	+2.5
PMG	Port Moresby	8.11	134	P	Pn	01 24 58.2	+1.3
	2.4nm,0.3s,baz=300,slow=16,SNR=14						
PMG				S	Sn	01 26 26.2	-1.2
	0.9nm,0.3s,baz=253,slow=18,SNR=2.8						
PMG				LR	LR	01 29 11.9	
	comp=Z,74nm,21.6s,baz=322,slow=46						
COEN	Coen	10.31	170	P	Pn	01 25 28.9	+1.8
	baz=10,SNR=9.8						
KDU	Kakadu	12.42	224	P	Pn	01 25 55.0	-1.0
	baz=12,SNR=16						
MTN	Manton Dam	13.49	227	P	Pn	01 26 10.6	+0.2
	baz=13,SNR=18						
MTN				S	Sn	01 28 21.5	-18
	baz=13,SNR=6.2						
QIS	Mount Isa	16.78	185	P	P	01 27 00.1	+4.3
	baz=17,SNR=4.9						
KNRA	Kununurra	17.08	225	P	P	01 26 59.6	+0.5
	baz=17,SNR=8.0						
WRA	Warramunga Arr	17.45	202	P	P	01 27 02.5	+0.2
	0.6nm,0.3s,baz=16,slow=13,SNR=32						
WRA				S	Sn	01 30 09.3	-6.3
	0.1nm,0.3s,baz=13,slow=22,SNR=4.0						
SOEI	Soe	17.89	250	P	Pn	01 27 07.3	-0.6
	baz=17,SNR=4.2						
SOEI				S	Sn	01 30 22.1	-4.5
	baz=17,SNR=5.6						
WRKA	Warakurna	24.57	209	P	P	01 28 21.8	+3.5
	baz=24,SNR=9.1						
JCJ	Chichijima	30.68	2	LR	LR	01 39 32.4	
	comp=Z,139nm,19.1s,baz=37,slow=32						
MKAR	Makanchi Array	72.17	322	P	P	01 34 21.8	-1.0
	0.6nm,0.7s,baz=112,slow=7.4,SNR=8.9						
ILAR	Eielson Array	85.73	24	P	P	01 35 33.5	-3.1
	1.2nm,0.7s,baz=258,slow=4.9,SNR=12						
YKA	Yellowknife Ar	99.83	27	P	Pdif	01 36 39.3	-2.7
	0.1nm,0.6s,baz=261,slow=2.9,SNR=6.7						

KRNET 20 01:30:39.0±0.1, 39°.45N×74°.37E, h3km, mb3.6
NNC 20 01:30:41.8±5.8, 39°.47N×74°.61E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=45.2km s-min=25.7km az=169.0
ISC 20 01:30:39.5±2.5, 39°.5N±0°.1×74°.40E±0°.07, h10km±18km, n9, σ2°.08/16, 6C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.87	308	eP	Pg	01 30 54.0	-2.3
	baz=311						
SFK				eS	Sg	01 31 07.8	+0.1
	baz=311						
OHH	Osh	1.62	311	eP	Pg	01 31 11.0	+0.4
	baz=312						
OHH				eS	Sg	01 31 35.0	+3.4
	baz=312						
ARSB	Arslanbob	2.13	330	eP	Pb	01 31 18.3	-0.1
	baz=331						
ARSB				eS	Sg	01 31 48.6	+0.5
	baz=331						
BTK	Batken	2.82	283	eP	Pg	01 31 31.8	-1.7
	baz=284						
BTK				eS	Sg	01 32 11.0	+1.0
	baz=284						
ARK	Arkit	2.96	322	eP	Pg	01 31 36.0	-0.3
	baz=323						
ARK				eS	Sg	01 32 18.1	+3.4
	baz=323						
AAK	Ala-Archa	3.15	1	⇓Pn	Pb	01 31 34.3	-1.4
	1.6nm,0.7s						
AAK				⇑Pg	Pg	01 31 39.1	-0.8
	1.8nm,0.5s						
AAK				⇑Lg	Lg	01 32 22.9	
	5.7nm,0.8s						
TKM2	Tokmak 2	3.55	14	⇓Pn	Pb	01 31 39.2	-3.4
	1.5nm,0.5s						
TKM2				⇓Pg	Pg	01 31 45.1	-2.5
	2.3nm,0.6s						
TKM2				⇑Sn	Sb	01 32 24.5	-1.4
	2.7nm,0.6s						
TKM2				⇑Lg	Lg	01 32 33.3	
	12nm,0.8s						
KK31	Karatay Array	4.65	322	Pn	Pn	01 31 53.5	+3.7
	0.5nm,0.5s,baz=132,slow=11,SNR=19						
KK31				⇑Pg	Pg	01 32 05.4	-3.3
	0.4nm,0.3s,baz=128,slow=16,SNR=3.0						
KK31				⇓Sn	Sn	01 32 50.4	+6.5
	0.4nm,0.3s,baz=128,slow=25						
KK31				⇓Lg	Lg	01 33 10.3	
	0.5nm,0.4s,baz=142,slow=29						
PDGK	Podgornoye	5.42	43	⇓Pg	Pb	01 32 17.1	+2.8
PDGK				⇑Sn	Sn	01 33 02.7	-0.1

DJA 20 01:31:13.3±0.4, 1°S±3°×12°4E±°, h57km±10km, M4.3/13, mb4.5/2, mB4.7/1, MLv4.2/13, Mw(mB)3.9/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	1.10	249	P	Pn	01 31 31.9	-0.7
LUWI				S	Sn	01 31 47.4	+0.5
KMSI	Cibinong	1.22	9	P	Pn	01 31 34.1	-0.1
KMSI				S	Sn	01 31 52.0	+2.3
MRSI	Marisa	2.17	301	P	Pn	01 31 47.0	0.0
MRSI				S	Sn	01 32 12.8	+0.1
APSI	Ampana	2.17	263	P	Pn	01 31 47.4	+0.4
SANI	Sanana	2.60	123	P	Pn	01 31 51.3	-1.6
LBMI	Labuha	3.70	90	P	Pn	01 32 07.6	-0.4
PCI	Palu	3.97	266	P	Pn	01 32 06.7	-5.1
MPSI	Mapaga	4.02	284	P	Pn	01 32 12.8	+0.4
NLAI	Namlea	4.19	128	P	Pn	01 32 16.1	+1.4
SGSI	Sangihe	4.63	22	P	Pn	01 32 19.2	-1.6
TTSI	Tana Toraja	4.64	239	P	Pn	01 32 21.4	+0.5
SPSI	Sidrap Palu	5.21	231	P	Pn	01 32 28.8	+0.1
	43nm,0.4s,787nm0.2nm						
BNSI	Bone	5.25	225	P	Pn	01 32 29.2	-0.1

IDC 20 01:41:55.5±1.4, 11°.95N×142°.59E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/39, mbtmp3.6/4, MS3.2/2, Ms1 3.2/2, ms1mx2.6/28, Error ellipse: s-maj=55.3km s-min=27.8km az=88.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	24.81	352	LR	LR	01 55 58.6	
	comp=Z,20nm,19.0s,baz=190,slow=34						
WRA	Warramunga Arr	32.71	194	P	P	01 48 30.0	0.0
	1.6nm,0.6s,baz=16,slow=9.6,SNR=42						
SONM	Songino Array	46.84	327	P	P	01 50 27.1	-0.2
	0.2nm,0.4s,baz=136,slow=6.7,SNR=6.6						
MKAR	Makanchi Array	61.15	317	P	P	01 52 11.8	0.0
	0.3nm,0.6s,baz=91,slow=5.8,SNR=5.0						
YKA	Yellowknife Ar	85.33	27	P	P	01 54 34.3	0.0
	0.2nm,0.5s,baz=284,slow=5.0,SNR=12						
AKASG	Malin Array Be	95.05	324	LR	LR	02 41 14.0	
	comp=Z,21nm,18.7s,baz=285,slow=37						

MEX 20 01:54:02.5±0.5, 16°.10N×98°.27W, h10km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.32	24	eP	Pg	01 54 08.4	-0.7
PNIG				eS	Sg	01 54 13.7	+0.3
TLIG	Tlapa	1.49	349	i P	Pn	01 54 25.6	-3.8
TLIG				i S	Sn	01 54 43.9	-5.2
ACX	Acapulco	1.71	297	i P	Pn	01 54 32.6	+0.3
ACX				i S	Sn	01 54 54.0	-0.4
VHO	Vista Hermosa	1.76	56	i P	Pn	01 54 29.0	-4.3
VHO				i S	Sn	01 54 51.3	-4.7
HUIG	Huatulco	2.10	99	i P	Pn	01 54 35.0	-2.8
HUIG				eS	Sn	01 54 59.4	-4.5
CAIG	El Cayaco	2.14	297	i P	Pn	01 54 36.3	-2.0
CAIG				i S	Sn	01 55 01.2	-3.7
MEIG	Mezcala	2.23	325	i P	Pn	01 54 37.5	-2.2
MEIG				eS	Sn	01 55 01.9	-5.4
PLIG	Platanillo	2.57	333	i P	Pn	01 54 41.2	-3.2
PLIG				i S	Sn	01 55 11.3	-4.4
ARIG	Puente Sto Nin	2.95	318	eP	Pn	01 54 48.4	-1.0

DJA 20 03:01:40.6±1.0, 3°S±3°×12°3E±°, h51km±26km, M3.5/9, MLv3.5/9, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBSI	Bau Bau	2.10	189	P	Pn	03 02 12.9	-0.5
LUWI	Luwuk	2.35	357	P	Pn	03 02 14.6	-2.1
LUWI				S	Sn	03 02 44.9	+0.5
LUWI	Luwuk	2.35	357	P	Pn	03 02 14.8	-1.9
	baz=13,SNR=9.9						
APSI	Ampana	2.77	333	P	Pn	03 02 23.3	+0.7
BNSI	Bone	2.97	250	P	Pn	03 02 27.0	+1.8
TTSI	Tana Toraja	3.11	276	P	Pn	03 02 29.1	+2.0
SPSI	Sidrap Palu	3.18	260	P	Pn	03 02 28.9	+0.7
BKSI	Bulukumba	3.37	235	P	Pn	03 02 29.9	-0.9
BKSI				S	Sn	03 03 09.4	-0.2
MRSI	Marisa	3.97	346	P	Pn	03 02 39.5	+0.5
MRSI				S	Sn	03 03 26.5	+2.2
MPSI	Mapaga	4.78	321	P	Pn	03 02 51.6	+1.5
MPSI				S	Sn	03 03 46.2	+1.9

ISCJB 20 03:15:07.9±1.5, 47°.0N±0°.2×147°.7E±0°.3, h338km, mb3.0/8, Error ellipse: s-maj=37.8km s-min=16.9km az=143.9
IDC 20 03:15:08.7±3.0, 47°.17N×147°.60E, h321km±101km, mb2.8/8, mb1 3.0/9, mb1mx2.8/34, mbtmp3.5/9, Error ellipse: s-maj=189.3km s-min=19.6km az=167.0
ISC 20 03:15:08.9±1.6, 46°.9N±0°.3×147°.7E±0°.2, h338km, n9, σ0°.20/9, mb3.0/8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	4.55	234	P	Pn	03 16 23.0	0.0
	1.3nm,0.3s,baz=61,slow=11,SNR=16						
SONM	Songino Array	27.75	287	P	P	03 20 27.3	-0.1
	0.2nm,0.5s,baz=70,slow=8.5,SNR=2.1						
ILAR	Eielson Array	38.73	39	P	P	03 22 00.9	-0.1
	0.4nm,0.7s,baz=249,slow=6.8,SNR=6.2						
MKAR	Makanchi Array	43.53	295	P	P	03 22 40.0	+0.1
	0.3nm,0.6s,baz=70,slow=8.1,SNR=4.3						
YKA	Yellowknife Ar	52.97	35	P	P	03 23 51.2	+0.1
	0.1nm,0.5s,baz=306,slow=7.5,SNR=5.8						
FINES	FINESS Array B	62.23	332	P	P	03 24 55.1	+0.1
	1.6nm,1.0s,baz=13,slow=13,SNR=3.4						
NOA	NORSAR Array B	66.78	339	P	P	03 25 23.9	-0.4
	0.6nm,0.8s,baz=40,slow=9.2,SNR=2.7						
AKASG	Malin Array Be	69.26	323	P	P	03 25 39.7	0.0
	0.4nm,0.4s,baz=34,slow=6.4,SNR=2.7						
GERES	GERESS Array B	76.58	331	P	P	03 26 22.6	+0.2
	0.3nm,0.5s,baz=23,slow=5.3,SNR=2.8						

NNC 20 03:33:58.1±4.8, 39°.77N×75°.17E, h0km, mb3.0, mpv2.6, 6C-4D, Error ellipse: s-maj=42.7km s-min=26.9km

az=5.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	2.91	350	⇑Pn	Pn	03 34 47.6	+1.8
	2.0nm,1.1s						
AAK				⇓Lg	Lg	03 35 30.2	
	4.1nm,0.9s						
TKM2	Tokmak 2	3.17	6	⇓Pn	Pn	03 34 51.6	+2.2
	4.0nm,0.4s						
TKM2				⇑Lg	Lg	03 35 35.6	
	4.5nm,0.7s						
PDGK	Podgornoye	4.81	41	⇑Pn	Pn	03 35 07.7	-4.0
PDGK				⇓Lg	Lg	03 36 33.3	
KK31	Karatay Array	4.83	315	⇑Pn	Pn	03 35 10.6	-1.4
	0.4nm,0.7s,baz=190,slow=44,SNR=6.6						
KK31				⇑Pg	Pb	03 35 25.8	+2.2
	0.5nm,0.6s,baz=130,slow=16,SNR=6.5						
KK31				⇑Sn	Sn	03 36 09.0	+0.3
	0.3nm,0.4s						
KK31				⇓Lg	Lg	03 36 31.7	
	0.5nm,0.5s,baz=140,slow=27,SNR=4.3						

KRNET 20 03:34:51.3±0.1, 39.30N×75.00E, h3km, mb3.5, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.36	302	eP	Pn	03 35 16.9	-0.5
	baz=302						
SFK				eS	Sn	03 35 36.7	+0.7
	baz=302						
OHH	Osh	2.10	306	eP	Pg	03 35 31.3	-0.3
	baz=306						
OHH				eS	Sg	03 36 01.0	+2.3
	baz=306						
ARSB	Arslanbob	2.54	323	eP	Pb	03 35 39.0	+1.2
	baz=323						
ARSB				eS	Sg	03 36 14.3	+1.2
	baz=323						

MOS 20 04:07:12.8±0.8, 52.89N×174.34W, h192km, mb4.5/78, Error ellipse: s-maj=8.8km s-min=5.2km az=87.8

ISCJB 20 04:07:13.1±0.2, 52.72N±0.03×174.34W±0.03, h202km±2km, mb4.2/157, Error ellipse: s-maj=5.6km s-min=2.5km az=3.1

BJI 20 04:07:13.3, 53.60N×174.41W, h193km, mB4.9/4, mb4.3/5

NEIC 20 04:07:14.2±0.1, 52.79N×174.39W, h195km±1km, mb4.4/105, Error ellipse: s-maj=4.5km s-min=2.1km az=175.0

IDC 20 04:07:14.6±1.4, 52.80N×174.36W, h203km±12km, mb3.8/31, mb1 3.9/34, mb1mx3.9/41, mbtmp4.3/34, Error ellipse: s-maj=13.8km s-min=7.7km az=178.0

ISC 20 04:07:13.7±0.5, 52.76N±0.07×174.33W±0.04, h195km±3km, n821, σ0.972/877, mb4.4/160, 233C-189D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOKL	Mount Kliuchef	0.44	170	P	Pn	04 07 40.4	+0.3
KOSE	Korovin Southe	0.44	157	P	Pn	04 07 40.0	0.0
KOFP	Korovin Flat P	0.50	163	P	Pn	04 07 40.1	-0.1
GSMY	Great Sitkin M	1.28	237	P	Pn	04 07 44.4	-0.6
GSTD	Great Sitkin T	1.31	239	P	Pn	04 07 44.9	-0.5
GSTD				S	Sn	04 08 09.4	-0.5
GSCK	Great Sitkin C	1.35	237	P	Pn	04 07 45.2	-0.4
ETKA	Kagalaska Isla	1.56	236	P	Pn	04 07 47.1	-0.3
ADAG	Mount Adagdak	1.59	242	P	Pn	04 07 47.9	+0.1
ADK	Adak	1.69	240	P	Pn	04 07 47.9	-0.7
ADK				S	Sn	04 08 15.0	-0.7
ADK	Adak	1.69	240	P	Pn	04 07 47.9	-0.7
ADK				S	Sn	04 08 15.0	-0.7
KIRH	Kanaga Island	1.90	244	P	Pn	04 07 51.0	+0.2
KIRH				S	Sn	04 08 20.0	+0.5
KICM	Kanaga Island	1.95	246	P	Pn	04 07 51.7	+0.5
KIKV	Kanaga Island	1.95	244	P	Pn	04 07 51.4	+0.1
TAFP	Tanaga Falls P	2.40	251	P	Pn	04 07 56.6	+0.5
TAFP				S	Sn	04 08 29.4	+0.3
TAFL	Tanaga Flats	2.41	247	P	Pn	04 07 56.5	+0.4
TASE	Tanaga Southea	2.46	249	P	Pn	04 07 57.2	+0.5
TANO	Tanaga North	2.47	252	P	Pn	04 07 58.0	+1.1
GAEA	Gareloi East	2.88	252	P	Pn	04 08 02.3	+0.7
GAEA				S	Sn	04 08 39.5	+0.5
GALAA	Gareloi Lava P	2.91	252	P	Pn	04 08 02.7	+0.8
NIKH	Nikolski High	3.33	84	P	Pn	04 08 07.2	+0.3
NIKH				S	Sn	04 08 46.3	-2.3
OKSP	Okmok Steeple	3.68	80	P	Pn	04 08 12.2	+0.9
CERAA	Semis' Rag'd T	3.77	259	P	Pn	04 08 13.1	+0.8
CERB	Semis' Cerberu	3.80	260	P	Pn	04 08 13.2	+0.6
CEAP	Semis' Anvil P	3.81	261	P	Pn	04 08 13.9	+1.1
CESW	Semis' Southwe	3.84	260	P	Pn	04 08 13.8	+0.6
OKFG	Magazine Ridge	3.92	78	P	Pn	04 08 14.9	+0.6
AMKA	Amchitka	4.17	253	P	Pn	04 08 17.1	-0.1
AMKA				S	Sn	04 09 05.0	-2.2
LSPA	Little Sitkin	4.42	262	P	Pn	04 08 22.0	+1.5
LSSE	Little Sitkin	4.43	262	P	Pn	04 08 21.9	+1.3
MSW	Makushin Switc	4.67	73	P	Pn	04 08 24.9	+1.2
MREP	Makushin Rep't	4.67	74	P	Pn	04 08 24.9	+1.2
MTBL	Makushin Table	4.74	72	P	Pn	04 08 25.9	+1.3
UNV	Unalaska Valle	4.82	74	P	Pn	04 08 26.0	+0.5
SSLW	Shishaldin Wes	6.38	67	P	Pn	04 08 46.0	+0.3
FALS	False Pass	6.80	68	P	Pn	04 08 51.8	+0.8
FX1	Attu Island--F	7.58	276	P	Pn	04 09 02.3	+1.0
FX1				S	Sn	04 10 25.6	-1.2
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1				smax	smax		
	comp=N,2.0nm,0.3s						
FX1	Attu Island--F	7.58	276	P	Pn	04 09 02.3	+1.0
	comp=N,1.3nm,0.3s,baz=31,slow=2.5,SNR=12						
FX1				S	Sn	04 10 25.6	-1.2
	comp=N,2.2nm,0.3s,baz=343,slow=22,SNR=5.7						
FX1	Attu Island--F	7.58	276	P	Pn	04 09 02.9	+1.6
FX1				S	Sn	04 10 25.6	-1.2
DOL	Dolgoi Island	7.74	67	P	Pn	04 09 03.0	-0.3
GAMB	Gambell	11.14	6	ePn	Pn	04 09 49.6	+2.2
OHAK	Old Harbor	12.86	61	ePn	Pn	04 10 07.1	-2.3
OHAK				eP	P	04 10 11.8	-1.1
TNA	Tin City	13.25	12	ePn	Pn	04 10 15.6	+1.6
KDAK	Kodiak Island	13.35	59	eP	Pn	04 10 15.2	-0.2
KDAK	Kodiak Island	13.35	59	ePn	Pn	04 10 15.2	-0.2
RSO	Redoubt South	14.11	48	ePn	Pn	04 10 25.4	+0.3
PPLA	Purkeypile	15.47	40	ePn	P	04 10 42.4	+0.4
	comp=N,43nm,0.7s						
SEW	Seward	15.53	52	ePn	Pn	04 10 40.4	-1.8
	comp=N,56nm,0.5s						
CAST	Castle Rocks	15.79	39	ePn	Pn	04 10 48.2	+2.9
	comp=N,18nm,0.8s						
KTH	Kantishna Hill	16.30	39	ePn	Pn	04 10 53.3	+1.7
	comp=N,45nm,0.6s						
TRF	Thorofare Moun	16.50	40	ePn	Pn	04 10 55.2	+1.1
	comp=N,34nm,0.4s						
IM04	Indian Mountai	16.76	30	ePn	Pn	04 10 57.6	+0.6
PETK	Petropavlovsk-	16.83	282	P	Pn	04 10 58.5	+0.6
	comp=N,0.3nm,0.3s,baz=90,slow=13,SNR=5.3						
MCK	McKinley	17.16	40	eP	P	04 11 00.8	+0.5
MCK				pmax	pmax		
	comp=Z,51nm,0.7s						
MCK	McKinley	17.16	40	ePn	P	04 11 00.8	+0.5
	comp=Z,51nm,0.7s						
DIV	Divide	17.56	50	ePn	Pn	04 11 06.3	-0.2
	comp=Z,23nm,0.9s						
BILL	Bilibino	17.93	336	⇑iP	Pn	04 11 10.7	-0.1
BILL				pmax	pmax		
	comp=Z,22nm,0.9s						
BILL	Bilibino	17.93	336	eP	Pn	04 11 10.7	-0.1
	comp=Z,19nm,0.9s						
BMRM	Bremner River	18.07	51	eP	Pn	04 11 12.6	+0.1
	comp=Z,22nm,0.7s						
COLA	College	18.13	38	eP	P	04 11 10.6	-0.2
COLA				pmax	pmax		
	comp=Z,29nm,1.0s						
COLA	College	18.13	38	eP	P	04 11 10.6	-0.2
	comp=Z,29nm,1.0s						
PAX	Paxson	18.27	45	eP	P	04 11 13.3	+0.8
PAX				eS	S	04 14 31.1	0.0
PAX				pmax	pmax		
	comp=Z,39nm,0.4s						
PAX	Paxson	18.27	45	eP	P	04 11 13.3	+0.8
	comp=Z,39nm,0.4s						
PAX				eS	S	04 14 31.1	0.0
ILAR	Eielson Array	18.44	39	P	P	04 11 12.8	-1.4
ILAR				S	S	04 14 35.2	+1.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	Eielson Array	18.44	39	P	P	04 11 12.8	-1.4
	comp=Z,1.0nm,0.3s,baz=243,slow=10,SNR=86						
ILAR				S	S	04 14 35.2	+1.0
	comp=Z,0.2nm,0.3s,baz=200,slow=14,SNR=5.8						
COLD	Coldfoot	18.67	30	eP	Pn	04 11 18.7	-0.6
	comp=Z,25nm,0.6s						
MENT	Mentasta	19.02	46	eP	P	04 11 21.3	+0.8
DOT	Dot Lake	19.11	43	eP	P	04 11 22.0	+0.5
	comp=Z,52nm,0.6s						
SEY	Seymchan	20.19	313	P	P	04 11 34.1	+1.1
SEY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SEY	Seymchan	20.19	313	P	P	04 11 34.1	+1.1
	comp=Z,5.3nm,0.9s,baz=104,slow=10,SNR=12						
EGAK	Eagle	20.69	42	eP	P	04 11 39.0	+0.7
	comp=Z,33nm,0.9s						
DAWY	Dawson	21.20	44	eP	P	04 11 44.1	+0.3
HYT	Haines Junctio	21.47	53	eP	P	04 11 48.4	+1.7
INK	Inuvik	24.74	35	P	P	04 12 17.0	+0.3
INK						04 15 46.7	
INK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	Inuvik	24.74	35	P	P	04 12 17.0	+0.3
	comp=Z,4.0nm,0.3s,baz=226,slow=7.4,SNR=60						
INK				PcP	PcP	04 15 46.7	-0.9
	comp=Z,0.6nm,0.4s,baz=78,slow=0.5,SNR=4.1						
INK	Inuvik	24.74	35	eP	P	04 12 16.9	+0.2
	comp=Z,8.3nm,0.7s						
INK				P	P	04 12 17.0	+0.3
INK				PcP	PcP	04 15 46.7	-0.9
DLBC	Dease Lake	25.29	59	P	P	04 12 22.8	+0.9
	comp=Z,1.1nm,0.6s,baz=274,slow=7.5,SNR=9.8						
BBB	Bella Bella	27.79	72	P	P	04 12 44.8	+0.7
	comp=Z,3.4nm,0.6s,baz=301,slow=6.6,SNR=6.5						
TIXI	Tiksi	30.84	329	eP	P	04 13 11.5	+0.7
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.6s						
YKA	Yellowknife Ar	32.27	49	P	P	04 13 23.3	-0.1
YKA						04 16 06.6	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	Yellowknife Ar	32.27	49	P	P	04 13 23.3	-0.1
	comp=Z,1.7nm,0.5s,baz=284,slow=7.9,SNR=37						
YKA				PcP	PcP	04 16 06.6	+0.1
	comp=Z,0.5nm,0.4s,baz=286,slow=3.2,SNR=9.6						
YKA				ScP	ScP	04 19 30.4	-0.9
	comp=Z,0.3nm,0.8s,baz=293,slow=3.2,SNR=5.6						
F04D	Rainier, OR	33.43	80	⇓P	P	04 13 34.4	+0.7
	baz=33						
G03D	McMinnville, O	33.73	82	⇑P	P	04 13 37.1	+0.8
	baz=34						
LON	Longmire	33.81	79	eP	P	04 13 38.5	+1.4
LON				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LON	Longmire	33.81	79	eP	P	04 13 38.5	+1.4
	comp=Z,3.6nm,0.6s						
F04A	Amboy	33.86	80	eP	P	04 13 39.5	+2.1
	comp=Z,9.5nm,0.8s						
LTY	Liberty	34.24	77	eP	P	04 13 42.0	+1.2
	comp=Z,7.0nm,1.2s						
B08A	Colville Reser	34.49	75	eP	P	04 13 44.2	+1.3
	comp=Z,16nm,0.8s						
I03D	Drain, OR	34.49	84	⇑P	P	04 13 43.4	+0.6
	baz=34						
H04A	Detroit Lake	34.66	82	eP	P	04 13 46.2	+1.8
	comp=Z,8.8nm,0.8s						
G05D	Wamic, OR	34.88	81	⇓P	P	04 13 47.0	+0.8
	baz=35						
I04A	Tendick Farm,	35.00	84	⇑P	P	04 13 48.1	+0.8
	baz=35						
E07A	Sunnyside	35.07	78	eP	P	04 13 49.6	+1.8
	comp=Z,4.0nm,0.6s						
HAWA	Hanford	35.35	78	eP	P	04 13 51.8	+1.6
	comp=Z,8.3nm,0.6s						
I05D	Terrebonne, OR	35.35	82	⇑P	P	04 13 50.9	+0.6
	baz=35						
D08A	Wollman Farm,	35.37	76	eP	P	04 13 51.3	+0.9
	comp=Z,5.0nm,0.6s						
C09A	Chrisman Ranch	35.38	75	eP	P	04 13 51.4	+0.9
	comp=Z,9.6nm,0.6s						
J04D	Umpqua Nationa	35.49	84	⇓P	P	04 13 52.3	+0.6
	baz=35						
EDM	Edmonton	35.73	64	eP	P	04 13 53.4	0.0
EDM	Edmonton	35.73	64	eP	P	04 13 53.4	0.0
NEW	Newport	35.83	74	eP	P	04 13 55.2	+0.9
NEW				e		04 16 17.7	
NEW				pmax	pmax		
	comp=Z,17nm,0.6s						
NEW	Newport	35.83	74	eP	P	04 13 55.2	+0.9
	comp=Z,17nm,0.6s						
NEW				ePcP	PcP	04 16 17.7	+0.6
NEW	Newport	35.83	74	⇓P	P	04 13 54.9	+0.6
	baz=36,SNR=24						
USRK	Ussuriysk Arra	35.84	278	PcP	PcP	04 16 17.3	+0.1
	comp=Z,2.1nm,0.6s,baz=50,slow=3.2,SNR=5.2						
YBH	Yreka Blue Hor	35.99	87	eP	P	04 13 57.6	+1.7
YBH				pmax	pmax		
	comp=Z,132nm,2.9s						
YBH	Yreka Blue Hor	35.99	87	eP	P	04 13 57.6	+1.7
	comp=Z,132nm,2.9s						
J05D	Fort Rock, OR	36.00	83	⇓P	P	04 13 56.2	+0.2
	baz=36						
E09A	Wood Farm, Sta	36.11	77	eP	P	04 13 57.9	+1.2
	comp=Z,12nm,1.3s						
M02C	Callahan	36.11	87	⇓P	P	04 13 57.2	+0.4
	baz=36						
G08A	Pilot Rock	36.27	79	eP	P	04 13 59.4	+1.2
	comp=Z,18nm,2.0s						
N02D	Trinity Center	36.45	88	⇑P	P	04 14 00.1	+0.5
	baz=36						
M04C	Macdoel	36.49	86	⇑P	P	04 14 00.9	+0.8
	baz=36						
K05A	Summer Lake	36.52	84	eP	P	04 14 02.9	+2.5
	comp=Z,15nm,1.3s						
I07A	Izee	36.60	81	eP	P	04 14 02.5	+1.6
WDC	Whiskeytown Da	36.78	88	eP	P	04 14 04.5	+2.1
WDC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WDC	Whiskeytown Da	36.78	88	eP	P	04 14 04.5	+2.1
	comp=Z,3.6nm,0.6s						
F10A	Beach Ranch, E	36.93	77	eP	P	04 14 04.5	+0.8
	comp=Z,7.5nm,1.1s						
F10A				ePcP	PcP	04 16 21.3	+0.7
WALA	Waterton Lakes	37.30	71	eP	P	04 14 07.6	+0.8
	comp=Z,2.8nm,2.8s						
WALA				ePcP	PcP	04 16 22.4	+0.7
RES	Resolute Bay	37.33	26	P	P	04 14 06.1	-0.5
RES						04 16 20.0	
RES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
RES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
RES	Resolute Bay	37.33	26	P	P	04 14 06.0	-0.5
	comp=Z,1.1nm,0.7s,baz=294,slow=15,SNR=7.3						
RES				PcP	PcP	04 16 20.0	-1.1
	comp=Z,0.9nm,0.7s,baz=214,slow=5.5,SNR=4.1						
MOD	Modoc	37.35	85	eP	P	04 14 09.3	+1.9
	comp=Z,4.8nm,0.7s						
MOD				ePcP	PcP	04 16 22.6	+0.6
BSMT	Bassoo Peak	37.40	73	eP	P	04 14 08.6	+0.9
BSMT				ePcP	PcP	04 16 22.7	+0.6
BMO	Blue Mountains	37.49	79	eP	P	04 14 09.1	+0.7
	comp=Z,2.6nm,0.8s						
BLMT	Blacktail Moun	37.56	72	eP	P	04 14 10.2	+1.0
JTMT	Jette	37.74	73	eP	P	04 14 10.8	+0.3
	comp=Z,3.6nm,0.8s						
JTMT				ePcP	PcP	04 16 23.4	+0.3
SWMT	Swartz Lake	38.03	73	eP	P	04 14 12.7	-0.2
SWMT				ePcP	PcP	04 16 24.1	+0.2
WVOR	Wild Horse Val	38.05	83	eP	P	04 14 14.7	+1.5
WVOR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WVOR	Wild Horse Val	38.05	83	eP	P	04 14 14.7	+1.5
	comp=Z,4.6nm,0.8s						
OHCM	Honcut	38.19	89	eP	P	04 14 15.5	+1.4
MSO	Missoula	38.41	74	eP	P	04 14 16.6	+0.5
	comp=Z,9.0nm,0.6s						
MSO				ePcP	PcP	04 16 25.7	+0.5
MSO	Missoula	38.41	74	⇑P	P	04 14 16.7	+0.5
	baz=38,SNR=14						
SLMT	Seeley Lake	38.46	73	eP	P	04 14 16.9	+0.3
CHMT	Chamberlain Mo	38.77	73	eP	P	04 14 19.3	+0.1
MFID	Camas Ranch	39.17	80	eP	P	04 14 23.7	+1.2
	comp=Z,24nm,2.5s						
CMB	Columbia Colle	39.67	90	eP	P	04 14 28.5	+1.9
CMB				pmax	pmax		
	comp=Z,96nm,3.0s						
CMB	Columbia Colle	39.67	90	eP	P	04 14 28.5	+1.9
	comp=Z,96nm,3.0s						
HRY	Holter Researc	39.71	73	eP	P	04 14 27.5	+0.7
HLID	Hailey	39.93	78	eP	P	04 14 30.1	+1.3
	comp=Z,19nm,1.8s						
HLID	Hailey	39.93	78	⇑P	P	04 14 28.9	+0.1
	baz=40,SNR=7.1						
WAKR	Walker	39.95	88	eP	P	04 14 31.2	+2.2
DLMT	Dillon	39.99	75	eP	P	04 14 29.8	+0.5
	comp=Z,20nm,2.0s						
DLMT				ePcP	PcP	04 16 31.5	+1.2
MCMT	McKenzie Canyo	40.14	76	eP	P	04 14 30.8	+0.2
	comp=Z,4.6nm,0.5s						
MCMT				ePcP	PcP	04 16 32.1	+1.2
EGMT	Eagleton	40.20	70	eP	P	04 14 31.7	+0.8
	comp=Z,14nm,1.2s						
EGMT				ePcP	PcP	04 16 31.1	+0.3
EGMT	Eagleton	40.20	70	⇑P	P	04 14 31.3	+0.4
	baz=40						
A19A	Klindworth Far	40.31	68	⇑P	P	04 14 31.9	+0.2
	baz=40						
BOZ	Bozeman (W)	40.40	74	eP	P	04 14 33.2	+0.6
BOZ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BOZ	Bozeman (W)	40.40	74	eP	P	04 14 33.2	+0.6
	comp=Z,9.9nm,0.8s						
B19A	Brinkman Farms	40.44	69	⇑P	P	04 14 33.2	+0.5
	baz=40						
NVAR	Mina Array Bea	40.69	88	P	P	04 14 35.7	+0.6
	comp=Z,4.6nm,0.7s,baz=299,slow=7.5,SNR=44						
NVAR				PcP	PcP	04 16 32.8	+0.1
	comp=Z,1.0nm,0.8s,baz=283,slow=3.1,SNR=5.4						
NVAR				ScP	ScP	04 20 03.5	+0.2
	comp=Z,0.6nm,0.8s,baz=287,slow=3.3,SNR=4.1						
C19A	Slack Wire Ran	40.76	70	⇓P	P	04 14 35.7	+0.3
	baz=41,SNR=14						
A20A	Cobblestone Ra	40.79	68	⇓P	P	04 14 35.6	0.0
	baz=41,SNR=13						
MLAC	Mammoth Lakes	40.87	89	⇓P	P	04 14 36.8	+0.2
	baz=41						
QLMT	Earthquake Lak	40.98	75	eP	P	04 14 38.3	+0.9
FFC	Flin Flon	41.09	57	eP	P	04 14 37.1	-0.8
FFC	Flin Flon	41.09	57	eP	P	04 14 37.1	-0.8
ELK	Elko	41.10	83	eP	P	04 14 40.2	+1.7
ELK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ELK	Elko	41.10	83	eP	P	04 14 40.2	+1.7
	comp=Z,3.2nm,0.8s						
D19A	Cripps Ranch,	41.16	71	⇑P	P	04 14 39.3	+0.5
	baz=41,SNR=6.3						
A21A	Bergtoll Ranch	41.30	67	⇓P	P	04 14 40.3	+0.5
	baz=41,SNR=5.9						
YMR	Madison River	41.34	75	eP	P	04 14 41.4	+1.0
	comp=Z,12nm,0.8s						
YMR				ePcP	PcP	04 16 36.5	+1.7
C20A	Veseth Ranch,	41.37	69	⇑P	P	04 14 40.9	+0.6
	baz=41						
YNR	Norris Junctio	41.48	75	eP	P	04 14 43.2	+1.6
	comp=Z,11nm,0.9s						
YFT	Old Faithful	41.54	75	eP	P	04 14 44.5	+2.5
	comp=Z,8.7nm,0.9s						
B21A	Ellsworth Farm	41.54	68	⇑P	P	04 14 42.0	+0.2
	baz=41						
TPH	Tonopah	41.57	87	eP	P	04 14 43.7	+1.4
TPH				e		04 16 36.4	
TPH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TPH	Tonopah	41.57	87	eP	P	04 14 43.7	+1.4
	comp=Z,7.0nm,0.8s						
TPH				ePcP	PcP	04 16 36.4	+0.9
E19A	Rath Farm, Rou	41.60	71	⇑P	P	04 14 42.7	+0.4
	baz=42,SNR=5.5						
TIN	Tinemaha	41.61	89	⇓P	P	04 14 43.1	+0.5
	baz=42						
D20A	Manuel Ranch,	41.63	70	⇑P	P	04 14 42.8	+0.3
	baz=42						
SMMC	Simmler	41.69	92	⇑P	P	04 14 43.5	+0.5
	baz=42						
H17A	Grant Village	41.73	75	eP	P	04 14 45.7	+2.1
	comp=Z,28nm,1.4s						
H17A				ePcP	PcP	04 16 38.3	+2.2
H17A	Grant Village	41.73	75	⇓P	P	04 14 43.5	0.0
	baz=42,SNR=12						
IMW	Indian Meadow	41.80	76	eP	P	04 14 45.5	+1.3
	comp=Z,5.2nm,0.9s						
C21A	Desert Coulee	41.82	69	⇑P	P	04 14 44.6	+0.5
	baz=42,SNR=7.6						
FLWY	Flagg Ranch	41.83	75	eP	P	04 14 45.8	+1.4
	comp=Z,9.0nm,0.6s						
F19A	Roth Farm, Mol	41.85	72	⇓P	P	04 14 44.7	+0.3
	baz=42						
A22A	Carney Farms,	41.86	67	⇓P	P	04 14 44.7	+0.4
	baz=42						
VES	Vestal, Richgr	41.89	91	⇓P	P	04 14 45.4	+0.8
	baz=42,SNR=6.0						
E20A	Meyer Farm, Mu	41.96	71	⇑P	P	04 14 45.6	+0.5
	baz=42,SNR=5.6						
HVU	Hansel Valley	41.96	80	eP	P	04 14 46.8	+1.5
HVU				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HVU	Hansel Valley	41.96	80	eP	P	04 14 46.8	+1.5
	comp=Z,4.8nm,0.6s						
I17A	Pilgrim Ck.	42.00	76	⇓P	P	04 14 45.6	-0.1
	baz=42						
RLMT	Red Lodge	42.08	73	eP	P	04 14 46.6	+0.3
	comp=Z,12nm,0.9s						
H18A	Shoshone NF, C	42.10	74	⇑P	P	04 14 46.5	0.0
	baz=42,SNR=6.2						
LOHW	Long Hollow	42.16	76	eP	P	04 14 47.9	+0.9
	comp=Z,48nm,3.0s						
REDW	Red Top Meadow	42.16	76	eP	P	04 14 48.2	+1.2
	comp=Z,31nm,2.3s						
GRAC	Grapevine Rang	42.17	88	⇓P	P	04 14 47.4	+0.4
	baz=42						
D21A	La Casta Ranch	42.30	70	⇓P	P	04 14 48.1	+0.2
	baz=42,SNR=6.1						
F20A	Billings	42.34	72	⇓P	P	04 14 48.6	+0.3
	baz=42						
ISA	Isabella	42.38	91	eP	P	04 14 48.8	+0.1
ISA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ISA	Isabella	42.38	91	eP	P	04 14 48.8	+0.1
	comp=Z,3.8nm,0.7s						
ISA	Isabella	42.38	91	⇑P	P	04 14 49.3	+0.6
	baz=42						
R11A	Troy Canyon, C	42.39	86	eP	P	04 14 50.0	+1.1
	comp=Z,4.6nm,0.7s						
R11A	Troy Canyon, C	42.39	86	⇓P	P	04 14 49.0	+0.1
	baz=42,SNR=15						
SBC	Santa Barbara	42.44	93	⇓P	P	04 14 50.1	+1.0
	baz=42						
A23A	Redstone	42.45	66	⇑P	P	04 14 49.2	+0.1
	baz=42						
H19A	Powell	42.50	74	⇑P	P	04 14 50.1	+0.5
	baz=42,SNR=13						
DAC	Darwin (Calif)	42.51	89	eP	P	04 14 50.4	+0.5
DAC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DAC	Darwin (Calif)	42.51	89	eP	P	04 14 50.4	+0.5
	comp=Z,4.9nm,0.8s						
ARVC	Arvin	42.52	92	⇓P	P	04 14 50.0	+0.3
	baz=42						
E21A	Keefer Ranch,	42.54	70	⇑P	P	04 14 50.3	+0.5
	baz=42						
C22A	Vida	42.55	68	⇓P	P	04 14 49.8	-0.1
	baz=42						
G20A	Bridger	42.63	73	⇑P	P	04 14 50.7	0.0
	baz=42,SNR=19						
B23A	Brockton	42.66	67	⇓P	P	04 14 50.5	-0.2
	baz=42,SNR=5.2						
D22A	Cohagen	42.71	69	⇓P	P	04 14 51.2	0.0
	baz=43,SNR=7.8						
BSC	Santa Cruz Isl	42.80	94	⇓P	P	04 14 52.4	+0.4
	baz=43						
FURC	Furnace Creek,	42.83	89	⇓P	P	04 14 52.7	+0.5
	baz=43						
I19A	Meeteetse	42.86	74	⇓P	P	04 14 52.5	-0.2
	baz=43						

DUG Dugway 42.90 81 eP P 04 14 54.5 +1.5
DUG pmax pmax
comp=Z,4.0nm,0.7s
DUG Dugway 42.90 81 eP P 04 14 54.5 +1.5
comp=Z,3.7nm,0.7s
DUG Dugway 42.90 81 ⇑P P 04 14 53.2 +0.2
baz=43,SNR=7.2
C23A Lambert 42.91 68 ⇑P P 04 14 53.2 +0.4
baz=43,SNR=5.8
F21A Absaloka Mine, 42.92 71 ⇑P P 04 14 53.4 +0.4
baz=43
LAO LASA Array 42.95 70 eP P 04 14 53.7 +0.6
comp=Z,154nm,2.5s
A24A Westby 42.96 66 ⇑P P 04 14 53.3 +0.2
baz=43,SNR=7.2
FCC Fort Churchill 42.99 49 eP P 04 14 52.8 -0.4
FCC Fort Churchill 42.99 49 eP P 04 14 52.8 -0.4
comp=Z,0.2nm,0.7s
DGMT Dagmar 43.10 66 ⇑P P 04 14 54.5 +0.2
baz=43
H20A Greybull 43.18 73 ⇓P P 04 14 55.4 +0.3
baz=43
G21A Lodge Grass 43.21 72 ⇑P P 04 14 55.6 +0.2
baz=43,SNR=6.0
E22A Miles City 43.24 70 ⇓P P 04 14 56.0 +0.5
baz=43,SNR=5.3
D23A Lindsay 43.25 68 ⇑P P 04 14 56.0 +0.4
baz=43
BW06 Boulder Array 43.28 76 eP P 04 14 56.0 0.0
comp=Z,11nm,0.6s
J19A Crowheart 43.28 75 ⇓P P 04 14 56.1 +0.1
baz=43,SNR=8.6
I20A Worland 43.42 74 ⇓P P 04 14 57.1 +0.1
baz=43,SNR=7.3
F22A Rosebud 43.44 71 ⇓P P 04 14 57.4 +0.3
baz=43
A25A Svangstu Ranch 43.44 65 ⇑P P 04 14 57.0 0.0
baz=43
C24A Savage 43.49 68 ⇑P P 04 14 57.5 +0.1
baz=43
GSC Goldstone 43.63 90 eP P 04 15 00.2 +1.4
GSC pmax pmax
comp=Z,12nm,1.0s
GSC Goldstone 43.63 90 eP P 04 15 00.2 +1.4
comp=Z,12nm,1.0s
GSC Goldstone 43.63 90 ⇓P P 04 14 59.5 +0.7
baz=44,SNR=7.9
H21A Big Horn, Sher 43.65 73 ⇓P P 04 14 59.3 +0.4
baz=44
DAU Daniels Canyon 43.70 80 eP P 04 15 00.6 +1.1
DAU e 04 16 43.9
DAU pmax pmax
comp=Z,3.0nm,0.7s
DAU Daniels Canyon 43.70 80 eP P 04 15 00.6 +1.1
comp=Z,3.2nm,0.7s
DAU ePcP PcP 04 16 43.9 +1.0
G22A Birney 43.74 71 ⇑P P 04 14 59.7 +0.1
baz=44
D24A Glendive 43.78 68 ⇓P P 04 14 59.8 +0.1
baz=44
B25A Knox Farm, Ray 43.78 66 ⇑P P 04 15 00.1 +0.3
baz=44
J20A Shoshoni 43.80 75 ⇓P P 04 15 00.0 0.0
baz=44,SNR=7.4
BFSC Mount Baldy Ra 43.83 92 ⇑P P 04 15 01.0 +0.6
baz=44
CIS Catalina Islan 43.95 93 ⇓P P 04 15 01.7 +0.5
baz=44
F23A Volborg 43.96 70 ⇑P P 04 15 01.3 +0.1
baz=44,SNR=11
I21A Big Trails, Te 43.99 74 ⇑P P 04 15 01.7 +0.1
baz=44,SNR=8.6
C25A Freed Ranch, W 44.05 67 ⇓P P 04 15 01.9 +0.1
baz=44
A26A Wade Farm, Ken 44.06 65 ⇑P P 04 15 01.9 0.0
baz=44
H22A Clearmont 44.07 72 ⇑P P 04 15 02.4 +0.2
baz=44
E24A Baker 44.11 69 ⇓P P 04 15 02.7 +0.3
baz=44
J21A Lysite 44.18 74 ⇓P P 04 15 03.5 +0.4
baz=44,SNR=6.7
CCUT Cedar City 44.24 85 eP P 04 15 05.4 +1.6
comp=Z,2.0nm,0.6s
G23A Biddle 44.27 71 ⇓P P 04 15 03.8 +0.1
baz=44
D25A Fairfield 44.33 67 ⇑P P 04 15 04.0 -0.1
baz=44
MVU Marysvale 44.33 83 eP P 04 15 05.8 +1.4
comp=Z,3.0nm,0.8s
I22A 9 Mile Ranch, 44.41 73 ⇑P P 04 15 05.0 +0.1
baz=44,SNR=9.6
TMUT Trail Mountain 44.43 81 eP P 04 15 06.8 +1.5
comp=Z,7.5nm,0.6s
F24A Ekalaka 44.44 70 ⇑P P 04 15 05.1 0.0
baz=44
MURC Murrieta 44.54 92 ⇓P P 04 15 06.3 +0.4
baz=44
C26A Wahner Farm, P 44.63 66 ⇓P P 04 15 06.3 -0.1
baz=44
H23A Clabaugh Cattl 44.64 72 ⇑P P 04 15 06.8 +0.1
baz=44
GMRC Granite Mounta 44.68 90 ⇑P P 04 15 07.3 +0.2
baz=45,SNR=7.5
J22A Midwest 44.70 74 ⇓P P 04 15 07.4 +0.2
baz=45,SNR=19
K21A Alcova 44.72 75 ⇓P P 04 15 07.2 -0.2
baz=45,SNR=9.7
G24A Alzada 44.76 70 ⇓P P 04 15 07.4 -0.2
baz=45,SNR=5.8
B27A Peters Farms, 44.76 65 ⇓P P 04 15 07.5 0.0
baz=45
LDFC Landfair 44.81 89 eP P 04 15 09.5 +1.4
comp=Z,13nm,0.8s
F25A Bowman 44.95 69 ⇓P P 04 15 08.9 -0.2
baz=45
SRU San Rafael 44.96 81 eP P 04 15 10.6 +1.3
SRU pmax pmax
comp=Z,4.0nm,0.6s
SRU San Rafael 44.96 81 eP P 04 15 10.6 +1.3
comp=Z,4.0nm,0.6s
I23A Meade Ranch, G 44.96 72 ⇓P P 04 15 08.9 -0.3
baz=45
BELC Belle Mtn. Jos 45.00 91 ⇓P P 04 15 09.5 -0.1
baz=45
C27A Sayler Ranch, 45.02 66 ⇑P P 04 15 09.6 +0.1
baz=45
A28A Rude Farm, Bot 45.02 64 ⇓P P 04 15 09.2 -0.3
baz=45
H24A Dirks Ranch, A 45.02 71 ⇓P P 04 15 09.3 -0.4
baz=45
K22A Casper 45.13 75 eP P 04 15 10.7 0.0
comp=Z,8.1nm,0.6s
K22A Casper 45.13 75 ⇓P P 04 15 10.7 0.0
baz=45,SNR=5.5
E26A Carlson Angus 45.20 68 ⇑P P 04 15 10.8 -0.2
baz=45
N20A Spence Gulch, 45.23 78 ⇓P P 04 15 11.7 +0.2
baz=45,SNR=5.8
B28A Dugan Ranch, T 45.23 64 ⇓P P 04 15 10.9 -0.3
baz=45
J23A Dilts Ranch, B 45.25 73 ⇑P P 04 15 11.7 +0.2
baz=45
D27A Center 45.35 67 ⇑P P 04 15 12.1 -0.1
baz=45
G25A Newell 45.41 70 ⇑P P 04 15 12.7 +0.1
baz=45
F26A Lodgepole 45.45 69 ⇓P P 04 15 12.8 -0.1
baz=45
MONP Monument Peak 45.51 92 ⇓P P 04 15 13.8 +0.1
baz=45
I24A Kuemmerle Ranc 45.51 72 ⇑P P 04 15 13.6 0.0
baz=45
W13A Hualapai Mount 45.54 88 ⇑P P 04 15 14.1 +0.1
baz=45
BC3 Big Chuckawall 45.57 91 ⇑P P 04 15 14.5 +0.4
baz=46
L22A Ellis Ranch, M 45.57 75 ⇑P P 04 15 13.7 -0.4
baz=45
A29A Manning Farm, 45.58 63 ⇓P P 04 15 13.7 -0.1
baz=45
K23A Bowen Ranch, D 45.60 74 ⇑P P 04 15 13.8 -0.5
baz=46
U15A North Rim 45.63 85 ⇓P P 04 15 14.7 0.0
baz=46,SNR=16
H25A Fruitdale 45.64 71 ⇓P P 04 15 14.2 -0.3
baz=46
O20A White River Ci 45.67 78 eP P 04 15 15.3 +0.2
comp=Z,11nm,0.8s
O20A White River Ci 45.67 78 ⇓P P 04 15 15.2 +0.2
baz=46,SNR=7.7
RSSD Black Hills 45.69 71 eP P 04 15 14.3 -0.8
RSSD e 04 16 49.3
RSSD pmax pmax
comp=Z,37nm,2.2s
RSSD Black Hills 45.69 71 eP P 04 15 14.2 -0.8
comp=Z,37nm,2.2s
RSSD ePcP PcP 04 16 49.2 -0.3
E27A Carson 45.73 67 ⇑P P 04 15 15.3 +0.1
baz=46
F27A Lemmon 45.80 68 ⇑P P 04 15 15.7 0.0
baz=46
J24A Dixon Ranch, L 45.81 73 ⇑P P 04 15 15.8 -0.1
baz=46
G26A Maurine 45.81 69 ⇑P P 04 15 15.7 -0.1
baz=46,SNR=7.7
D28A Regan 45.84 66 ⇑P P 04 15 15.8 -0.1
baz=46,SNR=5.9
M22A Cedar Creek Ra 45.86 76 ⇑P P 04 15 16.3 -0.2
baz=46
PDMCI Parker Dam,Lak 45.93 89 ⇑P P 04 15 17.2 +0.5
baz=46
I25A Rochford 45.93 71 ⇑P P 04 15 16.7 -0.1
baz=46
L23A Garrett 45.94 75 ⇓P P 04 15 16.9 -0.1
baz=46,SNR=23
Y12C Blythe 46.07 90 ⇑P P 04 15 18.4 +0.6
baz=46,SNR=5.3
K24A Anderson Ranch 46.09 73 ⇓P P 04 15 18.1 0.0
baz=46
H26A Fairpoint 46.12 70 ⇑P P 04 15 18.2 0.0
baz=46
E28A Huff 46.13 67 ⇓P P 04 15 18.2 0.0
baz=46
G27A Dupree 46.14 69 ⇑P P 04 15 18.5 +0.2
baz=46
N22A Wattenberg Ran 46.32 77 ⇓P P 04 15 20.3 +0.3
baz=46
M23A Laramie 46.33 75 ⇑P P 04 15 20.2 +0.1
baz=46,SNR=5.5
B30A Myrvik Farm, E 46.34 63 ⇑P P 04 15 19.9 +0.1
baz=46
GLA Glamis 46.36 91 ⇑P P 04 15 20.6 +0.4
baz=46
PV04 Paradox Valley 46.39 81 eP P 04 15 21.4 +0.9
I26A New Underwood 46.42 71 ⇑P P 04 15 20.7 +0.1
baz=46,SNR=5.4
L24A Wheatland 46.44 74 ⇓P P 04 15 20.8 0.0
baz=46
D29A Pettibone, Tap 46.45 65 ⇓P P 04 15 21.0 +0.3
baz=46
F28A McLaughlin 46.50 68 ⇓P P 04 15 21.0 -0.1
baz=46
H27A Howes 46.51 70 ⇑P P 04 15 20.9 -0.3
baz=46
N23A Red Feather La 46.56 76 ⇑P P 04 15 21.9 -0.1
baz=46
ULM Lac du Bonnet 46.61 60 P P 04 15 20.3 -1.5
ULM 04 16 51.2
ULM pmax pmax
comp=Z,1.0nm,0.3s
ULM pmax pmax
comp=Z,1.0nm,0.5s
ULM Lac du Bonnet 46.61 60 P P 04 15 20.3 -1.5
comp=Z,0.8nm,0.3s,baz=309,slow=6.8,SNR=4.7
ULM PcP PcP 04 16 51.2 -1.2
comp=Z,1.0nm,0.5s,baz=333,slow=5.1,SNR=5.8
O22A Kremmling 46.66 77 ⇓P P 04 15 23.1 +0.2
baz=46
C30A Mose, Pekin 46.69 64 ⇓P P 04 15 22.7 +0.1
baz=46
K25A Mack Ranch, Ha 46.71 73 ⇑P P 04 15 22.9 0.0
baz=47
E29A Napoleon 46.72 66 ⇑P P 04 15 22.9 +0.1
baz=46
J26A Sides Ranch, S 46.74 72 ⇑P P 04 15 23.1 +0.1
baz=47
WUAZ Wupatki 46.79 86 eP P 04 15 25.4 +1.8
comp=Z,8.2nm,0.8s
WUAZ Wupatki 46.79 86 ⇓P P 04 15 23.9 +0.2
baz=47,SNR=5.1
M24A Cheyenne 46.86 75 ⇓P P 04 15 24.3 +0.2
baz=47
I27A Quinn 46.86 70 ⇓P P 04 15 24.1 +0.1
baz=47,SNR=6.2
Y14A Wickenburg 46.86 88 ⇑P P 04 15 24.7 +0.6
baz=47
D30A Buchanan 46.89 65 ⇑P P 04 15 24.0 -0.1
baz=47
G28A Parade 46.90 68 ⇓P P 04 15 24.0 -0.2
baz=47
P22A Eagle 46.90 78 ⇑P P 04 15 24.6 +0.1
baz=47
O23A Lake Granby, G 47.01 77 ⇑P P 04 15 25.2 -0.2
baz=47,SNR=9.5
K26A Motz Farm, Whi 47.05 72 ⇑P P 04 15 25.3 -0.2
baz=47
F29A Eureka 47.05 67 ⇑P P 04 15 25.6 +0.2
baz=47
H28A Mission Ridge 47.08 69 ⇑P P 04 15 25.6 0.0
baz=47,SNR=12
E30A Jud 47.16 66 ⇓P P 04 15 25.9 -0.4
baz=47
N24A Carr 47.23 75 ⇑P P 04 15 27.1 +0.1
baz=47
M25A Palm-Egli Farm 47.33 74 ⇓P P 04 15 27.9 +0.1
baz=47
G29A Hoven 47.39 68 ⇓P P 04 15 27.8 -0.2
baz=47
J27A Elkhorn Farm, 47.39 71 ⇓P P 04 15 28.4 +0.3
baz=47,SNR=6.5
MVCO Mesa Verde 47.40 82 ⇓P P 04 15 28.5 +0.1
baz=47
I28A Midland 47.41 70 ⇑P P 04 15 28.3 +0.2
baz=47,SNR=13
ISCO Idaho Springs 47.45 77 eP P 04 15 29.8 +0.9
ISCO pmax pmax
comp=Z,59nm,3.0s
ISCO Idaho Springs 47.45 77 eP P 04 15 29.8 +0.9
comp=Z,59nm,3.0s
ISCO Idaho Springs 47.45 77 ⇓P P 04 15 28.9 0.0
baz=47
X16A Lo Mia Camp, P 47.48 87 ⇓P P 04 15 29.3 +0.3
baz=47,SNR=7.4
L26A Underwood Farm 47.52 73 ⇓P P 04 15 29.1 -0.1
baz=47
H29A Onida 47.57 69 ⇑P P 04 15 29.5 +0.1
baz=47
P23A Jefferson 47.59 78 ⇑P P 04 15 30.0 0.0
baz=48
K27A Flueckinger Fa 47.60 72 ⇓P P 04 15 29.9 +0.2
baz=47
J28A Allard Ranch, 47.72 70 ⇓P P 04 15 31.0 +0.3
baz=48
M26A McRoberts Ranc 47.84 74 ⇓P P 04 15 31.7 0.0
baz=48
G30A Faulkton 47.86 67 ⇓P P 04 15 31.6 0.0
baz=48
L27A T5 Ranch, Ells 47.94 72 ⇑P P 04 15 32.3 0.0
baz=48
S22A 4UR Ranch, Cre 48.05 80 ⇑P P 04 15 33.6 +0.1
baz=48
K28A Ten Mile Ranch 48.09 71 ⇓P P 04 15 33.6 +0.1
baz=48,SNR=5.7
ULN Ulaanbaatar 48.10 298 eP P 04 15 34.1 +0.5
ULN pmax pmax
comp=Z,1.0nm,0.9s
ULN Ulaanbaatar 48.10 298 eP P 04 15 34.0 +0.4
comp=Z,3.2nm,1.2s
N26A Koester Ranch, 48.20 74 ⇓P P 04 15 34.4 +0.1
baz=48
M27A Reverse DX Ran 48.24 73 ⇓P P 04 15 34.9 +0.2
baz=48
J29A Okreek 48.26 70 ⇑P P 04 15 34.8 +0.1
baz=48,SNR=12
Q24A Divide 48.26 78 ⇓P P 04 15 35.2 +0.1
baz=48
X18A Snowflake 48.31 85 ⇑P P 04 15 35.9 +0.5
baz=48,SNR=7.9
214A Organ Pipe Nat 48.34 90 ⇑P P 04 15 36.0 +0.5
baz=48
R23A Moffat 48.36 79 ⇑P P 04 15 35.9 +0.1
baz=48
BRSD Miller 48.39 68 ⇑P P 04 15 35.9 +0.2
baz=48
SONM Songino Array 48.47 298 P P 04 15 36.8 +0.4
SONM 04 16 57.9
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM pmax pmax
comp=N,1.0nm,1.1s
SONM Songino Array 48.47 298 P P 04 15 36.8 +0.4
comp=N,1.1nm,1.0s,baz=54,slow=6.4,SNR=6.0
SONM PcP PcP 04 16 57.9 -1.3
comp=N,0.8nm,0.8s,baz=65,slow=2.7,SNR=5.5
SONM ScP ScP 04 20 33.0 -2.1
comp=N,0.7nm,1.1s,baz=70,slow=2.9,SNR=6.3
P25A Willow Gulch B 48.49 76 ⇑P P 04 15 37.1 +0.4
baz=48,SNR=5.2
O26A Horse Wrangler 48.52 75 ⇑P P 04 15 36.9 0.0
baz=48
N27A Anderson Farm, 48.62 74 ⇑P P 04 15 38.0 +0.4
baz=48
K29A Lazy Trails An 48.66 71 ⇑P P 04 15 38.2 +0.4
baz=48
R24A Sanders Place, 48.76 78 ⇑P P 04 15 38.6 -0.3
baz=49
J30A Dallas 48.78 69 ⇑P P 04 15 38.4 -0.3
baz=49
OGNE Ogallala 48.82 73 ⇓P P 04 15 39.2 +0.1
baz=49
Q25A Bedland, Calha 48.83 77 ⇓P P 04 15 39.7 +0.4
baz=49,SNR=7.3
M28A Bar X Bar Ranc 48.92 73 ⇓P P 04 15 40.2 +0.4
baz=49
P26A Davis Ranch, A 48.94 76 ⇑P P 04 15 40.0 -0.1
baz=49,SNR=9.3
U22A Llaves 48.94 81 ⇓P P 04 15 40.6 +0.3
baz=49
L29A Maesberg Ranch 49.01 71 ⇓P P 04 15 40.8 +0.3
baz=49
O27A Beecher Island 49.04 75 ⇑P P 04 15 41.3 +0.5
baz=49,SNR=6.5
S24A Houchin Ranch, 49.09 79 ⇓P P 04 15 41.5 +0.1
baz=49
K30A Basset 49.12 70 ⇓P P 04 15 41.4 +0.2
baz=49,SNR=10
SPITS Spitsbergen Ar 49.17 357 P P 04 15 40.6 -0.5
SPITS pmax pmax
comp=Z,5.0nm,0.9s
SPITS Spitsbergen Ar 49.17 357 P P 04 15 40.6 -0.5
comp=Z,5.3nm,0.9s,baz=76,slow=3.5,SNR=16
V22A San Miguel Ran 49.22 82 ⇑P P 04 15 42.5 +0.1
baz=49
Q26A Hugo 49.25 77 ⇑P P 04 15 42.9 +0.5
baz=49
N28A Pribbeno Ranch 49.27 73 ⇓P P 04 15 42.6 +0.1
baz=49
M29A Burnside Ranch 49.28 72 ⇑P P 04 15 42.6 0.0
baz=49
R25A Fountain Ranch 49.31 78 ⇓P P 04 15 43.3 +0.4
baz=49
TUC Tucson 49.33 88 eP P 04 15 44.3 +1.2
TUC pmax pmax
comp=Z,6.0nm,0.8s
TUC Tucson 49.33 88 eP P 04 15 44.3 +1.2
comp=Z,6.1nm,0.8s
U23A El Rito 49.37 81 ⇓P P 04 15 43.8 +0.3
baz=49,SNR=8.7
P27A Ficken Ranch, 49.40 75 ⇑P P 04 15 43.7 +0.2
baz=49
O28A Krutsinger Ran 49.50 74 ⇑P P 04 15 44.7 +0.5
baz=49,SNR=6.3
L30A Spencer Herefo 49.52 71 ⇑P P 04 15 44.6 +0.3
baz=49
S25A Robets Cordova 49.54 78 ⇑P P 04 15 45.1 +0.4
baz=49,SNR=6.8
M30A Dale-Ortello V 49.70 72 ⇑P P 04 15 45.8 +0.2
baz=50
R26A Arlington 49.70 77 ⇑P P 04 15 46.3 +0.4
baz=50
N29A Votaw Ranch, W 49.72 73 ⇓P P 04 15 46.2 +0.3
baz=50,SNR=5.6
KSCO Kaye Shedlock' 49.72 76 eP P 04 15 47.1 +1.1
comp=Z,18nm,1.0s
KSCO Kaye Shedlock' 49.72 76 ⇓P P 04 15 46.1 +0.2
baz=50
V23A Ortiz Mt. (NFS 49.77 81 ⇓P P 04 15 46.6 +0.1
baz=50,SNR=5.8
U24A Moreno Valley 49.87 80 ⇑P P 04 15 47.3 0.0
baz=50
P28A Saint Francis 49.87 75 ⇓P P 04 15 47.0 0.0
baz=50,SNR=6.4
L31A Butterfield Fa 49.88 70 ⇑P P 04 15 47.0 0.0
baz=50
T25A Trinidad 49.90 79 ⇑P P 04 15 47.5 +0.1
baz=50,SNR=10
HHC Hu-ho-hao-te 49.94 288 eP P 04 15 48.3 +0.8
HHC PP PP 04 17 46.1 +2.1
HHC S S 04 22 41.6 -1.0
HHC sS sS 04 23 55.9 -1.9
HHC SS SS 04 26 13.9 -3.5
HHC pmax pmax
comp=Z,28nm,1.2s
HHC pmax pmax
comp=Z,200nm,5.6s
HHC LR LR
comp=Z,180nm,16.5s
HHC LR LR
comp=Z,160nm,16.1s
HHC LR LR
comp=Z,110nm,16.1s
N30A Hueftle Ranch, 50.04 72 ⇓P P 04 15 48.4 +0.2
baz=50
O29A 4D Ranch, Culb 50.07 74 ⇑P P 04 15 49.0 +0.5
baz=50,SNR=14
R27A Eads 50.10 77 ⇓P P 04 15 49.2 +0.5
baz=50,SNR=9.5
S26A Kim 50.14 78 ⇑P P 04 15 49.5 +0.4
baz=50,SNR=8.1
ANMO Albuquerque 50.14 82 eP P 04 15 50.5 +1.2
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ECSD EROS Data Cent 50.15 67 ⇓P P 04 15 49.2 +0.2
baz=50
Q28A Sharon Springs 50.16 75 ⇑P P 04 15 49.4 +0.2
baz=50
W23A Werner Place, 50.18 82 ⇑P P 04 15 50.1 +0.5
baz=50
V24A Rampart Ranch, 50.33 81 ⇓P P 04 15 50.7 0.0
baz=50
P29A Atwood 50.33 74 ⇓P P 04 15 50.8 +0.4
baz=50,SNR=5.5
M31A Lambtecht Ranc 50.34 71 ⇓P P 04 15 50.9 +0.4
baz=50
T26A Comanche Natio 50.36 78 ⇓P P 04 15 51.3 +0.4
baz=50
U25A Circle Dot Ran 50.39 80 ⇑P P 04 15 51.3 +0.2
baz=50,SNR=8.5
Y22D IRIS PASSCAL I 50.46 84 ⇓P P 04 15 51.7 +0.1
baz=50
O30A MW Ranch, Wils 50.47 73 ⇑P P 04 15 51.7 +0.3
baz=50,SNR=6.3
W24A Lazy 6 Ranch, 50.59 81 ⇓P P 04 15 52.5 -0.1
baz=50
R28A Tribune 50.64 76 ⇑P P 04 15 53.4 +0.5
baz=50
V25A Rancho No Teng 50.65 80 ⇓P P 04 15 52.9 -0.1
baz=50,SNR=6.1
N31A Bailey Ranch, 50.69 72 ⇑P P 04 15 53.3 +0.2
baz=50
BGNE Belgrade 50.77 71 eP P 04 15 53.6 -0.1
comp=Z,23nm,0.8s
BGNE Belgrade 50.77 71 ⇑P P 04 15 53.8 +0.2
baz=51,SNR=5.3
P30A Selden 50.77 74 ⇓P P 04 15 53.8 +0.1
baz=51,SNR=8.7
Q29A Oakley 50.77 75 ⇓P P 04 15 54.2 +0.5
baz=51,SNR=5.3
U26A Atchley Ranch, 50.79 79 ⇑P P 04 15 54.5 +0.4
baz=51,SNR=8.1
319A Douglas 50.90 88 ⇑P P 04 15 54.9 +0.1
baz=51
O31A Woolen Ranch, 50.91 73 ⇓P P 04 15 54.8 +0.1
baz=51,SNR=5.1
T27A Campo 50.95 78 ⇑P P 04 15 55.8 +0.5
baz=51
R29A Marienthal 50.98 75 ⇓P P 04 15 55.5 +0.1
baz=51,SNR=5.7
Z22A Elephant Butte 50.99 84 ⇑P P 04 15 55.8 +0.2
baz=51
121A Cookes Peak, D 51.00 86 ⇑P P 04 15 55.9 +0.3

baz=51
Y23A Lovelace Mesa, 51.08 83 ⇑P P 04 15 56.8 +0.6
baz=51,SNR=8.6
S28A Manter 51.09 77 ⇑P P 04 15 56.2 0.0
baz=51,SNR=12
Q30A Quinter 51.16 74 ⇑P P 04 15 57.1 +0.5
baz=51
W25A X Bar L Ranch, 51.16 81 ⇑P P 04 15 57.1 +0.4
baz=51,SNR=6.8
V26A Tequesquite Ra 51.17 80 ⇑P P 04 15 57.4 +0.6
baz=51,SNR=6.0
T28A Walsh 51.28 77 ⇓P P 04 15 58.1 +0.6
baz=51,SNR=7.8
P31A Stockton 51.29 73 ⇓P P 04 15 58.1 +0.5
baz=51
SPMN St. Paul 51.31 64 ⇑P P 04 15 58.0 +0.4
baz=51
U27A Thompson Grove 51.32 78 ⇓P P 04 15 58.4 +0.4
baz=51,SNR=6.2
Y24A Capitan 51.45 83 ⇑P P 04 15 59.4 +0.4
baz=51,SNR=13
S29A Ulysses 51.53 76 ⇑P P 04 15 59.9 +0.4
baz=51
R30A Dighton 51.58 75 ⇓P P 04 15 60.0 +0.2
baz=51,SNR=13
Q31A Ellis 51.62 74 ⇓P P 04 16 00.4 +0.4
baz=52
W26A Owens Ranch, T 51.66 80 ⇑P P 04 16 01.0 +0.5
baz=52
P32A Huiting Farm, 51.67 73 ⇓P P 04 16 00.6 +0.2
baz=52
U28A Mallet 51.71 78 ⇑P P 04 16 01.3 +0.5
baz=52
T29A Hugoton 51.74 77 ⇓P P 04 16 01.3 +0.3
baz=52
V27A Dan Oppiter Fa 51.77 79 ⇑P P 04 16 01.7 +0.4
baz=52
S30A Montezuma 51.90 76 ⇑P P 04 16 02.6 +0.4
baz=52,SNR=6.2
Y25A Mesa, Roswell 51.90 82 ⇓P P 04 16 02.7 +0.4
baz=52,SNR=6.6
Z24A Sheeppen Canyo 51.91 83 ⇑P P 04 16 02.6 +0.2
baz=52,SNR=6.5
X26A CR and CF Fran 52.00 81 ⇑P P 04 16 03.5 +0.4
baz=52
R31A Burdett 52.02 74 ⇑P P 04 16 03.0 0.0
baz=52,SNR=6.1
W27A Bowe Ranch, En 52.10 80 ⇓P P 04 16 04.2 +0.4
baz=52
Q32A Meitler Ranch, 52.12 73 ⇓P P 04 16 03.8 +0.2
baz=52,SNR=9.5
V28A Channing 52.13 79 ⇓P P 04 16 04.4 +0.5
baz=52
U29A Oasis Ranch, S 52.23 77 ⇓P P 04 16 05.1 +0.5
baz=52
T30A Plains 52.26 76 ⇑P P 04 16 05.1 +0.3
baz=52
P33A Williams Farm, 52.32 72 ⇑P P 04 16 05.2 +0.1
baz=52
Z25A Roswell 52.33 83 ⇑P P 04 16 06.0 +0.6
baz=52
X27A F and S Farms, 52.37 80 ⇑P P 04 16 06.1 +0.4
baz=52
R32A Long Quarter, 52.41 74 ⇑P P 04 16 05.9 +0.1
baz=52
Y26A Elida 52.43 81 ⇓P P 04 16 06.4 +0.2
baz=52
S31A Mullinville 52.49 75 ⇓P P 04 16 06.2 -0.3
baz=52
Q33A Connelly Farm, 52.53 73 ⇑P P 04 16 06.4 -0.3
baz=52,SNR=6.6
U30A WK&E Inc. Balk 52.54 77 ⇓P P 04 16 07.1 +0.2
baz=52,SNR=5.6
T31A Randall Ranch, 52.73 76 ⇓P P 04 16 08.4 +0.2
baz=53,SNR=5.1
S32A Newby Ranch, P 52.76 75 ⇑P P 04 16 08.2 -0.2
baz=53
Z26A Caprock 52.78 82 ⇓P P 04 16 08.9 +0.2
baz=53,SNR=5.3
Y27A Causey 52.85 81 ⇑P P 04 16 09.8 +0.5
baz=53,SNR=6.8
W29A Amraillo 52.91 79 ⇓P P 04 16 10.1 +0.4
baz=53
R33A Olander Ranch, 52.91 73 ⇓P P 04 16 09.7 +0.2
baz=53
X28A Dimmitt 52.99 80 ⇓P P 04 16 10.6 +0.4
baz=53
MSTX Muleshoe 53.03 81 ⇑P P 04 16 11.0 +0.5
baz=53
MNTX Cornudas Mount 53.03 85 eP P 04 16 11.1 +0.6
comp=Z,4.1nm,0.8s
AMTX Amarillo 53.05 79 eP P 04 16 10.6 -0.1
comp=Z,73nm,2.3s
AMTX Amarillo 53.05 79 ⇑P P 04 16 10.6 -0.1
baz=53
T32A Huddler Ranch, 53.12 75 ⇓P P 04 16 10.9 -0.2
baz=53
U31A Nine Bar Ranch 53.12 76 ⇑P P 04 16 11.2 +0.1
baz=53
KSU1 Kansas State U 53.17 72 ⇓P P 04 16 11.1 -0.3
baz=53
Z27A Tatum 53.21 82 ⇑P P 04 16 11.7 -0.2
baz=53
S33A Kaszmaul Farm, 53.38 74 ⇑P P 04 16 12.4 -0.5
baz=53
Y28A McKinney Farm, 53.38 80 ⇑P P 04 16 13.2 +0.1
baz=53
V31A Spring Creek L 53.53 77 ⇑P P 04 16 14.6 +0.5
baz=53
127A Arkansas Junct 53.57 82 ⇑P P 04 16 14.8 +0.3
baz=54
T33A Patterson Ranc 53.58 75 ⇑P P 04 16 14.5 0.0
baz=53
U32A Winter Ranch, 53.62 76 ⇓P P 04 16 14.8 +0.1
baz=54
Z28A Tucker Farm, M 53.73 81 ⇑P P 04 16 16.1 +0.5
baz=54
Y29A Porterfield Fa 53.76 80 ⇑P P 04 16 16.3 +0.5
baz=54
X30A Coker Ranch, T 53.83 79 ⇓P P 04 16 16.6 +0.3
baz=54
W31A Holland Ranch, 53.88 78 ⇓P P 04 16 17.0 +0.4
baz=54
V32A Arapaho 54.04 76 ⇑P P 04 16 18.3 +0.5
baz=54
U33A Lingo Farm, Me 54.10 75 ⇑P P 04 16 18.1 0.0
baz=54
128A Castleberry Fa 54.14 82 ⇑P P 04 16 18.7 +0.2
baz=54
Z29A Hungry Hill Ra 54.16 81 ⇓P P 04 16 19.2 +0.5
baz=54
Y30A Stafford Cattl 54.21 79 ⇓P P 04 16 19.3 +0.2
baz=54,SNR=5.1
X31A McDonald Ranch 54.24 78 ⇑P P 04 16 19.3 +0.1
baz=54
W32A Sentinel 54.33 77 ⇓P P 04 16 20.3 +0.4
baz=54
V33A Lossen Ranch, 54.42 76 ⇑P P 04 16 20.5 0.0
baz=54
228A UT Block 9, Go 54.42 82 ⇑P P 04 16 20.3 -0.3
baz=54
U34A Anderson Ranch 54.44 75 eP P 04 16 20.4 -0.2
comp=Z,23nm,0.6s
U34A Anderson Ranch 54.44 75 ⇓P P 04 16 20.6 0.0
baz=54,SNR=6.7
Z30A Sanderson Ranc 54.49 80 ⇑P P 04 16 21.4 +0.4
baz=54
129A Stewart Farms, 54.50 81 ⇓P P 04 16 21.4 +0.2
baz=54
Y31A Rekieta Farm, 54.53 79 ⇑P P 04 16 21.5 +0.2
baz=54
W33A Caddo, Fort Co 54.77 77 ⇓P P 04 16 23.1 +0.1
baz=55
X32A Elmer 54.80 78 ⇓P P 04 16 23.4 +0.2
baz=55
V34A Guthrie 54.86 75 eP P 04 16 22.7 -1.0
comp=Z,13nm,0.8s
V34A Guthrie 54.86 75 ⇑P P 04 16 23.6 0.0
baz=55,SNR=5.8
Y32A R-V Farms, Ver 54.99 78 ⇓P P 04 16 25.2 +0.5
baz=55,SNR=6.8
Z31A Sharp Cattle R 55.05 79 ⇓P P 04 16 25.6 +0.5
baz=55
130A Snyder 55.07 81 ⇓P P 04 16 25.2 0.0
baz=55
W34A Bridge Creek, 55.13 76 ⇑P P 04 16 25.9 +0.3
baz=55
X33A Lawton 55.18 77 ⇑P P 04 16 26.2 +0.3
baz=55
329A Wagon Wheel Ra 55.24 82 ⇑P P 04 16 26.4 0.0
baz=55
131A Roby 55.36 80 ⇑P P 04 16 27.7 +0.5
baz=55
Z32A Haskell 55.46 79 ⇑P P 04 16 28.3 +0.4
baz=55,SNR=8.9
Y33A Hilltop Ranch, 55.48 78 ⇓P P 04 16 28.3 +0.3
baz=55
230A Sterling City 55.48 81 ⇓P P 04 16 28.7 +0.6
baz=55
X34A Smith Ranch, M 55.53 77 ⇑P P 04 16 28.7 +0.3
baz=55
TXAR Lajitas Array 55.75 85 P P 04 16 30.7 +0.5
TXAR 04 17 27.3
TXAR pmax pmax
comp=Z,3.0nm,0.8s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR pmax pmax
comp=N,1.0nm,1.1s
TXAR Lajitas Array 55.75 85 P P 04 16 30.7 +0.5
comp=N,3.3nm,0.8s,baz=296,slow=4.7,SNR=36
TXAR PcP PcP 04 17 27.3 +0.4
comp=N,1.1nm,0.7s,baz=232,slow=1.1,SNR=7.7
TXAR ScP ScP 04 21 06.0 -0.9
comp=N,0.7nm,1.1s,baz=300,slow=4.9,SNR=4.7
330A Mertzon 55.78 82 ⇓P P 04 16 30.6 +0.3
baz=56
TUL1 Tulsa 55.82 74 ⇑P P 04 16 30.4 -0.1
baz=56
ABTX Abilene, Hawle 55.84 80 eP P 04 16 31.5 +0.8
comp=N,14nm,1.2s
ABTX Abilene, Hawle 55.84 80 ⇓P P 04 16 31.2 +0.5
baz=56
Z33A Whitaker Ranch 55.90 78 ⇑P P 04 16 31.3 +0.2
baz=56,SNR=5.4
429A Davenport Ranc 55.90 83 ⇓P P 04 16 31.4 +0.2
baz=56
231A Bronte 55.92 81 ⇑P P 04 16 31.4 +0.1
baz=56
Y34A Reagan Ranch, 56.02 77 ⇓P P 04 16 32.2 +0.3
baz=56
529A Stev Forest Ra 56.06 84 ⇓P P 04 16 32.7 +0.4
baz=56
430A Baggett Ranch, 56.18 82 ⇑P P 04 16 33.5 +0.3
baz=56,SNR=5.7
133A Hamilton Ranch 56.28 79 ⇓P P 04 16 34.2 +0.4
baz=56,SNR=6.3
331A San Angelo 56.30 81 ⇑P P 04 16 33.9 -0.1
baz=56
Z34A Collier Ranch, 56.34 78 ⇓P P 04 16 34.6 +0.4
baz=56
232A Coleman 56.35 80 ⇑P P 04 16 34.7 +0.3
baz=56
530A J-C Ranch, Com 56.58 83 ⇑P P 04 16 36.4 +0.5
baz=56,SNR=7.6
431A Sonora 56.63 82 ⇓P P 04 16 36.5 +0.2
baz=56,SNR=5.1
332A Millersview 56.66 81 ⇑P P 04 16 36.8 +0.3
baz=56,SNR=5.4
233A Rising Star 56.71 80 ⇑P P 04 16 37.5 +0.7
baz=57
134A White-Moore Ra 56.81 79 ⇓P P 04 16 37.7 +0.2
baz=57,SNR=5.8
432A Menard 56.99 81 ⇑P P 04 16 39.2 +0.3
baz=57
333A Richland Sprin 57.15 80 ⇑P P 04 16 40.4 +0.4
baz=57
ARCES ARCESS Array B 57.16 352 P P 04 16 38.8 -0.6
ARCES 04 17 30.8
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES ARCESS Array B 57.16 352 P P 04 16 38.8 -0.6
comp=Z,2.4nm,0.8s,baz=13,slow=7.1,SNR=5.4
ARCES PcP PcP 04 17 30.8 -0.9
comp=Z,4.0nm,0.6s,baz=16,slow=4.4,SNR=11
234A Clairette 57.18 79 ⇑P P 04 16 40.5 +0.4
baz=57,SNR=5.8
SCHQ Schefferville 57.18 41 P P 04 16 38.9 -0.9
comp=Z,2.1nm,0.6s,baz=292,slow=9.5,SNR=6.6
135A Vickery Place, 57.22 78 ⇓P P 04 16 41.0 +0.7
baz=57
JCT Junction City 57.26 82 eP P 04 16 39.9 -0.9
JCT pmax pmax
comp=Z,4.0nm,0.6s
JCT Junction City 57.26 82 eP P 04 16 39.9 -0.9
comp=Z,4.3nm,0.6s
JCT Junction City 57.26 82 ⇓P P 04 16 41.0 +0.3
baz=57
433A Art 57.49 81 ⇓P P 04 16 42.6 +0.3
baz=57
631A Perdido Creek 57.56 83 ⇑P P 04 16 43.1 +0.3
baz=58
WHTX Lake Whitney 57.59 79 ⇑P P 04 16 43.1 +0.2
baz=58
334A Lometa 57.59 80 ⇓P P 04 16 43.4 +0.4
baz=58,SNR=9.3
SFIN Scholer Farm 57.67 65 ⇓P P 04 16 42.6 -0.8
baz=58
434A Burnet 57.95 80 ⇓P P 04 16 45.7 +0.2
baz=58,SNR=6.8
632A Uvalde 57.97 82 ⇑P P 04 16 45.4 -0.3
baz=58
533A Kerrville 58.02 81 ⇑P P 04 16 45.6 -0.4
baz=58
MIAR Mount Ida 58.07 74 eP P 04 16 46.4 +0.1
MIAR pmax pmax
comp=Z,15nm,0.8s
MIAR Mount Ida 58.07 74 eP P 04 16 46.4 +0.1
comp=Z,15nm,0.8s
633A Saathoff Ranch 58.37 82 ⇓P P 04 16 48.4 -0.1
baz=58
534A Blanco 58.38 81 ⇓P P 04 16 48.2 -0.4
baz=58
336A Riesel 58.39 79 ⇓P P 04 16 48.7 +0.2
baz=58
732A Laxson Ranch, 58.42 83 ⇓P P 04 16 49.1 +0.3
baz=58
832A Faith Ranch, C 58.74 83 ⇓P P 04 16 51.3 +0.3
baz=59,SNR=5.5
733A Divot King Ran 58.84 83 ⇓P P 04 16 52.0 +0.4
baz=59
634A China Grove, S 58.93 81 ⇓P P 04 16 52.3 0.0
baz=59
535A Dale 58.93 80 ⇓P P 04 16 52.7 +0.5
baz=59
337A Centerville 59.01 78 ⇑P P 04 16 52.9 +0.1
baz=59
833A Chaparral WMA, 59.06 83 ⇓P P 04 16 53.7 +0.5
baz=59
734A La Parita Cree 59.19 82 ⇓P P 04 16 54.3 +0.2
baz=59
536A Bastrop 59.20 80 ⇑P P 04 16 54.8 +0.8
baz=59
635A Leesville 59.27 81 ⇓P P 04 16 55.1 +0.5
baz=59
636A Smothers Creek 59.63 80 ⇓P P 04 16 57.8 +0.8
baz=60
735A Kenedy 59.63 81 ⇓P P 04 16 57.4 +0.3
baz=60
537A Green Hill Far 59.64 79 ⇑P P 04 16 57.8 +0.7
baz=60
933A Laredo 59.65 83 ⇓P P 04 16 57.7 +0.4
baz=60
834A Tilden 59.72 83 ⇓P P 04 16 58.3 +0.7
baz=60
KURK Kurchatov 60.02 315 eP P 04 16 59.1 -0.3
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 60.02 315 eP P 04 16 59.1 -0.3
comp=Z,1.8nm,0.8s
538A Harpers Horsep 60.03 79 ⇓P P 04 16 59.3 -0.4
baz=60
835A Beeville 60.03 82 ⇓P P 04 17 00.4 +0.6
baz=60
340A Bronson 60.12 76 ⇑P P 04 17 01.0 +0.7
baz=60
OXF Oxford 60.51 71 eP P 04 17 02.5 -0.4
OXF pmax pmax
comp=Z,34nm,0.6s
OXF Oxford 60.51 71 eP P 04 17 02.5 -0.4
comp=Z,34nm,0.6s
WMQ Urumqi 60.87 305 eP P 04 17 07.8 +2.5
WMQ pP pP 04 17 51.9 +1.9
WMQ sP sP 04 18 12.6 +1.4
MK31 Makanchi Array 61.29 310 eP P 04 17 07.0 -1.1
MK31 Makanchi Array 61.29 310 eP P 04 17 07.0 -1.1
MKAR Makanchi Array 61.29 310 P P 04 17 07.1 -1.0
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 61.29 310 P P 04 17 07.1 -1.0
comp=Z,1.6nm,0.8s,baz=51,slow=5.6,SNR=13
CD2 Chengdu 61.35 284 eP P 04 17 09.6 +0.8
BVA0 Borovoye Array 61.57 322 iP P 04 17 09.6 -0.2
BVA0 pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 61.57 322 P P 04 17 10.5 +0.7
BVAR pmax pmax
comp=Z,5.0nm,0.5s
BVAR Borovoye Array 61.57 322 P P 04 17 10.5 +0.7
comp=Z,5.0nm,0.5s,baz=58,slow=6.2,SNR=24
BRVK Borovoye 61.59 322 eP P 04 17 10.5 +0.6
BRVK pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 61.59 322 eP P 04 17 10.4 +0.6
comp=Z,1.5nm,0.5s
PRGR Permogore 61.63 340 P P 04 17 09.6 -0.4
PRGR pmax pmax
comp=Z,6.0nm,0.5s
ARU Arti 62.84 330 d iP P 04 17 18.4 +0.3
ARU *PP pP 04 17 59.1 -4.0
ARU 04 19 36.9
ARU S S 04 25 33.6 +2.3
ARU pmax pmax
comp=Z,11nm,1.7s
ARU Arti 62.84 330 eP P 04 17 18.1 0.0
comp=Z,4.6nm,0.6s
LRAL Lakeview Retre 62.96 70 eP P 04 17 18.3 -1.0
comp=Z,46nm,2.2s
KMSC Kings Mountain 64.60 65 ⇑P P 04 17 29.6 -0.4
baz=64
FINES FINESS Array B 65.00 349 P P 04 17 31.3 -0.8
FINES 04 18 02.6
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 65.00 349 P P 04 17 31.3 -0.8
comp=Z,3.1nm,0.7s,baz=14,slow=6.3,SNR=7.1
FINES PcP PcP 04 18 02.6 -0.8
comp=Z,1.7nm,0.9s,baz=69,slow=2.6,SNR=6.3
NB2 NORSAR Subarra 66.47 357 P P 04 17 41.3 -0.3
comp=Z,1.0nm,0.5s,baz=6.2,slow=6.9
NOA NORSAR Array B 66.47 357 P P 04 17 40.7 -0.9
NOA pmax pmax
comp=Z,3.0nm,1.2s
NOA NORSAR Array B 66.47 357 P P 04 17 40.7 -0.9
comp=Z,2.7nm,1.1s,baz=4.2,slow=7.5,SNR=7.7
NAO01 NORSAR Array S 66.67 357 eP P 04 17 42.1 -0.7
comp=Z,5.1nm,0.8s
HFS Hagfors 67.28 356 P P 04 17 45.9 -0.8
HFS pmax pmax
comp=Z,3.0nm,0.4s
HFS Hagfors 67.28 356 P P 04 17 45.9 -0.8
comp=Z,2.5nm,0.4s,baz=38,slow=2.6,SNR=29
TKM2 Tokmak 2 67.32 312 eP P 04 17 47.8 +0.3
TKM2 pmax pmax
comp=Z,2.0nm,0.7s
TKM2 Tokmak 2 67.32 312 eP P 04 17 47.8 +0.3
comp=Z,1.6nm,0.7s
AAK Ala-Archa 68.05 312 ⇑iP P 04 17 52.4 +0.4
AAK pmax pmax
comp=Z,17nm,1.1s
AAK Ala-Archa 68.05 312 P P 04 17 52.1 +0.1
comp=Z,4.0nm,0.6s,baz=135,slow=3.4,SNR=16
AKTO Aktyubinsk 68.10 327 P P 04 17 52.0 0.0
AKTO pmax pmax
comp=Z,10.0nm,0.7s
AKTO Aktyubinsk 68.10 327 P P 04 17 52.0 0.0
comp=Z,9.6nm,0.7s,baz=52,slow=6.9,SNR=29
EKS2 Erkin-Say 68.35 313 eP P 04 17 54.8 +1.0
EKS2 pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 68.35 313 eP P 04 17 54.8 +1.0
comp=Z,4.8nm,0.7s
AB31 Akbulak array 68.45 325 iP P 04 17 54.2 +0.1
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 68.45 325 eP P 04 17 53.9 -0.2
comp=Z,3.7nm,0.5s
KKAR Karatay Array 69.43 315 eP P 04 18 00.0 -0.3
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 69.43 315 eP P 04 18 00.0 -0.3
comp=Z,2.9nm,0.7s
OBN Obninsk 69.49 342 eP P 04 18 00.1 -0.3
OBN pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 69.53 292 eP P 04 18 02.4 +0.7
LSA pmax pmax
comp=Z,3.0nm,0.4s
LSA Lhasa 69.53 292 eP P 04 18 02.4 +0.7
comp=Z,3.2nm,0.4s
TEIG Tepich 71.81 80 eP P 04 18 15.9 +0.9
EKA Eskdalemuir Ar 72.03 5 P P 04 18 15.9 +0.2
EKA pmax pmax
comp=Z,1.0nm,0.6s
EKA Eskdalemuir Ar 72.03 5 P P 04 18 15.9 +0.2
comp=Z,1.1nm,0.6s,baz=354,slow=4.1,SNR=5.6
VSR Storozhevoye 72.63 339 eP P 04 18 18.3 -1.0
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 72.83 339 eP P 04 18 19.4 -1.1
VORD pmax pmax
comp=N,3.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VORD pmax pmax
comp=Z,9.0nm,0.6s
TAPN Taplejung 73.26 293 eP P 04 18 23.9 +0.1
CMAR Chiang Mai Arr 73.57 279 P P 04 18 25.6 +0.2
CMAR pmax pmax
comp=Z,1.0nm,0.5s
CMAR Chiang Mai Arr 73.57 279 P P 04 18 25.6 +0.2
comp=Z,1.4nm,0.5s,baz=27,slow=6.5,SNR=7.1
GUN Gumba 73.84 295 eP P 04 18 27.3 0.0
comp=Z,8.7nm,0.4s
JIRN Jiri 73.87 294 eP P 04 18 27.6 +0.2
comp=Z,10nm,0.5s
RAMN Ramite 74.19 294 eP P 04 18 28.9 -0.3
comp=Z,5.0nm,0.3s
PKI Pulchoki 74.37 295 eP P 04 18 29.7 -0.6
GKN Gorkha 74.45 296 eP P 04 18 30.5 -0.1
comp=Z,11nm,0.4s
DANN Dangsing 74.66 297 eP P 04 18 32.0 +0.1
comp=Z,13nm,0.4s
AKASG Malin Array Be 75.02 345 P P 04 18 32.1 -1.1
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 75.02 345 P P 04 18 32.1 -1.1
comp=Z,3.0nm,0.5s,baz=17,slow=5.7,SNR=9.9
KIEV Kiev 75.03 345 eP P 04 18 32.7 -0.5
KIEV Kiev 75.03 345 eP P 04 18 32.7 -0.5
PYUN Piuthan 75.27 297 eP P 04 18 35.1 -0.2
comp=Z,15nm,0.6s
CLL Collm 76.13 355 eP P 04 18 39.0 -0.5
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 76.13 355 eP P 04 18 39.0 -0.5
comp=Z,6.0nm,0.7s
BRG Berggiesshubel 76.51 355 iPKP P 04 18 42.0 +0.3
comp=Z,4.6nm,0.7s
BRG Berggiesshubel 76.51 355 iP P 04 18 42.0 +0.3
BRG pmax pmax
comp=Z,2.0nm,0.7s
DPC Dobruska-Polom 76.88 353 eP P 04 18 44.3 +0.5
DPC e 04 19 30.2
DPC Dobruska-Polom 76.88 353 eP P 04 18 44.3 +0.5
DPC epP pP 04 19 30.2 -0.3
KRLC Kraliky 77.11 353 eP P 04 18 45.4 +0.3
KRLC Kraliky 77.11 353 eP P 04 18 45.4 +0.3
MORC Moravsky Berou 77.35 352 eP P 04 18 46.3 -0.2
MORC pmax pmax
comp=Z,2.0nm,0.6s
MORC Moravsky Berou 77.35 352 eP P 04 18 46.2 -0.2
comp=Z,1.9nm,0.6s
PRU Pruhonice 77.36 354 eP P 04 18 46.5 +0.1
PRU Pruhonice 77.36 354 eP P 04 18 46.5 +0.1

BAIF Baives 77.55 1 eP P 04 18 47.9 +0.4
BAIF Baives 77.55 1 eP P 04 18 47.9 +0.4
BAIF Baives 77.55 1 eP P 04 18 47.9 +0.4
KOLS Kolonicke sedl 77.71 349 eP P 04 18 48.9 +0.5
KOLS Kolonicke sedl 77.71 349 eP P 04 18 48.9 +0.5
CRVS Cervenica-Dubn 77.83 349 eP P 04 18 49.1 0.0
CRVS Cervenica-Dubn 77.83 349 eP P 04 18 49.1 0.0
VRAC Vranov 77.89 353 P P 04 18 49.6 +0.2
VRAC pmax pmax
comp=Z,4.0nm,0.7s
VRAC Vranov 77.89 353 P P 04 18 49.6 +0.2
comp=Z,4.1nm,0.7s,baz=68,slow=5.5,SNR=6.0
WLF Walferdange 77.95 360 eP P 04 18 50.1 +0.4
WLF pmax pmax
comp=Z,7.0nm,0.9s
WLF Walferdange 77.95 360 eP P 04 18 50.1 +0.4
comp=Z,6.9nm,0.9s
KHC Kasperske Hory 78.27 355 eP P 04 18 52.1 +0.6
KHC Kasperske Hory 78.27 355 eP P 04 18 52.1 +0.6
VYHS Vyhne 78.51 351 eP P 04 18 53.5 +0.7
VYHS Vyhne 78.51 351 eP P 04 18 53.5 +0.7
KIV Kislovodsk 78.54 334 iP P 04 18 53.4 +0.3
KIV i 04 19 01.9
KIV iS S 04 28 33.8 +0.8
KIV pmax pmax
comp=Z,5.0nm,1.0s
GERES GERESS Array B 78.55 355 P P 04 18 53.3 +0.2
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 78.55 355 P P 04 18 53.3 +0.2
comp=Z,1.9nm,0.7s,baz=15,slow=5.5,SNR=14
KBZ Khabaz 78.69 333 P P 04 18 53.6 -0.2
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 78.69 333 P P 04 18 53.5 -0.2
comp=Z,2.6nm,0.8s,baz=216,slow=1.3,SNR=8.4
FLN La Foliniere 78.72 4 eP P 04 18 53.8 -0.1
FLN La Foliniere 78.72 4 eP P 04 18 53.8 -0.1
FLN La Foliniere 78.72 4 eP P 04 18 53.8 -0.1
STU Stuttgart 78.81 358 eP P 04 18 54.9 +0.5
STU Stuttgart 78.81 358 eP P 04 18 54.9 +0.5
LDF La Druitiere 78.91 4 eP P 04 18 54.6 -0.4
comp=Z,9.6nm,0.6s
LDF La Druitiere 78.91 4 eP P 04 18 54.6 -0.4
LDF pmax pmax
comp=Z,10.0nm,0.6s
LDF La Druitiere 78.91 4 eP P 04 18 54.6 -0.4
comp=Z,9.6nm,0.6s
ROSF Rostrenen 79.00 6 eP P 04 18 55.3 -0.1
comp=Z,77nm,1.3s
ROSF Rostrenen 79.00 6 eP P 04 18 55.3 -0.1
ROSF pmax pmax
comp=Z,77nm,1.3s
ROSF Rostrenen 79.00 6 eP P 04 18 55.3 -0.1
comp=Z,77nm,1.3s
PAGF Fort de Pagny 79.07 360⇑iP P 04 18 56.5 +0.7
comp=Z,9.9nm,0.7s
PAGF Fort de Pagny 79.07 360⇑iP P 04 18 56.5 +0.7
comp=Z,9.9nm,0.7s
GRR Gorron 79.08 4 eP P 04 18 55.8 -0.1
comp=Z,17nm,0.8s
GRR Gorron 79.08 4 eP P 04 18 55.8 -0.1
GRR pmax pmax
comp=Z,17nm,0.8s
GRR Gorron 79.08 4 eP P 04 18 55.8 -0.1
comp=Z,17nm,0.8s
MEZF Maizieres J'vi 79.12 0 eP P 04 18 56.5 +0.4
MEZF Maizieres J'vi 79.12 0 eP P 04 18 56.5 +0.4
SGMF Saint Gilles 79.12 6 eP P 04 18 56.0 -0.1
comp=Z,10nm,0.5s
SGMF Saint Gilles 79.12 6 eP P 04 18 56.0 -0.1
SGMF pmax pmax
comp=Z,10.0nm,0.5s
SGMF Saint Gilles 79.12 6 eP P 04 18 56.0 -0.1
comp=Z,10nm,0.5s
CDF Champ du Feu 79.20 359⇑iP P 04 18 56.8 +0.1
comp=Z,11nm,0.5s
CDF Champ du Feu 79.20 359⇑iP P 04 18 56.8 +0.1
CDF pmax pmax
comp=Z,11nm,0.5s
CDF Champ du Feu 79.20 359⇑iP P 04 18 56.8 +0.1
comp=Z,11nm,0.5s
ZEI Tsey 79.28 332 eP P 04 18 56.3 -1.1
ZEI pmax pmax
comp=Z,4.0nm,0.6s
CONA Conrad Observa 79.32 353⇑iP P 04 18 57.8 +0.4
comp=Z,1.9nm,0.4s
SFTF Sexfontaines 79.42 0 eP P 04 18 58.0 +0.3
comp=Z,32nm,0.8s
SFTF Sexfontaines 79.42 0 eP P 04 18 58.0 +0.3
comp=Z,32nm,0.8s
QUIF Quistinic 79.42 6 eP P 04 18 58.1 +0.4
QUIF Quistinic 79.42 6 eP P 04 18 58.1 +0.4
QUIF Quistinic 79.42 6 eP P 04 18 58.1 +0.4
HAU Haudompre 79.61 360⇑iP P 04 18 59.0 +0.2
comp=Z,13nm,0.7s
HAU Haudompre 79.61 360⇑iP P 04 18 59.0 +0.2
HAU pmax pmax
comp=Z,13nm,0.7s
HAU Haudompre 79.61 360⇑iP P 04 18 59.0 +0.2
comp=Z,13nm,0.7s
HINF Hinteralfeld 79.80 359 eP P 04 18 59.8 -0.1
comp=Z,12nm,0.5s
HINF Hinteralfeld 79.80 359 eP P 04 18 59.8 -0.1
HINF pmax pmax
comp=Z,12nm,0.5s
HINF Hinteralfeld 79.80 359 eP P 04 18 59.8 -0.1
comp=Z,12nm,0.5s
HYF Humbligny 80.32 2 eP P 04 19 03.0 +0.4
HYF Humbligny 80.32 2 eP P 04 19 03.0 +0.4
KBA Koelnbreinsper 80.33 355⇓iP P 04 19 03.6 +0.7
comp=Z,6.7nm,0.6s
LOR Lormes 80.34 1 eP P 04 19 02.7 0.0
comp=Z,13nm,0.6s
LOR Lormes 80.34 1 eP P 04 19 02.7 0.0
LOR pmax pmax
comp=Z,13nm,0.6s
LOR Lormes 80.34 1 eP P 04 19 02.7 0.0
comp=Z,13nm,0.6s
SSF Saint Saulge 80.54 2⇑iP P 04 19 04.0 +0.2
comp=Z,15nm,0.7s
SSF Saint Saulge 80.54 2⇑iP P 04 19 04.0 +0.2
SSF pmax pmax
comp=Z,15nm,0.6s
SSF Saint Saulge 80.54 2⇑iP P 04 19 04.0 +0.2
comp=Z,15nm,0.6s
MLR Muntele Rosu 80.60 346 P P 04 19 04.5 +0.3
MLR pmax pmax
comp=Z,1.0nm,0.9s
MLR Muntele Rosu 80.60 346 P P 04 19 04.5 +0.3
comp=Z,0.9nm,0.9s,baz=184,slow=5.2,SNR=3.7
DAVOX Davos/Dischmat 80.78 357 P P 04 19 06.2 +0.9
DAVOX pmax pmax
comp=Z,4.0nm,0.6s
DAVOX Davos/Dischmat 80.78 357 P P 04 19 06.2 +0.9
comp=Z,4.2nm,0.6s,baz=347,slow=14,SNR=15
AVF Avril sur Loir 80.81 2⇑iP P 04 19 05.2 0.0
comp=Z,12nm,0.7s
AVF Avril sur Loir 80.81 2⇑iP P 04 19 05.2 0.0
AVF pmax pmax
comp=Z,12nm,0.7s
AVF Avril sur Loir 80.81 2⇑iP P 04 19 05.2 0.0
comp=Z,12nm,0.7s
MFF Saint Martin d 80.90 4⇑iP P 04 19 05.8 +0.2
comp=Z,9.6nm,0.6s
MFF Saint Martin d 80.90 4⇑iP P 04 19 05.8 +0.2
MFF pmax pmax
comp=Z,10.0nm,0.6s
MFF Saint Martin d 80.90 4⇑iP P 04 19 05.8 +0.2
comp=Z,9.6nm,0.6s
SMF Signal de Mont 80.97 1⇑iP P 04 19 06.1 +0.1
comp=Z,19nm,0.7s
SMF Signal de Mont 80.97 1⇑iP P 04 19 06.1 +0.1
SMF pmax pmax
comp=Z,19nm,0.7s
SMF Signal de Mont 80.97 1⇑iP P 04 19 06.1 +0.1
comp=Z,19nm,0.7s
CABF La Chapelle 81.01 360⇑iP P 04 19 06.9 +0.5
comp=Z,4.6nm,0.3s
CABF La Chapelle 81.01 360⇑iP P 04 19 06.9 +0.5
CABF pmax pmax
comp=Z,5.0nm,0.3s
CABF La Chapelle 81.01 360⇑iP P 04 19 06.9 +0.5
comp=Z,4.6nm,0.3s
BGF Bois d'Agland 81.04 2 eP P 04 19 06.3 -0.1
comp=Z,3.5nm,0.4s
BGF Bois d'Agland 81.04 2 eP P 04 19 06.3 -0.1
BGF pmax pmax
comp=Z,4.0nm,0.4s
BGF Bois d'Agland 81.04 2 eP P 04 19 06.3 -0.1
comp=Z,3.5nm,0.4s
TCF Toulx Ste Croi 81.29 2 eP P 04 19 07.7 -0.1
comp=Z,10nm,0.7s
TCF Toulx Ste Croi 81.29 2 eP P 04 19 07.7 -0.1
TCF pmax pmax
comp=Z,10.0nm,0.7s
TCF Toulx Ste Croi 81.29 2 eP P 04 19 07.7 -0.1
comp=Z,10nm,0.7s
LPL La Plagne 82.10 359 eP P 04 19 13.8 +1.5
LPL La Plagne 82.10 359 eP P 04 19 13.8 +1.5
LPL La Plagne 82.10 359 eP P 04 19 13.8 +1.5
LPG La Plagne 82.12 359 eP P 04 19 13.6 +1.1
comp=Z,2.2nm,0.5s
LPG La Plagne 82.12 359 eP P 04 19 13.6 +1.1
LPG pmax pmax
comp=Z,2.0nm,0.4s
LPG La Plagne 82.12 359 eP P 04 19 13.6 +1.1
comp=Z,2.2nm,0.4s
RJF Les Rejaudoux 82.25 3 eP P 04 19 12.6 -0.2
RJF Les Rejaudoux 82.25 3 eP P 04 19 12.6 -0.2
RJF Les Rejaudoux 82.25 3 eP P 04 19 12.6 -0.2
BNI Bardonecchia 82.57 359 eP P 04 19 15.9 +1.3
BNI pmax pmax
comp=Z,7.0nm,0.7s
BNI Bardonecchia 82.57 359 eP P 04 19 15.9 +1.3
comp=Z,7.3nm,0.7s
LFF La Frestale 82.59 4⇑iP P 04 19 14.7 +0.2
comp=Z,9.1nm,0.6s
LFF La Frestale 82.59 4⇑iP P 04 19 14.7 +0.2
LFF pmax pmax
comp=Z,9.0nm,0.6s
LFF La Frestale 82.59 4⇑iP P 04 19 14.7 +0.2
comp=Z,9.1nm,0.6s
CAF Calviac 82.65 3 eP P 04 19 15.1 +0.2
CAF Calviac 82.65 3 eP P 04 19 15.1 +0.2
CAF Calviac 82.65 3 eP P 04 19 15.1 +0.2
ORIF Oris-en-Rattie 82.70 360 eP P 04 19 15.8 +0.5
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 82.70 360 eP P 04 19 15.8 +0.5
ORIF pmax pmax
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 82.70 360 eP P 04 19 15.8 +0.5
comp=Z,21nm,1.0s
VIVF Saint-Julien-l 82.76 1 eP P 04 19 15.9 +0.4
comp=Z,7.3nm,0.6s
VIVF Saint-Julien-l 82.76 1 eP P 04 19 15.9 +0.4
VIVF pmax pmax
comp=Z,7.0nm,0.6s
VIVF Saint-Julien-l 82.76 1 eP P 04 19 15.9 +0.4
comp=Z,7.3nm,0.6s
MBDF Montbardon 82.89 359 eP P 04 19 17.0 +0.7
comp=Z,9.6nm,0.6s
MBDF Montbardon 82.89 359 eP P 04 19 17.0 +0.7
MBDF pmax pmax
comp=Z,10.0nm,0.6s
MBDF Montbardon 82.89 359 eP P 04 19 17.0 +0.7
comp=Z,9.6nm,0.6s
SMRF Simiane la Rot 83.65 0⇑iP P 04 19 21.1 +1.1
comp=Z,11nm,0.6s
SMRF Simiane la Rot 83.65 0⇑iP P 04 19 21.1 +1.1
comp=Z,11nm,0.6s
SBF Sospel 83.75 359 eP P 04 19 20.5 -0.1
comp=Z,40nm,0.9s
SBF Sospel 83.75 359 eP P 04 19 20.5 -0.1
SBF pmax pmax
comp=Z,40nm,0.9s
SBF Sospel 83.75 359 eP P 04 19 20.5 -0.1
comp=Z,40nm,0.9s
FRF La Foret Royal 84.06 359 eP P 04 19 22.2 +0.1
comp=Z,11nm,0.5s
FRF La Foret Royal 84.06 359 eP P 04 19 22.2 +0.1
FRF pmax pmax
comp=Z,11nm,0.5s
FRF La Foret Royal 84.06 359 eP P 04 19 22.2 +0.1
comp=Z,11nm,0.5s
MTLF Montolieu 84.23 3 eP P 04 19 23.3 +0.3
comp=Z,6.8nm,0.7s
MTLF Montolieu 84.23 3 eP P 04 19 23.3 +0.3
MTLF pmax pmax
comp=Z,7.0nm,0.7s
MTLF Montolieu 84.23 3 eP P 04 19 23.3 +0.3
comp=Z,6.8nm,0.7s
LMR La Mourre 84.29 359 eP P 04 19 23.4 +0.2
comp=Z,17nm,0.6s
LMR La Mourre 84.29 359 eP P 04 19 23.4 +0.2
LMR pmax pmax
comp=Z,17nm,0.6s
LMR La Mourre 84.29 359 eP P 04 19 23.4 +0.2
comp=Z,17nm,0.6s
SJPF Ste Jean 84.32 5 eP P 04 19 23.6 +0.2
comp=Z,5.7nm,0.5s
SJPF Ste Jean 84.32 5 eP P 04 19 23.6 +0.2
SJPF pmax pmax
comp=Z,6.0nm,0.5s
SJPF Ste Jean 84.32 5 eP P 04 19 23.6 +0.2
comp=Z,5.7nm,0.5s
EPF Esparros 84.48 4 eP P 04 19 23.8 -0.5
EPF Esparros 84.48 4 eP P 04 19 23.8 -0.5
EPF Esparros 84.48 4 eP P 04 19 23.8 -0.5
ETSF Etsaut 84.57 5⇑iP P 04 19 25.2 +0.5
comp=Z,7.4nm,0.5s
ETSF Etsaut 84.57 5⇑iP P 04 19 25.2 +0.5
ETSF pmax pmax
comp=Z,7.0nm,0.5s
ETSF Etsaut 84.57 5⇑iP P 04 19 25.2 +0.5
comp=Z,7.4nm,0.5s
BRTR Keskin Array B 84.75 339 P P 04 19 26.3 +0.5
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 84.75 339 P P 04 19 26.2 +0.5
comp=Z,1.6nm,0.7s,baz=35,slow=2.5,SNR=12
WRA Warramunga Arr 84.95 228 P P 04 19 26.3 -0.4
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 84.95 228 P P 04 19 26.3 -0.4
comp=Z,0.5nm,0.5s,baz=34,slow=6.1,SNR=3.1
PGF Pioggiola 85.03 358 eP P 04 19 27.0 -0.1
comp=Z,29nm,0.8s
PGF Pioggiola 85.03 358 eP P 04 19 27.0 -0.1
PGF pmax pmax
comp=Z,29nm,0.8s
PGF Pioggiola 85.03 358 eP P 04 19 27.0 -0.1
comp=Z,29nm,0.8s
ESDC Sonseca Array 87.57 7 P P 04 19 38.5 -0.9
comp=Z,1.0nm,0.5s,baz=345,slow=4.8,SNR=9.8
TIP Timpagrande 87.94 351 eP P 04 19 42.2 +1.0
comp=Z,28nm,1.4s
AS31 Alice Springs 88.40 226 eP P 04 19 43.7 +0.4
SAML Samuel 109.84 78 ePKP PKiKP 04 25 23.9 +2.4
TORD Torodi Ar. Bea 114.28 4 PKP PKPdf 04 25 28.4 -1.7
comp=Z,0.7nm,1.1s,baz=348,slow=2.3,SNR=6.1
BDFB Brasilia 124.03 70 PKIKP PKPdf 04 25 48.1 -0.7
BDFB pmax pmax
comp=Z,1.0nm,0.5s
BDFB Brasilia 124.03 70 PKP PKPdf 04 25 48.1 -0.7
comp=Z,1.2nm,0.5s,baz=51,slow=6.5,SNR=2.8
PLCA Paso Flores 128.77 109 PKIKP PKPdf 04 25 56.4 -0.7
PLCA pmax pmax
comp=Z,2.0nm,0.9s
PLCA Paso Flores 128.77 109 PKP PKPdf 04 25 56.4 -0.7
comp=Z,1.5nm,0.8s,baz=45,slow=2.9,SNR=3.1
TSUM Tsumeb 145.25 340 ePKPbc PKPdf 04 26 28.1 0.0
BOSA Boshof 151.86 321 PKIKP PKPbc 04 26 43.5 -1.6
BOSA pmax pmax
comp=Z,2.0nm,0.7s
BOSA Boshof 151.86 321 PKPbc PKPbc 04 26 43.5 -1.6
comp=Z,2.2nm,0.7s,baz=325,slow=1.1,SNR=6.8

*IDC **20** 04:11:34.8±0.6, 49.89S×118.49E, h0km, mb4.5/12, mb1 4.6/13, mb1mx4.4/24, mbtmp4.4/13, ML1.9/1, MS4.1/7, Ms1 4.1/7, ms1mx3.7/18, Error ellipse: s-maj=25.6km s-min=15.7km az=106.0*
*ISCJB **20** 04:11:35.3±0.3, 49.92S±0.06×118.5E±0.1, h10km, mb4.7/27, MS4.2/11, Error ellipse: s-maj=12.9km s-min=7.6km az=20.3*
*BJI **20** 04:11:35.4, 50.00S×118.50E, h10km, mB5.1/15, mb4.9/26, Ms4.9/10, Ms7 4.5/10*
*GCMT **20** 04:11:36.7±0.3, 49.94S×118.46E, h12km±1km, MW4.8/72, Moment Tensor Solution. s21,c25; s72,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.30±.17; Mθθ2.06±.12; Mφφ0.24±.11; Mrθ-0.76±.32; Mrφ-0.11±.09; Mθφ-0.23±.46; Best double couple: Mo2.32100×10^16 NP1:φs87.00000°,δ55.00000°,λ-97.00000°. NP2: φs279.00000°,δ36.00000°,λ-80.00000°. Principal axes: T 2.1910, Plg9.0000°, Azm182.0000°; N 0.2620, Plg6.0000°, Azm91.0000°; P -2.4510, Plg79.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 04:11:36.6±0.2, 49.91S×118.44E, h10km, mb4.9/9 Error ellipse: s-maj=10.3km s-min=6.8km az=109.0*
ISC 20 04:11:37.1±0.3, 50.02S±0.06×118.6E±0.1, h10km, n427, σ1§11/445, mb4.7/27, MS4.1/11, 147C-168D, Western Indian-Antarctic Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H01W2 Cape Leeuwin H 15.47 346 T T 04 30 52.4
baz=168,slow=74,SNR=51
H01W1 Cape Leeuwin H 15.47 346 T T 04 30 48.6
baz=168,slow=74,SNR=65
H01W3 Cape Leeuwin H 15.48 346 T T 04 30 49.6
baz=168,slow=74,SNR=53
NWAO Narrogin (SRO) 17.11 356 Pn Pn 04 15 32.5 -3.8
0.2nm,0.3s,baz=151,slow=19,SNR=2.2
NWAO LR LR 04 20 25.3
comp=Z,1μm,21.1s,baz=178,slow=31
FORT Forrest 20.48 24 eP Pn 04 16 16.7 -0.5
68nm,1.0s
BBOO Buckleboo 21.50 43 eP P 04 16 26.0 0.0
STKA Stephens Creek 24.91 52 P P 04 16 59.1 -1.1
7.7nm,1.1s,baz=194,slow=11,SNR=6.8
STKA LR LR 04 25 16.1
comp=Z,242nm,19.4s,baz=209,slow=33
MBWA Marble Bar 28.81 2 eP P 04 17 34.4 -0.9
44nm,1.5s
AS31 Alice Springs 28.89 30 eP P 04 17 34.9 -1.1
VNDA Vanda 32.00 164 P P 04 18 03.2 +0.2
9.6nm,1.0s,baz=316,slow=8.0,SNR=6.2
VNDA LR LR 04 30 22.6
comp=Z,482nm,18.7s,baz=314,slow=35
WRA Warramunga Arr 32.51 28 P P 04 18 06.6 -1.4
7.8nm,0.8s,baz=199,slow=8.4,SNR=53
WRA PcP PcP 04 20 52.8 -1.9
0.8nm,0.9s,baz=198,slow=2.0,SNR=4.2
WRA LR LR 04 29 49.9
comp=Z,314nm,21.1s,baz=215,slow=34
WRAB Tennant Creek 32.52 28 eP P 04 18 06.5 -1.6
18nm,0.8s
CTA Charters Tower 37.05 46 P P 04 18 47.0 -0.1
9.1nm,1.2s,baz=219,slow=7.3,SNR=3.5
CTAO Charters Tower 37.05 46 eP P 04 18 46.7 -0.5
28nm,1.3s
QSPA South Pole Qui 40.11 180 P P 04 19 12.6 0.0
6.8nm,0.9s,baz=315,slow=4.0,SNR=11
COEN Coen 41.16 38 eP P 04 19 21.6 0.0
URZ Urewera 42.54 97 P P 04 19 36.9 +4.2
6.3nm,0.8s,baz=50,slow=2.7,SNR=3.8
PMG Port Moresby 46.89 40 eP P 04 20 07.8 +0.2
13nm,0.9s
SNAA Sanae 51.81 200 P P 04 20 44.9 +0.3
3.7nm,0.9s,baz=157,slow=7.7,SNR=9.9
VNA2 Neumayer--Watz 53.35 199 P P 04 20 56.8 +0.8
baz=110,slow=5.2
VNA3 Neumayer Olymp 53.58 198 P P 04 20 58.4 +0.7
VNA1 Neumayer--Stat 53.75 199 P P 04 20 60.0 +1.1
OPO Ambohidratompo 64.12 272 P P 04 22 09.8 -2.0
4.0nm,0.9s,baz=108,slow=17,SNR=3.0
PALK Pallekele 65.88 318 eP P 04 22 21.2 -1.8
QIZ Qiongzhong 69.18 351 P P 04 22 44.4 +0.7
QIZ S S 04 31 53.3 +3.9
QIZ LR LR
comp=Z,130nm,42.0s
CMAR Chiang Mai Arr 70.37 340 P P 04 22 49.2 -1.7
3.8nm,0.3s,baz=189,slow=5.1,SNR=6.6
BOSA Boshof 70.70 248 LR LR 04 48 19.2
comp=Z,69nm,19.3s,baz=158,slow=31
KMI Kunming 76.13 345 P P 04 23 26.0 +0.8
KMI pP pP 04 23 29.1 +0.7
KMI sP sP 04 23 32.4 +2.8
KMI S S 04 33 10.3 +1.3
KMI pmax pmax
comp=Z,15nm,1.3s
KMI pmax pmax
comp=Z,61nm,3.1s
KMI LR LR
comp=N,140nm,22.5s
KMI LR LR
comp=E,180nm,19.7s
KMI LR LR
comp=Z,180nm,15.3s
GYA Guiyang 76.88 349 P P 04 23 32.5 +3.3
GYA PP PP 04 26 27.0 +4.3
GYA S S 04 33 20.6 +3.7
GYA SKS SKSac 04 33 39.8 -1.5
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,5.2s
GYA LR LR
comp=N,440nm,22.2s
GYA LR LR
comp=E,410nm,23.0s
GYA LR LR
comp=Z,460nm,21.6s
PPT Papeete 77.87 103 LR LR 04 50 46.7
comp=Z,50nm,22.0s,baz=213,slow=30
LSZ Lusaka 78.75 260 eP P 04 23 39.1 -1.0
4.3nm,1.0s
ODAN Odare 81.42 332 eP P 04 23 53.0 -1.2
ODAN Odare 81.42 332 eP P 04 23 53.0 -1.2
CD2 Chengdu 81.65 347 eP P 04 23 57.3 +2.2
CD2 pP PcP 04 24 02.0 +1.1
CD2 sP sP 04 24 04.3 +4.7
CD2 PP PP 04 27 06.9 +4.6
CD2 S S 04 34 09.8 +2.5
CD2 SKS SKSac 04 34 13.3 -1.3
CD2 sS SKKSac 04 34 17.3 -0.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.6s
RAMN Ramite 81.74 331 eP P 04 23 54.9 -1.1
RAMN Ramite 81.74 331 eP P 04 23 54.9 -1.1
TAPN Taplejung 81.78 332 eP P 04 23 55.4 -0.8
49nm,1.1s
TAPN Taplejung 81.78 332 eP P 04 23 55.4 -0.8
TSUM Tsumeb 82.36 249 eP P 04 23 59.6 +0.2
8.3nm,1.3s
JIRN Jiri 82.53 331 eP P 04 23 59.3 -0.9
30nm,1.1s
JIRN Jiri 82.53 331 eP P 04 23 59.3 -0.9
PKI Pulchoki 82.69 331 eP P 04 23 58.7 -2.3
PKI Pulchoki 82.69 331 eP P 04 23 58.7 -2.3
DMN Daman 82.83 330 eP P 04 23 59.7 -1.9
DMN Daman 82.83 330 eP P 04 23 59.7 -1.9
GUN Gumba 82.86 331 eP P 04 24 00.2 -1.7
98nm,1.5s
GUN Gumba 82.86 331 eP P 04 24 00.2 -1.7
LSA Lhasa 83.04 336 P P 04 23 53.1 -10
LSA Lhasa 83.04 336 eP P 04 24 01.6 -1.3
14nm,1.0s
GKN Gorkha 83.34 330 eP P 04 24 02.7 -1.5
GKN Gorkha 83.34 330 eP P 04 24 02.7 -1.5
KOLN Koldanda 83.46 329 eP P 04 24 03.5 -1.4
KOLN Koldanda 83.46 329 eP P 04 24 03.5 -1.4
KMBO Kilima Mbogo 83.60 276 P P 04 24 06.2 +0.2
0.9nm,0.5s,baz=134,slow=9.5,SNR=4.1
KMBO Kilima Mbogo 83.60 276 eP P 04 24 06.3 +0.2
3.7nm,1.1s
DANN Dangsing 83.95 330 eP P 04 24 05.6 -1.8
51nm,1.3s
DANN Dangsing 83.95 330 eP P 04 24 05.6 -1.8
PYUN Piuthan 83.97 329 eP P 04 24 05.5 -2.0
45nm,1.0s
PYUN Piuthan 83.97 329 eP P 04 24 05.5 -2.0
XAN Xi'an 84.13 352 P P 04 24 07.3 -0.6
XAN pP PcP 04 24 13.3 +1.6
XAN pmax pmax
comp=Z,3.0nm,1.5s
LZH Lanzhou 86.73 348 eP P 04 24 20.8 -0.2
LZH pmax pmax
comp=Z,16nm,1.2s
KSAR Wonju Array Be 87.47 7 P P 04 24 23.6 -0.7

KSRS Korea Array 87.48 7 P P 04 24 23.6 -0.7
0.5nm,0.3s,baz=182,slow=3.3,SNR=4.3
PLCA Paso Flores 89.27 173 P P 04 24 33.2 -0.1
4.4nm,0.8s,baz=202,slow=6.5,SNR=11
PLCA LR LR 05 04 12.2
comp=Z,170nm,18.2s,baz=208,slow=35
GTA Gaotai 90.58 346 eP P 04 24 38.3 -0.8
GTA pP pP 04 24 42.4 -0.1
GTA sP sP 04 24 45.3 +1.7
GTA pmax pmax
comp=Z,9.0nm,1.1s
HHC Hu-ho-hao-te 90.70 355 eP P 04 24 40.9 +1.3
HHC PP PP 04 28 19.8 +4.2
HHC SKS SKSac 04 35 10.5 -0.3
HHC S S 04 35 35.4 +0.1
HHC SS SS 04 41 42.3 +4.0
HHC pmax pmax
comp=Z,20nm,1.2s
HHC pmax pmax
comp=Z,110nm,5.3s
HHC LR LR
comp=N,370nm,16.0s
HHC LR LR
comp=E,460nm,17.3s
HHC LR LR
comp=Z,650nm,17.3s
KSH Kashi 96.74 328 eP P 04 25 08.1 +0.6
KSH epP pP 04 25 13.3 +2.5
KSH esP sP 04 25 15.4 +3.4
WMQ Urumqi 97.28 338 eP P 04 25 08.5 -1.2
WMQ pP pP 04 25 14.9 +1.8
WMQ sP sP 04 25 17.6 +3.4
WMQ SKS SKSac 04 35 43.3 -3.2
WMQ S S 04 36 27.5 -5.6
WMQ sS sS 04 36 38.3 -0.4
WMQ SS SS 04 43 09.0 -3.2
WMQ pmax pmax
comp=Z,7.0nm,0.6s
WMQ pmax pmax
comp=Z,120nm,5.0s
WMQ LR LR
comp=N,54nm,23.2s
WMQ LR LR
comp=E,86nm,26.4s
WMQ LR LR
comp=Z,58nm,23.0s
SONM Songino Array 98.04 352 P P 04 25 11.5 -1.7
0.4nm,0.7s,baz=187,slow=5.4,SNR=4.5
MKAR Makanchi Array 101.43 335 P Pdif 04 25 25.6 -2.5
0.2nm,0.7s,baz=126,slow=3.7,SNR=2.7
OTAV Otavalo 128.30 158 ePKPdf PKPdf 04 30 45.3 +0.6
MORC Moravsky Berou 131.47 302 ePKPdf PKPdf 04 30 49.3 +0.3
ILAR Eielson Array 135.39 37 PKP PKPdf 04 30 53.9 -1.9
0.6nm,1.0s,baz=234,slow=3.0,SNR=4.6
PFO Pinyon Flat Ob 136.81 91 ⇑PKPdif PKPdf 04 30 59.2 -0.4
baz=137
NVAR Mina Array Bea 138.53 84 PKP PKPdf 04 31 01.9 -0.8
0.3nm,0.6s,baz=251,slow=1.8,SNR=4.5
J05D Fort Rock, OR 139.33 76 ⇑PKPdif PKPdf 04 31 03.3 -0.7
baz=140
W13A Hualapai Mount 139.39 91 ⇑PKPdif PKPdf 04 31 04.3 -0.1
baz=140
319A Douglas 139.96 99 ⇑PKPdif PKPdf 04 31 04.7 -0.8
baz=140
R11A Troy Canyon, C 140.23 86 ⇑PKPdif PKPdf 04 31 05.4 -0.4
baz=140
X16A Lo Mia Camp, P 140.54 94 ⇓PKPdif PKPdf 04 31 06.0 -0.5
baz=141
INK Inuvik 141.52 35 ePKPdf PKPdf 04 31 06.0 -0.9
TXAR Lajitas Array 142.09 107 PKhKP PKPpre 04 31 05.5
1.2nm,1.1s,baz=193,slow=5.1,SNR=4.5
DUG Dugway 143.05 85 ⇓PKPdif PKPdf 04 31 10.3 -0.4
baz=143
Y23A Lovelace Mesa, 143.69 99 ⇓PKPdif PKPbc 04 31 11.3 +1.9
baz=144
Z24A Sheeppen Canyo 143.74 100 ⇑PKPdif PKPbc 04 31 11.7 +1.9
baz=144
HLID Hailey 143.76 79 ⇓PKPdif PKPdf 04 31 12.0 0.0
baz=144
732A Laxson Ranch, 143.91 112 ⇓PKPdif PKPbc 04 31 11.3 +1.1
baz=144
833A Chaparral WMA, 143.96 113 ⇑PKPdif PKPbc 04 31 12.0 +1.6
baz=144
Y24A Capitan 144.08 100 ⇓PKPdif PKPbc 04 31 12.1 +1.3
baz=144
429A Davenport Ranc 144.09 107 ⇑PKPdif PKPbc 04 31 11.9 +1.1
baz=144
530A J-C Ranch, Com 144.10 108 ⇓PKPdif PKPab 04 31 11.7 +1.3
baz=144
Z25A Roswell 144.12 101 ⇓PKPdif PKPbc 04 31 12.5 +1.6
baz=144
MVCO Mesa Verde 144.14 93 ⇓PKPdif PKPbc 04 31 12.1 +1.1
baz=144
JLU Jordanelle 144.14 86 ePKPdf PKPab 04 31 11.3 +0.9
DAU Daniels Canyon 144.16 86 ePKPdf PKPab 04 31 11.3 +0.7
NEW Newport 144.19 71 ⇑PKPdif PKPdf 04 31 12.3 0.0
baz=144
V22A San Miguel Ran 144.38 96 ⇑PKPdif PKPab 04 31 12.7 +1.2
baz=145
W23A Werner Place, 144.41 97 ⇑PKPdif PKPab 04 31 11.8 +0.2
baz=145
Y25A Mesa, Roswell 144.55 100 ⇓PKPdif PKPab 04 31 11.4 -0.6
baz=145
Z26A Caprock 144.58 102 ⇓PKPdif PKPab 04 31 12.1 -0.1
baz=145
632A Uvalde 144.58 111 ⇓PKPdif PKPab 04 31 11.9 -0.3
baz=145
531A Rocksprings 144.59 109 ⇑PKPdif PKPab 04 31 12.0 -0.2
baz=145
430A Baggett Ranch, 144.61 108 ⇑PKPdif PKPab 04 31 12.4 +0.1
baz=145
PV01 Paradox Valley 144.63 91 ePKPdf PKPab 04 31 12.8 +0.4
329A Wagon Wheel Ra 144.63 106 ⇓PKPdif PKPab 04 31 12.7 +0.4
baz=145
U22A Llaves 144.70 95 ⇑PKPdif PKPab 04 31 12.8 +0.2
baz=145
V23A Ortiz Mt. (NFS 144.75 97 ⇓PKPdif PKPab 04 31 12.8 0.0
baz=145
W24A Lazy 6 Ranch, 144.91 98 ⇓PKPdif PKPbc 04 31 13.2 -0.3
baz=145
633A Saathoff Ranch 144.91 112 ⇓PKPdif PKPbc 04 31 13.3 -0.1
baz=145
431A Sonora 144.92 108 ⇓PKPdif PKPbc 04 31 13.0 -0.4
baz=145
229A Bryant Ranch, 145.06 106 ⇓PKPdif PKPbc 04 31 13.5 -0.4
baz=145
330A Mertzon 145.07 107 ⇑PKPdif PKPbc 04 31 13.3 -0.7
baz=145
128A Castleberry Fa 145.09 104 ⇓PKPdif PKPbc 04 31 13.5 -0.5
baz=145
Z27A Tatum 145.09 103 ⇑PKPdif PKPbc 04 31 13.5 -0.5
baz=145
U23A El Rito 145.10 96 ⇑PKPdif PKPbc 04 31 13.1 -1.0
baz=145
JCT Junction City 145.27 110 ePKPbc PKPbc 04 31 14.3 -0.2
JCT Junction City 145.27 110 ⇓PKPdif PKPbc 04 31 14.6 +0.1
baz=146
735A Kenedy 145.29 114 ⇑PKPdif PKPbc 04 31 14.4 -0.2
baz=146
MCMT McKenzie Canyo 145.35 78 ePKPbc PKPdf 04 31 15.2 +0.5
533A Kerrville 145.44 111 ⇑PKPdif PKPbc 04 31 14.5 -0.6
baz=146
230A Sterling City 145.44 106 ⇑PKPdif PKPdf 04 31 14.4 -0.6
baz=146
BSMT Bassoo Peak 145.45 73 ePKPbc PKPdf 04 31 14.4 -0.3
331A San Angelo 145.47 108 ⇑PKPdif PKPdf 04 31 14.5 -0.6
baz=146
129A Stewart Farms, 145.48 105 ⇓PKPdif PKPdf 04 31 14.6 -0.5
baz=146
AHID Auburn Hatcher 145.48 83 ePKPbc PKPdf 04 31 15.8 +0.8
Y27A Causey 145.49 102 ⇑PKPdif PKPdf 04 31 14.5 -0.7
baz=146
X26A CR and CF Fran 145.51 100 ⇑PKPdif PKPdf 04 31 14.6 -0.6
baz=146
W25A X Bar L Ranch, 145.52 99 ⇓PKPdif PKPdf 04 31 14.8 -0.5
baz=146
S22A 4UR Ranch, Cre 145.53 93 ⇑PKPdif PKPdf 04 31 14.8 -0.6
baz=146
432A Menard 145.55 109 ⇑PKPdif PKPdf 04 31 14.8 -0.5
baz=146
MSO Missoula 145.55 75 ⇑PKPdif PKPdf 04 31 15.1 +0.3
baz=146
Z28A Tucker Farm, M 145.59 103 ⇑PKPdif PKPdf 04 31 15.2 -0.1
baz=146
T23A Casias Ranch, 145.62 95 ⇑PKPdif PKPdf 04 31 14.9 -0.6
baz=146
635A Leesville 145.70 113 ⇑PKPdif PKPdf 04 31 15.6 +0.1
baz=146
JTMT Jette 145.72 73 ePKPbc PKPdf 04 31 14.8 -0.4
U24A Moreno Valley 145.73 96 ⇓PKPab PKPdf 04 31 16.4 +0.6
baz=146
534A Blanco 145.75 112 ⇑PKPdif PKPdf 04 31 15.0 -0.6
baz=146
MSTX Muleshoe 145.79 102 ePKPbc PKPdf 04 31 16.1 +0.4
MSTX Muleshoe 145.79 102 ⇑PKPab PKPdf 04 31 16.6 +0.9
baz=146
SWMT Swartz Lake 145.80 73 ePKPbc PKPdf 04 31 14.9 -0.4
V25A Rancho No Teng 145.81 98 ⇓PKPdif PKPdf 04 31 15.3 -0.5
baz=146
W26A Owens Ranch, T 145.88 100 ⇓PKPdif PKPdf 04 31 15.5 -0.4
baz=146
433A Art 145.89 110 ⇑PKPdif PKPdf 04 31 15.6 -0.2
baz=146
YBMT Yellow Bay 145.94 73 ePKPbc PKPdf 04 31 14.3 -1.2
332A Millersview 145.94 109 ⇑PKPdif PKPdf 04 31 15.5 -0.4
baz=146
O20A White River Ci 145.96 89 ePKPbc PKPdf 04 31 17.0 +1.1
O20A White River Ci 145.96 89 ⇑PKPdif PKPdf 04 31 15.3 -0.6
baz=146
231A Bronte 145.97 107 ⇓PKPab PKPdf 04 31 16.6 +0.7
baz=146
Z29A Hungry Hill Ra 146.00 104 ⇓PKPdif PKPdf 04 31 15.4 -0.6
baz=146
SLMT Seeley Lake 146.00 74 ePKPbc PKPdf 04 31 16.2 +0.6
130A Snyder 146.02 106 ⇓PKPab PKPdf 04 31 17.1 +1.1
baz=146
CHMT Chamberlain Mo 146.02 75 ePKPbc PKPdf 04 31 16.4 +0.6
X27A F and S Farms, 146.03 101 ⇑PKPdif PKPdf 04 31 15.4 -0.7
baz=146
S23A Nye Farm, Mont 146.04 94 ⇓PKPbc PKPdf 04 31 17.2 +1.1
baz=146
LRM Limekiln Ridge 146.05 77 ePKPbc PKPdf 04 31 16.7 +0.8
T24B San Luis 146.06 95 ⇓PKPdif PKPdf 04 31 15.7 -0.6
baz=146
Y28A McKinney Farm, 146.09 103 ⇓PKPdif PKPdf 04 31 15.9 -0.3
baz=146
636A Smothers Creek 146.19 114 ⇑PKPdif PKPdf 04 31 16.1 -0.2
baz=146
QLMT Earthquake Lak 146.25 79 ePKPbc PKPbc 04 31 18.1 +0.7
U25A Circle Dot Ran 146.28 97 ⇓PKPbc PKPdf 04 31 17.6 +1.1
baz=146
535A Dale 146.29 113 ⇓PKPdif PKPdf 04 31 15.9 -0.5
baz=146
V26A Tequesquite Ra 146.31 99 ⇓PKPbc PKPdf 04 31 17.5 +1.0
baz=146
W27A Bowe Ranch, En 146.31 100 ⇓PKPbc PKPdf 04 31 17.2 +0.7
baz=146
N20A Spence Gulch, 146.32 88 ⇓PKPbc PKPdf 04 31 17.6 +1.1
baz=147
232A Coleman 146.35 108 ⇑PKPdif PKPdf 04 31 15.8 -0.8
baz=147
333A Richland Sprin 146.36 109 ⇑PKPbc PKPdf 04 31 17.3 +0.7
baz=147
I17A Pilgrim Ck. 146.37 81 ⇑PKPdif PKPdf 04 31 16.3 -0.2
baz=147
Z30A Sanderson Ranc 146.38 105 ⇑PKPbc PKPdf 04 31 17.6 +1.0
baz=147
Y29A Porterfield Fa 146.42 103 ⇑PKPbc PKPdf 04 31 17.8 +1.1
baz=147
131A Roby 146.43 106 ⇑PKPbc PKPdf 04 31 17.8 +1.1
baz=147
R23A Moffat 146.43 93 ⇑PKPbc PKPdf 04 31 18.1 +1.2
baz=147
434A Burnet 146.43 111 ⇑PKPdif PKPdf 04 31 16.5 -0.2
baz=147
BW06 Boulder Array 146.47 84 ePKPbc PKPdf 04 31 17.5 +0.8
BOZ Bozeman (W) 146.49 78 ePKPbc PKPbc 04 31 18.7 +0.7
S24A Houchin Ranch, 146.51 95 ⇑PKPbc PKPbc 04 31 19.2 +0.7
baz=147
X28A Dimmitt 146.51 102 ⇑PKPdif PKPdf 04 31 16.6 -0.3
baz=147
H17A Grant Village 146.59 80 ePKPbc PKPab 04 31 20.1 +0.6
H17A Grant Village 146.59 80 ⇓PKPbc PKPdf 04 31 18.4 +1.5
baz=147
P22A Eagle 146.62 91 ⇓PKPbc PKPbc 04 31 18.9 +0.2
baz=147
U26A Atchley Ranch, 146.70 98 ⇓PKPdif PKPdf 04 31 16.8 -0.4
baz=147
T25A Trinidad 146.72 96 ⇓PKPbc PKPdf 04 31 18.7 +1.4
baz=147
X29A Tulia 146.78 102 ⇓PKPbc PKPdf 04 31 18.8 +1.5
baz=147
334A Lometa 146.82 110 ⇑PKPdif PKPdf 04 31 17.4 0.0
baz=147
HRY Holter Researc 146.82 76 ePKPbc PKPbc 04 31 19.2 +0.3
435B Jarrell 146.82 112 ⇑PKPbc PKPdf 04 31 19.0 +1.6
baz=147
ABTX Abilene, Hawle 146.85 107 ePKPbc PKPdf 04 31 17.8 +0.4
ABTX Abilene, Hawle 146.85 107 ⇓PKPbc PKPdf 04 31 18.9 +1.5
baz=147
V27A Dan Oppiter Fa 146.89 100 ⇑PKPbc PKPbc 04 31 19.4 0.0
baz=147
233A Rising Star 146.90 109 ⇑PKPbc PKPdf 04 31 19.1 +1.6
baz=147
Y30A Stafford Cattl 146.91 104 ⇓PKPbc PKPdf 04 31 19.3 +1.8
baz=147
R24A Sanders Place, 146.92 94 ⇑PKPdif PKPdf 04 31 16.9 -0.7
baz=147
W28A Vega 146.98 101 ⇓PKPbc PKPdf 04 31 19.6 +2.0
baz=147
Z31A Sharp Cattle R 147.01 106 ⇓PKPbc PKPdf 04 31 19.6 +1.9
baz=147
S25A Robets Cordova 147.02 95 ⇓PKPbc PKPdf 04 31 19.6 +1.9
baz=147
J19A Crowheart 147.03 83 ⇑PKPbc PKPbc 04 31 19.8 +0.2
baz=147
O22A Kremmling 147.06 90 ⇑PKPbc PKPbc 04 31 20.0 0.0
baz=147
537A Green Hill Far 147.07 114 ⇓PKPbc PKPbc 04 31 19.9 0.0
baz=147
AMTX Amarillo 147.07 102 ePKPbc PKPdf 04 31 18.4 +0.7
AMTX Amarillo 147.07 102 ⇓PKPbc PKPdf 04 31 19.5 +1.7
baz=147
P23A Jefferson 147.09 92 ⇓PKPbc PKPdf 04 31 19.5 +1.5
baz=147
W29A Amraillo 147.25 102 ⇓PKPbc PKPbc 04 31 20.3 0.0
baz=148
T26A Comanche Natio 147.27 97 ⇑PKPbc PKPbc 04 31 20.8 +0.3
baz=148
335A Moody 147.27 111 ⇑PKPbc PKPbc 04 31 20.6 +0.2
baz=148
V28A Channing 147.28 100 ⇑PKPbc PKPbc 04 31 20.6 +0.2
baz=148
133A Hamilton Ranch 147.29 108 ⇓PKPbc PKPdf 04 31 20.2 +2.0
baz=148
X30A Coker Ranch, T 147.30 103 ⇓PKPbc PKPdf 04 31 20.2 +2.1
baz=148
H18A Shoshone NF, C 147.30 80 ⇓PKPbc PKPbc 04 31 20.7 +0.3
baz=148
Q24A Divide 147.31 93 ⇑PKPbc PKPbc 04 31 20.8 +0.1
baz=148
U27A Thompson Grove 147.31 99 ⇓PKPbc PKPdf 04 31 20.2 +2.0
baz=148
234A Clairette 147.35 109 ⇑PKPbc PKPbc 04 31 20.6 0.0
baz=148
Y31A Rekieta Farm, 147.37 105 ⇓PKPbc PKPbc 04 31 20.9 +0.3
baz=148
R25A Fountain Ranch 147.40 95 ⇓PKPbc PKPbc 04 31 21.1 +0.3
baz=148
Z32A Haskell 147.42 106 ⇓PKPdif PKPdf 04 31 18.4 +0.1
baz=148
I19A Meeteetse 147.44 82 ⇓PKPbc PKPbc 04 31 21.1 +0.3
baz=148
N22A Wattenberg Ran 147.47 89 ⇓PKPbc PKPbc 04 31 21.7 +0.7
baz=148
ISCO Idaho Springs 147.47 91 ePKPbc PKPbc 04 31 21.9 +0.7
ISCO Idaho Springs 147.47 91 ⇑PKPbc PKPbc 04 31 21.2 +0.1
baz=148
O23A Lake Granby, G 147.50 90 ⇑PKPbc PKPdf 04 31 20.6 +2.0
baz=148
S26A Kim 147.61 96 ⇓PKPbc PKPbc 04 31 21.9 +0.5
baz=148
U28A Mallet 147.66 99 ⇑PKPbc PKPbc 04 31 21.0 +2.2
baz=148
M22A Cedar Creek Ra 147.69 88 ⇑PKPbc PKPbc 04 31 21.3 -0.3
baz=148
336A Riesel 147.70 112 ⇓PKPbc PKPbc 04 31 21.6 0.0
baz=148
J20A Shoshoni 147.70 84 ⇓PKPbc PKPbc 04 31 21.4 0.0
baz=148
H19A Powell 147.73 81 ⇑PKPbc PKPbc 04 31 21.5 +0.1
baz=148
WHTX Lake Whitney 147.75 110 ⇑PKPbc PKPbc 04 31 21.8 +0.1
baz=148
T27A Campo 147.76 98 ⇓PKPbc PKPbc 04 31 21.6 -0.2
baz=148
P24A Kohler Place, 147.77 92 ⇑PKPbc PKPbc 04 31 22.3 +0.4
baz=148
134A White-Moore Ra 147.78 109 ⇑PKPbc PKPbc 04 31 21.5 -0.3
baz=148
V29A Stinnett 147.80 101 ⇑PKPbc PKPbc 04 31 22.4 +0.6
baz=148
N23A Red Feather La 147.84 89 ⇓PKPdif PKPdf 04 31 19.0 -0.2
baz=148
Z33A Whitaker Ranch 147.84 107 ⇑PKPdif PKPdf 04 31 18.8 -0.2
baz=148
Q25A Bedland, Calha 147.86 94 ⇑PKPdif PKPdf 04 31 19.7 +0.5
baz=148
K21A Alcova 147.88 85 ⇓PKPdif PKPdf 04 31 19.5 +0.5
baz=148
Y32A R-V Farms, Ver 147.90 105 ⇑PKPdif PKPdf 04 31 19.7 +0.6
baz=148
I20A Worland 147.95 83 ⇓PKiKP PKPbc 04 31 22.1 0.0
baz=148
X31A McDonald Ranch 147.98 104 ⇑PKPdif PKPdf 04 31 19.5 +0.2
baz=148
O24A Longmont 148.00 91 ⇑PKiKP PKPbc 04 31 21.9 -0.5
baz=148
R26A Arlington 148.03 95 ⇓PKiKP PKPbc 04 31 22.3 -0.1
baz=148
J21A Lysite 148.10 84 ⇓PKiKP PKPbc 04 31 22.6 0.0
baz=148
L22A Ellis Ranch, M 148.11 87 ⇓PKiKP PKPbc 04 31 22.7 0.0
baz=148
T28A Walsh 148.19 98 ⇓PKiKP PKPbc 04 31 22.9 0.0
baz=148
P25A Willow Gulch B 148.25 93 ⇑PKiKP PKPbc 04 31 23.2 +0.2
baz=148
V30A Spur Ranch, Mi 148.26 102 ⇓PKiKP PKPbc 04 31 23.0 -0.1
baz=148
F19A Roth Farm, Mol 148.28 79 ⇓PKiKP PKPbc 04 31 22.4 -0.4
baz=148
X32A Elmer 148.28 105 ⇓PKiKP PKPbc 04 31 23.1 0.0
baz=148
H20A Greybull 148.28 82 ⇓PKiKP PKPbc 04 31 23.1 +0.2
baz=148
M23A Laramie 148.28 88 ⇓PKiKP PKPbc 04 31 22.8 -0.4
baz=148
Q26A Hugo 148.33 94 ⇓PKiKP PKPbc 04 31 23.2 -0.1
baz=149
K22A Casper 148.36 86 ePKPbc PKPbc 04 31 23.6 +0.4
K22A Casper 148.36 86 ⇓PKiKP PKPbc 04 31 23.4 +0.1
baz=149
I21A Big Trails, Te 148.42 83 ⇓PKiKP PKPbc 04 31 23.7 +0.3
baz=149
Z34A Collier Ranch, 148.43 108 ⇓PKiKP PKPbc 04 31 23.4 -0.1
baz=149
R27A Eads 148.43 96 ⇑PKiKP PKPbc 04 31 23.5 0.0
baz=149
G20A Bridger 148.47 80 ⇓PKiKP PKPbc 04 31 24.1 +0.7
baz=149
DAG Danmarks Havn 148.51 343 iP PKPdf 04 31 19.5 +0.7
5.5nm,0.8s
338A Crockett 148.59 114 ⇓PKiKP PKPbc 04 31 24.0 +0.1
baz=149
S28A Manter 148.60 98 ⇓PKiKP PKPbc 04 31 24.3 +0.4
baz=149
L23A Garrett 148.63 87 ⇑PKiKP PKPbc 04 31 24.2 +0.2
baz=149
E19A Rath Farm, Rou 148.63 78 ⇓PKiKP PKPbc 04 31 24.5 +0.8
baz=149
EGMT Eagleton 148.64 75 ePKPbc PKPbc 04 31 24.9 +1.2
EGMT ePKPab PKPab 04 31 27.6 +0.3
EGMT Eagleton 148.64 75 ⇓PKiKP PKPbc 04 31 24.9 +1.2
baz=149
T29A Hugoton 148.73 99 ⇓PKiKP PKPbc 04 31 24.4 +0.1
baz=149
J22A Midwest 148.76 85 ⇑PKiKP PKPbc 04 31 24.4 +0.1
baz=149
U30A WK&E Inc. Balk 148.76 100 ⇑PKiKP PKPbc 04 31 24.0 -0.3
baz=149
F20A Billings 148.76 79 ⇓PKiKP PKPbc 04 31 24.4 +0.4
baz=149
W32A Sentinel 148.76 104 ⇑PKiKP PKPbc 04 31 24.3 0.0
baz=149
V31A Spring Creek L 148.80 102 ⇑PKiKP PKPbc 04 31 25.6 +1.1
baz=149
P26A Davis Ranch, A 148.80 93 ⇑PKiKP PKPbc 04 31 24.8 +0.3
baz=149
X33A Lawton 148.84 106 ⇑PKiKP PKPbc 04 31 25.2 +0.7
baz=149
D19A Cripps Ranch, 148.85 77 ⇓PKiKP PKPbc 04 31 24.9 +0.6
baz=149
M24A Cheyenne 148.86 89 ⇑PKiKP PKPbc 04 31 25.7 +1.1
baz=149
YKA Yellowknife Ar 148.87 46 PKPbc PKPbc 04 31 22.8 -0.9
2.3nm,0.7s,baz=276,slow=2.2,SNR=62
H21A Big Horn, Sher 148.95 82 ⇑PKiKP PKPbc 04 31 25.7 +1.0
baz=149
KSCO Kaye Shedlock' 148.96 95 ⇑PKiKP PKiKP 04 31 26.8 +0.6
baz=149
C19A Slack Wire Ran 148.97 76 ⇓PKiKP PKPbc 04 31 24.9 +0.4
baz=149
I22A 9 Mile Ranch, 148.98 84 ⇑PKiKP PKPbc 04 31 24.9 +0.2
baz=149
K23A Bowen Ranch, D 148.99 86 ⇑PKiKP PKPbc 04 31 25.2 +0.4
baz=149
N25A Grover 149.00 91 ⇑PKiKP PKiKP 04 31 27.4 +1.1
baz=149
339A Huntington 149.02 114 ⇑PKiKP PKPbc 04 31 26.0 +1.0
baz=149
E20A Meyer Farm, Mu 149.06 78 ⇑PKiKP PKPbc 04 31 25.7 +0.9
baz=149
L24A Wheatland 149.09 88 ⇓PKiKP PKiKP 04 31 26.7 +0.4
baz=149
R28A Tribune 149.10 97 ⇑PKiKP PKPbc 04 31 25.9 +0.7
baz=149
S29A Ulysses 149.12 98 ⇓PKiKP PKPbc 04 31 26.3 +1.1
baz=149
T30A Plains 149.16 100 ⇑PKiKP PKiKP 04 31 27.2 +0.7
baz=149
O26A Horse Wrangler 149.19 92 ⇓PKiKP PKiKP 04 31 27.4 +0.8
baz=149
W33A Caddo, Fort Co 149.26 105 ⇑PKiKP PKPbc 04 31 27.0 +1.4
baz=150
V32A Arapaho 149.27 103 ⇓PKiKP PKPbc 04 31 26.7 +1.1
baz=150
D20A Manuel Ranch, 149.29 77 ⇓PKiKP PKPbc 04 31 25.7 +0.4
baz=150
P27A Ficken Ranch, 149.29 94 ⇑PKiKP PKPbc 04 31 26.6 +1.0
baz=150
X34A Smith Ranch, M 149.30 106 ⇑PKiKP PKPbc 04 31 26.7 +1.1
baz=150
B19A Brinkman Farms 149.30 74 ⇓PKiKP PKPbc 04 31 25.6 +0.3
baz=150
M25A Palm-Egli Farm 149.34 90 ⇓PKiKP PKPbc 04 31 25.9 +0.1
baz=150
F21A Absaloka Mine, 149.42 80 ⇓PKiKP PKPbc 04 31 26.3 +0.6
baz=150
340A Bronson 149.47 115 ⇑PKiKP PKPbc 04 31 26.7 +0.6
baz=150
K24A Anderson Ranch 149.50 87 ⇑PKiKP PKPbc 04 31 26.1 0.0
baz=150
S30A Montezuma 149.55 99 ⇓PKiKP PKPbc 04 31 27.1 +0.9
baz=150
N26A Koester Ranch, 149.57 91 ⇑PKiKP PKPbc 04 31 26.6 +0.4
baz=150
R29A Marienthal 149.58 97 ⇓PKiKP PKPbc 04 31 26.9 +0.6
baz=150
A19A Klindworth Far 149.59 74 ⇑PKiKP PKPbc 04 31 25.9 -0.1
baz=150
C20A Veseth Ranch, 149.61 76 ⇑PKiKP PKPbc 04 31 26.6 +0.5
baz=150
G22A Birney 149.69 82 ⇑PKiKP PKPbc 04 31 26.6 +0.2
baz=150
O27A Beecher Island 149.70 93 ⇑PKiKP PKPbc 04 31 27.5 +0.9
baz=150
U32A Winter Ranch, 149.71 102 ⇓PKiKP PKPbc 04 31 26.9 +0.2
baz=150
T31A Randall Ranch, 149.72 101 ⇑PKiKP PKPbc 04 31 27.6 +0.9
baz=150
E21A Keefer Ranch, 149.74 79 ⇓PKiKP PKPbc 04 31 27.7 +1.3
baz=150
W34A Bridge Creek, 149.75 105 ePKPbc PKPbc 04 31 27.7 +0.9
W34A Bridge Creek, 149.75 105 ⇓PKiKP PKPbc 04 31 27.9 +1.1
baz=150
V33A Lossen Ranch, 149.81 104 ⇓PKiKP PKPbc 04 31 27.3 +0.4
baz=150
P28A Saint Francis 149.83 95 ⇑PKiKP PKiKP 04 31 28.5 +0.6
baz=150
B20A Solberg Farm, 149.87 75 ⇓PKiKP PKPbc 04 31 27.3 +0.6
baz=150
J24A Dixon Ranch, L 149.89 86 ⇑PKiKP PKPbc 04 31 27.5 +0.5

	baz=150						
Q29A	Oakley	149.95	96	⇓PKiKP	PKPbc	04 31 27.9	+0.7
	baz=150						
M26A	McRoberts Ranc	149.95	90	⇓PKiKP	PKPbc	04 31 27.6	+0.4
	baz=150						
F22A	Rosebud	149.95	81	⇓PKiKP	PKPbc	04 31 27.3	+0.3
	baz=150						
N27A	Anderson Farm,	150.00	92	⇑PKiKP	PKPbc	04 31 27.5	+0.1
	baz=150						
D21A	La Casta Ranch	150.00	78	⇑PKiKP	PKPbc	04 31 27.6	+0.5
	baz=150						
R30A	Dighton	150.05	98	⇓PKiKP	PKPbc	04 31 27.5	+0.1
	baz=150						
K25A	Mack Ranch, Ha	150.05	88	⇓PKiKP	PKPbc	04 31 28.1	+0.6
	baz=150						
A20A	Cobblestone Ra	150.08	74	⇑PKiKP	PKPbc	04 31 27.6	+0.4
	baz=150						
I24A	Kuemmerle Ranc	150.16	85	⇑PKiKP	PKPbc	04 31 28.0	+0.4
	baz=150						
S31A	Mullinville	150.16	100	⇓PKiKP	PKPbc	04 31 29.0	+1.3
	baz=150						
C21A	Desert Coulee	150.22	76	⇓PKiKP	PKPbc	04 31 27.5	0.0
	baz=150						
T32A	Huddler Ranch,	150.25	101	⇓PKiKP	PKPbc	04 31 28.8	+0.8
	baz=150						
G23A	Biddle	150.26	82	⇑PKiKP	PKPbc	04 31 28.1	+0.4
	baz=150						
L26A	Underwood Farm	150.28	89	⇓PKiKP	PKPbc	04 31 28.4	+0.5
	baz=150						
V34A	Guthrie	150.29	105	ePKPbc	PKPbc	04 31 28.2	+0.2
V34A	Guthrie	150.29	105	⇓PKiKP	PKPbc	04 31 28.6	+0.5
	baz=150						
LAO	LASA Array	150.34	79	ePKPbc	PKPbc	04 31 28.8	+0.9
LAO				ePKPab	PKPab	04 31 34.9	+0.6
P29A	Atwood	150.38	95	⇑PKiKP	PKiKP	04 31 29.7	+0.7
	baz=151						
E22A	Miles City	150.42	80	⇓PKiKP	PKPbc	04 31 28.6	+0.6
	baz=151						
J25A	Sunshine Ranch	150.47	86	⇓PKiKP	PKPbc	04 31 28.7	+0.4
	baz=151						
F23A	Volborg	150.47	81	⇑PKiKP	PKPbc	04 31 28.9	+0.6
	baz=151						
Q30A	Quinter	150.48	97	⇓PKiKP	PKPbc	04 31 29.1	+0.7
	baz=151						
B21A	Ellsworth Farm	150.49	75	⇑PKiKP	PKPbc	04 31 28.8	+0.6
	baz=151						
R31A	Burdett	150.53	99	⇑PKiKP	PKPbc	04 31 29.5	+0.9
	baz=151						
K26A	Motz Farm, Whi	150.54	88	⇑PKiKP	PKPbc	04 31 29.0	+0.4
	baz=151						
D22A	Cohagen	150.55	78	⇓PKiKP	PKPbc	04 31 29.4	+1.0
	baz=151						
S32A	Newby Ranch, P	150.56	100	⇓PKiKP	PKPbc	04 31 29.1	+0.5
	baz=151						
N28A	Pribbeno Ranch	150.57	93	⇓PKiKP	PKPbc	04 31 29.6	+0.9
	baz=151						
H24A	Dirks Ranch, A	150.60	83	⇓PKiKP	PKPbc	04 31 28.8	+0.2
	baz=151						
RSSD	Black Hills	150.65	85	ePKPbc	PKPbc	04 31 27.9	-1.0
RSSD				ePKPab	PKPab	04 31 34.9	-1.0
U34A	Anderson Ranch	150.66	104	ePKPbc	PKPbc	04 31 29.0	+0.1
U34A				ePKPab	PKPab	04 31 36.0	+0.1
U34A	Anderson Ranch	150.66	104	⇑PKiKP	PKPbc	04 31 29.7	+0.8
	baz=151						
A21A	Bergtoll Ranch	150.74	74	⇓PKiKP	PKPbc	04 31 29.1	+0.4
	baz=151						
O29A	4D Ranch, Culb	150.75	95	⇓PKiKP	PKPbc	04 31 29.8	+0.7
	baz=151						
P30A	Selden	150.78	96	⇓PKiKP	PKPbc	04 31 30.3	+1.1
	baz=151						
L27A	T5 Ranch, Ells	150.79	90	⇓PKiKP	PKiKP	04 31 30.8	+1.0
	baz=151						
I25A	Rochford	150.80	85	⇑PKiKP	PKPbc	04 31 29.9	+0.7
	baz=151						
J26A	Sides Ranch, S	150.90	87	⇑PKiKP	PKPbc	04 31 29.9	+0.6
	baz=151						
G24A	Alzada	150.94	83	⇓PKiKP	PKPbc	04 31 29.7	+0.3
	baz=151						
C22A	Vida	150.96	77	⇑PKiKP	PKPbc	04 31 30.3	+1.0
	baz=151						
Q31A	Ellis	151.03	98	⇓PKiKP	PKPbc	04 31 30.6	+0.9
	baz=151						
S33A	Kaszmaul Farm,	151.08	101	⇓PKiKP	PKPbc	04 31 30.9	+1.0
	baz=151						
R32A	Long Quarter,	151.13	99	⇓PKiKP	PKPbc	04 31 30.4	+0.4
	baz=151						
F24A	Ekalaka	151.13	82	⇓PKiKP	PKPbc	04 31 30.3	+0.4
	baz=151						
K27A	Flueckinger Fa	151.15	89	⇑PKiKP	PKPbc	04 31 30.2	+0.2
	baz=151						
H25A	Fruitdale	151.16	84	⇓PKiKP	PKPbc	04 31 30.5	+0.6
	baz=151						
D23A	Lindsay	151.17	79	⇓PKiKP	PKPbc	04 31 30.9	+1.0
	baz=151						
N29A	Votaw Ranch, W	151.23	93	⇑PKiKP	PKPbc	04 31 31.1	+0.9
	baz=152						
O30A	MW Ranch, Wils	151.26	95	⇑PKiKP	PKPbc	04 31 30.9	+0.6
	baz=152						
P31A	Stockton	151.33	97	⇓PKiKP	PKPbc	04 31 30.7	+0.3
	baz=152						
A22A	Carney Farms,	151.37	75	⇑PKiKP	PKPbc	04 31 31.2	+0.9
	baz=152						
I26A	New Underwood	151.37	86	⇑PKiKP	PKPbc	04 31 30.6	+0.2
	baz=152						
C23A	Lambert	151.41	77	⇑PKiKP	PKiKP	04 31 31.5	+0.7
	baz=152						
TUL1	Tulsa	151.41	106	ePKPbc	PKPbc	04 31 30.7	0.0
TUL1				ePKPab	PKPab	04 31 37.8	-1.2
TUL1	Tulsa	151.41	106	⇑PKiKP	PKPbc	04 31 31.0	+0.3
	baz=152						
G25A	Newell	151.52	83	⇑PKiKP	PKPbc	04 31 30.7	0.0
	baz=152						
R33A	Olander Ranch,	151.52	100	⇓PKiKP	PKPbc	04 31 31.4	+0.5
	baz=152						
Q32A	Meitler Ranch,	151.55	98	⇑PKiKP	PKPbc	04 31 31.6	+0.6
	baz=152						
J27A	Elkhorn Farm,	151.56	88	⇑PKiKP	PKPbc	04 31 32.0	+1.1
	baz=152						
RES	Resolute Bay	151.59	18	ePKPbc	PKPbc	04 31 28.6	-1.3
RES				ePKPab	PKPab	04 31 35.1	-3.5
D24A	Glendive	151.71	79	⇓PKiKP	PKPbc	04 31 31.8	+0.8
	baz=152						
O31A	Woolen Ranch,	151.71	96	⇓PKiKP	PKPbc	04 31 32.4	+1.1
	baz=152						
K28A	Ten Mile Ranch	151.72	89	⇑PKiKP	PKPbc	04 31 31.8	+0.5
	baz=152						
B23A	Brockton	151.77	76	⇓PKiKP	PKPbc	04 31 32.0	+0.9
	baz=152						
F25A	Bowman	151.80	82	⇓PKiKP	PKPbc	04 31 32.3	+1.0
	baz=152						
P32A	Huiting Farm,	151.88	97	⇓PKiKP	PKPbc	04 31 32.3	+0.7
	baz=152						
I27A	Quinn	151.91	86	⇑PKiKP	PKPbc	04 31 31.6	-0.1
	baz=152						
A23A	Redstone	152.00	75	⇓PKiKP	PKPbc	04 31 32.5	+0.8
	baz=152						
Q33A	Connelly Farm,	152.02	99	⇑PKiKP	PKPbc	04 31 32.8	+0.8
	baz=152						
E25A	Miller Ranch,	152.06	81	⇓PKiKP	PKPbc	04 31 32.3	+0.4
	baz=152						
G26A	Maurine	152.09	84	⇑PKiKP	PKPbc	04 31 32.1	+0.1
	baz=152						
J28A	Allard Ranch,	152.14	88	⇓PKiKP	PKPbc	04 31 32.5	+0.3
	baz=152						
H27A	Howes	152.14	85	⇑PKiKP	PKPbc	04 31 32.1	-0.1
	baz=152						
DGMT	Dagmar	152.27	77	ePKPbc	PKPbc	04 31 32.2	0.0
DGMT				ePKPab	PKPab	04 31 42.6	+0.3
DGMT	Dagmar	152.27	77	⇓PKiKP	PKPbc	04 31 33.0	+0.8
	baz=152						
F26A	Lodgepole	152.27	83	⇑PKiKP	PKPbc	04 31 32.8	+0.4
	baz=152						
D25A	Fairfield	152.36	80	⇑PKiKP	PKPbc	04 31 33.5	+0.9
	baz=153						
P33A	Williams Farm,	152.36	98	⇓PKiKP	PKPbc	04 31 33.6	+0.8
	baz=153						
L30A	Spencer Herefo	152.40	92	⇑PKiKP	PKPbc	04 31 33.0	+0.2
	baz=153						
K29A	Lazy Trails An	152.41	90	⇑PKiKP	PKPbc	04 31 33.5	+0.7
	baz=153						
I28A	Midland	152.44	87	⇑PKiKP	PKPbc	04 31 33.4	+0.6
	baz=153						
A24A	Westby	152.54	76	⇓PKiKP	PKPbc	04 31 33.6	+0.7
	baz=153						
G27A	Dupree	152.55	84	⇓PKiKP	PKPbc	04 31 33.3	+0.3
	baz=153						
E26A	Carlson Angus	152.65	81	⇑PKiKP	PKPbc	04 31 33.3	+0.1
	baz=153						
J29A	Okreek	152.72	89	⇓PKiKP	PKPbc	04 31 33.5	+0.1
	baz=153						
H28A	Mission Ridge	152.84	86	⇑PKiKP	PKPbc	04 31 33.6	0.0
	baz=153						
B25A	Knox Farm, Ray	152.85	77	⇑PKiKP	PKPbc	04 31 34.1	+0.6
	baz=153						
KSU1	Kansas State U	152.86	100	ePKPbc	PKPbc	04 31 34.2	+0.4
KSU1	Kansas State U	152.86	100	⇓PKiKP	PKPbc	04 31 33.6	-0.2
	baz=153						
D26A	Manning	152.87	80	⇓PKiKP	PKPbc	04 31 33.8	+0.1
	baz=153						
I29A	Vivian Onida	153.01	88	⇑PKiKP	PKPbc	04 31 34.7	+0.6
	baz=153						
G28A	Parade	153.07	85	⇓PKiKP	PKPbc	04 31 34.6	+0.5
	baz=153						
L31A	Butterfield Fa	153.08	92	⇑PKiKP	PKPbc	04 31 34.5	+0.2
	baz=153						
A25A	Svangstu Ranch	153.10	76	⇑PKiKP	PKPbc	04 31 34.6	+0.5
	baz=153						
BGNE	Belgrade	153.13	94	⇓PKiKP	PKPbc	04 31 34.8	+0.3
	baz=153						
E27A	Carson	153.20	82	⇑PKiKP	PKPbc	04 31 34.6	+0.1
	baz=153						
J30A	Dallas	153.22	90	⇑PKiKP	PKPbc	04 31 34.6	0.0
	baz=153						
H29A	Onida	153.34	87	⇓PKiKP	PKPbc	04 31 34.6	-0.1
	baz=154						
C26A	Wahner Farm, P	153.37	79	⇓PKiKP	PKPbc	04 31 35.2	+0.5
	baz=154						
B26A	Jensen Ranch,	153.47	78	⇓PKiKP	PKPbc	04 31 35.5	+0.5
	baz=154						
C27A	Sayler Ranch,	153.71	79	⇓PKiKP	PKPbc	04 31 35.8	+0.3
	baz=154						
A26A	Wade Farm, Ken	153.76	77	⇑PKiKP	PKPbc	04 31 35.9	+0.3
	baz=154						
E28A	Huff	153.82	82	⇑PKiKP	PKPbc	04 31 36.1	+0.4
	baz=154						
F29A	Eureka	154.08	84	⇑PKiKP	PKPbc	04 31 36.7	+0.4
	baz=154						
A27A	Ledoux Ranch,	154.28	77	⇓PKiKP	PKPbc	04 31 37.3	+0.7
	baz=154						
C28A	Hausauer Farms	154.42	80	⇑PKiKP	PKPbc	04 31 37.7	+0.7
	baz=155						
F30A	Leola	154.60	85	⇓PKiKP	PKPbc	04 31 38.3	+0.8
	baz=155						
B28A	Dugan Ranch, T	154.68	78	⇑PKPab	PKPab	04 31 52.1	-0.4
	baz=155						
D29A	Pettibone, Tap	154.69	82	⇓PKPab	PKPab	04 31 52.5	-0.1
	baz=155						
A28A	Rude Farm, Bot	154.88	77	⇑PKPab	PKPab	04 31 54.0	+0.6
	baz=155						
E30A	Jud	154.93	83	⇑PKPab	PKPab	04 31 53.7	+0.1
	baz=155						
D30A	Buchanan	155.25	82	⇑PKPab	PKPab	04 31 55.1	+0.1
	baz=156						
A29A	Manning Farm,	155.53	78	⇓PKPab	PKPab	04 31 56.3	+0.2
	baz=156						
C30A	Mose, Pekin	155.63	81	⇓PKPab	PKPab	04 31 56.5	0.0
	baz=156						
B30A	Myrvik Farm, E	155.96	79	⇑PKPab	PKPab	04 31 57.8	-0.2
	baz=156						
A30A	Hoffart Farm,	156.12	78	⇓PKPab	PKPab	04 31 59.0	+0.3
	baz=156						

IDC 20 04:22:30.5±5.1,49.33S×117.71E,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.5/14,mbtmp3.4/2,Error ellipse: s-maj=589.5km s-min=71.5km az=115.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.66	348	T	T	04 41 53.4	
	baz=169,slow=77,SNR=5.8						
H01W1	Cape Leeuwin H	14.67	348	T	T	04 41 52.5	
	baz=169,slow=77,SNR=4.7						
H01W3	Cape Leeuwin H	14.68	348	T	T	04 41 54.8	
	baz=169,slow=77,SNR=5.3						
ASAR	Alice Springs	28.61	32	P	P	04 28 27.7	-0.7
	0.4nm,0.8s,baz=203,slow=9.1,SNR=3.4						
WRA	Warramunga Arr	32.20	30	P	P	04 29 00.7	+0.5
	0.4nm,0.7s,baz=200,slow=8.6,SNR=5.2						
YKA	Yellowknife Ar	148.82	45	PKPbc	PKPbc	04 42 18.0	-0.6
	0.3nm,0.7s,baz=275,slow=1.9,SNR=6.1						

NNC 20 04:28:14.4±2.1,36.76N×70.68E,h138km±49km,mb3.0, mpv3.9,Error ellipse: s-maj=18.5km s-min=15.1km az=12.0

ISC 20 04:28:12.4±3.7,36.6N±0.2×70.6E±0.1,h100km,n10, σ0.82/13,4C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.99	23	P	Pn	04 29 39.8	+0.9
	SNR=35						
UCH	Uchtor	6.36	27	P	Pn	04 29 44.4	+0.5
	SNR=21						
KK31	Karatay Array	6.47	359	⇑Pn	Pn	04 29 46.0	+1.0
	4.5nm,0.6s,baz=180,slow=12,SNR=50						
KK31				⇓Sn	Sn	04 30 57.0	-0.4
	1.4nm,0.5s,baz=185,slow=21,SNR=5.3						
EKS2	Erkin-Say	6.50	21	P	Pn	04 29 47.0	+1.4
	SNR=14						
AAK	Ala-Archa	6.71	25	⇑Pn	Pn	04 29 48.5	+0.2
	2.4nm,0.3s						
AAK				⇓Sn	Sn	04 31 03.2	-0.1
	3.9nm,0.7s						
AAK	Ala-Archa	6.71	25	P	Pn	04 29 49.2	+0.9
	SNR=8.1						
KBK	Karagaybulak	6.89	28	P	Pn	04 29 51.7	+0.8
	SNR=5.7						
TKM2	Tokmak 2	7.37	30	⇓Pn	Pn	04 29 57.1	-0.3
	6.2nm,0.5s						
TKM2				⇑Sn	Sn	04 31 18.8	-0.6
	1.4nm,0.7s						
TKM2	Tokmak 2	7.37	30	P	Pn	04 29 57.5	+0.1
	SNR=8.7						
AB31	Akbulak array	14.83	332	⇑Pn	Pn	04 31 35.9	-0.7
	0.2nm,0.3s,baz=146,slow=11,SNR=8.6						

IDC 20 04:57:27.5±0.6,7.21S×105.97E,h0km,mb4.6/17, mb1 4.7/19,mb1mx4.6/31,mbtmp4.7/19,ML3.0/1,MS4.1/12, Ms1 4.1/12,ms1mx3.7/31,Error ellipse: s-maj=19.0km s-min=12.2km az=32.0

MOS 20 04:57:31.5±1.2,7.00S×106.13E,h31km,mb5.1/44,Error ellipse: s-maj=12.2km s-min=5.8km az=117.7

DJA 20 04:57:33.2±0.3,8°S±3°×10°6E±°,h10km,M5.0/29, mb5.1/19,mB5.5/13,MLv5.0/29,Mw(mB)5.0/13

BJI 20 04:57:33.4,7.30S×105.90E,h53km,mB5.0/28,mb4.8/44, Ms4.9/28,Ms7 4.6/27

NEIC 20 04:57:34.2±0.6,7.28S×105.93E,h50km±5km,mb4.9/28, Error ellipse: s-maj=7.7km s-min=4.2km az=210.0

ISCJB 20 04:57:34.6±0.5,7.37S±0.04×105.98E±0.03,h67km±3km, mb4.7/70,Error ellipse: s-maj=7.3km s-min=3.5km az=35.2

GCMT 20 04:57:34.2±0.4,7.56S×105.86E,h38km±1km,MW5.0/55, Moment Tensor Solution. s34,c37; s55,c70; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.82±.18; $M_{\theta\theta}$-1.16±.12; $M_{\phi\phi}$-1.66±.15; $M_{r\theta}$1.33±.10; $M_{\theta\phi}$1.49±.08; $M_{\phi r}$-0.93±.10; Best double couple: $M_0$3.29900×10^{16} NP1:ϕ_s132.00000°,δ60.00000°,λ82.00000°. NP2: ϕ_s327.00000°,δ31.00000°,λ103.00000°. Principal axes: T 3.2720, Plg74.0000°, Azm23.0000°; N 0.0530, Plg7.0000°, Azm136.0000°; P -3.3260, Plg14.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 20 04:57:34.0±0.4,7.45S±0.04×105.91E±0.04,h51km±2km, h51km:pP-P,n353,σ1.58/378,mb4.8/70,MS4.2/24,28C-5D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.78	55	P	Pn	04 57 47.8	-1.1
CGJI	Cibinong	0.86	346	P	Pn	04 57 49.9	0.0
CGJI				S	Sn	04 58 02.9	+1.3
CNJI	Cibinong	1.22	83	P	Pn	04 57 52.8	-1.9
SBJI	Serang	1.34	9	P	Pn	04 57 57.7	+1.3
CBJI	Citeko	1.39	42	P	Pn	04 57 55.7	-1.3
CBJI				S	Sn	04 58 10.3	-4.0
TNG	Tangerang	1.47	30	P	Pn	04 57 59.1	+1.0
TNG				S	Sn	04 58 18.7	+2.5
LEM	Lembang	1.81	70	P	Pn	04 58 04.2	+1.3
LEM				S	Sn	04 58 31.7	+7.0
LEM	Lembang	1.81	70	P	Pn	04 58 04.0	+1.1
	baz=2.0,SNR=144						
CISI	Cisompet, Garu	1.89	93	P	Pn	04 58 02.9	-1.1
CISI	Cisompet, Garu	1.89	93	ePn	Pn	04 58 02.6	-1.4
CISI	Cisompet, Garu	1.89	93	P	Pn	04 58 03.1	-0.9
	baz=1.9,SNR=47						
CISI				S	Sn	04 58 26.4	-0.3
	baz=1.9,SNR=8.9						
BLSI	Bandar Lampung	2.17	342	P	Pn	04 58 10.7	+2.9
KASI	Kota Agung	2.38	324	P	Pn	04 58 12.5	+2.0
KASI				S	Sn	04 58 47.5	+9.1
JCJI	Jatiwangi	2.53	68	P	Pn	04 58 13.1	+0.4
CMJI	Cimerak	2.54	98	P	Pn	04 58 11.9	-0.9
CMJI				S	Sn	04 58 42.6	+0.1
KLI	Kotabumi	2.78	338	P	Pn	04 58 19.4	+3.4
XMI	Christmas Isla	2.98	184	P	Pn	04 58 14.7	-4.2
	baz=2.6,SNR=15						
XMI				S	Sn	04 58 48.9	-4.6
	baz=2.6,SNR=6.0						
KPJI	Karang Pucung	3.00	88	P	Pn	04 58 20.2	+1.1
KPJI				S	Sn	04 59 01.1	+7.3
XMIS	Christmas Isla	3.02	185	ePn	Pn	04 58 14.9	-4.4
XMIS	Christmas Isla	3.02	185	P	Pn	04 58 15.0	-4.4
	baz=2.6,SNR=40						
XMIS				S	Sn	04 58 47.2	-7.1
	baz=2.6,SNR=14						
LWLI	Liwa	3.04	323	P	Pn	04 58 21.6	+1.9
MDSI	Maura Dua	3.41	330	P	Pn	04 58 26.4	+1.7
MNAI	Manna	4.25	316	P	Pn	04 58 54.6	+18
MNAI	Manna	4.25	316	ePn	Pn	04 58 36.8	+0.5
MNAI	Manna	4.25	316	P	Pn	04 58 37.3	+1.0
	baz=4.5,SNR=21						
LHSI	Lahat	4.31	327	P	Pn	04 58 40.9	+3.8
SMRI	Semarang	4.51	85	P	Pn	04 58 43.6	+3.7
SMRI	Semarang	4.51	85	ePn	Pn	04 58 42.2	+2.4
SMRI	Semarang	4.51	85	P	Pn	04 58 42.7	+2.8
	baz=4.6,SNR=8.1						
UGM	Wanagama	4.60	96	P	Pn	04 58 41.8	+0.8
UGM	Wanagama	4.60	96	ePn	Pn	04 58 40.5	-0.6
UGM	Wanagama	4.60	96	P	Pn	04 58 40.4	-0.6
	baz=4.6,SNR=30						
PMBI	Palembang	4.64	346	P	Pn	04 58 48.7	+7.2
TPI	Tanjungpandan	4.98	21	P	Pn	04 58 48.8	+2.5
	99nm,0.7s,1μm0.8nm						
WOJI	Wonogiri, Jawa	4.99	95	P	Pn	04 58 47.6	+1.3
	164nm,0.8s,6μm1.6nm						
NGJI	Ngawi	5.51	89	P	Pn	04 59 02.7	+9.2
MASI	Maura Aman, Be	5.63	319	P	Pn	04 59 04.3	+9.1
PWJI	Pagerwojo	5.87	96	P	Pn	04 58 58.8	+0.3
	254nm,0.7s,8μm2.4nm						
GMJI	Gumukmas	7.51	97	P	Pn	04 59 23.6	+2.6
	87nm,0.8s,1μm0.3nm						
BLJI	Banyuglugur	7.63	93	P	Pn	04 59 30.0	+7.4
JAGI	Jajag, Banyuwa	8.23	98	P	Pn	04 59 33.5	+2.7
	189nm,0.7s,3μm0.8nm						
JAGI	Jajag, Banyuwa	8.23	98	ePn	Pn	04 59 32.1	+1.3
	124nm,0.6s						
JAGI	Jajag, Banyuwa	8.23	98	P	Pn	04 59 25.9	-5.0
	baz=8.2,SNR=7.3						
JAGI				S	Sn	05 00 59.5	-3.0
	baz=8.2,SNR=3.7						
ABJI	Asem Bagus	8.26	93	P	Pn	04 59 36.0	+4.7
	225nm,0.7s,3μm0.8nm						
PDSI	Padang	8.47	320	P	Pn	04 59 47.6	+13
SRBI	Singaraja	9.24	95	P	Pn	04 59 47.0	+2.3
	145nm,0.6s,2μm						
STKI	Sintang	9.31	37	P	Pn	04 59 54.7	+9.1
COCO	West Island	10.10	242	iP	Pn	04 59 57.9	+1.4
COCO	West Island	10.10	242	ePn	Pn	04 59 56.8	+0.3
GSI	Gunungsitoli	12.03	316	P	Pn	05 00 22.6	-0.3
	56nm,0.7s,3μm						
GSI	Gunungsitoli	12.03	316	ePn	Pn	05 00 20.6	-2.2
PSI	Prapat	12.34	325	Pn	Pn	05 00 22.1	-5.2
	0.1nm,0.3s,baz=156,slow=18,SNR=2.3						
KAPI	Kappang	13.97	81	ePn	Pn	05 00 50.7	+1.3
SPSI	Sidrap Palu	14.22	77	P	P	05 00 58.0	-0.7
BKSI	Bulukumba	14.28	82	P	P	05 00 59.9	+0.5
BNSI	Bone	14.44	79	P	P	05 01 02.5	+1.3
TTSI	Tana Toraja	14.53	73	P	P	05 01 07.0	+4.9
MPSI	Mapaga	15.96	62	P	P	05 01 19.8	+1.8
	31nm,0.9s						
MMRI	Maumere	16.21	95	P	P	05 01 20.6	-0.3
	283nm,0.7s						
MMRI	Maumere	16.21	95	ePn	P	05 01 19.7	-1.2
	232nm,0.8s						
GIRL	Giralia	17.10	153	P	Pn	05 01 27.7	-1.8
	baz=17,SNR=14						
GIRL				S	Sn	05 04 28.6	-10
	baz=17,SNR=3.8						
BATI	Baumata	17.76	100	P	P	05 01 40.5	+2.5
	72nm,0.6s,1μm						
BATI	Baumata	17.76	100	P	P	05 01 38.1	+0.2
	19nm,0.3s,baz=331,slow=2.7,SNR=12						
BATI				S	Sn	05 04 56.8	+1.8
	1.5nm,0.3s,baz=297,slow=18,SNR=3.0						
MRSI	Marisa	17.83	64	P	P	05 01 40.2	+1.5
	34nm,0.8s						
LUWI	Luwuk	17.98	70	P	P	05 01 44.8	+4.5
	67nm,1.1s,4μm						
SOEI	Soe	18.30	98	P	Pn	05 01 45.4	+1.0
	158nm,0.8s,1μm						
SOEI	Soe	18.30	98	eP	P	05 01 43.6	-0.4
	106nm,0.7s						
SOEI	Soe	18.30	98	P	Pn	05 01 44.3	-0.1
	baz=18,SNR=16						
SOEI				S	Sn	05 05 08.0	-0.1
	baz=18,SNR=4.9						
MBWA	Marble Bar	19.08	137	eP	Pn	05 01 54.0	+0.3
SANI	Sanana	20.71	76	P	Pn	05 02 15.2	+2.1
	36nm,0.9s						
MEEK	Meekatharra	22.58	149	P	P	05 02 44.9	+15
	baz=22,SNR=7.6						
MEEK				S	S	05 06 33.4	-1.0
	baz=22,SNR=7.6						
TNTI	Ternate	22.91	70	eP	P	05 02 33.8	0.0
MORW	Morawa	23.53	157	P	P	05 02 41.8	+2.1
	baz=23,SNR=3.6						
MORW				S	S	05 06 58.6	+8.7
	baz=23,SNR=4.0						
KNRA	Kununurra	23.82	112	P	P	05 02 42.4	0.0
	baz=24,SNR=12						
MTN	Manton Dam	25.39	104	P	P	05 02 56.7	-0.1
	baz=25,SNR=27						
LAMP	Lampang	26.54	347	P	P	05 03 20.8	+14
QIZ	Qiongzhong	26.60	8	P	P	05 03 08.1	+0.4
QIZ				pP	pP	05 03 21.0	+0.2
QIZ				sP	sP	05 03 27.3	+0.4
QIZ				S	S	05 07 40.5	+1.5
QIZ				sS	sS	05 08 03.0	+1.8
QIZ				pmax	pmax		
	comp=Z,22nm,2.1s						
QIZ				LR	LR		
	comp=N,790nm,19.1s						
QIZ				LR	LR		
	comp=Z,1μm,20.5s						
FAKI	Fak Fak	26.61	82	P	P	05 03 07.8	-0.1
	baz=27,SNR=5.1						
CMAR	Chiang Mai Arr	26.65	345	P	P	05 03 07.0	-1.1
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,16nm,28.6s						
CMAR	Chiang Mai Arr	26.65	345	P	P	05 03 07.0	-1.1
	comp=Z,5.6nm,0.6s,baz=181,slow=8.5,SNR=20						
CMAR				LR	LR	05 15 11.5	
	comp=Z,477nm,18.8s,baz=190,slow=40						
KDU	Kakadu	26.66	103	P	P	05 03 07.5	-0.8
	baz=27,SNR=7.1						
CHTO	Chiang Mai	26.99	345	eP	P	05 03 10.5	-0.7
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHTO	Chiang Mai	26.99	345	eP	P	05 03 10.5	-0.7
	comp=Z,5.4nm,0.7s						
PAYA	Payao	27.30	347	P	P	05 03 16.5	+2.5
	comp=Z,3.5nm,0.5s,comp=Z,224nm						
NWAO	Narrogin (SRO)	27.44	159	LR	LR	05 13 02.6	
	comp=Z,572nm,21.1s,baz=350,slow=34						
WRKA	Warakurna	27.63	132	P	P	05 03 20.3	+3.3
	baz=27,SNR=5.6						
CMAI	Chiengmai2	28.04	346	P	P	05 03 29.9	+9.2
H01W3	Cape Leeuwin H	28.33	166	T	T	05 33 05.9	
	baz=344,slow=76,SNR=90						
H01W1	Cape Leeuwin H	28.34	166	T	T	05 33 06.0	
	baz=344,slow=76,SNR=85						

H01W2 Cape Leeuwin H 28.34 166 T T 05 33 05.6
baz=344,slow=76,SNR=102
PALK Pallekele 29.08 300 eP P 05 03 29.6 -0.4
PALK pmax pmax
comp=Z,22nm,1.1s
PALK Pallekele 29.08 300 eP P 05 03 29.6 -0.4
comp=Z,22nm,1.1s
WRA Warramunga Arr 30.22 117 P P 05 03 39.9 -0.2
WRA 05 06 40.4
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA MLR MLR
comp=Z,16nm,28.6s
WRA Warramunga Arr 30.22 117 P P 05 03 39.9 -0.2
comp=Z,3.2nm,0.8s,baz=289,slow=10,SNR=48
WRA PcP PcP 05 06 40.4 +0.3
comp=Z,1.7nm,0.7s,baz=296,slow=2.3,SNR=6.2
WRA LR LR 05 16 46.3
comp=Z,228nm,21.2s,baz=300,slow=38
WRAB Tennant Creek 30.23 117 eP P 05 03 41.5 +1.4
WRAB pmax pmax
comp=Z,12nm,0.8s
WRAB Tennant Creek 30.23 117 eP P 05 03 40.2 +0.1
comp=Z,7.8nm,0.7s
FORT Forrest 31.12 141 eP P 05 03 48.3 +0.5
comp=Z,21nm,0.9s
AS31 Alice Springs 31.32 124 eP P 05 03 50.0 +0.3
ASAR Alice Springs 31.32 124 LR LR 05 16 25.0
comp=Z,279nm,22.0s,baz=294,slow=36
KMI Kunming 32.53 355 P P 05 04 03.6 +3.2
KMI pP pP 05 04 14.9 +1.2
KMI sP sP 05 04 21.5 +1.7
KMI PP PP 05 05 14.0 -0.8
KMI S S 05 09 13.8 +1.4
KMI pmax pmax
comp=Z,6.0nm,0.6s
KMI pmax pmax
comp=Z,78nm,3.6s
KMI LR LR
comp=Z,630nm,14.1s
KMI LR LR
comp=Z,470nm,17.4s
KMI LR LR
comp=Z,800nm,16.2s
H08S2 Diego Garcia H 33.12 267 T T 05 39 25.6
baz=91,slow=76,SNR=217
H08S3 Diego Garcia H 33.13 267 T T 05 39 26.4
baz=91,slow=76,SNR=179
H08S1 Diego Garcia H 33.14 267 T T 05 39 27.4
baz=91,slow=76,SNR=167
GYA Guiyang 33.72 1 P P 05 04 12.8 +2.1
GYA pP pP 05 04 26.0 +2.0
GYA sP sP 05 04 32.4 +2.3
GYA PP PP 05 05 28.6 +0.8
GYA S S 05 09 32.8 +2.2
GYA sS sS 05 09 55.3 +2.2
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=Z,540nm,17.8s
GYA LR LR
comp=Z,470nm,18.0s
GYA LR LR
comp=Z,520nm,17.6s
QIS Mount Isa 35.10 115 P P 05 04 23.8 +1.1
baz=35,SNR=5.5
HYB Hyderabad 36.62 313 i P P 05 04 36.0 +0.3
COEN Coen 37.15 103 eP P 05 04 40.2 -0.1
COEN Coen 37.15 103 P P 05 04 40.1 -0.1
baz=37,SNR=6.9
COEN S S 05 10 28.9 +5.4
baz=37,SNR=3.9
CD2 Chengdu 38.20 357 eP P 05 04 51.4 +2.5
CD2 pP pP 05 05 05.0 +2.6
CD2 sP sP 05 05 11.3 +2.9
CD2 PP PnPn 05 06 23.8 +4.7
CD2 S S 05 10 41.8 +2.8
CD2 sS sS 05 11 04.8 +3.2
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.4s
CD2 LR LR
comp=Z,1μm,14.2s
CD2 LR LR
comp=Z,940nm,13.7s
CD2 LR LR
comp=Z,960nm,10.3s
ODAN Odare 38.55 333 eP P 05 04 50.9 -1.2
comp=Z,22nm,0.5s
ODAN Odare 38.55 333 eP P 05 04 50.9 -1.2
TAPN Taplejung 38.83 334 eP P 05 04 53.1 -1.4
comp=Z,15nm,0.6s
TAPN Taplejung 38.83 334 eP P 05 04 53.1 -1.4
RAMN Ramite 38.98 332 eP P 05 04 55.3 -0.5
comp=Z,17nm,0.5s
RAMN Ramite 38.98 332 eP P 05 04 55.3 -0.5
LSA Lhasa 39.57 340 P P 05 04 59.4 -1.5
LSA Lhasa 39.57 340 eP P 05 05 00.7 -0.2
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 39.57 340 eP P 05 05 00.7 -0.2
comp=Z,8.8nm,0.6s
JIRN Jiri 39.78 332 eP P 05 05 00.4 -2.1
comp=Z,12nm,0.4s
HTT Hallett 40.00 135 P P 05 05 06.0 +2.0
baz=40,SNR=5.9
PKI Pulchoki 40.07 331 eP P 05 05 03.5 -1.4
comp=Z,8.2nm,0.5s
PKI Pulchoki 40.07 331 eP P 05 05 03.5 -1.4
PKI Pulchoki 40.07 331 eP P 05 05 03.5 -1.4
GUN Gumba 40.14 332 eP P 05 05 04.5 -1.0
comp=Z,30nm,0.6s
GUN Gumba 40.14 332 eP P 05 05 04.5 -1.0
DMN Daman 40.25 331 eP P 05 05 05.7 -0.6
comp=Z,12nm,0.6s
DMN Daman 40.25 331 eP P 05 05 05.7 -0.6
KKN Kakani 40.32 331 eP P 05 05 05.2 -1.6
comp=Z,17nm,0.5s
KKN Kakani 40.32 331 eP P 05 05 05.2 -1.6
KKN Kakani 40.32 331 eP P 05 05 05.2 -1.6
JOW Kunigami 40.40 32 P P 05 05 06.5 -0.8
comp=Z,1.4nm,0.8s,baz=241,slow=7.4,SNR=4.0
JOW LR LR 05 22 46.7
comp=Z,16nm,19.5s,baz=140,slow=38
GKN Gorkha 40.80 331 eP P 05 05 09.6 -1.2
comp=Z,17nm,0.4s
PMG Port Moresby 40.84 96 eP P 05 05 11.2 +0.1
PMG pmax pmax
comp=Z,38nm,0.8s
PMG Port Moresby 40.84 96 eP P 05 05 11.2 +0.1
comp=Z,38nm,0.8s
CTAO Charters Tower 41.03 112 eP P 05 05 13.9 +1.2
CTAO pmax pmax
comp=Z,11nm,0.8s
CTAO Charters Tower 41.03 112 eP P 05 05 13.8 +1.2
comp=Z,11nm,0.8s
KOLN Koldanda 41.13 329 eP P 05 05 12.4 -1.1
comp=Z,53nm,0.7s
KOLN Koldanda 41.13 329 eP P 05 05 12.4 -1.1
STKA Stephens Creek 41.15 131 P P 05 05 15.0 +1.5
STKA pmax pmax
comp=Z,21nm,0.7s
STKA MLR MLR
comp=Z,250nm,21.2s
STKA Stephens Creek 41.15 131 P P 05 05 14.9 +1.5
comp=Z,21nm,0.7s,baz=302,slow=7.8,SNR=34
STKA LR LR 05 22 56.3
comp=Z,250nm,21.2s,baz=279,slow=37
STKA Stephens Creek 41.15 131 P P 05 05 14.9 +1.5
baz=41,SNR=26
NJ2 Nanjing 41.18 17 eP P 05 05 13.0 -0.6
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 LR LR
comp=Z,730nm,22.4s
NJ2 LR LR
comp=Z,2μm,21.1s
NJ2 LR LR
comp=Z,2μm,22.1s
XAN Xi'an 41.36 4 P P 05 05 13.6 -1.5
XAN pP pP 05 05 27.3 -1.4
XAN S S 05 11 22.1 -4.2
XAN pmax pmax
comp=Z,3.0nm,0.6s
XAN LR LR
comp=Z,520nm,16.4s
XAN LR LR
comp=Z,320nm,13.3s
DANN Dangsing 41.52 330 eP P 05 05 16.0 -0.9
comp=Z,32nm,0.7s
DANN Dangsing 41.52 330 eP P 05 05 16.0 -0.9
PYUN Piuthan 41.71 329 eP P 05 05 18.0 -0.3
comp=Z,43nm,0.5s
PYUN Piuthan 41.71 329 eP P 05 05 18.0 -0.3
LZH Lanzhou 43.35 358 eP P 05 05 31.6 +0.2
LZH pP pP 05 05 41.6 -3.5
LZH sP sP 05 05 47.4 -3.7
LZH pmax pmax
comp=Z,10.0nm,1.0s
CMSA Cobar Meteorol 44.13 128 P P 05 05 39.6 +2.0
baz=44,SNR=10
NDI New Delhi 45.35 324 eP P 05 05 48.5 +1.2
GTA Gaotai 46.97 354 eP P 05 05 59.6 -0.4
GTA pP pP 05 06 12.1 -1.7
GTA sP sP 05 06 16.6 -3.2
GTA S S 05 12 47.0 -0.8
GTA sS sS 05 13 08.1 -2.9
GTA SS SS 05 16 06.8 -8.7
GTA pmax pmax
comp=Z,9.0nm,0.7s
GTA pmax pmax
comp=Z,130nm,5.9s
GTA LR LR
comp=Z,720nm,16.4s
GTA LR LR
comp=Z,1μm,14.0s
GTA LR LR
comp=Z,1μm,12.8s
SDNR Sundarnagar 47.60 326 eP P 05 06 06.0 +1.0
BJT Baijiatuau 48.18 11 eP P 05 06 08.4 -0.8
BJT pmax pmax
comp=Z,12nm,0.6s
BJT Baijiatuau 48.18 11 eP P 05 06 08.4 -0.8
comp=Z,12nm,0.6s
BJI Beijing 48.20 11 P P 05 06 08.0 -1.4
BJI pP pP 05 06 23.3 +0.1
BJI sP sP 05 06 29.8 +0.7
BJI PcP PcP 05 07 37.1 +1.1
BJI S S 05 13 03.3 -1.7
BJI SS SS 05 16 29.0 -6.1
BJI pmax pmax
comp=Z,11nm,0.7s
BJI pmax pmax
comp=Z,100nm,6.2s
BJI LR LR
comp=Z,790nm,11.8s
BJI LR LR
comp=Z,560nm,11.5s
BJI LR LR
comp=Z,320nm,17.7s
KSAR Wonju Array Be 49.16 23 P P 05 06 16.3 -0.5
KSAR Wonju Array Be 49.16 23 P P 05 06 16.3 -0.5
KSRS Korea Array 49.19 23 P P 05 06 16.3 -0.7
KSRS pmax pmax
comp=Z,6.0nm,0.6s
KSRS Korea Array 49.19 23 P P 05 06 16.3 -0.7
comp=Z,5.9nm,0.6s,baz=216,slow=7.8,SNR=22
MJAR Matsushiro Arr 53.23 32 P P 05 06 44.2 -3.2
MJAR pmax pmax
comp=Z,6.0nm,0.8s
MJAR Matsushiro Arr 53.23 32 P P 05 06 44.2 -3.2
comp=Z,5.9nm,0.8s,baz=225,slow=8.6,SNR=4.6
WMQ Urumqi 53.63 344 P P 05 06 50.3 0.0
WMQ pP pP 05 07 06.0 +1.7
WMQ sP sP 05 07 13.0 +2.8
WMQ PcP PcP 05 07 56.6 +0.4
WMQ PP PP 05 08 52.8 +1.2
WMQ PcS PcS 05 11 54.3 -1.0
WMQ S S 05 14 18.1 -2.2
WMQ ScS ScS 05 16 32.3 -3.1
WMQ SS SKiKP 05 17 58.0 -2.9
WMQ pmax pmax
comp=Z,9.0nm,0.8s
WMQ pmax pmax
comp=Z,170nm,6.0s
WMQ LR LR
comp=Z,240nm,25.2s
WMQ LR LR
comp=Z,150nm,17.4s
WMQ LR LR
comp=Z,230nm,21.0s
CN2 Changchun 54.00 17 eP P 05 06 51.3 -1.6
CN2 pmax pmax
comp=Z,10.0nm,0.9s
KSH Kashi 54.33 332 P P 05 06 54.0 -1.6
KSH epP pP 05 07 07.3 -2.3
KSH esP sP 05 07 11.5 -4.0
KSH ePP PP 05 08 58.6 +0.5
KSH S S 05 14 22.0 -8.0
KSH pmax pmax
comp=Z,11nm,0.9s
KSH pmax pmax
comp=Z,66nm,2.8s
KSH LR LR
comp=Z,100nm,4.8s
KSH LR LR
comp=Z,63nm,4.4s
KSH LR LR
comp=Z,150nm,5.8s
KBL Kabul 54.39 322 eP P 05 06 56.3 +0.1
KBL pmax pmax
comp=Z,9.0nm,0.6s
KBL Kabul 54.39 322 eP P 05 06 56.3 +0.1
comp=Z,9.3nm,0.6s
SONM Songino Array 55.05 0 P P 05 07 00.2 -0.4
SONM 05 08 01.6
SONM pmax pmax
comp=Z,3.0nm,0.5s
SONM pmax pmax
comp=Z,4.0nm,0.6s
SONM MLR MLR
comp=Z,788nm,19.1s
SONM Songino Array 55.05 0 P P 05 07 00.2 -0.4
comp=Z,2.8nm,0.5s,baz=180,slow=9.7,SNR=34
SONM PcP PcP 05 08 01.6 0.0
comp=Z,3.6nm,0.6s,baz=180,slow=4.1,SNR=14
SONM LR LR 05 32 54.0
comp=Z,788nm,19.1s,baz=178,slow=39
ULN Ulaanbaatar 55.09 1 eP P 05 07 00.2 -0.7
ULN e 05 08 01.9
ULN pmax pmax
comp=Z,5.0nm,0.6s
ULN Ulaanbaatar 55.09 1 eP P 05 07 00.2 -0.7
comp=Z,4.7nm,0.6s
ULN ePcP PcP 05 08 01.9 +0.1
USRK Ussuriysk Arra 56.56 22 P P 05 07 09.8 -1.4
comp=Z,1.5nm,0.4s,baz=207,slow=5.1,SNR=9.9
KZA Kyzart 56.70 333 P P 05 07 13.2 +0.3
SNR=8.6
KZA Kyzart 56.70 333 i P P 05 07 13.2 +0.3
UCH Uchtor 57.15 333 P P 05 07 16.3 +0.1
SNR=6.6
UCH Uchtor 57.15 333 i P P 05 07 16.2 +0.1
TKM2 Tokmak 2 57.22 334 P P 05 07 15.8 -0.4
SNR=40
TKM2 Tokmak 2 57.22 334 P P 05 07 15.9 -0.4
TKM2 pmax pmax
comp=Z,14nm,0.6s
TKM2 Tokmak 2 57.22 334 eP P 05 07 15.6 -0.7
comp=Z,19nm,0.6s
KBK Karagaybulak 57.29 333 P P 05 07 16.5 -0.3
SNR=13
KBK Karagaybulak 57.29 333 i P P 05 07 16.5 -0.3
AML Almayashu 57.45 332 P P 05 07 17.6 -0.6
SNR=22
AML Almayashu 57.45 332 i P P 05 07 17.6 -0.6
AAK Ala-Archa 57.48 333 ceP P 05 07 18.0 -0.1
AAK pmax pmax
comp=Z,3.0nm,0.5s
AAK Ala-Archa 57.48 333 LR LR 05 35 42.0
comp=Z,75nm,20.1s,baz=124,slow=40
AAK Ala-Archa 57.48 333 eP P 05 07 17.8 -0.3
comp=Z,2.7nm,0.7s
EKS2 Erkin-Say 57.83 332 P P 05 07 20.8 +0.3
SNR=16
EKS2 Erkin-Say 57.83 332 eP P 05 07 20.2 -0.3
EKS2 pmax pmax
comp=Z,8.0nm,0.6s
EKS2 Erkin-Say 57.83 332 eP P 05 07 20.2 -0.3
comp=Z,8.0nm,0.6s
MK31 Makanchi Array 57.95 341 eP P 05 07 19.8 -1.3
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MK31 Makanchi Array 57.95 341 eP P 05 07 20.1 -1.0
MKAR Makanchi Array 57.95 341 P P 05 07 20.2 -0.9
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 57.95 341 P P 05 07 20.2 -0.9
comp=Z,6.9nm,0.6s,baz=144,slow=7.8,SNR=133
USP Ospenovka 57.98 333 P P 05 07 20.8 -0.7
SNR=13
USP Ospenovka 57.98 333 i P P 05 07 20.7 -0.7
IDAH Dahanechah 59.28 315 eP P 05 07 32.2 +1.3
KK31 Karatay Array 59.71 331 eP P 05 07 32.0 -1.4
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 59.71 331 eP P 05 07 32.1 -1.3
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 59.71 331 eP P 05 07 32.1 -1.3
comp=Z,2.1nm,0.5s
ITEG Tejag 60.16 315 eP P 05 07 38.0 +1.1
ASAJ Asahikawa 61.09 29 P P 05 07 40.4 -2.4
ASAJ pmax pmax
comp=Z,8.0nm,0.7s
ASAJ Asahikawa 61.09 29 P P 05 07 40.4 -2.4
comp=Z,7.5nm,0.7s,baz=225,slow=10.0
HABR Khabarovsk 61.30 22 eP P 05 07 41.2 -2.9
HABR e*PP pP 05 07 55.1 -3.2
HABR e 05 08 23.2
HABR e 05 09 55.9
HABR e*SS x 05 16 21.2
HABR e 05 17 27.8
HABR eSS SS 05 19 58.1 -3.9
HABR pmax pmax
comp=Z,40nm,1.9s
HABR MLR MLR
comp=Z,80nm,16.0s
KURK Kurchatov 62.56 341 eP P 05 07 51.8 -0.7
KURK pmax pmax
comp=Z,7.0nm,0.6s
KURK Kurchatov 62.56 341 eP P 05 07 51.8 -0.7
comp=Z,6.6nm,0.6s
ISFR Sfrayin 62.97 318 eP P 05 07 57.2 +1.4
YSS Yuzh-Sakhalins 63.27 27 eP P 05 07 55.9 -1.4
YSS pmax pmax
comp=Z,17nm,0.8s
YSS Yuzh-Sakhalins 63.27 27 eP P 05 07 55.9 -1.4
comp=Z,17nm,0.8s
ZAA0 Zalesovo Array 63.71 346 eP P 05 07 58.8 -1.2
ZALV Zalesovo Beam 63.71 346 P P 05 07 59.1 -0.9
ZALV pmax pmax
comp=Z,7.0nm,0.4s
ZALV Zalesovo Beam 63.71 346 P P 05 07 59.1 -0.9
comp=Z,7.0nm,0.4s,baz=154,slow=5.0,SNR=32
IPIR Pirpir 65.78 311 eP P 05 08 15.4 +1.0
RAYN Ar Rayn 66.52 300 eP P 05 08 19.8 +0.8
comp=Z,4.9nm,0.8s
IMHD Mahdasht 67.33 314 eP P 05 08 25.2 +1.3
BVA0 Borovoye Array 67.36 338 P P 05 08 23.4 -0.3
BVA0 pmax pmax
comp=Z,16nm,0.7s
BRVK Borovoye 67.43 338 c i P P 05 08 23.8 -0.3
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 67.43 338 eP P 05 08 23.6 -0.5
comp=Z,12nm,0.6s
IRAZ Razeghan 67.73 313 eP P 05 08 27.9 +1.2
KMBO Kilima Mbogo 68.69 272 LR LR 05 33 06.4
comp=Z,270nm,21.9s,baz=96,slow=31
AB31 Akbulak array 69.25 330 P P 05 08 35.3 -0.3
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 69.25 330 eP P 05 08 35.4 -0.2
comp=Z,8.6nm,0.6s
AKTO Aktyubinsk 70.96 330 LR LR 05 44 51.2
comp=Z,54nm,18.5s,baz=115,slow=40
YAK Yakutsk 71.69 12 eP P 05 08 47.7 -2.4
YAK pmax pmax
comp=Z,13nm,0.9s
YAK Yakutsk 71.69 12 eP P 05 08 48.9 -1.3
comp=Z,22nm,0.5s
SVE Sverdlovsk 73.98 336⇓eP P 05 09 04.6 +0.8
SVE pmax pmax
comp=Z,51nm,1.5s
PETK Petropavlovsk- 74.52 29 P P 05 09 05.6 -1.5
PETK pmax pmax
comp=Z,3.0nm,0.7s
PETK Petropavlovsk- 74.52 29 P P 05 09 05.6 -1.5
comp=Z,3.0nm,0.7s,baz=201,slow=7.7,SNR=3.9
ARU Arti 74.56 335 d i P P 05 09 07.8 +0.5
ARU 05 11 53.3
ARU S S 05 18 41.9 +3.2
ARU SS SS 05 23 23.0 -3.7
ARU pmax pmax
comp=Z,30nm,1.7s
ARU Arti 74.56 335 eP P 05 09 07.3 0.0
comp=Z,17nm,1.0s
ZEI Tsey 75.20 318 eP P 05 09 11.3 -0.2
ZEI pmax pmax
comp=Z,7.0nm,0.5s
SVAN Silvan-Diyarba 75.24 313 eP P 05 09 11.1 -0.5
VRTB Varto-Mus 75.44 314 eP P 05 09 13.3 +0.4
VNDA Vanda 75.72 169 LR LR 05 39 18.8
comp=Z,136nm,21.6s,baz=304,slow=33
KBZ Khabaz 76.26 318 P P 05 09 18.0 +0.7
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 76.26 318 P P 05 09 18.0 +0.7
comp=Z,5.1nm,0.8s,baz=118,slow=5.0,SNR=12
LSZ Lusaka 76.27 256 eP P 05 09 20.3 +2.2
LSZ pmax pmax
comp=Z,5.0nm,0.8s
LSZ Lusaka 76.27 256 eP P 05 09 20.3 +2.2
comp=Z,5.3nm,0.8s
KIV Kislovodsk 76.49 318 eP P 05 09 19.8 +1.1
KIV i S SKSac 05 19 25.5 -0.7
KIV pmax pmax
comp=Z,8.0nm,0.6s
PTK Pertek 76.83 313 eP P 05 09 11.7 -9.2
BAYT Aydı̇ntepe-Bay 76.84 314 eP P 05 09 22.1 +1.2
MALT Malatya 77.34 312 eP P 05 09 25.3 +1.7
MALT Malatya 77.34 312⇑i P P 05 09 25.2 +1.6
ILIC ilic-Erzincan 77.63 313 eP P 05 09 29.3 +4.0
BOSA Boshof 78.29 242 P P 05 09 31.0 +1.8
BOSA pmax pmax
comp=Z,2.0nm,0.7s
BOSA Boshof 78.29 242 P P 05 09 30.9 +1.8
comp=Z,2.2nm,0.7s,baz=135,slow=5.3,SNR=5.4
BOSA LR LR 05 40 45.2
comp=Z,94nm,18.1s,baz=84,slow=33
LFK Lefkose 80.12 308 eP P 05 09 40.2 +1.2
VRHR Novokhopersk 80.14 325 eP P 05 09 38.0 -0.5
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
CSS Prodhromos 80.19 307 eP P 05 09 40.5 +1.2
comp=Z,3.5nm,0.9s
ANN Anapa 80.30 318 eP P 05 09 43.8 +4.3
ANN pmax pmax
comp=Z,73nm,1.0s
TIXI Tiksi 80.39 7 c i P P 05 09 37.9 -1.6
TIXI pmax pmax
comp=Z,10.0nm,0.6s
TIXI Tiksi 80.39 7 eP P 05 09 37.7 -1.7
comp=Z,11nm,0.6s
CORM Corum 80.73 313 eP P 05 09 41.8 -0.4
SULT Sultanhani-AKS 80.97 311 eP P 05 09 44.8 +1.3
BYBT Boyabat 81.03 314 eP P 05 09 46.2 +2.6
BRTR Keskin Array B 81.32 312 P P 05 09 46.0 +0.6
BRTR pmax pmax
comp=Z,10.0nm,0.6s
BRTR MLR MLR
comp=Z,16nm,28.6s
BRTR Keskin Array B 81.32 312 P P 05 09 46.0 +0.6
comp=Z,9.6nm,0.6s,baz=138,slow=6.8,SNR=86
BRTR LR LR 05 47 32.0
comp=Z,40nm,20.6s,baz=86,slow=37

VSR Storozhevoye 81.60 324 eP P 05 09 45.6 -0.7
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,1.0nm,0.6s
VSR pmax pmax
comp=Z,20nm,0.6s
AFSR Af'ar-Bala (A 81.66 312 eP P 05 09 47.5 +0.4
BZK Bozkurt 81.73 314 eP P 05 09 48.5 +1.3
KONT Konya--Tatoy 81.77 310 eP P 05 09 46.2 -1.4
KIZT Kizilcal 82.39 311 eP P 05 09 50.1 -0.8
SVRH Sivrihisar-ESK 82.81 311 eP P 05 09 52.8 -0.3
PRGR Permogore 83.02 335 eP P 05 09 52.2 -1.3
PRGR pmax pmax
comp=Z,18nm,0.6s
ELL Elmali 83.34 308 eP P 05 09 59.4 +3.4
ALT Altintas 83.77 311 eP P 05 09 57.3 -0.8
GULT Gulveren 83.82 312 eP P 05 09 58.1 -0.2
FETY Fethiye 83.96 308 eP P 05 09 59.3 +0.3
KHL Karahalli 84.03 310 eP P 05 09 58.8 -0.6
TVSB Tavsanli 84.35 311 eP P 05 10 01.6 +0.5
OBN Obninsk 84.52 327 eP P 05 10 02.4 +1.1
OBN i 05 13 21.5
OBN pmax pmax
comp=Z,37nm,1.7s
AYDB Zeytinkoy-Aydi 85.19 309 eP P 05 10 06.6 +1.3
BILL Bilibino 86.27 19 eP P 05 10 08.6 -1.2
BILL pmax pmax
comp=Z,5.0nm,0.6s
BILL Bilibino 86.27 19 eP P 05 10 08.6 -1.2
comp=Z,4.9nm,0.6s
CFR Carcaliu 86.70 316 ⇑P P 05 10 13.7 +1.3
CFR Carcaliu 86.70 316⇑iP P 05 10 13.7 +1.3
PRD Provadia 86.76 314 ⇑P P 05 10 11.8 -0.9
LEOM Leova 86.94 317 ⇑P P 05 10 15.8 +2.2
LEOM Leova 86.94 317⇑iP P 05 10 15.8 +2.2
JMB Yambol 87.18 313 ⇑P P 05 10 15.9 +1.1
JMB Yambol 87.18 313⇑iP P 05 10 15.9 +1.1
AKASG Malin Array Be 87.38 322 P P 05 10 15.7 +0.1
AKASG 05 13 38.1
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 87.38 322 P P 05 10 15.7 +0.1
comp=Z,2.1nm,0.6s,baz=88,slow=4.7,SNR=18
AKASG PP PP 05 13 38.1 -2.5
comp=Z,0.1nm,0.3s,baz=92,slow=7.0,SNR=5.7
KIEV Kiev 87.38 322 eP P 05 10 15.1 -0.5
KIEV pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 87.38 322 eP P 05 10 15.1 -0.5
comp=Z,3.6nm,0.7s
ISR Istrita 87.79 316 ⇑P P 05 10 20.7 +2.9
ISR Istrita 87.79 316⇑iP P 05 10 20.7 +2.9
VRI Vrincioaia 87.83 317 ⇑P P 05 10 19.4 +1.5
VRI Vrincioaia 87.83 317⇑iP P 05 10 19.4 +1.5
PLOR Plostina 87.88 317 ⇑P P 05 10 19.8 +1.6
PLOR Plostina 87.88 317⇑iP P 05 10 19.8 +1.6
MLR Muntele Rosu 88.28 316 ⇑P P 05 10 22.1 +1.9
MLR Muntele Rosu 88.28 316⇑iP P 05 10 22.1 +1.9
VOIR 88.89 316 ⇑P P 05 10 24.4 +1.4
VOIR 88.89 316⇑iP P 05 10 24.4 +1.4
NVR Nevrokopi 88.94 312 ePN P 05 10 24.0 +0.7
ARR Arges 89.16 316⇑iP P 05 10 25.3 +1.0
BURAR Bucovina Array 89.22 318 ⇑P P 05 10 26.4 +1.9
BURAR Bucovina Array 89.22 318⇑iP P 05 10 26.4 +1.9
BUR08 Bucovina Ar. S 89.23 318 eP P 05 10 26.0 +1.4
KLV Kalavryta, Ach 89.65 308 ePN P 05 10 26.8 +0.1
AGG Agios Georgios 89.68 309 ePN P 05 10 27.1 +0.3
ITM Ithomi 89.68 307 ePN P 05 10 28.4 +1.6
KALE Kalithea 89.72 309 ePN P 05 10 27.8 +0.8
LIT Litokhoron 89.74 310 ePN P 05 10 28.1 +1.0
LAKA Lakka 89.82 308 ePN P 05 10 28.6 +1.1
DRO Drossia 89.98 308 ePN P 05 10 30.9 +2.7
THL Klokotos Trika 90.01 310 ePN P 05 10 29.0 +0.7
EVR Evrytania 90.06 309 ePN P 05 10 30.3 +1.6
RLS Riolos of Patr 90.19 308 ePN P 05 10 31.1 +2.0
APA Apatity 90.26 339⇓iP P 05 10 31.6 +2.8
APA MLR MLR
comp=Z,600nm,24.0s
GZR Gura Zlata 90.45 316 ⇓P P 05 10 32.6 +2.3
GZR Gura Zlata 90.45 316⇓iP P 05 10 32.6 +2.3
PDO Prodromos 90.49 309 ePN P 05 10 32.8 +2.2
BZS Buzias 91.29 316 ⇑P P 05 10 35.4 +1.3
BZS Buzias 91.29 316⇑iP P 05 10 35.4 +1.3
KOLS Kolonicke sedl 91.40 319 eP P 05 10 35.9 +1.4
KOLS Kolonicke sedl 91.40 319 eP P 05 10 35.9 +1.4
FINES FINESS Array B 91.66 332 P P 05 10 36.0 +0.6
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 91.66 332 P P 05 10 36.0 +0.6
comp=Z,2.9nm,0.6s,baz=125,slow=9.6,SNR=18
STHS Stebnicka Huta 92.14 319 eP P 05 10 40.5 +2.5
STHS Stebnicka Huta 92.14 319 eP P 05 10 40.5 +2.5
PKSM Moragy 93.43 316 ⇑P P 05 10 45.2 +1.2
PKSM Moragy 93.43 316⇑iP P 05 10 45.2 +1.2
ARCES ARCESS Array B 93.58 340 P P 05 10 43.1 -1.1
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 93.58 340 P P 05 10 43.0 -1.1
comp=Z,2.5nm,0.7s,baz=74,slow=4.4,SNR=10.0
MORC Moravsky Berou 94.58 319 eP P 05 10 49.0 -0.2
MORC Moravsky Berou 94.58 319 eP P 05 10 49.0 -0.2
YKA Yellowknife Ar 117.66 20 PKP PKPdf 05 16 12.7 -1.3
comp=Z,0.2nm,0.7s,baz=330,slow=1.9,SNR=6.3
NVAR Mina Array Bea 129.65 45 PKP PKPdf 05 16 40.3 +2.2
comp=Z,0.4nm,0.7s,baz=232,slow=1.7,SNR=4.7
V34A Guthrie 144.54 34 ePKPdf PKPbc 05 17 04.4 +0.4
TXAR Lajitas Array 144.68 48 PKP PKPdf 05 17 06.4 +0.5
comp=Z,3.1nm,0.6s,baz=267,slow=0.6,SNR=60
TXAR SKP 05 20 41.8
comp=Z,0.4nm,0.8s,baz=259,slow=1.8,SNR=3.6
ERPA Erie 145.09 8 ePKPdf PKPbc 05 17 05.2 -0.3
SFIN Scholer Farm 145.21 18 ePKPbc PKPbc 05 17 05.9 0.0
BINY Binghamton 145.35 2 ePKPbc PKPbc 05 17 06.2 -0.2
TUL1 Tulsa 145.41 32 ePKPbc PKPab 05 17 07.0 +0.1
BDFB Brasilia 145.45 228 PKP2 PKPab 05 17 09.4 +1.6
BDFB pmax pmax
comp=Z,3.0nm,0.5s
BDFB Brasilia 145.45 228 PKPbc PKPab 05 17 09.4 +1.6
comp=Z,3.2nm,0.5s,baz=87,slow=3.8,SNR=11
OLIL Olney 146.39 20 ePKPbc PKPbc 05 17 09.6 -0.1
ACSO Alum Creek Sta 146.41 12 ePKPbc PKPbc 05 17 09.6 -0.1
BLO Bloomington 146.50 18 ePKP2 PKPbc 05 17 10.4 +0.4
BLO Bloomington 146.50 18 ePKPbc PKPbc 05 17 10.3 +0.4
JCT Junction City 146.76 43 ePKP2 PKPbc 05 17 10.6 -0.5
JCT Junction City 146.76 43 ePKPbc PKPbc 05 17 10.6 -0.5
SSPA Standing Stone 146.78 5 ePKPbc PKPbc 05 17 10.4 -0.3
WCI Wyandotte Cave 147.43 18 ePKP2 PKPbc 05 17 11.9 -0.8
WCI Wyandotte Cave 147.43 18 ePKPbc PKPbc 05 17 11.9 -0.8
MIAR Mount Ida 147.61 31 ePKP2 PKPbc 05 17 13.4 +0.2
MIAR Mount Ida 147.61 31 ePKPbc PKPbc 05 17 13.4 +0.2
WVT Waverly 148.81 22 ePKP2 PKPbc 05 17 16.2 -0.2
WVT Waverly 148.81 22 ePKPbc PKPbc 05 17 16.2 -0.2
LVC Limon Verde 149.69 190 ePKPbc PKPbc 05 17 19.0 -0.3
LVC ePKPab PKPab 05 17 24.1 -0.3
SWET Sewanee 150.31 20 ePKPbc PKPbc 05 17 19.6 -0.6
SWET ePKPab PKPab 05 17 25.7 -0.7
KMSC Kings Mountain 151.65 13 ePKPbc PKPbc 05 17 23.2 0.0
SAML Samuel 160.41 214 ePKPdf PKPdf 05 17 30.4 +1.3

*VIE **20** 05:08:38.9±0.3, 46°.30N×14°.31E, h12km±4km, mb1.2/1, ML2.0/4, Error ellipse: s-maj=1.1km s-min=0.9km az=11.0 8 km NNW of Kranj*
*LJU **20** 05:08:38.9, 46°.30N×14°.31E, h5km, ML1.7*
CSEM 20 05:08:39.3±0.1, 46°.30N×14°.31E, h2km, ML2.4/16, 7C-10D, Error ellipse: s-maj=2.0km s-min=1.4km az=8.0, Northwestern Balkan Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MOZS Mozjanca 0.09 94 i Pg Pg 05 08 41.4 +0.2
MOZS i Sg Sg 05 08 43.5 +1.0
MOZS
comp=Z,166nm,0.1s
MOZS Mozjanca 0.09 94 i Pg Pg 05 08 41.4 +0.2
MOZS i Sg Sg 05 08 43.5 +1.0
comp=Z,166nm,0.1s
GORS Gorjuse 0.22 275 i Pg Pg 05 08 43.4 -0.3
GORS i Sg Sg 05 08 46.9 +0.2
GORS
comp=Z,20nm,0.1s
GORS Gorjuse 0.22 275 i Pg Pg 05 08 43.4 -0.3
GORS i Sg Sg 05 08 46.8 +0.1
comp=Z,20nm,0.1s
CRNS Crni Vrh 0.22 189 i Pg Pg 05 08 43.5 -0.1
CRNS i Sg Sg 05 08 47.0 +0.4
CRNS
comp=Z,114nm,0.1s
OBKA Obir 0.27 38⇓ePg Pg 05 08 44.7 +0.1
SNR=57
OBKA ⇑iSg Sg 05 08 48.8 +0.6
comp=Z,42nm,0.1s
OBKA Obir 0.27 38 Pg Pg 05 08 44.7 +0.1
SNR=57
OBKA Sg Sg 05 08 48.8 +0.6
comp=Z,42nm,0.1s
LJU Ljubljana 0.30 150 i Pg Pg 05 08 45.4 +0.4
LJU i Sg Sg 05 08 49.5 +0.6
LJU
comp=Z,47nm,0.1s
LJU Ljubljana 0.30 150 i Pg Pg 05 08 45.4 +0.4
LJU i Sg Sg 05 08 49.5 +0.6
comp=Z,47nm,0.1s
VNDS Vrh nad Dolski 0.34 126⇑iPg Pg 05 08 46.2 +0.3
VNDS i Sg Sg 05 08 50.7 +0.5
VNDS
comp=Z,26nm,0.2s
VOJS Vojsko 0.40 228⇓iPg Pg 05 08 46.6 -0.5
VOJS i Sg Sg 05 08 52.4 0.0
VOJS
comp=Z,36nm,0.1s
VOJS Vojsko 0.40 228⇓iPg Pg 05 08 46.6 -0.5
VOJS i Sg Sg 05 08 52.4 0.0
comp=Z,36nm,0.1s
CADS Cadrg 0.41 260 i Pg Pg 05 08 47.0 -0.2
CADS
comp=Z,35nm,0.1s
CADS Cadrg 0.41 260 i Pg Pg 05 08 47.0 -0.2
comp=Z,35nm,0.1s
JAVS Javornik 0.44 203 i Pg Pg 05 08 47.3 -0.7
JAVS i Sg Sg 05 08 54.3 +0.5
JAVS
comp=Z,21nm,0.1s
JAVS Javornik 0.44 203 i Pg Pg 05 08 47.3 -0.6
JAVS i Sg Sg 05 08 54.3 +0.5
comp=Z,21nm,0.1s
DRE Drenchia 0.48 255⇓ePg Pg 05 08 48.4 -0.2
DRE eSg Sg 05 08 55.9 +0.9
DRE Drenchia 0.48 255 eP Pg 05 08 48.4 -0.2
DRE eSg Sg 05 08 55.9 +0.9
PDKS Podkum 0.53 116 i Pg Pg 05 08 49.8 +0.2
PDKS i Sg Sg 05 08 57.2 +0.6
PDKS
comp=Z,12nm,0.1s
PDKS Podkum 0.53 116 i Pg Pg 05 08 49.8 +0.2
PDKS i Sg Sg 05 08 57.2 +0.6
comp=Z,12nm,0.1s
ROBS Robic 0.56 265 i Pg Pg 05 08 49.9 -0.2
ROBS Robic 0.56 265 i Pg Pg 05 08 49.9 -0.1
CEY Cerknica 0.57 172 i Pg Pg 05 08 49.9 -0.3
CEY i Sg Sg 05 08 57.5 -0.1
CEY
comp=Z,46nm,0.2s
CEY Cerknica 0.57 172 i Pg Pg 05 08 49.9 -0.3
CEY i Sg Sg 05 08 57.5 -0.1
comp=Z,46nm,0.2s
MYKA Terra Mystica 0.57 306⇓iPg Pg 05 08 50.4 +0.1
MYKA eSg Sg 05 08 58.1 +0.3
comp=Z,5.0nm,0.1s,SNR=10
MYKA Terra Mystica 0.57 306 Pg Pg 05 08 50.4 0.0
MYKA Sg Sg 05 08 58.1 +0.3
comp=Z,5.0nm,0.1s,SNR=10
SABO M.te Sabotino 0.59 237⇑ePg Pg 05 08 49.9 -0.8
SABO eSg Sg 05 08 58.4 0.0
SABO M.te Sabotino 0.59 237 eP Pg 05 08 49.9 -0.8
SABO eSg Sg 05 08 58.4 0.0
ACOM Acomizza, Ital 0.60 295⇓ePg Pg 05 08 51.1 -0.1
ACOM eSg Sg 05 08 59.7 +0.5
ACOM Acomizza, Ital 0.60 295 eP Pg 05 08 51.1 -0.1
ACOM eSg Sg 05 08 59.7 +0.4
VISS Visnje 0.62 143 i Pg Pg 05 08 50.9 -0.3
VISS
comp=Z,14nm,0.1s
VISS Visnje 0.62 143 i Pg Pg 05 08 50.8 -0.4
comp=Z,14nm,0.1s
SOKA Soboth 0.63 53⇓ePg Pg 05 08 51.1 -0.4
SNR=7.6
SOKA ⇓iSg Sg 05 08 60.0 +0.3
comp=Z,12nm,0.2s
SOKA Soboth 0.63 53 Pg Pg 05 08 51.1 -0.4
SNR=7.6
SOKA Sg Sg 05 09 00.0 +0.3
comp=Z,12nm,0.2s
PERS Pernice 0.65 59 i Pg Pg 05 08 51.5 -0.4
PERS i Sg Sg 05 09 00.2 -0.2
PERS
comp=Z,26nm,0.2s
PERS Pernice 0.65 59 i Pg Pg 05 08 51.5 -0.4
PERS i Sg Sg 05 09 00.2 -0.2
comp=Z,26nm,0.2s
BISS Bistriski jare 0.66 58 i Pg Pg 05 08 51.8 -0.3
BISS i Sg Sg 05 09 00.8 +0.1
BISS
comp=Z,38nm,0.1s
BISS Bistriski jare 0.66 58 i Pg Pg 05 08 51.8 -0.3
BISS i Sg Sg 05 09 00.8 +0.1
comp=Z,38nm,0.1s
COLI Coloredo 0.67 256⇓ePg Pg 05 08 51.9 -0.2
COLI eSg Sb 05 09 03.1 -0.3
COLI Coloredo 0.67 256 eP Pg 05 08 51.9 -0.2
COLI eSg Sb 05 09 03.2 -0.2
VINO Villanova 0.72 267⇑ePg Pg 05 08 52.6 -0.5
VINO eSg Sb 05 09 04.0 -0.9
VINO Villanova 0.72 267 eP Pg 05 08 52.6 -0.5
VINO eSg Sb 05 09 04.0 -0.9
KNDS Knezji Dol 0.77 176 i Pg Pg 05 08 53.7 -0.6
KNDS Knezji Dol 0.77 176 i Pg Pg 05 08 53.7 -0.6
SKDS Skadanscina 0.78 195 i Pg Pg 05 08 53.3 -1.1
SKDS i Sg Sg 05 09 05.1 +0.6
SKDS
comp=Z,19nm,0.1s
SKDS Skadanscina 0.78 195 i Pg Pg 05 08 53.3 -1.1
SKDS i Sg Sg 05 09 05.1 +0.6
comp=Z,19nm,0.1s
LEGS Legarje 0.78 116 i Pg Pg 05 08 54.3 -0.1
LEGS i Sg Sg 05 09 04.9 +0.3
LEGS Legarje 0.78 116 i Pg Pg 05 08 54.3 -0.1
LEGS i Sg Sg 05 09 04.9 +0.4
DOBS Dobrina 0.82 100 i Pg Pg 05 08 54.6 -0.4
DOBS
comp=Z,14nm,0.1s
DOBS Dobrina 0.82 100 i Pg Pg 05 08 54.6 -0.4
comp=Z,14nm,0.1s
GBRS Gornja Briga 0.84 155 i Pg Pg 05 08 55.8 +0.2
CRES Cresnjev 0.93 120 i Pg Pg 05 08 57.3 +0.2
CRES i Sg Sg 05 09 10.0 +0.8
CRES
comp=Z,14nm,0.3s
CRES Cresnjev 0.93 120 i Pg Pg 05 08 57.3 +0.2
CRES i Sg Sg 05 09 10.0 +0.8
comp=Z,14nm,0.3s
GOLS Golise 0.96 107⇑iPg Pg 05 08 57.5 -0.2
GOLS
comp=Z,18nm,0.3s
GOLS Golise 0.96 107⇑iPg Pg 05 08 57.5 -0.2
comp=Z,18nm,0.3s
ZOU Zoufplan 0.96 286 ePg Pg 05 08 58.1 +0.1
GCIS Gornji Cirnik 1.01 115 i Pg Pg 05 08 58.8 0.0
GCIS i Sg Sb 05 09 12.8 -0.6
GCIS
comp=Z,10.0nm,0.2s
GCIS Gornji Cirnik 1.01 115 i Pg Pg 05 08 58.8 0.0
GCIS i Sg Sb 05 09 12.8 -0.6
comp=Z,10.0nm,0.2s
KBA Koelnbreinsper 1.02 320⇓iPg Pg 05 08 58.8 -0.4
KBA ⇑iSg Sg 05 09 12.8 +0.1
comp=Z,3.3nm,0.2s
KBA Koelnbreinsper 1.02 320 Pg Pg 05 08 58.8 -0.4
KBA Sg Sg 05 09 12.8 +0.1
comp=Z,3.3nm,0.2s
BOJS Bojanci 1.03 140 i Pg Pg 05 08 59.2 +0.1
BOJS
comp=Z,7.0nm,0.2s
BOJS Bojanci 1.03 140 i Pg Pg 05 08 59.2 +0.1
comp=Z,7.0nm,0.2s
CIMO Cimolais 1.30 271 ePg Pn 05 09 04.7 +0.2
CIMO eSg Sn 05 09 23.3 +0.9
CIMO Cimolais 1.30 271 eP Pn 05 09 04.7 +0.2
CIMO eSg Sn 05 09 23.3 +0.8
RISI Rein 1.67 294 eP Pb 05 09 10.9 -0.1
RISI eSg Sg 05 09 33.3 -0.1
NVLJ Novalja 1.78 167 i Pn Pn 05 09 11.3 +0.2
NVLJ Sn Sg 05 09 36.6 +0.1
NVLJ Novalja 1.78 167 i Pn Pn 05 09 11.2 +0.2
NVLJ Sn Sg 05 09 36.6 +0.1
UDBI Udbina 2.05 149 ePn Pn 05 09 16.0 +1.2
UDBI Sn Sb 05 09 43.4 +0.1
UDBI Udbina 2.05 149 ePn Pn 05 09 16.0 +1.2
UDBI Sn Sb 05 09 43.3 +0.1

*BJI **20** 05:08:59.3, 26°.72N×129°.72E, h33km, mB4.7/46, mb4.5/58, Ms4.5/58, Ms7 4.4/56*
*NIED **20** 05:09:00, 26°.90N×129°.50E, h5km, Mw4.6 Best double couple: $M_0$7.70000×10^{15} NP1:ϕ_s262.00000°, δ62.00000°, λ176.00000°. NP2:ϕ_s354.00000°, δ87.00000°, λ28.00000°.*
*ISCJB **20** 05:09:02.7±0.7, 26°.90N±0°.03×129°.37E±0°.03, h28km±4km, mb4.7/81, MS4.4/24, Error ellipse: s-maj=5.0km s-min=3.1km az=142.6*
*JMA **20** 05:09:02.6±0.1, 26°.89N×129°.48E, h49km, M4.5*
*SZGRF **20** 05:09:04.7, 27°.62N×129°.94E, h33km, mb4.7, Ryukyu Islands, Japan*
*MOS **20** 05:09:04.4±1.1, 26°.97N×129°.32E, h40km, mb4.8/43, MS4.3/10, Error ellipse: s-maj=10.4km s-min=5.6km az=107.7*
*NEIC **20** 05:09:04.2±1.7, 26°.91N×129°.24E, h27km±12km, mb4.8/39, MW4.5(NIED), Error ellipse: s-maj=8.4km s-min=5.3km az=141.0*
*IDC **20** 05:09:05.8±1.9, 26°.95N×129°.32E, h40km±16km, mb4.2/20, mb1 4.4/24, mb1mx4.3/31, mbtmp4.4/24, ML4.2/3, MS3.9/5, Ms1 3.9/5, ms1mx3.3/33, Error ellipse: s-maj=16.6km s-min=12.6km az=130.0*
ISC 20 05:09:04.4±0.4, 26°.90N±0°.04×129°.42E±0°.03, h33km±1km, h33km:pP-P, n269, σ1§61/324, mb4.7/83, MS4.5/24, 23C-9D, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JOKE Okinoerabujima 0.88 302 P Pn 05 09 19.6 -0.9
JOKE eS Sn 05 09 31.9 -0.3
JTK Tokunoshima 0.98 335 P Pn 05 09 20.7 -1.1
JTK eS Sn 05 09 34.0 -0.6
JOW Kunigami 1.02 267 P Pn 05 09 21.8 -0.6
JOW eS Sn 05 09 35.1 -0.5
JOW Kunigami 1.02 267 Pn Pn 05 09 21.8 -0.6
61nm,0.3s,baz=110,slow=21,SNR=2199
JOW Sn Sn 05 09 35.2 -0.4
87nm,0.3s,baz=102,slow=19,SNR=38
JOW LR LR 05 09 51.5
comp=Z,169nm,21.6s,baz=290,slow=48
JIH Iheya 1.30 276 P Pn 05 09 25.6 -0.6
JIH eS Sb 05 09 43.5 -1.1
JNTH Nagotoyohara 1.30 254 P Pn 05 09 25.6 -0.6
JNTH eS Sn 05 09 42.5 0.0
JAMN Amaminishikomi 1.36 351 P Pn 05 09 25.7 -1.3
JZK Kikaishima 1.50 19 P Pn 05 09 28.1 -0.9
JZK eS Sn 05 09 47.3 -0.1
JAM Amami Oshima 1.52 6 P Pn 05 09 27.7 -1.6
JJT2 Tamagusuku 2 1.67 244 P Pn 05 09 31.1 -0.2
JJT2 eS Sn 05 09 51.7 0.0
JMZ Minamidaito 2 1.94 123 P Pn 05 09 33.1 -2.0
JMZ eS Sn 05 09 55.0 -3.3
JAGN Aguni-jima 1.97 262 P Pn 05 09 35.0 -0.4
JAGN eS Sn 05 09 58.6 -0.3
JTAJ Takarajima 2.26 355 P Pn 05 09 37.7 -1.7
JKE Kume jima 2 2.42 257 P Pn 05 09 40.7 -0.9
JKE eS Sn 05 10 10.0 -0.1
JOGS Gusukube 4.19 240 P Pn 05 10 05.2 -0.8
JOGS eS Sn 05 10 52.2 -1.7
JIRB Irabujima 4.34 243 P Pn 05 10 07.2 -0.9
JISG Ishigakijimahi 5.14 245 P Pn 05 10 17.0 -2.1
JIJ Ishigaki jima 5.38 243 P Pn 05 10 19.9 -2.5
JKRS Kuro-shima 5.55 243 P Pn 05 10 22.6 -2.1
JKRS eS Sn 05 11 25.8 -1.6
JNU Nakatsue 6.33 11 Pn Pn 05 10 35.8 +0.3
22nm,0.3s,baz=304,slow=1.0,SNR=57
JNU Nakatsue 6.33 11 ePn Pn 05 10 35.1 -0.4
TATO Taipei 7.39 257 ePn Pn 05 10 50.3 +0.4
NACB Ninganchiao 7.56 251 ePn Pn 05 10 49.2 -3.1
YHNB Yeheng 7.58 255 ePn Pn 05 10 52.4 -0.2
YULB Yu-li 8.14 246 ePn Pn 05 10 55.9 -4.4
SSLB Suanglung 8.26 250 ePn Pn 05 10 58.8 -3.1
SSE Sheshan 8.33 302 P Pn 05 11 02.3 -0.5
SSE pmax pmax
comp=Z,14nm,0.9s
SSE pmax pmax
comp=Z,83nm,6.0s
SSE LR LR
comp=N,980nm,13.8s
SSE LR LR
comp=E,920nm,13.8s
SSE LR LR
comp=Z,2µm,13.2s
TPUB Ta-pu 8.73 248 ePn Pn 05 11 06.6 -1.8
33nm,0.8s
QZH Quanzhou 9.94 261 P Pn 05 11 38.8 +14
QZH S Sn 05 13 34.0 +19
QZH LR LR
comp=N,1µm,7.5s
QZH LR LR
comp=E,880nm,8.5s
QZH LR LR
comp=Z,2µm,19.8s
NJ2 Nanjing 10.54 302 eP Pn 05 11 34.0 +0.9
NJ2 S Sn 05 13 31.5 +1.5
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 LR LR
comp=Z,690nm,9.4s
NJ2 LR LR
comp=Z,690nm,9.5s
NJ2 LR LR
comp=Z,610nm,7.8s
KSAR Wonju Array Be 10.60 353 P Pn 05 11 34.5 +0.6
KSAR Wonju Array Be 10.60 353 Pn Pn 05 11 34.5 +0.6
KSRS Korea Array 10.60 354 Pn Pn 05 11 34.5 +0.5
comp=Z,0.4nm,0.3s,baz=172,slow=13,SNR=16
KSRS LR 05 16 04.4
comp=Z,655nm,18.8s,baz=166,slow=40
MJAR Matsushiro Arr 12.18 36 P Pn 05 11 58.7 +3.1
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 12.18 36 Pn Pn 05 11 58.7 +3.1
comp=Z,0.5nm,0.3s,baz=284,slow=6.5,SNR=2.7
WHN Wuhan 13.71 289 P P 05 12 23.5 -1.2
WHN S S 05 15 10.9 +1.4
WHN LR LR
comp=N,1µm,8.0s
WHN LR LR
comp=E,2µm,11.4s
WHN LR LR
comp=Z,3µm,12.7s
TIA Tai'an 13.99 315 eP P 05 12 26.5 -1.3
TIA LR LR
comp=Z,2µm,14.3s
TIA LR LR
comp=Z,1µm,12.5s
TIA LR LR
comp=Z,2µm,13.1s
SNY Shenyang 15.65 344 ⇓P P 05 12 43.8 +1.4
SNY S Sn 05 15 40.9 +6.2
SNY LR LR
comp=Z,2µm,12.2s
SNY LR LR
comp=Z,1µm,12.7s
SNY LR LR
comp=Z,2µm,12.9s
VLA Vladivostok 16.31 6⇑eP Pn 05 12 52.2 +1.3
VLA eS Sn 05 15 51.5 +0.8
VLA pmax pmax
comp=Z,18nm,1.0s
BJT Baijiatuau 17.10 323 eP P 05 13 02.4 0.0
BJT pmax pmax
comp=Z,20nm,0.6s
BJT Baijiatuau 17.10 323 eP P 05 13 02.4 0.0
comp=Z,20nm,0.6s

BJI Beijing 17.12 323 P P 05 13 02.6 +0.2
BJI pP pP 05 13 12.3 +1.2
BJI S S 05 16 19.8 +0.8
BJI sS sS 05 16 27.4 -5.3
BJI pmax pmax
comp=Z,13nm,0.9s
BJI pmax pmax
comp=Z,170nm,7.4s
BJI LR LR
comp=Z,790nm,11.9s
BJI LR LR
comp=Z,560nm,11.9s
BJI LR LR
comp=Z,320nm,17.7s
CN2 Changchun 17.17 350 eP P 05 13 03.0 -0.1
CN2 esP sP 05 13 15.4 -0.6
CN2 eS Sn 05 16 09.6 -2.0
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,1µm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,1µm,14.0s
USRK Ussuriysk Arra 17.39 6 P P 05 13 06.2 +0.7
comp=Z,0.3nm,0.3s,baz=194,slow=9.5,SNR=7.3
MDJ Mudanjiang 17.68 0 P Pn 05 13 07.3 -0.7
MDJ pP pP 05 13 16.8 -0.6
MDJ sP sP 05 13 20.9 -0.7
MDJ S Sn 05 16 23.0 -1.0
MDJ PcP PcP 05 17 47.1 +1.7
MDJ ScP ScP 05 21 16.9 -1.2
MDJ PcS PcS 05 21 21.4 -0.2
MDJ pmax pmax
comp=Z,170nm,7.9s
MDJ LR LR
comp=Z,170nm,13.2s
MDJ LR LR
comp=Z,480nm,11.8s
MDJ LR LR
comp=Z,680nm,13.6s
XAN Xi'an 19.03 297 P P 05 13 23.9 +0.2
XAN pP pP 05 13 33.8 +1.4
XAN S Sn 05 16 48.6 -8.2
XAN pmax pmax
comp=Z,10.0nm,0.6s
XAN pmax pmax
comp=Z,21nm,4.3s
XAN LR LR
comp=Z,500nm,15.4s
XAN LR LR
comp=Z,270nm,18.4s
QIZ Qiongzhong 19.63 251 P Pn 05 13 31.3 -0.6
QIZ S S 05 17 08.9 -1.3
QIZ LR LR
comp=Z,530nm,21.0s
ASAJ Asahikawa 20.21 28 P P 05 13 37.3 +0.9
ASAJ pmax pmax
comp=Z,12nm,0.6s
ASAJ MLR MLR
comp=Z,16nm,28.6s
ASAJ Asahikawa 20.21 28 P P 05 13 37.3 +0.9
comp=Z,12nm,0.6s,baz=234,slow=6.4,SNR=11
ASAJ LR LR 05 22 39.6
comp=Z,328nm,19.3s,baz=180,slow=40
ASAJ Asahikawa 20.21 28 eP Pn 05 13 37.7 -0.8
comp=Z,46nm,1.7s
HHC Hu-ho-hao-te 20.28 318 eP Pn 05 13 38.5 -1.0
HHC sP sP 05 13 51.8 +1.5
HHC PP PnPn 05 13 58.1 +3.5
HHC S S 05 17 16.8 -6.2
HHC pmax pmax
comp=Z,29nm,0.7s
HHC pmax pmax
comp=Z,220nm,5.9s
HHC LR LR
comp=Z,2µm,12.3s
HHC LR LR
comp=Z,2µm,13.6s
HHC LR LR
comp=Z,3µm,13.6s
GYA Guiyang 20.33 274 P P 05 13 38.3 +0.3
GYA pP pP 05 13 48.8 +2.0
GYA PP PnPn 05 14 01.5 +6.1
GYA S S 05 17 18.0 -6.4
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=Z,550nm,17.4s
GYA LR LR
comp=Z,490nm,18.2s
GYA LR LR
comp=Z,530nm,17.9s
KLR Kul'dur 22.37 4 eP P 05 13 53.2 -6.4
KLR MLR MLR
comp=N,500nm,12.0s
KLR MLR MLR
comp=Z,2µm,12.0s
YSS Yuzh-Sakhalins 22.62 24 eP P 05 14 02.0 -0.3
YSS e 05 14 11.0
YSS eS S 05 18 01.0 -6.9
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=Z,500nm,17.0s
YSS Yuzh-Sakhalins 22.62 24 eP P 05 14 02.7 +0.4
comp=Z,70nm,1.1s
CD2 Chengdu 22.80 286 eP P 05 14 04.3 -0.1
CD2 pP pP 05 14 13.8 +0.6
CD2 sP sP 05 14 18.1 +0.7
CD2 PP PnPn 05 14 32.8 +3.7
CD2 S S 05 18 04.4 -7.0
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,180nm,5.6s
CD2 LR LR
comp=Z,1µm,14.2s
CD2 LR LR
comp=Z,940nm,13.7s
CD2 LR LR
comp=Z,960nm,10.3s
LZH Lanzhou 23.60 299 eP P 05 14 11.5 -1.0
LZH pP pP 05 14 22.1 +0.4
LZH sP sP 05 14 26.9 +1.1
LZH PP PnPn 05 14 45.3 +5.2
LZH eS S 05 18 18.5 -6.3
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.8s
LZH LR LR
comp=Z,750nm,14.7s
LZH LR LR
comp=Z,850nm,14.9s
LZH LR LR
comp=Z,1µm,15.2s
KMI Kunming 24.02 272 P P 05 14 17.1 +0.4
KMI pP pP 05 14 26.1 0.0
KMI sP sP 05 14 30.5 +0.3
KMI S S 05 18 26.4 -5.6
KMI pmax pmax
comp=Z,32nm,0.8s
KMI pmax pmax
comp=Z,81nm,3.1s
KMI LR LR
comp=Z,750nm,14.4s
KMI LR LR
comp=Z,1µm,12.3s
KMI LR LR
comp=Z,1µm,12.3s
ULN Ulaanbaatar 27.28 326 eP P 05 14 47.0 +1.1
ULN pmax pmax
comp=Z,15nm,1.4s
ULN Ulaanbaatar 27.28 326 eP P 05 14 47.0 +1.1
comp=Z,15nm,1.4s
SONM Songino Array 27.59 325 P P 05 14 49.4 +0.8
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 27.59 325 P P 05 14 49.4 +0.8
comp=Z,4.3nm,0.9s,baz=137,slow=12,SNR=21
SONA1 Songino Array 27.59 325 eP P 05 14 47.9 -0.8
GTA Gaotai 27.62 304 eP P 05 14 47.8 -1.2
GTA pP pP 05 14 56.9 -1.6
GTA sP sP 05 15 01.5 -1.0
GTA S S 05 19 23.0 -5.6
GTA pmax pmax
comp=Z,21nm,0.9s
GTA pmax pmax
comp=Z,87nm,5.0s
GTA LR LR
comp=Z,720nm,16.2s
GTA LR LR
comp=Z,1µm,13.8s
GTA LR LR
comp=Z,1µm,14.3s
CHTO Chiang Mai 29.15 260 eP P 05 15 04.0 +1.3
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 29.15 260 eP P 05 15 04.0 +1.3
comp=Z,5.9nm,0.8s
CMAR Chiang Mai Arr 29.29 260 P P 05 15 05.1 +1.2
CMAR 05 18 10.5
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,321nm,18.8s
CMAR Chiang Mai Arr 29.29 260 P P 05 15 05.1 +1.2
comp=Z,1.4nm,0.4s,baz=57,slow=8.1,SNR=5.1
CMAR PcP PcP 05 18 10.5 +0.3
comp=Z,0.8nm,0.4s,baz=43,slow=1.7,SNR=4.9
CMAR LR LR 05 28 28.2
comp=Z,321nm,18.8s,baz=344,slow=40
PETK Petropavlovsk- 33.58 31 LR LR 05 31 18.3
comp=Z,92nm,18.1s,baz=223,slow=40
LSA Lhasa 33.71 284 P P 05 15 43.4 +0.2
LSA Lhasa 33.71 284 eP P 05 15 43.7 +0.5
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 33.71 284 eP P 05 15 43.6 +0.5
comp=Z,6.3nm,0.6s
PET Petropavlovsk 33.97 32 eP P 05 15 54.4 +10
PET eS S 05 21 13.6 +6.2
PET MLR MLR
comp=Z,300nm,23.0s
YAK Yakutsk 35.13 0 eP P 05 15 52.4 -2.1
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=Z,21nm,0.9s
TAPN Taplejung 37.00 280 eP P 05 16 11.8 +0.5
comp=Z,8.7nm,0.4s
ODAN Odare 37.36 280 eP P 05 16 14.7 +0.3
comp=Z,66nm,0.5s
WMQ Urumqi 37.54 308 eP P 05 16 14.5 -1.0
WMQ pP pP 05 16 24.3 -0.8
WMQ sP sP 05 16 28.3 -0.8
WMQ PP PnPn 05 17 42.3 -0.1
WMQ PcP PcP 05 18 33.9 +0.8
WMQ S S 05 21 59.4 -3.1
WMQ PcS PcS 05 22 21.1 -0.5
WMQ ScS ScS 05 26 23.8 -2.6
WMQ pmax pmax
comp=Z,6.0nm,0.8s
WMQ pmax pmax
comp=Z,74nm,5.0s
WMQ LR LR
comp=Z,350nm,15.2s
WMQ LR LR
comp=Z,400nm,12.0s
WMQ LR LR
comp=Z,200nm,17.6s
RAMN Ramite 38.04 280 eP P 05 16 20.4 +0.3
comp=Z,14nm,0.5s
JIRN Jiri 38.28 281 eP P 05 16 22.6 +0.3
comp=Z,17nm,0.6s
GUN Gumba 38.51 282 eP P 05 16 25.0 +0.8
comp=Z,23nm,0.4s
PKI Pulchoki 38.98 281 eP P 05 16 28.0 -0.1
comp=Z,30nm,0.5s
PKIN Phulchoki 38.99 281 eP P 05 16 28.5 +0.4
KKN Kakani 39.06 282 eP P 05 16 29.0 +0.4
comp=Z,36nm,0.7s
SEY Seymchan 39.08 16 P P 05 16 28.9 +0.8
SEY pmax pmax
comp=Z,7.0nm,0.7s
SEY Seymchan 39.08 16 P P 05 16 28.9 +0.8
comp=Z,7.4nm,0.7s,baz=218,slow=5.6,SNR=24
DMN Daman 39.24 281 eP P 05 16 30.7 +0.5
comp=Z,33nm,0.9s
GKN Gorkha 39.58 282 eP P 05 16 32.9 -0.1
comp=Z,47nm,0.5s
DANN Dangsing 40.29 283 eP P 05 16 39.4 +0.4
comp=Z,74nm,0.6s
KOLN Koldanda 40.53 282 eP P 05 16 40.6 -0.2
comp=Z,37nm,0.8s
PYUN Piuthan 41.01 283 eP P 05 16 45.0 +0.2
comp=Z,49nm,0.6s
MK01 Makanchi Array 41.88 311 eP P 05 16 50.1 -1.3
MK31 Makanchi Array 41.89 311 eP P 05 16 50.2 -1.4
MK31 Makanchi Array 41.89 311 eP P 05 16 50.2 -1.4
MKAR Makanchi Array 41.89 311 P P 05 16 50.4 -1.2
MKAR 05 18 47.1
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 41.89 311 P P 05 16 50.4 -1.2
comp=Z,3.0nm,0.7s,baz=100,slow=10.0,SNR=41
MKAR PcP PcP 05 18 47.1 +0.2
comp=Z,1.1nm,0.7s,baz=79,slow=2.7,SNR=4.7
ZAA0 Zalesovo Array 42.37 322 eP P 05 16 53.4 -2.0
ZALV Zalesovo Beam 42.37 322 P P 05 16 53.6 -1.7
ZALV 05 18 47.6
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 42.37 322 P P 05 16 53.6 -1.7
comp=Z,1.8nm,0.6s,baz=108,slow=8.9,SNR=8.1
ZALV PcP PcP 05 18 47.5 -0.7
comp=Z,0.7nm,0.6s,baz=107,slow=5.0,SNR=3.1
TIXI Tiksi 44.79 360⇓iP P 05 17 14.0 -0.6
TIXI pmax pmax
comp=Z,18nm,1.7s
TIXI MLR MLR
comp=Z,313nm,18.0s
TIXI Tiksi 44.79 360 eP P 05 17 14.4 -0.2
comp=Z,18nm,1.4s
KURK Kurchatov 45.07 316 eP P 05 17 16.0 -1.1
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 45.07 316 eP P 05 17 16.0 -1.1
comp=Z,2.9nm,0.7s
KSH Kashi 45.84 300 eP P 05 17 27.3 +3.7
KSH epP pP 05 17 35.5 +2.1
KSH esP sP 05 17 39.6 +2.2
KSH ePP PP 05 19 14.9 +3.7
KSH S S 05 24 08.1 +2.5
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH pmax pmax
comp=Z,37nm,4.4s
KSH LR LR
comp=Z,130nm,6.3s
KSH LR LR
comp=Z,110nm,5.7s
NDI New Delhi 45.91 285 eP P 05 17 25.5 +1.4
TKM2 Tokmak 2 46.16 305 eP P 05 17 25.2 -0.9
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 46.16 305 eP P 05 17 25.2 -0.9
comp=Z,6.8nm,0.8s
BILL Bilibino 46.71 18⇓eP P 05 17 30.8 +1.0
BILL i 05 17 39.3
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL MLR MLR
comp=Z,200nm,21.0s
BILL Bilibino 46.71 18 eP P 05 17 30.5 +0.7
comp=Z,17nm,1.2s
WRAB Tennant Creek 46.80 174 eP P 05 17 31.9 +0.9
WRAB e 05 17 47.8
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WRAB Tennant Creek 46.80 174 eP P 05 17 31.9 +0.9
comp=Z,7.0nm,0.9s
WRAB e 05 17 47.8
WRA Warramunga Arr 46.80 174 P P 05 17 31.8 +0.8
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 46.80 174 P P 05 17 31.8 +0.8
comp=Z,2.7nm,0.7s,baz=354,slow=8.4,SNR=22
AAK Ala-Archa 46.97 304⇑iP P 05 17 33.0 +0.6
AAK pmax pmax
comp=Z,15nm,2.5s
AAK Ala-Archa 46.97 304 eP P 05 17 31.4 -1.0
comp=Z,9.9nm,1.5s
KKAR Karatay Array 49.90 305 eP P 05 17 54.9 +0.1
KKAR e 05 18 04.1
KKAR pmax pmax
comp=Z,15nm,1.3s
KKAR Karatay Array 49.90 305 eP P 05 17 54.9 +0.1
comp=Z,15nm,1.3s
KKAR e 05 18 04.1
ASAR Alice Springs 50.45 175 P P 05 18 00.2 +1.1
ASAR pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 50.45 175 P P 05 18 00.2 +1.1
comp=Z,2.4nm,0.9s,baz=1.0,slow=7.5,SNR=25
BRVK Borovoye 50.56 318ceP P 05 17 58.8 -0.8
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 50.56 318 eP P 05 17 57.8 -1.8
comp=Z,5.0nm,0.9s
KBL Kabul 51.80 294 eP P 05 18 10.2 +0.7
KBL e 05 18 19.5
KBL pmax pmax
comp=Z,30nm,0.7s
KBL Kabul 51.80 294 eP P 05 18 10.2 +0.7
comp=Z,30nm,0.7s
KBL e 05 18 19.5
TNA Tin City 54.56 27 eP P 05 18 30.1 +1.1
comp=Z,7.2nm,1.4s
ABKAR Akbulak array 56.97 313 eP P 05 18 46.1 -0.4
ABKAR e 05 18 56.0
ARU Arti 57.53 322c iP P 05 18 50.0 -0.4
ARU 05 20 56.2
ARU S S 05 26 45.9 +0.3
ARU pmax pmax
comp=Z,4.0nm,0.8s
ARU MLR MLR
comp=Z,573nm,15.0s
ARU Arti 57.53 322 eP P 05 18 49.3 -1.1
comp=Z,3.4nm,0.8s
MCK McKinley 62.57 30 eP P 05 19 26.3 +1.4
MCK e 05 19 35.5
MCK McKinley 62.57 30 eP P 05 19 26.3 +1.4
MCK e 05 19 35.5
ILAR Eielson Array 63.35 28 P P 05 19 29.8 -0.2
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 63.35 28 P P 05 19 29.8 -0.2
comp=Z,1.1nm,0.8s,baz=270,slow=6.0,SNR=12
PRGR Permogore 63.80 328 eP P 05 19 31.2 -1.8
PRGR pmax pmax
comp=Z,13nm,0.5s
DOT Dot Lake 64.73 30 eP P 05 19 39.3 +0.2
comp=Z,10nm,0.8s
DOT e 05 19 48.5
EGAK Eagle 65.77 28 eP P 05 19 46.0 +0.2
comp=Z,67nm,2.5s
EGAK e 05 19 55.2
DAWY Dawson 66.68 29 eP P 05 19 52.5 +0.8
DAWY e 05 20 01.6
TMCR Tamitsa 66.73 332 eP P 05 19 52.3 +0.4
TMCR e 05 20 19.8
TMCR e 05 22 18.1
TMCR pmax pmax
comp=Z,13nm,1.0s
KLMR Klimovskoe 66.85 328 eP P 05 19 49.9 -2.8
KLMR pmax pmax
comp=Z,30nm,1.5s
APA Apatity 67.69 336 eP P 05 20 00.0 +2.0
APA MLR MLR
comp=Z,600nm,16.0s
INK Inuvik 67.86 23 eP P 05 20 00.2 +1.2
INK e 05 20 09.3
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 67.86 23 P P 05 19 58.0 -1.0
comp=Z,1.7nm,0.7s,baz=317,slow=7.0,SNR=10
INK Inuvik 67.86 23 eP P 05 20 00.2 +1.2
comp=Z,4.7nm,0.8s
INK e 05 20 09.3
VRHR Novokhopersk 68.23 317 eP P 05 19 59.9 -1.7
VRHR pmax pmax
comp=N,3.0nm,0.9s
VRHR pmax pmax
comp=E,9.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
ZEI Tsey 69.15 308 eP P 05 20 06.7 -1.1
ZEI pmax pmax
comp=Z,4.0nm,0.5s
KBZ Khabaz 69.56 309 P P 05 20 10.9 +0.9
KBZ pmax pmax
comp=Z,8.0nm,0.8s
KBZ Khabaz 69.56 309 P P 05 20 10.9 +0.9
comp=Z,7.8nm,0.8s,baz=70,slow=1.8,SNR=20
KIV Kislovodsk 69.63 310⇑iP P 05 20 10.6 0.0
KIV i 05 20 18.4
KIV i 05 20 30.4
KIV iS S 05 29 08.0 -8.9
KIV pmax pmax
comp=Z,21nm,1.7s
KIV MLR MLR
comp=Z,121nm,22.0s
VSR Storozhevoye 69.67 318 eP P 05 20 10.0 -0.6
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 69.78 339 P P 05 20 10.4 -0.6
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 69.78 339 P P 05 20 10.4 -0.6
comp=Z,3.1nm,0.8s,baz=81,slow=6.3,SNR=4.0
OBN Obninsk 69.95 322⇓iP P 05 20 12.8 +0.6
OBN e 05 20 22.4
OBN pmax pmax
comp=Z,32nm,1.7s
FINES FINESS Array B 72.81 331 P P 05 20 29.5 +0.1
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 72.81 331 P P 05 20 29.5 +0.1
comp=Z,3.2nm,0.5s,baz=81,slow=5.9,SNR=32
ANN Anapa 72.90 312 eP P 05 20 31.1 +0.9
ANN pmax pmax
comp=Z,79nm,1.4s
VSU Vasula 73.75 328⇑eP P 05 20 36.4 +1.4
VSU pmax pmax
comp=Z,67nm,1.0s
MALT Malatya 74.59 305⇓iP P 05 20 42.0 +1.6
RAYN Ar Rayn 74.60 289 eP P 05 20 41.6 +0.9
comp=Z,16nm,1.0s
RES Resolute Bay 74.69 11 eP P 05 20 40.8 +0.6
RES pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 74.69 11 eP P 05 20 40.8 +0.6
comp=Z,5.3nm,0.8s
DAG Danmarks Havn 74.73 353 iP P 05 20 39.5 -0.9
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 74.73 353 iP P 05 20 39.5 -0.9
comp=Z,4.2nm,0.8s
NACGM Naroch 75.26 324 e P 05 20 42.0 -1.8
AKASG Malin Array Be 75.71 320 P P 05 20 46.6 +0.1
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKASG Malin Array Be 75.71 320 P P 05 20 46.5 +0.1
comp=Z,10.0nm,0.6s,baz=57,slow=6.2,SNR=38
KIEV Kiev 75.72 320 eP P 05 20 46.4 -0.2
KIEV pmax pmax
comp=Z,12nm,0.6s
KIEV Kiev 75.72 320 eP P 05 20 46.4 -0.2
comp=Z,12nm,0.6s
BR131 Keskin Array S 77.46 308 eP P 05 20 57.1 +0.3

comp=Z,8.0nm,0.8s
BRTR Keskin Array B 77.46 308 P P 05 20 57.3 +0.5
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 77.46 308 P P 05 20 57.3 +0.5
comp=Z,8.1nm,0.8s,baz=100,slow=5.1,SNR=44
YKA Yellowknife Ar 77.47 25 P P 05 20 57.0 +0.8
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 77.47 25 P P 05 20 57.0 +0.8
comp=Z,1.2nm,0.8s,baz=300,slow=5.4,SNR=24
YKA Yellowknife Ar 77.47 25 P P 05 20 57.0 +0.8
SUW Suwalki 77.53 325 eP P 05 20 57.3 +0.6
SUW e 05 21 06.8
SUW pmax pmax
comp=Z,39nm,0.9s
SUW Suwalki 77.53 325 eP P 05 20 56.9 +0.2
SUW Suwalki 77.53 325 eP P 05 20 57.2 +0.6
comp=Z,39nm,0.9s
SUW e 05 21 06.8
BR231 Keskin MP Arra 78.02 309 eP P 05 20 58.2 -1.7
CFR Carcaliu 78.78 315⇓iP P 05 21 04.7 +0.9
LVV L'vov 79.08 321 eP P 05 21 05.2 -0.2
TLB Topalu 79.11 314⇑iP P 05 21 06.5 +0.9
NB2 NORSAR Subarra 79.18 334 P P 05 21 05.5 -0.3
comp=Z,2.9nm,0.7s,baz=50,slow=5.6
NOA NORSAR Array B 79.18 334 P P 05 21 05.5 -0.3
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 79.18 334 P P 05 21 05.5 -0.3
comp=Z,3.1nm,0.7s,baz=50,slow=5.5,SNR=15
VRI Vrincioaia 79.35 316⇓iP P 05 21 07.7 +0.7
PLOR Plostina 79.40 316⇑iP P 05 21 08.1 +0.8
BURAR Bucovina Array 79.45 318⇓iP P 05 21 08.1 +0.5
MSAB Monastry St. A 79.47 314⇑iP P 05 21 08.4 +0.8
KWP Kalwaria Pacla 79.93 321 eP P 05 21 10.8 +0.8
KWP pmax pmax
comp=Z,22nm,1.0s
KWP Kalwaria Pacla 79.93 321 eP P 05 21 11.3 +1.3
KWP Kalwaria Pacla 79.93 321⇑iP P 05 21 10.3 +0.3
KWP Kalwaria Pacla 79.93 321 eP P 05 21 10.8 +0.8
comp=Z,22nm,1.0s
MLR Muntele Rosu 80.01 316⇑iP P 05 21 11.3 +0.6
SUMG Summit 80.44 356 iP P 05 21 14.0 +1.1
SUMG pmax pmax
comp=Z,17nm,0.7s
SUMG Summit 80.44 356 iP P 05 21 14.0 +1.1
comp=Z,17nm,0.7s
SUMG Summit 80.44 356 eP P 05 21 13.4 +0.5
comp=Z,20nm,0.7s
KOLS Kolonicke sedl 80.52 320 eP P 05 21 13.4 +0.2
KOLS e 05 21 21.6
KOLS Kolonicke sedl 80.52 320 eP P 05 21 13.4 +0.2
KOLS epP PcP 05 21 21.6 +1.5
VOIR 80.59 316⇑iP P 05 21 15.6 +1.8
UZH Uzhgorod 80.66 320 eP P 05 21 11.7 -2.2
UZH e 05 21 25.7
TRPA Tarpa 80.77 319⇓iP P 05 21 16.2 +1.7
STHS Stebnicka Huta 80.86 321 eP P 05 21 16.4 +1.4
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 80.86 321 eP P 05 21 16.4 +1.4
ARR Arges 80.88 316⇑iP P 05 21 16.5 +1.2
CRVS Cervenica-Dubn 81.00 321 eP P 05 21 19.0 +3.2
CRVS pmax pmax
comp=Z,71nm,2.8s
CRVS Cervenica-Dubn 81.00 321 e P 05 21 19.0 +3.2
OJC Ojcow 81.24 322 eP P 05 21 18.1 +1.1
OJC Ojcow 81.24 322 eP P 05 21 17.9 +0.8
OJC Ojcow 81.24 322 eP P 05 21 18.1 +1.1
DRGR 81.34 318⇑iP P 05 21 18.5 +0.8
GZR Gura Zlata 82.00 317⇑iP P 05 21 21.9 +0.7
OKC Ostrava-Krasne 82.35 322 eP P 05 21 27.1 +4.2
OKC MLR MLR
comp=Z,300nm,16.1s
OKC Ostrava-Krasne 82.35 322 eP P 05 21 27.1 +4.2
OKC AMS AMS 06 01 00.0
comp=Z,300nm,16.1s
VYHS Vyhne 82.69 321 eP P 05 21 26.1 +1.4
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 82.69 321 eP P 05 21 26.1 +1.4
VYHS epP pP 05 21 35.2 0.0
MORC Moravsky Berou 82.71 323 eP P 05 21 25.9 +1.1
MORC e 05 21 35.5
MORC Moravsky Berou 82.71 323⇑iP P 05 21 25.9 +1.1
MORC Moravsky Berou 82.71 323 eP P 05 21 25.9 +1.1
MORC e 05 21 35.5
KSP Ksiaz 82.78 324 eP P 05 21 26.4 +1.3
KSP Ksiaz 82.78 324 eP P 05 21 26.4 +1.3
KRLC Kraliky 82.95 323 eP P 05 21 26.5 +0.4
KRLC Kraliky 82.95 323 eP P 05 21 26.5 +0.4
DPC Dobruska-Polom 83.05 324 eP P 05 21 27.9 +1.4
DPC pmax pmax
comp=Z,151nm,1.8s
DPC Dobruska-Polom 83.05 324 eP P 05 21 27.6 +1.1
DPC AMS AMS 06 02 00.0
DPC Dobruska-Polom 83.05 324 eP P 05 21 27.9 +1.4
comp=Z,151nm,1.8s
UPC Upice 83.12 324 eP P 05 21 28.3 +1.4
UPC Upice 83.12 324 eP P 05 21 28.3 +1.4
B08A Colville Reser 83.14 39 eP P 05 21 28.2 +1.1
MMB Musomiste 83.31 313⇑iP P 05 21 21.3 -6.8
EDM Edmonton 83.47 33 eP P 05 21 29.4 +0.7
EDM e 05 21 39.5
EDM Edmonton 83.47 33 eP P 05 21 29.4 +0.7
EDM e 05 21 39.5
BRG Berggiesshubel 83.99 325 eP P 05 21 32.3 +1.0
comp=Z,11nm,1.2s
BRG Berggiesshubel 83.99 325 eP P 05 21 32.3 +1.0
BRG pmax pmax
comp=Z,5.0nm,1.2s
PKSM Moragy 84.04 319⇑iP P 05 21 32.8 +1.1
TREC Trest 84.09 323 eP P 05 21 33.3 +1.4
TREC MLR MLR
comp=Z,400nm,20.9s
TREC Trest 84.09 323 eP P 05 21 33.3 +1.4
TREC AMS AMS 06 02 20.0
comp=Z,400nm,20.9s
D08A Wollman Farm, 84.09 40 eP P 05 21 33.6 +1.7
PRU Pruhonice 84.19 324 eP P 05 21 33.1 +0.7
PRU e 05 21 42.6
PRU MLR MLR
comp=Z,500nm,11.9s
PRU Pruhonice 84.19 324 eP P 05 21 33.1 +0.7
PRU epP pP 05 21 42.6 -0.2
PRU AMS AMS 06 02 30.0
comp=Z,500nm,11.9s
CLL Collm 84.21 326⇑iP P 05 21 33.1 +0.7
CLL i *PP pP 05 21 42.7 -0.2
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL MLR MLR
comp=Z,200nm,18.1s
CLL Collm 84.21 326⇑iP P 05 21 33.1 +0.7
comp=Z,13nm,0.8s
CLL i pP pP 05 21 42.7 -0.2
CLL i (sP) sP 05 21 46.1 -0.6
CLL LmV 06 05 00.0
comp=Z,200nm,18.1s
NEW Newport 84.42 38 eP P 05 21 34.7 +1.0
NEW e 05 21 44.3
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 84.42 38 eP P 05 21 34.7 +1.0
comp=Z,3.4nm,0.8s
NEW e 05 21 44.3
CONA Conrad Observa 84.67 322⇑iPcP P 05 21 36.5 +1.6
comp=Z,14nm,1.2s
PINOR Pine Mountain 84.70 43 eP P 05 21 37.9 +2.8
comp=Z,3.2nm,1.1s
PINOR e 05 21 46.6
KHC Kasperske Hory 85.20 324 eP P 05 21 38.8 +1.3
KHC e 05 21 46.9
KHC MLR MLR
comp=Z,500nm,18.9s
KHC Kasperske Hory 85.20 324 eP P 05 21 38.8 +1.3
KHC epP pP 05 21 46.9 -1.1
KHC AMS AMS 06 03 00.0
comp=Z,500nm,18.9s
GERES GERESS Array B 85.31 323 P P 05 21 39.1 +0.9
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 85.31 323 P P 05 21 39.1 +0.9
comp=Z,3.0nm,0.8s,baz=44,slow=4.8,SNR=18
WALA Waterton Lakes 85.69 36 eP P 05 21 41.7 +1.6
comp=Z,0.2nm,0.9s
WALA e 05 21 51.5
MOD Modoc 86.08 45 eP P 05 21 44.1 +1.8
comp=Z,3.5nm,0.9s
MOD e 05 21 53.9
GRF Grafenberg Arr 86.09 325 eP P 05 21 43.0 +1.1
comp=Z,8.0nm,1.3s
BMO Blue Mountains 86.26 41 eP P 05 21 44.1 +1.2
comp=Z,2.2nm,0.8s
BMO e 05 21 53.5
SLMT Seeley Lake 87.01 37 eP P 05 21 47.6 +1.0
comp=Z,8.0nm,0.7s
SLMT e 05 21 57.3
ABTA Abfaltersbach 87.20 322⇑iP P 05 21 47.4 -0.1
comp=Z,14nm,1.2s
FFC Flin Flon 87.52 27 eP P 05 21 49.9 +1.2
FFC e 05 21 59.1
FFC Flin Flon 87.52 27 eP P 05 21 49.9 +1.2
FFC e 05 21 59.1
MOTA Moosalm 87.60 323⇑iPcP P 05 21 49.7 +0.2
comp=Z,5.1nm,1.0s
HRY Holter Researc 88.23 37 eP P 05 21 54.2 +1.7
comp=Z,6.0nm,0.6s
HRY e 05 22 03.9
EGMT Eagleton 88.50 35 eP P 05 21 54.6 +1.0
comp=Z,11nm,1.0s
EGMT e 05 22 04.7
FUORN Ofenpass-Fuorn 88.50 323 eP P 05 21 55.8 +1.8
comp=Z,10.0nm,0.7s
DLMT Dillon 88.65 39 eP P 05 21 56.3 +1.8
HLID Hailey 88.70 41 eP P 05 21 57.0 +2.2
comp=Z,2.7nm,1.2s
HLID e 05 22 06.6
NVAR Mina Array Bea 89.28 47 P P 05 21 59.3 +1.6
comp=Z,0.3nm,0.6s,baz=286,slow=7.4,SNR=2.9
PPT Papeete 90.11 110 LR LR 05 55 14.3
comp=Z,61nm,20.8s,baz=256,slow=31
IMW Indian Meadow 90.48 39 eP P 05 22 03.8 +0.5
FLWY Flagg Ranch 90.50 39 eP P 05 22 05.4 +2.1
comp=Z,64nm,2.3s
DUG Dugway 91.69 43 eP P 05 22 10.8 +2.0
DUG e 05 22 20.6
DUG pmax pmax
comp=Z,4.0nm,1.3s
DUG Dugway 91.69 43 eP P 05 22 10.8 +2.0
comp=Z,4.4nm,1.3s
DUG e 05 22 20.6
BW06 Boulder Array 91.98 39 eP P 05 22 10.9 +0.7
comp=Z,5.8nm,1.3s
BW06 e 05 22 21.1
ULM Lac du Bonnet 93.35 27 P P 05 22 16.3 +0.3
ULM pmax pmax
comp=Z,4.0nm,0.9s
ULM Lac du Bonnet 93.35 27 P P 05 22 16.3 +0.3
comp=Z,4.2nm,0.9s,baz=315,slow=2.6,SNR=6.1
TORD Torodi Ar. Bea 115.50 301 PKP PKPdf 05 27 42.6 -1.1
comp=Z,0.5nm,0.8s,baz=7.1,slow=1.6,SNR=4.4

CSEM 20 05:21:51.8±0.2, 37.38N×56.70E, h2km, ML3.5, Error ellipse: s-maj=6.2km s-min=3.2km az=173.0
ISCJB 20 05:21:52.6±0.5, 37.45N±0.06×56.67E±0.04, h20km, mb3.2/1, Error ellipse: s-maj=8.6km s-min=4.4km az=175.7
TEH 20 05:21:52.8, 37.41N×56.68E, h5km, ML3.5
NNC 20 05:22:03.5±3.7, 38.19N×57.56E, h0km, mb3.5, Error ellipse: s-maj=52.6km s-min=15.1km az=64.0
ISC 20 05:21:53.2±0.8, 37.49N±0.06×56.69E±0.03, h20km, n45, σ1§66/50, 5C-4D, Northern and central Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
ISHV Shirvan 0.81 86⇓ePg Pb 05 22 07.6 -1.0
ISHV Shirvan 0.81 86⇓ePg Pb 05 22 07.6 -1.0
ISFR Sfrayin 1.13 112⇓ePg Pn 05 22 11.5 -2.6
ISFR eSg Sb 05 22 27.7 -0.8
ISFR e 05 22 36.0
comp=Z,10μm,0.2s
ISFR Sfrayin 1.13 112⇓ePg Pn 05 22 11.5 -2.6
ISFR eSg Sb 05 22 27.7 -0.8
IEMG Emamgholi 1.56 92 ePg Pb 05 22 21.1 -0.5
IEMG e 05 22 48.6
comp=Z,6μm,0.1s
IEMG Emamgholi 1.56 92 ePg Pb 05 22 21.1 -0.5
IKRD Kardeh 1.62 115 ePn Pb 05 22 32.2 +10
IKRD e 05 23 09.7
comp=Z,4μm,0.4s
IKRD Kardeh 1.62 115 ePn Pb 05 22 32.2 +10
IAKL Akhelmad 1.87 118 ePn Pn 05 22 24.0 -0.3
IPAY Payeh 2.12 119 ePn Pn 05 22 27.8 +0.2
IPAY eSg Sb 05 22 58.4 +1.5
IPAY e 05 22 59.6
comp=Z,3μm,0.1s
IPAY Payeh 2.12 119 ePn Pn 05 22 27.8 +0.2
IPAY eSg Sb 05 22 58.4 +1.5
IGLO Ghaloghah 2.49 248 ePn Pn 05 22 33.3 +0.5
IGLO e 05 23 16.7
comp=Z,4μm,0.2s
ISRO Mashad 2.52 117 ePn Pn 05 22 33.9 +0.8
ISRO Mashad 2.52 117 ePn Pn 05 22 33.9 +0.8
IMOG Moghan 2.53 122 ePn Pn 05 22 34.2 +0.8
IMOG e 05 23 12.1
comp=Z,1μm,0.2s
IMOG Moghan 2.53 122 ePn Pn 05 22 34.2 +0.8
IKIA Kiasar 2.73 243 ePn Pn 05 22 36.8 +0.7
IKIA e 05 22 42.9
comp=Z,1μm,0.2s
IKIA Kiasar 2.73 243 ePn Pn 05 22 36.8 +0.7
IMYA Miami 2.96 112 ePn Pn 05 22 40.3 +1.1
IMYA e 05 23 36.2
comp=Z,1μm,0.4s
IMYA Miami 2.96 112 ePn Pn 05 22 40.3 +1.1
IANJ Anjilo 3.01 229 ePn Pn 05 22 39.5 -0.4
IANJ e 05 23 27.8
comp=Z,1μm,0.2s
IANJ Anjilo 3.01 229 ePn Pn 05 22 39.5 -0.4
IALA Alasht 3.42 247 ePn Pn 05 22 45.9 +0.3
IALA e 05 23 45.1
comp=Z,1μm,0.1s
IALA Alasht 3.42 247 ePn Pn 05 22 45.9 +0.3
IFIR Firoozkooh 3.67 241 ePn Pn 05 22 50.2 +1.2
IFIR e 05 23 09.6
comp=Z,862nm,0.1s
IFIR Firoozkooh 3.67 241 ePn Pn 05 22 50.2 +1.2
ILAS Lasjerd 3.67 236 ePn Pn 05 22 48.8 -0.3
ILAS e 05 23 54.8
comp=Z,833nm,0.3s
ILAS Lasjerd 3.67 236 ePn Pn 05 22 48.7 -0.3
IPRN Peran 3.71 252 ePn Pn 05 22 49.8 +0.4
IPRN e 05 24 02.6
comp=Z,1μm,0.2s
IDMV Damavand 4.21 244 ePn Pn 05 22 56.9 +0.4
IDMV e 05 24 09.1
comp=Z,292nm,0.1s
IDMV Damavand 4.21 244 ePn Pn 05 22 56.9 +0.4
IVRN Varamin 4.72 240 ePn Pn 05 23 03.3 0.0
IVRN e 05 24 21.4
comp=Z,310nm,0.2s
IVRN Varamin 4.72 240 ePn Pn 05 23 03.3 0.0
ITEG Tejag 4.88 159 ePn Pn 05 23 05.0 -0.6
ITEG e 05 24 30.9
comp=Z,146nm,0.3s
ITEG Tejag 4.88 159 ePn Pn 05 23 05.0 -0.6
IGZV Ghazvin 5.30 260 e Sb 05 24 26.6 -1.9
comp=Z,128nm,0.2s
ICHK Chekchek 5.56 200 e Sn 05 24 16.6 -1.8
comp=Z,278nm,0.2s
IKLH Kolahrood 5.89 227 ePn Pn 05 23 19.0 -0.6
IKLH e 05 25 04.4
comp=Z,132nm,0.3s
IKLH Kolahrood 5.89 227 ePn Pn 05 23 19.0 -0.6
AB31 Akbulak array 12.00 10 ⇑Pn Pn 05 24 45.3 +2.4
comp=Z,0.3nm,0.4s,baz=194,slow=14,SNR=5.8
AB31 ⇑Sn Sn 05 26 51.1 -5.0
comp=Z,1.1nm,0.8s,baz=193,slow=21,SNR=4.6
AB31 Akbulak array 12.00 10 Pn Pn 05 24 45.3 +2.4
comp=Z,0.3nm,0.4s,SNR=5.8
AB31 Sn Sn 05 26 51.1 -5.0
comp=Z,1.1nm,0.8s,SNR=4.6
AKTO Aktyubinsk 12.98 4 ⇑Pn Pn 05 24 58.5 +2.2
comp=Z,3.3nm,1.4s
AKTO ⇑Sn Sn 05 27 18.5 -1.5
comp=Z,2.1nm,0.8s
AKTO Aktyubinsk 12.98 4 Pn Pn 05 24 58.5 +2.2
comp=Z,3.3nm,1.4s
MK31 Makanchi Array 21.06 56 ⇑P P 05 26 38.7 +2.8
comp=Z,0.7nm,0.6s,baz=243,slow=10,SNR=12
MK31 Makanchi Array 21.06 56 P P 05 26 38.7 +2.8
comp=Z,0.7nm,0.6s,SNR=12

DJA 20 05:25:37.5±1.1, 9°S±11°×11°9E±°, h119km±28km, M4.1/8, MLv4.1/8
IDC 20 05:25:41.6±2.5, 7.43S×118.93E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/41, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=223.0km s-min=23.2km az=53.0
ISCJB 20 05:25:43.7±0.8, 7.90S±0.09×118.46E±0.09, h33km, mb3.6/3, Error ellipse: s-maj=14.2km s-min=12.0km az=39.1
ISC 20 05:25:46.2±1.1, 8.0S±0.1×118.53E±0.09, h35km, n9, σ2§66/10, mb3.6/3, Sumbawa region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
BKSI Bulukumba 3.10 31 P Pn 05 26 29.8 -2.8
BKSI S Sn 05 27 13.5 +5.1
SRBI Singaraja 3.29 268 P Pn 05 26 36.2 +1.1
BNSI Bone 3.91 24 P Pn 05 26 41.9 -1.8
SPSI Sidrap Palu 4.20 17 P Pn 05 26 47.3 -0.4
JAGI Jajag, Banyuwa 4.36 264 P Pn 05 26 48.0 -1.9
WRA Warramunga Arr 19.38 129 P Pn 05 30 10.4 0.0
0.2nm,0.3s,baz=305,slow=13,SNR=9.8
ASAR Alice Springs 21.45 138 P P 05 30 33.2 +1.7
1.1nm,0.7s,baz=318,slow=9.5,SNR=13
MKAR Makanchi Array 63.36 333 P P 05 36 10.9 -1.0
0.3nm,0.6s,baz=146,slow=6.9,SNR=7.0
ZALV Zalesovo Beam 67.95 339 P P 05 36 39.4 -1.9
0.5nm,0.5s,baz=130,slow=4.5,SNR=3.0

IDC 20 05:49:44.7±1.4, 26.53N×142.51E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/21, mbtmp3.5/3, Error ellipse: s-maj=51.3km s-min=18.2km az=71.0, Bonin Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
JCJ Chichijima 0.64 333 Pn Pn 05 50 01.7 +0.7
127nm,0.3s,baz=97,slow=20,SNR=11
JCJ Sn Sn 05 50 11.7 -0.3
64nm,0.3s,baz=284,slow=23,SNR=3.5
H11N2 WAKE ISLAND Hy 23.40 102 T T 06 19 13.5
baz=284
H11N1 WAKE ISLAND Hy 23.40 102 T T 06 19 05.0
baz=284
H11N3 WAKE ISLAND Hy 23.42 102 T T 06 19 11.3
baz=284
H11S3 WAKE ISLAND Hy 23.69 105 T T 06 19 21.5
baz=294,slow=75,SNR=5.5
H11S1 WAKE ISLAND Hy 23.70 105 T T 06 19 20.5
baz=294,slow=75,SNR=5.7
H11S2 WAKE ISLAND Hy 23.71 105 T T 06 19 23.3
baz=294,slow=75,SNR=6.0
WRA Warramunga Arr 46.87 191 P P 05 58 16.8 0.0
0.3nm,0.4s,baz=12,slow=8.6,SNR=6.3
ILAR Eielson Array 58.07 28 P P 05 59 39.4 0.0
0.2nm,0.6s,baz=265,slow=5.1,SNR=3.3
FINES FINESS Array B 78.58 334 P P 06 01 47.4 -0.6
0.7nm,0.6s,baz=72,slow=6.2,SNR=6.1

IDC 20 05:57:28.8±23.0, 8.41S×73.74W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.4/3, Error ellipse: s-maj=901.3km s-min=44.8km az=27.0, Peru-Brazil border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
TXAR Lajitas Array 47.32 324 P P 06 06 04.8 +0.1
0.2nm,0.7s,baz=153,slow=10,SNR=2.9
YKA Yellowknife Ar 77.36 342 P P 06 09 25.1 -0.2
0.1nm,0.5s,baz=139,slow=5.9,SNR=5.5
TORD Torodi Ar. Bea 77.90 75 P P 06 09 29.4 +0.1
0.8nm,1.0s,baz=268,slow=4.3,SNR=3.6

GUC 20 06:08:50.6±0.6, 31.82S×71.67W, h19km±3km, ML3.5, 2C-1D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
CMCH Combarbala 0.86 42⇑iP Pb 06 09 06.2 -0.9
CMCH eS Sb 06 09 18.0 -0.3
CMCH AML AML 06 09 19.2
comp=E,8μm,0.6s
JACH Jahuel 1.26 134 eP Pn 06 09 12.8 -0.5
ROCH El Roble 1.28 154⇓eP Pn 06 09 13.0 -0.8
ROCH eS Sn 06 09 30.0 -0.7
ROCH AML AML 06 09 34.8
comp=N,770nm,0.5s
PEL Peldehue 1.56 148⇑eP Pn 06 09 17.4 0.0
PEL eS Sb 06 09 38.0 -0.6
PEL AML AML 06 09 41.6
comp=E,1μm,0.5s
CLCH Cerro Calan 1.84 149 eP Pn 06 09 21.6 +0.2
CLCH eS Sn 06 09 45.3 +1.1
CLCH AML AML 06 09 49.9
comp=E,810nm,0.6s
FSR Penalolen 1.92 150 eP Pb 06 09 24.1 -1.0
FSR iS Sb 06 09 48.8 0.0
TACH Talagante 1.93 162 eP Pn 06 09 23.2 +0.7
TACH iS Sb 06 09 48.0 -1.1
ANTU Antumapu 1.95 154 eP Pn 06 09 23.5 +0.6
ANTU eS Sb 06 09 48.5 -1.2
ANTU AML AML 06 09 56.4
comp=E,412nm,0.4s
LNV Longovilo 2.14 174 eP Pb 06 09 27.1 -1.7
CHCH Chadas Angostu 2.28 158 eP Pn 06 09 28.4 +1.1
CHCH iS Sb 06 09 57.2 -1.9
LMEL Las Melosas 2.37 149 eP Pn 06 09 29.9 +1.1
LMEL eS Sn 06 09 59.8 +2.2
LMEL AML AML 06 10 09.1
comp=N,220nm,0.2s

IDC 20 06:18:59.4±2.8, 53.56N×87.18E, h0km, mb1 2.7/1, mb1mx2.6/36, mbtmp2.7/1, ML2.6/1, 1C-2D, Error ellipse: s-maj=26.2km s-min=13.8km az=73.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
I46RU ZALESOVO INFRA 1.46 287 I 06 29 05.6
baz=103,slow=339,SNR=3.3
ZALV Zalesovo Beam 1.46 287 Pg Pn 06 19 24.8 -2.1
1.2nm,0.3s,baz=108,slow=16,SNR=14
ZALV Lg Lg 06 19 46.2
0.6nm,0.3s,baz=109,slow=31,SNR=7.1
MK31 Makanchi Array 7.46 207 ⇓Pn Pn 06 20 48.8 -0.7
0.8nm,1.1s,baz=26,slow=13,SNR=6.8
MK31 ⇓Sn Sn 06 22 14.2 -0.6
0.2nm,0.5s,baz=27,slow=26,SNR=4.0
MK31 ⇑Lg Lg 06 22 50.1
0.6nm,0.8s,baz=28,slow=30,SNR=4.1
MKAR Makanchi Array 7.46 207 Pn Pn 06 20 51.4 +1.9
0.1nm,0.3s,baz=24,slow=13,SNR=9.0
MKAR Sn Sn 06 22 14.2 -0.6
0.1nm,0.3s,baz=27,slow=27,SNR=5.8
MKAR Lg Lg 06 22 54.3
0.1nm,0.3s,baz=25,slow=29,SNR=4.5

IDC 20 06:22:55.2±3.5, 4.87S×100.56E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/37, mbtmp3.4/6, Error ellipse: s-maj=137.3km s-min=20.3km az=56.0
ISCJB 20 06:22:57.6±1.0, 4.8S±0.1×100.82E±0.06, h22km, mb3.4/6, Error ellipse: s-maj=19.3km s-min=7.4km az=16.3
DJA 20 06:23:04.8±1.1, 5°S±8°×10°1E±°, h11km, M3.8/4, MLv3.8/4
ISC 20 06:22:59.4±1.4, 4.7S±0.2×100.8E±0.1, h22km, n18, σ0§78/15, mb3.4/6, Southwest of Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
MASI Maura Aman, Be 2.11 41 P Pb 06 23 42.0 +5.0
MNAI Manna 2.14 80 P Pn 06 23 33.9 +0.1

MNAI S Sn 06 23 59.9 +0.2
LWLI Liwa 3.21 95 P Pn 06 23 50.0 +1.3
LWLI S Sn 06 24 26.1 -0.4
MDSI Maura Dua 3.33 86 P Pn 06 23 50.5 +0.2
MDSI S Sn 06 24 29.2 0.0
KASI Kota Agung 3.72 102 P Pn 06 23 55.7 +0.1
KASI S Sn 06 24 36.9 -1.9
CMAR Chiang Mai Arr 23.12 355 P P 06 28 04.3 +0.1
0.6nm,0.3s,baz=181,slow=8.7,SNR=3.0
H08S2 Diego Garcia H 28.33 263 T T 06 58 18.2
baz=84,slow=75,SNR=28
H08S3 Diego Garcia H 28.34 263 T T 06 58 18.8
baz=84,slow=75,SNR=33
H08S1 Diego Carcia H 28.35 263 T T 06 58 18.2
baz=84,slow=75,SNR=30
H01W3 Cape Leeuwin H 32.42 159 T T 07 04 05.5
baz=333
H01W2 Cape Leeuwin H 32.44 159 T T 07 04 04.9
baz=333
H01W1 Cape Leeuwin H 32.44 159 T T 07 04 05.7
baz=333
WRA Warramunga Arr 35.93 118 P P 06 29 58.8 +0.2
0.4nm,0.9s,baz=298,slow=9.3,SNR=3.1
ASAR Alice Springs 37.00 124 P P 06 30 08.4 +0.7
0.3nm,0.5s,baz=299,slow=7.7,SNR=5.6
SONM Songino Array 52.58 5 P P 06 32 12.0 +0.5
0.1nm,0.4s,baz=179,slow=8.4,SNR=2.7
MKAR Makanchi Array 53.88 344 P P 06 32 20.4 -0.6
0.3nm,0.9s,baz=163,slow=6.9,SNR=3.5
ZALV Zalesovo Beam 60.00 349 P P 06 33 03.2 -0.9
0.6nm,0.7s,baz=204,slow=6.1,SNR=3.6
TXAR Lajitas Array 146.28 41 PKPbc PKPab 06 42 39.8 -0.2
0.5nm,0.9s,baz=324,slow=4.5,SNR=2.9

IDC 20 07:06:50.2±5.1, 3°.51S×28°.62E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.2/41, mbtmp3.4/4, ML2.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/18, Error ellipse: s-maj=121.3km s-min=34.0km az=1.0, Lake Tanganyika region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KMBO Kilima Mbogo 8.95 75 Pn Pn 07 09 01.1 0.0
0.1nm,0.3s,baz=274,slow=19,SNR=2.0
KMBO Sn Sn 07 10 35.5 -7.4
0.7nm,0.3s,baz=327,slow=24,SNR=3.8
KMBO Lg Lg 07 11 26.0
1.2nm,0.3s,baz=335,slow=20,SNR=10.0
TORD Torodi Ar. Bea 31.44 302 P P 07 13 13.6 0.0
0.2nm,0.4s,baz=101,slow=7.2,SNR=4.5
TORD LR LR 07 26 37.8
comp=Z,38nm,19.6s,baz=175,slow=38
BRTR Keskin Array B 43.27 6 P P 07 14 53.6 -0.1
0.4nm,0.6s,baz=186,slow=12,SNR=2.3
MKAR Makanchi Array 68.77 36 P P 07 17 56.1 0.0
0.3nm,0.7s,baz=243,slow=5.3,SNR=3.8

DDA 20 07:17:01.7, 37°.46N×38°.59E, h7km, MD2.7
ISCJB 20 07:17:05.3±1.2, 37°.47N±0°.09×38°.31E±0°.08, h9km, Error ellipse: s-maj=13.4km s-min=7.3km az=25.6
ISC 20 07:17:05.3±1.4, 37°.57N±0°.07×38°.39E±0°.05, h9km, n4, σ0s.95/6, Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URFA Urfa 0.37 111 PG Pg 07 17 06.0 -6.6
GZT Gaziantep 0.69 252 i P Pg 07 17 18.0 -0.6
GZT i S Sn 07 17 33.3 +1.0
AKCD Akcadag 0.81 333 i P Pg 07 17 20.8 -0.1
AKCD i S Sn 07 17 35.1 -0.2
HCB Kahramanmara˘ 1.23 100 i P Pg 07 17 28.3 -0.6
HCB i S Sn 07 17 46.4 +1.0

IDC 20 07:17:20.9±2.2, 54°.23N×86°.08E, h0km, mb1 3.6/2, mb1mx3.1/29, mbtmp3.6/2, ML3.6/2, Error ellipse: s-maj=17.4km s-min=9.9km az=57.0
NNC 20 07:17:25.6±5.4, 53°.82N×86°.39E, h0km, mb3.8, mpv3.2, Error ellipse: s-maj=45.0km s-min=32.8km az=80.0
ISC 20 07:17:23.8±3.7, 54°.2N±0°.2×85°.8E±0°.2, h10km, n8, σ1s.12/8, 6C-2D, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 0.63 246 i 07 23 39.1
baz=69,slow=334,SNR=8.7
ZALV Zalesovo Beam 0.63 246 Pg Pg 07 17 35.0 -0.9
4.8nm,0.3s,baz=67,slow=16,SNR=36
ZALV Lg Lg 07 17 47.6
14nm,0.3s,baz=67,slow=28,SNR=29
KURK Kurchatov 5.61 234 ⇑Pn Pn 07 18 48.4 +1.3
0.7nm,0.4s
KURK ⇓Sn Sn 07 19 58.4 +6.9
0.5nm,0.5s
KURK ⇓Lg Lg 07 20 23.0
0.9nm,0.4s
MK31 Makanchi Array 7.75 198 ⇑Pn Pn 07 19 15.9 -0.7
1.7nm,0.7s,baz=28,slow=14,SNR=55
MK31 ⇑Sn Sn 07 20 44.7 +0.3
0.3nm,0.4s,baz=34,slow=23,SNR=2.6
MK31 ⇑Lg Lg 07 21 28.6
1.6nm,0.7s,baz=28,slow=32,SNR=4.5
MKAR Makanchi Array 7.75 198 Pn Pn 07 19 16.6 0.0
0.9nm,0.3s,baz=23,slow=13,SNR=34
MKAR Sn Sn 07 20 45.5 +1.1
0.2nm,0.3s,baz=25,slow=24,SNR=4.2
MKAR Lg Lg 07 21 30.2
0.1nm,0.3s,baz=22,slow=28,SNR=6.5
BVA0 Borovoye Array 9.23 269 ⇑Pn Pn 07 19 47.2 +10
1.3nm,0.6s,baz=79,slow=14,SNR=6.8
BVAR Borovoye Array 9.23 269 Pn Pn 07 19 38.1 +1.3
0.5nm,0.3s,baz=71,slow=14,SNR=6.4
BVAR Sn Sn 07 21 20.1 -0.6
0.7nm,0.3s,baz=78,slow=29,SNR=6.8
BRVK Borovoye 9.29 269 ⇑Pn Pn 07 19 47.0 +9.4
3.8nm,1.0s

NNC 20 07:18:34.0±7.4, 37°.79N×71°.52E, h0km, mb3.8, mpv3.5, 2C-3D, Error ellipse: s-maj=58.7km s-min=40.9km az=165.0, Afghanistan-Tajikistan border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AAK Ala-Archa 5.34 24 ⇓Pn Pn 07 19 55.2 -0.1
1.4nm,0.3s
AAK ⇑Sn Sn 07 20 57.7 0.0
3.2nm,0.4s
KK31 Karatay Array 5.36 352 Pn Pn 07 19 57.2 +1.9
6.8nm,0.6s,baz=179,slow=14,SNR=98
KK31 ⇑Sn Sn 07 20 59.8 +2.1
4.4nm,0.5s,baz=169,slow=21,SNR=16
AB31 Akbulak array 14.19 328 Pn Pn 07 21 53.2 -2.9
0.5nm,0.4s,baz=155,slow=13,SNR=19
AB31 ⇓Sn Sn 07 24 31.8 -2.3
1.6nm,0.8s
AKTO Aktyubinsk 15.90 327 ⇓Pn Pn 07 22 17.9 -1.1
1.9nm,1.1s

KRNET 20 07:22:25.1±0.1, 40°.90N×74°.84E, h3km, mb3.4
NNC 20 07:22:31.1±3.1, 41°.02N×74°.89E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=23.0km s-min=19.6km az=176.0
ISC 20 07:22:25.0±1.3, 40°.82N±0°.04×74°.94E±0°.04, h6km±11km, n35, σ0s.87/52, 20C-12D, Kyrgyzstan-Xinjiang border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ARLS Aral 1.14 336 ⇓i P Pg 07 22 45.8 -1.1
baz=338
ARLS ⇓i S Sg 07 22 59.3 -2.4
baz=338
KZA Kyzart 1.28 10 P Pn 07 22 49.2 -0.6
SNR=12
KZA Kyzart 1.28 10 ⇑i P Pn 07 22 49.1 -0.7
baz=15
KZA ⇑i S Sg 07 23 05.5 -0.7
baz=15
SFK Sufi-Kurgan 1.36 234 eP Pn 07 22 49.4 -1.4
baz=230
SFK eS Sb 07 23 08.5 -0.4
baz=230
UCH Uchtor 1.44 347 P Pn 07 22 52.2 +0.1
SNR=17
UCH Uchtor 1.44 347 ⇑i P Pn 07 22 51.9 -0.2
baz=350
UCH ⇑i S Sb 07 23 10.2 -1.2
baz=350
ARSB Arslanbob 1.57 289 eP Pn 07 22 52.7 -0.8
baz=287
ARSB eS Sn 07 23 14.8 +0.6
baz=287
AML Almayashu 1.61 325 P Pn 07 22 54.8 +0.5
SNR=16
AML Almayashu 1.61 325 ⇑i P Pn 07 22 54.5 +0.1
baz=326
AML ⇑i S Sn 07 23 14.4 -1.3
baz=326
OHH Osh 1.67 260 eP Pg 07 22 58.0 +1.0
baz=257
OHH eS Sg 07 23 20.6 +2.0
baz=257
ULHL Ulahol 1.73 34 P Pb 07 22 57.3 +0.1
SNR=15
ULHL Ulahol 1.73 34 ⇑i P Pb 07 22 57.6 +0.3
baz=38
ULHL ⇑i S Sg 07 23 21.1 +0.6
baz=38
BOOM Boomskoye usch 1.83 24 eP Pb 07 22 59.0 0.0
baz=27
BOOM eS Sb 07 23 23.1 +0.9
baz=27
KBK Karagaybulak 1.83 0 P Pb 07 22 59.4 +0.2
SNR=12
KBK Karagaybulak 1.83 0 ⇑i P Pb 07 22 59.3 +0.2
baz=3.0
KBK ⇑i S Sb 07 23 22.5 +0.1
baz=3.0
AAK Ala-Archa 1.84 350 ⇓Pn Pb 07 22 59.2 0.0
11nm,0.7s
AAK ⇑Sn Sg 07 23 24.4 +0.1
36nm,0.6s
AAK Ala-Archa 1.84 350 P Pb 07 22 59.3 +0.1
SNR=18
AAK Ala-Archa 1.84 350 ⇑i P Pb 07 22 59.4 +0.2
baz=352
AAK ⇑i S Sn 07 23 21.9 +0.9
baz=352
FRU Bishkek 2.03 353 eP Pb 07 23 02.5 +0.2
baz=355
EKS2 Erkin-Say 2.04 335 P Pg 07 23 05.7 +1.7
SNR=14
EKS2 Erkin-Say 2.04 335 ⇑i P Pb 07 23 02.7 +0.2
baz=336
EKS2 ⇑i S Sb 07 23 27.7 -0.4
baz=336
TKM2 Tokmak 2 2.15 13 ⇓Pn Pb 07 23 04.9 +0.3
5.7nm,0.3s
TKM2 ⇑Sn Sb 07 23 33.3 +1.7
32nm,0.5s
TKM2 Tokmak 2 2.15 13 P Pb 07 23 05.1 +0.6
SNR=23
TKM2 Tokmak 2 2.15 13 ⇓i P Pb 07 23 05.0 +0.4
baz=15
TKM2 ⇓i S Sb 07 23 32.4 +0.8
baz=15
CHMS Chumysh 2.18 356 P Pb 07 23 05.5 +0.5
SNR=14
CHMS Chumysh 2.18 356 ⇑i P Pb 07 23 05.0 +0.1
baz=358
CHMS ⇑i S Sb 07 23 32.5 +0.3
baz=358
ARK Arkit 2.45 294 eP Pb 07 23 10.8 +1.3
baz=294
USP Ospenovka 2.47 352 P Pb 07 23 10.5 +0.7
SNR=25
ANVS Anan'yevo 2.83 45 ⇓i P Pg 07 23 18.1 -1.1
baz=47
KNDC Almaty 2.83 32 ⇓Pn Pb 07 23 16.9 +0.9
13nm,0.3s
KNDC ⇑Lg Lg 07 23 55.2
67nm,0.7s
TRKS Terek-Say 2.96 285 ⇓i P Pb 07 23 19.0 +0.8
baz=283
TRKS ⇓eS Sb 07 23 53.6 -1.1
baz=283
BTK Batken 3.24 258 eP Pg 07 23 26.8 -0.3
baz=256
BTK eS Sg 07 24 08.3 -0.8
baz=256
KK31 Karatay Array 4.01 306 Pn Pb 07 23 35.9 -0.2
1.2nm,0.5s,baz=129,slow=17,SNR=19
KK31 Lg Lg 07 24 29.9
4.0nm,0.3s,baz=126,slow=28,SNR=12
PDGK Podgornoye 4.21 52 ⇓Pg Pg 07 23 45.9 +0.3
PDGK ⇑Lg Lg 07 24 37.7
MK31 Makanchi Array 7.99 39 ⇓Pn Pn 07 24 30.1 +8.5
1.8nm,1.2s,baz=222,slow=15,SNR=4.5
MK31 Lg Lg 07 26 40.0
3.0nm,1.4s,baz=222,slow=26,SNR=4.3

IDC 20 07:47:59.3±5.4, 36°.22N×71°.41E, h68km±46km, mb3.4/8, mb1 3.5/12, mb1mx3.3/31, mbtmp3.7/12, ML3.8/3, MS2.6/1, Ms1 2.6/1, ms1mx2.2/29, Error ellipse: s-maj=35.4km s-min=26.7km az=12.0
ISCJB 20 07:48:02.0±0.5, 36°.30N±0°.04×71°.71E±0°.08, h124km, mb3.5/7, Error ellipse: s-maj=9.8km s-min=3.6km az=155.4
NNC 20 07:48:06.7±4.8, 36°.77N×71°.04E, h99km±96km, mb3.4, mpv3.8, Error ellipse: s-maj=39.2km s-min=35.7km az=139.0
ISC 20 07:48:03.9±0.7, 36°.36N±0°.06×71°.76E±0°.09, h124km, n42, σ1s.70/47, mb3.6/7, 4C-2D, Afghanistan-Tajikistan border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DLH Dalhousie 5.16 136 eP Pn 07 49 19.0 -0.3
DLH eS Sn 07 50 18.0 +0.1
DHRM DHARAMSHALA 5.56 136 eP Pn 07 49 25.1 +0.4
DHRM eS Sn 07 50 27.1 -0.6
DHRM AML AML 07 50 35.4
comp=E,506nm,0.4s
DHRM AML AML 07 50 35.7
comp=N,264nm,0.6s
AML Almayashu 5.95 14 P Pn 07 49 29.8 -0.2
SNR=37
UCH Uchtor 6.24 19 P Pn 07 49 34.4 +0.4
SNR=5.3
EKS2 Erkin-Say 6.48 13 P Pn 07 49 36.9 -0.1
SNR=9.3
SDNR Sundarnagar 6.50 137 eP Pn 07 49 37.0 -0.2
SDNR eS Sn 07 50 49.0 -1.0
AAK Ala-Archa 6.61 18 ⇑P Pn 07 49 38.5 -0.2
comp=N,3.2nm,0.3s
AAK ⇑S Sn 07 50 49.8 -2.9
comp=N,4.9nm,0.5s
AAK Ala-Archa 6.61 18 P Pn 07 49 39.1 +0.3
SNR=7.5
AAK Ala-Archa 6.61 18 P Pn 07 49 38.7 0.0
comp=N,3.1nm,0.3s,baz=152,slow=6.9,SNR=28
AAK S Sn 07 50 51.8 -1.0
comp=N,1.1nm,0.3s,baz=183,slow=19,SNR=6.7
KK31 Karatay Array 6.80 352 P Pn 07 49 38.4 -2.8
comp=N,9.6nm,0.5s,baz=183,slow=13,SNR=222
KK31 ⇑S Sn 07 50 49.1 -8.1
comp=N,8.4nm,0.6s,baz=188,slow=23,SNR=5.6
SMLA Simla 6.89 138 eP Pn 07 49 42.2 -0.3
SMLA eS Sn 07 50 58.3 -1.2
SMLA AML AML 07 51 00.4
comp=N,182nm,0.3s
SMLA AML AML 07 51 01.0
comp=E,161nm,0.1s
TKM2 Tokmak 2 7.19 23 ⇓P Pn 07 49 47.2 +0.7
comp=E,1.9nm,0.6s
TKM2 ⇓S Sn 07 51 09.1 +2.3
comp=E,3.6nm,0.8s
USP Ospenovka 7.21 16 P Pn 07 49 46.6 -0.1
SNR=7.3
DDI Dehra Dun 8.00 137 eP Pn 07 49 58.3 +0.9
DDI ex x 07 51 20.3
DDI AML AML 07 51 26.7
comp=E,137nm,0.3s
DDI AML AML 07 51 27.3
comp=N,122nm,0.2s
NDI New Delhi 8.93 147 eP Pn 07 50 08.5 -1.5
PYUN Piuthan 12.57 128 eP Pn 07 50 57.2 -1.5
comp=N,61nm,0.3s
DANN Dangsing 12.90 125 eP Pn 07 51 01.4 -1.7
MKAR Makanchi Array 13.06 34 P Pn 07 51 06.5 +1.9
comp=N,0.0nm,0.3s,baz=200,slow=12,SNR=2.8
KOLN Koldanda 13.19 127 eP Pn 07 51 04.9 -1.8
DMN Daman 14.29 124 eP Pn 07 51 19.0 -1.8
comp=N,14nm,0.4s
KKN Kakani 14.29 123 eP Pn 07 51 19.2 -1.6
PKIN Phulchoki 14.50 123 eP Pn 07 51 21.4 -2.2
comp=N,11nm,0.3s
PKI Pulchoki 14.52 123 eP Pn 07 51 21.6 -2.2
GUN Gumba 14.62 121 eP Pn 07 51 23.0 -2.1
comp=N,9.5nm,0.3s
JIRN Jiri 14.99 121 eP Pn 07 51 28.1 -1.7
comp=N,17nm,0.3s
AB31 Akbulak array 15.51 330 P Pn 07 51 30.5 -5.1
comp=N,0.8nm,0.5s,baz=142,slow=12,SNR=33
RAMN Ramite 15.72 122 eP Pn 07 51 35.8 -3.0
comp=N,10nm,0.5s
TAPN Taplejung 16.24 119 eP Pn 07 51 42.3 -3.0
comp=N,13nm,0.4s
ODAN Odare 16.32 121 eP Pn 07 51 43.1 -3.1
comp=N,10.0nm,0.5s
BVAR Borovoye Array 16.69 357 P Pn 07 51 49.0 -1.2
comp=N,0.2nm,0.3s,baz=171,slow=10,SNR=3.6
AKTO Aktyubinsk 17.21 329 ⇑P P 07 51 53.3 -2.9
comp=N,6.6nm,0.8s
AKTO Aktyubinsk 17.21 329 P P 07 51 54.9 -1.3
comp=N,0.5nm,0.3s,baz=132,slow=14,SNR=8.3
ZALV Zalesovo Beam 19.79 23 P Pn 07 52 26.5 -0.6
comp=N,0.9nm,0.4s,baz=227,slow=9.8,SNR=4.3
GNI Garni 21.52 288 LR LR 08 03 17.7
comp=N,16nm,18.9s,baz=87,slow=43
AKASG Malin Array Be 33.51 309 P P 07 54 31.2 -0.1
comp=N,0.5nm,0.4s,baz=82,slow=7.1,SNR=5.4
FINES FINESS Array B 37.94 326 P P 07 55 09.5 +0.5
comp=N,1.0nm,0.6s,baz=126,slow=9.7,SNR=5.0
ARCES ARCESS Array B 41.51 337 P P 07 55 40.5 +2.1
comp=N,2.3nm,0.8s,baz=123,slow=9.8,SNR=3.6
NB2 NORSAR Subarra 44.86 323 P P 07 56 06.8 +1.3
comp=Z,0.9nm,0.6s,baz=95,slow=7.9
NOA NORSAR Array B 44.86 323 P P 07 56 06.3 +0.8
comp=Z,0.9nm,0.7s,baz=100,slow=8.0,SNR=3.1
TORD Torodi Ar. Bea 66.33 269 P P 07 58 38.1 -1.4
comp=Z,0.6nm,0.5s,baz=49,slow=5.9,SNR=6.4
YKA Yellowknife Ar 81.35 3 P P 08 00 08.9 +2.7
comp=Z,0.1nm,0.5s,baz=350,slow=5.5,SNR=5.3
WRA Warramunga Arr 81.40 122 P P 08 00 09.8 +2.7
comp=Z,0.3nm,0.9s,baz=310,slow=6.2,SNR=3.0

NIED 20 07:48:00, 43°.80N×147°.80E, h26km, Mw3.8 Best double couple: M0 6.08000×10^14 NP1:φs253.00000°, δ63.00000°, λ-151.00000°. NP2:φs149.00000°, δ64.00000°, λ-30.00000°.
JMA 20 07:48:07.2±0.5, 43°.76N×147°.80E, h0km, M4.0
ISCJB 20 07:48:07.7±1.1, 43°.85N±0°.07×148°.10E±0°.09, h39km±9km, mb3.6/10, MS3.1/2, Error ellipse: s-maj=14.5km s-min=6.5km az=140.8
SKHL 20 07:48:08.8±0.3, 43°.85N×148°.13E, h45km±1km, mb4.6/3
MOS 20 07:48:11.3±1.2, 44°.18N×147°.80E, h58km, mb4.2/4, Error ellipse: s-maj=21.2km s-min=17.1km az=91.4
IDC 20 07:48:13.3±4.5, 44°.22N×147°.89E, h58km±38km, mb3.4/10, mb1 3.6/11, mb1mx3.5/24, mbtmp3.7/11, ML3.2/1, MS2.9/4, Ms1 2.9/4, ms1mx2.5/23, Error ellipse: s-maj=73.7km s-min=22.5km az=171.0
ISC 20 07:48:07.7±3.6, 43°.88N±0°.08×148°.09E±0°.08, h24km±24km, n47, σ1s.05/48, mb3.7/10, 1C-1D, East of Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SHO Shikotan 0.91 270 eP Pn 07 48 24.0 -0.9
SHO AMB AMB 07 48 24.6
328nm,0.4s
SHO eS Sn 07 48 35.2 -2.0
SHO A A 07 48 40.0
1μm,0.4s
SHO A A 07 48 40.0
2μm,0.4s
KUR Kuril'sk 1.36 353 ⇑i PN Pn 07 48 30.9 -0.2
KUR eS Sn 07 48 47.7 -0.6
KUR pmax pmax
comp=N,52nm,0.3s
KUR pmax pmax
comp=E,67nm,0.3s
KUR pmax pmax
comp=Z,109nm,0.3s
KUR smax smax
comp=E,565nm,0.5s
KUR smax smax
comp=N,164nm,0.2s
KUR Kuril'sk 1.36 353 eP Pn 07 48 30.9 -0.2
KUR AMB AMB 07 48 33.3
comp=N,53nm,0.3s
KUR AMB AMB 07 48 33.3
comp=N,67nm,0.3s
KUR AMB AMB 07 48 33.3
comp=N,110nm,0.3s
KUR eS Sn 07 48 47.7 -0.6
KUR A A 07 48 48.0
comp=N,170nm,0.5s
KUR A A 07 48 48.0
comp=N,570nm,0.5s
YUK Yuzh-Kuril'sk 1.61 276 d i PN Pn 07 48 34.1 -0.5
YUK i S Sn 07 48 55.8 +1.2
YUK pmax pmax
comp=N,116nm,0.3s
YUK pmax pmax
comp=Z,360nm,0.3s
YUK pmax pmax
comp=E,257nm,0.3s
YUK smax smax
comp=N,41nm,0.3s
YUK smax smax
comp=E,101nm,0.3s
YUK Yuzh-Kuril'sk 1.61 276 eP Pn 07 48 34.1 -0.5
YUK AMB AMB 07 48 37.9
comp=E,116nm,0.3s
YUK AMB AMB 07 48 37.9
comp=E,260nm,0.3s
YUK AMB AMB 07 48 37.9
comp=E,360nm,0.3s
YUK eS Sn 07 48 55.8 +1.2
YUK A A 07 48 57.6
comp=E,410nm,0.3s
YUK A A 07 48 57.6
comp=E,1μm,0.3s
NEM2 Nemuro 2 1.78 254 P Pn 07 48 35.6 -1.3
NEM2 eS Sn 07 48 57.0 -1.7
JRA Rausu 2.14 272 P Pn 07 48 41.7 -0.2
JRA eS Sn 07 49 07.6 -0.1
JNK Nakash 2.46 264 P Pn 07 48 45.9 -0.4
JNK eS Sn 07 49 15.7 +0.2
JAK Akkeshi 2.62 251 P Pn 07 48 48.1 -0.4
JAK eS Sn 07 49 19.1 -0.4
JTKR Abashiri--Toko 3.02 273 P Pn 07 48 54.8 +0.9
JAR Ashorobuto 3.19 261 P Pn 07 48 56.9 +0.6
JAR eS Sn 07 49 34.7 +1.1
JOB Onbets 3.25 254 P Pn 07 48 57.1 0.0
JOB eS Sn 07 49 35.0 0.0
JMP Maruseppu 3.42 274 P Pn 07 49 00.6 +1.2
JCH Churui 3.68 251 P Pn 07 49 03.3 +0.3
JCH eS Sn 07 49 46.2 +0.7
JKA Kamikawa-asahi 3.96 275 eP Pn 07 49 09.7 +2.7
ASAJ Asahikawa 3.97 275 P Pn 07 49 09.7 +2.7
comp=E,1.4nm,0.3s,baz=92,slow=16,SNR=4.1
ASAJ S Sb 07 50 04.1 -0.3
comp=E,1.3nm,0.3s,baz=107,slow=20,SNR=3.0
ASAJ LR LR 07 50 50.0
comp=E,138nm,19.0s,baz=144,slow=41
JFR Furan 4.06 262 P Pn 07 49 08.4 +0.1
JNBK Urakawa-nobuka 4.22 250 P Pn 07 49 11.8 +1.3
JWK2 Keihoku 4.64 290 P Pn 07 49 20.1 +3.8
KSRS Korea Array 16.57 254 LR LR 07 58 34.1
comp=E,15nm,18.9s,baz=65,slow=38
H11N2 WAKE ISLAND Hy 28.77 141 T T 08 24 44.0
baz=332,slow=76,SNR=79
H11N1 WAKE ISLAND Hy 28.78 141 T T 08 24 45.7
baz=332,slow=76,SNR=101
H11N3 WAKE ISLAND Hy 28.79 141 T T 08 24 45.1
baz=332,slow=76,SNR=89
H11S1 WAKE ISLAND Hy 29.75 142 T T 08 25 56.6
baz=333,slow=76,SNR=292
H11S3 WAKE ISLAND Hy 29.76 142 T T 08 25 55.2
baz=333,slow=76,SNR=285
H11S2 WAKE ISLAND Hy 29.77 142 T T 08 25 57.8

baz=333,slow=76,SNR=132
ILAR Eielson Array 40.98 36 P **P 07 55 48.4 +0.2**
comp=E,0.4nm,0.6s,baz=273,slow=9.1,SNR=8.9
MKAR Makanchi Array 45.12 298 P **P 07 56 21.3 -0.7**
comp=E,0.3nm,0.6s,baz=83,slow=9.9,SNR=4.0
MKAR PcP **PcP 07 58 02.2 +0.1**
comp=E,0.2nm,0.7s,baz=87,slow=6.4,SNR=2.1
CMAR Chiang Mai Arr 48.21 254 LR LR 08 17 35.3
comp=E,16nm,18.4s,baz=200,slow=37
YKA Yellowknife Ar 55.31 34 P **P 07 57 39.0 +0.2**
YKA Yellowknife Ar 55.31 34 P **P 07 57 39.0 +0.2**
comp=E,0.1nm,0.6s,baz=297,slow=6.4,SNR=4.4
YKA Yellowknife Ar 55.31 34 eP **P 07 57 39.0 +0.2**
ARCES ARCESS Array B 59.35 340 LR LR 08 27 12.4
comp=E,14nm,19.6s,baz=250,slow=40
FINES FINESS Array B 65.06 333 P **P 07 58 44.4 -1.2**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 65.06 333 P **P 07 58 44.4 -1.2**
comp=Z,0.9nm,0.6s,baz=41,slow=6.1,SNR=5.9
NVAR Mina Array Bea 66.93 58 P **P 07 58 58.5 +0.2**
comp=Z,0.4nm,0.7s,baz=289,slow=5.6,SNR=2.8
NOA NORSAR Array B 69.72 339 P **P 07 59 14.5 -0.6**
comp=Z,0.3nm,0.4s,baz=32,slow=6.6,SNR=4.1
KBZ Khabaz 70.21 312 P **P 07 59 18.9 +0.5**
KBZ pmax pmax
comp=Z,2.0nm,0.7s
KBZ Khabaz 70.21 312 P **P 07 59 18.9 +0.5**
comp=Z,1.9nm,0.7s,baz=67,slow=4.5,SNR=4.7
ULM Lac du Bonnet 70.98 38 P **P 07 59 24.8 +1.8**
ULM pmax pmax
comp=Z,1.0nm,0.4s
ULM Lac du Bonnet 70.98 38 P **P 07 59 24.8 +1.8**
comp=Z,0.6nm,0.3s,baz=356,slow=13,SNR=2.9
AKASG Malin Array Be 71.87 324 P **P 07 59 27.3 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 71.87 324 P **P 07 59 27.3 -1.0**
comp=Z,0.9nm,0.6s,baz=39,slow=6.2,SNR=6.0
GERES GERESS Array B 79.37 331 P **P 08 00 11.0 -0.4**
comp=Z,0.3nm,0.5s,baz=32,slow=6.0,SNR=3.4
H03N2 Juan Fernandez 142.29 90 T T 10 46 26.8
baz=301,slow=76,SNR=46
H03N3 Juan Fernandez 142.30 90 T T 10 46 26.8
baz=301,slow=76,SNR=56
H03N1 Juan Fernandez 142.30 90 T T 10 46 26.8
baz=301,slow=76,SNR=38

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*IDC **20** 07:49:18.3±1.3, 30.82N×50.00E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.6/29, mbtmp3.7/11, ML2.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/33, Error ellipse: s-maj=30.3km s-min=20.2km az=135.0*
*THR **20** 07:49:19.3±0.4, 30.74N×50.25E, h14km±8km, ML3.5*
*ISCJB **20** 07:49:20.6±0.6, 30.72N±0.05×50.12E±0.06, h30km, mb3.7/9, MS2.9/1, Error ellipse: s-maj=7.4km s-min=6.7km az=138.2*
*CSEM **20** 07:49:20.0±0.4, 30.75N×50.15E, h10km, ML3.7, Error ellipse: s-maj=11.6km s-min=5.2km az=44.0*
*TEH **20** 07:49:21.0, 30.83N×50.24E, h3km, ML3.7*
ISC 20 07:49:21.9±0.7, 30.79N±0.04×50.18E±0.05, h30km, n50, σ1§13/53, mb3.7/9, Northern and central Iran

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
IKAZ Kazeroun 1.75 125 ePn **Pn 07 49 51.7 +1.1**
IKAZ eSg **Sb 07 50 15.3 -0.1**
IKAZ e 07 50 32.1
comp=Z,8μm,0.2s
IKAZ Kazeroun 1.75 125 ePn **Pn 07 49 51.7 +1.1**
IKAZ eSg **Sb 07 50 15.3 -0.1**
SHGR Shooshtar-Gavs 1.77 319 ePg **Pb 07 49 52.8 -0.9**
SHGR Shooshtar-Gavs 1.77 319 ePg **Pb 07 49 52.8 -0.9**
IPIR Pirpir 1.99 18 ePn **Pn 07 49 54.0 +0.2**
IPIR eSg **Sb 07 50 21.0 -1.1**
IPIR e 07 50 22.9
comp=Z,8μm,0.4s
IPIR Pirpir 1.99 18 ePn **Pn 07 49 54.0 +0.2**
IPIR eSg **Sb 07 50 21.0 -1.1**
IZEF Zefreh 2.79 41 e 07 50 43.1
comp=Z,665nm,0.1s
IZEF ePn **Pn 07 50 05.5 +0.7**
IKLH Kolahrood 2.79 25 e 07 50 48.2
comp=Z,2μm,0.3s
IKLH ePn **Pn 07 50 05.3 +0.5**
KHMZ Khomeyn 2.95 356 ePn **Pn 07 50 08.6 +1.6**
comp=Z,102nm,0.4s
KHMZ Khomeyn 2.95 356 ePn **Pn 07 50 08.6 +1.6**
KHMZ AML AML 07 50 57.9
comp=E,149nm,0.6s
KHMZ AML AML 07 51 01.5
comp=N,102nm,0.4s
NASN Na'in 3.01 47 ePn **Pn 07 50 08.6 +0.7**
NASN Na'in 3.01 47 ePn **Pn 07 50 08.6 +0.7**
IKMR Kamar-syah 3.12 331 ePn **Pn 07 50 10.7 +1.6**
IKMR e 07 51 04.2
comp=Z,99nm,0.3s
IKMR Kamar-syah 3.12 331 ePn **Pn 07 50 10.7 +1.6**
QAM Ghamsar 3.15 20 ePn **Pn 07 50 11.4 +1.6**
QAM e 07 51 03.0
comp=Z,2μm,0.2s
ISAD Sadrabad 3.20 69 ePn **Pn 07 50 11.7 +1.2**
ISAD e 07 51 05.6
comp=Z,4μm,0.4s
ISAD Sadrabad 3.20 69 ePn **Pn 07 50 11.7 +1.2**
IDOB Doab 3.44 331 ePn Pb 07 50 18.6 -3.6
GHIR Ghir-Karzin 3.49 135 ePn **Pn 07 50 14.3 -0.1**
GHIR Ghir-Karzin 3.49 135 ePn **Pn 07 50 14.3 -0.1**
ASAO Ashtian 3.75 358 ePn **Pn 07 50 19.8 +1.7**
ASAO Ashtian 3.75 358 ePn **Pn 07 50 19.8 +1.7**
GHVR GHOM 3.80 14 ePn **Pn 07 50 20.0 +1.4**
comp=Z,90nm,0.7s
GHVR GHOM 3.80 14 ePn **Pn 07 50 20.0 +1.4**
GHVR AML AML 07 51 28.7
comp=E,66nm,0.6s
GHVR AML AML 07 51 38.4
comp=N,90nm,0.7s
IMEH Mehriz 3.85 80 ePn **Pn 07 50 19.9 +0.5**
IMEH e 07 51 09.9
comp=Z,535nm,0.1s
IMEH Mehriz 3.85 80 ePn **Pn 07 50 19.9 +0.5**
ICHK Chekchek 3.89 67 ePn **Pn 07 50 20.1 +0.2**
ICHK e 07 51 12.9
comp=Z,1μm,0.2s
ICHK Chekchek 3.89 67 ePn **Pn 07 50 20.1 +0.2**
IVRN Varamin 4.39 17 ePn **Pn 07 50 26.9 +0.2**
IVRN e 07 52 16.0
comp=Z,395nm,0.3s
IVRN Varamin 4.39 17 ePn **Pn 07 50 26.9 +0.2**
IRAZ Razeghan 4.61 357 ePn **Pn 07 50 30.9 +1.1**
IRAZ e 07 51 31.8
comp=Z,1μm,0.4s
IRAZ Razeghan 4.61 357 ePn **Pn 07 50 30.9 +1.1**
ILIN Lien 4.93 328 ePn **Pn 07 50 34.5 +0.3**
ILIN e 07 51 33.6
comp=Z,779nm,0.2s
ILIN Lien 4.93 328 ePn **Pn 07 50 34.5 +0.3**
CHTH Charan 5.17 9 ePn **Pn 07 50 39.0 +1.5**
CHTH Charan 5.17 9 ePn **Pn 07 50 39.0 +1.5**
IALA Alasht 5.72 22 ePn **Pn 07 50 45.8 +0.7**
IALA Alasht 5.72 22 ePn **Pn 07 50 45.8 +0.7**
IGLO Ghaloghah 6.46 27 ePn **Pn 07 50 55.2 0.0**
BRTR Keskin Array B 16.17 308 Pn **Pn 07 53 09.4 -0.6**
comp=Z,0.0nm,0.3s,baz=124,slow=12,SNR=5.5
AKTO Aktyubinsk 20.49 14 P **P 07 53 57.5 +0.2**
comp=Z,1.0nm,0.5s,baz=166,slow=8.3,SNR=2.3
AKASG Malin Array Be 25.29 328 P **P 07 54 44.6 -1.0**
comp=Z,0.2nm,0.3s,baz=134,slow=9.4,SNR=4.6
BVAR Borovoye Array 26.66 28 P **P 07 55 00.9 +3.0**
comp=Z,1.4nm,0.7s,baz=211,slow=11,SNR=5.6
MKAR Makanchi Array 29.44 48 P **P 07 55 22.6 -0.3**
comp=Z,0.2nm,0.6s,baz=245,slow=8.6,SNR=3.4
ZALV Zalesovo Beam 33.97 37 P **P 07 56 05.3 +2.7**
comp=Z,1.1nm,0.8s,baz=224,slow=8.1,SNR=3.1
ZALV LR LR 08 13 05.0
comp=Z,23nm,20.1s,baz=62,slow=42
FINES FINESS Array B 34.50 340 P **P 07 56 06.5 -0.6**
comp=Z,2.0nm,0.8s,baz=139,slow=13,SNR=3.8
NOA NORSAR Array B 39.59 331 P **P 07 56 48.8 -1.6**
comp=Z,1.0nm,0.8s,baz=125,slow=8.6,SNR=3.2
ESDC Sonseca Array 44.52 297 P **P 07 57 30.8 -0.1**
comp=Z,0.2nm,0.3s,baz=94,slow=8.9,SNR=3.6
TORD Torodi Ar. Bea 47.87 260 P **P 07 57 57.8 +0.3**
comp=Z,2.2nm,0.9s,baz=59,slow=7.4,SNR=12

BOSA Boshof 63.67 204 P **P 07 59 50.9 +0.3**
comp=Z,2.3nm,0.8s,baz=3.0,slow=5.5,SNR=4.1

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*IDC **20** 07:59:27.1±1.1, 33.12N×92.02E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.3/40, mbtmp3.3/7, ML3.1/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/24, Error ellipse: s-maj=42.6km s-min=23.2km az=65.0*
*BJI **20** 07:59:31.5, 33.19N×92.28E, h10km, ML3.6/2, Ms7 3.2/1*
ISC 20 07:59:29.1±0.9, 33.16N±0.07×92.0E±0.2, h14km, n9, σ1§62/9, mb3.6/5, Qinghai

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
LSA Lhasa 3.52 192 Pn **Pb 08 00 29.0 -2.5**
LSA Sn **Sb 08 01 17.3 +3.0**
LSA smax smax
comp=E,90nm,1.1s
MKAR Makanchi Array 15.49 334 Pn **Pn 08 03 06.8 -0.2**
0.0nm,0.3s,baz=136,slow=14,SNR=4.3
AAK Ala-Archa 16.70 310 LR LR 08 10 49.1
comp=Z,29nm,21.1s,baz=75,slow=41
SONM Songino Array 18.25 32 P **P 08 03 42.7 +0.5**
0.1nm,0.3s,baz=210,slow=13,SNR=5.1
ZALV Zalesovo Beam 21.39 348 P **P 08 04 16.1 0.0**
1.1nm,0.8s,baz=142,slow=7.5,SNR=4.0
WRA Warramunga Arr 66.51 136 P **P 08 10 18.3 -0.2**
0.7nm,0.9s,baz=331,slow=6.3,SNR=5.3
WRA LR LR 08 42 02.9
comp=Z,29nm,18.3s,baz=205,slow=38
ASAR Alice Springs 69.21 139 P **P 08 10 35.8 +0.3**
0.7nm,0.8s,baz=329,slow=7.2,SNR=7.1
YKA Yellowknife Ar 82.30 12 P **P 08 11 50.0 +0.1**
0.1nm,0.7s,baz=335,slow=4.6,SNR=3.2
TORD Torodi Ar. Bea 83.17 281 P **P 08 11 55.7 +0.5**
0.3nm,0.6s,baz=41,slow=3.5,SNR=2.7

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*NNC **20** 08:36:14.5±2.2, 51.64N×75.49E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=23.3km s-min=10.1km az=53.0*
*ISCJB **20** 08:36:15.0±0.6, 51.67N±0.05×75.50E±0.06, h10km, Error ellipse: s-maj=7.6km s-min=5.0km az=22.7*
*IDC **20** 08:36:16.6±1.1, 51.65N×75.39E, h0km, mb1 3.3/4, mb1mx3.0/31, mbtmp3.3/4, ML2.9/4, Error ellipse: s-maj=34.0km s-min=8.5km az=33.0*
ISC 20 08:36:16.4±0.9, 51.69N±0.06×75.43E±0.05, h10km, n14, σ1§43/19, 12C-7D, Eastern Kazakhstan

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
VOSK Vostochnaya 2.93 293 ⇑Sn **Sb 08 37 44.6 +0.2**
42nm,0.6s
BVA0 Borovoye Array 3.37 295 ⇑Pn **Pn 08 37 10.6 +1.6**
1.2nm,0.5s,baz=0.0,slow=0.1,SNR=25
BVA0 ⇓Pg **Pb 08 37 15.6 -0.5**
3.3nm,0.7s,baz=114,slow=16,SNR=7.5
BVA0 ⇑Sn **Sn 08 37 49.9 +0.9**
4.9nm,0.5s
BVA0 ⇑Lg Lg 08 37 59.6
16nm,0.5s,baz=104,slow=25,SNR=14
BVAR Borovoye Array 3.37 295 Pn **Pn 08 37 10.9 +1.9**
1.0nm,0.3s,baz=115,slow=13,SNR=12
BVAR Pg **Pb 08 37 15.3 -0.8**
1.6nm,0.3s,baz=114,slow=17,SNR=20
BVAR Lg Lg 08 37 59.0
5.2nm,0.3s,baz=101,slow=23,SNR=9.6
BRVK Borovoye 3.44 296 ⇓Pn **Pn 08 37 11.0 +1.0**
3.5nm,0.8s
BRVK ⇓Pg **Pb 08 37 16.4 -0.9**
3.6nm,0.5s
BRVK ⇑Sn **Sn 08 37 50.7 0.0**
5.3nm,0.4s
BRVK ⇑Lg Lg 08 38 00.9
50nm,0.7s
OTUK Ortayu 3.98 211 ⇑Pn **Pn 08 37 17.9 +0.5**
OTUK ⇑Pg **Pb 08 37 27.4 +0.7**
OTUK ⇑Sn **Sn 08 38 04.2 0.0**
OTUK ⇓Lg Lg 08 38 18.9
I46RU ZALESOVO INFRA 6.13 65 *i* 09 10 35.7
baz=252,slow=345,SNR=1.1
ZALV Zalesovo Beam 6.13 65 Pn **Pn 08 37 48.9 +2.0**
1.3nm,0.3s,baz=255,slow=15,SNR=22
ZALV Sn **Sn 08 38 56.1 -0.9**
0.3nm,0.3s,baz=257,slow=24,SNR=3.9
MK31 Makanchi Array 6.64 135 ⇑Pn **Pn 08 37 54.4 +0.4**
0.5nm,0.5s,baz=316,slow=11,SNR=14
MK31 ⇓Sn **Sn 08 39 06.2 -3.6**
0.4nm,0.4s,baz=320,slow=22,SNR=3.8
MK31 ⇓Lg Lg 08 39 46.1
2.0nm,0.4s,baz=322,slow=26,SNR=6.8
MKAR Makanchi Array 6.64 135 Pn **Pn 08 37 54.7 +0.6**
0.2nm,0.3s,baz=327,slow=13,SNR=16
MKAR Sn **Sn 08 39 11.0 +1.2**
0.4nm,0.3s,baz=324,slow=21,SNR=6.0
MKAR Lg Lg 08 39 44.2
1.1nm,0.3s,baz=322,slow=27,SNR=8.9
TKM2 Tokmak 2 8.77 179 ⇑Lg Lg 08 40 49.4
4.9nm,1.1s
PDGK Podgornoye 8.80 160 ⇓Lg Lg 08 40 50.9
AAK Ala-Archa 9.08 184 ⇑Lg Lg 08 40 57.3
8.8nm,1.1s
AAK Ala-Archa 9.08 184 Lg Lg 08 41 01.3
0.3nm,0.3s,baz=30,slow=20,SNR=5.9
AKTO Aktyubinsk 11.03 270 Pn **Pn 08 38 52.5 -1.6**
0.2nm,0.3s,baz=95,slow=12,SNR=2.7

MEX 20 08:56:52.2±0.6, 15.61N×96.72W, h4km±10km, MD4.1, Near coast of Oaxaca

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
HUIG Huatulco 0.61 75 *i* P Pg 08 57 03.6 -0.4
HUIG eS Sg 08 57 12.8 +0.9
VHO Vista Hermosa 1.46 360 *i* P Pn 08 57 15.1 -4.5
VHO *i* S Sb 08 57 33.9 -5.3
PNIG Pinotepa 1.56 300 eP Pn 08 57 17.1 -3.7
PNIG *i* S Sn 08 57 36.6 -4.9
CMIG Matias Romero 2.30 50 eP Pn 08 57 26.9 -3.9
CMIG *i* S Sn 08 57 55.3 -4.4
TLIG Tlapa 2.63 318 *i* P Pn 08 57 32.8 -2.8
TLIG *i* S Sn 08 58 03.8 -4.3
PCIG 3.37 88 *i* P Pn 08 57 42.5 -3.1
PCIG *i* S Sn 08 58 22.0 -4.1
CCIG Comitan 4.46 81 *i* P Pn 08 57 57.5 -3.3
CCIG *i* S Sn 08 58 49.2 -4.2

PLV 20 08:58:21.3±1.2, 20.96N×107.36E, h17km±999km, MD2.2, ML2.9, Gulf of Tongking

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
LSVB Lang Son stati 1.05 328 ePg Pb 08 58 39.1 -2.0
LSVB eSg Sb 08 58 53.0 -1.6
LSVB Lang Son stati 1.05 328 ePg Pb 08 58 39.7 -1.4
LSVB eSg Sb 08 58 52.9 -1.8
BGV Bac-Giang 1.10 288 ePg Pb 08 58 40.6 -1.3
BGV eSg Sb 08 58 54.6 -1.4
BGV AML AML 08 58 58.4
comp=N,270nm,0.8s
BGV Bac-Giang 1.10 288 ePg Pb 08 58 40.9 -1.0
BGV eSg Sb 08 58 54.9 -1.1
BGV AML AML 08 58 58.4
comp=N,271nm,0.8s
BCVB Bac Can 1.74 302 ePg Pn 08 58 51.3 +0.6
BCVB eSg Sn 08 59 12.4 -0.1
CBVB Cao Bang 2.00 328 ePg Pb 08 58 56.5 -0.8
CBVB eSg Sb 08 59 21.0 -0.9
CBVB Cao Bang 2.00 328 ePg Pb 08 58 56.8 -0.5
CBVB eSg Sb 08 59 20.2 +1.2

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*ISCJB **20** 09:01:50.5±0.6, 12.84N±0.08×143.2E±0.2, h250km, mb3.8/13, Error ellipse: s-maj=20.9km s-min=11.1km az=166.8*
*IDC **20** 09:01:50.5±3.9, 12.86N×143.36E, h238km±38km, mb3.5/12, mb1 3.6/14, mb1mx3.4/34, mbtmp4.1/14, MS2.9/1, Ms1 2.9/1, ms1mx2.4/22, Error ellipse: s-maj=20.2km s-min=9.6km az=75.0*
ISC 20 09:01:51.5±0.6, 12.91N±0.10×143.4E±0.2, h250km, n22, σ1§49/17, mb3.7/13, South of Mariana Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JCJ Chichijima 14.16 356 P **Pn 09 04 59.8 -1.8**
4.7nm,0.3s,baz=180,slow=20,SNR=2.8
JCJ LR LR 09 08 44.4
comp=Z,40nm,18.4s,baz=62,slow=29
JOW Kunigami 19.81 317 P **P 09 06 03.0 -0.6**
0.3nm,0.3s,baz=120,slow=28,SNR=8.4
H11S3 WAKE ISLAND Hy 23.10 73 T T 09 30 32.8
baz=261
H11S1 WAKE ISLAND Hy 23.12 73 T T 09 30 04.2
baz=261
H11S2 WAKE ISLAND Hy 23.12 73 T T 09 30 40.4
baz=261,SNR=2.2
JNU Nakatsue 23.14 332 P **P 09 06 35.5 -0.4**
5.1nm,0.8s,baz=123,slow=7.7,SNR=5.0
H11N1 WAKE ISLAND Hy 23.54 70 T T 09 30 15.3
baz=256,slow=75,SNR=9.0
H11N2 WAKE ISLAND Hy 23.55 70 T T 09 30 33.5
baz=256,slow=75,SNR=2.9
H11N3 WAKE ISLAND Hy 23.56 70 T T 09 30 16.8
baz=256,slow=75,SNR=5.1
WRA Warramunga Arr 33.84 195 P **P 09 08 09.7 -1.0**
10nm,0.6s,baz=19,slow=9.7,SNR=119
ASAR Alice Springs 37.51 194 P **P 09 08 41.1 -0.7**
2.0nm,0.4s,baz=20,slow=12,SNR=86
DZM Mont Dzumac 41.48 147 P **P 09 09 16.0 +1.4**
20nm,0.7s,baz=261,slow=6.8,SNR=21
CMAR Chiang Mai Arr 43.06 283 P **P 09 09 28.6 +1.3**
1.9nm,0.5s,baz=82,slow=6.2,SNR=13
STKA Stephens Creek 44.56 182 P **P 09 09 37.8 -1.2**
7.2nm,0.7s,baz=353,slow=6.7,SNR=11
SONM Songino Array 46.47 326 P **P 09 09 55.1 +1.3**
1.0nm,0.5s,baz=150,slow=7.5,SNR=10
MKAR Makanchi Array 60.98 317 P **P 09 11 39.2 +0.6**
0.7nm,0.6s,baz=96,slow=8.5,SNR=10
ZALV Zalesovo Beam 61.34 325 P **P 09 11 40.3 -0.5**
0.7nm,0.4s,baz=99,slow=7.9,SNR=3.7
ILAR Eielson Array 69.80 25 P **P 09 12 35.1 +0.5**
0.5nm,0.8s,baz=247,slow=5.3,SNR=7.7
ILAR pP **pP 09 13 29.7 -2.6**
0.3nm,0.5s,baz=248,slow=5.6,SNR=2.3
YKA Yellowknife Ar 84.12 27 P **P 09 13 56.2 +1.9**
0.2nm,0.4s,baz=291,slow=5.2,SNR=3.5
NVAR Mina Array Bea 88.47 51 P **P 09 14 17.6 +1.4**
0.2nm,0.5s,baz=278,slow=2.6,SNR=2.2
FINES FINESS Array B 91.16 335 P **P 09 14 27.9 0.0**
0.9nm,0.8s,baz=90,slow=3.8,SNR=5.2
LPAZ La Paz 149.34 100 PKPbc **PKPbc 09 21 10.1 -2.5**
0.7nm,0.7s,baz=203,slow=7.7,SNR=2.2

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*ISCJB **20** 09:22:21.5±1.3, 41.49N±0.10×89.3E±0.1, h10km, Error ellipse: s-maj=16.6km s-min=8.5km az=38.5*
*BJI **20** 09:22:24.8, 41.30N×89.53E, h8km, ML3.3/10*
ISC 20 09:22:24.7±1.5, 41.4N±0.1×89.3E±0.1, h10km, n4, σ2§45/7, 4C-2D, Southern Xinjiang

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
WMQ Urumqi 2.73 334 Pn **Pn 09 23 10.9 +2.2**
WMQ Sg **Sb 09 23 48.8 +1.5**
WMQ smax smax
comp=N,350nm,0.7s
WMQ smax smax
comp=E,280nm,0.7s
MK31 Makanchi Array 7.42 319 ⇑Pn **Pn 09 24 12.1 -0.9**
0.3nm,0.4s,baz=130,slow=14,SNR=58
MK31 ⇑Sn **Sn 09 25 34.3 -2.9**
1.0nm,0.4s
MK31 ⇓Lg Lg 09 26 10.9
3.1nm,0.6s,baz=135,slow=26,SNR=4.0
PDGK Podgornoye 7.55 288 ⇑Pn **Pn 09 24 16.8 +2.1**
PDGK ⇓Sn **Sn 09 25 38.5 -1.7**
PDGK ⇑Lg Lg 09 26 17.1
GTA Gaotai 8.24 100 eP **Pn 09 24 23.8 -0.6**
GTA pP pP 09 24 28.0
GTA sP sP 09 24 31.3

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*IDC **20** 09:22:33.4±0.8, 1.84N×128.58E, h0km, mb4.0/10, mb1 4.1/10, mb1mx4.0/22, mbtmp4.0/10, Error ellipse: s-maj=48.3km s-min=15.0km az=81.0*
*ISCJB **20** 09:22:36.8±0.4, 1.89N±0.03×128.77E±0.03, h35km, mb4.3/13, Error ellipse: s-maj=4.5km s-min=4.2km az=172.2*
*NEIC **20** 09:22:39.0±0.5, 1.92N×128.73E, h35km, mb4.4/2, Error ellipse: s-maj=11.9km s-min=8.5km az=79.0*
*DJA **20** 09:22:41.5±0.7, 2°N±3'×12°9E±', h35km±7km, M4.5/12, mb4.9/9, mB5.0/5, MLv4.5/12, Mw(mB)4.4/5*
ISC 20 09:22:39.0±0.6, 1.87N±0.05×128.74E±0.05, h35km, n52, σ1§42/53, mb4.2/13, Halmahera

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
TNTI Ternate 1.75 231 P **Pn 09 23 06.8 -0.2**
TNTI S **Sn 09 23 26.5 -1.6**
TNTI Ternate 1.75 231 ePn **Pn 09 23 06.7 -0.2**
TNTI eS **Sn 09 23 27.7 -0.4**
LBMI Labuha 2.78 206 P **Pn 09 23 20.7 -0.4**
LBMI S **Sn 09 23 54.5 +1.0**
SGSI Sangihe 3.68 299 P **Pn 09 23 35.2 +1.8**
SGSI S **Sn 09 24 17.6 +2.0**
SWI Sorong 3.71 137 P **Pn 09 23 36.9 +3.1**
SWI S **Sn 09 24 17.7 +1.4**
SWI Sorong 3.71 137 P **Pn 09 23 36.3 +2.5**
baz=3.7,SNR=8.8
SWI S **Sn 09 24 17.1 +0.8**
baz=3.7,SNR=10
SANI Sanana 4.77 215 P **Pn 09 23 47.2 -1.2**
SANI S **Sn 09 24 43.0 +0.5**
KMSI Cibinong 4.93 255 P **Pn 09 23 51.6 +1.0**
KMSI S **Sn 09 24 46.7 +0.3**
NLAI Namlea 5.33 198 P **Pn 09 23 56.8 +0.6**
98nm,0.5s,2μm0.5nm
FAKI Fak Fak 5.91 144 P **Pn 09 24 06.4 +2.2**
59nm,0.8s,0.2nm
FAKI Fak Fak 5.91 144 ePn **Pn 09 24 06.4 +2.2**
48nm,0.8s
FAKI eSn **Sn 09 25 10.0 -0.8**
FAKI Fak Fak 5.91 144 P **Pn 09 24 06.3 +2.1**
baz=5.9,SNR=30
LUWI Luwuk 6.63 244 ePn **Pn 09 24 15.1 +1.0**
LUWI Sn **Sn 09 25 31.9 +3.5**
LUWI Luwuk 6.63 244 P Pn 09 24 18.8 +4.8
baz=6.4,SNR=4.3
MRSI Marisa 6.94 259 P **Pn 09 24 19.7 +1.5**
82nm,0.6s,931nm0.3nm
APSI Ampana 7.61 249 P **Pn 09 24 27.6 +0.1**
93nm,0.6s,1μm0.3nm
PALU Palau 7.89 46 P Pn 09 24 36.4 +5.1
baz=8.2,SNR=11
PALU S **Sn 09 25 58.3 -1.1**
baz=8.2,SNR=6.1
MPSI Mapaga 8.97 260 P **Pn 09 24 48.0 +1.8**
16nm,0.8s,485nm
TTSI Tana Toraja 10.16 241 P **Pn 09 25 02.3 -0.3**
46nm,0.8s,2μm
BNSI Bone 10.64 234 P **Pn 09 25 09.2 +0.1**
32nm,0.6s
SPSI Sidrap Palu 10.67 237 P **Pn 09 25 10.4 +0.9**
BKSI Bulukumba 11.19 230 P **Pn 09 25 19.2 +2.7**
KAPI Kappang 11.29 233 ePn **Pn 09 25 19.3 +1.4**
MTN Manton Dam 14.81 171 P **Pn 09 26 03.5 -2.6**
baz=15,SNR=10.0
KDU Kakadu 14.93 166 P Pn 09 26 04.8 -2.8
baz=15,SNR=5.2
KNRA Kununurra 17.44 180 P **P 09 26 39.9 +0.3**
baz=17,SNR=3.6
COEN Coen 21.26 138 eP **P 09 27 23.5 +1.0**
19nm,0.9s
WRAB Tennant Creek 22.36 166 eP **P 09 27 33.8 -0.4**
16nm,1.0s
WRA Warramunga Arr 22.36 166 P **P 09 27 34.0 -0.3**
4.8nm,0.6s,baz=346,slow=13,SNR=22
QIS Mount Isa 24.70 155 P **P 09 27 58.2 +1.1**
baz=25,SNR=7.8
AS31 Alice Springs 25.88 169 eP **P 09 28 07.7 -0.1**
ASAR Alice Springs 25.88 169 P **P 09 28 07.8 +0.1**
1.3nm,0.7s,baz=342,slow=9.6,SNR=22
WRKA Warakurna 26.75 181 P **P 09 28 15.2 -0.5**
baz=27,SNR=6.4
MEEK Meekatharra 29.98 198 P **P 09 28 42.7 -1.7**
baz=30,SNR=3.4
BBOO Buckleboo 35.18 169 eP **P 09 29 31.9 +2.1**

598nm,1.8s
KSAR Wonju Array Be 35.41 359 P P 09 29 31.1 -0.6
KSRS Korea Array 35.42 359 P P 09 29 31.1 -0.7
0.5nm,0.6s,baz=170,slow=8.9,SNR=3.5
MJAR Matsushiro Arr 35.59 13 P P 09 29 33.2 -0.1
10nm,0.8s,baz=188,slow=10,SNR=14
STKA Stephens Creek 35.71 161 P P 09 29 32.9 -1.5
1.4nm,0.4s,baz=342,slow=11,SNR=3.2
NWAO Narrogin (SRO) 36.28 196 P P 09 29 37.4 -1.8
3.9nm,0.6s,baz=63,slow=9.0,SNR=2.2
RKGY Rocky Gully 37.93 196 P P 09 29 53.0 -0.2
baz=38,SNR=7.5
H11S3 WAKE ISLAND Hy 40.70 64 T T 10 13 42.2
baz=251,slow=75,SNR=9.0
H11S2 WAKE ISLAND Hy 40.71 64 T T 10 13 43.9
baz=251,slow=75,SNR=4.3
H11S1 WAKE ISLAND Hy 40.71 63 T T 10 13 42.9
baz=251,slow=75,SNR=2.9
H11N1 WAKE ISLAND Hy 41.30 62 T T 10 15 08.4
baz=247,slow=75,SNR=6.5
H11N2 WAKE ISLAND Hy 41.31 62 T T 10 15 11.3
baz=247,slow=75,SNR=7.2
H11N3 WAKE ISLAND Hy 41.31 62 T T 10 15 09.7
baz=247,slow=75,SNR=13
SONM Songino Array 49.70 340 P P 09 31 27.5 -0.3
0.8nm,0.8s,baz=152,slow=7.6,SNR=3.7
MK31 Makanchi Array 60.22 325 P P 09 32 43.6 -0.1
MKAR Makanchi Array 60.22 325 P P 09 32 43.7 0.0
2.3nm,0.4s,baz=117,slow=8.4,SNR=54
ZALV Zalesovo Beam 63.15 333 P P 09 33 01.2 -2.1
0.4nm,0.3s,baz=138,slow=9.2,SNR=2.8
ILAR Eielson Array 85.91 25 P P 09 35 15.7 +0.5
0.1nm,0.5s,baz=276,slow=5.3,SNR=3.7

*IDC **20** 09:33:51.4±1.5, 30.°85N×50.°21E, h0km, mb3.8/16, mb1 4.0/20, mb1mx3.9/34, mbtmp3.8/20, ML3.4/4, MS3.4/3, Ms1 3.4/3, ms1mx2.8/38, Error ellipse: s-maj=32.9km s-min=16.3km az=170.0*
*BJI **20** 09:33:51.4, 31.°30N×49.°29E, h25km, mb4.0/3*
*THR **20** 09:33:53.2±0.4, 30.°79N×50.°31E, h14km±8km, ML3.9*
*MOS **20** 09:33:53.9±1.5, 30.°69N×50.°17E, h33km, mb4.1/10, Error ellipse: s-maj=15.1km s-min=8.2km az=109.7*
*CSEM **20** 09:33:54.1±0.3, 30.°72N×50.°13E, h20km, mb3.9/9, Error ellipse: s-maj=10.7km s-min=7.5km az=9.0*
*ISCJB **20** 09:33:54.1±0.5, 30.°76N±0.°05×50.°17E±0.°04, h30km, mb3.9/21, MS4.1/1, Error ellipse: s-maj=7.6km s-min=5.1km az=2.2*
*TEH **20** 09:33:56.9, 30.°83N×50.°28E, h26km, ML4.4*
*ISN **20** 09:34:32.1±2.9, 30.°79N×46.°83E, h0km±12km, ML4.1*
ISC 20 09:33:55.6±0.6, 30.°80N±0.°05×50.°19E±0.°04, h30km, n112, σ1§29/104, mb4.0/21, 9C-7D, Northern and central Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IKAZ Kazeroun 1.75 125 ePn Pn 09 34 25.0 +0.8
IKAZ e 09 35 01.6
comp=Z,22μm,0.2s
IKAZ Kazeroun 1.75 125 ePn Pn 09 34 25.0 +0.8
SHGR Shooshtar-Gavs 1.77 318 ePg Pb 09 34 26.7 -0.6
SHGR eSg Sb 09 34 51.5 +2.5
SHGR Shooshtar-Gavs 1.77 318 ePg Pb 09 34 26.7 -0.6
SHGR eSg Sb 09 34 51.5 +2.5
IPIR Pirpir 1.97 17⇑ePn Pn 09 34 27.9 +0.7
IPIR eSg Sb 09 34 57.2 +2.0
IPIR e 09 34 57.9
comp=Z,18μm,0.3s
IPIR Pirpir 1.97 17⇑ePn Pn 09 34 27.9 +0.7
IPIR eSg Sb 09 34 57.3 +2.0
IZEF Zefreh 2.77 40 ePn Pn 09 34 38.9 +0.7
IZEF e 09 34 44.4
comp=Z,0.0nm,22.9s
IZEF Zefreh 2.77 40 ePn Pn 09 34 38.9 +0.7
IKLH Kolahrood 2.77 25 e Pn 09 34 38.9 +0.7
comp=Z,0.0nm,6.0s
IKLH ePn Pb 09 34 39.3 -5.4
KHMZ Khomeyn 2.94 356 ePn Pn 09 34 41.9 +1.5
comp=Z,495nm,0.6s
KHMZ Khomeyn 2.94 356 ePn Pn 09 34 41.9 +1.5
KHMZ AML AML 09 35 31.0
comp=N,345nm,0.7s
KHMZ AML AML 09 35 40.4
comp=E,494nm,0.6s
NASN Na'in 2.99 47 ePn Pn 09 34 41.6 +0.4
NASN Na'in 2.99 47 ePn Pn 09 34 41.6 +0.4
IKMR Kamar-syah 3.12 331 ePn Pn 09 34 44.8 +2.2
IKMR e 09 35 43.2
comp=Z,99nm,0.4s
IKMR Kamar-syah 3.12 331 ePn Pn 09 34 44.8 +2.2
ISAD Sadrabad 3.19 69 ePn Pn 09 34 44.7 +0.8
ISAD Sadrabad 3.19 69 ePn Pn 09 34 44.7 +0.8
IKFM Kafar-mosalman 3.37 324 ePn Pb 09 34 53.1 -1.5
IKFM e 09 35 54.1
comp=Z,99nm,0.4s
IKFM Kafar-mosalman 3.37 324 ePn Pb 09 34 53.1 -1.5
IDOB Doab 3.43 331 ePn Pn 09 34 47.0 -0.2
IDOB e 09 35 56.2
comp=Z,99nm,0.5s
IDOB Doab 3.43 331 ePn Pn 09 34 47.0 -0.2
NSR Nassriya 3.49 274 ePg Pn 09 34 44.1 -3.7
SNR=90
NSR Nassriya 3.49 274 ePG Pn 09 34 44.1 -3.7
NSR eSG Pb 09 34 52.1 -4.5
GHIR Ghir-Karzin 3.49 135 ePn Pn 09 34 48.1 +0.1
comp=Z,187nm,0.5s
GHIR Ghir-Karzin 3.49 135 ePn Pn 09 34 48.1 +0.1
GHIR AML AML 09 35 57.4
comp=E,187nm,0.5s
ASAO Ashtian 3.74 358 ePn Pn 09 34 53.0 +1.5
comp=E,342nm,0.6s
ASAO Ashtian 3.74 358 ePn Pn 09 34 53.0 +1.5
ASAO AML AML 09 36 00.0
comp=N,342nm,0.6s
IKOM Komasi 4.06 327 ePn Pn 09 34 57.4 +1.6
IKOM e 09 36 12.2
comp=Z,8μm,0.3s
IKOM Komasi 4.06 327 ePn Pn 09 34 57.4 +1.6
IVRN Varamin 4.38 17 ePn Pn 09 35 00.7 +0.6
IVRN e 09 35 27.2
comp=Z,1μm,0.3s
IVRN Varamin 4.38 17 ePn Pn 09 35 00.7 +0.6
IRAZ Razeghan 4.60 357 ePn Pn 09 35 04.1 +0.9
IRAZ e 09 36 32.7
comp=Z,6μm,0.6s
IRAZ Razeghan 4.60 357 ePn Pn 09 35 04.1 +0.9
IMHD Mahdasht 4.89 5 ePn Pn 09 35 07.0 -0.1
IMHD e 09 36 35.6
comp=N,3μm,0.4s
IMHD Mahdasht 4.89 5 ePn Pn 09 35 07.0 -0.1
ILIN Lien 4.93 327 ePn Pn 09 35 08.8 +1.0
ILIN e 09 36 41.1
comp=Z,3μm,0.4s
ILIN Lien 4.93 327 ePn Pn 09 35 08.8 +1.0
IDMV Damavand 5.01 17 ePn Pn 09 35 09.1 +0.2
IDMV e 09 37 05.2
comp=Z,2μm,0.8s
IDMV Damavand 5.01 17 ePn Pn 09 35 09.1 +0.2
ILAS Lasjerd 5.13 26 ePn Pn 09 35 10.3 -0.1
ILAS Lasjerd 5.13 26 ePn Pn 09 35 10.4 -0.1
IFIR Firoozkooh 5.29 23 ePn Pn 09 35 12.7 0.0
IFIR e 09 35 48.1
comp=Z,388nm,0.2s
IFIR Firoozkooh 5.29 23 ePn Pn 09 35 12.7 0.0
IKRK Kirkuk 6.72 315 ePN Pb 09 35 48.9 -2.7
IKRK eSN Sn 09 36 45.5 -2.2
MSL Mosul 8.13 315 ePN Pb 09 36 07.2 -8.4
MSL eSN Sn 09 37 17.7 -4.7
RTB Rutbah 8.69 287 ePN Pn 09 36 04.5 +5.2
RTB eSN Sn 09 37 08.8 -28
GNI Garni 10.33 336 LR LR 09 40 22.0
comp=Z,61nm,19.8s,baz=146,slow=38
ASF Jabal al Asfar 11.43 280 Pn Pn 09 36 36.5 -0.4
comp=Z,0.7nm,0.3s,baz=102,slow=9.8,SNR=4.0
ASF Sn Sn 09 38 41.1 -2.6
comp=Z,0.3nm,0.3s,baz=30,slow=8.1,SNR=2.6
ASF Lg Lg 09 40 06.3
comp=Z,0.8nm,0.3s,baz=25,slow=17,SNR=2.6
MMAI Mount Meron Ar 12.76 284 Pn Pn 09 36 54.2 -0.8
comp=Z,0.3nm,0.3s,baz=99,slow=15,SNR=2.1
MMAI Sn Sn 09 39 18.2 +2.1
comp=Z,0.6nm,0.3s,baz=103,slow=31,SNR=2.2
MMAI Lg Lg 09 40 54.0
comp=Z,0.3nm,0.3s,baz=115,slow=27,SNR=2.4
EIL Elat 13.23 269 Lg Lg 09 41 08.9
comp=Z,0.4nm,0.3s,baz=6.0,slow=19,SNR=2.4
KBZ Khabaz 14.14 338 Pn Pn 09 37 17.1 +3.3
comp=Z,0.1nm,0.3s,baz=166,slow=8.3,SNR=2.8
KBZ LR LR 09 43 23.1
comp=Z,127nm,20.4s,baz=156,slow=41
KIV Kislovodsk 14.41 338 iP Pn 09 37 19.1 +1.5
KIV pmax pmax
comp=Z,24nm,1.5s
BRTR Keskin Array B 16.17 308 P Pn 09 37 42.0 +1.3
BRTR Keskin Array B 16.17 308 Pn Pn 09 37 42.0 +1.3
comp=Z,0.1nm,0.3s,baz=143,slow=14,SNR=9.1
BRTR Keskin Array B 16.17 308 P Pn 09 37 42.0 +1.3
AKTK Aktyubinsk 20.47 14 P P 09 38 30.7 0.0
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 20.47 14 P P 09 38 30.7 0.0
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 20.47 14 P P 09 38 30.7 0.0
comp=Z,1.6nm,0.6s,baz=202,slow=11,SNR=4.8
VRHR Novokhopersk 21.26 345 eP P 09 38 38.4 -0.7
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR Novokhopersk 21.26 345 eP P 09 38 38.4 -0.7
IDI Anoyia 21.66 289 P P 09 38 44.3 +0.7
comp=Z,13nm,0.8s,baz=63,slow=11,SNR=2.7
VORD Divnogorie 21.72 341 eP P 09 38 43.3 -0.8
VORD pmax pmax
comp=N,40nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 21.72 341 eP P 09 38 43.3 -0.8
VSR Storozhevoye 21.98 341 eP P 09 38 47.6 +0.7
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR Storozhevoye 21.98 341 eP P 09 38 47.6 +0.7
CFR Carcaliu 22.45 316 ⇓P P 09 38 58.2 +6.2
CFR Carcaliu 22.45 316 ⇓iP P 09 38 58.2 +6.2
AAK Ala-Archa 22.70 52 P P 09 38 57.1 +2.2
comp=Z,0.3nm,0.3s,baz=197,slow=17,SNR=2.4
KSH Kashi 22.74 60 eP P 09 38 53.8 -1.5
KSH pmax pmax
comp=Z,5.0nm,0.8s
MMB Musomiste 23.83 304 ⇑P P 09 39 00.1 -5.9
MMB Musomiste 23.83 304 ⇑iP P 09 39 00.1 -5.9
MLR Muntele Rosu 23.93 315 P P 09 39 09.0 +1.9
MLR pmax pmax
comp=Z,1.0nm,0.8s
MLR Muntele Rosu 23.93 315 ⇓iP P 09 39 10.0 +2.9
MLR Muntele Rosu 23.93 315 P P 09 39 09.0 +1.9
comp=Z,1.2nm,0.8s,baz=244,slow=22,SNR=3.5
MLR Muntele Rosu 23.93 315 P P 09 39 09.0 +1.9
comp=Z,1.0nm,0.8s
TESR Tescani 24.04 317 ⇓iP P 09 39 17.5 +10
VOIR 24.46 314 ⇑P P 09 39 13.6 +1.7
VOIR 24.46 314 ⇑iP P 09 39 13.6 +1.7
VOIR 24.46 314 P P 09 39 13.6 +1.7
ARR Arges 24.69 313 ⇑iP P 09 39 14.9 +1.0
AKASG Malin Array Be 25.29 328 P P 09 39 19.0 -0.2
AKASG Malin Array Be 25.29 328 P P 09 39 19.0 -0.2
comp=Z,0.3nm,0.2s,baz=134,slow=8.6,SNR=5.7
AKASG Malin Array Be 25.29 328 P P 09 39 19.0 -0.2
BURAR Bucovina Array 25.46 318 ⇑P P 09 39 26.5 +5.6
BURAR Bucovina Array 25.46 318 ⇑iP P 09 39 26.5 +5.6
GZR Gura Zlata 25.88 312 ⇓iP P 09 39 25.8 +1.1
DRGR 26.53 315 ⇓P P 09 39 32.2 +1.6
DRGR 26.53 315 ⇓iP P 09 39 32.2 +1.6
DRGR 26.53 315 P P 09 39 32.2 +1.6
BVAR Borovoye Array 26.64 28 P P 09 39 31.9 +0.5
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 26.64 28 P P 09 39 31.9 +0.5
comp=Z,2.5nm,0.6s,baz=217,slow=7.2,SNR=12
MKAR Makanchi Array 29.42 48 P P 09 39 56.4 0.0
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 29.42 48 P P 09 39 56.4 0.0
comp=Z,0.7nm,0.8s,baz=238,slow=11,SNR=7.3
GERES GERESS Array B 32.91 314 P P 09 40 26.1 -1.1
comp=Z,0.1nm,0.4s,baz=97,slow=8.0,SNR=3.9
ZALV Zalesovo Beam 33.95 37 P P 09 40 36.0 0.0
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 33.95 37 P P 09 40 36.0 0.0
comp=Z,0.8nm,0.5s,baz=240,slow=8.9,SNR=5.5
FINES FINESS Array B 34.49 340 P P 09 40 39.3 -1.3
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 34.49 340 P P 09 40 39.3 -1.3
comp=Z,2.6nm,0.8s,baz=153,slow=8.9,SNR=8.6
NB2 NORSAR Subarra 39.59 331 P P 09 41 23.7 -0.3
comp=Z,3.9nm,1.2s,baz=123,slow=8.6
NB2 NORSAR Subarra 39.59 331 P P 09 41 23.7 -0.3
comp=Z,3.9nm,1.2s,SNR=3.3
NOA NORSAR Array B 39.59 331 P P 09 41 23.5 -0.4
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 39.59 331 P P 09 41 23.5 -0.4
comp=Z,0.5nm,0.6s,baz=124,slow=6.9,SNR=3.3
GTA Gaotai 41.06 64 eP P 09 41 40.6 +4.0
GTA pP pP 09 41 45.3 -0.2
GTA sP sP 09 41 48.4 -0.7
GTA pmax pmax
comp=Z,3.0nm,1.2s
ARCES ARCESS Array B 41.24 347 P P 09 41 37.7 +0.2
ARCES pmax pmax
comp=Z,4.0nm,1.1s
ARCES ARCESS Array B 41.24 347 P P 09 41 37.7 +0.2
comp=Z,4.4nm,1.1s,baz=144,slow=11,SNR=3.1
TORD Torodi Ar. Bea 47.89 260 P P 09 42 32.0 +0.8
comp=Z,3.5nm,1.0s,baz=60,slow=8.6,SNR=12
KSRS Korea Array 63.00 61 P P 09 44 20.1 +0.5
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS Korea Array 63.00 61 P P 09 44 20.1 +0.5
comp=Z,1.0nm,0.7s,baz=274,slow=7.4,SNR=4.3
JCJ Chichijima 78.22 66 LR LR 10 24 34.0
comp=Z,96nm,19.3s,baz=39
SCHQ Schefferville 79.09 328 P P 09 45 57.0 +0.1
comp=Z,2.0nm,0.6s,baz=57,slow=4.1,SNR=7.4
ILAR Eielson Array 83.81 7 P P 09 46 20.6 -1.1
comp=Z,0.2nm,0.6s,baz=319,slow=4.9,SNR=5.3
YKA Yellowknife Ar 86.23 353 P P 09 46 33.8 -0.1
comp=Z,0.1nm,0.5s,baz=14,slow=5.8,SNR=6.7

*IDC **20** 09:36:34.3±1.6, 30.°61N×50.°36E, h0km, mb3.8/13, mb1 3.9/15, mb1mx3.8/30, mbtmp3.8/15, ML3.0/2, MS3.4/5, Ms1 3.4/5, ms1mx2.9/42, Error ellipse: s-maj=37.0km s-min=20.5km az=169.0*
*ISCJB **20** 09:36:36.1±0.8, 30.°52N±0.°07×50.°37E±0.°06, h25km, mb3.9/17, MS3.3/4, Error ellipse: s-maj=10.3km s-min=7.6km az=161.4*
*CSEM **20** 09:36:39.0±0.7, 30.°77N×50.°28E, h20km, mb3.8/6, Error ellipse: s-maj=21.3km s-min=13.4km az=26.0*
*MOS **20** 09:36:39.1±1.3, 30.°84N×50.°38E, h33km, mb4.1/12, Error ellipse: s-maj=22.3km s-min=9.4km az=100.3*
*TEH **20** 09:36:43.0, 30.°92N×50.°47E, h28km, ML4.3*
*THR **20** 09:36:43.2±0.4, 31.°22N×50.°34E, h17km±9km, ML4.0*
ISC 20 09:36:39.5±0.7, 30.°71N±0.°07×50.°35E±0.°05, h25km, n80, σ1§40/69, mb4.0/17, MS3.2/4, Northern and central Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IKAZ Kazeroun 1.59 125 ePn Pb 09 37 10.3 +1.9
IKAZ e 09 37 48.4
comp=Z,17μm,0.3s
IKAZ Kazeroun 1.59 125 ePn Pb 09 37 10.3 +1.9
SHGR Shooshtar-Gavs 1.92 317 ePg Pn 09 37 12.3 +1.6
comp=Z,6μm,0.6s
SHGR Shooshtar-Gavs 1.92 317 ePg Pn 09 37 12.3 +1.6
SHGR AML AML 09 37 42.4
comp=N,5μm,0.6s
SHGR AML AML 09 37 54.3
comp=E,6μm,0.6s
IPIR Pirpir 2.02 13 ePn Pn 09 37 11.5 -0.8
IPIR eSg Sn 09 37 39.7 +2.8
IPIR e 09 37 44.4
comp=Z,28μm,0.5s
IPIR Pirpir 2.02 13 ePn Pn 09 37 11.5 -0.8
IPIR eSg Sn 09 37 39.7 +2.8
IZEF Zefreh 2.75 37 ePn Pn 09 37 22.2 -0.1
IZEF e 09 38 18.2
comp=Z,2μm,0.5s
IZEF Zefreh 2.75 37 ePn Pn 09 37 22.2 -0.1
IKLH Kolahrood 2.80 22 ePn Pn 09 37 23.3 +0.3
IKLH e 09 38 15.8
comp=Z,6μm,0.3s
IKLH Kolahrood 2.80 22 ePn Pn 09 37 23.3 +0.3
NASN Na'in 2.95 45 ePn Pn 09 37 27.0 +1.9
comp=Z,107nm,1.4s
NASN Na'in 2.95 45 ePn Pn 09 37 27.0 +1.9
NASN AML AML 09 38 18.3
comp=N,107nm,1.4s
KHMZ Khomeyn 3.04 354 ePn Pn 09 37 25.9 -0.3
comp=N,1μm,0.8s
KHMZ Khomeyn 3.04 354 ePn Pn 09 37 25.9 -0.3
KHMZ AML AML 09 38 30.4
comp=N,1μm,0.8s
QAM Ghamsar 3.18 17 ePn Pn 09 37 28.3 +0.2
QAM e 09 38 30.9
comp=Z,6μm,0.2s
IKMR Kamar-syah 3.26 330 ePn Pn 09 37 29.9 +0.9
IKMR e 09 38 26.3
comp=Z,99nm,0.4s
IKMR Kamar-syah 3.26 330 ePn Pn 09 37 29.9 +0.9
GHIR Ghir-Karzin 3.33 136 ePn Pb 09 37 42.2 +4.1
GHIR Ghir-Karzin 3.33 136 ePn Pb 09 37 42.2 +4.1
IKFM Kafar-mosalman 3.52 324 ePn Pn 09 37 34.8 +2.2
IKFM e 09 38 38.9
comp=Z,99nm,0.5s
IKFM Kafar-mosalman 3.52 324 ePn Pn 09 37 34.8 +2.2
IDOB Doab 3.58 330 ePn Pb 09 37 39.4 -2.8
IDOB e 09 38 39.3
comp=Z,99nm,0.6s
IDOB Doab 3.58 330 ePn Pb 09 37 39.4 -2.8
ICHK Chekchek 3.79 65 ePn Pn 09 37 36.5 0.0
ICHK e 09 38 32.5
comp=Z,2μm,0.3s
ICHK Chekchek 3.79 65 ePn Pn 09 37 36.5 0.0
ASAO Ashtian 3.84 356 ePn Pn 09 37 36.7 -0.5
ASAO Ashtian 3.84 356 ePn Pn 09 37 36.7 -0.5
GHVR GHOM 3.84 12 ePn Pn 09 37 36.8 -0.3
comp=Z,169nm,0.9s
GHVR GHOM 3.84 12 ePn Pn 09 37 36.8 -0.3
GHVR AML AML 09 38 49.1
comp=E,169nm,0.7s
GHVR AML AML 09 38 54.8
comp=N,169nm,0.9s
IKOM Komasi 4.21 326 ePn Pn 09 37 43.1 +0.9
IKOM e 09 39 04.7
comp=Z,8μm,0.4s
IKOM Komasi 4.21 326 ePn Pn 09 37 43.1 +0.9
IVRN Varamin 4.43 15 ePn Pn 09 37 44.7 -0.5
IVRN e 09 39 06.3
comp=Z,2μm,0.5s
IVRN Varamin 4.43 15 ePn Pn 09 37 44.7 -0.5
IRAZ Razeghan 4.70 356 ePn Pn 09 37 50.1 +1.1
IRAZ e 09 39 16.1
comp=Z,2μm,0.4s
IRAZ Razeghan 4.70 356 ePn Pn 09 37 50.1 +1.1
SHRO Shahrood 7.08 40 ePn Pn 09 38 23.8 +2.1
SHRO Shahrood 7.08 40 ePn Pn 09 38 23.8 +2.1
GNI Garni 10.47 336 Lg Lg 09 42 20.5
comp=Z,3.8nm,0.3s,baz=241,slow=19,SNR=2.4
ASF Jabal al Asfar 11.58 281 Lg Lg 09 42 53.1
comp=Z,0.0nm,0.3s,baz=357,slow=18,SNR=2.2
MAK Makhachkala 12.44 350 eP Pn 09 39 34.7 -0.2
MAK MLR MLR
comp=Z,256nm,12.0s
MAK Makhachkala 12.44 350 eP Pn 09 39 34.7 -0.2
comp=Z,256nm,12.0s
MMAI Mount Meron Ar 12.91 284 Lg Lg 09 43 44.6
comp=Z,0.9nm,0.3s,baz=94,slow=34,SNR=2.7
EIL Elat 13.36 269 Lg Lg 09 43 55.6
comp=Z,0.3nm,0.3s,baz=356,slow=18,SNR=2.1
EIL LR LR 09 46 11.7
comp=Z,219nm,19.5s,baz=82,slow=43
KBZ Khabaz 14.28 338 Pn Pn 09 40 04.4 +4.4
comp=Z,0.0nm,0.3s,baz=131,slow=6.1,SNR=4.3
KIV Kislovodsk 14.55 337 eP Pn 09 40 04.5 +0.7
KIV pmax pmax
comp=Z,11nm,1.4s
BRTR Keskin Array B 16.33 308 Pn Pn 09 40 27.4 +0.2
comp=Z,0.1nm,0.3s,baz=127,slow=11,SNR=5.4
AKTK Aktyubinsk 20.52 14 P P 09 41 16.9 +1.1
comp=Z,2.0nm,0.5s
AKTO Aktyubinsk 20.52 14 P P 09 41 16.9 +1.1
AKTO pmax pmax
comp=Z,2.0nm,0.5s
AKTO Aktyubinsk 20.52 14 P P 09 41 16.9 +1.1
comp=Z,1.5nm,0.5s,baz=204,slow=10.0,SNR=4.2
VRHR Novokhopersk 21.38 345 eP P 09 41 22.3 -2.7
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,3.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR Novokhopersk 21.38 345 eP P 09 41 22.3 -2.7
IDI Anoyia 21.81 289 P P 09 41 30.2 +0.3
comp=Z,11nm,0.8s,baz=96,slow=18,SNR=3.4
VORD Divnogorie 21.85 341 eP P 09 41 29.4 -0.6
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 21.85 341 eP P 09 41 29.4 -0.6
VSR Storozhevoye 22.11 341 eP P 09 41 30.0 -2.8
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.9s
VSR pmax pmax
comp=Z,6.0nm,0.9s
VSR Storozhevoye 22.11 341 eP P 09 41 30.0 -2.8
AAK Ala-Archa 22.65 52 LR LR 09 51 58.6
comp=Z,90nm,18.2s,baz=246,slow=41
AKASG Malin Array Be 25.44 328 P P 09 42 03.4 -1.7
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 25.44 328 P P 09 42 03.4 -1.7
comp=Z,1.2nm,0.3s,baz=119,slow=7.2,SNR=4.8
OBN Obninsk 26.30 342 LR LR 09 53 36.8
comp=Z,66nm,21.6s,baz=89,slow=39
BVAR Borovoye Array 26.66 27 P P 09 42 15.1 -1.0
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 26.66 27 P P 09 42 15.1 -1.0
comp=Z,1.0nm,0.5s,baz=228,slow=6.6,SNR=5.8
KOLS Kolonicke sedl 27.98 319 eP P 09 42 34.3 +6.2
KOLS pmax pmax
comp=Z,9.0nm,1.5s
KOLS Kolonicke sedl 27.98 319 eP P 09 42 34.3 +6.2
MKAR Makanchi Array 29.38 48 P P 09 42 39.7 -0.9
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR MLR MLR
comp=Z,15nm,28.6s
MKAR Makanchi Array 29.38 48 P P 09 42 39.7 -0.9
comp=Z,0.7nm,0.8s,baz=249,slow=6.4,SNR=4.7
MKAR LR LR 09 55 19.7
comp=Z,42nm,21.8s,baz=254,slow=38
MKAR Makanchi Array 29.38 48 P P 09 42 39.7 -0.9
comp=Z,15nm,28.6s
ZALV Zalesovo Beam 33.94 37 P P 09 43 18.7 -1.8
comp=Z,0.4nm,0.3s,baz=244,slow=7.7,SNR=4.6
FINES FINESS Array B 34.62 340 P P 09 43 25.8 -0.5
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 34.62 340 P P 09 43 25.8 -0.5
comp=Z,1.4nm,0.5s,baz=148,slow=9.8,SNR=6.3
NOA NORSAR Array B 39.73 331 P P 09 44 08.8 -1.0
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 39.73 331 P P 09 44 08.8 -1.0
comp=Z,0.6nm,0.8s,baz=125,slow=7.0,SNR=2.2
ARCES ARCESS Array B 41.36 347 P P 09 44 25.2 +2.2

ARCES pmax pmax
comp=Z,6.0nm,1.1s
ARCES ARCESS Array B 41.36 347 P **P 09 44 25.2 +2.2**
comp=Z,5.8nm,1.1s,baz=153,slow=10,SNR=2.8
TORD Torodi Ar. Bea 48.00 260 P **P 09 45 15.2 -1.5**
comp=Z,2.0nm,0.9s,baz=58,slow=6.8,SNR=4.6
TORD LR LR 10 08 16.2
comp=Z,74nm,19.8s,baz=65,slow=40
KSRS Korea Array 62.92 61 P **P 09 47 03.7 -0.1**
KSRS pmax pmax
comp=Z,1.0nm,0.8s
KSRS Korea Array 62.92 61 P **P 09 47 03.7 -0.1**
comp=Z,1.0nm,0.8s,baz=281,slow=6.7,SNR=3.3
SCHQ Schefferville 79.23 328 P **P 09 48 40.8 -1.6**
comp=Z,4.9nm,1.1s,baz=0.0,slow=4.0,SNR=3.3
ILAR Eielson Array 83.88 7 P **P 09 49 05.8 -1.0**
comp=Z,0.3nm,0.9s,baz=348,slow=1.7,SNR=3.2
YKA Yellowknife Ar 86.34 353 P **P 09 49 18.3 -0.7**
comp=Z,0.1nm,0.6s,baz=14,slow=6.1,SNR=4.5

IDC 20 09:41:21.4±1.8,23.66S×114.90W, h0km, mb3.7/3, mb1 4.2/3, mb1mx3.7/28, mbtmp3.7/3, MS3.5/8, Ms1 3.6/8, ms1mx3.3/29, Error ellipse: s-maj=102.8km s-min=47.9km az=109.0
ISC 20 09:41:21.9±2.0,23.9S±0.4×115.1W±0.7, h10km, n24, σ0.42/7, mb4.0/3, MS3.5/8, Southern East Pacific Rise

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H03N2 Juan Fernandez 32.96 115 T T 10 23 13.5
baz=281
H03N3 Juan Fernandez 32.97 115 T T 10 23 12.5
baz=281
H03N1 Juan Fernandez 32.97 115 T T 10 23 12.1
baz=281
NNA Nana 38.10 79 LR LR 10 00 04.6
comp=Z,90nm,21.0s,baz=228,slow=30
CFAA Coronel Fontan 41.89 111 LR LR 10 02 29.7
comp=Z,13nm,20.0s,baz=238,slow=30
LPAZ La Paz 44.55 89 LR LR 10 04 24.5
comp=Z,48nm,18.1s,baz=205,slow=31
CPUP Villa Florida 51.95 106 LR LR 10 08 07.0
comp=Z,190nm,20.2s,baz=210,slow=31
TXAR Lajitas Array 54.02 12 P **P 09 50 46.7 +0.2**
0.3nm,0.8s,baz=190,slow=10,SNR=3.0
PFO Pinyon Flat Ob 57.17 359 LR LR 10 11 00.6
comp=Z,59nm,18.8s,baz=317,slow=31
ANMO Albuquerque 59.06 8 LR LR 10 12 58.0
comp=Z,32nm,19.1s,baz=160,slow=32
NVAR Mina Array Bea 62.04 357 P **P 09 51 42.5 -0.3**
1.1nm,0.8s,baz=190,slow=9.8,SNR=7.3
ELK Elko 64.28 360 LR LR 10 14 45.4
comp=Z,40nm,22.0s,baz=174,slow=31
YBH Yreka Blue Hor 65.65 354 LR LR 10 13 37.9
comp=Z,53nm,20.0s,baz=176,slow=30
YKA Yellowknife Ar 86.06 0 P **P 09 54 02.5 +0.2**
1.0nm,0.8s,baz=174,slow=5.4,SNR=16
H11S2 WAKE ISLAND Hy 87.13 292 T T 11 30 06.6
baz=118
H11S1 WAKE ISLAND Hy 87.14 292 T T 11 30 07.5
baz=118
H11S3 WAKE ISLAND Hy 87.14 292 T T 11 30 02.9
baz=118
H11N3 WAKE ISLAND Hy 87.49 293 T T 11 30 33.3
baz=130
H11N1 WAKE ISLAND Hy 87.51 293 T T 11 30 33.2
baz=130
H11N2 WAKE ISLAND Hy 87.51 293 T T 11 30 32.1
baz=130
ZALV Zalesovo Beam 146.46 339 PKPbc **PKPdf 10 01 01.0 -0.7**
0.6nm,0.5s,baz=24,slow=3.9,SNR=3.1
CMAR Chiang Mai Arr 147.90 267 PKPbc **PKPab 10 01 11.0 +0.3**
0.5nm,0.3s,baz=110,slow=2.1,SNR=4.5
BRTR Keskin Array B 149.24 52 PKPbc **PKPbc 10 01 11.3 +0.1**
1.3nm,0.8s,baz=278,slow=0.9,SNR=5.8
MKAR Makanchi Array 153.22 333 PKPbc **PKPbc 10 01 20.1 0.0**
0.5nm,0.9s,baz=60,slow=3.5,SNR=4.1

IDC 20 09:48:20.8±3.1,54.34N×86.86E, h0km, mb1 3.4/1, mb1mx3.0/28, mbtmp3.4/1, ML3.5/1, Error ellipse: s-maj=26.2km s-min=11.2km az=59.0
ISC 20 09:48:27.6±3.5,54.3N±0.2×86.6E±0.2, h35km, n6, σ1.66/8, 4C-2D, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.09 252 *i* 09 57 19.9
baz=72,slow=340,SNR=4.3
ZALV Zalesovo Beam 1.09 252 Pg **Pn 09 48 43.7 -2.6**
5.9nm,0.3s,baz=74,slow=17,SNR=42
ZALV Lg Lg 09 49 02.1
3.4nm,0.3s,baz=71,slow=27,SNR=12
KURK Kurchatov 6.04 237 ⇑Pn **Pn 09 49 54.7 +0.5**
2.3nm,1.1s
KURK ⇑Sn **Sn 09 51 03.0 +0.9**
1.4nm,1.0s
KURK ⇓Lg Lg 09 51 38.4
4.4nm,1.0s
MK31 Makanchi Array 7.99 202 ⇑Pn **Pn 09 50 19.0 -2.1**
0.5nm,0.5s,baz=21,slow=12,SNR=5.9
MK31 ⇓Sn **Sn 09 51 49.9 -0.3**
0.6nm,0.7s,baz=26,slow=26,SNR=5.7
MK31 ⇑Lg Lg 09 52 32.4
6.4nm,1.1s,baz=32,slow=29,SNR=5.2
MKAR Makanchi Array 7.99 202 Pn **Pn 09 50 21.1 0.0**
0.6nm,0.3s,baz=23,slow=13,SNR=32
MKAR Sn **Sn 09 51 50.5 +0.3**
0.2nm,0.3s,baz=24,slow=26,SNR=6.9
MKAR Lg Lg 09 52 39.2
0.1nm,0.3s,baz=18,slow=29,SNR=7.0
BVAR Borovoye Array 9.70 269 Pn **Pn 09 50 45.5 +1.0**
0.5nm,0.3s,baz=70,slow=17,SNR=5.6

ISCJB 20 09:48:48.6±2.1,37.3N±0.1×37.1E±0.1, h11km, Error ellipse: s-maj=18.6km s-min=11.2km az=164.8
DDA 20 09:48:48.9,37.34N×37.13E, h5km, MD2.7
ISC 20 09:48:49.3±2.5,37.3N±0.1×37.13E±0.06, h11km, n4, σ0.78/6, Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KMRS Kahramanmaras 0.25 313 *e*PG **Pg 09 48 54.7 +0.2**
GZT Gaziantep 0.35 87 *i* P **Pg 09 48 56.6 +0.2**
GZT *i* S Sb 09 49 10.4 +7.2
AKCD Akcadag 1.15 33 *i* P **Pb 09 49 10.4 -0.8**
AKCD *i* S **Sn 09 49 27.6 +0.4**
MALT Malatya 1.42 46 *e*PG **Pg 09 49 16.3 -0.2**
MALT *e*SG **Sg 09 49 35.8 +0.9**

IDC 20 09:51:06.0±0.7,16.38S×173.38W, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/36, mbtmp4.0/10, MS3.7/16, Ms1 3.7/16, ms1mx3.6/25, Error ellipse: s-maj=20.3km s-min=17.9km az=138.0
ISCJB 20 09:51:13.1±0.7,16.4S±0.2×173.5W±0.2, h66km, mb3.8/10, Error ellipse: s-maj=26.2km s-min=15.1km az=137.5
ISC 20 09:51:14.5±0.8,16.4S±0.2×173.5W±0.2, h66km, n29, σ0.64/13, mb4.0/10, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAR Rarotonga 13.81 112 LR LR 09 58 19.3
comp=Z,427nm,18.5s,baz=297,slow=32
DZM Mont Dzumac 19.79 250 *e*LR LR 10 00 13.2
648nm,25.3s
DZM Mont Dzumac 19.79 250 LR LR 10 02 06.0
comp=Z,435nm,20.4s,baz=45,slow=33
PPT Papeete 22.86 96 LR LR 10 02 27.6
comp=Z,178nm,20.6s,baz=238,slow=30
PPT2 Papeete2 22.86 96 *e*LR LR 10 01 35.8
480nm,25.0s
URZ Urewera 23.31 199 P **P 09 56 15.9 -0.8**
3.0nm,0.5s,baz=335,slow=19,SNR=7.2
HNR Honiara 26.82 282 LR LR 10 05 59.0
comp=Z,720nm,20.6s,baz=120,slow=33
RKT Rikitea 36.75 107 *e*LR LR 10 07 51.6
366nm,27.2s
RKT Rikitea 36.75 107 *e*T T 10 36 37.0
3.9nm,0.3s
PMG Port Moresby 38.96 275 P **P 09 58 34.5 -0.1**
6.2nm,0.7s,baz=145,slow=1.8,SNR=3.5
STKA Stephens Creek 43.50 241 P **P 09 59 12.1 +0.5**
3.3nm,0.9s,baz=89,slow=14,SNR=4.5
STKA LR LR 10 16 32.4
comp=Z,34nm,18.1s,baz=54,slow=35
WRA Warramunga Arr 49.57 258 P **P 09 59 59.1 -0.2**
0.6nm,0.4s,baz=95,slow=6.6,SNR=12
WRA LR LR 10 20 21.5
comp=Z,105nm,18.2s,baz=85,slow=35
ASAR Alice Springs 49.76 253 P **P 10 00 00.5 -0.3**
4.6nm,0.6s,baz=89,slow=8.1,SNR=52
ASAR LR LR 10 20 15.7
comp=Z,99nm,18.3s,baz=104,slow=35
MJAR Matsushiro Arr 69.67 320 LR LR 10 27 04.9
comp=Z,59nm,22.0s,baz=120,slow=31
JOW Kunigami 71.03 307 LR LR 10 27 39.0
comp=Z,6.7nm,21.9s,baz=132,slow=31
QSPA South Pole Qui 73.65 180 P **P 10 02 41.0 +0.1**
1.7nm,1.1s,baz=31,slow=18,SNR=5.1
NVAR Mina Array Bea 75.10 42 P **P 10 02 49.6 -0.2**
1.0nm,0.8s,baz=231,slow=9.3,SNR=7.4
KSRS Korea Array 76.83 316 LR LR 10 34 07.8
comp=Z,33nm,18.3s,baz=134,slow=34
USRK Ussuriysk Arra 78.15 323 LR LR 10 32 10.2
comp=Z,44nm,20.1s,baz=115,slow=32
TXAR Lajitas Array 81.21 56 P **P 10 03 23.6 -0.1**
0.2nm,0.7s,baz=248,slow=6.6,SNR=4.6
ILAR Eielson Array 83.43 11 P **P 10 03 34.0 -0.3**
0.5nm,0.8s,baz=227,slow=5.7,SNR=10
ILAR LR LR 10 32 58.7
comp=Z,33nm,20.1s,baz=182,slow=30
PLCA Paso Flores 88.88 132 LR LR 10 35 32.0
comp=Z,64nm,19.2s,baz=289,slow=30
YKA Yellowknife Ar 91.03 23 P **P 10 04 11.6 +0.4**
0.4nm,1.0s,baz=241,slow=3.0,SNR=6.2
CMAR Chiang Mai Arr 92.88 288 LR LR 10 41 23.6
comp=Z,33nm,20.4s,baz=163,slow=32
SONM Songino Array 95.55 318 LR LR 10 42 21.0
comp=Z,35nm,21.2s,baz=300,slow=32
LPAZ La Paz 99.52 110 LR LR 10 39 52.1
comp=Z,49nm,20.9s,baz=150,slow=29
KMBO Kilima Mbogo 145.05 243 PKPbc **PKPdf 10 10 47.2 +1.5**
0.7nm,0.3s,baz=53,slow=15,SNR=3.1
BRTR Keskin Array B 146.89 320 PKPbc **PKPab 10 10 51.2 -0.2**
3.0nm,0.8s,baz=111,slow=2.8,SNR=14
GERES GERESS Array B 147.12 351 PKPbc **PKPab 10 10 51.3 -0.6**
0.7nm,0.8s,baz=336,slow=2.2,SNR=4.0

IDC 20 09:55:05.5±0.7,39.69S×75.20W, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.4/20, mbtmp4.3/15, ML4.7/2, MS3.4/6, Ms1 3.3/6, ms1mx3.1/17, Error ellipse: s-maj=22.7km s-min=18.4km az=41.0
ISCJB 20 09:55:10.1±0.5,39.27S±0.06×75.02W±0.07, h33km, mb4.5/21, MS3.4/4, Error ellipse: s-maj=9.6km s-min=6.5km az=37.4
NEIC 20 09:55:11.2±0.3,39.53S×75.06W, h35km, mb4.9/9, Error ellipse: s-maj=9.7km s-min=8.0km az=62.0
ISC 20 09:55:11.1±0.5,39.36S±0.07×75.19W±0.08, h35km, n43, σ1.79/47, mb4.6/21, MS3.4/4, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.81 113 Pn **Pn 09 56 05.2 -2.1**
9.9nm,0.3s,baz=287,slow=14,SNR=148
PLCA LR LR 09 56 48.5
comp=Z,264nm,20.8s,baz=318,slow=28
PLCA Sn **Sn 09 56 51.1 +0.1**
5.4nm,0.3s,baz=217,slow=20,SNR=4.7
H03N3 Juan Fernandez 6.62 332 Pn **Pn 09 56 45.4 -0.3**
baz=156,slow=12,SNR=131
H03N3 Sn **Sn 09 57 54.7 -5.0**
H03N1 Juan Fernandez 6.63 332 Pn **Pn 09 56 45.6 -0.1**
baz=156,slow=12,SNR=293
H03N1 Sn **Sn 09 57 55.7 -4.1**
H03N2 Juan Fernandez 6.63 332 Pn **Pn 09 56 45.9 +0.1**
baz=156,slow=12,SNR=124
H03N2 Sn **Sn 09 57 55.0 -5.0**
CFAA Coronel Fontan 9.59 38 Pn **Pn 09 57 25.4 -1.2**
0.2nm,0.3s,baz=220,slow=12,SNR=18
CFAA Sn **Sn 09 59 12.3 -0.8**
0.3nm,0.3s,baz=153,slow=2.3,SNR=7.7
TRQA Tornquist 10.41 87 *e*Pn **Pn 09 57 36.7 -1.0**
21nm,0.9s
USHA Ushuaia 16.13 166 Pn **Pn 09 58 55.0 +0.1**
0.3nm,0.3s,baz=303,slow=10,SNR=4.3
USHA LR LR 10 05 33.5
comp=Z,199nm,18.1s,baz=245,slow=40
CPUP Villa Florida 19.80 54 P **Pn 09 59 39.5 -0.7**
0.9nm,0.3s,baz=217,slow=9.4,SNR=14
LPAZ La Paz 23.80 17 P **P 10 00 24.0 +2.6**
1.5nm,0.5s,baz=182,slow=10,SNR=6.3
LPAZ La Paz 23.80 17 P **P 10 00 24.0 +2.6**
2.6nm,0.8s
SIV San Ignacio 26.36 32 P **P 10 00 45.6 +1.6**
2.4nm,0.8s,baz=221,slow=6.2,SNR=3.4
SIV LR LR 10 12 60.0
comp=Z,64nm,20.8s,baz=192,slow=40
BDFB Brasilia 33.52 53 P **P 10 01 48.4 +0.9**
2.2nm,0.6s,baz=228,slow=11,SNR=4.1
SNAA Sanae 47.66 156 *e*P **P 10 03 40.9 -2.6**
12nm,1.1s
QSPA South Pole Qui 50.88 180 P **P 10 04 06.2 -2.1**
1.7nm,0.8s,baz=104,slow=1.4,SNR=4.2
TEIG Tepich 60.53 346 P **P 10 05 19.0 +1.3**
4.6nm,0.6s,baz=118,slow=17
H06E1 SOCORRO T-PHAS66.79 323 T T 11 19 06.2
LRAL Lakeview Retre 72.86 350 *e*P **P 10 06 37.2 +1.1**
6.9nm,0.9s
TXAR Lajitas Array 73.31 334 P **P 10 06 40.7 +1.7**
2.0nm,0.6s,baz=155,slow=8.5,SNR=28
TUL1 Tulsa 77.28 343 *e*P **P 10 07 02.3 +0.8**
15nm,0.8s
V34A Guthrie 77.61 342 *e*P **P 10 07 04.4 +1.0**
6.7nm,0.8s
DBIC Dimbokro 79.26 72 P **P 10 07 14.3 +1.2**
2.7nm,0.5s,baz=192,slow=8.1,SNR=5.7
DBIC LR LR 10 39 51.2
comp=Z,36nm,19.2s,baz=174,slow=34
ANMO Albuquerque 79.39 334 P **P 10 07 15.7 +2.2**
5.2nm,0.8s,baz=153,slow=6.6,SNR=32
ANMO Albuquerque 79.39 334 *e*P **P 10 07 15.4 +1.9**
6.9nm,1.0s
BOSA Boshof 79.78 119 P **P 10 07 14.6 -1.3**
2.4nm,0.8s,baz=201,slow=4.8,SNR=4.0
BOSA LR LR 10 41 32.9
comp=Z,9.0nm,18.5s,baz=174,slow=35
PFO Pinyon Flat Ob 82.05 326 P **P 10 07 30.0 +2.4**
4.8nm,0.8s,baz=126,slow=4.2,SNR=4.8
ECSD EROS Data Cent 84.95 345 *e*P **P 10 07 43.2 +1.1**
21nm,1.3s
SPMN St. Paul 85.68 348 *e*P **P 10 07 46.4 +0.7**
7.7nm,0.7s
BRSD Miller 86.13 343 *e*P **P 10 07 49.0 +1.0**
6.8nm,0.6s
K22A Casper 86.44 337 *e*P **P 10 07 51.1 +1.3**
10nm,1.1s
NVAR Mina Array Bea 86.93 327 P **P 10 07 54.4 +2.0**
0.8nm,0.8s,baz=173,slow=6.0,SNR=5.8
TORD Torodi Ar. Bea 88.36 72 P **P 10 07 59.9 +0.4**
1.0nm,1.0s,baz=251,slow=3.8,SNR=3.2
TORD LR LR 10 45 13.3
comp=Z,34nm,21.0s,baz=155,slow=34
ULM Lac du Bonnet 91.07 347 P **P 10 08 11.8 +0.5**
2.0nm,0.7s,baz=189,slow=1.2,SNR=5.5
WRA Warramunga Arr 114.86 211 PKP PKPdf 10 13 46.6 -1.9
0.4nm,0.9s,baz=164,slow=1.3,SNR=7.7
GERES GERESS Array B 117.66 48 PKP **PKPdf 10 13 53.0 +0.1**
0.8nm,0.7s,baz=115,slow=1.9,SNR=3.6
NOA NORSAR Array B 121.88 35 PKP **PKPdf 10 13 59.7 -0.9**
0.4nm,0.5s,baz=250,slow=2.3,SNR=2.7
BRTR Keskin Array B 126.52 65 PKP **PKPdf 10 14 09.8 -0.5**
0.6nm,0.7s,baz=235,slow=3.5,SNR=3.0
SEY Seymchan 143.22 326 PKP **PKPdf 10 14 41.4 +1.0**
1.2nm,0.8s,baz=84,slow=4.7,SNR=5.7
ARU Arti 145.39 45 *e*PKPbc **PKPab 10 14 45.3 +0.7**
ABKAR Akbulak array 146.84 58 *e*PKPbc **PKPbc 10 14 49.4 +0.4**
ASAJ Asahikawa 151.58 292 PKPbc **PKPbc 10 15 01.1 0.0**
3.0nm,0.7s,baz=80,slow=32,SNR=5.6
KURK Kurchatov 158.41 50 *e*PKPdf **PKPdf 10 15 04.6 +0.7**
KURK *e*PKPab **PKPab 10 15 39.0 +0.3**
ZALV Zalesovo Beam 160.07 36 PKP **PKPdf 10 15 05.0 -0.8**
0.9nm,0.7s,baz=228,slow=1.8,SNR=3.6
MKAR Makanchi Array 161.99 58 PKP **PKPdf 10 15 08.0 -0.1**
0.4nm,0.7s,baz=282,slow=1.1,SNR=5.5

MEX 20 10:05:56.7±0.9,15.74N×92.45W, h190km±8km, MD3.8, Mexico-Guatemala border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CCIG Comitan 0.62 29 *i* P Pn 10 06 22.0 -1.4
CCIG *i* S Sn 10 06 41.4 -2.7
PCIG 0.74 267 *e*P Pn 10 06 22.8 -1.0
PCIG *i* S Sn 10 06 42.1 -2.5
THIG 0.85 168 *i* P Pn 10 06 22.2 -2.2
THIG *i* S Sn 10 06 43.9 -2.0
CMIG Matias Romero 2.70 300 *e*P Pn 10 06 41.5 -0.7
CMIG *i* S Sn 10 07 15.5 -2.3
HUIG Huatulco 3.52 271 *i* P Pn 10 06 50.6 -1.7
HUIG *i* S Sn 10 07 33.7 -2.0

NIED 20 10:07:00,33.30N×141.00E, h44km, Mw4.1 Best double couple: M0 1.49000×10^15 NP1:φs174.00000°, δ38.00000°, λ73.00000°. NP2:φs15.00000°, δ54.00000°, λ103.00000°.
MOS 20 10:07:10.8±1.2,33.18N×141.07E, h23km, mb4.5/36, Error ellipse: s-maj=10.7km s-min=6.1km az=112.3
BJI 20 10:07:12.9,33.20N×141.00E, h35km, mB4.6/11, mb4.4/19, Ms4.2/6, Ms7 4.0/4
ISCJB 20 10:07:14.6±0.6,33.22N±0.03×141.00E±0.04, h50km±4km, mb4.3/49, MS4.0/1, Error ellipse: s-maj=5.9km s-min=4.9km az=174.8
NEIC 20 10:07:15.4±0.8,33.22N×140.98E, h41km±7km, mb4.4/15, Error ellipse: s-maj=8.3km s-min=6.6km az=111.0
NEIC Recorded [1 JMA] in Tokyo.
JMA 20 10:07:15.2±0.2,33.31N×141.01E, h44km, M4.3
JMA Felt I J1.
IDC 20 10:07:17.7±2.0,33.20N×140.86E, h62km±17km, mb3.9/20, mb1 4.1/24, mb1mx4.0/35, mbtmp4.1/24, MS2.7/4, Ms1 2.7/4, ms1mx2.6/26, Error ellipse: s-maj=16.6km s-min=11.0km az=81.0
ISC 20 10:07:14.3±0.6,33.21N±0.04×141.03E±0.04, h33km±2km, n139, σ1.12/155, mb4.4/49, 7C-2D, Off east coast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JHJ2 Mitsune 1.02 265 P **Pb 10 07 33.5 0.0**
JHJ2 S **Sb 10 07 47.4 +0.9**
JHJ2 Mitsune 1.02 265 *e*Pn **Pb 10 07 33.5 0.0**
JHJ2 *e*Sn **Sb 10 07 47.1 +0.6**
JHCJ Hachijojimakas 1.04 263 P **Pb 10 07 33.6 -0.2**
JHCJ S **Sn 10 07 46.6 +0.7**
BSO1 Boso 1 1.45 358 P **Pn 10 07 38.2 +0.6**
BSO1 S **Sn 10 07 55.9 +0.7**
JMY Miyakejima3 1.53 305 P **Pn 10 07 40.0 +0.7**
BSO3 Boso 3 1.65 345 P **Pn 10 07 41.0 +0.3**
BSO3 S **Sn 10 08 01.6 +1.0**
JKO Kozu shima 1.85 302 P **Pn 10 07 44.7 +1.0**
JKO S **Sn 10 08 06.1 0.0**
BSO4 Boso 4 1.87 342 P **Pn 10 07 44.6 +0.7**
BSO4 S **Sn 10 08 07.4 +1.1**
JIM2 Oshima 3 2.01 319 P **Pn 10 07 46.1 +0.2**
JIZS Izushimoda 2.34 311 P **Pn 10 07 51.5 +1.1**
JIZS S **Sn 10 08 18.1 +0.1**
JOD2 Odawara 2 2.61 323 P **Pn 10 07 54.4 +0.3**
TK02 Tokai 2 2.83 286 P **Pn 10 07 59.2 +2.3**
TK02 S **Sn 10 08 32.1 +2.3**
TK04 Tokai 4 2.88 295 P **Pn 10 08 00.0 +2.3**
SHZ3 Shizuoka 3 2.98 309 P **Pn 10 08 01.6 +2.3**
SHZ3 S **Sn 10 08 32.8 -1.2**
JYN Shimob 3.07 319 P **Pn 10 08 01.2 +0.6**
JYN S **Sn 10 08 36.8 +0.6**
MJAR Matsushiro Arr 4.05 326 P **Pn 10 08 15.8 +1.7**
MJAR S **Sn 10 09 01.0 +0.6**
MJAR pmax pmax
comp=Z,16nm,0.3s
MJAR smax smax
comp=N,12nm,0.3s
MJAR MLR MLR
comp=Z,128nm,18.1s
MJAR Matsushiro Arr 4.05 326 P **Pn 10 08 15.8 +1.7**
comp=Z,16nm,0.3s,baz=150,slow=11,SNR=163
MJAR S **Sn 10 09 01.0 +0.6**
comp=Z,12nm,0.3s,baz=142,slow=26,SNR=7.5
MJAR LR LR 10 09 50.5
comp=Z,128nm,18.1s,baz=140,slow=39
MAJO Matsushiro 4.06 326 *e*P **Pn 10 08 16.1 +2.0**
MAJO *e* 10 09 02.1
MAJO Matsushiro 4.06 326 *e*Pn **Pn 10 08 16.1 +2.0**
MAJO *e*Sn **Sn 10 09 02.1 +1.7**
MAT Matsushiro 4.06 326 P **Pn 10 08 16.1 +2.0**
MAT S **Sn 10 09 01.8 +1.4**
CBIJ Chichi jima 6.17 170 *e*Pn **Pn 10 08 44.3 +1.2**
CBIJ S **Sn 10 09 50.2 -2.3**
CBIJ *e*Sn Sn 10 09 50.4 -2.2
JCJ Chichijima 6.17 170 P **Pn 10 08 45.2 +2.1**
comp=Z,8.9nm,0.3s,baz=359,slow=19,SNR=4.0
JCJ S **Sn 10 09 50.2 -2.3**
comp=Z,18nm,0.3s,baz=313,slow=19,SNR=3.6
JNU Nakatsue 8.51 272 P Pn 10 09 18.2 +3.0
comp=Z,0.6nm,0.3s,baz=95,slow=9.5,SNR=7.9
JNU LR LR 10 12 30.0
comp=Z,124nm,18.2s,baz=138,slow=37
JNU Nakatsue 8.51 272 *e*Pn **Pn 10 09 15.7 +0.5**
ERM Erimo 8.96 10 *e*P **Pn 10 09 20.4 -0.9**
ERM Erimo 8.96 10 *e*Pn **Pn 10 09 20.4 -0.9**
ERM *e*Sn Sn 10 10 53.0 -7.9
ASAJ Asahikawa 10.96 6 P **Pn 10 09 47.1 -1.7**
ASAJ S Sn 10 11 43.2 -7.0
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ smax smax
comp=N,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,15nm,28.6s
ASAJ Asahikawa 10.96 6 P **Pn 10 09 47.1 -1.7**
comp=Z,1.6nm,0.3s,baz=223,slow=10,SNR=22
ASAJ S Sn 10 11 43.2 -7.0
comp=Z,0.5nm,0.3s,baz=143,slow=20,SNR=2.6
ASAJ LR LR 10 14 38.8
comp=Z,83nm,19.7s,baz=118,slow=40
ASAJ Asahikawa 10.96 6 *e*Pn **Pn 10 09 47.0 -1.7**
ASAJ *e*Sn Sn 10 11 39.8 -10
ASAJ S Sn 10 11 43.2 -7.0
KSRS Korea Array 11.51 295 P Pn 10 09 59.8 +3.5
comp=Z,0.1nm,0.3s,baz=113,slow=14,SNR=10
KSAR Wonju Array Be 11.54 295 P Pn 10 09 59.8 +3.2
KSAR Wonju Array Be 11.54 295 P Pn 10 09 59.8 +3.2
JOW Kunigami 12.74 243 LR LR 10 14 42.3
comp=Z,6.1nm,22.0s,baz=52,slow=35
YSS Yuzh-Sakhalins 13.80 5 *e*P **Pn 10 10 25.9 -1.5**
YSS Yuzh-Sakhalins 13.80 5 Pn **Pn 10 10 26.4 -1.0**
YOJ Yonaguni jima 18.01 246 *e*P **Pn 10 11 20.3 -1.7**
YOJ pmax pmax
comp=Z,67nm,1.2s
YOJ Yonaguni jima 18.01 246 *e*Pn **Pn 10 11 20.3 -1.7**
comp=Z,67nm,1.2s
HIA Hailar 22.55 322⇑*e*P **P 10 12 12.1 +0.7**
HIA pmax pmax
comp=Z,7.0nm,1.0s
HHC Hu-ho-hao-te 24.65 297 *e*P **P 10 12 31.5 -0.4**
HHC pP **pP 10 12 40.3 -1.1**
HHC sP **sP 10 12 44.8 -0.7**
HHC PP **PnPn 10 13 07.9 +3.8**
HHC S **S 10 16 47.8 -3.5**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,210nm,5.2s
HHC LR LR
comp=Z,210nm,17.3s
HHC LR LR
comp=Z,310nm,16.0s
H11N2 WAKE ISLAND Hy 26.68 114 T T 10 41 47.6
baz=306,slow=75,SNR=129
H11N1 WAKE ISLAND Hy 26.68 114 T T 10 41 48.2
baz=306,slow=75,SNR=145
H11N3 WAKE ISLAND Hy 26.70 114 T T 10 41 56.0
baz=306,slow=75,SNR=118
ULN Ulaanbaatar 29.41 310 *e*P **P 10 13 15.4 +0.7**
ULN pmax pmax
comp=Z,3.0nm,0.6s
ULN Ulaanbaatar 29.41 310 *e*P **P 10 13 15.4 +0.7**
comp=Z,3.0nm,0.6s
SONM Songino Array 29.82 310 P **P 10 13 18.0 -0.3**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 29.82 310 P **P 10 13 18.0 -0.3**

comp=Z,2.0nm,0.8s,baz=123,slow=9.5,SNR=9.0
SEY Seymchan 30.60 10 P P 10 13 25.5 +0.6
SEY pmax pmax
comp=Z,2.0nm,0.8s
SEY Seymchan 30.60 10 P P 10 13 25.5 +0.6
comp=Z,1.5nm,0.8s,baz=202,slow=9.1,SNR=5.7
LZH Lanzhou 30.61 286 eP P 10 13 28.8 +3.4
LZH pP pP 10 13 38.4 +3.4
LZH sP sP 10 13 44.4 +5.4
LZH pmax pmax
comp=Z,17nm,1.1s
CD2 Chengdu 31.56 276 eP P 10 13 34.4 +0.6
CD2 pP pP 10 13 44.3 +1.0
CD2 sP sP 10 13 48.5 +1.1
CD2 S S 10 18 38.8 -1.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.2s
ZAK Zakamensk 32.53 313 eP P 10 13 41.9 -0.2
ZAK pmax pmax
comp=Z,2.0nm,1.7s
TLY Talaya 32.72 316 eP P 10 13 44.9 +1.2
TLY pmax pmax
comp=Z,5.0nm,1.3s
TLY Talaya 32.72 316 eP P 10 13 44.4 +0.7
comp=Z,4.1nm,1.0s
BILL Bilibino 37.79 15⇑eP P 10 14 27.4 +0.4
BILL pmax pmax
comp=Z,6.0nm,2.5s
TIXI Tiksi 39.05 354ceP P 10 14 34.0 -3.5
TIXI pmax pmax
comp=Z,9.0nm,0.8s
TIXI Tiksi 39.05 354 eP P 10 14 34.0 -3.5
comp=Z,12nm,0.4s
CMAR Chiang Mai Arr 40.35 259 P P 10 14 48.4 -0.6
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 40.35 259 P P 10 14 48.4 -0.6
comp=Z,0.8nm,0.3s,baz=44,slow=7.8,SNR=3.6
WMQ Urumqi 42.40 301 eP P 10 15 04.9 -0.7
WMQ pP pP 10 15 14.8 -0.6
WMQ sP sP 10 15 18.8 -0.6
WMQ pmax pmax
comp=Z,7.0nm,0.6s
ZALV Zalesovo Beam 44.33 315 P P 10 15 21.9 +0.9
ZALV 10 17 04.0
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 44.33 315 P P 10 15 21.9 +0.9
comp=Z,1.1nm,0.5s,baz=115,slow=9.7,SNR=3.6
ZALV PcP PP 10 17 04.0 -0.5
comp=Z,1.9nm,0.6s,baz=84,slow=3.7,SNR=6.5
MK31 Makanchi Array 45.97 305 P P 10 15 33.3 -0.9
MK31 pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 45.97 305 P P 10 15 33.6 -0.6
MKAR 10 17 10.0
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 45.97 305 P P 10 15 33.6 -0.6
comp=Z,1.1nm,0.5s,baz=84,slow=9.5,SNR=31
MKAR PcP PcP 10 17 10.0 -0.5
comp=Z,0.5nm,0.7s,baz=86,slow=4.8,SNR=4.2
KURK Kurchatov 48.12 311 eP P 10 15 48.6 -2.2
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 48.12 311 eP P 10 15 48.6 -2.2
comp=Z,2.0nm,0.8s
TKM2 Tokmak 2 51.25 301 eP P 10 16 15.1 0.0
TKM2 pmax pmax
comp=Z,5.0nm,1.3s
TKM2 Tokmak 2 51.25 301 eP P 10 16 15.1 0.0
comp=Z,5.0nm,1.3s
AAK Ala-Archa 52.10 301⇑eP P 10 16 22.4 +1.0
AAK pmax pmax
comp=Z,9.0nm,1.2s
SML Sawmill 52.29 34 eP P 10 16 22.2 -0.1
SML pmax pmax
comp=Z,3.0nm,0.7s
SML Sawmill 52.29 34 eP P 10 16 22.2 -0.1
comp=Z,3.2nm,0.7s
ILAR Eielson Array 52.92 31 P P 10 16 27.4 +0.6
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 52.92 31 P P 10 16 27.4 +0.6
comp=Z,1.1nm,0.7s,baz=268,slow=6.3,SNR=16
BRVK Borovoye 53.02 314⇓eP P 10 16 27.2 -0.6
BRVK pmax pmax
comp=Z,6.0nm,1.7s
WRAB Tennant Creek 53.22 188⇓eP P 10 16 29.5 0.0
WRAB pmax pmax
comp=Z,32nm,1.2s
WRAB Tennant Creek 53.22 188 eP P 10 16 29.4 -0.1
comp=Z,12nm,0.9s
WRA Warramunga Arr 53.23 188 P P 10 16 29.4 -0.2
WRA pmax pmax
comp=Z,8.0nm,0.5s
WRA Warramunga Arr 53.23 188 P P 10 16 29.4 -0.2
comp=Z,7.6nm,0.5s,baz=5.2,slow=7.7,SNR=114
KK31 Karatay Array 54.84 302 eP P 10 16 40.7 -0.5
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 54.84 302 eP P 10 16 40.9 -0.3
KKAR Karatay Array 54.84 302 eP P 10 16 40.9 -0.3
AS31 Alice Springs 56.96 188 eP P 10 16 56.6 +0.1
ASAR Alice Springs 56.96 188 P P 10 16 56.5 0.0
ASAR pmax pmax
comp=Z,2.0nm,0.4s
ASAR Alice Springs 56.96 188 P P 10 16 56.5 0.0
comp=Z,2.4nm,0.4s,baz=4.4,slow=6.6,SNR=69
ARU Arti 59.05 320c iP P 10 17 08.7 -2.1
ARU S S 10 25 14.1 -1.1
ARU pmax pmax
comp=Z,19nm,2.5s
ABKAR Akbulak array 60.20 312 eP P 10 17 18.0 -0.9
comp=Z,1.7nm,0.5s
STKA Stephens Creek 64.73 179 P P 10 17 49.6 +0.4
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 64.73 179 P P 10 17 49.6 +0.4
comp=Z,2.6nm,0.8s,baz=309,slow=5.4,SNR=4.6
RES Resolute Bay 66.38 14 P P 10 17 59.9 +0.5
RES pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 66.38 14 P P 10 17 59.9 +0.5
comp=Z,2.5nm,0.8s,baz=306,slow=7.7,SNR=13
YKA Yellowknife Ar 67.28 29 P P 10 18 05.6 +0.3
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 67.28 29 P P 10 18 05.6 +0.3
comp=Z,0.5nm,0.7s,baz=299,slow=6.2,SNR=12
ARCES ARCESS Array B 67.47 340 P P 10 18 06.5 +0.1
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 67.47 340 P P 10 18 06.5 +0.1
comp=Z,3.3nm,1.0s,baz=56,slow=5.6,SNR=2.8
OBN Obninsk 70.98 324⇑eP P 10 18 28.2 -0.1
OBN pmax pmax
comp=Z,23nm,1.7s
FINES FINESS Array B 72.06 333 P P 10 18 34.3 -0.4
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 72.06 333 P P 10 18 34.2 -0.4
comp=Z,1.9nm,0.6s,baz=88,slow=4.4,SNR=11
KBZ Khabaz 73.17 311 P P 10 18 41.3 -0.3
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 73.17 311 P P 10 18 41.3 -0.3
comp=Z,2.8nm,0.8s,baz=77,slow=2.2,SNR=6.2
KIV Kislovodsk 73.19 312 eP P 10 18 40.8 -1.1
KIV i 10 18 58.0
KIV pmax pmax
comp=Z,7.0nm,1.3s
BMO Blue Mountains 74.78 46 eP P 10 18 52.7 +1.5
comp=Z,3.1nm,0.8s
SWMT Swartz Lake 75.30 43 eP P 10 18 55.2 +1.1
SLMT Seeley Lake 75.73 43 eP P 10 18 57.6 +0.9
FFC Flin Flon 77.10 32 eP P 10 19 04.3 +0.2
FFC pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 77.10 32 eP P 10 19 04.3 +0.2
comp=Z,5.6nm,1.0s
LRM Limekiln Ridge 77.12 43 eP P 10 19 06.2 +1.4
AKASG Malin Array Be 77.14 323 P P 10 19 03.6 -0.7
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 77.14 323 P P 10 19 03.6 -0.7
comp=Z,2.3nm,0.6s,baz=47,slow=6.1,SNR=18
KIEV Kiev 77.15 323ceP P 10 19 03.4 -1.0
DLMT Dillon 77.30 44 eP P 10 19 07.0 +1.4
comp=Z,4.5nm,0.8s
NVAR Mina Array Bea 77.56 52 P P 10 19 09.0 +1.7
comp=Z,1.6nm,0.7s,baz=290,slow=5.7,SNR=13
NB2 NORSAR Subarra 77.59 337 P P 10 19 05.8 -1.0
comp=Z,0.7nm,0.6s,baz=40,slow=5.6
NOA NORSAR Array B 77.59 337 P P 10 19 06.3 -0.5
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA NORSAR Array B 77.59 337 P P 10 19 06.3 -0.5
comp=Z,1.1nm,0.9s,baz=61,slow=9.2,SNR=4.4
BOZ Bozeman (W) 77.69 43 eP P 10 19 09.3 +1.5
BOZ pmax pmax
comp=Z,3.0nm,1.1s
BOZ Bozeman (W) 77.69 43 eP P 10 19 09.3 +1.5
comp=Z,3.5nm,1.1s
H17A Grant Village 79.03 44 eP P 10 19 19.0 +3.6
comp=Z,4.1nm,0.9s
BRTR Keskin Array B 81.16 312 P P 10 19 26.9 +0.1
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 81.16 312 P P 10 19 26.9 +0.1
comp=Z,0.7nm,0.6s,baz=106,slow=4.3,SNR=3.9
KOLS Kolonicke sedl 81.73 324 eP P 10 19 30.0 +0.5
KOLS pmax pmax
comp=Z,5.0nm,1.3s
KOLS Kolonicke sedl 81.73 324 eP P 10 19 30.0 +0.5
STHS Stebnicka Huta 81.91 325 eP P 10 19 31.1 +0.7
STHS pmax pmax
comp=Z,2.0nm,1.0s
STHS Stebnicka Huta 81.91 325 eP P 10 19 31.1 +0.7
CRVS Cervenica-Dubn 82.15 325 eP P 10 19 31.1 -0.6
CRVS Cervenica-Dubn 82.15 325 eP P 10 19 31.1 -0.6
SRU San Rafael 82.18 48 eP P 10 19 33.4 +1.1
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael 82.18 48 eP P 10 19 33.4 +1.1
comp=Z,4.4nm,0.8s
VYHS Vyhne 83.69 326 eP P 10 19 40.3 +0.6
VYHS Vyhne 83.69 326 eP P 10 19 40.3 +0.6
CLL Collm 84.25 330 eP P 10 19 42.0 -0.4
CLL Collm 84.25 330 eP P 10 19 42.0 -0.4
GERES GERESS Array B 85.79 328 P P 10 19 49.8 -0.6
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 85.79 328 P P 10 19 49.8 -0.6
comp=Z,0.5nm,0.5s,baz=38,slow=5.2,SNR=5.3
TBI Tubuai 86.85 120 eT T 10 20 13.5
comp=Z,8.3nm,0.3s
TXAR Lajitas Array 92.71 52 P P 10 20 24.6 +1.2
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 92.71 52 P P 10 20 24.6 +1.2
comp=Z,1.2nm,0.8s,baz=300,slow=3.1,SNR=12
TORD Torodi Ar. Bea 119.75 313 PKP PKPdf 10 25 59.8 -1.9
comp=Z,0.4nm,0.6s,baz=49,slow=0.8,SNR=6.5
LPAZ La Paz 148.77 64 PKP2 PKPbc 10 27 00.2 +0.6
LPAZ pmax pmax
comp=Z,2.0nm,0.5s
LPAZ La Paz 148.77 64 PKPbc PKPbc 10 27 00.2 +0.6
comp=Z,2.3nm,0.5s,baz=338,slow=2.3,SNR=11

IDC 20 10:09:16.5±1.3, 12°.53N×87°.20W, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.7/34, mbtmp3.8/8, ML3.5/2, MS2.8/4, Ms1 2.8/4, ms1mx2.6/32, Error ellipse: s-maj=42.0km s-min=14.2km az=48.0
ISCJB 20 10:09:22.1±0.4, 12°.31N±0°.07×87°.42W±0°.07, h67km±7km, mb3.7/6, Error ellipse: s-maj=16.2km s-min=3.7km az=40.9
CASC 20 10:09:23.3±2.7, 12°.26N×87°.55W, h35km±999km, MD4.2, ML4.2
ISC 20 10:09:22.5±1.2, 12°.24N±0°.09×87°.47W±0°.09, h53km±13km, n33, σ1§09/41, mb3.7/6, Near coast of Nicaragua

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CNCH Conchagua 1.08 341 eP Pn 10 09 42.2 +0.5
CNCH eS Sn 10 09 54.2 -1.5
BLLM Bellamira 1.41 328 eP Pn 10 09 46.8 +0.9
BLLM eS Sn 10 10 02.4 -1.0
VSM San Miguel 1.41 326 eP Pn 10 09 47.0 +0.8
CAHU Cacacuatique 1.68 335 eP Pn 10 09 51.1 +1.3
CAHU eS Sn 10 10 11.5 +1.3
SNVI San Vicente 1.90 316 eP Pn 10 09 53.9 +1.1
SNVI eS Sn 10 10 15.1 -0.6
LFRS El Faro 2.07 312 eP Pn 10 09 54.7 -0.3
LFRS eS Sn 10 10 18.1 -1.6
LBRS Las Brisas 2.13 314 eP Pn 10 09 56.9 +1.1
LBRS eS Sn 10 10 20.8 -0.4
LFU La Fuente 2.19 313 eP Pn 10 09 57.3 +0.7
LFU eS Sn 10 10 21.9 -0.7
SNET Serv Nac Est T 2.24 310 eP Pn 10 09 57.8 +0.6
SNET eS Sn 10 10 22.8 -1.0
SNET AML AML 10 10 28.0
comp=Z,3μm,0.3s
BOQS Boqueron 2.30 310 eP Pn 10 09 59.0 +0.8
BOQS eS Sn 10 10 25.0 -0.6
SBLS San Blas 2.63 307 eP Pn 10 10 03.7 +0.9
SBLS eS Sn 10 10 32.9 -0.7
SNJE San Jose 2.63 308 eP Pn 10 10 04.0 +1.2
SNJE eS Sn 10 10 32.8 -0.8
RTR El Retiro 2.68 308 eP Pn 10 10 04.2 +0.8
RTR eS Sn 10 10 34.1 -0.7
RBDL Robledal 2.85 311 eP Pn 10 10 07.0 +1.3
JTS JuntasAbangare 3.14 128 Pn Pn 10 10 08.8 -0.9
comp=Z,16nm,0.3s,baz=306,slow=12,SNR=66
JTS Sn Sn 10 10 46.7 +0.7
comp=Z,32nm,0.3s,baz=305,slow=17,SNR=2.7
JTS LR LR 10 10 49.3
comp=Z,47nm,19.0s,baz=342,slow=30
JTS Lg Lg 10 10 55.6
comp=Z,52nm,0.3s,baz=169,slow=24,SNR=9.3
JCR Jicaral 3.32 136 eP Pn 10 10 12.1 0.0
MRL Marmol 3.54 323 eP Pn 10 10 16.9 +1.7
MRL eS Sn 10 11 09.0 +13
CGA2 Cerro Gallo 2 3.69 127 eP Pn 10 10 20.5 +3.3
APG El Apazote 4.00 314 Pn Pn 10 10 18.7 -2.8
comp=Z,0.9nm,0.3s,baz=138,slow=12,SNR=5.3
APG Sn Sn 10 11 07.5 +0.2
comp=Z,3.4nm,0.3s,baz=107,slow=20,SNR=4.1
APG Lg Lg 10 11 19.8
comp=Z,4.5nm,0.3s,baz=108,slow=22,SNR=4.6
APG LR LR 10 12 13.2
comp=Z,62nm,20.2s,baz=66,slow=44
QCR Quepos 4.29 130 eP Pn 10 10 26.2 +0.8
QCR eS Sn 10 11 28.4 +14
BUS Buena Vista 4.52 126 eP Pn 10 10 30.3 +1.4
BUS eS Sn 10 11 19.2 -1.3
JAT Jato 4.55 297 eP Pn 10 10 32.3 +3.4
JAT eS Sn 10 11 26.1 +5.6
ACR Cerro Adams 5.54 130 eP Pn 10 10 43.8 +1.3
ACR eS Sn 10 11 39.2 -5.7
PCRV Puerto La Cruz 22.49 93 LR LR 10 25 31.5
comp=Z,44nm,18.6s,baz=4.5,slow=44
TXAR Lajitas Array 22.72 321 P P 10 14 21.3 +1.1
comp=Z,3.2nm,0.8s,baz=138,slow=9.6,SNR=36
TKL Tuckaleechee C 23.55 8 P P 10 14 26.8 -1.4
comp=Z,1.7nm,0.7s,baz=174,slow=10,SNR=2.4
SADO Sadowa 33.19 11 LR LR 10 30 29.0
comp=Z,54nm,21.2s,baz=339,slow=39
NVAR Mina Array Bea 37.84 319 P P 10 16 35.8 +1.2
comp=Z,0.4nm,0.6s,baz=120,slow=8.4,SNR=4.5
ULM Lac du Bonnet 38.52 351 P P 10 16 37.5 -2.2
comp=Z,0.8nm,0.4s,baz=163,slow=7.3,SNR=2.9
SCHQ Schefferville 45.48 17 P P 10 17 33.9 -2.6
comp=Z,3.1nm,0.9s,baz=217,slow=8.3,SNR=5.4
YKA Yellowknife Ar 53.80 345 P P 10 18 38.6 -1.0
comp=Z,0.4nm,0.8s,baz=135,slow=7.8,SNR=8.2
ASAR Alice Springs 139.17 248 PKP PKPdf 10 28 44.3 -0.2
comp=Z,0.4nm,0.9s,baz=112,slow=2.5,SNR=3.0
WRA Warramunga Arr 139.19 254 PKP PKPdf 10 28 44.4 -0.1
comp=Z,0.5nm,0.9s,baz=94,slow=2.6,SNR=4.0

PRU 20 10:18:25.0, 50°.30N×19°.26E, h0km, Poland

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OJC Ojcow 0.35 103 ePg Pg 10 18 32.2 +0.4
OJC eSg Sg 10 18 36.9 +0.4
OKC Ostrava-Krasne 0.85 238 eSG Sg 10 18 53.2 +0.7
KRLC Kraliky 1.61 263 eSG Sg 10 19 16.8 -0.1
DPC Dobruska-Polom 1.88 273 ePG Pn 10 18 59.1 +0.6
DPC eSG Sg 10 19 25.8 +0.1

IDC 20 10:45:43.2±1.8, 60°.39S×28°.47W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.6/19, mbtmp4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=102.2km s-min=70.8km az=130.0, South Sandwich Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 32.40 288 LR LR 11 04 37.0
comp=Z,53nm,18.6s,baz=312,slow=35
TORD Torodi Ar. Bea 77.17 30 P P 10 57 38.6 0.0
0.7nm,0.5s,baz=203,slow=6.3,SNR=11
YKA Yellowknife Ar 138.87 315 PKP PKPdf 11 05 10.8 +1.1
0.1nm,0.5s,baz=135,slow=2.4,SNR=4.3
SONM Songino Array 151.34 95 PKPbc PKPbc 11 05 37.5 -0.3
0.6nm,0.7s,baz=218,slow=3.3,SNR=3.6
ILAR Eielson Array 152.31 306 PKPbc PKPbc 11 05 38.9 -0.4
0.5nm,0.9s,baz=129,slow=2.3,SNR=5.2

ISCJB 20 10:49:23.8±0.7, 18°.6N±0°.1×145°.6E±0°.2, h250km, mb3.5/11, Error ellipse: s-maj=22.0km s-min=14.9km az=0.2
IDC 20 10:49:26.6±4.4, 18°.61N×145°.61E, h262km±43km, mb3.3/11, mb1 3.5/12, mb1mx3.3/32, mbtmp3.9/12, Error ellipse: s-maj=23.8km s-min=11.8km az=97.0
ISC 20 10:49:25.3±0.8, 18°.6N±0°.1×145°.6E±0°.2, h250km, n13, σ0§96/15, mb3.5/11, Mariana Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JOW Kunigami 17.98 300 P P 10 53 18.7 +1.0
0.1nm,0.3s,baz=117,slow=18,SNR=12
MJAR Matsushiro Arr 19.04 341 P P 10 53 29.9 +0.8
0.4nm,0.3s,baz=168,slow=10,SNR=5.5
PETK Petropavlovsk- 35.71 12 P P 10 56 00.5 +0.4
7.7nm,1.0s,baz=229,slow=13,SNR=3.0
WRA Warramunga Arr 39.87 197 P P 10 56 35.0 -0.1
0.5nm,0.4s,baz=13,slow=8.7,SNR=15
WRA PcP PcP 10 58 36.4 +0.7
0.4nm,0.4s,baz=17,slow=3.5,SNR=9.3
SONM Songino Array 43.19 321 P P 10 57 01.5 -0.4
0.3nm,0.5s,baz=126,slow=7.3,SNR=2.9
ASAR Alice Springs 43.53 196 P P 10 57 04.3 -0.4
0.2nm,0.3s,baz=16,slow=6.7,SNR=11
ASAR PcP PcP 10 58 48.7 +0.9
0.3nm,0.8s,baz=2.3,slow=1.8,SNR=4.1
ZALV Zalesovo Beam 58.06 323 P P 10 58 52.6 +0.2
0.5nm,0.4s,baz=121,slow=8.7,SNR=4.1
MKAR Makanchi Array 58.49 314 P P 10 58 54.6 -0.9
0.3nm,0.5s,baz=88,slow=8.6,SNR=5.7
ILAR Eielson Array 63.77 26 P P 10 59 28.6 -1.9
0.9nm,0.8s,baz=257,slow=6.2,SNR=1.6
YKA Yellowknife Ar 78.11 28 P P 11 00 56.7 +0.3
0.6nm,0.6s,baz=290,slow=5.4,SNR=12
ARCES ARCESS Array B 82.57 342 P P 11 01 20.0 -0.1
5.1nm,1.1s,baz=49,slow=8.4,SNR=4.5
NVAR Mina Array Bea 83.26 52 P P 11 01 25.8 +1.3
1.3nm,0.6s,baz=272,slow=6.1,SNR=12
FINES FINESS Array B 86.95 335 P P 11 01 40.8 -1.2
0.4nm,0.3s,baz=97,slow=5.1,SNR=6.6

IDC 20 10:57:23.6±3.5, 16°.41S×173°.54W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/27, mbtmp3.8/4, MS3.4/3, Ms1 3.4/3, ms1mx3.1/27, Error ellipse: s-maj=164.9km s-min=33.8km az=137.0, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 19.72 250 LR LR 11 08 22.4
comp=Z,76nm,20.9s,baz=218,slow=33
PPT Papeete 22.94 96 LR LR 11 10 43.4
comp=Z,76nm,18.6s,baz=285,slow=35
HNR Honiara 26.74 282 LR LR 11 12 03.4
comp=Z,156nm,20.7s,baz=114,slow=33
STKA Stephens Creek 43.43 241 P P 11 05 28.5 +0.1
2.0nm,0.8s,baz=82,slow=13,SNR=3.4
WRA Warramunga Arr 49.49 258 P P 11 06 15.7 -0.6
0.2nm,0.4s,baz=96,slow=6.9,SNR=8.2
ASAR Alice Springs 49.68 253 P P 11 06 17.5 -0.2
3.0nm,0.6s,baz=89,slow=8.2,SNR=55
ASAR PcP PcP 11 07 39.2 +0.1
0.3nm,0.8s,baz=101,slow=4.0,SNR=3.2
ILAR Eielson Array 83.45 11 P P 11 09 52.2 -0.4
0.4nm,1.0s,baz=222,slow=6.1,SNR=4.2
BRTR Keskin Array B 146.84 320 PKPbc PKPbc 11 17 08.1 -0.2
0.7nm,0.8s,baz=69,slow=4.1,SNR=3.8

IDC 20 11:12:43.6±6.4, 34°.05N×83°.70E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.2/39, mbtmp3.3/4, ML2.5/2, Error ellipse: s-maj=308.4km s-min=30.5km az=72.0, Xizang

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MKAR Makanchi Array 12.77 356 Pn Pn 11 15 47.0 +0.6
0.0nm,0.3s,baz=181,slow=13,SNR=3.7
ZALV Zalesovo Beam 19.90 2 P P 11 17 16.8 +0.2
0.1nm,0.3s,baz=199,slow=12,SNR=2.4
WRA Warramunga Arr 72.16 130 P P 11 24 10.6 +0.1
0.3nm,0.6s,baz=327,slow=6.1,SNR=5.0
YKA Yellowknife Ar 82.66 8 P P 11 25 08.3 -0.3
0.2nm,0.6s,baz=337,slow=5.3,SNR=7.5

NIED 20 11:18:00, 21°.30N×121°.00E, h8km, Mw5.1 Best double couple: M0 4.23000×10^16 NP1:φs 86.00000°, δ25.00000°, λ-98.00000°. NP2:φs 274.00000°, δ66.00000°, λ-86.00000°.
IDC 20 11:18:43.8±0.4, 20°.95N×121°.28E, h0km, mb4.5/28, mb1 4.7/30, mb1mx4.6/41, mbtmp4.5/30, ML2.7/1, MS4.5/17, Ms1 4.6/17, ms1mx4.2/36, Error ellipse: s-maj=14.5km s-min=9.6km az=73.0
ISCJB 20 11:18:46.3±0.8, 20°.99N±0°.02×121°.25E±0°.02, h23km±5km, mb4.8/121, MS4.7/36, Error ellipse: s-maj=3.5km s-min=2.5km az=19.0
BJI 20 11:18:46.9, 20°.96N×120°.98E, h25km, mB4.9/50, mb4.5/62, Ms5.0/75, Ms7 4.9/70
MOS 20 11:18:47.5±1.1, 20°.94N×121°.28E, h34km, mb5.0/63, MS4.8/14, Error ellipse: s-maj=7.8km s-min=4.5km az=107.6
NEIC 20 11:18:48.3±0.2, 20°.95N×121°.22E, mb4.9/46, Error ellipse: s-maj=5.6km s-min=3.7km az=87.0
GCMT 20 11:18:48.3±0.2, 20°.98N×120°.93E, h16km, MW5.0/79, Moment Tensor Solution. s44,c58; s79,c123; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.68±.18; Mθθ4.46±.13; Mφφ-1.78±.14; Mrθ-0.73±.31; Mθφ-0.90±.09; Mφr0.72±.41; Best double couple: M0 3.88200×10^16 NP1:φs 121.00000°, δ57.00000°, λ-57.00000°. NP2: φs 252.00000°, δ45.00000°, λ-130.00000°. Principal axes: T 4.6780, Plg6.0000°, Azm189.0000°; N -1.5920, Plg27.0000°, Azm282.0000°; P -3.0860, Plg62.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BKK 20 11:18:56.6±1.1, 21°N±6°×12°2E±°, h96km±14km, M5.2/12, mB5.4/5, mb4.8/12, MLv5.5/1, Mw(mB)4.9/5
ISC 20 11:18:48.9±0.3, 20°.94N±0°.03×121°.24E±0°.03, h31km±1km, h30km:pP-P, n332, σ1§56/397, mb4.8/120, MS4.8/37, 15C-7D, Philippine Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TWG Pinlang 1.87 355 ePn Pn 11 19 14.8 -4.1
TPUB Ta-pu 2.41 347 ePn Pn 11 19 24.1 -2.2
YULB Yu-li 2.44 1 ePn Pn 11 19 24.1 -2.5
PIP Pasuquin 2.67 193⇓iP Pn 11 19 27.8 -2.0
PIP eS Sn 11 19 57.7 -3.4
SSLB Suanglung 2.84 355 ePn Pn 11 19 30.9 -1.4
NACB Ninganchiao 3.23 6 ePn Pn 11 19 35.9 -1.7

CVP **Callao Caves** **3.27 170**⇑*e*P Pn 11 19 38.4 +0.3
CVP *e*S Sn 11 20 15.2 -0.8
YHNB Yeheng 3.71 2 *e*Pn **Pn 11 19 42.9 -1.4**
JYNG Yonagunijimaku 3.83 24 P **Pn 11 19 45.1 -0.7**
YOJ Yonaguni jima 3.87 25 *e*P **Pn 11 19 46.4 +0.1**
YOJ Yonaguni jima 3.87 25 P **Pn 11 19 46.0 -0.3**
YOJ Yonaguni jima 3.87 25 *e*Pn **Pn 11 19 46.4 +0.1**
HATJ Hateruma jima 3.90 37 P **Pn 11 19 46.8 0.0**
HATJ S **Sn 11 20 31.6 0.0**
TATO Taipei 4.02 3 *e*Pn **Pn 11 19 48.9 +0.5**
IRIF Iriomote-Funau 4.09 34 P **Pn 11 19 49.6 +0.3**
JKRS Kuro-shima 4.16 37 P **Pn 11 19 50.1 -0.2**
JKRS S **Sn 11 20 36.5 -1.4**
JIJ Ishigaki jima 4.33 38 P **Pn 11 19 52.3 -0.4**
JIJ S **Sn 11 20 41.2 -1.0**
BCPH Baguio City Da 4.58 188⇑*i*P **Pn 11 19 55.0 -1.3**
BCPH *i* S **Sn 11 20 47.2 -1.4**
JISG Ishigakijimahi 4.60 37 P **Pn 11 19 55.5 -0.9**
JISG S **Sn 11 20 48.0 -0.9**
QZH Quanzhou 4.67 329 ⇑Pn **Pn 11 19 54.3 -3.0**
QZH Sn Sn 11 20 43.3 -7.1
QZH LR LR
comp=N,26µm,14.0s
QZH LR LR
comp=E,8µm,11.6s
QZH LR LR
comp=Z,28µm,16.4s
JTJ Tarama 4.88 40 P **Pn 11 20 00.2 +0.1**
JTJ S **Sn 11 20 54.8 -0.7**
JIRB Irabujima 5.30 42 P **Pn 11 20 05.9 -0.1**
JIRB S **Sn 11 21 04.0 -2.1**
JMJ Miyako jima 2 5.37 43 S **Sn 11 21 06.2 -1.5**
JOGS Gusukube 5.41 45 P **Pn 11 20 08.0 +0.6**
JOGS S **Sn 11 21 07.6 -1.0**
JIKM Ikemajima 5.42 42 P **Pn 11 20 08.2 +0.6**
JIKM S **Sn 11 21 07.6 -1.3**
TGY Tagaytay City 6.81 182 P **Pn 11 20 26.0 -0.8**
TGY 11 21 51.0
TGY pmax pmax
comp=Z,15nm,0.3s
TGY smax smax
comp=N,42nm,0.3s
TGY MLR MLR
comp=Z,15nm,28.6s
TGY Tagaytay City 6.81 182 Pn **Pn 11 20 26.0 -0.8**
comp=Z,15nm,0.3s,baz=11,slow=5.2,SNR=2.6
TGY Sn Sn 11 21 51.0 +7.6
comp=Z,42nm,0.3s,baz=9.7,slow=19,SNR=2.0
TGY LR LR 11 23 29.7
comp=Z,146nm,19.1s,baz=129,slow=42
JOW Kunigami 8.71 46 Pn **Pn 11 20 51.8 -1.0**
comp=Z,0.2nm,0.3s,baz=230,slow=11,SNR=8.5
JOW Sn **Sn 11 22 30.8 +0.9**
comp=Z,0.1nm,0.3s,baz=240,slow=20,SNR=2.6
JOW Kunigami 8.71 46 *e*Pn **Pn 11 20 53.9 +1.1**
JOW Sn **Sn 11 22 30.8 +0.9**
SSE Sheshan 10.11 360 P **Pn 11 21 13.3 +1.3**
SSE S **Sn 11 23 07.8 +3.5**
SSE pmax pmax
comp=Z,8.0nm,1.0s
SSE pmax pmax
comp=Z,89nm,7.5s
SSE LR LR
comp=Z,4µm,16.3s
SSE LR LR
comp=Z,3µm,16.3s
SSE LR LR
comp=Z,5µm,16.2s
QIZ Qiongzhong 10.88 262 P **Pn 11 21 22.6 0.0**
QIZ S **Sn 11 23 23.8 +0.4**
QIZ pmax pmax
comp=Z,22nm,1.7s
QIZ LR LR
comp=Z,6µm,12.5s
QIZ LR LR
comp=Z,5µm,14.4s
NJ2 Nanjing 11.27 350 *e*P **Pn 11 21 28.3 +0.5**
NJ2 S **Sn 11 23 34.5 +1.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
NJ2 LR LR
comp=Z,4µm,14.8s
NJ2 LR LR
comp=Z,4µm,14.8s
NJ2 LR LR
comp=Z,4µm,15.5s
WHN Wuhan 11.39 328 P Pn 11 21 25.5 -4.1
WHN S Sn 11 23 43.3 +7.5
WHN LR LR
comp=Z,18µm,16.6s
WHN LR LR
comp=Z,5µm,12.7s
WHN LR LR
comp=Z,17µm,16.3s
GYA Guiyang 14.43 295⇑*i*P **Pn 11 22 08.5 -2.7**
GYA pP **P 11 22 18.3 +0.6**
GYA S **Sn 11 24 51.0 +0.7**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,80nm,5.3s
GYA LR LR
comp=Z,5µm,13.9s
GYA LR LR
comp=Z,3µm,13.0s
GYA LR LR
comp=Z,4µm,12.4s
JNU Nakatsue 14.85 33 Pn **Pn 11 22 17.1 +0.3**
comp=Z,0.2nm,0.3s,baz=202,slow=5.5,SNR=3.2
JNU Sn Sn 11 24 53.9 -6.5
comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=2.3
JNU LR LR 11 28 19.7
comp=Z,2µm,18.2s,baz=210,slow=39
KKM Kota Kinabalu 15.59 199 ⇓P **Pn 11 22 28.6 +1.9**
TIA Tai'an 15.63 348 ⇑P **Pn 11 22 26.5 -0.5**
TIA pmax pmax
comp=Z,50nm,2.2s
TIA pmax pmax
comp=Z,510nm,9.8s
TIA LR LR
comp=Z,3µm,14.8s
TIA LR LR
comp=Z,5µm,14.6s
TIA LR LR
comp=Z,4µm,20.0s
SDKM Sandakan 15.71 195 ⇓P **P 11 22 30.8 -1.1**
MYLDM Lahad Datu 15.89 190 ⇑P **P 11 22 32.7 -1.1**
TJN Taejon 16.28 18 *e*P **P 11 22 37.6 -0.5**
XAN Xi'an 17.00 323 P **P 11 22 42.6 -1.8**
XAN pP **pP 11 22 51.8 -2.4**
XAN S **Sn 11 25 50.3 -2.2**
XAN pmax pmax
comp=Z,8.0nm,1.3s
XAN pmax pmax
comp=Z,62nm,7.0s
XAN LR LR
comp=Z,2µm,13.1s
XAN LR LR
comp=Z,2µm,14.2s
XAN LR LR
comp=Z,2µm,15.2s
KSAR Wonju Array Be 17.43 18 P **Pn 11 22 48.7 -1.0**
KSAR Wonju Array Be 17.43 18 P **Pn 11 22 48.6 -1.0**
KSRS Korea Array 17.45 18 P **Pn 11 22 48.7 -1.3**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,17nm,28.6s
KSRS Korea Array 17.45 18 P **Pn 11 22 48.6 -1.3**
comp=Z,1.4nm,0.3s,baz=200,slow=11,SNR=55
KSRS LR LR 11 30 06.8
comp=Z,1µm,19.7s,baz=204,slow=39
KMI Kunming 17.52 287 P **P 11 22 51.9 -0.3**
KMI sP **sP 11 23 02.9 -1.4**
KMI PP **PnPn 11 23 06.8 +5.0**
KMI S **Sn 11 26 03.4 -2.2**
KMI sS **S 11 26 14.5 +1.5**
KMI pmax pmax
comp=Z,6.0nm,0.5s
KMI pmax pmax
comp=Z,110nm,4.0s
KMI LR LR
comp=Z,3µm,8.4s
KMI LR LR
comp=Z,3µm,10.3s
KMI LR LR
comp=Z,3µm,9.4s
DL2 Dalian 17.91 1 P **P 11 22 59.5 +3.5**
DL2 pmax pmax
comp=Z,21nm,0.8s
DL2 pmax pmax
comp=Z,250nm,12.7s
DL2 LR LR
comp=Z,2µm,19.8s
DL2 LR LR
comp=Z,2µm,14.4s
DL2 LR LR
comp=Z,2µm,15.2s
TIY Taiyuan 18.37 337 *e*P Pn 11 23 06.3 +4.9
TIY sP sP 11 23 15.3 +1.9
TIY S **S 11 26 31.5 +1.9**
TIY sS Sn 11 26 33.1 +7.3
TIY pmax pmax
comp=Z,470nm,7.3s
TIY LR LR
comp=N,5µm,12.7s
TIY LR LR
comp=E,1µm,10.1s
TIY LR LR
comp=Z,6µm,15.6s
CD2 Chengdu 18.57 306⇓*e*P **P 11 23 03.4 -0.1**
CD2 pP **pP 11 23 10.5 -1.1**
CD2 sP **sP 11 23 14.9 -0.7**
CD2 PP **PnPn 11 23 19.3 +3.3**
CD2 S **Sn 11 26 25.9 -4.7**
CD2 sS **S 11 26 37.3 +3.7**
CD2 SS **SnSn 11 26 50.4 +5.8**
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 pmax pmax
comp=Z,340nm,6.4s
CD2 LR LR
comp=Z,7µm,14.7s
CD2 LR LR
comp=Z,5µm,14.2s
CD2 LR LR
comp=Z,4µm,13.5s
BJT Baijiatuau 19.50 348 *e*P **P 11 23 13.9 +0.3**
BJT pmax pmax
comp=Z,62nm,0.8s
BJT Baijiatuau 19.50 348 *e*P **P 11 23 13.8 +0.3**
comp=Z,62nm,0.8s
BJI Beijing 19.52 348 P **P 11 23 13.3 -0.4**
BJI pP **pP 11 23 21.1 -0.8**
BJI sP **sP 11 23 23.8 -2.1**
BJI S **S 11 26 48.0 -4.5**
BJI PcP **PcP 11 27 34.9 +1.4**
BJI pmax pmax
comp=Z,83nm,1.0s
BJI pmax pmax
comp=Z,470nm,10.8s
BJI LR LR
comp=Z,2µm,18.7s
BJI LR LR
comp=Z,1µm,20.3s
BJI LR LR
comp=Z,2µm,22.4s
PBKT Sadao Pong 19.67 261 P Pn 11 23 23.5 +6.3
comp=Z,20nm,1.4s
CHBT CHBT 19.83 249 P Pn 11 23 26.7 +7.7
comp=Z,33nm,1.1s,comp=Z,2µm
JCJ Chichijima 20.08 68 LR LR 11 29 53.2
comp=Z,323nm,21.9s,baz=258,slow=33
MRSI Marisa 20.35 178 P Pn 11 23 25.9 +0.8
comp=Z,119nm,0.8s,comp=Z,1µm
SBUM Sibu 20.38 207 ⇑P **P 11 23 24.1 +0.9**
KMSI Cibinong 20.42 172 P Pn 11 23 26.6 +0.7
comp=Z,302nm,1.3s,comp=Z,3µm
MPSI Mapaga 20.52 184 P Pn 11 23 27.3 +0.2
comp=Z,23nm,1.4s,comp=Z,454nm
CMAI Chiengmai2 20.82 271 P Pn 11 23 39.5 +8.7
comp=Z,55nm,0.9s,comp=Z,1µm
SNY Shenyang 20.91 5 ⇓P **P 11 23 29.8 +1.0**
SNY S Sn 11 27 25.4 -1.4
SNY pmax pmax
comp=Z,250nm,4.3s
SNY LR LR
comp=Z,3µm,15.5s
SNY LR LR
comp=Z,2µm,13.9s
SNY LR LR
comp=Z,3µm,14.5s
TNTI Ternate 20.92 163 *e*P **P 11 23 29.4 +0.2**
comp=Z,63nm,0.8s
CMMT Chiang Mai 21.07 268 P **P 11 23 31.7 +0.9**
CHTO Chiang Mai 21.07 268 *e*P **P 11 23 31.3 +0.5**
CHTO pmax pmax
comp=Z,18nm,1.1s
CHTO Chiang Mai 21.07 268 P **P 11 23 31.7 +0.9**
CHTO Chiang Mai 21.07 268 *e*P **P 11 23 31.3 +0.5**
comp=Z,18nm,1.1s
CM31 Chiang Mai Arr 21.13 267 *e*P **P 11 23 32.0 +0.6**
comp=Z,7.4nm,0.6s
CMAR Chiang Mai Arr 21.13 267 P **P 11 23 31.0 -0.5**
CMAR 11 27 37.3
CMAR pmax pmax
comp=Z,4.0nm,0.6s
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR MLR MLR
comp=Z,16nm,28.6s
CMAR Chiang Mai Arr 21.13 267 P **P 11 23 31.0 -0.5**
comp=Z,3.8nm,0.6s,baz=72,slow=9.2,SNR=25
CMAR PcP **PcP 11 27 37.3 +0.3**
comp=Z,2.4nm,0.8s,baz=35,slow=0.9,SNR=7.8
CMAR LR LR 11 32 24.5
comp=Z,3µm,18.9s,baz=88,slow=39
LZH Lanzhou 21.42 318 *e*P **P 11 23 34.9 +0.3**
LZH pP **pP 11 23 42.8 -0.1**
LZH sP **sP 11 23 47.4 +0.6**
LZH PP **PnPn 11 23 59.0 +3.8**
LZH *e*S **S 11 27 27.1 -3.8**
LZH SS **SnSn 11 27 59.3 +4.5**
LZH pmax pmax
comp=Z,54nm,1.0s
LZH pmax pmax
comp=Z,210nm,4.1s
LZH LR LR
comp=Z,2µm,10.0s
LZH LR LR
comp=Z,2µm,12.0s
LZH LR LR
comp=Z,4µm,13.8s
MAJO Matsushiro 21.46 40 *e*P **P 11 23 37.2 +2.3**
MAJO pmax pmax
comp=Z,90nm,1.6s
MAJO Matsushiro 21.46 40 *e*P **P 11 23 37.2 +2.3**
comp=Z,90nm,1.6s
MAT Matsushiro 21.46 40 P **P 11 23 36.8 +1.9**
MAT S **S 11 27 35.6 +4.2**
MJAR Matsushiro Arr 21.46 40 P **P 11 23 35.4 +0.5**
MJAR pmax pmax
comp=Z,6.0nm,0.8s
MJAR Matsushiro Arr 21.46 40 P **P 11 23 35.4 +0.5**
comp=Z,6.4nm,0.8s,baz=228,slow=8.6,SNR=14
HHC Hu-ho-hao-te 21.48 340 *e*P **P 11 23 35.5 +0.4**
HHC pP **pP 11 23 44.3 +0.9**
HHC sP **sP 11 23 48.3 +1.0**
HHC PP **PnPn 11 24 01.0 +5.1**
HHC S **S 11 27 28.3 -3.5**
HHC sS Sn 11 27 41.6 +0.9
HHC pmax pmax
comp=Z,51nm,1.1s
HHC pmax pmax
comp=Z,550nm,5.3s
HHC LR LR
comp=Z,6µm,13.6s
HHC LR LR
comp=Z,3µm,12.3s
HHC LR LR
comp=Z,4µm,12.3s
APSI Ampana 21.72 179 P **P 11 23 41.2 +3.5**
comp=Z,259nm,1.2s,comp=Z,2µm
LUWI Luwuk 21.90 176 P **P 11 23 42.0 +2.3**
comp=Z,482nm,1.0s,comp=Z,4µm
LUWI Luwuk 21.90 176 *e*P **P 11 23 40.8 +1.1**
comp=Z,429nm,1.0s
KSM Kuching 22.10 210 ⇑P **P 11 23 42.2 +0.5**
MHMT Maesarieng 22.13 267 P P 11 23 54.4 +12
comp=Z,12nm,1.0s
LBMI Labuha 22.31 163 P **P 11 23 45.3 +1.3**
comp=Z,129nm,1.0s,comp=Z,1µm
BKB Balikpapan 22.47 191 P **P 11 23 47.4 +1.6**
comp=Z,200nm,1.1s
MTKI Muara Teweh, K 22.62 197 P P 11 24 06.2 +19
STKI Sintang 22.84 206 P **P 11 23 51.7 +2.0**
comp=Z,35nm,0.9s,comp=Z,18µm
CN2 Changchun 23.06 8 *e*P **P 11 23 50.0 -1.8**
CN2 *e*sP **sP 11 24 03.3 -0.7**
CN2 *e*S **S 11 27 55.6 -5.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,2µm,19.0s
CN2 LR LR
comp=Z,1µm,19.0s
CN2 LR LR
comp=Z,2µm,16.0s
SANI Sanana 23.32 168 P **P 11 23 52.8 -1.7**
TTSI Tana Toraja 23.88 183 P **P 11 24 01.7 +1.8**
comp=Z,85nm,1.1s,comp=Z,734nm
MDJ Mudanjiang 24.60 14 P **P 11 24 06.3 0.0**
MDJ pP **pP 11 24 12.3 -3.0**
MDJ sP **sP 11 24 14.9 -4.1**
MDJ S **S 11 28 29.3 +3.8**
MDJ pmax pmax
comp=Z,10.0nm,1.0s
MDJ pmax pmax
comp=Z,99nm,4.9s
MDJ LR LR
comp=Z,2µm,15.2s
MDJ LR LR
comp=Z,2µm,16.0s
MDJ LR LR
comp=Z,2µm,20.2s
MDJ Mudanjiang 24.60 14 *e*P **P 11 24 06.6 +0.3**
comp=Z,49nm,1.6s
SURT Suratani 24.70 244 P P 11 24 14.3 +6.8
comp=Z,8.5nm,1.2s,comp=Z,255nm
NLAI Namlea 24.71 166 P **P 11 24 08.8 +1.3**
comp=Z,273nm,1.0s,comp=Z,2µm
SPSI Sidrap Palu 24.80 183 P **P 11 24 10.2 +1.9**
comp=Z,71nm,1.0s,comp=Z,877nm
USRK Ussuriysk Arra 24.85 19 P **P 11 24 08.3 -0.3**
comp=Z,3.3nm,0.8s,baz=204,slow=8.7,SNR=7.8
USRK LR LR 11 34 22.5
comp=Z,800nm,21.6s,baz=195,slow=38
BBKI Banjar Baru 25.05 195 P **P 11 24 12.1 +1.4**
comp=Z,110nm,1.0s,comp=Z,4µm
BNSI Bone 25.21 183 P **P 11 24 15.5 +3.4**
comp=Z,77nm,1.0s,comp=Z,799nm
MSAI Masohi 25.29 162 P **P 11 24 15.7 +2.9**
comp=Z,33nm,1.0s
IPM Ipoh 25.57 233 ⇑P **P 11 24 15.0 -0.4**
KAPI Kappang 25.84 183 *e*P **P 11 24 18.3 +0.6**
comp=Z,97nm,1.0s
GTA Gaotai 26.00 320 *e*P **P 11 24 19.0 -0.2**
GTA pP **pP 11 24 28.3 +0.2**
GTA sP **sP 11 24 32.9 +1.0**
GTA S **S 11 28 44.3 -3.8**
GTA sS **sS 11 28 59.8 -3.1**
GTA SS **SnSn 11 29 49.3 +2.6**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,170nm,6.4s
GTA LR LR
comp=Z,970nm,15.0s
GTA LR LR
comp=Z,1µm,15.4s
GTA LR LR
comp=Z,3µm,17.6s
PSI Prapat 28.24 233 P **P 11 24 40.6 +1.0**
PSI pmax pmax
comp=Z,7.0nm,1.0s
PSI MLR MLR
comp=Z,738nm,19.3s
PSI Prapat 28.24 233 P **P 11 24 40.6 +1.0**
comp=Z,6.8nm,1.0s,baz=85,slow=7.8,SNR=3.2
PSI LR LR 11 36 06.3
comp=Z,738nm,19.3s,baz=45,slow=37
HIA Hailar 28.29 358 *e*P **P 11 24 40.7 +1.1**
HIA pmax pmax
comp=Z,11nm,0.8s
HIA Hailar 28.29 358 *e*P **P 11 24 40.7 +1.1**
comp=Z,11nm,0.8s
LSA Lhasa 28.49 294 P **P 11 24 41.3 -0.8**
LSA LR LR
comp=Z,660nm,14.6s
LSA LR LR
comp=Z,1µm,16.0s
LSA Lhasa 28.49 294 *e*P **P 11 24 43.2 +1.1**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 28.49 294 *e*P **P 11 24 43.2 +1.1**
comp=Z,9.3nm,0.8s
MNSI Mandailing Nat 29.12 229 P P 11 24 52.2 +4.9
comp=Z,30nm,1.5s
ASAJ Asahikawa 29.13 33 LR LR 11 36 28.9
comp=Z,1µm,21.0s,baz=196,slow=37
ULN Ulaanbaatar 29.20 340 *e*P **P 11 24 47.7 -0.1**
ULN *e* 11 31 36.2
ULN pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 29.20 340 *e*P **P 11 24 47.7 -0.1**
comp=Z,9.9nm,0.8s
ULN *e*ScP **ScP 11 31 36.2 +2.1**
SONM Songino Array 29.38 339 P **P 11 24 49.1 -0.4**
SONM 11 27 54.5
SONM 11 31 37.1
SONM pmax pmax
comp=Z,7.0nm,0.7s
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM pmax pmax
comp=N,1.0nm,0.9s
SONM MLR MLR
comp=Z,3µm,19.5s
SONM Songino Array 29.38 339 P **P 11 24 49.1 -0.4**
comp=Z,6.6nm,0.7s,baz=158,slow=9.5,SNR=28
SONM PcP **PcP 11 27 54.5 -0.6**
comp=Z,2.5nm,1.1s,baz=187,slow=2.5,SNR=3.8
SONM ScP **ScP 11 31 37.1 +2.3**
comp=Z,1.1nm,0.8s,baz=151,slow=3.4,SNR=6.1
SONM LR LR 11 38 13.8
comp=Z,3µm,19.5s,baz=146,slow=40
KLR Kul'dur 29.45 14 *e*P **P 11 24 50.6 +0.8**
KLR MLR MLR
comp=N,700nm,16.5s
KLR MLR MLR
comp=E,2µm,16.5s
KLR MLR MLR
comp=Z,4µm,11.5s
HABR Khabarovsk 29.62 19 *e*P **P 11 24 49.3 -2.1**
HABR *e**PP **pP 11 24 58.9 -1.4**
HABR *e**SP **sP 11 25 03.2 -0.9**
HABR *e* 11 25 44.7
HABR *e*S **S 11 29 43.3 -1.4**
HABR *e**SS **sS 11 29 59.7 +0.2**
HABR *e*SS **SnSn 11 31 15.0 +0.3**
HABR *e* 11 35 27.0
HABR pmax pmax
comp=Z,20nm,1.7s
HABR MLR MLR
comp=Z,721nm,16.0s
PWJI Pagerwojo 30.24 199 P **P 11 24 59.2 +2.1**
comp=Z,24nm,1.0s
BLSI Bandar Lampung 30.50 213 P **P 11 25 01.4 +2.0**
comp=Z,135nm,0.4s
SOEI Soe 30.65 174 P **P 11 25 01.1 +0.2**
comp=Z,66nm,1.0s
SOEI Soe 30.65 174 *e*P **P 11 25 00.5 -0.4**
comp=Z,49nm,0.8s
BATI Baumata 31.05 175 P **P 11 25 03.6 -0.7**
comp=Z,71nm,0.9s,baz=328,slow=9.5,SNR=4.1
BATI LR LR 11 38 29.5
comp=Z,670nm,21.5s,baz=5.5,slow=38
TAPN Taplejung 31.19 288 *e*P **P 11 25 06.3 +0.5**
YSS Yuzh-Sakhalins 31.29 29 *e*P **P 11 25 05.6 -0.5**
YSS *e**SP **sP 11 25 19.2 +0.4**
YSS *e*S **S 11 30 06.0 -4.8**
YSS MLR MLR
comp=N,1µm,16.0s
YSS MLR MLR
comp=Z,1µm,16.0s

YSS MLR MLR
comp=E,1μm,17.0s
RAMN Ramite 32.15 288 eP P 11 25 14.5 +0.3
comp=E,62nm,1.1s
JIRN Jiri 32.56 289 eP P 11 25 17.8 -0.1
comp=E,40nm,1.0s
ZAK Zakamensk 32.62 339 eP P 11 25 16.5 -1.4
ZAK pmax pmax
comp=Z,3.0nm,1.1s
GUN Gumba 32.85 289 eP P 11 25 20.2 -0.3
comp=Z,33nm,0.8s
PKI Pulchoki 33.24 289 eP P 11 25 23.1 -0.8
TLY Talaya 33.61 340 eP P 11 25 26.7 +0.3
TLY pmax pmax
comp=Z,12nm,1.6s
TLY MLR MLR
comp=Z,2μm,15.0s
TLY Talaya 33.61 340 eP P 11 25 27.7 +1.3
comp=Z,57nm,2.2s
GKN Gorkha 33.95 289 eP P 11 25 29.3 -0.6
MOY Mondy 34.49 338 eP P 11 25 34.1 -0.1
DANN Dangsing 34.75 290 eP P 11 25 36.6 -0.3
comp=Z,65nm,1.4s
KOLN Koldanda 34.85 289 eP P 11 25 36.8 -1.0
comp=Z,96nm,1.5s
PYUN Piuthan 35.41 289 eP P 11 25 41.7 -0.8
comp=Z,26nm,0.8s
WMQ Urumqi 35.99 317 P P 11 25 47.6 +0.4
WMQ pP pP 11 25 57.3 +1.1
WMQ sP sP 11 26 01.3 +1.4
WMQ PP PP 11 27 09.8 +0.6
WMQ PcP PcP 11 28 14.0 +0.6
WMQ S S 11 31 23.4 -0.6
WMQ sS sS 11 31 39.4 +0.5
WMQ ScP ScP 11 31 56.4 -1.1
WMQ PcS PcS 11 32 00.3 -0.5
WMQ pmax pmax
comp=Z,7.0nm,0.7s
WMQ pmax pmax
comp=Z,140nm,6.0s
WMQ LR LR
comp=Z,2μm,17.0s
WMQ LR LR
comp=Z,2μm,15.4s
WMQ LR LR
comp=Z,1μm,17.6s
PMG Port Moresby 39.48 137c iP P 11 26 16.6 -0.2
PMG pmax pmax
comp=Z,33nm,1.2s
PMG Port Moresby 39.48 137 eP P 11 26 17.1 +0.2
comp=Z,27nm,1.0s
MK31 Makanchi Array 40.74 319 eP P 11 26 26.8 -0.2
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 40.74 319 P P 11 26 27.1 +0.1
MKAR 11 28 27.4
MKAR pmax pmax
comp=Z,10.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,2μm,18.4s
MKAR Makanchi Array 40.74 319 P P 11 26 27.1 +0.1
comp=Z,9.8nm,0.7s,baz=113,slow=9.7,SNR=130
MKAR PcP PcP 11 28 27.4 -0.6
comp=Z,2.4nm,0.8s,baz=94,slow=4.8,SNR=4.0
MKAR LR LR 11 45 26.3
comp=Z,2μm,18.4s,baz=109,slow=39
COEN Coen 40.84 146 eP P 11 26 27.7 -0.3
comp=Z,68nm,1.1s
PALK Pallekele 41.46 257 LR LR 11 44 11.0
comp=Z,752nm,20.2s,baz=65,slow=37
PETK Petropavlovsk- 42.55 32 P P 11 26 41.4 -0.3
PETK pmax pmax
comp=Z,4.0nm,0.8s
PETK Petropavlovsk- 42.55 32 P P 11 26 41.4 -0.3
comp=Z,3.6nm,0.8s,baz=218,slow=9.1,SNR=3.5
WRAB Tennant Creek 42.60 162deP P 11 26 41.1 -1.4
WRAB pmax pmax
comp=Z,56nm,0.8s
WRAB Tennant Creek 42.60 162 eP P 11 26 41.4 -1.1
comp=Z,22nm,0.8s
WRA Warramunga Arr 42.61 162 P P 11 26 41.3 -1.2
WRA 11 28 33.8
WRA S S 11 33 01.0 -2.6
WRA pmax pmax
comp=Z,22nm,0.7s
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA smax smax
comp=N,2.0nm,1.1s
WRA MLR MLR
comp=Z,16nm,28.6s
WRA Warramunga Arr 42.61 162 P P 11 26 41.3 -1.2
comp=Z,22nm,0.7s,baz=343,slow=9.1,SNR=135
WRA PcP PcP 11 28 33.8 -0.7
comp=Z,3.9nm,0.8s,baz=344,slow=3.5,SNR=4.8
WRA ScP ScP 11 32 25.1 +1.9
comp=Z,0.4nm,0.6s,baz=329,slow=4.2,SNR=4.7
WRA S S 11 33 01.0 -2.6
comp=Z,2.0nm,1.1s,baz=345,slow=15,SNR=9.2
WRA LR LR 11 46 25.3
comp=Z,146nm,19.0s,baz=320,slow=39
H11N1 WAKE ISLAND Hy 42.72 83 T T 12 12 44.9
baz=283,slow=76,SNR=32
H11N2 WAKE ISLAND Hy 42.72 83 T T 12 12 40.8
baz=283,slow=76,SNR=34
H11N3 WAKE ISLAND Hy 42.73 83 T T 12 12 43.3
baz=283,slow=76,SNR=29
H11S3 WAKE ISLAND Hy 42.75 85 T T 12 12 46.2
baz=281,slow=75,SNR=110
H11S1 WAKE ISLAND Hy 42.76 85 T T 12 12 50.7
baz=281,slow=75,SNR=65
H11S2 WAKE ISLAND Hy 42.77 85 T T 12 12 46.6
baz=281,slow=75,SNR=31
KSH Kashi 42.77 306 eP P 11 26 46.5 +2.7
KSH epP pP 11 26 56.5 +3.5
KSH esP sP 11 27 01.4 +4.7
KSH ePP PcP 11 28 29.8 -5.2
KSH PcS PcS 11 32 26.6 -0.7
KSH S S 11 33 07.8 +1.8
KSH SS SS 11 36 12.8 -4.5
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,49nm,2.8s
KSH LR LR
comp=Z,730nm,12.5s
KSH LR LR
comp=Z,120nm,7.1s
KSH LR LR
comp=Z,1μm,14.9s
PET Petropavlovsk 42.98 33 eP P 11 26 44.4 -0.7
PET pmax pmax
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 43.01 329 P P 11 26 44.8 -0.6
ZALV 11 28 34.2
ZALV pmax pmax
comp=Z,12nm,0.8s
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV MLR MLR
comp=Z,752nm,18.9s
ZALV Zalesovo Beam 43.01 329 P P 11 26 44.8 -0.6
comp=Z,12nm,0.8s,baz=122,slow=7.2,SNR=40
ZALV PcP PcP 11 28 34.2 -1.0
comp=Z,1.5nm,0.5s,baz=106,slow=2.9,SNR=3.1
ZALV LR LR 11 46 34.0
comp=Z,752nm,18.9s,baz=92,slow=39
ULHL Ulahol 43.21 310 P P 11 26 48.5 +1.0
SNR=15
ULHL Ulahol 43.21 310 i P P 11 26 48.5 +1.0
TKM2 Tokmak 2 43.85 311 P P 11 26 53.6 +0.9
SNR=21
TKM2 Tokmak 2 43.85 311 eP P 11 26 53.5 +0.9
TKM2 pmax pmax
comp=Z,13nm,0.9s
TKM2 Tokmak 2 43.85 311 eP P 11 26 53.5 +0.9
comp=Z,12nm,0.9s
KZA Kyzart 43.88 309 P P 11 26 54.7 +1.6
SNR=14
KZA Kyzart 43.88 309 i P P 11 26 54.7 +1.6
KBK Karagaybulak 44.24 310 P P 11 26 57.0 +1.2
SNR=11
KBK Karagaybulak 44.24 310 i P P 11 26 56.9 +1.2
NVS Novosibirsk 44.28 329 eP P 11 26 53.7 -1.9
NVS eS S 11 33 28.4 +1.1
NVS pmax pmax
comp=Z,44nm,1.9s
NVS pmax pmax
comp=N,25nm,2.0s
NVS pmax pmax
comp=E,21nm,1.9s
NVS smax smax
comp=E,27nm,2.5s
UCH Uchtor 44.45 309 P P 11 26 59.3 +1.5
SNR=22
UCH Uchtor 44.45 309 i P P 11 26 59.2 +1.5
CHMS Chumysh 44.47 311 P P 11 26 58.4 +1.0
SNR=5.4
CHMS Chumysh 44.47 311 i P P 11 26 58.4 +1.0
FRU Bishkek 44.52 310 eP P 11 26 58.0 +0.2
AAK Ala-Archa 44.56 310 P P 11 26 59.2 +0.9
SNR=7.0
AAK Ala-Archa 44.56 310 eP P 11 26 59.2 +0.9
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 44.56 310 P P 11 26 58.6 +0.4
comp=Z,5.0nm,0.8s,baz=124,slow=6.7,SNR=24
AAK Ala-Archa 44.56 310 eP P 11 26 59.2 +0.9
comp=Z,6.9nm,1.0s
KURK Kurchatov 44.63 322 eP P 11 26 58.4 -0.1
KURK pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 44.63 322 eP P 11 26 58.4 -0.1
comp=Z,13nm,1.0s
USP Ospenovka 44.71 311 P P 11 26 59.9 +0.6
SNR=7.6
USP Ospenovka 44.71 311 i P P 11 26 59.9 +0.6
AML Almayashu 45.02 309 P P 11 27 03.4 +1.2
SNR=28
AML Almayashu 45.02 309 i P P 11 27 03.4 +1.2
EKS2 Erkin-Say 45.08 310 P P 11 27 03.3 +0.9
SNR=6.0
EKS2 Erkin-Say 45.08 310 eP P 11 27 03.3 +0.9
EKS2 pmax pmax
comp=Z,10.0nm,1.0s
EKS2 Erkin-Say 45.08 310 eP P 11 27 03.2 +0.9
comp=Z,9.7nm,1.0s
AS31 Alice Springs 46.02 164 eP P 11 27 09.3 -0.5
ASAR Alice Springs 46.03 164 P P 11 27 09.7 -0.1
ASAR 11 28 45.7
ASAR S S 11 33 53.2 0.0
ASAR pmax pmax
comp=Z,15nm,0.9s
ASAR pmax pmax
comp=Z,3.0nm,0.9s
ASAR pmax pmax
comp=N,1.0nm,1.0s
ASAR smax smax
comp=N,1.0nm,1.0s
ASAR Alice Springs 46.03 164 P P 11 27 09.7 -0.1
comp=N,15nm,0.9s,baz=352,slow=11,SNR=60
ASAR PcP PcP 11 28 45.7 -0.4
comp=N,2.7nm,0.8s,baz=348,slow=3.6,SNR=2.7
ASAR ScP ScP 11 32 39.6 +2.5
comp=N,0.6nm,1.0s,baz=336,slow=2.0,SNR=3.8
ASAR S S 11 33 53.2 0.0
comp=N,0.6nm,1.0s,baz=3.6,slow=22,SNR=3.7
AS01 Alice Springs 46.04 164 eP P 11 27 09.0 -0.9
SEY Seymchan 47.00 19 eP P 11 27 17.0 0.0
KK31 Karatay Array 47.52 310 i P P 11 27 21.8 +0.4
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 47.52 310 eP P 11 27 21.6 +0.2
KKAR Karatay Array 47.52 310 eP P 11 27 21.6 +0.2
CTA Charters Tower 47.56 147 P P 11 27 20.3 -1.6
CTA pmax pmax
comp=Z,27nm,0.9s
CTA Charters Tower 47.56 147 P P 11 27 20.3 -1.6
comp=Z,27nm,0.9s,baz=330,slow=11,SNR=16
CTAO Charters Tower 47.56 147 eP P 11 27 22.5 +0.6
CTAO pmax pmax
comp=Z,61nm,1.2s
CTAO Charters Tower 47.56 147 eP P 11 27 22.5 +0.6
comp=Z,61nm,1.2s
BVA0 Borovoye Array 50.23 322 i P P 11 27 40.5 -1.5
BVA0 pmax pmax
comp=Z,17nm,1.5s
BVAR Borovoye Array 50.23 322 P P 11 27 42.2 +0.2
BVAR 11 29 00.6
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR pmax pmax
comp=Z,6.0nm,0.7s
BVAR Borovoye Array 50.23 322 P P 11 27 42.2 +0.2
comp=Z,2.2nm,0.6s,baz=111,slow=8.1,SNR=10
BVAR PcP PcP 11 29 00.6 -0.2
comp=Z,6.2nm,0.7s,baz=118,slow=3.6,SNR=12
BRVK Borovoye 50.30 322⇑eP P 11 27 41.2 -1.3
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 50.30 322 eP P 11 27 40.6 -1.9
comp=Z,19nm,1.3s
TIXI Tiksi 50.91 3⇓iP P 11 27 44.6 -2.2
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 50.91 3 eP P 11 27 44.8 -2.0
comp=Z,6.3nm,0.9s
NWAO Narrogin (SRO) 53.70 184 P P 11 28 07.9 -0.1
NWAO pmax pmax
comp=Z,9.0nm,0.8s
NWAO Narrogin (SRO) 53.70 184 P P 11 28 07.9 -0.1
comp=Z,8.8nm,0.8s,baz=26,slow=9.7,SNR=5.1
BILL Bilibino 54.71 19 i P P 11 28 14.3 -0.7
BILL pmax pmax
comp=Z,6.0nm,0.8s
BILL Bilibino 54.71 19 eP P 11 28 14.2 -0.7
comp=Z,5.1nm,0.8s
BBOO Buckleboo 55.30 165 eP P 11 28 19.9 +0.3
comp=Z,339nm,0.9s
AB31 Akbulak array 55.76 316 P P 11 28 22.5 -0.3
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 55.76 316 eP P 11 28 22.5 -0.4
STKA Stephens Creek 56.03 159 P P 11 28 24.7 -0.2
STKA pmax pmax
comp=Z,14nm,0.8s
STKA MLR MLR
comp=Z,16nm,28.6s
STKA Stephens Creek 56.03 159 P P 11 28 24.6 -0.2
comp=Z,14nm,0.8s,baz=346,slow=6.1,SNR=20
STKA LR LR 11 54 01.8
comp=Z,146nm,19.4s,baz=351,slow=38
STKA Stephens Creek 56.03 159 eP P 11 28 25.0 +0.2
comp=Z,3.3nm,0.9s
SVE Sverdlovsk 56.69 325 eP P 11 28 29.9 +0.5
SVE pmax pmax
comp=Z,29nm,1.3s
SVE MLR MLR
comp=Z,1μm,18.0s
AKTO Aktyubinsk 57.14 317 P P 11 28 32.5 -0.2
AKTO pmax pmax
comp=Z,3.0nm,0.8s
AKTO Aktyubinsk 57.14 317 P P 11 28 32.5 -0.2
comp=Z,3.0nm,0.8s,baz=78,slow=4.6,SNR=13
ARU Arti 57.73 324 eP P 11 28 36.1 -0.6
ARU e 11 30 49.0
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 57.73 324 eP P 11 28 36.1 -0.6
comp=Z,17nm,1.0s
ARU ePP PP 11 30 49.0 +4.3
GAMB Gambell 61.30 28 eP P 11 29 01.7 +0.5
comp=Z,7.7nm,1.0s
DZM Mont Dzumac 61.44 131 P P 11 29 02.6 -0.2
comp=Z,9.5nm,0.9s,baz=308,slow=12,SNR=4.6
TNA Tin City 63.21 26 eP P 11 29 14.2 +0.3
comp=Z,6.1nm,1.0s
PRGR Permogore 64.97 329 P P 11 29 24.8 -0.7
PRGR pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 66.70 306⇑eP P 11 29 38.7 +1.4
GNI pmax pmax
comp=Z,9.0nm,0.8s
ZEI Tsey 66.96 309 eP P 11 29 38.2 -0.8
ZEI pmax pmax
comp=Z,12nm,0.9s
VRHR Novokhopersk 67.54 318 eP P 11 29 41.9 -0.3
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,8.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR MLR MLR
comp=N,160nm,14.0s
VRHR MLR MLR
comp=E,230nm,14.0s
VRHR MLR MLR
comp=Z,450nm,14.0s
KBZ Khabaz 67.56 310 P P 11 29 42.4 -0.1
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KBZ MLR MLR
comp=Z,16nm,28.6s
KBZ Khabaz 67.56 310 P P 11 29 42.4 -0.1
comp=Z,8.6nm,0.9s,baz=93,slow=6.0,SNR=16
KBZ LR LR 12 04 15.2
comp=Z,511nm,18.6s,baz=74,slow=40
MSVF Nonsavu 67.66 120 eP P 11 29 45.4 +1.8
MSVF pmax pmax
comp=Z,40nm,1.1s
MSVF Nonsavu 67.66 120 eP P 11 29 45.4 +1.8
comp=Z,40nm,1.1s
KIV Kislovodsk 67.68 310c iP P 11 29 43.9 +0.5
KIV pmax pmax
comp=Z,16nm,0.7s
KIV Kislovodsk 67.68 310 eP P 11 29 44.4 +1.0
comp=Z,19nm,0.9s
KLMR Klimovskoe 67.93 328 eP P 11 29 43.1 -1.4
KLMR pmax pmax
comp=Z,20nm,1.5s
KLMR MLR MLR
comp=Z,2μm,19.0s
TMCR Tamitsa 68.41 332 eP P 11 29 46.8 -0.6
TMCR e 11 32 16.9
TMCR pmax pmax
comp=Z,19nm,1.3s
SVW2 Sparrevohn 68.62 31 eP P 11 29 49.2 +0.3
comp=Z,18nm,1.1s
VORD Divnogorie 69.02 318 eP P 11 29 55.9 +4.5
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,40nm,0.8s
VORD pmax pmax
comp=Z,7.0nm,0.8s
VORD MLR MLR
comp=N,390nm,19.0s
VORD MLR MLR
comp=E,610nm,19.0s
VORD MLR MLR
comp=Z,580nm,19.0s
VSR Storozhevoye 69.06 318 eP P 11 29 51.0 -0.7
VSR pmax pmax
comp=N,1.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.9s
VSR pmax pmax
comp=Z,6.0nm,0.9s
VSR MLR MLR
comp=N,180nm,19.0s
VSR MLR MLR
comp=E,280nm,19.0s
VSR MLR MLR
comp=Z,750nm,19.0s
RAYN Ar Rayn 69.36 288 eP P 11 29 54.7 +0.5
comp=Z,11nm,1.0s
CAST Castle Rocks 70.02 29 eP P 11 29 58.5 +1.0
comp=Z,15nm,0.9s
PPLA Purkeypile 70.03 29 eP P 11 29 58.5 +0.8
comp=Z,39nm,1.3s
RSO Redoubt South 70.07 32 eP P 11 29 59.2 +1.2
OBN Obninsk 70.08 323⇑iP P 11 29 58.4 +0.5
OBN i 11 30 15.2
OBN pmax pmax
comp=Z,35nm,2.5s
OBN MLR MLR
comp=Z,500nm,17.0s
SPU Mount Spurr 70.31 31 eP P 11 29 59.5 +0.1
COLD Coldfoot 70.34 24 eP P 11 30 00.3 +0.9
COLD epP pP 11 30 07.6 -1.4
KTH Kantishna Hill 70.52 28 eP P 11 30 01.0 +0.4
comp=Z,12nm,1.0s
KDAK Kodiak Island 70.52 35 i P P 11 30 00.3 -0.3
ANN Anapa 71.25 312 eP P 11 30 04.1 -1.2
ANN pmax pmax
comp=Z,147nm,1.1s
MCK McKinley 71.37 28 eP P 11 30 03.9 -1.8
MCK pmax pmax
comp=Z,17nm,0.9s
MCK McKinley 71.37 28 eP P 11 30 03.9 -1.8
comp=Z,17nm,0.9s
COLA College 71.64 27 eP P 11 30 07.3 +0.1
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 71.64 27 eP P 11 30 07.3 +0.1
comp=Z,8.9nm,0.8s
PMR Palmer 71.64 30 eP P 11 30 06.9 -0.4
PMR pmax pmax
comp=Z,14nm,0.9s
PMR Palmer 71.64 30 eP P 11 30 06.9 -0.4
comp=Z,14nm,0.9s
SEW Seward 71.75 32 eP P 11 30 06.6 -1.4
comp=Z,140nm,1.6s
ILAR Eielson Array 72.06 27 P P 11 30 08.6 -1.2
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 72.06 27 P P 11 30 08.6 -1.2
comp=Z,2.4nm,0.8s,baz=268,slow=4.8,SNR=27
ARCES ARCESS Array B 72.55 338 P P 11 30 11.1 -1.6
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 72.55 338 P P 11 30 11.1 -1.6
comp=Z,5.9nm,0.9s,baz=70,slow=10,SNR=7.1
PAX Paxson 73.05 28 eP P 11 30 16.0 +0.2
PAX e*PP pP 11 30 25.3 -0.2
PAX pmax pmax
comp=Z,10.0nm,1.1s
PAX Paxson 73.05 28 eP P 11 30 16.0 +0.2
comp=Z,10nm,1.1s
PAX epP pP 11 30 25.3 -0.2
DOT Dot Lake 73.51 28 eP P 11 30 18.2 -0.2
comp=Z,14nm,1.0s
BMRM Bremner River 73.91 30 eP P 11 30 21.7 +0.8
comp=Z,24nm,1.0s
FINES FINESS Array B 74.26 330 P P 11 30 22.6 -0.2
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 74.26 330 P P 11 30 22.6 -0.2
comp=Z,3.6nm,0.8s,baz=100,slow=7.9,SNR=11
EGAK Eagle 74.45 26 eP P 11 30 23.6 -0.3
comp=Z,29nm,1.6s
VSU Vasula 74.71 327⇑eP P 11 30 26.0 +0.5
VSU pmax pmax
comp=Z,31nm,1.1s
BRTR Keskin Array B 75.14 307 P P 11 30 28.6 0.0
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 75.14 307 P P 11 30 28.6 0.0
comp=Z,1.7nm,0.8s,baz=110,slow=6.8,SNR=8.8
AKASG Malin Array Be 75.32 319 P P 11 30 29.1 -0.1
comp=Z,0.4nm,0.4s,baz=60,slow=5.8,SNR=4.8
AKASG LR LR 12 06 19.1
comp=Z,475nm,19.2s,baz=65,slow=38
DAWY Dawson 75.39 27 eP P 11 30 29.5 +0.1
NACGM Naroch 75.63 324 e P 11 30 30.0 -0.9
BR231 Keskin MP Arra 75.75 307 eP P 11 30 29.3 -2.7
HYT Haines Junctio 77.27 30 eP P 11 30 43.5 +3.2
DAG Danmarks Havn 79.56 351 i P P 11 30 51.4 -1.0
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 79.56 351 i P P 11 30 51.4 -1.0
comp=Z,6.3nm,0.9s
KOLS Kolonicke sedl 80.15 319 eP P 11 31 02.9 +6.7
KOLS pmax pmax
comp=Z,18nm,1.9s
KOLS Kolonicke sedl 80.15 319 e P 11 31 02.9 +6.7
UZH Uzhgorod 80.24 318 eP P 11 31 00.4 +3.8
CRVS Cervenica-Dubn 80.66 319 eP P 11 31 02.0 +3.1
CRVS pmax pmax
comp=Z,190nm,4.3s
CRVS Cervenica-Dubn 80.66 319 e P 11 31 02.0 +3.1
NB2 NORSAR Subarra 81.10 332 P P 11 30 59.9 -1.2
comp=Z,2.4nm,0.8s,baz=63,slow=5.3
NOA NORSAR Array B 81.10 332 P P 11 31 00.2 -0.9
NOA pmax pmax

comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,1µm,18.0s
NOA NORSAR Array B 81.10 332 P **P 11 31 00.2 -0.9**
comp=Z,1.3nm,0.7s,baz=61,slow=5.3,SNR=5.1
NOA LR LR 12 10 57.4
comp=Z,1µm,18.0s,baz=50,slow=39
OJC Ojcow 81.18 320 *e*P **P 11 31 02.3 +0.6**
OJC pmax pmax
comp=Z,11nm,1.1s
OJC Ojcow 81.18 320 *e*P **P 11 31 02.3 +0.6**
comp=Z,11nm,1.1s
WRAK Wrangell Islan 81.45 33 *e*P **P 11 31 03.7 +0.8**
comp=Z,66nm,2.0s
DLBC Dease Lake 81.70 30 *e*P **P 11 31 05.5 +1.1**
RES Resolute Bay 81.84 9 *e*P **P 11 31 04.2 -0.4**
RES pmax pmax
comp=Z,9.0nm,0.9s
RES Resolute Bay 81.84 9 *e*P **P 11 31 04.2 -0.4**
comp=Z,8.9nm,0.9s
BSD Bornholm Skovb 81.96 326 *i* P P 11 30 58.7 -6.9
comp=Z,28nm,0.9s
VYHS Vyhne 82.43 319 *e*P **P 11 31 09.5 +1.2**
VYHS pmax pmax
comp=Z,19nm,2.5s
VYHS Vyhne 82.43 319 *e*P **P 11 31 09.5 +1.2**
KSP Ksiaz 82.99 322 *e*P **P 11 31 11.7 +0.6**
DPC Dobruska-Polom 83.18 321 *e*P **P 11 31 12.6 +0.4**
DPC Dobruska-Polom 83.18 321 *e*P **P 11 31 12.6 +0.4**
DPC AMS AMS 12 14 00.0
UPC Upice 83.30 322 *e*P **P 11 31 14.3 +1.6**
UPC Upice 83.30 322 *e*P **P 11 31 14.3 +1.6**
BRG Berggiesshubel 84.33 323 *e*(P) **P 11 31 19.0 +1.0**
comp=Z,18nm,1.8s
BRG Berggiesshubel 84.33 323 *e*P **P 11 31 19.0 +1.0**
BRG pmax pmax
comp=Z,16nm,1.8s
PRU Pruhonice 84.37 322 *e*P P 11 31 27.7 +9.5
PRU MLR MLR
comp=Z,500nm,14.7s
PRU Pruhonice 84.37 322 *e*pP P 11 31 27.7 +9.5
PRU AMS AMS 12 12 40.0
comp=Z,500nm,14.7s
CLL Collm 84.66 323 *e*P **P 11 31 20.0 +0.4**
CLL pmax pmax
comp=Z,75nm,2.4s
CLL Collm 84.66 323 *e*P **P 11 31 20.0 +0.4**
comp=Z,6.0nm,1.2s
CLL Lm MLR 12 14 00.0
comp=N,500nm,19.9s
CLL Lm MLR 12 14 00.0
comp=E,600nm,19.7s
CLL Lm MLR 12 14 00.0
comp=Z,900nm,18.1s
CLL Collm 84.66 323 *e*P **P 11 31 20.0 +0.4**
comp=Z,75nm,2.4s
KULLO Kullorsuaq 84.70 360 *e*P **P 11 31 19.1 -0.3**
KULLO pmax pmax
comp=Z,9.0nm,0.9s
KULLO Kullorsuaq 84.70 360 *i* P **P 11 31 19.1 -0.3**
comp=Z,9.0nm,0.9s
KMBO Kilima Mbogo 84.78 267 *e*P **P 11 31 21.9 +0.6**
KMBO pmax pmax
comp=Z,8.0nm,1.3s
KMBO Kilima Mbogo 84.78 267 P **P 11 31 21.4 +0.2**
comp=Z,3.8nm,0.7s,baz=43,slow=7.7,SNR=8.7
KMBO Kilima Mbogo 84.78 267 *e*P **P 11 31 21.9 +0.6**
comp=Z,7.9nm,1.3s
KHC Kasperske Hory 85.31 321 *e*P **P 11 31 23.0 0.0**
KHC MLR MLR
comp=Z,600nm,19.2s
KHC Kasperske Hory 85.31 321 *e*P **P 11 31 23.0 0.0**
KHC AMS AMS 12 14 50.0
comp=Z,600nm,19.2s
GERES GERESS Array B 85.37 321 P **P 11 31 22.6 -0.8**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 85.37 321 P **P 11 31 22.6 -0.8**
comp=Z,2.2nm,0.8s,baz=64,slow=4.6,SNR=12
SUMG Summit 85.71 354 *i* P **P 11 31 24.6 -0.4**
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 85.71 354 *i* P **P 11 31 24.6 -0.4**
comp=Z,12nm,1.0s
SUMG Summit 85.71 354 *e*P **P 11 31 24.1 -0.9**
comp=Z,12nm,0.8s
YKA Yellowknife Ar 85.92 23 P **P 11 31 25.1 -0.6**
comp=Z,7.9nm,0.8s,baz=313,slow=4.7,SNR=140
YKA PKKPbc **PKKPbc 11 49 25.0 -2.6**
comp=Z,0.2nm,0.6s,baz=132,slow=2.5,SNR=9.0
B08A Colville Reser 92.38 36 *e*P **P 11 31 57.0 +0.4**
comp=Z,8.2nm,1.4s
EDM Edmonton 92.39 29 *e*P **P 11 31 57.3 +0.7**
EDM Edmonton 92.39 29 *e*P **P 11 31 57.2 +0.7**
WALA Waterton Lakes 94.80 33 *e*P **P 11 32 10.1 +2.2**
DLMT Dillon 97.87 35 *e*P Pdif 11 32 24.7 +2.7
comp=Z,62nm,2.8s
NVAR Mina Array Bea 98.75 43 P **P 11 32 25.8 -0.3**
comp=Z,0.3nm,0.5s,baz=272,slow=5.5,SNR=5.3
GMRC Granite Mounta 102.62 45 *e*Pdif **Pdif 11 32 43.3 0.0**
SWSC Sam W. Stewart 103.61 47 *e*Pdif **Pdif 11 32 48.7 +1.2**
TORD Torodi Ar. Bea 111.63 294 PKKPab PKKPab 11 48 24.7 -0.7
comp=Z,2.6nm,0.9s,baz=257,slow=4.4,SNR=10
TXAR Lajitas Array 113.89 42 PKiKP **PKiKP 11 37 24.1 -1.3**
comp=Z,0.2nm,0.6s,baz=249,slow=1.5,SNR=4.9
LPAZ La Paz 169.99 64 PKIKP **PKPdf 11 38 55.1 -0.1**
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
LPAZ La Paz 169.99 64 PKP **PKPdf 11 38 55.1 -0.1**
comp=Z,2.3nm,0.9s,baz=332,slow=2.9,SNR=5.1
CPUP Villa Florida 174.48 194 PKIKP **PKPdf 11 38 55.7 -0.5**
CPUP pmax pmax
comp=Z,1.0nm,0.4s
CPUP Villa Florida 174.48 194 PKP **PKPdf 11 38 55.6 -0.5**
comp=Z,0.5nm,0.4s,baz=162,slow=4.7,SNR=3.2

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*NNC **20** 11:28:11.4±3.8, 37.°01N×71.°00E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=32.0km s-min=25.9km az=147.0*
ISC 20 11:28:11.4±2.5, 36.°7N±0.°2×71.°0E±0.°2, h188km, n9, σ1s58/10, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.82**	**134**	*e*P	Sn	11 30 31.0	-12
KK31	**Karatay Array**	**6.40**	**357**	⇑Pn	**Pn**	**11 29 44.6**	**+0.9**
	5.7nm,0.4s,baz=178,slow=13,SNR=172						
KK31				Sn	**Sn**	**11 30 54.8**	**-1.9**
	9.1nm,0.5s,baz=183,slow=15,SNR=15						
AAK	**Ala-Archa**	**6.50**	**23**	⇑Pn	**Pn**	**11 29 45.0**	**-0.1**
	2.2nm,0.5s						
AAK				⇑Sn	**Sn**	**11 30 57.8**	**-1.2**
	9.5nm,0.7s						
TKM2	**Tokmak 2**	**7.13**	**28**	⇓Pn	**Pn**	**11 29 53.4**	**-0.1**
	2.4nm,0.3s						
TKM2				⇑Sn	**Sn**	**11 31 13.8**	**-0.4**
	1.5nm,0.4s						
IMYA	**Miami**	**8.80**	**271**	*e*P	**Pn**	**11 30 15.0**	**-0.4**
IPAY	**Payeh**	**9.68**	**272**	*e*P	**Pn**	**11 30 24.9**	**-1.9**
IEMG	**Emamgholi**	**9.92**	**278**	*e*P	**Pn**	**11 30 28.9**	**-1.1**
IKRD	**Kardeh**	**10.04**	**274**	*e*P	Pn	11 30 21.8	-10
AB31	**Akbulak array**	**14.91**	**331**	Pn	**P**	**11 31 36.4**	**+2.5**
	0.3nm,0.4s,baz=330,slow=24,SNR=16						

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*NIED **20** 11:29:00, 44.°00N×147.°80E, h41km, Mw4.2 Best double couple: $M_0$2.06000×10^15 NP1:ϕ_s99.00000°, δ46.00000°, λ-112.00000°. NP2:ϕ_s310.00000°, δ48.00000°, λ-68.00000°.*
*JMA **20** 11:29:01.8±0.2, 43.°99N×147.°85E, h0km, M4.1*
*SKHL **20** 11:29:03.1±0.4, 44.°31N×148.°01E, h35km±1km, mb4.7/3*
ISC 20 11:29:00.6±3.2, 44.°3N±0.°1×148.°1E±0.°2, h8km±13km, n12, σ0s78/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.95**	**352**	*e*P	**Pg**	**11 29 18.8**	**0.0**
KUR				AMB	AMB	11 29 19.1	
	84nm,0.2s						
KUR				AMB	AMB	11 29 19.1	
	57nm,0.2s						
KUR				AMB	AMB	11 29 19.1	
	504nm,0.2s						
KUR				*e*S	**Sg**	**11 29 30.8**	**-0.4**
KUR				A	A	11 29 33.2	
	630nm,0.3s						
KUR				A	A	11 29 33.2	
	950nm,0.3s						
SHO	**Shikotan**	**0.97**	**245**	*e*P	**Pg**	**11 29 19.5**	**+0.2**
SHO				AMB	AMB	11 29 19.9	
	125nm,0.4s						
SHO				*e*S	**Sg**	**11 29 31.5**	**-0.4**
SHO				A	A	11 29 32.3	
	894nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.59**	**261**	*e*P	**Pn**	**11 29 28.6**	**-0.4**
YUK				AMB	AMB	11 29 30.2	
	154nm,0.2s						
YUK				AMB	AMB	11 29 30.2	
	142nm,0.2s						
YUK				AMB	AMB	11 29 30.2	
	405nm,0.2s						
YUK				*e*S	Sn	11 29 47.7	-2.0
YUK				A	A	11 29 49.8	
	270nm,0.3s						
YUK				A	A	11 29 49.8	
	420nm,0.3s						
NEM2	**Nemuro 2**	**1.91**	**242**	P	Pn	11 29 32.2	-1.1
NEM2				*e*S	Sn	11 29 54.2	-3.3
JRA	**Rausu**	**2.13**	**261**	P	**Pn**	**11 29 37.0**	**+0.5**
JRA				*e*S	**Sn**	**11 30 02.9**	**-0.2**
JNK	**Nakash**	**2.50**	**255**	P	**Pn**	**11 29 41.7**	**+0.1**
JNK				*e*S	Sn	11 30 10.8	-1.5
JAK	**Akkeshi**	**2.75**	**243**	P	**Pn**	**11 29 44.3**	**-0.7**
JAK				*e*S	Sn	11 30 15.2	-3.2
JTKR	**Abashiri--Toko**	**3.00**	**265**	P	**Pn**	**11 29 49.9**	**+1.6**
JAR	**Ashorobuto**	**3.25**	**254**	P	**Pn**	**11 29 52.6**	**+0.8**
JAR				*e*S	**Sn**	**11 30 29.8**	**-0.9**
JOB	**Onbets**	**3.36**	**247**	P	**Pn**	**11 29 53.8**	**+0.5**
JCH	**Churui**	**3.80**	**245**	*e*S	Sn	11 30 42.1	-2.1
JNBK	**Urakawa-nobuka**	**4.36**	**244**	P	**Pn**	**11 30 07.7**	**+0.7**

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*IDC **20** 11:47:45.1±2.2, 6.°54S×129.°81E, h0km, mb4.0/1, mb1 4.2/3, mb1mx3.7/29, mbtmp4.0/3, ML4.4/2, Error ellipse: s-maj=145.5km s-min=31.0km az=69.0*
*ISCJB **20** 11:47:55.5±0.5, 6.°84S±0.°04×130.°00E±0.°04, h104km, mb3.8/1, Error ellipse: s-maj=6.5km s-min=5.5km az=33.1*
*DJA **20** 11:47:57.4±0.5, 7.°S±4°×13.°0E±°, h103km±20km, M4.6/7, mb4.5/4, mB5.0/2, MLv4.7/7, Mw(mB)4.4/2*
ISC 20 11:47:55.9±0.7, 6.°86S±0.°05×130.°06E±0.°06, h104km, n21, σ2s48/27, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.66**	**132**	P	Pn	11 48 31.0	+6.7
SAUI				S	Sn	11 48 57.3	+11
BNDI	**Bandanaira**	**2.33**	**356**	P	Pn	11 48 23.3	-10
FAKI	**Fak Fak**	**4.48**	**29**	P	**Pn**	**11 49 03.2**	**+1.5**
FAKI				S	**Sn**	**11 49 52.1**	**-0.6**
FAKI	**Fak Fak**	**4.48**	**29**	P	**Pn**	**11 49 03.0**	**+1.4**
	baz=4.5,SNR=5.3						
FAKI				S	**Sn**	**11 49 50.5**	**-2.2**
	baz=4.5,SNR=6.0						
KMPI	**Kaimana, Papua**	**4.82**	**49**	P	**Pn**	**11 49 08.7**	**+2.5**
MTN	**Manton Dam**	**6.04**	**170**	P	Pn	11 49 26.2	+3.4
	baz=6.1,SNR=161						
SWI	**Sorong**	**6.08**	**11**	P	**Pn**	**11 49 22.8**	**-0.5**
	30nm,0.6s,997nm0.2nm						
SWI				S	**Sn**	**11 50 27.6**	**-3.9**
	30nm,0.6s,997nm0.2nm						
SWI	**Sorong**	**6.08**	**11**	P	**Pn**	**11 49 24.9**	**+1.6**
	baz=6.1,SNR=5.9						
SWI				S	**Sn**	**11 50 27.3**	**-4.2**
	baz=6.1,SNR=6.6						
KDU	**Kakadu**	**6.26**	**158**	P	Pn	11 49 29.4	+3.7
	baz=6.4,SNR=231						
KDU				S	**Sn**	**11 50 37.5**	**+1.6**
	baz=6.4,SNR=7.5						
SOEI	**Soe**	**6.42**	**243**	P	**Pn**	**11 49 30.1**	**+2.1**
	29nm,0.7s,0.5nm						
SOEI				S	**Sn**	**11 50 38.6**	**-1.3**
	29nm,0.7s,0.5nm						
SOEI	**Soe**	**6.42**	**243**	P	**Pn**	**11 49 30.6**	**+2.6**
	baz=6.4,SNR=6.3						
SOEI				S	**Sn**	**11 50 39.5**	**-0.4**
	baz=6.4,SNR=4.4						
BATI	**Baumata**	**7.15**	**242**	P	**Pn**	**11 49 38.6**	**+0.7**
BATI				S	**Sn**	**11 50 57.6**	**0.0**
KNRA	**Kununurra**	**8.85**	**188**	P	**Pn**	**11 50 02.1**	**+1.1**
	baz=9.0,SNR=92						
KNRA				S	**Sn**	**11 51 35.9**	**-3.1**
	baz=9.0,SNR=13						
LUWI	**Luwuk**	**9.29**	**308**	S	Sn	11 52 00.6	+11
	baz=9.2,SNR=4.3						
FITZ	**Fitzroy Crossi**	**11.98**	**201**	S	**Sn**	**11 52 50.3**	**-4.7**
	baz=12,SNR=7.2						
WRA	**Warramunga Arr**	**13.65**	**163**	Pn	**Pn**	**11 51 05.4**	**+0.2**
	1.8nm,0.3s,baz=345,slow=13,SNR=78						
WRA				Sn	Sn	11 53 28.7	-6.8
	1.6nm,0.3s,baz=334,slow=22,SNR=8.4						
COEN	**Coen**	**14.69**	**120**	P	**P**	**11 51 23.1**	**+1.1**
	baz=15,SNR=6.6						
COEN				S	**Sn**	**11 53 58.7**	**-2.1**
	baz=15,SNR=4.4						
QIS	**Mount Isa**	**16.46**	**147**	P	**P**	**11 51 44.9**	**+3.3**
	baz=17,SNR=4.7						
ASAR	**Alice Springs**	**17.11**	**168**	P	**Pn**	**11 51 50.5**	**+1.8**
	1.2nm,0.3s,baz=346,slow=9.5,SNR=73						
ASAR				S	**Sn**	**11 54 54.2**	**-5.0**
	0.5nm,0.3s,baz=346,slow=26,SNR=4.9						
WRKA	**Warakurna**	**18.15**	**185**	P	**Pn**	**11 52 03.0**	**+1.7**
	baz=18,SNR=23						
MKAR	**Makanchi Array**	**68.14**	**327**	P	**P**	**11 58 44.6**	**-0.3**
	0.7nm,0.5s,baz=119,slow=7.2,SNR=3.5						

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*BJI **20** 11:47:52.8, 44.°34N×149.°08E, h48km, mB5.1/43, mb4.9/61, Ms4.6/56, Ms7 4.4/54*
*ISCJB **20** 11:47:54.6±0.4, 44.°23N±0.°02×148.°66E±0.°02, h36km±3km, mb5.0/260, MS4.6/53, Error ellipse: s-maj=4.2km s-min=2.2km az=162.9*
*MOS **20** 11:47:56.8±0.9, 44.°33N×148.°47E, h47km, mb5.3/86, MS4.7/21, Error ellipse: s-maj=6.0km s-min=4.3km az=102.9*
*JMA **20** 11:47:56.1±0.3, 43.°97N×148.°23E, h0km, M5.0*
JMA Felt I J1.
*IDC **20** 11:47:57.7±0.4, 44.°33N×148.°39E, h41km±3km, mb4.3/25, mb1 4.5/32, mb1mx4.4/38, mbtmp4.5/32, ML4.3/6, MS4.4/31, Ms1 4.4/31, ms1mx4.3/38, Error ellipse: s-maj=12.6km s-min=8.8km az=140.0*
*SKHL **20** 11:47:57.8±0.5, 44.°27N×148.°56E, h54km±2km, mb5.7/3, mbh5.3/1, Ms4.8/8, msh5.0/2*
*NEIC **20** 11:47:58.4±0.5, 44.°30N×148.°44E, h49km±4km, mb5.1/132, Error ellipse: s-maj=4.5km s-min=2.6km az=161.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*GCMT **20** 11:47:58.4±0.2, 44.°28N×148.°50E, h25km, MW5.1/82, Moment Tensor Solution. s38,c58; s82,c130; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}0.98±.12; $M_{\theta\theta}$-0.22±.08; $M_{\phi\phi}$-0.75±.08; $M_{r\theta}$5.51±.17; $M_{r\phi}$-1.83±.06; $M_{\theta\phi}$2.22±.17; Best double couple: $M_0$6.25700×10^16 NP1:ϕ_s69.00000°, δ84.00000°, λ104.00000°. NP2: ϕ_s181.00000°, δ15.00000°, λ23.00000°. Principal axes: T 5.9520, Plg49.0000°, Azm354.0000°; N 0.6090, Plg14.0000°, Azm247.0000°; P -6.5620, Plg38.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NIED **20** 11:48:00, 43.°90N×148.°30E, h38km, Mw5.0 Best double couple: $M_0$4.01000×10^16 NP1:ϕ_s164.00000°, δ27.00000°, λ-1.00000°. NP2:ϕ_s255.00000°, δ89.00000°, λ-117.00000°.*
*SZGRF **20** 11:48:02.6, 45.°50N×148.°50E, h45km, mb5.2, Kuril Islands, Russia*
ISC 20 11:47:57.6±0.3, 44.°28N±0.°04×148.°52E±0.°03, h44km±2km, h44km: pP-P, n1053, σ1s20/1115, mb5.1/260, MS4.6/55, 219C-196D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.06**	**334**	*d i*PN	**Pn**	**11 48 16.2**	**+0.2**
KUR				*i* S	**Sn**	**11 48 30.4**	**+0.9**
KUR				pmax	pmax		
	comp=Z,6µm,0.5s						
KUR				pmax	pmax		
	comp=N,2µm,0.1s						
KUR				pmax	pmax		
	comp=E,4µm,0.2s						
KUR				smax	smax		
	comp=N,36nm,0.5s						
KUR				smax	smax		
	comp=E,22nm,0.6s						
KUR	**Kuril'sk**	**1.06**	**334**	*e*P	**Pn**	**11 48 16.2**	**+0.2**
KUR				AMB	AMB	11 48 17.0	
	comp=E,2µm,0.3s						
KUR				AMB	AMB	11 48 17.0	
	comp=E,4µm,0.3s						
KUR				AMB	AMB	11 48 17.0	
	comp=E,6µm,0.3s						
KUR				AMB	AMB	11 48 21.0	
	comp=E,50µm,1.0s						
KUR				AMB	AMB	11 48 22.0	
	comp=E,50µm,1.0s						
KUR				*e*S	**Sn**	**11 48 30.4**	**+0.9**
KUR				A	A	11 48 31.0	
	comp=E,175µm,2.0s						
KUR				A	A	11 48 31.0	
	comp=E,38µm,2.0s						
KUR				A	A	11 48 31.0	
	comp=E,425µm,2.0s						
KUR				A	A	11 48 31.0	
	comp=E,90µm,2.0s						
KUR				A	A	11 48 34.1	
	comp=E,36µm,0.5s						
KUR				A	A	11 48 34.1	
	comp=E,22µm,0.5s						
SHO	**Shikotan**	**1.29**	**252**	*e*P	**Pn**	**11 48 17.5**	**-1.6**
SHO				AMB	AMB	11 48 20.5	
	comp=E,259nm,0.4s						
SHO				*e*S	**Sn**	**11 48 31.9**	**-3.3**
SHO				A	A	11 48 38.7	
	comp=E,6µm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.93**	**264**	*d i*PN	**Pn**	**11 48 27.1**	**-0.8**
YUK				*i* S	**Sn**	**11 48 50.6**	**-0.4**
YUK				pmax	pmax		
	comp=E,1µm,0.4s						
YUK				pmax	pmax		
	comp=Z,3µm,0.4s						
YUK				pmax	pmax		
	comp=N,857nm,0.2s						
YUK				smax	smax		
	comp=E,26µm,0.6s						
YUK				smax	smax		
	comp=N,10µm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.93**	**264**	*e*P	**Pn**	**11 48 27.1**	**-0.8**
YUK				AMB	AMB	11 48 31.1	
	comp=N,860nm,0.3s						
YUK				AMB	AMB	11 48 31.1	
	comp=N,1µm,0.3s						
YUK				AMB	AMB	11 48 31.1	
	comp=N,3µm,0.3s						
YUK				*e*S	**Sn**	**11 48 50.6**	**-0.4**
YUK				A	A	11 48 53.9	
	comp=N,10µm,0.4s						
YUK				A	A	11 48 53.9	
	comp=N,26µm,0.4s						
NEM2	**Nemuro 2**	**2.21**	**246**	P	**Pn**	**11 48 30.3**	**-1.5**
NEM2				*e*S	**Sn**	**11 48 55.0**	**-2.9**
JRA	**Rausu**	**2.47**	**263**	P	**Pn**	**11 48 35.2**	**-0.2**
JNK	**Nakash**	**2.83**	**257**	P	**Pn**	**11 48 39.8**	**-0.5**
JNK				*e*S	**Sn**	**11 49 12.0**	**-1.2**
JAK	**Akkeshi**	**3.06**	**246**	P	**Pn**	**11 48 42.4**	**-1.0**
JTKR	**Abashiri--Toko**	**3.34**	**266**	P	**Pn**	**11 48 47.8**	**+0.6**
JAR	**Ashorobuto**	**3.58**	**256**	P	**Pn**	**11 48 50.7**	**+0.1**
JAR				*e*S	**Sn**	**11 49 31.7**	**+0.1**
JCH	**Churui**	**4.11**	**248**	P	**Pn**	**11 48 57.6**	**-0.3**
JCH				*e*S	**Sn**	**11 49 43.0**	**-1.7**
JKK2	**Kamakawa 2**	**4.18**	**266**	P	**Pn**	**11 49 00.1**	**+1.3**
JKA	**Kamikawa-asahi**	**4.26**	**270**	*e*P	**Pn**	**11 49 01.6**	**+1.7**
ASAJ	**Asahikawa**	**4.26**	**270**	P	**Pn**	**11 49 01.6**	**+1.6**
	comp=N,17nm,0.3s,baz=77,slow=9.1,SNR=115						
ASAJ				S	Sn	11 49 59.5	+11
	comp=N,7.1nm,0.3s,baz=11,slow=18,SNR=3.3						
ASAJ				LR	LR	11 50 48.3	
	comp=N,6µm,19.4s,baz=116,slow=41						
JSE	**Soyaes**	**4.29**	**281**	P	**Pn**	**11 49 01.5**	**+1.2**
JFR	**Furan**	**4.44**	**257**	P	**Pn**	**11 49 03.7**	**+1.3**
JFR				*e*S	**Sn**	**11 49 53.3**	**+0.5**
ERM	**Erimo**	**4.53**	**242**	Pn	**Pn**	**11 49 05.1**	**+1.5**
	comp=N,10µm,0.5s,SNR=30						
ERM	**Erimo**	**4.53**	**242**	⇑*e*PN	**Pn**	**11 49 04.8**	**+1.2**
ERM				pmax	pmax		
	comp=Z,168nm,0.5s						
ERM	**Erimo**	**4.53**	**242**	*e*Pn	**Pn**	**11 49 04.8**	**+1.2**
ERM				*e*Sn	**Sn**	**11 49 58.3**	**+3.3**
ERM	**Erimo**	**4.53**	**242**	*e*P	**Pn**	**11 49 04.8**	**+1.2**
JNBK	**Urakawa-nobuka**	**4.66**	**247**	P	**Pn**	**11 49 04.7**	**-0.7**
JWK2	**Keihoku**	**4.83**	**285**	P	**Pn**	**11 49 10.2**	**+2.5**
YSS	**Yuzh-Sakhalins**	**4.85**	**305**	⇓*i*PN	**Pn**	**11 49 09.0**	**+1.1**
YSS				pmax	pmax		
	comp=Z,140nm,0.9s						
YSS				MLR	MLR		
	comp=N,2µm,15.0s						
YSS				MLR	MLR		
	comp=Z,4µm,15.0s						
YSS				MLR	MLR		
	comp=E,4µm,16.0s						
YSS	**Yuzh-Sakhalins**	**4.85**	**305**	*e*Pn	**Pn**	**11 49 09.3**	**+1.3**
YSS				*e*Sn	**Sn**	**11 50 00.3**	**-2.4**
YSS	**Yuzh-Sakhalins**	**4.85**	**305**	*e*P	**Pn**	**11 49 09.0**	**+1.1**
YSS				AMB	AMB	11 49 10.0	
	comp=E,140nm,0.9s						
YSS				*e*S	**Sn**	**11 50 01.5**	**-1.3**
YSS				A	A	11 50 07.2	
	comp=E,1µm,0.8s						
YSS				AMS	AMS	11 51 10.0	
	comp=E,2µm,16.0s						
YSS				AMS	AMS	11 51 10.0	
	comp=E,4µm,16.0s						
YSS				AMS	AMS	11 51 10.0	
	comp=E,4µm,16.0s						
JHR	**Hokuryu**	**4.93**	**266**	P	**Pn**	**11 49 11.9**	**+2.8**
JEW	**Eniwo**	**5.34**	**257**	P	**Pn**	**11 49 17.0**	**+2.3**
JKB	**Kayabe**	**5.98**	**249**	P	**Pn**	**11 49 23.1**	**-0.5**
JKB				*e*S	**Sn**	**11 50 27.1**	**-3.6**
JOT	**Ohata**	**6.21**	**245**	P	**Pn**	**11 49 25.6**	**-1.1**
JOT				*e*S	**Sn**	**11 50 32.7**	**-3.7**
JANG	**Nango**	**6.50**	**235**	P	**Pn**	**11 49 28.0**	**-2.6**
JANG				*e*S	Sn	11 50 37.0	-6.4
UGL	**Uglegorsk**	**6.54**	**319**	PN	**Pn**	**11 49 33.3**	**+2.2**
UGL				S	**Sn**	**11 50 48.5**	**+4.3**
UGL				pmax	pmax		
	comp=Z,220nm,1.2s						
UGL				smax	smax		
	comp=N,77nm,0.5s						
UGL				smax	smax		
	comp=E,130nm,0.5s						
UGL				MLR	MLR		
	comp=Z,4µm,15.0s						
UGL				MLR	MLR		
	comp=N,3µm,16.0s						
UGL				MLR	MLR		
	comp=E,4µm,16.0s						
UGL	**Uglegorsk**	**6.54**	**319**	*e*P	**Pn**	**11 49 33.3**	**+2.2**
UGL				AMB	AMB	11 49 36.0	
	comp=E,220nm,1.2s						
UGL				*e*S	**Sn**	**11 50 44.0**	**-0.2**
UGL				A	A	11 50 50.0	
	comp=E,77nm,0.5s						
UGL				A	A	11 50 50.0	
	comp=E,130nm,0.5s						
UGL				AMS	AMS	11 52 20.0	
	comp=E,3µm,15.0s						
UGL				AMS	AMS	11 52 20.0	
	comp=E,4µm,15.0s						
UGL				AMS	AMS	11 52 20.0	
	comp=E,4µm,15.0s						
TYV	**Tymovskoe**	**7.68**	**331**	*e*P	Pn	11 49 50.0	+3.2
TYV				AMB	AMB	11 49 55.8	
	comp=E,22nm,0.8s						
TYV				AMB	AMB	11 49 55.8	
	comp=E,46nm,0.8s						
TYV				*e*S	**Sn**	**11 51 11.5**	**-0.9**
TYV				A	A	11 51 15.5	
	comp=E,44nm,0.8s						
TYV				A	A	11 51 36.0	
	comp=E,2µm,13.0s						
TYV				AMS	AMS	11 52 50.0	
	comp=E,4µm,15.0s						
TYV				AMS	AMS	11 52 50.0	
	comp=E,4µm,15.0s						
TYV				AMS	AMS	11 52 50.0	

comp=E,6μm,15.0s
SKR Severo-Kuril's 8.21 36 ePN Pn 11 49 50.5 -3.5
SKR pmax pmax
comp=N,80nm,0.5s
SKR pmax pmax
comp=E,80nm,0.5s
SKR pmax pmax
comp=Z,170nm,0.5s
SKR MLR MLR
comp=N,3μm,16.0s
SKR MLR MLR
comp=E,3μm,16.0s
SKR MLR MLR
comp=Z,6μm,16.0s
SKR Severo-Kuril's 8.21 36 eP Pn 11 49 55.2 +1.2
SKR AMB AMB 11 50 04.3
comp=Z,394nm,0.6s
SKR eS Sn 11 51 23.0 -2.3
SKR A A 11 51 28.4
comp=Z,80nm,0.5s
SKR AMS AMS 11 53 20.0
comp=Z,3μm,16.0s
SKR AMS AMS 11 53 20.0
comp=Z,6μm,16.0s
SKR AMS AMS 11 53 20.0
comp=Z,3μm,16.0s
SKR AMS AMS 11 53 20.0
comp=Z,6μm,16.0s
TEY Ternei 8.53 279 eP Pn 11 50 00.5 +2.0
TEY AMB AMB 11 50 04.4
comp=Z,100nm,1.0s
TEY AMB AMB 11 50 04.4
comp=Z,86nm,1.0s
TEY AMS AMS 11 53 06.0
comp=Z,4μm,20.0s
PAU Pauzhetka 9.09 35 eP Pn 11 50 06.9 +0.9
PAU AMB AMB 11 50 26.6
comp=Z,558nm,0.9s
PAU eS Sn 11 51 46.7 -0.2
OKH Okha 9.97 340 ePN Pn 11 50 19.9 +1.8
OKH pmax pmax
comp=Z,1μm,2.4s
OKH Okha 9.97 340 eP Pn 11 50 20.0 +1.8
OKH AMB AMB 11 50 22.0
comp=Z,1μm,2.0s
OKH AMB AMB 11 50 22.9
comp=Z,300nm,1.0s
OKH eS Sn 11 52 11.0 +2.4
OKH A A 11 52 19.8
comp=Z,1μm,6.0s
OKH AMS AMS 11 55 12.0
comp=Z,2μm,15.0s
OKH AMS AMS 11 55 12.0
comp=Z,14μm,15.0s
OKH AMS AMS 11 55 12.0
comp=Z,3μm,15.0s
JHK Hiroka 10.06 229 P Pn 11 50 18.3 -1.2
HABR Khabarovsk 10.21 299cePN Pn 11 50 18.2 -3.2
HABR pmax pmax
comp=N,46nm,2.0s
HABR pmax pmax
comp=E,43nm,2.0s
HABR pmax pmax
comp=Z,40nm,2.0s
NKL Nikolayevsk 10.27 333 eP Pn 11 50 24.0 +1.8
NKL AMB AMB 11 50 26.2
comp=Z,60nm,1.0s
NKL AMB AMB 11 50 26.2
comp=Z,30nm,1.0s
NKL AMB AMB 11 50 26.2
comp=Z,80nm,1.0s
NKL AMB AMB 11 50 26.5
comp=Z,400nm,3.0s
NKL AMB AMB 11 50 26.5
comp=Z,500nm,3.0s
NKL sP 11 50 45.0
NKL AMS AMS 11 54 35.0
comp=Z,2μm,17.0s
NKL AMS AMS 11 54 35.0
comp=Z,3μm,17.0s
GRNR Gornyy 10.44 313 eP Pn 11 50 26.2 +1.7
GRNR AMB AMB 11 50 28.0
comp=Z,42nm,1.0s
JAG Ashikaga 10.46 224 P Pn 11 50 22.0 -2.9
PETK Petropavlovsk- 10.70 31 PN Pn 11 50 28.7 +0.6
PETK S Sn 11 52 35.7 +9.2
PETK pmax pmax
comp=Z,9.0nm,0.3s
PETK MLR MLR
comp=Z,2μm,21.7s
PETK Petropavlovsk- 10.70 31 P Pn 11 50 28.7 +0.6
comp=Z,9.1nm,0.3s,baz=207,slow=16,SNR=123
PETK S Sn 11 52 35.7 +9.2
baz=216,slow=14,SNR=2.1
PETK LR LR 11 54 26.6
comp=Z,2μm,21.7s,baz=207,slow=36
PET Petropavlovsk 11.01 34 ePN Pn 11 50 32.2 -0.1
PET pmax pmax
comp=Z,22nm,0.5s
PET MLR MLR
comp=Z,4μm,16.0s
PET Petropavlovsk 11.01 34 ePn Pn 11 50 32.4 +0.1
comp=Z,19nm,0.4s
PET Petropavlovsk 11.01 34 eP Pn 11 50 31.9 -0.4
PET AMB AMB 11 50 43.3
comp=Z,30nm,0.4s
PET eS Sn 11 52 29.5 -4.4
PET AMS AMS 11 54 48.5
comp=Z,4μm,16.0s
MAJO Matsushiro 11.02 229c iPN Pn 11 50 30.5 -2.1
MAJO Matsushiro 11.02 229 ePn Pn 11 50 30.5 -2.1
comp=Z,75nm,0.8s
MAT Matsushiro 11.02 229 P Pn 11 50 30.5 -2.1
MAT S Sn 11 52 39.1 +4.6
MAT Matsushiro 11.02 229 P Pn 11 50 30.5 -2.1
MJAR Matsushiro Arr 11.02 229 PN Pn 11 50 30.7 -1.9
MJAR S Sn 11 52 39.8 +5.4
MJAR pmax pmax
comp=Z,3.0nm,0.3s
MJAR smax smax
comp=N,2.0nm,0.3s
MJAR Matsushiro Arr 11.02 229 P Pn 11 50 30.7 -1.9
comp=N,3.4nm,0.3s,baz=29,slow=12,SNR=67
MJAR S Sn 11 52 39.8 +5.4
comp=N,1.9nm,0.3s,baz=64,slow=25,SNR=3.7
MJAR LR LR 11 54 58.6
comp=N,827nm,21.7s,baz=60,slow=38
JNG Nsakai 11.18 229 P Pn 11 50 32.7 -2.1
JGN Niukaw 11.74 231 P Pn 11 50 40.8 -1.7
USRK Ussuriysk Arra 11.86 275 P Pn 11 50 44.5 +0.4
comp=N,0.7nm,0.3s,baz=83,slow=16,SNR=12
USRK LR LR 11 55 22.1
comp=N,2μm,19.4s,baz=77,slow=38
VLA Vladivostok 12.10 270⥣ePN Pn 11 50 50.8 +3.5
VLA S Sn 11 53 06.3 +5.6
VLA Vladivostok 12.10 270 eP Pn 11 50 50.8 +3.5
KLR Kul'dur 12.52 299 ePN Pn 11 50 51.8 -1.1
KLR MLR MLR
comp=E,2μm,16.0s
KLR MLR MLR
comp=Z,4μm,12.0s
KLR Kul'dur 12.52 299 eP Pn 11 50 51.8 -1.1
KLR AMS AMS 11 56 30.7
comp=Z,2μm,14.0s
KLR AMS AMS 11 56 30.7
comp=Z,4μm,14.0s
EKMR Ekimchan 13.51 316 eP Pn 11 51 05.0 -1.5
EKMR AMB AMB 11 51 14.4
comp=Z,51nm,0.9s
MDJ Mudanjiang 13.53 278 P Pn 11 51 08.4 +1.6
MDJ S Sn 11 53 36.8 +1.1
MDJ pmax pmax
comp=Z,22nm,1.5s
MDJ pmax pmax
comp=Z,170nm,4.5s
MDJ LR LR
comp=Z,740nm,18.0s
MDJ LR LR
comp=Z,980nm,21.2s
MDJ LR LR
comp=Z,2μm,20.1s
MDJ Mudanjiang 13.53 278 ePn Pn 11 51 07.1 +0.3
comp=Z,48nm,1.2s
BMKR Bomnak 16.44 316 eP Pn 11 51 43.4 -1.6
BMKR AMB AMB 11 51 56.9
comp=Z,64nm,1.0s

CN2 Changchun 16.59 276 eP P 11 51 48.1 -0.8
CN2 esP sP 11 52 00.4 -4.6
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,600nm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,18.0s
ZEA Zeya 16.80 312 eP Pn 11 51 48.0 -1.4
ZEA AMB AMB 11 51 59.8
comp=Z,130nm,1.6s
ZEA AMB AMB 11 51 59.8
comp=Z,170nm,1.6s
ZEA AMB AMB 11 52 04.0
comp=Z,600nm,7.0s
ZEA AMS AMS 11 58 55.0
comp=Z,900nm,15.0s
ZEA AMS AMS 11 58 55.0
comp=Z,1μm,15.0s
ZEA AMS AMS 11 58 55.0
comp=Z,2μm,15.0s
KSRS Korea Array 16.99 253 P Pn 11 51 51.7 -0.2
comp=Z,0.4nm,0.3s,baz=57,slow=11,SNR=12
KSRS LR LR 11 58 05.2
comp=Z,524nm,20.5s,baz=72,slow=36
KSAR Wonju Array Be 17.02 253 P Pn 11 51 51.7 -0.6
KSAR Wonju Array Be 17.02 253 P Pn 11 51 51.7 -0.6
KROS Kirovskiy 17.26 314 eP Pn 11 51 53.5 -1.6
KROS AMB AMB 11 52 01.5
comp=Z,86nm,1.4s
KROS AMB AMB 11 52 01.5
comp=Z,100nm,1.4s
JNU Nakatsue 17.68 237 P P 11 52 01.9 +0.9
comp=Z,0.4nm,0.3s,baz=59,slow=11,SNR=4.1
JCJ Chichijima 17.90 199 LR LR 11 59 55.9
comp=Z,193nm,18.4s,baz=37,slow=40
TJN Taejon 17.93 251 eP P 11 52 05.4 +1.7
FX1 Attu Island--F 18.36 53 P Pn 11 52 09.7 +1.1
comp=Z,7.3nm,0.3s,baz=326,slow=5.2,SNR=17
FX1 LR LR 11 58 22.5
comp=Z,267nm,21.9s,baz=272,slow=34
SEY Seymchan 18.82 5 P P 11 52 12.8 -0.4
SEY Seymchan 18.82 5 P P 11 52 12.6 -0.7
comp=Z,1.0nm,0.3s,baz=180,slow=10,SNR=65
CLNS Chul'man 19.45 319 eP Pn 11 52 25.6 +3.9
CLNS pmax pmax
comp=Z,20nm,1.1s
CLNS pmax pmax
comp=E,14nm,1.1s
CLNS pmax pmax
comp=N,18nm,1.1s
CLNS MLR MLR
comp=Z,1μm,15.0s
CLNS MLR MLR
comp=E,1μm,16.0s
CLNS MLR MLR
comp=N,2μm,14.0s
JOW Kunigami 23.86 230 P P 11 53 07.0 +0.1
comp=N,2.5nm,1.1s,baz=46,slow=8.8,SNR=5.2
JOW LR LR 12 03 21.1
comp=N,31nm,20.4s,baz=50,slow=39
JOW Kunigami 23.86 230 P P 11 53 07.0 +0.1
JOW ePn P 11 53 07.4 +0.6
BJI Beijing 24.26 271 P P 11 53 10.8 +0.4
BJI pP pP 11 53 21.6 -0.5
BJI sP sP 11 53 26.5 -0.9
BJI S S 11 57 23.3 -2.7
BJI sS sS 11 57 42.6 -2.9
BJI pmax pmax
comp=N,21nm,0.9s
BJI pmax pmax
comp=N,280nm,7.3s
BJI LR LR
comp=N,270nm,14.0s
BJI LR LR
comp=N,780nm,19.1s
BJI LR LR
comp=N,550nm,20.2s
BJT Baijiatuau 24.27 271 eP P 11 53 10.8 +0.3
BJT pmax pmax
comp=Z,23nm,0.5s
BJT Baijiatuau 24.27 271 eP P 11 53 10.8 +0.3
comp=Z,23nm,0.5s
BJT Baijiatuau 24.27 271 eP P 11 53 10.8 +0.3
TIA Tai'an 25.17 262 eP P 11 53 19.4 +0.7
TIA S S 11 57 41.8 +1.1
TIA pmax pmax
comp=Z,30nm,0.7s
TIA LR LR
comp=Z,400nm,20.2s
TIA LR LR
comp=Z,400nm,16.7s
TIA LR LR
comp=Z,570nm,15.5s
SSE Sheshan 25.19 248 P P 11 53 18.8 -0.1
SSE sP sP 11 53 37.4 +1.6
SSE S S 11 57 41.3 +0.3
SSE pmax pmax
comp=Z,15nm,1.1s
SSE pmax pmax
comp=Z,160nm,10.1s
SSE LR LR
comp=Z,270nm,16.1s
SSE LR LR
comp=Z,270nm,16.1s
SSE LR LR
comp=Z,350nm,18.0s
BILL Bilibino 25.58 15⥣iP P 11 53 21.0 -1.1
BILL i 11 53 36.3
BILL eS S 11 57 46.0 -0.6
BILL pmax pmax
comp=Z,8.0nm,1.1s
BILL MLR MLR
comp=Z,1μm,21.0s
BILL Bilibino 25.58 15 eP P 11 53 21.0 -1.1
comp=Z,8.4nm,0.8s
BILL Bilibino 25.58 15 eP P 11 53 21.0 -1.1
NJ2 Nanjing 26.18 252 eP P 11 53 29.8 +1.9
NJ2 pP pP 11 53 42.9 +3.3
NJ2 S S 11 57 55.5 -1.2
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 LR LR
comp=Z,410nm,17.7s
NJ2 LR LR
comp=Z,520nm,18.0s
NJ2 LR LR
comp=Z,470nm,18.1s
HHC Hu-ho-hao-te 27.29 276 eP P 11 53 38.8 +0.9
HHC pP pP 11 53 48.9 -0.7
HHC sP sP 11 53 52.4 -2.5
HHC PP PnPn 11 54 25.5 +2.5
HHC S S 11 58 12.4 -1.9
HHC pmax pmax
comp=Z,36nm,0.8s
HHC pmax pmax
comp=Z,470nm,5.3s
HHC LR LR
comp=Z,770nm,17.3s
HHC LR LR
comp=Z,1μm,17.3s
HHC LR LR
comp=Z,2μm,18.5s
ULN Ulaanbaatar 28.74 292deP P 11 53 51.4 +0.5
ULN pmax pmax
comp=Z,11nm,1.2s
ULN Ulaanbaatar 28.74 292 eP P 11 53 51.1 +0.2
comp=Z,5.7nm,0.8s
ULN Ulaanbaatar 28.74 292 eP P 11 53 51.4 +0.5
H11N2 WAKE ISLAND Hy 28.88 142 T T 12 24 20.7
baz=332,slow=75,SNR=5501
H11N1 WAKE ISLAND Hy 28.90 142 T T 12 24 40.5
baz=332,slow=75,SNR=5771
H11N3 WAKE ISLAND Hy 28.90 142 T T 12 24 42.7
baz=332,slow=75,SNR=6556
TIXI Tiksi 29.05 347⥥eP P 11 53 52.7 -0.4
TIXI Tiksi 29.05 347 eP P 11 53 51.2 -1.9
comp=Z,6.0nm,1.0s
SONM Songino Array 29.18 292 P P 11 53 54.0 -0.7
comp=Z,3.3nm,0.6s,baz=91,slow=8.4,SNR=17
SONM LR LR 12 06 39.6
comp=Z,1μm,19.1s,baz=95,slow=39

GAMB Gambell 29.70 35 eP P 11 53 57.8 -1.2
comp=Z,10nm,1.1s
H11S1 WAKE ISLAND Hy 29.88 144 T T 12 25 56.1
baz=333,slow=76
H11S3 WAKE ISLAND Hy 29.89 144 T T 12 25 34.7
baz=333,slow=76
H11S2 WAKE ISLAND Hy 29.90 144 T T 12 25 52.4
baz=333,slow=76,SNR=7692
WHN Wuhan 30.17 255 P P 11 54 02.6 -0.9
TLY Talaya 30.53 300 eP P 11 54 06.4 -0.1
TLY eSS SS 12 00 50.6 -25
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY MLR MLR
comp=Z,1μm,16.0s
TLY Talaya 30.53 300 eP P 11 54 06.4 -0.1
ZAK Zakamensk 30.88 298 eP P 11 54 08.3 -1.4
ZAK pmax pmax
comp=Z,4.0nm,1.1s
TNA Tin City 31.87 33 eP P 11 54 18.8 +0.7
comp=Z,17nm,0.8s
XAN Xi'an 32.09 265 P P 11 54 20.5 +0.1
XAN LR LR
comp=Z,120nm,16.4s
XAN LR LR
comp=Z,120nm,18.4s
XAN LR LR
comp=Z,100nm,18.4s
LZH Lanzhou 34.74 272 eP P 11 54 44.5 +0.8
LZH pP pP 11 54 57.9 +2.3
LZH sP sP 11 55 04.1 +3.3
LZH PcP PcP 11 57 19.6 +3.1
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.8s
LZH LR LR
comp=Z,590nm,15.1s
LZH LR LR
comp=Z,160nm,11.7s
LZH LR LR
comp=Z,390nm,15.5s
GTA Gaotai 36.18 280 eP P 11 54 56.5 +0.6
GTA pP pP 11 55 08.6 +0.7
GTA sP sP 11 55 13.9 +0.8
GTA S S 12 00 32.8 -0.1
GTA SS SnSn 12 02 57.1 -4.3
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,200nm,6.9s
GTA LR LR
comp=Z,510nm,14.7s
GTA LR LR
comp=Z,390nm,15.2s
GTA LR LR
comp=Z,510nm,16.6s
CD2 Chengdu 37.44 265 eP P 11 55 06.8 +0.2
CD2 pP pP 11 55 16.9 -1.7
CD2 sP sP 11 55 21.1 -2.8
CD2 PP PnPn 11 56 34.4 +0.8
CD2 PcP PcP 11 57 26.8 +2.3
CD2 S S 12 00 50.8 -1.3
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,250nm,7.8s
CD2 LR LR
comp=Z,410nm,18.6s
CD2 LR LR
comp=Z,440nm,18.6s
CD2 LR LR
comp=Z,390nm,21.5s
IM04 Indian Mountai 37.63 35 eP P 11 55 08.3 +0.5
IM04 ePcP PcP 11 57 37.8 +13
RSO Redoubt South 37.89 44 eP P 11 55 11.5 +1.2
comp=Z,74nm,0.4s
GYA Guiyang 38.01 256 P P 11 55 13.3 +1.7
GYA pP pP 11 55 25.8 +2.2
GYA sP sP 11 55 32.8 +4.0
GYA S S 12 01 01.5 +0.6
GYA ScP ScP 12 01 11.4 +1.1
GYA SS SnSn 12 03 38.8 -7.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.0s
GYA LR LR
comp=Z,520nm,17.6s
GYA LR LR
comp=Z,480nm,18.0s
GYA LR LR
comp=Z,550nm,17.4s
PPLA Purkeypile 38.14 40 eP P 11 55 14.1 +1.9
comp=Z,92nm,1.3s
KDAK Kodiak Island 38.16 48 P P 11 55 12.1 -0.2
comp=Z,158nm,1.0s,SNR=7.6
KDAK Kodiak Island 38.16 48 iP P 11 55 12.3 0.0
KDAK Kodiak Island 38.16 48 eP P 11 55 12.3 0.0
KTH Kantishna Hill 38.72 39 eP P 11 55 17.5 +0.5
comp=Z,108nm,1.2s
TRF Thorofare Moun 39.00 39 eP P 11 55 19.8 +0.3
comp=Z,21nm,1.0s
COLD Coldfoot 39.17 33 eP P 11 55 21.5 +0.8
comp=Z,22nm,0.9s
MCK McKinley 39.60 38 eP P 11 55 24.7 +0.4
MCK pmax pmax
comp=Z,39nm,1.1s
MCK McKinley 39.60 38 eP P 11 55 24.7 +0.4
comp=Z,39nm,1.1s
MCK McKinley 39.60 38 eP P 11 55 24.7 +0.4
COLA College 40.06 36ceP P 11 55 29.1 +1.1
COLA pmax pmax
comp=Z,161nm,1.2s
COLA College 40.06 36 eP P 11 55 29.1 +1.1
comp=Z,99nm,1.2s
COLA College 40.06 36 eP P 11 55 29.1 +1.1
ILAR Eielson Array 40.47 37 P P 11 55 31.7 +0.2
comp=Z,13nm,1.0s,baz=271,slow=7.7,SNR=55
ILAR LR LR 12 13 30.5
comp=Z,226nm,20.1s,baz=314,slow=38
QIZ Qiongzhong 40.89 245 P P 11 55 36.8 +1.3
QIZ S S 12 01 47.0 +3.0
QIZ LR LR
comp=Z,180nm,23.1s
QIZ LR LR
comp=Z,310nm,15.6s
PAX Paxson 41.20 39 eP P 11 55 39.4 +1.7
PAX pmax pmax
comp=Z,14nm,1.1s
PAX Paxson 41.20 39 eP P 11 55 39.4 +1.7
comp=Z,14nm,1.1s
DIV Divide 41.26 42 eP P 11 55 39.0 +0.9
comp=Z,53nm,1.4s
ZALV Zalesovo Beam 41.47 307 P P 11 55 39.1 -0.7
comp=Z,0.9nm,0.4s,baz=93,slow=5.7,SNR=6.0
ZALV PcP PcP 11 57 37.0 +0.2
comp=Z,4.2nm,0.5s,baz=85,slow=3.6,SNR=8.3
ZALV LR LR 12 13 59.8
comp=Z,575nm,18.9s,baz=70,slow=38
KMI Kunming 41.60 258 ⥣P P 11 55 41.8 +0.3
KMI pP pP 11 55 54.8 +1.2
KMI sP sP 11 55 59.8 +1.0
KMI PP PnPn 11 57 21.0 -2.1
KMI S S 12 01 53.9 -0.9
KMI SS SS 12 04 54.6 -6.2
KMI pmax pmax
comp=Z,8.0nm,1.0s
KMI pmax pmax
comp=Z,150nm,4.6s
KMI LR LR
comp=Z,450nm,17.9s
KMI LR LR
comp=Z,220nm,18.9s
KMI LR LR
comp=Z,260nm,15.1s
DOT Dot Lake 41.77 38 eP P 11 55 42.2 -0.1
comp=Z,16nm,0.7s
BMRM Bremner River 41.84 42 eP P 11 55 43.9 +1.0
comp=Z,39nm,1.1s
MENT Mentasta 42.00 39 eP P 11 55 44.7 +0.5
NVS Novosibirsk 42.16 308 eP P 11 55 46.8 +1.3
NVS Novosibirsk 42.16 308 eP P 11 55 46.8 +1.3
WMQ Urumqi 42.82 292 P P 11 55 51.4 +0.3
WMQ pP pP 11 56 01.3 -1.9
WMQ sP sP 11 56 05.3 -3.1

WMQ PP PP 11 57 33.3 +2.5
WMQ PcP PcP 11 57 43.9 +2.3
WMQ PcS PcS 12 01 34.8 +1.0
WMQ S S 12 02 11.6 -0.6
WMQ ScS ScS 12 05 47.8 -0.2
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ pmax pmax
comp=Z,210nm,4.2s
WMQ LR LR
comp=Z,980nm,17.6s
WMQ LR LR
comp=Z,1µm,16.6s
WMQ LR LR
comp=Z,870nm,18.8s
EGAK Eagle 42.92 36 eP P 11 55 51.7 +0.3
comp=Z,63nm,1.2s
DAWY Dawson 43.77 37 eP P 11 55 59.3 +0.8
MK31 Makanchi Array 45.22 298 i P P 11 56 09.9 -0.3
MK31 pmax pmax
comp=Z,16nm,0.8s
MKAR Makanchi Array 45.22 298 P P 11 56 10.3 +0.1
MKAR 11 57 49.8
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR MLR MLR
comp=Z,1µm,18.7s
MKAR Makanchi Array 45.22 298 P P 11 56 10.3 +0.1
comp=Z,8.5nm,0.8s,baz=78,slow=7.9,SNR=82
MKAR PcP PcP 11 57 49.8 +0.1
comp=Z,2.3nm,0.6s,baz=64,slow=5.4,SNR=1.9
MKAR LR LR 12 16 26.0
comp=Z,1µm,18.7s,baz=61,slow=38
HYT Haines Junctio 45.27 42 eP P 11 56 14.8 +4.3
KURK Kurchatov 46.05 304 eP P 11 56 16.4 -0.3
KURK e 11 58 05.5
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 46.05 304 eP P 11 56 16.4 -0.3
comp=Z,4.4nm,0.6s
KURK ePP PP 11 58 05.5 +0.5
KURK Kurchatov 46.05 304 eP P 11 56 16.2 -0.5
UBPT Khong Chiam 46.47 245 P P 11 56 39.0 +19
LSA Lhasa 47.16 272 eP P 11 56 26.8 +0.6
LSA pmax pmax
comp=Z,13nm,0.8s
LSA Lhasa 47.16 272 eP P 11 56 26.8 +0.6
comp=Z,13nm,0.8s
PAYA Payao 47.37 254 P P 11 56 38.0 +11
comp=Z,9.0nm,0.7s,comp=Z,259nm
CMAI Chiengmai2 47.56 256 P P 11 56 32.6 +3.6
comp=Z,32nm,0.9s,comp=Z,2µm
LOEI Loei 47.68 251 P P 11 56 38.3 +8.5
comp=Z,19nm,0.9s
UTTA Uttaradit 48.01 252 P P 11 56 43.7 +11
comp=Z,5.9nm,0.7s
LAMP Lampang 48.10 254 P P 11 56 38.2 +5.2
comp=Z,14nm,0.7s,comp=Z,122nm
CMMT Chiang Mai 48.38 255 P P 11 56 39.6 +4.4
comp=Z,30nm,0.8s
CHTO Chiang Mai 48.38 255 eP P 11 56 36.1 +0.9
CHTO pmax pmax
comp=Z,14nm,0.8s
CHTO Chiang Mai 48.38 255 P P 11 56 39.7 +4.5
comp=Z,104nm,0.8s
CHTO Chiang Mai 48.38 255 eP P 11 56 36.1 +0.9
comp=Z,14nm,0.8s
PBKT Sadao Pong 48.54 251 P P 11 56 48.3 +12
comp=Z,8.5nm,1.0s
CMAR Chiang Mai Arr 48.62 254 P P 11 56 38.0 +0.9
CMAR *PP pP 11 56 48.0 -1.4
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 48.62 254 P P 11 56 38.0 +0.9
comp=Z,1.2nm,0.4s,baz=40,slow=7.4,SNR=7.2
CMAR pP pP 11 56 48.0 -1.4
comp=Z,7.4nm,0.7s,baz=42,slow=7.3,SNR=11
MHMT Maesarieng 49.52 255 P P 11 56 55.8 +12
comp=Z,12nm,0.7s,comp=Z,570nm
DLBC Dease Lake 49.61 43 P P 11 56 45.8 +1.6
comp=Z,5.0nm,0.8s,baz=259,slow=3.3,SNR=15
BVAR Borovoye Array 49.93 309 P P 11 56 47.5 +0.9
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR MLR MLR
comp=Z,671nm,18.3s
BVAR Borovoye Array 49.93 309 P P 11 56 47.5 +0.9
comp=Z,1.3nm,0.4s,baz=79,slow=7.9,SNR=8.0
BVAR LR LR 12 19 31.5
comp=Z,671nm,18.3s,baz=74,slow=38
BRVK Borovoye 49.98 309 deP P 11 56 47.5 +0.5
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 49.98 309 eP P 11 56 47.3 +0.3
comp=Z,7.9nm,0.9s
BRVK Borovoye 49.98 309 eP P 11 56 47.5 +0.5
CHBT CHBT 50.38 246 P P 11 57 03.6 +13
comp=Z,30nm,1.1s,comp=Z,2µm
TAPN Taplejung 50.99 272 eP P 11 56 56.6 +1.3
comp=Z,29nm,0.7s
TAPN Taplejung 50.99 272 eP P 11 56 56.6 +1.3
ULHL Ulahol 51.07 295 P P 11 56 56.1 +0.5
SNR=20
ULHL Ulahol 51.07 295 i P P 11 56 56.1 +0.5
TKM2 Tokmak 2 51.17 296 P P 11 56 57.1 +0.7
SNR=26
TKM2 Tokmak 2 51.17 296 eP P 11 56 56.9 +0.5
TKM2 pmax pmax
comp=Z,10.0nm,0.7s
TKM2 Tokmak 2 51.17 296 eP P 11 56 56.9 +0.5
comp=Z,10nm,0.7s
ODAN Odare 51.51 272 eP P 11 57 00.2 +1.1
comp=Z,22nm,0.7s
ODAN Odare 51.51 272 eP P 11 57 00.2 +1.1
USP Ospenovka 51.71 297 P P 11 57 00.8 +0.5
SNR=24
USP Ospenovka 51.71 297 i P P 11 57 00.7 +0.5
KBK Karagaybulak 51.72 296 P P 11 57 00.8 +0.4
SNR=17
KBK Karagaybulak 51.72 296 i P P 11 57 00.8 +0.4
KZA Kyzart 51.80 295 P P 11 57 02.7 +1.3
SNR=26
KZA Kyzart 51.80 295 i P P 11 57 02.6 +1.3
FRU Bishkek 51.84 296 eP P 11 57 01.0 -0.2
JIRN Jiri 51.89 273 eP P 11 57 02.6 +0.4
comp=Z,40nm,0.6s
JIRN Jiri 51.89 273 eP P 11 57 02.6 +0.4
GUN Gumba 51.97 274 eP P 11 57 02.9 +0.2
comp=Z,57nm,0.6s
GUN Gumba 51.97 274 eP P 11 57 02.9 +0.2
RAMN Ramite 52.02 272 eP P 11 57 02.8 -0.2
comp=Z,45nm,0.5s
RAMN Ramite 52.02 272 eP P 11 57 02.8 -0.2
AAK Ala-Archa 52.02 296 P P 11 57 02.9 +0.2
comp=Z,69nm,1.2s,SNR=12
AAK Ala-Archa 52.02 296 P P 11 57 03.0 +0.3
SNR=12
AAK Ala-Archa 52.02 296 P P 11 57 02.4 -0.3
AAK Ala-Archa 52.02 296 P P 11 57 02.9 +0.2
baz=99,slow=6.2
AAK LR LR 12 21 14.9
comp=Z,350nm,19.3s,baz=62,slow=38
AAK Ala-Archa 52.02 296 eP P 11 57 02.9 +0.2
comp=Z,12nm,0.9s
AAK Ala-Archa 52.02 296 eP P 11 57 02.4 -0.3
EKS2 Erkin-Say 52.47 296 P P 11 57 06.5 +0.6
SNR=10
EKS2 Erkin-Say 52.47 296 eP P 11 57 06.3 +0.3
EKS2 e 11 58 16.9
EKS2 pmax pmax
comp=Z,8.0nm,0.6s
EKS2 Erkin-Say 52.47 296 eP P 11 57 06.3 +0.3
comp=Z,8.3nm,0.6s
EKS2 ePcP PcP 11 58 16.9 +0.8
KKN Kakani 52.47 274 eP P 11 57 07.0 +0.7
comp=Z,36nm,0.8s
KKN Kakani 52.47 274 eP P 11 57 07.0 +0.7
KKN Kakani 52.47 274 eP P 11 57 07.0 +0.7
PKI Pulchoki 52.51 274 eP P 11 57 06.6 -0.1
comp=Z,32nm,0.8s
PKI Pulchoki 52.51 274 eP P 11 57 06.6 -0.1
PKI Pulchoki 52.51 274 eP P 11 57 06.6 -0.1
KSH Kashi 52.59 292 eP P 11 57 10.5 +3.6
KSH epP pP 11 57 22.8 +3.5
KSH esP sP 11 57 26.8 +2.4
KSH ePP PP 11 59 11.3 +5.4
KSH PcS PcS 12 02 14.8 -0.4
KSH S S 12 04 31.6 +0.8
KSH pmax pmax
comp=Z,18nm,1.3s
KSH pmax pmax
comp=Z,170nm,5.3s
KSH LR LR
comp=Z,880nm,18.0s
KSH LR LR
comp=Z,300nm,11.0s
KSH LR LR
comp=Z,680nm,15.2s
DMN Daman 52.70 274 eP P 11 57 08.3 +0.3
comp=Z,51nm,0.7s
DMN Daman 52.70 274 eP P 11 57 08.3 +0.3
AML Almayashu 52.78 296 P P 11 57 09.4 +0.8
SNR=14
AML Almayashu 52.78 296 i P P 11 57 09.4 +0.8
GKN Gorkha 52.81 275 eP P 11 57 08.9 +0.2
comp=Z,22nm,0.4s
DANN Dangsing 53.23 276 eP P 11 57 12.4 +0.4
comp=Z,133nm,0.9s
DANN Dangsing 53.23 276 eP P 11 57 12.4 +0.4
SVE Sverdlovsk 53.43 317 eP P 11 57 11.1 -1.6
SVE pmax pmax
comp=Z,14nm,0.9s
SVE MLR MLR
comp=Z,1µm,18.0s
PMG Port Moresby 53.45 182⇑eP P 11 57 14.0 +0.8
PMG pmax pmax
comp=Z,11nm,1.7s
KOLN Koldanda 53.69 275 eP P 11 57 15.4 +0.2
comp=Z,101nm,1.3s
KOLN Koldanda 53.69 275 eP P 11 57 15.4 +0.2
PYUN Piuthan 53.93 276 eP P 11 57 17.3 +0.3
comp=Z,60nm,0.4s
RES Resolute Bay 54.17 17 P P 11 57 17.5 -0.3
RES pmax pmax
comp=Z,12nm,0.8s
RES Resolute Bay 54.17 17 P P 11 57 17.5 -0.3
comp=Z,12nm,0.8s,baz=357,slow=7.5,SNR=47
RES Resolute Bay 54.17 17 P P 11 57 17.5 -0.3
comp=Z,4.7nm,0.8s
KK31 Karatay Array 54.34 298 P P 11 57 19.3 -0.2
KK31 pmax pmax
comp=Z,6.0nm,0.5s
KKAR Karatay Array 54.34 298 eP P 11 57 19.4 -0.1
KKAR pmax pmax
comp=Z,6.0nm,0.5s
KKAR Karatay Array 54.34 298 eP P 11 57 19.4 -0.1
comp=Z,6.2nm,0.5s
ARU Arti 54.63 317 d i P P 11 57 20.9 -0.6
ARU 11 58 32.6
ARU 11 59 21.3
ARU S S 12 04 58.6 +0.8
ARU SS SS 12 08 35.6 -4.7
ARU Arti 54.63 317 eP P 11 57 20.8 -0.6
comp=Z,15nm,1.1s
YKA Yellowknife Ar 54.80 34 P P 11 57 23.3 +0.7
YKA *PP pP 11 57 34.9 -0.2
YKA pmax pmax
comp=Z,7.0nm,0.9s
YKA Yellowknife Ar 54.80 34 P P 11 57 23.3 +0.7
comp=Z,7.2nm,0.9s,baz=295,slow=6.8,SNR=61
YKA pP pP 11 57 34.9 -0.2
comp=Z,11nm,0.7s,baz=301,slow=7.1,SNR=17
AB31 Akbulak array 57.50 309 P P 11 57 41.3 -0.7
AB31 pmax pmax
comp=Z,3.0nm,0.3s
ABKAR Akbulak array 57.50 309 eP P 11 57 41.6 -0.4
comp=Z,4.0nm,0.4s
NDI New Delhi 57.69 280 eP P 11 57 44.0 +0.3
AKTO Aktyubinsk 57.94 311 P P 11 57 45.0 -0.1
AKTO pmax pmax
comp=Z,7.0nm,1.2s
AKTO Aktyubinsk 57.94 311 LR LR 12 25 57.6
comp=Z,373nm,18.1s,slow=39
COEN Coen 58.16 186 eP P 11 57 47.3 +0.4
comp=Z,124nm,0.9s
APA Apatity 58.30 336 eP P 11 57 51.0 +3.7
APA MLR MLR
comp=Z,2µm,11.0s
DAG Danmarks Havn 58.95 357 eP P 11 57 53.1 +1.4
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 58.95 357 i P P 11 57 53.1 +1.4
comp=Z,2.6nm,0.8s
ARCES ARCESS Array B 59.09 340 P P 11 57 52.9 +0.1
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES MLR MLR
comp=Z,528nm,19.8s
ARCES ARCESS Array B 59.09 340 P P 11 57 52.9 +0.1
comp=Z,2.1nm,0.9s,baz=47,slow=7.6,SNR=17
ARCES LR LR 12 27 17.4
comp=Z,528nm,19.8s,baz=38,slow=40
G03D McMinnville, O 59.47 55 ⇑P P 11 57 54.2 -1.6
baz=59
I03D Drain, OR 60.26 57 ⇓P P 11 57 59.8 -1.4
baz=60
EDM Edmonton 60.34 43 eP P 11 58 02.1 +0.4
EDM Edmonton 60.34 43 eP P 11 58 02.1 +0.4
KLMR Klimovskoe 60.51 328 eP P 11 58 00.8 -1.9
KLMR pmax pmax
comp=Z,21nm,1.8s
G05D Wamic, OR 60.59 54 ⇓P P 11 58 02.3 -1.3
baz=60
I04A Tendick Farm, 60.77 56 ⇑P P 11 58 03.4 -1.4
baz=61
HAWA Hanford 60.97 52 eP P 11 58 06.9 +0.9
comp=Z,42nm,1.4s
L02D Cave Junction, 60.98 58 ⇑P P 11 58 05.0 -1.2
baz=61
I05D Terrebonne, OR 61.09 55 ⇓P P 11 58 06.1 -0.9
baz=61
NEW Newport 61.23 49 P P 11 58 09.1 +1.2
NEW *PP pP 11 58 20.3 -0.2
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 61.23 49 P P 11 58 09.1 +1.2
comp=Z,3.7nm,1.0s,baz=320,slow=4.2,SNR=5.1
NEW pP pP 11 58 20.3 -0.2
comp=Z,17nm,0.9s,baz=306,slow=6.5,SNR=13
NEW Newport 61.23 49 eP P 11 58 08.7 +0.8
comp=Z,7.4nm,1.1s
NEW pP pP 11 58 20.3 -0.2
NEW Newport 61.23 49 ⇑P P 11 58 06.3 -1.5
baz=61,SNR=7.0
J04D Umpqua Nationa 61.27 56 ⇑P P 11 58 07.1 -1.3
baz=61
PINOR Pine Mountain 61.67 55 eP P 11 58 12.8 +2.0
comp=Z,24nm,0.8s
J05D Fort Rock, OR 61.76 56 ⇓P P 11 58 10.8 -0.8
baz=62
YBH Yreka Blue Hor 61.77 58 eP P 11 58 13.3 +1.7
YBH pmax pmax
comp=Z,57nm,1.6s
YBH Yreka Blue Hor 61.77 58 eP P 11 58 13.3 +1.7
comp=Z,57nm,1.6s
K04D Chiloquin, OR 61.83 57 ⇓P P 11 58 11.5 -0.6
baz=62
M02C Callahan 61.88 59 ⇑P P 11 58 11.7 -0.6
baz=62
N02D Trinity Center 62.22 59 ⇑P P 11 58 13.5 -1.2
baz=62
M04C Macdoel 62.27 58 ⇑P P 11 58 13.6 -1.5
baz=62
WALA Waterton Lakes 62.49 47 eP P 11 58 17.4 +1.0
comp=Z,0.7nm,0.9s
WDC Whiskeytown Da 62.55 59 eP P 11 58 17.3 +0.6
WDC pmax pmax
comp=Z,21nm,1.1s
WDC Whiskeytown Da 62.55 59 eP P 11 58 17.3 +0.6
comp=Z,21nm,1.1s
BSMT Bassoo Peak 62.74 49 P P 11 58 18.4 +0.2
comp=Z,11nm,0.9s
BLMT Blacktail Moun 62.88 48 eP P 11 58 18.7 -0.4
comp=Z,31nm,0.9s
JTMT Jette 63.08 49 P P 11 58 21.6 +1.2
comp=Z,13nm,1.1s
MOD Modoc 63.13 57 eP P 11 58 21.9 +1.1
comp=Z,42nm,1.2s
BMO Blue Mountains 63.13 53 eP P 11 58 21.6 +0.9
comp=Z,7.2nm,0.9s
YBMT Yellow Bay 63.16 48 eP P 11 58 22.0 +1.2
comp=Z,25nm,1.2s
SUMG Summit 63.34 2 eP P 11 58 22.3 +0.3
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 63.34 2 i P P 11 58 21.8 -0.2
comp=Z,12nm,0.8s
SUMG Summit 63.34 2 eP P 11 58 22.3 +0.3
comp=Z,12nm,0.8s
SWMT Swartz Lake 63.38 49 eP P 11 58 23.0 +0.7
comp=Z,53nm,1.3s
HYB Hyderabad 63.78 269 i P P 11 58 25.0 -0.2
HYB e 11 58 34.5
HYB esP sP 11 58 47.5 +4.5
WVOR Wild Horse Val 63.81 55 eP P 11 58 25.8 +0.6
WVOR pmax pmax
comp=Z,20nm,1.0s
WVOR Wild Horse Val 63.81 55 eP P 11 58 25.8 +0.6
comp=Z,20nm,1.0s
SLMT Seeley Lake 63.81 49 eP P 11 58 25.6 +0.4
comp=Z,38nm,0.9s
MSO Missoula 63.82 49 ⇑P P 11 58 24.7 -0.5
baz=64,SNR=7.2
CHMT Chamberlain Mo 64.14 49 eP P 11 58 26.8 -0.7
comp=Z,5.2nm,0.7s
FFC Flin Flon 64.68 37 P P 11 58 31.3 +0.7
comp=Z,74nm,0.5s,SNR=8.7
FFC Flin Flon 64.68 37 eP P 11 58 31.3 +0.7
FFC pmax pmax
comp=Z,25nm,0.8s
FFC Flin Flon 64.68 37 eP P 11 58 31.3 +0.7
comp=Z,25nm,0.8s
FFC Flin Flon 64.68 37 eP P 11 58 31.3 +0.7
IMYA Miami 64.75 297 eP P 11 58 32.6 +1.0
FINES FINESS Array B 64.85 333 P P 11 58 30.1 -1.4
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES MLR MLR
comp=Z,441nm,19.8s
FINES FINESS Array B 64.85 333 P P 11 58 30.1 -1.4
comp=Z,6.0nm,0.7s,baz=73,slow=5.2,SNR=25
FINES LR LR 12 29 24.5
comp=Z,441nm,19.8s,baz=89,slow=38
MFID Camas Ranch 64.85 53 eP P 11 58 32.5 +0.5
comp=Z,19nm,1.3s
IEMG Emamgholi 65.02 299 eP P 11 58 33.7 +0.2
HRY Holter Researc 65.03 48 eP P 11 58 34.0 +0.8
comp=Z,22nm,0.7s
ABKT Ailbek 65.04 299 P P 11 58 33.3 0.0
comp=Z,107nm,1.1s,SNR=6.3
FCC Fort Churchill 65.06 31 eP P 11 58 33.0 0.0
FCC Fort Churchill 65.06 31 eP P 11 58 33.0 0.0
comp=Z,1.2nm,1.0s
WRAB Tennant Creek 65.21 195⇑eP P 11 58 34.0 -0.3
WRAB pmax pmax
comp=Z,56nm,2.5s
WRAB Tennant Creek 65.21 195 eP P 11 58 33.7 -0.6
comp=Z,10nm,0.9s
WRA Warramunga Arr 65.22 195 P P 11 58 33.4 -1.0
comp=Z,4.6nm,0.7s,baz=16,slow=6.9,SNR=14
WRA pP pP 11 58 46.5 -0.6
comp=Z,7.8nm,0.9s,baz=16,slow=7.0,SNR=12
WRA LR LR 12 24 52.7
comp=Z,60nm,21.9s,baz=5.0,slow=34
A19A Klindworth Far 65.25 45 ⇓P P 11 58 32.9 -1.6
baz=65,SNR=5.9
LRM Limekiln Ridge 65.25 50 eP P 11 58 35.6 +0.8
comp=Z,254nm,1.0s
EGMT Eagleton 65.31 46 eP P 11 58 35.5 +0.6
comp=Z,34nm,0.9s
EGMT Eagleton 65.31 46 ⇑P P 11 58 34.4 -0.5
baz=65,SNR=5.8
IPAY Payeh 65.39 298 eP P 11 58 36.4 +0.5
CMB Columbia Colle 65.41 60 eP P 11 58 36.9 +1.2
CMB pmax pmax
comp=Z,31nm,1.3s
CMB Columbia Colle 65.41 60 eP P 11 58 36.9 +1.2
comp=Z,31nm,1.3s
B19A Brinkman Farms 65.45 46 ⇑P P 11 58 35.3 -0.5
baz=65,SNR=5.1
OBN Obninsk 65.47 324⇑eP P 11 58 37.4 +1.8
OBN i 11 59 08.8
OBN e 12 00 59.6
OBN pmax pmax
comp=Z,37nm,2.0s
OBN MLR MLR
comp=Z,565nm,15.0s
OBN Obninsk 65.47 324 eP P 11 58 37.4 +1.8
IKRD Kardeh 65.50 298 eP P 11 58 30.2 -6.3
HLID Hailey 65.57 52 eP P 11 58 37.6 +0.9
comp=Z,26nm,1.4s
HLID Hailey 65.57 52 ⇓P P 11 58 35.0 -1.8
baz=65,SNR=8.7
MCMT McKenzie Canyo 65.66 51 P P 11 58 37.7 +0.3
comp=Z,5.0nm,1.1s
A20A Cobblestone Ra 65.70 45 ⇑P P 11 58 36.2 -1.2
baz=66
WAKR Walker 65.71 59 eP P 11 58 37.9 +0.1
comp=Z,29nm,1.3s
BOZ Bozeman (W) 65.81 49 eP P 11 58 39.1 +0.8
BOZ pmax pmax
comp=Z,24nm,0.7s
BOZ Bozeman (W) 65.81 49 eP P 11 58 39.1 +0.8
comp=Z,24nm,0.7s
BOZ Bozeman (W) 65.81 49 eP P 11 58 39.1 +0.8
C19A Slack Wire Ran 65.86 46 ⇑P P 11 58 37.8 -0.6
baz=66,SNR=5.9
BMN Battle Mountai 65.87 57 eP P 11 58 39.0 +0.3
BMN pmax pmax
comp=Z,37nm,1.2s
BMN Battle Mountai 65.87 57 eP P 11 58 39.0 +0.3
comp=Z,37nm,1.2s
VRHR Novokhopersk 65.90 319 eP P 11 58 36.4 -2.1
VRHR pmax pmax
comp=N,5.0nm,0.8s
VRHR pmax pmax
comp=E,8.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR MLR MLR
comp=N,420nm,16.0s
VRHR MLR MLR
comp=E,620nm,16.0s
VRHR MLR MLR
comp=Z,690nm,16.0s
B20A Solberg Farm, 65.93 45 ⇓P P 11 58 38.7 -0.2
baz=66
A21A Bergtoll Ranch 66.13 44 ⇑P P 11 58 39.5 -0.6
baz=66,SNR=6.6
D19A Cripps Ranch, 66.31 47 ⇑P P 11 58 40.9 -0.5
baz=66,SNR=6.2
C20A Veseth Ranch, 66.41 46 ⇓P P 11 58 41.6 -0.4
baz=66,SNR=6.0
QLMT Earthquake Lak 66.44 50 eP P 11 58 43.9 +1.5
comp=Z,4.7nm,1.3s
NVAR Mina Array Bea 66.45 59 P P 11 58 43.9 +1.3
comp=Z,2.4nm,0.7s,baz=288,slow=6.8,SNR=23
NVAR pP pP 11 58 55.9 +0.5
comp=Z,11nm,0.6s,baz=301,slow=7.2,SNR=30
NV11 Mina Array Sit 66.55 59 eP P 11 58 43.4 +0.3
MLAC Mammoth Lakes 66.62 60 ⇓P P 11 58 43.1 -0.6
baz=66,SNR=7.2
A22A Carney Farms, 66.63 44 ⇓P P 11 58 42.7 -0.7
baz=66,SNR=5.1
D20A Manuel Ranch, 66.75 46 ⇑P P 11 58 43.7 -0.4
baz=66,SNR=7.1
YMR Madison River 66.80 50 eP P 11 58 45.9 +1.2
comp=Z,20nm,0.8s
C21A Desert Coulee 66.80 45 ⇓P P 11 58 44.1 -0.4
baz=67,SNR=5.7
E19A Rath Farm, Rou 66.81 47 ⇑P P 11 58 44.6 0.0
baz=67,SNR=5.7
YNR Norris Junctio 66.92 50 eP P 11 58 45.5 0.0
comp=Z,32nm,1.2s
VSR Storozhevoye 66.97 320 eP P 11 58 44.3 -1.0
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR MLR MLR
comp=N,500nm,14.0s
VSR MLR MLR
comp=E,300nm,14.0s
VSR MLR MLR
comp=Z,700nm,14.0s
KAD Karad 66.99 272 ex x 11 58 46.5
YFT Old Faithful 67.01 50 P P 11 58 46.0 0.0
comp=Z,24nm,1.0s

B22A Reddig Ranch S 67.05 44 ⇓P P 11 58 44.7 -1.3
baz=67
VORD Divnogorie 67.08 320 eP P 11 58 44.3 -1.7
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD MLR MLR
comp=N,730nm,18.0s
VORD MLR MLR
comp=E,400nm,18.0s
VORD MLR MLR
comp=Z,750nm,18.0s
F19A Roth Farm, Mol 67.12 48 ⇑P P 11 58 45.4 -1.2
baz=67,SNR=7.9
E20A Meyer Farm, Mu 67.13 47 ⇑P P 11 58 45.2 -1.3
baz=67,SNR=5.8
H17A Grant Village 67.19 50 P P 11 58 49.4 +2.2
comp=Z,47nm,1.3s
H17A Grant Village 67.19 50 ⇑P P 11 58 46.4 -0.8
baz=67,SNR=7.7
TPH Tonopah 67.34 59 eP P 11 58 48.6 +0.4
TPH pmax pmax
comp=Z,64nm,1.4s
TPH Tonopah 67.34 59 eP P 11 58 48.6 +0.4
comp=Z,64nm,1.4s
SMMC Simmler 67.34 62 ⇑P P 11 58 47.4 -0.7
baz=67
D21A La Casta Ranch 67.35 46 ⇑P P 11 58 47.7 -0.3
baz=67
RLMT Red Lodge 67.43 49 eP P 11 58 49.4 +0.8
comp=Z,44nm,1.4s
B23A Brockton 67.44 44 ⇓P P 11 58 46.8 -1.7
baz=67
C22A Vida 67.47 45 ⇓P P 11 58 47.0 -1.7
baz=67
I17A Pilgrim Ck. 67.49 50 ⇑P P 11 58 47.0 -2.1
baz=67,SNR=6.5
H18A Shoshone NF, C 67.50 49 ⇑P P 11 58 47.1 -2.1
baz=67,SNR=8.9
F20A Billings 67.58 47 ⇑P P 11 58 47.7 -1.8
baz=67,SNR=5.7
VES Vestal, Richgr 67.59 61 ⇓P P 11 58 48.5 -1.0
baz=67,SNR=6.6
A24A Westby 67.62 43 ⇓P P 11 58 48.0 -1.6
baz=67
HVU Hansel Valley 67.63 53 P P 11 58 52.4 +2.4
HVU pmax pmax
comp=Z,20nm,1.1s
HVU Hansel Valley 67.63 53 P P 11 58 52.4 +2.4
comp=Z,20nm,1.1s
E21A Keefer Ranch, 67.66 46 ⇓P P 11 58 49.0 -0.9
baz=67
D22A Cohagen 67.72 45 ⇓P P 11 58 49.8 -0.4
baz=68
C23A Lambert 67.79 44 ⇑P P 11 58 50.1 -0.6
baz=68,SNR=5.2
DGMT Dagmar 67.83 43 eP P 11 58 51.4 +0.5
comp=Z,27nm,0.6s
DGMT Dagmar 67.83 43 ⇑P P 11 58 50.2 -0.7
baz=68
H19A Powell 67.87 49 ⇓P P 11 58 51.0 -0.4
baz=68
G20A Bridger 67.93 48 ⇑P P 11 58 50.8 -0.9
baz=68,SNR=5.4
GRAC Grapevine Rang 67.93 60 ⇑P P 11 58 51.6 -0.2
baz=68,SNR=7.2
AHID Auburn Hatcher 67.95 51 eP P 11 58 53.6 +1.6
comp=Z,12nm,1.0s
LAO LASA Array 68.00 46 eP P 11 58 53.7 +1.6
DZM Mont Dzumac 68.04 162 eLR LR 12 19 29.8
comp=Z,429nm,30.8s
A25A Svangstu Ranch 68.04 42 ⇑P P 11 58 51.8 -0.4
baz=68
ISA Isabella 68.08 61 ⇑P P 11 58 52.8 0.0
baz=68
F21A Absaloka Mine, 68.11 47 ⇑P P 11 58 52.3 -0.4
baz=68
R11A Troy Canyon, C 68.16 57 eP P 11 58 54.0 +0.7
comp=Z,33nm,1.3s
R11A Troy Canyon, C 68.16 57 ⇓P P 11 58 52.8 -0.6
baz=68
D23A Lindsay 68.20 45 ⇓P P 11 58 52.5 -0.7
baz=68
ARVC Arvin 68.20 62 ⇓P P 11 58 53.0 -0.4
baz=68
DAC Darwin (Calif) 68.25 60 eP P 11 58 53.5 -0.4
DAC pmax pmax
comp=Z,16nm,1.1s
DAC Darwin (Calif) 68.25 60 eP P 11 58 53.5 -0.4
comp=Z,16nm,1.1s
I19A Meeteetse 68.28 49 ⇑P P 11 58 53.1 -0.9
baz=68,SNR=6.9
E22A Miles City 68.31 46 ⇓P P 11 58 52.9 -1.0
baz=68
C24A Savage 68.35 44 ⇑P P 11 58 53.5 -0.7
baz=68
H20A Greybull 68.53 48 ⇓P P 11 58 54.6 -0.8
baz=68
FURC Furnace Creek, 68.58 60 ⇓P P 11 58 55.6 -0.1
baz=68
F22A Rosebud 68.59 46 ⇑P P 11 58 55.3 -0.4
baz=68,SNR=6.8
A26A Wade Farm, Ken 68.59 42 ⇓P P 11 58 54.8 -0.8
baz=68
OSI Osito Adit 68.59 62 ⇓P P 11 58 55.4 -0.5
baz=68
DUG Dugway 68.63 54 eP P 11 58 56.5 +0.3
DUG pmax pmax
comp=Z,4.0nm,1.0s
DUG Dugway 68.63 54 eP P 11 58 56.5 +0.3
comp=Z,4.2nm,1.0s
DUG Dugway 68.63 54 eP P 11 58 56.5 +0.3
DUG Dugway 68.63 54 ⇑P P 11 58 55.6 -0.5
baz=68,SNR=8.8
D24A Glendive 68.68 44 ⇑P P 11 58 56.0 -0.2
baz=68,SNR=5.4
LRMC Laurel Mountai 68.70 61 ⇓P P 11 58 56.1 -0.5
baz=68
J19A Crowheart 68.76 50 ⇑P P 11 58 56.2 -0.8
baz=68,SNR=9.9
BW06 Boulder Array 68.81 51 eP P 11 58 57.8 +0.4
comp=Z,43nm,1.4s
I20A Worland 68.81 49 ⇓P P 11 58 55.7 -1.6
baz=69,SNR=5.8
TCUT Toone Canyon 68.84 53 eP P 11 58 58.1 +0.5
comp=Z,23nm,1.0s
B26A Jensen Ranch, 68.85 42 ⇓P P 11 58 56.5 -0.8
baz=69
CTU Camp Tracy 68.92 53 eP P 11 58 58.9 +0.8
comp=Z,23nm,1.2s
AS31 Alice Springs 68.93 194 eP P 11 58 57.9 0.0
ASAR Alice Springs 68.93 194 P P 11 58 58.6 +0.7
comp=Z,4.7nm,0.7s,baz=12,slow=6.1,SNR=29
ASAR pP pP 11 59 11.0 +0.2
comp=Z,3.8nm,0.6s,baz=13,slow=7.2,SNR=10
ASAR LR LR 12 27 58.1
comp=Z,85nm,21.2s,baz=14,slow=35
A27A Ledoux Ranch, 68.93 42 ⇓P P 11 58 57.0 -0.8
baz=69
H21A Big Horn, Sher 68.94 48 ⇑P P 11 58 56.4 -1.7
baz=69
G22A Birney 68.94 47 ⇓P P 11 58 57.2 -0.8
baz=69,SNR=6.3
E24A Baker 69.06 45 ⇑P P 11 58 57.0 -1.7
baz=69
F23A Volborg 69.07 46 ⇑P P 11 58 57.2 -1.5
baz=69,SNR=6.4
DECC Green Verdugo 69.08 62 ⇓P P 11 58 58.2 -0.7
baz=69
D25A Fairfield 69.16 44 ⇓P P 11 58 57.7 -1.5
baz=69
GOF Gofitskoye 69.21 313 eP P 11 58 59.8 +0.3
GOF pmax pmax
comp=Z,50nm,1.2s
NLU North Lily Min 69.21 54 eP P 11 59 00.6 +0.6
comp=Z,15nm,1.1s
IANJ Anjilo 69.22 300 eP P 11 58 59.5 -0.5
J20A Shoshoni 69.23 49 ⇓P P 11 58 59.0 -0.8
baz=69,SNR=7.6
C26A Wahner Farm, P 69.30 43 ⇓P P 11 58 58.6 -1.5
baz=69
B27A Peters Farms, 69.30 42 ⇓P P 11 58 59.0 -1.1
baz=69
SHOC Shoshone 69.31 60 ⇓P P 11 59 00.3 0.0
baz=69

I21A Big Trails, Te 69.35 49 ⇑P P 11 58 59.9 -0.8
baz=69,SNR=8.2
GSC Goldstone 69.36 61 ⇑P P 11 59 59.8 -0.9
baz=69
DAU Daniels Canyon 69.39 53 P P 11 59 02.3 +1.2
DAU pmax pmax
comp=Z,39nm,1.5s
DAU Daniels Canyon 69.39 53 P P 11 59 02.3 +1.2
comp=Z,39nm,1.5s
A28A Rude Farm, Bot 69.42 41 ⇓P P 11 58 59.4 -1.4
baz=69
G23A Biddle 69.43 47 ⇓P P 11 58 59.9 -1.1
baz=69,SNR=6.5
MPU Maple Canyon 69.43 54 eP P 11 59 01.8 +0.5
comp=Z,18nm,1.0s
NB2 NORSAR Subarra 69.46 339 P P 11 59 00.2 -0.6
comp=Z,6.3nm,0.4s,baz=30,slow=6.5
NOA NORSAR Array B 69.46 339 P P 11 58 59.9 -1.0
NOA pmax pmax
comp=Z,7.0nm,0.4s
NOA MLR MLR
comp=Z,463nm,21.9s
NOA NORSAR Array B 69.46 339 P P 11 58 59.9 -1.0
comp=Z,7.4nm,0.4s,baz=32,slow=6.6,SNR=56
NOA LR LR 12 32 25.4
comp=Z,463nm,21.9s,baz=40,slow=38
F24A Ekalaka 69.48 46 ⇓P P 11 59 00.9 -0.5
baz=69,SNR=5.5
BFSC Mount Baldy Ra 69.51 62 ⇑P P 11 59 01.4 -0.3
baz=69
NACGM Naroch 69.53 328 e P 11 59 01.0 -0.3
E25A Miller Ranch, 69.56 44 ⇓P P 11 59 01.3 -0.5
baz=69
J21A Lysite 69.58 49 ⇑P P 11 59 01.3 -0.8
baz=69,SNR=6.4
SHPR Sheep Range 69.61 59 eP P 11 59 03.5 +1.2
comp=Z,52nm,1.3s
C27A Sayler Ranch, 69.67 43 ⇑P P 11 59 01.0 -1.3
baz=69
D26A Manning 69.68 44 ⇓P P 11 59 01.1 -1.4
baz=69
B28A Dugan Ranch, T 69.70 41 ⇑P P 11 59 01.5 -1.0
baz=69
NAO01 NORSAR Array S 69.71 339 eP P 11 59 01.7 -0.6
comp=Z,6.6nm,0.8s
I22A 9 Mile Ranch, 69.73 48 ⇓P P 11 59 01.9 -1.1
baz=70,SNR=8.6
SCI San Clemente I 69.75 63 ⇑P P 11 59 02.3 -0.7
baz=70
ARUT Antelope Range 69.82 57 eP P 11 59 04.9 +1.2
ARUT pmax pmax
comp=Z,107nm,1.2s
ARUT Antelope Range 69.82 57 eP P 11 59 04.8 +1.2
comp=Z,107nm,1.2s
TUQ Turquoise Moun 69.83 60 ⇑P P 11 59 03.4 -0.3
baz=70,SNR=8.3
G24A Alzada 69.85 46 ⇑P P 11 59 02.6 -1.0
baz=70,SNR=6.7
A29A Manning Farm, 69.90 41 ⇓P P 11 59 02.0 -1.8
baz=70,SNR=9.6
F25A Bowman 69.93 45 ⇓P P 11 59 02.5 -1.5
baz=70
BBRC Big Bear Solar 69.96 62 ⇑P P 11 59 03.9 -0.8
baz=70
HEC Hector,Ludlow 69.97 61 ⇑P P 11 59 04.4 0.0
baz=70
CCUT Cedar City 70.02 57 eP P 11 59 06.0 +1.0
comp=Z,30nm,1.2s
E26A Carlson Angus 70.05 44 ⇓P P 11 59 04.1 -0.7
baz=70
J22A Midwest 70.06 48 ⇑P P 11 59 03.6 -1.4
baz=70
KIV Kislovodsk 70.14 312 P P 11 59 06.9 +1.5
comp=Z,226nm,0.9s,SNR=5.8
KIV Kislovodsk 70.14 312 c iP P 11 59 05.4 0.0
KIV i 11 59 27.2
KIV i SS SS 12 12 44.1 +1.3
KIV pmax pmax
comp=Z,46nm,1.0s
KIV MLR MLR
comp=Z,1µm,19.0s
KIV Kislovodsk 70.14 312 eP P 11 59 05.0 -0.4
comp=Z,68nm,1.2s
KIV Kislovodsk 70.14 312 eP P 11 59 05.4 0.0
TMUT Trail Mountain 70.15 54 eP P 11 59 06.5 +0.6
comp=Z,18nm,1.1s
K21A Alcova 70.17 50 ⇓P P 11 59 04.2 -1.5
baz=70,SNR=7.2
B29A Wagenman Farm, 70.17 41 ⇓P P 11 59 03.9 -1.5
baz=70,SNR=5.3
H24A Dirks Ranch, A 70.17 46 ⇑P P 11 59 04.1 -1.5
baz=70
KBZ Khabaz 70.18 312 P P 11 59 05.7 +0.2
KBZ pmax pmax
comp=Z,18nm,1.0s
KBZ MLR MLR
comp=Z,1µm,18.1s
KBZ Khabaz 70.18 312 P P 11 59 05.7 +0.2
comp=Z,18nm,1.0s,baz=58,slow=3.4,SNR=23
KBZ LR LR 12 35 02.0
comp=Z,1µm,18.1s,baz=38,slow=40
C28A Hausauer Farms 70.20 42 ⇓P P 11 59 04.3 -1.3
baz=70
MURC Murrieta 70.21 62 ⇓P P 11 59 04.5 -1.5
baz=70
ZEI Tsey 70.28 311 eP P 11 59 05.3 -1.1
ZEI pmax pmax
comp=Z,15nm,0.9s
ZEI Tsey 70.28 311 eP P 11 59 05.3 -1.1
A30A Hoffart Farm, 70.32 40 ⇓P P 11 59 04.6 -1.7
baz=70
F26A Lodgepole 70.38 45 ⇓P P 11 59 05.0 -1.8
baz=70
GMRC Granite Mounta 70.42 60 ⇓P P 11 59 06.9 -0.4
baz=70
G25A Newell 70.45 46 ⇓P P 11 59 05.8 -1.4
baz=70
ULM Lac du Bonnet 70.47 38 P P 11 59 07.2 0.0
ULM pmax pmax
comp=Z,2.0nm,0.4s
ULM Lac du Bonnet 70.47 38 P P 11 59 07.2 0.0
comp=Z,1.6nm,0.4s,baz=322,slow=6.3,SNR=5.2
D28A Regan 70.48 43 ⇑P P 11 59 06.3 -1.1
baz=70
E27A Carson 70.53 44 ⇓P P 11 59 07.3 -0.3
baz=70
K22A Casper 70.55 49 eP P 11 59 08.0 0.0
comp=Z,49nm,1.2s
K22A Casper 70.55 49 ⇓P P 11 59 07.4 -0.6
baz=70,SNR=8.8
B30A Myrvik Farm, E 70.66 40 ⇓P P 11 59 07.5 -0.9
baz=70,SNR=12
IBAF Bafgh 70.66 295 eP P 11 59 08.3 -0.6
SRU San Rafael 70.67 54 eP P 11 59 09.2 +0.3
SRU pmax pmax
comp=Z,26nm,1.0s
SRU San Rafael 70.67 54 eP P 11 59 09.2 +0.3
comp=Z,26nm,1.0s
F27A Lemmon 70.69 44 ⇑P P 11 59 08.4 -0.2
baz=70
BELC Belle Mtn. Jos 70.71 61 ⇓P P 11 59 08.5 -0.6
baz=70
H25A Fruitdale 70.75 46 ⇑P P 11 59 08.7 -0.4
baz=70
G26A Maurine 70.80 45 ⇑P P 11 59 08.8 -0.5
baz=71,SNR=5.7
N20A Spence Gulch, 70.81 51 ⇓P P 11 59 08.5 -1.2
baz=71
E28A Huff 70.86 43 ⇑P P 11 59 08.7 -0.9
baz=71
RSSD Black Hills 70.87 47 eP P 11 59 10.1 +0.1
RSSD pmax pmax
comp=Z,12nm,0.8s
RSSD Black Hills 70.87 47 eP P 11 59 10.1 +0.1
comp=Z,12nm,0.8s
K23A Bowen Ranch, D 70.97 49 ⇑P P 11 59 09.9 -0.6
baz=71
L22A Ellis Ranch, M 71.02 50 ⇑P P 11 59 09.8 -1.2
baz=71,SNR=6.5
D29A Pettibone, Tap 71.05 42 ⇑P P 11 59 10.2 -0.6
baz=71
G27A Dupree 71.08 45 ⇓P P 11 59 10.4 -0.7
baz=71,SNR=5.4
I25A Rochford 71.10 47 ⇓P P 11 59 10.5 -0.9
baz=71
C30A Mose, Pekin 71.12 41 ⇑P P 11 59 10.8 -0.4
baz=71
IRM Iron Mountain 71.14 61 ⇑P P 11 59 11.0 -0.6

baz=71,SNR=8.6
H26A Fairpoint 71.18 46 ⇑P P 11 59 11.4 -0.3
baz=71
BC3 Big Chuckawall 71.28 61 ⇑P P 11 59 11.2 -1.3
baz=71
O20A White River Ci 71.30 52 eP P 11 59 10.9 -1.7
comp=Z,15nm,0.8s
O20A White River Ci 71.30 52 ⇑P P 11 59 11.8 -0.8
baz=71
W13A Hualapai Mount 71.31 59 ⇑P P 11 59 11.1 -1.7
baz=71,SNR=7.6
F28A McLaughlin 71.32 44 ⇓P P 11 59 11.8 -0.6
baz=71
M22A Cedar Creek Ra 71.36 50 ⇑P P 11 59 11.4 -1.7
baz=71
L23A Garrett 71.36 49 ⇑P P 11 59 11.1 -2.0
baz=71,SNR=5.9
E29A Napoleon 71.38 43 ⇑P P 11 59 11.0 -1.8
baz=71
U15A North Rim 71.40 57 ⇑P P 11 59 12.3 -1.1
baz=71,SNR=8.5
D30A Buchanan 71.42 42 ⇓P P 11 59 11.0 -2.0
baz=71
J25A Sunshine Ranch 71.50 47 ⇑P P 11 59 13.3 -0.4
baz=71
H27A Howes 71.53 45 ⇓P P 11 59 13.4 -0.3
baz=71
SWSC Sam W. Stewart 71.53 62 ⇓P P 11 59 13.7 -0.2
baz=71
I26A New Underwood 71.55 46 ⇑P P 11 59 12.7 -1.2
baz=71
GNI Garni 71.59 308 c iP P 11 59 16.0 +1.6
GNI pmax pmax
comp=Z,27nm,1.2s
PDMCI Parker Dam,Lak 71.68 60 ⇑P P 11 59 14.4 -0.3
baz=72,SNR=7.8
IRAZ Razeghan 71.72 302 eP P 11 59 15.3 0.0
AKASG Malin Array Be 71.73 324 P P 11 59 13.4 -1.4
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG MLR MLR
comp=Z,443nm,18.8s
AKASG Malin Array Be 71.73 324 P P 11 59 13.3 -1.4
comp=Z,2.4nm,0.4s,baz=37,slow=6.2,SNR=32
AKASG LR LR 12 34 35.8
comp=Z,443nm,18.8s,baz=45,slow=39
AKBB Malin Array Si 71.73 324 eP P 11 59 14.0 -0.7
AKBB Malin Array Si 71.73 324 eP P 11 59 14.0 -0.7
AK01 Malin Array Si 71.74 324 eP P 11 59 13.8 -1.1
KIEV Kiev 71.74 324 eP P 11 59 14.2 -0.6
KIEV pmax pmax
comp=Z,13nm,0.9s
KIEV Kiev 71.74 324 eP P 11 59 14.2 -0.6
comp=Z,13nm,0.9s
KIEV Kiev 71.74 324 eP P 11 59 14.2 -0.6
AK02 Malin Array Si 71.77 324 eP P 11 59 14.5 -0.5
E30A Jud 71.78 42 ⇑P P 11 59 14.6 -0.6
baz=72
M23A Laramie 71.79 50 ⇑P P 11 59 15.1 -0.6
baz=72
Y12C Blythe 71.80 61 ⇓P P 11 59 14.7 -0.8
baz=72,SNR=5.0
G28A Parade 71.80 44 ⇓P P 11 59 14.6 -0.8
baz=72,SNR=5.3
F29A Eureka 71.81 43 ⇑P P 11 59 13.8 -1.6
baz=72
L24A Wheatland 71.83 49 ⇓P P 11 59 14.1 -1.7
baz=72
N22A Wattenberg Ran 71.84 50 ⇓P P 11 59 14.2 -1.8
baz=72
IZEF Zefreh 71.89 298 eP P 11 59 16.2 -0.2
AGMN Agassiz Nation 71.90 39 eP P 11 59 15.7 -0.2
comp=Z,12nm,0.9s
AGMN Agassiz Nation 71.90 39 ⇑P P 11 59 14.1 -1.8
baz=72
J26A Sides Ranch, S 71.93 47 ⇓P P 11 59 14.7 -1.5
baz=72
I27A Quinn 71.94 46 ⇑P P 11 59 14.6 -1.6
baz=72
H28A Mission Ridge 72.03 45 ⇑P P 11 59 15.4 -1.4
baz=72,SNR=6.6
N23A Red Feather La 72.06 50 ⇓P P 11 59 15.8 -1.5
baz=72,SNR=8.7
GLA Glamis 72.07 61 eP P 11 59 18.0 +0.8
GLA pmax pmax
comp=Z,29nm,1.1s
GLA Glamis 72.07 61 eP P 11 59 18.0 +0.8
comp=Z,29nm,1.1s
GLA Glamis 72.07 61 ⇓P P 11 59 16.5 -0.7
baz=72
PV04 Paradox Valley 72.09 54 eP P 11 59 17.4 0.0
F30A Leola 72.20 43 ⇑P P 11 59 16.7 -1.0
baz=72
G29A Hoven 72.22 44 ⇓P P 11 59 17.0 -0.8
baz=72,SNR=5.0
O22A Kremmling 72.23 51 ⇑P P 11 59 16.7 -1.6
baz=72
M24A Cheyenne 72.28 49 ⇑P P 11 59 17.0 -1.5
baz=72
K26A Motz Farm, Whi 72.31 47 ⇓P P 11 59 16.9 -1.6
baz=72
I28A Midland 72.44 45 ⇓P P 11 59 18.7 -0.5
baz=72
PV01 Paradox Valley 72.46 54 eP P 11 59 20.5 +0.8
comp=Z,2µm,1.1s
H29A Onida 72.47 44 ⇑P P 11 59 17.8 -1.6
baz=72,SNR=5.6
P22A Eagle 72.50 52 ⇑P P 11 59 18.1 -1.8
baz=72,SNR=7.2
J27A Elkhorn Farm, 72.53 46 ⇑P P 11 59 18.6 -1.2
baz=72,SNR=5.4
O23A Lake Granby, G 72.55 51 ⇑P P 11 59 19.0 -1.2
baz=72
WUAZ Wupatki 72.56 57 eP P 11 59 19.9 -0.4
comp=Z,31nm,1.2s
WUAZ Wupatki 72.56 57 ⇑P P 11 59 18.8 -1.5
baz=72,SNR=6.9
Y14A Wickenburg 72.62 60 ⇑P P 11 59 19.3 -1.2
baz=72,SNR=9.0
G30A Faulkton 72.65 43 ⇑P P 11 59 19.2 -1.2
baz=72
N24A Carr 72.69 50 ⇓P P 11 59 19.5 -1.5
baz=72,SNR=6.1
M25A Palm-Egli Farm 72.72 49 ⇓P P 11 59 19.3 -1.8
baz=72
K27A Flueckinger Fa 72.80 47 ⇑P P 11 59 20.3 -1.1
baz=73
J28A Allard Ranch, 72.81 46 ⇓P P 11 59 19.9 -1.6
baz=73,SNR=5.5
ISCO Idaho Springs 73.00 51 eP P 11 59 23.2 +0.3
ISCO pmax pmax
comp=Z,9.0nm,0.7s
ISCO Idaho Springs 73.00 51 eP P 11 59 23.2 +0.3
comp=Z,8.7nm,0.7s
ISCO Idaho Springs 73.00 51 ⇑P P 11 59 21.2 -1.8
baz=73,SNR=7.1
O24A Longmont 73.08 50 ⇑P P 11 59 21.7 -1.6
baz=73
MVCO Mesa Verde 73.13 54 eP P 11 59 23.6 -0.1
comp=Z,12nm,0.8s
MVCO Mesa Verde 73.13 54 ⇓P P 11 59 22.5 -1.2
baz=73,SNR=5.5
P23A Jefferson 73.17 51 ⇓P P 11 59 22.4 -1.6
baz=73
M26A McRoberts Ranc 73.19 48 ⇑P P 11 59 23.0 -0.8
baz=73
BRSD Miller 73.23 44 eP P 11 59 23.8 -0.1
comp=Z,17nm,0.7s
BRSD Miller 73.23 44 ⇓P P 11 59 22.2 -1.7
baz=73
K28A Ten Mile Ranch 73.25 46 ⇑P P 11 59 22.0 -2.1
baz=73
X16A Lo Mia Camp, P 73.26 58 ⇓P P 11 59 22.8 -1.7
baz=73
J29A Okreek 73.29 45 ⇑P P 11 59 22.7 -1.6
baz=73,SNR=6.3
P24A Kohler Place, 73.59 51 ⇓P P 11 59 25.7 -0.6
baz=73
N26A Koester Ranch, 73.59 49 ⇓P P 11 59 26.0 -0.2
baz=73
O25A Wiggins 73.61 50 ⇑P P 11 59 25.0 -1.4
baz=73
S22A 4UR Ranch, Cre 73.73 53 ⇑P P 11 59 25.7 -1.6
baz=74,SNR=6.3
K29A Lazy Trails An 73.75 46 ⇓P P 11 59 26.6 -0.4
baz=74,SNR=5.6
J30A Dallas 73.77 45 ⇓P P 11 59 25.7 -1.4
baz=74,SNR=7.4

SIM Simferopol' 73.79 318 P P 11 59 30.6 +3.5
SIM ePS PnS 12 09 21.0 -11
SIM MLR MLR
comp=Z,200nm,15.0s
Q24A Divide 73.84 51 ⇑P P 11 59 26.0 -1.9
baz=74,SNR=5.7
O26A Horse Wrangler 73.96 49 ⇑P P 11 59 27.0 -1.4
baz=74
N27A Anderson Farm, 73.98 48 ⇓P P 11 59 26.7 -1.8
baz=74,SNR=6.1
R23A Moffat 73.99 52 ⇑P P 11 59 27.1 -1.7
baz=74
P25A Willow Gulch B 74.00 50 ⇑P P 11 59 27.1 -1.6
baz=74,SNR=5.6
214A Organ Pipe Nat 74.07 61 ⇑P P 11 59 27.8 -1.2
baz=74
X18A Snowflake 74.09 57 ⇑P P 11 59 28.0 -1.3
baz=74
EYMN Ely 74.11 37 eP P 11 59 28.5 -0.4
comp=Z,19nm,1.1s
OGNE Ogallala 74.15 48 eP P 11 59 29.4 0.0
comp=Z,124nm,1.3s
OGNE Ogallala 74.15 48 ⇑P P 11 59 28.1 -1.3
baz=74
L29A Maesberg Ranch 74.17 46 ⇑P P 11 59 28.1 -1.4
baz=74
S23A Nye Farm, Mont 74.23 53 ⇓P P 11 59 28.7 -1.4
baz=74
R24A Sanders Place, 74.37 52 ⇑P P 11 59 29.4 -1.5
baz=74,SNR=7.7
Q25A Bedland, Calha 74.38 51 ⇑P P 11 59 29.4 -1.5
baz=74,SNR=6.9
P26A Davis Ranch, A 74.42 50 ⇓P P 11 59 29.7 -1.4
baz=74
O27A Beecher Island 74.45 49 ⇓P P 11 59 29.8 -1.4
baz=74
SDCO Great Sand Dun 74.49 52 eP P 11 59 33.3 +1.6
comp=Z,17nm,1.4s
LVV L'vov 74.53 326 eP P 11 59 30.8 -0.6
N28A Pribbeno Ranch 74.60 48 ⇑P P 11 59 30.5 -1.5
baz=74
L30A Spencer Herefo 74.64 46 ⇑P P 11 59 30.8 -1.5
baz=74
U22A Llaves 74.66 54 ⇓P P 11 59 30.8 -1.8
baz=74,SNR=5.8
T23A Casias Ranch, 74.67 53 ⇓P P 11 59 31.2 -1.5
baz=74
S24A Houchin Ranch, 74.72 52 ⇓P P 11 59 31.2 -1.9
baz=74
Q26A Hugo 74.77 50 ⇑P P 11 59 31.6 -1.5
baz=75,SNR=6.2
P27A Ficken Ranch, 74.84 49 ⇓P P 11 59 32.0 -1.5
baz=75
R25A Fountain Ranch 74.89 51 ⇑P P 11 59 32.0 -1.8
baz=75
ECSD EROS Data Cent 74.91 43 eP P 11 59 32.5 -1.1
comp=Z,65nm,1.5s
ECSD EROS Data Cent 74.91 43 ⇓P P 11 59 31.7 -2.0
baz=75
L31A Butterfield Fa 74.93 45 ⇓P P 11 59 32.1 -1.8
baz=75,SNR=6.6
V22A San Miguel Ran 74.95 54 ⇓P P 11 59 33.6 -0.7
baz=75
N29A Votaw Ranch, W 74.99 47 ⇑P P 11 59 33.2 -1.1
baz=75
T24B San Luis 75.03 53 ⇓P P 11 59 33.2 -1.7
baz=75
U23A El Rito 75.08 54 ⇑P P 11 59 33.5 -1.5
baz=75,SNR=7.4
S25A Robets Cordova 75.15 52 ⇓P P 11 59 34.7 -0.7
baz=75
KSCO Kaye Shedlock' 75.20 50 eP P 11 59 36.6 +1.0
comp=Z,29nm,1.1s
KSCO Kaye Shedlock' 75.20 50 ⇑P P 11 59 34.7 -0.9
baz=75,SNR=5.1
KWP Kalwaria Pacla 75.21 327 eP P 11 59 36.0 +0.7
KWP Kalwaria Pacla 75.21 327 eP P 11 59 35.9 +0.7
KWP Kalwaria Pacla 75.21 327⇓iP P 11 59 35.8 +0.5
R26A Arlington 75.25 51 ⇓P P 11 59 35.1 -0.7
baz=75,SNR=6.4
P28A Saint Francis 75.28 49 ⇑P P 11 59 34.9 -1.1
baz=75
O29A 4D Ranch, Culb 75.39 48 ⇓P P 11 59 35.3 -1.2
baz=75
V23A Ortiz Mt. (NFS 75.49 54 ⇓P P 11 59 35.5 -1.9
baz=75,SNR=6.2
T25A Trinidad 75.53 52 ⇓P P 11 59 36.2 -1.4
baz=75
U24A Moreno Valley 75.55 53 ⇑P P 11 59 36.8 -1.0
baz=75
SPMN St. Paul 75.60 40 eP P 11 59 38.9 +1.3
comp=Z,15nm,0.9s
SPMN St. Paul 75.60 40 ⇓P P 11 59 35.8 -1.8
baz=75
Q28A Sharon Springs 75.60 49 ⇑P P 11 59 36.7 -1.1
baz=75
R27A Eads 75.62 50 ⇓P P 11 59 36.3 -1.7
baz=75
P29A Atwood 75.70 48 ⇓P P 11 59 37.7 -0.6
baz=76
S26A Kim 75.72 51 ⇑P P 11 59 36.9 -1.6
baz=76
O30A MW Ranch, Wils 75.75 47 ⇓P P 11 59 37.9 -0.7
baz=76
BUR08 Bucovina Ar. S 75.77 324 eP P 11 59 38.5 -0.2
BURAR Bucovina Array 75.79 324⇑iP P 11 59 39.0 +0.3
OJC Ojcow 75.84 329 eP P 11 59 39.1 +0.2
OJC Ojcow 75.84 329 eP P 11 59 39.1 +0.2
OJC Ojcow 75.84 329 eP P 11 59 39.1 +0.2
BGNE Belgrade 75.84 45 ⇓P P 11 59 37.8 -1.3
baz=76
BSEG Bad Segeberg 75.85 336 eP P 11 59 38.7 -0.1
comp=Z,32nm,1.1s
LAZ Ladron 75.86 56 eP P 11 59 39.9 +0.3
comp=Z,14nm,1.4s
ANMO Albuquerque 75.89 55⇑eP P 11 59 40.2 +0.5
ANMO pmax pmax
comp=Z,14nm,1.7s
ANMO Albuquerque 75.89 55 eP P 11 59 39.3 -0.3
comp=Z,14nm,1.2s
W23A Werner Place, 75.92 55 ⇓P P 11 59 39.0 -0.9
baz=76,SNR=5.8
KOLS Kolonicke sedl 75.94 327 eP P 11 59 39.7 +0.2
KOLS pmax pmax
comp=Z,12nm,1.1s
KOLS Kolonicke sedl 75.94 327 eP P 11 59 39.7 +0.2
STHS Stebnicka Huta 75.95 328 eP P 11 59 40.6 +1.1
STHS pmax pmax
comp=Z,11nm,1.1s
STHS Stebnicka Huta 75.95 328 eP P 11 59 40.6 +1.1
T26A Comanche Natio 75.97 52 ⇓P P 11 59 38.3 -1.8
baz=76,SNR=6.2
V24A Rampart Ranch, 76.03 54 ⇓P P 11 59 38.4 -2.2
baz=76,SNR=6.0
TESR Tescani 76.04 323⇓iP P 11 59 40.0 -0.1
U25A Circle Dot Ran 76.05 53 ⇑P P 11 59 38.5 -2.1
baz=76
STKA Stephens Creek 76.06 186 P P 11 59 41.1 +1.0
comp=Z,3.4nm,0.7s,baz=349,slow=11,SNR=6.9
STKA LR LR 12 30 11.8
comp=Z,180nm,21.4s,baz=22,slow=33
P30A Selden 76.11 48 ⇑P P 11 59 39.2 -1.5
baz=76,SNR=5.6
R28A Tribune 76.13 50 ⇑P P 11 59 39.3 -1.5
baz=76
O31A Woolen Ranch, 76.15 47 ⇓P P 11 59 39.8 -1.0
baz=76
UZH Uzhgorod 76.17 327 eP P 11 59 40.0 -0.8
UZH i 11 59 49.8
UZH e 11 59 55.2
Q29A Oakley 76.19 49 ⇑P P 11 59 39.8 -1.3
baz=76
CRVS Cervenica-Dubn 76.28 327 eP P 11 59 41.7 +0.3
CRVS pmax pmax
comp=Z,20nm,1.6s
CRVS Cervenica-Dubn 76.28 327 eP P 11 59 41.7 +0.3
NIE Niedzica 76.30 328 eP P 11 59 42.0 +0.4
NIE Niedzica 76.30 328 eP P 11 59 42.0 +0.4
W24A Lazy 6 Ranch, 76.31 54 ⇓P P 11 59 40.6 -1.5
baz=76
V25A Rancho No Teng 76.33 53 ⇓P P 11 59 40.3 -1.9
baz=76
MALT Malatya 76.38 311⇓iP P 11 59 43.8 +1.5
PETR Petresti 76.40 322⇓iP P 11 59 43.8 +1.7
CFR Carcaliu 76.41 321⇑iP P 11 59 42.8 +0.6
R29A Marienthal 76.43 49 ⇓P P 11 59 40.9 -1.7
baz=76,SNR=6.0

U26A Atchley Ranch, 76.44 52 ⇓P P 11 59 40.6 -2.2
baz=76
TRPA Tarpa 76.47 326⇓iP P 11 59 42.9 +0.4
VRI Vrincioaia 76.51 322⇓iP P 11 59 44.3 +1.5
Q30A Quinter 76.53 48 ⇑P P 11 59 42.1 -1.0
baz=76,SNR=5.4
T27A Campo 76.54 51 ⇓P P 11 59 41.8 -1.5
baz=76
KSP Ksiaz 76.58 331⇑eP P 11 59 43.1 0.0
KSP e*PP pP 11 59 55.8 -0.3
KSP MLR MLR
comp=Z,3µm,19.7s
KSP Ksiaz 76.58 331 eP P 11 59 43.4 +0.3
P31A Stockton 76.58 47 ⇑P P 11 59 41.9 -1.5
baz=76,SNR=6.2
S28A Manter 76.62 50 ⇑P P 11 59 42.4 -1.2
baz=76,SNR=5.4
O32A Brockman Farm, 76.62 46 ⇓P P 11 59 42.3 -1.2
baz=76
319A Douglas 76.66 59 ⇑P P 11 59 43.1 -0.9
baz=76,SNR=6.3
OKC Ostrava-Krasne 76.76 330⇑iP P 11 59 44.4 +0.3
OKC e 11 59 56.8
OKC MLR MLR
comp=Z,400nm,15.1s
OKC Ostrava-Krasne 76.76 330⇑iP P 11 59 44.4 +0.3
OKC epP pP 11 59 56.8 -0.3
OKC AMS AMS 12 35 50.0
comp=Z,400nm,15.1s
Z22A Elephant Butte 76.77 56 ⇓P P 11 59 43.4 -1.2
baz=77,SNR=6.4
121A Cookes Peak, D 76.77 57 eP P 11 59 45.8 +1.1
comp=Z,37nm,1.3s
121A Cookes Peak, D 76.77 57 ⇓P P 11 59 43.7 -1.0
baz=77,SNR=7.7
SCHQ Schefferville 76.78 20 P P 11 59 44.4 +0.3
comp=Z,5.0nm,0.7s,baz=331,slow=8.0,SNR=7.5
SCHQ LR LR 12 36 34.7
comp=Z,414nm,20.2s,baz=342,slow=38
Y23A Lovelace Mesa, 76.83 55 ⇑P P 11 59 43.9 -1.1
baz=77,SNR=7.7
T28A Walsh 76.83 51 ⇑P P 11 59 43.4 -1.5
baz=77
V26A Tequesquite Ra 76.84 53 ⇑P P 11 59 43.3 -1.6
baz=77
W25A X Bar L Ranch, 76.86 54 ⇑P P 11 59 43.5 -1.6
baz=77,SNR=7.3
P32A Huiting Farm, 76.92 47 ⇓P P 11 59 43.7 -1.6
baz=77
U27A Thompson Grove 76.94 52 ⇓P P 11 59 44.1 -1.4
baz=77
UPC Upice 76.96 331 iP P 11 59 45.8 +0.6
UPC e 11 59 58.2
UPC Upice 76.96 331⇑iP P 11 59 45.8 +0.6
UPC epP pP 11 59 58.2 0.0
DPC Dobruska-Polom 76.99 331⇑iP P 11 59 46.0 +0.6
DPC e 11 59 58.4
DPC Dobruska-Polom 76.99 331⇑iP P 11 59 46.0 +0.6
DPC epP pP 11 59 58.4 0.0
DPC AMS AMS 12 36 20.0
R30A Dighton 77.00 49 ⇓P P 11 59 44.6 -1.1
baz=77
S29A Ulysses 77.03 50 ⇓P P 11 59 43.9 -2.0
baz=77
MORC Moravsky Berou 77.03 330 eP P 11 59 45.6 -0.1
MORC pmax pmax
comp=Z,27nm,1.3s
MORC Moravsky Berou 77.03 330⇑iP P 11 59 46.1 +0.4
MORC Moravsky Berou 77.03 330 eP P 11 59 45.6 -0.1
comp=Z,27nm,1.3s
KRLC Kraliky 77.06 330⇑iP P 11 59 46.2 +0.4
KRLC Kraliky 77.06 330⇑iP P 11 59 46.2 +0.4
MLR Muntele Rosu 77.14 323⇑iP P 11 59 48.0 +1.5
NRDL Niedersach Rie 77.17 335 eP P 11 59 46.0 -0.2
comp=Z,27nm,1.4s
Y24A Capitan 77.20 55 ⇑P P 11 59 46.4 -0.8
baz=77,SNR=5.5
X25A Clemmons Ranch 77.23 54 ⇓P P 11 59 45.6 -1.6
baz=77
CLL Collm 77.29 333⇑iP P 11 59 46.8 -0.2
CLL e 11 59 54.0
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL MLR MLR
comp=Z,600nm,18.6s
CLL Collm 77.29 333 eP P 11 59 46.2 -0.8
comp=Z,33nm,1.0s
CLL Collm 77.29 333⇑iP P 11 59 46.8 -0.2
comp=Z,33nm,1.0s
CLL e 11 59 54.0
CLL i pP pP 12 00 00.0 -0.1
CLL i (pPcP) 12 00 13.8
CLL Lm MLR 12 37 00.0
comp=N,500nm,19.3s
CLL Lm MLR 12 37 00.0
comp=E,200nm,21.7s
CLL Lm MLR 12 37 00.0
comp=Z,600nm,18.6s
CLL Collm 77.29 333 eP P 11 59 46.8 -0.2
U28A Mallet 77.30 51 ⇓P P 11 59 45.7 -1.9
baz=77
W26A Owens Ranch, T 77.35 53 ⇑P P 11 59 46.2 -1.7
baz=77
BRG Berggiesshubel 77.36 332 eP P 11 59 47.3 -0.1
comp=Z,12nm,1.1s
BRG e 12 00 00.2
comp=Z,13nm,1.2s
BRG
comp=N,392nm,14.9s
BRG
comp=E,433nm,18.0s
BRG
comp=Z,695nm,16.0s
BRG Berggiesshubel 77.36 332 eP P 11 59 47.3 -0.1
BRG e 12 00 00.2
BRG pmax pmax
comp=Z,18nm,1.1s
BRG MLR MLR
comp=N,13µm,14.9s
BRG MLR MLR
comp=E,392nm,18.0s
BRG MLR MLR
comp=Z,433nm,16.0s
BRG Berggiesshubel 77.36 332 eP P 11 59 46.9 -0.5
comp=Z,12nm,1.1s
BRG epP pP 11 59 59.7 -0.7
S30A Montezuma 77.37 49 ⇑P P 11 59 46.2 -1.6
baz=77
R31A Burdett 77.40 48 ⇑P P 11 59 47.4 -0.6
baz=77
Q32A Meitler Ranch, 77.41 47 ⇑P P 11 59 47.4 -0.6
baz=77
DRGR 77.48 325⇑iP P 11 59 48.7 +0.4
VOIR 77.57 323⇑iP P 11 59 49.6 +0.8
VYHS Vyhne 77.62 328 eP P 11 59 49.4 +0.5
VYHS pmax pmax
comp=Z,14nm,1.4s
VYHS Vyhne 77.62 328 eP P 11 59 49.4 +0.5
Y25A Mesa, Roswell 77.64 55 ⇓P P 11 59 47.8 -1.7
baz=77,SNR=7.1
CLZ Clausthal 77.66 335 eP P 11 59 49.0 -0.1
comp=Z,75nm,1.5s
Z24A Sheeppen Canyo 77.66 55 ⇑P P 11 59 47.8 -1.9
baz=78,SNR=5.2
PSZ Piszkesteto 77.69 327⇑iP P 11 59 49.7 +0.3
R32A Long Quarter, 77.74 48 ⇑P P 11 59 48.9 -0.9
baz=78
VRAC Vranov 77.76 330⇑iP P 11 59 50.3 +0.6
VRAC Vranov 77.76 330 LR LR 12 38 19.4
comp=Z,534nm,18.2s,baz=32,slow=39
W27A Bowe Ranch, En 77.77 53 ⇑P P 11 59 48.6 -1.6
baz=78,SNR=6.4
Q33A Connelly Farm, 77.78 47 ⇑P P 11 59 48.8 -1.2
baz=78,SNR=5.6
ARR Arges 77.81 323⇑iP P 11 59 51.1 +1.0
BR131 Keskin Array S 77.89 314 eP P 11 59 50.9 +0.1
comp=Z,2.9nm,0.6s
BRTR Keskin Array B 77.89 314 P P 11 59 51.2 +0.4
comp=Z,4.2nm,0.8s,baz=64,slow=3.4,SNR=20
BRTR LR LR 12 40 41.3
comp=Z,171nm,19.1s,baz=54,slow=41
EKA Eskdalemuir Ar 77.89 344 LR LR 12 38 50.1
comp=Z,208nm,20.4s,baz=30,slow=39
PRU Pruhonice 77.91 332 iP P 11 59 51.1 +0.6
PRU e 11 59 58.6
PRU MLR MLR

comp=Z,900nm,21.0s
PRU Pruhonice 77.91 332⇑iP P 11 59 51.1 +0.6
PRU ePCP PcP 11 59 58.6 -1.6
PRU AMS AMS 12 37 30.0
comp=Z,900nm,21.0s
PRU Pruhonice 77.91 332 eP P 11 59 51.1 +0.6
SCIA State Center 77.93 42 eP P 11 59 51.1 +0.4
comp=Z,42nm,0.9s
IBBN Ibbenburen 78.02 337 eP P 11 59 50.8 -0.2
comp=Z,30nm,1.2s
Z25A Roswell 78.08 55 ⇓P P 11 59 50.7 -1.2
baz=78,SNR=6.7
W28A Vega 78.12 52 ⇑P P 11 59 50.8 -1.3
baz=78
Y26A Elida 78.15 54 ⇑P P 11 59 50.8 -1.5
baz=78
S32A Newby Ranch, P 78.15 48 ⇓P P 11 59 51.2 -0.9
baz=78
TREC Trest 78.17 331 iP P 11 59 52.7 +0.7
TREC MLR MLR
comp=Z,600nm,24.8s
TREC Trest 78.17 331⇑iP P 11 59 52.7 +0.7
TREC AMS AMS 12 37 10.0
comp=Z,600nm,24.8s
T31A Randall Ranch, 78.19 49 ⇓P P 11 59 50.9 -1.5
baz=78
ANTO Ankara 78.21 315 eP P 11 59 53.8 +1.3
ANTO pmax pmax
comp=Z,14nm,0.7s
ANTO Ankara 78.21 315⇑iP P 11 59 54.2 +1.7
ANTO Ankara 78.21 315 eP P 11 59 53.8 +1.3
comp=Z,14nm,0.7s
R33A Olander Ranch, 78.21 47 ⇑P P 11 59 51.6 -0.9
baz=78
MOX Moxa 78.31 334 eP P 11 59 52.4 -0.3
comp=Z,30nm,1.4s
KSU1 Kansas State U 78.34 46 eP P 11 59 53.0 -0.2
comp=Z,12nm,0.6s
KSU1 Kansas State U 78.34 46 ⇓P P 11 59 52.4 -0.7
baz=78
Z26A Caprock 78.52 55 ⇓P P 11 59 52.8 -1.6
baz=78,SNR=6.6
W29A Amraillo 78.53 52 ⇑P P 11 59 53.0 -1.4
baz=78
T32A Huddler Ranch, 78.54 49 ⇓P P 11 59 52.7 -1.6
baz=78
JFWS Jewell Farm 78.55 40 eP P 11 59 52.7 -1.5
JFWS pmax pmax
comp=Z,7.0nm,0.9s
JFWS Jewell Farm 78.55 40 eP P 11 59 52.7 -1.5
comp=Z,6.8nm,0.9s
Y27A Causey 78.56 54 ⇑P P 11 59 53.8 -0.8
baz=78
GZR Gura Zlata 78.58 324⇑iP P 11 59 53.8 -0.6
X28A Dimmitt 78.66 53 ⇓P P 11 59 53.9 -1.1
baz=78
UBBA Unterbreizbach 78.66 335 eP P 11 59 54.3 -0.2
comp=Z,21nm,1.4s
UBBA epP pP 12 00 07.7 +0.1
AMTX Amarillo 78.69 52 eP P 11 59 54.9 -0.3
comp=Z,30nm,0.9s
AMTX Amarillo 78.69 52 ⇓P P 11 59 53.5 -1.8
baz=78
MSTX Muleshoe 78.72 53 ⇑P P 11 59 53.8 -1.7
baz=78
MNTX Cornudas Mount 78.81 57 eP P 11 59 56.2 +0.4
comp=Z,11nm,1.1s
BZS Buzias 78.88 325⇑iP P 11 59 55.0 -0.9
ROTZ Rotzenmuhle 78.88 333 eP P 11 59 56.1 +0.2
comp=Z,24nm,1.3s
BUG Bochum--Univer 78.93 336 eP P 11 59 55.6 -0.5
comp=Z,44nm,1.2s
Z27A Tatum 78.94 54 ⇓P P 11 59 55.3 -1.4
baz=79,SNR=8.0
KHC Kasperske Hory 78.97 332 eP P 11 59 56.5 +0.1
KHC pmax pmax
comp=Z,15nm,0.8s
KHC Kasperske Hory 78.97 332⇑iP P 11 59 56.8 +0.4
KHC ePCP PcP 12 00 04.5 -0.4
KHC AMS AMS 12 38 20.0
comp=Z,1µm,17.1s
KHC Kasperske Hory 78.97 332 eP P 11 59 56.5 +0.1
comp=Z,15nm,0.8s
KHC Kasperske Hory 78.97 332 eP P 11 59 56.5 +0.1
T33A Patterson Ranc 78.98 48 ⇓P P 11 59 55.9 -0.7
baz=79
X29A Tulia 78.99 52 ⇑P P 11 59 55.8 -1.1
baz=79,SNR=7.6
Y28A McKinney Farm, 79.07 53 ⇑P P 11 59 56.3 -1.0
baz=79
V31A Spring Creek L 79.07 50 ⇑P P 11 59 56.1 -1.1
baz=79
GEC2 GERESS Array S 79.17 332 eP P 11 59 57.0 -0.6
comp=Z,24nm,1.6s
GERES GERESS Array B 79.17 332 P P 11 59 57.6 0.0
comp=Z,1.7nm,0.4s,baz=38,slow=5.8,SNR=19
GERES LR LR 12 38 52.9
comp=Z,677nm,19.1s,baz=16,slow=39
CONA Conrad Observa 79.19 330 iP P 11 59 58.6 +0.9
comp=Z,26nm,1.5s,SNR=8.4
WET Wettzell 79.19 332 eP P 11 59 57.7 +0.1
comp=Z,40nm,1.4s
WET epP pP 12 00 10.6 -0.1
GRF Grafenberg Arr 79.26 333 eP P 11 59 58.0 0.0
comp=Z,40nm,1.0s
GRF epP pP 12 00 10.9 -0.2
Y29A Porterfield Fa 79.43 53 ⇓P P 11 59 57.4 -1.9
baz=79
W31A Holland Ranch, 79.44 51 ⇑P P 11 59 57.7 -1.6
baz=79
X30A Coker Ranch, T 79.46 52 ⇓P P 11 59 58.1 -1.3
baz=79
U33A Lingo Farm, Me 79.53 49 ⇑P P 11 59 58.3 -1.4
baz=79
V32A Arapaho 79.55 50 ⇑P P 11 59 58.5 -1.4
baz=79
PKSM Moragy 79.58 327⇑iP P 12 00 00.0 +0.3
TNS Taunus Mts 79.66 335 eP P 11 59 59.9 -0.3
comp=Z,18nm,1.0s
X31A McDonald Ranch 79.83 51 ⇓P P 12 00 00.2 -1.2
baz=80,SNR=6.4
U34A Anderson Ranch 79.84 48 eP P 12 00 01.1 -0.3
comp=Z,29nm,0.7s
U34A Anderson Ranch 79.84 48 ⇑P P 12 00 00.0 -1.3
baz=80,SNR=5.2
Z29A Hungry Hill Ra 79.85 53 ⇑P P 12 00 00.1 -1.5
baz=80,SNR=9.5
128A Castleberry Fa 79.86 54 ⇓P P 12 00 00.4 -1.2
baz=80,SNR=7.7
Y30A Stafford Cattl 79.86 52 ⇑P P 12 00 00.3 -1.4
baz=80
W32A Sentinel 79.88 50 ⇓P P 12 00 00.0 -1.6
baz=80,SNR=7.5
V33A Lossen Ranch, 79.89 49 ⇓P P 12 00 00.1 -1.5
baz=80
MEM Membach 80.03 337 P P 12 00 02.4 +0.3
comp=Z,11nm,1.3s
228A UT Block 9, Go 80.16 55 ⇓P P 12 00 02.3 -1.0
baz=80
Y31A Rekieta Farm, 80.16 52 ⇓P P 12 00 01.8 -1.4
baz=80
Z30A Sanderson Ranc 80.16 53 ⇑P P 12 00 02.0 -1.2
baz=80
129A Stewart Farms, 80.21 54 ⇓P P 12 00 02.5 -1.0
baz=80
W33A Caddo, Fort Co 80.28 50 ⇓P P 12 00 02.4 -1.4
baz=80
V34A Guthrie 80.30 49 eP P 12 00 04.2 +0.4
comp=Z,58nm,1.4s
V34A Guthrie 80.30 49 ⇑P P 12 00 02.1 -1.7
baz=80
X32A Elmer 80.37 51 ⇑P P 12 00 03.0 -1.3
baz=80,SNR=6.6
BCLA Clavier 80.40 337 P P 12 00 04.3 +0.2
comp=Z,16nm,1.5s
BCLA AP pP 12 00 17.7 +0.5
RJOB Jochberg 80.43 331 eP P 12 00 04.6 +0.2
comp=Z,16nm,1.2s
RJOB epP pP 12 00 17.5 0.0
SOKA Soboth 80.55 330⇑iP P 12 00 05.5 +0.4
comp=Z,25nm,1.5s,SNR=6.7
FUR Furstenfeldbru 80.57 333 eP P 12 00 05.1 0.0
comp=Z,66nm,1.5s
Y32A R-V Farms, Ver 80.59 51 ⇑P P 12 00 04.2 -1.3
baz=80
SNF Seneffe 80.60 338 P P 12 00 05.5 +0.4
W34A Bridge Creek, 80.60 49 eP P 12 00 04.9 -0.6

comp=Z,34nm,1.1s
W34A Bridge Creek, 80.60 49 ⇑P P 12 00 04.3 -1.2
baz=80
Z31A Sharp Cattle R 80.70 52 ⇓P P 12 00 05.2 -0.9
baz=80,SNR=5.4
STU Stuttgart 80.71 334 eP P 12 00 05.9 +0.1
comp=Z,48nm,1.6s
229A Bryant Ranch, 80.73 54 ⇑P P 12 00 05.7 -0.6
baz=80
KBA Koelnbreinsper 80.81 331 ⇑/P P 12 00 06.5 -0.1
comp=Z,40nm,1.4s,SNR=7.9
GIVF Givet 80.82 337 eP P 12 00 06.1 -0.2
GIVF Givet 80.82 337 eP P 12 00 06.1 -0.2
GIVF Givet 80.82 337 eP P 12 00 06.1 -0.2
LANF Langenberg 80.96 335 eP P 12 00 06.9 -0.2
329A Wagon Wheel Ra 80.97 55 ⇓P P 12 00 06.3 -1.3
baz=81,SNR=7.4
BAIF Baives 81.03 338 eP P 12 00 07.4 0.0
comp=Z,60nm,1.5s
BAIF Baives 81.03 338 eP P 12 00 07.4 0.0
BAIF pmax pmax
comp=Z,60nm,1.5s
BAIF Baives 81.03 338 eP P 12 00 07.4 0.0
comp=Z,60nm,1.5s
X34A Smith Ranch, M 81.04 50 ⇓P P 12 00 06.5 -1.4
baz=81,SNR=5.4
Y33A Hilltop Ranch, 81.04 51 ⇓P P 12 00 06.4 -1.5
baz=81
Z32A Haskell 81.08 52 ⇑P P 12 00 07.1 -1.0
baz=81
TUL1 Tulsa 81.17 48 eP P 12 00 08.9 +0.5
comp=Z,58nm,1.6s
TUL1 Tulsa 81.17 48 ⇓P P 12 00 07.2 -1.2
baz=81
WATA Walderalm 81.19 332 ⇓/P P 12 00 08.7 +0.1
comp=Z,30nm,1.3s,SNR=6.1
MMB Musomiste 81.22 321 ⇓/P P 12 00 08.8 +0.1
WTTA Wattenberg 81.24 332 ⇑/P P 12 00 09.6 +0.7
comp=Z,25nm,1.0s,SNR=6.9
MOTA Moosalm 81.34 332 ⇓/P P 12 00 09.6 +0.2
comp=Z,25nm,1.1s,SNR=9.8
BFO Black Forest 81.37 334 eP P 12 00 09.6 +0.2
BFO pmax pmax
comp=Z,10.0nm,0.9s
BFO Black Forest 81.37 334 eP P 12 00 09.0 -0.4
comp=Z,14nm,1.2s
BFO Black Forest 81.37 334 eP P 12 00 09.6 +0.2
comp=Z,10.0nm,0.9s
ABTX Abilene, Hawle 81.49 52 eP P 12 00 10.6 +0.3
comp=Z,24nm,1.3s
330A Mertzon 81.50 54 ⇓P P 12 00 09.7 -0.8
baz=81,SNR=8.3
TXAR Lajitas Array 81.53 57 P P 12 00 11.3 +0.6
TXAR *PP pP 12 00 23.7 0.0
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR Lajitas Array 81.53 57 P P 12 00 11.3 +0.6
comp=Z,2.8nm,0.7s,baz=300,slow=4.0,SNR=48
TXAR pP pP 12 00 23.7 0.0
comp=Z,12nm,0.6s,baz=303,slow=4.3,SNR=26
Y34A Reagan Ranch, 81.56 50 ⇑P P 12 00 09.6 -1.0
baz=81,SNR=5.6
231A Bronte 81.61 53 ⇓P P 12 00 09.9 -1.1
baz=81,SNR=6.0
CDF Champ du Feu 81.62 335 eP P 12 00 10.7 -0.1
comp=Z,31nm,1.1s
CDF Champ du Feu 81.62 335 eP P 12 00 10.7 -0.1
CDF pmax pmax
comp=Z,31nm,1.1s
CDF Champ du Feu 81.62 335 eP P 12 00 10.7 -0.1
comp=Z,31nm,1.1s
429A Davenport Ranc 81.65 55 ⇑P P 12 00 09.9 -1.3
baz=82
529A Stev Forest Ra 81.82 56 ⇓P P 12 00 11.6 -0.5
baz=82,SNR=14
ECH Echery 81.83 335 eP P 12 00 11.5 -0.3
ECH pmax pmax
comp=Z,7.0nm,0.7s
ECH Echery 81.83 335 eP P 12 00 11.5 -0.3
comp=Z,6.8nm,0.7s
Z34A Collier Ranch, 81.91 51 ⇓P P 12 00 11.5 -1.0
baz=82,SNR=5.0
133A Hamilton Ranch 81.92 52 ⇓P P 12 00 11.4 -1.1
baz=82
430A Baggett Ranch, 81.92 55 ⇓P P 12 00 11.7 -1.0
baz=82,SNR=5.7
PAGF Fort de Pagny 81.96 336 eP P 12 00 12.7 +0.3
comp=Z,16nm,0.8s
PAGF Fort de Pagny 81.96 336 eP P 12 00 12.7 +0.3
comp=Z,16nm,0.8s
SFIN Scholer Farm 82.00 40 eP P 12 00 12.3 -0.5
comp=Z,16nm,0.8s
SFIN Scholer Farm 82.00 40 ⇑P P 12 00 11.4 -1.3
baz=82
331A San Angelo 82.01 54 ⇑P P 12 00 12.0 -1.1
baz=82
232A Coleman 82.03 53 ⇑P P 12 00 12.1 -1.1
baz=82,SNR=6.4
THEF They Montfort 82.17 336 eP P 12 00 13.3 -0.3
MEZF Maizieres J'vi 82.20 336 eP P 12 00 13.9 +0.2
comp=Z,62nm,1.1s
MEZF Maizieres J'vi 82.20 336 eP P 12 00 13.9 +0.2
comp=Z,62nm,1.1s
DAVOX Davos/Dischmat 82.24 333 LR LR 12 41 10.1
comp=Z,301nm,18.3s,baz=82,slow=39
HAU Haudompre 82.27 335 eP P 12 00 13.8 -0.3
comp=Z,15nm,0.8s
HAU eR
comp=Z,390nm,21.0s
HAU Haudompre 82.27 335 eP P 12 00 13.8 -0.3
HAU pmax pmax
comp=Z,15nm,0.8s
HAU Haudompre 82.27 335 eP P 12 00 13.8 -0.3
comp=Z,15nm,0.8s
HINF Hinteralfeld 82.28 335 eP P 12 00 13.8 -0.4
comp=Z,14nm,0.8s
HINF Hinteralfeld 82.28 335 eP P 12 00 13.8 -0.4
HINF pmax pmax
comp=Z,14nm,0.8s
HINF Hinteralfeld 82.28 335 eP P 12 00 13.8 -0.4
comp=Z,14nm,0.8s
Z35A Perchaven, San 82.31 50 ⇓P P 12 00 13.6 -1.0
baz=82,SNR=5.7
530A J-C Ranch, Com 82.33 55 ⇑P P 12 00 13.6 -1.1
baz=82
332A Millersview 82.35 53 ⇓P P 12 00 13.5 -1.3
baz=82,SNR=8.9
233A Rising Star 82.36 52 ⇑P P 12 00 13.3 -1.6
baz=82
431A Sonora 82.36 54 ⇓P P 12 00 13.5 -1.5
baz=82,SNR=6.1
134A White-Moore Ra 82.42 51 ⇓P P 12 00 14.3 -0.8
baz=82
SFTF Sexfontaines 82.47 336 eP P 12 00 15.1 0.0
comp=Z,53nm,1.1s
SFTF Sexfontaines 82.47 336 eP P 12 00 15.1 0.0
comp=Z,53nm,1.1s
PMOR Pomariorio Ree 82.54 119 eT T 13 31 13.3
comp=Z,67nm,0.2s
RAYN Ar Rayn 82.67 296 eP P 12 00 16.9 +0.3
comp=Z,39nm,1.1s
TUE Stuetta 82.69 333 eP P 12 00 16.5 0.0
comp=Z,16nm,0.9s
432A Menard 82.70 54 ⇓P P 12 00 15.9 -0.8
baz=82,SNR=6.3
LOMF Lomont 82.71 335 eP P 12 00 14.5 -2.0
531A Rocksprings 82.78 55 ⇑P P 12 00 16.3 -0.8
baz=83,SNR=9.2
234A Clairette 82.81 52 ⇓P P 12 00 16.4 -0.7
baz=83
333A Richland Sprin 82.83 53 ⇓P P 12 00 15.9 -1.4
baz=83
OLIL Olney 82.85 41 eP P 12 00 18.5 +1.2
comp=Z,41nm,1.1s
JCT Junction City 82.98 54 eP P 12 00 18.4 +0.3
JCT pmax pmax
comp=Z,38nm,1.1s
JCT Junction City 82.98 54 eP P 12 00 18.4 +0.3
comp=Z,38nm,1.1s
JCT Junction City 82.98 54 ⇓P P 12 00 17.0 -1.2
baz=83,SNR=11
SIUC Southern Illin 83.12 42 eP P 12 00 18.4 -0.2
comp=Z,66nm,0.9s
433A Art 83.19 53 ⇓P P 12 00 17.7 -1.5
baz=83,SNR=6.1
WHTX Lake Whitney 83.20 51 P P 12 00 15.1 -4.1
comp=Z,15nm,1.0s
WHTX Lake Whitney 83.20 51 ⇓P P 12 00 18.1 -1.1
baz=83
BLO Bloomington 83.23 40 eP P 12 00 19.3 +0.1
BLO pmax pmax
comp=Z,10.0nm,0.7s
BLO Bloomington 83.23 40 eP P 12 00 19.3 +0.1
comp=Z,9.6nm,0.7s
334A Lometa 83.25 52 ⇓P P 12 00 18.2 -1.2
baz=83,SNR=7.2
631A Perdido Creek 83.32 55 ⇑P P 12 00 18.7 -1.1
baz=83,SNR=11
MIAR Mount Ida 83.38 47 eP P 12 00 20.5 +0.4
MIAR pmax pmax
comp=Z,26nm,1.0s
MIAR Mount Ida 83.38 47 eP P 12 00 20.5 +0.4
comp=Z,26nm,1.0s
FLN La Foliniere 83.44 340 eP P 12 00 20.1 0.0
comp=Z,40nm,0.9s
FLN eR
comp=Z,498nm,22.0s
FLN La Foliniere 83.44 340 eP P 12 00 20.1 0.0
FLN pmax pmax
comp=Z,40nm,0.9s
FLN La Foliniere 83.44 340 eP P 12 00 20.1 0.0
comp=Z,40nm,0.9s
PPT Papeete 83.46 122 LR LR 12 29 05.8
comp=Z,183nm,21.5s,baz=0.5,slow=30
PPT2 Papeete2 83.47 122 eLR LR 12 26 23.6
comp=Z,587nm,26.2s,baz=294
PPT2 Papeete2 83.47 122 eT T 13 32 23.8
comp=Z,14nm,0.4s
LDF La Druitiere 83.50 340 eP P 12 00 20.4 0.0
comp=Z,26nm,0.9s
LDF La Druitiere 83.50 340 eP P 12 00 20.4 0.0
LDF pmax pmax
comp=Z,26nm,0.9s
LDF La Druitiere 83.50 340 eP P 12 00 20.4 0.0
comp=Z,26nm,0.9s
PAE Paea 83.53 122 eT T 13 32 27.2
comp=Z,4.1nm,0.4s
TIAR Tiarei 83.59 122 eT T 13 32 31.9
comp=Z,12nm,0.3s
CABF La Chapelle 83.59 335 eP P 12 00 21.0 -0.1
CABF La Chapelle 83.59 335 eP P 12 00 21.0 -0.1
CABF La Chapelle 83.59 335 eP P 12 00 21.0 -0.1
434A Burnet 83.62 53 ⇑P P 12 00 20.1 -1.3
baz=83
LOR Lormes 83.66 337 eP P 12 00 21.1 -0.2
comp=Z,59nm,1.3s
LOR eR
comp=Z,470nm,21.8s
LOR Lormes 83.66 337 eP P 12 00 21.1 -0.2
LOR pmax pmax
comp=Z,59nm,1.3s
LOR Lormes 83.66 337 eP P 12 00 21.1 -0.2
comp=Z,59nm,1.3s
PARMO Parma 83.69 43 P P 12 00 19.8 -1.8
632A Uvalde 83.71 55 ⇓P P 12 00 20.8 -1.0
baz=84,SNR=5.3
533A Kerrville 83.73 54 ⇓P P 12 00 21.3 -0.6
baz=84,SNR=5.8
GRR Gorron 83.88 340 eP P 12 00 22.6 +0.3
comp=Z,101nm,1.2s
GRR Gorron 83.88 340 eP P 12 00 22.6 +0.3
GRR pmax pmax
comp=Z,101nm,1.2s
GRR Gorron 83.88 340 eP P 12 00 22.6 +0.3
comp=Z,101nm,1.2s
SSF Saint Saulge 83.94 337 eP P 12 00 22.8 +0.1
comp=Z,21nm,0.9s
SSF Saint Saulge 83.94 337 eP P 12 00 22.8 +0.1
SSF pmax pmax
comp=Z,21nm,0.9s
SSF Saint Saulge 83.94 337 eP P 12 00 22.8 +0.1
comp=Z,21nm,0.9s
ALLY Alegheny Colle 83.96 34 eP P 12 00 24.3 +1.4
comp=Z,18nm,0.9s
534A Blanco 84.08 53 ⇑P P 12 00 22.7 -1.1
baz=84,SNR=7.7
WCI Wyandotte Cave 84.10 40 eP P 12 00 23.4 -0.3
WCI pmax pmax
comp=Z,19nm,0.9s
WCI Wyandotte Cave 84.10 40 eP P 12 00 23.4 -0.3
comp=Z,19nm,0.9s
633A Saathoff Ranch 84.10 54 ⇑P P 12 00 22.9 -1.0
baz=84,SNR=7.9
HBAR Harrisburg 84.10 45 eP P 12 00 23.6 -0.1
732A Laxson Ranch, 84.18 55 ⇑P P 12 00 23.0 -1.2
baz=84,SNR=8.1
SMF Signal de Mont 84.23 336 eP P 12 00 24.4 +0.2
comp=Z,43nm,0.8s
SMF Signal de Mont 84.23 336 eP P 12 00 24.4 +0.2
SMF pmax pmax
comp=Z,43nm,0.8s
SMF Signal de Mont 84.23 336 eP P 12 00 24.4 +0.2
comp=Z,43nm,0.8s
AVF Avril sur Loir 84.23 337 eP P 12 00 24.4 +0.2
comp=Z,45nm,1.0s
AVF Avril sur Loir 84.23 337 eP P 12 00 24.4 +0.2
AVF pmax pmax
comp=Z,45nm,1.0s
AVF Avril sur Loir 84.23 337 eP P 12 00 24.4 +0.2
comp=Z,45nm,1.0s
LPL La Plagne 84.38 334 eP P 12 00 25.7 +0.4
comp=Z,34nm,0.9s
LPL La Plagne 84.38 334 eP P 12 00 25.7 +0.4
LPL pmax pmax
comp=Z,34nm,0.9s
LPL La Plagne 84.38 334 eP P 12 00 25.7 +0.4
comp=Z,34nm,0.9s
LPG La Plagne 84.39 334 eP P 12 00 25.8 +0.4
comp=Z,35nm,0.8s
LPG La Plagne 84.39 334 eP P 12 00 25.8 +0.4
LPG pmax pmax
comp=Z,35nm,0.8s
LPG La Plagne 84.39 334 eP P 12 00 25.8 +0.4
comp=Z,35nm,0.8s
SGMF Saint Gilles 84.41 341 eP P 12 00 25.7 +0.7
comp=Z,45nm,0.8s
SGMF Saint Gilles 84.41 341 eP P 12 00 25.7 +0.7
SGMF pmax pmax
comp=Z,45nm,0.8s
SGMF Saint Gilles 84.41 341 eP P 12 00 25.7 +0.7
comp=Z,45nm,0.8s
ROSF Rostrenen 84.50 342 eP P 12 00 25.8 +0.3
comp=Z,62nm,1.0s
ROSF Rostrenen 84.50 342 eP P 12 00 25.8 +0.3
ROSF pmax pmax
comp=Z,63nm,1.0s
ROSF Rostrenen 84.50 342 eP P 12 00 25.8 +0.3
comp=Z,62nm,1.0s
832A Faith Ranch, C 84.50 56 ⇓P P 12 00 25.0 -0.9
baz=84,SNR=6.5
733A Divot King Ran 84.58 55 ⇑P P 12 00 25.3 -0.9
baz=84
BGF Bois d'Agland 84.59 337 eP P 12 00 26.2 +0.2
BGF Bois d'Agland 84.59 337 eP P 12 00 26.2 +0.2
BGF Bois d'Agland 84.59 337 eP P 12 00 26.2 +0.2
535A Dale 84.60 53 ⇑P P 12 00 25.2 -1.2
baz=84
MEH Mehetia 84.61 121 eT T 13 33 48.8
comp=Z,40nm,0.3s
QUIF Quistinic 84.87 341 eP P 12 00 27.4 +0.1
comp=Z,23nm,0.7s
QUIF Quistinic 84.87 341 eP P 12 00 27.4 +0.1
QUIF pmax pmax
comp=Z,23nm,0.7s
QUIF Quistinic 84.87 341 eP P 12 00 27.4 +0.1
comp=Z,23nm,0.7s
338A Crockett 84.87 50 ⇑P P 12 00 26.4 -1.3
baz=85
PLDF La Plantade 84.91 336 eP P 12 00 26.0 -1.7
635A Leesville 84.97 53 ⇑P P 12 00 27.2 -1.0
baz=85
AGO Saint Agoulin 84.97 337 eP P 12 00 27.0 -1.0
TCF Toulx Ste Croi 85.02 337 eP P 12 00 28.7 +0.5
comp=Z,42nm,1.1s
TCF Toulx Ste Croi 85.02 337 eP P 12 00 28.7 +0.5
TCF pmax pmax
comp=Z,43nm,1.1s
TCF Toulx Ste Croi 85.02 337 eP P 12 00 28.7 +0.5
comp=Z,42nm,1.1s
WVT Waverly 85.05 43 eP P 12 00 28.4 -0.1
WVT pmax pmax
comp=Z,18nm,1.0s
WVT Waverly 85.05 43 eP P 12 00 28.4 -0.1
comp=Z,18nm,1.0s
MBDF Montbardon 85.07 334 eP P 12 00 28.4 -0.3
comp=Z,26nm,0.8s
MBDF Montbardon 85.07 334 eP P 12 00 28.4 -0.3
MBDF pmax pmax
comp=Z,26nm,0.8s
MBDF Montbardon 85.07 334 eP P 12 00 28.4 -0.3
comp=Z,26nm,0.8s
ORIF Oris-en-Rattie 85.18 334 eP P 12 00 29.3 +0.2
comp=Z,33nm,0.7s
ORIF eR
comp=Z,309nm,22.2s
ORIF Oris-en-Rattie 85.18 334 eP P 12 00 29.3 +0.2
ORIF pmax pmax
comp=Z,33nm,0.7s
ORIF Oris-en-Rattie 85.18 334 eP P 12 00 29.3 +0.2
comp=Z,33nm,0.7s
PYM Petit Puy Mans 85.28 337 eP P 12 00 28.8 -0.8
636A Smothers Creek 85.31 53 ⇓P P 12 00 29.4 -0.5
baz=85
735A Kenedy 85.35 54 ⇓P P 12 00 28.9 -1.2
baz=85,SNR=5.7
MFF Saint Martin d 85.36 339 eP P 12 00 30.3 +0.4
comp=Z,61nm,0.9s
MFF Saint Martin d 85.36 339 eP P 12 00 30.3 +0.4
MFF pmax pmax
comp=Z,61nm,0.9s
MFF Saint Martin d 85.36 339 eP P 12 00 30.3 +0.4
comp=Z,61nm,0.9s
933A Laredo 85.41 56 ⇑P P 12 00 29.2 -1.3
baz=85,SNR=9.3
OXF Oxford 85.55 45 eP P 12 00 31.5 +0.4
OXF pmax pmax
comp=Z,61nm,1.1s
OXF Oxford 85.55 45 eP P 12 00 31.5 +0.4
comp=Z,61nm,1.1s
VIVF Saint-Julien-l 85.61 335 eP P 12 00 31.8 +0.6
comp=Z,26nm,0.8s
VIVF Saint-Julien-l 85.61 335 eP P 12 00 31.8 +0.6
VIVF pmax pmax
comp=Z,26nm,0.8s
VIVF Saint-Julien-l 85.61 335 eP P 12 00 31.8 +0.6
comp=Z,26nm,0.8s
SBF Sospel 85.63 333 eP P 12 00 31.0 -0.4
comp=Z,92nm,1.0s
SBF Sospel 85.63 333 eP P 12 00 31.0 -0.4
SBF pmax pmax
comp=Z,92nm,1.0s
SBF Sospel 85.63 333 eP P 12 00 31.0 -0.4
comp=Z,92nm,1.0s
RJF Les Rejaudoux 86.11 337 eP P 12 00 33.7 +0.1
comp=Z,58nm,1.1s
RJF eR
comp=Z,562nm,19.8s
RJF Les Rejaudoux 86.11 337 eP P 12 00 33.7 +0.1
RJF pmax pmax
comp=Z,58nm,1.1s
RJF Les Rejaudoux 86.11 337 eP P 12 00 33.7 +0.1
comp=Z,58nm,1.1s
SMRF Simiane la Rot 86.12 334 eP P 12 00 33.6 -0.2
SMRF Simiane la Rot 86.12 334 eP P 12 00 33.6 -0.2
FRF La Foret Royal 86.16 333 eP P 12 00 33.6 -0.3
comp=Z,126nm,1.5s
FRF La Foret Royal 86.16 333 eP P 12 00 33.6 -0.3
FRF pmax pmax
comp=Z,126nm,1.5s
FRF La Foret Royal 86.16 333 eP P 12 00 33.6 -0.3
comp=Z,126nm,1.5s
PGF Pioggiola 86.27 331 eP P 12 00 33.9 -0.7
comp=Z,121nm,1.2s
PGF Pioggiola 86.27 331 eP P 12 00 33.9 -0.7
PGF pmax pmax
comp=Z,121nm,1.2s
PGF Pioggiola 86.27 331 eP P 12 00 33.9 -0.7
comp=Z,121nm,1.2s
CAF Calviac 86.31 337 eP P 12 00 35.2 +0.6
comp=Z,44nm,1.0s
CAF Calviac 86.31 337 eP P 12 00 35.2 +0.6
CAF pmax pmax
comp=Z,44nm,1.0s
CAF Calviac 86.31 337 eP P 12 00 35.2 +0.6
comp=Z,44nm,1.0s
LMR La Mourre 86.40 333 eP P 12 00 35.1 0.0
comp=Z,117nm,1.4s
LMR La Mourre 86.40 333 eP P 12 00 35.1 0.0
LMR pmax pmax
comp=Z,117nm,1.4s
LMR La Mourre 86.40 333 eP P 12 00 35.1 0.0
comp=Z,117nm,1.4s
LASF Ste Croix 86.56 335 eP P 12 00 35.5 -0.4
comp=Z,37nm,1.1s
LASF Ste Croix 86.56 335 eP P 12 00 35.5 -0.4
comp=Z,37nm,1.1s
LFF La Frestale 86.66 338 eP P 12 00 36.2 -0.1
comp=Z,33nm,0.7s
LFF La Frestale 86.66 338 eP P 12 00 36.2 -0.1
LFF pmax pmax
comp=Z,33nm,0.7s
LFF La Frestale 86.66 338 eP P 12 00 36.2 -0.1
comp=Z,33nm,0.7s
SWET Sewanee 86.70 42 eP P 12 00 36.6 -0.1
comp=Z,38nm,1.0s
CPCT Cooper Cave 87.18 41 eP P 12 00 38.2 -0.8
TKL Tuckaleechee C 87.36 40 eP P 12 00 39.9 0.0
TKL Tuckaleechee C 87.36 40 eP P 12 00 39.9 0.0
BLA Blacksburg 87.57 37 eP P 12 00 41.3 +0.3
BLA pmax pmax
comp=Z,30nm,1.0s
BLA Blacksburg 87.57 37 eP P 12 00 41.3 +0.3
comp=Z,30nm,1.0s
TBI Tubuai 87.96 126 eT T 13 38 00.1
comp=Z,6.1nm,0.2s
EPF Esparros 88.53 337 eP P 12 00 45.7 +0.3
comp=Z,16nm,0.9s
EPF Esparros 88.53 337 eP P 12 00 45.7 +0.3
EPF pmax pmax
comp=Z,16nm,0.9s
EPF Esparros 88.53 337 eP P 12 00 45.7 +0.3
comp=Z,16nm,0.9s
SJPF Ste Jean 88.88 338 eP P 12 00 47.6 +0.6
SJPF Ste Jean 88.88 338 eP P 12 00 47.6 +0.6
SJPF Ste Jean 88.88 338 eP P 12 00 47.6 +0.6
ETSF Etsaut 88.90 338 eP P 12 00 47.7 +0.5
comp=Z,22nm,0.7s
ETSF Etsaut 88.90 338 eP P 12 00 47.7 +0.5
ETSF pmax pmax
comp=Z,22nm,0.7s
ETSF Etsaut 88.90 338 eP P 12 00 47.7 +0.5
comp=Z,22nm,0.7s
KEST Kesra 92.16 328 LR LR 12 46 46.6
comp=Z,212nm,19.3s,baz=350,slow=38
ESDC Sonseca Array 92.82 339 P P 12 01 05.0 -0.5
comp=Z,0.5nm,0.5s,baz=15,slow=3.8,SNR=4.3
ESDC LR LR 12 47 21.4
comp=Z,290nm,21.5s,baz=325,slow=38
TORD Torodi Ar. Bea 115.36 324 PKP PKPdf 12 06 34.0 -0.7
comp=Z,0.4nm,0.7s,baz=24,slow=1.8,SNR=4.4
DBIC Dimbokro 123.89 328 PKIKP PKPdf 12 06 51.4 +0.3
DBIC pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 123.89 328 PKP PKPdf 12 06 51.4 +0.3
comp=Z,1.7nm,0.8s,baz=47,slow=3.0,SNR=2.6
SAML Samuel 135.34 48 ePKPdf PKPdf 12 07 11.2 -1.6
H03N2 Juan Fernandez 141.97 90 T T 14 46 09.1
baz=302,slow=75,SNR=94
H03N3 Juan Fernandez 141.99 90 T T 14 46 10.1
baz=302,slow=75,SNR=102
H03N1 Juan Fernandez 141.99 90 T T 14 45 54.8
baz=302,slow=75,SNR=85
BDFB Brasilia 148.19 31 PKP2 PKPbc 12 07 38.4 -0.6
BDFB pmax pmax
comp=Z,3.0nm,0.6s
BDFB Brasilia 148.19 31 PKPbc PKPbc 12 07 38.4 -0.6
comp=Z,3.3nm,0.6s,baz=0.0,slow=0.0,SNR=4.8
CFAA Coronel Fontan 148.63 79 PKPbc PKPbc 12 07 39.9 +0.3
comp=Z,1.0nm,0.6s,baz=288,slow=2.6,SNR=14
CFAA pPKPbc pPKPbc 12 07 53.1 -0.2
comp=Z,3.3nm,0.7s,baz=297,slow=2.7,SNR=17
VNA2 Neumayer--Watz 150.77 196 P PKPbc 12 07 44.7 +1.1
slow=2.4
VNA3 Neumayer Olymp 150.94 194 P PKPbc 12 07 44.7 +0.6
VNA3 Neumayer Olymp 150.94 194 PKPab PKPab 12 07 57.3 +5.6
PLCA Paso Flores 151.16 97 PKPbc PKPbc 12 07 46.2 +0.6
comp=Z,1.8nm,0.5s,baz=307,slow=2.0,SNR=13
PLCA pPKPbc pPKPbc 12 07 58.6 -0.7
comp=Z,22nm,1.0s,baz=276,slow=2.5,SNR=22
PLCA Paso Flores 151.16 97 ePKPbc PKPbc 12 07 46.0 +0.4
PLCA ePKPab PKPab 12 07 54.4 +0.7
PLCA pPKPbc pPKPbc 12 07 58.6 -0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VNA1	**Neumayer--Stat**	**151.17**	**196**	P	**PKPbc**	**12 07 42.7**	**-1.8**
VNA1	**Neumayer--Stat**	**151.17**	**196**	PKPab	PKPab	12 07 58.1	+5.5
CPUP	**Villa Florida**	**152.50**	**58**	PKP2	**PKPab**	**12 08 01.8**	**+2.4**
CPUP				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CPUP	**Villa Florida**	**152.50**	**58**	PKPab	**PKPab**	**12 08 01.8**	**+2.4**
	comp=Z,6.0nm,0.7s,baz=327,slow=4.0,SNR=7.0						

*ISCJB **20** 12:07:27.9±0.5, 20.58S±0.04×68.78W±0.07, h105km±6km, mb3.8/6, Error ellipse: s-maj=10.5km s-min=6.4km az=173.4*
*NEIC **20** 12:07:29.6, 20.64S×69.01W, h108km, mb4.2/1, After GUC.*
*GUC **20** 12:07:29.6±0.5, 20.64S×69.01W, h108km±3km, ML4.5*
*IDC **20** 12:07:30.3±0.9, 20.63S×68.71W, h111km±7km, mb3.6/8, mb1 3.8/11, mb1mx3.7/22, mbtmp4.1/11, Error ellipse: s-maj=22.0km s-min=17.5km az=35.0*

ISC 20 12:07:29.2±0.6, 20.58S±0.04×68.78W±0.06, h104km±6km, n31, σ1§44/45, mb4.1/6, 7C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.81**	**235**	⇑iP	**Pn**	**12 07 47.4**	**-0.7**
PB01				iS	**Sn**	**12 08 00.8**	**-1.4**
PB01				AML	AML	12 08 01.7	
	comp=N,40µm,0.2s						
PB01	**Plate Boundary**	**0.81**	**235**	⇑iP	**Pn**	**12 07 47.4**	**-0.7**
PB01				iS	**Sn**	**12 08 00.8**	**-1.4**
HMBC	**Humberstone**	**1.08**	**286**	⇑iP	**Pn**	**12 07 50.2**	**-0.7**
HMBC				iS	**Sn**	**12 08 05.7**	**-1.7**
HMBC				AML	AML	12 08 08.7	
	comp=N,9µm,0.2s						
HMBC	**Humberstone**	**1.08**	**286**	⇑iP	**Pn**	**12 07 50.2**	**-0.7**
HMBC				iS	**Sn**	**12 08 05.7**	**-1.7**
PATCX	**Punta Patache**	**1.31**	**259**	⇑iP	**Pn**	**12 07 52.4**	**-1.1**
PATCX				iS	**Sn**	**12 08 09.3**	**-2.5**
PATCX				AML	AML	12 08 14.7	
	comp=E,8µm,0.2s						
PB07	**Plate Boundary**	**1.54**	**222**	⇑iP	**Pn**	**12 07 55.3**	**-1.1**
PB07				iS	**Sn**	**12 08 14.8**	**-2.2**
PB07				AML	AML	12 08 16.7	
	comp=E,8µm,0.8s						
PB07	**Plate Boundary**	**1.54**	**222**	⇑iP	**Pn**	**12 07 55.3**	**-1.1**
PB07				iS	**Sn**	**12 08 14.8**	**-2.2**
PSGC	**Pisagua**	**1.60**	**308**	eP	**Pn**	**12 07 56.5**	**-0.5**
PSGC				iS	**Sn**	**12 08 17.0**	**-1.1**
PSGC	**Pisagua**	**1.60**	**308**	eP	**Pn**	**12 07 56.5**	**-0.5**
PSGC				iS	**Sn**	**12 08 17.0**	**-1.1**
MNMC	**Minimini**	**1.64**	**332**	eP	**Pn**	**12 07 58.8**	**+1.1**
MNMC				eS	**Sn**	**12 08 20.4**	**+1.2**
MNMC				AML	AML	12 08 22.7	
	comp=N,9µm,0.2s						
MNMC	**Minimini**	**1.64**	**332**	eP	**Pn**	**12 07 58.8**	**+1.1**
MNMC				eS	**Sn**	**12 08 20.4**	**+1.2**
PB04	**Plate Boundary**	**1.80**	**201**	eP	Pn	12 08 03.5	+4.0
PB04				iS	Sn	12 08 29.2	+6.8
PB04				AML	AML	12 08 33.0	
	comp=E,3µm,0.7s						
PB04	**Plate Boundary**	**1.80**	**201**	eP	Pn	12 08 03.5	+4.0
PB04				iS	Sn	12 08 29.2	+6.8
LVC	**Limon Verde**	**2.02**	**183**	ePn	**Pn**	**12 08 02.9**	**+0.3**
LVC				eSn	**Sn**	**12 08 27.8**	**-0.2**
LPAZ	**La Paz**	**4.31**	**8**	P	Pn	12 08 37.0	+3.7
	comp=E,18nm,0.3s,baz=174,slow=4.9,SNR=275						
LPAZ				S	**Sn**	**12 09 19.5**	**-3.4**
	comp=E,1.3nm,0.3s,baz=195,slow=20,SNR=1.5						
SIV	**San Ignacio**	**8.63**	**59**	P	**Pn**	**12 09 30.9**	**-0.4**
	comp=E,4.0nm,0.3s,baz=254,slow=13,SNR=33						
SIV				S	**Sn**	**12 11 02.7**	**-4.3**
	comp=E,0.1nm,0.3s,baz=195,slow=20,SNR=2.2						
CPUP	**Villa Florida**	**11.96**	**121**	P	**Pn**	**12 10 14.8**	**-1.5**
	comp=E,0.4nm,0.3s,baz=295,slow=8.7,SNR=2.8						
SAML	**Samuel**	**12.76**	**26**	ePn	**Pn**	**12 10 27.2**	**+0.2**
	comp=E,3.8nm,0.6s						
PLCA	**Paso Flores**	**20.14**	**184**	P	**P**	**12 11 55.8**	**+0.6**
	comp=E,1.9nm,0.6s,baz=356,slow=11,SNR=8.9						
BDFB	**Brasilia**	**20.33**	**79**	P	**P**	**12 11 57.8**	**+0.3**
	comp=E,2.2nm,0.4s,baz=263,slow=8.6,SNR=3.9						
TXAR	**Lajitas Array**	**59.95**	**325**	P	**P**	**12 17 25.1**	**+0.2**
	comp=E,0.2nm,0.5s,baz=149,slow=9.0,SNR=3.3						
DBIC	**Dimbokro**	**68.36**	**74**	P	**P**	**12 18 19.5**	**-0.5**
	comp=E,3.6nm,0.8s,baz=248,slow=9.9,SNR=4.9						
ULM	**Lac du Bonnet**	**74.48**	**342**	P	**P**	**12 18 56.0**	**-0.1**
	comp=E,2.0nm,0.7s,baz=181,slow=5.5,SNR=3.9						
NVAR	**Mina Array Bea**	**74.85**	**322**	P	**P**	**12 18 59.7**	**+0.9**
	comp=E,0.3nm,0.7s,baz=134,slow=7.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**76.93**	**70**	P	**P**	**12 19 11.1**	**+0.2**
	comp=E,1.3nm,0.4s,baz=253,slow=5.4,SNR=24						
TORD				pP	**pP**	**12 19 39.1**	**+1.7**
	comp=E,1.6nm,0.7s,baz=252,slow=5.5,SNR=4.7						
YKA	**Yellowknife Ar**	**90.37**	**341**	P	**P**	**12 20 18.6**	**+0.3**
	comp=E,1.2nm,0.8s,baz=133,slow=4.6,SNR=31						
YKA				pP	**pP**	**12 20 47.5**	**+2.0**
	comp=E,1.0nm,0.6s,baz=131,slow=4.7,SNR=8.1						
ASAR	**Alice Springs**	**130.78**	**208**	PKP	**PKPdf**	**12 26 28.4**	**-0.7**
	comp=E,0.4nm,0.5s,baz=133,slow=1.9,SNR=4.4						
WRA	**Warramunga Arr**	**133.80**	**211**	PKP	**PKPdf**	**12 26 34.6**	**-0.3**
	comp=E,0.6nm,0.6s,baz=154,slow=1.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**141.07**	**25**	PKP	**PKPdf**	**12 26 48.4**	**+1.3**
	comp=E,0.5nm,0.5s,baz=325,slow=2.3,SNR=3.8						
MKAR	**Makanchi Array**	**144.82**	**35**	PKP	**PKPdf**	**12 26 54.4**	**+0.3**
	comp=E,1.0nm,0.4s,baz=327,slow=2.6,SNR=19						
MKAR				pPKP	**pPKPdf**	**12 27 23.9**	**+1.5**
	comp=E,0.6nm,0.7s,baz=345,slow=3.1,SNR=3.1						
SONM	**Songino Array**	**152.53**	**7**	PKPbc	**PKPbc**	**12 27 14.0**	**+0.4**
	comp=E,1.1nm,0.8s,baz=296,slow=0.8,SNR=8.1						

*ISCJB **20** 12:14:57.8±0.8, 30.6N±0.1×83.79E±0.10, h10km, mb3.5/12, MS3.5/4, Error ellipse: s-maj=16.8km s-min=9.4km az=34.9*
*IDC **20** 12:14:57.8±1.0, 30.60N×83.77E, h0km, mb3.6/11, mb1 3.7/14, mb1mx3.6/41, mbtmp3.6/14, ML3.4/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/34, Error ellipse: s-maj=27.2km s-min=18.1km az=39.0*
*BJI **20** 12:14:58.5, 30.70N×83.82E, h6km, mB3.6/1, mb3.8/9, ML4.4/1, Ms3.9/3, Ms7 3.6/1*

ISC 20 12:14:59.1±0.7, 30.6N±0.1×83.76E±0.07, h10km, n22, σ1§15/20, mb3.6/12, MS3.5/4, Xizang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.27**	**250**	eP	Pg	12 16 07.2	+5.5
LGTI				eS	Sg	12 16 54.4	+10
NDI	**New Delhi**	**6.02**	**253**	ex	**Pg**	**12 16 53.0**	**-1.3**
LSA	**Lhasa**	**6.46**	**96**	Pn	**Pn**	**12 16 35.8**	**+1.1**
LSA				Sg	Sg	12 18 18.1	-8.5
LSA				LR	LR		
	comp=E,1µm,12.0s						
HYB	**Hyderabad**	**13.98**	**201**	eP	Pn	12 18 13.0	-4.3
AAK	**Ala-Archa**	**14.10**	**331**	Pn	**Pn**	**12 18 20.5**	**+1.6**
	0.2nm,0.3s,baz=155,slow=13,SNR=2.4						
GTA	**Gaotai**	**15.79**	**52**	eP	**Pn**	**12 18 41.6**	**0.0**
GTA				pP	**pP**	**12 18 45.8**	**-2.5**
GTA				sP	**sP**	**12 18 49.5**	**-0.1**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	**16.19**	**356**	Pn	**Pn**	**12 18 46.1**	**-0.5**
	0.2nm,0.3s,baz=180,slow=11,SNR=12						
CMAR	**Chiang Mai Arr**	**18.34**	**128**	P	**P**	**12 19 14.4**	**+0.6**
	baz=319,slow=12,SNR=11						
XAN	**Xi'an**	**21.51**	**74**	P	**P**	**12 19 46.6**	**-1.7**
XAN				pP	pP	12 19 58.0	+6.9
XAN				pmax	pmax		
	comp=Z,2.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,14nm,5.0s						
XAN				LR	LR		
	comp=N,91nm,14.3s						
XAN				LR	LR		
	comp=E,56nm,16.4s						
ZALV	**Zalesovo Beam**	**23.32**	**2**	P	**P**	**12 20 06.8**	**-0.4**
	1.9nm,0.7s,baz=184,slow=12,SNR=10.0						
SONM	**Songino Array**	**24.41**	**39**	P	**P**	**12 20 18.1**	**+0.3**
	0.8nm,0.7s,baz=227,slow=11,SNR=6.7						
BVAR	**Borovoye Array**	**24.42**	**340**	P	**P**	**12 20 17.5**	**-0.2**
	0.3nm,0.3s,baz=163,slow=11,SNR=4.7						
KSRS	**Korea Array**	**36.96**	**67**	P	**P**	**12 22 09.2**	**+0.7**
	0.4nm,0.6s,baz=268,slow=9.4,SNR=3.0						
KSRS				LR	LR	12 38 44.7	
	comp=Z,71nm,19.9s,baz=330,slow=39						
USRK	**Ussuriysk Arra**	**40.08**	**56**	LR	LR	12 40 35.4	
	comp=Z,83nm,19.3s,baz=271,slow=38						
AKASG	**Malin Array Be**	**44.83**	**313**	P	**P**	**12 23 14.1**	**+0.9**
	0.1nm,0.3s,baz=80,slow=7.5,SNR=4.1						
ASAJ	**Asahikawa**	**47.71**	**56**	LR	LR	12 43 38.3	
	comp=Z,65nm,19.5s,baz=31,slow=36						
FINES	**FINESS Array B**	**48.25**	**327**	P	**P**	**12 23 41.2**	**+1.4**
	1.2nm,0.6s,baz=101,slow=9.9,SNR=6.2						
NOA	**NORSAR Array B**	**55.35**	**326**	P	**P**	**12 24 31.5**	**-1.4**
	0.7nm,0.9s,baz=93,slow=7.6,SNR=2.9						
WRA	**Warramunga Arr**	**69.93**	**129**	P	**P**	**12 26 10.9**	**+0.2**
	1.3nm,1.1s,baz=328,slow=6.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.68**	**277**	P	**P**	**12 26 51.7**	**+0.9**
	0.6nm,0.9s,baz=35,slow=5.3,SNR=3.3						
ILAR	**Eielson Array**	**77.07**	**20**	P	**P**	**12 26 52.3**	**+0.1**
	0.4nm,0.7s,baz=318,slow=5.6,SNR=4.7						
YKA	**Yellowknife Ar**	**86.04**	**8**	P	**P**	**12 27 38.5**	**-1.0**
	0.3nm,0.7s,baz=337,slow=5.3,SNR=9.4						

*NIED **20** 12:15:00, 33.60N×141.10E, h59km, Mw4.1 Best double couple: M0 1.37000×10^15 NP1:φs219.00000°, δ53.00000°, λ158.00000°. NP2:φs323.00000°, δ73.00000°, λ39.00000°.*
*JMA **20** 12:15:25.4±0.2, 33.64N×141.07E, h70km±4km, M4.0*
*IDC **20** 12:15:26.6±2.1, 33.53N×140.99E, h49km±18km, mb3.5/11, mb1 3.7/14, mb1mx3.6/43, mbtmp3.8/14, ML3.5/2, Error ellipse: s-maj=22.6km s-min=12.5km az=74.0*

ISC 20 12:15:24.3±1.1, 33.53N±0.04×141.16E±0.06, h34km±3km, n37, σ1§14/47, mb3.8/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.13**	**352**	P	**Pb**	**12 15 44.0**	**-1.0**
BSO1				S	**Sb**	**12 15 59.0**	**-0.2**
JHJ2	**Mitsune**	**1.20**	**250**	P	**Pb**	**12 15 46.8**	**+0.2**
JHJ2				S	**Sb**	**12 16 01.4**	**-0.4**
JHCJ	**Hachijojimakas**	**1.23**	**249**	P	**Pb**	**12 15 46.8**	**-0.3**
JHCJ				S	**Sn**	**12 16 01.4**	**+0.8**
BSO2	**Boso 2**	**1.26**	**345**	S	**Sb**	**12 16 02.7**	**-0.5**
BSO3	**Boso 3**	**1.38**	**337**	P	**Pn**	**12 15 47.6**	**+0.7**
BSO3				S	**Sn**	**12 16 03.9**	**+0.1**
JMY	**Miyakejima3**	**1.48**	**292**	P	**Pn**	**12 15 48.9**	**+0.4**
BSO4	**Boso 4**	**1.61**	**335**	P	**Pn**	**12 15 51.1**	**+0.9**
BSO4				eS	**Sn**	**12 16 09.6**	**-0.1**
KTR	**Katsuura**	**1.76**	**337**	P	**Pn**	**12 15 52.8**	**+0.5**
KTR				S	**Sn**	**12 16 13.4**	**-0.1**
JKO	**Kozu shima**	**1.81**	**292**	P	**Pn**	**12 15 53.9**	**+0.9**
JKO				eS	**Sn**	**12 16 14.6**	**-0.2**
JIM2	**Oshima 3**	**1.86**	**310**	P	**Pn**	**12 15 53.8**	**0.0**
JIM2				S	**Sn**	**12 16 14.7**	**-1.4**
JIZS	**Izushimoda**	**2.23**	**303**	P	**Pn**	**12 15 59.7**	**+0.8**
JIZS				S	**Sn**	**12 16 24.7**	**-0.6**
JOD2	**Odawara 2**	**2.44**	**316**	P	**Pn**	**12 16 01.9**	**+0.2**
JOD2				S	**Sn**	**12 16 28.2**	**-2.1**
TK02	**Tokai 2**	**2.87**	**279**	P	**Pn**	**12 16 09.5**	**+2.1**
SHZ3	**Shizuoka 3**	**2.88**	**303**	P	**Pn**	**12 16 09.9**	**+2.0**
JYN	**Shimob**	**2.92**	**313**	P	**Pn**	**12 16 09.7**	**+1.3**
JRY	**Ryogami san**	**3.10**	**324**	S	**Sn**	**12 16 47.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.86**	**322**	P	**Pn**	**12 16 22.5**	**+1.3**
	14nm,0.3s,baz=148,slow=12,SNR=143						
MJAR				S	**Sn**	**12 17 05.4**	**-0.1**
	16nm,0.3s,baz=165,slow=25,SNR=7.6						
MAT	**Matsushiro**	**3.86**	**322**	P	**Pn**	**12 16 22.8**	**+1.5**
MAT				S	**Sn**	**12 17 05.9**	**+0.4**
JCJ	**Chichijima**	**6.48**	**172**	P	**Pn**	**12 16 58.1**	**+0.9**
	22nm,0.3s,baz=110,slow=23,SNR=11						
JCJ				S	**Sn**	**12 18 07.4**	**-2.5**
	22nm,0.3s,baz=261,slow=19,SNR=3.7						
JNU	**Nakatsue**	**8.62**	**270**	P	**Pn**	**12 17 27.1**	**+0.5**
	0.3nm,0.3s,baz=113,slow=13,SNR=4.1						
ASAJ	**Asahikawa**	**10.63**	**6**	P	**Pn**	**12 17 52.6**	**-1.5**
	2.8nm,0.3s,baz=212,slow=10.0,SNR=43						
KSRS	**Korea Array**	**11.48**	**294**	P	**Pn**	**12 18 02.8**	**-3.0**
	0.1nm,0.3s,baz=105,slow=14,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**26.71**	**114**	T	T	12 49 58.2	
	baz=306,slow=75,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**26.71**	**115**	T	T	12 49 58.4	
	baz=306,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**26.72**	**114**	T	T	12 49 58.4	
	baz=306,slow=75,SNR=15						
SONM	**Songino Array**	**29.70**	**309**	P	**P**	**12 21 26.9**	**-0.3**
	1.3nm,0.7s,baz=115,slow=8.8,SNR=8.2						
CMAR	**Chiang Mai Arr**	**40.52**	**259**	P	**P**	**12 22 59.7**	**-0.6**
	0.5nm,0.3s,baz=55,slow=8.0,SNR=2.8						
ZALV	**Zalesovo Beam**	**44.18**	**315**	P	**P**	**12 23 29.4**	**-0.3**
	1.2nm,0.3s,baz=106,slow=9.0,SNR=5.1						
MKAR	**Makanchi Array**	**45.88**	**305**	P	**P**	**12 23 43.0**	**-0.3**
	0.6nm,0.5s,baz=84,slow=9.6,SNR=18						
ILAR	**Eielson Array**	**52.58**	**31**	P	**P**	**12 24 36.9**	**+2.6**
	0.4nm,1.0s,baz=272,slow=5.3,SNR=2.6						
BVAR	**Borovoye Array**	**52.82**	**314**	P	**P**	**12 24 35.9**	**-0.3**
	0.4nm,0.4s,baz=99,slow=6.8,SNR=4.0						
WRA	**Warramunga Arr**	**53.57**	**188**	P	**P**	**12 24 42.7**	**+0.7**
	6.0nm,0.4s,baz=4.2,slow=7.6,SNR=310						
ASAR	**Alice Springs**	**57.30**	**188**	P	**P**	**12 25 09.8**	**+1.0**
	1.6nm,0.5s,baz=1.7,slow=6.0,SNR=49						
AKTO	**Aktyubinsk**	**60.89**	**313**	P	**P**	**12 25 33.7**	**+0.2**
	1.0nm,0.6s,baz=73,slow=11,SNR=4.1						
YKA	**Yellowknife Ar**	**66.94**	**29**	P	**P**	**12 26 13.1**	**+0.1**
	0.2nm,0.9s,baz=303,slow=6.2,SNR=2.7						
KBZ	**Khabaz**	**73.04**	**311**	P	**P**	**12 26 51.5**	**+0.7**
	1.5nm,0.8s,baz=57,slow=9.5,SNR=2.5						
AKASG	**Malin Array Be**	**76.94**	**323**	P	**P**	**12 27 12.5**	**-0.7**
	0.3nm,0.5s,baz=51,slow=6.1,SNR=3.6						

MEX 20 12:27:47.4±1.0, 17.71N×99.56W, h5km±10km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.68**	**4**	eP	Pg	12 27 59.1	-1.6
PLIG				iS	Sg	12 28 09.4	-0.2
ARIG	**Puente Sto Nin**	**0.94**	**307**	eP	Pg	12 28 03.6	-2.0
ARIG				iS	Sg	12 28 16.0	-1.9
TLIG	**Tlapa**	**0.95**	**99**	eP	Pg	12 28 03.2	-2.7
TLIG				iS	Sg	12 28 16.1	-2.4
YAIG	**Yautepec**	**1.24**	**22**	iP	Pg	12 28 07.9	-3.5
YAIG				iS	Sg	12 28 23.9	-3.7
ZIIG	**Zihuatanejo**	**1.82**	**267**	iP	Pn	12 28 16.7	-2.8
ZIIG				iS	Sn	12 28 38.0	-5.0
PNIG	**Pinotepa**	**1.89**	**134**	iP	Pn	12 28 16.2	-4.3
PNIG				eS	Sn	12 28 40.0	-4.8

*NIED **20** 12:29:00, 20.90N×120.70E, h8km, Mw4.0 Best double couple: M0 1.23000×10^15 NP1:φs97.00000°, δ41.00000°, λ-99.00000°. NP2:φs288.00000°, δ50.00000°, λ-83.00000°.*
*ISCJB **20** 12:29:42.7±0.5, 20.90N±0.07×121.2E±0.1, h36km, mb3.8/16, MS3.4/3, Error ellipse: s-maj=14.0km s-min=9.9km az=13.8*
*IDC **20** 12:29:45.8±3.1, 20.96N×121.25E, h45km±29km, mb3.7/16, mb1 3.8/17, mb1mx3.7/45, mbtmp3.9/17, ML2.8/2, MS3.5/3, Ms1 3.6/3, ms1mx2.8/31, Error ellipse: s-maj=19.8km s-min=14.2km az=67.0*

ISC 20 12:29:44.5±0.6, 20.87N±0.09×121.2E±0.1, h36km, n26, σ0§85/24, mb3.8/16, MS3.4/3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.60**	**193**	⇑iP	**Pn**	**12 30 23.0**	**-1.0**
JOW	**Kunigami**	**8.77**	**46**	P	**Pn**	**12 31 49.3**	**+0.5**
	0.1nm,0.3s,baz=229,slow=9.3,SNR=9.4						
KSRS	**Korea Array**	**17.52**	**18**	P	**Pn**	**12 33 45.3**	**-0.6**
	0.2nm,0.3s,baz=196,slow=11,SNR=10						
CMAR	**Chiang Mai Arr**	**21.11**	**267**	P	**P**	**12 34 26.9**	**+0.8**
	1.4nm,0.7s,baz=78,slow=9.1,SNR=7.7						
CMAR				LR	LR	12 43 18.3	
	comp=Z,41nm,18.2s,baz=80,slow=38						
ASAJ	**Asahikawa**	**29.20**	**33**	P	**P**	**12 35 43.6**	**+1.0**
	4.0nm,0.8s,baz=194,slow=10,SNR=4.9						
SONM	**Songino Array**	**29.44**	**339**	P	**P**	**12 35 44.3**	**-0.5**
	1.6nm,0.9s,baz=157,slow=9.1,SNR=10						
SONM				LR	LR	12 49 17.3	
	comp=Z,90nm,18.5s,baz=210,slow=40						
MKAR	**Makanchi Array**	**40.77**	**319**	P	**P**	**12 37 22.1**	**-0.1**
	3.3nm,0.6s,baz=114,slow=9.7,SNR=52						
MKAR				PcP	**PcP**	**12 39 23.0**	**+0.1**
	0.4nm,0.7s,baz=98,slow=4.9,SNR=4.2						
WRA	**Warramunga Arr**	**42.55**	**162**	P	**P**	**12 37 36.7**	**-0.3**
	1.1nm,0.6s,baz=344,slow=9.0,SNR=18						
WRA				PcP	**PcP**	**12 39 30.1**	**+1.0**
	0.5nm,0.8s,baz=346,slow=3.2,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**42.75**	**83**	T	T	13 23 38.5	
	baz=276						
H11N2	**WAKE ISLAND Hy**	**42.75**	**83**	T	T	13 23 34.9	
	baz=276						
H11N3	**WAKE ISLAND Hy**	**42.77**	**83**	T	T	13 23 35.9	
	baz=276						
H11S3	**WAKE ISLAND Hy**	**42.78**	**85**	T	T	13 23 41.4	
	baz=281,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**42.79**	**85**	T	T	13 23 43.3	
	baz=281,slow=75,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**42.80**	**85**	T	T	13 23 42.8	
	baz=281,slow=75,SNR=10						
ZALV	**Zalesovo Beam**	**43.05**	**329**	P	**P**	**12 37 40.0**	**-0.6**
	2.8nm,0.6s,baz=122,slow=7.7,SNR=15						
ZALV				PcP	**PcP**	**12 39 28.6**	**-1.6**
	0.3nm,0.4s,baz=128,slow=2.4,SNR=2.4						
ASAR	**Alice Springs**	**45.97**	**164**	P	**P**	**12 38 05.2**	**+1.0**
	0.4nm,0.5s,baz=345,slow=6.8,SNR=11						
ASAR				PcP	**PcP**	**12 39 41.6**	**+0.9**
	0.3nm,0.8s,baz=344,slow=3.9,SNR=2.8						
BVAR	**Borovoye Array**	**50.27**	**322**	P	**P**	**12 38 37.4**	**+0.2**
	0.7nm,0.7s,baz=133,slow=8.1,SNR=3.2						
BVAR				PcP	**PcP**	**12 39 55.2**	**-0.6**
	1.5nm,0.6s,baz=116,slow=3.4,SNR=6.4						
AKTO	**Aktyubinsk**	**57.18**	**317**	P	**P**	**12 39 27.9**	**+0.1**
	0.5nm,0.5s,baz=104,slow=8.7,SNR=3.4						
KBZ	**Khabaz**	**67.58**	**310**	P	**P**	**12 40 37.8**	**+0.3**
	1.9nm,1.0s,baz=187,slow=3.2,SNR=5.3						
ILAR	**Eielson Array**	**72.14**	**27**	P	**P**	**12 41 03.6**	**-1.5**
	0.5nm,0.7s,baz=270,slow=4.5,SNR=13						
FINES	**FINESS Array B**	**74.31**	**330**	P	**P**	**12 41 18.1**	**+0.2**
	0.5nm,0.5s,baz=46,slow=5.5,SNR=5.7						
NOA	**NORSAR Array B**	**81.15**	**332**	LR	LR	13 22 10.3	
	comp=Z,56nm,18.1s,baz=100,slow=39						
DLBC	**Dease Lake**	**81.78**	**30**	P	**P**	**12 42 00.1**	**+0.5**
	0.5nm,0.5s,baz=333,slow=2.3						
RES	**Resolute Bay**	**81.91**	**9**	P	**P**	**12 41 59.0**	**-0.9**
	1.2nm,0.9s,baz=339,slow=6.4,SNR=4.2						
GERES	**GERESS Array B**	**85.41**	**321**	P	**P**	**12 42 19.8**	**+1.4**
	0.3nm,0.7s,baz=345,slow=9.7,SNR=3.5						
YKA	**Yellowknife Ar**	**86.00**	**23**	P	**P**	**12 42 20.3**	**-0.6**
	1.3nm,0.8s,baz=314,slow=4.7,SNR=36						

MEX 20 12:58:35.0±0.9, 16.88N×100.21W, h26km±9km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.18**	**341**	eP	Pb	12 58 39.6	-0.9
CAIG				iS	Sb	12 58 42.7	-1.6
ACX	**Acapulco**	**0.33**	**91**	eP	Pb	12 58 40.3	-2.3
ACX				iS	Sb	12 58 44.6	-3.2
MEIG	**Mezcala**	**1.19**	**28**	iP	Pn	12 58 52.6	-3.5
MEIG				iS	Sn	12 59 07.3	-4.2
ARIG	**Puente Sto Nin**	**1.40**	**355**	eP	Pn	12 58 56.5	-2.5
ARIG				iS	Sn	12 59 12.9	-3.9
PLIG	**Platanillo**	**1.65**	**24**	iP	Pn	12 59 00.6	-1.9
PLIG				iS	Sn	12 59 20.4	-2.6
TLIG	**Tlapa**	**1.71**	**66**	eP	Pn	12 59 01.1	-2.2
TLIG				iS	Sn	12 59 21.1	-3.4
PNIG	**Pinotepa**	**2.05**	**103**	iP	Pn	12 59 07.6	-0.3
PNIG				iS	Sn	12 59 29.6	-3.1

*IDC **20** 13:35:49.9±1.9, 13.70S×166.96E, h28km±11km, mb5.3/28, mb1 5.3/29, mb1mx5.2/31, mbtmp5.4/29, ML4.0/1, MS4.7/26, Ms1 4.8/26, ms1mx4.6/37, Error ellipse: s-maj=13.7km s-min=10.8km az=111.0*
*GCMT **20** 13:35:51.1±0.1, 13.63S×166.54E, h44km, MW5.5/110, Moment Tensor Solution. s110,c194; s104,c193; Duration: 1§4 Moment tensor: Scale 10^17 Nm; Mrr2.01±.03; Mθθ0.03±.03; Mφφ-2.04±.02; Mrθ-0.00±.03; Mrφ0.57±.02; Mθφ0.64±.02; Best double couple: M0 2.19300×10^17 NP1:φs350.00000°, δ53.00000°, λ96.00000°. NP2:φs161.00000°, δ37.00000°, λ83.00000°. Principal axes: T 2.1110, Plg81.0000°, Azm285.0000°; N 0.1680, Plg5.0000°, Azm167.0000°; P -2.2760, Plg8.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NOU **20** 13:35:51.0±1.4, 13.28S×166.80E, h30km, MD4.3*
*NEIC **20** 13:35:51.1±0.2, 13.51S×166.81E, h35km, mb5.5/74, MS5.1/108, MW5.4, MW5.5, Error ellipse: s-maj=6.3km s-min=4.6km az=129.0, Moment Tensor Solution. s37 Moment tensor: Scale 10^17 Nm; Mrr1.52; Mθθ0.07; Mφφ-1.59; Mrθ0.23; Mθφ0.40; Mφr0.49; Best double couple: M0 1.70000×10^17 NP1:φs154.00000°, δ39.00000°, λ70.00000°. NP2:φs359.00000°, δ54.00000°, λ105.00000°. Principal axes: T 1.6500, Plg75.0000°, Azm317.0000°; N 0.0800, Plg12.0000°, Azm170.0000°; P -1.7400, Plg7.0000°, Azm78.0000°;*
*ISCJB **20** 13:35:52.8±0.9, 13.61S±0.03×166.73E±0.02, h58km±7km, mb5.6/165, MS5.0/157 Error ellipse: s-maj=4.9km s-min=4.0km az=177.1*
*MOS **20** 13:35:57.9±1.3, 13.61S×166.68E, h101km, mb5.5/27, MS5.0/17, Error ellipse: s-maj=8.2km s-min=6.9km az=120.8*
*BJI **20** 13:35:57.8, 13.10S×166.84E, h88km, mB5.5/53, mb5.7/77, Ms5.1/66, Ms7 4.8/63*
*NEIC **20** 13:36:11.1±0.0, 13.35S×166.38E, h44km, Moment Tensor Solution. s123 Moment tensor: Scale 10^17 Nm; Mrr2.34; Mθθ-0.12; Mφφ-2.22; Mrθ-0.34; Mθφ0.61; Mφr-0.12; Best double couple: M0 2.40000×10^17 NP1:φs174.00000°, δ46.00000°, λ102.00000°. NP2:φs336.00000°, δ45.00000°, λ78.00000°. Principal axes: T 2.4000, Plg81.0000°, Azm162.0000°; N -0.0100, Plg8.0000°, Azm345.0000°; P -2.3800, Plg0.0000°, Azm254.0000°;*

ISC 20 13:35:57.2±0.3, 13.69S±0.03×166.77E±0.04, h87km±1km, h87km:pP-P, n691, σ1§52/720, mb5.6/164, 65C-46D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.91**	**302**	LR	LR	13 40 43.9	
	comp=Z,8µm,21.4s,baz=140,slow=36						
DZM	**Mont Dzumac**	**8.35**	**182**	ePn	**Pn**	**13 37 52.7**	**-2.8**
	126nm,0.3s						
DZM				eSn	**Sn**	**13 39 24.9**	**-3.3**
	192nm,0.3s						
DZM				eLR	LR	13 39 46.8	
	16µm,24.7s						
DZM	**Mont Dzumac**	**8.35**	**182**	Pn	**Pn**	**13 37 52.7**	**-2.8**
	4.9nm,0.3s,baz=30.0,SNR=66						
DZM				Sn	**Sn**	**13 39 24.6**	**-3.5**
	baz=311,slow=19,SNR=1.9						
DZM				LR	LR	13 40 48.7	
	comp=Z,12µm,21.4s,baz=358,slow=36						
DZM	**Mont Dzumac**	**8.35**	**182**	ePn	**Pn**	**13 37 52.6**	**-2.8**
	175nm,0.6s						
NOUC	**Port Laguerre**	**8.38**	**183**	eP	**Pn**	**13 37 53.5**	**-2.4**
NOUC				eS	**Sn**	**13 39 25.6**	**-3.3**
NOUC				AMP		13 39 54.8	
	comp=Z,72nm,5.4s						
BAYA	**Yate Dam**	**8.42**	**179**	eS	**Sn**	**13 39 26.8**	**-3.1**
NORM	**Noumea**	**8.50**	**182**	eP	**Pn**	**13 37 56.8**	**-0.7**
NORM				eS	**Sn**	**13 39 30.3**	**-1.5**
PLUM	**Mont Dore**	**8.54**	**181**	eP	**Pn**	**13 37 57.7**	**-0.4**
MSVF	**Nonsavu**	**11.59**	**112**	eP	**Pn**	**13 38 40.9**	**+1.3**
MSVF	**Nonsavu**	**11.59**	**112**	ePn	**Pn**	**13 38 40.9**	**+1.3**
TARA	**Tarawa**	**16.14**	**23**	ePn	**Pn**	**13 39 39.5**	**+0.5**
	comp=Z,768nm,1.0s						
RABL	**Rabaul**	**17.22**	**302**	⇓P	**Pn**	**13 39 51.6**	**-0.7**
	baz=17						
EIDS	**Eidsvold**	**18.78**	**229**	ePn	**Pn**	**13 40 11.7**	**+0.7**
	comp=Z,189nm,1.0s						
EIDS	**Eidsvold**	**18.78**	**229**	⇑P	**Pn**	**13 40 12.1**	**+1.0**
	baz=19,SNR=35						
LHI	**Lord Howe Isla**	**19.11**	**200**	⇑P	**Pn**	**13 40 17.3**	**+2.5**
	baz=19,SNR=3.1						
PMG	**Port Moresby**	**19.67**	**280**	c iP	**P**	**13 40 19.9**	**+0.5**
PMG				pmax	pmax		
	comp=Z,215nm,1.5s						
PMG	**Port Moresby**	**19.67**	**280**	P	**P**	**13 40 20.2**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=106,slow=9.3,SNR=33						
PMG				S	**S**	**13 43 56.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=140,slow=7.9,SNR=1.6						
PMG				LR	LR	13 47 23.2	
	comp=Z,2µm,18.8s,baz=98,slow=35						
PMG	**Port Moresby**	**19.67**	**280**	eP	**P**	**13 40 19.9**	**+0.5**

comp=Z,120nm,1.0s
PMG S S 13 43 56.5 -0.3
PMG Port Moresby 19.67 280 ⇓P P 13 40 20.4 +1.0
baz=20,SNR=8.2
CTA Charters Tower 20.62 249 P P 13 40 30.6 +0.9
comp=Z,66nm,0.8s,baz=74,slow=15,SNR=33
CTA S S 13 44 17.3 +1.7
comp=Z,4.7nm,0.8s,baz=138,slow=16,SNR=1.9
CTA PcP PcP 13 44 38.0 +0.9
comp=Z,10nm,0.6s,baz=160,slow=7.3,SNR=5.1
CTA LR LR 13 47 29.6
comp=Z,4μm,21.3s,baz=68,slow=34
CTA Charters Tower 20.62 249 ⇓P P 13 40 30.8 +1.1
baz=21
CTAO Charters Tower 20.62 249 eP P 13 40 30.7 +1.0
CTAO pmax pmax
comp=Z,107nm,0.9s
CTAO MLR MLR
comp=Z,5μm,20.0s
CTAO Charters Tower 20.62 249 eP P 13 40 30.7 +1.0
comp=Z,107nm,0.9s
CTAO LR LR
comp=Z,5μm,20.0s
AFI Afiamalu 20.84 93 eP Pn 13 40 34.7 -0.7
AFI pmax pmax
comp=Z,170nm,0.8s
AFI MLR MLR
comp=Z,5μm,22.0s
AFI Afiamalu 20.84 93 eP Pn 13 40 34.7 -0.7
comp=Z,170nm,0.8s
AFI LR LR
comp=Z,5μm,22.0s
RAO Raoul Island 21.01 140 P P 13 40 34.3 +0.5
RAO Raoul Island 21.01 140 LR LR 13 46 18.1
comp=Z,859nm,22.0s,baz=46,slow=30
RAO Raoul Island 21.01 140 P P 13 40 34.3 +0.5
RMQ Roma 21.14 230 ⇓P P 13 40 37.2 +2.0
baz=21,SNR=287
ARMA Armidale 21.73 218 eP P 13 40 43.1 +1.5
comp=Z,268nm,1.2s
ARMA Armidale 21.73 218 ⇑P P 13 40 43.1 +1.5
baz=22,SNR=50
OUZ Omahuta 22.31 165 eP P 13 40 51.6 +4.1
comp=Z,216nm,1.4s
COEN Coen 22.91 266 eP P 13 40 53.6 -0.4
comp=Z,1μm,1.0s
COEN Coen 22.91 266 ⇓P P 13 40 54.1 +0.1
baz=23,SNR=85
MGCD Mangrove Creek 24.11 214 P P 13 41 06.8 +2.0
baz=24,SNR=5.2
RIV Riverview 24.56 213 ⇑P P 13 41 10.7 +1.8
baz=25
QLP Quilpie 24.69 235 ⇑P P 13 41 11.0 +0.8
baz=25,SNR=152
URZ Urewera 26.14 161 P P 13 41 21.5 -1.6
comp=Z,4.9nm,0.9s,baz=335,slow=3.7,SNR=3.0
URZ LR LR 13 50 14.2
comp=Z,2μm,20.6s,baz=334,slow=33
CMSA Cobar Meteorol 26.26 224 ⇑P P 13 41 25.2 +0.9
baz=26,SNR=160
YNG Young 26.42 216 ⇓P P 13 41 27.2 +1.4
baz=27,SNR=7.6
CNB Canberra Magne 26.65 213 ⇓P P 13 41 29.2 +1.3
baz=27,SNR=22
BKZ Black Stump Fm 26.80 163 eP P 13 41 31.2 +2.0
QIS Mount Isa 26.82 251 ⇑P P 13 41 29.4 -0.1
baz=27,SNR=25
CAN Canberra 26.84 214 eP P 13 41 30.3 +0.7
CAN pmax pmax
comp=Z,152nm,1.4s
CAN MLR MLR
comp=Z,3μm,21.0s
CAN Canberra 26.84 214 eP P 13 41 30.3 +0.7
comp=Z,152nm,1.4s
CAN LR LR
comp=Z,3μm,21.0s
CAN Canberra 26.84 214 ⇓P P 13 41 30.9 +1.3
baz=27
MILA Mila 28.09 211 P P 13 41 42.0 +1.2
baz=28,SNR=7.0
GENI Genyem 28.50 290 P P 13 41 45.3 +0.7
comp=Z,60nm,1.5s
STKA Stephens Creek 29.31 228 P P 13 41 52.7 +1.1
comp=Z,57nm,0.5s,baz=45,slow=8.1,SNR=166
STKA PcP PcP 13 44 56.5 +0.3
comp=Z,33nm,0.7s,baz=75,slow=3.6,SNR=7.8
STKA ScP ScP 13 48 38.0 +7.6
comp=Z,19nm,1.0s,baz=77,slow=2.4,SNR=8.3
STKA PKiKP PKiKP 13 52 28.2 -1.6
comp=Z,2.5nm,0.6s,baz=18,slow=3.2,SNR=3.8
STKA LR LR 13 53 31.9
comp=Z,6μm,19.2s,baz=55,slow=36
STKA Stephens Creek 29.31 228 ⇓P P 13 41 52.3 +0.7
baz=29,SNR=122
SMPI Sarmi 30.08 290 P P 13 41 58.7 +0.2
comp=Z,259nm,1.3s,comp=Z,2μm
RPZ Rata Peaks 30.15 174 eP P 13 41 59.2 +0.4
TOO Toolangi 30.41 215 ⇑P P 13 42 02.5 +1.2
baz=31,SNR=47
WRAB Tennant Creek 31.61 254 c iP P 13 42 10.7 -1.3
WRAB pmax pmax
comp=Z,251nm,1.7s
WRAB Tennant Creek 31.61 254 eP P 13 42 10.7 -1.3
WRA Warramunga Arr 31.62 254 P P 13 42 11.0 -1.1
comp=Z,36nm,0.6s,baz=86,slow=9.3,SNR=334
WRA PcP PcP 13 45 02.8 +0.2
comp=Z,40nm,0.9s,baz=84,slow=3.2,SNR=19
WRA ScP ScP 13 48 44.8 +6.6
comp=Z,7.2nm,0.9s,baz=81,slow=3.6,SNR=11
WRA PKiKP PKiKP 13 52 30.3 -1.5
comp=Z,1.8nm,0.7s,baz=4.4,slow=0.5,SNR=15
WRA LR LR 13 54 47.7
comp=Z,7μm,18.1s,baz=85,slow=36
DCZ Deep Cove 31.69 179 eP P 13 42 12.6 +0.3
ARPS Mount Arapiles 32.02 220 ⇑P P 13 42 16.6 +1.3
baz=32,SNR=57
HTT Hallett 32.05 227 ⇑P P 13 42 16.7 +1.0
baz=32,SNR=49
AS17 Alice Springs 32.52 247 ⇓P P 13 42 19.1 -0.9
baz=33
AS07 Alice Springs 32.55 247 ⇓P P 13 42 19.4 -0.8
baz=33
AS04 Alice Springs 32.58 247 ⇑P P 13 42 19.8 -0.8
baz=33
AS31 Alice Springs 32.60 247 eP P 13 42 19.5 -1.2
AS31 ePcP PcP 13 45 05.3 +0.1
ASAR Alice Springs 32.60 247 P P 13 42 19.6 -1.2
comp=Z,44nm,0.6s,baz=74,slow=9.4,SNR=1059
ASAR PcP PcP 13 45 05.2 -0.1
comp=Z,21nm,0.7s,baz=72,slow=2.5,SNR=15
ASAR ScP ScP 13 48 48.0 +6.5
comp=Z,5.9nm,0.8s,baz=97,slow=3.2,SNR=6.2
ASAR PKiKP PKiKP 13 52 30.7 -1.7
comp=Z,1.0nm,0.6s,baz=97,slow=1.6,SNR=9.3
ASAR LR LR 13 54 36.3
comp=Z,3μm,21.8s,baz=79,slow=34
MOO Moorlands 33.28 207 P P 13 42 28.2 +1.8
baz=34,SNR=12
KDU Kakadu 33.39 268 ⇓P P 13 42 27.4 -0.1
baz=33,SNR=44
TAU Tasmania Unive 33.61 206 eP P 13 42 29.8 +0.7
TAU pmax pmax
comp=Z,252nm,1.4s
TAU MLR MLR
comp=Z,3μm,21.0s
TAU Tasmania Unive 33.61 206 eP P 13 42 29.8 +0.7
comp=Z,252nm,1.4s
TAU LR LR
comp=Z,3μm,21.0s
BBOO Buckleboo 33.85 231 eP P 13 42 31.7 +0.3
comp=Z,2μm,0.9s
BBOO Buckleboo 33.85 231 P P 13 42 31.8 +0.5
baz=34,SNR=51
MTN Manton Dam 34.67 267 P P 13 42 38.7 0.0
baz=35,SNR=34
GUMO Guam 34.71 320 PFAKE 13 42 50.0 +11
GUMO LR LR
comp=Z,3μm,20.0s
SAUI Saumlaki 35.27 276 P P 13 42 45.1 +1.3
comp=Z,251nm,1.2s,comp=Z,4μm
FAKI Fak Fak 35.73 284 P P 13 42 48.4 +0.5
comp=Z,92nm,1.1s
FAKI Fak Fak 35.73 284 ⇓P P 13 42 47.8 -0.1
baz=36,SNR=6.2
KNRA Kununurra 36.78 262 P P 13 42 56.4 -0.4
baz=37,SNR=29
SWI Sorong 37.38 287 P P 13 43 02.2 +0.4
comp=Z,290nm,1.1s,comp=Z,2μm

SWI Sorong 37.38 287 ⇑P P 13 43 02.4 +0.6
baz=37,SNR=11
BNDI Bandanaira 37.47 281 P P 13 43 03.3 +0.7
comp=Z,439nm,1.0s
WRKA Warakurna 37.88 247 ⇓P P 13 43 05.3 -0.8
baz=38,SNR=418
PALU Palau 38.27 301 ⇓P P 13 43 09.8 +0.6
baz=38,SNR=10
FORT Forrest 39.42 238 eP P 13 43 18.4 -0.4
comp=Z,146nm,0.9s
FORT ePcP PcP 13 45 24.7 -0.7
FORT Forrest 39.42 238 P P 13 43 18.9 +0.1
baz=40,SNR=46
FITZ Fitzroy Crossi 39.74 258 eP P 13 43 20.6 -1.0
comp=Z,119nm,1.5s
FITZ ePcP PcP 13 45 26.0 -0.6
FITZ Fitzroy Crossi 39.74 258 ⇑P P 13 43 21.3 -0.3
baz=40,SNR=29
NLAI Namlea 40.52 281 P P 13 43 29.2 +1.2
comp=Z,408nm,1.5s,comp=Z,6μm
LBMI Labuha 40.97 285 P P 13 43 33.8 +2.0
comp=Z,651nm,1.2s,comp=Z,6μm
TNTI Ternate 41.59 287 P P 13 43 37.9 +1.0
comp=Z,317nm,1.0s,comp=Z,4μm
TNTI Ternate 41.59 287 eP P 13 43 34.2 -2.6
comp=Z,306nm,1.0s
SOEI Soe 41.76 271 P P 13 43 39.4 +1.1
comp=Z,82nm,1.5s,comp=Z,1μm
SOEI Soe 41.76 271 eP P 13 43 38.3 -0.1
comp=Z,132nm,1.1s
SOEI Soe 41.76 271 ⇓P P 13 43 39.4 +1.1
baz=42,SNR=5.4
SANI Sanana 41.94 282 P P 13 43 40.3 +0.6
comp=Z,393nm,1.0s,comp=Z,4μm
PAE Paea 42.15 101 eP P 13 43 42.7 +1.4
PPT2 Papeete2 42.15 101 eP P 13 43 43.0 +1.5
comp=Z,78nm,1.3s
PPT2 Papeete2 42.15 101 eLQ LQ 13 53 55.8
comp=Z,3μm,31.0s
PPT2 eLR LR 13 55 56.2
comp=Z,5μm,26.8s,baz=271
PPT Papeete 42.15 101 LR LR 13 58 52.1
comp=Z,500nm,18.3s,baz=248,slow=33
BATI Baumata 42.27 270 P P 13 43 43.8 +1.4
comp=Z,113nm,1.2s,comp=Z,2μm
BATI Baumata 42.27 270 P P 13 43 43.9 +1.4
comp=Z,98nm,0.5s,baz=136,slow=3.6,SNR=22
TIAR Tiarei 42.37 101 eP P 13 43 44.7 +1.5
comp=Z,42nm,1.2s
MEH Mehetia 43.59 102 eP P 13 43 54.4 +1.4
comp=Z,149nm,1.6s
PMOR Pomariorio Ree 43.89 97 eP P 13 43 57.4 +2.0
comp=Z,393nm,1.3s
MMRI Maumere 43.93 272 P P 13 43 56.1 +0.3
comp=Z,124nm,1.5s,comp=Z,2μm
MMRI Maumere 43.93 272 eP P 13 43 52.5 -3.3
comp=Z,77nm,0.6s
MMRI ePcP PP 13 45 39.5 -0.1
VAH Vaihoa 44.13 98 eP P 13 43 58.9 +1.6
comp=Z,95nm,1.2s
MIDW Midway 44.40 20 PFAKE 13 44 10.0 +11
MIDW LR LR
comp=Z,3μm,19.0s
SGSI Sangihe 44.41 290 P P 13 44 00.0 +0.4
comp=Z,1μm,1.4s,comp=Z,11μm
KMSI Cibinong 44.69 285 P P 13 44 02.5 +0.7
comp=Z,1μm,1.1s,comp=Z,12μm
BASI Baing, Sumba 45.27 269 P P 13 44 07.0 +0.6
comp=Z,324nm,1.3s,comp=Z,3μm
LUWI Luwuk 45.30 282 P P 13 44 07.4 +0.7
comp=Z,547nm,1.1s,comp=Z,6μm
LUWI Luwuk 45.30 282 eP P 13 44 06.2 -0.5
comp=Z,457nm,1.0s
LUWI ePcP PcP 13 45 43.5 -1.7
LUWI Luwuk 45.30 282 ⇑P P 13 44 07.4 +0.7
baz=45,SNR=26
MBWA Marble Bar 45.36 254 eP P 13 44 05.5 -1.6
comp=Z,135nm,1.0s
MBWA ePcP PcP 13 45 44.2 -1.1
MBWA LR LR
comp=Z,4μm,19.0s
DAV Davao City (W) 45.80 294 PFAKE 13 44 20.0 +9.4
DAV LR LR
comp=Z,1μm,22.0s
APSI Ampana 46.41 282 P P 13 44 16.6 +1.2
comp=Z,587nm,1.1s,comp=Z,6μm
MRSI Marisa 46.58 284 P P 13 44 16.3 -0.4
comp=Z,181nm,1.0s,comp=Z,2μm
BKSI Bulukumba 46.68 276 P P 13 44 17.5 0.0
comp=Z,60nm,1.3s,comp=Z,1μm
MEEK Meekatharra 46.75 246 P P 13 44 18.1 +0.2
baz=47,SNR=240
BNSI Bone 46.92 277 P P 13 44 20.1 +0.7
comp=Z,291nm,1.1s,comp=Z,3μm
CBIJ Chichi jima 47.04 330 eP P 13 44 18.9 -1.2
JCJ Chichijima 47.04 330 P P 13 44 19.8 -0.3
comp=Z,70nm,0.5s,baz=266,slow=3.5,SNR=8.4
JCJ LR LR 14 01 41.2
comp=Z,636nm,21.3s,baz=185,slow=33
KAPI Kappang 47.11 276 eP P 13 44 21.1 +0.3
comp=Z,2μm,1.4s
KAPI ePcP PcP 13 45 52.5 +0.9
KAPI LR LR
comp=Z,944nm,21.0s
SPSI Sidrap Palu 47.35 277 P P 13 44 22.9 +0.1
comp=Z,123nm,1.2s,comp=Z,1μm
TTSI Tana Toraja 47.55 278 P P 13 44 25.0 +0.7
comp=Z,84nm,1.3s,comp=Z,1μm
TOLI Toli-Toli 47.87 284 eP P 13 44 24.1 -2.7
comp=Z,217nm,0.7s
KLBR Kellerberrin 48.20 240 ⇓P P 13 44 28.8 -0.3
baz=48,SNR=58
MPSI Mapaga 48.46 283 P P 13 44 31.7 +0.4
comp=Z,447nm,0.9s,comp=Z,4μm
NWAO Narrogin (SRO) 48.87 238 P P 13 44 33.9 -0.4
NWAO MLR MLR
comp=Z,1.0nm,21.0s
NWAO Narrogin (SRO) 48.87 238 P P 13 44 33.9 -0.4
comp=Z,115nm,0.6s,baz=76,slow=6.5,SNR=106
NWAO Narrogin (SRO) 48.87 238 P P 13 44 33.9 -0.4
NWAO LR LR
comp=Z,1.0nm,21.0s
BLDU Ballidu 48.92 241 P P 13 44 34.3 -0.4
baz=49,SNR=18
CNP Catarman 49.18 300 eP P 13 44 36.5 -0.2
MORW Morawa 49.29 243 P P 13 44 37.5 0.0
baz=49,SNR=54
RKGY Rocky Gully 49.42 236 ⇑P P 13 44 38.8 +0.4
baz=50,SNR=26
RCP Roxas 50.35 298⇑eP P 13 44 46.4 +0.8
GIRL Giralia 50.49 252 P P 13 44 48.4 +1.8
baz=50,SNR=6.1
JAGI Jajag, Banyuwa 51.81 270 eP P 13 44 55.0 -1.7
comp=Z,216nm,0.8s
JAGI ePcP PcP 13 46 07.3 -1.5
JAGI Jajag, Banyuwa 51.81 270 P P 13 44 56.3 -0.5
baz=52,SNR=22
TGY Tagaytay City 53.12 300 LR LR 14 06 41.3
comp=Z,9.2nm,21.4s,baz=104,slow=35
BCPH Baguio City Da 54.55 302⇓iP P 13 45 15.9 -0.9
JOW Kunigami 54.95 317 P P 13 45 20.4 +1.0
comp=Z,23nm,0.7s,baz=150,slow=7.6,SNR=124
JOW Kunigami 54.95 317 eP P 13 45 18.9 -0.5
comp=Z,102nm,0.8s
SMRI Semarang 55.70 271 ⇓P P 13 45 26.4 +1.3
baz=56,SNR=4.5
RKT Rikitea 55.77 109 eS S 13 53 09.4 +3.4
comp=Z,405nm,23.0s
RKT eLQ LQ 13 59 44.2
comp=Z,487nm,30.0s
RKT eLR LR 14 02 11.0
comp=Z,2μm,29.8s,baz=268
DRV Dumont d'Urvil 55.85 193 P P 13 45 12.0 -13
DRV S S 13 53 07.0 +1.3
DRV SS SS 13 57 04.0 +12
DRV L L 13 59 00.0
DRV R 14 02 00.0
MJAR Matsushiro Arr 56.76 333 P P 13 45 31.2 -1.0
comp=Z,24nm,0.7s,baz=172,slow=8.8,SNR=100
MJAR LR LR 14 07 36.6
comp=Z,153nm,21.7s,baz=170,slow=34
MAJO Matsushiro 56.76 333c iP P 13 45 31.3 -0.9
MAJO pmax pmax
comp=Z,782nm,1.7s
MAJO Matsushiro 56.76 333 eP P 13 45 30.2 -2.0
comp=Z,126nm,1.1s
MAJO LR LR

comp=Z,573nm,21.0s
MAT Matsushiro 56.76 333 P P 13 45 31.4 -0.8
MAT S S 13 53 19.4 +0.8
TWG Pinlang 57.61 309 eP P 13 45 35.9 -2.5
comp=Z,430nm,0.9s
YULB Yu-li 57.76 309 eP P 13 45 38.6 -0.9
JNU Nakatsue 57.79 324 P P 13 45 39.5 0.0
comp=Z,137nm,0.9s,baz=124,slow=7.8,SNR=84
JNU Nakatsue 57.79 324 eP P 13 45 39.1 -0.4
comp=Z,80nm,1.0s
CISI Cisompet, Garu 58.15 270 eP P 13 45 40.2 -2.2
comp=Z,166nm,0.6s
CISI ePcP PcP 13 46 31.6 -1.7
CISI Cisompet, Garu 58.15 270 P P 13 45 42.6 +0.1
baz=58,SNR=4.1
TPUB Ta-pu 58.21 309 eP P 13 45 41.9 -0.8
comp=Z,360nm,1.5s
SSLB Suanglung 58.24 309 eP P 13 45 41.6 -1.3
comp=Z,24nm,0.5s
YHNB Yeheng 58.44 311 eP P 13 45 43.0 -1.2
comp=Z,107nm,0.7s
LEM Lembang 58.49 270 P P 13 45 46.3 +1.4
baz=58,SNR=19
TATO Taipei 58.53 311 eP P 13 45 44.5 -0.3
comp=Z,265nm,1.4s
ERM Erimo 59.54 340 PFAKE 13 46 00.0 +8.6
ERM LR LR
comp=Z,1μm,22.0s
XMI Christmas Isla 59.69 266 ⇑P P 13 45 51.5 -1.5
baz=60,SNR=4.8
KSSSP Seongsanpo 60.31 322 P P 13 45 58.1 +1.2
SNR=5.3
YUK Yuzh-Kuril'sk 60.52 343d iP P 13 45 56.1 -2.0
YUK i S S 13 54 10.2 +3.2
KSJJU Jeju 60.55 322 P P 13 45 59.6 +1.0
SNR=10.0
KSJJU P P 13 45 59.6 +1.0
SNR=10.0
QZH Quanzhou 60.67 309⇑iP P 13 46 00.3 +0.8
QZH pmax pmax
comp=Z,130nm,0.7s
QZH LR LR
comp=Z,2μm,17.2s
QZH LR LR
comp=Z,890nm,15.5s
QZH LR LR
comp=Z,2μm,27.2s
KSPHA Pohang 60.89 326 P P 13 46 01.9 +1.1
SNR=6.9
KSWAN Wando 61.12 323 P P 13 46 03.2 +0.8
SNR=7.4
KSULJ Uljin 61.25 326 P P 13 46 04.1 +0.9
SNR=5.3
ASAJ Asahikawa 61.60 340 P P 13 46 05.9 +0.5
comp=Z,46nm,0.7s,baz=213,slow=6.9,SNR=53
ASAJ LR LR 14 08 16.8
comp=Z,1μm,21.6s,baz=171,slow=32
ASAJ Asahikawa 61.60 340 eP P 13 46 05.4 0.0
comp=Z,18nm,0.6s
KSTBA Taebaek 61.81 326 P P 13 46 07.9 +0.8
SNR=12
KSJEO Jeonju 61.87 324 P P 13 46 08.2 +0.8
SNR=10
KSBON Boeun 61.98 325 P P 13 46 08.8 +0.6
SNR=6.0
KSHUK Heuksando 62.07 322 P P 13 46 09.7 +0.9
SNR=7.7
KSYOW Yeongwol 62.11 326 P P 13 46 10.3 +1.3
SNR=5.2
TJN Taejon 62.14 325 iP P 13 46 09.2 0.0
KSGUS GUNSAN 62.23 324 P P 13 46 10.4 +0.6
SNR=9.9
KSDGY Daegwallycong 62.37 326 P P 13 46 12.0 +1.2
SNR=5.4
SSE Sheshan 62.44 316 P P 13 46 11.3 +0.1
SSE S S 13 54 32.6 +0.9
SSE sS sS 13 55 11.8 +2.4
SSE pmax pmax
comp=Z,150nm,1.0s
SSE pmax pmax
comp=Z,220nm,7.2s
SSE LR LR
comp=Z,290nm,28.4s
SSE LR LR
comp=Z,300nm,28.4s
SSE LR LR
comp=Z,360nm,18.2s
KSJMJ Jumunjin 62.47 327 P P 13 46 12.2 +0.8
SNR=7.1
KSJMJ P P 13 46 12.2 +0.8
SNR=7.1
KSWJU Wonju 62.50 326 P P 13 46 12.7 +1.1
SNR=6.3
KSRS Korea Array 62.61 326 P P 13 46 12.7 +0.4
comp=Z,32nm,0.9s,baz=140,slow=6.8,SNR=88
KSAR Wonju Array Be 62.62 326 P P 13 46 12.7 +0.3
KSAR Wonju Array Be 62.62 326 P P 13 46 12.7 +0.3
KSIJA INJE 62.89 326 P P 13 46 15.5 +1.3
SNR=8.9
KSSWO Suwon 63.00 325 P P 13 46 15.5 +0.6
SNR=7.4
KSSEO Seoul 63.19 325 P P 13 46 17.1 +1.0
SNR=5.3
KSCWO Cheorwon 63.28 326 P P 13 46 17.9 +1.1
SNR=6.6
INCN Inchon 63.34 325 eP P 13 46 17.5 +0.3
comp=Z,373nm,1.8s
INCN LR LR
comp=Z,691nm,22.0s
MNAI Manna 63.55 272 ⇓P P 13 46 19.2 +0.1
baz=64,SNR=4.1
KSMUS Musan 63.56 325 P P 13 46 19.4 +0.8
SNR=8.0
GZH Guangzhou 63.79 304 P P 13 46 21.6 +1.2
GZH LR LR
comp=Z,500nm,15.3s
GZH LR LR
comp=Z,640nm,15.1s
VNDA Vanda 63.89 181 P P 13 46 20.2 0.0
comp=Z,11nm,0.9s,baz=7.0,slow=7.0,SNR=9.6
VNDA LR LR 14 10 21.4
comp=Z,326nm,19.8s,baz=27,slow=32
YSS Yuzh-Sakhalins 64.09 342 eP P 13 46 19.0 -2.8
YSS e*PP pP 13 46 42.2 -1.8
YSS eS S 13 54 40.0 -12
YSS pmax pmax
comp=Z,60nm,0.8s
YSS pmax pmax
comp=Z,500nm,5.0s
YSS Yuzh-Sakhalins 64.09 342 eP P 13 46 22.3 +0.5
comp=Z,59nm,0.8s
BTDF Bukit Timah Da 64.17 278 ⇑P P 13 46 24.5 +1.4
baz=64,SNR=4.7
CASY Casey 64.31 202 PFAKE 13 46 40.0 +17
CASY LR LR
comp=Z,1μm,22.0s
NJ2 Nanjing 64.59 316 eP P 13 46 26.0 +0.5
NJ2 pP pP 13 46 44.6 -3.1
NJ2 pmax pmax
comp=Z,170nm,1.1s
NJ2 LR LR
comp=Z,3μm,25.9s
NJ2 LR LR
comp=Z,3μm,17.2s
NJ2 LR LR
comp=Z,3μm,17.2s
QIZ Qiongzhong 64.81 299 P P 13 46 28.3 +1.2
QIZ PP PP 13 48 53.1 +2.2
QIZ S S 13 55 03.5 +1.8
QIZ SS SS 13 59 16.5 +1.7
QIZ pmax pmax
comp=Z,88nm,1.1s
QIZ pmax pmax
comp=Z,300nm,6.3s
QIZ LR LR
comp=Z,220nm,22.5s
QIZ LR LR
comp=Z,650nm,21.1s
QIZ Qiongzhong 64.81 299 eP P 13 46 25.3 -1.8
comp=Z,339nm,1.8s
VLA Vladivostok 64.93 332⇑iP P 13 46 27.9 +0.5
VLA e 13 46 59.6
VLA S S 13 55 03.0 +0.8
VLA pmax pmax
comp=Z,81nm,1.5s
USRK Ussuriysk Arra 65.74 333 P P 13 46 33.4 +0.7
comp=Z,51nm,0.8s,baz=138,slow=5.8,SNR=86

USRK LR LR 14 13 12.2
comp=Z,213nm,20.3s,baz=139,slow=34
FX1 Attu Island--F 66.52 4 P **P 13 46 37.0 -0.5**
comp=Z,40nm,0.7s,baz=194,slow=1.9,SNR=20
BKNI Bangkinang 66.53 276 P **P 13 46 39.9 +1.5**
baz=66,SNR=4.6
PET Petropavlovsk 66.80 355 eP **P 13 46 38.8 -0.4**
PET eS **S 13 55 28.4 +3.8**
PET pmax pmax
comp=Z,16nm,0.5s
PET pmax pmax
comp=Z,200nm,10.8s
PET Petropavlovsk 66.80 355 eP **P 13 46 38.2 -1.0**
comp=Z,15nm,0.6s
ADK Adak 66.86 11 PFAKE 13 46 50.0 +10
ADK LR LR
comp=Z,2µm,22.0s
WHN Wuhan 66.89 312 ⇑P **P 13 46 40.5 +0.3**
WHN pP **PcP 13 47 09.0 +0.7**
WHN pmax pmax
comp=Z,82nm,0.8s
WHN LR LR
comp=Z,1µm,19.2s
PETK Petropavlovsk- 66.98 354 P **P 13 46 40.2 -0.1**
comp=Z,23nm,0.6s,baz=158,slow=5.6,SNR=59
PETK LR LR 14 11 03.8
comp=Z,400nm,21.1s,baz=173,slow=32
UBPT Khong Chiam 67.11 293 P **P 13 46 43.1 +1.1**
comp=Z,99nm,1.2s
MDJ Mudanjiang 67.14 332 P **P 13 46 42.3 +0.8**
MDJ pP **pP 13 47 02.4 -1.5**
MDJ sP **sP 13 47 11.9 -1.6**
MDJ PP **PP 13 49 09.8 -0.9**
MDJ SS **SS 13 59 50.0 -0.1**
MDJ pmax pmax
comp=Z,77nm,1.1s
MDJ pmax pmax
comp=Z,380nm,4.9s
MDJ LR LR
comp=Z,430nm,23.9s
MDJ LR LR
comp=Z,190nm,29.8s
MDJ LR LR
comp=Z,490nm,25.2s
MDJ Mudanjiang 67.14 332 eP **P 13 46 40.6 -0.9**
comp=Z,82nm,1.0s
MDJ ePcP **PcP 13 47 08.9 -0.1**
MDJ LR LR
comp=Z,481nm,22.0s
DL2 Dalian 67.18 323 P **P 13 46 42.6 +0.7**
DL2 S **S 13 55 33.3 +3.6**
DL2 pmax pmax
comp=Z,350nm,0.6s
DL2 pmax pmax
comp=Z,180nm,8.5s
COCO West Island 67.95 262 PFAKE 13 47 00.0 +13
COCO LR LR
comp=Z,1µm,19.0s
HABR Khabarovsk 67.99 338 deP **P 13 46 45.0 -1.8**
HABR e*PP **pP 13 47 08.0 -1.2**
HABR e 13 47 10.5
HABR e*SP **sP 13 47 18.1 -0.7**
HABR e 13 49 15.6
HABR eS **S 13 55 37.2 -1.8**
HABR e*SS **sS 13 56 16.9 -0.4**
HABR e 13 56 35.3
HABR eSS **SS 14 00 01.6 -1.6**
HABR pmax pmax
comp=N,38nm,1.5s
HABR pmax pmax
comp=E,11nm,0.7s
HABR pmax pmax
comp=Z,155nm,1.5s
HABR MLR MLR
comp=Z,165nm,19.0s
TIA Tai'an 68.24 318 ⇑P **P 13 46 48.6 -0.1**
TIA pmax pmax
comp=Z,130nm,1.0s
TIA pmax pmax
comp=Z,440nm,6.3s
TIA LR LR
comp=Z,290nm,20.2s
TIA LR LR
comp=Z,410nm,19.0s
TIA LR LR
comp=Z,580nm,22.0s
CN2 Changchun 68.50 329 ⇑P **P 13 46 50.5 +0.3**
CN2 epP **PcP 13 47 15.3 +0.5**
CN2 eS **S 13 55 43.9 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,500nm,21.0s
CN2 LR LR
comp=Z,500nm,21.0s
CN2 LR LR
comp=Z,500nm,21.0s
CHBT CHBT 69.05 290 P **P 13 46 55.3 +1.2**
comp=Z,70nm,1.3s,comp=Z,1µm
PSI Prapat 69.22 278 P **P 13 46 55.2 -0.3**
baz=69,SNR=45
KLR Kul'dur 69.86 336 ⇓iP P 13 46 55.2 -3.2
KLR eS SKiKP 13 56 20.5 -17
KLR pmax pmax
comp=Z,120nm,1.8s
GSI Gunungsitoli 70.13 276 eP **P 13 46 59.9 -1.0**
comp=Z,226nm,0.8s
GSI Gunungsitoli 70.13 276 ⇓P **P 13 47 01.9 +1.1**
baz=70
ENH Enshi 70.33 309 eP **P 13 47 01.6 -0.2**
comp=Z,32nm,0.9s
ENH ePcP **PcP 13 47 22.3 -0.5**
PATY Pattaya 70.44 289 P **P 13 47 04.6 +1.9**
comp=Z,45nm,0.9s,comp=Z,2µm
GYA Guiyang 70.72 305 ⇑iP **P 13 47 04.8 +0.5**
GYA pP **pP 13 47 28.4 +1.5**
GYA sP **sP 13 47 40.3 +3.9**
GYA PP **PP 13 49 45.0 +2.7**
GYA SKS **SKSac 13 56 55.3 -3.8**
GYA SS **SS 14 00 47.6 +1.2**
GYA pmax pmax
comp=Z,70nm,0.7s
GYA pmax pmax
comp=Z,130nm,6.2s
GYA LR LR
comp=Z,640nm,19.6s
GYA LR LR
comp=Z,560nm,20.0s
GYA LR LR
comp=Z,650nm,19.4s
UNV Unalaska Valle 71.03 16 eP **P 13 47 04.2 -1.2**
comp=Z,26nm,0.9s
SURT Suratani 71.11 285 P **P 13 47 08.2 +1.5**
comp=Z,63nm,1.4s,comp=Z,814nm
BJT Baijiatuau 71.14 321 eP **P 13 47 06.4 0.0**
BJT pmax pmax
comp=Z,49nm,0.6s
BJT MLR MLR
comp=Z,782nm,21.0s
BJT Baijiatuau 71.14 321 eP **P 13 47 06.4 0.0**
comp=Z,49nm,0.6s
BJT LR LR
comp=Z,782nm,21.0s
BJI Beijing 71.15 321 P **P 13 47 06.9 +0.4**
BJI PcP **PcP 13 47 26.8 +0.8**
BJI pP **pP 13 47 28.6 -0.4**
BJI PP **PP 13 49 44.3 -1.2**
BJI S **S 13 56 14.4 -2.1**
BJI sS **sS 13 56 52.8 -2.2**
BJI pmax pmax
comp=Z,140nm,0.7s
BJI pmax pmax
comp=Z,530nm,3.5s
BJI LR LR
comp=Z,810nm,21.2s
BJI LR LR
comp=Z,400nm,25.4s
BJI LR LR
comp=Z,980nm,28.3s
PKDT Phuket 71.22 283 P **P 13 47 09.4 +1.9**
comp=Z,70nm,2.2s,comp=Z,1µm
AKUT Akutan 71.49 17 eP **P 13 47 06.3 -1.9**
comp=Z,39nm,0.8s
PBKT Sadao Pong 71.61 293 P **P 13 47 10.7 +1.0**
comp=Z,128nm,1.1s,comp=Z,2µm
LOEI Loei 71.68 294 P **P 13 47 08.7 -1.5**
comp=Z,121nm,1.0s
TIY Taiyuan 72.17 317 eP **P 13 47 13.9 +1.2**
TIY S **S 13 56 28.8 +0.3**
TIY LR LR
comp=Z,210nm,6.1s
TIY LR LR
comp=Z,170nm,4.4s
TIY LR LR
comp=Z,460nm,19.6s
UTTA Uttaradit 72.40 294 P **P 13 47 15.5 +1.1**
comp=Z,33nm,0.9s,comp=Z,310nm
SRDT SRDT 72.52 290 P **P 13 47 16.9 +1.7**
comp=Z,338nm,1.1s,comp=Z,7µm
XAN Xi'an 72.63 313 P **P 13 47 16.1 +0.6**
XAN PP **PP 13 49 55.9 -2.5**
XAN S **S 13 56 35.0 +1.2**
XAN SS **SS 14 01 13.4 -1.8**
XAN pmax pmax
comp=Z,27nm,0.9s
XAN pmax pmax
comp=Z,110nm,6.0s
XAN LR LR
comp=Z,180nm,20.5s
XAN LR LR
comp=Z,83nm,22.5s
XAN LR LR
comp=Z,100nm,18.4s
FALS False Pass 72.80 18 eP **P 13 47 13.3 -2.6**
comp=Z,23nm,0.6s
KHLT Khaolaem Dam 73.15 290 P **P 13 47 20.5 +1.6**
comp=Z,42nm,1.4s,comp=Z,733nm
KMI Kunming 73.34 302 ⇑P **P 13 47 22.0 +1.8**
KMI pP **pP 13 47 45.0 +2.2**
KMI sP **sP 13 47 54.9 +2.5**
KMI PP **PP 13 50 09.3 +4.4**
KMI S **SKiKP 13 56 44.0 +0.6**
KMI SKS **SKSac 13 57 14.4 -4.7**
KMI sS **ScS 13 57 21.9 +0.2**
KMI SS **SS 14 01 25.3 -1.4**
KMI pmax pmax
comp=Z,200nm,0.9s
KMI pmax pmax
comp=Z,630nm,3.1s
KMI LR LR
comp=Z,200nm,21.3s
KMI LR LR
comp=Z,430nm,18.5s
KMI LR LR
comp=Z,490nm,18.5s
LAMP Lampang 73.49 294 P **P 13 47 22.3 +1.4**
comp=Z,150nm,0.8s,comp=Z,1µm
PAYA Payao 73.58 295 P **P 13 47 22.4 +1.0**
comp=Z,70nm,0.8s,comp=Z,645nm
CMAR Chiang Mai Arr 74.08 294 P **P 13 47 26.1 +1.8**
comp=Z,129nm,0.8s,baz=124,slow=4.6,SNR=541
CMAR LR LR 14 22 06.9
comp=Z,105nm,19.2s,baz=136,slow=37
CMMT Chiang Mai 74.20 294 P **P 13 47 25.9 +0.9**
comp=Z,245nm,1.1s,comp=Z,3µm
CHTO Chiang Mai 74.21 294 eP **P 13 47 26.2 +1.1**
CHTO pmax pmax
comp=Z,209nm,1.1s
CHTO MLR MLR
comp=Z,337nm,22.0s
CHTO Chiang Mai 74.21 294 P **P 13 47 25.9 +0.8**
comp=Z,852nm,1.1s,comp=Z,10µm
CHTO Chiang Mai 74.21 294 eP **P 13 47 26.2 +1.1**
comp=Z,209nm,1.1s
CHTO LR LR
comp=Z,337nm,22.0s
HHC Hu-ho-hao-te 74.48 320 eP **P 13 47 27.5 +1.2**
HHC pP **pP 13 47 48.5 -0.5**
HHC sP **sP 13 47 56.8 -1.7**
HHC S **S 13 56 56.1 +1.6**
HHC SKS **SKSac 13 57 24.5 -2.2**
HHC sS **sS 13 57 32.8 -0.6**
HHC pmax pmax
comp=Z,150nm,0.8s
HHC pmax pmax
comp=Z,890nm,4.6s
HHC LR LR
comp=Z,560nm,19.7s
HHC LR LR
comp=Z,760nm,18.5s
HHC LR LR
comp=Z,1µm,19.7s
CMAI Chiengmai2 74.51 295 P **P 13 47 28.1 +1.1**
comp=Z,142nm,1.2s
MHMT Maesarieng 74.89 293 P **P 13 47 30.2 +1.2**
comp=Z,85nm,0.7s,comp=Z,837nm
CD2 Chengdu 74.99 308 ⇑eP **P 13 47 30.3 +0.9**
CD2 PcP **PcP 13 47 43.8 +1.0**
CD2 pP **pP 13 47 53.3 +1.1**
CD2 sP **sP 13 48 03.1 +1.4**
CD2 PP **PP 13 50 21.6 +3.1**
CD2 S **S 13 56 59.5 -1.0**
CD2 SKS **SKSac 13 57 26.0 -4.9**
CD2 sS **sS 13 57 39.5 +0.1**
CD2 SS **SS 14 01 52.0 +0.7**
CD2 pmax pmax
comp=Z,140nm,0.8s
CD2 pmax pmax
comp=Z,390nm,4.5s
CD2 LR LR
comp=Z,440nm,19.6s
CD2 LR LR
comp=Z,350nm,19.6s
CD2 LR LR
comp=Z,410nm,20.6s
HIA Hailar 75.14 330 eP **P 13 47 29.7 -0.1**
HIA e 13 47 41.8
HIA pmax pmax
comp=Z,77nm,0.8s
HIA MLR MLR
comp=Z,452nm,22.0s
HIA Hailar 75.14 330 eP **P 13 47 29.7 -0.1**
comp=Z,77nm,0.8s
HIA ePcP **PcP 13 47 41.8 -1.2**
HIA LR LR
comp=Z,452nm,22.0s
BTO Baotou 75.32 319 eP **P 13 47 32.0 +0.8**
CHGN Chignik 75.55 19 eP **P 13 47 31.6 -0.3**
CHGN ePcP **PcP 13 47 44.1 -0.3**
QSPA South Pole Qui 76.33 180 P **P 13 47 36.3 -0.3**
comp=Z,57nm,0.9s,baz=5.0,slow=0.7,SNR=96
QSPA South Pole Qui 76.33 180 eP **P 13 47 36.7 +0.1**
comp=Z,62nm,0.9s
SEY Seymchan 77.19 353 P **P 13 47 40.7 -0.4**
comp=Z,71nm,0.6s,baz=162,slow=5.6,SNR=198
LZH Lanzhou 77.26 312 eP **P 13 47 44.1 +1.8**
LZH PcP **PcP 13 47 55.3 +2.6**
LZH pP **pP 13 48 08.9 +3.7**
LZH sP **sP 13 48 18.6 +3.9**
LZH eS **S 13 57 27.1 +1.6**
LZH SKS SKSac 13 57 38.1 -10
LZH pmax pmax
comp=Z,39nm,1.0s
LZH pmax pmax
comp=Z,190nm,5.1s
LZH LR LR
comp=Z,410nm,19.4s
LZH LR LR
comp=Z,460nm,18.8s
LZH LR LR
comp=Z,560nm,18.3s
OHAK Old Harbor 77.99 21 eP **P 13 47 44.1 -1.5**
comp=Z,86nm,0.7s
CLNS Chul'man 78.38 338 eP **P 13 47 48.3 +0.4**
CLNS pmax pmax
comp=Z,41nm,0.9s
CLNS pmax pmax
comp=N,17nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.9s
KDAK Kodiak Island 78.67 21 iP **P 13 47 49.7 +0.4**
KDAK Kodiak Island 78.67 21 PFAKE 13 48 00.0 +11
KDAK LR LR
comp=Z,2µm,20.0s
GAMB Gambell 78.99 10 eP **P 13 47 49.9 -1.1**
comp=Z,52nm,1.1s
CIT Chita 79.93 330 eP **P 13 47 57.0 +0.5**
CIT e 13 48 08.6
CIT e 13 48 19.0
CIT e 13 48 30.4
CIT pmax pmax
comp=Z,210nm,1.7s
RSO Redoubt South 80.67 19 eP **P 13 47 59.8 -0.7**
comp=Z,42nm,0.6s
ULN Ulaanbaatar 81.01 324 c iP **P 13 48 02.9 +0.4**
ULN pmax pmax
comp=Z,97nm,1.0s
ULN Ulaanbaatar 81.01 324 eP **P 13 48 02.5 0.0**
comp=Z,79nm,0.8s
AIS Amsterdam Isla 81.13 233 P P 13 47 49.0 -14
AIS R 14 14 00.0
TNA Tin City 81.27 10 eP **P 13 48 01.8 -1.5**
comp=Z,57nm,1.6s
TNA ePcP **PcP 13 48 08.7 -0.4**
SONM Songino Array 81.37 324 P **P 13 48 04.8 +0.4**
comp=Z,22nm,0.9s,baz=139,slow=7.0,SNR=95
SONM LR LR 14 22 31.5
comp=Z,346nm,21.6s,baz=126,slow=34
BILL Bilibino 81.50 360 c iP **P 13 48 03.6 -0.9**
BILL i *PP **pP 13 48 29.1 +1.6**
BILL e 13 51 08.4
BILL i S **S 13 58 14.1 +5.4**
BILL pmax pmax
comp=Z,85nm,1.3s
BILL Bilibino 81.50 360 eP **P 13 48 03.8 -0.7**
comp=Z,41nm,0.6s
GTA Gaotai 81.60 314 ⇑P **P 13 48 07.0 +1.2**
GTA pP **pP 13 48 27.9 -0.9**
GTA sP **sP 13 48 35.8 -2.5**
GTA S **S 13 58 14.3 +3.2**
GTA sS **sS 13 58 45.8 -4.8**
GTA SS **SS 14 03 32.3 +1.9**
GTA pmax pmax
comp=Z,120nm,1.2s
GTA pmax pmax
comp=Z,650nm,6.6s
GTA LR LR
comp=Z,220nm,20.7s
GTA LR LR
comp=Z,170nm,20.4s
GTA LR LR
comp=Z,370nm,23.5s
RC01 Rabbit Creek A 82.12 20 eP **P 13 48 06.8 -1.1**
comp=Z,27nm,0.9s
SHL Shillong 82.64 298 ⇑iP **P 13 48 12.0 +0.4**
PMR Palmer 82.69 20 eP **P 13 48 09.1 -1.6**
PMR pmax pmax
comp=Z,26nm,0.9s
PMR Palmer 82.69 20 eP **P 13 48 09.1 -1.6**
comp=Z,26nm,0.9s
DIV Divide 83.49 21 eP **P 13 48 14.3 -0.8**
comp=Z,13nm,0.6s
DIV ePcP **PcP 13 48 18.8 -0.4**
KTH Kantishna Hill 83.59 18 eP **P 13 48 12.9 -2.6**
comp=Z,17nm,0.7s
TRF Thorofare Moun 83.70 18 eP **P 13 48 13.3 -2.9**
comp=Z,18nm,0.7s
BMRM Bremner River 83.79 22 eP **P 13 48 14.6 -2.0**
comp=Z,11nm,0.6s
PAF Port-aux-Franc 83.95 221 P P 13 48 00.0 -18
PAF SS SS 14 03 48.0 -16
PAF R 14 16 00.0
MCK McKinley 84.32 18 eP **P 13 48 17.7 -1.4**
MCK pmax pmax
comp=Z,103nm,1.2s
MCK McKinley 84.32 18 eP **P 13 48 17.7 -1.4**
comp=Z,102nm,1.2s
ZAK Zakamensk 84.42 325 i P **P 13 48 19.0 -1.1**
ZAK e 13 51 35.0
ZAK pmax pmax
comp=Z,62nm,1.3s
L02D Cave Junction, 84.59 44 P **P 13 48 21.6 +0.6**
baz=85
LSA Lhasa 84.60 302 P **P 13 48 23.1 +1.2**
LSA pmax pmax
comp=Z,120nm,0.7s
LSA Lhasa 84.60 302 PFAKE 13 48 30.0 +8.1
LSA LR LR
comp=Z,228nm,22.0s
IM04 Indian Mountai 84.67 15 eP **P 13 48 20.0 -0.9**
N02D Trinity Center 84.73 46 P **P 13 48 22.5 +0.7**
baz=85
M02C Callahan 84.80 45 P **P 13 48 22.4 +0.3**
baz=85
IRK Irkutsk 84.80 327 eP **P 13 48 21.0 -0.8**
IRK pmax pmax
comp=Z,104nm,1.3s
TLY Talaya 84.86 326 ⇑iP **P 13 48 22.2 +0.1**
TLY eS SKSac 13 58 29.2 -9.3
TLY e 13 59 33.6
TLY pmax pmax
comp=Z,94nm,1.0s
TLY Talaya 84.86 326 eP **P 13 48 21.4 -0.7**
comp=Z,77nm,0.9s
TLY LR LR
comp=Z,385nm,22.0s
PAX Paxson 84.87 20 eP **P 13 48 22.0 0.0**
PAX pmax pmax
comp=Z,6.0nm,0.5s
PAX Paxson 84.87 20 eP **P 13 48 22.0 0.0**
comp=Z,6.0nm,0.5s
HUMO Hull Mountain 85.20 44 eP **P 13 48 24.6 +0.5**
comp=Z,5.1nm,0.7s
CMB Columbia Colle 85.29 49 eP **P 13 48 23.2 -1.5**
CMB pmax pmax
comp=Z,12nm,1.1s
CMB Columbia Colle 85.29 49 eP **P 13 48 23.2 -1.5**
comp=Z,12nm,1.1s
I03D Drain, OR 85.38 43 P **P 13 48 26.1 +1.2**
baz=86
MENT Mentasta 85.44 20 eP **P 13 48 23.8 -1.0**
COLA College 85.47 18 ceP **P 13 48 23.4 -1.4**
COLA i *PP **pP 13 48 49.4 +1.3**
COLA pmax pmax
comp=Z,204nm,1.2s
COLA College 85.47 18 eP **P 13 48 21.8 -3.0**
comp=Z,86nm,1.1s
COLA LR LR
comp=Z,740nm,21.0s
M04C Macdoel 85.65 45 P **P 13 48 27.4 +1.0**
baz=86
ILAR Eielson Array 85.69 18 P **P 13 48 24.1 -1.8**
comp=Z,26nm,0.5s,baz=239,slow=4.9,SNR=200
ILAR PKKP **PKKPdf 14 06 27.1 +3.2**
comp=Z,0.5nm,0.5s,baz=328,slow=2.1,SNR=11
ILAR LR LR 14 21 29.4
comp=Z,1µm,20.2s,baz=242,slow=32
DOT Dot Lake 85.80 20 eP **P 13 48 25.6 -1.0**
comp=Z,14nm,0.5s
I04A Tendick Farm, 86.04 43 P **P 13 48 28.9 +0.7**
baz=86
G03D McMinnville, O 86.04 42 P **P 13 48 28.9 +0.8**
baz=86
BFSC Mount Baldy Ra 86.05 54 P **P 13 48 28.9 +0.3**
baz=86
WRAK Wrangell Islan 86.14 29 eP **P 13 48 27.8 -0.5**
comp=Z,7.0nm,0.6s
WAKR Walker 86.16 49 eP **P 13 48 27.9 -1.2**
comp=Z,14nm,1.5s
BBB Bella Bella 86.19 34 P **P 13 48 29.1 +0.5**
comp=Z,8.3nm,0.9s,baz=248,slow=6.3,SNR=8.0
MOY Mondy 86.30 325 eP **P 13 48 28.6 -0.8**
MOY pmax pmax
comp=Z,70nm,2.9s
LRMC Laurel Mountai 86.43 52 P **P 13 48 31.2 +0.7**
baz=86
NLWA Neilton Lookou 86.55 40 PFAKE 13 48 40.0 +9.4
NLWA LR LR
comp=Z,923nm,19.0s
COLD Coldfoot 86.56 15 eP **P 13 48 29.9 -0.3**
comp=Z,17nm,0.7s
MONP Monument Peak 86.59 55 P **P 13 48 32.2 +0.8**
baz=87
J05D Fort Rock, OR 86.63 44 P **P 13 48 31.7 +0.4**
baz=87
TAPN Taplejung 86.75 299 eP **P 13 48 33.0 +0.6**
comp=Z,372nm,1.3s
TAPN Taplejung 86.75 299 eP **P 13 48 33.0 +0.6**
PFO Pinyon Flat Ob 86.79 54 P **P 13 48 33.0 +0.7**
PFO Pinyon Flat Ob 86.79 54 P **P 13 48 33.0 +0.7**
comp=Z,3.6nm,0.8s,baz=278,slow=3.8,SNR=6.6
PFO LR LR 14 23 22.3
comp=Z,795nm,18.1s,baz=218,slow=33
ODAN Odare 86.88 298 eP **P 13 48 33.6 +0.6**
comp=Z,416nm,0.9s
ODAN Odare 86.88 298 eP **P 13 48 33.6 +0.6**

NVAR Mina Array Bea 86.96 49 P P 13 48 33.7 +0.6
comp=Z,1.8nm,0.7s,baz=234,slow=7.7,SNR=14
NVAR PKKPbc PKKPbc 14 06 27.3 +0.1
comp=Z,0.8nm,0.6s,baz=74,slow=3.2,SNR=7.1
NVAR PKPPKP P'P'df 14 14 27.2 -5.7
comp=Z,0.8nm,0.8s,baz=123,slow=2.8,SNR=5.4
NVAR LR LR 14 20 07.7
comp=Z,1μm,20.1s,baz=78,slow=31
SWSC Sam W. Stewart 87.10 55 P P 13 48 34.4 +0.8
baz=87
GRAC Grapevine Rang 87.18 51 P P 13 48 34.8 +0.8
baz=87
BELC Belle Mtn. Jos 87.27 54 P P 13 48 35.2 +0.6
baz=87
HEC Hector,Ludlow 87.28 53 P P 13 48 35.2 +0.7
baz=87
G05D Wamic, OR 87.32 42 P P 13 48 34.8 +0.4
baz=87
FURC Furnace Creek, 87.39 52 P P 13 48 35.3 +0.4
baz=88
EGAK Eagle 87.50 20 PFAKE 13 48 50.0 +15
EGAK LR LR
comp=Z,692nm,19.0s
RAMN Ramite 87.58 298 eP P 13 48 36.6 +0.2
comp=Z,102nm,0.6s
RAMN Ramite 87.58 298 eP P 13 48 36.6 +0.2
BC3 Big Chuckawall 87.60 55 P P 13 48 36.5 +0.4
baz=88
DAWY Dawson 87.65 21 eP P 13 48 35.5 -0.1
SHOC Shoshone 87.66 52 P P 13 48 36.8 +0.5
baz=88
GMRC Granite Mounta 87.78 54 P P 13 48 37.6 +0.6
baz=88
PALK Pallekele 87.90 278 eP P 13 48 38.0 +0.1
PALK pmax pmax
comp=Z,561nm,1.7s
PALK Pallekele 87.90 278 eP P 13 48 38.0 +0.1
comp=Z,561nm,1.7s
GLA Glamis 87.91 55 P P 13 48 37.8 +0.3
baz=88
IRM Iron Mountain 87.99 54 P P 13 48 38.6 +0.7
baz=88
WVOR Wild Horse Val 88.10 46 eP P 13 48 38.2 -0.1
WVOR pmax pmax
comp=Z,16nm,1.3s
WVOR Wild Horse Val 88.10 46 eP P 13 48 38.2 -0.1
comp=Z,16nm,1.3s
JIRN Jiri 88.13 299 eP P 13 48 39.4 +0.3
comp=Z,183nm,0.7s
JIRN Jiri 88.13 299 eP P 13 48 39.4 +0.3
DLBC Dease Lake 88.25 28 P P 13 48 38.2 -0.3
comp=Z,3.4nm,1.0s,baz=225,slow=7.2,SNR=6.2
DLBC LR LR 14 20 11.9
comp=Z,464nm,21.6s,baz=325,slow=30
BMN Battle Mountai 88.43 48 eP P 13 48 39.5 -0.4
BMN pmax pmax
comp=Z,15nm,1.4s
BMN Battle Mountai 88.43 48 eP P 13 48 39.5 -0.4
comp=Z,15nm,1.4s
GUN Gumba 88.47 299 eP P 13 48 41.0 +0.3
comp=Z,271nm,0.7s
GUN Gumba 88.47 299 eP P 13 48 41.0 +0.3
113A Mohawk Valley, 88.68 56 P P 13 48 41.9 +0.8
baz=89
PKI Pulchoki 88.77 299 eP P 13 48 42.0 0.0
comp=Z,303nm,0.7s
PKI Pulchoki 88.77 299 eP P 13 48 42.1 0.0
PKI Pulchoki 88.77 299 eP P 13 48 42.1 0.0
PKIN Phulchoki 88.78 299 eP P 13 48 42.1 0.0
comp=Z,103nm,0.6s
PDMCI Parker Dam,Lak 88.83 54 P P 13 48 42.6 +0.8
baz=89
TIXI Tiksi 88.86 349ceP P 13 48 39.6 -1.4
TIXI pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 88.86 349 eP P 13 48 39.4 -1.6
comp=Z,7.7nm,0.7s
HAWA Hanford 88.90 42 eP P 13 48 41.7 -0.1
comp=Z,6.9nm,0.8s
HAWA LR LR
comp=Z,542nm,21.0s
KKN Kakani 88.94 299 eP P 13 48 43.0 +0.3
comp=Z,265nm,0.7s
KKN Kakani 88.94 299 eP P 13 48 43.0 +0.3
KKN Kakani 88.94 299 eP P 13 48 43.0 +0.3
R11A Troy Canyon, C 88.96 50 P P 13 48 43.3 +0.8
baz=89
DMN Daman 89.04 299 eP P 13 48 43.3 0.0
comp=Z,552nm,0.7s
DMN Daman 89.04 299 eP P 13 48 43.3 0.0
LPIG La Paz 89.20 65 LR LR 14 18 41.3
comp=Z,271nm,21.9s,baz=250,slow=29
W13A Hualapai Mount 89.27 54 P P 13 48 44.8 +0.7
baz=89
Z14A Wintersburg 89.51 56 P P 13 48 45.8 +0.8
baz=90
GKN Gorkha 89.55 299 eP P 13 48 45.3 -0.2
comp=Z,360nm,0.7s
GKN Gorkha 89.55 299 eP P 13 48 45.3 -0.2
SYO Syowa Base 89.56 197⇓iP P 13 48 42.7 -1.8
SYO Syowa Base 89.56 197⇓eP P 13 48 46.0 +1.5
BMO Blue Mountains 89.84 44 eP P 13 48 44.3 -2.1
BMO pmax pmax
comp=Z,17nm,1.4s
BMO MLR MLR
comp=Z,737nm,19.0s
BMO Blue Mountains 89.84 44 eP P 13 48 44.3 -2.1
comp=Z,17nm,1.4s
BMO LR LR
comp=Z,737nm,19.0s
KOLN Koldanda 90.37 298 eP P 13 48 48.8 -0.6
comp=Z,397nm,1.4s
KOLN Koldanda 90.37 298 eP P 13 48 48.8 -0.6
DANN Dangsing 90.39 299 eP P 13 48 48.8 -0.8
comp=Z,208nm,0.8s
DANN Dangsing 90.39 299 eP P 13 48 48.8 -0.8
U15A North Rim 90.89 53 P P 13 48 52.4 +0.7
baz=91
PYUN Piuthan 90.98 299 eP P 13 48 51.5 -0.7
comp=Z,174nm,0.8s
PYUN Piuthan 90.98 299 eP P 13 48 51.5 -0.7
X16A Lo Mia Camp, P 91.01 55 P P 13 48 52.8 +0.6
baz=91
NEW Newport 91.09 40 P P 13 48 52.8 +0.7
NEW MLR MLR
comp=Z,483nm,21.0s
NEW Newport 91.09 40 P P 13 48 52.8 +0.7
comp=Z,2.6nm,0.8s,baz=247,slow=5.3,SNR=9.4
NEW Newport 91.09 40 P P 13 48 52.8 +0.7
NEW LR LR
comp=Z,483nm,21.0s
NEW Newport 91.09 40 P P 13 48 53.1 +1.0
baz=91
WUAZ Wupatki 91.36 54 P P 13 48 54.3 +0.6
baz=91
HLID Hailey 91.40 46 PFAKE 13 49 00.0 +6.2
HLID LR LR
comp=Z,765nm,21.0s
HLID Hailey 91.40 46 P P 13 48 54.5 +0.7
baz=92
DUG Dugway 91.56 49 PFAKE 13 49 10.0 +15
DUG LR LR
comp=Z,1μm,20.0s
DUG Dugway 91.56 49 P P 13 48 55.3 +0.7
baz=92
WMQ Urumqi 91.65 315 P P 13 48 55.1 +0.3
WMQ pP pP 13 49 18.1 -0.1
WMQ sP sP 13 49 28.3 +0.7
WMQ PP PP 13 52 36.3 +1.7
WMQ SKS SKSac 13 59 16.8 -2.9
WMQ S S 13 59 43.8 -4.3
WMQ sS sS 14 00 27.9 -0.4
WMQ SS SS 14 05 55.3 -2.0
WMQ pmax pmax
comp=Z,56nm,0.9s
WMQ pmax pmax
comp=Z,450nm,5.0s
WMQ LR LR
comp=Z,190nm,23.6s
WMQ LR LR
comp=Z,250nm,25.2s
WMQ LR LR
comp=Z,280nm,21.2s
319A Douglas 91.96 58 P P 13 48 57.1 +0.5
baz=92
X18A Snowflake 92.22 55 P P 13 48 58.8 +0.9
baz=92

HYB Hyderabad 92.35 287 iP P 13 48 58.0 -0.6
DGAR Diego Garcia 92.43 262 PFAKE 13 49 10.0 +11
DGAR LR LR
comp=Z,1μm,21.0s
BSMT Bassoo Peak 92.44 41 eP P 13 48 58.8 +0.3
comp=Z,3.1nm,0.7s
MSO Missoula 92.69 42 P P 13 49 00.2 +0.6
baz=93
121A Cookes Peak, D 93.48 58 P P 13 49 04.2 +0.5
baz=94
AHID Auburn Hatcher 93.50 47 PFAKE 13 49 10.0 +6.4
AHID LR LR
comp=Z,696nm,20.0s
BOZ Bozeman (W) 93.90 44 PFAKE 13 49 20.0 +15
BOZ LR LR
comp=Z,633nm,20.0s
NVL N'lazarevskaya 94.01 188⇓iP P 13 49 05.2 +0.1
NVL pmax pmax
comp=Z,55nm,0.9s
MVCO Mesa Verde 94.03 53 PFAKE 13 49 20.0 +14
MVCO LR LR
comp=Z,721nm,19.0s
BW06 Boulder Array 94.60 47 PFAKE 13 49 20.0 +11
BW06 LR LR
comp=Z,602nm,19.0s
ANMO Albuquerque 95.11 55⇑eP P 13 49 12.7 +1.6
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO Albuquerque 95.11 55 PFAKE 13 49 20.0 +8.9
ANMO LR LR
comp=Z,792nm,19.0s
VNA3 Neumayer Olymp 95.24 181 P P 13 49 09.7 -1.1
MNTX Cornudas Mount 95.27 59 PFAKE 13 49 20.0 +8.3
MNTX LR LR
comp=Z,339nm,19.0s
RLMT Red Lodge 95.38 45 PFAKE 13 49 20.0 +7.9
RLMT LR LR
comp=Z,616nm,19.0s
S22A 4UR Ranch, Cre 95.45 53 P P 13 49 13.5 +0.8
baz=96
VNA2 Neumayer--Watz 95.50 182 P P 13 49 11.4 -0.6
baz=167,slow=4.5
EGMT Eagleton 95.75 42 PFAKE 13 49 20.0 +6.4
EGMT LR LR
comp=Z,269nm,19.0s
EGMT Eagleton 95.75 42 P P 13 49 14.7 +1.1
baz=96
VNA1 Neumayer--Stat 95.80 182 P P 13 49 12.9 -0.4
MK31 Makanchi Array 96.12 317 iP P 13 49 15.0 -0.2
MK31 pmax pmax
comp=Z,61nm,0.9s
MKAR Makanchi Array 96.12 317 P P 13 49 15.4 +0.3
comp=Z,40nm,0.7s,baz=96,slow=6.4,SNR=452
MKAR PP PP 13 53 05.4 -3.9
comp=Z,9.4nm,1.1s,baz=97,slow=7.8,SNR=9.5
MKAR PKiKP PKiKP 13 53 52.4 -0.9
comp=Z,0.8nm,0.6s,baz=131,slow=0.9,SNR=5.8
MKAR PKKP PKKPbc 14 06 01.1 -2.8
comp=Z,0.9nm,0.7s,baz=279,slow=2.2,SNR=8.7
MKAR LR LR 14 31 34.9
comp=Z,194nm,21.8s,baz=104,slow=35
MKAR Makanchi Array 96.12 317 ⇑P P 13 49 15.6 +0.4
baz=96
O22A Kremmling 96.20 50 P P 13 49 16.4 +0.3
baz=96
TXAR Lajitas Array 96.21 61 P P 13 49 15.8 -0.3
comp=Z,0.2nm,0.6s,baz=238,slow=5.0,SNR=7.4
TXAR PKKP PKKPbc 14 06 03.4 +0.5
comp=Z,0.7nm,0.5s,baz=98,slow=4.5,SNR=11
TXAR LR LR 14 24 00.4
comp=Z,424nm,21.8s,baz=0.0,slow=30
ZALV Zalesovo Beam 96.27 324 P P 13 49 14.7 -0.9
comp=Z,28nm,0.7s,baz=108,slow=4.8,SNR=133
ZALV PKiKP PKiKP 13 53 56.2 +2.9
comp=Z,1.1nm,0.7s,baz=116,slow=3.4,SNR=2.5
ZALV LR LR 14 31 44.1
comp=Z,398nm,21.2s,baz=70,slow=35
KAD Karad 96.39 286 eP P 13 49 16.8 -0.3
SDCO Great Sand Dun 96.48 53 PFAKE 13 49 30.0 +13
SDCO LR LR
comp=Z,697nm,19.0s
YKR1 Yellowknife Ar 96.70 27 ⇓P P 13 49 16.9 -0.5
baz=97
YKR4 Yellowknife Ar 96.76 27 ⇓P P 13 49 17.2 -0.5
baz=97
YKR6 Yellowknife Ar 96.81 27 ⇑P P 13 49 17.4 -0.4
baz=97
ISCO Idaho Springs 96.82 51 PFAKE 13 49 30.0 +11
ISCO LR LR
comp=Z,835nm,20.0s
YKB2 Yellowknife Ar 96.83 27 ⇓P P 13 49 17.6 -0.3
baz=97
YKA Yellowknife Ar 96.85 27 P P 13 49 16.4 -1.7
comp=Z,4.3nm,0.5s,baz=258,slow=4.7,SNR=120
YKA PKiKP PKiKP 13 53 52.5 -1.6
comp=Z,0.1nm,0.5s,baz=244,slow=1.5,SNR=3.4
YKA PKKPbc PKKPbc 14 05 58.7 -3.7
comp=Z,0.5nm,0.6s,baz=72,slow=2.8,SNR=8.7
YKA PKPPKP P'P'df 14 14 14.1 +1.6
comp=Z,0.3nm,0.9s,baz=35,slow=2.6,SNR=3.6
NVS Novosibirsk 97.38 325⇑iP P 13 49 19.1 -1.5
NVS pmax pmax
comp=Z,30nm,1.7s
NVS pmax pmax
comp=E,13nm,1.5s
LAO LASA Array 97.80 44 PFAKE 13 49 30.0 +7.1
LAO LR LR
comp=Z,736nm,19.0s
KSH Kashi 99.17 308 eP Pdif 13 49 30.8 +1.5
KSH epP pP 13 49 50.3 -2.5
KSH esP sP 13 50 06.1 +4.0
KSH ePP PP 13 53 33.4 +0.4
KSH S ScS 14 00 48.5 -5.1
KSH SS SS 14 07 44.6 +0.3
KSH pmax pmax
comp=Z,15nm,1.5s
KSH pmax pmax
comp=Z,99nm,4.5s
KSH LR LR
comp=Z,91nm,4.8s
KSH LR LR
comp=Z,110nm,5.3s
KSH LR LR
comp=Z,190nm,6.8s
KURK Kurchatov 99.29 320 PFAKE 13 49 40.0 +11
KURK LR LR
comp=Z,201nm,22.0s
DGMT Dagmar 99.47 42 PFAKE 13 49 40.0 +10
DGMT LR LR
comp=Z,379nm,22.0s
JCT Junction City 99.72 61 PFAKE 13 49 40.0 +8.2
JCT LR LR
comp=Z,541nm,20.0s
OGNE Ogallala 99.72 50 PFAKE 13 49 40.0 +8.4
OGNE LR LR
comp=Z,1μm,22.0s
TKM2 Tokmak 2 100.03 312 P Pdif 13 49 32.5 -0.6
TKM2 pmax pmax
comp=Z,6.0nm,1.0s
TKM2 Tokmak 2 100.03 312 ePdif Pdif 13 49 32.4 -0.6
comp=Z,12nm,1.2s
TKM2 LR LR
comp=Z,283nm,19.0s
AAK Ala-Archa 100.78 311 eP Pdif 13 49 35.9 -0.5
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK MLR MLR
comp=Z,262nm,20.0s
AAK Ala-Archa 100.78 311 PKKPbc PKKPbc 14 05 49.6 -1.2
comp=Z,1.8nm,0.8s,baz=179,slow=3.3,SNR=7.7
AAK Ala-Archa 100.78 311 ePdif Pdif 13 49 35.9 -0.5
comp=Z,5.6nm,1.0s
AAK PKKPbc PKKPbc 14 05 49.6 -1.2
AAK LR LR
comp=Z,262nm,20.0s
EKS2 Erkin-Say 101.31 311 PFAKE 13 49 50.0 +11
EKS2 LR LR
comp=Z,275nm,21.0s
FFC Flin Flon 101.76 36 PFAKE 13 49 50.0 +10
FFC LR LR
comp=Z,1μm,22.0s
KSU1 Kansas State U 103.59 53 PFAKE 13 50 00.0 +11
KSU1 LR LR
comp=Z,918nm,19.0s
KK31 Karatay Array 103.75 311 iP Pdif 13 49 48.7 -0.7
KK31 pmax pmax

comp=Z,2.0nm,0.6s
KKAR Karatay Array 103.75 311 eP Pdif 13 49 48.9 -0.5
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 103.75 311 ePdif Pdif 13 49 48.9 -0.5
comp=Z,2.8nm,0.7s
ECSD EROS Data Cent 104.07 48 PFAKE 13 50 00.0 +9.2
ECSD LR LR
comp=Z,215nm,20.0s
NATX Nacogdoches 104.27 60 PFAKE 13 50 00.0 +8.1
NATX LR LR
comp=Z,907nm,22.0s
BVAR Borovoye Array 104.63 322 PKiKP PKiKP 13 54 07.6 -0.7
comp=Z,1.2nm,0.6s,baz=217,slow=3.2,SNR=4.3
BRVK Borovoye 104.70 322 PFAKE 13 50 00.0 +6.7
BRVK LR LR
comp=Z,369nm,22.0s
AGMN Agassiz Nation 104.97 43 PFAKE 13 50 10.0 +15
AGMN LR LR
comp=Z,601nm,22.0s
RES Resolute Bay 105.31 16 Pdiff Pdif 13 49 56.4 +0.8
comp=Z,0.9nm,1.1s,baz=225,slow=8.6,SNR=4.3
RES PKiKP PKiKP 13 54 08.2 -0.8
comp=Z,1.5nm,0.8s,baz=301,slow=2.9,SNR=6.1
MIAR Mount Ida 105.51 58 PFAKE 13 54 20.0
MIAR LR LR
comp=Z,562nm,19.0s
EYMN Ely 107.88 44 PFAKE 13 54 30.0
EYMN LR LR
comp=Z,536nm,20.0s
JFWS Jewell Farm 108.66 49 PFAKE 13 54 30.0
JFWS LR LR
comp=Z,774nm,22.0s
MSEY Mahe Island 109.43 260 PFAKE 13 54 30.0
MSEY LR LR
comp=Z,676nm,19.0s
JTS JuntasAbangare 109.98 84 PFAKE 13 54 30.0
JTS LR LR
comp=Z,497nm,20.0s
ARU Arti 111.36 325 iPKIKP 13 54 20.3
ARU 13 55 00.5
ARU 14 00 52.0
ARU SS SS 14 10 22.0 -7.2
ARU Arti 111.36 325 PFAKE 13 54 30.0
ARU LR LR
comp=Z,317nm,20.0s
NNA Nana 111.98 109 PFAKE 13 54 40.0
NNA LR LR
comp=Z,506nm,20.0s
ABPO Ambohimpanom 112.16 243 PFAKE 13 54 40.0
ABPO LR LR
comp=Z,2μm,22.0s
AKTO Aktyubinsk 112.37 319 PKiKP PKiKP 13 54 22.2 -0.7
comp=Z,2.7nm,0.6s,baz=143,slow=2.9,SNR=11
OPO Ambohidratompo112.38 243 PKiKP PKiKP 13 54 24.4 +0.3
comp=Z,8.1nm,0.7s,baz=107,slow=2.4,SNR=7.8
AAM Ann Arbor 113.53 50 PFAKE 13 54 40.0
AAM LR LR
comp=Z,1μm,22.0s
KBS Kingsbay 113.62 355 PFAKE 13 54 40.0
KBS LR LR
comp=Z,388nm,21.0s
GOGA Godfrey 113.82 59 PFAKE 13 54 40.0
GOGA LR LR
comp=Z,482nm,19.0s
OTAV Otavalo 114.10 96 PFAKE 13 54 40.0 +12
OTAV LR LR
comp=Z,430nm,21.0s
ACSO Alum Creek Sta 114.13 52 PFAKE 13 54 40.0 +13
ACSO LR LR
comp=Z,988nm,21.0s
LVC Limon Verde 114.62 123 PFAKE 13 54 40.0 +12
LVC LR LR
comp=Z,577nm,20.0s
BCIP Isla Barro Col 114.73 86 PFAKE 13 54 40.0 +12
BCIP LR LR
comp=Z,334nm,19.0s
BLA Blacksburg 116.26 55 PFAKE 13 54 40.0 +9.1
BLA LR LR
comp=Z,703nm,20.0s
ERPA Erie 116.26 50 PFAKE 13 54 40.0 +9.3
ERPA LR LR
comp=Z,952nm,22.0s
PRGR Permogore 116.53 333 PKIKP PKPdf 13 54 28.9 -1.6
PRGR pmax pmax
comp=Z,1.0nm,0.2s
NHSC New Hope 116.57 60 PFAKE 13 54 40.0 +8.5
NHSC LR LR
comp=Z,428nm,20.0s
DAG Danmarks Havn 116.85 1 iPKIKP PKPdf 13 54 29.0 -1.8
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG Danmarks Havn 116.85 1 iP PKPdf 13 54 29.0 -1.8
comp=Z,4.6nm,0.7s
DAG Danmarks Havn 116.85 1 iP PKKPbc 14 04 56.4 -3.7
comp=Z,2.6nm,1.0s
LVZ Lovozero 117.66 342 PFAKE 13 54 40.0 +7.3
LVZ LR LR
comp=Z,492nm,19.0s
LPAZ La Paz 118.11 117 PKP PKPdf 13 54 35.6 -0.2
comp=Z,1.4nm,0.5s,baz=252,slow=3.4,SNR=7.0
LPAZ PKKPbc PKKPbc 14 04 54.6 -0.2
comp=Z,3.4nm,0.6s,baz=27,slow=0.8,SNR=13
APA Apatity 118.24 342⇓iPKIKP PKPdf 13 54 36.4 +2.7
CNNC Cliffs of the 118.40 57 PFAKE 13 54 50.0 +15
CNNC LR LR
comp=Z,602nm,20.0s
KEV Kevo 118.60 345 PFAKE 13 54 50.0 +16
KEV LR LR
comp=Z,608nm,22.0s
CBN Corbin 118.61 54 PFAKE 13 54 50.0 +15
CBN LR LR
comp=Z,697nm,19.0s
ARCES ARCESS Array B 119.12 345 PKP PKPdf 13 54 34.6 -0.8
comp=Z,17nm,0.6s,baz=54,slow=1.6,SNR=61
ARCES PKKPbc PKKPab 14 04 48.4 -2.5
comp=Z,1.1nm,0.5s,baz=204,slow=2.0,SNR=17
BINY Binghamton 119.21 49 PFAKE 13 54 50.0 +14
BINY LR LR
comp=Z,1μm,19.0s
SUMG Summit 119.28 8 ePKIKP PKPdf 13 54 35.7 -0.4
SUMG pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 119.28 8 iP PKPdf 13 54 35.7 -0.4
comp=Z,3.9nm,1.0s
SUMG Summit 119.28 8 iP PKKPbc 14 04 50.5 -1.3
comp=Z,12nm,0.7s
KLMR Klimovskoe 119.54 333 ePKIKP PKPdf 13 54 28.5 -7.9
KLMR pmax pmax
comp=Z,21nm,0.8s
KLMR MLR MLR
comp=Z,583nm,20.0s
NCB Newcomb 120.20 47 PFAKE 13 54 50.0 +12
NCB LR LR
comp=Z,1μm,22.0s
GTBY Guantanamo Bay 120.71 75 PFAKE 13 54 50.0 +10
GTBY LR LR
comp=Z,248nm,21.0s
SFJD Kangerlussuaq 121.31 16 iP PKKPbc 14 04 40.6 -3.0
comp=Z,8.2nm,0.7s
CPUP Villa Florida 121.52 133 PKP PKPdf 13 54 41.6 +0.3
comp=Z,2.0nm,0.5s,baz=200,slow=2.1,SNR=4.7
SCHQ Schefferville 121.70 33 PKP PKPdf 13 54 39.5 -1.3
comp=Z,2.9nm,0.6s,baz=266,slow=5.8,SNR=6.5
LBNH Lisbon 121.77 46 PFAKE 13 54 50.0 +8.8
LBNH LR LR
comp=Z,650nm,20.0s
VRHR Novokhopersk 122.36 322 ePKIKP PKPdf 13 54 40.8 -1.3
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
DGRG David-gareji 122.39 311 P PKPdf 13 54 43.9 +1.3
GNI Garni 123.10 309⇓iPKIKP PKPdf 13 54 45.0 +0.9
GNI pmax pmax
comp=Z,32nm,1.7s
GNI Garni 123.10 309 PFAKE 13 55 00.0 +16
GNI LR LR
comp=Z,220nm,21.0s
ZEI Tsey 123.19 312 iPKIKP PKPdf 13 54 43.4 -0.8
ZEI pmax pmax
comp=Z,11nm,1.0s
ONI Oni 123.56 312 P PKPdf 13 54 45.7 +0.9
OBN Obninsk 123.56 328d iPKIKP PKPdf 13 54 43.9 -0.3

Code	Station	Δ	Az	Phase	ISC	Time	Res
OBN				i		13 56 27.3	
OBN				eSS	SS	14 13 01.7	-5.6
OBN				pmax	pmax		
	comp=Z,22nm,1.5s						
OBN	Obninsk	123.56	328	PFAKE		13 55 00.0	+16
OBN				LR	LR		
	comp=Z,444nm,21.0s						
KBZ	Khabaz	123.68	314	PKP	PKPdf	13 54 45.2	+0.4
	comp=Z,4.3nm,0.9s,baz=180,slow=4.0,SNR=6.7						
VSR	Storozhevoye	123.76	323	ePKIKP	PKPdf	13 54 43.0	-1.8
VSR				pmax	pmax		
	comp=N,2.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,4.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,20nm,0.8s						
KIV	Kislovodsk	123.78	314	d iPKIKP	PKPdf	13 54 44.7	-0.5
KIV				i		13 56 28.3	
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV	Kislovodsk	123.78	314	PFAKE		13 55 00.0	+15
KIV				LR	LR		
	comp=Z,218nm,20.0s						
AKH	Akhalkalaki	123.78	311	P	PKPdf	13 54 46.4	+1.0
SUR	Sutherland	123.79	215	PFAKE		13 55 00.0	+14
SUR				LR	LR		
	comp=Z,799nm,22.0s						
BOSA	Boshof	123.84	221	PKP	PKPdf	13 54 46.0	+0.1
	comp=Z,16nm,0.6s,baz=159,slow=1.6,SNR=54						
FINES	FINESS Array B	124.58	338	PKP	PKPdf	13 54 45.4	-0.6
	comp=Z,9.2nm,0.6s,baz=68,slow=1.6,SNR=36						
VSU	Vasula	126.27	335	d iPKIKP	PKPdf	13 54 49.2	-0.1
ANN	Anapa	127.14	316	i PKIKP	PKPdf	13 54 46.4	-5.0
ANN				pmax	pmax		
	comp=Z,160nm,1.5s						
KMBO	Kilima Mbogo	127.86	258	PKIKP	PKPdf	13 54 54.5	+0.4
KMBO				MLR	MLR		
	comp=Z,456nm,20.0s						
KMBO	Kilima Mbogo	127.86	258	PKP	PKPdf	13 54 54.5	+0.4
	comp=Z,7.6nm,0.7s,baz=68,slow=3.0,SNR=14						
KMBO	Kilima Mbogo	127.86	258	PKP	PKPdf	13 54 54.5	+0.4
KMBO				LR	LR		
	comp=Z,456nm,20.0s						
MALT	Malatya	128.28	308	⇑PKIKP	PKPdf	13 54 55.7	+1.7
MALT	Malatya	128.28	308	⇑iP	PKPdf	13 54 55.7	+1.7
NACGM	Naroch	128.45	332	e	PKPdf	13 54 52.0	-1.6
NB2	NORSAR Subarra	129.50	345	PKPdf	PKPdf	13 54 55.0	-0.5
	comp=Z,3.2nm,0.6s,baz=31,slow=1.9						
NOA	NORSAR Array B	129.50	345	PKP	PKPdf	13 54 55.4	-0.2
	comp=Z,5.9nm,0.6s,baz=31,slow=2.0,SNR=22						
NOA				SKP		13 58 15.3	
	comp=Z,3.0nm,1.0s,baz=34,slow=2.9,SNR=4.0						
AKASG	Malin Array Be	129.60	326	PKP	PKPdf	13 54 55.1	-0.8
	comp=Z,3.1nm,0.6s,baz=52,slow=1.8,SNR=27						
AKASG				PP	PP	13 57 05.8	-1.1
	comp=Z,0.2nm,0.3s,baz=58,slow=5.8,SNR=7.0						
AKASG				SKP		13 58 20.9	
	comp=Z,0.8nm,0.5s,baz=45,slow=4.2,SNR=4.9						
KIEV	Kiev	129.61	326	d iPKIKP	PKPdf	13 54 55.8	-0.2
KIEV	Kiev	129.61	326	PFAKE		13 55 10.0	+14
KIEV				LR	LR		
	comp=Z,371nm,20.0s						
LSZ	Lusaka	129.93	236	PKIKP	PKPdf	13 54 58.2	+0.4
LSZ				MLR	MLR		
	comp=Z,807nm,21.0s						
LSZ	Lusaka	129.93	236	PKP	PKPdf	13 54 58.2	+0.4
	comp=Z,10nm,0.6s,baz=144,slow=1.8,SNR=10						
LSZ	Lusaka	129.93	236	PKP	PKPdf	13 54 58.2	+0.4
LSZ				LR	LR		
	comp=Z,807nm,21.0s						
ASF	Jabal al Asfar	130.77	301	PKP	PKPdf	13 54 59.2	+0.3
	comp=Z,5.4nm,0.8s,baz=70,slow=1.3,SNR=7.4						
KONO	Kongsberg	131.10	345	PFAKE		13 55 10.0	+11
KONO				LR	LR		
	comp=Z,403nm,19.0s						
BRTR	Keskin Array B	131.46	311	PKP	PKPdf	13 54 59.5	-0.6
	comp=Z,2.4nm,0.6s,baz=80,slow=1.6,SNR=10						
BRTR				PP	PP	13 57 14.8	-4.9
	comp=Z,1.7nm,0.9s,baz=90,slow=4.3,SNR=4.5						
BRTR				SKPbc	SKPab	13 58 23.3	+5.1
	comp=Z,2.3nm,0.7s,baz=88,slow=3.1,SNR=6.1						
MMAI	Mount Meron Ar	131.85	302	PKP	PKPdf	13 55 01.6	+0.7
	comp=Z,9.9nm,0.8s,baz=72,slow=4.7,SNR=13						
MMAI				SKPbc	SKPab	13 58 25.1	+5.1
	comp=Z,1.8nm,0.6s,baz=65,slow=3.8,SNR=4.2						
ANTO	Ankara	132.03	312	PFAKE		13 55 10.0	+9.0
ANTO				LR	LR		
	comp=Z,190nm,20.0s						
EIL	Elat	132.83	298	PKP	PKPdf	13 55 03.3	+0.6
	comp=Z,8.6nm,0.7s,baz=73,slow=1.2,SNR=10						
GRGR	Grenville	132.84	86	PFAKE		13 55 20.0	+17
GRGR				LR	LR		
	comp=Z,418nm,19.0s						
CFR	Carcaliu	133.01	320	⇓PKIKP	PKPdf	13 55 02.7	+0.1
CFR	Carcaliu	133.01	320	⇓iP	PKPdf	13 55 02.7	+0.1
CSS	Prodhromos	133.08	305	PFAKE		13 55 20.0	+17
CSS				LR	LR		
	comp=Z,64nm,19.0s						
BEL	Belsk	133.17	332	ePKIKP	PKPdf	13 55 02.5	-0.2
BEL	Belsk	133.17	332	ePKP	PKPdf	13 55 02.4	-0.2
TIRR	Tirgusor	133.17	319	⇑PKIKP	PKPdf	13 55 04.3	+1.4
TIRR	Tirgusor	133.17	319	⇑iP	PKPdf	13 55 04.3	+1.4
TESR	Tescani	133.25	323	⇑iP	PKPdf	13 55 02.2	-0.8
BURAR	Bucovina Array	133.48	325	⇓PKIKP	PKPdf	13 55 04.7	+1.1
BURAR	Bucovina Array	133.48	325	⇓iP	PKPdf	13 55 04.7	+1.1
VRI	Vrincioaia	133.53	322	⇑PKIKP	PKPdf	13 55 00.1	-3.5
VRI	Vrincioaia	133.53	322	⇑iP	PKPdf	13 55 00.1	-3.5
KWP	Kalwaria Pacla	133.65	328	PFAKE		13 55 20.0	+16
KWP				LR	LR		
	comp=Z,522nm,22.0s						
MLR	Muntele Rosu	134.19	322	⇑PKIKP	PKPdf	13 55 05.2	+0.2
MLR	Muntele Rosu	134.19	322	⇑iP	PKPdf	13 55 05.2	+0.2
KOLS	Kolonicke sedl	134.31	328	ePKIKP	PKPdf	13 55 05.6	+0.7
KOLS	Kolonicke sedl	134.31	328	ePKP	PKPdf	13 55 05.6	+0.7
ISP	Isparta	134.39	310	PFAKE		13 55 20.0	+14
ISP				LR	LR		
	comp=Z,211nm,20.0s						
UZH	Uzhgorod	134.48	327	ePKIKP	PKPdf	13 55 03.8	-1.4
STHS	Stebnicka Huta	134.53	329	ePKIKP	PKPdf	13 55 07.3	+1.9
STHS	Stebnicka Huta	134.53	329	ePKP	PKPdf	13 55 07.3	+1.9
TRPA	Tarpa	134.66	327	⇑iP	PKPdf	13 55 06.1	+0.6
OJC	Ojcow	134.72	330	ePKIKP	PKPdf	13 55 07.5	+1.8
OJC	Ojcow	134.72	330	ePKP	PKPdf	13 55 07.5	+1.8
CRVS	Cervenica-Dubn	134.75	328	ePKIKP	PKPdf	13 55 05.7	-0.1
CRVS				e		13 57 40.1	
CRVS	Cervenica-Dubn	134.75	328	ePKP	PKPdf	13 55 05.7	-0.1
CRVS				ePP	PP	13 57 40.1	+0.2
VOIR		134.76	322	⇓PKIKP	PKPdf	13 55 05.4	-0.6
VOIR		134.76	322	⇓iP	PKPdf	13 55 05.4	-0.6
BDFB	Brasilia	134.92	129	PKP	PKPdf	13 55 07.3	+0.1
	comp=Z,3.5nm,0.7s,baz=288,slow=2.9,SNR=5.0						
ARR	Arges	135.04	322	⇑iP	PKPdf	13 55 07.6	+1.1
DRGR		135.36	325	⇑PKIKP	PKPdf	13 55 06.7	-0.4
DRGR		135.36	325	⇑iP	PKPdf	13 55 06.7	-0.4
OKC	Ostrava-Krasne	135.76	331	ePKIKP	PKPdf	13 55 09.4	+1.8
OKC				MLR	MLR		
	comp=Z,400nm,18.6s						
OKC	Ostrava-Krasne	135.76	331	ePKPdf	PKPdf	13 55 09.4	+1.8
OKC				AMS	AMS	14 51 50.0	
	comp=Z,400nm,18.6s						
KSP	Ksiaz	135.89	333	ePKIKP	PKPdf	13 55 09.0	+1.2
KSP				MLR	MLR		
	comp=Z,3μm,22.6s						
KSP	Ksiaz	135.89	333	ePKP	PKPdf	13 55 09.3	+1.5
MORC	Moravsky Berou	136.09	331	⇓PKHKP	PKPpre	13 55 00.4	
MORC	Moravsky Berou	136.09	331	⇓P	PKPpre	13 55 00.3	
GZR	Gura Zlata	136.12	323	⇑PKIKP	PKPdf	13 55 07.1	-1.4
GZR	Gura Zlata	136.12	323	⇑iP	PKPdf	13 55 07.1	-1.4
PSZ	Piszkesteto	136.18	328	PFAKE		13 55 20.0	+11
PSZ				LR	LR		
	comp=Z,499nm,21.0s						
KRLC	Kraliky	136.22	332	ePKIKP	PKPdf	13 55 10.3	+1.8
KRLC	Kraliky	136.22	332	ePKP	PKPdf	13 55 10.3	+1.8
DPC	Dobruska-Polom	136.23	333	ePKIKP	PKPdf	13 55 08.2	-0.3
DPC				e		13 57 48.6	
DPC	Dobruska-Polom	136.23	333	ePKPdf	PKPdf	13 55 08.2	-0.3
DPC				ePP	PP	13 57 48.6	-0.5
DPC				eSKP		13 58 38.8	
DPC				AMS	AMS	14 54 30.0	
UPC	Upice	136.26	333	ePKIKP	PKPdf	13 55 08.8	+0.3
UPC				e		13 57 48.6	
UPC	Upice	136.26	333	ePKPdf	PKPdf	13 55 08.8	+0.3
UPC				ePP	PP	13 57 48.6	-0.6
UPC				eSKP		13 58 39.7	
VYHS	Vyhne	136.34	329	ePKIKP	PKPdf	13 55 07.9	-0.9
VYHS				e		13 57 46.7	
VYHS	Vyhne	136.34	329	ePKP	PKPdf	13 55 07.9	-0.9
VYHS				ePP	PP	13 57 46.7	-3.2
BZS	Buzias	136.66	324	⇑PKIKP	PKPdf	13 55 06.0	-3.4
BZS	Buzias	136.66	324	⇑iP	PKPdf	13 55 06.0	-3.4
VRAC	Vranov	136.86	332	⇑PKIKP	PKPdf	13 55 05.9	-3.8
VRAC	Vranov	136.86	332	⇑iP	PKPdf	13 55 05.9	-3.8
BRG	Berggiesshubel	136.86	335	ePKP	PKPdf	13 55 09.3	-0.3
	comp=Z,11nm,1.1s						
BRG				epPKP	pPKPdf	13 55 32.1	-1.9
	comp=Z,5.2nm,0.9s						
BRG				esPKP		13 55 45.7	
	comp=Z,4.2nm,0.9s						
BRG	Berggiesshubel	136.86	335	ePKIKP	PKPdf	13 55 09.3	-0.3
BRG				e		13 55 45.7	
BRG				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BRG				pmax	pmax		
	comp=Z,11nm,0.9s						
BRG				pmax	pmax		
	comp=N,5.0nm,0.9s						
CLL	Collm	136.91	336	⇓iPKIKP	PKPdf	13 55 11.4	+1.7
CLL				pmax	pmax		
	comp=Z,33nm,0.9s						
CLL				pmax	pmax		
	comp=Z,12nm,1.0s						
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CLL	Collm	136.91	336	ePKPdf	PKPdf	13 55 11.2	+1.5
CLL	Collm	136.91	336	⇓iPKPdf	PKPdf	13 55 11.4	+1.7
	comp=Z,12nm,0.9s						
CLL				i PKiKP	PKiKP	13 55 13.4	+1.9
CLL				e		13 55 31.0	
CLL				ePP	PP	13 57 52.0	-1.2
CLL				i PKSbc	PKSbc	13 58 40.8	-2.9
	comp=Z,8.0nm,1.0s						
CLL				i PKSdf	PKSdf	13 58 44.7	-1.0
	comp=Z,12nm,1.0s						
CLL				esPKSbc		13 59 00.0	
CLL				e		14 07 12.0	
CLL				ePPS	PPS	14 10 10.0	
CLL				eSKKSacre		14 11 24.0	
CLL				eSS	SS	14 16 06.0	+16
CLL				eSSS	SSS	14 20 48.0	
CLL				e		14 21 53.0	
CLL				e(SSSS)		14 25 30.0	
CLL				LmV		14 55 00.0	
	comp=Z,300nm,22.0s						
PRA	Prague	137.26	334	ePKPdf	PKPdf	13 55 11.0	+0.6
PRU	Pruhonice	137.28	334	ePKIKP	PKPdf	13 55 10.2	-0.2
PRU				MLR	MLR		
	comp=Z,500nm,22.4s						
PRU	Pruhonice	137.28	334	ePKPdf	PKPdf	13 55 10.2	-0.2
PRU				eSKP		13 58 41.8	
PRU				AMS	AMS	14 54 50.0	
	comp=Z,500nm,22.4s						
TREC	Trest	137.37	332	ePKIKP	PKPdf	13 55 11.0	+0.3
TREC				MLR	MLR		
	comp=Z,900nm,23.3s						
TREC	Trest	137.37	332	ePKPdf	PKPdf	13 55 11.0	+0.3
TREC				AMS	AMS	14 56 10.0	
	comp=Z,900nm,23.3s						
CLZ	Clausthal	137.47	338	ePKPdf	PKPdf	13 55 12.7	+1.9
MMB	Musomiste	137.57	318	⇑PKHKP	PKPpre	13 54 59.1	
MMB	Musomiste	137.57	318	⇑iP	PKPpre	13 54 59.1	
TANN	Tannenbergstha	137.82	336	ePKPdf	PKPdf	13 55 12.5	+1.0
PKSM	Moragy	137.93	327	⇑PKIKP	PKPdf	13 55 11.4	-0.3
PKSM	Moragy	137.93	327	⇑iP	PKPdf	13 55 11.4	-0.3
MOX	Moxa	137.97	336	ePKPdf	PKPdf	13 55 13.1	+1.4
CONA	Conrad Observa	138.18	331	⇑iPKiKP	PKPdf	13 55 13.2	+1.0
	comp=Z,19nm,1.2s						
KHC	Kasperske Hory	138.34	334	ePKIKP	PKPdf	13 55 12.6	+0.1
KHC				MLR	MLR		
	comp=Z,500nm,18.8s						
KHC	Kasperske Hory	138.34	334	ePKPdf	PKPdf	13 55 12.6	+0.1
KHC				ex	x	13 55 17.0	
KHC				eSKP		13 58 45.9	
KHC				AMS	AMS	15 01 50.0	
	comp=Z,500nm,18.8s						
ROTZ	Rotzenmuhle	138.43	335	ePKPdf	PKPdf	13 55 14.5	+1.9
GEC2	GERESS Array S	138.50	333	ePKPdf	PKPdf	13 55 14.6	+1.8
GERES	GERESS Array B	138.50	333	PKhKP	PKPpre	13 55 03.2	
	comp=Z,0.7nm,0.7s,baz=48,slow=1.5,SNR=6.7						
GERES				PKP	PKPdf	13 55 13.3	+0.5
	comp=Z,4.4nm,0.7s,baz=52,slow=1.6,SNR=16						
GERES				SKP		13 58 45.3	
	comp=Z,4.2nm,0.8s,baz=56,slow=2.5,SNR=12						
BUG	Bochum--Univer	138.87	341	ePKPdf	PKPdf	13 55 14.8	+1.5
GRF	Grafenberg Arr	138.88	336	ePKPdf	PKPdf	13 55 15.3	+1.9
PERS	Pernice	139.45	330	i PKPdf	PKPdf	13 55 07.9	-6.7
MEM	Membach	139.99	341	PKP	PKPdf	13 55 17.6	+2.3
MEM				APKP	pPKPdf	13 55 43.6	+3.8
BOJS	Bojanci	140.17	328	i PKPdf	PKPdf	13 55 09.5	-6.3
BOJS				i		13 55 20.8	
VISS	Visnje	140.17	329	i PKPdf	PKPdf	13 55 09.1	-6.7
VISS				i		13 55 19.1	
JAVS	Javornik	140.49	330	i PKPdf	PKPdf	13 55 09.5	-7.0
SNF	Seneffe	140.60	342	PKP	PKPdf	13 55 21.0	+4.6
SNF				APKP	pPKPdf	13 55 47.9	+7.1
WLF	Walferdange	140.76	340	PFAKE		13 55 30.0	+13
WLF				LR	LR		
	comp=Z,515nm,20.0s						
DOU	Dourbes	140.88	342	PKP	PKPdf	13 55 15.2	-1.8
BFO	Black Forest	141.11	337	i PKIKP	PKPdf	13 55 17.8	+0.3
BFO	Black Forest	141.11	337	PFAKE		13 55 30.0	+12
BFO				LR	LR		
	comp=Z,387nm,21.0s						
FETA	Feichten	141.18	334	⇑iPKPdf	PKPdf	13 55 12.4	-5.5
	comp=Z,12nm,0.8s						
ECH	Echery	141.64	338	PFAKE		13 55 30.0	+12
ECH				LR	LR		
	comp=Z,358nm,20.0s						
MOF	Molkenrain	141.95	338	PKP	PKPdf	13 55 12.6	-6.5
TUE	Stuetta	142.20	334	PFAKE		13 55 30.0	+10
TUE				LR	LR		
	comp=Z,454nm,20.0s						
LOMF	Lomont	142.49	337	PKP	PKPdf	13 55 09.4	-11
TIP	Timpagrande	143.34	319	PFAKE		13 55 30.0	+8.2
TIP				LR	LR		
	comp=Z,380nm,22.0s						
CUC	Castrocucco	143.44	321	PFAKE		13 55 30.0	+8.0
CUC				LR	LR		
	comp=Z,412nm,21.0s						
VLC	Villacollemand	143.53	331	PFAKE		13 55 30.0	+8.0
VLC				LR	LR		
	comp=Z,608nm,20.0s						
CEL	Celeste	144.43	319	PFAKE		13 55 40.0	+16
CEL				LR	LR		
	comp=Z,418nm,21.0s						
BNI	Bardonecchia	144.45	335	PFAKE		13 55 40.0	+16
BNI				LR	LR		
	comp=Z,405nm,22.0s						
PLDF	La Plantade	144.81	339	PKP	PKPbc	13 55 23.5	+0.1
AGO	Saint Agoulin	144.90	340	PKP	PKPab	13 55 23.4	-0.2
SAOF	Saorge	144.95	334	PKP	PKPbc	13 55 23.2	-0.6
TOUF	Mont Tourneral	145.06	334	PKP	PKPbc	13 55 24.1	-0.3
SSB	Saint Sauveur	145.08	338	PKP	PKPab	13 55 24.4	+0.1
MVIF	Mont Vial	145.19	334	PKP	PKPbc	13 55 23.2	-1.6
PYM	Petit Puy Mans	145.21	340	PKP	PKPab	13 55 24.8	0.0
REVF	Revere	145.23	333	PKP	PKPbc	13 55 24.5	-0.2
OG26	St.-Nazaire-De	145.39	336	PKP	PKPab	13 55 25.9	+0.4
CALN	Calern	145.42	334	PKP	PKPbc	13 55 25.2	-0.2
LCHF	La Chataignera	145.48	345	PKP	PKPab	13 55 26.0	+0.4
LBL	Lubilhac	145.58	339	PKP	PKPab	13 55 26.5	+0.3
FILF	Fillols	148.15	338	PKP	PKPbc	13 55 33.3	+0.1
VALF	Valcebollere	148.49	338	PKP	PKPbc	13 55 34.4	+0.2
VIEF	Viey	148.74	341	PKP	PKPbc	13 55 35.6	+0.8
LARF	Larrau	148.90	342	PKP	PKPbc	13 55 35.7	+0.6
MSKU	Masuku	149.33	242	PFAKE		13 55 40.0	-1.9
MSKU				LR	LR		
	comp=Z,2.0nm,22.0s						
SHEL	Horse Pasture	149.63	194	i PKP2	PKPbc	13 55 39.5	+1.8
KEST	Kesra	150.10	321	PKPbc	PKPbc	13 55 38.5	+0.1
	comp=Z,17nm,0.6s,baz=72,slow=0.8,SNR=33						
CMAH	Djebel Manchou	150.61	325	P	PKPbc	13 55 36.6	+2.6
ABSA	Djebel Ababsia	150.83	324	P	PKPbc	13 55 40.3	+0.2
CKFL	Kef-Lekhel	151.16	325	P	PKPbc	13 55 41.3	+0.4
CASM	Ain Smara	151.39	325	P	PKPbc	13 55 42.1	+0.7
PBRG	Braganca	151.42	350	ePKPab	PKPbc	13 55 41.2	0.0
DFRA	Djebel Bou Aff	151.52	326	P	PKPbc	13 55 43.3	+1.6
CTEI	Djebel Teioual	151.58	325	P	PKPbc	13 55 42.5	+0.6
PCAB	Cabril	151.71	352	ePKPab	PKPbc	13 55 42.0	+0.1
POLO	Lamas de Olo	152.01	351	ePKPab	PKPbc	13 55 42.7	0.0
SET	Setif	152.03	327	P	PKPbc	13 55 43.0	+0.1
MVO	Moncorvo	152.09	350	ePKPab	PKPbc	13 55 42.9	+0.1
PVRL	Vila Real	152.09	351	ePKPab	PKPbc	13 55 43.1	+0.3
CKHR	Kef el Ahmar	152.11	326	P	PKPbc	13 55 43.3	+0.2
PTO	Porto	152.35	352	ePKPab	PKPbc	13 55 42.9	-0.4
PVIS	Viseu	152.67	351	ePKPab	PKPbc	13 55 44.2	+0.1
ESDC	Sonseca Array	152.85	344	PKPbc	PKPbc	13 55 44.5	0.0
	comp=Z,11nm,0.6s,baz=8.5,slow=2.0,SNR=43						
MTE	Manteigas	152.92	350	ePKPab	PKPbc	13 55 44.6	-0.1
MTE	Manteigas	152.92	350	PFAKE		13 55 50.0	+5.3
MTE				LR	LR		
	comp=Z,586nm,20.0s						
AKET	Djebel Ketaf	152.94	328	P	PKPbc	13 55 49.4	+4.4
ADJB	Djebel Djouab	153.08	329	P	PKPbc	13 55 46.1	+0.9
PCAS	Casmilo, Conde	153.41	352	ePKPab	PKPbc	13 55 45.9	+0.2
PCBR	Castelo Branco	153.46	350	ePKPab	PKPbc	13 55 45.8	0.0
PTOM	Tomar	153.82	352	ePKPab	PKPbc	13 55 46.7	+0.1
PMRV	Marv??o	153.84	350	ePKPab	PKPbc	13 55 46.7	0.0
PMTG	Montargil	154.33	351	ePKPab	PKPbc	13 55 47.2	-0.5
PESTR	Estremoz	154.43	350	ePKPab	PKPbc	13 55 49.6	+1.7
PBEJ	Beja	155.29	350	ePKPab	PKPdf	13 55 51.8	+11
PVAQ	Vaqueiros	155.87	349	ePKPab	PKPab	13 56 08.7	+0.2
ASCN	Ascension	158.49	177	PFAKE		13 56 00.0	+14
ASCN				LR	LR		
	comp=Z,792nm,19.0s						
RTC	Rabat Centre	158.97	345	PFAKE		13 56 00.0	+15
RTC				LR	LR		
	comp=Z,627nm,21.0s						
TAM	Tamanrasset	160.03	300	PFAKE		13 56 00.0	+13
TAM				LR	LR		
	comp=Z,419nm,21.0s						
TORD	Torodi Ar. Bea	165.47	270	PKP	PKPdf	13 55 52.1	-0.4
	comp=Z,8.7nm,0.9s,baz=79,slow=0.4,SNR=36						
TORD				PKPab	PKPab	13 56 51.7	+0.4
	comp=Z,26nm,1.0s,baz=87,slow=4.5,SNR=22						
KIC	Kosan Boka	168.92	230	eP	PKPdf	13 55 54.1	-1.0
	comp=Z,119nm,1.5s						
LIC	Lamto	169.04	228	eP	PKPdf	13 55 52.2	-3.0
	comp=Z,82nm,1.4s						
DBIC	Dimbokro	169.21	231	PKP	PKPdf	13 55 53.9	-1.3
	comp=Z,14nm,0.9s,baz=125,slow=1.8,SNR=11						
DBIC				PKPab	PKPab	13 57 07.5	0.0
	comp=Z,14nm,1.0s,baz=105,slow=2.6,SNR=6.2						
TIC	Toumodi	169.31	230	eP	PKPdf	13 55 54.3	-1.1
	comp=Z,5.7nm,0.2s						

ISCJB **20** *13:53:44.4±0.6, 24°.81N±0°.04×122°.22E±0°.02, h112km±4km, Error ellipse: s-maj=6.7km s-min=3.4km az=168.9*

TAP **20** *13:53:44.6, 24°.83N×122°.21E, h112km, ML3.5, C*

JMA **20** *13:53:44.4±0.3, 24°.80N×122°.19E, h112km±3km, M2.7*

ISC 20 13:53:45.2±1.6, 24°.79N±0°.06×122°.22E±0°.03, h108km±9km, n48, σ0.66/79, 1C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.30	317	⇑iP	Pn	13 54 00.7	-0.1
	baz=305						
TWB1				i S	Sn	13 54 12.0	-0.5
TWC	Suao	0.38	242	i P	Pn	13 54 01.0	-0.1
	baz=236						
TWC				S	Sn	13 54 13.0	-0.1
	baz=236						
ILA	Ilan	0.43	267	eP	Pn	13 54 01.4	-0.1
	baz=256						
ILA				eS	Sn	13 54 13.8	+0.2
	baz=256						
NWF	Wu-fen Shan	0.49	306	⇓iP	Pn	13 54 01.8	-0.1
	baz=294						
NWF				S	Sn	13 54 14.3	-0.1
	baz=294						
ENA	Nanau	0.56	230	⇓iP	Pn	13 54 02.8	+0.4
	baz=222						
ENA				eS	Sn	13 54 16.1	+0.9
	baz=222						
TWA	Mucha	0.61	289	eP	Pn	13 54 01.1	-1.5
	baz=285						
TWY	Chenhua	0.74	311	eP	Pn	13 54 03.3	-0.5
	baz=303						
JYNG	Yonagunijimaku	0.74	117	P	Pn	13 54 03.8	0.0
JYNG				S	Sn	13 54 18.2	+0.4
NSK	Sanguang	0.79	262	⇓iP	Pn	13 54 04.3	0.0
	baz=256						
NSK				eS	Sn	13 54 18.1	-0.6
	baz=256						
TWS1	Kuangyinshan	0.79	293	eP	Pn	13 54 04.3	+0.1
	baz=295						
TWS1				eS	Sn	13 54 19.5	+0.9
	baz=295						
YOJ	Yonaguni jima	0.79	114	P	Pn	13 54 04.2	0.0
YOJ				S	Sn	13 54 19.3	+0.8
NNS	Nan Shan	0.84	246	P	Pn	13 54 05.4	+0.5
	baz=233						
NNS				eS	Sn	13 54 20.0	+0.3
	baz=233						
TWD	Chiawan	0.90	219	i P	Pn	13 54 05.3	0.0
	baz=214						
TWD				S	Sn	13 54 20.4	0.0
	baz=214						
NCU	National Centr	0.95	281	P	Pn	13 54 06.0	+0.2
	baz=269						
NCU				eS	Sn	13 54 21.5	+0.2
	baz=269						
HWA	Hwalien	0.98	215	P	Pn	13 54 06.1	0.0
	baz=205						
WHF	Hehuan Shan	1.08	234	⇓iP	Pn	13 54 07.8	+0.2
	baz=229						
WHF				eS	Sn	13 54 24.4	0.0
	baz=229						
TWT	Tachien	1.09	241	eP	Pn	13 54 08.2	+0.8
	baz=232						
TWT				eS	Sn	13 54 24.8	+0.7
	baz=232						
NSTT	Nanjuang	1.12	262	P	Pn	13 54 07.3	-0.3
	baz=257						
NSTT				eS	Sn	13 54 23.5	-0.9
	baz=257						
HSN	Hsinchu	1.13	271	eP	Pn	13 54 07.3	-0.4
	baz=260						
HSN				eS	Sn	13 54 23.6	-1.1
	baz=260						
ESL	Shilin	1.21	217	eP	Pn	13 54 07.7	-0.8
	baz=219						
ESL				eS	Sn	13 54 25.8	-0.4
	baz=219						
TWQ1	Liyutan	1.39	252	⇓P	Pn	13 54 10.7	+0.1
	baz=246						
TWQ1				eS	Sn	13 54 29.6	-0.2
	baz=246						
IRIF	Iriomote-Funau	1.45	108	P	Pn	13 54 10.9	-0.4
IRIF				eS	Sn	13 54 31.2	+0.1
SMLT	Sun Moon Lake	1.50	233	eP	Pn	13 54 12.8	+0.8
	baz=228						
SMLT				eS	Sn	13 54 33.5	+1.0
	baz=228						
EHY	Hungye	1.52	213	eP	Pn	13 54 11.3	-0.8
	baz=212						
TYC	Yuchr	1.52	235	eP	Pn	13 54 12.7	+0.5
	baz=237						
TYC				eS	Sn	13 54 33.1	+0.5
	baz=237						
TCU	Taichung	1.54	246	eP	Pn	13 54 12.7	+0.3
	baz=243						
TWF1	Yuli	1.66	211	eP	Pn	13 54 12.7	-1.2
	baz=213						
JKRS	Kuro-shima	1.72	108	P	Pn	13 54 14.8	+0.2
JKRS				eS	Sn	13 54 37.4	+0.4
YUS	Yu-Shan	1.73	222	eP	Pn	13 54 16.3	+0.9
	baz=211						
YUS				eS	Sn	13 54 38.9	+0.8
	baz=211						
JIJ	Ishigaki jima	1.80	103	P	Pn	13 54 15.4	-0.3
JIJ				eS	Sn	13 54 38.2	-0.7
ALS	Alishan	1.81	226	eP	Pn	13 54 17.1	+1.1
	baz=229						
ALS				eS	Sn	13 54 40.3	+0.8
	baz=229						
CHN5	Tsauling	1.84	230	eP	Pn	13 54 16.6	+0.4
	baz=224						
CHN5				eS	Sn	13 54 41.1	+1.3
	baz=224						
CHKT	Chengkung	1.85	205	eP	Pn	13 54 15.3	-1.0
	baz=199						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
WGK	Gukeng	1.87	234	eP	Pn	13 54 16.4	-0.1
	baz=231						
JISG	Ishigakijimahi	1.92	96	P	Pn	13 54 16.9	-0.2
JISG				eS	Sn	13 54 40.8	-0.5
ELDTW	Lidau	1.93	215	eP	Pn	13 54 17.0	-0.4
	baz=209						
CHN4	Tsaushan	2.06	226	eP	Pn	13 54 19.6	+0.7
	baz=220						
CHN4				eS	Sn	13 54 45.5	+0.8
	baz=220						
CHY	Chiayi	2.08	232	eP	Pn	13 54 19.2	0.0
	baz=229						
WTP	Ta-pu	2.12	224	eP	Pn	13 54 19.9	+0.1
	baz=230						
TWK	Hsinying	2.19	227	eP	Pn	13 54 20.3	-0.3
	baz=219						
TWK				eS	Sn	13 54 47.5	-0.3
	baz=219						
CHN1	Nanshi	2.22	224	eP	Pn	13 54 21.4	+0.4
	baz=226						
CHN1				eS	Sn	13 54 48.5	+0.1
	baz=226						
TWG	Pinlang	2.22	208	eP	Pn	13 54 19.6	-1.4
	baz=204						
SGST	Jiashian	2.26	222	eP	Pn	13 54 22.1	+0.6
	baz=224						
SGST				eS	Sn	13 54 49.0	-0.4
	baz=224						
JTJ	Tarama	2.27	93	P	Pn	13 54 21.7	+0.2
SSD	Sandimen	2.50	216	eP	Pn	13 54 25.6	+1.0
	baz=219						
JIRB	Irabujima	2.69	89	P	Pn	13 54 28.3	+1.3
PNG	Penghu	2.72	244	eP	Pn	13 54 26.5	-0.9
	baz=241						
LAY	Lan-yu	2.80	193	eP	Pn	13 54 26.9	-1.7
	baz=194						

*IDC **20** 14:02:05.2±0.7, 20°.13N×121°.48E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.1/24, mbtmp4.2/12, ML3.2/3, Error ellipse: s-maj=25.4km s-min=14.6km az=72.0*

*NEIC **20** 14:02:06.3±0.4, 20°.12N×121°.47E, h10km, mb4.6/3, Error ellipse: s-maj=11.9km s-min=6.2km az=79.0*

*ISCJB **20** 14:02:08.7±0.3, 20°.21N±0°.03×121°.54E±0°.07, h40km, mb4.2/16, Error ellipse: s-maj=9.6km s-min=4.1km az=5.6*

ISC 20 14:02:10.5±0.6, 20°.20N±0°.05×121°.43E±0°.09, h40km, n36, σ1§24/33, mb4.3/16, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	2.01	203⇓	iP	Pn	14 02 40.5	-1.5
PIP				eS	Sn	14 03 03.5	-2.5
CVP	Callao Caves	2.51	171	eP	Pn	14 02 50.3	+1.5
CVP				eS	Sn	14 03 18.6	+0.5
TWG	Pinlang	2.63	353	ePn	Pn	14 02 48.7	-1.9
TPUB	Ta-pu	3.18	347	ePn	Pn	14 02 56.5	-1.5
YULB	Yu-li	3.18	358	ePn	Pn	14 02 57.4	-0.7
SSLB	Suanglung	3.60	353	ePn	Pn	14 03 03.3	-0.6
BCPH	Baguio City Da	3.88	192⇓	iP	Pn	14 03 08.1	+0.2
BCPH				iS	Sn	14 03 54.4	+2.1
NACB	Ninganchiao	3.96	2	ePn	Pn	14 03 07.9	-0.9
YHNB	Yeheng	4.45	359	ePn	Pn	14 03 15.7	+0.1
JOW	Kunigami	9.11	42	Pn	Pn	14 04 19.5	0.0
	0.3nm,0.3s,baz=197,slow=13,SNR=29						
JOW				Sn	Sn	14 05 59.2	-1.6
	0.1nm,0.3s,baz=112,slow=19,SNR=2.4						
KSAR	Wonju Array Be	18.08	17	P	P	14 06 19.6	+0.9
KSRS	Korea Array	18.10	17	P	P	14 06 19.6	+0.7
	0.4nm,0.3s,baz=196,slow=11,SNR=14						
CMAR	Chiang Mai Arr	21.29	269	P	P	14 06 55.2	+1.4
	0.9nm,0.4s,baz=77,slow=8.4,SNR=7.2						
MJAR	Matsushiro Arr	21.93	39	P	P	14 07 06.2	+5.7
	16nm,1.1s,baz=245,slow=11,SNR=5.9						
USRK	Ussuriysk Arra	25.50	18	P	P	14 07 36.0	+0.9
	1.3nm,0.6s,baz=198,slow=8.5,SNR=5.3						
SONM	Songino Array	30.14	340	P	P	14 08 17.4	+0.6
	0.5nm,0.4s,baz=155,slow=9.3,SNR=6.6						
COEN	Coen	40.12	146	eP	P	14 09 40.7	-1.9
	6.8nm,0.6s						
MK31	Makanchi Array	41.42	319	eP	P	14 09 53.4	+0.2
MKAR	Makanchi Array	41.42	319	P	P	14 09 54.2	+1.1
	3.9nm,0.6s,baz=116,slow=9.5,SNR=62						
WRAB	Tennant Creek	41.84	162	eP	P	14 09 55.3	-1.5
	9.7nm,0.6s						
WRA	Warramunga Arr	41.85	162	P	P	14 09 55.5	-1.4
	8.9nm,0.5s,baz=342,slow=9.0,SNR=192						
H11N1	WAKE ISLAND Hy	42.63	83	T	T	14 55 25.1	
	baz=278,slow=74,SNR=8.6						
H11N2	WAKE ISLAND Hy	42.63	82	T	T	14 55 26.2	
	baz=278,slow=74,SNR=8.3						
H11S3	WAKE ISLAND Hy	42.64	84	T	T	14 55 33.0	
	baz=280,slow=74,SNR=15						
H11S1	WAKE ISLAND Hy	42.65	84	T	T	14 55 16.0	
	baz=280,slow=74,SNR=11						
H11N3	WAKE ISLAND Hy	42.65	83	T	T	14 55 19.4	
	baz=278,slow=74,SNR=7.5						
H11S2	WAKE ISLAND Hy	42.65	84	T	T	14 55 19.2	
	baz=280,slow=74,SNR=11						
ZALV	Zalesovo Beam	43.74	329	P	P	14 10 12.3	+0.5
	3.9nm,0.7s,baz=119,slow=7.4,SNR=18						
AAK	Ala-Archa	45.18	311	P	P	14 10 25.2	+1.5
	baz=166,slow=12						
ASAR	Alice Springs	45.26	164	P	P	14 10 23.9	-0.3
	6.7nm,0.6s,baz=347,slow=7.0,SNR=168						
CTAO	Charters Tower	46.84	147	P	P	14 10 35.4	-1.3
	3.9nm,0.8s						
STKA	Stephens Creek	55.27	159	P	P	14 11 41.1	+1.3
	1.7nm,0.6s,baz=326,slow=8.2,SNR=5.4						
ABKAR	Akbulak array	56.43	316	eP	P	14 11 47.3	-0.8
	1.5nm,0.8s						
ARCES	ARCESS Array B	73.31	339	P	P	14 13 38.2	+0.6
	7.5nm,1.1s,baz=81,slow=7.4,SNR=4.1						
FINES	FINESS Array B	75.00	330	P	P	14 13 47.3	-0.2
	1.1nm,0.8s,baz=62,slow=4.5,SNR=3.7						
YKA	Yellowknife Ar	86.54	23	P	P	14 14 50.0	+0.8
	0.4nm,0.7s,baz=309,slow=4.8,SNR=5.1						

MEX 20 14:11:32.4±0.5, 16°.54N×99°.73W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.35	340	iP	Pg	14 11 38.5	-0.8
ACX				iS	Sg	14 11 44.5	+0.5
CAIG	El Cayaco	0.72	315	iP	Pg	14 11 45.0	-1.3
CAIG				iS	Sg	14 11 55.7	0.0
PNIG	Pinotepa	1.55	95	iP	Pn	14 11 57.0	-3.7
PNIG				iS	Sn	14 12 16.8	-4.4
ARIG	Puente Sto Nin	1.83	341	iP	Pn	14 12 00.9	-3.7
ARIG				iS	Sn	14 12 23.8	-4.4

*ISCJB **20** 14:17:19.1±0.2, 60°.01N±0°.02×152°.64W±0°.04, h115km±2km, mb4.1/7, Error ellipse: s-maj=4.1km s-min=2.7km az=35.1*

*NEIC **20** 14:17:20.2±0.2, 60°.01N×152°.66W, h107km±2km, MG3.6(AEIC), Error ellipse: s-maj=2.9km s-min=1.9km az=130.0*

NEIC Felt at Homer.

*IDC **20** 14:17:22.6±2.4, 60°.31N×152°.67W, h114km±19km, mb3.8/8, mb1 3.8/11, mb1mx3.4/41, mbtmp4.2/11, Error ellipse: s-maj=30.9km s-min=15.0km az=153.0*

ISC 20 14:17:20.4±0.7, 60°.01N±0°.03×152°.64W±0°.04, h108km±5km, n116, σ0§90/138, mb4.1/7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	Iliamna Volcan	0.19	272	P	Pn	14 17 34.9	-0.7
IVE				S	Sn	14 17 46.2	-0.9
ILW	Iliamna West	0.26	282	P	Pn	14 17 35.2	-0.8
ILW				S	Sn	14 17 46.6	-1.0
RSO	Redoubt South	0.46	353	P	Pn	14 17 36.4	-0.6
OPT	Oil Point	0.47	220	P	Pn	14 17 36.5	-0.3
RDWB	Redoubt West	0.49	348	P	Pn	14 17 36.3	-0.8
RDWB				S	Sn	14 17 48.1	-1.6
RDN	Redoubt North	0.51	353	P	Pn	14 17 36.7	-0.5
NCT	North Crescent	0.57	345	P	Pn	14 17 37.0	-0.7
DFR	Drift River	0.58	358	P	Pn	14 17 37.2	-0.6
HOM	Homer	0.61	125	P	Pn	14 17 38.5	+0.7
HOM				S	Sn	14 17 51.5	+0.7
NNL	Ninilchik	0.67	87	P	Pn	14 17 39.5	+1.2
AUL	Augustine Lava	0.75	213	P	Pn	14 17 38.8	-0.2
AUL				S	Sn	14 17 52.9	-0.1
AUP	Augustine Pinn	0.76	212	P	Pn	14 17 39.0	-0.2
AUH	Augustine H	0.77	213	P	Pn	14 17 39.0	-0.2
AUI	Augustine Isla	0.79	211	P	Pn	14 17 39.0	-0.3
BRLK	Bradley Lake	0.92	105	P	Pn	14 17 40.8	+0.2
BRLK				S	Sn	14 17 56.0	+0.2
NKA	Nikishka	1.01	43	P	Pn	14 17 43.3	+1.8
MCNL	McNeil River	1.20	227	P	Pn	14 17 43.0	-0.5
CKL	Chakachamna La	1.20	7	P	Pn	14 17 43.5	-0.2
SPU	Mount Spurr	1.21	13	P	Pn	14 17 43.5	-0.2
SPBG	Spurr Blockage	1.26	6	P	Pn	14 17 44.3	-0.1
SPBG				S	Sn	14 18 02.1	-0.4
BGL	Barrier Glacie	1.26	5	P	Pn	14 17 44.4	0.0
SLKM	Skilak Lake	1.30	66	P	Pn	14 17 44.6	-0.2
CGLM	Capps Glacier	1.34	13	P	Pn	14 17 45.2	0.0
STLK	Strandline Lak	1.55	14	P	Pn	14 17 47.6	-0.1
SEW	Seward	1.60	85	ePn	Pn	14 17 48.1	-0.1
SEW				eSn	Sn	14 18 09.3	-0.1
KAPH	Katmai Pasha	1.67	213	P	Pn	14 17 49.2	+0.1
FIB	Fire Island	1.68	45	P	Pn	14 17 50.6	+1.4
FIB				S	Sn	14 18 12.8	+1.7
SUA	Susitna One	1.73	32	P	Pn	14 17 50.4	+0.4
SUA				S	Sn	14 18 12.9	+0.4
RC01	Rabbit Creek A	1.80	52	ePn	Pn	14 17 50.8	+0.1
RC01				eSn	Sn	14 18 13.3	-0.5
SVW2	Sparrevohn	1.82	308	P	Pn	14 17 49.8	-1.3
KAHC	Katmai Hardscr	1.83	223	P	Pn	14 17 50.9	-0.3
SKT	Skwentna	2.05	15	P	Pn	14 17 53.7	-0.2
KAKN	Katmai Knife C	2.12	217	P	Pn	14 17 54.9	-0.1
KVTA	Katmai Vly 10	2.13	221	P	Pn	14 17 54.9	0.0
KCG	Knife Ck. Glac	2.13	218	P	Pn	14 17 55.0	0.0
KCE	Katmai Mt Cerb	2.21	218	P	Pn	14 17 56.4	+0.4
KDAK	Kodiak Island	2.23	179	ePn	Pn	14 17 55.2	-1.0
KDAK				eSn	Sn	14 18 22.8	-0.9
KABR	Katmai Barrier	2.24	214	P	Pn	14 17 56.3	-0.1
KELA	Mount Kelaz	2.24	227	P	Pn	14 17 56.1	-0.3
PWL	Port Wells	2.30	66	P	Pn	14 17 56.4	-0.7
PMR	Palmer	2.34	46	ePn	Pn	14 17 57.2	-0.4
PMR				eSn	Sn	14 18 24.3	-1.8
CUT	Chulitna	2.66	24	P	Pn	14 18 01.8	0.0
OHAK	Old Harbor	2.82	187	ePn	Pn	14 18 02.5	-1.3
OHAK				eSn	Sn	14 18 36.5	-0.8
GLI	Glacier Island	2.88	70	P	Pn	14 18 04.6	-0.2
PPLA	Purkeypile	2.91	4	ePn	Pn	14 18 05.7	+0.5
PPLA				eSn	Sn	14 18 41.9	+2.3
PLK3	Peulik 3	3.00	221	P	Pn	14 18 06.4	+0.2
PLK4	Peulik 4	3.07	221	P	Pn	14 18 07.8	+0.4
JPK	Jack Peak	3.16	68	P	Pn	14 18 07.4	-1.1
SCM	Sheep Creek Mo	3.17	52	P	Pn	14 18 08.4	-0.3
MID	Middleton Isla	3.24	98	P	Pn	14 18 10.2	+0.8
HUR	Hurricane	3.31	24	P	Pn	14 18 11.2	+0.8
VLZ	Valdez	3.31	67	P	Pn	14 18 09.6	-0.8
TT01	Tatalina	3.33	332	P	Pn	14 18 09.8	-0.9
CAST	Castle Rocks	3.43	4	P	Pn	14 18 11.9	-0.1
EYAK	Cordova Ski Ar	3.47	78	P	Pn	14 18 12.0	-0.5
SII	Sitkinak Islan	3.55	194	P	Pn	14 18 12.6	-1.1
DIV	Divide	3.57	69	ePn	Pn	14 18 13.8	-0.1
DIV				eSn	Sn	14 18 52.4	-2.9
KLU	Klutina	3.62	63	P	Pn	14 18 13.9	-0.7
TRF	Thorofare Moun	3.63	17	ePn	Pn	14 18 14.7	-0.2
TRF				eSn	Sn	14 18 58.4	+1.5
KTH	Kantishna Hill	3.65	12	ePn	Pn	14 18 14.6	-0.4
KTH				eSn	Sn	14 18 56.4	-0.8
SGAM	Sherman Glacie	3.73	79	P	Pn	14 18 15.4	-0.7
RND	Reindeer	3.85	26	P	Pn	14 18 17.5	-0.2
CHUM	Lake Minchumin	3.89	2	P	Pn	14 18 17.9	-0.2
DHY	Denali Highway	3.98	37	P	Pn	14 18 19.3	-0.1
GOAT	Goat Mountain	3.98	78	P	Pn	14 18 18.4	-1.0
RAGM	Ragged Mountai	3.99	81	P	Pn	14 18 19.9	+0.3
PS11	TAPS Pump St11	4.05	56	P	Pn	14 18 20.0	-0.3
BMRM	Bremner River	4.09	73	ePn	Pn	14 18 19.8	-1.1
MCK	McKinley	4.13	24	ePn	Pn	14 18 21.6	+0.3
MCK				eSn	Sn	14 19 09.3	+0.8
HARP	HAARP	4.34	53	P	Pn	14 18 24.2	-0.1
BWN	Browne	4.43	18	P	Pn	14 18 26.1	+0.6
PAX	Paxson	4.54	46	ePn	Pn	14 18 27.1	+0.2
PAX				eSn	Sn	14 19 19.2	+0.5
GLB	Gilahina Butte	4.56	68	P	Pn	14 18 26.5	-0.8
PS10	TAPS Pump St10	4.73	41	P	Pn	14 18 30.0	+0.4
CHGN	Chignik	4.81	222	ePn	Pn	14 18 29.8	-0.8
WRH	Wood River Hil	4.96	23	P	Pn	14 18 31.6	-0.8
DDM	Donnelly Dome	4.96	37	P	Pn	14 18 33.1	+0.5
MLY	Manley	5.12	9	P	Pn	14 18 34.4	-0.3
GCSA	Galena City Sc	5.15	339	P	Pn	14 18 34.7	-0.3
HDA	Harding Lake	5.15	29	P	Pn	14 18 34.7	-0.4
CCB	Clear Creek Bu	5.17	24	P	Pn	14 18 34.5	-0.8
MENT	Mentasta	5.18	52	ePn	Pn	14 18 35.9	+0.3
PS08	TAPS Pump Stn8	5.30	28	P	Pn	14 18 36.6	-0.5
COLA	College	5.36	22	ePn	Pn	14 18 37.4	-0.6
	44nm,0.6s						
MDM	Murphy Dome	5.37	20	P	Pn	14 18 37.5	-0.6
DOT	Dot Lake	5.46	44	ePn	Pn	14 18 39.7	+0.4
	22nm,0.4s						
IL1	Eielson Array	5.47	27	P	Pn	14 18 38.7	-0.8
ILAR	Eielson Array	5.47	27	P	Pn	14 18 38.6	-0.9
	7.1nm,0.3s,baz=215,slow=14,SNR=479						
ILAR				S	Sn	14 19 37.0	-4.2
	7.3nm,0.3s,baz=211,slow=24,SNR=4.8						
ILB	Eielson Array	5.47	27	P	Pn	14 18 38.6	-0.9
SCRK	Sand Creek	5.70	42	P	Pn	14 18 41.7	-0.9
CHX	Chaix Hills	5.79	84	P	Pn	14 18 44.3	+0.6
IM04	Indian Mountai	6.01	356	ePn	Pn	14 18 46.6	-0.2
PS06	TAPS Pump Stn6	6.01	11	P	Pn	14 18 46.6	-0.2
IM3	Indian Mountai	6.02	356	P	Pn	14 18 46.4	-0.5
BCA3	Beaver Creek A	6.02	55	P	Pn	14 18 45.2	-1.8
DRIA	Deer Island	7.24	230	P	Pn	14 19 02.3	-1.2
COLD	Coldfoot	7.33	7	ePn	Pn	14 19 03.9	-0.6
	13nm,0.5s						
DAWY	Dawson	7.43	51	ePn	Pn	14 19 06.5	+0.4
HYT	Haines Junctio	7.54	77	ePn	Pn	14 19 10.3	+2.8
BM3	Burnt Mountain	8.24	22	P	Pn	14 19 15.4	-1.6
WHY	Whitehorse	8.83	78	P	Pn	14 19 24.2	-0.9
TNA	Tin City	8.93	315	ePn	Pn	14 19 26.3	0.0
	1.3nm,0.4s						
BESE	Bessie Mountai	9.21	91	P	Pn	14 19 31.1	+0.9
WRAK	Wrangell Islan	11.27	100	ePn	Pn	14 19 58.2	+0.2
	11nm,0.4s						
CRAG	Craig	11.36	105	ePn	Pn	14 19 59.1	-0.1
	17nm,0.6s						
DLBC	Dease Lake	11.67	88	P	Pn	14 20 05.2	+1.8
	1.7nm,0.3s,baz=317,slow=11,SNR=28						
DLBC				S	Sn	14 22 10.9	-0.7
	0.4nm,0.3s,baz=202,slow=19,SNR=2.9						
YKA	Yellowknife Ar	18.28	66	P	Pn	14 21 26.6	0.0
	0.3nm,0.3s,baz=276,slow=9.8,SNR=53						
YKA				ScP	ScP	14 29 16.9	-0.5
	0.0nm,0.3s,baz=287,slow=2.4,SNR=4.5						
FX1	Attu Island--F	20.02	264	P	Pn	14 21 47.5	+0.4
	6.2nm,0.4s,baz=328,slow=2.6,SNR=18						
PETK	Petropavlovsk-	27.64	278	P	P	14 22 57.6	0.0
	6.8nm,1.1s,baz=75,slow=13,SNR=19						
ASAJ	Asahikawa	41.06	277	P	P	14 24 53.0	0.0
	5.1nm,0.9s,baz=291,slow=28,SNR=5.7						
ARCES	ARCESS Array B	50.74	1	P	P	14 26 07.4	-1.2
	6.2nm,1.1s,baz=8.9,slow=6.4,SNR=3.4						
KSRS	Korea Array	53.36	283	P	P	14 26 29.0	+0.7
	1.9nm,0.8s,baz=30,slow=6.7,SNR=5.9						
KSAR	Wonju Array Be	53.38	283	P	P	14 26 29.0	+0.5
SONM	Songino Array	54.93	306	P	P	14 26 40.9	+1.1
	1.0nm,0.6s,baz=29,slow=7.6,SNR=7.6						
ZALV	Zalesovo Beam	57.48	324	P	P	14 26 57.5	-0.1
	0.5nm,0.4s,baz=29,slow=5.0,SNR=3.3						
FINES	FINESS Array B	58.87	1	P	P	14 27 06.5	-0.7
	0.9nm,0.7s,baz=26,slow=15,SNR=3.8						

IDC 20 14:30:51.7±5.9, 2°.82S×132°.12E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.3/31, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=390.2km s-min=28.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.16	173	P	Pn	14 34 51.3	-1.8
	0.1nm,0.3s,baz=353,slow=14,SNR=4.4						
ASAR	Alice Springs	20.80	175	P	P	14 35 35.5	+0.8
	3.5nm,0.6s,baz=352,slow=11,SNR=54						
MKAR	Makanchi Array	65.97	325	P	P	14 41 39.9	0.0
	0.4nm,0.7s,baz=119,slow=8.4,SNR=6.4						

*CSEM **20** 14:34:40.0±0.3, 40°.35N×27°.83E, h0km±3km, MD2.7, Error ellipse: s-maj=10.1km s-min=5.4km az=12.0*

*DDA **20** 14:34:42.3, 40°.48N×27°.45E, h7km, MD2.6*

ISK 20 14:34:39.1, 40°.35N×27°.82E, h5km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDC	Edincik	0.04	93	ePG	Pg	14 34 39.8	-0.4
EDC	Edincik	0.04	93	ePg	Pg	14 34 39.8	-0.5
BNT	Bandirma	0.08	85	ePG	Pg	14 34 40.6	-0.3
BNT	Bandirma	0.08	85	ePg	Pg	14 34 40.6	-0.3
MRMT	Marmara Adasi	0.30	327	ePG	Pb	14 34 46.3	-0.9
MRMT	Marmara Adasi	0.30	327	ePg	Pb	14 34 46.3	-0.9
KRBG	Karabiga-Canak	0.40	277	ePG	Pg	14 34 47.7	+0.9
KRBG				eSG	Sb	14 34 54.7	-0.3
KRBG	Karabiga-Canak	0.40	277	ePg	Pg	14 34 47.7	+0.9
KRBG				eSg	Sb	14 34 54.7	-0.3
SART	Tekirdag	0.59	305	iP	Pg	14 34 48.5	-2.1
SART	Tekirdag	0.59	305	iP	Pg	14 34 48.5	-2.1
SART				iS	Sg	14 34 52.7	-5.7
ARMT	Armutlu	0.83	75	ePG	Pb	14 34 56.5	+0.5
ARMT				eSG	Sb	14 35 08.1	+0.6
ARMT	Armutlu	0.83	75	ePg	Pb	14 34 56.5	+0.5
ARMT				eSg	Sb	14 35 08.1	+0.6
ORLT	Orhaneli	0.88	110	ePG	Pb	14 34 57.4	+0.4
ORLT	Orhaneli	0.88	110	ePg	Pb	14 34 57.4	+0.4
CTKS	Kestanelik-??a	1.03	30	ePG	Pn	14 35 00.1	-0.1
CTKS	Kestanelik-??a	1.03	30	ePg	Pn	14 35 00.1	-0.1
CTYL	Yal??k??y-??at	1.18	18	ePN	Pn	14 35 02.6	+0.3
CTYL	Yal??k??y-??at	1.18	18	ePn	Pn	14 35 02.6	+0.3
KLYT	Kilyos	1.30	45	ePN	Pn	14 35 05.3	+1.4
KLYT	Kilyos	1.30	45	ePn	Pn	14 35 05.3	+1.3
TVSB	Tavsanli	1.55	125	ePN	Pg	14 35 08.8	-0.3
TVSB	Tavsanli	1.55	125	ePn	Pg	14 35 08.8	-0.2

*IDC **20** 14:40:39.8±1.0, 24°.66S×70°.43W, h52km±5km, mb3.5/2, mb1 3.6/5, mb1mx3.4/18, mbtmp3.6/5, Error ellipse: s-maj=39.4km s-min=26.0km az=117.0*

*GUC **20** 14:40:40.5±0.6, 24°.37S×70°.51W, h47km±34km, ML3.7*

ISC 20 14:40:39.2±0.9, 24°.46S±0°.07×70°.4W±0°.1, h49km±7km, n23, σ2§12/23, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	Antofagasta	0.77	2⇓	iP	Pn	14 40 52.1	-1.8
ANCH				iS	Sn	14 41 02.7	-1.8
ANCH				AML	AML	14 41 09.5	
	comp=N,4µm,0.6s						
PB10	Plate Boundary	0.94	354⇓	iP	Pn	14 40 58.0	+1.8
PB10				iS	Sn	14 41 10.1	+1.4
PB10				AML	AML	14 41 13.3	
	comp=E,6µm,0.4s						
CEN1	Los Morros	1.08	12	eP	Pn	14 40 55.7	-2.5
CEN1				iS	Sn	14 41 07.8	-4.4
CEN1				AML	AML	14 41 09.2	
	comp=N,3µm,0.7s						
PB06	Plate Boundary	1.92	25⇑	iP	Pn	14 41 11.5	+1.9
PB06				iS	Sn	14 41 34.4	+1.8
PB06				AML	AML	14 41 54.2	
	comp=E,2µm,0.7s						
PB04	Plate Boundary	2.35	22	iP	Pn	14 41 13.9	-1.5
PB04				iS	Sn	14 41 39.3	-3.7
PB04				AML	AML	14 41 53.7	
	comp=N,1µm,0.7s						
CDCH	Caldera	2.62	187	AML	AML	14 42 06.3	
	comp=N,481nm,0.2s						
CFAA	Coronel Fontan	7.38	165	P	Pn	14 42 22.9	-1.6
	comp=N,0.1nm,0.3s,baz=340,slow=11,SNR=8.3						
CFAA				S	Sn	14 43 38.6	-8.3
	comp=N,0.2nm,0.3s,baz=126,slow=19,SNR=4.4						
LPAZ	La Paz	8.41	15	P	Pn	14 42 41.7	+2.6
	comp=N,0.4nm,0.3s,baz=198,slow=8.4,SNR=5.1						
H03N1	Juan Fernandez	11.62	218	T	T	14 55 04.8	
	baz=42,slow=74,SNR=96						
H03N2	Juan Fernandez	11.63	218	T	T	14 55 05.6	
	baz=42,slow=74,SNR=102						
H03N3	Juan Fernandez	11.64	218	T	T	14 55 06.2	
	baz=42,slow=74,SNR=111						
SIV	San Ignacio	12.17	48	P	Pn	14 43 32.1	+2.1
	comp=N,0.8nm,0.3s,baz=251,slow=10,SNR=8.3						
PLCA	Paso Flores	16.23	180	P	P	14 44 25.4	-0.9
	comp=N,0.1nm,0.3s,baz=355,slow=14,SNR=5.2						
BDFB	Brasilia	22.79	72	P	P	14 45 40.9	+2.8
	comp=N,2.7nm,0.9s,baz=238,slow=9.5,SNR=3.3						
H06E1	SOCORRO T-PHAS	58.34	314	T	T	15 53 37.7	
	SNR=13						
TORD	Torodi Ar. Bea	79.67	70	P	P	14 52 41.7	-0.4
	comp=N,0.3nm,0.4s,baz=246,slow=4.4,SNR=5.1						
TORD				pP	pP	14 52 57.0	+0.7
	comp=N,1.7nm,0.5s,baz=256,slow=5.0,SNR=9.2						
TORD				sP	sP	14 53 02.8	+1.0
	comp=N,2.7nm,0.5s,baz=260,slow=5.1,SNR=12						
ASAR	Alice Springs	126.65	208	PKP	PKPdf	14 59 37.4	-0.5
	comp=N,0.2nm,0.5s,baz=120,slow=1.5,SNR=9.9						
H11S2	WAKE ISLAND Hy	126.80	275	T	T	17 19 16.2	
	baz=108,slow=75,SNR=64						
H11S1	WAKE ISLAND Hy	126.81	275	T	T	17 19 17.4	
	baz=108,slow=75,SNR=50						
H11S3	WAKE ISLAND Hy	126.81	275	T	T	17 19 17.6	
	baz=108,slow=75,SNR=59						
WRA	Warramunga Arr	129.70	211	PKP	PKPdf	14 59 43.3	-0.4
	comp=N,0.6nm,0.9s,baz=155,slow=1.7,SNR=6.8						
ZALV	Zalesovo Beam	145.22	26	PKPbc	PKPdf	15 00 11.4	+0.3
	comp=N,0.4nm,0.5s,baz=318,slow=3.9,SNR=4.5						
ZALV				pPKPbc	pPKPbc	15 00 27.4	+1.7
	comp=N,1.1nm,0.5s,baz=305,slow=3.6,SNR=4.8						
MKAR	Makanchi Array	148.84	37	PKPbc	PKPbc	15 00 21.3	-0.1
	comp=N,0.5nm,0.7s,baz=294,slow=2.7,SNR=5.8						
MKAR				pPKPbc	pPKPbc	15 00 36.8	+0.5
	comp=N,0.5nm,0.7s,baz=304,slow=2.5,SNR=5.6						

MEX 20 14:44:33.9±0.8, 15°.33N×93°.71W, h9km±8km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.61	52	eP	Pg	14 44 44.1	-1.6
PCIG				iS	Sg	14 44 53.2	-0.4
CCIG	Comitan	1.79	58	eP	Pn	14 45 02.4	-2.9
CCIG				eS	Sn	14 45 23.0	-5.3
CMIG	Matias Romero	2.08	328	iP	Pn	14 45 06.0	-3.1
CMIG				iS	Sn	14 45 30.5	-4.7

*ISCJB **20** 14:59:50.5±0.2, 64°.70N±0°.01×17°.39W±0°.03, h10km, mb3.8/23, MS3.5/6, Error ellipse: s-maj=2.1km s-min=1.5km az=135.4*

*CSEM **20** 14:59:50.1±0.1, 64°.72N×17°.49W, h2km, mb4.1/7, Error ellipse: s-maj=1.9km s-min=1.4km az=128.0*

*REY **20** 14:59:51.3, 64°.68N×17°.36W, h2km, ML3.9, ML3.3*

*IDC **20** 14:59:52.3±0.6, 64°.61N×17°.27W, h0km, mb3.7/15, mb1 3.9/19, mb1mx3.8/33, mbtmp3.8/19, ML3.2/3, MS3.6/10, Ms1 3.6/10, ms1mx3.3/45, Error ellipse: s-maj=20.9km s-min=11.5km az=15.0*

ISC 20 14:59:51.6±0.5, 64°.70N±0°.02×17°.42W±0°.02, h10km, n149, σ1§43/213, mb3.9/23, MS3.5/6, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRF	Grimsfjall	0.30	168	P	Pg	14 59 56.8	-0.9
IGRF	Grimsfjall	0.30	168	P	Pg	14 59 56.9	-0.9
	baz=172						
ISKR	Skrokkalda	0.44	251	P	Pg	14 59 59.9	-0.4
ISKR	Skrokkalda	0.44	251	P	Pg	14 59 59.9	-0.4
	baz=255						
ISKR				S	Sb	15 00 06.4	-1.8
	baz=255						
IKRE	Kreppuhraun	0.45	79	P	Pg	14 59 59.5	-0.9
IKRE				S	Sg	15 00 05.7	-0.6
IKRE	Kreppuhraun	0.45	79	P	Pg	14 59 59.5	-0.9
	baz=76						
IKRE				S	Sg	15 00 05.7	-0.6
	baz=76						
IASK	Askja	0.48	43	P	Pg	15 00 00.2	-0.7
IASK				S	Sg	15 00 07.1	-0.2
IASK	Askja	0.48	43	P	Pg	15 00 00.2	-0.7
	baz=39						
IASK				S	Sg	15 00 07.1	-0.2
	baz=39						
IBRU	Bruarjokull	0.58	77	P	Pg	15 00 01.7	-1.2
IBRU				S	Sg	15 00 09.7	-0.9
IBRU	Bruarjokull	0.58	77	P	Pg	15 00 01.7	-1.2
	baz=74						
IBRU				S	Sg	15 00 09.7	-0.9

	baz=74						
ISVA	**Svartarkot**	**0.64**	**6**	P	**Pg**	**15 00 03.2**	**-0.8**
ISVA				S	**Sb**	**15 00 12.3**	**-1.6**
ISVA	**Svartarkot**	**0.64**	**6**	S	**Sb**	**15 00 12.3**	**-1.6**
	baz=3.7						
ISVA				P	**Pg**	**15 00 03.2**	**-0.8**
	baz=3.7						
IHVA	**Hvannstoosfjol**	**0.71**	**68**	P	**Pg**	**15 00 03.8**	**-1.4**
IHVA				S	**Sg**	**15 00 13.2**	**-1.3**
IHVA	**Hvannstoosfjol**	**0.71**	**68**	P	**Pg**	**15 00 03.8**	**-1.4**
	baz=66						
IHVA				S	**Sg**	**15 00 13.2**	**-1.3**
	baz=66						
IVSH	**V-Sauoahnukur**	**0.73**	**81**	P	**Pg**	**15 00 04.1**	**-1.6**
IVSH				S	**Sg**	**15 00 13.9**	**-1.3**
IVSH	**V-Sauoahnukur**	**0.73**	**81**	P	**Pg**	**15 00 04.1**	**-1.6**
	baz=79						
IVSH				S	**Sg**	**15 00 13.9**	**-1.3**
	baz=79						
IKAL	**Kalfafell**	**0.77**	**189**	P	**Pg**	**15 00 04.8**	**-1.6**
IKAL				S	**Sg**	**15 00 15.4**	**-1.0**
IKAL	**Kalfafell**	**0.77**	**189**	P	**Pg**	**15 00 04.8**	**-1.6**
	baz=191						
IKAL				S	**Sg**	**15 00 15.4**	**-1.0**
	baz=191						
IVAT	**Vatnsfell**	**0.83**	**232**	P	**Pg**	**15 00 06.5**	**-1.1**
IVAT	**Vatnsfell**	**0.83**	**232**	P	**Pg**	**15 00 06.5**	**-1.1**
	baz=234						
IVAT				S	**Sb**	**15 00 18.9**	**-0.5**
	baz=234						
IADA	**Aoalbol**	**0.85**	**67**	P	**Pg**	**15 00 06.1**	**-1.8**
IADA				S	**Sg**	**15 00 17.4**	**-1.5**
IADA	**Aoalbol**	**0.85**	**67**	P	**Pg**	**15 00 06.1**	**-1.8**
	baz=65						
IADA				S	**Sg**	**15 00 17.4**	**-1.5**
	baz=65						
IFAG	**Fagurholsmyri**	**0.90**	**158**	P	**Pg**	**15 00 06.8**	**-2.0**
IFAG				S	**Sg**	**15 00 19.0**	**-1.4**
IFAG	**Fagurholsmyri**	**0.90**	**158**	P	**Pg**	**15 00 06.8**	**-2.0**
	baz=159						
IFAG				S	**Sg**	**15 00 19.0**	**-1.4**
	baz=159						
IHVE	**Hveravellir**	**0.94**	**281**	P	**Pg**	**15 00 07.9**	**-1.7**
IHVE				S	**Sb**	**15 00 21.0**	**-1.4**
IHVE	**Hveravellir**	**0.94**	**281**	P	**Pg**	**15 00 07.9**	**-1.7**
	baz=282						
IHVE				S	**Sb**	**15 00 21.0**	**-1.4**
	baz=282						
IREN	**Reynihlio**	**0.97**	**13**	P	**Pg**	**15 00 08.6**	**-1.6**
IREN				S	**Sg**	**15 00 22.0**	**-0.9**
IREN	**Reynihlio**	**0.97**	**13**	P	**Pg**	**15 00 08.6**	**-1.6**
	baz=11						
IREN				S	**Sg**	**15 00 22.0**	**-0.9**
	baz=11						
IGLU	**Glumsstadir**	**1.03**	**73**	P	**Pg**	**15 00 09.1**	**-2.3**
IGLU				S	**Sg**	**15 00 22.8**	**-2.1**
IGLU	**Glumsstadir**	**1.03**	**73**	P	**Pg**	**15 00 09.1**	**-2.3**
	baz=72						
IGLU				S	**Sg**	**15 00 22.8**	**-2.1**
	baz=72						
IKVO	**Krokottuvotn**	**1.04**	**12**	P	**Pg**	**15 00 09.9**	**-1.7**
IKVO				S	**Sg**	**15 00 23.8**	**-1.3**
IKVO	**Krokottuvotn**	**1.04**	**12**	P	**Pg**	**15 00 09.9**	**-1.7**
	baz=11						
IKVO				S	**Sg**	**15 00 23.8**	**-1.3**
	baz=11						
IGRS	**Grimsstaoir**	**1.09**	**30**	P	**Pb**	**15 00 10.5**	**-2.0**
IGRS				S	**Sg**	**15 00 25.8**	**-0.7**
IGRS	**Grimsstaoir**	**1.09**	**30**	P	**Pb**	**15 00 10.5**	**-2.0**
	baz=28						
IGRS				S	**Sg**	**15 00 25.8**	**-0.7**
	baz=28						
ISNB	**Snabyli**	**1.11**	**209**	P	**Pb**	**15 00 10.7**	**-2.1**
ISNB				S	**Sg**	**15 00 25.9**	**-1.3**
ISNB	**Snabyli**	**1.11**	**209**	P	**Pb**	**15 00 10.7**	**-2.1**
	baz=211						
ISNB				S	**Sg**	**15 00 25.9**	**-1.3**
	baz=211						
ISKI	**Skildingahˆ‡ls**	**1.18**	**8**	P	**Pb**	**15 00 12.1**	**-2.0**
ISKI				S	**Sb**	**15 00 28.3**	**-1.2**
ISKI	**Skildingahˆ‡ls**	**1.18**	**8**	P	**Pb**	**15 00 12.1**	**-2.0**
	baz=6.5						
ISKI				S	**Sb**	**15 00 28.3**	**-1.2**
	baz=6.5						
IGHA	**Grjothals**	**1.19**	**15**	P	**Pb**	**15 00 12.1**	**-2.1**
IGHA				S	**Sb**	**15 00 28.6**	**-1.0**
IGHA	**Grjothals**	**1.19**	**15**	P	**Pb**	**15 00 12.1**	**-2.1**
	baz=14						
IGHA				S	**Sb**	**15 00 28.6**	**-1.0**
	baz=14						
IGRA	**Granastaoir**	**1.22**	**357**	P	**Pn**	**15 00 12.8**	**-1.9**
IGRA				S	**Sb**	**15 00 29.3**	**-1.2**
IGRA	**Granastaoir**	**1.22**	**357**	P	**Pn**	**15 00 12.8**	**-1.9**
	baz=356						
IGRA				S	**Sb**	**15 00 29.3**	**-1.2**
	baz=356						
IDIM	**Dimmadalsˆ¡s**	**1.28**	**9**	P	**Pn**	**15 00 13.7**	**-1.8**
IDIM				S	**Sb**	**15 00 30.8**	**-1.4**
IDIM	**Dimmadalsˆ¡s**	**1.28**	**9**	P	**Pn**	**15 00 13.7**	**-1.8**
	baz=7.7						
IDIM				S	**Sb**	**15 00 30.8**	**-1.4**
	baz=7.7						
IGYG	**Gygjarholskot**	**1.28**	**252**	P	**Pn**	**15 00 13.7**	**-1.8**
IGYG				S	**Sg**	**15 00 31.5**	**-1.3**
IGYG	**Gygjarholskot**	**1.28**	**252**	P	**Pn**	**15 00 13.7**	**-1.9**
	baz=253						
IGYG				S	**Sg**	**15 00 31.5**	**-1.3**
	baz=253						
IHLA	**Hella**	**1.31**	**342**	P	**Pn**	**15 00 14.3**	**-1.6**
IHLA				S	**Sb**	**15 00 31.8**	**-1.3**
IHLA	**Hella**	**1.31**	**342**	P	**Pn**	**15 00 14.3**	**-1.6**
	baz=342						
IHLA				S	**Sb**	**15 00 31.8**	**-1.3**
	baz=342						
IHAU	**Haukadalur**	**1.33**	**238**	P	**Pn**	**15 00 14.6**	**-1.6**
IHAU				S	**Sb**	**15 00 32.6**	**-1.1**
IHAU	**Haukadalur**	**1.33**	**238**	P	**Pn**	**15 00 14.6**	**-1.6**
	baz=239						
IHAU				S	**Sb**	**15 00 32.6**	**-1.1**
	baz=239						
IHVO	**Lagu-Hvolar**	**1.34**	**209**	P	**Pn**	**15 00 14.7**	**-1.6**
IHVO				S	**Sb**	**15 00 32.8**	**-1.1**
IHVO	**Lagu-Hvolar**	**1.34**	**209**	P	**Pn**	**15 00 14.7**	**-1.6**
	baz=210						
IHVO				S	**Sb**	**15 00 32.8**	**-1.1**
	baz=210						
IGOD	**Go??abunga**	**1.34**	**219**	P	**Pn**	**15 00 14.9**	**-1.5**
IGOD				S	**Sb**	**15 00 33.0**	**-1.0**
IGOD	**Go??abunga**	**1.34**	**219**	P	**Pn**	**15 00 14.9**	**-1.5**
	baz=221						
IGOD				S	**Sb**	**15 00 33.0**	**-1.0**
	baz=221						
IHED	**Heoinshofoi**	**1.39**	**2**	P	**Pn**	**15 00 15.1**	**-1.8**
IHED				S	**Sb**	**15 00 33.0**	**-2.2**
IHED	**Heoinshofoi**	**1.39**	**2**	P	**Pn**	**15 00 15.2**	**-1.8**
	baz=0.8						
IHED				S	**Sb**	**15 00 33.0**	**-2.2**
	baz=0.8						
IBRE	**Brettingsstaoi**	**1.44**	**352**	P	**Pn**	**15 00 16.1**	**-1.6**
IBRE				S	**Sb**	**15 00 35.5**	**-1.3**
IBRE	**Brettingsstaoi**	**1.44**	**352**	P	**Pn**	**15 00 16.1**	**-1.6**
	baz=351						
IBRE				S	**Sb**	**15 00 35.5**	**-1.3**
	baz=351						
IGIL	**Gilhagi**	**1.45**	**17**	P	**Pn**	**15 00 16.2**	**-1.6**
IGIL	**Gilhagi**	**1.45**	**17**	P	**Pn**	**15 00 16.2**	**-1.6**
	baz=16						
IESK	**Eystri-Skogar**	**1.48**	**218**	P	**Pn**	**15 00 16.8**	**-1.5**
IESK				S	**Sn**	**15 00 36.1**	**-1.5**
IESK	**Eystri-Skogar**	**1.48**	**218**	P	**Pn**	**15 00 16.8**	**-1.5**
	baz=219						
IESK				S	**Sn**	**15 00 36.1**	**-1.5**
	baz=219						
ISAU	**Saurbar**	**1.49**	**243**	P	**Pn**	**15 00 16.8**	**-1.6**
ISAU				S	**Sn**	**15 00 36.2**	**-1.6**
ISAU	**Saurbar**	**1.49**	**243**	P	**Pn**	**15 00 16.8**	**-1.6**
	baz=244						
ISAU				S	**Sn**	**15 00 36.2**	**-1.6**
	baz=244						
IMID	**Miomork**	**1.51**	**227**	P	**Pn**	**15 00 17.5**	**-1.1**
IMID	**Miomork**	**1.51**	**227**	P	**Pn**	**15 00 17.6**	**-1.1**
	baz=228						
ISIG	**Siglufjorour**	**1.57**	**337**	P	**Pn**	**15 00 18.2**	**-1.2**
ISIG				S	**Sb**	**15 00 38.8**	**-1.6**
ISIG	**Siglufjorour**	**1.57**	**337**	P	**Pn**	**15 00 18.2**	**-1.2**
	baz=337						
ISIG				S	**Sb**	**15 00 38.8**	**-1.6**
	baz=337						
IASM	**Asmuli**	**1.65**	**239**	P	**Pn**	**15 00 19.7**	**-0.8**
IASM				S	**Sb**	**15 00 41.4**	**-1.3**
IASM	**Asmuli**	**1.65**	**239**	P	**Pn**	**15 00 19.7**	**-0.8**
	baz=240						
IASM				S	**Sb**	**15 00 41.4**	**-1.3**
	baz=240						
IASB	**`sbjarnarst**	**1.68**	**273**	P	**Pn**	**15 00 19.9**	**-1.0**
IASB				S	**Sb**	**15 00 42.4**	**-1.3**
IASB	**`sbjarnarst**	**1.68**	**273**	P	**Pn**	**15 00 19.9**	**-1.0**
	baz=274						
IASB				S	**Sb**	**15 00 42.4**	**-1.3**
	baz=274						
BORG	**Borgarnes**	**1.68**	**273**	Pn	**Pn**	**15 00 19.9**	**-1.1**
	250nm,0.3s,baz=90,slow=8.0,SNR=337						
BORG				Pg	**Pg**	**15 00 22.2**	**-1.5**
	250nm,0.3s,baz=95,slow=9.5,SNR=151						
BORG				Sn	**Sb**	**15 00 42.7**	**-1.0**
	84nm,0.3s,baz=240,slow=20,SNR=13						
IKRO	**Krokur**	**1.72**	**251**	P	**Pn**	**15 00 20.3**	**-1.2**
IKRO				S	**Sb**	**15 00 43.2**	**-1.6**
IKRO	**Krokur**	**1.72**	**251**	P	**Pn**	**15 00 20.3**	**-1.2**
	baz=252						
IKRO				S	**Sb**	**15 00 43.2**	**-1.6**
	baz=252						
ISOL	**Solvholt**	**1.72**	**245**	P	**Pn**	**15 00 20.6**	**-1.0**
ISOL				S	**Sb**	**15 00 43.4**	**-1.5**
ISOL	**Solvholt**	**1.72**	**245**	P	**Pn**	**15 00 20.6**	**-1.0**
	baz=246						
ISOL				S	**Sb**	**15 00 43.4**	**-1.5**
	baz=246						
IHEI	**Heioarbar**	**1.73**	**255**	P	**Pn**	**15 00 20.7**	**-1.0**
IHEI				S	**Sb**	**15 00 43.6**	**-1.6**
IHEI	**Heioarbar**	**1.73**	**255**	P	**Pn**	**15 00 20.7**	**-1.0**
	baz=256						
IHEI				S	**Sb**	**15 00 43.6**	**-1.6**
	baz=256						
ILEI	**Leirhofn**	**1.75**	**12**	P	**Pn**	**15 00 20.9**	**-1.1**
ILEI	**Leirhofn**	**1.75**	**12**	P	**Pn**	**15 00 20.9**	**-1.1**
	baz=11						
IHRN	**Hraun**	**1.81**	**322**	P	**Pn**	**15 00 21.8**	**-1.0**
IHRN				S	**Sb**	**15 00 45.6**	**-1.9**
IHRN	**Hraun**	**1.81**	**322**	P	**Pn**	**15 00 21.8**	**-1.0**
	baz=322						
IHRN				S	**Sb**	**15 00 45.6**	**-1.9**
	baz=322						
IBJA	**Bjarnastaoir**	**1.86**	**248**	P	**Pn**	**15 00 22.3**	**-1.1**
IBJA	**Bjarnastaoir**	**1.86**	**248**	P	**Pn**	**15 00 22.3**	**-1.0**
	baz=248						
IGRI	**Grimsey**	**1.86**	**353**	P	**Pn**	**15 00 22.2**	**-1.3**
IGRI	**Grimsey**	**1.86**	**353**	P	**Pn**	**15 00 22.2**	**-1.3**
	baz=352						
ISAN	**Sandskeio**	**1.92**	**252**	P	**Pn**	**15 00 22.9**	**-1.4**
ISAN	**Sandskeio**	**1.92**	**252**	P	**Pn**	**15 00 22.9**	**-1.4**
	baz=253						
IKUD	**Kuludalsa**	**1.97**	**261**	P	**Pn**	**15 00 24.1**	**-0.8**
IKUD	**Kuludalsa**	**1.97**	**261**	P	**Pn**	**15 00 24.1**	**-0.8**
	baz=262						
IVOS	**Vogsosar**	**2.06**	**247**	P	**Pn**	**15 00 25.1**	**-1.0**
IVOS	**Vogsosar**	**2.06**	**247**	P	**Pn**	**15 00 25.1**	**-1.0**
	baz=248						
EKA	**Eskdalemuir Ar**	**11.76**	**136**	Pn	**Pn**	**15 02 38.9**	**-0.3**
	baz=318,slow=14,SNR=28						
NOA	**NORSAR Array B**	**13.50**	**93**	Pn	**Pn**	**15 03 01.6**	**-1.3**
	0.3nm,0.3s,baz=54,slow=8.0,SNR=4.2						
NOA				LR	LR	15 08 02.8	
	comp=Z,118nm,18.9s,baz=75,slow=36						
SFJD	**Kangerlussuaq**	**13.68**	**295**	LR	LR	15 08 03.4	
	comp=Z,421nm,18.1s,baz=71,slow=36						
HFS	**Hagfors**	**15.01**	**93**	Pn	**Pn**	**15 03 22.8**	**-0.7**
	0.1nm,0.3s,baz=316,slow=12,SNR=4.2						
HFS				LR	LR	15 08 59.0	
	comp=Z,189nm,19.3s,baz=223,slow=37						
BAIF	**Baives**	**18.59**	**132**	*e*P	**Pn**	**15 04 08.4**	**-0.3**
	22nm,1.1s						
BAIF	**Baives**	**18.59**	**132**	*e*P	**Pn**	**15 04 08.4**	**-0.3**
	11nm,1.1s						
FINES	**FINESS Array B**	**19.66**	**79**	P	**Pn**	**15 04 21.8**	**+0.2**
	0.1nm,0.3s,baz=309,slow=8.8,SNR=4.2						
FINES				LR	LR	15 11 35.5	
	comp=Z,155nm,19.6s,baz=90,slow=36						
CLL	**Collm**	**20.69**	**116**	*i* P	Pn	15 04 32.8	-1.0
	comp=Z,15nm,1.5s						
CLL				*e*		15 04 53.0	
LOR	**Lormes**	**20.95**	**136**	*e*P	**P**	**15 04 35.1**	**+0.8**
	comp=Z,12nm,0.6s						
LOR	**Lormes**	**20.95**	**136**	*e*P	**P**	**15 04 35.1**	**+0.8**
	comp=Z,5.8nm,0.6s						
CDF	**Champ du Feu**	**21.02**	**129**	*e*P	**P**	**15 04 36.9**	**+1.8**
CDF	**Champ du Feu**	**21.02**	**129**	*e*P	**P**	**15 04 36.9**	**+1.8**
SSF	**Saint Saulge**	**21.03**	**137**	*e*P	**P**	**15 04 35.9**	**+0.7**
	comp=Z,16nm,0.8s						
SSF	**Saint Saulge**	**21.03**	**137**	*e*P	**P**	**15 04 35.9**	**+0.7**
	comp=Z,7.8nm,0.8s						
HAU	**Haudompre**	**21.07**	**131**	*e*P	**P**	**15 04 37.3**	**+1.7**
	comp=Z,18nm,0.8s						
HAU	**Haudompre**	**21.07**	**131**	*e*P	**P**	**15 04 37.3**	**+1.7**
	comp=Z,9.0nm,0.8s						
AVF	**Avril sur Loir**	**21.23**	**138**	*e*P	**P**	**15 04 37.9**	**+0.6**
	comp=Z,10nm,0.9s						
AVF	**Avril sur Loir**	**21.23**	**138**	*e*P	**P**	**15 04 37.9**	**+0.6**
	comp=Z,5.2nm,0.9s						
BGF	**Bois d'Agland**	**21.30**	**139**	*e*P	**P**	**15 04 38.8**	**+0.7**
	comp=Z,29nm,0.9s						
BGF	**Bois d'Agland**	**21.30**	**139**	*e*P	**P**	**15 04 38.8**	**+0.7**
	comp=Z,14nm,0.9s						
TCF	**Toulx Ste Croi**	**21.37**	**140**	*e*P	**P**	**15 04 39.7**	**+0.8**
	comp=Z,21nm,1.0s						
TCF	**Toulx Ste Croi**	**21.37**	**140**	*e*P	**P**	**15 04 39.7**	**+0.8**
	comp=Z,11nm,1.0s						
BRG	**Berggiesshubel**	**21.40**	**115**	*e*P	**P**	**15 04 40.5**	**+1.4**
	comp=Z,7.3nm,0.9s						
HINF	**Hinteralfeld**	**21.40**	**131**	*e*P	**P**	**15 04 40.8**	**+1.6**
	comp=Z,9.2nm,0.8s						
HINF	**Hinteralfeld**	**21.40**	**131**	*e*P	**P**	**15 04 40.8**	**+1.6**
	comp=Z,4.6nm,0.8s						
SMF	**Signal de Mont**	**21.51**	**137**	*e*P	**P**	**15 04 41.0**	**+0.7**
	comp=Z,15nm,0.7s						
SMF	**Signal de Mont**	**21.51**	**137**	*e*P	**P**	**15 04 41.0**	**+0.7**
	comp=Z,7.6nm,0.7s						
FRB	**Frobisher Bay**	**21.77**	**291**	P	P	15 04 47.4	+4.4
	comp=Z,3.3nm,0.9s,baz=59,slow=13,SNR=3.6						
FRB				LR	LR	15 12 45.4	
	comp=Z,181nm,20.3s,baz=64,slow=35						
RJF	**Les Rejaudoux**	**22.09**	**142**	*e*P	**P**	**15 04 46.5**	**-0.1**
RJF	**Les Rejaudoux**	**22.09**	**142**	*e*P	**P**	**15 04 46.5**	**-0.1**
CABF	**La Chapelle**	**22.22**	**133**	*e*P	**P**	**15 04 49.4**	**+1.4**
CABF	**La Chapelle**	**22.22**	**133**	*e*P	**P**	**15 04 49.4**	**+1.4**
PRU	**Pruhonice**	**22.33**	**116**	*e*P	**P**	**15 04 51.2**	**+2.1**
PRU				*e*x	x	15 05 00.6	
PRU	**Pruhonice**	**22.33**	**116**	P	**P**	**15 04 51.2**	**+2.1**
UPC	**Upice**	**22.50**	**113**	*e*P	P	15 04 56.3	+5.4
KHC	**Kasperske Hory**	**22.66**	**119**	*e*P	**P**	**15 04 54.6**	**+1.9**
KHC				*e*x	x	15 05 04.6	
KHC	**Kasperske Hory**	**22.66**	**119**	P	**P**	**15 04 54.6**	**+1.9**
DPC	**Dobruska-Polom**	**22.74**	**113**	*e*P	**P**	**15 04 54.9**	**+1.4**
DPC				*e*x	x	15 05 03.8	
DPC	**Dobruska-Polom**	**22.74**	**113**	P	**P**	**15 04 54.9**	**+1.4**
GERES	**GERESS Array B**	**22.94**	**119**	P	**P**	**15 04 57.3**	**+1.6**
	comp=Z,1.2nm,0.9s,baz=323,slow=8.0,SNR=6.2						
GERES				LR	LR	15 15 11.6	
	comp=Z,226nm,18.1s,baz=318,slow=40						
VRAC	**Vranov**	**23.68**	**114**	LR	LR	15 14 20.8	
	comp=Z,167nm,18.3s,baz=339,slow=37						
SCHQ	**Schefferville**	**26.07**	**271**	P	**P**	**15 05 28.2**	**+3.3**
	comp=Z,5.3nm,0.7s,baz=49,slow=8.7,SNR=7.0						
ESDC	**Sonseca Array**	**26.27**	**156**	P	**P**	**15 05 28.2**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=348,slow=9.6,SNR=6.5						
RES	**Resolute Bay**	**26.46**	**324**	LR	LR	15 15 40.8	
	comp=Z,120nm,21.2s,baz=62,slow=36						
AKASG	**Malin Array Be**	**27.81**	**98**	P	**P**	**15 05 41.4**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=322,slow=10.0,SNR=4.4						
AKASG				LR	LR	15 16 13.8	
	comp=Z,128nm,20.4s,baz=30,slow=35						
BRTR	**Keskin Array B**	**38.45**	**105**	P	P	15 07 16.2	+2.8
	comp=Z,1.3nm,0.7s,baz=325,slow=7.1,SNR=6.0						
KBZ	**Khabaz**	**39.08**	**93**	P	**P**	**15 07 20.4**	**+2.0**
	comp=Z,2.9nm,0.9s,baz=313,slow=14,SNR=5.1						
YKA	**Yellowknife Ar**	**39.21**	**313**	P	P	15 07 22.4	+3.1
	comp=Z,0.4nm,0.8s,baz=45,slow=8.8,SNR=9.4						
YKA				PcP	**PcP**	**15 09 30.9**	**+2.8**
	comp=Z,0.1nm,0.6s,baz=40,slow=3.2,SNR=4.6						
ULM	**Lac du Bonnet**	**41.62**	**289**	LR	LR	15 23 01.9	
	comp=Z,58nm,18.4s,baz=30,slow=33						
ILAR	**Eielson Array**	**45.67**	**332**	P	P	15 08 14.8	+3.0
	comp=Z,1.5nm,1.2s,baz=27,slow=8.1,SNR=6.3						
ZALV	**Zalesovo Beam**	**47.58**	**51**	P	**P**	**15 08 29.0**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=338,slow=6.2,SNR=2.8						
MKAR	**Makanchi Array**	**52.67**	**58**	P	**P**	**15 09 07.4**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=326,slow=7.3,SNR=7.0						
TORD	**Torodi Ar. Bea**	**53.16**	**157**	P	**P**	**15 09 09.7**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=338,slow=9.0,SNR=6.5						
SONM	**Songino Array**	**59.59**	**40**	P	**P**	**15 09 57.3**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=328,slow=5.2,SNR=3.0						
TXAR	**Lajitas Array**	**62.31**	**280**	P	P	15 10 17.2	+3.4
	comp=Z,0.2nm,0.7s,baz=51,slow=39,SNR=2.8						
CMAR	**Chiang Mai Arr**	**84.08**	**59**	P	**P**	**15 12 23.8**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=347,slow=8.7,SNR=4.8						

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*IDC **20** 15:48:09.2±2.7, 30°.82N×84°.71E, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.2/42, mbtmp3.3/6, ML3.1/2, MS3.8/2, Ms1 3.8/2, ms1mx2.7/34, Error ellipse: s-maj=82.5km s-min=25.6km az=71.0*

*ISCJB **20** 15:48:12.6±0.8, 30°.86N±0°.10×84°.79E±0°.09, h33km, mb3.3/4, MS3.8/2, Error ellipse: s-maj=15.0km s-min=9.5km az=157.0*

ISC 20 15:48:14.4±0.9, **30°.9N**±0°.1×**84°.79E**±0°.10, **h35**km, **n10**, σ1^{s}58/8, **mb3.4**/4, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**4.19**	**251**	*e*PN	**Pn**	**15 49 14.7**	**-1.1**
LGTI				*e*SN	**Sn**	**15 50 04.9**	**+1.3**
LSA	**Lhasa**	**5.62**	**101**	P	Pn	15 49 42.6	+6.6
MKAR	**Makanchi Array**	**15.99**	**354**	Pn	**Pn**	**15 51 55.0**	**-1.6**
	0.0nm,0.3s,baz=178,slow=12,SNR=3.0						
CMAR	**Chiang Mai Arr**	**17.83**	**131**	P	**Pn**	**15 52 18.9**	**-0.9**
	0.1nm,0.3s,baz=310,slow=13,SNR=2.6						
ZALV	**Zalesovo Beam**	**23.04**	**0**	P	**P**	**15 53 15.4**	**-0.9**
	0.5nm,0.6s,baz=182,slow=8.7,SNR=4.4						
SONM	**Songino Array**	**23.64**	**38**	P	**P**	**15 53 23.6**	**+1.1**
	0.3nm,0.6s,baz=231,slow=8.1,SNR=5.5						
JNU	**Nakatsue**	**38.90**	**74**	LR	LR	16 13 18.1	
	comp=Z,363nm,20.8s,baz=137,slow=39						
USRK	**Ussuriysk Arra**	**39.19**	**57**	LR	LR	16 13 37.6	
	comp=Z,49nm,21.0s,baz=336,slow=39						
WRA	**Warramunga Arr**	**69.42**	**130**	P	**P**	**15 59 19.1**	**-0.1**
	0.7nm,1.1s,baz=324,slow=6.3,SNR=4.7						
YKA	**Yellowknife Ar**	**85.64**	**9**	P	**P**	**16 00 51.0**	**+2.0**
	0.8nm,1.2s,baz=349,slow=6.3,SNR=3.8						

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*CSEM **20** 16:01:57.4±0.5, 49°.96N×18°.54E, h2km, Error ellipse: s-maj=7.7km s-min=5.5km az=90.0*

PRU 20 16:01:58.4, 49°.92N×18°.51E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.25**	**251**	*e*PG	Pg	16 02 02.9	-0.3
OKC				*e*SG	Sg	16 02 06.5	+0.1
	4.3nm,0.3s						
OKC	**Ostrava-Krasne**	**0.25**	**251**	Pg	Pg	16 02 02.9	-0.3
OKC				Sg	Sg	16 02 06.5	+0.1
	4.3nm,0.3s						
MORC	**Moravsky Berou**	**0.64**	**257**	*e*Pg	Pg	16 02 10.6	-0.2
MORC				*e*Sg	Sg	16 02 18.8	-0.4
DPC	**Dobruska-Polom**	**1.47**	**288**	*e*PG	Pn	16 02 25.7	-0.6
DPC				*e*SG	Sg	16 02 45.4	-0.5
DPC	**Dobruska-Polom**	**1.47**	**288**	Pg	Pn	16 02 25.7	-0.6
DPC				Sg	Sg	16 02 45.4	-0.5

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*CSEM **20** 16:02:25.2±0.5, 50°.30N×18°.71E, h2km, ML2.8/5, Error ellipse: s-maj=11.5km s-min=4.8km az=6.0*

PRU 20 16:02:26.0, 50°.29N×18°.67E, h0km, 3C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.21**	**90**	*e*Pg	Pg	16 02 28.0	-2.0
CHZP				*e*Sg	Sg	16 02 30.2	-2.5
RAC	**Raciborz**	**0.37**	**236**	*e*Pg	Pb	16 02 34.9	-0.5
RAC				*e*Sg	Sb	16 02 41.7	-0.1
OKC	**Ostrava-Krasne**	**0.56**	**217**	*e*PG	Pg	16 02 37.3	+0.5
OKC				*e*SG	Sg	16 02 44.6	+0.4
	77nm,1.0s						
OKC	**Ostrava-Krasne**	**0.56**	**217**	Pg	Pg	16 02 37.3	+0.5
OKC				Sg	Sg	16 02 44.6	+0.4
	77nm,1.0s						
OJC	**Ojcow**	**0.73**	**95**	*e*Pg	Pg	16 02 36.9	-3.1
OJC				*e*Sg	Sg	16 02 47.1	-2.4
OJC	**Ojcow**	**0.73**	**95**	*e*Pg	Pg	16 02 36.9	-3.1
OJC				*e*Sg	Sg	16 02 47.1	-2.4
MORC	**Moravsky Berou**	**0.89**	**235**	⇓*i*P	Pg	16 02 43.3	+0.1
MORC	**Moravsky Berou**	**0.89**	**235**	S	Sb	16 02 56.1	-0.8
MORC	**Moravsky Berou**	**0.89**	**235**	⇓*i*Pg	Pg	16 02 43.3	+0.1
MORC				*e*Sg	Sb	16 02 56.2	-0.7
KRLC	**Kraliky**	**1.23**	**261**	*e*PG	Pg	16 02 48.7	-1.0
KRLC				*e*SG	Sg	16 03 05.1	-0.7
KRLC	**Kraliky**	**1.23**	**261**	Pg	Pg	16 02 48.7	-1.0
KRLC				Sg	Sg	16 03 05.1	-0.7
NIE	**Niedzica**	**1.38**	**129**	*e*Pg	Pg	16 02 50.0	-2.4
NIE				*e*Sg	Sg	16 03 07.9	-2.4
NIE	**Niedzica**	**1.38**	**129**	*e*Pg	Pg	16 02 50.0	-2.4
NIE				*e*Sg	Sg	16 03 07.9	-2.4
DPC	**Dobruska-Polom**	**1.51**	**273**	*e*PG	Pn	16 02 53.9	-0.4
DPC				*e*SG	Sg	16 03 13.8	-0.8
DPC	**Dobruska-Polom**	**1.51**	**273**	Pg	Pn	16 02 53.9	-0.4
DPC				Sg	Sg	16 03 13.8	-0.8
KSP	**Ksiaz**	**1.61**	**291**	*e*Pn	Pg	16 02 56.9	-0.1
KSP				*e*Pg	Pb	16 03 00.6	+3.9
KSP				*e*Sn	Sg	16 03 20.0	+2.1
KSP				*e*Sg	Sb	16 03 24.8	+7.2
KSP	**Ksiaz**	**1.61**	**291**	*e*Pg	Pg	16 02 58.0	+1.0
KSP				*e*Sg	Sg	16 03 20.0	+2.1
VRAC	**Vranov**	**1.67**	**235**	⇑*i*P	Pn	16 02 55.8	-0.7
VRAC	**Vranov**	**1.67**	**235**	S	Sg	16 03 20.0	+0.4
VRAC	**Vranov**	**1.67**	**235**	*e*Pn	Pn	16 02 55.6	-0.9
VRAC				*e*Sg	Sn	16 03 18.6	0.0
UPC	**Upice**	**1.71**	**278**	*e*SG	Sn	16 03 19.5	-0.3
	7.7nm,0.6s						
UPC	**Upice**	**1.71**	**278**	Sg	Sn	16 03 19.5	-0.3
	7.7nm,0.6s						
VYHS	**Vyhne**	**1.80**	**176**	*e*PN	Pn	16 02 56.2	-2.1
VYHS				*e*SN	Sn	16 03 21.1	-0.8
VYHS	**Vyhne**	**1.80**	**176**	*e*Pn	Pn	16 02 56.2	-2.1
VYHS				*e*Sn	Sn	16 03 21.1	-0.8
STHS	**Stebnicka Huta**	**1.88**	**117**	*e*PN	Pn	16 02 59.0	-0.4
STHS				*e*SN	Sb	16 03 25.9	+0.5
STHS	**Stebnicka Huta**	**1.88**	**117**	*e*Pn	Pn	16 02 59.0	-0.4
STHS				*e*Sn	Sb	16 03 25.9	+0.5
CRVS	**Cervenica-Dubn**	**2.29**	**126**	*e*PN	Pn	16 03 06.1	+1.1
CRVS				*e*SN	Sb	16 03 36.0	-1.0
CRVS	**Cervenica-Dubn**	**2.29**	**126**	*e*Pn	Pn	16 03 06.1	+1.1
CRVS				*e*Sn	Sb	16 03 36.0	-1.0
TREC	**Trest**	**2.29**	**245**	*e*SG	Sb	16 03 37.2	+0.1
	38nm,1.0s						
TREC	**Trest**	**2.29**	**245**	Sg	Sb	16 03 37.2	+0.1
	38nm,1.0s						
PSZ	**Piszkesteto**	**2.51**	**161**	⇑*i*P	Pn	16 03 07.0	-1.1
PSZ	**Piszkesteto**	**2.51**	**161**	S	Sb	16 03 42.9	-0.6
PSZ	**Piszkesteto**	**2.51**	**161**	*e*	Pg	16 03 14.0	-0.2
PRU	**Pruhonice**	**2.67**	**265**	*e*PG	Pb	16 03 12.7	-2.0
PRU				*e*SG	Sg	16 03 50.2	-1.7
	9.8nm,0.5s						
PRU	**Pruhonice**	**2.67**	**265**	Sg	Sg	16 03 50.2	-1.7
	9.8nm,0.5s						
KOLS	**Kolonicke sedl**	**2.71**	**119**	*e*	Pb	16 03 13.6	-1.8
KOLS	**Kolonicke sedl**	**2.71**	**119**	*e*SN	Sn	16 03 45.0	+0.7
KOLS	**Kolonicke sedl**	**2.71**	**119**	*e*Sn	Sn	16 03 45.0	+0.7
BRG	**Berggiesshubel**	**3.07**	**283**	PG	Pg	16 03 25.6	+0.8
BRG				SG	Sg	16 04 04.5	-0.1
	5.8nm,0.5s						
KHC	**Kasperske Hory**	**3.50**	**253**	*e*PG	Pb	16 03 28.7	-0.2
KHC				*e*SG	Sg	16 04 16.0	-2.7
	15nm,0.5s						
KHC	**Kasperske Hory**	**3.50**	**253**	Sg	Sg	16 04 16.0	-2.7
	15nm,0.5s						
CLL	**Collm**	**3.74**	**288**	*e*Sg	Sg	16 04 29.0	+3.0
	comp=Z,15nm,1.1s						
BURAR	**Bucovina Array**	**5.08**	**119**	⇑*i*P	Pn	16 03 41.3	-2.2

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*ISCJB **20** 16:07:42.8±0.7, 6°.70S±0°.07×127°.0E±0°.1, h407km, mb3.3/5, Error ellipse: s-maj=14.7km s-min=8.7km*

az=166.7
IDC 20 16:07:46.4±1.8, 7°.02S×126°.55E, h444km±25km, mb2.9/5, mb1 2.9/7, mb1mx2.8/20, mbtmp3.7/7, Error ellipse: s-maj=41.4km s-min=12.2km az=67.0
ISC 20 16:07:44.2±0.8, 6°.82S±0°.08×126°.9E±0°.1, h407km, n8, σ1s18/11, mb3.4/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
BATI	Baumata	4.66	224	P	P	16 09 04.2	+1.3
	27nm,0.3s,baz=67,slow=1.3,SNR=24						
BATI				S	S	16 10 06.5	-0.7
	8.8nm,0.3s,baz=90,slow=20,SNR=5.8						
WRA	Warramunga Arr	14.90	152	P	P	16 10 56.0	+0.6
	0.1nm,0.3s,baz=326,slow=12,SNR=11						
WRA				S	S	16 13 32.8	-0.9
	0.1nm,0.3s,baz=326,slow=21,SNR=3.6						
ASAR	Alice Springs	18.04	159	P	P	16 11 29.8	+0.8
	0.5nm,0.3s,baz=337,slow=10,SNR=57						
ASAR				S	S	16 14 33.1	-1.6
	0.1nm,0.3s,baz=346,slow=20,SNR=6.3						
SONM	Songino Array	57.36	344	P	P	16 16 51.4	-0.4
	0.1nm,0.3s,baz=173,slow=7.3,SNR=5.6						
PETK	Petropavlovsk-	65.15	20	P	P	16 17 44.3	+1.2
	5.8nm,1.0s,baz=194,slow=7.2,SNR=5.4						
MKAR	Makanchi Array	66.43	328	P	P	16 17 50.4	-0.9
	0.2nm,0.4s,baz=122,slow=7.4,SNR=9.1						
ZALV	Zalesovo Beam	70.10	335	P	P	16 18 12.3	-1.4
	0.5nm,0.4s,baz=137,slow=5.1,SNR=3.9						
SEY	Seymchan	72.23	12	P	P	16 18 26.0	-0.1
	0.4nm,0.4s,baz=73,slow=23,SNR=5.5						

BJI 20 16:13:45.7, 12°.14N×143°.90E, h10km, mB4.9/20, mb4.6/35, Ms4.6/10, Ms7 4.3/9
IDC 20 16:14:03.8±2.6, 12°.86N×143°.52E, h100km±22km, mb3.9/16, mb1 4.1/16, mb1mx4.0/25, mbtmp4.3/16, MS3.1/5, Ms1 3.1/5, ms1mx2.8/40, Error ellipse: s-maj=21.0km s-min=11.4km az=86.0
ISCJB 20 16:14:07.2±0.5, 12°.80N±0°.06×143°.40E±0°.10, h150km, mb4.4/45, Error ellipse: s-maj=13.6km s-min=8.2km az=174.7
NEIC 20 16:14:07.2±2.5, 12°.81N×143°.36E, h133km±23km, mb4.3/8, Error ellipse: s-maj=10.5km s-min=5.9km az=78.0
ISC 20 16:14:09.8±0.6, 12°.89N±0°.09×143°.2E±0°.1, h150km, n77, σ1s40/80, mb4.4/45, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
JOW	Kunigami	19.71	317	P	Pn	16 18 29.5	-1.3
	0.3nm,0.3s,baz=146,slow=12,SNR=20						
JOW	Kunigami	19.71	317	eP	P	16 18 29.0	+1.2
	8.7nm,0.7s						
TGY	Tagaytay City	21.69	276	P	P	16 18 49.8	+0.7
	79nm,0.5s,baz=90,slow=8.1,SNR=5.5						
JNU	Nakatsue	23.08	333	P	P	16 19 02.8	+0.4
	9.4nm,0.7s,baz=135,slow=8.2,SNR=13						
H11S3	WAKE ISLAND Hy	23.27	73	T	T	16 43 20.2	
	baz=254,slow=74,SNR=3.7						
H11S1	WAKE ISLAND Hy	23.28	73	T	T	16 43 16.9	
	baz=254,slow=74,SNR=6.0						
H11S2	WAKE ISLAND Hy	23.28	73	T	T	16 43 04.9	
	baz=254,slow=74,SNR=4.0						
H11N1	WAKE ISLAND Hy	23.70	70	T	T	16 44 19.4	
	baz=249,slow=75,SNR=2.8						
SSLB	Suanglung	23.71	300	P	P	16 19 08.0	-0.2
	58nm,1.5s						
H11N2	WAKE ISLAND Hy	23.71	70	T	T	16 43 56.2	
	baz=249,slow=75,SNR=2.6						
H11N3	WAKE ISLAND Hy	23.72	70	T	T	16 44 11.5	
	baz=249,slow=75,SNR=12						
MJAR	Matsushiro Arr	23.98	350	P	P	16 19 09.7	-0.8
	1.9nm,0.7s,baz=163,slow=8.9,SNR=13						
MAT	Matsushiro	23.98	350	P	P	16 19 09.5	-1.0
LUWI	Luwuk	24.55	237	eP	P	16 19 15.2	-0.8
	66nm,0.6s						
KSRS	Korea Array	28.02	333	P	P	16 19 46.5	-0.3
	1.6nm,0.8s,baz=145,slow=9.3,SNR=8.5						
KSRS				LR	LR	16 29 49.4	
	comp=Z,17nm,21.9s,baz=210,slow=34						
KSAR	Wonju Array Be	28.03	333	P	P	16 19 46.5	-0.4
NJ2	Nanjing	29.38	314	eP	P	16 19 59.0	+0.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	Ussuriysk Arra	32.65	345	P	P	16 20 27.8	+0.3
	1.9nm,0.7s,baz=188,slow=9.9,SNR=5.0						
WRAB	Tennant Creek	33.76	195	eP	P	16 20 35.8	-1.6
	8.9nm,0.6s						
WRA	Warramunga Arr	33.78	195	P	P	16 20 36.3	-1.3
	7.4nm,0.6s,baz=18,slow=9.6,SNR=132						
WRA				PcP	PcP	16 23 13.8	+0.3
	0.6nm,1.0s,baz=354,slow=3.0,SNR=5.3						
WRA				ScP	ScP	16 26 48.5	+4.2
	0.9nm,0.9s,baz=7.9,slow=3.7,SNR=6.0						
BJI	Beijing	36.02	324	P	P	16 20 57.3	+0.8
BJI				pmax	pmax		
	comp=Z,12nm,0.6s						
GYA	Guiyang	36.82	297	eP	P	16 21 04.8	+1.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AS31	Alice Springs	37.45	194	eP	P	16 21 07.3	-1.6
ASAR	Alice Springs	37.46	194	P	P	16 21 07.8	-1.2
	2.0nm,0.4s,baz=18,slow=10.0,SNR=117						
ASAR				PcP	PcP	16 23 25.4	+1.0
	0.4nm,0.5s,baz=37,slow=2.7,SNR=4.3						
ASAR				ScP	ScP	16 27 02.9	+5.2
	0.4nm,0.8s,baz=23,slow=5.0,SNR=3.2						
XAN	Xi'an	37.58	310	P	P	16 21 10.4	+0.5
XAN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HHC	Hu-ho-hao-te	39.27	321	eP	P	16 21 24.1	+0.1
HHC				sP	sP	16 21 30.3	-44
HHC				PP	PnPn	16 23 00.4	-1.2
HHC				PcS	PcS	16 27 18.8	-1.2
HHC				S	S	16 27 28.9	+15
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,99nm,5.9s						
HHC				LR	LR		
	comp=N,230nm,19.7s						
HHC				LR	LR		
	comp=E,830nm,19.7s						
HHC				LR	LR		
	comp=Z,130nm,18.5s						
KMI	Kunming	40.00	294	P	P	16 21 32.3	+1.9
KMI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CD2	Chengdu	40.49	303	P	P	16 21 35.0	+0.8
CD2				PP	PnPn	16 23 13.8	-2.1
CD2				PcS	PcS	16 27 23.9	-1.1
CD2				S	S	16 27 49.3	+17
CD2				SS	SnSn	16 30 47.8	-6.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.6s						
LZH	Lanzhou	42.21	310	eP	P	16 21 50.1	+1.8
LZH				pP	pP	16 21 58.6	-23
LZH				sP	sP	16 22 03.5	-35
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
CMAR	Chiang Mai Arr	42.90	283	P	P	16 21 55.1	+1.2
	3.8nm,0.9s,baz=85,slow=6.1,SNR=29						
CMAR				PcP	PcP	16 23 43.8	+1.6
	1.2nm,0.7s,baz=96,slow=1.9,SNR=8.4						
STKA	Stephens Creek	44.54	182	P	P	16 22 05.0	-1.7
	3.9nm,0.5s,baz=16,slow=6.7,SNR=14						
ULN	Ulaanbaatar	46.05	327	eP	P	16 22 18.9	+0.2
	3.8nm,0.9s						
SONM	Songino Array	46.39	326	P	P	16 22 22.4	+1.1
	1.4nm,0.7s,baz=142,slow=7.3,SNR=19						
SONM				PcP	PcP	16 23 53.3	-0.5
	0.3nm,0.6s,baz=142,slow=4.0,SNR=2.3						
SONM				LR	LR	16 41 54.4	
	comp=Z,39nm,20.6s,baz=186,slow=36						
GTA	Gaotai	46.44	313	eP	P	16 22 23.1	+1.3
GTA				pP	pP	16 22 27.3	-28
GTA				sP	sP	16 22 30.3	-42
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LSA	Lhasa	50.88	298	P	P	16 22 57.0	+0.7
LSA	Lhasa	50.88	298	eP	P	16 22 57.2	+0.9
	4.4nm,0.6s						
TAPN	Taplejung	53.66	294	eP	P	16 23 17.1	+0.4
	14nm,0.9s						
TAPN	Taplejung	53.66	294	eP	P	16 23 17.1	+0.4
	14nm,0.9s						
ODAN	Odare	53.91	294	eP	P	16 23 17.8	-0.6
	8.4nm,0.7s						
ODAN	Odare	53.91	294	eP	P	16 23 17.8	-0.6
	8.4nm,0.7s						
RAMN	Ramite	54.62	294	eP	P	16 23 23.8	+0.2
	10nm,0.8s						
RAMN	Ramite	54.62	294	eP	P	16 23 23.8	+0.2
	10nm,0.8s						
JIRN	Jiri	55.03	295	eP	P	16 23 27.4	+0.8
	19nm,0.5s						
JIRN	Jiri	55.03	295	eP	P	16 23 27.4	+0.8
	19nm,0.5s						
GUN	Gumba	55.32	295	eP	P	16 23 29.4	+0.7
GUN	Gumba	55.32	295	eP	P	16 23 29.4	+0.7
PKI	Pulchoki	55.71	295	eP	P	16 23 31.4	-0.1
	9.9nm,0.6s						
PKI	Pulchoki	55.71	295	eP	P	16 23 31.7	+0.2
	5.4nm,0.5s						
PKIN	Phulchoki	55.73	295	eP	P	16 23 31.7	+0.2
	5.4nm,0.5s						
KKN	Kakani	55.84	295	eP	P	16 23 33.0	+0.8
KKN	Kakani	55.84	295	eP	P	16 23 33.0	+0.8
DMN	Daman	55.98	295	eP	P	16 23 33.1	-0.2
	16nm,0.9s						
DMN	Daman	55.98	295	eP	P	16 23 33.1	-0.2
	16nm,0.9s						
GKN	Gorkha	56.42	295	eP	P	16 23 36.3	0.0
	7.4nm,0.3s						
GKN	Gorkha	56.42	295	eP	P	16 23 36.3	0.0
	7.4nm,0.3s						
WMQ	Urumqi	56.45	314	eP	P	16 23 37.6	+1.4
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,84nm,4.8s						
WMQ				LR	LR		
	comp=N,25nm,22.8s						
WMQ				LR	LR		
	comp=E,53nm,20.4s						
DANN	Dangsing	57.21	295	eP	P	16 23 42.4	+0.4
	38nm,0.5s						
DANN	Dangsing	57.21	295	eP	P	16 23 42.4	+0.4
	38nm,0.5s						
KOLN	Koldanda	57.33	295	eP	P	16 23 42.8	+0.1
	15nm,0.8s						
KOLN	Koldanda	57.33	295	eP	P	16 23 42.8	+0.1
	15nm,0.8s						
PYUN	Piuthan	57.88	295	eP	P	16 23 46.7	+0.1
PYUN	Piuthan	57.88	295	eP	P	16 23 46.7	+0.1
MKAR	Makanchi Array	60.88	317	P	P	16 24 07.7	+1.1
	1.6nm,0.7s,baz=96,slow=7.4,SNR=24						
ZAA0	Zalesovo Array	61.26	325	eP	P	16 24 09.0	0.0
ZALV	Zalesovo Beam	61.26	325	P	P	16 24 09.4	+0.5
	2.8nm,0.5s,baz=107,slow=7.4,SNR=13						
ZALV				PcP	PcP	16 24 49.5	-0.5
	1.0nm,0.5s,baz=113,slow=4.5,SNR=4.7						
KSH	Kashi	64.38	308	eP	P	16 24 33.9	+3.8
KSH				esP	sP	16 24 38.5	-44
KSH				ePP	PP	16 26 59.6	+6.1
KSH				PcS		16 29 09.3	
KSH				S	S	16 33 17.3	+20
KSH				SS	SS	16 37 31.4	+22
KSH				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,48nm,3.8s						
KSH				LR	LR		
	comp=N,49nm,4.3s						
KSH				LR	LR		
	comp=E,56nm,4.4s						
KSH				LR	LR		
	comp=Z,120nm,4.6s						
AAK	Ala-Archa	65.74	311	LR	LR	16 53 18.3	
	comp=Z,20nm,20.4s,baz=86,slow=36						
KKAR	Karatay Array	68.69	311	eP	P	16 24 57.6	+0.2
	1.5nm,0.8s						
BVAR	Borovoye Array	69.47	322	LR	LR	16 56 08.2	
	comp=Z,20nm,18.0s,baz=74,slow=36						
BRVK	Borovoye	69.54	322	eP	P	16 25 03.3	+1.0
	4.4nm,0.6s						
ILAR	Eielson Array	69.89	25	P	P	16 25 02.2	-2.0
	0.7nm,0.6s,baz=254,slow=5.5,SNR=19						
ABKAR	Akbulak array	75.97	318	eP	P	16 25 40.3	0.0
	0.9nm,0.5s						
YKA	Yellowknife Ar	84.22	27	P	P	16 26 23.6	-0.6
	0.2nm,0.4s,baz=287,slow=4.9,SNR=5.0						
ARCES	ARCESS Array B	87.24	342	P	P	16 26 38.7	-0.4
	2.6nm,0.8s,baz=79,slow=6.0,SNR=7.9						
ARCES				LR	LR	17 06 03.9	
	comp=Z,11nm,21.7s,baz=27,slow=36						
NVAR	Mina Array Bea	88.61	51	P	P	16 26 46.6	+0.1
	0.5nm,0.6s,baz=278,slow=6.1,SNR=3.3						
FINES	FINESS Array B	91.10	335	P	P	16 26 55.9	-1.3
	1.0nm,0.4s,baz=72,slow=4.5,SNR=21						
LPAZ	La Paz	149.50	100	PKPbc	PKPbc	16 33 43.5	+0.4
	1.2nm,0.5s,baz=278,slow=0.6,SNR=4.8						

STR 20 16:35:58.5±0.3, 51°.89N×17°.11E, h5km, Ml4.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
BJI 20 16:36:03.2, 51°.52N×15°.22E, h10km, mB4.8/8, mb4.5/18
LDG 20 16:36:05.7±0.1, 51°.55N×16°.17E, h1km, Ml4.7/46, Error ellipse: s-maj=2.6km s-min=1.7km az=176.0, Suspected Mining induced.
ISCJB 20 16:36:05.5±0.1, 51°.44N±0°.01×16°.06E±0°.01, h0km, mb4.5/51, MS2.5/1, Error ellipse: s-maj=1.7km s-min=1.3km az=174.6
MOS 20 16:36:06.3±1.5, 51°.46N×15°.83E, h14km, mb4.7/17, Error ellipse: s-maj=5.0km s-min=3.5km az=65.0
IDC 20 16:36:07.7±0.4, 51°.49N×16°.09E, h0km, mb4.2/19, mb1 4.3/28, mb1mx4.2/36, mbtmp4.1/28, ML3.9/9, MS2.3/2, Ms1 2.3/2, ms1mx2.0/49, Error ellipse: s-maj=8.1km s-min=5.3km az=98.0
CSEM 20 16:36:07.2±0.1, 51°.47N×16°.09E, h1km, mb4.7/26, ML4.6/12, Ms4.8, Error ellipse: s-maj=2.2km s-min=1.7km az=164.0
NEIC 20 16:36:07.5±0.2, 51°.46N×16°.06E, h5km, mb4.7/16, ML4.2(SZGRF), ML4.6(CSEM), Error ellipse: s-maj=4.7km s-min=3.1km az=158.0
BNS 20 16:36:08.7±0.6, 51°.31N×16°.22E, h5km, ML4.3
BGR 20 16:36:08.1±0.4, 51°.49N×16°.14E, h1km, ML4.2/16, Error ellipse: s-maj=4.4km s-min=2.2km az=14.0
PRU 20 16:36:08.2, 51°.47N×16°.04E, h0km, M4.7
VIE 20 16:36:10.3±0.3, 51°.26N×16°.01E, h0km, mb3.7/16, ML3.8/15, Ms4.8/3, Error ellipse: s-maj=2.1km s-min=1.9km az=0.0 72 km WNW of Wroclaw Suspected Mining induced.
ISC 20 16:36:06.7±0.3, 51°.49N±0°.02×16°.10E±0°.02, h0km, n550, σ1s53/631, mb4.5/51, 28C-26D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
KSP	Ksiaz	0.66	169	ePg	Pb	16 36 20.5	-0.6
KSP				eSg	Sg	16 36 29.1	+1.3
KSP	Ksiaz	0.66	169	⇓iP	Pb	16 36 20.5	-0.6
KSP				e		16 36 32.5	
KSP	Ksiaz	0.66	169	ePb	Pb	16 36 20.5	-0.6
KSP				eSg	Sg	16 36 29.1	+1.3
KSP	Ksiaz	0.66	169	P	Pg	16 36 19.9	+0.6
KSP	Ksiaz	0.66	169	P	Pg	16 36 19.9	+0.6
KSP	Ksiaz	0.66	169	⇓iPg	Pb	16 36 20.5	-0.6
KSP				iSg	Sg	16 36 29.0	+1.1
KSP				eS	Sb	16 36 32.5	+1.7
UPC	Upice	0.98	183	iP	Pb	16 36 26.5	-0.2
UPC				e		16 36 39.0	
UPC				smax	smax		
	comp=N,1μm,0.4s						
UPC	Upice	0.98	183	iPG	Pb	16 36 26.5	-0.2
UPC				eSG	Sg	16 36 39.0	+0.7
	comp=N,1μm,0.4s						
UPC	Upice	0.98	183	Pg	Pb	16 36 26.5	-0.2
UPC				Sg	Sg	16 36 39.0	+0.7
	comp=N,1μm,0.4s						
DPC	Dobruska-Polom	1.15	173	ePg	Pg	16 36 29.3	+0.6
DPC				eSg	Sb	16 36 45.0	0.0
DPC	Dobruska-Polom	1.15	173	iP	Pg	16 36 29.3	+0.6
DPC				e		16 36 43.9	
DPC	Dobruska-Polom	1.15	173	iPG	Pg	16 36 29.3	+0.6
DPC				eSG	Sg	16 36 43.9	+0.3
DPC	Dobruska-Polom	1.15	173	ePb	Pg	16 36 29.3	+0.6
DPC	Dobruska-Polom	1.15	173	iP	Pg	16 36 29.3	+0.6
DPC				Sg	Sg	16 36 43.9	+0.3
KRLC	Kraliky	1.48	163	eSG	Sg	16 36 54.4	+0.1
KRLC	Kraliky	1.48	163	Sg	Sg	16 36 54.4	+0.1
BRG	Berggiesshubel	1.49	246	PN	Pn	16 36 34.5	-0.2
BRG				PG	Pg	16 36 36.0	+0.7
BRG				SG	Sn	16 36 56.3	+1.4
	comp=N,1μm,0.5s						
BRG							
	comp=N,2μm,3.2s						
BRG							
	comp=E,2μm,4.0s						
BRG							
	comp=Z,3μm,4.6s						
BRG	Berggiesshubel	1.49	246	ePn	Pn	16 36 34.6	-0.2
BRG				eSg	Sn	16 36 56.3	+1.4
BRG	Berggiesshubel	1.49	246	eP	Pn	16 36 34.6	-0.2
BRG				e		16 36 56.3	
BRG	Berggiesshubel	1.49	246	ePn	Pn	16 36 34.6	-0.2
BRG				eSg	Sn	16 36 56.3	+1.4
BRG	Berggiesshubel	1.49	246	Pn	Pn	16 36 34.6	-0.2
BRG				Sg	Sn	16 36 56.3	+1.4
RUE	Ruedersdorf	1.74	306	ePn	Pn	16 36 37.9	-0.3
RUE	Ruedersdorf	1.74	306	ePn	Pn	16 36 37.9	-0.3
PRU	Pruhonice	1.80	214	eP	Pn	16 36 39.0	0.0
PRU				e		16 37 02.5	
PRU				smax	smax		
	comp=N,731nm,0.8s						
PRU	Pruhonice	1.80	214	ePN	Pn	16 36 39.0	0.0
PRU				iPG	Pb	16 36 40.4	-0.2
PRU				eSG	Sn	16 37 02.5	0.0
	comp=N,731nm,0.8s						
PRU	Pruhonice	1.80	214	Pn	Pn	16 36 39.0	0.0
FBE	Freiberg	1.82	253	ePn	Pn	16 36 39.3	0.0
FBE				eSg	Sg	16 37 06.5	+1.4
FBE	Freiberg	1.82	253	Pn	Pn	16 36 39.3	0.0
FBE				Sg	Sg	16 37 06.5	+1.4
GKP	Gorka Klasztor	1.91	21	eP	Pg	16 36 45.2	+1.8
GKP				e		16 37 10.4	
GKP	Gorka Klasztor	1.91	21	ePn	Pb	16 36 41.7	-0.8
GKP				ePb	Pg	16 36 45.1	+1.7
GKP				ePg	Pn	16 36 49.6	+9.0
GKP				ePP	PnPn	16 36 52.1	+4.2
GKP				eSn	Sg	16 37 10.3	+2.1
GKP				eSg	Sb	16 37 14.7	+7.8
GKP	Gorka Klasztor	1.91	21	ePn	Pb	16 36 41.8	-0.8
GKP	Gorka Klasztor	1.91	21	ePb	Pg	16 36 45.2	+1.8
GKP				eS	Sg	16 37 10.4	+2.2
RAC	Raciborz	1.94	136	eP	Pn	16 36 40.3	-0.6
RAC				e		16 37 10.2	
RAC	Raciborz	1.94	136	eP	Pn	16 36 40.3	-0.6
RAC	Raciborz	1.94	136	ePg	Pg	16 36 44.3	+0.5
RAC				eS	Sg	16 37 10.2	+1.3
MORC	Moravsky Berou	1.94	151	ePn	Pn	16 36 40.9	-0.1
MORC	Moravsky Berou	1.94	151	eP	Pn	16 36 41.0	-0.1
MORC				e		16 37 04.8	
MORC	Moravsky Berou	1.94	151	⇑iP	Pn	16 36 41.5	+0.4
MORC	Moravsky Berou	1.94	151	S	Sn	16 37 06.8	+0.6
MORC	Moravsky Berou	1.94	151	ePn	Pn	16 36 41.0	-0.1
MORC				eSn	Sn	16 37 04.8	-1.4
MORC	Moravsky Berou	1.94	151	eP	Pn	16 36 41.0	-0.1
MORC				eS	Sn	16 37 04.8	-1.4
MORC				eSg	Sb	16 37 07.9	0.0
CLL	Collm	1.95	266	ePn	Pn	16 36 40.8	-0.3
CLL				eSg	Sg	16 37 10.3	+1.0
CLL	Collm	1.95	266	eP	Pn	16 36 41.0	-0.1
CLL				i		16 37 09.7	
CLL	Collm	1.95	266	ePn	Pn	16 36 41.0	-0.1
CLL				ePg	Pg	16 36 44.0	-0.1
CLL				e		16 36 48.0	
CLL				iSg	Sg	16 37 09.7	+0.4
	comp=Z,725nm,0.7s						
CLL	Collm	1.95	266	ePn	Pn	16 36 40.8	-0.3
CLL	Collm	1.95	266	eP	Pn	16 36 41.0	-0.1
CLL				iS	Sg	16 37 09.7	+0.4
CLL				Sg	Sg	16 37 10.3	+1.0
OKC	Ostrava-Krasne	2.11	141	ePn	Pn	16 36 42.3	-0.8
OKC				eSg	Sb	16 37 13.5	+1.1
OKC	Ostrava-Krasne	2.11	141	eP	Pn	16 36 42.4	-0.8
OKC				e		16 37 13.1	
OKC				smax	smax		
	comp=N,1μm,0.8s						
OKC	Ostrava-Krasne	2.11	141	ePN	Pn	16 36 42.4	-0.8
OKC				iPG	Pg	16 36 46.7	-0.4
OKC				eSG	Sb	16 37 13.1	+0.7
	comp=N,1μm,0.8s						
OKC	Ostrava-Krasne	2.11	141	Pn	Pn	16 36 42.4	-0.8
CHZP	Chorzow	2.19	122	ePn	Pn	16 36 43.5	-0.9
CHZP				ePg	Pg	16 36 48.6	-0.1
CHZP				eSg	Sg	16 37 17.9	+0.9
VRAC	Vranov	2.21	172	P	Pn	16 36 45.0	+0.4
VRAC						16 37 16.9	
VRAC				pmax	pmax		
	comp=Z,14nm,0.3s						
VRAC				pmax	pmax		
	comp=Z,33nm,0.3s						
VRAC	Vranov	2.21	172	⇑iP	Pn	16 36 45.3	+0.7
VRAC	Vranov	2.21	172	S	Sg	16 37 18.6	+1.0
VRAC	Vranov	2.21	172	Pn	Pn	16 36 45.0	+0.4
	comp=Z,14nm,0.3s,baz=341,slow=14,SNR=69						
VRAC				Pg	Pg	16 36 50.9	+1.9
	comp=Z,33nm,0.3s,baz=350,slow=12,SNR=24						
VRAC				Lg	Lg	16 37 16.9	
	comp=Z,29nm,0.3s,baz=60,slow=20,SNR=5.1						
TREC	Trest	2.23	190	eP	Pn	16 36 45.3	+0.3
TREC				e		16 37 17.6	
TREC				smax	smax		
	comp=N,681nm,0.7s						
TREC	Trest	2.23	190	ePN	Pn	16 36 45.3	+0.3
TREC				iPG	Pb	16 36 48.9	+1.0
TREC				eSG	Sb	16 37 17.6	+1.5
	comp=N,681nm,0.7s						
TREC	Trest	2.23	190	Pn	Pn	16 36 45.3	+0.3
TANN	Tannenbergstha	2.54	246	ePn	Pn	16 36 49.8	+0.5
TANN	Tannenbergstha	2.54	246	Pn	Pn	16 36 49.8	+0.5
WERD	Werda	2.62	248	ePn	Pn	16 36 50.8	+0.6
WERD	Werda	2.62	248	Pn	Pn	16 36 50.8	+0.6
OJC	Ojcow	2.67	117	ePn	Pn	16 36 49.5	-1.5
OJC				eSg	Sg	16 37 33.5	+1.1
OJC	Ojcow	2.67	117	eP	Pn	16 36 49.4	-1.5
OJC				e		16 37 20.2	
OJC	Ojcow	2.67	117	ePn	Pn	16 36 49.4	-1.5
OJC				ePg	Pg	16 36 58.2	+0.4
OJC				eSn	Sn	16 37 20.2	-3.7
OJC				eSg	Sg	16 37 33.8	+1.4
OJC	Ojcow	2.67	117	ePn	Pn	16 36 49.5	-1.5
OJC				eSg	Sg	16 37 33.5	+1.1
OJC	Ojcow	2.67	117	Pn	Pn	16 36 49.5	-1.5
OJC	Ojcow	2.67	117	Pg	Pg	16 36 58.2	+0.4
OJC				eS	Sn	16 37 20.2	-3.7
OJC				Sg	Sg	16 37 33.5	+1.1
KHC	Kasperske Hory	2.86	215	eP	Pn	16 36 53.8	+0.1
KHC				e		16 37 29.0	
KHC				smax	smax		
	comp=N,388nm,0.7s						
KHC	Kasperske Hory	2.86	215	ePN	Pn	16 36 53.8	+0.1
KHC				iPG	Pb	16 37 00.3	+1.6
KHC				eSN	Sn	16 37 29.0	+0.2
KHC				eSG	Sg	16 37 38.4	-0.2
	comp=N,388nm,0.7s						
KHC	Kasperske Hory	2.86	215	ePn	Pn	16 36 53.8	+0.1
KHC				eSn	Sn	16 37 28.6	-0.2
KHC	Kasperske Hory	2.86	215	Pn	Pn	16 36 53.8	+0.1
BEL	Belsk	2.94	81	eP	Pb	16 36 59.6	-0.4
BEL	Belsk	2.94	81	ePn	Pn	16 36 56.9	+2.2
BEL				ePb	Pb	16 36 59.6	-0.4
BEL				ePP	PnPn	16 37 02.5	+0.7
BEL				ePg	Pg	16 37 05.6	+2.5
BEL	Belsk	2.94	81	ePn	Pn	16 36 57.0	+2.2
BEL	Belsk	2.94	81	eP	Pb	16 36 59.6	-0.4
MANZ	Manzenberg	2.95	241	ePn	Pn	16 36 55.7	+0.8
MANZ				eSg	Sg	16 37 42.9	+1.5
MANZ	Manzenberg	2.95	241	Pn	Pn	16 36 55.7	+0.8
MANZ				Sg	Sg	16 37 42.9	+1.5
MOX	Moxa	2.95	255	ePn	Pn	16 36 55.2	+0.3
MOX				eSg	Sg	16 37 43.2	+1.7
MOX	Moxa	2.95	255	Pn	Pn	16 36 55.2	+0.3
MOX				Sg	Sg	16 37 43.2	+1.7
ROTZ	Rotzenmuhle	3.02	237	ePn	Pn	16 36 56.3	+0.5
ROTZ				eSg	Sg	16 37 44.1	+0.4

ROTZ Rotzenmuhle 3.02 237 Pn Pn 16 36 56.3 +0.5
ROTZ Sg Sg 16 37 44.1 +0.4
GEC2 GERESS Array S 3.06 211 ePn Pn 16 36 56.7 +0.2
GEC2 eSg Sg 16 37 44.8 -0.3
GEC2 GERESS Array S 3.06 211 Pn Pn 16 36 56.7 +0.2
GEC2 Sg Sg 16 37 44.8 -0.3
GERES GERESS Array B 3.06 211 P Pn 16 36 56.7 +0.2
GERES 16 37 29.0
GERES pmax pmax
comp=Z,16nm,0.3s
GERES pmax pmax
comp=Z,33nm,0.3s
GERES smax smax
comp=N,22nm,0.3s
GERES GERESS Array B 3.06 211 Pn Pn 16 36 56.7 +0.2
comp=N,16nm,0.3s,baz=31,slow=11,SNR=302
GERES Pg Pg 16 37 04.3 -1.1
comp=N,32nm,0.3s,baz=26,slow=17,SNR=55
GERES Sn Sn 16 37 29.0 -4.9
comp=N,22nm,0.3s,baz=27,slow=15,SNR=7.6
GERES Lg Lg 16 37 42.8
comp=N,49nm,0.3s,baz=34,slow=27,SNR=8.2
SMOL Smolenice 3.10 163 eP Pn 16 36 58.8 +1.9
SMOL Smolenice 3.10 163 ePN Pn 16 36 58.8 +1.9
SMOL ePG Pg 16 37 06.6 +0.5
SMOL eSG Sg 16 37 47.6 +1.3
SMOL Smolenice 3.10 163 eP Pn 16 36 58.8 +1.9
LIKS Likavka 3.11 141 eSG Sg 16 37 50.1 +3.4
WET Wettzell 3.13 223 ePn Pn 16 36 57.6 +0.3
WET Wettzell 3.13 223 Pn Pn 16 36 57.6 +0.3
NIE Niedzica 3.40 126 eP Pn 16 37 01.5 +0.5
NIE Niedzica 3.40 126 ePn Pn 16 37 01.5 +0.5
NIE ePg Pg 16 37 11.7 -0.1
NIE eSg Sg 16 37 56.7 +0.9
NIE Niedzica 3.40 126 eP Pn 16 37 01.5 +0.5
VYHS Vyhne 3.48 148 eP Pn 16 37 02.1 -0.1
VYHS pmax pmax
comp=N,256nm,1.5s
VYHS Vyhne 3.48 148 ePN Pn 16 37 02.0 -0.1
VYHS ePG Pg 16 37 13.7 +0.3
VYHS eSG Sg 16 38 04.9 +6.4
VYHS Vyhne 3.48 148 eP Pn 16 37 02.1 -0.1
comp=N,256nm,1.5s
CONA Conrad Observa 3.57 183⇑iPn Pn 16 37 03.8 +0.4
SNR=28
CONA ⇑iSg Sg 16 37 59.9 -1.4
comp=N,386nm,0.6s
CONA Conrad Observa 3.57 183 Pn Pn 16 37 03.8 +0.4
SNR=28
CONA Sg Sg 16 37 59.9 -1.4
comp=N,386nm,0.6s
CLZ Clausthal 3.58 278 ePn Pn 16 37 04.7 +1.1
CLZ Clausthal 3.58 278 Pn Pn 16 37 04.7 +1.1
GRA1 Grafenberg Arr 3.59 242 Pn Pn 16 37 04.7 +1.0
GRA1 Sg Sg 16 38 02.1 +0.1
GRF Grafenberg Arr 3.59 242 ePn Pn 16 37 04.7 +1.0
GRF eSg Sg 16 38 02.1 +0.1
BSD Bornholm Skovb 3.70 349 iP Pn 16 37 04.5 -0.6
BSD iS Sn 16 37 46.2 -3.2
BSD Bornholm Skovb 3.70 349 iP Pn 16 37 04.5 -0.6
BSD iS Sn 16 37 46.2 -3.2
SOP Sopron 3.82 175 ePn Pn 16 37 06.2 -0.6
SOP eSb Sb 16 38 00.0 -1.8
SOP Sopron 3.82 175 eP Pn 16 37 06.2 -0.6
MOA Molln 3.83 199⇓iPn Pn 16 37 07.7 +0.7
SNR=41
MOA ⇑iSg Sg 16 38 10.0 +0.2
comp=N,692nm,1.0s
MOA Molln 3.83 199 Pn Pn 16 37 07.7 +0.7
SNR=41
MOA Sg Sg 16 38 10.0 +0.2
comp=N,692nm,1.0s
STHS Stebnicka Huta 3.89 120 eP Pn 16 37 08.1 +0.4
STHS pmax pmax
comp=N,640nm,1.4s
STHS Stebnicka Huta 3.89 120 ePN Pn 16 37 08.1 +0.4
STHS ePG Pg 16 37 22.7 +1.5
STHS eSG Sg 16 38 17.3 +5.8
STHS Stebnicka Huta 3.89 120 eP Pn 16 37 08.1 +0.4
comp=N,640nm,1.4s
ARSA Arzberg 4.26 185⇑iPn Pn 16 37 12.6 -0.2
SNR=13
ARSA ⇓iSg Sg 16 38 23.3 -0.2
comp=N,507nm,0.8s
ARSA Arzberg 4.26 185 Pn Pn 16 37 12.6 -0.2
SNR=13
ARSA Sg Sg 16 38 23.3 -0.2
comp=N,507nm,0.8s
CRVS Cervenica-Dubn 4.31 125 eP Pn 16 37 14.0 +0.5
CRVS pmax pmax
comp=N,214nm,1.1s
CRVS Cervenica-Dubn 4.31 125 ePN Pn 16 37 14.0 +0.5
CRVS ePG Pg 16 37 31.2 +1.9
CRVS eSG Sg 16 38 25.1 0.0
CRVS Cervenica-Dubn 4.31 125 eP Pn 16 37 14.0 +0.5
comp=N,214nm,1.1s
PSZ Piszkesteto 4.34 144 eP Pn 16 37 13.3 -0.7
PSZ e 16 38 03.7
PSZ Piszkesteto 4.34 144⇓iP Pn 16 37 14.8 +0.8
PSZ Piszkesteto 4.34 144 ePn Pn 16 37 13.3 -0.7
PSZ ePg Pg 16 37 30.1 +0.2
PSZ eSn Sn 16 38 03.7 -1.6
PSZ Piszkesteto 4.34 144⇑ePn Pn 16 37 14.9 +0.9
PSZ ⇓epPn Pb 16 37 15.9 -8.0
PSZ Piszkesteto 4.34 144 eP Pn 16 37 13.3 -0.7
PSZ Piszkesteto 4.34 144 ePg Pg 16 37 30.1 +0.2
PSZ eS Sn 16 38 03.7 -1.6
PKSG 4.37 159⇓ePn Pn 16 37 14.7 +0.4
PKSG eSb Sb 16 38 16.2 -1.2
PKSG 4.37 159⇓eP Pn 16 37 14.7 +0.4
PKST T"s 4.42 163⇓ePn Pn 16 37 15.1 +0.1
PKST T"s 4.42 163⇓eP Pn 16 37 15.1 +0.1
KWP Kalwaria Pacla 4.61 111 eP Pn 16 37 16.0 -1.6
KWP e 16 38 09.3
KWP Kalwaria Pacla 4.61 111 ePn Pn 16 37 17.2 -0.3
KWP ePP PnPn 16 37 25.0 +0.3
KWP ePg Pg 16 37 39.3 +4.4
KWP Kalwaria Pacla 4.61 111⇑iP Pn 16 37 17.3 -0.3
KWP Kalwaria Pacla 4.61 111 ePn Pn 16 37 16.0 -1.6
KWP ePg Pg 16 37 32.2 -2.7
KWP eSn Sn 16 38 09.3 -2.4
KWP Kalwaria Pacla 4.61 111 eP Pn 16 37 16.0 -1.6
KWP Kalwaria Pacla 4.61 111 ePg Pg 16 37 39.4 +4.5
KWP eS Sn 16 38 09.3 -2.4
KOLS Kolonicke sedl 4.72 120 eP Pn 16 37 18.7 -0.4
KOLS pmax pmax
comp=N,613nm,1.5s
KOLS Kolonicke sedl 4.72 120 ePN Pn 16 37 18.7 -0.4
KOLS ePG Pg 16 37 38.7 +1.6
KOLS eSG Sg 16 38 41.8 +3.6
KOLS Kolonicke sedl 4.72 120 eP Pn 16 37 18.7 -0.4
comp=N,613nm,1.5s
KBA Koelnbreinsper 4.77 203 iPn Pn 16 37 21.0 +1.0
SNR=22
KBA ⇑iSg Sg 16 38 40.0 +0.1
comp=N,208nm,0.6s
KBA Koelnbreinsper 4.77 203 Pn Pn 16 37 21.0 +1.0
SNR=22
KBA Sg Sg 16 38 40.0 +0.1
comp=N,208nm,0.6s
SOKA Soboth 4.87 189⇓iPn Pn 16 37 22.1 +0.8
SNR=5.8
SOKA Soboth 4.87 189 Pn Pn 16 37 22.1 +0.8
SNR=5.8
PERS Pernice 4.90 188 iPn Pn 16 37 22.6 +0.9
PERS Pernice 4.90 188 iPn Pn 16 37 22.6 +0.9
UZH Uzhgorod 4.91 123 eP Pn 16 37 21.7 0.0
UZH eS Sn 16 38 17.9 -1.3
UZH smax smax
comp=E,300nm,1.0s
UZH MLR MLR
comp=N,210nm,1.2s
UZH MLR MLR
comp=E,240nm,1.2s
UZH MLR MLR
comp=Z,160nm,1.2s
UZH Uzhgorod 4.91 123 eP Pn 16 37 21.7 0.0
UZH eS Sn 16 38 17.9 -1.3
SUW Suwalki 4.99 57 eP Pn 16 37 23.0 +0.2
SUW Suwalki 4.99 57 ePn Pn 16 37 23.0 +0.2
SUW ePg Pg 16 37 48.2 +5.9
SUW Suwalki 4.99 57 ePn Pn 16 37 18.9 -3.9
SUW Suwalki 4.99 57 eP Pn 16 37 23.0 +0.2

TOD Tromm 5.02 251 P Pn 16 37 24.3 +1.0
BEHE Becsehely 5.04 175⇓epPn Pn 16 37 25.7 +2.1
BEHE Becsehely 5.04 175⇓eP Pn 16 37 25.7 +2.1
KOGS Kog 5.05 179 iPn Pn 16 37 24.9 +1.3
KOGS Kog 5.05 179 iPn Pn 16 37 24.9 +1.3
WATA Walderalm 5.10 217⇑iPn Pn 16 37 25.2 +0.7
SNR=26
WATA Walderalm 5.10 217 Pn Pn 16 37 25.2 +0.7
SNR=26
PKS9 Tamasi 5.11 163⇑ePn Pn 16 37 22.6 -1.9
PKS9 Tamasi 5.11 163⇑eP Pn 16 37 22.6 -1.9
WTTA Wattenberg 5.14 216⇓iPn Pn 16 37 26.2 +1.2
SNR=17
WTTA ⇓iSg Sg 16 38 53.2 +1.5
comp=Z,132nm,0.7s
WTTA Wattenberg 5.14 216 Pn Pn 16 37 26.2 +1.2
SNR=17
WTTA Sg Sg 16 38 53.2 +1.5
comp=Z,132nm,0.7s
STU Stuttgart 5.21 241 eP Pn 16 37 23.8 -2.0
STU e 16 38 25.8
STU Stuttgart 5.21 241 ePn Pn 16 37 23.8 -2.0
STU ePg Pg 16 37 47.0 +0.5
STU eSn Sn 16 38 25.8 -0.8
STU Stuttgart 5.21 241 eP Pn 16 37 23.8 -2.0
STU Stuttgart 5.21 241 ePg Pg 16 37 47.0 +0.5
STU eS Sn 16 38 25.8 -0.8
MOTA Moosalm 5.28 220⇓iPn Pn 16 37 27.5 +0.6
SNR=24
MOTA ⇓iSg Sg 16 38 57.8 +1.6
comp=Z,577nm,1.2s
MOTA Moosalm 5.28 220 Pn Pn 16 37 27.5 +0.6
SNR=24
MOTA Sg Sg 16 38 57.8 +1.6
comp=Z,577nm,1.2s
ABTA Abfaltersbach 5.30 208⇓iPn Pn 16 37 28.5 +1.3
SNR=17
ABTA ⇑iSg Sg 16 38 57.8 +1.0
comp=Z,196nm,0.8s
ABTA Abfaltersbach 5.30 208 Pn Pn 16 37 28.5 +1.3
SNR=17
ABTA Sg Sg 16 38 57.8 +1.0
comp=Z,196nm,0.8s
RETA Reutte 5.30 223⇑iPn Pn 16 37 27.5 +0.3
SNR=12
RETA ⇓iSg Sg 16 38 58.6 +1.6
comp=Z,174nm,0.7s
RETA Reutte 5.30 223 Pn Pn 16 37 27.5 +0.3
SNR=12
RETA Sg Sg 16 38 58.6 +1.6
comp=Z,174nm,0.7s
LVV L'vov 5.32 105 eP Pn 16 37 21.9 -5.4
TRPA Tarpa 5.36 126⇑iP Pn 16 37 27.5 -0.4
TRPA Tarpa 5.36 126⇑ePn Pn 16 37 27.4 -0.4
TRPA Tarpa 5.36 126⇑eP Pn 16 37 27.4 -0.4
KOE Koeppel 5.40 262 ePn Pn 16 37 29.4 +1.0
KOE Koeppel 5.40 262 Pn Pn 16 37 29.4 +1.0
PKS2 Kecel 5.41 157 ePn Pn 16 37 25.1 -3.4
PKS2 Kecel 5.41 157 eP Pn 16 37 25.1 -3.4
HOBG Hohbusch 5.53 268 ePn Pn 16 37 31.9 +1.6
HOBG Hohbusch 5.53 268 Pn Pn 16 37 31.9 +1.6
PKSM Moragy 5.54 161⇓iP Pn 16 37 31.8 +1.4
PKSM Moragy 5.54 161⇓ePn Pn 16 37 31.3 +0.9
PKSM Moragy 5.54 161⇓eP Pn 16 37 31.3 +0.9
LJU Ljubljana 5.55 191 ePn Pn 16 37 32.0 +1.5
KTD Kalmit 5.57 250 P Pn 16 37 31.6 +0.8
LEGS Legarje 5.57 186 iPn Pn 16 37 32.4 +1.6
ABH Alteburg 5.67 257 P Pn 16 37 32.5 +0.3
BGG Burgeitz 5.70 260 ePn Pn 16 37 33.1 +0.6
BGG Burgeitz 5.70 260 Pn Pn 16 37 33.1 +0.6
JAVS Javornik 5.76 194 iPn Pn 16 37 34.5 +0.9
WTSB Winterswijk 5.80 278 eP Pn 16 37 34.9 +1.0
comp=Z,18nm,0.5s
DAVA Damuels 5.85 226⇑iPn Pn 16 37 35.0 +0.2
SNR=6.5
DAVA Damuels 5.85 226 Pn Pn 16 37 35.0 +0.2
SNR=6.5
LANF Langenberg 5.88 248 P Pn 16 37 35.9 +0.7
LANF Langenberg 5.88 248 P Pn 16 37 35.9 +0.7
STB Steinbach 5.91 265 ePn Pn 16 37 36.3 +0.8
STB eSn Sn 16 38 43.0 -0.8
STB Steinbach 5.91 265 Pn Pn 16 37 36.3 +0.8
STB Sn Sn 16 38 43.0 -0.8
BFO Black Forest 5.93 241 eP Pn 16 37 34.4 -1.4
BFO Black Forest 5.93 241 ePn Pn 16 37 34.4 -1.4
BFO ePg Pg 16 38 01.5 +1.1
BFO Black Forest 5.93 241 eP Pn 16 37 34.4 -1.4
BOJS Bojanci 6.02 186 iPn Pn 16 37 38.3 +1.3
RUP Ruppelstein 6.03 256 P Pn 16 37 38.0 +0.8
HILG Hillesheim 6.08 262 ePn Pn 16 37 39.3 +1.4
HILG Hillesheim 6.08 262 Pn Pn 16 37 39.3 +1.4
BMR Baia Mare 6.14 126⇑iP Pn 16 37 39.0 +0.4
FUORN Ofenpass-Fuorn 6.20 220 ePn Pn 16 37 40.9 +1.2
FUORN Ofenpass-Fuorn 6.20 220 ePn Pn 16 37 40.9 +1.2
KLL Kalltalsperre 6.23 266 ePn Pn 16 37 40.2 +0.3
KLL Kalltalsperre 6.23 266 Pn Pn 16 37 40.2 +0.3
DAVOX Davos/Dischmat 6.23 223 Pn Pn 16 37 40.6 +0.5
comp=Z,3.1nm,0.3s,baz=24,slow=15,SNR=30
DAVOX Lg Lg 16 39 25.1
comp=Z,3.1nm,0.3s,baz=341,slow=18,SNR=5.3
DAVOX LR LR 16 39 45.7
comp=Z,11nm,18.2s,baz=268,slow=35
DREG Dreilaegerbach 6.27 266 ePn Pn 16 37 41.2 +0.7
DREG Dreilaegerbach 6.27 266 Pn Pn 16 37 41.2 +0.7
FELD Feldberg im Sc 6.38 239 P Pn 16 37 43.1 +1.1
DRGR 6.39 135⇑iP Pn 16 37 42.7 +0.5
MEM Membach 6.43 266 PN Pn 16 37 42.9 +0.4
MEM PG Pg 16 38 10.2 +0.4
MEM SN Sn 16 38 59.0 +2.4
comp=E,64nm,0.0s
MEM Membach 6.43 266 eP Pn 16 37 43.6 +1.1
MEM Membach 6.43 266 ePn Pn 16 37 43.6 +1.1
MEM Membach 6.43 266 eP Pn 16 37 43.6 +1.1
WLS Welschbruch 6.43 245 P Pn 16 37 42.7 0.0
WLS Welschbruch 6.43 245 P Pn 16 37 42.7 0.0
LIBD Limburg 6.43 242 P Pn 16 37 43.6 +0.9
HGN Heimansgroeve 6.44 267 eP Pn 16 37 44.1 +1.3
HGN eS Sg 16 39 31.8 -1.8
HGN Heimansgroeve 6.44 267 eP Pn 16 37 44.1 +1.3
CDF Champ du Feu 6.47 245 ePn Pn 16 37 42.0 -1.3
CDF eSg Sg 16 39 30.2 -4.3
comp=E,734nm,1.2s
CDF Champ du Feu 6.47 245 eP Pn 16 37 42.0 -1.3
CDF Champ du Feu 6.47 245 ePn Pn 16 37 42.0 -1.3
CDF eSg Sg 16 39 30.2 -4.3
CDF Champ du Feu 6.47 245 ePn Pn 16 37 42.0 -1.3
WLF Walferdange 6.59 258 PN Pn 16 37 47.0 +2.1
WLF SG Sg 16 39 40.3 +1.9
comp=N,112nm,0.0s
ECH Echery 6.64 244 eP Pn 16 37 45.5 -0.1
ECH e 16 39 00.8
ECH pmax pmax
comp=Z,22nm,0.9s
ECH Echery 6.64 244 P Pn 16 37 46.6 +1.0
ECH Echery 6.64 244 ePn Pn 16 37 45.5 -0.1
comp=Z,22nm,0.9s
ECH ePg Pg 16 38 15.7 +1.7
ECH eSn Sn 16 39 00.8 -1.2
ECH Echery 6.64 244 ePn Pn 16 37 45.5 -0.1
comp=Z,22nm,0.9s
ECH Echery 6.64 244 P Pn 16 37 46.6 +1.0
ECH Echery 6.64 244 ePg Pg 16 38 15.7 +1.7
ECH eS Sn 16 39 00.8 -1.2
TUE Stuetta 6.70 224 ePn Pn 16 37 47.1 +0.5
TUE Stuetta 6.70 224 ePn Pn 16 37 47.1 +0.5
MOF Molkenrain 6.86 241 P Pn 16 37 49.5 +0.8
MOF Molkenrain 6.86 241 P Pn 16 37 49.5 +0.8
BCLA Clavier 6.91 265 PN Pn 16 37 50.1 +1.0
BZS Buzias 6.92 146⇑iP Pn 16 37 49.8 +0.4
HINF Hinteralfeld 7.04 242 ePn Pn 16 37 50.0 -1.0
HINF Hinteralfeld 7.04 242 ePg Pg 16 38 18.5 -3.0
HINF eSg Sg 16 39 47.5 -5.1
comp=Z,239nm,0.9s
HINF Hinteralfeld 7.04 242 eP Pn 16 37 50.0 -1.0
HINF Hinteralfeld 7.04 242 ePn Pn 16 37 50.0 -1.0
HINF ePg Pg 16 38 18.5 -3.0
HINF eSg Sg 16 39 47.5 -5.1
HINF Hinteralfeld 7.04 242 ePn Pn 16 37 50.0 -1.0
BURAR Bucovina Array 7.08 120⇑iP Pn 16 37 52.7 +1.0
IIGN Ignalina 7.18 53 eP Pn 16 37 49.3 -3.5
IIGN AMB AMB 16 38 36.7
comp=Z,29nm,1.2s
IIGN iSg Sg 16 39 56.8 -0.2

HAU Haudompre 7.21 245 ePn Pn 16 37 52.9 -0.5
HAU Haudompre 7.21 245 ePg Pg 16 38 22.9 -2.0
HAU eSg Sg 16 39 53.2 -5.1
comp=Z,278nm,1.0s
HAU Haudompre 7.21 245 eP Pn 16 37 52.9 -0.5
HAU Haudompre 7.21 245 ePn Pn 16 37 52.9 -0.5
HAU ePg Pg 16 38 22.9 -2.0
HAU eSg Sg 16 39 53.2 -5.1
HAU Haudompre 7.21 245 ePn Pn 16 37 52.9 -0.5
ISAL Salakas 7.24 52 eP Pn 16 37 48.0 -5.7
ISAL AMB AMB 16 38 35.1
comp=Z,31nm,1.1s
NACGM Naroch 7.27 58 eP Pn 16 37 52.0 -2.1
GIVF Givet 7.28 263 ePn Pn 16 37 53.8 -0.5
GIVF eSg Sg 16 39 54.8 -5.7
comp=Z,272nm,1.0s
GIVF Givet 7.28 263 eP Pn 16 37 53.8 -0.5
GIVF Givet 7.28 263 ePn Pn 16 37 53.8 -0.5
GIVF eSg Sg 16 39 54.8 -5.7
GIVF Givet 7.28 263 ePn Pn 16 37 53.8 -0.5
PAGF Fort de Pagny 7.30 250 ePn Pn 16 37 54.0 -0.6
baz=79
PAGF eSg Sg 16 39 55.7 -5.3
comp=Z,150nm,1.2s
PAGF Fort de Pagny 7.30 250 ePn Pn 16 37 54.0 -0.6
PAGF eSg Sg 16 39 55.7 -5.3
PAGF Fort de Pagny 7.30 250 ePn Pn 16 37 54.0 -0.6
THEF They Montfort 7.31 247 P Pn 16 37 54.8 +0.1
THEF They Montfort 7.31 247 P Pn 16 37 54.8 +0.1
LOMF Lomont 7.33 239 P Pn 16 37 56.5 +1.5
LOMF Lomont 7.33 239 P Pn 16 37 56.5 +1.5
IDID Didziasalis 7.42 55 AMB AMB 16 38 35.7
comp=Z,24nm,1.1s
DOU Dourbes 7.43 264 PN Pn 16 37 57.7 +1.4
DOU SG Sg 16 40 12.5 +7.4
comp=N,33nm,0.0s
SNF Seneffe 7.52 267 PN Pn 16 37 59.5 +1.9
GZR Gura Zlata 7.54 141⇓iP Pn 16 37 58.6 +0.6
BAIF Baives 7.68 264 ePn Pn 16 38 00.2 +0.5
BAIF eSg Sg 16 40 07.2 -5.9
comp=N,230nm,1.1s
BAIF Baives 7.68 264 eP Pn 16 38 00.2 +0.5
BAIF Baives 7.68 264 ePn Pn 16 38 00.2 +0.5
BAIF eSg Sg 16 40 07.2 -5.9
BAIF Baives 7.68 264 ePn Pn 16 38 00.2 +0.5
MICGM Minsk 7.72 62 eP Pg 16 38 30.0 -4.5
MEZF Maizieres J'vi 7.72 252 ePn Pn 16 37 59.1 -1.2
MEZF eSg Sg 16 40 09.2 -5.4
comp=N,354nm,1.2s
MEZF Maizieres J'vi 7.72 252 ePn Pn 16 37 59.1 -1.2
MEZF eSg Sg 16 40 09.2 -5.4
MEZF Maizieres J'vi 7.72 252 ePn Pn 16 37 59.1 -1.2
SFTF Sexfontaines 7.87 250 ePn Pn 16 38 01.2 -1.2
SFTF eSg Sg 16 40 13.3 -6.0
comp=N,626nm,1.5s
SFTF Sexfontaines 7.87 250 ePn Pn 16 38 01.2 -1.2
SFTF eSg Sg 16 40 13.3 -6.0
SFTF Sexfontaines 7.87 250 ePn Pn 16 38 01.2 -1.2
LOT Lotru 7.90 137⇓iP Pn 16 38 04.1 +1.1
CABF La Chapelle 8.19 237 ePn Pn 16 38 04.2 -2.6
CABF La Chapelle 8.19 237 ePg Pg 16 38 42.9 -0.6
CABF eSg Sg 16 40 23.8 -5.7
comp=N,420nm,1.1s
CABF La Chapelle 8.19 237 eP Pn 16 38 04.2 -2.6
CABF La Chapelle 8.19 237 ePn Pn 16 38 04.2 -2.6
CABF ePg Pg 16 38 42.9 -0.6
CABF eSg Sg 16 40 23.8 -5.7
KIEV Kiev 8.29 90 eP Pn 16 38 06.6 -1.5
KIEV e 16 39 38.4
KIEV Kiev 8.29 90 ePn Pn 16 38 06.6 -1.5
KIEV ePg Pg 16 38 42.1 -3.4
KIEV eSn Sn 16 39 38.4 -4.0
KIEV Kiev 8.29 90 eP Pn 16 38 06.6 -1.5
AKASG Malin Array Be 8.30 90 Pn Pn 16 38 06.0 -2.3
comp=N,8.6nm,0.3s,baz=280,slow=12,SNR=32
AKASG Sn Sn 16 39 35.2 -7.4
comp=N,6.3nm,0.3s,baz=274,slow=23,SNR=6.6
AKASG Lg Lg 16 40 36.2
comp=N,1.0nm,0.3s,baz=272,slow=26,SNR=5.2
VOIR 8.48 132⇑iP Pn 16 38 11.7 +0.8
LPL La Plagne 8.62 230 ePn Pn 16 38 13.9 +1.0
LPL eSg Sg 16 40 37.3 -6.1
comp=N,203nm,1.4s
LPL La Plagne 8.62 230 eP Pn 16 38 13.9 +1.0
LPL La Plagne 8.62 230 ePn Pn 16 38 13.9 +1.0
LPL eSg Sg 16 40 37.3 -6.1
LPL La Plagne 8.62 230 ePn Pn 16 38 13.9 +1.0
LPG La Plagne 8.63 230 ePn Pn 16 38 13.2 +0.2
LPG eSg Sg 16 40 37.7 -5.9
comp=N,262nm,1.3s
LPG La Plagne 8.63 230 eP Pn 16 38 13.2 +0.2
LPG La Plagne 8.63 230 ePn Pn 16 38 13.2 +0.2
LPG eSg Sg 16 40 37.7 -5.9
LPG La Plagne 8.63 230 ePn Pn 16 38 13.2 +0.2
HFS Hagfors 8.77 352 P Pn 16 38 13.6 -1.0
HFS 16 39 49.4
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS smax smax
comp=N,1.0nm,0.3s
HFS Hagfors 8.77 352 Pn Pn 16 38 13.6 -1.0
comp=N,1.3nm,0.3s,baz=174,slow=14,SNR=36
HFS Sn Sn 16 39 49.4 -4.7
comp=N,1.3nm,0.3s,baz=186,slow=22,SNR=4.6
HFS Lg Lg 16 40 52.9
comp=N,0.6nm,0.3s,baz=167,slow=27,SNR=5.3
LOR Lormes 9.03 247 ePn Pn 16 38 17.3 -1.0
baz=62
LOR eSg Sn 16 40 49.9 +49
comp=N,286nm,1.4s
LOR Lormes 9.03 247 eP Pn 16 38 17.3 -1.0
LOR Lormes 9.03 247 ePn Pn 16 38 17.3 -1.0
LOR eSg Sn 16 40 49.9 +49
LOR Lormes 9.03 247 ePn Pn 16 38 17.3 -1.0
MBDF Montbardon 9.20 226 ePn Pn 16 38 20.8 +0.1
MBDF eSg Sn 16 40 55.8 +51
comp=N,136nm,1.3s
MBDF Montbardon 9.20 226 eP Pn 16 38 20.8 +0.1
MBDF Montbardon 9.20 226 ePn Pn 16 38 20.8 +0.1
MBDF eSg Sn 16 40 55.8 +51
MBDF Montbardon 9.20 226 ePn Pn 16 38 20.8 +0.1
VSU Vasula 9.28 37⇓eP Pn 16 38 22.5 +0.9
VSU Vasula 9.28 37 eP Pn 16 38 22.5 +0.9
SSF Saint Saulge 9.35 247 ePn Pn 16 38 21.7 -0.9
SSF eSg Sn 16 40 59.9 +51
comp=N,189nm,1.2s
SSF Saint Saulge 9.35 247 eP Pn 16 38 21.7 -0.9
SSF Saint Saulge 9.35 247 ePn Pn 16 38 21.7 -0.9
SSF eSg Sn 16 40 59.9 +51
SSF Saint Saulge 9.35 247 ePn Pn 16 38 21.7 -0.9
SMF Signal de Mont 9.39 244 ePn Pn 16 38 20.2 -3.0
SMF Signal de Mont 9.39 244 ePg Pn 16 39 03.4 +40
SMF eSg Sn 16 41 01.1 +52
comp=N,234nm,1.4s
SMF Signal de Mont 9.39 244 eP Pn 16 38 20.2 -3.0
SMF Signal de Mont 9.39 244 ePn Pn 16 38 20.2 -3.0
SMF ePg 16 39 03.4
SMF eSg Sn 16 41 01.1 +52
ORIF Oris-en-Rattie 9.47 230 ePn Pn 16 38 22.9 -1.5
ORIF eSg Sn 16 41 04.0 +52
comp=N,337nm,1.7s
ORIF Oris-en-Rattie 9.47 230 eP Pn 16 38 22.9 -1.5
ORIF Oris-en-Rattie 9.47 230 ePn Pn 16 38 22.9 -1.5
ORIF eSg Sn 16 41 04.0 +52
ORIF Oris-en-Rattie 9.47 230 ePn Pn 16 38 22.9 -1.5
AVF Avril sur Loir 9.58 246 ePn Pn 16 38 22.8 -3.0
AVF Avril sur Loir 9.58 246 ePg Pn 16 39 08.9 +43
AVF eSg Sn 16 41 07.1 +53
comp=N,204nm,1.2s
AVF Avril sur Loir 9.58 246 eP Pn 16 38 22.8 -3.0
AVF Avril sur Loir 9.58 246 ePn Pn 16 38 22.8 -3.0
AVF ePg 16 39 08.9
AVF eSg Sn 16 41 07.1 +53
SBF Sospel 9.61 221 ePn Pn 16 38 23.5 -2.7
SBF eSg Sn 16 41 08.4 +53
comp=N,81nm,1.0s
SBF Sospel 9.61 221 eP Pn 16 38 23.5 -2.7
SBF Sospel 9.61 221 ePn Pn 16 38 23.5 -2.7
SBF eSg Sn 16 41 08.4 +53
HYF Humbligny 9.74 250 ePn Pn 16 38 24.9 -3.1
HYF eSg Sn 16 41 11.8 +54
HYF Humbligny 9.74 250 ePn Pn 16 38 24.9 -3.1

HYF eSg Sn 16 41 11.8 +54
NB2 NORSAR Subarra 9.95 346 Pn Pn 16 38 28.3 -2.5
comp=Z,2.2nm,0.7s,baz=162,slow=14
NOA NORSAR Array B 9.95 346 P Pn 16 38 28.6 -2.3
NOA 16 40 14.9
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA smax smax
comp=N,1.0nm,0.3s
NOA NORSAR Array B 9.95 346 Pn Pn 16 38 28.6 -2.3
comp=N,1.2nm,0.3s,baz=163,slow=12,SNR=18
NOA Sn Sn 16 40 14.9 -8.2
comp=N,0.7nm,0.3s,baz=157,slow=16,SNR=3.5
NOA Lg Lg 16 41 19.0
comp=N,0.8nm,0.3s,baz=133,slow=12,SNR=4.3
BGF Bois d'Agland 10.00 246 ePn Pn 16 38 28.6 -3.0
BGF eSg Sn 16 41 19.6 +55
comp=N,119nm,0.9s
BGF Bois d'Agland 10.00 246 eP Pn 16 38 28.6 -3.0
BGF Bois d'Agland 10.00 246 ePn Pn 16 38 28.6 -3.0
BGF eSg Sn 16 41 19.6 +55
VIVF Saint-Julien-l 10.11 233 ePn Pn 16 38 31.2 -1.9
VIVF eSg Sn 16 41 23.6 +56
comp=N,156nm,1.6s
VIVF Saint-Julien-l 10.11 233 eP Pn 16 38 31.2 -1.9
VIVF Saint-Julien-l 10.11 233 ePn Pn 16 38 31.2 -1.9
VIVF eSg Sn 16 41 23.6 +56
VIVF Saint-Julien-l 10.11 233 ePn Pn 16 38 31.2 -1.9
PGF Pioggiola 10.17 211 ePn Pn 16 38 31.0 -3.0
PGF eSn Sn 16 40 19.8 -8.9
comp=N,38nm,0.7s
PGF Pioggiola 10.17 211 eP Pn 16 38 31.0 -3.0
PGF e 16 40 19.8
PGF Pioggiola 10.17 211 ePn Pn 16 38 31.0 -3.0
PGF eSn Sn 16 40 19.8 -8.9
FRF La Foret Royal 10.18 222 ePn Pn 16 38 33.8 -0.2
FRF eSg Sn 16 41 26.1 +57
comp=N,18nm,0.9s
FRF La Foret Royal 10.18 222 eP Pn 16 38 33.8 -0.2
FRF La Foret Royal 10.18 222 ePn Pn 16 38 33.8 -0.2
FRF eSg Sn 16 41 26.1 +57
FRF La Foret Royal 10.18 222 ePn Pn 16 38 33.8 -0.2
SMRF Simiane la Rot 10.32 227 ePn Pn 16 38 34.4 -1.7
SMRF eSg Sn 16 41 30.4 +58
comp=N,62nm,1.1s
SMRF Simiane la Rot 10.32 227 ePn Pn 16 38 34.4 -1.7
SMRF eSg Sn 16 41 30.4 +58
SMRF Simiane la Rot 10.32 227 ePn Pn 16 38 34.4 -1.7
LMR La Mourre 10.42 222 ePn Pn 16 38 36.2 -1.2
LMR eSg Sn 16 41 33.7 +59
comp=N,10.0nm,0.8s
LMR La Mourre 10.42 222 eP Pn 16 38 36.2 -1.2
LMR La Mourre 10.42 222 ePn Pn 16 38 36.2 -1.2
LMR eSg Sn 16 41 33.7 +59
LMR La Mourre 10.42 222 ePn Pn 16 38 36.2 -1.2
TCF Toulx Ste Croi 10.52 246 ePn Pn 16 38 35.4 -3.3
TCF eSg Sn 16 41 36.4 +59
comp=N,124nm,1.3s
TCF Toulx Ste Croi 10.52 246 eP Pn 16 38 35.4 -3.3
TCF Toulx Ste Croi 10.52 246 ePn Pn 16 38 35.4 -3.3
TCF eSg Sn 16 41 36.4 +59
LDF La Druitiere 10.83 261 ePn Pn 16 38 39.6 -3.3
LDF eSg 16 41 45.5
comp=N,57nm,1.1s
LDF La Druitiere 10.83 261 eP Pn 16 38 39.6 -3.3
LDF La Druitiere 10.83 261 ePn Pn 16 38 39.6 -3.3
LDF eSg 16 41 45.5
FLN La Foliniere 10.99 262 ePn Pn 16 38 41.6 -3.5
baz=80
FLN eSg 16 41 50.5
comp=N,4.5nm,0.6s
FLN La Foliniere 10.99 262 eP Pn 16 38 41.6 -3.5
FLN La Foliniere 10.99 262 ePn Pn 16 38 41.6 -3.5
FLN eSg 16 41 50.5
LASF Ste Croix 11.07 233 ePn Pn 16 38 43.5 -2.8
LASF eSg 16 41 53.8
comp=N,267nm,2.0s
LASF Ste Croix 11.07 233 ePn Pn 16 38 43.5 -2.8
LASF eSg 16 41 53.8
GRR Gorron 11.36 261 ePn Pn 16 38 46.8 -3.3
GRR eSg 16 42 02.4
comp=N,121nm,1.4s
GRR Gorron 11.36 261 eP Pn 16 38 46.8 -3.3
GRR Gorron 11.36 261 ePn Pn 16 38 46.8 -3.3
GRR eSg 16 42 02.4
FINES FINESS Array B 11.38 25 Pn Pn 16 38 48.1 -2.3
comp=N,1.4nm,0.3s,baz=204,slow=12,SNR=54
FINES Sn Sn 16 40 50.2 -8.0
comp=N,1.9nm,0.3s,baz=213,slow=20,SNR=6.4
CAF Calviac 11.43 240 ePn Pn 16 38 47.7 -3.4
CAF eSg 16 42 04.9
comp=N,143nm,1.5s
CAF Calviac 11.43 240 eP Pn 16 38 47.7 -3.4
CAF Calviac 11.43 240 ePn Pn 16 38 47.7 -3.4
CAF eSg 16 42 04.9
RJF Les Rejaudoux 11.49 243 ePn Pn 16 38 48.8 -3.2
RJF eSg 16 42 06.8
comp=N,116nm,1.3s
RJF Les Rejaudoux 11.49 243 eP Pn 16 38 48.8 -3.2
RJF Les Rejaudoux 11.49 243 ePn Pn 16 38 48.8 -3.2
RJF eSg 16 42 06.8
PUL Pulkovo 11.52 38⇓eP Pn 16 38 50.9 -1.4
PUL Pulkovo 11.52 38 eP Pn 16 38 50.9 -1.4
MFF Saint Martin d 11.72 252 ePn Pn 16 38 51.8 -3.3
MFF eSg 16 42 13.7
comp=N,74nm,1.1s
MFF Saint Martin d 11.72 252 eP Pn 16 38 51.8 -3.3
MFF Saint Martin d 11.72 252 ePn Pn 16 38 51.8 -3.3
MFF eSg 16 42 13.7
EKA Eskdalemuir Ar 12.11 296 Pn Pn 16 38 56.9 -3.5
baz=97,slow=14,SNR=24
LFF La Frestale 12.15 243 ePn Pn 16 38 57.7 -3.3
LFF eSg 16 42 27.4
comp=N,134nm,1.2s
LFF La Frestale 12.15 243 eP Pn 16 38 57.7 -3.3
LFF La Frestale 12.15 243 ePn Pn 16 38 57.7 -3.3
LFF eSg 16 42 27.4
MTLF Montolieu 12.43 234 ePn Pn 16 39 01.6 -3.2
MTLF eSg 16 42 35.9
comp=N,75nm,1.4s
MTLF Montolieu 12.43 234 eP Pn 16 39 01.6 -3.2
MTLF Montolieu 12.43 234 ePn Pn 16 39 01.6 -3.2
MTLF eSg 16 42 35.9
SGMF Saint Gilles 12.46 262 ePn Pn 16 39 01.7 -3.5
SGMF eSg 16 42 36.2
comp=N,5.8nm,0.7s
SGMF Saint Gilles 12.46 262 eP Pn 16 39 01.7 -3.5
SGMF Saint Gilles 12.46 262 ePn Pn 16 39 01.7 -3.5
SGMF eSg 16 42 36.2
OBN Obninsk 12.76 65 eP Pn 16 39 08.1 -1.1
OBN Obninsk 12.76 65 ePn Pn 16 39 03.9 -5.3
ROSF Rostrenen 12.87 263 ePn Pn 16 39 07.3 -3.5
ROSF eSg 16 42 49.3
comp=N,128nm,1.4s
ROSF Rostrenen 12.87 263 eP Pn 16 39 07.3 -3.5
ROSF Rostrenen 12.87 263 ePn Pn 16 39 07.3 -3.5
ROSF eSg 16 42 49.3
QUIF Quistinic 12.97 262 ePn Pn 16 39 08.5 -3.6
QUIF eSg 16 42 52.1
comp=N,1.9nm,0.5s
QUIF Quistinic 12.97 262 eP Pn 16 39 08.5 -3.6
QUIF Quistinic 12.97 262 ePn Pn 16 39 08.5 -3.6
QUIF eSg 16 42 52.1
CEL Celeste 13.23 181 ePn Pn 16 39 14.4 -1.4
CEL Celeste 13.23 181 ePn Pn 16 39 14.4 -1.4
MOS Moscow 13.45 63 eP Pn 16 39 13.2 -5.4
MOS pmax pmax
comp=Z,69nm,1.2s
VOR Voronezh 14.35 80 P Pn 16 39 25.0 -5.9
VOR pmax pmax
comp=Z,250nm,1.0s
VSR Storozhevoye 14.41 82 eP Pn 16 39 24.9 -6.9
VSR pmax pmax
comp=N,3.0nm,1.0s
VSR pmax pmax
comp=E,40nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 14.53 83 eP Pn 16 39 25.8 -7.6
VORD pmax pmax
comp=N,7.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,7.0nm,0.8s
ANN Anapa 15.70 107 eP P 16 39 56.1 +2.8
ANN pmax pmax
comp=Z,35nm,0.7s
ANN Anapa 15.70 107 eP P 16 39 56.1 +2.8
comp=Z,35nm,0.7s
VRHR Novokhopersk 15.95 81 eP Pn 16 39 45.1 -7.2
VRHR pmax pmax
comp=N,6.0nm,0.8s
VRHR pmax pmax
comp=E,60nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s
KLMR Klimovskoe 15.97 45 eP Pn 16 39 44.5 -8.0
KLMR pmax pmax
comp=Z,26nm,1.3s
BRTR Keskin Array B 16.95 127 Pn P 16 40 07.1 -0.2
comp=Z,0.1nm,0.3s,baz=329,slow=10,SNR=5.2
BRTR PcP PcP 16 44 51.4 -0.5
comp=Z,0.1nm,0.3s,baz=281,slow=0.8,SNR=4.2
TMCR Tamitsa 17.13 34 eP Pn 16 40 01.3 -5.9
TMCR pmax pmax
comp=Z,60nm,1.2s
ESDC Sonseca Array 18.28 238 P P 16 40 23.5 +1.6
comp=Z,0.2nm,0.3s,baz=46,slow=11,SNR=8.3
ARCES ARCESS Array B 18.64 10 P P 16 40 22.4 -3.3
comp=Z,2.6nm,0.3s,baz=193,slow=12,SNR=56
PRGR Permogore 19.00 46 eP P 16 40 23.2 -6.4
PRGR pmax pmax
comp=Z,18nm,1.3s
KEV Kevo 19.03 12 eP P 16 40 28.3 -1.6
KEV pmax pmax
comp=Z,22nm,1.3s
KEV Kevo 19.03 12 eP P 16 40 28.3 -1.6
comp=Z,22nm,1.3s
KIV Kislovodsk 19.33 102 iP Pn 16 40 34.3 -0.2
KIV pmax pmax
comp=Z,12nm,1.3s
KIV Kislovodsk 19.33 102 iP Pn 16 40 34.3 -0.2
comp=Z,12nm,1.3s
ZEI Tsey 20.71 104 eP P 16 40 47.6 -1.1
ZEI pmax pmax
comp=Z,13nm,1.3s
ZEI Tsey 20.71 104 eP P 16 40 47.6 -1.1
comp=Z,13nm,1.3s
GNI Garni 22.80 109 eP P 16 41 12.0 +0.9
GNI pmax pmax
comp=Z,4.0nm,0.7s
GNI Garni 22.80 109 eP P 16 41 12.0 +0.9
comp=Z,4.0nm,0.7s
GNI Garni 22.80 109 eP P 16 41 12.0 +0.9
comp=Z,4.0nm,0.7s
MMAI Mount Meron Ar 23.22 135 P P 16 41 15.8 +0.4
comp=Z,1.1nm,0.6s,baz=343,slow=9.0,SNR=4.5
MDT Midelt 24.02 227 LR LR 16 49 57.0
comp=Z,16nm,19.2s,baz=235,slow=34
SOKR Solikamsk 24.07 54c iP P 16 41 25.4 +2.1
SOKR pmax pmax
comp=Z,20nm,1.0s
SOKR Solikamsk 24.07 54 iP P 16 41 25.4 +2.1
comp=Z,20nm,1.0s
ASF Jabal al Asfar 24.60 134 P P 16 41 28.7 +0.1
comp=Z,2.7nm,0.8s,baz=288,slow=5.8,SNR=5.3
ARU Arti 25.15 62c iP P 16 41 32.8 -0.5
ARU S S 16 45 57.9 -1.0
ARU pmax pmax
comp=Z,26nm,1.0s
ARU Arti 25.15 62 eP P 16 41 30.9 -2.4
comp=Z,21nm,0.9s
ARU Arti 25.15 62 iP P 16 41 32.8 -0.5
comp=Z,26nm,1.0s
ARU S S 16 45 57.9 -1.0
EIL Elat 25.93 140 P P 16 41 41.3 +0.7
comp=Z,6.6nm,1.0s,baz=357,slow=9.1,SNR=6.2
AKTK Aktyubinsk 26.17 76 P P 16 41 42.9 +0.4
AKTO Aktyubinsk 26.17 76 P P 16 41 42.9 +0.3
comp=Z,6.0nm,0.6s,baz=291,slow=10,SNR=21
SVE Sverdlovsk 26.24 61 eP P 16 41 44.0 +0.9
SVE pmax pmax
comp=Z,29nm,1.4s
SVE Sverdlovsk 26.24 61 eP P 16 41 44.0 +0.9
comp=Z,29nm,1.4s
SPITS Spitsbergen Ar 26.80 0 P P 16 41 48.8 +0.8
comp=Z,7.9nm,0.8s,baz=165,slow=12,SNR=10.0
ABKAR Akbulak array 27.74 77 eP P 16 41 54.5 -2.3
comp=Z,4.7nm,0.7s
BRVK Borovoye 32.53 66ceP P 16 42 40.7 +1.7
BRVK pmax pmax
comp=Z,14nm,1.2s
BRVK Borovoye 32.53 66 eP P 16 42 40.0 +1.0
comp=Z,16nm,1.2s
BRVK Borovoye 32.53 66 eP P 16 42 40.0 +1.0
comp=Z,16nm,1.2s
BVAR Borovoye Array 32.60 66 P P 16 42 41.2 +1.6
comp=Z,3.7nm,0.6s,baz=285,slow=8.3,SNR=23
KKAR Karatay Array 37.07 81 eP P 16 43 19.4 +1.0
KKAR pmax pmax
comp=Z,16nm,1.4s
KKAR Karatay Array 37.07 81 eP P 16 43 19.4 +1.0
comp=Z,16nm,1.4s
KKAR Karatay Array 37.07 81 eP P 16 43 19.4 +1.0
comp=Z,16nm,1.4s
KURK Kurchatov 38.20 66 eP P 16 43 27.9 +0.1
KURK pmax pmax
comp=Z,7.0nm,1.2s
KURK Kurchatov 38.20 66 eP P 16 43 27.9 +0.1
comp=Z,6.6nm,1.2s
KURK Kurchatov 38.20 66 eP P 16 43 27.9 +0.1
comp=Z,7.0nm,1.2s
NVS Novosibirsk 39.00 58 eP P 16 43 35.3 +0.9
NVS pmax pmax
comp=E,7.0nm,1.2s
NVS pmax pmax
comp=Z,17nm,1.2s
NVS Novosibirsk 39.00 58 eP P 16 43 35.3 +0.9
EKS2 Erkin-Say 39.33 80 P P 16 43 39.4 +1.9
SNR=6.6
EKS2 Erkin-Say 39.33 80 eP P 16 43 38.6 +1.1
EKS2 pmax pmax
comp=Z,13nm,1.2s
EKS2 Erkin-Say 39.33 80 eP P 16 43 38.6 +1.1
comp=Z,13nm,1.2s
EKS2 Erkin-Say 39.33 80 eP P 16 43 38.6 +1.1
comp=Z,13nm,1.2s
USP Ospenovka 39.44 78 P P 16 43 40.1 +1.8
SNR=5.8
USP Ospenovka 39.44 78 iP P 16 43 40.1 +1.8
USP Ospenovka 39.44 78 iP P 16 43 40.1 +1.8
AML Almayashu 39.57 80 P P 16 43 42.3 +2.4
SNR=8.6
AML Almayashu 39.57 80 iP P 16 43 42.3 +2.4
AML Almayashu 39.57 80 iP P 16 43 42.3 +2.4
AAK Ala-Archa 39.78 79 P P 16 43 43.5 +2.1
SNR=12
AAK Ala-Archa 39.78 79 eP P 16 43 42.9 +1.5
AAK pmax pmax
comp=Z,16nm,1.2s
AAK Ala-Archa 39.78 79 eP P 16 43 42.9 +1.5
comp=Z,16nm,1.2s
AAK Ala-Archa 39.78 79 eP P 16 43 42.9 +1.5
comp=Z,16nm,1.2s
TORD Torodi Ar. Bea 39.98 202 P P 16 43 43.4 +0.4
comp=Z,7.0nm,1.0s,baz=8.7,slow=6.8,SNR=24
ZALV Zalesovo Beam 40.21 59 P P 16 43 45.8 +1.2
comp=Z,7.7nm,1.1s,baz=304,slow=8.0,SNR=19
ZALV PP PP 16 45 14.2 -2.5
comp=Z,0.7nm,0.5s,baz=291,slow=12,SNR=3.6
KZA Kyzart 40.56 79 P P 16 43 50.8 +2.6
SNR=9.7
KZA Kyzart 40.56 79 iP P 16 43 50.7 +2.6
KZA Kyzart 40.56 79 iP P 16 43 50.7 +2.6
MKAR Makanchi Array 42.23 69 P P 16 44 02.2 +1.0
comp=Z,1.5nm,0.8s,baz=298,slow=6.4,SNR=14
MKAR PP PP 16 45 38.9 +0.2
comp=Z,0.8nm,0.8s,baz=308,slow=7.1,SNR=6.4
KSH Kashi 42.49 82 eP P 16 44 05.6 +1.9
KSH esP 16 44 13.4
KSH ePP PP 16 45 45.5 +3.7
KSH S S 16 50 24.4 -2.3
KSH pmax pmax
comp=Z,18nm,1.3s
WMQ Urumqi 47.05 70 P P 16 44 41.8 +1.9
WMQ pP 16 44 46.3
WMQ sP 16 44 49.4
WMQ pmax pmax
comp=Z,11nm,1.2s
WMQ pmax pmax
comp=Z,86nm,4.0s
SCHQ Schefferville 47.07 308 P P 16 44 39.7 -0.2
comp=Z,5.7nm,0.9s,baz=50,slow=7.9,SNR=4.1
TIXI Tiksi 48.42 23⇑eP P 16 44 51.1 +1.1
TIXI pmax pmax
comp=Z,6.0nm,1.7s
TIXI Tiksi 48.42 23 eP P 16 44 51.1 +1.1
comp=Z,6.0nm,1.7s
MOY Mondy 49.81 54 eP P 16 45 03.2 +2.1
MOY Mondy 49.81 54 eP P 16 45 03.2 +2.1
TLY Talaya 51.14 53 eP P 16 45 13.4 +2.4
TLY pmax pmax
comp=Z,10.0nm,1.3s
TLY Talaya 51.14 53 eP P 16 45 13.4 +2.4
comp=Z,10.0nm,1.3s
ZAK Zakamensk 51.74 55 eP P 16 45 15.2 -0.4
ZAK pmax pmax
comp=Z,4.0nm,1.5s
ZAK Zakamensk 51.74 55 eP P 16 45 15.2 -0.4
comp=Z,4.0nm,1.5s
DANN Dangsing 54.68 88 eP P 16 45 38.3 +0.5
comp=Z,12nm,0.8s
DANN Dangsing 54.68 88 eP P 16 45 38.3 +0.5
comp=Z,12nm,0.8s
DANN Dangsing 54.68 88 eP P 16 45 38.3 +0.5
comp=Z,12nm,0.8s
SONM Songino Array 54.93 55 P P 16 45 40.6 +1.4
comp=Z,2.4nm,0.9s,baz=292,slow=8.5,SNR=22
KOLN Koldanda 54.99 88 eP P 16 45 39.8 -0.1
comp=Z,21nm,1.2s
KOLN Koldanda 54.99 88 eP P 16 45 39.8 -0.1
comp=Z,21nm,1.2s
KOLN Koldanda 54.99 88 eP P 16 45 39.8 -0.1
comp=Z,21nm,1.2s
ULN Ulaanbaatar 55.25 55⇑eP P 16 45 41.6 +0.1
ULN pmax pmax
comp=Z,9.0nm,2.5s
ULN Ulaanbaatar 55.25 55 eP P 16 45 41.6 +0.1
comp=Z,9.0nm,2.5s
GKN Gorkha 55.47 87 eP P 16 45 43.5 +0.1
GKN Gorkha 55.47 87 eP P 16 45 43.5 +0.1
GKN Gorkha 55.47 87 eP P 16 45 43.5 +0.1
DMN Daman 56.04 87 eP P 16 45 48.4 +0.8
DMN Daman 56.04 87 eP P 16 45 48.4 +0.8
DMN Daman 56.04 87 eP P 16 45 48.4 +0.8
PKI Pulchoki 56.26 87 eP P 16 45 49.8 +0.6
PKI Pulchoki 56.26 87 eP P 16 45 49.8 +0.6
PKI Pulchoki 56.26 87 eP P 16 45 49.8 +0.6
PKI Pulchoki 56.26 87 eP P 16 45 49.8 +0.6
GUN Gumba 56.31 86 eP P 16 45 50.1 +0.5
comp=Z,32nm,1.1s
GUN Gumba 56.31 86 eP P 16 45 50.1 +0.5
comp=Z,32nm,1.1s
GUN Gumba 56.31 86 eP P 16 45 50.1 +0.5
comp=Z,32nm,1.1s
JIRN Jiri 56.68 86 eP P 16 45 52.8 +0.5
comp=Z,38nm,1.1s
JIRN Jiri 56.68 86 eP P 16 45 52.8 +0.5
comp=Z,38nm,1.1s
JIRN Jiri 56.68 86 eP P 16 45 52.8 +0.5
comp=Z,38nm,1.1s
RAMN Ramite 57.44 87 eP P 16 45 57.7 +0.2
comp=Z,19nm,0.9s
RAMN Ramite 57.44 87 eP P 16 45 57.7 +0.2
comp=Z,19nm,0.9s
RAMN Ramite 57.44 87 eP P 16 45 57.7 +0.2
comp=Z,19nm,0.9s
TAPN Taplejung 57.85 85 eP P 16 46 01.0 +0.5
comp=Z,30nm,1.4s
TAPN Taplejung 57.85 85 eP P 16 46 01.0 +0.5
comp=Z,30nm,1.4s
TAPN Taplejung 57.85 85 eP P 16 46 01.0 +0.5
comp=Z,30nm,1.4s
ODAN Odare 58.00 86 eP P 16 46 01.6 +0.1
comp=Z,34nm,0.8s
ODAN Odare 58.00 86 eP P 16 46 01.6 +0.1
comp=Z,34nm,0.8s
ODAN Odare 58.00 86 eP P 16 46 01.6 +0.1
comp=Z,34nm,0.8s
LSA Lhasa 58.33 81 P P 16 46 04.3 +0.3
BILL Bilibino 58.73 13 eP P 16 46 06.6 +1.0
BILL pmax pmax
comp=Z,11nm,1.7s
BILL Bilibino 58.73 13 eP P 16 46 06.6 +1.0
comp=Z,11nm,1.7s
YKA Yellowknife Ar 59.87 336 P P 16 46 14.5 +0.9
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 59.87 336 P P 16 46 14.5 +0.9
comp=Z,3.0nm,0.6s,baz=28,slow=6.9,SNR=60
SEY Seymchan 60.84 21 eP P 16 46 21.3 +1.1
SEY Seymchan 60.84 21 eP P 16 46 21.3 +1.1
LZH Lanzhou 61.47 67 eP P 16 46 26.9 +1.7
LZH pP pP 16 46 36.9
LZH pmax pmax
comp=Z,13nm,1.2s
ILAR Eielson Array 63.33 352 P P 16 46 37.7 +0.8
comp=Z,0.4nm,0.8s,baz=358,slow=5.6,SNR=8.1
ULM Lac du Bonnet 63.37 318 P P 16 46 37.8 +0.3
comp=Z,1.4nm,0.5s,baz=32,slow=5.8,SNR=3.8
MSEY Mahe Island 65.26 136 iP P 16 46 49.1 -1.1
MSEY Mahe Island 65.26 136 iP P 16 46 49.1 -1.1
XAN Xi'an 65.84 65 P P 16 46 54.4 +0.5
XAN pmax pmax
comp=Z,2.0nm,1.1s
EGMT Eagleton 70.57 325 eP P 16 47 22.2 -1.2
comp=Z,9.4nm,0.8s
EGMT Eagleton 70.57 325 eP P 16 47 22.2 -1.2
comp=Z,9.4nm,0.8s
CHTO Chiang Mai 71.10 83 eP P 16 47 24.6 -2.3
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 71.10 83 eP P 16 47 24.6 -2.3
comp=Z,3.1nm,0.8s
CMAR Chiang Mai Arr 71.36 84 P P 16 47 29.2 +0.6
comp=Z,3.1nm,1.0s,baz=87.2,slow=7.3,SNR=18
SWMT Swartz Lake 72.50 327 eP P 16 47 36.3 +1.2
comp=Z,9.9nm,1.1s
SWMT Swartz Lake 72.50 327 eP P 16 47 36.3 +1.2
comp=Z,9.9nm,1.1s
KSAR Wonju Array Be 73.27 51 P P 16 47 39.6 -0.1
KSAR Wonju Array Be 73.27 51 P P 16 47 39.6 -0.1
KSAR Wonju Array Be 73.27 51 P P 16 47 39.6 -0.1
KSRS Korea Array 73.28 50 P P 16 47 39.6 -0.1
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS Korea Array 73.28 50 P P 16 47 39.6 -0.1
comp=Z,0.9nm,0.7s,baz=336,slow=5.8,SNR=5.2
BMO Blue Mountains 75.94 328 eP P 16 47 55.8 +0.6
comp=Z,8.3nm,0.8s
BMO Blue Mountains 75.94 328 eP P 16 47 55.8 +0.6
comp=Z,8.3nm,0.8s
DUG Dugway 78.41 323 eP P 16 48 11.0 +1.8
DUG pmax pmax
comp=Z,8.0nm,0.9s
DUG Dugway 78.41 323 eP P 16 48 11.0 +1.8
comp=Z,7.5nm,0.9s
DUG Dugway 78.41 323 eP P 16 48 11.0 +1.8
comp=Z,8.0nm,0.9s
BOSA Boshof 80.16 172 P P 16 48 19.5 +0.9
comp=Z,4.2nm,1.0s,baz=27,slow=4.4,SNR=3.1
NVAR Mina Array Bea 81.98 325 P P 16 48 30.7 +2.1
comp=Z,1.9nm,1.0s,baz=39,slow=4.4,SNR=8.4
TXAR Lajitas Array 83.72 310 P P 16 48 38.6 +1.0
comp=Z,0.7nm,0.7s,baz=53,slow=4.8,SNR=7.3
WRA Warramunga Arr 122.88 81 PKP PKPdf 16 55 03.7 -1.0
comp=Z,0.5nm,0.8s,baz=325,slow=2.4,SNR=8.0
ASAR Alice Springs 125.37 84 PKP PKPdf 16 55 09.2 -0.2
comp=Z,0.8nm,0.7s,baz=337,slow=1.7,SNR=10

MEX 20 16:39:08.6±1.1, 17.87N×101.56W, h3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.28	161	eP	Pg	16 39 13.6	-0.3
ZIIG				iS	Sg	16 39 17.7	+0.1
ARIG	Puente Sto Nin	1.22	70	eP	Pg	16 39 28.0	-4.1
ARIG				iS	Sg	16 39 44.0	-4.1
PLIG	Platanillo	2.02	75	iP	Pn	16 39 41.3	-2.5
PLIG				iS	Sn	16 40 05.7	-4.0

ISCJB **20** *16:41:59.7±0.6, 19.°9S±0.°1×177.°55W±0.°09, h550km, mb4.0/10, Error ellipse: s-maj=18.6km s-min=9.8km az=156.6*
IDC **20** *16:42:02.9±2.0, 20.°01S×177.°56W, h578km±24km, mb3.5/10, mb1 3.8/12, mb1mx3.5/21, mbtmp4.5/12, Error ellipse: s-maj=25.5km s-min=12.1km az=153.0*
ISC 20 16:42:00.6±0.7, 20.°0S±0.°2×177.°50W±0.°10, h550km, n35, σ1§10/33, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.20	84	P	P	16 43 50.0	-0.6
	baz=7.0,SNR=4.7						
DZM	Mont Dzumac	15.13	259	P	P	16 45 13.4	+1.8
	3.0nm,0.3s,baz=111,slow=20,SNR=30						
URZ	Urewera	18.78	193	P	P	16 45 44.3	-1.1
	1.5nm,0.3s,baz=272,slow=2.6,SNR=15						
MGCD	Mangrove Creek	30.86	238	P	P	16 47 36.4	+3.9
	baz=31,SNR=10						
RMQ	Roma	31.60	252	P	P	16 47 40.1	+1.2
	baz=32,SNR=7.2						
CMSA	Cobar Meteorol	34.92	243	P	P	16 48 07.7	+0.9
	baz=35,SNR=11						
QLP	Quilpie	35.65	252	P	P	16 48 13.4	+0.4
	baz=36,SNR=13						
PMG	Port Moresby	35.69	282	P	P	16 48 13.6	+0.1
	18nm,0.8s,baz=103,slow=5.8,SNR=11						
PMG	Port Moresby	35.69	282	P	P	16 48 13.8	+0.3
	baz=36,SNR=5.6						
COEN	Coen	38.02	273	P	P	16 48 33.0	+0.5
	baz=38,SNR=36						
STKA	Stephens Creek	38.42	244	P	P	16 48 36.5	+0.9
	3.7nm,0.5s,baz=95,slow=10,SNR=8.5						
STKA	Stephens Creek	38.42	244	P	P	16 48 36.9	+1.3
	baz=39,SNR=5.4						
QIS	Mount Isa	40.15	262	P	P	16 48 49.3	-0.4
	baz=40,SNR=5.0						
HTT	Hallett	40.87	242	P	P	16 48 56.1	+0.8
	baz=41,SNR=4.2						
BBOO	Buckleboo	43.19	243	P	P	16 49 13.8	+0.4
	baz=44,SNR=8.6						
ASAR	Alice Springs	45.09	256	P	P	16 49 28.4	0.0
	12nm,0.5s,baz=87,slow=8.1,SNR=396						
ASAR				S	S	16 55 26.1	-1.7
	1.1nm,0.8s,baz=95,slow=16,SNR=10.0						
WRA	Warramunga Arr	45.13	261	P	P	16 49 28.1	-0.6
	8.2nm,0.5s,baz=97,slow=8.4,SNR=322						
WRA				S	S	16 55 26.1	-2.4
	0.7nm,0.8s,baz=95,slow=12,SNR=4.3						
KDU	Kakadu	48.41	271	P	P	16 49 53.1	-0.3
	baz=49,SNR=5.6						
MTN	Manton Dam	49.63	270	P	P	16 50 01.9	-0.5
	baz=50,SNR=8.2						
WRKA	Warakurna	50.05	254	P	P	16 50 05.4	-0.1
	baz=50,SNR=7.1						
KNRA	Kununurra	51.16	266	P	P	16 50 13.5	-0.1
	baz=51,SNR=6.0						
SOEI	Soe	56.96	271	P	P	16 50 56.0	+1.4
	baz=57,SNR=6.5						
MEEK	Meekatharra	58.52	250	P	P	16 51 04.2	-0.8
	baz=59,SNR=4.1						
WSI	Waingapu	60.72	270	P	P	16 51 16.7	-2.9
	baz=61,SNR=3.7						
MJAR	Matsushiro Arr	70.09	323	P	P	16 52 16.9	-1.0
	49nm,1.4s,baz=167,slow=6.0,SNR=5.3						
PETK	Petropavlovsk-	75.92	345	P	P	16 52 49.6	-1.3
	3.7nm,1.0s,baz=125,slow=7.2,SNR=5.4						
NVAR	Mina Array Bea	80.35	43	P	P	16 53 15.8	+0.6
	0.6nm,0.6s,baz=225,slow=6.2,SNR=4.7						
TXAR	Lajitas Array	86.40	57	P	P	16 53 46.8	+1.4
	0.5nm,0.7s,baz=220,slow=5.5,SNR=5.1						
ILAR	Eielson Array	87.73	13	P	P	16 53 49.4	-1.3
	0.9nm,0.8s,baz=222,slow=5.5,SNR=17						
CMAR	Chiang Mai Arr	90.39	289	P	P	16 54 05.0	+0.9
	0.7nm,0.9s,baz=117,slow=3.1,SNR=5.1						
MKAR	Makanchi Array	111.20	314	PKiKP	PKiKP	16 59 30.6	-1.5
	0.2nm,0.5s,baz=192,slow=0.0,SNR=2.9						
ARCES	ARCESS Array B	128.52	350	PKP	PKPdf	17 00 04.2	-0.4
	1.3nm,0.8s,baz=318,slow=1.2,SNR=4.2						
AKASG	Malin Array Be	142.81	332	PKhKP	PKPpre	17 00 27.6	
	0.3nm,0.3s,baz=42,slow=4.1,SNR=8.6						
BRTR	Keskin Array B	146.85	313	PKPbc	PKPdf	17 00 41.0	+2.0
	0.8nm,0.6s,baz=46,slow=4.2,SNR=5.4						
GERES	GERESS Array B	149.85	345	PKPbc	PKPbc	17 00 47.9	-1.1
	0.7nm,0.6s,baz=42,slow=1.6,SNR=7.4						

NSSP **20** *16:48:06.6, 40.°38N×47.°00E, h15km, Ms3.8*
MOS **20** *16:48:07.1±1.1, 40.°33N×47.°21E, h11km, mb4.2/14, Error ellipse: s-maj=9.8km s-min=5.7km az=100.5*
TIF **20** *16:48:08.6, 40.°62N×47.°11E, h15km±3km*
THR **20** *16:48:09.7±0.4, 40.°42N×46.°96E, h14km±7km, ML3.6*
CSEM **20** *16:48:09.3±0.1, 40.°50N×47.°06E, h2km, mb4.2/10, Error ellipse: s-maj=3.7km s-min=3.1km az=25.0*
TEH **20** *16:48:10.2, 40.°52N×47.°01E, h10km, ML4.0*
AZER **20** *16:48:10.1±0.8, 40.°53N×46.°99E, h27km, Error ellipse: s-maj=0.6km s-min=0.5km az=25.0*
IDC **20** *16:48:11.4±0.7, 40.°55N×46.°98E, h26km±4km, mb3.7/12, mb1 3.8/15, mb1mx3.6/27, mbtmp3.8/15, ML2.8/3, MS2.8/4, Ms1 2.7/4, ms1mx2.4/37, Error ellipse: s-maj=14.3km s-min=8.1km az=168.0*
ISCJB **20** *16:48:11.6±0.3, 40.°53N±0.°02×47.°10E±0.°02, h27km±3km, mb3.9/15, Error ellipse: s-maj=3.1km s-min=2.4km az=37.3*
NNC **20** *16:48:12.5±4.9, 41.°16N×47.°27E, h0km, mb4.0, Error ellipse: s-maj=77.8km s-min=36.9km az=99.0*
ISC 20 16:48:11.4±0.5, 40.°52N±0.°02×46.°99E±0.°01, h25km±4km, h24km:pP-P, n203, σ1§56/271, mb4.0/15, 40C-31D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNGR	Mingechevir, A	0.26	17	⇑P	Pb	16 48 17.0	-0.8
MNGR				⇓S	Sb	16 48 22.7	+0.5
MNGR	Mingechevir, A	0.26	17	P	Pb	16 48 17.0	-0.8
BRDA	Brd	0.30	151	⇑P	Pb	16 48 17.9	-0.4
	SNR=234						
BRDA				⇑S	Sn	16 48 25.3	-0.5
	SNR=3393						
GANJ	Ganja	0.52	284	⇑Pg	Pb	16 48 20.5	-1.5
	SNR=855						
GANJ				⇓Sg	Sb	16 48 28.2	-0.9
	SNR=1282						
GANJ	Ganja	0.52	284	Pg	Pb	16 48 20.5	-1.5
	SNR=855						
GANJ				Sg	Sb	16 48 28.2	-0.9
	SNR=1000						
SEKA	Sheki	0.70	13	⇑Pg	Pb	16 48 23.5	-1.5
	SNR=116						
SEKA				⇓Sg	Sb	16 48 32.6	-1.7
	SNR=645						
SEKA	Sheki	0.70	13	Pg	Pb	16 48 23.5	-1.5
	SNR=116						
SEKA				Sg	Sb	16 48 32.6	-1.7
	SNR=645						
STKZ		0.73	194	⇑*i*P	Pn	16 48 38.6	+12
STKZ				⇓*i*S	Sn	16 48 47.1	+10
KDMR	Kurdemir	0.93	99	⇑Pg	Pb	16 48 27.3	-1.4
	SNR=157						
KDMR				⇓Sg	Sn	16 48 41.8	+0.6
	SNR=501						
IML	Ismayilli	0.95	73	⇓Pg	Pn	16 48 27.4	-1.8
	SNR=232						
IML				⇑Sg	Sb	16 48 41.1	-0.3
	SNR=562						
IML	Ismayilli	0.95	73	Pg	Pn	16 48 27.4	-1.8
	SNR=232						
IML				Sg	Sb	16 48 41.1	-0.3
	SNR=562						
VADZ	Vardenis	1.01	250	⇓P	Pn	16 48 28.0	-2.2
VADZ				⇑S	Sb	16 48 42.0	-1.3
VADZ	Vardenis	1.01	250	⇓P	Pn	16 48 28.0	-2.2
VADZ				S	Sb	16 48 42.0	-1.3
AKT	Akhty	1.11	30	⇑PG	Pn	16 48 30.8	-0.6
AKT				*i* S	Sn	16 48 45.8	-0.2
AKT	Akhty	1.11	30	*i* Pg	Pn	16 48 30.8	-0.6
AKT				*i* Sg	Sn	16 48 45.8	-0.2
GRS	Goris	1.14	206	⇓*i*P	Pn	16 48 26.0	-5.9
GRS				⇑S	Sn	16 48 41.0	-5.8
ZKTA	Zakatala	1.15	346	Pg	Pn	16 48 31.3	-0.6
	SNR=199						
ZKTA				⇓Sg	Sb	16 48 47.3	+0.3
	SNR=1315						
PQL	Pirkuli	1.25	77	Pg	Pn	16 48 32.5	-0.9
	SNR=128						
PQL				⇓Sg	Sb	16 48 50.4	+0.3
	SNR=1276						
PQL	Pirkuli	1.25	77	Pg	Pn	16 48 32.5	-0.9
	SNR=128						
PQL				Sg	Sb	16 48 50.4	+0.3
	SNR=1000						
QZX	Qazax, Azerbai	1.34	294	⇑Pg	Pn	16 48 34.0	-0.5
QZX				⇓Sg	Sb	16 48 52.3	-0.2
QZX	Qazax, Azerbai	1.34	294	Pg	Pn	16 48 34.0	-0.5
QZX				Sg	Sb	16 48 52.3	-0.2
QUBA	Quba, Azerbaij	1.41	53	⇑Pg	Pn	16 48 35.8	+0.2
	SNR=61						
QUBA	Quba, Azerbaij	1.41	53	Pg	Pn	16 48 35.8	+0.2
	SNR=61						
ATGJ	Altiaghaj	1.52	77	⇓Pg	Pn	16 48 37.5	+0.4
	SNR=125						
ATGJ				⇓Sg	Sb	16 48 58.8	+1.0
	SNR=216						
ATGJ	Altiaghaj	1.52	77	Pg	Pn	16 48 37.5	+0.4
	SNR=125						
ATGJ				Sg	Sb	16 48 58.8	+1.0
	SNR=216						
DGRG	David-gareji	1.53	308	*e*PN	Pn	16 48 38.2	+1.1
DGRG	David-gareji	1.53	308	P	Pn	16 48 38.3	+1.1
DGRG	David-gareji	1.53	308	P	Pn	16 48 38.3	+1.1
DGRG				S	Sb	16 49 00.0	+1.9
SIZA	Siyzn	1.55	69	Pg	Pn	16 48 38.0	+0.5
	SNR=33						
SIZA				⇑Sg	Sb	16 48 60.0	+1.2
	SNR=341						
SIZA	Siyzn	1.55	69	Pg	Pn	16 48 38.0	+0.5
	SNR=33						
SIZA				Sg	Sb	16 49 00.0	+1.2
	SNR=341						
KMKR	Kumukh	1.61	3	*e*PN	Pn	16 48 39.5	+1.1
KMKR	Kumukh	1.61	3	*e*Pn	Pn	16 48 39.5	+1.1
ALIB	Äli-Bayra	1.65	109	⇓Pg	Pb	16 48 40.3	-0.7
	SNR=59						
ALIB	Äli-Bayra	1.65	109	Pg	Pb	16 48 40.3	-0.7
	SNR=59						
GLBA	Clilabad	1.68	139	⇓P	Pn	16 48 38.8	-0.3
	SNR=123						
GLBA				⇑S	Sb	16 49 01.0	-1.2
	SNR=854						
GLBA	Clilabad	1.68	139	P	Pn	16 48 38.8	-0.3
	SNR=123						
GLBA				S	Sb	16 49 01.0	-1.2
	SNR=854						
GNI	Garni	1.76	258	⇓*i*P	Pb	16 48 42.5	-0.5
GNI				⇓*i*S	Sb	16 49 07.1	+2.4
GNI	Garni	1.76	258	Pn	Pb	16 48 42.3	-0.7
	55nm,0.3s,baz=70,slow=3.5,SNR=266						
GNI				Sn	Sb	16 49 06.5	+1.8
	125nm,0.3s,baz=162,slow=20,SNR=4.7						
GNI	Garni	1.76	258	Pn	Pb	16 48 42.3	-0.7
	55nm,0.3s						
GNI				S	Sb	16 49 07.1	+2.4
KAPZ	Kaputan	1.76	264	⇑*i*P	Pb	16 48 42.5	-0.6
KAPZ				⇑*i*S	Sb	16 49 06.5	+1.7
KAPZ	Kaputan	1.76	264	⇑P	Pb	16 48 42.5	-0.6
KAPZ				S	Sb	16 49 06.5	+1.7
NAX	Nakhchivan	1.77	221	⇓Pg	Pb	16 48 42.2	-1.0
	SNR=22						
NAX				⇓Sg	Sb	16 49 06.8	+1.8
	SNR=62						
NAX	Nakhchivan	1.77	221	Pg	Pb	16 48 42.2	-1.0
	SNR=22						
NAX				Sg	Sb	16 49 06.8	+1.8
	SNR=62						
DRN	Derbent	1.81	34	*e*PN	Pb	16 48 50.2	+6.3
DRN				*e*S	Sb	16 49 10.6	+4.5
DRN	Derbent	1.81	34	*e*Pn	Pb	16 48 50.2	+6.3
DRN				*e*Sg	Sb	16 49 10.6	+4.5
GRMI	Germi	1.85	157	*e*Pg	Pn	16 48 41.9	+0.2
GRMI				*e*Sg	Sn	16 49 05.6	+1.3
	729nm,0.8s						
GRMI	Germi	1.85	157	*e*Pg	Pn	16 48 41.9	+0.2
GRMI				*e*Sg	Sn	16 49 05.6	+1.3
GRMI				AML	AML	16 49 06.9	
	comp=E,729nm,0.8s						
GNBR	Gunib	1.86	359	⇑*i*PN	Pb	16 48 44.0	-0.8
GNBR	Gunib	1.86	359	*i* Pn	Pb	16 48 44.0	-0.8
ERE	Yerevan	1.96	260	*e*P	Pn	16 48 41.0	-2.1
ERE				*e*S	Sn	16 49 08.0	+1.1
ERE	Yerevan	1.96	260	P	Pn	16 48 41.0	-2.1
ERE				S	Sn	16 49 08.0	+1.1
STEZ	Stepenevan	2.02	284	⇓*i*P	Pn	16 48 44.4	+0.4
STEZ				⇓S	Sb	16 49 11.0	-1.3
PAAR	P'arak'ar	2.03	260	⇑*i*P	Pb	16 48 46.0	-1.5
PAAR				⇑*i*S	Sb	16 49 13.4	+1.0
PAAR	P'arak'ar	2.03	260	⇑P	Pb	16 48 46.0	-1.5
PAAR				S	Sb	16 49 13.4	+1.0
STE	Stepanavan	2.04	284	⇓P	Pn	16 48 44.4	+0.1
SEAG	Tbilisi Sea	2.06	308	P	Pn	16 48 45.0	+0.5
SEAG	Tbilisi Sea	2.06	308	P	Pn	16 48 45.0	+0.5
SEAG				S	Sb	16 49 13.1	-0.3
IMRD	Marand	2.06	209	*e*Pn	Pn	16 48 45.7	+1.1
IMRD	Marand	2.06	209	*e*Pn	Pn	16 48 45.7	+1.1
TBLG	Delisi	2.08	306	P	Pn	16 48 46.1	+1.3
TBLG	Delisi	2.08	306	P	Pn	16 48 46.1	+1.3
TBLG				S	Sb	16 49 14.2	+0.3
GOBA	Gobu	2.10	92	⇑Pn	Pn	16 48 45.9	+1.0
	SNR=6.0						
GOBA	Gobu	2.10	92	Pn	Pn	16 48 45.9	+1.0
	SNR=6.0						
MAKU	Maku	2.12	237	*e*Pg	Pn	16 48 47.1	+1.7
	comp=E,175nm,0.3s						
MAKU	Maku	2.12	237	*e*Pg	Pn	16 48 47.1	+1.7
MAKU				AML	AML	16 49 19.3	
	comp=N,708nm,0.1s						
MAKU				AML	AML	16 49 19.8	
	comp=E,175nm,0.3s						
KZR	Kazreti	2.13	295	P	Pn	16 48 46.2	+0.8
KZR	Kazreti	2.13	295	P	Pn	16 48 46.2	+0.8
KZR				S	Sb	16 49 13.6	-1.6
LRK	Lerik	2.15	150	⇑Pn	Pn	16 48 46.2	+0.4
LRK				⇓S	Sb	16 49 13.9	-2.1
LRK	Lerik	2.15	150	Pn	Pn	16 48 46.2	+0.4
LRK				S	Sb	16 49 13.9	-2.1
VRNZ	Vardanashen	2.19	258	⇑*i*P	Pb	16 48 51.0	+0.7
VRNZ				⇓*i*S	Sb	16 49 20.8	+3.7
VRNZ	Vardanashen	2.19	258	⇑P	Pb	16 48 51.0	+0.7
VRNZ				S	Sb	16 49 20.8	+3.7
IHRS	Heris	2.20	179	*e*Pn	Pn	16 48 47.5	+0.9
IHRS	Heris	2.20	179	*e*Pn	Pn	16 48 47.5	+0.9
BTLR	Botlikh	2.21	345	*e*PN	Pn	16 48 46.5	-0.1
BTLR				*e*S	Sb	16 49 17.8	+0.1
BTLR	Botlikh	2.21	345	*e*Pn	Pn	16 48 46.5	-0.1
BTLR				*e*Sn	Sb	16 49 17.8	+0.1
LKRN	Lenkeran, Azer	2.28	142	⇓Pn	Pn	16 48 47.7	+0.3
	SNR=11						
LKRN				⇓S	Sn	16 49 15.7	+1.0
	SNR=386						
LKRN	Lenkeran, Azer	2.28	142	Pn	Pn	16 48 47.7	+0.3
	SNR=11						
LKRN				S	Sn	16 49 15.7	+1.0
	SNR=386						
NDR	Nardaran	2.29	88	⇓Pn	Pn	16 48 48.6	+1.1
	SNR=6.6						
NDR	Nardaran	2.29	88	Pn	Pn	16 48 48.6	+1.1
	SNR=6.6						
ITBZ	Tabriz	2.38	196	*e*Pn	Pn	16 48 50.3	+1.4
ITBZ	Tabriz	2.38	196	*e*Pn	Pn	16 48 50.3	+1.4
GMRZ	Gyumri	2.42	278	*e*P	Pb	16 48 56.0	+1.7
GMRZ				*e*S	Sb	16 49 27.0	+3.3
VNNZ	Vanand	2.46	261	⇑*i*P	Pb	16 48 54.1	-0.8
VNNZ				⇓*i*S	Sb	16 49 27.0	+2.3
VNNZ	Vanand	2.46	261	⇑P	Pb	16 48 54.1	-0.8
VNNZ				S	Sb	16 49 27.0	+2.3
MAK	Makhachkala	2.46	9	*e*PN	Pn	16 48 51.7	+1.7
MAK				*e*		16 48 55.8	
MAK				*e*S	Sb	16 49 25.7	+0.8
MAK				*e*		16 49 31.7	
MAK				*e*		16 49 36.1	
MAK				pmax	pmax		
	comp=Z,84nm,0.9s						
MAK				smax	smax		
	comp=E,513nm,0.6s						
MAK				MLR	MLR		
	comp=Z,365nm,12.0s						
MAK	Makhachkala	2.46	9	*e*Pn	Pn	16 48 51.7	+1.7
	comp=Z,84nm,0.9s						
MAK	Makhachkala	2.46	9	*e*Pb	Pb	16 48 55.8	+0.8
MAK				*e*Sn	Sb	16 49 25.7	+0.8
MAK				*e*Sb	Sn	16 49 31.7	+12
MAK				*e*Sg	Sn	16 49 36.1	+17
	comp=Z,365nm,12.0s						
DBC	Dubki	2.50	357	⇑*i*PN	Pn	16 48 52.5	+2.0
DBC				*i* S	Sb	16 49 24.0	-1.9
DBC	Dubki	2.50	357	*i* Pn	Pn	16 48 52.5	+2.0
DBC				*i* Sn	Sb	16 49 24.0	-1.9
DYDN	Diyadin	2.71	250	*e*S	Sb	16 49 33.6	+1.3
DYDN	Diyadin	2.71	250	*e*P	Pb	16 49 00.0	+0.7
DYDN				*e*S	Sb	16 49 33.6	+1.3
ISRB	Sarab	2.75	169	*e*Pn	Pn	16 48 54.6	+0.5
ISRB	Sarab	2.75	169	*e*Pn	Pn	16 48 54.6	+0.5
DIGO	Kars	2.76	269	*e*P	Pb	16 48 58.6	-1.5
DIGO				*e*S	Sb	16 49 32.7	-0.9
DIGO	Kars	2.76	269	*e*P	Pb	16 48 58.6	-1.5
DIGO				*e*S	Sb	16 49 32.7	-0.9
AKH	Akhalkalaki	2.79	290	P	Pb	16 48 58.3	-2.3
AKH	Akhalkalaki	2.79	290	P	Pb	16 48 58.3	-2.3
AKH				S	Sb	16 49 34.7	+0.3
IBST	Bostanabad	2.82	182	*e*Pn	Pn	16 48 56.5	+1.3
IBST	Bostanabad	2.82	182	*e*Pn	Pn	16 48 56.4	+1.3
ONI	Oni	3.36	309	*e*PN	Pn	16 49 04.3	+1.9
ONI	Oni	3.36	309	P	Pn	16 48 56.0	-6.3
ONI	Oni	3.36	309	P	Pn	16 49 03.9	+1.5
ONI	Oni	3.36	309	P	Pn	16 49 03.9	+1.5
ONI	Oni	3.36	309	*e*Pn	Pn	16 49 04.3	+1.9
ONI				S	Sn	16 49 43.9	+2.4
BTKR	Batakoyurt	3.38	328	*e*PN	Pn	16 49 06.1	+3.5
BTKR	Batakoyurt	3.38	328	*e*Pn	Pn	16 49 06.1	+3.5
DIGR	Digorskoe uzhe	3.48	314	⇑*i*PN	Pn	16 49 05.9	+1.7
DIGR	Digorskoe uzhe	3.48	314	*i* Pn	Pn	16 49 05.9	+1.7
EATA	Eleskirt	3.51	261	*e*P	Pb	16 49 13.6	+0.7
EATA				*e*S	Sb	16 50 00.6	+5.5
DAGI	Agillar	3.89	280	*e*P	Pb	16 49 18.5	-0.8
DAGI				*e*S	Sb	16 50 05.2	-0.8
ARTV	Artvin	3.89	281	*e*P	Pb	16 49 18.9	-0.5
ARTV				*e*S	Sb	16 50 03.4	-2.7
DBAD	Bademkaya	4.05	279	*e*P	Pb	16 49 20.4	-1.6
DBAD				*e*S	Sb	16 50 10.0	-0.6
ZNJK	Zanjan	4.07	160	*e*Pn	Pn	16 49 12.7	+0.4
ZNJK	Zanjan	4.07	160	*e*Pn	Pn	16 49 12.7	+0.4
DBOC	Borcka	4.11	283	*e*S	Sb	16 50 07.4	-4.9
DBOC	Borcka	4.11	283	*e*P	Pb	16 49 22.2	-0.8
DBOC				*e*S	Sb	16 50 07.4	-4.9
CHVG	Ch'k'valeri	4.28	302	P	Pb	16 49 25.5	-0.4
KBZ	Khabaz	4.42	318	PN	Pn	16 49 19.5	+2.7
KBZ						16 49 32.4	
KBZ						16 50 29.1	
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KBZ				MLR	MLR		
	comp=Z,135nm,19.6s						
KBZ	Khabaz	4.42	318	Pn	Pn	16 49 19.4	+2.7
	comp=Z,0.2nm,0.3s,baz=107,slow=11,SNR=5.5						
KBZ				Pg	Pb	16 49 32.4	+4.2
	comp=Z,2.2nm,0.3s,baz=159,slow=9.9,SNR=19						
KBZ				Lg	Lg	16 50 29.1	
	comp=Z,2.0nm,0.3s,baz=329,slow=18,SNR=3.9						
KBZ				LR	LR	16 51 32.5	
	comp=Z,135nm,19.6s,baz=184,slow=46						
KIV	Kislovodsk	4.68	318	*e*PN	Pn	16 49 23.3	+2.7
KIV	Kislovodsk	4.68	318	*e*Pn	Pn	16 49 23.3	+2.7
CHTH	Charan	5.64	143	*e*Pn	Pn	16 49 34.8	+0.9
CHTH	Charan	5.64	143	*e*Pn	Pn	16 49 34.8	+0.9
IPRN	Peran	6.00	134	*e*Pn	Pn	16 49 37.5	-1.1
DAMV	Damavand	6.27	140	*e*Pn	Pn	16 49 43.1	+0.6
DAMV	Damavand	6.27	140	*e*Pn	Pn	16 49 43.1	+0.6
IDMV	Damavand	6.34	140	*e*Pn	Pn	16 49 45.8	+2.2
IDMV	Damavand	6.34	140	*e*Pn	Pn	16 49 45.8	+2.2
IALA	Alasht	6.37	132	*e*Pn	Pn	16 49 43.2	-0.8
IALA	Alasht	6.37	132	*e*Pn	Pn	16 49 43.2	-0.8
IFIR	Firoozkooh	6.67	135	*e*Pn	Pn	16 49 48.8	+0.8
IFIR	Firoozkooh	6.67	135	*e*Pn	Pn	16 49 48.8	+0.8
IVRN	Varamin	6.67	144	*e*Pn	Pn	16 49 48.4	+0.5
IVRN	Varamin	6.67	144	*e*Pn	Pn	16 49 48.4	+0.5
IGLO	Ghaloghah	6.70	125	*e*Pn	Pn	16 49 46.9	-1.5
IANJ	Anjilo	7.44	131	*e*Pn	Pn	16 49 58.9	+0.3
IANJ	Anjilo	7.44	131	*e*Pn	Pn	16 49 58.9	+0.3
ISFR	Sfrayin	9.27	108	*e*Pn	Pn	16 50 22.2	-1.5
ISFR	Sfrayin	9.27	108	*e*Pn	Pn	16 50 22.2	-1.5
IEMG	Emamgholi	9.60	105	*e*Pn	Pn	16 50 25.1	-3.2
IKRD	Kardeh	9.76	109	*e*Pn	Pn	16 50 37.9	+7.5
IAKL	Akhelmad	10.01	109	*e*Pn	Pn	16 50 32.7	-1.2
IPAY	Payeh	10.25	110	*e*Pn	Pn	16 50 37.3	+0.2
IPAY	Payeh	10.25	110	*e*Pn	Pn	16 50 37.3	+0.2
BRTR	Keskin Array B	10.26	270	Pn	Pn	16 50 38.6	+1.5
	comp=Z,0.0nm,0.3s,baz=122,slow=12,SNR=2.5						
MMAI	Mount Meron Ar	11.93	235	LR	LR	16 56 20.8	
	comp=Z,71nm,20.3s,baz=65,slow=41						
AKTK	Aktyubinsk	12.56	34	P	Pn	16 51 05.5	-2.9
AKTO	Aktyubinsk	12.56	34	⇑Pn	Pn	16 51 04.6	-3.8
	comp=Z,6.8nm,0.8s						
AKTO				⇓Sn	Sn	16 53 19.4	-8.0
	comp=Z,3.5nm,0.7s						
AKTO	Aktyubinsk	12.56	34	Pn	Pn	16 51 05.5	-2.8
	comp=Z,0.4nm,0.3s,baz=212,slow=14,SNR=5.7						
AB31	Akbulak array	12.66	42	⇑Pn	Pn	16 51 07.1	-2.6
	comp=Z,0.8nm,0.5s,baz=235,slow=13,SNR=11						
AB31				⇓Sn	Sn	16 53 19.4	-10
	comp=Z,1.6nm,0.6s,baz=230,slow=23,SNR=6.4						
AKASG	Malin Array Be	16.02	315	*e*P	P	16 51 58.0	-0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	16.02	315	Pn	Pn	16 51 55.6	+0.7
	comp=Z,0.5nm,0.3s,baz=122,slow=11,SNR=20						
AKASG	Malin Array Be	16.02	315	*e*P	P	16 51 58.0	-0.1
	comp=Z,1.0nm,0.3s						
KIEV	Kiev	16.03	315	⇑*i*P	P	16 51 57.6	-0.6
KIEV	Kiev	16.03	315	*i* P	P	16 51 57.6	-0.6
MLR	Muntele Rosu	16.16	295	LR	LR	17 01 08.4	
	comp=Z,11nm,18.3s,baz=37,slow=48						
OBN	Obninsk	16.16	338	*e*P	P	16 51 59.7	+0.1
OBN				pmax	pmax		
	comp=Z,86nm,5.0s						
OBN	Obninsk	16.16	338	LR	LR	16 59 10.6	
	comp=Z,40nm,19.6s,baz=92,slow=41						
OBN	Obninsk	16.16	338	*e*P	P	16 51 59.7	+0.1
	comp=Z,86nm,5.0s						
ARU	Arti	17.63	22	P	P	16 52 16.6	+0.7
ARU				S	Sn	16 55 33.3	+2.8
ARU	Arti	17.63	22	P	P	16 52 16.6	+0.7
ARU				S	Sn	16 55 33.3	+2.8
KK31	Karatay Array	17.71	74	P	Pn	16 52 13.2	-3.1
	comp=Z,2.4nm,0.6s,baz=278,slow=13,SNR=22						
BRVK	Borovoye	20.18	44	⇑P	P	16 52 42.5	-1.4
	comp=Z,7.0nm,0.7s						
BRVK	Borovoye	20.18	44	⇑*i*P	P	16 52 43.1	-0.7
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	Borovoye	20.18	44	*i* P	P	16 52 43.1	-0.7
	comp=Z,3.0nm,0.6s						
BVA0	Borovoye Array	20.21	44	P	P	16 52 43.5	-0.8
	comp=Z,4.4nm,0.9s,baz=245,slow=10.0,SNR=15						
BVA0	Borovoye Array	20.21	44	P	P	16 52 43.5	-0.8
	comp=Z,4.4nm,0.9s,SNR=15						
BVAR	Borovoye Array	20.21	44	P	P	16 52 43.5	-0.8
BVAR				*PP	pP	16 52 51.7	+0.6
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	Borovoye Array	20.21	44	P	P	16 52 43.5	-0.8
	comp=Z,1.7nm,0.5s,baz=241,slow=11,SNR=14						
BVAR				pP	pP	16 52 51.7	+0.6
	comp=Z,3.4nm,0.7s,baz=245,slow=10,SNR=11						
AAK	Ala-Archa	20.65	75	⇑P	P	16 52 49.8	+0.5
	comp=Z,5.9nm,1.2s						
AAK	Ala-Archa	20.65	75	⇑*e*P	P	16 52 48.8	-0.5
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AAK	Ala-Archa	20.65	75	P	P	16 52 48.4	-0.9
	comp=Z,1.4nm,0.7s,baz=249,slow=8.6,SNR=6.9						
AAK	Ala-Archa	20.65	75	P	P	16 52 49.8	+0.5
	comp=Z,5.9nm,1.2s						
KLMR	Klimovskoe	20.87	350	*e*P	P	16 52 48.4	-2.9
KLMR				pmax	pmax		
	comp=Z,11nm,1.0s						
PRGR	Permogore	21.16	358	P	P	16 52 54.2	-0.1
PRGR				pmax	pmax		
	comp=Z,16nm,0.7s						
PRGR	Permogore	21.16	358	P	P	16 52 54.2	-0.1
	comp=Z,16nm,0.7s						

TKM2 Tokmak 2 21.45 74 ⇑P P 16 53 00.7 +2.8
comp=Z,4.5nm,1.1s
KURK Kurchatov 24.19 54 ⇑P P 16 53 24.1 -1.6
comp=Z,4.4nm,1.0s
KURK Kurchatov 24.19 54 eP P 16 53 24.9 -0.7
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 24.19 54 eP P 16 53 24.9 -0.7
comp=Z,3.0nm,0.8s
FINES FINESS Array B 24.52 336 eP P 16 53 32.8 +4.2
FINES pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 24.52 336 P P 16 53 27.7 -0.9
comp=Z,3.2nm,0.6s,baz=146,slow=10,SNR=27
FINES FINESS Array B 24.52 336 eP P 16 53 32.8 +4.2
comp=Z,4.0nm,1.0s
GERES GERESS Array B 24.92 301 eP P 16 53 34.2 +1.7
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 24.92 301 P P 16 53 33.7 +1.2
comp=Z,2.9nm,0.7s,baz=101,slow=9.1,SNR=25
GERES GERESS Array B 24.92 301 eP P 16 53 34.2 +1.7
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 26.14 64 P P 16 53 43.0 -0.5
comp=Z,3.3nm,0.6s,baz=270,slow=7.6,SNR=32
MKAR Makanchi Array 26.14 64 P P 16 53 43.6 +0.1
MKAR *PP pP 16 53 51.4 +0.6
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 26.14 64 P P 16 53 43.5 +0.1
comp=Z,3.6nm,0.6s,baz=264,slow=8.6,SNR=43
MKAR pP pP 16 53 51.4 +0.6
comp=Z,4.9nm,0.6s,baz=270,slow=8.1,SNR=18
NVS Novosibirsk 27.92 47 eP P 16 53 57.6 -1.7
ZALV Zalesovo Beam 28.61 49 P P 16 54 04.2 -1.2
comp=Z,1.4nm,0.4s,baz=263,slow=8.6,SNR=13
ZALV pP pP 16 54 12.2 -0.5
comp=Z,1.8nm,0.4s,baz=267,slow=9.4,SNR=10
ARCES ARCESS Array B 31.20 346 P P 16 54 28.4 +0.2
ARCES pmax pmax
comp=Z,4.0nm,1.1s
ARCES ARCESS Array B 31.20 346 P P 16 54 28.4 +0.2
comp=Z,3.6nm,1.1s,baz=157,slow=9.5,SNR=6.2
SONM Songino Array 42.30 60 P P 16 56 03.0 0.0
comp=Z,0.1nm,0.4s,baz=272,slow=9.1,SNR=2.8
SONM pP pP 16 56 10.1 -0.4
comp=Z,0.2nm,0.5s,baz=276,slow=9.0,SNR=4.1
ULN Ulaanbaatar 42.72 59⇑eP P 16 56 07.1 +0.6
ULN pmax pmax
comp=Z,4.0nm,2.0s
ULN Ulaanbaatar 42.72 59 eP P 16 56 07.1 +0.6
comp=Z,4.0nm,2.0s
TORD Torodi Ar. Bea 48.03 249 P P 16 56 48.7 -0.1
comp=Z,0.2nm,0.5s,baz=72,slow=5.9,SNR=2.8
KSRS Korea Array 60.82 64 pP pP 16 58 28.8 -0.4
comp=Z,1.4nm,0.7s,baz=290,slow=6.6,SNR=4.7
SEY Seymchan 61.12 30 P P 16 58 23.5 +0.5
SEY *PP pP 16 58 31.3 +0.4
SEY pmax pmax
comp=Z,2.0nm,0.8s
SEY pmax pmax
comp=Z,2.0nm,0.8s
SEY Seymchan 61.12 30 P P 16 58 23.5 +0.5
comp=Z,1.5nm,0.8s,baz=0.0,slow=4.0,SNR=6.8
SEY pP pP 16 58 31.2 +0.4
comp=Z,2.3nm,0.8s,baz=71,slow=23,SNR=7.6
BOSA Boshof 71.69 200 P P 16 59 30.9 -0.2
BOSA pmax pmax
comp=Z,2.0nm,0.6s
BOSA Boshof 71.69 200 P P 16 59 30.9 -0.2
comp=Z,1.8nm,0.6s,baz=7.5,slow=5.9,SNR=4.9
YKA Yellowknife Ar 76.27 351 P P 16 59 56.7 -0.7
comp=Z,0.3nm,0.7s,baz=6.9,slow=5.6,SNR=6.8
YKA pP pP 17 00 06.2 +0.9
comp=Z,0.2nm,0.5s,baz=5.5,slow=5.7,SNR=4.1

ISCJB 20 17:01:02.7±1.3, 17.7S±0.4×178.9W±0.3, h562km, mb3.6/7, Error ellipse: s-maj=59.5km s-min=17.9km az=146.8
IDC 20 17:01:06.0±6.0, 17.79S×178.86W, h591km±74km, mb3.2/7, mb1 3.4/8, mb1mx3.0/27, mbtmp4.1/8, Error ellipse: s-maj=53.3km s-min=28.7km az=147.0
ISC 20 17:01:03.8±1.4, 17.7S±0.4×178.7W±0.3, h562km, n9, σ1s29/9, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.60	250	P	P	17 04 11.2	+2.1
	0.7nm,0.3s,baz=101,slow=19,SNR=7.5						
STKA	Stephens Creek	38.46	241	P	P	17 07 37.0	-1.3
	1.2nm,0.4s,baz=86,slow=6.1,SNR=5.6						
WRA	Warramunga Arr	44.36	259	P	P	17 08 23.9	-1.2
	1.3nm,0.7s,baz=93,slow=7.0,SNR=42						
ASAR	Alice Springs	44.54	254	P	P	17 08 25.8	-0.6
	12nm,0.6s,baz=89,slow=7.9,SNR=498						
PETK	Petropavlovsk-	73.39	345	P	P	17 11 39.3	+0.5
	8.1nm,1.1s,baz=108,slow=9.3,SNR=3.4						
NVAR	Mina Array Bea	79.49	44	P	P	17 12 13.2	+0.3
	0.4nm,0.6s,baz=217,slow=8.5,SNR=4.3						
ILAR	Eielson Array	85.75	13	P	P	17 12 42.4	-1.0
	0.2nm,0.4s,baz=224,slow=5.1,SNR=12						
TXAR	Lajitas Array	86.15	58	P	P	17 12 47.0	+0.7
	0.4nm,0.6s,baz=218,slow=7.9,SNR=4.7						
GERES	GERESS Array B	147.32	345	PKPbc	PKPbc	17 19 44.5	-0.2
	0.6nm,0.5s,baz=3.3,slow=3.4,SNR=3.3						

IDC 20 17:09:58.6±5.2, 30.42S×178.55W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/22, mbtmp3.5/2, Error ellipse: s-maj=258.2km s-min=47.7km az=160.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.63	267	P	P	17 17 56.6	-0.4
	0.5nm,0.8s,baz=106,slow=7.5,SNR=6.0						
WRA	Warramunga Arr	43.62	272	P	P	17 18 04.8	-0.2
	0.4nm,0.4s,baz=111,slow=8.1,SNR=16						
FINES	FINESS Array B	145.00	340	PKPbc	PKPbc	17 29 34.8	-1.6
	2.0nm,0.8s,baz=36,slow=3.6,SNR=4.1						
AKASG	Malin Array Be	151.03	322	PKPbc	PKPbc	17 29 53.5	+0.4
	0.1nm,0.4s,baz=66,slow=1.1,SNR=3.2						

GUC 20 17:10:41.2±0.5, 21.28S×68.91W, h121km±3km, ML3.6, 6C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	Plate Boundary	0.58	293	⇑iP	Pn	17 11 00.4	+0.5
PB01				iS	Sn	17 11 14.6	+0.6
PB01				AML	AML	17 11 15.4	
	comp=N,2μm,0.2s						
PB09	Plate Boundary	0.60	211	⇑iP	Pn	17 11 00.6	+0.5
PB09				iS	Sn	17 11 15.1	+0.7
PB09				AML	AML	17 11 17.3	
	comp=E,3μm,0.4s						
PB07	Plate Boundary	1.01	243	⇑iP	Pn	17 11 04.5	+0.8
PB07				iS	Sn	17 11 21.6	+0.9
PB07				AML	AML	17 11 22.2	
	comp=N,2μm,0.4s						
PATCX	Punta Patache	1.25	291	⇑iP	Pn	17 11 07.2	+1.3
PATCX				iS	Sn	17 11 26.5	+1.8
PATCX				AML	AML	17 11 28.1	
	comp=E,2μm,0.3s						
HMBC	Humberstone	1.35	317	eP	Pn	17 11 07.6	+0.4
HMBC				iS	Sn	17 11 27.8	+1.0
HMBC				AML	AML	17 11 29.7	
	comp=E,1μm,0.6s						
PB06	Plate Boundary	1.55	203	⇑iP	Pn	17 11 10.1	+0.6
PB06				iS	Sn	17 11 31.9	+0.9
PB06				AML	AML	17 11 32.7	
	comp=E,494nm,0.2s						
PB11	Plate Boundary	1.66	335	eP	Pn	17 11 11.3	+0.5
PB11				iS	Sn	17 11 34.4	+1.0
PSGC	Pisagua	2.02	326	⇑iP	Pn	17 11 15.1	0.0
PSGC				iS	Sn	17 11 41.2	+0.2
PSGC				AML	AML	17 11 46.0	
	comp=N,241nm,0.4s						

ISCJB 20 17:16:02.8±0.5, 51.57N±0.02×16.10E±0.04, h0km, Error ellipse: s-maj=3.6km s-min=3.2km az=138.7
IPEC 20 17:16:05.6±0.3, 51.57N×16.22E, h0km, ML2.3/3, Error ellipse: s-maj=3.8km s-min=1.8km az=88.0
CSEM 20 17:16:05.3±0.3, 51.53N×16.02E, h2km, ML3.2/7, Error ellipse: s-maj=4.9km s-min=4.6km az=45.0
PRU 20 17:16:06.9, 51.48N×16.05E, h0km
IDC 20 17:16:07.2±0.8, 51.52N×15.94E, h0km, mb1 3.4/6, mb1mx3.2/27, mbtmp3.3/6, ML2.9/5, Error ellipse: s-maj=13.3km s-min=7.4km az=111.0
ISC 20 17:16:04.2±0.7, 51.62N±0.03×16.08E±0.03, h0km, n33, σ1s03/63, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.79	170	ePg	Pg	17 16 19.9	+0.6
KSP				eSg	Sg	17 16 29.3	-0.2
KSP	Ksiaz	0.79	170	⇓iPg	Pg	17 16 19.9	+0.6
KSP				eSg	Sg	17 16 29.3	-0.2
UPC	Upice	1.12	182	ePG	Pg	17 16 25.7	+0.2
UPC				eSG	Sg	17 16 38.5	-1.5
	34nm,0.2s						
UPC	Upice	1.12	182	Pg	Pg	17 16 25.7	+0.2
UPC				Sg	Sg	17 16 38.5	-1.5
	34nm,0.2s						
DPC	Dobruska-Polom	1.28	173	ePG	Pg	17 16 28.6	-0.1
DPC				eSG	Sg	17 16 44.0	-1.3
DPC	Dobruska-Polom	1.28	173	Pg	Pg	17 16 28.6	-0.1
DPC				Sg	Sg	17 16 44.0	-1.3
BRG	Berggiesshubel	1.54	242	PG	Pg	17 16 34.0	+0.4
BRG				SG	Sg	17 16 54.1	+0.6
	31nm,0.5s						
KRLC	Kraliky	1.61	164	ePG	Pn	17 16 34.0	+0.1
KRLC				eSG	Sn	17 16 53.6	-1.8
KRLC	Kraliky	1.61	164	Pg	Pn	17 16 34.0	+0.1
KRLC				Sg	Sn	17 16 53.6	-1.8
PRA	Prague	1.87	214	PG	Pb	17 16 39.0	-0.2
PRA				SG	Sn	17 17 02.0	+0.3
PRU	Pruhonice	1.90	211	ePN	Pn	17 16 37.9	0.0
PRU				ePG	Pb	17 16 39.6	-0.1
PRU				eSG	Sb	17 17 03.7	-0.3
	35nm,0.3s						
PRU	Pruhonice	1.90	211	Pn	Pn	17 16 37.9	0.0
CLL	Collm	1.95	262	iPn	Pn	17 16 38.8	+0.3
CLL				ePg	Pg	17 16 42.0	+0.5
CLL				e		17 16 45.0	
CLL				iSg	Sg	17 17 08.2	+1.5
	comp=Z,19nm,0.6s						
MORC	Moravsky Berou	2.07	153	ePn	Pn	17 16 40.3	+0.1
MORC				eSg	Sn	17 17 07.7	+1.0
	comp=Z,19nm,0.7s,baz=335						
OKC	Ostrava-Krasne	2.22	143	ePG	Pg	17 16 46.4	-0.3
OKC				eSG	Sb	17 17 13.7	+0.6
	comp=Z,27nm,0.7s						
OKC	Ostrava-Krasne	2.22	143	Pg	Pg	17 16 46.4	-0.3
OKC				Sg	Sb	17 17 13.7	+0.6
	comp=Z,27nm,0.7s						
VRAC	Vranov	2.34	172	Pn	Pn	17 16 44.8	+0.9
	comp=Z,1.0nm,0.3s,baz=345,slow=17,SNR=3.9						
VRAC				Pg	Pg	17 16 51.0	+2.0
	comp=Z,2.7nm,0.3s,baz=346,slow=14,SNR=7.3						
VRAC				Lg	Lg	17 17 17.4	
	comp=Z,3.0nm,0.3s,baz=62,slow=22,SNR=9.3						
VRAC	Vranov	2.34	172	ePn	Pn	17 16 44.4	+0.5
	baz=354						
VRAC				eSg	Sb	17 17 16.7	+0.1
	comp=Z,16nm,0.5s,baz=354						
TREC	Trest	2.36	189	ePN	Pn	17 16 44.8	+0.6
TREC				ePG	Pb	17 16 48.5	+1.0
TREC	Trest	2.36	189	Pn	Pn	17 16 44.8	+0.6
KRUC	Moravsky	2.57	175	ePn	Pn	17 16 48.0	+1.0
	baz=358						
KRUC				eSg	Sb	17 17 24.5	+1.3
	comp=Z,13nm,0.6s,baz=358						
OJC	Ojcow	2.74	119	ePg	Pg	17 16 57.7	+1.0
OJC				eSg	Sg	17 17 32.8	+0.6
OJC	Ojcow	2.74	119	ePg	Pg	17 16 57.7	+1.0
OJC				eSg	Sg	17 17 32.8	+0.6
KHC	Kasperske Hory	2.96	214	ePN	Pn	17 16 52.6	+0.1
KHC				ePG	Pb	17 16 58.7	+0.9
KHC				eSN	Sn	17 17 26.9	-1.8
KHC				eSG	Sb	17 17 36.7	+2.2
	comp=Z,12nm,0.4s						
KHC	Kasperske Hory	2.96	214	Pn	Pn	17 16 52.6	+0.1
GERES	GERESS Array B	3.17	210	Pn	Pn	17 16 56.6	+1.2
	comp=Z,1.2nm,0.3s,baz=29,slow=13,SNR=43						
GERES				Pg	Pb	17 17 02.8	+1.4
	comp=Z,2.2nm,0.3s,baz=32,slow=18,SNR=24						
GERES				Sn	Sn	17 17 32.0	-1.9
	comp=Z,1.3nm,0.3s,baz=31,slow=19,SNR=5.4						
GERES				Lg	Lg	17 17 41.0	
	comp=Z,3.1nm,0.3s,baz=30,slow=30,SNR=11						
BSD	Bornholm Skovb	3.57	349	iP	Pn	17 17 01.9	+1.2
BSD				iS	Sn	17 17 41.8	-1.7
BSD	Bornholm Skovb	3.57	349	iP	Pn	17 17 01.9	+1.2
BSD				iS	Sn	17 17 41.8	-1.7
AKASG	Malin Array Be	8.32	91	Pn	Pn	17 18 06.1	+0.1
	comp=Z,0.8nm,0.3s,baz=282,slow=12,SNR=7.3						
HFS	Hagfors	8.64	352	Pn	Pn	17 18 11.6	+1.3
	comp=Z,0.0nm,0.3s,baz=162,slow=20,SNR=3.0						
FINES	FINESS Array B	11.27	25	Pn	Pn	17 18 46.6	+0.3
	comp=Z,0.2nm,0.3s,baz=208,slow=13,SNR=7.9						
EKA	Eskdalemuir Ar	12.04	296	Pn	Pn	17 18 55.0	-1.9
	baz=100,slow=14,SNR=2.7						
ARCES	ARCESS Array B	18.52	10	Pn	P	17 20 20.5	-1.2
	comp=Z,0.1nm,0.3s,baz=187,slow=13,SNR=3.3						

ISCJB 20 17:18:42.1±0.9, 13.91N±0.09×91.34W±0.05, h72km±9km, mb3.2/2, Error ellipse: s-maj=16.9km s-min=5.3km az=25.4
CASC 20 17:18:42.9±2.1, 13.83N×91.23W, h20km±10km, MD3.5
MEX 20 17:18:44.8±0.7, 13.94N×91.36W, h75km±20km, MD4.0
IDC 20 17:19:08.0±29.0, 14.92N×91.20W, h252km±228km, mb2.6/2, mb1 2.9/3, mb1mx2.7/33, mbtmp3.2/3, ML3.7/1, Error ellipse: s-maj=190.9km s-min=83.6km az=126.0
ISC 20 17:18:43.7±1.4, 13.9N±0.1×91.31W±0.05, h57km±13km, n18, σ1s10/25, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.52	322	⇑eP	Pn	17 18 56.5	+0.8
PCG	Pacaya	0.83	55	eP	Pn	17 18 59.5	-0.2
PCG				eS	Sn	17 19 11.0	-0.5
IXG	Ixpaco	0.87	72	eP	Pn	17 18 58.3	-1.8
NBG	Las Nubes	1.15	54	eP	Pn	17 19 03.9	0.0
NBG				eS	Sn	17 19 20.1	+1.3
THIG		1.36	317	iP	Pn	17 19 05.8	-0.6
THIG				iS	Sn	17 19 22.9	-0.5
RBDL	Robledal	1.58	83	eP	Pn	17 19 08.5	-1.1
RTR	El Retiro	1.61	90	eP	Pn	17 19 09.3	-0.8
SBLS	San Blas	1.64	92	eP	Pn	17 19 09.4	-1.0
SBLS				eS	Sn	17 19 31.7	+1.1
SNJE	San Jose	1.65	91	eP	Pn	17 19 09.7	-1.0
MRL	Marmol	1.94	54	eP	Pn	17 19 13.0	-1.5
MRL				⇑eP	Pn	17 19 13.9	-0.6
LFRS	El Faro	2.20	97	eP	Pn	17 19 17.3	-0.7
CCIG	Comitan	2.49	341	eP	Pn	17 19 22.4	+0.4
CCIG				iS	Sn	17 19 49.9	-1.4
PCIG		2.57	314	eP	Pn	17 19 22.5	-0.4
PCIG				iS	Sn	17 19 51.0	-2.0
CMIG	Matias Romero	4.68	313	eP	Pn	17 19 51.1	-0.8
CMIG				eS	Sn	17 20 43.9	-1.0
TXAR	Lajitas Array	19.15	325	P	Pn	17 23 05.1	+1.2
	0.1nm,0.3s,baz=152,slow=10,SNR=3.9						
NVAR	Mina Array Bea	34.16	321	P	P	17 25 23.8	0.0
	0.6nm,0.8s,baz=134,slow=7.7,SNR=4.0						
YKA	Yellowknife Ar	51.27	346	P	P	17 27 38.9	-2.6
	0.1nm,0.6s,baz=151,slow=7.8,SNR=2.9						
WRA	Warramunga Arr	136.03	256	PKP	PKPdf	17 38 00.5	+1.2
	0.3nm,0.9s,baz=112,slow=2.9,SNR=3.4						

IDC 20 18:14:42.5±4.8, 0.71S×131.76E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/30, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=319.2km s-min=25.6km az=73.0
ISCJB 20 18:14:44.2±1.1, 0.5S±0.1×132.78E±0.08, h33km, mb3.3/2, Error ellipse: s-maj=15.9km s-min=10.7km az=7.2
DJA 20 18:14:44.3±1.6, 0.9S±9×13.3E±, h12km±16km, M3.6/5, mb3.9/1, MLv3.5/5
ISC 20 18:14:45.6±1.2, 0.60S±0.09×132.73E±0.06, h33km, n13, σ1s79/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	1.49	260	P	Pn	18 15 10.2	+0.1
SWI				S	Sb	18 15 30.7	-0.7
SWI	Sorong	1.49	260	P	Pn	18 15 10.2	+0.1
	baz=1.9,SNR=37						
SWI				S	Sb	18 15 34.9	+3.5
	baz=1.9,SNR=6.0						
FAKI	Fak Fak	2.36	192	P	Pb	18 15 24.8	-2.6
FAKI				S	Sb	18 15 56.7	+0.6
FAKI	Fak Fak	2.36	192	P	Pb	18 15 24.9	-2.6
	baz=3.0,SNR=52						
BAKI	Biak	3.43	100	P	Pn	18 15 38.0	+1.2
MSAI	Masohi	4.68	234	P	Pn	18 15 55.9	+1.9
LBMI	Labuha	5.23	270	P	Sn	18 16 52.0	-8.8
KDU	Kakadu	12.01	181	P	Pn	18 17 36.6	+1.9
	baz=13,SNR=7.7						
MTN	Manton Dam	12.27	187	P	Pn	18 17 38.7	+0.6
	baz=13,SNR=14						
KNRA	Kununurra	15.49	194	P	Pn	18 18 21.5	-0.3
	baz=16,SNR=10						
WRA	Warramunga Arr	19.29	175	P	Pn	18 19 08.9	-0.1
	0.1nm,0.3s,baz=353,slow=12,SNR=7.9						
ASAR	Alice Springs	22.96	177	P	P	18 19 48.4	+0.9
	0.4nm,0.3s,baz=358,slow=11,SNR=22						
MKAR	Makanchi Array	64.53	324	P	P	18 25 18.2	-1.2
	0.2nm,0.7s,baz=106,slow=8.3,SNR=2.5						

IDC 20 18:16:17.1±2.1, 0.79N×126.80E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/30, mbtmp3.3/3, Error ellipse: s-maj=176.2km s-min=26.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.89	161	P	P	18 21 11.8	-0.1
	0.7nm,0.6s,baz=339,slow=11,SNR=6.2						
ASAR	Alice Springs	25.27	165	P	P	18 21 45.5	+0.1
	0.9nm,1.1s,baz=343,slow=11,SNR=5.0						
MKAR	Makanchi Array	60.01	326	P	P	18 26 25.6	-0.1
	0.1nm,0.4s,baz=112,slow=7.8,SNR=6.1						

SJA 20 18:28:08.0±0.7, 24.02S×66.75W, h229km±20km, MD3.0, ML3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.34	122	eP	Pn	18 28 44.0	+0.7
SLA				eP	Pn	18 28 44.0	+0.7
AZAP	Zapla	1.55	98	eP	Pn	18 28 45.4	+0.3
ASTB	Santa Barbara	2.08	89	eP	Pn	18 28 50.1	+0.4
ALOL	LOMAS DE OLMED	2.55	86	eP	Pn	18 28 55.0	+0.6
ACLC	CERRO LA CRUZ	5.39	182	eP	Pn	18 29 28.9	+0.6
ACLC				eS	S	18 30 28.6	-3.4
AVFE	Valle Fertil	6.65	185	AML	AML	18 30 59.7	
	comp=Z,8.5nm,0.3s						

MEX 20 18:32:45.9±0.9, 15.85N×92.31W, h77km±15km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.47	21	iP	Pn	18 32 57.9	-1.4
CCIG				iS	Sn	18 33 07.3	-1.9
PCIG		0.88	261	iP	Pn	18 32 55.5	-7.9
PCIG				iS	Sn	18 33 03.5	-13
THIG		0.93	177	iP	Pn	18 33 03.3	-0.7
THIG				iS	Sn	18 33 15.5	-1.9
CMIG	Matias Romero	2.76	297	eP	Pn	18 33 26.9	-1.1
CMIG				iS	Sn	18 33 59.6	-0.8
HUIG	Huatulco	3.66	269	iP	Pn	18 33 38.4	-1.8
HUIG				iS	Sn	18 34 20.2	-1.9
VHO	Vista Hermosa	4.41	287	iP	Pn	18 33 49.8	-0.9
VHO				iS	Sn	18 34 40.2	-0.9

ISCJB 20 18:33:17.7±0.5, 4.44N±0.03×126.19E±0.09, h150km, mb3.8/5, Error ellipse: s-maj=12.6km s-min=4.5km az=174.0
MAN 20 18:33:20, 4.67N×125.93E, h177km, mb4.8, ML3.8, MS3.8
IDC 20 18:33:21.4±2.6, 4.28N×125.87E, h172km±19km, mb3.7/4, mb1 3.9/5, mb1mx3.3/24, mbtmp4.4/5, Error ellipse: s-maj=58.2km s-min=16.9km az=68.0
DJA 20 18:33:32.2±0.6, 3.°N±5.°×12.°6E±.°, h10km, M4.7/9, mb4.8/6, mB5.3/5, MLv4.5/9, Mw(mB)4.8/5, Mwp5.8/1
ISC 20 18:33:18.1±0.7, 4.45N±0.05×126.16E±0.10, h150km, n22, σ1s55/31, mb3.9/5, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	0.98	220	P	Pn	18 33 43.2	+0.5
MATI	Mati	2.48	2	eP	Pn	18 34 00.9	+1.9
MATI				eS	Sn	18 34 27.0	-3.7
KCP	Kidapawan	2.76	337	⇓eP	Pn	18 34 02.9	+0.5
KCP				eS	Sn	18 34 37.0	+0.2
BUKP	Musuan	3.58	342	eP	Pn	18 34 13.6	+0.7
BIPH	Bislig	3.72	3	⇑eP	Pn	18 34 16.6	+1.9
BIPH				eS	Sn	18 35 00.3	+1.6
TNTI	Ternate	3.85	162	P	Pn	18 34 18.3	+1.9
CGP	Cagayan de Oro	4.24	340	⇓eP	Pn	18 34 21.3	-0.1
CGP				eS	Sn	18 35 08.0	-2.8
PAGZ	Pagadian	4.36	321	eP	Pn	18 34 23.6	+0.5
KMSI	Cibinong	4.42	210	P	Pn	18 34 24.3	+0.4
LBMI	Labuha	5.23	165	P	Pn	18 34 36.8	+2.2
MRSI	Marisa	5.77	227	P	Pn	18 34 43.9	+2.1
SANI	Sanana	6.46	182	P	Pn	18 34 48.9	-2.0
	236nm,0.6s,14μm2.1nm						
APSI	Ampana	6.97	220	P	Pn	18 34 59.8	+2.0
	64nm,1.2s,831nm0.3nm						
NLAI	Namlea	7.69	173	P	Pn	18 35 06.9	-0.5
	54nm,0.9s,4μm0.7nm						
TTSI	Tana Toraja	9.77	221	P	Pn	18 35 35.9	+0.8
	86nm,1.1s,808nm30μm0.3nm						
BATI	Baumata	14.77	190	P	P	18 36 42.0	+0.1
BATI	Baumata	14.77	190	P	P	18 36 41.4	-0.5
	9.8nm,0.3s,baz=98,slow=0.2,SNR=23						
WRA	Warramunga Arr	25.54	162	P	P	18 38 33.1	+0.1
	1.1nm,0.5s,baz=338,slow=10,SNR=55						
WRA				S	S	18 42 47.4	-2.2
	0.2nm,0.6s,baz=332,slow=17,SNR=2.5						
WRA				ScP	ScP	18 45 24.8	-1.3
	0.3nm,0.7s,baz=346,slow=2.9,SNR=3.7						
ASAR	Alice Springs	28.95	165	P	P	18 39 03.9	+0.4
	1.5nm,0.5s,baz=340,slow=7.2,SNR=108						
ASAR				S	S	18 43 42.2	-1.1
	0.2nm,0.8s,baz=348,slow=21,SNR=2.8						
ASAR				ScP	ScP	18 45 35.2	-1.3
	0.3nm,0.5s,baz=351,slow=3.0,SNR=4.2						
NWAO	Narrogin (SRO)	38.12	192	P	P	18 40 22.1	-0.5
	3.4nm,0.5s,baz=26,slow=8.8,SNR=10						
STKA	Stephens Creek	39.00	159	P	P	18 40 31.1	+1.1
	0.8nm,0.3s,baz=336,slow=10.0,SNR=3.1						
MKAR	Makanchi Array	56.64	325	P	P	18 42 45.7	+0.1
	0.1nm,0.3s,baz=125,slow=7.6,SNR=4.0						
MKAR				pP	pP	18 43 21.6	+1.0
	0.4nm,0.7s,baz=127,slow=7.3,SNR=3.2						

ISCJB 20 18:41:34.2±0.6, 23.68S±0.08×179.8E±0.1, h526km, mb3.8/12, Error ellipse: s-maj=12.8km s-min=10.1km az=2.2
IDC 20 18:41:34.7±1.1, 23.71S×179.82E, h521km±11km, mb3.5/12, mb1 3.6/14, mb1mx3.5/33, mbtmp4.4/14, Error ellipse: s-maj=19.8km s-min=11.7km az=164.0
ISC 20 18:41:34.9±0.6, 23.78S±0.09×179.85E±0.10, h526km, n22, σ1s28/31, mb3.8/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.80	160	P	P	18 43 11.6	+1.2
	107nm,0.3s,baz=118,slow=11,SNR=5.6						
DZM	Mont Dzumac	12.47	275	P	P	18 44 18.4	-0.1
	0.2nm,0.3s,baz=142,slow=19,SNR=21						
URZ	Urewera	14.62	189	P	P	18 44 40.7	0.0
	5.9nm,0.3s,baz=38,slow=1.8,SNR=20						
URZ				S	S	18 47 11.9	-1.9
	0.9nm,0.3s,baz=233,slow=24,SNR=10						
PMG	Port Moresby	34.33	289	P	P	18 47 38.1	+0.3
	26nm,0.7s,baz=112,slow=5.3,SNR=17						
STKA	Stephens Creek	34.64	248	P	P	18 47 41.1	+0.9
	1.1nm,0.4s,baz=115,slow=8.5,SNR=4.6						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.92**	**261**	P	**P**	**18 48 39.7**	**+0.1**
	7.2nm,0.7s,baz=94,slow=7.2,SNR=153						
ASAR				ScP	**ScP**	**18 53 25.9**	**+2.7**
	3.2nm,0.8s,baz=108,slow=4.3,SNR=24						
ASAR				S	**S**	**18 54 19.5**	**-0.4**
	0.3nm,0.7s,baz=119,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**42.28**	**266**	P	**P**	**18 48 42.0**	**-0.4**
	4.8nm,0.3s,baz=90,slow=6.0,SNR=227						
WRA				ScP	**ScP**	**18 53 27.5**	**+2.8**
	2.5nm,0.9s,baz=100,slow=4.0,SNR=12						
WRA				S	**S**	**18 54 22.2**	**-3.0**
	0.6nm,0.8s,baz=100,slow=14,SNR=5.3						
JOW	**Kunigami**	**70.81**	**312**	P	**P**	**18 51 59.0**	**+0.4**
	0.6nm,0.4s,baz=127,slow=10,SNR=7.4						
MJAR	**Matsushiro Arr**	**71.72**	**326**	P	**P**	**18 52 03.3**	**-0.4**
	16nm,1.1s,baz=151,slow=5.5,SNR=5.4						
KSRS	**Korea Array**	**78.07**	**320**	P	**P**	**18 52 39.9**	**+0.7**
	0.6nm,0.7s,baz=133,slow=6.2,SNR=4.2						
YBH	**Yreka Blue Hor**	**84.08**	**39**	P	**P**	**18 53 10.2**	**-0.1**
	1.7nm,0.9s,baz=239,slow=18,SNR=4.7						
NVAR	**Mina Array Bea**	**84.76**	**44**	P	**P**	**18 53 12.2**	**-1.7**
	0.7nm,0.6s,baz=222,slow=6.8,SNR=6.4						
CMAR	**Chiang Mai Arr**	**89.36**	**290**	P	**P**	**18 53 37.4**	**+1.6**
	0.6nm,0.9s,baz=135,slow=3.1,SNR=4.0						
TXAR	**Lajitas Array**	**90.48**	**58**	P	**P**	**18 53 41.2**	**+0.4**
	1.7nm,0.7s,baz=219,slow=6.7,SNR=21						
ILAR	**Eielson Array**	**91.95**	**14**	P	**P**	**18 53 45.0**	**-1.6**
	0.4nm,0.9s,baz=206,slow=6.4,SNR=4.0						
MKAR	**Makanchi Array**	**111.97**	**313**	PKiKP	**PKiKP**	**18 59 09.0**	**-1.1**
	0.2nm,0.6s,baz=195,slow=1.3,SNR=4.6						
ARCES	**ARCESS Array B**	**131.74**	**348**	PKP	**PKPdf**	**18 59 46.4**	**-0.9**
	2.9nm,0.9s,baz=48,slow=1.8,SNR=6.8						
ARCES				SKPbc	**SKPbc**	**19 02 24.5**	**+0.6**
	3.3nm,1.1s,baz=45,slow=2.7,SNR=3.9						
FINES	**FINESS Array B**	**138.29**	**341**	PKP	**PKPdf**	**18 59 59.7**	**+0.1**
	0.6nm,0.5s,baz=87,slow=0.2,SNR=6.2						
FINES				SKPbc	**SKPbc**	**19 02 44.2**	**-0.3**
	2.2nm,0.8s,baz=38,slow=2.5,SNR=8.8						
AKASG	**Malin Array Be**	**144.80**	**327**	PKP	**PKPdf**	**19 00 10.9**	**-0.6**
	1.2nm,0.5s,baz=43,slow=3.9,SNR=12						
AKASG				SKPbc	**SKPbc**	**19 03 01.5**	**+0.2**
	0.8nm,0.6s,baz=46,slow=2.3,SNR=6.2						
BRTR	**Keskin Array B**	**147.40**	**307**	PKPbc	**PKPdf**	**19 00 17.9**	**+1.4**
	0.4nm,0.4s,baz=134,slow=4.2,SNR=3.6						
GERES	**GERESS Array B**	**152.70**	**340**	PKPbc	**PKPbc**	**19 00 31.5**	**-0.5**
	0.2nm,0.3s,baz=27,slow=1.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**169.28**	**190**	PKP	**PKPdf**	**19 00 41.6**	**-1.0**
	1.1nm,1.1s,baz=289,slow=0.7,SNR=3.0						
TORD				PKPab	**PKPab**	**19 01 58.5**	**+0.2**
	0.9nm,0.8s,baz=152,slow=4.2,SNR=5.1						

*AUST **20** 18:50:01.1±0.5, 34.71S×149.58E, h7km±4km, Error ellipse: s-maj=4.3km s-min=2.6km az=82.0*
*IDC **20** 18:50:13.8±13.0, 34.55S×148.50E, h0km, mb1 3.3/3, mb1mx3.1/26, mbtmp3.0/3, ML3.0/3, Error ellipse: s-maj=230.5km s-min=86.5km az=180.0*
ISC 20 18:50:01.7±1.3, **34.72S**±0.04×**149.57E**±0.05, **h11**km±11km, **n14, σ2.09**/21, **7C-9D, New South Wales**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNB	**Canberra Magne**	**0.62**	**196**	⇑P	**Pg**	**18 50 13.3**	**-0.5**
	baz=0.6,SNR=91						
CNB				⇓S	**Sg**	**18 50 21.4**	**-0.6**
	baz=0.6						
CAN	**Canberra**	**0.76**	**218**	⇓P	**Pg**	**18 50 16.4**	**-0.1**
	baz=0.8						
CAN				⇓S	**Sg**	**18 50 26.3**	**-0.2**
	baz=0.8						
YNG	**Young**	**1.05**	**293**	⇓P	**Pb**	**18 50 21.9**	**-0.1**
	baz=1.1						
YNG				⇓S	**Sg**	**18 50 35.6**	**-0.2**
	baz=1.1,SNR=14						
RIV	**Riverview**	**1.59**	**56**	⇑P	**Pn**	**18 50 28.7**	**-1.0**
	baz=1.6						
RIV				⇑S	**Sb**	**18 50 50.1**	**-1.0**
	baz=1.6						
MGCD	**Mangrove Creek**	**1.98**	**41**	⇓P	**Pn**	**18 50 34.4**	**-0.6**
	baz=2.0,SNR=17						
MGCD				⇑S	**Sb**	**18 51 01.5**	**-0.7**
	baz=2.0						
MILA	**Mila**	**2.35**	**188**	P	**Pn**	**18 50 40.3**	**-0.1**
	baz=2.4,SNR=22						
MILA				⇑S	**Sb**	**18 51 11.8**	**-1.5**
	baz=2.4,SNR=9.9						
TOO	**Toolangi**	**4.36**	**228**	⇓P	**Pn**	**18 51 09.1**	**+1.2**
	baz=4.4						
CMSA	**Cobar Meteorol**	**4.54**	**313**	⇑P	**Pn**	**18 51 09.8**	**-0.6**
	baz=4.5						
ARMA	**Armidale**	**4.63**	**23**	⇓P	**Pn**	**18 51 12.0**	**+0.4**
	baz=4.6						
ARPS	**Mount Arapiles**	**6.61**	**250**	⇓P	**Pn**	**18 51 38.0**	**-0.8**
	baz=6.6						
STKA	**Stephens Creek**	**7.25**	**291**	Pn	**Pn**	**18 51 47.1**	**-0.5**
	0.2nm,0.3s,baz=122,slow=13,SNR=3.5						
STKA				Sn	**Sn**	**18 53 04.1**	**-5.8**
	1.0nm,0.3s,baz=25,slow=21,SNR=7.1						
STKA	**Stephens Creek**	**7.25**	**291**	⇑P	**Pn**	**18 51 46.9**	**-0.7**
	baz=7.2,SNR=3.6						
ASAR	**Alice Springs**	**17.54**	**305**	Pn	**P**	**18 54 11.1**	**+3.8**
	0.1nm,0.3s,baz=127,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**19.95**	**314**	P	**Pn**	**18 54 39.7**	**+4.2**
	0.0nm,0.3s,baz=133,slow=11,SNR=4.6						

*MOS **20** 18:54:41.9±1.8, 48.71N×154.83E, h68km, mb4.2/1, Error ellipse: s-maj=29.6km s-min=8.9km az=65.7*
*SKHL **20** 18:54:42.5±1.7, 48.66N×154.88E, h62km±8km, mb4.2/2*
*KRSC **20** 18:54:44.9±1.9, 48.75N×156.58E, h16km±37km, ML4.3*
*IDC **20** 18:54:45.4±3.2, 48.73N×154.63E, h79km±29km, mb3.1/6, mb1 3.4/8, mb1mx3.1/37, mbtmp3.5/8, MS2.1/1, Ms1 2.1/1, ms1mx1.9/9, Error ellipse: s-maj=39.5km s-min=16.4km az=144.0*
ISC 20 18:54:42.6±1.7, **48.6N**±0.1×**155.0E**±0.1, **h56**km±17km, **n51, σ2.13**/50, **mb3.3**/6, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.19**	**19**	*e*PN	**Pn**	**18 55 13.5**	**-3.0**
SKR				*e*S	**Sn**	**18 55 38.0**	**-4.5**
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax	smax		
	comp=N,590nm,0.2s						
SKR				smax	smax		
	comp=E,240nm,0.2s						
SKR	**Severo-Kuril's**	**2.19**	**19**	*e*P	**Pn**	**18 55 16.8**	**+0.3**
SKR				*e*S	**Sn**	**18 55 41.6**	**-0.9**
SKR	**Severo-Kuril's**	**2.19**	**19**	*e*P	**Pn**	**18 55 13.5**	**-3.0**
SKR				AMB	AMB	18 55 18.5	
	comp=E,50nm,0.5s						
SKR				AMB	AMB	18 55 18.5	
	comp=E,60nm,0.5s						
SKR				*e*rx	rx	18 55 22.3	
SKR				*e*S	**Sn**	**18 55 38.0**	**-4.5**
SKR				A	A	18 55 42.5	
	comp=E,59nm,0.2s						
SKR				A	A	18 55 42.5	
	comp=E,240nm,0.2s						
SKR				A	A	18 55 42.5	
	comp=E,100nm,0.2s						
PAU	**Pauzhetka**	**3.08**	**21**	PN	**Pn**	**18 55 31.3**	**+2.6**
PAU				S	**Sn**	**18 56 04.7**	**+0.4**
PAU	**Pauzhetka**	**3.08**	**21**	*e*P	**Pn**	**18 55 31.3**	**+2.6**
PAU				*e*S	**Sn**	**18 56 04.7**	**+0.4**
PAU	**Pauzhetka**	**3.08**	**21**	*e*P	**Pn**	**18 55 30.2**	**+1.5**
PAU				*e*S	**Sn**	**18 56 04.7**	**+0.4**
MIPR	**Malaya Ipel'ka**	**3.83**	**16**	P	**Pn**	**18 55 41.2**	**+2.2**
ASAK	**Asacha**	**4.20**	**25**	*e*P	**Pn**	**18 55 46.0**	**+1.9**
ASAK				*e*S	**Sn**	**18 56 30.8**	**-1.1**
MTVR	**Mutnovka**	**4.37**	**26**	*e*P	**Pn**	**18 55 47.7**	**+1.2**
MTVR				*e*S	**Sn**	**18 56 34.3**	**-1.8**
RUS	**Russkaya**	**4.43**	**29**	PN	**Pn**	**18 55 46.9**	**-0.2**
RUS				S	**Sn**	**18 56 33.1**	**-4.2**
RUS	**Russkaya**	**4.43**	**29**	*e*P	**Pn**	**18 55 46.9**	**-0.2**
RUS				*e*S	**Sn**	**18 56 33.1**	**-4.2**
RUS	**Russkaya**	**4.43**	**29**	*e*P	**Pn**	**18 55 46.9**	**-0.2**
PETK	**Petropavlovsk-**	**4.81**	**20**	PN	**Pn**	**18 55 54.5**	**+2.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.81**	**20**	P	**Pn**	**18 55 54.5**	**+2.1**
	comp=Z,0.7nm,0.3s,baz=177,slow=14,SNR=24						
PET	**Petropavlovsk**	**4.98**	**26**	*e*PN	Pn	18 55 57.8	+3.1
PET				*e*S	**Sn**	**18 56 51.4**	**+0.5**
PET				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PET				smax	smax		
	comp=N,24nm,0.6s						
PET				smax	smax		
	comp=E,30nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
PET	**Petropavlovsk**	**4.98**	**26**	*e*P	Pn	18 55 57.8	+3.1
PET				AMB	AMB	18 56 05.8	
	comp=Z,6.0nm,0.5s						
PET				*e*S	**Sn**	**18 56 51.4**	**+0.5**
PET				A	A	18 57 06.7	
	comp=Z,24nm,0.6s						
PET				A	A	18 57 06.7	
	comp=Z,30nm,0.6s						
UGLR	**Uglovaya**	**5.19**	**26**	*e*P	**Pn**	**18 55 59.4**	**+1.7**
UGLR				*e*S	**Sn**	**18 56 54.7**	**-1.6**
KOK	**Koryaka**	**5.21**	**25**	P	Pn	18 56 00.7	+2.7
AVH	**Avacha**	**5.22**	**25**	*e*P	**Pn**	**18 56 00.2**	**+2.2**
SMAR	**Somma**	**5.24**	**26**	P	Pn	18 56 01.1	+2.7
KRER	**Koryakskii**	**5.26**	**25**	P	**Pn**	**18 56 00.5**	**+1.8**
SDLR	**Sedlovina**	**5.27**	**26**	*e*P	**Pn**	**18 55 59.6**	**+0.8**
SDLR				*e*S	**Sn**	**18 56 56.0**	**-2.2**
KRX	**Arik**	**5.28**	**24**	*e*P	**Pn**	**18 56 00.8**	**+1.9**
NLC	**Nalytchevo**	**5.32**	**29**	S	**Sn**	**18 56 56.5**	**-2.8**
GNL	**Ganaly**	**5.41**	**19**	*e*P	Pn	18 56 03.5	+2.8
MKZ	**Mys Kozlova**	**7.27**	**33**	PN	**Pn**	**18 56 25.3**	**-0.7**
MKZ	**Mys Kozlova**	**7.27**	**33**	P	**Pn**	**18 56 25.3**	**-0.7**
MKZ				S	**Sn**	**18 57 42.2**	**-4.9**
TUMR	**Tumrok**	**7.39**	**23**	P	Pn	18 56 31.7	+3.9
KBTR	**Krutoberegovo**	**8.97**	**29**	PN	**Pn**	**18 56 50.5**	**+1.1**
KBTR	**Krutoberegovo**	**8.97**	**29**	P	**Pn**	**18 56 50.4**	**+1.1**
BKI	**Bering**	**9.45**	**42**	*e*S	Sn	18 58 31.6	-8.8
JKA	**Kamikawa-asahi**	**9.69**	**247**	*e*P	**Pn**	**18 57 00.4**	**+1.3**
ASAJ	**Asahikawa**	**9.69**	**247**	PN	**Pn**	**18 57 00.4**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.69**	**247**	P	**Pn**	**18 57 00.4**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=60,slow=12,SNR=16						
FX1	**Attu Island--F**	**12.26**	**63**	P	**Pn**	**18 57 34.4**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=270,slow=19,SNR=7.8						
FX1				S	Sn	18 59 40.0	-9.1
	comp=Z,0.9nm,0.3s,baz=180,slow=20,SNR=7.6						
FX1				LR	LR	19 02 49.5	
	comp=Z,8.0nm,18.5s,baz=76,slow=39						
KSRS	**Korea Array**	**22.61**	**251**	P	**P**	**18 59 37.0**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=54,slow=12,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**30.37**	**157**	T	T	19 32 35.5	
	baz=345,slow=77,SNR=16						
H11N1	**WAKE ISLAND Hy**	**30.38**	**157**	T	T	19 32 37.2	
	baz=345,slow=77,SNR=19						
H11N3	**WAKE ISLAND Hy**	**30.38**	**157**	T	T	19 32 34.8	
	baz=345,slow=77,SNR=13						
H11S1	**WAKE ISLAND Hy**	**31.49**	**158**	T	T	19 34 03.3	
	baz=345,slow=76,SNR=160						
H11S3	**WAKE ISLAND Hy**	**31.50**	**158**	T	T	19 34 06.5	
	baz=345,slow=76,SNR=234						
H11S2	**WAKE ISLAND Hy**	**31.51**	**158**	T	T	19 34 03.0	
	baz=345,slow=76,SNR=154						
MKAR	**Makanchi Array**	**47.24**	**297**	P	**P**	**19 03 07.7**	**-2.1**
	comp=Z,0.3nm,0.7s,baz=69,slow=7.9,SNR=5.0						
YKA	**Yellowknife Ar**	**48.66**	**38**	P	**P**	**19 03 21.7**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=295,slow=7.8,SNR=3.3						
CMAR	**Chiang Mai Arr**	**54.05**	**257**	P	**P**	**19 04 00.6**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**54.05**	**257**	P	**P**	**19 04 00.6**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=36,slow=7.4,SNR=8.6						
ASAR	**Alice Springs**	**74.39**	**200**	P	**P**	**19 06 14.4**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=10,slow=5.8,SNR=3.5						
TXAR	**Lajitas Array**	**75.47**	**62**	P	**P**	**19 06 22.1**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=284,slow=3.6,SNR=3.0						
H03N2	**Juan Fernandez**	**137.47**	**90**	T	T	21 47 01.5	
	baz=307,slow=75,SNR=28						
H03N1	**Juan Fernandez**	**137.48**	**90**	T	T	21 47 02.2	
	baz=307,slow=75,SNR=43						
H03N3	**Juan Fernandez**	**137.48**	**90**	T	T	21 47 01.7	
	baz=307,slow=75,SNR=35						

*IDC **20** 18:59:18.7±2.1, 4.26S×131.11E, h0km, mb3.6/2, mb1 4.0/5, mb1mx3.6/29, mbtmp3.8/5, ML3.8/3, Error ellipse: s-maj=63.6km s-min=25.9km az=74.0*
*ISCJB **20** 18:59:27.8±1.3, 4.39S±0.07×130.54E±0.09, h33km, mb3.6/2, Error ellipse: s-maj=13.4km s-min=9.3km az=26.2*
*DJA **20** 18:59:30.8±0.4, 4°S±4°×13°0E±°, h48km±9km, M3.8/8, mb3.7/1, MLv3.9/8*
ISC 20 18:59:28.3±1.0, **4.39S**±0.06×**130.51E**±0.06, **h35**km, **n14, σ2.91**/15, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.62**	**258**	P	**Pn**	**18 59 42.9**	**+2.3**
BNDI				S	**Sn**	**18 59 53.7**	**+4.4**
MSAI	**Masohi**	**1.89**	**303**	P	**Pn**	**18 59 59.4**	**+1.3**
MSAI				S	**Sn**	**19 00 21.8**	**+1.2**
FAKI	**Fak Fak**	**2.27**	**50**	P	Pn	19 00 07.6	+4.2
FAKI				S	**Sn**	**19 00 34.7**	**+4.6**
KMPI	**Kaimana, Papua**	**3.27**	**77**	P	Pn	19 00 20.4	+3.3
SWI	**Sorong**	**3.58**	**12**	P	**Pn**	**19 00 24.4**	**+3.0**
SWI				S	**Sn**	**19 01 03.4**	**+0.9**
NLAI	**Namlea**	**3.59**	**288**	P	**Pn**	**19 00 23.2**	**+1.7**
SAUI	**Saumlaki**	**3.66**	**168**	P	**Pn**	**19 00 24.4**	**+2.0**
LBMI	**Labuha**	**4.79**	**321**	P	**Pn**	**19 00 39.9**	**+1.9**
SANI	**Sanana**	**5.08**	**297**	P	**Pn**	**19 00 43.1**	**+1.2**
BATI	**Baumata**	**8.91**	**229**	Pn	**Pn**	**19 01 37.2**	**+2.5**
	1.8nm,0.3s,baz=136,slow=3.7,SNR=5.4						
WRA	**Warramunga Arr**	**15.90**	**167**	Pn	Pn	19 03 01.9	-7.7
	0.2nm,0.3s,baz=343,slow=14,SNR=21						
WRA				Sn	Sn	19 05 46.8	-18
	0.3nm,0.3s,baz=333,slow=23,SNR=5.8						
ASAR	**Alice Springs**	**19.44**	**171**	P	**P**	**19 03 48.1**	**-3.9**
	0.8nm,0.3s,baz=351,slow=11,SNR=89						
ASAR				S	S	19 07 11.0	-19
	0.0nm,0.3s,baz=352,slow=24,SNR=1.5						
CMAR	**Chiang Mai Arr**	**38.51**	**307**	P	**P**	**19 06 45.6**	**-2.0**
	0.4nm,0.6s,baz=136,slow=7.3,SNR=4.5						
MKAR	**Makanchi Array**	**66.34**	**326**	P	**P**	**19 10 11.3**	**-2.3**
	0.4nm,0.4s,baz=116,slow=8.0,SNR=7.0						

IDC 20 19:02:41.8±1.9, **56.74S×27.40W, h0km, mb4.0**/2, **mb1 4.1**/2, **mb1mx3.7**/19, **mbtmp4.0**/2, **Error ellipse: s-maj=80.0km s-min=44.6km az=9.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**50.68**	**306**	P	P	19 11 43.4	-0.3
	1.2nm,0.5s,baz=85,slow=5.4,SNR=6.2						
TORD	**Torodi Ar. Bea**	**73.72**	**30**	P	P	19 14 17.4	+0.1
	0.6nm,0.5s,baz=201,slow=6.4,SNR=6.9						
ILAR	**Eielson Array**	**150.48**	**311**	PKPbc	PKPbc	19 22 33.5	-0.2
	0.5nm,0.7s,baz=128,slow=2.1,SNR=7.8						
SONM	**Songino Array**	**150.88**	**88**	PKPbc	PKPbc	19 22 35.0	-0.4
	0.2nm,0.6s,baz=222,slow=1.9,SNR=2.3						

*NSSC **20** 19:23:28.9±1.1, 35.84N×36.02E, h8km±3km, MD0.6, ML2.0*
*DDA **20** 19:23:34.6, 36.17N×36.04E, h6km, MD3.0*
CSEM 20 19:23:28.9±1.0, **35.82N×36.02E, h4**km±2km, **ML1.8, Error ellipse: s-maj=6.6km s-min=4.0km az=87.0, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARNB	**Al Arnab**	**0.05**	**316**	*e*P	Pg	19 23 30.6	+0.3
ARNB				*e*S	Sg	19 23 32.1	+0.9
ARNB				AML	AML	19 23 32.5	
	comp=N,4μm,0.5s						
ARNB				AML	AML	19 23 32.7	
	comp=E,2μm,0.2s						
ARNB				AML	AML	19 23 32.8	
	comp=Z,1μm,0.5s						
ARNB	**Al Arnab**	**0.05**	**316**	*e*P	Pg	19 23 30.6	+0.3
ARNB				*e*S	Sg	19 23 32.1	+0.9
ARNB				AML	AML	19 23 32.5	
	comp=N,4μm,0.5s						
ARNB				AML	AML	19 23 32.7	
	comp=E,2μm,0.2s						
ARNB				AML	AML	19 23 32.8	
	comp=Z,1μm,0.5s						
ARNB	**Al Arnab**	**0.05**	**316**	*e*P	Pg	19 23 30.6	+0.3
	SNR=107						
ARNB				*e*S	Sg	19 23 32.1	+0.9
	comp=Z,1μm,0.5s,SNR=107						
BTCH	**Batrach**	**0.42**	**59**	*e*P	Pg	19 23 37.3	+0.2
BTCH				*e*S	Sg	19 23 43.1	+0.4
BTCH				AML	AML	19 23 45.5	
	comp=E,139nm,0.4s						
BTCH				AML	AML	19 23 45.9	
	comp=Z,123nm,0.4s						
BTCH				AML	AML	19 23 46.7	
	comp=N,119nm,0.4s						
BTCH	**Batrach**	**0.42**	**59**	*e*P	Pg	19 23 37.2	+0.1
BTCH				*e*S	Sg	19 23 43.8	+1.1
BTCH				AML	AML	19 23 44.1	
	comp=N,50nm,0.4s						
BTCH				AML	AML	19 23 45.5	
	comp=E,138nm,0.4s						
BTCH				AML	AML	19 23 46.7	
	comp=Z,180nm,0.3s						
BTCH	**Batrach**	**0.42**	**59**	*e*P	Pg	19 23 37.2	+0.1
	SNR=93						
BTCH				*e*S	Sg	19 23 43.8	+1.2
	comp=Z,180nm,0.3s,SNR=59						
WRDH	**Warideh**	**0.45**	**134**	*e*P	Pg	19 23 37.7	+0.1
WRDH				*e*S	Sg	19 23 43.9	+0.3
WRDH				AML	AML	19 23 44.9	
	comp=Z,734nm,0.2s						
WRDH				AML	AML	19 23 44.9	
	comp=N,111nm,0.4s						
WRDH				AML	AML	19 23 45.0	
	comp=E,100nm,0.4s						
WRDH	**Warideh**	**0.45**	**134**	*e*P	Pg	19 23 37.7	+0.1
WRDH				*e*S	Sg	19 23 44.1	+0.5
WRDH				AML	AML	19 23 44.9	
	comp=N,114nm,0.4s						
WRDH				AML	AML	19 23 45.0	
	comp=E,100nm,0.4s						
WRDH				AML	AML	19 23 47.3	
	comp=Z,39nm,0.3s						
WRDH	**Warideh**	**0.45**	**134**	*e*P	Pg	19 23 37.7	0.0
	SNR=93						
WRDH				*e*S	Sg	19 23 44.1	+0.5
	comp=Z,39nm,0.3s,SNR=59						
BIDA	**Albida**	**0.85**	**163**	*e*P	Pg	19 23 45.0	-0.2
BIDA				*e*S	Sg	19 23 57.1	+0.7
BIDA				AML	AML	19 24 00.6	
	comp=Z,62nm,0.5s						
BIDA				AML	AML	19 24 01.0	
	comp=E,45nm,0.4s						
BIDA				AML	AML	19 24 03.6	
	comp=N,22nm,0.5s						
BIDA	**Albida**	**0.85**	**163**	*e*P	Pg	19 23 45.3	0.0
BIDA				*e*S	Sg	19 23 55.6	-0.7
BIDA				AML	AML	19 23 58.2	
	comp=E,32nm,0.8s						
BIDA				AML	AML	19 23 59.5	
	comp=N,17nm,0.2s						
BIDA	**Albida**	**0.85**	**163**	*e*P	Pg	19 23 45.3	0.0
	SNR=75						
BIDA				*e*S	Sg	19 23 55.7	-0.6
	comp=N,17nm,0.2s,SNR=59						
KUZU	**Kuzuini**	**1.28**	**42**	*e*P	Pg	19 23 53.3	-0.2
KUZU				*e*S	Sb	19 24 10.7	+0.2
KUZU	**Kuzuini**	**1.28**	**42**	*e*P	Pg	19 23 53.3	-0.2
KUZU				*e*S	Sb	19 24 10.7	+0.3
HAWK	**Haweek**	**1.34**	**166**	*e*P	Pn	19 23 53.2	-1.4
HAWK				*e*S	Sg	19 24 10.6	-1.5
HAWK				AML	AML	19 24 14.1	
	comp=E,28nm,0.7s						
HAWK				AML	AML	19 24 14.5	
	comp=Z,24nm,0.6s						
HAWK				AML	AML	19 24 15.0	
	comp=N,17nm,0.3s						
HAWK	**Haweek**	**1.34**	**166**	*e*P	Pn	19 23 53.3	-1.2
HAWK				*e*S	Sg	19 24 10.5	-1.7
HAWK				AML	AML	19 24 14.1	
	comp=E,28nm,0.7s						
HAWK				AML	AML	19 24 14.5	
	comp=Z,24nm,0.6s						
HAWK				AML	AML	19 24 15.0	
	comp=N,17nm,0.3s						
HAWK	**Haweek**	**1.34**	**166**	*e*P	Pn	19 23 53.3	-1.2
	SNR=57						
HAWK				*e*S	Sg	19 24 10.5	-1.7
	comp=N,17nm,0.3s,SNR=49						
MERS	**Mersin**	**1.59**	**311**	*e*PN	Pn	19 23 58.3	+0.3
MERS	**Mersin**	**1.59**	**311**	*e*Pn	Pn	19 23 58.3	+0.3
KOZT	**Kozan**	**1.66**	**355**	*e*PN	Pn	19 23 54.5	-4.4
KOZT				*e*SN	Sn	19 24 12.0	-8.7
KOZT	**Kozan**	**1.66**	**355**	*e*Pn	Pn	19 23 54.5	-4.4
RABH	**Abou Rabah**	**1.69**	**145**	*e*P	Pn	19 24 00.0	+0.6
RABH				*e*S	Sn	19 24 22.0	+0.4
RABH				AML	AML	19 24 24.1	
	comp=N,13nm,0.5s						
RABH				AML	AML	19 24 24.5	
	comp=Z,14nm,0.6s						
RABH				AML	AML	19 24 24.8	
	comp=E,6.4nm,0.4s						
RABH	**Abou Rabah**	**1.69**	**145**	*e*P	Pn	19 24 00.0	+0.6
	SNR=45						
RABH				*e*S	Sn	19 24 22.0	+0.4
	comp=E,6.4nm,0.4s,SNR=40						
GULE	**Gulek**	**1.77**	**326**	*e*P	Pg	19 24 03.8	+0.8
GULE				*e*S	Sb	19 24 24.4	-0.5
GULE	**Gulek**	**1.77**	**326**	*e*P	Pg	19 24 03.8	+0.7
GULE				*e*S	Sb	19 24 24.4	-0.4
KMRS	**Kahramanmaras**	**1.82**	**23**	*e*PN	Pn	19 23 56.7	-4.4
KMRS	**Kahramanmaras**	**1.82**	**23**	*e*Pn	Pn	19 23 56.7	-4.4
MARH	**Ras Al Marh**	**1.83**	**168**	*e*P	Pn	19 24 01.8	+0.2
MARH				*e*S	Sn	19 24 24.9	-0.7
MARH				AML	AML	19 24 29.8	
	comp=N,15nm,0.4s						
MARH				AML	AML	19 24 30.2	
	comp=Z,15nm,0.2s						
MARH				AML	AML	19 24 31.5	
	comp=E,8.2nm,0.5s						
MARH	**Ras Al Marh**	**1.83**	**168**	*e*P	Pn	19 24 02.5	+0.9
MARH				*e*S	Sn	19 24 25.9	+0.3
MARH				AML	AML	19 24 29.7	
	comp=E,6.9nm,0.4s						
MARH				AML	AML	19 24 29.8	
	comp=N,15nm,0.4s						
MARH				AML	AML	19 24 30.2	
	comp=Z,15nm,0.2s						
MARH	**Ras Al Marh**	**1.83**	**168**	*e*P	Pn	19 24 02.5	+0.9
	SNR=45						
MARH				*e*S	Sn	19 24 25.9	+0.3
	comp=Z,15nm,0.2s,SNR=40						

*STR **20** 19:32:04.6±0.7, 52.19N×16.13E, h5km, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ISCJB **20** 19:32:06.0±0.3, 51.52N±0.02×16.13E±0.02, h0km, mb3.3/5, Error ellipse: s-maj=2.7km s-min=1.7km az=11.7*
*CSEM **20** 19:32:07.6±0.2, 51.55N×16.15E, h0km, ML3.8/9, Error ellipse: s-maj=4.0km s-min=2.4km az=19.0*
*IDC **20** 19:32:08.7±0.5, 51.54N×16.02E, h0km, mb3.4/5, mb1 3.5/13, mb1mx3.4/43, mbtmp3.4/13, ML3.2/8, Error ellipse: s-maj=10.4km s-min=6.1km az=110.0*
*LDG **20** 19:32:08.5±0.2, 51.45N×16.23E, h1km, Ml3.4/18, Error ellipse: s-maj=5.9km s-min=2.2km az=4.0, Suspected Mining induced.*
*BGR **20** 19:32:09.3±0.4, 51.51N×16.19E, h1km, ML3.4/16, Error ellipse: s-maj=4.4km s-min=2.2km az=14.0*
*VIE **20** 19:32:11.4±1.9, 51.28N×16.15E, h1km±9km, mb3.1/7, ML3.2/9, Error ellipse: s-maj=8.8km s-min=2.6km az=6.0 63 km WNW of Wroclaw Suspected Mining induced.*
ISC 20 19:32:07.0±0.5, **51.55N**±0.03×**16.15E**±0.02, **h0**km, **n153, σ1.63**/238, **mb3.3**/5, **15C-6D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**173**	*e*Pg	**Pb**	**19 32 22.2**	**-0.1**
KSP				*e*Sg	**Sg**	**19 32 31.6**	**+1.6**
KSP	**Ksiaz**	**0.72**	**173**	*e*Pg	**Pb**	**19 32 22.2**	**-0.1**
KSP				*e*Sg	**Sg**	**19 32 31.4**	**+1.4**
KSP	**Ksiaz**	**0.72**	**173**	Pg	**Pb**	**19 32 22.2**	**-0.1**
KSP				Sg	**Sg**	**19 32 31.6**	**+1.6**
UPC	**Upice**	**1.05**	**185**	*e*PG	**Pb**	**19 32 28.4**	**+0.4**
UPC				*e*SG	**Sg**	**19 32 41.6**	**+0.9**

UPC Upice 1.05 185 Pg Pb 19 32 28.4 +0.4
UPC Sg Sg 19 32 41.6 +0.9
DPC Dobruska-Polom 1.21 175 ePg Pb 19 32 31.0 +0.2
DPC eSg Sg 19 32 46.8 +1.0
DPC Dobruska-Polom 1.21 175 ePG Pb 19 32 31.0 +0.2
DPC eSG Sg 19 32 45.8 0.0
DPC Dobruska-Polom 1.21 175 Pg Pb 19 32 31.0 +0.2
DPC Sg Sg 19 32 45.8 0.0
KRLC Kraliky 1.53 165 ePG Pn 19 32 36.2 +0.6
KRLC eSG Sn 19 32 55.6 -0.7
KRLC Kraliky 1.53 165 Pg Pn 19 32 36.2 +0.6
KRLC Sg Sn 19 32 55.6 -0.7
BRG Berggiesshubel 1.54 245 PN Pb 19 32 36.3 -0.2
BRG PG Pg 19 32 38.2 +1.6
BRG SG Sg 19 32 58.8 +2.2
356nm,0.4s
PRA Prague 1.84 217 PN Pn 19 32 40.0 +0.2
PRA PG Pg 19 32 42.0 -0.2
PRA SG Sg 19 33 07.0 +1.0
FBE Freiberg 1.87 251 ePn Pb 19 32 41.8 -0.2
FBE eSg Sg 19 33 08.8 +1.9
FBE Freiberg 1.87 251 Pn Pb 19 32 41.8 -0.2
FBE Sg Sg 19 33 08.8 +1.9
PRU Pruhonice 1.87 214 ePN Pn 19 32 40.8 +0.6
PRU ePG Pg 19 32 43.0 +0.2
PRU eSG Sg 19 33 08.3 +1.3
169nm,0.6s
PRU Pruhonice 1.87 214 Pn Pn 19 32 40.8 +0.6
RAC Raciborz 1.96 138 ePg Pb 19 32 44.4 +0.8
RAC eSg Sg 19 33 10.1 +0.1
CLL Collm 1.98 264 ePn Pn 19 32 42.4 +0.6
CLL Collm 1.98 264 ePn Pn 19 32 42.0 +0.2
CLL i Pg Pg 19 32 45.8 +0.8
CLL i 19 32 48.6
CLL i Sg Sg 19 33 12.6 +1.9
comp=Z,153nm,0.6s
CLL Collm 1.98 264 Pn Pn 19 32 42.4 +0.6
MORC Moravsky Berou 1.99 153 ePn Pn 19 32 42.4 +0.5
MORC eSg Sg 19 33 10.9 +0.1
MORC Moravsky Berou 1.99 153 ⇓iP Pn 19 32 41.9 0.0
MORC Moravsky Berou 1.99 153 S Sn 19 33 06.1 -1.4
MORC Moravsky Berou 1.99 153 Pn Pn 19 32 42.4 +0.5
MORC Sg Sg 19 33 10.9 +0.1
OKC Ostrava-Krasne 2.14 143 ePn Pn 19 32 43.5 -0.4
OKC eSg Sb 19 33 14.7 +1.1
OKC Ostrava-Krasne 2.14 143 ePN Pn 19 32 43.2 -0.7
OKC ePG Pg 19 32 47.9 0.0
OKC eSG Sb 19 33 14.0 +0.4
comp=Z,184nm,0.8s
OKC Ostrava-Krasne 2.14 143 Pn Pn 19 32 43.5 -0.4
CHZP Chorzow 2.20 124 ePg Pg 19 32 49.3 +0.2
CHZP eSg Sg 19 33 18.4 +0.8
VRAC Vranov 2.26 173 ⇑iP Pn 19 32 46.8 +1.1
VRAC Vranov 2.26 173 S Sb 19 33 17.9 +0.6
VRAC Vranov 2.26 173 Pn Pn 19 32 46.8 +1.1
comp=Z,4.9nm,0.3s,baz=338,slow=14,SNR=32
VRAC Sn Sb 19 33 17.4 +0.1
comp=Z,25nm,0.3s,baz=255,slow=21,SNR=12
VRAC Vranov 2.26 173 ePn Pn 19 32 46.7 +1.1
VRAC eSg Sg 19 33 19.5 -0.2
TREC Trest 2.30 191 ePN Pn 19 32 47.3 +1.1
TREC ePG Pg 19 32 50.7 -0.3
TREC eSG Sg 19 33 20.4 -0.4
comp=Z,72nm,0.4s
TREC Trest 2.30 191 Pn Pn 19 32 47.3 +1.1
TANN Tannenbergstha 2.59 245 ePn Pn 19 32 51.6 +1.3
TANN eSg Sg 19 33 30.9 +0.6
TANN Tannenbergstha 2.59 245 Pn Pn 19 32 51.6 +1.3
TANN Sg Sg 19 33 30.9 +0.6
WERD Werda 2.67 247 ePn Pn 19 32 52.3 +1.1
WERD Werda 2.67 247 Pn Pn 19 32 52.3 +1.1
OJC Ojcow 2.67 119 ePn Pn 19 32 50.1 -1.1
OJC eSg Sg 19 33 33.8 +1.1
OJC Ojcow 2.67 119 ePN Pn 19 32 50.0 -1.2
OJC ePg Pg 19 32 57.8 -0.3
OJC eSg Sg 19 33 33.7 +1.0
OJC Ojcow 2.67 119 Pn Pn 19 32 50.1 -1.1
KHC Kasperske Hory 2.93 215 ePN Pn 19 32 55.8 +0.9
KHC ePG Pg 19 33 02.2 -0.9
KHC eSN Sn 19 33 30.8 +0.1
KHC eSG Sg 19 33 40.7 -0.4
comp=Z,66nm,0.5s
KHC Kasperske Hory 2.93 215 Pn Pn 19 32 55.8 +0.9
MOX Moxa 3.00 254 ePn Pn 19 32 56.6 +0.8
MOX eSg Sg 19 33 46.0 +2.7
MOX Moxa 3.00 254 Pn Pn 19 32 56.6 +0.8
MOX Sg Sg 19 33 46.0 +2.7
MANZ Manzenberg 3.00 240 ePn Pn 19 32 57.4 +1.5
MANZ eSg Sg 19 33 43.3 -0.2
MANZ Manzenberg 3.00 240 Pn Pn 19 32 57.4 +1.5
MANZ Sg Sg 19 33 43.3 -0.2
ROTZ Rotzenmuhle 3.08 236 ePn Pn 19 32 58.2 +1.3
ROTZ eSg Sg 19 33 46.3 +0.5
ROTZ Rotzenmuhle 3.08 236 Pn Pn 19 32 58.2 +1.3
ROTZ Sg Sg 19 33 46.3 +0.5
GEC2 GERESS Array S 3.13 211 ePn Pn 19 32 59.0 +1.3
GEC2 eSg Sg 19 33 47.5 -0.1
GEC2 GERESS Array S 3.13 211 Pn Pn 19 32 59.0 +1.3
GEC2 Sg Sg 19 33 47.5 -0.1
GERES GERESS Array B 3.13 211 Pn Pn 19 32 58.7 +1.0
comp=Z,2.6nm,0.3s,baz=31,slow=12,SNR=97
GERES Pg Pb 19 33 05.0 +1.5
comp=Z,6.8nm,0.3s,baz=36,slow=16,SNR=53
GERES Lg Lg 19 33 43.7
comp=Z,12nm,0.3s,baz=41,slow=28,SNR=9.4
SMOL Smolenice 3.15 164 ePG Pg 19 33 08.0 +0.6
SMOL eSG Sg 19 33 49.8 +1.6
SMOL Smolenice 3.15 164 ePg Pg 19 33 08.0 +0.6
SMOL eSg Sg 19 33 49.8 +1.6
WET Wettzell 3.19 222 ePn Pn 19 32 59.6 +1.1
WET Wettzell 3.19 222 Pn Pn 19 32 59.6 +1.1
NIE Niedzica 3.41 127 eP Pg 19 33 12.9 +0.6
NIE eS Sg 19 33 58.1 +1.6
VYHS Vyhne 3.52 149 ePN Pn 19 33 03.4 +0.5
VYHS ePG Pg 19 33 16.1 +1.7
VYHS eSG Sg 19 34 01.6 +1.6
VYHS Vyhne 3.52 149 ePn Pn 19 33 03.4 +0.5
CLZ Clausthal 3.60 277 ePn Pn 19 33 05.8 +1.7
CLZ Clausthal 3.60 277 Pn Pn 19 33 05.8 +1.7
CONA Conrad Observa 3.63 183 ⇑iPn Pn 19 33 05.5 +0.9
CONA ⇓iSg Sg 19 34 02.2 -1.4
comp=Z,116nm,0.7s
CONA Conrad Observa 3.63 183 Pn Pn 19 33 05.5 +0.9
CONA Sg Sg 19 34 02.2 -1.4
comp=Z,116nm,0.7s
BSD Bornholm Skovb 3.65 349 i P Pn 19 33 04.6 0.0
BSD i S Sn 19 33 44.7 -3.6
BSD Bornholm Skovb 3.65 349 i P Pn 19 33 04.6 0.0
GRA1 Grafenberg Arr 3.65 241 Pn Pn 19 33 06.2 +1.5
GRA1 Sg Sg 19 34 05.9 +1.8
GRF Grafenberg Arr 3.65 241 ePn Pn 19 33 06.2 +1.5
GRF eSg Sg 19 34 05.9 +1.8
STHS Stebnicka Huta 3.89 121 ePN Pn 19 33 09.3 +1.2
STHS ePG Pg 19 33 22.4 +0.8
STHS eSG Sg 19 34 15.5 +3.5
STHS Stebnicka Huta 3.89 121 ePn Pn 19 33 09.3 +1.2
MOA Molln 3.90 199 ⇑iPn Pn 19 33 09.6 +1.4
SNR=6.8
MOA ⇓iSg Sg 19 34 12.7 +0.4
comp=Z,48nm,0.6s
MOA Molln 3.90 199 Pn Pn 19 33 09.6 +1.4
SNR=6.8
MOA Sg Sg 19 34 12.7 +0.4
comp=Z,48nm,0.6s
CRVS Cervenica-Dubn 4.32 126 ePN Pn 19 33 15.1 +1.2
CRVS ePG Pg 19 33 31.8 +2.0
CRVS eSG Sg 19 34 29.6 +3.9
CRVS Cervenica-Dubn 4.32 126 ePn Pn 19 33 15.1 +1.2
ARSA Arzberg 4.33 186 ⇑iPn Pn 19 33 14.6 +0.6
ARSA ⇑iSg Sg 19 34 24.9 -0.9
comp=Z,57nm,0.7s
ARSA Arzberg 4.33 186 Pn Pn 19 33 14.6 +0.6
ARSA Sg Sg 19 34 24.9 -0.9
comp=Z,57nm,0.7s
PSZ Piszkesteto 4.37 145 ⇑iP Pn 19 33 14.1 -0.6
PSZ Piszkesteto 4.37 145 S Pg 19 33 33.1 +2.3
KWP Kalwaria Pacla 4.60 112 ⇑iP Pn 19 33 18.2 +0.4
KWP Kalwaria Pacla 4.60 112 S Pg 19 33 35.2 +0.1
KOLS Kolonicke sedl 4.72 121 ePN Pn 19 33 20.0 +0.5
KOLS ePG Pg 19 33 39.2 +1.7
KOLS eSG Sg 19 34 43.6 +4.9
KOLS Kolonicke sedl 4.72 121 ePn Pn 19 33 20.0 +0.5
KBA Koelnbreinsper 4.84 203 ⇓iPn Pn 19 33 22.9 +1.7
KBA ⇑iSg Sg 19 34 43.2 +0.9
comp=Z,27nm,0.5s
KBA Koelnbreinsper 4.84 203 Pn Pn 19 33 22.9 +1.7
KBA Sg Sg 19 34 43.2 +0.9
comp=Z,27nm,0.5s
PERS Pernice 4.97 188 i Pn Pn 19 33 25.2 +2.3
PERS Pernice 4.97 188 Pn Pn 19 33 25.2 +2.3
TOD Tromm 5.07 250 P Pn 19 33 24.6 +0.4
WATA Walderalm 5.17 217 ⇓iPn Pn 19 33 27.0 +1.3
SNR=9.4
WATA Walderalm 5.17 217 Pn Pn 19 33 27.0 +1.3
SNR=9.4
WTTA Wattenberg 5.20 216 ⇑iPn Pn 19 33 27.4 +1.2
WTTA Wattenberg 5.20 216 Pn Pn 19 33 27.4 +1.2
MOTA Moosalm 5.34 220 ⇑iPn Pn 19 33 28.9 +0.8
MOTA ⇓iSg Sg 19 35 01.8 +3.2
comp=Z,45nm,1.0s
MOTA Moosalm 5.34 220 Pn Pn 19 33 28.9 +0.8
MOTA Sg Sg 19 35 01.8 +3.2
comp=Z,45nm,1.0s
TRPA Tarpa 5.37 127 ⇑iP Pn 19 33 29.8 +1.5
PKSM Moragy 5.59 162 ⇑iP Pn 19 33 32.1 +0.7
PKSM Moragy 5.59 162 S Pn 19 33 38.9 +7.5
LJU Ljubljana 5.62 192 ePn Pb 19 33 39.0 -6.8
KTD Kalmit 5.62 250 P Pn 19 33 31.3 -0.4
JAVS Javornik 5.83 194 ePn Pn 19 33 35.5 +0.8
JAVS Javornik 5.83 194 ePn Pn 19 33 35.5 +0.8
SPAK Spaichingen-Ko 5.88 237 P Pn 19 33 37.6 +2.2
LANF Langenberg 5.94 248 P Pn 19 33 35.9 -0.2
LANF Langenberg 5.94 248 P Pn 19 33 35.9 -0.2
RUP Ruppelstein 6.07 256 P Pn 19 33 37.7 -0.3
BOJS Bojanci 6.08 186 i Pn Pn 19 33 40.0 +1.9
BOJS Bojanci 6.08 186 i Pn Pn 19 33 40.0 +1.9
STR Strasbourg 6.16 244 P Pn 19 33 39.8 +0.7
STR Strasbourg 6.16 244 P Pn 19 33 39.8 +0.7
DAVOX Davos/Dischmat 6.30 223 Pn Pn 19 33 43.5 +2.2
comp=Z,0.6nm,0.3s,baz=27,slow=13,SNR=6.8
DAVOX Lg Lg 19 35 27.1
comp=Z,0.9nm,0.3s,baz=234,slow=21,SNR=4.1
DRGR 6.42 135 ⇑iP Pn 19 33 44.2 +1.4
MEM Membach 6.46 266 PN Pn 19 33 44.5 +1.1
MEM SG Sg 19 35 38.5 +4.1
comp=N,12nm,0.0s
MEM Membach 6.46 266 Pn Pn 19 33 44.4 +1.1
MEM Sg Sg 19 35 38.4 +4.1
WLS Welschbruch 6.48 244 P Pn 19 33 44.5 +0.8
WLS Welschbruch 6.48 244 P Pn 19 33 44.5 +0.8
CDF Champ du Feu 6.53 245 ePn Pn 19 33 43.9 -0.4
CDF eSg Sg 19 35 33.2 -3.3
comp=N,57nm,1.0s
CDF Champ du Feu 6.53 245 ePn Pn 19 33 43.9 -0.4
BZS Buzias 6.96 146 ⇑iP Pn 19 33 52.3 +2.2
BURAR Bucovina Array 7.09 120 ⇑iP Pn 19 33 53.0 +1.0
HINF Hinteralfeld 7.09 242 ePn Pn 19 33 50.8 -1.2
HINF eSg Sg 19 35 50.5 -4.2
comp=N,30nm,0.8s
HINF Hinteralfeld 7.09 242 ePn Pn 19 33 50.8 -1.2
HAU Haudompre 7.27 245 ePn Pn 19 33 53.5 -0.9
HAU eSg Sg 19 35 56.0 -4.3
comp=N,19nm,0.7s
HAU Haudompre 7.27 245 ePn Pn 19 33 53.5 -0.9
GIVF Givet 7.32 263 ePn Pn 19 33 55.7 +0.6
GIVF eSg Sg 19 35 58.6 -3.3
comp=N,2.5nm,0.3s
GIVF Givet 7.32 263 ePn Pn 19 33 55.7 +0.6
PAGF Fort de Pagny 7.35 250 ePn Pn 19 33 55.9 +0.4
PAGF eSg Sg 19 35 58.8 -4.1
comp=N,1.1nm,0.5s
PAGF Fort de Pagny 7.35 250 ePn Pn 19 33 55.9 +0.4
DOU Dourbes 7.46 263 PN Pn 19 33 59.1 +2.0
DOU SN Sn 19 35 23.8 +1.5
DOU Dourbes 7.46 263 Pn Pn 19 33 59.0 +2.0
DOU Sn Sn 19 35 23.8 +1.5
BAIF Baives 7.71 264 ePn Pn 19 34 02.1 +1.6
BAIF eSg Sg 19 36 10.8 -3.7
comp=N,7.1nm,0.6s
BAIF Baives 7.71 264 ePn Pn 19 34 02.1 +1.6
MEZF Maizieres J'vi 7.77 251 ePn Pn 19 34 00.7 -0.6
MEZF eSg Sg 19 36 12.0 -4.4
comp=N,5.0nm,0.6s
MEZF Maizieres J'vi 7.77 251 ePn Pn 19 34 00.7 -0.6
SFTF Sexfontaines 7.92 249 ePn Pn 19 34 02.3 -1.0
SFTF eSg Sg 19 36 16.5 -4.6
comp=N,7.6nm,0.5s
SFTF Sexfontaines 7.92 249 ePn Pn 19 34 02.3 -1.0
CABF La Chapelle 8.25 237 ePn Pn 19 34 06.6 -1.3
CABF eSg Sg 19 36 26.3 -5.4
comp=N,48nm,1.1s
AKASG Malin Array Be 8.27 91 Pn Pn 19 34 07.1 -1.0
comp=N,2.3nm,0.3s,baz=279,slow=12,SNR=18
AKASG Sn Sn 19 35 38.4 -3.8
comp=N,1.2nm,0.3s,baz=274,slow=23,SNR=4.8
LPL La Plagne 8.68 230 ePn Pn 19 34 12.7 -1.3
LPL eSg Sg 19 36 39.6 -6.1
comp=N,1.5nm,0.3s
LPG La Plagne 8.69 229 ePn Pn 19 34 12.7 -1.4
LPG eSg Sg 19 36 40.0 -5.9
comp=N,2.9nm,0.7s
HFS Hagfors 8.71 352 Pn Pn 19 34 13.8 -0.3
comp=N,0.1nm,0.3s,baz=168,slow=15,SNR=6.9
LOR Lormes 9.08 247 ePn Pn 19 34 18.3 -1.0
baz=71
LOR eSg Sn 19 36 52.7 +50
comp=N,2.2nm,0.5s
LOR Lormes 9.08 247 ePn Pn 19 34 18.3 -1.0
LOR eSg Sn 19 36 52.7 +50
comp=N,1.1nm,0.5s
SSF Saint Saulge 9.40 246 ePn Pn 19 34 23.5 -0.1
SSF eSg Sn 19 37 02.6 +53
comp=N,1.2nm,0.5s
SSF Saint Saulge 9.40 246 ePn Pn 19 34 23.5 -0.1
NOA NORSAR Array B 9.89 346 Pn Pn 19 34 28.8 -1.6
comp=N,0.1nm,0.3s,baz=257,slow=11,SNR=2.8
TCF Toulx Ste Croi 10.57 246 ePn Pn 19 34 37.3 -2.4
TCF eSg 19 37 39.2
comp=N,0.5nm,0.2s
FINES FINESS Array B 11.31 25 Pn Pn 19 34 48.7 -1.0
comp=N,0.3nm,0.3s,baz=205,slow=12,SNR=14
FINES Sn Sn 19 36 49.5 -7.3
comp=N,0.5nm,0.3s,baz=221,slow=21,SNR=6.6
CAF Calviac 11.48 240 ePn Pn 19 34 50.9 -1.3
CAF eSg 19 38 07.4
comp=N,1.1nm,0.4s
EKA Eskdalemuir Ar 12.11 296 Pn Pn 19 34 57.9 -2.7
baz=104,slow=14,SNR=6.1
EKA Sn Sn 19 37 07.0 -9.2
baz=99,slow=24,SNR=4.5
ARCES ARCESS Array B 18.58 10 Pn P 19 36 21.9 -3.3
comp=N,0.2nm,0.3s,baz=193,slow=12,SNR=9.4
AKTO Aktyubinsk 26.12 76 P P 19 37 42.9 +0.5
comp=N,0.9nm,0.6s,baz=272,slow=6.6,SNR=4.8
TORD Torodi Ar. Bea 40.05 202 P P 19 39 44.2 +0.4
comp=N,0.2nm,0.7s,baz=15,slow=8.7,SNR=2.1
MKAR Makanchi Array 42.18 69 P P 19 40 02.7 +1.6
comp=N,0.1nm,0.4s,baz=282,slow=6.6,SNR=3.6
SONM Songino Array 54.87 55 P P 19 41 41.2 +2.1
comp=N,0.3nm,0.9s,baz=282,slow=7.2,SNR=3.1
YKA Yellowknife Ar 59.83 336 P P 19 42 15.2 +1.6
comp=N,0.4nm,0.6s,baz=29,slow=6.6,SNR=8.9

WEL 20 19:42:35.8±0.1, 39.26S×177.94E, h55km±2km, ML3.8/15, 16C-20D, Error ellipse: s-maj=1.5km s-min=0.8km az=90.0, Off east coast of North Island

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
MHGZ Mahia Peninsul 0.11 346 ⇑PN Pn 19 42 44.7 +0.5
KNZ Kokohu 0.32 319 ⇑PN Pn 19 42 45.3 -0.3
KNZ SN Sn 19 42 52.0 -0.5
PRGZ Paritu Road 0.34 352 PN Pn 19 42 45.8 0.0
RIGZ Rimuhau 0.57 346 ⇓PN Pn 19 42 48.2 0.0
RIGZ SN Sn 19 42 57.0 -0.3
WHHZ Waihua 0.58 288 PN Pn 19 42 48.3 0.0
WHHZ SN Sn 19 42 57.5 +0.1
SNGZ Shannon Statio 0.67 315 ⇓PN Pn 19 42 49.2 -0.3
SNGZ SN Sn 19 42 58.8 -0.6
RAHZ Arahi 0.75 297 ⇓PN Pn 19 42 50.3 -0.1
RAHZ SN Sn 19 43 00.9 -0.2
CKHZ Cape Kidnapper 0.78 239 ⇑PN Pn 19 42 50.9 +0.2
CNGZ Carnagh Station 0.80 15 ⇑PN Pn 19 42 51.3 +0.3
RAGZ Rawiri 0.87 332 ⇓PN Pn 19 42 51.6 -0.4
NMHZ Naumai 0.90 280 ⇓PN Pn 19 42 52.5 +0.1
MWZ Matawai 0.98 341 ⇓PN Pn 19 42 52.9 -0.6
MWZ SN Sn 19 43 04.4 -2.0
MWZ AML AML 19 43 05.0
KAHZ Kahuranaki 0.98 237 ⇑PN Pn 19 42 53.4 0.0
MCHZ McNeill Hill 0.98 259 ⇑PN Pn 19 42 53.7 +0.3
TWGZ Tauwhareparae 1.08 2 ⇑PN Pn 19 42 54.8 -0.1
TWGZ SN Sn 19 43 08.7 -0.3
BKZ Black Stump Fm 1.13 274 PN Pn 19 42 55.2 -0.3
BKZ AML AML 19 43 10.0
BKZ AML AML 19 43 10.0
PXZ Pawanui 1.14 227 ⇑PN Pn 19 42 55.0 -0.4
PXZ AML AML 19 43 11.7
PXZ AML AML 19 43 12.2
URZ Urewera 1.19 327 ⇓PN Pn 19 42 55.6 -0.6
URZ AML AML 19 43 09.7
URZ AML AML 19 43 10.4
PUZ Puketiti 1.21 12 ⇑PN Pn 19 42 55.9 -0.6
PUZ AML AML 19 43 11.8
PUZ AML AML 19 43 13.3
KRHZ Kereru 1.27 252 PN Pn 19 42 57.0 -0.4
WPHZ Waipukurau 1.41 235 ⇑PN Pn 19 42 58.8 -0.4
PRHZ Porangahau 1.42 225 ⇑PN Pn 19 42 58.6 -0.7
ALRZ Allen Road 1.43 299 PN Pn 19 42 59.1 -0.4
PRRZ Plateau Road 1.43 302 PN Pn 19 42 59.0 -0.4
RRRZ Republican Roa 1.44 309 PN Pn 19 42 59.2 -0.4
BHHZ Black Hill Sta 1.47 261 ⇓PN Pn 19 42 59.9 -0.2
BHHZ SN Sn 19 43 16.6 -1.3
EDRZ Edgecumbe 1.49 320 PN Pn 19 42 59.8 -0.5
PNHZ Pukenui 1.50 244 ⇑PN Pn 19 42 59.9 -0.5
HAZ Te Kaha 1.51 355 ⇓PN Pn 19 43 00.1 -0.4
TARZ Mount Tarawera 1.52 312 ⇓PN Pn 19 43 00.4 -0.4
HRRZ Handcock Road 1.56 303 PN Pn 19 43 00.8 -0.4
MARZ Manawahe 1.61 322 PN Pn 19 43 01.6 -0.4
RITZ Rihia Road 1.64 279 PN Pn 19 43 02.6 +0.3
ANWZ Angora Road 1.65 223 PN Pn 19 43 01.3 -1.0
WHTZ Whakaora 1.66 290 PN Pn 19 43 02.3 -0.2
MOVZ Moawhango 1.70 264 PN Pn 19 43 03.5 +0.3
MOVZ SN Sn 19 43 22.2 -1.8
DVHZ Dannevirke 1.72 232 ⇑PN Pn 19 43 02.6 -0.7
MXZ Matakaoa Point 1.72 10 ⇑PN Pn 19 43 02.9 -0.4
MXZ AML AML 19 43 24.6
MXZ AML AML 19 43 25.0
TSZ Takapari Road 1.72 242 ⇑PN Pn 19 43 02.8 -0.7
TSZ AML AML 19 43 23.8
TSZ AML AML 19 43 25.0
RATZ Rangitukua 1.73 282 PN Pn 19 43 03.4 -0.2
KATZ Kakaramea 1.77 279 ⇓PN Pn 19 43 04.1 -0.1
OTVZ Oturere 1.77 272 ⇓PN Pn 19 43 04.3 +0.1
TUVZ Tukino 1.77 269 ⇓PN Pn 19 43 04.5 +0.2
KRVZ Karewarewa 1.79 275 PN Pn 19 43 04.4 -0.1
NGZ Ngauruhoe 1.82 272 ⇓PN Pn 19 43 04.9 0.0
WNVZ Wahianoa 1.82 267 ⇓PN Pn 19 43 05.1 +0.1
WTVZ West Tongariro 1.83 274 PN Pn 19 43 05.1 +0.1
DRZ Dome Shelter 1.84 269 PN Pn 19 43 05.3 -0.2
FWVZ Far West T-bar 1.85 269 ⇓PN Pn 19 43 05.4 -0.1
TRVZ Turoa 1.86 268 ⇓PN Pn 19 43 05.5 -0.1
WPVZ Whakapapa 1.86 271 ⇓PN Pn 19 43 05.5 +0.1
COVZ Chateau Observ 1.86 271 ⇓PN Pn 19 43 05.4 0.0
MTVZ Mangateitei 1.92 265 PN Pn 19 43 06.2 0.0
BFZ Birch Farm 1.93 222 PN Pn 19 43 04.8 -1.3
TWVZ Taurewa 1.96 275 PN Pn 19 43 06.2 -0.4
PRWZ Pori Road 1.99 229 PN Pn 19 43 06.5 -0.6
PKVZ Pokaka 2.01 268 PN Pn 19 43 07.5 0.0
POWZ Post Office Ro 2.02 235 PN Pn 19 43 06.8 -0.6
TIWZ Tintock 2.19 226 PN Pn 19 43 08.5 -1.2
TIWZ AML AML 19 43 35.4
TIWZ AML AML 19 43 38.0
MRZ Mangatainoka R 2.29 232 ⇑PN Pn 19 43 10.0 -1.2
MRZ AML AML 19 43 37.5
MRZ AML AML 19 43 37.5
WAZ Wanganui 2.34 257 PN Pn 19 43 13.0 +1.2
TMWZ Te Maipa 2.42 220 ⇓PN Pn 19 43 11.1 -1.9
HOWZ Holdsworth Sta 2.48 228 PN Pn 19 43 12.1 -1.6
OGWZ Otaki Gorge 2.63 233 PN Pn 19 43 14.4 -1.4
MTW Mount Morrison 2.66 224 PN Pn 19 43 14.0 -2.3
MTW AML AML 19 43 46.3
MTW AML AML 19 43 46.6
TRWZ Traveller 2.74 218 PN Pn 19 43 15.0 -2.4
KIW Kapiti Island 2.82 235 PN Pn 19 43 17.1 -1.3
KIW AML AML 19 43 50.7
PAWZ Paruwai Farm 2.86 221 PN Pn 19 43 16.7 -2.2
PAWZ AML AML 19 43 50.7
CAW Cannon Point 2.87 229 PN Pn 19 43 17.2 -1.9
CAW AML AML 19 43 52.7
CAW AML AML 19 43 53.1
MSWZ Moikau Station 2.98 223 PN Pn 19 43 18.0 -2.6
MSWZ AML AML 19 43 53.2
PLWZ Palliser 3.09 221 PN Pn 19 43 19.1 -3.0
TCW Tory Channel 3.42 234 PN Pn 19 43 24.3 -2.2
TUWZ Tuamarina 3.75 233 PN Pn 19 43 28.2 -2.9
BSWZ Blackbirch Sta 3.95 230 PN Pn 19 43 31.2 -2.6
NNZ Nelson 4.00 239 PN Pn 19 43 32.5 -2.0
QRZ Quartz Range 4.44 248 PN Pn 19 43 38.1 -2.5
THZ Tophouse 4.58 235 PN Pn 19 43 39.5 -3.1
KHZ Kahutara 4.59 225 PN Pn 19 43 39.7 -2.9
KHZ AML AML 19 44 30.0

IDC 20 19:49:35.9±1.6, 24.44S×67.05W, h148km±14km, mb3.9/4, mb1 3.9/9, mb1mx3.7/28, mbtmp4.3/9, Error ellipse: s-maj=21.8km s-min=13.0km az=99.0
ISCJB 20 19:49:36.6±0.4, 24.40S±0.04×67.19W±0.06, h169km, mb4.0/8, Error ellipse: s-maj=7.2km s-min=5.3km az=163.4
SJA 20 19:49:37.6±1.0, 24.43S×67.18W, h172km±11km, MD2.8, ML3.4
NEIC 20 19:49:37.0±0.6, 24.43S×67.03W, h161km±6km, mb4.2/6, Error ellipse: s-maj=9.6km s-min=6.5km az=90.0
ISC 20 19:49:37.4±0.5, 24.45S±0.05×67.19W±0.06, h169km, n35, σ1.33/44, mb4.2/8, Chile-Argentina border region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SLA San Lorenzo 1.56 100 eP Pn 19 50 11.1 +1.9
SLA eS Sn 19 50 34.8 +1.1
SLA AML AML 19 50 37.6
comp=Z,750nm,0.8s
AZAP Zapla 1.95 84 eP Pn 19 50 14.7 +1.3
AZAP eS Sn 19 50 41.3 +0.1
AZAP AML AML 19 50 46.8
comp=Z,130nm,0.8s
LVC Limon Verde 2.42 319 ePn Pn 19 50 19.3 +0.5
LVC eSn Sn 19 50 50.1 -0.6
LVC Limon Verde 2.42 319 eP Pn 19 50 20.1 +1.3
LVC eS Sn 19 50 51.0 +0.2
ASTB Santa Barbara 2.52 79 eP Pn 19 50 21.3 +1.4
AHML Horco Molle 2.87 145 eP Pn 19 50 25.3 +1.3
ALOL LOMAS DE OLMED 3.00 79 eP Pn 19 50 26.4 +0.8
CYA Choya 4.17 163 eP Pn 19 50 41.7 +1.3
CYA AML AML 19 51 33.0
comp=E,21nm,0.6s
ACLC CERRO LA CRUZ 4.96 178 eP Pn 19 50 51.4 +0.6
ACLC eP Pn 19 50 51.4 +0.6
AGUA GUANDACOL 5.15 193 eP Pn 19 50 54.2 +0.9
CFAA Coronel Fontan 7.19 187 P Pn 19 51 19.5 -0.5
comp=E,0.3nm,0.3s,baz=28,slow=18,SNR=37
CFAA S Sn 19 52 37.3 -3.7
comp=E,0.5nm,0.3s,baz=137,slow=18,SNR=6.5
LPAZ La Paz 8.16 354 P Pn 19 51 33.4 -0.1
comp=E,3.8nm,0.3s,baz=150,slow=5.9,SNR=55
LPAZ S Sn 19 53 01.2 -4.0
comp=E,0.3nm,0.3s,baz=343,slow=18,SNR=4.6
CPUP Villa Florida 9.11 104 P Pn 19 51 44.4 -1.0
comp=E,0.6nm,0.3s,baz=272,slow=12,SNR=8.2
SIV San Ignacio 10.18 35 P Pn 19 51 57.5 -2.1
comp=E,2.6nm,0.3s,baz=226,slow=14,SNR=72
SIV S Sn 19 53 38.4 -14
comp=E,0.3nm,0.3s,baz=234,slow=16,SNR=5.9
TRQA Tornquist 14.28 163 ePn Pn 19 52 50.8 -1.1
comp=E,38nm,0.6s
SAML Samuel 15.88 15 ePn Pn 19 53 10.1 -1.7
comp=E,8.5nm,0.9s
PLCA Paso Flores 16.48 189 P Pn 19 53 20.0 +0.9
comp=E,0.2nm,0.3s,baz=17,slow=12,SNR=11
BDFB Brasilia 20.01 68 P P 19 53 56.6 -0.7
comp=E,1.7nm,0.3s,baz=239,slow=12,SNR=22
SNAA Sanae 58.99 161 P P 19 59 19.3 +0.4
comp=E,6.7nm,1.0s
DBIC Dimbokro 68.11 71 P P 20 00 18.6 -0.8

comp=E,2.5nm,0.6s,baz=205,slow=7.7,SNR=11
TOA0 Torodi Ar. Sit 76.89 69 *e*P **P 20 01 10.6 -0.7**
TORD Torodi Ar. Bea 76.89 69 P **P 20 01 10.9 -0.4**
comp=E,3.6nm,0.5s,baz=256,slow=5.5,SNR=53
TSUM Tsumeb 77.70 106 P **P 20 01 15.4 -0.6**
HLID Hailey 80.37 327 *e*P **P 20 01 32.4 +2.4**
comp=E,1.4nm,0.8s
BOSA Boshof 80.68 117 P **P 20 01 31.9 -0.2**
comp=E,1.5nm,0.5s,baz=294,slow=1.5,SNR=11
LBTB Lobatse 82.36 114 *e*P **P 20 01 41.0 0.0**
comp=E,2.4nm,0.5s
TAM Tamanrasset 84.75 62 *e*P **P 20 01 54.3 +1.2**
comp=E,3.8nm,1.0s
CASY Casey 89.55 179 P **P 20 02 15.7 +0.5**
YKA Yellowknife Ar 94.48 340 P **P 20 02 38.9 +1.2**
comp=E,0.2nm,0.6s,baz=137,slow=4.2,SNR=4.1
ASAR Alice Springs 127.98 205 PKP **PKPdf 20 08 24.8 +0.9**
comp=E,0.7nm,0.6s,baz=173,slow=2.6,SNR=7.4
WRA Warramunga Arr 131.15 207 PKP **PKPdf 20 08 30.9 +0.9**
comp=E,0.5nm,0.5s,baz=154,slow=1.7,SNR=6.5
ZALV Zalesovo Beam 143.87 28 PKP **PKPdf 20 08 51.5 -0.6**
comp=E,0.4nm,0.3s,baz=318,slow=2.0,SNR=4.1
BATI Baumata 143.97 198 PKP **PKPdf 20 08 53.6 +0.1**
comp=E,11nm,0.7s,baz=135,slow=5.7,SNR=3.6
MK31 Makanchi Array 146.98 40 *e*PKPdf **PKPdf 20 08 57.0 -0.8**
MK31 *e*PKPbc **PKPbc 20 09 00.8 +0.8**
MKAR Makanchi Array 146.98 40 PKP **PKPbc 20 08 59.2 -0.8**
comp=E,1.0nm,0.5s,baz=314,slow=1.9,SNR=25
MKAR PKPbc **PKPab 20 09 01.1 -0.7**
comp=E,1.0nm,0.5s,baz=325,slow=2.5,SNR=25

GUC 20 20:14:18.3±0.5,**31°.24S**×**71°.69W**,**h28**km±3km,**MD3.6, ML3.7,1C,Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CMCH Combarbala 0.60 84 ⇑*i*P Pb 20 14 30.2 -0.2
CMCH *i*S Sb 20 14 38.7 +0.1
CMCH AML AML 20 14 40.0
comp=E,16μm,0.8s
JACH Jahuel 1.71 147 *i*P Pn 20 14 47.5 +1.0
JACH *i*S Sb 20 15 09.9 -0.6
PEL Peldehue 2.08 156 *e*P Pn 20 14 52.6 +1.2
PEL *i*S Sb 20 15 19.0 -1.9
PEL AML AML 20 15 20.9
comp=E,1μm,0.5s
CLCH Cerro Calan 2.36 156 *i*P Pn 20 14 56.5 +1.2
CLCH *i*S Sn 20 15 25.7 +2.2
CLCH AML AML 20 15 35.3
comp=N,326nm,0.4s
ANTU Antumapu 2.49 159 AML AML 20 15 37.7
comp=E,243nm,0.4s
LNV Longovilo 2.72 175 *i*P Pn 20 15 01.1 +1.0
LNV *i*S Sn 20 15 34.1 +2.1
CHCH Chadas Angostu 2.82 162 *i*P Pn 20 15 03.1 +1.5
CHCH *i*S Sn 20 15 36.6 +1.8
LMEL Las Melosas 2.89 155 *i*P Pn 20 15 04.4 +1.7
LMEL *i*S Sn 20 15 39.1 +2.5
LMEL AML AML 20 15 47.7
comp=E,180nm,0.1s

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*IDC **20** 20:22:57.0±1.2,2°.19N×126°.87E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.5/26,mbtmp3.7/5,Error ellipse: s-maj=138.6km s-min=19.1km az=68.0*
*ISCJB **20** 20:23:02.8±1.0,2°.60N±0°.07×127°.5E±0°.1,h64km,mb3.7/5, Error ellipse: s-maj=17.6km s-min=6.5km az=154.7*
*DJA **20** 20:23:04.8±1.0,2°N±6°×12°7E±°,h14km±11km,M3.7/5, MLv3.7/5*
ISC 20 20:23:04.4±1.3,**2°.6N**±0°.1×**127°.4E**±0°.2,**h64**km,**n9, σ1°.30**/12,**mb3.7**/5,**Northern Molucca Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
TNTI Ternate 1.77 180 P **Pn 20 23 33.6 +0.7**
TNTI S **Sn 20 23 55.3 +0.9**
SGSI Sangihe 2.15 302 P **Pn 20 23 38.4 +0.4**
SGSI S **Sn 20 24 03.6 0.0**
LBMI Labuha 3.17 177 P **Pn 20 23 53.1 +1.1**
LBMI S **Sn 20 24 30.3 +1.6**
SANI Sanana 4.78 197 P **Pn 20 24 13.0 -0.9**
WRA Warramunga Arr 23.38 163 P **P 20 28 06.0 -1.8**
1.1nm,0.4s,baz=340,slow=10,SNR=24
ASAR Alice Springs 26.83 167 P **P 20 28 37.4 -1.7**
0.7nm,0.3s,baz=347,slow=12,SNR=21
ASAR PcP **PcP 20 32 00.5 0.0**
0.3nm,0.4s,baz=354,slow=2.1,SNR=6.6
STKA Stephens Creek 36.82 160 P **P 20 30 05.3 -1.0**
0.8nm,0.2s,baz=329,slow=10,SNR=4.2
SONM Songino Array 48.60 341 P P 20 31 44.1 +2.3
0.3nm,0.5s,baz=153,slow=8.4,SNR=4.8
MKAR Makanchi Array 58.87 325 P **P 20 32 58.1 +1.4**
0.3nm,0.5s,baz=111,slow=7.5,SNR=7.9

IDC 20 20:45:05.3±1.4,**14°.13N**×**121°.22E**,**h0**km,**mb3.3**/4**, mb1 3.6**/4,**mb1mx3.3**/40,**mbtmp3.4**/4,**Error ellipse: s-maj=59.3km s-min=21.9km az=61.0,Luzon**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
TGY Tagaytay City 0.27 264 LR LR 20 45 37.5
comp=Z,11nm,20.5s,baz=122,slow=118
CMAR Chiang Mai Arr 21.80 284 P P 20 49 59.0 -0.3
0.5nm,0.5s,baz=96,slow=8.2,SNR=4.5
SONM Songino Array 35.79 343 P P 20 52 06.5 0.0
0.1nm,0.5s,baz=153,slow=9.7,SNR=3.2
WRA Warramunga Arr 36.24 159 P P 20 52 10.4 0.0
0.4nm,0.5s,baz=341,slow=8.8,SNR=20
ASAR Alice Springs 39.56 162 P P 20 52 38.2 -0.3
0.3nm,0.4s,baz=338,slow=7.3,SNR=9.0

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*IDC **20** 20:45:24.3±1.1,40°.40N×78°.90E,h0km,mb3.6/8, mb1 3.8/11,mb1mx3.5/46,mbtmp3.6/11,ML2.8/3,MS2.8/3, Ms1 2.9/3,ms1mx2.5/46,Error ellipse: s-maj=20.5km s-min=16.9km az=11.0*
*BJI **20** 20:45:24.2,40°.31N×79°.04E,h5km,mb3.7/7,ML3.6/9*
*MOS **20** 20:45:27.8±1.3,40°.46N×79°.04E,h33km,mb3.9/5,Error ellipse: s-maj=24.3km s-min=14.9km az=96.4*
*NNC **20** 20:45:27.4±1.8,40°.41N×78°.93E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=15.8km s-min=9.0km az=153.0*
ISC 20 20:45:26.9±0.7,**40°.46N**±0°.05×**78°.93E**±0°.04,**h10**km,**n42, σ1°.93**/45,**mb3.6**/7,**10C-6D,Southern Xinjiang**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KSH Kashi 2.46 248 Pn **Pg 20 46 14.1 +0.1**
KSH Sn Sg 20 46 55.6 +10
KSH smax smax
comp=N,93nm,1.0s
KSH smax smax
comp=E,110nm,0.8s
ULHL Ulahol 2.70 312 P **Pb 20 46 14.1 -1.3**
SNR=84
PDGK Podgornoye 2.90 8 ⇑Pn **Pn 20 46 15.6 +2.5**
PDGK ⇑Sn **Sb 20 46 54.2 +0.1**
KNDC Almaty 3.12 333 ⇓Pn **Pn 20 46 18.3 +2.1**
40nm,0.5s
KNDC ⇑Lg Lg 20 47 07.2
879nm,1.3s
AAA Alma-Ata 3.18 333 *i* PN **Pg 20 46 26.7 -1.1**
AAA *i* S **Sg 20 47 09.9 +0.9**
AAA pmax pmax
comp=Z,188nm,0.7s
AAA smax smax
comp=N,643nm,0.9s
KZA Kyzart 3.21 301 P **Pn 20 46 20.9 +3.1**
SNR=5.6
TKM2 Tokmak 2 3.51 316 ⇑Pn **Pn 20 46 24.7 +3.0**
comp=N,26nm,0.6s
TKM2 ⇓Lg Lg 20 47 19.4
comp=N,83nm,0.9s
TKM2 Tokmak 2 3.51 316 P Pn 20 46 25.1 +3.5
SNR=30
KBK Karagaybulak 3.71 308 P Pn 20 46 28.0 +3.6
SNR=8.5
UCH Uchtor 3.77 299 P **Pn 20 46 27.7 +2.2**
SNR=13
AAK Ala-Archa 3.98 305 ⇓Pn **Pn 20 46 31.0 +3.0**
comp=N,7.1nm,1.2s
AAK ⇑Pg **Pb 20 46 39.9 +2.7**
comp=N,20nm,1.0s
AAK ⇑Lg Lg 20 47 33.0
comp=N,76nm,1.1s
AAK Ala-Archa 3.98 305 P **Pb 20 46 40.3 +3.1**
SNR=8.3
AAK Ala-Archa 3.98 305 Pn **Pn 20 46 31.2 +3.1**
comp=N,0.3nm,0.3s,baz=130,slow=9.0,SNR=10
AAK Lg Lg 20 47 30.4
comp=N,1.0nm,0.3s,baz=254,slow=16,SNR=7.9
FRU Bishkek 4.01 308 *i* PN **Pg 20 46 42.0 -1.7**
FRU *i* S **Sg 20 47 36.0 +0.4**
FRU pmax pmax
comp=Z,240nm,1.8s
FRU smax smax
comp=E,360nm,2.0s
CHMS Chumysh 4.03 310 P Pb 20 46 41.4 +3.4
SNR=11
AML Almayashu 4.28 295 P **Pg 20 46 47.4 -1.5**
SNR=12
USP Ospenovka 4.34 312 P **Pb 20 46 45.9 +2.7**
SNR=14
EKS2 Erkin-Say 4.45 301 P Pn 20 46 38.0 +3.5
SNR=11
MK31 Makanchi Array 6.79 20 ⇑Pn **Pn 20 47 07.8 +1.2**
comp=E,0.7nm,0.3s,baz=201,slow=13,SNR=138
MK31 ⇑Sn **Sn 20 48 27.3 +3.5**
comp=E,34nm,1.2s,baz=190,slow=30,SNR=6.5
MK31 ⇑Lg Lg 20 49 04.6
comp=E,29nm,1.2s,baz=201,slow=26,SNR=4.4
MKAR Makanchi Array 6.79 20 PN **Pn 20 47 07.6 +1.0**
MKAR 20 48 26.8
MKAR pmax pmax
comp=Z,2.0nm,0.3s
MKAR smax smax
comp=N,1.0nm,0.3s
MKAR Makanchi Array 6.79 20 Pn **Pn 20 47 07.5 +1.0**
comp=N,1.7nm,0.3s,baz=203,slow=12,SNR=164
MKAR Sn **Sn 20 48 26.8 +3.0**
comp=N,0.9nm,0.3s,baz=207,slow=19,SNR=8.4
MKAR Lg Lg 20 49 07.8
comp=N,0.8nm,0.3s,baz=198,slow=23,SNR=5.5
KK31 Karatay Array 6.83 296 ⇓Pg Pg 20 47 33.0 -4.5
comp=N,2.2nm,0.7s,baz=113,slow=15,SNR=15
KK31 ⇓Lg Lg 20 49 03.6
comp=N,10nm,0.8s,baz=112,slow=26,SNR=6.8
WMQ Urumqi 7.33 60 Pn **Pn 20 47 14.6 +0.6**
WMQ Sn **Sn 20 48 35.1 -2.2**
WMQ smax smax
comp=N,36nm,1.1s
WMQ smax smax
comp=N,52nm,1.0s
KURK Kurchatov 10.26 359 ⇓Pn **Pn 20 47 53.2 -0.9**
comp=N,2.7nm,1.3s
KURK ⇑Lg Lg 20 50 53.9
comp=N,14nm,1.1s
ZALV Zalesovo Beam 14.07 14 Pn **Pn 20 48 45.0 -1.1**
comp=N,0.1nm,0.3s,baz=198,slow=12,SNR=5.5
ZALV Sn **Sn 20 51 23.9 +1.6**
comp=N,0.1nm,0.3s,baz=197,slow=19,SNR=5.0
ZALV Lg Lg 20 52 58.9
comp=N,0.1nm,0.3s,baz=199,slow=21,SNR=2.6
NVS Novosibirsk 14.68 10 *e*P **P 20 48 59.5 -1.2**
NVS *e* 20 51 41.4
GTA Gaotai 16.05 87 *e*P **P 20 49 16.8 +0.5**
GTA pP **pP 20 49 21.3 +2.2**
GTA sP **sP 20 49 24.3 +3.9**
GTA pmax pmax
comp=N,3.0nm,0.9s
AKTO Aktyubinsk 17.69 311 LR LR 20 57 04.8
comp=N,13nm,21.4s,baz=62,slow=40
SONM Songino Array 20.97 60 P **P 20 50 10.0 -0.2**
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 20.97 60 P **P 20 50 10.0 -0.2**
comp=Z,3.2nm,1.0s,baz=255,slow=8.7,SNR=22
CMAR Chiang Mai Arr 27.88 136 P **P 20 51 16.8 -0.2**
comp=Z,0.4nm,0.8s,baz=317,slow=10,SNR=4.2
BRTR Keskin Array B 34.37 284 P **P 20 52 13.5 -0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 34.37 284 P **P 20 52 13.4 -0.6**
comp=Z,0.7nm,0.9s,baz=86,slow=3.8,SNR=3.9
FINES FINESS Array B 37.98 322 P **P 20 52 44.1 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 37.98 322 P **P 20 52 44.1 -0.4**
comp=Z,2.2nm,0.9s,baz=78,slow=8.7,SNR=3.4
NOA NORSAR Array B 45.13 321 P **P 20 53 42.6 -0.6**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,20nm,19.5s
NOA NORSAR Array B 45.13 321 P **P 20 53 42.6 -0.6**
comp=Z,0.9nm,0.8s,baz=120,slow=6.2,SNR=2.9
NOA LR LR 21 11 58.6
comp=Z,20nm,19.5s,baz=175,slow=35
SPITS Spitsbergen Ar 45.17 345 LR LR 21 15 44.1
comp=Z,19nm,18.0s,baz=40,slow=40
ILAR Eielson Array 69.14 19 P **P 20 56 31.4 -1.6**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 69.14 19 P **P 20 56 31.4 -1.6**
comp=Z,0.5nm,0.8s,baz=312,slow=4.8,SNR=6.3
TORD Torodi Ar. Bea 71.92 272 P **P 20 56 48.5 -2.2**
comp=Z,0.5nm,1.0s,baz=62,slow=3.4,SNR=3.5
YKA Yellowknife Ar 76.82 6 P **P 20 57 17.1 -1.3**
comp=Z,0.1nm,0.4s,baz=342,slow=6.1,SNR=5.1

KRNET 20 20:46:27.9±0.1,**40°.43N**×**78°.95E**,**h3**km,**mb4.4,Southern Xinjiang**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
BOOM Boomskoye usch 3.06 313 *e*P Pb 20 47 21.0 -2.2
baz=313
BOOM *e*S Sb 20 48 00.6 -0.4
baz=313
SFK Sufi-Kurgan 4.19 266 *e*P Pb 20 47 41.0 -1.6
baz=266
SFK *e*S Sb 20 48 34.4 +0.6
baz=266

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*IDC **20** 20:47:40.7±1.8,0°.76N×97°.25E,h0km,mb3.6/5,mb1 3.6/7, mb1mx3.4/37,mbtmp3.5/7,ML3.2/2,Error ellipse: s-maj=54.7km s-min=20.5km az=62.0*
*ISCJB **20** 20:47:42.5±1.0,0°.75N±0°.07×97°.3E±0°.1,h27km,mb3.6/5, Error ellipse: s-maj=16.1km s-min=10.2km az=4.4*
*DJA **20** 20:47:46.3±2.2,1°N±14°×9°8E±1°8,h38km±6km,M3.4/4, MLv3.4/4*
ISC 20 20:47:45.1±1.5,**0°.84N**±0°.10×**97°.4E**±0°.2,**h27**km,**n19, σ0°.54**/11,**mb3.7**/5,**Northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
GSI Gunungsitoli 0.49 19 P **Pb 20 47 55.6 +0.4**
GSI S **Sn 20 48 03.9 0.0**
MNSI Mandailing Nat 2.17 91 P **Pn 20 48 18.5 -0.9**
PSI Prapat 2.46 38 Pn **Pn 20 48 23.6 0.0**
2.1nm,0.3s,baz=168,slow=17,SNR=5.2
KCSI Kotacane, Aceh 2.69 8 P **Pn 20 48 25.6 -1.0**
CMAR Chiang Mai Arr 17.57 5 P **P 20 51 48.9 -0.2**
0.1nm,0.3s,baz=194,slow=12,SNR=8.5
H08S2 Diego Garcia H 26.25 251 T T 21 20 15.4
baz=72,slow=76,SNR=406
H08S3 Diego Garcia H 26.25 251 T T 21 20 15.6
baz=72,slow=76,SNR=390
H08S1 Diego Garcia H 26.26 251 T T 21 20 18.0
baz=72,slow=76,SNR=295
H08N1 Diego Carcia H 27.30 254 T T 21 22 27.7
baz=147,slow=75,SNR=3.8
H08N2 Diego Garcia H 27.31 255 T T 21 22 26.6
baz=147,slow=75,SNR=3.3
H08N3 Diego Garcia H 27.32 254 T T 21 22 31.0
baz=147,slow=75,SNR=3.5
H01W3 Cape Leeuwin H 38.84 158 T T 21 36 28.5
baz=333,slow=76,SNR=10
H01W2 Cape Leeuwin H 38.85 158 T T 21 36 28.2
baz=333,slow=76,SNR=9.2
H01W1 Cape Leeuwin H 38.85 158 T T 21 36 29.8
baz=333,slow=76,SNR=10.0
WRA Warramunga Arr 41.66 122 P **P 20 55 32.0 +0.3**
0.2nm,0.5s,baz=299,slow=8.8,SNR=3.6
ASAR Alice Springs 43.01 127 P **P 20 55 43.0 +0.4**
0.2nm,0.7s,baz=306,slow=8.0,SNR=3.2
SONM Songino Array 47.45 8 P **P 20 56 17.7 +0.1**
0.3nm,0.4s,baz=190,slow=9.2,SNR=8.8
MKAR Makanchi Array 47.64 346 P **P 20 56 19.1 +0.2**
1.0nm,0.5s,baz=160,slow=8.7,SNR=28
ZALV Zalesovo Beam 53.94 351 P **P 20 57 06.2 -0.1**
0.9nm,0.3s,baz=181,slow=6.9,SNR=6.7

MEX 20 20:59:01.6±0.9,**16°.76N**×**100°.09W**,**h10**km±6km,**MD3.7, Near coast of Guerrero**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
ACX Acapulco 0.25 64 *e*P Pg 20 59 05.4 -1.3
ACX *i*S Sg 20 59 08.5 -1.6
CAIG El Cayaco 0.33 329 *i*P Pg 20 59 08.0 -0.3
CAIG *i*S Sg 20 59 12.7 -0.1
ARIG Puente Sto Nin 1.53 351 *e*P Pn 20 59 26.3 -2.8
ARIG *e*S Sn 20 59 44.2 -4.9
PLIG Platanillo 1.72 19 *e*P Pn 20 59 27.3 -4.4
PLIG *e*S Sn 20 59 49.5 -4.4

IDC 20 21:00:43.6±2.0,**16°.43S**×**173°.64W**,**h0**km,**mb3.7**/4**, mb1 3.9**/4,**mb1mx3.5**/30,**mbtmp3.7**/4,**Error ellipse: s-maj=59.7km s-min=33.4km az=116.0,Tonga Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
URZ Urewera 23.22 199 P P 21 05 52.5 +0.2
3.0nm,0.3s,baz=3.4,slow=17,SNR=10
WRA Warramunga Arr 49.40 258 P P 21 09 35.3 -0.2
0.1nm,0.4s,baz=97,slow=6.6,SNR=5.6
ASAR Alice Springs 49.59 253 P P 21 09 36.8 -0.2
1.0nm,0.5s,baz=87,slow=8.3,SNR=38
ILAR Eielson Array 83.49 11 P P 21 13 12.8 0.0
0.2nm,0.8s,baz=219,slow=6.0,SNR=4.3

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*BKK **20** 21:07:21.5±0.3,23°N±5°×9°4E±°,h10km,M4.8/24, mB5.1/11,mb5.0/24,MLv5.1/7,Mw(mB)4.5/11*
*BJI **20** 21:07:24.9,23°.11N×94°.54E,h113km,mB4.8/26,mb4.5/45*
*NEIC **20** 21:07:25.5±0.5,23°.22N×94°.64E,h95km±4km,mb4.9/51, Error ellipse: s-maj=6.3km s-min=4.0km az=218.0*
*ISCJB **20** 21:07:25.2±0.4,23°.22N±0°.02×94°.60E±0°.02,h107km±3km, mb4.7/131,Error ellipse: s-maj=4.1km s-min=3.0km az=41.0*
*MOS **20** 21:07:25.4±0.9,23°.27N×94°.71E,h109km,mb4.8/71,Error ellipse: s-maj=8.5km s-min=4.0km az=127.0*
*GCMT **20** 21:07:27.5±0.3,23°.14N×94°.63E,h105km±3km,MW4.8/68, Moment Tensor Solution. s19,c20; s68,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.82±.07; $M_{\theta\theta}$-2.11±.08; $M_{\phi\phi}$0.28±.09; $M_{r\theta}$0.24±.08; $M_{\theta\phi}$-1.23±.11; $M_{\phi r}$-0.26±.07; Best double couple: $M_0$2.27600×10^{16} NP1:ϕ_s83.00000°,δ49.00000°,λ112.00000°. NP2: ϕ_s231.00000°,δ46.00000°,λ67.00000°. Principal axes: T 1.9190, Plg74.0000°, Azm62.0000°; N 0.7100, Plg16.0000°, Azm248.0000°; P -2.6320, Plg2.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*LDG **20** 21:07:27.5±0.3,23°.41N×93°.96E,h100km,Mb4.7/33, Ms3.3/6 Error ellipse: s-maj=14.8km s-min=12.3km az=63.0*
*IDC **20** 21:07:28.7±1.7,23°.22N×94°.73E,h123km±16km,mb4.2/35, mb1 4.3/36,mb1mx4.2/47,mbtmp4.6/36,MS3.3/9, Ms1 3.3/9,ms1mx3.1/29,Error ellipse: s-maj=9.3km s-min=7.0km az=54.0*
*SZGRF **20** 21:07:34.4,23°.68N×93°.79E,h125km,mb5.1, Myanmar-India border region*
ISC 20 21:07:27.7±0.3,**23°.27N**±0°.03×**94°.63E**±0°.03,**h115**km±2km**, h114**km**:pP-P,n451,σ1°.55**/528,**mb4.7**/133,**31C-26D, Myanmar-India border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SHL Shillong 3.39 313 *e*P **Pn 21 08 18.7 -0.5**
SHL *e*S **Sn 21 08 53.9 -4.9**
CMAI Chiengmai2 5.28 128 P **Pn 21 08 43.9 -0.7**
173nm,1.1s,0.8nm
MHMT Maesarieng 5.94 148 P **Pn 21 08 52.6 -0.6**
126nm,0.9s,1μm0.6nm
CHTO Chiang Mai 5.99 137 *e*P **Pn 21 08 51.6 -2.4**
CHTO Chiang Mai 5.99 137 P **Pn 21 08 52.2 -1.8**
165nm,0.6s,6μm2.5nm
CHTO Chiang Mai 5.99 137 *e*Pn **Pn 21 08 51.6 -2.4**
CMAR Chiang Mai Arr 6.26 139 P **Pn 21 08 55.8 -1.8**
CMAR pmax pmax
comp=Z,7.0nm,0.3s
CMAR MLR MLR
comp=Z,380nm,18.8s
CMAR Chiang Mai Arr 6.26 139 P **Pn 21 08 55.8 -1.8**
comp=Z,6.5nm,0.3s,baz=317,slow=12,SNR=56
CMAR LR LR 21 11 25.2
comp=Z,380nm,18.8s,baz=295,slow=38
LAMP Lampang 6.65 134 P **Pn 21 09 02.2 -0.7**
comp=Z,35nm,0.8s,comp=Z,300nmcomp=Z,0.2nm
LSA Lhasa 7.12 335 P **Pn 21 09 10.1 +0.5**
LSA smax smax
comp=Z,410nm,0.6s
LSA Lhasa 7.12 335 *e*P **Pn 21 09 10.3 +0.7**
LSA *e* 21 10 23.1
LSA pmax pmax
comp=Z,189nm,0.3s
LSA Lhasa 7.12 335 *e*Pn **Pn 21 09 10.3 +0.7**
comp=Z,189nm,0.3s
LSA *e*Sn Sn 21 10 23.1 -6.2
TAPN Taplejung 7.46 304 *e*Pn **Pn 21 09 12.6 -1.5**
TAPN *e*Sn **Sn 21 10 31.6 -5.8**
comp=Z,3μm,1.1s
TAPN Taplejung 7.46 304 *e*Pn **Pn 21 09 12.6 -1.5**
TAPN *e*Sn **Sn 21 10 31.6 -5.8**
ODAN Odare 7.47 300 *e*Pn **Pn 21 09 12.6 -1.6**
ODAN *e*Sn Sn 21 10 30.8 -6.7
comp=Z,634nm,0.3s
ODAN Odare 7.47 300 *e*Pn **Pn 21 09 12.6 -1.6**
ODAN *e*Sn Sn 21 10 30.8 -6.7
KMI Kunming 7.63 74 ⇑P Pn 21 09 20.3 +3.9
KMI sP sP 21 09 48.3
KMI S **Sn 21 10 45.8 +4.4**
KMI pmax pmax
comp=Z,13nm,0.7s
KMI pmax pmax
comp=Z,170nm,3.2s
KMI LR LR
comp=Z,590nm,8.5s
KMI LR LR
comp=Z,430nm,6.6s
KMI LR LR
comp=Z,400nm,8.2s
UTTA Uttaradit 7.81 134 P **Pn 21 09 17.7 -0.9**
comp=Z,24nm,0.5s,comp=Z,315nmcomp=Z,0.1nm
BOK Bokaro 8.04 275 *e*P **Pn 21 09 19.9 -1.8**
BOK *e*x x 21 10 42.2
RAMN Ramite 8.15 298 *e*Pn **Pn 21 09 21.7 -1.7**
RAMN Ramite 8.15 298 *e*Pn **Pn 21 09 21.7 -1.7**
LOEI Loei 8.46 131 P Pn 21 09 30.6 +3.2
comp=Z,124nm,0.9s,comp=Z,0.6nm
JIRN Jiri 8.79 302 *e*Pn **Pn 21 09 30.3 -1.9**
JIRN *e*Sn Sn 21 11 02.7 -7.0
comp=Z,540nm,0.3s
JIRN Jiri 8.79 302 *e*Pn **Pn 21 09 30.3 -1.9**
JIRN *e*Sn Sn 21 11 02.7 -7.0
PBKT Sadao Pong 8.94 137 P **Pn 21 09 33.5 -0.5**
comp=Z,66nm,1.1s,comp=Z,856nm
GUN Gumba 9.15 302 *e*Pn **Pn 21 09 34.7 -2.3**
GUN *e*Sn Sn 21 11 11.0 -7.4
comp=Z,806nm,0.4s
GUN Gumba 9.15 302 *e*Pn **Pn 21 09 34.7 -2.3**
GUN *e*Sn Sn 21 11 11.0 -7.4
KHLT Khaolaem Dam 9.22 155 P **Pn 21 09 38.4 +0.6**
comp=Z,50nm,1.3s,comp=Z,690nm
PKI Pulchoki 9.37 299 *e*Pn **Pn 21 09 37.4 -2.6**
PKI *e*Sn Sn 21 11 15.9 -7.8
comp=Z,329nm,0.5s
PKI Pulchoki 9.37 299 *e*P **Pn 21 09 37.9 -2.1**
PKI *e* 21 11 16.5
PKI Pulchoki 9.37 299 *e*Pn **Pn 21 09 37.9 -2.1**
PKI *e*Sn Sn 21 11 16.5 -7.2
PKIN Phulchoki 9.38 299 *e*Pn **Pn 21 09 37.9 -2.2**
PKIN *e*Sn Sn 21 11 16.5 -7.4
comp=Z,312nm,0.4s
KKN Kakani 9.57 300 *e*Pn **Pn 21 09 40.2 -2.3**

KKN eSn Sn 21 11 20.3 -8.0
comp=Z,421nm,0.5s
KKN Kakani 9.57 300 eP **Pn 21 09 40.2 -2.3**
KKN e 21 11 20.3
KKN Kakani 9.57 300 ePn **Pn 21 09 40.2 -2.3**
KKN eSn Sn 21 11 20.3 -8.0
DMN Daman 9.63 299 ePn **Pn 21 09 41.0 -2.4**
DMN eSn Sn 21 11 21.0 -8.9
comp=Z,345nm,0.4s
DMN Daman 9.63 299 ePn **Pn 21 09 41.0 -2.4**
DMN eSn Sn 21 11 21.0 -8.9
SRDT SRDT 9.84 154 P **Pn 21 09 45.5 -0.6**
comp=Z,275nm,1.1s
DGPR DIGLIPUR 10.17 189 eP Pn 21 09 46.9 -3.6
GKN Gorkha 10.17 300 ePn **Pn 21 09 47.9 -2.8**
GKN eSn Sn 21 11 35.3 -7.6
comp=Z,509nm,0.3s
GKN Gorkha 10.17 300 ePn **Pn 21 09 47.9 -2.8**
GKN eSn Sn 21 11 35.3 -7.6
KOLN Koldanda 10.92 297 ePn **Pn 21 09 57.7 -3.1**
KOLN eSn Sn 21 11 52.6 -8.6
comp=Z,497nm,0.5s
KOLN Koldanda 10.92 297 ePn **Pn 21 09 57.7 -3.1**
KOLN eSn Sn 21 11 52.6 -8.6
DANN Dangsing 11.02 300 ePn Pn 21 09 58.2 -4.1
DANN eSn Sn 21 11 54.8 -8.9
comp=Z,453nm,0.6s
DANN Dangsing 11.02 300 ePn Pn 21 09 58.2 -4.1
DANN eSn Sn 21 11 54.8 -8.9
CD2 Chengdu 11.13 45⇑iP **Pn 21 10 04.3 +0.8**
CD2 sP 21 10 34.3
CD2 S **Sn 21 12 07.1 +1.1**
CD2 PcP **PcP 21 15 51.9 +1.9**
CD2 PcS **PcS 21 19 24.5 +0.5**
CD2 ScS **ScS 21 22 46.8 -0.9**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,130nm,7.6s
GYA Guiyang 11.38 71 P Pn 21 10 11.6 +4.7
GYA PP **P 21 10 17.8 +1.7**
GYA sP 21 10 37.0
GYA S **Sn 21 12 09.4 -2.8**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.6s
PBA Port Blair 11.69 189 eP Pn 21 10 07.6 -3.4
PBA AMB AMB 21 10 15.0
comp=Z,243nm,0.3s
VIS Vishakhapatnam 11.94 245 eP **Pn 21 10 11.3 -3.0**
VIS eS Sn 21 12 11.4 -14
LGTI Lohaghat 14.28 299 ex **P 21 10 51.2 +2.8**
LGTI ex **Sn 21 13 24.3 +2.1**
SURT Suratani 14.78 164 P **Pn 21 10 51.0 -0.1**
comp=Z,30nm,0.9s,comp=Z,286nm
QIZ Qiongzhong 14.80 104 P Pn 21 10 46.6 -4.8
QIZ S Sn 21 13 27.9 -7.1
QIZ LR LR
comp=Z,240nm,12.8s
QIZ LR LR
comp=Z,190nm,11.0s
ENH Enshi 14.98 59 eP **Pn 21 10 54.1 +0.6**
comp=Z,7.3nm,0.8s
LZH Lanzhou 15.06 30 eP **P 21 10 56.9 -0.3**
LZH pP pP 21 11 05.4 -12
LZH pmax pmax
comp=Z,10.0nm,1.1s
PKDT Phuket 15.70 166 P **Pn 21 11 01.7 -0.9**
comp=Z,53nm,0.8s
BHPL Bhopal 15.81 273 eP **Pn 21 11 03.6 -0.4**
BHPL AMB AMB 21 11 08.0
comp=Z,16nm,0.3s
BHPL ex x 21 13 46.0
HYB Hyderabad 16.16 252 eP **P 21 11 09.0 -0.3**
HYB Hyderabad 16.16 252 iP **P 21 11 09.0 -0.3**
HYB e 21 13 52.0
HYB eS **Sn 21 14 03.5 -4.2**
HYB Hyderabad 16.16 252 eP **Pn 21 11 06.9 -1.4**
HYB AMB AMB 21 11 11.7
comp=Z,30nm,0.6s
HYB Hyderabad 16.16 252 eP **P 21 11 09.0 -0.3**
HYB eS **S 21 14 19.0 +6.7**
DDI Dehra Dun 16.37 299 eP **Pn 21 11 10.0 -0.8**
XAN Xi'an 16.49 46 P **Pn 21 11 11.1 -1.1**
XAN S Sn 21 14 07.3 -8.1
XAN pmax pmax
comp=Z,2.0nm,0.7s
XAN LR LR
comp=Z,160nm,10.2s
XAN LR LR
comp=Z,52nm,11.3s
XAN LR LR
comp=Z,49nm,12.3s
NDI New Delhi 16.55 293 eP **P 21 11 13.0 -0.6**
NDI ex x 21 14 02.0
GTA Gaotai 16.68 14 eP **Pn 21 11 13.8 -0.9**
GTA pP **pP 21 11 31.1 -4.7**
GTA sP **sP 21 11 45.5 -4.8**
GTA S **Sn 21 14 16.8 -3.3**
GTA ScP **ScP 21 19 21.5 0.0**
GTA ScS **ScS 21 23 00.3 -0.7**
GTA pmax pmax
comp=Z,5.0nm,1.7s
GTA pmax pmax
comp=Z,110nm,6.2s
GTA LR LR
comp=Z,110nm,11.6s
GTA LR LR
comp=Z,130nm,10.0s
GTA LR LR
comp=Z,160nm,12.8s
SMLA Simla 17.38 301 eP **P 21 11 21.5 -1.2**
SMLA ex x 21 14 25.2
LHMI Lhok Sumawe 18.08 173 P **Pn 21 11 32.0 +0.5**
comp=Z,120nm,1.0s,comp=Z,1μm
BHK Bhakra 18.08 301 eP **Pn 21 11 33.2 +1.6**
AJM Ajmer 18.41 284 ex **Pn 21 11 34.0 -1.5**
AJM ex S 21 14 44.0 -15
DHRM DHARAMSHALA 18.50 303 eP **P 21 11 35.3 +0.1**
KULM Kulim 18.80 161 ⇑P **P 21 11 36.7 -1.6**
MLSI Meulaboh, Aceh 18.97 175 P **Pn 21 11 44.5 +2.4**
comp=Z,89μm,0.9s
WHN Wuhan 19.00 63 P **Pn 21 11 42.6 +0.2**
IPM Ipoh 19.68 161 ⇑P **P 21 11 46.8 -1.1**
KCSI Kotacane, Aceh 19.87 171 P **P 21 11 49.0 -0.9**
comp=Z,119nm,0.9s,comp=Z,866nm
POO Poona 19.97 260 eP **P 21 11 51.1 0.0**
KAD Karad 20.07 257 eP **P 21 11 52.8 +0.7**
PSI Prapat 20.77 168 P **P 21 12 00.0 +0.2**
PSI S **S 21 15 44.9 -0.6**
PSI pmax pmax
comp=Z,28nm,0.8s
PSI smax smax
comp=N,3.0nm,0.9s
PSI Prapat 20.77 168 P **P 21 11 60.0 +0.2**
comp=N,28nm,0.8s,baz=338,slow=8.7,SNR=17
PSI S **S 21 15 44.9 -0.6**
comp=N,3.2nm,0.9s,baz=229,slow=19,SNR=6.0
PALK Pallekele 20.79 222 eP **P 21 12 00.6 +0.7**
PALK eS S 21 15 36.6 -9.2
PALK pmax pmax
comp=Z,61nm,1.4s
PALK Pallekele 20.79 222 P **P 21 12 00.3 +0.4**
comp=Z,24nm,0.6s,baz=36,slow=9.2,SNR=16
PALK S S 21 15 37.1 -8.7
comp=Z,49nm,0.8s,baz=110,slow=18,SNR=12
PALK Pallekele 20.79 222 eP **P 21 12 00.6 +0.7**
comp=Z,61nm,1.4s
PALK eS S 21 15 36.6 -9.2
FRIM Kepong 21.04 160 ⇑P **P 21 12 02.7 +0.2**
GOA Goa 21.08 252 eP **P 21 12 03.0 0.0**
WMQ Urumqi 21.28 346 P **P 21 12 07.1 +2.1**
WMQ pP **pP 21 12 29.5 +3.1**
WMQ PP **PnPn 21 12 36.8 +5.5**
WMQ sP **sP 21 12 43.4 +2.6**
WMQ S **S 21 15 52.8 -2.0**
WMQ PcP **PcP 21 16 07.6 +2.5**
WMQ sS **sS 21 16 28.9 -1.8**
WMQ SS **SnSn 21 16 36.4 +8.0**
WMQ PcS **PcS 21 19 44.5 +1.2**
WMQ ScS **ScS 21 23 15.8 +0.2**
WMQ pmax pmax
comp=Z,53nm,1.2s

WMQ pmax pmax
comp=Z,260nm,4.8s
WMQ LR LR
comp=Z,140nm,29.6s
WMQ LR LR
comp=Z,170nm,24.4s
WMQ LR LR
comp=Z,150nm,24.2s
CHCP Chirah Chowk 21.41 304 P **P 21 12 06.4 0.0**
QZH Quanzhou 21.93 81⇑iP **P 21 12 11.8 -0.2**
QZH S **S 21 16 05.3 -1.8**
GSI Gunungsitoli 22.02 172 P **P 21 12 13.9 +0.9**
comp=Z,59nm,0.9s,comp=Z,2μm
GSI Gunungsitoli 22.02 172 eP **P 21 12 09.1 -3.9**
comp=Z,43nm,0.9s
GSI eS S 21 16 01.2 -7.6
KSH Kashi 22.64 320 eP **P 21 12 20.3 +1.0**
KSH epP **pP 21 12 44.8 +3.6**
KSH ePP **PnPn 21 12 55.8 +6.1**
KSH esP **sP 21 12 59.6 +4.1**
KSH S **S 21 16 14.8 -4.0**
KSH SS **SnSn 21 17 06.0 +4.5**
KSH pmax pmax
comp=Z,13nm,0.8s
KSH LR LR
comp=Z,140nm,4.8s
KSH LR LR
comp=Z,150nm,6.3s
KSH LR LR
comp=Z,140nm,6.8s
KGM Kluang 22.75 157 ⇑P **P 21 12 18.7 -1.7**
MNSI Mandailing Nat 22.85 167 P **P 21 12 20.1 -1.2**
comp=Z,29nm,1.0s
MYKOM Kota Tinggi 23.15 156 ⇑P **P 21 12 22.0 -2.2**
TIA Tai'an 23.34 51 ⇑P **P 21 12 27.0 +1.2**
TWG Pinlang 24.33 86 eP **P 21 12 37.8 +3.0**
comp=Z,81nm,1.0s
ULHL Ulahol 24.34 325 P **P 21 12 37.6 +2.6**
SNR=59
ULHL Ulahol 24.34 325 iP **P 21 12 37.6 +2.6**
PDSI Padang 24.70 166 P **P 21 12 37.6 -0.7**
comp=Z,20nm,0.5s
BJI Beijing 24.71 42 P **P 21 12 38.6 +0.4**
BJI pP **pP 21 13 00.8 -2.0**
BJI sP **sP 21 13 13.6 -2.7**
BJI PcP **PcP 21 16 11.5 -0.7**
BJI S **S 21 16 52.1 +0.4**
BJI sS **sS 21 17 32.8 -2.3**
BJI pmax pmax
comp=Z,8.0nm,1.1s
BJI pmax pmax
comp=Z,61nm,6.0s
BJI LR LR
comp=Z,110nm,4.6s
BJI LR LR
comp=Z,140nm,5.6s
BJI LR LR
comp=Z,63nm,35.9s
SSE Sheshan 24.83 66 P **P 21 12 37.0 -2.4**
SSE pmax pmax
comp=Z,23nm,1.1s
SSE pmax pmax
comp=Z,56nm,6.1s
KBL Kabul 24.99 302 eP **P 21 12 41.9 +0.9**
KBL pmax pmax
comp=Z,11nm,0.6s
KBL Kabul 24.99 302 eP **P 21 12 41.9 +0.9**
comp=Z,11nm,0.6s
TKM2 Tokmak 2 25.16 326 P **P** 21 12 47.2 +4.8
SNR=27
TKM2 Tokmak 2 25.16 326 eP **P 21 12 43.4 +0.9**
TKM2 e 21 16 14.1
TKM2 pmax pmax
comp=Z,19nm,0.8s
TKM2 Tokmak 2 25.16 326 eP **P 21 12 43.4 +0.9**
comp=Z,19nm,0.8s
TKM2 ePcP **PcP 21 16 14.1 +0.6**
UCH Uchtor 25.26 323 P **P 21 12 45.5 +1.9**
SNR=6.0
UCH Uchtor 25.26 323 iP **P 21 12 45.5 +1.9**
KBK Karagaybulak 25.31 324 P **P 21 12 46.4 +2.6**
SNR=8.6
KBK Karagaybulak 25.31 324 iP **P 21 12 46.4 +2.6**
MKAR Makanchi Array 25.49 340 P **P 21 12 46.9 +1.7**
MKAR 21 16 13.8
MKAR pmax pmax
comp=Z,14nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 25.49 340 P **P 21 12 46.9 +1.7**
comp=Z,14nm,0.6s,baz=148,slow=9.9,SNR=92
MKAR PcP **PcP 21 16 13.8 -0.1**
comp=Z,0.9nm,0.4s,baz=152,slow=3.8,SNR=5.8
AAK Ala-Archa 25.54 324 P **P 21 12 48.7 +2.8**
SNR=7.9
AAK Ala-Archa 25.54 324 P **P 21 12 48.4 +2.5**
AAK 21 16 15.1
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK pmax pmax
comp=Z,2.0nm,0.5s
AAK Ala-Archa 25.54 324 P **P 21 12 48.4 +2.5**
comp=Z,5.2nm,0.8s,baz=122,slow=7.3,SNR=23
AAK PcP **PcP 21 16 15.1 +0.8**
comp=Z,1.6nm,0.5s,baz=155,slow=7.9,SNR=5.6
AAK Ala-Archa 25.54 324 eP **P 21 12 48.2 +2.3**
comp=Z,26nm,1.5s
AAK ePcP **PcP 21 16 15.7 +1.4**
FRU Bishkek 25.61 324 eP P 21 13 03.0 +17
FRU e 21 18 24.0
EKS2 Erkin-Say 25.95 323 P **P 21 12 52.7 +3.2**
SNR=10
EKS2 Erkin-Say 25.95 323 eP **P 21 12 52.0 +2.5**
EKS2 e 21 16 15.6
EKS2 pmax pmax
comp=Z,17nm,1.3s
EKS2 Erkin-Say 25.95 323 eP **P 21 12 52.0 +2.5**
comp=Z,17nm,1.3s
EKS2 ePcP **PcP 21 16 15.6 +0.4**
USP Ospenovka 25.97 325 P **P 21 12 51.2 +1.5**
SNR=7.2
USP Ospenovka 25.97 325 iP **P 21 12 51.1 +1.5**
SONM Songino Array 26.25 18 P **P 21 12 52.6 +0.4**
comp=Z,0.3nm,0.3s,baz=197,slow=10.0,SNR=13
SONM PcP **PcP 21 16 15.8 0.0**
comp=Z,0.4nm,0.5s,baz=183,slow=2.6,SNR=4.0
SONM ScP **ScP 21 19 44.7 -0.4**
comp=Z,0.7nm,0.6s,baz=218,slow=2.6,SNR=6.5
ULN Ulaanbaatar 26.47 19 eP **P 21 12 53.0 -1.2**
ULN pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 26.47 19 eP **P 21 12 53.0 -1.2**
comp=Z,4.2nm,0.9s
KSM Kuching 26.48 143 ⇑P **P 21 12 53.0 -1.4**
BTM Bintulu 26.78 135 ⇑P **P 21 12 54.1 -3.0**
SBUM Sibu 26.81 138 ⇑P **P 21 12 54.7 -2.7**
ZAK Zakamensk 27.89 12 eP P 21 13 13.1 +6.3
ZAK e 21 16 18.5
ZAK pmax pmax
comp=Z,4.0nm,1.6s
SDKM Sandakan 27.93 125 ⇑P **P 21 13 06.2 -1.2**
KKAR Karatay Array 28.09 321 eP **P 21 13 09.7 +1.2**
KKAR e 21 16 20.0
KKAR Karatay Array 28.09 321 eP **P 21 13 09.7 +1.2**
KKAR ePcP **PcP 21 16 20.0 -0.2**
MDSI Maura Dua 29.12 160 P **P 21 13 16.3 -1.6**
comp=Z,11nm,0.9s
TLY Talaya 29.20 12 eP P 21 13 26.0 +7.7
TLY e 21 17 59.3
TLY pmax pmax
comp=Z,5.0nm,1.6s
KURK Kurchatov 30.10 340 eP **P 21 13 27.4 +1.2**
KURK e 21 16 25.1
KURK eS **S 21 18 15.5 -0.8**
KURK e 21 19 56.8
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 30.10 340 eP **P 21 13 27.4 +1.2**
comp=Z,3.7nm,0.7s
KURK ePcP **PcP 21 16 25.1 +0.1**
KURK eS **S 21 18 15.5 -0.8**
KURK eScP **ScP 21 19 56.8 0.0**
JOW Kunigami 30.63 76 P **P 21 13 31.4 +0.2**
comp=Z,1.4nm,0.3s,baz=234,slow=3.4,SNR=29
JOW LR LR 21 27 44.4

comp=Z,7.1nm,18.8s,baz=268,slow=40
ZALV Zalesovo Beam 31.52 349 P **P 21 13 40.1 +1.5**
ZALV 21 16 27.9
ZALV S **S 21 18 38.8 +0.5**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV smax smax
comp=N,4.0nm,1.0s
ZALV Zalesovo Beam 31.52 349 P **P 21 13 40.1 +1.5**
comp=N,3.3nm,0.3s,baz=162,slow=9.0,SNR=24
ZALV PcP **PcP 21 16 27.9 -0.8**
comp=N,1.0nm,0.4s,baz=173,slow=5.3,SNR=4.1
ZALV S **S 21 18 38.8 +0.5**
comp=N,3.7nm,1.0s,baz=172,slow=16,SNR=6.5
NVS Novosibirsk 32.66 348 eP **P 21 13 49.4 +0.8**
NVS e*PP **pP 21 14 16.0 +2.2**
NVS e 21 16 30.3
NVS eS **S 21 18 56.1 0.0**
NVS pmax pmax
comp=Z,17nm,1.5s
NVS pmax pmax
comp=N,12nm,1.4s
NVS pmax pmax
comp=E,13nm,1.6s
NVS smax smax
comp=N,33nm,1.8s
NVS smax smax
comp=E,52nm,1.9s
JNU Nakatsue 33.28 65 P **P 21 13 54.2 -0.2**
comp=E,4.5nm,0.7s,baz=160,slow=6.5,SNR=4.2
JNU LR LR 21 29 42.0
comp=E,42nm,21.2s,baz=341,slow=40
BRVK Borovoye 35.02 334 eP **P 21 14 09.6 +0.5**
BRVK e 21 15 30.1
BRVK e 21 16 38.9
BRVK eS **S 21 19 33.2 +0.5**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 35.02 334 eP **P 21 14 09.6 +0.5**
comp=Z,4.4nm,1.0s
BRVK ePP **PnPn 21 15 30.1 -0.1**
BRVK ePcP **PcP 21 16 38.9 +0.3**
BRVK eS **S 21 19 33.2 +0.5**
KMSI Cibinong 36.35 124 P **P 21 14 21.9 +1.1**
comp=Z,139nm,0.9s
VLA Vladivostok 36.53 48⇑eP **P 21 14 21.3 -0.8**
VLA pmax pmax
comp=Z,25nm,1.7s
USRK Ussuriysk Arra 37.00 46 P **P 21 14 25.7 -0.3**
comp=Z,1.6nm,0.6s,baz=255,slow=7.3,SNR=5.7
ABKAR Akbulak array 37.61 322 eP **P 21 14 32.0 +0.9**
ABKAR ePcP **PcP 21 16 46.5 +0.1**
AKTO Aktyubinsk 39.28 323 P **P 21 14 45.9 +0.8**
AKTO pmax pmax
comp=Z,2.0nm,0.3s
AKTO Aktyubinsk 39.28 323 P **P 21 14 45.9 +0.8**
comp=Z,1.5nm,0.3s,baz=112,slow=8.2,SNR=16
MAJO Matsushiro 39.70 60⇓eP **P 21 14 48.5 -0.3**
MAJO pmax pmax
comp=Z,207nm,2.5s
MAT Matsushiro 39.70 60 P **P 21 14 47.7 -1.1**
MJAR Matsushiro Arr 39.70 60 P **P 21 14 48.7 -0.2**
MJAR pmax pmax
comp=Z,18nm,1.2s
MJAR MLR MLR
comp=Z,15nm,28.6s
MJAR Matsushiro Arr 39.70 60 P **P 21 14 48.6 -0.2**
comp=Z,18nm,1.2s,baz=268,slow=10,SNR=18
MJAR LR LR 21 34 55.1
comp=Z,41nm,18.3s,baz=160,slow=42
HABR Khabarovsk 40.61 42 eP **P 21 14 54.5 -1.6**
HABR e*PP pP 21 15 15.8 -6.3
HABR e 21 16 55.2
HABR ePPP PPP 21 16 59.0
HABR eS **S 21 20 57.2 0.0**
HABR eSS **SS 21 24 01.4 -0.2**
HABR pmax pmax
comp=Z,16nm,1.8s
SVE Sverdlovsk 41.64 332⇓eP **P 21 15 06.0 +1.6**
SVE pmax pmax
comp=Z,23nm,1.2s
ARU Arti 42.30 331d iP **P 21 15 10.5 +0.7**
ARU 21 16 48.0
ARU 21 17 01.7
ARU S **S 21 21 25.6 +3.7**
ARU SS **SS 21 24 27.9 -6.7**
ARU pmax pmax
comp=Z,11nm,1.7s
ARU Arti 42.30 331 eP **P 21 15 10.9 +1.1**
comp=Z,5.5nm,0.6s
ARU ePP **PP 21 16 49.0 -0.9**
ARU ePcP **PcP 21 17 02.0 +0.6**
SOEI Soe 43.80 135 eP **P 21 15 21.6 -0.9**
comp=Z,62nm,0.9s
ASAJ Asahikawa 44.27 50 P **P 21 15 24.9 -0.9**
ASAJ pmax pmax
comp=Z,8.0nm,0.9s
ASAJ Asahikawa 44.27 50 P **P 21 15 24.9 -0.9**
comp=Z,7.8nm,0.9s,baz=319,slow=16,SNR=8.2
RAYN Ar Rayn 44.91 281 eP **P 21 15 31.6 +0.4**
comp=Z,29nm,1.4s
RAYN ePcP **PcP 21 17 11.7 +0.8**
ZEI Tsey 46.02 308 eP **P 21 15 39.5 -0.4**
ZEI pmax pmax
comp=Z,24nm,1.0s
KBZ Khabaz 46.88 309 P **P 21 15 47.2 +0.8**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ MLR MLR
comp=Z,15nm,28.6s
KBZ Khabaz 46.88 309 P **P 21 15 47.2 +0.8**
comp=Z,3.5nm,0.8s,baz=209,slow=4.2,SNR=6.1
KBZ LR LR 21 40 05.3
comp=Z,30nm,20.4s,baz=92,slow=42
KIV Kislovodsk 47.07 309c iP **P 21 15 49.1 +1.1**
KIV i 21 17 24.4
KIV i 21 17 40.1
KIV iS **S 21 22 29.6 -1.8**
KIV pmax pmax
comp=Z,32nm,1.2s
KIV Kislovodsk 47.07 309 eP **P 21 15 49.3 +1.4**
KIV e 21 16 20.5
VRHR Novokhopersk 49.17 318 eP **P 21 16 02.5 -1.3**
VRHR eS **S 21 22 55.1 -5.4**
VRHR pmax pmax
comp=N,7.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR smax smax
comp=N,90nm,1.8s
VRHR smax smax
comp=E,90nm,1.8s
VRHR smax smax
comp=Z,30nm,1.8s
ILIC ilic-Erzincan 49.75 303 eP P 21 16 12.1 +3.5
MALT Malatya 49.84 301 eP **P 21 16 09.4 +0.1**
MALT Malatya 49.84 301⇑iP **P 21 16 11.1 +1.8**
VORD Divnogorie 50.58 318 eP **P 21 16 13.5 -1.0**
VORD pmax pmax
comp=N,5.0nm,0.6s
VORD pmax pmax
comp=E,9.0nm,0.6s
VORD pmax pmax
comp=Z,4.0nm,0.6s
DARE Darende-Malaty 50.58 302 eP **P 21 16 14.9 0.0**
VSR Storozhevoye 50.70 318 eP **P 21 16 13.6 -1.9**
VSR e*SP sP 21 16 44.3 -11
VSR eS **S 21 23 19.3 -2.6**
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR pmax pmax
comp=Z,5.0nm,0.8s
VSR smax smax
comp=N,70nm,1.5s
VSR smax smax
comp=E,10.0nm,1.5s
VSR smax smax
comp=E,40nm,1.3s
PRGR Permogore 50.71 332 eP **P 21 16 15.0 -0.3**

PRGR i S S 21 23 21.5 -0.1
PRGR pmax pmax
comp=Z,19nm,1.1s
SVSK Karacayir 50.97 303 eP P 21 16 18.9 +1.3
GENI Genyem 51.26 114 P P 21 16 21.9 +1.8
ASF Jabal al Asfar 51.35 293 P P 21 16 22.5 +1.7
ASF pmax pmax
comp=Z,7.0nm,0.8s
ASF Jabal al Asfar 51.35 293 P P 21 16 22.5 +1.7
comp=Z,7.0nm,0.8s,baz=69,slow=4.6,SNR=19
KOZT Kozan 51.90 300 eP P 21 16 24.7 0.0
TIXI Tiksi 52.16 13 deP P 21 16 25.2 -0.8
TIXI pmax pmax
comp=Z,2.0nm,0.5s
TIXI Tiksi 52.16 13 eP P 21 16 24.4 -1.6
comp=Z,4.5nm,0.5s
TIXI epP pP 21 16 51.9 -1.2
MMAI Mount Meron Ar 52.53 295 P P 21 16 31.0 +1.6
comp=Z,9.0nm,1.0s,baz=85,slow=11,SNR=18
OBN Obninsk 53.05 322 ⇓iP P 21 16 32.8 0.0
OBN e 21 17 12.6
OBN i 21 18 33.3
OBN i S S 21 24 14.8 +21
OBN pmax pmax
comp=Z,25nm,1.6s
KLMR Klimovskoe 53.13 330 eP P 21 16 33.0 -0.3
KLMR pmax pmax
comp=Z,29nm,1.3s
EIL Elat 53.31 290 P P 21 16 36.1 +1.0
comp=Z,22nm,1.0s,baz=22,slow=3.6,SNR=29
BRTR Keskin Array B 53.56 303 P P 21 16 37.6 +0.6
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 53.56 303 P P 21 16 37.5 +0.6
comp=Z,2.7nm,0.8s,baz=113,slow=6.2,SNR=12
CSS Prodhromos 54.07 297 eP P 21 16 40.5 -0.1
CSS Prodhromos 54.07 297 eP P 21 16 40.6 0.0
comp=Z,1.9nm,0.8s
TMCR Tamitsa 54.90 333 eP P 21 16 47.3 +1.2
TMCR pmax pmax
comp=Z,19nm,1.2s
SEY Seymchan 54.98 28 P P 21 16 45.0 -1.7
SEY Seymchan 54.98 28 P P 21 16 45.0 -1.7
comp=Z,0.3nm,0.3s,baz=278,slow=14,SNR=3.7
SVRH Sivrihisar-ESK 55.20 303 eP P 21 16 48.4 -0.4
SHUT Suhut-Afyon 56.01 302 eP P 21 16 48.8 -5.9
ELL Elmali 56.67 300 eP P 21 16 56.9 -2.5
AKASG Malin Array Be 56.87 316 P P 21 16 59.9 -0.4
AKASG S S 21 24 40.9 -4.1
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG smax smax
comp=N,1.0nm,0.7s
AKASG MLR MLR
comp=Z,15nm,28.6s
AKASG Malin Array Be 56.87 316 P P 21 16 59.9 -0.4
comp=Z,2.5nm,0.4s,baz=81,slow=6.9,SNR=38
AKASG S S 21 24 40.9 -4.1
comp=Z,0.5nm,0.7s,baz=86,slow=13,SNR=5.3
AKASG LR LR 21 44 59.1
comp=Z,37nm,20.8s,baz=345,slow=40
KIEV Kiev 56.88 316 eP P 21 16 59.2 -1.2
KIEV e*PP pP 21 17 29.2 +1.3
KIEV pmax pmax
comp=Z,5.0nm,0.4s
KIEV Kiev 56.88 316 eP P 21 16 59.1 -1.2
comp=Z,4.7nm,0.4s
KIEV epP pP 21 17 29.2 +1.3
CFR Carcaliu 57.51 310 ⇑P P 21 17 05.3 +0.3
CFR Carcaliu 57.51 310 ⇑iP P 21 17 05.3 +0.3
WRA Warramunga Arr 57.84 135 P P 21 17 07.6 0.0
WRA pmax pmax
comp=Z,21nm,0.7s
WRA Warramunga Arr 57.84 135 P P 21 17 07.5 0.0
comp=Z,21nm,0.7s,baz=320,slow=7.5,SNR=277
WRAB Tennant Creek 57.84 135 c iP P 21 17 07.6 +0.1
WRAB pmax pmax
comp=Z,113nm,1.2s
WRAB Tennant Creek 57.84 135 eP P 21 17 07.5 -0.1
comp=Z,27nm,0.8s
VRI Vrincioaia 58.48 311 ⇑P P 21 17 12.9 +1.1
VRI Vrincioaia 58.48 311 ⇑iP P 21 17 12.9 +1.1
TESR Tescani 58.52 311 ⇓iP P 21 17 12.6 +0.6
PLOR Plostina 58.54 311 ⇑P P 21 17 13.5 +1.3
PLOR Plostina 58.54 311 ⇑iP P 21 17 13.5 +1.3
MLR Muntele Rosu 59.05 310 P P 21 17 17.0 +1.2
MLR pmax pmax
comp=Z,6.0nm,0.9s
MLR Muntele Rosu 59.05 310 ⇑iP P 21 17 17.1 +1.2
MLR Muntele Rosu 59.05 310 P P 21 17 17.0 +1.2
comp=Z,5.7nm,0.9s,baz=81,slow=4.2,SNR=31
BURAR Bucovina Array 59.47 313 ⇓P P 21 17 19.5 +0.8
BURAR Bucovina Array 59.47 313 ⇓iP P 21 17 19.5 +0.8
FINES FINESS Array B 59.60 329 P P 21 17 19.7 +0.6
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES MLR MLR
comp=Z,15nm,28.6s
FINES FINESS Array B 59.60 329 P P 21 17 19.7 +0.6
comp=Z,5.2nm,0.8s,baz=87,slow=5.1,SNR=31
FINES LR LR 21 46 40.9
comp=Z,39nm,19.2s,baz=271,slow=39
VOIR 59.68 310 ⇓P P 21 17 20.5 +0.4
VOIR 59.68 310 ⇓iP P 21 17 20.5 +0.4
KDZ Kurdzhali 59.69 306 ⇓P P 21 17 17.9 -2.3
KDZ Kurdzhali 59.69 306 ⇓iP P 21 17 17.9 -2.3
ARR Arges 59.97 310 ⇑iP P 21 17 22.8 +0.7
ASAR Alice Springs 60.27 138 P P 21 17 24.6 +0.3
ASAR pmax pmax
comp=Z,20nm,0.6s
ASAR Alice Springs 60.27 138 P P 21 17 24.6 +0.3
comp=Z,20nm,0.6s,baz=320,slow=6.9,SNR=372
LOT Lotru 60.58 310 ⇓iP P 21 17 24.8 -1.5
CJR Cluj-Napoca 60.61 312 ⇓P P 21 17 28.2 +1.8
CJR Cluj-Napoca 60.61 312 ⇓iP P 21 17 28.2 +1.8
SUW Suwalki 60.67 320 eP P 21 17 25.7 -0.9
SUW Suwalki 60.67 320 eP P 21 17 25.6 -1.0
PMG Port Moresby 60.77 116 d iP P 21 17 28.8 +0.9
PMG pmax pmax
comp=Z,13nm,1.0s
PMG Port Moresby 60.77 116 P P 21 17 28.5 +0.6
comp=Z,8.6nm,0.3s,baz=0.0,slow=4.0,SNR=7.9
PMG Port Moresby 60.77 116 eP P 21 17 28.5 +0.6
comp=Z,12nm,1.0s
PMG sP sP 21 18 04.8 -3.5
KMBO Kilima Mbogo 60.79 255 P P 21 17 28.8 +0.4
KMBO pmax pmax
comp=Z,9.0nm,0.8s
KMBO Kilima Mbogo 60.79 255 P P 21 17 28.8 +0.4
comp=Z,8.7nm,0.8s,baz=48,slow=11,SNR=32
KWP Kalwaria Pacla 61.05 315 eP P 21 17 29.4 +0.1
KWP e*PP pP 21 17 59.8 +2.6
KWP pmax pmax
comp=Z,23nm,0.9s
KWP Kalwaria Pacla 61.05 315 eP P 21 17 29.9 +0.6
KWP Kalwaria Pacla 61.05 315 ⇑iP P 21 17 29.8 +0.5
KWP Kalwaria Pacla 61.05 315 eP P 21 17 29.4 +0.1
comp=Z,23nm,0.9s
KWP epP pP 21 17 59.8 +2.6
ARCES ARCESS Array B 61.12 338 P P 21 17 30.4 +1.0
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 61.12 338 P P 21 17 30.4 +1.0
comp=Z,2.0nm,0.4s,baz=102,slow=7.6,SNR=52
DRGR 61.21 312 ⇑P P 21 17 31.2 +0.7
DRGR 61.21 312 ⇑iP P 21 17 31.2 +0.7
BILL Bilibino 61.77 24 i P P 21 17 34.5 +0.7
BILL e 21 18 20.3
BILL pmax pmax
comp=Z,10.0nm,2.3s
KTK1 Kautokeino 61.82 337 eP P 21 17 35.2 +1.0
CRVS Cervenica-Dubn 61.91 314 eP P 21 17 36.9 +1.8
CRVS pmax pmax
comp=Z,10.0nm,1.4s
CRVS Cervenica-Dubn 61.91 314 eP P 21 17 36.9 +1.8
STHS Stebnicka Huta 62.02 315 eP P 21 17 35.9 +0.1
STHS pmax pmax
comp=Z,1.0nm,0.8s
STHS Stebnicka Huta 62.02 315 eP P 21 17 35.9 +0.1
BZS Buzias 62.07 311 ⇓P P 21 17 36.6 +0.4
BZS Buzias 62.07 311 ⇓iP P 21 17 36.6 +0.4
NIE Niedzica 62.62 315 eP P 21 17 41.0 +1.1
NIE Niedzica 62.62 315 eP P 21 17 41.0 +1.1
OJC Ojcow 62.89 316 eP P 21 17 41.9 +0.3
OJC Ojcow 62.89 316 eP P 21 17 41.9 +0.3
TRO Tromso 63.42 338 eP P 21 17 45.1 +0.4
VYHS Vyhne 63.67 314 eP P 21 17 46.9 +0.1
VYHS pmax pmax
comp=Z,3.0nm,1.3s
VYHS Vyhne 63.67 314 eP P 21 17 46.9 +0.1
OKC Ostrava-Krasne 63.99 316 eP P 21 17 49.5 +0.7
OKC e 21 18 20.3
OKC Ostrava-Krasne 63.99 316 eP P 21 17 49.5 +0.7
OKC ePCP PcP 21 18 20.3 -3.0
PKSM Moragy 64.07 311 ⇑P P 21 17 49.6 +0.2
PKSM Moragy 64.07 311 ⇑iP P 21 17 49.6 +0.2
MORC Moravsky Berou 64.38 316 ⇓P P 21 17 52.5 +1.0
MORC Moravsky Berou 64.38 316 ⇓iP P 21 17 52.5 +1.0
KRLC Kraliky 64.84 316 eP P 21 17 54.9 +0.5
KRLC Kraliky 64.84 316 eP P 21 17 54.9 +0.5
SPA0 Spitsbergen Ar 64.98 347 eP P 21 17 55.4 +0.6
SPA0 IAmb IAmb 21 17 59.6
comp=Z,98nm,2.0s
MOR8 Moi Rana 65.00 334 eP P 21 17 54.8 -0.3
HSPB Hornsund (broa 65.04 346 eP P 21 17 56.0 +0.8
HSPB IAmb IAmb 21 17 57.3
comp=Z,20nm,1.0s
VRAC Vranov 65.05 315 P P 21 17 56.6 +0.8
VRAC pmax pmax
comp=Z,4.0nm,0.3s
VRAC Vranov 65.05 315 ⇓iP P 21 17 57.2 +1.4
VRAC Vranov 65.05 315 P P 21 17 56.6 +0.8
comp=Z,4.0nm,0.3s,baz=76,slow=9.3,SNR=7.8
KSP Ksiaz 65.06 317 eP P 21 17 56.5 +0.7
KSP Ksiaz 65.06 317 eP P 21 17 56.8 +1.0
DPC Dobruska-Polom 65.10 316 eP P 21 17 56.4 +0.3
DPC Dobruska-Polom 65.10 316 eP P 21 17 56.4 +0.3
HFS Hagfors 65.63 327 P P 21 17 59.7 +0.4
HFS pmax pmax
comp=Z,12nm,0.6s
HFS Hagfors 65.63 327 P P 21 17 59.7 +0.4
comp=Z,12nm,0.6s,baz=105,slow=5.1,SNR=50
CONA Conrad Observa 65.72 314 ⇓iP P 21 18 00.9 +0.7
comp=Z,13nm,1.4s
TREC Trest 65.77 315 eP P 21 18 01.2 +0.8
TREC Trest 65.77 315 eP P 21 18 01.2 +0.8
PRU Pruhonice 66.28 316 eP P 21 18 03.9 +0.3
PRU e 21 18 35.2
PRU Pruhonice 66.28 316 eP P 21 18 03.9 +0.3
PRU ePCP PcP 21 18 35.2 +2.4
BRG Berggiesshubel 66.53 317 eP P 21 18 05.8 +0.6
comp=Z,8.4nm,1.1s
BRG Berggiesshubel 66.53 317 eP P 21 18 05.8 +0.6
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 66.53 317 eP P 21 18 05.6 +0.4
comp=Z,18nm,1.5s
NB2 NORSAR Subarra 66.77 328 P P 21 18 06.3 -0.3
comp=Z,7.3nm,0.7s,baz=83,slow=6.5
NB2 NORSAR Subarra 66.77 328 P P 21 18 06.3 -0.3
baz=83,slow=6.5
NOA NORSAR Array B 66.77 328 P P 21 18 06.3 -0.3
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA NORSAR Array B 66.77 328 P P 21 18 06.3 -0.3
comp=Z,7.6nm,0.8s,baz=85,slow=6.2,SNR=22
MOA Molln 66.79 314 ⇓iP P 21 18 07.4 +0.4
comp=Z,13nm,1.2s
GEC2 GERESS Array S 67.00 315 eP P 21 18 08.6 +0.2
comp=Z,16nm,1.2s
GERES GERESS Array B 67.00 315 P P 21 18 09.0 +0.6
GERES pmax pmax
comp=Z,5.0nm,0.8s
GERES MLR MLR
comp=Z,28nm,19.1s
GERES GERESS Array B 67.00 315 P P 21 18 09.0 +0.6
comp=Z,5.2nm,0.8s,baz=83,slow=5.8,SNR=32
GERES LR LR 21 49 35.5
comp=Z,28nm,19.1s,baz=97,slow=38
KHC Kasperske Hory 67.03 315 eP P 21 18 09.0 +0.5
KHC Kasperske Hory 67.03 315 eP P 21 18 09.0 +0.5
CLL Collm 67.05 318 ⇓iP P 21 18 08.9 +0.4
CLL e*PP PcP 21 18 35.0 -0.9
CLL pmax pmax
comp=Z,15nm,1.4s
CLL Collm 67.05 318 eP P 21 18 08.4 -0.1
comp=Z,12nm,1.4s
CLL Collm 67.05 318 ⇓iP P 21 18 08.9 +0.4
comp=Z,12nm,1.4s
CLL e(pP) PcP 21 18 35.0 -0.9
CLL ePP PP 21 20 37.0 -0.3
CLL eSSS SSS 21 34 28.0
WET Wettzell 67.49 315 eP P 21 18 11.7 +0.4
comp=Z,15nm,1.3s
TANN Tannenbergstha 67.54 317 eP P 21 18 11.8 +0.2
comp=Z,13nm,1.4s
RJOB Jochberg 67.79 314 eP P 21 18 13.3 0.0
comp=Z,7.0nm,1.1s
ROTZ Rotzenmuhle 67.81 316 eP P 21 18 14.3 +1.0
comp=Z,16nm,1.0s
MOX Moxa 68.03 317 eP P 21 18 15.4 +0.7
comp=Z,29nm,1.8s
BSEG Bad Segeberg 68.24 321 eP P 21 18 16.4 +0.5
comp=Z,19nm,1.1s
GRF Grafenberg Arr 68.45 316 eP P 21 18 18.3 +1.0
comp=Z,39nm,1.5s
CLZ Clausthal 68.58 318 eP P 21 18 18.7 +0.6
comp=Z,10.0nm,1.0s
NRDL Niedersach Rie 68.62 319 eP P 21 18 19.1 +0.9
comp=Z,22nm,1.3s
MOTA Moosalm 68.99 314 ⇓iP P 21 18 20.6 -0.3
comp=Z,9.0nm,0.9s
FETA Feichten 69.31 313 ⇑iP P 21 18 22.3 -0.6
comp=Z,10nm,1.2s
STU Stuttgart 69.94 315 eP P 21 18 26.8 +0.3
comp=Z,12nm,0.9s
TNS Taunus Mts 70.10 317 eP P 21 18 28.0 +0.5
comp=Z,14nm,1.0s
BFO Black Forest 70.60 315 i P P 21 18 31.8 +1.2
BFO Black Forest 70.60 315 eP P 21 18 30.2 -0.4
comp=Z,44nm,2.2s
STKA Stephens Creek 70.89 139 P P 21 18 32.4 0.0
STKA pmax pmax
comp=Z,11nm,1.0s
STKA Stephens Creek 70.89 139 P P 21 18 32.4 0.0
comp=Z,11nm,1.0s,baz=333,slow=7.6,SNR=8.2
CDF Champ du Feu 71.26 315 eP P 21 18 34.4 -0.3
comp=Z,10nm,0.9s
CDF Champ du Feu 71.26 315 eP P 21 18 34.4 -0.3
CDF pmax pmax
comp=Z,10.0nm,0.9s
CDF Champ du Feu 71.26 315 eP P 21 18 34.4 -0.3
comp=Z,10nm,0.9s
MEM Membach 71.53 318 P P 21 18 36.6 +0.6
PGF Pioggiola 71.55 309 eP P 21 18 36.4 -0.1
PGF Pioggiola 71.55 309 eP P 21 18 36.4 -0.1
PGF Pioggiola 71.55 309 eP P 21 18 36.4 -0.1
WLF Walferdange 71.67 317 P P 21 18 38.0 +1.0
comp=Z,21nm,1.4s
WLF Walferdange 71.67 317 eP P 21 18 37.8 +0.8
WLF e*PP pP 21 19 07.5 +1.9
WLF pmax pmax
comp=Z,17nm,1.0s
WLF Walferdange 71.67 317 eP P 21 18 38.0 +1.0
comp=Z,32nm,1.0s
WLF epP pP 21 19 08.8 +3.2
WLF Walferdange 71.67 317 eP P 21 18 37.8 +0.8
comp=Z,17nm,1.0s
WLF epP pP 21 19 07.5 +1.9
HINF Hinteralfeld 71.68 315 eP P 21 18 36.8 -0.3
HINF Hinteralfeld 71.68 315 eP P 21 18 36.8 -0.3
HINF Hinteralfeld 71.68 315 eP P 21 18 36.8 -0.3
HAU Haudompre 71.96 315 eP P 21 18 38.4 -0.4
comp=Z,21nm,1.1s
HAU eR
comp=Z,55nm,22.8s
HAU Haudompre 71.96 315 eP P 21 18 38.4 -0.4
HAU pmax pmax
comp=Z,21nm,1.1s
HAU Haudompre 71.96 315 eP P 21 18 38.4 -0.4
comp=Z,21nm,1.1s
BCLA Clavier 72.01 318 P P 21 18 39.2 +0.2
comp=Z,9.5nm,1.8s
PAGF Fort de Pagny 72.22 316 eP P 21 18 40.5 +0.2
comp=Z,9.7nm,1.2s
PAGF Fort de Pagny 72.22 316 eP P 21 18 40.5 +0.2
comp=Z,9.7nm,1.2s
LPG La Plagne 72.35 312 eP P 21 18 41.6 +0.1
comp=Z,29nm,1.0s
LPG La Plagne 72.35 312 eP P 21 18 41.6 +0.1
LPG pmax pmax
comp=Z,29nm,1.0s
LPG La Plagne 72.35 312 eP P 21 18 41.6 +0.1
comp=Z,29nm,1.0s
LPL La Plagne 72.36 312 eP P 21 18 41.5 +0.1
comp=Z,43nm,1.1s
LPL La Plagne 72.36 312 eP P 21 18 41.5 +0.1
LPL pmax pmax
comp=Z,43nm,1.1s
LPL La Plagne 72.36 312 eP P 21 18 41.5 +0.1
comp=Z,43nm,1.1s
GIVF Givet 72.39 317 eP P 21 18 41.2 0.0
GIVF Givet 72.39 317 eP P 21 18 41.2 0.0
GIVF Givet 72.39 317 eP P 21 18 41.2 0.0
CABF La Chapelle 72.50 314 eP P 21 18 42.1 0.0
comp=Z,25nm,1.1s
CABF La Chapelle 72.50 314 eP P 21 18 42.1 0.0
CABF pmax pmax
comp=Z,25nm,1.1s
CABF La Chapelle 72.50 314 eP P 21 18 42.1 0.0
comp=Z,25nm,1.1s
DOU Dourbes 72.53 318 P P 21 18 42.9 +0.8
MBDF Montbardon 72.54 312 eP P 21 18 42.5 0.0
comp=Z,19nm,1.1s
MBDF Montbardon 72.54 312 eP P 21 18 42.5 0.0
MBDF pmax pmax
comp=Z,19nm,1.1s
MBDF Montbardon 72.54 312 eP P 21 18 42.5 0.0
comp=Z,19nm,1.1s
SNF Seneffe 72.61 318 P P 21 18 42.9 +0.4
DAG Danmarks Havn 72.63 347 i P P 21 18 42.1 -0.1
DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 72.63 347 i P P 21 18 42.1 -0.1
comp=Z,8.6nm,0.9s
MEZF Maizieres J'vi 72.67 316 eP P 21 18 43.1 +0.2
comp=Z,32nm,1.0s
MEZF Maizieres J'vi 72.67 316 eP P 21 18 43.1 +0.2
comp=Z,32nm,1.0s
SFTF Sexfontaines 72.76 316 eP P 21 18 43.3 -0.2
comp=Z,15nm,0.9s
SFTF Sexfontaines 72.76 316 eP P 21 18 43.3 -0.2
comp=Z,15nm,0.9s
BAIF Baives 72.78 318 eP P 21 18 43.8 +0.2
comp=Z,26nm,1.2s
BAIF Baives 72.78 318 eP P 21 18 43.8 +0.2
BAIF pmax pmax
comp=Z,26nm,1.2s
BAIF Baives 72.78 318 eP P 21 18 43.8 +0.2
comp=Z,26nm,1.2s
FRF La Foret Royal 72.94 311 eP P 21 18 44.4 -0.3
comp=Z,35nm,1.0s
FRF La Foret Royal 72.94 311 eP P 21 18 44.4 -0.3
FRF pmax pmax
comp=Z,35nm,1.0s
FRF La Foret Royal 72.94 311 eP P 21 18 44.4 -0.3
comp=Z,35nm,1.0s
LMR La Mourre 73.10 310 eP P 21 18 45.5 -0.1
LMR La Mourre 73.10 310 eP P 21 18 45.5 -0.1
LMR La Mourre 73.10 310 eP P 21 18 45.5 -0.1
KEST Kesra 73.15 302 P P 21 18 47.1 +1.0
comp=Z,12nm,1.1s,baz=324,slow=2.3,SNR=9.0
SMRF Simiane la Rot 73.57 311 eP P 21 18 48.5 +0.1
comp=Z,19nm,0.9s
SMRF Simiane la Rot 73.57 311 eP P 21 18 48.5 +0.1
comp=Z,19nm,0.9s
LOR Lormes 73.78 315 eP P 21 18 49.1 -0.5
comp=Z,29nm,1.2s
LOR eR
comp=Z,51nm,17.0s
LOR Lormes 73.78 315 eP P 21 18 49.1 -0.5
LOR pmax pmax
comp=Z,29nm,1.2s
LOR Lormes 73.78 315 eP P 21 18 49.1 -0.5
comp=Z,29nm,1.2s
SMF Signal de Mont 73.98 314 eP P 21 18 50.4 -0.3
comp=Z,19nm,0.9s
SMF Signal de Mont 73.98 314 eP P 21 18 50.4 -0.3
SMF pmax pmax
comp=Z,19nm,0.9s
SMF Signal de Mont 73.98 314 eP P 21 18 50.4 -0.3
comp=Z,19nm,0.9s
SSF Saint Saulge 74.08 315 eP P 21 18 51.0 -0.2
comp=Z,28nm,1.0s
SSF Saint Saulge 74.08 315 eP P 21 18 51.0 -0.2
SSF pmax pmax
comp=Z,28nm,1.0s
SSF Saint Saulge 74.08 315 eP P 21 18 51.0 -0.2
comp=Z,28nm,1.0s
AVF Avril sur Loir 74.26 314 eP P 21 18 52.0 -0.3
comp=Z,27nm,1.0s
AVF Avril sur Loir 74.26 314 eP P 21 18 52.0 -0.3
AVF pmax pmax
comp=Z,27nm,1.0s
AVF Avril sur Loir 74.26 314 eP P 21 18 52.0 -0.3
comp=Z,27nm,1.0s
HYF Humbligny 74.58 315 eP P 21 18 54.6 +0.5
HYF Humbligny 74.58 315 eP P 21 18 54.6 +0.5
BGF Bois d'Agland 74.66 314 eP P 21 18 54.4 -0.2
BGF Bois d'Agland 74.66 314 eP P 21 18 54.4 -0.2
BGF Bois d'Agland 74.66 314 eP P 21 18 54.4 -0.2
LASF Ste Croix 74.73 312 eP P 21 18 55.4 +0.3
comp=Z,30nm,1.1s
LASF Ste Croix 74.73 312 eP P 21 18 55.4 +0.3
comp=Z,30nm,1.1s
TCF Toulx Ste Croi 75.16 314 eP P 21 18 57.8 +0.3
comp=Z,29nm,1.0s
TCF Toulx Ste Croi 75.16 314 eP P 21 18 57.8 +0.3
TCF pmax pmax
comp=Z,29nm,1.0s
TCF Toulx Ste Croi 75.16 314 eP P 21 18 57.8 +0.3
comp=Z,29nm,1.0s
CAF Calviac 75.69 313 eP P 21 19 00.8 +0.2
comp=Z,24nm,1.1s
CAF Calviac 75.69 313 eP P 21 19 00.8 +0.2
CAF pmax pmax
comp=Z,24nm,1.1s
CAF Calviac 75.69 313 eP P 21 19 00.8 +0.2
comp=Z,24nm,1.1s
LDF La Druitiere 75.92 317 eP P 21 19 01.6 -0.2
comp=Z,43nm,1.0s
LDF La Druitiere 75.92 317 eP P 21 19 01.6 -0.2
LDF pmax pmax
comp=Z,43nm,1.0s
LDF La Druitiere 75.92 317 eP P 21 19 01.6 -0.2
comp=Z,43nm,1.0s
RJF Les Rejaudoux 75.93 313 eP P 21 19 02.5 +0.6
comp=Z,25nm,0.9s
RJF eR
comp=Z,54nm,17.5s
RJF Les Rejaudoux 75.93 313 eP P 21 19 02.5 +0.6
RJF pmax pmax
comp=Z,25nm,0.9s
RJF Les Rejaudoux 75.93 313 eP P 21 19 02.5 +0.6
comp=Z,25nm,0.9s
MTLF Montolieu 76.09 311 eP P 21 19 02.8 -0.1
comp=Z,30nm,1.2s
MTLF Montolieu 76.09 311 eP P 21 19 02.8 -0.1
MTLF pmax pmax
comp=Z,30nm,1.2s
MTLF Montolieu 76.09 311 eP P 21 19 02.8 -0.1
comp=Z,30nm,1.2s
FLN La Foliniere 76.09 317 eP P 21 19 02.5 -0.3
FLN La Foliniere 76.09 317 eP P 21 19 02.5 -0.3
FLN La Foliniere 76.09 317 eP P 21 19 02.5 -0.3
GRR Gorron 76.45 317 eP P 21 19 04.7 -0.1
GRR Gorron 76.45 317 eP P 21 19 04.7 -0.1
GRR Gorron 76.45 317 eP P 21 19 04.7 -0.1
LFF La Frestale 76.57 313 eP P 21 19 05.9 +0.4
comp=Z,45nm,1.1s
LFF La Frestale 76.57 313 eP P 21 19 05.9 +0.4
LFF pmax pmax
comp=Z,45nm,1.1s
LFF La Frestale 76.57 313 eP P 21 19 05.9 +0.4
comp=Z,45nm,1.1s
MFF Saint Martin d 76.60 315 eP P 21 19 05.4 -0.3
comp=Z,21nm,1.1s
MFF Saint Martin d 76.60 315 eP P 21 19 05.4 -0.3
MFF pmax pmax
comp=Z,21nm,1.1s
MFF Saint Martin d 76.60 315 eP P 21 19 05.4 -0.3
comp=Z,21nm,1.1s
SGMF Saint Gilles 77.56 317 eP P 21 19 11.2 +0.2
comp=Z,21nm,0.8s
SGMF Saint Gilles 77.56 317 eP P 21 19 11.2 +0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SGMF				pmax	pmax		
	comp=Z,21nm,0.8s						
SGMF	Saint Gilles	77.56	317	eP	P	21 19 11.2	+0.2
	comp=Z,21nm,0.8s						
ROSF	Rostrenen	77.98	317	eP	P	21 19 13.3	0.0
	comp=Z,28nm,0.8s						
ROSF	Rostrenen	77.98	317	eP	P	21 19 13.3	0.0
ROSF				pmax	pmax		
	comp=Z,28nm,0.8s						
ROSF	Rostrenen	77.98	317	eP	P	21 19 13.3	0.0
	comp=Z,28nm,0.8s						
QUIF	Quistinic	78.07	317	eP	P	21 19 13.6	-0.2
QUIF	Quistinic	78.07	317	eP	P	21 19 13.6	-0.2
QUIF	Quistinic	78.07	317	eP	P	21 19 13.6	-0.2
ETSF	Etsaut	78.15	312	eP	P	21 19 14.8	+0.3
	comp=Z,37nm,1.2s						
ETSF	Etsaut	78.15	312	eP	P	21 19 14.8	+0.3
ETSF				pmax	pmax		
	comp=Z,37nm,1.2s						
ETSF	Etsaut	78.15	312	eP	P	21 19 14.8	+0.3
	comp=Z,37nm,1.2s						
SUMG	Summit	79.32	347	iP	P	21 19 21.4	+0.7
SUMG				pmax	pmax		
	comp=Z,12nm,1.0s						
SUMG	Summit	79.32	347	iP	P	21 19 21.4	+0.7
	comp=Z,12nm,1.0s						
ILAR	Eielson Array	80.39	22	P	P	21 19 25.2	-0.9
ILAR						21 38 05.7	
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	80.39	22	P	P	21 19 25.2	-0.9
	comp=Z,0.9nm,1.0s,baz=290,slow=5.8,SNR=7.2						
ILAR				PKKPbc	PKKPbc	21 38 05.7	-3.0
	comp=Z,0.5nm,0.8s,baz=153,slow=1.4,SNR=5.7						
TAM	Tamanrasset	80.53	291	eP	P	21 19 28.9	+1.1
TAM				pmax	pmax		
	comp=Z,24nm,1.5s						
TAM	Tamanrasset	80.53	291	eP	P	21 19 28.9	+1.1
	comp=Z,24nm,1.5s						
ESDC	Sonseca Array	81.73	310	P	P	21 19 34.4	+0.6
	comp=Z,1.8nm,0.7s,baz=51,slow=6.0,SNR=11						
INK	Inuvik	82.15	16	P	P	21 19 34.7	-0.6
	baz=142,slow=20						
BOSA	Boshof	84.39	236	P	P	21 19 47.6	-0.1
BOSA				pmax	pmax		
	comp=Z,42nm,0.8s						
BOSA				MLR	MLR		
	comp=Z,15nm,28.6s						
BOSA	Boshof	84.39	236	P	P	21 19 47.6	-0.1
	comp=Z,42nm,0.8s,baz=59,slow=3.5,SNR=71						
BOSA				LR	LR	21 58 09.3	
	comp=Z,26nm,18.4s,baz=164,slow=36						
EVO	Evora	85.07	310	eP	P	21 19 51.1	+0.2
	comp=Z,45nm,1.2s						
EVOP	Sao Brissos	85.15	310	eP	P	21 19 51.1	-0.2
EVOP				pmax	pmax		
	comp=Z,45nm,1.2s						
EVOP	Sao Brissos	85.15	310	eP	P	21 19 51.1	-0.2
	comp=Z,45nm,1.2s						
TORD	Torodi Ar. Bea	87.54	283	P	P	21 20 04.1	+0.7
	comp=Z,11nm,0.9s,baz=59,slow=4.1,SNR=57						
TORD				PP	PP	21 23 26.4	-3.4
	comp=Z,1.9nm,1.0s,baz=50,slow=6.7,SNR=4.0						
YKA	Yellowknife Ar	91.41	13	P	P	21 20 20.2	-0.4
	comp=Z,0.4nm,0.7s,baz=327,slow=4.2,SNR=11						
YKA				PKKPbc	PKKPdf	21 37 39.3	+1.5
	comp=Z,0.6nm,0.8s,baz=154,slow=2.7,SNR=10						
TXAR	Lajitas Array	124.81	20	PKIKP	PKPdf	21 26 15.4	+0.7
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	Lajitas Array	124.81	20	PKP	PKPdf	21 26 15.4	+0.7
	comp=Z,0.7nm,0.5s,baz=6.8,slow=0.9,SNR=12						
BDFB	Brasilia	144.05	275	PKIKP	PKPbc	21 26 49.6	+0.6
BDFB				pmax	pmax		
	comp=Z,15nm,0.9s						
BDFB	Brasilia	144.05	275	PKP	PKPbc	21 26 49.6	+0.6
	comp=Z,15nm,0.9s,baz=38,slow=3.9,SNR=20						
ROSC	El Rosal	150.04	338	PKPbc	PKPbc	21 27 07.2	+1.0
	comp=Z,54nm,0.9s,baz=104,slow=2.0,SNR=27						
CPUP	Villa Florida	154.38	257	PKIKP	PKPdf	21 27 06.5	-0.2
CPUP				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CPUP				pmax	pmax		
	comp=Z,11nm,0.7s						
CPUP	Villa Florida	154.38	257	PKP	PKPdf	21 27 06.5	-0.2
	comp=Z,4.6nm,0.7s,baz=94,slow=3.0,SNR=7.0						
CPUP				PKPbc	PKPbc	21 27 14.4	-0.7
	comp=Z,10nm,0.7s,baz=103,slow=0.8,SNR=14						
PLCA	Paso Flores	158.58	212	PKP2	PKPab	21 27 46.5	-1.0
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PLCA	Paso Flores	158.58	212	PKPab	PKPab	21 27 46.5	-1.0
	comp=Z,0.8nm,0.3s,baz=131,slow=7.2,SNR=2.9						
ATAH	Atahualpa	162.61	336	PKPab	PKPab	21 28 06.2	+0.2
	comp=Z,8.7nm,0.8s,baz=316,slow=3.1,SNR=4.8						

IDC 20 21:10:44.1±1.3, 32.23S×178.70W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.8/32, mbtmp4.1/4, ML4.1/1, Error ellipse: s-maj=37.2km s-min=29.6km az=67.0

ISC 20 21:10:50.1±1.7, 32.6S±0.1×178.7W±0.3, h45km, n14, σ1s29/16, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	5.95	208	PN	Pn	21 12 16.6	+1.1
HAZ				SN	Sn	21 13 25.3	+3.0
PUZ	Puketiti	6.05	204	PN	Pn	21 12 16.3	-0.7
PUZ				SN	Sn	21 13 23.8	-1.1
CNGZ	Carnagh Statio	6.44	202	PN	Pn	21 12 21.8	-0.5
MWZ	Matawai	6.55	207	PN	Pn	21 12 24.6	+0.7
URZ	Urewera	6.65	210	Pn	Pn	21 12 24.9	-0.3
	3.5nm,0.3s,baz=277,slow=4.6,SNR=30						
URZ				Sn	Sn	21 13 37.3	-2.4
	4.0nm,0.3s,baz=107,slow=21,SNR=16						
URZ	Urewera	6.65	210	PN	Pn	21 12 25.9	+0.7
URZ				SN	Sn	21 13 39.1	-0.6
OUZ	Omahuta	6.96	245	PN	Pn	21 12 33.9	+4.4
MCHZ	McNeill Hill	7.83	207	PN	Pn	21 12 41.4	0.0
ASAR	Alice Springs	42.48	270	P	P	21 18 41.0	0.0
	2.2nm,0.7s,baz=107,slow=7.7,SNR=11						
WRA	Warramunga Arr	43.66	275	P	P	21 18 50.4	-0.2
	2.9nm,0.6s,baz=114,slow=7.8,SNR=14						
QSPA	South Pole Qui	57.55	180	P	P	21 20 38.3	+3.4
	1.3nm,0.8s,baz=336,slow=1.3,SNR=11						
FINES	FINESS Array B	146.96	338	PKPbc	PKPbc	21 30 26.3	-0.6
	1.5nm,0.5s,baz=64,slow=3.2,SNR=20						
HFS	Hagfors	151.23	347	PKPbc	PKPbc	21 30 37.2	-0.5
	0.9nm,0.6s,baz=27,slow=3.9,SNR=3.7						
TORD	Torodi Ar. Bea	160.67	181	PKPab	PKPab	21 31 28.5	+1.2
	0.5nm,0.8s,baz=164,slow=5.5,SNR=4.3						

IDC 20 21:24:03.0±0.8, 52.01N×174.25E, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.7/43, mbtmp3.8/13, MS2.3/1, Ms1 2.3/1, ms1mx2.1/34, Error ellipse: s-maj=19.8km s-min=12.5km az=43.0

NEIC 20 21:24:05.8, 51.98N×174.06E, h14km, ML3.2(AEIC), After AEIC.

ISC 20 21:24:06.9±0.8, 52.1N±0.1×174.36E±0.07, h28km, n30, σ1s23/25, mb3.9/13, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	0.70	347	P	Pn	21 24 20.3	-0.6
SMY				S	Sn	21 24 31.3	+0.6
FX1	Attu Island--F	1.11	319	Pn	Pn	21 24 25.0	-1.5
	65nm,0.3s,baz=167,slow=3.6,SNR=572						
FX1				Sn	Sn	21 24 39.3	-1.6
	513nm,0.3s,baz=274,slow=19,SNR=34						
FX1	Attu Island--F	1.11	319	P	Pn	21 24 25.0	-1.5
FX1				Sn	Sn	21 24 39.3	-1.6
FX1				S	Sb	21 24 41.4	-0.1
LSSA	Little Sitkin	2.57	91	P	Pb	21 24 49.7	-2.5
LSSE	Little Sitkin	2.60	91	P	Pb	21 24 50.6	-2.2
LSPA	Little Sitkin	2.61	90	P	Pb	21 24 50.8	-2.1
LSPA				S	Sb	21 25 24.0	-0.5
AMKA	Amchitka	3.15	100	P	Pn	21 24 57.2	+2.7
CETU	Semis' Tuman	3.17	90	P	Pb	21 24 58.5	-4.1
CEAP	Semis' Anvil P	3.22	89	P	Pb	21 24 58.9	-4.5
PETK	Petropavlovsk-	10.20	283	LR	LR	21 30 05.1	
	comp=Z,17nm,21.9s,baz=94,slow=36						
ILAR	Eielson Array	23.50	42	P	P	21 29 14.2	+0.2
	1.0nm,0.6s,baz=247,slow=8.1,SNR=18						
H11N2	WAKE ISLAND Hy	32.78	193	T	T	22 05 40.4	
	baz=8.5,slow=76,SNR=10						
H11N3	WAKE ISLAND Hy	32.79	193	T	T	22 05 41.8	
	baz=8.5,slow=76,SNR=10						
H11N1	WAKE ISLAND Hy	32.80	193	T	T	22 05 32.9	
	baz=8.5,slow=76,SNR=12						
H11S1	WAKE ISLAND Hy	34.01	193	T	T	22 07 08.7	
	baz=8.1,slow=76,SNR=8.3						
H11S3	WAKE ISLAND Hy	34.02	193	T	T	22 07 29.4	
	baz=8.1,slow=76,SNR=6.7						
H11S2	WAKE ISLAND Hy	34.03	193	T	T	22 07 14.2	
	baz=8.1,slow=76,SNR=4.0						
YKA	Yellowknife Ar	37.83	46	P	P	21 31 21.9	+1.4
	0.7nm,0.7s,baz=287,slow=7.7,SNR=7.5						
MKAR	Makanchi Array	56.21	304	P	P	21 33 43.5	-0.6
	0.5nm,0.4s,baz=51,slow=5.7,SNR=19						
SCHQ	Schefferville	62.01	35	P	P	21 34 24.7	+0.6
	2.2nm,0.8s,baz=321,slow=13,SNR=2.5						
TXAR	Lajitas Array	62.70	77	P	P	21 34 30.6	+1.4
	0.2nm,0.4s,baz=305,slow=5.9,SNR=7.0						
FINES	FINESS Array B	64.06	344	P	P	21 34 37.5	0.0
	1.4nm,0.8s,baz=8.7,slow=13,SNR=3.3						
NB2	NORSAR Subarra	66.46	351	P	P	21 34 53.6	+0.4
	comp=Z,0.6nm,0.5s,baz=12,slow=6.5						
NOA	NORSAR Array B	66.46	351	P	P	21 34 53.6	+0.4
	comp=Z,0.8nm,0.7s,baz=359,slow=3.0,SNR=5.1						
HFS	Hagfors	67.09	350	P	P	21 34 57.3	+0.1
	comp=Z,3.7nm,1.0s,baz=93,slow=5.9,SNR=5.1						
EKA	Eskdalemuir Ar	72.96	359	P	P	21 35 34.0	+0.8
	comp=Z,0.4nm,0.5s,baz=7.8,slow=5.7,SNR=3.6						
AKASG	Malin Array Be	73.45	338	P	P	21 35 36.7	+0.5
	comp=Z,0.5nm,0.4s,baz=23,slow=6.0,SNR=6.8						
WRA	Warramunga Arr	79.73	218	P	P	21 36 11.9	-0.1
	comp=Z,0.5nm,0.7s,baz=28,slow=6.1,SNR=8.1						
BRTR	Keskin Array B	82.41	330	P	P	21 36 27.2	+0.9
	comp=Z,0.7nm,0.7s,baz=51,slow=2.4,SNR=4.4						
ASAR	Alice Springs	83.29	217	P	P	21 36 31.3	+0.5
	comp=Z,0.3nm,0.8s,baz=22,slow=5.2,SNR=3.7						

IDC 20 21:25:39.7±2.4, 3.03S×128.42E, h0km, mb3.2/2, mb1 3.2/3, mb1mx3.1/25, mbtmp3.1/3, ML2.7/1, Error ellipse: s-maj=182.6km s-min=27.6km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.77	161	P	Pn	21 29 46.9	-1.9
	0.0nm,0.3s,baz=339,slow=12,SNR=3.0						
ASAR	Alice Springs	21.19	166	P	P	21 30 27.6	+0.6
	0.5nm,0.6s,baz=349,slow=11,SNR=10						
MKAR	Makanchi Array	64.06	327	P	P	21 36 15.7	+0.1
	0.2nm,0.5s,baz=117,slow=8.0,SNR=5.0						

DJA 20 21:25:56.9±0.4, 6°S±5°×11°1E±°, h88km±12km, M3.7/12, MLv3.7/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRI	Semarang	1.03	200	P	Pn	21 26 16.1	-0.8
SMRI				S	Sn	21 26 34.6	+2.8
SMRI	Semarang	1.03	200	P	Pn	21 26 16.3	-0.6
	baz=10.0,SNR=19						
TBJI	Tambak Boyo	1.29	125	P	Pn	21 26 19.2	-0.7
TBJI				S	Sn	21 26 37.0	-0.2
NGJI	Ngawi	1.45	153	P	Pn	21 26 25.1	+3.1
NGJI				S	Sn	21 26 45.3	+4.4
WOJI	Wonogiri, Jawa	1.76	176	P	Pn	21 26 28.0	+2.1
UGM	Wanagama	1.85	188	P	Pn	21 26 27.0	-0.2
UGM	Wanagama	1.85	188	P	Pn	21 26 27.2	+0.1
	baz=10,SNR=8.4						
BWJI	Bawean	1.87	83	P	Pn	21 26 25.5	-1.8
GRJI	Gresik	1.88	117	P	Pn	21 26 28.6	+1.2
KPJI	Karang Pucung	2.23	236	P	Pn	21 26 30.5	-1.6
LEM	Lembang	3.24	256	P	Pn	21 26 54.2	+8.3
LEM	Lembang	3.24	256	P	Pn	21 26 53.1	+7.2
	baz=12,SNR=7.2						
KMMI	Kalianget	3.30	107	P	Pn	21 26 42.2	-4.3
PBKI	Pangkalan Bun	3.46	15	P	Pn	21 26 50.0	+1.4

CRAAG 20 21:29:16.0, 34.84N×2.24W, Ml2.9

IDC 20 21:29:17.2±1.6, 35.03N×2.18W, h0km, mb3.2/2, mb1 3.5/5, mb1mx3.2/49, mbtmp3.4/5, ML3.6/3, Error ellipse: s-maj=36.2km s-min=25.0km az=114.0

CNRM 20 21:29:17.1, 35.20N×2.08W, h4km, MD3.8

INMG 20 21:29:18.7±1.3, 34.76N×2.26W, h31km, ML2.7, Error ellipse: s-maj=7.2km s-min=6.1km az=138.0

MDD 20 21:29:18.7±0.9, 34.98N×2.13W, h8km±7km, mbLg2.8/26, Error ellipse: s-maj=9.1km s-min=5.4km az=165.0, PRXIMO

CSEM 20 21:29:19.1±0.3, 35.04N×2.21W, h15km, ML2.8, Error ellipse: s-maj=5.9km s-min=4.2km az=154.0

ISC 20 21:29:18.5±1.4, 35.06N±0.04×2.19W±0.03, h13km±10km, n106, σ1s49/159, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	Zaio	0.46	259	P	Pg	21 29 27.5	-0.1
ZAI				S	Sb	21 29 36.0	+0.8
ZAI	Zaio	0.46	259	iP	Pg	21 29 27.5	-0.1
ZAI				S	Sb	21 29 36.0	+0.8
OLHC	Oulhaca	0.66	73	P	Pg	21 29 31.0	-0.4
OLHC	Oulhaca	0.66	73	P	Pg	21 29 31.0	-0.4
OLHC	Oulhaca	0.66	73	P	Pg	21 29 31.0	-0.4
TOU	Touzarine	1.28	266	P	Pn	21 29 42.0	-0.2
TOU				S	Sn	21 30 00.0	+0.7
TOU	Touzarine	1.28	266	P	Pn	21 29 42.0	-0.2
TOU				S	Sn	21 30 00.0	+0.7
USTO	Oran	1.50	63	P	Pg	21 29 54.0	+6.7
USTO	Oran	1.50	63	P	Pg	21 29 54.0	+6.7
ODJA	Bouhanifia	1.70	80	P	Pg	21 29 55.0	+4.0
ODJA	Bouhanifia	1.70	80	P	Pg	21 29 55.0	+4.0
ENIJ	Nijar	1.91	360	P	Pn	21 29 50.0	-0.7
	18nm,0.2s,SNR=7.9						
ENIJ				S	Sn	21 30 15.9	+1.3
	67nm,0.3s,SNR=7.9						
ENIJ	Nijar	1.91	360	P	Pn	21 29 50.0	-0.7
	18nm,0.2s,SNR=7.9						
ENIJ				S	Sn	21 30 15.9	+1.3
	67nm,0.3s,SNR=7.9						
EBER	Berja	1.92	343	P	Pn	21 29 50.2	-0.8
	13nm,0.2s,SNR=27						
EBER				S	Sn	21 30 12.7	-2.4
	202nm,0.5s,SNR=7.9						
EBER	Berja	1.92	343	P	Pn	21 29 50.2	-0.8
	13nm,0.2s,SNR=27						
EGUA	Guajares	2.09	328	⇓P	Pn	21 29 52.3	-0.9
	17nm,0.2s,SNR=18						
EGUA				S	Sn	21 30 17.4	-1.7
	21nm,0.3s,SNR=7.9						
EGUA	Guajares	2.09	328	P	Pn	21 29 52.3	-0.9
	17nm,0.2s,SNR=18						
EGUA				S	Sn	21 30 17.4	-1.7
	21nm,0.3s,SNR=7.9						
EQUE	Quentar	2.37	335	P	Pn	21 29 58.1	+1.0
	15nm,0.3s,SNR=22						
EQUE				S	Sn	21 30 28.0	+1.9
	18nm,0.3s,SNR=7.9						
EQUE	Quentar	2.37	335	P	Pn	21 29 58.1	+1.0
	15nm,0.3s,SNR=22						
EQUE				S	Sn	21 30 28.0	+1.9
	18nm,0.3s,SNR=7.9						
ECOG	Cogollos-Vega	2.48	334	P	Pn	21 29 59.9	+1.3
	11nm,0.2s,SNR=17						
ECOG				S	Sn	21 30 31.0	+2.2
	92nm,0.5s,SNR=7.9						
ECOG	Cogollos-Vega	2.48	334	P	Pn	21 29 59.9	+1.3
	11nm,0.2s,SNR=17						
ECOG				S	Sn	21 30 31.0	+2.2
	92nm,0.5s,SNR=7.9						
SELV	Sierra Elvira	2.51	331	P	Pn	21 30 00.1	+1.2
	9.1nm,0.3s,SNR=7.9						
SELV				S	Sn	21 30 31.0	+1.7
	26nm,0.8s,SNR=7.9						
SELV	Sierra Elvira	2.51	331	P	Pn	21 30 00.1	+1.2
	9.1nm,0.3s,SNR=7.9						
SELV				S	Sn	21 30 31.0	+1.7
	26nm,0.8s,SNR=7.9						
OKGL	Djebel Kef Gue	2.51	66	P	Pn	21 29 58.4	-0.6
	14nm,0.3s,SNR=7.9						
OKGL				S	Sn	21 30 27.5	-1.9
	160nm,0.3s,SNR=7.9						
OKGL	Djebel Kef Gue	2.51	66	P	Pn	21 29 58.4	-0.6
	14nm,0.3s,SNR=7.9						
GORA	Gorafe	2.51	344	P	Pn	21 30 00.1	+1.0
	12nm,0.2s,SNR=7.9						
GORA				S	Sb	21 30 32.7	-1.6
	33nm,0.3s,SNR=7.9						
GORA	Gorafe	2.51	344	P	Pn	21 30 00.1	+1.0
	12nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.58	306	P	Pn	21 29 58.3	-1.6
	2.2nm,0.3s,SNR=12						
EMIJ				S	Sn	21 30 29.2	-2.0
	17nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.58	306	P	Pn	21 29 58.3	-1.6
	2.2nm,0.3s,SNR=12						
EMIJ				S	Sn	21 30 29.2	-2.0
	17nm,0.2s,SNR=7.9						
EQES	Quesada	2.83	346	P	Pn	21 30 05.1	+1.6
	6.2nm,0.1s,SNR=72						
EQES				S	Sn	21 30 39.6	+2.2
	69nm,0.5s,SNR=7.9						
EQES	Quesada	2.83	346	P	Pn	21 30 05.1	+1.6
	6.2nm,0.1s,SNR=72						
EQES				S	Sn	21 30 39.6	+2.2
	69nm,0.5s,SNR=7.9						
ELUQ	Luque	3.01	327	P	Pn	21 30 07.5	+1.6
	7.6nm,0.2s,SNR=7.9						
ELUQ				S	Sn	21 30 43.2	+1.5
	13nm,0.2s,SNR=7.9						
ELUQ	Luque	3.01	327	P	Pn	21 30 07.5	+1.6
	7.6nm,0.2s,SNR=7.9						
ELUQ				S	Sn	21 30 43.2	+1.5
	13nm,0.2s,SNR=7.9						
MDT	Midelt	3.01	223	Pn	Pn	21 30 05.6	-0.3
	2.2nm,0.3s,baz=43,slow=8.9,SNR=42						
MDT				Lg	Lg	21 30 44.7	
	5.7nm,0.3s,baz=142,slow=18,SNR=3.5						
EBAN	Banos Encina	3.35	338	P	Pn	21 30 12.3	+1.7
	3.4nm,0.2s,SNR=7.9						
EBAN				S	Sn	21 30 51.8	+1.5
	13nm,0.4s,SNR=7.9						
EBAN	Banos Encina	3.35	338	P	Pn	21 30 12.3	+1.7
	3.4nm,0.2s,SNR=7.9						
EBAN				S	Sn	21 30 51.8	+1.5
	13nm,0.4s,SNR=7.9						
ESPR	Espera	3.48	302	P	Pn	21 30 14.1	+1.9
	3.3nm,0.3s,SNR=7.9						
ESPR				S	Sn	21 30 57.6	+4.4
	11nm,0.3s,SNR=7.9						
ESPR	Espera	3.48	302	P	Pn	21 30 14.1	+1.9
	3.3nm,0.3s,SNR=7.9						
ZFT	Errachidia	3.51	211	P	Pn	21 30 14.0	+1.1
ZFT				S	Sn	21 30 56.0	+1.6
ZFT	Errachidia	3.51	211	P	Pn	21 30 14.0	+1.1
ZFT				iS	Sn	21 30 56.0	+1.6
EVIA	Vianos	3.58	356	P	Pn	21 30 16.0	+2.2
	19nm,0.3s,SNR=11						
EVIA				S	Sn	21 30 57.7	+1.7
	19nm,0.2s,SNR=7.9						
EVIA	Vianos	3.58	356	P	Pn	21 30 16.0	+2.2
	19nm,0.3s,SNR=11						
EVIA				S	Sn	21 30 57.7	+1.7
	19nm,0.2s,SNR=7.9						
ETOB	Tobarra	3.62	8	P	Pn	21 30 15.5	+1.2
	7.1nm,0.2s,SNR=80						
ETOB				S	Sn	21 30 56.2	-0.6
	12nm,0.3s,SNR=7.9						
ETOB	Tobarra	3.62	8	P	Pn	21 30 15.5	+1.2
	7.1nm,0.2s,SNR=80						
ETOB				S	Sn	21 30 56.2	-0.6
	12nm,0.3s,SNR=7.9						
EBEN	Beniarda	3.97	23	P	Pn	21 30 19.8	+0.8
	8.2nm,0.7s,SNR=9.0						
EBEN				S	Sn	21 31 03.7	-1.8
	4.2nm,0.3s,SNR=7.9						
EBEN	Beniarda	3.97	23	P	Pn	21 30 19.8	+0.8
	8.2nm,0.7s,SNR=9.0						
ECAB	El Cabril	3.98	320	P	Pn	21 30 18.8	-0.3
	2.6nm,0.3s,SNR=8.3						
ECAB				S	Sn	21 31 05.2	-0.4
	2.9nm,0.3s,SNR=7.9						
ECAB	El Cabril	3.98	320	P	Pn	21 30 18.8	-0.3
	2.6nm,0.3s,SNR=8.3						
ECAB				S	Sn	21 31 05.2	-0.4
	2.9nm,0.3s,SNR=7.9						
KIB	El Ksiba	4.05	233	P	Pn	21 30 20.0	-0.1
KIB	El Ksiba	4.05	233	P	Pn	21 30 20.0	-0.1
EMIN	Mina Concepcio	4.51	308	P	Pn	21 30 26.0	-0.4
	1.9nm,0.3s,SNR=7.9						
EMIN				S	Sn	21 31 16.9	-1.9
	5.2nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	4.51	308	P	Pn	21 30 26.0	-0.4
	1.9nm,0.3s,SNR=7.9						
EMIN				S	Sn	21 31 16.9	-1.9
	5.2nm,0.4s,SNR=7.9						
ESDC	Sonseca Array	4.82	344	P	Pn	21 30 32.2	+1.5
	1.7nm,0.2s,baz=165,slow=12,SNR=62						
ESDC	Sonseca Array	4.82	344	Pn	Pn	21 30 31.9	+1.1
	3.1nm,0.3s,baz=164,slow=12,SNR=41						
ESDC				Lg	Lg	21 31 40.1	
	2.6nm,0.3s,baz=157,slow=27,SNR=7.0						
ESDC	Sonseca Array	4.82	344	P	Pn	21 30 32.2	+1.5
	1.7nm,0.2s,SNR=62						
EIBI	Ibiza	4.87	34	P	Pn	21 30 32.0	+0.6
	1.5nm,0.2s,SNR=7.9						
EIBI				S	Sn	21 31 23.5	-4.0
	7.8nm,0.3s,SNR=7.9						
EIBI	Ibiza	4.87	34	P	Pn	21 30 32.0	+0.6
	1.5nm,0.2s,SNR=7.9						
EGRO	El Granado	4.94	302	P	Pn	21 30 33.0	+0.7
	3.5nm,0.3s,SNR=74						
EGRO				S	Sn	21 31 26.9	-2.3
	9.0nm,0.3s,SNR=7.9						
EGRO	El Granado	4.94	302	P	Pn	21 30 33.0	+0.7
	3.5nm,0.3s,SNR=74						
EGRO				S	Sn	21 31 26.9	-2.3
	9.0nm,0.3s,SNR=7.9						
PBAR	Barrancos	4.99	310	ePn	Pn	21 30 33.9	+0.9
PBAR				eSn	Sn	21 31 28.2	-2.3
PBAR				A	A	21 31 32.3	
	6.8nm,0.4s						
PBAR	Barrancos	4.99	310	P	Pn	21 30 33.9	+0.9
PBAR				S	Sn	21 31 28.2	-2.3
	6.8nm,0.4s						
PBAR	Barrancos	4.99	310	P	Pn	21 30 33.9	+0.9
PBAR				S	Sn	21 31 28.2	-2.3
	6.8nm,0.4s						
PVAQ	Vaqueiros	5.04	299	ePn	Pn	21 30 33.4	-0.3
PVAQ				eSn	Sn	21 31 29.0	-2.8
PVAQ				A	A	21 31 35.4	
	5.6nm,0.8s						
PVAQ	Vaqueiros	5.04	299	P	Pn	21 30 33.4	-0.3
PVAQ				S	Sn	21 31 29.0	-2.8
	5.6nm,0.8s						
PVAQ	Vaqueiros	5.04	299	P	Pn	21 30 33.4	-0.3
PVAQ				S	Sn	21 31 29.0	-2.8
	5.6nm,0.8s						
PBDV	Barranco-do-Ve	5.13	297	ePn	Pn	21 30 36.0	+1.0
PBDV	Barranco-do-Ve	5.13	297	P	Pn	21 30 36.0	+1.0
PBDV	Barranco-do-Ve	5.13	297	P	Pn	21 30 36.0	+1.0
EBAD	Badajoz	5.34	315	P	Pn	21 30 38.4	+0.6
	1.8nm,0.3s,SNR=22						
EBAD				S	Sn	21 31 36.0	-3.2
	5.6nm,0.2s,SNR=7.9						
EBAD	Badajoz	5.34	315	P	Pn	21 30 38.4	+0.6
	1.8nm,0.3s,SNR=22						
PCVE	Castro Verde	5.37	300	ePn	Pn	21 30 38.1	-0.2
PCVE	Castro Verde	5.37	300	P	Pn	21 30 38.1	-0.2
PCVE	Castro Verde	5.37	300	P	Pn	21 30 38.1	-0.2
EMOS	Mosqueruela	5.47	14	P	Pn	21 30 40.8	+1.0
	7.5nm,0.5s,SNR=12						
EMOS				S	Sn	21 31 42.0	-0.7
	1.1nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	5.47	14	P	Pn	21 30 40.8	+1.0
	7.5nm,0.5s,SNR=12						
EMOS				S	Sn	21 31 42.0	-0.7
	1.1nm,0.3s,SNR=7.9						
MESJ	Messejana	5.59	302	ePn	Pn	21 30 40.8	-0.5
MESJ				eSn	Sn	21 31 44.4	-1.0
MESJ	Messejana	5.59	302	P	Pn	21 30 40.8	-0.5
MESJ				S	Sn	21 31 44.4	-1.0
MESJ	Messejana	5.59	302	P	Pn	21 30 40.8	-0.5
MESJ				S	Sn	21 31 44.4	-1.0
PESTR	Estremoz	5.75	313	ePn	Pn	21 30 44.8	+1.2
PESTR				eSn	Sn	21 31 45.9	-3.5
PESTR				A	A	21 31 49.3	
	3.5nm,0.4s						
PESTR	Estremoz	5.75	313	ePn	Pn	21 30 44.8	+1.2
GUD	Guadarrama	5.79	345	P	Pn	21 30 45.6	+1.5

	1.7nm,0.2s,SNR=7.9						
GUD	Guadarrama	5.79	345	P	Pn	21 30 45.6	+1.5
	1.7nm,0.2s,SNR=7.9						
PNCL	Nicolau / Gran	5.94	303	ePn	Pn	21 30 45.9	-0.1
PNCL				eSn	Sn	21 31 50.2	-3.7
PNCL				A	A	21 31 55.8	
	3.8nm,0.3s						
PNCL	Nicolau / Gran	5.94	303	ePn	Pn	21 30 45.9	-0.1
PMRV	Marv??o	6.02	318	ePn	Pn	21 30 47.7	+0.5
PMRV	Marv??o	6.02	318	P	Pn	21 30 47.7	+0.5
PMRV	Marv??o	6.02	318	P	Pn	21 30 47.7	+0.5
ETOS	Mallorca	6.16	39	P	Pn	21 30 50.7	+1.5
	2.2nm,0.3s,SNR=7.9						
ETOS				S	Sn	21 31 56.6	-2.9
	1.9nm,0.3s,SNR=7.9						
ETOS	Mallorca	6.16	39	P	Pn	21 30 50.7	+1.5
	2.2nm,0.3s,SNR=7.9						
PCBR	Castelo Branco	6.36	320	ePn	Pn	21 30 52.5	+0.7
PCBR				eSn	Sn	21 32 01.5	-2.8
PCBR				A	A	21 32 02.7	
	4.9nm,0.5s						
PCBR	Castelo Branco	6.36	320	P	Pn	21 30 52.5	+0.7
PCBR				S	Sn	21 32 01.5	-2.8
	2.5nm,0.5s						
PCBR	Castelo Branco	6.36	320	P	Pn	21 30 52.5	+0.7
PTOM	Tomar	6.73	314	ePn	Pn	21 30 57.2	+0.3
PTOM	Tomar	6.73	314	P	Pn	21 30 57.2	+0.3
PTOM	Tomar	6.73	314	P	Pn	21 30 57.2	+0.3
EPOB	Poblet	6.79	21	P	Pn	21 30 58.9	+1.0
	1.8nm,0.3s,SNR=7.9						
EPOB	Poblet	6.79	21	P	Pn	21 30 58.9	+1.0
	1.8nm,0.3s,SNR=7.9						
MVO	Moncorvo	7.19	329	P	Pn	21 31 04.0	+0.7
	2.4nm,0.2s,SNR=7.9						
MVO	Moncorvo	7.19	329	P	Pn	21 31 04.0	+0.7
	2.4nm,0.2s,SNR=7.9						
CFON	Fontmartina	7.62	27	P	Pn	21 31 09.9	+0.8
	1.6nm,0.2s,SNR=7.9						
CFON	Fontmartina	7.62	27	P	Pn	21 31 09.9	+0.8
	1.6nm,0.2s,SNR=7.9						
ECAL	Calabor	7.74	334	P	Pn	21 31 11.0	+0.1
	2.7nm,0.3s,SNR=5.3						
ECAL	Calabor	7.74	334	P	Pn	21 31 11.0	+0.1
	2.7nm,0.3s,SNR=5.3						
KEST	Kesra	9.45	83	Pn	Pn	21 31 34.1	-0.1
	0.1nm,0.3s,baz=244,slow=6.2,SNR=8.2						
TORD	Torodi Ar. Bea	22.10	170	P	P	21 34 14.2	+0.7
	0.5nm,0.8s,baz=345,slow=11,SNR=6.2						
MKAR	Makanchi Array	61.99	51	P	P	21 39 39.0	+0.8
	0.3nm,0.8s,baz=280,slow=4.7,SNR=3.5						

ISCJB 20 22:06:40.2±0.5, 6.19S±0.04×145.71E±0.07, h109km, mb4.1/9, Error ellipse: s-maj=9.4km s-min=5.5km az=169.1
IDC 20 22:06:43.0±2.0, 6.33S×145.75E, h124km±22km, mb3.8/10, mb1 3.9/12, mb1mx3.7/28, mbtmp4.2/12, MS3.1/2, Ms1 3.1/2, ms1mx2.6/21, Error ellipse: s-maj=22.6km s-min=14.4km az=97.0
ISC 20 22:06:41.9±0.6, 6.26S±0.06×145.60E±0.08, h109km, n38, σ1§13/41, mb4.1/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.48	154	P	Pn	22 07 35.3	+1.0
	18nm,0.3s,baz=32,slow=11,SNR=55						
PMG				S	Sn	22 08 14.3	-0.6
	8.2nm,0.3s,baz=142,slow=19,SNR=12						
PMG	Port Moresby	3.48	154	P	Pn	22 07 35.5	+1.2
	baz=3.5,SNR=17						
PMG				S	Sn	22 08 14.8	-0.1
	baz=3.5,SNR=6.1						
COEN	Coen	8.01	197	P	Pn	22 08 39.0	+3.5
	baz=8.0,SNR=59						
COEN				S	Sn	22 10 06.4	+1.9
	baz=8.0,SNR=6.1						
KDU	Kakadu	14.43	243	P	P	22 10 04.2	-0.4
	baz=14,SNR=7.0						
SWI	Sorong	15.28	290	S	Sn	22 12 58.8	-2.1
	baz=15,SNR=225						
QIS	Mount Isa	15.35	202	P	P	22 10 19.4	+4.5
	baz=15,SNR=3.7						
MTN	Manton Dam	15.68	244	P	P	22 10 18.4	-0.2
	baz=16,SNR=9.6						
WRA	Warramunga Arr	17.45	218	P	Pn	22 10 38.0	-0.6
	0.3nm,0.3s,baz=40,slow=12,SNR=24						
WRA				S	Sn	22 13 52.6	-0.5
	baz=39,slow=24,SNR=6.6						
WRA				LR	LR	22 18 17.3	
	comp=Z,57nm,18.5s,baz=355,slow=40						
KNRA	Kununurra	18.97	239	P	P	22 10 54.9	0.0
	baz=19,SNR=11						
QLP	Quilpie	20.25	184	P	Pn	22 11 09.7	-1.8
	baz=20,SNR=7.6						
ASAR	Alice Springs	20.64	212	P	P	22 11 13.0	+0.1
	2.7nm,0.9s,baz=41,slow=8.7,SNR=19						
ASAR				S	S	22 14 54.0	-3.7
	1.1nm,0.8s,baz=25,slow=21,SNR=5.1						
ASAR				PcP	PcP	22 15 19.4	+0.2
	0.6nm,0.7s,baz=96,slow=1.3,SNR=4.8						
ASAR				LR	LR	22 21 05.9	
	comp=Z,45nm,18.3s,baz=41,slow=42						
SOEI	Soe	21.40	259	P	P	22 11 22.1	+0.9
	baz=21,SNR=3.4						
WRKA	Warakurna	24.96	220	P	P	22 11 57.7	+2.3
	baz=25,SNR=8.2						
STKA	Stephens Creek	25.75	188	P	P	22 12 00.7	-1.8
	5.5nm,0.8s,baz=353,slow=12,SNR=7.6						
STKA	Stephens Creek	25.75	188	P	P	22 12 02.5	+0.1
	baz=26,SNR=4.5						
MEEK	Meekatharra	32.73	229	P	P	22 13 05.5	+1.2
	baz=33,SNR=3.5						
KSRS	Korea Array	46.52	341	P	P	22 14 58.3	0.0
	1.8nm,0.6s,baz=158,slow=8.9,SNR=5.9						
USRK	Ussuriysk Arra	51.71	348	P	P	22 15 37.7	-0.1
	2.4nm,0.6s,baz=179,slow=7.1,SNR=19						
CMAR	Chiang Mai Arr	52.15	299	P	P	22 15 43.2	+1.6
	4.3nm,0.6s,baz=122,slow=5.9,SNR=42						
SONM	Songino Array	63.96	332	P	P	22 17 04.1	+0.5
	1.3nm,0.7s,baz=166,slow=4.6,SNR=15						
SONM				PcP	PcP	22 17 38.2	-0.1
	0.3nm,0.6s,baz=154,slow=5.2,SNR=2.4						
TAPN	Taplejung	65.13	304	eP	P	22 17 12.6	+0.7
	5.9nm,0.6s						
ODAN	Odare	65.22	303	eP	P	22 17 12.8	+0.4
	7.8nm,0.7s						
RAMN	Ramite	65.91	303	eP	P	22 17 17.4	+0.6
JIRN	Jiri	66.50	304	eP	P	22 17 21.3	+0.6
	4.8nm,0.6s						
GUN	Gumba	66.85	304	eP	P	22 17 23.4	+0.5
	21nm,0.8s						
PKI	Pulchoki	67.12	303	eP	P	22 17 24.7	+0.1
KKN	Kakani	67.30	303	eP	P	22 17 26.0	+0.4
DMN	Daman	67.38	303	eP	P	22 17 26.9	+0.7
	15nm,0.7s						
GKN	Gorkha	67.91	303	eP	P	22 17 29.7	+0.3
	23nm,1.0s						
KOLN	Koldanda	68.69	303	eP	P	22 17 34.4	+0.1
	16nm,0.8s						
DANN	Dangsing	68.75	304	eP	P	22 17 34.9	+0.1
	9.3nm,0.7s						
MKAR	Makanchi Array	76.82	321	P	P	22 18 22.2	+0.4
	2.0nm,0.7s,baz=99,slow=7.5,SNR=22						
ZALV	Zalesovo Beam	78.50	328	P	P	22 18 30.3	-0.6
	2.3nm,0.5s,baz=110,slow=5.4,SNR=16						
AAK	Ala-Archa	80.53	315	P	P	22 18 43.2	+0.8
	0.7nm,0.5s,baz=191,slow=3.8,SNR=8.1						
ILAR	Eielson Array	86.27	23	P	P	22 19 08.8	-2.3
	2.3nm,0.7s,baz=252,slow=5.0,SNR=30						
TORD	Torodi Ar. Bea	143.80	284	PKP	PKPbc	22 26 02.9	-0.3
	1.5nm,0.6s,baz=53,slow=4.0,SNR=32						
SIV	San Ignacio	145.56	130	PKPbc	PKPab	22 26 08.0	-1.1
	4.6nm,0.8s,baz=220,slow=5.3,SNR=6.7						
DBIC	Dimbokro	150.64	272	PKPbc	PKPbc	22 26 22.5	+0.2
	2.9nm,0.6s,baz=106,slow=1.2,SNR=6.8						

WEL 20 22:19:07.3±0.3, 39.20S×174.79E, h200km±2km, ML3.5/7, 6C-7D, Error ellipse: s-maj=2.5km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTVZ	Mangateitei	0.56	110	⇓PN	Pn	22 19 34.5	-0.2
MTVZ				SN	S	22 19 54.7	-1.4
WAZ	Wanganui	0.58	165	⇑PN	Pn	22 19 35.0	+0.3
WAZ				SN	S	22 19 55.7	-0.6
FWVZ	Far West T-bar	0.59	96	PN	Pn	22 19 34.6	-0.5
FWVZ				SN	S	22 19 55.0	-1.6
TRVZ	Turoa	0.59	100	PN	Pn	22 19 34.8	-0.3
TRVZ				SN	S	22 19 54.8	-1.9
NGZ	Ngauruhoe	0.63	88	PN	Pn	22 19 34.6	-0.5
WNVZ	Wahianoa	0.64	102	PN	Pn	22 19 35.1	-0.2
TUVZ	Tukino	0.67	96	PN	Pn	22 19 35.3	-0.1
NWEZ	Newall Road	0.72	264	PN	Pn	22 19 35.0	-0.4
MOVZ	Moawhango	0.77	106	PN	Pn	22 19 35.4	-0.4
BHHZ	Black Hill Sta	1.03	107	PN	Pn	22 19 36.8	-0.5
TSZ	Takapari Road	1.25	134	AML	AML	22 20 03.0	
TSZ				AML	AML	22 20 03.4	
KRHZ	Kereru	1.30	111	PN	Pn	22 19 39.3	0.0
PNHZ	Pukenui	1.30	124	PN	Pn	22 19 39.5	+0.1
BKZ	Black Stump Fm	1.32	89	⇓PN	Pn	22 19 38.8	-0.8
BKZ				SN	S	22 20 01.7	-2.6
BKZ				AML	AML	22 20 02.1	
POWZ	Post Office Ro	1.41	148	PN	Pn	22 19 40.2	-0.1
MCHZ	McNeill Hill	1.50	100	⇓PN	Pn	22 19 41.4	+0.4
DVHZ	Dannevirke	1.53	137	⇑PN	Pn	22 19 41.2	-0.1
NMHZ	Naumai	1.57	87	⇓PN	Pn	22 19 41.9	+0.1
MRZ	Mangatainoka R	1.58	158	AML	AML	22 20 07.6	
MRZ				AML	AML	22 20 07.6	
PRWZ	Pori Road	1.63	147	PN	Pn	22 19 42.5	+0.3
OGWZ	Otaki Gorge	1.64	170	⇑PN	Pn	22 19 42.4	+0.1
KIW	Kapiti Island	1.67	177	PN	Pn	22 19 42.3	-0.3
KAHZ	Kahuranaki	1.72	111	PN	Pn	22 19 43.4	+0.3
DUWZ	D'Urville Isla	1.74	202	PN	Pn	22 19 42.7	-0.5
PRHZ	Porangahau	1.78	128	PN	Pn	22 19 43.8	+0.2
HOWZ	Holdsworth Sta	1.79	162	⇑PN	Pn	22 19 43.3	-0.4
TIWZ	Tintock	1.79	152	PN	Pn	22 19 43.5	-0.2
TIWZ				AML	AML	22 20 11.9	
TIWZ				AML	AML	22 20 12.7	
PXZ	Pawanui	1.80	118	⇓PN	Pn	22 19 43.9	+0.1
PXZ				AML	AML	22 20 13.4	
PXZ				AML	AML	22 20 14.1	
RAHZ	Arahi	1.81	82	PN	Pn	22 19 43.3	-0.6
ANWZ	Angora Road	1.81	135	PN	Pn	22 19 44.1	+0.3
CKHZ	Cape Kidnapper	1.83	105	PN	Pn	22 19 44.3	+0.2
BFZ	Birch Farm	1.85	143	PN	Pn	22 19 44.1	-0.3
WHHZ	Waihua	1.90	87	PN	Pn	22 19 44.3	-0.5
CAW	Cannon Point	1.92	174	PN	Pn	22 19 44.7	-0.3
CAW				AML	AML	22 20 12.8	
CAW				AML	AML	22 20 15.5	
SNGZ	Shannon Statio	2.03	79	PN	Pn	22 19 45.2	-0.9
MTW	Mount Morrison	2.03	165	PN	Pn	22 19 45.5	-0.6
MTW				AML	AML	22 20 16.7	
URZ	Urewera	2.04	63	PN	Pn	22 19 44.1	-2.1
TCW	Tory Channel	2.05	191	PN	Pn	22 19 46.1	-0.2
TMWZ	Te Maipa	2.08	157	PN	Pn	22 19 46.2	-0.5
BHW	Baring Head	2.21	178	PN	Pn	22 19 47.3	-0.6
PAWZ	Paruwai Farm	2.23	168	PN	Pn	22 19 47.6	-0.6
MSWZ	Moikau Station	2.24	171	PN	Pn	22 19 47.7	-0.7
KNZ	Kokohu	2.25	66	PN	Pn	22 19 47.4	-1.0
NNZ	Nelson	2.29	208	⇑PN	Pn	22 19 47.8	-1.1
TRWZ	Traveller	2.30	163	PN	Pn	22 19 48.4	-0.6
MWZ	Matawai	2.30	69	PN	Pn	22 19 47.4	-1.8
TUWZ	Tuamarina	2.32	196	⇓PN	Pn	22 19 48.8	-0.4
RIGZ	Rimuhau	2.37	79	PN	Pn	22 19 48.7	-1.1
QRZ	Quartz Range	2.38	226	PN	Pn	22 19 48.1	-1.8
PLWZ	Palliser	2.40	172	PN	Pn	22 19 49.2	-0.8
MHGZ	Mahia Peninsul	2.42	90	PN	Pn	22 19 49.8	-0.5
PRGZ	Paritu Road	2.42	84	PN	Pn	22 19 49.5	-0.9
BSWZ	Blackbirch Sta	2.61	195	PN	Pn	22 19 52.0	-0.4
TWGZ	Tauwhareparae	2.69	69	PN	Pn	22 19 52.3	-1.2
HAZ	Te Kaha	2.75	59	⇓PN	Pn	22 19 51.1	-2.9
CNGZ	Carnagh Statio	2.76	76	PN	Pn	22 19 53.0	-1.1
PUZ	Puketiti	2.94	69	PN	Pn	22 19 53.9	-2.3
THZ	Tophouse	2.94	209	⇑PN	Pn	22 19 54.8	-1.5
LTZ	Lake Taylor	4.06	207	PN	Pn	22 20 07.5	-2.3
OXZ	Oxford	4.62	206	PN	Pn	22 20 13.9	-2.9
MQZ	McQueen's Vall	4.78	199	PN	Pn	22 20 15.8	-3.0

KRSC 20 22:22:16.6±1.2, 49.95N×156.93E, h20km±20km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.90	325	eP	Pb	22 22 32.9	-0.6
SKR				eS	Sb	22 22 44.7	-0.4
PAU	Pauzhetka	1.52	357	eP	Pb	22 22 43.9	-0.2
PAU				eS	Sb	22 23 03.8	+0.8
MTVR	Mutnovka	2.66	17	eP	Pn	22 23 00.7	+2.2
MTVR				eS	Sb	22 23 33.8	-2.2
RUS	Russkaya	2.68	21	eP	Pn	22 23 00.1	+1.5
RUS				eS	Sn	22 23 32.7	+2.3
PET	Petropavlovsk	3.26	19	eS	Sn	22 23 48.9	+4.1
UGLR	Uglovaya	3.47	19	eP	Pn	22 23 12.9	+3.3
AVH	Avacha	3.51	18	eP	Pb	22 23 14.2	-3.9
KOK	Koryaka	3.52	17	eP	Pb	22 23 14.5	-3.7
SMAR	Somma	3.52	19	eP	Pb	22 23 14.5	-3.9
KRER	Koryakskii	3.55	18	eP	Pn	22 23 14.4	+3.6
SDLR	Sedlovina	3.55	19	eP	Pn	22 23 13.5	+2.8
KRX	Arik	3.58	17	eP	Pn	22 23 14.6	+3.5
SPN	Mys Shipunski	3.70	30	S	Sn	22 23 59.9	+4.4
GNL	Ganaly	3.81	9	eP	Pn	22 23 17.9	+3.7

IDC 20 22:38:40.6±2.8, 27.72S×177.21W, h204km±31km, mb3.0/2, mb1 3.4/3, mb1mx3.0/21, mbtmp3.8/3, Error ellipse: s-maj=78.6km s-min=31.7km az=172.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.65	202	P	Pn	22 39 15.8	-0.1
	93nm,0.3s,baz=66,slow=20,SNR=3.8						
RAO				S	S	22 39 50.8	+7.6
	121nm,0.3s,baz=270,slow=20,SNR=3.3						
DZM	Mont Dzumac	15.86	287	P	Pn	22 42 14.1	+0.9
	1.0nm,0.3s,baz=85,slow=17,SNR=12						
ASAR	Alice Springs	44.02	264	P	P	22 46 27.8	-0.5
	0.4nm,0.5s,baz=98,slow=6.8,SNR=11						
WRA	Warramunga Arr	44.77	269	P	P	22 46 33.9	-0.2
	0.4nm,0.5s,baz=106,slow=7.7,SNR=5.3						
NOA	NORSAR Array B	146.20	353	PKPbc	PKPdf	22 57 55.1	+0.2
	0.7nm,0.8s,baz=13,slow=3.2,SNR=2.6						
AKASG	Malin Array Be	149.53	326	PKPbc	PKPbc	22 58 05.6	+0.3
	0.2nm,0.4s,baz=43,slow=4.0,SNR=3.4						
BRTR	Keskin Array B	151.83	303	PKPab	PKPab	22 58 20.4	-0.7
	0.6nm,0.6s,baz=97,slow=3.2,SNR=4.4						

IDC 20 22:43:48.9±1.8, 56.49S×24.07W, h0km, mb4.3/3, mb1 4.3/3, mb1mx4.0/16, mbtmp4.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/18, Error ellipse: s-maj=63.7km s-min=38.8km az=169.0
ISC 20 22:43:50.1±2.2, 56.6S±0.5×24.0W±0.3, h10km, n7, σ0§64/6, mb4.3/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	38.49	308	LR	LR	23 08 50.3	
	comp=Z,26nm,19.3s,baz=162,slow=39						
LPAZ	La Paz	52.12	302	P	P	22 53 01.4	+0.2
	1.8nm,0.5s,baz=193,slow=6.7,SNR=8.2						
DBIC	Dimbokro	64.95	21	P	P	22 54 29.6	-0.2
	4.2nm,0.8s,baz=158,slow=5.8,SNR=5.0						
TORD	Torodi Ar. Bea	72.68	26	P	P	22 55 18.0	+0.1
	1.8nm,0.7s,baz=200,slow=6.5,SNR=25						
INK	Inuvik	147.32	320	PKPbc	PKPbc	23 03 32.2	0.0
	0.8nm,0.6s,baz=103,slow=3.5,SNR=4.3						
SONM	Songino Array	149.01	85	PKPbc	PKPbc	23 03 37.9	+0.5
	0.3nm,0.7s,baz=245,slow=3.0,SNR=2.6						
ILAR	Eielson Array	151.78	310	PKPbc	PKPbc	23 03 42.4	-1.0
	1.2nm,0.7s,baz=128,slow=2.0,SNR=9.3						

IDC 20 22:47:57.2±1.5, 44.19N×12.33E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.1/31, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=49.6km s-min=15.7km az=101.0
SZGRF 20 22:47:59.5, 44.02N×12.42E, h10km, mb3.4, Northern Italy
ROM 20 22:47:59.9±0.2, 44.19N×12.28E, h19km±3km, Ml3.1/11, Error ellipse: s-maj=2.7km s-min=1.5km az=18.0
ISCJB 20 22:47:59.7±0.2, 44.18N±0.02×12.22E±0.02, h29km±3km, mb3.5/2, Error ellipse: s-maj=3.3km s-min=2.2km az=156.8
LDG 20 22:47:59.0±0.1, 44.19N×12.46E, h10km, Ml3.3/34, Error ellipse: s-maj=2.5km s-min=2.2km az=154.0
PRU 20 22:48:00.5, 44.29N×12.54E, h0km
CSEM 20 22:48:00.3±0.1, 44.18N×12.30E, h20km, ML3.3/17, Error ellipse: s-maj=3.1km s-min=2.6km az=142.0
GEN 20 22:48:00.9, 43.71N×12.25E, h3km, ML3.2
STR 20 22:48:07.0±0.4, 44.53N×11.61E, h5km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
ISC 20 22:47:60.0±0.8, 44.19N±0.02×12.26E±0.01, h19km±1km, n238, σ1§32/341, 15C-43D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLA	Bellaria	0.15	106	Pg	Pg	22 48 03.9	-0.4
BLLA				Sg	Sb	22 48 07.6	+2.6
	13µm,0.4s						
BLLA	Bellaria	0.15	106	Pg	Pg	22 48 03.9	-0.4
BLLA				Sg	Sb	22 48 07.6	+2.6
	13µm,0.4s						
RSM	Repubblica di	0.29	152	Pg	Pb	22 48 06.5	0.0
RSM				Sg	Sb	22 48 11.0	+0.1
	1µm,0.5s						
RSM	Repubblica di	0.29	152	Pg	Pb	22 48 06.5	0.0
RSM				Sg	Sb	22 48 11.0	+0.1
	1µm,0.5s						
FAEN	Faenza	0.30	291	Pg	Pb	22 48 07.1	+0.4
FAEN				Sg	Sb	22 48 12.9	+1.7
FAEN	Faenza	0.30	291	Pg	Pb	22 48 07.1	+0.4
FAEN				Sg	Sb	22 48 12.9	+1.7
SFI	Santa Sofia	0.41	227	Pg	Pg	22 48 08.1	-0.4
SFI				Sg	Sb	22 48 15.1	+0.4
	3µm,0.2s						
SFI	Santa Sofia	0.41	227	Pg	Pg	22 48 08.1	-0.4
SFI				Sg	Sb	22 48 15.1	+0.4
	3µm,0.2s						
PESA	Pesaro	0.48	120	Pg	Pg	22 48 09.6	-0.1
PESA				Sg	Sb	22 48 17.0	+0.4
	2µm,0.3s						
PESA	Pesaro	0.48	120	Pg	Pg	22 48 09.6	-0.1
PESA				Sg	Sb	22 48 17.0	+0.4
	2µm,0.3s						
PARC	Parchiule	0.54	182	Pg	Pg	22 48 10.2	-0.5
PARC				Sg	Sb	22 48 18.8	+0.7
	625nm,0.5s						
PARC	Parchiule	0.54	182	Pg	Pg	22 48 10.2	-0.5
PARC				Sg	Sb	22 48 18.8	+0.7
	625nm,0.5s						
VMG	Vicchio	0.56	247	Pg	Pg	22 48 10.8	-0.4
	326nm,0.4s						
VMG	Vicchio	0.56	247	Pg	Pg	22 48 10.8	-0.4
	326nm,0.4s						
CRE	Caprese Michel	0.61	202	Pg	Pg	22 48 12.0	-0.1
	300nm,0.3s						
CRE	Caprese Michel	0.61	202	Pg	Pg	22 48 12.0	-0.1
	300nm,0.3s						
FSSB	Fossombrone	0.62	143	Pg	Pg	22 48 11.5	-0.7
FSSB				Sg	Sb	22 48 21.3	+0.9
	1µm,0.2s						
FSSB	Fossombrone	0.62	143	Pg	Pg	22 48 11.5	-0.7
FSSB				Sg	Sb	22 48 21.3	+0.9
	1µm,0.2s						
BADI	Badiali	0.68	181	Pg	Pg	22 48 12.6	-0.7
	192nm,0.4s						
BADI	Badiali	0.68	181	Pg	Pg	22 48 12.6	-0.7
	192nm,0.4s						
CDCA	Citt' di Caste	0.73	182	Pg	Pb	22 48 13.6	-0.4
	576nm,0.5s						
CDCA	Citt' di Caste	0.73	182	Pg	Pb	22 48 13.6	-0.4
	576nm,0.5s						
FNVD	Fontana Vidola	0.82	269	Pg	Pb	22 48 15.7	0.0
	872nm,0.6s						
FNVD	Fontana Vidola	0.82	269	Pg	Pb	22 48 15.7	0.0
	872nm,0.6s						
ARVD	Arcevia	0.84	144	Pg	Pb	22 48 15.8	-0.2
	768nm,0.6s						
ARVD	Arcevia	0.84	144	Pg	Pb	22 48 15.8	-0.2
	768nm,0.6s						
ADRI	Adria, Italy	0.87	348	⇑ePg	Pn	22 48 18.2	+1.0
ADRI				eSg	Sn	22 48 32.8	+3.4
ADRI	Adria, Italy	0.87	348	⇑ePg	Pn	22 48 18.2	+1.0
TEOL	Teolo	1.25	340	⇓ePg	Pn	22 48 22.4	-0.1
TEOL	Teolo	1.25	340	⇓ePg	Pn	22 48 22.4	-0.1
MAIM	Mastiano	1.31	259	P	Pg	22 48 24.6	-0.6
MAIM				S	Sn	22 48 40.3	+0.1
VALM	Valbona	1.46	277	P	Pg	22 48 28.7	+0.6
VALM				S	Sg	22 48 47.7	+0.6
VINC	Vinca	1.52	269	P	Pg	22 48 28.6	-0.6
VINC				S	Sb	22 48 47.4	+0.9
BACM	Baccana	1.58	274	P	Pg	22 48 30.0	-0.3
BACM				S	Sb	22 48 49.5	+1.4
MARN	Marana (Italy)	1.63	333	⇓ePg	Pn	22 48 27.8	0.0
MARN				eSg	Sn	22 48 47.8	-0.5
MARN	Marana (Italy)	1.63	333	⇓ePg	Pn	22 48 27.8	0.0
MARN				eSg	Sn	22 48 47.8	-0.5
CGRP	Cima Grappa	1.73	349	⇓ePn	Pn	22 48 29.0	-0.2
CGRP				eSn	Sn	22 48 50.3	-0.5
CGRP	Cima Grappa	1.73	349	⇓ePn	Pn	22 48 29.0	-0.2
CGRP				eSn	Sn	22 48 50.3	-0.5
CODM	Codolo	1.75	278	P	Pb	22 48 32.5	+1.1
CODM				S	Sb	22 48 53.9	+0.9
VARN	Col Varnada, M	1.81	357	⇑ePn	Pn	22 48 29.8	-0.5
VARN	Col Varnada, M	1.81	357	⇑ePn	Pn	22 48 29.8	-0.5
CAE	Caneva	1.83	4	⇓ePn	Pn	22 48 30.0	-0.5
CAE	Caneva	1.83	4	⇓ePn	Pn	22 48 30.0	-0.5
SKDS	Skadanscina	1.84	42	iPn	Pn	22 48 29.6	-1.1
SKDS	Skadanscina	1.84	42	iPn	Pn	22 48 29.6	-1.1
POLC	Polcenigo	1.85	5	ePn	Pn	22 48 31.5	+0.8
DDS	Dosso del Somm	1.86	336	⇓ePn	Pn	22 48 31.4	+0.5
DDS	Dosso del Somm	1.86	336	⇓ePn	Pn	22 48 31.5	+0.5
TRI	Trieste	1.86	34	ePn	Pn	22 48 29.9	-0.9
TRI	Trieste	1.86	34	ePn	Pn	22 48 29.9	-0.9
NVLJ	Novalja	1.91	78	ePn	Pn	22 48 31.4	-0.1
NVLJ				Sn	Sn	22 48 56.0	+1.0
NVLJ	Novalja	1.91	78	ePn	Pn	22 48 31.3	-0.1
NVLJ				Sn	Sn	22 48 55.9	+1.0
SC2M	Scurtabo	1.97	277	P	Pb	22 48 35.7	+0.4
SC2M				S	Sb	22 48 59.3	-0.2
MLNI	Malnisio	1.98	7	⇑ePn	Pn	22 48 32.4	-0.2
MLNI	Malnisio	1.98	7	⇑ePn	Pn	22 48 32.3	-0.2
PANI	Panarotta	1.98	340	⇑ePn	Pn	22 48 33.1	+0.4
PANI				eSn	Sn	22 48 56.8	-0.4
PANI	Panarotta	1.98	340	⇑ePn	Pn	22 48 33.1	+0.4
PANI				eSn	Sn	22 48 56.8	-0.4
COLI	Coloredo	2.10	22	⇓ePn	Pn	22 48 33.9	-0.3
COLI				eSn	Sn	22 49 00.5	+0.7
COLI	Coloredo	2.10	22	⇓ePn	Pn	22 48 33.9	-0.3
COLI				eSn	Sn	22 49 00.5	+0.7
AGOR	Agordo	2.10	356	⇑ePn	Pn	22 48 34.1	-0.1
MPRI	Monte Prat	2.12	14	⇓ePn	Pn	22 48 34.6	+0.1
MPRI	Monte Prat	2.12	14	⇓ePn	Pn	22 48 34.6	+0.1
BUA	Buia	2.12	16	⇓ePn	Pn	22 48 34.5	0.0
BUA				eSn	Sn	22 49 01.0	+0.7
BUA	Buia	2.12	16	⇓ePn	Pn	22 48 34.5	0.0
BUA				eSn	Sn	22 49 01.0	+0.7
CIMO	Cimolais	2.13	3	⇓ePn	Pn	22 48 34.0	-0.6
CIMO	Cimolais	2.13	3	⇓ePn	Pn	22 48 34.0	-0.6
BAD	Bernadia	2.17	18	⇓ePn	Pn	22 48 34.7	-0.4
BAD				eSn	Sn	22 49 01.5	+0.1
BAD	Bernadia	2.17	18	⇓ePn	Pn	22 48 34.7	-0.4
BAD				eSn	Sn	22 49 01.5	+0.1
VOJS	Vojsko	2.17	31	iPn	Pn	22 48 34.5	-0.7
VOJS	Vojsko	2.17	31	iPn	Pn	22 48 34.5	-0.7
VINO	Villanova	2.19	19	⇓ePn	Pn	22 48 35.1	-0.4
VINO				eSn	Sn	22 49 02.1	0.0
VINO	Villanova	2.19	19	⇓ePn	Pn	22 48 35.1	-0.4
VINO				eSn	Sn	22 49 02.1	0.0
DRE	Drenchia	2.21	26	⇓ePn	Pn	22 48 35.2	-0.6
DRE	Drenchia	2.21	26	⇓ePn	Pn	22 48 35.2	-0.6
FUSE	Fusea	2.29	13	⇓ePn	Pn	22 48 36.5	-0.3
FUSE	Fusea	2.29	13	⇓ePn	Pn	22 48 36.5	-0.3
CSMI	Casera Mimoias	2.34	7	⇓ePn	Pn	22 48 37.6	-0.1
CSMI	Casera Mimoias	2.34	7	⇓ePn	Pn	22 48 37.6	-0.1
KOSI	Kohlern	2.36	345	⇓ePn	Pn	22 48 38.5	+0.6
ZOU	Zoufplan	2.42	12	⇓ePn	Pn	22 48 38.9	0.0
ZOU	Zoufplan	2.42	12	⇓ePn	Pn	22 48 38.9	0.0
ZOU	Zoufplan	2.42	12	⇓ePn	Pn	22 48 38.8	0.0
LSR	Lussari	2.46	21	ePn	Pn	22 48 38.8	-0.5
LSR	Lussari	2.46	21	ePn	Pn	22 48 38.8	-0.5
ACOM	Acomizza, Ital	2.52	20	⇓ePn	Pn	22 48 40.6	+0.5
ACOM				eSn	Sn	22 49 11.7	+1.3
ACOM	Acomizza, Ital	2.52	20	⇓ePn	Pn	22 48 40.6	+0.5
ACOM				eSn	Sn	22 49 11.7	+1.3

UDBI	Udbina	2.54	81	ePn	Pn	22 48 41.9	+1.7
UDBI				Sn	Sn	22 49 12.3	+1.7
UDBI	Udbina	2.54	81	ePn	Pn	22 48 41.9	+1.7
UDBI				Sn	Sn	22 49 12.3	+1.7
ABTA	Abfaltersbach	2.57	4	⇑iPn	Pn	22 48 41.3	+0.6
ABTA	Abfaltersbach	2.57	4	Pn	Pn	22 48 41.3	+0.6
ABSI	Aberstueckl	2.63	346	⇓ePn	Pn	22 48 42.2	+0.6
ABSI				eSn	Sn	22 49 14.0	+0.9
MYKA	Terra Mystica	2.63	21	⇓iPn	Pn	22 48 41.0	-0.5
MYKA	Terra Mystica	2.63	21	Pn	Pn	22 48 41.0	-0.5
PCP	Piancastagn	2.69	279	P	Pn	22 48 44.2	+1.9
MOSI	Grossmontoni	2.71	334	⇓ePn	Pn	22 48 44.4	+1.6
RISI	Rein	2.77	357	⇓ePn	Pn	22 48 44.4	+0.9
ROSI	Rosskopf	2.81	348	⇓ePn	Pn	22 48 45.5	+1.4
ROSI				eSn	Sn	22 49 18.3	+0.8
OBKA	Obir	2.83	34	ePn	Pn	22 48 44.6	+0.3
OBKA	Obir	2.83	34	⇑iPn	Pn	22 48 43.5	-0.8
OBKA	Obir	2.83	34	ePn	Pn	22 48 44.6	+0.3
PGF	Pioggiola	2.89	237	ePn	Pn	22 48 46.0	+0.9
PGF				eSn	Sn	22 49 19.3	-0.1
	36nm,0.4s						
PGF	Pioggiola	2.89	237	ePn	Pn	22 48 46.0	+0.9
PGF				eSn	Sn	22 49 19.3	-0.1
	18nm,0.4s						
KBA	Koelnbreinsper	2.99	14	ePn	Pn	22 48 47.4	+0.9
KBA	Koelnbreinsper	2.99	14	⇓iPn	Pn	22 48 47.5	+0.9
KBA	Koelnbreinsper	2.99	14	ePn	Pn	22 48 47.4	+0.9
FETA	Feichten	3.03	340	⇓iPn	Pn	22 48 49.2	+2.0
	SNR=19						
FETA	Feichten	3.03	340	Pn	Pn	22 48 49.2	+2.0
	SNR=19						
WTTA	Wattenberg	3.11	352	ePn	Pn	22 48 50.1	+1.9
WTTA	Wattenberg	3.11	352	⇓iPn	Pn	22 48 50.0	+1.8
	SNR=12						
WTTA	Wattenberg	3.11	352	ePn	Pn	22 48 50.1	+1.9
SOKA	Soboth	3.17	37	⇑iPn	Pn	22 48 48.7	-0.2
SOKA	Soboth	3.17	37	Pn	Pn	22 48 48.7	-0.2
WATA	Walderalm	3.19	352	⇑iPn	Pn	22 48 50.8	+1.5
	SNR=20						
WATA	Walderalm	3.19	352	Pn	Pn	22 48 50.8	+1.5
	SNR=20						
MOTA	Moosalm	3.26	346	⇑iPn	Pn	22 48 52.1	+1.8
	SNR=54						
MOTA	Moosalm	3.26	346	Pn	Pn	22 48 52.1	+1.8
	SNR=54						
SAOF	Saorge	3.40	268	P	Pn	22 48 54.1	+2.1
SAOF				S	Sn	22 49 33.4	+1.6
SAOF	Saorge	3.40	268	P	Pn	22 48 54.1	+2.1
SAOF				S	Sn	22 49 33.4	+1.6
RETA	Reutte	3.46	343	iPn	Pn	22 48 55.1	+2.1
	SNR=49						
RETA	Reutte	3.46	343	Pn	Pn	22 48 55.1	+2.1
	SNR=49						
AUTN	L'Aution	3.49	269	P	Pn	22 48 55.6	+2.1
AUTN				S	Sn	22 49 36.2	+1.8
AUTN	L'Aution	3.49	269	P	Pn	22 48 55.6	+2.1
AUTN				S	Sn	22 49 36.2	+1.8
SBF	Sospel	3.50	266	ePn	Pn	22 48 55.2	+1.8
SBF				eSn	Sn	22 49 34.2	-0.1
	47nm,0.5s						
SBF	Sospel	3.50	266	ePn	Pn	22 48 55.2	+1.8
SBF				eSn	Sn	22 49 34.2	-0.1
	24nm,0.5s						
OBER	Oberstdorf	3.50	338	ePn	Pn	22 48 56.0	+2.5
OBER	Oberstdorf	3.50	338	ePn	Pn	22 48 56.0	+2.5
DAVA	Damuels	3.52	333	ePn	Pn	22 48 56.4	+2.6
DAVA	Damuels	3.52	333	iPn	Pn	22 48 56.6	+2.7
	SNR=19						
DAVA	Damuels	3.52	333	ePn	Pn	22 48 56.4	+2.6
REVF	Revere	3.56	265	P	Pn	22 48 57.7	+3.4
REVF	Revere	3.56	265	P	Pn	22 48 57.7	+3.4
RJOB	Jochberg	3.57	6	ePn	Pn	22 48 56.1	+1.7
RJOB	Jochberg	3.57	6	ePn	Pn	22 48 56.1	+1.7
TOUF	Mont Tournerai	3.62	269	P	Pn	22 48 56.9	+1.7
TOUF	Mont Tournerai	3.62	269	P	Pn	22 48 56.9	+1.7
MVIF	Mont Vial	3.70	267	P	Pn	22 48 59.4	+3.2
MVIF	Mont Vial	3.70	267	P	Pn	22 48 59.4	+3.2
ARSA	Arzberg	3.82	36	ePn	Pn	22 48 57.8	0.0
ARSA	Arzberg	3.82	36	ePn	Pn	22 48 57.8	0.0
CALN	Calern	3.90	266	P	Pn	22 49 01.2	+2.1
CALN	Calern	3.90	266	P	Pn	22 49 01.2	+2.1
MOA	Molln	3.92	20	ePn	Pn	22 49 00.1	+0.9
MOA				eSn	Sn	22 49 43.9	-0.8
MOA	Molln	3.92	20	⇓iPn	Pn	22 48 60.0	+0.8
MOA	Molln	3.92	20	ePn	Pn	22 49 00.1	+0.9
MOA				eSn	Sn	22 49 43.9	-0.8
MBDF	Montbardon	3.97	280	ePn	Pn	22 48 58.7	-1.3
MBDF				eSn	Sn	22 49 45.2	-0.9
	9.5nm,0.4s						
MBDF	Montbardon	3.97	280	ePn	Pn	22 48 58.7	-1.3
MBDF				eSn	Sn	22 49 45.2	-0.9
	4.8nm,0.4s						
FRF	La Foret Royal	4.11	263	ePn	Pn	22 49 02.6	+0.8
FRF				eSn	Sn	22 49 48.6	-0.7
	10nm,0.3s						
FRF	La Foret Royal	4.11	263	ePn	Pn	22 49 02.6	+0.8
FRF				eSn	Sn	22 49 48.6	-0.7
	5.1nm,0.3s						
LPG	La Plagne	4.13	290	ePn	Pn	22 49 01.0	-1.4
LPG				eSn	Sn	22 49 49.3	-1.0
	16nm,0.4s						
LPG	La Plagne	4.13	290	ePn	Pn	22 49 01.0	-1.4
LPG				eSn	Sn	22 49 49.3	-1.0
	7.8nm,0.4s						
LPL	La Plagne	4.15	291	ePn	Pn	22 49 02.0	-0.6
LPL				eSn	Sn	22 49 49.5	-1.2
	13nm,0.3s						
LPL	La Plagne	4.15	291	ePn	Pn	22 49 02.0	-0.6
LPL				eSn	Sn	22 49 49.5	-1.2
	6.7nm,0.3s						
STON	Ston	4.17	106	ePn	Pn	22 49 04.0	+1.4
STON				Sn	Sn	22 49 50.0	-0.7
STON	Ston	4.17	106	ePn	Pn	22 49 03.9	+1.4
STON				Sn	Sn	22 49 49.9	-0.7
LMR	La Mourre	4.25	260	ePn	Pn	22 49 04.6	+0.9
LMR				eSn	Sn	22 49 52.1	-0.8
	9.4nm,0.4s						
LMR	La Mourre	4.25	260	ePn	Pn	22 49 04.6	+0.9
LMR				eSn	Sn	22 49 52.1	-0.8
	4.7nm,0.4s						
RSL	Roselend	4.28	293	P	Pn	22 49 05.3	+1.1
RSL	Roselend	4.28	293	P	Pn	22 49 05.3	+1.1
CONA	Conrad Observa	4.50	33	⇑iPn	Pn	22 49 06.8	-0.5
CONA	Conrad Observa	4.50	33	Pn	Pn	22 49 06.8	-0.5
SPAK	Spaichingen-Ko	4.60	330	P	Pn	22 49 09.8	+1.2
SPAK				S	Sn	22 50 01.4	-0.2
ORIF	Oris-en-Rattie	4.62	281	ePn	Pn	22 49 08.8	-0.1
ORIF				eSn	Sn	22 50 00.8	-1.3
	18nm,0.4s						
ORIF	Oris-en-Rattie	4.62	281	ePn	Pn	22 49 08.8	-0.1
ORIF				eSn	Sn	22 50 00.8	-1.3
	9.0nm,0.4s						
BBS	Basel-Blauen	4.67	316	P	Pn	22 49 11.0	+1.5
BBS				S	Sn	22 50 01.7	-1.5
FELD	Feldberg im Sc	4.74	323	P	Pn	22 49 11.0	+0.5
GEC2	GERESS Array S	4.77	12	ePn	Pn	22 49 10.8	-0.1
GEC2	GERESS Array S	4.77	12	ePn	Pn	22 49 10.8	-0.1
GERES	GERESS Array B	4.77	12	Pn	Pn	22 49 10.6	-0.3
	0.5nm,0.3s,baz=186,slow=12,SNR=15						
GERES				Sn	Sn	22 50 04.8	-0.9
	2.1nm,0.3s,baz=187,slow=34,SNR=3.5						
LEPF	PUYLOUBIER	4.79	264	P	Pn	22 49 13.5	+2.4
LEPF	PUYLOUBIER	4.79	264	P	Pn	22 49 13.5	+2.4
SMRF	Simiane la Rot	4.82	270	ePn	Pn	22 49 11.5	-0.1
SMRF				eSn	Sn	22 50 05.7	-1.3
	1.3nm,0.2s						
SMRF	Simiane la Rot	4.82	270	ePn	Pn	22 49 11.5	-0.1
SMRF				eSn	Sn	22 50 05.7	-1.3
	0.6nm,0.2s						
LOMF	Lomont	4.95	312	P	Pn	22 49 14.1	+0.7
LOMF	Lomont	4.95	312	P	Pn	22 49 14.1	+0.7
BFO	Black Forest	4.96	328	ePn	Pn	22 49 14.7	+1.2
BFO				eSn	Sn	22 50 09.0	-1.4
BFO	Black Forest	4.96	328	ePn	Pn	22 49 14.7	+1.2
BFO				eSn	Sn	22 50 09.0	-1.4
WET	Wettzell	4.98	5	ePn	Pn	22 49 13.5	-0.2
WET				eSn	Sn	22 50 08.4	-2.4
WET	Wettzell	4.98	5	ePn	Pn	22 49 13.5	-0.2
WET				eSn	Sn	22 50 08.4	-2.4
CABF	La Chapelle	4.98	301	ePn	Pn	22 49 13.2	-0.6
CABF				eSn	Sn	22 50 08.9	-2.0
	4.4nm,0.3s						
CABF	La Chapelle	4.98	301	ePn	Pn	22 49 13.2	-0.6
CABF				eSn	Sn	22 50 08.9	-2.0
	2.2nm,0.3s						
KHC	Kasperske Hory	5.03	10	ePN	Pn	22 49 13.9	-0.5
KHC				ePG	Pg	22 49 36.5	+0.3
KHC				eSN	Sn	22 50 10.4	-1.7
KHC	Kasperske Hory	5.03	10	Pn	Pn	22 49 13.9	-0.5
KHC				Sn	Sn	22 50 10.4	-1.7
MOF	Molkenrain	5.12	318	P	Pn	22 49 16.5	+0.8
MOF	Molkenrain	5.12	318	P	Pn	22 49 16.5	+0.8
HINF	Hinteralfeld	5.23	316	ePn	Pn	22 49 17.5	+0.3
HINF				eSn	Sn	22 50 14.4	-2.7
	18nm,0.4s						
HINF	Hinteralfeld	5.23	316	ePn	Pn	22 49 17.5	+0.3
HINF				eSn	Sn	22 50 14.4	-2.7
	8.9nm,0.4s						
WLS	Welschbruch	5.43	323	P	Pn	22 49 20.5	+0.6
WLS	Welschbruch	5.43	323	P	Pn	22 49 20.5	+0.6
CDF	Champ du Feu	5.46	323	ePn	Pn	22 49 19.9	-0.5
CDF				eSn	Sn	22 50 19.5	-3.2
	6.4nm,0.3s						
CDF	Champ du Feu	5.46	323	ePn	Pn	22 49 19.9	-0.5
VIVF	Saint-Julien-l	5.47	280	ePn	Pn	22 49 20.0	-0.5
VIVF				eSn	Sn	22 50 21.1	-1.8
	4.0nm,0.3s						
VIVF	Saint-Julien-l	5.47	280	ePn	Pn	22 49 20.0	-0.5
VIVF				eSn	Sn	22 50 21.1	-1.8
	2.0nm,0.3s						
TREC	Trest	5.57	22	ePN	Pn	22 49 21.2	-0.7
TREC				eSN	Sn	22 50 21.7	-3.7
TREC	Trest	5.57	22	Pn	Pn	22 49 21.2	-0.7
HAU	Haudompre	5.61	315	ePn	Pn	22 49 22.7	+0.3
HAU				eSn	Sn	22 50 23.6	-2.8
	32nm,0.4s						
HAU	Haudompre	5.61	315	ePn	Pn	22 49 22.7	+0.3
THEF	They Montfort	5.94	315	P	Pn	22 49 28.0	+1.1
THEF	They Montfort	5.94	315	P	Pn	22 49 28.0	+1.1
PRU	Pruhonice	6.01	14	ePN	Pn	22 49 27.4	-0.5
PRU				eSN	Sn	22 50 33.2	-2.9
PRU				ex	x	22 50 46.6	
PRU	Pruhonice	6.01	14	Pn	Pn	22 49 27.4	-0.5
LASF	Ste Croix	6.05	272	ePn	Pn	22 49 28.0	-0.5
LASF				eSn	Sn	22 50 35.0	-2.2
	2.4nm,0.4s						
LASF	Ste Croix	6.05	272	ePn	Pn	22 49 28.0	-0.5
LASF				eSn	Sn	22 50 35.0	-2.2
	1.2nm,0.4s						
TANN	Tannenbergstha	6.24	1	ePn	Pn	22 49 31.6	+0.6
TANN				eSn	Sn	22 50 39.8	-1.9
TANN	Tannenbergstha	6.24	1	ePn	Pn	22 49 31.6	+0.6
VYHS	Vyhne	6.27	44	ePN	Pn	22 49 34.2	+2.8
PAGF	Fort de Pagny	6.29	316	ePn	Pn	22 49 30.1	-1.6
PAGF				eSn	Sn	22 50 39.4	-3.6
	3.3nm,0.5s						
PAGF	Fort de Pagny	6.29	316	ePn	Pn	22 49 30.1	-1.6
SMF	Signal de Mont	6.42	295	ePn	Pn	22 49 32.8	-0.7
SMF				eSn	Sn	22 50 43.2	-3.0
	7.1nm,0.3s						
SMF	Signal de Mont	6.42	295	ePn	Pn	22 49 32.8	-0.7
SMF				eSn	Sn	22 50 43.2	-3.0
	3.5nm,0.3s						
SFTF	Sexfontaines	6.43	311	ePn	Pn	22 49 33.9	+0.3
	baz=131						
SFTF				eSn	Sn	22 50 43.0	-3.4
	3.4nm,0.3s						
SFTF	Sexfontaines	6.43	311	ePn	Pn	22 49 33.9	+0.3
TNS	Taunus Mts	6.58	338	ePn	Pn	22 49 36.9	+1.2
TNS	Taunus Mts	6.58	338	ePn	Pn	22 49 36.9	+1.2
MEZF	Maizieres J'vi	6.60	313	ePn	Pn	22 49 36.0	+0.1
	baz=128						
MEZF				eSn	Sn	22 50 46.9	-3.7
	7.5nm,0.5s						
MEZF	Maizieres J'vi	6.60	313	ePn	Pn	22 49 36.0	+0.1
LOR	Lormes	6.64	301	ePn	Pn	22 49 36.2	-0.3
	baz=122						
LOR				eSn	Sn	22 50 48.5	-3.2
	12nm,0.4s						
LOR	Lormes	6.64	301	ePn	Pn	22 49 36.2	-0.3
SSF	Saint Saulge	6.78	298	ePn	Pn	22 49 37.7	-0.7
SSF				eSn	Sn	22 50 52.0	-3.1
	17nm,0.5s						
SSF	Saint Saulge	6.78	298	ePn	Pn	22 49 37.7	-0.7
AVF	Avril sur Loir	6.78	296	ePn	Pn	22 49 38.1	-0.4
AVF				eSn	Sn	22 50 52.0	-3.2
	3.2nm,0.3s						
AVF	Avril sur Loir	6.78	296	ePn	Pn	22 49 38.1	-0.4
BRG	Berggiesshubel	6.79	9	PG	Pn	22 49 39.3	+0.8
BRG				SG	Sg	22 51 38.4	+0.8
	30nm,1.5s						
BGF	Bois d'Agland	7.04	293	ePn	Pn	22 49 41.9	-0.2
BGF				eSn	Sn	22 50 58.4	-3.2
	4.6nm,0.2s						
BGF	Bois d'Agland	7.04	293	ePn	Pn	22 49 41.9	-0.2
CLL	Collm	7.14	4	ePn	Pn	22 49 43.0	-0.4
CLL				e(Sn)	Sn	22 51 13.0	+9.0
CLL				eSb	Sg	22 51 51.0	+2.0
CLL				eSg	Sb	22 52 06.0	+38
MTLF	Montolieu	7.32	267	ePn	Pn	22 49 45.6	-0.3
MTLF				eSn	Sn	22 51 05.2	-3.3
	0.2nm,0.2s						
MTLF	Montolieu	7.32	267	ePn	Pn	22 49 45.6	-0.3
CAF	Calviac	7.32	279	ePn	Pn	22 49 45.2	-0.7
CAF				eSn	Sn	22 51 05.4	-3.2
	1.0nm,0.3s						
CAF	Calviac	7.32	279	ePn	Pn	22 49 45.2	-0.7
TCF	Toulx Ste Croi	7.40	290	ePn	Pn	22 49 44.9	-2.1
TCF				eSn	Sn	22 51 07.0	-3.5
	5.2nm,0.3s						
TCF	Toulx Ste Croi	7.40	290	ePn	Pn	22 49 44.9	-2.1
HYF	Humbligny	7.41	298	ePn	Pn	22 49 47.3	+0.3
HYF				eSn	Sn	22 51 06.9	-3.6
HYF	Humbligny	7.41	298	ePn	Pn	22 49 47.3	+0.3
RJF	Les Rejaudoux	7.73	282	ePn	Pn	22 49 50.7	-0.8
RJF				eSn	Sn	22 51 15.1	-3.5
	1.8nm,0.3s						
RJF	Les Rejaudoux	7.73	282	ePn	Pn	22 49 50.7	-0.8
KEST	Kesra	8.73	196	Pn	Pn	22 50 13.1	+7.7
	0.3nm,0.3s,baz=280,slow=3.6,SNR=16						
TORD	Torodi Ar. Bea	32.23	200	P	P	22 54 26.8	-0.4
	0.6nm,0.5s,baz=12,slow=8.7,SNR=10						
MKAR	Makanchi Array	47.66	61	P	P	22 56 35.6	+0.7
	0.2nm,0.6s,baz=282,slow=7.2,SNR=2.5						

IDC **20** *22:53:25.0±8.7, 24.°64N×122.°38E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.2/28, mbtmp3.5/3, ML2.0/1, Error ellipse: s-maj=181.0km s-min=30.1km az=179.0*

ISCJB **20** *22:53:27.4±0.3, 24.°12N±0.°02×122.°42E±0.°02, h49km±6km, mb3.3/3, Error ellipse: s-maj=3.5km s-min=2.3km az=161.1*

TAP **20** *22:53:27.7, 24.°15N×122.°39E, h46km, ML3.6, C*

JMA **20** *22:53:27.1, 24.°07N×122.°40E, h38km±2km, M3.0*

ISC 20 22:53:27.5±1.1, 24.°12N±0.°03×122.°42E±0.°02, h40km±15km, n62, σ1.09/108, mb3.4/3, 10C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.58	55	P	Pn	22 53 39.4	0.0
JYNG				eS	Sn	22 53 48.3	+0.5
YOJ	Yonaguni jima	0.64	57	P	Pn	22 53 40.2	+0.1
YOJ				eS	Sn	22 53 49.4	+0.3
ENA	Nanau	0.69	297	⇑iP	Pn	22 53 40.9	0.0
	baz=300						
ENA				eS	Sn	22 53 50.4	-0.1
	baz=300						
TWC	Suao	0.72	313	iP	Pn	22 53 40.9	-0.3
	baz=313						
TWC				S	Sn	22 53 49.5	-1.6
	baz=313						
TWD	Chiawan	0.76	267	P	Pn	22 53 41.4	-0.3
	baz=255						
TWD				eS	Sn	22 53 52.1	+0.1
	baz=255						
HWA	Hwalien	0.76	260	eP	Pn	22 53 41.6	-0.1
	baz=256						
ILA	Ilan	0.89	317	eP	Pn	22 53 43.9	+0.3
	baz=316						
ILA				eS	Sn	22 53 56.0	+0.7
	baz=316						
ESL	Shilin	0.95	252	⇑iP	Pn	22 53 43.9	-0.5
	baz=241						
ESL				eS	Sn	22 53 56.1	-0.7
	baz=241						
TWB1	Santiao Chiao	0.97	336	⇓iP	Pn	22 53 44.6	-0.1
	baz=348						
TWB1				S	Sn	22 53 56.9	-0.4
	baz=348						
NNS	Nan Shan	1.01	289	P	Pn	22 53 45.5	+0.2
	baz=287						
NNS				eS	Sn	22 53 58.7	+0.3
	baz=287						
WHF	Hehuan Shan	1.06	272	⇑iP	Pn	22 53 46.1	-0.1
	baz=259						
WHF				eS	Sn	22 53 59.8	-0.2
	baz=259						
NWF	Wu-fen Shan	1.12	329	eP	Pn	22 53 46.7	-0.1
	baz=328						
NWF				S	Sn	22 54 00.8	-0.2
	baz=328						
NSK	Sanguang	1.12	300	⇑iP	Pn	22 53 47.3	+0.5
	baz=299						
NSK				S	Sn	22 54 00.6	-0.4
	baz=299						
TWT	Tachien	1.15	277	eP	Pn	22 53 47.9	+0.7
	baz=264						
TWT				S	Sn	22 54 02.4	+0.6
	baz=264						
TWA	Mucha	1.15	319	P	Pn	22 53 47.5	+0.3
	baz=332						
TWA				S	Sn	22 54 02.3	+0.6
	baz=332						
EHY	Hungye	1.18	239	⇑iP	Pn	22 53 47.3	-0.2
	baz=248						
EHY				eS	Sn	22 54 01.5	-0.8
	baz=248						
IRIF	Iriomote-Funau	1.21	79	P	Pn	22 53 48.5	+0.5
IRIF				eS	Sn	22 54 04.4	+1.2
TAP1	Taipei	1.23	318	eP	Pn	22 53 48.8	+0.5
	baz=331						
TAP1				eS	Sn	22 54 04.1	+0.5
	baz=331						
HATJ	Hateruma jima	1.27	92	P	Pn	22 53 50.0	+1.3
HATJ				eS	Sn	22 54 05.4	+0.9
TWF1	Yuli	1.28	234	⇑iP	Pn	22 53 49.1	+0.2
	baz=244						
TWF1				eS	Sn	22 54 03.8	-1.1
	baz=244						
TWS1	Kuangyinshan	1.34	317	P	Pn	22 53 50.1	+0.3
	baz=329						
TWS1				eS	Sn	22 54 07.0	+0.6
	baz=329						
TWY	Chenhua	1.38	327	eP	Pn	22 53 50.5	+0.2
	baz=327						
TWY				eS	Sn	22 54 06.9	-0.3
	baz=327						
NSTT	Nanjuang	1.39	292	eP	Pn	22 53 51.2	+0.8
	baz=290						
NSTT				eS	Sn	22 54 08.2	+0.5
	baz=290						
CHKT	Chengkung	1.40	224	P	Pn	22 53 49.9	-0.7
	baz=214						
CHKT				eS	Sn	22 54 06.0	-1.9
	baz=214						
NCU	National Centr	1.41	307	eP	Pn	22 53 52.4	+1.7
	baz=307						
SMLT	Sun Moon Lake	1.41	261	⇑iP	Pn	22 53 51.6	+0.8
	baz=259						
TYC	Yuchr	1.45	262	⇑iP	Pn	22 53 52.0	+0.8
	baz=260						
JKRS	Kuro-shima	1.45	85	P	Pn	22 53 52.5	+1.2
JKRS				eS	Sn	22 54 11.3	+2.2
YUS	Yu-Shan	1.48	245	⇑iP	Pn	22 53 53.0	+0.8
	baz=243						
YUS				eS	Sn	22 54 10.3	-0.3
	baz=243						
TWQ1	Liyutan	1.52	279	eP	Pn	22 53 53.7	+1.4
	baz=277						
TWQ1				eS	Sn	22 54 11.6	+0.7
	baz=277						
ELDTW	Lidau	1.58	235	eP	Pn	22 53 53.1	-0.1
	baz=223						
ELDTW				eS	Sn	22 54 11.8	-0.7
	baz=223						
JIJ	Ishigaki jima	1.59	81	P	Pn	22 53 53.8	+0.7
JIJ				eS	Sn	22 54 13.0	+0.5
TCU	Taichung	1.60	271	eP	Pn	22 53 54.4	+1.1
	baz=269						
TCU				eS	Sn	22 54 14.4	+1.8
	baz=269						
ALS	Alishan	1.60	248	P	Pn	22 53 54.9	+1.3
	baz=246						
CHN5	Tsauling	1.68	252	P	Pn	22 53 56.1	+1.7
	baz=250						
CHN5				eS	Sn	22 54 16.0	+1.2
	baz=250						
WGK	Gukeng	1.76	256	eP	Pn	22 53 56.3	+0.9
	baz=254						
JISG	Ishigakijimahi	1.79	74	P	Pn	22 53 56.1	+0.3
JISG				eS	Sn	22 54 17.6	+0.3
TWG	Pinlang	1.79	224	eP	Pn	22 53 55.5	-0.4
	baz=231						
TWG				eS	Sn	22 54 16.6	-0.8
	baz=231						
CHN4	Tsaushan	1.84	246	eP	Pn	22 53 58.6	+1.9
	baz=244						
CHN4				eS	Sn	22 54 20.7	+2.0
	baz=244						
WTP	Ta-pu	1.87	243	⇑P	Pn	22 53 59.0	+1.9
	baz=240						
WTP				eS	Sn	22 54 20.4	+0.9
	baz=240						
CHN2	Minshiung	1.88	252	eP	Pn	22 53 58.6	+1.5
	baz=250						
CHN2				eS	Sn	22 54 22.6	+3.0
	baz=250						
CHY	Chiayi	1.93	252	eP	Pn	22 53 58.5	+0.6
	baz=250						
CHY				eS	Sn	22 54 21.8	+0.9
	baz=250						
TWK	Hsinying	1.96	245	eP	Pn	22 53 59.5	+1.2
	baz=243						
TWK				eS	Sn	22 54 22.6	+0.7
	baz=243						
CHN1	Nanshi	1.97	242	eP	Pn	22 54 00.2	+1.8
	baz=240						
CHN1				eS	Sn	22 54 23.9	+2.0
	baz=240						
WTCT	Ta-ch'eng	1.98	263	eP	Pn	22 53 59.7	+1.3
	baz=271						
WTCT				eS	Sn	22 54 23.8	+1.8
	baz=271						
SGST	Jiashian	1.98	239	eP	Pn	22 54 00.3	+1.8
	baz=229						
ECL	Taimali	2.03	222	eP	Pn	22 53 58.5	-0.7
	baz=220						
ECL				eS	Sn	22 54 22.2	-1.0
	baz=220						
WSF	Szhu	2.07	257	eP	Pn	22 54 01.1	+1.4
	baz=255						
WSF				eS	Sn	22 54 27.7	+3.4
	baz=255						
SSD	Sandimen	2.14	231	eP	Pn	22 54 02.5	+1.8
	baz=223						
JTJ	Tarama	2.14	75	P	Pn	22 54 01.6	+0.9
JTJ				eS	Sn	22 54 27.0	+0.9
LAY	Lan-yu	2.22	201	eP	Pn	22 54 01.4	-0.4
	baz=200						
LAY				eS	Sn	22 54 26.9	-1.2
	baz=200						
TWM1	Shoushan	2.24	235	eP	Pn	22 54 04.6	+2.5
	baz=245						
EAST	Anshuo	2.25	220	eP	Pn	22 54 02.5	+0.2
	baz=218						
EAST				eS	Sn	22 54 28.8	-0.1
	baz=218						
SCZT	Fangliau	2.40	224	eP	Pn	22 54 06.2	+1.9
	baz=220						
SCZT				eS	Sn	22 54 34.0	+1.5
	baz=220						
TWK1	Hengchun	2.63	215	eP	Pn	22 54 07.7	+0.3
	baz=213						
TWK1				eS	Sn	22 54 38.6	+0.5
	baz=213						
WDGT	Dungji	2.67	252	eP	Pn	22 54 08.1	+0.1
	baz=250						
PNG	Penghu	2.68	259	eP	Pn	22 54 08.8	+0.7
	baz=257						
KNM	Kinmen	3.65	276	eP	Pn	22 54 23.0	+1.5
	baz=263						
JOW	Kunigami	5.94	62	Pn	Pn	22 54 52.1	-0.9
	0.1nm,0.3s,baz=293,slow=28,SNR=9.2						
JOW				Sn	Sn	22 55 58.2	-1.5

0.0nm,0.3s,baz=326,slow=7.3,SNR=2.9
SONM Songino Array 26.88 336 P **P** 22 59 03.8 -0.8
0.4nm,0.7s,baz=154,slow=10,SNR=4.5
MKAR Makanchi Array 39.18 315 P **P** 23 00 51.2 -0.3
0.4nm,0.5s,baz=102,slow=9.8,SNR=14
ZALV Zalesovo Beam 40.92 327 P **P** 23 01 04.6 -1.2
0.2nm,0.5s,baz=105,slow=11,SNR=3.5

IDC 20 22:54:45.2±0.7, 51.98N×174.29E, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.0/31, mbtmp4.0/17, ML2.7/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/34, Error ellipse: s-maj=16.7km s-min=11.1km az=38.0
ISCJB 20 22:54:48.5±0.4, 51.98N±0.05×174.07E±0.06, h29km, mb4.0/17, MS3.1/1, Error ellipse: s-maj=7.6km s-min=5.1km az=20.0
NEIC 20 22:54:50.5, 52.07N×174.24E, h25km, ML3.5(AEIC), After AEIC.
ISC 20 22:54:49.7±0.6, 52.01N±0.08×174.21E±0.05, h29km, n43, σ1§37/36, mb4.2/17, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.72**	**355**	P	**Pb**	**22 55 02.7**	**-1.1**
SMY				S	**Sb**	**22 55 13.7**	**+0.3**
FX1	**Attu Island--F**	**1.08**	**324**	Pn	**Pn**	**22 55 07.3**	**-1.6**
158nm,0.3s,baz=187,slow=4.6,SNR=617							
FX1				Sn	**Sn**	**22 55 23.3**	**+0.4**
540nm,0.3s,baz=270,slow=19,SNR=29							
LSNW	**Little Sitkin**	2.66	89	P	Pb	22 55 32.0	-4.6
LSSE	**Little Sitkin**	**2.70**	**90**	P	**Pn**	**22 55 32.2**	**+1.1**
AMKA	**Amchitka**	3.23	99	P	Pb	22 55 40.7	-5.6
AMKA				S	**Sb**	**22 56 20.4**	**-4.8**
CETU	**Semis' Tuman**	3.27	89	P	Pn	22 55 40.7	+1.8
CEAP	**Semis' Anvil P**	3.32	88	P	Pn	22 55 41.4	+1.7
PETK	**Petropavlovsk-**	**10.12**	**283**	Pn	**Pn**	**22 57 13.4**	**+0.5**
0.3nm,0.3s,baz=91,slow=19,SNR=7.7							
PETK				Sn	**Sn**	**22 59 01.3**	**-3.9**
0.9nm,0.3s,baz=318,slow=26,SNR=6.1							
PETK				LR	LR	23 00 44.6	
comp=Z,32nm,21.7s,baz=49,slow=35							
SEY	**Seymchan**	**15.95**	**322**	Pn	**P**	**22 58 37.2**	**+2.1**
0.2nm,0.3s,baz=129,slow=12,SNR=6.5							
ILAR	**Eielson Array**	**23.59**	**42**	P	**P**	**22 59 55.8**	**-1.9**
2.2nm,0.7s,baz=247,slow=7.7,SNR=20							
INK	**Inuvik**	29.50	37	LR	LR	23 13 50.2	
comp=Z,41nm,18.0s,baz=54,slow=39							
H11N2	**WAKE ISLAND Hy**	32.72	193	T	T	23 36 23.4	
baz=8.3,slow=76,SNR=15							
H11N3	**WAKE ISLAND Hy**	32.73	193	T	T	23 36 17.2	
baz=8.3,slow=76,SNR=16							
H11N1	**WAKE ISLAND Hy**	32.74	193	T	T	23 36 23.9	
baz=8.3,slow=76,SNR=18							
H11S1	**WAKE ISLAND Hy**	33.95	193	T	T	23 38 14.3	
baz=7.9,SNR=14							
H11S3	**WAKE ISLAND Hy**	33.97	193	T	T	23 38 44.4	
baz=7.9,slow=74,SNR=8.4							
H11S2	**WAKE ISLAND Hy**	33.97	193	T	T	23 38 53.3	
baz=7.9,slow=74,SNR=7.5							
YKA	**Yellowknife Ar**	**37.93**	**46**	P	**P**	**23 02 04.2**	**+0.2**
1.7nm,0.6s,baz=287,slow=8.1,SNR=22							
SONM	**Songino Array**	**42.42**	**292**	P	**P**	**23 02 42.6**	**+0.9**
0.7nm,1.0s,baz=64,slow=7.1,SNR=4.7							
NVAR	**Mina Array Bea**	**47.74**	**79**	P	**P**	**23 03 24.0**	**-0.1**
0.2nm,0.5s,baz=298,slow=8.8,SNR=2.5							
ULM	**Lac du Bonnet**	**52.89**	**54**	P	**P**	**23 04 04.7**	**+2.1**
2.6nm,0.8s,baz=336,slow=14,SNR=4.5							
MKAR	**Makanchi Array**	**56.15**	**304**	P	**P**	**23 04 25.9**	**-0.4**
1.3nm,0.5s,baz=56,slow=6.2,SNR=35							
ARCES	**ARCESS Array B**	**56.62**	**347**	P	**P**	**23 04 28.8**	**-0.6**
2.4nm,0.8s,baz=30,slow=8.0,SNR=6.0							
SCHQ	**Schefferville**	**62.09**	**35**	P	**P**	**23 05 07.3**	**0.0**
4.5nm,0.9s,baz=344,slow=7.4,SNR=3.7							
TXAR	**Lajitas Array**	**62.80**	**77**	P	**P**	**23 05 13.0**	**+0.4**
0.5nm,0.5s,baz=303,slow=6.2,SNR=11							
FINES	**FINESS Array B**	**64.07**	**344**	P	**P**	**23 05 20.1**	**-0.2**
2.5nm,0.9s,baz=23,slow=10,SNR=5.6							
NB2	**NORSAR Subarra**	**66.48**	**351**	P	**P**	**23 05 35.8**	**-0.2**
comp=Z,0.8nm,0.5s,baz=11,slow=6.5							
NOA	**NORSAR Array B**	**66.48**	**351**	P	**P**	**23 05 36.0**	**0.0**
comp=Z,1.0nm,0.5s,baz=3.1,slow=5.5,SNR=6.8							
CMAR	**Chiang Mai Arr**	**66.64**	**270**	P	**P**	**23 05 38.0**	**+0.4**
comp=Z,1.0nm,0.5s,baz=27,slow=8.2,SNR=4.8							
TAPN	**Taplejung**	**66.87**	**285**	eP	**P**	**23 05 40.0**	**+0.7**
comp=Z,5.7nm,0.8s							
GUN	**Gumba**	**67.54**	**287**	eP	**P**	**23 05 44.3**	**+0.6**
JIRN	**Jiri**	**67.54**	**286**	eP	**P**	**23 05 44.3**	**+0.6**
comp=Z,9.8nm,0.7s							
RAMN	**Ramite**	**67.83**	**286**	eP	**P**	**23 05 45.8**	**+0.5**
comp=Z,16nm,0.8s							
PKI	**Pulchoki**	**68.07**	**287**	eP	**P**	**23 05 47.2**	**+0.2**
comp=Z,9.5nm,0.8s							
PKIN	**Phulchoki**	**68.08**	**287**	eP	**P**	**23 05 48.0**	**+1.1**
comp=Z,2.9nm,0.4s							
GKN	**Gorkha**	**68.21**	**288**	eP	**P**	**23 05 48.0**	**+0.4**
comp=Z,7.7nm,1.0s							
DANN	**Dangsing**	**68.46**	**289**	eP	**P**	**23 05 49.5**	**+0.1**
comp=Z,5.7nm,0.7s							
KOLN	**Koldanda**	**68.99**	**288**	eP	**P**	**23 05 52.7**	**+0.1**
AKASG	**Malin Array Be**	**73.45**	**338**	P	**P**	**23 06 19.0**	**+0.1**
comp=Z,1.1nm,0.4s,baz=23,slow=6.2,SNR=8.4							
KBZ	**Khabaz**	**75.78**	**326**	P	**P**	**23 06 32.6**	**+0.1**
comp=Z,2.0nm,0.8s,baz=300,slow=3.6,SNR=3.8							
WRA	**Warramunga Arr**	**79.65**	**218**	P	**P**	**23 06 54.1**	**-0.1**
comp=Z,1.3nm,0.6s,baz=31,slow=6.3,SNR=18							
BRTR	**Keskin Array B**	**82.40**	**330**	P	**P**	**23 07 09.8**	**+0.8**
comp=Z,1.5nm,0.7s,baz=67,slow=3.4,SNR=10							
ASAR	**Alice Springs**	**83.20**	**217**	P	**P**	**23 07 13.2**	**+0.2**
comp=Z,0.5nm,0.7s,baz=19,slow=5.2,SNR=7.0							

GUC 20 23:20:44.9±0.4, 32.14S×68.79W, h5km±8km, MD3.7, ML3.6, 2C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**1.73**	**226⇑**	*i*P	Pn	23 21 10.0	-6.1
FCH				*i* S	Sn	23 21 33.8	-5.1
FCH				AML	AML	23 21 35.2	
comp=N,724nm,0.2s							
PEL	**Peldehue**	**1.89**	**237**	eP	Pn	23 21 18.1	+0.2
PEL				*i* S	Sn	23 21 42.8	+0.6
PEL				AML	AML	23 21 44.8	
comp=N,596nm,0.4s							
CLCH	**Cerro Calan**	**1.94**	**229⇓**	*i*P	Pn	23 21 18.8	+0.3
CLCH				eS	Sn	23 21 44.3	+0.9
CLCH				AML	AML	23 21 45.6	
comp=N,724nm,0.5s							
ROCH	**El Roble**	**2.05**	**246⇑**	*i*P	Pn	23 21 20.1	-0.3
ROCH				eS	Sn	23 21 47.6	+1.0
ROCH				AML	AML	23 21 50.2	
comp=N,483nm,0.6s							
LMEL	**Las Melosas**	**2.08**	**215**	*i* P	Pn	23 21 21.0	+0.3
LMEL				*i* S	Sb	23 21 48.6	-1.0
ANTU	**Antumapu**	**2.11**	**227**	*i* S	Sb	23 21 49.1	-1.1
ANTU				AML	AML	23 21 52.7	
comp=N,296nm,0.4s							
CMCH	**Combarbala**	**2.12**	**296**	eP	Pn	23 21 21.6	+0.5
CMCH				*i* S	Sb	23 21 49.5	-1.1
CMCH				AML	AML	23 21 53.9	
comp=E,2μm,0.8s							
CHCH	**Chadas Angostu**	**2.38**	**221**	*i* P	Pn	23 21 25.8	+1.2
CHCH				*i* S	Sb	23 21 56.8	-1.2

IDC 20 23:26:19.2±1.8, 13.52S×166.14E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/26, mbtmp3.5/4, ML3.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/16, Error ellipse: s-maj=52.0km s-min=32.4km az=128.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.51**	**178**	Pn	Pn	23 28 23.9	-0.1
0.2nm,0.5s,baz=195,slow=20,SNR=3.6							
WRA	**Warramunga Arr**	**31.08**	**254**	P	P	23 32 39.5	0.0
0.3nm,0.7s,baz=84,slow=10,SNR=5.2							
ASAR	**Alice Springs**	**32.11**	**247**	P	P	23 32 48.5	0.0
0.3nm,0.7s,baz=76,slow=9.6,SNR=4.8							
ASAR				LR	LR	23 45 51.1	
comp=Z,34nm,18.1s,baz=110,slow=36							
ILAR	**Eielson Array**	**85.72**	**18**	P	P	23 38 59.8	0.0
0.2nm,0.5s,baz=240,slow=5.0,SNR=6.8							

IDC 20 23:47:33.3±7.9, 24.13S×179.60E, h608km±88km, mb3.0/3, mb1 3.3/3, mb1mx2.8/29, mbtmp3.9/3, Error ellipse: s-maj=51.8km s-min=44.2km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.63**	**261**	P	P	23 54 30.4	+0.1
0.7nm,0.6s,baz=94,slow=7.1,SNR=14							
WRA	**Warramunga Arr**	**42.02**	**267**	P	P	23 54 33.2	-0.2
1.7nm,0.4s,baz=97,slow=8.4,SNR=71							
TXAR	**Lajitas Array**	**90.87**	**58**	P	P	23 59 33.4	-0.1
0.4nm,0.7s,baz=229,slow=6.6,SNR=5.5							
AKASG	**Malin Array Be**	**144.96**	**327**	PKP	PKPbc	00 06 02.5	-0.4
0.1nm,0.3s,baz=47,slow=3.8,SNR=7.2							
BRTR	**Keskin Array B**	**147.42**	**307**	PKPbc	PKPbc	00 06 09.2	-1.0
0.3nm,0.6s,baz=88,slow=4.5,SNR=2.6							
TORD	**Torodi Ar. Bea**	**168.90**	**191**	PKPab	PKPab	00 07 47.0	-0.5
0.4nm,0.9s,baz=180,slow=3.8,SNR=3.4							

ISK 20 23:48:21.5, 34.55N×33.05E, h12km, ML3.4
NIC 20 23:48:24.5, 34.72N×33.24E, h20km, ML3.5
ISCJB 20 23:48:24.8±0.3, 34.66N±0.02×33.12E±0.04, h29km±3km, Error ellipse: s-maj=5.2km s-min=2.8km az=157.3
CSEM 20 23:48:25.1±0.1, 34.69N×33.14E, h20km, ML3.5, Error ellipse: s-maj=3.6km s-min=1.9km az=65.0
GII 20 23:48:26.7±0.0, 34.62N×33.25E, h15km, MD2.3/6
DDA 20 23:48:33.1, 35.42N×33.17E, h16km, MD3.4
ISC 20 23:48:25.4±0.9, 34.70N±0.02×33.16E±0.03, h22km±3km, n95, σ0§92/141, 2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.24**	**284**	P	**Pb**	**23 48 31.3**	**-0.1**
baz=97							
SZAC				S	**Sb**	**23 48 36.3**	**+0.8**
SZAC	**Souni-Zanaja**	**0.24**	**284**	P	**Pb**	**23 48 31.3**	**-0.1**
SZAC				S	**Sb**	**23 48 36.3**	**+0.8**
CSS	**Prodhromos**	**0.30**	**27 ⇓**	P	**Pb**	**23 48 31.0**	**-1.2**
baz=197							
CSS	**Prodhromos**	**0.30**	**27**	ePG	**Pb**	**23 48 31.7**	**-0.5**
CSS				eSG	**Sn**	**23 48 38.3**	**-1.9**
CSS	**Prodhromos**	**0.30**	**27**	Pg	**Pb**	**23 48 30.7**	**-1.5**
CSS	**Prodhromos**	**0.30**	**27**	Pg	**Pb**	**23 48 30.7**	**-1.5**
CSS	**Prodhromos**	**0.30**	**27 ⇓**	P	**Pb**	**23 48 31.0**	**-1.2**
CSS	**Prodhromos**	**0.30**	**27**	ePg	**Pb**	**23 48 31.7**	**-0.5**
CSS				eSg	**Sn**	**23 48 38.3**	**-1.9**
MAMC	**Mammari**	**0.47**	**5**	P	**Pb**	**23 48 33.9**	**-1.1**
baz=177							
MAMC	**Mammari**	**0.47**	**5**	P	**Pb**	**23 48 33.9**	**-1.1**
LEF	**Lefka**	**0.48**	**332**	ePG	**Pb**	**23 48 33.6**	**-1.5**
LEF				eSG	**Sb**	**23 48 42.1**	**+0.4**
LEF	**Lefka**	**0.48**	**332**	ePg	**Pb**	**23 48 33.6**	**-1.5**
LEF				eSg	**Sb**	**23 48 42.1**	**+0.4**
AKDN	**Akdeniz- K˝–br**	**0.62**	**345**	ePG	**Pb**	**23 48 36.4**	**-1.1**
AKDN	**Akdeniz- K˝–br**	**0.62**	**345**	ePg	**Pb**	**23 48 36.4**	**-1.1**
ALFC	**Alevga**	**0.65**	**315**	P	**Pb**	**23 48 37.2**	**-0.9**
baz=129							
ALFC				S	**Sb**	**23 48 48.0**	**+1.2**
ALFC	**Alevga**	**0.65**	**315**	P	**Pb**	**23 48 37.2**	**-0.9**
ALFC				S	**Sb**	**23 48 48.0**	**+1.2**
LFK	**Lefkose**	**0.65**	**27**	ePG	**Pb**	**23 48 37.5**	**-0.7**
LFK	**Lefkose**	**0.65**	**27**	ePg	**Pb**	**23 48 37.5**	**-0.7**
PPCY	**Paphos**	**0.70**	**286**	P	**Pb**	**23 48 38.9**	**0.0**
baz=102							
PPCY	**Paphos**	**0.70**	**286**	P	**Pb**	**23 48 38.9**	**0.0**
AKMC	**Akamas**	**0.76**	**296**	P	**Pb**	**23 48 40.0**	**+0.1**
baz=112							
AKMC	**Akamas**	**0.76**	**296**	P	**Pb**	**23 48 40.0**	**+0.1**
PHNC	**Paralimni**	**0.78**	**67**	P	**Pn**	**23 48 41.4**	**+0.4**
baz=246							
PHNC				S	**Sn**	**23 48 54.5**	**+2.5**
PHNC	**Paralimni**	**0.78**	**67**	P	**Pn**	**23 48 41.4**	**+0.4**
PHNC				S	**Sn**	**23 48 54.5**	**+2.5**
EREN	**Erenkoy**	**1.17**	**45**	ePN	**Pb**	**23 48 47.1**	**+0.2**
EREN	**Erenkoy**	**1.17**	**45**	ePn	**Pb**	**23 48 47.1**	**+0.2**
GAZI	**Gazipasa**	**1.68**	**336**	eP	**Pn**	**23 48 52.9**	**-0.6**
GAZI				eS	**Sn**	**23 49 13.5**	**-0.8**
GAZI	**Gazipasa**	**1.68**	**336**	eP	**Pn**	**23 48 52.9**	**-0.6**
GAZI				eS	**Sn**	**23 49 13.5**	**-0.8**
KIZK	**Mersin**	**1.95**	**24**	*i* P	**Pn**	**23 48 57.8**	**+0.7**
KIZK				*i* S	**Sn**	**23 49 20.1**	**-0.8**
KIZK	**Mersin**	**1.95**	**24**	*i* P	**Pn**	**23 48 57.8**	**+0.7**
KIZK				*i* S	**Sn**	**23 49 20.1**	**-0.8**
ERMK	**Ermenek**	**1.95**	**354**	eP	**Pn**	**23 48 57.6**	**+0.3**
ERMK				eS	**Sb**	**23 49 23.2**	**-1.1**
ERMK	**Ermenek**	**1.95**	**354**	eP	**Pn**	**23 48 57.6**	**+0.3**
ERMK				eS	**Sb**	**23 49 23.2**	**-1.1**
BHL	**Bhannes**	**2.21**	**110**	eP	**Pn**	**23 49 01.8**	**+1.0**
BHL	**Bhannes**	**2.21**	**110**	eP	**Pn**	**23 49 01.8**	**+1.0**
NAQL	**Naqoura**	**2.28**	**133**	eP	**Pn**	**23 49 01.3**	**-0.3**
NAQL	**Naqoura**	**2.28**	**133**	eP	**Pn**	**23 49 01.3**	**-0.3**
HNTI	**Hanita**	**2.32**	**133**	Pn	**Pn**	**23 49 01.9**	**-0.4**
HNTI				Sn	**Sn**	**23 49 29.6**	**-0.5**
HNTI	**Hanita**	**2.32**	**133**	Pn	**Pn**	**23 49 01.9**	**-0.4**
HNTI				Sn	**Sn**	**23 49 29.6**	**-0.5**
MERS	**Mersin**	**2.43**	**27**	ePN	**Pn**	**23 49 04.5**	**+0.8**
MERS	**Mersin**	**2.43**	**27**	ePn	**Pn**	**23 49 04.6**	**+0.8**
MMC7	**Mount Meron ar**	**2.50**	**131**	Pn	**Pn**	**23 49 04.5**	**-0.2**
MMC7	**Mount Meron ar**	**2.50**	**131**	Pn	**Pn**	**23 49 04.5**	**-0.2**
MMA0B	**Mount Meron ar**	**2.51**	**131**	Pn	**Pn**	**23 49 04.9**	**0.0**
MMA0B				Sn	**Sn**	**23 49 34.4**	**-0.4**
MMA0B	**Mount Meron ar**	**2.51**	**131**	Pn	**Pn**	**23 49 04.9**	**0.0**
MMA0B				Sn	**Sn**	**23 49 34.4**	**-0.4**
KSDI	**Kefar Szold**	**2.56**	**125**	Pn	**Pn**	**23 49 05.5**	**0.0**
KSDI				Sn	**Sn**	**23 49 35.0**	**-1.0**
KSDI	**Kefar Szold**	**2.56**	**125**	Pn	**Pn**	**23 49 05.5**	**0.0**
KSDI				Sn	**Sn**	**23 49 35.0**	**-1.0**
OFRI	**'Ofer**	**2.57**	**143**	Pn	**Pn**	**23 49 05.0**	**-0.7**
OFRI	**'Ofer**	**2.57**	**143**	Pn	**Pn**	**23 49 05.0**	**-0.7**
BLGI	**Bet Lehem HaGe**	**2.59**	**139**	Pn	**Pn**	**23 49 06.1**	**+0.2**
BLGI	**Bet Lehem HaGe**	**2.59**	**139**	Pn	**Pn**	**23 49 06.1**	**+0.2**
GULE	**Gulek**	**2.89**	**26**	eP	**Pn**	**23 49 12.2**	**+2.0**
GULE				eS	**Sn**	**23 49 44.5**	**+0.1**
GULE	**Gulek**	**2.89**	**26**	eP	**Pn**	**23 49 12.2**	**+2.0**
GULE				eS	**Sn**	**23 49 44.5**	**+0.1**
SLTI	**Sal'it**	**2.91**	**147**	Pn	**Pn**	**23 49 10.0**	**-0.3**
SLTI				Sn	**Sn**	**23 49 44.4**	**-0.2**
SLTI	**Sal'it**	**2.91**	**147**	Pn	**Pn**	**23 49 10.0**	**-0.3**
SLTI				Sn	**Sn**	**23 49 44.4**	**-0.2**
MMLI	**Mount Malkishu**	**2.94**	**139**	Pn	**Pn**	**23 49 10.6**	**-0.2**
MMLI				Sn	**Sn**	**23 49 45.6**	**+0.2**
MMLI	**Mount Malkishu**	**2.94**	**139**	Pn	**Pn**	**23 49 10.6**	**-0.2**
MMLI				Sn	**Sn**	**23 49 45.6**	**+0.2**
HMDT	**Nahal Hemdat**	**3.14**	**140**	Pn	**Pn**	**23 49 13.8**	**+0.3**
HMDT				Sn	**Sn**	**23 49 50.4**	**+0.2**
HMDT	**Nahal Hemdat**	**3.14**	**140**	Pn	**Pn**	**23 49 13.8**	**+0.3**
HMDT				Sn	**Sn**	**23 49 50.4**	**+0.2**
ELL	**Elmali**	**3.35**	**309**	ePN	**Pn**	**23 49 15.6**	**-0.9**
ELL	**Elmali**	**3.35**	**309**	ePn	**Pn**	**23 49 15.6**	**-0.9**
BCK	**Bucak**	**3.46**	**324**	ePN	**Pn**	**23 49 17.5**	**-0.4**
BCK	**Bucak**	**3.46**	**324**	ePn	**Pn**	**23 49 17.5**	**-0.4**
SULT	**Sultanhani-AKS**	**3.50**	**5**	ePN	**Pn**	**23 49 19.5**	**+0.9**
SULT	**Sultanhani-AKS**	**3.50**	**5**	ePn	**Pn**	**23 49 19.5**	**+0.9**
KOZT	**Kozan**	**3.52**	**37**	ePN	**Pn**	**23 49 20.1**	**+1.3**
KOZT	**Kozan**	**3.52**	**37**	ePn	**Pn**	**23 49 20.1**	**+1.3**
LADK	**Ladik-KONYA**	**3.55**	**350**	ePN	**Pn**	**23 49 20.0**	**+0.7**
LADK	**Ladik-KONYA**	**3.55**	**350**	ePn	**Pn**	**23 49 20.0**	**+0.7**
DSI	**Dead Sea**	**3.63**	**149**	Pn	**Pn**	**23 49 20.3**	**0.0**
DSI				Sn	**Sn**	**23 50 02.7**	**+0.3**
DSI	**Dead Sea**	**3.63**	**149**	Pn	**Pn**	**23 49 20.3**	**0.0**
DSI				Sn	**Sn**	**23 50 02.7**	**+0.3**
FETY	**Fethiye**	**3.84**	**301**	ePN	**Pn**	**23 49 22.5**	**-0.7**
FETY	**Fethiye**	**3.84**	**301**	ePn	**Pn**	**23 49 22.5**	**-0.7**
MZDA	**Masada**	**3.85**	**151**	Pn	**Pn**	**23 49 23.4**	**+0.2**
MZDA				Sn	**Sn**	**23 50 08.6**	**+0.8**
MZDA	**Masada**	**3.85**	**151**	Pn	**Pn**	**23 49 23.4**	**+0.2**
MZDA				Sn	**Sn**	**23 50 08.6**	**+0.8**
RTMI	**Retamim**	**3.85**	**160**	Pn	**Pn**	**23 49 24.0**	**+0.7**
RTMI				Sn	**Sn**	**23 50 07.8**	**-0.2**
RTMI	**Retamim**	**3.85**	**160**	Pn	**Pn**	**23 49 24.0**	**+0.7**
RTMI				Sn	**Sn**	**23 50 07.8**	**-0.2**
GOLH	**Golhisar**	**3.87**	**312**	eP	**Pn**	**23 49 23.9**	**+0.3**
GOLH				eS	**Sn**	**23 50 11.9**	**+3.5**
GOLH	**Golhisar**	**3.87**	**312**	eP	**Pn**	**23 49 23.9**	**+0.3**
GOLH				eS	**Sn**	**23 50 11.9**	**+3.5**
KZIT	**Kziot**	**3.92**	**164**	Pn	**Pn**	**23 49 24.8**	**+0.5**
KZIT				Sn	**Sn**	**23 50 09.9**	**+0.3**
KZIT	**Kziot**	**3.92**	**164**	Pn	**Pn**	**23 49 24.8**	**+0.5**
KZIT				Sn	**Sn**	**23 50 09.9**	**+0.3**
DALY	**Dalyan (Mu˘la**	**4.23**	**301**	ePN	**Pn**	**23 49 27.4**	**-1.1**
DALY	**Dalyan (Mu˘la**	**4.23**	**301**	ePn	**Pn**	**23 49 27.4**	**-1.1**
KIZT	**Kizilcal**	**4.30**	**347**	ePN	**Pn**	**23 49 30.9**	**+1.4**
KIZT	**Kizilcal**	**4.30**	**347**	ePn	**Pn**	**23 49 30.9**	**+1.4**
RMNI	**Mount Ramon**	**4.31**	**161**	Pn	**Pn**	**23 49 29.9**	**+0.3**
RMNI	**Mount Ramon**	**4.31**	**161**	Pn	**Pn**	**23 49 29.9**	**+0.3**
PRNI	**Paran**	**4.60**	**160**	Pn	**Pn**	**23 49 34.1**	**+0.4**
PRNI				Sn	**Sn**	**23 50 26.1**	**-0.4**
PRNI	**Paran**	**4.60**	**160**	Pn	**Pn**	**23 49 34.1**	**+0.4**
PRNI				Sn	**Sn**	**23 50 26.1**	**-0.4**
KRMI	**Paran Flat**	**4.75**	**163**	Pn	**Pn**	**23 49 36.0**	**+0.3**
KRMI	**Paran Flat**	**4.75**	**163**	Pn	**Pn**	**23 49 36.0**	**+0.3**
HRFI	**Mount Harif**	**4.91**	**161**	Pn	**Pn**	**23 49 37.7**	**-0.2**
HRFI				Sn	**Sn**	**23 50 32.7**	**-1.4**
HRFI	**Mount Harif**	**4.91**	**161**	Pn	**Pn**	**23 49 37.7**	**-0.2**
HRFI				Sn	**Sn**	**23 50 32.7**	**-1.4**
AQBJ	**Aqaba**	**5.21**	**162**	Pn	**Pn**	**23 49 42.4**	**+0.5**
EIL	**Elat**	**5.24**	**163**	Pn	**Pn**	**23 49 42.4**	**0.0**
EIL				Sn	**Sn**	**23 50 41.8**	**-0.3**
EIL	**Elat**	**5.24**	**163**	Pn	**Pn**	**23 49 42.4**	**0.0**
EIL				Sn	**Sn**	**23 50 41.8**	**-0.3**

DDA 20 23:49:06.5, 39.67N×38.83E, h7km, MD3.0
ISCJB 20 23:49:07.1±0.5, 39.74N±0.03×38.88E±0.04, h9km±5km, Error ellipse: s-maj=5.2km s-min=3.7km az=35.1
CSEM 20 23:49:07.2±0.2, 39.74N×38.87E, h10km, MD3.0, Error ellipse: s-maj=6.1km s-min=4.1km az=121.0
ISK 20 23:49:07.1, 39.77N×38.91E, h12km, MD3.0
ISC 20 23:49:06.8±1.1, 39.72N±0.02×38.87E±0.02, h6km±10km, n30, σ0§58/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.35**	**221**	ePG	**Pb**	**23 49 16.3**	**+0.8**
ILIC				eSG	**Sb**	**23 49 21.9**	**+0.5**
ILIC	**ilic-Erzincan**	**0.35**	**221**	ePg	**Pb**	**23 49 16.3**	**+0.8**
ILIC				eSg	**Sb**	**23 49 21.9**	**+0.5**
KELT	**Kelkit**	**0.52**	**35**	eP	**Pg**	**23 49 17.4**	**+0.6**
KELT				eS	**Sg**	**23 49 23.8**	**+0.1**
KELT	**Kelkit**	**0.52**	**35**	eP	**Pg**	**23 49 17.4**	**+0.6**
KELT				eS	**Sg**	**23 49 23.8**	**+0.1**
KEMA	**Kemaliye**	**0.54**	**213**	eP	**Pg**	**23 49 16.2**	**-0.9**
KEMA				eS	**Sg**	**23 49 23.8**	**-0.3**
KEMA	**Kemaliye**	**0.54**	**213**	eP	**Pg**	**23 49 16.2**	**-0.9**
KEMA				eS	**Sg**	**23 49 23.8**	**-0.3**
EUZM	**Uzumlu**	**0.64**	**91**	eP	**Pg**	**23 49 19.6**	**+0.5**
EUZM				eS	**Sb**	**23 49 29.5**	**-0.1**
EUZM	**Uzumlu**	**0.64**	**91**	eP	**Pg**	**23 49 19.6**	**+0.5**
EUZM				eS	**Sb**	**23 49 29.5**	**-0.1**
ERZN	**Erzincan**	**0.67**	**101**	ePG	**Pg**	**23 49 20.2**	**+0.5**
ERZN				eSG	**Sb**	**23 49 30.0**	**-0.6**
SUSE	**Susehri**	**0.71**	**314**	eP	**Pg**	**23 49 20.9**	**+0.5**
SUSE				eS	**Sb**	**23 49 31.1**	**-0.6**
SUSE	**Susehri**	**0.71**	**314**	eP	**Pg**	**23 49 20.9**	**+0.5**
SUSE				eS	**Sb**	**23 49 31.1**	**-0.6**
GUMT	**Gumushane**	**0.88**	**32**	ePG	**Pg**	**23 49 23.4**	**-0.2**
GUMT				eSG	**Sg**	**23 49 35.3**	**+0.3**
GUMT	**Gumushane**	**0.88**	**32**	ePg	**Pg**	**23 49 23.4**	**-0.2**
GUMT				eSg	**Sg**	**23 49 35.3**	**+0.3**
PTK	**Pertek**	**0.92**	**154**	ePG	**Pb**	**23 49 25.6**	**+0.4**
PTK	**Pertek**	**0.92**	**154**	ePg	**Pb**	**23 49 25.7**	**+0.4**
BAYT	**Ayd˝–ntepe-Bay**	**1.19**	**55**	ePN	**Pn**	**23 49 28.7**	**-1.0**
BAYT	**Ayd˝–ntepe-Bay**	**1.19**	**55**	ePn	**Pn**	**23 49 28.7**	**-1.0**
ESPY	**Espiye-Giresun**	**1.20**	**355**	ePN	**Pn**	**23 49 29.9**	**-0.2**
ESPY	**Espiye-Giresun**	**1.20**	**355**	ePn	**Pn**	**23 49 29.9**	**-0.2**
ELZG	**Elazig**	**1.22**	**176**	eP	**Pn**	**23 49 29.4**	**-1.2**
ELZG				eS	**Sb**	**23 49 45.8**	**-0.7**
ELZG	**Elazig**	**1.22**	**176**	eP	**Pn**	**23 49 29.4**	**-1.2**
ELZG				eS	**Sb**	**23 49 45.8**	**-0.7**
MALT	**Malatya**	**1.45**	**194**	ePN	**Pn**	**23 49 33.9**	**+0.4**
MALT	**Malatya**	**1.45**	**194**	ePn	**Pn**	**23 49 33.9**	**+0.4**
BINT	**Bingol**	**1.51**	**123**	ePn	**Pb**	**23 49 35.7**	**+0.4**
DARE	**Darende-Malaty**	**1.57**	**224**	ePN	**Pb**	**23 49 36.2**	**-0.1**
DARE	**Darende-Malaty**	**1.57**	**224**	ePn	**Pb**	**23 49 36.2**	**-0.1**
BNGB	**Bing˘¶l**	**1.58**	**117**	ePN	**Pn**	**23 49 35.7**	**+0.3**
AKCD	**Akcadag**	**1.60**	**208**	eP	**Pn**	**23 49 35.7**	**0.0**
AKCD				eS	**Sn**	**23 49 57.4**	**+0.6**
AKCD	**Akcadag**	**1.60**	**208**	eP	**Pn**	**23 49 35.7**	**0.0**
AKCD				eS	**Sn**	**23 49 57.4**	**+0.6**
EZM	**Erzurum**	**1.93**	**84**	ePN	**Pn**	**23 49 39.9**	**-0.5**

MOS 21 00:08:29.5±1.1, 44.92N×148.53E, h147km, mb4.0/5, Error ellipse: s-maj=27.2km s-min=18.8km az=127.5
ISCJB 21 00:08:30.3±1.0, 44.80N±0.09×148.5E±0.1, h151km±7km, mb3.4/12, Error ellipse: s-maj=19.6km s-min=12.0km az=38.9
IDC 21 00:08:31.2±4.1, 44.92N×148.52E, h145km±34km, mb3.2/12, mb1 3.4/14, mb1mx3.3/26, mbtmp3.7/14, Error ellipse: s-maj=32.8km s-min=20.9km az=72.0
SKHL 21 00:08:32.5±0.1, 45.04N×148.35E, h137km±7km, mb4.8/2, mbh5.1/2
JMA 21 00:08:34.0±0.5, 44.55N×148.30E, h140km, M3.5
ISC 21 00:08:30.7±1.2, 44.78N±0.1×148.5E±0.1, h142km±7km, n44, σ1§51/44, mb3.4/12, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.61**	**316** *d*	*i*PN	**Pn**	**00 08 51.7**	**+0.1**
KUR				*i*		00 09 06.3	
KUR				pmax	pmax		
comp=Z,1μm,0.1s							
KUR				pmax	pmax		
comp=N,181nm,0.2s							
KUR				pmax	pmax		
comp=E,35nm,0.2s							
KUR				pmax	pmax		
comp=Z,209μm,0.1s							
KUR				pmax	pmax		
comp=E,402nm,0.5s							
KUR	**Kuril'sk**	**0.61**	**316⇓**	*i*P	**Pn**	**00 08 51.8**	**+0.1**
KUR				AMB	AMB	00 08 52.0	
comp=E,494nm,0.5s							
KUR				*i* S	**Sn**	**00 09 06.2**	**-1.5**
KUR				A	A	00 09 06.4	
comp=E,473nm,0.4s							
KUR				A	A	00 09 06.7	
comp=E,317nm,0.4s							
KUR				A	A	00 09 06.7	
comp=E,412nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.02**	**249⇑**	*i*PN	Pn	00 08 55.9	-10
YUK				*i* S	**Sn**	**00 09 33.7**	**+1.6**
YUK				pmax	pmax		
comp=Z,72nm,0.3s							
YUK				pmax	pmax		
comp=N,12nm,0.1s							
YUK				pmax	pmax		
comp=E,28nm,0.3s							
YUK				smax	smax		
comp=N,183nm,0.2s							
YUK				smax	smax		
comp=E,247nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.02**	**249**	eP	**Pn**	**00 09 07.5**	**+2.0**
YUK				AMB	AMB	00 09 09.0	
comp=E,13nm,0.2s							
YUK				AMB	AMB	00 09 09.0	
comp=E,28nm,0.2s							
YUK				AMB	AMB	00 09 09.0	
comp=E,72nm,0.2s							
YUK				*i* S	**Sn**	**00 09 33.8**	**+1.6**
YUK				A	A	00 09 36.5	
comp=E,183nm,0.3s							
YUK				A	A	00 09 36.5	
comp=E,250nm,0.3s							
NEM2	**Nemuro 2**	**2.43**	**235**	P	**Pn**	**00 09 11.3**	**+0.8**
NEM2				eS	**Sn**	**00 09 39.8**	**-1.3**
JNK	**Nakash**	**2.96**	**247**	P	**Pn**	**00 09 18.6**	**+1.5**
JAK	**Akkeshi**	**3.27**	**238**	P	**Pn**	**00 09 22.0**	**+0.9**
JAK				eS	**Sn**	**00 09 58.6**	**-1.5**
JTKR	**Abashiri--Toko**	**3.37**	**257**	P	**Pn**	**00 09 23.8**	**+1.3**
JAR	**Ashorobuto**	**3.70**	**248**	P	**Pn**	**00 09 28.8**	**+2.0**
JKK2	**Kamakawa 2**	**4.21**	**259**	P	**Pn**	**00 09 35.2**	**+1.8**
JKA	**Kamikawa-asahi**	**4.26**	**263**	eP	**Pn**	**00 09 35.8**	**+1.8**
ASAJ	**Asahikawa**	**4.26**	**263**	PN	**Pn**	**00 09 35.8**	**+1.7**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**4.26**	**263**	P	**Pn**	**00 09 35.8**	**+1.7**
comp=Z,0.9nm,0.3s,baz=77,slow=17,SNR=6.3							
JCH	**Churui**	**4.30**	**241**	P	**Pn**	**00 09 35.8**	**+1.2**
JCH				eS	**Sn**	**00 10 22.5**	**-1.7**
YSS	**Yuzh-Sakhalins**	**4.54**	**300**	erx	rx	00 10 30.3	

JFR Furan 4.54 251 P Pn 00 09 39.6 +1.7
JNBK Urakawa-nobuka 4.86 241 P Pn 00 09 42.6 +0.6
JNBK eS Sn 00 10 32.8 -4.7
JKB Kayabe 6.15 244 P Pn 00 09 59.1 -0.2
JKB eS Sn 00 11 04.4 -4.1
USRK Ussuriysk Arra 11.79 273 P Pn 00 11 14.5 +0.2
comp=Z,0.2nm,0.3s,baz=84,slow=13,SNR=3.3
SONM Songino Array 28.96 291 P P 00 14 17.0 +0.3
comp=Z,0.3nm,0.4s,baz=87,slow=8.9,SNR=6.7
H11N2 WAKE ISLAND Hy 29.31 143 T T 00 45 38.4
baz=334,slow=76,SNR=51
H11N1 WAKE ISLAND Hy 29.32 143 T T 00 45 39.8
baz=334,slow=76,SNR=50
H11N3 WAKE ISLAND Hy 29.33 143 T T 00 45 37.8
baz=334,slow=76,SNR=39
H11S1 WAKE ISLAND Hy 30.32 144 T T 00 46 53.0
baz=334,slow=76,SNR=54
H11S3 WAKE ISLAND Hy 30.32 144 T T 00 46 51.1
baz=334,slow=76,SNR=40
H11S2 WAKE ISLAND Hy 30.32 144 T T 00 46 54.4
baz=334,slow=76,SNR=44
MKAR Makanchi Array 44.95 297 P P 00 16 31.0 -0.3
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 44.95 297 P P 00 16 31.0 -0.3
comp=Z,1.3nm,0.8s,baz=66,slow=7.5,SNR=16
MKAR Makanchi Array 44.95 297 eP P 00 16 31.0 -0.3
AAK Ala-Archa 51.76 295 P P 00 17 23.7 0.0
AAK pmax pmax
comp=Z,1.0nm,0.5s
AAK Ala-Archa 51.76 295 P P 00 17 23.7 0.0
comp=Z,0.8nm,0.5s,baz=68,slow=5.4,SNR=6.2
FINES FINESS Array B 64.37 333 P P 00 18 49.8 -1.0
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 64.37 333 P P 00 18 49.8 -1.0
comp=Z,1.5nm,0.5s,baz=38,slow=7.0,SNR=22
WRA Warramunga Arr 65.70 195 P P 00 19 00.6 +0.7
comp=Z,0.2nm,0.5s,baz=14,slow=6.7,SNR=4.0
NOA NORSAR Array B 68.97 339 P P 00 19 19.2 -0.9
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 68.97 339 P P 00 19 19.2 -0.9
comp=Z,0.5nm,0.6s,baz=28,slow=6.6,SNR=5.0
ASAR Alice Springs 69.42 194 P P 00 19 24.2 +1.0
comp=Z,0.1nm,0.5s,baz=12,slow=5.7,SNR=2.7
KBZ Khabaz 69.81 312 P P 00 19 26.2 +0.7
KBZ pmax pmax
comp=Z,1.0nm,0.6s
KBZ Khabaz 69.81 312 P P 00 19 26.2 +0.7
comp=Z,1.0nm,0.6s,baz=51,slow=9.4,SNR=4.1
AKASG Malin Array Be 71.29 324 P P 00 19 33.9 -0.4
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 71.29 324 P P 00 19 33.9 -0.4
comp=Z,0.5nm,0.3s,baz=38,slow=6.2,SNR=6.7
BRTR Keskin Array B 77.50 314 P P 00 20 10.5 -0.2
comp=Z,0.4nm,0.8s,baz=23,slow=7.8,SNR=3.2
GERES GERESS Array B 78.70 331 P P 00 20 17.7 +0.7
comp=Z,0.2nm,0.4s,baz=37,slow=6.9,SNR=4.4
TXAR Lajitas Array 81.28 57 P P 00 20 31.2 0.0
comp=Z,0.3nm,0.6s,baz=286,slow=6.5,SNR=3.4

KRSC 21 00:11:45.0±2.3, 49.21N×157.00E, h15km±6km, ML3.6, Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SKR Severo-Kuril's 1.59 339 S Sn 00 12 31.7 -0.9
ASAK Asacha 3.23 10 P Pb 00 12 38.9 -3.2
MTVR Mutnovka 3.37 12 P Pb 00 12 41.2 -3.3
MTVR eS Sb 00 13 21.4 -4.0
RUS Russkaya 3.37 16 eP Pn 00 12 40.2 +3.2
RUS S Sn 00 13 19.9 +3.2
UGLR Uglovaya 4.17 15 eP Pn 00 12 52.4 +4.3
AVH Avacha 4.21 14 P Pb 00 12 53.9 -4.4
KOK Koryaka 4.22 13 eP Pn 00 12 53.2 +4.4
SDLR Sedlovina 4.25 15 eP Pn 00 12 53.0 +3.8
KRER Koryakskii 4.25 14 eP Pn 00 12 53.8 +4.5
KRX Arik 4.29 13 eP Pn 00 12 53.6 +3.8
GNL Ganaly 4.54 7 P Pn 00 12 55.7 +2.6
MKZ Mys Kozlova 6.11 27 eP Pn 00 13 18.1 +3.6
KBTR Krutoberegovo 7.85 25 P Pn 00 13 41.8 +3.3

ISCJB 21 00:27:20.8±0.3, 67.84N±0.02×20.16E±0.06, h0km, Error ellipse: s-maj=3.4km s-min=2.9km az=40.2
UPP 21 00:27:21.3, 67.91N×20.24E, h0km, ML1.6, Mining explosion.
CSEM 21 00:27:21.9±0.2, 67.84N×20.24E, h2km, ML1.6, Error ellipse: s-maj=5.2km s-min=4.9km az=159.0, Mining explosion.
HEL 21 00:27:21.9, 67.80N×20.15E, h0km, ML2.2, Explosion
IDC 21 00:27:22.6±0.8, 67.81N×20.56E, h0km, mb1 3.2/6, mb1mx3.0/48, mbtmp3.2/6, ML2.9/6, Error ellipse: s-maj=13.7km s-min=6.1km az=116.0
NAO 21 00:27:22.7±0.9, 67.60N×21.01E, ML2.5
BER 21 00:27:24.0±4.4, 67.84N×20.24E, h0km, ML2.2, ML2.5(NAO), Suspected explosion
ISC 21 00:27:21.4±0.6, 67.83N±0.02×20.21E±0.02, h0km, n73, σ1.41/114, Sweden

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUA Kurravaara 0.14 20 i P Pg 00 27 22.4 -1.5
KUA i S Sg 00 27 24.4 -1.3
KUA Kurravaara 0.14 20 P Pg 00 27 22.5 -1.5
KUA S Sg 00 27 24.4 -1.3
KUA Kurravaara 0.14 20 P Pg 00 27 22.4 -1.5
KUA S Sg 00 27 24.4 -1.3
NIKU Nikkaluokta 0.45 276 i P Pg 00 27 30.4 +0.4
NIKU Nikkaluokta 0.45 276 P Pg 00 27 30.3 +0.4
NIKU Nikkaluokta 0.45 276 P Pg 00 27 30.4 +0.4
LANU Lannavaara 0.71 71 eP Pg 00 27 35.1 +0.2
baz=254
LANU eS Sg 00 27 45.1 +1.2
LANU Lannavaara 0.71 71 P Pg 00 27 35.2 +0.3
LANU S Sg 00 27 44.8 +0.8
LANU Lannavaara 0.71 71 P Pg 00 27 35.2 +0.3
LANU S Sg 00 27 44.8 +0.8
DUNU Dundret 0.72 169 i P Pg 00 27 35.5 +0.3
DUNU Dundret 0.72 169 P Pg 00 27 35.5 +0.3
DUNU Dundret 0.72 169 P Pg 00 27 35.5 +0.3
MASU Masugnsbyn 0.78 118 i P Pg 00 27 36.8 +0.6
MASU Masugnsbyn 0.78 118 P Pg 00 27 36.8 +0.6
MASU Masugnsbyn 0.78 118 P Pg 00 27 36.8 +0.6
SALU Saltoluokta 0.79 236 i P Pg 00 27 36.8 +0.3
SALU Saltoluokta 0.79 236 P Pg 00 27 36.8 +0.3
SALU Saltoluokta 0.79 236 P Pg 00 27 36.8 +0.3
KIF Kilpisjarvi 1.20 10 ePB Pg 00 27 44.5 +0.2
KIF eSB Sb 00 28 00.8 -0.2
KIF Kilpisjarvi 1.20 10 Pb Pg 00 27 44.5 +0.2
KIF Sb Sb 00 28 00.8 -0.2
HEF Hetta 1.42 64 ePG Pn 00 27 47.8 -0.5
baz=251
HEF MSG Sn 00 28 11.5 +3.8
comp=Z,15nm,0.2s
HEF eSN Sn 00 28 11.5 +3.8
HEF Hetta 1.42 64 Pg Pn 00 27 47.8 -0.5
HEF Sn Sn 00 28 11.5 +3.8
ERTU Ertsjaerv 1.49 148 eP Pn 00 27 49.2 -0.2
baz=330
ERTU eSB Sn 00 28 10.4 +0.9
ERTU Ertsjaerv 1.49 148 P Pn 00 27 49.4 0.0
ERTU Sb Sn 00 28 10.4 +0.9
ERTU Ertsjaerv 1.49 148 P Pn 00 27 49.4 0.0
KTK1 Kautokeino 1.63 42 eP Pn 00 27 51.7 +0.4
KTK1 eSg Sg 00 28 15.2 +1.4
KTK1 IAML 00 28 17.2
comp=N,43nm,0.3s
HARU Harads 1.70 170 eP Pb 00 27 52.9 -0.6
HARU Harads 1.70 170 P Pb 00 27 52.8 -0.6
HARU Harads 1.70 170 P Pb 00 27 52.9 -0.6
TRO Tromso 1.87 346 eP Pb 00 27 56.4 0.0
TRO eSg Sg 00 28 21.5 +0.1
TRO IAML 00 28 23.5
comp=Z,39nm,0.2s
TRO Tromso 1.87 346 eP Pb 00 27 56.4 0.0
SNR=50
TRO eSg Sg 00 28 21.5 +0.1
SNR=90
STEI Steigen 1.89 275 eP Pb 00 27 56.3 -0.3
STEI eSg Sg 00 28 22.3 +0.5
STEI IAML 00 28 25.4
comp=Z,30nm,0.5s
KALU Kalix 2.33 146 eP Pn 00 28 02.5 +1.6
KALU eSG Sb 00 28 34.7 +1.2
KALU Kalix 2.33 146 P Pn 00 28 02.5 +1.6
KALU Sg Sb 00 28 34.7 +1.2
KALU Kalix 2.33 146 P Pb 00 28 02.7 -1.6
SGF Sodankyl 2.44 96 ePB Pn 00 28 04.3 +1.9
SGF eSG Sb 00 28 37.4 +0.6
SGF MSG 00 28 37.4
comp=Z,18nm,0.3s
SGF Sodankyl 2.44 96 Pb Pn 00 28 04.3 +1.9
SGF Sg Sb 00 28 37.4 +0.6
comp=Z,18nm,0.3s
LOF Lofoten 2.53 280 eP Pn 00 28 05.1 +1.4
LOF eSg Sg 00 28 42.0 -0.6
LOF IAML 00 28 43.3
comp=Z,18nm,0.4s
LOF Lofoten 2.53 280 eP Pn 00 28 05.1 +1.4
SNR=50
LOF eSg Sg 00 28 42.0 -0.6
SNR=90
ARA0 ARCESS Array S 2.58 46 Pn Pn 00 28 05.8 +1.4
baz=231,slow=14
ARA0 Sn Sn 00 28 38.5 +2.0
baz=232,slow=22
ARA0 ARCESS Array S 2.58 46 Pn Pn 00 28 05.8 +1.4
baz=231,slow=14
ARA0 Sn Sn 00 28 38.5 +2.0
baz=232,slow=22
ARA0 ARCESS Array S 2.58 46 Pn Pn 00 28 05.8 +1.4
SNR=50
ARA0 Sn Sn 00 28 38.5 +2.0
SNR=50
ARCES ARCESS Array B 2.58 46 Pn Pn 00 28 05.1 +0.7
comp=Z,2.6nm,0.3s,baz=228,slow=13,SNR=21
ARCES Lg Lg 00 28 40.6
comp=Z,4.1nm,0.3s,baz=227,slow=23,SNR=12
MOR8 Moi Rana 2.81 236 eP Pn 00 28 08.2 +0.7
MOR8 eSg Sb 00 28 46.0 -1.4
MOR8 IAML 00 28 47.8
comp=Z,51nm,0.2s
MOR8 Moi Rana 2.81 236 eP Pn 00 28 08.2 +0.7
SNR=50
KEV Kevo 3.14 49 ePG Pb 00 28 17.1 -0.8
KEV eS Sn 00 28 51.4 +1.4
KEV Kevo 3.14 49 Pg Pb 00 28 17.1 -0.8
KEV S Sn 00 28 51.4 +1.4
VRF Varrio 3.57 87 eP Pn 00 28 19.8 +1.8
VRF Varrio 3.57 87 P Pn 00 28 19.7 +1.8
OUL Oulu 3.58 138 ePG Pb 00 28 26.1 +0.7
OUL Oulu 3.58 138 Pg Pb 00 28 26.1 +0.7
UMAU Umeaa 3.97 177 eP Pn 00 28 25.7 +2.3
baz=353
UMAU Umeaa 3.97 177 P Pn 00 28 25.6 +2.3
MSF Maaselka 3.98 115 eP Pn 00 28 25.4 +1.8
MSF MSG Sg 00 29 27.2 -1.8
comp=Z,4.8nm,0.3s
MSF eSG Sg 00 29 27.2 -1.8
MSF Maaselka 3.98 115 P Pn 00 28 25.3 +1.8
MSF Sg Sg 00 29 27.2 -1.8
KU6 Riekki 4.22 111 eP Pn 00 28 28.4 +1.6
baz=295
KU6 eSG Sg 00 29 34.1 -2.5
KU6 Riekki 4.22 111 P Pn 00 28 28.4 +1.6
APA0 Apatity Array 4.87 87 Pn Pn 00 28 34.8 -0.9
baz=289,slow=12
APA0 Pg Pb 00 28 47.0 -0.4
baz=275,slow=16
APA0 Sn Sn 00 29 29.8 -2.9
baz=285,slow=22
APA0 Lg Lg 00 29 48.9
baz=270,slow=28
APA0 Apatity Array 4.87 87 Pn Pn 00 28 34.8 -0.9
baz=289,slow=12
APA0 Pg Pb 00 28 47.0 -0.4
baz=275,slow=16
APA0 Sn Sn 00 29 29.8 -2.9
baz=285,slow=22
APA0 Apatity Array 4.87 87 Pn Pn 00 28 34.8 -0.9
SNR=50
FINES FINESS Array B 6.88 156 Pn Pn 00 29 03.9 +0.6
comp=Z,0.2nm,0.3s,baz=344,slow=11,SNR=13
FINES Sn Sn 00 30 21.8 -0.5
comp=Z,0.2nm,0.3s,baz=343,slow=28,SNR=3.7
FINES Lg Lg 00 30 56.6
comp=Z,0.9nm,0.3s,baz=343,slow=28,SNR=10
NB2 NORSAR Subarra 7.84 214 Pn Pn 00 29 17.1 +0.6
baz=22,slow=14
NB2 Lg Lg 00 31 26.8
baz=16,slow=37
NB2 NORSAR Subarra 7.84 214 Pn Pn 00 29 17.1 +0.6
baz=22,slow=14
NB2 Lg Lg 00 31 26.8
baz=16,slow=37
NB2 NORSAR Subarra 7.84 214 Pn Pn 00 29 17.1 +0.6
SNR=50
NOA NORSAR Array B 7.84 214 Pn Pn 00 29 16.7 +0.2
comp=Z,0.3nm,0.3s,baz=25,slow=12,SNR=7.6
NOA Lg Lg 00 31 30.1
comp=Z,0.8nm,0.3s,baz=40,slow=25,SNR=4.7
HFS Hagfors 8.23 203 Pn Pn 00 29 22.1 +0.2
baz=14,slow=12
HFS Sn Sn 00 30 51.8 -3.7
baz=36,slow=28
HFS Lg Lg 00 31 39.9
baz=44,slow=28
HFS Hagfors 8.23 203 Pn Pn 00 29 22.1 +0.2
baz=14,slow=12
HFS Sn Sn 00 30 51.8 -3.7
baz=36,slow=28
HFS Lg Lg 00 31 39.9
baz=44,slow=28
HFS Hagfors 8.23 203 Pn Pn 00 29 21.8 -0.1
comp=Z,0.1nm,0.3s,baz=17,slow=10,SNR=7.4
HFS Sn Sn 00 30 52.4 -3.1
comp=Z,0.3nm,0.3s,baz=25,slow=24,SNR=4.6
HFS Lg Lg 00 31 39.9
comp=Z,0.7nm,0.3s,baz=24,slow=28,SNR=4.6
HFS Hagfors 8.23 203 Pn Pn 00 29 22.0 +0.2
SNR=50
SPA0 Spitsbergen Ar 10.46 356 Pn Pn 00 29 52.6 +0.3
baz=154,slow=14
SPA0 Spitsbergen Ar 10.46 356 Pn Pn 00 29 52.6 +0.3
SNR=8.1
SPITS Spitsbergen Ar 10.46 356 Pn Pn 00 29 52.0 -0.3
baz=156,slow=15,SNR=7.0
AKASG Malin Array Be 17.75 161 P P 00 31 30.4 -0.1
comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=3.1

IDC 21 00:34:23.7±2.3, 39.70N×77.64E, h0km, mb3.5/2, mb1 3.4/4, mb1mx3.0/50, mbtmp3.2/4, ML2.7/2, MS4.2/1, Ms1 4.2/1, ms1mx2.5/42, Error ellipse: s-maj=52.7km s-min=28.4km az=135.0
NNC 21 00:34:31.6±2.1, 40.16N×77.64E, h0km, mb3.3, mpv3.1, Error ellipse: s-maj=17.8km s-min=11.7km az=172.0
ISC 21 00:34:29.3±2.5, 40.1N±0.2×77.81E±0.08, h10km, n25, σ1.89/22, 10C-7D, Kyrgyzstan-Xinjiang border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ULHL Ulahol 2.43 331 P Pb 00 35 12.2 -1.1
SNR=29
KZA Kyzart 2.75 316 P Pb 00 35 17.7 -1.2
SNR=57
KNDC Almaty 3.16 349 ⇓Pg Pb 00 35 24.4 -1.2
KNDC ⇓Lg Lg 00 36 13.2
TKM2 Tokmak 2 3.26 330 ⇑Pn Pn 00 35 23.4 +2.7
3.1nm,0.5s
TKM2 ⇑Pg Pg 00 35 30.0 -1.8
6.8nm,0.6s
TKM2 ⇑Lg Lg 00 36 13.1
16nm,0.5s
TKM2 Tokmak 2 3.26 330 P Pn 00 35 23.6 +3.0
SNR=10
UCH Uchtor 3.26 311 P Pn 00 35 22.6 +1.7
SNR=10
KBK Karagaybulak 3.33 321 P Pb 00 35 28.4 -0.1
SNR=29
PDGK Podgornoye 3.45 21 ⇓Pn Pb 00 35 27.5 -3.0
PDGK ⇓Pg Pg 00 35 34.8 -0.5
PDGK ⇓Lg Lg 00 36 22.1
AAK Ala-Archa 3.54 316 ⇑Pn Pn 00 35 26.4 +1.9
1.9nm,0.5s
AAK ⇑Pg Pb 00 35 33.2 +1.1
5.3nm,0.5s
AAK ⇑Lg Lg 00 36 19.1
31nm,0.6s
AAK Ala-Archa 3.54 316 P Pb 00 35 32.2 0.0
SNR=5.7
AAK Ala-Archa 3.54 316 Pn Pn 00 35 25.6 +1.1
0.6nm,0.3s,baz=131,slow=11,SNR=13
AAK Lg Lg 00 36 18.6
2.6nm,0.3s,baz=287,slow=21,SNR=11
AML Almayashu 3.70 304 P Pn 00 35 28.0 +1.1
SNR=65
EKS2 Erkin-Say 3.96 311 P Pn 00 35 32.2 +2.0
SNR=12
USP Ospenovka 4.01 323 P Pb 00 35 41.3 +1.3
SNR=5.8
KK31 Karatay Array 6.23 301 ⇑Pg Pg 00 36 24.3 -4.2
1.6nm,0.7s,baz=119,slow=16,SNR=4.2
KK31 ⇑Lg Lg 00 37 43.4
1.9nm,0.6s,baz=107,slow=27,SNR=4.8
MK31 Makanchi Array 7.43 25 ⇓Pn Pn 00 36 20.8 +3.0
0.4nm,0.7s,baz=208,slow=11,SNR=8.8
MK31 ⇑Pg Pg 00 36 46.8 -4.6
0.7nm,0.6s,baz=206,slow=14,SNR=3.6
MK31 ⇑Lg Lg 00 38 26.2
1.0nm,0.7s,baz=209,slow=27,SNR=4.1
MKAR Makanchi Array 7.43 25 Pn Pn 00 36 20.4 +2.7
0.1nm,0.3s,baz=200,slow=13,SNR=9.0
MKAR Lg Lg 00 38 27.2
0.1nm,0.3s,baz=211,slow=27,SNR=4.1
OTUK Ortayu 9.02 336 ⇓Lg Lg 00 39 12.8
BVA0 Borovoye Array 13.87 341 P Pn 00 37 49.7 +3.8
0.1nm,0.6s,baz=142,slow=13,SNR=4.0
BVAR Borovoye Array 13.87 341 Pn P 00 37 53.8 -0.4
0.1nm,0.3s,baz=150,slow=13,SNR=4.6
ZALV Zalesovo Beam 14.63 17 Pn P 00 38 00.2 -2.4
0.1nm,0.3s,baz=214,slow=13,SNR=2.4
AB31 Akbulak array 15.62 312 P Pn 00 38 11.5 +2.1
0.2nm,0.5s,baz=120,slow=9.3,SNR=4.2
ASAJ Asahikawa 47.12 63 LR LR 01 02 16.1
comp=Z,296nm,20.3s,baz=151,slow=35
TORD Torodi Ar. Bea 71.07 271 P P 00 45 43.3 -4.7
0.4nm,0.4s,baz=51,slow=5.6,SNR=17
YKA Yellowknife Ar 77.25 6 P P 00 46 21.8 -1.4
0.0nm,0.3s,baz=346,slow=5.6,SNR=4.9

KRNET 21 00:35:41.7±0.1, 40.94N×70.23E, h2km, mb3.8, 2C, Tajikistan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TRKS Terek-Say 0.91 49 i P Pg 00 35 59.6 +0.2
baz=53
TRKS eS Sg 00 36 10.4 -1.0
baz=53
SFK Sufi-Kurgan 2.67 109 eP Pn 00 36 20.1 -5.8
baz=109
SFK eS Sn 00 37 01.1 +2.1
baz=109
AML Almayashu 2.86 64 ⇑i P Pn 00 36 27.9 -1.0
baz=64
AML ⇑i S Sg 00 37 20.9 +6.3
baz=64

IGQ 21 00:43:08±0.2, 0.75S×79.73W, h2km±80km, Mb4.1, 12C-10D, Error ellipse: s-maj=1.9km s-min=1.3km az=37.1, Ecuador

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PECV Mancha de Ca P 0.32 264 ⇑S Sb 00 43 31.8 +10
PECV Mancha de Ca P 0.32 264 ⇑P Pn 00 43 20.2 +0.4
CAMI Rancho Maria 1.23 87 ⇓P Pg 00 43 31.4 -0.8
JUA2 San Juan 2 1.24 65 P Pg 00 43 31.1 -1.4
TERV Terraza Guagua 1.26 63 ⇓P Pg 00 43 31.3 -1.6
NAS2 Nasa 1.27 85 ⇓P Pg 00 43 32.2 -0.8
NAS2 Nasa 1.27 85 ⇓S Sn 00 43 54.6 +3.1
PINO Pino 1.27 63 ⇓P Pg 00 43 31.2 -1.9
GGP Refugio Guagua 1.27 63 ⇓P Pg 00 43 31.4 -1.8
MOV1 Cotopaxi Vol s 1.29 89 ⇓P Pg 00 43 32.1 -1.4
IGUA Igualata 1.32 124 ⇑P Pg 00 43 31.4 -2.6
VC1 Cotopaxi 1 1.33 86 ⇓P Pg 00 43 33.1 -1.2
PISA Pisayambo 1.38 103 ⇑P Pn 00 43 33.5 -1.5
COV1 Cotopaxi Volc 1.39 87 ⇓P Pn 00 43 33.8 -1.5
JUI6 Juive 1.43 118 ⇑P Pn 00 43 33.3 -2.1
BRUN Tungurahua Vol 1.48 117 ⇑S Sb 00 43 54.5 -1.8
BRUN Tungurahua Vol 1.48 117 ⇑P Pn 00 43 34.6 -1.5
ARRY Arrayan 1.48 121 ⇑P Pn 00 43 34.0 -2.2
ANTI Antisana 1.60 79 ⇓P Pn 00 43 37.9 -0.2
OTAV Otavalo 1.61 53 ⇑P Pn 00 43 36.9 -1.2
OTAV Otavalo 1.61 53 ⇑S Sn 00 43 58.7 -1.2
LITE Lita 2.06 42 ⇑P Pn 00 43 41.5 -2.4
LITE Lita 2.06 42 ⇑S Sn 00 44 09.8 -0.5

NEIC 21 00:49:09.7±0.5, 6.57S×155.10E, h35km, mb4.4/3, Error ellipse: s-maj=16.1km s-min=8.3km az=135.0
ISCJB 21 00:49:10.6±0.5, 6.57S±0.09×155.00E±0.07, h56km, mb4.2/16, MS3.7/3, Error ellipse: s-maj=13.8km s-min=8.3km az=144.5
IDC 21 00:49:11.4±2.6, 6.53S×154.99E, h48km±23km, mb3.9/13, mb1 4.1/15, mb1mx3.8/43, mbtmp4.2/15, ML3.6/2, MS3.6/6, Ms1 3.6/6, ms1mx3.1/31, Error ellipse: s-maj=21.5km s-min=16.2km az=122.0
ISC 21 00:49:11.9±0.6, 6.6S±0.1×155.06E±0.09, h56km, n47, σ0.76/48, mb4.1/16, MS3.8/3, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 5.60 120 LR LR 00 52 46.8
comp=Z,366nm,19.3s,baz=308,slow=38
PMG Port Moresby 8.30 250 P Pn 00 51 09.4 -0.3
3.4nm,0.3s,baz=63,slow=9.1,SNR=12
PMG S Sn 00 52 41.7 -0.3
1.2nm,0.3s,baz=80,slow=17,SNR=6.7
PMG LR LR 00 54 21.8
comp=Z,183nm,19.8s,baz=54,slow=38
PMG Port Moresby 8.30 250 ePn Pn 00 51 09.5 -0.1
32nm,0.8s
PMG eSn Sn 00 52 43.0 +1.0
DZM Mont Dzumac 18.90 146 P Pn 00 53 29.3 +0.1
0.2nm,0.3s,baz=296,slow=18,SNR=2.5
DZM LR LR 00 59 32.5
comp=Z,124nm,21.1s,baz=170,slow=33
WRAB Tennant Creek 24.07 235 eP P 00 54 22.6 +0.4
4.2nm,0.7s
WRAB ePcP PcP 00 58 03.5 +0.7
WRA Warramunga Arr 24.09 235 P P 00 54 22.2 -0.2
3.0nm,0.7s,baz=57,slow=9.9,SNR=39
WRA PcP PcP 00 58 03.4 +0.6
2.0nm,0.6s,baz=60,slow=2.3,SNR=20
WRA LR LR 01 03 20.6
comp=Z,66nm,20.7s,baz=280,slow=35
ASAR Alice Springs 26.48 228 P P 00 54 43.9 -0.1
0.5nm,0.5s,baz=61,slow=8.9,SNR=8.7
ASAR PcP PcP 00 58 08.6 +0.4
1.0nm,0.7s,baz=61,slow=2.8,SNR=8.4
ASAR ScP ScP 01 01 44.8 +1.2
0.4nm,0.7s,baz=57,slow=3.4,SNR=3.8
H11S3 WAKE ISLAND Hy 27.45 25 T T 01 23 15.8
baz=202,slow=74
H11S2 WAKE ISLAND Hy 27.46 25 T T 01 23 04.5
baz=202,SNR=18
H11S1 WAKE ISLAND Hy 27.47 25 T T 01 23 04.8
baz=202,slow=74,SNR=15
BATI Baumata 31.25 261 LR LR 01 09 12.5
comp=Z,194nm,19.3s,baz=274,slow=38
KSRS Korea Array 50.63 332 P P 00 58 05.0 -0.3
1.0nm,0.4s,baz=141,slow=7.9,SNR=6.4
KSAR Wonju Array Be 50.64 332 P P 00 58 05.0 -0.4
PETK Petropavlovsk- 59.53 2 P P 00 59 09.8 +0.5
3.0nm,0.7s,baz=158,slow=9.0,SNR=4.4
CM31 Chiang Mai Arr 60.67 295 eP P 00 59 18.1 +0.3
3.6nm,0.4s
CMAR Chiang Mai Arr 60.67 295 P P 00 59 18.7 +0.8
8.1nm,0.8s,baz=121,slow=5.2,SNR=40
CHTO Chiang Mai 60.79 296 eP P 00 59 19.4 +0.8
3.1nm,0.9s
FX1 Attu Island--F 61.23 12 P P 00 59 20.7 -0.2
9.7nm,0.7s,baz=254,slow=6.5,SNR=3.4
SONM Songino Array 68.05 327 P P 01 00 11.5 -0.4
1.6nm,0.9s,baz=136,slow=5.8,SNR=12

TAPN Taplejung 73.26 301 eP P 01 00 38.5 +0.5
27nm,1.1s
TAPN Taplejung 73.26 301 eP P 01 00 38.5 +0.5
ODAN Odare 73.39 300 eP P 01 00 39.4 +0.7
19nm,0.6s
ODAN Odare 73.39 300 eP P 01 00 39.4 +0.7
RAMN Ramite 74.09 300 eP P 01 00 43.0 +0.1
5.3nm,0.5s
RAMN Ramite 74.09 300 eP P 01 00 43.0 +0.1
JIRN Jiri 74.64 301 eP P 01 00 46.3 +0.1
7.8nm,0.6s
JIRN Jiri 74.64 301 eP P 01 00 46.3 +0.1
GUN Gumba 74.97 301 eP P 01 00 48.4 +0.3
19nm,0.7s
GUN Gumba 74.97 301 eP P 01 00 48.4 +0.3
PKI Pulchoki 75.28 301 eP P 01 00 49.8 0.0
6.3nm,0.6s
PKI Pulchoki 75.28 301 eP P 01 00 49.8 0.0
KKN Kakani 75.45 301 eP P 01 00 50.4 -0.3
10nm,0.5s
KKN Kakani 75.45 301 eP P 01 00 50.4 -0.3
DMN Daman 75.55 301 eP P 01 00 51.8 +0.5
32nm,0.9s
DMN Daman 75.55 301 eP P 01 00 51.8 +0.5
KOLN Koldanda 76.88 300 eP P 01 00 58.8 0.0
10nm,0.7s
DANN Dangsing 76.89 301 eP P 01 00 58.7 -0.2
8.1nm,0.7s
ILAR Eielson Array 82.99 21 P P 01 01 30.6 -0.1
0.5nm,0.7s,baz=236,slow=5.0,SNR=5.8
MKAR Makanchi Array 83.16 319 P P 01 01 31.6 -0.4
1.6nm,0.9s,baz=107,slow=5.7,SNR=16
ZALV Zalesovo Beam 83.89 326 P P 01 01 34.3 -1.3
0.6nm,0.5s,baz=110,slow=6.9,SNR=5.3
INK Inuvik 89.34 21 P P 01 02 02.5 +0.7
0.4nm,0.5s,baz=243,slow=2.4,SNR=3.1
NVAR Mina Array Bea 91.43 52 P P 01 02 13.2 +0.6
0.9nm,0.7s,baz=253,slow=5.6,SNR=7.1
PFO Pinyon Flat Ob 92.36 57 LR LR 01 33 51.2
comp=Z,132nm,21.7s,baz=352,slow=29
YKA Yellowknife Ar 95.97 28 P P 01 02 32.6 +0.1
1.3nm,0.8s,baz=268,slow=4.5,SNR=16
YKA PKKPbc PKKPbc 01 19 19.6 -3.7
0.1nm,0.5s,baz=100,slow=3.1,SNR=5.2
BOSA Boshof 120.31 231 PKP PKPdf 01 07 58.1 +0.4
2.0nm,0.8s,baz=117,slow=2.3,SNR=3.9
BDFB Brasilia 148.21 134 PKPbc PKPbc 01 08 53.4 +0.6
2.3nm,0.6s,baz=228,slow=2.4,SNR=5.2
TORD Torodi Ar. Bea 152.98 286 PKPbc PKPbc 01 09 03.7 -0.4
2.4nm,0.7s,baz=86,slow=2.1,SNR=18

ISCJB 21 00:55:60.0±2.4, 65°.9N±0°.4×174°.8W±0°.2, h10km, mb3.8/9, MS3.0/2, Error ellipse: s-maj=60.7km s-min=13.2km az=5.4
IDC 21 00:55:59.9±4.0, 65°.84N×174°.90W, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/30, mbtmp3.9/10, ML3.6/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/52, Error ellipse: s-maj=99.7km s-min=22.9km az=180.0
ISC 21 00:56:02.4±2.7, 66°.0N±0°.5×174°.8W±0°.1, h10km, n12, σ0.81/11, mb3.9/9, Near north coast of eastern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ILAR Eielson Array 11.66 83 Pn Pn 00 58 48.5 -0.2
0.3nm,0.3s,baz=287,slow=14,SNR=17
ILAR Lg Lg 01 02 23.9
0.1nm,0.3s,baz=283,slow=26,SNR=5.3
INK Inuvik 15.97 63 Pn Pn 00 59 46.7 0.0
0.2nm,0.3s,baz=299,slow=9.8,SNR=7.7
YKA Yellowknife Ar 25.50 69 P P 01 01 30.8 +0.5
0.3nm,0.7s,baz=301,slow=8.7,SNR=5.8
RES Resolute Bay 25.99 37 P P 01 01 34.0 -0.7
1.1nm,0.9s,baz=275,slow=11,SNR=4.4
RES LR LR 01 13 52.5
comp=Z,30nm,18.5s,baz=132,slow=41
SPITS Spitsbergen Ar 35.87 356 LR LR 01 17 51.4
comp=Z,29nm,18.9s,baz=105,slow=36
FRB Frobisher Bay 39.96 42 P P 01 03 36.1 -0.2
3.3nm,0.8s,baz=321,slow=11,SNR=8.7
ZALV Zalesovo Beam 46.16 306 P P 01 04 26.5 -0.1
0.8nm,0.4s,baz=37,slow=9.7,SNR=7.3
BVAR Borovoye Array 51.41 315 P P 01 05 06.2 -0.8
0.8nm,0.7s,baz=8.7,slow=7.4,SNR=5.6
EKA Eskdalemuir Ar 58.81 6 P P 01 06 01.6 +1.3
0.2nm,0.3s,baz=1.3,slow=6.4,SNR=5.3
AKASG Malin Array Be 62.17 343 P P 01 06 22.4 -0.9
1.2nm,0.6s,baz=10,slow=6.8,SNR=6.1
KBZ Khabaz 66.79 331 P P 01 06 54.7 +1.2
3.2nm,1.0s,baz=23,slow=2.5,SNR=3.5
BRTR Keskin Array B 72.32 337 P P 01 07 27.8 -0.2
0.7nm,0.7s,baz=30,slow=5.3,SNR=6.0

MOS 21 00:56:44.5±0.9, 17°.03N×85°.47W, h10km, mb5.0/31, Error ellipse: s-maj=11.1km s-min=4.7km az=110.4
IDC 21 00:56:45.1±0.7, 17°.11N×85°.30W, h0km, mb4.6/24, mb1 4.8/27, mb1mx4.4/58, mbtmp4.6/27, ML4.0/3, MS4.0/21, Ms1 4.0/21, ms1mx3.8/39, Error ellipse: s-maj=18.9km s-min=12.5km az=46.0
ISCJB 21 00:56:47.2±0.2, 17°.02N±0°.03×85°.48W±0°.02, h28km, mb4.9/152, MS4.1/20, Error ellipse: s-maj=4.7km s-min=2.7km az=16.2
NEIC 21 00:56:48.0±1.4, 16°.96N×85°.51W, h24km±10km, mb4.9/148, Error ellipse: s-maj=5.6km s-min=3.5km az=206.0
NEIC Felt [II] at Sandy Bay. Also felt at French Harbor, Guanaja, Roatan and Savannah Bight.
GCMT 21 00:56:48.0±0.2, 17°.10N×85°.49W, h28km±1km, MW5.2/99, Moment Tensor Solution. s51,c73; s99,c160; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.49±.17; $M_{\theta\theta}$-3.97±.14; $M_{\phi\phi}$4.45±.17; $M_{r\theta}$-0.39±.24; $M_{r\phi}$4.77±.12; $M_{\theta\phi}$1.56±.26; Best double couple: $M_0$6.56000×10^{16} NP1:ϕ_s159.00000°, δ90.00000°, λ-166.00000°. NP2: ϕ_s69.00000°, δ76.00000°, λ0.00000°. Principal axes: T 6.8220, Plg10.0000°, Azm294.0000°; N -0.5350, Plg76.0000°, Azm160.0000°; P -6.2970, Plg10.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
SZGRF 21 00:56:50.2, 16°.42N×84°.59W, h33km, mb4.7, North of Honduras
JSN 21 00:58:17.5±0.3, 16°.51N×78°.03W, h47km±40km
ISC 21 00:56:48.7±0.4, 17°.05N±0°.04×85°.48W±0°.06, h28km, n711, σ1.06/705, mb4.9/153, MS4.0/20, 199C-197D, North of Honduras

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TEIG Tepich 4.13 320 Pn Pn 00 57 49.7 -0.3
375nm,0.3s,baz=148,slow=19,SNR=1406
TEIG Sn Sn 00 58 33.6 -3.7
467nm,0.3s,baz=49,slow=19,SNR=30
TEIG LR LR 00 59 15.1
comp=Z,2μm,18.2s,baz=206,slow=36
TEIG Tepich 4.13 320 ePn Pn 00 57 49.2 -0.7
TEIG Sn Sn 00 58 33.6 -3.7
APG El Apazote 5.21 248 Pn Pn 00 57 57.6 -7.3
2.0nm,0.3s,baz=351,slow=16,SNR=33
APG Sn Sn 00 59 05.2 +0.9
16nm,0.3s,baz=105,slow=18,SNR=4.1
APG LR LR 00 59 48.9
comp=Z,723nm,21.6s,baz=82,slow=34
SOR Soroa 6.17 22 eP Pn 00 58 17.0 -1.0
SOR eS Sn 00 59 18.5 -9.2
JTS JuntasAbangare 6.73 176 eP Pn 00 58 24.3 -1.5
JTS JuntasAbangare 6.73 176 Pn Pn 00 58 24.5 -1.3
10nm,0.3s,baz=352,slow=13,SNR=44
JTS Sn Sb 01 00 01.0 -4.2
baz=162,slow=20,SNR=2.5
MCJ Malvern 7.49 82 iP Pn 00 58 41.0 +4.8
MTDJ Mount Denham 7.67 80 ePn Pn 00 58 37.5 -1.2
PCJ Portland Cotta 7.98 84 iP Pn 00 58 41.5 -1.3
STH Stony Hill 8.33 82 iP Pn 00 58 47.5 -0.3
CCCC Cccc 8.38 59 eP Pn 00 58 53.7 +5.3
HOJ Hope 8.38 82 iP Pn 00 58 47.5 -0.9
GWJ Greenwich 8.41 82 iP Pn 00 58 48.4 -0.5
HLGC Holguin 9.70 65 eP Pn 00 59 05.6 -0.9
GTBY Guantanamo Bay 10.25 72 ePn Pn 00 59 14.0 0.0
MASC Masc 11.11 72 eP Pn 00 59 20.8 -5.0
PAPH Port-au-Prince 12.64 81 ePn Pn 00 59 45.8 -0.9
SDDR Presa de Saban 13.64 80 ePn Pn 01 00 01.0 +0.6
BRAL Brewton 13.98 354 ePn Pn 01 00 06.7 +1.7
TIGA Tifton 14.43 6 ePn Pn 01 00 10.0 -1.1
TIGA Tifton 14.43 6 ⇓P Pn 01 00 09.7 -1.5
baz=15,SNR=20
035Z Hargill 14.98 311 ⇓P Pn 01 00 16.5 -2.1
baz=15,SNR=34
035A Encino 15.28 312 ⇑P Pn 01 00 21.2 -1.4
baz=15
KVTX Kingsville 15.52 314 ePn Pn 01 00 24.8 -0.9
218nm,0.6s
034A Hebbronville 15.77 311 ⇑P Pn 01 00 27.7 -1.3
baz=16,SNR=28
VBMS Vicksburg 15.78 344 ePn Pn 01 00 28.8 -0.3
78nm,1.1s
835A Beeville 15.96 317 ⇓P Pn 01 00 30.1 -1.2
baz=16,SNR=18
HKT Hockley 15.96 325 eP Pn 01 00 29.5 -1.8
HKT pmax pmax
comp=Z,178nm,0.9s
HKT Hockley 15.96 325 ePn Pn 01 00 29.5 -1.8
comp=Z,178nm,0.9s
LRAL Lakeview Retre 15.98 355 ePn Pn 01 00 30.5 -1.1
comp=Z,84nm,1.1s
934A Benavides 15.98 313 ⇓P Pn 01 00 30.2 -1.5
baz=16,SNR=21
538A Harpers Horsep 15.99 327 ⇑P Pn 01 00 31.2 -0.6
baz=16,SNR=20
340A Bronson 16.22 333 ⇑P Pn 01 00 33.8 -0.9
baz=16,SNR=10
636A Smothers Creek 16.30 321 ⇓P Pn 01 00 34.4 -1.3
baz=16,SNR=49
ROSC El Rosal 16.31 137 Pn Pn 01 00 37.0 +0.7
comp=Z,1.6nm,0.3s,baz=56,slow=5.6,SNR=13
ROSC LR LR 01 07 11.9
comp=Z,301nm,20.3s,baz=20,slow=39
ROSC El Rosal 16.31 137 ePn Pn 01 00 36.9 +0.5
537A Green Hill Far 16.33 325 ⇑P Pn 01 00 35.7 -0.3
baz=16,SNR=40
735A Kenedy 16.33 318 ⇓P Pn 01 00 35.5 -0.6
baz=16,SNR=45
834A Tilden 16.33 315 ⇑P Pn 01 00 34.9 -1.2
baz=16,SNR=33
GOGA Godfrey 16.40 6 eP Pn 01 00 34.8 -2.1
GOGA pmax pmax
comp=Z,98nm,1.1s
GOGA Godfrey 16.40 6 ePn Pn 01 00 34.8 -2.1
comp=Z,98nm,1.1s
339A Huntington 16.45 332 ⇓P Pn 01 00 37.7 +0.1
baz=17,SNR=105
933A Laredo 16.52 312 ⇓P Pn 01 00 37.9 -0.7
baz=17,SNR=135
635A Leesville 16.67 320 ⇓P Pn 01 00 39.3 -1.1
baz=17,SNR=27
NHSC New Hope 16.69 16 ePn Pn 01 00 38.2 -2.4
comp=Z,676nm,1.4s
536A Bastrop 16.75 323 ⇓P Pn 01 00 39.7 -1.7
baz=17
338A Crockett 16.82 330 ⇓P Pn 01 00 42.2 -0.1
baz=17,SNR=14
NATX Nacogdoches 16.85 332 ePn Pn 01 00 42.0 -0.7
comp=Z,226nm,1.1s
535A Dale 17.01 322 ⇓P Pn 01 00 44.5 -0.1
baz=17,SNR=8.4
634A China Grove, S 17.03 318 ⇑P Pn 01 00 43.9 -1.0
baz=17,SNR=9.6
833A Chaparral WMA, 17.04 314 ⇓P Pn 01 00 43.2 -1.8
baz=17,SNR=198
337A Centerville 17.07 328 ⇑P Pn 01 00 44.2 -1.2
baz=17,SNR=29
436A Wall Ranch, Ga 17.12 325 ⇓P Pn 01 00 46.6 +0.6
baz=17
733A Divot King Ran 17.21 315 ⇓P Pn 01 00 47.1 -0.1
baz=17,SNR=81
832A Faith Ranch, C 17.42 312 ⇑P Pn 01 00 48.8 -1.0
baz=18,SNR=304
CRPR Cabo Rojo, PR 17.55 84 ePn P 01 00 52.6 +0.3
comp=Z,113nm,1.6s
534A Blanco 17.56 320 ⇓P Pn 01 00 50.7 -0.8
baz=18,SNR=112
435B Jarrell 17.57 323 ⇑P Pn 01 00 50.8 -0.8
baz=18,SNR=36
633A Saathoff Ranch 17.62 317 ⇓P Pn 01 00 50.5 -1.7
baz=18,SNR=235
336A Riesel 17.62 326 ⇑P Pn 01 00 50.5 -1.8
baz=18,SNR=15
732A Laxson Ranch, 17.68 314 ⇓P Pn 01 00 51.5 -1.6
baz=18,SNR=91
OXF Oxford 17.75 349 eP P 01 00 54.8 +0.4
OXF pmax pmax
comp=Z,246nm,1.0s
OXF Oxford 17.75 349 ePn P 01 00 54.8 +0.4
comp=Z,246nm,1.0s
335A Moody 17.86 325 ⇓P Pn 01 00 55.3 +0.1
baz=18,SNR=32
533A Kerrville 17.94 319 ⇓P Pn 01 00 55.9 -0.3
baz=18,SNR=41
434A Burnet 17.99 322 ⇓P Pn 01 00 56.5 -0.3
baz=18,SNR=63
632A Uvalde 18.05 316 ⇓P Pn 01 00 57.6 0.0
baz=18,SNR=306
CELP Cerrillos 18.05 84 ePn P 01 01 00.0 +2.1
OTAV Otavalo 18.08 157 ePn Pn 01 00 58.5 0.0
comp=Z,22nm,1.2s
334A Lometa 18.35 323 ⇑P Pn 01 01 01.3 0.0
baz=18,SNR=56
KMSC Kings Mountain 18.40 11 eP P 01 01 00.7 -0.9
comp=Z,58nm,0.8s
KMSC Kings Mountain 18.40 11 ⇑P Pn 01 01 01.9 +0.1
baz=19,SNR=28
WHTX Lake Whitney 18.42 326 eP P 01 01 01.8 0.0
comp=Z,428nm,1.0s
WHTX Lake Whitney 18.42 326 ⇑P Pn 01 01 02.2 +0.1
baz=18,SNR=37
631A Perdido Creek 18.52 314 ⇑P P 01 01 01.5 -1.5
baz=19,SNR=237
532A Rocksprings 18.53 317 ⇓P P 01 01 02.8 -0.4
baz=19,SNR=265
TKL Tuckaleechee C 18.60 4 eP Pn 01 01 04.4 +0.1
TKL Tuckaleechee C 18.60 4 P P 01 01 03.5 -0.3
comp=Z,3.0nm,0.3s,baz=189,slow=13,SNR=27
TKL S Sn 01 04 17.4 -14
comp=Z,2.0nm,0.3s,baz=106,slow=18,SNR=14
TKL LR LR 01 08 24.6
comp=Z,460nm,18.1s,baz=184,slow=38
TKL Tuckaleechee C 18.60 4 eP Pn 01 01 04.4 +0.1
TKL S Sn 01 04 17.4 -14
UALR University of 18.69 342 eP Pn 01 01 06.9 +1.6
comp=Z,29nm,0.9s
JCT Junction City 18.70 318 eP P 01 01 04.6 -0.4
JCT pmax pmax
comp=Z,82nm,0.8s
JCT Junction City 18.70 318 eP P 01 01 04.6 -0.4
comp=Z,82nm,0.8s
JCT Junction City 18.70 318 ⇑P P 01 01 05.3 +0.3
baz=19,SNR=33
CBYP Canovanas 18.74 83 eP P 01 01 04.8 -0.8
comp=Z,28nm,1.0s
HUMP Col San Antoni 18.75 84 eP Pn 01 01 06.7 +0.6
comp=Z,106nm,1.8s
333A Richland Sprin 18.78 322 ⇑P P 01 01 06.1 +0.2
baz=19,SNR=57
234A Clairette 18.80 325 ⇓P Pn 01 01 07.1 +0.4
baz=19,SNR=42
135A Vickery Place, 18.84 327 ⇓P Pn 01 01 07.0 -0.1
baz=19,SNR=14
MIAR Mount Ida 18.88 339 eP Pn 01 01 08.3 +0.7
MIAR pmax pmax
comp=Z,52nm,1.1s
MIAR Mount Ida 18.88 339 eP Pn 01 01 08.3 +0.7
comp=Z,52nm,1.1s
432A Menard 18.96 319 ⇑P P 01 01 08.3 +0.4
baz=19,SNR=81
531A Rocksprings 18.98 316 ⇓P Pn 01 01 08.9 0.0
baz=19,SNR=99
HBAR Harrisburg 19.00 347 eP Pn 01 01 09.9 +0.8
WVT Waverly 19.12 354 eP Pn 01 01 10.3 -0.3
WVT pmax pmax
comp=Z,88nm,1.2s
WVT Waverly 19.12 354 eP Pn 01 01 10.3 -0.3
comp=Z,88nm,1.2s
134A White-Moore Ra 19.20 326 ⇓P Pn 01 01 11.1 -0.4
baz=19
233A Rising Star 19.24 323 ⇓P P 01 01 11.0 0.0
baz=19,SNR=38
332A Millersview 19.28 320 ⇓P P 01 01 11.9 +0.5
baz=19,SNR=99
CNNC Cliffs of the 19.34 19 eP P 01 01 12.5 +0.5
comp=Z,36nm,0.6s
431A Sonora 19.35 317 ⇓P P 01 01 12.3 +0.1
baz=19,SNR=108
Z35A Perchaven, San 19.38 329 ⇑P Pn 01 01 13.1 -0.6
baz=20,SNR=13
530A J-C Ranch, Com 19.50 315 ⇑P P 01 01 13.8 0.0
baz=20,SNR=145
TZTN Tazewell 19.50 5 eP Pn 01 01 15.6 +0.6
comp=Z,92nm,1.1s
232A Coleman 19.58 322 ⇓P P 01 01 14.9 +0.3
baz=20,SNR=30
331A San Angelo 19.65 319 ⇓P P 01 01 16.1 +0.6
baz=20,SNR=47
133A Hamilton Ranch 19.69 324 ⇑P P 01 01 16.6 +0.8
baz=20,SNR=34
Z34A Collier Ranch, 19.74 328 ⇓P P 01 01 17.1 +0.8
baz=20,SNR=18
CDVI St. Croix 19.78 85 eP P 01 01 16.0 -0.9
comp=Z,49nm,0.8s
430A Baggett Ranch, 19.83 316 ⇑P P 01 01 18.2 +0.8
baz=20,SNR=107
231A Bronte 20.02 321 ⇓P Pn 01 01 20.5 -0.8
baz=20,SNR=24
529A Stev Forest Ra 20.09 313 ⇑P P 01 01 20.7 +0.4
baz=20,SNR=43
ABTX Abilene, Hawle 20.11 323 eP Pn 01 01 21.8 -0.5
comp=Z,110nm,0.8s
ABTX Abilene, Hawle 20.11 323 ⇓P P 01 01 21.3 +0.9
baz=20,SNR=18
Z33A Whitaker Ranch 20.12 326 ⇑P P 01 01 21.2 +0.7
baz=20,SNR=24
Y34A Reagan Ranch, 20.13 329 ⇓P P 01 01 21.3 +0.8
baz=20,SNR=14
PBMO Poplar Bluff 20.14 348 eP Pn 01 01 22.7 +0.1
comp=Z,34nm,0.9s
429A Davenport Ranc 20.17 315 ⇓P P 01 01 21.8 +0.7
baz=20,SNR=115
330A Mertzon 20.20 318 ⇓P P 01 01 22.2 +0.8
baz=20,SNR=98
230A Sterling City 20.48 319 ⇓P P 01 01 25.0 +0.6
baz=21,SNR=18
Z32A Haskell 20.52 325 ⇑P P 01 01 25.6 +0.7
baz=21,SNR=47
BLA Blacksburg 20.58 12 eP Pn 01 01 27.2 -0.6
BLA pmax pmax
comp=Z,89nm,1.0s
BLA Blacksburg 20.58 12 eP Pn 01 01 27.2 -0.7
comp=Z,89nm,1.0s
131A Roby 20.58 322 ⇑P P 01 01 26.2 +0.7
baz=21,SNR=11
Y33A Hilltop Ranch, 20.61 328 ⇓P P 01 01 26.6 +0.8
baz=21,SNR=13
TXAR Lajitas Array 20.68 309 P P 01 01 27.8 +1.1
comp=Z,30nm,0.9s,baz=128,slow=12,SNR=200
TXAR S S 01 05 06.2 -10
comp=Z,4.1nm,0.8s,baz=128,slow=23,SNR=5.7
TXAR LR LR 01 11 44.2
comp=Z,134nm,21.4s,baz=0.0,slow=43
TX31 Lajitas Ar. Si 20.68 309 eP P 01 01 27.5 +0.7
X34A Smith Ranch, M 20.69 330 ⇓P P 01 01 27.3 +0.7
baz=21
329A Wagon Wheel Ra 20.77 317 ⇑P P 01 01 28.1 +0.5
baz=21,SNR=91
SIUC Southern Illin 20.85 352 eP Pn 01 01 30.4 -0.6
comp=Z,123nm,0.9s
130A Snyder 20.87 321 ⇓P P 01 01 29.4 +0.7
baz=21,SNR=9.9
Z31A Sharp Cattle R 20.90 324 ⇑P P 01 01 29.5 +0.5
baz=21,SNR=59
TUL1 Tulsa 20.91 336 eP Pn 01 01 30.7 -0.9
comp=Z,72nm,0.9s
TUL1 Tulsa 20.91 336 ⇑P P 01 01 29.8 +0.8
baz=21,SNR=14
USIN University of 20.93 355 eP P 01 01 30.0 +0.8
comp=Z,127nm,1.0s
X33A Lawton 20.96 329 ⇓P P 01 01 30.5 +0.8
baz=21,SNR=12
229A Bryant Ranch, 20.97 318 ⇑P P 01 01 30.2 +0.4
baz=21,SNR=18
Y32A R-V Farms, Ver 21.03 326 ⇑P P 01 01 30.9 +0.6
baz=21,SNR=16
WCI Wyandotte Cave 21.12 358 eP P 01 01 32.6 +1.3
WCI pmax pmax
comp=Z,68nm,0.9s
WCI Wyandotte Cave 21.12 358 eP P 01 01 32.6 +1.3
comp=Z,68nm,0.9s
W34A Bridge Creek, 21.18 331 eP P 01 01 33.1 +1.2
comp=Z,80nm,0.9s
W34A Bridge Creek, 21.18 331 ⇓P P 01 01 32.6 +0.7
baz=21,SNR=16
X32A Elmer 21.27 327 ⇓P P 01 01 33.6 +0.7
baz=21,SNR=14
SMRT St. Maarten 21.39 84 eP P 01 01 33.4 -0.9
comp=Z,155nm,1.1s
W33A Caddo, Fort Co 21.44 330 ⇓P P 01 01 35.3 +0.6
baz=22,SNR=9.3
Y31A Rekieta Farm, 21.45 325 ⇑P P 01 01 35.3 +0.5
baz=22,SNR=36
129A Stewart Farms, 21.45 319 ⇓P P 01 01 35.3 +0.4
baz=22,SNR=21
Z30A Sanderson Ranc 21.45 322 ⇑P P 01 01 35.4 +0.4
baz=22,SNR=41
V34A Guthrie 21.56 333 eP P 01 01 36.8 +0.8
comp=Z,66nm,0.8s
V34A Guthrie 21.56 333 ⇓P P 01 01 36.3 +0.3
baz=22,SNR=7.4
228A UT Block 9, Go 21.57 317 ⇑P P 01 01 36.2 -0.1
baz=22,SNR=11
URVA University of 21.61 17 eP P 01 01 37.6 +1.1
JSRW J. Sargeant Re 21.63 17 eP P 01 01 37.8 +1.1
OLIL Olney 21.73 354 eP P 01 01 38.8 +1.0
comp=Z,90nm,1.0s
Y30A Stafford Cattl 21.74 323 ⇑P P 01 01 38.5 +0.4
baz=22
Z29A Hungry Hill Ra 21.78 321 ⇓P P 01 01 38.5 0.0
baz=22,SNR=23
X31A McDonald Ranch 21.80 326 ⇑P P 01 01 39.2 +0.7
baz=22,SNR=22
W32A Sentinel 21.80 328 ⇓P P 01 01 39.3 +0.7
baz=22,SNR=32
128A Castleberry Fa 21.83 318 ⇑P P 01 01 39.3 +0.3
baz=22,SNR=37
V33A Lossen Ranch, 21.90 331 ⇓P P 01 01 40.1 +0.4
baz=22,SNR=11
SLM Saint Louis 21.91 350 eP P 01 01 41.0 +1.3
SLM pmax pmax
comp=Z,120nm,1.4s
SLM Saint Louis 21.91 350 eP P 01 01 41.0 +1.3
comp=Z,120nm,1.4s
BLO Bloomington 22.07 358 eP P 01 01 42.4 +1.0
BLO pmax pmax
comp=Z,112nm,1.1s
BLO Bloomington 22.07 358 eP P 01 01 42.4 +1.0
comp=Z,112nm,1.1s
U34A Anderson Ranch 22.07 333 eP P 01 01 42.1 +0.6
comp=Z,64nm,0.8s
U34A Anderson Ranch 22.07 333 ⇓P P 01 01 42.3 +0.8
baz=22
X30A Coker Ranch, T 22.14 324 ⇓P P 01 01 43.1 +0.8
baz=22,SNR=24
V32A Arapaho 22.17 330 ⇑P P 01 01 43.6 +0.9
baz=22,SNR=12
Y29A Porterfield Fa 22.18 322 ⇑P P 01 01 43.1 +0.3
baz=22,SNR=43
W31A Holland Ranch, 22.20 327 ⇓P P 01 01 43.6 +0.6
baz=22,SNR=12
Z28A Tucker Farm, M 22.21 320 ⇑P P 01 01 43.6 +0.4
baz=22,SNR=7.0
U33A Lingo Farm, Me 22.32 332 ⇓P P 01 01 45.0 +0.8
baz=22
127A Arkansas Junct 22.43 317 ⇑P P 01 01 45.4 -0.1
baz=22,SNR=6.2
W30A Crocket Farms 22.53 326 ⇓P P 01 01 46.8 +0.3
baz=23
Y28A McKinney Farm, 22.55 321 ⇑P P 01 01 46.8 0.0
baz=23,SNR=12
V31A Spring Creek L 22.61 328 ⇑P P 01 01 47.5 +0.1
baz=23,SNR=11
X29A Tulia 22.61 323 ⇑P P 01 01 47.7 +0.3
baz=23,SNR=12
U32A Winter Ranch, 22.68 331 ⇑P P 01 01 48.2 +0.1
baz=23
Z27A Tatum 22.75 319 ⇑P P 01 01 48.4 -0.5
baz=23,SNR=44
GDL2 Guadalupe Moun 22.80 315 eP P 01 01 49.3 -0.2
MSTX Muleshoe 22.91 321 eP P 01 01 49.6 -1.0
comp=Z,148nm,1.0s
MSTX Muleshoe 22.91 321 ⇑P P 01 01 50.4 -0.2
baz=23,SNR=12
AMTX Amarillo 22.92 324 eP P 01 01 50.7 +0.1

comp=Z,82nm,0.8s
AMTX eScS ScS 01 13 07.0 +4.5
AMTX Amarillo 22.92 324 ⇓P P 01 01 50.5 -0.1
baz=23
T33A Patterson Ranc 22.92 333 ⇑P P 01 01 51.6 +1.0
baz=23
X28A Dimmitt 22.95 322 ⇑P P 01 01 50.8 -0.1
baz=23
V30A Spur Ranch, Mi 23.03 327 ⇑P P 01 01 52.9 +1.1
baz=23
W29A Amraillo 23.07 324 ⇑P P 01 01 52.9 +0.7
baz=23,SNR=15
U31A Nine Bar Ranch 23.08 329 ⇓P P 01 01 53.2 +0.9
baz=23
Y27A Causey 23.09 320 ⇓P P 01 01 52.5 0.0
baz=23,SNR=11
ACSO Alum Creek Sta 23.21 5 eP P 01 01 54.7 +1.3
comp=Z,159nm,1.5s
ACSO eScS ScS 01 12 56.5 -6.7
Z26A Caprock 23.21 318 ⇓P P 01 01 53.9 +0.3
baz=23
MNTX Cornudas Mount 23.21 313 eP P 01 01 53.1 -0.5
comp=Z,36nm,0.9s
MNTX eScS ScS 01 13 00.9 -2.7
S33A Kaszmaul Farm, 23.25 334 ⇑P P 01 01 54.4 +0.5
baz=23
SFIN Scholer Farm 23.29 357 eP P 01 01 55.2 +1.0
comp=Z,52nm,1.0s
SFIN Scholer Farm 23.29 357 ⇑P P 01 01 54.9 +0.7
baz=24
T32A Huddler Ranch, 23.30 332 ⇓P P 01 01 55.2 +0.8
baz=23
W28A Vega 23.48 324 ⇑P P 01 01 56.6 +0.3
baz=24
SDMD Soldier's Deli 23.52 17 eP P 01 01 58.1 +1.6
comp=Z,77nm,1.0s
Y26A Elida 23.53 319 ⇑P P 01 01 57.0 +0.2
baz=24
V29A Stinnett 23.56 326 ⇑P P 01 01 57.8 +0.8
baz=24
X27A F and S Farms, 23.57 321 ⇑P P 01 01 57.4 +0.3
baz=24
T31A Randall Ranch, 23.58 331 ⇓P P 01 01 57.8 +0.6
baz=24,SNR=5.1
U30A WK&E Inc. Balk 23.61 328 ⇑P P 01 01 58.2 +0.7
baz=24,SNR=24
Z25A Roswell 23.69 317 ⇑P P 01 01 58.6 +0.3
baz=24,SNR=18
S32A Newby Ranch, P 23.74 333 ⇓P P 01 01 59.6 +0.9
baz=24
W27A Bowe Ranch, En 23.84 322 ⇓P P 01 02 00.2 +0.5
baz=24,SNR=15
V28A Channing 23.85 325 ⇑P P 01 02 00.5 +0.6
baz=24,SNR=13
R33A Olander Ranch, 23.86 335 ⇑P P 01 02 01.3 +1.5
baz=24,SNR=15
U29A Oasis Ranch, S 23.86 327 ⇑P P 01 02 00.9 +1.0
baz=24
S31A Mullinville 23.92 332 ⇑P P 01 02 01.1 +0.7
baz=24
X26A CR and CF Fran 23.94 320 ⇓P P 01 02 00.9 +0.2
baz=24,SNR=15
T30A Plains 23.95 329 ⇑P P 01 02 01.3 +0.5
baz=24
KSU1 Kansas State U 24.03 338 eP P 01 02 02.4 +1.0
comp=Z,50nm,1.0s
KSU1 Kansas State U 24.03 338 ⇓P P 01 02 02.4 +1.0
baz=24
Y25A Mesa, Roswell 24.08 318 ⇓P P 01 02 02.4 +0.3
baz=24,SNR=21
Z24A Sheeppen Canyo 24.15 316 ⇓P P 01 02 03.2 +0.4
baz=24,SNR=38
V27A Dan Oppiter Fa 24.20 324 ⇓P P 01 02 04.1 +1.0
baz=24,SNR=12
MVL Millersville 24.21 17 eP P 01 02 04.8 +1.9
comp=Z,56nm,1.4s
R32A Long Quarter, 24.25 334 ⇑P P 01 02 04.7 +1.3
baz=24,SNR=5.2
LPIG La Paz 24.26 291 P P 01 02 05.9 +2.3
comp=Z,33nm,0.3s,baz=104,slow=4.7,SNR=8.0
LPIG LR LR 01 12 18.8
comp=Z,627nm,18.3s,baz=114,slow=38
W26A Owens Ranch, T 24.27 321 ⇑P P 01 02 04.8 +1.0
baz=24,SNR=14
U28A Mallet 24.31 326 ⇑P P 01 02 05.5 +1.3
baz=24,SNR=10
Q33A Connelly Farm, 24.39 336 ⇑P P 01 02 06.0 +1.3
baz=24,SNR=7.9
S30A Montezuma 24.39 330 ⇓P P 01 02 04.7 -0.1
baz=24
SSPA Standing Stone 24.41 14 eP P 01 02 06.2 +1.4
comp=Z,40nm,1.0s
T29A Hugoton 24.42 328 ⇓P P 01 02 06.3 +1.3
baz=24,SNR=10
X25A Clemmons Ranch 24.45 319 ⇑P P 01 02 06.1 +0.6
baz=24
R31A Burdett 24.49 333 ⇑P P 01 02 06.2 +0.6
baz=25
Y24A Capitan 24.56 317 ⇑P P 01 02 07.7 +1.2
baz=25,SNR=114
Q32A Meitler Ranch, 24.67 335 ⇓P P 01 02 09.2 +1.9
baz=25,SNR=5.5
U27A Thompson Grove 24.67 325 ⇑P P 01 02 07.8 +0.3
baz=25,SNR=25
S29A Ulysses 24.69 329 ⇑P P 01 02 08.6 +1.1
baz=25,SNR=8.4
V26A Tequesquite Ra 24.77 322 ⇓P P 01 02 08.7 +0.4
baz=25,SNR=58
W25A X Bar L Ranch, 24.78 321 ⇑P P 01 02 08.6 +0.2
baz=25,SNR=61
T28A Walsh 24.81 327 ⇑P P 01 02 09.4 +0.8
baz=25
R30A Dighton 24.82 331 ⇑P P 01 02 10.0 +1.4
baz=25,SNR=12
ALLY Alegheny Colle 24.95 10 eP P 01 02 11.6 +2.0
comp=Z,119nm,1.3s
Y23A Lovelace Mesa, 24.97 316 ⇓P P 01 02 11.4 +1.2
baz=25,SNR=23
ATAH Atahualpa 25.03 163 P P 01 02 14.8 +3.8
comp=Z,3.9nm,0.6s,baz=40,slow=3.2,SNR=3.8
ATAH LR LR 01 11 00.5
comp=Z,490nm,18.4s,baz=328,slow=34
Q31A Ellis 25.03 334 ⇑P P 01 02 11.3 +0.8
baz=25
LUPA Lehigh Univers 25.05 18 eP P 01 02 12.8 +2.2
comp=Z,17nm,1.2s
S28A Manter 25.06 328 ⇓P P 01 02 11.5 +0.7
baz=25,SNR=12
T27A Campo 25.09 326 ⇑P P 01 02 11.8 +0.6
baz=25,SNR=6.3
U26A Atchley Ranch, 25.17 324 ⇓P P 01 02 12.2 +0.2
baz=25,SNR=23
Z22A Elephant Butte 25.19 314 ⇓P P 01 02 12.6 +0.4
baz=25,SNR=11
AAM Ann Arbor 25.22 3 eP P 01 02 14.2 +2.1
AAM pmax pmax
comp=Z,147nm,1.3s
AAM Ann Arbor 25.22 3 eP P 01 02 14.2 +2.1
comp=Z,147nm,1.3s
P32A Huiting Farm, 25.23 336 ⇓P P 01 02 12.8 +0.6
baz=25
V25A Rancho No Teng 25.29 321 ⇓P P 01 02 14.3 +1.2
baz=25,SNR=13
R29A Marienthal 25.34 330 ⇑P P 01 02 15.0 +1.6
baz=26
W24A Lazy 6 Ranch, 25.36 319 ⇑P P 01 02 14.9 +1.2
baz=25,SNR=12
Q30A Quinter 25.36 332 ⇓P P 01 02 14.8 +1.3
baz=26
121A Cookes Peak, D 25.37 312 ⇑P P 01 02 14.6 +0.8
baz=25,SNR=48
BRNJ Basking Ridge 25.38 20 eP P 01 02 16.8 +3.3
comp=Z,94nm,1.3s
ERPA Erie 25.43 10 eP P 01 02 16.0 +2.0
comp=Z,166nm,1.1s
P31A Stockton 25.46 334 ⇑P P 01 02 14.9 +0.5
baz=26,SNR=10
X23A Hourglass Bar 25.46 317 ⇓P P 01 02 15.1 +0.5
baz=26,SNR=21
BNM Barren Site 25.48 316 eP P 01 02 16.0 +1.1
U25A Circle Dot Ran 25.55 323 ⇓P P 01 02 16.4 +0.9
baz=26,SNR=6.8
LPM Los Pinos Moun 25.58 316 eP P 01 02 16.3 +0.5
R28A Tribune 25.60 329 ⇓P P 01 02 16.3 +0.5
baz=26,SNR=14
V24A Rampart Ranch, 25.61 320 ⇑P P 01 02 16.0 0.0
baz=26,SNR=12
Q29A Oakley 25.64 331 ⇓P P 01 02 17.0 +1.0
baz=26,SNR=13
T26A Comanche Natio 25.64 325 ⇓P P 01 02 16.3 0.0
baz=26,SNR=7.3
S27A Las Animas 25.64 327 ⇓P P 01 02 17.0 +0.8
baz=26
SCIA State Center 25.65 347 eP P 01 02 17.4 +1.3
comp=Z,41nm,1.1s
CPNY Central Park 25.67 20 eP P 01 02 17.9 +1.7
comp=Z,120nm,1.5s
LENM Lemitar 25.73 316 eP P 01 02 17.0 0.0
ODNJ Ogdensburg 25.73 19 eP P 01 02 18.0 +1.2
comp=Z,105nm,1.2s
W23A Werner Place, 25.79 318 ⇓P P 01 02 18.8 +1.1
baz=26,SNR=10
KSPA Keystone Colle 25.82 17 eP P 01 02 18.8 +1.3
comp=Z,78nm,1.1s
P30A Selden 25.84 333 ⇑P P 01 02 19.1 +1.2
baz=26,SNR=9.2
ANMO Albuquerque 25.86 318 eP P 01 02 18.9 +0.7
ANMO pmax pmax
comp=Z,22nm,0.9s
ANMO Albuquerque 25.86 318 P P 01 02 19.1 +0.9
comp=Z,8.0nm,1.0s,baz=144,slow=11,SNR=19
ANMO Albuquerque 25.86 318 eP P 01 02 18.9 +0.7
comp=Z,22nm,0.9s
PAL Palisades 25.88 20 eP P 01 02 19.0 +0.9
PAL pmax pmax
comp=Z,91nm,1.0s
PAL Palisades 25.88 20 eP P 01 02 19.0 +0.9
comp=Z,91nm,1.0s
319A Douglas 25.90 308 ⇓P P 01 02 19.2 +0.6
baz=26,SNR=24
S26A Kim 25.90 326 ⇓P P 01 02 20.5 +1.9
baz=26,SNR=16
O31A Woolen Ranch, 25.97 335 ⇓P P 01 02 20.7 +1.6
baz=26
LAZ Ladron 25.98 316 eP P 01 02 20.0 +0.7
R27A Eads 26.05 328 ⇑P P 01 02 21.5 +1.7
baz=26,SNR=11
U24A Moreno Valley 26.07 322 ⇓P P 01 02 21.7 +1.5
baz=26
T25A Trinidad 26.07 324 ⇓P P 01 02 21.2 +1.0
baz=26,SNR=9.6
JFWS Jewell Farm 26.10 352 eP P 01 02 21.1 +0.9
JFWS pmax pmax
comp=Z,40nm,0.8s
JFWS Jewell Farm 26.10 352 eP P 01 02 21.1 +0.9
comp=Z,40nm,0.8s
Q28A Sharon Springs 26.17 330 ⇓P P 01 02 21.8 +0.9
baz=26
V23A Ortiz Mt. (NFS 26.18 319 ⇓P P 01 02 21.5 +0.3
baz=26
O30A MW Ranch, Wils 26.29 334 ⇑P P 01 02 23.2 +1.3
baz=26
BINY Binghamton 26.36 16 eP P 01 02 24.1 +1.6
comp=Z,85nm,1.3s
R26A Arlington 26.39 327 ⇑P P 01 02 24.1 +1.1
baz=26
N31A Bailey Ranch, 26.40 337 ⇓P P 01 02 23.8 +0.9
baz=26
MMNY Mt. Morris Dam 26.41 13 eP P 01 02 24.0 +1.1
comp=Z,178nm,1.1s
S25A Robets Cordova 26.46 325 ⇓P P 01 02 24.3 +0.7
baz=27
YLE Yale 26.49 22 eP P 01 02 22.7 -0.9
comp=Z,127nm,1.5s
KSCO Kaye Shedlock' 26.52 329 eP P 01 02 25.0 +0.9
comp=Z,106nm,1.5s
KSCO Kaye Shedlock' 26.52 329 ⇑P P 01 02 25.0 +0.9
baz=27
P28A Saint Francis 26.54 331 ⇑P P 01 02 25.4 +1.2
baz=27,SNR=6.3
O29A 4D Ranch, Culb 26.56 333 ⇓P P 01 02 25.4 +1.0
baz=27
U23A El Rito 26.57 320 ⇑P P 01 02 25.5 +0.8
baz=27,SNR=13
T24B San Luis 26.57 323 ⇑P P 01 02 25.6 +0.7
baz=27
BGNE Belgrade 26.62 338 eP P 01 02 23.5 -1.4
comp=Z,60nm,0.9s
BGNE Belgrade 26.62 338 ⇓P P 01 02 27.0 +2.1
baz=27
R25A Fountain Ranch 26.72 326 ⇑P P 01 02 26.7 +0.7
baz=27
V22A San Miguel Ran 26.75 319 ⇑P P 01 02 26.9 +0.6
baz=27
N30A Hueftle Ranch, 26.83 335 ⇑P P 01 02 27.4 +0.6
baz=27
S24A Houchin Ranch, 26.88 324 ⇑P P 01 02 28.3 +0.7
baz=27
Q26A Hugo 26.90 328 ⇑P P 01 02 29.1 +1.5
baz=27,SNR=15
P27A Ficken Ranch, 26.92 330 ⇓P P 01 02 29.1 +1.4
baz=27,SNR=7.5
T23A Casias Ranch, 26.94 322 ⇑P P 01 02 28.0 -0.1
baz=27
O28A Krutsinger Ran 27.00 332 ⇓P P 01 02 30.0 +1.7
baz=27,SNR=8.7
U22A Llaves 27.01 320 ⇑P P 01 02 29.9 +1.2
baz=27,SNR=6.0
N29A Votaw Ranch, W 27.06 334 ⇑P P 01 02 30.3 +1.4
baz=27
SDCO Great Sand Dun 27.11 323 eP P 01 02 30.7 +1.0
comp=Z,12nm,0.9s
Q25A Bedland, Calha 27.27 327 ⇓P P 01 02 32.5 +1.6
baz=27
P26A Davis Ranch, A 27.30 329 ⇓P P 01 02 32.8 +1.7
baz=27,SNR=5.4
N28A Pribbeno Ranch 27.35 333 ⇓P P 01 02 32.7 +1.2
baz=28
O27A Beecher Island 27.37 331 ⇓P P 01 02 33.0 +1.3
baz=28
TUC Tucson 27.46 308 eP P 01 02 34.1 +1.4
TUC pmax pmax
comp=Z,33nm,1.0s
TUC Tucson 27.46 308 eP P 01 02 34.1 +1.4
comp=Z,33nm,1.0s
TRY Troy 27.52 19 eP P 01 02 35.3 +2.5
comp=Z,77nm,1.5s
L31A Butterfield Fa 27.54 338 ⇓P P 01 02 33.8 +0.7
baz=28
R23A Moffat 27.61 324 ⇓P P 01 02 34.1 -0.1
baz=28
M29A Burnside Ranch 27.61 335 ⇓P P 01 02 34.6 +0.8
baz=28
L30A Spencer Herefo 27.66 337 ⇑P P 01 02 34.8 +0.5
baz=28
P25A Willow Gulch B 27.67 328 ⇓P P 01 02 34.7 +0.2
baz=28,SNR=6.7
OGNE Ogallala 27.77 332 ⇓P P 01 02 35.9 +0.6
baz=28
Q24A Divide 27.78 326 ⇓P P 01 02 35.7 0.0
baz=28
O26A Horse Wrangler 27.81 330 ⇑P P 01 02 35.9 +0.3
baz=28
S22A 4UR Ranch, Cre 27.89 322 ⇑P P 01 02 37.7 +1.1
baz=28,SNR=7.5
N27A Anderson Farm, 27.89 332 ⇓P P 01 02 37.4 +1.0
baz=28,SNR=5.9
X18A Snowflake 27.96 313 ⇓P P 01 02 37.2 0.0
baz=28
L29A Maesberg Ranch 28.05 336 ⇓P P 01 02 38.7 +1.0
baz=28
O25A Wiggins 28.10 329 ⇑P P 01 02 39.4 +1.0
baz=28
ACCN Adirondack Com 28.11 18 eP P 01 02 37.6 -0.5
comp=Z,44nm,1.3s
W18A Petrified Fore 28.14 314 eP P 01 02 38.1 -0.6
comp=Z,38nm,1.0s
W18A Petrified Fore 28.14 314 ⇑P P 01 02 38.6 -0.2
baz=28
SADO Sadowa 28.15 10 P P 01 02 39.7 +1.2
comp=Z,27nm,0.9s,baz=214,slow=7.1,SNR=14
SADO LR LR 01 13 35.6
comp=Z,315nm,19.8s,baz=187,slow=36
N26A Koester Ranch, 28.22 331 ⇓P P 01 02 40.5 +1.1
baz=28
ECSD EROS Data Cent 28.23 343 eP P 01 02 39.5 +0.2
comp=Z,14nm,1.0s
ECSD EROS Data Cent 28.23 343 ⇓P P 01 02 40.6 +1.4
baz=28
K30A Basset 28.25 338 ⇓P P 01 02 41.1 +1.6
baz=28
M27A Reverse DX Ran 28.40 333 ⇓P P 01 02 42.2 +1.3
baz=28
P23A Jefferson 28.45 326 ⇑P P 01 02 42.6 +0.9
baz=29
NCB Newcomb 28.48 17 eP P 01 02 40.4 -1.1
comp=Z,177nm,2.3s
MVCO Mesa Verde 28.56 319 eP P 01 02 43.5 +1.0
comp=Z,13nm,1.0s
MVCO Mesa Verde 28.56 319 ⇑P P 01 02 43.1 +0.6
baz=29
K29A Lazy Trails An 28.59 337 ⇑P P 01 02 44.0 +1.5
baz=29
O24A Longmont 28.59 327 ⇓P P 01 02 43.9 +1.2
baz=29
ISCO Idaho Springs 28.64 326 eP P 01 02 43.6 +0.3
ISCO pmax pmax
comp=Z,15nm,1.3s
ISCO Idaho Springs 28.64 326 eP P 01 02 43.6 +0.3
comp=Z,15nm,1.3s
ISCO Idaho Springs 28.64 326 ⇓P P 01 02 44.3 +1.0
baz=29,SNR=5.8
M26A McRoberts Ranc 28.69 332 ⇓P P 01 02 44.5 +1.0
baz=29
SPMN St. Paul 28.76 349 eP P 01 02 43.8 -0.1
comp=Z,17nm,0.8s
J30A Dallas 28.77 338 ⇓P P 01 02 45.8 +1.7
baz=29
PTN Potsdam (NY) 28.83 16 eP P 01 02 44.3 -0.3
PTN pmax pmax
comp=Z,117nm,1.5s
PTN Potsdam (NY) 28.83 16 eP P 01 02 44.2 -0.3
comp=Z,117nm,1.5s
214A Organ Pipe Nat 28.86 306 ⇓P P 01 02 44.7 -0.3
baz=29
SMCO Snowmass 28.94 324 eP P 01 02 46.4 +0.3
comp=Z,13nm,1.1s
X16A Lo Mia Camp, P 28.96 312 ⇑P P 01 02 47.5 +1.4
baz=29,SNR=6.2
LONY Lake Ozonia 28.98 16 eP P 01 02 45.6 -0.3
comp=Z,24nm,1.0s
N24A Carr 29.02 329 ⇓P P 01 02 48.1 +1.6
baz=29
M25A Palm-Egli Farm 29.09 330 ⇓P P 01 02 46.9 -0.2
baz=29
O23A Lake Granby, G 29.09 327 ⇑P P 01 02 48.3 +1.0
baz=29
P22A Eagle 29.11 325 ⇑P P 01 02 48.5 +1.1
baz=29
COWI Conover 29.13 355 eP P 01 02 47.6 +0.3
comp=Z,44nm,1.5s
J29A Okreek 29.14 337 ⇑P P 01 02 49.3 +1.9
baz=29
PV01 Paradox Valley 29.18 321 eP P 01 02 46.5 -1.5
K27A Flueckinger Fa 29.30 334 ⇑P P 01 02 50.4 +1.5
baz=29
O22A Kremmling 29.39 326 ⇑P P 01 02 51.2 +1.1
baz=30
PV05 Paradox Valley 29.47 320 eP P 01 02 50.9 +0.3
WUAZ Wupatki 29.48 314 eP P 01 02 50.1 -0.6
comp=Z,20nm,1.0s
WUAZ Wupatki 29.48 314 ⇓P P 01 02 51.6 +1.0
baz=30
M24A Cheyenne 29.48 330 ⇑P P 01 02 51.9 +1.3
baz=30
J28A Allard Ranch, 29.50 336 ⇓P P 01 02 51.9 +1.3
baz=30
PV04 Paradox Valley 29.55 321 eP P 01 02 50.3 -1.0
Z14A Wintersburg 29.56 309 ⇓P P 01 02 51.8 +0.6
baz=30
BRSD Miller 29.58 340 eP P 01 02 50.3 -0.9
comp=Z,21nm,0.9s
BRSD Miller 29.58 340 ⇓P P 01 02 52.8 +1.6
baz=30
N23A Red Feather La 29.61 328 ⇓P P 01 02 52.6 +0.8
baz=30,SNR=6.0
L25A Engebretsen Ra 29.61 331 ⇑P P 01 02 53.0 +1.3
baz=30
PV10 Paradox Valley 29.62 321 eP P 01 02 52.4 +0.4
J27A Elkhorn Farm, 29.66 335 ⇑P P 01 02 53.5 +1.5
baz=30
PHWY Pilot Hill 29.66 329 eP P 01 02 51.2 -1.1
comp=Z,18nm,1.1s
I29A Vivian Onida 29.67 338 ⇓P P 01 02 53.4 +1.4
baz=30
K26A Motz Farm, Whi 29.70 333 ⇓P P 01 02 53.7 +1.3
baz=30
PV09 Paradox Valley 29.75 321 eP P 01 02 53.8 +0.6
N22A Wattenberg Ran 29.80 327 ⇓P P 01 02 54.8 +1.2
baz=30
Y14A Wickenburg 29.87 310 ⇑P P 01 02 54.8 +0.9
baz=30
M23A Laramie 29.92 329 ⇑P P 01 02 55.9 +1.4
baz=30
113A Mohawk Valley, 29.93 307 ⇑P P 01 02 55.5 +1.0
baz=30
K25A Mack Ranch, Ha 29.93 332 ⇑P P 01 02 56.0 +1.5
baz=30
I28A Midland 29.97 337 ⇓P P 01 02 55.9 +1.2
baz=30
L24A Wheatland 29.97 330 ⇓P P 01 02 56.3 +1.4
baz=30
J26A Sides Ranch, S 30.15 334 ⇑P P 01 02 57.1 +0.7
baz=30
H29A Onida 30.16 339 ⇓P P 01 02 57.8 +1.4
baz=30
G30A Faulkton 30.26 341 ⇑P P 01 02 58.0 +0.8
baz=30,SNR=6.6
O20A White River Ci 30.31 324 eP P 01 02 57.4 -0.6
comp=Z,20nm,1.1s
O20A White River Ci 30.31 324 ⇑P P 01 02 58.3 +0.3
baz=30
M22A Cedar Creek Ra 30.32 328 ⇓P P 01 02 58.3 +0.2
baz=30
I27A Quinn 30.36 336 ⇑P P 01 02 58.8 +0.6
baz=30
L23A Garrett 30.40 329 ⇓P P 01 03 00.1 +1.3
baz=30,SNR=8.9
H28A Mission Ridge 30.49 338 ⇑P P 01 03 00.1 +0.8
baz=31
WVL Waterville 30.50 23 eP P 01 03 01.4 +2.1
comp=Z,36nm,1.0s
J25A Sunshine Ranch 30.52 333 ⇑P P 01 03 01.2 +1.5
baz=31
G29A Hoven 30.57 340 ⇓P P 01 03 00.8 +0.8
baz=31
U15A North Rim 30.59 314 ⇓P P 01 03 01.3 +0.6
baz=31
L22A Ellis Ranch, M 30.70 329 ⇑P P 01 03 02.6 +1.2
baz=31
N20A Spence Gulch, 30.80 325 ⇓P P 01 03 03.3 +1.0
baz=31
G28A Parade 30.80 338 ⇓P P 01 03 03.2 +1.1
baz=31
H27A Howes 30.85 337 ⇑P P 01 03 03.7 +1.2
baz=31
F30A Leola 30.85 341 ⇓P P 01 03 04.0 +1.5
baz=31
J24A Dixon Ranch, L 30.85 332 ⇓P P 01 03 04.2 +1.6
baz=31
GLA Glamis 30.86 307 eP P 01 03 04.6 +1.9
GLA pmax pmax
comp=Z,72nm,1.7s
GLA Glamis 30.86 307 eP P 01 03 04.6 +1.9
comp=Z,72nm,1.7s
GLA Glamis 30.86 307 ⇓P P 01 03 03.4 +0.7
baz=31
PDMCI Parker Dam,Lak 30.87 309 ⇓P P 01 03 03.8 +1.0
baz=31
Y12C Blythe 30.92 308 ⇑P P 01 03 04.6 +1.4
baz=31
SRU San Rafael 30.98 320 eP P 01 03 03.8 -0.2
SRU pmax pmax
comp=Z,9.0nm,1.0s
SRU San Rafael 30.98 320 eP P 01 03 03.8 -0.2
comp=Z,8.7nm,1.0s
I25A Rochford 31.00 334 ⇑P P 01 03 05.3 +1.3
baz=31
W13A Hualapai Mount 31.05 311 ⇑P P 01 03 05.2 +0.6
baz=31
H26A Fairpoint 31.10 336 ⇑P P 01 03 06.0 +1.3
baz=31
K22A Casper 31.20 329 eP P 01 03 06.8 +1.1
comp=Z,19nm,1.0s
K22A Casper 31.20 329 ⇑P P 01 03 05.8 0.0
baz=31
EYMN Ely 31.21 352 eP P 01 03 05.2 -0.4
comp=Z,15nm,1.0s
RSSD Black Hills 31.21 334 eP P 01 03 06.6 +0.7
RSSD pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 31.21 334 eP P 01 03 06.6 +0.7
comp=Z,6.2nm,0.9s
KNB Kanab 31.27 315 eP P 01 03 07.4 +1.0

KNB pmax pmax
comp=Z,10.0nm,1.0s
KNB Kanab 31.27 315 eP P 01 03 07.4 +1.0
comp=Z,9.5nm,1.0s
E30A Jud 31.42 342 ⇓P P 01 03 08.3 +0.8
baz=32
G27A Dupree 31.43 337 ⇓P P 01 03 08.7 +1.1
baz=32
K21A Alcova 31.55 328 ⇑P P 01 03 10.2 +1.3
baz=32
IRM Iron Mountain 31.56 308 ⇑P P 01 03 09.6 +0.7
baz=32
BC3 Big Chuckawall 31.58 307 ⇑P P 01 03 10.0 +0.8
baz=32
E29A Napoleon 31.70 341 ⇓P P 01 03 10.9 +0.9
baz=32
J22A Midwest 31.75 330 ⇑P P 01 03 12.0 +1.4
baz=32,SNR=12
G25A Newell 31.84 336 ⇑P P 01 03 12.2 +1.0
baz=32
F27A Lemmon 31.88 338 ⇑P P 01 03 12.6 +1.0
baz=32
CCUT Cedar City 31.91 315 eP P 01 03 13.0 +0.8
comp=Z,8.7nm,1.1s
D30A Buchanan 31.93 343 ⇑P P 01 03 13.2 +1.3
baz=32,SNR=6.0
LDFC Landfair 31.93 310 eP P 01 03 14.3 +2.0
comp=Z,56nm,0.9s
H24A Dirks Ranch, A 31.94 334 ⇑P P 01 03 13.2 +1.0
baz=32
E28A Huff 32.04 340 ⇑P P 01 03 14.1 +1.2
baz=32
ARUT Antelope Range 32.09 316 eP P 01 03 14.7 +1.0
ARUT Antelope Range 32.09 316 eP P 01 03 14.7 +1.0
I22A 9 Mile Ranch, 32.12 331 ⇑P P 01 03 14.9 +1.1
baz=32,SNR=7.1
D29A Pettibone, Tap 32.13 342 ⇑P P 01 03 15.7 +2.0
baz=32
BELC Belle Mtn. Jos 32.14 308 ⇓P P 01 03 14.2 +0.1
baz=32,SNR=7.5
H23A Clabaugh Cattl 32.15 333 ⇑P P 01 03 14.6 +0.5
baz=32
J21A Lysite 32.17 329 ⇑P P 01 03 15.5 +1.1
baz=32,SNR=8.0
GMRC Granite Mounta 32.21 309 ⇑P P 01 03 15.1 +0.4
baz=32,SNR=7.6
DAU Daniels Canyon 32.23 322 eP P 01 03 14.8 -0.3
DAU Daniels Canyon 32.23 322 eP P 01 03 14.8 -0.3
AGMN Agassiz Nation 32.31 347 eP P 01 03 15.1 -0.2
comp=Z,10nm,0.8s
AGMN Agassiz Nation 32.31 347 ⇑P P 01 03 16.0 +0.7
baz=32,SNR=6.8
PFO Pinyon Flat Ob 32.33 307 eP P 01 03 17.1 +1.3
PFO pmax pmax
comp=Z,32nm,1.2s
PFO Pinyon Flat Ob 32.33 307 P P 01 03 17.4 +1.6
comp=Z,17nm,1.1s,baz=120,slow=9.3,SNR=7.1
PFO Pinyon Flat Ob 32.33 307 eP P 01 03 17.1 +1.3
comp=Z,32nm,1.2s
PFO Pinyon Flat Ob 32.33 307 ⇓P P 01 03 15.1 -0.7
baz=32
G24A Alzada 32.35 335 ⇑P P 01 03 16.0 +0.2
baz=32
C30A Mose, Pekin 32.39 344 ⇑P P 01 03 16.7 +0.7
baz=32
I21A Big Trails, Te 32.44 330 ⇑P P 01 03 16.7 0.0
baz=33,SNR=14
F25A Bowman 32.46 336 ⇓P P 01 03 17.2 +0.5
baz=33
J20A Shoshoni 32.49 329 ⇑P P 01 03 17.2 +0.1
baz=33,SNR=8.1
D28A Regan 32.54 341 ⇑P P 01 03 18.6 +1.3
baz=33
E26A Carlson Angus 32.55 338 ⇓P P 01 03 18.3 +0.8
baz=33
109C Camp Elliot, M 32.56 305 ⇑P P 01 03 17.6 -0.1
baz=33
H22A Clearmont 32.60 332 ⇑P P 01 03 19.0 +1.0
baz=33
SHPR Sheep Range 32.63 312 eP P 01 03 19.4 +1.0
G23A Biddle 32.66 333 ⇓P P 01 03 20.0 +1.6
baz=33
TUQ Turquoise Moun 32.69 310 ⇑P P 01 03 19.6 +0.7
baz=33,SNR=5.4
HEC Hector,Ludlow 32.73 309 ⇓P P 01 03 20.7 +1.5
baz=33,SNR=8.1
D27A Center 32.78 340 ⇓P P 01 03 20.7 +1.2
baz=33
F24A Ekalaka 32.78 335 ⇑P P 01 03 21.2 +1.6
baz=33
BW06 Boulder Array 32.83 326 eP P 01 03 19.5 -0.7
comp=Z,11nm,1.2s
PD31 Pinedale Array 32.83 326 eP P 01 03 19.5 -0.7
MURC Murrieta 32.90 306 ⇓P P 01 03 21.1 +0.4
baz=33,SNR=6.6
J19A Crowheart 32.92 327 ⇓P P 01 03 22.3 +1.3
baz=33
E25A Miller Ranch, 32.92 337 ⇓P P 01 03 22.0 +1.2
baz=33
H21A Big Horn, Sher 32.94 331 ⇓P P 01 03 22.0 +1.0
baz=33,SNR=9.8
I20A Worland 32.95 329 ⇓P P 01 03 22.1 +1.1
baz=33,SNR=8.5
C28A Hausauer Farms 32.95 341 ⇓P P 01 03 21.7 +0.8
baz=33
D26A Manning 33.02 339 ⇑P P 01 03 21.9 +0.3
baz=33
B30A Myrvik Farm, E 33.04 344 ⇓P P 01 03 22.4 +0.8
baz=33
DUG Dugway 33.05 320 eP P 01 03 22.2 +0.2
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway 33.05 320 eP P 01 03 22.2 +0.2
comp=Z,6.1nm,1.0s
DUG Dugway 33.05 320 ⇑P P 01 03 22.2 +0.2
baz=33
G22A Birney 33.06 333 ⇑P P 01 03 23.0 +1.0
baz=33,SNR=8.2
F23A Volborg 33.08 334 ⇓P P 01 03 23.1 +1.0
baz=33,SNR=5.7
HWUT Hardware Ranch 33.17 323 eP P 01 03 22.6 -0.5
comp=Z,7.3nm,0.8s
GSC Goldstone 33.28 309 eP P 01 03 25.5 +1.4
GSC pmax pmax
comp=Z,24nm,1.4s
GSC Goldstone 33.28 309 eP P 01 03 25.5 +1.4
comp=Z,24nm,1.4s
GSC Goldstone 33.28 309 ⇓P P 01 03 24.7 +0.6
baz=33
H20A Greybull 33.28 330 ⇑P P 01 03 25.0 +1.0
baz=33,SNR=10
C27A Sayler Ranch, 33.30 340 ⇑P P 01 03 25.5 +1.5
baz=33
E24A Baker 33.32 336 ⇓P P 01 03 25.2 +1.0
baz=33
B29A Wagenman Farm, 33.33 343 ⇓P P 01 03 25.2 +1.1
baz=34,SNR=5.1
I19A Meeteetse 33.44 329 ⇑P P 01 03 26.4 +0.9
baz=34,SNR=10
D25A Fairfield 33.44 338 ⇑P P 01 03 26.4 +1.2
baz=34
G21A Lodge Grass 33.47 332 ⇑P P 01 03 26.5 +0.9
baz=34
A30A Hoffart Farm, 33.48 345 ⇑P P 01 03 26.8 +1.2
baz=34
F22A Rosebud 33.48 333 ⇑P P 01 03 26.8 +1.1
baz=34,SNR=9.4
BFSC Mount Baldy Ra 33.49 307 ⇓P P 01 03 26.3 +0.3
baz=34
C26A Wahner Farm, P 33.60 340 ⇓P P 01 03 27.1 +0.6
baz=34
B28A Dugan Ranch, T 33.60 342 ⇓P P 01 03 27.2 +0.6
baz=34
BGU Big Grassy Mou 33.62 321 eP P 01 03 27.3 +0.4
comp=Z,6.3nm,1.2s
AHID Auburn Hatcher 33.66 325 eP P 01 03 27.6 +0.1
comp=Z,11nm,1.1s
A29A Manning Farm, 33.71 344 ⇓P P 01 03 28.9 +1.4
baz=34
SCI San Clemente I 33.73 304 ⇓P P 01 03 28.3 +0.4
baz=34
D24A Glendive 33.79 337 ⇓P P 01 03 29.6 +1.4
baz=34
R11A Troy Canyon, C 33.83 315 eP P 01 03 28.7 -0.2
comp=Z,21nm,1.8s
B27A Peters Farms, 33.83 341 ⇑P P 01 03 29.5 +1.0
baz=34
E22A Miles City 33.88 334 ⇓P P 01 03 29.9 +0.9
baz=34
C25A Freed Ranch, W 33.90 338 ⇑P P 01 03 30.3 +1.1
baz=34
F21A Absaloka Mine, 33.90 332 ⇓P P 01 03 30.3 +1.0
baz=34,SNR=5.6
H19A Powell 33.90 329 ⇑P P 01 03 30.2 +0.9
baz=34,SNR=5.8
REDW Red Top Meadow 33.93 326 eP P 01 03 30.4 +0.6
comp=Z,53nm,1.1s
G20A Bridger 33.94 331 ⇓P P 01 03 30.3 +0.7
baz=34,SNR=12
SNOW Snow King Moun 33.95 326 eP P 01 03 32.1 +2.1
comp=Z,30nm,1.0s
SAML Samuel 33.96 138 eP P 01 03 27.5 -2.5
comp=Z,6.1nm,1.1s
LOHW Long Hollow 33.97 327 eP P 01 03 30.9 +0.8
comp=Z,12nm,1.0s
HVU Hansel Valley 33.98 322 eP P 01 03 30.8 +0.6
HVU pmax pmax
comp=Z,10.0nm,0.9s
HVU Hansel Valley 33.98 322 eP P 01 03 30.8 +0.6
comp=Z,9.8nm,0.9s
A28A Rude Farm, Bot 33.99 342 ⇑P P 01 03 31.6 +1.6
baz=34
LRMC Laurel Mountai 34.01 309 ⇑P P 01 03 30.6 +0.1
baz=34
DECC Green Verdugo 34.01 307 ⇑P P 01 03 30.6 +0.3
baz=34
TPAW Teton Pass 34.07 326 eP P 01 03 31.8 +0.8
comp=Z,20nm,1.1s
ULM Lac du Bonnet 34.16 348 P P 01 03 31.1 -0.2
comp=Z,6.0nm,1.0s,baz=162,slow=8.9,SNR=11
ULM LR LR 01 18 15.5
comp=Z,150nm,20.1s,baz=170,slow=38
I17A Pilgrim Ck. 34.17 327 ⇑P P 01 03 32.6 +0.8
baz=34,SNR=13
C24A Savage 34.17 337 ⇑P P 01 03 31.7 +0.1
baz=34
D23A Lindsay 34.17 336 ⇓P P 01 03 33.1 +1.5
baz=34
LAO LASA Array 34.19 334 eP P 01 03 31.3 -0.5
comp=Z,32nm,1.5s
FXWY Fox Creek 34.21 326 eP P 01 03 31.8 -0.5
comp=Z,8.9nm,1.0s
H18A Shoshone NF, C 34.24 329 ⇓P P 01 03 33.4 +1.0
baz=34,SNR=5.5
DAC Darwin (Calif) 34.27 310 eP P 01 03 32.8 0.0
DAC pmax pmax
comp=Z,10.0nm,1.0s
DAC Darwin (Calif) 34.27 310 eP P 01 03 32.8 0.0
comp=Z,9.9nm,1.0s
A27A Ledoux Ranch, 34.31 341 ⇑P P 01 03 33.9 +1.1
baz=34
F20A Billings 34.34 331 ⇓P P 01 03 34.2 +1.1
baz=34,SNR=6.4
B25A Knox Farm, Ray 34.34 339 ⇓P P 01 03 34.1 +1.0
baz=34
IMW Indian Meadow 34.34 327 eP P 01 03 33.9 +0.5
comp=Z,19nm,1.1s
FLWY Flagg Ranch 34.34 327 eP P 01 03 33.4 +0.1
comp=Z,14nm,1.0s
RLMT Red Lodge 34.36 330 eP P 01 03 33.8 +0.3
comp=Z,18nm,1.0s
E21A Keefer Ranch, 34.44 333 ⇑P P 01 03 35.0 +1.1
baz=35
OSI Osito Adit 34.45 307 eP P 01 03 33.0 -1.1
comp=Z,45nm,1.1s
OSI Osito Adit 34.45 307 ⇑P P 01 03 35.0 +0.9
baz=34
H17A Grant Village 34.50 328 eP P 01 03 36.9 +2.2
comp=Z,6.1nm,1.0s
H17A Grant Village 34.50 328 ⇓P P 01 03 35.7 +1.0
baz=35
A26A Wade Farm, Ken 34.51 341 ⇑P P 01 03 35.5 +1.0
baz=35
D22A Cohagen 34.54 335 ⇑P P 01 03 36.1 +1.3
baz=35
ISA Isabella 34.67 309 eP P 01 03 37.4 +1.3
ISA pmax pmax
comp=Z,22nm,1.1s
ISA Isabella 34.67 309 eP P 01 03 37.4 +1.3
comp=Z,22nm,1.1s
ISA Isabella 34.67 309 ⇑P P 01 03 36.4 +0.4
baz=35,SNR=8.7
YFT Old Faithful 34.67 327 eP P 01 03 34.5 -1.7
comp=Z,14nm,1.0s
C23A Lambert 34.68 336 ⇑P P 01 03 37.2 +1.3
baz=35
ARVC Arvin 34.73 308 ⇑P P 01 03 37.4 +0.9
baz=35,SNR=10
F19A Roth Farm, Mol 34.75 331 ⇑P P 01 03 37.7 +1.1
baz=35,SNR=13
YNR Norris Junctio 34.77 328 eP P 01 03 34.8 -2.3
comp=Z,19nm,1.6s
D21A La Casta Ranch 34.81 334 ⇓P P 01 03 38.6 +1.4
baz=35
TPH Tonopah 34.82 313 eP P 01 03 37.3 -0.2
TPH pmax pmax
comp=Z,14nm,1.0s
TPH Tonopah 34.82 313 eP P 01 03 37.3 -0.2
comp=Z,14nm,1.0s
E20A Meyer Farm, Mu 34.87 332 ⇑P P 01 03 38.6 +1.0
baz=35,SNR=18
DGMT Dagmar 34.87 338 eP P 01 03 37.6 -0.1
comp=Z,262nm,3.0s
DGMT Dagmar 34.87 338 ⇑P P 01 03 38.8 +1.1
baz=35
ELK Elko 34.88 319 eP P 01 03 37.9 -0.1
ELK pmax pmax
comp=Z,8.0nm,1.0s
ELK Elko 34.88 319 P P 01 03 39.1 +1.1
comp=Z,3.9nm,1.1s,baz=184,slow=5.1,SNR=7.8
ELK Elko 34.88 319 eP P 01 03 37.9 -0.1
comp=Z,7.6nm,1.0s
YMR Madison River 34.89 328 eP P 01 03 38.1 0.0
comp=Z,20nm,1.1s
C22A Vida 34.91 336 ⇑P P 01 03 39.0 +1.1
baz=35
GCMT Greycliff 35.04 330 eP P 01 03 38.5 -0.8
E19A Rath Farm, Rou 35.13 332 ⇓P P 01 03 40.9 +1.0
baz=35,SNR=12
SBC Santa Barbara 35.15 306 ⇓P P 01 03 40.1 0.0
baz=35
B23A Brockton 35.16 337 ⇑P P 01 03 41.6 +1.5
baz=35,SNR=5.4
A24A Westby 35.19 339 ⇓P P 01 03 41.7 +1.4
baz=35
VES Vestal, Richgr 35.20 309 ⇑P P 01 03 41.0 +0.4
baz=35,SNR=8.9
QLMT Earthquake Lak 35.24 327 eP P 01 03 41.1 +0.1
D20A Manuel Ranch, 35.32 333 ⇑P P 01 03 43.0 +1.5
baz=35,SNR=20
C21A Desert Coulee 35.46 335 ⇑P P 01 03 43.7 +1.0
baz=36
A23A Redstone 35.53 338 ⇓P P 01 03 44.5 +1.3
baz=36
SMMC Simmler 35.68 307 ⇓P P 01 03 45.2 +0.4
baz=36
D19A Cripps Ranch, 35.70 332 ⇑P P 01 03 46.3 +1.5
baz=36,SNR=5.3
NV01 Mina Array Sit 35.74 313 eP P 01 03 46.2 +0.8
NVAR Mina Array Bea 35.74 313 P P 01 03 46.9 +1.5
comp=Z,4.3nm,0.9s,baz=120,slow=8.7,SNR=16
NVAR LR LR 01 22 25.2
comp=Z,396nm,18.5s,baz=228,slow=43
C20A Veseth Ranch, 35.75 334 ⇑P P 01 03 46.6 +1.4
baz=36
MLAC Mammoth Lakes 35.76 312 ⇑P P 01 03 46.1 +0.4
baz=36
BOZ Bozeman (W) 35.91 328 eP P 01 03 46.8 +0.1
BOZ pmax pmax
comp=Z,11nm,0.9s
BOZ Bozeman (W) 35.91 328 eP P 01 03 46.8 +0.1
comp=Z,11nm,0.9s
A22A Carney Farms, 35.94 337 ⇓P P 01 03 47.9 +1.1
baz=36
MCMT McKenzie Canyo 35.98 326 eP P 01 03 49.1 +1.6
BMN Battle Mountai 35.98 317 eP P 01 03 48.8 +1.4
BMN pmax pmax
comp=Z,11nm,0.9s
BMN Battle Mountai 35.98 317 eP P 01 03 48.8 +1.4
comp=Z,11nm,0.9s
HLID Hailey 36.03 323 eP P 01 03 47.8 -0.1
comp=Z,6.1nm,1.1s
HLID Hailey 36.03 323 ⇑P P 01 03 48.9 +1.0
baz=36
DLMT Dillon 36.21 327 eP P 01 03 50.4 +1.1
comp=Z,15nm,1.3s
C19A Slack Wire Ran 36.21 333 ⇓P P 01 03 50.6 +1.4
baz=36,SNR=15
B20A Solberg Farm, 36.32 334 ⇓P P 01 03 51.5 +1.4
baz=36,SNR=9.8
A21A Bergtoll Ranch 36.32 336 ⇓P P 01 03 51.5 +1.4
baz=36
LRM Limekiln Ridge 36.44 328 eP P 01 03 52.3 +0.9
WAKR Walker 36.56 313 eP P 01 03 53.6 +1.1
A20A Cobblestone Ra 36.63 335 ⇓P P 01 03 53.6 +0.9
baz=37,SNR=16
B19A Brinkman Farms 36.72 334 ⇓P P 01 03 54.7 +1.2
baz=37
EGMT Eagleton 36.74 333 eP P 01 03 54.7 +1.0
comp=Z,69nm,1.5s
EGMT Eagleton 36.74 333 ⇓P P 01 03 54.9 +1.2
baz=37,SNR=15
HRY Holter Researc 36.75 329 eP P 01 03 53.8 0.0
MFID Camas Ranch 36.77 322 eP P 01 03 53.5 -0.6
comp=Z,6.0nm,0.9s
A19A Klindworth Far 37.00 334 ⇑P P 01 03 56.9 +1.0
baz=37,SNR=6.7
CMB Columbia Colle 37.04 311 eP P 01 03 54.5 -1.8
CMB pmax pmax
comp=Z,12nm,1.3s
CMB Columbia Colle 37.04 311 eP P 01 03 54.5 -1.8
comp=Z,12nm,1.3s
LPAZ La Paz 37.28 152 LR LR 01 21 53.0
comp=Z,247nm,18.8s,baz=314,slow=40
CHMT Chamberlain Mo 37.59 328 eP P 01 04 00.9 -0.2
MSO Missoula 37.88 328 eP P 01 04 03.0 -0.5
comp=Z,28nm,1.7s
MSO Missoula 37.88 328 ⇑P P 01 04 04.3 +0.9
baz=38
WVOR Wild Horse Val 37.93 319 eP P 01 04 03.9 0.0
WVOR pmax pmax
comp=Z,18nm,1.3s
WVOR Wild Horse Val 37.93 319 eP P 01 04 03.9 0.0
comp=Z,18nm,1.3s
SLMT Seeley Lake 37.94 329 eP P 01 04 02.8 -1.2
SWMT Swartz Lake 38.37 329 eP P 01 04 05.9 -1.7
BMO Blue Mountains 38.47 323 eP P 01 04 06.7 -1.8
comp=Z,20nm,1.8s
JTMT Jette 38.67 329 eP P 01 04 08.0 -2.1
MOD Modoc 38.73 317 eP P 01 04 09.5 -1.2
comp=Z,15nm,1.4s
BLMT Blacktail Moun 38.89 329 eP P 01 04 10.5 -1.5
BSMT Bassoo Peak 39.00 328 eP P 01 04 13.4 +0.5
F10A Beach Ranch, E 39.09 324 eP P 01 04 12.4 -1.2
comp=Z,8.8nm,0.9s
WALA Waterton Lakes 39.40 330 eP P 01 04 15.9 -0.2
M04C Macdoel 39.69 316 ⇓P P 01 04 18.3 -0.4
baz=40
J05D Fort Rock, OR 40.01 318 ⇓P P 01 04 21.1 -0.2
baz=40
K04D Chiloquin, OR 40.02 317 ⇓P P 01 04 21.7 +0.2
baz=40
PINOR Pine Mountain 40.05 319 eP P 01 04 21.3 -0.1
comp=Z,10.0nm,1.1s
YBH Yreka Blue Hor 40.24 315 LR LR 01 25 03.5
comp=Z,160nm,19.7s,baz=112,slow=42
SCHQ Schefferville 40.36 17 P P 01 04 23.4 -0.5
comp=Z,21nm,1.0s,baz=219,slow=7.4,SNR=13
SCHQ LR LR 01 22 10.1
comp=Z,268nm,18.8s,baz=217,slow=38
NEW Newport 40.45 327 P P 01 04 24.6 -0.2
comp=Z,0.7nm,0.4s,baz=144,slow=8.1,SNR=3.1
NEW LR LR 01 24 39.4
comp=Z,89nm,18.8s,baz=114,slow=41
NEW Newport 40.45 327 ⇑P P 01 04 25.6 +0.7
baz=40
D08A Wollman Farm, 40.68 325 eP P 01 04 26.7 +0.1
comp=Z,16nm,1.3s
SIV San Ignacio 40.70 142 P P 01 04 26.1 -1.1
comp=Z,2.7nm,0.7s,baz=337,slow=9.3,SNR=5.6
H04A Detroit Lake 41.30 320 eP P 01 04 31.1 -0.8
comp=Z,22nm,1.3s
I03D Drain, OR 41.56 318 ⇑P P 01 04 34.2 +0.3
baz=42
B08A Colville Reser 41.67 326 eP P 01 04 34.3 -0.5
comp=Z,65nm,2.7s
FCC Fort Churchill 42.13 353 eP P 01 04 38.9 +0.6
FCC Fort Churchill 42.13 353 eP P 01 04 38.9 +0.6
LON Longmire 42.15 323 eP P 01 04 39.3 +0.6
LON pmax pmax
comp=Z,7.0nm,1.1s
LON Longmire 42.15 323 eP P 01 04 39.3 +0.6
comp=Z,7.2nm,1.1s
EDM Edmonton 42.16 335 eP P 01 04 38.9 +0.1
EDM Edmonton 42.16 335 eP P 01 04 38.9 +0.1
G03D McMinnville, O 42.23 320 ⇓P P 01 04 39.9 +0.5
baz=42
D05A Enumclaw 42.48 323 eP P 01 04 40.8 -0.6
comp=Z,36nm,1.6s
B06A Marblemount 42.93 325 eP P 01 04 43.4 -1.7
comp=Z,7.5nm,0.9s
NLWA Neilton Lookou 43.68 322 eP P 01 04 51.3 +0.2
comp=Z,17nm,1.3s
FRB Frobisher Bay 48.09 10 P P 01 05 25.3 -0.3
comp=Z,15nm,0.9s,baz=207,slow=7.6,SNR=21
BBB Bella Bella 48.48 326 LR LR 01 30 23.8
comp=Z,117nm,18.2s,baz=132,slow=42
BDFB Brasilia 49.20 129 LR LR 01 28 22.4
comp=Z,341nm,18.7s,baz=288,slow=39
YKA Yellowknife Ar 49.76 343 P P 01 05 38.4 0.0
comp=Z,1.0nm,0.8s,baz=137,slow=8.1,SNR=22
YKB5 Yellowknife Ar 49.76 343 eP P 01 05 38.4 0.0
CPUP Villa Florida 51.07 147 LR LR 01 29 43.2
comp=Z,142nm,18.4s,baz=310,slow=39
DLBC Dease Lake 52.67 332 P P 01 06 02.0 +1.5
comp=Z,19nm,0.8s,baz=129,slow=5.8,SNR=53
HYT Haines Junctio 57.15 333 eP P 01 06 31.8 -1.1
RES Resolute Bay 57.88 357 eP P 01 06 37.7 +0.1
RES Resolute Bay 57.88 357 P P 01 06 37.9 +0.2
comp=Z,5.5nm,0.8s,baz=165,slow=12,SNR=20
RES Resolute Bay 57.88 357 eP P 01 06 37.7 +0.1
PLCA Paso Flores 59.13 167 P P 01 06 49.6 +2.8
comp=Z,3.2nm,0.9s,baz=281,slow=5.2,SNR=4.6
INK Inuvik 59.45 341 eP P 01 06 49.6 +1.0
INK pmax pmax
comp=Z,31nm,1.5s
INK Inuvik 59.45 341 eP P 01 06 49.6 +1.0
comp=Z,31nm,1.5s
DOT Dot Lake 61.10 334 eP P 01 07 00.1 0.0
comp=Z,15nm,0.8s
PAX Paxson 61.46 333 eP P 01 07 03.3 +0.7
PAX pmax pmax
comp=Z,17nm,0.8s
PAX Paxson 61.46 333 eP P 01 07 03.3 +0.7
comp=Z,17nm,0.8s
SUMG Summit 61.69 14 eP P 01 07 04.8 +0.4
SUMG pmax pmax
comp=Z,52nm,1.1s
SUMG Summit 61.69 14 iP P 01 07 04.6 +0.2
comp=Z,27nm,0.9s
SUMG Summit 61.69 14 eP P 01 07 04.8 +0.4
comp=Z,52nm,1.1s
IL1 Eielson Array 62.65 335 eP P 01 07 11.2 +0.7
ILAR Eielson Array 62.65 335 P P 01 07 11.2 +0.7
comp=Z,12nm,0.8s,baz=116,slow=5.1,SNR=40
ILAR LR LR 01 37 03.9
comp=Z,110nm,18.9s,baz=118,slow=39
ILB Eielson Array 62.65 335 eP P 01 07 10.4 -0.1
RC01 Rabbit Creek A 62.84 331 eP P 01 07 12.0 +0.2
comp=Z,16nm,1.0s
COLA College 63.07 335 eP P 01 07 13.9 +0.7
COLA College 63.07 335 eP P 01 07 13.8 +0.7
comp=Z,53nm,0.3s
MCK McKinley 63.18 334 eP P 01 07 14.4 +0.3
MCK pmax pmax
comp=Z,17nm,1.0s
MCK McKinley 63.18 334 eP P 01 07 14.3 +0.3
comp=Z,17nm,1.0s
TRF Thorofare Moun 63.69 333 eP P 01 07 18.1 +0.6
comp=Z,24nm,0.9s
KTH Kantishna Hill 63.99 333 eP P 01 07 19.8 +0.3
comp=Z,14nm,1.0s
PVIS Viseu 69.78 52 eP P 01 07 57.8 +1.1
comp=Z,66nm,1.4s
MTE Manteigas 70.08 53 eP P 01 07 59.8 +1.3
comp=Z,46nm,1.9s
PMRV Marv??o 70.29 54 eP P 01 08 00.8 +1.0
comp=Z,48nm,1.2s
MVO Moncorvo 70.39 52 eP P 01 08 01.5 +1.0
comp=Z,49nm,1.7s
PBRG Braganca 70.54 51 eP P 01 08 01.3 0.0
comp=Z,58nm,1.7s
TNA Tin City 71.50 334 eP P 01 08 08.0 +1.3

comp=Z,14nm,1.4s
EKA Eskdalemuir Ar 71.81 37 P **P 01 08 07.3 -1.4**
comp=Z,5.3nm,0.9s,baz=272,slow=5.3,SNR=7.1
ESDC Sonseca Array 72.89 53 P **P 01 08 15.8 +0.2**
comp=Z,5.0nm,0.8s,baz=289,slow=5.6,SNR=19
MDT Midelt 73.44 60 P **P 01 08 18.8 -0.2**
comp=Z,5.9nm,0.9s,baz=308,slow=6.2,SNR=5.1
NOA NORSAR Array B 78.45 30 P **P 01 08 47.3 +0.3**
comp=Z,2.8nm,0.9s,baz=208,slow=7.1,SNR=3.8
TIC Toumodi 78.99 86 eP **P 01 08 50.9 +0.2**
comp=Z,7.3nm,0.2s
LIC Lamto 79.10 87 eP **P 01 08 51.4 +0.1**
comp=Z,46nm,1.1s
DBIC Dimbokro 79.14 86 P **P 01 08 51.5 +0.1**
comp=Z,7.0nm,1.0s,baz=266,slow=5.5,SNR=5.5
DBIC LR LR 01 38 51.5
comp=Z,78nm,21.5s,baz=270,slow=32
KIC Kosan Boka 79.33 87 eP **P 01 08 52.8 +0.2**
comp=Z,25nm,1.0s
BILL Bilibino 80.95 339 P P 01 09 13.0 +13
BILL pmax pmax
comp=Z,5.0nm,1.1s
GRF Grafenberg Arr 81.43 41 eP **P 01 09 03.2 0.0**
comp=Z,10.0nm,1.2s
FUORN Ofenpass-Fuorn 81.66 44 eP **P 01 09 04.2 -0.6**
comp=Z,17nm,0.8s
KHC Kasperske Hory 83.06 41 eP **P 01 09 12.1 +0.3**
KHC Kasperske Hory 83.06 41 eP **P 01 09 12.1 +0.3**
KHC epP pP 01 09 27.2 +6.4
KHC esP sP 01 09 32.5 +8.4
GEB3 GERESS Array S 83.23 41 eP **P 01 09 11.9 -0.9**
GEC2 GERESS Array S 83.23 41 eP **P 01 09 11.9 -0.9**
TORD Torodi Ar. Bea 83.58 78 LR LR 01 41 59.7
comp=Z,142nm,21.6s,baz=285,slow=33
VRAC Vranov 84.88 40 P **P 01 09 21.1 +0.1**
comp=Z,6.3nm,0.9s,baz=204,slow=5.5,SNR=4.7
FINES FINESS Array B 85.03 27 P **P 01 09 21.9 +0.3**
comp=Z,11nm,0.9s,baz=352,slow=4.2,SNR=5.1
PETK Petropavlovsk- 91.59 327 LR LR 01 54 16.9
comp=Z,36nm,19.9s,baz=77,slow=38
WMQ Urumqi 119.11 6 ePKP **PKPdf 01 15 36.5 +1.2**
WMQ PP PP 01 17 01.9 +7.9
WMQ SKS **SKSdf 01 22 43.8 -1.9**
WMQ SS **SS 01 33 15.1 +2.9**
WMQ AMB AMB
comp=Z,15nm,9.7s
WMQ LR LR
comp=Z,160nm,24.4s
WMQ LR LR
comp=Z,110nm,26.0s
WMQ LR LR
comp=Z,150nm,25.2s
HHC Hu-ho-hao-te 120.27 345 ePKP **PKPdf 01 15 36.6 -1.1**
HHC sPKP 01 15 50.0
HHC PP **PP 01 17 02.5 +0.4**
HHC SKKS 01 23 58.9
HHC SS **SKKSdf 01 33 28.1 +0.5**
HHC LR LR
comp=Z,240nm,18.0s
KSH Kashi 121.12 17 ePKP **PKPdf 01 15 40.3 +0.9**
KSH esPKP 01 15 54.0
LZH Lanzhou 126.43 351 ePKP **PKPdf 01 15 47.8 -1.9**
LZH sPKP 01 16 03.4
CD2 Chengdu 131.50 349 PKP **PKPdf 01 15 59.8 +0.4**
CD2 sPKP 01 16 14.3
CD2 PP PP 01 18 22.1 +5.3
CD2 PKS **PKSdf 01 19 34.8 -1.2**
CD2 SKS **SKSdf 01 23 08.6 -0.7**
CD2 SKKS **SKKSac 01 25 11.9 -1.2**
CD2 SS **SS 01 35 51.1 +3.1**
GYA Guiyang 135.18 344 ePdif **Pdif 01 13 06.4 -2.1**
GYA PKP **PKPdf 01 16 04.3 -2.2**
GYA sPKP 01 16 21.0
GYA PP **PP 01 18 42.9 +2.5**
GYA AMB AMB
comp=Z,120nm,7.6s
KMI Kunming 137.33 349 PKP **PKPdf 01 16 11.0 +0.3**
KMI LR LR
comp=Z,80nm,31.3s
WRA Warramunga Arr 142.19 259 PKP **PKPdf 01 16 19.0 -0.3**
comp=Z,1.0nm,0.9s,baz=77,slow=1.3,SNR=6.2
ASAR Alice Springs 142.58 253 PKP **PKPdf 01 16 19.7 -0.2**
comp=Z,0.8nm,0.9s,baz=100,slow=2.8,SNR=5.2
CMAR Chiang Mai Arr 144.45 353 PKP PKPbc 01 16 21.8 0.0
comp=Z,0.9nm,0.3s,baz=320,slow=2.9,SNR=6.5

*NIED **21** 00:56:00,37.°50N×141.°60E,h44km,Mw4.7 Best double couple: M0 1.35000×10^16 NP1:φs195.00000°,δ18.00000°, λ75.00000°. NP2:φs31.00000°,δ72.00000°,λ95.00000°.*
*ISCJB **21** 00:56:54.7±0.4,37.°44N±0.°02×141.°67E±0.°02,h46km±2km, mb5.0/232,MS4.1/32,Error ellipse: s-maj=3.8km s-min=2.5km az=146.8*
*BJI **21** 00:56:54.2,37.°48N×141.°67E,h54km,mB4.9/39,mb5.1/68, Ms4.2/53,Ms7 4.0/51*
*MOS **21** 00:56:55.2±0.8,37.°58N×141.°49E,h40km,mb5.3/83, MS4.1/11,Error ellipse: s-maj=6.3km s-min=3.9km az=106.6*
*JMA **21** 00:56:56.7±0.1,37.°51N×141.°57E,h45km±2km,M4.8 Broadband fault plane solution: P waves. NP1: φs35.00000°,δ62.00000°,λ94.00000°. NP2:φs206.00000°, δ28.00000°,λ82.00000°. Principal axes: T Plg73.0000°, Azm315.0000°; N Plg4.0000°, Azm213.0000°; P Plg17.0000°, Azm122.0000°;*
JMA Felt III J1.
*NEIC **21** 00:56:57.1±0.5,37.°43N×141.°50E,h50km±4km,mb5.1/131, MW4.7(NIED) Error ellipse: s-maj=3.9km s-min=2.7km az=136.0*
NEIC Felt at Naka, Narita and Sendai. Recorded [3 JMA] in Fukushima and Miyagi; [2 JMA] in Ibaraki; [1 JMA] in Chiba, Gumma, Iwate, Saitama, Tochigi, Tokyo and Yamagata.
*IDC **21** 00:56:57.5±0.4,37.°49N×141.°53E,h50km±3km,mb4.6/46, mb1 4.6/52,mb1mx4.6/69,mbtmp4.8/52,MS3.9/17, Ms1 3.9/17,ms1mx3.7/45,Error ellipse: s-maj=9.8km s-min=6.9km az=138.0*
*GCMT **21** 00:56:57.1±0.5,37.°55N×141.°56E,h50km±2km,MW4.8/55, Moment Tensor Solution. s25,c31; s55,c72; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.61±.13; Mθθ-0.34±.09; Mφφ-1.28±.08; Mrθ0.72±.07; Mθφ-0.36±.08; Mφr0.93±.07; Best double couple: M0 1.90800×10^16 NP1:φs30.00000°,δ64.00000°,λ98.00000°. NP2: φs192.00000°,δ27.00000°,λ74.00000°. Principal axes: T 2.0350, Plg70.0000°, Azm317.0000°; N -0.2600, Plg7.0000°, Azm206.0000°; P -1.7800, Plg19.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **21** 00:57:00.3,38.°10N×141.°26E,h33km,mb5.0,Near east coast of eastern Honshu, Japan*
ISC 21 00:56:57.0±0.3,37.°45N±0.°03×141.°60E±0.°03,h50km±2km, h49km:pP-P,n757,σ1°18/837,mb5.0/236,MS4.0/31, 131C-90D,Near east coast of eastern Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JFK Kawauchi 0.58 262 ⇓P **Pn 00 57 08.5 -0.7**
JFK S **Sn 00 57 16.6 -1.4**
ONAJ Iwakimizuishiy 0.72 242 ⇓P **Pn 00 57 10.6 -0.5**
ONAJ S **Sn 00 57 20.2 -1.1**
JMM Marumori 0.76 303 ⇓P **Pn 00 57 10.5 -1.0**
JMM S **Sn 00 57 20.3 -1.7**
JFT Otama 1.00 274 ⇓P **Pn 00 57 14.8 +0.1**
JFT S **Sn 00 57 27.0 -0.8**
JIO Ouri 1.02 349 ⇓P **Pn 00 57 13.8 -1.2**
JIO S **Sn 00 57 25.6 -2.6**
JOU Okura 1.17 321 ⇓P **Pn 00 57 16.2 -0.9**
JOU eS **Sn 00 57 29.9 -2.1**
JYS Shirataka 1.43 303 ⇓P **Pn 00 57 20.2 -0.4**
JYS eS **Sn 00 57 36.9 -1.4**
JFY Yanaizu 1.50 269 ⇓P **Pn 00 57 21.6 0.0**
JFY S **Sn 00 57 40.3 +0.2**
JMK Ichinoseki 1.53 349 ⇓P **Pn 00 57 21.1 -0.8**
JMK S **Sn 00 57 38.9 -1.7**
JYK Kaneyama 1.76 327 ⇓P **Pn 00 57 24.6 -0.4**
MJAR Matsushiro Arr 2.86 253 P **Pn 00 57 41.0 +0.9**
102nm,0.3s,baz=82,slow=14,SNR=460
MJAR S **Sn 00 58 14.6 +1.3**
116nm,0.3s,baz=63,slow=27,SNR=7.3
MJAR LR LR 00 59 03.4
comp=Z,3μm,19.6s,baz=70,slow=45
MAJO Matsushiro 2.86 253 d iP **Pn 00 57 41.2 +1.1**
MAJO Matsushiro 2.86 253 ePn **Pn 00 57 40.8 +0.7**
MAT Matsushiro 2.86 253 P **Pn 00 57 41.4 +1.3**
MAT S **Sn 00 58 14.8 +1.5**
JHJ2 Mitsune 4.57 199 ePn **Pn 00 58 02.8 -0.7**
JHJ2 eSn **Sn 00 58 56.2 +1.0**
ERM Erimo 4.71 14 Pn **Pn 00 58 04.1 -1.4**
975nm,0.4s,SNR=25
ERM Erimo 4.71 14 deP **Pn 00 58 04.2 -1.3**
ERM Erimo 4.71 14 ePn **Pn 00 58 05.1 -0.4**
ERM eSn **Sn 00 59 00.2 +1.4**
ASAJ Asahikawa 6.70 6 P **Pn 00 58 31.7 -1.1**
ASAJ S **Sn 00 59 48.4 +0.7**
ASAJ pmax pmax
comp=Z,11nm,0.3s
ASAJ smax smax
comp=N,15nm,0.3s
ASAJ Asahikawa 6.70 6 P **Pn 00 58 31.6 -1.1**
comp=N,11nm,0.3s,baz=215,slow=8.6,SNR=39
ASAJ S **Sn 00 59 48.4 +0.7**
comp=N,15nm,0.3s,baz=271,slow=29,SNR=4.0
ASAJ Asahikawa 6.70 6 ePn **Pn 00 58 31.9 -0.9**
ASAJ eSn **Sn 00 59 50.1 +2.4**
YUK Yuzh-Kuril'sk 7.33 25 ⇑iP **Pn 00 58 40.4 -1.0**
YUK iS **Sn 00 59 58.5 -4.6**
YUK pmax pmax
comp=N,112nm,0.5s
YUK pmax pmax
comp=E,64nm,0.5s
YUK pmax pmax
comp=Z,224nm,0.5s
YUK smax smax
comp=N,1μm,2.0s
YUK smax smax
comp=E,2μm,2.0s
YUK MLR MLR
comp=N,1μm,4.0s
YUK MLR MLR
comp=E,1μm,4.0s
YUK MLR MLR
comp=Z,608nm,4.0s
KUR Kuril'sk 9.09 29 ePn **Pn 00 59 05.9 +0.4**
KUR iS Sn 01 00 39.8 -6.5
KUR pmax pmax
comp=Z,80nm,0.9s
VLA Vladivostok 9.33 310 iP Pn 00 59 13.2 +4.5
YSS Yuzh-Sakhalins 9.54 5 eP **Pn 00 59 10.7 -0.8**
YSS eS **Sn 01 00 56.0 -1.2**
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=Z,70nm,1.0s
YSS Yuzh-Sakhalins 9.54 5 ePn **Pn 00 59 11.2 -0.3**
JNU Nakatsue 9.77 247 P **Pn 00 59 15.1 +0.3**
comp=Z,1.8nm,0.3s,baz=58,slow=9.3,SNR=17
JNU LR LR 01 03 25.6
comp=Z,858nm,19.9s,baz=48,slow=40
JNU Nakatsue 9.77 247 ePn **Pn 00 59 15.6 +0.8**
USRK Ussuriysk Arra 9.92 316 P **Pn 00 59 17.2 +0.5**
comp=Z,4.2nm,0.3s,baz=131,slow=14,SNR=37
USRK LR LR 01 02 51.4
comp=Z,992nm,18.7s,baz=126,slow=36
CBIJ Chichi jima 10.34 177 ePn **Pn 00 59 19.6 -3.0**
CBIJ S Sn 01 01 08.3 -8.8
JCJ Chichijima 10.34 177 P **Pn 00 59 19.9 -2.7**
comp=Z,55nm,0.3s,baz=302,slow=8.5,SNR=17
JCJ S Sn 01 01 08.3 -8.8
comp=Z,34nm,0.3s,baz=311,slow=20,SNR=3.6
KSRS Korea Array 10.87 274 P **Pn 00 59 30.7 +0.9**
comp=Z,2.2nm,0.3s,baz=86,slow=14,SNR=44
KSRS LR LR 01 03 33.5
comp=Z,617nm,18.7s,baz=80,slow=36
KSAR Wonju Array Be 10.90 274 P **Pn 00 59 30.8 +0.5**
KSAR Wonju Array Be 10.90 274 P **Pn 00 59 30.8 +0.5**
MDJ Mudanjiang 11.54 312 P Pn 00 59 42.8 +3.8
MDJ pmax pmax
comp=Z,70nm,0.8s
MDJ pmax pmax
comp=Z,170nm,8.0s
MDJ LR LR
comp=Z,400nm,19.2s
MDJ LR LR
comp=Z,370nm,25.4s
MDJ LR LR
comp=Z,780nm,20.5s
MDJ Mudanjiang 11.54 312 ePn **Pn 00 59 41.5 +2.5**
INCN Inchon 11.89 275 ePn **Pn 00 59 41.9 -1.9**
HABR Khabarovsk 12.01 339 eP **Pn 00 59 43.6 -1.7**
HABR S **Sn 01 01 54.5 -3.1**
HABR pmax pmax
comp=Z,56nm,1.7s
HABR pmax pmax
comp=E,107nm,2.5s
HABR pmax pmax
comp=N,41nm,1.7s
HABR MLR MLR
comp=Z,605nm,16.0s
KLR Kul'dur 13.77 332 eP Pn 01 00 04.8 -4.5
KLR MLR MLR
comp=Z,900nm,12.5s
CN2 Changchun 13.80 302 eP **Pn 01 00 10.1 +0.3**
CN2 epP **P 01 00 18.6 +1.7**
CN2 esP 01 00 25.3
CN2 eS **Sn 01 02 42.8 +1.4**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,500nm,18.0s
SNY Shenyang 14.55 293 ⇑P **Pn 01 00 17.1 -2.7**
SNY pmax pmax
comp=Z,160nm,9.6s
SNY LR LR
comp=Z,340nm,15.6s
SNY LR LR
comp=Z,700nm,16.5s
SNY LR LR
comp=Z,880nm,15.9s
JOW Kunigami 15.45 231 P **Pn 01 00 33.1 +1.4**
comp=Z,0.2nm,0.3s,baz=61,slow=11,SNR=8.4
JOW LR LR 01 06 06.0
comp=Z,15nm,21.0s,baz=93,slow=36
JOW Kunigami 15.45 231 ePn **Pn 01 00 31.7 0.0**
comp=Z,28nm,0.8s
SSE Sheshan 18.00 255 eP **Pn 01 01 04.3 +0.7**
SSE pP **pP 01 01 14.8 -0.1**
SSE sP **sP 01 01 20.1 -1.1**
SSE S **Sn 01 04 22.1 -1.4**
SSE sS sS 01 04 37.6 -8.0
SSE pmax pmax
comp=Z,22nm,0.9s
SSE pmax pmax
comp=Z,57nm,5.7s
SSE LR LR
comp=Z,290nm,23.9s
SSE LR LR
comp=Z,220nm,23.9s
SSE LR LR
comp=Z,400nm,20.4s
PETK Petropavlovsk- 19.25 30 P **Pn 01 01 18.1 -0.4**
comp=Z,0.1nm,0.3s,baz=211,slow=8.2,SNR=8.1
NJ2 Nanjing 19.43 261 eP **P 01 01 18.6 -0.6**
NJ2 S **S 01 04 55.8 -0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
NJ2 LR LR
comp=Z,520nm,10.8s
NJ2 LR LR
comp=Z,440nm,18.0s
NJ2 LR LR
comp=Z,580nm,13.5s
TIA Tai'an 19.62 274 ⇑P **Pn 01 01 25.3 +2.3**
TIA S **Sn 01 05 01.6 -0.8**
TIA pmax pmax
comp=Z,100nm,0.7s
TIA LR LR
comp=Z,330nm,19.3s
TIA LR LR
comp=Z,470nm,14.7s
TIA LR LR
comp=Z,370nm,16.1s
HIA Hailar 19.72 314 ⇓eP **P 01 01 21.0 -1.2**
HIA pmax pmax
comp=Z,10.0nm,1.2s
HIA Hailar 19.72 314 eP **P 01 01 20.6 -1.6**
comp=Z,16nm,0.8s
BJI Beijing 19.98 285 P **P 01 01 23.8 -1.3**
BJI pP **pP 01 01 35.4 -1.1**
BJI sP **sP 01 01 41.8 -1.0**
BJI S S 01 04 58.0 -9.0
BJI sS **sS 01 05 25.3 -0.1**
BJI pmax pmax
comp=Z,68nm,0.8s
BJI pmax pmax
comp=Z,140nm,4.8s
BJI LR LR
comp=Z,210nm,16.4s
BJI LR LR
comp=Z,220nm,14.2s
BJI LR LR
comp=Z,210nm,31.3s
BJT Baijiatuau 19.98 285 eP **P 01 01 23.7 -1.5**
BJT pmax pmax
comp=Z,82nm,0.4s
BJT Baijiatuau 19.98 285 eP **P 01 01 23.7 -1.5**
comp=Z,82nm,0.4s
YOJ Yonaguni jima 20.49 236 eP **P 01 01 28.8 -1.9**
YOJ pmax pmax
comp=Z,146nm,1.2s
YOJ Yonaguni jima 20.49 236 eP **P 01 01 28.8 -1.9**
comp=Z,146nm,1.2s
TATO Taipei 21.17 240 eP **P 01 01 36.4 -1.7**
comp=Z,279nm,1.9s
YHNB Yeheng 21.45 239 eP **P 01 01 39.2 -1.9**
comp=Z,32nm,0.7s
NACB Ninganchiao 21.63 238 eP **P 01 01 40.2 -2.7**
comp=Z,20nm,0.8s
SSLB Suanglung 22.32 238 eP **P 01 01 47.2 -3.2**
comp=Z,32nm,1.1s
YULB Yu-li 22.36 237 eP **P 01 01 48.0 -2.9**
comp=Z,16nm,0.9s
CLNS Chul'man 22.36 335 eP **P 01 01 51.0 +0.3**
CLNS pmax pmax
comp=Z,40nm,0.8s
CLNS pmax pmax
comp=N,27nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.8s
TPUB Ta-pu 22.87 238 eP **P 01 01 53.2 -3.1**
comp=E,38nm,0.6s
TWG Pinlang 22.90 236 eP **P 01 01 54.4 -2.1**
comp=E,413nm,1.5s
HHC Hu-ho-hao-te 23.48 288 eP **P 01 02 02.0 -0.3**
HHC pP **pP 01 02 15.3 +0.9**
HHC sP **sP 01 02 23.8 +3.3**
HHC PP **PnPn 01 02 34.6 +4.1**
HHC S **S 01 06 07.0 -5.3**
HHC sS **sS 01 06 33.3 -0.3**
HHC SS **SnSn 01 06 58.6 +6.9**
HHC pmax pmax
comp=E,63nm,1.1s
HHC pmax pmax
comp=E,190nm,5.1s
HHC LR LR
comp=E,380nm,10.0s
HHC LR LR
comp=E,320nm,10.0s
HHC LR LR
comp=E,340nm,13.9s
WHN Wuhan 23.57 261 P **P 01 02 02.4 -0.6**
SEY Seymchan 26.36 11 P **P 01 02 28.8 +0.7**
comp=E,31nm,1.0s,baz=199,slow=9.6,SNR=28
XAN Xi'an 26.66 273 P **P 01 02 30.3 -0.9**
XAN pmax pmax
comp=E,6.0nm,0.5s
ULN Ulaanbaatar 27.24 303 ⇑eP **P 01 02 36.0 -0.4**
ULN pmax pmax
comp=Z,29nm,1.2s
ULN Ulaanbaatar 27.24 303 eP **P 01 02 35.8 -0.7**
comp=Z,16nm,0.7s
BOD Bodaibo 27.26 327 eP **P 01 02 35.1 -1.1**
BOD pmax pmax
comp=Z,3.0nm,0.8s
ENH Enshi 27.51 264 eP **P 01 02 38.5 -0.4**
comp=Z,36nm,0.8s
SONM Songino Array 27.68 303 P **P 01 02 40.1 -0.2**
comp=Z,16nm,0.5s,baz=106,slow=8.7,SNR=123
SONM PcP **PcP 01 05 56.5 +0.3**
comp=Z,1.5nm,0.6s,baz=103,slow=1.6,SNR=5.6
SONM LR LR 01 13 54.1
comp=Z,171nm,19.2s,baz=64,slow=37
H11N2 WAKE ISLAND Hy 28.24 122 T T 01 32 55.6
baz=314,slow=75,SNR=1225
H11N1 WAKE ISLAND Hy 28.25 122 T T 01 33 00.5
baz=314,slow=75,SNR=1796
H11N3 WAKE ISLAND Hy 28.26 122 T T 01 33 01.2
baz=314,slow=75,SNR=1562
H11S1 WAKE ISLAND Hy 28.97 124 T T 01 33 53.6
baz=316,slow=75,SNR=749
H11S3 WAKE ISLAND Hy 28.97 124 T T 01 33 56.4
baz=316,slow=75,SNR=687
H11S2 WAKE ISLAND Hy 28.98 124 T T 01 33 54.8
baz=316,slow=75,SNR=590
ZAK Zakamensk 30.13 308 eP **P 01 03 01.0 -1.0**
ZAK pmax pmax
comp=Z,12nm,1.1s
TLY Talaya 30.17 310 P **P 01 03 02.0 -0.2**
comp=Z,114nm,0.8s,SNR=6.0
TLY Talaya 30.17 310 eP **P 01 03 02.0 -0.2**
TLY pmax pmax
comp=Z,19nm,0.9s
TLY MLR MLR
comp=Z,306nm,17.0s
TLY Talaya 30.17 310 eP **P 01 03 02.2 0.0**
comp=Z,15nm,0.8s
GYA Guiyang 31.43 260 ⇑iP **P 01 03 12.9 -0.9**
GYA pP **pP 01 03 27.8 +1.2**
GYA sP **sP 01 03 34.3 +1.8**
GYA PP **PnPn 01 04 19.0 +1.0**
GYA S **S 01 08 16.4 -1.8**
GYA sS **sS 01 08 40.8 +0.9**
GYA ScP **ScP 01 09 44.3 -0.8**
GYA SS **SnSn 01 10 07.5 +1.5**
GYA pmax pmax
comp=Z,60nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,640nm,17.7s
GYA LR LR
comp=Z,540nm,18.3s
GYA LR LR
comp=Z,490nm,17.0s
MOY Mondy 31.78 310 eP **P 01 03 16.5 -0.1**
CD2 Chengdu 31.82 270 P **P 01 03 18.1 +1.1**
CD2 pP **pP 01 03 31.3 +1.4**
CD2 sP **sP 01 03 37.3 +1.5**
CD2 PP **PnPn 01 04 24.6 +1.6**
CD2 PcP **PcP 01 06 08.9 +1.8**
CD2 S **S 01 08 23.0 -1.0**
CD2 sS **sS 01 08 45.3 -0.4**
CD2 SS **SnSn 01 10 15.4 +0.3**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.6s
CD2 LR LR
comp=Z,230nm,16.6s
CD2 LR LR
comp=Z,260nm,18.0s
CD2 LR LR
comp=Z,340nm,14.7s
GTA Gaotai 32.58 287 eP **P 01 03 22.8 -0.9**
GTA pP **pP 01 03 36.3 -0.3**
GTA sP **sP 01 03 43.5 +1.0**
GTA PcP **PcP 01 06 10.3 +1.1**
GTA S **S 01 08 33.3 -2.6**
GTA sS **sS 01 08 56.8 -0.8**
GTA SS **SnSn 01 10 28.9 -4.7**
GTA pmax pmax
comp=Z,11nm,0.8s
GTA pmax pmax
comp=Z,85nm,6.2s
GTA LR LR
comp=Z,150nm,20.2s

GTA LR LR
comp=Z,220nm,21.4s
GTA LR LR
comp=Z,250nm,19.5s
QIZ Qiongzhong 33.23 245 P P 01 03 29.1 -0.3
QIZ sP sP 01 03 48.1 -0.1
QIZ S S 01 08 45.4 -0.7
QIZ pmax pmax
comp=Z,21nm,1.6s
QIZ LR LR
comp=Z,69nm,20.9s
QIZ LR LR
comp=Z,170nm,19.8s
BILL Bilibino 33.59 16 P P 01 03 33.0 +1.0
BILL e 01 03 39.7
BILL PPP PPP 01 04 57.0
BILL pmax pmax
comp=Z,54nm,0.9s
BILL MLR MLR
comp=Z,100nm,27.0s
BILL Bilibino 33.59 16 eP P 01 03 32.8 +0.8
comp=Z,94nm,1.0s
TIXI Tiksi 34.89 353⇓eP P 01 03 42.3 -0.9
TIXI pmax pmax
comp=Z,9.0nm,0.7s
TIXI Tiksi 34.89 353 eP P 01 03 42.4 -0.8
comp=Z,8.9nm,0.7s
KMI Kunming 35.17 261 P P 01 03 45.8 -0.6
KMI pP pP 01 03 58.1 -1.3
KMI sP sP 01 04 04.1 -1.2
KMI PP PP 01 05 06.3 -0.5
KMI S S 01 09 14.3 -2.0
KMI sS sS 01 09 38.3 +0.1
KMI SS SnSn 01 11 32.5 -4.2
KMI pmax pmax
comp=Z,59nm,1.1s
KMI pmax pmax
comp=Z,71nm,3.1s
KMI LR LR
comp=Z,190nm,15.2s
KMI LR LR
comp=Z,220nm,15.2s
KMI LR LR
comp=Z,270nm,22.5s
TNTI Ternate 38.79 203 eP P 01 04 15.4 -1.5
comp=Z,70nm,1.2s
UBPT Khong Chiam 38.83 245 P P 01 04 18.9 +1.6
comp=Z,20nm,1.3s
LOEI Loei 40.54 252 P P 01 04 29.0 -2.5
comp=Z,155nm,0.8s,comp=Z,6μm
WMQ Urumqi 40.78 296 P P 01 04 33.9 +0.5
WMQ pP pP 01 04 46.3 -0.2
WMQ sP sP 01 04 51.6 -0.7
WMQ PP PnPn 01 06 11.8 -0.5
WMQ PcP PcP 01 06 35.5 +1.8
WMQ PcS PcS 01 10 25.1 +0.6
WMQ S S 01 10 40.8 +0.2
WMQ sS sS 01 11 01.4 -1.3
WMQ ScS ScS 01 14 33.6 -0.4
WMQ pmax pmax
comp=Z,44nm,1.2s
WMQ pmax pmax
comp=Z,210nm,5.0s
WMQ LR LR
comp=Z,80nm,19.2s
WMQ LR LR
comp=Z,160nm,23.8s
WMQ LR LR
comp=Z,200nm,27.2s
CMAI Chiengmai2 40.82 257 P P 01 04 39.4 +5.4
comp=Z,78nm,0.9s
UTTA Uttaradit 40.93 253 P P 01 04 35.5 +0.8
comp=Z,4.7nm,0.9s
FAKI Fak Fak 41.09 194 eP P 01 04 36.9 +0.8
comp=Z,58nm,1.2s
LAMP Lampang 41.18 255 P P 01 04 38.5 +1.7
comp=Z,5.5nm,0.6s,comp=Z,147nm
PBKT Sadao Pong 41.33 251 P P 01 04 38.7 +0.7
comp=Z,16nm,1.0s
CMMT Chiang Mai 41.53 255 P P 01 04 40.1 +0.4
comp=Z,18nm,0.8s,comp=Z,324nm
CHTO Chiang Mai 41.53 255 eP P 01 04 39.6 -0.1
CHTO pmax pmax
comp=Z,9.0nm,0.7s
CHTO Chiang Mai 41.53 255 P P 01 04 40.2 +0.5
comp=Z,62nm,0.8s
CHTO Chiang Mai 41.53 255 eP P 01 04 39.6 -0.1
comp=Z,8.6nm,0.7s
ZAA0 Zalesovo Array 41.74 312 eP P 01 04 40.7 -0.2
ZAA0 ePcP PcP 01 06 36.8 +0.3
ZALV Zalesovo Beam 41.74 312 P P 01 04 40.9 0.0
comp=Z,40nm,0.9s,baz=90,slow=7.4,SNR=115
ZALV PcP PcP 01 06 36.2 -0.3
comp=Z,7.4nm,0.5s,baz=102,slow=2.9,SNR=7.3
ZALV ScP ScP 01 10 22.6 +0.1
comp=Z,0.7nm,0.5s,baz=70,slow=4.7,SNR=3.3
ZALV LR LR 01 22 41.6
comp=Z,251nm,18.4s,baz=64,slow=37
CMAR Chiang Mai Arr 41.74 255 P P 01 04 41.6 +0.2
comp=Z,2.6nm,0.6s,baz=46,slow=7.2,SNR=17
LSA Lhasa 42.32 275 P P 01 04 47.8 +1.2
LSA Lhasa 42.32 275 eP P 01 04 47.2 +0.7
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 42.32 275 eP P 01 04 47.2 +0.7
comp=Z,8.7nm,0.8s
NVS Novosibirsk 42.66 313⇑iP P 01 04 48.0 -0.4
NVS pmax pmax
comp=Z,54nm,1.1s
NVS pmax pmax
comp=N,7.0nm,0.9s
NVS pmax pmax
comp=E,41nm,1.1s
MHMT Maesarieng 42.69 256 P P 01 04 51.6 +2.5
comp=E,8.9nm,0.7s
MK01 Makanchi Array 44.02 302 eP P 01 04 59.3 -0.2
MK01 ePP PcP 01 06 44.4 0.0
MK31 Makanchi Array 44.02 302 eP P 01 04 59.3 -0.3
MK31 pmax pmax
comp=Z,15nm,0.5s
MKAR Makanchi Array 44.02 302 P P 01 04 59.5 -0.1
comp=Z,12nm,0.5s,baz=84,slow=8.7,SNR=318
MKAR PcP PcP 01 06 44.6 +0.2
comp=Z,3.0nm,0.7s,baz=79,slow=4.1,SNR=2.9
MKAR LR LR 01 24 34.4
comp=Z,111nm,18.8s,baz=74,slow=38
SVW2 Sparrevohn 45.10 38 eP P 01 05 07.6 -0.3
comp=Z,14nm,1.0s
KURK Kurchatov 45.79 308 P P 01 05 13.1 -0.4
comp=Z,374nm,0.6s,SNR=48
TAPN Taplejung 46.06 274 eP P 01 05 16.6 +0.3
comp=Z,36nm,0.4s
ODAN Odare 46.53 273 eP P 01 05 20.0 0.0
comp=Z,58nm,0.8s
KDAK Kodiak Island 46.69 42 iP P 01 05 21.2 +0.7
KDAK Kodiak Island 46.69 42 eP P 01 05 21.0 +0.6
comp=Z,238nm,2.0s
PPLA Purkeypile 46.74 35 eP P 01 05 23.0 +1.9
comp=Z,60nm,1.9s
PPLA ePcP PcP 01 06 54.9 +1.3
RAMN Ramite 47.12 274 eP P 01 05 24.7 +0.1
comp=Z,83nm,0.8s
JIRN Jiri 47.12 275 eP P 01 05 25.2 +0.4
comp=Z,51nm,0.5s
GUN Gumba 47.26 275 eP P 01 05 26.0 +0.2
comp=Z,82nm,0.4s
KTH Kantishna Hill 47.32 34 eP P 01 05 27.0 +1.6
comp=Z,12nm,1.0s
TRF Thorofare Moun 47.61 34 eP P 01 05 28.8 +1.0
comp=Z,24nm,0.9s
PKI Pulchoki 47.78 275 eP P 01 05 29.8 0.0
comp=Z,49nm,0.6s
KKN Kakani 47.79 276 eP P 01 05 30.0 +0.3
comp=Z,52nm,0.5s
PKIN Phulchoki 47.79 275 eP P 01 05 29.9 +0.1
comp=Z,20nm,0.5s
SURT Suratani 47.89 245 P P 01 05 33.9 +3.6
comp=Z,6.9nm,0.8s
DMN Daman 48.01 275 eP P 01 05 31.7 +0.2
comp=Z,19nm,0.4s
GKN Gorkha 48.20 276 eP P 01 05 33.1 +0.2
comp=Z,188nm,0.9s
PMR Palmer 48.20 37 eP P 01 05 32.9 +0.7
PMR pmax pmax
comp=Z,184nm,3.0s
PMR Palmer 48.20 37 eP P 01 05 32.9 +0.7
comp=Z,184nm,3.0s
MCK McKinley 48.21 34 eP P 01 05 33.5 +1.2
MCK pmax pmax
comp=Z,17nm,1.0s
MCK McKinley 48.21 34 eP P 01 05 33.5 +1.2
comp=Z,17nm,1.0s
SML Sawmill 48.57 37 eP P 01 05 35.7 +0.6
SML pmax pmax
comp=Z,25nm,2.4s
SML Sawmill 48.57 37 eP P 01 05 35.7 +0.6
comp=Z,25nm,2.4s
COLA College 48.65 32⇑eP P 01 05 37.6 +2.1
COLA pmax pmax
comp=Z,23nm,0.7s
COLA College 48.65 32 eP P 01 05 36.3 +0.7
comp=Z,359nm,0.2s
DANN Dangsing 48.74 277 eP P 01 05 37.8 +0.6
comp=Z,328nm,0.7s
IL1 Eielson Array 49.07 33 eP P 01 05 39.5 +0.7
ILAR Eielson Array 49.07 33 P P 01 05 39.5 +0.7
comp=Z,5.9nm,0.7s,baz=269,slow=6.4,SNR=65
ILAR PcP PcP 01 07 01.8 0.0
comp=Z,1.3nm,0.5s,baz=285,slow=3.5,SNR=4.3
KOLN Koldanda 49.13 276 eP P 01 05 40.3 +0.3
comp=Z,103nm,0.9s
ULHL Ulahol 49.31 297 P P 01 05 41.5 +0.2
SNR=14
ULHL Ulahol 49.31 297 iP P 01 05 41.4 +0.2
TKM2 Tokmak 2 49.56 298 P P 01 05 44.0 +0.8
SNR=26
TKM2 Tokmak 2 49.56 298 P P 01 05 43.9 +0.8
TKM2 pmax pmax
comp=Z,47nm,0.6s
TKM2 Tokmak 2 49.56 298 eP P 01 05 43.8 +0.7
comp=Z,60nm,0.6s
SOEI Soe 49.69 203 eP P 01 05 43.3 -0.9
comp=Z,60nm,1.1s
HNR Honiara 49.71 156 LR LR 01 25 22.7
comp=Z,102nm,20.3s,baz=316,slow=34
PAX Paxson 49.81 35 eP P 01 05 45.8 +1.2
PAX pmax pmax
comp=Z,17nm,0.8s
PAX Paxson 49.81 35 eP P 01 05 45.8 +1.2
comp=Z,17nm,0.8s
KZA Kyzart 50.06 297 P P 01 05 48.5 +1.3
SNR=30
KZA Kyzart 50.06 297 iP P 01 05 48.4 +1.3
KBK Karagaybulak 50.09 298 P P 01 05 47.8 +0.6
SNR=67
CHMS Chumysh 50.13 298 P P 01 05 47.4 +0.2
SNR=16
CHMS Chumysh 50.13 298 iP P 01 05 47.4 +0.2
USP Ospenovka 50.22 299 P P 01 05 48.2 +0.2
SNR=41
USP Ospenovka 50.22 299 iP P 01 05 48.2 +0.2
BATI Baumata 50.30 203 P P 01 05 49.0 +0.3
comp=Z,9.4nm,0.6s,baz=72,slow=6.4,SNR=2.6
BATI pP pP 01 06 02.9 +0.7
comp=Z,30nm,0.5s,baz=314,slow=1.9,SNR=5.0
BATI LR LR 01 28 22.2
comp=Z,154nm,18.4s,baz=306,slow=38
KSH Kashi 50.37 294 P P 01 05 53.3 +4.1
KSH epP pP 01 06 06.1 +3.4
KSH esP sP 01 06 09.8 +1.3
KSH ePP PP 01 07 51.3 +6.4
KSH PcS PcS 01 11 07.4 +2.9
KSH S S 01 13 02.3 +3.4
KSH SS SS 01 16 33.6 +0.9
KSH pmax pmax
comp=Z,22nm,0.8s
KSH LR LR
comp=Z,95nm,6.7s
KSH LR LR
comp=Z,120nm,4.8s
KSH LR LR
comp=Z,100nm,5.3s
DOT Dot Lake 50.38 34 eP P 01 05 49.6 +0.8
comp=Z,15nm,0.8s
BVA0 Borovoye Array 50.40 312 iP P 01 05 48.6 -0.5
BVA0 pmax pmax
comp=Z,17nm,0.7s
AAK Ala-Archa 50.42 298 P P 01 05 49.6 0.0
comp=Z,190nm,0.6s,SNR=30
AAK Ala-Archa 50.42 298 P P 01 05 49.8 +0.2
SNR=7.6
AAK Ala-Archa 50.42 298 eP P 01 05 49.6 0.0
AAK pmax pmax
comp=Z,17nm,0.6s
AAK Ala-Archa 50.42 298 P P 01 05 49.3 -0.3
comp=Z,15nm,0.5s,baz=107,slow=5.6,SNR=83
AAK Ala-Archa 50.42 298 eP P 01 05 49.6 0.0
comp=Z,17nm,0.6s
BMRM Bremner River 50.44 37 eP P 01 05 50.6 +1.3
comp=Z,18nm,1.1s
BMRM ePcP PcP 01 07 08.3 +1.4
BRVK Borovoye 50.45 312 P P 01 05 49.6 +0.1
comp=Z,200nm,0.8s,SNR=25
BRVK Borovoye 50.45 312c iP P 01 05 49.2 -0.3
BRVK pmax pmax
comp=Z,32nm,1.0s
BRVK Borovoye 50.45 312 eP P 01 05 49.3 -0.2
comp=Z,26nm,0.8s
BRVK ePcP PcP 01 07 07.5 +0.5
RAGM Ragged Mountai 50.48 38 eP P 01 05 49.6 -0.1
comp=Z,97nm,1.9s
RAGM ePcP PcP 01 07 08.2 +1.0
UCH Uchtor 50.53 298 P P 01 05 51.6 +0.6
SNR=11
UCH Uchtor 50.53 298 iP P 01 05 51.4 +0.6
MENT Mentasta 50.61 35 eP P 01 05 52.7 +2.1
EKS2 Erkin-Say 50.91 298 P P 01 05 53.5 +0.2
SNR=31
EKS2 Erkin-Say 50.91 298 iP P 01 05 53.5 +0.2
EKS2 Erkin-Say 50.91 298 eP P 01 05 53.0 -0.3
comp=Z,15nm,0.6s
EKS2 ePcP PcP 01 07 09.5 +0.3
AML Almayashu 51.14 298 P P 01 05 56.2 +0.9
SNR=53
COEN Coen 51.15 178 eP P 01 05 56.4 +1.4
EGAK Eagle 51.51 32 eP P 01 05 57.6 +0.3
comp=Z,133nm,2.8s
PSI Prapat 52.13 239 P P 01 06 02.9 +0.3
comp=Z,6.5nm,0.5s,baz=26,slow=7.4,SNR=11
PSI LR LR 01 30 46.2
comp=Z,176nm,18.1s,baz=28,slow=39
DAWY Dawson 52.37 33 eP P 01 06 05.2 +1.4
BKNI Bangkinang 52.55 235 eP P 01 06 06.6 +1.0
comp=Z,28nm,0.6s
KK31 Karatay Array 53.04 300 iP P 01 06 08.6 -0.4
KK31 pmax pmax
comp=Z,5.0nm,0.4s
KKAR Karatay Array 53.04 300 eP P 01 06 08.6 -0.4
KKAR Karatay Array 53.04 300 eP P 01 06 08.6 -0.4
UGM Wanagama 53.67 219 eP P 01 06 13.8 0.0
comp=Z,129nm,1.4s
HYT Haines Junctio 53.88 37 eP P 01 06 19.2 +4.2
INK Inuvik 53.95 27 eP P 01 06 16.2 +1.0
INK pmax pmax
comp=Z,20nm,1.1s
INK Inuvik 53.95 27 P P 01 06 15.9 +0.7
comp=Z,6.4nm,0.5s,baz=305,slow=6.9,SNR=34
INK Inuvik 53.95 27 eP P 01 06 16.1 +1.0
comp=Z,20nm,1.1s
GSI Gunungsitoli 54.14 239 eP P 01 06 17.6 +0.3
comp=Z,50nm,0.8s
SVE Sverdlovsk 54.93 318d iP P 01 06 23.0 +0.5
SVE pmax pmax
comp=Z,95nm,0.9s
SVE MLR MLR
comp=Z,479nm,20.0s
SOKR Solikamsk 56.08 322 eP P 01 06 31.2 +0.6
SOKR pmax pmax
comp=Z,20nm,0.7s
ARU Arti 56.15 318 P P 01 06 31.3 +0.1
comp=Z,669nm,0.5s,SNR=38
ARU Arti 56.15 318d iP P 01 06 30.9 -0.3
ARU *PP pP 01 06 43.0 -1.9
ARU 01 07 28.1
ARU 01 08 36.0
ARU S S 01 14 17.6 +1.1
ARU SS SS 01 18 06.5 +3.7
ARU pmax pmax
comp=Z,237nm,17.5s
ARU Arti 56.15 318 eP P 01 06 31.0 -0.2
comp=Z,104nm,1.1s
KBL Kabul 57.40 291 eP P 01 06 40.2 -0.6
KBL pmax pmax
comp=Z,31nm,1.0s
KBL Kabul 57.40 291 eP P 01 06 40.1 -0.6
comp=Z,32nm,1.0s
WRAB Tennant Creek 57.48 188 P P 01 06 41.6 +0.5
comp=Z,46nm,0.5s,SNR=11
WRAB Tennant Creek 57.48 188⇓eP P 01 06 41.5 +0.5
WRAB pmax pmax
comp=Z,28nm,1.7s
WRAB Tennant Creek 57.48 188 eP P 01 06 41.2 +0.2
comp=Z,16nm,0.9s
WRA Warramunga Arr 57.49 188 P P 01 06 41.4 +0.3
comp=Z,4.2nm,0.6s,baz=5.8,slow=7.3,SNR=109
WRA pP pP 01 06 55.1 +0.2
comp=Z,7.8nm,0.4s,baz=5.5,slow=7.4,SNR=15
WRA LR LR 01 31 22.2
comp=Z,48nm,18.5s,baz=195,slow=36
AB31 Akbulak array 57.78 310 P P 01 06 42.2 -0.7
AB31 pmax pmax
comp=Z,15nm,0.4s
ABKAR Akbulak array 57.78 310 eP P 01 06 42.5 -0.3
HYB Hyderabad 58.36 268 iP P 01 06 46.0 -1.4
AKTO Aktyubinsk 58.51 312 P P 01 06 47.4 -0.5
comp=Z,19nm,0.8s,baz=78,slow=10.0,SNR=48
AKTO PcP PcP 01 07 37.8 -0.2
comp=Z,8.1nm,0.7s,baz=112,slow=4.0,SNR=4.6
ALE Alert 59.69 4 P P 01 06 56.0 +0.3
comp=Z,127nm,0.8s,SNR=15
SPITS Spitsbergen Ar 60.14 349 P P 01 06 59.0 +0.1
SPITS Spitsbergen Ar 60.14 349 P P 01 06 59.0 +0.1
comp=Z,8.2nm,0.8s,baz=68,slow=7.4,SNR=16
KBS Kingsbay 60.27 350 eP P 01 07 00.0 +0.3
KBS pmax pmax
comp=Z,17nm,0.8s
KBS Kingsbay 60.27 350 eP P 01 07 00.0 +0.3
comp=Z,17nm,0.8s
PRGR Permogore 60.50 327⇑iP P 01 07 01.4 0.0
PRGR *PP pP 01 07 15.4 +0.1
PRGR S S 01 15 18.3 +5.3
PRGR pmax pmax
comp=Z,22nm,0.6s
AS01 Alice Springs 61.21 188 eP P 01 07 07.0 +0.2
ASAR Alice Springs 61.22 188 P P 01 07 07.4 +0.6
ASAR *PP pP 01 07 21.0 +0.4
ASAR pmax pmax
comp=Z,4.0nm,0.8s
ASAR pmax pmax
comp=Z,5.0nm,0.8s
ASAR Alice Springs 61.22 188 P P 01 07 07.4 +0.6
comp=Z,3.7nm,0.8s,baz=11,slow=9.1,SNR=37
ASAR pP pP 01 07 21.0 +0.4
comp=Z,5.3nm,0.8s,baz=11,slow=6.8,SNR=13
LVZ Lovozero 61.79 336 eP P 01 07 10.1 -0.1
LVZ Lovozero 61.79 336 eP P 01 07 10.1 -0.1
comp=Z,498nm,2.6s
MBWA Marble Bar 61.83 203 eP P 01 07 11.5 +0.6
comp=Z,9.8nm,0.7s
RES Resolute Bay 62.16 15 P P 01 07 12.8 +0.3
RES pmax pmax
comp=Z,17nm,0.8s
RES Resolute Bay 62.16 15 P P 01 07 12.8 +0.3
comp=Z,16nm,0.8s,baz=320,slow=5.4,SNR=16
RES Resolute Bay 62.16 15 eP P 01 07 12.5 0.0
APA Apatity 62.37 336⇑iP P 01 07 14.4 +0.4
APA MLR MLR
comp=Z,500nm,11.0s
TMCR Tamitsa 62.45 331 eP P 01 07 14.4 -0.2
TMCR e 01 07 53.2
TMCR e 01 09 31.3
TMCR pmax pmax
comp=Z,39nm,1.1s
PALK Pallekele 62.60 258 iP P 01 07 18.7 +2.3
PALK Pallekele 62.60 258 P P 01 07 16.5 +0.2
comp=Z,11nm,0.6s,baz=68,slow=6.1,SNR=5.6
PALK LR LR 01 35 46.4
comp=Z,94nm,21.0s,baz=51,slow=37
KEV Kevo 63.10 339 eP P 01 07 19.1 +0.3
KEV pmax pmax
comp=Z,99nm,1.5s
KEV Kevo 63.10 339 ep P 01 07 18.1 -0.7
comp=Z,6.6nm,0.7s
KEV Kevo 63.10 339 eP P 01 07 19.1 +0.3
comp=Z,99nm,1.5s
IMYA Miami 63.11 296 eP P 01 07 19.0 -0.7
EIDS Eidsvold 63.12 170 eP P 01 07 19.1 -0.4
comp=Z,73nm,2.3s
YKA Yellowknife Ar 63.38 30 P P 01 07 21.5 +0.7
YKA 01 07 58.4
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 63.38 30 P P 01 07 21.5 +0.7
comp=Z,3.1nm,0.7s,baz=301,slow=6.1,SNR=30
YKA PcP PcP 01 07 58.4 +1.1
comp=Z,1.3nm,0.7s,baz=301,slow=4.8,SNR=4.5
YKB5 Yellowknife Ar 63.38 30 eP P 01 07 20.2 -0.6
KLMR Klimovskoe 63.48 328 eP P 01 07 20.5 -1.0
KLMR e 01 09 40.8
KLMR pmax pmax
comp=Z,33nm,0.8s
ARA0 ARCESS Array S 63.66 339 eP P 01 07 22.7 +0.1
ARCES ARCESS Array B 63.66 339 P P 01 07 22.7 +0.1
ARCES pmax pmax
comp=Z,17nm,1.0s
ARCES ARCESS Array B 63.66 339 P P 01 07 22.7 +0.1
comp=Z,17nm,1.0s,baz=54,slow=7.3,SNR=32
DZM Mont Dzumac 63.66 154 eLR LR 01 26 26.3
comp=Z,183nm,21.4s
ABKT Alibek 63.76 299 P P 01 07 24.5 +0.7
comp=Z,113nm,0.7s,SNR=8.1
IPAY Payeh 63.84 297 eP P 01 07 22.3 -2.3
IAKL Akhelmad 63.94 297 eP P 01 07 25.5 +0.2
ISFR Sfrayin 64.26 298 eP P 01 07 27.1 -0.2
DAG Danmarks Havn 65.37 355 iP P 01 07 33.4 -0.2
DAG pmax pmax
comp=Z,13nm,0.8s
DAG Danmarks Havn 65.37 355 iP P 01 07 33.4 -0.2
comp=Z,18nm,0.8s
JOF Joensuu 65.66 332 eP P 01 07 34.5 -1.2
JOF pmax pmax
comp=Z,7.0nm,0.4s
JOF Joensuu 65.66 332 ep P 01 07 34.5 -1.2
comp=Z,6.9nm,0.4s
IKOO Kooshah 65.80 293 eP P 01 07 36.7 -0.8
MOS Moscow 67.00 323 eP P 01 07 43.3 -1.1
MOS e 01 08 10.8
MOS pmax pmax
comp=Z,64nm,1.2s
IGLO Ghaloghah 67.44 299 eP P 01 07 46.9 -0.9
VRHR Novokhopersk 67.48 318 eP P 01 07 45.5 -1.9
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,4.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR MLR MLR
comp=N,200nm,17.0s
VRHR MLR MLR
comp=E,170nm,17.0s
VRHR MLR MLR
comp=Z,200nm,17.0s
OBN Obninsk 67.85 323c iP P 01 07 49.4 -0.3
OBN S S 01 17 07.0 +23
OBN pmax pmax
comp=Z,45nm,1.3s
OBN MLR MLR
comp=Z,82nm,17.0s
OBN Obninsk 67.85 323 P P 01 07 49.5 -0.2
comp=Z,19nm,0.7s,baz=209,slow=23,SNR=10
OBN Obninsk 67.85 323 eP P 01 07 49.5 -0.2
comp=Z,23nm,0.8s
KAF Kangasniemi 68.00 333 eP P 01 07 49.5 -1.1
KAF pmax pmax
comp=Z,24nm,0.5s
KAF Kangasniemi 68.00 333 ep P 01 07 49.5 -1.1
comp=Z,24nm,0.5s,baz=49,slow=6.0
FINES FINESS Array B 68.51 332 P P 01 07 53.7 -0.1
FINES pmax pmax
comp=Z,35nm,0.8s
FINES MLR MLR
comp=Z,119nm,18.7s
FINES FINESS Array B 68.51 332 P P 01 07 53.7 -0.1
comp=Z,34nm,0.8s,baz=40,slow=7.9,SNR=151
FINES LR LR 01 40 01.3
comp=Z,119nm,18.7s,baz=89,slow=38
ILAS Lasjerd 68.62 299 eP P 01 07 55.9 +0.7

VSR Storozhevoye 68.71 319 eP P 01 07 54.0 -1.2
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
VSR MLR MLR
comp=N,340nm,18.0s
VSR MLR MLR
comp=E,410nm,18.0s
VSR MLR MLR
comp=Z,610nm,18.0s
VORD Divnogorie 68.79 318 eP P 01 07 54.2 -1.4
G05D Wamic, OR 68.95 49 ⇑P P 01 07 55.4 -1.5
baz=69
STKA Stephens Creek 68.97 180 P P 01 07 57.9 +1.0
STKA *PP pP 01 08 11.6 +0.6
STKA pmax pmax
comp=Z,4.0nm,0.7s
STKA pmax pmax
comp=Z,9.0nm,0.8s
STKA Stephens Creek 68.97 180 P P 01 07 57.9 +1.0
comp=Z,4.3nm,0.7s,baz=352,slow=7.8,SNR=7.0
STKA pP pP 01 08 11.6 +0.6
comp=Z,8.6nm,0.8s,baz=360,slow=5.6,SNR=10.0
STKA Stephens Creek 68.97 180 eP P 01 07 57.8 +0.9
comp=Z,2.4nm,1.0s
STKA pP pP 01 08 11.6 +0.6
FORT Forrest 69.05 192 eP P 01 07 58.3 +1.0
comp=Z,82nm,0.6s
I04A Tendick Farm, 69.06 50 ⇓P P 01 07 55.8 -1.8
baz=69
IDMV Damavand 69.17 299 eP P 01 07 58.3 -0.4
NEW Newport 69.73 44 P P 01 08 03.1 +1.4
NEW pmax pmax
comp=Z,2.0nm,0.8s
NEW Newport 69.73 44 P P 01 08 03.0 +1.4
comp=Z,2.2nm,0.8s,baz=297,slow=7.0,SNR=3.0
NEW Newport 69.73 44 ⇑P P 01 07 59.7 -2.0
baz=70
GOF Gofitskoye 69.92 312 eP P 01 08 03.2 +0.4
YBH Yreka Blue Hor 69.97 52 P P 01 08 04.9 +1.6
YBH pmax pmax
comp=Z,2.0nm,0.9s
YBH Yreka Blue Hor 69.97 52 P P 01 08 04.9 +1.6
comp=Z,2.1nm,0.9s,baz=288,slow=5.8,SNR=4.2
PINOR Pine Mountain 69.99 50 eP P 01 08 04.9 +1.7
comp=Z,17nm,1.2s
J05D Fort Rock, OR 70.06 50 ⇑P P 01 08 01.9 -2.0
baz=70
M02C Callahan 70.07 53 ⇑P P 01 08 02.0 -1.8
baz=70
BBOO Buckleboo 70.09 185 eP P 01 08 04.8 +1.1
comp=Z,120nm,0.9s
K04D Chiloquin, OR 70.09 51 ⇓P P 01 08 01.7 -2.4
baz=70
VSU Vasula 70.17 330 d iP P 01 08 04.5 +0.5
VSU pmax pmax
comp=Z,113nm,1.2s
SUMG Summit 70.27 0 eP P 01 08 05.6 +0.7
SUMG pmax pmax
comp=Z,16nm,0.9s
SUMG Summit 70.27 0 eP P 01 08 05.6 +0.7
comp=Z,16nm,0.9s
IZEF Zefreh 70.37 297 eP P 01 08 05.9 -0.2
N02D Trinity Center 70.39 53 ⇓P P 01 08 03.6 -2.2
baz=70
M04C Macdoel 70.50 52 ⇓P P 01 08 05.2 -1.3
baz=70
K05A Summer Lake 70.57 51 eP P 01 08 08.4 +1.3
comp=Z,29nm,1.3s
ZEI Tsey 70.65 309 eP P 01 08 05.7 -1.9
ZEI pmax pmax
comp=Z,5.0nm,0.6s
KBZ Khabaz 70.74 311 P P 01 08 08.1 +0.3
KBZ pmax pmax
comp=Z,14nm,0.9s
KBZ MLR MLR
comp=Z,99nm,18.4s
KBZ Khabaz 70.74 311 P P 01 08 08.1 +0.3
comp=Z,14nm,0.9s,baz=357,slow=4.8,SNR=16
KBZ LR LR 01 43 58.7
comp=Z,99nm,18.4s,baz=19,slow=40
KIV Kislovodsk 70.74 311 P P 01 08 09.6 +1.6
comp=Z,227nm,1.0s,SNR=7.6
KIV Kislovodsk 70.74 311 ⇑eP P 01 08 08.4 +0.4
KIV e 01 08 22.0
KIV S SKiKP 01 17 55.0 +8.7
KIV pmax pmax
comp=Z,55nm,1.3s
KIV MLR MLR
comp=Z,89nm,19.0s
KIV Kislovodsk 70.74 311 eP P 01 08 08.2 +0.3
comp=Z,38nm,1.0s
KIV Kislovodsk 70.74 311 ⇑iP P 01 08 08.3 +0.3
SNR=13
WALA Waterton Lakes 71.03 42 eP P 01 08 10.7 +1.0
IHRS Heris 71.08 304 eP P 01 08 09.6 -0.7
IPIR Pirpir 71.51 297 eP P 01 08 12.6 -0.4
BMO Blue Mountains 71.54 47 eP P 01 08 13.8 +1.0
comp=Z,5.6nm,1.1s
GNI Garni 71.57 307 eP P 01 08 14.3 +1.2
GNI Garni 71.57 307 P P 01 08 13.3 +0.1
GNI pmax pmax
comp=Z,7.0nm,0.9s
GNI Garni 71.57 307 P P 01 08 13.3 +0.1
comp=Z,6.9nm,0.9s,baz=346,slow=4.2,SNR=6.0
GNI Garni 71.57 307 eP P 01 08 12.9 -0.3
comp=Z,14nm,0.9s
JTMT Jette 71.59 44 eP P 01 08 14.2 +1.1
YBMT Yellow Bay 71.67 43 eP P 01 08 14.1 +0.5
SWMT Swartz Lake 71.89 44 eP P 01 08 15.6 +0.8
HATD Hatta, Dubai 71.94 288 ⇑iP P 01 08 15.9 +0.5
SNR=6.3
IDID Didziasalis 72.21 327 eP P 01 08 16.9 +0.4
IDID AMB AMB 01 08 17.5
comp=Z,8.7nm,0.7s
ISAL Salakas 72.30 327 eP P 01 08 17.5 +0.5
ISAL AMB AMB 01 08 18.2
comp=Z,16nm,0.7s
MSO Missoula 72.32 44 ⇑P P 01 08 15.4 -2.0
baz=72
SLMT Seeley Lake 72.32 44 eP P 01 08 17.8 +0.2
IIGN Ignalina 72.41 327 eP P 01 08 17.6 0.0
IIGN AMB AMB 01 08 18.2
comp=Z,9.3nm,0.6s
IBZA Bozab 72.64 300 eP P 01 08 19.4 -0.4
ASUD Al Ashush, Dub 72.66 288 ⇓iP P 01 08 20.0 +0.4
SNR=8.4
CLDR Caldiran 72.66 306 eP P 01 08 18.7 -1.1
AGRB Hanur-Agry 73.01 307 eP P 01 08 22.6 +0.8
MFID Camas Ranch 73.24 48 eP P 01 08 22.5 -0.4
comp=Z,5.2nm,0.8s
FFC Flin Flon 73.28 33 eP P 01 08 22.9 +0.1
FFC pmax pmax
comp=Z,9.0nm,0.8s
FFC Flin Flon 73.28 33 eP P 01 08 22.9 +0.1
comp=Z,9.5nm,0.8s
ANN Anapa 73.35 314 eP P 01 08 26.5 +3.1
ANN pmax pmax
comp=Z,285nm,1.8s
ANN pmax pmax
comp=Z,145nm,1.5s
CMB Columbia Colle 73.51 55 eP P 01 08 25.1 +0.5
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB Columbia Colle 73.51 55 eP P 01 08 25.1 +0.5
comp=Z,6.8nm,1.0s
IDHR Dehrash 73.52 301 eP P 01 08 23.9 -1.0
SAO San Andreas Ge 73.54 56 eP P 01 08 23.1 -1.6
SAO pmax pmax
comp=Z,308nm,2.8s
SAO San Andreas Ge 73.54 56 eP P 01 08 23.1 -1.6
comp=Z,308nm,2.8s
HRY Holter Researc 73.55 43 eP P 01 08 25.1 +0.4
FCC Fort Churchill 73.56 27 eP P 01 08 24.8 +0.4
FCC Fort Churchill 73.56 27 eP P 01 08 24.8 +0.4
IGHG Ghaleghazi 73.61 301 eP P 01 08 24.5 -1.0
LRM Limekiln Ridge 73.75 44 eP P 01 08 26.5 +0.4
HFS Hagfors 73.77 336 P P 01 08 25.5 -0.1
comp=Z,9.2nm,0.5s,baz=57,slow=5.5,SNR=73
NB2 NORSAR Subarra 73.86 337 P P 01 08 26.2 0.0
comp=Z,17nm,0.7s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.86 337 P P 01 08 26.2 0.0
baz=39,slow=6.2
NOA NORSAR Array B 73.86 337 P P 01 08 26.2 0.0
comp=Z,18nm,0.7s,baz=38,slow=5.9,SNR=58
EGMT Eagleton 73.86 41 eP P 01 08 26.2 -0.3
comp=Z,17nm,0.9s
EGMT Eagleton 73.86 41 ⇑P P 01 08 24.4 -2.1
baz=74,SNR=5.5
CUKT Cukurca 73.94 305 eP P 01 08 26.2 -0.9
DLMT Dillon 73.94 45 eP P 01 08 28.1 +0.9
comp=Z,9.1nm,0.9s
NBO02 NORSAR Array S 73.96 337 eP P 01 08 26.7 0.0
HLID Hailey 73.98 47 eP P 01 08 27.7 +0.3
comp=Z,3.8nm,0.9s
HLID Hailey 73.98 47 ⇓P P 01 08 25.5 -1.9
baz=74
B19A Brinkman Farms 74.02 41 ⇑P P 01 08 26.0 -1.3
baz=74
AKASG Malin Array Be 74.06 322 P P 01 08 27.2 -0.2
comp=Z,22nm,0.5s,baz=46,slow=6.0,SNR=269
AKASG LR LR 01 44 30.2
comp=Z,96nm,19.6s,baz=10.0,slow=39
KIEV Kiev 74.07 322 c iP P 01 08 27.1 -0.4
KIEV Kiev 74.07 322 eP P 01 08 27.0 -0.4
comp=Z,28nm,0.5s
BMN Battle Mountai 74.14 51 eP P 01 08 28.1 -0.3
BMN pmax pmax
comp=Z,8.0nm,1.1s
BMN Battle Mountai 74.14 51 eP P 01 08 28.1 -0.3
comp=Z,8.2nm,1.1s
A20A Cobblestone Ra 74.28 40 ⇓P P 01 08 27.8 -1.1
baz=74
BOZ Bozeman (W) 74.31 44 eP P 01 08 30.4 +1.1
BOZ pmax pmax
comp=Z,10.0nm,1.0s
BOZ Bozeman (W) 74.31 44 eP P 01 08 30.4 +1.1
comp=Z,9.9nm,1.0s
BAYT Ayd¯ntepe-Bay 74.33 309 eP P 01 08 29.8 +0.4
C19A Slack Wire Ran 74.42 41 ⇑P P 01 08 27.6 -2.1
baz=74,SNR=12
B20A Solberg Farm, 74.51 40 ⇓P P 01 08 28.6 -1.6
baz=74
SIRT Sirnak 74.55 305 eP P 01 08 30.0 -0.7
SUW Suwalki 74.61 327 eP P 01 08 30.4 -0.2
SUW Suwalki 74.61 327 eP P 01 08 30.3 -0.3
SUW Suwalki 74.61 327 eP P 01 08 29.9 -0.7
comp=Z,22nm,0.7s
NV01 Mina Array Sit 74.62 53 eP P 01 08 32.5 +1.2
NVAR Mina Array Bea 74.62 53 P P 01 08 32.7 +1.4
comp=Z,4.1nm,0.9s,baz=294,slow=5.8,SNR=13
NVAR pP PcP 01 08 46.5 +1.1
comp=Z,6.0nm,0.9s,baz=290,slow=5.8,SNR=12
GUMT Gumushane 74.69 309 eP P 01 08 31.7 +0.2
A21A Bergtoll Ranch 74.71 39 ⇓P P 01 08 29.7 -1.7
baz=74
D19A Cripps Ranch, 74.86 42 ⇓P P 01 08 30.2 -2.2
baz=75
QLMT Earthquake Lak 74.92 45 eP P 01 08 34.4 +1.5
SVAN Silvan-Diyarba 74.97 307 eP P 01 08 32.9 -0.2
ERZN Erzincan 75.06 308 eP P 01 08 34.3 +0.6
SIM Simferopol' 75.13 316 eP P 01 08 33.9 +0.1
SIM pmax pmax
comp=Z,17nm,0.9s
SIM MLR MLR
comp=Z,60nm,17.6s
ELK Elko 75.17 50 P P 01 08 35.6 +1.2
comp=Z,0.8nm,0.5s,baz=337,slow=3.9,SNR=3.7
ELK pP pP 01 08 49.6 +0.9
comp=Z,2.7nm,1.0s,baz=328,slow=5.0,SNR=5.5
A22A Carney Farms, 75.22 39 ⇓P P 01 08 32.3 -2.0
baz=75,SNR=10
D20A Manuel Ranch, 75.30 42 ⇑P P 01 08 32.7 -2.1
baz=75,SNR=8.5
GCMT Greycliff 75.30 43 eP P 01 08 34.8 -0.2
E19A Rath Farm, Rou 75.36 42 ⇓P P 01 08 33.4 -1.8
baz=75,SNR=8.0
C21A Desert Coulee 75.38 40 ⇓P P 01 08 33.8 -1.4
baz=75
KONO Kongsberg 75.45 337 eP P 01 08 34.3 -1.0
KONO pmax pmax
comp=Z,278nm,2.5s
KONO Kongsberg 75.45 337 eP P 01 08 34.3 -1.0
comp=Z,278nm,2.5s
TPH Tonopah 75.52 53 eP P 01 08 37.8 +1.4
TPH pmax pmax
comp=Z,13nm,1.2s
TPH Tonopah 75.52 53 eP P 01 08 37.8 +1.4
comp=Z,13nm,1.2s
VES Vestal, Richgr 75.63 56 ⇓P P 01 08 35.7 -1.1
baz=76
F19A Roth Farm, Mol 75.66 43 ⇑P P 01 08 34.9 -2.0
baz=76
H17A Grant Village 75.67 45 eP P 01 08 36.6 -0.7
comp=Z,16nm,1.0s
H17A Grant Village 75.67 45 ⇓P P 01 08 36.2 -1.1
baz=76,SNR=9.4
E20A Meyer Farm, Mu 75.68 42 ⇑P P 01 08 35.7 -1.3
baz=76,SNR=7.5
PTK Pertek 75.68 308 eP P 01 08 37.7 +0.4
DYBB Diyarbakir 75.77 307 eP P 01 08 37.5 -0.2
IMW Indian Meadow 75.78 45 eP P 01 08 38.3 +0.4
comp=Z,9.3nm,1.0s
ILIC Ilic-Erzincan 75.86 309 eP P 01 08 42.2 +4.0
FXWY Fox Creek 75.89 46 eP P 01 08 39.3 +0.8
comp=Z,8.6nm,1.1s
D21A La Casta Ranch 75.92 41 ⇓P P 01 08 36.6 -1.7
baz=76
RLMT Red Lodge 75.94 44 eP P 01 08 40.2 +1.5
comp=Z,18nm,1.4s
I17A Pilgrim Ck. 75.97 45 ⇓P P 01 08 37.2 -1.7
baz=76,SNR=7.1
H18A Shoshone NF, C 76.00 44 ⇑P P 01 08 36.8 -2.3
baz=76
TPAW Teton Pass 76.02 46 eP P 01 08 38.4 -0.9
comp=Z,7.1nm,1.0s
B23A Brockton 76.03 39 ⇓P P 01 08 37.6 -1.3
baz=76,SNR=8.1
F20A Billings 76.12 43 ⇑P P 01 08 37.9 -1.7
baz=76
A24A Westby 76.22 38 ⇓P P 01 08 38.7 -1.3
baz=76
D22A Cohagen 76.29 41 ⇑P P 01 08 38.6 -1.8
baz=76,SNR=5.5
FRB Frobisher Bay 76.33 13 P P 01 08 40.6 +0.3
comp=Z,18nm,0.8s,baz=330,slow=6.3,SNR=18
FRB pP pP 01 08 54.6 +0.1
comp=Z,12nm,0.8s,baz=331,slow=7.3,SNR=7.5
C23A Lambert 76.37 40 ⇑P P 01 08 38.9 -1.9
baz=76
R11A Troy Canyon, C 76.39 52 eP P 01 08 42.3 +1.0
comp=Z,5.4nm,0.9s
R11A Troy Canyon, C 76.39 52 ⇑P P 01 08 39.7 -1.7
baz=76
DGMT Dagmar 76.42 39 eP P 01 08 41.8 +0.6
comp=Z,13nm,0.9s
DGMT Dagmar 76.42 39 ⇑P P 01 08 39.5 -1.6
baz=76
SVSK Karacayir 76.54 310 eP P 01 08 42.9 +1.0
LAO LASA Array 76.56 41 eP P 01 08 43.6 +1.6
comp=Z,15nm,1.0s
MALT Malatya 76.63 308 eP P 01 08 43.4 +0.8
MALT Malatya 76.63 308 ⇑iP P 01 08 43.7 +1.1
A25A Svangstu Ranch 76.64 38 ⇓P P 01 08 40.4 -1.9
baz=76
FURC Furnace Creek, 76.71 54 ⇓P P 01 08 41.4 -1.5
baz=77
D23A Lindsay 76.77 40 ⇓P P 01 08 41.3 -1.9
baz=77
I19A Meeteetse 76.78 44 ⇑P P 01 08 43.0 -0.4
baz=77
HWUT Hardware Ranch 76.84 47 eP P 01 08 41.8 -2.0
comp=Z,8.8nm,1.0s
C24A Savage 76.93 39 ⇓P P 01 08 42.7 -1.4
baz=77
DUG Dugway 76.97 49 eP P 01 08 45.2 +0.6
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway 76.97 49 eP P 01 08 45.2 +0.6
comp=Z,4.7nm,0.8s
DUG Dugway 76.97 49 ⇓P P 01 08 43.3 -1.2
baz=77
G21A Lodge Grass 77.00 43 ⇓P P 01 08 43.3 -1.3
baz=77
H20A Greybull 77.04 44 ⇑P P 01 08 43.6 -1.2
baz=77
BZK Bozkurt 77.06 313 eP P 01 08 44.4 -0.4
DARE Darende-Malaty 77.06 309 eP P 01 08 45.4 +0.4
LVV L'vov 77.13 324 eP P 01 08 44.6 -0.4
F22A Rosebud 77.14 42 ⇓P P 01 08 43.5 -1.8
baz=77
BEL Belsk 77.17 327 eP P 01 08 46.1 +0.8
BEL Belsk 77.17 327 eP P 01 08 46.0 +0.8
IAS Iasi 77.19 320 ⇓iP P 01 08 45.4 0.0
A26A Wade Farm, Ken 77.19 37 ⇑P P 01 08 43.9 -1.6
baz=77,SNR=5.1
J19A Crowheart 77.24 45 ⇓P P 01 08 44.8 -1.3
baz=77,SNR=6.1
BORG Borgarnes 77.25 353 eP P 01 08 46.8 +1.4
BORG pmax pmax
comp=Z,279nm,1.8s
BORG Borgarnes 77.25 353 P P 01 08 46.5 +1.1
comp=Z,18nm,0.9s,baz=18,slow=3.2,SNR=3.8
BORG Borgarnes 77.25 353 eP P 01 08 46.8 +1.4
comp=Z,279nm,1.8s
D24A Glendive 77.26 40 ⇓P P 01 08 44.0 -1.9
baz=77
BW06 Boulder Array 77.27 46 eP P 01 08 45.6 -0.7
comp=Z,6.6nm,1.0s
PD31 Pinedale Array 77.27 46 eP P 01 08 45.5 -0.9
LEOM Leova 77.31 319 ⇑iP P 01 08 46.2 +0.1
B26A Jensen Ranch, 77.45 38 ⇑P P 01 08 45.8 -1.2
baz=77
H21A Big Horn, Sher 77.47 43 ⇓P P 01 08 45.9 -1.4
baz=77
BFSC Mount Baldy Ra 77.52 56 ⇓P P 01 08 46.4 -1.2
baz=77
F23A Volborg 77.63 41 ⇓P P 01 08 46.7 -1.3
baz=77,SNR=6.2
E24A Baker 77.64 40 ⇓P P 01 08 47.0 -1.1
baz=77
J20A Shoshoni 77.73 44 ⇑P P 01 08 47.1 -1.7
baz=78
SHPR Sheep Range 77.78 53 eP P 01 08 48.2 -0.9
MPU Maple Canyon 77.79 49 eP P 01 08 49.4 +0.1
comp=Z,6.1nm,0.9s
CORM Corum 77.81 311 eP P 01 08 49.3 +0.1
I21A Big Trails, Te 77.87 44 ⇑P P 01 08 48.3 -1.2
baz=78
KWP Kalwaria Pacla 77.88 324 eP P 01 08 50.3 +1.0
KWP Kalwaria Pacla 77.88 324 eP P 01 08 50.2 +1.0
KWP Kalwaria Pacla 77.88 324 ⇑iP P 01 08 50.3 +1.0
KWP Kalwaria Pacla 77.88 324 eP P 01 08 49.7 +0.5
comp=Z,22nm,0.7s
C26A Wahner Farm, P 77.90 38 ⇑P P 01 08 48.0 -1.5
baz=78
BNN Bunyan 77.90 310 eP P 01 08 49.6 -0.1
B27A Peters Farms, 77.91 37 ⇑P P 01 08 47.7 -1.7
baz=78
G23A Biddle 77.98 42 ⇑P P 01 08 48.1 -1.9
baz=78
A28A Rude Farm, Bot 78.03 36 ⇓P P 01 08 49.2 -1.0
baz=78,SNR=5.4
F24A Ekalaka 78.05 41 ⇓P P 01 08 49.5 -0.9
baz=78
BUR04 Bucovina Ar. S 78.07 322 eP P 01 08 50.5 0.0
BURAR Bucovina Array 78.07 322 ⇑iP P 01 08 50.8 +0.3
KMRS Kahramanmaras 78.08 308 eP P 01 08 50.8 +0.1
J21A Lysite 78.08 44 ⇑P P 01 08 48.8 -1.9
baz=78
TESR Tescani 78.11 320 ⇓iP P 01 08 50.5 -0.1
CFR Carcaliu 78.23 318 ⇑iP P 01 08 51.2 0.0
I22A 9 Mile Ranch, 78.26 43 ⇑P P 01 08 49.7 -1.9
baz=78
C27A Sayler Ranch, 78.26 38 ⇑P P 01 08 50.3 -1.1
baz=78
CCUT Cedar City 78.27 52 eP P 01 08 53.8 +1.8
comp=Z,11nm,1.3s
B28A Dugan Ranch, T 78.31 37 ⇓P P 01 08 49.9 -1.7
baz=78
PETR Petresti 78.34 319 ⇑iP P 01 08 53.4 +1.6
VRI Vrincioaia 78.50 320 ⇓iP P 01 08 54.2 +1.4
GMRC Granite Mounta 78.50 55 ⇓P P 01 08 51.8 -1.4
baz=78
A29A Manning Farm, 78.51 36 ⇑P P 01 08 50.8 -2.0
baz=78
PLOR Plostina 78.55 320 ⇓iP P 01 08 55.5 +2.4
TIRR Tirgusor 78.56 318 eP P 01 08 52.7 -0.4
TIRR pmax pmax
comp=Z,73nm,2.1s
TIRR Tirgusor 78.56 318 ⇓iP P 01 08 53.5 +0.4
TIRR Tirgusor 78.56 318 eP P 01 08 52.7 -0.4
comp=Z,73nm,2.1s
KOLS Kolonicke sedl 78.57 324 eP P 01 08 51.4 -1.7
KOLS Kolonicke sedl 78.57 324 eP P 01 08 51.4 -1.7
J22A Midwest 78.58 44 ⇑P P 01 08 51.4 -2.0
baz=78
E26A Carlson Angus 78.64 39 ⇓P P 01 08 51.7 -1.9
baz=78
K21A Alcova 78.66 45 ⇓P P 01 08 52.7 -1.3
baz=78
HARR Harsova 78.67 318 ⇑iP P 01 08 54.1 +0.4
BRTR Keskin Array B 78.68 312 P P 01 08 54.2 +0.2
comp=Z,3.6nm,0.7s,baz=90,slow=4.3,SNR=30
BRTR LR LR 01 49 00.5
comp=Z,67nm,18.0s,baz=300,slow=40
PFO Pinyon Flat Ob 78.69 56 ⇓P P 01 08 52.4 -1.9
baz=79
STHS Stebnicka Huta 78.70 325 eP P 01 08 55.1 +1.3
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS Stebnicka Huta 78.70 325 eP P 01 08 55.1 +1.3
H24A Dirks Ranch, A 78.73 42 ⇑P P 01 08 52.5 -1.7
baz=78
KOZT Kozan 78.77 309 eP P 01 08 54.5 +0.1
B29A Wagenman Farm, 78.77 36 ⇓P P 01 08 53.0 -1.3
baz=79
OJC Ojcow 78.77 326 eP P 01 08 54.8 +0.6
OJC pmax pmax
comp=Z,24nm,1.0s
OJC Ojcow 78.77 326 iP P 01 08 54.8 +0.6
OJC Ojcow 78.77 326 eP P 01 08 54.8 +0.6
comp=Z,24nm,1.0s
BMR Baia Mare 78.87 323 ⇓iP P 01 08 55.4 +0.6
A30A Hoffart Farm, 78.93 36 ⇓P P 01 08 53.2 -1.9
baz=79,SNR=5.7
KNB Kanab 78.94 52 eP P 01 08 56.7 +1.1
KNB pmax pmax
comp=Z,16nm,1.3s
KNB Kanab 78.94 52 eP P 01 08 56.7 +1.1
comp=Z,16nm,1.3s
F26A Lodgepole 78.96 40 ⇑P P 01 08 53.5 -1.8
baz=79
PGOR Pogoanele 79.02 319 ⇑iP P 01 08 57.1 +1.5
G25A Newell 79.02 41 ⇑P P 01 08 54.1 -1.7
baz=79
SRU San Rafael 79.03 49 eP P 01 08 56.3 +0.3
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael 79.03 49 eP P 01 08 56.3 +0.3
comp=Z,8.0nm,0.9s
ULM Lac du Bonnet 79.08 33 P P 01 08 55.9 +0.1
comp=Z,2.1nm,0.6s,baz=333,slow=6.3,SNR=4.4
D28A Regan 79.08 38 ⇓P P 01 08 54.1 -1.9
baz=79
ANTO Ankara 79.09 312 eP P 01 08 56.4 +0.2
ANTO pmax pmax
comp=Z,12nm,1.0s
ANTO Ankara 79.09 312 ⇑iP P 01 08 56.4 +0.2
ANTO Ankara 79.09 312 eP P 01 08 56.4 +0.2
comp=Z,12nm,1.0s
LOD Lodumlu 79.10 312 eP P 01 08 56.6 +0.4
E27A Carson 79.12 39 ⇓P P 01 08 54.1 -2.1
baz=79
MSAB Monastry St. A 79.12 318 ⇑iP P 01 08 56.8 +0.6
NIE Niedzica 79.12 325 ⇑iP P 01 08 57.2 +1.0
NIE Niedzica 79.12 325 iP P 01 08 57.2 +1.0
MLR Muntele Rosu 79.16 320 ⇓iP P 01 08 57.8 +1.2
MLR Muntele Rosu 79.16 320 P P 01 08 56.7 +0.2
comp=Z,1.1nm,0.5s,baz=333,slow=6.1,SNR=18
PSN Preselentsi 79.20 317 ⇓iP P 01 08 57.4 +0.8
IRM Iron Mountain 79.22 55 ⇑P P 01 08 55.2 -1.7
baz=79
N20A Spence Gulch, 79.25 46 ⇓P P 01 08 55.1 -2.2
baz=79
B30A Myrvik Farm, E 79.27 36 ⇑P P 01 08 55.2 -1.7
baz=79,SNR=6.7
F27A Lemmon 79.27 40 ⇓P P 01 08 55.1 -2.0
baz=79
BC3 Big Chuckawall 79.33 56 ⇑P P 01 08 56.3 -1.4
baz=79
G26A Maurine 79.38 40 ⇓P P 01 08 55.9 -1.8
baz=79
W13A Hualapai Mount 79.46 54 ⇓P P 01 08 56.2 -2.3
baz=79
PLAR PLOIESTI 79.51 319 ⇑iP P 01 08 59.4 +1.1

U15A North Rim 79.64 52 ⇓P P 01 08 57.1 -2.4
baz=80
VOIR 79.66 320⇑iP P 01 08 59.8 +0.6
O20A White River Ci 79.72 47 eP P 01 08 59.8 0.0
comp=Z,60nm,2.1s
O20A White River Ci 79.72 47 ⇓P P 01 08 57.0 -2.8
baz=80
C30A Mose, Pekin 79.73 37 ⇓P P 01 08 56.8 -2.6
baz=80
H26A Fairpoint 79.75 41 ⇑P P 01 08 57.5 -2.2
baz=80
BSEG Bad Segeberg 79.75 333 eP P 01 08 59.8 +0.4
comp=Z,19nm,0.9s
OKC Ostrava-Krasne 79.78 327 eP P 01 09 00.2 +0.5
OKC MLR MLR
comp=Z,200nm,17.5s
OKC Ostrava-Krasne 79.78 327 eP P 01 09 00.2 +0.5
OKC AMS AMS 01 53 30.0
comp=Z,200nm,17.5s
KSP Ksiaz 79.82 328⇑eP P 01 09 00.4 +0.5
KSP Ksiaz 79.82 328 eP P 01 09 00.6 +0.7
L23A Garrett 79.86 44 ⇓P P 01 08 58.1 -2.5
baz=80
DRGR 79.87 322⇑iP P 01 09 00.4 +0.1
ARR Arges 79.92 320⇑iP P 01 09 02.1 +1.5
MERS Mersin 79.96 309 eP P 01 09 00.5 -0.5
D30A Buchanan 80.02 37 ⇑P P 01 08 59.2 -1.9
baz=80
MORC Moravsky Berou 80.09 327 eP P 01 09 01.7 +0.3
MORC pmax pmax
comp=Z,11nm,0.9s
MORC Moravsky Berou 80.09 327⇓iP P 01 09 01.9 +0.5
MORC Moravsky Berou 80.09 327 eP P 01 09 01.7 +0.3
comp=Z,11nm,0.9s
H27A Howes 80.10 41 ⇓P P 01 08 58.9 -2.7
baz=80
DPC Dobruska-Polom 80.18 328 eP P 01 09 02.7 +0.8
DPC e 01 09 16.9
DPC e 01 09 22.2
DPC Dobruska-Polom 80.18 328 eP P 01 09 02.7 +0.8
DPC epP pP 01 09 16.9 +0.7
DPC esP sP 01 09 22.2 +0.4
DPC AMS AMS 01 47 40.0
DPC Dobruska-Polom 80.18 328 eP P 01 09 02.6 +0.8
comp=Z,282nm,1.7s
PV09 Paradox Valley 80.25 49 eP P 01 09 02.1 -0.7
KIZT Kizilcal 80.27 312 eP P 01 09 02.3 -0.4
M23A Laramie 80.28 45 ⇓P P 01 08 59.9 -3.0
baz=80
LOT Lotru 80.30 321⇓iP P 01 09 03.4 +0.7
E30A Jud 80.38 38 ⇑P P 01 09 00.4 -2.6
baz=80
G28A Parade 80.39 40 ⇑P P 01 09 00.8 -2.3
baz=80
PV10 Paradox Valley 80.39 49 eP P 01 09 05.2 +1.6
F29A Eureka 80.40 39 ⇑P P 01 09 00.7 -2.5
baz=80
PSZ Piszkesteto 80.40 325 eP P 01 09 02.4 -0.8
PSZ pmax pmax
comp=Z,18nm,1.0s
PSZ Piszkesteto 80.40 325⇑iP P 01 09 03.9 +0.7
PSZ Piszkesteto 80.40 325 eP P 01 09 02.4 -0.8
comp=Z,18nm,1.0s
PV04 Paradox Valley 80.46 49 eP P 01 09 04.0 +0.2
VYHS Vyhne 80.47 325 eP P 01 09 04.1 +0.7
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 80.47 325 eP P 01 09 04.1 +0.7
AGMN Agassiz Nation 80.51 35 eP P 01 09 03.4 -0.2
comp=Z,6.5nm,0.9s
AGMN Agassiz Nation 80.51 35 ⇓P P 01 09 01.3 -2.3
baz=80
PV05 Paradox Valley 80.55 49 eP P 01 09 05.3 +1.0
KONT Konya--Tatoy 80.59 311 eP P 01 09 03.8 -0.5
H28A Mission Ridge 80.61 40 ⇑P P 01 09 02.2 -2.2
baz=80
RAYN Ar Rayn 80.63 292 P P 01 09 04.9 +0.1
comp=Z,1.0nm,1.0s,SNR=8.6
RAYN Ar Rayn 80.63 292 eP P 01 09 04.4 -0.4
comp=Z,13nm,1.0s
Y14A Wickenburg 80.75 54 ⇑P P 01 09 03.2 -2.0
baz=81
SIRR Siria 80.76 322⇓iP P 01 09 01.4 -3.6
BRG Berggiesshubel 80.77 329 eP P 01 09 05.3 +0.3
comp=Z,9.7nm,0.8s
comp=Z,214nm,18.2s
comp=N,163nm,17.1s
comp=E,173nm,17.1s
BRG Berggiesshubel 80.77 329 eP P 01 09 05.3 +0.3
BRG pmax pmax
comp=Z,30nm,0.8s
BRG MLR MLR
comp=Z,10μm,18.2s
BRG MLR MLR
comp=N,214nm,17.1s
BRG MLR MLR
comp=E,163nm,17.1s
BRG Berggiesshubel 80.77 329 eP P 01 09 05.1 +0.1
comp=Z,11nm,1.0s
WUAZ Wupatki 80.79 52 eP P 01 09 06.3 +0.7
comp=Z,13nm,1.0s
WUAZ Wupatki 80.79 52 ⇓P P 01 09 03.3 -2.3
baz=81
F30A Leola 80.80 38 ⇑P P 01 09 04.2 -1.0
baz=81
CLL Collm 80.81 330 eP P 01 09 05.3 +0.2
CLL pmax pmax
comp=Z,22nm,0.9s
CLL Collm 80.81 330 eP P 01 09 05.0 -0.2
comp=Z,20nm,0.9s
CLL Collm 80.81 330 iP P 01 09 04.9 -0.2
comp=Z,20nm,0.9s
CLL esP sP 01 09 18.0 -7.0
CLL LmV 01 52 00.0
comp=Z,200nm,20.1s
CLL Collm 80.81 330 eP P 01 09 05.3 +0.2
comp=Z,22nm,0.9s
PV01 Paradox Valley 80.83 49 eP P 01 09 06.3 +0.4
GZR Gura Zlata 80.83 321⇑iP P 01 09 06.0 +0.5
VRAC Vranov 80.85 327⇓iP P 01 09 06.6 +1.1
VRAC Vranov 80.85 327 P P 01 09 05.9 +0.5
comp=Z,7.2nm,0.7s,baz=45,slow=3.8,SNR=9.8
NRDL Niedersach Rie 80.98 332 eP P 01 09 06.0 +0.1
comp=Z,12nm,1.1s
SMOL Smolenice 81.08 326 eP P 01 09 07.5 +0.8
SMOL Smolenice 81.08 326 eP P 01 09 07.5 +0.8
PRU Pruhonice 81.20 329 eP P 01 09 07.7 +0.4
PRU epP pP 01 09 21.7 +0.1
PRU AMS AMS 01 48 00.0
comp=Z,300nm,17.6s
G30A Faulkton 81.24 39 ⇑P P 01 09 05.2 -2.5
baz=81
BZS Buzias 81.25 322⇑iP P 01 09 07.6 0.0
ASF Jabal al Asfar 81.39 304 P P 01 09 09.2 +0.4
comp=Z,5.8nm,0.8s,baz=59,slow=6.6,SNR=16
CLZ Clausthal 81.40 332 eP P 01 09 08.7 +0.3
comp=Z,22nm,1.2s
X16A Lo Mia Camp, P 81.45 53 ⇑P P 01 09 07.1 -2.1
baz=81
MVCO Mesa Verde 81.47 49 ⇓P P 01 09 07.1 -2.2
baz=81
MMAI Mount Meron Ar 81.84 305 P P 01 09 11.4 +0.3
comp=Z,15nm,0.8s,baz=42,slow=6.7,SNR=49
MMAI pP pP 01 09 25.6 +0.1
comp=Z,6.2nm,0.9s,baz=67,slow=3.7,SNR=5.1
MOX Moxa 81.87 330 eP P 01 09 11.0 +0.2
comp=Z,10.0nm,1.0s
CSS Prodhromos 81.92 308 eP P 01 09 11.0 -0.4
CSS Prodhromos 81.92 308 eP P 01 09 11.1 -0.3
comp=Z,3.3nm,0.6s
IBBN Ibbenburen 81.98 333 eP P 01 09 11.3 0.0
comp=Z,23nm,0.8s
CONA Conrad Observa 82.21 327⇓iP P 01 09 13.8 +1.0
comp=Z,11nm,0.9s
KHC Kasperske Hory 82.26 329 eP P 01 09 12.8 -0.2
KHC pmax pmax
comp=Z,13nm,0.9s
KHC Kasperske Hory 82.26 329 eP P 01 09 12.8 -0.2
comp=Z,13nm,0.9s
ROTZ Rotzenmuhle 82.33 330 eP P 01 09 13.9 +0.7
comp=Z,17nm,1.5s
GEC2 GERESS Array S 82.43 328 eP P 01 09 13.9 0.0
comp=Z,7.0nm,0.9s
GERES GERESS Array B 82.43 328 P P 01 09 13.7 -0.3
comp=Z,6.0nm,0.8s,baz=36,slow=5.0,SNR=36
WET Wettzell 82.54 329 eP P 01 09 15.0 +0.6
comp=Z,9.0nm,1.0s
EYMN Ely 82.71 33 eP P 01 09 15.7 +0.4
comp=Z,11nm,0.9s
GRF Grafenberg Arr 82.78 330 eP P 01 09 16.3 +0.7
comp=Z,15nm,0.9s
EKA Eskdalemuir Ar 82.79 341 P P 01 09 15.5 0.0
comp=Z,1.1nm,0.5s,baz=28,slow=5.2,SNR=16
ESK Eskdalemuir 82.81 341 eP P 01 09 14.1 -1.5
ESK pmax pmax
comp=Z,249nm,2.8s
ESK Eskdalemuir 82.81 341 eP P 01 09 14.1 -1.5
comp=Z,249nm,2.8s
MMB Musomiste 83.03 318⇑iP P 01 09 18.0 +0.9
TNS Taunus Mts 83.43 332 eP P 01 09 18.9 -0.1
comp=Z,6.0nm,0.9s
PERS Pernice 83.52 326 iP P 01 09 19.8 +0.3
SOKA Soboth 83.53 326⇑iP P 01 09 20.0 +0.4
comp=Z,18nm,0.9s
KBA Koelnbreinsper 83.96 327⇑iPcP P 01 09 22.4 +0.5
comp=Z,9.0nm,0.8s
FUR Furstenfeldbru 83.97 329 eP P 01 09 22.0 +0.2
comp=Z,29nm,0.9s
MEM Membach 84.00 333 P P 01 09 22.4 +0.6
comp=Z,6.6nm,1.1s
ANMO Albuquerque 84.21 50deP P 01 09 23.2 -0.3
ANMO pmax pmax
comp=Z,56nm,1.2s
PMOR Pomariorio Ree 84.21 114 eT T 02 41 55.1
comp=Z,15nm,0.2s
EIL Elat 84.27 303 P P 01 09 23.8 +0.1
comp=Z,16nm,0.7s,baz=37,slow=4.6,SNR=25
STU Stuttgart 84.32 331 eP P 01 09 23.5 0.0
STU pmax pmax
comp=Z,22nm,1.1s
STU Stuttgart 84.32 331 eP P 01 09 23.7 +0.2
comp=Z,14nm,0.7s
STU Stuttgart 84.32 331 eP P 01 09 23.5 0.0
comp=Z,22nm,1.1s
PPT Papeete 84.69 117 LR LR 01 37 32.5
comp=Z,71nm,21.9s,baz=340,slow=29
SNF Seneffe 84.69 334 P P 01 09 25.5 +0.2
PPT2 Papeete2 84.70 117 eLR LR 01 36 09.8
comp=Z,216nm,27.5s
PPT2 Papeete2 84.70 117 eT T 02 42 30.9
comp=Z,5.4nm,0.3s
GIVF Givet 84.85 334 eP P 01 09 24.8 -1.3
GIVF Givet 84.85 334 eP P 01 09 24.8 -1.3
GIVF Givet 84.85 334 eP P 01 09 24.8 -1.3
TIAR Tiarei 84.85 117 eT T 02 42 41.0
comp=Z,4.0nm,0.3s
SCHQ Schefferville 84.90 16 P P 01 09 26.9 +0.6
comp=Z,3.1nm,0.8s,baz=297,slow=9.0,SNR=5.6
DOU Dourbes 84.93 334 P P 01 09 25.8 -0.7
comp=Z,7.7nm,1.6s
BFO Black Forest 85.01 331 P P 01 09 27.0 0.0
comp=Z,99nm,0.8s,SNR=6.9
BFO Black Forest 85.01 331 iP P 01 09 27.3 +0.2
BFO Black Forest 85.01 331 eP P 01 09 27.0 0.0
comp=Z,23nm,1.1s
BFO Black Forest 85.01 331 eP P 01 09 27.2 +0.2
comp=Z,19nm,1.0s
BAIF Baives 85.10 334⇑iP P 01 09 27.1 -0.3
comp=Z,17nm,0.9s
BAIF Baives 85.10 334⇑iP P 01 09 27.1 -0.3
BAIF pmax pmax
comp=Z,17nm,0.9s
BAIF Baives 85.10 334⇑iP P 01 09 27.1 -0.3
comp=Z,17nm,0.9s
FETA Feichten 85.10 329⇑iPcP P 01 09 27.9 +0.2
comp=Z,10nm,1.0s
DAVA Damuels 85.24 329⇑iPcP P 01 09 28.4 0.0
comp=Z,14nm,1.0s
CDF Champ du Feu 85.35 331⇑iP P 01 09 28.5 -0.3
comp=Z,40nm,1.0s
CDF Champ du Feu 85.35 331⇑iP P 01 09 28.5 -0.3
CDF pmax pmax
comp=Z,40nm,1.0s
CDF Champ du Feu 85.35 331⇑iP P 01 09 28.5 -0.3
comp=Z,40nm,1.0s
FUORN Ofenpass-Fuorn 85.62 329 eP P 01 09 30.5 +0.1
comp=Z,17nm,0.8s
DAVOX Davos/Dischmat 85.65 329 P P 01 09 30.8 +0.4
DAVOX pmax pmax
comp=Z,8.0nm,0.9s
DAVOX Davos/Dischmat 85.65 329 P P 01 09 30.8 +0.4
comp=Z,8.2nm,0.9s,baz=68,slow=5.4
PAGF Fort de Pagny 85.81 332⇑iP P 01 09 31.0 0.0
comp=Z,7.6nm,0.7s
PAGF Fort de Pagny 85.81 332⇑iP P 01 09 31.0 0.0
comp=Z,7.6nm,0.7s
HINF Hinteralfeld 86.00 331⇑iP P 01 09 31.3 -0.7
comp=Z,8.7nm,0.8s
HINF Hinteralfeld 86.00 331⇑iP P 01 09 31.3 -0.7
HINF pmax pmax
comp=Z,9.0nm,0.8s
HINF Hinteralfeld 86.00 331⇑iP P 01 09 31.3 -0.7
comp=Z,8.7nm,0.8s
HAU Haudompre 86.04 332⇑iP P 01 09 31.6 -0.5
comp=Z,20nm,0.9s
HAU eR
comp=Z,200nm,18.5s
HAU Haudompre 86.04 332⇑iP P 01 09 31.6 -0.5
HAU pmax pmax
comp=Z,20nm,0.9s
HAU Haudompre 86.04 332⇑iP P 01 09 31.6 -0.5
comp=Z,20nm,0.9s
MEZF Maizieres J'vi 86.10 333⇑iP P 01 09 32.4 0.0
comp=Z,60nm,1.3s
MEZF Maizieres J'vi 86.10 333⇑iP P 01 09 32.4 0.0
comp=Z,60nm,1.3s
SFTF Sexfontaines 86.36 333⇑iP P 01 09 33.5 -0.2
comp=Z,33nm,1.0s
SFTF Sexfontaines 86.36 333⇑iP P 01 09 33.5 -0.2
comp=Z,33nm,1.0s
IDI Anoyia 86.81 313 P P 01 09 34.8 -1.4
comp=Z,13nm,0.6s,baz=29,slow=3.6,SNR=11
CABF La Chapelle 87.29 331 eP P 01 09 38.1 -0.3
CABF La Chapelle 87.29 331 eP P 01 09 38.1 -0.3
CABF La Chapelle 87.29 331 eP P 01 09 38.1 -0.3
LOR Lormes 87.58 333⇑iP P 01 09 39.2 -0.4
comp=Z,25nm,0.9s
LOR eR
comp=Z,164nm,20.2s
LOR Lormes 87.58 333⇑iP P 01 09 39.2 -0.4
LOR pmax pmax
comp=Z,25nm,0.9s
LOR Lormes 87.58 333⇑iP P 01 09 39.2 -0.4
comp=Z,25nm,0.9s
FLN La Foliniere 87.79 336 eP P 01 09 40.2 -0.4
FLN eR
comp=Z,151nm,20.0s
FLN La Foliniere 87.79 336 eP P 01 09 40.2 -0.4
FLN La Foliniere 87.79 336 eP P 01 09 40.2 -0.4
LDF La Druitiere 87.82 336⇑iP P 01 09 40.4 -0.3
comp=Z,17nm,0.8s
LDF La Druitiere 87.82 336⇑iP P 01 09 40.4 -0.3
LDF pmax pmax
comp=Z,17nm,0.8s
LDF La Druitiere 87.82 336⇑iP P 01 09 40.4 -0.3
comp=Z,17nm,0.8s
SSF Saint Saulge 87.88 333⇑iP P 01 09 40.8 -0.3
comp=Z,24nm,1.0s
SSF Saint Saulge 87.88 333⇑iP P 01 09 40.8 -0.3
SSF pmax pmax
comp=Z,24nm,1.0s
SSF Saint Saulge 87.88 333⇑iP P 01 09 40.8 -0.3
comp=Z,24nm,1.0s
LPL La Plagne 87.94 330 eP P 01 09 41.3 -0.4
LPL La Plagne 87.94 330 eP P 01 09 41.3 -0.4
LPL La Plagne 87.94 330 eP P 01 09 41.3 -0.4
LPG La Plagne 87.95 330⇑iP P 01 09 41.4 -0.4
comp=Z,12nm,0.8s
LPG La Plagne 87.95 330⇑iP P 01 09 41.4 -0.4
LPG pmax pmax
comp=Z,12nm,0.8s
LPG La Plagne 87.95 330⇑iP P 01 09 41.4 -0.4
comp=Z,12nm,0.8s
SMF Signal de Mont 88.11 332 eP P 01 09 41.8 -0.4
comp=Z,9.0nm,0.8s
SMF Signal de Mont 88.11 332 eP P 01 09 41.8 -0.4
SMF pmax pmax
comp=Z,9.0nm,0.8s
SMF Signal de Mont 88.11 332 eP P 01 09 41.8 -0.4
comp=Z,9.0nm,0.8s
AVF Avril sur Loir 88.17 333⇑iP P 01 09 42.3 -0.1
comp=Z,21nm,0.8s
AVF Avril sur Loir 88.17 333⇑iP P 01 09 42.3 -0.1
AVF pmax pmax
comp=Z,21nm,0.8s
AVF Avril sur Loir 88.17 333⇑iP P 01 09 42.3 -0.1
comp=Z,21nm,0.8s
GRR Gorron 88.24 336⇑iP P 01 09 42.7 0.0
comp=Z,33nm,0.9s
GRR Gorron 88.24 336⇑iP P 01 09 42.7 0.0
GRR pmax pmax
comp=Z,33nm,0.9s
GRR Gorron 88.24 336⇑iP P 01 09 42.7 0.0
comp=Z,33nm,0.9s
MBDF Montbardon 88.58 330 eP P 01 09 43.4 -1.2
comp=Z,7.0nm,0.7s
MBDF Montbardon 88.58 330 eP P 01 09 43.4 -1.2
MBDF pmax pmax
comp=Z,7.0nm,0.7s
MBDF Montbardon 88.58 330 eP P 01 09 43.4 -1.2
comp=Z,7.0nm,0.7s
TBI Tubuai 88.61 121 eT T 02 47 20.5
comp=Z,80nm,0.3s
ORIF Oris-en-Rattie 88.78 330 eP P 01 09 44.9 -0.6
ORIF eR
comp=Z,110nm,21.0s
ORIF Oris-en-Rattie 88.78 330 eP P 01 09 44.9 -0.6
ORIF Oris-en-Rattie 88.78 330 eP P 01 09 44.9 -0.6
V34A Guthrie 88.80 44 ⇑P P 01 09 43.9 -1.7
baz=89
SGMF Saint Gilles 88.89 337⇑iP P 01 09 45.8 0.0
comp=Z,15nm,0.7s
SGMF Saint Gilles 88.89 337⇑iP P 01 09 45.8 0.0
SGMF pmax pmax
comp=Z,15nm,0.7s
SGMF Saint Gilles 88.89 337⇑iP P 01 09 45.8 0.0
comp=Z,15nm,0.7s
SBF Sospel 89.02 329 eP P 01 09 46.6 0.0
comp=Z,52nm,1.0s
SBF Sospel 89.02 329 eP P 01 09 46.6 0.0
SBF pmax pmax
comp=Z,52nm,1.0s
SBF Sospel 89.02 329 eP P 01 09 46.6 0.0
comp=Z,52nm,1.0s
ROSF Rostrenen 89.04 337 eP P 01 09 46.6 +0.1
ROSF Rostrenen 89.04 337 eP P 01 09 46.6 +0.1
ROSF Rostrenen 89.04 337 eP P 01 09 46.6 +0.1
VIVF Saint-Julien-l 89.30 331 eP P 01 09 47.7 -0.2
VIVF Saint-Julien-l 89.30 331 eP P 01 09 47.7 -0.2
VIVF Saint-Julien-l 89.30 331 eP P 01 09 47.7 -0.2
QUIF Quistinic 89.38 337 eP P 01 09 47.7 -0.4
comp=Z,16nm,0.8s
QUIF Quistinic 89.38 337 eP P 01 09 47.7 -0.4
QUIF pmax pmax
comp=Z,16nm,0.8s
QUIF Quistinic 89.38 337 eP P 01 09 47.7 -0.4
comp=Z,16nm,0.8s
PGF Pioggiola 89.43 327 eP P 01 09 48.2 -0.4
PGF Pioggiola 89.43 327 eP P 01 09 48.2 -0.4
PGF Pioggiola 89.43 327 eP P 01 09 48.2 -0.4
MFF Saint Martin d 89.56 335⇑iP P 01 09 49.1 +0.1
comp=Z,8.9nm,0.7s
MFF Saint Martin d 89.56 335⇑iP P 01 09 49.1 +0.1
MFF pmax pmax
comp=Z,9.0nm,0.7s
MFF Saint Martin d 89.56 335⇑iP P 01 09 49.1 +0.1
comp=Z,8.9nm,0.7s
FRF La Foret Royal 89.59 329 eP P 01 09 49.3 +0.1
FRF La Foret Royal 89.59 329 eP P 01 09 49.3 +0.1
FRF La Foret Royal 89.59 329 eP P 01 09 49.3 +0.1
SMRF Simiane la Rot 89.68 330 eP P 01 09 49.1 -0.6
SMRF Simiane la Rot 89.68 330 eP P 01 09 49.1 -0.6
TX31 Lajitas Ar. Si 89.75 52 eP P 01 09 51.5 +1.1
TXAR Lajitas Array 89.75 52 P P 01 09 51.3 +1.0
comp=Z,2.1nm,0.5s,baz=300,slow=2.8,SNR=17
LMR La Mourre 89.84 329 eP P 01 09 49.6 -0.7
LMR La Mourre 89.84 329 eP P 01 09 49.6 -0.7
LMR La Mourre 89.84 329 eP P 01 09 49.6 -0.7
RJF Les Rejaudoux 90.10 333 eP P 01 09 51.8 +0.3
RJF eR
comp=Z,174nm,19.2s
RJF Les Rejaudoux 90.10 333 eP P 01 09 51.8 +0.3
RJF Les Rejaudoux 90.10 333 eP P 01 09 51.8 +0.3
CAF Calviac 90.23 333 eP P 01 09 52.6 +0.4
comp=Z,13nm,1.0s
CAF Calviac 90.23 333 eP P 01 09 52.6 +0.4
CAF pmax pmax
comp=Z,13nm,1.0s
CAF Calviac 90.23 333 eP P 01 09 52.6 +0.4
comp=Z,13nm,1.0s
LASF Ste Croix 90.27 331 eP P 01 09 52.3 -0.1
comp=Z,29nm,1.2s
LASF Ste Croix 90.27 331 eP P 01 09 52.3 -0.1
comp=Z,29nm,1.2s
133A Hamilton Ranch 90.34 47 ⇓P P 01 09 51.3 -1.6
baz=90
LFF La Frestale 90.69 333 eP P 01 09 54.5 +0.2
comp=Z,12nm,0.7s
LFF La Frestale 90.69 333 eP P 01 09 54.5 +0.2
LFF pmax pmax
comp=Z,12nm,0.7s
LFF La Frestale 90.69 333 eP P 01 09 54.5 +0.2
comp=Z,12nm,0.7s
Z35A Perchaven, San 90.78 46 ⇑P P 01 09 54.4 -0.5
baz=91
134A White-Moore Ra 90.85 47 ⇓P P 01 09 53.6 -1.7
baz=91
MIAR Mount Ida 91.92 43 eP P 01 10 01.3 +1.2
MIAR pmax pmax
comp=Z,8.0nm,0.8s
MIAR Mount Ida 91.92 43 eP P 01 10 01.3 +1.2
comp=Z,8.5nm,0.8s
534A Blanco 92.46 49 ⇑P P 01 10 02.8 0.0
baz=92
FURI Furi 94.75 285 eP P 01 10 12.8 -1.1
comp=Z,14nm,1.2s
ESDC Sonseca Array 96.98 334 P P 01 10 23.2 -0.1
comp=Z,1.8nm,1.0s,baz=28,slow=4.3,SNR=4.1
RKT Rikitea 98.78 112 eLR LR 01 42 47.5
comp=Z,157nm,27.5s
TORD Torodi Ar. Bea 117.14 315 PKP PKPdf 01 15 36.5 -0.6
comp=Z,0.9nm,0.5s,baz=34,slow=1.0,SNR=14
TORD PP PP 01 16 43.8 -3.0
comp=Z,5.2nm,1.1s,baz=38,slow=6.1,SNR=10
LSZ Lusaka 117.62 272 ePKIKP PKPdf 01 15 38.4 +0.4
LSZ Lusaka 117.62 272 PKP PKPdf 01 15 37.7 -0.3
comp=Z,1.2nm,0.5s,baz=48,slow=1.8,SNR=5.9
LSZ Lusaka 117.62 272 ePKPdf PKPdf 01 15 38.4 +0.4
LBTB Lobatse 124.83 263 PKP PKPdf 01 15 51.7 0.0
comp=Z,3.8nm,0.8s,baz=56,slow=3.6,SNR=6.2
DBIC Dimbokro 126.08 317 PKP PKPdf 01 15 53.4 -0.9
comp=Z,2.4nm,0.7s,baz=8.0,slow=1.1,SNR=7.1
TSUM Tsumeb 128.22 274 ePKPdf PKPdf 01 15 59.1 +0.8
SAML Samuel 143.85 45 ePKPdf PKPbc 01 16 25.2 +0.2
LPAZ La Paz 146.36 59 PKPbc PKPbc 01 16 33.7 +0.2
comp=Z,4.8nm,0.5s,baz=16,slow=4.0,SNR=32
H03N2 Juan Fernandez 146.92 95 T T 04 01 43.8
baz=288,slow=75,SNR=29
H03N3 Juan Fernandez 146.93 95 T T 04 01 42.6
baz=288,slow=75,SNR=52
H03N1 Juan Fernandez 146.94 95 T T 04 01 42.8
baz=288,slow=75,SNR=32

IDC 21 01:36:41.8±2.3, 35.61S×105.62W, h0km, mb3.7/2, mb1 4.2/2, mb1mx3.7/24, mbtmp3.7/2, MS3.6/4, Ms1 3.6/4, ms1mx3.2/26, Error ellipse: s-maj=173.0km s-min=46.4km az=102.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	9.03	338	LR	LR	01 40 54.9	
	comp=Z,336nm,19.1s,baz=204,slow=28						
LPAZ	La Paz	38.51	70	LR	LR	01 57 01.6	
	comp=Z,65nm,18.1s,baz=260,slow=32						
SIV	San Ignacio	44.17	76	LR	LR	02 00 45.2	
	comp=Z,50nm,19.8s,baz=279,slow=33						
URZ	Urewera	60.08	242	LR	LR	02 06 21.0	
	comp=Z,63nm,21.2s,baz=114,slow=30						
TXAR	Lajitas Array	64.62	2	P	P	01 47 21.5	+0.4
	0.2nm,0.8s,baz=173,slow=9.1,SNR=3.0						
NVAR	Mina Array Bea	74.60	350	P	P	01 48 22.8	0.0
	2.1nm,0.9s,baz=181,slow=7.8,SNR=11						
AKASG	Malin Array Be	144.37	51	PKP	PKPbc	01 56 18.1	+0.4
	0.2nm,0.2s,baz=274,slow=2.8,SNR=4.3						
CMAR	Chiang Mai Arr	152.36	238	PKPbc	PKPbc	01 56 41.1	+0.9
	0.9nm,0.3s,baz=116,slow=2.1,SNR=3.7						
SONM	Songino Array	153.36	307	PKPbc	PKPbc	01 56 40.2	-1.5
	0.8nm,0.8s,baz=96,slow=2.5,SNR=6.1						

MEX 21 01:41:46.5±1.0, 15°.95N×97°.63W, h20km±20km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.64	313	eP	Pb	01 41 56.8	-2.3
PNIG				i S	Sb	01 42 04.8	-3.0
VHO	Vista Hermosa	1.41	38	eP	Pn	01 42 08.0	-3.3
VHO				i S	Sn	01 42 24.6	-4.9
HUIG	Huatulco	1.48	97	eP	Pn	01 42 09.2	-2.8
HUIG				i S	Sn	01 42 26.0	-4.8
CMIG	Matias Romero	2.87	66	i P	Pn	01 42 28.0	-3.2
CMIG				i S	Sn	01 43 01.4	-3.7
PCIG		4.26	93	i P	Pn	01 42 46.4	-3.9
PCIG				i S	Sn	01 43 34.4	-5.0

IDC 21 01:42:37.6±0.7, 38°.02N×21°.42E, h0km, mb3.9/15, mb1 3.9/27, mb1mx3.8/47, mbtmp3.8/27, ML3.7/9, MS2.9/1, Ms1 2.9/1, ms1mx2.3/53, Error ellipse: s-maj=14.3km s-min=12.4km az=19.0
TIR 21 01:42:38.0, 37°.77N×21°.55E, h26km, ML3.9
SOF 21 01:42:39.2, 37°.72N×21°.64E, h10km, MD3.1
ISCJB 21 01:42:40.4±0.3, 37°.90N±0°.02×21°.39E±0°.02, h26km±2km, mb4.0/26, Error ellipse: s-maj=2.8km s-min=2.0km az=26.0
CSEM 21 01:42:40.8±0.1, 37°.89N×21°.38E, h20km, mb4.3/12, Error ellipse: s-maj=3.9km s-min=2.8km az=23.0
ATH 21 01:42:40.3, 37°.90N×21°.45E, h25km, MD3.4/46, ML3.9
THE 21 01:42:41.0, 37°.91N×21°.46E, h11km±1km, ML4.4/8, Error ellipse: s-maj=1.6km s-min=0.9km az=51.0
NEIC 21 01:42:41.6±0.9, 37°.92N×21°.51E, h26km±7km, mb4.3/14, ML4.4(THE), Error ellipse: s-maj=6.0km s-min=4.0km az=203.0

ISC 21 01:42:40.0±0.6, 37°.89N±0°.02×21°.42E±0°.02, h17km±3km, n411, σ1§38/438, mb4.2/26, 11C-13D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.17	14	ePB	Pb	01 42 45.6	+0.8
RLS				eSB	Sb	01 42 49.5	+1.5
RLS	Riolos of Patr	0.17	14	ePb	Pb	01 42 45.6	+0.8
RLS				eSb	Sb	01 42 49.5	+1.5
DRO	Drossia	0.24	75	P	Pg	01 42 46.0	+0.5
DRO				S	Sg	01 42 48.2	-1.1
DRO	Drossia	0.24	75	ePB	Pg	01 42 46.1	+0.5
DRO				eSB	Sb	01 42 50.5	+0.5
DRO	Drossia	0.24	75	ePb	Pg	01 42 46.1	+0.5
DRO				S	Sg	01 42 49.5	+0.2
DRO				eSb	Sb	01 42 50.5	+0.5
AMT	Artemida-Makis	0.43	147	P	Pg	01 42 49.3	+0.6
AMT				S	Sb	01 42 56.5	+1.2
AMT	Artemida-Makis	0.43	147	ePB	Pg	01 42 49.4	+0.7
AMT				eSB	Sb	01 42 56.3	+1.0
AMT	Artemida-Makis	0.43	147	P	Pg	01 42 49.4	+0.7
AMT				eSb	Sb	01 42 56.3	+1.0
KFL	Anninata	0.54	294	P	Pb	01 42 51.8	+0.7
KFL				S	Sn	01 43 02.2	+0.5
KFL	Anninata	0.54	294	P	Pb	01 42 51.8	+0.7
KFL				S	Sb	01 43 00.0	+1.4
LAKA	Lakka	0.56	52	P	Pg	01 42 51.0	-0.3
LAKA	Lakka	0.56	52	ePN	Pg	01 42 51.1	-0.3
LAKA				eSN	Sg	01 42 59.3	+0.4
LAKA	Lakka	0.56	52	P	Pg	01 42 51.0	-0.3
LAKA	Lakka	0.56	52	P	Pg	01 42 51.0	-0.3
LAKA				eSn	Sg	01 42 59.3	+0.4
KLV	Kalavryta, Ach	0.60	75	ePN	Pg	01 42 51.4	-0.6
KLV				eSN	Sg	01 43 00.7	+0.7
EFP	Efpalio	0.66	36	P	Pg	01 42 52.7	-0.3
EFP				S	Sb	01 43 02.8	+0.8
EFP	Efpalio	0.66	36	ePN	Pg	01 42 52.8	-0.3
EFP				eSN	Sb	01 43 03.1	+1.1
EFP	Efpalio	0.66	36	P	Pg	01 42 52.7	-0.3
EFP				S	Sb	01 43 02.8	+0.8
EFP				eSn	Sb	01 43 03.1	+1.1
SFD	Strofades	0.71	207	P	Pg	01 42 55.0	+1.0
VLS	Valsamata	0.71	294	ePN	Pb	01 42 54.2	+0.2
VLS				eSN	Sn	01 43 06.4	+0.5
VLS	Valsamata	0.71	294	ePn	Pb	01 42 54.2	+0.2
VLS				eSn	Sn	01 43 06.4	+0.5
PDO	Prodromos	0.73	346	P	Pb	01 42 54.6	+0.3
PDO				S	Sn	01 43 06.0	-0.4
PDO	Prodromos	0.73	346	ePN	Pb	01 42 54.7	+0.4
PDO				eSN	Sb	01 43 03.7	-0.4
PDO	Prodromos	0.73	346	P	Pb	01 42 54.6	+0.3
PDO				S	Sb	01 43 04.0	-0.1
PVO	Paravola	0.73	7	P	Pb	01 42 54.4	+0.1
PVO				S	Sb	01 43 04.0	-0.1
PVO	Paravola	0.73	7	P	Pb	01 42 54.4	+0.1
PVO				S	Sb	01 43 04.0	-0.1
GUR	Goura	0.73	86	P	Pb	01 42 53.5	-0.9
GUR				S	Sb	01 43 04.4	+0.1
GUR	Goura	0.73	86	ePN	Pb	01 42 53.7	-0.7
GUR				eSN	Sb	01 43 04.6	+0.3
GUR	Goura	0.73	86	P	Pb	01 42 53.5	-0.9
GUR	Goura	0.73	86	P	Pb	01 42 53.6	-0.9
GUR				S	Sb	01 43 04.4	+0.1
KALE	Kalithea	0.76	49	P	Pb	01 42 54.2	-0.7
KALE				S	Sg	01 43 05.8	+0.8
KALE	Kalithea	0.76	49	ePN	Pb	01 42 54.4	-0.5
KALE				eSN	Sg	01 43 06.0	+1.0
KALE	Kalithea	0.76	49	P	Pb	01 42 54.2	-0.7
KALE	Kalithea	0.76	49	P	Pb	01 42 54.2	-0.7
KALE				S	Sg	01 43 05.8	+0.8
ITM	Ithomi	0.82	150	ePN	Pb	01 42 56.2	+0.4
ITM				eSN	Sg	01 43 08.1	+1.3
ITM	Ithomi	0.82	150	ePn	Pb	01 42 56.2	+0.4
ITM				eSn	Sg	01 43 08.1	+1.3
VLX	Vlachokerasia	0.93	124	ePN	Pb	01 42 58.2	+0.5
VLX				eSN	Sg	01 43 11.6	+1.4
VLX	Vlachokerasia	0.93	124	P	Pb	01 42 58.0	+0.3
VLX				S	Sg	01 43 11.1	+0.9
DSF	Desfina	1.02	59	P	Pb	01 42 58.3	-1.0
DSF	Desfina	1.02	59	ePB	Pb	01 42 58.7	-0.6
DSF				eSB	Sb	01 43 13.4	+1.0
DSF	Desfina	1.02	59	P	Pb	01 42 58.3	-1.0
DSF	Desfina	1.02	59	P	Pb	01 42 58.3	-1.0
DSF	Desfina	1.02	59	ePb	Pb	01 42 58.7	-0.6
DSF				eSb	Sb	01 43 13.4	+1.0
PYL	PYLOS	1.03	165	P	Pb	01 42 59.5	+0.2
PYL	PYLOS	1.03	165	ePN	Pb	01 42 59.6	+0.2
PYL	PYLOS	1.03	165	P	Pb	01 42 59.5	+0.2
PYL	PYLOS	1.03	165	P	Pb	01 42 59.6	+0.2
PYL				S	Sn	01 43 15.7	+2.1
EVR	Evrytania	1.07	17	ePB	Pb	01 42 59.8	-0.4
EVR				eSN	Sg	01 43 15.4	+0.6
EVR	Evrytania	1.07	17	ePb	Pb	01 42 59.8	-0.4
EVR				eSn	Sg	01 43 15.4	+0.6
LKD2	Lefkada island	1.08	327	P	Pb	01 43 00.5	+0.2
LKD2				S	Sg	01 43 19.3	+4.3
LKD2	Lefkada island	1.08	327	ePN	Pb	01 43 00.5	+0.2
LKD2	Lefkada island	1.08	327	P	Pb	01 43 00.2	-0.1
LKD2				S	Sg	01 43 19.3	+4.3
LKD2	Lefkada island	1.08	327	P	Pb	01 43 00.2	-0.1
LKD2	Lefkada island	1.08	327	ePn	Pb	01 43 00.5	+0.2
LTK	Loutraki	1.23	83	P	Pn	01 43 02.2	-0.3
LTK	Loutraki	1.23	83	ePN	Pn	01 43 02.7	+0.2
LTK				eSN	Sg	01 43 20.8	+0.8
LTK	Loutraki	1.23	83	P	Pn	01 43 02.2	-0.3
LTK	Loutraki	1.23	83	P	Pn	01 43 02.4	-0.1
LTK	Loutraki	1.23	83	ePn	Pn	01 43 02.7	+0.2
LTK				eSn	Sg	01 43 20.8	+0.8
MAKR	Makrakomi, Fth	1.25	26	ePN	Pn	01 43 03.5	+0.7
MAKR				eSN	Sg	01 43 21.3	+0.6
MAKR	Makrakomi, Fth	1.25	26	ePn	Pn	01 43 03.5	+0.7
MAKR				eSn	Sg	01 43 21.3	+0.6
AXAR	Agios Charalam	1.31	48	P	Pn	01 43 03.4	-0.2
AXAR	Agios Charalam	1.31	48	ePB	Pn	01 43 03.7	+0.1
AXAR				eSN	Sb	01 43 21.6	+0.8
AXAR	Agios Charalam	1.31	48	P	Pn	01 43 03.4	-0.2
AXAR	Agios Charalam	1.31	48	P	Pn	01 43 03.4	-0.2
AXAR	Agios Charalam	1.31	48	ePb	Pn	01 43 03.7	+0.1
AXAR				eSn	Sb	01 43 21.6	+0.8
AGG	Agios Georgios	1.34	32	P	Pn	01 43 03.9	-0.1
AGG	Agios Georgios	1.34	32	ePN	Pn	01 43 04.7	+0.7
AGG	Agios Georgios	1.34	32	P	Pn	01 43 03.9	-0.1
AGG	Agios Georgios	1.34	32	P	Pn	01 43 03.9	-0.1
AGG	Agios Georgios	1.34	32	ePn	Pn	01 43 04.7	+0.7
LKR	Lokris	1.46	58	ePN	Pn	01 43 06.2	+0.6
LKR	Lokris	1.46	58	ePn	Pn	01 43 06.2	+0.6
DID	Didima	1.50	104	P	Pn	01 43 06.8	+0.7
DID				S	Sb	01 43 27.3	+1.2
DID	Didima	1.50	104	ePN	Pn	01 43 07.2	+1.1
DID	Didima	1.50	104	P	Pn	01 43 06.8	+0.7
DID				S	Sb	01 43 27.3	+1.2
DID	Didima	1.50	104	P	Pn	01 43 06.8	+0.7
DID	Didima	1.50	104	ePn	Pn	01 43 07.2	+1.1
DID				S	Sb	01 43 27.3	+1.2
SMIA	Simia	1.72	54	ePN	Pn	01 43 10.2	+1.0
SMIA	Simia	1.72	54	ePn	Pn	01 43 10.2	+1.0
THL	Klokotos Trika	1.74	15	ePN	Pb	01 43 11.8	+0.3
THL	Klokotos Trika	1.74	15	ePn	Pb	01 43 11.8	+0.3
JAN	Janina	1.82	346	ePN	Pb	01 43 13.6	+0.7
ATH	Athens Observa	1.82	87	ePN	Pn	01 43 12.2	+1.6
ATH				eSN	Sb	01 43 35.4	0.0
ATH	Athens Observa	1.82	87	ePn	Pn	01 43 12.2	+1.6
ATH				eSn	Sb	01 43 35.4	0.0
IGT	Igoumenitsa	1.85	333	P	Pb	01 43 12.8	-0.5
IGT	Igoumenitsa	1.85	333	ePN	Pb	01 43 13.1	-0.2
IGT	Igoumenitsa	1.85	333	P	Pb	01 43 12.8	-0.5
IGT	Igoumenitsa	1.85	333	P	Pb	01 43 12.8	-0.5
IGT	Igoumenitsa	1.85	333	ePn	Pb	01 43 13.1	-0.2
MRKA	Markates	1.89	64	P	Pn	01 43 12.0	+0.4
MRKA	Markates	1.89	64	ePB	Pn	01 43 12.3	+0.7
MRKA	Markates	1.89	64	P	Pn	01 43 12.0	+0.4
MRKA	Markates	1.89	64	ePb	Pn	01 43 12.3	+0.7
FYTO	Fytoko, Volos	1.93	38	P	Pn	01 43 13.3	+1.2
FYTO	Fytoko, Volos	1.93	38	P	Pn	01 43 13.3	+1.2
FYTO	Fytoko, Volos	1.93	38	P	Pn	01 43 13.3	+1.2
PTL	Penteli	1.94	85	ePB	Pn	01 43 13.2	+0.9
PTL	Penteli	1.94	85	ePb	Pn	01 43 13.2	+0.9
XOR	Xorichti	2.03	43	P	Pn	01 43 14.5	+1.1
XOR	Xorichti	2.03	43	ePB	Pn	01 43 14.6	+1.1
XOR	Xorichti	2.03	43	P	Pn	01 43 14.5	+1.1
XOR	Xorichti	2.03	43	P	Pn	01 43 14.5	+1.1
SKIA	Skiathos	2.05	51	ePN	Pn	01 43 14.9	+1.1
SKIA	Skiathos	2.05	51	ePn	Pn	01 43 14.9	+1.1
SRN	Sarande	2.27	331	i PG	Pb	01 43 19.6	-1.0
SRN	Sarande	2.27	331	i Pg	Pb	01 43 19.6	-1.0
AOS	Alonnisos	2.32	56	eP	Pn	01 43 17.1	-0.3
AOS	Alonnisos	2.32	56	ePN	Pn	01 43 18.1	+0.7
AOS	Alonnisos	2.32	56	eP	Pn	01 43 17.1	-0.3
AOS	Alonnisos	2.32	56	ePn	Pn	01 43 18.1	+0.7
LIT	Litokhoron	2.36	20	ePB	Pn	01 43 20.4	+2.4
LIT	Litokhoron	2.36	20	ePb	Pn	01 43 20.4	+2.4
PAIG	Paliouri	2.69	40	ePN	Pn	01 43 23.4	+0.8
PAIG	Paliouri	2.69	40	ePn	Pn	01 43 23.4	+0.8
KBN	Korca	2.77	350	i PN	Pb	01 43 27.7	-1.5
KBN	Korca	2.77	350	i Pn	Pb	01 43 27.7	-1.5
FNA	Florina	2.89	359	ePB	Pn	01 43 28.0	+2.6
FNA	Florina	2.89	359	ePb	Pn	01 43 28.0	+2.6
PLG	Polygyros	2.94	32	ePN	Pn	01 43 27.5	+1.5
PLG	Polygyros	2.94	32	ePn	Pn	01 43 27.5	+1.5
THE	Thessaloniki	2.99	23	ePN	Pn	01 43 28.9	+2.2
THE	Thessaloniki	2.99	23	ePn	Pn	01 43 28.9	+2.2
HORT	Hortiatis	3.00	25	ePN	Pn	01 43 28.8	+1.9
HORT	Hortiatis	3.00	25	ePn	Pn	01 43 28.8	+1.9
OUR	Ouranopolis	3.15	38	eP	Pn	01 43 31.1	+2.3
OUR	Ouranopolis	3.15	38	ePN	Pn	01 43 30.1	+1.2
OUR	Ouranopolis	3.15	38	eP	Pn	01 43 30.1	+1.2
OUR	Ouranopolis	3.15	38	ePn	Pn	01 43 31.2	+2.3
SOH	Sokhos	3.29	27	ePN	Pn	01 43 33.6	+2.8
SOH	Sokhos	3.29	27	ePn	Pn	01 43 33.6	+2.8
APE	Apeiranthos	3.38	103	eP	Pn	01 43 35.9	+3.9
APE	Apeiranthos	3.38	103	⇑iP	Pn	01 43 34.6	+2.6
APE	Apeiranthos	3.38	103	eP	Pn	01 43 35.9	+3.9
KNT	Kendrikon	3.46	19	ePN	Pn	01 43 36.1	+2.9
KNT	Kendrikon	3.46	19	ePn	Pn	01 43 36.1	+2.9
VAY	Valandovo	3.54	14	P	Pn	01 43 37.0	+2.8
VAY				S	Sn	01 44 16.0	+0.3
VAY	Valandovo	3.54	14	i Pn	Pn	01 43 37.0	+2.8
VAY	Valandovo	3.54	14	P	Pn	01 43 37.0	+2.8
VAY				S	Sn	01 44 16.0	+0.3
LIA	Limnos Island	3.56	55	ePN	Pn	01 43 35.2	+0.7
LIA	Limnos Island	3.56	55	ePn	Pn	01 43 35.2	+0.7
SANT	Santorini	3.57	114	eP	Pb	01 43 40.1	-2.6
SANT	Santorini	3.57	114	eP	Pb	01 43 40.1	-2.6
SRS	Serrai	3.64	27	ePN	Pn	01 43 38.2	+2.6
SRS	Serrai	3.64	27	ePn	Pn	01 43 38.2	+2.6
CHOS	Chios island	3.69	81	eP	Pn	01 43 37.2	+0.8
CHOS	Chios island	3.69	81	ePN	Pn	01 43 37.8	+1.4
CHOS	Chios island	3.69	81	eP	Pn	01 43 37.2	+0.8
CHOS	Chios island	3.69	81	ePn	Pn	01 43 37.8	+1.4
SIGR	SIGRI	3.72	68	eP	Pn	01 43 36.8	+0.1
SIGR	SIGRI	3.72	68	eP	Pn	01 43 36.8	+0.1
IDI	Anoyia	3.82	132	Pn	Pn	01 43 40.6	+2.5
	3.2nm,0.3s,baz=344,slow=7.5,SNR=20						
IDI				Sn	Sn	01 44 25.0	+2.4
	15nm,0.3s,baz=314,slow=22,SNR=9.2						
IDI				LR	LR	01 45 10.0	
	comp=Z,185nm,21.1s,baz=268,slow=39						
TIP	Timpagrande	3.87	291	ePn	Pn	01 43 40.5	+1.6
TIP				eSn	Sn	01 44 24.7	+0.7
TIP	Timpagrande	3.87	291	ePn	Pn	01 43 40.5	+1.6
TIP				eSn	Sn	01 44 24.7	+0.7
KAVA	Kavala	3.92	37	ePN	Pn	01 43 41.1	+1.6
KAVA	Kavala	3.92	37	ePn	Pn	01 43 41.1	+1.6
NVR	Nevrokopi	3.94	28	ePN	Pn	01 43 42.2	+2.5
NVR	Nevrokopi	3.94	28	ePn	Pn	01 43 42.2	+2.5
SIVA	Sivas	3.96	135	eP	Pb	01 43 49.9	+0.4
SKO	Skopje	4.08	0	ePN	Pn	01 43 43.2	+1.6
SKO	Skopje	4.08	0	ePn	Pn	01 43 43.2	+1.6
MMB	Musomiste	4.10	25	i P	Pn	01 43 44.6	+2.6
MMB				S	Sn	01 44 31.6	+2.0
MMB	Musomiste	4.10	25	⇑iP	Pn	01 43 44.6	+2.6
MMB	Musomiste	4.10	25	i P	Pn	01 43 44.6	+2.6
MMB				S	Sn	01 44 31.6	+2.0
TAR1	Taranto	4.15	311	ePn	Pn	01 43 45.1	+2.5
PE1	Pezze di Greco	4.25	314	ePn	Pn	01 43 45.6	+1.7
EZN	Ezine	4.29	62	eP	Pn	01 43 45.1	+0.6
EZN	Ezine	4.29	62	eP	Pn	01 43 45.1	+0.6
SMG	Samos	4.30	91	ePN	Pn	01 43 46.8	+2.1
SMG	Samos	4.30	91	ePn	Pn	01 43 46.8	+2.1
RZN	Rozhen	4.57	33	i P	Pn	01 43 51.0	+2.5
RZN				S	Sn	01 44 44.3	+3.0
RZN	Rozhen	4.57	33	i P	Pn	01 43 51.0	+2.5
RZN				S	Sn	01 44 44.3	+3.0
ENEZ	Enez	4.64	51	eP	Pn	01 43 50.7	+1.3
ENEZ	Enez	4.64	51	eP	Pn	01 43 50.7	+1.3
GELI	Tayfur-Gelibol	4.66	56	eP	Pn	01 43 50.7	+1.1
GELI	Tayfur-Gelibol	4.66	56	eP	Pn	01 43 50.7	+1.1
ALN	Alexandroupoli	4.68	49	eP	Pn	01 43 52.0	+2.2
ALN	Alexandroupoli	4.68	49	ePN	Pn	01 43 52.1	+2.3
ALN	Alexandroupoli	4.68	49	eP	Pn	01 43 52.0	+2.2
SG1	Sgolgore (BA)	4.71	310	ePn	Pn	01 43 52.2	+1.9
BAI	Bari	4.76	314	ePn	Pn	01 43 52.3	+1.4
BODT	Bodrum	4.76	98	eP	Pn	01 43 54.0	+3.0
BODT	Bodrum	4.76	98	eP	Pn	01 43 54.0	+3.0
LPK	Lapseki	4.84	58	eP	Pn	01 43 53.2	+1.1
LPK	Lapseki	4.84	58	eP	Pn	01 43 53.2	+1.1
CUC	Castrocucco	4.84	297	ePn	Pn	01 43 55.6	+3.4
CUC				eSn	Sn	01 44 48.5	+0.6
CUC	Castrocucco	4.84	297	ePn	Pn	01 43 55.6	+3.4
CUC				eSn	Sn	01 44 48.5	+0.6
VTS	Vitosha	4.89	16	i P	Pn	01 43 57.0	+4.0
VTS	Vitosha	4.89	16	i P	Pn	01 43 57.0	+4.0
CDT	Castel del Mon	5.10	310	ePn	Pn	01 43 57.4	+1.8
AYDB	Zeytinkoy-Aydi	5.12	87	eP	Pn	01 43 57.8	+1.7
AYDB	Zeytinkoy-Aydi	5.12	87	eP	Pn	01 43 57.8	+1.7
KRBG	Karabiga-Canak	5.21	60	eP	Pn	01 43 58.2	+1.0
KRBG	Karabiga-Canak	5.21	60	eP	Pn	01 43 58.2	+1.0
BALB	Balikesir	5.35	69	eP	Pn	01 44 00.5	+1.5
BALB	Balikesir	5.35	69	eP	Pn	01 44 00.5	+1.5
YER	Yerkesik	5.51	96	eP	Pn	01 44 04.7	+3.3
MS1	Monte Sant'Ang	5.68	314	ePn	Pn	01 44 05.0	+1.3
EDRB	Edirne	5.69	44	eP	Pn	01 44 06.1	+2.3
EDRB	Edirne	5.69	44	eP	Pn	01 44 06.1	+2.3
STON	Ston	5.73	331	ePn	Pn	01 44 04.2	-0.1
STON				Sn	Sn	01 45 03.6	-5.9
STON	Ston	5.73	331	ePn	Pn	01 44 04.1	-0.1
MPEP	Malo Peshtene	5.74	17	P	Pb	01 44 14.0	-5.7
KULA	Kula-Manisa	5.74	82	eP	Pn	01 44 06.6	+2.0
KULA	Kula-Manisa	5.74	82	eP	Pn	01 44 06.6	+2.0
IVAS	Ivanjica	5.76	351	i Pn	Pn	01 44 05.5	+0.7
CRLT	Corlu	5.86	55	eP	Pn	01 44 08.0	+1.9
CRLT	Corlu	5.86	55	eP	Pn	01 44 08.0	+1.9
BOLS	Boljevac	5.95	4	ePn	Pn	01 44 07.4	+0.1
PHSR	Pinarhisar	6.01	50	eP	Pn	01 44 10.3	+2.2
PHSR	Pinarhisar	6.01	50	eP	Pn	01 44 10.3	+2.2
GRUS	Gruza	6.02	355	⇓iPn	Pn	01 44 09.0	+0.8
ORLT	Orhaneli	6.21	67	eP	Pn	01 44 12.7	+1.7
ORLT	Orhaneli	6.21	67	eP	Pn	01 44 12.7	+1.7
FETY	Fethiye	6.24	99	eP	Pn	01 44 15.4	+4.1
DIVS	Divibare	6.29	351	⇓iPn	Pn	01 44 12.6	+0.5
MDNY	Mudanya-Bursa	6.31	65	eP	Pn	01 44 14.1	+1.8
MDNY	Mudanya-Bursa	6.31	65	eP	Pn	01 44 14.1	+1.8
ARMT	Armutlu	6.37	63	eP	Pn	01 44 14.8	+1.8
ARMT	Armutlu	6.37	63	eP	Pn	01 44 14.9	+1.8
TRUS	Trudelj	6.37	353	⇓iPn	Pn	01 44 13.0	-0.1
SZH	Strazhica	6.38	31	i P	Pn	01 44 17.6	+4.4
KHL	Karahalli	6.41	84	eP	Pn	01 44 16.4	+2.7
KHL	Karahalli	6.41	84	eP	Pn	01 44 16.4	+2.7
TVSB	Tavsanli	6.49	74	eP	Pn	01 44 16.4	+1.6
TVSB	Tavsanli	6.49	74	eP	Pn	01 44 16.4	+1.6
TEKS	Tekeris	6.80	349	i Pn	Pn	01 44 18.8	-0.3
ELL	Elmali	6.86	97	eP	Pn	01 44 23.9	+3.8
ALT	Altintas	6.92	78	eP	Pn	01 44 22.9	+2.1
ALT	Altintas	6.92	78	eP	Pn	01 44 22.9	+2.1
ADVT	Abdulvahap	6.95	66	eP	Pn	01 44 22.9	+1.9
ADVT	Abdulvahap	6.95	66	eP	Pn	01 44 22.9	+1.9
SHUT	Suhut-Afyon	7.22	82	eP	Pn	01 44 27.1	+2.2
SHUT	Suhut-Afyon	7.22	82	eP	Pn	01 44 27.1	+2.2
BCK	Bucak	7.29	91	eP	Pn	01 44 29.0	+3.2
GPA	Golpazari	7.32	68	eP	Pn	01 44 28.5	+2.3
GPA	Golpazari	7.32	68	eP	Pn	01 44 28.5	+2.3
FGSL	Fruska Gora	7.36	351	⇓iPn	Pn	01 44 26.5	-0.2
ANTB	Antalya	7.42	95	eP	Pn	01 44 31.8	+4.3
GULT	Gulveren	7.51	67	eP	Pn	01 44 31.3	+2.4
GULT	Gulveren	7.51	67	eP	Pn	01 44 31.3	+2.4
GZR	Gura Zlata	7.57	7	⇑iP	Pn	01 44 31.8	+2.2
BZS	Buzias	7.72	1	⇓iP	Pn	01 44 33.4	+1.8
PSN	Preselentsi	7.73	39	⇑iP	Pn	01 44 34.3	+2.5
ARR	Arges	7.85	17	⇑iP	Pn	01 44 37.3	+3.8
UDBI	Udbina	7.88	329	ePn	Pn	01 44 35.5	+1.6
UDBI				Sn	Sn	01 45 55.9	-6.8
UDBI	Udbina	7.88	329	ePn	Pn	01 44 35.4	+1.6
VOIR		8.02	19	⇓iP	Pn	01 44 40.0	+4.3
KIZT	Kizilcal	8.28	80	eP	Pn	01 44 41.6	+2.2
KIZT	Kizilcal	8.28	80	eP	Pn	01 44 41.6	+2.2
NVLJ	Novalja	8.29	326	i Pn	Pn	01 44 39.9	+0.5
NVLJ				Sn	Sn	01 46 06.8	-5.8
NVLJ	Novalja	8.29	326	i Pn	Pn	01 44 39.9	+0.5
MLR	Muntele Rosu	8.31	23	⇑iP	Pn	01 44 44.8	+4.9
MLR	Muntele Rosu	8.31	23	Pn	Pn	01 44 43.1	+3.2
	baz=207,slow=4.5						
TIRR	Tirgusor	8.42	37	⇑iP	Pn	01 44 44.8	+3.6
PKSM	Moragy	8.57	347	⇓iP	Pn	01 44 42.4	-0.8
LADK	Ladik-KONYA	8.64	85	eP	Pn	01 44 47.2	+2.7
LADK	Ladik-KONYA	8.64	85	eP	Pn	01 44 47.2	+2.7
KONT	Konya--Tatoy	8.65	86	eP	Pn	01 44 47.2	+2.7
KONT	Konya--Tatoy	8.65	86	eP	Pn	01 44 47.2	+2.7
PLOR	Plostina	8.86	24	⇓iP	Pn	01 44 52.2	+4.9
VRI	Vrincioaia	8.90	25	⇑iP	Pn	01 44 52.4	+4.6
TESR	Tescani	9.45	23	⇓iP	Pn	01 44 59.7	+4.4
BRTR	Keskin Array B	9.72	75	Pn	Pn	01 45 01.9	+2.7
	1.0nm,0.3s,baz=257,slow=12,SNR=32						
KEST	Kesra	9.91	261	Pn	Pn	01 45 02.4	+0.5
	0.1nm,0.3s,baz=159,slow=1.4,SNR=5.7						
SOKA	Soboth	9.97	334	⇑iPn	Pn	01 45 01.9	-0.6
	SNR=8.6						
SOKA	Soboth	9.97	334	Pn	Pn	01 45 01.9	-0.6
	SNR=8.6						
CSS	Prodhromos	10.04	103	ePn	Pn	01 45 04.4	+1.0
CSS	Prodhromos	10.04	103	ePn	Pn	01 45 04.4	+1.0
PSZ	Piszkesteto	10.09	354	⇓iP	Pn	01 45 05.7	+1.6
PSZ	Piszkesteto	10.09	354	ePn	Pn	01 45 04.5	+0.4
	6.2nm,0.6s						
PSZ	Piszkesteto	10.09	354	ePn	Pn	01 45 04.5	+0.4
	6.2nm,0.6s						
ARSA	Arzberg	10.31	337	⇑iPn	Pn	01 45 06.4	-0.7
ARSA	Arzberg	10.31	337	Pn	Pn	01 45 06.4	-0.7
PGF	Pioggiola	10.57	300	eP	Pn	01 45 15.4	+4.6
PGF	Pioggiola	10.57	300	eP	Pn	01 45 15.4	+4.6
VYHS	Vyhne	10.76	351	ePN	Pn	01 45 13.3	0.0
VYHS				eSN	Sn	01 47 11.3	-2.1
VYHS	Vyhne	10.76	351	ePn	Pn	01 45 13.3	0.0
ABTA	Abfaltersbach	11.03	326	⇓iPn	Pn	01 45 17.3	+0.3
ABTA	Abfaltersbach	11.03	326	Pn	Pn	01 45 17.3	+0.3
MOA	Molln	11.24	335	⇓iPn	Pn	01 45 19.3	-0.6
	SNR=9.5						
MOA	Molln	11.24	335	Pn	Pn	01 45 19.3	-0.6
	SNR=9.5						
MOTA	Moosalm	12.11	325	⇓iPn	Pn	01 45 32.2	+0.3
	SNR=8.4						
MOTA	Moosalm	12.11	325	Pn	Pn	01 45 32.2	+0.3
	SNR=8.4						
SBF	Sospel	12.14	304	eP	Pn	01 45 35.8	+3.6
	64nm,0.9s						
SBF	Sospel	12.14	304	eP	Pn	01 45 35.8	+3.6
	64nm,0.9s						
MORC	Moravsky Berou	12.21	348	ePn	Pn	01 45 32.2	-0.9
MORC	Moravsky Berou	12.21	348	ePn	Pn	01 45 32.2	-0.9
GERES	GERESS Array B	12.30	335	Pn	Pn	01 45 32.6	-1.8
	0.3nm,0.3s,baz=160,slow=13,SNR=12						
GERES				Sn	Sn	01 47 44.9	-6.1
	0.3nm,0.3s,baz=152,slow=22,SNR=4.6						
DAVOX	Davos/Dischmat	12.31	320	Pn	Pn	01 45 33.8	-0.8
	baz=143,slow=20						
DAVOX				Sn	Sn	01 47 47.4	-4.0
	baz=165,slow=20						
MMAI	Mount Meron Ar	12.40	109	Pn	Pn	01 45 33.8	-2.0
	0.8nm,0.3s,baz=308,slow=12,SNR=7.6						
MMAI				Sn	Sn	01 47 47.8	-5.7
	1.2nm,0.3s,baz=303,slow=25,SNR=6.2						
FRF	La Foret Royal	12.55	301	eP	Pn	01 45 42.3	+4.6
	14nm,0.8s						
FRF	La Foret Royal	12.55	301	eP	Pn	01 45 42.3	+4.6
	14nm,0.8s						
KHC	Kasperske Hory	12.58	336	eP	Pn	01 45 36.6	-1.6
KHC				ex	x	01 45 50.4	
KHC				eS	Sn	01 47 54.5	-3.5
KHC	Kasperske Hory	12.58	336	P	Pn	01 45 36.6	-1.6
MBDF	Montbardon	12.95	306	eP	Pn	01 45 48.5	+5.2
	26nm,1.1s						
MBDF	Montbardon	12.95	306	eP	Pn	01 45 48.5	+5.2
	26nm,1.1s						
LPL	La Plagne	13.34	309	eP	Pn	01 45 52.5	+3.7
LPL	La Plagne	13.34	309	eP	Pn	01 45 52.5	+3.7
MALT	Malatya	13.41	83	eP	Pn	01 45 47.1	-2.5
MALT	Malatya	13.41	83	⇑iP	Pn	01 45 54.7	+5.1
ILIC	ilic-Erzincan	13.50	78	eP	Pn	01 45 53.2	+2.4
ILIC	ilic-Erzincan	13.50	78	eP	Pn	01 45 53.2	+2.4
ASF	Jabal al Asfar	13.90	110	Pn	Pn	01 45 56.5	+0.1
	0.1nm,0.3s,baz=309,slow=13,SNR=2.2						
EIL	Elat	13.91	122	Pn	Pn	01 45 56.9	+0.5
	0.3nm,0.3s,baz=329,slow=12,SNR=6.2						
EIL				Sn	Sn	01 48 18.4	-12
	0.9nm,0.3s,baz=317,slow=18,SNR=7.7						
AKASG	Malin Array Be	13.96	21	Pn	Pn	01 45 55.6	-1.4
	baz=210,slow=12,SNR=2.6						
STU	Stuttgart	14.03	325	ePn	Pn	01 45 57.6	-0.3
STU	Stuttgart	14.03	325	ePn	Pn	01 45 57.6	-0.3
EZC	Erzincan	14.11	77	eP	P	01 46 05.2	-1.7
CABF	La Chapelle	14.29	312	eP	Pn	01 46 01.9	+0.3
CABF	La Chapelle	14.29	312	eP	Pn	01 46 01.9	+0.3
ERZN	Erzincan	14.39	78	eP	Pn	01 46 05.2	+2.2
HINF	Hinteralfeld	14.55	318	eP	Pn	01 46 05.9	+0.7
	4.8nm,0.7s						
HINF	Hinteralfeld	14.55	318	eP	Pn	01 46 05.9	+0.7
	4.8nm,0.7s						
CDF	Champ du Feu	14.71	320	eP	Pn	01 46 09.1	+1.8
CDF	Champ du Feu	14.71	320	eP	Pn	01 46 09.1	+1.8
BAYT	Ayd¨-ntepe-Bay	14.75	74	eP	P	01 46 14.7	+0.7
BAYT	Ayd¨-ntepe-Bay	14.75	74	eP	P	01 46 14.7	+0.7
HAU	Haudompre	14.94	317	eP	Pn	01 46 10.7	+0.4
	6.4nm,0.5s						
HAU	Haudompre	14.94	317	eP	Pn	01 46 10.7	+0.4
	6.4nm,0.5s						
SMF	Signal de Mont	15.65	310	eP	P	01 46 22.3	-1.5
SMF	Signal de Mont	15.65	310	eP	P	01 46 22.3	-1.5
SMF	Signal de Mont	15.65	310	eP	P	01 46 22.3	-1.5
LOR	Lormes	15.94	312	eP	P	01 46 25.7	-1.3
LOR	Lormes	15.94	312	eP	P	01 46 25.7	-1.3
LOR	Lormes	15.94	312	eP	P	01 46 25.7	-1.3
SSF	Saint Saulge	16.05	310	eP	P	01 46 27.5	-0.7
SSF	Saint Saulge	16.05	310	eP	P	01 46 27.5	-0.7
SSF	Saint Saulge	16.05	310	eP	P	01 46 27.5	-0.7
WLF	Walferdange	16.09	322	ePn	P	01 46 22.7	-2.6
SUW	Suwalki	16.17	4	eP	P	01 46 29.4	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SUW	Suwalki	16.17	4	ePn	P	01 46 28.8	-0.7
	47nm,0.8s						
SUW	Suwalki	16.17	4	ePn	P	01 46 28.8	-0.7
	47nm,0.8s						
SUW	Suwalki	16.17	4	eP	P	01 46 29.5	0.0
AGRB	Hanur-Agry	16.92	78	eP	P	01 46 39.0	+0.9
AGRB	Hanur-Agry	16.92	78	eP	P	01 46 39.0	+0.9
KIV	Kislovodsk	17.16	63	ePn	P	01 46 40.6	0.0
KIV	Kislovodsk	17.16	63	ePn	P	01 46 40.6	0.0
KBZ	Khabaz	17.26	63	P	Pn	01 46 39.5	-0.6
	0.0nm,0.3s,baz=259,slow=10,SNR=2.1						
BAIF	Baives	17.31	320	eP	P	01 46 42.5	+0.4
BAIF	Baives	17.31	320	eP	P	01 46 42.5	+0.4
BAIF	Baives	17.31	320	eP	P	01 46 42.5	+0.4
CUKT	Cukurca	17.60	85	eP	P	01 46 47.5	+1.9
CUKT	Cukurca	17.60	85	eP	P	01 46 47.5	+1.9
CLDR	Caldiran	17.65	79	eP	P	01 46 48.6	+2.4
CLDR	Caldiran	17.65	79	eP	P	01 46 48.6	+2.4
GNI	Garni	18.26	76	eP	P	01 46 59.8	+6.9
GNI	Garni	18.26	76	P	Pn	01 46 52.1	-0.6
	0.1nm,0.3s,baz=301,slow=12,SNR=1.9						
GNI	Garni	18.26	76	eP	P	01 46 53.7	+0.9
	3.9nm,0.7s						
GNI	Garni	18.26	76	eP	P	01 46 53.7	+0.9
	3.9nm,0.7s						
LDF	La Druitiere	18.93	311	eP	Pn	01 47 02.2	+1.6
LDF	La Druitiere	18.93	311	eP	Pn	01 47 02.2	+1.6
LDF	La Druitiere	18.93	311	eP	Pn	01 47 02.2	+1.6
ESDC	Sonseca Array	19.85	283	P	P	01 47 10.0	-0.2
	0.2nm,0.3s,baz=76,slow=11,SNR=9.9						
SGMF	Saint Gilles	20.27	308	eP	Pn	01 47 17.7	+1.1
SGMF	Saint Gilles	20.27	308	eP	Pn	01 47 17.7	+1.1
TAM	Tamanrasset	20.32	227	eP	P	01 47 16.4	+1.0
	3.1nm,1.1s						
TAM	Tamanrasset	20.32	227	eP	P	01 47 16.4	+1.0
	3.1nm,1.1s						
HFS	Hagfors	22.80	350	P	P	01 47 40.6	-1.0
	2.9nm,0.4s,baz=158,slow=12,SNR=21						
FINES	FINESS Array B	23.76	6	P	P	01 47 50.1	-1.1
	2.2nm,0.3s,baz=174,slow=11,SNR=55						
NB2	NORSAR Subarra	24.04	348	P	P	01 47 53.7	-0.3
	comp=Z,4.9nm,1.0s,baz=153,slow=10						
NB2	NORSAR Subarra	24.04	348	P	P	01 47 53.7	-0.3
	comp=Z,4.9nm,1.0s,SNR=0.5						
NOA	NORSAR Array B	24.04	348	P	P	01 47 53.0	-1.0
	comp=Z,0.9nm,0.4s,baz=158,slow=8.7,SNR=13						
EKA	Eskdalemuir Ar	24.07	324	P	P	01 47 53.4	-0.9
	comp=Z,1.5nm,0.5s,baz=129,slow=9.7,SNR=12						
ESK	Eskdalemuir	24.08	324	eP	P	01 47 54.9	+0.5
	comp=Z,13nm,0.9s						
ESK	Eskdalemuir	24.08	324	eP	P	01 47 54.9	+0.5
	comp=Z,13nm,0.9s						
KAF	Kangasniemi	24.44	6	ep	P	01 47 56.6	-1.0
	comp=Z,2.4nm,0.3s						
KAF	Kangasniemi	24.44	6	eP	P	01 47 56.6	-1.0
	comp=Z,2.4nm,0.3s						
RAYN	Ar Rayn	25.08	118	eP	P	01 48 04.1	+0.3
	comp=Z,3.5nm,0.9s						
RAYN	Ar Rayn	25.08	118	eP	P	01 48 04.1	+0.3
	comp=Z,3.5nm,0.9s						
ABKAR	Akbulak array	29.82	55	eP	P	01 48 46.7	+0.7
ABKAR	Akbulak array	29.82	55	eP	P	01 48 46.7	+0.7
TOA0	Torodi Ar. Sit	30.26	221	eP	P	01 48 51.2	+1.0
TOA0	Torodi Ar. Sit	30.26	221	eP	P	01 48 51.2	+1.0
TORD	Torodi Ar. Bea	30.26	221	P	P	01 48 51.1	+0.9
	comp=Z,0.6nm,0.5s,baz=33,slow=8.8,SNR=8.8						
ARCES	ARCESS Array B	31.78	3	P	P	01 49 02.1	-1.0
	comp=Z,2.0nm,0.5s,baz=188,slow=9.4,SNR=26						
BRVK	Borovoye	36.70	50	eP	P	01 49 44.5	-1.4
	comp=Z,3.5nm,0.9s						
BRVK	Borovoye	36.70	50	eP	P	01 49 44.5	-1.4
	comp=Z,3.5nm,0.9s						
KKAR	Karatay Array	37.27	66	eP	P	01 49 50.1	-0.8
	comp=Z,1.3nm,0.6s						
KKAR	Karatay Array	37.27	66	eP	P	01 49 50.1	-0.8
	comp=Z,1.3nm,0.6s						
DBIC	Dimbokro	39.17	224	P	P	01 50 07.9	+0.8
	comp=Z,2.0nm,0.8s,baz=8.1,slow=7.1,SNR=2.8						
DBIC	Dimbokro	39.17	224	eP	P	01 50 07.8	+0.7
	comp=Z,13nm,1.4s						
DBIC	Dimbokro	39.17	224	eP	P	01 50 07.8	+0.7
	comp=Z,13nm,1.4s						
LIC	Lamto	39.63	224	eP	P	01 50 16.3	+5.3
	comp=Z,3.0nm,0.5s						
LIC	Lamto	39.63	224	eP	P	01 50 16.3	+5.3
	comp=Z,3.0nm,0.5s						
EKS2	Erkin-Say	39.71	66	eP	P	01 50 11.2	-0.3
	comp=Z,7.9nm,1.4s						
EKS2	Erkin-Say	39.71	66	eP	P	01 50 11.2	-0.3
	comp=Z,7.9nm,1.4s						
AAK	Ala-Archa	40.23	66	P	P	01 50 15.3	-0.6
	comp=Z,0.4nm,0.4s,baz=254,slow=7.4,SNR=3.1						
AAK	Ala-Archa	40.23	66	eP	P	01 50 17.8	+1.9
AAK	Ala-Archa	40.23	66	eP	P	01 50 17.8	+1.9
KMBO	Kilima Mbogo	41.49	156	eP	P	01 50 25.8	-0.8
	comp=Z,14nm,1.9s						
KMBO	Kilima Mbogo	41.49	156	eP	P	01 50 25.8	-0.8
	comp=Z,14nm,1.9s						
KURK	Kurchatov	41.88	53	eP	P	01 50 28.6	-0.6
	comp=Z,15nm,1.9s						
KURK	Kurchatov	41.88	53	eP	P	01 50 28.6	-0.6
	comp=Z,15nm,1.9s						
MK31	Makanchi Array	44.85	58	eP	P	01 50 52.3	-0.9
MK31	Makanchi Array	44.85	58	eP	P	01 50 52.3	-0.9
MKAR	Makanchi Array	44.85	58	P	P	01 50 52.6	-0.6
	comp=Z,3.4nm,0.5s,baz=272,slow=7.4,SNR=114						
ZAA0	Zalesovo Array	45.36	48	eP	P	01 50 56.1	-1.0
ZAA0	Zalesovo Array	45.36	48	eP	P	01 50 56.1	-1.0
ZALV	Zalesovo Beam	45.36	48	P	P	01 50 56.2	-0.9
	comp=Z,5.0nm,0.5s,baz=273,slow=8.4,SNR=14						
LSZ	Lusaka	53.27	172	eP	P	01 51 58.0	0.0
	comp=Z,7.8nm,1.4s						
LSZ	Lusaka	53.27	172	eP	P	01 51 58.0	0.0
	comp=Z,7.8nm,1.4s						
SCHQ	Schefferville	59.15	318	P	P	01 52 38.8	-0.8
	comp=Z,4.5nm,1.0s,baz=66,slow=10.0,SNR=4.1						
SONM	Songino Array	60.09	51	P	P	01 52 45.5	-0.9
	comp=Z,0.3nm,0.4s,baz=156,slow=7.9,SNR=2.9						
FCC	Fort Churchill	69.85	330	eP	P	01 53 47.5	-1.9
FCC	Fort Churchill	69.85	330	eP	P	01 53 47.5	-1.9
INK	Inuvik	72.47	350	P	P	01 54 04.7	-0.4
	comp=Z,0.5nm,0.5s,baz=11,slow=5.7,SNR=4.0						
YKA	Yellowknife Ar	73.90	340	P	P	01 54 13.8	+0.2
	comp=Z,0.1nm,0.4s,baz=36,slow=5.8,SNR=3.9						
ILAR	Eielson Array	77.26	355	P	P	01 54 32.8	-0.1
	comp=Z,0.4nm,0.9s,baz=14,slow=4.6,SNR=4.1						
MAJO	Matsushiro	85.68	46	eP	P	01 55 19.4	+1.4
	comp=Z,2.2nm,0.6s						
MAJO	Matsushiro	85.68	46	eP	P	01 55 19.4	+1.4
	comp=Z,2.2nm,0.6s						

SKHL 21 01:48:36.1±0.8, 48.70N×133.77E, h10km, mb3.6/2, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHBR	Khabarovsk	0.88	104	ePg	Pg	01 48 52.2	-0.9
KHBR				eSg	Sg	01 49 03.4	-1.2
KLR	Kul'dur	1.43	292	ePg	Pn	01 49 01.4	-0.8
KLR				eSg	Sg	01 49 22.4	+0.1
GRNR	Gornyy	2.69	39	ePn	Pn	01 49 19.2	-0.3
GRNR				ePg	Pb	01 49 25.8	+1.4
GRNR				AMB	AMB	01 49 29.0	
	34nm,0.9s						
GRNR				eSg	Sg	01 50 00.5	-2.2
GRNR				A	A	01 50 03.3	
	58nm,0.5s						
TEY	Ternei	4.15	151	eSg	Sb	01 50 43.5	+4.2
TEY				A	A	01 50 48.1	
	18nm,0.6s						
EKMR	Ekimchan	4.41	354	ePg	Pb	01 49 55.7	+2.1
EKMR				AMB	AMB	01 50 04.8	
	3.0nm,0.4s						
EKMR				eSg	Sg	01 50 54.4	-3.2
EKMR				A	A	01 51 05.8	
	8.0nm,0.5s						
EKMR				A	A	01 51 05.8	
	7.0nm,0.5s						
BMKR	Bomnak	6.75	335	eSg	Sg	01 52 06.2	-6.5
BMKR				A	A	01 52 11.7	
	5.0nm,0.5s						
KROS	Kirovskiy	7.13	326	eSg	Sg	01 52 17.7	-7.3
KROS				A	A	01 52 23.7	
	4.0nm,0.6s						

BYKL 21 01:49:19.2±0.2, 55.38N×110.43E
MOS 21 01:49:19.4±0.8, 55.40N×110.37E, h10km, mb4.2/1, Error ellipse: s-maj=35.1km s-min=15.7km az=55.0
ISC 21 01:49:17.6±0.7, 55.35N±0.02×110.31E±0.03, h10km, n36, σ2.28/67, 6C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.61	315	⇑iPg	Pn	01 49 31.7	-0.6
NIZ				eSg	Sn	01 49 40.6	-1.6
NIZ				Pmax			
	104nm,0.2s						
NIZ				Smax			
	315nm,0.3s						
YLYR	Ulyunkhan	0.68	134	⇓iPg	Pb	01 49 31.5	-0.1
	186nm,0.5s						
YLYR				⇑iPg	Pb	01 49 31.5	-0.1
	152nm,0.5s						
YLYR				⇑iPg	Pb	01 49 31.5	-0.1
	276nm,0.5s						
YLYR				eSg	Sb	01 49 40.3	-0.8
YLYR				Pmax			
	223nm,0.4s						
YLYR				Smax			
	413nm,0.1s						
KMO	Kumora	0.74	43	⇑iPg	Pb	01 49 31.9	-0.7
KMO				eSg	Sg	01 49 40.7	-0.8
KMO				Pmax			
	106nm,0.3s						
KMO				Smax			
	303nm,1.0s						
YOA	Uoyan	1.12	45	ePg	Pb	01 49 38.0	-1.1
YOA				eSg	Sb	01 49 52.5	-1.2
YOA				Pmax			
	300nm,0.2s						
YOA				Smax			
	712nm,0.4s						
SYVR	Suvo	1.71	186	ePN	Pg	01 49 50.9	+0.6
SYVR				e		01 50 14.9	
SYVR				pmax	pmax		
	comp=Z,60nm,0.2s						
SYVR				smax	smax		
	comp=N,290nm,0.3s						
SYVR	Suvo	1.71	186	⇑iPg	Pg	01 49 50.8	+0.5
SYVR				eSg	Sg	01 50 14.8	+2.5
SYVR				Pmax			
	comp=N,57nm,0.3s						
SYVR				Smax			
	comp=N,281nm,0.8s						
SVKR	Severomuysk	1.99	66	ePN	Pb	01 49 54.0	+0.1
SVKR				e		01 50 19.6	
SVKR				pmax	pmax		
	comp=Z,109nm,0.3s						
SVKR				smax	smax		
	comp=N,508nm,0.6s						
SVKR	Severomuysk	1.99	66	ePn	Pn	01 49 52.0	+0.6
SVKR				ePg	Pb	01 49 54.2	+0.3
SVKR				eSg	Sb	01 50 19.6	+0.8
SVKR				Pmax			
	comp=N,109nm,0.5s						
SVKR				Smax			
	comp=N,505nm,0.7s						
MXMB	Maximikha	2.28	204	ePn	Pb	01 49 57.0	-1.9
MXMB				ePg	Pg	01 49 59.9	-1.4
MXMB				eSg	Sg	01 50 32.0	+1.1
MXMB				Pmax			
	comp=N,60nm,0.9s						
MXMB				Smax			
	comp=N,409nm,1.0s						
OGRR	Ongureny	2.33	224	ePN	Pg	01 50 00.4	-1.8
OGRR				e		01 50 03.5	
OGRR				e		01 50 33.4	
OGRR				pmax	pmax		
	comp=Z,46nm,0.5s						
OGRR				smax	smax		
	comp=E,191nm,0.3s						
OGRR	Ongureny	2.33	224	ePn	Pb	01 50 00.2	+0.5
OGRR				ePg	Pg	01 50 02.7	+0.5
OGRR				e		01 50 30.7	
OGRR				eSg	Sg	01 50 34.4	+2.0
OGRR				Pmax			
	comp=E,45nm,0.5s						
OGRR				Smax			
	comp=E,191nm,0.3s						
BOD	Bodaibo	3.21	38	ePn	Pn	01 50 10.2	+2.2
BOD				ePg	Pb	01 50 15.6	+1.0
BOD				eSn	Sn	01 50 46.3	0.0
BOD				eSg	Sb	01 50 56.3	+2.6
BOD				Pmax			
	comp=E,11nm,0.6s						
BOD				Smax			
	comp=E,49nm,0.8s						
NLYR	Nelyaty	3.24	67	⇑iPn	Pn	01 50 10.9	+2.4
NLYR				ePg	Pb	01 50 15.4	+0.2
NLYR				eSn	Sn	01 50 45.6	-1.6
NLYR				eSg	Sb	01 50 57.0	+2.2
NLYR				Pmax			
	comp=E,14nm,0.6s						
NLYR				Smax			
	comp=E,108nm,1.3s						
ZRHB	Zarechye	3.37	215	ePg	Pg	01 50 20.6	-1.4
ZRHB				eSg	Sg	01 51 05.8	+0.2
ZRHB				Pmax			
	comp=E,40nm,0.7s						
ZRHB				Smax			
	comp=E,145nm,0.5s						
TRG	Tyrgan	3.49	224	ePn	Pn	01 50 15.0	+3.1
TRG				ePg	Pg	01 50 22.0	-2.4
TRG				eSg	Sg	01 51 09.3	-0.3
TRG				Pmax			
	comp=E,9.0nm,0.6s						
TRG				Smax			
	comp=E,57nm,0.4s						
UUDB	Ulan-Yde	3.83	205	ePg	Pg	01 50 29.3	-1.6
UUDB				eSn	Sn	01 51 05.2	+3.6
UUDB				eSg	Sg	01 51 20.1	-0.3
UUDB				Pmax			
	comp=E,13nm,0.7s						
UUDB				Smax			
	comp=E,82nm,1.7s						
CIT	Chita	3.85	149	eSg	Sg	01 51 18.4	-2.8
CIT				Smax			
	comp=E,105nm,0.4s						
HRMR	Khuramsha	4.23	210	ePn	Pn	01 50 24.5	+2.4
HRMR				ePg	Pg	01 50 36.1	-2.5
HRMR				eSg	Sg	01 51 31.8	-1.6
HRMR				Pmax			
	comp=E,32nm,0.6s						
HRMR				Smax			
	comp=E,225nm,0.6s						
VTMR	Vitim	4.28	16	eSg	Sb	01 51 28.5	+4.1
CRS	Chara	4.72	68	ePN	Pb	01 50 43.1	+2.8
CRS	Chara	4.72	68	ePg	Pb	01 50 42.5	+2.2
CRS				eSg	Sg	01 51 43.3	-5.6
CRS				Pmax			
	comp=E,11nm,0.8s						
CRS				Smax			
	comp=E,49nm,1.7s						
IRK	Irkutsk	4.74	231	eSg	Sg	01 51 48.6	-1.1
IRK				Smax			
	comp=E,130nm,0.7s						
LSTR	Listvyanka	4.77	225	ePn	Pn	01 50 30.7	+1.2
LSTR				ePg	Pg	01 50 45.8	-3.2
LSTR				eSn	Sn	01 51 27.9	+3.0
LSTR				eSg	Sg	01 51 48.6	-2.1
LSTR				Pmax			
	comp=E,3.0nm,0.5s						
LSTR				Smax			
	comp=E,42nm,0.8s						
TLY	Talaya	5.41	230	ePN	Pn	01 50 43.1	+4.8
TLY				e		01 50 58.1	
TLY				eS	Sn	01 51 43.8	+3.1
TLY				e		01 52 07.2	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TLY				smax	smax		
	comp=E,35nm,0.8s						
TLY	Talaya	5.41	230	ePg	Pb	01 50 56.1	+3.9
TLY				eSn	Sn	01 51 44.1	+3.4
TLY				eSg	Sg	01 52 08.0	-3.3
TLY				Pmax			
	comp=E,5.0nm,0.5s						
TLY				Smax			
	comp=E,35nm,1.1s						
TUP	Tupik	5.64	95	ePN	Pn	01 50 43.2	+1.7
TUP				e		01 50 59.6	
TUP				e		01 52 13.0	
TUP				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TUP				smax	smax		
	comp=N,54nm,0.8s						
TUP	Tupik	5.64	95	ePn	Pn	01 50 43.5	+2.0
TUP				ePg	Pb	01 50 58.8	+2.7
TUP				eSg	Sg	01 52 12.0	-6.6
TUP				Pmax			
	comp=N,6.0nm,0.5s						
TUP				Smax			
	comp=N,53nm,0.8s						
KPC	Khapcheranga	5.79	167	ePn	Pn	01 50 45.5	+1.9
KPC				ePg	Pg	01 51 03.5	-5.0
KPC				eSn	Sn	01 51 49.5	-0.6
KPC				eSg	Sg	01 52 19.1	-4.4
KPC				Pmax			
	comp=N,5.0nm,0.5s						
KPC				Smax			
	comp=N,41nm,0.9s						
ARS	Arshan	5.81	237	ePg	Pg	01 51 05.1	-3.7
ARS				e		01 51 09.8	
ARS				eSn	Sn	01 51 51.9	+1.3
ARS				eSg	Sg	01 52 21.2	-2.9
ARS				max			
	comp=N,15nm,0.5s						
ARS				Smax			
	comp=N,98nm,0.8s						
YKLR	Yuktali	6.49	74	ePg	Pb	01 51 13.8	+3.3
YKLR				eSg	Sg	01 52 37.3	-8.4
ZAK	Zakamensk	6.54	223	eSn	Sn	01 52 10.8	+2.2
ZAK				eSg	Sg	01 52 44.1	-3.4
ZAK				Smax			
	comp=N,9.0nm,0.7s						
MOY	Mondy	6.67	240	ePN	Pn	01 51 01.0	+5.4
MOY				e		01 51 18.3	
MOY				e		01 52 48.0	
MOY				pmax	pmax		
	comp=Z,3.0nm,0.2s						
MOY				smax	smax		
	comp=E,49nm,1.3s						
MOY	Mondy	6.67	240	ePn	Pn	01 51 00.5	+4.9
MOY				ePg	Pg	01 51 19.6	-5.6
MOY				e		01 52 16.8	
MOY				eSg	Sg	01 52 48.0	-3.5
MOY				Pmax			
	comp=E,5.0nm,0.8s						
MOY				Smax			
	comp=E,50nm,1.5s						
ORL	Orlik	6.81	250	ePN	Pn	01 51 02.6	+5.1
ORL				e		01 51 24.6	
ORL				e		01 52 53.7	
ORL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ORL				smax	smax		
	comp=N,46nm,1.4s						
ORL	Orlik	6.81	250	ePn	Pn	01 51 02.8	+5.3
ORL				eSn	Sn	01 52 17.8	+2.7
ORL				eSg	Sg	01 52 52.6	-3.3
ORL				max			
	comp=N,3.0nm,1.1s						
ORL				Smax			
	comp=N,46nm,1.4s						
ULN	Ulaanbaatar	7.76	196	eSg	Sg	01 53 20.9	-5.7

IDC 21 01:49:33.4±0.7, 15.99S×173.48W, h0km, mb4.6/13, mb1 4.8/14, mb1mx4.5/31, mbtmp4.6/14, ML4.1/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/37, Error ellipse: s-maj=28.7km s-min=16.2km az=133.0
SZGRF 21 01:49:48.1, 16.81S×174.02W, h117km, Tonga Islands
NEIC 21 01:49:53.5±2.9, 15.98S×173.75W, h161km±25km, mb4.8/27, Error ellipse: s-maj=10.5km s-min=9.3km az=111.0
ISCJB 21 01:49:56.0±0.3, 16.12S±0.06×173.76W±0.07, h200km, mb4.5/51, Error ellipse: s-maj=10.9km s-min=6.0km az=35.6
MOS 21 01:49:56.2±1.6, 15.56S×174.09W, h175km, mb4.7/12, Error ellipse: s-maj=13.1km s-min=11.8km az=169.3
BJI 21 01:50:00.1, 15.07S×174.32W, h188km, mB5.0/15, mb4.7/23
ISC 21 01:49:56.2±0.5, 16.01S±0.08×173.78W±0.09, h185km±3km, h184km:pP-P, n273, σ1.18/273, mb4.6/51, 52C-24D, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.77	130	P	Pn	01 50 55.7	-12
	baz=4.3,SNR=78						
NIUE				S	Sn	01 51 44.8	-18
	baz=4.3,SNR=23						
MSVF	Nonsavu	8.01	256	eP	Pn	01 51 50.2	+0.4
MSVF	Nonsavu	8.01	256	ePn	Pn	01 51 50.1	+0.4
RAR	Rarotonga	14.24	113	Pn	Pn	01 52 59.8	-10
	0.5nm,0.3s,baz=283,slow=14,SNR=2.5						
RAR				Sn	Sn	01 55 32.0	-17
	0.8nm,0.3s,baz=336,slow=17,SNR=2.7						
RAR				LR	LR	01 56 46.9	
	comp=Z,149nm,21.7s,baz=252,slow=31						
DZM	Mont Dzumac	19.64	249	eLR	LR	01 59 15.3	
	248nm,28.8s						
DZM	Mont Dzumac	19.64	249	P	P	01 54 06.8	-4.2
	0.5nm,0.3s,baz=82,slow=14,SNR=6.2						
DZM				LR	LR	02 00 25.1	
	comp=Z,192nm,21.2s,baz=50,slow=33						
DZM	Mont Dzumac	19.64	249	eP	P	01 54 11.7	+0.6
	83nm,0.9s						
NOUC	Port Laguerre	19.77	249	eP	Pn	01 54 17.5	+1.4
OUZ	Omahuta	22.23	208	eP	P	01 54 39.7	+1.9
	45nm,1.1s						
PPT2	Papeete2	23.22	97	eLR	LR	01 59 49.5	
	226nm,35.5s						
URZ	Urewera	23.58	198	P	P	01 54 47.6	-2.5
	41nm,0.6s,baz=19,slow=3.7,SNR=37						
URZ	Urewera	23.58	198	eP	P	01 54 48.3	-1.8
	47nm,0.7s						
BKZ	Black Stump Fm	24.60	198	eP	P	01 55 00.1	+0.7
	139nm,2.4s						
BFZ	Birch Farm	26.07	197	eP	P	01 55 11.8	-0.9
	469nm,2.6s						
KHZ	Kahutara	28.48	200	eP	P	01 55 33.2	-0.8
	394nm,2.3s						
RPZ	Rata Peaks	30.49	202	eP	P	01 55 51.3	-0.5
	314nm,2.4s						
ODZ	Otahua Downs	31.79	201	eP	P	01 56 03.0	-0.1
	384nm,2.8s						
DCZ	Deep Cove	33.46	205	eP	P	01 56 17.4	-0.3
	250nm,2.3s						
WHZ	Wether Hill Ro	33.50	203	eP	P	01 56 19.4	+1.4
	48nm,0.8s						
EIDS	Eidsvold	34.08	248	eP	P	01 56 22.0	-1.4
	37nm,1.8s						
ARMA	Armidale	34.72	239	eP	P	01 56 28.5	-0.4
	37nm,1.8s						
ARMA	Armidale	34.72	239	⇑P	P	01 56 28.2	-0.7
	baz=35,SNR=14						
MGCD	Mangrove Creek	36.01	235	P	P	01 56 39.6	-0.1
	baz=36,SNR=4.8						
RMQ	Roma	36.32	247	⇓P	P	01 56 41.6	-0.9
	baz=37,SNR=7.3						
CNB	Canberra Magne	38.09	233	P	P	01 56 57.0	-0.4
	baz=38,SNR=9.7						
CTA	Charters Tower	38.16	258	⇓P	P	01 56 57.4	-0.6
	baz=39						
CTAO	Charters Tower	38.16	258	eP	P	01 56 56.5	-1.5
CTAO				pmax	pmax		
	comp=Z,20nm,1.3s						
CTAO	Charters Tower	38.16	258	eP	P	01 56 56.5	-1.5
	comp=Z,20nm,1.3s						
CAN	Canberra	38.38	233	⇑P	P	01 56 58.8	-0.9
	baz=39						
YNG	Young	38.50	235	⇑P	P	01 57 00.3	-0.4
	baz=39						
PMG	Port Moresby	38.62	275	ceP	P	01 57 02.2	+0.3
PMG				pmax	pmax		
	comp=Z,12nm,1.0s						
PMG	Port Moresby	38.62	275	eP	P	01 57 02.5	+0.6
	comp=Z,10.0nm,0.9s						
PMG	Port Moresby	38.62	275	⇑P	P	01 57 02.4	+0.4
	baz=39						
H11S2	WAKE ISLAND Hy	39.30	330	T	T	02 37 46.5	
	baz=146,slow=75,SNR=24						

H11S3 WAKE ISLAND Hy 39.31 330 T T 02 37 43.2
baz=146,slow=75,SNR=16
H11S1 WAKE ISLAND Hy 39.32 330 T T 02 37 47.7
baz=146,slow=75,SNR=9.9
CMSA Cobar Meteorol 39.94 240 P P 01 57 11.8 -0.8
baz=40,SNR=19
CMSA P P 01 57 11.9 -0.8
baz=40,SNR=22
H11N3 WAKE ISLAND Hy 40.26 331 T T 02 38 54.1
baz=143
H11N1 WAKE ISLAND Hy 40.27 331 T T 02 38 53.0
baz=143
H11N2 WAKE ISLAND Hy 40.28 331 T T 02 38 59.2
baz=143
COEN Coen 41.58 267 eP P 01 57 26.5 +0.3
COEN Coen 41.58 267 P P 01 57 26.6 +0.3
baz=42,SNR=16
TOO Toolangi 41.80 231 ⇓P P 01 57 27.5 -0.4
baz=42,SNR=9.0
STKA Stephens Creek 43.42 240 P P 01 57 40.5 -0.5
comp=Z,36nm,0.8s,baz=90,slow=11,SNR=37
STKA PcP PcP 01 59 27.5 +1.6
comp=Z,2.7nm,0.7s,baz=90,slow=0,SNR=2.6
STKA Stephens Creek 43.42 240 ⇓P P 01 57 40.5 -0.5
baz=44,SNR=29
ARPS Mount Arapiles 44.34 233 P P 01 57 47.6 -0.5
baz=45,SNR=8.1
HTT Hallett 45.92 239 ⇑P P 01 58 00.4 -0.3
baz=46,SNR=20
BBOO Buckleboo 48.20 240 eP P 01 58 17.7 -0.6
BBOO Buckleboo 48.20 240 P P 01 58 17.7 -0.6
baz=49,SNR=46
WR0 Warramunga Arr 49.16 257 ⇓P P 01 58 25.4 -0.5
baz=50
WR9 Warramunga Arr 49.19 257 ⇑P P 01 58 25.6 -0.5
baz=50
WRAB Tennant Creek 49.35 257deP P 01 58 26.0 -1.2
WRAB pmax pmax
comp=Z,50nm,1.6s
WRAB Tennant Creek 49.35 257 eP P 01 58 26.1 -1.2
comp=Z,9.0nm,0.9s
WRA Warramunga Arr 49.36 257 P P 01 58 26.5 -0.8
comp=Z,5.3nm,0.7s,baz=95,slow=6.7,SNR=95
WRA PcP PcP 01 59 48.1 +1.0
comp=Z,1.4nm,0.6s,baz=87,slow=4.0,SNR=4.9
AS31 Alice Springs 49.58 252 eP P 01 58 27.8 -1.2
ASAR Alice Springs 49.58 252 P P 01 58 28.2 -0.8
comp=Z,26nm,0.5s,baz=86,slow=7.9,SNR=334
ASAR LR LR 02 17 18.3
comp=Z,68nm,20.9s,baz=121,slow=33
KDU Kakadu 52.07 266 P P 01 58 47.4 -0.2
baz=53,SNR=6.1
MTN Manton Dam 53.32 266 ⇑P P 01 58 56.2 -0.6
baz=54,SNR=4.8
WRKA Warakurna 54.65 250 P P 01 59 05.9 -0.4
baz=55,SNR=29
FORT Forrest 54.82 243 eP P 01 59 06.8 -0.6
comp=Z,35nm,0.6s
FORT Forrest 54.82 243 P P 01 59 06.6 -0.8
baz=55,SNR=23
KNRA Kununurra 55.12 262 P P 01 59 09.2 -0.5
baz=56,SNR=5.9
MBWA Marble Bar 62.85 254 eP P 02 00 02.7 -0.2
comp=Z,9.0nm,0.8s
MEEK Meekatharra 63.25 248 ⇑P P 02 00 05.1 -0.4
baz=64,SNR=9.4
KLBR Kellerberrin 63.64 242 P P 02 00 08.1 +0.1
baz=64,SNR=11
NWAO Narrogin (SRO) 64.01 241 LR LR 02 25 34.5
comp=Z,57nm,18.9s,baz=34
RKGY Rocky Gully 64.15 239 ⇓P P 02 00 09.8 -1.4
baz=64
BLDU Ballidu 64.59 243 ⇓P P 02 00 12.8 -1.4
baz=65
MJAR Matsushiro Arr 69.17 320 P P 02 00 44.0 +1.2
MJAR Matsushiro Arr 69.17 320 P P 02 00 44.0 +1.2
comp=Z,11nm,1.0s,baz=166,slow=6.0,SNR=4.5
PETK Petropavlovsk- 73.10 342 P P 02 01 05.3 -0.7
comp=Z,5.7nm,0.7s,baz=114,slow=7.2,SNR=7.9
PFO Pinyon Flat Ob 73.60 47 LR LR 02 23 31.8
comp=Z,81nm,20.5s,baz=123,slow=28
YSS Yuzh-Sakhalins 73.83 331 eP P 02 01 10.2 -0.2
YSS pmax pmax
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 73.83 331 eP P 02 01 10.5 +0.1
comp=Z,13nm,0.6s
QSPA South Pole Qui 74.04 180 eP P 02 01 13.0 +1.4
comp=Z,16nm,1.3s
NVAR Mina Array Bea 75.02 42 P P 02 01 16.3 -1.5
comp=Z,0.8nm,0.7s,baz=229,slow=8.2,SNR=5.5
KSRS Korea Array 76.34 316 P P 02 01 26.4 +1.5
comp=Z,1.7nm,1.0s,baz=134,slow=7.0,SNR=3.8
KSAR Wonju Array Be 76.36 316 P P 02 01 26.5 +1.4
KSAR Wonju Array Be 76.36 316 P P 02 01 26.4 +1.4
TUC Tucson 77.05 51 eP P 02 01 29.0 -0.3
TUC pmax pmax
comp=Z,2.0nm,0.9s
TUC Tucson 77.05 51 eP P 02 01 29.0 -0.3
comp=Z,2.1nm,0.9s
USRK Ussuriysk Arra 77.65 323 P P 02 01 33.2 +1.2
comp=Z,3.5nm,0.9s,baz=108,slow=3.2,SNR=5.7
HABR Khabarovsk 78.66 328 eP P 02 01 36.4 -1.2
HABR 02 01 44.6
HABR e*PP pP 02 02 20.2 -2.3
HABR e*SP sP 02 02 39.8 -2.2
HABR e 02 04 37.1
HABR eS S 02 11 19.1 0.0
HABR e 02 11 40.7
HABR e 02 12 13.0
HABR eSS SS 02 16 28.5 +0.6
HABR pmax pmax
comp=Z,58nm,2.3s
HABR MLR MLR
comp=Z,67nm,22.0s
NJ2 Nanjing 80.24 307 eP P 02 01 47.0 +0.5
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
MNTX Cornudas Mount 80.88 53 eP P 02 01 49.8 -0.2
comp=Z,5.2nm,1.4s
TXAR Lajitas Array 81.25 56 P P 02 01 51.4 -0.7
comp=Z,1.5nm,1.1s,baz=232,slow=6.2,SNR=7.8
CN2 Changchun 81.32 320 eP P 02 01 52.8 +0.8
CN2 pmax pmax
comp=Z,10.0nm,0.9s
TNA Tin City 81.44 2 eP P 02 01 51.9 -0.2
comp=Z,4.0nm,0.7s
ANMO Albuquerque 81.47 50⇓eP P 02 01 50.8 -2.5
ANMO pmax pmax
comp=Z,14nm,1.9s
MCK McKinley 81.78 11 eP P 02 01 52.7 -1.3
MCK pmax pmax
comp=Z,4.0nm,0.9s
MCK McKinley 81.78 11 eP P 02 01 52.7 -1.3
comp=Z,3.6nm,0.9s
QIZ Qiongzhong 82.80 292 P P 02 02 00.9 +0.7
QIZ sP sP 02 03 04.6 -0.4
QIZ S SKSac 02 12 05.8 +1.2
QIZ pmax pmax
comp=Z,18nm,1.9s
BW06 Boulder Array 82.96 42 eP P 02 02 00.7 -0.2
comp=Z,1.5nm,0.8s
COLA College 83.02 11ceP P 02 01 59.3 -1.0
COLA pmax pmax
comp=Z,16nm,0.8s
COLA College 83.02 11 eP P 02 01 59.0 -1.3
comp=Z,3.6nm,0.7s
ILAR Eielson Array 83.11 11 P P 02 01 59.8 -1.0
comp=Z,1.1nm,0.5s,baz=223,slow=5.6,SNR=22
BOZ Bozeman (W) 83.11 39 eP P 02 02 02.2 +0.7
BOZ pmax pmax
comp=Z,4.0nm,1.4s
BOZ Bozeman (W) 83.11 39 eP P 02 02 02.2 +0.7
comp=Z,4.4nm,1.4s
BILL Bilibino 85.06 353⇑iP P 02 02 10.2 -0.4
BILL *SP sP 02 03 15.0 -0.6
BILL 02 05 33.0
BILL pmax pmax
comp=Z,13nm,1.7s
BILL Bilibino 85.06 353 eP P 02 02 10.0 -0.6
comp=Z,8.3nm,1.1s
BJI Beijing 85.62 314 P P 02 02 14.8 +0.8
BJI pmax pmax
comp=Z,10.0nm,0.8s
HIA Hailar 87.46 323⇑iP P 02 02 22.5 -0.3
HIA pmax pmax
comp=Z,8.0nm,1.2s
GYA Guiyang 88.01 298 eP P 02 02 27.0 +1.0
GYA pP pP 02 03 13.3 +1.4
GYA sP sP 02 03 33.6 +2.4
GYA PP PP 02 05 58.8 +3.4
GYA SKS SKSac 02 12 34.8 -2.6
GYA S S 02 12 52.4 -1.9
GYA pmax pmax
comp=Z,10.0nm,1.0s
HHC Hu-ho-hao-te 89.17 313 eP P 02 02 31.8 +0.7
HHC pP pP 02 03 19.9 +2.8
HHC PP PP 02 06 04.1 -0.3
HHC SKS SKSac 02 12 39.5 -4.1
HHC S SKKSac 02 13 00.4 +4.2
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,130nm,4.6s
YKA Yellowknife Ar 90.80 23 P P 02 02 38.4 +0.4
comp=Z,0.2nm,0.6s,baz=233,slow=3.9,SNR=4.4
KMI Kunming 90.96 296 P P 02 02 41.4 +1.4
KMI pmax pmax
comp=Z,8.0nm,0.7s
CD2 Chengdu 91.82 302 eP P 02 02 43.9 +0.3
CD2 pP pP 02 03 31.1 +1.5
CD2 sP sP 02 03 50.9 +2.0
CD2 SKS SKSac 02 12 56.9 -2.2
CD2 S S 02 13 25.9 -3.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,6.2s
CMAR Chiang Mai Arr 92.46 288 P P 02 02 48.2 +1.5
comp=Z,2.1nm,0.4s,baz=99,slow=2.9,SNR=18
LZH Lanzhou 93.29 306 eP P 02 02 51.4 +1.0
LZH pP pP 02 03 36.1 -0.4
LZH sP sP 02 03 56.9 +1.1
LZH pmax pmax
comp=Z,10.0nm,1.0s
BOD Bodaibo 94.26 329 eP P 02 02 52.7 -1.4
ULN Ulaanbaatar 94.64 318ceP P 02 02 56.0 -0.3
ULN pmax pmax
comp=Z,5.0nm,2.0s
SONM Songino Array 95.05 318 P P 02 02 58.4 +0.2
comp=Z,0.5nm,0.6s,baz=129,slow=4.4,SNR=7.7
TIXI Tiksi 95.49 344⇓eP P 02 02 58.9 -0.5
TIXI pmax pmax
comp=Z,4.0nm,1.2s
KSH Kashi 115.54 306 ePKP PKPdf 02 08 20.0 +3.3
KSH PKS PKSdf 02 11 56.4 +3.0
KSH AMB AMB
comp=Z,89nm,7.0s
BRVK Borovoye 118.19 322 ePKIKP PKPdf 02 08 21.3 +0.1
BRVK Borovoye 118.19 322 ePKPdf PKPdf 02 08 21.3 +0.1
ARU Arti 123.66 328 i PKIKP PKPdf 02 08 31.8 +0.2
ARU 02 10 21.6
ARU 02 15 17.1
ARU SS SS 02 26 53.1 +3.8
ARU Arti 123.66 328 ePKPdf PKPdf 02 08 31.6 0.0
ARCES ARCESS Array B 125.16 352 PKP PKPdf 02 08 33.2 -0.8
comp=Z,5.6nm,0.7s,baz=16,slow=1.0,SNR=14
ABKAR Akbulak array 125.44 320 ePKPdf PKPdf 02 08 34.1 -1.1
PRGR Permogore 126.56 338 PKIKP PKPdf 02 08 34.4 -2.5
PRGR pmax pmax
comp=Z,7.0nm,0.9s
KLMR Klimovskoe 129.23 340 ePKIKP PKPdf 02 08 41.5 -0.6
KLMR pmax pmax
comp=Z,8.0nm,1.1s
BOSA Boshof 131.97 203 PKP PKPdf 02 08 50.3 +1.8
comp=Z,1.3nm,0.6s,baz=63,slow=2.3,SNR=3.1
FINES FINESS Array B 132.45 347 PKP PKPdf 02 08 47.9 -0.3
comp=Z,2.4nm,0.8s,baz=70,slow=1.6,SNR=9.3
OBN Obninsk 134.52 336⇑iPKIKP PKPdf 02 08 54.2 +2.0
OBN pmax pmax
comp=Z,21nm,2.2s
NOA NORSAR Array B 134.89 357 PKP PKPdf 02 08 52.7 -0.1
comp=Z,0.4nm,0.7s,baz=321,slow=2.2,SNR=3.0
CLDR Caldiran 139.83 313 eP PKPdf 02 09 06.0 +3.1
SUW Suwalki 139.83 345 ePKHKP PKPpre 02 08 55.9
SUW Suwalki 139.83 345 ePKP PKPpre 02 08 55.8
AKASG Malin Array Be 140.75 337 PKhKP PKPpre 02 08 55.7
comp=Z,2.6nm,0.9s,baz=37,slow=4.1,SNR=7.2
AKASG PKP PKPdf 02 09 04.3 +0.4
comp=Z,1.2nm,0.6s,baz=35,slow=2.8,SNR=7.5
CUKT Cukurca 140.80 310 eP PKPdf 02 08 59.6 -5.0
BAYT Ayd¯-ntepe-Bay 141.85 316 eP PKPdf 02 09 09.4 +3.0
PTK Pertek 143.09 315 eP PKPdf 02 09 07.7 -1.0
TSUM Tsumeb 143.27 198 ePKPdf PKPbc 02 09 08.0 +1.0
LVV L'vov 143.31 341 ePKIKP PKPdf 02 09 10.2 +1.8
ILIC ilic-Erzincan 143.37 316 eP PKPdf 02 09 10.8 +1.8
KWP Kalwaria Pacla 143.89 342 ePKIKP PKPbc 02 09 07.8 +0.1
KWP Kalwaria Pacla 143.89 342 ePKP PKPbc 02 09 07.8 +0.1
KWP Kalwaria Pacla 143.89 342⇓iP PKPbc 02 09 07.7 0.0
KWP Kalwaria Pacla 143.89 342 ePKPdf PKPbc 02 09 07.8 +0.1
MALT Malatya 144.03 314 eP PKPab 02 09 07.8 -0.3
MALT Malatya 144.03 314 ⇑PKIKP PKPdf 02 09 10.7 +0.5
MALT Malatya 144.03 314⇑iP PKPdf 02 09 10.7 +0.5
OJC Ojcow 144.15 345 ePKIKP PKPbc 02 09 08.5 0.0
OJC Ojcow 144.15 345 ePKPbc PKPbc 02 09 08.5 0.0
SVSK Karacayir 144.16 318 eP PKPbc 02 09 09.4 +0.6
KSP Ksiaz 144.32 349⇓ePKIKP PKPbc 02 09 09.0 0.0
KSP Ksiaz 144.32 349 ePKP PKPbc 02 09 09.3 +0.3
CLL Collm 144.37 353 ePKIKP PKPbc 02 09 09.0 -0.1
CLL pmax pmax
comp=Z,20nm,0.7s
CLL Collm 144.37 353 ePKPbc PKPbc 02 09 09.5 +0.4
CLL Collm 144.37 353 ePKPdf PKPbc 02 09 09.0 -0.1
comp=Z,7.0nm,0.7s
STHS Stebnicka Huta 144.50 343 ePKIKP PKPdf 02 09 10.6 0.0
STHS Stebnicka Huta 144.50 343 ePKP PKPdf 02 09 10.6 0.0
LEOM Leova 144.51 333 ⇑PKIKP PKPab 02 09 09.1 -0.4
LEOM Leova 144.51 333⇑iP PKPab 02 09 09.1 -0.4
DARE Darende-Malaty 144.55 315 eP PKPab 02 09 09.4 -0.6
NIE Niedzica 144.75 344 ePKIKP PKPab 02 09 10.3 -0.1
NIE Niedzica 144.75 344 ePKPdf PKPab 02 09 10.3 -0.1
BUR08 Bucovina Ar. S 144.77 338 ePKPdf PKPab 02 09 11.1 -0.1
DPC Dobruska-Polom 144.78 349 ePKIKP PKPdf 02 09 11.1 0.0
DPC Dobruska-Polom 144.78 349 ePKP PKPdf 02 09 11.1 0.0
DPC ex x 02 09 22.1
DPC ex x 02 09 45.3
DPC ex x 02 09 49.3
BURAR Bucovina Array 144.79 338 ⇓PKIKP PKPdf 02 09 11.2 0.0
BURAR Bucovina Array 144.79 338⇓iP PKPdf 02 09 11.2 0.0
BZK Bozkurt 144.80 323 eP PKPdf 02 09 11.3 +0.1
OKC Ostrava-Krasne 144.90 347 ePKIKP PKPdf 02 09 11.5 +0.3
OKC Ostrava-Krasne 144.90 347 ePKP PKPdf 02 09 11.5 +0.3
OKC ex x 02 09 15.2
OKC ex x 02 09 44.9
UZH Uzhgorod 144.90 341⇑iPKIKP PKPdf 02 09 11.4 +0.2
CRVS Cervenica-Dubn 144.91 342 ePKIKP PKPab 02 09 11.1 +0.2
CRVS Cervenica-Dubn 144.91 342 ePKP PKPab 02 09 11.1 +0.2
CRVS e 02 37 28.0
KMBO Kilima Mbogo 144.94 244 ePKIKP PKPdf 02 09 13.8 +1.1
KMBO Kilima Mbogo 144.94 244 PKPbc PKPdf 02 09 13.7 +1.0
comp=Z,11nm,1.0s,baz=104,slow=4.4,SNR=25
KMBO Kilima Mbogo 144.94 244 ePKPdf PKPdf 02 09 13.8 +1.1
MORC Moravsky Berou 145.09 347 ePKIKP PKPab 02 09 11.9 +0.2
MORC Moravsky Berou 145.09 347⇑iP PKPab 02 09 12.2 +0.6
MORC Moravsky Berou 145.09 347 ePKPbc PKPab 02 09 11.8 +0.2
TESR Tescani 145.15 335⇑iP PKPab 02 09 11.3 -0.4
MOX Moxa 145.18 354 ePKPbc PKPab 02 09 12.5 +0.6
TANN Tannenbergstha 145.31 353 ePKPbc PKPab 02 09 12.5 0.0
BMR Baia Mare 145.35 339 ⇑PKIKP PKPab 02 09 13.5 +0.9
BMR Baia Mare 145.35 339⇑iP PKPab 02 09 13.5 +0.9
PRU Pruhonice 145.44 351 ePKIKP PKPab 02 09 12.8 -0.1
PRU Pruhonice 145.44 351 ePKP PKPab 02 09 12.8 -0.1
PRU ex x 02 09 21.5
KMRS Kahramanmaras 145.48 314 eP PKPdf 02 09 12.3 -0.4
MEM Membach 145.49 0 PKP PKPab 02 09 12.8 -0.2
BNN Bunyan 145.49 317 eP PKPdf 02 09 11.9 -0.9
CORM Corum 145.51 320 eP PKPbc 02 09 13.3 +0.1
PETR Petresti 145.54 334⇑iP PKPdf 02 09 11.5 -0.9
SNF Seneffe 145.55 2 PKP PKPab 02 09 13.1 -0.1
CFR Carcaliu 145.57 332 ⇑PKIKP PKPab 02 09 13.6 +0.1
CFR Carcaliu 145.57 332⇑iP PKPab 02 09 13.6 +0.1
VRI Vrincioaia 145.64 334 ⇓PKIKP PKPab 02 09 13.6 -0.2
VRI Vrincioaia 145.64 334⇓iP PKPab 02 09 13.6 -0.2
BCLA Clavier 145.67 1 PKP PKPdf 02 09 12.2 -0.3
PLOR Plostina 145.68 334 ⇓PKIKP PKPab 02 09 13.9 -0.1
PLOR Plostina 145.68 334⇓iP PKPab 02 09 13.9 -0.1
VRAC Vranov 145.73 348 ⇑PKP2 PKPab 02 09 14.4 +0.4
VRAC Vranov 145.73 348⇑iP PKPab 02 09 14.4 +0.4
DOU Dourbes 145.97 2 PKP PKPbc 02 09 13.6 -0.5
ROTZ Rotzenmuhle 145.98 353 ePKPbc PKPab 02 09 15.0 +0.1
VYHS Vyhne 145.99 345 ePKP2 PKPbc 02 09 14.6 +0.4
VYHS Vyhne 145.99 345 ePKP PKPbc 02 09 14.6 +0.4
TIRR Tirgusor 145.99 331 ⇑PKP2 PKPab 02 09 15.1 0.0
TIRR Tirgusor 145.99 331⇑iP PKPab 02 09 15.1 0.0
SAFT Safranbolu 146.02 323 eP PKPdf 02 09 12.8 -0.6
HARR Harsova 146.04 332 ⇑PKP2 PKPab 02 09 15.5 +0.2
HARR Harsova 146.04 332⇑iP PKPab 02 09 15.5 +0.2
GRF Grafenberg Arr 146.16 354 ePKPbc PKPab 02 09 15.8 +0.1
GRF epPKPbc pPKPbc 02 09 47.0 -15
KOZT Kozan 146.23 315 eP PKPdf 02 09 14.3 +0.4
PSZ Piszkesteto 146.24 343 ⇓PKP2 PKPbc 02 09 15.3 +0.2
PSZ Piszkesteto 146.24 343⇓iP PKPbc 02 09 15.3 +0.2
PSZ Piszkesteto 146.24 343 ePKPbc PKPbc 02 09 15.2 +0.1
MLR Muntele Rosu 146.26 335 ⇑PKP2 PKPbc 02 09 15.6 +0.3
MLR Muntele Rosu 146.26 335⇑iP PKPbc 02 09 15.6 +0.3
SMOL Smolenice 146.30 347 ePKP2 PKPab 02 09 16.3 +0.1
SMOL Smolenice 146.30 347 ePKP PKPab 02 09 16.3 +0.1
DRGR 146.38 339 ⇑PKP2 PKPbc 02 09 16.0 +0.5
DRGR 146.38 339⇑iP PKPbc 02 09 16.0 +0.5
BR131 Keskin Array S 146.39 320 ePKPbc PKPbc 02 09 16.1 +0.3
BRTR Keskin Array B 146.39 320 PKPbc PKPbc 02 09 15.9 0.0
comp=Z,14nm,0.7s,baz=98,slow=2.2,SNR=87
KHC Kasperske Hory 146.42 351 ePKP2 PKPab 02 09 16.2 -0.5
KHC Kasperske Hory 146.42 351 ePKP PKPab 02 09 16.2 -0.5
KHC ex x 02 09 21.5
KHC ex x 02 09 48.7
KHC epPKP pPKPdf 02 09 55.8 -6.4
KHC Kasperske Hory 146.42 351 ePKPbc PKPbc 02 09 15.6 +0.1
WLF Walferdange 146.43 0 PKP PKPbc 02 09 16.7 0.0
WLF Walferdange 146.43 0 ePKPbc PKPab 02 09 16.6 -0.1
CEYT Ceyhan 146.53 314 eP PKPdf 02 09 14.8 +0.4
VOIR 146.67 336 ⇑PKP2 PKPab 02 09 17.8 -0.1
VOIR 146.67 336⇑iP PKPab 02 09 17.8 -0.1
GEC2 GERESS Array S 146.68 351 ePKPbc PKPbc 02 09 16.9 +0.6
GERES GERESS Array B 146.68 351 PKPbc PKPbc 02 09 16.3 0.0
comp=Z,3.6nm,0.7s,baz=23,slow=3.3,SNR=20
ANTO Ankara 146.82 321 eP PKPbc 02 09 17.1 +0.1
ANTO Ankara 146.82 321 ⇓PKP2 PKPab 02 09 18.3 -0.4
ANTO Ankara 146.82 321⇓iP PKPab 02 09 18.3 -0.4
ANTO Ankara 146.82 321 ePKPbc PKPbc 02 09 17.8 +0.8
ARR Arges 146.89 336⇑iP PKPbc 02 09 18.8 +0.1
DEV Deva 147.10 338 ⇑PKP2 PKPbc 02 09 17.9 +0.4
DEV Deva 147.10 338⇑iP PKPbc 02 09 17.9 +0.4
CONA Conrad Observa 147.19 348⇑iPKPab PKPbc 02 09 18.6 +0.9
comp=Z,13nm,1.0s
STU Stuttgart 147.23 356 ePKP2 PKPbc 02 09 18.7 +1.0
STU Stuttgart 147.23 356 ePKPbc PKPbc 02 09 18.7 +1.0
MERS Mersin 147.44 315 eP PKPdf 02 09 16.3 +0.2
MOA Molln 147.56 350⇑iPKPab PKPbc 02 09 19.3 +0.6
comp=Z,9.3nm,1.1s
GZR Gura Zlata 147.57 338 ⇑PKIKP PKPbc 02 09 19.3 +0.5
GZR Gura Zlata 147.57 338⇑iP PKPbc 02 09 19.3 +0.5
FUR Furstenfeldbru 147.66 354 ePKPbc PKPbc 02 09 19.6 +0.6
BFO Black Forest 147.72 357 i PKP2 PKPbc 02 09 20.3 +1.2
BFO Black Forest 147.72 357 ePKPbc PKPbc 02 09 19.7 +0.6
BFO Black Forest 147.72 357 ePKPbc PKPbc 02 09 19.4 +0.3
BZS Buzias 147.78 340 ⇑PKP2 PKPbc 02 09 19.8 +0.5
BZS Buzias 147.78 340⇑iP PKPbc 02 09 19.8 +0.5
ASF Jabal al Asfar 147.85 306 PKPbc PKPbc 02 09 21.1 +1.0
comp=Z,3.8nm,0.7s,baz=31,slow=3.6,SNR=13
RJOB Jochberg 147.90 352 ePKPbc PKPbc 02 09 20.4 +0.8
KIZT Kizilcal 147.99 320 eP PKPdf 02 09 16.8 -0.2
LADK Ladik-KONYA 148.10 319 eP PKPbc 02 09 19.2 -1.4
PKSM Moragy 148.15 344 ⇑PKP2 PKPbc 02 09 20.4 +0.2
PKSM Moragy 148.15 344⇑iP PKPbc 02 09 20.4 +0.2
KONT Konya--Tatoy 148.25 319 eP PKPbc 02 09 20.7 -0.2
RETA Reutte 148.39 354⇑iPKiKP PKPbc 02 09 21.4 +0.4
comp=Z,11nm,1.4s
WATA Walderalm 148.45 353⇓iPKiKP PKPbc 02 09 21.4 +0.2
comp=Z,2.9nm,0.5s,SNR=4.8
WTTA Wattenberg 148.51 353 i PKiKP PKPbc 02 09 21.9 +0.5
comp=Z,17nm,1.0s,SNR=11
SOKA Soboth 148.55 348⇑iPKPdf PKPdf 02 09 18.0 +0.5
comp=Z,15nm,1.7s
MMAI Mount Meron Ar 148.66 308 PKPbc PKPbc 02 09 23.3 +1.2
comp=Z,9.5nm,0.7s,baz=58,slow=4.1,SNR=30
DAVA Damuels 148.66 355⇑iPKiKP PKPbc 02 09 22.3 +0.6
comp=Z,12nm,0.8s
ABTA Abfaltersbach 148.91 352 i PKiKP PKPbc 02 09 22.5 +0.2
comp=Z,15nm,0.8s,SNR=10
LFK Lefkose 148.95 313 eP PKPbc 02 09 21.2 -1.6
CSS Prodhromos 149.26 313 eP PKPbc 02 09 22.2 -1.2
CSS Prodhromos 149.26 313 ePKPbc PKPbc 02 09 23.1 -0.3
TUE Stuetta 149.51 356 ePKPbc PKPbc 02 09 24.9 +0.9
MMB Musomiste 150.37 333⇓iP PKPbc 02 09 26.5 +0.5
SSB Saint Sauveur 150.78 2 ePKIKP PKPbc 02 09 27.5 +0.7
SSB Saint Sauveur 150.78 2 ePKPbc PKPbc 02 09 27.5 +0.7
BNI Bardonecchia 151.04 359 ePKIKP PKPbc 02 09 28.7 +1.1
BNI Bardonecchia 151.04 359 ePKPbc PKPbc 02 09 28.7 +1.1
TORD Torodi Ar. Bea 174.77 122 PKP PKPdf 02 09 44.0 -0.8
comp=Z,0.9nm,0.9s,baz=260,slow=1.5,SNR=4.4

IDC **21** *02:05:18.9±0.8, 38.˚18N×71.˚49E, h0km, mb3.8/18, mb1 4.0/21, mb1mx3.8/56, mbtmp3.8/21, ML3.6/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/50, Error ellipse: s-maj=18.0km s-min=12.2km az=159.0*
ISCJB **21** *02:05:19.2±0.5, 38.˚14N±0.˚04×71.˚28E±0.˚05, h10km, mb3.8/22, MS2.8/1, Error ellipse: s-maj=7.3km s-min=4.9km az=135.1*
NNC **21** *02:05:23.0±1.8, 38.˚36N×71.˚29E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=13.4km s-min=9.8km az=4.0*
NEIC **21** *02:05:27.1±0.8, 38.˚29N×71.˚39E, h60km±7km, mb4.3/4, Error ellipse: s-maj=8.2km s-min=6.6km az=136.0*
ISC 21 02:05:22.1±0.6, 38.˚26N±0.˚05×71.˚19E±0.˚06, h10km, n73, σ1§66/71, mb3.8/22, 14C-10D, Afghanistan-Tajikistan border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KBL Kabul 4.10 206 ePn Pn 02 06 29.7 +4.7
KBL eSn Sb 02 07 24.1 +0.1
AML Almayashu 4.32 26 P Pn 02 06 29.3 +1.2
SNR=56
CEP Cherat 4.47 172 P Pn 02 06 36.2 +6.2
CEP S Sb 02 07 40.0 +5.3
UCH Uchtor 4.71 32 P Pn 02 06 34.3 +0.7
SNR=30
EKS2 Erkin-Say 4.82 23 P Pn 02 06 38.4 +3.6
SNR=16
EKS2 Erkin-Say 4.82 23 ePn Pn 02 06 36.7 +1.9
KK31 Karatay Array 4.86 354 ⇑Pn Pn 02 06 37.3 +2.0
22nm,0.6s
KK31 ⇑Pg Pb 02 06 49.5 +2.2
18nm,0.5s
KK31 ⇑Sn Sn 02 07 34.3 +2.7
17nm,0.4s
KK31 ⇑Lg Lg 02 07 53.5
38nm,0.6s,baz=177,slow=31,SNR=15
KKAR Karatay Array 4.86 354 ePn Pn 02 06 37.2 +1.9
CHCP Chirah Chowk 4.89 159 P Pn 02 06 38.3 +2.5
CHCP S Sn 02 07 41.0 +8.5
KZA Kyzart 4.92 38 P Pn 02 06 37.1 +0.7
SNR=20
AAK Ala-Archa 5.04 29 ⇓Pn Pn 02 06 39.3 +1.4
12nm,0.5s
AAK ⇓Pg Pb 02 06 51.9 +1.4
81nm,1.0s
AAK ⇓Sn Sn 02 07 37.6 +1.3
44nm,0.8s
AAK ⇑Lg Lg 02 08 01.1
50nm,0.7s
AAK Ala-Archa 5.04 29 P Pn 02 06 39.7 +1.8
SNR=40
AAK Ala-Archa 5.04 29 Pn Pn 02 06 39.5 +1.6
AAK Pg Pb 02 06 51.7 +1.2
AAK Lg Lg 02 08 03.6
AAK LR LR 02 08 23.8
comp=Z,76nm,19.2s,slow=37
KBK Karagaybulak 5.24 32 P Pn 02 06 42.7 +2.0
SNR=17
CHMS Chumysh 5.45 29 P Pn 02 06 44.7 +1.3
SNR=40
ULHL Ulahol 5.55 43 P Pn 02 06 45.5 +0.6
SNR=10
USP Ospenovka 5.60 26 P Pn 02 06 46.9 +1.5
SNR=14
TKM2 Tokmak 2 5.74 34 ⇑Pn Pn 02 06 48.7 +1.2
14nm,0.5s
TKM2 ⇑Pg Pb 02 07 04.2 +1.9
27nm,0.9s
TKM2 ⇑Sn Sn 02 07 53.1 -0.4

20nm,0.8s
TKM2 ⇓Lg Lg 02 08 18.1
29nm,0.8s
TKM2 Tokmak 2 5.74 34 P Pn 02 06 49.2 +1.8
SNR=49
TKM2 Tokmak 2 5.74 34 ePn Pn 02 06 48.8 +1.2
22nm,0.5s
PDGK Podgornoye 8.07 49 ⇓Pn Pn 02 07 19.1 -0.2
PDGK ⇑Pg Pb 02 07 47.6 +5.7
PDGK ⇓Lg Lg 02 09 32.6
OTUK Ortayu 10.01 4 ⇓Sn Sn 02 09 40.6 +2.3
OTUK ⇑Lg Lg 02 10 36.5
MK31 Makanchi Array 11.81 40 ⇑Pn Pn 02 08 10.5 0.0
5.3nm,0.7s,baz=223,slow=11,SNR=5.3
MKAR Makanchi Array 11.81 40 PKIKP Pn 02 08 07.4 -3.2
MKAR Makanchi Array 11.81 40 Pn Pn 02 08 07.3 -3.2
0.4nm,0.3s,baz=220,slow=13,SNR=32
AB31 Akbulak array 13.65 327 Pn Pn 02 08 34.0 -1.5
1.5nm,0.5s,baz=142,slow=13,SNR=82
AB31 **⇓Sn Sn 02 11 05.7 -1.4**
5.6nm,0.7s,baz=134,slow=25,SNR=8.3
PYUN Piuthan 14.14 132 eP Pn 02 08 37.1 -5.6
24nm,0.3s
PYUN Piuthan 14.14 132 eP Pn 02 08 37.1 -5.6
DANN Dangsing 14.42 130 eP Pn 02 08 40.8 -5.7
8.3nm,0.4s
DANN Dangsing 14.42 130 eP Pn 02 08 40.8 -5.7
BVA0 Borovoye Array 14.77 358 ⇓Pn Pn 02 08 52.3 +1.4
2.8nm,0.8s,baz=160,slow=10,SNR=5.8
BRVK Borovoye 14.81 358 ⇑Pn Pn 02 08 52.0 +0.6
11nm,1.2s
BRVK Borovoye 14.81 358 ePn Pn 02 08 51.8 +0.4
GKN Gorkha 15.20 128 eP Pn 02 08 50.9 -6.1
8.8nm,0.4s
AKTO Aktyubinsk 15.36 327 ⇓Pn Pn 02 09 01.0 +2.3
12nm,0.9s
AKTO **⇓Sn Sn 02 11 51.4 +2.6**
5.5nm,0.8s
AKTO Aktyubinsk 15.36 327 Pn Pn 02 08 59.2 +0.5
0.3nm,0.3s,baz=136,slow=13,SNR=3.7
AKTO **Sn Sn 02 11 44.8 -4.1**
0.1nm,0.3s,baz=293,slow=7.7,SNR=3.3
JIRN Jiri 16.42 126 eP Pn 02 09 05.4 -7.6
9.4nm,0.4s
RAMN Ramite 17.18 127 eP Pn 02 09 13.9 -8.5
13nm,0.9s
RAMN Ramite 17.18 127 eP Pn 02 09 13.9 -8.5
ZAA0 Zalesovo Array 18.26 26 eP Pn 02 09 33.9 -1.5
ZALV Zalesovo Beam 18.26 26 P Pn 02 09 32.8 -2.6
0.8nm,0.3s,baz=217,slow=11,SNR=15
ARU Arti 20.03 339 eP P 02 09 55.0 +0.2
GNI Garni 20.56 284 P P 02 10 03.1 +2.1
2.5nm,0.5s,baz=112,slow=11,SNR=5.1
GNI Garni 20.56 284 eP P 02 10 02.8 +1.8
29nm,1.5s
KBZ Khabaz 21.98 293 P P 02 10 16.5 +0.4
3.8nm,0.8s,baz=131,slow=6.0,SNR=5.3
KBZ LR LR 02 20 02.5
comp=Z,40nm,20.6s,baz=336,slow=40
KIV Kislovodsk 22.15 294 eP P 02 10 18.3 +0.2
7.0nm,0.6s
SONM Songino Array 27.25 58 P P 02 11 04.2 -2.2
0.2nm,0.8s,baz=253,slow=7.7,SNR=3.1
OBN Obninsk 28.72 317 P P 02 11 18.8 -0.5
7.1nm,0.4s,baz=271,slow=22,SNR=4.4
BRTR Keskin Array B 29.08 285 P P 02 11 23.3 +0.4
0.8nm,1.0s,baz=99,slow=7.6,SNR=2.5
TRD Trivandrum 30.08 169⇑eP P 02 11 26.9 -4.7
AKASG Malin Array Be 31.98 307 P P 02 11 48.8 +0.6
0.3nm,0.3s,baz=83,slow=7.9,SNR=3.8
JOF Joensuu 34.43 329 ep P 02 12 08.9 -0.4
2.5nm,0.5s
FINES FINESS Array B 36.12 325 P P 02 12 24.5 +0.6
1.8nm,0.4s,baz=123,slow=9.5,SNR=27
KAF Kangasniemi 36.24 326 ep P 02 12 25.4 +0.5
KEV Kevo 39.23 337 ep P 02 12 46.3 -3.8
MORC Moravsky Berou 39.46 305 eP P 02 12 51.8 -0.5
1.8nm,0.9s
ARCES ARCESS Array B 39.58 337 P P 02 12 52.9 -0.1
2.6nm,0.6s,baz=108,slow=7.9,SNR=19
HFS Hagfors 41.78 321 P P 02 13 11.8 +0.5
4.5nm,0.4s,baz=97,slow=10,SNR=6.6
GERES GERESS Array B 42.05 304 P P 02 13 14.0 +0.1
0.2nm,0.5s,baz=96,slow=9.0,SNR=2.9
GERES GERESS Array B 42.05 304 P P 02 13 14.0 +0.1
NB2 NORSAR Subarra 43.07 322 P P 02 13 21.9 0.0
comp=Z,0.8nm,0.6s,baz=94,slow=8.6
NOA NORSAR Array B 43.07 322 P P 02 13 20.8 -1.1
comp=Z,0.7nm,0.6s,baz=96,slow=8.4,SNR=6.2
PSI Prapat 43.46 137 P P 02 13 24.0 -1.6
comp=Z,3.0nm,0.3s,baz=310,slow=17,SNR=4.0
TIXI Tiksi 44.09 23 eP P 02 13 28.2 -1.7
comp=Z,3.9nm,0.6s
KMBO Kilima Mbogo 50.14 227 eP P 02 14 17.3 -0.7
EKA Eskdalemuir Ar 51.13 315 P P 02 14 24.7 -0.1
comp=Z,0.2nm,0.4s,baz=77,slow=7.4,SNR=3.9
ESDC Sonseca Array 56.78 297 P P 02 15 07.3 +0.9
comp=Z,0.4nm,0.5s,baz=56,slow=7.6,SNR=4.3
TOA0 Torodi Ar. Sit 65.92 268 eP P 02 16 07.3 -1.2
TORD Torodi Ar. Bea 65.92 268 P P 02 16 08.1 -0.4
comp=Z,1.1nm,0.5s,baz=47,slow=5.7,SNR=31
INK Inuvik 72.14 9 P P 02 16 45.4 -0.9
comp=Z,0.7nm,0.4s,baz=350,slow=8.5,SNR=7.0
ILAR Eielson Array 73.05 16 P P 02 16 51.3 -0.5
comp=Z,0.3nm,0.8s,baz=310,slow=6.5,SNR=4.7
YKA Yellowknife Ar 79.48 3 P P 02 17 27.2 -1.2
comp=Z,0.3nm,0.5s,baz=349,slow=5.7,SNR=12
WRA Warramunga Arr 82.80 122 P P 02 17 42.6 -4.0
comp=Z,0.1nm,0.3s,baz=322,slow=4.7,SNR=5.8

IDC 21 02:09:53.5±2.2, 1°.59S×128°.20E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.1/49, mbtmp3.1/3, ML3.4/1, Error ellipse: s-maj=163.5km s-min=26.3km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**19.21**	**162**	P	P	02 14 19.0	-0.2
	0.1nm,0.3s,baz=341,slow=12,SNR=8.0						
ASAR	**Alice Springs**	**22.64**	**166**	P	P	02 14 56.6	+0.3
	0.4nm,0.5s,baz=344,slow=11,SNR=13						
MKAR	**Makanchi Array**	**62.75**	**326**	P	P	02 20 20.4	-0.1
	0.1nm,0.3s,baz=145,slow=5.3,SNR=5.1						

BYKL 21 02:12:02.1±0.2, 55°.37N×110°.43E
MOS 21 02:12:02.4±1.7, 55°.36N×110°.40E, h3km, mb4.2/1, Error ellipse: s-maj=21.7km s-min=11.3km az=62.9
ISC 21 02:12:00.9±0.7, 55°.31N±0°.02×110°.42E±0°.02, h4km, n39, σ2°21/86, 5C-1D, Lake Baykal region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
YLYR Ulyunkhan 0.61 135 ePG Pb 02 12 14.0 -0.3
YLYR e 02 12 22.6
YLYR pmax pmax
comp=Z,158nm,0.2s
YLYR smax smax
comp=N,404nm,0.2s
YLYR Ulyunkhan 0.61 135⇓iPg Pb 02 12 13.9 -0.3
comp=N,191nm,0.5s
YLYR **⇑iPg Pb 02 12 13.9 -0.3**
comp=N,153nm,0.5s
YLYR **⇑iPg Pb 02 12 13.9 -0.3**
comp=N,280nm,0.5s
YLYR **eSg Sb 02 12 22.7 -0.5**
YLYR **eSb Sn 02 12 28.1 +1.4**
YLYR Pmax
comp=N,217nm,0.4s
YLYR max
comp=N,403nm,0.1s
NIZ Nizh Angarsk 0.68 313⇑iPg Pg 02 12 14.2 +0.3
NIZ **i Sg Sg 02 12 23.1 +0.4**
NIZ **eSb Sn 02 12 30.0 +1.6**
NIZ Pmax
comp=N,96nm,0.2s
NIZ max
comp=N,391nm,0.3s
KMO Kumora 0.73 37 ePG Pg 02 12 14.2 -0.6
KMO e 02 12 23.6
KMO pmax pmax
comp=Z,81nm,0.4s
KMO smax smax
comp=N,377nm,0.9s
KMO Kumora 0.73 37⇑iPg Pg 02 12 14.3 -0.6
KMO **ePb Pb 02 12 16.6 +0.5**
KMO **eSg Sg 02 12 23.7 -0.6**
KMO max
comp=N,98nm,0.3s
KMO Smax
comp=N,370nm,0.9s
YOA Uoyan 1.10 41 eSg Sg 02 12 35.4 -1.0
YOA Smax
comp=N,616nm,0.4s
SYVR Suvo 1.68 189 ePG Pg 02 12 33.2 +0.2
SYVR e 02 12 56.9
SYVR pmax pmax
comp=Z,60nm,0.2s
SYVR smax smax
comp=E,273nm,0.4s
SYVR Suvo 1.68 189⇑iPg Pg 02 12 33.2 +0.2
SYVR **ePb Pb 02 12 34.3 +2.0**
SYVR **eSg Sg 02 12 57.0 +2.3**
SYVR e 02 12 59.4
SYVR max
comp=E,62nm,0.8s
SYVR max
comp=E,281nm,1.4s
SVKR Severomuysk 1.95 64 ePN Pb 02 12 36.9 -0.1
SVKR e 02 13 01.9
SVKR pmax pmax
comp=Z,99nm,0.3s
SVKR smax smax
comp=N,552nm,0.6s
SVKR Severomuysk 1.95 64 ePg Pb 02 12 36.7 -0.3
SVKR e 02 12 40.0
SVKR **eSg Sb 02 13 02.1 +0.4**
SVKR max
comp=N,99nm,0.5s
SVKR Smax
comp=N,549nm,0.6s
MXMB Maximikha 2.28 206 ePn Pn 02 12 40.6 +1.3
MXMB **ePg Pg 02 12 44.2 -0.3**
MXMB e 02 13 12.2
MXMB **eSg Sg 02 13 15.7 +1.7**
MXMB Pmax
comp=N,62nm,0.8s
MXMB Smax
comp=N,401nm,1.1s
OGRR Ongureny 2.35 226 ePN Pb 02 12 43.0 -0.8
OGRR e 02 12 46.0
OGRR e 02 13 15.8
OGRR pmax pmax
comp=Z,55nm,0.5s
OGRR smax smax
comp=E,209nm,0.3s
OGRR Ongureny 2.35 226 ePn Pb 02 12 42.8 -1.0
OGRR **ePg Pg 02 12 44.7 -1.2**
OGRR e 02 12 45.9
OGRR **eSg Sg 02 13 15.9 -0.4**
OGRR max
comp=E,56nm,0.4s
OGRR Smax
comp=E,211nm,0.2s
BOD Bodaibo 3.20 37 ePn Pn 02 12 51.8 -0.1
BOD **ePg Pb 02 12 58.3 0.0**
BOD e 02 13 01.2
BOD **eSg Sb 02 13 39.0 +1.4**
BOD max
comp=E,10.0nm,0.6s
BOD Smax
comp=E,60nm,1.0s
NLYR Nelyaty 3.20 66 ePn Pn 02 12 53.2 +1.2
NLYR **ePg Pb 02 12 57.7 -0.6**
NLYR **eSn Sn 02 13 30.3 -0.3**
NLYR **eSg Sb 02 13 39.1 +1.5**
NLYR Pmax
comp=E,13nm,0.7s
NLYR Smax
comp=E,108nm,1.3s
ZRHB Zarechye 3.37 216 ePn Pn 02 12 55.0 +0.7
ZRHB **ePg Pb 02 13 02.5 +1.3**
ZRHB e 02 13 09.0
ZRHB **eSn Sn 02 13 33.6 -1.2**
ZRHB **eSg Sg 02 13 47.8 -1.3**
ZRHB Pmax
comp=E,33nm,0.7s
ZRHB Smax
comp=E,241nm,1.3s
TRG Tyrgan 3.51 225 ePn Pn 02 12 58.6 +2.4
TRG **ePg Pb 02 13 05.4 +1.9**
TRG e 02 13 31.7
TRG **eSg Sg 02 13 51.6 -1.9**
TRG Pmax
comp=E,10.0nm,0.3s
TRG Smax
comp=E,65nm,0.4s
UUDB Ulan-Yde 3.82 207 ePg Pb 02 13 11.3 +2.4
UUDB e 02 13 34.9
UUDB **eSn Sn 02 13 45.7 -0.2**
UUDB **eSg Sg 02 14 02.1 -1.5**
UUDB Pmax
comp=E,29nm,1.4s
UUDB Smax
comp=E,90nm,1.6s
KAB Kabansk 3.96 216 eSg Sg 02 14 07.9 -0.2
KAB Smax
comp=E,160nm,0.9s
HRMR Khuramsha 4.23 211 ePn Pn 02 13 06.9 +0.7
HRMR **ePg Pb 02 13 18.7 +2.8**
HRMR **eSn Sn 02 13 56.0 0.0**
HRMR **eSg Sg 02 14 14.2 -2.5**
HRMR Pmax
comp=E,35nm,0.9s
HRMR Smax
comp=E,201nm,1.0s
VTMR Vitim 4.29 15 ePg Pb 02 13 18.4 +1.5
VTMR **eSn Sn 02 13 55.0 -2.4**
VTMR **eSg Sg 02 14 14.0 -4.7**
CRS Chara 4.67 67 ePN Pg 02 13 27.9 -2.5
CRS e 02 14 25.9
CRS pmax pmax
comp=Z,26nm,1.0s
CRS smax smax
comp=E,37nm,1.0s
CRS Chara 4.67 67 ePg Pb 02 13 25.5 +2.1
CRS **eSn Sn 02 14 05.9 -1.0**
CRS **eSg Sg 02 14 25.6 -5.3**
CRS Pmax
comp=E,12nm,0.8s
CRS Smax
comp=E,57nm,1.7s
IRK Irkutsk 4.77 232 eSg Sg 02 14 29.9 -4.0
IRK Smax
comp=E,117nm,0.8s
LSTR Listvyanka 4.79 226 ePn Pn 02 13 16.7 +2.9
LSTR e 02 13 30.3
LSTR **eSg Sg 02 14 31.7 -3.0**
LSTR max
comp=E,4.0nm,0.6s
LSTR Smax
comp=E,46nm,1.1s
TLY Talaya 5.44 231 ePN Pn 02 13 25.3 +2.6
TLY e 02 13 40.9
TLY **eS Sn 02 14 25.7 0.0**
TLY e 02 14 49.7
TLY pmax pmax
comp=Z,7.0nm,0.6s
TLY smax smax
comp=E,38nm,0.8s
TLY Talaya 5.44 231 Pn Pn 02 13 24.3 +1.6
TLY e 02 13 42.7
TLY e 02 14 27.5
TLY **eSg Sg 02 14 50.3 -5.1**
TLY max
comp=E,6.0nm,0.6s
TLY Smax
comp=E,39nm,1.1s
TUP Tupik 5.58 95 ePN Pn 02 13 25.6 +1.0
TUP e 02 13 42.2
TUP **eS Sn 02 14 29.5 +0.3**
TUP e 02 14 55.8
TUP pmax pmax
comp=Z,7.0nm,0.4s
TUP smax smax
comp=N,56nm,0.8s
TUP Tupik 5.58 95 ePn Pn 02 13 25.6 +1.0
TUP **ePg Pb 02 13 41.8 +3.0**
TUP e 02 14 30.4
TUP **eSg Sg 02 14 54.8 -5.1**
TUP Pmax
comp=N,6.0nm,0.4s
TUP Smax
comp=N,56nm,0.9s
KPC Khapcheranga 5.75 167 ePn Pn 02 13 28.2 +1.2
KPC ePg Pb 02 13 46.5 +4.8
KPC **eSn Sn 02 14 32.6 -0.7**
KPC **eSg Sg 02 15 02.4 -2.9**
KPC Pmax
comp=N,5.0nm,0.6s
KPC Smax
comp=N,39nm,0.9s
ARS Arshan 5.85 238 ePN Pg 02 13 50.4 -2.4
ARS **eS Sn 02 14 32.5 -3.3**
ARS e 02 15 02.6
ARS pmax pmax
comp=Z,20nm,0.4s
ARS smax smax
comp=E,115nm,0.5s
ARS Arshan 5.85 238 ePn Pn 02 13 30.9 +2.6
ARS ePg Pb 02 13 48.3 +4.9
ARS **eSn Sn 02 14 36.1 +0.3**
ARS **eSg Sg 02 15 05.7 -2.8**
ARS Pmax
comp=E,20nm,0.6s
ARS Smax
comp=E,116nm,0.8s
YKLR Yuktali 6.44 74 e Sn 02 14 59.2 +8.9
YKLR eSg Sg 02 15 20.2 -7.3
ZAK Zakamensk 6.56 224 eSn Sn 02 14 50.5 -3.0
ZAK **eSg Sg 02 15 27.1 -4.4**
ZAK Smax
comp=E,12nm,1.1s
MOY Mondy 6.70 241 ePN Pn 02 13 43.2 +3.0
MOY e 02 14 03.3
MOY e 02 15 29.2
MOY pmax pmax
comp=Z,4.0nm,0.4s
MOY smax smax
comp=E,49nm,1.2s
MOY Mondy 6.70 241 ePn Pn 02 13 43.2 +3.0
MOY ePg Pb 02 14 02.5 +4.5
MOY e 02 14 58.7
MOY **eSg Sg 02 15 30.9 -5.1**
MOY Pmax
comp=E,5.0nm,0.8s
MOY Smax
comp=E,43nm,1.6s
ORL Orlik 6.85 250 ePN Pn 02 13 44.9 +2.7
ORL e 02 14 07.0
ORL e 02 15 36.1
ORL pmax pmax
comp=Z,2.0nm,0.4s
ORL smax smax
comp=N,49nm,1.2s
ORL Orlik 6.85 250 ePn Pn 02 13 45.1 +2.9
ORL ePg Pb 02 14 06.6 +6.1
ORL **eSn Sn 02 15 00.3 -0.3**
ORL **eSg Sg 02 15 35.7 -5.1**
ORL Pmax
comp=N,2.0nm,0.5s
ORL Smax
comp=N,49nm,1.4s
ULN Ulaanbaatar 7.75 197 eSg Sg 02 16 03.4 -6.1

IDC 21 02:12:24.9±1.2, 30°.07S×179°.31W, h288km±11km, mb3.6/6, mb1 3.8/6, mb1mx3.3/37, mbtmp4.2/6, Error ellipse: s-maj=20.1km s-min=17.1km az=178.0
ISC 21 02:12:25.3±0.6, 30°.15S±0°.1×179°.2W±0°.1, h300km, n40, σ1°66/33, mb3.7/6, Kermadec Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
RAO Raoul Island 1.40 51 P Pn 02 13 06.3 -1.6
504nm,0.3s,baz=126,slow=6.5,SNR=24
RAO **S S 02 13 36.4 -5.4**
163nm,0.3s,baz=53,slow=20,SNR=3.4
MXZ Matakaoa Point 7.69 195 PN Pn 02 14 14.4 -0.6
MXZ SN S 02 15 35.9 -8.0
HAZ Te Kaha 8.01 198 PN Pn 02 14 14.0 -4.8
PUZ Puketiti 8.19 194 PN Pn 02 14 15.4 -5.8
PUZ SN S 02 15 45.7 -10
MWZ Matawai 8.62 198 PN Pn 02 14 20.8 -5.6
MWZ SN S 02 15 56.9 -7.9
URZ Urewera 8.66 200 P Pn 02 14 21.1 -5.8
38nm,0.3s,baz=280,slow=3.1,SNR=52
URZ S S 02 15 59.0 -6.7
27nm,0.3s,baz=105,slow=23,SNR=14
SNGZ Shannon Statio 9.09 198 SN S 02 16 06.7 -8.7
PRGZ Paritu Road 9.09 195 PN Pn 02 14 32.0 -0.2
ALRZ Allen Road 9.18 203 PN Pn 02 14 31.8 -1.5
MHGZ Mahia Peninsul 9.31 194 PN Pn 02 14 34.6 -0.3
WHHZ Waihua 9.39 197 SN S 02 16 14.0 -8.2
NMHZ Naumai 9.53 199 PN Pn 02 14 34.8 -2.9
WTVZ West Tongariro 9.94 204 PN Pn 02 14 40.4 -2.3
OTVZ Oturere 9.95 204 PN Pn 02 14 40.3 -2.6
CKHZ Cape Kidnapper 9.98 197 PN Pn 02 14 40.2 -2.9
DVHZ Dannevirke 10.83 199 PN Pn 02 14 49.2 -4.3
BFZ Birch Farm 11.16 198 PN Pn 02 14 53.6 -3.9
CPWZ Castlepoint 11.38 198 PN Pn 02 14 57.6 -2.7
TRWZ Traveller 11.98 199 PN Pn 02 15 03.8 -3.7
DZM Mont Dzumac 15.21 299 P Pn 02 15 47.0 +0.5
1.2nm,0.3s,baz=173,slow=17,SNR=14
STKA Stephens Creek 33.56 257 P P 02 18 38.0 +0.3
3.3nm,0.9s,baz=107,slow=11,SNR=4.4
ASAR Alice Springs 42.12 267 P P 02 19 48.3 -0.7
1.1nm,0.6s,baz=106,slow=6.8,SNR=13
ASAR **PcP PcP 02 21 37.9 +0.4**
0.4nm,0.4s,baz=112,slow=4.1,SNR=4.1
WRA Warramunga Arr 43.08 273 P P 02 19 56.5 -0.3
1.5nm,0.4s,baz=111,slow=7.8,SNR=13
QSPA South Pole Qui 59.96 180 P P 02 22 01.7 +1.3
12nm,1.0s,baz=42,slow=3.9,SNR=46
PLCA Paso Flores 83.41 134 P P 02 24 21.8 +2.2
0.9nm,0.4s,baz=242,slow=5.9,SNR=4.2
NVAR Mina Array Bea 88.74 43 P P 02 24 47.0 +1.6
0.5nm,0.7s,baz=206,slow=6.0,SNR=3.6
MKAR Makanchi Array 116.84 310 PKP PKPdf 02 30 33.8 -0.3
0.2nm,0.6s,baz=264,slow=0.4,SNR=4.1
ARCES ARCESS Array B 138.12 347 PKP PKPdf 02 31 13.9 +0.1
2.9nm,0.9s,baz=355,slow=1.3,SNR=4.1
KAF Kangasniemi 143.97 340 ep PKPab 02 31 22.0 -0.6
1.8nm,0.5s
KBZ Khabaz 144.13 304 PKP PKPdf 02 31 25.4 +0.1
3.1nm,0.8s,baz=90,slow=2.0,SNR=9.2
FINES FINESS Array B 144.56 339 PKP PKPdf 02 31 25.3 -0.1
4.6nm,0.4s,baz=76,slow=3.5,SNR=92
NB2 NORSAR Subarra148.34 350 PKP PKPbc 02 31 36.1 +0.4
comp=Z,1.4nm,0.8s,baz=17,slow=2.6
NOA NORSAR Array B 148.34 350 PKPbc PKPbc 02 31 36.2 +0.4
comp=Z,1.3nm,0.8s,baz=16,slow=4.3,SNR=4.8
HFS Hagfors 148.79 348 PKPbc PKPbc 02 31 36.9 +0.1
comp=Z,2.4nm,0.5s,baz=84,slow=4.7,SNR=15
ASF Jabal al Asfar 149.16 283 PKPbc PKPbc 02 31 38.6 -0.2
comp=Z,2.1nm,0.9s,baz=27,slow=2.3,SNR=4.8
AKASG Malin Array Be 150.49 322 PKPbc PKPbc 02 31 41.6 +0.5
comp=Z,2.2nm,0.6s,baz=47,slow=2.8,SNR=14
EIL Elat 150.49 278 PKPbc PKPbc 02 31 41.6 -0.2
comp=Z,4.1nm,0.6s,baz=344,slow=2.9,SNR=8.9
MMAI Mount Meron Ar 150.49 285 PKPbc PKPbc 02 31 42.6 +0.7
comp=Z,2.3nm,0.4s,baz=91,slow=5.3,SNR=14
BRTR Keskin Array B 151.59 299 PKPbc PKPbc 02 31 44.4 +0.1
comp=Z,0.6nm,0.5s,baz=64,slow=3.4,SNR=7.2
TORD Torodi Ar. Bea 163.07 183 PKP PKPdf 02 31 53.3 +0.8
comp=Z,0.4nm,0.8s,baz=232,slow=1.6,SNR=3.8
TORD **PKPab PKPab 02 32 44.2 +0.3**
comp=Z,3.3nm,0.8s,baz=169,slow=3.9,SNR=19

IDC 21 02:13:40.8±1.7, 9°.20S×114°.20E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.5/50, mbtmp3.9/4, Error ellipse: s-maj=104.3km s-min=22.8km az=48.0
ISCJB 21 02:13:55.5±0.5, 9°.20S±0°.05×114°.92E±0°.05, h100km, mb3.8/4, Error ellipse: s-maj=9.2km s-min=5.8km az=136.2
DJA 21 02:13:56.4±0.7, 9°S±13°×11°5E±°, h98km±7km, M3.8/11, MLv3.8/11
ISC 21 02:13:55.6±0.8, 9°.25S±0°.08×114°.88E±0°.07, h100km, n22, σ2°05/21, mb4.0/4, South of Bali

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

DNP	Denpasar	0.66	30	P	Pn	02 14 12.5	-0.1
DNP				S	Sn	02 14 26.1	+0.8
JAGI	Jajag, Banyuwa	1.06	317	P	Pn	02 14 17.4	+0.8
JAGI	Jajag, Banyuwa	1.06	317	P	Pn	02 14 16.8	+0.2
	baz=1.2,SNR=734						
JAGI				S	Sn	02 14 32.9	+0.4
	baz=1.2,SNR=36						
SRBI	Singaraja	1.20	16	P	Pn	02 14 15.4	-2.9
ABJI	Asem Bagus	1.58	336	P	Pn	02 14 21.6	-1.2
GMJI	Gumukmas	1.72	304	P	Pn	02 14 25.7	+1.1
BLJI	Banyuglugur	1.96	320	P	Pn	02 14 27.9	+0.2
KMMI	Kalianget	2.37	337	P	Pn	02 14 31.7	-1.2
PWJI	Pagerwojo	3.28	292	P	Pn	02 14 46.2	+1.2
UGM	Wanagama	4.51	287	P	Pn	02 15 03.8	+2.1
	baz=4.6,SNR=11						
XMI	Christmas Isla	9.13	262	P	Pn	02 16 06.8	+2.2
	baz=9.1,SNR=4.4						
XMIS	Christmas Isla	9.18	262	P	Pn	02 16 06.6	+1.5
	baz=9.2,SNR=8.5						
XMIS				S	Sn	02 17 42.4	-4.2
	baz=9.2,SNR=3.6						
KNRA	Kununurra	14.98	117	P	P	02 17 26.6	+1.4
	baz=15,SNR=4.1						
MTN	Manton Dam	16.34	104	P	P	02 17 40.2	-0.2
	baz=16,SNR=4.0						
MTN				S	Sn	02 20 29.3	-11
	baz=16,SNR=4.0						
MEEK	Meekatharra	17.65	169	P	Pn	02 18 00.3	+5.1
	baz=18,SNR=7.4						
MEEK				S	Sn	02 21 06.5	-5.5
	baz=18,SNR=17						
WRKA	Warakurna	20.24	143	P	Pn	02 18 26.1	+0.2
	baz=20,SNR=17						
WRA	Warramunga Arr	21.60	122	P	P	02 18 37.1	-0.4
	3.9nm,0.5s,baz=295,slow=12,SNR=36						
ASAR	Alice Springs	23.16	131	P	P	02 18 54.6	+1.1
	3.0nm,0.5s,baz=303,slow=8.8,SNR=76						
PALU	Palau	25.55	50	P	P	02 19 21.1	+5.8
	baz=26,SNR=5.1						
STKA	Stephens Creek	33.48	136	P	P	02 20 27.3	+1.9
	1.5nm,0.6s,baz=298,slow=8.7,SNR=4.0						
MKAR	Makanchi Array	62.91	335	P	P	02 24 06.9	-4.3
	0.2nm,0.5s,baz=146,slow=7.0,SNR=3.8						
CPUP	Villa Florida	143.83	192	PKP	PKPdf	02 33 18.5	-1.4
	1.2nm,0.4s,baz=180,slow=2.0,SNR=5.9						

IDC 21 02:16:27.4±11.0,7°.17N×123°.37E,h559km±177km, mb2.9/7,mb1 2.9/7,mb1mx2.7/26,mbtmp3.9/7,Error ellipse: s-maj=145.9km s-min=24.9km az=73.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	29.02	158	P	P	02 21 42.4	-0.7
	0.3nm,0.4s,baz=335,slow=10,SNR=4.5						
ASAR	Alice Springs	32.33	162	P	P	02 22 11.8	+0.4
	0.2nm,0.3s,baz=337,slow=7.1,SNR=4.5						
SONM	Songino Array	43.03	343	P	P	02 23 38.0	-0.3
	0.4nm,0.6s,baz=149,slow=8.6,SNR=4.9						
MKAR	Makanchi Array	52.84	325	P	P	02 24 51.7	+0.4
	1.5nm,0.4s,baz=122,slow=8.3,SNR=38						
ZALV	Zalesovo Beam	56.04	334	P	P	02 25 12.6	-0.9
	0.6nm,0.3s,baz=139,slow=9.0,SNR=3.2						
BVAR	Borovoye Array	62.64	327	P	P	02 25 57.6	0.0
	1.3nm,0.6s,baz=137,slow=8.9,SNR=4.8						
AKTO	Aktyubinsk	68.91	321	P	P	02 26 36.4	-0.3
	1.4nm,0.5s,baz=97,slow=11,SNR=6.5						

ISCJB 21 02:18:17.8±0.4, 19°.10S±0°.05×169°.29E±0°.07,h100km, mb4.7/31,Error ellipse: s-maj=9.3km s-min=7.4km az=14.5
NEIC 21 02:18:24.9±1.3,19°.25S×169°.26E,h153km±9km,mb4.8/14, Error ellipse: s-maj=13.8km s-min=9.3km az=217.0
IDC 21 02:18:24.4±1.9,19°.38S×169°.23E,h145km±15km, mb4.2/16,mb1 4.3/17,mb1mx4.2/24,mbtmp4.6/17,MS2.7/2, Ms1 2.7/2,ms1mx2.6/27,Error ellipse: s-maj=17.6km s-min=15.9km az=120.0
BJI 21 02:18:35.6,19°.15S×168°.62E,h249km,mB4.9/11, mb4.7/15
ISC 21 02:18:18.3±0.6,19°.22S±0°.08×169°.47E±0°.09,h100km,n76, σ1s86/78,mb4.8/31,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.01	224	P	Pn	02 19 22.3	+4.6
	16nm,0.3s,baz=35,slow=16,SNR=178						
DZM				LR	LR	02 20 04.2	
	comp=Z,59nm,21.6s,baz=218,slow=27						
DZM				S	Sn	02 20 04.8	+1.0
	39nm,0.3s,baz=317,slow=22,SNR=18						
HNR	Honiara	13.40	315	LR	LR	02 25 36.2	
	comp=Z,75nm,20.6s,baz=165,slow=32						
OUZ	Omahuta	16.35	168	eP	P	02 22 07.0	+4.1
	16nm,0.7s						
EIDS	Eidsvold	18.08	247	eP	Pn	02 22 23.8	+0.8
	16nm,0.6s						
EIDS	Eidsvold	18.08	247	P	Pn	02 22 24.7	+1.7
	baz=18,SNR=12						
ARMA	Armidale	19.63	232	eP	Pn	02 22 42.0	+0.6
ARMA	Armidale	19.63	232	P	Pn	02 22 41.6	+0.1
	baz=20,SNR=14						
URZ	Urewera	20.10	162	P	Pn	02 22 47.5	+0.7
	32nm,0.6s,baz=326,slow=9.9,SNR=37						
URZ	Urewera	20.10	162	eP	Pn	02 22 48.1	+1.3
	34nm,0.7s						
RMQ	Roma	20.40	245	P	Pn	02 22 49.4	-0.9
	baz=20,SNR=11						
BKZ	Black Stump Fm	20.79	164	eP	Pn	02 22 55.0	+0.2
	114nm,1.8s						
CTA	Charters Tower	21.88	264	P	P	02 23 04.5	+1.2
	8.2nm,0.5s,baz=87,slow=11,SNR=24						
CTAO	Charters Tower	21.88	264	eP	P	02 23 04.4	+1.2
	12nm,0.5s						
BFZ	Birch Farm	22.17	166	eP	P	02 23 08.2	+2.1
	36nm,1.0s						
PMG	Port Moresby	23.69	291	P	P	02 23 21.9	+0.8
	36nm,0.8s,baz=128,slow=8.4,SNR=18						
PMG	Port Moresby	23.69	291	eP	P	02 23 22.2	+1.0
	28nm,0.8s						
PMG	Port Moresby	23.69	291	P	P	02 23 22.1	+0.9
	baz=24,SNR=5.2						
CNB	Canberra Magne	23.94	224	P	P	02 23 24.1	+0.8
	baz=24,SNR=14						
YNG	Young	24.00	227	P	P	02 23 25.1	+1.3
	baz=24,SNR=7.4						
QLP	Quilpie	24.35	248	P	P	02 23 27.0	0.0
	baz=24,SNR=50						
CMSA	Cobar Meteorol	24.68	236	P	P	02 23 30.0	+0.1
	baz=24,SNR=32						
COEN	Coen	25.72	278	eP	P	02 23 40.8	+1.2
COEN	Coen	25.72	278	P	P	02 23 40.9	+1.2
	baz=26,SNR=8.9						
MANU	Manus Island	27.56	306	P	P	02 24 01.4	+5.3
	baz=28,SNR=3.5						
STKA	Stephens Creek	28.04	238	P	P	02 24 00.4	+0.2
	14nm,0.7s,baz=72,slow=9.1,SNR=38						
STKA	Stephens Creek	28.04	238	P	P	02 24 00.4	+0.2
	baz=28,SNR=25						
QIS	Mount Isa	28.10	262	P	P	02 24 02.0	+1.1
	baz=28,SNR=3.3						
HTT	Hallett	30.69	236	P	P	02 24 23.7	0.0
	baz=30,SNR=7.1						
BBOO	Buckleboo	32.78	239	eP	P	02 24 41.5	-0.5
	240nm,0.6s						
BBOO	Buckleboo	32.78	239	P	P	02 24 41.6	-0.5
	baz=33,SNR=31						
WRAB	Tennant Creek	33.06	263	eP	P	02 24 42.9	-1.8
	13nm,1.2s						
WRA	Warramunga Arr	33.07	263	P	P	02 24 43.1	-1.6
	6.1nm,0.6s,baz=91,slow=8.3,SNR=46						
WRA				PcP	PcP	02 27 25.7	-0.4
	0.4nm,0.6s,baz=91,slow=3.6,SNR=3.8						
WRA				ScP	ScP	02 30 56.4	-5.0
	1.2nm,0.9s,baz=86,slow=3.7,SNR=6.3						
ASAR	Alice Springs	33.34	256	P	P	02 24 46.2	-0.9
	32nm,0.6s,baz=84,slow=8.9,SNR=471						
ASAR				PcP	PcP	02 27 26.4	-0.5
	0.5nm,0.8s,baz=80,slow=2.2,SNR=2.6						
ASAR				ScP	ScP	02 30 57.6	-4.7
	1.2nm,0.7s,baz=98,slow=4.1,SNR=11						
KDU	Kakadu	36.11	275	P	P	02 25 10.4	-0.4
	baz=36,SNR=5.0						
MTN	Manton Dam	37.33	274	P	P	02 25 21.0	-0.2
	baz=37,SNR=25						
WRKA	Warakurna	38.47	254	P	P	02 25 30.1	-0.7
	baz=38,SNR=12						
KNRA	Kununurra	38.93	269	P	P	02 25 34.2	-0.6
	baz=39,SNR=17						
FORT	Forrest	39.05	245	eP	P	02 25 34.5	-1.0
	23nm,0.7s						
FORT	Forrest	39.05	245	P	P	02 25 34.9	-0.7
	baz=39,SNR=16						
FAKI	Fak Fak	39.82	289	P	P	02 25 41.9	-0.2
	baz=40,SNR=6.5						
BATI	Baumata	45.09	275	P	P	02 26 25.8	+0.9
	41nm,1.0s,baz=101,slow=8.0,SNR=5.2						
MBWA	Marble Bar	46.57	259	eP	P	02 26 35.8	-0.7
	34nm,1.1s						
MEEK	Meekatharra	47.17	251	P	P	02 26 40.4	-0.7
	baz=47,SNR=24						
KLBR	Kellerberrin	47.92	244	P	P	02 26 45.6	-1.1
	baz=48,SNR=6.5						
NWAO	Narrogin (SRO)	48.42	243	P	P	02 26 49.5	-1.1
	10nm,0.8s,baz=96,slow=7.7,SNR=5.8						
MORW	Morawa	49.38	248	P	P	02 26 56.9	-1.1
	baz=49,SNR=3.4						
KAPI	Kappang	50.43	280	eP	P	02 27 05.0	-1.1
	71nm,0.8s						
MJAR	Matsushiro Arr	62.84	332	P	P	02 28 34.4	+0.9
	0.8nm,0.6s,baz=148,slow=7.2,SNR=4.9						
JNU	Nakatsue	63.78	324	P	P	02 28 40.5	+0.7
	4.8nm,0.7s,baz=130,slow=7.9,SNR=3.6						
QIZ	Qiongzhong	69.76	300	P	P	02 29 16.4	-1.7
QIZ				S	S	02 38 06.5	-13
QIZ				LR	LR		
	comp=N,190nm,13.5s						
QIZ				LR	LR		
	comp=Z,160nm,17.5s						
NJ2	Nanjing	70.35	316	eP	P	02 29 19.5	-1.9
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
QSPA	South Pole Qui	70.83	180	eP	P	02 29 23.8	-0.3
	5.4nm,0.9s						
USRK	Ussuriysk Arra	71.82	333	P	P	02 29 31.9	+1.9
	1.5nm,0.8s,baz=98,slow=0.5,SNR=4.5						
CN2	Changchun	74.56	329	eP	P	02 29 47.6	+1.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYA	Guiyang	75.99	305	eP	P	02 29 55.3	+0.4
GYA				pP	pP	02 30 51.4	+31
GYA				sP	sP	02 31 18.0	+47
GYA				PP	PP	02 32 49.6	+2.6
GYA				SKS	S	02 39 37.0	+6.6
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.4s						
KMI	Kunming	78.45	302	P	P	02 30 09.8	+0.9
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
CMAR	Chiang Mai Arr	78.70	294	P	P	02 30 11.4	+1.3
	2.4nm,0.3s,baz=126,slow=4.4,SNR=9.1						
HHC	Hu-ho-hao-te	80.35	319	eP	P	02 30 17.5	-1.2
HHC				pP	pP	02 31 17.0	+32
HHC				sP	sP	02 31 43.8	+48
HHC				PP	PP	02 33 26.0	+2.9
HHC				S	S	02 39 58.5	-18
HHC				sS	sS	02 41 48.3	+47
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,5.7s						
CD2	Chengdu	80.40	307	eP	P	02 30 19.1	0.0
CD2				pP	pP	02 31 17.4	+32
CD2				sP	sP	02 31 42.8	+47
CD2				PP	PP	02 33 27.6	+3.9
CD2				S	S	02 40 03.5	-14
CD2				SKS	SKSac	02 40 08.9	-19
CD2				sS	sS	02 41 45.3	+44
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.6s						
PMSA	Palmer Station	86.85	160	eP	P	02 30 52.3	+0.8
	22nm,0.6s						
SONM	Songino Array	87.34	323	P	P	02 30 55.2	+1.0
	1.1nm,0.7s,baz=151,slow=5.6,SNR=13						
SONM				pP	pP	02 31 32.5	+12
	1.4nm,1.1s,baz=138,slow=6.0,SNR=3.6						
NVAR	Mina Array Bea	88.62	48	P	P	02 31 03.0	+2.4
	0.8nm,0.7s,baz=225,slow=7.5,SNR=6.8						
SNAA	Sanae	89.19	182	P	P	02 31 01.3	-1.2
	0.7nm,0.4s,baz=206,slow=2.3,SNR=10						
ILAR	Eielson Array	90.15	17	P	P	02 31 07.5	+0.7
	0.3nm,0.7s,baz=242,slow=5.6,SNR=4.3						
PALK	Pallekele	91.20	277	eP	P	02 31 11.1	-1.9
	25nm,1.1s						
WMQ	Urumqi	97.35	314	eP	P	02 31 39.4	-1.1
WMQ				pP	pP	02 32 41.4	+34
WMQ				sP	sP	02 33 07.8	+50
WMQ				PP	PP	02 35 42.0	+3.2
WMQ				SKS	SKSac	02 41 50.5	-18
WMQ				S	SKKSac	02 42 37.0	+0.6
WMQ				sS	sS	02 44 26.8	+45
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.2s						
WMQ				LR	LR		
	comp=N,240nm,20.6s						
WMQ				LR	LR		
	comp=E,190nm,23.8s						
WMQ				LR	LR		
	comp=Z,37nm,16.8s						
YKA	Yellowknife Ar	100.55	27	P	Pdif	02 31 56.1	+1.9
	0.1nm,0.5s,baz=254,slow=4.0,SNR=3.7						
MKAR	Makanchi Array	101.88	315	P	Pdif	02 32 01.0	+0.4
	0.1nm,0.5s,baz=98,slow=5.7,SNR=4.6						
ARCES	ARCESS Array B	125.10	345	PKP	PKPdf	02 37 06.3	0.0
	1.8nm,0.8s,baz=58,slow=2.2,SNR=10						
GNI	Garni	128.52	306	ePKPdf	PKPdf	02 37 12.3	-1.7
FINES	FINESS Array B	130.65	338	SKPbc	SKPbc	02 40 26.9	-5.0
	1.8nm,0.5s,baz=101,slow=3.0,SNR=17						
AKASG	Malin Array Be	135.60	324	SKPbc	SKPbc	02 40 44.0	-5.0
	1.7nm,0.8s,baz=44,slow=4.3,SNR=8.6						
KIEV	Kiev	135.62	324	ePKPdf	PKPdf	02 37 23.8	-3.0
BRTR	Keskin Array B	136.97	308	SKPbc	SKPbc	02 40 49.4	-4.4
	0.6nm,0.8s,baz=29,slow=3.3,SNR=3.4						
GERES	GERESS Array B	144.58	332	PKP	PKPbc	02 37 42.6	+0.5
	1.5nm,0.6s,baz=35,slow=4.9,SNR=9.8						
DAVOX	Davos/Dischmat	147.82	333	PKPbc	PKPbc	02 37 52.0	+0.1
	baz=214,slow=3.6						

IDC 21 02:22:41.2±1.6,36°.03N×30°.16E,h0km,mb3.3/2, mb1 3.5/7,mb1mx3.3/45,mbtmp3.5/7,ML3.3/5,MS3.2/1, Ms1 3.2/1,ms1mx2.0/30,Error ellipse: s-maj=25.3km s-min=19.7km az=59.0
DDA 21 02:22:42.0,35°.92N×30°.14E,h11km,ML3.5
ISCJB 21 02:22:43.5±0.7,35°.89N±0°.04×30°.01E±0°.03,h24km±6km, mb3.2/2,MS3.2/1,Error ellipse: s-maj=6.2km s-min=3.7km az=20.9
CSEM 21 02:22:43.0±0.2,35°.94N×29°.98E,h2km,MD3.5,Error ellipse: s-maj=5.1km s-min=3.2km az=22.0
ISK 21 02:22:43.1,35°.97N×30°.00E,h11km,MD3.5,ML3.5
ISC 21 02:22:42.8±1.2,35°.91N±0°.03×30°.06E±0°.02,h15km±9km, n73,σ1s50/89,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	Kas	0.49	311	i Pg	Pg	02 22 52.6	0.0
AKAS				i Sg	Sg	02 22 59.9	+0.6
ELL	Elmali	0.85	352	ePG	Pg	02 22 58.4	-0.8
ELL	Elmali	0.85	352	ePg	Pg	02 22 58.4	-0.8
FETY	Fethiye	1.07	313	ePG	Pb	02 23 02.6	-0.5
FETY				eSG	Sb	02 23 17.2	+0.2
FETY	Fethiye	1.07	313	ePg	Pb	02 23 02.6	-0.5
FETY				eSg	Sb	02 23 17.2	+0.2
ANTB	Antalya	1.10	25	ePG	Pg	02 23 04.1	+0.1
ANTB	Antalya	1.10	25	ePg	Pg	02 23 04.1	+0.1
KORT	Korkueli	1.11	12	eP	Pb	02 23 03.1	-0.7
KORT				eS	Sb	02 23 17.6	-0.6
KORT	Korkueli	1.11	12	eP	Pb	02 23 03.1	-0.7
KORT				eS	Sb	02 23 17.6	-0.6
GOLH	Golhisar	1.39	343	eP	Pb	02 23 08.9	+0.5
GOLH				eS	Sg	02 23 28.6	+1.1
GOLH	Golhisar	1.39	343	eP	Pb	02 23 08.9	+0.5
GOLH				eS	Sg	02 23 28.6	+1.1
DALY	Dalyan (Mu˜la	1.46	309	ePN	Pn	02 23 08.8	+0.3
DALY	Dalyan (Mu˜la	1.46	309	ePn	Pn	02 23 08.8	+0.3
ARG	Arkhangelos	1.60	282	ePN	Pn	02 23 11.4	+0.9
ARG	Arkhangelos	1.60	282	ePn	Pn	02 23 11.4	+0.9
BCK	Bucak	1.61	15	ePN	Pb	02 23 11.5	-0.7
BCK	Bucak	1.61	15	ePn	Pb	02 23 11.5	-0.7
GAZI	Gazipasa	1.85	79	ePn	Pn	02 23 14.9	+0.9
GAZI				eSn	Sn	02 23 36.1	-1.1
YER	Yerkesik	1.89	311	ePN	Pn	02 23 15.2	+0.7
YER	Yerkesik	1.89	311	ePn	Pn	02 23 15.3	+0.7
ISP	Isparta	1.95	11	ePN	Pb	02 23 16.9	-1.1
ISP	Isparta	1.95	11	ePn	Pb	02 23 16.9	-1.1
BDRM	Kayabasi	2.41	299	eP	Pn	02 23 22.0	+0.4
BDRM				eS	Sn	02 23 51.0	+0.1
BDRM	Kayabasi	2.41	299	eP	Pn	02 23 22.0	+0.4
BDRM				eS	Sn	02 23 51.0	+0.1
ERMK	Ermenek	2.42	72	ePn	Pb	02 23 24.3	-1.7
ERMK				eSn	Sb	02 23 54.5	-1.2
LEF	Lefka	2.44	108	ePN	Pb	02 23 24.5	-1.8
LEF	Lefka	2.44	108	ePn	Pb	02 23 24.5	-1.8
AYDN	Tasoluk	2.48	316	i Pn	Pn	02 23 23.7	+1.0
AYDN				i Sn	Sn	02 23 52.8	+0.1
BODT	Bodrum	2.50	298	ePN	Pn	02 23 23.1	+0.2
BODT	Bodrum	2.50	298	ePn	Pn	02 23 23.1	+0.2
KHAL	Karahalli	2.50	350	ePn	Pn	02 23 22.6	-0.5
KHAL				eSn	Sn	02 23 51.6	-1.8
SHUT	Suhut-Afyon	2.67	8	ePN	Pn	02 23 26.4	+1.1
SHUT	Suhut-Afyon	2.67	8	ePn	Pn	02 23 26.4	+1.1
AYDB	Zeytinkoy-Aydi	2.68	320	ePN	Pn	02 23 26.1	+0.6
AYDB	Zeytinkoy-Aydi	2.68	320	ePn	Pn	02 23 26.1	+0.6
KONT	Konya--Tatoy	2.74	41	ePN	Pn	02 23 27.9	+1.6
KONT	Konya--Tatoy	2.74	41	ePn	Pn	02 23 27.9	+1.6
CSS	Prodhromos	2.83	109	ePN	Pn	02 23 30.1	+2.7
CSS	Prodhromos	2.83	109	ePn	Pn	02 23 30.2	+2.7
KULA	Kula-Manisa	2.83	337	ePN	Pn	02 23 28.2	+0.7
KULA	Kula-Manisa	2.83	337	ePn	Pn	02 23 28.3	+0.7
LFK	Lefkose	2.90	102	ePN	Pb	02 23 31.7	-2.5
LFK	Lefkose	2.90	102	ePn	Pb	02 23 31.7	-2.5
LADK	Ladik-KONYA	2.94	38	ePN	Pn	02 23 31.0	+2.0
LADK	Ladik-KONYA	2.94	38	ePn	Pn	02 23 31.0	+2.0
ALT	Altintas	3.14	1	ePN	Pn	02 23 32.6	+0.8
ALT	Altintas	3.14	1	ePn	Pn	02 23 32.6	+0.8
KIZT	Kizilcal	3.30	25	ePN	Pn	02 23 35.8	+1.8
KIZT	Kizilcal	3.30	25	ePn	Pn	02 23 35.8	+1.8
EREN	Erenkoy	3.36	95	ePN	Pn	02 23 37.9	+3.1
EREN	Erenkoy	3.36	95	ePn	Pn	02 23 37.9	+3.1
TVSB	Tavsanli	3.57	352	ePN	Pn	02 23 39.1	+1.4
TVSB	Tavsanli	3.57	352	ePn	Pn	02 23 39.1	+1.4
SULT	Sultanhani-AKS	3.58	49	ePN	Pn	02 23 40.6	+2.7
SULT	Sultanhani-AKS	3.58	49	ePn	Pn	02 23 40.6	+2.7
SVRH	Sivrihisar-ESK	3.72	18	ePN	Pn	02 23 41.6	+1.8
SVRH	Sivrihisar-ESK	3.72	18	ePn	Pn	02 23 41.6	+1.8
MERS	Mersin	3.72	74	ePN	Pn	02 23 42.8	+3.0
MERS	Mersin	3.72	74	ePn	Pn	02 23 42.8	+3.0
BALB	Balikesir	4.11	336	ePN	Pn	02 23 46.5	+1.5
BALB	Balikesir	4.11	336	ePn	Pn	02 23 46.5	+1.5
IDI	Anoyia	4.26	263	Pn	Pn	02 23 47.9	+0.8
	1.8nm,0.3s,baz=29,slow=2.8,SNR=48						
IDI				Sn	Sn	02 24 36.0	-0.8
	1.1nm,0.3s,baz=45,slow=10.0,SNR=3.2						
GULT	Gulveren	4.53	4	ePN	Pn	02 23 53.0	+2.1
GULT	Gulveren	4.53	4	ePn	Pn	02 23 53.0	+2.1
MDNY	Mudanya-Bursa	4.55	349	ePN	Pn	02 23 53.6	+2.6
MDNY	Mudanya-Bursa	4.55	349	ePn	Pn	02 23 53.7	+2.6
BRTR	Keskin Array B	4.75	36	Pn	Pn	02 23 54.0	+0.1
	0.3nm,0.3s,baz=212,slow=15,SNR=22						
BRTR				Sn	Sn	02 24 47.8	-1.0
	0.2nm,0.3s,baz=206,slow=24,SNR=3.4						
MMAI	Mount Meron Ar	5.27	122	Pn	Pn	02 24 01.8	+0.8
	8.2nm,0.3s,baz=307,slow=12,SNR=124						
MMAI				Sn	Sn	02 25 01.1	-0.5
	3.0nm,0.3s,baz=310,slow=24,SNR=5.5						
ASF	Jabal al Asfar	6.79	121	Pn	Pn	02 24 23.4	+1.5
	0.2nm,0.3s,baz=284,slow=4.7,SNR=5.8						
ASF				Sn	Sn	02 25 42.2	+3.2
	0.1nm,0.3s,baz=294,slow=14,SNR=2.2						
EIL	Elat	7.46	145	Pn	Pn	02 24 32.0	+1.0
	1.1nm,0.3s,baz=339,slow=3.2,SNR=47						
FINES	FINESS Array B	25.68	356	P	P	02 28 12.2	+0.3
	0.7nm,0.5s,baz=176,slow=5.6,SNR=5.5						
MKAR	Makanchi Array	40.01	58	P	P	02 30 15.7	-1.2
	0.2nm,0.6s,baz=267,slow=8.9,SNR=3.0						
DBIC	Dimbokro	43.23	236	LR	LR	02 50 51.9	
	comp=Z,27nm,18.6s,baz=146,slow=39						

IDC 21 02:26:40.0±6.2,0°.99N×124°.12E,h247km±57km,mb2.8/3, mb1 3.3/4,mb1mx2.8/39,mbtmp3.8/4,Error ellipse: s-maj=114.9km s-min=19.0km az=60.0
ISCJB 21 02:26:43.2±1.1,0°.5N±0°.1×123°.90E±0°.05,h253km±7km, mb3.2/3,Error ellipse: s-maj=18.7km s-min=8.6km az=6.2
DJA 21 02:26:45.1±0.8,0°N±6°×12°4E±°,h234km±9km,M3.9/8, mb3.9/1,mB4.7/1,MLv4.0/8,Mw(mB)3.9/1
ISC 21 02:26:42.5±1.2,0°.5N±0°.1×123°.89E±0°.06,h257km±8km, n14,σ1s59/18,mb3.3/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.11	58	P	Pn	02 27 16.6	+1.1
LUWI	Luwuk	1.91	216	P	Pn	02 27 25.6	+0.8
LUWI				S	S	02 27 57.5	-0.7
MRSI	Marisa	1.95	269	P	Pn	02 27 25.1	0.0
APSI	Ampana	2.65	238	P	Pn	02 27 32.2	+0.4
APSI				S	S	02 28 10.3	-0.5
SANI	Sanana	3.30	141	P	Pn	02 27 39.4	+0.7
SANI				S	S	02 28 21.8	-1.5
LBMI	Labuha	3.79	108	P	Pn	02 27 45.4	+1.2
LBMI				S	S	02 28 32.8	-0.4
MPSI	Mapaga	4.00	267	P	Pn	02 27 46.8	+0.2
TTSI	Tana Toraja	5.39	229	P	Pn	02 28 06.0	+2.6
BATI	Baumata	10.66	181	P	P	02 29 12.9	-1.0
	2.4nm,0.3s,baz=6.3,slow=9.2,SNR=3.3						
WRA	Warramunga Arr	22.77	154	P	P	02 31 24.0	+0.9
	0.6nm,0.4s,baz=337,slow=10.0,SNR=15						
WRA				S	S	02 35 10.1	-2.5
	0.7nm,0.8s,baz=334,slow=16,SNR=4.5						
ASAR	Alice Springs	25.93	159	P	P	02 31 53.8	+2.1
	0.1nm,0.4s,baz=332,slow=7.9,SNR=4.4						
MKAR	Makanchi Array	58.65	328	P	P	02 36 09.8	-3.4
	0.3nm,0.4s,baz=120,slow=8.2,SNR=13						
TORD	Torodi Ar. Bea	121.13	286	PKP	PKPdf	02 45 03.6	-2.3
	0.2nm,0.8s,baz=95,slow=2.3,SNR=4.0						
CFAA	Coronel Fontan	147.02	161	PKPbc	PKPdf	02 45 55.2	+1.9
	0.2nm,0.5s,baz=226,slow=4.7,SNR=4.2						

KRSC 21 02:34:54.8±2.4,49°.58N×156°.96E,h15km±37km,ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.23	334	eP	Pn	02 35 15.3	-2.0
SKR				S	Sb	02 35 30.4	-2.8
PAU	Pauzhetka	1.89	357	P	Pb	02 35 27.9	-1.0
PAU				eS	Sb	02 35 52.0	-0.2
MTVR	Mutnovka	3.00	14	S	Sb	02 36 21.8	-2.9
RUS	Russkaya	3.02	18	eP	Pn	02 35 44.7	+2.8
RUS				eS	Sb	02 36 21.3	-3.4
UGLR	Uglovaya	3.81	17	P	Pb	02 35 57.5	-4.3
KOK	Koryaka	3.86	15	P	Pb	02 35 58.2	-4.4
KRER	Koryakskii	3.89	16	P	Pn	02 35 57.9	+3.7
KRX	Arik	3.92	15	eP	Pn	02 35 58.5	+3.9
GNL	Ganaly	4.16	8	P	Pn	02 36 02.2	+4.4
MKZ	Mys Kozlova	5.78	29	P	Pn	02 36 22.7	+2.9

BJI 21 02:41:40.6,6°.70N×73°.00W,h143km,mB5.0/1
ISCJB 21 02:41:42.4±0.2,6°.72N±0°.03×72°.93W±0°.03,h166km±2km, mb4.2/23,Error ellipse: s-maj=6.3km s-min=3.7km az=139.9
FUNV 21 02:41:42.6,6°.73N×73°.18W,h169km,MW4.4
NEIC 21 02:41:43.0±0.6,6°.70N×73°.04W,h155km±6km,mb4.6/15, Error ellipse: s-maj=14.9km s-min=8.1km az=84.0
NEIC Felt at Bucaramanga and Los Santos.
IDC 21 02:41:43.1±1.5,6°.88N×72°.91W,h156km±14km,mb3.5/7, mb1 3.8/12,mb1mx3.5/29,mbtmp4.1/12,Error ellipse: s-maj=18.6km s-min=14.8km az=179.0
ISC 21 02:41:43.3±0.6,6°.76N±0°.04×73°.00W±0°.04,h161km±5km, n301,σ1s23/326,mb4.4/23,107C-129D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUSC	La Rusia	0.83	185	iP	Pn	02 42 08.1	-0.4
RUSC				eS	Sn	02 42 26.6	-1.1
CAPV	Capacho	1.29	32	⇓iP	Pn	02 42 12.4	+0.4
CAPV				eS	Sn	02 42 34.6	+0.5
OCAC	Ocana	1.50	348	eP	Pn	02 42 12.8	-1.1
OCAC				eS	Sn	02 42 33.9	-3.8
CHIC	Chingaza	2.24	199	eP	Pn	02 42 22.2	-0.1
CHIC				eS	Sn	02 42 51.5	-0.9
ROSC	El Rosal	2.31	215	P	Pn	02 42 24.2	+1.0
	70nm,0.3s,baz=344,slow=1.5,SNR=179						
ROSC				S	Sn	02 42 53.5	-0.5
	210nm,0.3s,baz=97,slow=14,SNR=13						
HELC	Santa Helena	2.59	258	eP	Pn	02 42 24.7	-1.7
HELC				eS	Sn	02 42 57.1	-2.6
SOCV	Socops	2.61	54	⇓iP	Pn	02 42 26.6	+0.2
SOCV				eS	Sn	02 42 59.0	-0.7
VIGV	El Vigia	2.62	38	⇓iP	Pn	02 42 27.0	+0.4
VIGV				eS	Sn	02 42 59.6	-0.5
ELOV	Elorza	3.50	86	eP	Pn	02 42 38.7	+1.2
ELOV				eS	Sn	02 43 19.2	-0.3
PRAC	Prado	3.59	212	eP	Pn	02 42 37.5	-1.1
VIRV	Villa del Rosa	3.76	9	⇓iP	Pn	02 42 39.4	-1.5
VIRV				eS	Sn	02 43 22.1	-3.6
SANV	Sanarito	4.38	51	eP	Pn	02 42 49.6	+0.7
CURV	Curarigua	4.41	43	eP	Pn	02 42 49.3	-0.1
DABV	Dabajuro	4.75	29	eP	Pn	02 42 53.5	-0.2
DABV				eS	Sn	02 43 45.4	-3.2
SIQV	Siquisique	4.99	39	eP	Pn	02 42 56.4	-0.4
BAUV	El Baul	5.37	66	eP	Pn	02 43 00.9	-0.9
BAUV				eS	Sn	02 44 00.2	-3.1
MONV	Montecano	5.96	30	eP	Pn	02 43 08.4	-1.2
MONV				eS	Sn	02 44 12.6	-4.8
TURV	Turiamo	6.28	54	eP	Pn	02 43 13.1	-0.8
MERV	Las Mercedes	7.08	69	eP	Pn	02 43 24.0	-0.5
BCIP	Isla Barro Col	7.18	290	ePn	Pn	02 43 22.4	-3.5
BIRV	Birongo	7.61	61	eP	Pn	02 43 30.4	-1.1
CUPV	Cœpira	7.85	65	eP	Pn	02 43 33.8	-1.0
OTAV	Otavalo	8.46	220	ePn	Pn	02 43 42.4	-0.9
OTAV				eSn	Sn	02 45 17.8	-0.1
PCRV	Puerto La Cruz	8.94	67	P	Pn	02 43 48.5	-0.7
	4.2nm,0.3s,baz=276,slow=2.9,SNR=28						
PCRV				S	Sn	02 45 27.3	-1.5
	1.9nm,0.3s,baz=183,slow=19,SNR=2.4						
YHJ	Yallahs	11.58	343	iP	Pn	02 44 26.5	+2.6
HOJ	Hope	11.76	342	iP	P	02 44 29.8	-3.1
GWJ	Greenwich	11.82	342	iP	Pn	02 44 29.1	+2.0
STH	Stony Hill	11.85	342	iP	Pn	02 44 29.0	+1.7
MCJ	Malvern	12.00	338	iP	Pn	02 44 31.2	+1.8
MTDJ	Mount Denham	12.22	339	ePn	Pn	02 44 34.2	+1.9
SDDR	Presa de Saban	12.26	8	ePn	Pn	02 44 32.0	-0.8
JTS	JuntasAbangare	12.33	287	P	Pn	02 44 35.0	+1.3
	0.5nm,0.3s,baz=108,slow=20,SNR=2.1						
MASC	Masc	13.39	355	e	P	02 44 52.2	+1.3
SAML	Samuel	18.42	148	ePn	Pn	02 45 47.4	-1.1
	5.9nm,0.6s						
APG	El Apazote	18.99	297	P	P	02 45 52.5	-0.5
	0.2nm,0.3s,baz=94,slow=6.1,SNR=8.5						
TEIG	Tepich	19.97	314	P	P	02 46 04.2	+0.9
	2.2nm,0.3s,baz=84,slow=4.1,SNR=13						
LVC	Limon Verde	29.47	172	eP	P	02 47 30.4	-2.1
	8.9nm,1.2s						
WVT	Waverly	32.23	337	eP	P	02 47 57.6	+1.2
	4.5nm,0.6s						
833A	Chaparral WMA,	32.91	314	⇓P	P	02 48 03.0	+0.5
	baz=33						
WCI	Wyandotte Cave	33.56	341	eP	P	02 48 08.8	+0.8
	4.6nm,0.6s						
434A	Burnet	33.67	319	⇓P	P	02 48 09.0	+0.1
	baz=34						
PBMO	Poplar Bluff	33.85	334	eP	P	02 48 12.0	+1.5
	6.7nm,0.6s						
433A	Art	34.17	318	⇓P	P	02 48 13.8	+0.5
	baz=34,SNR=5.9						
532A	Rocksprings	34.34	316	⇓P	P	02 48 15.3	+0.4
	baz=34						
234A	Clairette	34.36	320	⇓P	P	02 48 15.6	+0.8
	baz=34						
333A	Richland Sprin	34.46	319	⇑P	P	02 48 16.4	+0.5
	baz=35						
JCT	Junction City	34.48	317	⇓P	P	02 48 16.3	+0.2
	baz=35						
134A	White-Moore Ra	34.70	321	⇓P	P	02 48 18.2	+0.4
	baz=35						
432A	Menard	34.72	317	⇑P	P	02 48 18.8	+0.7
	baz=35						
531A	Rocksprings	34.81	315	⇓P	P	02 48 19.2	+0.3
	baz=35						
233A	Rising Star	34.85	320	⇓P	P	02 48 19.8	+0.7
	baz=35						
332A	Millersview	35.00	318	⇑P	P	02 48 21.1	+0.6
	baz=35						
Z34A	Collier Ranch,	35.14	322	⇓P	P	02 48 22.9	+1.3
	baz=35						
431A	Sonora	35.16	316	⇑P	P	02 48 22.3	+0.4
	baz=35						
232A	Coleman	35.26	319	⇓P	P	02 48 23.2	+0.5
	baz=35						
530A	J-C Ranch, Com	35.35	315	⇑P	P	02 48 24.6	+1.1
	baz=35						
Y34A	Reagan Ranch,	35.45	323	⇓P	P	02 48 25.4	+1.2
	baz=36						
Z33A	Whitaker Ranch	35.60	321	⇑P	P	02 48 26.8	+1.2
	baz=36						
430A	Baggett Ranch,	35.66	316	⇑P	P	02 48 27.1	+1.0
	baz=36						
ABTX	Abilene, Hawle	35.73	320	⇓P	P	02 48 27.5	+0.9
	baz=36						
231A	Bronte	35.73	318	⇑P	P	02 48 27.4	+0.7
	baz=36						
TUL1	Tulsa	35.75	327	⇓P	P	02 48 27.8	+1.0
	baz=36						
SFIN	Scholer Farm	35.78	341	eP	P	02 48 28.2	+1.4
	13nm,0.5s						
SFIN	Scholer Farm	35.78	341	⇓P	P	02 48 28.3	+1.4
	baz=36,SNR=8.3						
X34A	Smith Ranch, M	35.94	324	⇑P	P	02 48 29.4	+1.0
	baz=36						
429A	Davenport Ranc	36.02	315	⇑P	P	02 48 29.7	+0.5
	baz=36						
Z32A	Haskell	36.06	321	⇑P	P	02 48 30.5	+1.0
	baz=36						
230A	Sterling City	36.23	317	⇓P	P	02 48 31.2	+0.2
	baz=36						
X33A	Lawton	36.30	323	⇑P	P	02 48 31.8	+0.3
	baz=36						
W34A	Bridge Creek,	36.36	325	eP	P	02 48 32.2	+0.3
	7.7nm,0.6s						
W34A	Bridge Creek,	36.36	325	⇓P	P	02 48 32.5	+0.5
	baz=36						
Z31A	Sharp Cattle R	36.49	320	⇓P	P	02 48 34.5	+1.3
	baz=37						
Y32A	R-V Farms, Ver	36.50	322	⇓P	P	02 48 34.1	+0.9
	baz=37						
329A	Wagon Wheel Ra	36.58	316	⇓P	P	02 48 34.6	+0.6
	baz=37						
TXAR	Lajitas Array	36.59	312	P	P	02 48 34.6	+0.4
	0.7nm,0.5s,baz=128,slow=9.2,SNR=17						
TXAR				PcP	PcP	02 50 55.8	+1.8
	0.2nm,0.6s,baz=150,slow=4.2,SNR=2.8						
X32A	Elmer	36.69	322	⇑P	P	02 48 35.6	+0.8
	baz=37						
229A	Bryant Ranch,	36.75	317	⇑P	P	02 48 35.8	+0.4
	baz=37						
Y31A	Rekieta Farm,	36.99	321	⇓P	P	02 48 38.4	+1.1
	baz=37						
V33A	Lossen Ranch,	37.07	325	⇑P	P	02 48 38.4	+0.4
	baz=37						
U34A	Anderson Ranch	37.09	326	⇑P	P	02 48 38.6	+0.5
	baz=37						
Z30A	Sanderson Ranc	37.11	319	⇑P	P	02 48 39.0	+0.6
	baz=37						
W32A	Sentinel	37.14	323	⇓P	P	02 48 39.1	+0.5
	baz=37						
129A	Stewart Farms,	37.19	318	⇓P	P	02 48 39.3	+0.2
	baz=37						
X31A	McDonald Ranch	37.25	322	⇓P	P	02 48 39.8	+0.2
	baz=37						
Y30A	Stafford Cattl	37.33	320	⇑P	P	02 48 41.2	+0.9
	baz=37						
U33A	Lingo Farm, Me	37.41	326	⇓P	P	02 48 41.4	+0.6
	baz=38						
Z29A	Hungry Hill Ra	37.47	319	⇑P	P	02 48 42.3	+0.9
	baz=38						
128A	Castleberry Fa	37.60	317	⇓P	P	02 48 43.7	+1.1
	baz=38,SNR=5.5						
W31A	Holland Ranch,	37.60	323	⇓P	P	02 48 43.9	+1.4
	baz=38						
X30A	Coker Ranch, T	37.69	321	⇓P	P	02 48 44.5	+1.2
	baz=38,SNR=5.2						
Y29A	Porterfield Fa	37.82	319	⇑P	P	02 48 45.2	+0.8
	baz=38						
X29A	Tulia	38.21	320	⇓P	P	02 48 48.6	+1.0
	baz=38						
127A	Arkansas Junct	38.23	316	⇑P	P	02 48 48.8	+0.9
	baz=38						
V30A	Spur Ranch, Mi	38.44	323	⇑P	P	02 48 50.5	+1.0
	baz=38						
AMTX	Amarillo	38.48	321	eP	P	02 48 51.0	+1.1
AMTX	Amarillo	38.48	321	⇓P	P	02 48 50.6	+0.8
	baz=39						
Z27A	Tatum	38.51	317	⇓P	P	02 48 50.9	+0.8
	baz=39,SNR=7.8						
X28A	Dimmitt	38.57	320	⇑P	P	02 48 51.1	+0.4
	baz=39						
KSU1	Kansas State U	38.60	330	⇑P	P	02 48 51.3	+0.6
	baz=39						
MSTX	Muleshoe	38.61	319	⇓P	P	02 48 51.6	+0.6
	baz=39						
R33A	Olander Ranch,	38.70	328	⇑P	P	02 48 52.2	+0.5
	baz=39						
T31A	Randall Ranch,	38.76	325	⇑P	P	02 48 52.8	+0.6
	baz=39						
S32A	Newby Ranch, P	38.77	326	⇑P	P	02 48 52.7	+0.5
	baz=39						
Y27A	Causey	38.81	318	⇑P	P	02 48 53.2	+0.5
	baz=39						
Z26A	Caprock	39.00	317	⇑P	P	02 48 55.2	+1.0
	baz=39,SNR=5.9						
V29A	Stinnett	39.02	322	⇓P	P	02 48 55.4	+1.0
	baz=39						
JFWS	Jewell Farm	39.09	340	eP	P	02 48 55.5	+0.7
	11nm,0.6s						
R32A	Long Quarter,	39.17	327	⇓P	P	02 48 56.5	+1.0
	baz=39						
X27A	F and S Farms,	39.23	319	⇓P	P	02 48 56.6	+0.3
	baz=39						
U29A	Oasis Ranch, S	39.25	323	⇑P	P	02 48 57.0	+0.7
	baz=39						
Y26A	Elida	39.27	318	⇓P	P	02 48 57.9	+1.3
	baz=39						
V28A	Channing	39.37	321	⇑P	P	02 48 58.6	+1.2
	baz=40						
W27A	Bowe Ranch, En	39.47	320	⇑P	P	02 48 59.5	+1.3
	baz=40						
Z25A	Roswell	39.51	316	⇓P	P	02 48 59.3	+0.8
	baz=40						
Q32A	Meitler Ranch,	39.51	328	⇓P	P	02 48 59.0	+0.7
	baz=40						
T29A	Hugoton	39.74	324	⇓P	P	02 49 00.9	+0.6
	baz=40						
V27A	Dan Oppiter Fa	39.76	321	⇓P	P	02 49 01.1	+0.5
	baz=40						
Y25A	Mesa, Roswell	39.86	317	⇓P	P	02 49 02.8	+1.4
	baz=40						
R30A	Dighton	39.93	326	⇓P	P	02 49 02.8	+0.9
	baz=40						
S29A	Ulysses	39.95	324	⇑P	P	02 49 02.9	+0.8
	baz=40						
U27A	Thompson Grove	40.18	322	⇑P	P	02 49 05.2	+1.2
	baz=40						
X25A	Clemmons Ranch	40.19	318	⇓P	P	02 49 05.6	+1.4
	baz=40						
T28A	Walsh	40.20	323	⇓P	P	02 49 04.9	+0.8
	baz=40						
Y24A	Capitan	40.37	316	⇑P	P	02 49 07.0	+1.3
	baz=40,SNR=6.0						
S28A	Manter	40.38	324	⇑P	P	02 49 06.9	+1.2
	baz=40,SNR=5.3						
V26A	Tequesquite Ra	40.38	320	⇑P	P	02 49 07.2	+1.5
	baz=40						
Q30A	Quinter	40.39	327	⇓P	P	02 49 06.5	+0.8
	baz=40						
W25A	X Bar L Ranch,	40.47	319	⇓P	P	02 49 07.6	+1.2
	baz=41						
T27A	Campo	40.53	322	⇓P	P	02 49 07.8	+0.9
	baz=41						
U26A	Atchley Ranch,	40.73	321	⇓P	P	02 49 09.7	+1.1
	baz=41						
R28A	Tribune	40.84	325	⇑P	P	02 49 10.1	+0.7
	baz=41						
V25A	Rancho No Teng	40.94	319	⇑P	P	02 49 11.2	+0.8
	baz=41						
W24A	Lazy 6 Ranch,	41.09	318	⇑P	P	02 49 11.9	+0.4
	baz=41						
T26A	Comanche Natio	41.13	322	⇑P	P	02 49 12.5	+0.6
	baz=41						
X23A	Hourglass Bar	41.25	317	⇑P	P	02 49 13.7	+0.8
	baz=41						
121A	Cookes Peak, D	41.27	313	⇑P	P	02 49 13.5	+0.4
	baz=41						
V24A	Rampart Ranch,	41.30	319	⇑P	P	02 49 14.1	+0.7
	baz=41						
S26A	Kim	41.34	322	⇓P	P	02 49 14.8	+1.3
	baz=42						
Q28A	Sharon Springs	41.35	325	⇓P	P	02 49 14.7	+1.2
	baz=42						
R27A	Eads	41.38	324	⇑P	P	02 49 14.6	+0.8
	baz=42						
M31A	Lambtecht Ranc	41.48	330	⇓P	P	02 49 15.7	+1.2
	baz=42						
O29A	4D Ranch, Culb	41.52	327	⇑P	P	02 49 16.0	+1.2
	baz=42						
T25A	Trinidad	41.61	321	⇓P	P	02 49 16.4	+0.6
	baz=42						
N30A	Hueftle Ranch,	41.64	329	⇓P	P	02 49 16.8	+1.0
	baz=42						
U24A	Moreno Valley	41.72	320	⇑P	P	02 49 17.5	+0.7
	baz=42						
KSCO	Kaye Shedlock'	41.76	325	⇓P	P	02 49 17.9	+0.9
	baz=42						
R26A	Arlington	41.77	323	⇓P	P	02 49 17.7	+0.7
	baz=42						
V23A	Ortiz Mt. (NFS	41.91	318	⇑P	P	02 49 18.8	+0.5
	baz=42						
N29A	Votaw Ranch, W	41.93	328	⇓P	P	02 49 18.8	+0.6
	baz=42						
S25A	Robets Cordova	41.96	322	⇓P	P	02 49 19.4	+0.8
	baz=42						
SPMN	St. Paul	42.01	339	⇓P	P	02 49 19.7	+1.1
	baz=42						
L31A	Butterfield Fa	42.04	331	⇑P	P	02 49 19.6	+0.6
	baz=42						
O28A	Krutsinger Ran	42.05	327	⇓P	P	02 49 20.0	+0.8
	baz=42						
P27A	Ficken Ranch,	42.11	325	⇑P	P	02 49 20.7	+1.0
	baz=42						
R25A	Fountain Ranch	42.17	322	⇑P	P	02 49 21.3	+1.0
	baz=42						
T24B	San Luis	42.18	320	⇑P	P	02 49 20.8	+0.3
	baz=42						
Q26A	Hugo	42.22	324	⇓P	P	02 49 21.3	+0.6
	baz=42						
ECSD	EROS Data Cent	42.25	334	eP	P	02 49 20.7	0.0
	22nm,2.0s						
ECSD	EROS Data Cent	42.25	334	⇑P	P	02 49 21.5	+0.8
	baz=42						
U23A	El Rito	42.26	319	⇓P	P	02 49 21.9	+0.8
	baz=42						
L30A	Spencer Herefo	42.30	330	⇓P	P	02 49 22.4	+1.2
	baz=42						
S24A	Houchin Ranch,	42.43	321	⇓P	P	02 49 23.5	+0.9
	baz=42						
O27A	Beecher Island	42.48	326	⇑P	P	02 49 23.4	+0.7
	baz=43						
V22A	San Miguel Ran	42.49	318	⇓P	P	02 49 23.2	+0.2
	baz=43						
P26A	Davis Ranch, A	42.55	325	⇓P	P	02 49 24.4	+1.1
	baz=43						
R24A	Sanders Place,	42.73	322	⇓P	P	02 49 26.2	+1.4
	baz=43						
L29A	Maesberg Ranch	42.77	330	⇓P	P	02 49 25.9	+1.0
	baz=43						
K30A	Basset	42.79	331	⇑P	P	02 49 25.7	+0.6
	baz=43,SNR=9.6						
N27A	Anderson Farm,	42.94	327	⇓P	P	02 49 26.8	+0.4
	baz=43						
O26A	Horse Wrangler	42.99	325	⇓P	P	02 49 28.0	+1.2
	baz=43						
P25A	Willow Gulch B	42.99	324	⇑P	P	02 49 26.8	-0.1
	baz=43						
R23A	Moffat	43.15	321	⇓P	P	02 49 29.4	+1.0
	baz=43						
S22A	4UR Ranch, Cre	43.51	320	⇓P	P	02 49 32.4	+1.2
	baz=44						
J29A	Okreek	43.69	331	⇓P	P	02 49 32.5	+0.3
	baz=44,SNR=5.7						
BRSD	Miller	43.84	333	eP	P	02 49 33.3	-0.2
	26nm,0.8s						
BRSD	Miller	43.84	333	⇑P	P	02 49 33.8	+0.3
	baz=44,SNR=7.6						
P23A	Jefferson	43.89	323	⇑P	P	02 49 34.8	+0.4
	baz=44						
EYMN	Ely	43.96	342	eP	P	02 49 34.9	+0.5
	7.6nm,0.6s						
ISCO	Idaho Springs	44.03	323	⇓P	P	02 49 36.7	+1.3
	baz=44						
I29A	Vivian Onida	44.14	332	⇑P	P	02 49 36.2	+0.4
	baz=44						
J28A	Allard Ranch,	44.14	330	⇓P	P	02 49 36.1	+0.2
	baz=44						
N24A	Carr	44.27	325	⇓P	P	02 49 37.8	+0.7
	baz=44						
J27A	Elkhorn Farm,	44.40	330	⇑P	P	02 49 38.7	+0.7
	baz=44						
G30A	Faulkton	44.46	334	⇑P	P	02 49 39.0	+0.6
	baz=45,SNR=6.2						
H29A	Onida	44.56	332	⇓P	P	02 49 39.5	+0.4
	baz=45						
P22A	Eagle	44.59	322	⇑P	P	02 49 40.5	+0.8
	baz=45						
O22A	Kremmling	44.81	323	⇑P	P	02 49 42.7	+1.2
	baz=45						
X16A	Lo Mia Camp, P	44.86	313	⇑P	P	02 49 42.9	+1.0
	baz=45						
G29A	Hoven	44.86	333	⇓P	P	02 49 43.0	+1.5
	baz=45						
F30A	Leola	44.97	334	⇓P	P	02 49 43.0	+0.6
	baz=45						
H28A	Mission Ridge	44.97	332	⇓P	P	02 49 42.9	+0.5
	baz=45						
I27A	Quinn	45.02	330	⇑P	P	02 49 43.4	+0.5
	baz=45						
G28A	Parade	45.23	332	⇓P	P	02 49 45.0	+0.5
	baz=45						
H27A	Howes	45.45	331	⇓P	P	02 49 46.6	+0.4
	baz=46						
AGMN	Agassiz Nation	45.72	339	eP	P	02 49 49.0	+0.7
	64nm,2.6s						
AGMN	Agassiz Nation	45.72	339	⇓P	P	02 49 49.1	+0.9
	baz=46						
F28A	McLaughlin	45.76	333	⇓P	P	02 49 49.2	+0.6
	baz=46						
Y14A	Wickenburg	45.78	312	⇓P	P	02 49 49.9	+0.9
	baz=46						
E29A	Napoleon	45.81	334	⇓P	P	02 49 49.3	+0.4
	baz=46						
I25A	Rochford	45.83	329	⇑P	P	02 49 49.5	+0.1
	baz=46						
J24A	Dixon Ranch, L	45.83	328	⇓P	P	02 49 49.4	+0.1
	baz=46						
D30A	Buchanan	45.86	336	⇑P	P	02 49 50.1	+0.8
	baz=46						
G27A	Dupree	45.93	332	⇑P	P	02 49 50.5	+0.6
	baz=46						
D29A	Pettibone, Tap	46.17	335	⇑P	P	02 49 52.5	+0.7
	baz=46						
G26A	Maurine	46.18	331	⇓P	P	02 49 52.2	+0.3
	baz=46						
C30A	Mose, Pekin	46.23	336	⇑P	P	02 49 53.0	+0.8
	baz=46						
N20A	Spence Gulch,	46.25	323	⇑P	P	02 49 53.3	+0.5
	baz=46						
F27A	Lemmon	46.34	332	⇓P	P	02 49 54.0	+0.9
	baz=46						
K22A	Casper	46.39	326	⇓P	P	02 49 54.8	+1.1
	baz=46						
U15A	North Rim	46.45	315	⇓P	P	02 49 55.3	+0.8
	baz=46						
G25A	Newell	46.51	330	⇑P	P	02 49 54.9	+0.4
	baz=47						
E27A	Carson	46.55	333	⇓P	P	02 49 56.1	+1.3
	baz=47						
F26A	Lodgepole	46.62	332	⇓P	P	02 49 56.0	+0.6
	baz=47						
B30A	Myrvik Farm, E	46.77	337	⇓P	P	02 49 57.4	+0.9
	baz=47						
K21A	Alcova	46.79	325	⇑P	P	02 49 57.9	+1.0
	baz=47						
J22A	Midwest	46.86	327	⇓P	P	02 49 58.4	+1.0
	baz=47						
E26A	Carlson Angus	46.99	332	⇑P	P	02 49 58.7	+0.5
	baz=47						
F25A	Bowman	47.05	331	⇑P	P	02 50 00.2	+1.4
	baz=47						
A30A	Hoffart Farm,	47.16	337	⇑P	P	02 50 00.4	+0.9
	baz=47						
I22A	9 Mile Ranch,	47.19	327	⇓P	P	02 50 00.5	+0.7
	baz=47						
B29A	Wagenman Farm,	47.19	336	⇓P	P	02 50 00.7	+1.0
	baz=47						
J21A	Lysite	47.35	326	⇓P	P	02 50 01.8	+0.5
	baz=48						
ULM	Lac du Bonnet	47.38	340	P	P	02 50 00.5	-0.6
	5.1nm,0.5s,baz=148,slow=7.6,SNR=17						
D26A	Manning	47.39	333	⇓P	P	02 50 02.0	+0.7
	baz=48						
E25A	Miller Ranch,	47.45	332	⇑P	P	02 50 02.5	+0.7
	baz=48						
F24A	Ekalaka	47.48	330	⇑P	P	02 50 02.4	+0.3
	baz=48						
C27A	Sayler Ranch,	47.50	334	⇑P	P	02 50 03.8	+1.7
	baz=48						
A29A	Manning Farm,	47.51	337	⇓P	P	02 50 03.4	+1.3
	baz=48						
I21A	Big Trails, Te	47.57	326	⇑P	P	02 50 03.4	+0.5
	baz=48						
B28A	Dugan Ranch, T	47.59	336	⇓P	P	02 50 04.1	+1.3
	baz=48						
J20A	Shoshoni	47.72	325	⇓P	P	02 50 05.1	+1.1
	baz=48						
C26A	Wahner Farm, P	47.84	334	⇑P	P	02 50 05.9	+1.1
	baz=48						
F23A	Volborg	47.87	330	⇑P	P	02 50 05.7	+0.7
	baz=48						
D25A	Fairfield	47.89	332	⇑P	P	02 50 06.2	+1.0
	baz=48						
MONP	Monument Peak	47.92	309	⇑P	P	02 50 06.4	+0.6
	baz=48						
H21A	Big Horn, Sher	47.97	327	⇑P	P	02 50 07.0	+1.1
	baz=48						
G22A	Birney	47.98	329	⇑P	P	02 50 06.9	+1.0
	baz=48						
I20A	Worland	48.12	326	⇓P	P	02 50 08.4	+1.3
	baz=48						
SCHQ	Schefferville	48.19	5	P	P	02 50 06.8	-0.5
	2.9nm,0.7s,baz=209,slow=9.0,SNR=4.0						
J19A	Crowheart	48.21	325	⇓P	P	02 50 08.9	+1.0
	baz=48						
PFO	Pinyon Flat Ob	48.23	310	⇑P	P	02 50 08.4	+0.3
	baz=48						
D24A	Glendive	48.33	332	⇓P	P	02 50 09.5	+1.0
	baz=48						
F22A	Rosebud	48.34	329	⇓P	P	02 50 09.5	+0.9
	baz=48						
H20A	Greybull	48.40	327	⇓P	P	02 50 10.0	+0.8
	baz=48						
A26A	Wade Farm, Ken	48.63	335	⇑P	P	02 50 12.2	+1.4
	baz=49						
B25A	Knox Farm, Ray	48.65	333	⇑P	P	02 50 12.7	+1.7
	baz=49,SNR=6.4						
I19A	Meeteetse	48.66	326	⇑P	P	02 50 12.4	+1.1
	baz=49						
C24A	Savage	48.68	332	⇓P	P	02 50 12.8	+1.7
	baz=49						
D23A	Lindsay	48.79	331	⇓P	P	02 50 13.6	+1.5
	baz=49						
G20A	Bridger	48.99	327	⇓P	P	02 50 14.3	+0.6
	baz=49						
GSC	Goldstone	49.19	312	⇑P	P	02 50 15.6	+0.3
	baz=49						
C23A	Lambert	49.23	332	⇓P	P	02 50 16.5	+1.1
	baz=49						
D22A	Cohagen	49.25	330	⇑P	P	02 50 17.0	+1.5
	baz=49						
DGMT	Dagmar	49.26	333	eP	P	02 50 17.1	+1.5
	12nm,0.6s						
DGMT	Dagmar	49.26	333	⇓P	P	02 50 17.0	+1.5
	baz=49,SNR=5.7						
F20A	Billings	49.34	328	⇑P	P	02 50 17.4	+1.2
	baz=50						

BFSC Mount Baldy Ra 49.40 310 ⇓P P 02 50 17.6 +0.6
baz=50
H18A Shoshone NF, C 49.44 326 ⇓P P 02 50 18.1 +0.9
baz=50
I17A Pilgrim Ck. 49.49 325 ⇓P P 02 50 19.1 +1.5
baz=50
A24A Westby 49.51 333 ⇑P P 02 50 18.6 +1.1
baz=50
C22A Vida 49.52 331 ⇑P P 02 50 19.0 +1.5
baz=50
D21A La Casta Ranch 49.59 330 ⇑P P 02 50 19.7 +1.6
baz=50,SNR=5.1
B23A Brockton 49.62 332 ⇓P P 02 50 20.2 +2.0
baz=50
E20A Meyer Farm, Mu 49.79 329 ⇓P P 02 50 21.2 +1.5
baz=50,SNR=6.4
A23A Redstone 49.92 333 ⇓P P 02 50 22.7 +2.1
baz=50
B22A Reddig Ranch S 49.97 332 ⇓P P 02 50 22.4 +1.5
baz=50
E19A Rath Farm, Rou 50.10 328 ⇓P P 02 50 23.5 +1.4
baz=50
C21A Desert Coulee 50.16 331 ⇑P P 02 50 23.8 +1.4
baz=50
D20A Manuel Ranch, 50.18 329 ⇑P P 02 50 24.0 +1.4
baz=50
A22A Carney Farms, 50.42 332 ⇓P P 02 50 26.4 +2.0
baz=51,SNR=8.3
D19A Cripps Ranch, 50.61 329 ⇑P P 02 50 27.4 +1.5
baz=51
A21A Bergtoll Ranch 50.89 332 ⇓P P 02 50 29.4 +1.5
baz=51
C19A Slack Wire Ran 51.07 329 ⇓P P 02 50 30.5 +1.2
baz=51
VES Vestal, Richgr 51.11 311 ⇓P P 02 50 30.5 +0.8
baz=51
A20A Cobblestone Ra 51.29 331 ⇑P P 02 50 32.4 +1.6
baz=51
B19A Brinkman Farms 51.50 330 ⇑P P 02 50 33.5 +1.1
baz=52
HLID Hailey 51.56 322 ⇑P P 02 50 34.3 +1.2
baz=52
NVAR Mina Array Bea 51.61 315 P P 02 50 34.2 +0.6
0.5nm,0.7s,baz=124,slow=7.6,SNR=4.5
EGMT Eagleton 51.62 329 ⇑P P 02 50 34.2 +0.9
baz=52
A19A Klindworth Far 51.72 331 ⇓P P 02 50 35.0 +1.0
baz=52
MFID Camas Ranch 52.35 321 eP P 02 50 40.1 +1.3
14nm,1.9s
MSO Missoula 53.12 326 ⇑P P 02 50 45.2 +0.7
baz=53
G08A Pilot Rock 55.24 322 eP P 02 51 01.1 +1.3
35nm,2.5s
NEW Newport 55.71 326 ⇑P P 02 51 03.6 +0.5
baz=56
J05D Fort Rock, OR 55.74 319 ⇓P P 02 51 04.6 +1.1
baz=56
N02D Trinity Center 55.76 316 ⇑P P 02 51 04.8 +1.2
baz=56
K04D Chiloquin, OR 55.79 318 ⇑P P 02 51 04.2 +0.3
baz=56
YKA Yellowknife Ar 63.36 340 P P 02 51 53.8 -1.2
2.2nm,0.5s,baz=132,slow=6.8,SNR=68
SUMG Summit 69.02 11 iP P 02 52 33.1 +1.6
3.0nm,0.8s
TORD Torodi Ar. Bea 73.63 78 P P 02 52 59.3 -0.4
0.3nm,0.9s,baz=277,slow=5.6,SNR=4.8
DAG Danmarks Havn 75.69 11 iP P 02 53 10.4 0.0
0.9nm,0.7s
ILAR Eielson Array 77.07 335 P P 02 53 18.9 +0.5
0.3nm,0.7s,baz=118,slow=4.8,SNR=5.4
MKAR Makanchi Array 122.34 20 PKP PKPdf 03 00 19.7 +0.2
0.2nm,0.5s,baz=328,slow=2.0,SNR=3.1
KSH Kashi 125.75 29 PKP PKPdf 03 00 26.3 -0.1
KSH PKS PKSdf 03 04 01.5 -1.6
KSH SKKS 03 08 58.0
KSH SS SS 03 19 06.3 -0.4
WMQ Urumqi 126.71 17 PKP PKPdf 03 00 26.4 -1.6
WMQ PP PP 03 02 27.3 +1.8
WMQ PKS PKSdf 03 04 01.8 -2.8
WMQ SKS SKSdf 03 07 26.8 +1.9
WMQ SS SS 03 19 23.3 +5.4
WMQ LR LR
comp=N,46nm,21.0s
WMQ LR LR
comp=E,62nm,23.8s
WMQ LR LR
comp=Z,17nm,23.6s
HHC Hu-ho-hao-te 132.44 355 ePKP PKPdf 03 00 37.1 -1.9
HHC sPKP 03 01 36.0
HHC PP PP 03 03 05.8 +3.2
HHC SKS SKSdf 03 07 31.8 -3.7
HHC SKKS SKKSac 03 09 38.3 -5.9
HHC SS SS 03 20 28.3 +0.3
HHC AMB AMB
comp=Z,130nm,9.3s
LZH Lanzhou 137.28 4 ePKP PKPdf 03 00 48.3 0.0
CD2 Chengdu 142.41 5 PKP PKPdf 03 00 56.0 -1.6
KMI Kunming 148.04 7 PKPbc PKPdf 03 01 07.1 -0.5
ASAR Alice Springs 149.17 234 PKPbc PKPbc 03 01 13.8 +0.2
1.2nm,0.6s,baz=115,slow=3.2,SNR=20
WRA Warramunga Arr 150.41 241 PKPbc PKPbc 03 01 17.0 +0.3
0.5nm,0.3s,baz=105,slow=3.2,SNR=22

IDC 21 02:45:36.4±1.8, 51.93N×174.01E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/27, mbtmp3.4/4, Error ellipse: s-maj=55.4km s-min=34.0km az=138.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	23.73	42	P	P	02 50 49.4	-0.4
	0.3nm,0.6s,baz=252,slow=8.1,SNR=6.9						
MKAR	Makanchi Array	56.10	304	P	P	02 55 16.6	-0.4
	0.2nm,0.4s,baz=52,slow=5.9,SNR=5.5						
WRA	Warramunga Arr	79.51	218	P	P	02 57 44.8	+0.1
	0.6nm,1.0s,baz=30,slow=5.8,SNR=3.3						
BRTR	Keskin Array B	82.41	330	P	P	02 58 00.8	+0.5
	0.3nm,0.6s,baz=23,slow=2.4,SNR=2.9						

NIED 21 02:49:00, 33.80N×132.30E, h8km, Mw4.2 Best double couple: M₀2.57000×10¹⁵ NP1:φs118.00000°, δ69.00000°, λ-7.00000°. NP2:φs210.00000°, δ83.00000°, λ-159.00000°.
IDC 21 02:49:43.4±0.7, 33.81N×132.29E, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.9/34, mbtmp3.9/15, ML3.7/2, MS3.3/10, Ms1 3.3/10, ms1mx3.1/41, Error ellipse: s-maj=15.9km s-min=13.5km az=138.0
ISCJB 21 02:49:43.7±0.3, 33.81N±0.03×132.30E±0.04, h10km, mb3.9/18, MS3.5/5, Error ellipse: s-maj=4.9km s-min=4.2km az=35.5
JMA 21 02:49:44.8, 33.83N×132.31E, h13km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs34.00000°, δ71.00000°, λ-157.00000°. NP2: φs297.00000°, δ68.00000°, λ-20.00000°. Principal axes: T Plg2.0000°, Azm165.0000°; N Plg61.0000°, Azm71.0000°; P Plg29.0000°, Azm256.0000°;
JMA Felt IV J1.
NEIC 21 02:49:44.9±0.5, 33.81N×132.18E, h10km, mb4.1/4 Error ellipse: s-maj=10.3km s-min=8.9km az=171.0
NEIC Felt at Fukuyama and Iwakuni, Honshu.
KMA 21 02:49:54.5, 34.31N×131.63E, h0km
ISC 21 02:49:44.8±0.5, 33.81N±0.04×132.26E±0.04, h10km, n41, σ1.02/41, mb3.9/18, MS3.5/5, 3C-1D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	Nagahama	0.31	144	⇑P	Pg	02 49 50.9	-0.1
JNA				eS	Sg	02 49 55.2	0.0
JHM	Kurahashi	0.40	34	⇑P	Pg	02 49 52.2	-0.4
JHM				S	Sg	02 49 57.3	-0.6
JKD	Kudamatsu	0.40	307	⇑P	Pb	02 49 53.3	-0.7
JKD				S	Sb	02 49 59.2	-1.0
JET	Tanbara	0.66	93	⇓P	Pg	02 49 56.3	-1.2
JNU	Nakatsue	1.34	240	Pn	Pg	02 50 09.7	-0.8
	304nm,0.3s,baz=55,slow=9.5,SNR=801						
JNU				Sn	Sg	02 50 28.5	+0.5
	256nm,0.3s,baz=90,slow=20,SNR=12						
KSDAG	Daegu	3.39	306	P	Pn	02 50 38.8	+1.1
	SNR=10						
KSULJ	Uljin	3.71	322	P	Pn	02 50 43.4	+1.4
	SNR=11						
KSJEU	Jeongeup	4.70	292	P	Pn	02 50 57.0	+1.3
	SNR=20						
KSDGY	Daegwallycong	4.84	324	P	Pn	02 50 59.0	+1.2
	SNR=10						
KSRS	Korea Array	5.07	317	Pn	Pn	02 51 01.3	+0.6
	1.5nm,0.3s,baz=134,slow=14,SNR=25						
KSRS				Lg	Lg	02 52 27.4	
	3.1nm,0.3s,baz=136,slow=33,SNR=5.8						
KSRS				LR	LR	02 53 14.0	
	comp=Z,136nm,21.6s,baz=130,slow=41						
KSAR	Wonju Array Be	5.08	317	Pn	Pn	02 51 01.3	+0.4
KSAR				Lg	Lg	02 52 27.4	
SEHB	SEOHWA	5.50	325	P	Pn	02 51 08.4	+1.6
	SNR=38						
MAJO	Matsushiro	5.58	59	ePn	Pn	02 51 08.2	+0.4
MAT	Matsushiro	5.58	59	P	Pn	02 51 09.4	+1.5
MAT				eS	Sb	02 52 37.0	+7.7
MJAR	Matsushiro Arr	5.58	59	Pn	Pn	02 51 08.8	+0.9
	3.7nm,0.3s,baz=243,slow=14,SNR=58						
MJAR				Lg	Lg	02 52 39.0	
	1.6nm,0.3s,baz=243,slow=19,SNR=4.2						
MJAR				LR	LR	02 53 29.0	
	comp=Z,203nm,18.4s,baz=245,slow=40						
USRK	Ussuriysk Arra	10.38	359	Pn	Pn	02 52 16.2	+2.6
	0.3nm,0.3s,baz=177,slow=11,SNR=10						
USRK				LR	LR	02 55 40.7	
	comp=Z,80nm,21.9s,baz=179,slow=34						
JCJ	Chichijima	10.87	125	LR	LR	02 55 48.1	
	comp=Z,113nm,21.8s,baz=18,slow=34						
ASAJ	Asahikawa	13.05	35	LR	LR	02 57 38.4	
	comp=Z,93nm,18.7s,baz=176,slow=36						
BJT	Baijiatuau	14.28	300	eP	Pn	02 53 03.4	-3.6
	27nm,0.8s						
HIA	Hailar	18.02	333	eP	P	02 53 56.5	+0.7
	24nm,1.1s						
ULN	Ulaanbaatar	23.55	314	eP	P	02 54 55.4	+0.1
	4.4nm,1.0s						
SONM	Songino Array	23.93	314	P	P	02 54 59.1	+0.1
	2.8nm,0.9s,baz=126,slow=10,SNR=14						
SONM				LR	LR	03 05 17.7	
	comp=Z,140nm,18.4s,baz=32,slow=39						
SEY	Seymchan	31.77	17	P	P	02 56 09.2	+0.3
	0.7nm,0.5s,baz=209,slow=9.2,SNR=4.6						
CMAR	Chiang Mai Arr	33.41	251	LR	LR	03 11 31.0	
	comp=Z,79nm,18.2s,baz=170,slow=39						
BILL	Bilibino	39.39	19	eP	P	02 57 14.6	+0.4
	11nm,1.1s						
MKAR	Makanchi Array	39.61	304	P	P	02 57 16.1	-0.3
	0.3nm,0.7s,baz=94,slow=8.7,SNR=2.9						
WRA	Warramunga Arr	53.49	178	P	P	02 59 05.2	-0.2
	0.8nm,0.8s,baz=353,slow=8.1,SNR=7.4						
ABKAR	Akbulak array	54.26	310	eP	P	02 59 09.9	-0.9
	1.0nm,0.6s						
AS31	Alice Springs	57.18	178	eP	P	02 59 31.5	-0.4
ASAR	Alice Springs	57.18	178	P	P	02 59 32.5	+0.6
	1.4nm,0.7s,baz=8.8,slow=9.6,SNR=15						
INK	Inuvik	60.57	25	P	P	02 59 55.2	+0.3
	1.8nm,0.8s,baz=307,slow=8.1,SNR=9.1						
ARCES	ARCESS Array B	64.27	338	P	P	03 00 21.1	+1.4
	2.2nm,0.8s,baz=50,slow=8.7,SNR=5.0						
ARCES				LR	LR	03 32 15.8	
	comp=Z,39nm,18.1s,baz=331,slow=40						
FINES	FINESS Array B	68.02	330	P	P	03 00 43.3	-0.7
	2.3nm,0.7s,baz=64,slow=6.3,SNR=15						
DAG	Danmarks Havn	68.20	353	iP	P	03 00 44.5	-0.3
	4.0nm,0.9s						
DAG				i		03 00 51.1	
YKA	Yellowknife Ar	70.20	27	P	P	03 00 57.6	+0.2
	0.2nm,0.6s,baz=306,slow=6.3,SNR=5.9						
AKASG	Malin Array Be	72.06	319	P	P	03 01 06.4	-2.5
	0.4nm,0.4s,baz=56,slow=6.1,SNR=4.6						
AKASG				LR	LR	03 34 26.2	
	comp=Z,33nm,20.8s,baz=300,slow=37						
NB2	NORSAR Subarra	74.05	334	P	P	03 01 19.7	-0.8
	comp=Z,0.2nm,0.7s,baz=51,slow=5.9						
NOA	NORSAR Array B	74.05	334	P	P	03 01 19.9	-0.6
	comp=Z,1.8nm,0.8s,baz=47,slow=5.7,SNR=5.0						
BRTR	Keskin Array B	75.15	308	P	P	03 01 29.2	+1.8
	comp=Z,0.5nm,0.9s,baz=103,slow=4.6,SNR=3.3						
BRTR				LR	LR	03 39 25.2	
	comp=Z,19nm,18.9s,baz=20,slow=40						
NVAR	Mina Array Bea	82.81	48	P	P	03 02 10.0	+0.4
	comp=Z,0.3nm,0.7s,baz=282,slow=6.1,SNR=3.2						
ULM	Lac du Bonnet	86.10	29	P	P	03 02 26.2	+0.5
	comp=Z,1.6nm,0.7s,baz=332,slow=2.5,SNR=5.2						

IDC 21 02:53:50.3±1.2, 0.30N×97.18E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.6/33, mbtmp3.7/7, ML3.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/35, Error ellipse: s-maj=42.2km s-min=19.9km az=54.0
ISCJB 21 02:53:52.1±0.9, 0.38N±0.07×97.2E±0.1, h23km, mb3.8/5, Error ellipse: s-maj=15.3km s-min=8.8km az=155.8
DJA 21 02:53:55.1±1.0, 0.N±6°×97.7E±°, h10km, M4.1/4, MLv4.1/4
ISC 21 02:53:53.9±1.1, 0.40N±0.09×97.2E±0.1, h23km, n18, σ0.98/12, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	2.17	337	P	Pn	02 54 27.0	-1.7
MNSI	Mandailing Nat	2.43	81	P	Pn	02 54 30.6	-1.6
PSI	Prapat	2.96	36	Pn	Pn	02 54 39.9	+0.3
	1.4nm,0.3s,baz=314,slow=8.1,SNR=5.6						
PSI				LR	LR	02 55 40.8	
	comp=Z,121nm,20.5s,baz=272,slow=38						
KCSI	Kotacane, Aceh	3.16	11	P	Pn	02 54 42.5	+0.2
KCSI				S	Sn	02 55 19.1	-0.2
PDSI	Padang	3.53	112	P	Pn	02 54 47.6	+0.2
CMAR	Chiang Mai Arr	18.03	5	P	P	02 58 03.7	+0.3
	0.3nm,0.3s,baz=199,slow=11,SNR=4.5						
H08S2	Diego Garcia H	25.88	252	T	T	03 26 23.3	
	baz=72,slow=75,SNR=39						
H08S3	Diego Garcia H	25.88	252	T	T	03 26 26.9	
	baz=72,slow=75,SNR=34						
H08S1	Diego Carcia H	25.90	252	T	T	03 26 24.3	
	baz=72,slow=75,SNR=38						
H01W3	Cape Leeuwin H	38.52	157	T	T	03 42 08.2	
	baz=332,slow=76,SNR=5.6						
H01W2	Cape Leeuwin H	38.53	157	T	T	03 42 07.8	
	baz=332,slow=76,SNR=4.4						
H01W1	Cape Leeuwin H	38.53	157	T	T	03 42 07.6	
	baz=332,slow=76,SNR=6.0						
WRA	Warramunga Arr	41.63	121	P	P	03 01 40.1	-0.7
	3.6nm,0.7s,baz=302,slow=9.0,SNR=24						
ASAR	Alice Springs	42.94	126	P	P	03 01 50.9	-0.4
	0.6nm,0.5s,baz=295,slow=8.1,SNR=9.4						
MKAR	Makanchi Array	48.01	346	P	P	03 02 31.3	+0.1
	0.3nm,0.5s,baz=160,slow=8.5,SNR=7.7						
ZALV	Zalesovo Beam	54.34	351	P	P	03 03 18.4	-0.1
	1.1nm,0.4s,baz=178,slow=6.0,SNR=6.1						
BRTR	Keskin Array B	69.63	313	P	P	03 05 03.3	+1.5
	0.3nm,0.6s,baz=119,slow=7.1,SNR=2.5						
TXAR	Lajitas Array	144.36	32	PKP	PKPbc	03 13 27.2	-0.2
	0.3nm,0.8s,baz=265,slow=1.6,SNR=3.5						

BJI 21 02:54:14.7, 52.39N×174.22E, h17km, mB5.0/15, mb4.7/28, Ms4.5/3, Ms7 4.1/4
MOS 21 02:54:17.2±1.1, 52.04N×174.03E, h29km, mb4.7/40, Error ellipse: s-maj=9.0km s-min=6.8km az=105.6
NEIC 21 02:54:17.6, 52.03N×174.00E, h19km, mb4.6/58, ML3.9(AEIC), After AEIC.
ISCJB 21 02:54:18.5±0.5, 52.04N±0.04×174.04E±0.03, h43km±3km, mb4.5/94, MS3.4/7, Error ellipse: s-maj=6.7km s-min=2.6km az=2.4
IDC 21 02:54:19.9±0.6, 52.17N×174.14E, h32km±3km, mb4.0/24, mb1 4.2/25, mb1mx4.1/31, mbtmp4.2/25, ML3.2/1, MS3.2/7, Ms1 3.3/7, ms1mx3.0/41, Error ellipse: s-maj=11.6km s-min=9.2km az=40.0
KRSC 21 02:54:20.5±2.0, 52.01N×173.08E, h6km±6km, ML4.5
ISC 21 02:54:19.2±0.4, 52.05N±0.05×173.97E±0.03, h26km±2km, h26km:pP-P, n478, σ1.61/510, mb4.6/95, MS3.3/7, 129C-119D, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	0.68	7	P	Pb	02 54 31.4	-1.0
SMY				S	Sb	02 54 41.7	+0.2
SMY	Shemya	0.68	7	P	Pb	02 54 31.4	-1.0
SMY				S	Sb	02 54 41.7	+0.2
FX1	Attu Island--F	0.96	330	P	Pn	02 54 36.0	-1.1
FX1				pmax	pmax		
	comp=Z,368nm,0.3s						
FX1	Attu Island--F	0.96	330	Pn	Pn	02 54 36.0	-1.1
	comp=Z,368nm,0.3s,baz=153,slow=4.5,SNR=123						
FX1				LR	LR	02 54 41.6	
	comp=Z,502nm,20.7s,baz=228,slow=24						
FX1				Lg	Lg	02 54 48.8	
	comp=Z,1μm,0.3s,baz=287,slow=19,SNR=28						
FX1	Attu Island--F	0.96	330	Pn	Pn	02 54 36.0	-1.1
FX1				Lg	Lg	02 54 48.9	
FX1				S	Sb	02 54 49.7	+0.1
LSSA	Little Sitkin	2.81	90	P	Pn	02 55 01.6	-0.8
LSNW	Little Sitkin	2.81	90	P	Pn	02 55 01.8	-0.6
LSPA	Little Sitkin	2.85	90	P	Pn	02 55 02.8	-0.1
LSPA				S	Sn	02 55 37.6	+1.2
AMKA	Amchitka	3.38	99	P	Pn	02 55 08.9	-1.4
AMKA				S	Sn	02 55 50.6	+1.1
CETU	Semis' Tuman	3.42	89	P	Pn	02 55 10.1	-0.6
CEAP	Semis' Anvil P	3.46	89	P	Pn	02 55 10.9	-0.4
CERAA	Semis' Rag'd T	3.54	90	P	Pn	02 55 12.2	-0.1
BKI	Bering	5.71	307	P	Pn	02 55 45.6	+3.4
BKI				S	Sn	02 56 47.9	+1.1
BKI	Bering	5.71	307	eP	Pn	02 55 45.6	+3.4
BKI				eS	Sn	02 56 47.8	+1.0
ADK	Adak	5.78	88	P	Pn	02 55 43.5	+0.3
ADK	Adak	5.78	88	P	Pn	02 55 43.5	+0.3
MKZ	Mys Kozlova	7.75	294	P	Pn	02 56 11.0	+0.8
MKZ				S	Sn	02 57 33.8	-3.2
MKZ	Mys Kozlova	7.75	294	eP	Pn	02 56 11.0	+0.8
MKZ				eS	Sn	02 57 33.8	-3.2
KBTR	Krutoberegovo	7.76	307	P	Pn	02 56 12.1	+1.8
KBTR	Krutoberegovo	7.76	307	P	Pn	02 56 12.1	+1.8
TUMR	Tumrok	8.82	297	eP	Pn	02 56 27.7	+2.7
KII	Karymskiy	8.97	288	S	Sn	02 58 03.8	-3.4
NLC	Nalytchevo	8.97	283	P	Pn	02 56 27.5	+0.6
NLC				S	Sn	02 58 02.1	-4.9
NLC	Nalytchevo	8.97	283	P	Pn	02 56 27.5	+0.6
NLC				eS	Sn	02 58 02.1	-4.9
SDLR	Sedlovina	9.25	284	eP	Pn	02 56 31.8	+0.9
SDLR				S	Sn	02 58 09.2	-4.9
KRER	Koryakskii	9.33	284	eP	Pn	02 56 33.3	+1.2
KRER				eS	Sn	02 58 11.6	-4.6
AVH	Avacha	9.34	283	eP	Pn	02 56 33.0	+1.0
AVH				S	Sn	02 58 10.4	-5.8
PET	Petropavlovsk	9.39	282	S	Sn	02 58 12.2	-5.0
KRX	Arik	9.39	284	eP	Pn	02 56 34.0	+1.1
KRX				eS	Sn	02 58 12.7	-4.9
RUS	Russkaya	9.49	278	P	Pn	02 56 34.6	+0.5
RUS				S	Sn	02 58 14.0	-5.8
RUS	Russkaya	9.49	278	eP	Pn	02 56 34.6	+0.5
RUS				eS	Sn	02 58 14.0	-5.8
MTVR	Mutnovka	9.69	279	P	Pn	02 56 38.2	+1.3
MTVR				eS	Sn	02 58 19.8	-5.1
GNL	Ganaly	9.83	286	eP	Pn	02 56 41.1	+2.3
ASAK	Asacha	9.87	278	eP	Pn	02 56 41.1	+1.8
ASAK				eS	Sn	02 58 25.7	-3.5
PEA0B	Petropavlovsk-	9.96	282	ePn	Pn	02 56 41.5	+1.0
PEA0B				eSn	Sn	02 58 31.2	-0.2
PETK	Petropavlovsk-	9.96	282	P	Pn	02 56 41.8	+1.3
PETK						02 58 29.2	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				smax	smax		
	comp=N,2.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,48nm,21.9s						
PETK	Petropavlovsk-	9.96	282	Pn	Pn	02 56 41.8	+1.3
	comp=Z,0.9nm,0.3s,baz=91,slow=17,SNR=35						
PETK				Sn	Sn	02 58 29.2	-2.1
	comp=Z,1.8nm,0.3s,baz=78,slow=21,SNR=8.5						
PETK				LR	LR	03 00 27.0	
	comp=Z,48nm,21.9s,baz=80,slow=37						
APC	Apacha	10.29	281	P	Pn	02 56 47.1	+2.1
APC				S	Sn	02 58 35.7	-3.7
SPIA	Saint Paul Isl	10.48	55	P	Pn	02 56 48.5	+0.9
SKR	Severo-Kuril's	11.25	270	eS	Sn	02 58 57.9	-4.9
GAMB	Gambell	13.95	27	ePn	Pn	02 57 38.0	+3.1
SEY	Seymchan	15.82	322	Pn	P	02 58 05.4	+2.0
	comp=Z,0.2nm,0.3s,baz=128,slow=10,SNR=9.7						
TNA	Tin City	16.37	27	ePn	P	02 58 09.6	+0.1
	comp=Z,5.6nm,0.8s						
BILL	Bilibino	16.47	350	⇓eP	P	02 58 11.4	+0.8
BILL				pmax	pmax		
	comp=Z,15nm,1.6s						
BILL				MLR	MLR		
	comp=Z,167nm,18.0s						
BILL	Bilibino	16.47	350	eP	P	02 58 11.5	+0.9
	comp=Z,13nm,1.3s						
SVW2	Sparrevohn	18.89	49	ePn	P	02 58 38.7	+0.6
	comp=Z,8.4nm,0.8s						
KDAK	Kodiak Island	19.91	60	eP	P	02 58 47.4	-1.1
KDAK	Kodiak Island	19.91	60	eP	P	02 58 47.4	-1.1
RSO	Redoubt South	20.11	52	ePn	Pn	02 58 52.3	-0.6
PPLA	Purkeypile	20.91	46	eP	Pn	02 59 00.9	-1.2
	comp=Z,23nm,1.0s						
CAST	Castle Rocks	21.10	44	ePn	P	02 59 03.7	+2.2
	comp=Z,19nm,0.8s						
IM04	Indian Mountai	21.34	37	eP	P	02 59 02.6	-1.3
KTH	Kantishna Hill	21.64	44	eP	P	02 59 07.5	+0.2
	comp=Z,25nm,0.8s						
TRF	Thorofare Moun	21.89	45	eP	P	02 59 11.5	+1.4
	comp=Z,15nm,0.8s						
PMR	Palmer	22.04	50	eP	P	02 59 12.3	+0.9
PMR				pmax	pmax		
	comp=Z,70nm,2.3s						
PMR	Palmer	22.04	50	eP	P	02 59 12.2	+0.9
	comp=Z,70nm,2.3s						
ASAJ	Asahikawa	22.27	262	P	P	02 59 15.9	+1.8
ASAJ				pmax	pmax		
	comp=Z,11nm,0.8s						
ASAJ	Asahikawa	22.27	262	P	P	02 59 15.9	+1.8
	comp=Z,11nm,0.8s,baz=66,slow=10,SNR=4.8						
MCK	McKinley	22.55	44	eP	P	02 59 16.4	-0.5
MCK				pmax	pmax		
	comp=Z,17nm,0.8s						
MCK	McKinley	22.55	44	eP	P	02 59 16.4	-0.5
	comp=Z,17nm,0.8s						
COLD	Coldfoot	23.16	35	eP	P	02 59 24.3	+1.1
	comp=Z,5.5nm,1.0s						
COLA	College	23.29	42	c iP	P	02 59 25.4	+0.9
COLA				pmax	pmax		
	comp=Z,158nm,0.8s						
COLA	College	23.29	42	eP	P	02 59 24.9	+0.5
	comp=Z,38nm,0.8s						
ILAR	Eielson Array	23.66	42	P	P	02 59 26.2	-2.0
	comp=Z,5.9nm,0.6s,baz=246,slow=8.4,SNR=76						
ILAR				LR	LR	03 08 49.5	
	comp=Z,98nm,18.7s,baz=289,slow=37						
PAX	Paxson	23.93	47	eP	P	02 59 30.6	-0.3
PAX				pmax	pmax		
	comp=Z,25nm,0.7s						
PAX	Paxson	23.93	47	eP	P	02 59 30.6	-0.3
	comp=Z,25nm,0.7s						
BMRM	Bremner River	24.15	52	eP	P	02 59 31.4	-1.4
	comp=Z,21nm,1.5s						
DOT	Dot Lake	24.66	46	eP	P	02 59 37.4	-0.1
	comp=Z,16nm,0.7s						
MENT	Mentasta	24.72	47	eP	P	02 59 38.2	+0.1
EGAK	Eagle	26.07	43	eP	P	02 59 49.1	-1.1
	comp=Z,10nm,0.6s						
DAWY	Dawson	26.76	45	eP	P	02 59 55.0	-1.5
TIXI	Tiksi	27.86	331	⇓eP	P	03 00 05.2	-0.9
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s						
USRK	Ussuriysk Arra	28.76	271	P	P	03 00 14.5	0.0
	comp=Z,1.3nm,0.6s,baz=52,slow=9.9,SNR=4.3						
VLA	Vladivostok	29.39	269	⇓eP	P	03 00 18.8	-1.2
VLA				pmax	pmax		
	comp=Z,16nm,0.6s						
INK	Inuvik	29.55	37	P	P	03 00 21.3	+0.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	29.55	37	P	P	03 00 21.2	+0.1
	comp=Z,1.3nm,0.6s,baz=260,slow=11,SNR=4.5						
MAJO	Matsushiro	29.56	253	eP	P	03 00 20.9	-0.7
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAJO	Matsushiro	29.56	253	eP	P	03 00 20.9	-0.7
	comp=Z,9.0nm,0.9s						
H11N2	WAKE ISLAND Hy	32.73	192	T	T	03 35 49.4	
	baz=8.3,slow=76,SNR=45						
H11N3	WAKE ISLAND Hy	32.74	192	T	T	03 35 50.1	
	baz=8.3,slow=76,SNR=51						
H11N1	WAKE ISLAND Hy	32.75	192	T	T	03 35 47.4	
	baz=8.3,slow=76,SNR=49						
CN2	Changchun	33.00	275	eP	P	03 00 52.0	+0.2

CN2 pmax pmax
comp=Z,10.0nm,0.7s
BOD Bodaibo 33.92 304 eP P 03 00 58.3 -1.3
BOD pmax pmax
comp=Z,5.0nm,1.1s
H11S1 WAKE ISLAND Hy 33.96 192 T T 03 37 21.2
baz=5.9,slow=74,SNR=58
H11S3 WAKE ISLAND Hy 33.98 192 T T 03 37 19.0
baz=5.9,slow=74,SNR=45
H11S2 WAKE ISLAND Hy 33.98 192 T T 03 37 21.5
baz=5.9,SNR=22
KSRS Korea Array 35.18 264 P **P 03 01 12.2 +1.5**
comp=Z,2.3nm,0.8s,baz=58,slow=8.4,SNR=8.0
KSRS LR LR 03 14 29.4
comp=Z,19nm,21.5s,baz=260,slow=34
KSAR Wonju Array Be 35.21 264 P **P 03 01 12.2 +1.2**
KSAR Wonju Array Be 35.21 264 P **P 03 01 12.2 +1.2**
JNU Nakatsue 36.27 256 LR LR 03 15 51.0
comp=Z,39nm,21.7s,baz=316,slow=36
YKA Yellowknife Ar 38.00 46 P **P 03 01 32.7 -1.8**
comp=Z,2.2nm,0.6s,baz=287,slow=8.1,SNR=24
LON Longmire 40.91 71 eP P 03 02 01.4 +2.4
LON pmax pmax
comp=Z,45nm,2.8s
LON Longmire 40.91 71 eP P 03 02 01.4 +2.4
comp=Z,45nm,2.8s
F04A Amboy 40.98 72 eP P 03 02 02.1 +2.5
comp=Z,6.6nm,0.6s
LTY Liberty 41.30 70 eP **P 03 02 03.6 +1.3**
comp=Z,39nm,2.2s
B08A Colville Reser 41.50 68 eP **P 03 02 02.2 -1.6**
comp=Z,8.1nm,0.8s
ULN Ulaanbaatar 41.88 292⇑eP **P 03 02 07.9 +0.8**
ULN pmax pmax
comp=Z,3.0nm,1.2s
ULN Ulaanbaatar 41.88 292 eP **P 03 02 07.4 +0.3**
comp=Z,2.2nm,1.0s
G05D Wamic, OR 42.01 73 ⇓P **P 03 02 06.5 -1.6**
baz=42
I04A Tendick Farm, 42.17 75 ⇑P **P 03 02 07.7 -1.7**
baz=42
SONM Songino Array 42.27 292 P **P 03 02 10.7 +0.4**
comp=Z,0.9nm,0.6s,baz=69,slow=8.3,SNR=9.6
SONM LR LR 03 21 28.6
comp=Z,30nm,18.1s,baz=65,slow=38
EDM Edmonton 42.35 58 eP **P 03 02 09.1 -1.6**
EDM Edmonton 42.35 58 eP **P 03 02 09.1 -1.6**
D08A Wollman Farm, 42.42 69 eP **P 03 02 13.0 +1.6**
comp=Z,3.4nm,0.6s
HAWA Hanford 42.42 70 eP **P 03 02 09.7 -1.7**
comp=Z,7.4nm,0.6s
I05D Terrebonne, OR 42.50 74 ⇑P **P 03 02 10.4 -1.7**
baz=42
NEW Newport 42.80 67 eP **P 03 02 12.5 -2.0**
NEW pmax pmax
comp=Z,9.0nm,0.8s
NEW Newport 42.80 67 eP **P 03 02 12.5 -2.0**
comp=Z,9.5nm,0.8s
NEW Newport 42.80 67 ⇑P **P 03 02 13.0 -1.5**
baz=43,SNR=8.2
HHC Hu-ho-hao-te 43.16 281 eP **P 03 02 17.8 +0.3**
HHC PP **PP 03 04 01.4 +3.6**
HHC PcP **PcP 03 04 10.6 +3.9**
HHC ScP **ScP 03 08 00.8 +4.9**
HHC S **S 03 08 43.4 +1.1**
HHC SS **SS 03 11 48.8 -6.3**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,280nm,5.9s
HHC LR LR
comp=Z,160nm,10.8s
HHC LR LR
comp=Z,180nm,13.3s
HHC LR LR
comp=Z,110nm,14.5s
E09A Wood Farm, Sta 43.16 69 eP **P 03 02 19.1 +1.7**
comp=Z,3.3nm,0.8s
J05D Fort Rock, OR 43.16 75 ⇓P **P 03 02 15.9 -1.7**
baz=43
M02C Callahan 43.30 78 ⇑P **P 03 02 17.2 -1.4**
baz=43
I07A Izee 43.73 73 eP **P 03 02 24.0 +1.9**
comp=Z,71nm,3.0s
F10A Beach Ranch, E 43.99 69 eP **P 03 02 26.1 +1.9**
comp=Z,72nm,2.9s
WALA Waterton Lakes 44.18 64 eP **P 03 02 23.8 -1.9**
comp=Z,0.9nm,0.7s
NJ2 Nanjing 44.33 265 eP **P 03 02 27.1 +0.2**
NJ2 pmax pmax
comp=Z,20nm,0.6s
BSMT Bassoo Peak 44.34 66 eP **P 03 02 26.9 -0.2**
BLMT Blacktail Moun 44.50 65 eP **P 03 02 29.6 +1.3**
YBMT Yellow Bay 44.77 65 eP **P 03 02 32.0 +1.6**
MSO Missoula 45.39 67 eP **P 03 02 36.5 +1.2**
MSO Missoula 45.39 67 ⇓P **P 03 02 33.7 -1.6**
baz=45,SNR=5.4
SLMT Seeley Lake 45.41 66 eP **P 03 02 36.0 +0.5**
CHMT Chamberlain Mo 45.73 66 eP **P 03 02 36.9 -1.3**
HRY Holter Researc 46.65 66 eP **P 03 02 45.4 +0.2**
HLID Hailey 47.02 71 eP **P 03 02 49.8 +1.5**
comp=Z,2.8nm,1.1s
HLID Hailey 47.02 71 ⇑P **P 03 02 46.6 -1.7**
baz=47
EGMT Eagleton 47.05 63 eP **P 03 02 47.3 -1.0**
comp=Z,11nm,0.8s
EGMT Eagleton 47.05 63 ⇑P **P 03 02 46.5 -1.8**
baz=47,SNR=8.2
A19A Klindworth Far 47.09 61 ⇑P **P 03 02 46.8 -1.8**
baz=47,SNR=9.0
MCMT McKenzie Canyo 47.17 68 eP **P 03 02 47.4 -2.1**
comp=Z,1.7nm,0.8s
B19A Brinkman Farms 47.25 62 ⇑P **P 03 02 48.1 -1.7**
baz=47,SNR=5.1
FFC Flin Flon 47.33 52 eP **P 03 02 50.0 -0.3**
FFC pmax pmax
comp=Z,3.0nm,0.8s
FFC Flin Flon 47.33 52 eP **P 03 02 50.0 -0.3**
comp=Z,3.3nm,0.8s
BOZ Bozeman (W) 47.38 67 eP **P 03 02 49.2 -1.8**
BOZ pmax pmax
comp=Z,8.0nm,0.8s
BOZ Bozeman (W) 47.38 67 eP **P 03 02 49.2 -1.8**
comp=Z,8.4nm,0.8s
A20A Cobblestone Ra 47.56 61 ⇑P **P 03 02 50.4 -1.8**
baz=47,SNR=6.5
C19A Slack Wire Ran 47.61 63 ⇓P **P 03 02 50.8 -1.9**
baz=47,SNR=14
B20A Solberg Farm, 47.76 62 ⇑P **P 03 02 52.0 -1.8**
baz=48
NVAR Mina Array Bea 47.88 78 P **P 03 02 53.4 -1.7**
comp=Z,0.3nm,0.5s,baz=306,slow=6.2,SNR=3.5
NVAR PcP **PcP 03 04 22.4 -1.0**
comp=Z,0.3nm,0.7s,baz=275,slow=2.3,SNR=3.5
QLMT Earthquake Lak 47.98 67 eP **P 03 02 57.2 +1.5**
A21A Bergtoll Ranch 48.03 60 ⇑P **P 03 02 54.5 -1.4**
baz=48
D19A Cripps Ranch, 48.03 63 ⇓P **P 03 02 54.4 -1.6**
baz=48,SNR=9.1
C20A Veseth Ranch, 48.19 62 ⇑P **P 03 02 56.2 -1.0**
baz=48
B21A Ellsworth Farm 48.31 61 ⇓P **P 03 02 57.4 -0.6**
baz=48
YMR Madison River 48.34 67 eP **P 03 02 57.9 -0.7**
comp=Z,11nm,1.0s
D20A Manuel Ranch, 48.48 63 ⇓P **P 03 02 57.9 -1.6**
baz=48
E19A Rath Farm, Rou 48.50 64 ⇑P **P 03 02 58.5 -1.1**
baz=48
YFT Old Faithful 48.55 67 eP **P 03 03 02.4 +2.2**
comp=Z,15nm,0.8s
A22A Carney Farms, 48.57 60 ⇑P **P 03 02 59.1 -0.9**
baz=48
C21A Desert Coulee 48.62 62 ⇓P **P 03 02 59.6 -0.8**
baz=48
FCC Fort Churchill 48.67 44 eP **P 03 03 00.6 0.0**
FCC Fort Churchill 48.67 44 eP **P 03 03 00.6 0.0**
H17A Grant Village 48.73 67 eP P 03 03 04.2 +2.6
H17A Grant Village 48.73 67 ⇓P **P 03 03 00.3 -1.3**
baz=48,SNR=7.0
F19A Roth Farm, Mol 48.77 65 ⇑P **P 03 03 00.6 -1.1**
baz=49
IMW Indian Meadow 48.83 68 eP **P 03 03 04.2 +1.8**
E20A Meyer Farm, Mu 48.84 64 ⇓P **P 03 03 01.4 -0.8**
baz=49
FLWY Flagg Ranch 48.85 68 eP **P 03 03 04.6 +2.2**
comp=Z,7.8nm,0.8s

I17A Pilgrim Ck. 49.02 68 ⇑P **P 03 03 01.9 -1.8**
baz=49
RLMT Red Lodge 49.03 66 eP **P 03 03 03.4 -0.5**
comp=Z,10nm,0.9s
H18A Shoshone NF, C 49.08 67 ⇑P **P 03 03 02.2 -2.0**
baz=49
VES Vestal, Richgr 49.08 82 ⇓P **P 03 03 02.6 -1.4**
baz=49
D21A La Casta Ranch 49.13 63 ⇓P **P 03 03 02.4 -1.9**
baz=49
A23A Redstone 49.14 59 ⇑P **P 03 03 02.3 -2.1**
baz=49
F20A Billings 49.25 65 ⇑P **P 03 03 04.5 -0.9**
baz=49,SNR=6.4
C22A Vida 49.33 61 ⇓P **P 03 03 05.0 -0.8**
baz=49,SNR=5.3
B23A Brockton 49.38 60 ⇓P **P 03 03 04.4 -1.9**
baz=49
E21A Keefer Ranch, 49.40 63 ⇑P **P 03 03 04.6 -1.8**
baz=49
H19A Powell 49.47 66 ⇑P **P 03 03 05.3 -1.8**
baz=49,SNR=6.8
D22A Cohagen 49.52 62 ⇓P **P 03 03 05.5 -1.8**
baz=49,SNR=7.8
G20A Bridger 49.56 65 ⇑P **P 03 03 06.0 -1.8**
baz=49,SNR=12
ISA Isabella 49.57 81 ⇓P **P 03 03 06.3 -1.6**
baz=49
R11A Troy Canyon, C 49.57 77 ⇓P **P 03 03 06.0 -2.0**
baz=49
SBC Santa Barbara 49.62 83 ⇓P **P 03 03 06.9 -1.2**
baz=50
A24A Westby 49.63 59 ⇓P **P 03 03 06.4 -1.7**
baz=49,SNR=6.1
C23A Lambert 49.67 61 ⇑P **P 03 03 06.5 -1.9**
baz=50,SNR=8.6
ARVC Arvin 49.71 82 ⇑P **P 03 03 07.4 -1.5**
baz=50
LAO LASA Array 49.78 63 eP **P 03 03 08.0 -1.3**
comp=Z,12nm,0.8s
DGMT Dagmar 49.80 60 eP **P 03 03 10.2 +0.8**
comp=Z,7.8nm,0.8s
DGMT Dagmar 49.80 60 ⇓P **P 03 03 07.6 -1.9**
baz=50
F21A Absaloka Mine, 49.81 64 ⇑P **P 03 03 08.2 -1.4**
baz=50
I19A Meeteetse 49.85 67 ⇓P **P 03 03 08.2 -1.9**
baz=50
D23A Lindsay 50.04 61 ⇓P **P 03 03 09.7 -1.6**
baz=50
DUG Dugway 50.04 73 ⇓P **P 03 03 10.3 -1.2**
baz=50
E22A Miles City 50.08 63 ⇓P **P 03 03 09.9 -1.7**
baz=50,SNR=9.8
A25A Svangstu Ranch 50.09 59 ⇑P **P 03 03 09.8 -1.9**
baz=50
G21A Lodge Grass 50.13 65 ⇑P **P 03 03 11.5 -0.6**
baz=50
H20A Greybull 50.14 66 ⇓P **P 03 03 10.5 -1.6**
baz=50
ZALV Zalesovo Beam 50.22 310 P **P 03 03 11.2 -1.2**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 50.22 310 P **P 03 03 11.2 -1.2**
comp=Z,0.7nm,0.4s,baz=29,slow=8.1,SNR=2.4
C24A Savage 50.24 61 ⇓P **P 03 03 11.9 -0.9**
baz=50,SNR=5.0
J19A Crowheart 50.30 68 ⇑P **P 03 03 11.6 -1.8**
baz=50
F22A Rosebud 50.31 64 ⇑P **P 03 03 12.1 -1.3**
baz=50
I20A Worland 50.40 66 ⇓P **P 03 03 12.2 -2.0**
baz=50,SNR=7.3
B25A Knox Farm, Ray 50.47 59 ⇑P **P 03 03 13.9 -0.6**
baz=50
D24A Glendive 50.55 61 ⇓P **P 03 03 15.9 +0.7**
baz=50
H21A Big Horn, Sher 50.59 65 ⇓P **P 03 03 13.6 -2.0**
baz=50
DECC Green Verdugo 50.60 83 ⇓P **P 03 03 14.1 -1.6**
baz=50
G22A Birney 50.64 64 ⇓P **P 03 03 14.1 -1.8**
baz=50
A26A Wade Farm, Ken 50.68 58 ⇑P **P 03 03 14.9 -1.2**
baz=50
J20A Shoshoni 50.79 67 ⇓P **P 03 03 15.4 -1.8**
baz=51
F23A Volborg 50.82 63 ⇓P **P 03 03 16.3 -0.9**
baz=51,SNR=9.5
GSC Goldstone 50.83 81 ⇑P **P 03 03 15.9 -1.5**
baz=51
LZH Lanzhou 50.85 281 eP **P 03 03 19.3 +1.6**
LZH pP **pP 03 03 23.5 -2.1**
LZH sP **sP 03 03 25.4 -3.4**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,100nm,5.0s
B26A Jensen Ranch, 50.90 59 ⇑P **P 03 03 16.9 -0.9**
baz=51
E24A Baker 50.90 62 ⇑P **P 03 03 16.0 -1.8**
baz=51
I21A Big Trails, Te 50.95 66 ⇑P **P 03 03 17.3 -1.1**
baz=51,SNR=7.7
FMP Fort Macarthur 50.98 83 ⇓P **P 03 03 16.9 -1.6**
baz=51
H22A Clearmont 50.99 65 ⇓P **P 03 03 16.6 -2.0**
baz=51
BFSC Mount Baldy Ra 51.02 82 ⇑P **P 03 03 18.7 -0.2**
baz=51
A27A Ledoux Ranch, 51.06 58 ⇑P **P 03 03 16.9 -2.0**
baz=51
D25A Fairfield 51.07 60 ⇓P **P 03 03 18.4 -0.6**
baz=51
GTA Gaotai 51.10 287 eP P 03 03 15.6 -3.9
GTA pmax pmax
comp=Z,3.0nm,0.9s
G23A Biddle 51.15 64 ⇑P **P 03 03 18.7 -1.0**
baz=51
J21A Lysite 51.16 67 ⇑P **P 03 03 18.9 -1.0**
baz=51
F24A Ekalaka 51.27 62 ⇑P **P 03 03 20.0 -0.6**
baz=51
C26A Wahner Farm, P 51.31 59 ⇑P **P 03 03 19.6 -1.2**
baz=51,SNR=8.7
I22A 9 Mile Ranch, 51.36 66 ⇑P **P 03 03 20.5 -0.9**
baz=51
B27A Peters Farms, 51.39 58 ⇓P **P 03 03 19.5 -1.8**
baz=51
E25A Miller Ranch, 51.43 61 ⇓P **P 03 03 20.9 -0.9**
baz=51
TMUT Trail Mountain 51.57 73 eP **P 03 03 22.5 -0.7**
comp=Z,21nm,1.8s
A28A Rude Farm, Bot 51.60 57 ⇓P **P 03 03 22.2 -0.7**
baz=51
G24A Alzada 51.61 63 ⇓P **P 03 03 22.7 -0.5**
baz=51,SNR=5.8
D26A Manning 51.62 60 ⇑P **P 03 03 22.2 -1.0**
baz=51
J22A Midwest 51.66 66 ⇓P **P 03 03 21.6 -2.1**
baz=52
C27A Sayler Ranch, 51.69 59 ⇓P **P 03 03 21.9 -1.7**
baz=52
K21A Alcova 51.72 67 ⇑P **P 03 03 21.8 -2.4**
baz=52
MURC Murrieta 51.73 82 ⇑P **P 03 03 22.7 -1.5**
baz=52
F25A Bowman 51.76 62 ⇑P **P 03 03 22.1 -2.2**
baz=52
B28A Dugan Ranch, T 51.83 58 ⇑P **P 03 03 23.6 -1.0**
baz=52
GMRC Granite Mounta 51.87 80 ⇓P **P 03 03 23.6 -1.7**
baz=52
H24A Dirks Ranch, A 51.90 64 ⇑P **P 03 03 23.4 -1.9**
baz=52,SNR=6.7
E26A Carlson Angus 51.95 61 ⇑P **P 03 03 23.7 -2.0**
baz=52,SNR=7.1
A29A Manning Farm, 52.12 57 ⇓P **P 03 03 25.4 -1.4**
baz=52,SNR=5.3
K22A Casper 52.12 67 ⇓P **P 03 03 26.2 -1.0**
baz=52
PFO Pinyon Flat Ob 52.18 82 ⇓P **P 03 03 26.2 -1.4**
baz=52
BELC Belle Mtn. Jos 52.19 81 ⇓P **P 03 03 27.3 -0.5**
baz=52
J23A Dilts Ranch, B 52.19 65 ⇑P **P 03 03 25.7 -1.9**
baz=52
F26A Lodgepole 52.23 61 ⇓P **P 03 03 26.6 -1.1**

baz=52
G25A Newell 52.24 62 ⇑P **P 03 03 25.8 -2.0**
baz=52
109C Camp Elliot, M 52.27 83 ⇑P **P 03 03 28.2 +0.1**
baz=52
N20A Spence Gulch, 52.29 70 ⇑P **P 03 03 26.8 -1.8**
baz=52
B29A Wagenman Farm, 52.35 57 ⇓P **P 03 03 27.8 -0.8**
baz=52
E27A Carson 52.46 60 ⇓P **P 03 03 27.9 -1.6**
baz=52
H25A Fruitdale 52.50 63 ⇑P **P 03 03 28.0 -1.8**
baz=52
D28A Regan 52.51 59 ⇓P **P 03 03 28.8 -1.0**
baz=52
K23A Bowen Ranch, D 52.56 66 ⇑P **P 03 03 29.8 -0.6**
baz=52
F27A Lemmon 52.57 61 ⇑P **P 03 03 29.8 -0.5**
baz=52
L22A Ellis Ranch, M 52.57 67 ⇑P **P 03 03 29.3 -1.2**
baz=52
RSSD Black Hills 52.58 64 eP **P 03 03 29.6 -1.0**
comp=Z,3.4nm,0.7s
IRM Iron Mountain 52.60 80 ⇓P **P 03 03 29.2 -1.4**
baz=52
G26A Maurine 52.62 62 ⇑P **P 03 03 29.1 -1.6**
baz=52,SNR=9.1
MONP Monument Peak 52.69 83 ⇓P **P 03 03 29.8 -1.7**
baz=52
W13A Hualapai Mount 52.74 79 ⇑P **P 03 03 30.4 -1.5**
baz=53
J24A Dixon Ranch, L 52.74 65 ⇓P **P 03 03 29.5 -2.1**
baz=52
BC3 Big Chuckawall 52.76 81 ⇑P **P 03 03 30.4 -1.4**
baz=53
O20A White River Ci 52.76 70 ⇓P **P 03 03 30.0 -1.9**
baz=53
U15A North Rim 52.81 76 ⇑P **P 03 03 31.8 -0.7**
baz=53
I25A Rochford 52.81 64 ⇓P **P 03 03 30.8 -1.5**
baz=53
E28A Huff 52.84 60 ⇓P **P 03 03 30.8 -1.3**
baz=53
B30A Myrvik Farm, E 52.88 57 ⇓P **P 03 03 31.8 -0.7**
baz=53,SNR=5.9
M22A Cedar Creek Ra 52.88 68 ⇑P **P 03 03 32.2 -0.7**
baz=53
G27A Dupree 52.93 61 ⇑P **P 03 03 32.5 -0.5**
baz=53
L23A Garrett 52.94 67 ⇑P **P 03 03 31.3 -1.9**
baz=53,SNR=6.6
H26A Fairpoint 52.96 63 ⇓P **P 03 03 31.7 -1.5**
baz=53
ULM Lac du Bonnet 52.98 54 P **P 03 03 32.0 -1.2**
ULM pmax pmax
comp=Z,4.0nm,0.8s
ULM MLR MLR
comp=Z,73nm,18.6s
ULM Lac du Bonnet 52.98 54 P **P 03 03 32.0 -1.2**
comp=Z,4.2nm,0.8s,baz=304,slow=8.2,SNR=9.2
ULM LR LR 03 27 02.5
comp=Z,73nm,18.6s,baz=5.0,slow=37
D29A Pettibone, Tap 53.11 59 ⇑P **P 03 03 33.2 -1.0**
baz=53
F28A McLaughlin 53.24 60 ⇓P **P 03 03 33.6 -1.6**
baz=53
Y12C Blythe 53.26 80 ⇓P **P 03 03 35.2 -0.3**
baz=53
C30A Mose, Pekin 53.28 57 ⇑P **P 03 03 34.7 -0.7**
baz=53
I26A New Underwood 53.29 63 ⇑P **P 03 03 35.1 -0.5**
baz=53
H27A Howes 53.33 62 ⇑P **P 03 03 35.0 -0.9**
baz=53
D30A Buchanan 53.52 58 ⇓P **P 03 03 35.5 -1.7**
baz=53
N23A Red Feather La 53.59 68 ⇓P **P 03 03 36.2 -1.9**
baz=53
K25A Mack Ranch, Ha 53.65 65 ⇓P **P 03 03 36.4 -1.9**
baz=53
G28A Parade 53.68 61 ⇓P **P 03 03 36.6 -1.8**
baz=54
I27A Quinn 53.71 63 ⇓P **P 03 03 36.7 -2.0**
baz=54,SNR=6.4
O22A Kremmling 53.72 69 ⇓P **P 03 03 37.0 -2.1**
baz=54
F29A Eureka 53.77 60 ⇓P **P 03 03 37.2 -1.9**
baz=54
E30A Jud 53.83 59 ⇓P **P 03 03 37.7 -1.8**
baz=54
M24A Cheyenne 53.85 67 ⇑P **P 03 03 37.9 -2.0**
baz=54
H28A Mission Ridge 53.88 62 ⇓P **P 03 03 39.0 -0.9**
baz=54,SNR=8.4
L25A Engebretsen Ra 53.89 66 ⇓P **P 03 03 37.9 -2.3**
baz=54
K26A Motz Farm, Whi 53.97 65 ⇑P **P 03 03 38.6 -2.1**
baz=54
O23A Lake Granby, G 54.05 69 ⇓P **P 03 03 40.3 -1.2**
baz=54
Y14A Wickenburg 54.06 79 ⇓P **P 03 03 40.3 -1.0**
baz=54
G29A Hoven 54.14 61 ⇑P **P 03 03 40.1 -1.7**
baz=54
F30A Leola 54.20 59 ⇑P **P 03 03 40.2 -2.0**
baz=54
I28A Midland 54.24 62 ⇓P **P 03 03 41.0 -1.5**
baz=54,SNR=6.9
N24A Carr 54.24 68 ⇓P **P 03 03 40.9 -1.8**
baz=54
AGMN Agassiz Nation 54.24 55 eP **P 03 03 43.5 +1.1**
AGMN Agassiz Nation 54.24 55 ⇓P **P 03 03 40.7 -1.7**
baz=54
J27A Elkhorn Farm, 54.27 64 ⇓P **P 03 03 41.3 -1.5**
baz=54
M25A Palm-Egli Farm 54.31 66 ⇑P **P 03 03 41.5 -1.8**
baz=54
H29A Onida 54.35 61 ⇑P **P 03 03 41.5 -1.8**
baz=54,SNR=6.8
CD2 Chengdu 54.43 276 eP **P 03 03 44.6 +0.5**
CD2 pP **pP 03 03 49.3 -2.8**
CD2 sP **sP 03 03 51.6 -3.5**
CD2 PcS **PcS 03 08 46.8 -0.4**
CD2 S **S 03 11 21.4 +0.4**
CD2 SS **SS 03 15 02.8 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.6s
K27A Flueckinger Fa 54.50 64 ⇑P **P 03 03 43.7 -0.8**
baz=54
ISCO Idaho Springs 54.50 69 ⇓P **P 03 03 43.9 -1.0**
baz=54
J28A Allard Ranch, 54.58 63 ⇑P **P 03 03 44.2 -0.8**
baz=54,SNR=7.6
G30A Faulkton 54.60 60 ⇑P **P 03 03 43.3 -1.8**
baz=54,SNR=7.1
X16A Lo Mia Camp, P 54.67 78 ⇑P **P 03 03 44.6 -1.4**
baz=54
I29A Vivian Onida 54.70 62 ⇑P **P 03 03 44.8 -1.0**
baz=54
K28A Ten Mile Ranch 54.97 64 ⇑P **P 03 03 46.5 -1.4**
baz=55
J29A Okreek 55.09 62 ⇑P **P 03 03 48.0 -0.7**
baz=55,SNR=16
WMQ Urumqi 55.13 298 eP **P 03 03 51.8 +2.8**
WMQ pP **pP 03 03 56.4 -0.6**
WMQ sP **sP 03 03 58.8 -1.3**
WMQ pmax pmax
comp=Z,8.0nm,0.9s
WMQ pmax pmax
comp=Z,63nm,3.8s
BRSD Miller 55.15 61 eP **P 03 03 49.0 -0.1**
comp=Z,10nm,0.8s
BRSD Miller 55.15 61 ⇑P **P 03 03 48.1 -1.0**
baz=55
S22A 4UR Ranch, Cre 55.16 72 ⇑P **P 03 03 49.0 -0.6**
baz=55
N26A Koester Ranch, 55.18 66 ⇑P **P 03 03 48.0 -1.5**
baz=55
M27A Reverse DX Ran 55.19 65 ⇑P **P 03 03 48.3 -1.2**
baz=55
KURK Kurchatov 55.21 310 eP **P 03 03 48.6 -0.8**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 55.21 310 eP **P 03 03 48.5 -0.8**
comp=Z,7.5nm,0.8s
W18A Petrified Fore 55.22 76 ⇑P **P 03 03 49.2 -0.8**

baz=55
R23A Moffat 55.45 71 ⇓P P 03 03 50.5 -1.2
baz=55
K29A Lazy Trails An 55.52 63 ⇑P P 03 03 50.1 -1.8
baz=55
O26A Horse Wrangler 55.52 67 ⇑P P 03 03 50.4 -1.6
baz=55
P25A Willow Gulch B 55.52 68 ⇑P P 03 03 51.4 -0.7
baz=55,SNR=5.1
214A Organ Pipe Nat 55.54 81 ⇑P P 03 03 50.7 -1.3
baz=55
J30A Dallas 55.60 62 ⇑P P 03 03 51.5 -0.8
baz=55
S23A Nye Farm, Mont 55.68 71 ⇑P P 03 03 51.9 -1.4
baz=56
OGNE Ogallala 55.78 66 ⇓P P 03 03 52.1 -1.6
baz=56
M28A Bar X Bar Ranc 55.85 65 ⇓P P 03 03 52.7 -1.5
baz=56
Q25A Bedland, Calha 55.88 69 ⇓P P 03 03 53.7 -0.9
baz=56
P26A Davis Ranch, A 55.96 68 ⇓P P 03 03 53.9 -1.2
baz=56,SNR=6.0
K30A Basset 55.97 63 ⇑P P 03 03 53.7 -1.3
baz=56,SNR=8.5
MK31 Makanchi Array 56.01 304 *i* P P 03 03 54.2 -1.0
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 56.01 304 P P 03 03 54.6 -0.6
MKAR *SP sP 03 04 07.3 +0.9
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR MLR MLR
comp=Z,44nm,20.1s
MKAR Makanchi Array 56.01 304 P P 03 03 54.6 -0.6
comp=Z,2.5nm,0.4s,baz=55,slow=6.1,SNR=44
MKAR sP sP 03 04 07.2 +0.9
comp=Z,0.7nm,0.4s,baz=53,slow=7.1,SNR=4.0
MKAR LR LR 03 28 21.1
comp=Z,44nm,20.1s,baz=42,slow=36
O27A Beecher Island 56.03 67 ⇓P P 03 03 54.8 -0.8
baz=56
U22A Llaves 56.08 73 ⇓P P 03 03 55.0 -1.1
baz=56
M29A Burnside Ranch 56.19 64 ⇑P P 03 03 55.8 -0.9
baz=56
N28A Pribbeno Ranch 56.23 66 ⇑P P 03 03 55.6 -1.4
baz=56
Q26A Hugo 56.29 68 ⇑P P 03 03 55.8 -1.7
baz=56
R25A Fountain Ranch 56.38 70 ⇑P P 03 03 57.2 -0.9
baz=56
L30A Spencer Herefo 56.39 63 ⇓P P 03 03 56.3 -1.8
baz=56
P27A Ficken Ranch, 56.40 67 ⇓P P 03 03 57.6 -0.7
baz=56
O28A Krutsinger Ran 56.47 66 ⇓P P 03 03 58.1 -0.6
baz=56
T24B San Luis 56.48 71 ⇓P P 03 03 58.4 -0.7
baz=56
U23A El Rito 56.50 72 ⇓P P 03 03 58.1 -1.0
baz=56
ARCES ARCESS Array B 56.55 347 P P 03 03 57.6 -1.1
ARCES 03 04 54.3
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 56.55 347 P P 03 03 57.5 -1.1
comp=Z,2.4nm,0.7s,baz=41,slow=7.6,SNR=14
ARCES PcP PcP 03 04 54.3 -0.8
comp=Z,1.5nm,0.6s,baz=17,slow=3.8,SNR=4.1
S25A Robets Cordova 56.62 70 ⇓P P 03 03 58.6 -1.3
baz=56
N29A Votaw Ranch, W 56.65 65 ⇑P P 03 03 58.3 -1.7
baz=56
EYMN Ely 56.67 53 *e*P P 03 03 58.5 -1.4
comp=Z,8.7nm,0.9s
L31A Butterfield Fa 56.73 63 ⇑P P 03 03 59.6 -0.9
baz=56
KSCO Kaye Shedlock' 56.74 68 ⇑P P 03 04 00.1 -0.6
baz=56
R26A Arlington 56.76 69 ⇓P P 03 04 00.0 -0.8
baz=57
P28A Saint Francis 56.86 67 ⇓P P 03 04 00.5 -1.0
baz=57,SNR=7.9
V23A Ortiz Mt. (NFS 56.91 73 ⇓P P 03 04 01.5 -0.5
baz=57
N30A Hueftle Ranch, 56.96 65 ⇓P P 03 04 01.4 -0.8
baz=57
T25A Trinidad 56.99 71 ⇑P P 03 04 00.7 -1.9
baz=57
O29A 4D Ranch, Culb 57.02 66 ⇑P P 03 04 01.8 -0.8
baz=57,SNR=7.3
R27A Eads 57.14 68 ⇓P P 03 04 02.8 -0.7
baz=57
Q28A Sharon Springs 57.16 67 ⇑P P 03 04 03.3 -0.4
baz=57
S26A Kim 57.20 69 ⇑P P 03 04 03.0 -1.1
baz=57
P29A Atwood 57.30 66 ⇑P P 03 04 03.9 -0.7
baz=57,SNR=8.2
BVA0 Borovoye Array 57.37 316 *i* P P 03 04 04.2 -0.5
BVA0 pmax pmax
comp=Z,4.0nm,0.4s
BRVK Borovoye 57.39 316 *c i* P P 03 04 04.6 -0.3
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 57.39 316 *e*P P 03 04 03.7 -1.1
comp=Z,5.5nm,0.5s
O30A MW Ranch, Wils 57.40 65 ⇓P P 03 04 04.1 -1.1
baz=57,SNR=11
T26A Comanche Natio 57.44 70 ⇑P P 03 04 05.3 -0.5
baz=57
V24A Rampart Ranch, 57.46 72 ⇓P P 03 04 05.1 -0.8
baz=57
BGNE Belgrade 57.62 63 ⇑P P 03 04 05.1 -1.6
baz=57
R28A Tribune 57.67 68 ⇑P P 03 04 05.4 -1.8
baz=58
P30A Selden 57.73 66 ⇑P P 03 04 05.9 -1.6
baz=58,SNR=8.6
W24A Lazy 6 Ranch, 57.73 73 ⇑P P 03 04 06.2 -1.6
baz=58
Q29A Oakley 57.76 67 ⇑P P 03 04 07.1 -0.8
baz=58
O31A Woolen Ranch, 57.83 65 ⇓P P 03 04 07.8 -0.5
baz=58
SPMN St. Paul 57.86 56 ⇑P P 03 04 07.7 -0.7
baz=58
U26A Atchley Ranch, 57.89 71 ⇓P P 03 04 08.2 -0.8
baz=58
R29A Marienthal 57.99 67 ⇓P P 03 04 08.7 -0.8
baz=58,SNR=5.3
T27A Campo 58.02 69 ⇑P P 03 04 09.2 -0.6
baz=58
319A Douglas 58.09 79 ⇑P P 03 04 09.9 -0.3
baz=58
S28A Manter 58.13 69 ⇑P P 03 04 10.2 -0.3
baz=58
Q30A Quinter 58.13 66 ⇓P P 03 04 09.9 -0.5
baz=58,SNR=5.8
121A Cookes Peak, D 58.18 77 ⇑P P 03 04 09.7 -1.3
baz=58
P31A Stockton 58.23 65 ⇓P P 03 04 09.8 -1.3
baz=58
V26A Tequesquite Ra 58.28 71 ⇓P P 03 04 09.9 -1.6
baz=58
W25A X Bar L Ranch, 58.28 72 ⇓P P 03 04 10.7 -0.9
baz=58
T28A Walsh 58.33 69 ⇑P P 03 04 10.3 -1.6
baz=58,SNR=5.7
O32A Brockman Farm, 58.34 64 ⇓P P 03 04 10.3 -1.6
baz=58
R30A Dighton 58.58 67 ⇓P P 03 04 12.6 -0.9
baz=58,SNR=7.5
P32A Huiting Farm, 58.60 65 ⇑P P 03 04 13.0 -0.7
baz=58,SNR=5.6
Y24A Capitan 58.61 74 ⇑P P 03 04 13.3 -0.7
baz=58
T29A Hugoton 58.78 68 ⇑P P 03 04 14.5 -0.5
baz=59
S30A Montezuma 58.92 68 ⇑P P 03 04 14.9 -1.0
baz=59
R31A Burdett 59.00 66 ⇑P P 03 04 15.7 -0.8
baz=59
Y25A Mesa, Roswell 59.05 73 ⇓P P 03 04 15.4 -1.6
baz=59
Q32A Meitler Ranch, 59.06 65 ⇓P P 03 04 16.2 -0.7
baz=59,SNR=6.7

KMI Kunming 59.19 272 P P 03 04 19.9 +1.8
KMI pmax pmax
comp=Z,12nm,0.5s
V28A Channing 59.22 70 ⇑P P 03 04 17.4 -0.7
baz=59
Q33A Connelly Farm, 59.46 65 ⇓P P 03 04 17.9 -1.7
baz=59
V29A Stinnett 59.54 70 ⇑P P 03 04 18.6 -1.7
baz=59
ARU Arti 59.55 324 *c i* P P 03 04 19.7 -0.2
ARU 03 06 27.4
ARU S S 03 12 32.5 +4.8
ARU SS SS 03 16 27.5 +5.3
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 59.55 324 *e*P P 03 04 19.4 -0.5
comp=Z,2.9nm,0.4s
W28A Vega 59.58 71 ⇓P P 03 04 19.0 -1.6
baz=59
U30A WK&E Inc. Balk 59.59 69 ⇑P P 03 04 20.1 -0.4
baz=59
T31A Randall Ranch, 59.75 67 ⇓P P 03 04 20.9 -0.7
baz=60
R33A Olander Ranch, 59.86 65 ⇓P P 03 04 21.3 -1.0
baz=60
JOF Joensuu 61.66 342 *e*P P 03 04 32.3 -1.9
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 61.66 342 *e*p P 03 04 32.3 -1.9
comp=Z,2.4nm,0.6s
TKM2 Tokmak 2 62.12 305 *e*P P 03 04 37.1 -0.7
TKM2 pmax pmax
comp=Z,1.0nm,0.6s
TKM2 Tokmak 2 62.12 305 *e*P P 03 04 37.1 -0.7
comp=Z,0.8nm,0.6s
SCHQ Schefferville 62.14 35 P P 03 04 35.6 -1.9
comp=Z,4.9nm,0.8s,baz=329,slow=7.2,SNR=5.8
AAK Ala-Archa 62.88 305 *d i* P P 03 04 43.1 +0.2
AAK pmax pmax
comp=Z,10.0nm,1.7s
AAK Ala-Archa 62.88 305 P P 03 04 43.0 +0.1
comp=Z,2.7nm,0.8s,baz=77,slow=4.9,SNR=10.0
AAK Ala-Archa 62.88 305 *e*P P 03 04 41.7 -1.2
comp=Z,1.9nm,0.9s
TXAR Lajitas Array 62.93 76 P P 03 04 41.4 -1.9
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 62.93 76 P P 03 04 41.4 -1.9
comp=Z,1.0nm,0.7s,baz=300,slow=3.9,SNR=16
EKS2 Erkin-Say 63.22 306 *e*P P 03 04 44.9 -0.2
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 63.22 306 *e*P P 03 04 44.9 -0.2
comp=Z,3.2nm,0.8s
KAF Kangasniemi 63.33 344 *e*P P 03 04 43.6 -1.7
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 63.33 344 *e*p P 03 04 43.6 -1.7
comp=Z,2.9nm,0.5s
FINES FINESS Array B 63.99 343 P P 03 04 48.8 -0.9
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 63.99 343 P P 03 04 48.8 -0.9
comp=Z,2.7nm,0.8s,baz=22,slow=5.5,SNR=11
KSH Kashi 64.40 302 *e*P P 03 04 56.4 +3.5
KSH *e*PP PP 03 07 22.9 +8.7
KSH PcS 03 09 35.0
KSH S S 03 13 33.9 +4.1
KSH SKS ScS 03 14 45.3 -0.1
KSH SS SS 03 17 45.8 +6.6
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,76nm,3.3s
KSH LR LR
comp=Z,22nm,3.9s
KSH LR LR
comp=Z,57nm,3.4s
KSH LR LR
comp=Z,100nm,5.7s
KK31 Karatay Array 64.51 308 *e*P P 03 04 52.9 -0.6
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 64.51 308 *e*P P 03 04 52.7 -0.8
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 64.51 308 *e*P P 03 04 52.7 -0.8
comp=Z,3.2nm,0.6s
AB31 Akbulak array 64.56 318 *i* P P 03 04 53.6 0.0
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 64.56 318 *e*P P 03 04 53.2 -0.4
comp=Z,4.4nm,0.5s
PMG Port Moresby 65.41 209 *e*P P 03 05 00.2 +0.8
PMG pmax pmax
comp=Z,11nm,0.9s
PMG Port Moresby 65.41 209 *e*P P 03 05 00.2 +0.8
comp=Z,11nm,0.9s
NB2 NORSAR Subarra 66.41 351 P P 03 05 04.4 -1.1
comp=Z,1.7nm,0.5s,baz=11,slow=6.5
NOA NORSAR Array B 66.41 351 P P 03 05 04.6 -0.9
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 66.41 351 P P 03 05 04.6 -0.9
comp=Z,0.6nm,0.4s,baz=12,slow=6.5,SNR=14
CMAR Chiang Mai Arr 66.49 270 P P 03 05 06.8 +0.3
CMAR *SP sP 03 05 20.9 +3.2
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 66.49 270 P P 03 05 06.8 +0.3
comp=Z,1.9nm,0.5s,baz=25,slow=7.1,SNR=12
CMAR sP sP 03 05 20.9 +3.2
comp=Z,2.7nm,0.8s,baz=26,slow=7.2,SNR=4.4
TAPN Taplejung 66.72 285 *e*P P 03 05 08.3 0.0
comp=Z,15nm,0.9s
TAPN Taplejung 66.72 285 *e*P P 03 05 08.3 0.0
GUN Gumba 67.39 287 *e*P P 03 05 12.9 +0.3
comp=Z,26nm,0.8s
GUN Gumba 67.39 287 *e*P P 03 05 12.9 +0.3
JIRN Jiri 67.39 286 *e*P P 03 05 12.7 +0.1
comp=Z,21nm,0.7s
JIRN Jiri 67.39 286 *e*P P 03 05 12.7 +0.1
RAMN Ramite 67.67 285 *e*P P 03 05 14.4 +0.1
comp=Z,26nm,0.6s
RAMN Ramite 67.67 285 *e*P P 03 05 14.4 +0.1
PKI Pulchoki 67.92 287 *e*P P 03 05 15.5 -0.4
comp=Z,14nm,0.6s
PKI Pulchoki 67.92 287 *e*P P 03 05 15.7 -0.2
PKI Pulchoki 67.92 287 *e*P P 03 05 15.7 -0.2
PKIN Phulchoki 67.92 287 *e*P P 03 05 15.7 -0.2
comp=Z,9.2nm,0.5s
GKN Gorkha 68.05 288 *e*P P 03 05 16.4 -0.1
comp=Z,8.2nm,0.6s
GKN Gorkha 68.05 288 *e*P P 03 05 16.4 -0.1
DANN Dangsing 68.31 288 *e*P P 03 05 18.4 +0.1
comp=Z,16nm,0.8s
DANN Dangsing 68.31 288 *e*P P 03 05 18.4 +0.1
KOLN Koldanda 68.84 288 *e*P P 03 05 21.5 0.0
comp=Z,7.0nm,0.6s
KOLN Koldanda 68.84 288 *e*P P 03 05 21.5 0.0
PYUN Piuthan 68.95 289 *e*P P 03 05 22.0 -0.2
comp=Z,33nm,0.9s
PYUN Piuthan 68.95 289 *e*P P 03 05 22.0 -0.2
COEN Coen 70.95 212 *e*P P 03 05 33.1 -1.1
AKASG Malin Array Be 73.36 337 P P 03 05 47.5 -0.7
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 73.36 337 P P 03 05 47.5 -0.7
comp=Z,1.9nm,0.4s,baz=23,slow=6.2,SNR=12
KIEV Kiev 73.37 337 *de*P P 03 05 47.9 -0.4
KIEV Kiev 73.37 337 *e*P P 03 05 46.9 -1.4
comp=Z,4.4nm,0.6s
KBZ Khabaz 75.66 326 P P 03 06 02.1 +0.4
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 75.66 326 P P 03 06 02.1 +0.4
comp=Z,2.7nm,0.8s,baz=16,slow=7.5,SNR=5.4
CLL Collm 75.76 348 *e*P P 03 06 02.0 -0.2
KWP Kalwaria Pacla 75.79 341 *e*P P 03 06 02.3 -0.1
KWP pmax pmax
comp=Z,13nm,1.0s
KWP Kalwaria Pacla 75.79 341 *e*P P 03 06 02.3 -0.1
comp=Z,13nm,1.0s
MORC Moravsky Berou 76.59 345 *e*P P 03 06 07.2 +0.2
MORC pmax pmax
comp=Z,4.0nm,1.2s

MORC Moravsky Berou 76.59 345 *e*P P 03 06 07.2 +0.2
comp=Z,3.9nm,1.2s
GERES GERESS Array B 78.08 347 P P 03 06 15.0 -0.4
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 78.08 347 P P 03 06 15.0 -0.4
comp=Z,0.5nm,0.8s,baz=28,slow=4.4,SNR=3.2
GNI Garni 78.12 323 *e*P P 03 06 15.9 0.0
GNI pmax pmax
comp=Z,9.0nm,1.2s
GNI Garni 78.12 323 *e*P P 03 06 15.8 0.0
comp=Z,8.8nm,1.2s
WRAB Tennant Creek 79.58 218 *d i* P P 03 06 22.9 -0.8
WRAB pmax pmax
comp=Z,21nm,1.7s
WRAB Tennant Creek 79.58 218 *e*P P 03 06 22.5 -1.2
comp=Z,6.2nm,0.9s
WRA Warramunga Arr 79.59 218 P P 03 06 22.8 -1.0
WRA *PP pP 03 06 36.3 +4.2
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 79.59 218 P P 03 06 22.8 -1.0
comp=Z,3.3nm,0.7s,baz=33,slow=6.2,SNR=26
WRA pP pP 03 06 36.3 +4.2
comp=Z,3.9nm,0.8s,baz=35,slow=6.3,SNR=16
BRTR Keskin Array B 82.29 330 P P 03 06 38.3 -0.1
BRTR *SP sP 03 06 51.1 +1.4
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 82.29 330 P P 03 06 38.2 -0.1
comp=Z,3.1nm,0.7s,baz=61,slow=3.1,SNR=22
BRTR sP sP 03 06 51.0 +1.4
comp=Z,1.3nm,0.7s,baz=60,slow=4.2,SNR=4.7
BNI Bardonecchia 82.65 351 *e*P P 03 06 40.8 +0.7
BNI pmax pmax
comp=Z,8.0nm,1.1s
BNI Bardonecchia 82.65 351 *e*P P 03 06 40.8 +0.7
comp=Z,7.8nm,1.1s
ASAR Alice Springs 83.15 216 P P 03 06 42.2 -0.4
ASAR *PP pP 03 06 54.5 +3.5
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 83.15 216 P P 03 06 42.2 -0.4
comp=Z,1.3nm,0.8s,baz=18,slow=5.3,SNR=16
ASAR pP pP 03 06 54.5 +3.5
comp=Z,2.8nm,1.0s,baz=16,slow=5.9,SNR=12
BOSA Boshof 147.00 303 PKP2 PKPbc 03 13 58.5 -0.9
BOSA pmax pmax
comp=Z,1.0nm,0.6s
BOSA Boshof 147.00 303 PKPbc PKPbc 03 13 58.5 -0.9
comp=Z,1.4nm,0.6s,baz=49,slow=3.5,SNR=5.5

IDC 21 03:08:02.6±2.0, 2°.94S×151°.08E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/30, mbtmp3.3/3, MS2.7/1, Ms1 2.7/1, ms1mx2.5/16, Error ellipse: s-maj=192.4km s-min=27.6km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.51	223	P	P	03 13 14.3	-0.1
	1.0nm,1.0s,baz=48,slow=9.7,SNR=5.7						
ASAR	Alice Springs	26.47	217	P	P	03 13 41.9	+0.3
	0.3nm,0.8s,baz=48,slow=8.8,SNR=3.7						
MJAR	Matsushiro Arr	41.07	344	LR	LR	03 30 35.6	
	comp=Z,10nm,22.0s,baz=85,slow=33						
ILAR	Eielson Array	81.10	23	P	P	03 20 19.4	-0.1
	0.2nm,0.7s,baz=254,slow=5.1,SNR=3.2						

FUNV 21 03:27:04.2, 6°.85N×73°.09W, h173km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.26	37	*e*P	Pn	03 27 32.6	-1.1
CAPV				*e*S	Sn	03 27 54.5	-2.1
VIGV	El Vigia	2.61	41	*e*P	Pn	03 27 47.1	-0.8
VIGV				*e*S	Sn	03 28 18.8	-3.1
SOCV	Socops	2.63	57	*e*P	Pn	03 27 46.8	-1.3
SOCV				*e*S	Sn	03 28 18.1	-4.0
ELOV	Elorza	3.58	87	*e*P	Pn	03 27 58.9	-0.9
VIRV	Villa del Rosa	3.69	10	*e*P	Pn	03 27 59.7	-1.5
VIRV				*e*S	Sn	03 28 41.1	-4.6
CURV	Curarigua	4.41	44	*e*P	Pn	03 28 09.2	-1.3
CURV				*e*S	Sn	03 28 56.2	-6.1
DABV	Dabajuro	4.71	31	*e*P	Pn	03 28 13.6	-0.7
BAUV	El Baul	5.41	67	*e*P	Pn	03 28 20.8	-2.6
BAUV				*e*S	Sn	03 29 19.9	-5.7

IDC 21 03:31:35.8±2.0, 0°.04S×126°.76E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/45, mbtmp3.3/3, Error ellipse: s-maj=192.1km s-min=24.3km az=65.0
ISCJB 21 03:31:44.4±1.1, 0°.16S±0°.08×126°.43E±0°.10, h73km, mb3.3/3, Error ellipse: s-maj=14.2km s-min=10.8km az=11.5
DJA 21 03:31:52.7±0.6, 0°S±3°×12°7E±°, h63km±11km, M4.0/6, MLv4.0/6
ISC 21 03:31:45.9±1.2, 0°.10S±0°.07×126°.4E±0°.1, h73km, n7, σ2§10/9, mb3.5/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	1.20	117	P	Pn	03 32 10.0	+3.0
LBMI				S	Sn	03 32 21.2	-1.7
TNTI	Ternate	1.27	47	P	Pn	03 32 08.9	+0.8
TNTI				S	Sn	03 32 24.2	-0.5
NLAI	Namlea	3.19	168	P	Pn	03 32 35.4	+1.6
WRA	Warramunga Arr	21.19	159	P	P	03 36 23.1	-2.4
	0.7nm,0.3s,baz=339,slow=11,SNR=8.7						
ASAR	Alice Springs	24.52	163	P	P	03 36 57.1	-1.7
	0.5nm,0.7s,baz=340,slow=9.1,SNR=8.8						
MKAR	Makanchi Array	60.54	327	P	P	03 41 49.8	+1.1
	0.2nm,0.3s,baz=119,slow=8.6,SNR=12						
TORD	Torodi Ar. Bea	123.74	286	PKP	PKPdf	03 50 35.3	-1.1
	0.9nm,1.1s,baz=78,slow=1.7,SNR=4.2						

IDC 21 03:39:45.1±3.1, 15°.81N×87°.73W, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.5/23, mbtmp3.5/6, ML3.5/3, MS2.1/2, Ms1 2.1/2, ms1mx2.1/31, Error ellipse: s-maj=60.2km s-min=16.3km az=146.0, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	2.75	253	Pn	Pn	03 40 29.6	-1.2
	2.4nm,0.3s,baz=79,slow=14,SNR=94						
APG				Pg	Pb	03 40 36.2	+0.7
	7.0nm,0.3s,baz=79,slow=17,SNR=42						
APG				LR	LR	03 41 04.5	
	comp=Z,26nm,20.9s,baz=50,slow=29						
APG				Lg	Lg	03 41 12.2	
	11nm,0.3s,baz=72,slow=17,SNR=3.6						
TEIG	Tepich	4.42	353	Pn	Pn	03 40 51.5	-2.0
	7.7nm,0.3s,baz=76,slow=4.2,SNR=58						
TEIG				Sn	Sn	03 41 38.3	-7.4
	21nm,0.3s,baz=234,slow=19,SNR=20						
TEIG				Lg	Lg	03 42 02.8	
	27nm,0.3s,baz=288,slow=20,SNR=4.8						
TEIG				LR	LR	03 42 13.8	
	comp=Z,36nm,19.2s,baz=12,slow=34						
JTS	JuntasAbangare	6.12	153	Lg	Lg	03 42 59.0	
	0.2nm,0.3s,baz=336,slow=20,SNR=2.0						
TXAR	Lajitas Array	19.91	315	P	Pn	03 44 19.5	-0.6
	0.0nm,0.3s,baz=141,slow=12,SNR=7.4						
SCHQ	Schefferville	42.17	18	P	P	03 47 39.4	-0.1
	0.9nm,0.5s,baz=225,slow=10.0,SNR=3.2						
YKA	Yellowknife Ar	50.32	344	P	P	03 48 43.6	+0.2
	0.4nm,0.6s,baz=140,slow=7.7,SNR=14						
ILAR	Eielson Array	62.86	336	P	P	03 50 12.5	-0.1
	0.2nm,0.6s,baz=134,slow=5.2,SNR=4.3						

IDC 21 03:44:30.2±0.9, 43°.27N×45°.84E, h0km, mb3.9/6, mb1 3.8/10, mb1mx3.5/29, mbtmp3.7/10, ML0.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.0/42, Error ellipse: s-maj=17.4km s-min=11.8km az=111.0
MOS 21 03:44:31.3±1.2, 43°.38N×46°.21E, h13km, mb4.5/4, Error ellipse: s-maj=7.2km s-min=6.0km az=0.6
ISCJB 21 03:44:32.7±0.5, 43°.38N±0°.02×46°.27E±0°.02, h24km±4km, mb3.8/6, MS3.1/1, Error ellipse: s-maj=3.9km s-min=2.4km az=28.5

CSEM **21** *03:44:33.3±0.1, 43°.33N×46°.21E, h20km, mb4.1/4, Error ellipse: s-maj=4.2km s-min=2.8km az=22.0*
AZER **21** *03:44:35.9±0.7, 42°.93N×46°.40E, h15km, Error ellipse: s-maj=1.9km s-min=1.1km az=338.0*
ISC 21 03:44:33.0±0.9**, 43°.32N**±0°.03×**46°.21E**±0°.02**, h19km**±3km**, n117, σ1^{s}31**/178**, mb3.9**/6**, 25C-19D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.55**	**123**	⇑*i*PG	**Pg**	**03 44 43.6**	**-0.4**
DBC				*i* S	**Sg**	**03 44 50.6**	**-0.8**
DBC	**Dubki**	**0.55**	**123**	*i* Pg	**Pg**	**03 44 43.6**	**-0.4**
DBC				*i* Sg	**Sg**	**03 44 50.6**	**-0.8**
KRNR	**Karanay**	**0.71**	**134**	*e*PG	**Pb**	**03 44 45.2**	**-1.6**
KRNR				*i* S	**Sb**	**03 44 54.5**	**-1.8**
KRNR				pmax	pmax		
	comp=Z,143nm,0.2s						
KRNR	**Karanay**	**0.71**	**134**	*e*Pg	**Pb**	**03 44 45.2**	**-1.6**
	comp=Z,143nm,0.2s						
KRNR				*i* Sg	**Sb**	**03 44 54.5**	**-1.8**
BUJR	**Buynaksk**	**0.83**	**127**	*e*PG	**Pb**	**03 44 48.2**	**-0.5**
BUJR				*e*S	**Sg**	**03 45 00.8**	**+0.7**
BUJR				pmax	pmax		
	comp=Z,134nm,0.2s						
BUJR	**Buynaksk**	**0.83**	**127**	*e*Pg	**Pb**	**03 44 48.2**	**-0.5**
	comp=Z,134nm,0.2s						
BUJR				*e*Sg	**Sg**	**03 45 00.8**	**+0.7**
MAK	**Makhachkala**	**1.02**	**110**	*e*PG	**Pg**	**03 44 53.0**	**+0.3**
MAK				*e*		03 45 08.7	
MAK				pmax	pmax		
	comp=Z,98nm,0.8s						
MAK				smax	smax		
	comp=E,941nm,0.3s						
MAK				smax	smax		
	comp=N,928nm,0.4s						
MAK	**Makhachkala**	**1.02**	**110**	*e*Pg	**Pg**	**03 44 53.0**	**+0.3**
	comp=N,98nm,0.8s						
SNJR	**Sundja**	**1.05**	**257**	⇑*i*PG	**Pb**	**03 44 52.6**	**0.0**
SNJR				*e*S	**Sg**	**03 45 08.0**	**+0.8**
SNJR	**Sundja**	**1.05**	**257**	*i* Pg	**Pb**	**03 44 52.6**	**0.0**
SNJR				*e*Sg	**Sg**	**03 45 08.0**	**+0.8**
TRKR	**Terskaya**	**1.15**	**291**	*i* PG	**Pb**	**03 44 54.7**	**+0.5**
TRKR				*i* S	**Sg**	**03 45 11.7**	**+1.5**
TRKR				pmax	pmax		
	comp=Z,81nm,0.1s						
TRKR				smax	smax		
	comp=E,845nm,0.2s						
TRKR	**Terskaya**	**1.15**	**291**	*i* Pg	**Pb**	**03 44 54.7**	**+0.5**
	comp=E,81nm,0.1s						
TRKR				*i* Sg	**Sg**	**03 45 11.7**	**+1.5**
VLKR	**Vladikavkaz**	**1.15**	**257**	⇓*i*PG	**Pn**	**03 44 54.2**	**0.0**
VLKR				*e*S	**Sg**	**03 45 10.6**	**+0.2**
VLKR	**Vladikavkaz**	**1.15**	**257**	*i* Pg	**Pn**	**03 44 54.2**	**0.0**
VLKR				*e*Sg	**Sg**	**03 45 10.6**	**+0.2**
BTKR	**Batakoyurt**	**1.22**	**273**	⇑*i*PG	**Pb**	**03 44 55.4**	**0.0**
BTKR				*e*S	**Sg**	**03 45 13.1**	**+0.6**
BTKR	**Batakoyurt**	**1.22**	**273**	*i* Pg	**Pb**	**03 44 55.4**	**0.0**
BTKR				*e*Sg	**Sg**	**03 45 13.1**	**+0.6**
KMKR	**Kumukh**	**1.36**	**151**	⇓*i*PG	**Pn**	**03 44 57.0**	**-0.2**
KMKR				*e*S	**Sn**	**03 45 15.0**	**+0.2**
KMKR				pmax	pmax		
	comp=Z,161nm,0.3s						
KMKR	**Kumukh**	**1.36**	**151**	*i* Pg	**Pn**	**03 44 57.0**	**-0.2**
	comp=Z,161nm,0.3s						
KMKR				*e*Sg	**Sn**	**03 45 15.0**	**+0.2**
ARNR	**Ardon**	**1.41**	**265**	⇑*i*PG	**Pn**	**03 44 58.1**	**+0.4**
ARNR				*e*S	**Sg**	**03 45 18.2**	**-0.5**
ARNR	**Ardon**	**1.41**	**265**	*i* Pg	**Pn**	**03 44 58.1**	**+0.4**
ARNR				*e*Sg	**Sg**	**03 45 18.2**	**-0.5**
PRTR	**Priterechnaya**	**1.47**	**288**	*e*PG	**Pb**	**03 44 59.4**	**-0.2**
PRTR				*e*S	**Sg**	**03 45 20.5**	**+0.2**
PRTR	**Priterechnaya**	**1.47**	**288**	*e*Pg	**Pb**	**03 44 59.4**	**-0.2**
PRTR				*e*Sg	**Sg**	**03 45 20.5**	**+0.2**
LACR	**Lac**	**1.48**	**251**	*i* PG	**Pn**	**03 44 57.3**	**-1.5**
LACR				*i* S	**Sn**	**03 45 16.7**	**-1.1**
LACR				pmax	pmax		
	comp=Z,26nm,0.3s						
LACR				smax	smax		
	comp=E,667nm,0.2s						
GUDG	**Gudauri**	**1.53**	**237**	P	**Pn**	**03 44 58.1**	**-1.5**
GUDG	**Gudauri**	**1.53**	**237**	P	**Pn**	**03 44 58.1**	**-1.5**
GUDG				S	**Sn**	**03 45 17.2**	**-1.9**
STDR	**Stavd-Durt**	**1.56**	**272**	⇓*i*PG	**Pb**	**03 45 01.2**	**-0.2**
STDR				*e*S	**Sg**	**03 45 23.2**	**-0.3**
STDR	**Stavd-Durt**	**1.56**	**272**	*i* Pg	**Pb**	**03 45 01.2**	**-0.2**
STDR				*e*Sg	**Sg**	**03 45 23.2**	**-0.3**
KORR	**Kora**	**1.58**	**262**	*i* PG	**Pn**	**03 44 59.8**	**-0.3**
KORR				*i* S	**Sb**	**03 45 21.4**	**+0.1**
KORR				pmax	pmax		
	comp=Z,29nm,0.2s						
KORR				smax	smax		
	comp=E,419nm,0.3s						
KORR	**Kora**	**1.58**	**262**	*i* Pg	**Pn**	**03 44 59.8**	**-0.3**
	comp=E,29nm,0.2s						
KORR				*i* Sg	**Sb**	**03 45 21.4**	**+0.1**
DUS	**Dusheti**	**1.66**	**223**	PN	**Pg**	**03 45 05.9**	**+1.0**
DUS	**Dusheti**	**1.66**	**223**	P	**Pn**	**03 45 01.8**	**+0.7**
DUS	**Dusheti**	**1.66**	**223**	P	**Pn**	**03 45 01.8**	**+0.7**
DUS				S	**Sb**	**03 45 23.7**	**+0.2**
ZKTA	**Zakatala**	**1.71**	**170**	P	**Pb**	**03 45 02.3**	**+0.5**
	SNR=45						
ZKTA				⇑S	**Sn**	**03 45 23.3**	**+0.2**
LSNR	**Lesken**	**1.74**	**269**	*e*PN	**Pn**	**03 45 03.1**	**+0.9**
LSNR				*e*S	**Sb**	**03 45 27.3**	**+1.5**
LSNR	**Lesken**	**1.74**	**269**	*e*Pn	**Pn**	**03 45 03.1**	**+0.9**
LSNR				*e*Sg	**Sb**	**03 45 27.3**	**+1.5**
ZEI	**Tsey**	**1.77**	**253**	⇓*i*PN	**Pn**	**03 45 00.9**	**-1.9**
SEAG	**Tbilisi Sea**	**1.87**	**214**	P	**Pn**	**03 45 04.8**	**+0.8**
SEAG	**Tbilisi Sea**	**1.87**	**214**	P	**Pn**	**03 45 04.8**	**+0.8**
SEAG				S	**Sn**	**03 45 28.7**	**+1.5**
TBLG	**Delisi**	**1.93**	**215**	PN	**Pn**	**03 45 05.9**	**+1.1**
TBLG				S	**Sg**	**03 45 35.0**	**0.0**
TBLG	**Delisi**	**1.93**	**215**	P	**Pn**	**03 45 05.9**	**+1.1**
TBLG	**Delisi**	**1.93**	**215**	P	**Pn**	**03 45 05.9**	**+1.1**
TBLG				S	**Sb**	**03 45 30.3**	**-0.9**
DGRG	**David-gareji**	**1.97**	**199**	P	**Pn**	**03 45 07.8**	**-0.5**
DGRG	**David-gareji**	**1.97**	**199**	P	**Pb**	**03 45 07.8**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.97**	**259**	*e*PN	**Pn**	**03 45 04.6**	**-0.9**
DIGR				pmax	pmax		
	comp=Z,5.0nm,0.1s						
DIGR	**Digorskoe uzhe**	**1.97**	**259**	*e*Pn	**Pn**	**03 45 04.6**	**-0.9**
	comp=Z,5.0nm,0.1s						
KUBR	**Kubataba**	**2.09**	**284**	*i* PN	**Pn**	**03 45 06.5**	**-0.5**
KUBR				*e*S	**Sb**	**03 45 35.8**	**-0.1**
KUBR	**Kubataba**	**2.09**	**284**	*i* Pn	**Pn**	**03 45 06.5**	**-0.5**
KUBR				*e*Sb	**Sb**	**03 45 35.8**	**-0.1**
ONI	**Oni**	**2.15**	**251**	PN	**Pn**	**03 45 08.3**	**+0.4**
ONI				S	**Sg**	**03 45 46.0**	**+3.8**
ONI	**Oni**	**2.15**	**251**	P	**Pn**	**03 45 08.3**	**+0.4**
ONI	**Oni**	**2.15**	**251**	P	**Pn**	**03 45 08.3**	**+0.4**
ONI				S	**Sb**	**03 45 38.3**	**+0.6**
SEKA	**Sheki**	**2.24**	**160**	⇓P	**Pn**	**03 45 10.0**	**+0.9**
	SNR=22						
SEKA				⇑S	**Sn**	**03 45 38.3**	**+2.1**
SEKA	**Sheki**	**2.24**	**160**	P	**Pn**	**03 45 10.0**	**+0.9**
	SNR=22						
SEKA				S	**Sn**	**03 45 38.3**	**+2.1**
QZX	**Qazax, Azerbai**	**2.35**	**196**	⇓Pg	**Pn**	**03 45 12.4**	**+1.9**
QZX				⇓Sg	**Sn**	**03 45 40.0**	**+1.1**
QZX	**Qazax, Azerbai**	**2.35**	**196**	Pg	**Pn**	**03 45 12.4**	**+1.9**
QZX				Sg	**Sn**	**03 45 40.0**	**+1.1**
PYA	**Pyatigorsk**	**2.39**	**288**	⇑*e*PN	**Pn**	**03 45 10.1**	**-1.1**
PYA	**Pyatigorsk**	**2.39**	**288**	*e*Pn	**Pn**	**03 45 10.1**	**-1.1**
KBZ	**Khabaz**	**2.44**	**281**	Pn	**Pn**	**03 45 10.5**	**-1.3**
	comp=Z,3.1nm,0.3s,baz=115,slow=19,SNR=96						
KBZ				Lg	Lg	03 45 45.0	
	comp=Z,18nm,0.3s,baz=116,slow=20,SNR=7.4						
NEY	**Neytrino**	**2.55**	**270**	⇑*e*PN	**Pn**	**03 45 13.1**	**-0.3**
NEY				*e*S	**Sn**	**03 45 45.7**	**+1.7**
NEY	**Neytrino**	**2.55**	**270**	*e*Pn	**Pn**	**03 45 13.1**	**-0.3**
NEY				*e*Sn	**Sn**	**03 45 45.7**	**+1.7**
QUBA	**Quba, Azerbaij**	**2.59**	**138**	⇓Pg	**Pn**	**03 45 16.2**	**+2.2**
QUBA				⇓Sg	**Sn**	**03 45 44.5**	**-0.5**
QUBA	**Quba, Azerbaij**	**2.59**	**138**	Pg	**Pn**	**03 45 16.2**	**+2.2**
QUBA				Sg	**Sn**	**03 45 44.5**	**-0.5**
KIV	**Kislovodsk**	**2.63**	**285**	⇓*e*PN	**Pb**	**03 45 20.3**	**+0.7**
KIV				*i* S	**Sn**	**03 45 46.9**	**+0.9**
KIV				*e*		03 45 58.1	
KIV				pmax	pmax		
	comp=Z,11nm,0.6s						
KIV				smax	smax		
	comp=E,157nm,0.6s						
KIV	**Kislovodsk**	**2.63**	**285**	*i* Sn	**Sn**	**03 45 46.9**	**+0.9**
GANJ	**Ganja**	**2.68**	**178**	⇑Pg	**Pn**	**03 45 16.2**	**+1.1**
	SNR=12						
GANJ				⇑Sg	**Sn**	**03 45 47.4**	**+0.4**
GANJ	**Ganja**	**2.68**	**178**	Pg	**Pn**	**03 45 16.2**	**+1.1**
	SNR=12						
GANJ				Sg	**Sn**	**03 45 47.4**	**+0.4**
AKH	**Akhalkalaki**	**2.77**	**227**	P	**Pb**	**03 45 20.2**	**-1.9**
AKH	**Akhalkalaki**	**2.77**	**227**	P	**Pb**	**03 45 20.2**	**-1.9**
AKH				S	**Sb**	**03 45 55.0**	**-0.8**
GOF	**Gofitskoye**	**2.86**	**308**	*e*PN	**Pg**	**03 45 26.1**	**-1.7**
GOF				*e*S	**Sn**	**03 45 51.9**	**+0.4**
GOF				pmax	pmax		
	comp=Z,20nm,1.0s						
GOF				smax	smax		
	comp=N,50nm,0.9s						
GOF				smax	smax		
	comp=E,100nm,1.5s						
GOF	**Gofitskoye**	**2.86**	**308**	*e*Sn	**Sn**	**03 45 51.9**	**+0.4**
	comp=E,50nm,0.9s						
IML	**Ismayilli**	**2.92**	**149**	⇑Pg	**Pn**	**03 45 20.3**	**+1.8**
IML				⇑Sg	**Sn**	**03 45 56.9**	**+3.8**
IML	**Ismayilli**	**2.92**	**149**	Pg	**Pn**	**03 45 20.3**	**+1.8**
IML				Sg	**Sn**	**03 45 56.9**	**+3.8**
SIZA	**Siyzn**	**3.01**	**137**	⇑Pg	**Pn**	**03 45 22.6**	**+2.9**
	SNR=3.1						
SIZA				⇑Sg	**Sn**	**03 45 58.7**	**+3.5**
SIZA	**Siyzn**	**3.01**	**137**	Pg	**Pn**	**03 45 22.6**	**+2.9**
	SNR=3.1						
SIZA				Sg	**Sn**	**03 45 58.7**	**+3.5**
CHVG	**Ch'k'valeri**	**3.08**	**260**	P	**Pn**	**03 45 20.7**	**0.0**
CHVG	**Ch'k'valeri**	**3.08**	**260**	P	**Pn**	**03 45 20.7**	**0.0**
CHVG				S	**Sn**	**03 45 59.7**	**+2.7**
PQL	**Pirkuli**	**3.09**	**144**	⇓Pg	**Pn**	**03 45 23.2**	**+2.3**
PQL	**Pirkuli**	**3.09**	**144**	Pg	**Pn**	**03 45 23.2**	**+2.3**
BRDA	**Brd**	**3.14**	**166**	⇓Pn	**Pn**	**03 45 23.1**	**+1.7**
	SNR=3.4						
BRDA				⇓Sn	**Sn**	**03 45 59.9**	**+1.5**
BRDA	**Brd**	**3.14**	**166**	Pn	**Pn**	**03 45 23.1**	**+1.7**
	SNR=3.4						
BRDA				Sn	**Sn**	**03 45 59.9**	**+1.5**
ATGJ	**Altiaghaj**	**3.19**	**140**	⇑Pn	**Pn**	**03 45 24.2**	**+2.0**
ATGJ				⇓Sn	**Sn**	**03 46 00.2**	**+0.4**
ATGJ	**Altiaghaj**	**3.19**	**140**	Pn	**Pn**	**03 45 24.2**	**+2.0**
ATGJ				Sn	**Sn**	**03 46 00.2**	**+0.4**
KDMR	**Kurdemir**	**3.29**	**153**	⇑Pn	**Pn**	**03 45 23.6**	**+0.1**
KDMR				⇑Sg	**Sn**	**03 46 06.4**	**+4.4**
GNI	**Garni**	**3.35**	**200**	⇑*e*PN	**Pn**	**03 45 25.6**	**+1.0**
GNI	**Garni**	**3.35**	**200**	Pn	**Pn**	**03 45 25.5**	**+0.9**
	comp=E,1.8nm,0.3s,baz=8.1,slow=7.1,SNR=6.1						
GNI				Lg	Lg	03 46 12.6	
	comp=E,6.8nm,0.3s,baz=68,slow=19,SNR=7.9						
GNI	**Garni**	**3.35**	**200**	*e*Pn	**Pn**	**03 45 25.6**	**+1.0**
NAX	**Nakhchivan**	**4.18**	**188**	⇓Pn	**Pn**	**03 45 36.3**	**+0.5**
NAX	**Nakhchivan**	**4.18**	**188**	Pn	**Pn**	**03 45 36.3**	**+0.5**
GLBA	**Clilabad**	**4.40**	**157**	⇓Pn	**Pn**	**03 45 39.4**	**+0.7**
	SNR=4.3						
GLBA	**Clilabad**	**4.40**	**157**	Pn	**Pn**	**03 45 39.4**	**+0.7**
	SNR=4.3						
LRK	**Lerik**	**4.95**	**160**	⇓Pn	**Pn**	**03 45 46.5**	**+0.1**
LRK				⇓Sn	**Sn**	**03 46 42.6**	**-0.6**
LRK	**Lerik**	**4.95**	**160**	Pn	**Pn**	**03 45 46.5**	**+0.1**
LRK				Sn	**Sn**	**03 46 42.6**	**-0.6**
LKRN	**Lenkeran, Azer**	**5.00**	**156**	⇑Pn	**Pn**	**03 45 47.3**	**+0.3**
LKRN				⇑Sn	**Sn**	**03 46 42.3**	**-2.0**
LKRN	**Lenkeran, Azer**	**5.00**	**156**	Pn	**Pn**	**03 45 47.3**	**+0.3**
LKRN				Sn	**Sn**	**03 46 42.3**	**-2.0**
AKTK	**Aktyubinsk**	**10.76**	**45**	P	**Pn**	**03 47 07.1**	**+1.2**
	comp=E,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**10.76**	**45**	⇑Pn	**Pn**	**03 47 06.9**	**+1.0**
	comp=E,2.5nm,0.9s						
AKTO				⇑Sn	Sn	03 48 59.0	-6.8
	comp=E,2.9nm,0.6s						
AKTO	**Aktyubinsk**	**10.76**	**45**	P	**Pn**	**03 47 07.1**	**+1.2**
AKTO						03 48 58.9	
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**10.76**	**45**	Pn	**Pn**	**03 47 07.1**	**+1.2**
	comp=N,0.2nm,0.3s,baz=228,slow=16,SNR=3.7						
AKTO				Sn	Sn	03 48 58.9	-6.9
	comp=N,0.8nm,0.3s,baz=162,slow=20,SNR=7.5						
AKTO	**Aktyubinsk**	**10.76**	**45**	Pn	**Pn**	**03 47 06.9**	**+1.0**
	comp=N,2.5nm,0.9s						
AB31	**Akbulak array**	**11.20**	**53**	⇑Pn	**Pn**	**03 47 12.4**	**+0.5**
	comp=N,0.2nm,0.3s,baz=241,slow=12,SNR=19						
AB31				Sn	Sn	03 49 09.3	-7.2
	baz=246,slow=22						
AB31	**Akbulak array**	**11.20**	**53**	Pn	**Pn**	**03 47 12.4**	**+0.5**
	comp=N,0.2nm,0.3s,SNR=19						
ARU	**Arti**	**15.31**	**27**	*d i*P	**Pn**	**03 48 10.2**	**+2.3**
ARU				S	Sn	03 51 04.6	+7.8
ARU				pmax	pmax		
	comp=Z,11nm,2.5s						
BRVK	**Borovoye**	**18.69**	**50**	⇑*e*P	**Pn**	**03 48 51.3**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
BRVK	**Borovoye**	**18.69**	**50**	*e*P	**Pn**	**03 48 51.3**	**+0.9**
	comp=Z,4.0nm,1.7s						
BVAR	**Borovoye Array**	**18.74**	**50**	P	**Pn**	**03 48 51.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=249,slow=11,SNR=4.5						
AAK	**Ala-Archa**	**20.67**	**82**	⇑*e*P	Pn	03 49 14.2	-0.1
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
AAK	**Ala-Archa**	**20.67**	**82**	*e*P	Pn	03 49 14.2	-0.1
	comp=Z,5.0nm,1.7s						
FINES	**FINESS Array B**	**21.75**	**333**	P	**P**	**03 49 22.4**	**-0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**21.75**	**333**	P	**P**	**03 49 22.4**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=138,slow=10,SNR=18						
HFS	**Hagfors**	**25.86**	**322**	P	**P**	**03 50 02.1**	**-1.0**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HFS	**Hagfors**	**25.86**	**322**	P	**P**	**03 50 02.1**	**-1.0**
	comp=Z,4.1nm,0.8s,baz=116,slow=10,SNR=7.6						
NOA	**NORSAR Array B**	**27.35**	**323**	P	**P**	**03 50 15.6**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=122,slow=9.4,SNR=3.8						
ARCES	**ARCESS Array B**	**28.35**	**345**	P	**P**	**03 50 25.0**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	**ARCESS Array B**	**28.35**	**345**	P	**P**	**03 50 25.0**	**-0.3**
	comp=Z,2.5nm,1.0s,baz=149,slow=9.3,SNR=4.0						
SPITS	**Spitsbergen Ar**	**36.92**	**350**	P	**P**	**03 51 40.7**	**+0.6**
SPITS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
SPITS	**Spitsbergen Ar**	**36.92**	**350**	P	**P**	**03 51 40.7**	**+0.6**
	comp=Z,8.7nm,1.1s,baz=128,slow=12,SNR=8.4						
SONM	**Songino Array**	**41.44**	**62**	LR	LR	04 12 42.6	
	comp=Z,28nm,18.8s,baz=166,slow=41						
TORD	**Torodi Ar. Bea**	**48.59**	**246**	P	**P**	**03 53 12.7**	**-2.6**
	comp=Z,0.3nm,0.6s,baz=35,slow=8.0,SNR=6.1						

IDC 21 04:06:11.4±2.3**, 17°.07S**×**175°.18W, h0km, mb3.8**/5**, mb1 4.1**/5**, mb1mx3.7**/29**, mbtmp3.8**/5**, MS3.4**/3**, Ms1 3.4**/3**, ms1mx3.1**/18**, Error ellipse: s-maj=136.0km s-min=25.3km az=151.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.13**	**108**	LR	LR	04 13 41.5	
	comp=Z,122nm,21.9s,baz=245,slow=30						
DZM	**Mont Dzumac**	**18.02**	**251**	*e*LR	LR	04 14 47.8	
	369nm,25.4s						
PPT2	**Papeete2**	**24.44**	**95**	*e*LR	LR	04 17 03.5	
	225nm,26.5s						
PPT	**Papeete**	**24.44**	**95**	LR	LR	04 18 10.3	
	comp=Z,49nm,20.3s,baz=284,slow=29						
WRA	**Warramunga Arr**	**47.82**	**258**	P	P	04 14 50.9	-0.3
	0.9nm,0.8s,baz=95,slow=7.2,SNR=9.6						
ASAR	**Alice Springs**	**47.98**	**253**	P	P	04 14 52.2	-0.3
	3.6nm,0.7s,baz=88,slow=8.3,SNR=54						
NVAR	**Mina Array Bea**	**76.70**	**43**	P	P	04 18 03.7	-1.1
	0.3nm,0.7s,baz=237,slow=9.3,SNR=2.6						
NVAR				LR	LR	04 43 48.0	
	comp=Z,49nm,18.9s,baz=80,slow=29						
TXAR	**Lajitas Array**	**82.95**	**57**	P	P	04 18 39.6	+0.8
	0.4nm,0.9s,baz=236,slow=6.4,SNR=3.3						
ILAR	**Eielson Array**	**84.41**	**12**	P	P	04 18 45.4	0.0
	0.9nm,1.1s,baz=240,slow=5.1,SNR=4.4						
DPC	**Dobruska-Polom**	**145.53**	**347**	*e*P	PKPab	04 25 52.5	+0.6
DPC				*e*x	x	04 25 57.4	
BRTR	**Keskin Array B**	**146.31**	**318**	PKPbc	PKPbc	04 25 54.8	+0.2
	1.6nm,1.0s,baz=101,slow=3.1,SNR=6.5						
KHC	**Kasperske Hory**	**147.23**	**349**	*e*P	PKPab	04 26 02.8	+4.3
GERES	**GERESS Array B**	**147.49**	**349**	PKPbc	PKPbc	04 25 56.5	-1.0
	0.5nm,0.7s,baz=37,slow=3.8,SNR=3.0						

IDC **21** *04:07:17.9±1.8, 16°.20S×178°.48W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.7/29, mbtmp3.8/6, Error ellipse: s-maj=117.2km s-min=23.1km az=149.0*
ISCJB **21** *04:07:21.6±1.4, 16°.2S±0°.6×178°.5W±0°.4, h33km, mb3.7/6, Error ellipse: s-maj=99.3km s-min=20.2km az=148.5*
ISC 21 04:07:23.2±1.5**, 16°.3S**±0°.6×**178°.5W**±0°.4**, h35km, n6, σ1^{s}00**/6**, mb3.6**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.40**	**239**	P	**P**	**04 14 50.6**	**+0.8**
	1.4nm,0.6s,baz=76,slow=8.3,SNR=1.9						
WRA	**Warramunga Arr**	**44.91**	**258**	P	**P**	**04 15 34.6**	**-0.3**
	0.4nm,0.3s,baz=92,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**45.21**	**253**	P	**P**	**04 15 36.5**	**-0.9**
	4.9nm,0.6s,baz=87,slow=8.8,SNR=24						
NVAR	**Mina Array Bea**	**78.28**	**44**	P	**P**	**04 19 20.8**	**+0.9**
	0.4nm,0.7s,baz=219,slow=8.0,SNR=2.8						
ILAR	**Eielson Array**	**84.30**	**13**	P	**P**	**04 19 51.1**	**+0.1**
	0.1nm,0.4s,baz=206,slow=3.7,SNR=4.7						
TXAR	**Lajitas Array**	**85.16**	**58**	P	**P**	**04 19 55.4**	**-0.9**
	0.2nm,0.7s,baz=210,slow=7.1,SNR=2.9						

ISCJB **21** *04:23:41.0±0.6, 59°.87N±0°.06×145°.0E±0°.1, h10km, mb3.4/8, Error ellipse: s-maj=11.7km s-min=5.5km az=136.9*
IDC **21** *04:23:41.0±0.9, 59°.75N×144°.95E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/32, mbtmp3.7/8, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/33, Error ellipse: s-maj=31.2km s-min=14.5km az=131.0*
MOS **21** *04:23:41.7±1.8, 59°.82N×144°.34E, h16km, mb4.1/5, Error ellipse: s-maj=21.2km s-min=13.7km az=71.2*
NERS **21** *04:23:42.5, 59°.89N×144°.73E, h4km*
ISC 21 04:23:43.2±0.7**, 59°.89N**±0°.06×**144°.92E**±0°.06**, h10km, n26, σ1^{s}74**/32**, mb3.4**/8**, 1C, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OCHR	**Omchak**	**2.29**	**38**	⇑*i*P	**Pn**	**04 24 22.3**	**+1.2**
OCHR				Pmax		04 24 24.1	
	20nm,0.3s						
OCHR				*e*Pg	**Pb**	**04 24 25.6**	**+0.9**
OCHR				*e*		04 24 28.4	
OCHR				Pgmax		04 24 29.1	
	280nm,0.3s						
OCHR				*e*Sg	**Sg**	**04 24 57.0**	**+0.2**
OCHR				Sgmax		04 25 02.0	
	670nm,0.3s						
OCHR				Sgmax		04 25 02.0	
	2μm,0.3s						
MGD	**Magadan 1**	**2.93**	**84**	*e*P	**Pb**	**04 24 33.9**	**-1.5**
MGD				*e*		04 25 17.6	
SUUS	**Susuman**	**3.29**	**27**	*e*P	**Pb**	**04 24 39.8**	**-1.9**
SUUS				*e*		04 25 21.5	
SUUS				pmax	pmax		
	comp=Z,30nm,0.4s						
SUUS				smax	smax		
	comp=E,570nm,0.7s						
SUUS	**Susuman**	**3.29**	**27**	*e*P	**Pb**	**04 24 39.8**	**-1.9**
SUUS				Pgmax		04 24 43.9	
	comp=E,30nm,0.4s						
SUUS				*e*S	**Sb**	**04 25 22.1**	**+0.4**
SUUS				Sgmax		04 25 22.2	
	comp=E,570nm,0.7s						
TLAR	**Talaya**	**3.90**	**68**	*e*P	**Pn**	**04 24 45.9**	**+2.7**
TLAR				pmax	pmax		
	comp=Z,10.0nm,0.2s						
TLAR	**Talaya**	**3.90**	**68**	*e*P	**Pn**	**04 24 45.9**	**+2.7**
TLAR				*e*Pg	**Pg**	**04 24 58.1**	**+0.2**
TLAR				Pgmax		04 24 59.3	
	comp=Z,10.0nm,0.2s						
TLAR				*e*Sg	**Sg**	**04 25 49.4**	**+1.0**
TLAR				Sgmax		04 25 54.2	
	comp=Z,800nm,0.2s						
SEY	**Seymchan**	**4.71**	**46**	P	**Pn**	**04 24 54.7**	**+0.5**
SEY						04 25 48.2	
SEY				pmax	pmax		
	comp=Z,4.0nm,0.3s						
SEY				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SEY				smax	smax		
	comp=N,8.0nm,0.3s						
SEY	**Seymchan**	**4.71**	**46**	*e*P	**Pn**	**04 24 56.4**	**+2.2**
SEY				*e*Pg	**Pg**	**04 25 12.5**	**-0.8**
SEY				Pgmax		04 25 14.5	
	comp=N,30nm,0.4s						
SEY				*e*Sg	**Sg**	**04 26 12.2**	**-2.0**
SEY				Sgmax		04 26 18.3	
	comp=N,190nm,0.4s						
SEY	**Seymchan**	**4.71**	**46**	Pn	**Pn**	**04 24 54.6**	**+0.5**
	comp=N,3.6nm,0.3s,baz=240,slow=9.9,SNR=125						
SEY				Pg	Pg	04 25 09.9	-3.3
	comp=N,2.3nm,0.3s,baz=73,slow=23,SNR=4.6						
SEY				Sn	**Sn**	**04 25 48.1**	**-0.6**
	comp=N,7.6nm,0.3s,baz=140,slow=18,SNR=4.5						
SEY				Lg	Lg	04 26 11.9	
	comp=N,39nm,0.3s,baz=175,slow=21,SNR=11						
PETK	**Petropavlovsk-**	**9.79**	**128**	P	**Pn**	**04 26 04.8**	**+0.8**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**9.79**	**128**	Pn	**Pn**	**04 26 04.8**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=308,slow=10,SNR=4.1						
ASAJ	**Asahikawa**	**15.86**	**186**	LR	LR	04 34 01.4	
	comp=Z,58nm,19.4s,baz=152,slow=40						
BOD	**Bodaibo**	**16.05**	**276**	*e*P	Pn	04 27 23.2	-5.5
BOD				pmax	pmax		
	comp=Z,3.0nm,1.4s						
MJAR	**Matsushiro Arr**	**23.77**	**193**	P	**P**	**04 28 53.2**	**-2.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MJAR	**Matsushiro Arr**	**23.77**	**193**	P	**P**	**04 28 53.1**	**-2.4**
	comp=Z,1.4nm,0.8s,baz=353,slow=10,SNR=5.9						
SONM	**Songino Array**	**25.32**	**259**	P	**P**	**04 29 13.1**	**+3.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**25.32**	**259**	P	**P**	**04 29 13.1**	**+3.2**
	comp=Z,0.6nm,0.7s,baz=52,slow=9.0,SNR=6.8						
ILAR	**Eielson Array**	**30.62**	**51**	P	**P**	**04 29 58.6**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=279,slow=6.6,SNR=6.2						
MKAR	**Makanchi Array**	**38.12**	**279**	P	**P**	**04 31 02.9**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**38.12**	**279**	P	**P**	**04 31 02.9**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=43,slow=9.0,SNR=5.2						
YKA	**Yellowknife Ar**	**43.75**	**41**	P	**P**	**04 31 47.6**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=312,slow=8.7,SNR=2.3						
FINES	**FINESS Array B**	**50.17**	**327**	P	**P**	**04 32 36.7**	**-1.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**50.17**	**327**	P	**P**	**04 32 36.7**	**-1.5**
	comp=Z,2.0nm,1.1s,baz=41,slow=7.4,SNR=2.4						
WRA	**Warramunga Arr**	**80.01**	**190**	P	**P**	**04 35 50.9**	**-1.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**80.01**	**190**	P	**P**	**04 35 50.9**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=7.8,slow=6.4,SNR=6.1						
ASAR	**Alice Springs**	**83.74**	**190**	P	**P**	**04 36 10.8**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=5.3,slow=5.4,SNR=7.6						

TIR **21** *04:36:35.8, 40°.06N×19°.79E, h11km, ML3.1*
ATH **21** *04:36:35.0, 40°.17N×19°.70E, h5km±3km, MD3.3/7*
SKO **21** *04:36:35.7, 40°.13N×19°.62E, h3km, M2.4, ML2.9*
THE **21** *04:36:36.2, 39°.99N×19°.64E, h2km±58km, ML2.5/1, Error ellipse: s-maj=58.3km s-min=1.4km az=53.0*
CSEM **21** *04:36:36.8±0.3, 40°.12N×19°.85E, h2km, ML3.1, Error ellipse: s-maj=8.0km s-min=5.0km az=67.0*
ISC 21 04:36:36.1±1.0**, 40°.08N**±0°.02×**19°.80E**±0°.03**, h13km**±7km**, n35, σ0^{s}81**/55**, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.26**	**142**	*i* PG	**Pg**	**04 36 41.0**	**-0.6**
SRN				*i* SG	**Sg**	**04 36 45.4**	**+0.2**
SRN	**Sarande**	**0.26**	**142**	P	**Pg**	**04 36 41.2**	**-0.3**
SRN				S	**Sg**	**04 36 45.9**	**+0.7**
SRN	**Sarande**	**0.26**	**142**	P	**Pg**	**04 36 41.2**	**-0.3**
SRN				*i* Sg	**Sg**	**04 36 45.4**	**+0.2**

KEK	Kerkira	0.37	180	ePB	Pb	04 36 43.8	-0.7
KEK				eSB	Sb	04 36 51.5	+1.4
KEK	Kerkira	0.37	180	ePb	Pb	04 36 43.8	-0.7
KEK				eSb	Sb	04 36 51.5	+1.4
VLO	Vlora	0.45	329	iPG	Pg	04 36 45.1	0.0
VLO				iSG	Sb	04 36 53.0	+0.5
VLO	Vlora	0.45	329	P	Pg	04 36 44.8	-0.3
VLO				S	Sb	04 36 53.5	+1.0
VLO	Vlora	0.45	329	P	Pg	04 36 44.8	-0.3
VLO	Vlora	0.45	329	iPg	Pg	04 36 45.1	0.0
VLO				iSg	Sb	04 36 53.0	+0.5
IGT	Igoumenitsa	0.69	143	P	Pg	04 36 49.1	-0.4
IGT				S	Sn	04 37 00.7	-1.4
IGT	Igoumenitsa	0.69	143	ePB	Pb	04 36 49.7	-0.3
IGT				eSB	Sn	04 37 00.7	-1.4
IGT	Igoumenitsa	0.69	143	P	Pg	04 36 49.1	-0.4
IGT	Igoumenitsa	0.69	143	ePb	Pb	04 36 49.7	-0.3
IGT				S	Sn	04 37 00.7	-1.4
JAN	Janina	0.92	117	ePB	Pn	04 36 54.5	-0.2
JAN				eSB	Sn	04 37 08.5	+0.7
JAN	Janina	0.92	117	ePb	Pn	04 36 54.5	-0.2
JAN				eSb	Sn	04 37 08.5	+0.7
KBN	Korca	0.93	54	iPG	Pg	04 36 54.3	+0.1
KBN				iSG	Sn	04 37 09.0	+0.8
FNA	Florina	1.40	59	ePB	Pn	04 37 01.9	+0.5
FNA				eSB	Sg	04 37 21.6	+0.5
FNA	Florina	1.40	59	ePb	Pn	04 37 01.9	+0.5
FNA				eSb	Sg	04 37 21.6	+0.5
KZN	Kozani	1.53	81	ePG	Pb	04 37 04.6	+0.2
KZN	Kozani	1.53	81	ePg	Pb	04 37 04.6	+0.2
THL	Klokotos Trika	1.79	106	ePN	Pg	04 37 09.4	-1.0
THL	Klokotos Trika	1.79	106	ePn	Pg	04 37 09.4	-1.0
PDO	Prodromos	1.83	144	ePG	Pg	04 37 11.9	+0.6
PDO	Prodromos	1.83	144	ePg	Pg	04 37 11.9	+0.6
EVR	Evrytania	1.94	126	ePN	Pg	04 37 12.2	-1.2
EVR	Evrytania	1.94	126	ePn	Pg	04 37 12.2	-1.2
PUK	Puka	1.96	2	iPN	Pb	04 37 11.1	-0.7
MAKR	Makrakomi, Fth	2.10	120	ePG	Pg	04 37 16.6	+0.2
MAKR	Makrakomi, Fth	2.10	120	ePg	Pg	04 37 16.6	+0.2
AGG	Agios Georgios	2.23	118	ePN	Pb	04 37 16.8	+0.6
AGG	Agios Georgios	2.23	118	ePn	Pb	04 37 16.8	+0.6
SKO	Skopje	2.26	33	ePg	Pb	04 37 17.5	+0.6
SKO				iSg	Sg	04 37 47.6	-1.3
SKO				iLg	Lg	04 37 50.4	
	comp=E,76nm,0.7s						
SKO				iLg	Lg	04 37 59.5	
	comp=N,110nm,0.6s						
SKO	Skopje	2.26	33	ePg	Pb	04 37 17.4	+0.6
SKO				iSg	Sg	04 37 47.5	-1.3
SKO				iLg	Lg	04 37 59.5	
	comp=N,110nm,0.6s						
VAY	Valandovo	2.45	59	iPn	Pb	04 37 18.3	-1.6
VAY				eSn	Sb	04 37 50.6	+0.5
VAY				iLg	Lg	04 37 57.6	
	comp=N,145nm,1.9s						
VAY				iLg	Lg	04 38 07.7	
	comp=E,28nm,0.9s						
VAY	Valandovo	2.45	59	iPn	Pb	04 37 18.3	-1.6
VAY				eSn	Sb	04 37 50.5	+0.5
VAY				iLg	Lg	04 38 07.6	
	comp=E,28nm,0.9s						

NSSC 21 04:38:23.7±12.0, 38.°86N×41.°81E, h0km±723km, MD2.1, ML4.4
ISN 21 04:38:34.3±2.3, 39.°02N×40.°39E, h0km±7km, ML4.4
ISK 21 04:38:35.1, 38.°72N×40.°10E, h5km, ML4.3
ISCJB 21 04:38:36.2±0.4, 38.°70N±0.°01×40.°08E±0.°02, h4km±3km, mb3.6/11, MS3.3/11, Error ellipse: s-maj=2.5km s-min=2.5km az=154.7
IDC 21 04:38:37.1±0.8, 38.°81N×39.°96E, h0km, mb3.6/10, mb1 3.7/18, mb1mx3.6/37, mbtmp3.6/18, ML3.3/6, MS3.4/19, Ms1 3.4/19, ms1mx3.2/37, Error ellipse: s-maj=14.8km s-min=9.4km az=152.0
CSEM 21 04:38:37.0±0.1, 38.°72N×40.°11E, h2km, ML4.3, Error ellipse: s-maj=3.9km s-min=3.8km az=176.0
DDA 21 04:38:37.2, 38.°71N×40.°03E, h9km, ML4.3
ISC 21 04:38:36.6±1.1, 38.°69N±0.°02×40.°07E±0.°01, h2km±8km, n187, σ1§50/216, mb3.8/11, MS3.2/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.38	60	ePg	Pb	04 38 46.3	+0.2
BINT				eSg	Sb	04 38 55.0	+2.6
BNGB	Bingˆ¶l	0.56	58	ePG	Pg	04 38 46.3	-1.1
BNGB				eSG	Pg	04 38 55.0	+0.3
PTK	Pertek	0.57	291	ePG	Pg	04 38 46.6	-0.9
PTK				eSG	Sg	04 38 56.6	+1.8
PTK	Pertek	0.57	291	ePg	Pg	04 38 46.6	-0.9
PTK				eSg	Sg	04 38 56.6	+1.8
DYBB	Diyarbakir	0.74	176	ePG	Pg	04 38 51.3	+0.5
DYBB				eSG	Sb	04 39 02.7	0.0
DIY	Diyarbakir	0.80	171	ePg	Pg	04 38 51.3	-0.7
DIY				eSg	Sg	04 39 02.7	+0.3
ELZG	Elazig	0.87	258	iP	Pg	04 38 51.5	-1.8
ELZG				eS	Sb	04 39 07.2	+0.5
ELZG	Elazig	0.87	258	iP	Pg	04 38 51.5	-1.8
ELZG				eS	Sb	04 39 07.2	+0.5
BNGL	BINGOL	0.88	72	iP	Pg	04 38 52.7	-0.8
BNGL				iS	Sg	04 39 06.0	+1.0
ERZN	Erzincan	0.94	343	ePG	Pg	04 38 53.2	-1.3
SVAN	Silvan-Diyarba	1.04	121	ePG	Pg	04 38 56.5	0.0
EUZM	Uzumlu	1.06	344	iP	Pg	04 38 55.5	-1.3
EUZM				iS	Sg	04 39 09.9	-0.7
EUZM	Uzumlu	1.06	344	iP	Pg	04 38 55.5	-1.3
EUZM				iS	Sg	04 39 09.9	-0.7
VRTB	Varto-Mus	1.18	66	ePN	Pb	04 38 57.6	-2.1
VRTB	Varto-Mus	1.18	66	ePn	Pb	04 38 57.6	-2.1
EZC	Erzincan	1.20	333	ePg	Pb	04 38 53.2	-6.9
BTMT	Batman	1.22	114	ePN	Pn	04 38 59.4	-1.3
BTMT	Batman	1.22	114	ePn	Pn	04 38 59.4	-1.3
BEST	Besiri	1.24	130	iP	Pn	04 38 59.9	-1.0
BEST				iS	Sb	04 39 16.9	-0.2
MALT	Malatya	1.34	254	ePN	Pb	04 39 02.5	0.0
MALT	Malatya	1.34	254	ePn	Pb	04 39 02.5	0.0
KEMA	Kemaliye	1.36	296	iP	Pn	04 38 59.9	-2.7
KEMA				iS	Sb	04 39 19.3	-1.3
KEMA	Kemaliye	1.36	296	iP	Pn	04 38 59.9	-2.7
KEMA				iS	Sb	04 39 19.3	-1.3
KOPT	Kop Dagi	1.37	14	iP	Pn	04 39 01.1	-1.8
KOPT				iS	Sg	04 39 23.5	+2.9
KOPT	Kop Dagi	1.37	14	iP	Pn	04 39 01.1	-1.8
KOPT				iS	Sg	04 39 23.5	+2.9
ILIC	ilic-Erzincan	1.40	304	ePN	Pn	04 39 02.9	-0.3
ILIC	ilic-Erzincan	1.40	304	ePn	Pn	04 39 02.9	-0.3
MARD	Mardin	1.48	158	iP	Pn	04 39 03.8	-0.6
MARD				iS	Sn	04 39 23.1	-1.2
EZM	Erzurum	1.57	39	ePN	Pn	04 39 05.2	-0.6
ERZM	Erzurum	1.58	39	iP	Pn	04 39 05.2	-0.6
ERZM	Erzurum	1.58	39	iP	Pn	04 39 05.2	-0.6
KELT	Kelkit	1.59	337	iP	Pn	04 39 05.1	-0.8
KELT				iS	Sg	04 39 27.7	+0.1
KELT	Kelkit	1.59	337	iP	Pn	04 39 05.1	-0.8
KELT				iS	Sg	04 39 27.7	+0.1
URFA	Urfa	1.59	219	ePN	Pn	04 39 05.8	0.0
URFA	Urfa	1.59	219	ePn	Pn	04 39 05.8	0.0
BAYT	Ayd¯−ntepe-Bay	1.70	2	ePN	Pn	04 39 07.0	-0.4
BAYT	Ayd¯−ntepe-Bay	1.70	2	ePn	Pn	04 39 07.0	-0.4
KBSD	Kabsdagh	1.73	167	eP	Pb	04 39 08.7	-0.3
KBSD				eS	Sb	04 39 31.1	0.0
KBSD				AML	AML	04 39 36.5	
	comp=Z,6µm,0.3s						
KBSD				AML	AML	04 39 38.2	
	comp=E,7µm,0.4s						
KBSD				AML	AML	04 39 38.3	
	comp=N,3µm,0.9s						
KBSD	Kabsdagh	1.73	167	eP	Pb	04 39 08.7	-0.3
	SNR=45						
KBSD				eS	Sb	04 39 31.1	0.0
	comp=N,3µm,0.9s,SNR=40						
AKCD	Akcadag	1.73	258	iP	Pn	04 39 07.3	-0.5
AKCD				iS	Sg	04 39 32.7	+0.5
AKCD	Akcadag	1.73	258	iP	Pn	04 39 07.3	-0.5
AKCD				iS	Sg	04 39 32.7	+0.5
TATV	Tatvan	1.73	95	iP	Pn	04 39 07.8	-0.1
TATV				iS	Sg	04 39 33.8	+1.6
TATV	Tatvan	1.73	95	iP	Pn	04 39 07.8	-0.1
TATV				iS	Sg	04 39 33.8	+1.6
GUMT	Gumushane	1.82	346	ePN	Pn	04 39 08.8	-0.3
GUMT	Gumushane	1.82	346	ePn	Pn	04 39 08.8	-0.3
ATAB	Bozova	1.86	230	iP	Pn	04 39 08.9	-0.5
ATAB				iS	Sn	04 39 33.7	+0.3
ATAB	Bozova	1.86	230	iP	Pn	04 39 08.9	-0.5
ATAB				iS	Sn	04 39 33.7	+0.3
HOMI	Horasan	1.96	46	iP	Pn	04 39 10.3	-0.8
HOMI				iS	Sg	04 39 42.6	+2.9
DARE	Darende-Malaty	2.03	267	ePN	Pn	04 39 12.3	+0.4
DARE	Darende-Malaty	2.03	267	ePn	Pn	04 39 12.3	+0.4
SUSE	Susehri	2.10	317	iP	Pn	04 39 12.5	-0.3
SUSE				iS	Sb	04 39 42.6	+0.7
SUSE	Susehri	2.10	317	iP	Pn	04 39 12.5	-0.3
SUSE				iS	Sb	04 39 42.6	+0.7
SIRT	Sirnak	2.21	122	ePN	Pn	04 39 14.3	-0.1
SIRT	Sirnak	2.21	122	ePn	Pn	04 39 14.3	-0.1
KTUT	Trabzon	2.31	354	ePN	Pn	04 39 15.6	0.0
KTUT	Trabzon	2.31	354	ePn	Pn	04 39 15.6	0.0
GEVA	Gevas	2.38	98	iP	Pn	04 39 17.0	+0.3
GEVA				iS	Sg	04 39 52.4	-0.5
GEVA	Gevas	2.38	98	iP	Pn	04 39 17.0	+0.3
GEVA				iS	Sg	04 39 52.4	-0.5
AGRB	Hanur-Agry	2.44	68	ePN	Pn	04 39 16.9	-0.7
AGRB	Hanur-Agry	2.44	68	ePn	Pn	04 39 16.9	-0.7
ESPY	Espiye-Giresun	2.45	335	ePN	Pn	04 39 16.2	-1.4
ESPY	Espiye-Giresun	2.45	335	ePn	Pn	04 39 16.2	-1.4
PZAR	Pazar-Rize	2.56	14	ePN	Pn	04 39 19.1	0.0
PZAR	Pazar-Rize	2.56	14	ePn	Pn	04 39 19.1	0.0
VANB	Van	2.60	91	ePN	Pn	04 39 19.6	-0.1
VANB	Van	2.60	91	ePn	Pn	04 39 19.6	-0.1
SVSK	Karacayir	2.68	298	ePN	Pn	04 39 21.4	+0.7
SVSK	Karacayir	2.68	298	ePn	Pn	04 39 21.4	+0.7
RSDY	Resadiye-TOKAT	2.72	310	ePN	Pn	04 39 22.0	+0.7
RSDY	Resadiye-TOKAT	2.72	310	ePn	Pn	04 39 22.0	+0.7
KMRS	Kahramanmaras	2.77	246	ePN	Pn	04 39 22.8	+0.9
KMRS	Kahramanmaras	2.77	246	ePn	Pn	04 39 22.8	+0.9
MNKR	ALMNKUR	2.82	193	eP	Pn	04 39 18.6	-4.0
MNKR				eS	Sn	04 39 56.1	-1.0
MNKR				AML	AML	04 40 10.4	
	comp=N,6µm,0.7s						
MNKR				AML	AML	04 40 12.6	
	comp=E,2µm,0.6s						
MNKR				AML	AML	04 40 13.5	
	comp=Z,7µm,0.5s						
MNKR	ALMNKUR	2.82	193	eP	Pn	04 39 18.6	-4.0
	SNR=45						
MNKR				eS	Sn	04 39 56.1	-1.0
	comp=Z,7µm,0.5s,SNR=40						
KSRV	Kasrt alli	2.95	197	eP	Pg	04 39 32.2	-0.8
KSRV				eS	Sg	04 40 10.6	-0.6
KSRV				AML	AML	04 40 18.8	
	comp=Z,2µm,0.7s						
KSRV				AML	AML	04 40 18.9	
	comp=N,2µm,0.5s						
KSRV				AML	AML	04 40 20.8	
	comp=E,1µm,0.5s						
KARS	Kars	3.02	49	ePN	Pn	04 39 25.3	-0.3
KARS	Kars	3.02	49	ePn	Pn	04 39 25.3	-0.3
CLDR	Caldiran	3.04	80	ePN	Pn	04 39 25.9	+0.1
CLDR	Caldiran	3.04	80	ePn	Pn	04 39 25.9	+0.1
CUKT	Cukurca	3.15	116	ePN	Pn	04 39 28.1	+0.9
CUKT	Cukurca	3.15	116	ePn	Pn	04 39 28.1	+0.9
JHLN	Al Jahlan	3.28	204	eP	Pn	04 39 29.6	+0.6
JHLN				eS	Sb	04 40 17.8	+1.9
JHLN				AML	AML	04 40 29.8	
	comp=Z,2µm,0.7s						
JHLN				AML	AML	04 40 31.0	
	comp=E,1µm,0.5s						
JHLN				AML	AML	04 40 35.9	
	comp=N,2µm,0.6s						
JHLN	Al Jahlan	3.28	204	eP	Pn	04 39 29.6	+0.6
	SNR=45						
BNN	Bunyan	3.31	274	ePN	Pn	04 39 30.3	+0.9
BNN	Bunyan	3.31	274	ePn	Pn	04 39 30.3	+0.9
MSL	Mosul	3.33	132	ePG	Pg	04 39 47.5	+7.2
MSL				eSG	Sg	04 40 41.4	+18
KOZT	Kozan	3.56	251	ePN	Pn	04 39 34.2	+1.4
KOZT	Kozan	3.56	251	ePn	Pn	04 39 34.2	+1.4
AKH	Akhalkalaki	3.78	43	P	Pg	04 39 48.0	-1.0
CEYT	Ceyhan	3.81	245	ePN	Pn	04 39 37.9	+1.7
CEYT	Ceyhan	3.81	245	ePn	Pn	04 39 37.9	+1.7
GNI	Garni	3.90	67	ePN	Pn	04 39 38.0	+0.4
GNI	Garni	3.90	67	Pn	Pn	04 39 39.7	+2.1
	comp=N,1.1nm,0.3s,baz=347,slow=4.3,SNR=4.2						
GNI				Lg	Lg	04 40 41.6	
	baz=226,slow=16,SNR=1.2						
GNI	Garni	3.90	67	ePn	Pn	04 39 38.0	+0.4
BTCH	Batrach	3.91	228	eP	Pg	04 39 50.0	-1.5
BTCH				eS	Sg	04 40 40.0	-2.2
BTCH				AML	AML	04 40 47.2	
	comp=N,1µm,0.6s						
BTCH				AML	AML	04 40 50.2	
	comp=Z,4µm,0.6s						
BTCH				AML	AML	04 40 50.4	
	comp=E,3µm,0.8s						
KVT	Kavak	3.91	309	ePN	Pn	04 39 38.7	+1.0
KVT	Kavak	3.91	309	ePn	Pn	04 39 38.7	+1.0
WRDH	Warideh	4.32	224	eP	Pn	04 39 42.1	-1.2
WRDH				eS	Sb	04 40 41.1	-4.6
WRDH				AML	AML	04 40 59.6	
	comp=N,732nm,0.5s						
WRDH				AML	AML	04 41 00.3	
	comp=Z,905nm,0.5s						
WRDH				AML	AML	04 41 02.1	
	comp=E,1µm,0.5s						
WRDH	Warideh	4.32	224	eP	Pn	04 39 42.1	-1.2
	SNR=45						
ARNB	Al Arnab	4.32	230	eP	Pn	04 39 43.2	-0.1
ARNB				eS	Sb	04 40 49.4	+3.6
ARNB				AML	AML	04 41 01.0	
	comp=N,781nm,0.5s						
ARNB				AML	AML	04 41 04.6	
	comp=E,818nm,0.8s						
ARNB				AML	AML	04 41 07.5	
	comp=Z,493nm,0.6s						
ARNB	Al Arnab	4.32	230	eP	Pn	04 39 43.2	-0.1
	SNR=45						
KFRA	Kufra	4.35	218	eP	Pn	04 39 41.7	-2.0
KFRA				eS	Sb	04 40 48.6	+2.0
KFRA				AML	AML	04 41 04.0	
	comp=E,3µm,0.4s						
KFRA				AML	AML	04 41 05.6	
	comp=Z,1µm,0.6s						
KFRA				AML	AML	04 41 13.0	
	comp=N,3µm,0.6s						
KFRA	Kufra	4.35	218	eP	Pn	04 39 41.7	-2.0
	SNR=45						
CORM	Corum	4.47	291	ePN	Pn	04 39 46.6	+1.2
CORM	Corum	4.47	291	ePn	Pn	04 39 46.6	+1.2
ONI	Oni	4.67	32	P	Pn	04 39 50.0	+1.9
TBLG	Delisi	4.69	48	P	Pb	04 40 01.9	+2.4
DIKM	Dikmen	4.72	310	ePN	Pn	04 39 50.5	+1.7
DIKM	Dikmen	4.72	310	ePn	Pn	04 39 50.5	+1.7
IKRK	Kirkuk	4.74	133	ePn	Pn	04 39 48.0	-1.0
IKRK				eSn	Sn	04 40 42.0	-2.5
BIDA	Albida	4.74	220	eP	Pn	04 39 49.8	+0.6
BIDA				eS	Sb	04 41 01.6	+3.5
BIDA				AML	AML	04 41 21.4	
	comp=E,1µm,0.7s						
BIDA				AML	AML	04 41 22.2	
	comp=Z,2µm,0.5s						
BIDA				AML	AML	04 41 23.9	
	comp=N,637nm,0.7s						
BIDA	Albida	4.74	220	eP	Pn	04 39 49.8	+0.6
	SNR=45						
MERS	Mersin	4.76	249	ePN	Pn	04 39 50.5	+1.2
MERS	Mersin	4.76	249	ePn	Pn	04 39 50.5	+1.2
RABH	Abou Rabah	4.83	209	eP	Pn	04 39 51.7	+1.3
RABH				eS	Sb	04 40 55.2	-5.4
RABH				AML	AML	04 41 19.0	
	comp=N,613nm,0.6s						
RABH				AML	AML	04 41 20.5	
	comp=E,441nm,0.6s						
RABH				AML	AML	04 41 31.0	
	comp=Z,418nm,0.6s						
RABH	Abou Rabah	4.83	209	eP	Pn	04 39 51.7	+1.3
	SNR=45						
DGRG	David-gareji	4.91	54	P	Pn	04 39 53.4	+1.9
DGRG	David-gareji	4.91	54	P	Pn	04 39 53.4	+1.9
HAWK	Haweek	5.10	216	eP	Pn	04 39 54.2	+0.2
HAWK				eS	Sb	04 41 12.3	+4.0
HAWK				AML	AML	04 41 27.9	
	comp=Z,389nm,0.6s						
HAWK				AML	AML	04 41 30.7	
	comp=E,552nm,0.6s						
HAWK				AML	AML	04 41 30.8	
	comp=N,338nm,0.6s						
HAWK	Haweek	5.10	216	eP	Pn	04 39 54.2	+0.2
	SNR=45						
BRTR	Keskin Array B	5.10	284	Pn	Pn	04 39 54.4	+0.3
	comp=N,3.7nm,0.3s,baz=99,slow=14,SNR=96						
BRTR				Lg	Lg	04 41 16.5	
	baz=106,slow=30,SNR=1.6						
BRTR				LR	LR	04 42 18.7	
	comp=N,394nm,20.4s,baz=92,slow=44						
SULT	Sultanhani-AKS	5.17	267	ePN	Pn	04 39 56.9	+1.9
SULT	Sultanhani-AKS	5.17	267	ePn	Pn	04 39 56.9	+1.9
TOS	Tosya	5.21	299	ePN	Pn	04 39 57.3	+1.8
TOS	Tosya	5.21	299	ePn	Pn	04 39 57.3	+1.8
CANT	Cankiri	5.33	293	ePN	Pn	04 39 59.0	+1.8
KBZ	Khabaz	5.47	22	Pn	Pn	04 40 00.5	+1.5
	comp=N,0.3nm,0.3s,baz=213,slow=10.0,SNR=2.1						
KBZ				LR	LR	04 42 23.3	
	comp=N,713nm,19.0s,baz=190,slow=42						
MARH	Ras Al Marh	5.48	213	eP	Pn	04 40 00.5	+1.0
MARH				eS	Sn	04 41 04.7	+1.4
MARH				AML	AML	04 41 41.2	
	comp=N,417nm,0.6s						
MARH				AML	AML	04 41 52.3	
	comp=Z,468nm,0.6s						
MARH				AML	AML	04 41 54.2	
	comp=E,241nm,0.7s						
MARH	Ras Al Marh	5.48	213	eP	Pn	04 40 00.5	+1.0
	SNR=45						
MARH				eS	Sn	04 41 04.7	+1.4
	comp=E,241nm,0.7s,SNR=40						
AFSR	Af¯ar-Bala (A	5.50	280	ePN	Pn	04 40 01.4	+1.8
AFSR	Af¯ar-Bala (A	5.50	280	ePn	Pn	04 40 01.4	+1.8
HWQ	Hawqa	5.51	218	eP	Pn	04 40 00.5	+0.7
HWQ	Hawqa	5.51	218	eP	Pn	04 40 00.5	+0.7
RTB	Rutbah	5.65	178	ePn	Pn	04 40 05.4	+3.8
	SNR=39						
RTB				eSn	Sn	04 41 09.0	+1.9
	SNR=3.0						
RTB	Rutbah	5.65	178	ePN	Pn	04 40 05.4	+3.8
RTB				eSn	Sn	04 41 09.0	+1.9
BZK	Bozkurt	5.67	307	ePN	Pn	04 40 03.4	+1.6
BZK	Bozkurt	5.67	307	ePn	Pn	04 40 03.4	+1.6
ANTO	Ankara	5.77	284	ePN	Pn	04 40 05.4	+2.2
ANTO	Ankara	5.77	284	ePn	Pn	04 40 05.4	+2.2
LOD	Lodumlu	5.79	284	ePN	Pn	04 40 06.0	+2.4
LOD	Lodumlu	5.79	284	ePn	Pn	04 40 06.0	+2.4
BHL	Bhannes	5.96	218	eP	Pn	04 40 05.3	-0.6
BHL	Bhannes	5.96	218	eP	Pn	04 40 05.3	-0.6
KONT	Konya--Tatoy	6.11	265	ePN	Pn	04 40 09.8	+2.0
KONT	Konya--Tatoy	6.11	265	ePn	Pn	04 40 09.8	+2.0
RCY	Rachaya	6.21	215	eP	Pn	04 40 12.1	+2.6
BRBR	Barbar	6.24	214	eP	Pn	04 40 11.1	+1.3
BRBR				eS	Sn	04 41 28.5	+6.8
BRBR				AML	AML	04 42 05.9	
	comp=Z,203nm,0.6s						
BRBR				AML	AML	04 42 18.1	
	comp=E,281nm,0.7s						
BRBR				AML	AML	04 42 23.2	
	comp=N,213nm,0.7s						
LFK	Lefkose	6.24	239	ePN	Pn	04 40 12.7	+3.0
LFK	Lefkose	6.24	239	ePn	Pn	04 40 12.7	+3.0
KIZT	Kizilcal	6.40	274	ePN	Pn	04 40 13.7	+1.7
KIZT	Kizilcal	6.40	274	ePn	Pn	04 40 13.7	+1.7
BHD	Baghdad	6.44	146	ePn	Pn	04 40 14.0	+1.7
	SNR=39						
BHD				eSn	Sn	04 41 24.5	-1.9
	SNR=39						
BHD	Baghdad	6.44	146	ePN	Pn	04 40 14.0	+1.7
BHD				eSN	Sn	04 41 24.5	-1.9
CSS	Prodhromos	6.56	238	ePN	Pn	04 40 17.2	+3.1
CSS	Prodhromos	6.56	238	ePn	Pn	04 40 17.2	+3.1
MMAI	Mount Meron Ar	6.81	215	Pn	Pn	04 40 19.7	+2.1
	comp=N,6.6nm,0.3s,baz=71,slow=15,SNR=18						
MMAI				Lg	Lg	04 42 18.9	
	comp=N,12nm,0.3s,baz=26,slow=31,SNR=5.9						
ASF	Jabal al Asfar	7.00	203	Pn	Pn	04 40 22.8	+2.7
	comp=N,0.8nm,0.3s,baz=359,slow=3.1,SNR=5.5						
ASF				Lg	Lg	04 42 22.0	
	comp=N,4.7nm,0.3s,baz=325,slow=20,SNR=2.6						
IBDR	Badra	7.32	138	ePN	Pn	04 40 25.4	+0.9
IBDR				eSN	Sn	04 41 44.6	-3.5
NSR	Nassriya	9.14	145	ePn	Pn	04 40 52.5	+3.1
	SNR=39						
NSR				eSn	Sn	04 42 29.1	-3.7
	SNR=39						
NSR	Nassriya	9.14	145	ePN	Pn	04 40 52.5	+3.1
NSR				eSN	Sn	04 42 29.1	-3.7
EIL	Elat	9.94	207	Pn	Pn	04 41 02.8	+2.3
	comp=N,0.2nm,0.3s,baz=2.9,slow=15,SNR=1.8						
EIL				Lg	Lg	04 43 54.7	
	comp=N,0.7nm,0.3s,baz=66,slow=16,SNR=2.5						
EIL				LR	LR	04 45 09.9	
	comp=N,151nm,19.7s,baz=31,slow=39						
MLR	Muntele Rosu	12.49	307	LR	LR	04 47 44.8	
	comp=N,47nm,19.2s,baz=128,slow=44						
IDI	Anoyia	12.60	259	LR	LR	04 46 27.5	
	comp=N,209nm,21.1s,baz=86,slow=38						
AKASG	Malin Array Be	14.25	331	Pn	Pn	04 41 57.7	-1.6
	comp=N,0.2nm,0.3s,baz=140,slow=11,SNR=2.6						
OBN	Obninsk	16.60	353	LR	LR	04 49 52.5	
	comp=N,101nm,19.5s,baz=259,slow=41						
AKTO	Aktyubinsk	17.31	41	P	P	04 42 40.7	0.0
	comp=N,0.1nm,0.3s,baz=243,slow=16,SNR=2.9						
AKTO				LR	LR	04 50 31.6	
	comp=N,54nm,19.4s,baz=233,slow=41						
VRAC	Vranov	19.87	310	LR	LR	04 52 41.3	
	comp=N,86nm,18.4s,baz=122,slow=43						
DPC	Dobruska-Polom	20.46	312	eP	P	04 43 13.2	-2.1
DPC				epP	pP	04 43 23.5	+7.5
DPC				ex	x	04 43 29.2	
DPC				ex	x	04 43 41.4	
PRU	Pruhonice	21.36	310	eP	P	04 43 26.3	+1.3
PRU				ex	x	04 43 37.0	
GERES	GERESS Array B	21.48	307	P	P	04 43 27.6	+1.2
	comp=N,0.5nm,0.7s,baz=108,slow=9.4,SNR=3.1						
GERES				LR	LR	04 53 16.2	
	comp=N,111nm,18.5s,baz=117,slow=41						
KHC	Kasperske Hory	21.65	307	eP	P	04 43 29.5	+1.4
KHC				epP	pP	04 43 37.0	+8.2
KHC				ex	x	04 43 40.7	
CLL	Collm	22.77	312	e(P)	P	04 43 45.0	+4.9
	comp=Z,8.0nm,1.1s						
CLL				Lm	MLR	04 54 00.0	
	comp=Z,100nm,19.4s						
DAVOX	Davos/Dischmat	23.49	300	LR	LR	04 55 15.8	
	comp=Z,66nm,18.1s,baz=86,slow=43						
FINES	FINESS Array B	24.38	344	P	P	04 43 55.7	-0.1
	comp=Z,0.7nm,0.5s,baz=149,slow=11,SNR=2.3						
FINES				LR	LR	04 55 01.5	
	comp=Z,80nm,19.3s,baz=267,slow=41						
KEST	Kesra	24.59	273	P	P	04 43 58.5	+0.4
	comp=Z,2.5nm,0.9s,baz=138,slow=3.8,SNR=3.4						
AAK	Ala-Archa	26.30	70	LR	LR	04 56 23.9	
	comp=Z,51nm,20.2s,baz=276,slow=40						
HFS	Hagfors	27.14	331	P	P	04 44 21.6	+0.8
	comp=Z,1.9nm,0.8s,baz=129,slow=13,SNR=2.1						
HFS				LR	LR	04 55 29.6	
	comp=Z,66nm,20.6s,baz=122,slow=38						
NOA	NORSAR Array B	28.67	331	LR	LR	04 57 35.0	
	comp=Z,23nm,19.3s,baz=120,slow=40						
MKAR	Makanchi Array	31.73	61	P	P	04 45 03.8	+2.1
	comp=Z,1.2nm,1.0s,baz=280,slow=7.0,SNR=6.6						
ARCES	ARCESS Array B	31.88	350	LR	LR	04 58 52.2	
	comp=Z,117nm,18.3s,baz=156,slow=38						
ESDC	Sonseca Array	33.89	286	P	P	04 45 20.3	-0.4
	comp=Z,1.1nm,0.9s,baz=81,slow=9.9,SNR=2.4						
TORD	Torodi Ar. Bea	42.41	244	P	P	04 46 32.8	+0.1
	comp=Z,0.8nm,1.0s,baz=38,slow=5.6,SNR=3.8						
TORD				LR	LR	05 07 39.6	
	comp=Z,30nm,18.9s,baz=130,slow=41						
SONM	Songino Array	47.80	56	P	P	04 47 17.9	+2.6
	comp=Z,0.2nm,0.6s,baz=289,slow=9.0,SNR=2.2						
SONM				LR	LR	05 09 46.5	
	comp=Z,120nm,19.4s,baz=24,slow=39						
DBIC	Dimbokro	51.52	244	P	P	04 47 43.1	-0.9
	comp=Z,2.0nm,0.7s,baz=3.4,slow=7.2,SNR=1.9						
CMAR	Chiang Mai Arr	54.56	94	LR	LR	05 15 24.5	
	comp=Z,18nm,18.2s,baz=205,slow=40						
USRK	Ussuriysk Arra	65.56	52	LR	LR	05 21 12.7	
	comp=Z,92nm,18.8s,baz=200,slow=39						
YKA	Yellowknife Ar	77.12	348	P	P	04 50 30.4	-0.6
	comp=Z,0.3nm,0.8s,baz=24,slow=5.3,SNR=6.4						

*KRNET **21** 04:45:40.8±0.1,39.37N×74.21E,h3km,mb3.6*
*NNC **21** 04:45:42.3±3.1,39.51N×74.33E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=18.4km s-min=10.3km az=156.0*
ISC 21 04:45:40.7±3.3,39.3N±0.2×74.22E±0.08,h10km,n7, σ1.72/10,7C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.89**	**322**	eP	**Pg**	**04 45 56.0**	**-1.9**
	baz=320						
SFK				eS	**Sb**	**04 46 09.2**	**-1.2**
	baz=320						
OHH	**Osh**	**1.64**	**318**	eP	**Pg**	**04 46 11.0**	**-1.1**
	baz=317						
OHH				eS	**Sg**	**04 46 34.2**	**+0.9**
	baz=317						
AAK	**Ala-Archa**	**3.32**	**4**	⇑Pn	**Pn**	**04 46 34.4**	**+1.5**
	5.1nm,0.6s						
AAK				⇑Lg	Lg	04 47 21.7	
	17nm,0.8s						
TKM2	**Tokmak 2**	**3.75**	**16**	⇑Pn	**Pn**	**04 46 38.7**	**-0.2**
	8.2nm,0.8s						
TKM2				⇑Lg	Lg	04 47 32.7	
	26nm,0.8s						
KK31	**Karatay Array**	**4.71**	**325**	Pn	**Pn**	**04 46 53.2**	**+1.4**
	0.6nm,0.3s,baz=133,slow=14,SNR=17						
KK31				⇑Pg	**Pb**	**04 47 05.6**	**+2.3**
	0.9nm,0.5s,baz=131,slow=16,SNR=3.5						
KK31				⇑Lg	Lg	04 48 09.2	
	1.7nm,0.5s,baz=142,slow=30,SNR=2.6						
PDGK	**Podgornoye**	**5.64**	**43**	⇑Pg	**Pb**	**04 47 20.3**	**+1.1**
PDGK				⇓Lg	Lg	04 48 30.0	
AB31	**Akbulak array**	**14.23**	**319**	Pn	**Pn**	**04 49 00.6**	**-1.7**
	1.1nm,0.8s,baz=129,slow=12,SNR=7.5						

IDC 21 05:00:47.5±2.6,8.28S×128.91E,h0km,mb3.3/1, mb1 3.4/3,mb1mx3.2/25,mbtmp3.2/3,ML3.3/2,Error ellipse: s-maj=275.2km s-min=33.1km az=65.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.73**	**156**	Pn	Pn	05 03 49.2	-0.8
	0.2nm,0.3s,baz=334,slow=13,SNR=6.6						
ASAR	**Alice Springs**	**16.03**	**163**	Pn	Pn	05 04 35.4	+0.9
	0.1nm,0.3s,baz=342,slow=11,SNR=6.7						
MKAR	**Makanchi Array**	**68.71**	**328**	P	P	05 11 53.1	0.0
	0.2nm,0.7s,baz=132,slow=8.0,SNR=4.1						

MAN 21 05:59:53,8.47N×126.12E,h32km,mb4.4,ML3.3,MS3.1, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.37**	**140**	⇓eP	Pn	06 00 03.1	+0.9
BIPH				eS	Sn	06 00 08.0	-0.3
BUTP	**Butuan**	**0.70**	**315**	eP	Pb	06 00 07.4	+0.6
BUKP	**Musuan**	**1.20**	**241**	eP	Pn	06 00 12.9	-0.8
BUKP				eS	Sn	06 00 29.6	+0.6
MATI	**Mati**	**1.52**	**175**	eP	Pn	06 00 18.9	+0.8
PAGZ	**Pagadian**	**2.78**	**257**	eP	Pb	06 00 39.1	-3.0

*ISCJB **21** 06:01:34.2±1.7,36.4N±0.2×71.0E±0.2,h200km,mb3.4/4, Error ellipse: s-maj=28.2km s-min=13.4km az=136.6*
*IDC **21** 06:01:34.4±5.3,36.18N×71.00E,h202km±42km,mb3.2/4, mb1 3.2/6,mb1mx2.8/48,mbtmp3.7/6,Error ellipse: s-maj=52.3km s-min=38.1km az=152.0*
*NNC **21** 06:01:40.2±15.0,37.15N×70.32E,h0km,mb3.3,mpv3.0, Error ellipse: s-maj=125.4km s-min=93.9km az=161.0*
ISC 21 06:01:34.6±2.1,36.3N±0.2×70.9E±0.2,h200km,n10, σ0.65/10,mb3.5/4,2C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.84**	**357**	⇓Pn	**Pn**	**06 03 11.9**	**-0.8**
	0.5nm,0.4s,baz=175,slow=11						
KK31				⇑Sn	Sn	06 04 21.0	-10
	1.8nm,0.5s,baz=188,slow=24,SNR=6.2						
AAK	**Ala-Archa**	**6.93**	**22**	⇓Pn	**Pn**	**06 03 14.6**	**+0.5**
	1.4nm,0.7s,baz=173,slow=12						
AAK				⇓Sn	Sn	06 04 27.3	-5.7
	2.3nm,0.6s,baz=173,slow=12						
AAK	**Ala-Archa**	**6.93**	**22**	P	**Pn**	**06 03 15.0**	**+1.0**
	0.5nm,0.3s,baz=194,slow=5.0,SNR=4.7						
AAK				S	Sn	06 04 28.0	-5.0
	0.3nm,0.3s,baz=323,slow=18,SNR=6.7						
MKAR	**Makanchi Array**	**13.52**	**35**	P	**Pn**	**06 04 38.0**	**-0.4**
	0.0nm,0.3s,baz=222,slow=19,SNR=3.6						
AB31	**Akbulak array**	**15.27**	**332**	⇑Pn	**Pn**	**06 05 00.5**	**+0.6**
	0.1nm,0.3s,baz=173,slow=12						
AKTO	**Aktyubinsk**	**16.96**	**331**	P	**P**	**06 05 19.6**	**+0.6**
	baz=158,slow=11						
FINES	**FINESS Array B**	**37.66**	**326**	P	**P**	**06 08 30.3**	**+0.3**
	1.7nm,1.0s,baz=50,slow=9.2,SNR=1.3						
ARCES	**ARCESS Array B**	**41.35**	**338**	P	**P**	**06 09 00.6**	**+0.2**
	5.1nm,1.0s,baz=81,slow=7.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P	**P**	**06 11 57.6**	**-0.2**
	0.3nm,0.4s,baz=45,slow=6.7,SNR=4.6						
YKA	**Yellowknife Ar**	**81.49**	**3**	P	**P**	**06 13 29.2**	**+0.1**
	0.1nm,0.5s,baz=350,slow=5.7,SNR=4.4						

MEX 21 06:11:50.9±0.9,16.85N×94.84W,h106km±6km,MD4.3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.25**	**350**	eP	Pn	06 12 04.7	-1.3
CMIG				eS	Sn	06 12 15.2	-2.1
HUIG	**Huatulco**	**1.62**	**229**	eP	Pn	06 12 16.7	-2.3
HUIG				iS	Sn	06 12 39.7	-0.7
OXX	**Oaxaca**	**1.82**	**278**	eP	Pn	06 12 20.0	-1.7
OXX				iS	Sn	06 12 42.8	-2.3
VHO	**Vista Hermosa**	**1.83**	**277**	eP	Pn	06 12 21.0	-0.8
VHO				iS	Sn	06 12 43.6	-1.7
PCIG		**1.93**	**126**	eP	Pn	06 12 21.3	-1.5
PCIG				iS	Sn	06 12 46.2	-0.9
PNIG	**Pinotepa**	**3.19**	**262**	iP	Pn	06 12 37.0	-2.3
PNIG				iS	Sn	06 13 15.2	-1.5
TLIG	**Tlapa**	**3.63**	**282**	eP	Pn	06 12 44.6	-0.8
TLIG				iS	Sn	06 13 26.9	-0.7
YAIG	**Yautepec**	**4.50**	**297**	eP	Pn	06 12 56.8	-0.3
YAIG				iS	Sn	06 13 45.9	-2.6
MEIG	**Mezcala**	**4.69**	**284**	eP	Pn	06 12 58.6	-1.0
MEIG				iS	Sn	06 13 50.5	-2.6
PLIG	**Platanillo**	**4.71**	**290**	eP	Pn	06 12 59.0	-0.6
PLIG				iS	Sn	06 13 51.3	-2.1
CAIG	**El Cayaco**	**5.20**	**273**	iP	Pn	06 13 04.3	-2.1
CAIG				iS	Sn	06 14 02.9	-2.3
ARIG	**Puente Sto Nin**	**5.45**	**286**	eP	Pn	06 13 09.2	-0.6
ARIG				iS	Sn	06 14 08.7	-2.5
ZIIG	**Zihuatanejo**	**6.38**	**278**	eP	Pn	06 13 21.0	-1.4
ZIIG				iS	Sn	06 14 30.9	-2.9

*ISCJB **21** 06:44:57.9±0.5,53.9N±0.1×169.42E±0.06,h17km, mb3.2/4,MS3.5/1,Error ellipse: s-maj=14.9km s-min=5.2km az=6.7*
*IDC **21** 06:44:57.8±1.2,54.12N×169.50E,h0km,mb3.3/4, mb1 3.7/6,mb1mx3.4/40,mbtmp3.4/6,ML2.9/2,MS3.6/1, Ms1 3.6/1,ms1mx2.5/23,Error ellipse: s-maj=30.2km s-min=13.3km az=28.0*
*KRSC **21** 06:45:02.6±1.3,53.95N×168.58E,h15km±7km,ML3.6*
ISC 21 06:44:59.4±0.9,54.0N±0.1×169.37E±0.05,h17km,n27, σ2.00/26,mb3.2/4,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.30**	**302**	P	**Pn**	**06 45 36.4**	**-0.1**
BKI				S	**Sn**	**06 46 01.5**	**-2.9**
FX1	**Attu Island--F**	**2.54**	**115**	Pn	**Pn**	**06 45 38.4**	**-1.5**
	16nm,0.3s,baz=344,slow=9.0,SNR=48						
FX1				Sn	**Sn**	**06 46 08.4**	**-2.0**
	39nm,0.3s,baz=116,slow=20,SNR=15						
KBTR	**Krutoberegovo**	**4.35**	**303**	P	**Pn**	**06 46 07.4**	**+2.8**
MKZ	**Mys Kozlova**	**4.51**	**280**	eP	**Pn**	**06 46 07.7**	**+0.9**
MKZ				eS	**Sn**	**06 46 55.1**	**-3.7**
TUMR	**Tumrok**	**5.50**	**287**	eP	**Pn**	**06 46 22.6**	**+2.0**
NLC	**Nalytchevo**	**6.03**	**266**	eP	**Pn**	**06 46 28.6**	**+0.9**
NLC				eS	**Sn**	**06 47 32.0**	**-4.3**
SDLR	**Sedlovina**	**6.28**	**267**	P	**Pn**	**06 46 33.0**	**+1.7**
UGLR	**Uglovaya**	**6.33**	**267**	P	**Pn**	**06 46 33.9**	**+1.9**
SMAR	**Somma**	**6.33**	**267**	P	**Pn**	**06 46 33.3**	**+1.2**
KRER	**Koryakskii**	**6.36**	**268**	P	**Pn**	**06 46 33.8**	**+1.4**
AVH	**Avacha**	**6.37**	**267**	P	**Pn**	**06 46 34.0**	**+1.5**
KRX	**Arik**	**6.41**	**268**	P	**Pn**	**06 46 34.4**	**+1.4**
KOK	**Koryaka**	**6.42**	**268**	P	**Pn**	**06 46 34.2**	**+0.9**
RUS	**Russkaya**	**6.71**	**261**	P	**Pn**	**06 46 38.6**	**+1.5**
GNL	**Ganaly**	**6.77**	**272**	P	**Pn**	**06 46 40.0**	**+2.0**
MTVR	**Mutnovka**	**6.89**	**262**	S	**Sn**	**06 47 55.6**	**-2.1**
PETK	**Petropavlovsk-**	**7.01**	**267**	Pn	**Pn**	**06 46 43.2**	**+2.0**
	0.3nm,0.3s,baz=86,slow=20,SNR=10						
PETK				Sn	**Sn**	**06 48 01.3**	**+0.7**
	0.3nm,0.3s,baz=264,slow=40,SNR=1.2						
ILAR	**Eielson Array**	**24.19**	**46**	P	**P**	**06 50 13.7**	**-0.9**
	0.7nm,0.8s,baz=254,slow=6.9,SNR=16						
H11N2	**WAKE ISLAND Hy**	**34.29**	**184**	T	T	07 28 05.0	
	baz=2.6,slow=76,SNR=58						
H11N3	**WAKE ISLAND Hy**	**34.30**	**184**	T	T	07 28 06.5	
	baz=2.6,slow=76,SNR=31						
H11N1	**WAKE ISLAND Hy**	**34.31**	**184**	T	T	07 28 06.4	
	baz=2.6,slow=76,SNR=47						
H11S1	**WAKE ISLAND Hy**	**35.51**	**184**	T	T	07 29 31.5	
	baz=2.7,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**35.53**	**184**	T	T	07 29 38.9	
	baz=2.7,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**35.53**	**184**	T	T	07 29 37.3	
	baz=2.7,slow=76,SNR=17						
YKA	**Yellowknife Ar**	**38.62**	**46**	P	**P**	**06 52 21.1**	**-0.1**
	0.3nm,0.6s,baz=291,slow=7.7,SNR=4.1						
SONM	**Songino Array**	**38.99**	**287**	P	**P**	**06 52 25.8**	**+1.1**
	0.2nm,0.6s,baz=61,slow=8.9,SNR=1.8						
SONM				LR	LR	07 09 25.0	
	comp=Z,76nm,18.7s,baz=166,slow=38						
TXAR	**Lajitas Array**	**65.11**	**74**	P	**P**	**06 55 39.9**	**+0.7**
	0.4nm,0.7s,baz=306,slow=6.2,SNR=4.6						

IDC 21 06:53:26.7±7.6,7.49S×128.94E,h128km±81km,mb3.6/1, mb1 3.6/4,mb1mx3.1/40,mbtmp4.0/4,Error ellipse: s-maj=71.4km s-min=26.5km az=32.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.87**	**242**	P	Pn	06 54 53.1	+1.6
	12nm,0.3s,baz=146,slow=1.2,SNR=14						
BATI				S	Sn	06 55 57.0	-0.8
	18nm,0.3s,baz=228,slow=23,SNR=12						
WRA	**Warramunga Arr**	**13.44**	**158**	P	Pn	06 56 30.9	-1.6
	0.6nm,0.3s,baz=344,slow=13,SNR=21						
WRA				S	Sn	06 58 53.7	-7.2
	2.2nm,0.3s,baz=333,slow=22,SNR=16						
ASAR	**Alice Springs**	**16.78**	**164**	P	P	06 57 15.3	+1.1
	0.4nm,0.3s,baz=338,slow=9.8,SNR=31						
ASAR				S	Sn	07 00 12.7	-8.5
	0.6nm,0.3s,baz=347,slow=26,SNR=8.2						
MKAR	**Makanchi Array**	**68.06**	**327**	P	P	07 04 12.6	0.0
	0.5nm,0.3s,baz=118,slow=7.5,SNR=29						

IDC 21 07:01:50.1±1.6,17.97N×116.02E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.2/51,mbtmp3.3/3,Error ellipse: s-maj=138.4km s-min=28.6km az=64.0,South China Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**30.81**	**347**	P	P	07 08 08.8	+1.1
	0.3nm,0.6s,baz=161,slow=8.3,SNR=4.0						
MKAR	**Makanchi Array**	**39.94**	**324**	P	P	07 09 25.3	-0.9
	0.3nm,0.4s,baz=120,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**41.75**	**154**	P	P	07 09 41.3	-0.1
	0.4nm,0.8s,baz=342,slow=10,SNR=2.2						

*AZER **21** 07:01:59.9±99.0,37.32N×47.28E,h10km,Error ellipse: s-maj=25.5km s-min=12.5km az=31.0*
*NSSP **21** 07:02:00.4,39.25N×42.73E,h5km,Ms3.5*
*ISK **21** 07:02:00.1,39.30N×42.72E,h5km,ML3.8*
*DDA **21** 07:02:00.7,39.29N×42.73E,h13km,MD3.7,ML3.9*
*IDC **21** 07:02:01.4±2.9,39.03N×43.13E,h0km,mb3.5/2, mb1 3.5/4,mb1mx3.1/35,mbtmp3.3/4,ML2.2/2,MS3.5/2, Ms1 3.5/2,ms1mx2.4/37,Error ellipse: s-maj=49.0km s-min=11.9km az=163.0*
*CSEM **21** 07:02:01.7±0.2,39.28N×42.74E,h2km,ML3.8,Error ellipse: s-maj=4.6km s-min=4.1km az=4.0*
*TEH **21** 07:02:02.7,39.31N×42.82E,h2km,ML3.7*
ISC 21 07:02:00.8±1.0,39.29N±0.02×42.73E±0.01,h13km±9km, n106,σ1.34/136,12C-17D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.35**	**36**	ePG	**Pb**	**07 02 07.9**	**-1.1**
AGRB				eSG	**Sb**	**07 02 14.4**	**-0.1**
AGRB	**Hanur-Agry**	**0.35**	**36**	ePg	**Pb**	**07 02 07.9**	**-1.1**
AGRB				eSg	**Sb**	**07 02 14.4**	**-0.1**
EATA	**Eleskirt**	**0.60**	**342**	iP	**Pb**	**07 02 12.6**	**-0.7**
EATA				iS	**Sb**	**07 02 22.1**	**+0.3**
EATA	**Eleskirt**	**0.60**	**342**	iP	**Pb**	**07 02 12.6**	**-0.7**
EATA				iS	**Sb**	**07 02 22.1**	**+0.3**
DYDN	**Diyadin**	**0.79**	**71**	iP	**Pb**	**07 02 15.7**	**-0.7**
DYDN				iS	**Sg**	**07 02 26.2**	**-0.2**
DYDN	**Diyadin**	**0.79**	**71**	iP	**Pb**	**07 02 15.7**	**-0.7**
DYDN				iS	**Sg**	**07 02 26.2**	**-0.2**
VANB	**Van**	**0.87**	**143**	ePG	**Pn**	**07 02 17.9**	**-0.9**
VANB				eSG	**Sn**	**07 02 31.4**	**0.0**
VANB	**Van**	**0.87**	**143**	ePg	**Pn**	**07 02 17.9**	**-0.9**
TVAN	**Van**	**0.93**	**145**	iP	**Pn**	**07 02 18.8**	**-0.9**
TVAN				iS	**Sn**	**07 02 32.5**	**-0.5**
TVAN	**Van**	**0.93**	**145**	iP	**Pn**	**07 02 18.8**	**-0.9**
TVAN				iS	**Sn**	**07 02 32.5**	**-0.5**
CLDR	**Caldiran**	**0.94**	**99**	ePG	**Pn**	**07 02 18.8**	**-1.0**
CLDR	**Caldiran**	**0.94**	**99**	ePg	**Pn**	**07 02 18.8**	**-1.0**
HOMI	**Horasan**	**0.98**	**320**	iP	**Pg**	**07 02 19.4**	**-0.3**
HOMI				iS	**Sn**	**07 02 36.7**	**+2.3**
VRTB	**Varto-Mus**	**0.99**	**263**	ePG	**Pn**	**07 02 20.2**	**-0.4**
VRTB				eSG	**Sn**	**07 02 34.4**	**-0.1**
VRTB	**Varto-Mus**	**0.99**	**263**	ePg	**Pn**	**07 02 20.2**	**-0.4**
VRTB				eSg	**Sn**	**07 02 34.4**	**-0.1**
GEVA	**Gevas**	**1.01**	**165**	iP	**Pg**	**07 02 19.8**	**-0.5**
GEVA				iS	**Sn**	**07 02 35.6**	**+0.6**
GEVA	**Gevas**	**1.01**	**165**	iP	**Pg**	**07 02 19.8**	**-0.5**
GEVA				iS	**Sn**	**07 02 35.6**	**+0.6**
VNNZ	**Vanand**	**1.17**	**46**	⇓iP	Pg	07 02 28.0	+4.7
VNNZ				⇓iS	Sn	07 02 44.5	+5.7
VNNZ	**Vanand**	**1.17**	**46**	⇓P	Pg	07 02 28.0	+4.7
ERZM	**Erzurum**	**1.22**	**301**	iP	**Pg**	**07 02 24.0**	**-0.2**
ERZM	**Erzurum**	**1.22**	**301**	iP	**Pg**	**07 02 24.0**	**-0.2**
EZM	**Erzurum**	**1.22**	**301**	ePN	**Pg**	**07 02 24.0**	**-0.3**
AKSZ	**Araks**	**1.27**	**44**	⇓iP	Pg	07 02 29.1	+3.9
AKSZ				⇓iS	**Sg**	**07 02 46.0**	**+4.3**
AKSZ	**Araks**	**1.27**	**44**	⇓P	Pg	07 02 29.0	+3.9
AKSZ				S	**Sg**	**07 02 46.0**	**+4.3**
BNGL	**BINGOL**	**1.27**	**255**	iP	**Pb**	**07 02 24.1**	**-0.6**
BNGL				iS	**Sg**	**07 02 42.3**	**+0.5**
KARS	**Kars**	**1.36**	**11**	ePN	**Pg**	**07 02 26.8**	**-0.2**
KARS	**Kars**	**1.36**	**11**	ePn	**Pg**	**07 02 26.8**	**-0.2**
PAAR	**P'arak'ar**	**1.54**	**56**	⇑iP	**Pb**	**07 02 28.6**	**-0.6**
PAAR				⇑iS	**Sg**	**07 02 50.6**	**+0.3**
PAAR	**P'arak'ar**	**1.54**	**56**	⇑P	**Pb**	**07 02 28.6**	**-0.6**
PAAR				S	**Sg**	**07 02 50.6**	**+0.3**
ERE	**Yerevan**	**1.61**	**56**	eP	**Pb**	**07 02 29.0**	**-1.3**
ERE				⇓S	**Sg**	**07 02 53.0**	**+0.5**
ERE	**Yerevan**	**1.61**	**56**	P	**Pb**	**07 02 29.0**	**-1.3**
ERE				S	**Sg**	**07 02 53.0**	**+0.5**
AMBZ	**Amberd**	**1.61**	**47**	⇑iP	**Pb**	**07 02 29.8**	**-0.7**
AMBZ				⇓iS	**Sg**	**07 02 54.0**	**+1.4**
AMBZ	**Amberd**	**1.61**	**47**	⇑P	**Pb**	**07 02 29.8**	**-0.7**
AMBZ				S	**Sg**	**07 02 54.0**	**+1.4**
BNGB	**Bing¨¶l**	**1.62**	**260**	ePN	**Pg**	**07 02 30.7**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.65**	**227**	ePN	**Pg**	**07 02 31.2**	**-1.2**
DDEM	**Demirkent**	**1.77**	**335**	iP	**Pg**	**07 02 33.5**	**-1.2**
DDEM				iS	**Sg**	**07 02 58.2**	**+0.6**
DDEM	**Demirkent**	**1.77**	**335**	iP	**Pg**	**07 02 33.5**	**-1.2**
DDEM				iS	**Sg**	**07 02 58.2**	**+0.6**
GNI	**Garni**	**1.77**	**60**	ePN	**Pb**	**07 02 33.2**	**-0.1**
GNI	**Garni**	**1.77**	**60**	⇑iP	**Pg**	**07 02 33.5**	**-1.4**
GNI				⇓iS	**Sg**	**07 02 58.3**	**+0.4**
GNI	**Garni**	**1.77**	**60**	Pn	**Pg**	**07 02 33.4**	**-1.4**
	42nm,0.3s,baz=266,slow=4.0,SNR=86						
GNI				Pg	**Pb**	**07 02 34.8**	**+1.5**
	42nm,0.3s,baz=295,slow=4.0,SNR=28						
GNI				Lg	Lg	07 02 59.3	
	26nm,0.3s,baz=150,slow=23,SNR=18						
GNI	**Garni**	**1.77**	**60**	ePn	**Pb**	**07 02 33.2**	**-0.1**
GNI	**Garni**	**1.77**	**60**	⇑P	**Pg**	**07 02 33.5**	**-1.4**
GNI				S	**Sg**	**07 02 58.3**	**+0.4**
SIRT	**Sirnak**	**1.80**	**187**	ePN	**Pg**	**07 02 33.9**	**-1.4**
SIRT	**Sirnak**	**1.80**	**187**	ePn	**Pg**	**07 02 33.9**	**-1.4**
BEST	**Besiri**	**1.80**	**220**	iP	**Pg**	**07 02 34.1**	**-1.3**
BEST				iS	**Sg**	**07 02 59.5**	**+0.7**
SIRN	**S¨rnak**	**1.81**	**188**	iP	**Pb**	**07 02 33.9**	**+0.1**
SIRN				iS	**Sb**	**07 03 01.0**	**+2.1**
SIRN	**S¨rnak**	**1.81**	**188**	iP	**Pb**	**07 02 33.9**	**+0.1**
SIRN				iS	**Sb**	**07 03 01.0**	**+2.1**
KAPZ	**Kaputan**	**1.84**	**55**	⇑iP	**Pb**	**07 02 34.0**	**-0.3**
KAPZ				⇓iS	**Sb**	**07 02 59.5**	**-0.3**
KAPZ	**Kaputan**	**1.84**	**55**	⇑P	**Pb**	**07 02 34.0**	**-0.3**
KAPZ				S	**Sb**	**07 02 59.5**	**-0.3**
KOPT	**Kop Dagi**	**1.87**	**294**	iP	**Pg**	**07 02 36.0**	**-0.6**
KOPT				iS	**Sg**	**07 03 01.9**	**+1.0**
KOPT	**Kop Dagi**	**1.87**	**294**	iP	**Pg**	**07 02 36.0**	**-0.6**
KOPT				iS	**Sg**	**07 03 01.9**	**+1.0**
DAGI	**Agillar**	**1.89**	**341**	iP	**Pb**	**07 02 35.2**	**0.0**
DAGI				iS	**Sg**	**07 03 03.6**	**+2.0**
DBAD	**Bademkaya**	**1.90**	**336**	iP	**Pg**	**07 02 36.2**	**-1.0**
DBAD				iS	**Sg**	**07 03 02.8**	**+1.0**
DBAD	**Bademkaya**	**1.90**	**336**	iP	**Pg**	**07 02 36.2**	**-1.0**
DBAD				iS	**Sg**	**07 03 02.8**	**+1.0**
NAX	**Nakhchivan**	**2.15**	**92**	⇑P	**Pg**	**07 02 40.9**	**-1.1**
NAX				⇓S	**Sg**	**07 03 12.8**	**+2.8**
NAX	**Nakhchivan**	**2.15**	**92**	P	**Pg**	**07 02 40.9**	**-1.1**
CUKT	**Cukurca**	**2.15**	**161**	ePN	**Pg**	**07 02 38.8**	**-0.9**
CUKT	**Cukurca**	**2.15**	**161**	ePn	**Pg**	**07 02 38.8**	**-0.9**
AKH	**Akhalkalaki**	**2.20**	**15**	ePN	**Pb**	**07 02 38.7**	**-1.7**
AKH	**Akhalkalaki**	**2.20**	**15**	P	**Pg**	**07 02 42.1**	**-0.8**
AKH	**Akhalkalaki**	**2.20**	**15**	P	**Pg**	**07 02 42.1**	**-0.8**
DBOC	**Borcka**	**2.21**	**339**	iP	**Pg**	**07 02 41.4**	**-1.7**
DBOC				iS	**Sg**	**07 03 12.7**	**+1.0**
DBOC	**Borcka**	**2.21**	**339**	iP	**Pg**	**07 02 41.4**	**-1.7**
DBOC				iS	**Sg**	**07 03 12.7**	**+1.0**
BAYT	**Ayd¨−ntepe-Bay**	**2.27**	**300**	ePN	**Pb**	**07 02 40.6**	**-1.2**
BAYT	**Ayd¨−ntepe-Bay**	**2.27**	**300**	ePn	**Pb**	**07 02 40.6**	**-1.2**
ERZN	**Erzincan**	**2.34**	**278**	ePN	**Pb**	**07 02 41.6**	**-1.3**
PZAR	**Pazar-Rize**	**2.35**	**324**	ePN	**Pb**	**07 02 41.1**	**-1.8**
PZAR	**Pazar-Rize**	**2.35**	**324**	ePn	**Pb**	**07 02 41.1**	**-1.8**
IMRD	**Marand**	**2.39**	**103**	eP	**Pb**	**07 02 44.0**	**+0.2**
IMRD	**Marand**	**2.39**	**103**	eP	**Pb**	**07 02 44.0**	**+0.2**
DIY	**Diyarbakir**	**2.40**	**235**	ePN	**Pb**	**07 02 42.4**	**-1.5**
DYBB	**Diyarbakir**	**2.43**	**237**	ePN	**Pb**	**07 02 42.4**	**-1.9**
VADZ	**Vardenis**	**2.49**	**68**	⇓iP	**Pb**	**07 02 46.0**	**+0.5**
VADZ				⇓S	**Sg**	**07 03 22.0**	**+1.2**
VADZ	**Vardenis**	**2.49**	**68**	⇓P	**Pb**	**07 02 46.0**	**+0.5**
MARD	**Mardin**	**2.50**	**218**	iP	**Pb**	**07 02 44.1**	**-1.4**
MARD				iS	**Sg**	**07 03 22.7**	**+1.7**
PTK	**Pertek**	**2.62**	**262**	ePN	**Pn**	**07 02 44.7**	**+1.7**
PTK	**Pertek**	**2.62**	**262**	ePn	**Pn**	**07 02 44.7**	**+1.7**
GUMT	**Gumushane**	**2.76**	**296**	ePN	**Pb**	**07 02 47.1**	**-2.9**
GUMT	**Gumushane**	**2.76**	**296**	ePn	**Pb**	**07 02 47.1**	**-2.9**
GRS	**Goris**	**2.80**	**85**	⇓P	**Pg**	**07 02 52.0**	**-2.5**
KELT	**Kelkit**	**2.81**	**289**	iP	**Pb**	**07 02 52.1**	**+1.2**
KELT	**Kelkit**	**2.81**	**289**	iP	**Pb**	**07 02 52.1**	**+1.2**
ITBZ	**Tabriz**	**2.88**	**110**	eP	**Pg**	**07 02 55.7**	**-0.2**
TBLG	**Delisi**	**2.88**	**32**	P	**Pg**	**07 02 53.4**	**-2.5**
TBLG	**Delisi**	**2.88**	**32**	P	**Pg**	**07 02 53.4**	**-2.5**
DGRG	**David-gareji**	**2.96**	**42**	P	**Pb**	**07 02 50.9**	**-2.5**
DGRG	**David-gareji**	**2.96**	**42**	P	**Pb**	**07 02 50.9**	**-2.5**
GANJ	**Ganja**	**3.08**	**63**	⇓P	**Pb**	**07 02 56.5**	**+1.1**
GANJ				⇑S	**Sg**	**07 03 37.9**	**-1.7**
DUS	**Dusheti**	**3.17**	**28**	P	**Pb**	**07 03 00.4**	**-1.2**
ILIC	**ilic-Erzincan**	**3.23**	**274**	ePN	Pn	07 02 53.9	+2.7
ILIC	**ilic-Erzincan**	**3.23**	**274**	ePn	Pn	07 02 53.9	+2.7
ONI	**Oni**	**3.34**	**9**	P	**Pg**	**07 03 04.4**	**-0.4**
MALT	**Malatya**	**3.50**	**255**	ePN	Pn	07 02 57.7	+2.8
MALT	**Malatya**	**3.50**	**255**	ePn	Pn	07 02 57.7	+2.8
IHRS	**Heris**	**3.51**	**105**	eP	**Pb**	**07 03 03.8**	**+0.9**
IBST	**Bostanabad**	**3.63**	**115**	eP	**Pb**	**07 03 06.3**	**+1.3**
ZKTA	**Zakatala**	**3.79**	**50**	⇓P	**Pb**	**07 03 09.5**	**+2.0**
SEKA	**Sheki**	**3.92**	**59**	⇑P	**Pn**	**07 03 03.0**	**+2.3**
SEKA	**Sheki**	**3.92**	**59**	P	**Pn**	**07 03 03.0**	**+2.3**
KBZ	**Khabaz**	**4.44**	**2**	Pn	**Pb**	**07 03 16.4**	**-2.1**
	0.1nm,0.3s,baz=216,slow=5.3,SNR=4.7						
SVSK	**Karacayir**	**4.47**	**280**	ePN	Pn	07 03 11.4	+3.3
SVSK	**Karacayir**	**4.47**	**280**	ePn	Pn	07 03 11.4	+3.3
BRTR	**Keskin Array B**	**7.04**	**276**	Pn	Pb	07 03 54.6	-8.3
	0.1nm,0.3s,baz=94,slow=13,SNR=3.4						
GERES	**GERESS Array B**	**22.82**	**304**	P	P	07 07 08.3	+4.9
	0.9nm,0.9s,baz=96,slow=7.3,SNR=5.0						
FINES	**FINESS Array B**	**24.44**	**341**	P	P	07 07 22.9	+4.0
	1.6nm,0.8s,baz=223,slow=13,SNR=2.8						
FINES				LR	LR	07 17 47.0	
	comp=Z,30nm,18.2s,baz=90,slow=38						
MJAR	**Matsushiro Arr**	**71.69**	**58**	LR	LR	07 49 59.9	
	comp=Z,99nm,18.0s,baz=230,slow=40						

*MOS **21** 07:09:20.0±0.8,36.28N×70.34E,h195km,mb4.3/17,Error ellipse: s-maj=11.7km s-min=5.2km az=83.4*
*IDC **21** 07:09:20.2±3.3,36.17N×70.39E,h186km±29km,mb3.7/17, mb1 3.8/20,mb1mx3.5/48,mbtmp4.2/20,MS2.7/1, Ms1 2.7/1,ms1mx2.3/35,Error ellipse: s-maj=19.8km s-min=12.5km az=8.0*
*ISCJB **21** 07:09:22.0±0.3,36.47N±0.03×70.35E±0.04,h204km, mb4.0/23,Error ellipse: s-maj=5.2km s-min=2.9km az=147.3*
*BJI **21** 07:09:25.2,36.80N×70.40E,h218km,mB4.6/1,mb4.2/1*
*NNC **21** 07:09:27.2±2.9,36.85N×70.39E,h204km±30km,mb3.6, mpv4.8,Error ellipse: s-maj=26.6km s-min=16.4km az=25.0*
ISC 21 07:09:22.9±0.4,36.48N±0.05×70.41E±0.05,h204km,n116, σ1.58/125,mb4.1/23,9C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.92**	**155**	⇑P	**Pn**	**07 10 13.6**	**+1.6**
CEP				S	**S**	**07 10 51.0**	**+1.2**
CHCP	**Chirah Chowk**	**3.66**	**139**	⇑P	**Pn**	**07 10 22.8**	**+2.1**
SARP	**Sargodha**	**4.92**	**157**	P	**Pn**	**07 10 37.2**	**+0.8**
KSH	**Kashi**	**5.34**	**54**	P	Pn	07 10 38.3	-3.5
KSH				S	S	07 11 32.6	-11
KSH				smax	smax		
	comp=N,190nm,0.5s						
KSH				smax	smax		
	comp=E,170nm,0.5s						
DLH	**Dalhousie**	**6.04**	**129**	eP9	**Pn**	**07 10 53.0**	**+2.0**
DLH				eS	**S**	**07 11 59.0**	**-1.3**
AML	**Almayashu**	**6.19**	**23**	P	**Pn**	**07 10 53.4**	**+0.4**
	SNR=378						
AML	**Almayashu**	**6.19**	**23**	iPN	**Pn**	**07 10 53.4**	**+0.4**
DHRM	**DHARAMSHALA**	**6.45**	**129**	eP	**Pn**	**07 10 56.6**	**+0.4**
DHRM				eS	**S**	**07 12 07.2**	**-2.7**
DHRM				AML	AML	07 12 09.6	
	comp=E,1μm,0.4s						
DHRM				AML	AML	07 12 10.3	
	comp=N,563nm,0.6s						
UCH	**Uchtor**	**6.56**	**28**	P	**Pn**	**07 10 58.4**	**+0.5**
	SNR=128						
UCH	**Uchtor**	**6.56**	**28**	iPN	**Pn**	**07 10 58.3**	**+0.5**
KK31	**Karatay Array**	**6.62**	**1**	⇓P	**Pn**	**07 10 57.9**	**-0.2**
	comp=N,15nm,0.3s,baz=175,slow=11,SNR=705						
KK31				⇑S	**S**	**07 12 09.4**	**-4.1**
	comp=N,9.2nm,0.3s,baz=197,slow=24,SNR=5.1						
KK31	**Karatay Array**	**6.62**	**1**	PN	**Pn**	**07 10 57.9**	**-0.2**
KK31				pmax	pmax		
	comp=Z,27nm,0.2s						
EKS2	**Erkin-Say**	**6.70**	**22**	P	**Pn**	**07 11 00.1**	**+0.7**
	SNR=64						
EKS2	**Erkin-Say**	**6.70**	**22**	iPN	**Pn**	**07 11 00.0**	**+0.7**
KZA	**Kyzart**	**6.74**	**32**	P	**Pn**	**07 11 00.3**	**+0.2**
	SNR=27						
KZA	**Kyzart**	**6.74**	**32**	iPN	**Pn**	**07 11 00.2**	**+0.2**
AAK	**Ala-Archa**	**6.91**	**26**	⇑P	**Pn**	**07 11 02.8**	**+0.7**
	comp=Z,34nm,0.6s						
AAK				⇑S	**S**	**07 12 18.1**	**-2.5**
	comp=Z,132nm,0.7s						
AAK	**Ala-Archa**	**6.91**	**26**	P	**Pn**	**07 11 02.7**	**+0.7**
	SNR=46						
AAK	**Ala-Archa**	**6.91**	**26**	iPN	**Pn**	**07 11 02.6**	**+0.6**
AAK	**Ala-Archa**	**6.91**	**26**	P	**Pn**	**07 11 02.8**	**+0.7**
	comp=Z,12nm,0.3s,baz=195,slow=9.0,SNR=128						
AAK				S	**S**	**07 12 17.7**	**-3.0**
	comp=Z,7.3nm,0.3s,baz=348,slow=21,SNR=19						
KBK	**Karagaybulak**	**7.10**	**28**	P	**Pn**	**07 11 05.6**	**+1.1**

SNR=29
BHK Bhakra 7.10 134 eS S 07 12 19.2 -5.9
FRU Bishkek 7.13 26 ePN Pn 07 11 05.0 +0.3
FRU pmax pmax
comp=Z,42nm,1.2s
ULHL Ulahol 7.32 36 P Pn 07 11 08.2 +0.8
SNR=16
ULHL Ulahol 7.32 36 i PN Pn 07 11 08.2 +0.8
CHMS Chumysh 7.32 26 P Pn 07 11 08.2 +1.0
SNR=17
CHMS Chumysh 7.32 26 i PN Pn 07 11 08.2 +1.0
SDNR Sundarnagar 7.37 130 eP Pn 07 11 09.0 +1.0
SDNR eS S 07 12 26.0 -5.5
USP Ospenovka 7.47 24 P Pn 07 11 09.7 +0.5
SNR=39
USP Ospenovka 7.47 24 i PN Pn 07 11 09.7 +0.5
TKM2 Tokmak 2 7.58 30 ⇓P Pn 07 11 11.2 +0.6
comp=Z,74nm,0.5s
TKM2 Tokmak 2 7.58 30 P Pn 07 11 11.4 +0.6
SNR=65
TKM2 Tokmak 2 7.58 30 i PN Pn 07 11 11.3 +0.6
SMLA Simla 7.75 132 eP Pn 07 11 13.3 +0.4
SMLA eS S 07 12 36.1 -4.4
SMLA AML AML 07 12 40.0
comp=E,296nm,0.1s
SMLA AML AML 07 12 41.6
comp=N,266nm,0.2s
IMYA Miami 8.31 272 eP Pn 07 11 19.9 -0.4
IPAY Payeh 9.19 273 eP Pn 07 11 29.4 -2.4
IEMG Emamgholi 9.46 279 eP Pn 07 11 30.4 -4.8
KHET Khetri 9.54 150 eP Pn 07 11 34.6 -1.6
KHET eS S 07 13 14.8 -8.5
KHET AML AML 07 13 21.4
comp=E,573nm,0.2s
KHET AML AML 07 13 21.6
comp=N,574nm,0.2s
NDI New Delhi 9.66 142 eP Pn 07 11 39.0 +1.3
NDI eS S 07 13 19.0 -7.1
PDGK Podgornoye 9.77 43 ⇓P Pn 07 11 38.6 -0.2
KUDL Kundal 9.77 147 eP Pn 07 11 38.0 -1.1
KUDL eS S 07 13 19.8 -8.9
KUDL AML AML 07 13 24.0
comp=E,85nm,0.6s
KUDL AML AML 07 13 24.9
comp=N,64nm,0.4s
SONA Sohna 9.96 144 eP Pn 07 11 41.4 -0.1
SONA eS S 07 13 24.2 -8.8
SONA AML AML 07 13 28.0
comp=N,103nm,0.5s
SONA AML AML 07 13 28.7
comp=E,133nm,0.3s
ISFR Sfrayin 9.97 277 eP Pn 07 11 41.2 -0.7
AJM Ajmer 10.60 159 eP4 Pn 07 11 49.0 -0.9
AJM eS4 S 07 13 41.0 -7.7
AGRA Agra 11.22 143 eS S 07 13 53.9 -8.8
AGRA AML AML 07 13 59.0
comp=E,98nm,0.6s
AGRA AML AML 07 13 59.0
comp=N,150nm,0.3s
OTUK Ortayu 11.84 6 ⇑P Pn 07 12 04.0 -1.6
PYUN Piuthan 13.52 125 eP Pn 07 12 26.5 -0.5
comp=N,75nm,0.4s
MK31 Makanchi Array 13.59 37 P Pn 07 12 27.9 +0.4
comp=N,7.4nm,0.8s,baz=217,slow=11,SNR=67
MK31 Makanchi Array 13.59 37 i P Pn 07 12 27.9 +0.4
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MKAR Makanchi Array 13.59 37 P Pn 07 12 27.9 +0.4
comp=Z,0.9nm,0.3s,baz=186,slow=8.8,SNR=34
MKAR LR LR 07 18 41.5
comp=Z,35nm,20.0s,baz=90,slow=40
DANN Dangsing 13.88 122 eP Pn 07 12 31.8 +0.3
comp=Z,42nm,0.6s
KOLN Koldanda 14.14 124 eP Pn 07 12 34.8 +0.1
comp=Z,8.9nm,0.3s
BHPL Bhopal 14.52 153 eP P 07 12 42.6 +2.3
BHPL ex x 07 15 15.3
GKN Gorkha 14.70 121 eP P 07 12 42.3 -0.1
comp=Z,37nm,0.4s
AB31 Akbulak array 14.88 332 ⇑P Pn 07 12 42.3 -0.9
comp=Z,5.9nm,0.5s,baz=148,slow=12,SNR=266
AB31 Akbulak array 14.88 332 eP Pn 07 12 42.3 -0.9
AB31 eS S 07 15 23.1 -4.9
AB31 pmax pmax
comp=Z,6.0nm,0.5s
AB31 smax smax
comp=Z,2.0nm,0.7s
DMN Daman 15.27 121 eP P 07 12 49.2 +0.4
comp=Z,38nm,0.6s
KKN Kakani 15.28 120 eP P 07 12 49.0 +0.2
comp=Z,50nm,0.5s
PKIN Phulchoki 15.49 121 eP P 07 12 52.2 +1.0
comp=Z,48nm,0.3s
PKI Pulchoki 15.50 121 eP P 07 12 52.4 +1.0
comp=Z,88nm,0.5s
GUN Gumba 15.62 119 eP Pn 07 12 53.8 +0.9
comp=Z,67nm,0.6s
JIRN Jiri 15.99 119 eP P 07 12 58.2 +0.8
comp=Z,131nm,0.6s
BVA0 Borovoye Array 16.55 360 P Pn 07 13 03.8 +0.5
comp=Z,5.4nm,0.8s,baz=151,slow=8.2,SNR=36
BVA0 Borovoye Array 16.55 360 eP Pn 07 13 03.8 +0.5
BVA0 pmax pmax
comp=Z,5.0nm,0.9s
AKTO Aktyubinsk 16.56 331 ⇑P Pn 07 13 03.5 -0.1
comp=Z,30nm,0.9s
AKTO Aktyubinsk 16.56 331 P Pn 07 13 03.8 +0.3
AKTO pmax pmax
comp=Z,30nm,0.9s
AKTO Aktyubinsk 16.56 331 P Pn 07 13 03.8 +0.3
comp=Z,1.7nm,0.3s,baz=142,slow=10,SNR=83
AKTO S S 07 15 59.9 -5.3
comp=Z,0.1nm,0.3s,baz=71,slow=13,SNR=1.1
BRVK Borovoye 16.58 360 ⇓P Pn 07 13 03.9 +0.2
comp=Z,11nm,0.7s
BRVK Borovoye 16.58 360c iP P 07 13 03.1 +0.5
BRVK pmax pmax
comp=Z,13nm,1.2s
RAMN Ramite 16.72 120 eP Pn 07 13 06.1 +0.2
comp=Z,55nm,0.6s
TAPN Taplejung 17.26 117 eP Pn 07 13 12.6 +0.2
comp=Z,28nm,0.6s
ZALV Zalesovo Beam 20.14 25 P P 07 13 42.2 +1.1
ZALV pmax pmax
comp=Z,7.0nm,0.3s
ZALV Zalesovo Beam 20.14 25 P P 07 13 42.2 +1.1
comp=Z,7.4nm,0.3s,baz=218,slow=12,SNR=20
NVS Novosibirsk 20.38 22 eP P 07 13 44.7 +1.0
GNI Garni 20.45 288 eP Pn 07 13 47.8 -2.3
GNI pmax pmax
comp=Z,23nm,1.3s
SHL Shillong 21.33 115 ex P 07 13 55.5 +1.2
SVE Sverdlovsk 21.39 345 eP P 07 13 55.9 +1.6
SVE pmax pmax
comp=Z,11nm,1.0s
ARU Arti 21.50 342d iP P 07 13 56.3 +0.8
ARU 07 14 29.9
ARU S S 07 17 41.9 +1.8
ARU pmax pmax
comp=Z,24nm,1.2s
KBZ Khabaz 22.18 298 P P 07 14 02.4 +0.1
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 22.18 298 P P 07 14 02.4 +0.1
comp=Z,2.7nm,0.9s,baz=126,slow=7.6,SNR=5.4
SONM Songino Array 28.74 55 P P 07 15 03.2 +1.9
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 28.74 55 P P 07 15 03.2 +1.9
comp=Z,0.6nm,0.5s,baz=272,slow=9.0,SNR=8.4
BRTR Keskin Array B 28.98 288 P P 07 15 04.9 +1.3
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 28.98 288 P P 07 15 04.8 +1.3
comp=Z,0.9nm,0.6s,baz=105,slow=9.9,SNR=6.6
PRGR Permogore 29.59 336 eP P 07 15 08.5 0.0
PRGR pmax pmax
comp=Z,8.0nm,0.6s
OBN Obninsk 29.64 320⇓eP P 07 15 10.2 +1.2
OBN pmax pmax
comp=Z,39nm,2.2s
AKASG Malin Array Be 32.59 309 P P 07 15 35.5 +0.6
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 32.59 309 P P 07 15 35.5 +0.6
comp=Z,1.9nm,0.5s,baz=82,slow=7.2,SNR=15
AKASG pP pP 07 16 22.6 +6.1
comp=Z,0.8nm,0.5s,baz=83,slow=7.2,SNR=3.6
JOF Joensuu 35.65 330 eP P 07 16 01.0 0.0
JOF pmax pmax
comp=Z,10.0nm,0.4s
JOF Joensuu 35.65 330 ep P 07 16 01.0 0.0
comp=Z,9.5nm,0.4s
FINES FINESS Array B 37.23 326 P P 07 16 15.6 +1.2
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 37.23 326 P P 07 16 15.6 +1.2
comp=Z,5.6nm,0.7s,baz=120,slow=9.9,SNR=33
KAF Kangasniemi 37.38 327 eP P 07 16 16.2 +0.5
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 37.38 327 ep P 07 16 16.2 +0.5
comp=Z,1.8nm,0.4s,baz=112,slow=8.5
KEV Kevo 40.65 338 eP P 07 16 43.1 +0.6
KEV pmax pmax
comp=Z,5.0nm,0.4s
KEV Kevo 40.65 338 ep P 07 16 43.1 +0.6
comp=Z,5.3nm,0.4s
ARCES ARCESS Array B 40.98 338 P P 07 16 46.8 +1.4
ARCES pmax pmax
comp=Z,8.0nm,0.6s
ARCES ARCESS Array B 40.98 338 P P 07 16 46.8 +1.4
comp=Z,8.4nm,0.6s,baz=111,slow=7.8,SNR=58
HFS Hagfors 42.79 322 P P 07 17 00.7 +0.6
HFS pmax pmax
comp=Z,3.0nm,0.4s
HFS Hagfors 42.79 322 P P 07 17 00.7 +0.6
comp=Z,2.5nm,0.4s,baz=98,slow=11,SNR=20
NB2 NORSAR Subarra 44.11 323 P P 07 17 11.1 +0.5
comp=Z,1.2nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 44.11 323 P P 07 17 11.2 +0.5
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 44.11 323 P P 07 17 11.2 +0.5
comp=Z,3.2nm,0.8s,baz=97,slow=7.8,SNR=9.4
SPITS Spitsbergen Ar 47.40 347 P P 07 17 38.3 +2.2
SPITS pmax pmax
comp=Z,6.0nm,0.7s
SPITS Spitsbergen Ar 47.40 347 P P 07 17 38.3 +2.2
comp=Z,5.6nm,0.7s,baz=124,slow=11,SNR=15
TORD Torodi Ar. Bea 65.24 268 P P 07 19 41.6 -1.2
comp=Z,1.0nm,0.4s,baz=49,slow=5.7,SNR=15
DBIC Dimbokro 74.22 267 P P 07 20 36.9 -0.8
DBIC pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 74.22 267 P P 07 20 36.9 -0.8
comp=Z,2.3nm,0.8s,baz=8.4,slow=5.6,SNR=3.9
ILAR Eielson Array 74.93 16 P P 07 20 41.5 +0.5
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 74.93 16 P P 07 20 41.5 +0.5
comp=Z,0.7nm,0.9s,baz=307,slow=3.7,SNR=8.3
YKA Yellowknife Ar 81.29 2 P P 07 21 16.7 +0.9
YKA *PP pP 07 22 07.8 +2.6
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 81.29 2 P P 07 21 16.7 +0.9
comp=Z,0.9nm,0.7s,baz=349,slow=5.3,SNR=22
YKA pP pP 07 22 07.8 +2.6
comp=Z,0.4nm,0.6s,baz=352,slow=5.3,SNR=5.3
WRA Warramunga Arr 82.39 122 P P 07 21 20.6 -1.6
comp=Z,0.4nm,0.6s,baz=316,slow=5.3,SNR=5.3
ASAR Alice Springs 84.64 124 P P 07 21 32.8 -0.9
comp=Z,0.3nm,0.6s,baz=303,slow=4.6,SNR=7.3
STKA Stephens Creek 95.16 126 P P 07 22 20.7 -2.2
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA Stephens Creek 95.16 126 P P 07 22 20.7 -2.2
comp=Z,1.8nm,0.7s,baz=309,slow=7.8,SNR=3.5

ISCJB 21 07:15:39.9±0.6, 11.76N±0.07×42.86E±0.07, h20km±8km, Error ellipse: s-maj=12.6km s-min=9.4km az=136.6
DHMR 21 07:15:39.9±0.7, 12.02N×42.79E, h4km±12km, ML3.4
ARO 21 07:15:41.0, 11.7N±0.4×42.9E±0.3, h6km, ML3.5
ISC 21 07:15:40.3±1.1, 11.67N±0.05×42.83E±0.05, h16km±7km, n13, σ1.08/17, 2D, Ethiopia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ATD Arta Tunnel 0.14 174 eP Pg 07 15 44.2 -0.1
ATD Arta Tunnel 0.14 174 eP Pg 07 15 44.2 -0.1
ATD eS Sg 07 15 46.8 -0.2
ARO Arta Observato 0.14 174 eP Pg 07 15 44.3 -0.1
ARO Arta Observato 0.14 174 eP Pg 07 15 44.3 -0.1
ARO eS Sg 07 15 47.0 0.0
TDD Tadjoura Ara 0.15 30 i P Pg 07 15 44.6 +0.2
SGH Sud-Ghoubbet 0.30 220 i P Pg 07 15 47.1 +0.3
ATA Atar 0.43 120 eP Pg 07 15 48.6 -0.4
OBO Obock 0.55 55 eP Pg 07 15 50.8 -0.4
GBR Grand-Bara 0.63 215 i P Pg 07 15 52.4 -0.3
MAOD Malaho 0.73 305 eP Pg 07 15 54.6 0.0
TRBA At Turbah 1.99 39⇓iP Pn 07 16 11.9 -1.7
TRBA i S Sn 07 16 37.0 -1.3
TRBA AML AML 07 16 40.9
comp=N,323nm,0.3s
UDYN Al 'Udayn 2.54 26⇓iP Pn 07 16 20.1 -0.9
UDYN i S Sn 07 16 50.6 -1.0
UDYN AML AML 07 17 01.9
comp=Z,392nm,0.4s
BDHA Al Bayda' 3.52 49 i P Pn 07 16 35.3 +0.8
BDHA i S Sn 07 17 19.2 +3.2
BDHA AML AML 07 17 33.5
comp=N,140nm,0.4s

SJA 21 07:21:03.6±0.7, 28.71S×68.67W, h110km±9km, ML3.9, MW3.3
IDC 21 07:21:03.4±2.8, 28.66S×68.60W, h96km±25km, mb3.6/3, mb1 3.7/6, mb1mx3.5/26, mbtmp3.8/6, MS3.1/1, Ms1 3.0/1, ms1mx2.2/16, Error ellipse: s-maj=36.5km s-min=19.7km az=110.0
ISCJB 21 07:21:04.0±0.8, 28.75S±0.07×68.6W±0.1, h124km±10km, mb3.6/3, Error ellipse: s-maj=17.1km s-min=6.3km az=34.9
ISC 21 07:21:04.4±1.3, 28.70S±0.08×68.68W±0.09, h109km±12km, n27, σ0.82/35, mb3.8/3, La Rioja Province

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AGUA GUANDACOL 0.80 168 eP Pn 07 21 23.7 +0.1
ACLC CERRO LA CRUZ 1.68 116 eP Pn 07 21 34.1 +0.7
ACLC eS Sn 07 21 55.5 0.0
AVFE Valle Fertil 2.23 152 eP Pn 07 21 40.8 +0.5
AVFE eS Sn 07 22 08.3 +0.5
AVFE IAML 07 22 09.7
comp=Z,1μm,0.7s
AMOG MOGNA 2.24 176 eP Pn 07 21 40.5 +0.1
AMOG eS Sn 07 22 07.8 -0.2
APLL PUNTA DE LOS L 2.52 132 eP Pn 07 21 44.5 +0.4
CYA Choya 2.55 85 i P Pn 07 21 45.0 +0.6
CYA eP Pn 07 21 45.0 +0.6
CYA eS Sn 07 22 14.7 -0.5
CYA IAML 07 22 16.6
comp=Z,510nm,0.5s
RTLL Cerro Villicun 2.62 176 eP Pn 07 21 45.9 +0.4
RTLL eS Sn 07 22 17.6 +0.6
SJA San Juan 2.82 178 i P Pn 07 21 48.6 +0.6
SJA i S Sn 07 22 21.7 +0.1
SJA IAML 07 22 25.5
comp=Z,332nm,0.2s
CFAA Coronel Fontan 2.92 172 P Pn 07 21 49.6 +0.3
comp=Z,5.5nm,0.3s,baz=357,slow=13,SNR=1652
CFAA S Sn 07 22 23.6 -0.3
comp=Z,8.6nm,0.3s,baz=339,slow=11,SNR=8.8
ACHE Chepes 3.02 145 eP Pn 07 21 51.1 +0.4
ACHE eP Pn 07 21 51.1 +0.4
RTLS Leoncito 3.13 190 eP Pn 07 21 53.0 +0.7
AUSP Uspallata 3.56 190 eP Pn 07 21 58.7 +0.6
ASAL Salagasta 3.88 182 eP Pn 07 22 02.7 +0.6
ARCO CERRO ARCO 4.13 183 eP Pn 07 22 06.0 +0.3
ARCO i S Sn 07 22 52.4 -0.7
ARCO IAML 07 23 00.3
comp=Z,75nm,0.3s
AAGR Agrelo 4.37 182 eP Pn 07 22 09.1 +0.3
SLA San Lorenzo 4.88 36 eP Pn 07 22 16.5 +0.8
CPUP Villa Florida 10.35 79 P Pn 07 23 27.4 -2.3
comp=Z,1.3nm,0.3s,baz=232,slow=13,SNR=9.2
PLCA Paso Flores 12.10 187 P Pn 07 23 50.5 -2.7
comp=Z,0.1nm,0.3s,baz=19,slow=17,SNR=3.6
SIV San Ignacio 14.47 31 P Pn 07 24 20.6 -3.4
comp=Z,0.2nm,0.3s,baz=240,slow=6.8,SNR=3.8
BDFB Brasilia 23.09 60 LR LR 07 35 57.5
comp=Z,44nm,19.2s,baz=22,slow=39
TXAR Lajitas Array 66.69 327 P P 07 31 44.6 +0.8
comp=Z,0.3nm,0.7s,baz=133,slow=7.3,SNR=4.0
TORD Torodi Ar. Bea 79.67 69 P P 07 33 00.6 +0.2
comp=Z,1.3nm,0.6s,baz=268,slow=4.7,SNR=8.6
YKA Yellowknife Ar 98.01 340 P P 07 34 27.3 -0.4
comp=Z,0.2nm,0.7s,baz=140,slow=4.6,SNR=6.7
ASAR Alice Springs 123.57 205 PKP PKPdf 07 39 49.0 -0.7
comp=Z,0.3nm,0.3s,baz=142,slow=1.9,SNR=5.7
WRA Warramunga Arr 126.77 207 PKP PKPdf 07 39 55.9 +0.1
comp=Z,0.4nm,0.4s,baz=168,slow=1.6,SNR=6.5
ZALV Zalesovo Beam 148.22 30 PKPbc PKPbc 07 40 38.0 +0.8
comp=Z,2.8nm,0.6s,baz=327,slow=2.5,SNR=3.6
MKAR Makanchi Array 151.03 44 PKPbc PKPbc 07 40 44.9 +0.4
comp=Z,1.9nm,0.6s,baz=291,slow=1.3,SNR=6.4

ISCJB 21 07:29:08.8±0.1, 42.64N±0.02×130.65E±0.02, h568km±2km, mb4.4/169, Error ellipse: s-maj=3.9km s-min=2.4km az=160.6
SKHL 21 07:29:08.8±0.6, 42.59N×130.80E, h578km±7km, mb4.9/5, msh4.7/2
MOS 21 07:29:08.0±0.9, 42.63N×130.76E, h567km, mb4.5/79, Error ellipse: s-maj=7.0km s-min=4.5km az=115.4
JMA 21 07:29:08.8±0.4, 42.46N×131.20E, h602km, M4.5
NEIC 21 07:29:09.1±0.2, 42.53N×130.68E, h570km±3km, mb4.5/73, Error ellipse: s-maj=5.2km s-min=3.0km az=168.0
KMA 21 07:29:09.9±1.9, 42.59N×130.82E, h565km±51km, Error ellipse: s-maj=93.1km s-min=63.7km az=119.0
IDC 21 07:29:09.2±0.4, 42.54N×130.71E, h573km±4km, mb3.8/27, mb1 4.0/31, mb1mx3.9/36, mbtmp4.8/31, Error ellipse: s-maj=8.7km s-min=7.7km az=129.0
BJI 21 07:29:10.2, 42.48N×130.50E, h567km, mB4.8/33, mb4.9/48
ISC 21 07:29:08.1±0.3, 42.50N±0.04×130.88E±0.04, h561km±3km, h560km:pP-P, n916, σ1.23/990, mb4.4/170, 229C-220D, Priamurye-Northeastern China border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VLA Vladivostok 0.97 50d iP P 07 30 18.3 +3.0
VLA i S S 07 31 13.8 +3.5
VLA Vladivostok 0.97 50 i P P 07 30 18.3 +3.0
GRTR Gornotajezhnoj 1.53 37⇓iP P 07 30 19.8 +2.9
GRTR i S S 07 31 16.1 +2.9
USRK Ussuriysk Arra 1.89 25 P P 07 30 20.6 +2.4
78nm,0.3s,baz=205,slow=3.8,SNR=1501
USRK S S 07 31 18.9 +3.3
2.8nm,0.3s,baz=217,slow=9.4,SNR=14
MDJ Mudanjiang 2.32 337 P P 07 30 22.8 +2.7
MDJ S S 07 31 21.9 +2.7
MDJ PcP PcP 07 36 38.9 +5.3
MDJ ScP ScP 07 39 14.3 +2.5
MDJ PcS PcS 07 40 06.5 +0.8
MDJ ScS ScS 07 42 47.8 +3.9
MDJ Mudanjiang 2.32 337 eP P 07 30 22.6 +2.5
CN2 Changchun 4.18 290 eP P 07 30 33.5 +1.5
CN2 eS S 07 31 38.5 -2.1
CN2 Changchun 4.18 290 eP P 07 30 33.5 +1.5
CN2 eS S 07 31 38.5 -2.1
KSSKC Sokcho 4.57 204 ⇓P P 07 30 37.6 +2.5
SNR=11
KSSKC ⇓S S 07 31 49.8 +3.7
SEHB SEOHWA 4.67 206 ⇓P P 07 30 38.6 +2.5
SNR=77
TEY Ternei 4.86 57⇓iP P 07 30 39.7 +2.4
TEY AMB AMB 07 30 40.1
26nm,0.5s
TEY AMB AMB 07 30 40.1
37nm,0.5s
TEY AMB AMB 07 30 40.1
69nm,0.5s
TEY eS S 07 31 52.9 +2.6
TEY A A 07 31 54.6
110nm,1.1s
TEY A A 07 31 54.6
55nm,1.1s
KSJMJ Jumunjin 4.89 200 ⇑P P 07 30 40.2 +2.5
SNR=20
KSIJA INJE 4.98 206 ⇓P P 07 30 41.2 +2.7
SNR=9.9
KSDGY Daegwallycong 5.09 200 P P 07 30 42.2 +2.7
SNR=39
KSCWO Cheorwon 5.10 211 P P 07 30 42.0 +2.5
SNR=14
KSCHC Chuncheon 5.26 207 P P 07 30 43.4 +2.5
SNR=30
YNCB YEONCHEON 5.38 215 P P 07 30 44.1 +2.2
SNR=82
YNCB ⇑S S 07 32 01.5 +3.1
KSRS Korea Array 5.52 205 P P 07 30 45.8 +2.7
KSRS S S 07 32 03.9 +3.2
KSRS pmax pmax
comp=Z,30nm,0.3s
KSRS Korea Array 5.52 205 P P 07 30 45.8 +2.7
comp=Z,30nm,0.3s,baz=18,slow=8.8,SNR=482
KSRS S S 07 32 03.9 +3.2
baz=21,slow=14,SNR=6.4
KSWJU Wonju 5.53 204 ⇓P P 07 30 45.7 +2.5
SNR=6.6
KSAR Wonju Array Be 5.55 205 P P 07 30 45.8 +2.5
KSAR S S 07 32 03.9 +2.8
KSAR Wonju Array Be 5.55 205 P P 07 30 45.8 +2.5
KSAR S S 07 32 03.9 +2.8
KSMUS Musan 5.58 216 ⇑P P 07 30 45.9 +2.3
SNR=13
KSGAH Ganghwa 5.87 217 ⇓P P 07 30 48.5 +2.4
SNR=44
INCN Inchon 5.97 214 eP P 07 30 48.7 +1.6
JOSM Okushiri--Mats 6.39 91 P P 07 30 51.4 +0.7
HABR Khabarovsk 6.66 25d eP P 07 30 53.6 +0.6
HABR eS S 07 32 20.3 +1.2
HABR pmax pmax
HABR pmax pmax
comp=N,18nm,0.7s
HABR pmax pmax
comp=E,11nm,0.7s
HABR pmax pmax
comp=Z,58nm,0.7s
HABR MLR MLR
comp=Z,41nm,18.0s
HABR Khabarovsk 6.66 25 eP P 07 30 53.6 +0.6
TJN Taejon 6.69 205 i P P 07 30 56.0 +2.4
KLR Kul'dur 6.76 5⇑iP P 07 30 52.2 -1.8
KLR eS S 07 32 18.7 -2.3
KLR pmax pmax
comp=E,28nm,1.0s
KLR pmax pmax
comp=Z,60nm,1.1s
KLR Kul'dur 6.76 5 i P P 07 30 52.2 -1.8
JKB Kayabe 7.56 91 P P 07 31 01.7 -0.1
JKB S S 07 32 33.2 -1.9
JOT Ohata 7.66 95 P P 07 31 02.3 -0.5
JOT S S 07 32 35.6 -1.2
JHS Saijyo 7.69 166 P P 07 31 05.1 +1.9
DL2 Dalian 7.89 246 P P 07 31 06.1 +1.1
DL2 S S 07 32 42.1 +1.2
DL2 pmax pmax
comp=Z,89nm,0.7s
DL2 pmax pmax
comp=Z,110nm,4.4s
JHR Hokuryu 8.03 77 P P 07 31 07.1 +0.8
MAJO Matsushiro 8.21 134d iP P 07 31 08.3 0.0
MAJO Matsushiro 8.21 134 eP P 07 31 08.4 +0.1
MAJO eS S 07 32 47.3 +0.5
MAT Matsushiro 8.21 134 P P 07 31 08.2 -0.1
MAT S S 07 32 46.4 -0.4
MJAR Matsushiro Arr 8.21 134 P P 07 31 08.8 +0.5
MJAR pmax pmax
comp=Z,5.0nm,0.3s
MJAR Matsushiro Arr 8.21 134 P P 07 31 08.8 +0.5
comp=Z,5.3nm,0.3s,baz=312,slow=9.9,SNR=100
JWK2 Keihoku 8.44 67 P P 07 31 12.0 +1.7
JMK Ichinoseki 8.61 118 P P 07 31 11.3 -0.9
JMK S S 07 32 49.8 -4.2
ASAJ Asahikawa 8.70 75 P P 07 31 13.7 +0.8
ASAJ S S 07 32 53.0 -2.5

ASAJ pmax pmax
comp=Z,23nm,0.3s
ASAJ smax smax
comp=N,2.0nm,0.3s
ASAJ Asahikawa 8.70 75 P P 07 31 13.7 +0.8
comp=N,23nm,0.3s,baz=259,slow=5.3,SNR=56
ASAJ S S 07 32 53.0 -2.5
comp=N,1.9nm,0.3s,baz=137,slow=31,SNR=8.9
JRY Ryogami san 8.97 133 P P 07 31 17.0 +1.1
JRY S S 07 32 57.4 -3.3
GRNR Gornyy 9.11 23 P P 07 31 18.0 +1.1
ERM Erimo 9.12 89c iP P 07 31 17.8 +0.6
ERM pmax pmax
comp=Z,105nm,0.5s
ERM Erimo 9.12 89 iP P 07 31 17.8 +0.6
ERM Erimo 9.12 89 eP P 07 31 17.5 +0.3
JCH Churui 9.22 85 P P 07 31 17.0 -1.1
JCH S S 07 33 00.3 -4.7
JIE Ise 9.29 149 P P 07 31 19.6 +0.5
JIE S S 07 33 04.2 -2.3
JNU Nakatsue 9.36 180 P P 07 31 21.6 +1.7
comp=Z,4.7nm,0.3s,baz=23,slow=5.3,SNR=35
YSS Yuzh-Sakhalins 9.55 58 eP P 07 31 22.0 +0.6
YSS eS S 07 33 10.0 -1.1
YSS pmax pmax
comp=Z,60nm,0.7s
YSS smax smax
comp=N,100nm,1.5s
YSS Yuzh-Sakhalins 9.55 58 eP P 07 31 22.0 +0.6
YSS AMB AMB 07 31 25.4
comp=N,60nm,0.7s
YSS erx rx 07 32 37.0
YSS eS S 07 33 10.0 -1.1
YSS A A 07 33 13.0
comp=N,100nm,1.5s
YSS Yuzh-Sakhalins 9.55 58 eP P 07 31 22.4 +0.9
JTKR Abashiri--Toko 9.63 77 P P 07 31 22.8 +0.6
JOD2 Odawara 2 9.64 136 P P 07 31 21.9 -0.8
JOD2 S S 07 33 08.5 -4.6
JWZ Kozaga 9.73 155 P P 07 31 23.4 -0.1
JTO Tosashimizu 9.74 170 P P 07 31 24.6 +1.0
TTO1 TONANKAI O.B.S 10.00 150 P P 07 31 26.8 +0.8
UGL Uglegorsk 10.21 46 eP P 07 31 28.0 0.0
UGL AMB AMB 07 31 31.0
comp=N,60nm,0.8s
HIA Hailar 10.30 315 eP P 07 31 29.4 +0.4
HIA pmax pmax
comp=Z,58nm,0.6s
HIA Hailar 10.30 315 eP P 07 31 29.4 +0.4
HIA Hailar 10.30 315 eP P 07 31 29.4 +0.4
comp=Z,58nm,0.6s
EKMR Ekimchan 10.67 7⇓iP P 07 31 32.1 -0.6
EKMR AMB AMB 07 31 33.2
comp=Z,11nm,0.5s
JSJ Shimokoshiki 10.84 185 P P 07 31 36.1 +1.3
NEM2 Nemuro 2 10.94 80 P P 07 31 35.3 -0.3
NEM2 S S 07 33 31.7 -5.2
YUK Yuzh-Kuril'sk 11.04 77 eP P 07 31 38.1 +1.5
YUK Yuzh-Kuril'sk 11.04 77 eP P 07 31 38.1 +1.5
BSO1 Boso 1 11.12 131 P P 07 31 36.3 -0.7
BSO1 S S 07 33 34.6 -5.0
BJI Beijing 11.34 262 P P 07 31 39.5 -0.3
BJI S S 07 33 41.3 -3.2
BJI ScS ScS 07 42 56.6 +1.3
BJI pmax pmax
comp=Z,13nm,0.6s
BJI pmax pmax
comp=Z,110nm,4.0s
ZEA Zeya 11.51 349 eP P 07 31 41.5 +0.3
ZEA AMB AMB 07 31 42.4
comp=Z,40nm,0.7s
TYV Tymovskoe 11.63 40 eP P 07 31 42.0 -0.5
TYV AMB AMB 07 31 47.5
comp=Z,8.0nm,0.6s
KROS Kirovskiy 12.22 349⇓iP P 07 31 47.3 -1.3
KROS AMB AMB 07 31 47.7
comp=Z,15nm,0.4s
BMKR Bomnak 12.30 354⇓iP P 07 31 47.8 -1.6
BMKR AMB AMB 07 31 48.2
comp=Z,12nm,0.5s
TIA Tai'an 12.35 244 ⇓P P 07 31 50.6 +0.3
TIA pmax pmax
comp=Z,20nm,0.8s
NKL Nikolayevsk 12.52 28 eP P 07 31 52.5 +0.9
HHC Hu-ho-hao-te 14.53 270 eP P 07 32 11.1 -1.6
HHC sP sP 07 34 09.8
HHC S S 07 34 36.3 -8.2
HHC pmax pmax
comp=Z,42nm,0.9s
HHC pmax pmax
comp=Z,310nm,5.3s
JOW Kunigami 15.77 189 P P 07 32 24.4 -0.8
comp=Z,0.1nm,0.3s,baz=131,slow=24,SNR=6.4
JOW S S 07 34 59.3 -6.7
comp=Z,0.1nm,0.3s,baz=116,slow=28,SNR=5.9
ULN Ulaanbaatar 17.60 296d iP P 07 32 42.5 +0.8
ULN pmax pmax
comp=Z,105nm,1.2s
ULN Ulaanbaatar 17.60 296 iP P 07 32 42.5 +0.8
ULN Ulaanbaatar 17.60 296 eP P 07 32 42.6 +0.8
comp=Z,74nm,1.0s
WHN Wuhan 17.82 233 P P 07 32 44.3 +0.5
WHN S S 07 35 37.3 -2.0
SONM Songino Array 18.04 296 P P 07 32 46.6 +0.9
comp=Z,8.6nm,0.3s,baz=98,slow=9.3,SNR=147
SONM ScP ScP 07 39 29.5 -2.4
comp=Z,0.2nm,0.3s,baz=126,slow=13,SNR=2.5
BOD Bodaibo 18.68 331⇓iP P 07 32 50.6 -0.6
BOD e 07 35 50.1
BOD pmax pmax
comp=Z,23nm,1.1s
XAN Xi'an 19.16 251 P P 07 32 55.5 -0.5
XAN pmax pmax
comp=Z,6.0nm,0.6s
YAK Yakutsk 19.58 358 eP P 07 32 58.0 -1.3
YAK eS S 07 36 02.6 -4.2
YAK pmax pmax
comp=Z,23nm,1.0s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax smax
comp=N,39nm,1.3s
YAK smax smax
comp=E,66nm,1.5s
YAK Yakutsk 19.58 358 eP P 07 32 58.0 -1.3
ZAK Zakamensk 20.50 302 eP P 07 33 08.0 0.0
ZAK pmax pmax
comp=Z,4.0nm,1.1s
TLY Talaya 20.59 306⇓eP P 07 33 09.6 +0.9
TLY pmax pmax
comp=Z,48nm,0.8s
TLY Talaya 20.59 306 eP P 07 33 09.6 +0.9
TLY Talaya 20.59 306 eP P 07 33 09.4 +0.7
comp=Z,48nm,0.8s
PEA0B Petropavlovsk- 20.79 50 P P 07 33 11.1 +0.7
PETK Petropavlovsk- 20.79 50 P P 07 33 10.8 +0.4
PETK pmax pmax
comp=Z,2.0nm,0.6s
PETK Petropavlovsk- 20.79 50 P P 07 33 10.8 +0.4
comp=Z,2.3nm,0.6s,baz=231,slow=7.1,SNR=10
ENH Enshi 21.04 242 eP P 07 33 12.4 -0.6
comp=Z,7.6nm,0.4s
PET Petropavlovsk 21.30 51⇑eP P 07 33 15.5 +0.5
PET Petropavlovsk 21.30 51 eP P 07 33 15.5 +0.5
LZH Lanzhou 21.83 262 eP P 07 33 21.0 +0.8
LZH sP sP 07 35 52.8 +5.6
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,95nm,4.5s
MOY Mondy 22.19 305 eP P 07 33 23.7 +0.6
GTA Gaotai 23.60 273 P P 07 33 36.4 +0.5
GTA sP sP 07 36 03.6 -2.9
GTA S S 07 37 12.5 +1.3
GTA ScS ScS 07 43 31.3 -2.1
GTA pmax pmax
comp=Z,41nm,0.8s
GTA pmax pmax
comp=Z,46nm,6.7s
SEY Seymchan 24.04 24 P P 07 33 40.5 +1.3
comp=Z,2.5nm,0.4s,baz=222,slow=7.8,SNR=14
SEY ScP ScP 07 39 44.5 -1.9

comp=Z,4.3nm,0.6s,baz=208,slow=3.2,SNR=17
CD2 Chengdu 24.52 251 P P 07 33 43.9 -0.2
CD2 sP sP 07 36 14.3 -2.1
CD2 PcP PcP 07 37 04.1 +1.5
CD2 S S 07 37 25.8 +0.1
CD2 PcS PcS 07 40 43.3 0.0
CD2 ScS ScS 07 43 37.8 +0.5
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,140nm,6.2s
GYA Guiyang 25.45 239⇑iP P 07 33 51.3 -1.1
GYA sP sP 07 36 24.8 -1.7
GYA PcP PcP 07 37 07.0 +2.1
GYA ScP ScP 07 39 55.6 +4.4
GYA PcS PcS 07 40 47.4 +1.0
GYA ScS ScS 07 43 42.0 +0.5
GYA pmax pmax
comp=Z,20nm,0.8s
KRAR Krasnoyarsk 27.85 312 eP P 07 34 13.2 +0.3
KRAR pmax pmax
comp=Z,20nm,1.4s
KMI Kunming 28.91 242 ⇓P P 07 34 22.6 -0.2
KMI S S 07 38 39.6 +5.0
KMI pmax pmax
comp=Z,24nm,0.5s
KMI pmax pmax
comp=Z,56nm,3.1s
TIXI Tiksi 29.25 359⇓iP P 07 34 24.2 -0.6
TIXI pmax pmax
comp=Z,6.0nm,1.3s
TIXI Tiksi 29.25 359 eP P 07 34 24.2 -0.6
comp=Z,3.4nm,0.5s
QIZ Qiongzhong 29.40 224 P P 07 34 28.4 +1.5
QIZ sP sP 07 37 02.8 -0.5
QIZ S S 07 38 44.0 +2.1
QIZ pmax pmax
comp=Z,130nm,3.5s
FX1 Attu Island--F 29.89 55 P P 07 34 32.4 +1.8
FX1 pmax pmax
comp=Z,19nm,0.4s
FX1 Attu Island--F 29.89 55 P P 07 34 32.4 +1.8
comp=Z,19nm,0.4s,baz=318,slow=3.7,SNR=69
WMQ Urumqi 31.27 287 P P 07 34 43.3 +0.6
WMQ S S 07 39 11.8 +1.6
WMQ PcS PcS 07 41 06.3 +1.8
WMQ pmax pmax
comp=Z,25nm,0.5s
WMQ pmax pmax
comp=Z,110nm,5.8s
BILL Bilibino 31.74 24ceP P 07 34 47.1 +0.9
BILL S S 07 39 19.0 +2.4
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL smax smax
comp=N,5.0nm,0.7s
BILL Bilibino 31.74 24 eP P 07 34 47.1 +0.9
BILL Bilibino 31.74 24 eP P 07 34 46.0 -0.3
comp=N,7.2nm,0.7s
ZALV Zalesovo Beam 32.20 307 P P 07 34 49.6 -0.7
comp=N,4.9nm,0.5s,baz=100,slow=7.7,SNR=25
ZALV ScP ScP 07 40 09.9 -2.2
comp=N,6.1nm,0.6s,baz=97,slow=3.4,SNR=8.5
NVS Novosibirsk 33.15 309 eP P 07 34 57.7 -0.6
NVS Novosibirsk 33.15 309 eP P 07 34 57.7 -0.6
LSA Lhasa 34.24 261 eP P 07 35 09.3 +0.9
LSA Lhasa 34.24 261 eP P 07 35 09.4 +1.0
LSA pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 34.24 261 eP P 07 35 09.4 +1.0
comp=Z,14nm,0.6s
MK31 Makanchi Array 34.40 294 eP P 07 35 08.7 -0.2
MK31 e 07 37 27.3
MK31 Makanchi Array 34.40 294 eP P 07 35 08.7 -0.2
MK31 ePcP PcP 07 37 27.2 -0.9
MKAR Makanchi Array 34.40 294 P P 07 35 08.8 -0.2
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR Makanchi Array 34.40 294 P P 07 35 08.8 -0.2
comp=Z,15nm,0.7s,baz=86,slow=9.8,SNR=143
UBPT Khong Chiam 34.81 226 P P 07 35 13.8 +1.0
comp=Z,23nm,1.2s
CMAI Chiengmai2 34.99 240 P P 07 35 14.6 +0.2
comp=Z,29nm,0.7s
LOEI Loei 35.43 234 P P 07 35 15.7 -2.2
comp=Z,23nm,1.0s
LAMP Lampang 35.66 238 P P 07 35 20.3 +0.5
comp=Z,27nm,0.7s
CMMT Chiang Mai 35.88 239 P P 07 35 21.6 0.0
comp=Z,45nm,0.8s
CHTO Chiang Mai 35.88 239 eP P 07 35 21.6 0.0
CHTO pmax pmax
comp=Z,25nm,0.8s
CHTO Chiang Mai 35.88 239 P P 07 35 21.7 +0.1
comp=Z,154nm,0.8s
CHTO Chiang Mai 35.88 239 eP P 07 35 21.6 0.0
comp=Z,25nm,0.8s
SHL Shillong 36.09 255 eP P 07 35 24.0 +0.5
CMAR Chiang Mai Arr 36.14 238 P P 07 35 24.3 +0.5
CMAR 07 40 23.5
CMAR pmax pmax
comp=Z,6.0nm,0.5s
CMAR Chiang Mai Arr 36.14 238 P P 07 35 24.2 +0.5
comp=Z,5.5nm,0.5s,baz=29,slow=7.9,SNR=31
CMAR ScP S 07 40 23.5 -0.6
comp=Z,1.4nm,0.2s,baz=9.5,slow=3.0,SNR=6.0
KURK Kurchatov 36.16 302 eP P 07 35 23.0 -0.5
KURK pmax pmax
comp=Z,15nm,0.6s
KURK Kurchatov 36.16 302 eP P 07 35 22.9 -0.5
comp=Z,15nm,0.6s
PBKT Sadao Pong 36.34 234 P P 07 35 25.7 +0.4
comp=Z,17nm,0.8s
MHMT Maesariang 36.99 239 P P 07 35 31.8 +1.1
TAPN Taplejung 38.06 261 eP P 07 35 40.2 +0.5
comp=Z,156nm,0.4s
ODAN Odare 38.57 260 eP P 07 35 44.2 +0.4
comp=Z,54nm,0.4s
GAMB Gambell 38.75 37 eP P 07 35 45.4 +1.1
comp=Z,35nm,2.0s
JIRN Jiri 39.00 262 eP P 07 35 47.8 +0.4
comp=Z,96nm,0.5s
JIRN Jiri 39.00 262 eP P 07 35 47.8 +0.4
comp=Z,96nm,0.5s
GUN Gumba 39.08 263 eP P 07 35 48.1 +0.1
comp=Z,195nm,0.5s
GUN Gumba 39.08 263 eP P 07 35 48.1 +0.1
comp=Z,195nm,0.5s
RAMN Ramite 39.10 261 eP P 07 35 48.1 +0.1
comp=Z,156nm,0.7s
RAMN Ramite 39.10 261 eP P 07 35 48.1 +0.1
comp=Z,156nm,0.7s
KKN Kakani 39.59 263 eP P 07 35 51.9 -0.1
comp=Z,121nm,0.7s
KKN Kakani 39.59 263 eP P 07 35 51.9 -0.1
KKN Kakani 39.59 263 eP P 07 35 51.9 -0.1
comp=Z,121nm,0.7s
PKI Pulchoki 39.62 263 eP P 07 35 52.2 -0.1
comp=Z,97nm,0.6s
PKI Pulchoki 39.62 263 eP P 07 35 52.5 +0.2
PKI Pulchoki 39.62 263 eP P 07 35 52.5 +0.2
comp=Z,91nm,0.7s
PKIN Phulchoki 39.62 263 eP P 07 35 52.5 +0.2
comp=Z,91nm,0.7s
ULHL Ulahol 39.77 289 P P 07 35 53.1 0.0
SNR=9.7
ULHL Ulahol 39.77 289 iP P 07 35 53.1 0.0
DMN Daman 39.82 263 eP P 07 35 54.0 +0.2
comp=Z,52nm,0.4s
GKN Gorkha 39.95 264 eP P 07 35 54.5 -0.2
comp=Z,141nm,0.4s
TKM2 Tokmak 2 39.99 290 P P 07 35 55.5 +0.5
SNR=22
TKM2 Tokmak 2 39.99 290 eP P 07 35 55.5 +0.5
TKM2 Tokmak 2 39.99 290 eP P 07 35 55.5 +0.5
DANN Dangsing 40.40 265 eP P 07 35 59.0 +0.5
comp=Z,783nm,0.5s
DANN Dangsing 40.40 265 eP P 07 35 59.0 +0.5
comp=Z,783nm,0.5s
TNA Tin City 40.51 34 eP P 07 35 59.9 +1.5
comp=Z,17nm,0.9s
KZA Kyzart 40.52 289 P P 07 36 00.4 +1.0
SNR=11
KZA Kyzart 40.52 289 iP P 07 36 00.4 +1.0
KBK Karagaybulak 40.53 290 P P 07 35 59.5 +0.3
SNR=5.6

USP Ospenovka 40.64 291 P P 07 35 59.8 -0.1
SNR=14
USP Ospenovka 40.64 291 iP P 07 35 59.8 -0.1
KOLN Koldanda 40.84 265 eP P 07 36 02.1 +0.2
comp=Z,162nm,0.8s
KOLN Koldanda 40.84 265 eP P 07 36 02.1 +0.2
comp=Z,162nm,0.8s
BVA0 Borovoye Array 40.85 307 eP P 07 36 00.7 -0.6
BVA0 pmax pmax
comp=Z,8.0nm,0.2s
AAK Ala-Archa 40.85 290 P P 07 36 01.8 0.0
SNR=14
AAK Ala-Archa 40.85 290 P P 07 36 01.7 0.0
AAK pmax pmax
comp=Z,8.0nm,0.4s
AAK Ala-Archa 40.85 290 P P 07 36 01.7 0.0
comp=Z,7.8nm,0.4s,baz=105,slow=5.7,SNR=46
BRVK Borovoye 40.91 307 P P 07 36 01.3 -0.5
BRVK pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 40.91 307 eP P 07 36 01.2 -0.5
comp=Z,13nm,1.1s
KSH Kashi 40.93 285 eP P 07 36 06.0 +3.6
KSH ePP PP 07 37 52.3 +0.4
KSH S S 07 41 38.8 +4.6
KSH PcS PcS 07 41 40.6 -0.5
KSH SS SS 07 44 58.3 -0.5
KSH pmax pmax
comp=Z,12nm,1.0s
KSH pmax pmax
comp=Z,78nm,2.7s
UCH Uchtor 40.98 289 P P 07 36 03.4 +0.2
SNR=7.6
UCH Uchtor 40.98 289 iP P 07 36 03.3 +0.2
PYUN Piuthan 41.11 265 eP P 07 36 04.3 +0.3
comp=Z,256nm,0.3s
EKS2 Erkin-Say 41.34 290 P P 07 36 05.4 -0.2
SNR=5.2
EKS2 Erkin-Say 41.34 290 eP P 07 36 05.4 -0.2
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 41.34 290 eP P 07 36 05.4 -0.2
comp=Z,9.8nm,0.8s
AML Almayashu 41.59 290 P P 07 36 08.2 +0.4
SNR=8.4
AML Almayashu 41.59 290 iP P 07 36 08.2 +0.4
KK31 Karatay Array 43.44 292 P P 07 36 21.2 -0.7
KK31 pmax pmax
comp=Z,2.0nm,0.2s
KKAR Karatay Array 43.44 292 eP P 07 36 21.5 -0.4
KKAR Karatay Array 43.44 292 eP P 07 36 21.5 -0.4
SVE Sverdlovsk 45.60 314c iP P 07 36 38.0 -0.2
SVE pmax pmax
comp=Z,21nm,0.5s
SVE Sverdlovsk 45.60 314 iP P 07 36 38.0 -0.2
IM04 Indian Mountai 46.31 33 eP P 07 36 44.2 +0.8
IM04 ePcP PcP 07 38 07.4 +0.5
SVW2 Sparrevohn 46.36 40 eP P 07 36 46.1 +2.2
comp=Z,15nm,1.0s
ARU Arti 46.81 313d iP P 07 36 46.7 -0.6
ARU 07 38 07.8
ARU *PP pP 07 38 30.1 +0.7
ARU 07 38 41.3
ARU S S 07 42 55.2 -1.3
ARU pmax pmax
comp=Z,16nm,0.4s
ARU Arti 46.81 313 iP P 07 36 46.7 -0.6
ARU Arti 46.81 313 eP P 07 36 46.7 -0.6
comp=Z,56nm,0.3s
CAST Castle Rocks 47.49 36 eP P 07 36 54.3 +1.9
COLD Coldfoot 47.52 31 eP P 07 36 53.9 +1.4
comp=Z,14nm,1.0s
PPLA Purkeypile 47.55 37 eP P 07 36 55.0 +2.0
RSO Redoubt South 47.86 41 eP P 07 36 57.2 +1.9
KTH Kantishna Hill 47.97 36 eP P 07 36 57.6 +1.6
KBL Kabul 48.08 282 eP P 07 36 56.7 -0.8
KBL e 07 38 09.6
KBL pmax pmax
comp=Z,18nm,0.9s
KBL Kabul 48.08 282 eP P 07 36 56.7 -0.8
comp=Z,18nm,0.9s
KBL ePcP PcP 07 38 09.6 -4.6
AB31 Akbulak array 48.18 304 P P 07 36 57.0 -0.7
AB31 pmax pmax
comp=Z,26nm,0.3s
ABKAR Akbulak array 48.18 304 eP P 07 36 57.1 -0.6
TRF Thorofare Moun 48.27 36 eP P 07 36 59.6 +1.3
KDAK Kodiak Island 48.66 44 iP P 07 37 02.5 +1.5
MCK McKinley 48.79 36 eP P 07 37 02.9 +0.9
MCK McKinley 48.79 36 eP P 07 37 02.9 +0.9
MCK McKinley 48.79 36 eP P 07 37 02.9 +0.9
AKTO Aktyubinsk 48.94 306 P P 07 37 02.4 -0.9
AKTO pmax pmax
comp=Z,6.0nm,0.3s
AKTO Aktyubinsk 48.94 306 P P 07 37 02.4 -0.9
comp=Z,5.9nm,0.3s,baz=71,slow=6.9,SNR=61
COLA College 48.96 34c iP P 07 37 03.2 0.0
COLA College 48.96 34 iP P 07 37 03.2 0.0
COLA College 48.96 34 eP P 07 37 04.8 +1.6
comp=Z,44nm,0.6s
RC01 Rabbit Creek A 49.12 39 eP P 07 37 05.6 +1.2
PMR Palmer 49.26 38 eP P 07 37 06.0 +0.5
PMR pmax pmax
comp=Z,15nm,0.8s
PMR Palmer 49.26 38 eP P 07 37 06.0 +0.5
comp=Z,15nm,0.8s
ILAR Eielson Array 49.39 34 P P 07 37 06.8 +0.4
ILAR pmax pmax
comp=Z,16nm,0.5s
ILAR Eielson Array 49.39 34 P P 07 37 06.8 +0.4
comp=Z,16nm,0.5s,baz=292,slow=8.7,SNR=288
SEW Seward 49.54 40 eP P 07 37 08.6 +1.1
PAX Paxson 50.50 36 eP P 07 37 15.3 +0.6
PAX Paxson 50.50 36 eP P 07 37 15.3 +0.6
DOT Dot Lake 50.90 35 eP P 07 37 17.9 +0.5
MENT Mentasta 51.27 36 eP P 07 37 21.5 +1.3
BMRM Bremner River 51.54 38 eP P 07 37 23.5 +1.4
comp=Z,18nm,0.8s
BMRM ePcP PcP 07 38 27.5 +1.2
BMRM eScP ScP 07 41 29.4 +0.1
PRGR Permogore 51.64 323⇓iP P 07 37 22.0 -0.8
PRGR eS S 07 43 59.2 -2.8
PRGR pmax pmax
comp=Z,27nm,0.8s
EGAK Eagle 51.73 33 eP P 07 37 24.1 +0.8
comp=Z,24nm,0.6s
TMCR Tamitsa 53.92 327 eP P 07 37 37.8 -1.1
TMCR e 07 38 36.0
TMCR pmax pmax
comp=Z,13nm,0.8s
KLMR Klimovskoe 54.67 323 eP P 07 37 42.6 -1.6
KLMR pmax pmax
comp=Z,13nm,0.7s
HYT Haines Junctio 54.80 37 eP P 07 37 49.7 +4.4
KEV Kevo 55.30 336 eP P 07 37 47.3 -1.2
KEV pmax pmax
comp=Z,8.0nm,0.3s
KEV Kevo 55.30 336 ep P 07 37 47.3 -1.2
comp=Z,8.3nm,0.3s
ARCES ARCESS Array B 55.87 336 P P 07 37 51.9 -0.6
ARCES pmax pmax
comp=Z,7.0nm,0.4s
ARCES ARCESS Array B 55.87 336 P P 07 37 51.9 -0.6
comp=Z,7.0nm,0.4s,baz=62,slow=9.4,SNR=95
ARE0 ARCESS Array S 55.87 336 eP P 07 37 51.4 -1.1
JOF Joensuu 57.17 328 eP P 07 37 59.6 -1.9
JOF pmax pmax
comp=Z,14nm,0.4s
JOF Joensuu 57.17 328 ep P 07 37 59.6 -1.9
comp=Z,14nm,0.4s
VRHR Novokhopersk 58.10 312 eP P 07 38 05.3 -2.7
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,50nm,0.7s
IANJ Anjilo 58.33 291 eP P 07 38 09.7 -0.5
OBN Obninsk 58.74 318⇓eP P 07 38 10.9 -1.2
OBN pmax pmax
comp=Z,13nm,0.6s
OBN Obninsk 58.74 318 P P 07 38 11.0 -1.2
comp=Z,12nm,0.3s,baz=355,slow=22,SNR=5.8
VSR Storozhevoye 59.38 313 eP P 07 38 14.9 -1.6
VSR pmax pmax

comp=N,7.0nm,0.6s
VSR pmax pmax
comp=E,7.0nm,0.6s
VSR pmax pmax
comp=Z,30nm,0.6s
VORD Divnogorie 59.44 313 eP P 07 38 14.6 -2.3
KAF Kangasniemi 59.57 328 eP P 07 38 15.7 -1.9
KAF pmax pmax
comp=Z,12nm,0.3s
KAF Kangasniemi 59.57 328 ep P 07 38 15.7 -1.9
comp=Z,12nm,0.3s,baz=54,slow=6.3
FINES FINESS Array B 60.03 328 P P 07 38 19.8 -0.9
FINES pmax pmax
comp=Z,20nm,0.4s
FINES FINESS Array B 60.03 328 P P 07 38 19.8 -0.9
comp=Z,20nm,0.4s,baz=95,slow=5.9,SNR=398
KBZ Khabaz 61.15 304 P P 07 38 27.5 -0.9
KBZ pmax pmax
comp=Z,4.0nm,0.5s
KBZ Khabaz 61.15 304 P P 07 38 27.4 -0.9
comp=Z,4.3nm,0.5s,baz=290,slow=0.6,SNR=20
KIV Kislovodsk 61.16 305 eP P 07 38 28.1 -0.5
KIV e*PP pP 07 40 20.2 +1.1
KIV pmax pmax
comp=Z,15nm,0.6s
IHRS Heris 61.44 297 eP P 07 38 29.6 -1.1
VSU Vasula 61.47 325 d iP P 07 38 29.4 -0.8
VSU pmax pmax
comp=Z,39nm,0.9s
GNI Garni 61.94 300 eP P 07 38 34.5 +0.7
GNI pmax pmax
comp=Z,8.0nm,1.3s
IPAR Pars 62.05 286 eP P 07 38 33.8 -1.1
IMRD Marand 62.10 298 eP P 07 38 33.3 -1.6
WRA Warramunga Arr 62.20 176 P P 07 38 35.2 -0.3
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 62.20 176 P P 07 38 35.2 -0.3
comp=Z,2.4nm,0.5s,baz=353,slow=7.0,SNR=82
ISRV Sarvestan 62.27 285 eP P 07 38 35.3 -1.0
HATD Hatta, Dubai 62.75 280 iP P 07 38 39.6 +0.4
SNR=8.6
IKAZ Kazeroun 62.95 287 eP P 07 38 40.0 -0.7
YKA Yellowknife Ar 63.02 28 P P 07 38 40.6 +0.5
comp=Z,6.7nm,0.4s,baz=312,slow=6.2,SNR=443
IDID Didziasalis 63.32 322 eP P 07 38 41.8 -0.4
ISAL Salakas 63.45 322 eP P 07 38 42.8 -0.2
ISAL AMB AMB 07 38 43.4
comp=Z,13nm,1.0s
ASUD Al Ashush, Dub 63.46 280 ⇑iP P 07 38 43.7 +0.1
SNR=40
IIGN Ignalina 63.54 322 eP P 07 38 42.7 -0.9
IIGN AMB AMB 07 38 43.4
comp=Z,9.8nm,0.6s
NACGM Naroch 63.55 321 e P 07 38 40.0 -3.7
AKASG Malin Array Be 64.89 317 P P 07 38 50.8 -1.4
AKASG pmax pmax
comp=Z,13nm,0.5s
AKASG Malin Array Be 64.89 317 P P 07 38 50.8 -1.4
comp=Z,13nm,0.5s,baz=50,slow=6.5,SNR=61
AKBB Malin Array Si 64.89 317 eP P 07 38 50.7 -1.5
AKBB Malin Array Si 64.89 317 eP P 07 38 50.6 -1.5
AK01 Malin Array Si 64.90 317 eP P 07 38 50.8 -1.5
KIEV Kiev 64.90 317 c iP P 07 38 50.8 -1.5
KIEV Kiev 64.90 317 eP P 07 38 50.6 -1.6
comp=Z,16nm,0.8s
AK02 Malin Array Si 64.92 317 eP P 07 38 50.8 -1.6
NB2 NORSAR Subarra 65.81 332 P P 07 38 56.5 -1.4
comp=Z,6.3nm,0.6s,baz=45,slow=6.2
NOA NORSAR Array B 65.81 332 P P 07 38 56.8 -1.1
NOA pmax pmax
comp=Z,5.0nm,0.5s
NOA NORSAR Array B 65.81 332 P P 07 38 56.8 -1.1
comp=Z,4.7nm,0.5s,baz=53,slow=8.4,SNR=37
ASAR Alice Springs 65.89 177 P P 07 38 59.1 +0.3
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 65.89 177 P P 07 38 59.1 +0.3
comp=Z,1.3nm,0.8s,baz=356,slow=6.9,SNR=17
NLWA Neilton Lookou 68.80 45 eP P 07 39 18.0 +1.6
comp=Z,5.5nm,0.5s
TESR Tescani 68.83 314 ⇑iP P 07 39 15.6 -1.0
BUR08 Bucovina Ar. S 68.86 316 eP P 07 39 15.6 -1.3
BURAR Bucovina Array 68.87 316 ⇑P P 07 39 16.3 -0.6
BURAR Bucovina Array 68.87 316 ⇑iP P 07 39 16.3 -0.6
CFR Carcaliu 68.87 312 ⇑P P 07 39 15.9 -0.9
CFR Carcaliu 68.87 312 ⇑iP P 07 39 15.9 -0.9
CMW Cultus Mountai 69.03 43 P P 07 39 19.3 +1.5
BR131 Keskin Array S 69.11 305 eP P 07 39 17.0 -1.5
comp=Z,2.8nm,0.6s
BRTR Keskin Array B 69.11 305 P P 07 39 17.5 -1.1
BRTR pmax pmax
comp=Z,3.0nm,0.5s
BRTR Keskin Array B 69.11 305 P P 07 39 17.5 -1.1
comp=Z,3.2nm,0.5s,baz=116,slow=3.1,SNR=25
VRI Vrincioaia 69.20 314 ⇑P P 07 39 18.5 -0.3
VRI Vrincioaia 69.20 314 ⇑iP P 07 39 18.5 -0.3
PLOR Plostina 69.25 314 ⇑P P 07 39 18.6 -0.6
PLOR Plostina 69.25 314 ⇑iP P 07 39 18.6 -0.6
JCW Jim Creek 69.27 43 P P 07 39 20.7 +1.4
GRER 69.38 313 ⇑iP P 07 39 20.8 +0.9
STHS Stebnicka Huta 69.67 319 eP P 07 39 21.4 -0.2
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 69.67 319 eP P 07 39 21.4 -0.2
MSAB Monastry St. A 69.74 312 ⇑iP P 07 39 21.9 -0.1
ISR Istrita 69.78 313 ⇑P P 07 39 22.5 +0.2
ISR Istrita 69.78 313 ⇑iP P 07 39 22.5 +0.2
OJC Ojcow 69.82 320 ⇓iP P 07 39 21.9 -0.5
OJC Ojcow 69.82 320 iP P 07 39 21.9 -0.5
EDM Edmonton 69.85 35 eP P 07 39 23.2 +0.6
EDM Edmonton 69.85 35 eP P 07 39 23.2 +0.6
MLR Muntele Rosu 69.86 314 ⇓P P 07 39 22.1 -0.8
MLR Muntele Rosu 69.86 314 ⇓iP P 07 39 22.1 -0.8
CRVS Cervenica-Dubn 69.91 318 eP P 07 39 22.6 -0.4
CRVS pmax pmax
comp=Z,20nm,2.0s
CRVS Cervenica-Dubn 69.91 318 eP P 07 39 22.6 -0.4
NIE Niedzica 70.12 319 ⇓iP P 07 39 24.2 -0.1
NIE Niedzica 70.12 319 iP P 07 39 24.2 -0.1
NLW Nelson Butte 70.15 42 P P 07 39 25.9 +1.3
LON Longmire 70.28 44 eP P 07 39 26.3 +1.0
LON pmax pmax
comp=Z,5.0nm,0.8s
LON Longmire 70.28 44 eP P 07 39 26.3 +1.0
comp=Z,4.9nm,0.8s
VOIR 70.37 314 ⇓P P 07 39 25.6 -0.3
VOIR 70.37 314 ⇓iP P 07 39 25.6 -0.3
WTV Waterville 70.59 43 P P 07 39 27.9 +0.8
TBM Table Mountain 70.62 43 P P 07 39 28.6 +1.2
ARR Arges 70.64 314 ⇓iP P 07 39 27.6 +0.2
DRGR 70.70 316 ⇑P P 07 39 27.4 -0.4
DRGR 70.70 316 ⇑iP P 07 39 27.4 -0.4
EBG Ellensburg 70.81 43 P P 07 39 30.0 +1.5
OKC Ostrava-Krasne 70.86 321 eP P 07 39 28.3 -0.3
OKC Ostrava-Krasne 70.86 321 eP P 07 39 28.3 -0.3
SAW Saint Andrews 70.87 42 P P 07 39 29.8 +1.0
MORC Moravsky Berou 71.18 321 ⇓P P 07 39 30.4 -0.1
MORC Moravsky Berou 71.18 321 ⇓iP P 07 39 30.4 -0.1
MORC Moravsky Berou 71.18 321 eP P 07 39 30.0 -0.6
comp=Z,6.9nm,0.9s
BSEG Bad Segeberg 71.31 327 eP P 07 39 30.9 -0.2
comp=Z,11nm,0.8s
KRLC Kraliky 71.33 322 eP P 07 39 31.1 -0.3
KRLC e 07 39 41.0
KRLC Kraliky 71.33 322 eP P 07 39 31.1 -0.3
KRLC ex x 07 39 41.0
DPC Dobruska-Polom 71.34 322 eP P 07 39 31.0 -0.4
DPC e 07 39 40.8
DPC e 07 41 30.2
DPC Dobruska-Polom 71.34 322 eP P 07 39 31.0 -0.4
DPC ex x 07 39 40.8
DPC epP pP 07 41 30.2 +3.4
OD2 Odessa Site #2 71.42 42 P P 07 39 32.7 +0.8
VYHS Vyhne 71.46 319 eP P 07 39 31.8 -0.3
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 71.46 319 eP P 07 39 31.8 -0.3
JMB Yambol 71.48 311 ⇑P P 07 39 30.3 -2.0
JMB Yambol 71.48 311 ⇑iP P 07 39 30.3 -2.0
I03D Drain, OR 71.49 47 ⇑P P 07 39 34.2 +1.9
baz=71
G05D Wamic, OR 71.54 45 ⇑P P 07 39 34.0 +1.3
baz=71

GZR Gura Zlata 71.60 315 ⇓P P 07 39 32.6 -0.5
GZR Gura Zlata 71.60 315 ⇓iP P 07 39 32.6 -0.5
NEW Newport 71.60 41 ⇑P P 07 39 34.2 +1.2
baz=71,SNR=8.7
HAWA Hanford 71.69 43 eP P 07 39 34.7 +1.2
comp=Z,5.7nm,0.7s
H2OWA Water 71.74 43 P P 07 39 35.2 +1.5
I04A Tendick Farm, 71.93 47 ⇑P P 07 39 36.2 +1.2
baz=72
VRAC Vranov 71.95 321 ⇑P P 07 39 35.2 +0.2
VRAC Vranov 71.95 321 ⇑iP P 07 39 35.2 +0.2
BRG Berggiesshubel 72.03 324 eP P 07 39 34.8 -0.6
comp=Z,4.6nm,0.8s
BRG Berggiesshubel 72.03 324 eP P 07 39 34.8 -0.6
BRG pmax pmax
comp=Z,30nm,0.8s
BRG Berggiesshubel 72.03 324 eP P 07 39 34.9 -0.5
comp=Z,5.0nm,0.8s
BZS Buzias 72.05 316 ⇑P P 07 39 34.8 -0.8
BZS Buzias 72.05 316 ⇑iP P 07 39 34.8 -0.8
CLL Collm 72.13 324 ⇓iP P 07 39 35.1 -0.8
CLL pmax pmax
comp=Z,8.0nm,0.5s
CLL Collm 72.13 324 eP P 07 39 35.1 -0.8
comp=Z,12nm,0.5s
CLL Collm 72.13 324 ⇓iP P 07 39 35.1 -0.8
comp=Z,12nm,0.5s
CLL ePcP PcP 07 39 51.0 +0.6
I05D Terrebonne, OR 72.14 46 ⇓P P 07 39 37.6 +1.4
baz=72
L02D Cave Junction, 72.36 49 ⇓P P 07 39 39.4 +1.9
baz=72
PRU Pruhonice 72.41 323 eP P 07 39 36.8 -0.7
PRU Pruhonice 72.41 323 eP P 07 39 36.8 -0.7
FCC Fort Churchill 72.44 23 eP P 07 39 37.8 +0.3
FCC Fort Churchill 72.44 23 eP P 07 39 37.8 +0.3
comp=Z,0.5nm,0.8s
J04D Umpqua Nationa 72.46 47 ⇓P P 07 39 39.7 +1.4
baz=72
WALA Waterton Lakes 72.56 39 eP P 07 39 39.6 +1.0
comp=Z,0.2nm,0.7s
PINOR Pine Mountain 72.74 46 eP P 07 39 41.5 +1.9
comp=Z,6.6nm,0.8s
CLZ Clausthal 72.85 326 eP P 07 39 39.8 -0.3
comp=Z,11nm,1.0s
J05D Fort Rock, OR 72.91 47 ⇓P P 07 39 42.5 +1.8
baz=73
BSMT Bassoo Peak 73.01 40 eP P 07 39 42.8 +1.5
comp=Z,4.2nm,0.7s
K04D Chiloquin, OR 73.07 47 ⇑P P 07 39 42.8 +1.1
baz=73
YBH Yreka Blue Hor 73.14 49 eP P 07 39 43.5 +1.4
YBH pmax pmax
comp=Z,2.0nm,0.6s
YBH Yreka Blue Hor 73.14 49 eP P 07 39 43.5 +1.4
comp=Z,1.7nm,0.6s
FFC Flin Flon 73.19 29 eP P 07 39 42.2 +0.2
FFC pmax pmax
comp=Z,19nm,1.0s
FFC Flin Flon 73.19 29 eP P 07 39 42.2 +0.2
comp=Z,19nm,1.0s
MOX Moxa 73.21 325 eP P 07 39 41.6 -0.6
comp=Z,6.0nm,1.2s
CONA Conrad Observa 73.28 320 ⇑iP P 07 39 43.1 +0.4
comp=Z,6.4nm,0.7s
M02C Callahan 73.29 49 ⇑P P 07 39 44.8 +1.9
baz=73
KHC Kasperske Hory 73.46 322 eP P 07 39 42.8 -0.9
KHC Kasperske Hory 73.46 322 eP P 07 39 42.8 -0.9
IBBN Ibbenburen 73.55 328 eP P 07 39 43.6 -0.4
comp=Z,8.0nm,0.8s
M04C Macdoel 73.59 48 ⇑P P 07 39 46.3 +1.6
baz=73
ROTZ Rotzenmuhle 73.60 324 eP P 07 39 44.6 +0.2
comp=Z,40nm,2.3s
GERES GERESS Array B 73.61 322 P P 07 39 43.9 -0.7
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 73.61 322 P P 07 39 43.9 -0.7
comp=Z,2.2nm,0.8s,baz=41,slow=5.9,SNR=15
N02D Trinity Center 73.66 49 ⇓P P 07 39 46.8 +1.8
baz=74
WET Wettzell 73.76 323 eP P 07 39 45.1 -0.3
comp=Z,6.0nm,1.0s
BMO Blue Mountains 73.88 43 eP P 07 39 47.2 +1.0
comp=Z,5.4nm,0.7s
SLMT Seeley Lake 74.06 40 eP P 07 39 48.4 +1.1
comp=Z,13nm,0.7s
GRF Grafenberg Arr 74.09 324 eP P 07 39 47.1 -0.1
comp=Z,19nm,0.9s
MSO Missoula 74.14 40 ⇑P P 07 39 49.0 +1.4
baz=74,SNR=6.6
MOD Modoc 74.35 47 eP P 07 39 50.3 +1.3
comp=Z,4.0nm,0.6s
CHMT Chamberlain Mo 74.41 40 eP P 07 39 50.0 +0.7
comp=Z,1.4nm,0.7s
BUG Bochum--Univer 74.41 327 eP P 07 39 48.1 -0.8
comp=Z,16nm,1.0s
SOKA Soboth 74.57 320 ⇑iP P 07 39 49.7 -0.3
comp=Z,16nm,1.1s
STKA Stephens Creek 74.66 171 P P 07 39 51.5 +1.0
STKA pmax pmax
comp=Z,1.0nm,0.3s
STKA Stephens Creek 74.66 171 P P 07 39 51.5 +1.0
comp=Z,1.2nm,0.3s,baz=344,slow=7.1,SNR=6.0
RJOB Jochberg 74.84 322 eP P 07 39 51.3 -0.2
comp=Z,7.0nm,0.9s
WVOR Wild Horse Val 74.88 46 eP P 07 39 53.0 +1.1
WVOR pmax pmax
comp=Z,9.0nm,1.0s
WVOR Wild Horse Val 74.88 46 eP P 07 39 53.0 +1.1
comp=Z,8.6nm,1.0s
A19A Klindworth Far 74.97 36 ⇑P P 07 39 53.1 +0.8
baz=75,SNR=7.2
KBA Koelnbreinsper 75.07 321 ⇓iP P 07 39 53.1 +0.1
comp=Z,3.4nm,0.5s
EGMT Eagleton 75.20 37 eP P 07 39 54.4 +0.9
comp=Z,4.3nm,0.6s
EGMT Eagleton 75.20 37 ⇓P P 07 39 54.6 +1.1
baz=75,SNR=11
HRY Holter Researc 75.22 39 eP P 07 39 55.0 +1.2
comp=Z,12nm,0.7s
B19A Brinkman Farms 75.24 37 ⇓P P 07 39 54.7 +1.0
baz=75,SNR=5.6
A20A Cobblestone Ra 75.36 36 ⇑P P 07 39 55.4 +1.0
baz=75,SNR=6.9
LRM Limekiln Ridge 75.58 40 eP P 07 39 57.1 +1.2
comp=Z,35nm,0.7s
MFID Camas Ranch 75.65 44 eP P 07 39 57.6 +1.5
comp=Z,18nm,1.0s
B20A Solberg Farm, 75.66 36 ⇑P P 07 39 56.9 +0.9
baz=75
STU Stuttgart 75.66 324 eP P 07 39 56.0 +0.1
comp=Z,9.0nm,0.8s
A21A Bergtoll Ranch 75.71 35 ⇑P P 07 39 57.2 +0.9
baz=76,SNR=17
WTTA Wattenberg 75.72 322 ⇑iP P 07 39 55.9 -0.6
comp=Z,11nm,1.1s
C19A Slack Wire Ran 75.73 37 ⇑P P 07 39 57.8 +1.3
baz=76,SNR=6.8
MOTA Moosalm 75.89 323 ⇓iP P 07 39 57.1 -0.3
comp=Z,2.8nm,0.8s
RETA Reutte 75.94 323 ⇑iP P 07 39 57.4 -0.3
comp=Z,3.9nm,0.5s
B21A Ellsworth Farm 76.10 36 ⇑P P 07 39 59.5 +1.1
baz=76,SNR=6.3
MCMT McKenzie Canyo 76.12 41 eP P 07 39 59.6 +0.8
comp=Z,1.4nm,0.5s
A22A Carney Farms, 76.13 35 ⇑P P 07 39 58.6 0.0
baz=76,SNR=14
C20A Veseth Ranch, 76.21 37 ⇑P P 07 39 59.9 +0.8
baz=76
D19A Cripps Ranch, 76.24 37 ⇑P P 07 40 00.2 +0.9
baz=76,SNR=15
HLID Hailey 76.26 43 eP P 07 40 01.1 +1.5
comp=Z,6.5nm,0.9s
HLID Hailey 76.26 43 ⇑P P 07 39 59.8 +0.2
baz=76,SNR=13
BFO Black Forest 76.37 325 eP P 07 39 59.2 -0.7
BFO pmax pmax
comp=Z,8.0nm,0.9s
BFO Black Forest 76.37 325 eP P 07 39 59.2 -0.7
comp=Z,8.0nm,0.6s
BFO Black Forest 76.37 325 eP P 07 39 59.2 -0.7
comp=Z,7.9nm,0.9s
GIVF Givet 76.43 328 eP P 07 39 59.2 -1.0
GIVF Givet 76.43 328 eP P 07 39 59.2 -1.0

GIVF Givet 76.43 328 eP P 07 39 59.2 -1.0
C21A Desert Coulee 76.53 36 ⇓P P 07 40 01.5 +0.7
baz=76,SNR=5.6
A23A Redstone 76.59 34 ⇑P P 07 40 01.8 +0.7
baz=76
D20A Manuel Ranch, 76.63 37 ⇑P P 07 40 02.5 +1.1
baz=76,SNR=11
B22A Reddig Ranch S 76.63 35 ⇑P P 07 40 02.3 +0.9
baz=76
BAIF Baives 76.71 328 eP P 07 40 00.6 -1.1
BAIF Baives 76.71 328 eP P 07 40 00.6 -1.1
BAIF Baives 76.71 328 eP P 07 40 00.6 -1.1
CDF Champ du Feu 76.75 325 eP P 07 40 01.2 -0.9
CDF Champ du Feu 76.75 325 eP P 07 40 01.2 -0.9
CDF Champ du Feu 76.75 325 eP P 07 40 01.2 -0.9
E19A Rath Farm, Rou 76.81 38 ⇓P P 07 40 03.8 +1.3
baz=77,SNR=11
B23A Brockton 76.93 34 ⇓P P 07 40 04.0 +1.0
baz=77,SNR=5.4
CMB Columbia Colle 76.97 50 eP P 07 40 04.5 +1.1
CMB pmax pmax
comp=Z,14nm,1.1s
CMB Columbia Colle 76.97 50 eP P 07 40 04.5 +1.1
comp=Z,14nm,1.1s
A24A Westby 76.98 34 ⇑P P 07 40 04.0 +0.8
baz=77
BMN Battle Mountai 77.04 47 eP P 07 40 05.5 +1.6
BMN pmax pmax
comp=Z,9.0nm,0.8s
BMN Battle Mountai 77.04 47 eP P 07 40 05.5 +1.6
comp=Z,9.2nm,0.8s
E20A Meyer Farm, Mu 77.08 37 ⇓P P 07 40 05.2 +1.4
baz=77,SNR=12
C22A Vida 77.11 35 ⇑P P 07 40 04.6 +0.6
baz=77,SNR=7.3
D21A La Casta Ranch 77.15 36 ⇑P P 07 40 04.9 +0.6
baz=77
WAKR Walker 77.18 49 eP P 07 40 06.3 +1.5
comp=Z,5.6nm,0.6s
F19A Roth Farm, Mol 77.20 38 ⇑P P 07 40 05.6 +1.0
baz=77,SNR=8.5
DGMT Dagmar 77.26 34 ⇑P P 07 40 05.7 +1.0
baz=77,SNR=7.3
PAGF Fort de Pagny 77.28 326 eP P 07 40 04.2 -0.7
comp=Z,2.5nm,0.7s
PAGF Fort de Pagny 77.28 326 eP P 07 40 04.2 -0.7
comp=Z,2.5nm,0.7s
A25A Svangstu Ranch 77.33 33 ⇑P P 07 40 06.3 +1.2
baz=77
C23A Lambert 77.36 35 ⇓P P 07 40 06.6 +1.2
baz=77,SNR=6.4
HINF Hinteralfeld 77.39 325 eP P 07 40 04.3 -1.2
comp=Z,4.0nm,0.7s
HINF Hinteralfeld 77.39 325 eP P 07 40 04.3 -1.2
HINF pmax pmax
comp=Z,4.0nm,0.7s
HINF Hinteralfeld 77.39 325 eP P 07 40 04.3 -1.2
comp=Z,4.0nm,0.7s
D22A Cohagen 77.44 36 ⇓P P 07 40 06.8 +1.0
baz=77
HAU Haudompre 77.46 325 eP P 07 40 04.7 -1.1
comp=Z,8.3nm,0.7s
HAU Haudompre 77.46 325 eP P 07 40 04.7 -1.1
HAU pmax pmax
comp=Z,8.0nm,0.7s
HAU Haudompre 77.46 325 eP P 07 40 04.7 -1.1
comp=Z,8.3nm,0.7s
E21A Keefer Ranch, 77.52 37 ⇓P P 07 40 07.1 +0.9
baz=77
H17A Grant Village 77.53 40 eP P 07 40 09.6 +3.0
comp=Z,11nm,0.8s
H17A Grant Village 77.53 40 ⇓P P 07 40 07.2 +0.6
baz=77,SNR=11
RLMT Red Lodge 77.60 39 eP P 07 40 07.8 +0.8
comp=Z,7.0nm,0.5s
F20A Billings 77.60 38 ⇓P P 07 40 07.6 +0.8
baz=77
H18A Shoshone NF, C 77.75 39 ⇑P P 07 40 08.9 +1.2
baz=78,SNR=7.0
A26A Wade Farm, Ken 77.80 33 ⇓P P 07 40 08.5 +0.8
baz=78
B25A Knox Farm, Ray 77.84 34 ⇑P P 07 40 08.7 +0.8
baz=78
D23A Lindsay 77.84 35 ⇑P P 07 40 09.2 +1.3
baz=78,SNR=6.1
NVAR Mina Array Bea 77.87 49 P P 07 40 10.1 +1.6
comp=Z,13nm,0.6s,baz=298,slow=5.3,SNR=133
I17A Pilgrim Ck. 77.89 40 ⇑P P 07 40 09.3 +0.8
baz=78,SNR=12
C24A Savage 77.90 35 ⇑P P 07 40 09.2 +0.9
baz=78
NV11 Mina Array Sit 77.95 49 eP P 07 40 10.2 +1.4
G20A Bridger 78.01 38 ⇑P P 07 40 09.8 +0.8
baz=78
F21A Absaloka Mine, 78.05 37 ⇓P P 07 40 10.2 +1.0
baz=78
A27A Ledoux Ranch, 78.07 32 ⇑P P 07 40 10.3 +1.2
baz=78
H19A Powell 78.08 39 ⇑P P 07 40 10.2 +0.9
baz=78
E22A Miles City 78.09 36 ⇑P P 07 40 09.9 +0.6
baz=78
B26A Jensen Ranch, 78.13 33 ⇑P P 07 40 09.8 +0.4
baz=78
MLAC Mammoth Lakes 78.13 50 ⇑P P 07 40 10.4 +0.5
baz=78
C25A Freed Ranch, W 78.24 34 ⇑P P 07 40 10.7 +0.6
baz=78
D24A Glendive 78.27 35 ⇓P P 07 40 10.7 +0.5
baz=78
F22A Rosebud 78.47 37 ⇓P P 07 40 12.1 +0.7
baz=78,SNR=6.7
G21A Lodge Grass 78.47 38 ⇓P P 07 40 12.4 +0.9
baz=78,SNR=6.0
A28A Rude Farm, Bot 78.48 32 ⇓P P 07 40 11.4 +0.1
baz=78
B27A Peters Farms, 78.50 32 ⇑P P 07 40 12.2 +0.8
baz=78
I19A Meeteetse 78.55 40 ⇑P P 07 40 12.9 +0.9
baz=78
C26A Wahner Farm, P 78.63 33 ⇑P P 07 40 13.1 +1.0
baz=78,SNR=5.4
CABF La Chapelle 78.66 325 eP P 07 40 11.4 -1.0
CABF La Chapelle 78.66 325 eP P 07 40 11.4 -1.0
CABF La Chapelle 78.66 325 eP P 07 40 11.4 -1.0
D25A Fairfield 78.66 34 ⇓P P 07 40 12.8 +0.4
baz=78
H20A Greybull 78.67 39 ⇑P P 07 40 13.6 +1.0
baz=78,SNR=9.8
E24A Baker 78.71 35 ⇓P P 07 40 12.5 -0.1
baz=78
TPH Tonopah 78.72 48 eP P 07 40 14.3 +1.3
TPH pmax pmax
comp=Z,16nm,0.8s
TPH Tonopah 78.72 48 eP P 07 40 14.3 +1.3
comp=Z,16nm,0.8s
B28A Dugan Ranch, T 78.82 32 ⇓P P 07 40 14.1 +1.1
baz=78,SNR=11
A29A Manning Farm, 78.87 31 ⇓P P 07 40 14.2 +0.8
baz=79
TIN Tinemaha 78.88 50 ⇓P P 07 40 14.4 +0.7
baz=79
G22A Birney 78.89 37 ⇑P P 07 40 14.7 +1.1
baz=79,SNR=5.8
BGU Big Grassy Mou 78.89 44 eP P 07 40 15.6 +1.8
comp=Z,1.3nm,0.6s
F23A Volborg 78.89 36 ⇓P P 07 40 14.7 +1.0
baz=79,SNR=8.4
C27A Sayler Ranch, 78.96 33 ⇑P P 07 40 14.3 +0.4
baz=79
H21A Big Horn, Sher 79.00 38 ⇓P P 07 40 14.8 +0.5
baz=79,SNR=7.7
ULM Lac du Bonnet 79.00 28 P P 07 40 13.7 -0.3
ULM pmax pmax
comp=Z,9.0nm,0.7s
ULM Lac du Bonnet 79.00 28 P P 07 40 13.7 -0.3
comp=Z,9.0nm,0.7s,baz=326,slow=5.8,SNR=18
ULM Lac du Bonnet 79.00 28 eP P 07 40 13.6 -0.3
comp=Z,13nm,1.0s
I20A Worland 79.02 39 ⇓P P 07 40 16.2 +1.7
baz=79,SNR=9.4
LOR Lormes 79.07 326 eP P 07 40 13.3 -1.2
comp=Z,9.3nm,0.5s
LOR Lormes 79.07 326 eP P 07 40 13.3 -1.2
LOR pmax pmax
comp=Z,9.0nm,0.5s
LOR Lormes 79.07 326 eP P 07 40 13.3 -1.2

comp=Z,9.3nm,0.5s
SMMC Simmler 79.10 52 ⇓P P 07 40 15.9 +1.0
baz=79
J19A Crowheart 79.11 40 ⇓P P 07 40 15.9 +1.0
baz=79,SNR=6.9
D26A Manning 79.12 34 ⇓P P 07 40 15.5 +0.8
baz=79
E25A Miller Ranch, 79.14 35 ⇑P P 07 40 15.7 +0.8
baz=79
B29A Wagenman Farm, 79.20 31 ⇑P P 07 40 15.8 +0.7
baz=79
A30A Hoffart Farm, 79.21 31 ⇑P P 07 40 15.9 +0.7
baz=79,SNR=8.9
F24A Ekalaka 79.21 36 ⇑P P 07 40 16.3 +0.9
baz=79,SNR=5.8
LPL La Plagne 79.24 324 eP P 07 40 15.0 -0.6
comp=Z,11nm,0.5s
LPL La Plagne 79.24 324 eP P 07 40 15.0 -0.6
LPL pmax pmax
comp=Z,11nm,0.5s
LPL La Plagne 79.24 324 eP P 07 40 15.0 -0.6
comp=Z,11nm,0.5s
BW06 Boulder Array 79.24 41 eP P 07 40 16.1 +0.4
comp=Z,6.5nm,0.8s
LPG La Plagne 79.25 324 eP P 07 40 15.2 -0.6
comp=Z,14nm,0.6s
LPG La Plagne 79.25 324 eP P 07 40 15.2 -0.6
LPG pmax pmax
comp=Z,14nm,0.6s
LPG La Plagne 79.25 324 eP P 07 40 15.2 -0.6
comp=Z,14nm,0.6s
VES Vestal, Richgr 79.25 51 ⇑P P 07 40 16.5 +0.9
baz=79,SNR=5.5
G23A Biddle 79.30 37 ⇑P P 07 40 16.6 +0.7
baz=79
H22A Clearmont 79.34 38 ⇓P P 07 40 16.8 +0.7
baz=79
SSF Saint Saulge 79.38 326 eP P 07 40 15.0 -1.1
comp=Z,6.1nm,0.5s
SSF Saint Saulge 79.38 326 eP P 07 40 15.0 -1.1
SSF pmax pmax
comp=Z,6.0nm,0.5s
SSF Saint Saulge 79.38 326 eP P 07 40 15.0 -1.1
comp=Z,6.1nm,0.5s
C28A Hausauer Farms 79.40 32 ⇑P P 07 40 17.1 +0.9
baz=79
GRAC Grapevine Rang 79.40 49 ⇓P P 07 40 18.7 +2.2
baz=79
R11A Troy Canyon, C 79.42 47 ⇓P P 07 40 17.9 +1.2
baz=79,SNR=8.1
D27A Center 79.43 33 ⇑P P 07 40 17.0 +0.6
baz=79
J20A Shoshoni 79.50 39 ⇑P P 07 40 18.0 +1.1
baz=79
I21A Big Trails, Te 79.52 39 ⇓P P 07 40 18.0 +0.9
baz=79,SNR=14
DUG Dugway 79.54 44 ⇑P P 07 40 18.8 +1.5
baz=79,SNR=6.6
FLN La Foliniere 79.56 330 eP P 07 40 15.6 -1.3
comp=Z,7.4nm,0.5s
FLN La Foliniere 79.56 330 eP P 07 40 15.6 -1.3
FLN pmax pmax
comp=Z,7.0nm,0.4s
FLN La Foliniere 79.56 330 eP P 07 40 15.6 -1.3
comp=Z,7.4nm,0.4s
E26A Carlson Angus 79.56 34 ⇓P P 07 40 17.8 +0.7
baz=79,SNR=6.2
LDF La Druitiere 79.56 329 eP P 07 40 15.6 -1.4
comp=Z,8.6nm,0.5s
LDF La Druitiere 79.56 329 eP P 07 40 15.6 -1.4
LDF pmax pmax
comp=Z,9.0nm,0.5s
LDF La Druitiere 79.56 329 eP P 07 40 15.6 -1.4
comp=Z,8.6nm,0.5s
HYF Humbligny 79.57 327 eP P 07 40 16.6 -0.5
HYF Humbligny 79.57 327 eP P 07 40 16.6 -0.5
TCUT Toone Canyon 79.57 43 eP P 07 40 19.1 +1.6
comp=Z,19nm,0.7s
F25A Bowman 79.57 35 ⇓P P 07 40 17.9 +0.7
baz=79
SMF Signal de Mont 79.58 326 eP P 07 40 15.9 -1.2
comp=Z,7.9nm,0.7s
SMF Signal de Mont 79.58 326 eP P 07 40 15.9 -1.2
SMF pmax pmax
comp=Z,8.0nm,0.7s
SMF Signal de Mont 79.58 326 eP P 07 40 15.9 -1.2
comp=Z,7.9nm,0.7s
B30A Myrvik Farm, E 79.60 31 ⇓P P 07 40 17.8 +0.6
baz=79,SNR=15
G24A Alzada 79.63 36 ⇓P P 07 40 18.1 +0.6
baz=79
AVF Avril sur Loir 79.66 326 eP P 07 40 16.6 -0.9
comp=Z,25nm,0.9s
AVF Avril sur Loir 79.66 326 eP P 07 40 16.6 -0.9
AVF pmax pmax
comp=Z,25nm,0.9s
AVF Avril sur Loir 79.66 326 eP P 07 40 16.6 -0.9
comp=Z,25nm,0.9s
ISA Isabella 79.73 51 ⇑P P 07 40 18.6 +0.3
baz=80
D28A Regan 79.75 33 ⇑P P 07 40 19.0 +1.0
baz=80,SNR=8.2
DAC Darwin (Calif) 79.79 50 eP P 07 40 19.8 +1.1
DAC pmax pmax
comp=Z,6.0nm,0.8s
DAC Darwin (Calif) 79.79 50 eP P 07 40 19.8 +1.1
comp=Z,6.4nm,0.8s
H23A Clabaugh Cattl 79.80 37 ⇑P P 07 40 18.8 +0.4
baz=80
J21A Lysite 79.80 39 ⇓P P 07 40 19.3 +0.6
baz=80
I22A 9 Mile Ranch, 79.83 38 ⇓P P 07 40 19.3 +0.6
baz=80,SNR=5.0
MBDF Montbardon 79.84 323 eP P 07 40 17.4 -1.3
comp=Z,16nm,0.7s
MBDF Montbardon 79.84 323 eP P 07 40 17.4 -1.3
MBDF pmax pmax
comp=Z,16nm,0.7s
MBDF Montbardon 79.84 323 eP P 07 40 17.4 -1.3
comp=Z,16nm,0.7s
SBC Santa Barbara 79.87 52 ⇑P P 07 40 19.5 +0.6
baz=80
ARVC Arvin 79.90 51 ⇑P P 07 40 19.8 +0.7
baz=80
E27A Carson 79.96 34 ⇑P P 07 40 19.0 -0.2
baz=80,SNR=9.7
F26A Lodgepole 79.97 35 ⇑P P 07 40 20.0 +0.7
baz=80
GRR Gorron 80.01 330 eP P 07 40 18.1 -1.2
comp=Z,6.0nm,0.4s
GRR Gorron 80.01 330 eP P 07 40 18.1 -1.2
GRR pmax pmax
comp=Z,6.0nm,0.4s
GRR Gorron 80.01 330 eP P 07 40 18.1 -1.2
comp=Z,6.0nm,0.4s
H24A Dirks Ranch, A 80.03 37 ⇓P P 07 40 20.1 +0.5
baz=80
BGF Bois d'Agland 80.06 327 eP P 07 40 18.6 -1.0
comp=Z,10nm,0.8s
BGF Bois d'Agland 80.06 327 eP P 07 40 18.6 -1.0
BGF pmax pmax
comp=Z,10.0nm,0.8s
BGF Bois d'Agland 80.06 327 eP P 07 40 18.6 -1.0
comp=Z,10nm,0.8s
FURC Furnace Creek, 80.07 49 ⇑P P 07 40 20.8 +1.0
baz=80,SNR=15
ORIF Oris-en-Rattie 80.08 324 eP P 07 40 19.0 -0.9
comp=Z,5.8nm,0.7s
ORIF Oris-en-Rattie 80.08 324 eP P 07 40 19.0 -0.9
ORIF pmax pmax
comp=Z,6.0nm,0.6s
ORIF Oris-en-Rattie 80.08 324 eP P 07 40 19.0 -0.9
comp=Z,5.8nm,0.6s
C30A Mose, Pekin 80.16 31 ⇑P P 07 40 21.0 +0.8
baz=80
G25A Newell 80.17 36 ⇑P P 07 40 21.1 +0.7
baz=80,SNR=5.7
J22A Midwest 80.20 39 ⇑P P 07 40 21.0 +0.4
baz=80
E28A Huff 80.20 33 ⇓P P 07 40 21.4 +1.0
baz=80
SBF Sospel 80.22 322 eP P 07 40 19.4 -1.2
comp=Z,16nm,0.6s
SBF Sospel 80.22 322 eP P 07 40 19.4 -1.2
SBF pmax pmax
comp=Z,16nm,0.6s
SBF Sospel 80.22 322 eP P 07 40 19.4 -1.2
comp=Z,16nm,0.6s
F27A Lemmon 80.22 34 ⇓P P 07 40 21.6 +1.0
baz=80
I23A Meade Ranch, G 80.24 38 ⇑P P 07 40 21.8 +1.0
baz=80
D29A Pettibone, Tap 80.25 32 ⇓P P 07 40 21.2 +0.5
baz=80
OSI Osito Adit 80.33 52 ⇑P P 07 40 22.6 +1.2
baz=80
G26A Maurine 80.44 35 ⇑P P 07 40 22.5 +0.8
baz=80,SNR=7.0
K21A Alcova 80.44 39 ⇓P P 07 40 22.8 +0.9
baz=80,SNR=10
TCF Toulx Ste Croi 80.53 327 eP P 07 40 21.4 -0.7
comp=Z,7.4nm,0.7s
TCF Toulx Ste Croi 80.53 327 eP P 07 40 21.4 -0.7
TCF pmax pmax
comp=Z,7.0nm,0.7s
TCF Toulx Ste Croi 80.53 327 eP P 07 40 21.4 -0.7
comp=Z,7.4nm,0.7s
D30A Buchanan 80.54 32 ⇑P P 07 40 22.7 +0.5
baz=80,SNR=8.2
H25A Fruitdale 80.54 36 ⇑P P 07 40 23.0 +0.7
baz=80
E29A Napoleon 80.63 33 ⇑P P 07 40 23.0 +0.4
baz=80,SNR=8.2
J23A Dilts Ranch, B 80.63 38 ⇑P P 07 40 23.4 +0.5
baz=80
AGMN Agassiz Nation 80.64 30 eP P 07 40 22.5 -0.2
comp=Z,4.3nm,0.5s
AGMN Agassiz Nation 80.64 30 ⇑P P 07 40 22.7 0.0
baz=80,SNR=7.9
G27A Dupree 80.65 35 ⇓P P 07 40 23.4 +0.5
baz=80
VIVF Saint-Julien-l 80.65 324 eP P 07 40 22.0 -0.8
comp=Z,4.0nm,0.5s
VIVF Saint-Julien-l 80.65 324 eP P 07 40 22.0 -0.8
VIVF pmax pmax
comp=Z,4.0nm,0.5s
VIVF Saint-Julien-l 80.65 324 eP P 07 40 22.0 -0.8
comp=Z,4.0nm,0.5s
I24A Kuemmerle Ranc 80.69 37 ⇓P P 07 40 23.7 +0.6
baz=80
SGMF Saint Gilles 80.75 331 eP P 07 40 22.5 -0.6
comp=Z,8.8nm,0.5s
SGMF Saint Gilles 80.75 331 eP P 07 40 22.5 -0.6
SGMF pmax pmax
comp=Z,9.0nm,0.5s
SGMF Saint Gilles 80.75 331 eP P 07 40 22.5 -0.6
comp=Z,8.8nm,0.5s
F28A McLaughlin 80.75 34 ⇓P P 07 40 24.0 +0.8
baz=80
RSSD Black Hills 80.75 37 eP P 07 40 24.3 +0.8
RSSD pmax pmax
comp=Z,4.0nm,0.6s
RSSD Black Hills 80.75 37 eP P 07 40 24.3 +0.8
comp=Z,4.0nm,0.6s
K22A Casper 80.77 39 ⇑P P 07 40 24.1 +0.5
baz=80
SHOC Shoshone 80.80 49 ⇑P P 07 40 25.4 +1.7
baz=81
FRF La Foret Royal 80.81 322 eP P 07 40 22.2 -1.4
FRF La Foret Royal 80.81 322 eP P 07 40 22.2 -1.4
FRF La Foret Royal 80.81 322 eP P 07 40 22.2 -1.4
DECC Green Verdugo 80.82 52 ⇓P P 07 40 25.0 +1.2
baz=81
H26A Fairpoint 80.91 36 ⇓P P 07 40 24.8 +0.7
baz=81
ROSF Rostrenen 80.93 331 eP P 07 40 23.5 -0.6
ROSF Rostrenen 80.93 331 eP P 07 40 23.5 -0.6
ROSF Rostrenen 80.93 331 eP P 07 40 23.5 -0.6
SMRF Simiane la Rot 80.96 323 eP P 07 40 23.7 -0.7
SMRF Simiane la Rot 80.96 323 eP P 07 40 23.7 -0.7
I25A Rochford 80.96 37 ⇓P P 07 40 25.4 +0.8
baz=81
E30A Jud 80.98 32 ⇑P P 07 40 25.0 +0.5
baz=81,SNR=8.9
ARUT Antelope Range 80.98 46 eP P 07 40 25.9 +1.1
ARUT pmax pmax
comp=Z,35nm,0.7s
ARUT Antelope Range 80.98 46 eP P 07 40 25.9 +1.1
comp=Z,35nm,0.7s
SHPR Sheep Range 80.99 48 eP P 07 40 26.1 +1.3
comp=Z,7.1nm,0.9s
LMR La Mourre 81.05 322 eP P 07 40 23.6 -1.2
comp=Z,11nm,0.7s
LMR La Mourre 81.05 322 eP P 07 40 23.6 -1.2
LMR pmax pmax
comp=Z,11nm,0.7s
LMR La Mourre 81.05 322 eP P 07 40 23.6 -1.2
comp=Z,11nm,0.7s
J24A Dixon Ranch, L 81.09 38 ⇓P P 07 40 25.8 +0.6
baz=81
RRX Edison Barstow 81.13 50 ⇑P P 07 40 26.5 +1.1
baz=81
F29A Eureka 81.16 33 ⇓P P 07 40 26.1 +0.7
baz=81,SNR=7.4
H27A Howes 81.19 35 ⇓P P 07 40 26.5 +0.9
baz=81
BFSC Mount Baldy Ra 81.21 51 ⇑P P 07 40 27.2 +1.2
baz=81
FMP Fort Macarthur 81.22 52 ⇑P P 07 40 27.3 +1.4
baz=81
QUIF Quistinic 81.25 331 eP P 07 40 24.8 -0.9
comp=Z,18nm,0.8s
QUIF Quistinic 81.25 331 eP P 07 40 24.8 -0.9
QUIF pmax pmax
comp=Z,18nm,0.8s
QUIF Quistinic 81.25 331 eP P 07 40 24.8 -0.9
comp=Z,18nm,0.8s
L22A Ellis Ranch, M 81.29 39 ⇓P P 07 40 27.3 +0.9
baz=81
G28A Parade 81.32 34 ⇓P P 07 40 27.2 +0.9
baz=81
I26A New Underwood 81.33 36 ⇓P P 07 40 27.6 +1.2
baz=81
TUQ Turquoise Moun 81.34 49 ⇑P P 07 40 27.1 +0.4
baz=81
N20A Spence Gulch, 81.34 41 ⇑P P 07 40 27.2 +0.5
baz=81
CIS Catalina Islan 81.37 52 ⇓P P 07 40 28.1 +1.3
baz=81
J25A Sunshine Ranch 81.43 37 ⇑P P 07 40 27.7 +0.8
baz=81
F30A Leola 81.48 33 ⇑P P 07 40 27.6 +0.6
baz=81,SNR=8.1
K24A Anderson Ranch 81.50 38 ⇑P P 07 40 28.0 +0.7
baz=81
SRU San Rafael 81.52 44 eP P 07 40 28.6 +1.0
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael 81.52 44 eP P 07 40 28.6 +1.0
comp=Z,4.2nm,0.8s
HEC Hector,Ludlow 81.55 50 ⇑P P 07 40 28.7 +1.1
baz=81
L23A Garrett 81.57 39 ⇓P P 07 40 28.3 +0.4
baz=81,SNR=5.2
SCI San Clemente I 81.59 53 ⇓P P 07 40 29.3 +1.5
baz=81
H28A Mission Ridge 81.60 35 ⇑P P 07 40 28.7 +1.0
baz=81,SNR=25
RJF Les Rejaudoux 81.61 327 eP P 07 40 27.0 -0.7
RJF Les Rejaudoux 81.61 327 eP P 07 40 27.0 -0.7
RJF Les Rejaudoux 81.61 327 eP P 07 40 27.0 -0.7
BBRC Big Bear Solar 81.62 51 ⇑P P 07 40 29.2 +1.0
baz=82
G29A Hoven 81.64 34 ⇑P P 07 40 28.5 +0.7
baz=81
I27A Quinn 81.65 36 ⇑P P 07 40 29.3 +1.2
baz=81
CAF Calviac 81.70 326 eP P 07 40 27.9 -0.3
CAF Calviac 81.70 326 eP P 07 40 27.9 -0.3
CAF Calviac 81.70 326 eP P 07 40 27.9 -0.3
M22A Cedar Creek Ra 81.70 40 ⇑P P 07 40 29.3 +0.8
baz=82
J26A Sides Ranch, S 81.81 37 ⇓P P 07 40 30.0 +1.2
baz=82,SNR=19
SCHQ Schefferville 81.87 10 P P 07 40 28.8 -0.1
comp=Z,1.8nm,0.4s,baz=357,slow=4.7,SNR=10
O20A White River Ci 81.89 42 eP P 07 40 30.2 +0.8
comp=Z,8.1nm,0.7s
O20A White River Ci 81.89 42 ⇓P P 07 40 30.5 +1.0
baz=82,SNR=11
MURC Murrieta 81.94 51 ⇓P P 07 40 30.8 +1.2
baz=82
GMRC Granite Mounta 81.96 50 ⇓P P 07 40 30.4 +0.6
baz=82,SNR=7.4
L24A Wheatland 81.98 38 ⇑P P 07 40 30.8 +1.0
baz=82
H29A Onida 81.98 34 ⇓P P 07 40 30.4 +0.8
baz=82,SNR=6.3
G30A Faulkton 82.01 33 ⇑P P 07 40 30.3 +0.6
baz=82,SNR=14
M23A Laramie 82.06 39 ⇑P P 07 40 31.2 +0.9
baz=82,SNR=7.0
I28A Midland 82.09 35 ⇓P P 07 40 31.0 +0.8
baz=82,SNR=10
LFF La Frestale 82.23 327 eP P 07 40 30.6 -0.2
comp=Z,22nm,0.6s
LFF La Frestale 82.23 327 eP P 07 40 30.6 -0.2
LFF pmax pmax
comp=Z,22nm,0.6s
LFF La Frestale 82.23 327 eP P 07 40 30.6 -0.2
comp=Z,22nm,0.6s
N22A Wattenberg Ran 82.24 40 ⇑P P 07 40 31.5 +0.2
baz=82,SNR=5.4
K26A Motz Farm, Whi 82.25 37 ⇑P P 07 40 31.3 +0.1
baz=82
J27A Elkhorn Farm, 82.33 36 ⇓P P 07 40 31.5 0.0
baz=82,SNR=7.8
BELC Belle Mtn. Jos 82.34 50 ⇓P P 07 40 32.2 +0.4
baz=82
PFO Pinyon Flat Ob 82.36 51 eP P 07 40 32.5 +0.7
PFO pmax pmax
comp=Z,13nm,1.2s
PFO Pinyon Flat Ob 82.36 51 eP P 07 40 32.5 +0.7
comp=Z,13nm,1.2s
PFO Pinyon Flat Ob 82.36 51 ⇑P P 07 40 32.6 +0.7
baz=82
N23A Red Feather La 82.41 40 ⇓P P 07 40 32.4 +0.2
baz=82
I29A Vivian Onida 82.44 35 ⇓P P 07 40 32.5 +0.6
baz=82
EYMN Ely 82.48 27 eP P 07 40 31.3 -0.7
comp=Z,2.2nm,0.5s
M24A Cheyenne 82.48 39 ⇑P P 07 40 33.0 +0.6
baz=82
109C Camp Elliot, M 82.50 52 ⇓P P 07 40 32.9 +0.5
baz=82
J28A Allard Ranch, 82.52 35 ⇑P P 07 40 32.9 +0.5
baz=82,SNR=7.3
U15A North Rim 82.60 47 ⇑P P 07 40 33.3 +0.1
baz=82,SNR=20
BRSD Miller 82.65 33 eP P 07 40 33.4 +0.4
comp=Z,35nm,0.7s
BRSD Miller 82.65 33 ⇓P P 07 40 33.7 +0.8
baz=82,SNR=9.2
K27A Flueckinger Fa 82.67 36 ⇑P P 07 40 33.3 0.0
baz=82
O22A Kremmling 82.69 41 ⇑P P 07 40 35.0 +1.3
baz=82,SNR=7.1
IRM Iron Mountain 82.70 50 ⇑P P 07 40 35.3 +1.8
baz=82,SNR=8.6
W13A Hualapai Mount 82.72 48 ⇓P P 07 40 35.1 +1.4
baz=82,SNR=7.1
L26A Underwood Farm 82.83 37 ⇑P P 07 40 34.8 +0.8
baz=83
M25A Palm-Egli Farm 82.86 38 ⇓P P 07 40 35.0 +0.7
baz=83
PV04 Paradox Valley 82.89 43 eP P 07 40 36.6 +2.1
BC3 Big Chuckawall 82.90 50 ⇓P P 07 40 35.6 +1.0
baz=83
MONP Monument Peak 82.90 51 ⇑P P 07 40 35.5 +0.8
baz=83
J29A Okreek 82.93 35 ⇓P P 07 40 35.2 +0.8
baz=83,SNR=7.4
O23A Lake Granby, G 82.95 40 ⇑P P 07 40 36.8 +1.8
baz=83
N24A Carr 82.96 39 ⇓P P 07 40 36.6 +1.8
baz=83
P22A Eagle 83.03 41 ⇑P P 07 40 36.6 +1.3
baz=83,SNR=6.8
K28A Ten Mile Ranch 83.04 36 ⇓P P 07 40 36.2 +1.1
baz=83
L27A T5 Ranch, Ells 83.13 37 ⇓P P 07 40 36.4 +0.8
baz=83
PDMCI Parker Dam,Lak 83.17 49 ⇓P P 07 40 37.2 +1.5
baz=83,SNR=8.2
SWSC Sam W. Stewart 83.22 51 ⇑P P 07 40 37.1 +1.1
baz=83
M26A McRoberts Ranc 83.25 38 ⇑P P 07 40 37.7 +1.5
baz=83
PV01 Paradox Valley 83.26 43 eP P 07 40 37.6 +1.2
comp=Z,288nm,0.4s
N25A Grover 83.34 39 ⇓P P 07 40 38.1 +1.4
baz=83
J30A Dallas 83.34 34 ⇑P P 07 40 37.5 +1.0
baz=83,SNR=22
Y12C Blythe 83.36 50 ⇓P P 07 40 38.3 +1.7
baz=83,SNR=5.6
ISCO Idaho Springs 83.42 40 eP P 07 40 38.5 +1.2
ISCO pmax pmax
comp=Z,5.0nm,0.6s
ISCO Idaho Springs 83.42 40 eP P 07 40 38.5 +1.2
comp=Z,4.9nm,0.6s
ISCO Idaho Springs 83.42 40 ⇓P P 07 40 38.5 +1.2
baz=83,SNR=11
O24A Longmont 83.42 40 ⇓P P 07 40 38.4 +1.3
baz=83
K29A Lazy Trails An 83.45 35 ⇓P P 07 40 38.3 +1.3
baz=83,SNR=6.7
L28A Connealy Angus 83.55 36 ⇑P P 07 40 38.4 +0.8
baz=83
M27A Reverse DX Ran 83.55 37 ⇓P P 07 40 38.6 +1.0
baz=83
P23A Jefferson 83.65 41 ⇑P P 07 40 39.4 +0.9
baz=83,SNR=5.3
GLA Glamis 83.70 50 ⇑P P 07 40 39.6 +1.1
baz=84
N26A Koester Ranch, 83.73 38 ⇑P P 07 40 39.8 +1.3
baz=84
WUAZ Wupatki 83.78 47 ⇑P P 07 40 40.8 +1.8
baz=84
K30A Basset 83.83 35 ⇑P P 07 40 39.9 +1.0
baz=84,SNR=9.6
O25A Wiggins 83.88 39 ⇑P P 07 40 40.6 +1.3
baz=84,SNR=5.7
P24A Kohler Place, 83.98 40 ⇓P P 07 40 41.6 +1.7
baz=84
MVCO Mesa Verde 84.00 44 ⇓P P 07 40 41.4 +1.3
baz=84
N27A Anderson Farm, 84.06 38 ⇑P P 07 40 41.4 +1.2
baz=84,SNR=5.5
Y14A Wickenburg 84.07 49 ⇑P P 07 40 41.7 +1.4
baz=84
M28A Bar X Bar Ranc 84.10 37 ⇓P P 07 40 41.3 +0.9
baz=84
O26A Horse Wrangler 84.15 39 ⇑P P 07 40 41.4 +0.8
baz=84,SNR=5.3
OGNE Ogallala 84.17 37 ⇓P P 07 40 41.5 +0.8
baz=84
ECSD EROS Data Cent 84.18 32 eP P 07 40 40.8 +0.2
comp=Z,11nm,0.9s
ECSD EROS Data Cent 84.18 32 ⇑P P 07 40 41.1 +0.5
baz=84,SNR=11
Q24A Divide 84.30 41 ⇓P P 07 40 42.3 +0.6
baz=84
P25A Willow Gulch B 84.33 40 ⇑P P 07 40 42.6 +1.0
baz=84,SNR=7.6
SPMN St. Paul 84.36 29 ⇓P P 07 40 42.0 +0.5
baz=84
M29A Burnside Ranch 84.36 36 ⇓P P 07 40 42.4 +0.8
baz=84
L30A Spencer Herefo 84.37 35 ⇓P P 07 40 42.7 +1.0
baz=84
S22A 4UR Ranch, Cre 84.43 42 ⇑P P 07 40 42.9 +0.6
baz=84,SNR=7.4
113A Mohawk Valley, 84.51 50 ⇑P P 07 40 43.8 +1.4
baz=84
L31A Butterfield Fa 84.56 35 ⇑P P 07 40 43.3 +0.8
baz=84,SNR=5.8
X16A Lo Mia Camp, P 84.57 47 ⇓P P 07 40 44.3 +1.4
baz=84,SNR=6.9
O27A Beecher Island 84.58 38 ⇓P P 07 40 43.6 +0.9
baz=84
R23A Moffat 84.58 41 ⇓P P 07 40 44.1 +1.1
baz=84
N28A Pribbeno Ranch 84.60 37 ⇓P P 07 40 43.8 +1.0
baz=84
M30A Dale-Ortello V 84.64 36 ⇑P P 07 40 43.8 +0.9
baz=84
P26A Davis Ranch, A 84.68 39 ⇓P P 07 40 44.2 +0.9
baz=84
Q25A Bedland, Calha 84.77 40 ⇑P P 07 40 44.7 +0.9
baz=84
S23A Nye Farm, Mont 84.87 42 ⇓P P 07 40 45.1 +0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=85						
R24A	Sanders Place,	84.89	41	⇑P	P	07 40 45.9	+1.4
	baz=85,SNR=5.6						
N29A	Votaw Ranch, W	84.90	37	⇑P	P	07 40 45.2	+1.0
	baz=85						
O28A	Krutsinger Ran	84.95	38	⇑P	P	07 40 45.5	+1.0
	baz=85						
W18A	Petrified Fore	84.95	46	⇑P	P	07 40 45.5	+0.8
	baz=85						
P27A	Ficken Ranch,	85.04	39	⇑P	P	07 40 45.8	+0.8
	baz=85						
Q26A	Hugo	85.11	40	⇑P	P	07 40 46.1	+0.7
	baz=85						
N30A	Hueftle Ranch,	85.15	36	⇓P	P	07 40 47.0	+1.5
	baz=85						
M31A	Lambtecht Ranc	85.19	35	⇓P	P	07 40 46.3	+0.7
	baz=85						
X18A	Snowflake	85.29	46	⇑P	P	07 40 47.3	+1.0
	baz=85						
S24A	Houchin Ranch,	85.31	41	⇑P	P	07 40 47.6	+1.0
	baz=85						
R25A	Fountain Ranch	85.36	40	⇓P	P	07 40 47.5	+0.9
	baz=85,SNR=5.1						
T23A	Casias Ranch,	85.38	42	⇑P	P	07 40 47.8	+1.0
	baz=85,SNR=6.9						
O29A	4D Ranch, Culb	85.39	37	⇓P	P	07 40 47.7	+1.1
	baz=85						
P28A	Saint Francis	85.40	38	⇑P	P	07 40 47.8	+1.0
	baz=85						
KSCO	Kaye Shedlock'	85.45	39	⇓P	P	07 40 47.9	+0.9
	baz=85						
U22A	Llaves	85.48	43	⇑P	P	07 40 48.0	+0.6
	baz=85						
BGNE	Belgrade	85.48	35	⇑P	P	07 40 47.8	+0.9
	baz=85						
N31A	Bailey Ranch,	85.62	36	⇑P	P	07 40 48.5	+0.8
	baz=85						
R26A	Arlington	85.64	40	⇑P	P	07 40 48.9	+1.0
	baz=85,SNR=7.4						
214A	Organ Pipe Nat	85.65	50	⇑P	P	07 40 49.1	+1.1
	baz=86						
S25A	Robets Cordova	85.67	41	⇑P	P	07 40 48.9	+0.7
	baz=86						
O30A	MW Ranch, Wils	85.67	37	⇓P	P	07 40 48.6	+0.6
	baz=85						
T24B	San Luis	85.68	42	⇑P	P	07 40 49.2	+0.8
	baz=86						
P29A	Atwood	85.75	38	⇑P	P	07 40 49.6	+1.2
	baz=86						
Q28A	Sharon Springs	85.78	38	⇑P	P	07 40 49.4	+0.8
	baz=86						
V22A	San Miguel Ran	85.81	44	⇓P	P	07 40 49.7	+0.8
	baz=86						
U23A	El Rito	85.85	43	⇓P	P	07 40 50.0	+0.9
	baz=86,SNR=6.0						
R27A	Eads	85.95	39	⇓P	P	07 40 50.0	+0.6
	baz=86,SNR=6.7						
O31A	Woolen Ranch,	86.02	36	⇓P	P	07 40 50.2	+0.6
	baz=86						
T25A	Trinidad	86.10	41	⇑P	P	07 40 50.8	+0.6
	baz=86,SNR=7.8						
P30A	Selden	86.11	37	⇓P	P	07 40 50.7	+0.7
	baz=86						
S26A	Kim	86.17	40	⇓P	P	07 40 51.2	+0.7
	baz=86						
U24A	Moreno Valley	86.25	42	⇓P	P	07 40 51.3	+0.3
	baz=86						
Q29A	Oakley	86.31	38	⇑P	P	07 40 51.7	+0.7
	baz=86						
R28A	Tribune	86.37	39	⇑P	P	07 40 52.0	+0.6
	baz=86						
O32A	Brockman Farm,	86.38	35	⇓P	P	07 40 51.7	+0.4
	baz=86						
T26A	Comanche Natio	86.46	41	⇓P	P	07 40 52.7	+0.8
	baz=86						
P31A	Stockton	86.51	37	⇑P	P	07 40 52.6	+0.7
	baz=86,SNR=5.7						
Q30A	Quinter	86.58	37	⇓P	P	07 40 53.3	+1.1
	baz=86,SNR=5.9						
R29A	Marienthal	86.61	38	⇑P	P	07 40 53.4	+0.9
	baz=86						
U25A	Circle Dot Ran	86.68	42	⇓P	P	07 40 53.7	+0.7
	baz=86						
P32A	Huiting Farm,	86.77	36	⇓P	P	07 40 53.7	+0.7
	baz=86						
V24A	Rampart Ranch,	86.79	43	⇑P	P	07 40 54.5	+0.9
	baz=87						
W23A	Werner Place,	86.79	44	⇑P	P	07 40 53.8	+0.3
	baz=87						
ANMO	Albuquerque	86.80	44	⇑eP	P	07 40 53.0	-0.5
ANMO				pmax	pmax		
	comp=Z,11nm,1.3s						
Q31A	Ellis	86.93	37	⇓P	P	07 40 54.2	+0.3
	baz=87						
S28A	Manter	86.94	39	⇑P	P	07 40 55.1	+1.1
	baz=87,SNR=8.9						
T27A	Campo	86.97	40	⇑P	P	07 40 55.3	+1.1
	baz=87,SNR=5.6						
U26A	Atchley Ranch,	87.01	41	⇑P	P	07 40 55.5	+1.0
	baz=87						
V25A	Rancho No Teng	87.02	42	⇓P	P	07 40 55.6	+1.0
	baz=87						
R30A	Dighton	87.12	38	⇑P	P	07 40 55.6	+0.8
	baz=87						
W24A	Lazy 6 Ranch,	87.12	43	⇓P	P	07 40 55.9	+0.8
	baz=87						
T28A	Walsh	87.21	40	⇑P	P	07 40 56.0	+0.7
	baz=87						
X23A	Hourglass Bar	87.22	44	⇑P	P	07 40 56.2	+0.6
	baz=87						
S29A	Ulysses	87.28	39	⇓P	P	07 40 55.9	+0.3
	baz=87						
Q32A	Meitler Ranch,	87.31	36	⇓P	P	07 40 56.4	+0.7
	baz=87						
U27A	Thompson Grove	87.44	41	⇓P	P	07 40 57.7	+1.2
	baz=87,SNR=8.0						
R31A	Burdett	87.46	37	⇓P	P	07 40 56.7	+0.3
	baz=87						
V26A	Tequesquite Ra	87.47	42	⇓P	P	07 40 57.4	+0.8
	baz=87						
S30A	Montezuma	87.56	38	⇓P	P	07 40 58.2	+1.3
	baz=87,SNR=10						
T29A	Hugoton	87.57	39	⇑P	P	07 40 58.0	+1.1
	baz=87						
W25A	X Bar L Ranch,	87.59	42	⇓P	P	07 40 58.6	+1.4
	baz=87						
Q33A	Connelly Farm,	87.62	36	⇓P	P	07 40 58.2	+1.2
	baz=87						
R32A	Long Quarter,	87.71	37	⇓P	P	07 40 57.8	+0.3
	baz=88						
U28A	Mallet	87.76	40	⇓P	P	07 40 58.8	+0.9
	baz=88,SNR=7.3						
Y23A	Lovelace Mesa,	87.80	44	⇑P	P	07 40 58.1	-0.1
	baz=88						
Z22A	Elephant Butte	87.85	45	⇑P	P	07 40 58.8	+0.3
	baz=88,SNR=5.9						
V27A	Dan Oppiter Fa	87.96	41	⇓P	P	07 40 60.0	+1.1
	baz=88						
121A	Cookes Peak, D	87.97	46	⇓P	P	07 41 00.1	+1.0
	baz=88						
T30A	Plains	88.01	39	⇓P	P	07 41 00.3	+1.3
	baz=88						
X25A	Clemmons Ranch	88.04	43	⇑P	P	07 41 00.5	+1.2
	baz=88						
W26A	Owens Ranch, T	88.04	42	⇑P	P	07 41 00.3	+1.1
	baz=88						
319A	Douglas	88.05	48	⇑P	P	07 40 59.7	+0.3
	baz=88						
KSU1	Kansas State U	88.06	35	eP	P	07 40 59.6	+0.5
	comp=Z,6.1nm,0.7s						
KSU1	Kansas State U	88.06	35	⇓P	P	07 41 00.1	+0.9
	baz=88						
Y24A	Capitan	88.12	44	⇓P	P	07 40 59.8	+0.1
	baz=88						
R33A	Olander Ranch,	88.12	36	⇓P	P	07 40 59.3	-0.2
	baz=88						
U29A	Oasis Ranch, S	88.15	40	⇑P	P	07 41 00.1	+0.4
	baz=88						
S32A	Newby Ranch, P	88.20	37	⇑P	P	07 41 00.0	+0.2
	baz=88						
V28A	Channing	88.26	41	⇑P	P	07 41 01.3	+1.0
	baz=88						
T31A	Randall Ranch,	88.36	38	⇑P	P	07 41 02.0	+1.4
	baz=88						
U30A	WK&E Inc. Balk	88.38	39	⇓P	P	07 41 02.2	+1.4
	baz=88						
W27A	Bowe Ranch, En	88.41	42	⇑P	P	07 41 02.1	+1.2
	baz=88						
V29A	Stinnett	88.50	40	⇑P	P	07 41 02.6	+1.2
	baz=88						
ESDC	Sonseca Array	88.54	327	P	P	07 41 00.9	-0.5
	comp=Z,0.2nm,0.3s,baz=22,slow=5.0,SNR=4.7						
Z24A	Sheeppen Canyo	88.62	44	⇑P	P	07 41 02.7	+0.6
	baz=88						
T32A	Huddler Ranch,	88.64	38	⇓P	P	07 41 01.8	-0.1
	baz=88						
W28A	Vega	88.67	41	⇓P	P	07 41 03.3	+1.1
	baz=88						
Z25A	Roswell	89.00	44	⇑P	P	07 41 04.7	+1.0
	baz=89,SNR=8.3						
T33A	Patterson Ranc	89.02	37	⇓P	P	07 41 04.1	+0.5
	baz=89						
AMTX	Amarillo	89.22	41	⇓P	P	07 41 05.7	+1.0
	baz=89						
U32A	Winter Ranch,	89.26	38	⇑P	P	07 41 05.5	+0.7
	baz=89						
Y27A	Causey	89.30	42	⇑P	P	07 41 04.6	-0.5
	baz=89						
Z26A	Caprock	89.38	43	⇓P	P	07 41 05.5	0.0
	baz=89						
MSTX	Muleshoe	89.42	42	⇑P	P	07 41 06.0	+0.3
	baz=89						
X29A	Tulia	89.57	41	⇑P	P	07 41 07.0	+0.6
	baz=89						
Z27A	Tatum	89.73	43	⇑P	P	07 41 07.6	+0.5
	baz=90,SNR=6.3						
Y28A	McKinney Farm,	89.73	42	⇓P	P	07 41 08.0	+0.9
	baz=90						
X30A	Coker Ranch, T	89.97	40	⇓P	P	07 41 09.1	+0.9
	baz=90						
Y29A	Porterfield Fa	90.05	41	⇑P	P	07 41 08.7	+0.2
	baz=90						
127A	Arkansas Junct	90.17	43	⇓P	P	07 41 09.4	+0.3
	baz=90						
W32A	Sentinel	90.18	39	⇓P	P	07 41 09.5	+0.4
	baz=90						
X31A	McDonald Ranch	90.24	40	⇑P	P	07 41 09.6	+0.3
	baz=90						
V34A	Guthrie	90.39	37	⇑P	P	07 41 10.2	+0.3
	baz=90						
Y30A	Stafford Cattl	90.42	41	⇓P	P	07 41 10.9	+0.6
	baz=90						
W33A	Caddo, Fort Co	90.52	38	⇓P	P	07 41 11.5	+0.9
	baz=90						
Z29A	Hungry Hill Ra	90.52	42	⇓P	P	07 41 11.9	+1.2
	baz=90,SNR=7.7						
SFIN	Scholer Farm	90.63	28	⇓P	P	07 41 11.6	+0.6
	baz=90						
128A	Castleberry Fa	90.65	43	⇓P	P	07 41 12.4	+1.0
	baz=90						
X32A	Elmer	90.74	39	⇓P	P	07 41 12.7	+1.0
	baz=90						
Z30A	Sanderson Ranc	90.78	41	⇓P	P	07 41 13.1	+1.2
	baz=91						
129A	Stewart Farms,	90.95	42	⇓P	P	07 41 13.4	+0.7
	baz=91						
228A	UT Block 9, Go	91.00	43	⇓P	P	07 41 14.6	+1.7
	baz=91						
X33A	Lawton	91.01	39	⇓P	P	07 41 14.1	+1.2
	baz=91						
Y32A	R-V Farms, Ver	91.01	40	⇓P	P	07 41 14.1	+1.2
	baz=91						
TUL1	Tulsa	91.09	36	⇑P	P	07 41 14.5	+1.4
	baz=91						
Z31A	Sharp Cattle R	91.23	41	⇑P	P	07 41 14.9	+0.9
	baz=91						
X34A	Smith Ranch, M	91.27	38	⇑P	P	07 41 14.9	+0.8
	baz=91						
Y33A	Hilltop Ranch,	91.39	39	⇓P	P	07 41 15.7	+1.1
	baz=91						
229A	Bryant Ranch,	91.51	43	⇓P	P	07 41 16.4	+1.1
	baz=91						
Z32A	Haskell	91.56	40	⇑P	P	07 41 16.3	+0.8
	baz=91						
329A	Wagon Wheel Ra	91.81	43	⇓P	P	07 41 18.0	+1.2
	baz=92,SNR=5.6						
Z33A	Whitaker Ranch	91.92	40	⇓P	P	07 41 17.5	+0.4
	baz=92						
230A	Sterling City	91.92	42	⇑P	P	07 41 18.4	+1.2
	baz=92,SNR=8.4						
ABTX	Abilene, Hawle	92.04	41	⇓P	P	07 41 17.4	-0.3
	baz=92						
Z34A	Collier Ranch,	92.25	39	⇓P	P	07 41 18.7	+0.1
	baz=92						
330A	Mertzon	92.28	42	⇑P	P	07 41 19.4	+0.6
	baz=92						
133A	Hamilton Ranch	92.41	40	⇑P	P	07 41 19.3	-0.1
	baz=92						
429A	Davenport Ranc	92.55	43	⇓P	P	07 41 20.3	+0.2
	baz=92						
Z35A	Perchaven, San	92.59	39	⇑P	P	07 41 20.4	+0.2
	baz=92						
232A	Coleman	92.64	41	⇑P	P	07 41 21.0	+0.5
	baz=92						
TXAR	Lajitas Array	92.67	45	P	P	07 41 22.3	+1.6
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TXAR	Lajitas Array	92.67	45	P	P	07 41 22.3	+1.6
	comp=Z,2.1nm,0.6s,baz=283,slow=3.1,SNR=28						
331A	San Angelo	92.73	42	⇓P	P	07 41 21.2	+0.3
	baz=92						
430A	Baggett Ranch,	92.75	43	⇑P	P	07 41 22.0	+1.0
	baz=93						
529A	Stev Forest Ra	92.79	44	⇑P	P	07 41 22.3	+1.1
	baz=93						
233A	Rising Star	92.90	41	⇓P	P	07 41 22.6	+1.0
	baz=93						
332A	Millersview	93.01	41	⇑P	P	07 41 22.9	+0.7
	baz=93						
135A	Vickery Place,	93.16	39	⇑P	P	07 41 23.4	+0.6
	baz=93						
530A	J-C Ranch, Com	93.22	43	⇓P	P	07 41 23.5	+0.4
	baz=93						
234A	Clairette	93.28	40	⇓P	P	07 41 23.0	-0.3
	baz=93						
432A	Menard	93.40	42	⇓P	P	07 41 24.0	+0.1
	baz=93						
333A	Richland Sprin	93.43	41	⇓P	P	07 41 24.6	+0.6
	baz=93						
KMBO	Kilima Mbogo	93.44	272	P	P	07 41 24.0	-0.6
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KMBO	Kilima Mbogo	93.44	272	P	P	07 41 24.0	-0.6
	comp=Z,1.0nm,0.6s,baz=31,slow=9.7,SNR=8.3						
531A	Rocksprings	93.61	43	⇓P	P	07 41 25.5	+0.6
	baz=93						
JCT	Junction City	93.72	42	⇑P	P	07 41 26.1	+0.7
	baz=94						
532A	Rocksprings	93.95	42	⇑P	P	07 41 27.4	+0.9
	baz=94						
SYO	Syowa Base	129.33	208	⇓eX	Pdif	07 44 01.2	-1.6
SAML	Samuel	144.37	24	ePKPdf	PKPdf	07 47 40.5	-0.5
LPAZ	La Paz	149.22	38	PKPbc	PKPbc	07 47 54.4	-0.4
	comp=Z,1.8nm,0.5s,baz=300,slow=6.9,SNR=10						
LPAZ	La Paz	149.22	38	ePKPbc	PKPbc	07 47 54.5	-0.3
LPAZ				ePKPab	PKPab	07 48 01.2	-0.4

DDA 21 07:41:01.3, 38.78N×40.14E, h6km, MD2.7
ISCJB 21 07:41:02.0±1.0, 38.80N±0.08×40.09E±0.06, h10km, Error ellipse: s-maj=11.3km s-min=6.8km az=176.1
ISC 21 07:41:01.7±1.1, 38.8N±0.1×40.14E±0.04, h10km, n4, σ1§33/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	Bing¨¶l	0.48	62	ePG	Pg	07 41 11.1	0.0
BNGB				eSG	Sb	07 41 19.8	+0.3
PTK	Pertek	0.60	282	ePG	Pg	07 41 12.9	-0.4
ELZG	Elazig	0.94	254	iP	Pn	07 41 20.6	-0.6
ELZG				iS	Sn	07 41 36.5	+1.7
BEST	Besiri	1.25	134	iP	Pn	07 41 24.1	-1.2
BEST				iS	Sn	07 41 43.6	+1.4

IDC 21 08:00:35.0±2.1, 27.91N×141.52E, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.4/29, mbtmp3.7/3, ML3.3/1, MS3.4/3, Ms1 3.4/3, ms1mx2.7/30, Error ellipse: s-maj=58.3km s-min=23.4km az=54.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.01	144	Pn	Pn	08 00 56.6	+0.3
	20nm,0.3s,baz=266,slow=23,SNR=9.5						
JCJ				Sn	Sn	08 01 11.7	+0.5
	47nm,0.3s,baz=294,slow=21,SNR=19						
MJAR	Matsushiro Arr	9.05	343	Pn	Pn	08 02 46.5	-0.4
	0.3nm,0.3s,baz=158,slow=11,SNR=5.0						
KSRS	Korea Array	14.87	313	LR	LR	08 08 55.8	
	comp=Z,59nm,18.4s,baz=166,slow=34						
USRK	Ussuriysk Arra	17.96	337	LR	LR	08 10 42.8	
	comp=Z,74nm,19.7s,baz=302,slow=34						
BATI	Baumata	41.65	207	LR	LR	08 25 23.5	
	comp=Z,158nm,18.9s,baz=101,slow=36						
WRA	Warramunga Arr	48.08	189	P	P	08 09 16.9	+0.5
	0.9nm,0.6s,baz=12,slow=8.4,SNR=7.3						
ASAR	Alice Springs	51.80	189	P	P	08 09 43.7	-1.1
	0.2nm,0.5s,baz=1.9,slow=5.7,SNR=1.9						

IDC 21 08:09:08.8±1.3, 3.84N×126.65E, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.7/35, mbtmp4.2/5, MS3.3/2, Ms1 3.3/2, ms1mx2.7/32, Error ellipse: s-maj=127.0km s-min=20.4km az=66.0
ISCJB 21 08:09:14.5±0.8, 3.70N±0.08×126.61E±0.07, h53km, mb4.1/5, MS3.3/2, Error ellipse: s-maj=13.3km s-min=7.0km az=36.3
DJA 21 08:09:16.3±0.7, 3°N±5°×12°7E±°, h10km, M4.5/6, mb4.7/3, mB4.8/1, MLv4.4/6, Mw(mB)4.0/1
ISC 21 08:09:16.3±0.9, 3.73N±0.08×126.58E±0.08, h53km, n27, σ1§71/24, mb4.2/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.05	268	P	Pn	08 09 34.6	-0.1
SGSI				S	Sn	08 09 47.0	-1.4
TNTI	Ternate	3.04	165	P	Pn	08 10 00.1	-1.9
LBMI	Labuha	4.43	168	S	Sn	08 11 10.9	-0.6
MRSI	Marisa	5.65	235	P	Pn	08 10 41.8	+4.1
SANI	Sanana	5.77	186	P	Pn	08 10 35.7	-3.7
	19nm,0.9s,796nm0.1nm						
SANI				S	Sn	08 11 40.8	-3.5
	19nm,0.9s,796nm0.1nm						
LUWI	Luwuk	6.08	219	P	Pn	08 10 44.8	+1.2
	185nm,1.1s,0.7nm						
LUWI	Luwuk	6.08	219	P	Pn	08 10 50.8	+7.2
	baz=4.8,SNR=4.0						
SWI	Sorong	6.54	134	P	Pn	08 10 49.4	-0.5
SWI	Sorong	6.54	134	P	Pn	08 10 50.1	+0.2
	baz=5.2,SNR=3.1						
APSI	Ampana	6.74	227	P	Pn	08 10 57.6	+4.8
FAKI	Fak Fak	8.70	139	P	Pn	08 11 20.2	+0.5
	baz=7.2,SNR=6.6						
JAY	Jayapura	15.42	114	P	P	08 13 01.2	+6.9
	baz=15,SNR=3.1						
MTN	Manton Dam	17.07	165	P	Pn	08 13 09.6	-1.9
	baz=15,SNR=4.2						
KDU	Kakadu	17.33	160	P	Pn	08 13 13.6	-1.0
	baz=16,SNR=5.0						
JAGI	Jajag, Banyuwa	17.33	226	S	S	08 16 38.1	+5.0
	baz=16,SNR=3.1						
KNRA	Kununurra	19.40	174	P	P	08 13 38.5	+0.4
	baz=18,SNR=7.6						
PMG	Port Moresby	24.31	123	LR	LR	08 25 54.7	
	comp=Z,35nm,18.2s,baz=300,slow=41						
WRA	Warramunga Arr	24.73	162	P	P	08 14 32.6	-0.3
	15nm,0.8s,baz=343,slow=11,SNR=59						
QIS	Mount Isa	27.31	153	P	P	08 14 59.2	+2.9
	baz=26,SNR=4.9						
ASAR	Alice Springs	28.15	166	P	P	08 15 03.5	-0.3
	0.7nm,0.5s,baz=346,slow=7.1,SNR=19						
ASAR				PcP	PcP	08 18 17.8	+0.9
	0.3nm,0.5s,baz=342,slow=2.2,SNR=4.4						
WRKA	Warakurna	28.64	177	P	P	08 15 08.1	0.0
	baz=27,SNR=16						
MEEK	Meekatharra	31.16	194	P	P	08 15 30.3	-0.1
	baz=29,SNR=4.4						
BBOO	Buckleboo	37.44	167	P	P	08 16 25.5	+0.9
	baz=36,SNR=7.1						
STKA	Stephens Creek	38.18	159	P	P	08 16 31.1	+0.1
	4.7nm,0.6s,baz=334,slow=9.6,SNR=9.0						
STKA	Stephens Creek	38.18	159	P	P	08 16 31.0	+0.1
	baz=36,SNR=7.2						
MKAR	Makanchi Array	57.47	325	P	P	08 18 59.3	-0.7
	0.4nm,0.4s,baz=118,slow=7.5,SNR=15						
FINES	FINESS Array B	91.76	332	P	P	08 22 17.7	-0.4
	1.0nm,0.9s,baz=78,slow=7.7,SNR=1.7						
FINES				LR	LR	09 06 29.1	
	comp=Z,24nm,18.7s,baz=90,slow=38						

MAN 21 08:19:40, 18.86N×121.04E, h18km, mb4.2, ML3.0, MS2.8, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.66	217	⇓iP	Pg	08 19 53.6	+0.5
PIP				eS	Sn	08 20 05.8	+1.3
APYP	Conner	1.01	169	eP	Pg	08 19 60.0	+0.3
APYP				eS	Sg	08 20 12.9	0.0
SIPP	Brgy, Tapao	1.08	211	⇓iP	Pb	08 19 50.6	-10
SIPP				eS	Sb	08 20 03.8	-10
SGCP	Mt. Cagua	1.14	122	eP	Pn	08 20 00.4	-0.6
ABRA	Dolores	1.24	194	eP	Pb	08 20 03.4	+0.5
CVP	Callao Caves	1.37	147	eP	Pb	08 20 04.8	-0.3
CVP				eS	Sg	08 20 23.9	-0.5
CAUP	Cauayan	2.04	158	eP	Pg	08 20 24.9	+5.6

ISCJB 21 08:23:15.5±0.6, 25.68N±0.05×102.22E±0.08, h10km, mb3.8/12, MS3.1/4, Error ellipse: s-maj=11.7km s-min=5.7km az=151.9
IDC 21 08:23:16.4±0.9, 25.90N×102.52E, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.7/37, mbtmp3.8/13, ML4.4/1, MS3.2/4, Ms1 3.2/4, ms1mx2.7/38, Error ellipse: s-maj=26.3km s-min=17.2km az=86.0
BJI 21 08:23:17.9, 25.75N×102.29E, h7km, mB4.1/2, mb4.1/9, ML3.8/15, Ms3.8/6, Ms7 3.6/3
ISC 21 08:23:17.3±0.6, 25.69N±0.05×102.27E±0.07, h10km, n22, σ1§39/22, mb3.9/12, MS3.1/4, 1C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	0.71	143	⇓Pg	Pg	08 23 30.5	-0.6
KMI				Sg	Sg	08 23 39.8	-0.6
KMI				smax	smax		
	comp=N,3μm,0.6s						
KMI				smax	smax		
	comp=E,5μm,0.4s						
GYA	Guiyang	4.03	78	⇑iPn	Pn	08 24 20.8	+1.7
GYA				smax	smax		
	comp=N,110nm,0.8s						
GYA				smax	smax		
	comp=E,70nm,0.6s						
CD2	Chengdu	5.36	14	Pn	Pn	08 24 39.5	+2.1
CD2				Sn	Sn	08 25 40.6	+1.4
CD2				Sg	Sg	08 26 06.4	-3.0
CD2				smax	smax		
	comp=N,190nm,0.9s						
CD2				smax	smax		
	comp=E,290nm,0.9s						
CMAR	Chiang Mai Arr	7.83	204	Pn	Pn	08 25 17.2	+5.8
	1.3nm,0.3s,baz=15,slow=12,SNR=9.0						
CMAR				Pg	Pg	08 25 45.7	-1.6
	1.3nm,0.3s,baz=10,slow=16,SNR=20						
CMAR				Lg	Lg	08 27 35.5	
	2.2nm,0.3s,baz=7.8,slow=28,SNR=6.9						
XAN	Xi'an	10.12	33	P	Pn	08 25 41.5	-1.3
XAN				pmax	pmax		
	comp=Z,2.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,15nm,5.0s						
XAN				LR	LR		
	comp=N,250nm,11.4s						
XAN				LR	LR		
	comp=E,110nm,10.7s						
XAN				LR	LR		
	comp=Z,56nm,8.6s						
GTA	Gaotai	13.83	352	eP	P	08 26 43.0	+0.9
GTA				pP	pP	08 26 47.3	
GTA				sP	sP	08 26 50.4	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	Songino Array	22.34	7	P	P	08 28 14.7	-0.7
	comp=Z,1.3nm,0.8s,baz=189,slow=11,SNR=12						
KSRS	Korea Array	24.72	55	LR	LR	08 38 35.9	
	comp=Z,28nm,19.7s,baz=160,slow=38						
CN2	Changchun	26.11	40	eP	P	08 28 50.3	-1.0
MKAR	Makanchi Array	26.37	328	P	P	08 28 54.9	+1.1

comp=Z,1.7nm,0.5s,baz=134,slow=11,SNR=24
AAK Ala-Archa 28.34 314 P P 08 29 14.4 +2.8
comp=Z,2.1nm,0.4s,baz=113,slow=6.6,SNR=8.9
ZALV Zalesovo Beam 31.06 340 P P 08 29 35.6 +0.2
comp=Z,1.0nm,0.3s,baz=147,slow=8.9,SNR=4.8
MJAR Matsushiro Arr 32.44 62 LR LR 08 43 30.7
comp=Z,23nm,18.4s,baz=225,slow=38
AKTO Aktyubinsk 41.86 318 LR LR 08 51 24.8
comp=Z,34nm,18.6s,baz=40
WRA Warramunga Arr 55.03 142 P P 08 32 49.8 +0.5
comp=Z,0.4nm,0.4s,baz=332,slow=8.2,SNR=8.3
BRTR Keskin Array B 58.13 302 P P 08 33 11.4 0.0
comp=Z,0.4nm,0.7s,baz=121,slow=9.2,SNR=3.9
AKASG Malin Array Be 59.99 315 P P 08 33 23.0 -0.9
comp=Z,0.6nm,0.7s,baz=72,slow=7.4,SNR=4.0
FINES FINESS Array B 61.21 328 P P 08 33 31.6 -0.5
comp=Z,1.4nm,0.7s,baz=130,slow=3.0,SNR=4.9
ARCES ARCESS Array B 61.55 337 P P 08 33 34.1 -0.2
comp=Z,2.0nm,0.8s,baz=92,slow=7.8,SNR=5.5
ARCES LR LR 09 01 05.3
comp=Z,31nm,18.1s,baz=330,slow=37
GERES GERESS Array B 70.21 315 P P 08 34 30.6 0.0
comp=Z,0.8nm,0.6s,baz=56,slow=7.1,SNR=5.9
ILAR Eielson Array 75.40 24 P P 08 35 00.2 -0.8
comp=Z,0.2nm,0.7s,baz=284,slow=4.3,SNR=4.3
YKA Yellowknife Ar 87.32 16 P P 08 36 04.2 +0.1
comp=Z,0.3nm,0.7s,baz=326,slow=4.8,SNR=9.1

IDC 21 08:47:42.5±2.3, 41.°95N×41.°98E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.3/27, mbtmp3.4/5, ML3.3/2, MS3.9/1, Ms1 3.9/1, ms1mx2.3/36, Error ellipse: s-maj=41.8km s-min=10.0km az=133.0
ISCJB 21 08:47:46.1±0.6, 42.°26N±0.°02×41.°51E±0.°03, h6km±4km, mb3.5/3, MS3.9/1, Error ellipse: s-maj=3.7km s-min=2.4km az=36.5
MOS 21 08:47:47.2±1.1, 42.°26N×41.°58E, h12km, mb4.0/3, Error ellipse: s-maj=6.9km s-min=6.0km az=57.7
TIF 21 08:47:47.2, 42.°22N×41.°64E, h16km±1km
DDA 21 08:47:48.9, 42.°04N×41.°32E, h10km, ML3.9
ISK 21 08:47:48.2, 42.°20N×41.°48E, h20km, ML3.8
CSEM 21 08:47:48.8±0.1, 42.°21N×41.°59E, h20km, ML3.9, Error ellipse: s-maj=4.2km s-min=3.0km az=132.0
AZER 21 08:47:49.1±99.0, 41.°38N×40.°87E, h30km±423km, Error ellipse: s-maj=1878.0km s-min=46.4km az=271.0
ISC 21 08:47:47.6±1.2, 42.°23N±0.°02×41.°50E±0.°02, h20km±4km, n127, σ1§30/162, mb3.5/3, 2C-9D, Western Caucasus

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CHVG Ch'k'valeri 0.66 41 P Pb 08 47 59.8 -0.6
CHVG Ch'k'valeri 0.66 41 P Pb 08 47 59.8 -0.6
CHVG S Sb 08 48 09.2 +0.1
DBOC Borcka 0.89 172 i P Pg 08 48 04.6 -0.4
DBOC i S Sn 08 48 16.9 -0.5
DBOC Borcka 0.89 172 i P Pg 08 48 04.6 -0.4
DBOC i S Sn 08 48 16.9 -0.5
ARTV Artvin 1.09 163 i P Pb 08 48 07.3 -0.6
ARTV i S Sb 08 48 21.3 -0.5
ARTV Artvin 1.09 163 i P Pb 08 48 07.3 -0.6
ARTV i S Sb 08 48 21.3 -0.5
PZAR Pazar-Rize 1.14 203 ePN Pb 08 48 08.9 +0.3
PZAR Pazar-Rize 1.14 203 ePn Pb 08 48 08.9 +0.3
DAGI Agillar 1.19 165 i P Pb 08 48 08.8 -0.5
DAGI i S Sn 08 48 24.1 -0.4
DBAD Bademkaya 1.22 173 i P Pn 08 48 09.1 -0.5
DBAD i S Sb 08 48 24.7 -0.6
DBAD Bademkaya 1.22 173 i P Pn 08 48 09.1 -0.5
DBAD i S Sb 08 48 24.7 -0.6
DDEM Demirkent 1.35 172 i P Pn 08 48 11.3 -0.1
DDEM i S Sn 08 48 28.3 -0.5
DDEM Demirkent 1.35 172 i P Pn 08 48 11.3 -0.1
DDEM i S Sn 08 48 28.3 -0.5
NEY Neytrino 1.36 41⇓ePG Pn 08 48 11.2 -0.5
NEY eS Sn 08 48 28.1 -1.2
NEY Neytrino 1.36 41 ePg Pn 08 48 11.2 -0.5
NEY eSg Sn 08 48 28.1 -1.2
ONI Oni 1.49 75 PG Pn 08 48 11.9 -1.5
ONI S Sn 08 48 30.9 -1.4
ONI Oni 1.49 75 P Pn 08 48 11.9 -1.5
ONI Oni 1.49 75 P Pn 08 48 11.9 -1.5
ONI S Sn 08 48 31.0 -1.4
DIGR Digorskoe uzhe 1.68 66⇓i PG Pn 08 48 15.8 -0.3
DIGR eS Sn 08 48 36.7 -0.5
DIGR Digorskoe uzhe 1.68 66 i Pg Pn 08 48 15.8 -0.3
DIGR eSg Sn 08 48 36.7 -0.5
AKH Akhalkalaki 1.70 118 ePN Pn 08 48 16.8 +0.5
AKH eSN Sb 08 48 39.0 -0.3
AKH Akhalkalaki 1.70 118 PN Pn 08 48 16.8 +0.5
AKH S Sn 08 48 37.9 +0.3
AKH Akhalkalaki 1.70 118 P Pn 08 48 16.8 +0.5
AKH Akhalkalaki 1.70 118 P Pn 08 48 16.8 +0.5
AKH S Sn 08 48 37.9 +0.3
KTUT Trabzon 1.79 227 ePN Pb 08 48 19.0 -0.8
KTUT Trabzon 1.79 227 ePn Pb 08 48 19.0 -0.8
KBZ Khabaz 1.82 34 Pn Pn 08 48 17.9 +0.1
5.8nm,0.3s,baz=210,slow=5.2,SNR=29
KBZ Pg Pb 08 48 19.6 -0.7
8.2nm,0.3s,baz=207,slow=8.1,SNR=29
KBZ Lg Lg 08 48 43.3
22nm,0.3s,baz=60,slow=10,SNR=8.8
MACK Trabzon 1.82 226 i P Pn 08 48 18.9 +1.0
MACK i S Sb 08 48 41.7 -1.0
MACK Trabzon 1.82 226 i P Pn 08 48 18.9 +1.0
MACK i S Sb 08 48 41.7 -1.0
ZEI Tsey 1.86 72 ePN Pn 08 48 18.7 +0.1
ZEI Tsey 1.86 72 ePn Pn 08 48 18.7 +0.1
SOC Sochi 1.88 317 ePN Pb 08 48 22.4 +1.1
SOC Sochi 1.88 317 ePn Pb 08 48 22.4 +1.1
KIV Kislovodsk 1.94 26 ePN Pb 08 48 21.5 -0.7
KIV eSN Sb 08 48 45.3 -0.7
KIV Kislovodsk 1.94 26⇓ePN Pn 08 48 13.5 -6.0
KIV i 08 48 22.2
KIV e 08 48 48.9
KIV pmax pmax
comp=Z,21nm,1.6s
KIV pmax pmax
comp=Z,50nm,0.6s
KIV smax smax
comp=N,436nm,1.1s
KIV Kislovodsk 1.94 26 ePn Pb 08 48 21.5 -0.7
KIV Kislovodsk 1.94 26 i Pg Pb 08 48 22.2 -0.1
comp=N,436nm,1.1s
KIV eSn Sb 08 48 45.3 -0.7
KIV eSg Sg 08 48 48.9 -1.1
LSNR Lesken 2.01 58 ePN Pn 08 48 20.6 +0.1
LSNR Lesken 2.01 58 ePn Pn 08 48 20.6 +0.1
KORR Kora 2.08 65 ePN Pn 08 48 21.8 +0.3
KORR Kora 2.08 65 ePn Pn 08 48 21.8 +0.3
BAYT Ayd¯-ntepe-Bay 2.10 210 ePN Pn 08 48 23.1 +1.3
BAYT eSN Sn 08 48 48.1 +0.8
BAYT Ayd¯-ntepe-Bay 2.10 210 ePn Pn 08 48 23.1 +1.3
BAYT eSn Sn 08 48 48.2 +0.8
PYA Pyatigorsk 2.14 32 ePN Pb 08 48 22.9 +0.7
PYA eS Sb 08 48 50.6 -1.2
PYA Pyatigorsk 2.14 32 ePn Pb 08 48 22.9 +0.7
PYA eSb Sb 08 48 50.6 -1.2
HOMI Horasan 2.20 172 i P Pb 08 48 25.5 -1.4
HOMI i S Sb 08 48 54.4 +0.6
STDR Stavd-Durt 2.21 58 ePN Pn 08 48 23.8 +0.7
STDR eS Sn 08 48 51.3 +1.4
STDR Stavd-Durt 2.21 58 ePn Pn 08 48 23.8 +0.7
STDR eSb Sn 08 48 51.3 +1.4
GUDG Gudauri 2.22 83 P Pn 08 48 23.4 -0.2
GUDG Gudauri 2.22 83 P Pn 08 48 23.4 -0.2
GUDG S Sn 08 48 51.8 +1.2
DIGO Kars 2.30 141 i P Pb 08 48 28.1 -0.4
EZM Erzurum 2.32 183 ePN Pb 08 48 25.9 +0.9
GUMT Gumushane 2.33 221 ePN Pn 08 48 26.4 +1.6
GUMT Gumushane 2.33 221 ePn Pn 08 48 26.5 +1.6
KOPT Kop Dagi 2.33 199 i S Sb 08 48 56.0 -1.6
KOPT Kop Dagi 2.33 199 i P Pb 08 48 29.3 +0.1
KOPT i S Sb 08 48 56.0 -1.6
DUS Dusheti 2.39 92 PN Pn 08 48 27.0 +1.3
DUS S Sb 08 48 58.3 -0.7
DUS Dusheti 2.39 92 P Pb 08 48 30.0 +0.1
DUS Dusheti 2.39 92 Pn Pn 08 48 27.0 +1.3
DUS Dusheti 2.39 92 P Pb 08 48 30.0 +0.1
DUS S Sb 08 48 58.3 -0.7
ESPY Espiye-Giresun 2.46 239 ePN Pn 08 48 27.9 +1.4
ESPY eSN Sn 08 48 56.7 +0.7
ESPY Espiye-Giresun 2.46 239 ePn Pn 08 48 27.9 +1.4
ESPY eSn Sn 08 48 56.7 +0.7
TBLG Delisi 2.47 100 ePN Pn 08 48 28.4 +1.6
TBLG Delisi 2.47 100 ePN Pn 08 48 27.4 +0.7
TBLG Delisi 2.47 100 P Pn 08 48 27.4 +0.7
TBLG Delisi 2.47 100 P Pn 08 48 27.4 +0.7
TBLG S Sn 08 48 58.3 +2.0
EATA Eleskirt 2.48 162 i P Pn 08 48 27.7 +0.5
EATA Eleskirt 2.48 162 i P Pn 08 48 27.7 +0.5
BTKR Batakoyurt 2.52 62 ePN Pn 08 48 27.3 -0.1
BTKR Batakoyurt 2.52 62 ePn Pn 08 48 27.3 -0.1
PRTR Priterechnaya 2.55 52 ePN Pn 08 48 28.4 +0.6
PRTR Priterechnaya 2.55 52 ePn Pn 08 48 28.4 +0.6
SNJR Sundja 2.59 70 ePN Pn 08 48 29.7 +1.3
SNJR Sundja 2.59 70 ePn Pn 08 48 29.7 +1.3
KELT Kelkit 2.68 220 i P Pb 08 48 32.6 -2.4
KELT i S Sn 08 49 04.0 +2.2
KELT Kelkit 2.68 220 i P Pb 08 48 32.6 -2.4
KELT i S Sn 08 49 04.0 +2.2
AGRB Hanur-Agry 2.88 156 ePN Pn 08 48 34.4 +1.8
AGRB Hanur-Agry 2.88 156 ePn Pn 08 48 34.4 +1.8
EZC Erzincan 2.96 214 ePN Pn 08 48 35.3 +1.7
ERZN Erzincan 2.96 208 ePN Pn 08 48 35.3 +1.6
DGRG David-gareji 3.00 104 ePN Pn 08 48 36.5 +2.4
DGRG David-gareji 3.00 104 ePN Pn 08 48 36.1 +2.0
DGRG David-gareji 3.00 104 P Pn 08 48 36.1 +2.0
DGRG David-gareji 3.00 104 P Pn 08 48 36.1 +2.0
DGRG David-gareji 3.00 104 ePn Pn 08 48 36.5 +2.4
GOF Gofitskoye 3.04 21 ePN Pb 08 48 43.6 +2.5
GOF eS Sn 08 49 10.2 -0.3
GOF pmax pmax
comp=Z,90nm,1.0s
GOF smax smax
comp=N,190nm,0.9s
GOF smax smax
comp=E,120nm,1.3s
GOF Gofitskoye 3.04 21 eSn Sn 08 49 10.2 -0.3
comp=N,190nm,0.9s
QZX Qazax, Azerbai 3.13 111 ⇓P Pb 08 48 41.1 -1.5
QZX ⇑S Sb 08 49 20.0 -0.3
QZX Qazax, Azerbai 3.13 111 P Pb 08 48 41.1 -1.5
QZX S Sb 08 49 20.0 -0.3
SUSE Susehri 3.20 232 i P Pn 08 48 39.8 +2.9
SUSE Susehri 3.20 232 i P Pn 08 48 39.8 +2.9
SUSE i S Sb 08 49 19.2 -3.3
GNI Garni 3.21 129 ePN Pb 08 48 42.6 -1.4
ILIC ilic-Erzincan 3.55 220 ePN Pn 08 48 43.5 +1.8
ILIC ilic-Erzincan 3.55 220 ePn Pn 08 48 43.5 +1.8
ZKTA Zakatala 3.87 97 ⇓P Pb 08 48 55.9 +0.7
SNR=3.9
ZKTA ⇑S Sb 08 49 44.3 +2.8
SNR=10.0
ANN Anapa 3.92 312 ePN Pn 08 48 44.9 -1.7
ANN pmax pmax
comp=Z,114nm,1.1s
ANN MLR MLR
comp=E,451nm,20.0s
ANN MLR MLR
comp=N,2μm,20.0s
ANN MLR MLR
comp=Z,527nm,20.0s
ANN Anapa 3.92 312 ePn Pn 08 48 44.9 -1.7
comp=Z,527nm,20.0s
GANJ Ganja 3.96 112 ⇓P Pb 08 48 52.8 -3.9
SNR=3.1
GANJ ⇓S Sb 08 49 43.0 -1.1
SNR=6.1
GANJ Ganja 3.96 112 P Pb 08 48 52.8 -3.9
SNR=3.1
GANJ S Sb 08 49 43.0 -1.1
SNR=6.1
SEKA Sheki 4.39 101 ⇓P Pb 08 49 01.0 -3.0
SEKA ⇓S Sb 08 49 57.3 +0.8
SEKA Sheki 4.39 101 P Pb 08 49 01.0 -3.0
SEKA S Sb 08 49 57.3 +0.8
DIKM Dikmen 4.69 265 ePN Pn 08 48 59.4 +2.2
DIKM Dikmen 4.69 265 ePn Pn 08 48 59.4 +2.2
ALU Alushta 5.72 298 eP Pn 08 49 13.3 +2.0
ALU Alushta 5.72 298 eP Pn 08 49 13.3 +2.0
SEV Sevastopol' 6.16 295 eP Pn 08 49 17.3 -0.1
SEV eS Sn 08 50 26.3 -0.9
SEV Sevastopol' 6.16 295 eP Pn 08 49 17.3 -0.1
BRTR Keskin Array B 6.45 250 Pn Pn 08 49 25.0 +3.4
comp=Z,0.2nm,0.3s,baz=42,slow=10,SNR=3.8
VORD Divnogorie 8.87 351 eP Pn 08 50 05.0 +10
VRHR Novokhopersk 8.87 1 eP Pn 08 50 00.3 +5.7
VRHR pmax pmax
comp=N,6.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,4.0nm,0.7s
VSR Storozhevoye 9.13 351 eP Pn 08 50 01.1 +2.9
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,2.0nm,0.7s
VSR pmax pmax
comp=Z,3.0nm,0.7s
VSR Storozhevoye 9.13 351 eP Pn 08 50 01.1 +2.9
MMAI Mount Meron Ar 10.38 210 Pn Pn 08 50 16.8 +1.3
comp=Z,1.3nm,0.3s,baz=299,slow=26,SNR=2.4
MLR Muntele Rosu 11.69 291 Pn Pn 08 50 37.2 +3.8
comp=Z,0.1nm,0.3s,baz=207,slow=14,SNR=1.7
AKASG Malin Array Be 11.96 319 P Pn 08 50 41.9 +5.0
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 11.96 319 Pn Pn 08 50 41.9 +5.0
comp=Z,0.5nm,0.3s,baz=137,slow=12,SNR=3.3
OBN Obninsk 13.30 348 eP Pn 08 50 55.9 +0.9
OBN Obninsk 13.30 348 eP Pn 08 50 55.9 +0.9
STHS Stebnicka Huta 15.81 304 eP Pn 08 51 25.5 -3.5
STHS Stebnicka Huta 15.81 304 ePN Pn 08 51 25.5 -3.5
GERES GERESS Array B 20.49 298 P Pn 08 52 26.9 +0.4
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 20.49 298 P Pn 08 52 26.9 +0.4
comp=Z,0.7nm,0.6s,baz=110,slow=7.8,SNR=4.2
FINES FINESS Array B 21.37 339 P P 08 52 39.3 +5.9
FINES pmax pmax
comp=Z,2.0nm,1.0s
FINES FINESS Array B 21.37 339 P P 08 52 39.3 +5.9
comp=Z,1.7nm,0.9s,baz=143,slow=9.5,SNR=2.5
HFS Hagfors 24.70 326 P P 08 53 07.9 +0.8
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 24.70 326 P P 08 53 07.9 +0.8
comp=Z,2.0nm,0.7s,baz=130,slow=13,SNR=2.3
TORD Torodi Ar. Bea 44.99 242 P P 08 56 00.7 -1.1
comp=Z,0.5nm,0.7s,baz=35,slow=6.2,SNR=4.2
SONM Songino Array 45.00 60 LR LR 09 18 35.3
comp=Z,141nm,19.9s,baz=135,slow=41

IDC 21 09:00:26.5±2.0, 1.°13N×126.°46E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/30, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/25, Error ellipse: s-maj=173.4km s-min=24.0km az=66.0
ISCJB 21 09:00:27.3±1.2, 1.°1N±0.°1×126.°35E±0.°07, h10km, mb3.6/3, MS3.1/1, Error ellipse: s-maj=17.7km s-min=9.6km az=19.1
DJA 21 09:00:37.7±0.7, 1.°N±3.°×12.°8E±.°, h10km, M3.3/3, MLv3.3/3
ISC 21 09:00:29.3±1.3, 1.°0N±0.°1×126.°48E±0.°07, h10km, n7, σ1§63/8, mb3.6/3, Northern Molucca Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
TNTI Ternate 0.91 102 P Pn 09 00 50.2 +2.1
TNTI S Sn 09 01 01.2 0.0
LBMI Labuha 1.89 147 P Pn 09 01 01.2 -0.5
LBMI S Sb 09 01 27.6 0.0
APSI Ampana 5.18 249 P Pn 09 01 48.8 +1.9
WRA Warramunga Arr 22.16 160 P P 09 05 25.8 +0.2
2.6nm,0.6s,baz=339,slow=11,SNR=27
ASAR Alice Springs 25.53 164 P P 09 05 58.6 +0.4
0.7nm,0.5s,baz=346,slow=11,SNR=17
KSRS Korea Array 36.33 2 LR LR 09 21 14.1
comp=Z,39nm,22.0s,baz=135,slow=34
MKAR Makanchi Array 59.69 326 P P 09 10 31.8 -2.2
0.2nm,0.4s,baz=116,slow=7.7,SNR=9.1

NIED 21 09:14:00, 33.°80N×135.°30E, h59km, Mw3.6 Best double couple: M₀2.73000×10¹⁴ NP1:φs103.00000°, δ25.00000°, λ-154.00000°. NP2:φs349.00000°, δ79.00000°, λ-67.00000°.
JMA 21 09:14:26.7, 33.°81N×135.°32E, h47km±1km, M3.5, 4C-4D Broadband fault plane solution: P waves. NP1: φs355.00000°, δ81.00000°, λ-74.00000°. NP2: φs114.00000°, δ18.00000°, λ-149.00000°. Principal axes: T Plg34.0000°, Azm71.0000°; N Plg16.0000°, Azm172.0000°; P Plg52.0000°, Azm283.0000°; Near south coast of western Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
JWM Minabe 0.05 36 ⇓P Pn 09 14 34.0 0.0
JWM S Sn 09 14 39.1 -0.1
JWZ Kozaga 0.43 130 ⇓P Pn 09 14 36.8 -0.2
JWZ S Sn 09 14 44.1 -0.2
JWY Kouya 0.47 29 ⇓P Pn 09 14 37.6 +0.1
JWY S Sn 09 14 45.1 -0.1
JAJ2 Tsuna 0.71 329 ⇓P Pn 09 14 40.6 +0.2
JAJ2 S Sn 09 14 50.6 +0.3
JAI Aioi 0.72 269 ⇑P Pn 09 14 40.3 -0.3
JAI S Sn 09 14 50.0 -0.7
JHE Heguri 0.89 20 ⇑P Pn 09 14 43.0 0.0
JHE S Sn 09 14 54.9 0.0
JKN2 Miekihoku 0.90 61 ⇑P Pn 09 14 42.9 -0.1
JMN Monobe 1.20 267 ⇑P Pn 09 14 46.6 -0.6
JMN S Sn 09 15 00.9 -1.5
MAT Matsushiro 3.61 40 P Pn 09 15 21.3 +1.2
MAT eS Sn 09 16 07.9 +6.4

MAN 21 09:39:46, 11.°23N×124.°54E, h0km, mb4.0, ML2.8, MS2.5, 1D, Leyte

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
OCLP Ormoc 0.19 158 eP Pg 09 39 50.4 +0.8
OCLP eS Sg 09 39 52.8 +0.7
PLP Palo 0.44 98⇓i P Pg 09 39 55.3 +0.9
MSLP Maasin 1.13 164 eP Pn 09 40 09.1 0.0
MSLP eS Sg 09 40 20.4 -2.0

BJI 21 09:41:59.6, 27.°70S×65.°60E, h10km, mB5.1/21, mb4.8/42, Ms4.8/13, Ms7 4.3/13
ISCJB 21 09:42:01.9±0.3, 27.°54S±0.°06×65.°99E±0.°06, h10km, mb4.8/65, MS3.9/21, Error ellipse: s-maj=9.0km s-min=7.6km az=136.4
MOS 21 09:42:01.9±0.8, 27.°52S×66.°02E, h10km, mb5.0/17, Error ellipse: s-maj=13.6km s-min=8.6km az=88.8
IDC 21 09:42:02.0±0.5, 27.°52S×65.°97E, h0km, mb4.5/20, mb1 4.5/20, mb1mx4.4/36, mbtmp4.5/20, MS3.7/16, Ms1 3.7/16, ms1mx3.5/28, Error ellipse: s-maj=16.5km s-min=14.8km az=164.0
NEIC 21 09:42:03.7±0.2, 27.°52S×65.°97E, h10km, mb5.0/26, Error ellipse: s-maj=5.7km s-min=4.8km az=143.0
ISC 21 09:42:04.7±0.5, 27.°60S±0.°07×65.°82E±0.°08, h16km±2km, h15km:pP-P, n150, σ1§37/167, mb4.8/65, MS3.9/21, 3C-6D, Indian Ocean Triple Junction

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OPO Ambohidratompo 19.33 294 LR LR 09 52 25.9
comp=Z,142nm,19.1s,baz=136,slow=32
H08S1 Diego Garcia H 20.83 19 T T 10 08 23.6
baz=198,slow=75,SNR=22
H08S2 Diego Garcia H 20.83 19 T T 10 08 24.1
baz=198,slow=75,SNR=83
H08S3 Diego Garcia H 20.84 19 T T 10 08 25.1
baz=198,slow=75,SNR=31
BOSA Boshof 35.67 259 P P 09 49 03.5 +1.0
7.1nm,0.8s,baz=86,slow=7.2,SNR=9.9
BOSA LR LR 10 02 01.1
comp=Z,98nm,18.1s,baz=132,slow=34
LBTB Lobatse 36.04 265 P P 09 49 06.7 +1.0
2.8nm,0.7s,baz=127,slow=8.9,SNR=5.2
LSZ Lusaka 36.97 281 eP P 09 49 14.4 +0.8
LSZ pmax pmax
comp=Z,6.0nm,0.8s
LSZ Lusaka 36.97 281 eP P 09 49 14.4 +0.8
comp=Z,6.4nm,0.8s
KMBO Kilima Mbogo 37.97 309 eP P 09 49 23.1 +0.8
KMBO pmax pmax
comp=Z,9.0nm,1.4s
KMBO Kilima Mbogo 37.97 309 eP P 09 49 23.1 +0.8
comp=Z,8.6nm,1.4s
SUR Sutherland 39.05 252 P P 09 49 33.1 +1.8
comp=Z,11nm,0.9s,baz=97,slow=9.0,SNR=5.8
H01W2 Cape Leeuwin H 41.62 112 T T 10 33 49.8
baz=266,slow=75,SNR=3.3
H01W3 Cape Leeuwin H 41.62 112 T T 10 33 50.0
baz=266,slow=75,SNR=4.3
H01W1 Cape Leeuwin H 41.63 112 T T 10 33 50.5
baz=266,slow=75,SNR=4.5
SYO Syowa Base 44.21 193⇑eP P 09 50 10.6 -2.1
SYO Syowa Base 44.21 193⇓eP P 09 50 13.4 +0.7
TSUM Tsumeb 44.82 270 eP P 09 50 19.2 +0.8
comp=Z,3.5nm,0.8s
HYB Hyderabad 46.42 17 i P P 09 50 30.0 -0.8
HYB Hyderabad 46.42 17 eP P 09 50 30.0 -0.8
NVL N'lazarevskaya 52.57 200 eP P 09 51 19.0 +1.9
NVL pmax pmax
comp=Z,8.0nm,0.9s
RAYN Ar Rayn 54.48 337 eP P 09 51 31.7 0.0
comp=Z,6.7nm,1.3s
FITZ Fitzroy Crossi 55.48 94 eP P 09 51 38.5 -0.7
comp=Z,19nm,1.5s
CMAR Chiang Mai Arr 55.91 39 P P 09 51 41.6 -0.5
comp=Z,3.6nm,0.7s,baz=229,slow=7.1,SNR=25
CMAR LR LR 10 14 00.2
comp=Z,32nm,18.3s,baz=176,slow=34
CHTO Chiang Mai 56.20 39 eP P 09 51 43.3 -0.9
CHTO pmax pmax
comp=Z,12nm,1.3s
CHTO Chiang Mai 56.20 39 eP P 09 51 43.3 -0.9
comp=Z,12nm,1.3s
SNAA Sanae 57.36 200 P P 09 51 53.3 +1.4
comp=Z,0.9nm,0.8s,baz=147,slow=20,SNR=3.6
KOLN Koldanda 57.64 19 eP P 09 51 53.6 -0.9
comp=Z,65nm,1.3s
KOLN Koldanda 57.64 19 eP P 09 51 53.6 -0.9
comp=Z,65nm,1.3s
PYUN Piuthan 57.78 18 eP P 09 51 53.9 -1.6
comp=Z,46nm,1.0s
PYUN Piuthan 57.78 18 eP P 09 51 53.9 -1.6
comp=Z,46nm,1.0s
RAMN Ramite 57.80 22 eP P 09 51 54.9 -0.7
comp=Z,8.1nm,0.6s
RAMN Ramite 57.80 22 eP P 09 51 54.9 -0.7
comp=Z,8.1nm,0.6s
DMN Daman 57.94 20 eP P 09 51 55.4 -1.2
comp=Z,22nm,0.9s
DMN Daman 57.94 20 eP P 09 51 55.4 -1.2
comp=Z,22nm,0.9s
ODAN Odare 57.98 23 eP P 09 51 56.0 -0.9
ODAN Odare 57.98 23 eP P 09 51 56.0 -0.9
PKI Pulchoki 57.99 21 eP P 09 51 55.8 -1.3
PKI Pulchoki 57.99 21 eP P 09 51 55.8 -1.3
PKI Pulchoki 57.99 21 eP P 09 51 55.8 -1.3
PKIN Phulchoki 57.99 21 eP P 09 51 55.6 -1.4
KKN Kakani 58.16 20 eP P 09 51 56.8 -1.3
KKN Kakani 58.16 20 eP P 09 51 56.8 -1.3
KKN Kakani 58.16 20 eP P 09 51 56.8 -1.3
GKN Gorkha 58.16 20 eP P 09 51 57.1 -1.0
comp=Z,32nm,0.9s
GKN Gorkha 58.16 20 eP P 09 51 57.1 -1.0
comp=Z,32nm,0.9s
DANN Dangsing 58.23 19 eP P 09 51 57.6 -1.1
comp=Z,30nm,0.8s
DANN Dangsing 58.23 19 eP P 09 51 57.6 -1.1
comp=Z,30nm,0.8s
JIRN Jiri 58.32 21 eP P 09 51 58.6 -0.9
comp=Z,9.7nm,0.7s
JIRN Jiri 58.32 21 eP P 09 51 58.6 -0.9
comp=Z,9.7nm,0.7s
GUN Gumba 58.46 21 eP P 09 51 59.5 -0.9
comp=Z,50nm,1.2s
GUN Gumba 58.46 21 eP P 09 51 59.5 -0.9
comp=Z,50nm,1.2s
TAPN Taplejung 58.54 23 eP P 09 52 00.2 -0.7
comp=Z,21nm,1.0s
TAPN Taplejung 58.54 23 eP P 09 52 00.2 -0.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,21nm,1.0s						
ASAR	Alice Springs	60.81	103	P	P	09 52 15.2	-1.3
	comp=Z,5.5nm,0.8s,baz=246,slow=6.4,SNR=41						
AS31	Alice Springs	60.81	103	eP	P	09 52 15.4	-1.2
LSA	Lhasa	61.92	25	eP	P	09 52 24.2	0.0
LSA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LSA	Lhasa	61.92	25	eP	P	09 52 24.2	0.0
	comp=Z,5.9nm,1.0s						
WRA	Warramunga Arr	62.48	99	P	P	09 52 26.9	-0.9
	comp=Z,8.4nm,1.1s,baz=249,slow=6.3,SNR=22						
WRAB	Tennant Creek	62.50	99	eP	P	09 52 26.7	-1.2
WRAB				pmax	pmax		
	comp=Z,14nm,1.1s						
WRAB	Tennant Creek	62.50	99	eP	P	09 52 26.7	-1.2
	comp=Z,14nm,1.1s						
QSPA	South Pole Qui	62.54	180	P	P	09 52 27.6	0.0
	comp=Z,11nm,0.8s,baz=264,slow=2.0,SNR=38						
QIZ	Qiongzhong	62.98	48	P	P	09 52 31.3	+0.4
QIZ				S	S	10 01 03.3	+2.5
QIZ				pmax	pmax		
	comp=Z,15nm,1.4s						
QIZ				LR	LR		
	comp=Z,120nm,20.9s						
QIZ				LR	LR		
	comp=Z,160nm,18.7s						
KMI	Kunming	63.35	38	P	P	09 52 33.8	+0.2
KMI				pmax	pmax		
	comp=Z,17nm,1.1s						
VNDA	Vanda	64.56	166	P	P	09 52 41.2	+0.7
	comp=Z,4.8nm,0.7s,baz=286,slow=3.5,SNR=4.5						
VNDA				LR	LR	10 17 55.7	
	comp=Z,119nm,19.5s,baz=260,slow=33						
STKA	Stephens Creek	64.68	114	P	P	09 52 41.2	-0.9
	comp=Z,2.5nm,0.8s,baz=287,slow=12,SNR=4.4						
STKA				LR	LR	10 18 04.6	
	comp=Z,39nm,18.1s,baz=202,slow=34						
H09N1	TRISTAN DA CUN	65.00	240	T	T	11 03 01.4	
	SNR=7.3						
GYA	Guiyang	66.57	40	⇑iP	P	09 52 53.9	-0.5
GYA				PP	PP	09 55 25.6	+4.2
GYA				ScP		09 57 28.0	
GYA				S	S	10 01 46.8	+1.7
GYA				SKS	SKKSac	10 02 50.8	+0.1
GYA				SS	SS	10 06 05.4	+2.5
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,110nm,5.3s						
GYA				LR	LR		
	comp=Z,540nm,18.5s						
GYA				LR	LR		
	comp=Z,440nm,19.3s						
GYA				LR	LR		
	comp=Z,460nm,18.2s						
KSH	Kashi	67.44	8	eP	P	09 52 55.8	-3.8
KSH				esP	sP	09 53 02.0	-4.7
KSH				ePP	PP	09 55 25.0	-3.7
KSH				PcS		09 57 23.4	
KSH				S	S	10 01 44.3	-11
KSH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,63nm,2.9s						
KSH				LR	LR		
	comp=Z,32nm,4.9s						
KSH				LR	LR		
	comp=Z,100nm,5.3s						
KSH				LR	LR		
	comp=Z,150nm,4.8s						
CD2	Chengdu	68.53	35	eP	P	09 53 09.0	+2.4
CD2				pP	pP	09 53 13.8	+2.0
CD2				sP	sP	09 53 16.0	+2.3
CD2				PcP	PcP	09 53 33.9	+2.2
CD2				PP	PP	09 55 42.9	+4.6
CD2				PcS		09 57 37.5	
CD2				S	S	10 02 10.8	+2.5
CD2				sS	sS	10 02 18.3	+1.5
CD2				SKS	SKKSac	10 03 05.4	+0.2
CD2				SS	SS	10 06 37.0	+4.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.6s						
AML	Almayashu	69.76	6	P	P	09 53 14.4	-0.1
	SNR=6.8						
ULHL	Ulahol	70.16	8	P	P	09 53 16.6	-0.1
	SNR=12						
ULHL	Ulahol	70.16	8	iP	P	09 53 16.5	-0.1
GNI	Garni	70.20	343	⇓iP	P	09 53 16.6	-0.3
GNI				pmax	pmax		
	comp=Z,15nm,1.4s						
EKS2	Erkin-Say	70.30	6	P	P	09 53 17.6	+0.2
	SNR=10						
EKS2	Erkin-Say	70.30	6	iP	P	09 53 17.5	+0.2
EKS2	Erkin-Say	70.30	6	eP	P	09 53 17.7	+0.4
	comp=Z,18nm,1.4s						
AAK	Ala-Archa	70.34	7	P	P	09 53 17.7	-0.1
	SNR=6.0						
AAK	Ala-Archa	70.34	7	eP	P	09 53 17.6	-0.1
AAK				pmax	pmax		
	comp=Z,14nm,1.4s						
AAK	Ala-Archa	70.34	7	eP	P	09 53 17.6	-0.1
	comp=Z,14nm,1.4s						
KKAR	Karatay Array	70.49	4	eP	P	09 53 18.2	-0.2
KKAR				pmax	pmax		
	comp=Z,13nm,1.3s						
KKAR	Karatay Array	70.49	4	eP	P	09 53 18.2	-0.2
	comp=Z,13nm,1.3s						
TKM2	Tokmak 2	70.75	8	P	P	09 53 20.0	-0.3
	SNR=12						
TKM2	Tokmak 2	70.75	8	eP	P	09 53 19.9	-0.3
TKM2				pmax	pmax		
	comp=Z,16nm,1.3s						
TKM2	Tokmak 2	70.75	8	eP	P	09 53 19.9	-0.3
	comp=Z,16nm,1.3s						
USP	Ospenovka	70.97	7	P	P	09 53 20.6	-0.7
	SNR=11						
USP	Ospenovka	70.97	7	iP	P	09 53 20.6	-0.7
BRTR	Keskin Array B	73.39	335	P	P	09 53 36.4	+0.4
	comp=Z,2.1nm,0.8s,baz=157,slow=6.7,SNR=12						
BRTR				LR	LR	10 22 48.9	
	comp=Z,16nm,19.7s,baz=110,slow=33						
XAN	Xi'an	73.66	36	P	P	09 53 36.4	-1.3
XAN				pmax	pmax		
	comp=Z,12nm,1.5s						
XAN				pmax	pmax		
	comp=Z,49nm,10.3s						
SSLB	Suanglung	73.75	52	eP	P	09 53 38.5	+0.1
	comp=Z,21nm,1.3s						
GTA	Gaotai	73.82	27	eP	P	09 53 38.1	-0.5
GTA				pP	pP	09 53 42.8	-1.0
GTA				sP	sP	09 53 45.8	+0.1
GTA				pmax	pmax		
	comp=Z,12nm,1.5s						
WMQ	Urumqi	73.85	16	P	P	09 53 39.0	+0.4
WMQ				pP	pP	09 53 43.8	0.0
WMQ				sP	sP	09 53 46.0	+0.3
WMQ				PcP	PcP	09 53 54.9	+0.9
WMQ				PP	PP	09 56 25.5	+1.7
WMQ				S	S	10 03 08.6	-0.9
WMQ				sS	sS	10 03 16.4	-1.7
WMQ				SKS	SKSac	10 03 40.8	-4.0
WMQ				SS	SS	10 07 54.8	+0.4
WMQ				pmax	pmax		
	comp=Z,13nm,1.4s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.8s						
WMQ				LR	LR		
	comp=Z,69nm,20.8s						
WMQ				LR	LR		
	comp=Z,120nm,23.8s						
KBZ	Khabaz	74.03	343	LR	LR	10 24 14.9	
	comp=Z,96nm,21.7s,baz=162,slow=34						
TORD	Torodi Ar. Bea	74.15	294	P	P	09 53 40.7	-0.2
	comp=Z,1.2nm,0.7s,baz=106,slow=5.4,SNR=8.3						
TORD				LR	LR	10 24 43.0	
	comp=Z,52nm,19.6s,baz=245,slow=34						
MK31	Makanchi Array	75.53	12	eP	P	09 53 47.3	-0.9
MK31	Makanchi Array	75.53	12	eP	P	09 53 47.3	-0.9
MKAR	Makanchi Array	75.53	12	P	P	09 53 47.3	-0.9
	comp=Z,2.6nm,0.8s,baz=198,slow=5.3,SNR=27						
MKAR				LR	LR	10 24 01.1	
	comp=Z,50nm,21.9s,baz=147,slow=33						
DBIC	Dimbokro	76.20	285	P	P	09 53 53.5	+0.8
	comp=Z,5.1nm,1.1s,baz=74,slow=12,SNR=3.3						
DBIC				LR	LR	10 25 29.9	
	comp=Z,26nm,21.1s,baz=112,slow=34						
ABKAR	Akbulak array	76.69	356	eP	P	09 53 53.9	-0.7
	comp=Z,7.2nm,0.9s						
NJ2	Nanjing	77.89	44	eP	P	09 54 01.5	-0.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC	Hu-ho-hao-te	80.24	33	eP	P	09 54 15.3	+0.7
HHC				sP	sP	09 54 22.3	+0.5
HHC				PP	PP	09 57 16.1	-1.6
HHC				S	S	10 04 18.4	-0.9
HHC				sS	sS	10 04 26.0	-2.0
HHC				SS	SS	10 09 33.0	+1.9
HHC				pmax	pmax		
	comp=Z,24nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,5.4s						
HHC				LR	LR		
	comp=Z,160nm,16.3s						
HHC				LR	LR		
	comp=Z,400nm,17.8s						
HHC				LR	LR		
	comp=Z,140nm,16.7s						
BRVK	Borovoye	80.41	3	ceP	P	09 54 13.9	-1.2
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BRVK	Borovoye	80.41	3	eP	P	09 54 14.3	-0.8
	comp=Z,5.8nm,1.0s						
VRHR	Novokhopersk	81.21	345	eP	P	09 54 28.0	+8.6
VRHR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,4.0nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,30nm,0.8s						
VORD	Divnogorie	81.66	343	eP	P	09 54 19.4	-2.4
VSR	Storozhevoye	81.92	343	eP	P	09 54 21.3	-1.9
VSR				pmax	pmax		
	comp=N,10.0nm,1.4s						
VSR				pmax	pmax		
	comp=E,8.0nm,1.4s						
VSR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
BJI	Beijing	81.99	37	P	P	09 54 23.8	0.0
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZAA0	Zalesovo Array	82.86	11	eP	P	09 54 27.2	-0.8
ZALV	Zalesovo Beam	82.86	11	P	P	09 54 27.8	-0.3
	comp=Z,11nm,0.7s,baz=192,slow=4.7,SNR=29						
ZALV				LR	LR	10 29 40.3	
	comp=Z,46nm,18.4s,baz=58,slow=34						
NVS	Novosibirsk	83.46	10	eP	P	09 54 29.3	-1.8
SONM	Songino Array	83.48	26	P	P	09 54 31.2	-0.3
	comp=Z,5.6nm,1.1s,baz=207,slow=4.8,SNR=27						
SONM				LR	LR	10 30 54.0	
	comp=Z,103nm,19.2s,baz=146,slow=35						
ULN	Ulaanbaatar	83.76	27	d iP	P	09 54 32.1	-0.9
ULN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ULN	Ulaanbaatar	83.76	27	eP	P	09 54 32.2	-0.9
	comp=Z,16nm,1.4s						
ARU	Arti	83.92	356	d iP	P	09 54 33.1	-0.3
ARU						09 57 44.4	
ARU				S	S	10 04 52.4	-3.8
ARU				SS	SS	10 10 29.3	+4.2
ARU				pmax	pmax		
	comp=Z,18nm,1.7s						
ARU	Arti	83.92	356	eP	P	09 54 32.1	-1.3
	comp=Z,14nm,1.3s						
SVE	Sverdlovsk	84.21	357	⇓iP	P	09 54 34.9	0.0
SVE				pmax	pmax		
	comp=Z,22nm,1.3s						
AKASG	Malin Array Be	84.41	338	P	P	09 54 35.2	-0.8
	comp=Z,3.3nm,0.9s,baz=153,slow=4.4,SNR=11						
ZAK	Zakamensk	84.44	23	eP	P	09 54 34.3	-2.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.8s						
TLY	Talaya	85.65	23	eP	P	09 54 42.5	+0.2
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,57nm,17.0s						
CRVS	Cervenica-Dubn	85.85	332	eP	P	09 54 45.1	+1.8
CRVS	Cervenica-Dubn	85.85	332	eP	P	09 54 45.1	+1.8
OBN	Obninsk	86.12	344	⇓eP	P	09 54 45.0	+0.6
OBN						09 54 47.0	
OBN				MLR	MLR		
	comp=Z,46nm,17.0s						
STHS	Stebnicka Huta	86.34	333	eP	P	09 54 46.2	+0.4
STHS	Stebnicka Huta	86.34	333	eP	P	09 54 46.2	+0.4
VYHS	Vyhne	86.64	331	eP	P	09 54 46.8	-0.5
VYHS	Vyhne	86.64	331	eP	P	09 54 46.8	-0.5
KSAR	Wonju Array Be	87.03	45	P	P	09 54 49.0	-0.4
KSAR	Wonju Array Be	87.03	45	P	P	09 54 49.0	-0.4
KSRS	Korea Array	87.06	45	P	P	09 54 49.0	-0.6
	comp=Z,5.2nm,0.8s,baz=233,slow=4.6,SNR=16						
URZ	Urewera	88.25	133	LR	LR	10 27 38.7	
	comp=Z,48nm,18.8s,baz=198,slow=31						
DPC	Dobruska-Polom	89.12	331	eP	P	09 54 59.7	+0.6
DPC	Dobruska-Polom	89.12	331	eP	P	09 54 59.7	+0.6
DPC				ex	x	09 55 09.0	
HNR	Honiara	89.31	100	LR	LR	10 31 11.1	
	comp=Z,41nm,18.4s,baz=140,slow=33						
KHC	Kasperske Hory	89.46	329	eP	P	09 54 59.7	-1.0
KHC	Kasperske Hory	89.46	329	eP	P	09 54 59.7	-1.0
KHC				ex	x	09 55 09.1	
PRU	Pruhonice	89.64	330	eP	P	09 55 00.9	-0.6
PRU				e		09 55 05.4	
PRU	Pruhonice	89.64	330	eP	P	09 55 00.9	-0.6
PRU				epP	pP	09 55 05.4	-1.4
PRGR	Permogore	90.41	351	eP	P	09 55 03.0	-1.8
PRGR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KLMR	Klimovskoe	90.71	347	eP	P	09 55 04.3	-1.9
KLMR				pmax	pmax		
	comp=Z,27nm,1.5s						
ESDC	Sonseca Array	93.23	313	LR	LR	10 37 16.9	
	comp=Z,20nm,19.8s,baz=280,slow=36						
USRK	Ussuriysk Arra	93.57	41	P	P	09 55 18.7	-1.2
	comp=Z,0.8nm,0.6s,baz=211,slow=3.5,SNR=4.2						
FINES	FINESS Array B	94.38	342	P	P	09 55 22.4	-0.7
	comp=Z,2.1nm,0.9s,baz=162,slow=8.0,SNR=4.0						
RCBR	Riachuelo	97.64	259	LR	LR	10 32 44.9	
	comp=Z,45nm,18.1s,baz=89,slow=31						
ILAR	Eielson Array	137.43	20	PKP	PKPdf	10 01 25.4	-1.5
	comp=Z,0.5nm,0.8s,baz=329,slow=3.4,SNR=5.4						
YKA	Yellowknife Ar	145.11	0	PKPbc	PKPbc	10 01 39.3	-0.9
	comp=Z,10nm,0.6s,baz=344,slow=3.6,SNR=354						
ULM	Lac du Bonnet	153.41	333	PKPbc	PKPbc	10 02 00.4	-1.6
	comp=Z,2.1nm,0.5s,baz=25,slow=2.7,SNR=9.0						
NVAR	Mina Array Bea	168.66	17	PKP	PKPdf	10 02 11.7	+0.4
	comp=Z,0.7nm,0.8s,baz=40,slow=1.1,SNR=6.7						
TXAR	Lajitas Array	170.59	283	PKP	PKPdf	10 02 12.1	-0.4
	comp=Z,0.6nm,0.8s,baz=133,slow=5.5,SNR=4.1						
MNTX	Cornudas Mount	171.32	300	ePKPdf	PKPdf	10 02 13.3	+0.5
TUC	Tucson	174.46	329	ePKIKP	PKPdf	10 02 15.4	+1.3
TUC	Tucson	174.46	329	ePKPdf	PKPdf	10 02 15.4	+1.3

IDC 21 09:43:51.6±1.7,16°00S×172°84W,h0km,mb3.6/4, mb1 3.9/4,mb1mx3.5/31,mbtmp3.6/4,Error ellipse: s-maj=62.0km s-min=29.6km az=121.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.87	200	P	P	09 49 06.9	+0.1
	2.5nm,0.6s,baz=11,slow=5.2,SNR=7.4						
WRA	Warramunga Arr	50.24	257	P	P	09 52 49.4	-0.6
	0.2nm,0.6s,baz=96,slow=8.1,SNR=6.5						
ASAR	Alice Springs	50.44	252	P	P	09 52 51.2	-0.2
	0.6nm,0.6s,baz=90,slow=7.4,SNR=7.6						
ILAR	Eielson Array	82.93	11	P	P	09 56 17.2	-0.7
	0.4nm,0.6s,baz=232,slow=6.4,SNR=10.0						
BRTR	Keskin Array B	146.97	321	PKPbc	PKPab	10 03 37.7	-0.4
	0.9nm,0.9s,baz=28,slow=2.9,SNR=3.5						

IDC 21 10:19:14.5±2.8,30°42S×177°84W,h0km,mb3.7/2, mb1 3.9/3,mb1mx3.6/31,mbtmp3.7/3,ML2.8/1,Error ellipse: s-maj=67.2km s-min=22.1km az=111.0
ISCJB 21 10:19:17.1±2.0,30°41S±0°06×177°7W±0°4,h46km, mb3.6/2,Error ellipse: s-maj=44.1km s-min=5.8km az=7.0
ISC 21 10:19:19.6±2.3,30°31S±0°09×177°7W±0°4,h46km,n9, σ1°39/14,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.07	352	Pn	Pn	10 19 38.5	+0.4
	185nm,0.3s,baz=9.2,slow=11,SNR=13						
RAO				Sn	Sn	10 19 50.9	-0.9
	926nm,0.3s,baz=17,slow=19,SNR=23						
HAZ	Te Kaha	8.30	205	PN	Pn	10 21 16.9	-0.4
HAZ				SN	Sn	10 22 53.0	+3.3
PUZ	Puketiti	8.42	202	PN	Pn	10 21 17.8	-1.1
PUZ				SN	Sn	10 22 51.9	-0.7
CNGZ	Carnagh Statio	8.81	201	PN	Pn	10 21 24.1	-0.2
MWZ	Matawai	8.91	205	PN	Pn	10 21 25.2	-0.5
MWZ				SN	Sn	10 23 04.4	-0.3
URZ	Urewera	9.00	207	Pn	Pn	10 21 24.5	-2.4
	0.1nm,0.3s,baz=274,slow=7.1,SNR=5.5						
URZ				Sn	Sn	10 23 06.5	-0.3
	0.9nm,0.3s,baz=218,slow=20,SNR=11						
ASAR	Alice Springs	43.34	267	P	P	10 27 18.1	+0.7
	0.3nm,0.5s,baz=104,slow=7.6,SNR=10						
WRA	Warramunga Arr	44.32	272	P	P	10 27 25.3	0.0
	0.8nm,0.3s,baz=110,slow=8.2,SNR=34						
FINES	FINESS Array B	145.14	340	PKPbc	PKPab	10 38 51.7	+0.8
	1.1nm,0.4s,baz=64,slow=3.2,SNR=10						

CSEM 21 10:34:17.1,37°55N×25°22W,h0km,ML2.2,After PDA
PDA 21 10:34:17.1±1.0,37°55N×25°22W,h0km±7km,MD3.5, ML2.2,Error ellipse: s-maj=4.1km s-min=1.7km az=77.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	Pico Bartolome	0.23	10	eP	Pg	10 34 21.4	-0.3
BART				eS	Sg	10 34 25.4	+0.5
BART				A	A	10 34 27.3	
	581nm,0.3s						
BART	Pico Bartolome	0.23	10	eP	Pg	10 34 21.4	-0.3
BART				eS	Sg	10 34 25.4	+0.5
GRON	Grota Negra	0.33	312	eP	Pg	10 34 22.0	-1.6
GRON				eS	Sg	10 34 26.0	-1.9
GRON				A	A	10 34 31.0	
	135nm,0.2s						
PDA	Ponta Delgada	0.40	300	eP	Pg	10 34 24.6	-0.3
PDA				eS	Sg	10 34 30.3	+0.2
PDA				A	A	10 34 31.6	
	85nm,0.1s						
PDA	Ponta Delgada	0.40	300	eP	Pg	10 34 24.6	-0.3
PDA				eS	Sg	10 34 30.3	+0.2
PSET	Sete Cidades	0.48	305	eS	Sg	10 34 32.7	-0.1
PSET				A	A	10 34 34.3	
	123nm,0.2s						
PSET	Sete Cidades	0.48	305	eS	Sg	10 34 32.7	-0.1
PSMA	Santa Maria	0.56	172	eP	Pg	10 34 26.8	-1.0
PSMA				eS	Sg	10 34 34.6	-0.4
PSMA				A	A	10 34 34.8	
	110nm,0.5s						
PSMN	Pico do Norte,	0.56	167	eS	Sg	10 34 34.9	-0.1
PSMN				A	A	10 34 35.8	
	33nm,0.2s						
PSMN	Pico do Norte,	0.56	167	eS	Sg	10 34 34.9	-0.1

ISCJB 21 10:34:34.6±0.7,6°88N±0°06×72°92W±0°06,h175km±6km, mb3.7/4,Error ellipse: s-maj=13.1km s-min=7.2km az=135.2
FUNV 21 10:34:34.9,6°75N×73°13W,h168km,MW4.2
IDC 21 10:34:35.0±2.7,6°72N×72°96W,h169km±21km,mb3.5/4, mb1 3.7/5,mb1mx3.1/32,mbtmp4.0/5,MS3.3/1,Ms1 3.3/1, ms1mx2.4/26,Error ellipse: s-maj=52.7km s-min=22.6km az=96.0
ISC 21 10:34:35.1±0.9,6°85N±0°07×72°96W±0°07,h168km±8km, n18,σ1°38/28,mb3.9/4,3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.20	32	⇓iP	Pn	10 35 04.2	+0.6
CAPV				eS	Sn	10 35 25.5	-0.1
ROSC	El Rosal	2.40	215	P	Pn	10 35 16.3	-0.1
	78nm,0.3s,baz=101,slow=12,SNR=116						
ROSC				S	Sn	10 35 46.4	-2.1
	79nm,0.3s,baz=92,slow=22,SNR=7.2						
SOCV	Socops	2.53	55	eP	Pn	10 35 18.2	+0.7
SOCV				eS	Sn	10 35 50.3	-0.2
VIGV	El Vigia	2.53	39	⇓iP	Pn	10 35 18.6	+1.0
VIGV				eS	Sn	10 35 51.1	+0.5
ELOV	Elorza	3.46	87	⇓iP	Pn	10 35 30.2	+1.2
ELOV				eS	Sn	10 36 10.3	-0.6
SANV	Sanarito	4.29	52	eP	Pn	10 35 40.6	+0.8
SANV				eS	Sn	10 36 28.5	-1.9
CURV	Curarigua	4.32	43	eP	Pn	10 35 40.9	+0.7
CURV				eS	Sn	10 36 29.3	-1.7
DABV	Dabajuro	4.66	29	eP	Pn	10 35 45.0	+0.6
DABV				eS	Sn	10 36 36.3	-2.3
SIQV	Siquisique	4.90	39	eP	Pn	10 35 47.9	+0.3
SIQV				eS	Sn	10 36 42.6	-1.7
BAUV	El Baul	5.30	67	eP	Pn	10 35 52.4	-0.5
BAUV				eS	Sn	10 36 51.5	-2.3
MONV	Montecano	5.87	30	eP	Pn	10 35 60.0	-0.4
MONV				eS	Sn	10 37 03.6	-3.6
TXAR	Lajitas Array	36.56	312	P	P	10 41 25.9	+0.8
	0.2nm,0.6s,baz=132,slow=12,SNR=3.7						
ULM	Lac du Bonnet	47.31	340	P	P	10 42 52.0	+0.3
	1.4nm,0.4s,baz=149,slow=6.5,SNR=7.1						
SCHQ	Schefferville	48.10	5	P	P	10 42 58.3	+0.6
	2.0nm,0.5s,baz=205,slow=9.3,SNR=6.8						
NVAR	Mina Array Bea	51.58	315	LR	LR	11 10 01.5	
	comp=Z,26nm,18.1s,baz=92,slow=41						
YKA	Yellowknife Ar	63.29	340	P	P	10 44 46.3	+0.7
	1.0nm,0.5s,baz=112,slow=6.7,SNR=51						
ASAR	Alice Springs	149.25	234	PKPbc	PKPbc	10 54 03.8	-1.0
	0.2nm,0.4s,baz=86,slow=3.0,SNR=4.3						
WRA	Warramunga Arr	150.49	241	PKPbc	PKPbc	10 54 07.3	-0.5
	0.3nm,0.4s,baz=108,slow=2.6,SNR=14						

ISC 21 10:56:21.4±3.6,51°7N±0°1×3°2E±0°2,h10km,n6,σ0°43/9, 4C,The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNF	Seneffe	1.39	151	⇑P	Pn	10 56 46.8	0.0
BEBN	Eben Emael	1.80	120	⇑P	Pb	10 56 54.0	-0.3
BCLA	Clavier	1.85	134	⇑P	Pn	10 56 53.2	+0.2
BCLA				S	Sn	10 57 17.2	+0.7
HGN	Heimansgroeve	1.95	118	ePn	Pn	10 56 54.4	-0.1
	1.2nm,0.1s						
HGN				ePg	Pb	10 56 56.5	-0.5
	12nm,0.1s						
MEM	Membach	2.08	121	⇑P	Pn	10 56 56.6	+0.4
MEM				S	Sb	10 57 24.6	-0.3
	comp=N,12nm,0.4s						
WTSB	Winterswijk	2.23	82	ePg	Pn	10 56 58.5	+0.2

MEX 21 11:00:47.4±0.5,16°53N×99°18W,h5km±9km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	1.02	98	iP	Pg	11 01 04.5	-2.6
PNIG				iS	Sg	11 01 18.1	-2.3
TLIG	Tlapa	1.18	30	eP	Pg	11 01 06.7	-3.6
TLIG				iS	Sg	11 01 22.1	-3.8
PLIG	Platanillo	1.88	351	iP	Pn	11 01 17.1	-3.3
PLIG				iS	Sn	11 01 39.8	-4.8
ARIG	Puente Sto Nin	2.06	328	iP	Pn	11 01 19.5	-3.3
ARIG				eS	Sn	11 01 43.9	-5.2
YAIG	Yautepec	2.32	3	iP	Pn	11 01 24.0	-2.6
YAIG				iS	Sn	11 01 52.1	-3.6

IDC 21 11:06:00.4±2.4,3°41N×126°26E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.2/41,mbtmp3.4/3,MS4.2/1,Ms1 4.2/1, ms1mx2.7/17,Error ellipse: s-maj=208.7km s-min=27.5km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	15.59	112	LR	LR	11 14 45.0	
	comp=Z,910nm,20.4s,baz=192,slow=34						
WRA	Warramunga Arr	24.53	161	P	P	11 11 21.3	-0.7
	2.1nm,0.7s,baz=340,slow=11,SNR=8.5						

ASAR Alice Springs 27.93 165 P P 11 11 53.5 +0.9
0.2nm,0.3s,baz=337,slow=10,SNR=6.6
MKAR Makanchi Array 57.55 326 P P 11 15 51.6 -0.3
0.1nm,0.4s,baz=118,slow=6.6,SNR=4.3

MEX 21 11:12:15.3±0.8, 17.00N×95.90W, h14km±8km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Op	Phase ID ISC	Time h m s	Res ISC
VHO	Vista Hermosa	0.80	275	*i* P	Pg	11 12 28.4	-2.7
VHO				*i* S	Sg	11 12 38.4	-3.5
CMIG	Matias Romero	0.97	84	*e*P	Pb	11 12 30.6	-3.5
CMIG				*e*S	Sb	11 12 43.3	-3.6
HUIG	Huatulco	1.24	189	*i* P	Pn	11 12 34.5	-3.8
HUIG				*i* S	Sb	11 12 49.6	-4.8
TPIG	Tehuac#an	1.99	316	*i* P	Pn	11 12 45.6	-3.2
TPIG				*i* S	Sn	11 13 09.8	-3.9
PNIG	Pinotepa	2.22	255	*e*P	Pn	11 12 49.7	-2.1
PNIG				*i* S	Sn	11 13 15.1	-4.0
PCIG		2.88	116	*e*P	Pn	11 12 57.9	-2.9
PCIG				*i* S	Sn	11 13 30.8	-4.5

IDC 21 11:43:47.9±5.8, 5.62S×147.70E, h162km±62km, mb3.1/2, mb1 3.4/4, mb1mx3.0/32, mbtmp3.7/4, Error ellipse: s-maj=102.7km s-min=31.2km az=131.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.80	188	P	Pn	11 44 46.9	+0.9
	12nm,0.3s,baz=25,slow=13,SNR=49						
PMG				S	Sn	11 45 31.1	-0.1
	8.0nm,0.3s,baz=234,slow=17,SNR=6.5						
WRA	Warramunga Arr	19.28	221	P	P	11 48 00.6	+0.2
	0.5nm,0.3s,baz=45,slow=11,SNR=13						
ASAR	Alice Springs	22.33	215	P	P	11 48 33.1	+0.6
	1.2nm,0.5s,baz=47,slow=8.5,SNR=43						
ILAR	Eielson Array	84.86	23	P	P	11 56 04.2	+0.1
	0.4nm,1.0s,baz=219,slow=7.0,SNR=4.2						
TORD	Torodi Ar. Bea	145.67	285	PKPbc	PKPdf	12 03 07.0	-1.0
	0.2nm,0.5s,baz=95,slow=4.3,SNR=3.3						

MAN 21 11:56:33, 18.38N×120.83E, h31km, mb4.7, ML3.6, MS3.6
ISCJB 21 11:56:35.0±0.6, 18.35N±0.06×120.85E±0.05, h40km±6km, mb3.5/6, MS2.8/2, Error ellipse: s-maj=10.7km s-min=7.0km az=27.9
IDC 21 11:56:38.7±7.8, 18.21N×120.93E, h63km±75km, mb3.3/7, mb1 3.4/7, mb1mx3.2/47, mbtmp3.6/7, MS2.9/2, Ms1 2.9/2, ms1mx2.4/19, Error ellipse: s-maj=49.6km s-min=16.7km az=70.0
ISC 21 11:56:35.6±1.2, 18.32N±0.07×120.87E±0.05, h35km±5km, n16, σ0.83/18, mb3.5/6, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Op	Phase ID ISC	Time h m s	Res ISC
PIP	Pasuquin	0.24	272	⇑*i*P	**Pn**	**11 56 41.5**	**-0.9**
PIP				*e*S	**Sb**	**11 56 47.3**	**-0.4**
SIPP	Brgy, Tapao	0.56	225	⇑*i*P	Pn	11 56 41.5	-5.5
SIPP				*e*S	Sb	11 56 46.3	-8.8
APYP	Conner	0.57	142	*e*P	**Pn**	**11 56 46.8**	**-0.5**
APYP				*e*S	**Sn**	**11 56 56.3**	**+0.8**
ABRA	Dolores	0.68	193	*e*P	**Pn**	**11 56 48.5**	**-0.2**
ABRA				*e*S	**Sb**	**11 56 58.8**	**+0.3**
CVP	Callao Caves	1.09	124	⇓*i*P	**Pn**	**11 56 54.1**	**-0.2**
CVP				*i* S	**Sb**	**11 57 09.4**	**-0.5**
SGCP	Mt. Cagua	1.12	94	*e*P	**Pn**	**11 56 54.1**	**-0.6**
SGCP				*e*S	**Sn**	**11 57 09.0**	**+0.1**
CAUP	Cauayan	1.64	146	*e*P	**Pb**	**11 57 05.1**	**-0.1**
TGY	Tagaytay City	4.19	179	P	Pn	11 57 41.5	+4.4
	30nm,0.3s,baz=176,slow=11,SNR=3.2						
KSRS	Korea Array	20.05	17	P	Pn	12 01 08.7	+1.1
	1.9nm,0.9s,baz=189,slow=9.3,SNR=5.8						
KSRS				LR	LR	12 08 34.7	
	comp=Z,27nm,18.0s,baz=166,slow=36						
ASAJ	Asahikawa	31.54	31	LR	LR	12 14 30.6	
	comp=Z,32nm,20.6s,baz=108,slow=34						
SONM	Songino Array	31.73	341	P	**P**	**12 02 56.6**	**+0.3**
	0.3nm,0.6s,baz=161,slow=9.4,SNR=4.6						
WRA	Warramunga Arr	40.25	160	P	**P**	**12 04 07.9**	**-1.4**
	0.5nm,0.9s,baz=340,slow=9.0,SNR=3.2						
MKAR	Makanchi Array	42.51	321	P	**P**	**12 04 29.7**	**+2.1**
	1.6nm,0.8s,baz=115,slow=8.9,SNR=20						
MKAR				PcP	**PcP**	**12 06 20.4**	**+0.5**
	0.2nm,0.7s,baz=98,slow=3.1,SNR=2.7						
ASAR	Alice Springs	43.62	163	P	**P**	**12 04 36.5**	**-0.3**
	0.3nm,0.7s,baz=342,slow=7.0,SNR=9.0						
ZALV	Zalesovo Beam	45.10	331	P	**P**	**12 04 48.2**	**0.0**
	0.6nm,0.3s,baz=111,slow=7.9,SNR=3.3						
YKA	Yellowknife Ar	88.47	22	P	**P**	**12 09 23.8**	**-0.3**
	0.3nm,0.8s,baz=313,slow=4.4,SNR=6.8						

IDC 21 12:28:31.1±4.5, 15.28S×173.92W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/30, mbtmp3.7/4, Error ellipse: s-maj=202.5km s-min=28.7km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.66	240	P	P	12 36 37.5	-0.4
	0.6nm,0.3s,baz=80,slow=6.1,SNR=2.4						
WRA	Warramunga Arr	49.38	257	P	P	12 37 22.5	-0.5
	0.2nm,0.5s,baz=91,slow=6.6,SNR=8.8						
ASAR	Alice Springs	49.67	252	P	P	12 37 25.2	0.0
	1.3nm,0.7s,baz=91,slow=7.5,SNR=21						
ILAR	Eielson Array	82.43	11	P	P	12 40 54.5	-0.4
	0.4nm,0.6s,baz=228,slow=6.4,SNR=20						
BRTR	Keskin Array B	145.75	321	PKPbc	PKPab	12 48 13.0	0.0
	0.8nm,0.8s,baz=57,slow=5.3,SNR=5.1						

ISCJB 21 12:31:21.4±1.4, 26.88N±0.09×35.03E±0.09, h12km, mb3.5/2, Error ellipse: s-maj=14.9km s-min=8.1km az=38.3
SGS 21 12:31:21.7, 26.71N×34.82E, h23km
IDC 21 12:31:21.2±6.0, 26.76N×34.93E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.3/34, mbtmp3.7/3, ML2.6/1, Error ellipse: s-maj=117.4km s-min=43.5km az=17.0
CSEM 21 12:31:22.0, 26.71N×34.82E, h23km, ML3.4, After SNSN
ISC 21 12:31:23.3±1.6, 26.92N±0.09×35.15E±0.09, h12km, n14, σ1.35/16, Red Sea

Code	Station Name	Δ°	AZ°	Op	Phase ID ISC	Time h m s	Res ISC
WJHS		1.13	99	P	**Pb**	**12 31 43.0**	**-1.7**
WJHS		1.13	99	P	**Pb**	**12 31 43.5**	**-1.3**
BIDS	Bi'r al Bayda'	1.62	92	P	**Pn**	**12 31 51.0**	**-0.6**
BIDS				S	**Sb**	**12 32 13.0**	**-0.4**
BIDS	Bi'r al Bayda'	1.62	92	P	**Pn**	**12 31 51.5**	**-0.2**
TBKS	Tabuk	1.79	43	S	**Sb**	**12 32 19.0**	**+0.6**
TBKS	Tabuk	1.79	43	S	**Sb**	**12 32 19.3**	**+0.9**
JLOS		1.83	9	P	**Pn**	**12 31 54.0**	**-0.7**
JLOS		1.83	9	P	**Pn**	**12 31 53.9**	**-0.8**
HQLS		2.37	358	P	**Pn**	**12 32 00.0**	**-2.0**
HQLS				S	**Sn**	**12 32 30.0**	**-1.0**
HQLS		2.37	358	S	**Sn**	**12 32 29.8**	**-1.2**
HQLS		2.37	358	P	**Pn**	**12 32 00.5**	**-1.5**
BRTR	Keskin Array B	12.83	355	Pn	**Pn**	**12 34 27.5**	**+1.9**
	0.0nm,0.3s,baz=174,slow=13,SNR=6.3						
GERES	GERESS Array B	27.49	328	P	**P**	**12 37 09.6**	**+0.2**
	1.0nm,1.0s,baz=139,slow=9.1,SNR=5.6						
MKAR	Makanchi Array	41.88	49	P	**P**	**12 39 15.3**	**+1.9**
	2.1nm,1.1s,baz=260,slow=7.3,SNR=7.5						

IDC 21 12:34:48.0±1.1, 23.56N×122.03E, h0km, mb3.2/5, mb1 3.5/5, mb1mx3.3/33, mbtmp3.2/5, Error ellipse: s-maj=50.3km s-min=23.4km az=76.0
JMA 21 12:34:52.4±0.1, 23.65N×121.60E, h42km±2km, M3.3
ISCJB 21 12:34:53.7±0.2, 23.66N±0.02×121.68E±0.02, h38km±4km, mb3.3/5, Error ellipse: s-maj=3.2km s-min=2.2km az=143.7
TAP 21 12:34:53.2, 23.67N×121.64E, h39km, ML3.8, B
ISC 21 12:34:53.3±0.9, 23.65N±0.02×121.64E±0.02, h33km±2km, n75, σ0.89/119, mb3.4/5, 9C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Op	Phase ID ISC	Time h m s	Res ISC
TEGC	Jichi Village	0.11	302	*e*P	**Pb**	**12 35 00.6**	**+1.4**
	baz=294						
TEGC				S	**Sb**	**12 35 05.4**	**+2.2**
	baz=294						
ESL	Shilin	0.25	311	⇑*i*P	**Pb**	**12 35 00.4**	**-0.1**
	baz=299						
ESL				*i* S	**Sb**	**12 35 05.7**	**+0.3**
	baz=299						
ESF	Shoufeng Towns	0.25	331	P	**Pn**	**12 35 01.5**	**+1.1**
	baz=317						
ESF				S	**Sb**	**12 35 06.9**	**+1.5**
	baz=317						
EHY	Hungye	0.33	244	*e*P	**Pb**	**12 35 01.6**	**+0.1**
	baz=249						
EHY				*e*S	**Sn**	**12 35 08.0**	**+1.0**
	baz=249						
HWA	Hwalien	0.33	354	*e*P	**Pb**	**12 35 01.5**	**+0.1**
	baz=1.0						
HWA				*e*S	**Sn**	**12 35 08.4**	**+1.4**
	baz=1.0						
TWD	Chiawan	0.43	354	*i* P	**Pb**	**12 35 02.7**	**-0.1**
	baz=3.0						
TWD				S	**Sn**	**12 35 10.7**	**+0.8**
	baz=3.0						
TWF1	Yuli	0.43	227	⇓*i*P	**Pb**	**12 35 03.1**	**+0.2**
	baz=233						
TWF1				*e*S	**Sb**	**12 35 09.7**	**+0.1**
	baz=233						
WHF	Hehuan Shan	0.60	325	⇑*i*P	**Pn**	**12 35 04.9**	**-1.0**
	baz=318						
WHF				*e*S	**Sb**	**12 35 13.6**	**-0.8**
	baz=318						
CHKT	Chengkung	0.60	205	*e*P	**Pb**	**12 35 06.4**	**+0.8**
	baz=194						
CHKT				*e*S	**Sb**	**12 35 14.3**	**+0.3**
	baz=194						
YUS	Yu-Shan	0.65	256	⇓*i*P	**Pn**	**12 35 07.1**	**+0.5**
	baz=253						
YUS				S	**Sb**	**12 35 15.3**	**-0.5**
	baz=253						
SMLT	Sun Moon Lake	0.72	289	⇑*i*P	**Pn**	**12 35 07.2**	**0.0**
	baz=290						
SMLT				*e*S	**Sn**	**12 35 16.3**	**-0.8**
	baz=290						
ELDTW	Lidau	0.73	231	*e*P	**Pn**	**12 35 07.1**	**-0.4**
	baz=227						
ELDTW				*e*S	**Sn**	**12 35 17.1**	**-0.5**
	baz=227						
TYC	Yuchr	0.76	290	⇑*i*P	**Pn**	**12 35 07.8**	**+0.1**
	baz=293						
TYC				S	**Sn**	**12 35 18.4**	**+0.3**
	baz=293						
ALS	Alishan	0.78	260	⇑*i*P	**Pn**	**12 35 08.9**	**+0.6**
	baz=265						
ALS				S	**Sn**	**12 35 18.8**	**-0.2**
	baz=265						
ENA	Nanau	0.78	7	P	**Pn**	**12 35 07.5**	**-0.4**
	baz=14						
NNS	Nan Shan	0.82	343	P	**Pn**	**12 35 08.1**	**-0.6**
	baz=350						
NNS				*e*S	**Sn**	**12 35 18.5**	**-1.3**
	baz=350						
CHN5	Tsauling	0.89	267	⇑*i*P	**Pn**	**12 35 10.5**	**+1.0**
	baz=265						
CHN5				S	**Sb**	**12 35 22.7**	**+0.8**
	baz=265						
TWC	Suao	0.97	11	*e*P	**Pn**	**12 35 10.8**	**+0.1**
	baz=20						
TWC				*e*S	**Sb**	**12 35 24.4**	**+0.1**
	baz=20						
TWG	Pinlang	0.98	213	*e*P	**Pn**	**12 35 10.1**	**-0.6**
	baz=202						
WGK	Gukeng	0.99	272	*e*P	**Pn**	**12 35 11.3**	**+0.5**
	baz=271						
WGK				*e*S	**Sb**	**12 35 25.5**	**+0.7**
	baz=271						
TTN	Taitung	1.00	207	*e*P	**Pb**	**12 35 12.2**	**0.0**
	baz=206						
CHN4	Tsaushan	1.01	253	*e*P	**Pb**	**12 35 12.6**	**+0.3**
	baz=251						
CHN4				*e*S	**Sb**	**12 35 26.4**	**+1.2**
	baz=251						
TCU	Taichung	1.01	299	*e*P	**Pb**	**12 35 12.3**	**-0.1**
	baz=299						
TCU				*e*S	**Sb**	**12 35 25.8**	**+0.3**
	baz=299						
WTP	Ta-pu	1.03	247	⇓P	**Pb**	**12 35 12.7**	**+0.1**
	baz=245						
WTP				*e*S	**Sb**	**12 35 26.4**	**+0.5**
	baz=245						
NSK	Sanguang	1.05	346	⇑*i*P	**Pn**	**12 35 11.9**	**+0.1**
	baz=355						
NSK				*e*S	**Sn**	**12 35 24.3**	**-1.1**
	baz=355						
TWQ1	Liyutan	1.05	311	⇑*i*P	**Pb**	**12 35 13.1**	**0.0**
	baz=311						
TWQ1				S	**Sb**	**12 35 26.6**	**-0.1**
	baz=311						
CHN2	Minshiung	1.08	264	*e*P	**Pb**	**12 35 12.7**	**+0.6**
	baz=262						
NSY	Sanyi	1.11	314	*e*P	**Pn**	**12 35 13.6**	**+1.1**
	baz=313						
NSY				*e*S	**Sb**	**12 35 29.0**	**+0.8**
	baz=313						
CHN1	Nanshi	1.12	246	*e*P	**Pb**	**12 35 14.4**	**+0.2**
	baz=244						
CHN1				*e*S	**Sb**	**12 35 29.4**	**+0.9**
	baz=244						
SGST	Jiashian	1.12	240	*e*P	**Pb**	**12 35 14.3**	**0.0**
	baz=238						
SGST				*e*S	**Sb**	**12 35 30.2**	**+1.6**
	baz=238						
TWK	Hsinying	1.13	250	*e*P	**Pb**	**12 35 14.4**	**+0.1**
	baz=249						
TWK				*e*S	**Sb**	**12 35 29.2**	**+0.5**
	baz=249						
CHY	Chiayi	1.13	263	*e*P	**Pb**	**12 35 14.4**	**+0.2**
	baz=261						
NSTT	Nanjuang	1.14	329	⇑*i*P	**Pn**	**12 35 13.9**	**+0.9**
	baz=329						
NSTT				S	**Sn**	**12 35 27.3**	**-0.1**
	baz=329						
ECL	Taimali	1.22	211	*e*P	**Pn**	**12 35 13.4**	**-0.7**
	baz=203						
WTCT	Ta-ch'eng	1.27	280	*e*P	**Pn**	**12 35 15.8**	**+1.1**
	baz=278						
WTCT				*e*S	**Sb**	**12 35 33.2**	**+0.7**
	baz=278						
SSD	Sandimen	1.29	226	*e*P	**Pn**	**12 35 16.3**	**+1.2**
	baz=225						
HSN	Hsinchu	1.30	332	*e*P	**Pb**	**12 35 17.7**	**+0.5**
	baz=321						
HSN				*e*S	**Sb**	**12 35 33.6**	**0.0**
	baz=321						
WSF	Szhu	1.30	270	*e*P	**Pn**	**12 35 16.5**	**+1.4**
	baz=268						
CHN3	Shinhua	1.30	244	*e*P	**Pb**	**12 35 19.1**	**+1.8**
	baz=243						
TWA	Mucha	1.33	358	*e*P	**Pn**	**12 35 16.4**	**+0.8**
	baz=359						
CHN8	Yiju	1.35	257	*e*P	**Pn**	**12 35 16.4**	**+0.6**
	baz=256						
CHN8				*e*S	**Sb**	**12 35 34.8**	**-0.2**
	baz=256						
NCU	National Centr	1.38	343	*e*P	**Pn**	**12 35 17.0**	**+0.8**
	baz=344						
NCU				*e*S	**Sb**	**12 35 35.3**	**-0.5**
	baz=344						
TWB1	Santiao Chiao	1.39	13	*e*P	**Pn**	**12 35 17.1**	**+0.7**
	baz=15						
TWB1				*e*S	**Sn**	**12 35 34.7**	**+1.2**
	baz=15						
TWM1	Shoushan	1.39	234	*e*P	**Pb**	**12 35 19.8**	**+1.1**
	baz=247						
SGLT	Jiouru	1.40	229	*e*P	**Pb**	**12 35 19.8**	**+0.9**
	baz=218						
NWF	Wu-fen Shan	1.42	5	*e*P	**Pn**	**12 35 17.2**	**+0.3**
	baz=355						
JYNG	Yonagunijimaku	1.43	56	P	**Pn**	**12 35 17.5**	**+0.5**
JYNG				*e*S	**Sn**	**12 35 35.5**	**+0.8**
TAI1	Yung-k'ang	1.43	245	*e*P	**Pn**	**12 35 18.7**	**+1.8**
	baz=244						
EAST	Anshuo	1.46	210	*e*P	**Pn**	**12 35 16.8**	**-0.5**
	baz=203						
TWS1	Kuangyinshan	1.46	352	*e*P	**Pn**	**12 35 18.0**	**+0.6**
	baz=3.0						
TWS1				*e*S	**Sn**	**12 35 36.5**	**+1.2**
	baz=3.0						
YOJ	Yonaguni jima	1.49	57	P	**Pn**	**12 35 18.3**	**+0.6**
YOJ				*e*S	**Sn**	**12 35 37.0**	**+0.9**
YOJ	Yonaguni jima	1.49	57	*e*P	**Pn**	**12 35 18.6**	**+0.8**
	baz=57						
SCZT	Fangliau	1.58	217	*e*P	**Pb**	**12 35 21.3**	**-0.6**
	baz=206						
LAY	Lan-yu	1.61	183	*e*P	**Pn**	**12 35 18.9**	**-0.5**
	baz=183						
TWY	Chenhua	1.62	359	*e*P	**Pn**	**12 35 20.1**	**+0.6**
	baz=360						
TWP	Hsiaoliuchiu	1.75	222	*e*P	**Pb**	**12 35 24.8**	**-0.1**
	baz=222						
HEN	Hengchun	1.84	207	*e*P	**Pb**	**12 35 25.4**	**-0.9**
	baz=196						
WDGT	Dungji	1.86	258	*e*P	**Pn**	**12 35 22.2**	**-0.7**
	baz=257						
WDGT				*e*S	**Sn**	**12 35 44.8**	**-0.4**
	baz=257						
TWK1	Hengchun	1.87	205	*e*P	**Pn**	**12 35 24.3**	**+1.4**
	baz=195						
TSEB	Hengchuen, Pin	1.87	202	*e*P	**Pn**	**12 35 24.8**	**+1.8**
	baz=202						
TSEB				*e*S	**Sn**	**12 35 47.3**	**+1.9**
	baz=202						
PNG	Penghu	1.92	268	*e*P	**Pn**	**12 35 24.2**	**+0.7**
	baz=255						
HATJ	Hateruma jima	2.02	78	P	**Pn**	**12 35 25.8**	**+0.7**
HATJ				*e*S	**Sn**	**12 35 49.8**	**+0.6**
IRIF	Iriomote-Funau	2.03	70	P	**Pn**	**12 35 26.0**	**+0.9**
IRIF				*e*S	**Sn**	**12 35 50.5**	**+1.2**
JKRS	Kuro-shima	2.24	74	P	**Pn**	**12 35 29.4**	**+1.3**
JKRS				*e*S	**Sn**	**12 35 56.4**	**+1.7**
JIJ	Ishigaki jima	2.40	72	P	**Pn**	**12 35 30.7**	**+0.5**
JIJ				*e*S	**Sn**	**12 35 58.0**	**-0.4**
JISG	Ishigakijimahi	2.61	69	P	**Pn**	**12 35 33.5**	**+0.3**
JISG				*e*S	**Sn**	**12 36 02.9**	**-0.8**
JTJ	Tarama	2.96	70	P	**Pn**	**12 35 38.5**	**+0.5**
JTJ				*e*S	**Sn**	**12 36 12.3**	**-0.2**
KNM	Kinmen	3.03	285	*e*P	**Pn**	**12 35 39.4**	**+0.5**
	baz=282						
JIKM	Ikemajima	3.53	68	*e*S	**Sn**	**12 36 26.2**	**-0.1**
JOGS	Gusukube	3.61	71	P	**Pn**	**12 35 47.8**	**+0.9**
MKAR	Makanchi Array	39.01	316	P	**P**	**12 42 18.8**	**+2.1**
	0.2nm,0.6s,baz=98,slow=10,SNR=2.5						
WRA	Warramunga Arr	45.06	163	P	**P**	**12 43 04.6**	**-1.6**
	0.2nm,0.6s,baz=344,slow=8.7,SNR=2.6						
ASAR	Alice Springs	48.52	165	P	**P**	**12 43 31.0**	**-2.3**
	0.3nm,0.8s,baz=336,slow=6.5,SNR=4.2						
ILAR	Eielson Array	69.49	27	P	**P**	**12 45 57.2**	**-1.0**
	0.4nm,0.9s,baz=289,slow=2.8,SNR=6.4						
YKA	Yellowknife Ar	83.30	23	P	**P**	**12 47 16.4**	**0.0**
	0.3nm,0.7s,baz=312,slow=4.9,SNR=7.8						

IDC 21 12:58:05.0±1.9, 79.84N×4.45E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.4/35, mbtmp3.7/6, ML3.2/3, MS2.2/3, Ms1 3.2/13, ms1mx3.0/34, Error ellipse: s-maj=33.8km s-min=27.1km az=27.0
BER 21 12:58:05.8±1.3, 79.65N×3.84E, h10km, MD2.7, ML2.5, ML3.2(NAO)
CSEM 21 12:58:06.8±1.3, 79.27N×4.38E, h10km, ML3.2, Error ellipse: s-maj=31.1km s-min=19.7km az=159.0
NAO 21 12:58:07.4±4.8, 79.29N×4.43E, ML3.2
ISC 21 12:58:07.2±1.8, 79.3N±0.1×4.6E±0.1, h10km, n35, σ1.00/34, mb3.7/3, MS3.3/10, Greenland Sea

Code	Station Name	Δ°	AZ°	Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	1.45	101	Pg	**Pn**	**12 58 33.7**	**+0.3**
KBS				Lg	Lg	12 58 53.5	
KBS	Kingsbay	1.45	101	*e*P	**Pn**	**12 58 33.4**	**0.0**
KBS				*e*S	**Sn**	**12 58 53.2**	**+0.8**
KBS				IAML		12 58 56.8	
	comp=Z,94nm,0.5s						
KBS	Kingsbay	1.45	101	*e*P	**Pn**	**12 58 33.4**	**0.0**
	SNR=50						
KBS	Kingsbay	1.45	101	Pg	**Pn**	**12 58 33.7**	**+0.3**
KBS				*e*S	**Sn**	**12 58 53.2**	**+0.8**
	SNR=50						
SPA0	Spitsbergen Ar	2.57	110	Pn	**Pn**	**12 58 50.0**	**+1.2**
	baz=297,slow=8.6						
SPA0				Sn	**Sn**	**12 59 22.1**	**+2.0**
	baz=281,slow=9.3						
SPA0	Spitsbergen Ar	2.57	110	*e*P	**Pn**	**12 58 50.0**	**+1.2**
SPA0				*e*S	**Sn**	**12 59 21.9**	**+1.8**
SPA0				IAML		12 59 29.7	
	comp=Z,64nm,0.6s						
SPA0	Spitsbergen Ar	2.57	110	*e*P	**Pn**	**12 58 50.0**	**+1.2**
	SNR=50						
SPA0				Sn	**Sn**	**12 59 22.1**	**+2.0**
	SNR=9.3						
SPITS	Spitsbergen Ar	2.57	110	Pn	**Pn**	**12 58 49.3**	**+0.5**
	baz=308,slow=7.2,SNR=437						
SPITS				Sn	**Sb**	**12 59 23.4**	**-1.6**
	baz=271,slow=32,SNR=9.9						
HSP	Hornsund	3.22	130	Pn	**Pn**	**12 58 57.6**	**-0.1**
HSP				Sn	**Sn**	**12 59 36.8**	**+0.8**
HSP	Hornsund	3.22	130	*e*P	**Pn**	**12 58 58.0**	**+0.3**
HSP				*e*S	**Sn**	**12 59 35.0**	**-1.0**
HSP	Hornsund	3.22	130	Pn	**Pn**	**12 58 57.6**	**-0.1**
HSP				Sn	**Sn**	**12 59 36.8**	**+0.8**
HSPB	Hornsund (broa	3.22	130	*e*P	**Pn**	**12 58 58.2**	**+0.5**
HSPB				IAML		12 59 43.4	
	comp=Z,18nm,0.3s						
HSPB	Hornsund (broa	3.22	130	*e*P	**Pn**	**12 58 58.2**	**+0.5**
	SNR=50						
HOPEN	Hopen	5.10	113	Pn	**Pn**	**12 59 23.6**	**+0.1**
HOPEN				Sn	**Sn**	**13 00 21.7**	**-0.6**
HOPEN	Hopen	5.10	113	*e*P	**Pn**	**12 59 23.4**	**-0.1**
HOPEN				*e*S	**Sn**	**13 00 21.6**	**-0.8**
HOPEN				IAML		13 00 24.3	
	comp=Z,15nm,0.3s						
HOPEN	Hopen	5.10	113	*e*P	**Pn**	**12 59 23.4**	**-0.1**
	SNR=49						
HOPEN				*e*S	**Sn**	**13 00 21.5**	**-0.8**
	SNR=49						
DAG	Danmarks Havn	5.41	254	*i* P	Pn	12 59 18.3	-9.5
DAG				*i* S	Sn	13 00 10.2	-20
ARA0	ARCESS Array S	11.18	140	Pn	**Pn**	**13 00 45.7**	**-1.0**
	baz=340,slow=14						
ARA0	ARCESS Array S	11.18	140	P	**Pn**	**13 00 45.7**	**-1.0**
	baz=340,slow=14						
ARA0	ARCESS Array S	11.18	140	P	**Pn**	**13 00 45.7**	**-1.0**
	SNR=47						
ARCES	ARCESS Array B	11.18	140	Pn	Pn	13 00 50.2	+3.5
	comp=Z,0.3nm,0.5s,baz=342,slow=17,SNR=15						
ARCES				LR	LR	13 05 04.8	
	comp=Z,28nm,20.7s,baz=355,slow=36						
SUMG	Summit	12.06	260	*i* P	Pn	13 00 48.7	-10
SUMG				*i* S	Sn	13 02 50.4	-24
NOA	NORSAR Array B	18.45	170	LR	LR	13 08 37.7	
	comp=Z,22nm,19.7s,baz=5.0,slow=33						
FINES	FINESS Array B	19.07	147	P	**Pn**	**13 02 31.8**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=357,slow=12,SNR=3.3						
FINES				LR	LR	13 09 40.1	
	comp=Z,38nm,20.9s,baz=87,slow=36						
AKASG	Malin Array Be	29.97	148	LR	LR	13 16 10.7	
	comp=Z,32nm,20.7s,baz=280,slow=36						
ZALV	Zalesovo Beam	35.80	85	LR	LR	13 22 13.2	
	comp=Z,20nm,21.0s,baz=60,slow=40						
KBZ	Khabaz	38.46	134	LR	LR	13 22 07.8	
	comp=Z,32nm,18.6s,baz=69,slow=37						
MKAR	Makanchi Array	42.18	91	P	**P**	**13 05 58.3**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=343,slow=7.1,SNR=9.2						
MKAR				LR	LR	13 26 59.3	
	comp=Z,22nm,19.3s,baz=350,slow=41						
NEW	Newport	48.30	310	LR	LR	13 27 59.7	
	comp=Z,37nm,18.2s,baz=22,slow=37						
YBH	Yreka Blue Hor	55.48	314	LR	LR	13 31 17.3	
	comp=Z,63nm,18.7s,baz=356,slow=36						
ANMO	Albuquerque	59.66	297	LR	LR	13 33 38.1	
	comp=Z,57nm,19.1s,baz=44,slow=36						
TXAR	Lajitas Array	64.68	293	LR	LR	13 36 34.0	
	comp=Z,28nm,18.2s,baz=0.0,slow=36						
TORD	Torodi Ar. Bea	66.17	183	P	P	13 08 57.3	+2.8
	comp=Z,0.6nm,1.0s,baz=7.2,slow=5.1,SNR=3.4						
LPIG	La Paz	70.91	299	LR	LR	13 40 13.6	
	comp=Z,30nm,18.3s,baz=14,slow=36						
CMAR	Chiang Mai Arr	72.81	82	P	**P**	**13 09 35.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=343,slow=7.4,SNR=4.5						
CMAR				LR	LR	13 44 20.7	
	comp=Z,9.6nm,19.9s,baz=195,slow=38						

IDC 21 13:06:13.4±1.3, 1.19S×123.19E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/32, mbtmp3.2/4, Error ellipse:

s-maj=154.9km s-min=21.9km az=64.0
DJA 21 13:06:17.3±0.6, 1°S±3°×12°3E±°, h10km±4km, M3.7/9, MLv3.7/9
ISCJB 21 13:06:18.8±0.7, 1.33S±0.05×123.40E±0.04, h33km±17km, mb3.1/4, Error ellipse: s-maj=9.3km s-min=6.2km az=167.1
ISC 21 13:06:20.0±1.2, 1.28S±0.05×123.41E±0.04, h47km±15km, n14, σ1§95/18, mb3.2/4, 1C, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
LUWI	Luwuk	0.68	290	P	Pn	13 06 30.4	-3.0
LUWI				S	Sn	13 06 39.9	-3.2
APSI	Ampana	1.80	282	P	Pn	13 06 48.4	-0.2
KMSI	Cibinong	1.93	17	P	Pn	13 06 49.5	-0.9
KMSI				S	Sn	13 07 16.4	+2.9
MRSI	Marisa	2.28	320	P	Pn	13 06 55.1	-0.2
MRSI				S	Sn	13 07 25.7	+3.5
SANI	Sanana	2.69	107	P	Pn	13 07 00.0	-0.8
SANI				S	Sn	13 07 33.8	+1.7
MPSI	Mapaga	3.87	295	P	Pn	13 07 18.9	+1.9
TTSI	Tana Toraja	4.00	244	P	Pn	13 07 18.5	-0.3
TTSI				S	Sn	13 08 06.3	+1.9
LBMI	Labuha	4.14	81	P	Pn	13 07 20.9	+0.2
SPSI	Sidrap Palu	4.51	234	P	Pn	13 07 26.2	+0.4
SPSI				S	Sn	13 08 18.4	+1.3
PVCP	Virac	14.80	3	⇑eP	P	13 09 57.5	+6.0
WRA	Warramunga Arr	21.41	151	P	P	13 11 04.1	0.0
	0.7nm,0.6s,baz=325,slow=11,SNR=8.0						
ASAR	Alice Springs	24.47	156	P	P	13 11 36.7	+1.9
	0.3nm,0.6s,baz=336,slow=8.8,SNR=9.9						
SONM	Songino Array	51.12	345	P	P	13 15 16.5	-1.7
	0.3nm,0.7s,baz=167,slow=10,SNR=3.8						
MKAR	Makanchi Array	59.91	329	P	P	13 16 20.1	-1.3
	0.1nm,0.5s,baz=118,slow=10,SNR=4.3						

IDC 21 13:26:27.5±50.0, 23.46S×176.45W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/25, mbtmp4.0/3, MS3.9/1, Ms1 3.9/1, ms1mx2.7/28, Error ellipse: s-maj=916.8km s-min=164.9km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.92	193	LR	LR	13 30 02.5	
	comp=Z,1µm,18.0s,baz=124,slow=36						
STKA	Stephens Creek	37.91	248	P	P	13 33 45.1	-1.5
	0.8nm,0.6s,baz=90,slow=12,SNR=3.3						
ASAR	Alice Springs	45.32	259	P	P	13 34 47.4	-0.2
	1.4nm,0.4s,baz=92,slow=7.3,SNR=77						
WRA	Warramunga Arr	45.69	265	P	P	13 34 51.2	+0.8
	1.0nm,0.3s,baz=101,slow=8.2,SNR=41						

IDC 21 13:41:31.8±4.4, 5.39S×153.49E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/25, mbtmp3.6/3, MS3.2/1, Ms1 3.4/1, ms1mx2.5/24, Error ellipse: s-maj=127.3km s-min=38.6km az=109.0, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.59	230	P	P	13 46 45.8	+1.4
	2.1nm,0.4s,baz=56,slow=10,SNR=38						
ASAR	Alice Springs	26.20	224	P	P	13 47 07.2	-1.2
	0.1nm,0.3s,baz=57,slow=9.3,SNR=8.1						
CMAR	Chiang Mai Arr	58.75	295	LR	LR	14 18 15.0	
	comp=Z,19nm,18.0s,baz=172,slow=38						
MKAR	Makanchi Array	81.22	319	P	P	13 53 49.6	-0.1
	0.3nm,0.7s,baz=96,slow=7.0,SNR=3.5						

IDC 21 13:47:12.7±1.9, 27.04N×44.22W, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/30, mbtmp3.4/4, MS3.3/4, Ms1 3.3/4, ms1mx2.8/26, Error ellipse: s-maj=82.6km s-min=29.7km az=21.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	42.51	111	LR	LR	14 10 09.2	
	comp=Z,47nm,20.6s,baz=280,slow=32						
TORD	Torodi Ar. Bea	45.04	99	P	P	13 55 30.3	-0.2
	0.9nm,0.9s,baz=302,slow=7.2,SNR=4.8						
TORD				LR	LR	14 14 01.3	
	comp=Z,57nm,18.0s,baz=295,slow=36						
H10N2	ASCENSION HYDR	45.08	136	T	T	14 43 48.8	
	baz=321,slow=75,SNR=24						
H10N3	ASCENSION HYDR	45.08	136	T	T	14 43 46.9	
	baz=321,slow=75,SNR=26						
H10N1	ASCENSION HYDR	45.09	136	T	T	14 43 48.1	
	baz=321,slow=75,SNR=34						
H10S1	ASCENSION HYDR	45.85	137	T	T	14 44 36.6	
	baz=322,slow=75,SNR=19						
H10S3	ASCENSION HYDR	45.85	137	T	T	14 44 36.3	
	baz=322,slow=75,SNR=20						
H10S2	ASCENSION HYDR	45.86	137	T	T	14 44 36.8	
	baz=322,slow=75,SNR=18						
GERES	GERESS Array B	49.28	48	LR	LR	14 12 23.7	
	comp=Z,19nm,20.7s,baz=252,slow=31						
TXAR	Lajitas Array	51.95	287	P	P	13 56 23.7	-0.1
	0.1nm,0.5s,baz=96,slow=8.3,SNR=3.4						
YKA	Yellowknife Ar	57.35	329	P	P	13 57 01.3	-1.0
	0.5nm,1.0s,baz=94,slow=7.6,SNR=6.1						
EIL	Elat	68.38	67	LR	LR	14 27 02.8	
	comp=Z,20nm,19.8s,baz=248,slow=35						
ILAR	Eielson Array	71.05	334	P	P	13 58 33.1	+0.9
	0.4nm,0.9s,baz=71,slow=4.1,SNR=5.6						

IDC 21 13:49:29.8±1.6, 7.83S×124.34E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.6/31, mbtmp3.7/5, ML3.8/3, MS2.8/2, Ms1 2.8/2, ms1mx2.5/28, Error ellipse: s-maj=45.9km s-min=23.3km az=75.0
ISC 21 13:49:33.5±1.1, 7.99S±0.07×124.14E±0.07, h10km, n16, σ2§78/17, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.76	176	P	Pn	13 50 04.3	+0.2
	baz=1.8,SNR=53						
SOEI				S	Sg	13 50 33.7	+3.7
	baz=1.8,SNR=5.6						
BATI	Baumata	2.25	192	Pn	Pn	13 50 11.3	+0.5
	37nm,0.3s,baz=21,slow=4.3,SNR=59						
BATI				Sn	Sb	13 50 41.4	-0.8
	16nm,0.3s,baz=36,slow=23,SNR=10						
BATI				LR	LR	13 51 28.1	
	comp=Z,188nm,18.7s,baz=277,slow=48						
LUWI	Luwuk	7.04	349	P	Pn	13 51 16.0	-0.6
	baz=7.1,SNR=6.7						
MTN	Manton Dam	8.40	126	P	Pn	13 51 37.2	+1.8
	baz=8.5,SNR=25						
MTN				S	Sn	13 53 12.9	+2.5
	baz=8.5,SNR=4.0						
KNRA	Kununurra	8.88	150	P	Pn	13 51 40.6	-1.3
	baz=9.0,SNR=22						
KNRA				S	Sn	13 53 19.1	-3.0
	baz=9.0,SNR=3.5						
KDU	Kakadu	9.44	120	P	Pn	13 51 51.4	+1.8
	baz=9.6,SNR=4.2						
WRA	Warramunga Arr	15.45	141	Pn	Pn	13 53 07.9	-3.9
	0.3nm,0.3s,baz=318,slow=13,SNR=14						
WRA				Sn	Sn	13 55 53.1	-10
	0.1nm,0.3s,baz=313,slow=24,SNR=6.0						
LEM	Lembang	16.42	273	S	S	13 56 37.7	-1.6
	baz=16,SNR=5.8						
WRKA	Warakurna	17.41	167	P	Pn	13 53 34.8	-1.8
	baz=18,SNR=4.2						
ASAR	Alice Springs	18.18	150	P	Pn	13 53 42.6	-3.7
	0.4nm,0.3s,baz=324,slow=12,SNR=25						
ASAR				S	Sn	13 57 01.3	-8.1
	0.1nm,0.3s,baz=314,slow=18,SNR=5.8						
QIS	Mount Isa	19.49	131	P	P	13 54 02.3	+1.4
	baz=20,SNR=3.7						
PMBI	Palembang	19.91	284	S	Sn	13 57 57.2	+5.8
	baz=20,SNR=4.3						
STKA	Stephens Creek	28.79	148	P	P	13 55 31.1	-0.6
	1.2nm,0.8s,baz=319,slow=14,SNR=3.1						
MJAR	Matsushiro Arr	46.23	16	LR	LR	14 18 58.2	
	comp=Z,10nm,19.4s,baz=215,slow=38						
RAO	Raoul Island	58.23	119	LR	LR	14 21 35.9	
	comp=Z,370nm,21.2s,baz=108,slow=33						
MKAR	Makanchi Array	66.01	330	P	P	14 00 17.6	-2.7
	0.3nm,0.6s,baz=129,slow=9.5,SNR=4.3						

ISCJB 21 14:12:08.2±1.2, 43.72N±0.09×147.3E±0.1, h51km±11km, Error ellipse: s-maj=17.5km s-min=6.8km az=140.9
JMA 21 14:12:08.6±0.2, 43.64N×147.26E, h34km, M3.4
SKHL 21 14:12:09.0±0.7, 43.73N×147.36E, h30km±1km, mb4.6/2
ISC 21 14:12:08.5±2.1, 43.7N±0.1×147.4E±0.1, h42km±20km, n12, σ0§85/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
SHO	Shikotan	0.41	293	eP	Pn	14 12 18.3	+0.2
SHO				eS	Sn	14 12 25.0	+0.1
SHO				A	A	14 12 25.9	
	7µm,0.5s						
YUK	Yuzh-Kuril'sk	1.12	287	eP	Pn	14 12 27.2	-0.5
YUK				AMB	AMB	14 12 29.0	
	57nm,0.2s						
YUK				AMB	AMB	14 12 29.0	
	71nm,0.2s						
YUK				AMB	AMB	14 12 29.0	
	230nm,0.2s						
YUK				eS	Sn	14 12 40.5	-1.4
YUK				A	A	14 12 42.2	
	560nm,0.5s						
YUK				A	A	14 12 42.2	
	650nm,0.5s						
NEM2	Nemuro 2	1.22	254	P	Pn	14 12 28.7	-0.2
NEM2				eS	Sn	14 12 43.1	-1.1
KUR	Kuril'sk	1.57	14	eP	Pn	14 12 33.7	-0.1
KUR				AMB	AMB	14 12 36.3	
	33nm,0.1s						
KUR				AMB	AMB	14 12 36.3	
	18nm,0.1s						
KUR				AMB	AMB	14 12 36.3	
	39nm,0.1s						
KUR				eS	Sn	14 12 52.8	-0.1
KUR				A	A	14 12 54.3	
	77nm,0.2s						
KUR				A	A	14 12 54.3	
	120nm,0.2s						
JRA	Rausu	1.63	279	P	Pn	14 12 34.8	+0.2
JRA				eS	Sn	14 12 54.4	+0.1
JNK	Nakash	1.91	267	P	Pn	14 12 38.7	+0.2
JNK				eS	Sn	14 13 01.1	-0.2
JAK	Akkeshi	2.06	251	P	Pn	14 12 40.6	+0.1
JAK				eS	Sn	14 13 04.0	-1.0
JTKR	Abashiri--Toko	2.50	277	P	Pn	14 12 47.6	+1.0
JAR	Ashorobuto	2.63	262	P	Pn	14 12 49.7	+1.3
JAR				eS	Sn	14 13 20.6	+1.4
JOB	Onbets	2.69	254	P	Pn	14 12 49.9	+0.8
JOB				eS	Sn	14 13 20.1	-0.3
JCH	Churui	3.11	251	P	Pn	14 12 55.9	+0.9
JCH				eS	Sn	14 13 30.4	-0.5
JNBK	Urakawa-nobuka	3.66	249	P	Pn	14 13 03.1	+0.6
JNBK				eS	Sn	14 13 42.9	-1.5

NNC 21 14:13:26.7±3.8, 37.50N×56.40E, h0km, mb3.8, Error ellipse: s-maj=37.1km s-min=15.3km az=18.0
CSEM 21 14:13:28.2±0.6, 37.85N×56.77E, h2km, ML3.8, Error ellipse: s-maj=25.1km s-min=4.5km az=5.0
TEH 21 14:13:28.7, 37.93N×56.79E, h5km, ML3.8
IDC 21 14:13:32.1±3.0, 38.10N×56.69E, h0km, mb3.3/3, mb1 3.7/6, mb1mx3.4/35, mbtmp3.5/6, ML3.1/3, Error ellipse: s-maj=49.1km s-min=22.2km az=172.0
ISC 21 14:13:28.6±0.6, 37.47N±0.05×56.56E±0.03, h10km, n40, σ1§53/39, mb3.1/3, 4C-3D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ISHV	Shirvan	0.91	86	ePg	Pg	14 13 43.6	-2.6
ISHV				e		14 14 07.3	
	comp=Z,43µm,0.4s						
ISHV	Shirvan	0.91	86	ePg	Pg	14 13 43.6	-2.6
ISFR	Sfrayin	1.23	110	ePg	Pn	14 13 49.2	-2.8
ISFR				e		14 14 17.2	
	comp=Z,21µm,0.2s						
ISFR	Sfrayin	1.23	110	ePg	Pn	14 13 49.2	-2.8
ASHT	Ashkhabad	1.52	72	⇓P	Pb	14 13 56.1	-0.8
ASHT				⇓S	Sg	14 14 18.5	+1.0
IKRD	Kardeh	1.71	113	ePn	Pg	14 14 10.4	+9.0
IKRD				eSg	Sg	14 14 45.1	+21
IKRD				e		14 14 54.7	
	comp=Z,5µm,0.4s						
IKRD	Kardeh	1.71	113	ePn	Pg	14 14 10.4	+9.0
IKRD				eSg	Sg	14 14 45.1	+21
IAKL	Akhelmad	1.96	116	ePn	Pb	14 14 03.2	-1.3
IAKL				eSg	Sg	14 14 33.5	+1.8
IAKL				e		14 14 41.4	
	comp=Z,7µm,0.3s						
IAKL	Akhelmad	1.96	116	ePn	Pb	14 14 03.2	-1.3
IAKL				eSg	Sg	14 14 33.5	+1.8
IPAY	Payeh	2.20	117	e		14 14 45.8	
	comp=Z,5µm,0.3s						
IPAY				ePn	Pn	14 14 06.1	+0.7
IGLO	Ghaloghah	2.39	247	ePn	Pg	14 14 12.9	-1.5
IGLO				e		14 15 20.1	
	comp=Z,5µm,0.4s						
IANJ	Anjilo	2.92	228	ePn	Pb	14 14 20.5	-0.4
IANJ				e		14 15 23.7	
	comp=Z,2µm,0.4s						
IANJ	Anjilo	2.92	228	ePn	Pb	14 14 20.5	-0.4
IMYA	Miami	3.06	111	ePn	Pn	14 14 18.8	+1.7
IMYA				e		14 15 24.6	
	comp=Z,4µm,0.6s						
IMYA	Miami	3.06	111	ePn	Pn	14 14 18.8	+1.7
IALA	Alasht	3.31	246	ePn	Pb	14 14 26.2	-1.4
IALA				e		14 15 17.9	
	comp=Z,2µm,0.2s						
IALA	Alasht	3.31	246	ePn	Pb	14 14 26.2	-1.4
IFIR	Firoozkooh	3.57	240	ePn	Pb	14 14 30.1	-1.8
IFIR				e		14 15 40.6	
	comp=Z,548nm,0.2s						
IFIR	Firoozkooh	3.57	240	ePn	Pb	14 14 30.1	-1.8
ILAS	Lasjerd	3.57	235	ePn	Pb	14 14 30.4	-1.6
ILAS				e		14 15 37.3	
	comp=Z,1µm,0.3s						
ILAS	Lasjerd	3.57	235	ePn	Pb	14 14 30.4	-1.6
IPRN	Peran	3.60	251	ePn	Pb	14 14 29.5	-2.9
IPRN				e		14 15 43.2	
	comp=Z,1µm,0.3s						
IDMV	Damavand	4.11	244	ePn	Pb	14 14 36.8	-4.3
IDMV				e		14 16 06.7	
	comp=Z,738nm,0.4s						
IDMV	Damavand	4.11	244	ePn	Pb	14 14 36.8	-4.3
IGZV	Ghazvin	5.19	260	ePn	Pn	14 14 50.5	+4.0
IGZV	Ghazvin	5.19	260	ePn	Pn	14 14 50.5	+4.0
AB31	Akbulak array	12.03	11	⇓P	Pn	14 16 19.9	-0.1
	comp=Z,0.4nm,0.4s,baz=208,slow=13,SNR=11						
AB31				⇑S	Sn	14 18 34.6	+0.5
	comp=Z,1.0nm,0.5s,baz=198,slow=23						
AB31	Akbulak array	12.03	11	P	Pn	14 16 19.9	-0.1
	comp=Z,0.4nm,0.4s,SNR=11						
AB31				S	Sn	14 18 34.6	+0.5
	comp=Z,1.0nm,0.5s						
KBZ	Khabaz	12.11	305	Pn	Pn	14 16 21.9	+0.8
	comp=Z,0.4nm,0.3s,baz=136,slow=5.6,SNR=11						
AKTO	Aktyubinsk	13.00	4	⇑P	Pn	14 16 32.3	-0.9
	comp=Z,6.9nm,1.4s						
AKTO				⇑S	Sn	14 18 58.8	+0.9
	comp=Z,6.5nm,1.2s						
AKTO	Aktyubinsk	13.00	4	Pn	Pn	14 16 26.9	-6.3
	comp=Z,0.1nm,0.3s,baz=187,slow=14,SNR=2.3						
AKTO	Aktyubinsk	13.00	4	P	Pn	14 16 32.3	-0.9
	comp=Z,6.9nm,1.4s						
AKTO				S	Sn	14 18 58.8	+0.9
	comp=Z,6.5nm,1.2s						
BRTR	Keskin Array B	18.05	284	P	P	14 17 45.8	+5.8
	comp=Z,0.0nm,0.3s,baz=83,slow=11,SNR=6.0						
BRVK	Borovoye	18.28	27	⇑P	P	14 17 43.0	+0.7
	comp=Z,5.2nm,1.4s						
BRVK	Borovoye	18.28	27	P	P	14 17 43.0	+0.7
	comp=Z,5.2nm,1.4s						
BVA0	Borovoye Array	18.30	27	P	P	14 17 42.3	-0.2
	comp=Z,3.4nm,0.9s,baz=217,slow=13,SNR=11						
BVA0	Borovoye Array	18.30	27	P	P	14 17 42.3	-0.2
	comp=Z,3.4nm,0.9s,SNR=11						
MKAR	Makanchi Array	21.16	56	P	P	14 18 14.9	+1.1
	comp=Z,0.6nm,0.6s,baz=240,slow=11,SNR=13						
AKASG	Malin Array Be	23.51	313	P	P	14 18 40.3	+1.8
	comp=Z,2.1nm,0.7s,baz=112,slow=9.1,SNR=12						
YKA	Yellowknife Ar	80.12	356	P	P	14 25 38.9	+0.6
	comp=Z,0.1nm,0.7s,baz=8.8,slow=6.4,SNR=3.7						

IDC 21 14:14:44.5±3.0, 38.17N×71.31E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.1/42, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=99.0km s-min=17.2km az=134.0
NNC 21 14:14:52.1±2.5, 38.49N×71.17E, h2km±11km, mb3.5, mpv3.1, Error ellipse: s-maj=18.6km s-min=15.2km az=29.0
ISC 21 14:14:48.4±4.2, 38.2N±0.3×71.3E±0.2, h10km, n8, σ1§77/11, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.95	354	⇑Pn	Pn	14 16 02.9	+0.1
	0.4nm,0.2s,baz=173,slow=13,SNR=8.7						
KK31				⇑Pg	Pb	14 16 16.3	+1.2
	2.8nm,0.6s,baz=160,slow=14,SNR=7.2						
KK31				⇓Sn	Sn	14 16 58.9	-1.2
	1.4nm,0.3s,baz=172,slow=17,SNR=4.8						
KK31				⇑Lg	Lg	14 17 19.1	
	4.3nm,0.6s,baz=140,slow=27,SNR=3.8						
AAK	Ala-Archa	5.08	28	⇑Pn	Pn	14 16 07.0	+2.2
	1.3nm,0.5s						
AAK				⇓Sn	Sn	14 17 04.0	+0.3
	8.1nm,1.2s						
AAK				⇑Lg	Lg	14 17 28.1	
	9.0nm,1.1s						
AAK	Ala-Archa	5.08	28	Pn	Pn	14 16 04.8	0.0
	0.7nm,0.3s,baz=166,slow=6.7,SNR=13						
AAK				Pg	Pb	14 16 17.6	0.0
	0.7nm,0.3s,baz=185,slow=11,SNR=14						
AAK				Lg	Lg	14 17 28.9	
	0.3nm,0.3s,baz=300,slow=18,SNR=3.6						
TKM2	Tokmak 2	5.77	34	⇑Pn	Pn	14 16 17.2	+2.9
	1.9nm,0.5s						
TKM2				⇓Lg	Lg	14 17 47.5	
	2.6nm,0.7s						
MK31	Makanchi Array	11.84	40	P	Pn	14 17 36.8	-0.4
	0.7nm,0.7s,baz=215,slow=5.9,SNR=14						
MKAR	Makanchi Array	11.84	40	Pn	Pn	14 17 36.3	-0.9
	0.1nm,0.3s,baz=223,slow=10.0,SNR=14						
ZALV	Zalesovo Beam	18.31	26	P	Pn	14 18 59.5	-2.8
	0.2nm,0.3s,baz=213,slow=15,SNR=2.3						
TORD	Torodi Ar. Bea	65.97	268	P	P	14 25 33.4	-1.8
	0.1nm,0.4s,baz=42,slow=5.1,SNR=3.5						

IDC 21 14:28:37.2±19.0, 6.56S×125.38E, h558km±309km, mb2.6/2, mb1 2.6/4, mb1mx2.5/23, mbtmp3.4/4, Error ellipse: s-maj=162.8km s-min=63.5km az=91.0
DJA 21 14:29:00.0±0.4, 7°S±5°×12°7E±°, h11km, M4.3/6, mb4.5/2, MLv4.2/6
ISC 21 14:28:35.9±0.9, 6.71S±0.09×125.1E±0.2, h550km, n17, σ1§21/16, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOEI	Soe	3.14	195	P	P	14 29 53.3	+1.3
SOEI				S	S	14 30 51.1	-2.8
BATI	Baumata	3.76	202	P	P	14 30 04.7	+8.6
BATI				S	S	14 30 59.8	-1.6
NLAI	Namlea	3.98	30	P	P	14 30 02.6	+4.9
NLAI				S	S	14 31 02.2	-2.1
LBMI	Labuha	6.49	22	P	P	14 30 24.0	+4.8
FAKI	Fak Fak	8.06	63	P	P	14 30 40.1	+5.7
WRA	Warramunga Arr	15.93	147	P	P	14 31 54.9	0.0
	0.1nm,0.3s,baz=325,slow=10,SNR=9.5						
ASAR	Alice Springs	18.87	154	P	P	14 32 22.8	+1.0
	0.3nm,0.3s,baz=346,slow=11,SNR=34						
TAPN	Taplejung	49.53	315	eP	P	14 36 37.2	0.0
	7.6nm,0.4s						
RAMN	Ramite	50.09	314	eP	P	14 36 40.7	-0.5
	15nm,0.5s						
JIRN	Jiri	50.80	314	eP	P	14 36 46.2	-0.4
	5.1nm,0.5s						
GUN	Gumba	51.17	314	eP	P	14 36 49.3	+0.1
	9.5nm,0.4s						
PKI	Pulchoki	51.31	313	eP	P	14 36 49.5	-0.7
	8.9nm,0.5s						
GKN	Gorkha	52.11	313	eP	P	14 36 55.5	-0.3
	9.4nm,0.3s						
KOLN	Koldanda	52.74	312	eP	P	14 36 59.9	-0.4
	13nm,0.8s						
PYUN	Piuthan	53.37	312	eP	P	14 37 04.8	0.0
	14nm,0.6s						
SONM	Songino Array	56.76	345	P	P	14 37 28.5	+0.6
	0.1nm,0.5s,baz=157,slow=9.4,SNR=2.2						
MKAR	Makanchi Array	65.39	329	P	P	14 38 24.8	+0.4
	0.7nm,0.5s,baz=129,slow=7.5,SNR=12						

IDC 21 14:48:28.4±1.2, 10.28N×126.32E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/31, mbtmp3.5/6, MS3.3/1, Ms1 3.3/1, ms1mx2.4/22, Error ellipse: s-maj=53.8km s-min=20.1km az=61.0
ISCJB 21 14:48:32.7±1.5, 10.31N±0.04×126.29E±0.05, h30km±11km, mb3.4/6, MS3.3/1, Error ellipse: s-maj=9.2km s-min=5.8km az=167.2
MAN 21 14:48:34, 10.28N×126.17E, h23km, mb4.8, ML3.7, MS3.7
ISC 21 14:48:32.1±0.8, 10.25N±0.04×126.19E±0.07, h21km±4km, n29, σ1§43/30, mb3.4/6, 2C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.83	236	⇑eP	Pn	14 48 49.0	+0.4
SCPH				eS	Sn	14 49 00.3	+0.1
MSLP	Maasin	1.32	265	eP	Pb	14 48 56.3	+0.2
MSLP				eS	Sn	14 49 09.9	-2.3
BUTP	Butuan	1.39	204	eP	Pb	14 48 58.3	+0.9
BUTP				eS	Sb	14 49 17.3	+2.7
PLP	Palo	1.50	308	⇓eP	Pb	14 48 59.2	0.0
PLP				eS	Sb	14 49 17.8	0.0
OCLP	Ormoc	1.75	297	eP	Pb	14 49 03.7	+0.3
BIPH	Bislig	2.06	175	⇓eP	Pb	14 49 07.4	-1.3
BIPH				eS	Sn	14 49 31.8	+1.2
LLP	Lapu-Lapu	2.19	272	⇓eP	Pb	14 49 09.1	+1.8
LLP				eS	Sb	14 49 35.4	+1.5
CGP	Cagayan de Oro	2.31	220	⇑eP	Pb	14 49 11.5	-1.6
CGP				eS	Sb	14 49 40.2	-1.1
TBP	Tagbilaran	2.36	257	eP	Pb	14 49 13.2	-0.8
TBP				eS	Sb	14 49 41.4	-1.2
BUKP	Musuan	2.60	205	eP	Pb	14 49 17.1	-1.1
BUKP				eS	Sb	14 49 49.8	0.0
CNP	Catarman	2.70	326	eP	Pb	14 49 15.9	+1.6
MATI	Mati	3.28	179	eP	Pb	14 49 29.9	+0.3
GUIM	Jordan	3.56	276	eP	Pb	14 49 27.8	+1.7
RCP	Roxas	3.63	291	⇓eP	Pb	14 49 29.8	+2.7
PAGZ	Pagadian	3.66	230	eP	Pn	14 49 31.2	+3.7
PVCP	Virac	3.88	329	eP	Pn	14 49 34.0	+3.5
PVCP				eS	Sn	14 50 13.1	-2.4
CMAR	Chiang Mai Arr	27.60	290	P	P	14 54 19.5	+1.3
	0.4nm,0.6s,baz=97,slow=7.4,SNR=4.0						
WRA	Warramunga Arr	31.05	165	P	P	14 54 47.6	-1.2
	0.2nm,0.6s,baz=338,slow=9.9,SNR=5.3						
ASAR	Alice Springs	34.54	167	P	P	14 55 18.9	-0.4
	0.2nm,0.3s,baz=352,slow=7.3,SNR=10						
H11S3	WAKE ISLAND Hy	40.00	73	T	T	15 38 56.8	
	baz=262,slow=73,SNR=15						
H11S1	WAKE ISLAND Hy	40.02	73	T	T	15 38 56.8	
	baz=262,slow=73,SNR=8.3						
H11S2	WAKE ISLAND Hy	40.02	73	T	T	15 38 56.8	
	baz=262,slow=73,SNR=8.9						
H11N1	WAKE ISLAND Hy	40.34	72	T	T	15 39 18.7	
	baz=264,slow=74,SNR=24						
H11N2	WAKE ISLAND Hy	40.34	72	T	T	15 39 24.4	
	baz=264,slow=74,SNR=20						
H11N3	WAKE ISLAND Hy	40.35	72	T	T	15 39 31.1	
	baz=264,slow=74,SNR=26						
STKA	Stephens Creek	44.41	161	P	P	14 56 41.1	-0.3
	0.4nm,0.3s,baz=353,slow=8.1,SNR=2.8						
MKAR	Makanchi Array	52.00	323	P	P	14 57 38.8	-1.2
	0.2nm,0.5s,baz=128,slow=7.9,SNR=4.4						
AAK	Ala-Archa	55.28	315	LR	LR	15 22 44.0	
	comp=Z,28nm,20.3s,baz=84,slow=37						
YKA	Yellowknife Ar	93.81	24	P	P	15 01 47.6	+0.1
	0.2nm,0.7s,baz=300,slow=4.7,SNR=5.5						

NIED 21 14:50:00, 40.50N×143.60E, h14km, Mw3.6 Best double couple: M0 2.85000×10^14 NP1:ϕs147.00000°, δ31.00000°, λ26.00000°. NP2:ϕs35.00000°, δ77.00000°, λ119.00000°.
IDC 21 14:50:13.4±1.2, 40.39N×143.58E, h0km, mb3.3/6, mb1 3.5/9, mb1mx3.4/32, mbtmp3.4/9, ML3.0/2, MS2.6/1, Ms1 2.6/1, ms1mx2.0/22, Error ellipse: s-maj=27.7km

s-min=20.2km az=102.0
JMA 21 14:50:14.4±0.2, 40.45N×143.57E, h8km±3km, M3.7
ISC 21 14:50:13.8±3.7, 40.49N±0.04×143.54E±0.07, h3km±24km, n32, σ1.34/39, mb3.3/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
JTH	Tanohata	1.40	247	P	Pn	14 50 40.1	-0.1
JTH				S	Sb	14 50 58.3	-0.4
JANG	Nango	1.55	266	P	Pn	14 50 42.6	+0.3
JANG				S	Sb	14 51 02.6	-0.6
JEM	Erimo	1.55	349	P	Pn	14 50 43.1	+0.8
JEM				eS	Sb	14 51 04.3	+1.1
MIYJ	Miyakonagasawa	1.60	236	P	Pn	14 50 43.4	+0.3
MIYJ				eS	Sb	14 51 03.8	-0.9
JNBK	Urakawa-nobuka	1.89	342	P	Pb	14 50 48.5	-0.4
JNBK				S	Sb	14 51 14.0	+1.2
JTM	Tenmabayashi	1.91	280	P	Pb	14 50 48.6	-0.6
JOM	Ohasama	2.00	240	P	Pn	14 50 49.5	+1.0
JOM				S	Sb	14 51 14.4	-1.8
JOT	Ohata	2.09	296	P	Pn	14 50 51.0	+1.3
JOT				S	Sb	14 51 18.8	+0.1
JCH	Churui	2.13	356	P	Pn	14 50 50.9	+0.6
JCH				S	Sn	14 51 16.8	-0.4
JKB	Kayabe	2.35	307	P	Pn	14 50 54.8	+1.5
JKB				S	Sb	14 51 23.8	-2.5
JMK	Ichinoseki	2.36	230	P	Pn	14 50 54.3	+0.9
JAK	Akkeshi	2.65	19	P	Pn	14 50 57.6	+0.2
JAK				S	Sn	14 51 28.5	-1.5
JFR	Furan	2.77	345	P	Pn	14 51 00.2	+1.2
JFR				S	Sn	14 51 33.9	+1.0
JAR	Ashorobuto	2.81	3	P	Pn	14 51 00.0	+0.3
JAR				S	Sn	14 51 32.4	-1.6
JEW	Eniwo	2.82	327	P	Pn	14 51 01.1	+1.3
JEW				eS	Sb	14 51 37.3	-2.5
JYK	Kaneyama	2.91	238	P	Pn	14 51 02.6	+1.6
ASAJ	Asahikawa	3.69	349	Pn	Pn	14 51 13.6	+1.8
	0.9nm,0.3s,baz=199,slow=12,SNR=19						
ASAJ				Sn	Sb	14 52 01.1	-3.7
	1.6nm,0.3s,baz=225,slow=7.4,SNR=5.5						
MJAR	Matsushiro Arr	5.74	228	Pn	Pn	14 51 41.2	+1.3
	0.5nm,0.3s,baz=40,slow=11,SNR=7.3						
USRK	Ussuriysk Arra	9.32	297	Pn	Pn	14 52 30.3	+1.3
	baz=106,slow=15,SNR=2.8						
KSRS	Korea Array	12.53	261	LR	LR	14 57 44.7	
	comp=Z,27nm,18.4s,baz=15,slow=36						
SEY	Seymchan	23.09	10	P	P	14 55 20.3	-0.1
	0.4nm,0.5s,baz=189,slow=19,SNR=4.6						
SONM	Songino Array	27.43	298	P	P	14 56 01.6	+0.7
	0.2nm,0.7s,baz=93,slow=7.8,SNR=2.5						
H11N2	WAKE ISLAND Hy	28.76	129	T	T	15 26 22.4	
	baz=322,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	28.77	129	T	T	15 26 16.2	
	baz=322,slow=75,SNR=9.5						
H11N3	WAKE ISLAND Hy	28.78	129	T	T	15 26 16.2	
	baz=322,slow=75,SNR=9.8						
H11S1	WAKE ISLAND Hy	29.60	131	T	T	15 27 21.2	
	baz=322,slow=76,SNR=5.8						
H11S3	WAKE ISLAND Hy	29.61	131	T	T	15 27 21.4	
	baz=322,slow=76,SNR=5.8						
H11S2	WAKE ISLAND Hy	29.62	131	T	T	15 27 21.9	
	baz=322,slow=76,SNR=5.9						
ZALV	Zalesovo Beam	40.91	310	P	P	14 57 57.3	+0.2
	0.3nm,0.3s,baz=96,slow=7.2,SNR=2.6						
MKAR	Makanchi Array	43.78	299	P	P	14 58 20.9	+0.3
	0.4nm,0.7s,baz=91,slow=8.3,SNR=3.6						
ILAR	Eielson Array	45.70	34	P	P	14 58 37.0	+1.4
	0.2nm,0.8s,baz=265,slow=5.2,SNR=3.1						
WRA	Warramunga Arr	60.73	190	P	P	15 00 25.6	-1.1
	0.3nm,0.8s,baz=8.4,slow=6.8,SNR=2.6						

RSPR 21 14:55:02.9, 18.66N×68.98W, h128km±2km, MD3.7/11, 10C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
DR12	Loma Pena Alta	0.40	289	⇓eP	Pn	14 55 20.4	-0.9
DR12				eS	Sn	14 55 34.8	-0.4
PCDR	Punta Cana, DR	0.59	104	⇓eP	Pn	14 55 21.6	-0.7
PCDR	Punta Cana, DR	0.59	104	eS	Sn	14 55 37.5	+0.6
IMO	Isla Mona	1.16	118	⇑eP	Pn	14 55 27.1	0.0
IDE	Isla Desecheo	1.46	100	⇑eP	Pn	14 55 29.8	-0.5
IDE	Isla Desecheo	1.46	100	eS	Sn	14 55 50.8	-0.5
LRS	Lares	2.06	100	⇓eP	Pn	14 55 37.9	+0.4
LRS				eS	Sn	14 56 05.0	+0.9
GBPR	Guanica, Bosqu	2.11	108	⇑eP	Pn	14 55 38.9	+0.8
GBPR	Guanica, Bosqu	2.11	108	eS	Sn	14 56 04.6	-0.5
AOPR	Arecibo Observ	2.14	98	⇑eP	Pn	14 55 38.8	+0.3
AOPR	Arecibo Observ	2.14	98	eS	Sn	14 56 05.0	-0.8
SDDR	Presa de Saban	2.21	279	⇑eP	Pn	14 55 39.0	-0.4
OBIP	Obispado Ponce	2.34	105	⇑eP	Pn	14 55 41.1	+0.2
OBIP	Obispado Ponce	2.34	105	eS	Sn	14 56 10.4	+0.3
CELP	Cerrillos	2.36	104	⇑eP	Pn	14 55 41.4	+0.3
CELP				eS	Sn	14 56 10.9	+0.3
CBYP	Canovanas	2.99	97	⇑eP	Pn	14 55 48.3	-1.1
HUMP	Col San Antoni	3.02	99	⇑eP	Pn	14 55 49.0	-0.6

ISCJB 21 15:11:22.7±0.6, 11.54S±0.04×121.13E±0.04, h33km, mb3.7/1, Error ellipse: s-maj=6.3km s-min=5.3km az=136.5
IDC 21 15:11:22.4±2.0, 11.38S×121.22E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.3/27, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=43.1km s-min=28.6km az=21.0
AUST 21 15:11:26.8, 11.50S×120.97E, h35km
ISC 21 15:11:25.0±0.8, 11.58S±0.07×121.18E±0.06, h35km, n12, σ2.88/16, South of Timor

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
WSI	Waingapu	2.08	335	S	Sn	15 12 17.9	-4.3
	baz=1.9,SNR=5.9						
BATI	Baumata	2.80	61	Pn	Pn	15 12 07.7	+0.3
	2.6nm,0.3s,baz=205,slow=0.6,SNR=2.5						
BATI				Sn	Sn	15 12 39.0	-0.9
	9.7nm,0.3s,baz=346,slow=19,SNR=3.5						
SOEI	Soe	3.54	60	P	Pn	15 12 21.5	+3.9
	baz=3.7,SNR=5.0						
JAGI	Jajag, Banyuwa	7.57	293	P	Pn	15 13 13.6	+0.6
	baz=7.4,SNR=5.7						
JAGI				S	Sn	15 14 36.6	-1.1
	baz=7.4,SNR=4.1						
KNRA	Kununurra	8.43	120	P	Pn	15 13 28.5	+3.8
	baz=8.6,SNR=8.8						
KNRA				S	Sn	15 14 49.9	-8.7
	baz=8.6,SNR=3.5						
KDU	Kakadu	11.10	97	S	Sn	15 16 07.0	+2.6
	baz=11,SNR=3.3						
WRKA	Warakurna	14.99	154	P	P	15 14 58.6	-0.9
	baz=15,SNR=6.6						
WRKA				S	Sn	15 17 39.8	+0.3
	baz=15,SNR=5.0						
WRA	Warramunga Arr	15.15	125	Pn	Pn	15 14 57.2	+0.6
	0.1nm,0.3s,baz=296,slow=13,SNR=8.1						
WRA				Sn	Sn	15 17 36.2	-7.1
	0.3nm,0.3s,baz=293,slow=22,SNR=6.6						
MEEK	Meekatharra	15.18	189	P	P	15 15 02.8	+1.3
	baz=15,SNR=23						
MEEK				S	Sn	15 17 43.4	-0.5
	baz=15,SNR=12						
ASAR	Alice Springs	17.06	136	P	P	15 15 25.1	+2.5
	0.2nm,0.3s,baz=315,slow=12,SNR=34						
ASAR				S	Sn	15 18 25.9	-3.9
	0.2nm,0.3s,baz=305,slow=21,SNR=9.9						
MORW	Morawa	18.05	195	P	P	15 15 40.4	+7.1
	baz=18,SNR=3.9						
MORW				S	Sn	15 18 51.9	-1.7
	baz=18,SNR=3.8						
MKAR	Makanchi Array	67.72	332	P	P	15 22 20.6	+1.7
	0.5nm,0.7s,baz=128,slow=7.9,SNR=7.7						

IDC 21 15:17:44.2±2.2, 3.45S×128.39E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/36, mbtmp3.7/3, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/30, Error ellipse: s-maj=172.6km s-min=26.8km az=68.0
ISCJB 21 15:17:45.3±0.6, 2.96S±0.05×129.49E±0.06, h28km, mb3.7/2, Error ellipse: s-maj=8.5km s-min=7.1km az=146.2
DJA 21 15:17:47.0±0.4, 3°S±3°×12°9E±°, h13km, M3.6/7, MLv3.6/7
ISC 21 15:17:47.1±0.9, 2.92S±0.07×129.43E±0.05, h28km, n20, σ1.25/19, Seram

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
MSAI	Masohi	0.65	230	P	Pb	15 17 59.3	-0.7
MSAI				S	Sn	15 18 10.4	+0.5
BNDI	Bandanaira	1.66	163	P	Pb	15 18 17.4	+0.4
NLAI	Namlea	2.35	262	P	Pn	15 18 25.2	+1.4
SWI	Sorong	2.74	42	P	Pn	15 18 29.7	+0.4
SWI	Sorong	2.74	42	P	Pn	15 18 29.1	-0.1
	baz=2.7,SNR=35						
FAKI	Fak Fak	2.81	90	P	Pn	15 18 31.9	+1.6
FAKI	Fak Fak	2.81	90	P	Pn	15 18 30.3	0.0
	baz=2.8,SNR=23						
LBMI	Labuha	2.98	320	P	Pn	15 18 33.5	+1.0
SANI	Sanana	3.55	284	P	Pn	15 18 39.3	-1.0
TNTI	Ternate	4.21	331	P	Pn	15 18 49.7	+0.2
LUWI	Luwuk	6.91	286	P	Pn	15 19 27.2	+0.6
	baz=6.9,SNR=7.3						
MTN	Manton Dam	10.00	170	P	Pn	15 20 09.3	+0.3
	baz=10,SNR=4.5						
KDU	Kakadu	10.16	163	P	Pn	15 20 11.8	+0.7
	baz=10,SNR=6.1						
KNRA	Kununurra	12.69	183	P	Pn	15 20 47.3	+1.5
	baz=13,SNR=4.2						
WRA	Warramunga Arr	17.58	165	P	Pn	15 21 47.4	-2.9
	0.3nm,0.3s,baz=343,slow=13,SNR=15						
PMG	Port Moresby	18.76	111	LR	LR	15 31 32.6	
	comp=Z,40nm,18.8s,baz=178,slow=42						
QIS	Mount Isa	20.14	151	P	Pn	15 22 20.8	-0.3
	baz=20,SNR=4.2						
ASAR	Alice Springs	21.07	169	P	P	15 22 27.8	-1.5
	2.5nm,0.4s,baz=349,slow=9.3,SNR=28						
WRKA	Warakurna	22.01	183	P	P	15 22 37.5	-1.8
	baz=22,SNR=8.4						
MKAR	Makanchi Array	64.54	326	P	P	15 28 22.2	+0.6
	0.3nm,0.7s,baz=133,slow=6.1,SNR=3.0						

WEL 21 15:32:15.6±0.1, 40.33S×175.71E, h39km±1km, ML3.6/14, 27C-7D, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0, MM 4., North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
POWZ	Post Office Ro	0.08	142	⇓P*	Pn	15 32 21.3	-0.7
POWZ				S*	Sn	15 32 26.0	-0.6
PRWZ	Pori Road	0.30	138	⇑P*	Pn	15 32 24.2	+0.3
PRWZ				S*	Sn	15 32 31.4	+1.2
TSZ	Takapari Road	0.33	36	⇓P*	Pn	15 32 23.2	-1.0
TSZ				S*	Sn	15 32 29.1	-1.5
TSZ				AML	AML	15 32 29.4	
MRZ	Mangatainoka R	0.34	196	⇑P*	Pn	15 32 23.9	-0.4
MRZ				S*	Sn	15 32 30.7	0.0
MRZ				AML	AML	15 32 31.5	
DVHZ	Dannevirke	0.35	85	⇓P*	Pn	15 32 24.4	0.0
DVHZ				S*	Sn	15 32 31.7	+0.9
TIWZ	Tintock	0.47	163	⇑P*	Pn	15 32 26.4	+0.4
TIWZ				AML	AML	15 32 35.6	
TIWZ				AML	AML	15 32 38.1	
BFZ	Birch Farm	0.54	131	P*	Pn	15 32 27.0	+0.1
BFZ				S*	Sn	15 32 37.1	+2.3
PNHZ	Pukenui	0.56	43	P*	Pn	15 32 26.6	-0.7
PNHZ				S*	Sn	15 32 35.0	-0.4
HOWZ	Holdsworth Sta	0.59	194	⇑P*	Pn	15 32 27.5	-0.1
ANWZ	Angora Road	0.60	103	P*	Pn	15 32 28.1	+0.3
WPHZ	Waipukurau	0.62	65	P*	Pn	15 32 28.2	+0.1
OGWZ	Otaki Gorge	0.64	220	⇑P*	Pn	15 32 27.9	-0.3
CPWZ	Castlepoint	0.69	147	P*	Pn	15 32 29.6	+0.7
PRHZ	Porangahau	0.71	85	P*	Pn	15 32 29.6	+0.4
TMWZ	Te Maipa	0.79	170	P*	Pn	15 32 30.1	-0.2
WAZ	Wanganui	0.80	316	⇑PN	Pn	15 32 30.0	-0.3
KIW	Kapiti Island	0.81	229	⇑P*	Pn	15 32 30.5	0.0
KIW				AML	AML	15 32 43.0	
KIW				AML	AML	15 32 43.5	
MTW	Mount Morrison	0.84	190	⇑P*	Pn	15 32 30.7	-0.3
MTW				AML	AML	15 32 46.5	
MTW				AML	AML	15 32 46.7	
KRHZ	Kereru	0.85	37	PN	Pn	15 32 30.9	-0.3
BHHZ	Black Hill Sta	0.89	18	⇑PN	Pn	15 32 30.8	-0.9
CAW	Cannon Point	0.92	212	⇑P*	Pn	15 32 31.8	-0.2
CAW				AML	AML	15 32 46.6	
CAW				AML	AML	15 32 47.1	
MOVZ	Moawhango	0.92	2	⇑PN	Pn	15 32 31.3	-0.9
PXZ	Pawanui	0.94	72	P*	Pn	15 32 32.0	-0.3
PXZ				AML	AML	15 32 49.9	
PXZ				AML	AML	15 32 50.0	
MTVZ	Mangateitei	0.96	349	⇑PN	Pn	15 32 32.0	-0.7
WNVZ	Wahianoa	1.00	355	⇑PN	Pn	15 32 32.7	-0.7
TRVZ	Turoa	1.04	353	PN	Pn	15 32 33.3	-0.7
KAHZ	Kahuranaki	1.05	60	PN	Pn	15 32 33.6	-0.2
WHVZ	Whangaehu Hut	1.05	355	⇑PN	Pn	15 32 33.5	-0.7
DRZ	Dome Shelter	1.06	354	⇑PN	Pn	15 32 33.8	-0.5
TUVZ	Tukino	1.06	358	⇑PN	Pn	15 32 33.7	-0.5
TRWZ	Traveller	1.07	181	PN	Pn	15 32 33.6	-0.5
TRWZ				AML	AML	15 32 54.2	
TRWZ				AML	AML	15 32 55.1	
PAWZ	Paruwai Farm	1.07	191	PN	Pn	15 32 33.6	-0.5
PAWZ				AML	AML	15 33 01.8	
PAWZ				AML	AML	15 33 03.8	
PKVZ	Pokaka	1.07	345	PN	Pn	15 32 33.6	-0.6
FWVZ	Far West T-bar	1.08	354	⇑PN	Pn	15 32 33.9	-0.7
WPVZ	Whakapapa	1.13	354	PN	Pn	15 32 34.6	-0.5
COVZ	Chateau Observ	1.14	354	⇑PN	Pn	15 32 34.7	-0.5
MSWZ	Moikau Station	1.14	198	⇑PN	Pn	15 32 34.4	-0.7
MSWZ				AML	AML	15 32 54.0	
MSWZ				AML	AML	15 32 54.0	
NGZ	Ngauruhoe	1.16	356	⇑PN	Pn	15 32 35.1	-0.3
OTVZ	Oturere	1.17	358	⇑PN	Pn	15 32 35.3	-0.3
MCHZ	McNeill Hill	1.17	41	PN	Pn	15 32 35.1	-0.4
WEL	Wellington	1.19	216	PN	Pn	15 32 35.4	-0.3
WTVZ	West Tongariro	1.22	356	⇑PN	Pn	15 32 36.1	-0.2
KRVZ	Karewarewa	1.23	358	⇑PN	Pn	15 32 36.3	-0.2
BHW	Baring Head	1.25	210	PN	Pn	15 32 35.8	-0.7
BHW				AML	AML	15 32 55.4	
BHW				AML	AML	15 32 59.2	
CKHZ	Cape Kidnapper	1.25	58	PN	Pn	15 32 36.2	-0.4
TWVZ	Taurewa	1.27	351	PN	Pn	15 32 36.5	-0.5
PLWZ	Palliser	1.28	195	⇓PN	Pn	15 32 36.3	-0.9
BKZ	Black Stump Fm	1.31	28	⇓PN	Pn	15 32 36.8	-0.7
BKZ				AML	AML	15 32 58.2	
BKZ				AML	AML	15 32 58.6	
LREZ	Lake Rotokare	1.33	311	⇑PN	Pn	15 32 37.8	+0.1
KATZ	Kakaramea	1.35	360	⇑PN	Pn	15 32 38.3	+0.1
RITZ	Rihia Road	1.36	5	PN	Pn	15 32 38.3	+0.3
TCW	Tory Channel	1.40	230	PN	Pn	15 32 37.9	-0.7
TCW				AML	AML	15 33 02.0	
TCW				AML	AML	15 33 02.0	
VRZ	Vera Road	1.41	328	⇑PN	Pn	15 32 38.4	-0.4
DUWZ	D'Urville Isla	1.44	250	⇑PN	Pn	15 32 38.3	-0.9
RATZ	Rangitukua	1.46	2	PN	Pn	15 32 39.8	+0.3
NMHZ	Naumai	1.50	35	PN	Pn	15 32 39.4	-0.7
WATZ	Wairara	1.62	1	PN	Pn	15 32 41.2	-0.5
DREZ	Durham Road	1.62	314	PN	Pn	15 32 42.1	+0.4
NEZ	North Egmont	1.63	310	PN	Pn	15 32 42.4	+0.5
MHEZ	Mangahewa	1.64	319	PN	Pn	15 32 42.6	+0.6
KHEZ	Kahui Hut	1.66	308	PN	Pn	15 32 42.9	+0.5
NMEZ	Namu Road	1.68	303	PN	Pn	15 32 43.2	+0.7
TUWZ	Tuamarina	1.73	230	PN	Pn	15 32 41.8	-1.3
PKE	Pukeiti	1.74	310	PN	Pn	15 32 44.1	+0.7
NWEZ	Newall Road	1.77	306	PN	Pn	15 32 44.4	+0.7
HIZ	Hauiti	1.93	340	PN	Pn	15 32 45.5	-0.4
BSWZ	Blackbirch Sta	1.96	224	PN	Pn	15 32 45.1	-1.1
BSWZ				AML	AML	15 33 24.1	
NNZ	Nelson	1.98	243	PN	Pn	15 32 45.6	-0.9
SNGZ	Shannon Statio	2.00	40	PN	Pn	15 32 45.0	-1.9
TLZ	Tolley Road	2.00	356	PN	Pn	15 32 45.8	-1.2
MHGZ	Mahia Peninsul	2.06	56	PN	Pn	15 32 46.2	-1.6
TARZ	Mount Tarawera	2.18	17	PN	Pn	15 32 48.3	-1.2
PRGZ	Paritu Road	2.19	51	PN	Pn	15 32 47.5	-2.1
URZ	Urewera	2.34	28	PN	Pn	15 32 49.3	-2.2
MWZ	Matawai	2.44	36	⇓PN	Pn	15 32 50.7	-2.3
QRZ	Quartz Range	2.47	257	⇓PN	Pn	15 32 51.9	-1.4
THZ	Tophouse	2.56	235	PN	Pn	15 32 53.2	-1.4
TOZ	Tahuroa Road	2.60	356	PN	Pn	15 32 54.8	-0.3
KHZ	Kahutara	2.65	217	PN	Pn	15 32 53.6	-2.1
PUZ	Puketiti	3.00	42	PN	Pn	15 32 57.9	-2.8
HAZ	Te Kaha	3.04	33	PN	Pn	15 32 58.7	-2.5
DSZ	Denniston Nort	3.27	243	PN	Pn	15 33 02.8	-1.7
LTZ	Lake Taylor	3.56	225	PN	Pn	15 33 05.7	-2.6
MQZ	McQueen's Vall	4.07	213	PN	Pn	15 33 11.4	-3.8

ISCJB 21 15:47:16.5±0.5, 34.61N±0.08×136.90E±0.08, h347km±4km, mb2.9/4, Error ellipse: s-maj=14.3km s-min=8.0km az=149.2
JMA 21 15:47:16.6±0.2, 34.61N×136.84E, h349km±2km, M2.7
IDC 21 15:47:17.4±1.4, 34.56N×136.87E, h337km±21km, mb2.9/4, mb1 3.0/7, mb1mx2.8/43, mbtmp3.6/7, Error ellipse: s-maj=35.2km s-min=18.3km az=57.0
ISC 21 15:47:17.3±0.9, 34.65N±0.09×136.91E±0.08, h341km±7km, n28, σ1.14/37, mb2.9/4, Western Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
JIE	Ise	0.30	213	P	Pn	15 48 00.8	+0.5
JIE				eS	S	15 48 34.1	-0.5
JEG	Eigenji	0.65	319	P	Pn	15 48 01.4	+0.5
JKN2	Miekihoku	0.66	232	P	Pn	15 48 01.1	+0.1
JKN2				eS	S	15 48 34.9	-1.0
JAO	Obara	0.68	25	P	Pn	15 48 01.8	+0.8
HMMJ	Hamamatsu 2	0.70	72	P	Pn	15 48 01.6	+0.6
HMMJ				S	S	15 48 36.4	+0.4
JHMK	Hamakita	0.72	76	P	Pn	15 48 01.5	+0.6
JNY	Yasuok	1.06	48	P	Pn	15 48 03.0	+0.6
JWY	Kouya	1.17	249	P	Pn	15 48 03.0	+0.1
JWT	Wachi	1.39	298	P	Pn	15 48 03.9	0.0
JWZ	Kozaga	1.49	222	P	Pn	15 48 04.1	-0.4
JKG	Kaga	1.69	344	P	Pn	15 48 05.9	+0.3
JRY	Ryogami san	2.13	49	P	Pn	15 48 10.0	+1.3
MAT	Matsushiro	2.17	29	P	Pn	15 48 09.8	+0.8
MAT				eS	S	15 48 50.8	+0.4
MAT	Matsushiro	2.17	29	P	Pn	15 48 09.8	+0.8
MJAR	Matsushiro Arr	2.17	29	P	Pn	15 48 09.9	+0.9
	2.5nm,0.3s,baz=210,slow=9.3,SNR=83						
JAI	Aioi	2.21	248	P	Pn	15 48 08.9	-0.4
JHU	Hanno	2.29	58	P	Pn	15 48 10.9	+1.0
JHU				eS	S	15 48 52.7	+0.6
JAG	Ashikaga	2.73	49	P	Pn	15 48 13.7	+0.2
BSO4	Boso 4	2.84	82	P	Pn	15 48 15.6	+1.2
BSO4				S	S	15 49 00.7	+0.4
JYT	Yasato	3.11	59	P	Pn	15 48 16.8	-0.1
JYT				eS	S	15 49 00.7	-4.2
JHO	Hitachi	3.57	56	P	Pn	15 48 21.6	+0.3
JHO				eS	S	15 49 12.0	-0.9
JFK	Kawauchi	4.21	49	P	Pn	15 48 27.9	0.0
JFK				eS	S	15 49 21.6	-3.3
KSRS	Korea Array	7.80	294	P	Pn	15 49 08.7	-0.1
	0.2nm,0.3s,baz=108,slow=12,SNR=11						
ASAJ	Asahikawa	10.43	23	P	Pn	15 49 40.6	+0.4
	0.3nm,0.3s,baz=223,slow=12,SNR=12						
SONM	Songino Array	26.27	309	P	P	15 52 23.8	+1.3
	0.2nm,0.5s,baz=115,slow=9.5,SNR=3.6						
MKAR	Makanchi Array	42.34	304	P	P	15 54 39.0	+0.2
	0.3nm,0.6s,baz=94,slow=9.8,SNR=4.3						
WRA	Warramunga Arr	54.34	183	P	P	15 56 09.3	-0.4
	0.7nm,0.3s,baz=359,slow=7.7,SNR=11						
ASAR	Alice Springs	58.06	183	P	P	15 56 35.6	-0.1
	0.3nm,0.3s,baz=359,slow=6.1,SNR=11						

IDC 21 16:08:50.9±2.1, 1.70N×126.55E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/42, mbtmp3.2/3, Error ellipse: s-maj=180.5km s-min=25.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
WRA	Warramunga Arr	22.83	161	P	P	16 13 55.7	0.0
	0.4nm,0.4s,baz=340,slow=11,SNR=5.8						
ASAR	Alice Springs	26.21	165	P	P	16 14 27.5	-0.1
	0.1nm,0.3s,baz=342,slow=7.8,SNR=4.0						
MKAR	Makanchi Array	59.12	326	P	P	16 18 53.3	0.0
	0.2nm,0.5s,baz=117,slow=7.9,SNR=3.5						

IDC 21 16:36:52.6±21.0, 3.56S×143.40E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=363.2km s-min=112.4km az=166.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
WRA	Warramunga Arr	18.53	208	P	P	16 41 10.6	-0.3
	0.1nm,0.3s,baz=26,slow=12,SNR=5.1						
ASAR	Alice Springs	22.00	204	P	P	16 41 49.2	+0.6
	0.4nm,1.0s,baz=30,slow=12,SNR=3.6						
STKA	Stephens Creek	28.22	183	P	P	16 42 46.9	-0.5
	1.0nm,0.7s,baz=0.0,slow=8.1,SNR=4.5						
ONI	Oni	99.72	312	P	Pdif	16 50 47.5	+8.7

IDC 21 16:47:01.4±5.0, 14.18N×145.61E, h59km±46km, mb3.8/19, mb1 3.9/19, mb1mx3.8/35, mbtmp4.1/19, Error ellipse: s-maj=24.5km s-min=12.2km az=85.0
ISCJB 21 16:47:04.0±0.5, 14.20N±0.05×145.63E±0.10, h100km, mb4.0/25, Error ellipse: s-maj=13.8km s-min=7.2km az=10.1
NEIC 21 16:47:06.7±0.9, 14.16N×145.49E, h109km±8km, mb4.1/7, Error ellipse: s-maj=13.6km s-min=6.6km az=85.0
ISC 21 16:47:05.9±0.7, 14.19N±0.08×145.6E±0.1, h100km, n37, σ0.81/33, mb4.0/25, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
GUMO	Guam	0.90	229	ePn	Pn	16 47 26.4	+1.1
GUMO				eSn	Sn	16 47 40.4	+0.4
JOW	Kunigami	20.47	311	P	P	16 51 35.0	-0.8
	2.1nm,0.9s,baz=120,slow=14,SNR=4.4						
JOW	Kunigami	20.47	311	P	P	16 51 34.8	-0.9
H11S3	WAKE ISLAND Hy	20.72	75	T	T	17 13 01.2	
	baz=263,slow=75,SNR=12						
H11S1	WAKE ISLAND Hy	20.73	75	T	T	17 13 11.1	
	baz=263,slow=75,SNR=13						
H11S2	WAKE ISLAND Hy	20.73	75	T	T	17 13 00.9	
	baz=263,slow=75,SNR=13						
H11N1	WAKE ISLAND Hy	21.12	72	T	T	17 13 28.0	
	baz=260,slow=75,SNR=6.2						
H11N2	WAKE ISLAND Hy	21.13	72	T	T	17 13 28.0	
	baz=260,SNR=4.4						
H11N3	WAKE ISLAND Hy	21.14	72	T	T	17 13 28.0	
	baz=260,slow=75,SNR=10						
JNU	Nakatsue	23.11	327	P	P	16 52 02.1	-1.1
	7.9nm,0.7s,baz=110,slow=5.8,SNR=9.3						
MJAR	Matsushiro Arr	23.21	345	P	P	16 52 03.0	-1.2
	11nm,1.0s,baz=167,slow=10,SNR=9.9						
MAJO	Matsushiro	23.22	345	eP	P	16 52 04.0	-0.3
PMG	Port Moresby	23.49	176	P	P	16 52 06.2	-0.7
	5.5nm,0.7s,baz=326,slow=7.3,SNR=2.9						
KSRS	Korea Array	27.99	329	P	P	16 52 47.1	-0.1
	1.9nm,0.5s,baz=145,slow=9.2,SNR=19						
KSAR	Wonju Array Be	28.00	329	P	P	16 52 47.1	-0.2
USRK	Ussuriysk Arra	32.08	341	P	P	16 53 22.9	-0.4
	1.8nm,0.6s,baz=146,slow=9.8,SNR=6.1						
WRAB	Tennant Creek	35.65	198	eP	P	16 53 53.8	-0.8
	2.5nm,0.7s						
WRA	Warramunga Arr	35.67	198	P	P	16 53 54.1	-0.6
	1.6nm,0.6s,baz=21,slow=9.5,SNR=21						
AS31	Alice Springs	39.31	197	eP	P	16 54 25.3	-0.1
ASAR	Alice Springs	39.31	197	P	P	16 54 24.7	-0.7
	0.5nm,0.6s,baz=18,slow=12,SNR=9.7						
HIA	Hailar	40.89	334	eP	P	16 54 39.0	+0.8
	4.4nm,0.8s						
CMAR	Chiang Mai Arr	44.85	282	P	P	16 55 11.2	+0.6
	0.6nm,0.9s,baz=66,slow=5.9,SNR=6.2						
CMAR				PcP	PcP	16 56 52.0	+1.1
	0.4nm,0.7s,baz=105,slow=1.9,SNR=4.2						
STKA	Stephens Creek	45.96	185	P	P	16 55 18.1	-0.8
	2.0nm,0.8s,baz=320,slow=7.6,SNR=3.8						
ULN	Ulaanbaatar	46.28	325	eP	P	16 55 21.3	-0.3
	1.5nm,0.8s						
SONM	Songino Array	46.64	324	P	P	16 55 25.0	+0.6
	1.0nm,0.7s,baz=138,slow=7.8,SNR=11						
SEY	Seymchan	48.92	4	P	P	16 55 41.7	+0.1
	1.9nm,0.7s,baz=96,slow=23,SNR=18						
BILL	Bilibino	55.47	9	eP	P	16 56 29.6	-0.3
	2.0nm,0.6s						
MKAR	Makanchi Array	61.53	316	P	P	16 57 12.6	+0.1
	0.7nm,0.6s,baz=89,slow=8.2,SNR=12						
ZALV	Zalesovo Beam	61.53	324	P	P	16 57 12.8	+0.5
	0.5nm,0.3s,baz=90,slow=8.6,SNR=3.4						
KURK	Kurchatov	64.56	320	eP	P	16 57 31.9	-0.5
	1.7nm,0.8s						
COLD	Coldfoot	67.14	22	eP	P	16 57 49.6	+1.0
	2.6nm,0.9s						
COLA	College	67.37	25	P	P	16 57 50.2	+0.1
	2.0nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ILAR	Eielson Array	67.75	25	P	P	16 57 51.8	-0.7
	1.7nm,0.4s,baz=252,slow=5.8,SNR=63						
YKA	Yellowknife Ar	82.02	28	P	P	16 59 15.0	+0.2
	0.9nm,0.6s,baz=287,slow=5.3,SNR=10						
NVAR	Mina Array Bea	86.03	52	P	P	16 59 37.8	+1.9
	0.2nm,0.5s,baz=279,slow=7.2,SNR=2.8						
ARCES	ARCESS Array B	86.72	342	P	P	16 59 37.6	-0.8
	2.9nm,0.8s,baz=82,slow=6.8,SNR=6.4						
FINES	FINESS Array B	90.91	335	P	P	16 59 56.7	-1.5
	2.3nm,0.5s,baz=78,slow=4.3,SNR=37						

AZER 21 17:04:46.6±0.7, 39°.51N×41°.51E, h48km±72km, Error ellipse: s-maj=24.1km s-min=16.6km az=225.0
DDA 21 17:04:52.7, 39°.75N×42°.67E, h5km, ML3.5
ISK 21 17:04:52.6, 39°.73N×42°.65E, h5km, ML3.7
NSSP 21 17:04:53.7, 39°.63N×42°.80E, h5km, Ms3.5
CSEM 21 17:04:54.3±0.2, 39°.71N×42°.63E, h2km, ML3.7, Error ellipse: s-maj=5.0km s-min=3.7km az=166.0
ISC 21 17:04:54.0±1.0, 39°.72N±0°.02×42°.64E±0°.01, h5km±9km, n127, σ1.33/162, 11C-28D, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
EATA	Eleskirt	0.18	321	iP	Pg	17 04 56.8	-0.8
EATA				iS	Sg	17 05 00.7	+0.8
EATA	Eleskirt	0.18	321	iP	Pg	17 04 56.8	-0.8
EATA				iS	Sg	17 05 00.7	+0.8
AGRB	Hanur-Agry	0.31	118	ePG	Pg	17 04 59.4	-0.7
AGRB				eSG	Sg	17 05 05.3	+1.0
AGRB	Hanur-Agry	0.31	118	ePg	Pg	17 04 59.4	-0.7
AGRB				eSg	Sg	17 05 05.3	+1.0
HOMI	Horasan	0.65	300	iP	Pg	17 05 05.7	-0.7
HOMI				iS	Sg	17 05 15.0	+0.2
DYDN	Diyadin	0.83	102	iP	Pg	17 05 08.9	-1.1
DYDN				iS	Sg	17 05 20.8	0.0
DYDN	Diyadin	0.83	102	iP	Pg	17 05 08.9	-1.1
DYDN				iS	Sg	17 05 20.8	0.0
DIGO	Kars	0.89	39	iP	Pg	17 05 10.6	-0.5
DIGO	Kars	0.89	39	iP	Pg	17 05 10.6	-0.5
DIGO				iS	Sn	17 05 27.0	+0.1
KARS	Kars	0.96	21	ePG	Pg	17 05 11.9	-0.6
KARS				eSG	Sb	17 05 26.2	-0.2
KARS	Kars	0.96	21	ePg	Pg	17 05 11.9	-0.6
KARS				eSg	Sb	17 05 26.2	-0.2
VNNZ	Vanand	0.99	67	⇓iP	Pg	17 05 12.4	-0.5
VNNZ				⇓iS	Sg	17 05 26.0	+0.2
VNNZ	Vanand	0.99	67	⇓P	Pg	17 05 12.4	-0.5
VNNZ				S	Sg	17 05 26.0	+0.2
ERZM	Erzurum	0.99	281	iP	Pg	17 05 13.0	0.0
ERZM	Erzurum	0.99	281	iP	Pg	17 05 13.0	0.0
EZM	Erzurum	1.00	281	ePG	Pg	17 05 13.0	-0.1
AKSZ	Araks	1.07	64	⇑iP	Pb	17 05 14.6	-0.4
AKSZ				⇓iS	Sb	17 05 29.6	+0.3
AKSZ	Araks	1.07	64	⇑P	Pb	17 05 14.6	-0.4
AKSZ				S	Sb	17 05 29.6	+0.3
VRTB	Varto-Mus	1.07	239	ePN	Pg	17 05 13.8	-0.7
VRTB				eSN	Sn	17 05 30.7	-0.5
VRTB	Varto-Mus	1.07	239	ePn	Pg	17 05 13.8	-0.7
VRTB				eSn	Sn	17 05 30.7	-0.5
NARZ	Nor Artik	1.11	48	⇓iP	Pn	17 05 20.3	+3.9
NARZ				⇓iS	Sn	17 05 38.1	+6.0
CLDR	Caldiran	1.15	120	ePN	Pg	17 05 15.1	-0.9
CLDR	Caldiran	1.15	120	ePn	Pg	17 05 15.1	-0.9
TATV	Tatvan	1.25	193	iP	Pb	17 05 16.8	-1.3
TATV				iS	Sn	17 05 35.1	-0.4
TATV	Tatvan	1.25	193	iP	Pb	17 05 16.8	-1.3
TATV				iS	Sn	17 05 35.1	-0.4
VANB	Van	1.27	152	ePN	Pg	17 05 18.5	+0.2
VANB	Van	1.27	152	ePn	Pg	17 05 18.5	+0.2
TVAN	Van	1.34	153	iP	Pn	17 05 18.4	-1.1
TVAN				iS	Sn	17 05 38.2	+0.4
TVAN	Van	1.34	153	iP	Pn	17 05 18.4	-1.1
TVAN				iS	Sn	17 05 38.2	+0.4
DDEM	Demirkent	1.35	330	iP	Pn	17 05 18.6	-1.0
DDEM	Demirkent	1.35	330	iP	Pn	17 05 18.6	-1.0
DDEM				iS	Sb	17 05 35.2	-2.2
HARI	Harich	1.37	49	⇓iP	Pg	17 05 26.4	+6.2
HARI				⇓iS	Sg	17 05 48.4	+10
BNGL	BINGOL	1.39	237	iP	Pn	17 05 19.2	-1.0
BNGL				iS	Sg	17 05 40.9	+2.4
PAAR	P'arak'ar	1.41	72	⇓iP	Pb	17 05 20.4	-0.4
PAAR				⇓iS	Sg	17 05 39.5	+0.3
PAAR	P'arak'ar	1.41	72	⇓P	Pb	17 05 20.4	-0.4
PAAR				S	Sg	17 05 39.5	+0.3
AMBZ	Amberd	1.41	61	⇓iP	Pn	17 05 19.2	-1.4
AMBZ				⇓iS	Sb	17 05 37.7	-1.7
AMBZ	Amberd	1.41	61	⇓P	Pn	17 05 19.2	-1.4
AMBZ				S	Sb	17 05 37.7	-1.7
GMRZ	Gyumri	1.42	40	eP	Pg	17 05 26.0	+4.8
GMRZ				⇓S	Sg	17 05 49.0	+9.4
GEVA	Gevas	1.45	167	iP	Pn	17 05 20.5	-0.5
GEVA				iS	Sg	17 05 42.3	+1.8
GEVA	Gevas	1.45	167	iP	Pn	17 05 20.5	-0.5
GEVA				iS	Sg	17 05 42.3	+1.8
DAGI	Agillar	1.46	338	iP	Pn	17 05 20.2	-0.9
DAGI				iS	Sg	17 05 41.6	+0.7
DBAD	Bademkaya	1.48	331	iP	Pn	17 05 20.9	-0.5
DBAD				iS	Sg	17 05 43.7	+2.2
DBAD	Bademkaya	1.48	331	iP	Pn	17 05 20.9	-0.5
DBAD				iS	Sg	17 05 43.7	+2.2
KOPT	Kop Dagi	1.67	281	iP	Pb	17 05 25.0	-0.4
KOPT	Kop Dagi	1.67	281	iP	Pb	17 05 25.0	-0.4
KOPT				iS	Sg	17 05 50.8	+3.2
GNI	Garni	1.67	75	ePN	Pn	17 05 23.9	-0.2
GNI	Garni	1.67	75	⇑iP	Pb	17 05 24.5	-0.9
GNI				⇓iS	Sg	17 05 49.5	+1.7
GNI	Garni	1.67	75	ePn	Pn	17 05 23.9	-0.2
GNI	Garni	1.67	75	⇑P	Pb	17 05 24.5	-0.9
GNI				S	Sg	17 05 49.5	+1.7
BNGB	Bing¨¶l	1.68	245	ePN	Pn	17 05 24.0	-0.2
KAPZ	Kaputan	1.69	69	⇓iP	Pn	17 05 24.6	+0.2
KAPZ				⇑iS	Sn	17 05 46.3	-0.2
KAPZ	Kaputan	1.69	69	⇓P	Pn	17 05 24.6	+0.2
KAPZ				S	Sn	17 05 46.3	-0.2
BTMT	Batman	1.77	211	ePN	Pb	17 05 26.1	-0.9
BTMT	Batman	1.77	211	ePn	Pb	17 05 26.1	-0.9
DBOC	Borcka	1.78	336	iP	Pn	17 05 25.8	+0.4
DBOC	Borcka	1.78	336	iP	Pn	17 05 25.8	+0.4
DBOC				iS	Sg	17 05 52.4	+1.3
AKH	Akhalkalaki	1.81	21	ePN	Pn	17 05 26.2	+0.3
AKH	Akhalkalaki	1.81	21	P	Pb	17 05 26.7	-0.9
AKH	Akhalkalaki	1.81	21	P	Pb	17 05 26.7	-0.9
STE	Stepanavan	1.84	46	P	Pn	17 05 26.0	-0.3
BINT	Bingol	1.87	244	ePn	Pn	17 05 24.0	-2.7
SVAN	Silvan-Diyarba	1.93	216	ePN	Pn	17 05 28.0	+0.5
PZAR	Pazar-Rize	1.96	318	ePN	Pn	17 05 28.4	+0.5
PZAR	Pazar-Rize	1.96	318	ePn	Pn	17 05 28.4	+0.5
BAYT	Ayd¯–ntepe-Bay	2.03	290	ePN	Pn	17 05 29.7	+0.8
BAYT	Ayd¯–ntepe-Bay	2.03	290	ePn	Pn	17 05 29.7	+0.8
BEST	Besiri	2.12	211	iP	Pn	17 05 30.7	+0.6
BEST				iS	Sg	17 06 02.3	+0.3
SIRT	Sirnak	2.23	184	ePN	Pn	17 05 32.0	+0.4
SIRT	Sirnak	2.23	184	ePn	Pn	17 05 32.0	+0.4
ERZN	Erzincan	2.25	267	ePN	Pn	17 05 32.5	+0.4
EUZM	Uzumlu	2.27	271	iP	Pb	17 05 34.4	-1.0
EUZM	Uzumlu	2.27	271	iP	Pb	17 05 34.4	-1.0
NAX	Nakhchivan	2.28	103	⇑P	Pb	17 05 35.1	-0.6
NAX				⇑S	Sg	17 06 09.2	+2.0
NAX	Nakhchivan	2.28	103	P	Pb	17 05 35.1	-0.6
QZX	Qazax, Azerbai	2.48	57	⇓P	Pb	17 05 37.4	-1.6
QZX				⇓S	Sg	17 06 15.1	+1.9
QZX	Qazax, Azerbai	2.48	57	P	Pb	17 05 37.4	-1.6
KTUT	Trabzon	2.53	301	ePN	Pn	17 05 36.6	+0.9
KTUT	Trabzon	2.53	301	ePn	Pn	17 05 36.6	+0.9
GUMT	Gumushane	2.53	288	ePN	Pn	17 05 36.9	+1.1
GUMT	Gumushane	2.53	288	ePn	Pn	17 05 36.9	+1.1
EZC	Erzincan	2.53	272	ePn	Pn	17 05 32.5	-3.4
TBLG	Delisi	2.56	38	ePN	Pn	17 05 36.5	+0.3
TBLG	Delisi	2.56	38	P	Pb	17 05 39.2	-1.3
TBLG	Delisi	2.56	38	P	Pb	17 05 39.2	-1.3
CUKT	Cukurca	2.59	163	ePN	Pn	17 05 37.4	+0.8
CUKT	Cukurca	2.59	163	ePn	Pn	17 05 37.4	+0.8
SEAG	Tbilisi Sea	2.62	38	P	Pg	17 05 42.6	-1.6
DIY	Diyarbakir	2.62	227	ePn	Pn	17 05 37.4	+0.4
DYBB	Diyarbakir	2.63	229	ePN	Pn	17 05 37.4	+0.2
PTK	Pertek	2.65	253	ePN	Pn	17 05 38.6	+1.1
PTK	Pertek	2.65	253	ePn	Pn	17 05 38.6	+1.1
DGRG	David-gareji	2.71	50	P	Pb	17 05 40.5	-2.4
DGRG	David-gareji	2.71	50	P	Pb	17 05 40.5	-2.4
DUS	Dusheti	2.84	33	P	Pb	17 05 46.1	+1.0
GRS	Goris	2.87	93	⇓iP	Pb	17 05 46.0	+0.3
GRS				⇓iS	Sg	17 06 31.0	+5.0
ONI	Oni	2.93	12	P	Pn	17 05 43.4	+2.2
GANJ	Ganja	2.97	71	⇓P	Pn	17 05 44.1	+2.3
	SNR=6.0						
GANJ				⇓S	Sg	17 06 30.3	+0.9
GANJ	Ganja	2.97	71	P	Pn	17 05 44.1	+2.3
	SNR=6.0						
GUDG	Gudauri	3.07	26	P	Pn	17 05 45.6	+2.2
GUDG	Gudauri	3.07	26	P	Pn	17 05 45.6	+2.2
KEMA	Kemaliye	3.24	263	iP	Pn	17 05 46.9	+1.4
KEMA	Kemaliye	3.24	263	iP	Pn	17 05 46.9	+1.4
MALT	Malatya	3.57	248	ePN	Pn	17 05 51.2	+1.2
MALT	Malatya	3.57	248	ePn	Pn	17 05 51.3	+1.2
ZKTA	Zakatala	3.58	56	⇑P	Pn	17 05 53.4	+3.2
	SNR=9.0						
ZKTA				⇑S	Sb	17 06 41.0	-0.7
ZKT	Zaqatala	3.62	57	P	Pn	17 05 53.4	+2.7
	SNR=9.0						
URFA	Urfa	3.76	234	ePN	Pn	17 05 53.4	+0.7
URFA	Urfa	3.76	234	ePn	Pn	17 05 53.4	+0.7
SEKA	Sheki	3.78	65	⇑P	Pn	17 05 56.4	+3.4
	SNR=5.4						
SEKA	Sheki	3.78	65	P	Pn	17 05 56.4	+3.4
	SNR=5.4						
DARE	Darende-Malaty	4.17	256	ePN	Pn	17 06 00.5	+2.2
DARE	Darende-Malaty	4.17	256	ePn	Pn	17 06 00.5	+2.2
SVSK	Karacayir	4.34	274	ePN	Pn	17 06 02.8	+2.2
SVSK	Karacayir	4.34	274	ePn	Pn	17 06 02.8	+2.2
GLBA	Cilabad	4.48	94	⇓P	Pn	17 06 06.1	+3.6
	SNR=4.1						
GLBA				⇑S	Sb	17 07 04.5	-2.9
GLBA	Cilabad	4.48	94	P	Pn	17 06 06.1	+3.6
	SNR=4.1						
LRK	Lerik	4.56	102	⇓P	Pn	17 06 06.1	+2.3
LRK	Lerik	4.56	102	P	Pn	17 06 06.1	+2.3
GZT	Gaziantep	4.63	241	iP	Pg	17 06 19.9	-2.7
PQL	Pirkuli	4.68	75	⇓S	Sb	17 07 12.1	-1.3
LKRN	Lenkeran, Azer	4.88	100	⇓P	Pn	17 06 10.2	+2.2
LKRN	Lenkeran, Azer	4.88	100	P	Pn	17 06 10.2	+2.2
KMRS	Kahramanmaras	5.01	246	ePN	Pn	17 06 12.1	+2.3
KMRS	Kahramanmaras	5.01	246	ePn	Pn	17 06 12.1	+2.3
BNN	Bunyan	5.34	263	ePN	Pn	17 06 16.7	+2.2
BNN	Bunyan	5.34	263	ePn	Pn	17 06 16.7	+2.2
CRLT	Corlu	11.45	282	ePN	Pn	17 07 39.4	+1.4

MEX 21 17:49:50.7±0.4, 16°.80N×100°.63W, h9km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
CAIG	El Cayaco	0.43	55	iP	Pg	17 49 56.5	-2.6
CAIG				iS	Sg	17 50 02.1	-2.6
ACP2	Acapulco	0.72	84	iP	Pg	17 50 02.9	-1.7
ACP2				iS	Sg	17 50 12.2	-1.8
ACX	Acapulco	0.74	85	iP	Pg	17 50 00.5	-4.6
ACX				iS	Sg	17 50 10.2	-4.6
ZIIG	Zihuatanejo	1.13	315	eP	Pg	17 50 08.8	-3.7
ZIIG				iS	Sg	17 50 23.2	-3.9
MEIG	Mezcala	1.48	41	eP	Pn	17 50 14.0	-3.7
MEIG				iS	Sn	17 50 32.1	-5.1
ARIG	Puente Sto Nin	1.50	10	eP	Pn	17 50 13.9	-4.0
ARIG				iS	Sn	17 50 32.6	-5.0
PLIG	Platanillo	1.91	34	iP	Pn	17 50 20.5	-3.1
PLIG				iS	Sn	17 50 42.7	-5.3
TLIG	Tlapa	2.11	69	iP	Pn	17 50 23.1	-3.3
TLIG				iS	Sn	17 50 48.4	-4.7
PNIG	Pinotepa	2.44	99	iP	Pn	17 50 27.8	-2.9
PNIG				iS	Sn	17 50 56.2	-4.5
YAIG	Yautepec	2.53	36	iP	Pn	17 50 28.9	-3.3
YAIG				iS	Sn	17 50 58.6	-4.9

WEL 21 17:54:22.8±0.2, 37°.16S×177°.19E, h139km±2km, ML3.9/13, 3C-2D, Error ellipse: s-maj=1.7km s-min=1.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
HAZ	Te Kaha	0.76	142	⇓PN	Pn	17 54 44.3	-0.2
HAZ				SN	Sn	17 55 01.5	+0.5
OPRZ	Ohinepanea	0.85	216	PN	Pn	17 54 44.9	-0.3
OPRZ				SN	Sn	17 55 02.2	-0.1
MXZ	Matakaoa Point	0.98	115	⇑PN	Pn	17 54 46.4	+0.1
MXZ				SN	Sn	17 55 05.1	+1.0
MXZ				AML	AML	17 55 10.5	
MXZ				AML	AML	17 55 10.6	
MXZ				AML	AML	17 55 10.6	
URZ	Urewera	1.10	183	PN	Pn	17 54 47.1	-0.3
URZ				SN	Sn	17 55 06.5	+0.3
URZ				AML	AML	17 55 12.2	
TWGZ	Tauwhareparae	1.20	149	PN	Pn	17 54 48.8	+0.4
MWZ	Matawai	1.21	167	⇑PN	Pn	17 54 48.4	-0.1
MWZ				SN	Sn	17 55 08.4	+0.2
MWZ				AML	AML	17 55 11.4	
MWZ				AML	AML	17 55 11.4	
MWZ				AML	AML	17 55 15.3	
KUZ	Kuaotunu	1.25	289	PN	Pn	17 54 48.6	-0.2
PUZ	Puketiti	1.25	137	⇓PN	Pn	17 54 48.5	-0.3
PUZ				AML	AML	17 55 16.2	
PUZ				AML	AML	17 55 18.1	
CNGZ	Carnagh Statio	1.55	149	PN	Pn	17 54 52.2	+0.1
RIGZ	Rimuhau	1.61	164	PN	Pn	17 54 52.6	-0.2
MKAZ	Moumakai	1.62	271	PN	Pn	17 54 53.2	+0.5
SNGZ	Shannon Statio	1.62	176	PN	Pn	17 54 52.8	-0.2
RAHZ	Arahi	1.76	183	PN	Pn	17 54 54.5	+0.1
KNZ	Kokohu	1.90	169	PN	Pn	17 54 55.2	-0.8
WHHZ	Waihua	1.92	179	PN	Pn	17 54 56.4	+0.2
NMHZ	Naumai	1.96	189	PN	Pn	17 54 57.8	+0.9
MHGZ	Mahia Peninsul	2.07	164	PN	Pn	17 54 57.5	-0.6
BKZ	Black Stump Fm	2.08	195	PN	Pn	17 54 57.7	-0.6
BKZ				AML	AML	17 55 33.7	
BKZ				AML	AML	17 55 39.8	
KRVZ	Karewarewa	2.29	212	PN	Pn	17 55 01.5	+0.6
HIZ	Hauiti	2.29	233	⇑PN	Pn	17 55 01.2	+0.5
MCHZ	McNeill Hill	2.32	189	PN	Pn	17 55 00.5	-0.5
WTVZ	West Tongariro	2.33	212	PN	Pn	17 55 01.4	+0.1
OTVZ	Oturere	2.34	210	PN	Pn	17 55 01.3	-0.2
TWVZ	Taurewa	2.36	215	PN	Pn	17 55 01.8	+0.1
NGZ	Ngauruhoe	2.37	211	PN	Pn	17 55 02.0	0.0
WPVZ	Whakapapa	2.42	212	PN	Pn	17 55 02.9	+0.4
TUVZ	Tukino	2.43	209	PN	Pn	17 55 02.2	-0.5
FWVZ	Far West T-bar	2.46	211	PN	Pn	17 55 02.7	-0.5
BHHZ	Black Hill Sta	2.49	200	PN	Pn	17 55 02.1	-1.2
TRVZ	Turoa	2.50	211	PN	Pn	17 55 03.3	-0.4
CKHZ	Cape Kidnapper	2.50	182	PN	Pn	17 55 02.3	-1.1
WNVZ	Wahianoa	2.50	210	PN	Pn	17 55 03.2	-0.4
MOVZ	Moawhango	2.52	206	PN	Pn	17 55 02.2	-1.4
KRHZ	Kereru	2.56	194	PN	Pn	17 55 02.3	-1.9
MTVZ	Mangateitei	2.60	211	PN	Pn	17 55 04.4	-0.4
KAHZ	Kahuranaki	2.65	185	PN	Pn	17 55 04.0	-1.2
PNHZ	Pukenui	2.86	195	PN	Pn	17 55 05.9	-2.0
PXZ	Pawanui	2.88	185	PN	Pn	17 55 06.2	-1.9
PXZ				AML	AML	17 55 44.1	
PXZ				AML	AML	17 55 44.1	
WPHZ	Waipukurau	2.96	191	PN	Pn	17 55 07.0	-2.2
TSZ	Takapari Road	3.05	198	PN	Pn	17 55 08.2	-2.3
TSZ				AML	AML	17 55 58.7	
WAZ	Wanganui	3.12	213	PN	Pn	17 55 10.5	-0.8
PRHZ	Porangahau	3.14	188	PN	Pn	17 55 09.3	-2.1
DVHZ	Dannevirke	3.24	194	PN	Pn	17 55 09.8	-3.0
ANWZ	Angora Road	3.35	189	PN	Pn	17 55 11.7	-2.4
POWZ	Post Office Ro	3.42	199	PN	Pn	17 55 12.6	-2.5
PRWZ	Pori Road	3.52	195	PN	Pn	17 55 13.9	-2.6
BFZ	Birch Farm	3.59	192	PN	Pn	17 55 14.3	-3.1
MRZ	Mangatainoka R	3.72	199	PN	Pn	17 55 15.8	-3.2
MRZ				AML	AML	17 55 59.5	
MRZ				AML	AML	17 56 00.2	
TIWZ	Tintock	3.75	195	PN	Pn	17 55 16.4	-3.1
TIWZ				AML	AML	17 56 01.9	
TIWZ				AML	AML	17 56 03.7	
CPWZ	Castlepoint	3.83	191	PN	Pn	17 55 17.7	-2.7
HOWZ	Holdsworth Sta	3.96	199	PN	Pn	17 55 18.4	-3.7
OGWZ	Otaki Gorge	3.98	203	PN	Pn	17 55 19.0	-3.4
TMWZ	Te Maipa	4.07	194	PN	Pn	17 55 20.2	-3.5
KIW	Kapiti Island	4.10	205	PN	Pn	17 55 20.7	-3.4
KIW				AML	AML	17 56 08.2	
MTW	Mount Morrison	4.21	198	PN	Pn	17 55 21.3	-4.1
CAW	Cannon Point	4.28	202	PN	Pn	17 55 22.2	-4.2
CAW				AML	AML	17 56 15.2	
TRWZ	Traveller	4.39	195	PN	Pn	17 55 23.9	-4.0
DUWZ	D'Urville Isla	4.44	214	PN	Pn	17 55 25.0	-3.5
MSWZ	Moikau Station	4.51	199	PN	Pn	17 55 25.0	-4.5
TCW	Tory Channel	4.64	208	PN	Pn	17 55 27.0	-4.2
TCW				AML	AML	17 56 20.1	
TCW				AML	AML	17 56 20.4	
PLWZ	Palliser	4.66	198	PN	Pn	17 55 26.8	-4.6
TUWZ	Tuamarina	4.96	210	PN	Pn	17 55 30.7	-4.6
TUWZ				AML	AML	17 56 28.3	
NNZ	Nelson	5.02	215	PN	Pn	17 55 31.9	-4.3
QRZ	Quartz Range	5.16	223	PN	Pn	17 55 33.9	-4.1
BSWZ	Blackbirch Sta	5.22	208	PN	Pn	17 55 34.4	-4.5
THZ	Tophouse	5.67	214	PN	Pn	17 55 39.8	-5.2
KHZ	Kahutara	5.96	207	PN	Pn	17 55 44.2	-4.5
LTZ	Lake Taylor	6.77	212	PN	Pn	17 55 54.6	-5.1
MQZ	McQueen's Vall	7.40	206	PN	Pn	17 56 00.9	-7.1
ODZ	Otahua Downs	7.42	208	PN	Pn	17 56 26.8	-6.7
JCZ	Jackson Bay	9.42	220	PN	Pn	17 56 29.0	-6.3

IDC 21 18:02:16.5±9.3, 15°.66S×166°.42E, h125km±135km, mb3.5/3, mb1 3.6/4, mb1mx3.3/25, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=266.0km s-min=62.2km az=83.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
DZM	Mont Dzumac	6.38	180	P	Pn	18 03 48.4	+0.1
	2.1nm,0.3s,baz=77,slow=12,SNR=29						
DZM				S	Sn	18 05 00.1	+0.2
	0.3nm,0.3s,baz=135,slow=19,SNR=2.1						
STKA	Stephens Creek	27.77	230	P	P	18 07 53.8	+0.1
	2.0nm,0.8s,baz=68,slow=11,SNR=4.4						
WRA	Warramunga Arr	30.81	257	P	P	18 08 20.6	-0.2
	0.5nm,0.7s,baz=88,slow=8.5,SNR=14						
ASAR	Alice Springs	31.58	250	P	P	18 08 27.6	0.0
	1.2nm,0.6s,baz=78,slow=9.0,SNR=80						

IDC 21 18:28:51.8±1.3, 25°.81N×102°.44E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.1/40, mbtmp3.2/4, Error ellipse: s-maj=40.4km s-min=20.2km az=85.0, Yunnan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
CMAR	Chiang Mai Arr	8.00	205	Pg	Pg	18 31 19.3	-5.9
	0.1nm,0.3s,baz=7.8,slow=16,SNR=5.7						
CMAR				Lg	Lg	18 33 06.6	
	0.1nm,0.3s,baz=39,slow=30,SNR=3.7						
SONM	Songino Array	22.21	7	P	P	18 33 51.1	+1.2
	0.5nm,0.9s,baz=191,slow=12,SNR=4.0						
MKAR	Makanchi Array	26.36	328	P	P	18 34 28.8	-0.9
	0.3nm,0.7s,baz=134,slow=10,SNR=4.7						
WRA	Warramunga Arr	55.03	143	P	P	18 38 25.9	+0.5
	0.7nm,1.2s,baz=331,slow=8.1,SNR=5.0						
ASAR	Alice Springs	57.85	146	P	P	18 38 44.7	-0.8
	0.2nm,0.6s,baz=328,slow=7.5,SNR=3.8						

NIED 21 18:37:00, 28°.10N×141°.80E, h5km, Mw4.4 Best double couple: M0 5.22000×10^15 NP1: φs151.00000°, δ14.00000°, λ-108.00000°. NP2: φs350.00000°, δ77.00000°, λ-86.00000°.
MOS 21 18:37:39.6±1.1, 28°.06N×141°.80E, h33km, mb4.5/20, Error ellipse: s-maj=14.6km s-min=7.0km az=103.7
ISCJB 21 18:37:41.0±0.3, 28°.18N±0°.02×141°.82E±0°.07, h42km, mb4.3/33, MS3.3/5, Error ellipse: s-maj=8.5km s-min=2.9km az=169.3
JMA 21 18:37:42.2±0.1, 28°.13N×141°.84E, h49km, M4.8
JMA Felt I J1.
IDC 21 18:37:42.9±1.1, 28°.06N×141°.77E, h41km±10km, mb3.8/19, mb1 3.9/21, mb1mx3.9/29, mbtmp4.0/21, ML3.6/2, MS3.2/8, Ms1 3.2/8, ms1mx2.9/31, Error ellipse: s-maj=17.4km s-min=8.2km az=74.0
NEIC 21 18:37:43.4±1.0, 28°.02N×141°.66E, h52km±9km, mb4.6/12, MW4.4(NIED), Error ellipse: s-maj=10.6km s-min=7.0km az=85.0
NEIC Recorded [1 JMA] in Tokyo.
ISC 21 18:37:42.4±0.4, 28°.12N±0°.04×141°.79E±0°.08, h42km, n126, σ1.41/144, mb4.2/33, MS3.2/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
CBIJ	Chichi jima	1.08	161	P	Pn	18 38 01.2	+0.1
CBIJ				S	Sn	18 38 14.7	-0.2
CBIJ	Chichi jima	1.08	161	eP	Pn	18 38 01.2	+0.1
CBIJ				S	Sn	18 38 14.0	-0.8
JCJ	Chichijima	1.08	161	P	Pn	18 38 01.3	+0.2
	2μm,0.3s,baz=271,slow=23,SNR=622						
JCJ				S	Sn	18 38 14.0	-0.9
	4μm,0.3s,baz=270,slow=20,SNR=28						
JHHJ	Haha-jima-NKT	1.52	167	P	Pn	18 38 07.5	+0.3
JHHJ				S	Sn	18 38 26.1	+0.3
JHCJ	Hachijojimakas	5.23	341	P	Pn	18 38 59.5	+1.5
JHCJ				S	Sn	18 39 54.7	-2.3
JHJ2	Mitsune	5.26	342	P	Pn	18 38 58.6	+0.1
JHJ2				S	Sn	18 39 56.4	-1.4
JKO	Kozu shima	6.46	340	P	Pn	18 39 17.2	+2.2
BSO1	Boso 1	6.55	354	P	Pn	18 39 15.1	-0.6
BSO1				S	Sn	18 40 27.5	-1.3
BSO3	Boso 3	6.75	351	P	Pn	18 39 18.3	-0.4
BSO3				S	Sn	18 40 36.6	+2.5
BSO4	Boso 4	6.96	350	P	Pn	18 39 23.0	+1.3
BSO4				S	Sn	18 40 41.0	+1.5
JOD2	Odawara 2	7.48	343	P	Pn	18 39 30.2	+1.2
JOD2				S	Sn	18 40 52.7	+0.1
JHU	Hanno	8.00	345	P	Pn	18 39 36.9	+0.8
JHU				S	Sn	18 41 03.0	-2.2
JYT	Yasato	8.20	351	P	Pn	18 39 39.0	+0.2
JYT				S	Sn	18 41 06.0	-4.0
JRY	Ryogami san	8.24	343	P	Pn	18 39 39.7	+0.2
JRY				S	Sn	18 41 10.3	-1.0
JAG	Ashikaga	8.51	347	P	Pn	18 39 42.6	-0.5
JAG				eS	Sn	18 41 12.5	-5.4
MJAR	Matsushiro Arr	8.93	341	P	Pn	18 39 50.8	+2.0
MJAR				S	Sn	18 41 28.6	+0.5
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR				smax	smax		
	comp=N,2.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,86nm,21.0s						
MJAR	Matsushiro Arr	8.93	341	P	Pn	18 39 50.8	+2.0
	comp=Z,3.8nm,0.3s,baz=165,slow=12,SNR=43						
MJAR				S	Sn	18 41 28.6	+0.5
	comp=Z,1.5nm,0.3s,baz=208,slow=17,SNR=3.9						
MJAR				LR	LR	18 43 14.3	
	comp=Z,86nm,21.0s,baz=135,slow=37						
MAJO	Matsushiro	8.93	341	eP	Pn	18 39 50.9	+2.0
MAJO	Matsushiro	8.93	341	ePn	Pn	18 39 50.9	+2.0
MAT	Matsushiro	8.93	341	P	Pn	18 39 50.3	+1.5
MAT				S	Sn	18 41 25.6	-2.5
JNU	Nakatsue	10.64	301	P	Pn	18 40 18.5	+6.3
	comp=Z,0.4nm,0.3s,baz=31,slow=12,SNR=6.4						
JNU				LR	LR	18 44 07.9	
	comp=Z,143nm,19.2s,baz=134,slow=36						
JNU	Nakatsue	10.64	301	ePn	Pn	18 40 13.8	+1.5
JOW	Kunigami	12.07	267	LR	LR	18 44 37.3	
	comp=Z,7.8nm,19.9s,baz=134,slow=34						
KSRS	Korea Array	14.91	312	P	P	18 41 15.2	0.0
	comp=Z,0.3nm,0.3s,baz=125,slow=10.0,SNR=7.0						
KSRS				LR	LR	18 46 28.6	
	comp=Z,62nm,20.6s,baz=119,slow=35						
KSAR	Wonju Array Be	14.92	312	P	P	18 41 15.2	-0.3
KSAR	Wonju Array Be	14.92	312	P	P	18 41 15.2	-0.3
ASAJ	Asahikawa	15.98	2	P	Pn	18 41 22.2	-2.0
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	Asahikawa	15.98	2	P	Pn	18 41 22.1	-2.0
	comp=Z,1.6nm,0.3s,baz=212,slow=12,SNR=23						
ASAJ	Asahikawa	15.98	2	ePn	Pn	18 41 21.1	-3.0
	comp=Z,34nm,1.8s						
ASAJ				P	Pn	18 41 22.1	-2.0
USRK	Ussuriysk Arra	17.87	336	P	P	18 41 48.3	+0.3
	comp=Z,0.3nm,0.3s,baz=141,slow=9.3,SNR=6.1						
YHNB	Yeheng	18.61	264	eP	P	18 41 54.8	-1.6
	comp=Z,22nm,0.6s						
YSS	Yuzh-Sakhalins	18.82	2	eP	Pn	18 42 01.0	+1.8
SSLB	Suanglung	19.22	262	ePn	P	18 42 02.3	-0.8
	comp=Z,28nm,0.9s						

H11N2 WAKE ISLAND Hy 24.39 105 T T 19 08 35.8
baz=297,slow=74,SNR=157
H11N1 WAKE ISLAND Hy 24.39 105 T T 19 08 03.5
baz=297,SNR=157
H11N3 WAKE ISLAND Hy 24.40 105 T T 19 08 37.1
baz=297,slow=74,SNR=178
H11S3 WAKE ISLAND Hy 24.75 107 T T 19 08 26.0
baz=297,slow=75,SNR=122
H11S1 WAKE ISLAND Hy 24.75 107 T T 19 08 24.2
baz=297,slow=75,SNR=99
H11S2 WAKE ISLAND Hy 24.77 107 T T 19 08 25.9
baz=297,slow=75,SNR=63
DAV Davao City (W) 25.96 219 eP P 18 43 07.7 -3.4
comp=Z,157nm,0.4s
SONM Songino Array 33.74 315 P P 18 44 19.4 -0.6
comp=Z,0.6nm,0.5s,baz=125,slow=8.3,SNR=8.8
SONM PcP PcP 18 46 59.9 +1.2
comp=Z,0.3nm,0.6s,baz=110,slow=2.0,SNR=4.9
SONM ScP ScP 18 50 39.7 -0.4
comp=Z,0.9nm,0.8s,baz=143,slow=2.9,SNR=8.9
SONM LR LR 18 58 50.1
comp=Z,52nm,19.8s,baz=127,slow=38
LUWI Luwuk 34.26 215 eP P 18 44 22.5 -2.1
comp=Z,27nm,0.5s
YAK Yakutsk 34.85 350 eP P 18 44 28.6 -0.6
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK Yakutsk 34.85 350 eP P 18 44 28.6 -0.6
comp=Z,7.1nm,0.8s
BOD Bodaibo 35.48 335 eP P 18 44 35.1 +0.4
BOD pmax pmax
comp=Z,4.0nm,1.6s
SEY Seymchan 35.50 8 P P 18 44 36.5 +1.7
SEY pmax pmax
comp=Z,1.0nm,0.4s
SEY Seymchan 35.50 8 P P 18 44 36.5 +1.7
comp=Z,0.7nm,0.4s,baz=329,slow=19,SNR=3.6
ZAK Zakamensk 36.61 318 eP P 18 44 46.4 +1.8
ZAK pmax pmax
comp=Z,1.0nm,1.4s
CHTO Chiang Mai 40.20 266 eP P 18 45 13.8 -1.3
CHTO pmax pmax
comp=Z,7.0nm,1.4s
CHTO Chiang Mai 40.20 266 eP P 18 45 13.8 -1.3
comp=Z,6.9nm,1.4s
CMAR Chiang Mai Arr 40.34 266 P P 18 45 17.4 +1.3
comp=Z,0.7nm,0.5s,baz=72,slow=5.1,SNR=10.0
CMAR LR LR 19 02 17.0
comp=Z,24nm,19.2s,baz=153,slow=37
BILL Bilibino 42.54 13 eP P 18 45 32.8 -0.8
BILL pmax pmax
comp=Z,10.0nm,1.6s
BILL Bilibino 42.54 13 eP P 18 45 32.8 -0.8
comp=Z,10nm,1.6s
TIXI Tiksi 44.16 354 eP P 18 45 46.5 -0.1
TIXI pmax pmax
comp=Z,4.0nm,1.2s
TIXI Tiksi 44.16 354 eP P 18 45 46.5 -0.1
comp=Z,3.7nm,1.2s
TAPN Taplejung 47.53 282 eP P 18 46 15.2 +1.0
comp=Z,5.1nm,0.4s
ODAN Odare 47.93 282 eP P 18 46 18.5 +1.3
comp=Z,9.6nm,0.4s
PSI Prapat 47.98 246 P P 18 46 19.2 +1.6
PSI pmax pmax
comp=Z,7.0nm,0.8s
PSI Prapat 47.98 246 P P 18 46 19.1 +1.6
comp=Z,6.8nm,0.8s,baz=68,slow=5.6,SNR=7.3
WRAB Tennant Creek 48.31 189 eP P 18 46 18.5 -1.3
WRAB pmax pmax
comp=Z,17nm,0.6s
WRAB Tennant Creek 48.31 189 eP P 18 46 18.5 -1.3
comp=Z,17nm,0.6s
WRA Warramunga Arr 48.32 189 P P 18 46 20.4 +0.6
comp=Z,12nm,0.6s,baz=12,slow=8.6,SNR=162
WRA ScP ScP 18 51 37.1 -0.4
comp=Z,0.5nm,0.5s,baz=23,slow=3.8,SNR=9.6
ZALV Zalesovo Beam 48.49 319 P P 18 46 21.1 +0.2
comp=Z,1.0nm,0.3s,baz=104,slow=7.0,SNR=6.6
ZALV PcP PcP 18 47 46.8 +0.4
comp=Z,1.5nm,0.5s,baz=109,slow=4.2,SNR=5.1
ZALV ScP ScP 18 51 36.1 -1.6
comp=Z,0.4nm,0.3s,baz=116,slow=5.1,SNR=3.7
ZALV LR LR 19 07 05.5
comp=Z,22nm,19.5s,baz=71,slow=36
RAMN Ramite 48.59 282 eP P 18 46 24.0 +1.7
comp=Z,4.6nm,0.4s
JIRN Jiri 48.76 283 eP P 18 46 24.9 +1.1
comp=Z,13nm,0.4s
GUN Gumba 48.97 284 eP P 18 46 26.8 +1.5
comp=Z,10nm,0.4s
PKI Pulchoki 49.46 283 eP P 18 46 30.3 +1.2
comp=Z,3.1nm,0.4s
PKIN Phulchoki 49.47 283 eP P 18 46 30.2 +1.1
comp=Z,2.7nm,0.4s
KKN Kakani 49.51 284 eP P 18 46 30.2 +0.9
comp=Z,4.2nm,0.5s
KKN Kakani 49.51 284 eP P 18 46 30.2 +0.9
KKN Kakani 49.51 284 eP P 18 46 30.2 +0.9
MK31 Makanchi Array 49.56 309 eP P 18 46 28.6 -0.6
MK31 Makanchi Array 49.56 309 eP P 18 46 28.6 -0.6
MKAR Makanchi Array 49.56 309 P P 18 46 28.8 -0.4
comp=Z,0.4nm,0.3s,baz=85,slow=10.0,SNR=18
MKAR PcP PcP 18 47 51.1 +0.7
comp=Z,1.1nm,0.5s,baz=80,slow=11,SNR=8.4
MKAR ScP ScP 18 51 41.7 -0.9
comp=Z,0.5nm,0.6s,baz=87,slow=4.8,SNR=7.0
MKAR Makanchi Array 49.56 309 P P 18 46 28.8 -0.4
MKAR eP P 18 46 29.5 +0.3
MKAR PcP PcP 18 47 51.1 +0.7
MKAR ScP ScP 18 51 41.7 -0.9
DMN Daman 49.71 284 eP P 18 46 32.1 +1.2
comp=Z,3.8nm,0.4s
GKN Gorkha 50.01 284 eP P 18 46 34.2 +1.1
comp=Z,5.7nm,0.4s
DANN Dangsing 50.68 285 eP P 18 46 39.3 +1.1
comp=Z,8.1nm,0.4s
KOLN Koldanda 50.96 284 eP P 18 46 41.8 +1.5
comp=Z,5.0nm,0.5s
KOLN Koldanda 50.96 284 eP P 18 46 41.8 +1.5
PYUN Piuthan 51.40 285 eP P 18 46 44.4 +0.8
comp=Z,31nm,0.6s
PYUN Piuthan 51.40 285 eP P 18 46 44.4 +0.8
AS31 Alice Springs 52.04 189 eP P 18 46 46.0 -2.0
ASAR Alice Springs 52.04 189 P P 18 46 48.1 +0.1
comp=Z,1.1nm,0.6s,baz=4.5,slow=5.8,SNR=39
ASAR ScP ScP 18 51 53.5 +0.1
comp=Z,0.4nm,0.9s,baz=2.8,slow=4.7,SNR=4.1
SVW2 Sparrevohn 52.62 33 eP P 18 46 48.9 -3.0
comp=Z,36nm,1.8s
EIDS Eidsvold 53.93 170 eP P 18 47 00.2 -1.6
AAK Ala-Archa 55.39 304 P P 18 47 12.8 +0.2
AAK pmax pmax
comp=Z,1.0nm,0.4s
AAK Ala-Archa 55.39 304 P P 18 47 12.8 +0.2
comp=Z,0.5nm,0.3s,baz=134,slow=6.0,SNR=6.8
ILAR Eielson Array 56.99 29 P P 18 47 24.4 +0.9
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 56.99 29 P P 18 47 24.4 +0.9
comp=Z,0.8nm,1.0s,baz=261,slow=6.1,SNR=7.7
BRVK Borovoye 57.12 317 eP P 18 47 21.6 -2.9
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 57.12 317 eP P 18 47 21.6 -2.9
comp=Z,4.7nm,0.9s
KKAR Karatay Array 58.20 305 eP P 18 47 32.0 -0.4
KKAR Karatay Array 58.20 305 eP P 18 47 32.0 -0.4
STKA Stephens Creek 59.66 180 P P 18 47 42.3 -0.1
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 59.66 180 P P 18 47 42.3 -0.1
comp=Z,2.1nm,0.6s,baz=352,slow=8.7,SNR=8.9
INK Inuvik 62.25 25 P P 18 48 00.7 +1.2
comp=Z,0.4nm,0.4s,baz=296,slow=6.5
ARU Arti 63.40 322 P P 18 48 08.0 +0.6
ARU Arti 63.40 322 eP P 18 48 06.5 -1.0
comp=Z,9.4nm,1.0s
ABKAR Akbulak array 64.13 314 eP P 18 48 11.2 -1.1
YKA Yellowknife Ar 71.41 28 P P 18 48 58.7 +0.8
comp=Z,0.3nm,0.4s,baz=298,slow=6.4,SNR=8.3
KEV Kevo 71.90 341 eP P 18 49 02.5 +1.7
KEV Kevo 71.90 341 ep P 18 49 02.5 +1.7
ARCES ARCESS Array B 72.46 341 P P 18 49 05.3 +1.1
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,21nm,18.8s
ARCES ARCESS Array B 72.46 341 P P 18 49 05.3 +1.1
comp=Z,5.1nm,0.9s,baz=77,slow=8.4,SNR=12
ARCES LR LR 19 25 28.1
comp=Z,21nm,18.8s,baz=114,slow=40
JOF Joensuu 74.01 334 eP P 18 49 14.6 +1.2
JOF pmax pmax
comp=Z,3.0nm,0.4s
JOF Joensuu 74.01 334 ep P 18 49 14.6 +1.2
comp=Z,3.4nm,0.4s
KAF Kangasniemi 76.40 334 eP P 18 49 26.8 -0.3
KAF Kangasniemi 76.40 334 ep P 18 49 26.8 -0.3
FINES FINESS Array B 76.88 334 P P 18 49 30.7 +0.8
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 76.88 334 P P 18 49 30.6 +0.8
comp=Z,2.0nm,0.4s,baz=96,slow=4.5,SNR=32
KBZ Khabaz 77.06 313 P P 18 49 32.8 +1.6
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 77.06 313 P P 18 49 32.8 +1.6
comp=Z,3.5nm,0.8s,baz=97,slow=5.5,SNR=8.3
NVAR Mina Array Bea 80.16 52 P P 18 49 51.0 +2.3
comp=Z,0.3nm,0.5s,baz=283,slow=6.2,SNR=3.7
AKASG Malin Array Be 81.59 324 P P 18 49 56.4 +0.6
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 81.59 324 P P 18 49 56.4 +0.6
comp=Z,1.1nm,0.4s,baz=51,slow=5.4,SNR=12
NB2 NORSAR Subarra 82.53 338 P P 18 50 00.2 -0.4
comp=Z,7.5nm,1.4s,baz=44,slow=5.6
NOA NORSAR Array B 82.53 338 P P 18 50 01.1 +0.5
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 82.53 338 P P 18 50 01.1 +0.5
comp=Z,0.6nm,0.4s,baz=43,slow=4.7,SNR=4.9
RAYN Ar Rayn 84.42 294 eP P 18 50 09.8 -1.2
BUR08 Bucovina Ar. S 85.52 323 eP P 18 50 15.5 -0.7
GERES GERESS Array B 90.45 329 P P 18 50 38.8 -1.0
comp=Z,0.5nm,0.6s,baz=63,slow=7.0,SNR=4.0
GERES LR LR 19 35 31.4
comp=Z,16nm,18.3s,baz=302,slow=38
TORD Torodi Ar. Bea 123.64 311 PKP PKPdf 18 56 37.0 +0.7
comp=Z,0.3nm,0.4s,baz=61,slow=1.5,SNR=7.6
H03N2 Juan Fernandez 144.78 109 T T 21 38 31.2
baz=273,slow=75,SNR=6.2
H03N3 Juan Fernandez 144.78 109 T T 21 38 36.5
baz=273,slow=75,SNR=8.3
H03N1 Juan Fernandez 144.79 109 T T 21 38 37.4
baz=273,slow=75,SNR=7.7

OTT 21 19:14:53.6±0.6,74°.36N×86°.07W,h18km,MN3.6/10, 112km west from Dundas Harbour, Nu Eastern Arctic Background Seismic Zone.,Queen Elizabeth Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RES Resolute Bay 2.39 282 PN Pn 19 15 32.1 +0.3
RES PG Pg 19 15 39.1 -0.3
RES SN Sn 19 15 59.6 -0.9
RES SG Sg 19 16 10.2 -0.2
RES Trac 19 16 14.4
comp=Z,148nm,0.3s
GIFN Gifford Fjord, 4.59 161 PN Pn 19 16 01.7 -0.3
GIFN SN Sn 19 16 52.0 -2.8
GIFN Trac 19 16 57.5
comp=Z,22nm,0.1s
GIFN LG Lg 19 17 15.2
ILON Igloolik, Nuna 5.19 163 PN Pn 19 16 09.9 -0.2
ILON SN Sn 19 17 04.4 -5.0
ILON Trac 19 17 07.1
comp=Z,43nm,0.2s
EUNU Eureka 5.73 359 PN Pn 19 16 15.2 -2.4
EUNU SN Sn 19 17 15.2 -7.7
EUNU Trac 19 17 59.2
comp=Z,19nm,0.3s
STLN Stellar Camp, 7.43 201 PN Pn 19 16 39.4 -1.6
STLN SN Sn 19 17 58.1 -6.6
STLN LG Lg 19 18 40.4
STLN Trac 19 18 53.9
comp=Z,10nm,0.5s
QILN Qililugaq Expl 7.75 181 PN Pn 19 16 45.0 -0.2
QILN SN Sn 19 18 03.9 -8.5
QILN LG Lg 19 18 51.5
QILN Trac 19 19 04.2
comp=Z,45nm,0.8s
CB31 Cambridge Bay 7.92 238 PN Pn 19 16 47.4 -0.2
CB31 SN Sn 19 18 11.6 -5.0
CB31 LG Lg 19 18 50.7
CB31 Trac 19 19 07.4
comp=Z,49nm,0.2s
BULN Bullion Camp, 8.34 200 PN Pn 19 16 51.1 -2.3
BULN SN Sn 19 18 21.3 -5.7
BULN LG Lg 19 19 15.1
BULN Trac 19 19 23.6
comp=Z,18nm,0.5s
WAGN Wager Bay 8.60 189 PN Pn 19 16 55.3 -1.6
WAGN SN Sn 19 18 24.6 -8.7
WAGN LG Lg 19 19 20.7
WAGN Trac 19 19 37.8
comp=Z,32nm,0.5s
NUNN Nunuq Camp, NU 9.35 193 PN Pn 19 17 06.4 -0.8
NUNN SN Sn 19 18 43.7 -8.0
NUNN LG Lg 19 19 39.2
NUNN Trac 19 19 57.5
comp=Z,21nm,0.4s
CMBN Cumberland Cam 11.32 129 PN Pn 19 17 29.1 -5.2
CMBN SN Sn 19 19 24.1 -16
FRB Frobisher Bay 12.28 141 PN Pn 19 17 32.8 -14
FRB SN Sn 19 19 49.2 -14
FRB Trac 19 19 56.4
comp=Z,2.9nm,0.1s
DHRN Dharma Camp 13.06 253 PN Pn 19 17 56.5 -1.3
DHRN SN Sn 19 20 12.7 -10
DHRN LG Lg 19 21 33.6
ARVN Arviat, NU 13.65 197 PN Pn 19 18 03.2 -2.7
ARVN SN Sn 19 20 24.4 -12
COKN Cook Lake 13.68 228 PN Pn 19 18 02.3 -4.0
COKN SN Sn 19 20 26.1 -11
SNLN Sandy Lake, NW 13.85 225 PN Pn 19 18 05.4 -3.3
SNLN SN Sn 19 20 31.9 -10
SNLN LG Lg 19 21 48.2
SNLN Trac 19 22 06.3
comp=Z,21nm,0.7s
CTLN Castor Lake 14.27 242 PN Pn 19 18 10.7 -3.7
CTLN SN Sn 19 20 34.3 -18
CTLN LG Lg 19 22 08.6
GALN Gameti Lake 14.84 243 PN Pn 19 18 18.3 -3.9
GALN SN Sn 19 20 53.5 -12
YKW3 Yellowknife Ar 15.55 236 PN Pn 19 18 27.3 -4.2
YKW3 SN Sn 19 21 12.1 -11
YKW3 LG Lg 19 22 45.7
YKW3 Trac 19 23 16.2
comp=Z,11nm,0.9s
INK Inuvik 15.90 272 PN Pn 19 18 34.9 -1.1

IDC 21 19:19:15.1±15.0,12°.96S×169°.60E,h639km±160km, mb2.8/3,mb1 3.1/3,mb1mx2.5/27,mbtmp3.9/3,Error ellipse: s-maj=230.9km s-min=63.5km az=131.0,Santa Cruz Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 34.47 254 P P 19 25 13.0 +0.4
1.1nm,0.5s,baz=85,slow=8.5,SNR=33
ASAR Alice Springs 35.43 247 P P 19 25 20.2 -0.3
1.2nm,0.4s,baz=74,slow=9.4,SNR=34
ILAR Eielson Array 84.16 17 P P 19 30 40.4 0.0
0.4nm,0.9s,baz=228,slow=5.9,SNR=5.2
ARCES ARCESS Array B 119.09 346 PKP PKPdf 19 36 52.2 -0.1
5.6nm,1.1s,baz=63,slow=2.4,SNR=3.7

ISCJB 21 19:33:24.4±1.7,36°.3N±0°.2×71°.0E±0°.2,h188km,mb3.4/2, Error ellipse: s-maj=29.8km s-min=13.4km az=139.5
IDC 21 19:33:26.7±5.6,36°.39N×71°.12E,h201km±49km,mb3.1/2, mb1 3.0/6,mb1mx2.7/50,mbtmp3.6/6,MS3.0/1,Ms1 3.0/1, ms1mx2.2/17,Error ellipse: s-maj=55.8km s-min=37.3km az=146.0
NNC 21 19:33:51.6±15.0,38°.88N×72°.38E,h0km,mb3.3,mpv2.8, Error ellipse: s-maj=138.9km s-min=81.4km az=177.0

ISC 21 19:33:25.5±2.2,36°.4N±0°.2×71°.1E±0°.2,h188km,n11, σ1s34/11,3C-2D,Afghanistan-Tajikistan border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KK31 Karatay Array 6.76 357 Pn Pn 19 35 03.2 +0.7
0.2nm,0.2s,baz=179,slow=12,SNR=26
KK31 ⇑Pg 19 35 12.7
0.4nm,0.3s,baz=178,slow=12,SNR=5.4
KK31 Lg Lg 19 36 14.0
2.5nm,0.5s,baz=180,slow=21,SNR=15
AAK Ala-Archa 6.81 22 ⇓Pg Pn 19 35 04.9 +1.6
1.1nm,0.3s
AAK Ala-Archa 6.81 22 P Pn 19 35 05.3 +2.0
1.1nm,0.3s,baz=128,slow=2.6,SNR=20
AAK S Sn 19 36 18.7 -2.0
0.4nm,0.3s,baz=307,slow=24,SNR=16
TKM2 Tokmak 2 7.44 27 ⇓Pg Pn 19 35 13.0 +1.5
1.3nm,0.7s
TKM2 ⇑Lg Lg 19 36 19.1
2.0nm,0.9s
MK31 Makanchi Array 13.38 35 ⇑Pn Pn 19 36 27.8 -0.3
1.0nm,0.8s,baz=224,slow=16,SNR=13
MKAR Makanchi Array 13.38 35 P Pn 19 36 28.8 +0.7
0.2nm,0.3s,baz=220,slow=15,SNR=9.5
AKTO Aktyubinsk 16.94 330 P Pn 19 37 11.4 -0.1
0.1nm,0.3s,baz=119,slow=8.0,SNR=4.1
ZALV Zalesovo Beam 20.03 24 P P 19 37 43.5 -0.3
0.3nm,0.3s,baz=222,slow=11,SNR=5.8
OBN Obninsk 30.09 320 LR LR 19 53 10.2
comp=Z,30nm,21.5s,baz=88,slow=39
FINES FINESS Array B 37.64 326 P P 19 40 22.0 0.0
1.5nm,0.9s,baz=121,slow=9.9,SNR=2.7
TORD Torodi Ar. Bea 65.77 269 P P 19 43 49.9 -0.7
0.2nm,0.5s,baz=55,slow=5.7,SNR=4.6

ISCJB 21 19:37:56.5±1.3,34°.0N±0°.1×25°.4E±0°.1,h17km,mb3.6/2, Error ellipse: s-maj=16.5km s-min=9.7km az=36.4
ATH 21 19:37:56.2,34°.00N×25°.33E,h22km,MD3.5
CSEM 21 19:37:56.2,34°.00N×25°.33E,h22km,MD3.5,After ATH
IDC 21 19:37:57.2±3.3,34°.11N×25°.42E,h0km,mb3.7/2, mb1 3.4/5,mb1mx3.2/37,mbtmp3.3/5,ML3.4/3,Error ellipse: s-maj=60.8km s-min=25.8km az=32.0

ISC 21 19:37:58.2±1.3,34°.11N±0°.09×25°.31E±0°.06,h17km,n22, σ1s02/22,Crete

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SIVA Sivas 1.00 336 eP Pg 19 38 17.3 -0.3
SIVA Sivas 1.00 336 ePN Pg 19 38 17.4 -0.2
SIVA Sivas 1.00 336 ePn Pg 19 38 17.4 -0.2
LAST Lasithi 1.06 8 ePN Pb 19 38 17.9 -0.3
LAST Lasithi 1.06 8 ePn Pb 19 38 17.9 -0.3
NPS Neapolis 1.18 12 ePN Pb 19 38 20.1 -0.1
NPS eSN Sg 19 38 37.7 +1.2
NPS Neapolis 1.18 12 ePn Pb 19 38 20.1 -0.1
NPS eSn Sg 19 38 37.7 +1.2
IDI Anoyia 1.23 344 Pn Pg 19 38 21.9 -0.1
5.6nm,0.3s,baz=160,slow=19,SNR=19
IDI LR LR 19 39 01.5
comp=Z,97nm,20.3s,baz=306,slow=51
ZKR Zakros 1.26 37 eP Pg 19 38 23.2 +0.8
ZKR Zakros 1.26 37 ePN Pg 19 38 21.6 -0.9
ZKR Zakros 1.26 37 ePn Pg 19 38 21.6 -0.9
VAM Vamos 1.58 325 ePN Pb 19 38 26.6 -0.5
VAM Vamos 1.58 325 ePn Pb 19 38 26.6 -0.5
AYDB Zeytinkoy-Aydi 4.37 28 eP Pn 19 38 54.1 -10
ELL Elmali 4.59 54 eP Pn 19 39 07.0 +0.1
ISP Isparta 5.62 47 eP Pn 19 39 18.5 -2.7
ALT Altintas 6.27 37 eP Pn 19 39 23.2 -6.9
MMAI Mount Meron Ar 8.50 95 Pn Pn 19 40 00.0 -0.6
0.4nm,0.3s,baz=277,slow=12,SNR=3.7
AKASG Malin Array Be 16.83 9 Pn P 19 41 53.3 -1.6
0.1nm,0.3s,baz=200,slow=11,SNR=4.2
GERES GERESS Array B 17.07 333 P P 19 41 58.0 +0.2
0.1nm,0.3s,baz=149,slow=11,SNR=4.7
MKAR Makanchi Array 44.26 56 P P 19 46 07.5 +0.7
0.6nm,0.7s,baz=279,slow=6.4,SNR=8.9
SEY Seymchan 74.48 22 P P 19 49 37.1 +1.8
0.8nm,0.6s,baz=292,slow=6.8,SNR=6.2

IDC 21 20:04:25.5±1.9,7°.77S×126°.51E,h0km,mb3.1/1, mb1 3.6/3,mb1mx3.3/27,mbtmp3.4/3,ML3.6/2,Error ellipse: s-maj=177.5km s-min=31.1km az=62.0,Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 14.28 149 Pn Pn 20 07 47.2 -1.9
0.4nm,0.3s,baz=324,slow=13,SNR=26
WRA Sn Sn 20 10 13.2 -15
0.2nm,0.3s,baz=321,slow=27,SNR=4.6
ASAR Alice Springs 17.32 157 P P 20 08 30.4 -0.1
0.1nm,0.3s,baz=331,slow=10,SNR=12
MKAR Makanchi Array 67.03 329 P P 20 15 20.5 0.0
0.2nm,0.9s,baz=137,slow=7.8,SNR=2.5

ISCJB 21 20:33:21.1±0.3,38°.40N±0°.02×21°.87E±0°.02,h9km±2km, mb3.5/3,MS2.2/1,Error ellipse: s-maj=3.0km s-min=2.8km az=30.5
CSEM 21 20:33:21.2±0.1,38°.41N×21°.88E,h8km,MD3.0,Error ellipse: s-maj=2.8km s-min=2.7km az=23.0
ATH 21 20:33:21.5,38°.40N×21°.88E,h10km±1km,MD3.0/30, ML3.0
THE 21 20:33:21.6,38°.42N×21°.86E,h8km±1km,ML3.3/8,Error ellipse: s-maj=1.5km s-min=0.6km az=54.0
IDC 21 20:33:21.8±18.0,38°.65N×21°.91E,h0km,mb3.6/3, mb1 3.7/3,mb1mx3.2/30,mbtmp3.7/3,MS2.4/1,Ms1 2.5/1, ms1mx2.0/34,Error ellipse: s-maj=348.8km s-min=51.1km az=40.0

ISC 21 20:33:21.6±0.7,38°.41N±0°.02×21°.88E±0°.02,h10km±4km, n83,σ0s59/122,mb3.6/3,Greece

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
EFP Efpalio 0.03 51 P Pg 20 33 23.3 -0.2
EFP S Sg 20 33 24.6 -0.2
EFP Efpalio 0.03 51 ePG Pg 20 33 23.4 -0.1
EFP eSG Sg 20 33 24.6 -0.2
EFP Efpalio 0.03 51 P Pg 20 33 23.3 -0.2
EFP S Sg 20 33 24.6 -0.2
LAKA Lakka 0.19 155 P Pg 20 33 25.8 +0.2
LAKA Lakka 0.19 155 ePG Pg 20 33 25.9 +0.3
LAKA Lakka 0.19 155 P Pg 20 33 25.8 +0.2
KALE Kalithea 0.21 95 P Pg 20 33 26.1 +0.1
KALE S Sg 20 33 29.6 +0.6
KALE Kalithea 0.21 95 ePG Pg 20 33 26.2 +0.2
KALE Kalithea 0.21 95 P Pg 20 33 26.1 +0.1
KALE S Sg 20 33 29.6 +0.6
PVO Paravola 0.34 307 P Pg 20 33 28.3 -0.2
PVO S Sg 20 33 32.6 -0.5
PVO Paravola 0.34 307 P Pg 20 33 28.3 -0.2
PVO S Sg 20 33 32.6 -0.5
KLV Kalavryta, Ach 0.42 149 ePB Pg 20 33 29.8 -0.1
KLV eSB Sg 20 33 36.2 +0.7
KLV Kalavryta, Ach 0.42 149 ePb Pg 20 33 29.8 -0.1
KLV eSb Sg 20 33 36.2 +0.7
DRO Drossia 0.47 196 P Pg 20 33 30.7 -0.2
DRO S Sb 20 33 38.5 -0.6
DRO Drossia 0.47 196 ePB Pg 20 33 30.7 -0.2
DRO eSB Sg 20 33 37.6 +0.5
DRO Drossia 0.47 196 P Pg 20 33 30.7 -0.2
DRO eSb Sg 20 33 37.6 +0.5
DRO S Sb 20 33 38.5 -0.6
RLS Riolos of Patr 0.48 223 ePB Pg 20 33 31.0 +0.1
RLS Riolos of Patr 0.48 223 ePb Pg 20 33 31.0 +0.1
DSF Desfina 0.51 90 P Pg 20 33 30.9 -0.6
DSF S Sb 20 33 39.7 -0.5
DSF Desfina 0.51 90 ePB Pg 20 33 31.0 -0.6
DSF eSB Sg 20 33 38.8 +0.5
DSF Desfina 0.51 90 ePb Pg 20 33 31.0 -0.6
DSF eSb Sg 20 33 38.8 +0.5
DSF S Sb 20 33 39.7 -0.5
EVR Evrytania 0.51 354 ePG Pg 20 33 31.3 -0.3
EVR eSB Sg 20 33 39.0 +0.6
EVR Evrytania 0.51 354 ePg Pg 20 33 31.3 -0.3
EVR eSb Sg 20 33 39.0 +0.6
PDO Prodromos 0.58 289 P Pg 20 33 31.7 -1.1
PDO S Sb 20 33 42.6 +0.6

PDO Prodromos 0.58 289 ePB Pg 20 33 31.9 -0.9
PDO eSB Sg 20 33 41.3 +0.9
PDO Prodromos 0.58 289 ePb Pg 20 33 31.9 -0.9
PDO eSb Sg 20 33 41.3 +0.9
PDO S Sb 20 33 42.6 +0.6
GUR Goura 0.60 142 P Pg 20 33 32.7 -0.5
GUR S Sg 20 33 41.7 +0.6
GUR Goura 0.60 142 ePG Pg 20 33 32.7 -0.5
GUR Goura 0.60 142 P Pg 20 33 32.7 -0.5
GUR S Sg 20 33 41.7 +0.6
MAKR Makrakomi, Fth 0.64 18 P Pb 20 33 33.9 0.0
MAKR S Sb 20 33 43.2 -0.5
MAKR Makrakomi, Fth 0.64 18 ePB Pb 20 33 34.0 0.0
MAKR eSB Sb 20 33 43.3 -0.5
MAKR Makrakomi, Fth 0.64 18 P Pg 20 33 33.9 0.0
MAKR S Sb 20 33 43.2 -0.5
AGG Agios Georgios 0.71 30 P Pg 20 33 34.3 -1.0
AGG Agios Georgios 0.71 30 ePB Pg 20 33 34.5 -0.8
AGG Agios Georgios 0.71 30 ePb Pg 20 33 34.5 -0.8
AXAR Agios Charalam 0.71 60 P Pg 20 33 34.7 -0.6
AXAR S Sb 20 33 46.4 +0.5
AXAR Agios Charalam 0.71 60 ePG Pg 20 33 34.7 -0.6
AXAR eSB Sb 20 33 45.5 -0.4
AXAR Agios Charalam 0.71 60 P Pg 20 33 34.7 -0.6
AXAR eSb Sb 20 33 45.5 -0.4
AXAR S Sb 20 33 46.4 +0.5
AMT Artemida-Makis 0.89 189 P Pg 20 33 38.4 -0.3
AMT Artemida-Makis 0.89 189 ePB Pg 20 33 38.6 -0.1
AMT Artemida-Makis 0.89 189 P Pg 20 33 38.4 -0.3
KFL Anninata 0.91 251 P Pg 20 33 38.6 -0.5
KFL S Sn 20 33 54.6 +1.1
KFL Anninata 0.91 251 P Pg 20 33 38.6 -0.5
KFL S Sn 20 33 54.6 +1.1
LKR Lokris 0.91 74 ePG Pg 20 33 38.2 -1.0
LKR eSB Sb 20 33 51.7 0.0
LKR Lokris 0.91 74 ePg Pg 20 33 38.2 -1.0
LKR eSb Sb 20 33 51.7 0.0
LTK Loutraki 0.94 114 ePN Pb 20 33 40.0 0.0
LTK Loutraki 0.94 114 ePn Pb 20 33 40.0 0.0
LKD2 Lefkada island 1.03 292 P Pg 20 33 41.0 -0.4
LKD2 Lefkada island 1.03 292 ePN Pb 20 33 41.3 -0.1
LKD2 Lefkada island 1.03 292 P Pg 20 33 41.0 -0.4
LKD2 Lefkada island 1.03 292 ePn Pb 20 33 41.3 -0.1
VLS Valsamata 1.04 258 ePG Pg 20 33 40.6 -1.0
VLS eSB Sn 20 33 56.5 -0.3
VLS Valsamata 1.04 258 ePg Pg 20 33 40.6 -1.0
VLS eSb Sn 20 33 56.5 -0.3
VLX Vlachokerasia 1.11 159 ePG Pb 20 33 42.0 -0.9
VLX Vlachokerasia 1.11 159 ePg Pb 20 33 42.0 -0.9
SMIA Simia 1.14 65 ePB Pn 20 33 43.8 +0.1
SMIA Simia 1.14 65 ePb Pn 20 33 43.8 +0.1
THL Klokotos Trika 1.16 5 ePB Pb 20 33 43.4 -0.3
THL eSB Sn 20 33 59.6 -0.1
THL Klokotos Trika 1.16 5 ePb Pb 20 33 43.4 -0.3
THL eSb Sn 20 33 59.6 -0.1
ITM Ithomi 1.23 178 ePG Pn 20 33 44.4 -0.4
ITM Ithomi 1.23 178 ePg Pn 20 33 44.4 -0.4
MRKA Markates 1.37 77 ePG Pn 20 33 47.1 +0.3
MRKA Markates 1.37 77 ePg Pn 20 33 47.1 +0.3
DID Didima 1.40 130 P Pn 20 33 47.4 +0.2
DID Didima 1.40 130 ePB Pn 20 33 47.7 +0.5
DID Didima 1.40 130 P Pn 20 33 47.4 +0.2
DID Didima 1.40 130 ePb Pn 20 33 47.7 +0.5
NAIG Nisos Aigina 1.43 117 ePB Pb 20 33 48.5 +0.2
NAIG Nisos Aigina 1.43 117 ePb Pb 20 33 48.5 +0.2
ATH Athens Observa 1.51 106 ePG Pn 20 33 48.9 +0.2
ATH Athens Observa 1.51 106 ePg Pn 20 33 48.9 +0.2
PYL PYLOS 1.51 184 ePG Pn 20 33 49.3 +0.6
PYL PYLOS 1.51 184 ePg Pn 20 33 49.3 +0.6
PTL Penteli 1.61 102 ePB Pn 20 33 50.7 +0.7
PTL Penteli 1.61 102 ePb Pn 20 33 50.7 +0.7
KYTH Kithira 2.32 156 ePN Pb 20 34 02.4 -1.1
KYTH Kithira 2.32 156 ePn Pb 20 34 02.4 -1.1
FNA Florina 2.40 351 ePN Pn 20 34 02.9 +1.9
FNA Florina 2.40 351 ePn Pn 20 34 02.9 +1.9
FINES FINESS Array B 23.21 5 P P 20 38 27.6 -0.7
2.2nm,1.1s,baz=195,slow=12,SNR=3.5
NOA NORSAR Array B 23.62 347 LR LR 20 50 36.2
comp=Z,8.3nm,19.9s,baz=270,slow=44
ARCES ARCESS Array B 31.25 2 P P 20 39 40.7 -0.3
0.9nm,0.8s,baz=193,slow=11,SNR=2.9
MKAR Makanchi Array 44.27 59 P P 20 41 31.7 +0.5
0.3nm,0.4s,baz=274,slow=7.4,SNR=17

MAN 21 20:51:27, 11°.18N×124°.59E, h4km, mb5.0, ML3.9, MS4.0
MAN INTENSITY III - ORMOC CITY & KANANGA LEYTE.
IDC 21 20:51:27.1±0.6, 11°.08N×124°.70E, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.0/41, mbtmp4.0/15, MS3.0/1, Ms1 3.2/1, ms1mx2.5/32, Error ellipse: s-maj=31.7km s-min=14.3km az=72.0
ISCJB 21 20:51:31.6±0.7, 11°.08N±0°.04×124°.61E±0°.06, h42km±6km, mb4.3/31, MS2.9/1, Error ellipse: s-maj=9.9km s-min=5.7km az=156.2
NEIC 21 20:51:38.6±4.8, 11°.00N×124°.59E, h95km±45km, mb4.4/9, Error ellipse: s-maj=16.2km s-min=6.9km az=54.0
NEIC Felt [III PIVS] at Ormoc.
ISC 21 20:51:33.0±0.6, 11°.07N±0°.04×124°.56E±0°.06, h40km±7km, n59, σ1°14/64, mb4.5/31, 4C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.95	218	⇑iP	Pn	20 51 47.2	-2.6
LLP				eS	Sn	20 52 02.0	-0.2
MSLP	Maasin	0.98	162	eP	Pn	20 51 47.7	-2.6
MSLP				eS	Sn	20 52 03.6	+0.7
TBP	Tagbilaran	1.53	207	eP	Pn	20 51 57.3	-0.6
TBP				eS	Sn	20 52 22.9	+6.3
MMPH	Masbate	1.57	325	eP	Pn	20 51 57.8	-0.6
MMPH				eS	Sn	20 52 16.6	-1.0
SCPH	Surigao	1.58	144	⇑eP	Pn	20 51 57.8	-0.6
RCP	Roxas	1.84	285	⇓eP	Sn	20 52 26.8	+2.6
GUIM	Jordan	1.98	257	eP	Sn	20 52 03.8	-0.2
SNPH	Sibulan	2.15	217	iS	Sn	20 52 29.5	-2.5
BUTP	Butuan	2.34	153	eP	Pn	20 52 08.4	-0.6
PVCP	Virac	2.54	351	⇑eP	Pn	20 52 11.3	-0.4
CGP	Cagayan de Oro	2.60	177	⇑eP	Pn	20 52 13.2	+0.5
CGP				eS	Sn	20 52 47.4	+4.4
BUKP	Musuan	3.21	171	eP	Pn	20 52 21.8	+0.7
PAGZ	Pagadian	3.41	200	eP	Pn	20 52 24.2	+0.6
CMAR	Chiang Mai Arr	25.81	290	P	P	20 57 02.1	+1.3
	0.8nm,0.9s,baz=104,slow=7.2,SNR=6.8						
CMAR				LR	LR	21 05 59.6	
	comp=Z,37nm,20.9s,baz=23,slow=34						
WRA	Warramunga Arr	32.29	163	P	P	20 57 57.1	-1.2
	2.0nm,0.8s,baz=342,slow=9.0,SNR=14						
USRK	Ussuriysk Arra	33.63	10	P	P	20 58 09.5	-0.2
	3.6nm,0.8s,baz=186,slow=12,SNR=5.6						
AS31	Alice Springs	35.71	165	eP	P	20 58 27.0	-1.0
ASAR	Alice Springs	35.71	165	P	P	20 58 27.8	-0.3
	5.3nm,0.7s,baz=348,slow=7.2,SNR=41						
ASAR				PcP	PcP	21 00 55.5	-0.2
	0.5nm,0.5s,baz=341,slow=2.4,SNR=7.2						
TAPN	Taplejung	38.20	300	eP	P	20 58 49.8	+0.3
	9.4nm,1.0s						
TAPN	Taplejung	38.20	300	eP	P	20 58 49.8	+0.3
	9.4nm,1.0s						
ODAN	Odare	38.32	299	eP	P	20 58 50.9	+0.4
	13nm,0.7s						
ODAN	Odare	38.32	299	eP	P	20 58 50.9	+0.4
	13nm,0.7s						
RAMN	Ramite	39.02	299	eP	P	20 58 57.0	+0.6
	5.1nm,0.2s						
ULN	Ulaanbaatar	39.52	341	eP	P	20 59 00.9	+0.8
	4.8nm,1.1s						
JIRN	Jiri	39.58	300	eP	P	20 59 01.8	+0.7
	12nm,0.6s						
JIRN	Jiri	39.58	300	eP	P	20 59 01.8	+0.7
	12nm,0.6s						
SONM	Songino Array	39.70	341	P	P	20 59 02.3	+0.7
	1.6nm,1.0s,baz=160,slow=9.3,SNR=12						
GUN	Gumba	39.91	300	eP	P	20 59 04.1	+0.2
	17nm,0.7s						
GUN	Gumba	39.91	300	eP	P	20 59 04.1	+0.2
	17nm,0.7s						
PKI	Pulchoki	40.21	300	eP	P	20 59 06.8	+0.4
	8.1nm,0.7s						
PKI	Pulchoki	40.21	300	eP	P	20 59 07.1	+0.7
	4.8nm,0.6s						
PKIN	Phulchoki	40.23	300	eP	P	20 59 07.1	+0.7
	4.8nm,0.6s						
KKN	Kakani	40.38	300	eP	P	20 59 08.0	+0.3
	5.1nm,0.5s						
KKN	Kakani	40.38	300	eP	P	20 59 08.0	+0.3
	5.1nm,0.5s						
DMN	Daman	40.48	300	eP	P	20 59 09.1	+0.6
	15nm,1.1s						
DMN	Daman	40.48	300	eP	P	20 59 09.1	+0.6
	15nm,1.1s						
GKN	Gorkha	40.99	300	eP	P	20 59 13.0	+0.4
	2.9nm,0.5s						
GKN	Gorkha	40.99	300	eP	P	20 59 13.0	+0.4
	2.9nm,0.5s						
KOLN	Koldanda	41.81	299	eP	P	20 59 20.1	+0.7
	6.6nm,0.7s						
KOLN	Koldanda	41.81	299	eP	P	20 59 20.1	+0.7
	6.6nm,0.7s						
DANN	Dangsing	41.83	300	eP	P	20 59 19.9	+0.3
	12nm,0.6s						
DANN	Dangsing	41.83	300	eP	P	20 59 19.9	+0.3
	12nm,0.6s						
PYUN	Piuthan	42.42	300	eP	P	20 59 25.3	+1.0
	15nm,0.6s						
PYUN	Piuthan	42.42	300	eP	P	20 59 25.3	+1.0
	15nm,0.6s						
STKA	Stephens Creek	45.72	160	P	P	20 59 50.7	+0.4
	5.3nm,0.9s,baz=346,slow=8.5,SNR=9.5						
MK31	Makanchi Array	50.38	323	eP	P	21 00 26.6	+0.3
MKAR	Makanchi Array	50.38	323	P	P	21 00 26.8	+0.5
	0.8nm,0.6s,baz=120,slow=9.0,SNR=12						
ZALV	Zalesovo Beam	53.12	332	P	P	21 00 48.2	+1.6
	0.9nm,0.6s,baz=123,slow=5.5,SNR=5.6						
KURK	Kurchatov	54.46	326	eP	P	21 00 55.8	-0.6
	3.5nm,1.1s						
SEY	Seymchan	55.47	15	P	P	21 01 04.9	+1.4
	0.8nm,0.6s,baz=216,slow=5.8,SNR=5.8						
KKAR	Karatay Array	56.49	315	eP	P	21 01 11.6	+0.3
	2.3nm,0.7s						
TIXI	Tiksi	60.59	2	eP	P	21 01 38.6	-0.6
	6.7nm,1.1s						
ABKAR	Akbulak array	65.17	319	eP	P	21 02 09.3	-0.8
	2.4nm,0.7s						
ILAR	Eielson Array	79.46	26	P	P	21 03 34.0	-1.0
	0.4nm,0.9s,baz=230,slow=4.2,SNR=3.9						
ARCES	ARCESS Array B	82.86	340	P	P	21 03 51.8	-1.3
	3.2nm,0.7s,baz=93,slow=5.1,SNR=6.3						
FINES	FINESS Array B	84.39	331	P	P	21 04 00.2	-0.8
	6.7nm,1.1s,baz=66,slow=4.8,SNR=5.7						
AKASG	Malin Array Be	84.88	321	P	P	21 04 02.9	-0.8
	3.4nm,0.9s,baz=69,slow=4.2,SNR=10						
YKA	Yellowknife Ar	93.71	24	P	P	21 04 44.1	-1.3
	0.2nm,0.5s,baz=303,slow=4.4,SNR=3.5						
GERES	GERESS Array B	95.03	322	P	P	21 04 53.5	+1.7
	0.2nm,0.6s,baz=40,slow=5.2,SNR=4.1						

CSEM 21 20:52:08.1, 38°.43N×21°.91E, h10km, MD2.5, After ATH
ATH 21 20:52:08.1, 38°.43N×21°.91E, h10km, MD2.5/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	Efpalio	0.01	227	ePG	Pg	20 52 10.1	+0.3
EFP				eSG	Sg	20 52 11.4	+0.4
EFP	Efpalio	0.01	227	ePg	Pg	20 52 10.1	+0.3
EFP				eSg	Sg	20 52 11.4	+0.4
KLV	Kalavryta, Ach	0.43	154	ePB	Pg	20 52 16.5	-0.1
KLV	Kalavryta, Ach	0.43	154	ePb	Pg	20 52 16.5	-0.1
DRO	Drossia	0.50	198	ePB	Pg	20 52 17.8	-0.1
DRO	Drossia	0.50	198	ePb	Pg	20 52 17.8	-0.1
PDO	Prodromos	0.59	287	ePB	Pg	20 52 19.5	-0.2
PDO	Prodromos	0.59	287	ePb	Pg	20 52 19.5	-0.2

IGQ 21 20:54:42±0.9, 2°.74S×79°.03W, h4km±141km, Mb4.0, 2C-1D, Error ellipse: s-maj=5.6km s-min=3.6km az=44.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	Macas	0.96	60	⇑P	Pg	20 55 00.2	-0.5
MACE	Macas	0.96	60	⇑S	Sg	20 55 13.4	-0.1
RIOE	Riobamba	1.06	22	S	Sb	20 55 17.9	-0.1
RIOE	Riobamba	1.06	22	P	Pg	20 55 02.3	-0.5
BMAS	Trigal station	1.35	24	S	Sb	20 55 24.5	-1.7
BMAS	Trigal station	1.35	24	P	Pn	20 55 07.0	-1.2
ARRY	Arrayan	1.35	25	P	Pn	20 55 07.9	-0.4
BPAT	Tungurahua Vol	1.37	26	S	Sg	20 55 25.2	-1.8
BPAT	Tungurahua Vol	1.37	26	P	Pn	20 55 06.3	-2.3
ULBA	Ulba	1.43	26	P	Pn	20 55 07.1	-2.1
BULB	Ulba Tungurahu	1.44	26	P	Pn	20 55 07.2	-2.2
BMOR	Cotopaxi Volca	2.08	16	P	Pn	20 55 17.8	-0.7
BTAM	Cotopaxi Volca	2.15	17	⇓P	Pn	20 55 18.9	-0.4
BVC2	Cotopaxi Volca	2.16	17	P	Pn	20 55 18.3	-1.3
VC1	Cotopaxi 1	2.18	17	P	Pn	20 55 18.3	-1.4
GGP	Refugio Guagua	2.59	10	P	Pn	20 55 24.3	-1.2
PINO	Pino	2.60	9	P	Pn	20 55 24.2	-1.5

MAN 21 20:57:58, 9°.15N×126°.37E, h18km, mb4.6, ML3.4, MS3.4, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.76	256	eP	Pn	20 58 13.4	-0.4
BIPH	Bislig	0.96	180	⇓eP	Pb	20 58 15.4	-0.7
BIPH				eS	Sb	20 58 26.8	-1.7
SCPH	Surigao	1.07	306	⇓eP	Pb	20 58 17.6	-0.4
MSLP	Maasin	1.78	303	eP	Pn	20 58 28.9	+1.0
MSLP				eS	Sb	20 58 52.5	+0.4
CGP	Cagayan de Oro	1.79	247	⇑eP	Pn	20 58 28.1	0.0
CGP				eS	Sn	20 58 51.3	+1.0
BUKP	Musuan	1.80	226	eP	Pb	20 58 29.6	-1.0
MATI	Mati	2.19	183	eP	Pn	20 58 34.9	+1.3
MATI				eS	Sb	20 59 02.3	-1.7
PLP	Palo	2.42	326	⇓eP	Pn	20 58 37.9	+1.1
PLP				eS	Sn	20 59 07.4	+1.4
PAGZ	Pagadian	3.22	247	eP	Pn	20 58 50.1	+2.4

WEL 21 20:59:08.8±0.4, 37°.76S×176°.16E, h189km±3km, ML3.9/13, 13C-7D, Error ellipse: s-maj=3.2km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.90	124	⇓PN	Pn	20 59 36.7	0.0
URZ				SN	Sn	20 59 58.2	-0.2
URZ				AML	AML	21 00 00.3	
RATZ	Rangitukua	1.15	195	⇑PN	Pn	20 59 38.9	+0.3
MWZ	Matawai	1.22	119	⇑PN	Pn	20 59 39.1	-0.1
MWZ				AML	AML	21 00 05.1	
MWZ				AML	AML	21 00 05.1	
MWZ				AML	AML	21 00 12.4	
RAGZ	Rawiri	1.23	127	PN	Pn	20 59 39.6	+0.3
HIZ	Hauiti	1.28	233	PN	Pn	20 59 40.0	+0.5
HAZ	Te Kaha	1.28	91	⇑PN	Pn	20 59 39.1	-0.5
HAZ				SN	Sn	21 00 02.6	-0.8
RAHZ	Arahi	1.37	148	PN	Pn	20 59 40.7	+0.4
SNGZ	Shannon Statio	1.38	138	PN	Pn	20 59 40.8	+0.4
KRVZ	Karewarewa	1.40	197	PN	Pn	20 59 40.6	-0.1
WTVZ	West Tongariro	1.43	198	PN	Pn	20 59 41.0	0.0
BKZ	Black Stump Fm	1.43	170	⇑PN	Pn	20 59 40.5	-0.4
BKZ				SN	Sn	21 00 04.7	-1.4
BKZ				AML	AML	21 00 06.3	
NMHZ	Naumai	1.43	160	⇓PN	Pn	20 59 41.7	+0.8
NMHZ				SN	Sn	21 00 06.4	+0.3
TWVZ	Taurewa	1.43	203	⇑PN	Pn	20 59 41.2	+0.2
OTVZ	Oturere	1.46	195	PN	Pn	20 59 41.5	+0.1
NGZ	Ngauruhoe	1.49	197	⇓PN	Pn	20 59 41.7	+0.2
TWGZ	Tauwhareparae	1.50	107	PN	Pn	20 59 41.8	+0.3
TWGZ				SN	Sn	21 00 07.3	+0.4
WPVZ	Whakapapa	1.53	198	⇑PN	Pn	20 59 41.8	0.0
TUVZ	Tukino	1.56	195	⇑PN	Pn	20 59 42.2	-0.1
WHHZ	Waihua	1.56	148	PN	Pn	20 59 41.7	-0.4
WHHZ				SN	Sn	21 00 07.6	-0.5
FWVZ	Far West T-bar	1.57	198	PN	Pn	20 59 42.3	-0.2
RIGZ	Rimuhau	1.58	127	PN	Pn	20 59 42.6	+0.3
DRZ	Dome Shelter	1.59	197	PN	Pn	20 59 42.6	-0.1
WHVZ	Whangaehu Hut	1.59	196	PN	Pn	20 59 42.4	-0.2
TRVZ	Turoa	1.62	197	PN	Pn	20 59 42.5	-0.4
WNVZ	Wahianoa	1.63	196	⇑PN	Pn	20 59 42.7	-0.3
PKVZ	Pokaka	1.66	202	PN	Pn	20 59 42.9	-0.2
MOVZ	Moawhango	1.68	191	PN	Pn	20 59 42.5	-0.8
PUZ	Puketiti	1.69	101	PN	Pn	20 59 42.8	-0.5
MTVZ	Mangateitei	1.72	198	PN	Pn	20 59 43.3	-0.4
BHHZ	Black Hill Sta	1.73	183	PN	Pn	20 59 43.0	-0.8
KNZ	Kokohu	1.73	137	⇓PN	Pn	20 59 43.6	-0.1
MCHZ	McNeill Hill	1.74	166	PN	Pn	20 59 43.9	+0.2
CNGZ	Carnagh Statio	1.77	115	PN	Pn	20 59 44.8	+0.7
PRGZ	Paritu Road	1.79	131	PN	Pn	20 59 44.2	-0.1
KRHZ	Kereru	1.89	175	PN	Pn	20 59 44.8	-0.6
MHGZ	Mahia Peninsul	1.96	136	⇑PN	Pn	20 59 46.0	+0.1
CKHZ	Cape Kidnapper	2.03	160	PN	Pn	20 59 46.5	-0.2
KAHZ	Kahuranaki	2.11	165	⇑PN	Pn	20 59 47.2	-0.5
PNHZ	Pukenui	2.16	179	PN	Pn	20 59 46.1	-2.1
TSZ	Takapari Road	2.31	184	⇑PN	Pn	20 59 48.4	-1.4
TSZ				AML	AML	21 00 21.8	
TSZ				AML	AML	21 01 24.9	
WPHZ	Waipukurau	2.32	175	PN	Pn	20 59 48.8	-1.1
PXZ	Pawanui	2.34	167	PN	Pn	20 59 49.0	-1.1
PXZ				AML	AML	21 00 23.4	
PXZ				AML	AML	21 00 23.6	
PXZ				AML	AML	21 00 23.6	
PXZ				AML	AML	21 00 23.8	
PRHZ	Porangahau	2.54	172	PN	Pn	20 59 51.2	-1.2
DVHZ	Dannevirke	2.54	180	⇑PN	Pn	20 59 50.6	-1.9
POWZ	Post Office Ro	2.65	187	PN	Pn	20 59 51.7	-2.0
ANWZ	Angora Road	2.71	175	⇓PN	Pn	20 59 52.9	-1.5
PRWZ	Pori Road	2.80	183	PN	Pn	20 59 53.8	-1.7
BFZ	Birch Farm	2.92	179	PN	Pn	20 59 54.6	-2.3
MRZ	Mangatainoka R	2.94	189	⇑PN	Pn	20 59 54.5	-2.6
MRZ				AML	AML	21 00 32.1	
MRZ				AML	AML	21 00 32.2	
TIWZ	Tintock	3.03	184	PN	Pn	20 59 55.6	-2.5
TIWZ				AML	AML	21 00 33.8	
TIWZ				AML	AML	21 00 35.9	
CPWZ	Castlepoint	3.15	179	PN	Pn	20 59 58.2	-1.4
OGWZ	Otaki Gorge	3.15	194	⇓PN	Pn	20 59 57.1	-2.6
HOWZ	Holdsworth Sta	3.18	189	PN	Pn	20 59 56.9	-3.1
KIW	Kapiti Island	3.25	197	PN	Pn	20 59 57.7	-3.1
TMWZ	Te Maipa	3.35	184	PN	Pn	20 59 59.4	-2.7
MTW	Mount Morrison	3.44	188	PN	Pn	20 59 59.7	-3.4
MTW				AML	AML	21 00 41.7	
MTW				AML	AML	21 00 42.1	
CAW	Cannon Point	3.45	194	PN	Pn	21 00 00.1	-3.2
CAW				AML	AML	21 00 42.4	
CAW				AML	AML	21 00 44.3	
DUWZ	D'Urville Isla	3.50	209	PN	Pn	21 00 00.7	-3.2
TRWZ	Traveller	3.66	186	PN	Pn	21 00 02.6	-3.2
TRWZ				AML	AML	21 00 47.4	
PAWZ	Paruwai Farm	3.67	189	PN	Pn	21 00 02.3	-3.6
PAWZ				SN	Sn	21 00 44.4	-6.5
MSWZ	Moikau Station	3.72	191	PN	Pn	21 00 02.9	-3.7
MSWZ				SN	Sn	21 00 45.1	-7.0
MSWZ				AML	AML	21 00 48.8	
TCW	Tory Channel	3.75	202	PN	Pn	21 00 03.6	-3.4
TCW				AML	AML	21 00 49.5	
TCW				AML	AML	21 00 49.5	
BHW	Baring Head	3.78	195	PN	Pn	21 00 03.5	-3.9
PLWZ	Palliser	3.87	190	PN	Pn	21 00 04.6	-4.0
TUWZ	Tuamarina	4.05	204	PN	Pn	21 00 07.3	-3.5
TUWZ				AML	AML	21 00 56.1	
NNZ	Nelson	4.07	211	PN	Pn	21 00 07.5	-3.5
QRZ	Quartz Range	4.17	221	PN	Pn	21 00 08.3	-3.9
BSWZ	Blackbirch Sta	4.33	203	PN	Pn	21 00 10.8	-3.5
THZ	Tophouse	4.72	211	PN	Pn	21 00 15.4	-4.0
KHZ	Kahutara	5.07	203	PN	Pn	21 00 19.5	-4.3
DSZ	Denniston Nort	5.21	219	PN	Pn	21 00 21.3	-4.4
LTZ	Lake Taylor	5.84	209	PN	Pn	21 00 28.8	-5.0
OXZ	Oxford	6.39	208	PN	Pn	21 00 35.0	-5.9
MQZ	McQueen's Vall	6.51	203	⇓PN	Pn	21 00 36.5	-6.0
ODZ	Otahua Downs	8.38	208	PN	Pn	21 01 01.7	-5.2
JCZ	Jackson Bay	8.44	219	PN	Pn	21 01 02.1	-5.7

ISCJB 21 21:02:33.2±1.2, 13°.9S±0°.1×76°.6W±0°.2, h30km, mb3.9/3, MS3.1/4, Error ellipse: s-maj=32.8km s-min=13.2km az=147.9
IDC 21 21:02:38.4±3.3, 13°.84S×76°.42W, h62km±27km, mb3.7/3, mb1 3.8/5, mb1mx3.5/35, mbtmp4.0/5, ML3.5/3, MS3.2/7, Ms1 3.3/7, ms1mx3.0/25, Error ellipse: s-maj=46.8km s-min=23.7km az=52.0
ISC 21 21:02:34.3±1.2, 13°.8S±0°.1×76°.6W±0°.2, h30km, n23, σ1°04/8, mb4.2/3, MS3.2/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	6.86	345	P	Pn	21 04 17.6	+4.3
	1.0nm,0.3s,baz=146,slow=3.6,SNR=3.1						
ATAH				S	Sb	21 05 55.0	+0.3
	0.9nm,0.3s,baz=285,slow=20,SNR=3.0						
LPAZ	La Paz	8.58	108	P	Pn	21 04 37.7	+0.7
	1.1nm,0.3s,baz=274,slow=9.1,SNR=12						
LPAZ				LR	LR	21 08 38.7	
	comp=Z,119nm,22.0s,baz=306,slow=43						
SIV	San Ignacio	15.20	100	LR	LR	21 12 59.5	
	comp=Z,96nm,19.3s,baz=284,slow=42						
ROSC	El Rosal	18.69	7	LR	LR	21 15 28.1	
	comp=Z,105nm,21.7s,baz=202,slow=41						
CFAA	Coronel Fontan	19.31	158	P	P	21 06 57.8	+0.7
	0.0nm,0.3s,baz=310,slow=9.8,SNR=4.7						
H03N1	Juan Fernandez	19.65	186	T	T	21 26 37.3	
	baz=7.2,slow=75,SNR=202						
H03N2	Juan Fernandez	19.65	186	T	T	21 26 41.1	
	baz=7.2,slow=75,SNR=272						
H03N3	Juan Fernandez	19.66	186	T	T	21 26 40.0	
	baz=7.2,slow=75,SNR=272						
CPUP	Villa Florida	21.96	127	LR	LR	21 17 38.9	
	comp=Z,63nm,18.1s,baz=214,slow=41						
JTS	JuntasAbangare	25.33	341	LR	LR	21 16 52.3	
	comp=Z,25nm,20.6s,baz=170,slow=34						
PCRV	Puerto La Cruz	26.65	27	LR	LR	21 19 43.4	
	comp=Z,102nm,18.4s,baz=202,slow=39						
BDFB	Brasilia	27.73	97	LR	LR	21 19 49.1	
	comp=Z,96nm,18.7s,baz=258,slow=38						
DBIC	Dimbokro	74.08	79	P	P	21 14 07.1	-1.1
	2.7nm,0.5s,baz=242,slow=8.6,SNR=8.7						
YKA	Yellowknife Ar	81.64	343	P	P	21 14 49.7	+0.6
	0.2nm,0.5s,baz=143,slow=6.1,SNR=6.6						
TORD	Torodi Ar. Bea	82.08	74	P	P	21 14 51.9	-0.6
	1.6nm,0.6s,baz=253,slow=4.9,SNR=16						
H11N3	WAKE ISLAND Hy	119.16	285	T	T	23 31 38.5	
	baz=96,slow=74,SNR=35						
H11N2	WAKE ISLAND Hy	119.17	285	T	T	23 31 38.0	
	baz=96,slow=74,SNR=44						
H11N1	WAKE ISLAND Hy	119.18	285	T	T	23 31 40.8	
	baz=96,slow=74,SNR=23						
H11S2	WAKE ISLAND Hy	119.24	284	T	T	23 31 46.7	
	baz=97,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy	119.24	284	T	T	23 31 48.7	
	baz=97,slow=75,SNR=10						
H11S3	WAKE ISLAND Hy	119.25	284	T	T	23 31 43.4	
	baz=97,slow=75,SNR=13						
WRA	Warramunga Arr	134.68	223	PKP	PKPdf	21 21 49.6	-1.3
	0.4nm,1.0s,baz=116,slow=1.9,SNR=3.2						
SONM	Songino Array	145.99	356	PKPbc	PKPdf	21 22 11.5	+0.9
	0.8nm,0.7s,baz=316,slow=1.6,SNR=11						

ISCJB 21 21:03:50.8±0.7, 72°.89N±0°.05×5°.9E±0°.2, h10km, mb3.1/4, MS3.1/5, Error ellipse: s-maj=9.6km s-min=6.8km az=150.2
CSEM 21 21:03:51.7±0.4, 72°.92N×5°.14E, h10km, ML2.3, Error ellipse: s-maj=14.1km s-min=5.5km az=83.0
IDC 21 21:03:51.5±1.2, 72°.72N×5°.17E, h0km, mb3.2/4, mb1 3.5/9, mb1mx3.2/45, mbtmp3.3/9, ML3.0/5, MS3.1/8, Ms1 3.1/8, ms1mx2.8/27, Error ellipse: s-maj=21.9km s-min=16.5km az=65.0
NAO 21 21:03:51.1±2.5, 72°.86N×5°.24E, ML2.6
BER 21 21:03:53.9±2.5, 72°.95N×4°.87E, h16km, MD2.6, ML2.3, ML2.6(NAO)
ISC 21 21:03:52.3±1.0, 72°.85N±0°.07×5°.41E±0°.09, h10km, n39, σ1°71/43, mb3.2/4, MS3.1/5, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	Hornsund	4.94	28	Pn	Pn	21 05 05.2	-1.2
HSP	Hornsund	4.94	28	Pn	Pn	21 05 05.2	-1.2
HSP	Hornsund	4.94	28	Pn	Pn	21 05 05.2	-1.2
	SNR=55						
TRO	Tromso	5.42	120	eP	Pn	21 05 15.5	+2.6
TRO				eS	Sn	21 06 14.8	-0.4
TRO	Tromso	5.42	120	eP	Pn	21 05 15.5	+2.6
	SNR=53						
TRO				eS	Sn	21 06 14.8	-0.4
	SNR=53						

LOF Lofoten 5.46 146 eP Pn 21 05 14.8 +1.2
LOF eS Sn 21 06 12.3 -4.0
LOF IAML 21 06 18.8
comp=Z,7.1nm,0.4s
LOF Lofoten 5.46 146 eP Pn 21 05 14.8 +1.2
SNR=53
SPA0 Spitsbergen Ar 6.01 22 Pn Pn 21 05 21.0 0.0
baz=209,slow=16
SPA0 Spitsbergen Ar 6.01 22 Pn Pn 21 05 21.0 0.0
baz=209,slow=16
SPA0 Spitsbergen Ar 6.01 22 Pn Pn 21 05 21.0 0.0
baz=209,slow=15,SNR=55
SPITS Spitsbergen Ar 6.01 22 Pn Pn 21 05 21.1 0.0
baz=201,slow=16,SNR=23
KBS Kingsbay 6.31 12 Pn Pn 21 05 23.2 -2.0
KBS Kingsbay 6.31 12 Pn Pn 21 05 23.2 -2.0
KBS Kingsbay 6.31 12 Pn Pn 21 05 23.2 -2.0
SNR=55
ARA0 ARCESS Array S 7.27 107 Pn Pn 21 05 39.7 +1.3
baz=320,slow=12
ARA0 Sn Sn 21 06 59.0 -1.9
baz=302,slow=22
ARA0 ARCESS Array S 7.27 107 Pn Pn 21 05 39.7 +1.3
baz=320,slow=12
ARA0 Sn Sn 21 06 59.0 -1.9
baz=302,slow=22
ARA0 ARCESS Array S 7.27 107 Pn Pn 21 05 39.7 +1.3
baz=320,slow=12,SNR=55
ARA0 Sn Sn 21 06 59.0 -1.9
SNR=55
ARCES ARCESS Array B 7.27 107 Pn Pn 21 05 39.5 +1.1
comp=Z,0.2nm,0.3s,baz=318,slow=12,SNR=23
ARCES Sn Sn 21 06 58.7 -2.1
comp=Z,0.2nm,0.3s,baz=304,slow=24,SNR=3.0
MOR8 Moi Rana 7.41 150 eP Pn 21 05 41.0 +0.7
MOR8 eS Sn 21 06 59.0 -5.2
MOR8 IAML 21 07 02.8
comp=Z,5.1nm,0.3s
MOR8 Moi Rana 7.41 150 eP Pn 21 05 41.0 +0.7
SNR=51
KEV Kevo 7.57 104 ep Pn 21 05 43.1 +0.6
KEV Kevo 7.57 104 eP Pn 21 05 43.1 +0.6
NB2 NORSAR Subarra 12.07 166 Pn Pn 21 06 45.2 +1.1
baz=345,slow=16
NB2 NORSAR Subarra 12.07 166 Pn Pn 21 06 45.2 +1.1
baz=345,slow=16
NB2 NORSAR Subarra 12.07 166 Pn Pn 21 06 45.2 +1.1
baz=345,slow=14,SNR=55
NOA NORSAR Array B 12.07 166 Pn Pn 21 06 45.0 +0.9
comp=Z,0.1nm,0.3s,baz=341,slow=12,SNR=2.7
NOA LR LR 21 11 00.1
comp=Z,26nm,19.1s,baz=350,slow=36
HFS Hagfors 13.17 162 Pn Pn 21 06 59.7 +0.7
baz=355,slow=12
HFS Hagfors 13.17 162 Pn Pn 21 06 59.7 +0.7
baz=355,slow=12
HFS Hagfors 13.17 162 Pn Pn 21 06 59.9 +0.9
comp=Z,0.3nm,0.3s,baz=0.0,slow=13,SNR=12
HFS Sn Sn 21 09 18.6 -6.7
comp=Z,0.1nm,0.3s,baz=355,slow=25,SNR=3.9
HFS LR LR 21 11 34.5
comp=Z,45nm,19.9s,baz=332,slow=35
HFS Hagfors 13.17 162 Pn Pn 21 06 59.7 +0.7
baz=355,slow=12,SNR=55
FINES FINESS Array B 13.86 135 Pn Pn 21 07 08.8 +0.5
comp=Z,0.1nm,0.3s,baz=301,slow=11,SNR=2.5
FINES LR LR 21 12 11.3
comp=Z,82nm,19.0s,baz=90,slow=36
OBN Obninsk 21.95 127 LR LR 21 17 15.0
comp=Z,64nm,18.3s,baz=267,slow=37
GERES GERESS Array B 24.37 167 P P 21 09 08.1 -2.2
comp=Z,0.4nm,0.8s,baz=352,slow=12,SNR=2.5
AKASG Malin Array Be 24.55 142 P P 21 09 13.6 +1.9
comp=Z,0.2nm,0.3s,baz=337,slow=9.5,SNR=3.1
AKASG LR LR 21 18 25.4
comp=Z,65nm,21.3s,baz=265,slow=36
RES Resolute Bay 24.97 322 LR LR 21 19 03.5
comp=Z,42nm,18.6s,baz=4.0,slow=36
FRB Frobisher Bay 26.90 289 LR LR 21 19 32.7
comp=Z,41nm,18.1s,baz=262,slow=35
ILAR Eielson Array 41.39 342 P P 21 11 39.8 +1.8
comp=Z,0.4nm,0.9s,baz=6.1,slow=7.0,SNR=5.4
ULM Lac du Bonnet 45.98 299 LR LR 21 31 07.0
comp=Z,32nm,18.2s,baz=198,slow=36
TORD Torodi Ar. Bea 59.72 184 P P 21 13 56.4 -0.3
comp=Z,0.4nm,0.8s,baz=6.0,slow=5.8,SNR=3.0

IDC 21 21:20:04.1±4.8, 21.77S×68.70W, h0km, mb3.4/1, mb1 3.4/2, mb1mx3.3/16, mbtmp3.3/2, ML3.1/1, Error ellipse: s-maj=145.6km s-min=57.3km az=73.0, Chile-Bolivia border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 5.48 6 Pn Pn 21 21 27.6 -0.2
0.4nm,0.3s,baz=184,slow=8.9,SNR=7.0
TORD Torodi Ar. Bea 77.26 70 P P 21 32 00.8 0.0
0.2nm,0.4s,baz=256,slow=5.4,SNR=7.0
MKAR Makanchi Array 145.73 36 PKPbc PKPdf 21 39 44.2 -0.5
0.1nm,0.4s,baz=329,slow=3.8,SNR=3.9

BUC 21 21:30:18.0±0.9, 45.55N×26.58E, h115km±8km, MD2.7/2, 4C-8D, Error ellipse: s-maj=7.0km s-min=4.5km az=71.0, Romania

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLOR Plostina 0.31 10⇑iP Pn 21 30 34.8 +0.3
PLOR Plostina 0.31 10⇑iP Pn 21 30 34.8 +0.3
PLOR iS Sn 21 30 46.7 -0.2
VRI Vrincioaia 0.34 19⇑iP Pn 21 30 35.1 +0.5
VRI Vrincioaia 0.34 19⇑iP Pn 21 30 35.1 +0.5
VRI iS Sn 21 30 47.4 +0.3
ISR Istrita 0.43 183 S Sn 21 30 48.4 +0.5
ISR Istrita 0.43 183 iS Sn 21 30 48.4 +0.5
MLR Muntele Rosu 0.45 263⇓iP Pn 21 30 35.2 -0.1
MLR Muntele Rosu 0.45 263⇓iP Pn 21 30 35.2 -0.1
MLR iS Sn 21 30 48.1 -0.2
SECR 0.62 215 S Sn 21 30 50.3 +0.2
SECR 0.62 215 iS Sn 21 30 50.3 +0.2
SULR 0.90 195 S Sn 21 30 54.2 +0.1
SULR 0.90 195 iS Sn 21 30 54.2 +0.1
TESR Tescani 0.96 3⇓iP Pn 21 30 39.5 +0.2
TESR Tescani 0.96 3⇓iP Pn 21 30 39.5 +0.2
TESR iS Sn 21 30 54.8 -0.6
CFR Carcaliu 1.16 108⇓iP Pn 21 30 41.9 +0.7
CFR Carcaliu 1.16 108⇓iP Pn 21 30 41.9 +0.7
CFR iS Sn 21 30 58.5 -0.4
TIRR Tirgusor 1.70 129⇓iP Pn 21 30 48.0 +0.5
TIRR Tirgusor 1.70 129⇓iP Pn 21 30 48.0 +0.5
TIRR iS Sn 21 31 10.1 +0.2

ISCJB 21 21:39:05.1±0.8, 13.1N±0.2×49.38E±0.05, h10km, mb3.8/10, MS3.4/9, Error ellipse: s-maj=24.5km s-min=7.2km az=3.3
IDC 21 21:39:05.4±1.0, 13.04N×49.50E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.6/44, mbtmp3.8/10, MS3.4/9, Ms1 3.4/9, ms1mx3.1/29, Error ellipse: s-maj=29.3km s-min=21.6km az=11.0
ISC 21 21:39:06.8±1.1, 13.1N±0.2×49.38E±0.08, h10km, n19, σ0§94/15, mb3.9/10, MS3.3/9, 2C, Eastern Gulf of Aden

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BDHA Al Bayda' 3.82 284⇑iP Pn 21 40 06.2 +0.2
BDHA e 21 40 06.6
baz=112,slow=16
BDHA AML AML 21 40 08.7
comp=E,647nm,0.5s
BDHA iS Sn 21 40 50.3 -0.7
LBOS 4.10 282⇑iP Pn 21 40 10.1 +0.3
LBOS iS Sn 21 40 56.0 -2.0
EIL Elat 21.27 323 LR LR 21 51 28.2
comp=E,75nm,18.7s,baz=116,slow=35
GNI Garni 27.30 352 LR LR 21 57 40.0
comp=E,122nm,18.8s,baz=170,slow=41
KBZ Khabaz 31.07 351 LR LR 22 00 07.2
comp=E,61nm,18.1s,baz=186,slow=41
AKASG Malin Array Be 40.98 340 P P 21 46 50.6 +0.9
comp=E,0.2nm,0.4s,baz=144,slow=7.2,SNR=3.3
MKAR Makanchi Array 43.52 33 P P 21 47 10.2 -0.4
comp=E,0.3nm,0.5s,baz=229,slow=8.7,SNR=9.9
TORD Torodi Ar. Bea 46.39 276 P P 21 47 35.2 +1.3
comp=E,1.1nm,0.8s,baz=95,slow=7.4,SNR=7.6
TORD PcP PcP 21 49 09.8 +0.9
comp=E,0.4nm,0.8s,baz=74,slow=3.8,SNR=2.6
BOSA Boshof 47.54 209 LR LR 22 09 16.9
comp=E,56nm,18.6s,baz=123,slow=38
CMAR Chiang Mai Arr 47.89 77 P P 21 47 45.0 -0.6
comp=E,1.6nm,0.8s,baz=276,slow=8.3,SNR=18
ZALV Zalesovo Beam 49.44 27 P P 21 47 56.4 -0.5
comp=E,0.7nm,0.6s,baz=232,slow=8.7,SNR=6.5
FINES FINESS Array B 51.18 346 P P 21 48 09.8 -0.1
comp=E,0.6nm,0.6s,baz=190,slow=9.7,SNR=3.5
FINES LR LR 22 11 36.0
comp=E,26nm,18.8s,baz=266,slow=38
NOA NORSAR Array B 55.32 339 LR LR 22 15 38.7
comp=E,15nm,18.4s,baz=120,slow=40
ARCES ARCESS Array B 58.43 350 LR LR 22 17 47.6
comp=E,18nm,18.1s,baz=268,slow=40
SONM Songino Array 58.45 42 P P 21 49 03.5 +0.4
comp=E,0.5nm,1.0s,baz=233,slow=8.9,SNR=2.6
SONM LR LR 22 15 46.9
comp=E,19nm,21.6s,baz=344,slow=38
EKA Eskdalemuir Ar 58.48 328 P P 21 49 02.8 -0.2
comp=E,1.4nm,0.9s,baz=120,slow=8.3,SNR=3.9
MAW Mawson 81.03 175 LR LR 22 18 44.5
comp=E,106nm,19.6s,baz=263,slow=29
WRA Warramunga Arr 89.75 110 P P 21 52 06.0 -0.1
comp=E,1.2nm,0.9s,baz=300,slow=3.7,SNR=7.8
ASAR Alice Springs 90.25 114 P P 21 52 07.2 -1.2
comp=E,0.5nm,0.8s,baz=283,slow=5.2,SNR=3.8

MAN 21 21:47:46, 11.09N×124.88E, h39km, mb4.6, ML3.5, MS3.5, 1C-1D, Leyte

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLP Palo 0.12 54⇓eP Pn 21 47 53.4 -0.8
OCLP Ormoc 0.27 261 eP Pn 21 47 49.3 -4.8
OCLP eS Sn 21 47 52.0 -8.4
MSLP Maasin 0.95 181 eP Pn 21 48 06.1 +3.2
MSLP eS Sn 21 48 18.0 +2.7
LLP Lapu-Lapu 1.19 229⇑eP Pn 21 48 06.7 +0.6
LLP eS Sn 21 48 20.3 -0.7
GUIM Jordan 2.30 259 eP Pn 21 48 23.7 +2.3

IDC 21 21:55:04.3±2.5, 3.50S×130.24E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.5/27, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=160.8km s-min=28.8km az=70.0, Seram

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 16.83 167 Pn Pn 21 59 01.1 -0.3
0.3nm,0.3s,baz=350,slow=13,SNR=25
WRA Sn Sn 22 01 56.7 -13
0.1nm,0.3s,baz=338,slow=20,SNR=5.6
ASAR Alice Springs 20.36 170 P P 21 59 42.7 +0.1
3.2nm,0.5s,baz=347,slow=10,SNR=64
MKAR Makanchi Array 65.46 326 P P 22 05 49.2 0.0
0.1nm,0.3s,baz=120,slow=8.0,SNR=5.2

IDC 21 21:55:25.2±0.9, 20.04N×122.88E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/32, mbtmp3.6/6, MS2.8/1, Ms1 3.0/1, ms1mx2.1/30, Error ellipse: s-maj=53.3km s-min=19.0km az=75.0
ISCJB 21 21:55:28.7±0.8, 19.94N±0.08×122.7E±0.2, h36km, mb3.5/6, MS2.6/1, Error ellipse: s-maj=31.4km s-min=11.7km az=4.0
MAN 21 21:55:40, 19.10N×121.28E, h32km, mb4.4, ML3.3, MS3.1
ISC 21 21:55:30.2±0.8, 19.87N±0.09×122.6E±0.2, h36km, n10, σ1§69/10, mb3.5/6, Philippine Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SGCP Mt. Cagua 1.69 197 eP Pn 21 55 58.9 +1.6
SGCP eS Sn 21 56 14.8 -2.9
CAUP Cauayan 3.00 194 eP Pn 21 56 20.6 +5.4
BALP Baler 4.21 193 eP Pn 21 56 32.5 +0.6
CMAR Chiang Mai Arr 22.36 270 LR LR 22 08 24.8
comp=Z,22nm,18.9s,baz=300,slow=34
SONM Songino Array 30.83 339 P P 22 01 41.1 -1.7
0.2nm,0.6s,baz=159,slow=9.3,SNR=3.1
WRA Warramunga Arr 41.22 163 P P 22 03 12.2 +0.5
1.3nm,0.4s,baz=343,slow=9.1,SNR=15
WRA PcP PcP 22 05 10.2 -0.2
0.2nm,0.7s,baz=345,slow=3.5,SNR=2.6
MKAR Makanchi Array 42.36 319 P P 22 03 22.7 +1.8
0.3nm,0.5s,baz=108,slow=9.2,SNR=5.6
ASAR Alice Springs 44.66 165 P P 22 03 40.8 +1.2
0.7nm,0.3s,baz=347,slow=6.4,SNR=13
ILAR Eielson Array 72.46 27 P P 22 06 51.7 -1.0
0.1nm,0.4s,baz=275,slow=4.6,SNR=6.5
YKA Yellowknife Ar 86.42 23 P P 22 08 08.6 -0.1
0.2nm,0.4s,baz=308,slow=4.8,SNR=8.4

MAN 21 21:59:53, 8.47N×126.12E, h32km, mb4.4, ML3.3, MS3.1, Mindanao

DDA 21 22:01:36.8, 39.57N×26.84E, h7km, MD3.0
CSEM 21 22:01:37.2±0.1, 39.51N×26.80E, h10km, MD3.0, Error ellipse: s-maj=3.2km s-min=2.8km az=44.0
ISK 21 22:01:36.5, 39.52N×26.81E, h8km, MD2.8, Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AYVA Ayvalik 0.23 204 iP Pg 22 01 42.7 +1.7
AYVA iS Sg 22 01 46.8 +2.7
AYVA Ayvalik 0.23 204 iP Pg 22 01 42.7 +1.7
AYVA iS Sg 22 01 46.8 +2.7
EZN Ezine 0.48 310 ePG Pg 22 01 46.3 +0.4
EZN eSG Sb 22 01 54.0 -0.5
EZN Ezine 0.48 310 ePg Pg 22 01 46.3 +0.4
EZN eSg Sb 22 01 54.0 -0.5
BALY Balya 0.67 70 iP Pg 22 01 49.8 +0.3
BALY iS Sg 22 01 58.5 +0.3
BALY Balya 0.67 70 iP Pg 22 01 49.8 +0.3
BALY iS Sg 22 01 58.5 +0.3
BOZC Bozcaada 0.67 299 iP Pb 22 01 51.0 +0.6
BOZC iS Sb 22 02 00.3 +0.5
SIGR SIGRI 0.80 248 ePG Pg 22 01 52.1 +0.2
SIGR eSG Sb 22 02 04.1 +0.5
SIGR SIGRI 0.80 248 ePg Pg 22 01 52.1 +0.2
SIGR eSg Sb 22 02 04.1 +0.5
BALB Balikesir 0.84 81 ePG Pb 22 01 53.5 +0.1
BALB Balikesir 0.84 81 ePg Pb 22 01 53.5 +0.1
LPK Lapseki 0.86 358 ePG Pb 22 01 53.4 -0.2
LPK Lapseki 0.86 358 ePg Pb 22 01 53.4 -0.2
GELI Tayfur-Gelibol 0.92 344 ePG Pb 22 01 54.6 -0.1
GELI Tayfur-Gelibol 0.92 344 ePg Pb 22 01 54.6 -0.1
KRBG Karabiga-Canak 0.95 23 ePG Pg 22 01 54.8 -0.1
KRBG Karabiga-Canak 0.95 23 ePg Pg 22 01 54.8 0.0
AKHS Akhisar 1.01 129 iP Pb 22 01 56.4 +0.1
AKHS iS Sb 22 02 09.5 -0.2
AKHS Akhisar 1.01 129 iP Pb 22 01 56.4 +0.2
AKHS iS Sb 22 02 09.5 -0.2
AKS Akhisar 1.01 129 ePG Pg 22 01 55.7 -0.2
AKS eSG Sn 22 02 11.0 -0.3
AKS Akhisar 1.01 129 ePg Pg 22 01 55.7 -0.2
AKS eSg Sn 22 02 11.0 -0.4
BLCB Balcova 1.14 171 ePN Pg 22 01 58.5 0.0
BLCB Balcova 1.14 171 ePn Pb 22 01 58.5 0.0
EDC Edincik 1.16 44 ePN Pn 22 01 59.2 +0.2
EDC Edincik 1.16 44 ePn Pn 22 01 59.3 +0.2
ENEZ Enez 1.32 338 ePN Pb 22 02 01.6 +0.1
ENEZ Enez 1.32 338 ePn Pb 22 02 01.6 +0.1
ALN Alexandroupoli 1.50 337 ePN Pn 22 02 04.0 +0.4
ALN Alexandroupoli 1.50 337 ePn Pn 22 02 04.0 +0.3
AYDB Zeytinkoy-Aydi 1.78 151 ePN Pn 22 02 08.3 +0.5
AYDB Zeytinkoy-Aydi 1.78 151 ePn Pn 22 02 08.3 +0.5
MDNY Mudanya-Bursa 1.81 61 ePN Pb 22 02 09.2 -0.7
MDNY Mudanya-Bursa 1.81 61 ePn Pb 22 02 09.2 -0.7
ARMT Armutlu 1.89 56 ePN Pb 22 02 10.4 -1.0
ARMT Armutlu 1.89 56 ePn Pb 22 02 10.4 -1.0
CTKS Kestanelik-??a 2.15 37 ePN Pn 22 02 14.0 +1.4
CTKS Kestanelik-??a 2.15 37 ePn Pn 22 02 14.0 +1.3
BGKT Bogazkoy 2.24 41 ePN Pn 22 02 15.1 +1.2
BGKT Bogazkoy 2.24 41 ePn Pn 22 02 15.1 +1.2

NNC 21 22:04:03.1±3.6, 37.15N×71.12E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=32.6km s-min=26.3km az=64.0
ISC 21 22:04:03.1±5.0, 36.8N±0.3×71.1E±0.2, h88km, n8, σ0§69/10, 3C-1D, Afghanistan-Tajikistan border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AML Almayashu 5.66 20 P Pn 22 05 25.5 +0.5
SNR=38
UCH Uchtor 5.99 25 P Pn 22 05 29.8 +0.2
SNR=15
EKS2 Erkin-Say 6.17 18 P Pn 22 05 32.5 +0.7
SNR=9.4
KK31 Karatay Array 6.29 356 ⇑P Pn 22 05 33.4 +0.2
0.2nm,0.3s,baz=176,slow=13,SNR=16
KK31 S Sn 22 06 42.8 -0.8
1.2nm,0.3s,baz=184,slow=20,SNR=9.5
AAK Ala-Archa 6.35 23 ⇑P Pn 22 05 34.6 +0.3
1.3nm,0.3s
AAK ⇑S Sn 22 06 45.9 +0.5
1.5nm,0.6s
AAK Ala-Archa 6.35 23 P Pn 22 05 34.7 +0.5
SNR=6.1
TKM2 Tokmak 2 6.99 28 ⇓P Pn 22 05 42.1 -0.8
4.1nm,0.6s
TKM2 Tokmak 2 6.99 28 P Pn 22 05 42.2 -0.8
SNR=12

KRNET 21 22:07:48.0±0.1, 39.49N×72.69E, h3km, mb3.8
NNC 21 22:08:07.6±4.7, 40.43N×72.54E, h28km±23km, mb3.7, mpv3.1, Error ellipse: s-maj=36.6km s-min=12.5km az=2.0
ISC 21 22:07:46.8±2.0, 39.4N±0.1×72.74E±0.05, h7km±12km, n20, σ1§37/24, 6C-7D, Kyrgyzstan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DRK Karamyk 0.74 280 eP Pg 22 08 01.0 -0.1
baz=270
DRK eS Sg 22 08 10.5 -0.2
baz=270
SFK Sufi-Kurgan 0.89 41 iP Pg 22 08 03.8 -0.1
baz=50
SFK eS Sg 22 08 15.3 -0.1
baz=50
OHH Osh 1.17 2⇓iP Pb 22 08 09.0 -0.5
baz=4.0
OHH ⇓eS Sb 22 08 23.7 -1.3
baz=4.0
BTK Batken 1.64 296 eP Pg 22 08 18.8 +0.5
baz=292
BTK eS Sg 22 08 40.6 +1.0
baz=292
ARSB Arslanbob 1.98 5 iP Pg 22 08 24.4 -0.4
baz=7.0
ARSB eS Sg 22 08 49.6 -0.9
baz=7.0
AML Almayashu 2.87 14 P Pb 22 08 39.1 +0.4
SNR=96
UCH Uchtor 3.17 25 P Pb 22 08 43.5 -0.4
SNR=16
KZA Kyzart 3.33 34 P Pb 22 08 45.8 -0.6
SNR=6.0
EKS2 Erkin-Say 3.40 13 P Pb 22 08 46.8 -0.7
SNR=10
AAK Ala-Archa 3.54 21 ⇓Pn Pb 22 08 48.9 -1.0
13nm,0.5s
AAK ⇑Lg Lg 22 09 33.1
26nm,0.7s
AAK Ala-Archa 3.54 21 P Pb 22 08 48.9 -1.0
SNR=21
KBK Karagaybulak 3.70 26 P Pb 22 08 51.8 -0.8
SNR=9.2
ULHL Ulahol 3.93 41 P Pb 22 08 54.5 -2.0
SNR=9.6
CHMS Chumysh 3.95 22 P Pb 22 08 54.1 -2.7
SNR=13
KK31 Karatay Array 4.11 337 ⇑Pn Pb 22 08 55.6 -3.9
1.6nm,0.3s,baz=149,slow=13,SNR=70
KK31 ⇑Pg Pg 22 09 04.4 -1.1
2.1nm,0.3s,baz=167,slow=16,SNR=9.4
KK31 ⇓Lg Lg 22 09 43.6
4.5nm,0.3s,baz=150,slow=24,SNR=7.5
USP Ospenovka 4.13 18 P Pb 22 08 56.3 -3.6
SNR=8.4
TKM2 Tokmak 2 4.17 30 ⇑Pn Pb 22 08 57.7 -2.9
2.1nm,0.4s
TKM2 ⇓Pg Pg 22 09 09.1 +2.4
3.5nm,0.5s
TKM2 ⇓Lg Lg 22 09 56.4
9.6nm,0.5s
OTUK Ortayu 8.90 358 ⇓Lg Lg 22 12 16.2
AB31 Akbulak array 13.47 321 P Pn 22 10 59.2 +0.9
0.4nm,0.4s,baz=130,slow=14,SNR=16
AB31 ⇑S Sn 22 13 21.0 -7.3
1.0nm,0.9s,baz=142,slow=18,SNR=4.1
AKTO Aktyubinsk 15.19 322 ⇑P P 22 11 28.3 +1.5
3.9nm,1.1s

NSSC 21 22:09:11.1±1.8, 33.63N×35.51E, h17km±8km, MD1.0, ML1.9
GII 21 22:09:11.0±0.7, 33.49N×35.41E, h1km, MD2.0/6
GRAL 21 22:09:11.2±0.3, 33.57N×35.45E, h26km±3km, MD2.8
CSEM 21 22:09:10.7±0.2, 33.62N×35.45E, h20km, ML2.8, Error ellipse: s-maj=5.8km s-min=3.0km az=111.0, Jordan - Syria region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MATL Matarih 0.16 218 eP Pg 22 09 15.9 +0.6
MATL Matarih 0.16 218 eP Pg 22 09 15.9 +0.6
BHL Bhannes 0.33 31 eP Pb 22 09 18.9 +0.7
BHL eS Sb 22 09 24.7 +1.4
BHL Bhannes 0.33 31 eP Pb 22 09 18.9 +0.7
BHL eS Sb 22 09 24.7 +1.5
RCY Rachaya 0.35 110 eP Pg 22 09 18.4 0.0
RCY eS Sg 22 09 23.6 0.0
RCY Rachaya 0.35 110 eP Pg 22 09 18.4 0.0
RCY eS Sg 22 09 23.6 0.0
KSDI Kefar Szold 0.46 157 Pg Pg 22 09 20.0 -0.2
KSDI Sg Sg 22 09 26.5 0.0
KSDI Kefar Szold 0.46 157 Pg Pg 22 09 20.0 -0.2
KSDI Sg Sg 22 09 26.5 0.0
BRBR Barbar 0.47 116 eP Pb 22 09 20.2 -0.3
BRBR eS Sg 22 09 26.9 -0.4
BRBR AML AML 22 09 28.5
comp=E,114nm,0.3s
BRBR AML AML 22 09 30.2
comp=Z,73nm,0.2s
BRBR AML AML 22 09 30.4
comp=N,124nm,0.7s
BRBR Barbar 0.47 116 eP Pb 22 09 20.4 -0.2
BRBR eS Sg 22 09 26.5 -0.7
BRBR AML AML 22 09 28.5
comp=E,114nm,0.3s
BRBR AML AML 22 09 30.2
comp=Z,73nm,0.2s
BRBR AML AML 22 09 30.4
comp=N,124nm,0.7s
BRBR Barbar 0.47 116 eP Pb 22 09 20.4 -0.2
SNR=107
BRBR eS Sg 22 09 26.5 -0.7
comp=N,124nm,0.7s,SNR=109
NAQL Naqoura 0.56 207 eP Pb 22 09 20.8 -1.0
NAQL Naqoura 0.56 207 eP Pb 22 09 20.8 -1.0
HNTI Hanita 0.58 203 Pg Pb 22 09 21.9 -0.3
HNTI Sg Sg 22 09 30.2 0.0
HNTI Hanita 0.58 203 Pg Pb 22 09 21.9 -0.3
HNTI Sg Sg 22 09 30.2 0.0
MMC7 Mount Meron ar 0.60 184 Pg Pb 22 09 22.2 -0.3
MMC7 Mount Meron ar 0.60 184 Pg Pb 22 09 22.2 -0.3
MMA0B Mount Meron ar 0.60 184 Pg Pb 22 09 22.2 -0.5
MMA0B Sg Sb 22 09 30.8 0.0
MMA0B Mount Meron ar 0.60 184 Pg Pb 22 09 22.2 -0.5
MMA0B Sg Sb 22 09 30.8 0.0
HWQ Hawqa 0.78 32 eP Pg 22 09 26.0 -0.2
HWQ Hawqa 0.78 32 eP Pg 22 09 26.0 -0.2
BLGI Bet Lehem HaGe 0.91 194 Pg Pb 22 09 27.6 -0.2
BLGI Bet Lehem HaGe 0.91 194 Pg Pb 22 09 27.6 -0.2
MARH Ras Al Marh 0.95 64 eP Pb 22 09 28.2 -0.8
MARH eS Sb 22 09 41.1 -0.4
MARH AML AML 22 09 43.6
comp=E,31nm,0.5s

MARH AML AML 22 09 43.8
comp=N,50nm,0.2s
MARH AML AML 22 09 48.2
comp=Z,67nm,0.3s
MARH Ras Al Marh 0.95 64 eP Pb 22 09 28.5 -0.5
MARH eS Sb 22 09 39.3 -2.2
MARH AML AML 22 09 43.6
comp=E,31nm,0.5s
MARH AML AML 22 09 43.8
comp=N,50nm,0.2s
MARH AML AML 22 09 48.2
comp=Z,67nm,0.3s
MARH Ras Al Marh 0.95 64 eP Pb 22 09 28.5 -0.5
SNR=66
MARH eS Sb 22 09 39.3 -2.2
comp=Z,67nm,0.3s,SNR=62
OFRI 'Ofer 1.07 201 Pg Pb 22 09 30.3 -0.3
OFRI 'Ofer 1.07 201 Pg Pb 22 09 30.3 -0.3
MMLI Mount Malkishu 1.18 181 Pg Pn 22 09 31.9 -0.2
MMLI Sg Sn 22 09 48.3 +0.7
MMLI Mount Malkishu 1.18 181 Pg Pn 22 09 31.9 -0.2
MMLI Sg Sn 22 09 48.3 +0.7
HMDT Nahal Hemdat 1.36 177 Pg Pn 22 09 35.0 +0.4
HMDT Sg Sb 22 09 53.5 +0.9
HMDT Nahal Hemdat 1.36 177 Pg Pn 22 09 35.0 +0.4
HMDT Sg Sb 22 09 53.5 +0.9
SALA Sala 1.41 130 eP Pg 22 09 37.5 -0.7
SALA eS Sb 22 09 54.4 +0.1
SALA AML AML 22 09 55.5
comp=E,2.7nm,0.5s
SALA AML AML 22 09 57.9
comp=Z,22nm,0.4s
SALA AML AML 22 09 58.0
comp=N,21nm,0.3s
SALA Sala 1.41 130 eP Pn 22 09 35.8 +0.3
SALA eS Sn 22 09 53.0 -0.6
SALA AML AML 22 09 55.5
comp=E,2.7nm,0.5s
SALA AML AML 22 09 57.9
comp=Z,22nm,0.4s
SALA AML AML 22 09 58.0
comp=N,21nm,0.3s
SALA Sala 1.41 130 eP Pn 22 09 35.8 +0.3
SNR=66
SALA eS Sn 22 09 53.0 -0.6
comp=N,21nm,0.3s,SNR=62
SLTI Sal'it 1.42 194 Pg Pb 22 09 36.5 0.0
SLTI Sg Sb 22 09 55.3 +1.2
SLTI Sal'it 1.42 194 Pg Pb 22 09 36.5 0.0
SLTI Sg Sb 22 09 55.3 +1.2
BIDA Albida 1.57 27 eP Pn 22 09 37.9 +0.3
BIDA eS Sb 22 09 58.8 +0.1
BIDA AML AML 22 10 02.0
comp=E,53nm,0.6s
BIDA AML AML 22 10 02.7
comp=N,29nm,0.2s
BIDA AML AML 22 10 10.1
comp=Z,60nm,0.4s
BIDA Albida 1.57 27 eP Pn 22 09 37.5 -0.1
BIDA eS Sb 22 09 58.5 -0.2
BIDA AML AML 22 10 02.1
comp=E,53nm,0.6s
BIDA AML AML 22 10 02.7
comp=N,29nm,0.2s
BIDA AML AML 22 10 02.8
comp=Z,68nm,0.2s
BIDA Albida 1.57 27 eP Pn 22 09 37.5 -0.1
SNR=51
BIDA eS Sb 22 09 58.5 -0.2
comp=Z,68nm,0.2s,SNR=49
DSI Dead Sea 2.04 182 Pn Pb 22 09 45.2 +1.2
DSI Sn Sb 22 10 11.5 -0.7
DSI Dead Sea 2.04 182 Pn Pn 22 09 45.2 +1.2
DSI Sn Sb 22 10 11.5 -0.7
WRDH Warideh 2.05 23 eP Pn 22 09 43.7 -0.4
WRDH eS Sn 22 10 10.2 +1.0
WRDH AML AML 22 10 15.9
comp=Z,11nm,0.3s
WRDH AML AML 22 10 16.9
comp=E,22nm,0.2s
WRDH AML AML 22 10 21.6
comp=N,14nm,0.3s
WRDH Warideh 2.05 23 eP Pn 22 09 43.4 -0.8
WRDH eS Sn 22 10 09.8 +0.7
WRDH AML AML 22 10 15.9
comp=Z,11nm,0.3s
WRDH AML AML 22 10 16.9
comp=E,22nm,0.2s
WRDH AML AML 22 10 21.6
comp=N,14nm,0.3s
WRDH Warideh 2.05 23 eP Pn 22 09 43.4 -0.7
SNR=51
WRDH eS Sn 22 10 09.8 +0.6
comp=N,14nm,0.3s,SNR=49
MZDA Masada 2.30 182 Pn Pb 22 09 49.5 -2.0
MZDA Masada 2.30 182 Pn Pb 22 09 49.5 -2.0

MAN 21 22:35:04, 11°.08N×124°.64E, h9km, mb4.0, ML2.8, MS2.5, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.04**	**228**	eP	Pg	22 35 07.0	+1.2
OCLP				eS	Sg	22 35 09.3	+2.2
PLP	**Palo**	**0.34**	**75**⇓	iP	Pb	22 35 12.1	-0.2
MSLP	**Maasin**	**0.96**	**167**	eP	Pn	22 35 23.7	0.0
MSLP				eS	Sn	22 35 37.0	-0.5

MEX 21 22:40:01.9±0.9, 17°.44N×94°.50W, h176km±8km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.50**	**227**	eP	Pn	22 40 24.9	-1.4
CMIG				iS	Sn	22 40 42.3	-2.6
PCIG		**2.12**	**144**	eP	Pn	22 40 39.2	-0.8
PCIG				iS	Sn	22 41 07.6	-2.0
VHO	**Vista Hermosa**	**2.16**	**261**	iP	Pn	22 40 39.6	-1.2
VHO				iS	Sn	22 41 09.3	-1.3
HUIG	**Huatulco**	**2.27**	**223**	iP	Pn	22 40 39.4	-2.3
HUIG				iS	Sn	22 41 11.3	-1.2
CCIG	**Comitan**	**2.54**	**117**	iP	Pn	22 40 43.7	-1.4
CCIG				iS	Sn	22 41 16.3	-2.3
PNIG	**Pinotepa**	**3.62**	**254**	eP	Pn	22 40 55.7	-2.5
PNIG				iS	Sn	22 41 39.4	-2.6

ISCJB 21 23:05:42.0±0.3, 8°.48S±0°.03×119°.79E±0°.03, h172km, mb4.3/7, Error ellipse: s-maj=5.0km s-min=4.1km az=26.2
IDC 21 23:05:43.0±1.6, 8°.14S×120°.07E, h195km±14km, mb4.0/8, mb1 4.0/10, mb1mx3.7/36, mbtmp4.5/10, Error ellipse: s-maj=25.1km s-min=8.2km az=56.0
DJA 21 23:05:43.4±0.4, 8°S±4°×12°0E±°, h169km±9km, M4.3/16, mb4.3/5, mB5.3/3, MLv4.3/16, Mw(mB)4.7/3
ISC 21 23:05:42.1±0.6, 8°.47S±0°.05×119°.85E±0°.05, h172km, n53, σ1s91/59, mb4.3/7, 1D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.25**	**201**	P	Pn	23 06 11.9	+0.8
WSI	**Waingapu**	**1.27**	**160**	P	Pn	23 06 12.8	+1.5
WSI				S	Sn	23 06 36.2	+2.3
WSI	**Waingapu**	**1.27**	**160**	P	Pn	23 06 12.9	+1.7
	baz=1.5,SNR=17						
WSI				S	Sn	23 06 35.8	+1.9
	baz=1.5,SNR=11						
BASI	**Baing, Sumba**	**1.88**	**158**	P	Pn	23 06 19.2	+1.9
BASI				S	Sn	23 06 46.9	+2.2
MMRI	**Maumere**	**2.37**	**94**	P	Pn	23 06 24.9	+2.1
MMRI				S	Sn	23 06 57.0	+2.7
BSSI	**Bau Bau, Buton**	**2.40**	**15**	P	Pn	23 06 30.3	+7.1
BKSI	**Bulukumba**	**3.14**	**5**	P	Pn	23 06 32.0	-0.2
BBSI	**Bau Bau**	**4.01**	**42**	P	Pn	23 06 45.4	+2.3
BNSI	**Bone**	**4.05**	**4**	P	Pn	23 06 46.3	+2.6
BATI	**Baumata**	**4.14**	**115**	P	Pn	23 06 47.5	+2.6
	14nm,0.3s,baz=254,slow=2.8,SNR=11						
BATI				S	Sn	23 07 34.0	+0.2
	19nm,0.3s,baz=294,slow=3.4,SNR=4.1						
SPSI	**Sidrap Palu**	**4.48**	**359**	P	Pn	23 06 49.7	+0.5
SOEI	**Soe**	**4.54**	**107**	P	Pn	23 06 51.7	+1.6
SOEI				S	Sn	23 07 44.7	+1.4
SOEI	**Soe**	**4.54**	**107**	P	Pn	23 06 52.2	+2.1
	baz=4.7,SNR=15						
SRBI	**Singaraja**	**4.61**	**274**	P	Pn	23 06 50.2	-0.6
SRBI				S	Sn	23 07 45.9	+1.3
TTSI	**Tana Toraja**	**5.39**	**360**	P	Pn	23 07 02.7	+1.6
	41nm,0.8s,0.1nm						
JAGI	**Jajag, Banyuwa**	**5.64**	**270**	P	Pn	23 07 02.4	-2.0
	baz=5.6,SNR=6.4						
JAGI				S	Sn	23 08 01.8	-7.0
	baz=5.6,SNR=13						
BLJI	**Banyuglugur**	**6.24**	**276**	P	Pn	23 07 14.1	+1.9
	45nm,0.6s,5μm0.2nm						
APSI	**Ampana**	**7.72**	**13**	P	Pn	23 07 36.5	+4.7
SANI	**Sanana**	**8.83**	**44**	P	Pn	23 07 47.8	+1.3
	27nm,1.3s,3μm0.1nm						
MRSI	**Marisa**	**9.13**	**13**	P	Pn	23 07 50.4	0.0
UGM	**Wanagama**	**9.25**	**273**	P	Pn	23 07 49.9	-2.1
	baz=9.2,SNR=9.5						
UGM				S	Sn	23 09 29.5	-5.7
	baz=9.2,SNR=5.2						
KNRA	**Kununurra**	**11.28**	**130**	P	Pn	23 08 18.5	0.0
	baz=12,SNR=22						
KNRA				S	Sn	23 10 18.8	-4.8
	baz=12,SNR=5.2						
MTN	**Manton Dam**	**11.91**	**112**	P	Pn	23 08 26.8	+0.2
	baz=12,SNR=12						
MTN				S	Sn	23 10 33.9	-4.9
	baz=12,SNR=5.2						
KDU	**Kakadu**	**13.09**	**110**	P	Pn	23 08 42.6	+0.8
	baz=13,SNR=6.4						
FAKI	**Fak Fak**	**13.51**	**67**	P	Pn	23 08 45.9	-1.2
	baz=14,SNR=3.7						
FAKI				S	Sn	23 11 17.2	-0.2
	baz=14,SNR=5.0						
GIRL	**Giralia**	**15.09**	**200**	P	P	23 09 12.5	+4.7
	baz=15,SNR=5.0						
WRA	**Warramunga Arr**	**18.07**	**131**	P	P	23 09 41.1	+0.3
	2.0nm,0.3s,baz=307,slow=13,SNR=49						
WRA				S	S	23 12 58.5	-0.6
	0.7nm,0.3s,baz=278,slow=20,SNR=5.4						
MEEK	**Meekatharra**	**18.11**	**184**	P	Pn	23 09 43.0	0.0
	baz=18,SNR=9.2						
MEEK				S	Sn	23 13 05.1	-1.9
	baz=18,SNR=6.7						
WRKA	**Warakurna**	**18.34**	**155**	P	Pn	23 09 45.7	0.0
	baz=19,SNR=17						
ASAR	**Alice Springs**	**20.23**	**140**	P	P	23 10 05.0	+0.9
	9.8nm,0.5s,baz=315,slow=9.7,SNR=66						
ASAR				S	S	23 13 41.5	-0.3
	2.5nm,0.8s,baz=327,slow=24,SNR=8.5						
ASAR				ScP	ScP	23 17 26.8	-4.6
	0.4nm,0.3s,baz=319,slow=1.2,SNR=5.3						
MORW	**Morawa**	**20.80**	**189**	P	P	23 10 11.4	+1.4
	baz=21,SNR=4.2						
BLDU	**Ballidu**	**22.23**	**187**	P	P	23 10 25.4	+0.6
	baz=22,SNR=5.4						
QIS	**Mount Isa**	**22.55**	**124**	P	P	23 10 28.6	+0.6
	baz=23,SNR=15						
KLBR	**Kellerberrin**	**23.09**	**185**	P	P	23 10 33.3	+0.6
	baz=23,SNR=7.9						
FORT	**Forrest**	**23.48**	**162**	P	P	23 10 37.2	+0.9
	baz=24,SNR=17						
COEN	**Coen**	**23.51**	**106**	P	P	23 10 36.6	-0.1
	baz=24,SNR=33						
PCPH	**Palayan**	**23.91**	**3**⇓	eP	P	23 10 35.4	-4.9
BALP	**Baler**	**24.12**	**4**	eP	P	23 10 43.6	+1.4
NWAO	**Narrogin (SRO)**	**24.46**	**185**	P	P	23 10 46.2	+1.1
	7.3nm,0.8s,baz=17,slow=9.7,SNR=3.7						
BBOO	**Buckleboo**	**28.49**	**150**	P	P	23 11 22.1	+0.7
	baz=29,SNR=53						
HTT	**Hallett**	**30.45**	**147**	P	P	23 11 40.1	+1.5
	baz=31,SNR=7.3						
STKA	**Stephens Creek**	**30.84**	**142**	P	P	23 11 43.2	+1.2
	8.8nm,0.3s,baz=316,slow=9.0,SNR=44						
STKA	**Stephens Creek**	**30.84**	**142**	P	P	23 11 43.2	+1.2
	baz=31,SNR=32						
ARPS	**Mount Arapiles**	**34.53**	**148**	P	P	23 12 15.8	+1.6
	baz=35,SNR=11						
USRK	**Ussuriysk Arra**	**53.56**	**11**	P	P	23 14 41.1	-4.0
	1.1nm,0.5s,baz=180,slow=5.9,SNR=4.6						
SONM	**Songino Array**	**57.31**	**349**	P	P	23 15 09.2	-2.8
	1.3nm,0.5s,baz=168,slow=8.1,SNR=18						
MKAR	**Makanchi Array**	**64.38**	**332**	P	P	23 15 56.5	-3.2
	3.2nm,0.5s,baz=149,slow=7.5,SNR=92						
ZALV	**Zalesovo Beam**	**68.85**	**339**	P	P	23 16 23.9	-3.9
	3.3nm,0.4s,baz=139,slow=4.9,SNR=30						
MAW	**Mawson**	**70.02**	**200**	P	P	23 16 40.2	+5.5
	baz=70,SNR=1000						
BOSA	**Boshof**	**90.00**	**241**	P	P	23 18 21.8	-1.0
	2.4nm,0.9s,baz=153,slow=9.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**119.20**	**280**	PKP	PKPdf	23 24 08.9	-2.8
	0.4nm,0.7s,baz=57,slow=2.7,SNR=6.2						
CPUP	**Villa Florida**	**145.30**	**184**	PKPbc	PKPdf	23 24 60.0	-0.2
	1.6nm,0.5s,baz=106,slow=3.0,SNR=4.8						
LPAZ	**La Paz**	**154.16**	**162**	PKPab	PKPab	23 25 38.7	+1.1
	1.4nm,0.8s,baz=158,slow=6.0,SNR=5.1						

KLM 21 23:27:07.1, 1°.13S×102°.74E, h10km, mb4.5, ML4.5
ISCJB 21 23:27:10.1±0.5, 0°.79S±0°.04×102°.53E±0°.05, h10km, mb3.6/5, Error ellipse: s-maj=7.4km s-min=5.4km az=155.0
DJA 21 23:27:12.7±0.3, 1°S±3°×10°2E±°, h13km, M4.4/10, mb4.5/1, MLv4.4/10
IDC 21 23:27:26.9±2.1, 1°.52S×101°.77E, h200km±24km, mb3.0/6, mb1 3.2/7, mb1mx3.0/38, mbtmp3.6/7, Error ellipse: s-maj=84.3km s-min=13.6km az=57.0
ISC 21 23:27:11.8±0.9, 0°.80S±0°.05×102°.43E±0°.05, h10km, n20, σ1s62/18, mb3.4/5, 2C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGRI	**Rengat**	**0.46**	**348**	P	Pg	23 27 20.0	-0.8
RGRI				S	Sg	23 27 28.0	+1.1
SDSI	**Sungai Dareh**	**1.01**	**263**	P	Pg	23 27 30.2	-1.0
SDSI				S	Sg	23 27 44.4	+0.1
BKNI	**Bangkinang**	**1.78**	**309**	P	Pn	23 27 43.8	+1.1
TPRI	**Tanjung Pinang**	**2.71**	**51**	P	Pn	23 27 58.3	+2.9
KGM	**Kluang**	**2.94**	**18** ⇑	P	Pn	23 27 56.7	-1.9
MYKOM	Kota Tinggi	2.94	29 ⇓	P	Pn	23 27 56.4	-2.2
PMBI	**Palembang**	**3.15**	**132**	P	Pn	23 28 02.9	+1.3
LHSI	**Lahat**	**3.20**	**160**	P	Pn	23 28 02.5	+0.3
MNSI	**Mandailing Nat**	**3.26**	**299**	P	Pn	23 28 04.0	+1.0
MNAI	**Manna**	**3.58**	**172**	P	Pn	23 28 07.8	+0.4
MDSI	**Maura Dua**	**4.06**	**154**	P	Pn	23 28 11.2	-2.8
PSI	**Prapat**	**5.01**	**316**	P	Pb	23 28 40.9	+1.1
	4.8nm,0.3s,baz=150,slow=17,SNR=8.9						
PSI				S	Sb	23 29 43.0	+2.9
	1.1nm,0.3s,baz=78,slow=9.3,SNR=1.6						
KASI	**Kota Agung**	**5.13**	**156**	P	Pn	23 28 29.7	+1.0
KTGM	**Kuala Trenggan**	**6.13**	**7** ⇑	P	Pn	23 28 42.3	-0.2
CMAR	**Chiang Mai Arr**	**19.44**	**350**	P	Pn	23 31 45.5	+5.6
	1.8nm,0.9s,baz=187,slow=9.0,SNR=8.7						
WRA	**Warramunga Arr**	**36.56**	**123**	P	P	23 34 14.5	-3.8
	0.6nm,0.9s,baz=302,slow=9.1,SNR=4.4						
ASAR	**Alice Springs**	**38.05**	**129**	P	P	23 34 27.6	-3.2
	0.4nm,0.6s,baz=303,slow=7.8,SNR=7.6						
SONM	**Songino Array**	**48.56**	**4**	P	P	23 35 55.1	-0.3
	0.5nm,0.6s,baz=187,slow=9.8,SNR=6.7						
MKAR	**Makanchi Array**	**50.59**	**342**	P	P	23 36 08.4	-2.4
	0.3nm,0.6s,baz=150,slow=7.9,SNR=8.0						
ZALV	**Zalesovo Beam**	**56.48**	**348**	P	P	23 36 52.0	-1.9
	2.0nm,0.8s,baz=153,slow=4.8,SNR=9.4						

ISCJB 21 23:34:13.8±1.3, 31°.20S±0°.07×68°.39W±0°.06, h107km±8km, Error ellipse: s-maj=10.9km s-min=8.9km az=178.9
GUC 21 23:34:13.4±0.5, 31°.14S×68°.61W, h150km, MD3.7, ML3.7
SJA 21 23:34:14.0±0.8, 31°.25S×68°.39W, h102km±4km, ML3.2
ISC 21 23:34:14.2±2.3, 31°.17S±0°.09×68°.39W±0°.07, h103km±12km, n15, σ0s53/24, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.17**	**205**	eP	Pn	23 34 28.7	-0.1
RTLL				eS	Sn	23 34 39.6	-0.1
AMOG	**MOGNA**	**0.25**	**340**	eP	Pn	23 34 29.3	+0.3
AMOG				eP	Pn	23 34 29.3	+0.3
SJA	**San Juan**	**0.38**	**202**	eP	Pn	23 34 29.8	+0.2
SJA				AML	AML	23 34 44.2	
	comp=Z,724nm,0.2s						
CFAA	**Coronel Fontan**	**0.45**	**163**	eP	Pn	23 34 30.0	-0.1
CFAA				iS	Sn	23 34 42.1	+0.2
RTCV	**Cerro Valdivia**	**0.70**	**191**	eP	Pn	23 34 31.7	-0.2
RTCV				iS	Sn	23 34 44.8	-0.5
RTLS	**Leoncito**	**0.99**	**231**	eP	Pn	23 34 35.5	+0.5
AUSP	**Uspallata**	**1.35**	**219**	eP	Pn	23 34 39.4	+0.4
AUSP				iS	Sn	23 34 58.6	+0.7
ASAL	**Salagasta**	**1.46**	**195**	eP	Pn	23 34 40.4	+0.2
ASAL				iS	Sn	23 34 58.9	-1.1
ACAN	**Cantantal**	**1.50**	**137**	eP	Pn	23 34 41.1	+0.4
ACAN				eS	Sn	23 35 00.1	-0.6
CMCH	**Combarbala**	**2.24**	**269**⇓	iP	Pn	23 34 49.7	-0.3
CMCH				iS	Sn	23 35 17.4	0.0
CMCH				AML	AML	23 35 19.4	
	comp=E,832nm,0.6s						
PEL	**Peldehue**	**2.76**	**224**	eP	Pn	23 34 56.9	0.0
PEL				iS	Sn	23 35 30.3	+0.6
PEL				AML	AML	23 35 31.7	
	comp=N,301nm,0.5s						
ROCH	**El Roble**	**2.86**	**230**	eP	Pn	23 34 57.4	-0.9
ROCH				eS	Sn	23 35 31.5	-0.7
CLCH	**Cerro Calan**	**2.87**	**219**	AML	AML	23 35 35.1	
	comp=E,141nm,0.2s						
LMEL	**Las Melosas**	**3.07**	**209**	AML	AML	23 35 49.6	
	comp=N,68nm,0.1s						
CHCH	**Chadas Angostu**	**3.35**	**214**	iP	Pn	23 35 05.2	+0.5
CHCH				iS	Sn	23 35 44.3	+0.6

IDC 21 23:50:37.8±3.8, 66°.22N×175°.82W, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.3/42, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=104.4km s-min=31.1km az=7.0, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**12.04**	**84**	Pn	Pn	23 53 24.2	-6.2
	0.1nm,0.3s,baz=290,slow=14,SNR=5.3						
ZALV	**Zalesovo Beam**	**45.71**	**305**	P	P	23 59 00.2	+0.3
	0.4nm,0.6s,baz=54,slow=7.3,SNR=3.6						
FINES	**FINESS Array B**	**51.62**	**347**	P	P	23 59 46.8	+1.6
	1.9nm,1.0s,baz=19,slow=8.8,SNR=3.3						
MKAR	**Makanchi Array**	**52.64**	**302**	P	P	23 59 53.1	0.0
	0.3nm,0.7s,baz=41,slow=6.4,SNR=3.8						
AKASG	**Malin Array Be**	**61.84**	**342**	P	P	00 00 56.6	-1.4
	0.1nm,0.3s,baz=14,slow=6.5,SNR=2.5						

IDC 21 23:53:01.0±11.0, 17°.70S×178°.64W, h532km±117km, mb2.9/4, mb1 3.1/4, mb1mx2.8/32, mbtmp3.8/4, Error ellipse: s-maj=123.5km s-min=47.7km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.54**	**241**	P	P	23 59 38.1	+0.1
	0.7nm,0.5s,baz=107,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**44.45**	**259**	P	P	00 00 24.6	-0.5
	0.3nm,0.6s,baz=96,slow=7.0,SNR=12						
WRA				PcP	PcP	00 01 56.5	-0.8
	0.2nm,0.7s,baz=91,slow=3.8,SNR=3.3						
ASAR	**Alice Springs**	**44.64**	**254**	P	P	00 00 26.4	0.0
	3.0nm,0.5s,baz=89,slow=8.2,SNR=61						
ILAR	**Eielson Array**	**85.73**	**13**	P	P	00 04 42.6	-0.7
	0.2nm,0.4s,baz=220,slow=4.9,SNR=4.9						
GERES	**GERESS Array B**	**147.35**	**345**	PKPbc	PKPbc	00 11 45.2	+0.2
	0.4nm,0.5s,baz=38,slow=2.4,SNR=5.3						

IDC 21 23:56:31.7±2.5, 13°.55N×88°.96W, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.3/36, mbtmp3.3/5, ML2.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.1/18, Error ellipse: s-maj=71.5km s-min=16.4km az=39.0
CASC 21 23:56:38.8±1.1, 13°.14N×89°.54W, h38km±58km, MD3.7, ML3.6
ISC 21 23:56:33.7±1.8, 12°.9N±0°.1×89°.62W±0°.09, h54km±17km, n22, σ1s75/27, 5C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.90**	**25**	eP	Pn	23 56 51.3	+0.9
SNET				AML	AML	23 57 06.5	
	comp=Z,2μm,0.2s						
BOQS	**Boquerон**	**0.93**	**21**⇓	eP	Pn	23 56 52.0	+1.1
BOQS				eS	Sn	23 57 01.6	-1.8
LFRS	**El Faro**	**0.93**	**35**⇑	eP	Pn	23 56 52.0	+1.2
SBLS	**San Blas**	**0.97**	**360**⇑	eP	Pn	23 56 52.7	+1.2
SBLS				eS	Sn	23 57 03.2	-1.3
SNJE	**San Jose**	**1.00**	**1**⇑	eP	Pn	23 56 53.0	+1.2
SNJE				eS	Sn	23 57 03.7	-1.4
LFU	**La Fuente**	**1.01**	**29**⇓	eP	Pn	23 56 53.3	+1.5
LFU				eS	Sn	23 57 03.9	-1.2
RTR	**El Retiro**	**1.03**	**358**	eP	Pn	23 56 53.5	+1.4
LBRS	**Las Brisas**	**1.04**	**33**⇑	eP	Pn	23 56 53.6	+1.4
LBRS				eS	Sn	23 57 04.5	-1.2
SNVI	**San Vicente**	**1.06**	**45**	eP	Pn	23 56 53.9	+1.3
RBDL	**Robledal**	**1.25**	**357**⇑	eP	Pn	23 56 56.7	+1.6
VSM	**San Miguel**	**1.42**	**67**	eP	Pn	23 56 60.0	+2.4
IXG	**Ixpaco**	**1.54**	**328**	eP	Pn	23 57 00.9	+1.8
CAHU	**Cacacuatique**	**1.64**	**56**	eP	Pn	23 57 02.1	+1.7
NBG	**Las Nubes**	**1.86**	**338**	eP	Pn	23 57 06.4	+3.0
MRL	**Marmol**	**2.19**	**358**	eP	Pn	23 57 10.0	+2.0
MRL				eP	Pn	23 57 10.8	+2.8
APG	**El Apazote**	**2.28**	**339**	Pn	Pn	23 57 07.5	-1.7
	comp=Z,2.0nm,0.3s,baz=203,slow=4.2,SNR=19						
APG				Lg	Lg	23 57 36.3	
	comp=Z,5.3nm,0.3s,baz=45,slow=13,SNR=4.8						
JTS	**JuntasAbangare**	**5.24**	**119**	Pn	Pn	23 57 49.6	0.0
	comp=Z,0.2nm,0.3s,baz=345,slow=20,SNR=2.0						
JTS				Sn	Sn	23 58 47.4	-1.3
	comp=Z,0.5nm,0.3s,baz=300,slow=20,SNR=2.0						
TEIG	**Tepich**	**7.44**	**10**	Pn	Pn	23 58 21.6	+2.0
	comp=Z,1.7nm,0.3s,baz=180,slow=0.2,SNR=9.1						
TXAR	**Lajitas Array**	**20.95**	**324**	P	Pn	00 01 16.5	+0.9
	comp=Z,0.2nm,0.4s,baz=140,slow=11,SNR=4.3						
LPIG	**La Paz**	**22.55**	**303**	LR	LR	00 09 40.1	
	comp=Z,39nm,21.3s,baz=56,slow=35						
SCHQ	**Schefferville**	**45.52**	**18**	P	P	00 04 46.4	-1.5
	comp=Z,2.0nm,0.8s,baz=256,slow=4.2,SNR=3.5						
YKA	**Yellowknife Ar**	**52.68**	**346**	P	P	00 05 43.1	+0.7
	comp=Z,0.1nm,0.4s,baz=143,slow=7.5,SNR=5.3						

WEL 22 00:34:10.7±0.4, 36°.39S×177°.10E, h175km±9km, ML3.5/4, 1C-1D, Error ellipse: s-maj=9.5km s-min=8.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.47**	**158**	PN	Pn	00 34 42.2	+0.4
HAZ				SN	Sn	00 35 06.4	+0.2
MXZ	**Matakaoa Point**	**1.52**	**141**	PN	Pn	00 34 42.2	-0.1
MXZ				SN	Sn	00 35 07.6	+0.6
URZ	**Urewera**	**1.87**	**180**	PN	Pn	00 34 46.5	+0.5
URZ				SN	Sn	00 35 13.5	+0.1
TWGZ	**Tauwhareparae**	**1.92**	**159** ⇑	PN	Pn	00 34 46.8	+0.2
TWGZ				SN	Sn	00 35 13.5	-1.0
MWZ	**Matawai**	**1.98**	**170** ⇓	PN	Pn	00 34 47.2	+0.1
MWZ				SN	Sn	00 35 14.5	-1.1
CNGZ	**Carnagh Statio**	**2.27**	**157**	PN	Pn	00 34 49.9	-0.5
RIGZ	**Rimuhau**	**2.37**	**167**	PN	Pn	00 34 50.9	-0.8
SNGZ	**Shannon Statio**	**2.40**	**175**	PN	Pn	00 34 51.3	-0.6
MCHZ	**McNeill Hill**	**3.07**	**186**	PN	Pn	00 34 59.3	-0.6
CKHZ	**Cape Kidnapper**	**3.27**	**180**	PN	Pn	00 34 59.5	-2.8
KAHZ	**Kahuranaki**	**3.41**	**183**	PN	Pn	00 35 02.6	-1.6
PXZ	**Pawanui**	**3.64**	**183**	PN	Pn	00 35 04.7	-2.3
PXZ				SN	Sn	00 35 45.5	-5.7
BFZ	**Birch Farm**	**4.34**	**189**	PN	Pn	00 35 12.6	-3.4
BFZ				SN	Sn	00 36 01.1	-6.0

IDC 22 00:45:32.9±11.0, 21°.66S×178°.10W, h606km±142km, mb2.7/4, mb1 3.0/5, mb1mx2.9/19, mbtmp3.9/5, Error ellipse: s-maj=94.9km s-min=31.6km az=15.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.05**	**193**	P	P	00 48 59.0	-0.4
	1.1nm,0.3s,baz=326,slow=7.3,SNR=5.7						
STKA	**Stephens Creek**	**37.21**	**246**	P	P	00 51 55.5	+1.0
	1.0nm,0.6s,baz=107,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**44.17**	**258**	P	P	00 52 50.0	+0.2
	1.6nm,0.9s,baz=91,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**44.36**	**263**	P	P	00 52 50.5	-0.8
	2.0nm,0.8s,baz=96,slow=7.6,SNR=26						
TXAR	**Lajitas Array**	**87.76**	**57**	P	P	00 57 19.1	+0.2
	0.1nm,0.5s,baz=267,slow=3.6,SNR=2.3						
AKASG	**Malin Array Be**	**143.98**	**330**	PKP	PKPbc	01 03 58.6	-1.1

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	1.1nm,0.5s,baz=40,slow=4.2,SNR=11						
GERES	**GERESS Array B**	**151.29**	**344**	PKPbc	PKPbc	01 04 19.4	+0.5
	0.4nm,0.6s,baz=19,slow=4.5,SNR=3.6						

IDC 22 00:48:16.3±1.3, 28.73S×177.79W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=34.5km s-min=15.9km az=88.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.53**	**192**	Pn	Pn	00 48 32.1	+0.9
	703nm,0.3s,baz=89,slow=7.8,SNR=48						
RAO				Sn	Sn	00 48 40.5	-0.4
	1μm,0.3s,baz=232,slow=19,SNR=35						
CTA	**Charters Tower**	**33.75**	**277**	P	P	00 55 03.9	+4.1
	1.6nm,0.4s,baz=126,slow=8.7,SNR=4.1						
STKA	**Stephens Creek**	**35.06**	**255**	P	P	00 55 09.8	-1.3
	1.3nm,0.6s,baz=85,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**43.41**	**265**	P	P	00 56 21.2	+0.2
	0.3nm,0.5s,baz=104,slow=7.6,SNR=7.5						
WRA	**Warramunga Arr**	**44.24**	**270**	P	P	00 56 27.9	+0.1
	0.9nm,0.6s,baz=110,slow=7.7,SNR=4.9						
QSPA	**South Pole Qui**	**61.37**	**180**	P	P	00 58 33.7	-0.2
	1.9nm,0.6s,baz=30,slow=8.1,SNR=15						
FINES	**FINESS Array B**	**143.64**	**341**	PKP	PKPbc	01 07 50.5	+0.6
	0.7nm,0.4s,baz=62,slow=3.3,SNR=13						
NOA	**NORSAR Array B**	**147.13**	**352**	PKPbc	PKPbc	01 08 00.8	0.0
	0.5nm,0.6s,baz=16,slow=4.9,SNR=3.4						
AKASG	**Malin Array Be**	**150.07**	**325**	PKPbc	PKPbc	01 08 08.5	-0.1
	0.6nm,0.3s,baz=45,slow=2.9,SNR=7.1						
TORD	**Torodi Ar. Bea**	**164.49**	**178**	PKPab	PKPab	01 09 15.3	-1.8
	0.6nm,1.0s,baz=164,slow=4.5,SNR=4.1						

IDC 22 00:58:42.6±0.9, 3.63S×126.85E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.2/23, mbtmp4.2/10, ML3.9/1, Error ellipse: s-maj=44.0km s-min=16.1km az=69.0
BJI 22 00:58:44.3, 3.50S×127.00E, h12km, mB4.8/4, mb4.2/7, Ms4.4/1, Ms7 4.1/1
ISCJB 22 00:58:46.3±0.3, 3.61S±0.03×126.93E±0.03, h33km, mb4.2/12, Error ellipse: s-maj=5.2km s-min=4.4km az=138.7
NEIC 22 00:58:48.5±0.8, 3.57S×126.93E, h41km±10km, mb4.3/3, Error ellipse: s-maj=10.6km s-min=7.5km az=60.0
DJA 22 00:58:48.0±0.5, 3°S±3°×12°7E±°, h10km±3km, M4.6/9, mb4.8/8, mB5.3/6, MLv4.5/9, Mw(mB)4.7/6
ISC 22 00:58:48.3±0.6, 3.60S±0.06×126.95E±0.06, h35km, n52, σ1.76/47, mb4.2/12, Buru

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.39**	**24**	P	Pn	00 58 52.3	-5.0
NLAI				S	**Sn**	**00 58 56.6**	**-5.0**
SANI	**Sanana**	**1.81**	**328**	P	Pn	00 59 13.5	-3.5
MSAI	**Masohi**	**2.00**	**83**	P	Pn	00 59 18.8	-0.7
LBMI	**Labuha**	**2.99**	**11**	P	**Pn**	**00 59 33.7**	**+0.5**
LBMI				S	**Sn**	**01 00 10.9**	**+3.0**
BNDI	**Bandanaira**	**3.09**	**107**	P	Pn	00 59 45.4	+11
TNTI	**Ternate**	**4.36**	**6**	ePn	**Pn**	**00 59 52.1**	**+0.1**
BBSI	**Bau Bau**	**4.75**	**247**	P	Pn	01 00 16.9	+19
LUWI	**Luwuk**	**4.88**	**301**	P	**Pn**	**00 59 58.6**	**-0.6**
LUWI	**Luwuk**	**4.88**	**301**	ePn	**Pn**	**00 59 57.2**	**-2.0**
LUWI	**Luwuk**	**4.88**	**301**	P	**Pn**	**00 59 58.6**	**-0.6**
	baz=4.8,SNR=3.8						
KMSI	**Cibinong**	**5.09**	**324**	P	**Pn**	**01 00 03.6**	**+1.5**
SWI	**Sorong**	**5.09**	**58**	P	**Pn**	**01 00 03.2**	**+1.0**
	537nm,0.7s,5μm1.6nm						
SWI				S	**Sn**	**01 01 02.9**	**+3.1**
	537nm,0.7s,5μm1.6nm						
SWI	**Sorong**	**5.09**	**58**	P	**Pn**	**01 00 03.3**	**+1.2**
	baz=5.1,SNR=23						
SWI				S	**Sn**	**01 01 02.1**	**+2.3**
	baz=5.1,SNR=6.7						
FAKI	**Fak Fak**	**5.34**	**83**	P	Pn	01 00 10.3	+4.8
	66nm,0.8s,1.1nm						
FAKI	**Fak Fak**	**5.34**	**83**	ePn	**Pn**	**01 00 05.9**	**+0.3**
	51nm,0.7s						
FAKI	**Fak Fak**	**5.34**	**83**	P	**Pn**	**01 00 08.7**	**+3.1**
	baz=5.4,SNR=7.0						
APSI	**Ampana**	**5.93**	**297**	P	**Pn**	**01 00 15.5**	**+1.9**
	162nm,0.9s,2μm						
MRSI	**Marisa**	**6.43**	**309**	P	**Pn**	**01 00 19.7**	**-0.9**
	188nm,1.0s,2μm						
MRSI				S	**Sn**	**01 01 33.2**	**+0.4**
	188nm,1.0s,2μm						
SOEI	**Soe**	**6.67**	**203**	P	Pn	01 00 38.8	+15
BNSI	**Bone**	**6.87**	**263**	P	Pn	01 00 40.8	+14
BKSI	**Bulukumba**	**7.01**	**256**	P	**Pn**	**01 00 31.1**	**+2.5**
	52nm,1.0s,648nm						
TTSI	**Tana Toraja**	**7.13**	**274**	P	Pn	01 00 34.6	+4.4
	24nm,1.2s,4μm						
SPSI	**Sidrap Palu**	**7.17**	**267**	P	**Pn**	**01 00 33.7**	**+3.0**
	32nm,1.1s,2μm						
KAPI	**Kappang**	**7.31**	**259**	ePn	**Pn**	**01 00 32.8**	**+0.2**
	93nm,0.6s						
BATI	**Baumata**	**7.33**	**206**	Pn	**Pn**	**01 00 35.5**	**+2.5**
	1.9nm,0.3s,baz=355,slow=1.1,SNR=3.9						
MPSI	**Mapaga**	**8.05**	**299**	P	**Pn**	**01 00 45.5**	**+2.7**
KDU	**Kakadu**	**10.56**	**149**	P	Pn	01 01 20.4	+3.3
	baz=11,SNR=3.6						
KNRA	**Kununurra**	**12.14**	**172**	P	**Pn**	**01 01 36.4**	**-2.4**
	baz=12,SNR=4.1						
WRAB	**Tennant Creek**	**17.77**	**157**	ePn	**Pn**	**01 02 52.8**	**-0.2**
	20nm,0.9s						
WRA	**Warramunga Arr**	**17.78**	**157**	P	**Pn**	**01 02 49.9**	**-3.2**
	0.4nm,0.3s,baz=339,slow=12,SNR=18						
COEN	**Coen**	**19.04**	**124**	eP	**P**	**01 03 07.0**	**-0.6**
	221nm,0.9s						
COEN	**Coen**	**19.04**	**124**	P	**P**	**01 03 07.1**	**-0.6**
	baz=19,SNR=5.5						
QIS	**Mount Isa**	**20.89**	**145**	P	**P**	**01 03 27.8**	**+0.2**
	baz=21,SNR=11						
AS31	**Alice Springs**	**21.05**	**162**	eP	**P**	**01 03 29.2**	**-0.3**
ASAR	**Alice Springs**	**21.06**	**162**	P	**P**	**01 03 29.8**	**+0.3**
	53nm,0.9s,baz=342,slow=10.0,SNR=160						
WRKA	**Warakurna**	**21.36**	**177**	P	**P**	**01 03 32.9**	**+0.2**
	baz=22,SNR=11						
MEEK	**Meekatharra**	**24.26**	**198**	P	**P**	**01 04 00.6**	**-1.7**
	baz=24,SNR=11						
CTA	**Charters Tower**	**24.96**	**133**	P	**P**	**01 04 09.2**	**+0.5**
	5.7nm,0.9s,baz=306,slow=11,SNR=3.6						
BBOO	**Buckleboo**	**30.29**	**165**	P	**P**	**01 04 55.3**	**-1.0**
	baz=30,SNR=6.1						
STKA	**Stephens Creek**	**31.32**	**156**	P	**P**	**01 05 04.5**	**-0.9**
	4.0nm,0.9s,baz=341,slow=7.3,SNR=5.7						
HTT	**Hallett**	**31.72**	**161**	P	**P**	**01 05 10.3**	**+1.3**
	baz=32,SNR=3.4						
CMAR	**Chiang Mai Arr**	**35.23**	**309**	P	**P**	**01 05 39.6**	**0.0**
	0.8nm,0.4s,baz=139,slow=8.1,SNR=8.2						
CHTO	**Chiang Mai**	**35.44**	**310**	eP	**P**	**01 05 40.6**	**-0.8**
	3.0nm,0.8s						
KSAR	**Wonju Array Be**	**40.84**	**1**	P	**P**	**01 06 27.3**	**+0.7**
KSRS	**Korea Array**	**40.85**	**1**	P	**P**	**01 06 27.3**	**+0.6**
	1.1nm,0.4s,baz=185,slow=9.1,SNR=5.0						
USRK	**Ussuriysk Arra**	**47.80**	**5**	P	**P**	**01 07 21.8**	**-0.4**
	2.2nm,0.8s,baz=162,slow=7.5,SNR=4.0						
GTA	**Gaotai**	**49.55**	**332**	eP	P	01 07 39.8	+3.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.8s						
ULN	**Ulaanbaatar**	**54.13**	**344**	eP	**P**	**01 08 09.6**	**-0.4**
	5.7nm,1.1s						
SONM	**Songino Array**	**54.30**	**343**	P	**P**	**01 08 10.2**	**-1.0**
	1.5nm,1.0s,baz=161,slow=6.1,SNR=9.2						
SEY	**Seymchan**	**69.09**	**12**	P	**P**	**01 09 49.5**	**-1.0**
	0.8nm,0.3s,baz=242,slow=15,SNR=2.9						
ILAR	**Eielson Array**	**91.59**	**25**	P	**P**	**01 11 52.8**	**+1.5**
	0.3nm,0.9s,baz=261,slow=5.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**125.11**	**283**	PKP	**PKPdf**	**01 17 43.9**	**-2.2**
	0.9nm,1.0s,baz=11,slow=2.9,SNR=2.4						

IDC 22 01:01:32.0±1.2, 5.43S×133.84E, h0km, mb4.1/2, mb1 4.2/6, mb1mx3.9/19, mbtmp4.2/6, ML4.0/3, MS3.5/2, Ms1 3.5/2, ms1mx2.8/30, Error ellipse: s-maj=45.3km s-min=20.2km az=75.0
ISCJB 22 01:01:34.2±0.7, 5.47S±0.05×133.83E±0.09, h33km, mb4.0/2, MS3.4/1, Error ellipse: s-maj=13.7km s-min=6.3km az=161.0
ISC 22 01:01:36.5±0.8, 5.47S±0.07×133.66E±0.09, h35km, n22, σ2.14/22, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.90**	**331**	P	**Pn**	**01 02 21.3**	**+1.0**
	baz=2.7,SNR=4.2						
FAKI				S	**Sn**	**01 02 53.6**	**-0.4**
	baz=2.7,SNR=7.4						
SWI	**Sorong**	**5.17**	**332**	P	**Pn**	**01 02 53.0**	**+1.6**
	baz=5.0,SNR=5.2						
SWI				S	**Sn**	**01 03 46.4**	**-3.5**
	baz=5.0,SNR=15						
KDU	**Kakadu**	**7.26**	**189**	P	**Pn**	**01 03 22.1**	**+1.9**
	baz=7.3,SNR=35						
KDU	**Kakadu**	**7.26**	**189**	S	**Pn**	**01 03 21.7**	**+1.5**
	baz=11,SNR=35						
MTN	**Manton Dam**	**7.74**	**199**	P	**Pn**	**01 03 29.3**	**+2.6**
	baz=7.7,SNR=13						
SOEI	**Soe**	**10.24**	**245**	P	**Pn**	**01 04 03.6**	**+2.5**
	baz=9.9,SNR=3.3						
BATI	**Baumata**	**10.96**	**244**	Pn	**Pn**	**01 04 12.9**	**+1.9**
	3.5nm,0.3s,baz=90,slow=5.1,SNR=3.7						
BATI				Sn	**Sn**	**01 06 10.5**	**-2.0**
	2.4nm,0.3s,baz=282,slow=20,SNR=2.6						
KNRA	**Kununurra**	**11.22**	**205**	P	**Pn**	**01 04 16.3**	**+1.8**
	baz=11,SNR=8.0						
KNRA	**Kununurra**	**11.22**	**205**	S	**Pn**	**01 04 15.5**	**+1.0**
	baz=12,SNR=18						
COEN	**Coen**	**12.60**	**133**	P	**Pn**	**01 04 30.9**	**-2.5**
	baz=13,SNR=7.7						
PMG	**Port Moresby**	**13.94**	**107**	LR	LR	01 11 46.2	
	comp=Z,196nm,18.8s,baz=258,slow=45						
WRA	**Warramunga Arr**	**14.40**	**177**	Pn	**Pn**	**01 04 56.2**	**-1.7**
	0.4nm,0.3s,baz=355,slow=14,SNR=7.1						
WRA				Sn	Sn	01 07 30.3	-6.1
	0.4nm,0.3s,baz=0.2,slow=23,SNR=3.3						
WRA				Lg	Lg	01 09 11.8	
	0.4nm,0.3s,baz=2.0,slow=22,SNR=7.5						
QIS	**Mount Isa**	**16.07**	**159**	P	**P**	**01 05 24.7**	**+1.8**
	baz=16,SNR=3.8						
ASAR	**Alice Springs**	**18.09**	**179**	P	**Pn**	**01 05 44.8**	**-0.3**
	0.6nm,0.3s,baz=4.2,slow=10,SNR=9.7						
ASAR				Lg	Lg	01 11 08.8	
	baz=7.3,slow=30,SNR=3.3						
CTA	**Charters Tower**	**19.00**	**141**	P	**P**	**01 05 55.0**	**-0.3**
	baz=303,slow=17,SNR=1.9						
CTA				Lg	Lg	01 11 26.0	
	0.3nm,0.3s,baz=253,slow=17,SNR=2.8						
WRKA	**Warakurna**	**20.12**	**194**	P	Pn	01 06 11.8	+2.2
	baz=20,SNR=4.0						
PMBI	**Palembang**	**28.92**	**274**	S	**S**	**01 12 16.4**	**-4.8**
	baz=28,SNR=4.4						
NWAO	**Narrogin (SRO)**	**31.32**	**207**	LR	LR	01 22 33.3	
	comp=Z,75nm,19.6s,baz=36,slow=40						
MKAR	**Makanchi Array**	**69.02**	**325**	P	**P**	**01 12 40.5**	**+2.0**
	2.4nm,0.7s,baz=113,slow=8.3,SNR=13						
ZALV	**Zalesovo Beam**	**71.89**	**332**	P	**P**	**01 12 56.1**	**+0.2**
	0.9nm,0.7s,baz=123,slow=5.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**132.06**	**283**	PKP	**PKPdf**	**01 20 48.3**	**+0.8**
	0.2nm,0.7s,baz=113,slow=3.3,SNR=2.7						
LPAZ	**La Paz**	**149.46**	**135**	PKPbc	**PKPbc**	**01 21 24.5**	**+0.7**
	1.4nm,0.9s,baz=292,slow=1.5,SNR=3.9						

NEIC 22 01:03:31.9±0.3, 30.14N×70.06E, h10km, mb4.5/9, Error ellipse: s-maj=7.8km s-min=4.8km az=201.0
IDC 22 01:03:31.1±0.5, 30.21N×69.95E, h0km, mb4.1/26, mb1 4.3/28, mb1mx4.2/36, mbtmp4.2/28, ML4.2/2, MS3.7/19, Ms1 3.7/19, ms1mx3.5/44, Error ellipse: s-maj=14.0km s-min=12.9km az=5.0
MOS 22 01:03:36.2±1.6, 30.38N×69.95E, h40km, mb4.4/32, Error ellipse: s-maj=8.6km s-min=4.6km az=91.6
BJI 22 01:03:36.6, 30.58N×69.92E, h25km, mB4.7/25, mb4.4/35, Ms4.2/25, Ms7 3.9/23
TEH 22 01:03:37.0, 30.37N×69.78E, h36km, ML4.5
ISC 22 01:03:33.8±0.8, 30.19N±0.04×69.92E±0.03, h16km±4km, n224, σ1.91/229, mb4.3/56, MS3.8/28, 8C-7D, Pakistan

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SARP	**Sargodha**	**2.92**	**53**	P	**Pn**	**01 04 22.3**	**+2.7**
CEP	**Cherat**	**4.00**	**24**	⇑P	**Pn**	**01 04 35.7**	**+1.2**
CEP				S	**Sn**	**01 05 24.0**	**+3.0**
KBL	**Kabul**	**4.40**	**350**	eP	**Pn**	**01 04 41.8**	**+1.7**
KBL				e		01 05 34.4	
KBL	**Kabul**	**4.40**	**350**	ePn	**Pn**	**01 04 41.8**	**+1.7**
KBL				eSn	**Sn**	**01 05 34.4**	**+3.3**
CHCP	**Chirah Chowk**	**4.47**	**39**	P	**Pn**	**01 04 41.9**	**+0.9**
KHET	**Khetri**	**5.56**	**111**	eP	**Pn**	**01 04 54.7**	**-1.2**
KHET				eS	**Sn**	**01 05 58.6**	**-0.9**
KHET				AML	AML	01 06 37.5	
	comp=E,516nm,0.6s						
KHET				AML	AML	01 06 38.6	
	comp=N,440nm,0.8s						
AJM	**Ajmer**	**5.56**	**130**	ex	**Pn**	**01 04 56.0**	**0.0**
AJM				ex	**Sg**	**01 06 30.0**	**-2.5**
DLH	**Dalhousie**	**5.67**	**64**	eP	**Pn**	**01 05 00.0**	**+2.4**
DLH				eS	**Sn**	**01 06 05.0**	**+2.4**
BHK	**Bhakra**	**5.72**	**76**	eP	**Pn**	**01 05 00.4**	**+2.3**
BHK				ex	**Sb**	**01 06 23.2**	**+1.7**
DHRM	**DHARAMSHALA**	**5.83**	**68**	eP	**Pn**	**01 05 01.0**	**+1.1**
DHRM				ex	x	01 06 12.1	
DHRM				AML	AML	01 06 51.9	
	comp=N,892nm,0.2s						
DHRM				AML	AML	01 06 55.1	
	comp=E,1μm,0.7s						
KUDL	**Kundal**	**6.09**	**108**	eP	**Pn**	**01 05 02.4**	**-0.8**
KUDL				eS	**Sn**	**01 06 09.0**	**-3.5**
SDNR	**Sundarnagar**	**6.20**	**76**	eP	**Pn**	**01 05 05.0**	**+0.3**
SDNR				ex	**Sg**	**01 06 52.0**	**-0.8**
SMLA	**Simla**	**6.31**	**80**	eP	**Pn**	**01 05 05.9**	**-0.2**
SMLA				eS	**Sn**	**01 06 18.9**	**+1.1**
SMLA				AML	AML	01 07 06.7	
	comp=E,578nm,0.8s						
SMLA				AML	AML	01 07 12.9	
	comp=N,842nm,0.8s						
NDI	**New Delhi**	**6.54**	**101**	eP	**Pn**	**01 05 10.0**	**+0.7**
NDI				ex	x	01 06 52.0	
BHJ	**Bhuj**	**6.91**	**182**	eP	Pn	01 05 09.0	-5.5
BHJ				eS	Sn	01 06 21.6	-11
AGRA	**Agra**	**7.63**	**111**	eP	**Pn**	**01 05 23.9**	**-0.4**
LGTI	**Lohaghat**	**9.00**	**92**	ex	Pn	01 05 48.6	+5.5
BHPL	**Bhopal**	**9.63**	**134**	eP	Pn	01 05 48.6	-3.3
BHPL				ex	**Sn**	**01 07 42.0**	**+2.2**
KSH	**Kashi**	**10.54**	**26**	Pn	Pn	01 06 00.4	-3.9
KSH				Sn	Sn	01 07 41.1	-21
KSH				smax	smax		
	comp=N,73nm,0.7s						
KSH				smax	smax		
	comp=E,96nm,0.9s						
KSH	**Kashi**	**10.54**	**26**	eP	Pn	01 05 59.9	-4.4
KSH				epP		01 06 08.3	
KSH				ePP	**PnPn**	**01 06 09.4**	**-2.8**
KSH				esP		01 06 11.8	
KSH				S	Sn	01 07 50.1	-12
KSH				SS	SnSn	01 08 02.8	-12
KSH				pmax	pmax		
	comp=E,8.0nm,0.5s						
KSH				LR	LR		
	comp=E,760nm,5.9s						
KSH				LR	LR		
	comp=E,410nm,7.0s						
PYUN	**Piuthan**	**11.61**	**97**	eP	**Pn**	**01 06 16.3**	**-2.8**
PYUN	**Piuthan**	**11.61**	**97**	eP	**Pn**	**01 06 16.3**	**-2.8**
NGP	**Nagpur**	**12.19**	**135**	⇓eP	**Pn**	**01 06 25.4**	**-1.5**
NGP				ex	x	01 09 19.8	
KOLN	**Koldanda**	**12.21**	**98**	eP	**Pn**	**01 06 24.6**	**-2.7**
	comp=E,79nm,0.8s						
KOLN	**Koldanda**	**12.21**	**98**	eP	**Pn**	**01 06 24.6**	**-2.7**
	comp=E,79nm,0.8s						
DANN	**Dangsing**	**12.22**	**95**	eP	**Pn**	**01 06 24.7**	**-2.8**
	comp=E,103nm,0.6s						
DANN	**Dangsing**	**12.22**	**95**	eP	**Pn**	**01 06 24.7**	**-2.8**
	comp=E,103nm,0.6s						
AML	**Almayashu**	**12.30**	**13**	P	**Pn**	**01 06 26.9**	**-1.7**
	SNR=69						
AML	**Almayashu**	**12.30**	**13**	*i* P	**Pn**	**01 06 26.8**	**-1.7**
UCH	**Uchtor**	**12.57**	**16**	P	**Pn**	**01 06 30.7**	**-1.6**
	SNR=33						
UCH	**Uchtor**	**12.57**	**16**	*i* P	**Pn**	**01 06 30.7**	**-1.6**
KZA	**Kyzart**	**12.62**	**18**	P	**Pn**	**01 06 33.6**	**+0.7**
	SNR=16						
KZA	**Kyzart**	**12.62**	**18**	*i* P	**Pn**	**01 06 33.6**	**+0.7**
EKS2	**Erkin-Say**	**12.82**	**13**	P	**Pn**	**01 06 36.4**	**+0.8**
	SNR=11						
EKS2	**Erkin-Say**	**12.82**	**13**	*i* P	**Pn**	**01 06 36.3**	**+0.8**
EKS2	**Erkin-Say**	**12.82**	**13**	ePn	**Pn**	**01 06 36.1**	**+0.6**
EKS2				eSn	**Sn**	**01 08 54.1**	**-3.8**
KKAR	**Karatay Array**	**12.90**	**2**	ePn	**Pn**	**01 06 34.3**	**-2.1**
KKAR				e		01 08 53.8	
KKAR	**Karatay Array**	**12.90**	**2**	ePn	**Pn**	**01 06 34.3**	**-2.1**
KKAR				eSn	Sn	01 08 53.8	-5.8
AAK	**Ala-Archa**	**12.95**	**15**	P	**Pn**	**01 06 35.9**	**-1.4**
	SNR=22						
AAK	**Ala-Archa**	**12.95**	**15**	*i* P	**Pn**	**01 06 35.9**	**-1.4**
AAK	**Ala-Archa**	**12.95**	**15**	Pn	**Pn**	**01 06 36.3**	**-0.9**
	comp=E,3.0nm,0.3s,baz=181,slow=6.8,SNR=28						
AAK				Sn	**Sn**	**01 08 57.3**	**-3.7**
	comp=E,0.5nm,0.3s,baz=311,slow=20,SNR=3.6						
AAK				LR	LR	01 12 33.0	
	comp=E,399nm,21.5s,baz=185,slow=42						
AAK	**Ala-Archa**	**12.95**	**15**	ePn	**Pn**	**01 06 35.7**	**-1.6**
AAK				eSn	**Sn**	**01 08 56.6**	**-4.4**
GKN	**Gorkha**	**13.05**	**96**	eP	Pn	01 06 35.0	-3.7
	comp=E,49nm,0.6s						
GKN	**Gorkha**	**13.05**	**96**	eP	Pn	01 06 35.0	-3.7
	comp=E,49nm,0.6s						
ULHL	**Ulahol**	**13.06**	**21**	P	**Pn**	**01 06 40.5**	**+1.6**
	SNR=11						
ULHL	**Ulahol**	**13.06**	**21**	*i* P	**Pn**	**01 06 40.4**	**+1.6**
KBK	**Karagaybulak**	**13.08**	**17**	P	**Pn**	**01 06 39.5**	**+0.5**
	SNR=10						
FRU	**Bishkek**	**13.17**	**15**	eP	P	01 06 55.0	+4.9
FRU				eS	**Sn**	**01 09 01.0**	**-5.2**
FRU				smax	smax		
	comp=N,57nm,1.8s						
CHMS	**Chumysh**	**13.35**	**16**	P	**Pn**	**01 06 40.8**	**-1.9**
	SNR=11						
CHMS	**Chumysh**	**13.35**	**16**	*i* P	**Pn**	**01 06 40.7**	**-1.9**
TKM2	**Tokmak 2**	**13.49**	**18**	P	**Pn**	**01 06 43.0**	**-1.6**
	SNR=20						
TKM2	**Tokmak 2**	**13.49**	**18**	eP	**Pn**	**01 06 43.1**	**-1.6**
TKM2	**Tokmak 2**	**13.49**	**18**	ePn	**Pn**	**01 06 43.1**	**-1.6**
DMN	**Daman**	**13.55**	**97**	eP	Pn	01 06 42.5	-3.1
DMN	**Daman**	**13.55**	**97**	eP	Pn	01 06 42.5	-3.1
KKN	**Kakani**	**13.65**	**96**	eP	Pn	01 06 43.0	-4.0
	comp=N,47nm,0.6s						
KKN	**Kakani**	**13.65**	**96**	eP	Pn	01 06 43.0	-4.0
KKN				pmax	pmax		
	comp=Z,47nm,0.6s						
KKN	**Kakani**	**13.65**	**96**	eP	Pn	01 06 43.0	-4.0
	comp=Z,47nm,0.6s						
PKIN	**Phulchoki**	**13.81**	**97**	eP	**Pn**	**01 06 46.3**	**-2.8**
	comp=Z,48nm,0.6s						
PKI	**Pulchoki**	**13.82**	**97**	eP	**Pn**	**01 06 46.6**	**-2.7**
	comp=Z,42nm,0.6s						
PKI	**Pulchoki**	**13.82**	**97**	eP	**Pn**	**01 06 46.6**	**-2.7**
PKI				pmax	pmax		
	comp=Z,43nm,0.6s						
PKI	**Pulchoki**	**13.82**	**97**	eP	**Pn**	**01 06 46.6**	**-2.7**
	comp=Z,42nm,0.6s						
ISAD	**Sadrabad**	**14.03**	**281**	eP	**P**	**01 06 58.8**	**-1.2**
GUN	**Gumba**	**14.14**	**95**	eP	Pn	01 06 49.4	-4.4
	comp=Z,319nm,0.7s						
GUN	**Gumba**	**14.14**	**95**	eP	Pn	01 06 49.4	-4.4
	comp=Z,319nm,0.7s						
JIRN	**Jiri**	**14.47**	**96**	eP	Pn	01 06 54.0	-4.3
	comp=Z,79nm,0.6s						
JIRN	**Jiri**	**14.47**	**96**	eP	Pn	01 06 54.0	-4.3
	comp=Z,79nm,0.6s						
HYB	**Hyderabad**	**14.96**	**146**	eP	**P**	**01 07 11.0**	**+0.8**
HYB	**Hyderabad**	**14.96**	**146**	*i* P	**P**	**01 07 11.0**	**+0.8**
HYB				eS	**Sn**	**01 09 53.5**	**+3.4**
HYB	**Hyderabad**	**14.96**	**146**	eP	**P**	**01 07 11.0**	**+0.8**
HYB				eS	S	01 10 22.0	+14
RAMN	**Ramite**	**15.00**	**98**	eP	**Pn**	**01 07 01.4**	**-4.1**
	comp=Z,57nm,0.6s						
RAMN	**Ramite**	**15.00**	**98**	eP	**Pn**	**01 07 01.4**	**-4.1**
	comp=Z,57nm,0.6s						
IZEF	**Zefreh**	**15.24**	**285**	eP	**Pn**	**01 07 09.6**	**+1.0**
ODAN	**Odare**	**15.71**	**98**	eP	**Pn**	**01 07 10.3**	**-4.4**
ODAN	**Odare**	**15.71**	**98**	eP	**Pn**	**01 07 10.3**	**-4.4**
TAPN	**Taplejung**	**15.85**	**96**	eP	Pn	01 07 11.6	-5.0
	comp=Z,45nm,0.7s						
TAPN	**Taplejung**	**15.85**	**96**	eP	Pn	01 07 11.6	-5.0
	comp=Z,45nm,0.7s						
MK01	**Makanchi Array**	**19.14**	**27**	eP	**P**	**01 07 55.6**	**-0.6**
MK31	**Makanchi Array**	**19.16**	**27**	eP	**P**	**01 07 55.6**	**-0.8**
MK31	**Makanchi Array**	**19.16**	**27**	eP	**P**	**01 07 55.6**	**-0.8**
MK32	**Makanchi Array**	**19.16**	**27**	eP	**P**	**01 07 55.6**	**-0.8**
MKAR	**Makanchi Array**	**19.16**	**27**	P	**P**	**01 07 55.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=206,slow=12,SNR=26						
MKAR				LR	LR	01 16 16.8	
	comp=Z,352nm,18.1s,baz=214,slow=40						
MKAR	**Makanchi Array**	**19.16**	**27**	eP	**Pn**	**01 07 57.2**	**-0.1**
WMQ	**Urumqi**	**19.60**	**41**	P	**Pn**	**01 08 03.3**	**+0.6**
WMQ				pP	pP	01 08 12.3	+6.3
WMQ				sP	sP	01 08 16.3	+8.2
WMQ				PP	**PnPn**	**01 08 21.6**	**+5.3**
WMQ				S	**S**	**01 11 37.5**	**-4.6**
WMQ				sS	**sS**	**01 11 49.8**	**+0.3**
WMQ				ScP	**ScP**	**01 15 54.3**	**-1.9**
WMQ				PcS	**PcS**	**01 15 58.0**	**0.0**
WMQ				ScS	**ScS**	**01 19 35.0**	**-3.3**
WMQ				pmax	pmax		
	comp=Z,17nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,170nm,5.8s						
WMQ				LR	LR		
	comp=Z,400nm,20.6s						
WMQ				LR	LR		
	comp=Z,210nm,18.2s						
WMQ				LR	LR		
	comp=Z,170nm,18.6s						
ABKAR	**Akbulak array**	**20.50**	**341**	eP	**P**	**01 08 10.3**	**-0.6**
KURK	**Kurchatov**	**21.51**	**15**	eP	**P**	**01 08 20.7**	**-1.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KURK	**Kurchatov**	**21.51**	**15**	eP	**P**	**01 08 20.7**	**-1.2**
	comp=Z,7.9nm,1.1s						
AKTO	**Aktyubinsk**	**22.11**	**339**	P	**P**	**01 08 28.4**	**0.0**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKTO				MLR	MLR		
	comp=Z,166nm,18.4s						
AKTO	**Aktyubinsk**	**22.11**	**339**	P	**P**	**01 08 28.4**	**0.0**
	comp=Z,4.5nm,0.6s,baz=136,slow=12,SNR=10						
AKTO				LR	LR	01 18 23.7	
	comp=Z,166nm,18.4s,baz=148,slow=40						
RAYN	**Ar Rayn**	**22.75**	**259**	eP	**P**	**01 08 36.7**	**+1.2**
	comp=Z,21nm,1.3s						
GNI	**Garni**	**22.79**	**303**	eP	**P**	**01 08 31.6**	**-4.3**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.4s						
GNI	**Garni**	**22.79**	**303**	P	**P**	**01 08 39.1**	**+3.3**
	comp=Z,1.9nm,0.5s,baz=107,slow=14,SNR=4.4						
GNI				LR	LR	01 20 03.7	
	comp=Z,72nm,18.5s,baz=92,slow=44						
BVA0	**Borovoye Array**	**22.82**	**1**	*i* P	**P**	**01 08 35.9**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,45nm,1.8s						
BVAR	**Borovoye Array**	**22.82**	**1**	LR	LR	01 18 43.9	
	comp=Z,164nm,18.7s,baz=192,slow=40						
BRVK	**Borovoye**	**22.85**	**1**	P	**P**	**01 08 33.9**	**-2.3**
BRVK				pmax	pmax		
	comp=Z,16nm,0.8s						
BRVK	**Borovoye**	**22.85**	**1**	eP	**P**	**01 08 35.4**	**-0.8**
	comp=Z,11nm,0.8s						
ZEI	**Tsey**	**24.30**	**308**	eP	**P**	**01 08 49.8**	**-0.9**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KBZ	**Khabaz**	**25.34**	**310**	P	**P**	**01 08 59.9**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**25.34**	**310**	P	**P**	**01 08 59.9**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=146,slow=11,SNR=3.6						
KIV	**Kislovodsk**	**25.57**	**310**	eP	**P**	**01 09 00.6**	**-1.5**
KIV				pmax	pmax		
	comp=Z,12nm,1.4s						
KIV				MLR	MLR		
	comp=Z,98nm,18.0s						
ZAA0	**Zalesovo Array**	**26.08**	**20**	eP	**P**	**01 09 06.5**	**+0.1**
ZALV	**Zalesovo Beam**	**26.08**	**20**	P	**P**	**01 09 05.5**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,123nm,20.0s						
ZALV	**Zalesovo Beam**	**26.08**	**20**	P	**P**	**01 09 05.5**	**-1.0**
	comp=Z,3.6nm,0.6s,baz=205,slow=8.9,SNR=24						
ZALV				LR	LR	01 20 45.9	
	comp=Z,123nm,20.0s,baz=250,slow=40						

ZAA1 Zalesovo Array 26.08 20 eP P 01 09 05.5 -1.0
GTA Gaotai 26.11 61 eP P 01 09 10.6 +3.5
GTA pP pP 01 09 20.1 +8.0
GTA sP sP 01 09 24.3 +10
GTA S S 01 13 40.8 +2.8
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,43nm,4.8s
GTA LR LR
comp=Z,390nm,18.1s
GTA LR LR
comp=Z,100nm,17.6s
GTA LR LR
comp=Z,150nm,15.7s
NVS Novosibirsk 26.42 17 eP P 01 09 09.7 +0.2
NVS eS S 01 13 39.8 -2.5
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,2.0nm,0.7s
NVS pmax pmax
comp=Z,4.0nm,0.7s
NVS smax smax
comp=N,42nm,3.9s
NVS smax smax
comp=E,33nm,3.9s
SVE Sverdlovsk 27.41 349 eP P 01 09 24.3 +5.9
ARU Arti 27.43 346 diP P 01 09 19.3 +0.8
ARU S S 01 13 57.9 -0.2
ARU SS SnSn 01 15 09.2 +1.4
ARU pmax pmax
comp=Z,14nm,1.7s
ARU Arti 27.43 346 eP P 01 09 19.3 +0.8
comp=Z,15nm,1.4s
CM31 Chiang Mai Arr 28.82 107 eP P 01 09 31.4 0.0
CMAR Chiang Mai Arr 28.82 107 P P 01 09 31.4 0.0
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 28.82 107 P P 01 09 31.4 0.0
comp=Z,1.8nm,0.4s,baz=293,slow=9.3,SNR=13
LZH Lanzhou 28.91 69 eP P 01 09 33.3 +1.1
LZH pP pP 01 09 43.1 +5.9
LZH sP sP 01 09 47.0 +7.7
LZH PP PnPn 01 10 26.5 +2.8
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,73nm,5.2s
LZH LR LR
comp=Z,320nm,12.1s
LZH LR LR
comp=Z,300nm,11.8s
LZH LR LR
comp=Z,380nm,15.0s
CD2 Chengdu 29.09 80 eP P 01 09 36.6 +2.9
CD2 pP pP 01 09 46.8 +8.1
CD2 sP sP 01 09 51.1 +10
CD2 PP PnPn 01 10 31.5 +5.5
CD2 PcP PcP 01 12 44.0 +2.4
CD2 S S 01 14 24.8 -0.1
CD2 sS sS 01 14 41.8 +8.7
CD2 SS SnSn 01 15 55.8 +6.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.2s
CD2 LR LR
comp=Z,400nm,15.2s
CD2 LR LR
comp=Z,360nm,14.2s
CD2 LR LR
comp=Z,300nm,15.2s
MMAI Mount Meron Ar 29.46 285 LR LR 01 23 09.2
comp=Z,154nm,20.4s,baz=70,slow=40
ZAK Zakamensk 32.07 42 eP P 01 10 01.9 +1.9
ZAK pmax pmax
comp=Z,1.0nm,1.2s
GYA Guiyang 32.47 87 eP P 01 10 06.0 +2.3
GYA pmax pmax
comp=Z,10.0nm,0.8s
SONA0 Songino Array 32.98 47 eP P 01 10 09.2 +1.3
SONM Songino Array 32.98 47 P P 01 10 09.2 +1.3
comp=Z,2.8nm,1.0s,baz=244,slow=8.9,SNR=12
SONM LR LR 01 26 19.8
comp=Z,164nm,18.2s,baz=203,slow=42
ULN Ulaanbaatar 33.41 48 eP P 01 10 14.7 +2.9
ULN pmax pmax
comp=Z,3.0nm,1.1s
OBN Obninsk 34.41 326 eP P 01 10 20.9 +0.8
OBN pmax pmax
comp=Z,3.0nm,1.2s
OBN MLR MLR
comp=Z,388nm,19.0s
HHC Hu-ho-hao-te 35.23 61 eP P 01 10 28.8 +1.3
HHC sP sP 01 10 41.6 +7.0
HHC PP PP 01 11 48.3 +0.9
HHC PcP PcP 01 12 59.8 +1.5
HHC S S 01 15 59.3 -1.2
HHC sS sS 01 16 14.9 +6.1
HHC PcS PcS 01 16 45.4 +0.2
HHC ScS ScS 01 20 44.8 -2.7
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,140nm,7.4s
HHC LR LR
comp=Z,340nm,14.7s
HHC LR LR
comp=Z,180nm,13.5s
HHC LR LR
comp=Z,120nm,14.3s
AK02 Malin Array Si 36.52 316 eP P 01 10 36.8 -1.5
AKASG Malin Array Be 36.53 316 P P 01 10 37.2 -1.2
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG MLR MLR
comp=Z,136nm,18.3s
AKASG Malin Array Be 36.53 316 P P 01 10 37.2 -1.2
comp=Z,3.0nm,0.6s,baz=96,slow=7.1,SNR=27
AKASG LR LR 01 28 58.8
comp=Z,136nm,18.3s,baz=90,slow=42
AKBB Malin Array Si 36.53 316 eP P 01 10 37.2 -1.2
AKBB Malin Array Si 36.53 316 eP P 01 10 37.2 -1.2
AK01 Malin Array Si 36.53 316 eP P 01 10 36.8 -1.6
KIEV Kiev 36.53 316 eP P 01 10 35.9 -2.5
KIEV Kiev 36.53 316 eP P 01 10 36.4 -2.0
comp=Z,5.2nm,0.7s
AK11 Malin Array Si 36.55 316 eP P 01 10 36.6 -2.0
KLMR Klimovskoe 36.69 336 eP P 01 10 42.1 +2.5
KLMR pmax pmax
comp=Z,19nm,1.8s
VRI Vrincioaia 36.97 307 ⇓P P 01 10 45.2 +3.0
VRI Vrincioaia 36.97 307 ⇓iP P 01 10 45.2 +3.0
PLOR Plostina 37.02 307 ⇑P P 01 10 43.7 +1.0
PLOR Plostina 37.02 307 ⇑iP P 01 10 43.7 +1.0
MLR Muntele Rosu 37.45 307 ⇓P P 01 10 46.5 0.0
MLR Muntele Rosu 37.45 307 ⇓iP P 01 10 46.5 0.0
IDI Anoyia 37.97 290 P P 01 10 51.6 +0.7
comp=Z,15nm,0.9s,baz=15,slow=6.0,SNR=3.0
BUR04 Bucovina Ar. S 38.30 310 eP P 01 10 52.4 -1.3
ARR Arges 38.34 306 ⇑iP P 01 10 52.8 -1.2
BJI Beijing 38.72 62 P P 01 10 57.8 +0.8
BJI S S 01 16 53.1 -0.3
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI pmax pmax
comp=Z,110nm,4.7s
BJI LR LR
comp=Z,270nm,27.6s
BJI LR LR
comp=Z,170nm,24.9s
BJI LR LR
comp=Z,50nm,35.7s
KOLS Kolonicke sedl 40.47 311 eP P 01 11 11.3 -0.3
KOLS Kolonicke sedl 40.47 311 eP P 01 11 11.3 -0.3
CRVS Cervenica-Dubn 40.99 311 eP P 01 11 15.9 0.0
CRVS Cervenica-Dubn 40.99 311 eP P 01 11 15.9 0.0
STHS Stebnicka Huta 41.21 312 eP P 01 11 20.8 +3.1
STHS Stebnicka Huta 41.21 312 epP P 01 11 20.8 +3.1
NJ2 Nanjing 41.65 74 eP P 01 11 24.0 +2.6
NJ2 pmax pmax
comp=Z,20nm,0.8s
HIA Hailar 41.93 49 eP P 01 11 26.1 +2.5
HIA pmax pmax
comp=Z,3.0nm,1.2s
FIA0 FINESS Array S 42.37 330 eP P 01 11 26.7 -0.2
FIA0 FINESS Array S 42.37 330 eP P 01 11 26.7 -0.2
FINES FINESS Array B 42.37 330 P P 01 11 26.7 -0.2
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES MLR MLR
comp=Z,222nm,19.1s
FINES FINESS Array B 42.37 330 P P 01 11 26.7 -0.2
comp=Z,1.2nm,0.8s,baz=124,slow=6.9,SNR=3.0
FINES LR LR 01 31 13.4
comp=Z,222nm,19.1s,baz=92,slow=39
PKSM Moragy 42.60 307 ⇑P P 01 11 23.0 -6.0
PKSM Moragy 42.60 307 ⇑iP P 01 11 23.0 -6.0
VYHS Vyhne 42.66 310 eP P 01 11 30.2 +0.6
VYHS Vyhne 42.66 310 eP P 01 11 30.2 +0.6
APA Apatity 43.19 341 ⇓iP P 01 11 36.0 +2.5
APA MLR MLR
comp=Z,400nm,16.0s
OKC Ostrava-Krasne 43.27 312 eP P 01 11 38.7 +4.3
OKC Ostrava-Krasne 43.27 312 eP P 01 11 38.7 +4.3
MORC Moravsky Berou 43.65 312 ⇑P P 01 11 37.5 -0.1
MORC Moravsky Berou 43.65 312 ⇑iP P 01 11 37.5 -0.1
MORC Moravsky Berou 43.65 312 eP P 01 11 35.4 -2.2
comp=Z,4.5nm,0.9s
KMBO Kilima Mbogo 44.03 231 P P 01 11 33.0 -8.3
baz=90,SNR=4.2
DPC Dobruska-Polom 44.49 313 eP P 01 11 43.8 -0.5
DPC Dobruska-Polom 44.49 313 eP P 01 11 44.0 -0.3
DPC epP pP 01 11 47.6 -1.8
DPC Dobruska-Polom 44.49 313 eP P 01 11 43.8 -0.5
comp=Z,740nm,2.9s
CN2 Changchun 45.58 57 eP P 01 11 53.6 +0.6
CN2 epP pP 01 12 03.5 +5.4
CN2 eS S 01 18 32.3 -2.3
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,300nm,16.0s
BRG Berggiesshubel 46.05 313 eP P 01 12 01.6 +5.0
comp=Z,3.8nm,0.7s
BRG Berggiesshubel 46.05 313 eP P 01 12 01.6 +5.0
BRG pmax pmax
comp=Z,12nm,0.7s
GEC2 GERESS Array S 46.08 310 eP P 01 11 56.1 -0.9
GEC2 GERESS Array S 46.08 310 eP P 01 11 56.1 -0.9
GERES GERESS Array B 46.08 310 P P 01 11 56.1 -0.9
comp=Z,0.4nm,0.6s,baz=117,slow=4.8,SNR=4.5
GERES LR LR 01 37 25.2
comp=Z,28nm,19.5s,baz=107,slow=44
ARA0 ARCESS Array S 46.69 340 eP P 01 12 00.9 -0.5
ARCES ARCESS Array B 46.69 340 P P 01 12 00.9 -0.5
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES MLR MLR
comp=Z,81nm,18.9s
ARCES ARCESS Array B 46.69 340 P P 01 12 00.9 -0.5
comp=Z,1.2nm,0.5s,baz=125,slow=7.6,SNR=8.8
ARCES LR LR 01 33 50.2
comp=Z,81nm,18.9s,baz=162,slow=39
HFS Hagfors 47.62 326 P P 01 12 09.0 +0.3
HFS pmax pmax
comp=Z,2.0nm,0.8s
HFS Hagfors 47.62 326 P P 01 12 09.0 +0.3
comp=Z,2.0nm,0.8s,baz=110,slow=11,SNR=3.5
KS15 Wonju Array Si 48.05 65 eP P 01 12 10.7 -1.7
KSAR Wonju Array Be 48.05 65 P P 01 12 10.7 -1.7
KSAR Wonju Array Be 48.05 65 P P 01 12 10.7 -1.7
KSRS Korea Array 48.08 65 P P 01 12 10.7 -1.9
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS Korea Array 48.08 65 P P 01 12 10.7 -1.9
comp=Z,1.9nm,0.7s,baz=268,slow=8.2,SNR=8.5
MDJ Mudanjiang 48.51 55 P P 01 12 16.1 +0.2
MDJ pmax pmax
comp=Z,10.0nm,2.3s
MDJ pmax pmax
comp=Z,68nm,4.9s
MDJ LR LR
comp=Z,49nm,23.3s
MDJ LR LR
comp=Z,31nm,24.1s
NB200 NORSAR Array S 49.01 327 eP P 01 12 20.1 +0.6
NOA NORSAR Array B 49.01 327 P P 01 12 20.1 +0.6
comp=Z,0.7nm,0.7s,baz=104,slow=7.8,SNR=3.0
NOA LR LR 01 36 28.6
comp=Z,133nm,18.3s,baz=110,slow=40
YAK Yakutsk 49.70 32 eP P 01 12 26.3 +1.7
YAK e 01 12 40.5
YAK pmax pmax
comp=Z,10.0nm,1.0s
USRK Ussuriysk Arra 50.26 56 LR LR 01 37 45.2
comp=Z,64nm,19.4s,baz=171,slow=41
KEST Kesra 50.43 293 P P 01 12 30.8 0.0
comp=Z,1.2nm,0.8s,baz=84,slow=5.6,SNR=4.0
TIXI Tiksi 51.97 20 eP P 01 12 43.5 +1.9
TIXI pmax pmax
comp=Z,1.0nm,1.2s
SPA0 Spitsbergen Ar 53.44 348 eP P 01 12 52.7 +0.2
SPITS Spitsbergen Ar 53.44 348 P P 01 12 52.7 +0.2
SPITS pmax pmax
comp=Z,5.0nm,0.6s
SPITS Spitsbergen Ar 53.44 348 P P 01 12 52.7 +0.2
comp=Z,4.5nm,0.6s,baz=104,slow=11,SNR=11
ESDC Sonseca Array 59.76 301 P P 01 13 36.5 -1.5
comp=Z,0.8nm,0.6s,baz=65,slow=6.7,SNR=6.2
SEY Seymchan 60.20 32 P P 01 13 41.7 +1.1
SEY pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 60.20 32 P P 01 13 41.7 +1.1
comp=Z,1.2nm,0.3s,baz=319,slow=8.8,SNR=7.6
BILL Bilibino 64.68 24 eP P 01 14 11.6 +1.1
BILL e 01 14 47.2
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL MLR MLR
comp=Z,137nm,20.0s
TOA0 Torodi Ar. Sit 64.79 271 eP P 01 14 10.7 -1.3
TORD Torodi Ar. Bea 64.79 271 P P 01 14 10.6 -1.5
comp=Z,1.8nm,0.8s,baz=64,slow=5.1,SNR=27
TORD LR LR 01 46 07.6
comp=Z,67nm,18.7s,baz=175,slow=39
PETK Petropavlovsk- 65.20 42 LR LR 01 43 39.1
comp=Z,30nm,20.1s,baz=265,slow=37
LBTB Lobatse 69.42 223 P P 01 14 41.9 +0.6
LBTB pmax pmax
comp=Z,5.0nm,1.0s
LBTB Lobatse 69.42 223 P P 01 14 41.9 +0.6
comp=Z,4.9nm,1.0s,baz=357,slow=8.2,SNR=4.9
LBTB Lobatse 69.42 223 eP P 01 14 41.7 +0.4
comp=Z,106nm,2.5s
TSUM Tsumeb 70.35 233 P P 01 14 48.3 +1.2
comp=Z,1.7nm,0.8s,baz=30,slow=8.6,SNR=5.3
BOSA Boshof 72.36 220 P P 01 15 00.9 +1.8
BOSA pmax pmax
comp=Z,3.0nm,0.8s
BOSA Boshof 72.36 220 P P 01 15 00.9 +1.8
comp=Z,3.0nm,0.8s,baz=336,slow=3.6,SNR=3.9
DBIC Dimbokro 73.53 268 eP P 01 15 06.1 -0.2
DBIC pmax pmax
comp=Z,20nm,1.3s
DBIC Dimbokro 73.53 268 P P 01 15 07.1 +0.8
comp=Z,4.6nm,0.8s,baz=1.4,slow=5.0,SNR=5.9
DBIC LR LR 01 50 59.5
comp=Z,59nm,19.1s,baz=61,slow=39
DBIC Dimbokro 73.53 268 eP P 01 15 06.1 -0.2
comp=Z,20nm,1.3s
WRA Warramunga Arr 79.51 120 P P 01 15 39.1 -0.9
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 79.51 120 P P 01 15 39.1 -0.9
comp=Z,2.4nm,0.7s,baz=322,slow=5.0,SNR=12
WRAB Tennant Creek 79.51 120 eP P 01 15 45.0 +5.0
WRAB pmax pmax
comp=Z,20nm,1.3s
COLA College 80.78 15 eP P 01 15 46.3 +0.2
COLA pmax pmax
comp=Z,10.0nm,1.0s
ILAR Eielson Array 81.08 15 P P 01 15 47.7 -0.1
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR MLR MLR
comp=Z,57nm,20.6s
ILAR Eielson Array 81.08 15 P P 01 15 47.7 -0.1
comp=Z,0.8nm,1.0s,baz=308,slow=5.2,SNR=6.1
ILAR LR LR 01 55 04.2
comp=Z,57nm,20.6s,baz=262,slow=38
ILB Eielson Array 81.08 15 eP P 01 15 47.7 -0.1
AS12 Alice Springs 81.46 124 eP P 01 15 49.7 -0.7
ASAR Alice Springs 81.46 124 P P 01 15 49.7 -0.7
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR Alice Springs 81.46 124 P P 01 15 49.7 -0.7
comp=Z,2.5nm,0.7s,baz=304,slow=5.1,SNR=12
PMG Port Moresby 83.83 105 eP P 01 16 07.9 +5.0
PMG pmax pmax
comp=Z,20nm,1.2s
YKA Yellowknife Ar 87.57 2 P P 01 16 20.0 -0.7
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 87.57 2 P P 01 16 20.0 -0.7
comp=Z,0.9nm,0.8s,baz=348,slow=5.0,SNR=13
STKA Stephens Creek 91.80 126 LR LR 02 00 42.2
comp=Z,37nm,19.3s,baz=209,slow=37

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*ISCJB **22** 01:35:08.6±0.8, 25°.9S±0°.2×71°.2E±0°.2, h11km, mb3.6/8, Error ellipse: s-maj=25.3km s-min=21.6km az=154.5*
*IDC **22** 01:35:08.6±1.0, 25°.89S×71°.12E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/24, mbtmp3.7/8, Error ellipse: s-maj=31.4km s-min=27.6km az=154.0*
ISC 22 01:35:10.4±0.9**, 25°.9S**±0°.2×**71°.1E**±0°.2**, h11km, n17, σ0s.81**/8**, mb3.6**/8**, Mid-Indian Ridge**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
H08S1 Diego Carcia H 18.20 4 T T 01 58 07.6
baz=184,slow=76,SNR=16
H08S2 Diego Garcia H 18.20 4 T T 01 58 12.9
baz=184,slow=76,SNR=14
H08S3 Diego Garcia H 18.21 4 T T 01 58 10.4
baz=184,slow=76,SNR=18
H08N3 Diego Garcia H 19.44 360 T T 01 58 24.8
baz=217,slow=76,SNR=13
H08N1 Diego Carcia H 19.44 360 T T 01 58 29.8
baz=217,slow=76,SNR=12
H08N2 Diego Garcia H 19.46 360 T T 01 58 26.8
baz=217,slow=76,SNR=16
H01W2 Cape Leeuwin H 37.94 114 T T 02 22 22.1
baz=270
H01W3 Cape Leeuwin H 37.94 114 T T 02 22 21.9
baz=270
H01W1 Cape Leeuwin H 37.95 114 T T 02 22 25.4
baz=270
LSZ Lusaka 41.39 276 P P 01 42 56.7 -0.4
0.6nm,0.5s,baz=113,slow=7.7,SNR=3.0
CMAR Chiang Mai Arr 51.73 34 P P 01 44 18.6 +0.6
1.2nm,0.3s,baz=223,slow=8.0,SNR=7.7
WRA Warramunga Arr 58.06 98 P P 01 45 03.1 -0.9
0.9nm,0.9s,baz=255,slow=7.3,SNR=5.7
QSPA South Pole Qui 64.24 180 P P 01 45 45.9 +0.6
0.7nm,0.9s,baz=270,slow=5.1,SNR=2.2
MKAR Makanchi Array 73.05 8 P P 01 46 40.1 -0.1
0.3nm,0.7s,baz=205,slow=5.4,SNR=3.8
TORD Torodi Ar. Bea 77.86 291 P P 01 47 08.7 +0.1
0.5nm,1.0s,baz=97,slow=6.8,SNR=3.4
SONM Songino Array 79.95 23 P P 01 47 20.2 +0.7
0.6nm,0.9s,baz=197,slow=4.5,SNR=5.1
ZALV Zalesovo Beam 80.39 8 P P 01 47 20.4 -1.0
0.3nm,0.6s,baz=187,slow=3.8,SNR=2.0

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*ISCJB **22** 01:51:36.0±0.4, 35°.93N±0°.02×70°.73E±0°.03, h88km±4km, mb4.4/60, Error ellipse: s-maj=3.8km s-min=3.0km az=44.0*
*BJI **22** 01:51:37.2, 36°.07N×70°.66E, h93km, mB4.6/20, mb4.5/31*
*MOS **22** 01:51:37.8±0.9, 36°.03N×70°.68E, h101km, mb4.7/27, Error ellipse: s-maj=7.0km s-min=4.1km az=90.7*
*NEIC **22** 01:51:39.2±0.3, 35°.97N×70°.70E, mb4.7/21, Error ellipse: s-maj=6.6km s-min=6.0km az=193.0*
*IDC **22** 01:51:39.3±0.6, 35°.94N×70°.56E, h103km±4km, mb4.0/21, mb1 4.2/23, mb1mx4.1/28, mbtmp4.4/23, MS3.0/7, Ms1 3.0/7, ms1mx2.7/47, Error ellipse: s-maj=12.6km s-min=10.9km az=0.0*
*NNC **22** 01:51:43.6±5.2, 36°.44N×70°.43E, h158km±56km, mb4.5, mpv5.3, Error ellipse: s-maj=41.4km s-min=33.4km az=28.0*
ISC 22 01:51:38.8±0.3**, 35°.93N**±0°.04×**70°.71E**±0°.03**, h98km**±2km**, h98km:pP-P, n258, σ1s.70**/310**, mb4.5**/60**, 20C-16D, Hindu Kush region**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
KBL Kabul 1.94 225 ePN Pn 01 52 11.1 +0.4
KBL e 01 52 35.2
KBL Kabul 1.94 225 ePn Pn 01 52 11.1 +0.4
KBL eSn Sn 01 52 35.2 +0.2
CEP Cherat 2.32 154 ⇓P Pn 01 52 16.9 +1.3
CEP S Sn 01 52 46.0 +2.2
CHCP Chirah Chowk 3.09 136 P Pn 01 52 27.2 +1.5
SARP Sargodha 4.32 157 P Pn 01 52 41.9 -0.3
KSH Kashi 5.50 48 P Pn 01 52 54.6 -3.7
KSH sP sP 01 53 16.8
KSH S Sn 01 53 51.8 -8.5
DLH Dalhousie 5.51 126 eP Pn 01 52 59.0 +0.4
DLH eS Sn 01 53 59.0 -1.8
DHRM DHARAMSHALA 5.92 127 eP Pn 01 53 04.6 +0.5
DHRM eS Sn 01 54 08.6 -2.0
DHRM AML AML 01 54 11.0
comp=N,1μm,0.4s
DHRM AML AML 01 54 12.0
comp=E,2μm,0.5s
BHK Bhakra 6.55 132 ex x 01 53 40.2
BHK eS Sn 01 54 24.4 -1.4
AML Almayashu 6.62 20 P Pn 01 53 13.1 -0.6
SNR=836
AML Almayashu 6.62 20 i PN Pn 01 53 13.1 -0.6
SDNR Sundarnagar 6.84 128 ex Pn 01 53 11.0 -5.4
SDNR ex x 01 54 08.6
UCH Uchtor 6.95 24 P Pn 01 53 18.2 -0.2
SNR=319
UCH Uchtor 6.95 24 i PN Pn 01 53 18.1 -0.2
KZA Kyzart 7.09 29 P Pn 01 53 19.7 -0.4
SNR=255
KZA Kyzart 7.09 29 i PN Pn 01 53 19.7 -0.4
EKS2 Erkin-Say 7.13 19 P Pn 01 53 20.4 -0.1
SNR=336
EKS2 Erkin-Say 7.13 19 i PN Pn 01 53 20.4 -0.1
EKS2 Erkin-Say 7.13 19 ePn Pn 01 53 20.4 -0.1
EKS2 eSn Sn 01 54 36.8 -3.2
KK31 Karatay Array 7.17 359 ⇑P Pn 01 53 19.6 -1.3
comp=E,138nm,0.4s,baz=182,slow=13
KK31 ⇓S Sn 01 54 36.3 -4.4
comp=E,137nm,0.5s,baz=185,slow=25
KK31 Karatay Array 7.17 359 PN Pn 01 53 19.6 -1.3
KK31 pmax pmax
comp=Z,190nm,0.3s
KKAR Karatay Array 7.17 359 ePN Pn 01 53 19.8 -1.1
KKAR Karatay Array 7.17 359 ePn Pn 01 53 19.8 -1.1
KKAR eSn Sn 01 54 36.2 -4.5
SMLA Simla 7.21 130 eP Pn 01 53 22.4 +0.9
SMLA eS Sn 01 54 37.4 -4.4
SMLA AML AML 01 55 11.7
comp=N,417nm,0.5s
SMLA AML AML 01 55 11.9
comp=E,471nm,1.0s
AAK Ala-Archa 7.31 23 ⇑P Pn 01 53 22.9 0.0
comp=E,106nm,0.7s
AAK ⇓S Sn 01 54 38.3 -6.2
comp=E,133nm,0.8s
AAK Ala-Archa 7.31 23 P Pn 01 53 23.1 +0.1
SNR=175
AAK Ala-Archa 7.31 23 P Pn 01 53 23.0 0.0
comp=E,24nm,0.3s,baz=171,slow=5.2,SNR=265
AAK S Sn 01 54 42.6 -1.9
comp=E,9.3nm,0.3s,baz=22,slow=8.0,SNR=4.6
AAK Ala-Archa 7.31 23 ePn Pn 01 53 22.9 0.0
AAK eSn Sn 01 54 41.5 -3.0
KBK Karagaybulak 7.48 25 P Pn 01 53 25.5 +0.2
SNR=69
FRU Bishkek 7.53 23 ePN Pn 01 53 25.8 0.0
FRU pmax pmax
comp=Z,228nm,1.8s
ULHL Ulahol 7.64 33 P Pn 01 53 27.7 +0.2
SNR=19
ULHL Ulahol 7.64 33 i PN Pn 01 53 27.6 +0.2
CHMS Chumysh 7.72 23 P Pn 01 53 28.2 -0.3

SNR=212
CHMS Chumysh 7.72 23 iPN Pn 01 53 28.1 -0.3
USP Ospenovka 7.89 21 P Pn 01 53 30.2 -0.5
SNR=78
USP Ospenovka 7.89 21 iPN Pn 01 53 30.2 -0.5
TKM2 Tokmak 2 7.94 27 ⇑P Pn 01 53 31.1 -0.5
comp=Z,113nm,0.7s
TKM2 ⇓S Sn 01 55 00.3 +0.4
comp=Z,55nm,0.8s
TKM2 Tokmak 2 7.94 27 P Pn 01 53 31.4 -0.2
SNR=257
TKM2 Tokmak 2 7.94 27 iPN Pn 01 53 31.3 -0.2
TKM2 Tokmak 2 7.94 27 ePn Pn 01 53 31.1 -0.5
TKM2 eSn Sn 01 54 59.7 -0.1
DDI Dehra Dun 8.32 130 eS Sn 01 55 05.3 -3.6
IMYA Miami 8.59 276 ePn Pn 01 53 37.9 -2.5
AAA Alma-Ata 8.77 31 ePN Pn 01 53 42.1 -0.6
AAA pmax pmax
comp=Z,200nm,0.8s
KHET Khetri 8.95 150 eP Pn 01 53 43.2 -1.9
KHET eS Sn 01 55 15.1 -9.1
KHET AML AML 01 55 18.5
comp=E,811nm,0.2s
KHET AML AML 01 55 19.1
comp=N,947nm,0.3s
NDI New Delhi 9.08 141 eP Pn 01 53 47.5 +0.5
NDI eS Sn 01 55 22.0 -5.5
ISRO Mashad 9.10 276 ePn Pn 01 53 44.7 -2.6
KUDL Kundal 9.18 146 eP Pn 01 53 47.3 -1.0
KUDL eS Sn 01 55 21.6 -8.2
KUDL AML AML 01 55 25.5
comp=E,193nm,0.5s
KUDL AML AML 01 55 26.4
comp=N,127nm,0.3s
SONA Sohna 9.37 143 eP Pn 01 53 50.5 -0.4
SONA eS Sn 01 55 26.4 -8.0
SONA AML AML 01 55 32.2
comp=N,121nm,0.5s
SONA AML AML 01 55 32.6
comp=E,226nm,0.5s
IPAY Payeh 9.48 277 ePn Pn 01 53 50.4 -2.2
AJM Ajmer 10.00 159 ex Pn 01 53 52.0 -7.6
AJM ex Sn 01 55 36.0 -14
PDGK Podgornoye 10.02 40 ⇓P Pn 01 53 58.4 -1.2
AGRA Agra 10.64 143 eP Pn 01 54 06.5 -1.7
PYUN Piuthan 13.01 123 eP Pn 01 54 36.1 -4.0
comp=E,87nm,0.3s
PYUN Piuthan 13.01 123 eP Pn 01 54 36.1 -4.0
comp=E,87nm,0.3s
DANN Dangsing 13.39 121 eP Pn 01 54 41.3 -3.8
comp=E,61nm,0.3s
DANN Dangsing 13.39 121 eP Pn 01 54 41.3 -3.8
comp=E,61nm,0.3s
KOLN Koldanda 13.64 123 eP Pn 01 54 44.3 -4.0
comp=E,19nm,0.2s
KOLN Koldanda 13.64 123 eP Pn 01 54 44.3 -4.0
comp=E,19nm,0.2s
IGLO Ghaloghah 13.64 277 eP Pn 01 54 48.2 0.0
IANJ Anjilo 13.66 273 eP Pn 01 54 51.0 +2.5
MK01 Makanchi Array 13.88 35 ePn Pn 01 54 48.9 -2.2
MK01 eSn Sn 01 57 25.9 +2.1
MK31 Makanchi Array 13.89 35 P Pn 01 54 49.2 -2.1
comp=E,4.9nm,0.5s,baz=220,slow=10.0,SNR=76
MK31 Makanchi Array 13.89 35 iP Pn 01 54 49.2 -2.1
MK31 pmax pmax
comp=Z,5.0nm,0.4s
MK32 Makanchi Array 13.89 35 eP Pn 01 54 49.9 -1.3
MKAR Makanchi Array 13.89 35 P Pn 01 54 49.9 -1.3
comp=Z,0.4nm,0.3s,baz=222,slow=14,SNR=52
MKAR Makanchi Array 13.89 35 ePn Pn 01 54 49.2 -2.1
BHPL Bhopal 13.92 153 eP3 Pn 01 54 49.3 -2.5
BHPL ex Sn 01 57 12.8 -12
ICHK Chekchek 14.00 259 eP P 01 54 57.1 -0.6
GKN Gorkha 14.21 120 eP Pn 01 54 51.7 -3.9
comp=Z,67nm,0.3s
GKN Gorkha 14.21 120 eP Pn 01 54 51.7 -3.9
comp=Z,67nm,0.3s
IFIR Firoozkooh 14.58 274 eP Pn 01 55 01.9 +1.5
DMN Daman 14.78 120 eP Pn 01 54 59.5 -3.5
comp=Z,27nm,0.4s
DMN Daman 14.78 120 eP Pn 01 54 59.5 -3.5
comp=Z,27nm,0.4s
KKN Kakani 14.79 119 eP Pn 01 54 59.4 -3.8
comp=Z,62nm,0.5s
KKN Kakani 14.79 119 eP Pn 01 54 59.4 -3.8
KKN pmax pmax
comp=Z,62nm,0.5s
KKN Kakani 14.79 119 eP Pn 01 54 59.4 -3.8
comp=Z,62nm,0.5s
PKIN Phulchoki 15.00 120 eP Pn 01 55 02.6 -3.3
comp=Z,38nm,0.3s
PKI Pulchoki 15.02 120 eP Pn 01 55 03.0 -3.1
comp=Z,66nm,0.6s
PKI Pulchoki 15.02 120 eP Pn 01 55 03.0 -3.1
PKI pmax pmax
comp=Z,66nm,0.6s
PKI Pulchoki 15.02 120 eP Pn 01 55 03.0 -3.1
comp=Z,66nm,0.6s
GUN Gumba 15.15 118 eP Pn 01 55 04.7 -3.1
comp=Z,36nm,0.3s
WMQ Urumqi 15.22 54 P Pn 01 55 07.8 -0.5
WMQ pP pP 01 55 21.6 -7.7
WMQ PP pwP 01 55 23.1 -6.2
WMQ sP sP 01 55 35.9 -5.9
WMQ S Sn 01 57 54.8 -1.5
WMQ sS S 01 58 14.6 +8.0
WMQ PcP PcP 02 00 09.0 +1.1
WMQ ScP ScP 02 03 33.0 0.0
WMQ ScS ScS 02 07 10.0 -1.1
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ pmax pmax
comp=Z,200nm,4.8s
WMQ LR LR
comp=Z,97nm,21.4s
WMQ LR LR
comp=Z,47nm,21.2s
WMQ LR LR
comp=Z,46nm,24.4s
IZEF Zefreh 15.47 264 ePn Pn 01 55 11.0 -0.7
AB31 Akbulak array 15.48 333 ⇓P Pn 01 55 08.5 -2.9
comp=Z,106nm,0.4s,baz=142,slow=9.9,SNR=3859
AB31 ⇑S Sn 01 57 48.2 -14
comp=Z,9.4nm,0.4s,baz=160,slow=20,SNR=7.1
AB31 Akbulak array 15.48 333 iP Pn 01 55 08.4 -3.0
AB31 pmax pmax
comp=Z,112nm,0.3s
ABKAR Akbulak array 15.48 333 ePn Pn 01 55 08.9 -2.5
ABKAR eSn Sn 01 57 51.3 -11
JIRN Jiri 15.52 118 eP Pn 01 55 09.4 -3.1
comp=Z,129nm,0.4s
KURK Kurchatov 15.85 19 eP Pn 01 55 12.2 -3.8
KURK pmax pmax
comp=Z,18nm,0.8s
KURK Kurchatov 15.85 19 ePn Pn 01 55 12.2 -3.8
comp=Z,18nm,0.8s
RAMN Ramite 16.23 119 eP Pn 01 55 18.7 -2.6
comp=Z,69nm,0.6s
RAMN Ramite 16.23 119 eP Pn 01 55 18.7 -2.6
comp=Z,69nm,0.6s
VOSK Vostochnaya 16.79 1 eP Pn 01 55 24.8 -2.9
VOSK e 01 58 23.0
VOSK pmax pmax
comp=Z,95nm,1.2s
VOSK Vostochnaya 16.79 1 ePn Pn 01 55 24.8 -2.9
comp=Z,95nm,1.2s
VOSK eSn Sn 01 58 23.0 -11
TAPN Taplejung 16.80 116 eP Pn 01 55 25.9 -2.4
comp=Z,134nm,0.6s
TAPN Taplejung 16.80 116 eP Pn 01 55 25.9 -2.4
comp=Z,134nm,0.6s
ODAN Odare 16.85 118 eP Pn 01 55 26.4 -2.5
comp=Z,134nm,0.9s
ODAN Odare 16.85 118 eP Pn 01 55 26.4 -2.5
comp=Z,134nm,0.9s
BVA0 Borovoye Array 17.10 359 ⇑P Pn 01 55 29.0 -2.5
comp=Z,43nm,1.0s,baz=173,slow=13,SNR=173
BVA0 ⇓S Sn 01 58 29.6 -12
comp=Z,7.5nm,0.7s,baz=170,slow=26,SNR=3.5
BVA0 Borovoye Array 17.10 359 iP Pn 01 55 28.9 -2.5
BVA0 pmax pmax
comp=Z,30nm,0.7s
BVAR Borovoye Array 17.10 359 LR LR 02 03 00.5
comp=Z,35nm,21.4s,slow=40
BRVK Borovoye 17.13 359 ⇓P Pn 01 55 29.2 -2.6
comp=Z,106nm,1.2s
BRVK Borovoye 17.13 359 eP Pn 01 55 29.6 -2.2
BRVK e 01 58 34.0
BRVK pmax pmax
comp=Z,75nm,1.2s
BRVK Borovoye 17.13 359 ePn Pn 01 55 29.6 -2.2
comp=Z,75nm,1.2s
BRVK eSn Sn 01 58 34.0 -8.1
AKTO Aktyubinsk 17.16 332 P Pn 01 55 30.7 -1.6
AKTO S Sn 01 58 29.7 -13
AKTO pmax pmax
comp=Z,8.0nm,0.3s
AKTO smax smax
comp=N,1.0nm,0.3s
AKTO Aktyubinsk 17.16 332 P Pn 01 55 30.6 -1.6
comp=N,8.4nm,0.3s,baz=139,slow=12,SNR=232
AKTO S Sn 01 58 29.7 -13
comp=N,0.9nm,0.3s,baz=48,slow=21,SNR=6.4
AKTO LR LR 02 02 52.3
comp=N,39nm,18.3s,baz=151,slow=39
POO Poona 17.55 170 ex x 01 55 58.0
LSA Lhasa 18.26 104 eP Pn 01 55 46.1 0.0
LSA Lhasa 18.26 104 eP Pn 01 55 46.3 +0.1
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 18.26 104 eP Pn 01 55 46.3 +0.1
comp=Z,8.5nm,0.6s
HYB Hyderabad 19.71 157 eP P 01 56 01.5 +1.0
HYB Hyderabad 19.71 157 iP P 01 56 01.5 +1.0
HYB e 01 59 28.0
HYB eS S 01 59 32.0 -5.5
HYB Hyderabad 19.71 157 eP P 01 56 01.5 +1.0
HYB eS Sn 01 59 47.0 +2.5
IDHR Dehrash 19.88 274 eP P 01 56 02.6 +0.2
DGRG David-gareji 20.50 293 P P 01 56 10.2 +1.3
ZAA0 Zalesovo Array 20.53 24 eP P 01 56 09.3 +0.3
ZALV Zalesovo Beam 20.53 24 P P 01 56 08.8 -0.2
comp=Z,35nm,0.4s,baz=215,slow=11,SNR=209
ZALV S Sn 01 59 59.3 -4.3
comp=Z,3.6nm,0.9s,baz=225,slow=19,SNR=3.9
ZALV LR LR 02 04 29.9
comp=Z,33nm,21.2s,baz=250,slow=38
ZAA1 Zalesovo Array 20.54 24 eP P 01 56 08.8 -0.2
ZAA1 eS Sn 01 59 59.3 -4.4
NVS Novosibirsk 20.80 21 ⇑iP P 01 56 11.2 -0.7
NVS eS S 01 59 54.9 -3.4
NVS pmax pmax
comp=N,36nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS pmax pmax
comp=Z,58nm,1.0s
NVS smax smax
comp=N,13nm,1.8s
NVS smax smax
comp=E,7.0nm,1.8s
GNI Garni 20.85 289 d iP Pn 01 56 14.8 -1.5
GNI pmax pmax
comp=Z,27nm,1.2s
GNI Garni 20.85 289 P Pn 01 56 15.2 -1.1
GNI Garni 20.85 289 eP Pn 01 56 14.9 -1.3
comp=Z,32nm,0.9s
SHL Shillong 20.89 114 eP Pn 01 56 17.0 +0.2
DUS Dusheti 21.08 295 P P 01 56 18.9 +3.8
GUDG Gudauri 21.30 296 P P 01 56 18.5 +0.8
ZEI Tsey 21.77 296 eP P 01 56 23.7 +1.0
ZEI pmax pmax
comp=Z,5.0nm,0.6s
SVE Sverdlovsk 21.98 345 ⇑eP P 01 56 25.0 +0.5
SVE eS S 02 00 21.4 +0.4
SVE pmax pmax
comp=Z,41nm,1.1s
ARU Arti 22.10 342 d iP P 01 56 26.1 +0.3
ARU 01 56 56.2
ARU S S 02 00 22.9 -0.1
ARU SS SnSn 02 01 04.5 +5.6
ARU pmax pmax
comp=Z,59nm,0.8s
ARU Arti 22.10 342 eP P 01 56 26.0 +0.3
comp=Z,54nm,0.9s
ARU eS S 02 00 25.5 +2.5
KBZ Khabaz 22.66 299 P P 01 56 30.5 -1.1
comp=Z,1.6nm,0.8s,baz=100,slow=11,SNR=5.5
KBZ S S 02 00 39.2 +6.8
comp=Z,2.9nm,0.8s,baz=162,slow=13,SNR=2.9
KIV Kislovodsk 22.85 299 eP P 01 56 35.1 +1.4
KIV pmax pmax
comp=Z,7.0nm,1.5s
KIV MLR MLR
comp=Z,37nm,17.0s
GTA Gaotai 23.26 73 ⇓P P 01 56 40.3 +2.6
GTA pP pP 01 57 01.3 +3.6
GTA sP sP 01 57 13.3 +3.5
GTA S S 02 00 47.4 +5.1
GTA pmax pmax
comp=Z,8.0nm,1.8s
GTA pmax pmax
comp=Z,64nm,4.8s
GTA LR LR
comp=Z,77nm,14.5s
GTA LR LR
comp=Z,70nm,15.0s
GTA LR LR
comp=Z,84nm,14.7s
RAYN Ar Rayn 25.06 247 eP P 01 56 53.0 -1.1
comp=Z,20nm,1.0s
SOKR Solikamsk 25.36 343 eP P 01 56 57.5 +1.2
SOKR pmax pmax
comp=Z,20nm,0.8s
VRHR Novokhopersk 25.75 315 eP P 01 57 00.3 +0.3
VRHR e*SP sP 01 57 34.3 +1.1
VRHR eS S 02 01 25.5 +3.8
VRHR pmax pmax
comp=N,3.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR smax smax
comp=N,40nm,1.5s
VRHR smax smax
comp=E,30nm,1.5s
VRHR smax smax
comp=Z,10.0nm,1.5s
MOY Mondy 26.68 44 eP P 01 57 17.3 +8.8
ANN Anapa 26.70 300 eP P 01 57 07.5 -1.1
ANN e*PP pP 01 57 29.3 -1.1
ANN e 01 57 57.1
ANN eS S 02 01 35.7 -1.1
ANN pmax pmax
comp=Z,196nm,1.8s
LZH Lanzhou 26.74 80 eP P 01 57 10.3 +1.0
LZH pP pP 01 57 31.5 +0.4
LZH sP sP 01 57 42.8 +0.3
LZH PP PnPn 01 57 59.5 +3.2
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,81nm,5.4s
LZH LR LR
comp=Z,300nm,11.5s
LZH LR LR
comp=Z,330nm,12.0s
LZH LR LR
comp=Z,410nm,14.3s
VSR Storozhevoye 27.22 314 eP P 01 57 12.6 -0.6
VSR e*PP pP 01 57 34.8 -0.3
VSR eS S 02 01 41.8 -3.1
VSR pmax pmax
comp=N,2.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.8s
VSR smax smax
comp=N,130nm,3.0s
VSR smax smax
comp=Z,140nm,3.0s
VSR smax smax
comp=E,60nm,2.8s
ZAK Zakamensk 27.55 48 eP P 01 57 17.2 +0.9
ZAK e 01 57 51.4
ZAK pmax pmax
comp=Z,2.0nm,1.3s
CD2 Chengdu 27.96 91 eP P 01 57 21.5 +1.4
CD2 pP pP 01 57 42.3 +0.3
CD2 sP sP 01 57 53.4 0.0
CD2 PP PnPn 01 58 14.6 +2.1
CD2 PcP PcP 02 00 35.0 +2.0
CD2 S S 02 01 56.8 -0.2
CD2 sS sS 02 02 33.1 -2.0
CD2 SS SnSn 02 03 24.8 +3.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.4s
SONA0 Songino Array 28.86 55 eP P 01 57 29.2 +1.2
SONM Songino Array 28.86 55 P P 01 57 29.2 +1.2
comp=Z,0.8nm,0.8s,baz=269,slow=9.0,SNR=7.8
SONM LR LR 02 11 04.4
comp=Z,31nm,18.2s,baz=156,slow=40
ULN Ulaanbaatar 29.30 55 eP P 01 57 32.5 +0.6
ULN pmax pmax
comp=Z,2.0nm,1.4s
PRGR Permogore 30.20 336 eP P 01 57 38.8 -0.7
PRGR pmax pmax
comp=Z,20nm,0.9s
OBN Obninsk 30.22 320 d iP P 01 57 39.6 -0.1
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,39nm,16.0s
OBN Obninsk 30.22 320 P P 01 57 39.7 -0.1
comp=Z,9.7nm,0.4s,baz=326,slow=2.9,SNR=6.3
OBN Obninsk 30.22 320 eP P 01 57 39.8 0.0
comp=Z,13nm,0.7s
CM31 Chiang Mai Arr 30.40 117 eP P 01 57 43.5 +1.8
CMAR Chiang Mai Arr 30.40 117 P P 01 57 43.5 +1.8
comp=Z,1.7nm,0.3s,baz=296,slow=8.4,SNR=8.8
CMAR LR LR 02 12 03.2
comp=Z,20nm,18.1s,baz=295,slow=40
KLMR Klimovskoe 31.86 331 eP P 01 57 52.7 -1.5
KLMR pmax pmax
comp=Z,20nm,1.0s
GYA Guiyang 32.02 97 eP P 01 57 56.8 +0.7
GYA pP pP 01 58 18.3 +0.1
GYA sP sP 01 58 28.6 -1.0
GYA PP PnPn 01 59 06.0 +0.8
GYA S S 02 03 01.3 +0.4
GYA sS sS 02 03 37.5 -1.8
GYA SS SnSn 02 04 58.5 -2.1
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=Z,510nm,18.5s
GYA LR LR
comp=Z,470nm,19.3s
GYA LR LR
comp=Z,490nm,18.2s
HHC Hu-ho-hao-te 32.19 69 eP P 01 57 56.9 -0.5
HHC pP pP 01 58 19.3 -0.2
HHC sP sP 01 58 30.3 -0.6
HHC PP PnPn 01 59 06.0 -1.0
HHC S S 02 03 02.4 -0.8
HHC sS sS 02 03 39.8 -1.8
HHC PcS PcS 02 04 26.9 -2.0
HHC pmax pmax
comp=Z,32nm,0.6s
HHC LR LR
comp=Z,160nm,16.5s
HHC LR LR
comp=Z,260nm,16.1s
HHC LR LR
comp=Z,120nm,16.8s
AKASG Malin Array Be 33.12 310 P P 01 58 04.7 -0.6
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 33.12 310 P P 01 58 04.7 -0.6
comp=Z,3.6nm,0.6s,baz=83,slow=7.3,SNR=22
AKBB Malin Array Si 33.12 310 eP P 01 58 04.7 -0.6
AKBB Malin Array Si 33.12 310 eP P 01 58 04.7 -0.6
KIEV Kiev 33.13 310 eP P 01 58 06.0 +0.7
KIEV Kiev 33.13 310 eP P 01 58 04.5 -0.9
comp=Z,20nm,1.6s
TMCR Tamitsa 34.46 335 eP P 01 58 17.1 +0.4
TMCR e 01 59 35.2
TMCR pmax pmax
comp=Z,13nm,0.5s
MLR Muntele Rosu 34.85 300 ⇑P P 01 58 22.2 +1.7
MLR Muntele Rosu 34.85 300 ⇑iP P 01 58 22.2 +1.7
BURAR Bucovina Array 35.40 304 ⇑P P 01 58 25.2 +0.1
BURAR Bucovina Array 35.40 304 ⇑iP P 01 58 25.2 +0.1
VOIR 35.49 300 ⇑P P 01 58 26.0 +0.1
VOIR 35.49 300 ⇑iP P 01 58 26.0 +0.1
ARR Arges 35.78 300 ⇑iP P 01 58 28.8 +0.4
BOD Bodaibo 35.94 39 eP P 01 58 28.3 -1.2
BOD pmax pmax
comp=Z,3.0nm,1.2s
JOF Joensuu 36.25 331 eP P 01 58 32.4 +0.4
JOF pmax pmax
comp=Z,22nm,0.5s
JOF Joensuu 36.25 331 ep P 01 58 32.4 +0.4
comp=Z,22nm,0.5s
LOT Lotru 36.39 300 ⇑iP P 01 58 33.7 +0.1
FIA0 FINESS Array S 37.83 327 eP P 01 58 45.5 +0.1
FIA0 FINESS Array S 37.83 327 eP P 01 58 45.5 +0.1
FINES FINESS Array B 37.83 327 P P 01 58 45.5 +0.1
FINES pmax pmax
comp=Z,4.0nm,0.3s
FINES FINESS Array B 37.83 327 P P 01 58 45.5 +0.1
comp=Z,3.8nm,0.3s,baz=127,slow=10,SNR=73
BZS Buzias 37.89 300 ⇑P P 01 58 46.7 +0.5
BZS Buzias 37.89 300 ⇑iP P 01 58 46.7 +0.5
CRVS Cervenica-Dubn 37.95 306 eP P 01 58 48.9 +2.3
CRVS Cervenica-Dubn 37.95 306 e P 01 58 48.9 +2.3
KAF Kangasniemi 37.98 328 eP P 01 58 46.8 +0.1
KAF pmax pmax
comp=Z,3.0nm,0.3s
KAF Kangasniemi 37.98 328 ep P 01 58 46.8 +0.1
comp=Z,2.8nm,0.3s
STHS Stebnicka Huta 38.10 306 eP P 01 58 47.5 -0.4
STHS Stebnicka Huta 38.10 306 eP P 01 58 47.5 -0.4
NJ2 Nanjing 39.79 81 eP P 01 59 03.1 +0.9
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
MORC Moravsky Berou 40.51 307 ⇓P P 01 59 08.3 +0.3
MORC Moravsky Berou 40.51 307 ⇓iP P 01 59 08.3 +0.3
KEV Kevo 41.24 339 eP P 01 59 14.0 +0.4
KEV pmax pmax
comp=Z,7.0nm,0.3s
KEV Kevo 41.24 339 ep P 01 59 14.0 +0.4
comp=Z,7.1nm,0.3s
DPC Dobruska-Polom 41.29 308 eP P 01 59 14.7 +0.3
DPC Dobruska-Polom 41.29 308 eP P 01 59 14.7 +0.3
DPC ex x 01 59 18.3
ARA0 ARCESS Array S 41.58 338 eP P 01 59 16.7 +0.2
ARCES ARCESS Array B 41.58 338 P P 01 59 16.9 +0.4
comp=Z,15nm,0.6s,baz=110,slow=7.6,SNR=103
ARCES LR LR 02 16 56.2
comp=Z,39nm,19.7s,baz=192,slow=36
CONA Conrad Observa 41.70 304 ⇑iP P 01 59 18.5 +0.6
comp=Z,3.0nm,0.9s
CN2 Changchun 42.08 62 eP P 01 59 20.0 -0.9
CN2 epP pP 01 59 42.9 -0.8
CN2 ePP PP 02 01 02.1 +2.1
CN2 eS S 02 05 31.4 -1.5
SOKA Soboth 42.37 302 ⇓iP P 01 59 23.4 +0.1
comp=Z,2.4nm,0.6s
GEC2 GERESS Array S 43.07 306 eP P 01 59 28.4 -0.5
GEC2 GERESS Array S 43.07 306 eP P 01 59 28.4 -0.5
GERES GERESS Array B 43.07 306 P P 01 59 28.4 -0.5
comp=Z,0.3nm,0.7s,baz=70,slow=8.5,SNR=2.6
YAK Yakutsk 44.57 35 eP P 01 59 38.9 -1.6
YAK e 02 00 07.6
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.1s
NB2 NORSAR Subarra 44.70 323 P P 01 59 40.5 -1.2
comp=Z,3.1nm,0.4s,baz=98,slow=7.9
NB200 NORSAR Array S 44.70 323 eP P 01 59 40.8 -0.9
NOA NORSAR Array B 44.70 323 P P 01 59 40.8 -0.9
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 44.70 323 P P 01 59 40.8 -0.9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,1.1nm,0.4s,baz=101,slow=7.3,SNR=31						
MDJ	Mudanjiang	44.89	60	P	P	01 59 42.3	-1.1
MDJ				sP	sP	02 00 13.4	-4.2
MDJ				S	S	02 06 13.0	-0.8
MDJ				pmax	pmax		
	comp=Z,12nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,110nm,3.8s						
MDJ				LR	LR		
	comp=Z,36nm,24.4s						
MDJ				LR	LR		
	comp=Z,13nm,24.4s						
MDJ				LR	LR		
	comp=Z,16nm,26.3s						
KS15	Wonju Array Si	45.27	70	eP	P	01 59 47.4	+0.9
KSAR	Wonju Array Be	45.27	70	P	P	01 59 47.4	+0.9
KSAR	Wonju Array Be	45.27	70	P	P	01 59 47.4	+0.9
KSRS	Korea Array	45.29	70	P	P	01 59 47.4	+0.8
	comp=Z,1.6nm,0.4s,baz=276,slow=6.7,SNR=5.3						
KSRS				LR	LR	02 20 01.9	
	comp=Z,10nm,18.6s,baz=145,slow=38						
TIXI	Tiksi	46.39	22c	iP	P	01 59 54.6	-0.2
TIXI				pmax	pmax		
	comp=Z,14nm,1.2s						
TIXI	Tiksi	46.39	22	eP	P	01 59 55.1	+0.3
	comp=Z,17nm,1.2s						
USRK	Ussuriysk Arra	46.66	60	P	P	01 59 59.6	+2.3
	comp=Z,0.8nm,0.5s,baz=301,slow=8.4,SNR=4.7						
PGF	Pioggiola	47.32	298	eP	P	02 00 01.1	-1.5
PGF	Pioggiola	47.32	298	eP	P	02 00 01.1	-1.5
PGF	Pioggiola	47.32	298	eP	P	02 00 01.1	-1.5
LPG	La Plagne	48.25	302	eP	P	02 00 09.4	-0.5
LPG	La Plagne	48.25	302	eP	P	02 00 09.4	-0.5
LPG	La Plagne	48.25	302	eP	P	02 00 09.4	-0.5
LPL	La Plagne	48.26	302	eP	P	02 00 08.9	-1.0
LPL	La Plagne	48.26	302	eP	P	02 00 08.9	-1.0
LPL	La Plagne	48.26	302	eP	P	02 00 08.9	-1.0
KMBO	Kilima Mbogo	48.27	228	P	P	02 00 10.7	+0.3
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMBO	Kilima Mbogo	48.27	228	P	P	02 00 10.7	+0.3
	comp=Z,1.7nm,0.6s,baz=36,slow=13,SNR=8.9						
MBDF	Montbardon	48.40	301	eP	P	02 00 10.4	-0.6
	comp=Z,6.5nm,0.6s						
MBDF	Montbardon	48.40	301	eP	P	02 00 10.4	-0.6
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MBDF	Montbardon	48.40	301	eP	P	02 00 10.4	-0.6
	comp=Z,6.5nm,0.6s						
KEST	Kesra	48.99	289	P	P	02 00 15.6	+0.1
	comp=Z,1.5nm,0.8s,baz=336,slow=1.9,SNR=7.2						
KEST	Kesra	48.99	289	eP	P	02 00 15.4	-0.1
KBS	Kingsbay	49.12	347	eP	P	02 00 17.0	+1.2
KBS				pmax	pmax		
	comp=Z,21nm,1.0s						
KBS	Kingsbay	49.12	347	eP	P	02 00 17.0	+1.2
	comp=Z,21nm,1.0s						
SMF	Signal de Mont	49.98	304	eP	P	02 00 22.4	-0.4
	comp=Z,2.3nm,0.5s						
SMF	Signal de Mont	49.98	304	eP	P	02 00 22.4	-0.4
SMF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SMF	Signal de Mont	49.98	304	eP	P	02 00 22.4	-0.4
	comp=Z,2.3nm,0.5s						
MAJO	Matsushiro	53.38	68	eP	P	02 00 48.4	+0.1
MAJO				pmax	pmax		
	comp=Z,30nm,1.0s						
ETSF	Etsaut	54.00	301	eP	P	02 00 52.4	-0.4
	comp=Z,9.5nm,0.9s						
ETSF	Etsaut	54.00	301	eP	P	02 00 52.4	-0.4
ETSF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ETSF	Etsaut	54.00	301	eP	P	02 00 52.4	-0.4
	comp=Z,9.5nm,0.9s						
ESDC	Sonseca Array	57.52	298	P	P	02 01 16.4	-1.5
	comp=Z,0.7nm,0.6s,baz=56,slow=7.5,SNR=6.2						
BILL	Bilibino	59.23	26⇓	eP	P	02 01 29.9	+0.7
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,60nm,20.0s						
BILL	Bilibino	59.23	26	eP	P	02 01 29.9	+0.7
	comp=Z,5.5nm,0.9s						
SUMG	Summit	61.52	341	eP	P	02 01 46.3	+1.0
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SUMG	Summit	61.52	341	eP	P	02 01 46.3	+1.0
	comp=Z,5.7nm,0.6s						
TOA0	Torodi Ar. Sit	65.47	269	eP	P	02 02 10.4	-1.3
TOA0				epP	pP	02 02 37.4	+1.1
TORD	Torodi Ar. Bea	65.47	269	P	P	02 02 09.4	-2.2
	comp=Z,3.7nm,0.7s,baz=47,slow=6.2,SNR=33						
TORD				pP	pP	02 02 37.4	+1.1
	comp=Z,4.1nm,0.7s,baz=47,slow=5.5,SNR=8.1						
COLD	Coldfoot	72.58	15	eP	P	02 02 55.6	+0.7
	comp=Z,5.2nm,1.1s						
DBIC	Dimbokro	74.43	267	eP	P	02 03 06.0	-0.5
DBIC				pmax	pmax		
	comp=Z,70nm,1.8s						
DBIC	Dimbokro	74.43	267	P	P	02 03 05.0	-1.5
	comp=Z,1.9nm,0.9s,baz=72,slow=6.4,SNR=3.3						
DBIC	Dimbokro	74.43	267	eP	P	02 03 06.0	-0.5
	comp=Z,70nm,1.8s						
INK	Inuvik	74.51	9	P	P	02 03 06.5	+0.4
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK	Inuvik	74.51	9	P	P	02 03 06.5	+0.4
	comp=Z,3.0nm,0.5s,baz=332,slow=6.2						
COLA	College	75.09	16⇑	iP	P	02 03 09.9	+0.4
COLA				pmax	pmax		
	comp=Z,26nm,1.2s						
ILAR	Eielson Array	75.39	16	P	P	02 03 10.6	-0.7
ILAR				*PP	pP	02 03 38.0	+1.5
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	Eielson Array	75.39	16	P	P	02 03 10.6	-0.7
	comp=Z,1.9nm,0.9s,baz=323,slow=4.2,SNR=14						
ILAR				pP	pP	02 03 38.0	+1.5
	comp=Z,0.9nm,1.0s,baz=293,slow=5.5,SNR=2.7						
ILB	Eielson Array	75.39	16	eP	P	02 03 10.6	-0.7
ILB				epP	pP	02 03 38.0	+1.5
BOSA	Boshof	77.16	220	P	P	02 03 22.1	+0.3
BOSA				*PP	pP	02 03 47.0	-0.1
BOSA				pmax	pmax		
	comp=Z,11nm,0.8s						
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOSA	Boshof	77.16	220	P	P	02 03 22.1	+0.3
	comp=Z,11nm,0.8s,baz=18,slow=3.5,SNR=18						
BOSA				pP	pP	02 03 47.0	-0.1
	comp=Z,4.4nm,0.8s,baz=345,slow=5.4,SNR=2.8						
YKA	Yellowknife Ar	81.83	2	P	P	02 03 46.2	-0.4
YKA				*PP	pP	02 04 12.6	+0.6
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	Yellowknife Ar	81.83	2	P	P	02 03 46.2	-0.4
	comp=Z,1.0nm,0.6s,baz=349,slow=5.4,SNR=20						
YKA				pP	pP	02 04 12.6	+0.6
	comp=Z,2.5nm,0.9s,baz=348,slow=5.3,SNR=6.7						
WRA	Warramunga Arr	81.89	122	P	P	02 03 47.5	-0.1
WRA				*PP	pP	02 04 13.2	+0.2
WRA				*SP	sP	02 04 27.6	+4.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	81.89	122	P	P	02 03 47.5	-0.1
	comp=Z,1.2nm,0.3s,baz=324,slow=4.9,SNR=60						
WRA				pP	pP	02 04 13.2	+0.2
	comp=Z,1.1nm,0.7s,baz=327,slow=5.2,SNR=3.3						
WRA				sP	sP	02 04 27.6	+4.0
	comp=Z,1.3nm,0.8s,baz=324,slow=5.1,SNR=2.9						

SKO 22 01:56:36.7, 41.78N×22.93E, h15km, M1.0, ML1.3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.53	211	iPg	Pb	01 56 47.8	0.0
VAY				eSg	Sb	01 56 54.9	-0.4
VAY				eLg	Lg	01 56 55.1	
	comp=N,10nm,0.3s						
VAY				eLg	Lg	01 56 55.1	
	comp=E,7.9nm,0.2s						

CASC 22 02:04:03.8±1.9, 13.87N×89.38W, h6km±7km, MD3.7, ML3.6, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	Boqueron	0.16	144⇑	iP	Pg	02 04 08.0	+0.6
SNJE	San Jose	0.22	270	eP	Pg	02 04 08.9	+0.4
SNET	Serv Nac Est T	0.23	142	eP	Pg	02 04 09.0	+0.5
SNET				AML	AML	02 04 19.1	
	comp=Z,5μm,0.5s						
SBLS	San Blas	0.24	263	eP	Pg	02 04 09.5	+0.6
RTR	El Retiro	0.26	276	eP	Pg	02 04 09.8	+0.6
LFU	La Fuente	0.28	115	eP	Pg	02 04 10.0	+0.5
LBRS	Las Brisas	0.35	112	eP	Pg	02 04 11.2	+0.4
RBDL	Robledal	0.39	309	eP	Pg	02 04 11.4	-0.1
LFRS	El Faro	0.39	128	eP	Pg	02 04 12.0	+0.4
SNVI	San Vicente	0.58	116	eP	Pg	02 04 15.5	+0.2
IXG	Ixpaco	1.09	286	eP	Pg	02 04 23.9	-1.1
CAHU	Cacacuatique	1.14	95	eP	Pg	02 04 24.8	-1.1
CAHU				eS	Sg	02 04 40.9	-0.1
VSM	San Miguel	1.16	112	eP	Pg	02 04 25.6	-0.8
NBG	Las Nubes	1.18	307	eP	Pg	02 04 26.9	+0.1
NBG				eS	Sn	02 04 49.1	+5.2
MRL	Marmol	1.23	346	eP	Pg	02 04 26.6	-1.0
MRL				eS	Sn	02 04 48.5	+3.5
CNCH	Conchagua	1.61	111	eP	Pn	02 04 32.3	-0.7
JAT	Jato	2.24	282	eP	Pb	02 04 44.5	-0.2
COPN	Copaltepe	3.19	121	eP	Pn	02 04 54.4	-0.2

ISCJB 22 02:04:51.3±0.7, 10.1S±0.2×75.1W±0.2, h56km, mb3.7/8, MS4.4/1, Error ellipse: s-maj=33.2km s-min=9.3km az=136.4
IDC 22 02:04:54.4±2.0, 10.22S×75.19W, h72km±19km, mb3.4/8, mb1 3.7/11, mb1mx3.5/40, mbtmp3.7/11, MS4.3/1, Ms1 4.3/1, ms1mx2.7/17, Error ellipse: s-maj=45.0km s-min=11.9km az=48.0
ISC 22 02:04:53.0±0.7, 10.1S±0.2×75.0W±0.2, h56km, n17, σ1§46/17, mb3.7/8, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	4.43	311	P	Pn	02 05 57.7	-0.4
	6.6nm,0.3s,baz=170,slow=5.7,SNR=28						
ATAH				S	Sn	02 06 51.6	+3.0
	6.1nm,0.3s,baz=35,slow=19,SNR=2.7						
LPAZ	La Paz	9.12	133	P	Pn	02 07 04.6	+2.0
	0.2nm,0.3s,baz=329,slow=13,SNR=7.7						
SIV	San Ignacio	14.81	115	P	Pn	02 08 19.2	-0.1
	0.5nm,0.3s,baz=308,slow=11,SNR=4.7						
CFAA	Coronel Fontan	22.32	165	P	P	02 09 45.0	-1.1
	0.3nm,0.7s,baz=334,slow=11,SNR=6.3						
CPUP	Villa Florida	23.27	136	P	P	02 09 56.2	+0.4
	2.3nm,0.7s,baz=277,slow=6.0,SNR=3.4						
TXAR	Lajitas Array	47.94	326	P	P	02 13 25.5	-0.7
	0.5nm,0.7s,baz=153,slow=11,SNR=7.0						
PFO	Pinyon Flat Ob	58.64	320	LR	LR	02 37 34.1	
	comp=Z,296nm,20.9s,baz=262,slow=33						
PDAR	Pinedale Array	61.33	332	P	P	02 15 02.4	-0.7
	0.3nm,0.8s,baz=125,slow=12,SNR=3.0						
ULM	Lac du Bonnet	62.78	345	P	P	02 15 11.7	-0.7
	2.3nm,0.7s,baz=163,slow=6.8,SNR=5.9						
NVAR	Mina Array Bea	62.90	323	P	P	02 15 14.0	+0.2
	0.4nm,0.6s,baz=150,slow=9.1,SNR=3.4						
YKA	Yellowknife Ar	78.56	342	P	P	02 16 48.0	-0.1
	0.5nm,0.6s,baz=139,slow=6.0,SNR=15						
TORD	Torodi Ar. Bea	79.58	75	P	P	02 16 56.5	+1.7
	1.6nm,0.8s,baz=269,slow=4.7,SNR=7.6						
ZALV	Zalesovo Beam	133.38	16	PKP	PKPdf	02 24 03.7	+0.9
	0.6nm,0.4s,baz=228,slow=5.3,SNR=4.6						
WRA	Warramunga Arr	138.44	224	PKP	PKPdf	02 24 12.2	-1.0
	0.7nm,0.6s,baz=125,slow=2.0,SNR=12						
MKAR	Makanchi Array	138.65	24	PKP	PKPdf	02 24 13.2	+0.3
	0.2nm,0.6s,baz=307,slow=3.6,SNR=5.6						
SONM	Songino Array	142.36	358	PKP	PKPdf	02 24 16.7	-2.9
	0.1nm,0.4s,baz=198,slow=0.5,SNR=2.4						
KSRS	Korea Array	145.79	326	PKPbc	PKPbc	02 24 26.0	-0.2
	0.6nm,0.3s,baz=56,slow=3.6,SNR=4.3						

CRAAG 22 02:10:25.4, 35.70N×4.94E, Ml2.5
CSEM 22 02:10:28.8±0.6, 35.93N×4.85E, h2km, mb3.8, Error ellipse: s-maj=24.7km s-min=7.5km az=174.0
MDD 22 02:10:28.8±1.4, 35.78N×4.89E, h0km, mb3.8/4, Error ellipse: s-maj=24.3km s-min=5.5km az=170.0, PRXIMO
ISCJB 22 02:10:29.2±0.9, 35.9N±0.1×4.83E±0.05, h24km, Error ellipse: s-maj=15.0km s-min=6.0km az=3.7
ISC 22 02:10:29.7±1.4, 35.8N±0.1×4.87E±0.04, h24km, n23, σ1§71/27, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	Djebel Tarf	0.48	274	P	Pb	02 10 37.8	-1.8
ATAF	Djebel Tarf	0.48	274	P	Pb	02 10 37.8	-1.8
ATAF	Djebel Tarf	0.48	274	P	Pb	02 10 37.8	-1.8
CKHR	Kef el Ahmar	0.55	71	P	Pb	02 10 38.3	-2.6
CKHR	Kef el Ahmar	0.55	71	P	Pb	02 10 38.3	-2.6
CKHR	Kef el Ahmar	0.55	71	P	Pb	02 10 38.3	-2.6
SET	Setif	0.56	50	P	Pb	02 10 38.9	-2.1
SET	Setif	0.56	50	P	Pb	02 10 38.9	-2.1
SET	Setif	0.56	50	P	Pb	02 10 38.9	-2.1
DFRA	Djebel Bou Aff	1.08	49	P	Pb	02 10 49.9	+0.1
DFRA	Djebel Bou Aff	1.08	49	P	Pb	02 10 49.9	+0.1
DFRA	Djebel Bou Aff	1.08	49	P	Pb	02 10 49.9	+0.1
CASM	Ain Smara	1.38	72	P	Pb	02 10 55.0	+0.1
CASM	Ain Smara	1.38	72	P	Pb	02 10 55.0	+0.1
CASM	Ain Smara	1.38	72	P	Pb	02 10 55.0	+0.1
OKGL	Djebel Kef Gue	3.43	275	P	Pn	02 11 22.6	+0.9
	6.7nm,0.1s,SNR=7.9						
OKGL	Djebel Kef Gue	3.43	275	P	Pn	02 11 22.6	+0.9
	6.7nm,0.1s,SNR=7.9						
EIBI	Ibiza	4.24	320	P	Pn	02 11 31.8	-1.0
	0.5nm,0.2s,SNR=7.9						
EIBI				S	Sn	02 12 22.1	+0.6
	0.7nm,0.1s,SNR=7.9						
EIBI	Ibiza	4.24	320	P	Pn	02 11 31.8	-1.0
	0.5nm,0.2s,SNR=7.9						
EIBI				S	Sn	02 12 22.1	+0.6
	0.7nm,0.1s,SNR=7.9						
ETOB	Tobarra	5.83	301	P	Pn	02 11 57.2	+2.5
	0.2nm,0.1s,SNR=7.9						
ETOB				S	Sn	02 13 00.4	-0.5
	0.2nm,0.3s,SNR=7.9						
ETOB	Tobarra	5.83	301	P	Pn	02 11 57.2	+2.5
	0.2nm,0.1s,SNR=7.9						
ETOB				S	Sn	02 13 00.4	-0.5
	0.2nm,0.3s,SNR=7.9						
EQES	Quesada	6.66	289	P	Pn	02 12 08.4	+2.3
	0.4nm,0.1s,SNR=7.9						
EQES	Quesada	6.66	289	P	Pn	02 12 08.4	+2.3
	0.4nm,0.1s,SNR=7.9						

IDC 22 02:19:41.4±8.3, 20.47S×67.70W, h155km±54km, mb3.2/2, mb1 3.1/4, mb1mx3.0/19, mbtmp3.4/4, Error ellipse: s-maj=91.4km s-min=31.6km az=33.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.17	354	P	Pn	02 20 45.4	+0.5
	0.5nm,0.3s,baz=165,slow=7.8,SNR=11						
LPAZ				S	Sn	02 21 34.4	+0.2
	baz=0.0,slow=20,SNR=2.7						
SIV	San Ignacio	7.71	56	P	Pn	02 21 29.7	-1.4
	0.2nm,0.3s,baz=216,slow=8.7,SNR=3.1						
TORD	Torodi Ar. Bea	75.95	70	P	P	02 31 12.2	+0.5
	0.5nm,1.0s,baz=257,slow=5.5,SNR=7.9						
YKA	Yellowknife Ar	90.59	340	P	P	02 32 24.8	-0.7
	0.2nm,0.4s,baz=133,slow=4.5,SNR=7.9						

SZGRF 22 02:36:59.2, 43.21N×18.36E, h10km, mb3.8, Northwestern Balkan Peninsula
ISCJB 22 02:37:00.5±0.4, 43.46N±0.01×17.55E±0.02, h4km±3km, mb3.3/6, MS3.0/1, Error ellipse: s-maj=2.5km s-min=2.0km az=157.6
IDC 22 02:37:00.5±1.2, 43.33N×17.38E, h0km, mb3.3/6, mb1 3.5/11, mb1mx3.5/29, mbtmp3.4/11, ML3.4/4, MS2.7/3, Ms1 2.7/3, ms1mx2.2/28, Error ellipse: s-maj=19.6km s-min=13.0km az=53.0
ROM 22 02:37:01.7±0.2, 43.44N×17.62E, h10km, Ml3.4/18, Error ellipse: s-maj=4.1km s-min=2.8km az=84.0
BEO 22 02:37:01.4±0.3, 43.46N×17.47E, h6km±3km, ML3.3/1
CSEM 22 02:37:01.5±0.1, 43.42N×17.60E, h2km, ML3.3, Ms3.7, Error ellipse: s-maj=2.9km s-min=2.7km az=63.0
PDG 22 02:37:01.9±0.5, 43.45N×17.61E, h2km±1km, MD3.5/2, ML3.4/10, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0
LDG 22 02:37:03.1±0.1, 43.46N×17.59E, h10km, Ml3.3/21, Error ellipse: s-maj=2.6km s-min=1.9km az=14.0
PRU 22 02:37:03.1, 43.51N×17.87E, h0km
VIE 22 02:37:04.7±0.3, 43.65N×17.67E, h10km, mb3.3/13, ML3.2/9, Ms3.7/4, Error ellipse: s-maj=2.8km s-min=1.9km az=150.0
ISC 22 02:37:02.5±1.0, 43.42N±0.02×17.55E±0.02, h14km±7km, n284, σ1§50/355, mb3.4/6, 34C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.56	169	iPg	Pg	02 37 12.0	-1.4
STON				Sg	Sg	02 37 21.4	+0.6
STON	Ston	0.56	169⇑	iPg	Pg	02 37 12.0	-1.4
STON	Ston	0.56	169⇑	iPg	Pg	02 37 12.0	-1.4
STON				Sg	Sg	02 37 21.3	+0.6
UPM	Unac-Piva	1.01	102⇑	iPg	Pb	02 37 19.9	-2.0
UPM				eSg	Sb	02 37 35.9	+0.7
UPM	Unac-Piva	1.01	102⇑	iPg	Pb	02 37 19.9	-2.0
UPM				eSg	Sb	02 37 35.9	+0.7
HCY	Herceg Novi	1.19	144⇑	iPg	Pn	02 37 22.8	-2.0
HCY				eSg	Sg	02 37 42.9	+2.0
HCY	Herceg Novi	1.19	144⇑	iPg	Pn	02 37 22.8	-2.0
HCY				eSg	Sg	02 37 42.9	+2.0
NKME	Niksic	1.22	122⇑	iPg	Pn	02 37 23.6	-1.5
NKME				eSg	Sg	02 37 43.7	+2.0
NKME	Niksic	1.22	122⇑	iPg	Pn	02 37 23.6	-1.5
NKME				eSg	Sg	02 37 43.7	+2.0
NKY	Niksic	1.22	119⇑	iPg	Pn	02 37 24.4	-0.8
NKY				eSg	Sg	02 37 43.3	+1.5
NKY	Niksic	1.22	119⇑	iPg	Pn	02 37 24.4	-0.8
NKY				eSg	Sg	02 37 43.3	+1.5
PLE	Pljevlja	1.34	93⇑	iPg	Pn	02 37 26.2	-0.8
PLE				eSg	Sg	02 37 47.1	+1.3
PLE	Pljevlja	1.34	93⇑	iPg	Pn	02 37 26.2	-0.8
PLE				eSg	Sg	02 37 47.1	+1.3
BLY	Banja Luka	1.36	349	ePg	Pn	02 37 25.8	-1.2
BLY				eSg	Sb	02 37 44.3	-0.6
BLY	Banja Luka	1.36	349	Pn	Pn	02 37 25.6	-1.4
BLY				Sn	Sb	02 37 44.5	-0.4
BLY	Banja Luka	1.36	349	Pn	Pn	02 37 25.6	-1.4
BLY				Sn	Sb	02 37 44.5	-0.4
BBLS	Lazići	1.42	71	ePg	Pn	02 37 27.1	-0.9
BBLS				eSg	Sb	02 37 47.6	+0.8
BBLS	Lazići	1.42	71	ePg	Pn	02 37 27.1	-0.9
BBLS				eSg	Sb	02 37 47.6	+0.8
BUM	Brajici-Budva	1.49	138⇑	iPg	Pn	02 37 29.1	+0.2
BUM				eSg	Sg	02 37 52.6	+2.1
BUM	Brajici-Budva	1.49	138⇑	iPg	Pn	02 37 29.1	+0.2
BUM				eSg	Sg	02 37 52.6	+2.1
PDG	Podgorica	1.59	128	ePn	Pn	02 37 30.4	+0.1
PDG				eSg	Sg	02 37 55.3	+1.5
PDG	Podgorica	1.59	128	Pn	Pn	02 37 31.0	+0.7
PDG	Podgorica	1.59	128⇑	iPn	Pn	02 37 30.8	+0.5
PDG				eSg	Sg	02 37 55.3	+1.5
TTG	Podgorica	1.59	128⇑	iPn	Pn	02 37 30.8	+0.5
TTG				eSn	Sg	02 37 55.6	+1.8
UDBI	Udbina	1.70	311	ePn	Pn	02 37 32.9	+1.1
UDBI				Sn	Sg	02 37 58.0	+0.8
UDBI	Udbina	1.70	311	ePn	Pn	02 37 32.9	+1.1
UDBI				Sn	Sg	02 37 58.0	+0.8
DRME	Dracevica, Mon	1.72	135⇑	iPn	Pb	02 37 33.8	-0.1
DRME				eSn	Sg	02 37 58.8	+1.0
DRME	Dracevica, Mon	1.72	135⇑	iPn	Pb	02 37 33.8	-0.1
DRME				eSn	Sg	02 37 58.8	+1.0
BEY	Berane	1.80	107⇓	iPn	Pn	02 37 34.8	+1.6
BEY				eSn	Sg	02 38 01.0	+0.7
IVA	Berane	1.80	107⇓	iPn	Pn	02 37 34.8	+1.6
IVA				eSn	Sg	02 38 01.0	+0.7
TEKS	Tekeris	1.82	51	ePn	Pn	02 37 32.8	-0.7
TEKS	Tekeris	1.82	51	ePn	Pn	02 37 32.8	-0.7
DIVS	Divibare	1.90	68	ePn	Pn	02 37 35.0	+0.5
DIVS				eSg	Sg	02 38 04.1	+0.7
DIVS	Divibare	1.90	68	ePn	Pn	02 37 35.0	+0.5
DIVS				eSg	Sg	02 38 04.1	+0.7
IVAS	Ivanjica	1.90	84	ePn	Pn	02 37 35.2	+0.6
IVAS	Ivanjica	1.90	84	ePn	Pn	02 37 35.2	+0.6
ULC	Ulcinj	1.92	139⇓	iPn	Pn	02 37 36.4	+1.6
ULC				eSn	Sb	02 38 03.3	+2.3
ULC	Ulcinj	1.92	139⇓	iPn	Pn	02 37 36.4	+1.6
ULC				eSn	Sb	02 38 03.3	+2.3
PVY	Plav	1.95	114	ePn	Pb	02 37 37.3	-0.5
PVY				eSn	Sg	02 38 04.5	-0.6
MS1	Monte Sant'Ang	2.08	215	ePn	Pb	02 37 39.6	-0.5
MS1				Sn	Sg	02 38 09.0	-0.4
MSAG	Monte S. Angel	2.09	216	Pn	Pn	02 37 37.6	+0.4
	461nm,0.7s						
MSAG	Monte S. Angel	2.09	216	Pn	Pn	02 37 37.6	+0.4
	461nm,0.7s						
SGRT	San Giovanni R	2.13	219	Pn	Pn	02 37 37.2	-0.6
SGRT	San Giovanni R	2.13	219	Pn	Pn	02 37 37.2	-0.6
TRUS	Trudelj	2.22	68	ePn	Pn	02 37 37.1	-1.8
TRUS	Trudelj	2.22	68	ePn	Pn	02 37 37.1	-1.8
SISC	Sisak	2.22	338	ePn	Pn	02 37 40.6	+1.7
SISC				Sn	Sb	02 38 09.8	0.0
SISC	Sisak	2.22	338	ePn	Pn	02 37 40.5	+1.7
SISC				Sn	Sb	02 38 09.7	0.0
NVLJ	Novalja	2.25	302	ePn	Pn	02 37 40.9	+1.7
NVLJ				Sn	Sb	02 38 11.7	+1.2
NVLJ	Novalja	2.25	302	ePn	Pn	02 37 40.9	+1.7
NVLJ				Sn	Sb	02 38 11.7	+1.2
GRUS	Gruza	2.34	77	ePn	Pn	02 37 41.8	+1.2
GRUS	Gruza	2.34	77	ePn	Pn	02 37 41.8	+1.2
BAI	Bari	2.36	192	ePn	Pn	02 37 39.9	-0.9
BAI				Sn	Sn	02 38 11.3	+1.7
FGSL	Fruska Gora	2.38	42	ePn	Pn	02 37 39.7	-1.4
FRGS	Fruska Gora	2.38	42	ePn	Pn	02 37 39.7	-1.4
MELA	Melanico ??? S	2.48	227	Pn	Pn	02 37 42.6	+0.2
	741nm,0.8s						
MELA	Melanico ??? S	2.48	227	Pn	Pn	02 37 42.6	+0.2
	741nm,0.8s						
CDT	Castel del Mon	2.52	203	ePn	Pn	02 37 44.0	+1.0
BEO	Beograd	2.52	56	ePn	Pn	02 37 43.1	+0.1
BEO	Beograd	2.52	56	ePn	Pn	02 37 43.1	+0.1
MRVN	Minervino Murg	2.56	204	Pn	Pn	02 37 43.3	-0.3
	280nm,1.2s						
MRVN	Minervino Murg	2.56	204	Pn	Pn	02 37 43.3	-0.3
	280nm,1.2s						
AMUR	Altamura	2.61	196	Pn	Pn	02 37 44.1	-0.1
	124nm,0.8s						
AMUR	Altamura	2.61	196	Pn	Pn	02 37 44.1	-0.1
	124nm,0.8s						
SELS	Selova	2.61	93	ePn	Pn	02 37 44.4	+0.1
SELS	Selova	2.61	93	ePn	Pn	02 37 44.4	+0.1
PE1	Pezze di Greco	2.61	182	ePn	Pn	02 37 45.6	+1.3
NOCI	Noci	2.65	188	Pn	Pn	02 37 44.1	-0.8
	329nm,1.3s						
NOCI	Noci	2.65	188	Pn	Pn	02 37 44.1	-0.8
	329nm,1.3s						
SG1	Sgolgore (BA)	2.66	194	ePn	Pn	02 37 45.9	+1.0
BOJS	Bojanci	2.66	323	ePn	Pn	02 37 46.2	+1.3
BOJS	Bojanci	2.66	323	ePn	Pn	02 37 46.2	+1.3
BOJS				eSg	Sb	02 38 22.2	-0.1
BOJS	Bojanci	2.66	323	ePn	Pn	02 37 46.2	+1.3
GATE	Gambatesa	2.73	227	Pn	Pn	02 37 47.1	+1.2
	82nm,0.8s						
GATE	Gambatesa	2.73	227	Pn	Pn	02 37 47.1	+1.2
	82nm,0.8s						
LPEL	Lama dei Pelig	2.83	242	Pn	Pn	02 37 48.5	+1.1
	230nm,1.3s						
LPEL	Lama dei Pelig	2.83	242	Pn	Pn	02 37 48.5	+1.1
	230nm,1.3s						
AOI	Ancona	2.88	274	Pn	Pn	02 37 49.8	+1.8
	304nm,1.4s						
AOI	Ancona	2.88	274	Pn	Pn	02 37 49.8	+1.8
	304nm,1.4s						
ACER	Acerenza	2.89	205	Pn	Pn	02 37 48.3	+0.2
ACER	Acerenza	2.89	205	Pn	Pn	02 37 48.3	+0.2
TAR1	Taranto	2.90	184	ePn	Pn	02 37 47.6	-0.6
PKSM	Moragy	2.90	15	ePn	Pn	02 37 47.2	-1.0

PKSM Moragy 2.90 15⇑iP Pn 02 37 47.9 -0.3
PKSM Moragy 2.90 15 e Pn 02 37 46.6 -1.6
PKSM e 02 37 55.8
PKSM e 02 38 31.2
PKSM Moragy 2.90 15 ePn Pn 02 37 47.2 -1.0
PKSM Moragy 2.90 15 ePg Pb 02 37 55.8 +1.8
VCEL Villa Celiera 2.91 251 Pn Pn 02 37 49.3 +0.8
356nm,1.3s
VCEL Villa Celiera 2.91 251 Pn Pn 02 37 49.3 +0.8
356nm,1.3s
T0401 Montottone (Fe 2.91 264 Pn Pn 02 37 50.8 +2.4
720nm,1.1s
MRB1 Monte Rocchett 2.98 221 Pn Pn 02 37 50.9 +1.5
MRB1 Monte Rocchett 2.98 221 Pn Pn 02 37 50.9 +1.5
TERO Teramo 3.00 256 Pn Pn 02 37 50.7 +1.0
81nm,0.8s
TERO Teramo 3.00 256 Pn Pn 02 37 50.7 +1.0
81nm,0.8s
MIDA Miranda 3.01 235 Pn Pn 02 37 50.9 +1.0
222nm,1.2s
MIDA Miranda 3.01 235 Pn Pn 02 37 50.9 +1.0
222nm,1.2s
INTR Introdacqua 3.03 244 Pn Pn 02 37 50.8 +0.7
330nm,1.1s
INTR Introdacqua 3.03 244 Pn Pn 02 37 50.8 +0.7
330nm,1.1s
PTRJ Pietraroja 3.04 229 Pn Pn 02 37 51.5 +1.3
PTRJ Pietraroja 3.04 229 Pn Pn 02 37 51.5 +1.3
VISS Visnje 3.07 322 iPn Pn 02 37 53.6 +3.0
VISS Visnje 3.07 322 iPn Pn 02 37 53.6 +3.0
BEHE Becsehely 3.10 350 e Pn 02 37 52.2 +1.2
BEHE e 02 38 43.1
BEHE Becsehely 3.10 350 ePn Pn 02 37 52.2 +1.2
SGG Gregorio Mates 3.10 230 Pn Pn 02 37 52.9 +1.8
76nm,0.7s
SGG Gregorio Mates 3.10 230 Pn Pn 02 37 52.9 +1.8
76nm,0.7s
CING Cingoli 3.17 271 Pn Pn 02 37 53.4 +1.3
CING Cingoli 3.17 271 Pn Pn 02 37 53.4 +1.3
SMA1 SAN MARTINO 3.19 257 Pn Pn 02 37 53.7 +1.4
151nm,0.8s
SKO Skopje 3.21 115 ePn Pn 02 37 49.1 -3.4
SKO eSg Sg 02 38 45.8 +0.3
SKO Skopje 3.21 115 ePn Pn 02 37 49.1 -3.4
SKO eSg Sg 02 38 45.8 +0.3
PKS9 Tamasi 3.21 9 e Pn 02 37 52.3 -0.2
PKS9 e 02 38 01.4
PKS9 Tamasi 3.21 9 ePn Pn 02 37 52.3 -0.2
PKS9 Tamasi 3.21 9 ePg Pb 02 38 01.4 +2.1
BOLS Boljevac 3.22 81 ePn Pn 02 37 52.4 -0.3
BOLS Boljevac 3.22 81 ePn Pn 02 37 52.4 -0.3
SDI San Donato 3.25 240 Pn Pn 02 37 54.8 +1.7
80nm,1.1s
SDI San Donato 3.25 240 Pn Pn 02 37 54.8 +1.7
80nm,1.1s
VVLD Villa Vallelon 3.29 243 Pn Pn 02 37 54.2 +0.6
111nm,1.0s
VVLD Villa Vallelon 3.29 243 Pn Pn 02 37 54.2 +0.6
111nm,1.0s
PKS2 Kecel 3.29 20 e Pn 02 37 54.3 +0.7
PKS2 e 02 38 47.4
PKS2 Kecel 3.29 20 ePn Pn 02 37 54.3 +0.7
NRCA Norcia 3.30 261 Pn Pn 02 37 55.1 +1.3
19nm,0.6s
NRCA Norcia 3.30 261 Pn Pn 02 37 55.1 +1.3
19nm,0.6s
SKDS Skadanscina 3.31 311 iPn Pn 02 37 55.5 +1.6
SKDS Skadanscina 3.31 311 iPn Pn 02 37 55.5 +1.6
ARVD Arcevia 3.36 273 Pn Pn 02 37 55.7 +1.1
77nm,1.2s
ARVD Arcevia 3.36 273 Pn Pn 02 37 55.7 +1.1
77nm,1.2s
CESI CESI - Serrava 3.42 265 Pn Pn 02 37 57.0 +1.5
23nm,0.5s
CESI CESI - Serrava 3.42 265 Pn Pn 02 37 57.0 +1.5
23nm,0.5s
JAVS Javornik 3.51 316 iPn Pn 02 37 58.4 +1.7
JAVS Javornik 3.51 316 iPn Pn 02 37 58.4 +1.7
BZS Buzias 3.65 52⇓iP Pn 02 37 59.6 +1.1
ZAPS Zavoj 3.71 90 ePn Pn 02 38 01.5 +2.1
SOKA Soboth 3.72 332⇑iPn Pn 02 37 59.9 +0.3
SNR=29
SOKA ⇑iSn Sn 02 38 43.6 +0.4
SOKA Soboth 3.72 332 Pn Pn 02 37 59.9 +0.3
SNR=29
SOKA Sn Sn 02 38 43.6 +0.4
OBKA Obir 3.75 326 ePn Pn 02 38 03.1 +3.0
OBKA eSn Sb 02 38 51.2 -2.8
OBKA Obir 3.75 326 ePn Pn 02 38 03.1 +3.0
PKST T"s 3.86 5 e Pn 02 38 01.0 -0.4
PKST e 02 39 03.6
PKST T"s 3.86 5 ePn Pn 02 38 01.0 -0.4
FNA Florina 3.88 131 eP Pn 02 38 03.7 +2.0
CSKK Csˆ‡kako 3.98 7 epg Pn 02 38 00.9 -2.2
CSKK Csˆ‡kako 3.98 7 ePn Pn 02 38 00.9 -2.2
MGAB Montegabbione 4.01 265 Pn Pn 02 38 05.2 +1.7
MGAB Montegabbione 4.01 265 Pn Pn 02 38 05.2 +1.7
ARSA Arzberg 4.09 340 ePn Pn 02 38 04.4 -0.2
ARSA Arzberg 4.09 340 ePn Pn 02 38 05.0 +0.4
ARSA Arzberg 4.09 340⇑iPn Pn 02 38 04.3 -0.3
SNR=36
ARSA ⇓iSn Sn 02 38 51.7 -0.6
ARSA Arzberg 4.09 340 ePn Pn 02 38 05.0 +0.4
ARSA Sn Sn 02 38 51.7 -0.6
BUD Budapest 4.20 14 e Pn 02 38 05.2 -0.8
BUD e 02 39 15.3
BUD Budapest 4.20 14 ePn Pn 02 38 05.2 -0.8
GZR Gura Zlata 4.23 60⇑iP Pn 02 38 08.3 +1.7
VAY Valandovo 4.27 118 ePn Pn 02 38 03.5 -3.6
VAY eSg Sg 02 39 21.4 +1.9
VAY Valandovo 4.27 118 ePn Pn 02 38 03.4 -3.6
VAY eSg Sg 02 39 21.3 +1.9
SOP Sopron 4.32 351 e Pn 02 38 08.3 +0.5
SOP e 02 39 00.2
SOP Sopron 4.32 351 ePn Pn 02 38 08.3 +0.5
SOP eSn Sn 02 39 00.2 +2.2
IGT Igoumenitsa 4.41 151 eP Pn 02 38 09.0 0.0
CONA Conrad Observa 4.66 346⇑iPn Pn 02 38 12.6 0.0
SNR=17
CONA Conrad Observa 4.66 346 Pn Pn 02 38 12.6 0.0
SNR=17
KBA Koelnbreinsper 4.71 322 ePn Pn 02 38 15.7 +2.4
KBA eSg Sg 02 39 47.2 +13
KBA Koelnbreinsper 4.71 322⇑iPn Pn 02 38 14.7 +1.4
SNR=5.4
KBA Koelnbreinsper 4.71 322 Pn Pn 02 38 14.7 +1.4
SNR=5.4
PSZ Piszkesteto 4.79 19⇑iP Pn 02 38 14.1 -0.2
PSZ Piszkesteto 4.79 19 e Pn 02 38 14.5 +0.2
PSZ Piszkesteto 4.79 19 ePn Pn 02 38 14.5 +0.2
ABTA Abfaltersbach 4.88 315⇓iPn Pn 02 38 16.6 +1.0
ABTA Abfaltersbach 4.88 315 Pn Pn 02 38 16.6 +1.0
LOT Lotru 4.89 63⇑iP Pn 02 38 17.8 +2.0
LIT Litokhoron 4.96 130 eP Pn 02 38 18.0 +1.4
DRGR 4.97 45⇑iP Pn 02 38 17.7 +0.9
MOA Molln 5.00 334 ePn Pn 02 38 18.9 +1.8
MOA eSn Sn 02 39 15.8 +1.2
MOA Molln 5.00 334⇓iPn Pn 02 38 18.4 +1.3
SNR=26
MOA Molln 5.00 334 Pn Pn 02 38 18.4 +1.3
SNR=26
MOA eSn Sn 02 39 15.8 +1.2
HORT Hortiatis 5.00 122 eP Pn 02 38 19.2 +2.0
SOH Sokhos 5.04 119 eP Pn 02 38 20.9 +3.3
SRS Serrai 5.04 115 eP Pn 02 38 20.0 +2.4
SMOL Smolenice 5.10 359 ePN Pn 02 38 18.9 +0.4
SMOL eSN Sn 02 39 17.2 +0.1
SMOL Smolenice 5.10 359 ePn Pn 02 38 18.9 +0.4
SMOL eSn Sn 02 39 17.2 +0.1
THL Klokotos Trika 5.10 137 eP Pn 02 38 19.0 +0.5
VYHS Vyhne 5.16 10 ePN Pn 02 38 19.8 +0.5
VYHS eSN Sn 02 39 15.2 -3.4
VYHS Vyhne 5.16 10 ePn Pn 02 38 19.8 +0.5
VYHS eSn Sn 02 39 15.2 -3.4
LKD2 Lefkada island 5.19 152 eP Pn 02 38 19.2 -0.5
ARR Arges 5.44 67⇑iP Pn 02 38 24.6 +1.4
RJOB Jochberg 5.46 324 ePn Pn 02 38 26.6 +3.1
RJOB Jochberg 5.46 324 ePn Pn 02 38 26.6 +3.1
EVR Evrytania 5.53 143 eP Pn 02 38 26.1 +1.7
PDO Prodromos 5.54 149 eP Pn 02 38 24.5 -0.1
MAKR Makrakomi, Fth 5.59 140 eP Pn 02 38 26.8 +1.5
WTTA Wattenberg 5.67 315 ePn Pn 02 38 29.1 +2.6
WTTA Wattenberg 5.67 315⇓iPn Pn 02 38 27.9 +1.4
WTTA ⇓iSn Sn 02 39 33.2 +1.7
WTTA Wattenberg 5.67 315 Pn Pn 02 38 27.9 +1.4
WTTA Sn Sn 02 39 33.2 +1.7
AGG Agios Georgios 5.68 139 eP Pn 02 38 27.3 +0.8
KAVA Kavala 5.71 113 eP Pn 02 38 30.4 +3.6
VLS Valsamata 5.72 155 eP Pn 02 38 26.0 -1.0
VOIR 5.74 67⇑iP Pn 02 38 29.5 +2.2
WATA Walderalm 5.75 315⇓iPn Pn 02 38 29.0 +1.5
SNR=27
WATA ⇓iSn Sn 02 39 34.7 +1.3
WATA Walderalm 5.75 315 Pn Pn 02 38 29.0 +1.5
SNR=27
WATA Sn Sn 02 39 34.7 +1.3
PAIG Paliouri 5.76 125 eP Pn 02 38 29.1 +1.5
TRPA Tarpa 5.86 35⇓iP Pn 02 38 29.7 +0.8
XOR Xorichti 5.86 132 eP Pn 02 38 29.3 +0.3
VRAC Vranov 5.93 354⇑iP Pn 02 38 25.1 -4.8
VRAC Vranov 5.93 354 Pn Pn 02 38 31.7 +1.8
0.4nm,0.3s,baz=198,slow=16,SNR=3.3
VRAC Sn Sn 02 39 40.3 +2.7
0.9nm,0.3s,baz=80,slow=11,SNR=3.2
VRAC LR LR 02 41 04.5
comp=Z,54nm,20.5s,baz=151,slow=41
MOTA Moosalm 6.00 313⇑iPn Pn 02 38 32.9 +1.9
SNR=45
MOTA Moosalm 6.00 313 Pn Pn 02 38 32.9 +1.9
SNR=45
FETA Feichten 6.01 309⇑iPn Pn 02 38 33.0 +1.8
SNR=5.3
FETA Feichten 6.01 309 Pn Pn 02 38 33.0 +1.8
SNR=5.3
TREC Trest 6.05 347 ePN Pn 02 38 33.1 +1.6
TREC ex x 02 38 42.3
TREC eSN Sn 02 39 40.2 -0.4
TREC Trest 6.05 347 Pn Pn 02 38 33.1 +1.6
TREC Sn Sn 02 39 40.2 -0.4
GEC2 GERESS Array S 6.05 335 ePn Pn 02 38 32.9 +1.3
GEC2 eSn Sn 02 39 40.0 -0.7
GEC2 GERESS Array S 6.05 335 ePn Pn 02 38 32.9 +1.3
GEC2 eSn Sn 02 39 40.0 -0.7
GERES GERESS Array B 6.05 335 Pn Pn 02 38 33.4 +1.8
0.8nm,0.3s,baz=156,slow=14,SNR=26
GERES Sn Sn 02 39 40.7 -0.1
0.9nm,0.3s,baz=145,slow=24,SNR=5.0
GERES LR LR 02 41 29.3
comp=Z,36nm,19.8s,baz=140,slow=44
KALE Kalithea 6.11 144 eP Pn 02 38 33.2 +0.8
CRVS Cervenica-Dubn 6.12 25 ePN Pn 02 38 33.4 +1.0
CRVS ePG Pg 02 38 59.1 -0.5
CRVS Cervenica-Dubn 6.12 25 ePn Pn 02 38 33.5 +1.0
RLS Riolos of Patr 6.12 150 eP Pn 02 38 31.4 -1.1
SKIA Skiathos 6.15 132 eP Pn 02 38 33.7 +0.7
LAKA Lakka 6.17 146 eP Pn 02 38 33.8 +0.6
RETA Reutte 6.27 313⇑iPn Pn 02 38 36.8 +2.2
SNR=7.6
RETA Reutte 6.27 313 Pn Pn 02 38 36.8 +2.2
SNR=7.6
LKR Lokris 6.30 137 eP Pn 02 38 34.8 -0.1
DRO Drossia 6.31 149 eP Pn 02 38 35.1 0.0
PGF Pioggiola 6.33 265 ePn Pn 02 38 35.0 -0.5
PGF eSn Sn 02 39 43.9 -3.8
0.4nm,0.2s
PGF Pioggiola 6.33 265 ePn Pn 02 38 35.0 -0.5
KHC Kasperske Hory 6.34 336 ePN Pn 02 38 37.1 +1.5
KHC ex x 02 38 43.6
KHC ePB Pb 02 38 52.0 -0.6
KHC eSN Sn 02 39 47.3 -0.5
KHC Kasperske Hory 6.34 336 Pn Pn 02 38 37.1 +1.5
KHC Sn Sn 02 39 47.3 -0.5
MLR Muntele Rosu 6.36 68 Pn Pn 02 38 40.3 +4.4
0.1nm,0.3s,baz=253,slow=19,SNR=2.9
MORC Moravsky Berou 6.36 360⇓iP Pn 02 38 32.4 -3.4
DAVOX Davos/Dischmat 6.38 304 Pn Pn 02 38 36.3 0.0
1.3nm,0.3s,baz=124,slow=15,SNR=25
DAVOX Sn Sn 02 39 51.3 +2.3
1.0nm,0.3s,baz=83,slow=4.9,SNR=3.6
KLV Kalavryta, Ach 6.40 145 eP Pn 02 38 36.5 0.0
OKC Ostrava-Krasne 6.43 3 ePN Pn 02 38 36.5 -0.3
OKC ex x 02 38 42.6
OKC ex x 02 38 47.1
OKC eSN Sn 02 39 47.5 -2.5
OKC Ostrava-Krasne 6.43 3 Pn Pn 02 38 36.5 -0.3
FUR Furstenfeldbru 6.46 319 ePn Pn 02 38 39.2 +2.0
FUR eSg Sg 02 40 39.4 +10
FUR Furstenfeldbru 6.46 319 ePn Pn 02 38 39.2 +2.0
STHS Stebnicka Huta 6.52 22 ePN Pn 02 38 41.6 +3.6
STHS ePG Pg 02 39 06.4 -0.8
GUR Goura 6.58 145 eP Pn 02 38 38.3 -0.6
WET Wettzell 6.58 332 ePn Pn 02 38 42.3 +3.5
WET Wettzell 6.58 332 ePn Pn 02 38 42.3 +3.5
DAVA Damuels 6.64 308 ePn Pn 02 38 42.5 +2.7
DAVA eSn Sn 02 39 59.4 +4.0
DAVA Damuels 6.64 308 ePn Pn 02 38 42.5 +2.7
DAVA eSn Sn 02 39 59.4 +4.0
ALN Alexandroupoli 6.80 109 eP Pn 02 38 44.9 +3.1
PRU Pruhonice 6.89 344 ePN Pn 02 38 44.4 +1.4
PRU ex x 02 38 55.1
PRU eSN Sn 02 40 00.0 -1.2
PRU ex x 02 40 15.9
PRU Pruhonice 6.89 344 Pn Pn 02 38 44.4 +1.4
DPC Dobruska-Polom 6.99 354 ePN Pn 02 38 44.7 +0.3
DPC ex x 02 38 57.9
DPC eSN Sn 02 40 01.6 -2.1
DPC Dobruska-Polom 6.99 354 Pn Pn 02 38 44.7 +0.3
PTL Penteli 7.19 136 eP Pn 02 38 47.7 +0.4
SBF Sospel 7.35 277 ePn Pn 02 38 48.7 -0.8
SBF eSn Sn 02 40 08.0 -4.7
1.9nm,0.3s
SBF Sospel 7.35 277 ePn Pn 02 38 48.7 -0.8
BRG Berggiesshubel 7.85 343 SG Sb 02 40 50.3 -1.4
16nm,1.6s
VLI Veliai 7.86 147 eP Pn 02 38 54.1 -2.3
MBDF Montbardon 7.87 283 ePn Pn 02 38 55.7 -1.0
MBDF eSn Sn 02 40 20.3 -5.4
2.5nm,0.4s
MBDF Montbardon 7.87 283 ePn Pn 02 38 55.7 -1.0
FRF La Foret Royal 7.93 275 ePn Pn 02 38 56.5 -0.9
FRF eSn Sn 02 40 21.7 -5.2
2.6nm,0.3s
FRF La Foret Royal 7.93 275 ePn Pn 02 38 56.5 -0.9
LPG La Plagne 8.00 289 ePn Pn 02 38 57.7 -0.9
LPG eSn Sn 02 40 23.7 -5.3
20nm,0.8s
LPG La Plagne 8.00 289 ePn Pn 02 38 57.7 -0.9
LPL La Plagne 8.02 289 ePn Pn 02 38 58.0 -0.7
LPL eSn Sn 02 40 23.8 -5.5
7.8nm,0.5s
LPL La Plagne 8.02 289 ePn Pn 02 38 58.0 -0.7
LMR La Mourre 8.05 273 ePn Pn 02 38 58.2 -0.7
LMR eSn Sn 02 40 24.4 -5.3
0.4nm,0.3s
LMR La Mourre 8.05 273 ePn Pn 02 38 58.2 -0.7
BFO Black Forest 8.09 311 ePn Pn 02 39 00.8 +1.2
BFO eSn Sn 02 40 30.5 -0.4
BFO Black Forest 8.09 311 ePn Pn 02 39 00.8 +1.2
BFO eSn Sn 02 40 30.5 -0.4
KYTH Kithira 8.28 148 eP Pn 02 39 02.2 0.0
CLL Collm 8.47 340 eSn Sn 02 40 23.0 -17
CLL e 02 40 38.0
CLL eSb Sb 02 41 10.0 +0.5
CLL eSg Sg 02 41 34.0 -0.1
ORIF Oris-en-Rattie 8.52 284 eP Pn 02 39 07.2 +1.6
ORIF eSn Sn 02 40 35.6 -6.0
3.0nm,0.5s
ORIF Oris-en-Rattie 8.52 284 eP Pn 02 39 07.2 +1.6
HINF Hinteralfeld 8.69 304 ePn Pn 02 39 06.4 -1.4
HINF eSn Sn 02 40 39.2 -6.4
8.6nm,0.7s
SMRF Simiane la Rot 8.70 278 ePn Pn 02 39 06.7 -1.2
SMRF eSn Sn 02 40 39.9 -5.8
2.2nm,0.5s
CABF La Chapelle 8.72 295 ePn Pn 02 39 06.9 -1.4
CABF eSn Sn 02 40 40.1 -6.4
5.0nm,0.6s
CDF Champ du Feu 8.73 308 ePn Pn 02 39 07.0 -1.4
CDF eSn Sn 02 40 40.0 -6.6
1.9nm,0.6s
HAU Haudompre 9.08 304 ePn Pn 02 39 11.6 -1.5
HAU eSn Sn 02 40 48.6 -6.5
15nm,0.7s
VIVF Saint-Julien-l 9.37 283 ePn Pn 02 39 16.2 -0.9
VIVF eSn Sn 02 40 55.9 -6.4
0.4nm,0.2s
VIVF Saint-Julien-l 9.37 283 ePn Pn 02 39 16.2 -0.9
IDI Anoyia 9.90 143 Sn Sn 02 41 14.8 -0.7
0.5nm,0.3s,baz=58,slow=19,SNR=3.1
KEST Kesra 9.95 222 Pn Pn 02 39 28.3 +3.2
0.1nm,0.3s,baz=271,slow=5.0,SNR=7.3
LOR Lormes 10.38 297 ePn Pn 02 39 29.6 -1.3
baz=113
LOR eSn Sn 02 41 19.6 -7.4
4.9nm,0.5s
SSF Saint Saulge 10.55 295 ePn Pn 02 39 31.8 -1.5
SSF eSn Sn 02 41 23.8 -7.4
1.8nm,0.4s
FINES FINESS Array B 18.76 13 P Pn 02 41 23.8 +2.6
0.0nm,0.3s,baz=224,slow=7.8,SNR=2.3
ARCES ARCESS Array B 26.50 6 LR LR 02 54 09.3
comp=Z,41nm,19.0s,baz=211,slow=39
TORD Torodi Ar. Bea 33.11 209 P P 02 43 37.6 -0.5
0.6nm,1.0s,baz=18,slow=8.1,SNR=4.2
ZALV Zalesovo Beam 44.04 52 P P 02 45 09.2 -0.3
0.4nm,0.5s,baz=262,slow=9.8,SNR=3.2
MKAR Makanchi Array 44.66 62 P P 02 45 14.5 -0.2
0.2nm,0.4s,baz=296,slow=7.2,SNR=3.4
SONM Songino Array 58.94 52 P P 02 47 02.6 +1.4
0.2nm,0.7s,baz=305,slow=5.1,SNR=3.0
YKA Yellowknife Ar 67.70 338 P P 02 47 58.1 -0.7
0.2nm,0.8s,baz=32,slow=5.7,SNR=4.4
ILAR Eielson Array 71.46 353 P P 02 48 22.8 +0.7
0.2nm,0.8s,baz=354,slow=4.9,SNR=4.0

NEIC 22 02:53:48.0,37.63N×116.80W,h0km,ML3.5(REN),After REN.,Southern Nevada

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TPH Tonopah 0.56 323 ePg Pg 02 53 58.9 -0.2
TPH eSg Sg 02 54 06.3 -0.3
R11A Troy Canyon, C 1.20 53 ePg Pg 02 54 10.2 -1.0
R11A eSg Sg 02 54 26.2 -0.8
NV11 Mina Array Sit 1.34 307 ePg Pg 02 54 12.9 -1.1
NV11 eSg Sn 02 54 32.8 -0.2
MTUM Tungsten Hills 1.43 259 ePn Pn 02 54 15.0 -0.6
MTUM eSb Sg 02 54 34.0 -0.6
SHPR Sheep Range 1.72 130 ePn Pn 02 54 18.7 -0.8
SHPR eSn Sn 02 54 42.8 +0.4
WAKR Walker 2.26 294 ePn Pn 02 54 26.2 -0.8
WAKR ePg Pb 02 54 30.6 +0.6
WAKR eS Sg 02 55 02.0 +0.8
GSC Goldstone 2.32 180 Pn Pn 02 54 27.7 0.0
GSC ePg Pb 02 54 31.8 +0.9
GSC eS Sg 02 55 02.8 -0.1
ISA Isabella 2.38 215 ePn Pn 02 54 28.1 -0.4
ISA ePg Pg 02 54 33.0 -0.9
ISA eSb Sg 02 55 03.5 -1.3
ARUT Antelope Range 2.67 86 ePn Pn 02 54 32.2 -0.3
ARUT ePg Pg 02 54 38.8 -0.6
ARUT eS Sg 02 55 14.1 -0.1
CCUT Cedar City 2.73 91 ePn Pn 02 54 32.8 -0.7
CCUT ePg Pb 02 54 39.0 +1.0
CCUT eSn Sn 02 55 06.2 -1.1
CCUT eSg Sg 02 55 14.4 -1.9
BMN Battle Mountai 2.82 353 ePn Pn 02 54 34.0 -0.6
BMN ePg Pg 02 54 41.0 -1.3
BMN eSg Sg 02 55 16.9 -2.1
CMB Columbia Colle 2.87 279 ePn Pn 02 54 34.5 -0.7
CMB eS Sb 02 55 17.7 +1.7
ELK Elko 3.34 21 ePn Pn 02 54 41.4 -0.4
MWC Mount Wilson 3.55 197 Pn Pn 02 54 44.5 -0.1
MWC ePg Pg 02 54 54.5 -1.9
MWC eS Sn 02 55 30.7 +3.2
PFO Pinyon Flat Ob 4.02 176 ePn Pn 02 54 51.3 +0.2
PFO ePg Pg 02 55 03.0 -2.4
PFO eS Sg 02 55 54.7 -2.9
DUG Dugway 4.03 49 ePn Pn 02 54 51.4 +0.2
DUG ePg Pg 02 55 03.3 -2.2
DUG eS Sg 02 55 54.2 -3.6
OHCM Honcut 4.05 296 ePn Pn 02 54 51.6 +0.3
NLU North Lily Min 4.36 56 ePn Pn 02 54 53.8 -2.0
NLU ePg Pg 02 55 11.7 -0.2
NLU eS Sg 02 56 06.2 -2.4
BGU Big Grassy Mou 4.40 40 Pn Pn 02 54 56.3 0.0
BGU ePg Pg 02 55 10.1 -2.6
BGU eS Sg 02 56 08.5 -1.4
TMUT Trail Mountain 4.69 68 Pn Pn 02 55 00.1 -0.4
TMUT ePg Pg 02 55 17.9 -0.5
TMUT eSg Sg 02 56 16.9 -2.6
GLA Glamis 4.84 160 Pn Pn 02 55 02.6 +0.4
GLA ePg Pg 02 55 19.4 -1.6
GLA eS Sg 02 56 21.6 -2.2
WUAZ Wupatki 4.85 114 ePn Pn 02 55 02.6 +0.1
WUAZ ePg Pg 02 55 19.1 -2.1
WUAZ eSg Sg 02 56 21.6 -2.6
CTU Camp Tracy 4.97 50 Pn Pn 02 55 03.8 -0.5
CTU ePg Pg 02 55 23.7 +0.1
CTU eS Sg 02 56 26.3 -2.0
SPUT South Promonto 4.98 41 ePn Pn 02 55 05.5 +1.1
SPUT ePg Pg 02 55 21.2 -2.5
SPUT eSg Sg 02 56 25.3 -3.2
WVOR Wild Horse Val 5.00 344 ePn Pn 02 55 05.3 +0.7
MOD Modoc 5.05 329 ePn Pn 02 55 05.1 -0.1
MOD ePg Pg 02 55 24.5 -0.6
MOD eSg Sg 02 56 31.6 +0.9
DAU Daniels Canyon 5.13 56 Pn Pn 02 55 06.9 +0.3
6.6nm,0.9s
DAU eS Sb 02 56 24.0 +2.4
SRU San Rafael 5.15 71 ePn Pn 02 55 06.6 0.0
SRU ePg Pg 02 55 24.7 -2.3
SRU eS Sb 02 56 26.8 +5.0
HVU Hansel Valley 5.18 36 ePn Pn 02 55 07.3 +0.3
HVU ePg Pg 02 55 25.3 -2.2
HVU eS Sb 02 56 28.2 +5.6
MFID Camas Ranch 5.83 7 Pn Pn 02 55 15.1 -0.8
MFID ePg Pg 02 55 37.6 -2.3
MFID eS Sb 02 56 48.3 +7.1
HLID Hailey 6.20 16 ePn Pn 02 55 20.3 -0.8
HLID ePg Pg 02 55 42.1 -5.0
HLID eS Sg 02 57 03.3 -4.3
PV04 Paradox Valley 6.28 81 ePn Pn 02 55 23.8 +1.6
PV01 Paradox Valley 6.53 83 ePn Pn 02 55 24.5 -1.1
289nm,0.8s
PV01 ePg Pg 02 55 50.2 -3.3
PV01 eS Sg 02 57 17.5 -0.8

IDC 22 03:04:13.7±1.4, 0.43S×123.87E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/20, mbtmp3.9/4, MS3.3/2, Ms1 3.4/2, ms1mx2.6/29, Error ellipse: s-maj=90.7km s-min=25.3km az=60.0
DJA 22 03:04:18.6±0.3, 1°S±3°×12°3E±°, h10km, M4.5/6, mb4.7/3, mB4.6/1, MLv4.5/6, Mw(mB)3.8/1
ISCJB 22 03:04:19.4±0.4, 0.72S±0.05×123.43E±0.05, h54km, mb3.8/4, MS3.2/2, Error ellipse: s-maj=7.4km s-min=6.1km az=142.0
ISC 22 03:04:21.1±0.8, 0.67S±0.06×123.46E±0.05, h54km, n27, σ1ş52/27, mb3.8/4, Minahassa Peninsula, Sulawesi

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LUWI Luwuk 0.79 242 P Pn 03 04 31.7 -4.4
LUWI S Sn 03 04 42.0 -5.1
KMSI Cibinong 1.34 23 P Pn 03 04 41.1 -2.4
KMSI S Sn 03 05 01.0 +0.8
APSI Ampana 1.83 262 P Pn 03 04 49.4 -0.8
APSI S Sn 03 05 15.2 +3.0
MRSI Marisa 1.90 307 P Pn 03 04 47.0 -4.1
SANI Sanana 2.87 119 P Pn 03 05 03.0 -1.4
MPSI Mapaga 3.70 286 P Pn 03 05 15.8 0.0
LBMI Labuha 4.04 90 P Pn 03 05 20.3 -0.1
TTSI Tana Toraja 4.34 237 P Pn 03 05 23.7 -0.9
NLAI Namlea 4.44 125 P Pn 03 05 27.1 +1.2
SPSI Sidrap Palu 4.93 228 P Pn 03 05 32.5 -0.2
BNSI Bone 5.00 222 P Pn 03 05 33.5 -0.1
BKSI Bulukumba 5.70 216 P Pn 03 05 42.7 -0.5
WRA Warramunga Arr 21.91 152 P P 03 09 10.0 0.0
1.5nm,0.7s,baz=328,slow=10,SNR=12
PSI Prapat 24.77 278 LR LR 03 20 48.8
comp=Z,97nm,18.3s,baz=116,slow=40
CMAR Chiang Mai Arr 30.70 309 P P 03 10 33.5 +2.4
1.7nm,0.3s,baz=142,slow=7.5,SNR=7.9
CMAR LR LR 03 23 15.8
comp=Z,36nm,19.9s,baz=164,slow=37

TAPN	Taplejung	44.23	312	eP	P	03 12 26.7	+1.0
	4.4nm,0.4s						
RAMN	Ramite	44.86	311	eP	P	03 12 31.6	+1.0
	8.5nm,0.5s						
JIRN	Jiri	45.54	311	eP	P	03 12 36.3	+0.1
	7.3nm,0.4s						
GUN	Gumba	45.91	311	eP	P	03 12 39.5	+0.5
	17nm,0.6s						
DMN	Daman	46.33	310	eP	P	03 12 42.4	+0.1
	4.3nm,0.4s						
GKN	Gorkha	46.89	311	eP	P	03 12 46.7	+0.2
	4.4nm,0.2s						
KOLN	Koldanda	47.57	310	eP	P	03 12 52.3	+0.4
	7.4nm,0.5s						
DANN	Dangsing	47.73	310	eP	P	03 12 53.4	+0.1
	16nm,0.5s						
PYUN	Piuthan	48.20	310	eP	P	03 12 57.1	+0.3
	12nm,0.4s						
SONM	Songino Array	50.55	345	P	P	03 13 13.5	-0.7
	0.1nm,0.3s,baz=168,slow=7.6,SNR=3.5						
MKAR	Makanchi Array	59.42	328	P	P	03 14 17.5	-0.7
	0.7nm,0.5s,baz=124,slow=8.6,SNR=9.4						
TORD	Torodi Ar. Bea	121.03	285	PKP	PKPdf	03 23 08.1	-0.6
	0.3nm,0.5s,baz=69,slow=1.3,SNR=5.6						

ISCJB 22 03:06:39.2±0.6, 23°.37S±0°.06×69°.27W±0°.06, h104km±6km, mb3.6/3, Error ellipse: s-maj=10.3km s-min=8.4km az=138.8
IDC 22 03:06:39.2±2.9, 23°.34S×69°.16W, h85km±25km, mb3.5/3, mb1 3.5/5, mb1mx3.3/18, mbtmp3.6/5, Error ellipse: s-maj=38.6km s-min=27.4km az=100.0
GUC 22 03:06:41.7±0.3, 23°.16S×69°.20W, h97km±2km, ML3.8
ISC 22 03:06:40.2±0.8, 23°.39S±0°.06×69°.20W±0°.06, h100km±6km, n20, σ1°.97/27, mb3.8/3, 2C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	Plate Boundary	0.76	333⇓	iP	Pn	03 06 58.2	-0.2
PB06				iS	Sn	03 07 10.8	-1.3
PB06				AML	AML	03 07 11.5	
	comp=N,5μm,0.2s						
LVC	Limon Verde	0.82	19	iP	Pn	03 06 58.8	-0.3
LVC				iS	Sn	03 07 11.7	-1.5
CEN1	Los Morros	0.92	270⇓	eP	Pn	03 07 03.9	+4.0
CEN1				iS	Sn	03 07 20.4	+5.7
SPCH	San Pedro de A	1.04	63⇑	iP	Pn	03 07 02.2	+0.8
SPCH				iS	Sn	03 07 18.1	+0.8
SPCH				AML	AML	03 07 19.3	
	comp=E,5μm,0.3s						
ANCH	Antofagasta	1.15	255⇑	iP	Pn	03 07 00.6	-1.7
ANCH				iS	Sn	03 07 18.0	-1.0
ANCH				AML	AML	03 07 18.6	
	comp=E,3μm,0.1s						
PB04	Plate Boundary	1.15	347⇓	iP	Pn	03 07 04.8	+2.5
PB04				iS	Sn	03 07 22.6	+3.6
PB04				AML	AML	03 07 26.0	
	comp=N,2μm,0.2s						
MACH	Maria Elena	1.29	337	eP	Pn	03 07 03.9	-0.4
MACH				iS	Sn	03 07 20.6	-1.9
PB09	Plate Boundary	1.59	359⇓	iP	Pn	03 07 07.7	0.0
PB09				iS	Sn	03 07 26.9	-1.7
PB07	Plate Boundary	1.77	339	iP	Pn	03 07 09.4	-0.7
PB07				iS	Sn	03 07 30.5	-2.3
PB07				AML	AML	03 07 33.1	
	comp=E,1μm,0.2s						
LPAZ	La Paz	7.14	8	P	Pn	03 08 20.9	-1.7
	comp=E,0.3nm,0.3s,baz=184,slow=20,SNR=8.8						
CFAA	Coronel Fontan	8.23	174	P	Pn	03 08 36.3	-0.6
	comp=E,0.1nm,0.3s,baz=4.4,slow=17,SNR=13						
CFAA				S	Sn	03 10 05.0	-3.1
	comp=E,0.1nm,0.3s,baz=158,slow=16,SNR=3.7						
SIV	San Ignacio	10.62	48	P	Pn	03 09 04.9	-4.5
	comp=E,0.5nm,0.3s,baz=239,slow=9.1,SNR=10						
SIV				S	Sn	03 10 56.5	-10
	comp=E,0.3nm,0.3s,baz=166,slow=19,SNR=3.0						
H03N1	Juan Fernandez	13.15	218	T	T	03 22 10.2	
	baz=42,SNR=8.0						
H03N2	Juan Fernandez	13.17	218	T	T	03 22 11.8	
	baz=42,slow=74,SNR=4.7						
H03N3	Juan Fernandez	13.17	218	T	T	03 22 16.3	
	baz=42,slow=74,SNR=7.5						
BDFB	Brasilia	21.39	73	P	P	03 11 20.0	0.0
	comp=E,1.7nm,0.3s,baz=239,slow=7.7,SNR=11						
TORD	Torodi Ar. Bea	78.25	70	P	P	03 18 29.9	+0.4
	comp=E,0.9nm,0.5s,baz=255,slow=5.5,SNR=26						
TORD				pP	pP	03 18 56.0	+0.7
	comp=E,0.5nm,0.5s,baz=254,slow=5.3,SNR=5.6						
TORD				sP	sP	03 19 05.2	-0.9
	comp=E,0.9nm,0.6s,baz=256,slow=5.8,SNR=6.7						
YKA	Yellowknife Ar	92.87	341	P	P	03 19 41.8	+0.7
	comp=E,0.1nm,0.6s,baz=138,slow=4.9,SNR=4.3						
WRA	Warramunga Arr	131.19	210	PKP	PKPdf	03 25 42.6	+1.3
	comp=E,0.9nm,1.0s,baz=47,slow=34,SNR=4.7						
MKAR	Makanchi Array	147.30	37	PKPbc	PKPbc	03 26 11.7	-0.3
	comp=E,0.3nm,0.5s,baz=284,slow=3.8,SNR=4.9						

MEX 22 03:16:56.9±0.9, 16°.90N×95°.14W, h120km±8km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.31	53	eP	Pn	03 17 12.7	-1.2
CMIG				iS	Sn	03 17 23.8	-2.8
HUIG	Huatulco	1.46	220	eP	Pn	03 17 22.5	-1.4
HUIG				iS	Sn	03 17 43.2	-1.2
VHO	Vista Hermosa	1.53	277	iP	Pn	03 17 24.1	-0.9
VHO				iS	Sn	03 17 44.4	-1.9
PCIG		2.20	123	iP	Pn	03 17 31.8	-1.0
PCIG				iS	Sn	03 17 57.8	-2.5
PNIG	Pinotepa	2.91	260	iP	Pn	03 17 40.2	-1.8
PNIG				iS	Sn	03 18 14.3	-2.4
CCIG	Comitan	2.95	102	iP	Pn	03 17 41.5	-1.2
CCIG				iS	Sn	03 18 17.2	-0.9

ATH 22 03:46:33.1, 37°.75N×26°.94E, h13km, MD3.6/15
ISK 22 03:46:34.3, 37°.64N×26°.88E, h5km, ML3.5
ISCJB 22 03:46:35.0±0.5, 37°.66N±0°.02×26°.80E±0°.02, h4km±3km, Error ellipse: s-maj=3.2km s-min=3.0km az=139.6
CSEM 22 03:46:35.6±0.1, 37°.64N×26°.83E, h2km, MD3.6, Error ellipse: s-maj=3.5km s-min=3.2km az=176.0
DDA 22 03:46:36.1, 37°.78N×26°.95E, h2km, MD3.4
ISC 22 03:46:35.6±0.8, 37°.69N±0°.02×26°.83E±0°.02, h6km±4km, n168, σ1°.31/189, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.02	9	ePG	Pg	03 46 35.5	-1.2
SMG				eSG	Sg	03 46 38.3	+0.8
SMG	Samos	0.02	9	ePg	Pg	03 46 35.5	-1.2
SMG				eSg	Sg	03 46 38.3	+0.8
ZEY	˜zmir	0.61	335	iP	Pb	03 46 48.5	-0.1
ZEY				iS	Sg	03 46 56.4	+1.2
URLA	Izmir	0.69	344	iS	Sb	03 47 00.2	+0.1
URLA	Izmir	0.69	344	iP	Pn	03 46 58.8	+6.7
URLA				iS	Sb	03 47 00.2	+0.1
BLCB	Balcova	0.71	13	ePG	Pg	03 46 48.0	-1.3
BLCB	Balcova	0.71	13	ePg	Pg	03 46 48.0	-1.3
BODT	Bodrum	0.73	149	ePG	Pg	03 46 48.5	-1.2
BODT	Bodrum	0.73	149	ePg	Pg	03 46 48.5	-1.2
BDRM	Kayabasi	0.79	142	iP	Pg	03 46 51.7	+0.9
BDRM				iS	Sg	03 47 01.7	+0.6
BDRM	Kayabasi	0.79	142	iP	Pg	03 46 51.7	+0.9
BDRM				iS	Sg	03 47 01.7	+0.6
AYDN	Tasoluk	0.83	92	iP	Pg	03 46 50.3	-1.2
AYDN				iS	Sg	03 46 59.8	-2.5
AYDN	Tasoluk	0.83	92	iP	Pg	03 46 50.3	-1.2
AYDN				iS	Sg	03 46 59.8	-2.5
AYDB	Zeytinkoy-Aydi	0.88	73	ePG	Pg	03 46 51.1	-1.3
AYDB	Zeytinkoy-Aydi	0.88	73	ePg	Pg	03 46 51.1	-1.3
CHOS	Chios island	0.93	319	ePG	Pb	03 46 54.8	+0.6
CHOS	Chios island	0.93	319	ePB	Pb	03 46 51.3	-2.1
CHOS				eSB	Sg	03 47 04.7	-0.8
CHOS	Chios island	0.93	319	ePg	Pb	03 46 54.8	+0.6
APE	Apeiranthos	1.21	239	ePN	Pg	03 46 58.0	-0.9
APE	Apeiranthos	1.21	239	ePB	Pg	03 46 57.9	-0.9
APE	Apeiranthos	1.21	239	ePb	Pg	03 46 57.9	-0.9
YER	Yerkesik	1.28	115	ePN	Pg	03 46 59.0	-1.2
YER	Yerkesik	1.28	115	ePn	Pg	03 46 59.0	-1.2
AKHS	Akhisar	1.41	33	iP	Pn	03 47 00.0	-2.0
AKHS				iS	Sg	03 47 20.1	-1.0
AKHS	Akhisar	1.41	33	iP	Pn	03 47 00.0	-2.0
AKHS				iS	Sg	03 47 20.1	-1.0
AKS	Akhisar	1.41	33	ePN	Pn	03 47 00.1	-1.9
AKS	Akhisar	1.41	33	ePn	Pn	03 47 00.1	-1.9
MANT	Manisa	1.58	59	iP	Pn	03 47 04.7	+0.3
MANT	Manisa	1.58	59	iP	Pn	03 47 04.7	+0.3
PRK	Paraskevi	1.61	344	ePB	Pn	03 47 02.9	-1.8
PRK				eSB	Sn	03 47 24.4	-1.4
AYVA	Ayvalik	1.62	356	iP	Pn	03 47 05.3	+0.6
AYVA				iS	Sg	03 47 27.7	+0.1
AYVA	Ayvalik	1.62	356	iP	Pn	03 47 05.3	+0.6
AYVA				iS	Sg	03 47 27.7	+0.1
KULA	Kula-Manisa	1.66	60	ePN	Pn	03 47 04.6	-0.8
KULA	Kula-Manisa	1.66	60	ePn	Pn	03 47 04.6	-0.8
DALY	Dalyan (Mu˘la	1.69	120	ePN	Pn	03 47 05.7	-0.1
DALY	Dalyan (Mu˘la	1.69	120	ePn	Pn	03 47 05.7	-0.1
SIGR	SIGRI	1.70	333	ePN	Pb	03 47 07.7	+0.4
SIGR	SIGRI	1.70	333	ePB	Pn	03 47 04.3	-1.6
SIGR	SIGRI	1.70	333	ePn	Pb	03 47 07.7	+0.4
SANT	Santorini	1.72	220	ePN	Pn	03 47 06.5	+0.4
SANT	Santorini	1.72	220	ePB	Pn	03 47 06.2	+0.1
SANT	Santorini	1.72	220	ePn	Pn	03 47 06.2	+0.1
ARG	Arkhangelos	1.80	144	ePN	Pn	03 47 06.3	-1.0
ARG	Arkhangelos	1.80	144	ePB	Pn	03 47 06.2	-1.0
ARG	Arkhangelos	1.80	144	ePn	Pn	03 47 06.3	-1.0
FETY	Fethiye	2.08	120	ePN	Pn	03 47 11.3	+0.1
FETY	Fethiye	2.08	120	ePn	Pn	03 47 11.3	+0.1
BALB	Balikesir	2.11	23	ePN	Pn	03 47 13.0	+1.5
BALB	Balikesir	2.11	23	ePn	Pn	03 47 13.0	+1.5
BALY	Balya	2.14	16	iP	Pn	03 47 13.4	+1.5
BALY	Balya	2.14	16	iP	Pn	03 47 13.4	+1.5
KARP	Karpathos	2.16	173	ePN	Pn	03 47 11.3	-0.9
KARP	Karpathos	2.16	173	ePn	Pn	03 47 11.3	-0.9
EZN	Ezine	2.17	350	ePN	Pn	03 47 13.8	+1.5
EZN	Ezine	2.17	350	ePn	Pn	03 47 13.8	+1.5
KHAL	Karahalli	2.21	71	iP	Pb	03 47 16.6	+0.6
KHAL				iS	Sn	03 47 40.7	+0.1
KHAL	Karahalli	2.21	71	iP	Pb	03 47 16.6	+0.6
KHAL				iS	Sn	03 47 40.7	+0.1
KHL	Karahalli	2.22	73	ePN	Pn	03 47 14.2	+1.2
KHL	Karahalli	2.22	73	ePn	Pn	03 47 14.2	+1.2
GOLH	Golhisar	2.22	101	iP	Pn	03 47 12.7	-0.4
GOLH	Golhisar	2.22	101	iP	Pn	03 47 12.7	-0.4
GOLH				eS	Sg	03 47 50.7	+3.9
BOZC	Bozcaada	2.23	344	iP	Pg	03 47 19.8	+1.4
BOZC				iS	Sg	03 47 47.3	-0.1
PTL	Penteli	2.38	280	ePB	Pn	03 47 14.4	-0.8
GDZ	Gediz	2.50	55	iP	Pb	03 47 21.6	+0.5
GDZ				eS	Sb	03 47 51.3	-1.0
GDZ	Gediz	2.50	55	iP	Pb	03 47 21.6	+0.5
GDZ				eS	Sb	03 47 51.3	-1.0
LIA	Limnos Island	2.55	330	ePN	Pn	03 47 16.6	-1.0
LIA	Limnos Island	2.55	330	ePn	Pn	03 47 16.6	-1.0
NPS	Neapolis	2.62	202	ePN	Pn	03 47 17.6	-0.9
NPS	Neapolis	2.62	202	ePn	Pn	03 47 17.6	-0.9
ZKR	Zakros	2.62	191	ePN	Pn	03 47 19.2	+0.7
ZKR	Zakros	2.62	191	ePn	Pn	03 47 19.2	+0.7
ELL	Elmali	2.63	110	ePN	Pn	03 47 18.7	0.0
ELL	Elmali	2.63	110	ePn	Pn	03 47 18.7	0.0
NAIG	Nisos Aigina	2.65	272	ePN	Pn	03 47 18.4	-0.6
NAIG	Nisos Aigina	2.65	272	ePn	Pn	03 47 18.4	-0.6
LPK	Lapseki	2.68	359	ePN	Pn	03 47 20.4	+1.1
LPK	Lapseki	2.68	359	ePn	Pn	03 47 20.4	+1.1
TVSB	Tavsanli	2.71	49	ePN	Pn	03 47 21.2	+1.4
TVSB	Tavsanli	2.71	49	ePn	Pn	03 47 21.2	+1.4
GELI	Tayfur-Gelibol	2.72	354	ePN	Pn	03 47 20.8	+1.0
GELI	Tayfur-Gelibol	2.72	354	ePn	Pn	03 47 20.8	+1.0
KRBG	Karabiga-Canak	2.72	7	ePN	Pn	03 47 22.0	+2.1
KRBG	Karabiga-Canak	2.72	7	ePn	Pn	03 47 22.0	+2.1
LAST	Lasithi	2.75	204	ePN	Pn	03 47 20.3	-0.1
LAST	Lasithi	2.75	204	ePn	Pn	03 47 20.3	-0.1
MRKA	Markates	2.75	293	ePN	Pn	03 47 20.0	-0.3
MRKA	Markates	2.75	293	ePn	Pn	03 47 20.0	-0.3
EDC	Edincik	2.77	17	ePN	Pn	03 47 22.4	+1.8
EDC	Edincik	2.77	17	ePn	Pn	03 47 22.4	+1.8
DID	Didima	2.86	267	ePN	Pn	03 47 21.9	0.0
DID	Didima	2.86	267	ePn	Pn	03 47 21.9	0.0
ALT	Altintas	2.91	61	ePN	Pn	03 47 23.2	+0.6
ALT	Altintas	2.91	61	ePn	Pn	03 47 23.2	+0.6
ISP	Isparta	2.93	86	ePN	Pn	03 47 23.8	+1.0
ISP	Isparta	2.93	86	ePn	Pn	03 47 23.8	+1.0
MRMT	Marmara Adasi	2.97	11	ePN	Pn	03 47 25.3	+1.9
MRMT	Marmara Adasi	2.97	11	ePn	Pn	03 47 25.3	+1.9
BCK	Bucak	2.99	93	ePN	Pn	03 47 23.6	0.0
BCK	Bucak	2.99	93	ePn	Pn	03 47 23.7	0.0
RKY	Sarkoy-Tekirda	3.00	5	ePN	Pn	03 47 24.3	+0.5
RKY	Sarkoy-Tekirda	3.00	5	ePn	Pn	03 47 24.3	+0.5
SART	Tekirdag	3.01	5	iP	Pb	03 47 30.6	+1.0
SART				iS	Sg	03 48 11.8	-0.4
SKIA	Skiathos	3.03	300	ePN	Pn	03 47 24.1	0.0
SKIA	Skiathos	3.03	300	ePn	Pn	03 47 24.1	0.0
SHUT	Suhut-Afyon	3.06	73	ePN	Pn	03 47 25.7	+1.1
SHUT	Suhut-Afyon	3.06	73	ePn	Pn	03 47 25.7	+1.1
ENEZ	Enez	3.09	350	ePN	Pn	03 47 26.5	+1.6
ENEZ	Enez	3.09	350	ePn	Pn	03 47 26.5	+1.6
MDNY	Mudanya-Bursa	3.11	30	ePN	Pn	03 47 26.5	+1.2
MDNY	Mudanya-Bursa	3.11	30	ePn	Pn	03 47 26.5	+1.2
VAM	Vamos	3.11	224	ePN	Pn	03 47 26.5	+1.2
VAM	Vamos	3.11	224	ePn	Pn	03 47 26.5	+1.2
ALN	Alexandroupoli	3.26	349	ePN	Pn	03 47 29.5	+2.2
ALN	Alexandroupoli	3.26	349	ePB	Pn	03 47 25.6	-1.7
ALN	Alexandroupoli	3.26	349	ePn	Pn	03 47 29.5	+2.2
ARMT	Armutlu	3.27	28	ePN	Pn	03 47 29.4	+1.8
ARMT	Armutlu	3.27	28	ePn	Pn	03 47 29.4	+1.8
CAVI	Cavuskoy	3.43	42	ePN	Pn	03 47 31.0	+1.3
CAVI	Cavuskoy	3.43	42	ePn	Pn	03 47 31.0	+1.3
DSF	Desfina	3.48	283	ePN	Pn	03 47 30.5	+0.2
DSF	Desfina	3.48	283	ePn	Pn	03 47 30.5	+0.2
CRLT	Corlu	3.50	11	ePN	Pn	03 47 32.7	+2.0
CRLT	Corlu	3.50	11	ePn	Pn	03 47 32.7	+2.0
ADVT	Abdulvahap	3.55	39	ePN	Pn	03 47 33.1	+1.8
ADVT	Abdulvahap	3.55	39	ePn	Pn	03 47 33.1	+1.8
BORA	Eskisehir	3.57	51	iP	Pb	03 47 41.2	+1.9
BORA				iS	Sg	03 48 27.4	-3.0
SLVT	Silivri	3.69	16	ePN	Pn	03 47 35.5	+2.3
SLVT	Silivri	3.69	16	ePn	Pn	03 47 35.5	+2.3
KLV	Kalavryta, Ach	3.72	277	ePN	Pn	03 47 34.5	+0.8
KLV	Kalavryta, Ach	3.72	277	ePn	Pn	03 47 34.5	+0.8
CTKS	Kestanelik-??a	3.77	20	ePN	Pn	03 47 36.8	+2.5
CTKS	Kestanelik-??a	3.77	20	ePn	Pn	03 47 36.8	+2.5
KALE	Kalithea	3.77	282	ePN	Pn	03 47 35.1	+0.7
KALE	Kalithea	3.77	282	ePn	Pn	03 47 35.1	+0.7
AGG	Agios Georgios	3.78	292	ePN	Pn	03 47 35.4	+0.9
AGG	Agios Georgios	3.78	292	ePn	Pn	03 47 35.4	+0.9
ISK	Istanbul-Kandi	3.79	26	ePN	Pn	03 47 36.8	+2.3
ISK	Istanbul-Kandi	3.79	26	ePn	Pn	03 47 36.8	+2.3
BGKT	Bogazkoy	3.79	23	ePN	Pn	03 47 35.9	+1.3
BGKT	Bogazkoy	3.79	23	ePn	Pn	03 47 35.9	+1.3
HRT	Hereke	3.82	34	ePN	Pn	03 47 36.8	+1.7
HRT	Hereke	3.82	34	ePn	Pn	03 47 36.8	+1.7
LAKA	Lakka	3.88	280	ePN	Pn	03 47 37.0	+1.2
LAKA	Lakka	3.88	280	ePn	Pn	03 47 37.0	+1.2
MAKR	Makrakomi, Fth	3.92	291	ePN	Pn	03 47 37.3	+0.8
MAKR	Makrakomi, Fth	3.92	291	ePn	Pn	03 47 37.3	+0.8
ITM	Ithomi	3.94	264	ePN	Pn	03 47 37.5	+0.8
ITM	Ithomi	3.94	264	ePn	Pn	03 47 37.5	+0.8
EFP	Efpalio	3.96	282	ePN	Pn	03 47 37.9	+1.0
EFP	Efpalio	3.96	282	ePn	Pn	03 47 37.9	+1.0
GULT	Gulveren	3.96	45	ePN	Pn	03 47 39.2	+2.2
GULT	Gulveren	3.96	45	ePn	Pn	03 47 39.2	+2.2
PHSR	Pinarhisar	3.97	7	ePN	Pn	03 47 39.6	+2.5
PHSR	Pinarhisar	3.97	7	ePn	Pn	03 47 39.6	+2.5
DRO	Drossia	4.07	275	ePN	Pn	03 47 39.0	+0.6
DRO	Drossia	4.07	275	ePn	Pn	03 47 39.0	+0.6
SVRH	Sivrihisar-ESK	4.07	63	ePN	Pn	03 47 40.4	+1.9
SVRH	Sivrihisar-ESK	4.07	63	ePn	Pn	03 47 40.4	+1.9
EDRB	Edirne	4.15	359	ePN	Pn	03 47 41.7	+2.1
EDRB	Edirne	4.15	359	ePn	Pn	03 47 41.7	+2.1
THL	Klokotos Trika	4.21	298	ePN	Pn	03 47 41.1	+0.7
THL	Klokotos Trika	4.21	298	ePn	Pn	03 47 41.1	+0.7
NVR	Nevrokopi	4.32	329	ePN	Pn	03 47 41.2	-0.7
NVR	Nevrokopi	4.32	329	ePn	Pn	03 47 41.2	-0.7
MDUB	Mudurnu	4.39	49	ePN	Pn	03 47 44.5	+1.6
MDUB	Mudurnu	4.39	49	ePn	Pn	03 47 44.5	+1.6
PDO	Prodromos	4.54	283	ePN	Pn	03 47 44.7	-0.3
PDO	Prodromos	4.54	283	ePn	Pn	03 47 44.7	-0.3

HEL 22 04:01:00.0±0.4, 67°.72N×33°.73E, h0km, ML2.2, Explosion
KOLA 22 04:01:00.3, 67°.72N×33°.70E, h0km
IDC 22 04:01:01.7±2.8, 67°.72N×33°.45E, h0km, mb1 3.2/3, mb1mx2.9/28, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=30.0km s-min=10.8km az=75.0
ISC 22 04:00:59.7±2.2, 67°.70N±0°.04×33°.7E±0°.1, h0km, n18, σ1°.10/33, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.16	219	P	Pg	04 01 03.6	+0.8
APA				S	Sg	04 01 06.0	+1.1
APA0	Apatity Array	0.28	251	P	Pg	04 01 05.5	+0.5
APA0				S	Sg	04 01 09.3	+0.8
VRF	Varrio	1.55	274	eP	Pn	04 01 27.9	-0.6
VRF				eS	Sn	04 01 48.1	-1.3
KU6	Riekki	2.25	223	eP	Pn	04 01 38.9	+0.8
KU6				eSG	Sb	04 02 09.3	-0.1
KU6				MSG		04 02 10.9	
	comp=Z,12nm,0.3s						
MSF	Maaselka	2.56	228	eP	Pn	04 01 44.1	+1.6
MSF				eS	Sn	04 02 14.7	+0.4
SGF	Sodankyl	2.75	268	eP	Pn	04 01 45.1	0.0
KEV	Kevo	3.19	313	eP	Pn	04 01 52.1	+1.0
KEV				eS	Sn	04 02 30.3	+0.6
ARA0	ARCESS Array S	3.52	305	eP	Pn	04 01 55.9	+0.3
ARA0				eS	Sn	04 02 37.0	-0.8
ARCES	ARCESS Array B	3.52	305	Pn	Pn	04 01 56.0	+0.4
	comp=Z,1.8nm,0.3s,baz=121,slow=14,SNR=228						
ARCES				Sn	Sn	04 02 37.5	-0.3
	comp=Z,2.2nm,0.3s,baz=120,slow=29,SNR=14						
ARCES				Lg	Lg	04 02 47.8	
	comp=Z,1.6nm,0.3s,baz=116,slow=35,SNR=3.7						
HEF	Hetta	3.83	285	eP	Pn	04 01 59.8	0.0
HEF				eS	Sn	04 02 45.6	+0.2
HEF				MSG		04 03 04.0	
	comp=Z,7.4nm,0.3s						
OUL	Oulu	4.08	234	eP	Pn	04 02 04.9	+1.6
OUL				eS	Sn	04 02 51.5	-0.2
KJN	Kajaani	4.37	217	eP	Pn	04 02 08.0	+0.7
KJN				eS	Sn	04 02 58.3	-0.5
KJN				MSG		04 03 16.3	
	comp=Z,4.5nm,0.3s						
LANU	Lannavaara	4.43	280	eP	Pn	04 02 07.5	-0.6
KALU	Kalix	4.48	251	eP	Pn	04 02 09.5	+0.7
ERTU	Ertsjaerv	4.63	261	eP	Pn	04 02 10.8	0.0
ERTU				eS	Sn	04 03 04.4	-0.7
KIF	Kilpisjarvi	4.94	291	eP	Pn	04 02 15.0	-0.1
KIF				MSG	Sn	04 03 11.9	-1.0
	comp=Z,2.8nm,0.2s						
KIF				eS	Sn	04 03 11.9	-1.0
FINES	FINESS Array B	7.07	211	Pn	Pn	04 02 42.9	-1.4
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=3.7						
FINES				Sn	Sn	04 04 01.8	-3.5
	comp=Z,0.1nm,0.3s,baz=28,slow=22,SNR=2.6						
FINES				Lg	Lg	04 04 35.2	
	comp=Z,0.7nm,0.3s,baz=36,slow=26,SNR=7.6						
NOA	NORSAR Array B	11.73	246	Pn	Pn	04 03 45.9	-2.3
	comp=Z,0.1nm,0.3s,baz=38,slow=10,SNR=2.7						

IDC 22 04:11:21.6±9.5, 7°.34S×156°.00E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=280.1km s-min=42.2km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.45	237	P	P	04 16 42.6	+0.1
	0.4nm,0.9s,baz=64,slow=9.3,SNR=2.5						
SONM	Songino Array	70.17	327	P	P	04 22 36.5	+0.1
	0.3nm,0.7s,baz=139,slow=7.0,SNR=3.6						
MKAR	Makanchi Array	84.33	318	P	P	04 23 55.6	-0.1
	0.6nm,0.7s,baz=111,slow=5.6,SNR=7.6						

CSEM 22 05:00:26.6±0.2, 37°.91N×35°.09E, h2km, MD3.3, Error ellipse: s-maj=4.6km s-min=3.7km az=46.0
DDA 22 05:00:26.7, 37°.86N×35°.15E, h21km, MD3.3
ISK 22 05:00:25.7, 37°.91N×35°.10E, h4km, MD3.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIG	Nigde	0.43	298	ePG	Pg	05 00 34.4	-0.1
NIG				eSG	Sg	05 00 41.1	+0.8
NIG	Nigde	0.43	298	ePg	Pg	05 00 34.4	0.0
NIG				eSg	Sg	05 00 41.1	+0.7
KARA	Karaisali	0.65	183	ePG	Pg	05 00 38.4	+0.2
KARA				eSG	Sb	05 00 48.3	-0.7
KARA	Karaisali	0.65	183	ePg	Pg	05 00 38.4	+0.2
KARA				eSg	Sb	05 00 48.3	-0.7
GULE	Gulek	0.67	202	iP	Pg	05 00 39.4	+0.5
GULE				iS	Sb	05 00 50.4	+0.3
GULE	Gulek	0.67	202	iP	Pg	05 00 39.4	+0.5
GULE				iS	Sb	05 00 50.4	+0.3
BSTP	Nigde	0.78	273	iP	Pb	05 00 41.8	-0.3
BSTP				iS	Sn	05 00 55.7	-0.3
CEYT	Ceyhan	1.04	150	ePG	Pb	05 00 46.2	0.0
CEYT				eSG	Sn	05 01 01.3	-0.6
CEYT	Ceyhan	1.04	150	ePg	Pb	05 00 46.2	0.0
CEYT				eSg	Sn	05 01 01.3	-0.6
ANDN	Andirin	1.04	108	iP	Pb	05 00 44.9	-1.0
ANDN				iS	Sg	05 00 59.9	+0.4
ANDN	Andirin	1.04	108	iP	Pb	05 00 44.9	-1.0
ANDN				iS	Sg	05 00 59.9	+0.4
MERS	Mersin	1.14	204	ePN	Pg	05 00 47.8	-0.2
MERS				eSN	Sn	05 01 04.5	0.0
MERS	Mersin	1.14	204	ePn	Pb	05 00 47.8	-0.2
MERS				eSn	Sn	05 01 04.5	-0.1
SULT	Sultanhani-AKS	1.28	284	ePN	Pb	05 00 50.8	+0.3
SULT				eSN	Sn	05 01 09.3	+1.1
SULT	Sultanhani-AKS	1.28	284	ePn	Pb	05 00 50.8	+0.3
SULT				eSn	Sn	05 01 09.3	+1.1
KAMA	Osmaniye	1.44	120	iP	Pg	05 00 53.6	+0.1
KAMA				iS	Sg	05 01 13.4	+1.1
KMRS	Kahramanmaras	1.49	105	ePN	Pb	05 00 53.9	0.0
KMRS				eSN	Sn	05 01 13.8	+0.2
KMRS	Kahramanmaras	1.49	105	ePn	Pb	05 00 53.9	-0.1
KMRS				eSn	Sn	05 01 13.8	+0.2
KIZK	Mersin	1.61	208	iP	Pb	05 00 56.3	+0.2
KIZK				iS	Sg	05 01 21.3	+3.7
KIZK	Mersin	1.61	208	iP	Pb	05 00 56.3	+0.2
KIZK				iS	Sg	05 01 21.3	+3.6
YOZ	Yozgat	1.74	6	ePN	Pn	05 00 57.6	+0.7
YOZ	Yozgat	1.74	6	ePn	Pn	05 00 57.6	+0.7
CDAG	Cicekdag	1.80	342	iP	Pb	05 00 58.9	-0.6
CDAG				iS	Sg	05 01 24.6	+0.6
CDAG	Cicekdag	1.80	342	iP	Pb	05 00 58.9	-0.6
CDAG				iS	Sg	05 01 24.6	+0.6
KUZU	Kuzuini	1.94	125	iP	Pb	05 01 01.4	-0.3
KUZU				iS	Sn	05 01 25.1	+0.6
KUZU	Kuzuini	1.94	125	iP	Pb	05 01 01.4	-0.4
KUZU				iS	Sn	05 01 25.1	+0.7
DARE	Darende-Malaty	1.99	70	ePN	Pn	05 01 01.2	+0.8
DARE	Darende-Malaty	1.99	70	ePn	Pn	05 01 01.2	+0.9
GZT	Gaziantep	2.04	105	iP	Pn	05 01 01.5	+0.5
GZT				iS	Sb	05 01 28.7	-0.6
ERMK	Ermenek	2.15	235	iP	Pn	05 01 05.6	+0.1
ERMK	Ermenek	2.15	235	iP	Pn	05 01 05.6	0.0
ERMK				iS	Sg	05 01 36.0	+0.6
LADK	Ladik-KONYA	2.18	279	ePN	Pn	05 01 03.9	+1.0
LADK	Ladik-KONYA	2.18	279	ePn	Pn	05 01 03.9	+1.0
AYK	Aydincik	2.25	219	iP	Pn	05 00 53.2	-11
AYK				iS	Sn	05 01 15.2	-17
CORM	Corum	2.30	351	ePN	Pn	05 01 05.5	+1.0
CORM	Corum	2.30	351	ePn	Pn	05 01 05.5	+1.0
SVSK	Karacayir	2.50	36	ePN	Pn	05 01 08.3	+1.2
SVSK	Karacayir	2.50	36	ePn	Pn	05 01 08.3	+1.2
ATAB	Bozova	2.58	99	iP	Pg	05 01 16.3	+1.2
ATAB				iS	Sg	05 01 51.0	+2.4
ANTO	Ankara	2.66	318	ePN	Pn	05 01 10.2	+0.7
ANTO	Ankara	2.66	318	ePn	Pn	05 01 10.2	+0.8
MALT	Malatya	2.66	80	ePN	Pn	05 01 10.8	+1.3
MALT	Malatya	2.66	80	ePn	Pn	05 01 10.8	+1.3
LOD	Lodumlu	2.69	318	ePN	Pn	05 01 11.4	+1.5
LOD	Lodumlu	2.69	318	ePn	Pn	05 01 11.4	+1.5
KIZT	Kizilcal	2.71	292	ePN	Pn	05 01 11.5	+1.3
KIZT	Kizilcal	2.71	292	ePn	Pn	05 01 11.5	+1.3
CANT	Cankiri	2.93	337	ePN	Pn	05 01 14.1	+0.9
URFA	Urfa	2.99	98	ePN	Pn	05 01 15.6	+1.6
URFA	Urfa	2.99	98	ePn	Pn	05 01 15.6	+1.6
RSDY	Resadiye-TOKAT	3.03	34	ePN	Pn	05 01 16.4	+1.8
RSDY	Resadiye-TOKAT	3.03	34	ePn	Pn	05 01 16.4	+1.9

ISCJB **22** *05:08:46.1±1.6, 21.°55S±0.°03×173.°79W±0.°02, h23km±11km, mb5.6/269, MS5.3/193, Error ellipse: s-maj=5.1km s-min=2.9km az=153.7*

MOS **22** *05:08:47.7±0.9, 21.°47S×173.°85W, h33km, mb5.8/79, MS5.3/34, Error ellipse: s-maj=9.8km s-min=7.2km az=53.9*

BJI **22** *05:08:47.6, 21.°15S×173.°54W, h26km, mB5.8/39, mb5.4/53, Ms5.5/44, Ms7 5.2/43*

SZGRF **22** *05:08:48.0, 22.°05S×174.°01W, h34km, mb5.6, Tonga Islands region*

NEIC **22** *05:08:49.0±0.1, 21.°51S×173.°78W, h33km, mb5.8/169, ME5.4, MS5.3/153, MW5.7, MW5.7, Error ellipse: s-maj=4.1km s-min=2.4km az=142.0, Moment Tensor Solution. s52 Moment tensor: Scale 10^{17}Nm; M_{rr}2.52; $M_{\theta\theta}$1.07; $M_{\phi\phi}$-3.58; $M_{r\theta}$0.28; $M_{\theta\phi}$-0.07; $M_{\phi r}$-2.24; Best double couple: $M_0$3.90000×10^{17} NP1:ϕ_s174.00000°, δ64.00000°, λ82.00000°. NP2:ϕ_s11.00000°, δ28.00000°, λ105.00000°. Principal axes: T 3.2900, Plg70.0000°, Azm67.0000°; N 1.0300, Plg7.0000°, Azm177.0000°; P -4.3100, Plg18.0000°, Azm269.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s355.00000°, δ15.00000°, λ90.00000°. NP2:ϕ_s175.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm265.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Tofoa.

IDC **22** *05:08:49.1±0.3, 21.°52S×173.°76W, h31km±1km, mb5.0/28, mb1 5.1/30, mb1mx5.1/30, mbtmp5.2/30, ML5.6/3, MS4.9/18, Ms1 5.0/18, ms1mx4.7/26 Error ellipse: s-maj=11.7km s-min=10.2km az=143.0*

GCMT **22** *05:08:49.0±0.1, 21.°63S×173.°40W, h47km, MW5.7/117, Moment Tensor Solution. s110,c217; s117,c295; Duration: $1^{s}7$ Moment tensor: Scale 10^{17}Nm; M_{rr}3.49±.05; $M_{\theta\theta}$0.39±.04; $M_{\phi\phi}$-3.88±.04; $M_{r\theta}$0.10±.04; $M_{\theta\phi}$0.59±.03; $M_{\phi r}$-1.76±.04; Best double couple: $M_0$4.12200×10^{17} NP1:ϕ_s174.00000°, δ58.00000°, λ93.00000°. NP2:ϕ_s350.00000°, δ32.00000°, λ86.00000°. Principal axes: T 3.8890, Plg77.0000°, Azm93.0000°; N 0.4630, Plg2.0000°, Azm353.0000°; P -4.3550, Plg13.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC **22** *05:09:04.7±0.0, 21.°54S×173.°46W, h45km, Moment Tensor Solution. s118 Moment tensor: Scale 10^{17}Nm; M_{rr}4.32; $M_{\theta\theta}$0.25; $M_{\phi\phi}$-4.57; $M_{r\theta}$-0.11; $M_{\theta\phi}$0.09; $M_{\phi r}$-1.90; Best double couple: $M_0$4.80000×10^{17} NP1:ϕ_s181.00000°, δ57.00000°, λ92.00000°. NP2:ϕ_s357.00000°, δ33.00000°, λ87.00000°. Principal axes: T 4.7100, Plg78.0000°, Azm98.0000°; N 0.2500, Plg1.0000°, Azm359.0000°; P -4.9600, Plg11.0000°, Azm269.0000°;*

ISC 22 05:08:49.2±0.2, 21.°56S±0.°03×173.°71W±0.°04, h35km, h35km:pP-P, n1557, $\sigma 1^{s}01$/1820, mb5.7/267, MS5.3/197, 323C-263D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	8.55	206	eP	Pn	05 10 50.6	0.0
RAO				e		05 12 21.8	
RAO				pmax	pmax		
	comp=Z,1µm,0.4s						
RAO	Raoul Island	8.55	206	Pn	Pn	05 10 50.2	-0.4
	comp=Z,304nm,0.3s,baz=112,slow=7.7,SNR=14						
RAO				Sn	Sn	05 12 23.2	-2.6
	comp=Z,4µm,0.3s,baz=151,slow=3.4,SNR=42						
RAO	Raoul Island	8.55	206	ePn	Pn	05 10 50.6	0.0
	comp=Z,1µm,0.4s						
RAO				eSn	Sn	05 12 21.8	-4.1
MSVF	Nonsavu	8.64	295	eP	Pn	05 10 56.6	+4.6
MSVF				pmax	pmax		
	comp=Z,5µm,1.4s						
MSVF	Nonsavu	8.64	295	ePn	Pn	05 10 56.6	+4.6
	comp=Z,5µm,1.4s						
RAR	Rarotonga	12.99	91	Pn	Pn	05 11 45.9	-5.4
	comp=Z,51nm,0.3s,baz=259,slow=10,SNR=56						
RAR				Sn	Sn	05 13 59.6	-15
	comp=Z,84nm,0.3s,baz=62,slow=14,SNR=7.7						
RAR				LR	LR	05 16 29.8	
	comp=Z,8µm,18.6s,baz=278,slow=35						
RAR	Rarotonga	12.99	91	ePn	Pn	05 11 43.2	-8.2
	comp=Z,436nm,0.7s						
RAR				eSn	Sn	05 13 58.9	-16
MXZ	Matakaoa Point	17.39	202	ePN	Pn	05 12 43.1	-6.0
OUZ	Omahuta	17.59	217	ePn	Pn	05 12 51.6	+0.1
	comp=Z,44nm,0.9s						
OUZ				eSn	Sn	05 16 01.8	-4.5
PUZ	Puketiti	17.86	201	ePN	Pn	05 12 49.7	-5.3
TWGZ	Tauwhareparae	18.05	202	eSN	Sn	05 16 03.2	-14
NFK	Norfolk Island	18.18	242	⇓P	P	05 13 01.5	+2.6
	baz=18,SNR=5.1						
MWZ	Matawai	18.35	202	ePN	P	05 12 57.1	-3.7
NORM	Noumea	18.39	264	eP	Pn	05 13 03.1	+1.6
URZ	Urewera	18.43	203	P	P	05 13 00.9	-0.7
	comp=Z,12nm,0.3s,baz=3.2,slow=6.0,SNR=86						
URZ				LR	LR	05 21 37.5	
	comp=Z,2µm,19.5s,baz=34,slow=42						
URZ	Urewera	18.43	203	eP	P	05 13 01.0	-0.6
	comp=Z,237nm,0.9s						
URZ				eS	Sn	05 16 20.5	-6.3
DZM	Mont Dzumac	18.44	265	eP	Pn	05 13 03.3	+1.1
	comp=Z,2µm,1.5s						
DZM				eS	Sn	05 16 26.4	-0.9
	comp=Z,4µm,33.1s						
DZM				eLR	LR	05 17 18.9	
	comp=Z,18µm,25.5s						
DZM	Mont Dzumac	18.44	265	P	P	05 13 01.8	-0.1
	comp=Z,9.1nm,0.3s,baz=81,slow=16,SNR=66						
DZM	Mont Dzumac	18.44	265	eP	Pn	05 13 03.0	+0.9
	comp=Z,670nm,1.1s						
NOUC	Port Laguerre	18.57	265	eP	Pn	05 13 09.1	+5.4
KNZ	Kokohu	18.91	201	ePN	P	05 13 06.7	-0.2
KAHZ	Kahuranaki	19.88	202	PN	Pn	05 13 18.7	-0.6
ANWZ	Angora Road	20.61	202	eSN	S	05 17 02.7	-11
BFZ	Birch Farm	20.89	202	ePN	P	05 13 29.5	+1.1
BFZ				eSN	S	05 17 07.6	-12
MRZ	Mangatainoka R	21.11	203	ePN	P	05 13 30.2	-0.6
SNZO	South Karori	22.00	204	eP	P	05 13 41.5	+1.2
	comp=Z,184nm,1.0s						
SNZO				LR	LR		
	comp=Z,3µm,19.0s						
TCW	Tory Channel	22.08	205	ePN	P	05 13 39.6	-1.5
QRZ	Quartz Range	22.48	208	PN	P	05 13 44.7	-0.7
TBI	Tubuai	22.49	99	eP	P	05 13 46.8	+1.2
	comp=Z,1µm,1.1s						
TBI	Tubuai	22.48	99	eT	T	05 37 03.6	
	comp=Z,31nm,0.3s						
PAE	Paea	23.05	85	eP	P	05 13 51.8	+0.1
PAE	Paea	23.05	85	eT	T	05 37 48.4	
	comp=Z,36nm,0.3s						
PPT2	Papeete2	23.07	84	eP	P	05 13 52.5	+0.5
	comp=Z,526nm,1.4s						
PPT2				eS	S	05 17 57.4	-3.4
	comp=Z,9µm,27.5s						
PPT2				eLR	LR	05 19 06.1	
	comp=Z,22µm,26.2s,baz=253						
PPT2	Papeete2	23.07	84	eT	T	05 37 50.9	
	comp=Z,35nm,0.4s						
PPT	Papeete	23.08	84	P	P	05 13 51.9	0.0
PPT				S	S	05 17 58.8	-2.0
PPT				pmax	pmax		
	comp=Z,127nm,1.0s						
PPT				smax	smax		
	comp=N,16nm,0.7s						
PPT	Papeete	23.08	84	P	P	05 13 51.9	0.0
	comp=N,127nm,1.0s,baz=206,slow=2.1,SNR=8.5						
PPT				S	S	05 17 58.8	-2.0
	comp=N,16nm,0.7s,baz=114,slow=20,SNR=3.9						
PPT				LR	LR	05 20 11.1	
	comp=N,7µm,21.0s,baz=294,slow=30						
THZ	Tophouse	23.09	206	ePN	P	05 13 51.9	0.0
THZ				eSN	S	05 17 56.2	-4.5
TIAR	Tiarei	23.29	84	eP	P	05 13 54.3	+0.2
TIAR	Tiarei	23.29	84	eT	T	05 38 06.5	
	comp=N,7.1nm,0.3s						
TVO	Taravao	23.33	85	eP	P	05 13 54.6	+0.1
	comp=N,229nm,1.5s						
TVO	Taravao	23.33	85	eT	T	05 38 09.1	
	comp=N,6.9nm,0.4s						
KHZ	Kahutara	23.39	204	eP	P	05 13 55.5	+0.7
	comp=N,103nm,0.8s						
LTZ	Lake Taylor	24.20	206	PN	P	05 14 01.2	-1.3
MEH	Mehetia	24.41	86	eP	P	05 14 03.8	-0.8
MEH	Mehetia	24.41	86	eT	T	05 39 29.9	
	comp=N,56nm,0.2s						
OXZ	Oxford	24.75	205	PN	P	05 14 06.9	-0.5
MQZ	McQueen's Vall	24.83	204	ePN	P	05 14 08.9	+0.8
MQZ				eSN	S	05 18 30.9	+2.3
PMOR	Pomariorio Ree	25.34	79	eP	P	05 14 13.4	+0.3
	comp=N,240nm,1.2s						
PMOR	Pomariorio Ree	25.34	79	eT	T	05 40 41.2	
	comp=N,5.8nm,0.3s						
RPZ	Rata Peaks	25.47	206	eP	P	05 14 13.2	-0.8
	comp=N,108nm,0.7s						
VAH	Vaihoa	25.52	80	eP	P	05 14 15.2	+0.6
	comp=N,223nm,1.4s						
VAH	Vaihoa	25.52	80	eT	T	05 40 53.9	
	comp=N,9.9nm,0.2s						
FOZ	Fox Glacier	25.93	208	PN	P	05 14 15.6	-2.5
LHI	Lord Howe Isla	26.24	242	⇑P	P	05 14 23.0	+1.9
	baz=26,SNR=5.1						
TARA	Tarawa	26.25	328	eP	P	05 14 20.4	-0.9
	comp=N,732nm,1.1s						
TARA				LR	LR		
	comp=Z,4µm,20.0s						
ODZ	Otahua Downs	26.73	205	eP	P	05 14 26.2	+0.8
	comp=Z,58nm,1.0s						
ODZ	Otahua Downs	26.73	205	ePN	P	05 14 26.1	+0.7
JCZ	Jackson Bay	26.75	209	PN	P	05 14 25.2	-0.4
HNR	Honiara	28.05	291	LR	LR	05 24 56.0	
	comp=Z,2µm,19.3s,baz=133,slow=34						
WHZ	Wether Hill Ro	28.53	207	eP	P	05 14 42.2	+0.7
	comp=Z,67nm,0.5s						
ARMA	Armidale	32.28	247	eP	P	05 15 14.2	-0.7
	comp=Z,86nm,1.0s						
ARMA	Armidale	32.28	247	⇓P	P	05 15 15.3	+0.3
	baz=32,SNR=33						
EIDS	Eidsvold	32.46	256	eP	P	05 15 15.3	-1.2
	comp=Z,80nm,1.2s						
EIDS	Eidsvold	32.46	256	⇑P	P	05 15 15.5	-0.9
	baz=32,SNR=13						
MGCD	Mangrove Creek	33.18	242	⇑P	P	05 15 23.4	+0.8
	baz=33,SNR=51						
RMQ	Roma	34.55	254	P	P	05 15 34.7	0.0
	baz=34,SNR=21						
TAOE	Nuku Hiva Isla	34.67	74	eT	T	05 52 20.7	
	comp=Z,179nm,0.3s						
CNB	Canberra Magne	35.03	239	P	P	05 15 39.5	+0.7
	baz=35,SNR=15						
CAN	Canberra	35.33	239	eP	P	05 15 42.1	+0.8
CAN				pmax	pmax		
	comp=Z,245nm,1.9s						
CAN				MLR	MLR		
	comp=Z,4µm,20.0s						
CAN	Canberra	35.33	239	eP	P	05 15 42.1	+0.8
	comp=Z,245nm,1.9s						
CAN				LR	LR		
	comp=Z,4µm,20.0s						
CAN	Canberra	35.33	239	⇑P	P	05 15 42.1	+0.8
	baz=35						
YNG	Young	35.60	241	P	P	05 15 44.5	+0.8
	baz=36,SNR=8.5						
MILA	Mila	35.62	236	⇑P	P	05 15 44.9	+1.1
	baz=36,SNR=6.3						
RKT	Rikitea	35.80	100	eP	P	05 15 45.4	0.0
	comp=Z,100nm,1.2s						
RKT				eS	S	05 21 21.1	+0.5
	comp=Z,2µm,28.2s						
RKT				eLR	LR	05 25 02.5	
	comp=Z,13µm,27.8s,baz=265						
RKT	Rikitea	35.80	100	eT	T	05 53 41.9	
	comp=Z,8.7nm,0.3s						
CTA	Charters Tower	37.38	265	P	P	05 15 58.0	-1.0
CTA				pmax	pmax		
	comp=Z,27nm,0.4s						
CTA	Charters Tower	37.38	265	P	P	05 15 58.0	-1.0
	comp=Z,27nm,0.4s,baz=91,slow=10,SNR=65						
CTA	Charters Tower	37.38	265	⇓P	P	05 15 58.0	-1.0
	baz=37						
CTAO	Charters Tower	37.38	265	eP	P	05 15 58.0	-1.0
CTAO				pmax	pmax		
	comp=Z,73nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,2µm,20.0s						
CTAO	Charters Tower	37.38	265	eP	P	05 15 58.0	-1.0
	comp=Z,73nm,0.8s						
CTAO				LR	LR		
	comp=Z,2µm,20.0s						
CMSA	Cobar Meteorol	37.47	246	P	P	05 15 59.1	-0.5
	baz=37,SNR=102						
TOO	Toolangi	38.58	236	⇑P	P	05 16 09.8	+0.8
	baz=38,SNR=20						
QLP	Quilpie	38.60	254	⇑P	P	05 16 08.1	-1.0
	baz=38,SNR=84						
MOO	Moorlands	38.71	228	⇓P	P	05 16 12.1	+2.3
	baz=39,SNR=10						
TAU	Tasmania Unive	38.78	228	eP	P	05 16 12.1	+1.6
TAU				pmax	pmax		
	comp=Z,270nm,1.4s						
TAU				MLR	MLR		
	comp=Z,3µm,22.0s						
TAU	Tasmania Unive	38.78	228	eP	P	05 16 12.1	+1.6
	comp=Z,270nm,1.4s						
TAU				LR	LR		
	comp=Z,3µm,22.0s						
PMG	Port Moresby	39.48	282	d iP	P	05 16 15.5	-1.1
PMG				pmax	pmax		
	comp=Z,273nm,1.3s						
PMG	Port Moresby	39.48	282	LR	LR	05 31 30.0	
	comp=Z,5µm,18.6s,baz=113,slow=34						
PMG	Port Moresby	39.48	282	eP	P	05 16 15.5	-1.1
	comp=Z,452nm,1.4s						
PMG	Port Moresby	39.48	282	⇓P	P	05 16 16.0	-0.6
	baz=39,SNR=5.7						
PTCN	Pitcairn Islan	40.08	104	PFAKE		05 16 30.0	+8.4
PTCN				LR	LR		
	comp=Z,5µm,22.0s						
STKA	Stephens Creek	40.98	246	P	P	05 16 28.6	-0.3
STKA				pmax	pmax		
	comp=Z,23nm,0.5s						
STKA	Stephens Creek	40.98	246	P	P	05 16 28.6	-0.3
	comp=Z,23nm,0.5s,baz=97,slow=11,SNR=72						
STKA	Stephens Creek	40.98	246	⇑P	P	05 16 28.6	-0.3
	baz=41,SNR=45						
ARPS	Mount Arapiles	41.30	238	⇑P	P	05 16 32.3	+0.9
	baz=41,SNR=9.6						
COEN	Coen	41.64	273	eP	P	05 16 33.1	-1.4
	comp=Z,354nm,0.9s						
COEN	Coen	41.64	273	P	P	05 16 33.8	-0.8
	baz=41,SNR=25						
HTT	Hallett	43.32	244	⇓P	P	05 16 47.8	-0.2
	baz=43,SNR=48						
QIS	Mount Isa	43.45	262	⇑P	P	05 16 47.7	-1.5
	baz=43,SNR=22						
H11S2	WAKE ISLAND Hy	44.18	333	T	T	06 05 24.6	
	baz=148,slow=76,SNR=39						
H11S3	WAKE ISLAND Hy	44.19	333	T	T	06 05 25.5	
	baz=148,slow=76,SNR=42						
H11S1	WAKE ISLAND Hy	44.20	333	T	T	06 05 25.9	
	baz=148,slow=76,SNR=34						
STCH	Steam Cracks	44.57	25	P	P	05 16 59.0	+0.9
POHA	Pohakuloa	44.74	25	eP	P	05 16 59.4	-0.3
	comp=Z,290nm,1.1s						
POHA				epP	pP	05 17 09.1	-0.9
POHA				LR	LR		
	comp=Z,3µm,20.0s						
WAKE	Wake Island	44.91	333	eP	P	05 17 00.2	-0.4
	comp=Z,369nm,1.4s						
WAKE				LR	LR		
	comp=Z,3µm,21.0s						
H11N3	WAKE ISLAND Hy	45.19	334	T	T	06 06 31.6	
	baz=148,slow=76,SNR=8.3						
H11N1	WAKE ISLAND Hy	45.19	334	T	T	06 06 28.5	
	baz=148,slow=76,SNR=9.6						
H11N2	WAKE ISLAND Hy	45.20	334	T	T	06 06 35.1	
	baz=148,slow=76,SNR=11						
KIP	Kipapa	45.38	21	eP	P	05 17 03.9	-0.5
KIP				e*PP	pP	05 17 13.3	-1.4
KIP				pmax	pmax		
	comp=Z,288nm,1.3s						
KIP	Kipapa	45.38	21	eP	P	05 17 03.9	-0.5
	comp=Z,288nm,1.3s						
KIP				epP	pP	05 17 13.3	-1.4
BBOO	Buckleboo	45.70	245	eP	P	05 17 06.5	-0.5
	comp=Z,722nm,0.4s						
BBOO	Buckleboo	45.70	245	⇑P	P	05 17 06.2	-0.8
	baz=46,SNR=162						
AS07	Alice Springs	48.12	257	⇑P	P	05 17 25.5	-0.7
	baz=48						
AS04	Alice Springs	48.16	257	⇑P	P	05 17 25.8	-0.6
	baz=48						
JAY	Jayapura	48.18	287	P	P	05 17 26.9	+0.3
JAY				pmax	pmax		
	comp=Z,82nm,0.4s						
JAY	Jayapura	48.18	287	P	P	05 17 26.6	0.0
	comp=Z,216nm,1.3s,comp=Z,4µm						
JAY	Jayapura	48.18	287	P	P	05 17 26.9	+0.3
	comp=Z,82nm,0.4s,baz=177,slow=0.0,SNR=20						
JAY	Jayapura	48.18	287	⇑P	P	05 17 26.0	-0.6
	baz=48,SNR=22						
AS31	Alice Springs	48.18	257	eP	P	05 17 25.5	-1.0
AS31				epP	pP	05 17 36.9	-0.1
WR7	Warramunga Arr	48.30	262	⇑P	P	05 17 25.8	-1.7
	baz=48						
WR5	Warramunga Arr	48.34	262	⇑P	P	05 17 26.2	-1.6
	baz=48						
WR3	Warramunga Arr	48.38	262	⇑P	P	05 17 26.5	-1.6
	baz=48						
WC2	Warramunga Arr	48.40	262	⇑P	P	05 17 26.6	-1.7
	baz=48						
WB5	Warramunga Arr	48.41	262	⇓P	P	05 17 26.8	-1.6
	baz=48						
WB3	Warramunga Arr	48.41	262	⇓P	P	05 17 26.8	-1.6
	baz=48						
WRAB	Tennant Creek	48.41	262	d iP	P	05 17 26.6	-1.7
WRAB				pmax	pmax		
	comp=Z,518nm,1.3s						
WRAB	Tennant Creek	48.41	262	eP	P	05 17 26.7	-1.7
	comp=Z,232nm,1.0s						
WRAB				LR	LR		
	comp=Z,3µm,19.0s						
WRA	Warramunga Arr	48.42	262	P	P	05 17 26.8	-1.7
WRA						05 18 54.8	
WRA				S	S	05 24 20.2	-6.9
WRA				pmax	pmax		
	comp=Z,120nm,0.9s						
WRA				smax	smax		
	comp=N,3.0nm,1.0s						
WRA	Warramunga Arr	48.42	262	P	P	05 17 26.8	-1.7
	comp=N,120nm,0.9s,baz=97,slow=8.2,SNR=322						
WRA				PcP	PcP	05 18 54.8	+0.3
	comp=N,13nm,0.6s,baz=96,slow=3.3,SNR=3.7						
WRA				S	S	05 24 20.2	-6.9
	comp=N,3.0nm,1.0s,baz=97,slow=13,SNR=7.0						
WC1	Warramunga Arr	48.43	262	⇓P	P	05 17 26.9	-1.5
	baz=48						
GENI	Genyem	48.62	286	P	P	05 17 30.0	0.0
	comp=N,322nm,1.2s,comp=N,6µm						
MIDW	Midway	49.61	356	P	P	05 17 37.8	+0.7
MIDW				LR	LR		
	comp=Z,2µm,20.0s						
SMPI	Sarmi	50.20	286	P	P	05 17 40.9	-1.1
	comp=Z,176nm,1.4s						
KDU	Kakadu	51.97	271	P	P	05 17 54.2	-1.1
	baz=52,SNR=27						
FORT	Forrest	52.57	247	eP	P	05 17 58.8	-0.8
	comp=Z,242nm,0.7s						
FORT	Forrest	52.57	247	⇑P	P	05 17 59.4	-0.1
	baz=52,SNR=45						
BAKI	Biak	52.88	286	P	P	05 18 01.9	-0.2
	comp=Z,344nm,1.4s,comp=Z,4µm						
WRKA	Warakurna	53.04	254	⇑P	P	05 18 02.7	-0.5
	baz=53,SNR=229						
MTN	Manton Dam	53.17	270	⇓P	P	05 18 02.6	-1.7
	baz=53,SNR=21						
GUMO	Guam	53.60	307	eP	P	05 18 07.3	+0.1
GUMO				pmax	pmax		
	comp=Z,441nm,1.4s						
GUMO				MLR	MLR		
	comp=Z,3µm,20.0s						
GUMO	Guam	53.60	307	eP	P	05 18 07.3	+0.1
	comp=Z,441nm,1.4s						
GUMO				LR	LR		
	comp=Z,3µm,20.0s						
DRV	Dumont d'Urvil	53.75	201	P	P	05 17 55.0	-13
DRV				S	S	05 25 31.0	-8.3
DRV				SS	SS	05 29 26.0	+5.9
DRV				L	L	05 31 00.0	
DRV				R		05 33 00.0	
KNRA	Kununurra	54.58	266	P	P	05 18 13.6	-0.9
	baz=54,SNR=45						
FAKI	Fak Fak	55.64	282	P	P	05 18 21.2	-1.0
	comp=Z,148nm,1.5s,comp=Z,3µm						
FAKI	Fak Fak	55.64	282	eP	P	05 18 21.2	-1.0
	comp=Z,232nm,1.4s						
FAKI	Fak Fak	55.64	282	⇓P	P	05 18 21.9	-0.3
	baz=55,SNR=10						
FITZ	Fitzroy Crossi	56.85	262	⇑P	P	05 18 30.4	-0.4
	baz=57						
SBA	Scott Base	57.12	185	eP	P	05 18 34.7	+2.9
SBA				e*PP	pP	05 18 44.6	+2.3
SBA				pmax	pmax		
	comp=Z,561nm,2.3s						
SBA				MLR	MLR		
	comp=Z,2µm,21.0s						
SBA	Scott Base	57.12	185	eP	P	05 18 34.7	+2.9
	comp=Z,561nm,2.3s						
SBA				epP	pP	05 18 44.6	+2.3
SBA				LR	LR		
	comp=Z,2µm,21.0s						
VNDA	Vanda	57.26	186	P	P	05 18 33.9	+1.2
VNDA				pmax	pmax		
	comp=Z,13nm,0.9s						
VNDA	Vanda	57.26	186	P	P	05 18 33.9	+1.2
	comp=Z,13nm,0.9s,baz=5.8,slow=6.7,SNR=12						
SWI	Sorong	57.39	283	P	P	05 18 34.4	-0.2
	comp=Z,298nm,0.9s,comp=Z,3µm						
SWI	Sorong	57.39	283	⇓P	P	05 18 34.4	-0.2
	baz=57,SNR=11						
NLAI	Namlea	60.23	279	P	P	05 18 53.7	-0.7
	comp=Z,100nm,1.6s,comp=Z,2µm						
SOEI	Soe	60.53	271	P	P	05 18 57.4	+0.8
	comp=Z,301nm,0.9s,comp=Z,3µm						
SOEI	Soe	60.53	271	eP	P	05 18 57.2	+0.6
	comp=Z,163nm,0.8s						
SOEI	Soe	60.53	271	P	P	05 18 57.5	+0.8
	baz=60,SNR=18						
BATI	Baumata	60.95	270	P	P	05 18 59.4	+0.1
	comp=Z,58nm,1.0s,comp=Z,901nm						
BATI	Baumata	60.95	270	P	P	05 18 59.9	+0.6
	comp=Z,65nm,0.7s,baz=261,slow=5.0,SNR=7.2						
KLBR	Kellerberrin	61.24	245	P	P	05 19 01.4	+0.3
	baz=61,SNR=28						
MEEK	Meekatharra	61.35	251	⇓P	P	05 19 01.7	-0.3
	baz=61,SNR=12						
RKGY	Rocky Gully	61.46	241	⇓P	P	05 19 03.3	+0.8
	baz=61,SNR=12						
NWAO	Narrogin (SRO)	61.48	243	P	P	05 19 01.9	-0.8
NWAO				pmax	pmax		
	comp=Z,13nm,0.6s						
NWAO	Narrogin (SRO)	61.48	243	P	P	05 19 01.9	-0.8
	comp=Z,13nm,0.6s,baz=90,slow=6.4,SNR=9.2						
MBWA	Marble Bar	61.53	257	eP	P	05 19 02.6	-0.6
	comp=Z,331nm,1.5s						
MBWA				epP	pP	05 19 13.5	-0.3
MBWA				LR	LR		
	comp=Z,2µm,20.0s						
SANI	Sanana	61.71	280	P	P	05 19 03.4	-1.1
	comp=Z,88nm,1.2s,comp=Z,2µm						
BLDU	Ballidu	62.28	246	P	P	05 19 08.1	0.0
	baz=62,SNR=17						
MMRI	Maumere	62.79	271	P	P	05 19 11.0	-0.7
	comp=Z,113nm,1.0s,comp=Z,3µm						
MORW	Morawa	63.13	247	P	P	05 19 14.0	+0.3
	baz=63,SNR=19						
JCJ	Chichijima	64.51	317	LR	LR	05 42 53.7	
	comp=Z,811nm,21.7s,baz=124,slow=32						
CASY	Casey	64.74	206	eP	P	05 19 24.6	+0.9
	comp=Z,230nm,1.8s						
CASY				epP	pP	05 19 34.0	-0.4
CASY				LR	LR		
	comp=Z,543nm,19.0s						
LUWI	Luwuk	65.06	279	P	P	05 19 26.7	+0.1
	comp=Z,155nm,1.0s,comp=Z,4µm						
LUWI	Luwuk	65.06	279	eP	P	05 19 26.8	+0.1
	comp=Z,145nm,1.0s						
LUWI				epP	pP	05 19 39.0	+1.7
WBSI	Waikabubak, Su	65.11	269	P	P	05 19 26.7	-0.3
	comp=Z,89nm,1.3s,comp=Z,2µm						
BKSI	Bulukumba	65.91	274	P	P	05 19 28.4	-3.7
	comp=Z,33nm,1.1s,comp=Z,1µm						
DAV	Davao City (W)	65.96	289	PFAKE		05 19 40.0	+7.6

DAV LR LR
comp=Z,1μm,20.0s
GIRL Giralia 66.12 254 P P 05 19 34.9 +1.6
baz=66,SNR=8.2
APSI Ampana 66.15 279 P P 05 19 34.1 +0.5
comp=Z,135nm,1.3s,comp=Z,1μm
BNSI Bone 66.25 275 P P 05 19 34.4 +0.1
comp=Z,54nm,1.4s,comp=Z,736nm
KAPI Kappang 66.36 274 PFAKE 05 19 50.0 +15
KAPI LR LR
comp=Z,798nm,21.0s
MRSI Marisa 66.43 280 P P 05 19 36.0 +0.6
comp=Z,55nm,1.0s,comp=Z,1μm
SPSI Sidrap Palu 66.73 275 P P 05 19 35.5 -1.9
comp=Z,25nm,1.0s,comp=Z,514nm
TTSI Tana Toraja 67.02 276 P P 05 19 38.7 -0.5
comp=Z,38nm,1.6s,comp=Z,1μm
MPSI Mapaga 68.24 279 P P 05 19 46.5 -0.4
comp=Z,61nm,1.1s,comp=Z,920nm
QSPA South Pole Qui 68.52 180 P P 05 19 49.1 +1.1
comp=Z,57nm,1.0s,baz=34,slow=1.1,SNR=96
QSPA South Pole Qui 68.52 180 eP P 05 19 48.1 +0.1
comp=Z,122nm,1.0s
QSPA epP pP 05 19 59.3 +0.6
QSPA LR LR
comp=Z,2μm,20.0s
SRBI Singaraja 69.52 269 P P 05 19 55.1 +0.2
comp=Z,77nm,1.1s,comp=Z,2μm
JAGI Jajag, Banyuwa 70.37 268 P P 05 19 58.9 -1.3
comp=Z,113nm,1.2s,comp=Z,2μm
JAGI Jajag, Banyuwa 70.37 268 eP P 05 19 58.5 -1.6
comp=Z,188nm,1.3s
JAGI Jajag, Banyuwa 70.37 268 ⇑P P 05 19 59.2 -1.0
baz=70,SNR=8.3
GMJI Gumukmas 71.10 268 P P 05 20 04.0 -0.5
comp=Z,74nm,1.4s
MYLDM Lahad Datu 71.47 283 ⇑P P 05 20 08.2 +1.4
BBKI Banjar Baru 71.48 274 P P 05 20 07.9 +1.0
comp=Z,71nm,1.5s,comp=Z,3μm
TSM Tawau 71.68 282 ⇑P P 05 20 09.1 +1.0
PWJI Pagerwojo 72.71 268 P P 05 20 13.9 -0.3
comp=Z,156nm,1.0s,comp=Z,2μm
SDKM Sandakan 72.85 283 ⇓P P 05 20 16.4 +1.3
TGY Tagaytay City 73.25 293 P P 05 20 17.6 +0.2
TGY pmax pmax
comp=Z,140nm,0.3s
TGY Tagaytay City 73.25 293 P P 05 20 17.6 +0.2
comp=Z,140nm,0.3s,baz=287,slow=10,SNR=5.6
NGJI Ngawi 73.25 269 P P 05 20 18.1 +0.7
comp=Z,78nm,1.3s,comp=Z,2μm
MJAR Matsushiro Arr 73.48 321 P P 05 20 18.6 +0.3
MJAR pmax pmax
comp=Z,16nm,0.8s
MJAR MLR MLR
comp=Z,268nm,18.1s
MJAR Matsushiro Arr 73.48 321 P P 05 20 18.6 +0.3
comp=Z,16nm,0.8s,baz=167,slow=6.2,SNR=40
MJAR LR LR 05 53 36.3
comp=Z,268nm,18.1s,baz=185,slow=37
MAJO Matsushiro 73.48 321 d iP P 05 20 15.7 -2.6
MAJO pmax pmax
comp=Z,274nm,1.2s
MAJO Matsushiro 73.48 321 eP P 05 20 18.6 +0.3
comp=Z,24nm,0.8s
MAJO LR LR
comp=Z,592nm,19.0s
MAT Matsushiro 73.48 321 P P 05 20 18.3 0.0
MAT S S 05 29 45.4 -0.2
WOJI Wonogiri, Jawa 73.59 268 P P 05 20 19.7 +0.3
comp=Z,205nm,1.5s,comp=Z,4μm
KDM Kudat 73.70 284 ⇑P P 05 20 20.7 +0.6
KKM Kota Kinabalu 73.90 283 eP P 05 20 21.3 -0.1
comp=Z,99nm,1.1s
KKM LR LR
comp=Z,457nm,21.0s
KKM Kota Kinabalu 73.90 283 ⇑P P 05 20 20.8 -0.6
baz=74,SNR=8.1
KKM Kota Kinabalu 73.90 283 ⇑P P 05 20 22.1 +0.7
UGM Wanagama 73.94 268 P P 05 20 21.8 +0.3
comp=Z,159nm,1.2s
UGM Wanagama 73.94 268 P P 05 20 21.6 +0.1
baz=74,SNR=6.3
JOW Kunigami 73.94 308 P P 05 20 21.6 +0.5
comp=Z,3.4nm,0.9s,baz=96,slow=8.4,SNR=4.6
SMRI Semarang 74.31 269 P P 05 20 23.5 -0.2
comp=Z,115nm,1.6s
SMRI Semarang 74.31 269 ⇓P P 05 20 23.7 +0.1
baz=74
PBKI Pangkalan Bun 74.71 273 P P 05 20 26.6 +0.6
comp=Z,394nm,1.2s,comp=Z,19μm
ERM Erimo 74.77 328 eP P 05 20 23.8 -1.8
ERM pmax pmax
comp=Z,13nm,0.8s
ERM Erimo 74.77 328 PFAKE 05 20 40.0 +14
ERM LR LR
comp=Z,2μm,22.0s
YUK Yuzh-Kuril'sk 75.05 331 d iP P 05 20 25.5 -1.7
YUK iPPP PPP 05 25 03.8
YUK iS S 05 29 55.8 -6.9
YUK i 05 30 48.8
YUK iSS SS 05 34 47.7 -4.9
YUK iSSS SSS 05 38 02.7
BSC Santa Cruz Isl 75.50 44 ⇓P P 05 20 31.0 +0.9
baz=76
SCI San Clemente I 75.58 45 ⇓P P 05 20 31.6 +1.0
baz=76
KPJI Karang Pucung 75.62 268 P P 05 20 31.3 +0.1
comp=Z,102nm,1.0s,comp=Z,2μm
SBC Santa Barbara 75.72 44 ⇑P P 05 20 32.3 +1.0
baz=76
JNU Nakatsue 75.83 315 P P 05 20 31.8 -0.2
comp=Z,13nm,0.8s,baz=157,slow=4.8,SNR=6.7
JNU Nakatsue 75.83 315 eP P 05 20 30.2 -1.8
comp=Z,43nm,1.3s
JNU epP PcP 05 20 44.2 -0.3
STKI Sintang 75.91 276 P P 05 20 33.7 +0.8
comp=Z,153nm,1.2s,comp=Z,25μm
CMJI Cimerak 75.91 267 P P 05 20 32.1 -0.8
comp=Z,128nm,1.1s,comp=Z,1μm
CIS Catalina Islan 75.94 45 ⇓P P 05 20 32.9 +0.3
baz=76
SMMC Simmler 76.09 43 ⇑P P 05 20 34.4 +1.0
baz=76,SNR=5.4
SAO San Andreas Ge 76.12 41 eP P 05 20 34.3 +0.7
SAO e*PP pP 05 20 45.0 +0.5
SAO pmax pmax
comp=Z,207nm,2.0s
SAO San Andreas Ge 76.12 41 eP P 05 20 34.2 +0.7
comp=Z,207nm,2.0s
SAO epP pP 05 20 45.0 +0.5
SBUM Sibu 76.13 278 ⇓P P 05 20 35.0 +0.8
FMP Fort Macarthur 76.19 45 ⇓P P 05 20 34.8 +0.8
baz=76
OSI Osito Adit 76.47 44 ⇓P P 05 20 36.6 +1.0
baz=77
109C Camp Elliot, M 76.49 46 ⇓P P 05 20 36.4 +0.8
baz=77
DECC Green Verdugo 76.50 45 ⇑P P 05 20 36.2 +0.4
baz=77
PASC Pasadena Art C 76.55 45 eP P 05 20 37.1 +1.1
comp=Z,29nm,1.3s
PASC epP pP 05 20 46.8 -0.1
CISI Cisompet, Garu 76.58 267 P P 05 20 35.6 -1.2
comp=Z,140nm,1.8s,comp=Z,4μm
CISI Cisompet, Garu 76.58 267 eP P 05 20 35.8 -0.9
comp=Z,220nm,1.3s
CISI Cisompet, Garu 76.58 267 ⇓P P 05 20 36.0 -0.7
baz=76
ASAJ Asahikawa 76.62 329 P P 05 20 36.7 +0.5
baz=169,slow=6.8,SNR=5.8
ASAJ Asahikawa 76.62 329 eP P 05 20 37.4 +1.2
comp=Z,5.7nm,0.8s
HOPS Hopland 76.63 38 eP P 05 20 37.5 +1.0
comp=Z,112nm,1.4s
HOPS epP pP 05 20 46.7 -0.6
MWC Mount Wilson 76.66 45 eP P 05 20 37.7 +0.8
MWC e*PP pP 05 20 47.7 -0.1
MWC pmax pmax
comp=Z,78nm,1.3s
MWC Mount Wilson 76.66 45 eP P 05 20 37.7 +0.8
comp=Z,78nm,1.3s
MWC epP pP 05 20 47.7 -0.1
ARVC Arvin 76.72 44 ⇑P P 05 20 37.7 +0.7
baz=77,SNR=5.1
KCPM Cahto Peak 76.81 37 eP P 05 20 38.4 +0.8
comp=Z,66nm,1.5s
KCPM epP pP 05 20 47.6 -0.9
MURC Murrieta 76.85 46 ⇑P P 05 20 38.4 +0.6
baz=77,SNR=7.2
BFSC Mount Baldy Ra 76.93 45 ⇑P P 05 20 38.9 +0.5
baz=77
MONP Monument Peak 76.95 47 ⇓P P 05 20 39.3 +0.7
baz=77,SNR=6.7
KIPM Iron Peak 76.95 37 eP P 05 20 39.6 +1.2
comp=Z,189nm,1.7s
KIPM epP PcP 05 20 49.8 +0.5
VES Vestal, Richgr 77.00 43 ⇑P P 05 20 39.0 +0.5
baz=77,SNR=13
LEM Lembang 77.01 268 P P 05 20 40.0 +0.6
comp=Z,363nm,1.2s,comp=Z,4μm
LEM Lembang 77.01 268 P P 05 20 40.7 +1.3
baz=77,SNR=6.4
RCTC Rector, Farmer 77.20 42 ⇑P P 05 20 40.3 +0.7
baz=77
ISA Isabella 77.28 43 eP P 05 20 40.6 +0.4
ISA e*PP pP 05 20 51.6 +0.5
ISA pmax pmax
comp=Z,130nm,1.4s
ISA Isabella 77.28 43 eP P 05 20 40.6 +0.4
comp=Z,130nm,1.4s
ISA epP pP 05 20 51.6 +0.5
ISA Isabella 77.28 43 ⇓P P 05 20 41.1 +0.9
baz=78,SNR=16
CNJI Cibinong 77.30 267 P P 05 20 40.1 -0.6
comp=Z,205nm,1.2s,comp=Z,2μm
PFO Pinyon Flat Ob 77.35 46 P P 05 20 41.2 +0.5
PFO *PP PcP 05 20 51.3 +0.1
PFO pmax pmax
comp=Z,8.0nm,1.0s
PFO pmax pmax
comp=Z,39nm,1.1s
PFO Pinyon Flat Ob 77.35 46 P P 05 20 41.2 +0.5
comp=Z,7.9nm,1.0s,baz=231,slow=4.0,SNR=9.9
PFO pP PcP 05 20 51.3 +0.1
comp=Z,39nm,1.1s,baz=240,slow=3.4,SNR=14
PFO Pinyon Flat Ob 77.35 46 P P 05 20 41.2 +0.5
PFO pP PcP 05 20 51.3 +0.1
PFO LR LR
comp=Z,1μm,21.0s
PFO Pinyon Flat Ob 77.35 46 ⇑P P 05 20 41.2 +0.5
baz=78,SNR=5.1
SWSC Sam W. Stewart 77.40 47 ⇓P P 05 20 41.6 +0.7
baz=78
SDPT Sand Point 77.42 8 eP P 05 20 41.2 +0.8
comp=Z,311nm,1.4s
BBRC Big Bear Solar 77.43 45 ⇑P P 05 20 42.0 +0.7
baz=78
YULB Yu-li 77.45 301 eP P 05 20 40.8 -0.5
comp=Z,29nm,0.9s
KSM Kuching 77.52 277 eP P 05 20 42.8 +0.9
comp=Z,158nm,0.9s
KSM LR LR
comp=Z,486nm,20.0s
KSM Kuching 77.52 277 ⇓P P 05 20 42.9 +0.9
baz=77,SNR=23
KSM Kuching 77.52 277 ⇑P P 05 20 42.8 +0.9
KHMM Horse Mountain 77.54 36 eP P 05 20 42.5 +0.9
comp=Z,102nm,1.1s
KHMM epP pP 05 20 53.5 +0.9
XMIS Christmas Isla 77.59 264 eP P 05 20 43.3 +0.9
comp=Z,1μm,1.6s
CMB Columbia Colle 77.59 40 eP P 05 20 42.3 +0.4
CMB e*PP pP 05 20 53.1 +0.3
CMB pmax pmax
comp=Z,103nm,1.2s
CMB Columbia Colle 77.59 40 eP P 05 20 42.3 +0.4
comp=Z,103nm,1.2s
CMB epP pP 05 20 53.1 +0.3
NACB Ninganchiao 77.60 302 eP P 05 20 41.6 -0.6
comp=Z,113nm,1.0s
LRMC Laurel Mountai 77.67 44 ⇑P P 05 20 42.9 +0.4
baz=78,SNR=7.3
RRX Edison Barstow 77.75 45 ⇑P P 05 20 43.3 +0.5
baz=78
BELC Belle Mtn. Jos 77.89 46 ⇑P P 05 20 44.5 +0.8
baz=78
SSLB Suanglung 77.92 302 eP P 05 20 43.3 -0.7
comp=Z,25nm,0.8s
TPUB Ta-pu 77.93 301 eP P 05 20 43.0 -1.1
comp=Z,109nm,0.9s
WDC Whiskeytown Da 78.00 37 eP P 05 20 44.7 +0.6
WDC pmax pmax
comp=Z,229nm,1.3s
WDC Whiskeytown Da 78.00 37 eP P 05 20 44.6 +0.6
comp=Z,229nm,1.3s
YHNB Yeheng 78.03 303 eP P 05 20 44.4 -0.2
comp=Z,72nm,1.0s
YHNB LR LR
comp=Z,1μm,20.0s
PET Petropavlovsk 78.05 343 c iP P 05 20 43.9 0.0
PET eS S 05 30 35.1 -0.1
PET ePS PnS 05 31 17.9 -1.7
PET ePPS PPS 05 31 32.1
PET eSS SS 05 35 38.6 +0.9
PET eSSS SSS 05 38 56.0
PET pmax pmax
comp=Z,500nm,17.5s
PET pmax pmax
comp=Z,12nm,0.8s
PET Petropavlovsk 78.05 343 eP P 05 20 43.7 -0.2
comp=Z,86nm,1.4s
PET LR LR
comp=Z,2μm,21.0s
BC3 Big Chuckawall 78.05 46 ⇑P P 05 20 45.4 +0.8
baz=78,SNR=12
TATO Taipei 78.09 303 eP P 05 20 44.8 -0.1
comp=Z,431nm,1.8s
TATO LR LR
comp=Z,898nm,19.0s
GLA Glamis 78.13 47 eP P 05 20 45.8 +0.8
GLA e*PP pP 05 20 55.8 -0.1
GLA pmax pmax
comp=Z,77nm,1.6s
GLA Glamis 78.13 47 eP P 05 20 45.8 +0.8
comp=Z,77nm,1.6s
GLA epP pP 05 20 55.8 -0.1
GLA Glamis 78.13 47 ⇑P P 05 20 46.0 +1.0
baz=78,SNR=5.7
GSC Goldstone 78.13 44 eP P 05 20 45.8 +0.8
GSC e*PP pP 05 20 56.1 +0.2
GSC pmax pmax
comp=Z,70nm,1.3s
GSC Goldstone 78.13 44 eP P 05 20 45.8 +0.8
comp=Z,70nm,1.3s
GSC epP pP 05 20 56.1 +0.2
GSC Goldstone 78.13 44 ⇓P P 05 20 45.4 +0.4
baz=78,SNR=6.7
HEC Hector,Ludlow 78.16 45 ⇑P P 05 20 45.2 0.0
baz=78,SNR=5.2
N02D Trinity Center 78.17 37 ⇑P P 05 20 46.6 +1.5
baz=78
KBO Bosley Butte 78.19 35 eP P 05 20 46.5 +1.4
comp=Z,176nm,1.7s
KBO epP pP 05 20 56.8 +0.8
MLAC Mammoth Lakes 78.28 42 ⇑P P 05 20 46.8 +0.8
baz=78,SNR=5.7
TIN Tinemaha 78.30 42 ⇑P P 05 20 46.8 +0.9
baz=78
M02C Callahan 78.37 37 ⇓P P 05 20 47.7 +1.5
baz=79
PETK Petropavlovsk- 78.38 343 P P 05 20 45.9 +0.1
comp=Z,14nm,0.9s,baz=120,slow=8.9,SNR=9.1
PETK pP PcP 05 20 55.5 +0.5
comp=Z,30nm,0.7s,baz=146,slow=9.5,SNR=15
PETK LR LR 05 49 31.0
comp=Z,840nm,21.7s,baz=201,slow=31
TPI Tanjungpandan 78.42 272 P P 05 20 47.1 +0.1
comp=Z,81nm,1.2s,comp=Z,1μm
WAKR Walker 78.46 41 eP P 05 20 47.7 +0.8
comp=Z,229nm,1.3s
WAKR epP pP 05 20 57.7 -0.1
L02D Cave Junction, 78.48 36 ⇓P P 05 20 47.7 +1.0
baz=79
IRM Iron Mountain 78.55 46 ⇑P P 05 20 48.1 +0.8
baz=79,SNR=16
GMRC Granite Mounta 78.58 45 ⇓P P 05 20 48.2 +0.7
baz=79
KEBM Edson Butte 78.58 35 eP P 05 20 48.4 +1.1
comp=Z,152nm,1.4s
KEBM epP pP 05 20 58.5 +0.3
YBH Yreka Blue Hor 78.68 36 eP P 05 20 48.7 +0.8
YBH e*PP pP 05 20 59.4 +0.6
YBH pmax pmax
comp=Z,119nm,1.2s
YBH Yreka Blue Hor 78.68 36 eP P 05 20 48.7 +0.8
comp=Z,119nm,1.2s
YBH epP pP 05 20 59.4 +0.6
YSS Yuzh-Sakhalins 78.69 331 α iP P 05 20 48.6 +1.0
YSS i 05 20 58.1
YSS e*SP sP 05 21 04.3 +1.8
YSS eS S 05 30 44.0 +1.7
YSS e 05 30 56.0
YSS eSS SS 05 35 47.0 -0.5
YSS pmax pmax
comp=Z,30nm,1.0s
YSS smax smax
comp=N,600nm,12.0s
YSS MLR MLR
comp=Z,500nm,19.0s
YSS Yuzh-Sakhalins 78.69 331 eP P 05 20 48.2 +0.6
comp=Z,81nm,0.8s
YSS LR LR
comp=Z,504nm,21.0s
113A Mohawk Valley, 78.69 48 ⇓P P 05 20 48.4 +0.4
baz=79,SNR=17
PMSA Palmer Station 78.71 156 PFAKE 05 21 00.0 +12
PMSA LR LR
comp=Z,2μm,20.0s
Y12C Blythe 78.74 47 ⇓P P 05 20 49.1 +0.8
baz=79,SNR=6.6
TUQ Turquoise Moun 78.79 45 ⇓P P 05 20 49.4 +0.7
baz=79
GRAC Grapevine Rang 78.80 43 ⇓P P 05 20 49.9 +1.2
baz=79
FURC Furnace Creek, 78.81 43 ⇑P P 05 20 49.2 +0.7
baz=79
SHOC Shoshone 78.84 44 ⇑P P 05 20 49.4 +0.6
baz=79
CGJI Cibinong 78.88 267 P P 05 20 48.8 -0.7
comp=Z,156nm,1.0s,comp=Z,2μm
214A Organ Pipe Nat 78.90 49 eP P 05 20 49.9 +0.6
comp=Z,91nm,1.3s
214A epP pP 05 21 00.5 +0.3
214A Organ Pipe Nat 78.90 49 ⇓P P 05 20 49.9 +0.6
baz=79,SNR=16
NVAR Mina Array Bea 79.11 41 P P 05 20 51.0 +0.5
comp=Z,6.6nm,0.8s,baz=224,slow=7.0,SNR=43
NVAR pP pP 05 21 01.6 +0.2
comp=Z,52nm,1.0s,baz=224,slow=7.8,SNR=42
NVAR LR LR 05 47 26.0
comp=Z,1μm,21.9s,baz=112,slow=29
NVAR PKPKKP P'P'df 05 47 52.0 +8.9
comp=Z,0.7nm,0.9s,baz=90,slow=1.5,SNR=4.9
HUMO Hull Mountain 79.14 36 eP P 05 20 51.0 +0.7
comp=Z,138nm,1.3s
HUMO epP pP 05 21 01.9 +0.6
NEE2 Needles Airpor 79.26 46 ⇓P P 05 20 51.8 +0.7
baz=80
PDMCI Parker Dam,Lak 79.31 47 ⇑P P 05 20 52.0 +0.6
baz=80,SNR=12
Z14A Wintersburg 79.60 48 ⇓P P 05 20 53.7 +0.8
baz=80,SNR=7.2
I03D Drain, OR 79.67 35 ⇑P P 05 20 54.1 +0.9
baz=80
K04D Chiloquin, OR 79.81 36 ⇑P P 05 20 54.8 +0.7
baz=80
Y14A Wickenburg 79.88 47 ⇓P P 05 20 55.3 +0.7
baz=80,SNR=11
SHPR Sheep Range 79.92 44 eP P 05 20 55.2 +0.3
comp=Z,94nm,1.4s
SHPR epP pP 05 21 06.5 +0.6
W13A Hualapai Mount 79.95 46 ⇓P P 05 20 56.0 +0.9
baz=80
J04D Umpqua Nationa 80.03 36 ⇑P P 05 20 56.2 +0.9
baz=80
MOD Modoc 80.14 37 eP P 05 20 56.5 +0.5
comp=Z,109nm,1.2s
MOD epP pP 05 21 07.1 +0.3
I04A Tendick Farm, 80.24 35 ⇑P P 05 20 56.8 +0.6
baz=80
COR Corvallis 80.31 34 eP P 05 20 57.4 +0.9
COR e*PP pP 05 21 07.8 +0.3
COR pmax pmax
comp=Z,82nm,1.8s
COR Corvallis 80.31 34 eP P 05 20 57.4 +0.9
comp=Z,82nm,1.8s
COR epP pP 05 21 07.8 +0.3
OHAK Old Harbor 80.33 11 eP P 05 20 56.4 +0.1
comp=Z,220nm,1.9s
OHAK epP pP 05 21 06.6 -0.7
QZH Quanzhou 80.36 302 ⇑ iP P 05 20 57.8 +0.6
QZH eS S 05 31 02.1 +1.2
QZH pmax pmax
comp=Z,100nm,0.8s
QZH pmax pmax
comp=Z,1μm,2.8s
QZH LR LR
comp=Z,430nm,12.0s
QZH LR LR
comp=Z,1μm,8.4s
QZH LR LR
comp=Z,1μm,20.1s
KSRS Korea Array 80.37 317 P P 05 20 58.4 +1.4
comp=Z,16nm,0.9s,baz=135,slow=6.0,SNR=43
KSRS LR LR 05 50 45.7
comp=Z,316nm,20.6s,baz=136,slow=31
KASI Kota Agung 80.38 268 P P 05 20 57.1 -0.5
comp=Z,148nm,1.2s,comp=Z,1μm
KSAR Wonju Array Be 80.38 317 P P 05 20 58.4 +1.3
KSAR Wonju Array Be 80.38 317 P P 05 20 58.4 +1.3
J05D Fort Rock, OR 80.53 36 ⇑P P 05 20 59.1 +1.2
baz=81
TUC Tucson 80.53 50 eP P 05 20 58.8 +0.6
TUC e*PP pP 05 21 09.6 +0.5
TUC pmax pmax
comp=Z,75nm,1.3s
TUC MLR MLR
comp=Z,2μm,20.0s
TUC Tucson 80.53 50 eP P 05 20 58.8 +0.6
comp=Z,75nm,1.3s
TUC epP pP 05 21 09.6 +0.5
TUC LR LR
comp=Z,2μm,20.0s
R11A Troy Canyon, C 80.75 43 eP P 05 20 59.5 +0.2
comp=Z,52nm,1.6s
R11A epP pP 05 21 09.8 -0.4
R11A Troy Canyon, C 80.75 43 ⇓P P 05 20 60.0 +0.7
baz=81
G03D McMinnville, O 80.75 34 ⇑P P 05 20 59.9 +0.9
baz=81
LWLI Liwa 80.96 268 P P 05 21 01.1 +0.2
comp=Z,133nm,1.3s,comp=Z,10μm
KDAK Kodiak Island 80.98 11 eP P 05 21 00.1 +0.3
KDAK e*PP pP 05 21 10.3 -0.5
KDAK pmax pmax
comp=Z,200nm,1.9s
KDAK MLR MLR
comp=Z,9μm,21.0s
KDAK Kodiak Island 80.98 11 eP P 05 21 00.1 +0.3
comp=Z,200nm,1.9s
KDAK epP pP 05 21 10.3 -0.5
KDAK LR LR
comp=Z,9μm,21.0s
BMN Battle Mountai 81.01 40 eP P 05 21 01.2 +0.6
BMN e*PP pP 05 21 11.6 0.0
BMN pmax pmax
comp=Z,160nm,1.7s
BMN Battle Mountai 81.01 40 eP P 05 21 01.2 +0.6
comp=Z,160nm,1.7s
BMN epP pP 05 21 11.6 0.0
MDSI Maura Dua 81.04 269 P P 05 21 00.1 -1.1
comp=Z,81nm,0.9s,comp=Z,1μm
PINOR Pine Mountain 81.08 36 eP P 05 21 01.7 +1.0
comp=Z,204nm,1.2s
PINOR epP pP 05 21 12.0 +0.4
319A Douglas 81.12 51 ⇑P P 05 21 02.2 +0.8
baz=81,SNR=12
I05D Terrebonne, OR 81.17 35 ⇓P P 05 21 01.9 +0.7
baz=81
INCN Inchon 81.21 316 PFAKE 05 21 10.0 +8.4
INCN LR LR
comp=Z,573nm,20.0s
X16A Lo Mia Camp, P 81.22 48 ⇑P P 05 21 03.0 +1.1
baz=81,SNR=19
WVOR Wild Horse Val 81.43 38 eP P 05 21 03.1 +0.3
WVOR e*PP pP 05 21 13.8 0.0
WVOR pmax pmax
comp=Z,122nm,1.4s
WVOR MLR MLR
comp=Z,941nm,20.0s

WVOR Wild Horse Val 81.43 38 eP P 05 21 03.0 +0.3
comp=Z,122nm,1.4s
WVOR epP pP 05 21 13.8 0.0
WVOR LR LR
comp=Z,941nm,20.0s
SSE Sheshan 81.46 308 eP P 05 21 03.4 +0.4
SSE pP pP 05 21 14.3 +0.3
SSE S S 05 31 15.1 +2.9
SSE sS sS 05 31 33.3 +3.0
SSE pmax pmax
comp=Z,19nm,0.7s
SSE pmax pmax
comp=Z,48nm,4.4s
SSE LR LR
comp=Z,550nm,24.6s
SSE LR LR
comp=Z,280nm,24.4s
SSE LR LR
comp=Z,380nm,22.7s
F04D Rainier, OR 81.48 33 ⇓P P 05 21 03.8 +1.1
baz=82
VLA Vladivostok 81.49 323⇑eP P 05 21 01.2 -1.7
VLA S S 05 31 09.3 -2.7
VLA pmax pmax
comp=Z,149nm,2.5s
CHRN Cochrane 81.59 137 iP P 05 21 05.6 +2.0
CHRN Cochrane 81.59 137 iP P 05 21 05.6 +2.0
CCUT Cedar City 81.70 44 eP P 05 21 04.4 0.0
comp=Z,68nm,1.4s
CCUT epP pP 05 21 15.9 +0.5
VFP Flag Point 81.76 34 P P 05 21 04.7 +0.2
U15A North Rim 81.77 46 ⇓P P 05 21 06.3 +1.4
baz=82
ARUT Antelope Range 81.79 44 eP P 05 21 05.5 +0.7
ARUT e*PP pP 05 21 16.4 +0.6
ARUT Antelope Range 81.79 44 eP P 05 21 05.5 +0.7
comp=Z,602nm,1.3s
ARUT epP pP 05 21 16.4 +0.6
G05D Wamic, OR 81.79 34 ⇑P P 05 21 05.2 +0.7
baz=82
WUAZ Wupatki 81.88 47 eP P 05 21 05.9 +0.6
comp=Z,65nm,1.3s
WUAZ epP pP 05 21 16.8 +0.5
WUAZ LR LR
comp=Z,1µm,21.0s
WUAZ Wupatki 81.88 47 ⇑P P 05 21 06.5 +1.1
baz=82
LHSI Lahat 81.88 269 P P 05 21 05.8 +0.1
comp=Z,98nm,1.6s,comp=Z,2µm
MAW Mawson 81.90 199 P P 05 21 06.1 +1.4
MAW *PP pP 05 21 16.3 +0.6
MAW pmax pmax
comp=Z,66nm,1.0s
MAW Mawson 81.90 199 P P 05 21 06.1 +1.4
comp=Z,66nm,1.0s,baz=110,slow=5.8,SNR=4.5
MAW pP pP 05 21 16.3 +0.6
comp=Z,66nm,0.8s,baz=141,slow=7.9,SNR=5.5
MAW Mawson 81.90 199 eP P 05 21 05.5 +0.7
MAW epP pP 05 21 16.1 +0.5
MAW pP pP 05 21 16.3 +0.6
NLWA Neilton Lookou 81.96 32 eP P 05 21 05.8 +0.5
comp=Z,147nm,1.3s
NLWA epP pP 05 21 16.2 0.0
NLWA LR LR
comp=Z,1µm,21.0s
TDL Tradedollar La 82.07 33 P P 05 21 06.9 +0.9
USRK Ussuriysk Arra 82.13 324 P P 05 21 06.8 +0.6
comp=Z,12nm,1.0s,baz=116,slow=3.2,SNR=13
USRK LR LR 05 52 31.6
comp=Z,1µm,21.6s,baz=117,slow=32
X18A Snowflake 82.32 48 ⇑P P 05 21 08.6 +0.9
baz=82,SNR=8.5
HDW Hoodsport 82.54 32 P P 05 21 09.4 +1.0
LON Longmire 82.55 33 eP P 05 21 08.2 -0.2
LON e*PP pP 05 21 19.1 -0.3
LON pmax pmax
comp=Z,62nm,1.0s
LON Longmire 82.55 33 eP P 05 21 08.2 -0.2
comp=Z,62nm,1.0s
LON epP pP 05 21 19.1 -0.3
COYC Coyhaique 82.63 136⇑iP P 05 21 10.2 +1.2
COYC Coyhaique 82.63 136⇑iP P 05 21 10.2 +1.2
W18A Petrified Fore 82.78 48 eP P 05 21 10.8 +0.7
comp=Z,31nm,1.4s
W18A epP pP 05 21 21.4 +0.3
W18A Petrified Fore 82.78 48 ⇑P P 05 21 11.2 +1.1
baz=83
121A Cookes Peak, D 82.80 51 eP P 05 21 11.0 +0.7
comp=Z,189nm,1.8s
121A epP pP 05 21 21.8 +0.6
121A Cookes Peak, D 82.80 51 ⇓P P 05 21 11.2 +1.0
baz=83
PGC Sidney 83.03 31 eP P 05 21 10.7 -0.1
comp=Z,8.8nm,1.0s
PGC epP pP 05 21 21.8 0.0
C05A Tolt Reservoir 83.24 32 P P 05 21 12.4 +0.4
HABR Khabarovsk 83.39 329ceP P 05 21 10.0 -2.6
HABR e*SP sP 05 21 24.5 -3.1
HABR e 05 24 21.3
HABR ePPP PPP 05 26 12.6
HABR eS S 05 31 28.1 -3.0
HABR eSS SS 05 36 54.2 -3.4
HABR pmax pmax
comp=Z,146nm,2.0s
HABR MLR MLR
comp=Z,619nm,19.0s
RSO Redoubt South 83.48 10 eP P 05 21 13.0 -0.1
comp=Z,171nm,1.2s
RSO epP pP 05 21 23.1 -1.1
HAWA Hanford 83.49 34 P P 05 21 13.7 +0.5
HAWA LR LR
comp=Z,2µm,19.0s
DUG Dugway 83.57 42 eP P 05 21 14.1 +0.1
DUG e*PP pP 05 21 24.8 -0.2
DUG pmax pmax
comp=Z,36nm,1.4s
DUG MLR MLR
comp=Z,946nm,21.0s
DUG Dugway 83.57 42 eP P 05 21 14.1 +0.1
comp=Z,36nm,1.4s
DUG epP pP 05 21 24.8 -0.2
DUG LR LR
comp=Z,946nm,21.0s
DUG Dugway 83.57 42 ⇓P P 05 21 14.5 +0.5
baz=84
PAYG Puerto Ayora 83.64 88 PFAKE 05 21 30.0 +15
PAYG LR LR
comp=Z,3µm,19.0s
MFID Camas Ranch 83.66 38 eP P 05 21 14.3 0.0
comp=Z,126nm,1.4s
MFID epP pP 05 21 25.3 -0.1
NJ2 Nanjing 83.66 308 eP P 05 21 15.6 +1.2
NJ2 pP pP 05 21 24.3 -1.1
NJ2 sP sP 05 21 28.9 -0.5
NJ2 PP PP 05 24 25.4 -2.4
NJ2 pmax pmax
comp=Z,20nm,0.8s
BMO Blue Mountains 83.71 37 eP P 05 21 14.2 -0.3
comp=Z,77nm,1.3s
BMO epP pP 05 21 25.3 -0.3
BMO LR LR
comp=Z,1µm,22.0s
MDJ Mudanjiang 83.72 323 P P 05 21 15.9 +1.4
MDJ pP pP 05 21 25.8 +0.3
MDJ sP sP 05 21 29.1 -0.4
MDJ S SKKSac 05 31 38.0 -1.4
MDJ SS SS 05 37 02.3 -0.5
MDJ pmax pmax
comp=Z,32nm,1.0s
MDJ LR LR
comp=Z,560nm,36.8s
MDJ LR LR
comp=Z,420nm,41.9s
MDJ LR LR
comp=Z,580nm,34.2s
MDJ Mudanjiang 83.72 323 eP P 05 21 14.8 +0.4
comp=Z,58nm,1.0s
MDJ LR LR
comp=Z,945nm,21.0s
SEW Seward 83.74 12 eP P 05 21 14.2 0.0
comp=Z,172nm,1.2s
SEW epP pP 05 21 24.5 -0.7
Z22A Elephant Butte 83.77 51 ⇑P P 05 21 16.4 +1.2
baz=84
BGU Big Grassy Mou 83.86 42 eP P 05 21 15.3 -0.1
comp=Z,40nm,1.9s
BGU epP pP 05 21 27.2 +0.8
NLU North Lily Min 83.90 43 eP P 05 21 16.8 +1.0
comp=Z,97nm,2.0s
NLU epP pP 05 21 26.5 -0.3
TMUT Trail Mountain 84.08 44 eP P 05 21 17.9 +1.0
comp=Z,244nm,1.5s
TMUT epP pP 05 21 28.1 +0.2
WTV Waterville 84.12 33 P P 05 21 16.6 +0.1
MNTX Cornudas Mount 84.14 53 eP P 05 21 17.2 +0.3
comp=Z,33nm,1.3s
MNTX epP pP 05 21 28.0 +0.1
MNTX LR LR
comp=Z,1µm,19.0s
MPU Maple Canyon 84.21 43 eP P 05 21 17.6 +0.3
comp=Z,178nm,1.9s
MPU epP pP 05 21 27.5 -0.8
Y22D IRIS PASSCAL I 84.21 50 ⇑P P 05 21 18.8 +1.4
baz=84
LENM Lemitar 84.22 50 eP P 05 21 18.4 +0.9
comp=Z,42nm,1.2s
LENM epP pP 05 21 28.6 +0.1
LAZ Ladron 84.23 50 eP P 05 21 18.3 +0.8
comp=Z,87nm,1.8s
LAZ epP pP 05 21 29.3 +0.8
TXAR Lajitas Array 84.30 56 P P 05 21 18.3 +0.4
comp=Z,20nm,1.4s,baz=220,slow=3.3,SNR=40
TXAR pP pP 05 21 29.1 +0.2
comp=Z,11nm,1.0s,baz=213,slow=9.0,SNR=26
TXAR PKPPKP P'P'df 05 47 38.6 +3.5
comp=Z,0.5nm,1.0s,baz=46,slow=3.6,SNR=3.5
TXAR LR LR 05 53 01.1
comp=Z,1µm,19.0s,baz=0.0,slow=32
SRU San Rafael 84.42 44 eP P 05 21 18.6 +0.2
SRU e*PP pP 05 21 29.3 -0.1
SRU pmax pmax
comp=Z,125nm,1.4s
SRU San Rafael 84.42 44 eP P 05 21 18.6 +0.2
comp=Z,125nm,1.4s
SRU epP pP 05 21 29.3 -0.1
SPUT South Promonto 84.44 42 eP P 05 21 18.6 +0.1
comp=Z,69nm,1.8s
SPUT epP pP 05 21 29.4 -0.1
F10A Beach Ranch, E 84.45 36 P P 05 21 18.0 -0.3
HVU Hansel Valley 84.50 41 eP P 05 21 18.9 +0.1
HVU e*PP pP 05 21 29.8 +0.1
HVU pmax pmax
comp=Z,113nm,1.5s
HVU Hansel Valley 84.50 41 eP P 05 21 18.9 +0.1
comp=Z,113nm,1.5s
HVU epP pP 05 21 29.8 +0.1
CTU Camp Tracy 84.52 42 eP P 05 21 18.1 -0.8
comp=Z,83nm,1.6s
CTU epP pP 05 21 29.3 -0.6
LPM Los Pinos Moun 84.54 50 eP P 05 21 19.7 +0.5
comp=Z,120nm,1.8s
LPM epP pP 05 21 30.7 +0.6
OD2 Odessa Site #2 84.56 34 P P 05 21 18.9 +0.1
HLID Hailey 84.57 39 eP P 05 21 18.1 -0.9
comp=Z,84nm,1.4s
HLID epP pP 05 21 30.5 +0.4
HLID LR LR
comp=Z,779nm,22.0s
HLID Hailey 84.57 39 ⇑P P 05 21 20.0 +0.9
baz=85
RC01 Rabbit Creek A 84.60 11 eP P 05 21 18.2 -0.3
comp=Z,226nm,1.2s
RC01 epP pP 05 21 29.0 -0.5
JLU Jordanelle 84.66 43 eP P 05 21 19.8 +0.2
comp=Z,117nm,1.8s
JLU epP pP 05 21 30.4 -0.3
DAU Daniels Canyon 84.67 43 eP P 05 21 20.0 +0.2
DAU e*PP pP 05 21 30.9 0.0
DAU pmax pmax
comp=Z,114nm,1.6s
DAU Daniels Canyon 84.67 43 eP P 05 21 20.0 +0.2
comp=Z,114nm,1.6s
DAU epP pP 05 21 30.9 0.0
SIT Sitka 84.68 20 eP P 05 21 19.5 +0.5
SIT e*PP pP 05 21 29.9 -0.1
SIT pmax pmax
comp=Z,72nm,1.6s
SIT Sitka 84.68 20 eP P 05 21 19.5 +0.5
comp=Z,72nm,1.6s
SIT epP pP 05 21 29.9 -0.1
MVCO Mesa Verde 84.74 47 eP P 05 21 20.3 +0.2
comp=Z,76nm,1.5s
MVCO epP pP 05 21 30.8 -0.4
MVCO LR LR
comp=Z,865nm,20.0s
MVCO Mesa Verde 84.74 47 ⇓P P 05 21 20.8 +0.6
baz=85
Y23A Lovelace Mesa, 84.76 51 ⇑P P 05 21 20.8 +0.5
baz=85,SNR=27
QIZ Qiongzhong 84.95 293 P P 05 21 22.1 +0.8
QIZ pP pP 05 21 31.8 -0.5
QIZ S S 05 31 49.1 +1.0
QIZ pmax pmax
comp=Z,350nm,11.2s
QIZ LR LR
comp=Z,260nm,20.6s
QIZ LR LR
comp=Z,730nm,25.4s
QIZ Qiongzhong 84.95 293 PFAKE 05 21 30.0 +8.7
QIZ LR LR
comp=Z,507nm,20.0s
Z24A Sheeppen Canyo 84.96 51 ⇑P P 05 21 22.1 +0.8
baz=85,SNR=18
TCUT Toone Canyon 84.97 42 eP P 05 21 21.5 +0.3
comp=Z,313nm,1.6s
TCUT epP pP 05 21 32.5 +0.3
ANMO Albuquerque 84.99 50 eP P 05 21 21.9 +0.5
ANMO e*PP pP 05 21 32.7 +0.3
ANMO pmax pmax
comp=Z,86nm,1.3s
ANMO MLR MLR
comp=Z,2µm,20.0s
ANMO Albuquerque 84.99 50 eP P 05 21 21.9 +0.5
comp=Z,86nm,1.3s
ANMO epP pP 05 21 32.7 +0.3
ANMO LR LR
comp=Z,2µm,20.0s
X23A Hourglass Bar 84.99 50 ⇓P P 05 21 22.0 +0.5
baz=85,SNR=9.3
PV10 Paradox Valley 85.00 45 eP P 05 21 20.9 -0.6
comp=Z,427nm,1.4s
PV10 epP pP 05 21 32.1 -0.3
GAMB Gambell 85.06 1 eP P 05 21 21.6 +0.9
comp=Z,237nm,1.3s
GAMB epP pP 05 21 31.9 +0.1
PV04 Paradox Valley 85.10 46 eP P 05 21 22.2 +0.3
PV04 epP pP 05 21 32.3 -0.5
COCO West Island 85.11 259 PFAKE 05 21 30.0 +7.8
COCO LR LR
comp=Z,2µm,21.0s
WRAK Wrangell Islan 85.15 22 eP P 05 21 21.9 +0.5
comp=Z,61nm,1.5s
WRAK epP pP 05 21 32.6 +0.2
WRAK LR LR
comp=Z,987nm,20.0s
HWUT Hardware Ranch 85.15 42 PFAKE 05 21 30.0 +7.9
HWUT LR LR
comp=Z,749nm,20.0s
V22A San Miguel Ran 85.16 48 ⇓P P 05 21 22.7 +0.4
baz=85,SNR=6.7
PMR Palmer 85.18 12 eP P 05 21 20.8 -0.6
PMR e*PP pP 05 21 31.7 -0.7
PMR pmax pmax
comp=Z,132nm,1.2s
PMR Palmer 85.18 12 eP P 05 21 20.8 -0.6
comp=Z,132nm,1.2s
PMR epP pP 05 21 31.7 -0.7
PV01 Paradox Valley 85.18 46 eP P 05 21 22.3 -0.1
comp=Z,12µm,1.9s
PV01 epP pP 05 21 32.9 -0.5
Y24A Capitan 85.20 51 ⇑P P 05 21 23.3 +0.8
baz=85,SNR=41
W23A Werner Place, 85.31 49 ⇑P P 05 21 23.3 +0.3
baz=86,SNR=17
Z25A Roswell 85.41 52 ⇑P P 05 21 24.0 +0.6
baz=86,SNR=20
DIV Divide 85.43 13 eP P 05 21 22.5 -0.3
comp=Z,261nm,1.2s
DIV epP pP 05 21 33.4 -0.4
KLR Kul'dur 85.52 328 eP P 05 21 19.7 -3.7
KLR e 05 33 13.5
X24A Lazy VL Ranch, 85.52 50 ⇑P P 05 21 24.5 +0.4
baz=86
BMRM Bremner River 85.53 14 eP P 05 21 23.5 +0.2
comp=Z,295nm,1.2s
BMRM epP pP 05 21 33.6 -0.7
V23A Ortiz Mt. (NFS 85.58 49 ⇑P P 05 21 25.6 +1.2
baz=86,SNR=18
KTGM Kuala Trenggan 85.60 277 ⇑P P 05 21 26.0 +1.3
CN2 Changchun 85.61 321 eP P 05 21 24.8 +0.8
CN2 ePP PP 05 24 45.4 +1.9
CN2 eS S 05 31 51.8 -1.8
CN2 eSS SS 05 37 31.8 +1.0
CN2 pmax pmax
comp=Z,60nm,1.4s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,22.0s
CN2 LR LR
comp=Z,500nm,22.0s
CN2 LR LR
comp=Z,500nm,22.0s
PLCA Paso Flores 85.62 132 eP P 05 21 25.1 +0.6
PLCA *PP pP 05 21 35.5 0.0
PLCA pmax pmax
comp=Z,167nm,1.8s
PLCA Paso Flores 85.62 132 P P 05 21 24.5 0.0
comp=Z,15nm,1.1s,baz=248,slow=4.8,SNR=14
PLCA pP pP 05 21 35.5 0.0
comp=Z,10nm,0.9s,baz=253,slow=7.4,SNR=5.4
PLCA Paso Flores 85.62 132 eP P 05 21 25.1 +0.6
comp=Z,167nm,1.8s
PLCA pP pP 05 21 35.5 0.0
SNY Shenyang 85.62 318 ⇑P P 05 21 25.1 +1.0
SNY pmax pmax
comp=Z,21nm,2.5s
Y25A Mesa, Roswell 85.74 51 ⇓P P 05 21 25.4 +0.3
baz=86,SNR=42
529A Stev Forest Ra 85.78 55 ⇑P P 05 21 25.3 0.0
baz=86
W24A Lazy 6 Ranch, 85.86 50 ⇑P P 05 21 25.9 +0.2
baz=86,SNR=22
U23A El Rito 85.87 48 ⇑P P 05 21 26.7 +0.9
baz=86,SNR=23
PPLA Purkeypile 85.88 10 eP P 05 21 23.8 -1.3
comp=Z,64nm,1.3s
PPLA epP pP 05 21 33.7 -2.4
NEW Newport 85.94 34 eP P 05 21 25.1 -0.6
NEW e*PP pP 05 21 35.9 -0.8
NEW pmax pmax
comp=Z,46nm,1.4s
NEW MLR MLR
comp=Z,2µm,19.0s
NEW Newport 85.94 34 eP P 05 21 25.1 -0.6
comp=Z,46nm,1.4s
NEW epP pP 05 21 35.9 -0.8
NEW LR LR
comp=Z,2µm,19.0s
NEW Newport 85.94 34 ⇓P P 05 21 25.5 -0.2
baz=86,SNR=9.2
Z26A Caprock 85.94 52 ⇓P P 05 21 26.1 0.0
baz=86,SNR=23
X25A Clemmons Ranch 86.06 51 ⇑P P 05 21 27.0 +0.3
baz=86
AHID Auburn Hatcher 86.09 41 eP P 05 21 26.6 -0.1
comp=Z,116nm,1.8s
AHID epP pP 05 21 37.4 -0.3
AHID LR LR
comp=Z,1µm,20.0s
127A Arkansas Junct 86.12 53 ⇑P P 05 21 26.7 -0.3
baz=86,SNR=8.0
S22A 4UR Ranch, Cre 86.15 47 ⇑P P 05 21 27.9 +0.6
baz=86,SNR=26
V24A Rampart Ranch, 86.22 49 ⇓P P 05 21 28.0 +0.5
baz=86,SNR=37
MCMT McKenzie Canyo 86.22 39 eP P 05 21 27.7 +0.3
comp=Z,12nm,1.2s
MCMT epP pP 05 21 38.3 -0.1
429A Davenport Ranc 86.26 55 ⇓P P 05 21 27.3 -0.3
baz=86,SNR=43
WHN Wuhan 86.31 305 ⇑P P 05 21 28.8 +1.0
T23A Casias Ranch, 86.34 48 ⇓P P 05 21 28.8 +0.6
baz=86,SNR=7.4
Y26A Elida 86.37 51 ⇑P P 05 21 28.2 -0.1
baz=87
228A UT Block 9, Go 86.42 54 ⇑P P 05 21 28.3 -0.2
baz=87,SNR=5.4
O20A White River Ci 86.46 44 eP P 05 21 27.8 -0.8
comp=Z,14nm,1.0s
O20A epP pP 05 21 39.1 -0.5
O20A White River Ci 86.46 44 ⇓P P 05 21 28.9 +0.3
baz=87
530A J-C Ranch, Com 86.47 56 ⇓P P 05 21 28.6 -0.1
baz=87,SNR=22
Z27A Tatum 86.53 52 ⇑P P 05 21 28.8 -0.2
baz=87,SNR=15
SYO Syowa Base 86.54 191⇓eP P 05 21 26.7 -1.6
SYO Syowa Base 86.54 191⇓eP P 05 21 28.4 +0.1
W25A X Bar L Ranch, 86.54 50 ⇑P P 05 21 29.0 0.0
baz=87,SNR=39
U24A Moreno Valley 86.55 49 ⇑P P 05 21 30.0 +0.8
baz=87,SNR=5.2
329A Wagon Wheel Ra 86.59 54 ⇑P P 05 21 29.4 +0.2
baz=87
X26A CR and CF Fran 86.69 51 ⇓P P 05 21 29.9 +0.2
baz=87
832A Faith Ranch, C 86.69 58 ⇑P P 05 21 29.6 -0.1
baz=87,SNR=28
KTH Kantishna Hill 86.69 10 eP P 05 21 27.9 -1.1
comp=Z,99nm,1.0s
KTH epP pP 05 21 38.6 -1.4
S23A Nye Farm, Mont 86.70 47 ⇓P P 05 21 30.5 +0.6
baz=87
TRF Thorofare Moun 86.70 10 eP P 05 21 28.4 -0.8
comp=Z,176nm,0.8s
TRF epP pP 05 21 39.2 -1.0
631A Perdido Creek 86.72 57 ⇑P P 05 21 29.7 -0.2
baz=87,SNR=30
V25A Rancho No Teng 86.73 49 ⇑P P 05 21 30.3 +0.3
baz=87,SNR=34
128A Castleberry Fa 86.74 53 ⇓P P 05 21 30.2 +0.2
baz=87,SNR=11
MSO Missoula 86.78 36 ⇑P P 05 21 29.5 -0.3
baz=87,SNR=7.6
VNA3 Neumayer Olymp 86.78 175 P P 05 21 29.2 -0.3
T24B San Luis 86.80 48 ⇑P P 05 21 31.3 +0.8
baz=87,SNR=7.6
SNAA Sanae 86.81 177 P P 05 21 29.6 -0.1
SNAA Sanae 86.81 177 eP P 05 21 29.4 -0.3
SNAA e*PP pP 05 21 40.2 -0.5
SNAA pmax pmax
comp=Z,68nm,1.3s
SNAA Sanae 86.81 177 eP P 05 21 29.4 -0.3
comp=Z,68nm,1.3s
SNAA epP pP 05 21 40.2 -0.5
N20A Spence Gulch, 86.81 44 ⇓P P 05 21 30.5 +0.2
baz=87,SNR=8.2
430A Baggett Ranch, 86.83 55 ⇑P P 05 21 30.2 -0.2
baz=87,SNR=6.8
Y27A Causey 86.84 52 ⇑P P 05 21 30.5 +0.1
baz=87,SNR=21
732A Laxson Ranch, 86.89 58 ⇑P P 05 21 30.5 -0.2
baz=87,SNR=20
BSMT Bassoo Peak 86.92 35 eP P 05 21 29.8 -0.9
comp=Z,45nm,1.6s
BSMT epP pP 05 21 40.9 -0.9
229A Bryant Ranch, 86.94 54 ⇑P P 05 21 30.8 -0.2
baz=87
933A Laredo 86.95 59 ⇑P P 05 21 31.1 +0.1
baz=87,SNR=20
TNA Tin City 86.95 2 eP P 05 21 30.3 +0.3
comp=Z,109nm,1.4s
TNA epP pP 05 21 40.5 -0.7
TIA Tai'an 86.97 311 ⇑P P 05 21 31.6 +0.7
TIA pmax pmax
comp=Z,40nm,0.9s
W26A Owens Ranch, T 86.98 50 ⇑P P 05 21 31.1 0.0
baz=87,SNR=9.3
LRM Limekiln Ridge 87.03 38 eP P 05 21 31.0 -0.3
comp=Z,507nm,1.9s
BW06 Boulder Array 87.03 42 eP P 05 21 30.4 -1.0
comp=Z,10nm,1.0s
BW06 epP pP 05 21 41.5 -0.9
BW06 LR LR
comp=Z,912nm,20.0s
PDAR Pinedale Array 87.03 42 P P 05 21 30.7 -0.7
comp=Z,1.7nm,0.8s,baz=204,slow=3.3,SNR=13

PDAR pP pP 05 21 41.5 -0.9
comp=Z,7.3nm,0.9s,baz=210,slow=4.0,SNR=23
PDAR LR LR 05 54 47.2
comp=Z,615nm,19.6s,baz=244,slow=32
I17A Pilgrim Ck. 87.05 40 ⇑P P 05 21 31.9 +0.5
baz=87,SNR=8.9
QLMT Earthquake Lak 87.05 39 eP P 05 21 32.0 +0.6
comp=Z,3.1nm,1.2s
QLMT epP pP 05 21 42.7 +0.3
SDCO Great Sand Dun 87.06 47 eP P 05 21 31.4 -0.3
comp=Z,26nm,1.6s
SDCO epP pP 05 21 42.3 -0.4
SDCO LR LR
comp=Z,1µm,21.0s
R23A Moffat 87.06 47 ⇓P P 05 21 31.9 +0.2
baz=87,SNR=6.0
531A Rocksprings 87.08 56 ⇑P P 05 21 31.6 -0.1
baz=87,SNR=30
Z28A Tucker Farm, M 87.13 53 ⇓P P 05 21 31.4 -0.4
baz=87,SNR=13
JTMT Jette 87.14 36 eP P 05 21 30.9 -0.7
comp=Z,8.9nm,1.2s
JTMT epP pP 05 21 42.1 -0.5
SWMT Swartz Lake 87.15 36 eP P 05 21 30.6 -1.0
comp=Z,24nm,2.1s
PAX Paxson 87.15 13 eP P 05 21 30.7 -0.5
PAX e*PP pP 05 21 41.5 -0.8
PAX pmax pmax
comp=Z,109nm,1.2s
PAX Paxson 87.15 13 eP P 05 21 30.7 -0.5
comp=Z,109nm,1.2s
PAX epP pP 05 21 41.5 -0.8
P22A Eagle 87.15 45 ⇓P P 05 21 32.1 +0.1
baz=87
U25A Circle Dot Ran 87.16 49 ⇓P P 05 21 32.4 +0.3
baz=87,SNR=13
MSTX Muleshoe 87.16 52 eP P 05 21 31.7 -0.4
comp=Z,207nm,1.6s
MSTX epP pP 05 21 42.7 -0.4
MSTX Muleshoe 87.16 52 ⇓P P 05 21 32.2 +0.2
baz=87,SNR=23
330A Mertzon 87.17 55 ⇑P P 05 21 31.5 -0.6
baz=87,SNR=6.9
833A Chaparral WMA, 87.17 58 ⇓P P 05 21 31.7 -0.4
baz=87,SNR=13
034A Hebbronville 87.18 60 ⇑P P 05 21 33.1 +1.0
baz=87,SNR=16
MCK McKinley 87.19 11 eP P 05 21 30.8 -0.6
MCK e*PP pP 05 21 41.9 -0.5
MCK pmax pmax
comp=Z,306nm,1.0s
MCK McKinley 87.19 11 eP P 05 21 30.8 -0.6
comp=Z,306nm,1.0s
MCK epP pP 05 21 41.9 -0.5
129A Stewart Farms, 87.21 53 ⇑P P 05 21 32.1 -0.2
baz=87,SNR=6.1
S24A Houchin Ranch, 87.21 48 ⇑P P 05 21 32.7 +0.3
baz=87,SNR=13
CHMT Chamberlain Mo 87.21 37 eP P 05 21 30.8 -1.3
comp=Z,29nm,1.5s
CHMT epP pP 05 21 42.3 -0.8
IPM Ipoh 87.23 276 eP P 05 21 33.1 +0.4
comp=Z,107nm,1.3s
IPM Ipoh 87.23 276 ⇓P P 05 21 34.7 +1.9
YMR Madison River 87.23 39 eP P 05 21 32.6 +0.3
comp=Z,13nm,1.0s
YMR epP pP 05 21 43.6 +0.3
X27A F and S Farms, 87.25 51 ⇓P P 05 21 32.8 +0.3
baz=87,SNR=7.6
SLMT Seeley Lake 87.27 36 eP P 05 21 31.1 -1.2
comp=Z,27nm,1.5s
SLMT epP pP 05 21 42.1 -1.2
431A Sonora 87.27 56 ⇑P P 05 21 32.1 -0.5
baz=87,SNR=9.1
VNA2 Neumayer--Watz 87.27 176 P P 05 21 32.4 +0.5
baz=178,slow=2.8
V26A Tequesquite Ra 87.30 50 ⇑P P 05 21 32.4 -0.3
baz=88,SNR=9.6
H17A Grant Village 87.31 40 eP P 05 21 33.9 +1.1
comp=Z,24nm,1.4s
H17A epP pP 05 21 44.5 +0.7
H17A Grant Village 87.31 40 ⇓P P 05 21 33.7 +1.0
baz=88
YBMT Yellow Bay 87.35 36 eP P 05 21 32.3 -0.4
comp=Z,20nm,1.6s
YBMT epP pP 05 21 43.5 -0.1
632A Uvalde 87.38 57 ⇑P P 05 21 33.0 -0.1
baz=88,SNR=20
BOZ Bozeman (W) 87.40 38 eP P 05 21 32.8 -0.1
BOZ e*PP pP 05 21 43.6 -0.4
BOZ pmax pmax
comp=Z,45nm,1.5s
BOZ MLR MLR
comp=Z,880nm,19.0s
BOZ Bozeman (W) 87.40 38 eP P 05 21 32.8 -0.1
comp=Z,45nm,1.5s
BOZ epP pP 05 21 43.6 -0.4
BOZ LR LR
comp=Z,880nm,19.0s
Q23A Hartsel 87.42 46 ⇓P P 05 21 33.7 +0.3
baz=88
035Z Hargill 87.42 60 ⇓P P 05 21 33.8 +0.6
baz=88
733A Divot King Ran 87.42 58 ⇓P P 05 21 33.4 +0.1
baz=88
230A Sterling City 87.43 54 ⇓P P 05 21 33.0 -0.3
baz=88
W27A Bowe Ranch, En 87.47 51 ⇓P P 05 21 33.5 -0.1
baz=88,SNR=14
VNA1 Neumayer--Stat 87.47 175 P P 05 21 32.6 -0.2
MENT Mentasta 87.48 13 eP P 05 21 33.1 +0.3
MENT epP pP 05 21 43.9 0.0
DLBC Dease Lake 87.51 21 eP P 05 21 33.0 -0.1
DLBC epP pP 05 21 44.5 +0.4
T25A Trinidad 87.52 48 ⇓P P 05 21 33.7 -0.1
baz=88,SNR=5.2
Y28A McKinney Farm, 87.52 52 ⇓P P 05 21 33.8 0.0
baz=88
934A Benavides 87.55 59 ⇑P P 05 21 34.6 +0.7
baz=88,SNR=7.6
532A Rocksprings 87.56 56 ⇓P P 05 21 34.1 +0.1
baz=88,SNR=35
R24A Sanders Place, 87.57 47 ⇑P P 05 21 34.1 0.0
baz=88
O22A Kremmling 87.58 45 ⇑P P 05 21 34.2 0.0
baz=88,SNR=14
035A Encino 87.59 60 ⇓P P 05 21 34.9 +0.8
baz=88,SNR=5.1
J19A Crowheart 87.62 41 ⇑P P 05 21 33.9 -0.2
baz=88,SNR=8.7
Z29A Hungry Hill Ra 87.62 53 ⇓P P 05 21 33.9 -0.3
baz=88,SNR=7.8
U26A Atchley Ranch, 87.62 49 ⇓P P 05 21 34.4 +0.1
baz=88,SNR=13
P23A Jefferson 87.65 46 ⇑P P 05 21 34.9 +0.3
baz=88
331A San Angelo 87.69 55 ⇑P P 05 21 34.2 -0.4
baz=88,SNR=9.8
834A Tilden 87.75 59 ⇓P P 05 21 35.5 +0.7
baz=88,SNR=13
S25A Robets Cordova 87.75 48 ⇑P P 05 21 35.0 0.0
baz=88,SNR=9.9
JCT Junction City 87.80 56 eP P 05 21 34.5 -0.6
JCT e*PP pP 05 21 44.4 -1.7
JCT pmax pmax
comp=Z,149nm,2.1s
JCT MLR MLR
comp=Z,2µm,19.0s
JCT Junction City 87.80 56 eP P 05 21 34.5 -0.6
comp=Z,149nm,2.1s
JCT epP pP 05 21 44.4 -1.7
JCT LR LR
comp=Z,2µm,19.0s
JCT Junction City 87.80 56 ⇑P P 05 21 34.7 -0.4
baz=88
633A Saathoff Ranch 87.84 57 ⇓P P 05 21 35.2 0.0
baz=88,SNR=17
X28A Dimmitt 87.84 52 ⇓P P 05 21 35.0 -0.3
baz=88,SNR=5.6
NVL N'lazarevskaya 87.85 182 eP P 05 21 46.1 +12
NVL pmax pmax
comp=Z,12nm,0.8s
KULM Kulim 87.88 276 eP P 05 21 36.6 +0.8
comp=Z,118nm,1.6s
KULM epP pP 05 21 47.3 +0.4
KULM LR LR
comp=Z,1µm,22.0s

KULM Kulim 87.88 276 ⇑P P 05 21 37.2 +1.4
HRY Holter Researc 87.89 37 eP P 05 21 35.5 +0.2
comp=Z,6.9nm,0.8s
HRY epP pP 05 21 45.9 -0.4
Q24A Divide 87.91 47 ⇓P P 05 21 36.0 +0.2
baz=88,SNR=5.3
Y29A Porterfield Fa 87.92 52 ⇑P P 05 21 35.8 +0.2
baz=88,SNR=8.9
V27A Dan Oppiter Fa 87.96 50 ⇓P P 05 21 36.0 +0.2
baz=88,SNR=14
N22A Wattenberg Ran 87.97 44 ⇑P P 05 21 35.9 -0.1
baz=88
432A Menard 87.98 56 ⇓P P 05 21 35.8 -0.2
baz=88
H18A Shoshone NF, C 88.01 40 ⇓P P 05 21 36.6 +0.6
baz=88
ISCO Idaho Springs 88.02 46 eP P 05 21 36.5 +0.2
ISCO e*PP pP 05 21 46.9 -0.4
ISCO pmax pmax
comp=Z,19nm,1.6s
ISCO MLR MLR
comp=Z,640nm,22.0s
ISCO Idaho Springs 88.02 46 eP P 05 21 36.5 +0.2
comp=Z,19nm,1.6s
ISCO epP pP 05 21 46.9 -0.4
ISCO LR LR
comp=Z,640nm,22.0s
ISCO Idaho Springs 88.02 46 ⇑P P 05 21 36.7 +0.4
baz=88
O23A Lake Granby, G 88.02 45 ⇓P P 05 21 36.4 +0.1
baz=88
KVTX Kingsville 88.02 59 PFAKE 05 21 50.0 +14
KVTX LR LR
comp=Z,749nm,20.0s
DOT Dot Lake 88.04 13 eP P 05 21 35.4 0.0
comp=Z,138nm,1.0s
DOT epP pP 05 21 46.4 -0.2
734A La Parita Cree 88.06 58 ⇓P P 05 21 36.5 +0.2
baz=88
231A Bronte 88.06 55 ⇑P P 05 21 35.4 -0.8
baz=88,SNR=7.1
Z30A Sanderson Ranc 88.06 53 ⇓P P 05 21 35.8 -0.5
baz=88,SNR=6.8
I19A Meeteetse 88.07 41 ⇓P P 05 21 36.4 +0.1
baz=88,SNR=7.6
R25A Fountain Ranch 88.10 48 ⇑P P 05 21 36.3 -0.1
baz=88
T26A Comanche Natio 88.10 49 ⇑P P 05 21 36.3 -0.2
baz=88
WALA Waterton Lakes 88.11 35 eP P 05 21 35.5 -0.8
comp=Z,2.1nm,1.3s
WALA epP pP 05 21 46.3 -1.0
X29A Tulia 88.17 52 ⇓P P 05 21 36.5 -0.3
baz=88,SNR=10.0
W28A Vega 88.18 51 ⇓P P 05 21 36.8 -0.1
baz=88
M22A Cedar Creek Ra 88.19 44 ⇓P P 05 21 36.5 -0.4
baz=88
533A Kerrville 88.22 57 ⇑P P 05 21 36.5 -0.6
baz=88,SNR=16
332A Millersview 88.25 55 ⇑P P 05 21 36.8 -0.4
baz=88,SNR=9.4
J20A Shoshoni 88.26 42 ⇓P P 05 21 37.0 -0.1
baz=88,SNR=7.4
U27A Thompson Grove 88.28 50 ⇑P P 05 21 37.1 -0.3
baz=88,SNR=5.7
131A Roby 88.33 54 ⇓P P 05 21 37.6 0.0
baz=88,SNR=5.9
P24A Kohler Place, 88.34 46 ⇑P P 05 21 37.9 +0.2
baz=88
N23A Red Feather La 88.35 45 ⇓P P 05 21 38.0 +0.3
baz=89
SEY Seymchan 88.36 345 P P 05 21 37.2 +0.3
SEY *PP pP 05 21 47.5 -0.5
SEY pmax pmax
comp=Z,10.0nm,0.8s
SEY Seymchan 88.36 345 P P 05 21 37.2 +0.3
comp=Z,10.0nm,0.8s,baz=144,slow=5.2,SNR=41
SEY pP pP 05 21 47.5 -0.5
comp=Z,42nm,0.9s,baz=148,slow=4.9,SNR=30
AMTX Amarillo 88.39 51 eP P 05 21 37.3 -0.5
comp=Z,179nm,1.9s
AMTX epP pP 05 21 48.3 -0.7
AMTX Amarillo 88.39 51 ⇓P P 05 21 37.9 0.0
baz=89
835A Beeville 88.39 59 ⇑P P 05 21 38.7 +0.8
baz=89,SNR=5.6
V28A Channing 88.40 50 ⇑P P 05 21 38.0 +0.1
baz=89
K21A Alcova 88.40 43 ⇓P P 05 21 37.6 -0.3
baz=89,SNR=12
S26A Kim 88.40 48 ⇑P P 05 21 37.6 -0.3
baz=89,SNR=5.6
H19A Powell 88.42 40 ⇓P P 05 21 38.1 +0.3
baz=89,SNR=6.9
COLA College 88.43 11c iP P 05 21 36.3 -0.9
COLA pmax pmax
comp=Z,181nm,1.4s
COLA College 88.43 11 eP P 05 21 36.6 -0.6
comp=Z,264nm,1.2s
COLA epP pP 05 21 47.3 -0.9
COLA LR LR
comp=Z,2µm,22.0s
634A China Grove, S 88.45 58 ⇑P P 05 21 38.4 +0.2
baz=89
433A Art 88.47 56 ⇑P P 05 21 37.9 -0.4
baz=89,SNR=24
RLMT Red Lodge 88.49 40 PFAKE 05 21 50.0 +12
RLMT LR LR
comp=Z,990nm,19.0s
Q25A Bedland, Calha 88.50 47 ⇑P P 05 21 38.5 0.0
baz=89
Y30A Stafford Cattl 88.50 53 ⇑P P 05 21 38.4 0.0
baz=89
ILAR Eielson Array 88.51 11 P P 05 21 37.1 -0.4
comp=Z,26nm,1.3s,baz=216,slow=4.9,SNR=37
ILAR pP pP 05 21 47.9 -0.8
comp=Z,77nm,1.2s,baz=213,slow=1.4,SNR=62
ILAR PKKP PKKPdf 05 39 19.6 +1.9
comp=Z,0.4nm,0.6s,baz=351,slow=1.6,SNR=4.9
ILAR LR LR 05 57 52.2
comp=Z,397nm,18.7s,baz=223,slow=33
W29A Amraillo 88.52 51 ⇑P P 05 21 38.4 -0.1
baz=89,SNR=8.2
O24A Longmont 88.54 46 ⇑P P 05 21 39.0 +0.5
baz=89
232A Coleman 88.55 55 ⇑P P 05 21 38.6 0.0
baz=89,SNR=15
I20A Worland 88.55 41 ⇑P P 05 21 38.4 -0.1
baz=89
IM04 Indian Mountai 88.56 8 eP P 05 21 38.0 +0.1
IM04 epP pP 05 21 48.6 -0.3
PSI Prapat 88.57 274 P P 05 21 38.6 -0.7
PSI *PP pP 05 21 49.1 -1.2
PSI pmax pmax
comp=Z,23nm,1.0s
PSI Prapat 88.57 274 P P 05 21 38.6 -0.7
comp=Z,22nm,1.0s,baz=174,slow=5.4,SNR=12
PSI pP pP 05 21 49.0 -1.2
comp=Z,12nm,0.9s,baz=123,slow=5.7,SNR=3.1
L22A Ellis Ranch, M 88.61 43 ⇑P P 05 21 39.3 +0.4
baz=89,SNR=8.0
534A Blanco 88.63 57 ⇓P P 05 21 38.9 -0.2
baz=89,SNR=22
735A Kenedy 88.65 58 ⇑P P 05 21 39.7 +0.6
baz=89,SNR=6.2
J21A Lysite 88.65 42 ⇓P P 05 21 38.9 -0.2
baz=89,SNR=7.7
T27A Campo 88.66 49 ⇑P P 05 21 39.1 -0.1
baz=89
U28A Mallet 88.69 50 ⇓P P 05 21 38.9 -0.4
baz=89
R26A Arlington 88.75 48 ⇓P P 05 21 39.1 -0.4
baz=89,SNR=12
X30A Coker Ranch, T 88.78 52 ⇓P P 05 21 39.2 -0.4
baz=89,SNR=5.6
M23A Laramie 88.78 44 ⇓P P 05 21 39.2 -0.5
baz=89
333A Richland Sprin 88.80 56 ⇓P P 05 21 39.2 -0.6
baz=89,SNR=12
Z31A Sharp Cattle R 88.81 53 ⇓P P 05 21 39.6 -0.2
baz=89,SNR=8.7
S27A Las Animas 88.83 49 ⇓P P 05 21 40.0 +0.1
baz=89
P25A Willow Gulch B 88.84 46 ⇓P P 05 21 40.2 +0.2
baz=89,SNR=6.1
K22A Casper 88.87 43 eP P 05 21 39.5 -0.5

comp=Z,29nm,1.3s
K22A epP pP 05 21 50.1 -1.1
K22A Casper 88.87 43 ⇑P P 05 21 40.1 +0.1
baz=89
ABTX Abilene, Hawle 88.87 54 eP P 05 21 39.8 -0.3
comp=Z,203nm,1.8s
ABTX epP pP 05 21 50.4 -0.8
ABTX Abilene, Hawle 88.87 54 ⇓P P 05 21 39.7 -0.5
baz=89,SNR=11
635A Leesville 88.91 58 ⇑P P 05 21 40.5 +0.2
baz=89,SNR=7.9
H20A Greybull 88.91 41 ⇓P P 05 21 39.6 -0.5
baz=89,SNR=6.7
V29A Stinnett 88.96 51 ⇑P P 05 21 40.5 -0.1
baz=89
I21A Big Trails, Te 88.99 42 ⇓P P 05 21 40.3 -0.3
baz=89,SNR=8.6
Q26A Hugo 89.00 47 ⇑P P 05 21 40.7 0.0
baz=89
Y31A Rekieta Farm, 89.01 53 ⇑P P 05 21 40.6 -0.2
baz=89,SNR=10.0
N24A Carr 89.01 45 ⇓P P 05 21 41.1 +0.4
baz=89
F19A Roth Farm, Mol 89.08 39 ⇓P P 05 21 40.9 0.0
baz=89,SNR=6.4
CHBT CHBT 89.11 284 P P 05 21 43.4 +1.8
comp=Z,42nm,1.6s,comp=Z,1µm
T28A Walsh 89.12 49 ⇑P P 05 21 40.9 -0.4
baz=89,SNR=8.4
L23A Garrett 89.12 44 ⇑P P 05 21 41.0 -0.3
baz=89,SNR=13
434A Burnet 89.13 56 ⇓P P 05 21 41.0 -0.4
baz=89,SNR=31
O25A Wiggins 89.17 46 ⇓P P 05 21 41.9 +0.4
baz=89
233A Rising Star 89.17 55 ⇑P P 05 21 41.3 -0.3
baz=89,SNR=8.4
G20A Bridger 89.17 40 ⇓P P 05 21 41.5 +0.2
baz=89
R27A Eads 89.19 48 ⇓P P 05 21 41.4 -0.1
baz=89,SNR=7.4
GSI Gunungsitoli 89.28 272 P P 05 21 43.8 +1.4
comp=Z,141nm,1.1s,comp=Z,6µm
GSI Gunungsitoli 89.28 272 eP P 05 21 42.8 +0.3
comp=Z,116nm,1.0s
GSI Gunungsitoli 89.28 272 ⇓P P 05 21 42.6 +0.2
baz=89
J22A Midwest 89.29 42 ⇑P P 05 21 41.7 -0.3
baz=90,SNR=9.1
Z32A Haskell 89.30 54 ⇓P P 05 21 42.2 +0.1
baz=90,SNR=21
W30A Crocket Farms 89.33 52 ⇓P P 05 21 42.1 -0.2
baz=90
535A Dale 89.34 57 ⇑P P 05 21 42.2 -0.1
baz=90
M24A Cheyenne 89.37 45 ⇑P P 05 21 42.8 +0.4
baz=90
334A Lometa 89.38 56 ⇑P P 05 21 42.1 -0.4
baz=90,SNR=12
U29A Oasis Ranch, S 89.41 50 ⇑P P 05 21 42.7 +0.1
baz=90
133A Hamilton Ranch 89.42 55 ⇑P P 05 21 42.4 -0.2
baz=90,SNR=9.2
P26A Davis Ranch, A 89.42 47 ⇑P P 05 21 42.9 +0.2
baz=90
DAWY Dawson 89.43 14 eP P 05 21 42.5 +0.5
DAWY epP pP 05 21 53.4 +0.3
BJI Beijing 89.48 314 P P 05 21 43.6 +0.9
BJI pmax pmax
comp=Z,20nm,1.6s
BJI pmax pmax
comp=Z,310nm,5.3s
S28A Manter 89.49 49 ⇓P P 05 21 43.0 0.0
baz=90,SNR=5.8
K23A Bowen Ranch, D 89.50 43 ⇑P P 05 21 44.9 +1.9
baz=90
E19A Rath Farm, Rou 89.50 39 ⇓P P 05 21 43.4 +0.7
baz=90,SNR=8.8
PAF Port-aux-Franc 89.50 216 P P 05 21 37.0 -5.8
PAF SS SS 05 38 00.0 -26
PAF R 05 51 00.0
V30A Spur Ranch, Mi 89.51 51 ⇑P P 05 21 43.5 +0.4
baz=90
636A Smothers Creek 89.51 58 ⇑P P 05 21 44.3 +1.2
baz=90
X31A McDonald Ranch 89.52 52 ⇓P P 05 21 43.2 +0.1
baz=90
F20A Billings 89.52 40 ⇓P P 05 21 43.4 +0.5
baz=90
N25A Grover 89.53 45 ⇓P P 05 21 43.6 +0.4
baz=90
I22A 9 Mile Ranch, 89.53 42 ⇓P P 05 21 43.0 -0.1
baz=90,SNR=5.9
H21A Big Horn, Sher 89.57 41 ⇓P P 05 21 43.5 +0.3
baz=90
L24A Wheatland 89.58 44 ⇑P P 05 21 43.7 +0.3
baz=90
Y32A R-V Farms, Ver 89.64 53 ⇓P P 05 21 43.5 -0.2
baz=90,SNR=12
EGAK Eagle 89.65 13 eP P 05 21 43.1 +0.2
comp=Z,136nm,1.1s
EGAK epP pP 05 21 54.0 0.0
EGAK LR LR
comp=Z,1µm,21.0s
KSCO Kaye Shedlock' 89.65 47 eP P 05 21 44.0 +0.3
comp=Z,20nm,1.3s
KSCO epP pP 05 21 54.5 -0.3
KSCO Kaye Shedlock' 89.65 47 ⇓P P 05 21 43.6 -0.2
baz=90
435B Jarrell 89.65 57 ⇑P P 05 21 43.8 0.0
baz=90
T29A Hugoton 89.71 50 ⇑P P 05 21 43.8 -0.3
baz=90
234A Clairette 89.75 55 ⇑P P 05 21 43.7 -0.5
baz=90,SNR=18
536A Bastrop 89.76 57 ⇑P P 05 21 44.5 +0.2
baz=90
O26A Horse Wrangler 89.77 46 ⇓P P 05 21 44.5 +0.3
baz=90
G21A Lodge Grass 89.78 40 ⇑P P 05 21 44.3 +0.1
baz=90
EGMT Eagleton 89.79 37 eP P 05 21 44.0 -0.1
comp=Z,82nm,1.8s
EGMT epP pP 05 21 54.2 -1.0
EGMT LR LR
comp=Z,997nm,20.0s
EGMT Eagleton 89.79 37 ⇓P P 05 21 44.2 +0.1
baz=90,SNR=8.0
W31A Holland Ranch, 89.79 52 ⇑P P 05 21 44.2 -0.2
baz=90,SNR=7.2
D19A Cripps Ranch, 89.82 38 ⇑P P 05 21 44.7 +0.4
baz=90,SNR=5.8
Z33A Whitaker Ranch 89.83 54 ⇑P P 05 21 44.4 -0.2
baz=90
M25A Palm-Egli Farm 89.86 45 ⇑P P 05 21 44.9 +0.3
baz=90
J23A Dilts Ranch, B 89.87 43 ⇑P P 05 21 44.5 -0.1
baz=90
U30A WK&E Inc. Balk 89.89 50 ⇑P P 05 21 44.7 -0.2
baz=90
KCSI Kotacane, Aceh 89.90 274 P P 05 21 43.9 -1.5
R28A Tribune 89.90 48 ⇑P P 05 21 44.9 0.0
baz=90,SNR=12
E20A Meyer Farm, Mu 89.90 39 ⇓P P 05 21 45.1 +0.4
baz=90,SNR=7.4
X32A Elmer 89.94 53 ⇓P P 05 21 45.0 0.0
baz=90,SNR=11
P27A Ficken Ranch, 89.94 47 ⇑P P 05 21 45.1 0.0
baz=90
ENH Enshi 89.96 303 eP P 05 21 46.8 +1.5
comp=Z,23nm,0.9s
ENH LR LR
comp=Z,242nm,19.0s
H22A Clearmont 89.97 41 ⇑P P 05 21 45.2 +0.1
baz=90
335A Moody 89.99 56 ⇑P P 05 21 45.2 -0.1
baz=90
K24A Anderson Ranch 90.00 43 ⇑P P 05 21 45.4 +0.1
baz=90
C19A Slack Wire Ran 90.03 38 ⇑P P 05 21 45.6 +0.3
baz=90,SNR=18
134A White-Moore Ra 90.04 55 ⇓P P 05 21 45.5 -0.1
baz=90
S29A Ulysses 90.05 49 ⇑P P 05 21 45.7 +0.1
baz=90
N26A Koester Ranch, 90.11 46 ⇑P P 05 21 45.9 0.0
baz=90
V31A Spring Creek L 90.13 51 ⇓P P 05 21 46.5 +0.6

baz=90,SNR=7.1
F21A Absaloka Mine, 90.14 40 ⇓P P 05 21 46.6 +0.7
I23A Meade Ranch, G 90.20 42 ⇓P P 05 21 46.2 0.0
baz=90
D20A Manuel Ranch, 90.21 38 ⇑P P 05 21 46.6 +0.6
baz=90,SNR=10
T30A Plains 90.21 50 ⇓P P 05 21 46.2 -0.1
baz=90
Q28A Sharon Springs 90.22 48 ⇓P P 05 21 46.4 0.0
baz=90
COLD Coldfoot 90.24 9 eP P 05 21 45.4 -0.2
comp=Z,42nm,1.2s
COLD epP pP 05 21 56.9 +0.2
Y33A Hilltop Ranch, 90.25 53 ⇓P P 05 21 46.6 +0.1
baz=90
436A Wall Ranch, Ga 90.26 57 ⇓P P 05 21 47.1 +0.5
baz=90
L25A Engebretsen Ra 90.26 44 ⇑P P 05 21 46.4 -0.2
baz=90
WHTX Lake Whitney 90.27 56 eP P 05 21 47.5 +0.9
WHTX epP pP 05 21 56.8 -0.9
WHTX Lake Whitney 90.27 56 ⇑P P 05 21 46.5 -0.1
baz=90
W32A Sentinel 90.28 52 ⇓P P 05 21 46.8 +0.2
baz=90,SNR=12
O27A Beecher Island 90.31 46 ⇑P P 05 21 46.7 -0.1
baz=90
G22A Birney 90.33 41 ⇓P P 05 21 46.3 -0.4
baz=90
537A Green Hill Far 90.35 58 ⇑P P 05 21 47.6 +0.6
baz=90
U31A Nine Bar Ranch 90.39 51 ⇓P P 05 21 47.3 +0.1
baz=91
J24A Dixon Ranch, L 90.39 43 ⇑P P 05 21 47.2 +0.1
baz=91
R29A Marienthal 90.41 49 ⇑P P 05 21 47.4 +0.1
baz=91,SNR=5.5
M26A McRoberts Ranc 90.47 45 ⇑P P 05 21 47.1 -0.5
baz=91
B19A Brinkman Farms 90.48 37 ⇑P P 05 21 47.9 +0.6
baz=91,SNR=17
336A Riesel 90.48 56 ⇑P P 05 21 47.0 -0.6
baz=91
PATY Pattaya 90.50 284 P P 05 21 51.1 +3.0
comp=Z,16nm,0.9s,comp=Z,3μm
Z34A Collier Ranch, 90.51 54 ⇑P P 05 21 47.5 -0.2
baz=91
P28A Saint Francis 90.51 47 ⇓P P 05 21 47.7 0.0
baz=91,SNR=6.8
S30A Montezuma 90.52 49 ⇓P P 05 21 47.3 -0.5
baz=91
135A Vickery Place, 90.54 55 ⇓P P 05 21 47.7 -0.2
baz=91
BILL Bilibino 90.54 353 eP P 05 21 46.8 -0.2
BILL i 05 21 56.8
BILL e*PP PP 05 25 25.3 +2.8
BILL pmax pmax
comp=Z,41nm,1.6s
BILL MLR MLR
comp=Z,562nm,19.0s
BILL Bilibino 90.54 353 eP P 05 21 47.3 +0.2
comp=Z,31nm,1.1s
BILL epP pP 05 21 57.4 -0.7
BILL LR LR
comp=Z,2μm,19.0s
E21A Keefer Ranch, 90.54 39 ⇑P P 05 21 48.5 +0.9
baz=91,SNR=11
H23A Clabaugh Cattl 90.54 42 ⇓P P 05 21 48.5 +0.8
baz=91
K25A Mack Ranch, Ha 90.55 44 ⇓P P 05 21 48.4 +0.6
baz=91
N27A Anderson Farm, 90.56 46 ⇑P P 05 21 48.1 +0.2
baz=91
X33A Lawton 90.57 53 ⇑P P 05 21 47.6 -0.4
baz=91
C20A Veseth Ranch, 90.62 38 ⇑P P 05 21 48.3 +0.3
baz=91,SNR=9.8
F22A Rosebud 90.64 40 ⇓P P 05 21 48.4 +0.3
baz=91
GYA Guiyang 90.67 298 ⇑iP P 05 21 49.8 +1.0
GYA pP pP 05 22 01.3 +1.5
GYA PP PP 05 25 27.0 +2.4
GYA SKS SKSac 05 32 17.8 -0.4
GYA S S 05 32 41.5 -1.2
GYA sS sS 05 32 58.9 -2.1
GYA SS SS 05 38 47.0 +1.7
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,330nm,5.2s
GYA LR LR
comp=Z,810nm,20.5s
GYA LR LR
comp=Z,670nm,21.3s
GYA LR LR
comp=Z,790nm,20.8s
HKT Hockley 90.67 58 eP P 05 21 48.0 -0.4
HKT e*PP pP 05 22 00.1 +0.6
HKT pmax pmax
comp=Z,116nm,1.8s
HKT Hockley 90.67 58 eP P 05 21 48.0 -0.4
comp=Z,116nm,1.8s
HKT epP pP 05 22 00.1 +0.6
I24A Kuemmerle Ranc 90.68 43 ⇑P P 05 21 48.2 -0.3
baz=91
V32A Arapaho 90.69 52 ⇓P P 05 21 48.4 -0.2
baz=91
Q29A Oakley 90.73 48 ⇓P P 05 21 49.0 +0.3
baz=91
O28A Krutsinger Ran 90.75 47 ⇑P P 05 21 48.9 0.0
baz=91
L26A Underwood Farm 90.78 45 ⇓P P 05 21 49.0 +0.1
baz=91
T31A Randall Ranch, 90.84 50 ⇑P P 05 21 49.1 -0.1
baz=91,SNR=5.4
A19A Klindworth Far 90.85 37 ⇓P P 05 21 49.0 0.0
baz=91,SNR=13
EDM Edmonton 90.86 32 eP P 05 21 48.6 -0.3
EDM e*PP pP 05 21 59.5 -0.5
EDM Edmonton 90.86 32 eP P 05 21 48.6 -0.3
EDM epP pP 05 21 59.5 -0.5
W33A Caddo, Fort Co 90.86 52 ⇑P P 05 21 50.0 +0.7
baz=91
D21A La Casta Ranch 90.86 39 ⇑P P 05 21 49.7 +0.5
baz=91
G23A Biddle 90.87 41 ⇑P P 05 21 49.1 -0.2
baz=91,SNR=6.2
Y34A Reagan Ranch, 90.88 54 ⇓P P 05 21 49.1 -0.3
baz=91
SURT Suratani 90.93 279 P P 05 21 52.8 +2.7
comp=Z,14nm,2.0s,comp=Z,385nm
R30A Dighton 90.94 49 ⇓P P 05 21 49.6 -0.1
baz=91,SNR=11
OGNE Ogallala 90.96 46 PFAKE 05 22 00.0 +10
OGNE LR LR
comp=Z,1μm,20.0s
OGNE Ogallala 90.96 46 ⇑P P 05 21 49.9 +0.2
baz=91
J25A Sunshine Ranch 90.97 43 ⇑P P 05 21 49.9 +0.1
baz=91
Z35A Perchaven, San 90.99 54 ⇑P P 05 21 50.0 0.0
baz=91
B20A Solberg Farm, 90.99 37 ⇑P P 05 21 50.0 +0.3
baz=91,SNR=5.6
M27A Reverse DX Ran 91.00 45 ⇑P P 05 21 50.1 +0.2
baz=91
U32A Winter Ranch, 91.01 51 ⇑P P 05 21 50.1 +0.1
baz=91,SNR=7.3
K26A Motz Farm, Whi 91.04 44 ⇑P P 05 21 50.3 +0.2
baz=91,SNR=8.4
538A Harpers Horsep 91.06 58 ⇓P P 05 21 51.4 +1.1
baz=91
P29A Atwood 91.09 48 ⇓P P 05 21 50.9 +0.5
baz=91
X34A Smith Ranch, M 91.10 53 ⇓P P 05 21 51.0 +0.6
baz=91
LAO LASA Array 91.12 39 eP P 05 21 51.1 +0.7
comp=Z,167nm,1.8s
LAO epP pP 05 22 01.3 -0.1
LAO LR LR
comp=Z,603nm,20.0s
F23A Volborg 91.12 41 ⇓P P 05 21 50.5 +0.1
baz=91,SNR=9.1
E22A Miles City 91.16 40 ⇑P P 05 21 51.1 +0.7
baz=91
H24A Dirks Ranch, A 91.16 42 ⇑P P 05 21 50.0 -0.6

baz=91,SNR=12
N28A Pribbeno Ranch 91.17 46 ⇓P P 05 21 50.7 -0.1
baz=91
RSSD Black Hills 91.18 42 eP P 05 21 50.3 -0.6
RSSD e*PP pP 05 22 00.8 -1.1
RSSD pmax pmax
comp=Z,20nm,1.3s
RSSD Black Hills 91.18 42 eP P 05 21 50.2 -0.6
comp=Z,20nm,1.3s
RSSD epP pP 05 22 00.8 -1.1
337A Centerville 91.20 57 ⇑P P 05 21 50.9 0.0
baz=91
C21A Desert Coulee 91.20 38 ⇓P P 05 21 50.8 +0.2
baz=91,SNR=6.3
S31A Mullinville 91.21 50 ⇓P P 05 21 50.7 -0.3
baz=91
A20A Cobblestone Ra 91.28 37 ⇑P P 05 21 51.2 +0.2
baz=92,SNR=25
V33A Lossen Ranch, 91.29 52 ⇓P P 05 21 51.3 0.0
baz=92
Q30A Quinter 91.30 48 ⇑P P 05 21 51.1 -0.2
baz=92,SNR=10
L27A T5 Ranch, Ells 91.31 45 ⇑P P 05 21 51.5 +0.2
baz=92
D22A Cohagen 91.38 39 ⇓P P 05 21 51.7 +0.2
baz=92,SNR=11
J26A Sides Ranch, S 91.40 44 ⇑P P 05 21 51.7 0.0
baz=92,SNR=6.5
W34A Bridge Creek, 91.41 53 ⇓P P 05 21 52.2 +0.3
baz=92
T32A Huddler Ranch, 91.42 50 ⇓P P 05 21 51.9 0.0
baz=92
O29A 4D Ranch, Culb 91.42 47 ⇑P P 05 21 51.9 0.0
baz=92
R31A Burdett 91.47 49 ⇑P P 05 21 51.8 -0.4
baz=92,SNR=5.2
G24A Alzada 91.53 41 ⇓P P 05 21 52.4 0.0
baz=92,SNR=9.8
P30A Selden 91.53 48 ⇓P P 05 21 52.4 0.0
baz=92
B21A Ellsworth Farm 91.56 38 ⇑P P 05 21 52.7 +0.5
baz=92,SNR=8.1
M28A Bar X Bar Ranc 91.61 46 ⇑P P 05 21 53.1 +0.3
baz=92
S32A Newby Ranch, P 91.63 50 ⇓P P 05 21 53.0 +0.1
baz=92
K27A Flueckinger Fa 91.65 44 ⇓P P 05 21 53.1 +0.2
baz=92,SNR=7.3
338A Crockett 91.66 57 ⇑P P 05 21 53.5 +0.3
baz=92
U33A Lingo Farm, Me 91.68 51 ⇓P P 05 21 52.7 -0.4
baz=92
H25A Fruitdale 91.69 42 ⇓P P 05 21 53.2 +0.2
baz=92
PBKT Sadao Pong 91.76 287 P P 05 21 55.5 +1.7
comp=Z,49nm,1.6s
F24A Ekalaka 91.77 41 ⇓P P 05 21 53.3 -0.1
baz=92,SNR=7.3
L28A Connealy Angus 91.80 45 ⇓P P 05 21 54.0 +0.4
baz=92
LOEI Loei 91.84 288 P P 05 21 53.9 -0.4
comp=Z,22nm,1.7s
N29A Votaw Ranch, W 91.85 47 ⇑P P 05 21 54.0 +0.2
baz=92
V34A Guthrie 91.86 52 eP P 05 21 53.1 -0.8
comp=Z,81nm,1.8s
V34A epP pP 05 22 04.0 -1.0
V34A Guthrie 91.86 52 ⇑P P 05 21 53.9 0.0
baz=92,SNR=5.4
C22A Vida 91.86 39 ⇑P P 05 21 54.0 +0.3
baz=92,SNR=5.4
T33A Patterson Ranc 91.86 51 ⇑P P 05 21 53.9 0.0
baz=92
I26A New Underwood 91.88 43 ⇓P P 05 21 54.3 +0.4
baz=92
Q31A Ellis 91.89 49 ⇓P P 05 21 54.2 +0.1
baz=92
A21A Bergtoll Ranch 91.90 37 ⇓P P 05 21 54.1 +0.2
baz=92,SNR=19
HIA Hailar 91.91 323 PFAKE 05 22 00.0 +6.1
HIA LR LR
comp=Z,1μm,21.0s
O30A MW Ranch, Wils 91.95 47 ⇑P P 05 21 54.2 -0.1
baz=92
D23A Lindsay 91.97 39 ⇑P P 05 21 54.9 +0.6
baz=92,SNR=7.8
XAN Xi'an 91.98 306 P P 05 21 55.6 +1.0
XAN pP pP 05 22 06.3 +0.6
XAN PP PP 05 25 37.3 +2.6
XAN SKS SKSac 05 32 24.0 -1.2
XAN S S 05 32 51.5 -2.6
XAN SS SS 05 39 02.0 -1.9
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN pmax pmax
comp=Z,36nm,5.0s
XAN LR LR
comp=Z,270nm,26.9s
XAN LR LR
comp=Z,180nm,27.6s
XAN LR LR
comp=Z,220nm,24.7s
J27A Elkhorn Farm, 92.06 44 ⇑P P 05 21 55.2 +0.5
baz=92,SNR=26
B22A Reddig Ranch S 92.08 38 ⇑P P 05 21 55.2 +0.5
baz=92
G25A Newell 92.08 42 ⇑P P 05 21 54.8 -0.1
baz=92,SNR=8.4
M29A Burnside Ranch 92.09 46 ⇓P P 05 21 55.0 +0.1
baz=92
U34A Anderson Ranch 92.10 52 ⇓P P 05 21 55.3 +0.2
baz=92
R32A Long Quarter, 92.11 49 ⇓P P 05 21 55.1 0.0
baz=92,SNR=8.7
P31A Stockton 92.12 48 ⇓P P 05 21 55.0 -0.1
baz=92
N30A Hueftle Ranch, 92.20 47 ⇓P P 05 21 55.6 +0.2
baz=92
E24A Baker 92.20 40 ⇑P P 05 21 56.1 +0.7
baz=92
H26A Fairpoint 92.21 42 ⇑P P 05 21 55.7 +0.3
baz=92
K28A Ten Mile Ranch 92.22 45 ⇓P P 05 21 55.9 +0.3
baz=92,SNR=9.6
339A Huntington 92.24 57 ⇓P P 05 21 55.9 +0.1
baz=92
S33A Kaszmaul Farm, 92.26 50 ⇓P P 05 21 55.8 0.0
baz=92
C23A Lambert 92.30 39 ⇓P P 05 21 56.1 +0.4
baz=92,SNR=16
NATX Nacogdoches 92.33 57 PFAKE 05 22 10.0 +14
NATX LR LR
comp=Z,3μm,19.0s
I27A Quinn 92.41 43 ⇑P P 05 21 56.5 +0.1
baz=93,SNR=8.7
F25A Bowman 92.41 41 ⇑P P 05 21 56.8 +0.4
baz=93,SNR=6.2
O31A Woolen Ranch, 92.44 48 ⇑P P 05 21 56.0 -0.6
baz=93
D24A Glendive 92.46 40 ⇑P P 05 21 57.0 +0.5
baz=93,SNR=11
Q32A Meitler Ranch, 92.46 49 ⇓P P 05 21 57.0 +0.3
baz=93,SNR=5.9
A22A Carney Farms, 92.47 38 ⇑P P 05 21 56.7 +0.2
baz=93,SNR=7.5
L29A Maesberg Ranch 92.51 46 ⇑P P 05 21 57.2 +0.3
baz=93
UTTA Uttaradit 92.56 288 P P 05 21 59.1 +1.6
comp=Z,6.6nm,1.1s,comp=Z,76nm
R33A Olander Ranch, 92.58 50 ⇓P P 05 21 57.3 +0.1
baz=93,SNR=7.7
JTS JuntasAbangare 92.58 80 eP P 05 21 58.3 +0.5
JTS e*PP pP 05 22 09.5 +0.7
JTS pmax pmax
comp=Z,47nm,1.0s
JTS MLR MLR
comp=Z,1μm,20.0s
JTS JuntasAbangare 92.58 80 eP P 05 21 58.3 +0.5
comp=Z,48nm,1.0s
JTS epP pP 05 22 09.5 +0.7
JTS LR LR
comp=Z,1μm,20.0s
SRDT SRDT 92.60 284 P P 05 22 01.6 +3.8
comp=Z,58nm,1.9s
C24A Savage 92.61 39 ⇓P P 05 21 57.7 +0.5
baz=93
J28A Allard Ranch, 92.63 44 ⇓P P 05 21 57.3 -0.1
baz=93,SNR=13

G26A Maurine 92.64 42 ⇑P P 05 21 56.9 -0.4
baz=93,SNR=12
H27A Howes 92.66 43 ⇓P P 05 21 57.5 0.0
baz=93,SNR=7.0
M30A Dale-Ortello V 92.68 46 ⇓P P 05 21 58.0 +0.3
baz=93
P32A Huiting Farm, 92.71 48 ⇑P P 05 21 58.0 +0.2
baz=93
E25A Miller Ranch, 92.72 41 ⇓P P 05 21 57.9 +0.2
baz=93,SNR=5.9
B23A Brockton 92.74 38 ⇑P P 05 21 58.3 +0.5
baz=93,SNR=13
TRQA Tornquist 92.74 133 eP P 05 21 58.9 +0.7
TRQA LR LR
comp=Z,1μm,19.0s
340A Bronson 92.80 57 ⇓P P 05 21 58.4 +0.1
baz=93
F26A Lodgepole 92.86 41 ⇑P P 05 21 58.3 -0.1
baz=93,SNR=7.5
K29A Lazy Trails An 92.93 45 ⇓P P 05 21 58.9 +0.1
baz=93,SNR=17
I28A Midland 92.94 44 ⇑P P 05 21 58.8 0.0
baz=93,SNR=9.6
L30A Spencer Herefo 92.97 46 ⇓P P 05 21 59.2 +0.2
baz=93,SNR=5.5
Q33A Connelly Farm, 92.98 49 ⇑P P 05 21 58.8 -0.2
baz=93,SNR=5.7
HHC Hu-ho-hao-te 92.98 313 eP P 05 21 58.3 -0.8
HHC pP pP 05 22 11.5 +1.3
HHC sP sP 05 22 16.5 +2.3
HHC PP PP 05 25 42.8 +0.3
HHC SKS SKSac 05 32 27.5 -3.1
HHC S S 05 32 58.8 -4.1
HHC sS sS 05 33 22.6 +1.3
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,420nm,6.8s
HHC LR LR
comp=Z,980nm,18.5s
HHC LR LR
comp=Z,1μm,19.7s
HHC LR LR
comp=Z,980nm,17.7s
N31A Bailey Ranch, 92.99 47 ⇑P P 05 21 59.4 +0.3
baz=93
A23A Redstone 93.05 38 ⇑P P 05 21 59.6 +0.4
baz=93
D25A Fairfield 93.08 40 ⇓P P 05 21 60.0 +0.6
baz=93,SNR=6.5
G27A Dupree 93.09 42 ⇓P P 05 21 59.0 -0.4
baz=93,SNR=20
TUL1 Tulsa 93.16 53 eP P 05 22 00.0 +0.1
comp=Z,42nm,1.7s
TUL1 epP pP 05 22 10.4 -0.6
TUL1 Tulsa 93.16 53 ⇑P P 05 21 59.8 -0.2
baz=93
M31A Lambtecht Ranc 93.20 47 ⇑P P 05 22 00.2 +0.2
baz=93
DGMT Dagmar 93.20 39 eP P 05 22 00.2 +0.3
comp=Z,136nm,1.3s
DGMT epP pP 05 22 11.1 +0.1
DGMT LR LR
comp=Z,658nm,20.0s
DGMT Dagmar 93.20 39 ⇑P P 05 22 00.3 +0.4
baz=93,SNR=15
TEIG Tepich 93.21 70 PFAKE 05 22 10.0 +10
TEIG LR LR
comp=Z,1μm,19.0s
O32A Brockman Farm, 93.21 48 ⇑P P 05 22 00.0 -0.1
baz=93
J29A Okreek 93.22 44 ⇑P P 05 21 59.7 -0.4
baz=93,SNR=15
P33A Williams Farm, 93.26 49 ⇑P P 05 22 00.5 +0.1
baz=93
F27A Lemmon 93.27 42 ⇓P P 05 22 00.4 +0.2
baz=94
E26A Carlson Angus 93.28 41 ⇓P P 05 22 00.4 +0.1
baz=94,SNR=6.3
H28A Mission Ridge 93.34 43 ⇑P P 05 22 00.5 -0.1
baz=94,SNR=13
K30A Basset 93.36 45 ⇓P P 05 22 00.8 +0.1
baz=94,SNR=16
C25A Freed Ranch, W 93.39 40 ⇑P P 05 22 01.2 +0.5
baz=94,SNR=5.3
KMI Kunming 93.41 296 P P 05 22 03.4 +1.8
KMI pP pP 05 22 13.5 +0.8
KMI PP PP 05 25 52.8 +6.5
KMI pmax pmax
comp=Z,21nm,1.0s
KMI pmax pmax
comp=Z,300nm,3.3s
KMI LR LR
comp=Z,370nm,20.5s
KMI LR LR
comp=Z,920nm,23.4s
KMI LR LR
comp=Z,2μm,26.4s
N32A Stulken Farm, 93.41 47 ⇑P P 05 22 00.9 -0.1
baz=94
CLNS Chul'man 93.45 331 eP P 05 22 10.8 +10
CLNS pmax pmax
comp=Z,5.0nm,1.0s
CLNS pmax pmax
comp=N,19nm,1.3s
CLNS pmax pmax
comp=E,4.0nm,0.9s
I29A Vivian Onida 93.51 44 ⇓P P 05 22 01.2 -0.2
baz=94,SNR=12
A24A Westby 93.53 38 ⇑P P 05 22 01.8 +0.4
baz=94,SNR=7.0
D26A Manning 93.56 40 ⇑P P 05 22 01.6 +0.1
baz=94,SNR=6.8
G28A Parade 93.59 43 ⇓P P 05 22 01.4 -0.3
baz=94,SNR=6.8
L31A Butterfield Fa 93.66 46 ⇓P P 05 22 02.1 -0.1
baz=94,SNR=6.9
LAMP Lampang 93.66 288 P P 05 22 04.4 +1.8
comp=E,16nm,0.8s,comp=E,142nm
B25A Knox Farm, Ray 93.71 39 ⇓P P 05 22 03.0 +0.7
baz=94
J30A Dallas 93.73 45 ⇑P P 05 22 02.0 -0.4
baz=94,SNR=11
BGNE Belgrade 93.79 47 eP P 05 22 02.7 -0.1
comp=E,102nm,1.5s
BGNE epP pP 05 22 13.4 -0.4
BGNE Belgrade 93.79 47 ⇑P P 05 22 03.0 +0.3
baz=94
E27A Carson 93.81 41 ⇓P P 05 22 02.9 +0.2
baz=94,SNR=9.8
H29A Onida 93.84 43 ⇑P P 05 22 02.8 -0.1
baz=94,SNR=15
KSU1 Kansas State U 93.89 49 eP P 05 22 03.0 -0.2
comp=E,14nm,0.9s
KSU1 epP pP 05 22 13.8 -0.5
KSU1 LR LR
comp=Z,2μm,20.0s
KSU1 Kansas State U 93.89 49 ⇑P P 05 22 03.3 +0.1
baz=94
F28A McLaughlin 94.02 42 ⇓P P 05 22 03.6 -0.1
baz=94,SNR=8.1
A25A Svangstu Ranch 94.06 39 ⇑P P 05 22 04.4 +0.6
baz=94
C26A Wahner Farm, P 94.13 40 ⇓P P 05 22 04.4 +0.2
baz=94,SNR=10
D27A Center 94.14 41 ⇓P P 05 22 04.6 +0.3
baz=94
CMAR Chiang Mai Arr 94.25 288 P P 05 22 06.9 +1.6
comp=Z,18nm,1.1s,baz=118,slow=3.1,SNR=48
CMAR PKKPbc PKKPbc 05 39 13.3 +7.6
comp=Z,0.9nm,0.3s,baz=262,slow=4.9,SNR=4.7
CMAR LR LR 05 59 16.5
comp=Z,150nm,21.8s,baz=149,slow=32
G29A Hoven 94.27 43 ⇑P P 05 22 04.5 -0.3
baz=94
MIAR Mount Ida 94.28 55 PFAKE 05 22 20.0 +15
MIAR LR LR
comp=Z,2μm,19.0s
B26A Jensen Ranch, 94.31 39 ⇓P P 05 22 04.9 0.0
baz=94
CMMT Chiang Mai 94.37 288 P P 05 22 07.4 +1.5
comp=Z,34nm,1.5s,comp=Z,664nm
CHTO Chiang Mai 94.37 288 eP P 05 22 07.4 +1.5
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO MLR MLR
comp=Z,532nm,21.0s

CHTO Chiang Mai 94.37 288 P P 05 22 07.4 +1.5
comp=Z,117nm,1.6s,comp=Z,2µm
CHTO Chiang Mai 94.37 288 eP P 05 22 07.4 +1.5
comp=Z,17nm,0.9s
CHTO LR LR
comp=Z,532nm,21.0s
E28A Huff 94.41 41 ⇓P P 05 22 05.2 -0.3
baz=95
C27A Sayler Ranch, 94.43 40 ⇓P P 05 22 05.9 +0.3
baz=95
BRSD Miller 94.56 44 eP P 05 22 06.1 -0.1
comp=Z,7.8nm,0.4s
BRSD epP pP 05 22 16.2 -1.1
BRSD Miller 94.56 44 ⇓P P 05 22 06.2 0.0
baz=95
LVC Limon Verde 94.59 116 eP P 05 22 09.1 +1.8
comp=Z,135nm,2.0s
LVC epP pP 05 22 19.9 +1.6
LVC LR LR
comp=Z,2µm,19.0s
F29A Eureka 94.62 42 ⇑P P 05 22 06.0 -0.5
baz=95,SNR=9.8
YAK Yakutsk 94.62 337 PFAKE 05 22 20.0 +14
YAK LR LR
comp=Z,478nm,19.0s
A26A Wade Farm, Ken 94.66 39 ⇓P P 05 22 06.9 +0.4
baz=95
CMAI Chiengmai2 94.69 289 P P 05 22 08.9 +1.4
comp=Z,16nm,1.1s,comp=Z,512nm
G30A Faulkton 94.74 43 ⇑P P 05 22 06.3 -0.7
baz=95,SNR=5.4
CD2 Chengdu 94.75 301 eP P 05 22 08.0 +0.6
CD2 pP pP 05 22 21.5 +3.0
CD2 sP sP 05 22 26.8 +4.3
CD2 PP PP 05 25 59.3 +2.8
CD2 SKS SKSac 05 32 38.3 -2.2
CD2 S S 05 33 15.0 -3.7
CD2 sS sS 05 33 37.9 +0.8
CD2 SS SS 05 39 43.8 +0.2
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.2s
CD2 LR LR
comp=Z,460nm,22.5s
CD2 LR LR
comp=Z,600nm,18.1s
CD2 LR LR
comp=Z,670nm,27.4s
D28A Regan 94.76 41 ⇓P P 05 22 06.8 -0.3
baz=95
B27A Peters Farms, 94.89 40 ⇓P P 05 22 07.9 +0.2
baz=95
OTAV Otavalo 94.98 92 eP P 05 22 10.6 +1.2
comp=Z,31nm,1.8s
OTAV epP pP 05 22 20.4 -0.1
OTAV LR LR
comp=Z,1µm,22.0s
MHMT Maesarieng 95.04 287 P P 05 22 13.8 +4.8
comp=Z,10nm,1.5s,comp=Z,379nm
E29A Napoleon 95.06 42 ⇓P P 05 22 07.7 -0.7
baz=95,SNR=7.4
C28A Hausauer Farms 95.11 41 ⇑P P 05 22 08.3 -0.3
baz=95
F30A Leola 95.12 43 ⇓P P 05 22 08.4 -0.4
baz=95
D29A Pettibone, Tap 95.30 41 ⇑P P 05 22 08.6 -1.0
baz=96,SNR=7.1
B28A Dugan Ranch, T 95.45 40 ⇓P P 05 22 10.1 0.0
baz=96
E30A Jud 95.48 42 ⇑P P 05 22 09.5 -0.9
baz=96,SNR=5.6
A28A Rude Farm, Bot 95.71 39 ⇓P P 05 22 11.0 -0.3
baz=96,SNR=6.2
ECSD EROS Data Cent 95.79 45 eP P 05 22 10.7 -1.2
comp=Z,70nm,1.3s
ECSD epP pP 05 22 22.1 -0.8
ECSD LR LR
comp=Z,1µm,22.0s
ECSD EROS Data Cent 95.79 45 ⇑P P 05 22 11.4 -0.5
baz=96
YKA Yellowknife Ar 95.83 24 P P 05 22 11.2 -0.3
comp=Z,2.4nm,0.8s,baz=237,slow=4.4,SNR=42
YKA pP pP 05 22 21.8 -0.8
comp=Z,8.4nm,0.8s,baz=235,slow=4.3,SNR=45
YKA PP PP 05 26 00.5 -3.5
comp=Z,2.8nm,1.2s,baz=239,slow=6.6,SNR=4.8
YKA PKKP PKKPbc 05 39 01.1 -2.1
comp=Z,0.3nm,0.6s,baz=38,slow=2.5,SNR=4.4
YKA PKKPbc PKKPdf 05 39 10.9 +6.6
comp=Z,0.9nm,0.7s,baz=38,slow=2.4,SNR=9.6
D30A Buchanan 95.84 42 ⇓P P 05 22 11.1 -0.8
baz=96,SNR=12
HOPE Hope Point 96.01 156 PFAKE 05 22 20.0 +7.3
HOPE LR LR
comp=Z,950nm,20.0s
B29A Wagenman Farm, 96.06 40 ⇑P P 05 22 12.5 -0.4
baz=96
C30A Mose, Pekin 96.26 41 ⇑P P 05 22 13.2 -0.7
baz=96,SNR=6.9
A29A Manning Farm, 96.33 40 ⇓P P 05 22 13.2 -0.9
baz=96,SNR=11
LZH Lanzhou 96.61 306 eP P 05 22 16.8 +0.9
LZH sP sP 05 22 31.5 +0.5
LZH PP PP 05 26 13.5 +2.5
LZH SKS SKSac 05 32 50.3 -0.1
LZH eS S 05 33 33.0 -1.9
LZH sS sS 05 33 51.0 -2.3
LZH SS SS 05 40 11.0 +0.9
LZH pmax pmax
comp=Z,36nm,1.3s
LZH pmax pmax
comp=Z,200nm,8.9s
LZH LR LR
comp=Z,520nm,19.0s
LZH LR LR
comp=Z,650nm,19.3s
LZH LR LR
comp=Z,720nm,20.0s
B30A Myrvik Farm, E 96.67 40 ⇓P P 05 22 15.0 -0.7
baz=97
BCIP Isla Barro Col 96.89 83 PFAKE 05 22 30.0 +13
BCIP LR LR
comp=Z,803nm,20.0s
A30A Hoffart Farm, 96.89 40 ⇑P P 05 22 15.8 -0.9
baz=97,SNR=8.8
FFC Flin Flon 97.37 34 eP Pdif 05 22 19.0 +0.2
FFC e*PP pP 05 22 28.6 -1.2
FFC pmax pmax
comp=Z,10.0nm,1.5s
FFC MLR MLR
comp=Z,1µm,20.0s
FFC Flin Flon 97.37 34 eP Pdif 05 22 18.9 +0.2
comp=Z,10.0nm,1.5s
FFC epP pP 05 22 28.6 -1.2
FFC LR LR
comp=Z,1µm,20.0s
SCIA State Center 97.37 48 PFAKE 05 22 30.0 +11
SCIA LR LR
comp=Z,2µm,21.0s
LPAZ La Paz 97.95 111 P Pdif 05 22 23.6 +0.5
comp=Z,2.3nm,0.9s,baz=227,slow=4.7,SNR=7.3
LPAZ LR LR 05 58 18.4
comp=Z,2µm,19.6s,baz=276,slow=30
BRAL Brewton 98.08 60 PFAKE 05 22 30.0 +7.5
BRAL LR LR
comp=Z,1µm,20.0s
AGMN Agassiz Nation 98.11 41 PFAKE 05 22 30.0 +7.8
AGMN LR LR
comp=Z,601nm,19.0s
AGMN Agassiz Nation 98.11 41 ⇑Pdiff P 05 22 21.5 -0.7
baz=98
ULN Ulaanbaatar 98.80 318 PFAKE 05 22 40.0 +14
ULN LR LR
comp=Z,386nm,21.0s
ULM Lac du Bonnet 98.87 39 P P 05 22 24.8 -0.7
ULM *PP pP 05 22 35.1 -1.5
ULM pmax pmax
comp=Z,1.0nm,0.8s
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM Lac du Bonnet 98.87 39 P P 05 22 24.8 -0.7
comp=Z,1.3nm,0.8s,baz=309,slow=5.2,SNR=5.3
ULM pP pP 05 22 35.1 -1.5
comp=Z,2.4nm,0.7s,baz=265,slow=4.3,SNR=4.6
ULM LR LR 06 04 41.6
comp=Z,647nm,18.5s,baz=254,slow=34
SPMN St. Paul 98.89 45 ⇓Pdiff P 05 22 24.9 -0.8
baz=99
BOD Bodaibo 99.03 329 eP Pdif 05 22 21.2 -4.9
BOD pmax pmax
comp=Z,5.0nm,1.7s
SONM Songino Array 99.20 318 P Pdif 05 22 27.2 -0.1
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM MLR MLR
comp=Z,261nm,18.0s
SONM Songino Array 99.20 318 P Pdif 05 22 27.2 -0.1
comp=Z,1.2nm,0.8s,baz=146,slow=4.6,SNR=10
SONM LR LR 06 08 21.9
comp=Z,261nm,18.0s,baz=134,slow=36
JFWS Jewell Farm 99.79 48 PFAKE 05 22 40.0 +10
JFWS LR LR
comp=Z,1µm,22.0s
EYMN Ely 100.70 43 PFAKE 05 22 50.0 +16
EYMN LR LR
comp=Z,1µm,20.0s
GTA Gaotai 100.76 308 eP Pdif 05 22 36.8 +2.4
GTA pP pP 05 22 47.8 +2.2
GTA sP sP 05 22 51.6 +2.0
GTA PP PP 05 26 47.4 +4.8
GTA SKS SKSac 05 33 12.4 +1.4
GTA S Sdif 05 34 08.5 -1.2
GTA sS sS 05 34 26.5 -1.8
GTA SS SS 05 41 10.3 +2.2
GTA pmax pmax
comp=Z,4.0nm,1.7s
GTA pmax pmax
comp=Z,150nm,5.2s
GTA LR LR
comp=Z,290nm,19.5s
GTA LR LR
comp=Z,300nm,19.0s
GTA LR LR
comp=Z,410nm,20.0s
TIXI Tiksi 100.82 344 eP Pdif 05 22 32.5 -1.2
TIXI Tiksi 100.82 344 PFAKE 05 22 40.0 +6.3
TIXI LR LR
comp=Z,831nm,22.0s
TIGA Tifton 101.03 61 ⇑Pdiff Pdif 05 22 34.5 -1.1
baz=101
SFIN Scholer Farm 101.17 51 ⇓Pdiff Pdif 05 22 35.8 -0.3
baz=101
GOGA Godfrey 101.74 59 PFAKE 05 22 50.0 +11
GOGA LR LR
comp=Z,2µm,19.0s
ZAK Zakamensk 102.01 319 eP Pdif 05 22 45.2 +5.5
ZAK pmax pmax
comp=Z,2.0nm,1.9s
MTDJ Mount Denham 102.05 75 PFAKE 05 22 50.0 +9.4
MTDJ LR LR
comp=Z,1µm,21.0s
TLY Talaya 102.22 321 eP Pdif 05 22 43.1 +2.6
TLY pmax pmax
comp=Z,2.0nm,0.8s
TLY Talaya 102.22 321 PFAKE 05 22 50.0 +10
TLY LR LR
comp=Z,1µm,22.0s
KMSC Kings Mountain 103.94 58 ⇑Pdiff Pdif 05 22 47.8 -0.7
baz=104
ACSO Alum Creek Sta 104.13 52 PFAKE 05 23 00.0 +11
ACSO LR LR
comp=Z,2µm,20.0s
AAM Ann Arbor 104.22 50 PFAKE 05 23 00.0 +10
AAM LR LR
comp=Z,2µm,19.0s
NHSC New Hope 104.28 60 PFAKE 05 23 00.0 +10
NHSC LR LR
comp=Z,2µm,19.0s
LSA Lhasa 104.63 296 PFAKE 05 23 00.0 +7.7
LSA LR LR
comp=Z,598nm,22.0s
GTBY Guantanamo Bay 104.76 74 PFAKE 05 23 00.0 +7.6
GTBY LR LR
comp=Z,681nm,21.0s
BLA Blacksburg 105.22 56 PFAKE 05 27 20.0
BLA LR LR
comp=Z,1µm,19.0s
SDV Santo Domingo 105.32 86 PFAKE 05 27 20.0
SDV LR LR
comp=Z,1µm,21.0s
SAML Samuel 105.43 106 PFAKE 05 27 20.0
SAML LR LR
comp=Z,1µm,20.0s
CNNC Cliffs of the 106.68 58 PFAKE 05 27 20.0
CNNC LR LR
comp=Z,2µm,20.0s
ERPA Erie 106.80 51 PFAKE 05 27 20.0
ERPA LR LR
comp=Z,2µm,19.0s
TAPN Taplejung 106.89 293 eP PKiKP 05 27 10.8 -1.3
TAPN Taplejung 106.89 293 eP PKiKP 05 27 10.8 -1.3
ODAN Odare 107.03 293 eP PKiKP 05 27 12.2 -0.1
comp=Z,26nm,0.9s
ODAN Odare 107.03 293 eP PKiKP 05 27 12.2 -0.1
RAMN Ramite 107.73 293 eP PKiKP 05 27 13.1 -0.5
RAMN Ramite 107.73 293 eP PKiKP 05 27 13.1 -0.5
CBN Corbin 107.81 55 PFAKE 05 27 20.0
CBN LR LR
comp=Z,2µm,20.0s
SDDR Presa de Saban 107.92 76 PFAKE 05 27 30.0
SDDR LR LR
comp=Z,1µm,22.0s
JIRN Jiri 108.27 293 eP PKiKP 05 27 13.8 -0.9
comp=Z,7.7nm,0.6s
JIRN Jiri 108.27 293 eP PKiKP 05 27 13.8 -0.9
GUN Gumba 108.60 293 eP PKiKP 05 27 14.4 -0.9
GUN Gumba 108.60 293 eP PKiKP 05 27 14.4 -0.9
GRTK Grand Turk 108.78 74 PFAKE 05 27 30.0
GRTK LR LR
comp=Z,869nm,20.0s
PKI Pulchoki 108.92 293 eP PKiKP 05 27 15.0 -0.9
PKI Pulchoki 108.92 293 eP PKiKP 05 27 15.0 -0.9
PKIN Phulchoki 108.93 293 eP PKiKP 05 27 14.6 -1.3
DGAR Diego Garcia 109.04 254 PFAKE 05 27 30.0
DGAR LR LR
comp=Z,2µm,21.0s
KKN Kakani 109.08 293 eP PKiKP 05 27 15.3 -0.8
KKN Kakani 109.08 293 eP PKiKP 05 27 15.3 -0.8
DMN Daman 109.19 293 eP PKiKP 05 27 15.5 -0.8
DMN Daman 109.19 293 eP PKiKP 05 27 15.5 -0.8
GKN Gorkha 109.69 293 eP PKiKP 05 27 16.1 -1.0
comp=Z,6.8nm,0.4s
BINY Binghamton 109.72 51 PFAKE 05 27 30.0
BINY LR LR
comp=Z,2µm,19.0s
KOLN Koldanda 110.52 293 eP PKiKP 05 27 17.5 -1.3
comp=Z,10nm,0.8s
KOLN Koldanda 110.52 293 eP PKiKP 05 27 17.5 -1.3
DANN Dangsing 110.52 293 eP PKiKP 05 27 17.8 -1.1
comp=Z,17nm,0.8s
DANN Dangsing 110.52 293 eP PKiKP 05 27 17.8 -1.1
WMQ Urumqi 110.66 310 ePKP PKiKP 05 27 21.8 +3.4
WMQ PKS PKSdf 05 30 57.3 +2.4
WMQ SKKS 05 34 53.0
WMQ LR LR
comp=Z,330nm,22.8s
WMQ LR LR
comp=Z,620nm,28.2s
WMQ LR LR
comp=Z,780nm,27.2s
PYUN Piuthan 111.12 293 eP PKiKP 05 27 18.8 -1.1
comp=Z,13nm,0.7s
PYUN Piuthan 111.12 293 eP PKiKP 05 27 18.8 -1.1
LONY Lake Ozonia 111.17 49 PFAKE 05 27 30.0
LONY LR LR
comp=Z,2µm,19.0s
NCB Newcomb 111.32 50 PFAKE 05 27 30.0
NCB LR LR
comp=Z,2µm,19.0s
LBNH Lisbon 112.99 50 PFAKE 05 27 30.0
LBNH LR LR
comp=Z,2µm,20.0s
ZALV Zalesovo Beam 113.83 321 PKiKP PKiKP 05 27 22.9 -1.0
comp=Z,5.3nm,0.6s,baz=108,slow=1.0,SNR=30
ZALV pPKiKP pPKiKP 05 27 32.3 -3.0
comp=Z,4.7nm,0.7s,baz=136,slow=1.0,SNR=9.8
ZALV PKKPbc PKKPbc 05 38 07.7 -0.2
comp=Z,0.5nm,0.5s,baz=262,slow=4.5,SNR=3.7
GRGR Grenville 114.72 86 PFAKE 05 27 40.0 +13
GRGR LR LR
comp=Z,421nm,21.0s
NVS Novosibirsk 114.81 322 ePKiKP PKPdf 05 27 24.2 -1.6
NVS e 05 28 19.5
NVS e 05 34 12.1
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS pmax pmax
comp=E,6.0nm,1.3s
NVS pmax pmax
comp=Z,17nm,1.3s
MK31 Makanchi Array 114.84 313 ePKiKP PKPdf 05 27 25.1 -1.1
MK31 Makanchi Array 114.84 313 ePKPdf PKPdf 05 27 25.1 -1.1
MKAR Makanchi Array 114.84 313 Pdiff Pdif 05 23 38.9 +2.1
comp=Z,0.4nm,0.8s,baz=108,slow=6.9,SNR=4.6
MKAR PKP PKPdf 05 27 25.2 -1.0
comp=Z,4.0nm,0.8s,baz=82,slow=1.6,SNR=24
MKAR pPKiKP pPKiKP 05 27 34.8 -2.8
comp=Z,2.8nm,0.8s,baz=105,slow=1.4,SNR=7.9
MKAR PKKPbc PKKPbc 05 38 03.8 -0.5
comp=Z,1.1nm,0.9s,baz=262,slow=4.5,SNR=6.1
MKAR PKKPab PKKPab 05 38 12.0 +4.1
comp=Z,1.3nm,0.8s,baz=273,slow=4.7,SNR=6.7
MKAR PKKP PKKPdf 05 38 25.8 -2.4
comp=Z,1.5nm,1.0s,baz=321,slow=1.7,SNR=4.7
PKME Peaks-Kenny Pk 114.98 49 PFAKE 05 27 40.0 +14
PKME LR LR
comp=Z,4µm,19.0s
FDF Fort de France 115.97 84 PFAKE 05 27 40.0 +11
FDF LR LR
comp=Z,492nm,20.0s
BBSR BB Station 116.83 64 PFAKE 05 27 40.0 +10
BBSR LR LR
comp=Z,724nm,20.0s
BBGH Gun Hill 116.97 86 PFAKE 05 27 40.0 +8.8
BBGH LR LR
comp=Z,2µm,19.0s
KURK Kurchatov 117.49 317 ePKiKP PKPdf 05 27 29.9 -1.2
KURK e 05 27 40.9
KURK MLR MLR
comp=Z,262nm,22.0s
KURK Kurchatov 117.49 317 ePKPdf PKPdf 05 27 29.9 -1.2
KURK epPKPdf pPKPdf 05 27 40.9 -1.6
KURK LR LR
comp=Z,262nm,22.0s
KSH Kashi 118.78 304 ePKP PKPdf 05 27 34.3 +0.2
KSH esPKP 05 27 49.5
KSH PKS PKSdf 05 31 10.5 -0.4
KSH SKKS 05 35 48.0
KSH SS SS 05 45 15.6 +5.5
KSH AMB AMB
comp=Z,130nm,4.7s
KSH LR LR
comp=Z,120nm,6.0s
KSH LR LR
comp=Z,170nm,5.0s
KSH LR LR
comp=Z,160nm,6.0s
ULHL Ulahol 118.79 307 P PKPdf 05 27 34.1 -0.1
SNR=11
TKM2 Tokmak 2 119.31 308 P PKPdf 05 27 34.5 -0.6
SNR=14
TKM2 Tokmak 2 119.31 308 ePKiKP PKPdf 05 27 34.3 -0.9
TKM2 e 05 27 45.1
TKM2 MLR MLR
comp=Z,407nm,20.0s
TKM2 Tokmak 2 119.31 308 ePKPdf PKPdf 05 27 34.3 -0.9
TKM2 epPKPdf pPKPdf 05 27 45.1 -1.4
TKM2 LR LR
comp=Z,407nm,20.0s
KZA Kyzart 119.52 307 P PKPdf 05 27 36.4 +0.5
SNR=8.3
CHMS Chumysh 119.93 308 P PKPdf 05 27 35.6 -0.5
SNR=5.9
UCH Uchtor 120.07 307 P PKPdf 05 27 37.0 0.0
SNR=14
AAK Ala-Archa 120.10 308 P PKPdf 05 27 36.6 0.0
SNR=5.7
AAK Ala-Archa 120.10 308 PKiKP PKPdf 05 27 35.7 -1.0
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 120.10 308 PKP PKPdf 05 27 35.7 -1.0
comp=Z,3.5nm,0.8s,baz=143,slow=3.3,SNR=14
AAK Ala-Archa 120.10 308 PKP PKPdf 05 27 35.7 -1.0
AAK LR LR
comp=Z,453nm,21.0s
USP Ospenovka 120.12 308 P PKPdf 05 27 35.9 -0.6
SNR=12
EKS2 Erkin-Say 120.63 308 P PKPdf 05 27 37.3 -0.3
SNR=8.3
EKS2 Erkin-Say 120.63 308 ePKiKP PKPdf 05 27 37.3 -0.3
EKS2 e 05 27 48.7
EKS2 MLR MLR
comp=Z,423nm,21.0s
EKS2 Erkin-Say 120.63 308 ePKPdf PKPdf 05 27 37.2 -0.3
EKS2 epPKPdf pPKPdf 05 27 48.7 -0.3
EKS2 LR LR
comp=Z,423nm,21.0s
AML Almayashu 120.68 307 P PKPdf 05 27 37.9 -0.2
SNR=11
SFJD Kangerlussuaq 122.39 23 PFAKE 05 27 50.0 +10
SFJD LR LR
comp=Z,958nm,22.0s
BVAR Borovoye Array 122.46 320 PKiKP PKPdf 05 27 40.0 -0.6
BVAR 05 27 50.8
BVAR pmax pmax
comp=Z,16nm,0.8s
BVAR Borovoye Array 122.46 320 PKP PKPdf 05 27 40.0 -0.6
comp=Z,16nm,0.8s,baz=95,slow=1.8,SNR=66
BVAR pPKP pPKPdf 05 27 50.8 -1.2
comp=Z,17nm,0.9s,baz=112,slow=1.6,SNR=15
KBS Kingsbay 122.51 359 PFAKE 05 27 50.0 +10
KBS LR LR
comp=Z,965nm,20.0s
BRVK Borovoye 122.52 320c iPKiKP PKPdf 05 27 39.6 -1.1
BRVK Borovoye 122.52 320 ePKPdf PKPdf 05 27 40.1 -0.6
BRVK epPKPdf pPKPdf 05 27 51.2 -0.9
BRVK LR LR
comp=Z,661nm,22.0s
KK31 Karatay Array 123.04 308 i PKiKP PKPdf 05 27 41.0 -1.1
KK31 pmax pmax
comp=Z,29nm,1.3s
KKAR Karatay Array 123.04 308 ePKiKP PKPdf 05 27 41.5 -0.6
KKAR e 05 27 52.7
KKAR Karatay Array 123.04 308 ePKPdf PKPdf 05 27 41.5 -0.6
KKAR epPKPdf pPKPdf 05 27 52.7 -0.8
ABPO Ambohimpanom 123.16 228 PFAKE 05 27 50.0 +6.7
ABPO LR LR
comp=Z,621nm,19.0s
SUMG Summit 123.20 15⇓iPKiKP PKPdf 05 27 42.0 0.0
SUMG i 05 27 52.9
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG Summit 123.20 15⇓iP PKPdf 05 27 42.0 0.0
comp=Z,6.1nm,1.0s
SUMG i 05 27 52.9
SUMG Summit 123.20 15 ePKPdf PKPdf 05 27 41.8 -0.2
SUMG epPKPdf pPKPdf 05 27 52.6 -0.8
DAG Danmarks Havn 123.36 7 i PKiKP PKPdf 05 27 40.0 -1.7
DAG i 05 27 50.7
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG MLR MLR
comp=Z,810nm,23.0s
DAG Danmarks Havn 123.36 7 i P PKPdf 05 27 40.0 -1.7
comp=Z,3.3nm,0.9s
DAG i 05 27 50.7
comp=Z,710nm,22.0s
OPO Ambohidratompo123.49 228 PKP PKPdf 05 27 44.6 +0.7
comp=Z,12nm,0.7s,baz=102,slow=1.8,SNR=13
OPO pPKP pPKPdf 05 27 55.3 0.0
comp=Z,14nm,0.8s,baz=138,slow=2.3,SNR=8.5
SUR Sutherland 124.60 195 PKP PKPdf 05 27 45.9 +0.2
comp=Z,16nm,0.8s,baz=109,slow=5.4,SNR=4.6
SUR pPKP pPKPdf 05 27 57.1 -0.1
comp=Z,24nm,0.9s,baz=176,slow=5.3,SNR=4.4
SUR Sutherland 124.60 195 PKP PKPdf 05 27 45.9 +0.2
SUR pPKP pPKPdf 05 27 57.1 -0.1
SUR LR LR
comp=Z,1µm,19.0s
MSEY Mahe Island 125.23 247 PFAKE 05 28 00.0 +13
MSEY LR LR
comp=Z,625nm,19.0s
BOSA Boshof 126.87 201 PKiKP PKPdf 05 27 50.0 -0.1
BOSA 05 28 00.9
BOSA pmax pmax
comp=Z,8.0nm,1.0s

BOSA Boshof 126.87 201 PKP PKPdf 05 27 50.0 -0.1
comp=Z,7.8nm,0.9s,baz=170,slow=1.1,SNR=9.1
BOSA pPKP pPKPdf 05 28 00.9 -0.6
comp=Z,31nm,1.2s,baz=173,slow=2.0,SNR=9.4
SVE Sverdlovsk 127.11 326 ePKIKP PKPdf 05 27 49.2 -0.2
SVE pmax pmax
comp=Z,55nm,1.2s
SOKR Solikamsk 128.00 330 ePKIKP PKPdf 05 27 50.5 -0.4
SOKR pmax pmax
comp=Z,30nm,1.0s
ARU Arti 128.33 326 i PKIKP PKPdf 05 27 51.3 -0.4
ARU 05 29 55.9
ARU 05 34 55.1
ARU SP SP 05 39 52.2 -6.7
ARU SS SS 05 47 07.4 -1.9
ARU MLR MLR
comp=Z,934nm,22.0s
ARU Arti 128.33 326 ePKPdf PKPdf 05 27 51.4 -0.4
ARU epPKPdf pPKPdf 05 28 02.4 -0.7
ARU LR LR
comp=Z,912nm,21.0s
AB31 Akbulak array 129.60 317 i PKIKP PKPdf 05 27 53.7 -0.7
AB31 pmax pmax
comp=Z,23nm,1.4s
ABKAR Akbulak array 129.60 317 ePKPdf PKPdf 05 27 54.8 +0.5
ABKAR epPKPdf pPKPdf 05 28 04.3 -1.5
LBTB Lobatse 130.05 203 PKIKP PKPdf 05 27 57.4 +1.2
LBTB 05 28 08.2
LBTB pmax pmax
comp=Z,2.0nm,0.6s
LBTB Lobatse 130.05 203 PKP PKPdf 05 27 57.4 +1.2
comp=Z,1.9nm,0.6s,baz=165,slow=3.8,SNR=5.7
LBTB pPKP pPKPdf 05 28 08.2 +0.6
comp=Z,4.5nm,0.9s,baz=194,slow=4.8,SNR=3.7
KEV Kevo 130.20 351 ePKIKP PKPdf 05 27 52.5 -2.4
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 130.20 351 ep PKPdf 05 27 52.5 -2.4
comp=Z,7.2nm,0.7s
KEV Kevo 130.20 351 PFAKE 05 28 10.0 +15
KEV LR LR
comp=Z,720nm,19.0s
LVZ Lovozero 130.40 346 i PKIKP PKPdf 05 27 53.4 -2.0
LVZ Lovozero 130.40 346 PFAKE 05 28 10.0 +15
LVZ LR LR
comp=Z,532nm,20.0s
RCBR Riachuelo 130.49 119 PFAKE 05 28 10.0 +13
RCBR LR LR
comp=Z,1μm,21.0s
AKTO Aktyubinsk 130.51 319 PKIKP PKPdf 05 27 56.6 +0.5
AKTO 05 28 06.8
AKTO pmax pmax
comp=Z,6.0nm,0.8s
AKTO Aktyubinsk 130.51 319 PKP PKPdf 05 27 56.6 +0.5
comp=Z,5.7nm,0.8s,baz=83,slow=3.4,SNR=25
AKTO pPKP pPKPdf 05 28 06.8 -0.6
comp=Z,6.4nm,0.9s,baz=109,slow=3.4,SNR=9.7
ARCES ARCESS Array B 130.62 351 PKIKP PKPdf 05 27 55.5 -0.3
ARCES 05 28 06.3
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ARCES ARCESS Array B 130.62 351 PKP PKPdf 05 27 55.5 -0.3
comp=Z,9.9nm,0.8s,baz=357,slow=1.2,SNR=32
ARCES pPKP pPKPdf 05 28 06.3 -0.8
comp=Z,7.9nm,0.6s,baz=45,slow=1.9,SNR=7.2
APA Apatity 130.94 347⇓i PKIKP PKPdf 05 27 57.0 +0.6
APA i 05 35 00.0
APA i PPS PPS 05 41 54.0
IMYA Miami 131.25 300 eP PKPdf 05 27 58.7 +0.6
PRGR Permogore 131.66 336 ePKIKP PKPdf 05 27 53.8 -4.1
PRGR pmax pmax
comp=Z,14nm,0.9s
ISRO Mashad 131.76 300 ePn PKPdf 05 27 57.4 -1.6
KLMR Klimovskoe 134.40 338 ePKIKP PKPdf 05 28 01.6 -1.5
KLMR pmax pmax
comp=Z,48nm,1.2s
JOF Joensuu 135.30 344 ePKIKP PKPdf 05 28 04.1 -0.6
JOF pmax pmax
comp=Z,12nm,0.7s
JOF Joensuu 135.30 344 ep PKPdf 05 28 04.1 -0.6
comp=Z,12nm,0.7s
IKIA Kiasar 136.43 300 eP PKPdf 05 28 05.7 -2.3
KAF Kangasniemi 137.19 346 ePKHKP PKPpre 05 28 01.0
KAF pmax pmax
comp=Z,7.0nm,0.6s
KAF Kangasniemi 137.19 346 ep PKPpre 05 28 01.0
comp=Z,7.1nm,0.6s
LSZ Lusaka 137.56 212 PKIKP PKPdf 05 28 10.8 +0.3
LSZ 05 28 21.5
LSZ pmax pmax
comp=Z,4.0nm,0.6s
LSZ Lusaka 137.56 212 PKP PKPdf 05 28 10.8 +0.3
comp=Z,4.2nm,0.6s,baz=35,slow=5.1,SNR=11
LSZ pPKP pPKPdf 05 28 21.5 -0.4
comp=Z,7.5nm,0.8s,baz=9.8,slow=3.6,SNR=8.8
LSZ Lusaka 137.56 212 PKP PKPdf 05 28 10.8 +0.3
LSZ pPKP pPKPdf 05 28 21.5 -0.4
LSZ LR LR
comp=Z,694nm,21.0s
FINES FINESS Array B 137.84 346 i PKHKP PKPpre 05 27 58.1
FINES 05 28 08.9
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 137.84 346 PKhKP PKPpre 05 27 58.1
comp=Z,2.1nm,0.8s,baz=203,slow=1.5,SNR=6.5
FINES PKP PKPdf 05 28 08.9 -0.5
comp=Z,4.8nm,0.8s,baz=82,slow=4.0,SNR=8.4
TSUM Tsumeb 138.01 196 PKP PKPdf 05 28 11.6 +0.3
comp=Z,4.2nm,0.6s,baz=109,slow=3.0,SNR=8.0
TSUM Tsumeb 138.01 196 PKP PKPdf 05 28 11.6 +0.3
TSUM ePKPdf PKiKP 05 28 12.6 -0.7
TSUM epPKPdf pPKPdf 05 28 22.5 -0.2
TSUM LR LR
comp=Z,1μm,20.0s
MOS Moscow 138.67 334 ePKIKP PKPdf 05 28 07.9 -3.2
MOS e 05 28 21.7
IGZV Ghazvin 139.18 301 eP PKPdf 05 28 12.2 -0.9
OBN Obninsk 139.54 333⇓i PKIKP PKPdf 05 28 12.2 -0.5
OBN e 05 28 23.4
OBN e 05 31 10.1
OBN eSS SS 05 49 19.5 -4.4
OBN pmax pmax
comp=Z,58nm,1.3s
OBN Obninsk 139.54 333 PKP PKPdf 05 28 12.3 -0.4
comp=Z,5.1nm,0.4s,baz=16,slow=4.3,SNR=8.8
OBN Obninsk 139.54 333 PKP PKPdf 05 28 12.3 -0.4
OBN ePKPdf PKiKP 05 28 13.7 -1.3
OBN epPKPdf pPKPdf 05 28 23.9 -0.2
OBN LR LR
comp=Z,541nm,20.0s
MAK Makhachkala 139.65 312 ePKIKP PKPdf 05 28 12.3 -1.0
MAK e 05 31 10.6
MAK e 05 35 16.7
MAK pmax pmax
comp=Z,71nm,4.8s
MAK MLR MLR
comp=Z,824nm,19.0s
VRHR Novokhopersk 139.67 326 ePKIKP PKPdf 05 28 10.6 -2.5
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR MLR MLR
comp=N,300nm,22.0s
VRHR MLR MLR
comp=E,190nm,22.0s
VRHR MLR MLR
comp=Z,890nm,22.0s
VSU Vasula 140.28 343 i PKIKP PKPdf 05 28 14.4 +0.4
NB2 NORSAR Subarra 140.40 356 PKP PKPpre 05 28 05.6
comp=Z,9.6nm,1.4s,baz=16,slow=3.2
NOA NORSAR Array B 140.40 356 i PKHKP PKPpre 05 28 06.7
NOA 05 28 15.3
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA pmax pmax
comp=Z,4.0nm,1.0s
NOA NORSAR Array B 140.40 356 PKhKP PKPpre 05 28 06.7
comp=Z,2.8nm,0.8s,baz=9.4,slow=2.4,SNR=8.9
NOA PKP PKPdf 05 28 15.3 +1.1
comp=Z,3.6nm,1.0s,baz=13,slow=4.4,SNR=5.6
VSR Storozhevoye 140.87 327 ePKIKP PKPdf 05 28 13.3 -2.0
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.2s
VSR pmax pmax
comp=Z,30nm,1.2s
VSR MLR MLR
comp=N,580nm,23.0s
VSR MLR MLR
comp=E,640nm,23.0s
VSR MLR MLR
comp=Z,1μm,23.0s
SHEL Horse Pasture 140.89 161 PFAKE 05 28 30.0 +14
SHEL LR LR
comp=Z,805nm,20.0s
VORD Divnogorie 140.95 327 ePKIKP PKPdf 05 28 12.7 -2.7
DGRG David-gareji 141.64 310 P PKPdf 05 28 24.8 +7.7
GOF Gofitskoye 141.84 317 ePKIKP PKPdf 05 28 21.0 +3.7
GOF pmax pmax
comp=Z,30nm,1.2s
KONO Kongsberg 141.87 357 PFAKE 05 28 30.0 +13
KONO LR LR
comp=Z,814nm,20.0s
TBLG Delisi 141.99 311 P PKPdf 05 28 17.4 -0.3
ZEI Tsey 142.19 313 i PKIKP PKPdf 05 28 17.8 -0.4
ZEI pmax pmax
comp=Z,33nm,1.9s
KMBO Kilima Mbogo 142.28 237 PKhKP PKPpre 05 28 16.5
comp=Z,6.5nm,0.9s,baz=60,slow=3.5,SNR=15
KMBO Kilima Mbogo 142.28 237 PKPpre PKPpre 05 28 16.5
KMBO LR LR
comp=Z,518nm,19.0s
KBZ Khabaz 142.50 315 i PKIKP PKPpre 05 28 14.6
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 142.50 315 PKhKP PKPpre 05 28 14.6
comp=Z,5.4nm,1.0s,baz=210,slow=6.5,SNR=4.8
GNI Garni 142.50 308 i PKIKP PKPdf 05 28 16.1 -2.7
GNI Garni 142.50 308 PFAKE 05 28 30.0 +11
GNI LR LR
comp=Z,415nm,22.0s
KIV Kislovodsk 142.54 315 ePKIKP PKPdf 05 28 14.7 -4.0
KIV e*PP PP 05 31 26.5 0.0
KIV eSS SS 05 49 48.7 -12
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV Kislovodsk 142.54 315 PFAKE 05 28 30.0 +11
KIV LR LR
comp=Z,507nm,20.0s
ONI Oni 142.57 313 P PKPdf 05 28 22.2 +3.5
MICGM Minsk 143.28 339 e PKPab 05 28 15.0 -0.3
NACGM Naroch 143.31 340 e PKPab 05 28 14.0 -1.4
CLDR Caldiran 143.42 307 eP PKPdf 05 28 19.2 -1.4
RAYN Ar Rayn 143.80 281 ePKPdf PKPbc 05 28 19.4 +0.3
DAGI Agillar 144.21 311 i P PKPbc 05 28 20.7 +0.8
EATA Eleskirt 144.23 309 i P PKPdf 05 28 21.7 -0.4
DBOC Borcka 144.28 312 i P PKPdf 05 28 21.2 -0.5
GEVA Gevas 144.31 306 i P PKPdf 05 28 21.7 -0.4
ASCN Ascension 144.37 143 ePKPdf PKPbc 05 28 21.8 +0.8
ASCN epPKPdf pPKPdf 05 28 33.1 -1.0
ASCN LR LR
comp=Z,885nm,19.0s
DBAD Bademkaya 144.38 311 i P PKPdf 05 28 21.5 -0.6
HOMI Horasan 144.59 310 i P PKPdf 05 28 22.3 -0.3
SOC Sochi 144.64 316c i PKIKP PKPab 05 28 20.3 -0.6
SOC pmax pmax
comp=Z,78nm,1.1s
ERZM Erzurum 145.03 310 i P PKPdf 05 28 24.6 +1.2
EZM Erzurum 145.03 310 eP PKPdf 05 28 24.3 +0.9
MUD Monsted U'grnd 145.08 357 i PKIKP PKPbc 05 28 21.8 -0.2
MUD i 05 28 32.3
MUD pmax pmax
comp=Z,40nm,1.0s
MUD MLR MLR
comp=Z,2μm,22.0s
MUD Monsted U'grnd 145.08 357 i P PKPbc 05 28 21.8 -0.2
comp=Z,40nm,1.0s
MUD i 05 28 32.3
comp=Z,2μm,21.0s
SUW Suwalki 145.14 343 ePKIKP PKPbc 05 28 21.9 -0.4
SUW e 05 28 32.6
SUW Suwalki 145.14 343 ePKPdf PKPbc 05 28 22.2 -0.1
SUW e 05 28 32.2
SUW e 05 28 43.4
SUW Suwalki 145.14 343 ePKPbc PKPbc 05 28 21.9 -0.4
SUW epPKPdf pPKPdf 05 28 32.6 -1.6
VRTB Varto-Mus 145.22 308 eP PKPdf 05 28 25.1 +1.5
ANN Anapa 145.46 320 i PKHKP PKPpre 05 28 18.8
ANN pmax pmax
comp=Z,380nm,1.8s
BNGL BINGOL 145.52 308 i P PKPab 05 28 26.0 +1.4
ESK Eskdalemuir 145.54 10 ePKP2 PKPdf 05 28 21.9 -1.5
ESK Eskdalemuir 145.54 10 ePKPdf PKPdf 05 28 21.9 -1.5
ESK epPKPdf pPKPdf 05 28 34.3 -0.5
COP Copenhagen 145.61 354⇑i PKIKP PKPbc 05 28 23.6 -0.1
COP i 05 28 33.8
COP pmax pmax
comp=Z,21nm,0.8s
COP MLR MLR
comp=Z,960nm,17.0s
COP Copenhagen 145.61 354⇑i P PKPbc 05 28 23.6 -0.1
comp=Z,21nm,0.8s
COP i 05 28 33.8
comp=Z,960nm,17.0s
BAYT Ayd¯ntepe-Bay 145.72 311 eP PKPab 05 28 26.0 +0.8
SVAN Silvan-Diyarba 145.75 307 eP PKPab 05 28 25.9 +0.6
AKASG Malin Array Be 145.80 334 PKIKP PKPdf 05 28 23.9 -0.1
AKASG 05 28 34.5
AKASG pmax pmax
comp=Z,24nm,0.6s
AKASG pmax pmax
comp=Z,14nm,0.6s
AKASG Malin Array Be 145.80 334 PKPbc PKPdf 05 28 23.9 -0.1
comp=Z,24nm,0.6s,baz=37,slow=4.0,SNR=145
AKASG pPKPbc pPKPbc 05 28 34.5 -1.3
comp=Z,14nm,0.6s,baz=39,slow=4.1,SNR=10
KIEV Kiev 145.81 334 ePKIKP PKPdf 05 28 23.7 -0.3
KIEV e 05 28 34.6
KIEV MLR MLR
comp=Z,574nm,20.0s
KIEV Kiev 145.81 334 ePKPbc PKPdf 05 28 23.7 -0.3
KIEV epPKPdf pPKPdf 05 28 34.6 -0.8
KIEV LR LR
comp=Z,574nm,20.0s
BNGB Bing¶l 145.85 308 eP PKPab 05 28 26.4 +0.7
BSD Bornholm Skovb 145.87 351 i P PKPdf 05 28 23.2 -0.7
comp=Z,32nm,1.0s
BSD i 05 28 33.0
comp=Z,2μm,20.0s
LLD Lille Linde 145.98 354 i PKP2 PKPab 05 28 25.4 0.0
LLD Lille Linde 145.98 354 i P PKPab 05 28 25.4 0.0
LLD i 05 28 35.8
MARD Mardin 146.33 305 i P PKPab 05 28 27.7 +0.2
FURI Furi 146.40 253 eP PKPab 05 28 28.4 -0.3
KELT Kelkit 146.43 311 i P PKPab 05 28 28.4 +0.4
DYBB Diyarbakir 146.60 307 eP PKPab 05 28 28.6 0.0
PTK Pertek 146.82 309 eP PKPab 05 28 29.9 +0.4
DSB Dublin 146.91 14 ePKPbc PKPbc 05 28 27.4 -0.3
DSB epPKPdf pPKPdf 05 28 38.0 +0.8
VAL Valentia 147.07 19 eP PKPab 05 28 36.6 +6.9
SUSE Susehri 147.15 312 i P PKPab 05 28 30.5 -0.2
GKP Gorka Klasztor 147.25 348 ePKIKP PKPab 05 28 25.9 -0.4
GKP Gorka Klasztor 147.25 348 ePKPdf PKPdf 05 28 25.9 -0.4
GKP ePKPab PKPbc 05 28 28.8 +0.2
GKP epPKPdf pPKPdf 05 28 39.3 +1.6
ELZG Elazig 147.26 308 i P PKPab 05 28 31.3 +0.1
KEMA Kemaliye 147.32 310 i P PKPab 05 28 30.9 -0.4
SIM Simferopol' 147.33 322 i PKP2 PKPbc 05 28 30.1 +0.9
SIM e 05 31 55.0
SIM pmax pmax
comp=Z,54nm,0.9s
BSEG Bad Segeberg 147.53 356 ePKPbc PKPbc 05 28 29.7 +0.3
BSEG epPKPbc pPKPbc 05 28 40.3 -0.4
RSDY Resadiye-TOKAT 147.67 313 eP PKPab 05 28 31.7 -0.9
MALT Malatya 147.74 308 eP PKPab 05 28 32.9 -0.1
MALT Malatya 147.74 308 ⇑PKP2 PKPbc 05 28 31.8 +1.1
MALT Malatya 147.74 308⇑i P PKPbc 05 28 31.8 +1.1
BEL Belsk 147.74 343 ePKP2 PKPbc 05 28 30.8 +0.7
BEL Belsk 147.74 343 ePKPdf PKPdf 05 28 28.4 +1.2
BEL ePKPbc PKPbc 05 28 30.7 +0.7
BEL ePKPab PKPab 05 28 32.6 +0.3
BEL epPKPdf pPKPdf 05 28 41.1 +2.5
URFA Urfa 147.76 307 eP PKPab 05 28 32.0 -1.1
SVSK Karacayir 148.10 312 eP PKPab 05 28 33.1 -1.2
ATAB Bozova 148.14 307 i P PKPbc 05 28 33.0 +1.3
DARE Darende-Malaty 148.32 309 eP PKPbc 05 28 33.6 +1.4
HAVZ Havza 148.44 315 i P PKPbc 05 28 33.1 +0.7
LVV L'vov 148.50 338⇑i PKP2 PKPbc 05 28 31.6 -0.5
RUE Ruedersdorf 148.59 351 ePKPbc PKPbc 05 28 32.8 +0.6
GZT Gaziantep 148.73 307 i P PKPdf 05 28 29.7 +0.1
KIS Kishinev 148.74 330 ePKP2 PKPbc 05 28 32.0 -0.8
KIS e 05 32 04.0
KIS MLR MLR
comp=Z,600nm,22.0s
KIS MLR MLR
comp=Z,500nm,24.0s
KIS Kishinev 148.74 330 ePKP PKPbc 05 28 32.0 -0.8
KIS LRM MLR 06 33 50.0
comp=Z,500nm,24.0s
NRDL Niedersach Rie 148.98 355 ePKPbc PKPbc 05 28 33.5 +0.4
NRDL epPKPbc pPKPbc 05 28 43.7 -0.8
NRDL epPKPab pPKPab 05 28 47.7 -0.7
KWP Kalwaria Pacla 149.11 339 ePKP2 PKPab 05 28 36.6 -1.4
KWP Kalwaria Pacla 149.11 339 ePKPdf PKPdf 05 28 29.6 +0.1
KWP ePKPbc PKPbc 05 28 34.0 +0.3
KWP ePKPab PKPab 05 28 36.6 -1.4
KWP epPKPdf pPKPdf 05 28 44.5 +3.5
KWP Kalwaria Pacla 149.11 339 ePKPdf PKPdf 05 28 30.4 +0.9
KWP ePKPbc PKPbc 05 28 34.0 +0.3
KWP ePKPab PKPab 05 28 38.2 +0.2
KWP LR LR
comp=Z,959nm,21.0s
KMRS Kahramanmaras 149.16 308 eP PKPbc 05 28 35.2 +0.9
IBBN Ibbenburen 149.28 358 ePKPdf PKPdf 05 28 30.2 +0.5
IBBN ePKPbc PKPbc 05 28 34.4 +0.4
IBBN epPKPbc pPKPbc 05 28 44.9 -0.5
KUZU Kuzuini 149.30 306 i P PKPbc 05 28 35.1 +0.4
KAMA Osmaniye 149.45 307 i P PKPbc 05 28 36.0 +0.9
OJC Ojcow 149.47 343 ePKP2 PKPbc 05 28 34.6 0.0
OJC Ojcow 149.47 343 ePKPbc PKPbc 05 28 34.6 0.0
OJC epPKPdf pPKPdf 05 28 44.9 +3.4
ANDN Andirin 149.54 308 i P PKPbc 05 28 36.6 +1.3
CORM Corum 149.60 314 eP PKPbc 05 28 36.8 +1.4
CLZ Clausthal 149.60 355 ePKPdf PKPdf 05 28 30.4 +0.1
CLZ ePKPbc PKPbc 05 28 35.3 +0.4
CLZ epPKPbc pPKPbc 05 28 45.8 -0.5
CLZ epPKPab pPKPab 05 28 50.9 -0.3
WTSB Winterswijk 149.64 359 ePKP PKPdf 05 28 31.1 +0.8
comp=Z,390nm,1.7s
KSP Ksiaz 149.74 347 ePKPdf PKPdf 05 28 30.8 +0.3
KSP ePKPbc PKiKP 05 28 35.8 -0.4
KSP epPKPdf pPKPdf 05 28 46.4 +4.5
ILGA Ilgaz 149.75 316 i P PKPbc 05 28 37.4 +1.5
STHS Stebnicka Huta 149.77 340 ePKP PKPdf 05 28 31.4 +0.8
STHS e 05 28 36.0
STHS e 05 28 47.1
CLL Collm 149.84 352⇑ePKIKP PKPdf 05 28 30.0 -0.6
CLL i 05 28 35.5
CLL i 05 28 39.7
CLL i 05 28 45.9
CLL pmax pmax
comp=Z,12nm,1.8s
CLL pmax pmax
comp=Z,54nm,1.7s
CLL Collm 149.84 352 ePKPdf PKPdf 05 28 30.3 -0.3
CLL ePKPbc PKPbc 05 28 35.7 +0.3
CLL epPKPbc pPKPbc 05 28 46.0 -0.8
CLL epPKPab pPKPab 05 28 51.4 -0.7
CLL Collm 149.84 352 ePKPdf PKPdf 05 28 30.0 -0.6
comp=Z,54nm,1.8s
CLL ⇑i PKPbc PKPbc 05 28 35.5 +0.1
comp=Z,236nm,1.7s
CLL ePKPlp 05 28 38.0
comp=Z,500nm,21.1s
CLL i PKPab PKPab 05 28 39.7 -1.2
comp=Z,223nm,2.0s
CLL i pPKPbc pPKPbc 05 28 45.9 -0.8
comp=Z,259nm,1.6s
CLL ePP PP 05 32 06.0 -2.5
CLL e 05 32 50.0
CLL ePSKS 05 42 23.0
CLL ePPS PPS 05 44 54.0
CLL eSS SS 05 51 27.0 +5.8
KOZT Kozan 149.96 308 eP PKPbc 05 28 36.8 +0.6
TLCR 150.04 327 ⇑PKP2 PKPbc 05 28 36.5 +0.4
TLCR 150.04 327⇑i P PKPbc 05 28 36.5 +0.4
NIE Niedzica 150.05 342 ePKP2 PKPbc 05 28 36.9 +0.8
NIE Niedzica 150.05 342 ePKP PKPbc 05 28 36.9 +0.8
CANT Cankiri 150.05 316 eP PKPbc 05 28 37.4 +1.0
TESR Tescani 150.10 331⇑i P PKPbc 05 28 36.2 -0.1
UZH Uzhgorod 150.11 338 ePKP2 PKPbc 05 28 36.0 -0.2
UZH MLR MLR
comp=N,570nm,18.0s
UZH MLR MLR
comp=E,820nm,18.0s
UPC Upice 150.11 348 ePKPDF PKPdf 05 28 31.9 +0.8
UPC ⇑ePKP PKiKP 05 28 36.7 -0.3
UPC epPKP pPKPdf 05 28 47.6 +5.1
UPC ex x 05 28 54.2
BRG Berggiesshubel 150.13 350 ePKP PKPdf 05 28 31.4 +0.3
comp=E,108nm,2.0s
BRG i 05 28 36.3
comp=E,158nm,1.4s
BRG i 05 28 47.0
comp=E,229nm,1.8s
BRG e 05 31 42.0
BRG SS SS 05 51 27.0 +2.5
BRG Berggiesshubel 150.13 350 ePKHKP PKPdf 05 28 31.4 +0.3
BRG SS SS 05 51 27.0 +2.5
BRG pmax pmax
comp=Z,16nm,2.0s
BRG Berggiesshubel 150.13 350 ePKPdf PKPdf 05 28 31.2 +0.1
BRG ePKPbc PKPbc 05 28 36.5 +0.3
BRG epPKPbc pPKPbc 05 28 46.9 -0.6
CRVS Cervenica-Dubn 150.15 340 ePKP PKPdf 05 28 31.6 +0.4
CRVS e 05 28 37.0
BUG Bochum--Univer 150.16 359 ePKPdf PKPdf 05 28 30.9 -0.2
BUG ePKPbc PKPbc 05 28 36.2 0.0
BUG epPKPbc pPKPbc 05 28 46.8 -0.7
DPC Dobruska-Polom 150.19 347 ePKPDF PKPdf 05 28 31.7 +0.4
DPC ⇑ePKP PKiKP 05 28 36.9 -0.3
DPC epPKP pPKPdf 05 28 48.0 +5.3
DPC ex x 05 28 53.5
DPC esPKP 05 28 58.6
DPC AMS AMS 06 36 10.0
OKC Ostrava-Krasne 150.26 344 ePKPDF PKPdf 05 28 31.9 +0.6
OKC ⇑ePKP PKiKP 05 28 36.8 +0.3
OKC epPKP pPKPdf 05 28 47.8 +5.1
OKC ex x 05 28 53.6
OKC AMS AMS 06 32 00.0
comp=Z,900nm,19.3s
CFR Carcaliu 150.38 328 ⇑PKP2 PKPbc 05 28 37.3 +0.4
TRPA Tarpa 150.45 338⇑i P PKPbc 05 28 37.3 +0.3
TRPA Tarpa 150.45 338⇑ePKPdf PKPbc 05 28 37.1 +0.1
MORC Moravsky Berou 150.46 345 ePKIKP PKPdf 05 28 31.8 0.0
MORC e 05 28 37.3
MORC Moravsky Berou 150.46 345⇑i P PKPdf 05 28 32.7 +1.0
MORC Moravsky Berou 150.46 345 ePKPdf PKPdf 05 28 31.8 0.0
MORC ePKPbc PKPbc 05 28 37.3 +0.2
BRTR Keskin Array B 150.48 314 PKPbc PKPbc 05 28 37.5 -0.1
VRI Vrincioaia 150.55 330 ⇑PKIKP PKPbc 05 28 37.4 0.0
VRI Vrincioaia 150.55 330⇑i P PKPbc 05 28 37.4 0.0
PLOR Plostina 150.60 330 ⇓PKIKP PKPbc 05 28 37.7 +0.2
PLOR Plostina 150.60 330⇓i P PKPbc 05 28 37.7 +0.2
KARA Karaisali 150.61 309 eP PKPbc 05 28 37.8 0.0
UBBA Unterbreizbach 150.65 355 ePKPbc PKPbc 05 28 37.2 -0.1
UBBA epPKPbc pPKPbc 05 28 48.0 -0.6
UBBA epPKPab pPKPab 05 28 54.8 -0.5
MOX Moxa 150.67 353 ePKPdf PKPdf 05 28 32.1 +0.1
MOX ePKPbc PKPbc 05 28 37.6 +0.1
MOX epPKPbc pPKPbc 05 28 47.8 -1.0
MOX epPKPab pPKPab 05 28 54.6 -0.9
MOX eL L 06 45 10.1
comp=Z,762nm,19.5s
TIRR Tirgusor 150.75 326 ePKIKP PKPbc 05 28 37.0 -0.8
TIRR Tirgusor 150.75 326⇑i P PKPbc 05 28 38.9 +1.1
TIRR Tirgusor 150.75 326 ePKPbc PKPbc 05 28 37.0 -0.8
TANN Tannenbergstha 150.79 352 ePKPdf PKPdf 05 28 32.2 0.0
TANN ePKPbc PKiKP 05 28 38.3 -0.2
TANN epPKPbc pPKPbc 05 28 48.1 -1.1
TANN epPKPab pPKPab 05 28 55.5 -0.6
GULE Gulek 150.80 309 i P PKPbc 05 28 39.5 +1.0
ASF Jabal al Asfar 150.81 298 PKIKP PKPbc 05 28 39.1 +0.6
ASF 05 28 46.8
ASF pmax pmax

comp=Z,14nm,0.8s
ASF Jabal al Asfar 150.81 298 PKPbc PKPbc 05 28 39.1 +0.6
comp=Z,14nm,0.8s,baz=266,slow=1.5,SNR=3.3
ASF PKPab PKPab 05 28 46.8 +1.0
comp=Z,24nm,0.9s,baz=96,slow=1.5,SNR=11
BEBN Eben Emael 150.81 1 PKPbc PKPbc 05 28 38.0 +0.2
BEBN APKPbc 05 28 48.9
PRA Prague 150.82 349 PKPDF PKPdf 05 28 33.0 +0.8
PRA ⇑PKP PKPbc 05 28 38.0 +0.2
PRA PKPAB PKPab 05 28 48.0 +3.0
HGN Heimansgroeve 150.85 0 ePKP PKPbc 05 28 37.3 -0.6
comp=Z,460nm,2.3s
HGN ePP PP 05 31 41.1 -33
PRU Pruhonice 150.88 349 ePKIKP PKPdf 05 28 32.6 +0.3
PRU i 05 28 38.3
PRU e 05 28 46.4
PRU eSS SS 05 51 35.7 +2.8
PRU MLR MLR
comp=Z,900nm,16.5s
PRU Pruhonice 150.88 349 ePKPDF PKPdf 05 28 32.6 +0.3
PRU ⇑iPKP PKiKP 05 28 38.3 -0.3
PRU ePKPAB PKPab 05 28 46.4 +1.1
PRU epPKP pPKPdf 05 28 57.6 +14
PRU eSS SS 05 51 35.7 +2.8
PRU AMS AMS 06 38 30.0
comp=Z,900nm,16.5s
SACV Santiago Islan 150.90 98 PFAKE 05 28 40.0 +0.9
SACV LR LR
comp=Z,773nm,21.0s
BBAL Bala 150.92 314 iP PKPbc 05 28 38.8 +0.2
BCAM Yenicaga 150.94 317 iP PKPbc 05 28 39.0 +0.4
ANTO Ankara 150.97 315 ePKIKP PKPdf 05 28 32.7 -0.2
ANTO e 05 28 39.1
ANTO e 05 28 47.4
ANTO MLR MLR
comp=Z,446nm,21.0s
ANTO Ankara 150.97 315 ePKPdf PKPdf 05 28 32.7 -0.2
ANTO ePKPbc PKiKP 05 28 39.1 -0.1
ANTO ePKPab PKPab 05 28 47.4 +1.2
ANTO LR LR
comp=Z,446nm,21.0s
LOD Lodumlu 150.98 315 eP PKPbc 05 28 39.3 +0.7
MEM Membach 151.00 0 PKP PKPdf 05 28 32.5 +0.1
MEM PKPbc PKPbc 05 28 38.3 0.0
MEM APKPbc 05 28 48.9
SNF Seneffe 151.06 3 PKPbc PKPbc 05 28 38.5 +0.1
SNF APKPbc 05 28 48.9
DOPR Dopca 151.08 332⇑iP PKPbc 05 28 39.8 +1.2
VRAC Vranov 151.12 346 PKIKP PKPdf 05 28 33.8 +1.1
VRAC 05 28 38.9
VRAC pmax pmax
comp=Z,3.0nm,0.4s
VRAC Vranov 151.12 346⇓iP PKPbc 05 28 39.4 +0.8
VRAC Vranov 151.12 346 PKP PKPdf 05 28 33.8 +1.1
comp=Z,2.7nm,0.4s,baz=85,slow=1.9,SNR=6.5
VRAC PKPbc PKiKP 05 28 38.9 -0.2
comp=Z,7.4nm,0.6s,baz=28,slow=2.3,SNR=17
BCLA Clavier 151.18 1 PKPbc PKPbc 05 28 38.2 -0.4
BCLA APKPab 05 28 55.3
MLR Muntele Rosu 151.20 331 PKIKP PKPdf 05 28 33.1 0.0
MLR 05 28 38.8
MLR 05 28 49.5
MLR pmax pmax
comp=Z,1.0nm,0.9s
MLR Muntele Rosu 151.20 331⇑iP PKPbc 05 28 38.9 -0.1
MLR Muntele Rosu 151.20 331 PKP PKPdf 05 28 33.1 0.0
comp=Z,0.9nm,0.9s,baz=162,slow=4.2,SNR=6.4
MLR PKPbc PKPbc 05 28 38.8 -0.3
comp=Z,9.0nm,1.1s,baz=316,slow=2.2,SNR=20
MLR pPKPbc pPKPbc 05 28 49.5 -0.9
comp=Z,15nm,1.0s,baz=102,slow=1.9,SNR=15
ISR Istrita 151.20 329 ⇓PKIKP PKPbc 05 28 39.6 +0.6
ISR Istrita 151.20 329⇓iP PKPbc 05 28 39.6 +0.6
CJR Cluj-Napoca 151.23 335 ⇑PKIKP PKPbc 05 28 40.1 +1.1
VYHS Vyhne 151.30 342 ePKIKP PKPdf 05 28 32.9 -0.1
VYHS e 05 28 38.9
VYHS e 05 28 48.5
VYHS Vyhne 151.30 342 ePKP PKPdf 05 28 32.9 -0.1
VYHS e 05 28 38.9
VYHS e 05 28 48.5
TNS Taunus Mts 151.34 357 ePKPbc PKPbc 05 28 39.2 +0.1
TNS epPKPab pPKPab 05 28 57.8 -0.6
TREC Trest 151.37 347 ePKIKP PKPdf 05 28 32.7 -0.4
TREC e 05 28 39.4
TREC e 05 28 49.4
TREC MLR MLR
comp=Z,1μm,19.2s
TREC Trest 151.37 347 ePKPDF PKPdf 05 28 32.7 -0.4
TREC ⇑ePKP PKPbc 05 28 39.4 +0.2
TREC ePKPAB PKPab 05 28 49.4 +2.1
TREC epPKP pPKPdf 05 28 55.8 +11
TREC AMS AMS 06 45 10.0
comp=Z,1μm,19.2s
PSN Preselentsi 151.41 326 ⇓PKIKP PKPbc 05 28 40.3 +0.9
PSN Preselentsi 151.41 326⇓iP PKPbc 05 28 40.3 +0.9
ROTZ Rotzenmuhle 151.46 352 ePKPdf PKPdf 05 28 33.3 +0.1
ROTZ ePKPbc PKiKP 05 28 39.6 -0.2
ROTZ epPKPbc pPKPbc 05 28 49.3 -1.4
ROTZ epPKPab pPKPab 05 28 58.6 -0.2
DOU Dourbes 151.49 2 PKPbc PKPbc 05 28 39.3 -0.1
DOU APKPbc 05 28 50.5
GIVF Givet 151.49 2 ePKIKP PKPdf 05 28 33.1 -0.1
comp=Z,251nm,1.9s
GIVF Givet 151.49 2 ePKIKP PKPdf 05 28 33.1 -0.1
GIVF Givet 151.49 2 ePKPdf PKPdf 05 28 33.1 -0.1
BAIF Baives 151.51 3 ePKIKP PKPdf 05 28 33.3 +0.1
comp=Z,131nm,1.7s
BAIF Baives 151.51 3 ePKIKP PKPdf 05 28 33.3 +0.1
BAIF Baives 151.51 3 ePKPdf PKPdf 05 28 33.3 +0.1
PSZ Piszkesteto 151.51 341 ePKIKP PKPdf 05 28 33.8 +0.3
PSZ e 05 28 40.1
PSZ e 05 28 48.9
PSZ MLR MLR
comp=Z,880nm,20.0s
PSZ Piszkesteto 151.51 341⇓iP PKPbc 05 28 40.0 +0.4
PSZ Piszkesteto 151.51 341 ePKPdf PKPdf 05 28 33.8 +0.3
PSZ ePKPbc PKiKP 05 28 40.1 0.0
PSZ ePKPab PKPab 05 28 48.9 +0.8
PSZ LR LR
comp=Z,880nm,20.0s
PSZ Piszkesteto 151.51 341⇑ePKPdf PKPbc 05 28 39.6 0.0
DRGR 151.51 336 ⇓PKIKP PKPbc 05 28 40.0 +0.3
DRGR 151.51 336⇓iP PKPbc 05 28 40.0 +0.3
VOIR 151.64 332 ⇑PKIKP PKPbc 05 28 40.6 +0.6
VOIR 151.64 332⇑iP PKPbc 05 28 40.6 +0.6
GRF Grafenberg Arr 151.65 353 ePKPbc PKPbc 05 28 40.1 +0.3
GRF epPKPab pPKPab 05 28 59.3 -0.3
GRF eL L 06 36 52.9
comp=Z,952nm,22.0s
GRFO Grafenberg 151.65 353 ePKIKP PKPbc 05 28 40.4 +0.6
GRFO Grafenberg 151.65 353 ePKPbc PKPbc 05 28 40.4 +0.6
SMOL Smolenice 151.66 344 ePKIKP PKPbc 05 28 40.6 +0.8
SMOL e 05 28 50.1
SMOL Smolenice 151.66 344 ePKP PKPbc 05 28 40.6 +0.8
SMOL e 05 28 50.1
SULR 151.66 329⇓iP PKPbc 05 28 41.2 +1.3
BTAS Taskesti 151.74 318 iP PKPbc 05 28 40.2 -0.2
MMAI Mount Meron Ar 151.81 300 PKPbc PKPbc 05 28 41.0 +0.2
comp=Z,25nm,0.9s,baz=64,slow=7.5,SNR=8.0
MMAI pPKPbc pPKPbc 05 28 51.1 -1.0
comp=Z,11nm,0.5s,baz=53,slow=5.6,SNR=6.2
KHC Kasperske Hory 151.88 350 ePKIKP PKPdf 05 28 33.7 -0.2
KHC e 05 28 40.8
KHC MLR MLR
comp=Z,1μm,18.7s
KHC Kasperske Hory 151.88 350 ePKPDF PKPdf 05 28 33.7 -0.2
KHC ⇑ePKP PKiKP 05 28 40.8 +0.1
KHC ePKPAB PKPab 05 28 51.7 +2.2
KHC epPKP pPKPdf 05 28 57.4 +12
KHC esPKP 05 29 06.2
KHC AMS AMS 06 38 30.0
comp=Z,1μm,18.7s
KHC Kasperske Hory 151.88 350 ePKPdf PKPdf 05 28 33.5 -0.4
KHC ePKPbc PKiKP 05 28 40.6 -0.1
ARR Arges 151.88 332⇓iP PKPbc 05 28 42.8 +2.3
WLF Walferdange 151.95 0 PKPbc PKPbc 05 28 41.1 +0.6
WLF APKPbc 05 28 51.8
WLF Walferdange 151.95 0 ePKIKP PKPbc 05 28 41.4 +0.9
WLF MLR MLR
comp=Z,1μm,19.0s
WLF Walferdange 151.95 0 ePKPbc PKPbc 05 28 41.1 +0.6
WLF epPKPbc pPKPbc 05 28 51.5 -0.3
WLF epPKPab pPKPab 05 29 01.2 +0.4
WLF Walferdange 151.95 0 ePKPbc PKPbc 05 28 41.4 +0.9
WLF LR LR
comp=Z,1μm,19.0s
WET Wettzell 151.97 351 ePKPdf PKPdf 05 28 34.1 0.0
WET ePKPbc PKPbc 05 28 40.7 +0.1
WET epPKPbc pPKPbc 05 28 51.4 -0.5
KIZT Kizilcal 152.09 314 eP PKPbc 05 28 41.7 +0.4
KDHN Kadinhani 152.11 313 iP PKPbc 05 28 40.8 -0.6
GEC2 GERESS Array S 152.13 349 ePKPdf PKPdf 05 28 34.0 -0.4
GEC2 ePKPbc PKPbc 05 28 41.1 +0.1
GEC2 epPKPbc PKPab 05 28 51.0 +0.4
GERES GERESS Array B 152.13 349 PKP PKPdf 05 28 34.5 +0.1
comp=Z,1.6nm,1.0s,baz=5.7,slow=1.3,SNR=9.2
GERES PKPbc PKPbc 05 28 40.9 -0.1
comp=Z,7.0nm,0.7s,baz=29,slow=1.5,SNR=45
GERES pPKPbc pPKPbc 05 28 51.9 -0.5
comp=Z,21nm,1.0s,baz=42,slow=2.2,SNR=21
PRD Provadia 152.15 326 ⇑PKIKP PKPbc 05 28 42.0 +0.9
LOT Lotru 152.19 333⇓iP PKPbc 05 28 41.0 -0.3
ROSF Rostrenen 152.20 14 ePKIKP PKPdf 05 28 33.4 -1.0
comp=Z,92nm,1.4s
ROSF Rostrenen 152.20 14 ePKIKP PKPdf 05 28 33.4 -1.0
ROSF Rostrenen 152.20 14 ePKPdf PKPdf 05 28 33.4 -1.0
FLN La Foliniere 152.32 10 ePKIKP PKPdf 05 28 34.1 -0.4
comp=Z,274nm,1.7s
FLN eR
comp=Z,811nm,20.0s
FLN La Foliniere 152.32 10 ePKIKP PKPdf 05 28 34.1 -0.4
FLN La Foliniere 152.32 10 ePKPdf PKPdf 05 28 34.1 -0.4
AYK Aydincik 152.33 308 iP PKPdf 05 28 32.8 -2.1
ERMK Ermenek 152.42 309 iP PKPbc 05 28 43.2 +0.9
SEYT Eskypehyr 152.43 316 iP PKPbc 05 28 41.7 -0.4
SGMF Saint Gilles 152.43 13 ePKIKP PKPdf 05 28 33.8 -0.9
SGMF Saint Gilles 152.43 13 ePKIKP PKPdf 05 28 33.8 -0.9
SGMF Saint Gilles 152.43 13 ePKPdf PKPdf 05 28 33.8 -0.9
BORA Eskisehir 152.48 317 iP PKPbc 05 28 42.2 +0.1
LDF La Druitiere 152.54 9 ePKIKP PKPdf 05 28 34.3 -0.6
comp=Z,183nm,1.6s
LDF La Druitiere 152.54 9 ePKIKP PKPdf 05 28 34.3 -0.6
LDF La Druitiere 152.54 9 ePKPdf PKPdf 05 28 34.3 -0.6
CONA Conrad Observa 152.58 346 iPKPdf PKPdf 05 28 35.4 +0.4
comp=Z,21nm,1.4s,SNR=7.5
CONA ⇑ipPKiKP pPKiKP 05 28 53.2 -0.5
comp=Z,100nm,1.2s
LANF Langenberg 152.61 358 PKP PKPbc 05 28 42.1 +0.1
QUIF Quistinic 152.62 14 ePKIKP PKPdf 05 28 34.6 -0.4
QUIF Quistinic 152.62 14 ePKIKP PKPdf 05 28 34.6 -0.4
QUIF Quistinic 152.62 14 ePKPdf PKPdf 05 28 34.6 -0.4
GRR Gorron 152.62 10 ePKIKP PKPdf 05 28 34.4 -0.6
GRR Gorron 152.62 10 ePKIKP PKPdf 05 28 34.4 -0.6
GRR Gorron 152.62 10 ePKPdf PKPdf 05 28 34.4 -0.6
GZR Gura Zlata 152.64 334 ⇓PKIKP PKPbc 05 28 42.3 +0.1
GZR Gura Zlata 152.64 334⇓iP PKPbc 05 28 42.3 +0.1
SOP Sopron 152.65 345⇑e PKPbc 05 28 42.3 +0.2
STU Stuttgart 152.75 356 ePKPbc PKPbc 05 28 42.3 0.0
STU epPKPbc PKPab 05 28 52.7 -0.4
STU epPKPab pPKPab 05 29 03.7 -0.5
CSS Prodhromos 152.79 305 ePKPdf PKPdf 05 28 35.8 +0.1
CSS ePKPbc PKiKP 05 28 43.6 +0.5
CSS ePKPab PKPab 05 28 52.6 -1.2
CSS LR LR
comp=Z,208nm,20.0s
EIL Elat 152.97 293 PKPbc PKPbc 05 28 43.8 +0.4
comp=Z,17nm,0.8s,baz=355,slow=4.4,SNR=10
EIL PKPbc PKPab 05 28 53.3 -1.5
comp=Z,21nm,0.8s,baz=0.0,slow=6.7,SNR=7.6
PAGF Fort de Pagny 153.06 1 ePKIKP PKPdf 05 28 35.4 -0.2
comp=Z,20nm,1.2s
PAGF Fort de Pagny 153.06 1 ePKPdf PKPdf 05 28 35.4 -0.2
JMB Yambol 153.09 325 ⇑PKIKP PKPbc 05 28 43.3 +0.1
JMB Yambol 153.09 325⇑iP PKPbc 05 28 43.3 +0.1
MEZF Maizieres J'vi 153.10 2 ePKIKP PKPdf 05 28 35.6 -0.1
comp=Z,274nm,1.8s
MEZF Maizieres J'vi 153.10 2 ePKPdf PKPdf 05 28 35.6 -0.1
ULDT Uludag 153.15 319 iP PKPbc 05 28 44.1 +0.4
FUR Furstenfeldbru 153.15 353 ePKPbc PKPbc 05 28 43.4 +0.2
FUR epPKPbc pPKPbc 05 28 53.3 -1.3
FUR epPKPab pPKPab 05 29 05.1 -0.9
CDF Champ du Feu 153.19 359 ePKIKP PKPdf 05 28 35.4 -0.5
CDF Champ du Feu 153.19 359 ePKIKP PKPdf 05 28 35.4 -0.5
CDF Champ du Feu 153.19 359 ePKPdf PKPdf 05 28 35.4 -0.5
BFO Black Forest 153.24 357 ePKIKP PKPbc 05 28 43.0 -0.4
BFO e 05 28 54.3
BFO MLR MLR
comp=Z,893nm,21.0s
BFO Black Forest 153.24 357 ePKPbc PKPbc 05 28 43.5 +0.1
BFO epPKPbc pPKPbc 05 28 54.2 -0.5
BFO epPKPab pPKPab 05 29 05.6 -0.7
BFO Black Forest 153.24 357 ePKPbc PKPbc 05 28 43.0 -0.4
BFO ePKPab pPKPbc 05 28 54.3 -0.5
BFO LR LR
comp=Z,893nm,21.0s
RJOB Jochberg 153.36 350 ePKPbc PKPbc 05 28 43.5 -0.2
RJOB epPKPbc pPKPbc 05 28 54.1 -1.0
RJOB epPKPab pPKPab 05 29 06.4 -0.5
THEF They Montfort 153.39 0 PKP PKPbc 05 28 42.6 -1.1
ECH Echery 153.39 359 ePKIKP PKPbc 05 28 43.7 -0.1
ECH e 05 28 55.4
ECH MLR MLR
comp=Z,785nm,20.0s
ECH Echery 153.39 359 PKP PKPbc 05 28 43.3 -0.5
ECH Echery 153.39 359 ePKPbc PKPbc 05 28 43.7 -0.1
ECH ePKPab PKPab 05 28 55.4 -0.4
ECH LR LR
comp=Z,785nm,20.0s
SFTF Sexfontaines 153.39 2 ePKIKP PKPdf 05 28 35.9 -0.2
comp=Z,74nm,1.3s
SFTF Sexfontaines 153.39 2 ePKPdf PKPdf 05 28 35.9 -0.2
PKSM Moragy 153.42 341 ⇓PKIKP PKPbc 05 28 43.8 0.0
PKSM Moragy 153.42 341⇓iP PKPbc 05 28 43.8 0.0
PKSM Moragy 153.42 341⇑ePKPdf PKPdf 05 28 35.6 -0.6
ISP Isparta 153.54 313 ePKIKP PKPbc 05 28 43.7 -0.8
ISP e 05 28 54.2
ISP MLR MLR
comp=Z,599nm,20.0s
ISP Isparta 153.54 313 ePKPbc PKPbc 05 28 43.7 -0.8
ISP ePKPab PKPab 05 28 54.2 -2.8
ISP LR LR
comp=Z,599nm,20.0s
GDZ Gediz 153.55 317 iP PKPbc 05 28 43.8 -0.7
HAU Haudompre 153.61 360 ePKIKP PKPdf 05 28 36.1 -0.4
comp=Z,94nm,1.7s
HAU eR
comp=Z,741nm,23.0s
HAU Haudompre 153.61 360 ePKIKP PKPdf 05 28 36.1 -0.4
HAU Haudompre 153.61 360 ePKPdf PKPdf 05 28 36.1 -0.4
MOF Molkenrain 153.76 359 PKP PKPbc 05 28 44.3 -0.3
HINF Hinteralfeld 153.80 359 ePKIKP PKPdf 05 28 36.5 -0.3
comp=Z,49nm,1.4s
HINF Hinteralfeld 153.80 359 ePKIKP PKPdf 05 28 36.5 -0.3
HINF Hinteralfeld 153.80 359 ePKPdf PKPdf 05 28 36.5 -0.3
KHAL Karahalli 153.94 315 iP PKPbc 05 28 45.4 +0.1
SOKA Soboth 153.95 346 iPKPdf PKPdf 05 28 36.5 -0.6
comp=Z,41nm,1.4s,SNR=5.6
PERS Pernice 153.97 346 iPKPdf PKPbc 05 28 44.4 -0.7
PERS iPKPbc PKPab 05 28 55.6 -2.7
WTTA Wattenberg 153.99 352⇑iPKPbc PKPbc 05 28 43.7 -1.6
comp=Z,66nm,1.7s
DAVA Damuels 154.17 354⇑ipPKPdf PKPbc 05 28 46.5 +0.9
comp=Z,45nm,1.6s
HYF Humbligny 154.18 6 ePKIKP PKPdf 05 28 37.5 +0.2
HYF Humbligny 154.18 6 ePKPdf PKPdf 05 28 37.5 +0.2
LOMF Lomont 154.26 359 PKP PKPbc 05 28 43.8 -1.9
LOR Lormes 154.27 4 ePKIKP PKPdf 05 28 37.4 0.0
comp=Z,96nm,1.8s
LOR eR
comp=Z,1μm,21.0s
LOR Lormes 154.27 4 ePKIKP PKPdf 05 28 37.4 0.0
LOR Lormes 154.27 4 ePKPdf PKPdf 05 28 37.4 0.0
KDZ Kurdzhali 154.29 326 ⇓PKIKP PKPbc 05 28 46.1 +0.2
KDZ Kurdzhali 154.29 326⇓iP PKPbc 05 28 46.1 +0.2
BALY Balya 154.32 320 iP PKPbc 05 28 46.1 +0.1
FETA Feichten 154.34 353⇑iPKiKP PKiKP 05 28 46.3 +0.2
comp=Z,49nm,1.9s
ABTA Abfaltersbach 154.37 350⇑iPKPdf PKPdf 05 28 32.0 -5.7
comp=Z,24nm,2.2s
ABTA ⇑iPKPbc PKPbc 05 28 45.5 -0.5
comp=Z,39nm,1.2s
SSF Saint Saulge 154.46 4 ePKIKP PKPdf 05 28 37.4 -0.3
comp=Z,70nm,1.6s
SSF Saint Saulge 154.46 4 ePKIKP PKPdf 05 28 37.4 -0.3
SSF Saint Saulge 154.46 4 ePKPdf PKPdf 05 28 37.4 -0.3
MFF Saint Martin d 154.47 10 ePKIKP PKPdf 05 28 37.6 -0.1
comp=Z,185nm,1.6s
MFF Saint Martin d 154.47 10 ePKIKP PKPdf 05 28 37.6 -0.1
MFF Saint Martin d 154.47 10 ePKPdf PKPdf 05 28 37.6 -0.1
MANT Manisa 154.48 316 iP PKPbc 05 28 47.0 +0.3
DAVOX Davos/Dischmat 154.67 354 PKIKP PKPdf 05 28 38.4 +0.2
DAVOX 05 28 46.2
DAVOX 05 28 57.7
DAVOX pmax pmax
comp=Z,3.0nm,0.7s
DAVOX pmax pmax
comp=Z,12nm,0.8s
DAVOX Davos/Dischmat 154.67 354 PKP PKPdf 05 28 38.4 +0.2
comp=Z,3.3nm,0.7s,baz=202,slow=3.4,SNR=4.3
DAVOX PKPbc PKPbc 05 28 46.2 -0.6
comp=Z,8.7nm,0.9s,baz=232,slow=3.7,SNR=10
DAVOX pPKPbc pPKPbc 05 28 57.7 -0.4
comp=Z,12nm,0.8s,baz=355,slow=10.0,SNR=8.3
AVF Avril sur Loir 154.71 5 ePKIKP PKPdf 05 28 37.8 -0.2
comp=Z,52nm,1.6s
AVF Avril sur Loir 154.71 5 ePKIKP PKPdf 05 28 37.8 -0.2
AVF Avril sur Loir 154.71 5 ePKPdf PKPdf 05 28 37.8 -0.2
AKHS Akhisar 154.72 318 iP PKPbc 05 28 49.3 +2.4
VISS Visnje 154.82 346 iPKPdf PKPdf 05 28 38.0 -0.2
VISS iPKPbc PKiKP 05 28 48.7 +1.8
SMF Signal de Mont 154.89 4 ePKIKP PKPdf 05 28 37.8 -0.5
SMF Signal de Mont 154.89 4 ePKIKP PKPdf 05 28 37.8 -0.5
SMF Signal de Mont 154.89 4 ePKPdf PKPdf 05 28 37.8 -0.5
BGF Bois d'Agland 154.90 6 ePKIKP PKPdf 05 28 38.4 +0.1
comp=Z,142nm,1.8s
BGF Bois d'Agland 154.90 6 ePKIKP PKPdf 05 28 38.4 +0.1
BGF Bois d'Agland 154.90 6 ePKPdf PKPdf 05 28 38.4 +0.1
JAVS Javornik 154.90 347 ePKPdf PKPdf 05 28 38.3 -0.1
JAVS ePKPbc PKiKP 05 28 48.8 +1.6
AKAS Kas 154.98 311 iP PKPab 05 29 02.4 -0.8
CABF La Chapelle 155.00 0 ePKIKP PKPdf 05 28 37.4 -1.2
comp=Z,296nm,1.9s
CABF La Chapelle 155.00 0 ePKIKP PKPdf 05 28 37.4 -1.2
CABF La Chapelle 155.00 0 ePKPdf PKPdf 05 28 37.4 -1.2
BOJS Bojanci 155.01 345 iPKPdf PKPdf 05 28 38.3 -0.2
BOJS iPKPbc PKPbc 05 28 47.5
TUE Stuetta 155.02 355 ePKPdf PKPdf 05 28 38.5 -0.3
TUE ePKPab PKPab 05 29 04.4 +1.4
TUE LR LR
comp=Z,1μm,20.0s
TCF Toulx Ste Croi 155.11 7 ePKIKP PKPdf 05 28 38.3 -0.3
comp=Z,133nm,1.9s
TCF Toulx Ste Croi 155.11 7 ePKIKP PKPdf 05 28 38.3 -0.3
TCF Toulx Ste Croi 155.11 7 ePKPdf PKPdf 05 28 38.3 -0.3
AYDN Tasoluk 155.39 315 iP PKPbc 05 28 43.2 +3.9
PLDF La Plantade 155.55 4 PKP PKPdf 05 28 48.1 +8.8
SKO Skopje 155.98 331 ePKP PKPdf 05 28 38.1 -1.8
RJF Les Rejaudoux 155.99 8 ePKIKP PKPdf 05 28 39.5 -0.3
RJF eR
comp=Z,1μm,22.0s
RJF Les Rejaudoux 155.99 8 ePKIKP PKPdf 05 28 39.5 -0.3
RJF Les Rejaudoux 155.99 8 ePKPdf PKPdf 05 28 39.5 -0.3
LPL La Plagne 156.10 359 ePKIKP PKPdf 05 28 40.7 +0.5
comp=Z,51nm,1.6s
LPL La Plagne 156.10 359 ePKIKP PKPdf 05 28 40.7 +0.5
LPL La Plagne 156.10 359 ePKPdf PKPdf 05 28 40.7 +0.5
LPG La Plagne 156.12 359 ePKIKP PKPdf 05 28 40.7 +0.3
comp=Z,46nm,1.6s
LPG La Plagne 156.12 359 ePKIKP PKPdf 05 28 40.7 +0.3
LPG La Plagne 156.12 359 ePKPdf PKPdf 05 28 40.7 +0.3
LBL Lubilhac 156.25 5 PKP PKPdf 05 28 50.0 +10
SSB Saint Sauveur 156.29 3 PFAKE 05 28 50.0 +10
SSB LR LR
comp=Z,801nm,20.0s
BNI Bardonecchia 156.56 359 ePKIKP PKPdf 05 28 41.0 +0.2
BNI MLR MLR
comp=Z,924nm,20.0s
BNI Bardonecchia 156.56 359 ePKPdf PKPdf 05 28 41.0 +0.2
BNI ePKPab PKPab 05 29 09.4 -0.2
BNI LR LR
comp=Z,924nm,20.0s
ORIF Oris-en-Rattie 156.70 1 ePKIKP PKPdf 05 28 41.1 +0.2
comp=Z,168nm,1.9s
ORIF eR
comp=Z,1μm,22.2s
ORIF Oris-en-Rattie 156.70 1 ePKIKP PKPdf 05 28 41.1 +0.2
ORIF Oris-en-Rattie 156.70 1 ePKPdf PKPdf 05 28 41.1 +0.2
VIVF Saint-Julien-l 156.72 3 ePKIKP PKPdf 05 28 41.2 +0.4
comp=Z,72nm,1.6s
VIVF Saint-Julien-l 156.72 3 ePKIKP PKPdf 05 28 41.2 +0.4
VIVF Saint-Julien-l 156.72 3 ePKPdf PKPdf 05 28 41.2 +0.4
MBDF Montbardon 156.89 359 ePKIKP PKPdf 05 28 41.3 +0.1
comp=Z,132nm,1.7s
MBDF Montbardon 156.89 359 ePKIKP PKPdf 05 28 41.3 +0.1
MBDF Montbardon 156.89 359 ePKPdf PKPdf 05 28 41.3 +0.1
PBRG Braganca 157.02 26 iPKPab PKPab 05 29 22.3 +11
VLC Villacollemand 157.20 352 PFAKE 05 28 50.0 +8.5
VLC LR LR
comp=Z,660nm,21.0s
PVIS Viseu 157.42 29 iPKPab PKPab 05 29 21.5 +8.1
MVO Moncorvo 157.44 27 ePKPdf PKPdf 05 28 54.0 +12
MVO Moncorvo 157.44 27 iPKPab PKPab 05 29 24.6 +11
MVO Moncorvo 157.44 27 eLR LR 06 20 10.0
comp=Z,988nm,20.0s
LASF Ste Croix 157.45 5 ePKIKP PKPdf 05 28 40.5 -1.3
comp=Z,251nm,1.9s
LASF Ste Croix 157.45 5 ePKPdf PKPdf 05 28 40.5 -1.3
SJPF Ste Jean 157.61 15 ePKIKP PKPdf 05 28 42.4 +0.4
comp=Z,120nm,1.7s
SJPF Ste Jean 157.61 15 ePKIKP PKPdf 05 28 42.4 +0.4
SJPF Ste Jean 157.61 15 ePKPdf PKPdf 05 28 42.4 +0.4
SMRF Simiane la Rot 157.63 1 ePKIKP PKPdf 05 28 42.4 +0.4
comp=Z,306nm,1.9s
SMRF Simiane la Rot 157.63 1 ePKPdf PKPdf 05 28 42.4 +0.4
PCAS Casmilo, Conde 157.67 31 ePKPdf PKPdf 05 28 54.0 +12
SANT Santorini 157.72 316 ePKPdf PKPdf 05 28 42.4 0.0
SANT LR LR
comp=Z,669nm,19.0s
SBF Sospel 157.73 358 ePKIKP PKPdf 05 28 41.5 -0.7
comp=Z,58nm,1.0s
SBF Sospel 157.73 358 ePKIKP PKPdf 05 28 41.5 -0.7
SBF Sospel 157.73 358 ePKPdf PKPdf 05 28 41.5 -0.7
MTE Manteigas 157.84 29 ePKPdf PKPdf 05 28 53.3 +11
MTE Manteigas 157.84 29 eLR LR 06 20 41.9
comp=Z,1μm,20.0s
MTE Manteigas 157.84 29 PFAKE 05 28 50.0 +7.6
MTE LR LR
comp=Z,2μm,20.0s
ETSF Etsaut 157.96 14 ePKIKP PKPdf 05 28 43.1 +0.6
comp=Z,125nm,1.8s
ETSF Etsaut 157.96 14 ePKIKP PKPdf 05 28 43.1 +0.6
ETSF Etsaut 157.96 14 ePKPdf PKPdf 05 28 43.1 +0.6
MTLF Montolieu 158.01 8 ePKIKP PKPdf 05 28 42.6 +0.1
MTLF Montolieu 158.01 8 ePKIKP PKPdf 05 28 42.6 +0.1
MTLF Montolieu 158.01 8 ePKPdf PKPdf 05 28 42.6 +0.1
EPF Esparros 158.02 12 ePKIKP PKPdf 05 28 42.9 +0.4
comp=Z,81nm,1.6s
EPF Esparros 158.02 12 ePKIKP PKPdf 05 28 42.9 +0.4
EPF Esparros 158.02 12 ePKPdf PKPdf 05 28 42.9 +0.4
PTOM Tomar 158.05 32 ePKPdf PKPdf 05 28 54.4 +12
PTOM Tomar 158.05 32 iPKPab PKPab 05 29 26.9 +11
FRF La Foret Royal 158.05 359 ePKIKP PKPdf 05 28 42.3 -0.2
comp=Z,345nm,1.9s
FRF La Foret Royal 158.05 359 ePKIKP PKPdf 05 28 42.3 -0.2
FRF La Foret Royal 158.05 359 ePKPdf PKPdf 05 28 42.3 -0.2
LMR La Mourre 158.28 360 ePKIKP PKPdf 05 28 42.4 -0.4
comp=Z,209nm,1.7s
LMR La Mourre 158.28 360 ePKIKP PKPdf 05 28 42.4 -0.4
LMR La Mourre 158.28 360 ePKPdf PKPdf 05 28 42.4 -0.4
PCBR Castelo Branco 158.32 30 ePKPdf PKPdf 05 28 54.5 +12
LIS Lisbon 158.36 34 eP PKPdf 05 28 41.6 -1.4
LIS AMS AMS 06 33 57.4
comp=N,1μm,19.2s
LIS Lisbon 158.36 34 ePKIKP PKPdf 05 28 41.6 -1.4
PMTG Montargil 158.56 32 iPKPab PKPab 05 29 28.4 +10
PMRV Marv??o 158.69 30 ePKPdf PKPdf 05 28 55.0 +12
PMRV Marv??o 158.69 30 eLR LR 06 21 06.4
comp=N,629nm,22.0s
IDI Anoyia 158.72 314 pPKPab pPKPab 05 29 28.8 -1.5
comp=N,20nm,0.8s,baz=324,slow=10,SNR=2.9
PGF Pioggiola 158.94 354 ePKIKP PKPdf 05 28 43.0 -0.7
comp=N,81nm,1.2s
PGF Pioggiola 158.94 354 ePKIKP PKPdf 05 28 43.0 -0.7
PGF Pioggiola 158.94 354 ePKPdf PKPdf 05 28 43.0 -0.7
EVOP Sao Brissos 159.03 33 ePKIKP PKPdf 05 28 43.9 +0.1
EVOP Sao Brissos 159.03 33 ePKPdf PKPdf 05 28 43.9 +0.1
PESTR Estremoz 159.03 32 iPKPab PKPab 05 29 30.4 +10
PESTR Estremoz 159.03 32 eLR LR 06 20 55.9

EVO Evora 159.08 33 ePKIKP PKPdf 05 28 43.9 0.0
comp=N,71nm,1.3s
PNCL Nicolau / Gran 159.13 34 ePKPdf PKPdf 05 28 55.5 +12
MESJ Messejana 159.50 34 eP PKPdf 05 28 43.2 -1.2
MESJ AMS AMS 06 30 58.8
comp=Z,581nm,21.4s
MESJ Messejana 159.50 34 ePKPdf PKPdf 05 28 54.4 +10
MESJ Messejana 159.50 34 ePKIKP PKPdf 05 28 43.2 -1.2
PBEJ Beja 159.54 34 ePKPdf PKPdf 05 28 57.3 +13
MORF Marmelete 159.66 36 eP PKPdf 05 28 43.0 -1.6
MORF AMS AMS 06 37 47.5
comp=Z,1μm,20.0s
MORF Marmelete 159.66 36 ePKPdf PKPdf 05 28 55.9 +11
MORF Marmelete 159.66 36 ePKIKP PKPdf 05 28 43.0 -1.6
PBAR Barrancos 159.84 32 ePKPdf PKPdf 05 28 56.6 +12
PAB San Pablo 159.89 25 ePKIKP PKPdf 05 28 44.7 -0.2
PAB MLR MLR
comp=Z,1μm,19.0s
PAB San Pablo 159.89 25 ePKPdf PKPdf 05 28 44.7 -0.2
PAB LR LR
comp=Z,1μm,19.0s
CUC Castrocucco 159.91 338 PFAKE 05 29 00.0 +15
CUC LR LR
comp=Z,596nm,22.0s
ESDC Sonseca Array 159.93 24 PKP PKPdf 05 28 44.7 -0.2
comp=Z,0.6nm,0.6s,baz=357,slow=3.0,SNR=8.2
ESDC pPKP pPKPdf 05 28 56.5 +0.2
comp=Z,8.0nm,1.1s,baz=341,slow=3.1,SNR=9.3
ESDC PKPab PKPab 05 29 24.6 +0.3
comp=Z,2.3nm,0.8s,baz=325,slow=4.5,SNR=4.3
ESDC pPKPab pPKPab 05 29 34.9 -0.5
comp=Z,8.9nm,0.8s,baz=317,slow=4.2,SNR=8.7
PVAQ Vaqueiros 160.09 34 ePKPdf PKPdf 05 28 57.0 +12
PVAQ Vaqueiros 160.09 34 eLR LR 06 20 03.9
comp=Z,609nm,20.0s
TIP Timpagrande 160.28 335 PFAKE 05 29 00.0 +15
TIP LR LR
comp=Z,650nm,20.0s
LIC Lamto 161.23 143 eP PKPdf 05 28 44.5 -2.5
comp=Z,156nm,1.4s
CEL Celeste 161.41 336 PFAKE 05 29 00.0 +13
CEL LR LR
comp=Z,648nm,19.0s
KIC Kosan Boka 161.50 143 eP PKPdf 05 28 46.7 -0.6
comp=Z,245nm,1.5s
TIC Toumodi 161.58 142 eP PKPdf 05 28 46.6 -0.8
comp=Z,134nm,1.3s
DBIC Dimbokro 161.69 142 PKP PKPdf 05 28 46.7 -0.7
comp=Z,8.1nm,0.9s,baz=95,slow=1.1,SNR=6.2
DBIC pPKP pPKPdf 05 28 57.5 -1.4
comp=Z,28nm,1.1s,baz=94,slow=2.5,SNR=11
DBIC PKPab PKPab 05 29 32.2 -0.3
comp=Z,24nm,1.0s,baz=192,slow=4.1,SNR=6.7
DBIC pPKPab pPKPab 05 29 42.6 -1.0
comp=Z,9.3nm,0.8s,baz=198,slow=3.3,SNR=2.5
DBIC PP PP 05 33 12.7 -2.5
comp=Z,3.7nm,0.9s,baz=233,slow=8.6,SNR=3.9
VSL Villasalto 161.92 352 PFAKE 05 29 00.0 +13
VSL LR LR
comp=Z,819nm,21.0s
RTC Rabat Centre 163.03 40 PFAKE 05 29 00.0 +12
RTC LR LR
comp=Z,821nm,20.0s
WDD Wield Dalam 164.03 335 PFAKE 05 29 00.0 +11
WDD LR LR
comp=Z,570nm,19.0s
TORD Torodi Ar. Bea 170.56 152 PKP PKPdf 05 28 53.2 -1.2
comp=Z,6.9nm,0.8s,baz=324,slow=0.9,SNR=40
TORD pPKP pPKPdf 05 29 03.7 -2.2
comp=Z,23nm,1.1s,baz=315,slow=1.3,SNR=31
TORD PKPab PKPab 05 30 11.6 +0.1
comp=Z,5.1nm,0.7s,baz=227,slow=1.7,SNR=11
TORD pPKPab pPKPab 05 30 21.8 -0.8
comp=Z,4.0nm,0.7s,baz=178,slow=3.0,SNR=3.6
TORD SKP 05 32 29.1
comp=Z,2.0nm,0.8s,baz=178,slow=3.2,SNR=5.0
TORD PP PP 05 34 01.0 +0.3
comp=Z,5.4nm,1.2s,baz=221,slow=4.5,SNR=5.8
TAM Tamanrasset 178.58 30 ePKIKP PKPdf 05 28 57.4 +0.4
TAM e 05 29 08.7
TAM MLR MLR
comp=Z,759nm,21.0s
TAM Tamanrasset 178.58 30 ePKPdf PKPdf 05 28 57.4 +0.4
TAM epPKPdf pPKPdf 05 29 08.7 +0.3
TAM LR LR
comp=Z,759nm,21.0s

IDC 22 05:08:57.5±13.0, 17.73S×178.73W, h499km±165km, mb2.8/5, mb1 3.1/5, mb1mx2.9/19, mbtmp3.6/5, Error ellipse: s-maj=86.2km s-min=44.7km az=169.0
ISCJB 22 05:09:00.3±1.9, 17.6S±0.6×178.8W±0.3, h547km, mb3.1/5, Error ellipse: s-maj=84.2km s-min=28.1km az=156.4
ISC 22 05:09:01.1±1.9, 17.6S±0.6×178.7W±0.3, h547km, n6, σ0.65/6, mb3.1/5, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 44.38 259 P P 05 16 23.6 0.0
0.2nm,0.3s,baz=91,slow=7.6,SNR=5.6
SEY Seymchan 83.42 347 P P 05 20 31.4 +0.7
0.8nm,0.4s,baz=156,slow=6.3,SNR=5.3
ILAR Eielson Array 85.67 13 P P 05 20 41.0 -0.7
0.3nm,0.4s,baz=220,slow=5.2,SNR=12
TXAR Lajitas Array 86.10 58 P P 05 20 45.1 +0.4
0.2nm,0.8s,baz=208,slow=5.1,SNR=3.1
PDAR Pinedale Array 87.35 44 P P 05 20 50.4 -0.1
0.2nm,0.6s,baz=187,slow=4.5,SNR=2.7
GERES GERESS Array B 147.24 345 PKPbc PKPbc 05 27 42.9 -0.4
0.4nm,0.5s,baz=0.0,slow=2.9,SNR=4.9

IDC 22 05:11:29.3±3.4, 29.73S×177.80W, h0km, mb4.6/1, mb1 5.0/1, mb1mx4.1/16, mbtmp4.6/1, Error ellipse: s-maj=212.4km s-min=53.1km az=163.0
ISC 22 05:11:34.6±1.5, 29.8S±0.2×177.6W±0.4, h52km, n14, σ2.80/15, Kermadec Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MRZ Mangatainoka R 12.23 205 ePN P 05 14 34.9 -2.1
MRZ eSN Sn 05 16 43.5 +2.8
KIW Kapiti Island 12.66 207 eSN Sn 05 16 55.8 +4.5
NNZ Nelson 13.60 210 eSN Sn 05 17 15.7 +1.7
THZ Tophouse 14.24 210 eSN Sn 05 17 30.7 +0.7
KHZ Kahutara 14.52 207 eSN Sn 05 17 37.6 +1.0
OXZ Oxford 15.89 209 eSN Sn 05 18 05.4 -4.4
MQZ McQueen's Vall 15.96 207 eSN Sn 05 18 06.7 -4.7
WRA Warramunga Arr 44.46 271 P P 05 19 40.5 -0.4
3.7nm,0.4s,baz=110,slow=8.1,SNR=5.6
FINES FINESS Array B 144.68 341 PKP PKPdf 05 31 04.6 -0.1
2.6nm,0.4s,baz=73,slow=3.8,SNR=12
NOA NORSAR Array B 148.18 352 PKPbc PKPab 05 31 15.6 -1.5
1.9nm,0.8s,baz=12,slow=4.3,SNR=4.2
HFS Hagfors 148.70 349 PKPbc PKPab 05 31 18.0 -1.2
1.1nm,0.5s,baz=48,slow=2.1,SNR=4.0
AKASG Malin Array Be 151.02 324 PKPbc PKPbc 05 31 22.8 +1.4
0.7nm,0.4s,baz=47,slow=3.4,SNR=4.5
MMAI Mount Meron Ar 151.74 285 PKPbc PKPbc 05 31 26.0 +2.3
2.0nm,0.4s,baz=101,slow=4.6,SNR=2.9
BRTR Keskin Array B 152.62 300 PKPbc PKPbc 05 31 27.6 +2.1

NIED 22 05:21:00, 24.00N×122.90E, h17km, Mw5.2 Best double couple: Mo6.95000×10^16 NP1:φs349.00000°, δ43.00000°, λ-118.00000°. NP2:φs204.00000°, δ53.00000°, λ-67.00000°.
IDC 22 05:21:00.3±0.3, 24.18N×122.97E, h0km, mb4.9/40, mb1 5.0/42, mb1mx5.0/44, mbtmp4.9/42, ML3.4/2, MS4.9/15, Ms1 4.9/15, ms1mx4.4/33, Error ellipse: s-maj=11.1km s-min=9.8km az=70.0
BJI 22 05:21:01.8, 24.00N×122.97E, h17km, mB5.1/47, mb5.0/60, ML5.4/4, Ms5.2/76, Ms7 5.1/73
BKK 22 05:21:03.7±0.4, 24°N±5°×12°3E±°, h10km, M5.3/36, mB5.6/25, mb5.2/36, MLv6.0/1, Mw(mB)5.1/25
MOS 22 05:21:04.3±1.0, 24.23N×122.84E, h33km, mb5.5/60, MS4.9/15, Error ellipse: s-maj=13.4km s-min=6.4km az=115.0
JMA 22 05:21:04.4±0.1, 24.00N×122.91E, h32km±3km, M5.6 JMA Felt II J1.
GCMT 22 05:21:04.9±0.3, 24.07N×122.90E, h33km, MW5.2/76, Moment Tensor Solution. s66,c95; s76,c122; Duration: 1.0 Moment tensor: Scale 10^17Nm; Mrr-0.82±.03; Mθθ0.09±.02; Mφφ0.72±.02; Mrθ0.21±.02; Mrφ0.09±.01; Mθφ0.28±.02; Best double couple: Mo0.84800×10^17 NP1:φs198.00000°, δ56.00000°, λ-79.00000°. NP2: φs359.00000°, δ35.00000°, λ-106.00000°. Principal axes: T 0.7950, Plg11.0000°, Azm281.0000°; N 0.1080, Plg9.0000°, Azm12.0000°; P -0.9020, Plg76.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
TAP 22 05:21:04.7, 24.05N×122.97E, h36km, ML5.6, C
SZGRF 22 05:21:04.4, 23.44N×122.88E, h33km, mb5.3, Taiwan region
NEIC 22 05:21:04.9±0.1, 24.13N×122.94E, mb5.5/100, Error ellipse: s-maj=3.7km s-min=3.1km az=145.0
NEIC Felt [II] at Taipei. Also felt at Hsin-tien, Pan-ch'iao and Yung-ho. Recorded [2 TAP] at I-lan and [1 TAP] in Chang-hua, Hua-lien, Nan-t'ou, T'ai-pei, T'ai-tung and Yun-lin. Recorded [2 JMA] on Iriomote-jima and Yonaguni-jima and [1 JMA] on Hateruma-jima and Ishigaki-jima, Ryukyu Islands.
ISCJB 22 05:21:05.1±0.2, 24.06N±0.01×122.97E±0.01, h42km±1km, mb5.2/237, MS5.0/34, Error ellipse: s-maj=2.2km s-min=1.6km az=146.0
ISC 22 05:21:04.3±0.3, 24.06N±0.02×122.94E±0.02, h26km±1km, h26km:pP-P, n781, σ1.46/939, mb5.3/236, MS5.0/34, 85C-130D, Taiwan region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JYNG Yonagunijimaku 0.39 1 P Pn 05 21 13.9 -0.3
JYNG S Sn 05 21 20.6 -0.2
YOJ Yonaguni jima 0.41 10 eP Pn 05 21 14.3 -0.1
YOJ e 05 21 21.2
YOJ Yonaguni jima 0.41 10 P Pn 05 21 14.4 -0.1
YOJ S Sn 05 21 21.0 -0.2
YOJ Yonaguni jima 0.41 10 ePg Pn 05 21 14.3 -0.1
YOJ eSg Sn 05 21 21.2 0.0
YOJ Yonaguni jima 0.41 10⇓iP Pn 05 21 14.4 -0.1
baz=1.0
YOJ iS Sn 05 21 21.3 +0.1
baz=1.0
IRIF Iriomote-Funau 0.78 69 P Pn 05 21 19.6 +0.1
IRIF S Sn 05 21 30.8 +0.5
HATJ Hateruma jima 0.80 90 P Pb 05 21 19.5 0.0
JKRS Kuro-shima 1.00 80 P Pb 05 21 23.1 +0.2
EHP Heping Village 1.12 283 eP Pb 05 21 25.9 +0.9
baz=282
TWC Suao 1.13 299 ⇓P Pb 05 21 25.1 -0.1
baz=286
JIJ Ishigaki jima 1.14 74 P Pn 05 21 24.8 +0.2
JIJ S Sb 05 21 40.5 +0.6
ENA Nanau 1.15 289 ⇓P Pb 05 21 25.7 +0.2
baz=288
EGS 1.20 311 ⇓P Pb 05 21 26.1 -0.3
baz=310
HWA Hwalien 1.22 266⇓eP Pn 05 21 25.9 +0.3
baz=253
HWA eS Sn 05 21 41.4 +0.2
baz=253
TWD Chiawan 1.22 271⇓iP Pn 05 21 25.8 +0.1
baz=269
TWD eS Sb 05 21 42.6 +0.4
baz=269
NACB Ninganchiao 1.23 276 ePn Pn 05 21 25.9 +0.1
NACB eSn Sn 05 21 39.3 -2.2
TWB1 Santiao Chiao 1.28 318⇓iP Pb 05 21 27.1 -0.6
baz=327
TWB1 eS Sb 05 21 43.8 +0.1
baz=327
ILA Ilan 1.29 303⇑eP Pb 05 21 28.3 +0.4
baz=315
ILA eS Sb 05 21 47.7 +3.7
baz=315
ESF Shoufeng Towns 1.32 262 eP Pn 05 21 27.3 +0.3
baz=261
TEGC Jichi Village 1.32 255 eP Pn 05 21 27.4 +0.3
baz=254
TEGC eS Sb 05 21 44.5 -0.5
baz=254
TWE Neicheng 1.33 300 ⇓P Pb 05 21 28.5 -0.1
baz=311
TWE eS Sb 05 21 47.3 +2.1
baz=311
JISG Ishigakijimahi 1.36 67 P Pn 05 21 28.1 +0.5
JISG S Sb 05 21 45.6 -0.5
ESL Shilin 1.40 260⇓eP Pn 05 21 27.5 -0.5
baz=249
ESL eS Sn 05 21 42.7 -3.0
baz=249
NWF Wu-fen Shan 1.46 314⇓iP Pb 05 21 30.1 -0.6
baz=314
NNS Nan Shan 1.48 285 ⇓P Pb 05 21 30.3 -0.8
baz=283
WHF Hehuan Shan 1.53 274⇓iP Pn 05 21 30.7 +0.4
baz=272
TWA Mucha 1.53 307⇓iP Pb 05 21 31.6 -0.5
baz=319
TWA eS Sb 05 21 52.1 +1.1
baz=319
YHNB Yeheng 1.55 293 ePn Pb 05 21 31.7 -0.7
YHNB eSn Sb 05 21 53.3 +1.8
NSK Sanguang 1.56 293⇓iP Pb 05 21 32.1 -0.5
baz=275
NSK eS Sb 05 21 52.7 +0.7
baz=275
EHY Hungye 1.58 250⇓iP Pn 05 21 30.4 -0.1
baz=248
EHY eS Sn 05 21 48.6 -1.5
baz=248
TATO Taipei 1.60 305 ePn Pb 05 21 32.3 -0.9
TATO eSn Sb 05 21 52.1 -1.0
TAP1 Taipei 1.61 307⇓eP Pb 05 21 32.5 -0.9
baz=306
TAP1 eS Sb 05 21 52.2 -1.1
baz=306
TAP Taipei 1.63 307 eP Pn 05 21 32.1 +0.9
baz=307
YULB Yu-li 1.64 246 ePn Pn 05 21 30.6 -0.9
YULB eSn Sn 05 21 51.8 0.0
TWF1 Yuli 1.66 245⇓iP Pn 05 21 31.4 -0.3
baz=234
TWF1 eS Sn 05 21 51.2 -0.9
baz=234
JTJ Tarama 1.71 70 P Pn 05 21 33.5 +1.1
TWY Chenhua 1.71 315 ⇓P Pb 05 21 33.8 -1.3
baz=316
TWY eS Sb 05 21 57.6 +1.4
baz=316
TWS1 Kuangyinshan 1.73 307 eP Pb 05 21 34.4 -1.0
baz=307
CHKT Chengkung 1.73 237⇓iP Pn 05 21 31.9 -0.8
baz=226
CHKT S Sn 05 21 50.9 -3.0
baz=226
NCU National Centr 1.83 300 eP Pb 05 21 36.0 -1.2
baz=315
SSLB Suanglung 1.83 262 ePn Pn 05 21 34.5 +0.4
SSLB eSn Sn 05 21 55.9 -0.6
NSTT Nanjuang 1.85 288⇓iP Pb 05 21 36.6 -0.9
baz=286
SMLT Sun Moon Lake 1.87 265⇓iP Pn 05 21 35.8 +1.1
baz=262
SMLT eS Sn 05 21 58.6 +1.0
baz=262
YUS Yu-Shan 1.90 253⇓iP Pn 05 21 36.2 +0.7
baz=251
YUS eS Sn 05 21 56.0 -2.9
baz=251
TYC Yuchr 1.91 266⇓iP Pn 05 21 36.3 +1.2
baz=264
TYC eS Sb 05 22 00.5 -1.3
baz=264
HSN Hsinchu 1.94 293 eP Pn 05 21 36.7 +1.2
baz=291
ELDTW Lidau 1.96 244 ⇓P Pn 05 21 35.6 -0.4
baz=243
TWQ1 Liyutan 1.99 279⇓iP Pb 05 21 38.8 -1.1
baz=264
TWQ1 eS Sb 05 22 04.7 +0.3
baz=264
ALS Alishan 2.03 255⇓iP Pn 05 21 38.2 +1.2
baz=252
ALS eS Sn 05 22 00.8 -0.8
baz=252
TCU Taichung 2.07 273 ⇓P Pb 05 21 39.9 -1.3
baz=270
WNT Mingjian 2.07 265 ⇓P Pb 05 21 39.6 -1.5
baz=262
WNT eS Sb 05 22 06.0 -0.4
baz=262
TTN Taitung 2.10 232 eP Pn 05 21 37.2 -0.5
baz=231
TTN eS Sn 05 22 02.5 -0.4
baz=231
TWG Pinlang 2.11 235 ePn Pn 05 21 37.3 -0.6
TWG eSn Sn 05 22 01.5 -1.8
TWG Pinlang 2.11 235⇓iP Pn 05 21 37.5 -0.4
baz=225
TWG eS Sn 05 22 01.5 -1.8
baz=225
CHN5 Tsauling 2.12 258⇓iP Pn 05 21 40.0 +2.0
baz=247
JIRB Irabujima 2.18 69 P Pn 05 21 40.1 +1.3
WGK Gukeng 2.20 261 eP Pb 05 21 41.4 -2.0
baz=258
WGK eS Sb 05 22 10.1 -0.3
baz=258
TPUB Ta-pu 2.24 251 ePn Pn 05 21 41.2 +1.5
TPUB eSn Sn 05 22 08.6 +2.0
CHN4 Tsaushan 2.26 252⇓iP Pn 05 21 42.0 +2.1
baz=241
CHN4 S Sb 05 22 09.6 -2.3
baz=241
JIKM Ikemajima 2.28 67 P Pn 05 21 42.0 +1.8
JIKM S Sn 05 22 08.8 +1.4
WTP Ta-pu 2.28 250⇓iP Pn 05 21 42.0 +1.8
baz=240
WTP eS Sn 05 22 09.5 +2.0
baz=240
CHN2 Minshiung 2.31 257⇓eP Pb 05 21 43.4 -1.9
baz=254
CHN2 eS Sb 05 22 12.0 -1.5
baz=254
ECL Taimali 2.33 232 ⇓P Pn 05 21 40.3 -0.7
baz=242
JOGS Gusukube 2.36 72 P Pn 05 21 43.5 +2.2
CHY Chiayi 2.37 257⇓eP Pn 05 21 43.8 +2.4
baz=254
CHY eS Sn 05 22 09.9 +0.3
baz=254
SGST Jiashian 2.37 246⇓eP Pn 05 21 43.2 +1.7
baz=235
SGST eS Sn 05 22 12.2 +2.6
baz=235
CHN1 Nanshi 2.37 249⇓iP Pn 05 21 43.8 +2.2
baz=239
CHN1 eS Sn 05 22 12.4 +2.6
baz=239
TWK Hsinying 2.38 251⇓iP Pn 05 21 43.9 +2.2
baz=248
TWK eS Sn 05 22 12.5 +2.5
baz=248
LAY Lan-yu 2.38 213 ⇑P Pn 05 21 40.5 -1.2
baz=212
LAY eS Sn 05 22 06.2 -3.8
baz=212
WTCT Ta-ch'eng 2.44 266 eP Pn 05 21 44.5 +2.2
baz=273
WTCT eS Sb 05 22 14.5 -2.5
baz=273
SSD Sandimen 2.49 239 eP Pn 05 21 43.7 +0.6
baz=231
WSF Szhu 2.52 261 eP Pn 05 21 45.6 +2.1
baz=257
WSF eS Sn 05 22 15.8 +2.5
baz=257
TAW Tawu 2.53 228⇓eP Pn 05 21 43.2 -0.5
baz=236
TAW eS Sn 05 22 10.6 -3.0
baz=236
EAST Anshuo 2.54 229 ⇓P Pn 05 21 43.6 -0.3
baz=236
EAST eS Sn 05 22 11.6 -2.5
baz=236
CHN3 Shinhua 2.55 248⇓eP Pb 05 21 47.1 -2.3
baz=245
CHN3 eS Sb 05 22 18.5 -1.9
baz=245
CHN8 Yiju 2.60 255 eP Pn 05 21 45.9 +1.4
baz=251
CHN8 eS Sn 05 22 18.1 +2.8
baz=251
SGLT Jiouru 2.61 240 eP Pb 05 21 48.5 -1.8
baz=234
TWM1 Shoushan 2.62 242⇓iP Pb 05 21 48.1 -2.4
baz=242
SCLT Jiali 2.66 251 eP Pn 05 21 47.8 +2.3
baz=248
SCLT eS Sb 05 22 20.3 -3.3
baz=248
TAI1 Yung-k'ang 2.68 248 eP Pn 05 21 48.2 +2.4
baz=245
TAI1 eS Sn 05 22 19.9 +2.5
baz=245
SCZT Fangliau 2.71 232 eP Pn 05 21 47.4 +1.2
baz=231
KAU Kaohsiung 2.83 239 eP Pn 05 21 50.3 +2.4
baz=250
TSEB Hengchuen, Pin 2.85 221 eP Pn 05 21 49.8 +1.7
baz=229
TSEB S Sn 05 22 22.9 +1.3
baz=229
HEN Hengchun 2.88 225 eP Pn 05 21 49.0 +0.6
baz=224
HEN eS Sn 05 22 21.1 -1.1
baz=224
TWK1 Hengchun 2.88 223 eP Pn 05 21 48.8 +0.3
baz=222
TWK1 eS Sn 05 22 20.7 -1.5
baz=222
TWP Hsiaoliuchiu 2.92 235 eP Pb 05 21 53.4 -2.2
baz=228
TWP eS Sb 05 22 29.7 -1.1
baz=228
WDGT Dungji 3.11 256 ⇓P Pn 05 21 52.8 +1.2
baz=252
WDGT eS Sn 05 22 27.7 -0.1
baz=252
PNG Penghu 3.13 262 ⇓P Pn 05 21 53.2 +1.2
baz=270
PNG eS Sn 05 22 29.1 +0.5
baz=270
QZH Quanzhou 4.05 283⇑iPn Pn 05 22 04.9 +0.3
QZH Sn Sn 05 22 49.0 -2.2
QZH smax smax
comp=N,5μm,1.0s
QZH smax smax
comp=E,3μm,0.9s
QZH LR LR
comp=N,22μm,13.4s
QZH LR LR
comp=E,60μm,16.3s
QZH LR LR
comp=Z,48μm,15.8s
KNM Kinmen 4.12 276 eP Pn 05 22 07.2 +1.6
baz=270
JKE Kume jima 2 4.16 56 P Pn 05 22 06.8 +0.8
JKE S Sn 05 22 54.3 +0.6
JAGN Aguni-jima 4.64 56 P Pn 05 22 13.7 +1.0
JNTH Nagotoyohara 5.21 61 P Pn 05 22 21.3 +0.7
JIH Iheya 5.42 56 P Pn 05 22 24.0 +0.5
JOW Kunigami 5.56 59 P Pn 05 22 25.3 0.0
JOW Kunigami 5.56 59 Pn Pn 05 22 24.4 -1.0
1.7nm,0.3s,baz=161,slow=14,SNR=58
JOW Sn Sn 05 23 29.8 +1.4
1.3nm,0.3s,baz=222,slow=15,SNR=2.6
JOW Kunigami 5.56 59 ePn Pn 05 22 25.8 +0.4
JOW eSn Sn 05 23 31.1 +2.7
JOW Kunigami 5.56 59 eP Pn 05 22 25.3 0.0
baz=59
SGCP Mt. Cagua 5.85 188 eP Pn 05 22 31.1 +1.8
SGCP eS Px 05 23 02.4
JOKE Okinoerabujima 6.05 56 P Pn 05 22 31.6 -0.5
PIP Pasuquin 6.10 201⇓iP Pn 05 22 34.9 +2.1
PIP eS Sn 05 23 41.4 -0.4
APYP Conner 6.37 195 eP Pn 05 22 37.1 +0.7
CVP Callao Caves 6.41 190⇑iP Pn 05 22 37.0 0.0
CVP iS Sn 05 23 47.6 -1.8
JTK Tokunoshima 6.56 54 P Pn 05 22 38.4 -0.7
ABRA Dolores 6.71 198 eP Pn 05 22 43.2 +2.0

JAMN	Amaminishikomi	6.98	52	P	Pn	05 22 43.8	-1.1
CAUP	Cauayan	7.16	189	eP	Pn	05 22 51.4	+4.1
SSE	Sheshan	7.18	348	⇓P	Pn	05 22 48.8	+1.3
SSE				S	Sn	05 24 10.3	+2.1
SSE				LR	LR		
	comp=N,7µm,16.3s						
SSE				LR	LR		
	comp=E,2µm,16.3s						
SSE				LR	LR		
	comp=Z,10µm,15.6s						
JAM	Amami Oshima	7.39	53	P	Pn	05 22 49.1	-1.4
BOLP	Bolinao	8.15	201	eP	Pn	05 23 04.9	+4.0
BALP	Baler	8.37	189	eP	Pn	05 23 05.2	+1.2
NJ2	Nanjing	8.74	337	eP	Pn	05 23 09.8	+0.8
NJ2				pP		05 23 14.3	
NJ2				sP		05 23 18.8	
NJ2				S	Sn	05 24 47.8	+1.2
NJ2				pmax	pmax		
	comp=Z,270nm,0.8s						
NJ2				smax	smax		
	comp=N,400nm,1.0s						
NJ2				smax	smax		
	comp=E,780nm,1.4s						
NJ2				LR	LR		
	comp=N,6µm,12.0s						
NJ2				LR	LR		
	comp=E,7µm,10.8s						
NJ2				LR	LR		
	comp=Z,8µm,15.5s						
GZH	Guangzhou	8.85	266	P	Pn	05 23 07.3	-3.2
GZH				S	Sn	05 24 43.4	-6.0
GZH				smax	smax		
	comp=N,750nm,1.1s						
GZH				smax	smax		
	comp=E,550nm,1.1s						
JFU	Fukue jima 2	9.97	30	P	Pn	05 23 30.0	+4.1
TGY	Tagaytay City	10.08	191	Pn	Pn	05 23 31.5	+3.9
	comp=E,37nm,0.3s,baz=95,slow=12,SNR=7.2						
JNU	Nakatsue	11.41	36	P	Pn	05 23 50.3	+4.7
JNU	Nakatsue	11.41	36	Pn	Pn	05 23 46.6	+1.1
	comp=E,0.3nm,0.3s,baz=179,slow=6.6,SNR=6.5						
JNU	Nakatsue	11.41	36	ePn	Pn	05 23 48.2	+2.6
JTU	Tsushima	11.85	27	P	Pn	05 23 57.9	+6.3
KSCPR	CHUPUNGNYEONG	12.88	19	P	Pn	05 24 10.8	+5.2
	SNR=6.3						
TIA	Tai'an	13.11	339	⇑P	Pn	05 24 09.9	+1.1
TIA				pP	P	05 24 15.8	-2.9
TIA				S	S	05 26 46.3	-12
TIA				pmax	pmax		
	comp=E,10.0nm,0.8s						
TIA				pmax	pmax		
	comp=E,840nm,7.9s						
TIA				LR	LR		
	comp=E,5µm,20.2s						
TIA				LR	LR		
	comp=E,5µm,16.3s						
TIA				LR	LR		
	comp=E,6µm,18.8s						
QIZ	Qiongzhong	13.17	250	P	Pn	05 24 09.8	+0.1
QIZ				PP	P	05 24 19.1	-0.4
QIZ				S	Sn	05 26 36.6	+1.3
QIZ				LR	LR		
	comp=E,5µm,16.4s						
QIZ				LR	LR		
	comp=E,7µm,18.5s						
QIZ	Qiongzhong	13.17	250	ePn	Pn	05 24 12.9	+3.2
	comp=E,92nm,1.3s						
QIZ				eSn	Sn	05 26 37.0	+1.7
ENH	Enshi	13.47	300	ePn	Pn	05 24 13.7	0.0
KSSWO	Suwon	13.61	14	P	P	05 24 24.3	0.0
	SNR=8.7						
INCN	Inchon	13.75	12	ePn	Pn	05 24 17.6	0.0
	comp=E,312nm,0.8s						
INCN				eSn	Sn	05 26 50.4	+1.0
KSAR	Wonju Array Be	14.00	16	P	P	05 24 24.8	-3.8
KSAR	Wonju Array Be	14.00	16	Pn	P	05 24 24.8	-3.8
KSWJU	Wonju	14.01	17	P	P	05 24 25.4	-3.3
	SNR=6.1						
KSRS	Korea Array	14.02	17	Pn	Pn	05 24 24.8	+3.6
	comp=E,1.7nm,0.3s,baz=198,slow=12,SNR=51						
KSRS				LR	LR	05 30 35.5	
	comp=E,4µm,18.3s,baz=188,slow=42						
JHS	Saijyo	14.04	37	P	P	05 24 29.4	+0.3
KSMUS	Musan	14.17	12	P	P	05 24 31.7	+1.3
	SNR=9.4						
YNCB	YEONCHEON	14.35	13	P	P	05 24 33.5	+1.0
	SNR=13						
KSCWO	Cheorwon	14.52	15	P	P	05 24 35.8	+1.5
	SNR=11						
DL2	Dalian	14.84	356	⇑P	P	05 24 38.3	+0.4
DL2				S	S	05 27 25.0	-8.7
DL2				pmax	pmax		
	comp=E,83nm,0.9s						
DL2				pmax	pmax		
	comp=E,810nm,3.2s						
DL2				LR	LR		
	comp=E,3µm,14.8s						
DL2				LR	LR		
	comp=E,4µm,13.8s						
GYA	Guiyang	14.91	283	⇑iP	Pn	05 24 34.6	+1.0
GYA				pP	P	05 24 39.0	0.0
GYA				PP	PnPn	05 24 46.8	+5.2
GYA				S	Sn	05 27 15.4	-2.7
GYA				sS	S	05 27 28.8	-6.8
GYA				SS	SnSn	05 27 37.3	+6.6
GYA				pmax	pmax		
	comp=E,60nm,1.0s						
GYA				pmax	pmax		
	comp=E,150nm,4.8s						
GYA				LR	LR		
	comp=E,7µm,7.5s						
GYA				LR	LR		
	comp=E,3µm,6.2s						
GYA				LR	LR		
	comp=E,3µm,6.0s						
JWT	Wachi	15.55	41	P	P	05 24 46.9	+1.0
XAN	Xi'an	15.76	312	P	Pn	05 24 45.4	+0.8
XAN				pP	P	05 24 50.4	+2.1
XAN				S	Sn	05 27 44.8	+6.2
XAN				sS	S	05 27 51.8	-1.0
XAN				pmax	pmax		
	comp=E,36nm,4.5s						
XAN				LR	LR		
	comp=E,3µm,12.8s						
XAN				LR	LR		
	comp=E,2µm,13.6s						
XAN				LR	LR		
	comp=E,3µm,14.3s						
TIY	Taiyuan	16.30	329	eP	P	05 24 55.6	+1.3
TIY				S	S	05 28 02.3	-1.5
TIY				pmax	pmax		
	comp=E,630nm,6.1s						
TIY				LR	LR		
	comp=E,4µm,11.7s						
TIY				LR	LR		
	comp=E,2µm,8.9s						
TIY				LR	LR		
	comp=E,5µm,15.4s						
BJI	Beijing	16.92	342	P	Pn	05 24 59.6	+0.4
BJI				S	Sn	05 28 08.3	+1.8
BJI				pmax	pmax		
	comp=E,48nm,1.5s						
BJI				pmax	pmax		
	comp=E,540nm,5.4s						
BJI				LR	LR		
	comp=E,3µm,20.2s						
BJI				LR	LR		
	comp=E,3µm,17.5s						
BJI				LR	LR		
	comp=E,3µm,23.2s						
CBIJ	Chichi jima	17.63	76	P	Pn	05 25 08.2	0.0
JCJ	Chichijima	17.63	76	P	Pn	05 25 08.2	0.0
	comp=E,11nm,0.3s,baz=274,slow=8.1,SNR=6.7						
JCJ				LR	LR	05 31 02.3	
	comp=E,3µm,21.8s,baz=276,slow=34						
SNY	Shenyang	17.73	2	⇑P	P	05 25 11.0	+1.1
SNY				S	S	05 28 30.5	-2.1
SNY				pmax	pmax		
	comp=E,43nm,1.3s						
SNY				pmax	pmax		
	comp=E,1µm,4.3s						
SNY				LR	LR		
	comp=E,3µm,17.1s						
SNY				LR	LR		
	comp=E,2µm,12.0s						
SNY				LR	LR		
	comp=E,4µm,15.0s						
JOD2	Odawara 2	17.91	48	P	P	05 25 13.4	+1.4
KDM	Kudat	18.02	200	⇑P	P	05 25 15.6	+2.2
MAJO	Matsushiro	18.10	43	eP	P	05 25 14.6	+0.5
MAJO				pmax	pmax		
	comp=Z,23nm,0.9s						
MAJO	Matsushiro	18.10	43	eP	P	05 25 14.6	+0.5
	comp=Z,23nm,0.9s						
MAJO				eS	S	05 28 40.4	+0.1
MAT	Matsushiro	18.10	43	P	P	05 25 14.2	+0.1
MAT				S	S	05 28 41.0	+0.7
MAT	Matsushiro	18.10	43	P	P	05 25 15.4	+1.3
MJAR	Matsushiro Arr	18.10	43	P	Pn	05 25 12.8	-1.1
	comp=Z,0.2nm,0.3s,baz=231,slow=11,SNR=14						
MJAR				LR	LR	05 32 45.7	
	comp=Z,2µm,19.5s,baz=215,slow=39						
JRY	Ryogami san	18.22	45	P	Pn	05 25 15.4	0.0
CD2	Chengdu	18.32	296	⇓iP	Pn	05 25 17.6	+0.9
CD2				pP	pP	05 25 23.1	-0.6
CD2				sP	sP	05 25 27.0	-0.1
CD2				PP	PnPn	05 25 33.0	+4.7
CD2				S	Sn	05 28 39.9	-0.7
CD2				sS	sS	05 28 46.8	+2.0
CD2				SS	SnSn	05 29 01.9	+7.5
CD2				pmax	pmax		
	comp=Z,160nm,0.8s						
CD2				pmax	pmax		
	comp=Z,640nm,6.4s						
CD2				LR	LR		
	comp=Z,5µm,9.3s						
CD2				LR	LR		
	comp=Z,9µm,13.2s						
CD2				LR	LR		
	comp=Z,9µm,14.3s						
KMI	Kunming	18.40	277	P	Pn	05 25 20.1	+2.3
KMI				pP	pP	05 25 24.8	0.0
KMI				sP	sP	05 25 27.8	-0.4
KMI				S	S	05 28 47.0	+0.3
KMI				pmax	pmax		
	comp=Z,34nm,1.1s						
KMI				pmax	pmax		
	comp=Z,430nm,9.2s						
KMI				LR	LR		
	comp=Z,3µm,15.1s						
KMI				LR	LR		
	comp=Z,9µm,14.3s						
KMI				LR	LR		
	comp=Z,10µm,14.0s						
UBPT	Khong Chiam	18.61	245	P	Pn	05 25 23.5	+3.3
	comp=Z,50nm,2.0s,comp=Z,2µm						
KKM	Kota Kinabalu	19.04	201	⇓P	Pn	05 25 26.4	+0.9
	baz=19,SNR=12						
KKM	Kota Kinabalu	19.04	201	⇑P	Pn	05 25 27.0	+1.4
JSD	Sado	19.11	40	P	Pn	05 25 30.3	+4.2
SDKM	Sandakan	19.13	198	⇑P	Pn	05 25 26.8	+0.3
MYLDM	Lahad Datu	19.25	194	⇑P	Pn	05 25 30.5	+2.5
HHC	Hu-ho-hao-te	19.27	333	eP	Pn	05 25 29.8	+1.7
HHC				pP	pP	05 25 36.8	+2.7
HHC				sP	sP	05 25 40.5	+3.0
HHC				PP	PnPn	05 25 50.6	+9.3
HHC				S	Sn	05 29 02.3	-1.0
HHC				sS	sS	05 29 14.5	-0.8
HHC				pmax	pmax		
	comp=Z,680nm,7.0s						
HHC				LR	LR		
	comp=Z,6µm,13.7s						
HHC				LR	LR		
	comp=Z,4µm,13.7s						
HHC				LR	LR		
	comp=Z,6µm,14.1s						
BTO	Baotou	19.74	330	eP	Pn	05 25 33.8	0.0
CN2	Changchun	19.80	5	eP	P	05 25 33.1	+0.5
CN2				esP	sP	05 25 41.6	-1.6
CN2				eS	S	05 29 10.0	-4.3
CN2				pmax	pmax		
	comp=Z,40nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,5µm,14.0s						
CN2				LR	LR		
	comp=Z,1µm,14.0s						
CN2				LR	LR		
	comp=Z,5µm,14.0s						
TSM	Tawau	20.25	195	⇑P	Pn	05 25 39.3	-0.5
JYA	Atsumi	20.33	41	P	Pn	05 25 44.3	+3.7
LZH	Lanzhou	20.37	310	⇓P	Pn	05 25 41.5	+0.2
LZH				pP	pP	05 25 48.0	+1.7
LZH				sP	sP	05 25 51.4	+1.7
LZH				S	S	05 29 24.0	-2.2
LZH				sS	Sn	05 29 33.4	+3.2
LZH				SS	SnSn	05 29 54.3	+9.5
LZH				pmax	pmax		
	comp=Z,93nm,1.0s						
LZH				pmax	pmax		
	comp=Z,750nm,5.2s						
LZH				LR	LR		
	comp=Z,5µm,15.0s						
LZH				LR	LR		
	comp=Z,8µm,14.5s						
LZH				LR	LR		
	comp=Z,11µm,16.0s						
VLA	Vladivostok	20.40	19	⇑iP	P	05 25 36.5	-2.6
VLA				i		05 25 52.0	
VLA				iS	S	05 29 20.6	-5.7
VLA				e		05 29 48.3	
VLA				pmax	pmax		
	comp=Z,50nm,1.0s						
MDJ	Mudanjiang	21.21	13	P	P	05 25 47.3	-0.7
MDJ				S	S	05 29 40.3	-2.2
MDJ				SS	SnSn	05 30 08.8	+3.5
MDJ				pmax	pmax		
	comp=Z,46nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,310nm,5.0s						
MDJ				LR	LR		
	comp=Z,3µm,18.8s						
MDJ				LR	LR		
	comp=Z,1µm,18.8s						
MDJ				LR	LR		
	comp=Z,4µm,16.9s						
MDJ	Mudanjiang	21.21	13	eP	P	05 25 47.5	-0.5
	comp=Z,37nm,0.8s						
MDJ				eS	S	05 29 41.8	-0.7
LOEI	Loei	21.27	256	P	P	05 25 48.2	-0.6
	comp=Z,31nm,1.1s,comp=Z,581nm						
USRK	Ussuriysk Arra	21.41	18	P	P	05 25 48.6	-1.5
	comp=Z,17nm,0.6s,baz=206,slow=8.5,SNR=32						
USRK				LR	LR	05 34 38.3	
	comp=Z,2µm,19.0s,baz=186,slow=38						
UTTA	Uttaradit	21.82	258	P	P	05 25 58.5	+3.8
	comp=Z,5.3nm,1.2s,comp=Z,66nm						
JOM	Ohasama	21.84	41	P	P	05 25 54.5	-0.2
PBKT	Sadao Pong	21.89	254	P	P	05 25 58.8	+3.4
	comp=Z,44nm,1.2s						
LAMP	Lampang	22.39	260	P	P	05 26 04.5	+3.7
	comp=Z,16nm,0.9s,comp=Z,137nm						
CMAI	Chiengmai2	22.52	264	P	P	05 26 05.3	+2.9
	comp=Z,27nm,1.5s,comp=Z,6µm						
CHBT	CHBT	22.52	244	P	P	05 26 06.8	+4.6
	comp=Z,70nm,2.0s,comp=Z,2µm						
JTM	Tenmabayashi	22.56	38	P	P	05 26 02.2	-0.3
BTM	Bintulu	22.82	206	⇑P	P	05 26 06.6	+1.2
CMMT	Chiang Mai	22.92	261	P	P	05 26 08.5	+2.1
	comp=Z,73nm,1.6s,comp=Z,1µm						
CHTO	Chiang Mai	22.92	261	eP	P	05 26 07.4	+0.9
CHTO				pmax	pmax		
	comp=Z,91nm,1.4s						
CHTO	Chiang Mai	22.92	261	P	P	05 26 08.5	+2.0
	comp=Z,255nm,1.6s,comp=Z,4µm						
CHTO	Chiang Mai	22.92	261	eP	P	05 26 07.4	+0.9
	comp=Z,91nm,1.4s						
CMAR	Chiang Mai Arr	23.03	261	P	P	05 26 08.7	+1.1
	comp=Z,7.9nm,0.7s,baz=66,slow=8.1,SNR=24						
CMAR				PcP	PcP	05 29 57.4	+0.7
	comp=Z,4.4nm,0.8s,baz=38,slow=0.9,SNR=9.7						
CMAR				LR	LR	05 36 04.0	
	comp=Z,4µm,18.5s,baz=64,slow=39						
GUMO	Guam	23.19	113	eP	P	05 26 10.3	+1.1
GUMO				pmax	pmax		
	comp=Z,527nm,1.4s						
GUMO	Guam	23.19	113	eP	P	05 26 10.2	+1.1
	comp=Z,526nm,1.4s						
KMSI	Cibinong	23.37	177	P	P	05 26 15.3	+4.4
	comp=Z,585nm,1.2s						
MRSI	Marisa	23.46	182	P	P	05 26 14.4	+2.5
	comp=Z,173nm,1.8s,comp=Z,3µm						
TNTI	Ternate	23.55	169	eP	P	05 26 13.5	+0.9
	comp=Z,408nm,1.3s						
MPSI	Mapaga	23.77	188	P	P	05 26 15.6	+0.8
	comp=Z,36nm,2.0s						
SBUM	Sibu	23.85	207	⇓P	P	05 26 15.8	+0.2
MHMT	Maesarieng	24.03	261	P	P	05 26 20.5	+3.2
	comp=Z,21nm,1.3s,comp=Z,639nm						
SRDT	SRDT	24.44	251	P	P	05 26 24.7	+3.6
	comp=Z,105nm,1.4s,comp=Z,18µm						
ERM	Erimo	24.55	38	P	P	05 26 20.5	-1.4
	comp=Z,261nm,0.6s,SNR=6.3						
ERM	Erimo	24.55	38	eP	P	05 26 20.9	-1.0
ERM				pmax	pmax		
	comp=Z,26nm,0.7s						
ERM	Erimo	24.55	38	eP	P	05 26 20.9	-1.0
	comp=Z,26nm,0.7s						
JEM	Erimo	24.55	38	P	P	05 26 19.5	-2.4
GTA	Gaotai	24.82	314	⇑P	P	05 26 24.8	+0.3
GTA				pP	pP	05 26 30.6	-1.6
GTA				sP	sP	05 26 33.8	-1.7
GTA				PcP	PcP	05 30 02.8	+2.4
GTA				S	S	05 30 45.0	-0.7
GTA				sS	sS	05 30 54.1	-4.3
GTA				SS	SnSn	05 31 44.6	+11
GTA				pmax	pmax		
	comp=Z,26nm,1.5s						
GTA				pmax	pmax		
	comp=Z,210nm,5.5s						
GTA				LR	LR		
	comp=Z,2µm,13.8s						
GTA				LR	LR		
	comp=Z,5µm,14.0s						
GTA				LR	LR		
	comp=Z,5µm,14.5s						
APSI	Ampana	24.85	183	P	P	05 26 25.7	+0.9
	comp=Z,379nm,1.1s,comp=Z,4µm						
LBMI	Labuha	24.95	169	P	P	05 26 33.2	+7.6
	comp=Z,281nm,1.0s,comp=Z,3µm						
LUWI	Luwuk	24.95	180	P	P	05 26 25.5	-0.2
	comp=Z,237nm,1.2s,comp=Z,4µm						
LUWI	Luwuk	24.95	180	eP	P	05 26 24.9	-0.8
	comp=Z,343nm,1.2s						
LUWI	Luwuk	24.95	180	⇑P	P	05 26 25.2	-0.4
	baz=25						
HIA	Hailar	25.28	355	eP	P	05 26 27.0	-1.5
HIA				pmax	pmax		
	comp=Z,23nm,0.8s						
HIA	Hailar	25.28	355	eP	P	05 26 27.0	-1.5
	comp=Z,23nm,0.8s						
KSM	Kuching	25.57	210	⇓P	P	05 26 32.2	+1.0
	baz=26,SNR=19						
KSM	Kuching	25.57	210	⇑P	P	05 26 32.4	+1.1
ASAJ	Asahikawa	25.68	34	P	P	05 26 30.5	-1.5
	comp=Z,15nm,0.4s,baz=246,slow=6.6,SNR=18						
ASAJ	Asahikawa	25.68	34	eP	P	05 26 30.3	-1.7
	comp=Z,6.2nm,0.4s						
JMP	Maruseppu	26.00	35	P	P	05 26 33.2	-1.8
MTKI	Muara Teweh, K	26.05	199	P	P	05 26 36.7	+1.1
	comp=Z,181nm,0.9s						
SWI	Sorong	26.06	161	P	P	05 26 38.1	+2.4
	comp=Z,45nm,1.1s						
KLR	Kul'dur	26.06	13	eP	P	05 26 29.7	-5.8
KLR				pmax	pmax		
	comp=E,34nm,1.2s						
KLR				pmax	pmax		
	comp=Z,73nm,1.2s						
SANI	Sanana	26.12	173	P	P	05 26 36.9	+0.6
	comp=Z,68nm,1.4s,comp=Z,1µm						
HABR	Khabarovsk	26.18	18	deP	P	05 26 32.5	-4.0
HABR				e*PP	pP	05 26 42.1	-2.2
HABR				e*SP	sP	05 26 46.5	-1.0
HABR				PPP	PPP	05 27 20.1	
HABR				e		05 29 59.9	
HABR				S	S	05 31 02.0	-4.8
HABR				e*SS	sS	05 31 18.0	-1.7
HABR				eSS	SnSn	05 32 02.3	-4.4
HABR				pmax	pmax		
	comp=E,24nm,1.3s						
HABR				pmax	pmax		
	comp=N,21nm,1.3s						
HABR				pmax	pmax		
	comp=Z,21nm,0.7s						
HABR				MLR	MLR		
	comp=Z,2µm,18.0s						
STKI	Sintang	26.31	207	P	P	05 26 40.2	+2.2
	comp=Z,89nm,1.0s						
KTGM	Kuala Trenggan	26.64	229	⇓P	P	05 26 45.6	+4.6
ULN	Ulaanbaatar	26.90	336	eP	P	05 26 42.7	-0.6
ULN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ULN	Ulaanbaatar	26.90	336	eP	P	05 26 42.7	-0.6
	comp=Z,7.6nm,0.6s						
TTSI	Tana Toraja	27.11	187	P	P	05 26 48.3	+3.1
	comp=Z,50nm,1.0s,comp=Z,1µm						
SONM	Songino Array	27.13	335	P	P	05 26 44.4	-0.9
	comp=Z,12nm,0.7s,baz=151,slow=8.0,SNR=50						
SONM				PcP	PcP	05 30 05.4	-0.2
	comp=Z,1.4nm,0.6s,baz=148,slow=4.0,SNR=7.9						
SONM				LR	LR	05 38 46.9	
	comp=Z,5µm,19.9s,baz=156,slow=40						
YUK	Yuzh-Kuril'sk	27.37	38	P	P	05 26 44.4	-2.9
YUK				iS	S	05 31 24.2	-1.5
YUK				MLR	MLR		
	comp=N,1µm,19.0s						
YUK				MLR	MLR		
	comp=E,704nm,19.0s						
YUK				MLR	MLR		
	comp=Z,1µm,19.0s						
NLAI	Namlea	27.44	171	P	P	05 26 50.6	+2.5
	comp=Z,272nm,0.9s,comp=Z,3µm						
SURT	Suratani	27.52	241	P	P	05 26 53.1	+4.2
	comp=Z,12nm,1.7s,comp=Z,259nm						
YSS	Yuzh-Sakhalins	27.81	30	eP	P	05 26 48.0	-3.2
YSS				e		05 26 56.0	
YSS				e		05 27 40.0	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	Yuzh-Sakhalins	27.81	30	eP	P	05 26 51.4	+0.2
	comp=Z,63nm,1.1s						
SPSI	Sidrap Palu	28.03	187	P	P	05 27 03.3	+10
FAKI	Fak Fak	28.31	160	P	P	05 26 55.3	-0.6
	comp=Z,76nm,1.2s						
FAKI	Fak Fak	28.31	160	⇓P	P	05 26 55.7	-0.2
	baz=28,SNR=6.9						
KULM	Kulim	28.43	232	eP	P	05 26 58.1	+1.1
	comp=Z,9.1nm,1.0s						
KULM	Kulim	28.43	232	⇓P	P	05 26 59.8	+2.8
BBKI	Banjar Baru	28.47	197	P	P	05 26 58.6	+1.2
	comp=Z,117nm,0.9s,comp=Z,4µm						
IPM	Ipoh	28.72	231	eP	P	05 26 59.9	+0.3
IPM	Ipoh	28.72	231	⇓P	P	05 27 01.7	+2.1
MYKOM	Kota Tinggi	28.83	223	⇓P	P	05 27 03.3	+2.7
LSA	Lhasa	28.85	288	P	P	05 27 03.3	+2.1
LSA				LR	LR		
	comp=Z,860nm,17.2s						
LSA				LR	LR		
	comp=Z,2µm,16.0s						
LSA				LR	LR		
	comp=Z,4µm,17.5s						
LSA	Lhasa	28.85	288	eP	P	05 27 02.9	+1.7
LSA				pmax	pmax		
	comp=Z,60nm,0.8s						
LSA	Lhasa	28.85	288	eP	P	05 27 02.9	+1.7
	comp=Z,60nm,0.8s						
KGM	Kluang	28.99	224	⇓P	P	05 27 06.5	+4.5
KAPI	Kappang	29.06	187	eP	P	05 27 02.9	+0.3
	comp=Z,424nm,1.8s						
SMPI	Sarmi	30.09	147	P	P	05 27 14.4	+2.6
	comp=Z,77nm,1.5s						
TPI	Tanjungpandan	30.52	211	P	P	05 27 16.1	+0.5
	comp=Z,79nm,1.6s,comp=Z,1µm						
TLY	Talaya	31.30	337	eP	P	05 27 21.5	-0.7
TLY				pmax	pmax		
	comp=Z,14nm,0.8s						
TLY				MLR	MLR		
	comp=Z,2µm,16.0s						
TLY	Talaya	31.30	337	eP	P	05 27 21.0	-1.2
	comp=Z,10nm,0.6s						
PSI	Prapat	31.38	231	P	P	05 27 24.3	+1.0
	comp=Z,10nm,0.7s,baz=30,slow=5.0,SNR=7.1						
PSI				PcP	PcP	05 30 16.6	-0.3
	comp=Z,2.9nm,0.3s,baz=38,slow=0.6,SNR=5.0						
PSI	Prapat	31.38	231	⇓P	P	05 27 23.8	+0.5
	baz=32,SNR=5.9						

IRK Irkutsk 31.54 338 eP P 05 27 22.5 -1.8
IRK pmax pmax
comp=Z,39nm,1.2s
TAPN Taplejung 31.84 284 eP P 05 27 29.2 +1.6
comp=Z,247nm,1.0s
TAPN Taplejung 31.84 284 eP P 05 27 29.2 +1.6
comp=Z,247nm,1.0s
ODAN Odare 32.15 283 eP P 05 27 31.6 +1.4
comp=Z,123nm,0.8s
ODAN Odare 32.15 283 eP P 05 27 31.6 +1.4
comp=Z,123nm,0.8s
MOY Mondy 32.30 334 eP P 05 27 30.5 -0.5
MMRI Maumere 32.50 181 P P 05 27 33.7 +0.7
comp=Z,753nm,1.1s,comp=Z,8µm
MMRI Maumere 32.50 181 eP P 05 27 33.2 +0.2
comp=Z,620nm,1.0s
RAMN Ramite 32.85 283 eP P 05 27 37.8 +1.5
comp=Z,234nm,1.3s
RAMN Ramite 32.85 283 eP P 05 27 37.8 +1.5
comp=Z,234nm,1.3s
BLJI Banyuglugur 32.90 197 P P 05 27 37.1 +0.6
comp=Z,69nm,1.0s,comp=Z,3µm
JIRN Jiri 33.18 284 eP P 05 27 40.7 +1.3
comp=Z,152nm,1.0s
JIRN Jiri 33.18 284 eP P 05 27 40.7 +1.3
comp=Z,152nm,1.0s
NGJI Ngawi 33.18 201 P P 05 27 41.5 +2.6
comp=Z,124nm,1.0s
SMRI Semarang 33.24 203 P P 05 27 42.1 +2.7
comp=Z,153nm,1.2s
DNP Denpasar 33.40 194 P P 05 27 43.0 +2.2
comp=Z,510nm,1.1s
GUN Gumba 33.45 285 eP P 05 27 42.8 +1.1
comp=Z,209nm,1.0s
GUN Gumba 33.45 285 eP P 05 27 42.8 +1.1
comp=Z,209nm,1.0s
SOEI Soe 33.63 178 P P 05 27 42.3 -0.7
comp=Z,99nm,1.0s
SOEI Soe 33.63 178 eP P 05 27 41.4 -1.6
comp=Z,111nm,0.9s
SOEI Soe 33.63 178 ⇑P P 05 27 41.5 -1.4
baz=34,SNR=7.3
PWJI Pagerwojo 33.69 200 P P 05 27 43.7 +0.4
comp=Z,94nm,1.0s
KLI Kotabumi 33.72 214 P P 05 27 46.3 +2.7
comp=Z,124nm,1.3s,comp=Z,6µm
MDSI Maura Dua 33.75 215 P P 05 27 45.3 +1.4
comp=Z,48nm,1.2s,comp=Z,1µm
WOJI Wonogiri, Jawa 33.80 202 P P 05 27 45.3 +1.0
comp=Z,274nm,1.1s,comp=Z,4µm
PKI Pulchoki 33.88 284 eP P 05 27 46.1 +0.7
comp=Z,110nm,1.1s
PKI Pulchoki 33.88 284 eP P 05 27 46.4 +1.0
PKI pmax pmax
comp=Z,68nm,1.1s
PKI Pulchoki 33.88 284 eP P 05 27 46.4 +1.0
comp=Z,68nm,1.1s
PKIN Phulchoki 33.89 284 eP P 05 27 46.4 +1.0
comp=Z,68nm,1.1s
KKN Kakani 33.98 284 eP P 05 27 47.1 +0.9
comp=Z,132nm,1.0s
KKN Kakani 33.98 284 eP P 05 27 47.1 +0.9
KKN pmax pmax
comp=Z,132nm,1.0s
KKN Kakani 33.98 284 eP P 05 27 47.1 +0.9
comp=Z,132nm,1.0s
UGM Wanagama 34.01 202 P P 05 27 48.2 +2.0
comp=Z,192nm,1.1s
UGM Wanagama 34.01 202 ⇓P P 05 27 47.3 +1.2
baz=34,SNR=6.1
BATI Baumata 34.06 179 P P 05 27 45.3 -1.3
comp=Z,128nm,0.9s
BATI Baumata 34.06 179 P P 05 27 44.7 -1.9
comp=Z,192nm,0.9s,baz=286,slow=0.3,SNR=16
KPJI Karang Pucung 34.06 205 P P 05 27 48.6 +2.0
comp=Z,118nm,1.4s,comp=Z,2µm
DMN Daman 34.15 284 eP P 05 27 48.5 +0.9
comp=Z,104nm,0.8s
DMN Daman 34.15 284 eP P 05 27 48.5 +0.9
comp=Z,104nm,0.8s
LEM Lembang 34.15 208 P P 05 27 50.2 +2.7
comp=Z,107nm,1.4s
LEM Lembang 34.15 208 ⇑P P 05 27 50.1 +2.5
baz=34
SBJI Serang 34.18 211 P P 05 27 50.8 +3.1
comp=Z,220nm,1.1s,comp=Z,11µm
KASI Kota Agung 34.47 214 P P 05 27 52.0 +1.9
comp=Z,93nm,1.1s
GKN Gorkha 34.54 285 eP P 05 27 51.6 +0.7
comp=Z,109nm,0.9s
GKN Gorkha 34.54 285 eP P 05 27 51.6 +0.7
comp=Z,109nm,0.9s
CISI Cisompet, Garu 34.72 207 P P 05 27 55.0 +2.6
comp=Z,141nm,1.2s
CNJI Cibinong 34.79 208 P P 05 27 54.6 +1.7
comp=Z,100nm,1.2s
WMQ Urumqi 34.90 313 P P 05 27 54.6 +0.9
WMQ pP pP 05 28 00.5 -1.1
WMQ sP sP 05 28 03.4 -1.4
WMQ PP PP 05 29 12.5 -0.5
WMQ PcP PcP 05 30 27.3 +1.1
WMQ S S 05 33 24.1 +0.6
WMQ sS sS 05 33 33.8 -2.7
WMQ PcS PcS 05 34 12.9 +0.1
WMQ SS SnSn 05 35 38.4 -0.6
WMQ ScS ScS 05 38 12.6 -0.9
WMQ pmax pmax
comp=Z,22nm,1.2s
WMQ pmax pmax
comp=Z,200nm,5.4s
WMQ LR LR
comp=Z,2µm,14.8s
WMQ LR LR
comp=Z,3µm,12.0s
WMQ LR LR
comp=Z,980nm,14.8s
DANN Dangsing 35.30 286 eP P 05 27 58.7 +1.0
comp=Z,126nm,1.0s
DANN Dangsing 35.30 286 eP P 05 27 58.7 +1.0
comp=Z,126nm,1.0s
KOLN Koldanda 35.47 285 eP P 05 28 00.1 +1.1
comp=Z,149nm,1.0s
KOLN Koldanda 35.47 285 eP P 05 28 00.1 +1.1
comp=Z,149nm,1.0s
PYUN Piuthan 35.99 285 eP P 05 28 04.6 +1.1
comp=Z,144nm,0.8s
PYUN Piuthan 35.99 285 eP P 05 28 04.6 +1.1
comp=Z,144nm,0.8s
MTN Manton Dam 37.54 167 ⇑P P 05 28 14.9 -1.5
baz=38,SNR=8.7
KDU Kakadu 37.69 165 ⇓P P 05 28 16.7 -1.0
baz=38
YAK Yakutsk 38.23 5 eP P 05 28 19.1 -2.6
YAK e*PP pP 05 28 28.7 -0.9
YAK e 05 29 45.4
YAK e 05 30 33.8
YAK eS S 05 34 11.2 -2.5
YAK e*SS sS 05 34 29.3 +2.6
YAK e 05 38 24.8
YAK pmax pmax
comp=Z,59nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,23nm,1.0s
YAK pmax pmax
comp=Z,22nm,1.3s
YAK smax smax
comp=E,92nm,3.6s
YAK smax smax
comp=N,35nm,3.1s
YAK MLR MLR
comp=Z,2µm,14.0s
YAK MLR MLR
comp=E,871nm,15.0s
YAK MLR MLR
comp=N,1µm,13.0s
YAK Yakutsk 38.23 5 eP P 05 28 19.9 -1.9
comp=N,67nm,0.8s
LGTI Lohaghat 38.34 288 ex sP 05 28 34.6 +0.4
PETK Petropavlovsk- 39.09 33 P P 05 28 27.2 -1.9
comp=N,6.3nm,0.6s,baz=171,slow=4.9,SNR=17
PET Petropavlovsk 39.52 34 ⇑iP P 05 28 30.7 -2.0
PET pmax pmax
comp=Z,45nm,0.6s
PET Petropavlovsk 39.52 34 eP P 05 28 30.6 -2.0
comp=Z,14nm,0.4s

MK31 Makanchi Array 39.54 315 P P 05 28 32.4 -0.7
MK31 pmax pmax
comp=Z,22nm,1.1s
MKAR Makanchi Array 39.54 315 P P 05 28 32.8 -0.3
comp=Z,7.4nm,0.7s,baz=98,slow=10,SNR=20
MKAR PcP PcP 05 30 39.5 -0.6
comp=Z,2.4nm,0.5s,baz=88,slow=13,SNR=6.7
MKAR LR LR 05 46 18.7
comp=Z,3µm,18.3s,baz=102,slow=38
MKAR Makanchi Array 39.54 315 ⇓P P 05 28 33.0 -0.1
baz=40
KNRA Kununurra 39.90 171 ⇑P P 05 28 36.0 -0.2
baz=40,SNR=20
PMG Port Moresby 40.82 142 d iP P 05 28 44.6 +0.7
PMG pmax pmax
comp=Z,97nm,1.0s
PMG Port Moresby 40.82 142 eP P 05 28 45.0 +1.1
comp=Z,118nm,1.1s
NDI New Delhi 41.03 287 ex P 05 28 47.0 +1.4
ZALV Zalesovo Beam 41.23 326 P P 05 28 45.2 -1.6
comp=Z,8.4nm,0.6s,baz=112,slow=8.3,SNR=17
ZALV PcP PcP 05 30 44.0 -1.4
comp=Z,3.4nm,0.5s,baz=104,slow=4.5,SNR=5.0
ZALV LR LR 05 47 07.1
comp=Z,3µm,21.4s,baz=85,slow=38
HYB Hyderabad 41.90 270 i P P 05 28 54.0 +1.2
HYB eS S 05 35 08.0 -1.7
FITZ Fitzroy Crossi 41.99 176 ⇓P P 05 28 52.9 -0.4
baz=42
KSH Kashi 42.31 303 P P 05 28 59.6 +3.5
KSH epP pP 05 29 07.9 +3.9
KSH esP sP 05 29 11.3 +4.1
KSH PcS PcS 05 34 43.3 +1.9
KSH S S 05 35 20.0 +4.5
KSH SS SS 05 38 23.6 -0.8
KSH pmax pmax
comp=Z,39nm,1.4s
KSH LR LR
comp=Z,820nm,12.1s
KSH LR LR
comp=Z,2µm,15.7s
KSH LR LR
comp=Z,3µm,14.3s
COEN Coen 42.65 150 eP P 05 28 59.8 +1.0
COEN Coen 42.65 150 P P 05 29 00.0 +1.2
baz=43,SNR=62
TKM2 Tokmak 2 43.10 308 eP P 05 29 03.8 +1.2
TKM2 Tokmak 2 43.10 308 eP P 05 29 03.8 +1.2
KURK Kurchatov 43.22 320 P P 05 29 02.9 -0.2
comp=Z,49nm,0.5s,SNR=5.0
SEY Seymchan 43.56 19 P P 05 29 04.2 -1.4
comp=Z,14nm,0.7s,baz=224,slow=6.5,SNR=51
SEY PcP PcP 05 30 52.7 -0.3
comp=Z,5.4nm,0.7s,baz=305,slow=5.0,SNR=5.9
AAK Ala-Archa 43.85 307 P P 05 29 09.3 +0.7
comp=Z,4.0nm,0.7s,baz=148,slow=7.1,SNR=6.3
AAK PcP PcP 05 30 54.8 +0.2
comp=Z,8.9nm,0.9s,baz=243,slow=4.6,SNR=5.1
AAK LR LR 05 48 30.7
comp=Z,603nm,19.7s,baz=80,slow=38
EKS2 Erkin-Say 44.38 307 eP P 05 29 13.5 +0.8
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 44.38 307 eP P 05 29 13.5 +0.8
comp=Z,5.9nm,0.8s
WB0 Warramunga Arr 44.97 165 ⇓P P 05 29 17.5 +0.1
baz=45
WB9 Warramunga Arr 44.99 165 ⇓P P 05 29 17.8 +0.2
baz=45
MBWA Marble Bar 45.05 184 eP P 05 29 17.6 -0.5
comp=Z,111nm,1.0s
WC1 Warramunga Arr 45.11 165 ⇓P P 05 29 18.7 +0.2
baz=45
WB3 Warramunga Arr 45.11 165 ⇑P P 05 29 18.8 +0.3
baz=45
WRAB Tennant Creek 45.12 165 P P 05 29 18.0 -0.6
comp=Z,651nm,1.1s,SNR=56
WRAB Tennant Creek 45.12 165 d iP P 05 29 18.9 +0.3
WRAB Tennant Creek 45.12 165 eP P 05 29 18.9 +0.3
comp=Z,119nm,1.0s
WRA Warramunga Arr 45.13 165 P P 05 29 18.9 +0.2
comp=Z,75nm,0.9s,baz=347,slow=8.3,SNR=186
WRA PcP PcP 05 30 58.9 -0.1
comp=Z,9.5nm,0.9s,baz=338,slow=4.1,SNR=4.9
WC4 Warramunga Arr 45.15 165 ⇓P P 05 29 19.2 +0.4
baz=45
WR4 Warramunga Arr 45.15 165 ⇓P P 05 29 19.2 +0.3
baz=45
WR9 Warramunga Arr 45.18 165 ⇑P P 05 29 19.5 +0.4
baz=45
KK31 Karatay Array 46.82 307 eP P 05 29 31.9 0.0
KK31 pmax pmax
comp=Z,2.0nm,0.4s
QIS Mount Isa 47.23 159 P P 05 29 36.1 +0.9
baz=47,SNR=37
FX1 Attu Island--F 47.40 39 P P 05 29 35.9 -0.3
comp=Z,11nm,0.4s,baz=313,slow=3.0,SNR=27
TIXI Tiksi 47.74 3 c iP P 05 29 36.3 -2.2
TIXI pmax pmax
comp=Z,27nm,1.2s
TIXI Tiksi 47.74 3 eP P 05 29 36.5 -2.0
comp=Z,28nm,0.9s
TIXI ePcP PcP 05 31 06.9 -0.4
AS14 Alice Springs 48.61 167 ⇑P P 05 29 46.9 +1.0
baz=49
AS07 Alice Springs 48.64 166 ⇑P P 05 29 47.1 +1.0
baz=49
BVAR Borovoye Array 48.78 320 P P 05 29 45.8 -1.2
comp=Z,3.5nm,0.6s,baz=106,slow=8.0,SNR=5.0
BVAR PcP PcP 05 31 11.0 -0.5
comp=Z,6.0nm,0.5s,baz=116,slow=2.9,SNR=9.8
WRKA Warakurna 49.08 174 P P 05 29 50.1 +0.6
baz=49,SNR=102
CTA Charters Tower 49.41 151 P P 05 29 53.3 +1.2
comp=Z,36nm,1.0s,baz=325,slow=11,SNR=15
CTA PcP PcP 05 31 13.8 -0.4
comp=Z,12nm,0.8s,baz=51,slow=3.7,SNR=4.0
CTAO Charters Tower 49.41 151 eP P 05 29 52.4 +0.3
CTAO e 05 31 12.3
CTAO pmax pmax
comp=Z,68nm,1.1s
CTAO Charters Tower 49.41 151 eP P 05 29 52.4 +0.3
comp=Z,68nm,1.1s
CTAO ePcP PcP 05 31 12.3 -2.0
MEEK Meekatharra 50.57 185 P P 05 30 00.3 -0.5
baz=51,SNR=19
BILL Bilibino 51.26 19 ⇑iP P 05 30 03.6 -1.9
BILL e 05 31 19.9
BILL pmax pmax
comp=Z,19nm,1.2s
BILL MLR MLR
comp=Z,2µm,20.0s
BILL Bilibino 51.26 19 eP P 05 30 03.7 -1.9
QLP Quilpie 54.39 156 ⇑P P 05 30 29.4 +0.3
baz=54,SNR=21
AB31 Akbulak array 54.67 314 i P P 05 30 29.9 -1.0
AB31 pmax pmax
comp=Z,13nm,0.8s
ABKAR Akbulak array 54.67 314 eP P 05 30 30.2 -0.7
ABKAR Akbulak array 54.67 314 ⇑P P 05 30 30.4 -0.6
baz=55
FORT Forrest 54.75 175 eP P 05 30 32.5 +0.9
comp=Z,134nm,0.7s
FORT Forrest 54.75 175 ⇓P P 05 30 32.5 +0.9
baz=55,SNR=43
SVE Sverdlovsk 55.09 324 eP P 05 30 30.9 -2.9
SVE pmax pmax
comp=Z,17nm,0.9s
SVE MLR MLR
comp=Z,2µm,21.0s
KLBR Kellerberrin 55.56 185 P P 05 30 37.5 +0.1
baz=56,SNR=15
AKTO Aktyubinsk 55.98 316 P P 05 30 40.9 +0.5
comp=Z,3.8nm,0.9s,baz=87,slow=8.7,SNR=4.8
AKTO PcP PcP 05 31 37.5 -1.1
comp=Z,3.2nm,0.7s,baz=73,slow=7.6,SNR=5.2
RMQ Roma 56.11 152 ⇓P P 05 30 42.7 +1.2
baz=56,SNR=7.3
ARU Arti 56.17 323 d iP P 05 30 40.2 -1.4
ARU 05 32 44.5
ARU S S 05 38 28.4 -0.8
ARU SS SS 05 42 19.3 +3.8
EIDS Eidsvold 56.19 149 eP P 05 30 42.7 +0.6
comp=Z,123nm,1.8s
EIDS Eidsvold 56.19 149 ⇑P P 05 30 42.6 +0.6
baz=56,SNR=12
NWAO Narrogin (SRO) 56.93 186 P P 05 30 47.5 +0.3

comp=Z,72nm,1.1s,baz=2.3,slow=7.7,SNR=18
BBOO Buckleboo 57.92 167 eP P 05 30 54.9 +0.8
BBOO Buckleboo 57.92 167 ⇑P P 05 30 55.0 +0.8
baz=58,SNR=34
STKA Stephens Creek 58.41 161 P P 05 30 58.4 +0.8
comp=Z,59nm,0.9s,baz=340,slow=7.0,SNR=47
STKA LR LR 05 57 27.7
comp=Z,625nm,19.3s,baz=357,slow=37
STKA Stephens Creek 58.41 161 P P 05 30 58.5 +0.8
baz=59,SNR=30
RKGY Rocky Gully 58.62 186 ⇓P P 05 31 00.0 +1.0
baz=59,SNR=14
HTT Hallett 59.16 164 ⇑P P 05 31 04.1 +1.2
baz=59,SNR=18
CMSA Cobar Meteorol 59.42 157 P P 05 31 06.3 +1.7
baz=60,SNR=35
TNA Tin City 59.73 27 eP P 05 31 05.7 -0.7
comp=Z,18nm,1.2s
ARMA Armidale 60.76 152 eP P 05 31 15.8 +1.7
comp=Z,46nm,1.2s
ARMA Armidale 60.76 152 ⇓P P 05 31 15.7 +1.7
baz=61,SNR=9.9
FALS False Pass 61.34 39 eP P 05 31 16.0 -1.6
comp=Z,38nm,0.6s
DZM Mont Dzumac 62.39 134 eP P 05 31 25.8 +0.7
comp=Z,67nm,1.3s
DZM Mont Dzumac 62.39 134 eLR LR 05 49 53.2
comp=Z,3µm,23.6s
DZM Mont Dzumac 62.39 134 P P 05 31 25.3 +0.1
comp=Z,9.0nm,0.8s,baz=284,slow=6.9,SNR=7.0
YNG Young 62.88 156 P P 05 31 29.6 +1.6
baz=63,SNR=20
ARPS Mount Arapiles 63.08 163 ⇓P P 05 31 30.1 +0.8
baz=63,SNR=8.5
PRGR Permogore 63.12 329 eP P 05 31 27.3 -2.1
PRGR pmax pmax
comp=Z,7.0nm,0.5s
MAK Makhachkala 63.63 308 eP P 05 31 29.3 -3.8
CAN Canberra 64.01 156 eP P 05 31 37.2 +1.6
CAN pmax pmax
comp=Z,13nm,0.6s
CAN Canberra 64.01 156 eP P 05 31 37.2 +1.6
comp=Z,13nm,0.6s
CAN Canberra 64.01 156 ⇑P P 05 31 36.9 +1.3
baz=64
CNB Canberra Magne 64.14 156 P P 05 31 38.0 +1.5
baz=64,SNR=15
TOO Toolangi 64.87 160 P P 05 31 42.6 +1.4
baz=65,SNR=11
IM04 Indian Mountai 65.56 27 eP P 05 31 45.7 +0.4
KLMR Klimovskoe 66.12 328 eP P 05 31 47.6 -1.4
KLMR pmax pmax
comp=Z,44nm,1.5s
VRHR Novokhopersk 66.31 317 eP P 05 31 48.3 -2.1
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,50nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR MLR MLR
comp=N,170nm,16.0s
VRHR MLR MLR
comp=E,470nm,16.0s
VRHR MLR MLR
comp=Z,480nm,16.0s
TMCR Tamitsa 66.42 332 eP P 05 31 46.9 -3.9
TMCR e 05 32 18.1
TMCR pmax pmax
comp=Z,35nm,1.0s
PPLA Purkeypile 66.56 30 eP P 05 31 52.6 +0.6
comp=Z,15nm,0.7s
RSO Redoubt South 66.61 32 eP P 05 31 52.2 -0.2
comp=Z,46nm,0.9s
OHAK Old Harbor 66.79 36 eP P 05 31 52.5 -0.8
comp=Z,28nm,0.8s
KBZ Khabaz 66.80 309 P P 05 31 54.2 +0.6
comp=Z,6.2nm,0.9s,baz=179,slow=6.1,SNR=5.0
KBZ LR LR 06 04 46.8
comp=Z,1µm,18.8s,baz=58,slow=39
COLD Coldfoot 66.86 25 eP P 05 31 54.4 +0.7
comp=Z,8.9nm,0.6s
KIV Kislovodsk 66.91 309 eP P 05 31 55.3 +0.8
KIV e 05 32 23.6
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,1µm,21.0s
KTH Kantishna Hill 67.04 29 eP P 05 31 54.8 -0.2
comp=Z,30nm,1.1s
KDAK Kodiak Island 67.08 35 P P 05 31 54.0 -1.1
comp=Z,338nm,1.3s,SNR=22
LVZ Lovozero 67.32 336 eP P 05 31 56.0 -0.6
LVZ pmax pmax
comp=Z,16nm,1.2s
TRF Thorofare Moun 67.34 29 eP P 05 31 57.4 +0.4
comp=Z,17nm,1.0s
VORD Divnogorie 67.78 317 eP P 05 31 57.9 -1.8
VSR Storozhevoye 67.81 318 eP P 05 31 58.8 -1.1
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=N,430nm,19.0s
VSR MLR MLR
comp=E,390nm,19.0s
VSR MLR MLR
comp=Z,780nm,19.0s
APA Apatity 67.84 336 ⇓iP P 05 31 59.0 -0.8
APA i S S 05 40 52.0 -4.1
APA i 05 41 40.0
APA i SSS SSS 05 48 19.0
APA MLR MLR
comp=Z,1µm,19.0s
MCK McKinley 67.89 29 eP P 05 32 00.0 -0.2
MCK pmax pmax
comp=Z,65nm,1.2s
MCK McKinley 67.89 29 eP P 05 32 00.0 -0.2
comp=Z,65nm,1.2s
RC01 Rabbit Creek A 67.97 32 eP P 05 31 60.0 -0.8
comp=Z,14nm,0.5s
COLA College 68.16 27 d iP P 05 32 01.5 -0.4
COLA pmax pmax
comp=Z,50nm,0.9s
COLA College 68.16 27 eP P 05 32 01.8 -0.1
comp=Z,16nm,0.6s
PMR Palmer 68.17 31 eP P 05 32 01.5 -0.5
PMR pmax pmax
comp=Z,25nm,0.9s
PMR Palmer 68.17 31 eP P 05 32 01.5 -0.5
comp=Z,25nm,0.9s
SEW Seward 68.29 33 eP P 05 32 02.3 -0.5
comp=Z,69nm,1.1s
OBN Obninsk 68.58 322 eP P 05 32 08.9 +4.2
OBN e 05 32 37.4
OBN e 05 34 41.5
OBN pmax pmax
comp=Z,58nm,2.0s
OBN MLR MLR
comp=Z,981nm,18.0s
ILAR Eielson Array 68.59 27 P P 05 32 03.2 -1.3
comp=Z,4.8nm,0.5s,baz=267,slow=4.6,SNR=123
PAX Paxson 69.57 29 eP P 05 32 11.0 +0.2
PAX pmax pmax
comp=Z,25nm,1.1s
PAX Paxson 69.57 29 eP P 05 32 11.0 +0.2
comp=Z,25nm,1.1s
JOF Joensuu 69.60 331 eP P 05 32 09.2 -1.6
JOF pmax pmax
comp=Z,11nm,0.5s
JOF Joensuu 69.60 331 ep P 05 32 09.2 -1.6
comp=Z,11nm,0.5s
KEV Kevo 69.68 338 eP P 05 32 10.3 -0.9
KEV pmax pmax
comp=Z,9.0nm,0.7s
KEV Kevo 69.68 338 ep P 05 32 10.3 -0.9
comp=Z,9.4nm,0.7s
DIV Divide 69.85 31 eP P 05 32 12.8 +0.2
comp=Z,82nm,1.1s
RAYN Ar Rayn 69.91 287 eP P 05 32 13.8 +0.2
SPITS Spitsbergen Ar 69.94 348 P P 05 32 11.9 -0.8
comp=Z,4.4nm,0.6s,baz=81,slow=10,SNR=21
DOT Dot Lake 70.04 28 eP P 05 32 13.3 -0.3
comp=Z,34nm,1.0s

ARCES ARCESS Array B 70.25 338 P P 05 32 14.3 -0.4
comp=Z,6.2nm,0.8s,baz=60,slow=7.2,SNR=9.7
MENT Mentasta 70.36 29 eP P 05 32 16.0 +0.4
BMRM Bremner River 70.44 31 eP P 05 32 16.4 +0.2
comp=Z,27nm,0.9s
EGAK Eagle 70.97 27 eP P 05 32 19.2 -0.1
comp=Z,27nm,1.0s
KAF Kangasniemi 72.05 331 eP P 05 32 24.5 -1.2
KAF pmax pmax
comp=Z,6.0nm,0.4s
KAF Kangasniemi 72.05 331 ep P 05 32 24.5 -1.2
comp=Z,5.8nm,0.4s
FINES FINESS Array B 72.36 330 P P 05 32 26.8 -0.8
comp=Z,8.7nm,0.5s,baz=74,slow=5.1,SNR=39
FINES LR LR 06 07 47.9
comp=Z,2μm,19.2s,baz=90,slow=39
VSU Vasula 72.96 327 eP P 05 32 30.0 -1.2
VSU pmax pmax
comp=Z,46nm,1.0s
ALE Alert 73.60 1 P P 05 32 34.0 -0.7
comp=Z,51nm,1.0s,SNR=5.1
HYT Haines Junctio 73.80 30 eP P 05 32 39.5 +3.2
AKASG Malin Array Be 74.02 319 P P 05 32 36.2 -1.4
comp=Z,4.4nm,0.5s,baz=65,slow=6.4,SNR=22
KIEV Kiev 74.03 319 eP P 05 32 36.4 -1.3
KIEV Kiev 74.03 319 eP P 05 32 36.4 -1.3
ASF Jabal al Asfar 74.43 299 P P 05 32 42.4 +1.9
comp=Z,9.8nm,1.0s,baz=34,slow=2.3,SNR=4.1
BRTR Keskin Array B 74.53 307 P P 05 32 41.4 +0.4
SIT Sitka 76.24 33 eP P 05 32 51.2 +0.9
SIT pmax pmax
comp=Z,86nm,1.0s
SIT Sitka 76.24 33 eP P 05 32 51.2 +0.9
comp=Z,86nm,1.0s
SUW Suwalki 76.36 323 eP P 05 32 52.2 +1.2
SUW Suwalki 76.36 323 eP P 05 32 52.1 +1.1
SUW Suwalki 76.36 323 eP P 05 32 48.9 -2.1
DAG Danmarks Havn 76.73 352 iP P 05 32 51.9 -0.8
DAG pmax pmax
comp=Z,4.0nm,1.0s
DAG Danmarks Havn 76.73 352 iP P 05 32 51.9 -0.8
comp=Z,4.1nm,1.0s
ISP Isparta 77.46 306 eP P 05 32 57.8 +0.1
ISP Isparta 77.46 306 eP P 05 32 57.8 +0.1
MLR Muntele Rosu 77.88 314 P P 05 33 00.2 +0.3
comp=Z,1.1nm,0.5s,baz=352,slow=5.4,SNR=9.2
WRAK Wrangell Islan 78.00 33 eP P 05 33 01.1 +1.0
comp=Z,57nm,1.1s
WRAK ePcP PcP 05 33 10.4 +0.5
DLBC Dease Lake 78.23 31 P P 05 33 02.7 +1.1
comp=Z,31nm,0.8s,baz=298,slow=5.5,SNR=68
DLBC Dease Lake 78.23 31 eP P 05 33 02.1 +0.5
DLBC ePcP PcP 05 33 12.2 +1.2
KWP Kalwaria Pacla 78.32 319 eP P 05 33 02.3 +0.2
KWP Kalwaria Pacla 78.32 319 eP P 05 33 02.3 +0.2
HFS Hagfors 78.45 331 P P 05 33 01.5 -1.1
comp=Z,5.1nm,0.5s,baz=87,slow=5.8,SNR=15
RES Resolute Bay 78.52 10 P P 05 33 02.0 -0.8
RES Resolute Bay 78.52 10 P P 05 33 02.0 -0.8
comp=Z,6.3nm,0.7s,baz=305,slow=5.3,SNR=20
NB2 NORSAR Subarra 79.08 333 P P 05 33 04.8 -1.3
comp=Z,7.6nm,0.6s,baz=55,slow=5.6
NOA NORSAR Array B 79.08 333 P P 05 33 04.9 -1.2
comp=Z,5.0nm,0.5s,baz=55,slow=5.6,SNR=20
NOA LR LR 06 11 44.7
comp=Z,2μm,18.7s,baz=75,slow=38
STHS Stebnicka Huta 79.28 319 eP P 05 33 08.6 +1.2
STHS pmax pmax
comp=Z,5.0nm,1.2s
STHS Stebnicka Huta 79.28 319 eP P 05 33 08.6 +1.2
CRVS Cervenica-Dubn 79.36 319 eP P 05 33 07.9 0.0
CRVS pmax pmax
comp=Z,30nm,1.7s
CRVS Cervenica-Dubn 79.36 319 eP P 05 33 07.9 0.0
BSD Bornholm Skovb 80.25 326 iP P 05 33 12.7 +0.2
comp=Z,13nm,0.9s
OKC Ostrava-Krasne 80.92 321 eP P 05 33 26.9 +11
OKC MLR MLR
comp=Z,400nm,15.9s
OKC Ostrava-Krasne 80.92 321 epP pP 05 33 26.9 +2.2
OKC AMS AMS 06 14 40.0
comp=Z,400nm,15.9s
VYHS Vyhne 81.11 319 eP P 05 33 18.1 +0.8
VYHS pmax pmax
comp=Z,9.0nm,1.1s
VYHS Vyhne 81.11 319 eP P 05 33 18.1 +0.8
KSP Ksiaz 81.52 322 eP P 05 33 20.1 +0.7
KSP MLR MLR
comp=Z,5μm,19.8s
KSP Ksiaz 81.52 322 eP P 05 33 20.2 +0.8
DPC Dobruska-Polom 81.73 322 eP P 05 33 19.7 -0.9
DPC Dobruska-Polom 81.73 322 eP P 05 33 19.7 -0.9
DPC AMS AMS 06 13 20.0
UPC Upice 81.83 322 eP P 05 33 22.2 +1.1
UPC Upice 81.83 322 eP P 05 33 22.2 +1.1
VRAC Vranov 82.06 321 P P 05 33 23.1 +0.8
comp=Z,6.9nm,0.7s,baz=58,slow=7.7,SNR=6.4
YKA Yellowknife Ar 82.46 23 P P 05 33 23.7 -0.3
comp=Z,20nm,0.6s,baz=307,slow=5.2,SNR=472
YKA PKPbc PKKPbc 05 51 47.7 -3.7
comp=Z,0.5nm,0.6s,baz=131,slow=2.6,SNR=22
IDI Anoyia 82.62 305 P P 05 33 25.1 -0.5
comp=Z,24nm,1.1s,baz=37,slow=13,SNR=3.9
TREC Trest 82.70 321 eP P 05 33 25.6 -0.1
TREC e 05 33 35.0
TREC MLR MLR
comp=Z,700nm,17.3s
TREC Trest 82.70 321 eP P 05 33 25.6 -0.1
TREC epP pP 05 33 35.0 +0.8
TREC AMS AMS 06 13 20.0
comp=Z,700nm,17.3s
SUMG Summit 82.79 354 iP P 05 33 25.7 -0.4
SUMG pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 82.79 354 iP P 05 33 25.7 -0.4
comp=Z,9.6nm,1.0s
BRG Berggiesshubel 82.81 323 eP P 05 33 26.4 +0.2
comp=Z,7.0nm,0.9s
PRU Pruhonice 82.91 322 eP P 05 33 26.6 -0.1
PRU e 05 33 36.3
PRU MLR MLR
comp=Z,900nm,18.8s
PRU Pruhonice 82.91 322 eP P 05 33 26.6 -0.1
PRU epP pP 05 33 36.3 +1.1
PRU AMS AMS 06 14 20.0
comp=Z,900nm,18.8s
PRA Prague 82.93 322 P P 05 33 27.0 +0.2
CLL Collm 83.11 324⇑iP P 05 33 27.9 +0.2
CLL MLR MLR
comp=Z,1μm,18.4s
CLL Collm 83.11 324 eP P 05 33 27.8 +0.1
comp=Z,14nm,1.1s
CLL Collm 83.11 324⇑iP P 05 33 27.9 +0.2
comp=Z,13nm,1.1s
CLL Lm MLR 06 16 00.0
comp=N,300nm,20.6s
CLL Lm MLR 06 16 00.0
comp=E,800nm,22.0s
CLL Lm MLR 06 16 00.0
comp=Z,1μm,18.4s
KHC Kasperske Hory 83.88 321 eP P 05 33 32.5 +0.7
KHC Kasperske Hory 83.88 321 eP P 05 33 31.6 -0.2
KHC epP pP 05 33 41.1 +0.8
KHC AMS AMS 06 14 40.0
comp=Z,800nm,17.4s
KHC Kasperske Hory 83.88 321 eP P 05 33 32.5 +0.7
GEC2 GERESS Array S 83.95 321 eP P 05 33 32.5 +0.3
comp=Z,14nm,0.9s
GERES GERESS Array B 83.95 321 P P 05 33 32.3 +0.1
comp=Z,7.9nm,0.7s,baz=57,slow=4.8,SNR=25
GUNZ Gunzen 83.95 323 eP P 05 33 31.6 -0.5
comp=Z,34nm,1.6s
PERS Pernice 84.20 319 iPKPbc P 05 33 33.1 -0.4
ROTZ Rotzenmuhle 84.33 322 eP P 05 33 34.8 +0.8
comp=Z,16nm,1.1s
BOJS Bojanici 84.67 318 iPKPbc P 05 33 36.6 +0.8
VISS Visnje 84.77 318 ePKPbc P 05 33 35.9 -0.5
GRF Grafenberg Arr 84.91 323 eP P 05 33 37.7 +0.7
comp=Z,106nm,2.3s
RJOB Jochberg 85.03 320 eP P 05 33 38.1 +0.4
comp=Z,13nm,1.0s
JAVS Javornik 85.20 318 ePKPbc P 05 33 37.6 -1.0
ABPO Ambohimpanom 85.28 247 eP P 05 33 39.8 +0.3
ABPO pmax pmax
comp=Z,21nm,1.0s

ABPO Ambohimpanom 85.28 247 eP P 05 33 39.8 +0.3
comp=Z,21nm,1.0s
FUR Furstenfeldbru 85.68 321 eP P 05 33 41.8 +0.9
comp=Z,61nm,1.0s
BUG Bochum--Univer 86.08 326 eP P 05 33 43.2 +0.5
comp=Z,32nm,1.2s
KMBO Kilima Mbogo 86.51 267 eP P 05 33 46.8 +1.0
KMBO Kilima Mbogo 86.51 267 P P 05 33 47.5 +1.7
comp=Z,6.0nm,0.9s,baz=40,slow=5.6,SNR=12
KMBO Kilima Mbogo 86.51 267 eP P 05 33 46.8 +1.0
PGC Sidney 86.53 37 eP P 05 33 45.6 +0.7
comp=Z,2.1nm,1.3s
NLWA Neilton Lookou 86.97 39 eP P 05 33 48.5 +1.2
comp=Z,72nm,1.6s
NLWA epP pP 05 33 57.6 +1.8
MEM Membach 87.21 325 P P 05 33 48.3 0.0
DAVOX Davos/Dischmat 87.22 321 P P 05 33 48.2 -0.5
comp=Z,6.9nm,0.7s,baz=90,slow=2.3,SNR=9.9
JCW Jim Creek 87.62 37 P P 05 33 51.3 +0.9
WLF Walferdange 87.68 325 P P 05 33 50.6 0.0
comp=Z,42nm,2.3s
WLF Walferdange 87.68 325 eP P 05 33 51.6 +1.1
comp=Z,34nm,1.0s
BCLA Clavier 87.68 325 P P 05 33 51.1 +0.5
CEL Celeste 87.76 311 eP P 05 33 51.8 +0.5
comp=Z,57nm,1.3s
CDF Champ du Feu 87.79 323 eP P 05 33 50.2 -1.0
comp=Z,35nm,1.0s
CDF Champ du Feu 87.79 323 eP P 05 33 50.2 -1.0
CDF pmax pmax
comp=Z,35nm,1.0s
CDF Champ du Feu 87.79 323 eP P 05 33 50.2 -1.0
comp=Z,35nm,1.0s
GIVF Givet 88.12 325 eP P 05 33 51.4 -1.2
GIVF Givet 88.12 325 eP P 05 33 51.4 -1.2
GIVF Givet 88.12 325 eP P 05 33 51.4 -1.2
DOU Dourbes 88.24 325 P P 05 33 52.9 -0.3
HINF Hinteralfeld 88.36 323 eP P 05 33 52.5 -1.4
comp=Z,10nm,0.8s
HINF Hinteralfeld 88.36 323 eP P 05 33 52.5 -1.4
HINF pmax pmax
comp=Z,10.0nm,0.8s
HINF Hinteralfeld 88.36 323 eP P 05 33 52.5 -1.4
comp=Z,10nm,0.8s
BAIF Baives 88.47 326 eP P 05 33 53.4 -0.9
BAIF Baives 88.47 326 eP P 05 33 53.4 -0.9
BAIF Baives 88.47 326 eP P 05 33 53.4 -0.9
TDL Tradedollar La 88.49 39 P P 05 33 55.6 +0.9
LON Longmire 88.50 38 eP P 05 33 55.2 +0.6
LON e*PP pP 05 34 04.2 +1.0
LON pmax pmax
comp=Z,31nm,1.2s
LON Longmire 88.50 38 eP P 05 33 55.2 +0.6
comp=Z,31nm,1.2s
LON epP pP 05 34 04.2 +1.0
G03D McMinnville, O 88.51 40 ⇑P P 05 33 55.3 +0.7
baz=88
HAU Haudompre 88.53 323 eP P 05 33 53.2 -1.5
comp=Z,19nm,0.9s
HAU eR
comp=Z,846nm,21.8s
HAU Haudompre 88.53 323 eP P 05 33 53.2 -1.5
HAU pmax pmax
comp=Z,19nm,0.9s
HAU Haudompre 88.53 323 eP P 05 33 53.2 -1.5
comp=Z,19nm,0.9s
COR Corvallis 88.83 41 eP P 05 33 57.8 +1.7
COR e*PP pP 05 34 06.6 +2.0
COR pmax pmax
comp=Z,97nm,1.5s
COR Corvallis 88.83 41 eP P 05 33 57.8 +1.7
comp=Z,97nm,1.5s
COR epP pP 05 34 06.6 +2.0
EDM Edmonton 88.92 30 eP P 05 33 56.3 -0.1
EDM e*PP pP 05 34 06.4 +1.4
EDM Edmonton 88.92 30 eP P 05 33 56.3 -0.1
EDM epP pP 05 34 06.4 +1.4
MEZF Maizieres J'vi 88.94 324 eP P 05 33 55.8 -0.8
MEZF Maizieres J'vi 88.94 324 eP P 05 33 55.8 -0.8
WTV Waterville 89.00 37 P P 05 33 57.5 +0.5
NAC Naches 89.07 38 P P 05 33 58.2 +1.0
SFJD Kangerlussuaq 89.09 357 eP P 05 33 56.0 -0.9
SFJD pmax pmax
comp=Z,7.0nm,1.0s
SFJD Kangerlussuaq 89.09 357 iP P 05 33 56.0 -0.9
comp=Z,6.9nm,0.9s
EBG Ellensburg 89.11 38 P P 05 33 58.5 +1.1
SFTF Sexfontaines 89.13 324 eP P 05 33 56.3 -1.1
comp=Z,28nm,0.8s
SFTF Sexfontaines 89.13 324 eP P 05 33 56.3 -1.1
comp=Z,28nm,0.8s
I03D Drain, OR 89.29 42 ⇓P P 05 33 59.5 +1.2
baz=89
SAW Saint Andrews 89.30 37 P P 05 33 59.0 +0.7
G05D Wamic, OR 89.64 40 ⇑P P 05 34 00.8 +0.9
baz=89
LPG La Plagne 89.74 321 eP P 05 34 00.0 -0.8
comp=Z,47nm,0.8s
LPG La Plagne 89.74 321 eP P 05 34 00.0 -0.8
LPG pmax pmax
comp=Z,47nm,0.8s
LPG La Plagne 89.74 321 eP P 05 34 00.0 -0.8
comp=Z,47nm,0.8s
LPL La Plagne 89.74 321 eP P 05 33 59.9 -0.8
comp=Z,23nm,0.6s
LPL La Plagne 89.74 321 eP P 05 33 59.9 -0.8
LPL pmax pmax
comp=Z,23nm,0.6s
LPL La Plagne 89.74 321 eP P 05 33 59.9 -0.8
comp=Z,23nm,0.6s
I04A Tendick Farm, 89.80 41 ⇑P P 05 34 01.7 +1.0
baz=90
GBB Gable Butte 89.81 38 P P 05 34 01.7 +1.0
OD2 Odessa Site #2 89.86 37 P P 05 34 01.4 +0.5
HAWA Hanford 89.99 38 eP P 05 34 02.5 +1.0
comp=Z,79nm,1.5s
HAWA epP pP 05 34 12.1 +1.9
PGF Pioggiola 90.05 318 eP P 05 34 01.0 -1.0
comp=Z,32nm,0.9s
PGF Pioggiola 90.05 318 eP P 05 34 01.0 -1.0
PGF pmax pmax
comp=Z,32nm,0.9s
PGF Pioggiola 90.05 318 eP P 05 34 01.0 -1.0
comp=Z,32nm,0.9s
HUMO Hull Mountain 90.13 42 eP P 05 34 03.1 +0.8
comp=Z,22nm,1.4s
HUMO epP pP 05 34 12.6 +1.7
I05D Terrebonne, OR 90.14 40 ⇑P P 05 34 03.3 +0.9
baz=90
MBDF Montbardon 90.17 320 eP P 05 34 01.2 -1.4
comp=Z,16nm,0.8s
MBDF Montbardon 90.17 320 eP P 05 34 01.2 -1.4
MBDF pmax pmax
comp=Z,16nm,0.8s
MBDF Montbardon 90.17 320 eP P 05 34 01.2 -1.4
comp=Z,16nm,0.8s
NEW Newport 90.19 35 eP P 05 34 03.3 +0.8
NEW e*PP pP 05 34 12.9 +1.9
NEW pmax pmax
comp=Z,61nm,1.3s
NEW Newport 90.19 35 eP P 05 34 03.3 +0.8
comp=Z,61nm,1.3s
NEW epP pP 05 34 12.9 +1.9
NEW Newport 90.19 35 ⇑P P 05 34 03.6 +1.1
baz=90
SBF Sospel 90.27 319 eP P 05 34 01.6 -1.4
comp=Z,84nm,1.0s
SBF Sospel 90.27 319 eP P 05 34 01.6 -1.4
SBF pmax pmax
comp=Z,84nm,1.0s
SBF Sospel 90.27 319 eP P 05 34 01.6 -1.4
comp=Z,84nm,1.0s
J04D Umpqua Nationa 90.29 41 ⇑P P 05 34 04.3 +1.0
baz=90
LOR Lormes 90.32 323 eP P 05 34 01.8 -1.3
comp=Z,26nm,1.1s
LOR eR
comp=Z,718nm,19.0s
LOR Lormes 90.32 323 eP P 05 34 01.8 -1.3
LOR pmax pmax
comp=Z,26nm,1.1s
LOR Lormes 90.32 323 eP P 05 34 01.8 -1.3
comp=Z,26nm,1.1s
ORIF Oris-en-Rattie 90.58 321 eP P 05 34 03.5 -0.9
comp=Z,23nm,0.8s
ORIF eR

comp=Z,845nm,20.0s
ORIF Oris-en-Rattie 90.58 321 eP P 05 34 03.5 -0.9
ORIF pmax pmax
comp=Z,23nm,0.8s
ORIF Oris-en-Rattie 90.58 321 eP P 05 34 03.5 -0.9
comp=Z,23nm,0.8s
SSF Saint Saulge 90.64 323 eP P 05 34 03.4 -1.1
comp=Z,5.2nm,0.6s
SSF Saint Saulge 90.64 323 eP P 05 34 03.4 -1.1
SSF pmax pmax
comp=Z,5.0nm,0.6s
SSF Saint Saulge 90.64 323 eP P 05 34 03.4 -1.1
comp=Z,5.2nm,0.6s
SMF Signal de Mont 90.71 323 eP P 05 34 03.7 -1.2
comp=Z,50nm,1.0s
SMF Signal de Mont 90.71 323 eP P 05 34 03.7 -1.2
SMF pmax pmax
comp=Z,50nm,1.0s
SMF Signal de Mont 90.71 323 eP P 05 34 03.7 -1.2
comp=Z,50nm,1.0s
PINOR Pine Mountain 90.71 41 eP P 05 34 06.4 +1.5
comp=Z,40nm,1.2s
PINOR epP pP 05 34 15.6 +2.1
J05D Fort Rock, OR 90.80 41 ⇓P P 05 34 06.7 +1.2
baz=90
K04D Chiloquin, OR 90.86 42 ⇑P P 05 34 06.9 +1.1
baz=91
M02C Callahan 90.86 43 ⇑P P 05 34 07.1 +1.3
baz=91
AVF Avril sur Loir 90.89 323 eP P 05 34 04.2 -1.5
comp=Z,26nm,1.1s
AVF Avril sur Loir 90.89 323 eP P 05 34 04.2 -1.5
AVF pmax pmax
comp=Z,26nm,1.1s
AVF Avril sur Loir 90.89 323 eP P 05 34 04.2 -1.5
comp=Z,26nm,1.1s
FRF La Foret Royal 90.91 319 eP P 05 34 04.8 -1.1
comp=Z,42nm,1.0s
FRF La Foret Royal 90.91 319 eP P 05 34 04.8 -1.1
FRF pmax pmax
comp=Z,42nm,1.0s
FRF La Foret Royal 90.91 319 eP P 05 34 04.8 -1.1
comp=Z,42nm,1.0s
N02D Trinity Center 91.19 44 ⇓P P 05 34 07.8 +0.5
baz=91
M04C Macdoel 91.28 43 ⇑P P 05 34 08.6 +0.8
baz=91
VIVF Saint-Julien-l 91.31 321 eP P 05 34 06.7 -1.0
comp=Z,24nm,0.9s
VIVF Saint-Julien-l 91.31 321 eP P 05 34 06.7 -1.0
VIVF pmax pmax
comp=Z,24nm,0.9s
VIVF Saint-Julien-l 91.31 321 eP P 05 34 06.7 -1.0
comp=Z,24nm,0.9s
WALA Waterton Lakes 91.35 33 eP P 05 34 08.4 +0.4
comp=Z,2.9nm,1.4s
WALA epP pP 05 34 18.4 +1.9
BSMT Bassoo Peak 91.67 35 eP P 05 34 10.8 +1.3
BSMT epP pP 05 34 20.1 +1.9
BLMT Blacktail Moun 91.79 34 eP P 05 34 11.5 +1.3
comp=Z,39nm,1.4s
BLMT epP pP 05 34 20.6 +1.9
FCC Fort Churchill 91.97 18 eP P 05 34 09.5 -0.9
FCC e*PP pP 05 34 19.4 +0.4
FCC pmax pmax
comp=Z,2.0nm,1.1s
FCC Fort Churchill 91.97 18 eP P 05 34 09.5 -0.9
comp=Z,1.6nm,1.1s
FCC epP pP 05 34 19.4 +0.4
JTMT Jette 92.00 35 eP P 05 34 12.3 +1.3
comp=Z,28nm,1.4s
JTMT epP pP 05 34 20.9 +1.4
YBMT Yellow Bay 92.06 34 eP P 05 34 11.8 +0.6
comp=Z,28nm,1.1s
YBMT epP pP 05 34 21.8 +1.9
MOD Modoc 92.15 42 eP P 05 34 12.6 +0.8
comp=Z,25nm,1.1s
MOD epP pP 05 34 21.6 +1.2
BMO Blue Mountains 92.17 38 eP P 05 34 12.1 +0.3
comp=Z,26nm,1.1s
BMO epP pP 05 34 21.6 +1.3
LASF Ste Croix 92.25 321 eP P 05 34 11.3 -0.8
LASF Ste Croix 92.25 321 eP P 05 34 11.3 -0.8
SWMT Swartz Lake 92.30 35 eP P 05 34 13.0 +0.6
comp=Z,16nm,1.0s
SWMT epP pP 05 34 22.1 +1.2
FFC Flin Flon 92.60 24 P P 05 34 13.0 -0.4
comp=Z,410nm,1.0s,SNR=31
FFC Flin Flon 92.60 24 eP P 05 34 13.1 -0.4
FFC e*PP pP 05 34 22.6 +0.6
FFC Flin Flon 92.60 24 eP P 05 34 13.1 -0.4
comp=Z,97nm,1.1s
FFC epP pP 05 34 22.6 +0.6
SLMT Seeley Lake 92.73 35 eP P 05 34 14.8 +0.4
comp=Z,61nm,1.3s
SLMT epP pP 05 34 24.2 +1.2
CAF Calviac 92.74 322 eP P 05 34 13.9 -0.5
comp=Z,38nm,1.0s
CAF Calviac 92.74 322 eP P 05 34 13.9 -0.5
CAF pmax pmax
comp=Z,38nm,1.0s
CAF Calviac 92.74 322 eP P 05 34 13.9 -0.5
comp=Z,38nm,1.0s
MSO Missoula 92.77 35 ⇓P P 05 34 14.6 +0.1
baz=92,SNR=10
RJF Les Rejaudoux 92.81 323 eP P 05 34 14.4 -0.2
comp=Z,67nm,1.1s
RJF eR
comp=Z,626nm,17.5s
RJF Les Rejaudoux 92.81 323 eP P 05 34 14.4 -0.2
RJF pmax pmax
comp=Z,67nm,1.1s
RJF Les Rejaudoux 92.81 323 eP P 05 34 14.4 -0.2
comp=Z,67nm,1.1s
WVOR Wild Horse Val 92.84 41 eP P 05 34 16.0 +1.0
WVOR e*PP pP 05 34 25.2 +1.6
WVOR pmax pmax
comp=Z,33nm,1.5s
WVOR Wild Horse Val 92.84 41 eP P 05 34 15.9 +1.0
comp=Z,33nm,1.5s
WVOR epP pP 05 34 25.2 +1.6
MFF Saint Martin d 92.89 325 eP P 05 34 13.6 -1.3
MFF Saint Martin d 92.89 325 eP P 05 34 13.6 -1.3
MFF Saint Martin d 92.89 325 eP P 05 34 13.6 -1.3
CHMT Chamberlain Mo 93.07 35 eP P 05 34 16.5 +0.4
comp=Z,14nm,1.4s
CHMT epP pP 05 34 25.7 +1.1
LFF La Frestale 93.47 323 eP P 05 34 17.3 -0.3
comp=Z,64nm,1.2s
LFF La Frestale 93.47 323 eP P 05 34 17.3 -0.3
LFF pmax pmax
comp=Z,64nm,1.2s
LFF La Frestale 93.47 323 P P 05 34 17.3 -0.3
comp=Z,64nm,1.2s
KEST Kesra 93.55 312 P P 05 34 18.3 -0.1
comp=Z,4.0nm,0.8s,baz=245,slow=0.9,SNR=9.5
KEST PKPbc PKKPbc 05 51 22.9 -1.0
comp=Z,0.5nm,0.5s,baz=16,slow=4.1,SNR=5.1
MTLF Montolieu 93.64 321 eP P 05 34 17.8 -0.7
MTLF Montolieu 93.64 321 eP P 05 34 17.8 -0.7
MTLF Montolieu 93.64 321 eP P 05 34 17.8 -0.7
MFID Camas Ranch 93.89 39 eP P 05 34 20.5 +0.7
comp=Z,32nm,1.2s
MFID epP pP 05 34 30.2 +1.8
HRY Holter Researc 93.94 34 eP P 05 34 20.6 +0.7
comp=Z,7.2nm,0.6s
A19A Klindworth Far 93.96 31 ⇓P P 05 34 20.1 +0.2
baz=94,SNR=9.0
EGMT Eagleton 94.10 32 eP P 05 34 20.9 +0.3
comp=Z,48nm,1.5s
EGMT epP pP 05 34 29.9 +0.7
EGMT Eagleton 94.10 32 ⇓P P 05 34 20.5 -0.1
baz=94,SNR=7.6
B19A Brinkman Farms 94.19 32 ⇑P P 05 34 21.1 +0.1
baz=94
LRM Limekiln Ridge 94.20 35 eP P 05 34 22.1 +0.8
comp=Z,88nm,1.1s
CMB Columbia Colle 94.32 45 eP P 05 34 22.0 +0.2
CMB pmax pmax
comp=Z,13nm,1.1s
CMB Columbia Colle 94.32 45 eP P 05 34 22.0 +0.2
comp=Z,13nm,1.1s
A20A Cobblestone Ra 94.38 31 ⇓P P 05 34 22.0 +0.2
baz=94,SNR=10
HLID Hailey 94.59 38 eP P 05 34 24.2 +1.1
comp=Z,18nm,1.1s

HLID				epP	pP	05 34 33.7	+2.0
HLID	Hailey	94.59	38	⇑P	P	05 34 24.0	+0.9
	baz=94						
C19A	Slack Wire Ran	94.64	32	⇓P	P	05 34 23.4	+0.3
	baz=94,SNR=8.2						
MCMT	McKenzie Canyo	94.64	36	eP	P	05 34 23.7	+0.3
	comp=Z,3.0nm,1.3s						
B20A	Solberg Farm,	94.65	31	⇑P	P	05 34 23.0	-0.1
	baz=94,SNR=8.4						
WAKR	Walker	94.66	44	eP	P	05 34 24.2	+0.7
	comp=Z,11nm,1.3s						
BOZ	Bozeman (W)	94.75	35	eP	P	05 34 24.2	+0.4
BOZ				e*PP	pP	05 34 33.2	+0.9
BOZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BOZ	Bozeman (W)	94.75	35	eP	P	05 34 24.2	+0.4
	comp=Z,7.6nm,1.1s						
BOZ				epP	pP	05 34 33.2	+0.9
A21A	Bergtoll Ranch	94.77	30	⇑P	P	05 34 23.7	+0.1
	baz=94,SNR=16						
PPT	Papeete	94.79	107	LR	LR	06 08 52.0	
	comp=Z,320nm,21.3s,baz=290,slow=30						
PPT2	Papeete2	94.79	107	eLR	LR	06 04 50.5	
	comp=Z,1µm,23.8s,baz=291						
D19A	Cripps Ranch,	95.12	33	⇑P	P	05 34 25.6	+0.3
	baz=95,SNR=9.5						
B21A	Ellsworth Farm	95.13	31	⇑P	P	05 34 25.4	+0.2
	baz=95						
C20A	Veseth Ranch,	95.16	32	⇓P	P	05 34 25.4	-0.1
	baz=95,SNR=5.1						
A22A	Carney Farms,	95.23	30	⇑P	P	05 34 25.3	-0.5
	baz=95,SNR=13						
NVAR	Mina Array Bea	95.42	44	P	P	05 34 27.6	+0.6
	comp=Z,2.8nm,0.5s,baz=307,slow=5.5,SNR=33						
NVAR				LR	LR	06 13 24.5	
	comp=Z,284nm,20.9s,baz=80,slow=33						
ETSF	Etsaut	95.49	322	eP	P	05 34 26.7	-0.4
	comp=Z,22nm,1.1s						
ETSF	Etsaut	95.49	322	eP	P	05 34 26.7	-0.4
ETSF				pmax	pmax		
	comp=Z,23nm,1.1s						
ETSF	Etsaut	95.49	322	eP	P	05 34 26.7	-0.4
	comp=Z,22nm,1.1s						
C21A	Desert Coulee	95.52	31	⇑P	P	05 34 26.9	-0.2
	baz=95						
D20A	Manuel Ranch,	95.54	32	⇓P	P	05 34 27.1	-0.1
	baz=95,SNR=7.6						
E19A	Rath Farm, Rou	95.65	33	⇑P	P	05 34 27.9	+0.1
	baz=95						
B22A	Reddig Ranch S	95.69	30	⇓P	P	05 34 28.0	+0.1
	baz=95						
A23A	Redstone	95.72	29	⇑P	P	05 34 27.9	-0.1
	baz=95						
SJPF	Ste Jean	95.73	322	eP	P	05 34 27.3	-0.8
	comp=Z,43nm,1.3s						
SJPF	Ste Jean	95.73	322	eP	P	05 34 27.3	-0.8
SJPF				pmax	pmax		
	comp=Z,43nm,1.3s						
SJPF	Ste Jean	95.73	322	eP	P	05 34 27.3	-0.8
	comp=Z,43nm,1.3s						
YMR	Madison River	95.75	35	eP	P	05 34 28.2	-0.3
	comp=Z,28nm,1.4s						
YMR				epP	pP	05 34 38.4	+1.3
E20A	Meyer Farm, Mu	95.95	33	⇑P	P	05 34 28.6	-0.5
	baz=96						
F19A	Roth Farm, Mol	96.00	34	⇑P	P	05 34 28.9	-0.4
	baz=96						
B23A	Brockton	96.03	30	⇓P	P	05 34 28.7	-0.7
	baz=96,SNR=6.8						
RCTC	Rector, Farmer	96.06	46	⇓P	P	05 34 29.7	0.0
	baz=96						
D21A	La Casta Ranch	96.11	32	⇓P	P	05 34 29.6	-0.1
	baz=96						
SMMC	Simmler	96.14	47	⇑P	P	05 34 29.8	-0.3
	baz=96						
A24A	Westby	96.14	29	⇓P	P	05 34 29.6	-0.2
	baz=96						
C22A	Vida	96.15	31	⇓P	P	05 34 29.3	-0.6
	baz=96						
TPH	Tonopah	96.32	44	eP	P	05 34 31.7	+0.6
TPH				e*PP	pP	05 34 41.5	+1.8
TPH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TPH	Tonopah	96.32	44	eP	P	05 34 31.7	+0.6
	comp=Z,3.7nm,0.6s						
TPH				epP	pP	05 34 41.5	+1.8
DGMT	Dagmar	96.39	29	eP	P	05 34 31.4	+0.4
	comp=Z,39nm,1.2s						
DGMT				epP	pP	05 34 40.0	+0.5
DGMT	Dagmar	96.39	29	⇑P	P	05 34 30.9	-0.1
	baz=96,SNR=6.8						
C23A	Lambert	96.43	30	⇓P	P	05 34 31.2	0.0
	baz=96						
H18A	Shoshone NF, C	96.43	35	⇑P	P	05 34 31.4	-0.1
	baz=96						
D22A	Cohagen	96.44	31	⇓P	P	05 34 31.0	-0.3
	baz=96						
VES	Vestal, Richgr	96.44	46	⇑P	P	05 34 31.4	0.0
	baz=96						
G20A	Bridger	96.80	34	⇑P	P	05 34 32.6	-0.5
	baz=96						
SBC	Santa Barbara	96.83	48	⇓P	P	05 34 33.8	+0.6
	baz=97						
D23A	Lindsay	96.88	31	⇓P	P	05 34 33.4	+0.1
	baz=97						
A26A	Wade Farm, Ken	97.02	28	⇑P	P	05 34 33.3	-0.5
	baz=97						
ARVC	Arvin	97.02	47	⇓P	Pdif	05 34 34.3	+0.1
	baz=97						
R11A	Troy Canyon, C	97.17	43	eP	Pdif	05 34 35.6	+0.5
	comp=Z,2.5nm,0.9s						
R11A				epP	pP	05 34 45.1	+1.6
R11A	Troy Canyon, C	97.17	43	⇑P	P	05 34 35.0	0.0
	baz=97						
D24A	Glendive	97.33	30	⇓P	Pdif	05 34 35.5	+0.1
	baz=97						
C25A	Freed Ranch, W	97.38	29	⇑P	Pdif	05 34 35.7	+0.1
	baz=97						
DUG	Dugway	97.67	40	⇓P	Pdif	05 34 38.0	+0.9
	baz=97						
J19A	Crowheart	97.72	36	⇓P	Pdif	05 34 38.3	+0.9
	baz=97						
I20A	Worland	97.73	35	⇑P	Pdif	05 34 38.1	+0.8
	baz=97						
A28A	Rude Farm, Bot	97.76	27	⇓P	Pdif	05 34 37.2	0.0
	baz=97						
D25A	Fairfield	97.77	30	⇑P	Pdif	05 34 37.8	+0.5
	baz=97						
G22A	Birney	97.77	33	⇓P	P	05 34 37.4	0.0
	baz=98						
PDAR	Pinedale Array	97.79	36	P	P	05 34 37.4	-0.3
	comp=Z,0.4nm,0.5s,baz=167,slow=1.5,SNR=5.8						
PDAR				PKKP	PKKPbc	05 51 11.0	-2.1
	comp=Z,0.4nm,0.9s,baz=46,slow=8.5,SNR=3.7						
C26A	Wahner Farm, P	97.81	29	⇑P	Pdif	05 34 37.7	+0.3
	baz=98						
F23A	Volborg	97.84	32	⇑P	P	05 34 37.4	-0.2
	baz=98						
B28A	Dugan Ranch, T	98.07	27	⇑P	P	05 34 38.3	-0.3
	baz=98						
C27A	Sayler Ranch,	98.15	29	⇓P	Pdif	05 34 39.0	0.0
	baz=98						
F24A	Ekalaka	98.21	31	⇓P	P	05 34 39.3	0.0
	baz=98						
E25A	Miller Ranch,	98.21	30	⇓P	P	05 34 39.3	0.0
	baz=98						
G23A	Biddle	98.22	32	⇓P	P	05 34 39.3	-0.2
	baz=98						
D26A	Manning	98.25	29	⇑P	Pdif	05 34 39.7	+0.2
	baz=98						
ULM	Lac du Bonnet	98.42	24	P	P	05 34 39.9	-0.2
	comp=Z,2.3nm,0.8s,baz=353,slow=4.0,SNR=6.5						
J21A	Lysite	98.51	35	⇓P	P	05 34 39.8	-1.1
	baz=98						
A30A	Hoffart Farm,	98.54	26	⇑P	P	05 34 39.8	-0.8
	baz=98						
F25A	Bowman	98.61	31	⇓P	Pdif	05 34 41.3	+0.2
	baz=98						
E26A	Carlson Angus	98.66	30	⇓Pdiff	Pdif	05 34 41.7	+0.3
	baz=98						
B30A	Myrvik Farm, E	98.92	26	⇑Pdiff	Pdif	05 34 42.4	0.0
	baz=99						
D28A	Regan	98.96	28	⇑Pdiff	Pdif	05 34 42.7	+0.1
	baz=99						
J22A	Midwest	98.96	34	⇓Pdiff	P	05 34 42.2	-0.7
	baz=99						
E27A	Carson	99.10	29	⇓Pdiff	Pdif	05 34 43.2	0.0
	baz=99						
D29A	Pettibone, Tap	99.48	28	⇓Pdiff	Pdif	05 34 45.1	+0.2
	baz=99						
G26A	Maurine	99.49	31	⇓Pdiff	Pdif	05 34 45.0	-0.1
	baz=99						
G27A	Dupree	99.73	30	⇑Pdiff	Pdif	05 34 46.5	+0.4
	baz=99						
D30A	Buchanan	99.80	27	⇓Pdiff	Pdif	05 34 45.8	-0.5
	baz=100						
N20A	Spence Gulch,	99.82	37	⇑Pdiff	Pdif	05 34 46.6	-0.3
	baz=100						
E29A	Napoleon	99.84	28	⇑Pdiff	Pdif	05 34 46.0	-0.5
	baz=100						
F28A	McLaughlin	99.89	29	⇓Pdiff	Pdif	05 34 46.7	0.0
	baz=100						
IRM	Iron Mountain	100.03	46	⇓Pdiff	Pdif	05 34 47.4	-0.2
	baz=100						
E30A	Jud	100.21	28	⇑Pdiff	Pdif	05 34 48.0	-0.2
	baz=100						
F29A	Eureka	100.33	29	⇓Pdiff	Pdif	05 34 48.7	0.0
	baz=100						
H28A	Mission Ridge	100.69	30	⇓Pdiff	Pdif	05 34 50.1	-0.2
	baz=100						
G30A	Faulkton	101.18	29	⇓Pdiff	Pdif	05 34 52.5	-0.1
	baz=101						
J29A	Okreek	101.98	31	⇓Pdiff	Pdif	05 34 55.8	-0.4
	baz=102						
J30A	Dallas	102.43	30	⇓Pdiff	Pdif	05 34 57.9	-0.2
	baz=102						
ECSD	EROS Data Cent	103.39	28	⇓Pdiff	Pdif	05 35 01.6	-0.8
	baz=103						
VNDA	Vanda	103.94	172	PKiKP	PKiKP	05 39 21.6	+0.5
	comp=Z,6.4nm,1.1s,baz=0.0,slow=6.1,SNR=3.7						
N31A	Bailey Ranch,	104.62	32	⇑Pdiff	Pdif	05 35 06.5	-1.4
	baz=104						
S26A	Kim	104.72	36	⇓Pdiff	Pdif	05 35 07.5	-1.0
	baz=104						
V26A	Tequesquite Ra	105.87	38	⇓PKiKP	PKiKP	05 39 25.4	-0.8
	baz=106						
Y23A	Lovelace Mesa,	105.87	41	⇓PKiKP	PKiKP	05 39 25.6	-0.8
	baz=106						
R30A	Dighton	105.91	34	⇑PKiKP	PKiKP	05 39 25.4	-0.8
	baz=106						
Y27A	Causey	107.60	39	⇑PKiKP	PKiKP	05 39 29.0	-0.4
	baz=107						
MSTX	Muleshoe	107.76	39	⇑PKiKP	PKiKP	05 39 29.6	-0.2
	baz=108						
Z27A	Tatum	107.98	39	⇑PKiKP	PKiKP	05 39 30.6	+0.4
	baz=108						
RKT	Rikitea	109.55	107	eLR	LR	06 11 41.6	
	comp=Z,938nm,28.5s,baz=294						
Z32A	Haskell	110.10	37	⇑PKiKP	PKiKP	05 39 33.4	-0.6
	baz=110						
TXAR	Lajitas Array	110.54	43	P	Pdif	05 35 34.0	-0.6
TXAR				i		05 39 34.0	
TXAR	Lajitas Array	110.54	43	Pdiff	Pdif	05 35 34.0	-0.6
	comp=Z,0.5nm,1.1s,baz=306,slow=6.1,SNR=2.7						
TXAR				PKiKP	PKiKP	05 39 34.0	-1.1
	comp=Z,0.5nm,0.7s,baz=189,slow=1.4,SNR=6.7						
TORD	Torodi Ar. Bea	111.73	296	PKiKP	PKiKP	05 39 36.2	-1.2
	comp=Z,1.6nm,0.6s,baz=16,slow=3.4,SNR=20						
TORD				PKKPbc	PKKPbc	05 50 28.1	-2.0
	comp=Z,0.9nm,0.8s,baz=228,slow=2.9,SNR=5.4						
TORD				PKKPab	PKKPab	05 50 41.0	0.0
	comp=Z,3.3nm,1.1s,baz=261,slow=2.7,SNR=7.9						
631A	Perdido Creek	112.36	41	⇑PKiKP	PKiKP	05 39 37.8	-0.6
	baz=112						
832A	Faith Ranch, C	113.54	41	⇑PKiKP	PKiKP	05 39 40.6	0.0
	baz=113						
833A	Chaparral WMA,	113.86	40	⇓PKiKP	PKiKP	05 39 41.1	-0.1
	baz=114						
DBIC	Dimbokro	120.64	294	PKP	PKPdf	05 39 53.9	-0.7
	comp=Z,3.2nm,0.5s,baz=49,slow=1.3,SNR=12						
DBIC				PKKPab	PKKPab	05 50 01.0	-0.7
	comp=Z,4.8nm,1.0s,baz=208,slow=7.1,SNR=3.3						
KIC	Kosan Boka	120.71	294	ePKP1	PKPdf	05 39 54.0	-0.8
	comp=Z,6.8nm,0.5s						
TIC	Toumodi	120.79	294	ePKP1	PKPdf	05 39 53.1	-1.9
	comp=Z,8.1nm,0.5s						
LIC	Lamto	121.02	294	ePKP1	PKPdf	05 39 54.5	-0.9
	comp=Z,35nm,1.2s						
SDV	Santo Domingo	144.67	24	ePKPdf	PKPab	05 40 38.2	-0.2
PCRV	Puerto La Cruz	145.18	13	PKPbc	PKPbc	05 40 38.2	-1.8
	comp=Z,20nm,0.5s,baz=247,slow=1.1,SNR=24						
ROSC	El Rosal	146.69	33	PKPbc	PKPbc	05 40 44.6	-0.5
	comp=Z,6.1nm,0.5s,baz=66,slow=3.3,SNR=16						
OTAV	Otavalo	148.16	44	ePKPdf	PKPdf	05 40 46.4	+0.3
OTAV				ePKPbc	PKPbc	05 40 49.3	+0.1
OTAV				ePKPab	PKPab	05 40 53.0	+0.9
RCBR	Riachuelo	152.75	308	ePKPbc	PKPbc	05 40 59.7	0.0
ATAH	Atahualpa	153.51	54	PKP	PKPdf	05 40 54.8	+0.6
	comp=Z,2.9nm,0.8s,baz=90,slow=0.4,SNR=3.6						
ATAH				PKPbc	PKiKP	05 41 02.5	+0.6
	comp=Z,9.5nm,0.9s,baz=277,slow=6.4,SNR=5.8						
ATAH				PKPab	PKPab	05 41 12.4	-1.8
	comp=Z,21nm,1.1s,baz=214,slow=2.2,SNR=7.6						
PLCA	Paso Flores	159.89	149	PKPab	PKPab	05 41 41.4	+1.0
	comp=Z,4.0nm,0.7s,baz=240,slow=4.8,SNR=12						
SAML	Samuel	163.88	22	ePKPdf	PKPdf	05 41 06.2	+0.3
LPAZ	La Paz	167.06	55	PKP	PKPdf	05 41 10.0	+0.7
	comp=Z,6.6nm,1.1s,baz=12,slow=2.8,SNR=13						
LPAZ				PKPab	PKPab	05 42 12.3	-0.9
	comp=Z,11nm,1.2s,baz=345,slow=5.3,SNR=4.5						
CFAA	Coronel Fontan	167.59	130	PKPab	PKPab	05 42 15.4	+0.9
	comp=Z,1.0nm,0.9s,baz=234,slow=4.2,SNR=9.4						
BDFB	Brasilia	168.06	313	PKP	PKPdf	05 41 09.2	-0.2
	comp=Z,5.2nm,0.7s,baz=172,slow=2.4,SNR=8.8						
BDFB				PKPab	PKPab	05 42 16.8	-0.2
	comp=Z,5.1nm,0.9s,baz=346,slow=2.4,SNR=6.7						
SIV	San Ignacio	171.13	26	PKP	PKPdf	05 41 11.5	+0.5
	comp=Z,4.6nm,0.7s,baz=199,slow=1.0,SNR=7.2						
SIV				PKPab	PKPab	05 42 29.8	-0.6
	comp=Z,2.3nm,0.6s,baz=301,slow=5.2,SNR=6.5						
CPUP	Villa Florida	177.73	174	PKPab	PKPab	05 42 59.8	+0.6
	comp=Z,5.9nm,0.9s,baz=235,slow=4.5,SNR=4.9						

CSEM 22 05:31:42.0, 46.00N×15.45E, h0km, ML1.3, After LJU
LJU 22 05:31:42.0, 46.01N×15.44E, h7km, ML1.3, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESS	Cesta pri Krsk	0.04	157	iPg	Pg	05 31 43.3	-0.2
CESS				iSg	Sg	05 31 44.1	-0.4
CESS							
	comp=Z,275nm,0.1s						
CESS	Cesta pri Krsk	0.04	157	Pg	Pg	05 31 43.3	-0.1
CESS				iSg	Sg	05 31 44.1	-0.4
	comp=Z,275nm,0.1s						
LEGS	Legarje	0.10	236	iPg	Pg	05 31 44.6	+0.2
LEGS				iSg	Sg	05 31 46.5	+0.4
LEGS	Legarje	0.10	236	iPg	Pg	05 31 44.6	+0.2
LEGS				iSg	Sg	05 31 46.5	+0.5
GOLS	Golise	0.13	88	iPg	Pg	05 31 44.9	+0.1
GOLS				iSg	Sg	05 31 46.9	+0.2
GOLS							
	comp=Z,64nm,0.1s						
GOLS	Golise	0.13	88	iPg	Pg	05 31 44.9	+0.1
GOLS				iSg	Sg	05 31 46.9	+0.2
	comp=Z,64nm,0.1s						
DOBS	Dobrina	0.14	7	⇓iPg	Pg	05 31 45.1	0.0
DOBS				iSg	Sg	05 31 47.7	+0.5
DOBS							
	comp=Z,55nm,0.1s						
DOBS	Dobrina	0.14	7	⇓iPg	Pg	05 31 45.1	0.0
DOBS				iSg	Sg	05 31 47.7	+0.5
	comp=Z,55nm,0.1s						
CRES	Cresnjev	0.18	177	iPg	Pg	05 31 45.6	-0.1
CRES				iSg	Sg	05 31 48.5	+0.3
CRES							
	comp=Z,11nm,0.1s						
CRES	Cresnjev	0.18	177	iPg	Pg	05 31 45.6	-0.1
CRES				iSg	Sg	05 31 48.5	+0.3
	comp=Z,11nm,0.1s						
GCIS	Gornji Cirnik	0.19	137	iPg	Pg	05 31 45.8	-0.1
GCIS							
	comp=Z,16nm,0.1s						
GCIS	Gornji Cirnik	0.19	137	iPg	Pg	05 31 45.8	-0.1
	comp=Z,16nm,0.1s						
PDKS	Podkum	0.32	280	iPg	Pg	05 31 48.7	+0.4
PDKS	Podkum	0.32	280	iPg	Pg	05 31 48.7	+0.4
VISS	Visnje	0.47	244	iPg	Pg	05 31 51.2	+0.1
VISS	Visnje	0.47	244	iPg	Pg	05 31 51.2	+0.1
PERS	Pernice	0.67	340	iPg	Pg	05 31 55.0	0.0
PERS	Pernice	0.67	340	iPg	Pg	05 31 55.0	0.0
MOZS	Mozjanca	0.75	293	iPg	Pg	05 31 56.6	0.0
MOZS	Mozjanca	0.75	293	iPg	Pg	05 31 56.6	0.0

MEX 22 05:49:10.8±0.5, 15.21N×93.74W, h15km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.70	46	eP	Pg	05 49 22.0	-2.6
PCIG				iS	Sg	05 49 31.2	-2.7
CCIG	Comitan	1.88	55	eP	Pn	05 49 39.7	-3.0
CCIG				iS	Sn	05 50 02.1	-4.1
CMIG	Matias Romero	2.17	330	eP	Pn	05 49 43.3	-3.1
CMIG				eS	Sn	05 50 08.4	-4.5
HUIG	Huatulco	2.34	284	iP	Pn	05 49 46.6	-2.2

ISCJB 22 05:52:02.9±0.7, 2.86S±0.07×129.86E±0.07, h33km, Error ellipse: s-maj=12.6km s-min=6.5km az=139.9
DJA 22 05:52:02.6±1.1, 3˚S±5˚×13˚0E±˚, h16km±16km, M3.6/6, MLv3.6/6
ISC 22 05:52:04.8±1.1, 2.77S±0.08×129.79E±0.06, h35km, n11, σ1.18/12, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	1.03	236	P	Pn	05 52 21.1	-1.7
MSAI				S	Sn	05 52 36.8	+0.7
BNDI	Bandanaira	1.75	176	P	Pn	05 52 33.9	+1.3
SWI	Sorong	2.40	38	P	Pn	05 52 40.8	-0.8
SWI				S	Sn	05 53 10.2	+0.5
SWI	Sorong	2.40	38	P	Pn	05 52 40.6	-1.0
	baz=2.3,SNR=16						
FAKI	Fak Fak	2.46	94	P	Pn	05 52 41.7	-0.8
FAKI	Fak Fak	2.46	94	P	Pn	05 52 41.3	-1.2
	baz=2.2,SNR=29						
NLAI	Namlea	2.73	260	P	Pn	05 52 44.9	-1.2
MTN	Manton Dam	10.10	173	P	Pn	05 54 27.7	+0.3
	baz=10,SNR=4.9						
KDU	Kakadu	10.21	165	P	Pn	05 54 27.6	-1.3
	baz=10,SNR=5.2						
WSI	Waingapu	11.66	234	P	Pn	05 54 49.4	+0.6
	baz=12,SNR=3.5						
KNRA	Kununurra	12.87	184	P	Pn	05 55 00.9	-4.4
	baz=13,SNR=4.0						

IDC 22 05:52:14.7±1.2, 14.24N×145.52E, h0km, mb3.2/4, mb1 mx3.3/34, mbtmp3.2/4, Error ellipse: s-maj=58.1km s-min=28.5km az=108.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	35.70	198	P	P	05 59 15.0	-0.2
	0.3nm,0.7s,baz=9.8,slow=10,SNR=4.2						
MKAR	Makanchi Array	61.47	316	P	P	06 02 33.5	+0.3
	0.2nm,0.5s,baz=94,slow=7.8,SNR=4.6						
ILAR	Eielson Array	67.72	25	P	P	06 03 13.3	-0.4
	0.1nm,0.6s,baz=258,slow=5.7,SNR=4.7						
YKA	Yellowknife Ar	82.00	28	P	P	06 04 36.6	+0.2
	0.1nm,0.5s,baz=282,slow=5.4,SNR=3.1						

IDC 22 06:11:59.1±1.5, 38.07N×22.21E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.2/29, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=69.3km s-min=22.6km az=125.0
ISCJB 22 06:12:00.1±0.3, 38.53N±0.02×21.64E±0.02, h13km±2km, mb3.5/3, Error ellipse: s-maj=3.1km s-min=2.7km az=135.7
CSEM 22 06:12:00.0±0.1, 38.52N×21.64E, h8km, ML3.3, Error ellipse: s-maj=3.2km s-min=2.9km az=63.0
ATH 22 06:12:00.0, 38.52N×21.63E, h21km±1km, MD3.0/25, ML3.1
THE 22 06:12:00.6, 38.51N×21.64E, h7km±1km, ML3.3/10, Error ellipse: s-maj=1.8km s-min=0.6km az=353.0
ISC 22 06:12:00.5±0.8, 38.52N±0.01×21.64E±0.02, h12km±5km, n94, σ0.71/137, mb3.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVO	Paravola	0.13	319	P	Pg	06 12 03.6	-0.2
PVO				S	Sg	06 12 06.0	-0.1
PVO	Paravola	0.13	319	P	Pg	06 12 03.6	-0.2
PVO				S	Sg	06 12 06.0	-0.1
EFP	Efpalio	0.23	113	P	Pg	06 12 04.9	-0.4
EFP				S	Sg	06 12 08.7	+0.1
EFP	Efpalio	0.23	113	ePB	Pg	06 12 05.1	-0.2
EFP				eSB	Sg	06 12 09.2	+0.6
EFP	Efpalio	0.23	113	P	Pg	06 12 04.9	-0.4
EFP				S	Sg	06 12 08.7	+0.1
EFP				eSb	Sg	06 12 09.2	+0.6
PDO	Prodromos	0.36	283	P	Pg	06 12 07.0	-0.8
PDO				S	Sb	06 12 13.8	-0.7
PDO	Prodromos	0.36	283	ePB	Pg	06 12 07.4	-0.4
PDO				eSB	Sb	06 12 13.6	+0.9
PDO	Prodromos	0.36	283	P	Pg	06 12 07.0	-0.8
PDO	Prodromos	0.36	283	ePb	Pg	06 12 07.4	-0.4
PDO				S	Sb	06 12 13.8	-0.7
LAKA	Lakka	0.39	136	P	Pg	06 12 07.5	-0.6
LAKA	Lakka	0.39	136	ePB	Pg	06 12 07.6	-0.6
LAKA	Lakka	0.39	136	ePb	Pg	06 12 07.6	-0.6
KALE	Kalithea	0.41	107	P	Pg	06 12 07.8	-0.9
KALE				S	Sg	06 12 15.0	+0.7
KALE	Kalithea	0.41	107	ePB	Pg	06 12 08.1	-0.6
KALE	Kalithea	0.41	107	P	Pg	06 12 07.8	-0.9
KALE	Kalithea	0.41	107	ePb	Pg	06 12 08.1	-0.6
KALE				S	Sg	06 12 15.0	+0.7
EVR	Evrytania	0.42	19	ePB	Pg	06 12 08.3	-0.6
EVR				eSB	Sg	06 12 15.4	+0.8
EVR	Evrytania	0.42	19	ePb	Pg	06 12 08.3	-0.6
EVR				eSb	Sg	06 12 15.4	+0.8
RLS	Riolos of Patr	0.48	196	ePB	Pg	06 12 10.1	+0.3
RLS				eSB	Sb	06 12 17.6	-0.1
RLS	Riolos of Patr	0.48	196	ePb	Pg	06 12 10.1	+0.3
RLS				eSb	Sb	06 12 17.6	-0.1
DRO	Drossia	0.57	174	P	Pg	06 12 11.1	-0.4
DRO				S	Sb	06 12 20.2	-0.1
DRO	Drossia	0.57	174	ePN	Pg	06 12 11.3	-0.2
DRO				eSN	Sb	06 12 20.5	+0.2
DRO	Drossia	0.57	174	ePn	Pg	06 12 11.3	-0.2
DRO				S	Sb	06 12 20.2	-0.1
KLV	Kalavryta, Ach	0.62	139	ePB	Pg	06 12 11.8	-0.8
KLV				eSN	Sb	06 12 22.1	+0.1
KLV	Kalavryta, Ach	0.62	139	ePb	Pg	06 12 11.8	-0.8
KLV				eSn	Sb	06 12 22.1	+0.1
MAKR	Makrakomi, Fth	0.63	38	P	Pg	06 12 12.4	-0.3
MAKR				S	Sb	06 12 22.6	+0.4
MAKR	Makrakomi, Fth	0.63	38	ePN	Pg	06 12 12.4	-0.3
MAKR				eSN	Sb	06 12 22.1	-0.1
MAKR	Makrakomi, Fth	0.63	38	P	Pg	06 12 12.4	-0.3
MAKR				eSn	Sb	06 12 22.1	-0.1
DSF	Desfina	0.71	98	P	Pg	06 12 13.0	-1.2
DSF				S	Sb	06 12 24.1	-0.4
DSF	Desfina	0.71	98	ePB	Pg	06 12 13.0	-1.2
DSF	Desfina	0.71	98	P	Pg	06 12 13.0	-1.2
DSF				S	Sb	06 12 24.1	-0.4
AGG	Agios Georgios	0.74	47	P	Pg	06 12 13.8	-1.0
AGG	Agios Georgios	0.74	47	ePN	Pg	06 12 14.4	-0.4
AGG	Agios Georgios	0.74	47	P	Pg	06 12 13.8	-1.0
AGG	Agios Georgios	0.74	47	ePn	Pg	06 12 14.4	-0.4
KFL	Anninata	0.78	239	P	Pg	06 12 14.8	-0.8
KFL				S	Sn	06 12 29.0	+0.1
KFL	Anninata	0.78	239	P	Pg	06 12 14.8	-0.8
GUR	Goura	0.80	136	P	Pg	06 12 14.7	-1.3
GUR				S	Sg	06 12 27.9	+0.7
GUR	Goura	0.80	136	ePB	Pg	06 12 15.2	-0.8
GUR				eSN	Sb	06 12 28.0	+0.7
GUR	Goura	0.80	136	P	Pg	06 12 14.7	-1.3
GUR	Goura	0.80	136	ePb	Pg	06 12 15.2	-0.8
GUR				eSn	Sb	06 12 28.0	+0.7
LKD2	Lefkada island	0.81	290	P	Pg	06 12 15.5	-0.7
LKD2				S	Sn	06 12 29.2	-0.6
LKD2	Lefkada island	0.81	290	P	Pg	06 12 15.5	-0.7
AXAR	Agios Charalam	0.84	72	ePN	Pg	06 12 16.4	-0.3
AXAR				eSN	Sb	06 12 28.4	+0.2
AXAR	Agios Charalam	0.84	72	ePn	Pg	06 12 16.4	-0.3
AXAR				eSn	Sb	06 12 28.4	+0.2
VLS	Valsamata	0.89	248	ePB	Pg	06 12 16.2	-1.4
VLS				eSN	Sb	06 12 30.4	+0.8
VLS	Valsamata	0.89	248	ePb	Pg	06 12 16.2	-1.4
VLS				eSn	Sb	06 12 30.4	+0.8
AMT	Artemida-Makis	0.98	177	P	Pb	06 12 18.9	-0.5
AMT				S	Sn	06 12 35.9	+1.9

AMT	Artemida-Makis	0.98	177	ePN	Pb	06 12 19.0	-0.5
AMT	Artemida-Makis	0.98	177	P	Pb	06 12 18.9	-0.5
LKR	Lokris	1.08	82	ePN	Pb	06 12 20.3	-0.7
LKR				eSN	Sg	06 12 35.4	+0.2
LKR	Lokris	1.08	82	ePn	Pb	06 12 20.3	-0.7
LKR				eSn	Sg	06 12 35.4	+0.2
THL	Klokotos Trika	1.09	16	ePN	Pb	06 12 20.9	-0.3
THL				eSN	Sn	06 12 37.0	+0.5
THL	Klokotos Trika	1.09	16	ePn	Pb	06 12 20.9	-0.3
THL				eSn	Sn	06 12 37.0	+0.5
LTK	Loutraki	1.16	115	ePN	Pb	06 12 22.0	-0.4
LTK	Loutraki	1.16	115	ePn	Pb	06 12 22.0	-0.4
VLX	Vlachokerasia	1.29	153	P	Pn	06 12 23.9	-0.4
VLX				S	Sg	06 12 42.4	+0.6
VLX	Vlachokerasia	1.29	153	ePN	Pn	06 12 24.1	-0.2
VLX				eSN	Sg	06 12 42.5	+0.6
VLX	Vlachokerasia	1.29	153	ePn	Pn	06 12 24.1	-0.2
VLX				eSn	Sg	06 12 42.5	+0.6
ITM	Ithomi	1.35	170	ePN	Pn	06 12 25.3	+0.1
ITM	Ithomi	1.35	170	ePn	Pn	06 12 25.3	+0.1
XOR	Xorichti	1.48	55	ePN	Pn	06 12 27.0	0.0
XOR	Xorichti	1.48	55	ePn	Pn	06 12 27.0	0.0
MRKA	Markates	1.54	82	P	Pn	06 12 27.7	0.0
MRKA	Markates	1.54	82	ePN	Pn	06 12 27.8	0.0
MRKA	Markates	1.54	82	ePn	Pn	06 12 27.8	0.0
SKIA	Skiathos	1.57	65	ePN	Pn	06 12 28.5	+0.3
SKIA	Skiathos	1.57	65	ePn	Pn	06 12 28.5	+0.3
DID	Didima	1.62	128	P	Pn	06 12 29.5	+0.7
DID	Didima	1.62	128	ePN	Pn	06 12 29.6	+0.7
DID	Didima	1.62	128	P	Pn	06 12 29.5	+0.7
DID	Didima	1.62	128	ePn	Pn	06 12 29.6	+0.7
PYL	PYLOS	1.62	177	ePN	Pb	06 12 29.9	-0.4
PYL	PYLOS	1.62	177	ePn	Pb	06 12 29.9	-0.4
NAIG	Nisos Aigina	1.65	117	ePN	Pb	06 12 30.3	-0.4
NAIG	Nisos Aigina	1.65	117	ePn	Pb	06 12 30.3	-0.4
LIT	Litokhoron	1.72	22	ePN	Pb	06 12 31.2	-0.7
LIT	Litokhoron	1.72	22	ePn	Pb	06 12 31.2	-0.7
ATH	Athens Observa	1.73	108	ePN	Pn	06 12 30.4	+0.1
ATH	Athens Observa	1.73	108	ePn	Pn	06 12 30.4	+0.1
AOS	Alonnisos	1.87	69	ePN	Pb	06 12 33.6	-0.9
AOS	Alonnisos	1.87	69	ePn	Pb	06 12 33.6	-0.9
VLI	Veliai	2.07	150	ePN	Pn	06 12 36.5	+1.5
VLI	Veliai	2.07	150	ePn	Pn	06 12 36.5	+1.5
VAY	Valandovo	2.89	14	ePn	Pn	06 12 48.6	+2.3
VAY				eSg	Sb	06 13 28.3	+1.0
VAY	Valandovo	2.89	14	ePn	Pn	06 12 48.6	+2.3
VAY				eSg	Sb	06 13 28.2	+1.0
STON	Ston	5.28	327	ePn	Pn	06 13 19.2	+0.1
STON	Ston	5.28	327	ePn	Pn	06 13 19.2	+0.1
DIVS	Divibare	5.71	348	ePn	Pn	06 13 26.1	+0.9
TEKS	Tekeris	6.23	346	ePn	Pn	06 13 32.9	+0.7
FGSL	Fruska Gora	6.77	349	ePn	Pn	06 13 39.2	-0.5
MLR	Muntele Rosu	7.67	23	Pn	Pn	06 13 56.9	+4.8
	0.1nm,0.3s,baz=168,slow=14,SNR=7.7						
TORD	Torodi Ar. Bea	30.85	220	P	P	06 18 16.6	+0.1
	0.3nm,0.4s,baz=27,slow=8.6,SNR=6.5						
MKAR	Makanchi Array	44.38	59	P	P	06 20 10.2	-0.4
	0.3nm,0.5s,baz=278,slow=8.2,SNR=6.4						
ZALV	Zalesovo Beam	44.81	48	P	P	06 20 13.5	-0.4
	0.3nm,0.3s,baz=261,slow=8.6,SNR=2.8						

IDC 22 06:27:00.9±4.2,53°.61N×87°.95E,h0km,mb1 2.7/1, mb1mx2.6/37,mbtmp2.7/1,ML2.7/1,Error ellipse: s-maj=49.7km s-min=23.3km az=77.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.89	282	i		06 40 00.0	
	baz=99,slow=348,SNR=0.9						
ZALV	Zalesovo Beam	1.89	282	Pn	Pn	06 27 34.2	-0.1
	1.7nm,0.3s,baz=101,slow=14,SNR=19						
ZALV				Sn	Sn	06 27 59.5	+0.6
	1.4nm,0.3s,baz=100,slow=24,SNR=7.6						
MKAR	Makanchi Array	7.72	210	Pn	Pn	06 28 55.8	+1.2
	0.1nm,0.3s,baz=27,slow=13,SNR=5.5						

ISCJB 22 06:37:33.2±1.2,13°.2S±0°.1×167°.0E±0°.2,h150km,mb3.7/4, Error ellipse: s-maj=29.8km s-min=17.8km az=13.5

IDC 22 06:37:35.6±7.0,13°.31S×167°.16E,h166km±68km,mb3.5/4, mb1 3.7/5,mb1mx3.4/18,mbtmp3.9/5,Error ellipse: s-maj=69.8km s-min=30.7km az=146.0

ISC 22 06:37:33.9±1.1,13°.2S±0°.1×167°.1E±0°.2,h150km,n13, σ0^{s}77/14,mb3.8/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.87	184	P	Pn	06 39 39.3	+0.3
	0.2nm,0.3s,baz=78,slow=20,SNR=2.5						
EIDS	Eidsvold	19.38	229	P	P	06 41 49.7	+1.4
	baz=20,SNR=4.8						
ARMA	Armidale	22.35	217	P	P	06 42 19.6	-0.2
	baz=24,SNR=5.6						
STKA	Stephens Creek	29.91	227	P	P	06 43 27.3	-0.5
	3.4nm,0.5s,baz=51,slow=9.4,SNR=10						
STKA	Stephens Creek	29.91	227	P	P	06 43 27.3	-0.5
	baz=30,SNR=8.1						
WRA	Warramunga Arr	32.10	253	P	P	06 43 46.5	-0.6
	0.6nm,0.6s,baz=86,slow=9.3,SNR=3.6						
WRKA	Warakurna	38.41	246	P	P	06 44 40.4	-0.7
	baz=38,SNR=13						
MEEK	Meekatharra	47.27	246	P	P	06 45 52.1	-0.4
	baz=46,SNR=3.7						
ILAR	Eielson Array	85.10	18	P	P	06 49 52.5	-0.1
	0.2nm,0.5s,baz=225,slow=6.2,SNR=7.5						
MKAR	Makanchi Array	95.99	317	P	P	06 50 45.3	+1.3
	0.4nm,0.6s,baz=89,slow=5.7,SNR=6.4						
ARCES	ARCESS Array B	118.72	346	PKP	PKPdf	06 56 03.3	-0.4
	3.0nm,1.0s,baz=64,slow=2.1,SNR=13						
FINES	FINESS Array B	124.24	339	PKP	PKPdf	06 56 14.6	+0.2
	2.8nm,1.1s,baz=211,slow=24,SNR=3.3						
TORD	Torodi Ar. Bea	165.81	272	PKP	PKPdf	06 57 20.8	-1.0
	0.6nm,0.8s,baz=23,slow=1.3,SNR=3.2						
TORD				PKPab	PKPab	06 58 22.2	0.0
	0.3nm,0.6s,baz=100,slow=3.4,SNR=3.5						

IDC 22 07:00:49.1±0.4,23°.59S×176°.00W,h0km,mb5.4/23, mb1 5.4/25,mb1mx5.3/29,mbtmp5.3/25,ML5.1/2,MS4.4/26, Ms1 5.5/26,ms1mx5.3/34,Error ellipse: s-maj=18.0km s-min=13.2km az=91.0

ISCJB 22 07:00:49.4±2.4,23°.73S±0°.04×176°.01W±0°.03, h15km±16km,mb5.5/214,MS5.7/226,Error ellipse: s-maj=6.5km s-min=3.6km az=164.0

NEIC 22 07:00:51.3±0.1,23°.63S×176°.04W,h15km,mb5.5/145, ME5.5,MS5.8/150,MW6.0,MW6.0,Error ellipse: s-maj=5.4km s-min=3.1km az=139.0,Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.

BJI 22 07:00:52.6,23°.47S×175°.74W,h30km,mB6.1/62, mb5.6/57,Ms5.8/74,Ms7 5.6/68

GCMT 22 07:00:52.9±0.1,23°.83S×175°.35W,h21km,MW5.9/127, Moment Tensor Solution. s114,c245; s127,c394; Duration: 2^{s}2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.76±.01; $M_{\theta\theta}$-0.04±.01; $M_{\phi\phi}$-0.72±.01; $M_{r\theta}$0.18±.01; $M_{\theta\phi}$-0.24±.00; $M_{\phi r}$0.53±.01; Best double couple: $M_0$0.95900×10^{18} NP1:ϕ_s19.00000°,δ63.00000°, λ91.00000°. NP2:ϕ_s197.00000°,δ27.00000°,λ88.00000°. Principal axes: T 0.9410, Plg72.0000°, Azm290.0000°; N 0.0360, Plg1.0000°, Azm198.0000°; P -0.9780, Plg18.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

MOS 22 07:00:53.9±1.0,23°.47S×176°.03W,h33km,mb5.6/80, MS5.7/55 Error ellipse: s-maj=10.9km s-min=7.9km az=77.3

SZGRF 22 07:00:55.3,23°.32S×173°.52W,h38km,mb6.0,Tonga Islands region

NEIC 22 07:01:08.8±0.0,23°.37S×174°.94W,h27km,Moment Tensor Solution. s126 Moment tensor: Scale 10^{18}Nm; M_{rr}0.82; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-0.72; $M_{r\theta}$-0.24; $M_{\theta\phi}$-0.31; $M_{\phi r}$1.03; Best double couple: $M_0$1.30000×10^{18} NP1:ϕ_s220.00000°, δ24.00000°,λ131.00000°. NP2:ϕ_s357.00000°,δ72.00000°, λ74.00000°. Principal axes: T 1.4200, Plg59.0000°, Azm243.0000°; N -0.1600, Plg15.0000°, Azm1.0000°; P -1.2600, Plg25.0000°, Azm99.0000°;

ISC 22 07:00:54.0±0.3,23°.75S±0°.04×175°.91W±0°.04,h33km±1km, h33km:pP-P,n1345,σ1^{s}16/1338,mb5.5/212,MS5.8/229, 287C-224D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.76	198	eP	Pn	07 02 18.4	+1.2
RAO						07 03 22.0	
RAO	Raoul Island	5.76	198	Pn	Pn	07 02 17.6	+0.4
	120nm,0.3s,baz=106,slow=9.4,SNR=5.5						
RAO				Sn	Sn	07 03 22.0	-0.2
	189nm,0.3s,baz=93,slow=19,SNR=9.4						
RAO	Raoul Island	5.76	198	ePn	Pn	07 02 18.4	+1.2
RAO				Sn	Sn	07 03 22.0	-0.2
NIUE	Niue	7.26	51	⇓P	Pn	07 02 28.9	-8.9
	baz=6.8,SNR=36						
MSVF	Nonsavu	8.23	316	Pn	Pn	07 02 57.0	+5.8
	6μm,1.1s						
MSVF	Nonsavu	8.23	316	eP	Pn	07 02 55.8	+4.6
MSVF	Nonsavu	8.23	316	ePn	Pn	07 02 55.8	+4.6
OUZ	Omahuta	14.62	216	ePn	Pn	07 04 19.6	+1.2
OUZ				eSn	Sn	07 06 59.5	+0.2
PUZ	Puketiti	15.12	198	ePN	Pn	07 04 17.3	-7.9
PUZ				eSN	Sn	07 06 58.6	-13
RAR	Rarotonga	15.13	84	Pn	Pn	07 04 15.7	-10
	35nm,0.3s,baz=224,slow=7.5,SNR=56						
RAR				Sn	Sn	07 06 48.5	-23
	13nm,0.3s,baz=107,slow=19,SNR=7.1						
RAR				LR	LR	07 10 28.9	
	comp=Z,21μm,18.9s,baz=259,slow=38						
URZ	Urewera	15.64	201	Pn	Pn	07 04 31.1	-0.8
	3.2nm,0.3s,baz=26,slow=1.5,SNR=12						
URZ				Sn	Sn	07 07 14.5	-10
	4.1nm,0.3s,baz=326,slow=22,SNR=6.8						
URZ	Urewera	15.64	201	ePn	Pn	07 04 31.4	-0.5
	35nm,0.8s						
URZ				Sn	Sn	07 07 14.5	-10
DZM	Mont Dzumac	16.34	272	eP	P	07 04 46.0	+2.3
	584nm,1.1s						
DZM				eLQ	LQ	07 07 55.4	
	35μm,28.6s						
DZM				eLR	LR	07 08 38.2	
	28μm,22.3s						
DZM	Mont Dzumac	16.34	272	Pn	P	07 04 46.5	+2.8
	2.5nm,0.3s,baz=79,slow=17,SNR=27						
DZM				LR	LR	07 08 20.2	
	comp=Z,4μm,21.0s,baz=99,slow=28						
DZM	Mont Dzumac	16.34	272	ePn	Pn	07 04 37.5	-3.6
	220nm,1.0s						
DZM				eSn	Sn	07 07 38.6	-2.9
BKZ	Black Stump Fm	16.67	201	ePn	Pn	07 04 45.2	+0.2
	38nm,1.1s						
KAHZ	Kahuranaki	17.12	199	ePN	Pn	07 04 46.8	-3.9
BFZ	Birch Farm	18.12	199	ePn	P	07 05 03.3	+0.1
	155nm,1.1s						
CTZ	Chatham Island	19.94	181	ePN	Pn	07 05 26.2	+1.3
CTZ				eSN	S	07 08 45.4	-20
THZ	Tophouse	20.24	205	ePN	P	07 05 21.7	-4.7
THZ				eSN	S	07 08 55.5	-16
KHZ	Kahutara	20.57	203	eP	P	07 05 25.4	-4.5
	458nm,2.3s						
DSZ	Denniston Nort	20.67	207	ePN	P	07 05 29.2	-1.8
DSZ				SN	S	07 09 06.1	-14
WVZ	Waitaha Valley	22.21	207	ePN	P	07 05 45.0	-2.5
RPZ	Rata Peaks	22.62	205	eP	P	07 05 47.3	-4.6
	26nm,0.9s						
FOZ	Fox Glacier	23.05	207	ePN	P	07 05 52.1	-4.2
LHI	Lord Howe Isla	23.45	245	⇑P	P	07 06 03.4	+2.9
	baz=24,SNR=6.7						
JCZ	Jackson Bay	23.86	208	ePN	P	07 06 00.5	-3.9
TBI	Tubuai	24.24	94	eP	P	07 06 03.1	-4.9
	175nm,1.0s						
TBI	Tubuai	24.24	94	eT	T	07 30 37.3	
	40nm,0.4s						
WKZ	Wanaka	24.36	207	ePN	P	07 06 09.7	+0.9
PAE	Paea	25.34	81	eP	P	07 06 14.9	-3.1
	28nm,1.2s						
PAE	Paea	25.34	81	eT	T	07 32 01.6	
	16nm,0.3s						
PPT2	Papeete2	25.37	81	eP	P	07 06 15.2	-3.2
	128nm,1.2s						
PPT2				eS	S	07 10 35.4	-7.5
	7μm,29.2s						
PPT2				eLQ	LQ	07 11 07.0	
	23μm,24.0s						
PPT2				eLR	LR	07 12 25.6	
	30μm,25.8s,baz=250						
PPT2	Papeete2	25.37	81	eT	T	07 32 04.5	
	17nm,0.3s						
PPT	Papeete	25.38	81	P	P	07 06 15.5	-2.8
	84nm,1.1s,baz=198,slow=7.8,SNR=4.3						
PPT				LR	LR	07 15 32.3	
	comp=Z,12μm,19.1s,baz=255,slow=35						
TIAR	Tiarei	25.59	81	eP	P	07 06 16.9	-3.4
	72nm,1.2s						
TIAR	Tiarei	25.59	81	eT	T	07 32 20.2	
	5.5nm,0.4s						
TVO	Taravao	25.60	82	eP	P	07 06 16.7	-3.8
	21nm,0.8s						
TVO	Taravao	25.60	82	eT	T	07 32 21.1	
	3.8nm,0.4s						
WHZ	Wether Hill Ro	25.66	207	eP	P	07 06 20.9	+0.2
	60nm,0.8s						
MEH	Mehetia	26.65	83	eT	T	07 33 39.5	
	54nm,0.3s						
HNR	Honiara	27.10	298	LR	LR	07 15 49.0	
	comp=Z,12μm,20.9s,baz=148,slow=33						
TARA	Tarawa	27.21	335	PFAKE		07 06 40.0	+5.1
TARA				LR	LR		
	comp=Z,8μm,20.0s						
VAH	Vaihoa	27.93	78	eP	P	07 06 38.5	-2.9
	comp=Z,165nm,1.3s						
VAH	Vaihoa	27.93	78	eT	T	07 35 16.3	
	comp=Z,8.5nm,0.2s						
ARMA	Armidale	29.58	250	eP	P	07 06 55.8	-0.3
	comp=Z,54nm,0.9s						
ARMA	Armidale	29.58	250	P	P	07 06 57.4	+1.3
	baz=30,SNR=22						
EIDS	Eidsvold	30.02	260	eP	P	07 06 59.7	-0.2
	comp=Z,67nm,1.1s						
EIDS	Eidsvold	30.02	260	⇑P	P	07 06 59.6	-0.2
	baz=30,SNR=15						
MGCD	Mangrove Creek	30.38	244	⇓P	P	07 07 03.8	+0.8
	baz=31,SNR=9.2						
XMAS	Kiritimati	31.31	38	PFAKE		07 07 20.0	+8.7
XMAS				LR	LR		
	comp=Z,10μm,20.0s						
RMQ	Roma	32.04	258	⇑P	P	07 07 19.1	+1.3
	baz=32,SNR=48						
CNB	Canberra Magne	32.18	241	P	P	07 07 20.5	+1.6
	baz=33,SNR=8.8						
CAN	Canberra	32.47	241	eP	P	07 07 23.0	+1.5
CAN				pmax	pmax		
	comp=Z,37nm,1.3s						
CAN				MLR	MLR		
	comp=Z,13μm,20.0s						
CAN	Canberra	32.47	241	eP	P	07 07 23.0	+1.5
	comp=Z,38nm,1.3s						
CAN				LR	LR		
	comp=Z,13μm,20.0s						
CAN	Canberra	32.47	241	⇓P	P	07 07 23.3	+1.8
	baz=33						
YNG	Young	32.78	243	P	P	07 07 25.4	+1.3
	baz=33,SNR=21						
CMSA	Cobar Meteorol	34.75	248	⇓P	P	07 07 41.0	-0.3
	baz=35,SNR=34						
CTA	Charters Tower	35.22	268	⇓P	P	07 07 45.2	-0.3
	baz=36						
CTAO	Charters Tower	35.22	268	eP	P	07 07 45.0	-0.4
CTAO				pmax	pmax		
	comp=Z,67nm,0.5s						
CTAO				MLR	MLR		
	comp=Z,6μm,22.0s						
CTAO	Charters Tower	35.22	268	eP	P	07 07 45.0	-0.4
	comp=Z,67nm,0.5s						
CTAO				LR	LR		
	comp=Z,6μm,22.0s						
TAU	Tasmania Unive	35.81	229	PFAKE		07 08 00.0	+10
TAU				LR	LR		
	comp=Z,9μm,19.0s						
QLP	Quilpie	36.08	257	P	P	07 07 52.0	-0.8
	baz=36,SNR=48						
TAOE	Nuku Hiva Isla	37.25	73	eT	T	07 46 55.8	
	comp=Z,164nm,0.3s						
RKT	Rikitea	37.48	97	eS	S	07 13 45.2	-6.2
	comp=Z,2μm,27.8s						
RKT				eLQ	LQ	07 16 13.3	
	comp=Z,3μm,28.8s						
RKT				eLR	LR	07 18 00.0	
	comp=Z,17μm,29.8s,baz=263						
RKT	Rikitea	37.48	97	eT	T	07 47 08.7	
	comp=Z,9.5nm,0.4s						
PMG	Port Moresby	38.02	286	P	P	07 08 08.6	-0.7
	comp=Z,125nm,0.9s,baz=115,slow=4.0,SNR=20						
PMG				LR	LR	07 21 06.3	
	comp=Z,7μm,21.6s,baz=138,slow=32						
PMG	Port Moresby	38.02	286	P	P	07 08 08.6	-0.7
PMG				ePcP	PcP	07 10 25.1	+0.6
PMG	Port Moresby	38.02	286	⇓P	P	07 08 08.9	-0.4
	baz=38,SNR=6.9						
STKA	Stephens Creek	38.25	248	P	P	07 08 11.2	+0.1
	comp=Z,31nm,0.9s,baz=95,slow=7.9,SNR=22						
STKA				PcP	PcP	07 10 28.1	+3.1
	comp=Z,10nm,0.8s,baz=192,slow=2.8,SNR=3.0						
STKA				LR	LR	07 22 01.1	
	comp=Z,19μm,21.0s,baz=80,slow=33						
STKA	Stephens Creek	38.25	248	eP	P	07 08 10.4	-0.7
	comp=Z,13nm,0.6s						
STKA				PcP	PcP	07 10 28.1	+3.1
STKA	Stephens Creek	38.25	248	⇑P	P	07 08 11.1	-0.1
	baz=39,SNR=22						
COEN	Coen	39.80	277	eP	P	07 08 24.3	0.0
	comp=Z,41nm,0.9s						
COEN	Coen	39.80	277	⇓P	P	07 08 24.1	-0.2
	baz=40,SNR=16						
HTT	Hallett	40.55	246	P	P	07 08 29.7	-0.7
	baz=41,SNR=20						
QIS	Mount Isa	41.20	265	⇓P	P	07 08 35.1	-0.7
	baz=42,SNR=15						
PTCN	Pitcairn Islan	41.59	102	PFAKE		07 08 50.0	+11
PTCN				LR	LR		
	comp=Z,11μm,19.0s						
BBOO	Buckleboo	42.94	247	eP	P	07 08 48.5	-1.3
	comp=Z,103nm,1.1s						
BBOO	Buckleboo	42.94	247	P	P	07 08 48.6	-1.3
	baz=43,SNR=19						
AS07	Alice Springs	45.69	260	⇓P	P	07 09 10.7	-1.3
	baz=46						
AS16	Alice Springs	45.73	260	⇑P	P	07 09 11.3	-1.0
	baz=46						
WAKE	Wake Island	46.03	337	PFAKE		07 09 20.0	+5.5
WAKE				LR	LR		
	comp=Z,9μm,20.0s						
WR5	Warramunga Arr	46.06	265	⇓P	P	07 09 13.0	-2.0
	baz=46						
WB7	Warramunga Arr	46.14	265	⇑P	P	07 09 13.6	-2.0
	baz=47						
WRAB	Tennant Creek	46.14	265	P	P	07 09 13.0	-2.6
	comp=Z,504nm,1.0s,SNR=54						
WRAB	Tennant Creek	46.14	265	c iP	P	07 09 13.7	-1.9
WRAB				pmax	pmax		
	comp=Z,299nm,1.2s						
WRAB	Tennant Creek	46.14	265	eP	P	07 09 13.4	-2.2
	comp=Z,103nm,1.0s						
WRAB				LR	LR		
	comp=Z,13μm,20.0s						
WB0	Warramunga Arr	46.14	265	⇑P	P	07 09 13.6	-2.0
	baz=47						
WRA	Warramunga Arr	46.15	265	P	P	07 09 13.4	-2.3
WRA				S	S	07 15 56.5	-3.3
WRA				pmax	pmax		
	comp=Z,63nm,0.9s						
WRA				smax	smax		
	comp=N,9.0nm,1.2s						
WRA	Warramunga Arr	46.15	265	P	P	07 09 13.4	-2.3
	comp=N,63nm,0.9s,baz=96,slow=8.5,SNR=62						
WRA				S	S	07 15 56.5	-3.3
	comp=N,9.1nm,1.2s,baz=100,slow=14,SNR=6.4						
WRA				LR	LR	07 27 14.2	
	comp=N,13μm,20.3s,baz=100,slow=34						
GENI	Genyem	47.36	290	P	P	07 09 27.7	+2.5
	comp=N,81nm,1.4s						
POHA	Pohakuloa	47.59	26	eP	P	07 09 25.3	-1.7
	comp=N,205nm,1.3s						
POHA				LR	LR		
	comp=Z,5μm,20.0s						
KIP	Kipapa	48.17	23	⇑eP	P	07 09 31.6	+0.4
KIP				pmax	pmax		
	comp=Z,261nm,2.5s						
KIP				MLR	MLR		
	comp=Z,3μm,17.0s						
KIP	Kipapa	48.17	23	eP	P	07 09 29.6	-1.5
	comp=Z,197nm,1.3s						
SMPI	Sarmi	48.92	289	P	P	07 09 38.1	+0.9
	comp=Z,46nm,1.3s,comp=Z,6μm						
FORT	Forrest	49.86	249	eP	P	07 09 42.4	-1.8
	comp=Z,90nm,0.8s						
FORT	Forrest	49.86	249	⇑P	P	07 09 42.7	-1.6
	baz=50,SNR=49						
KDU	Kakadu	50.01	273	P	P	07 09 43.5	-2.0
	baz=50,SNR=17						
WRKA	Warakurna	50.52	256	⇓P	P	07 09 47.4	-2.0
	baz=51,SNR=129						
DRV	Dumont d'Urvil	50.98	201	P	P	07 09 33.0	-19
DRV				S	S	07 16 57.0	-10
DRV				SS	ScS	07 19 29.0	-11
DRV				L	L	07 22 00.0	
DRV				R		07 25 00.0	
MTN	Manton Dam	51.18	272	⇑P	P	07 09 52.3	-2.1
	baz=52,SNR=11						
MIDW	Midway	51.69	358	PFAKE		07 10 10.0	+12
MIDW				LR	LR		
	comp=Z,8μm,19.0s						
KNRA	Kununurra	52.43	268	⇑P	P	07 10 02.2	-1.5
	baz=53,SNR=21						
GUMO	Guam	53.36	310	PFAKE		07 10 20.0	+10
GUMO				LR	LR		
	comp=Z,450nm,21.0s						
FAKI	Fak Fak	54.15	284	P	P	07 10 14.0	-2.4
	comp=Z,61nm,1.2s,comp=Z,1μm						
FAKI	Fak Fak	54.15	284	eP	P	07 10 15.1	-1.3
	comp=Z,62nm,1.2s						
FITZ	Fitzroy Crossi	54.57	264	⇑P	P	07 10 18.3	-1.1
	baz=55						
SBA	Scott Base	54.78	184	eP	P	07 10 23.1	+3.1
SBA				pmax	pmax		
	comp=Z,54nm,1.1s						
SBA				MLR	MLR		
	comp=Z,3μm,19.0s						
SBA	Scott Base	54.78	184	eP	P	07 10 23.1	+3.1
	comp=Z,54nm,1.1s						
SBA				LR	LR		
	comp=Z,3μm,19.0s						
VNDA	Vanda	54.87	186	P	P	07 10 23.3	+2.6
	comp=Z,12nm,0.9s,baz=355,slow=5.9,SNR=13						
VNDA				LR	LR	07 29 53.5	
	comp=Z,2μm,21.3s,baz=12,slow=32						
SWI	Sorong	55.97	286	P	P	07 10 28.9	-0.6
	comp=Z,320nm,0.9s,comp=Z,3μm						
SWI	Sorong	55.97	286	⇓P	P	07 10 28.8	-0.8
	baz=56,SNR=11						
KLBR	Kellerberrin	58.49	246	P	P	07 10 46.1	-1.0
	baz=59,SNR=26						
SOEI	Soe	58.57	273	P	P	07 10 48.3	+0.3
	comp=Z,256nm,0.9s,comp=Z,3μm						
SOEI	Soe	58.57	273	eP	P	07 10 47.0	-1.0
	comp=Z,182nm,0.8s						
SOEI	Soe	58.57	273	⇑P	P	07 10 48.0	0.0
	baz=59,SNR=12						
NLAI	Namlea	58.61	281	P	P	07 10 49.1	+1.0
	comp=Z,66nm,1.3s,comp=Z,1μm						
RKGY	Rocky Gully	58.64	243	⇑P	P	07 10 47.7	-0.4
	baz=59,SNR=5.7						
NWAO	Narrogin (SRO)	58.70	245	PFAKE		07 11 00.0	+11
NWAO				LR	LR		
	comp=Z,1.0nm,20.0s						
MEEK	Meekatharra	58.73	252	⇓P	P	07 10 48.9	0.0
	baz=59,SNR=18						
MBWA	Marble Bar	59.08	259	eP	P	07 10 49.9	-1.4
	comp=Z,45nm,1.3s						
MBWA				LR	LR		
	comp=Z,7μm,20.0s						
RPN	Rapa Nui	59.59	109	LR	LR	07 31 55.5	
	comp=Z,2μm,19.5s,baz=254,slow=31						
SANI	Sanana	60.12	282	P	P	07 10 56.9	-1.7
	comp=Z,45nm,1.1s,comp=Z,1μm						
MORW	Morawa	60.43	249	⇑P	P	07 11 00.3	-0.2
	baz=61,SNR=15						
MMRI	Maumere	60.84	273	P	P	07 11 06.7	+3.1
	comp=Z,95nm,1.1s,comp=Z,2μm						
MMRI	Maumere	60.84	273	eP	P	07 11 04.1	+0.5
	comp=Z,48nm,0.8s						
CASY	Casey	61.88	206	eP	P	07 11 09.7	-0.1
	comp=Z,85nm,0.9s						

CASY LR LR
comp=Z,4µm,19.0s
LUWI Luwuk 63.45 281 P P 07 11 22.9 +1.9
comp=Z,94nm,1.1s,comp=Z,3µm
LUWI Luwuk 63.45 281 eP P 07 11 20.7 -0.3
comp=Z,158nm,1.3s
BKSI Bulukumba 64.06 276 P P 07 11 24.0 -1.1
comp=Z,55nm,0.9s,comp=Z,707nm
BNSI Bone 64.45 277 P P 07 11 27.0 -0.6
comp=Z,51nm,1.2s,comp=Z,790nm
APSI Ampana 64.52 281 P P 07 11 28.1 +0.1
comp=Z,86nm,1.0s,comp=Z,1µm
KAPI Kappang 64.53 276 PFAKE 07 11 40.0 +12
KAPI LR LR
comp=Z,2µm,20.0s
JCJ Chichijima 64.75 319 LR LR 07 34 26.0
comp=Z,7µm,21.8s,baz=146,slow=31
DAV Davao City (W) 64.78 291 PFAKE 07 11 40.0 +10
DAV LR LR
comp=Z,2µm,19.0s
MRSI Marisa 64.86 282 P P 07 11 30.3 0.0
comp=Z,38nm,1.1s,comp=Z,967nm
SPSI Sidrap Palu 64.93 277 P P 07 11 29.6 -1.2
comp=Z,30nm,1.1s,comp=Z,633nm
TTSI Tana Toraja 65.27 278 P P 07 11 34.2 +1.3
comp=Z,38nm,1.1s
QSPA South Pole Qui 66.33 180 P P 07 11 39.9 +0.8
comp=Z,26nm,0.9s,baz=43,slow=1.7,SNR=43
QSPA LR LR 07 38 18.9
comp=Z,6µm,19.0s,baz=36,slow=34
QSPA South Pole Qui 66.33 180 eP P 07 11 39.1 0.0
comp=Z,150nm,1.3s
SRBI Singaraja 67.48 271 P P 07 11 48.4 +1.3
JAGI Jajag, Banyuwa 68.31 270 eP P 07 11 52.1 -0.2
comp=Z,50nm,1.1s
RCP Roxas 69.46 293⇓eP P 07 11 58.7 -0.7
MYLDM Lahad Datu 70.05 285 ⇓P P 07 12 02.4 -0.6
TSM Tawau 70.20 284 ⇑P P 07 12 03.1 -0.9
SDKM Sandakan 71.41 285 ⇑P P 07 12 10.5 -1.0
KDM Kudat 72.31 286 ⇑P P 07 12 13.7 -3.1
KKM Kota Kinabalu 72.46 285 ⇑P P 07 12 16.7 -1.1
JOW Kunigami 73.73 310 LR LR 07 41 33.4
comp=Z,300nm,20.2s,baz=90,slow=33
MJAR Matsushiro Arr 73.96 323 P P 07 12 24.2 -1.8
comp=Z,7.7nm,0.9s,baz=164,slow=6.0,SNR=12
MJAR LR LR 07 40 43.7
comp=Z,3µm,21.9s,baz=110,slow=32
MAJO Matsushiro 73.96 323 eP P 07 12 25.7 -0.4
MAJO pmax pmax
comp=Z,26nm,1.2s
MAJO MLR MLR
comp=Z,5µm,22.0s
MAJO Matsushiro 73.96 323 eP P 07 12 25.7 -0.4
comp=Z,26nm,1.2s
MAJO LR LR
comp=Z,5µm,22.0s
MAT Matsushiro 73.96 323 P P 07 12 25.1 -1.0
MAT S S 07 21 57.4 +1.3
BTM Bintulu 74.00 281 ⇓P P 07 12 25.5 -1.4
SBUM Sibu 74.46 280 ⇓P P 07 12 30.4 +0.9
CISI Cisompet, Garu 74.46 268 eP P 07 12 28.9 -0.7
comp=Z,109nm,1.1s
XMIS Christmas Isla 75.34 265 eP P 07 12 34.0 -0.6
comp=Z,38nm,0.8s
ERM Erimo 75.59 330 PFAKE 07 12 40.0 +4.7
ERM LR LR
comp=Z,5µm,21.0s
KSM Kuching 75.78 278 eP P 07 12 36.6 -0.5
comp=Z,41nm,0.8s
KSM LR LR
comp=Z,2µm,19.0s
KSM Kuching 75.78 278 ⇑P P 07 12 35.8 -1.3
JNU Nakatsue 75.95 316 P P 07 12 36.6 -1.1
comp=Z,60nm,1.1s,baz=73,slow=2.8,SNR=13
JNU Nakatsue 75.95 316 eP P 07 12 37.0 -0.7
comp=Z,34nm,1.1s
YUK Yuzh-Kuril'sk 76.01 333c iP P 07 12 30.6 -7.0
YUK i 07 12 36.3
YUK i 07 22 24.8
KUR Kuril'sk 76.18 335d iP P 07 12 36.1 -2.5
KUR eS S 07 22 22.7 +2.5
KUR MLR MLR
comp=N,2µm,19.0s
KUR MLR MLR
comp=E,1µm,19.0s
KUR MLR MLR
comp=Z,686nm,19.0s
H06E1 SOCORRO T-PHAS76.18 62 T T 08 35 54.4
SNR=18
TWG Pinlang 76.75 302 eP P 07 12 41.9 -0.5
FX1 Attu Island--F 76.90 353 P P 07 12 41.8 -0.7
FX1 pmax pmax
comp=Z,50nm,0.8s
FX1 Attu Island--F 76.90 353 P P 07 12 41.8 -0.7
comp=Z,50nm,0.8s,baz=131,slow=7.6,SNR=14
NACB Ninganchiao 77.09 304 eP P 07 12 42.0 -2.2
comp=Z,34nm,0.8s
TPUB Ta-pu 77.35 303 eP P 07 12 44.7 -1.1
comp=Z,59nm,0.8s
SSLB Suanglung 77.37 303 eP P 07 12 44.2 -1.7
comp=Z,25nm,0.8s
ASAJ Asahikawa 77.50 331 P P 07 12 46.6 +0.5
comp=Z,50nm,0.9s,baz=218,slow=7.9,SNR=15
ASAJ LR LR 07 42 16.0
comp=Z,3µm,21.6s,baz=172,slow=32
ASAJ Asahikawa 77.50 331 eP P 07 12 48.1 +2.0
comp=Z,31nm,1.0s
YHNB Yeheng 77.53 304 eP P 07 12 45.9 -1.0
comp=Z,36nm,1.0s
YHNB LR LR
comp=Z,4µm,22.0s
PMSA Palmer Station 77.55 156 LR LR 07 43 30.3
comp=Z,2µm,18.3s,baz=224,slow=33
TATO Taipei 77.61 304 PFAKE 07 13 00.0 +13
TATO LR LR
comp=Z,5µm,21.0s
UNV Unalaska Valle 77.70 6 eP P 07 12 44.5 -2.4
comp=Z,138nm,1.2s
SKR Severo-Kuril's 78.12 342 eP P 07 12 44.0 -5.4
SKR e 07 13 06.0
SKR e 07 15 52.0
SKR ePPP PPP 07 17 33.0
SKR S S 07 22 42.0 +0.9
SKR e 07 22 56.0
SKR ePS PnS 07 23 18.0 -7.5
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=Z,3µm,8.0s
SKR smax smax
comp=N,3µm,12.0s
SKR smax smax
comp=E,3µm,12.0s
SKR MLR MLR
comp=E,3µm,20.0s
SKR MLR MLR
comp=Z,3µm,20.0s
FALS False Pass 79.02 7 eP P 07 12 53.3 -0.9
comp=Z,66nm,1.2s
SMMC Simmler 79.07 44 ⇓P P 07 12 55.8 +0.7
baz=79
MAW Mawson 79.17 199 P P 07 12 55.6 +0.6
comp=Z,68nm,0.8s,baz=136,slow=7.3,SNR=14
MAW LR LR 07 48 46.8
comp=Z,3µm,18.8s,baz=116,slow=36
OSI Osito Adit 79.45 45 ⇓P P 07 12 57.8 +0.6
baz=80
109C Camp Elliot, M 79.47 47 ⇓P P 07 12 57.7 +0.5
baz=80
DECC Green Verdugo 79.48 45 ⇑P P 07 12 57.4 +0.1
baz=80
PET Petropavlovsk 79.59 345α iP P 07 12 57.1 -0.3
PET e 07 16 03.6
PET i S S 07 22 56.4 -0.3
PET ePS PnS 07 23 42.1 -1.9
PET ePPS PPS 07 24 01.3
PET eSS SS 07 28 11.3 +5.3
PET pmax pmax
comp=Z,22nm,0.9s
PET pmax pmax
comp=Z,2µm,15.0s
PET pmax pmax
comp=Z,900nm,14.0s
PET MLR MLR
comp=Z,2µm,18.0s
PET MLR MLR
comp=Z,2µm,19.0s
PET Petropavlovsk 79.59 345 eP P 07 12 56.2 -1.1
comp=Z,158nm,1.6s
PET LR LR
comp=Z,3µm,21.0s
MWC Mount Wilson 79.65 45 eP P 07 12 58.4 0.0
MWC pmax pmax
comp=Z,18nm,0.9s
MWC Mount Wilson 79.65 45 eP P 07 12 58.4 0.0
comp=Z,18nm,0.9s
YSS Yuzh-Sakhalins 79.66 333α iP P 07 12 59.0 +1.1
YSS i 07 13 05.0
YSS e*PP pP 07 13 10.1 +1.7
YSS e 07 13 12.0
YSS e 07 15 58.0
YSS eS S 07 22 57.0 -0.7
YSS e 07 23 10.0
YSS ePPS PPS 07 23 48.0
YSS pmax pmax
comp=Z,150nm,1.0s
YSS pmax pmax
comp=Z,1µm,6.0s
YSS smax smax
comp=E,500nm,11.0s
YSS MLR MLR
comp=N,1µm,19.0s
YSS MLR MLR
comp=E,1µm,19.0s
YSS MLR MLR
comp=Z,2µm,19.0s
YSS Yuzh-Sakhalins 79.66 333 eP P 07 12 59.0 +1.1
comp=Z,178nm,1.1s
YSS LR LR
comp=Z,1µm,21.0s
ARVC Arvin 79.70 44 ⇓P P 07 12 59.0 +0.6
baz=80
QZH Quanzhou 79.80 303⇑iP P 07 12 59.3 +0.1
QZH S S 07 22 59.3 -0.8
QZH SS SS 07 28 10.9 +0.7
QZH pmax pmax
comp=Z,2µm,6.7s
QZH LR LR
comp=Z,2µm,15.2s
QZH LR LR
comp=Z,2µm,15.7s
QZH LR LR
comp=Z,5µm,22.0s
MURC Murrieta 79.83 46 ⇑P P 07 12 59.2 -0.1
baz=80
SDPT Sand Point 79.88 9 eP P 07 12 57.9 -1.0
comp=Z,153nm,1.2s
PETK Petropavlovsk- 79.90 344 P P 07 12 58.4 -0.7
comp=Z,109nm,1.0s,baz=112,slow=6.6,SNR=43
PETK LR LR 07 42 46.8
comp=Z,3µm,21.3s,baz=159,slow=32
BFSC Mount Baldy Ra 79.92 46 ⇑P P 07 12 59.4 -0.4
baz=80
MONP Monument Peak 79.93 47 ⇑P P 07 12 59.8 -0.2
baz=80
VES Vestal, Richgr 79.99 44 ⇑P P 07 12 59.6 -0.4
baz=80,SNR=14
ISA Isabella 80.26 44 eP P 07 13 02.0 +0.4
ISA pmax pmax
comp=Z,23nm,1.0s
ISA Isabella 80.26 44 eP P 07 13 01.9 +0.4
comp=Z,23nm,1.0s
ISA Isabella 80.26 44 ⇓P P 07 13 01.8 +0.2
baz=80,SNR=15
PFO Pinyon Flat Ob 80.33 47 eP P 07 13 02.1 0.0
PFO pmax pmax
comp=Z,28nm,1.1s
PFO MLR MLR
comp=Z,6µm,19.0s
PFO Pinyon Flat Ob 80.33 47 eP P 07 13 02.1 0.0
comp=Z,28nm,1.1s
PFO LR LR
comp=Z,6µm,19.0s
PFO Pinyon Flat Ob 80.33 47 ⇓P P 07 13 02.0 -0.1
baz=80
SWSC Sam W. Stewart 80.38 48 ⇑P P 07 13 02.1 -0.1
baz=81,SNR=20
BBRC Big Bear Solar 80.42 46 ⇑P P 07 13 02.2 -0.4
baz=81
CMB Columbia Colle 80.57 41 eP P 07 13 03.0 -0.2
CMB pmax pmax
comp=Z,29nm,1.2s
CMB Columbia Colle 80.57 41 eP P 07 13 03.0 -0.2
comp=Z,29nm,1.2s
KSRS Korea Array 80.59 318 P P 07 13 03.3 +0.2
comp=Z,20nm,1.0s,baz=138,slow=5.8,SNR=35
KSRS LR LR 07 43 12.0
comp=Z,4µm,22.0s,baz=135,slow=32
KSAR Wonju Array Be 80.61 318 P P 07 13 03.3 +0.1
KSAR Wonju Array Be 80.61 318 P P 07 13 03.3 +0.1
LRMC Laurel Mountai 80.65 45 ⇑P P 07 13 04.0 +0.3
baz=81
RRX Edison Barstow 80.74 46 ⇑P P 07 13 04.2 +0.1
baz=81
BELC Belle Mtn. Jos 80.87 47 ⇑P P 07 13 04.9 -0.1
baz=81
WDC Whiskeytown Da 80.98 38 eP P 07 13 05.0 -0.2
WDC pmax pmax
comp=Z,34nm,1.1s
WDC Whiskeytown Da 80.98 38 eP P 07 13 05.0 -0.2
comp=Z,34nm,1.1s
BC3 Big Chuckawall 81.03 47 ⇓P P 07 13 05.7 -0.1
baz=81,SNR=5.7
GLA Glamis 81.10 48 eP P 07 13 06.9 +0.8
GLA pmax pmax
comp=Z,21nm,0.9s
GLA Glamis 81.10 48 eP P 07 13 06.8 +0.8
comp=Z,21nm,0.9s
GLA Glamis 81.10 48 ⇓P P 07 13 06.4 +0.3
baz=81,SNR=6.6
CHGN Chignik 81.11 10 eP P 07 13 05.0 -0.4
GSC Goldstone 81.12 45 eP P 07 13 06.6 +0.4
GSC pmax pmax
comp=Z,16nm,0.9s
GSC Goldstone 81.12 45 eP P 07 13 06.6 +0.4
comp=Z,16nm,0.9s
GSC Goldstone 81.12 45 ⇑P P 07 13 06.1 -0.1
baz=81,SNR=9.2
HEC Hector,Ludlow 81.15 46 ⇓P P 07 13 06.3 0.0
baz=81
N02D Trinity Center 81.15 38 ⇑P P 07 13 06.7 +0.5
baz=81
SSE Sheshan 81.24 309 ⇑P P 07 13 06.9 +0.1
SSE sP sP 07 13 21.6 +0.5
SSE S S 07 23 15.3 +0.3
SSE sS ScS 07 23 33.6 +0.8
SSE pmax pmax
comp=Z,13nm,0.7s
SSE pmax pmax
comp=Z,790nm,11.9s
SSE LR LR
comp=Z,1µm,20.4s
SSE LR LR
comp=Z,550nm,20.4s
SSE LR LR
comp=Z,2µm,17.5s
MLAC Mammoth Lakes 81.26 42 ⇓P P 07 13 07.4 +0.3
baz=82,SNR=5.9
TIN Tinemaha 81.28 43 ⇓P P 07 13 07.6 +0.5
baz=82
M02C Callahan 81.34 37 ⇑P P 07 13 08.0 +0.8
baz=82
INCN Inchon 81.41 317 PFAKE 07 13 20.0 +12
INCN LR LR
comp=Z,4µm,22.0s
L02D Cave Junction, 81.45 37 ⇑P P 07 13 08.4 +0.8
baz=82
WAKR Walker 81.45 41 eP P 07 13 08.7 +0.7
comp=Z,44nm,1.3s
IRM Iron Mountain 81.53 47 ⇓P P 07 13 08.8 +0.5
baz=82,SNR=14
GMRC Granite Mounta 81.56 46 ⇓P P 07 13 09.0 +0.4
baz=82,SNR=6.4
YBH Yreka Blue Hor 81.65 37 eP P 07 13 09.5 +0.6
YBH pmax pmax
comp=Z,46nm,1.5s
YBH Yreka Blue Hor 81.65 37 LR LR 07 43 17.8
comp=Z,3µm,20.5s,baz=252,slow=31
YBH Yreka Blue Hor 81.65 37 eP P 07 13 09.4 +0.6
comp=Z,46nm,1.5s
113A Mohawk Valley, 81.67 49 ⇑P P 07 13 09.3 +0.3
baz=82,SNR=16
Y12C Blythe 81.72 48 ⇑P P 07 13 09.5 +0.3
baz=82,SNR=6.8
TUQ Turquoise Moun 81.78 46 ⇓P P 07 13 10.1 +0.4
baz=82
GRAC Grapevine Rang 81.79 44 ⇓P P 07 13 10.5 +0.8
baz=82
FURC Furnace Creek, 81.79 44 ⇑P P 07 13 10.0 +0.4
baz=82
SHOC Shoshone 81.82 45 ⇑P P 07 13 10.1 +0.4
baz=82
214A Organ Pipe Nat 81.87 50 eP P 07 13 10.9 +0.7
comp=Z,48nm,1.6s
214A Organ Pipe Nat 81.87 50 ⇓P P 07 13 10.2 0.0
baz=82,SNR=7.2
NVAR Mina Array Bea 82.09 42 P P 07 13 11.2 -0.3
comp=Z,16nm,1.0s,baz=225,slow=8.1,SNR=43
NVAR LR LR 07 43 48.5
comp=Z,3µm,19.6s,baz=127,slow=31
HUMO Hull Mountain 82.10 37 eP P 07 13 11.8 +0.6
comp=Z,53nm,1.4s
M04C Macdoel 82.17 38 ⇓P P 07 13 12.4 +0.8
baz=82
NEE2 Needles Airpor 82.24 47 ⇑P P 07 13 12.4 +0.4
baz=82
PDMCI Parker Dam,Lak 82.29 47 ⇑P P 07 13 12.3 +0.1
baz=82,SNR=16
TPH Tonopah 82.54 43 eP P 07 13 13.9 +0.1
TPH pmax pmax
comp=Z,64nm,1.4s
TPH Tonopah 82.54 43 eP P 07 13 13.9 +0.1
comp=Z,64nm,1.4s
Z14A Wintersburg 82.57 49 ⇓P P 07 13 13.7 0.0
baz=83,SNR=11
I03D Drain, OR 82.63 36 ⇓P P 07 13 15.1 +1.3
baz=83
COCO West Island 82.70 260 PFAKE 07 13 20.0 +5.1
COCO LR LR
comp=Z,4µm,19.0s
USRK Ussuriysk Arra 82.73 325 P P 07 13 15.2 +0.9
comp=Z,35nm,0.9s,baz=133,slow=2.8,SNR=25
H03N2 Juan Fernandez 82.73 123 T T 08 44 30.8
baz=252,slow=74
H03N3 Juan Fernandez 82.73 123 T T 08 44 28.9
baz=252,slow=74
H03N1 Juan Fernandez 82.74 123 T T 08 45 08.6
baz=252
K04D Chiloquin, OR 82.78 37 ⇑P P 07 13 15.8 +1.1
baz=83
Y14A Wickenburg 82.86 48 ⇓P P 07 13 15.3 0.0
baz=83,SNR=38
OHAK Old Harbor 82.88 12 eP P 07 13 14.8 +0.1
comp=Z,60nm,1.4s
SHPR Sheep Range 82.91 45 eP P 07 13 16.3 +0.6
comp=Z,40nm,1.3s
W13A Hualapai Mount 82.93 47 ⇑P P 07 13 15.8 0.0
baz=83,SNR=25
GZH Guangzhou 82.99 299 P P 07 13 16.9 +0.8
GZH pmax pmax
comp=Z,2µm,10.1s
GZH LR LR
comp=Z,2µm,22.2s
GZH LR LR
comp=Z,3µm,21.9s
J04D Umpqua Nationa 82.99 36 ⇑P P 07 13 16.8 +0.9
baz=83
MOD Modoc 83.12 38 eP P 07 13 16.4 -0.2
comp=Z,59nm,1.3s
I04A Tendick Farm, 83.20 36 ⇑P P 07 13 17.6 +0.8
baz=83
NJ2 Nanjing 83.43 309 eP P 07 13 19.1 +0.9
NJ2 pP pP 07 13 28.3 -0.5
NJ2 sP sP 07 13 31.3 -1.3
NJ2 SKS S 07 23 34.0 -3.4
NJ2 S SKSac 07 23 38.0 -0.3
NJ2 sS sS 07 23 57.0 +2.2
NJ2 pmax pmax
comp=Z,30nm,0.9s
NJ2 pmax pmax
comp=Z,970nm,9.8s
NJ2 LR LR
comp=Z,3µm,23.6s
NJ2 LR LR
comp=Z,3µm,26.3s
NJ2 LR LR
comp=Z,7µm,21.7s
TUC Tucson 83.50 51 eP P 07 13 18.8 +0.1
TUC pmax pmax
comp=Z,22nm,1.0s
TUC MLR MLR
comp=Z,8µm,19.0s
TUC Tucson 83.50 51 eP P 07 13 18.8 +0.1
comp=Z,22nm,1.0s
TUC LR LR
comp=Z,8µm,19.0s
J05D Fort Rock, OR 83.50 37 ⇑P P 07 13 19.4 +0.9
baz=84
KDAK Kodiak Island 83.54 12 eP P 07 13 19.3 +1.2
KDAK pmax pmax
comp=Z,119nm,1.3s
KDAK MLR MLR
comp=Z,6µm,21.0s
KDAK Kodiak Island 83.54 12 eP P 07 13 19.3 +1.2
comp=Z,119nm,1.3s
KDAK LR LR
comp=Z,6µm,21.0s
G03D McMinnville, O 83.70 34 ⇓P P 07 13 20.7 +1.4
baz=84
R11A Troy Canyon, C 83.73 43 eP P 07 13 19.8 -0.1
comp=Z,8.5nm,1.2s
R11A Troy Canyon, C 83.73 43 ⇓P P 07 13 20.8 +0.9
baz=84
QIZ Qiongzhong 83.94 294 P P 07 13 22.0 +0.9
QIZ PP PP 07 16 35.5 +0.2
QIZ S S 07 23 44.9 +1.8
QIZ SS SS 07 29 14.0 +2.0
QIZ pmax pmax
comp=Z,960nm,10.8s
QIZ LR LR
comp=Z,680nm,16.6s
QIZ LR LR
comp=Z,2µm,22.5s
QIZ Qiongzhong 83.94 294 PFAKE 07 13 30.0 +8.9
QIZ LR LR
comp=Z,2µm,20.0s
SYO Syowa Base 83.98 192⇓eP P 07 13 18.6 -1.9
SYO Syowa Base 83.98 192⇑eP pP 07 13 30.7 -0.3
BMN Battle Mountai 83.99 41 eP P 07 13 21.1 0.0
BMN pmax pmax
comp=Z,59nm,1.3s
BMN Battle Mountai 83.99 41 eP P 07 13 21.1 0.0
comp=Z,59nm,1.3s
PINOR Pine Mountain 84.04 37 eP P 07 13 21.2 +0.1
comp=Z,63nm,1.2s
319A Douglas 84.07 52 ⇓P P 07 13 21.3 -0.3
baz=84,SNR=20
I05D Terrebonne, OR 84.14 36 ⇓P P 07 13 22.5 +0.9
baz=84
X16A Lo Mia Camp, P 84.20 49 ⇑P P 07 13 22.9 +0.6
baz=84,SNR=62
HABR Khabarovsk 84.22 330deP P 07 13 19.8 -2.0
HABR e*PP pP 07 13 30.1 -2.3
HABR e*SP sP 07 13 34.4 -1.8
HABR e 07 16 33.5
HABR ePPP PPP 07 18 25.8
HABR eS SKSac 07 23 39.3 -3.3
HABR eSS SS 07 29 11.6 -3.4
HABR eSSS SSS 07 32 41.4
HABR pmax pmax
comp=Z,1µm,4.6s
HABR MLR MLR
comp=Z,1µm,19.0s
MDJ Mudanjiang 84.28 324 P P 07 13 22.3 0.0
MDJ pP pP 07 13 33.6 +0.8
MDJ S S 07 23 52.3 +6.9
MDJ SS SS 07 29 14.0 -2.1
MDJ pmax pmax
comp=Z,70nm,1.2s
MDJ pmax pmax
comp=Z,1µm,7.5s
MDJ LR LR
comp=Z,960nm,33.6s
MDJ LR LR
comp=Z,840nm,32.6s
MDJ LR LR
comp=Z,3µm,21.4s
MDJ Mudanjiang 84.28 324 eP P 07 13 23.3 +1.1

comp=Z,104nm,1.2s
MDJ LR LR
comp=Z,3µm,21.0s
WVOR Wild Horse Val 84.41 39 eP P 07 13 23.0 -0.2
WVOR pmax pmax
comp=Z,53nm,1.2s
WVOR MLR MLR
comp=Z,6µm,20.0s
WVOR Wild Horse Val 84.41 39 eP P 07 13 23.0 -0.2
comp=Z,53nm,1.2s
WVOR LR LR
comp=Z,6µm,20.0s
F04D Rainier, OR 84.43 34 ⇓P P 07 13 24.3 +1.3
baz=85
BMW Boistfort Moun 84.58 34 P P 07 13 24.3 +0.4
BMW Boistfort Moun 84.58 34 P P 07 13 24.3 +0.4
CCUT Cedar City 84.69 45 eP P 07 13 25.4 +0.6
comp=Z,53nm,1.3s
SNAA Sanae 84.71 178 P P 07 13 24.3 0.0
SNAA Sanae 84.71 178 ⇑eP P 07 13 24.3 0.0
SNAA pmax pmax
comp=Z,64nm,1.7s
SNAA Sanae 84.71 178 eP P 07 13 23.9 -0.3
comp=Z,77nm,1.1s
G05D Wamic, OR 84.75 35 ⇑P P 07 13 25.5 +0.8
baz=85
U15A North Rim 84.75 47 ⇑P P 07 13 26.0 +0.8
baz=85
ARUT Antelope Range 84.77 45 eP P 07 13 26.4 +1.2
ARUT Antelope Range 84.77 45 eP P 07 13 26.4 +1.2
comp=Z,41nm,1.2s
VNA3 Neumayer Olymp 84.78 176 P P 07 13 24.4 -0.1
FL2 Flat Top 2 84.84 34 P P 07 13 25.7 +0.4
WUAZ Wupatki 84.85 48 eP P 07 13 26.6 +0.9
comp=Z,27nm,0.9s
WUAZ LR LR
comp=Z,7µm,19.0s
WUAZ Wupatki 84.85 48 ⇓P P 07 13 26.1 +0.5
baz=85,SNR=25
NLWA Neilton Lookou 84.89 33 eP P 07 13 25.5 +0.1
comp=Z,55nm,1.2s
NLWA LR LR
comp=Z,3µm,19.0s
VNA2 Neumayer--Watz 85.24 176 P P 07 13 28.7 +1.9
baz=162,slow=4.1
X18A Snowflake 85.29 49 ⇑P P 07 13 28.6 +0.8
baz=86
DL2 Dalian 85.41 316 ⇑iP P 07 13 28.4 +0.3
DL2 S S 07 23 57.8 +1.0
DL2 pmax pmax
comp=Z,38nm,1.7s
DL2 LR LR
comp=Z,810nm,17.8s
DL2 LR LR
comp=Z,410nm,15.8s
DL2 LR LR
comp=Z,1µm,20.9s
IPM Ipoh 85.45 277 eP P 07 13 28.4 -0.6
comp=Z,29nm,0.7s
IPM Ipoh 85.45 277 ⇑P P 07 13 27.1 -1.9
VNA1 Neumayer--Stat 85.45 176 P P 07 13 28.1 +0.2
LON Longmire 85.49 34 eP P 07 13 28.0 -0.4
LON pmax pmax
comp=Z,12nm,1.0s
LON Longmire 85.49 34 eP P 07 13 28.0 -0.4
comp=Z,12nm,1.0s
NVL N'lazarevskaya 85.58 183 eP P 07 13 27.8 -0.7
NVL pmax pmax
comp=Z,37nm,1.2s
PLCA Paso Flores 85.65 133 P P 07 13 32.7 +3.1
comp=Z,7.3nm,1.1s,baz=212,slow=7.8,SNR=4.1
PLCA LR LR 07 44 50.8
comp=Z,1µm,19.4s,baz=256,slow=31
PAYG Puerto Ayora 85.72 89 PFAKE 07 13 40.0 +10
PAYG LR LR
comp=Z,4µm,19.0s
W18A Petrified Fore 85.75 49 ⇑P P 07 13 30.4 +0.3
baz=86
121A Cookes Peak, D 85.76 52 eP P 07 13 30.5 +0.3
comp=Z,20nm,1.0s
121A Cookes Peak, D 85.76 52 ⇓P P 07 13 31.0 +0.8
baz=86
WHN Wuhan 85.91 306 ⇓P P 07 13 31.9 +1.1
WHN SKS S 07 23 53.3 -8.9
WHN S ScS 07 24 09.5 -1.8
WHN LR LR
comp=Z,4µm,18.2s
WHN LR LR
comp=Z,2µm,20.0s
WHN LR LR
comp=Z,5µm,19.1s
SNY Shenyang 85.93 319 ⇑P P 07 13 30.3 -0.3
SNY pP pP 07 13 42.6 +1.5
SNY PP PP 07 16 51.5 +0.5
SNY pmax pmax
comp=Z,21nm,1.6s
SNY pmax pmax
comp=Z,1µm,5.9s
SNY LR LR
comp=Z,1µm,18.8s
SNY LR LR
comp=Z,2µm,21.0s
SNY LR LR
comp=Z,2µm,21.4s
PGC Sidney 85.96 32 eP P 07 13 30.6 +0.1
comp=Z,64nm,1.4s
UBPT Khong Chiam 86.01 288 P P 07 13 35.2 +3.6
comp=Z,74nm,1.5s,comp=Z,1µm
CN2 Changchun 86.04 322 eP P 07 13 31.8 +0.7
CN2 ePP PP 07 16 53.8 +1.9
CN2 eS S 07 24 03.8 +0.9
CN2 eSS SS 07 29 44.9 +2.8
CN2 pmax pmax
comp=Z,90nm,1.2s
CN2 pmax pmax
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,2µm,19.0s
CN2 LR LR
comp=Z,2µm,19.0s
CN2 LR LR
comp=Z,2µm,19.0s
KULM Kulim 86.12 277 eP P 07 13 32.8 +0.6
comp=Z,31nm,1.1s
KULM LR LR
comp=Z,3µm,19.0s
KULM Kulim 86.12 277 ⇑P P 07 13 33.3 +1.0
KLR Kul'dur 86.30 329 eP P 07 13 29.4 -2.8
KLR eS S 07 23 58.0 -7.1
KLR pmax pmax
comp=E,230nm,2.8s
KLR pmax pmax
comp=Z,500nm,2.8s
KLR pmax pmax
comp=Z,3µm,10.0s
KLR MLR MLR
comp=N,800nm,14.5s
KLR MLR MLR
comp=Z,2µm,14.5s
SEW Seward 86.31 13 eP P 07 13 33.3 +1.3
comp=Z,73nm,1.2s
HAWA Hanford 86.44 35 eP P 07 13 32.9 -0.1
comp=Z,52nm,1.4s
HAWA LR LR
comp=Z,4µm,20.0s
PAF Port-aux-Franc 86.53 217 PFAKE 07 13 40.0 +6.4
PAF LR LR
comp=Z,5µm,19.0s
PAF Port-aux-Franc 86.53 217 P P 07 13 24.0 -10
PAF Port-aux-Franc 86.53 217 S SKSac 07 23 48.0 -10
PAF L L 07 37 00.0
PAF R 07 43 00.0
DUG Dugway 86.56 43 PFAKE 07 13 40.0 +6.1
DUG LR LR
comp=Z,2µm,20.0s
DUG Dugway 86.56 43 ⇑P P 07 13 34.1 +0.1
baz=87
MFID Camas Ranch 86.64 39 eP P 07 13 34.6 +0.4
comp=Z,26nm,1.3s
BMO Blue Mountains 86.68 37 eP P 07 13 34.0 -0.3
comp=Z,36nm,1.6s
BMO LR LR
comp=Z,3µm,20.0s
PSI Prapat 86.69 274 P P 07 13 34.4 -0.8
PSI pmax pmax
comp=Z,31nm,1.2s

PSI Prapat 86.69 274 P P 07 13 34.4 -0.8
comp=Z,31nm,1.1s,baz=202,slow=5.4
Z22A Elephant Butte 86.72 52 ⇑P P 07 13 35.3 +0.3
baz=87
BGU Big Grassy Mou 86.84 42 eP P 07 13 35.8 +0.4
VDB Vedder Mountai 86.87 32 P P 07 13 35.3 +0.2
TIA Tai'an 86.88 312 ⇓P P 07 13 37.0 +1.6
TIA pmax pmax
comp=Z,90nm,1.2s
TIA pmax pmax
comp=Z,2µm,9.7s
TIA LR LR
comp=Z,2µm,20.8s
TIA LR LR
comp=Z,2µm,20.0s
TIA LR LR
comp=Z,3µm,18.9s
NLU North Lily Min 86.88 44 eP P 07 13 35.8 +0.1
comp=Z,14nm,1.4s
TMUT Trail Mountain 87.07 45 eP P 07 13 35.7 -1.0
comp=Z,64nm,1.3s
WTV Waterville 87.07 34 P P 07 13 36.0 -0.1
MNTX Cornudas Mount 87.08 54 eP P 07 13 36.0 -0.6
comp=Z,49nm,1.0s
MNTX LR LR
comp=Z,4µm,20.0s
RC01 Rabbit Creek A 87.16 12 eP P 07 13 36.1 -0.1
comp=Z,126nm,1.3s
Y22D IRIS PASSCAL I 87.17 51 ⇓P P 07 13 37.8 +0.7
baz=87
LENM Lemitar 87.18 51 eP P 07 13 37.5 +0.3
comp=Z,17nm,0.9s
LAZ Ladron 87.19 51 eP P 07 13 38.2 +0.9
comp=Z,17nm,1.2s
MPU Maple Canyon 87.20 44 eP P 07 13 37.5 +0.4
comp=Z,22nm,1.3s
TXAR Lajitas Array 87.20 56 P P 07 13 37.4 0.0
comp=Z,21nm,0.8s,baz=216,slow=6.2,SNR=90
TXAR LR LR 07 47 47.3
comp=Z,5µm,18.5s,baz=0.0,slow=32
GAMB Gambell 87.30 2 eP P 07 13 36.6 -0.1
comp=Z,92nm,1.3s
GSI Gunungsitoli 87.32 273 eP P 07 13 38.1 -0.1
comp=Z,131nm,0.9s
SRU San Rafael 87.41 45 eP P 07 13 37.4 -0.7
SRU pmax pmax
comp=Z,33nm,1.2s
SRU San Rafael 87.41 45 eP P 07 13 37.4 -0.7
comp=Z,32nm,1.2s
SIT Sitka 87.44 21 eP P 07 13 38.8 +1.2
SIT pmax pmax
comp=Z,22nm,1.0s
SIT Sitka 87.44 21 eP P 07 13 38.8 +1.2
comp=Z,22nm,1.0s
HVU Hansel Valley 87.49 42 eP P 07 13 39.7 +1.2
HVU pmax pmax
comp=Z,15nm,1.2s
HVU Hansel Valley 87.49 42 eP P 07 13 39.7 +1.2
comp=Z,13nm,1.2s
LPM Los Pinos Moun 87.50 51 eP P 07 13 39.8 +1.1
comp=Z,28nm,1.3s
CTU Camp Tracy 87.51 43 eP P 07 13 39.5 +0.9
comp=Z,24nm,1.4s
OD2 Odessa Site #2 87.51 35 P P 07 13 38.6 +0.3
HLID Hailey 87.55 40 eP P 07 13 39.6 +0.9
comp=Z,14nm,1.3s
HLID LR LR
comp=Z,3µm,20.0s
HLID Hailey 87.55 40 ⇑P P 07 13 39.4 +0.7
baz=88
JLU Jordanelle 87.64 43 eP P 07 13 39.1 -0.2
comp=Z,22nm,1.3s
DAU Daniels Canyon 87.66 44 eP P 07 13 39.2 -0.3
DAU pmax pmax
comp=Z,34nm,1.3s
DAU Daniels Canyon 87.66 44 eP P 07 13 39.2 -0.3
comp=Z,2.1nm,1.3s
CHBT CHBT 87.69 285 P P 07 13 42.2 +2.4
comp=Z,86nm,0.9s,comp=Z,3µm
Y23A Lovelace Mesa, 87.72 51 ⇓P P 07 13 40.3 +0.5
baz=88
MVCO Mesa Verde 87.72 48 PFAKE 07 13 50.0 +10
MVCO LR LR
comp=Z,7µm,19.0s
MVCO Mesa Verde 87.72 48 ⇓P P 07 13 40.1 +0.3
baz=88
PMR Palmer 87.74 12 eP P 07 13 39.1 +0.2
PMR pmax pmax
comp=Z,108nm,1.4s
PMR Palmer 87.74 12 eP P 07 13 39.1 +0.2
comp=Z,108nm,1.4s
AIS Amsterdam Isla 87.82 229 P P 07 13 31.0 -9.1
AIS R 07 42 00.0
Z24A Sheeppen Canyo 87.91 52 ⇓P P 07 13 41.1 +0.3
baz=88
WRAK Wrangell Islan 87.94 23 eP P 07 13 40.9 +0.9
comp=Z,35nm,1.1s
WRAK LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 87.95 50 eP P 07 13 40.6 -0.3
ANMO pmax pmax
comp=Z,19nm,1.0s
ANMO MLR MLR
comp=Z,9µm,19.0s
ANMO Albuquerque 87.95 50 eP P 07 13 40.6 -0.3
comp=Z,19nm,1.0s
ANMO LR LR
comp=Z,9µm,19.0s
X23A Hourglass Bar 87.95 51 ⇓P P 07 13 41.2 +0.2
baz=88
TCUT Toone Canyon 87.96 43 eP P 07 13 41.0 +0.1
comp=Z,62nm,1.3s
DIV Divide 88.03 14 eP P 07 13 40.3 -0.1
comp=Z,48nm,1.0s
PV04 Paradox Valley 88.08 46 eP P 07 13 41.1 -0.3
V22A San Miguel Ran 88.13 49 ⇑P P 07 13 42.3 +0.5
baz=88
BMRM Bremner River 88.15 15 eP P 07 13 41.0 0.0
comp=Z,147nm,1.4s
Y24A Capitan 88.16 52 ⇓P P 07 13 42.4 +0.5
baz=88,SNR=79
PV01 Paradox Valley 88.16 47 eP P 07 13 41.1 -0.8
comp=Z,692nm,0.9s
W23A Werner Place, 88.28 50 ⇓P P 07 13 42.8 +0.4
baz=88
Z25A Roswell 88.36 52 ⇓P P 07 13 43.2 +0.4
baz=89,SNR=28
PPLA Purkeypile 88.39 11 eP P 07 13 40.3 -1.9
comp=Z,32nm,1.3s
X24A Lazy VL Ranch, 88.48 51 ⇑P P 07 13 43.3 -0.2
baz=89
V23A Ortiz Mt. (NFS 88.55 50 ⇑P P 07 13 43.6 -0.1
baz=89
529A Stev Forest Ra 88.69 56 ⇓P P 07 13 44.0 -0.3
baz=89,SNR=13
Y25A Mesa, Roswell 88.69 52 ⇑P P 07 13 44.4 0.0
baz=89,SNR=36
W24A Lazy 6 Ranch, 88.83 51 ⇓P P 07 13 44.6 -0.4
baz=89,SNR=21
U23A El Rito 88.84 49 ⇓P P 07 13 45.3 +0.2
baz=89
Z26A Caprock 88.89 53 ⇑P P 07 13 44.8 -0.5
baz=89,SNR=19
NEW Newport 88.90 35 eP P 07 13 44.1 -0.7
NEW pmax pmax
comp=Z,25nm,1.3s
NEW MLR MLR
comp=Z,3µm,19.0s
NEW Newport 88.90 35 eP P 07 13 44.1 -0.7
comp=Z,25nm,1.3s
NEW LR LR
comp=Z,3µm,19.0s
NEW Newport 88.90 35 ⇓P P 07 13 44.4 -0.4
baz=89,SNR=8.1
X25A Clemmons Ranch 89.02 51 ⇑P P 07 13 45.9 0.0
baz=89,SNR=15
127A Arkansas Junct 89.06 54 ⇑P P 07 13 45.6 -0.5
baz=89,SNR=8.9
PATY Pattaya 89.06 284 P P 07 13 49.8 +3.5
comp=Z,41nm,1.0s,comp=Z,2µm
AHID Auburn Hatcher 89.07 42 PFAKE 07 14 00.0 +14
AHID LR LR
comp=Z,4µm,20.0s
S22A 4UR Ranch, Cre 89.13 48 ⇓P P 07 13 46.5 0.0
baz=89
429A Davenport Ranc 89.17 56 ⇓P P 07 13 46.1 -0.5
baz=89,SNR=28

V24A Rampart Ranch, 89.18 50 ⇑P P 07 13 46.3 -0.4
baz=89,SNR=16
MCMT McKenzie Canyo 89.20 39 P P 07 13 47.2 +0.6
KTH Kantishna Hill 89.21 11 eP P 07 13 44.6 -1.4
comp=Z,54nm,1.1s
TRF Thorofare Moun 89.23 11 eP P 07 13 45.2 -0.9
comp=Z,85nm,1.1s
TNA Tin City 89.24 3 eP P 07 13 45.4 -0.5
comp=Z,61nm,1.2s
PKDT Phuket 89.28 279 P P 07 13 51.1 +3.7
comp=Z,65nm,1.1s
SURT Suratani 89.29 280 P P 07 13 49.5 +2.1
comp=Z,51nm,1.1s,comp=Z,826nm
T23A Casias Ranch, 89.31 49 ⇑P P 07 13 47.2 -0.2
baz=90
Y26A Elida 89.32 52 ⇑P P 07 13 46.9 -0.4
baz=90
228A UT Block 9, Go 89.36 54 ⇓P P 07 13 47.2 -0.2
baz=90
530A J-C Ranch, Com 89.37 57 ⇓P P 07 13 47.1 -0.4
baz=90,SNR=7.8
O20A White River Ci 89.44 45 eP P 07 13 48.5 +0.7
comp=Z,3.1nm,0.9s
O20A White River Ci 89.44 45 ⇑P P 07 13 48.0 +0.2
baz=90
ENH Enshi 89.45 303 eP P 07 13 49.5 +1.6
comp=Z,52nm,1.3s
ENH LR LR
comp=Z,1µm,22.0s
Z27A Tatum 89.47 53 ⇑P P 07 13 47.2 -0.7
baz=90,SNR=10.0
W25A X Bar L Ranch, 89.50 51 ⇑P P 07 13 47.5 -0.6
baz=90,SNR=30
329A Wagon Wheel Ra 89.51 55 ⇓P P 07 13 47.9 -0.3
baz=90
U24A Moreno Valley 89.52 50 ⇑P P 07 13 48.5 +0.2
baz=90
BJI Beijing 89.55 315 P P 07 13 48.6 +0.6
BJI S S 07 24 39.3 +2.8
BJI SS SS 07 30 35.5 +2.0
BJI pmax pmax
comp=Z,29nm,1.6s
BJI pmax pmax
comp=Z,960nm,4.8s
BJI LR LR
comp=Z,2µm,21.5s
BJI LR LR
comp=Z,1µm,22.5s
BJI LR LR
comp=Z,2µm,26.6s
832A Faith Ranch, C 89.57 59 ⇑P P 07 13 47.5 -0.9
baz=90,SNR=12
631A Perdido Creek 89.62 58 ⇓P P 07 13 48.4 -0.3
baz=90,SNR=17
X26A CR and CF Fran 89.64 52 ⇑P P 07 13 48.2 -0.6
baz=90,SNR=11
S23A Nye Farm, Mont 89.67 48 ⇓P P 07 13 49.2 +0.2
baz=90
128A Castleberry Fa 89.67 54 ⇑P P 07 13 48.1 -0.9
baz=90,SNR=8.8
V25A Rancho No Teng 89.70 50 ⇑P P 07 13 48.6 -0.5
baz=90,SNR=17
MCK McKinley 89.73 12 eP P 07 13 47.6 -0.7
MCK pmax pmax
comp=Z,57nm,1.1s
MCK McKinley 89.73 12 eP P 07 13 47.6 -0.7
comp=Z,57nm,1.1s
PAX Paxson 89.73 13 eP P 07 13 47.9 -0.6
PAX pmax pmax
comp=Z,73nm,1.4s
PAX Paxson 89.73 13 eP P 07 13 47.9 -0.6
comp=Z,73nm,1.4s
MSO Missoula 89.75 37 ⇑P P 07 13 48.2 -0.7
baz=90
430A Baggett Ranch, 89.75 56 ⇑P P 07 13 48.7 -0.5
baz=90
732A Laxson Ranch, 89.77 58 ⇑P P 07 13 48.8 -0.5
baz=90,SNR=9.4
T24B San Luis 89.77 49 ⇓P P 07 13 49.5 -0.1
baz=90,SNR=9.9
Y27A Causey 89.78 53 ⇑P P 07 13 48.8 -0.6
baz=90,SNR=30
N20A Spence Gulch, 89.80 45 ⇑P P 07 13 49.4 -0.1
baz=90,SNR=5.7
933A Laredo 89.81 60 ⇑P P 07 13 49.7 +0.2
baz=90,SNR=6.4
229A Bryant Ranch, 89.87 55 ⇑P P 07 13 49.6 -0.2
baz=90
BSMT Bassoo Peak 89.89 36 P P 07 13 49.4 -0.3
GYA Guiyang 89.92 299 ⇑iP P 07 13 51.3 +1.1
GYA pP pP 07 14 02.8 +1.9
GYA PP PP 07 17 27.0 +3.4
GYA SKS SKSac 07 24 17.3 -1.7
GYA S S 07 24 40.0 -0.9
GYA sS sS 07 24 57.6 -0.9
GYA SS SS 07 30 41.5 +1.8
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,210nm,5.4s
GYA LR LR
comp=Z,6µm,20.5s
GYA LR LR
comp=Z,5µm,22.2s
GYA LR LR
comp=Z,8µm,21.0s
W26A Owens Ranch, T 89.93 51 ⇑P P 07 13 49.9 -0.2
baz=90,SNR=9.8
SEY Seymchan 89.97 346 P P 07 13 49.2 -0.2
SEY pmax pmax
comp=Z,30nm,0.9s
SEY Seymchan 89.97 346 P P 07 13 49.1 -0.2
comp=Z,30nm,0.9s,baz=153,slow=5.1,SNR=38
531A Rocksprings 89.99 57 ⇑P P 07 13 50.1 -0.3
baz=90,SNR=15
LRM Limekiln Ridge 90.00 39 eP P 07 13 50.3 0.0
comp=Z,189nm,1.4s
BW06 Boulder Array 90.02 42 PFAKE 07 14 00.0 +10
BW06 LR LR
comp=Z,3µm,20.0s
I17A Pilgrim Ck. 90.03 41 ⇑P P 07 13 50.6 +0.1
baz=90,SNR=8.3
QLMT Earthquake Lak 90.03 40 eP P 07 13 51.7 +1.3
comp=Z,6.8nm,1.3s
SDCO Great Sand Dun 90.04 48 eP P 07 13 50.6 -0.2
comp=Z,16nm,1.2s
SDCO LR LR
comp=Z,6µm,19.0s
034A Hebbronville 90.04 60 ⇓P P 07 13 50.5 -0.1
baz=90,SNR=9.7
R23A Moffat 90.04 48 ⇑P P 07 13 50.5 -0.3
baz=90,SNR=8.8
833A Chaparral WMA, 90.04 59 ⇓P P 07 13 50.1 -0.5
baz=90,SNR=9.8
Z28A Tucker Farm, M 90.07 53 ⇓P P 07 13 50.4 -0.4
baz=90,SNR=12
330A Mertzon 90.08 56 ⇓P P 07 13 50.3 -0.5
baz=90
MENT Mentasta 90.09 14 eP P 07 13 50.6 +0.6
JTMT Jette 90.10 36 eP P 07 13 50.1 -0.4
comp=Z,11nm,1.3s
MSTX Muleshoe 90.11 53 eP P 07 13 50.1 -0.8
comp=Z,27nm,0.8s
MSTX Muleshoe 90.11 53 ⇑P P 07 13 50.5 -0.5
baz=90,SNR=16
SWMT Swartz Lake 90.11 37 eP P 07 13 49.2 -1.4
comp=Z,10nm,1.4s
U25A Circle Dot Ran 90.12 50 ⇓P P 07 13 50.7 -0.4
baz=90,SNR=14
P22A Eagle 90.13 46 ⇓P P 07 13 50.8 -0.3
baz=90
129A Stewart Farms, 90.14 54 ⇓P P 07 13 50.7 -0.4
baz=90
431A Sonora 90.18 56 ⇓P P 07 13 50.9 -0.4
baz=90
CHMT Chamberlain Mo 90.18 38 eP P 07 13 49.8 -1.3
comp=Z,28nm,1.4s
S24A Houchin Ranch, 90.18 49 ⇑P P 07 13 50.7 -0.7
baz=90,SNR=14
X27A F and S Farms, 90.20 52 ⇓P P 07 13 50.6 -0.7
baz=90,SNR=16
YMR Madison River 90.22 40 eP P 07 13 52.6 +1.3
comp=Z,72nm,1.5s
SLMT Seeley Lake 90.23 37 eP P 07 13 51.2 0.0
comp=Z,29nm,1.3s
035Z Hargill 90.26 61 ⇓P P 07 13 51.1 -0.6
baz=90

V26A	Tequesquite Ra	90.26	51	⇓P	P	07 13 51.0	-0.7
	baz=90,SNR=12						
632A	Uvalde	90.27	58	⇓P	P	07 13 51.0	-0.7
	baz=90,SNR=26						
H17A	Grant Village	90.29	41	⇓P	P	07 13 52.0	+0.2
	baz=90						
DLBC	Dease Lake	90.30	22	eP	P	07 13 51.3	+0.2
	comp=Z,67nm,1.3s						
733A	Divot King Ran	90.30	59	⇑P	P	07 13 50.9	-0.9
	baz=90						
YBMT	Yellow Bay	90.31	36	eP	P	07 13 51.1	-0.5
	comp=Z,11nm,1.3s						
230A	Sterling City	90.36	55	⇓P	P	07 13 51.7	-0.4
	baz=90						
BOZ	Bozeman (W)	90.38	39	eP	P	07 13 51.6	-0.3
BOZ				pmax	pmax		
	comp=Z,66nm,1.3s						
BOZ				MLR	MLR		
	comp=Z,5µm,19.0s						
BOZ	Bozeman (W)	90.38	39	eP	P	07 13 51.6	-0.3
	comp=Z,58nm,1.3s						
BOZ				LR	LR		
	comp=Z,4µm,19.0s						
Q23A	Hartsel	90.40	47	⇑P	P	07 13 52.0	-0.4
	baz=91						
934A	Benavides	90.41	60	⇑P	P	07 13 51.8	-0.6
	baz=91						
W27A	Bowe Ranch, En	90.42	52	⇓P	P	07 13 51.6	-0.8
	baz=91,SNR=24						
035A	Encino	90.44	61	⇑P	P	07 13 52.3	-0.2
	baz=91						
532A	Rocksprings	90.46	57	⇓P	P	07 13 51.9	-0.7
	baz=91,SNR=28						
PBKT	Sadao Pong	90.47	288	P	P	07 13 54.8	+2.0
	comp=Z,108nm,0.9s,comp=Z,1µm						
T25A	Trinidad	90.48	49	⇓P	P	07 13 52.5	-0.3
	baz=91,SNR=11						
R24A	Sanders Place,	90.55	48	⇓P	P	07 13 53.3	+0.3
	baz=91,SNR=6.9						
Z29A	Hungry Hill Ra	90.55	54	⇓P	P	07 13 52.6	-0.4
	baz=91,SNR=14						
O22A	Kremmling	90.56	46	⇑P	P	07 13 52.8	-0.4
	baz=91						
U26A	Atchley Ranch,	90.59	50	⇑P	P	07 13 53.1	-0.1
	baz=91,SNR=18						
J19A	Crowheart	90.60	42	⇓P	P	07 13 53.2	+0.1
	baz=91,SNR=7.7						
331A	San Angelo	90.61	56	⇑P	P	07 13 52.4	-0.9
	baz=91						
834A	Tilden	90.61	60	⇓P	P	07 13 53.3	+0.1
	baz=91,SNR=11						
P23A	Jefferson	90.63	47	⇑P	P	07 13 54.2	+0.7
	baz=91						
DOT	Dot Lake	90.64	14	eP	P	07 13 51.7	-0.8
	comp=Z,100nm,1.2s						
JCT	Junction City	90.70	57	eP	P	07 13 53.4	-0.3
JCT				pmax	pmax		
	comp=Z,19nm,1.1s						
JCT				MLR	MLR		
	comp=Z,6µm,19.0s						
JCT	Junction City	90.70	57	eP	P	07 13 53.4	-0.3
	comp=Z,19nm,1.1s						
JCT				LR	LR		
	comp=Z,6µm,19.0s						
JCT	Junction City	90.70	57	⇓P	P	07 13 53.7	0.0
	baz=91,SNR=8.5						
633A	Saathoff Ranch	90.72	58	⇓P	P	07 13 53.7	0.0
	baz=91,SNR=11						
S25A	Robets Cordova	90.73	49	⇓P	P	07 13 54.0	+0.2
	baz=91,SNR=11						
X28A	Dimmitt	90.79	52	⇓P	P	07 13 54.1	0.0
	baz=91,SNR=11						
130A	Snyder	90.79	55	⇓P	P	07 13 53.6	-0.5
	baz=91						
HRY	Holter Researc	90.86	38	eP	P	07 13 53.4	-0.7
	comp=Z,45nm,1.3s						
Y29A	Porterfield Fa	90.86	53	⇓P	P	07 13 54.3	-0.1
	baz=91,SNR=29						
TIY	Taiyuan	90.87	311	eP	P	07 13 55.8	+1.4
TIY				SKS	SKSac	07 24 23.3	-0.5
TIY				S	S	07 24 45.3	-3.8
TIY				pmax	pmax		
	comp=Z,110nm,1.0s						
TIY				LR	LR		
	comp=Z,1µm,15.6s						
TIY				LR	LR		
	comp=Z,1µm,21.5s						
TIY				LR	LR		
	comp=Z,1µm,17.1s						
KVTX	Kingsville	90.88	60	PFAKE		07 14 00.0	+5.5
KVTX				LR	LR		
	comp=Z,2µm,19.0s						
Q24A	Divide	90.89	47	⇑P	P	07 13 54.8	+0.1
	baz=91						
432A	Menard	90.89	57	⇑P	P	07 13 53.9	-0.7
	baz=91,SNR=7.0						
V27A	Dan Oppiter Fa	90.92	51	⇑P	P	07 13 54.3	-0.4
	baz=91,SNR=22						
734A	La Parita Cree	90.93	59	⇑P	P	07 13 54.6	-0.2
	baz=91						
N22A	Wattenberg Ran	90.95	45	⇑P	P	07 13 55.0	0.0
	baz=91						
COLA	College	90.97	12c	iP	P	07 13 53.6	-0.4
COLA				pmax	pmax		
	comp=Z,217nm,1.1s						
COLA	College	90.97	12	eP	P	07 13 53.2	-0.8
	comp=Z,84nm,1.2s						
COLA				LR	LR		
	comp=Z,5µm,21.0s						
231A	Bronte	90.98	55	⇓P	P	07 13 54.2	-0.7
	baz=91,SNR=13						
H18A	Shoshone NF, C	90.99	41	⇓P	P	07 13 55.3	+0.4
	baz=91						
Z30A	Sanderson Ranc	90.99	54	⇑P	P	07 13 54.8	-0.2
	baz=91,SNR=15						
ISCO	Idaho Springs	91.00	47	PFAKE		07 14 10.0	+15
ISCO				LR	LR		
	comp=Z,4µm,19.0s						
ISCO	Idaho Springs	91.00	47	⇓P	P	07 13 55.3	+0.1
	baz=91						
O23A	Lake Granby, G	91.00	46	⇑P	P	07 13 55.1	-0.1
	baz=91,SNR=5.4						
IM04	Indian Mountai	91.03	9	eP	P	07 13 53.5	-0.8
I19A	Meeteetse	91.05	42	⇑P	P	07 13 55.8	+0.6
	baz=91,SNR=8.7						
ILAR	Eielson Array	91.06	12	P	P	07 13 53.7	-0.8
ILAR						07 17 36.1	
ILAR				pmax	pmax		
	comp=Z,22nm,1.1s						
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR	Eielson Array	91.06	12	P	P	07 13 53.6	-0.8
	comp=Z,22nm,1.1s,baz=223,slow=5.2,SNR=59						
ILAR				PP	PP	07 17 36.0	+4.4
	comp=Z,1.8nm,0.9s,baz=196,slow=9.4,SNR=4.5						
ILAR				LR	LR	07 50 52.5	
	comp=Z,1µm,19.3s,baz=216,slow=33						
R25A	Fountain Ranch	91.07	48	⇑P	P	07 13 54.9	-0.5
	baz=91,SNR=6.9						
T26A	Comanche Natio	91.07	50	⇑P	P	07 13 54.8	-0.6
	baz=91						
WALA	Waterton Lakes	91.07	36	eP	P	07 13 54.8	-0.3
	comp=Z,49nm,1.3s						
533A	Kerrville	91.11	58	⇑P	P	07 13 55.4	-0.2
	baz=91,SNR=18						
X29A	Tulia	91.12	53	⇑P	P	07 13 55.4	-0.2
	baz=91,SNR=19						
332A	Millersview	91.16	56	⇓P	P	07 13 55.4	-0.4
	baz=91,SNR=23						
M22A	Cedar Creek Ra	91.17	45	⇑P	P	07 13 55.7	-0.2
	baz=91						
SRDT	SRDT	91.19	285	P	P	07 13 59.2	+3.0
	comp=Z,143nm,1.0s,comp=Z,20µm						
J20A	Shoshoni	91.25	43	⇓P	P	07 13 56.0	-0.1
	baz=91,SNR=11						
U27A	Thompson Grove	91.25	51	⇑P	P	07 13 55.5	-0.7
	baz=91,SNR=9.9						
835A	Beeville	91.26	60	⇑P	P	07 13 56.4	+0.2
	baz=91						
131A	Roby	91.26	55	⇓P	P	07 13 55.7	-0.6
	baz=92,SNR=5.6						
UTTA	Uttaradit	91.32	289	P	P	07 13 58.5	+1.8
	comp=Z,19nm,1.1s,comp=Z,152nm						
P24A	Kohler Place,	91.32	47	⇑P	P	07 13 56.5	0.0
	baz=92						
634A	China Grove, S	91.33	58	⇑P	P	07 13 56.3	-0.3
	baz=92						
N23A	Red Feather La	91.33	45	⇑P	P	07 13 56.7	0.0
	baz=92						
AMTX	Amarillo	91.34	52	eP	P	07 13 56.1	-0.5
	comp=Z,24nm,0.9s						
AMTX	Amarillo	91.34	52	⇓P	P	07 13 56.3	-0.3
	baz=92						
V28A	Channing	91.35	51	⇓P	P	07 13 56.1	-0.6
	baz=92,SNR=16						
433A	Art	91.37	57	⇑P	P	07 13 56.3	-0.5
	baz=92,SNR=40						
S26A	Kim	91.37	49	⇓P	P	07 13 56.4	-0.4
	baz=92,SNR=17						
K21A	Alcova	91.39	43	⇓P	P	07 13 56.5	-0.3
	baz=92,SNR=6.2						
H19A	Powell	91.40	41	⇑P	P	07 13 57.1	+0.3
	baz=92,SNR=7.2						
Y30A	Stafford Cattl	91.44	54	⇓P	P	07 13 56.5	-0.6
	baz=92						
232A	Coleman	91.46	56	⇑P	P	07 13 56.9	-0.3
	baz=92,SNR=26						
W29A	Amraillo	91.47	52	⇓P	P	07 13 57.0	-0.2
	baz=92,SNR=17						
Q25A	Bedland, Calha	91.47	48	⇓P	P	07 13 56.7	-0.6
	baz=92						
RLMT	Red Lodge	91.47	41	eP	P	07 13 57.4	+0.2
	comp=Z,34nm,1.3s						
RLMT				LR	LR		
	comp=Z,2µm,19.0s						
534A	Blanco	91.52	58	⇑P	P	07 13 57.3	-0.2
	baz=92,SNR=19						
735A	Kenedy	91.53	59	⇑P	P	07 13 57.7	+0.2
	baz=92,SNR=7.8						
I20A	Worland	91.53	42	⇓P	P	07 13 57.6	+0.2
	baz=92,SNR=8.4						
L22A	Ellis Ranch, M	91.60	44	⇓P	P	07 13 57.9	+0.2
	baz=92						
XAN	Xi'an	91.62	307	P	P	07 13 58.5	+0.6
XAN				pP	pP	07 14 09.5	+1.0
XAN				sP	sP	07 14 13.5	+1.1
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,200nm,10.2s						
XAN				LR	LR		
	comp=Z,560nm,22.5s						
XAN				LR	LR		
	comp=Z,620nm,21.5s						
XAN				LR	LR		
	comp=Z,660nm,20.5s						
T27A	Campo	91.63	50	⇓P	P	07 13 57.5	-0.4
	baz=92						
J21A	Lysite	91.64	43	⇑P	P	07 13 58.2	+0.2
	baz=92,SNR=12						
U28A	Mallet	91.65	51	⇑P	P	07 13 58.0	-0.1
	baz=92,SNR=5.6						
333A	Richland Sprin	91.71	57	⇑P	P	07 13 57.8	-0.5
	baz=92,SNR=12						
R26A	Arlington	91.72	49	⇓P	P	07 13 58.1	-0.3
	baz=92,SNR=13						
X30A	Coker Ranch, T	91.72	53	⇓P	P	07 13 57.9	-0.4
	baz=92						
Z31A	Sharp Cattle R	91.74	54	⇓P	P	07 13 57.9	-0.6
	baz=92,SNR=14						
M23A	Laramie	91.77	45	⇑P	P	07 13 58.4	-0.3
	baz=92						
635A	Leesville	91.79	59	⇓P	P	07 13 58.5	-0.2
	baz=92						
ABTX	Abilene, Hawle	91.80	55	eP	P	07 13 58.4	-0.3
	comp=Z,33nm,1.1s						
ABTX	Abilene, Hawle	91.80	55	⇑P	P	07 13 58.5	-0.2
	baz=92,SNR=12						
S27A	Las Animas	91.80	49	⇓P	P	07 13 58.6	-0.2
	baz=92						
P25A	Willow Gulch B	91.82	47	⇓P	P	07 13 58.6	-0.3
	baz=92,SNR=7.5						
KHLT	Khaolaem Dam	91.84	285	P	P	07 14 02.4	+3.2
	comp=Z,18nm,1.2s,comp=Z,493nm						
K22A	Casper	91.86	44	eP	P	07 13 59.4	+0.4
	comp=Z,7.3nm,1.1s						
K22A	Casper	91.86	44	⇑P	P	07 13 59.0	+0.1
	baz=92						
H20A	Greybull	91.90	42	⇓P	P	07 13 59.0	0.0
	baz=92,SNR=6.6						
V29A	Stinnett	91.92	52	⇓P	P	07 13 58.8	-0.4
	baz=92						
Y31A	Rekieta Farm,	91.95	54	⇑P	P	07 13 59.1	-0.3
	baz=92,SNR=19						
Q26A	Hugo	91.97	48	⇑P	P	07 13 59.3	-0.3
	baz=92						
I21A	Big Trails, Te	91.98	42	⇓P	P	07 13 59.3	-0.1
	baz=92,SNR=10						
N24A	Carr	92.00	46	⇓P	P	07 13 59.9	+0.3
	baz=92,SNR=5.4						
434A	Burnet	92.03	57	⇓P	P	07 13 59.4	-0.4
	baz=92,SNR=19						
F19A	Roth Farm, Mol	92.06	40	⇓P	P	07 13 59.7	0.0
	baz=92,SNR=9.6						
DAWY	Dawson	92.06	15	eP	P	07 13 59.0	-0.1
	comp=Z,86nm,1.3s						
T28A	Walsh	92.08	50	⇓P	P	07 13 59.9	-0.2
	baz=92,SNR=9.7						
233A	Rising Star	92.09	56	⇑P	P	07 13 59.7	-0.4
	baz=92,SNR=15						
L23A	Garrett	92.11	44	⇓P	P	07 13 59.9	-0.3
	baz=92						
O25A	Wiggins	92.15	47	⇓P	P	07 14 00.3	0.0
	baz=92						
G20A	Bridger	92.16	41	⇑P	P	07 14 00.2	0.0
	baz=92						
R27A	Eads	92.16	49	⇑P	P	07 13 59.9	-0.5
	baz=92,SNR=8.6						
535A	Dale	92.23	58	⇓P	P	07 14 00.6	-0.2
	baz=92						
Z32A	Haskell	92.23	55	⇓P	P	07 14 00.4	-0.3
	baz=92,SNR=35						
EGAK	Eagle	92.25	14	eP	P	07 13 59.8	-0.2
	comp=Z,98nm,1.3s						
EGAK				LR	LR		
	comp=Z,4µm,20.0s						
J22A	Midwest	92.28	43	⇑P	P	07 14 01.0	+0.1
	baz=92,SNR=8.3						
W30A	Crocket Farms	92.28	52	⇓P	P	07 14 00.9	-0.1
	baz=92						
334A	Lometa	92.29	57	⇓P	P	07 14 00.4	-0.6
	baz=92,SNR=30						
133A	Hamilton Ranch	92.34	55	⇑P	P	07 14 00.9	-0.3
	baz=92,SNR=14						
M24A	Cheyenne	92.35	45	⇓P	P	07 14 01.5	+0.3
	baz=92						
U29A	Oasis Ranch, S	92.37	51	⇓P	P	07 14 01.0	-0.3
	baz=93,SNR=8.0						
636A	Smothers Creek	92.39	59	⇓P	P	07 14 01.9	+0.5
	baz=93						
P26A	Davis Ranch, A	92.40	48	⇓P	P	07 14 01.7	+0.2
	baz=93						
LAMP	Lampang	92.43	289	P	P	07 14 03.5	+1.6
	comp=Z,62nm,0.9s,comp=Z,442nm						
HIA	Hailar	92.45	324	eP	P	07 14 01.1	-0.2
HIA				pmax	pmax		
	comp=Z,44nm,1.0s						
HIA				MLR	MLR		
	comp=Z,2µm,20.0s						
HIA	Hailar	92.45	324	eP	P	07 14 01.1	-0.2
	comp=Z,44nm,1.0s						
HIA				LR	LR		
	comp=Z,2µm,20.0s						
S28A	Manter	92.45	50	⇓P	P	07 14 01.7	0.0
	baz=93						
X31A	McDonald Ranch	92.46	53	⇓P	P	07 14 01.6	-0.2
	baz=93,SNR=9.7						
BILL	Bilibino	92.46	353c	iP	P	07 14 01.0	+0.2
BILL				e		07 14 12.5	
BILL				e*PP	PP	07 17 39.8	-2.8
BILL				eSS	SS	07 31 15.1	+0.7
BILL				pmax	pmax		
	comp=Z,39nm,1.2s						
BILL	Bilibino	92.46	353	eP	P	07 14 01.1	+0.2
	comp=Z,40nm,1.1s						
BILL				LR	LR		
	comp=Z,4µm,20.0s						
V30A	Spur Ranch, Mi	92.46	52	⇓P	P	07 14 01.7	-0.1
	baz=93,SNR=9.2						
E19A	Rath Farm, Rou	92.48	40	⇓P	P	07 14 01.9	+0.3
	baz=93,SNR=12						
K23A	Bowen Ranch, D	92.48	44	⇑P	P	07 14 01.6	-0.2
	baz=93						
F20A	Billings	92.50	40	⇓P	P	07 14 02.1	+0.4
	baz=93						
N25A	Grover	92.51	46	⇓P	P	07 14 02.4	+0.4
	baz=93						
I22A	9 Mile Ranch,	92.52	43	⇑P	P	07 14 01.8	-0.1
	baz=93,SNR=6.4						
KMI	Kunming	92.53	296	P	P	07 14 04.3	+1.8
KMI				pP	pP	07 14 13.3	+0.1
KMI				sP	sP	07 14 18.3	+1.3
KMI				PP	PP	07 17 50.0	+5.6
KMI				S	S	07 25 05.9	+1.0
KMI				pmax	pmax		
	comp=Z,58nm,1.1s						
KMI				pmax	pmax		
	comp=Z,480nm,6.2s						
KMI				LR	LR		
	comp=Z,1µm,19.2s						
KMI				LR	LR		
	comp=Z,2µm,20.6s						
KMI				LR	LR		
	comp=Z,2µm,20.6s						
435B	Jarrell	92.55	58	⇓P	P	07 14 02.7	+0.5
	baz=93						
H21A	Big Horn, Sher	92.55	42	⇑P	P	07 14 02.1	+0.1
	baz=93						
PAYA	Payao	92.57	290	P	P	07 14 04.0	+1.4
	comp=Z,36nm,1.0s,comp=Z,320nm						
Y32A	R-V Farms, Ver	92.57	54	⇓P	P	07 14 02.5	+0.2
	baz=93,SNR=16						
KSCO	Kaye Shedlock'	92.62	48	eP	P	07 14 03.4	+0.9
	comp=Z,64nm,1.4s						
KSCO	Kaye Shedlock'	92.62	48	⇓P	P	07 14 02.5	0.0
	baz=93						
234A	Clairette	92.66	56	⇓P	P	07 14 02.5	-0.2
	baz=93,SNR=29						
T29A	Hugoton	92.68	50	⇓P	P	07 14 02.5	-0.3
	baz=93						
COLD	Coldfoot	92.72	10	eP	P	07 14 02.6	+0.5
	comp=Z,33nm,1.2s						
TRQA	Tornquist	92.73	134	PFAKE		07 14 10.0	+6.9
TRQA				LR	LR		
	comp=Z,2µm,22.0s						
W31A	Holland Ranch,	92.74	53	⇑P	P	07 14 02.7	-0.3
	baz=93,SNR=20						
Z33A	Whitaker Ranch	92.75	55	⇑P	P	07 14 02.9	-0.2
	baz=93,SNR=20						
G21A	Lodge Grass	92.76	41	⇑P	P	07 14 02.8	-0.1
	baz=93						
EGMT	Eagleton	92.76	38	eP	P	07 14 02.7	-0.1
	comp=Z,30nm,1.2s						
EGMT				LR	LR		
	comp=Z,4µm,20.0s						
EGMT	Eagleton	92.76	38	⇑P	P	07 14 03.0	+0.1
	baz=93						
D19A	Cripps Ranch,	92.80	39	⇓P	P	07 14 03.3	+0.2
	baz=93,SNR=11						
U30A	WK&E Inc. Balk	92.84	51	⇑P	P	07 14 03.4	-0.2
	baz=93						
R28A	Tribune	92.87	49	⇓P	P	07 14 03.4	-0.3
	baz=93,SNR=6.9						
X32A	Elmer	92.88	54	⇓P	P	07 14 03.1	-0.5
	baz=93,SNR=11						
E20A	Meyer Farm, Mu	92.88	40	⇑P	P	07 14 04.0	+0.6
	baz=93,SNR=7.2						
335A	Moody	92.89	57	⇓P	P	07 14 03.6	-0.1
	baz=93						
P27A	Ficken Ranch,	92.92	48	⇑P	P	07 14 03.7	-0.1
	baz=93						
134A	White-Moore Ra	92.95	56	⇑P	P	07 14 04.1	0.0
	baz=93,SNR=13						
H22A	Clearmont	92.96	42	⇑P	P	07 14 04.0	+0.1
	baz=93						
HHC	Hu-ho-hao-te	92.99	314	eP	P	07 14 04.3	+0.2
HHC				sP	sP	07 14 18.8	+0.2
HHC				PP	PP	07 17 50.3	+2.7
HHC				SKS	SKSac	07 24 33.4	-2.3
HHC				S	S	07 25 05.5	-2.6
HHC				sS	sS	07 25 21.6	-4.2
HHC				pmax	pmax		
	comp=Z,21nm,0.6s						
HHC				pmax	pmax		
	comp=Z,1µm,7.0s						
HHC				LR	LR		
	comp=Z,2µm,18.8s						
HHC				LR	LR		
	comp=Z,3µm,17.3s						
CMAR	Chiang Mai Arr	93.00	289	P	P	07 14 05.8	+1.2
	comp=Z,73nm,1.0s,baz=120,slow=2.8,SNR=65						
CMAR				LR	LR	07 55 01.6	
	comp=Z,760nm,20.3s,baz=120,slow=35						
C19A	Slack Wire Ran	93.01	38	⇑P	P	07 14 04.6	+0.6
	baz=93,SNR=23						
S29A	Ulysses	93.02	50	⇓P	P	07 14 04.4	+0.1
	baz=93						
V31A	Spring Creek L	93.08	52	⇑P	P	07 14 05.3	+0.7
	baz=93,SNR=9.9						
N26A	Koester Ranch,	93.09	47	⇓P	P	07 14 05.1	+0.4
	baz=93						
F21A	Absaloka Mine,	93.12	41	⇓P	P	07 14 05.2	+0.6
	baz=93						
CMMT	Chiang Mai	93.14	289	P	P	07 14 06.4	+1.2
	comp=Z,130nm,1.1s,comp=Z,2µm						
CHTO	Chiang Mai	93.15	289	eP	P	07 14 05.9	+0.7
CHTO				pmax	pmax		
	comp=Z,105nm,1.0s						
CHTO				MLR	MLR		
	comp=Z,1µm,20.0s						
CHTO	Chiang Mai	93.15	289	P	P	07 14 06.5	+1.3
	comp=Z,455nm,1.1s,comp=Z,5µm						
CHTO	Chiang Mai	93.15	289	eP	P	07 14 05.9	+0.7
	comp=Z,105nm,1.0s						
CHTO				LR	LR		
	comp=Z,1µm,20.0s						
436A	Wall Ranch, Ga	93.15	58	⇓P	P	07 14 05.6	+0.6
	baz=93						
T30A	Plains	93.17	51	⇓P	P	07 14 05.2	+0.2
	baz=93						
Y33A	Hilltop Ranch,	93.18	54	⇑P	P	07 14 05.2	+0.2
	baz=93,SNR=8.3						
D20A	Manuel Ranch,	93.19	39	⇑P	P	07 14 05.6	+0.7
	baz=93,SNR=16						
W32A	Sentinel	93.22	53	⇑P	P	07 14 05.8	+0.6
	baz=93,SNR=22						
O27A	Beecher Island	93.29	47	⇑P	P	07 14 05.9	+0.4
	baz=94						
G22A	Birney	93.31	42	⇓P	P	07 14 06.2	+0.7
	baz=94						
U31A	Nine Bar Ranch	93.34	52	⇓P	P	07 14 06.3	+0.5
	baz=94						
R29A	Marienthal	93.38	49	⇓P	P	07 14 06.3	+0.4
	baz=94						
J24A	Dixon Ranch, L	93.38	44	⇑P	P	07 14 06.5	+0.6
	baz=94						
336A	Riesel	93.38	57	⇑P	P	07 14 06.6	+0.6
	baz=94						
Z34A	Collier Ranch,	93.43	55	⇑P	P	07 14 06.7	+0.5
	baz=94						
B19A	Brinkman Farms	93.45	38	⇑P	P	07 14 06.5	+0.5
	baz=94,SNR=11						
135A	Vickery Place,	93.46	56	⇓P	P	07 14 06.6	+0.3
	baz=94						
P28A	Saint Francis	93.49	48	⇑P	P	07 14 06.8	+0.4
	baz=94						
S30A	Montezuma	93.49	50	⇑P	P	07 14 06.8	+0.4
	baz=94						
X33A	Lawton	93.51	54	⇓P	P	07 14 06.6	+0.1
	baz=94,SNR=6.4						
CMAI	Chiengmai2	93.51	290	P	P	07 14 08.3	+1.2
	comp=Z,55nm,1.1s,comp=Z,13µm						
E21A	Keefer Ranch,	93.52	40	⇑P	P	07 14 07.4	+1.1
	baz=94,SNR=7.8						
K25A	Mack Ranch, Ha	93.53	45	⇓P	P	07 14 07.8	+1.2
	baz=94						
N27A	Anderson Farm,	93.54	47	⇓P	P	07 14 07.5	+0.8
	baz=94						
HKT	Hockley	93.55	59	eP	P	07 14 07.7	+0.9
HKT				pmax	pmax		
	comp=Z,30nm,1.5s						
HKT	Hockley	93.55	59	eP	P	07 14 07.7	+0.9
	comp=Z,30nm,1.5s						
C20A	Veseth Ranch,	93.59	39	⇑P	P	07 14 08.0	+1.4
	baz=94						
F22A	Rosebud	93.62	41	⇑P	P	07 14 07.5	+0.6
	baz=94						
V32A	Arapaho	93.64	53	⇓P	P	07 14 07.3	+0.2
	baz=94,SNR=5.2						
I24A	Kuemmerle Ranc	93.66	43	⇓P	P	07 14 07.7	+0.5
	baz=94						
Q29A	Oakley	93.70	49	⇓P	P	07 14 07.9	+0.5
	baz=94						
O28A	Krutsinger Ran	93.73	48	⇓P	P	07 14 08.3	+0.8

baz=94
MHMT Maesarieng 93.77 288 P P 07 14 10.9 +2.8
comp=Z,24nm,1.1s
EDM Edmonton 93.79 32 eP P 07 14 06.4 -1.1
EDM Edmonton 93.79 32 eP P 07 14 06.4 -1.1
comp=Z,56nm,1.3s
T31A Randall Ranch, 93.80 51 ⇑P P 07 14 08.0 +0.1
baz=94
W33A Caddo, Fort Co 93.80 53 ⇓P P 07 14 09.0 +1.1
baz=94
Y34A Reagan Ranch, 93.81 55 ⇓P P 07 14 08.1 +0.2
baz=94
A19A Klindworth Far 93.82 38 ⇑P P 07 14 08.1 +0.4
baz=94,SNR=7.8
D21A La Casta Ranch 93.84 40 ⇓P P 07 14 08.3 +0.4
baz=94,SNR=6.8
G23A Biddle 93.86 42 ⇑P P 07 14 08.8 +0.8
baz=94
BTO Baotou 93.91 313 eP P 07 14 10.0 +1.6
Z35A Perchaven, San 93.91 55 ⇑P P 07 14 08.1 -0.3
baz=94,SNR=9.9
R30A Dighton 93.91 50 ⇓P P 07 14 08.4 0.0
baz=94
OGNE Ogallala 93.94 47 PFAKE 07 14 20.0 +11
OGNE LR LR
comp=Z,7µm,19.0s
OGNE Ogallala 93.94 47 ⇑P P 07 14 09.0 +0.6
baz=94
J25A Sunshine Ranch 93.95 44 ⇑P P 07 14 08.6 +0.1
baz=94
U32A Winter Ranch, 93.96 52 ⇓P P 07 14 08.8 +0.2
baz=94
K26A Motz Farm, Whi 94.02 45 ⇑P P 07 14 09.3 +0.5
baz=94
X34A Smith Ranch, M 94.03 54 ⇑P P 07 14 09.0 0.0
baz=94,SNR=12
P29A Atwood 94.06 48 ⇑P P 07 14 09.5 +0.4
baz=94
LAO LASA Array 94.10 40 eP P 07 14 09.2 +0.1
comp=Z,58nm,1.3s
LAO LR LR
comp=Z,3µm,20.0s
F23A Volborg 94.11 41 ⇑P P 07 14 09.2 +0.1
baz=94,SNR=9.5
E22A Miles City 94.14 41 ⇓P P 07 14 09.8 +0.5
baz=94
H24A Dirks Ranch, A 94.15 43 ⇓P P 07 14 08.9 -0.5
baz=94,SNR=16
N28A Pribbeno Ranch 94.15 47 ⇑P P 07 14 09.6 +0.2
baz=94
CD2 Chengdu 94.15 302 P P 07 14 10.6 +0.9
CD2 pP pP 07 14 21.8 +1.5
CD2 sP sP 07 14 25.8 +1.7
CD2 PP PP 07 18 00.4 +3.6
CD2 SKS SKSac 07 24 41.3 -1.1
CD2 S S 07 25 16.3 -2.3
CD2 sS sS 07 25 34.9 -1.4
CD2 SS SS 07 31 41.9 +1.6
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,940nm,7.2s
CD2 LR LR
comp=Z,2µm,19.8s
CD2 LR LR
comp=Z,2µm,23.7s
CD2 LR LR
comp=Z,2µm,21.7s
RSSD Black Hills 94.16 43 eP P 07 14 09.2 -0.4
RSSD pmax pmax
comp=Z,39nm,1.3s
RSSD Black Hills 94.16 43 eP P 07 14 09.2 -0.4
comp=Z,39nm,1.3s
S31A Mullinville 94.17 51 ⇓P P 07 14 09.4 -0.1
baz=94,SNR=10
C21A Desert Coulee 94.18 39 ⇑P P 07 14 09.9 +0.6
baz=94
V33A Lossen Ranch, 94.23 53 ⇑P P 07 14 09.9 +0.1
baz=94,SNR=5.9
A20A Cobblestone Ra 94.25 38 ⇑P P 07 14 10.5 +0.9
baz=94,SNR=10.0
Q30A Quinter 94.27 49 ⇑P P 07 14 10.3 +0.3
baz=94
W34A Bridge Creek, 94.35 53 eP P 07 14 10.8 +0.3
comp=Z,30nm,0.9s
W34A Bridge Creek, 94.35 53 ⇓P P 07 14 10.2 -0.2
baz=94,SNR=6.7
D22A Cohagen 94.36 40 ⇑P P 07 14 10.8 +0.6
baz=95
T32A Huddler Ranch, 94.37 51 ⇓P P 07 14 11.0 +0.5
baz=95
J26A Sides Ranch, S 94.38 44 ⇓P P 07 14 11.1 +0.6
baz=95
O29A 4D Ranch, Culb 94.39 48 ⇑P P 07 14 10.6 0.0
baz=95
CLNS Chul'man 94.40 332 eP P 07 14 11.2 +1.1
CLNS e*PP pP 07 14 21.6 +0.8
CLNS e 07 17 58.4
CLNS ePPP PPP 07 20 02.8
CLNS eS SKSac 07 24 43.7 +1.2
CLNS pmax pmax
comp=Z,20nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=Z,3.0nm,0.7s
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS smax smax
comp=N,209nm,12.7s
CLNS smax smax
comp=E,503nm,14.8s
CLNS MLR MLR
comp=Z,882nm,21.0s
CLNS MLR MLR
comp=E,853nm,14.0s
CLNS MLR MLR
comp=N,1µm,18.0s
R31A Burdett 94.44 50 ⇓P P 07 14 10.9 +0.1
baz=95
P30A Selden 94.51 49 ⇓P P 07 14 11.4 +0.3
baz=95
G24A Alzada 94.52 42 ⇑P P 07 14 11.6 +0.5
baz=95
S32A Newby Ranch, P 94.59 51 ⇑P P 07 14 11.0 -0.5
baz=95,SNR=6.3
U33A Lingo Farm, Me 94.63 52 ⇑P P 07 14 11.9 +0.2
baz=95
K27A Flueckinger Fa 94.64 45 ⇑P P 07 14 12.1 +0.4
baz=95
H25A Fruitdale 94.68 43 ⇑P P 07 14 11.6 -0.2
baz=95,SNR=5.9
F24A Ekalaka 94.75 42 ⇓P P 07 14 12.3 +0.2
baz=95,SNR=7.4
HOPE Hope Point 94.80 157 PFAKE 07 14 20.0 +7.8
HOPE LR LR
comp=Z,5µm,19.0s
T33A Patterson Ranc 94.82 52 ⇑P P 07 14 13.1 +0.6
baz=95
N29A Votaw Ranch, W 94.83 47 ⇓P P 07 14 13.0 +0.4
baz=95
C22A Vida 94.84 40 ⇑P P 07 14 12.8 +0.4
baz=95
I26A New Underwood 94.86 44 ⇑P P 07 14 13.0 +0.4
baz=95
A21A Bergtoll Ranch 94.87 38 ⇑P P 07 14 13.3 +0.8
baz=95
JTS JuntasAbangare 94.94 81 PFAKE 07 14 20.0 +6.4
JTS LR LR
comp=Z,1µm,19.0s
D23A Lindsay 94.95 40 ⇑P P 07 14 13.6 +0.6
baz=95,SNR=6.7
J27A Elkhorn Farm, 95.04 45 ⇓P P 07 14 14.1 +0.6
baz=95,SNR=11
U34A Anderson Ranch 95.05 52 ⇓P P 07 14 14.1 +0.6
baz=95
G25A Newell 95.07 43 ⇑P P 07 14 13.7 +0.2
baz=95,SNR=5.8
M29A Burnside Ranch 95.07 47 ⇑P P 07 14 14.1 +0.4
baz=95
R32A Long Quarter, 95.07 50 ⇑P P 07 14 13.9 +0.2
baz=95,SNR=7.9
H26A Fairpoint 95.19 43 ⇑P P 07 14 14.6 +0.5
baz=95
K28A Ten Mile Ranch 95.21 46 ⇑P P 07 14 14.9 +0.7
baz=95
NATX Nacogdoches 95.23 58 PFAKE 07 14 20.0 +5.5
NATX LR LR
comp=Z,5µm,19.0s
C23A Lambert 95.28 40 ⇓P P 07 14 15.2 +0.8
baz=96,SNR=8.9
F25A Bowman 95.39 42 ⇑P P 07 14 15.9 +0.9
baz=96
I27A Quinn 95.39 44 ⇑P P 07 14 15.9 +0.9
baz=96
O31A Woolen Ranch, 95.41 48 ⇑P P 07 14 15.6 +0.4
baz=96
LVC Limon Verde 95.42 117 PFAKE 07 14 30.0 +14
LVC LR LR
comp=Z,3µm,19.0s
Q32A Meitler Ranch, 95.43 50 ⇑P P 07 14 16.0 +0.7
baz=96
D24A Glendive 95.44 41 ⇓P P 07 14 16.3 +1.1
baz=96
A22A Carney Farms, 95.45 38 ⇓P P 07 14 16.2 +1.0
baz=96
R33A Olander Ranch, 95.54 51 ⇓P P 07 14 16.3 +0.5
baz=96
C24A Savage 95.59 40 ⇓P P 07 14 16.7 +0.9
baz=96
J28A Allard Ranch, 95.62 45 ⇑P P 07 14 16.7 +0.6
baz=96,SNR=7.7
G26A Maurine 95.62 43 ⇓P P 07 14 16.3 +0.3
baz=96,SNR=8.0
H27A Howes 95.64 44 ⇓P P 07 14 17.0 +0.9
baz=96
E25A Miller Ranch, 95.70 41 ⇓P P 07 14 17.3 +0.9
baz=96
B23A Brockton 95.72 39 ⇓P P 07 14 17.3 +0.9
baz=96
YAK Yakutsk 95.84 337 eP P 07 14 16.8 +0.3
YAK e*PP pP 07 14 26.8 -0.3
YAK e 07 18 13.8
YAK eS SKSac 07 24 49.8 0.0
YAK e 07 25 33.1
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,88nm,3.3s
YAK pmax pmax
comp=N,110nm,3.8s
YAK pmax pmax
comp=E,102nm,3.5s
YAK smax smax
comp=E,196nm,13.9s
YAK smax smax
comp=N,195nm,12.5s
YAK MLR MLR
comp=Z,750nm,20.0s
YAK MLR MLR
comp=E,754nm,17.0s
YAK MLR MLR
comp=N,494nm,17.0s
YAK Yakutsk 95.84 337 PFAKE 07 14 30.0 +14
YAK LR LR
comp=Z,1µm,20.0s
F26A Lodgepole 95.84 42 ⇑P P 07 14 17.8 +0.8
baz=96
TEIG Tepich 95.86 71 PFAKE 07 14 30.0 +12
TEIG LR LR
comp=Z,1µm,19.0s
K29A Lazy Trails An 95.92 46 ⇑P P 07 14 18.0 +0.6
baz=96,SNR=16
I28A Midland 95.93 44 ⇑P P 07 14 18.2 +0.8
baz=96
Q33A Connelly Farm, 95.94 50 ⇓P P 07 14 18.3 +0.7
baz=96
L30A Spencer Herefo 95.95 47 ⇑P P 07 14 18.4 +0.8
baz=96
D25A Fairfield 96.06 41 ⇓P P 07 14 18.8 +0.8
baz=96
G27A Dupree 96.08 43 ⇓P P 07 14 18.3 +0.2
baz=96,SNR=9.7
TUL1 Tulsa 96.10 54 ⇑P P 07 14 18.9 +0.5
baz=96
DGMT Dagmar 96.18 39 eP P 07 14 19.0 +0.6
comp=Z,48nm,1.3s
DGMT LR LR
comp=Z,4µm,20.0s
DGMT Dagmar 96.18 39 ⇓P P 07 14 18.9 +0.4
baz=96
J29A Okreek 96.20 45 ⇑P P 07 14 19.0 +0.3
baz=96,SNR=12
F27A Lemmon 96.25 42 ⇑P P 07 14 19.1 +0.2
baz=96,SNR=7.6
E26A Carlson Angus 96.26 42 ⇑P P 07 14 19.3 +0.4
baz=96
LZH Lanzhou 96.26 307 ⇑P P 07 14 20.5 +1.2
LZH pP pP 07 14 31.4 +1.4
LZH sP sP 07 14 35.6 +1.8
LZH PP PP 07 18 17.5 +4.2
LZH SKS SKSac 07 24 55.0 +1.3
LZH S S 07 25 34.0 -2.9
LZH sS sS 07 25 53.6 -1.1
LZH SS SS 07 32 12.1 +1.8
LZH pmax pmax
comp=Z,49nm,1.0s
LZH pmax pmax
comp=Z,750nm,9.8s
LZH LR LR
comp=Z,660nm,16.0s
LZH LR LR
comp=Z,2µm,18.5s
LZH LR LR
comp=Z,3µm,19.6s
H28A Mission Ridge 96.33 44 ⇓P P 07 14 19.8 +0.5
baz=96
K30A Basset 96.34 46 ⇓P P 07 14 19.9 +0.5
baz=96,SNR=10.0
C25A Freed Ranch, W 96.37 40 ⇑P P 07 14 19.8 +0.5
baz=97
I29A Vivian Onida 96.49 45 ⇓P P 07 14 20.4 +0.4
baz=97,SNR=6.7
G28A Parade 96.58 44 ⇓P P 07 14 21.0 +0.6
baz=97
L31A Butterfield Fa 96.64 47 ⇑P P 07 14 21.5 +0.8
baz=97
B25A Knox Farm, Ray 96.69 40 ⇓P P 07 14 21.9 +1.1
baz=97
J30A Dallas 96.71 46 ⇑P P 07 14 21.1 +0.1
baz=97,SNR=12
E27A Carson 96.79 42 ⇑P P 07 14 21.7 +0.4
baz=97
H29A Onida 96.82 44 ⇑P P 07 14 21.7 +0.2
baz=97,SNR=6.2
KSU1 Kansas State U 96.85 50 PFAKE 07 14 30.0 +8.3
KSU1 LR LR
comp=Z,10µm,19.0s
KSU1 Kansas State U 96.85 50 ⇓P P 07 14 21.9 +0.2
baz=97
OTAV Otavalo 96.93 93 PFAKE 07 14 30.0 +6.7
OTAV LR LR
comp=Z,3µm,20.0s
F28A McLaughlin 97.00 43 ⇓P P 07 14 22.9 +0.6
baz=97
C26A Wahner Farm, P 97.11 41 ⇑P Pdif 07 14 23.5 +0.7
baz=97
MIAR Mount Ida 97.20 56 PFAKE 07 14 30.0 +6.5
MIAR LR LR
comp=Z,5µm,19.0s
F29A Eureka 97.60 43 ⇑P Pdif 07 14 25.9 +0.9
baz=98
G30A Faulkton 97.73 44 ⇓P Pdif 07 14 26.7 +1.1
baz=98
CRZF Crozet Islands 97.86 211 P P 07 14 11.0 -15
CRZF Crozet Islands 97.86 211 S S 07 25 27.0 -23
CRZF R 07 47 00.0
E30A Jud 98.47 43 ⇑Pdiff Pdif 07 14 29.5 +0.7
baz=99
YKA Yellowknife Ar 98.65 24 P P 07 14 28.3 -0.9
YKA 07 18 28.3
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,1.1s
YKA Yellowknife Ar 98.65 24 P P 07 14 28.3 -0.9
comp=Z,3.3nm,0.9s,baz=237,slow=4.3,SNR=35
YKA PP PP 07 18 28.3 -2.4
comp=Z,1.3nm,1.1s,baz=239,slow=7.3,SNR=5.8
YKA PKKPbc PKKPbc 07 31 01.3 +1.0
comp=Z,0.3nm,0.6s,baz=45,slow=2.7,SNR=4.7
A28A Rude Farm, Bot 98.69 40 ⇑Pdiff Pdif 07 14 30.8 +1.0
baz=99
ECSD EROS Data Cent 98.78 46 eP P 07 14 30.1 -0.1
comp=Z,20nm,1.4s
ECSD LR LR
comp=Z,6µm,20.0s
ECSD EROS Data Cent 98.78 46 ⇓Pdiff Pdif 07 14 31.1 +0.8
baz=99
D30A Buchanan 98.82 42 ⇑Pdiff Pdif 07 14 31.4 +0.9
baz=99
LPAZ La Paz 99.04 112 P Pdif 07 14 34.6 +1.7
comp=Z,1.5nm,0.9s,baz=188,slow=4.9,SNR=3.6
LPAZ LR LR 07 52 17.7
comp=Z,2µm,18.9s,baz=206,slow=31
ULN Ulaanbaatar 99.07 318⇑eP Pdif 07 14 31.5 -0.2
ULN pmax pmax
comp=Z,11nm,1.7s
ULN Ulaanbaatar 99.07 318 eP Pdif 07 14 32.0 +0.3
comp=Z,4.6nm,0.8s
ULN LR LR
comp=Z,1µm,20.0s
BCIP Isla Barro Col 99.16 84 PFAKE 07 14 40.0 +7.4
BCIP LR LR
comp=Z,1µm,20.0s
A29A Manning Farm, 99.31 41 ⇑Pdiff Pdif 07 14 33.5 +1.0
baz=100
SONM Songino Array 99.46 318 P Pdif 07 14 33.0 -0.4
SONM 07 18 40.2
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 99.46 318 P Pdif 07 14 33.0 -0.4
comp=Z,2.3nm,1.0s,baz=134,slow=3.8,SNR=14
SONM PP PP 07 18 40.2 +2.8
comp=Z,1.9nm,1.1s,baz=136,slow=5.2,SNR=4.8
SONM LR LR 07 56 09.4
comp=Z,732nm,20.8s,baz=116,slow=33
BOD Bodaibo 99.86 329 eP Pdif 07 14 33.4 -1.3
BOD pmax pmax
comp=Z,8.0nm,1.8s
A30A Hoffart Farm, 99.88 41 ⇓Pdiff Pdif 07 14 36.1 +1.1
baz=100
FFC Flin Flon 100.32 35 PFAKE 07 14 50.0 +13
FFC LR LR
comp=Z,2µm,19.0s
SCIA State Center 100.34 49 PFAKE 07 14 50.0 +13
SCIA LR LR
comp=Z,5µm,20.0s
GTA Gaotai 100.51 308 eP Pdif 07 14 39.0 +0.7
GTA pP pP 07 14 49.6 +0.6
GTA sP sP 07 14 53.6 +0.8
GTA PP PP 07 18 49.5 +3.8
GTA SKS SKSac 07 25 14.1 -0.8
GTA S Sdif 07 26 09.8 -2.9
GTA sS sS 07 26 27.8 -2.7
GTA SS SS 07 33 10.3 +0.5
GTA pmax pmax
comp=Z,5.0nm,1.6s
GTA pmax pmax
comp=Z,290nm,7.8s
GTA LR LR
comp=Z,850nm,17.6s
GTA LR LR
comp=Z,1µm,19.5s
GTA LR LR
comp=Z,2µm,20.4s
BRAL Brewton 100.93 61 PFAKE 07 14 50.0 +10
BRAL LR LR
comp=Z,2µm,20.0s
AGMN Agassiz Nation 101.09 42 PFAKE 07 14 50.0 +10
AGMN LR LR
comp=Z,2µm,19.0s
AGMN Agassiz Nation 101.09 42 ⇓Pdiff Pdif 07 14 41.3 +0.8
baz=101
ZAK Zakamensk 102.35 320 eP Pdif 07 14 46.3 +0.1
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TIXI Tiksi 102.38 345⇓iP Pdif 07 14 45.0 -0.6
TIXI pmax pmax
comp=Z,17nm,3.7s
TIXI Tiksi 102.38 345 PFAKE 07 15 00.0 +14
TIXI LR LR
comp=Z,4µm,21.0s
TLY Talaya 102.63 321 eP Pdif 07 14 49.3 +2.0
TLY e 07 25 22.1
TLY e 07 28 13.8
TLY e 07 33 54.3
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY MLR MLR
comp=Z,2µm,19.0s
TLY Talaya 102.63 321 PFAKE 07 15 00.0 +13
TLY LR LR
comp=Z,2µm,21.0s
JFWS Jewell Farm 102.76 49 PFAKE 07 15 00.0 +12
JFWS LR LR
comp=Z,5µm,20.0s
EYMN Ely 103.68 44 PFAKE 07 15 00.0 +8.0
EYMN LR LR
comp=Z,3µm,20.0s
LSA Lhasa 103.78 297 PFAKE 07 15 00.0 +6.5
LSA LR LR
comp=Z,2µm,22.0s
MTDJ Mount Denham 104.56 76 PFAKE 07 15 10.0 +13
MTDJ LR LR
comp=Z,1µm,19.0s
GOGA Godfrey 104.61 60 PFAKE 07 15 10.0 +14
GOGA LR LR
comp=Z,4µm,19.0s
TAPN Taplejung 105.88 293 eP PKiKP 07 19 15.2 0.0
comp=Z,14nm,0.9s
TAPN Taplejung 105.88 293 eP PKiKP 07 19 15.2 0.0
ODAN Odare 105.99 293 eP PKiKP 07 19 14.9 -0.4
comp=Z,26nm,0.9s
ODAN Odare 105.99 293 eP PKiKP 07 19 14.9 -0.4
DGAR Diego Garcia 106.48 254 PFAKE 07 19 30.0
DGAR LR LR
comp=Z,4µm,20.0s
RAMN Ramite 106.69 292 eP PKiKP 07 19 15.9 -0.7
RAMN Ramite 106.69 292 eP PKiKP 07 19 15.9 -0.7
SAML Samuel 106.73 108 PFAKE 07 19 30.0
SAML LR LR
comp=Z,2µm,19.0s
ACSO Alum Creek Sta 107.07 53 PFAKE 07 19 30.0
ACSO LR LR
comp=Z,5µm,19.0s
NHSC New Hope 107.13 61 PFAKE 07 19 30.0
NHSC LR LR
comp=Z,5µm,19.0s
AAM Ann Arbor 107.18 51 PFAKE 07 19 30.0
AAM LR LR
comp=Z,7µm,19.0s
JIRN Jiri 107.25 293 eP PKiKP 07 19 16.6 -1.2
comp=Z,9.6nm,0.6s
JIRN Jiri 107.25 293 eP PKiKP 07 19 16.6 -1.2
GTBY Guantanamo Bay 107.29 75 PFAKE 07 19 30.0
GTBY LR LR
comp=Z,1µm,19.0s
SDV Santo Domingo 107.46 88 PFAKE 07 19 30.0
SDV LR LR
comp=Z,2µm,20.0s
PKI Pulchoki 107.89 293 eP PKiKP 07 19 17.7 -1.2
comp=Z,15nm,0.8s
PKI Pulchoki 107.89 293 eP PKiKP 07 19 17.7 -1.2
PKIN Phulchoki 107.90 293 eP PKiKP 07 19 17.5 -1.4
comp=Z,13nm,0.7s
KKN Kakani 108.06 293 eP PKiKP 07 19 18.3 -0.8
KKN Kakani 108.06 293 eP PKiKP 07 19 18.3 -0.8
BLA Blacksburg 108.13 57 PFAKE 07 19 30.0
BLA LR LR
comp=Z,2µm,20.0s
DMN Daman 108.15 293 eP PKiKP 07 19 19.2 -0.1
DMN Daman 108.15 293 eP PKiKP 07 19 19.2 -0.1
GKN Gorkha 108.67 293 eP PKiKP 07 19 19.3 -0.9
GKN Gorkha 108.67 293 eP PKiKP 07 19 19.3 -0.9
KOLN Koldanda 109.48 292 eP PKiKP 07 19 21.0 -0.7
comp=Z,9.6nm,0.7s
KOLN Koldanda 109.48 292 eP PKiKP 07 19 21.0 -0.7
DANN Dangsing 109.51 293 eP PKiKP 07 19 20.6 -1.3
comp=Z,18nm,0.7s

DANN Dangsing 109.51 293 eP PKiKP 07 19 20.6 -1.3
CNNC Cliffs of the 109.56 59 PFAKE 07 19 30.0
CNNC LR LR
comp=Z,3µm,19.0s
ERPA Erie 109.75 52 PFAKE 07 19 30.0
ERPA LR LR
comp=Z,6µm,19.0s
PYUN Piuthan 110.09 293 eP PKiKP 07 19 22.1 -0.8
comp=Z,11nm,0.6s
PYUN Piuthan 110.09 293 eP PKiKP 07 19 22.1 -0.8
RES Resolute Bay 110.37 16 PKiKP PKiKP 07 19 21.6 -0.2
comp=Z,2.1nm,0.9s,baz=332,slow=8.0,SNR=4.2
SDDR Presa de Saban 110.39 78 PFAKE 07 19 30.0
SDDR LR LR
comp=Z,1µm,22.0s
WMQ Urumqi 110.50 310 ePdif Pdif 07 15 23.1 +0.6
WMQ PP PP 07 20 02.8 +3.4
WMQ S Sdif 07 27 32.1 -3.6
WMQ SS SS 07 35 25.3 -0.6
WMQ AMB AMB
comp=Z,160nm,11.0s
WMQ LR LR
comp=Z,800nm,21.6s
WMQ LR LR
comp=Z,2µm,23.4s
WMQ LR LR
comp=Z,3µm,23.4s
CBN Corbin 110.72 56 PFAKE 07 19 30.0
CBN LR LR
comp=Z,2µm,20.0s
GRTK Grand Turk 111.33 75 PFAKE 07 19 40.0
GRTK LR LR
comp=Z,1µm,19.0s
BINY Binghamton 112.67 52 PFAKE 07 19 40.0
BINY LR LR
comp=Z,6µm,19.0s
LONY Lake Ozonia 114.14 50 PFAKE 07 19 40.0 +10
LONY LR LR
comp=Z,7µm,19.0s
ZALV Zalesovo Beam 114.22 320 i PKIKP PKPdf 07 19 28.0 -1.6
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 114.22 320 PKiKP PKPdf 07 19 28.0 -1.6
comp=Z,4.6nm,0.6s,baz=203,slow=0.8,SNR=23
NCB Newcomb 114.28 51 PFAKE 07 19 40.0 +10
NCB LR LR
comp=Z,9µm,20.0s
MK31 Makanchi Array 114.82 312 i PKIKP PKPdf 07 19 29.9 -1.2
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 114.82 312 PKIKP PKPdf 07 19 29.7 -1.4
MKAR 07 30 09.7
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 114.82 312 PKP PKPdf 07 19 29.6 -1.4
comp=Z,5.4nm,0.8s,baz=72,slow=4.0,SNR=30
MKAR PKKPbc PKKPbc 07 30 09.7 +0.4
comp=Z,0.9nm,0.8s,baz=269,slow=4.0,SNR=6.7
NDI New Delhi 115.14 292 eP PKPdf 07 19 33.0 +0.8
NVS Novosibirsk 115.25 321 ePKIKP PKPdf 07 19 29.4 -2.2
NVS e 07 26 13.5
NVS pmax pmax
comp=N,2.0nm,1.3s
NVS pmax pmax
comp=E,6.0nm,1.3s
NVS pmax pmax
comp=Z,12nm,1.3s
LBNH Lisbon 115.95 51 PFAKE 07 19 40.0 +6.7
LBNH LR LR
comp=Z,10µm,19.0s
GRGR Grenville 116.86 88 PFAKE 07 19 50.0 +14
GRGR LR LR
comp=Z,1µm,21.0s
TRIS Tristan da Cun 117.56 165 PFAKE 07 19 50.0 +13
TRIS LR LR
comp=Z,973nm,21.0s
KURK Kurchatov 117.68 316 ePKIKP PKPdf 07 19 35.3 -1.1
KURK MLR MLR
comp=Z,1µm,19.0s
KURK Kurchatov 117.68 316 ePKPdf PKPdf 07 19 35.3 -1.1
KURK LR LR
comp=Z,2µm,19.0s
PKME Peaks-Kenny Pk 117.95 50 PFAKE 07 19 50.0 +13
PKME LR LR
comp=Z,4µm,20.0s
FDF Fort de France 118.20 85 PFAKE 07 19 50.0 +12
FDF LR LR
comp=Z,1µm,20.0s
KSH Kashi 118.31 303 ePKP PKPdf 07 19 40.4 +2.2
KSH esPKP 07 19 54.5
KSH PKS PKSdf 07 23 14.3 -0.6
KSH SKKS 07 27 51.0
KSH SS SS 07 37 14.6 +5.5
KSH AMB AMB
comp=Z,110nm,7.7s
KSH LR LR
comp=Z,200nm,10.9s
KSH LR LR
comp=Z,260nm,6.9s
KSH LR LR
comp=Z,1µm,18.9s
ULHL Ulahol 118.47 306 P PKPdf 07 19 40.3 +1.8
SNR=12
ANWB Willy Bob 118.55 82 PFAKE 07 19 50.0 +11
ANWB LR LR
comp=Z,1µm,19.0s
TKM2 Tokmak 2 119.03 307 P PKPdf 07 19 40.7 +1.1
SNR=13
TKM2 Tokmak 2 119.03 307 ePKIKP PKPdf 07 19 38.3 -1.3
TKM2 MLR MLR
comp=Z,2µm,21.0s
TKM2 Tokmak 2 119.03 307 ePKPdf PKPdf 07 19 38.2 -1.3
TKM2 LR LR
comp=Z,2µm,21.0s
BBGH Gun Hill 119.13 88 PFAKE 07 19 50.0 +10
BBGH LR LR
comp=Z,4µm,20.0s
KZA Kyzart 119.19 306 P PKPdf 07 19 40.7 +0.5
SNR=12
KZA Kyzart 119.19 306 i PKIKP PKPdf 07 19 40.6 +0.5
BBSR BB Station 119.61 65 PFAKE 07 19 50.0 +9.3
BBSR LR LR
comp=Z,2µm,20.0s
CHMS Chumysh 119.65 307 P PKPdf 07 19 41.8 +1.3
SNR=7.4
UCH Uchtor 119.75 306 P PKPdf 07 19 43.2 +1.9
SNR=17
AAK Ala-Archa 119.80 307 P PKPdf 07 19 42.5 +1.5
SNR=7.2
AAK Ala-Archa 119.80 307 d i PKIKP PKPdf 07 19 41.0 0.0
AAK pmax pmax
comp=Z,27nm,1.2s
AAK Ala-Archa 119.80 307 ePKPdf PKPdf 07 19 40.5 -0.5
AAK LR LR
comp=Z,2µm,22.0s
USP Ospenovka 119.86 307 P PKPdf 07 19 42.3 +1.3
SNR=14
ABPO Ambohimpanom 120.19 228 PFAKE 07 19 50.0 +7.5
ABPO LR LR
comp=Z,2µm,20.0s
KULLO Kullorsuaq 120.24 16 i PKIKP PKPdf 07 19 39.6 -1.1
KULLO pmax pmax
comp=Z,9.0nm,1.0s
KULLO MLR MLR
comp=Z,2µm,22.0s
KULLO Kullorsuaq 120.24 16 i P PKPdf 07 19 39.6 -1.1
comp=Z,9.3nm,1.0s
comp=Z,2µm,21.0s
EKS2 Erkin-Say 120.33 307 P PKPdf 07 19 43.6 +1.7
SNR=12
EKS2 Erkin-Say 120.33 307 ePKIKP PKPdf 07 19 42.0 0.0
EKS2 MLR MLR
comp=Z,1µm,20.0s
EKS2 Erkin-Say 120.33 307 ePKPdf PKPdf 07 19 42.0 0.0
EKS2 LR LR
comp=Z,1µm,20.0s
AML Almayashu 120.34 306 P PKPdf 07 19 44.1 +1.7
SNR=16
OPO Ambohidratompo120.52 229 PKP PKPdf 07 19 42.7 -0.5
comp=Z,8.5nm,0.9s,baz=86,slow=4.4,SNR=5.9
SUR Sutherland 121.94 197 PFAKE 07 20 00.0 +14
SUR LR LR
comp=Z,3µm,20.0s
MSEY Mahe Island 122.51 247 PFAKE 07 20 00.0 +13
MSEY LR LR
comp=Z,3µm,19.0s

KK31 Karatay Array 122.76 307 i PKIKP PKPdf 07 19 45.5 -1.0
KK31 pmax pmax
comp=Z,21nm,1.0s
KKAR Karatay Array 122.76 307 ePKIKP PKPdf 07 19 45.4 -1.1
KKAR Karatay Array 122.76 307 ePKPdf PKPdf 07 19 45.4 -1.1
BVA0 Borovoye Array 122.80 319 i PKIKP PKPdf 07 19 45.2 -1.0
BVA0 pmax pmax
comp=Z,27nm,1.2s
BRVK Borovoye 122.86 319c i PKIKP PKPdf 07 19 45.6 -0.7
BRVK pmax pmax
comp=Z,32nm,1.2s
BRVK Borovoye 122.86 319 ePKPdf PKPdf 07 19 45.8 -0.5
BRVK LR LR
comp=Z,2µm,20.0s
BOSA Boshof 124.09 203 PKIKP PKPdf 07 19 50.6 +0.9
BOSA pmax pmax
comp=Z,12nm,1.0s
BOSA Boshof 124.09 203 PKP PKPdf 07 19 50.6 +0.9
comp=Z,12nm,1.0s,baz=210,slow=1.7,SNR=6.8
ILULI Ilulissat 124.11 21 i PKIKP PKPdf 07 19 47.9 -0.3
ILULI pmax pmax
comp=Z,20nm,1.0s
ILULI MLR MLR
comp=Z,2µm,17.0s
ILULI Ilulissat 124.11 21 i P PKPdf 07 19 47.9 -0.3
comp=Z,20nm,1.0s
comp=Z,1µm,17.0s
KBS Kingsbay 124.64 358 PFAKE 07 20 00.0 +11
KBS LR LR
comp=Z,1µm,20.0s
SFJD Kangerlussuaq 125.19 23 ePKIKP PKPdf 07 19 50.9 +0.6
SFJD MLR MLR
comp=Z,1µm,20.0s
SFJD Kangerlussuaq 125.19 23 i P PKPdf 07 19 50.9 +0.6
comp=Z,1µm,19.0s
SFJD Kangerlussuaq 125.19 23 PFAKE 07 20 00.0 +10
SFJD LR LR
comp=Z,2µm,20.0s
DAG Danmarks Havn 125.76 6 i PKIKP PKPdf 07 19 49.8 -1.4
DAG pmax pmax
comp=Z,6.0nm,1.0s
DAG MLR MLR
comp=Z,1µm,17.0s
DAG Danmarks Havn 125.76 6 i P PKPdf 07 19 49.8 -1.4
comp=Z,6.0nm,1.0s
comp=Z,1µm,16.0s
SUMG Summit 125.82 15 i PKIKP PKPdf 07 19 51.6 -0.3
SUMG pmax pmax
comp=Z,18nm,1.1s
SUMG MLR MLR
comp=Z,2µm,21.0s
SUMG Summit 125.82 15 i P PKPdf 07 19 51.6 -0.3
comp=Z,18nm,1.1s
comp=Z,2µm,20.0s
SUMG Summit 125.82 15 ePKPdf PKPdf 07 19 51.7 -0.3
SVE Sverdlovsk 127.75 325 i PKIKP PKPdf 07 19 55.5 0.0
SVE pmax pmax
comp=Z,40nm,1.2s
SOKR Solikamsk 128.85 329 i PKIKP PKPdf 07 19 58.4 +0.9
SOKR pmax pmax
comp=Z,50nm,1.1s
SOKR MLR MLR
comp=Z,1µm,22.0s
ARU Arti 128.96 324 i PKIKP PKPdf 07 19 58.1 +0.2
ARU 07 22 03.0
ARU 07 27 01.9
ARU MLR MLR
comp=Z,3µm,22.0s
ARU Arti 128.96 324 ePKPdf PKPdf 07 19 57.7 -0.1
ARU LR LR
comp=Z,2µm,21.0s
AB31 Akbulak array 129.76 315 i PKIKP PKPdf 07 20 00.2 +0.6
AB31 pmax pmax
comp=Z,20nm,1.2s
ABKAR Akbulak array 129.76 315 ePKPdf PKPdf 07 20 00.3 +0.7
RCBR Riachuelo 131.15 122 PFAKE 07 20 10.0 +6.6
RCBR LR LR
comp=Z,2µm,20.0s
KEV Kevo 132.01 349 PFAKE 07 20 10.0 +6.7
KEV LR LR
comp=Z,3µm,22.0s
LVZ Lovozero 132.01 345 PFAKE 07 20 10.0 +6.6
LVZ LR LR
comp=Z,2µm,21.0s
ARCES ARCESS Array B 132.45 350 PKIKP PKPdf 07 20 02.5 -1.7
ARCES pmax pmax
comp=Z,12nm,0.8s
ARCES ARCESS Array B 132.45 350 PKP PKPdf 07 20 02.5 -1.7
comp=Z,12nm,0.8s,baz=315,slow=0.8,SNR=16
APA Apatity 132.57 345⇓i PKIKP PKPdf 07 20 06.8 +2.4
APA i 07 22 32.0
APA i 07 32 33.0
APA i PS PS 07 32 48.0 +2.6
APA MLR MLR
comp=Z,2µm,19.0s
PRGR Permogore 132.80 334 ePKIKP PKPdf 07 20 05.8 +0.8
PRGR pmax pmax
comp=Z,12nm,0.8s
LSZ Lusaka 134.62 214 PKIKP PKPdf 07 20 10.5 +0.5
LSZ pmax pmax
comp=Z,8.0nm,1.0s
LSZ Lusaka 134.62 214 PKP PKPdf 07 20 10.5 +0.5
comp=Z,7.8nm,1.0s,baz=40,slow=13,SNR=5.2
LSZ Lusaka 134.62 214 PKP PKPdf 07 20 10.5 +0.5
LSZ ePKPdf PKiKP 07 20 11.0 -0.4
LSZ LR LR
comp=Z,2µm,20.0s
TSUM Tsumeb 135.32 198 PKP PKPdf 07 20 11.0 -0.3
comp=Z,2.3nm,0.5s,baz=164,slow=5.7,SNR=8.2
TSUM PP PP 07 22 47.8 +1.9
comp=Z,5.5nm,0.9s,baz=147,slow=7.4,SNR=5.6
TSUM Tsumeb 135.32 198 PKP PKPdf 07 20 11.0 -0.3
TSUM PP PP 07 22 47.8 +1.9
TSUM LR LR
comp=Z,4µm,19.0s
KLMR Klimovskoe 135.62 336 ePKIKP PKPpre 07 20 03.9
KLMR pmax pmax
comp=Z,33nm,1.4s
BORG Borgarnes 135.79 15 PFAKE 07 20 20.0 +10
BORG LR LR
comp=Z,1µm,19.0s
SHEL Horse Pasture 139.38 165 PFAKE 07 20 30.0 +11
SHEL LR LR
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 139.38 237 i PKHKP PKPpre 07 20 11.4
KMBO 07 20 20.1
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 139.38 237 PKhKP PKPpre 07 20 11.4
comp=Z,1.0nm,0.5s,baz=172,slow=7.0,SNR=4.3
KMBO PKP PKPdf 07 20 20.1 +1.1
comp=Z,6.2nm,0.9s,baz=93,slow=2.5,SNR=8.4
KMBO Kilima Mbogo 139.38 237 PKPpre PKPpre 07 20 11.4
KMBO PKP PKPdf 07 20 20.1 +1.1
KMBO LR LR
comp=Z,2µm,19.0s
FINES FINESS Array B 139.42 344 i PKHKP PKPpre 07 20 09.7
FINES 07 20 17.8
FINES 07 23 09.3
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES pmax pmax
comp=Z,9.0nm,1.1s
FINES FINESS Array B 139.42 344 PKhKP PKPpre 07 20 09.7
comp=Z,1.5nm,0.6s,baz=49,slow=1.6,SNR=6.4
FINES PKP PKPdf 07 20 17.8 +0.5
comp=Z,2.9nm,0.7s,baz=64,slow=9.3,SNR=7.7
FINES PP PP 07 23 09.3 -2.1
comp=Z,9.1nm,1.1s,baz=347,slow=4.3,SNR=6.0
MAK Makhachkala 139.51 309 ePKIKP PKPdf 07 20 17.4 -0.6
MAK e 07 23 11.5
MAK ePPP PPP 07 26 23.3
MAK pmax pmax
comp=Z,297nm,6.3s
MAK MLR MLR
comp=Z,3µm,23.0s
MOS Moscow 139.66 331 ePKIKP PKPdf 07 20 19.4 +1.5
MOS MLR MLR
comp=Z,2µm,20.0s
VRHR Novokhopersk 140.26 323 ePKHKP PKPpre 07 20 11.1
VRHR pmax pmax
comp=N,7.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s

VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR MLR MLR
comp=N,1µm,23.0s
VRHR MLR MLR
comp=E,480nm,23.0s
VRHR MLR MLR
comp=Z,2µm,23.0s
OBN Obninsk 140.53 331 ePKIKP PKPdf 07 20 19.8 +0.4
OBN e 07 23 19.2
OBN eSS SS 07 41 41.0 +0.2
OBN pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 140.53 331 PFAKE 07 20 30.0 +11
OBN LR LR
comp=Z,2µm,20.0s
DGRG David-gareji 141.42 307 P PKPdf 07 20 16.6 -5.0
VSR Storozhevoye 141.54 324 ePKIKP PKPdf 07 20 19.3 -2.1
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=N,1µm,25.0s
VSR MLR MLR
comp=E,1µm,25.0s
VSR MLR MLR
comp=Z,3µm,25.0s
VSU Vasula 141.74 341 i PKIKP PKPdf 07 20 23.0 +1.5
GOF Gofitskoye 141.96 314 ePKIKP PKPdf 07 20 37.7 +15
GOF pmax pmax
comp=Z,70nm,1.3s
ZEI Tsey 142.11 310 ePKHKP PKPpre 07 20 17.7
ZEI pmax pmax
comp=Z,23nm,1.4s
KZR Kazreti 142.13 307 P PKPpre 07 20 14.1
RAYN Ar Rayn 142.16 278 ePKPdf PKPpre 07 20 18.8
GNI Garni 142.19 305 PKIKP PKPdf 07 20 24.2 +1.0
GNI pmax pmax
comp=Z,4.0nm,0.4s
GNI Garni 142.19 305 PKP PKPdf 07 20 24.2 +1.0
comp=Z,3.9nm,0.4s,baz=159,slow=10.0,SNR=5.7
GNI Garni 142.19 305 PKP PKPdf 07 20 24.2 +1.0
GNI ePKPdf PKiKP 07 20 24.6 -1.6
GNI LR LR
comp=Z,2µm,20.0s
NB2 NORSAR Subarra142.41 354 PKP PKPpre 07 20 18.3
comp=Z,15nm,1.1s,baz=17,slow=2.6
NOA NORSAR Array B 142.41 354 i PKHKP PKPpre 07 20 18.3
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA NORSAR Array B 142.41 354 PKhKP PKPpre 07 20 18.2
comp=Z,4.7nm,0.8s,baz=14,slow=2.7,SNR=11
KIV Kislovodsk 142.58 312 ePKIKP PKPdf 07 20 22.9 -0.8
KIV eSS SS 07 41 55.9 -10
KIV pmax pmax
comp=Z,9.0nm,1.2s
KIV MLR MLR
comp=Z,2µm,22.0s
KIV Kislovodsk 142.58 312 PFAKE 07 20 30.0 +6.3
KIV LR LR
comp=Z,2µm,21.0s
AKH Akhalkalaki 142.79 308 P PKPdf 07 20 21.5 -2.8
CLDR Caldiran 143.03 304 eP PKPab 07 20 20.4 +0.2
AGRB Hanur-Agry 143.63 305 eP PKPab 07 20 22.8 +0.4
ASCN Ascension 143.72 148 PFAKE 07 20 40.0 +14
ASCN LR LR
comp=Z,2µm,19.0s
KONO Kongsberg 143.92 355 PFAKE 07 20 40.0 +15
KONO LR LR
comp=Z,1µm,19.0s
IDID Didziasalis 144.29 338 eP PKPdf 07 20 25.5 -0.7
IDID AMB AMB 07 20 37.8
comp=Z,20nm,1.1s
ISAL Salakas 144.30 339 eP PKPdf 07 20 25.6 -0.6
ISAL AMB AMB 07 20 28.3
comp=Z,17nm,1.3s
IIGN Ignalina 144.44 338 eP PKPbc 07 20 25.5 +0.6
IIGN AMB AMB 07 20 28.1
comp=Z,24nm,1.4s
MICGM Minsk 144.52 336⇑ePKP PKPab 07 20 23.0 -2.0
NACGM Naroch 144.61 337 eP PKPab 07 20 22.0 -3.3
SOC Sochi 144.72 313 ePKIKP PKPab 07 20 26.0 -0.1
SOC e 07 23 42.8
SOC eSS SS 07 42 25.3 -5.2
SOC eSSS SSS 07 47 57.9
SOC pmax pmax
comp=Z,78nm,0.9s
BIGH Upper Bighouse 144.82 7 eP PKPab 07 20 24.5 -1.5
MLA1 Latheron 145.07 7 eP PKPbc 07 20 25.6 -1.3
SVAN Silvan-Diyarba 145.33 303 eP PKPab 07 20 29.3 +0.6
MVH1 Achvaich 145.34 8 eP PKPbc 07 20 23.5 -4.3
BAYT Ayd˘-ntepe-Bay 145.52 307 eP PKPab 07 20 30.3 +0.8
BNGB Bing¨¶l 145.52 305 eP PKPab 07 20 30.3 +0.9
KAC Achnashellach 145.61 9 eP PKPbc 07 20 27.4 -1.0
ANN Anapa 145.71 316 i PKHKP PKPpre 07 20 15.5
ANN pmax pmax
comp=Z,180nm,1.7s
ANN MLR MLR
comp=E,857nm,24.0s
ANN MLR MLR
comp=Z,2µm,24.0s
ANN MLR MLR
comp=N,1µm,24.0s
KPL Plockton 145.71 9 eP PKPbc 07 20 28.8 -0.1
KPL AMS AMS 08 28 24.8
comp=Z,2µm,18.2s
MCD Coleburn Disti 145.79 7 eP PKPdf 07 20 26.6 -2.1
MDO Dochfour 145.79 8 eP PKPdf 07 20 25.7 -3.0
KSB Sheil Bridge 145.87 9 eP PKPbc 07 20 29.5 +0.1
ERZN Erzincan 146.07 306 eP PKPab 07 20 32.3 +0.8
MME1 Meikle Cairn 146.08 7 eP PKPdf 07 20 29.0 -0.2
KBSD Kabsdagh 146.10 301 eP PKPab 07 20 31.4 -0.2
DYBB Diyarbakir 146.19 303 eP PKPab 07 20 31.8 -0.1
MZRK Al-Mazaregh 146.25 299 eP PKPdf 07 20 30.1 -0.1
PTK Pertek 146.51 305 eP PKPab 07 20 33.9 +0.6
DRUM Mains of Drumt 146.53 7 eP PKPdf 07 20 30.3 +0.4
SUW Suwalki 146.55 339 ePKP2 PKPbc 07 20 31.6 0.0
SUW Suwalki 146.55 339 ePKPdf PKPbc 07 20 31.6 0.0
SUW ePKPab PKPab 07 20 33.3 +0.7
SUW e 07 20 34.4
SUW e 07 20 43.5
SUW Suwalki 146.55 339 ePKPbc PKPab 07 20 32.4 -0.2
SFNV Sufian 146.56 301 eP PKPbc 07 20 32.6 +0.3
AKASG Malin Array Be 146.78 330 PKP2 PKPdf 07 20 31.2 +0.6
AKASG pmax pmax
comp=Z,124nm,0.9s
AKASG Malin Array Be 146.78 330 PKPbc PKPdf 07 20 31.1 +0.6
comp=Z,124nm,0.9s,baz=40,slow=3.7,SNR=135
KIEV Kiev 146.79 330c i PKP2 PKPbc 07 20 31.7 -0.7
KIEV Kiev 146.79 330 ePKPdf PKPdf 07 20 30.1 -0.5
KIEV ePKPbc PKPbc 07 20 32.3 -0.1
KIEV ePKPab PKPab 07 20 33.7 0.0
KIEV LR LR
comp=Z,2µm,21.0s
ILIC ilic-Erzincan 146.96 306 eP PKPab 07 20 38.2 +3.3
EAB Aberfoyle 147.01 9 eP PKPbc 07 20 32.1 -0.7
MUD Monsted U'grnd 147.12 355⇑i PKP2 PKPbc 07 20 33.3 +0.2
MUD pmax pmax
comp=Z,76nm,1.2s
MUD MLR MLR
comp=Z,2µm,16.0s
MUD Monsted U'grnd 147.12 355⇑i PKP2 PKPab 07 20 34.3 -0.4
MUD pmax pmax
comp=Z,68nm,1.0s
MUD MLR MLR
comp=Z,2µm,21.0s
MUD Monsted U'grnd 147.12 355⇑i P PKPbc 07 20 33.3 +0.2
comp=Z,76nm,1.1s
MUD i 07 20 45.7
comp=Z,2µm,15.0s
URFA Urfa 147.33 303 eP PKPab 07 20 36.4 0.0
PGBU Gleniffebraes 147.36 9 eP PKPbc 07 20 33.1 -0.7
MALT Malatya 147.40 305 eP PKPab 07 20 36.2 -0.5
MALT Malatya 147.40 305 ⇑PKP2 PKPbc 07 20 34.7 0.0
MALT Malatya 147.40 305⇑i P PKPbc 07 20 34.7 0.0
ESY Stoneypath 147.49 7 eP PKPbc 07 20 33.2 -1.0
COP Copenhagen 147.51 351 i PKP2 PKPab 07 20 36.3 0.0
COP pmax pmax
comp=Z,38nm,1.0s
COP MLR MLR
comp=Z,1µm,23.0s

COP Copenhagen 147.51 351 iP PKPab 07 20 36.3 0.0
comp=Z,38nm,1.0s
comp=Z,1µm,22.0s
RSDY Resadiye-TOKAT 147.55 309 eP PKPab 07 20 36.7 -0.4
KSRV Kasrt alli 147.56 300 eP PKPab 07 20 36.7 -0.5
EBL Broad Law 147.59 8 eP PKPbc 07 20 34.2 -0.2
BSD Bornholm Skovb 147.66 348⇑iP PKPbc 07 20 34.3 -0.3
comp=Z,68nm,1.0s
comp=Z,2µm,20.0s
SIM Simferopol' 147.71 318 iPKP2 PKPab 07 20 37.0 -0.5
SIM pmax pmax
comp=Z,118nm,0.9s
LLD Lille Linde 147.89 351 ePKP2 PKPbc 07 20 35.5 +0.3
LLD Lille Linde 147.89 351 iP PKPbc 07 20 35.5 +0.3
SVSK Karacayir 147.95 308 eP PKPbc 07 20 37.2 +1.3
ESK Eskdalemuir 148.01 8 eP PKPbc 07 20 34.5 -1.2
ESK Eskdalemuir 148.01 8 iPKP2 PKPbc 07 20 35.9 +0.3
ESK Eskdalemuir 148.01 8 ePKPdf PKPdf 07 20 32.3 -0.2
ESK ePKPbc PKPbc 07 20 35.0 -0.6
ESK ePKPab PKPab 07 20 38.4 +0.1
ESK LR LR
comp=Z,3µm,19.0s
DARE Darende-Malaty 148.03 305 eP PKPbc 07 20 37.2 +0.8
ECK Cauldkaine Hil 148.16 8 eP PKPbc 07 20 35.0 -1.0
GAL1 Galloway 148.24 10 eP PKPbc 07 20 35.5 -0.7
SLMH Al Salmeh 148.33 301 eP PKPbc 07 20 38.1 +0.9
KMRS Kahramanmaras 148.79 304 eP PKPbc 07 20 39.2 +0.9
GKP Gorka Klasztor 148.89 345 ePKP2 PKPbc 07 20 38.5 +0.5
GKP Gorka Klasztor 148.89 345 ePKPdf PKPdf 07 20 34.9 +0.9
GKP ePKPbc PKPbc 07 20 38.4 +0.5
GKP ePKPab PKPab 07 20 43.3 +1.4
BNN Bunyan 149.16 307 eP PKPbc 07 20 39.7 +0.4
BEL Belsk 149.16 340 ePKP2 PKPbc 07 20 39.5 +0.8
BEL Belsk 149.16 340 ePKP PKPbc 07 20 39.4 +0.8
BEL e 07 20 41.0
BEL e 07 20 50.9
ZALF Zalf 149.45 295 eP PKPbc 07 20 40.4 +0.3
BSEG Bad Segeberg 149.50 353 ePKPbc PKPbc 07 20 40.2 +0.8
BSEG epPKPbc pPKPbc 07 20 51.9 +1.6
KIS Kishinev 149.50 326 ePKP2 PKPbc 07 20 40.0 +0.3
KIS e 07 24 10.0
KIS pmax pmax
comp=Z,200nm,1.0s
KIS MLR MLR
comp=Z,3µm,24.0s
KIS MLR MLR
comp=N,2µm,22.0s
KIS MLR MLR
comp=Z,3µm,24.0s
KIS Kishinev 149.50 326 iPKP PKPbc 07 20 40.0 +0.3
KIS M M 07 20 40.5
comp=Z,200nm,1.0s
HPK Haverah Park 149.53 7 AMS AMS 08 31 48.7
comp=Z,3µm,17.7s
CORM Corum 149.54 310 eP PKPbc 07 20 42.2 +2.0
KOZT Kozan 149.61 304 eP PKPab 07 20 44.2 -1.3
TOS Tosya 149.61 312 eP PKPbc 07 20 41.7 +1.4
LVV L'vov 149.66 334 ePKP2 PKPbc 07 20 40.0 0.0
LVV MLR MLR
comp=E,900nm,22.0s
LVV MLR MLR
comp=Z,1µm,22.0s
LVV MLR MLR
comp=N,900nm,23.0s
VAL Valentia 149.78 18 eP PKPbc 07 20 40.3 +0.1
CEYT Ceyhan 149.81 303 eP PKPbc 07 20 39.7 -1.1
HAWK Haweek 149.92 298 eP PKPbc 07 20 42.7 +1.4
WPM1 Penmaenmawr 149.92 10 eP PKPdf 07 20 35.1 -0.6
MARH Ras Al Marh 149.96 297 eP PKPbc 07 20 43.1 +1.5
SALA Sala 149.98 295 eP PKPbc 07 20 42.1 +0.5
CANT Cankiri 150.07 311 eP PKPbc 07 20 42.2 +0.8
TOTH TOTAH 150.12 296 eP PKPbc 07 20 42.9 +1.1
KBI1 Birley Grange 150.23 7 eP PKPdf 07 20 36.5 +0.4
KWP Kalwaria Pacla 150.33 335 ePKIKP PKPbc 07 20 41.4 -0.2
KWP e 07 20 47.7
KWP MLR MLR
comp=Z,2µm,20.0s
KWP Kalwaria Pacla 150.33 335 ⇓PKIKP PKPbc 07 20 42.0 +0.3
KWP Kalwaria Pacla 150.33 335 ePKP PKPbc 07 20 41.8 +0.1
KWP epPKPdf PKPab 07 20 50.0 +2.0
KWP epPKPbc pPKPbc 07 20 54.1 +1.5
KWP Kalwaria Pacla 150.33 335⇓iP PKPbc 07 20 42.0 +0.3
KWP Kalwaria Pacla 150.33 335 ePKPbc PKPbc 07 20 41.4 -0.2
KWP ePKPab PKPab 07 20 47.7 -0.3
KWP LR LR
comp=Z,2µm,20.0s
RUE Ruedersdorf 150.38 348 ePKPbc PKPbc 07 20 42.5 +0.9
FOEL Foel Wylfa 150.38 9 eP PKPdf 07 20 36.8 +0.3
SAFT Safranbolu 150.43 313 eP PKPbc 07 20 42.2 0.0
RCY Rachaya 150.59 296 eP PKPbc 07 20 43.8 +0.9
TCHB Talchebab 150.62 295 eP PKPbc 07 20 44.5 +1.6
BHL Bhannes 150.66 297 eP PKPbc 07 20 43.6 +0.5
TLCR 150.66 323 ⇑PKIKP PKPbc 07 20 40.6 -1.9
TLCR 150.66 323⇑iP PKPbc 07 20 40.6 -1.9
HLM1 Long Mynd 150.79 9 eP PKPdf 07 20 37.3 +0.2
MERS Mersin 150.79 304 eP PKPbc 07 20 45.7 +2.4
BURAR Bucovina Array 150.83 330 ⇑PKIKP PKPbc 07 20 41.0 -2.0
BURAR Bucovina Array 150.83 330⇑iP PKPbc 07 20 41.0 -2.0
OJC Ojcow 150.88 339 ePKIKP PKPbc 07 20 43.2 +0.3
OJC Ojcow 150.88 339 ePKP PKPbc 07 20 43.2 +0.3
TESR Tescani 150.93 327⇓iP PKPbc 07 20 41.4 -1.8
NRDL Niedersach Rie 150.94 352 ePKPbc PKPbc 07 20 43.6 +0.7
AFSR Af'ar-Bala (A 150.94 309 eP PKPbc 07 20 43.2 -0.4
ANTO Ankara 150.96 310 eP PKPbc 07 20 44.8 +1.2
ANTO Ankara 150.96 310 ePKIKP PKPbc 07 20 42.5 -1.1
ANTO MLR MLR
comp=Z,2µm,22.0s
ANTO Ankara 150.96 310⇑iP PKPbc 07 20 43.3 -0.3
ANTO Ankara 150.96 310 ePKPbc PKPbc 07 20 42.5 -1.1
ANTO LR LR
comp=Z,2µm,22.0s
CFR Carcaliu 151.04 323 ⇑PKIKP PKPbc 07 20 43.6 +0.2
CFR Carcaliu 151.04 323⇑iP PKPbc 07 20 43.6 +0.2
STHS Stebnicka Huta 151.06 337 ePKIKP PKPdf 07 20 38.1 +0.5
STHS e 07 20 43.7
STHS Stebnicka Huta 151.06 337 ePKP PKPdf 07 20 38.1 +0.5
STHS e 07 20 43.7
SULT Sultanhani-AKS 151.10 307 eP PKPbc 07 20 44.2 +0.2
MCH1 Michaelchurch 151.28 9 eP PKPdf 07 20 38.0 +0.3
MCH1 AMS AMS 08 31 11.9
comp=Z,2µm,16.8s
UZH Uzhgorod 151.30 334 ePKIKP PKPbc 07 20 43.7 -0.2
UZH e 07 20 56.7
UZH e 07 24 21.8
VRI Vrincioaia 151.33 326 ⇑PKIKP PKPbc 07 20 43.6 -0.6
VRI Vrincioaia 151.33 326⇑iP PKPbc 07 20 43.6 -0.6
TIRR Tirgusor 151.34 322 ePKIKP PKPdf 07 20 38.1 0.0
TIRR e 07 20 44.1
TIRR e 07 20 51.2
TIRR Tirgusor 151.34 322 P PKPbc 07 20 43.9 -0.2
TIRR Tirgusor 151.34 322⇓iP PKPdf 07 20 39.8 +1.7
TIRR Tirgusor 151.34 322 ePKPdf PKPdf 07 20 38.0 0.0
TIRR ePKPbc PKPbc 07 20 44.1 0.0
TIRR ePKPab PKPab 07 20 51.2 -1.1
KSP Ksiaz 151.34 344 ePKIKP PKPdf 07 20 38.7 +0.8
KSP Ksiaz 151.34 344 ePKPdf PKPdf 07 20 39.0 +1.1
KSP ePKPbc PKPbc 07 20 44.2 +0.2
KSP epPKPbc pPKPbc 07 20 57.4 +2.5
IBBN Ibbenburen 151.35 355 ePKPbc PKPbc 07 20 44.6 +0.7
IBBN epPKPbc pPKPbc 07 20 56.3 +1.5
PLOR Plostina 151.38 326 ⇓PKIKP PKPbc 07 20 43.2 -1.1
PLOR Plostina 151.38 326⇓iP PKPbc 07 20 43.2 -1.1
NIE Niedzica 151.38 338 ePKIKP PKPbc 07 20 45.2 +1.0
NIE Niedzica 151.38 338 ePKP PKPbc 07 20 45.2 +1.0
CRVS Cervenica-Dubn 151.40 336 ePKIKP PKPdf 07 20 38.9 +0.8
CRVS e 07 20 45.7
CRVS Cervenica-Dubn 151.40 336 ePKP PKPdf 07 20 38.9 +0.8
CRVS e 07 20 45.7
HARR Harsova 151.46 323 ⇓PKIKP PKPbc 07 20 44.9 +0.5
HARR Harsova 151.46 323⇓iP PKPbc 07 20 44.8 +0.4
CLZ Clausthal 151.54 352 ePKPdf PKPdf 07 20 39.6 +1.3
CLZ ePKPbc PKiKP 07 20 45.5 +0.6
TRPA Tarpa 151.60 334⇑iP PKPbc 07 20 44.7 +0.1
TRPA Tarpa 151.60 334⇑iP PKPbc 07 20 46.8 +2.2
MANR Mangalia 151.63 321⇓iP PKPbc 07 20 45.2 +0.4
CLL Collm 151.64 348⇓ePKIKP PKPdf 07 20 38.0 -0.4
CLL e 07 20 44.0
CLL i 07 20 52.3
CLL pmax pmax
comp=Z,13nm,1.0s
CLL pmax pmax
comp=Z,148nm,1.4s
CLL MLR MLR
comp=Z,2µm,18.3s
CLL Collm 151.64 348 ePKPbc PKPbc 07 20 45.1 +0.5
CLL Collm 151.64 348 ePKPdf PKPdf 07 20 38.0 -0.4
CLL ePKPbc PKPbc 07 20 44.0 -0.6
comp=Z,148nm,1.0s
CLL e 07 20 50.0
CLL ⇓iPKPab PKPab 07 20 52.3 -1.0
comp=Z,82nm,1.4s
CLL i 07 20 58.0
CLL ePP PP 07 24 18.0 -5.9
comp=Z,400nm,21.8s
CLL ePPP PPP 07 27 47.0
CLL eSKKSac SKKSac 07 31 24.0 +12
CLL ePSKS 07 34 35.0
CLL ePPS PPS 07 37 14.0
CLL e 07 39 34.0
CLL eSS SS 07 43 47.0 +0.6
CLL ePSS PSS 07 44 41.0
CLL eSSS SSS 07 49 42.0
CLL eSSSS 07 53 36.0
CLL Lm MLR 08 39 00.0
comp=N,1µm,19.0s
CLL Lm MLR 08 39 00.0
comp=E,1µm,19.1s
CLL Lm MLR 08 39 00.0
comp=Z,2µm,18.3s
UPC Upice 151.72 344 ePKIKP PKPdf 07 20 39.1 +0.6
UPC e 07 20 45.2
UPC e 07 20 54.3
UPC Upice 151.72 344 ePKPDF PKPdf 07 20 39.1 +0.6
UPC ⇑ePKP PKiKP 07 20 45.2 -0.1
UPC ePKPAB PKPab 07 20 54.3 +0.6
UPC esPKP 07 21 06.9
OKC Ostrava-Krasne 151.73 341 ePKIKP PKPdf 07 20 38.3 -0.3
OKC e 07 20 44.9
OKC e 07 20 53.2
OKC MLR MLR
comp=Z,2µm,17.2s
OKC Ostrava-Krasne 151.73 341 ePKPDF PKPdf 07 20 38.3 -0.3
OKC ⇑ePKP PKiKP 07 20 44.9 0.0
OKC ePKPAB PKPab 07 20 53.2 -0.5
OKC eSS SS 07 43 53.3 +5.7
OKC AMS AMS 08 41 00.0
comp=Z,2µm,17.2s
WTSB Winterswijk 151.75 356 ePKP PKPbc 07 20 44.9 0.0
comp=Z,97nm,0.8s
DPC Dobruska-Polom 151.79 343 ePKIKP PKPdf 07 20 39.3 +0.6
DPC e 07 20 45.2
DPC e 07 20 53.6
DPC e 07 24 24.5
DPC eSS SS 07 43 53.1 +4.8
DPC Dobruska-Polom 151.79 343 ePKPDF PKPdf 07 20 39.3 +0.6
DPC ⇑ePKP PKiKP 07 20 45.2 +0.1
DPC ePKPAB PKPab 07 20 53.6 -0.4
DPC esPKP 07 21 07.1
DPC ex x 07 21 18.5
DPC ePP PP 07 24 24.5 -0.4
DPC eSS SS 07 43 53.1 +4.8
DPC AMS AMS 08 38 00.0
BRG Berggiesshubel 151.87 347 ePKP PKPdf 07 20 38.8 +0.1
comp=Z,12nm,1.1s
BRG i 07 20 45.1
comp=Z,107nm,0.9s
BRG i 07 20 52.4
comp=Z,78nm,1.2s
BRG PP PP 07 24 22.0 -3.2
BRG SS SS 07 43 51.0 +2.1
comp=Z,2µm,18.7s
comp=N,1µm,18.9s
comp=E,2µm,18.9s
BRG Berggiesshubel 151.87 347 ePKIKP PKPdf 07 20 38.8 +0.1
BRG i 07 20 45.1
BRG i 07 20 52.4
BRG 07 24 22.0
BRG SS SS 07 43 51.0 +2.1
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG MLR MLR
comp=Z,78µm,18.7s
BRG MLR MLR
comp=N,2µm,18.9s
BRG MLR MLR
comp=E,1µm,18.9s
BRG Berggiesshubel 151.87 347 ePKPdf PKPdf 07 20 39.1 +0.4
BRG ePKPbc PKiKP 07 20 45.9 +0.4
BATH Bath 151.91 9 AMS AMS 08 32 25.2
comp=Z,3µm,26.8s
ISR Istrita 151.93 325 ⇑PKIKP PKPbc 07 20 46.6 +1.0
ISR Istrita 151.93 325⇑iP PKPbc 07 20 46.6 +1.0
LADK Ladik-KONYA 151.94 307 eP PKPbc 07 20 44.7 -1.2
DOPR Dopca 151.94 327⇑iP PKPbc 07 20 46.1 +0.6
PSN Preselentsi 151.94 321 ⇑PKIKP PKPbc 07 20 46.2 +0.6
PSN Preselentsi 151.94 321 P PKPbc 07 20 46.6 +1.0
PSN Preselentsi 151.94 321⇑iP PKPbc 07 20 46.2 +0.6
MORC Moravsky Berou 151.97 341 ⇑PKIKP PKPdf 07 20 40.6 +1.6
MORC Moravsky Berou 151.97 341⇑iP PKPdf 07 20 40.6 +1.6
MORC Moravsky Berou 151.97 341 ePKPbc PKPbc 07 20 45.1 -0.4
MLR Muntele Rosu 151.99 326 ⇓PKIKP PKPdf 07 20 41.4 +2.1
MLR Muntele Rosu 151.99 326⇓iP PKPdf 07 20 41.4 +2.1
KIZT Kizilcal 152.01 309 eP PKPbc 07 20 45.5 -0.6
LFK Lefkose 152.02 301 eP PKPbc 07 20 45.2 -1.0
SVRH Sivrihisar-ESK 152.02 310 eP PKPbc 07 20 45.7 -0.4
CJR Cluj-Napoca 152.24 330 ⇑PKIKP PKPbc 07 20 46.6 +0.4
CJR Cluj-Napoca 152.24 330⇑iP PKPbc 07 20 46.6 +0.4
BUG Bochum--Univer 152.25 356 ePKPbc PKPbc 07 20 46.4 +0.4
BUG epPKPbc pPKPbc 07 20 58.1 +1.2
GULT Gulveren 152.26 313 eP PKPab 07 20 51.6 -4.8
CSS Prodhromos 152.27 300 P PKPbc 07 20 46.4 -0.3
CSS Prodhromos 152.27 300 eP PKPbc 07 20 48.4 +1.8
CSS Prodhromos 152.27 300 ePKPbc PKPbc 07 20 46.4 -0.3
CSS LR LR
comp=Z,340nm,19.0s
VOIR 152.48 327 ⇑PKIKP PKPdf 07 20 42.3 +2.4
VOIR 152.48 327⇑iP PKPdf 07 20 42.3 +2.4
SACV Santiago Islan 152.49 103 PFAKE 07 20 50.0 +2.3
SACV LR LR
comp=Z,1µm,19.0s
PRA Prague 152.51 345 PKPDF PKPdf 07 20 41.0 +1.3
PRA ⇑PKP PKiKP 07 20 47.0 +0.1
MOX Moxa 152.52 350 ePKPdf PKPdf 07 20 39.7 0.0
MOX ePKPbc PKiKP 07 20 47.3 +0.4
MOX epPKPbc pPKPbc 07 20 58.9 +1.3
MOX eL L 08 37 58.0
comp=Z,2µm,19.8s
PRU Pruhonice 152.56 345 ePKIKP PKPdf 07 20 40.0 +0.2
PRU e 07 20 46.9
PRU e 07 20 54.4
PRU eSS SS 07 44 02.1 +5.5
PRU MLR MLR
comp=Z,3µm,18.5s
PRU Pruhonice 152.56 345 ePKPDF PKPdf 07 20 40.0 +0.2
PRU ⇑ePKP PKiKP 07 20 46.9 -0.1
PRU epPKP PKPab 07 20 54.4 -2.8
PRU ePKPAB PKPbc 07 20 57.8 +11
PRU esPKP 07 21 09.3
PRU eSS SS 07 44 02.1 +5.5
PRU AMS AMS 08 37 30.0
comp=Z,3µm,18.5s
DRGR 152.57 332 ⇑PKIKP PKPbc 07 20 46.9 -0.1
DRGR 152.57 332⇑iP PKPbc 07 20 46.9 -0.1
UBBA Unterbreizbach 152.59 352 ePKPbc PKPbc 07 20 46.8 +0.1
UBBA epPKPab pPKPab 07 21 09.0 +1.1
TANN Tannenbergstha 152.60 348 ePKPbc PKPbc 07 20 47.5 +0.6
TANN epPKPbc pPKPbc 07 20 57.9 +0.1
HRT Hereke 152.63 315 eP PKPab 07 20 57.6 -0.4
VRAC Vranov 152.66 342 ⇑PKIKP PKPbc 07 20 46.9 -0.1
VRAC Vranov 152.66 342⇑iP PKPbc 07 20 46.9 -0.1
VYHS Vyhne 152.68 338 ePKIKP PKPdf 07 20 40.7 +0.6
VYHS e 07 20 47.5
VYHS Vyhne 152.68 338 ePKP PKPdf 07 20 40.7 +0.6
VYHS e 07 20 47.5
VYHS e 07 20 59.3
PRD Provadia 152.69 321 ⇑PKIKP PKPbc 07 20 47.5 +0.3
PRD Provadia 152.69 321 P PKPbc 07 20 48.6 +1.4
ARR Arges 152.74 327⇑iP PKPbc 07 20 48.5 +1.1
HMNX Herstmonceux 152.78 5 AMS AMS 08 35 23.1
comp=Z,3µm,5.5s
ADVT Abdulvahap 152.78 314 eP PKPbc 07 20 46.2 -1.4
PSZ Piszkesteto 152.80 336 ePKIKP PKPdf 07 20 40.4 +0.1
PSZ e 07 20 47.2
PSZ MLR MLR
comp=Z,2µm,20.0s
PSZ Piszkesteto 152.80 336⇑iP PKPdf 07 20 41.4 +1.1
PSZ Piszkesteto 152.80 336 ePKPdf PKPdf 07 20 40.4 +0.1
PSZ ePKPbc PKPbc 07 20 47.2 -0.3
PSZ ePKPab PKPab 07 20 59.2 +0.8
PSZ LR LR
comp=Z,2µm,20.0s
TREC Trest 152.97 343 ePKIKP PKPdf 07 20 40.1 -0.4
TREC e 07 20 47.7
TREC e 07 20 58.5
TREC eSS SS 07 44 03.4 +2.1
TREC MLR MLR
comp=Z,3µm,17.2s
TREC Trest 152.97 343 ePKPDF PKPdf 07 20 40.1 -0.4
TREC ⇑ePKP PKiKP 07 20 47.7 0.0
TREC ePKPAB PKPab 07 20 58.5 -0.5
TREC epPKP pPKPdf 07 21 05.3 +14
TREC ex x 07 21 13.5
TREC eSS SS 07 44 03.4 +2.1
TREC AMS AMS 08 40 10.0
comp=Z,3µm,17.2s
HGN Heimansgroeve 153.00 357 ePKP PKPbc 07 20 47.5 -0.2
comp=Z,61nm,1.3s
HGN ePP PP 07 24 27.9 -3.6
HGN ePPP PPP 07 27 48.8
SMOL Smolenice 153.12 340 ePKIKP PKPbc 07 20 49.7 +1.6
SMOL e 07 21 02.2
SMOL Smolenice 153.12 340 ePKP PKPbc 07 20 49.6 +1.5
SMOL e 07 21 02.2
MEM Membach 153.15 357 PKPbc PKPbc 07 20 47.8 -0.2
MEM PKPab PKPab 07 21 00.6 +1.0
ROTZ Rotzenmuhle 153.26 348 ePKPbc PKPbc 07 20 49.0 +0.7
ROTZ epPKPab pPKPab 07 21 11.9 +1.0
SNF Seneffe 153.29 360 PKPbc PKPbc 07 20 49.0 +0.7
TNS Taunus Mts 153.36 354 ePKPbc PKPbc 07 20 49.3 +0.7
TNS ePKPab PKPab 07 21 00.8 +0.2
TNS epPKPab pPKPab 07 21 12.4 +1.1
BCLA Clavier 153.36 358 PKPab PKPab 07 21 01.3 +0.7
ISP Isparta 153.42 308 ePKIKP PKPbc 07 20 49.1 -0.1
ISP e 07 21 02.0
ISP MLR MLR
comp=Z,2µm,19.0s
ISP Isparta 153.42 308 ePKPbc PKPbc 07 20 49.1 -0.1
ISP ePKPab PKPab 07 21 01.9 +0.5
ISP LR LR
comp=Z,2µm,19.0s
TVSB Tavsanli 153.44 312 eP PKPbc 07 20 49.1 -0.1
GRF Grafenberg Arr 153.51 350 eL L 08 39 48.8
comp=Z,2µm,18.7s
KHC Kasperske Hory 153.59 346 ePKIKP PKPdf 07 20 41.2 -0.2
KHC e 07 20 49.3
KHC e 07 21 01.7
KHC e 07 24 35.0
KHC eSS SS 07 44 06.2 -1.7
KHC MLR MLR
comp=Z,2µm,18.6s
KHC Kasperske Hory 153.59 346 ePKPDF PKPdf 07 20 41.2 -0.2
KHC ⇑ePKP PKiKP 07 20 49.3 +0.1
KHC ePKPAB PKPab 07 21 01.7 +0.1
KHC epPKP pPKPdf 07 21 08.3 +16
KHC ePP PP 07 24 35.0 -0.1
KHC eSS SS 07 44 06.2 -1.7
KHC AMS AMS 08 38 00.0
comp=Z,2µm,18.6s
KHC Kasperske Hory 153.59 346 ePKPdf PKPdf 07 20 41.2 -0.2
KHC ePKPbc PKiKP 07 20 49.4 +0.1
KHC ePKPab PKPab 07 21 01.4 -0.2
GZR Gura Zlata 153.61 329 ⇑PKIKP PKPbc 07 20 49.0 -0.3
GZR Gura Zlata 153.61 329⇑iP PKPbc 07 20 49.0 -0.3
JMB Yambol 153.61 320 ⇑PKIKP PKPbc 07 20 49.8 +0.5
JMB Yambol 153.61 320⇑iP PKPbc 07 20 49.8 +0.5
GIVF Givet 153.69 359 ePKIKP PKPdf 07 20 41.3 -0.1
GIVF Givet 153.69 359 ePKIKP PKPdf 07 20 41.3 -0.1
GIVF Givet 153.69 359 ePKPdf PKPdf 07 20 41.3 -0.1
DOU Dourbes 153.70 359 PKP PKPdf 07 20 43.5 +2.1
DOU Dourbes 153.70 359 PKPbc PKPbc 07 20 49.3 0.0
WET Wettzell 153.73 347 ePKPdf PKPdf 07 20 41.5 -0.1
WET epPKPbc PKPab 07 21 01.6 -0.6
BAIF Baives 153.74 360 ePKIKP PKPdf 07 20 41.3 -0.2
BAIF Baives 153.74 360 ePKIKP PKPdf 07 20 41.3 -0.2
BAIF Baives 153.74 360 ePKPdf PKPdf 07 20 41.3 -0.2
GEC2 GERESS Array S 153.83 346 ePKPdf PKPdf 07 20 41.7 0.0
GEC2 ePKPbc PKiKP 07 20 50.3 +0.5
GEC2 epPKPbc PKPab 07 21 01.9 -0.8
GEC2 epPKPab pPKPab 07 21 14.4 +1.0
GERES GERESS Array B 153.83 346 PKIKP PKPdf 07 20 41.8 0.0
GERES 07 20 51.7
GERES 07 21 01.5
GERES 07 24 38.6
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 153.83 346 PKP PKPdf 07 20 41.8 0.0
comp=Z,3.4nm,0.8s,baz=90,slow=1.3,SNR=20
GERES PKPbc PKiKP 07 20 51.7 +1.9
comp=Z,12nm,1.0s,baz=29,slow=2.2,SNR=18
GERES PKPab PKPab 07 21 01.5 -1.2
comp=Z,3.9nm,0.8s,baz=48,slow=2.0,SNR=7.4
GERES PP PP 07 24 38.5 +2.1
comp=Z,0.9nm,0.8s,baz=44,slow=5.9,SNR=4.2
EDRB Edirne 153.89 319 P PKPab 07 21 01.5 -1.7
KHL Karahalli 153.92 310 eP PKPbc 07 20 49.2 -1.1
BZS Buzias 153.97 331 ⇑PKIKP PKPdf 07 20 41.5 -0.5
BZS Buzias 153.97 331⇑iP PKPdf 07 20 41.5 -0.5
WLF Walferdange 154.09 357 PKPbc PKPbc 07 20 52.0 +1.9
WLF PKPab PKPab 07 21 04.4 +0.8
WLF Walferdange 154.09 357 ePKIKP PKPbc 07 20 51.1 +1.0
WLF e 07 21 04.4
WLF MLR MLR
comp=Z,3µm,21.0s
WLF Walferdange 154.09 357 epPKPab pPKPab 07 21 15.6 +1.3
WLF Walferdange 154.09 357 ePKPbc PKPbc 07 20 51.1 +1.0
WLF ePKPab PKPab 07 21 04.3 +0.8
WLF LR LR
comp=Z,3µm,21.0s
CONA Conrad Observa 154.12 342⇑iPKPdf PKPdf 07 20 43.2 +0.9
comp=Z,11nm,1.3s
CONA ⇑isPKPdf sPKPdf 07 20 51.9 -5.1
comp=Z,29nm,1.1s
JSA Saint Aubin 154.14 9 AMS AMS 08 32 59.2
comp=Z,3µm,18.0s
ELL Elmali 154.30 306 eP PKPbc 07 20 51.1 0.0
LANF Langenberg 154.65 354 PKP PKPbc 07 20 51.1 -0.3
PKSM Moragy 154.70 336 ⇑PKIKP PKPdf 07 20 42.3 -0.7
PKSM Moragy 154.70 336⇑iP PKPdf 07 20 42.3 -0.7
PKSM Moragy 154.70 336 ePKPdf PKPdf 07 20 42.2 -0.7
FLN La Foliniere 154.78 7 ePKIKP PKPdf 07 20 42.4 -0.6
FLN eR
comp=Z,4µm,19.8s
FLN La Foliniere 154.78 7 ePKIKP PKPdf 07 20 42.4 -0.6
FLN La Foliniere 154.78 7 ePKPdf PKPdf 07 20 42.4 -0.6
ROSF Rostrenen 154.78 12 ePKIKP PKPdf 07 20 42.8 -0.2
ROSF Rostrenen 154.78 12 ePKIKP PKPdf 07 20 42.8 -0.2
ROSF Rostrenen 154.78 12 ePKPdf PKPdf 07 20 42.8 -0.2
PLD Plovdiv 154.92 322 P PKPab 07 21 09.2 +1.7
GRR Gorron 155.10 8 ePKIKP PKPdf 07 20 42.7 -0.7
GRR Gorron 155.10 8 ePKIKP PKPdf 07 20 42.7 -0.7
GRR Gorron 155.10 8 ePKPdf PKPdf 07 20 42.7 -0.7
PAGF Fort de Pagny 155.21 357 ePKIKP PKPdf 07 20 44.2 +0.6
comp=Z,51nm,1.6s
PAGF Fort de Pagny 155.21 357 ePKPdf PKPdf 07 20 44.2 +0.6
BFO Black Forest 155.24 353 ePKP2 PKPab 07 21 10.2 +1.5
BFO MLR MLR
comp=Z,2µm,19.0s
BFO Black Forest 155.24 353 ePKPbc PKPdf 07 20 53.0 +9.3
BFO epPKPab pPKPab 07 21 19.8 +0.5
BFO Black Forest 155.24 353 ePKPab PKPab 07 21 10.2 +1.5
BFO LR LR
comp=Z,2µm,19.0s
CDF Champ du Feu 155.26 355 ePKIKP PKPdf 07 20 43.1 -0.7
CDF Champ du Feu 155.26 355 ePKIKP PKPdf 07 20 43.1 -0.7
CDF Champ du Feu 155.26 355 ePKPdf PKPdf 07 20 43.1 -0.7
EZN Ezine 155.32 316 eP PKPdf 07 20 53.6 +10
ECH Echery 155.46 355 ePKIKP PKPdf 07 20 43.9 -0.1
ECH e 07 21 09.8
ECH MLR MLR
comp=Z,3µm,20.0s
ECH Echery 155.46 355 ePKPbc PKPdf 07 20 53.9 +10
ECH Echery 155.46 355 ePKPdf PKPdf 07 20 43.9 -0.1
ECH ePKPab PKPab 07 21 09.8 +0.2
ECH LR LR
comp=Z,3µm,20.0s
PERS Pernice 155.50 341 iPKPbc PKPab 07 21 11.3 +1.5

THEF They Montfort 155.53 357 PKP PKPdf 07 20 53.5 +9.4
SFTF Sexfontaines 155.59 358 ePKIKP PKPdf 07 20 44.1 0.0
comp=Z,124nm,1.4s
SFTF Sexfontaines 155.59 358 ePKPdf PKPdf 07 20 44.1 0.0
HAU Haudompre 155.73 356 ePKIKP PKPdf 07 20 43.8 -0.6
HAU eR
comp=Z,2µm,20.5s
HAU Haudompre 155.73 356 ePKIKP PKPdf 07 20 43.8 -0.6
HAU Haudompre 155.73 356 ePKPdf PKPdf 07 20 43.8 -0.6
KAVA Kavala 155.74 320 P PKPab 07 21 11.2 +0.2
MMB Musomiste 155.81 322 ⥣PKIKP PKPdf 07 20 54.5 +10
MMB Musomiste 155.81 322 ⥣iP PKPdf 07 20 54.5 +10
HINF Hinteralfeld 155.88 355 ePKIKP PKPdf 07 20 44.3 -0.3
HINF Hinteralfeld 155.88 355 ePKIKP PKPdf 07 20 44.3 -0.3
HINF Hinteralfeld 155.88 355 ePKPdf PKPdf 07 20 44.3 -0.3
SIGR SIGRI 155.96 315 P PKPab 07 21 11.4 -0.7
FETA Feichten 156.18 349 ⥣iPKPdf PKPdf 07 20 45.7 +0.6
comp=Z,21nm,1.2s
SRS Serrai 156.20 321 P PKPab 07 21 12.7 -0.3
VISS Visnje 156.34 341 i PKPbc PKPab 07 21 14.9 +1.4
OUR Ouranopolis 156.47 319 P PKPab 07 21 14.7 +0.5
JAVS Javornik 156.48 342 ePKPbc PKPab 07 21 15.1 +1.0
BOJS Bojanci 156.48 340 i PKPbc PKPab 07 21 13.8 -0.2
LOR Lormes 156.53 0 ePKIKP PKPdf 07 20 45.4 0.0
comp=Z,72nm,1.3s
LOR eR
comp=Z,3µm,20.8s
LOR Lormes 156.53 0 ePKIKP PKPdf 07 20 45.4 0.0
LOR Lormes 156.53 0 ePKPdf PKPdf 07 20 45.4 0.0
KNT Kendrikon 156.56 322 P PKPab 07 21 14.8 +0.2
VAY Valandovo 156.64 323 P PKPab 07 21 15.3 +0.4
VAY Valandovo 156.64 323 i PKP PKPab 07 21 14.7 -0.2
SSF Saint Saulge 156.74 1 ePKIKP PKPdf 07 20 45.6 -0.1
comp=Z,69nm,1.4s
SSF Saint Saulge 156.74 1 ePKIKP PKPdf 07 20 45.6 -0.1
SSF Saint Saulge 156.74 1 ePKPdf PKPdf 07 20 45.6 -0.1
SKO Skopje 156.79 326 ePKP PKPab 07 21 14.8 -0.7
PAIG Paliouri 156.90 319 P PKPab 07 21 16.2 +0.1
TUE Stuetta 156.94 351 PFAKE 07 21 00.0 +14
TUE LR LR
comp=Z,3µm,20.0s
GRG Griva 156.98 323 P PKPab 07 21 16.2 -0.2
CABF La Chapelle 157.13 356 ePKIKP PKPdf 07 20 46.6 +0.3
comp=Z,53nm,1.2s
CABF La Chapelle 157.13 356 ePKIKP PKPdf 07 20 46.6 +0.3
CABF La Chapelle 157.13 356 ePKPdf PKPdf 07 20 46.6 +0.3
SMF Signal de Mont 157.16 0 ePKIKP PKPdf 07 20 45.7 -0.5
SMF Signal de Mont 157.16 0 ePKIKP PKPdf 07 20 45.7 -0.5
SMF Signal de Mont 157.16 0 ePKPdf PKPdf 07 20 45.7 -0.5
TCF Toulx Ste Croi 157.46 3 ePKIKP PKPdf 07 20 46.4 -0.3
comp=Z,52nm,1.2s
TCF Toulx Ste Croi 157.46 3 ePKIKP PKPdf 07 20 46.4 -0.3
TCF Toulx Ste Croi 157.46 3 ePKPdf PKPdf 07 20 46.4 -0.3
LIT Litokhoron 157.50 321 P PKPab 07 21 18.6 -0.1
XOR Xorichti 157.55 318 P PKPab 07 21 17.7 -1.2
SANT Santorini 157.69 309 PFAKE 07 21 00.0 +13
SANT LR LR
comp=Z,1µm,20.0s
PLDF La Plantade 157.83 1 PKP PKPdf 07 21 00.4 +13
KBN Korca 158.09 324 P PKPab 07 21 22.4 +1.1
RJF Les Rejaudoux 158.40 5 ePKIKP PKPdf 07 20 47.6 -0.2
RJF eR
comp=Z,4µm,21.5s
RJF Les Rejaudoux 158.40 5 ePKIKP PKPdf 07 20 47.6 -0.2
RJF Les Rejaudoux 158.40 5 ePKPdf PKPdf 07 20 47.6 -0.2
MAKR Makrakomi, Fth 158.41 319 P PKPab 07 21 21.2 -1.5
SSB Saint Sauveur 158.52 359 PFAKE 07 21 00.0 +12
SSB LR LR
comp=Z,2µm,20.0s
LBL Lubilhac 158.56 2 PKP PKPdf 07 21 02.5 +14
BNI Bardonecchia 158.65 355 PFAKE 07 21 00.0 +12
BNI LR LR
comp=Z,4µm,20.0s
VIVF Saint-Julien-l 158.94 359 ePKIKP PKPdf 07 20 48.9 +0.4
comp=Z,38nm,1.2s
VIVF Saint-Julien-l 158.94 359 ePKIKP PKPdf 07 20 48.9 +0.4
VIVF Saint-Julien-l 158.94 359 ePKPdf PKPdf 07 20 48.9 +0.4
VLC Villacollemand 159.00 347 PFAKE 07 21 00.0 +11
VLC LR LR
comp=Z,2µm,21.0s
PDO Prodromos 159.24 319 P PKPab 07 21 23.2 -3.0
SBF Sospel 159.75 353 ePKIKP PKPdf 07 20 49.1 -0.4
comp=Z,71nm,1.3s
SBF Sospel 159.75 353 ePKIKP PKPdf 07 20 49.1 -0.4
SBF Sospel 159.75 353 ePKPdf PKPdf 07 20 49.1 -0.4
SMRF Simiane la Rot 159.79 357 ePKIKP PKPdf 07 20 50.0 +0.5
comp=Z,109nm,1.5s
SMRF Simiane la Rot 159.79 357 ePKPdf PKPdf 07 20 50.0 +0.5
LIC Lamto 160.49 152 eP PKPdf 07 20 50.1 -1.1
comp=Z,49nm,1.5s
ETSF Etsaut 160.52 10 ePKIKP PKPdf 07 20 49.8 -0.6
ETSF Etsaut 160.52 10 ePKIKP PKPdf 07 20 49.8 -0.6
ETSF Etsaut 160.52 10 ePKPdf PKPdf 07 20 49.8 -0.6
EPF Esparros 160.52 8 ePKIKP PKPdf 07 20 50.6 +0.2
comp=Z,26nm,1.2s
EPF Esparros 160.52 8 ePKIKP PKPdf 07 20 50.6 +0.2
EPF Esparros 160.52 8 ePKPdf PKPdf 07 20 50.6 +0.2
MTE Manteigas 160.73 28 PFAKE 07 21 00.0 +9.3
MTE LR LR
comp=Z,3µm,20.0s
KIC Kosan Boka 160.74 152 eP PKPdf 07 20 52.5 +1.1
comp=Z,84nm,1.5s
TIC Toumodi 160.87 151 eP PKPdf 07 20 51.1 -0.5
comp=Z,13nm,0.7s
DBIC Dimbokro 160.97 152 PKIKP PKPdf 07 20 52.3 +0.7
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 160.97 152 PKP PKPdf 07 20 52.3 +0.7
comp=Z,3.8nm,0.9s,baz=151,slow=8.2,SNR=2.9
CUC Castrocucco 161.02 331 PFAKE 07 21 00.0 +9.0
CUC LR LR
comp=Z,1µm,21.0s
TIP Timpagrande 161.24 328 PFAKE 07 21 00.0 +8.7
TIP LR LR
comp=Z,2µm,22.0s
LIS Lisbon 161.31 34 ePKP PKPdf 07 20 52.1 +0.8
LIS ePP PP 07 25 19.2 +1.2
LIS AMS AMS 08 30 23.0
comp=Z,3µm,25.0s
LIS Lisbon 161.31 34 ePKIKP PKPdf 07 20 52.1 +0.8
LIS e 07 25 19.2
CEL Celeste 162.37 328 PFAKE 07 21 00.0 +7.5
CEL LR LR
comp=Z,2µm,22.0s
MESJ Messejana 162.45 34 eP PKPdf 07 20 52.5 -0.1
MESJ ePP PP 07 25 24.8 +0.7
MESJ AMS AMS 08 31 12.2
comp=Z,4µm,14.2s
MESJ Messejana 162.45 34 ePKIKP PKPdf 07 20 52.4 -0.1
MESJ e 07 25 24.7
MORF Marmelete 162.62 36 eP PKPdf 07 20 53.1 +0.4
MORF AMS AMS 08 31 41.2
comp=Z,5µm,19.0s
MORF Marmelete 162.62 36 ePKIKP PKPdf 07 20 53.1 +0.4
PAB San Pablo 162.71 22 PFAKE 07 21 00.0 +7.2
PAB LR LR
comp=Z,3µm,20.0s
ESDC Sonseca Array 162.72 21 PKP PKPdf 07 20 52.6 -0.2
comp=Z,3.0nm,0.9s,baz=354,slow=2.4,SNR=13
ESDC PKPab PKPab 07 21 40.6 -0.8
comp=Z,4.0nm,0.9s,baz=333,slow=3.4,SNR=7.4
VSL Villasalto 163.68 345 PFAKE 07 21 00.0 +6.3
VSL LR LR
comp=Z,2µm,20.0s
WDD Wield Dalam 164.92 326 PFAKE 07 21 00.0 +5.2
WDD LR LR
comp=Z,2µm,20.0s
RTC Rabat Centre 166.01 41 PFAKE 07 21 10.0 +14
RTC LR LR
comp=Z,2µm,20.0s
KEST Kesra 167.22 340 PKPab PKPab 07 22 00.2 -1.1
comp=Z,7.5nm,0.9s,baz=73,slow=10,SNR=11
TORD Torodi Ar. Bea 169.21 167 PKP PKPdf 07 20 56.9 -1.7
comp=Z,10nm,1.1s,baz=297,slow=1.4,SNR=21
TORD PKPab PKPab 07 22 10.4 +0.1
comp=Z,6.1nm,0.7s,baz=202,slow=2.8,SNR=14
TORD PP PP 07 26 04.3 +5.8
comp=Z,3.1nm,1.1s,baz=179,slow=4.2,SNR=4.7
TAM Tamanrasset 178.37 234 ePKIKP PKPdf 07 21 02.5 +0.6
TAM MLR MLR
comp=Z,2µm,19.0s
TAM Tamanrasset 178.37 234 ePKPdf PKPdf 07 21 02.5 +0.6
TAM LR LR
comp=Z,2µm,19.0s

IDC **22** *07:22:35.5±0.6, 23°.71S×175°.92W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.4/30, mbtmp4.4/13, Error ellipse: s-maj=25.4km s-min=20.3km az=145.0*
ISCJB **22** *07:22:38.6±0.6, 23°.9S±0°.1×175°.9W±0°.1, h31km, mb4.3/14, Error ellipse: s-maj=18.5km s-min=11.0km az=139.9*
NEIC **22** *07:22:40.4±0.5, 23°.82S×175°.89W, h35km, mb4.8/2, Error ellipse: s-maj=16.5km s-min=13.8km az=146.0*
ISC 22 07:22:40.3±0.6, 23°.8S±0°.1×175°.9W±0°.1, h31km, n51, σ1°.32/44, mb4.5/13, Tonga Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSVF Nonsavu 8.24 315 ePn Pn 07 24 35.7 -2.1
115nm,1.3s
RAR Rarotonga 15.12 84 Pn Pn 07 26 02.6 -9.1
8.0nm,0.3s,baz=254,slow=6.4,SNR=9.7
RAR Rarotonga 15.12 84 ePn Pn 07 26 02.9 -8.8
URZ Urewera 15.65 201 Pn Pn 07 26 15.1 -3.5
0.2nm,0.3s,baz=340,slow=15,SNR=2.2
DZM Mont Dzumac 16.36 272 Pn P 07 26 30.4 0.0
0.1nm,0.3s,baz=61,slow=19,SNR=1.8
EIDS Eidsvold 30.04 260 P P 07 28 48.0 +1.4
baz=31,SNR=3.2
RMQ Roma 32.06 258 P P 07 29 06.6 +2.1
baz=33,SNR=4.7
MILA Mila 32.74 238 P P 07 29 12.1 +1.7
baz=34,SNR=7.9
CMSA Cobar Meteorol 34.77 248 P P 07 29 28.5 +0.6
baz=36,SNR=6.2
CTA Charters Tower 35.23 268 P P 07 29 32.5 +0.4
12nm,0.4s,baz=86,slow=11,SNR=24
CTAO Charters Tower 35.23 268 eP P 07 29 32.5 +0.4
5.3nm,0.4s
QLP Quilpie 36.10 257 P P 07 29 39.6 +0.1
baz=37,SNR=9.0
STKA Stephens Creek 38.27 248 P P 07 29 56.8 -1.1
2.9nm,0.7s,baz=103,slow=11,SNR=4.9
STKA Stephens Creek 38.27 248 P P 07 30 00.0 +2.1
baz=39,SNR=3.6
HTT Hallett 40.56 246 P P 07 30 17.8 +0.7
baz=42,SNR=4.2
WRAB Tennant Creek 46.16 265 eP P 07 31 00.7 -1.6
12nm,1.0s
WRA Warramunga Arr 46.16 265 P P 07 31 01.1 -1.3
5.3nm,0.6s,baz=96,slow=8.5,SNR=74
FORT Forrest 49.88 249 P P 07 31 30.6 -0.3
baz=51,SNR=10
WRKA Warakurna 50.53 256 P P 07 31 34.9 -1.1
baz=52,SNR=9.2
MTN Manton Dam 51.20 272 P P 07 31 40.0 -1.1
baz=52,SNR=4.7
KNRA Kununurra 52.45 268 P P 07 31 51.1 +0.7
baz=53,SNR=3.3
PALU Palau 57.46 296 S S 07 40 30.4 +8.2
baz=58,SNR=3.5
BLDU Ballidu 59.56 247 P P 07 32 40.6 -0.6
baz=61,SNR=5.7
WSI Waingapu 62.25 271 S S 07 41 27.3 +3.4
baz=63,SNR=6.8
QSPA South Pole Qui 66.34 180 P P 07 33 26.8 +1.0
3.6nm,0.9s,baz=5.0,slow=0.8,SNR=14
QSPA South Pole Qui 66.34 180 eP P 07 33 27.3 +1.5
PETK Petropavlovsk- 79.90 344 P P 07 34 44.9 -0.8
6.1nm,1.0s,baz=142,slow=10,SNR=4.6
KSRS Korea Array 80.60 318 P P 07 34 50.6 +0.8
1.2nm,0.7s,baz=153,slow=6.4,SNR=4.1
KSAR Wonju Array Be 80.61 318 P P 07 34 50.6 +0.7
NVAR Mina Array Bea 82.08 42 P P 07 34 58.3 +0.3
1.4nm,1.0s,baz=225,slow=10,SNR=5.8
H03N2 Juan Fernandez 82.72 123 T T 09 06 49.2
baz=238
H03N3 Juan Fernandez 82.72 123 T T 09 06 23.9
baz=238
USRK Ussuriysk Arra 82.73 325 P P 07 35 02.0 +1.1
2.3nm,0.8s,baz=123,slow=2.8,SNR=4.9
H03N1 Juan Fernandez 82.73 123 T T 09 06 35.8
baz=238
TXAR Lajitas Array 87.19 56 P P 07 35 24.2 +0.4
2.4nm,0.8s,baz=218,slow=7.9,SNR=27
ILAR Eielson Array 91.05 12 P P 07 35 41.1 0.0
0.8nm,0.9s,baz=246,slow=4.0,SNR=6.8
CMAR Chiang Mai Arr 93.02 289 P P 07 35 52.2 +1.0
4.3nm,0.8s,baz=130,slow=2.7,SNR=17
YKA Yellowknife Ar 98.64 24 P P 07 36 15.2 -0.6
0.3nm,0.8s,baz=231,slow=4.3,SNR=5.1
SONM Songino Array 99.47 318 P Pdif 07 36 21.1 +1.1
0.4nm,0.8s,baz=114,slow=6.5,SNR=2.8
ZALV Zalesovo Beam 114.23 320 PKiKP PKPdf 07 41 14.9 -1.4
0.4nm,0.4s,baz=90,slow=1.4,SNR=3.0
MK31 Makanchi Array 114.83 312 ePKPdf PKPdf 07 41 16.9 -0.9
MKAR Makanchi Array 114.83 312 PKP PKPdf 07 41 16.2 -1.5
0.4nm,0.6s,baz=67,slow=2.6,SNR=5.3
FINES FINESS Array B 139.42 344 PKP PKPdf 07 42 04.6 +0.7
0.8nm,0.6s,baz=270,slow=1.9,SNR=4.4
AKASG Malin Array Be 146.79 330 PKPbc PKPbc 07 42 18.4 -0.6
7.6nm,0.7s,baz=41,slow=3.8,SNR=29
KIEV Kiev 146.80 330 ePKPbc PKPbc 07 42 18.5 -0.5
EKA Eskdalemuir Ar 148.00 8 PKPbc PKPbc 07 42 21.6 -0.6
4.6nm,0.9s,baz=328,slow=3.0,SNR=5.7
CLL Collm 151.64 348 i PKPbc PKPbc 07 42 31.3 0.0
comp=Z,12nm,1.0s
CLL epPKPbc pPKPbc 07 42 43.0 +1.5
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 151.87 347 i PKP PKPbc 07 42 32.0 +0.2
comp=Z,7.6nm,0.8s
MLR Muntele Rosu 152.00 326 PKPbc PKPbc 07 42 33.0 +0.6
comp=Z,0.4nm,0.6s,baz=284,slow=19,SNR=2.8
GERES GERESS Array B 153.83 346 PKPbc PKPbc 07 42 35.9 -0.5
comp=Z,0.2nm,0.2s,baz=90,slow=1.3,SNR=3.4
TORD Torodi Ar. Bea 169.21 167 PKP PKPdf 07 42 42.8 -2.5
comp=Z,0.7nm,1.0s,baz=184,slow=2.3,SNR=3.0
TORD PKPab PKPab 07 43 57.5 +0.5
comp=Z,1.1nm,0.8s,baz=194,slow=4.3,SNR=6.5

IDC **22** *07:24:40.2±0.4, 23°.65S×175°.85W, h0km, mb5.0/21, mb1 5.1/23, mb1mx5.0/33, mbtmp5.0/23, ML5.0/2, MS5.1/10, Ms1 5.1/10, ms1mx4.8/23, Error ellipse: s-maj=16.2km s-min=14.9km az=126.0*
BJI **22** *07:24:44.4, 23°.41S×175°.47W, h37km, mB5.8/29, mb5.3/40, Ms5.6/28, Ms7 5.3/27*
ISCJB **22** *07:24:44.9±0.1, 23°.78S±0°.04×175°.91W±0°.03, h38km, mb5.2/116, MS5.0/19, Error ellipse: s-maj=6.2km s-min=3.3km az=149.9*
MOS **22** *07:24:44.6±1.1, 23°.68S×175°.97W, h33km, mb5.4/52, Error ellipse: s-maj=10.7km s-min=9.3km az=89.7*
GCMT **22** *07:24:45.7±0.2, 23°.79S×175°.33W, h25km, MW5.6/110, Moment Tensor Solution. s72,c126; s110,c259; Duration: 1°.5 Moment tensor: Scale 10^17Nm; Mrr2.33±.06; Mθθ0.04±.04; Mφφ-2.37±.04; Mrθ0.60±.11; Mrφ-0.64±.03; Mθφ1.98±.10; Best double couple: Mo3.19200×10^17 NP1:φs16.00000°, δ65.00000°, λ92.00000°. NP2:φs192.00000°, δ25.00000°, λ86.00000°. Principal axes: T 3.0940, Plg70.0000°, Azm290.0000°; N 0.1930, Plg2.0000°, Azm195.0000°; P -3.2910, Plg20.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC **22** *07:24:45.7±0.2, 23°.74S×175°.92W, h35km, mb5.2/69 Error ellipse: s-maj=7.0km s-min=4.7km az=146.0*
SZGRF **22** *07:24:47.0, 23°.30S×175°.81W, h40km, Tonga Islands region*
ISC 22 07:24:45.7±0.3, 23°.78S±0°.05×175°.81W±0°.05, h39km±1km, h39km:pP-P, n758, σ1°.28/817, mb5.2/115, MS5.1/19, 200C-188D, Tonga Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 5.77 199 P Pn 07 26 09.8 +1.0
RAO 07 27 15.3
RAO pmax pmax
comp=Z,78nm,0.3s
RAO smax smax
comp=N,139nm,0.3s
RAO Raoul Island 5.77 199 Pn Pn 07 26 09.8 +1.0
comp=N,139nm,0.3s,baz=78,slow=20,SNR=4.5
RAO Sn Sn 07 27 15.3 +1.6
comp=N,139nm,0.3s,baz=270,slow=20,SNR=4.4
RAO Raoul Island 5.77 199 ePn Pn 07 26 09.3 +0.5
RAO Sn Sn 07 27 15.3 +1.6
NIUE Niue 7.21 51 P Pn 07 26 20.2 -8.3
baz=6.9,SNR=6.9
NIUE S Sn 07 27 28.7 -20
baz=6.9,SNR=6.9
MSVF Nonsavu 8.31 315 Pn Pn 07 26 48.2 +4.4
comp=N,2µm,1.7s,SNR=33
MSVF Nonsavu 8.31 315 eP Pn 07 26 43.3 -0.5
MSVF Nonsavu 8.31 315 ePn Pn 07 26 43.2 -0.5
RAR Rarotonga 15.04 83 Pn Pn 07 28 06.8 -8.7
comp=N,15nm,0.3s,baz=267,slow=10.0,SNR=18
RAR Sn Sn 07 30 36.5 -25
comp=N,3.1nm,0.3s,baz=60,slow=20,SNR=5.3
RAR LR LR 07 35 46.8
comp=N,5µm,18.0s,baz=250,slow=44
URZ Urewera 15.65 201 Pn Pn 07 28 23.7 +0.3
comp=N,2.8nm,0.3s,baz=38,slow=2.6,SNR=10.0
URZ Sn Sn 07 31 08.1 -7.6
comp=N,2.4nm,0.3s,baz=217,slow=20,SNR=6.7
URZ Urewera 15.65 201 ePn Pn 07 28 23.7 +0.3
comp=N,16nm,0.7s
URZ eSn Sn 07 31 17.4 +1.7
DZM Mont Dzumac 16.44 272 eP P 07 28 39.2 +3.3
comp=N,257nm,1.5s
DZM eLR LR 07 32 06.5
comp=N,10µm,22.2s
DZM Mont Dzumac 16.44 272 Pn P 07 28 38.4 +2.5
comp=N,1.3nm,0.3s,baz=88,slow=15,SNR=12
DZM LR LR 07 33 21.9
comp=N,6µm,21.0s,baz=100,slow=32
NOUC Port Laguerre 16.56 272 eP P 07 28 44.2 +7.0
LHI Lord Howe Isla 23.52 245 P P 07 29 55.6 +3.4
baz=24,SNR=3.4
TBI Tubuai 24.15 94 eP P 07 29 55.5 -2.7
comp=N,168nm,1.2s
TBI Tubuai 24.15 94 eT T 07 54 34.8
comp=N,28nm,0.4s
PAE Paea 25.26 81 eP P 07 30 06.0 -2.3
comp=N,21nm,1.4s
PAE Paea 25.26 81 eT T 07 56 00.8
comp=N,11nm,0.4s
PPT2 Papeete2 25.28 81 eP P 07 30 07.5 -1.2
comp=N,119nm,1.5s
PPT2 eLR LR 07 36 27.8
comp=N,9µm,25.5s,baz=248
PPT2 Papeete2 25.28 81 eT T 07 56 03.6
comp=N,16nm,0.4s
PPT Papeete 25.29 81 P P 07 30 07.6 -1.1
PPT pmax pmax
comp=Z,57nm,1.1s
PPT MLR MLR
comp=Z,4µm,19.1s
PPT Papeete 25.29 81 P P 07 30 07.6 -1.1
comp=Z,57nm,1.1s,baz=111,slow=0.5,SNR=3.9
PPT LR LR 07 39 23.5
comp=Z,4µm,19.1s,baz=254,slow=35
TIAR Tiarei 25.50 81 eP P 07 30 09.1 -1.5
comp=Z,45nm,1.3s
TVO Taravao 25.52 82 eT T 07 56 20.3
comp=Z,2.1nm,0.3s
MEH Mehetia 26.56 82 eP P 07 30 18.0 -2.2
comp=Z,37nm,1.2s
MEH Mehetia 26.56 82 eT T 07 57 38.4
comp=Z,43nm,0.3s
HNR Honiara 27.19 298 P P 07 30 30.2 +4.3
HNR pmax pmax
comp=Z,26nm,0.3s
HNR MLR MLR
comp=Z,4µm,21.8s
HNR Honiara 27.19 298 P P 07 30 30.2 +4.3
comp=Z,26nm,0.3s,baz=148,slow=2.8,SNR=3.6
HNR LR LR 07 39 29.8
comp=Z,4µm,21.8s,baz=146,slow=33
PMOR Pomariorio Ree 27.70 77 eP P 07 30 29.1 -1.3
comp=Z,112nm,1.1s
VAH Vaihoa 27.85 77 eT T 07 59 15.8
comp=Z,5.2nm,0.2s
ARMA Armidale 29.66 250 P P 07 30 49.6 +1.7
baz=30,SNR=9.8
EIDS Eidsvold 30.11 260 P P 07 30 52.6 +0.8
baz=30,SNR=6.3
MGCD Mangrove Creek 30.45 245 P P 07 30 57.0 +2.3
baz=31,SNR=5.6
RMQ Roma 32.13 258 P P 07 31 11.2 +1.7
baz=32,SNR=12
YNG Young 32.85 243 P P 07 31 17.2 +1.4
baz=33,SNR=6.3
CMSA Cobar Meteorol 34.83 249 P P 07 31 33.1 +0.1
baz=35,SNR=11
CTA Charters Tower 35.31 268 P P 07 31 37.4 +0.1
CTA pmax pmax
comp=Z,30nm,0.4s
CTA MLR MLR
comp=Z,2µm,19.1s
CTA Charters Tower 35.31 268 P P 07 31 37.4 +0.1
comp=Z,30nm,0.4s,baz=94,slow=11,SNR=48
CTA LR LR 07 45 25.7
comp=Z,2µm,19.1s,baz=84,slow=35
CTAO Charters Tower 35.31 268 eP P 07 31 37.1 -0.2
CTAO pmax pmax
comp=Z,28nm,0.4s
CTAO Charters Tower 35.31 268 eP P 07 31 37.1 -0.2
comp=Z,28nm,0.4s
QLP Quilpie 36.17 257 P P 07 31 44.2 -0.3
baz=36,SNR=16
TAOE Nuku Hiva Isla 37.17 72 eT T 08 10 55.9
comp=Z,124nm,0.3s
RKT Rikitea 37.38 97 eS S 07 37 37.8 -2.7
comp=Z,682nm,26.0s
RKT eLQ LQ 07 40 17.4
comp=Z,498nm,25.5s
RKT eLR LR 07 41 51.5
comp=Z,5µm,30.0s,baz=264
RKT Rikitea 37.38 97 eT T 08 11 05.7
comp=Z,4.1nm,0.4s
PMG Port Moresby 38.12 286 eP P 07 32 00.8 -0.4
PMG pmax pmax
comp=Z,46nm,0.9s
PMG Port Moresby 38.12 286 P P 07 31 59.9 -1.3
comp=Z,34nm,0.9s,baz=106,slow=0.8,SNR=6.6
PMG Port Moresby 38.12 286 eP P 07 32 00.8 -0.4
comp=Z,46nm,0.9s
STKA Stephens Creek 38.33 248 P P 07 32 03.2 +0.5
comp=Z,5.8nm,0.7s,baz=101,slow=10,SNR=12
STKA LR LR 07 46 03.2
comp=Z,7µm,19.9s,baz=80,slow=34
STKA Stephens Creek 38.33 248 P P 07 32 03.4 +0.5
baz=39,SNR=6.4
COEN Coen 39.90 277 P P 07 32 16.2 +0.1
baz=40,SNR=5.0
HTT Hallett 40.62 246 P P 07 32 22.2 +0.2
baz=41,SNR=8.0
QIS Mount Isa 41.29 265 P P 07 32 27.4 -0.2
baz=42,SNR=6.2
BBOO Buckleboo 43.02 247 P P 07 32 41.3 -0.3
baz=43,SNR=7.6
WRAB Tennant Creek 46.23 265 P P 07 33 05.2 -2.1
comp=Z,166nm,0.9s,SNR=17
WRAB Tennant Creek 46.23 265 c iP P 07 33 06.1 -1.2
WRAB pmax pmax
comp=Z,83nm,1.2s
WRAB Tennant Creek 46.23 265 eP P 07 33 05.6 -1.8
comp=Z,21nm,0.8s
WRA Warramunga Arr 46.24 265 P P 07 33 05.9 -1.5
WRA S S 07 39 48.7 -2.9
WRA pmax pmax
comp=Z,16nm,0.6s
WRA smax smax
comp=N,2.0nm,1.0s
WRA Warramunga Arr 46.24 265 P P 07 33 05.9 -1.5
comp=N,16nm,0.6s,baz=93,slow=8.4,SNR=60
WRA S S 07 39 48.7 -2.9
comp=N,1.8nm,1.0s,baz=103,slow=13,SNR=3.2
WRA LR LR 07 51 35.3
comp=N,4µm,18.4s,baz=115,slow=35
KIP Kipapa 48.15 22 P P 07 33 23.0 +0.9
KIP pmax pmax
comp=Z,59nm,1.2s
FORT Forrest 49.94 249 eP P 07 33 35.4 -0.5
comp=Z,24nm,0.6s
FORT Forrest 49.94 249 P P 07 33 35.5 -0.5
baz=50,SNR=16
WRKA Warakurna 50.60 256 P P 07 33 39.8 -1.2
baz=51,SNR=26
MTN Manton Dam 51.27 272 P P 07 33 44.8 -1.3
baz=52,SNR=7.3
KNRA Kununurra 52.52 268 P P 07 33 55.1 -0.2
baz=53,SNR=6.6
VNDA Vanda 54.86 186 P P 07 34 14.2 +2.6
comp=Z,4.5nm,0.9s,baz=16,slow=5.6,SNR=4.7

VNDA LR LR 07 53 12.5
comp=Z,602nm,21.6s,baz=5.0,slow=31
KLBR Kellerberrin 58.56 246 P P 07 34 38.9 +0.2
baz=59,SNR=9.1
SOEI Soe 58.66 273 eP P 07 34 39.7 0.0
comp=Z,76nm,0.8s
SOEI Soe 58.66 273 P P 07 34 41.9 +2.2
baz=59,SNR=5.1
MEEK Meekatharra 58.81 252 P P 07 34 41.4 +0.9
baz=59,SNR=7.0
BATI Baumata 59.05 272 LR LR 07 59 08.5
comp=Z,4µm,21.2s,baz=162,slow=35
MBWA Marble Bar 59.16 259 eP P 07 34 42.9 -0.1
comp=Z,4.0nm,0.7s
MBWA epP pP 07 34 53.6 -0.9
BLDU Ballidu 59.62 247 P P 07 34 47.3 +1.3
baz=60,SNR=15
MORW Morawa 60.51 249 P P 07 34 52.6 +0.5
baz=61,SNR=7.9
CASY Casey 61.90 206 eP P 07 35 02.3 +1.4
comp=Z,20nm,0.8s
QSPA South Pole Qui 66.31 180 P P 07 35 31.9 +1.9
comp=Z,24nm,1.0s,baz=36,slow=3.1,SNR=21
QSPA South Pole Qui 66.31 180 eP P 07 35 32.2 +2.2
comp=Z,33nm,1.1s
TGY Tagaytay City 72.36 295 LR LR 08 04 31.6
comp=Z,20nm,18.4s,slow=33
KKM Kota Kinabalu 72.56 285 eP P 07 36 09.2 -0.2
comp=Z,15nm,0.9s
MJAR Matsushiro Arr 74.03 323 P P 07 36 16.1 -1.4
MJAR pmax pmax
comp=Z,30nm,1.3s
MJAR Matsushiro Arr 74.03 323 P P 07 36 16.1 -1.4
comp=Z,30nm,1.3s,baz=158,slow=6.1,SNR=5.1
KSM Kuching 75.87 278 eP P 07 36 28.7 +0.1
comp=Z,5.6nm,0.3s
JNU Nakatsue 76.03 316 P P 07 36 27.6 -1.6
comp=Z,9.6nm,0.9s,baz=91,slow=4.5,SNR=4.4
H06E1 SOCORRO T-PHAS76.11 62 T T 09 00 33.1
SNR=3.5
ASAJ Asahikawa 77.56 331 P P 07 36 38.7 +1.3
ASAJ pmax pmax
comp=Z,18nm,0.8s
ASAJ Asahikawa 77.56 331 P P 07 36 38.7 +1.3
comp=Z,18nm,0.8s,baz=219,slow=11,SNR=7.1
ASAJ Asahikawa 77.56 331 eP P 07 36 40.2 +2.8
comp=Z,5.7nm,0.8s
YHNB Yeheng 77.62 304 eP P 07 36 38.2 -0.1
comp=Z,4.3nm,0.4s
SKR Severo-Kuril's 78.17 342 eP P 07 36 43.5 +2.9
SKR pmax pmax
comp=N,140nm,0.5s
SKR pmax pmax
comp=E,150nm,0.5s
SKR pmax pmax
comp=Z,80nm,0.5s
BSC Santa Cruz Isl 78.43 45 ⇑P P 07 36 44.7 +2.1
baz=79
CIS Catalina Islan 78.87 46 ⇑P P 07 36 47.5 +2.5
baz=79
FMP Fort Macarthur 79.13 46 ⇓P P 07 36 49.1 +2.8
baz=79
DECC Green Verdugo 79.44 45 ⇓P P 07 36 49.6 +1.6
baz=80
PET Petropavlovsk 79.64 345 eP P 07 36 48.9 +0.3
PET pmax pmax
comp=Z,12nm,0.6s
ARVC Arvin 79.66 44 ⇓P P 07 36 50.5 +1.3
baz=80
YSS Yuzh-Sakhalins 79.72 333⇓eP P 07 36 50.3 +1.1
YSS e 07 37 03.0
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 79.72 333 eP P 07 36 50.8 +1.6
comp=Z,41nm,0.9s
MURC Murrieta 79.78 46 ⇓P P 07 36 51.0 +1.1
baz=80
BFSC Mount Baldy Ra 79.87 46 ⇑P P 07 36 51.8 +1.3
baz=80
MONP Monument Peak 79.88 47 ⇑P P 07 36 51.7 +1.1
baz=80
VES Vestal, Richgr 79.94 44 ⇑P P 07 36 51.9 +1.2
baz=80
PETK Petropavlovsk- 79.95 344 P P 07 36 50.4 +0.1
PETK pmax pmax
comp=Z,34nm,0.9s
PETK Petropavlovsk- 79.95 344 P P 07 36 50.4 +0.1
comp=Z,34nm,0.9s,baz=129,slow=6.7,SNR=21
RCTC Rector, Farmer 80.14 43 ⇓P P 07 36 52.7 +1.0
baz=80
ISA Isabella 80.22 44 eP P 07 36 53.4 +1.1
ISA pmax pmax
comp=Z,23nm,1.2s
ISA Isabella 80.22 44 eP P 07 36 53.4 +1.1
comp=Z,23nm,1.2s
ISA Isabella 80.22 44 ⇑P P 07 36 53.6 +1.3
baz=80
PFO Pinyon Flat Ob 80.28 47 ⇓P P 07 36 53.8 +1.0
baz=80
SWSC Sam W. Stewart 80.33 48 ⇓P P 07 36 53.9 +1.1
baz=81
CMB Columbia Colle 80.53 41 eP P 07 36 54.5 +0.6
CMB pmax pmax
comp=Z,13nm,1.2s
CMB Columbia Colle 80.53 41 eP P 07 36 54.5 +0.6
comp=Z,14nm,1.2s
KSRS Korea Array 80.67 318 P P 07 36 55.2 +0.6
KSRS pmax pmax
comp=Z,7.0nm,1.0s
KSRS Korea Array 80.67 318 P P 07 36 55.1 +0.6
comp=Z,7.4nm,1.0s,baz=139,slow=6.3,SNR=14
KSAR Wonju Array Be 80.69 318 P P 07 36 55.2 +0.5
KSAR Wonju Array Be 80.69 318 P P 07 36 55.1 +0.5
BELC Belle Mtn. Jos 80.82 47 ⇓P P 07 36 56.7 +1.0
baz=81
BC3 Big Chuckawall 80.98 47 ⇑P P 07 36 57.8 +1.3
baz=81
GLA Glamis 81.05 48 ⇑P P 07 36 58.0 +1.2
baz=81
GSC Goldstone 81.07 45 eP P 07 36 57.9 +1.0
GSC pmax pmax
comp=Z,18nm,1.1s
GSC Goldstone 81.07 45 eP P 07 36 57.9 +1.0
comp=Z,18nm,1.1s
GSC Goldstone 81.07 45 ⇓P P 07 36 58.1 +1.3
baz=81
HEC Hector,Ludlow 81.10 46 ⇑P P 07 36 58.6 +1.6
baz=81
N02D Trinity Center 81.11 38 ⇑P P 07 36 58.8 +1.9
baz=81
MLAC Mammoth Lakes 81.22 42 ⇓P P 07 36 59.5 +1.7
baz=82
M02C Callahan 81.31 37 ⇑P P 07 36 59.7 +1.8
baz=82
WAKR Walker 81.40 41 eP P 07 36 59.8 +1.0
comp=Z,27nm,1.3s
IRM Iron Mountain 81.48 47 ⇑P P 07 37 00.9 +1.9
baz=82
GMRC Granite Mounta 81.51 46 ⇓P P 07 37 00.7 +1.4
baz=82
113A Mohawk Valley, 81.61 49 ⇓P P 07 37 01.3 +1.6
baz=82
Y12C Blythe 81.66 48 ⇑P P 07 37 01.5 +1.5
baz=82
TUQ Turquoise Moun 81.72 46 ⇓P P 07 37 02.2 +1.8
baz=82
FURC Furnace Creek, 81.74 44 ⇓P P 07 37 01.9 +1.7
baz=82
GRAC Grapevine Rang 81.74 44 ⇓P P 07 37 02.2 +1.8
baz=82
SHOC Shoshone 81.77 45 ⇓P P 07 37 02.5 +2.0
baz=82
214A Organ Pipe Nat 81.81 50 ⇓P P 07 37 02.1 +1.3
baz=82
NVAR Mina Array Bea 82.05 42 P P 07 37 03.0 +0.8
comp=Z,13nm,1.1s,baz=224,slow=7.9,SNR=29
M04C Macdoel 82.13 38 ⇓P P 07 37 04.3 +1.9
baz=82
PDMCI Parker Dam,Lak 82.24 47 ⇓P P 07 37 04.5 +1.6
baz=82
TPH Tonopah 82.50 43 eP P 07 37 05.3 +0.8
TPH pmax pmax
comp=Z,22nm,1.2s
TPH Tonopah 82.50 43 eP P 07 37 05.3 +0.8
comp=Z,22nm,1.2s
Z14A Wintersburg 82.52 49 ⇓P P 07 37 06.1 +1.6
baz=83
I03D Drain, OR 82.60 35 ⇑P P 07 37 06.5 +1.9
baz=83
H03N2 Juan Fernandez 82.64 123 T T 09 09 07.5
baz=247,slow=74,SNR=41
H03N3 Juan Fernandez 82.64 123 T T 09 08 52.3
baz=247,slow=74,SNR=27
H03N1 Juan Fernandez 82.65 123 T T 09 09 00.3
baz=247,slow=74,SNR=42
K04D Chiloquin, OR 82.74 37 ⇑P P 07 37 07.1 +1.5
baz=83
COCO West Island 82.79 260 eP P 07 37 06.0 -0.3
COCO pmax pmax
comp=Z,11nm,0.4s
COCO West Island 82.79 260 eP P 07 37 06.0 -0.3
comp=Z,11nm,0.4s
USRK Ussuriysk Arra 82.80 325 P P 07 37 06.7 +1.1
comp=Z,11nm,0.8s,baz=130,slow=4.5,SNR=18
Y14A Wickenburg 82.80 48 ⇓P P 07 37 07.5 +1.5
baz=83
SHPR Sheep Range 82.86 45 eP P 07 37 07.5 +1.2
comp=Z,16nm,1.2s
W13A Hualapai Mount 82.88 47 ⇓P P 07 37 08.3 +1.8
baz=83
J04D Umpqua Nationa 82.95 36 ⇓P P 07 37 08.3 +1.6
baz=83
I04A Tendick Farm, 83.16 36 ⇑P P 07 37 09.1 +1.5
baz=83
TUC Tucson 83.44 51 eP P 07 37 10.0 +0.6
TUC pmax pmax
comp=Z,23nm,1.1s
TUC Tucson 83.44 51 eP P 07 37 10.0 +0.6
comp=Z,23nm,1.1s
J05D Fort Rock, OR 83.46 37 ⇑P P 07 37 10.5 +1.2
baz=84
NJ2 Nanjing 83.52 309 eP P 07 37 10.9 +1.3
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
G03D McMinnville, O 83.67 34 ⇑P P 07 37 11.6 +1.5
baz=84
R11A Troy Canyon, C 83.69 43 ⇓P P 07 37 11.5 +0.9
baz=84,SNR=8.2
SYO Syowa Base 83.98 192⇑eP P 07 37 11.0 -0.4
SYO Syowa Base 83.98 192⇑esP sP 07 37 26.0 -2.0
319A Douglas 84.01 52 ⇑P P 07 37 13.7 +1.3
baz=84
QIZ Qiongzhong 84.03 294 P P 07 37 13.8 +1.2
I05D Terrebonne, OR 84.10 36 ⇑P P 07 37 13.7 +1.3
baz=84
X16A Lo Mia Camp, P 84.14 49 ⇑P P 07 37 15.0 +1.9
baz=84
MDJ Mudanjiang 84.35 324 P P 07 37 15.3 +1.7
MDJ pmax pmax
comp=Z,27nm,1.3s
MDJ pmax pmax
comp=Z,420nm,5.1s
MDJ LR LR
comp=Z,330nm,21.7s
MDJ LR LR
comp=Z,450nm,21.7s
MDJ LR LR
comp=Z,670nm,19.9s
MDJ Mudanjiang 84.35 324 eP P 07 37 15.6 +2.0
comp=Z,45nm,1.6s
WVOR Wild Horse Val 84.37 39 eP P 07 37 14.5 +0.6
WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR Wild Horse Val 84.37 39 eP P 07 37 14.5 +0.6
comp=Z,13nm,1.1s
F04D Rainier, OR 84.39 34 ⇑P P 07 37 15.7 +1.9
baz=85
CCUT Cedar City 84.64 45 eP P 07 37 16.8 +1.3
comp=Z,25nm,1.2s
SNAA Sanae 84.69 178 P P 07 37 16.5 +1.4
SNAA Sanae 84.69 178c iP P 07 37 16.3 +1.2
SNAA pmax pmax
comp=Z,29nm,1.7s
SNAA Sanae 84.69 178 eP P 07 37 16.0 +0.9
comp=Z,9.3nm,0.8s
U15A North Rim 84.70 46 ⇑P P 07 37 17.3 +1.4
baz=85
G05D Wamic, OR 84.71 35 ⇓P P 07 37 16.6 +1.2
baz=85
ARUT Antelope Range 84.72 45 eP P 07 37 17.2 +1.3
ARUT Antelope Range 84.72 45 eP P 07 37 17.2 +1.3
comp=Z,353nm,1.2s
VNA3 Neumayer Olymp 84.75 176 P P 07 37 16.5 +1.2
WUAZ Wupatki 84.80 48 eP P 07 37 17.6 +1.2
comp=Z,25nm,1.1s
WUAZ Wupatki 84.80 48 ⇓P P 07 37 17.9 +1.6
baz=85
NLWA Neilton Lookou 84.86 32 eP P 07 37 17.2 +1.0
comp=Z,19nm,1.2s
VNA2 Neumayer--Watz 85.21 176 P P 07 37 19.1 +1.5
baz=144,slow=1.3
X18A Snowflake 85.23 49 ⇑P P 07 37 19.9 +1.4
baz=86
IPM Ipoh 85.55 277 eP P 07 37 20.9 +0.5
comp=Z,9.2nm,0.6s
PLCA Paso Flores 85.56 133 P P 07 37 19.8 -0.3
PLCA pmax pmax
comp=Z,4.0nm,1.0s
PLCA Paso Flores 85.56 133 P P 07 37 19.8 -0.3
comp=Z,3.8nm,1.0s,baz=254,slow=8.1,SNR=3.0
121A Cookes Peak, D 85.70 52 eP P 07 37 22.7 +1.8
comp=Z,20nm,1.1s
121A Cookes Peak, D 85.70 52 ⇑P P 07 37 22.2 +1.3
baz=86
W18A Petrified Fore 85.70 49 eP P 07 37 22.4 +1.6
comp=Z,38nm,1.3s
W18A Petrified Fore 85.70 49 ⇓P P 07 37 22.3 +1.4
baz=86
RSO Redoubt South 86.02 11 eP P 07 37 21.1 -0.7
comp=Z,34nm,1.0s
CN2 Changchun 86.12 322 eP P 07 37 22.6 +0.2
CN2 eS S 07 47 45.9 -8.1
CN2 pmax pmax
comp=Z,30nm,1.4s
CN2 pmax pmax
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,700nm,16.0s
KULM Kulim 86.22 277 eP P 07 37 23.6 -0.1
comp=Z,2.9nm,0.8s
KLR Kul'dur 86.37 329 eP P 07 37 19.6 -3.9
KLR pmax pmax
comp=Z,45nm,1.6s
DUG Dugway 86.51 43 ⇑P P 07 37 25.9 +1.2
baz=87
Z22A Elephant Butte 86.66 52 ⇓P P 07 37 27.3 +1.7
baz=87
PSI Prapat 86.78 274 P P 07 37 26.1 -0.5
PSI pmax pmax
comp=Z,6.0nm,0.7s
PSI Prapat 86.78 274 P P 07 37 26.1 -0.5
comp=Z,6.4nm,0.7s,baz=179,slow=8.0,SNR=5.2
PSI Prapat 86.78 274 P P 07 37 26.4 -0.2
baz=87,SNR=5.4
TIA Tai'an 86.97 312 ⇓P P 07 37 27.6 +0.8
TIA pmax pmax
comp=Z,30nm,1.2s
TIA LR LR
comp=Z,500nm,15.9s
TIA LR LR
comp=Z,700nm,18.1s
TIA LR LR
comp=Z,830nm,19.7s
TMUT Trail Mountain 87.02 45 eP P 07 37 28.6 +1.3
comp=Z,24nm,1.2s
MNTX Cornudas Mount 87.02 54 eP P 07 37 27.6 +0.4
comp=Z,30nm,1.1s
Y22D IRIS PASSCAL I 87.12 51 ⇑P P 07 37 29.8 +2.0
baz=87
LENM Lemitar 87.13 51 eP P 07 37 30.2 +2.3
comp=Z,12nm,1.1s
LAZ Ladron 87.13 50 eP P 07 37 29.7 +1.8
comp=Z,8.9nm,1.1s
TXAR Lajitas Array 87.14 56 P P 07 37 28.8 +0.9
TXAR pmax pmax
comp=Z,19nm,1.0s
TXAR Lajitas Array 87.14 56 P P 07 37 28.8 +0.9
comp=Z,19nm,1.0s,baz=216,slow=6.0,SNR=62
RC01 Rabbit Creek A 87.16 12 eP P 07 37 27.2 +0.1
comp=Z,25nm,1.1s
RC01 epP pP 07 37 39.4 +0.1
GAMB Gambell 87.32 2 eP P 07 37 28.7 +0.9
comp=Z,29nm,1.1s
GAMB epP pP 07 37 40.2 +0.3
SRU San Rafael 87.36 45 eP P 07 37 29.4 +0.5
SRU pmax pmax
comp=Z,15nm,1.1s
SRU San Rafael 87.36 45 eP P 07 37 29.4 +0.5
comp=Z,15nm,1.1s
LPM Los Pinos Moun 87.44 51 eP P 07 37 30.9 +1.5
comp=Z,20nm,1.3s
HLID Hailey 87.51 40 ⇓P P 07 37 30.6 +1.1
baz=88
JLU Jordanelle 87.60 43 eP P 07 37 31.4 +1.3
comp=Z,6.5nm,1.2s
DAU Daniels Canyon 87.61 44 eP P 07 37 32.6 +2.4
DAU pmax pmax
comp=Z,12nm,1.2s
DAU Daniels Canyon 87.61 44 eP P 07 37 32.6 +2.4
comp=Z,12nm,1.2s
Y23A Lovelace Mesa, 87.66 51 ⇑P P 07 37 31.6 +1.1
baz=88
MVCO Mesa Verde 87.67 47 ⇑P P 07 37 31.8 +1.3
baz=88
PMR Palmer 87.74 12 eP P 07 37 30.2 +0.3
PMR pmax pmax
comp=Z,41nm,1.4s
PMR Palmer 87.74 12 eP P 07 37 30.2 +0.3
comp=Z,41nm,1.4s
Z24A Sheeppen Canyo 87.85 52 ⇑P P 07 37 32.5 +1.1
baz=88
ANMO Albuquerque 87.89 50c iP P 07 37 31.8 +0.2
ANMO pmax pmax
comp=Z,78nm,1.2s
ANMO Albuquerque 87.89 50 eP P 07 37 32.5 +0.9
comp=Z,17nm,1.1s
X23A Hourglass Bar 87.90 51 ⇑P P 07 37 33.0 +1.4
baz=88
TCUT Toone Canyon 87.91 43 eP P 07 37 33.0 +1.4
comp=Z,25nm,1.2s
DIV Divide 88.03 14 eP P 07 37 31.6 +0.2
comp=Z,27nm,1.1s
V22A San Miguel Ran 88.08 49 ⇑P P 07 37 33.8 +1.4
baz=88
Y24A Capitan 88.10 52 ⇑P P 07 37 33.9 +1.4
baz=88
PV01 Paradox Valley 88.11 47 eP P 07 37 33.8 +1.2
comp=Z,467nm,1.0s
BMRM Bremner River 88.15 15 eP P 07 37 32.4 +0.4
comp=Z,27nm,1.2s
W23A Werner Place, 88.22 50 ⇑P P 07 37 34.5 +1.4
baz=88
Z25A Roswell 88.30 52 ⇓P P 07 37 35.0 +1.5
baz=88
X24A Lazy VL Ranch, 88.42 51 ⇑P P 07 37 35.3 +1.2
baz=89
V23A Ortiz Mt. (NFS 88.50 50 ⇓P P 07 37 35.3 +0.9
baz=89,SNR=8.3
529A Stev Forest Ra 88.62 56 ⇓P P 07 37 35.7 +0.7
baz=89
Y25A Mesa, Roswell 88.64 52 ⇑P P 07 37 35.8 +0.8
baz=89
W24A Lazy 6 Ranch, 88.77 50 ⇓P P 07 37 36.7 +1.0
baz=89,SNR=10
U23A El Rito 88.79 49 ⇓P P 07 37 37.1 +1.3
baz=89,SNR=7.6
Z26A Caprock 88.83 53 ⇑P P 07 37 36.6 +0.7
baz=89,SNR=14
NEW Newport 88.86 35 ⇓P P 07 37 36.3 +0.7
baz=89
X25A Clemmons Ranch 88.96 51 ⇓P P 07 37 37.5 +0.9
baz=89
127A Arkansas Junct 89.00 54 ⇓P P 07 37 37.5 +0.8
baz=89
S22A 4UR Ranch, Cre 89.08 48 ⇑P P 07 37 38.3 +1.1
baz=89,SNR=11
429A Davenport Ranc 89.11 56 ⇑P P 07 37 37.7 +0.5
baz=89,SNR=18
V24A Rampart Ranch, 89.12 50 ⇓P P 07 37 38.5 +1.1
baz=89,SNR=8.6
MCMT McKenzie Canyo 89.16 39 eP P 07 37 38.0 +0.7
comp=Z,4.2nm,1.3s
MCMT epP pP 07 37 49.9 +0.3
MCMT ePP PP 07 41 14.8 +6.4
KTH Kantishna Hill 89.22 11 eP P 07 37 36.5 -0.4
comp=Z,23nm,1.0s
KTH epP pP 07 37 48.3 -0.8
TRF Thorofare Moun 89.23 11 eP P 07 37 36.8 -0.3
comp=Z,25nm,0.8s
TRF epP pP 07 37 48.9 -0.5
T23A Casias Ranch, 89.25 49 ⇑P P 07 37 39.0 +1.0
baz=90,SNR=5.7
TNA Tin City 89.26 3 eP P 07 37 37.5 +0.5
comp=Z,13nm,1.0s
TNA epP pP 07 37 49.3 +0.2
Y26A Elida 89.26 52 ⇑P P 07 37 38.6 +0.6
baz=90
228A UT Block 9, Go 89.30 54 ⇑P P 07 37 38.4 +0.3
baz=90
530A J-C Ranch, Com 89.31 57 ⇓P P 07 37 39.2 +1.0
baz=90,SNR=8.5
SURT Suratani 89.39 280 P P 07 37 41.1 +2.3
comp=Z,22nm,1.1s
Z27A Tatum 89.41 53 ⇓P P 07 37 39.3 +0.7
baz=90,SNR=6.4
W25A X Bar L Ranch, 89.44 51 ⇑P P 07 37 39.4 +0.6
baz=90,SNR=27
329A Wagon Wheel Ra 89.45 55 ⇓P P 07 37 39.6 +0.8
baz=90,SNR=7.6
832A Faith Ranch, C 89.50 59 ⇑P P 07 37 39.7 +0.6
baz=90,SNR=11
631A Perdido Creek 89.55 58 ⇑P P 07 37 40.0 +0.8
baz=90,SNR=13
X26A CR and CF Fran 89.58 52 ⇑P P 07 37 40.2 +0.8
baz=90
128A Castleberry Fa 89.61 54 ⇑P P 07 37 40.1 +0.5
baz=90,SNR=5.9
S23A Nye Farm, Mont 89.62 48 ⇑P P 07 37 40.7 +1.0
baz=90
BJI Beijing 89.63 315 P P 07 37 40.9 +1.6
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI pmax pmax
comp=Z,330nm,4.8s
V25A Rancho No Teng 89.64 50 ⇑P P 07 37 40.4 +0.6
baz=90,SNR=16
430A Baggett Ranch, 89.69 56 ⇓P P 07 37 40.5 +0.6
baz=90
732A Laxson Ranch, 89.71 58 ⇓P P 07 37 40.7 +0.8
baz=90,SNR=9.5
MSO Missoula 89.71 37 ⇓P P 07 37 40.6 +0.9
baz=90
T24B San Luis 89.72 49 ⇑P P 07 37 41.2 +0.9
baz=90
Y27A Causey 89.72 53 ⇑P P 07 37 40.5 +0.4
baz=90,SNR=22
MCK McKinley 89.74 12 eP P 07 37 39.4 +0.1
MCK e*PP pP 07 37 51.2 -0.3
MCK pmax pmax
comp=Z,22nm,1.0s
MCK McKinley 89.74 12 eP P 07 37 39.4 +0.1
comp=Z,22nm,1.0s
MCK epP pP 07 37 51.2 -0.3
933A Laredo 89.75 60 ⇓P P 07 37 40.9 +0.7
baz=90,SNR=11
N20A Spence Gulch, 89.75 45 ⇓P P 07 37 41.1 +0.9
baz=90
229A Bryant Ranch, 89.81 55 ⇓P P 07 37 41.2 +0.8
baz=90
HYT Haines Junctio 89.84 18 eP P 07 37 43.3 +3.3
BSMT Bassoo Peak 89.85 36 eP P 07 37 40.5 +0.1
comp=Z,5.8nm,1.2s
BSMT epP pP 07 37 52.5 -0.1
W26A Owens Ranch, T 89.88 51 ⇑P P 07 37 41.4 +0.6
baz=90,SNR=9.6
531A Rocksprings 89.92 57 ⇓P P 07 37 41.8 +0.7
baz=90,SNR=11
LRM Limekiln Ridge 89.96 39 eP P 07 37 41.5 +0.4
comp=Z,121nm,1.7s
034A Hebbronville 89.97 60 ⇑P P 07 37 43.1 +1.8
baz=90,SNR=12
833A Chaparral WMA, 89.97 59 ⇓P P 07 37 42.4 +1.1
baz=90
R23A Moffat 89.99 48 ⇑P P 07 37 42.5 +1.1
baz=90,SNR=7.1
I17A Pilgrim Ck. 89.99 41 ⇓P P 07 37 43.0 +1.7
baz=90
QLMT Earthquake Lak 89.99 40 eP P 07 37 42.9 +1.7
comp=Z,1.6nm,1.0s

Z28A Tucker Farm, M 90.01 53 ⇓P P 07 37 42.2 +0.8
baz=90,SNR=6.6
GYA Guiyang 90.01 299 P P 07 37 43.0 +1.4
GYA pP pP 07 37 53.8 0.0
GYA PP PP 07 41 18.4 +3.0
GYA SKS SKSac 07 48 08.8 -1.0
GYA S S 07 48 31.3 -0.8
GYA sS sS 07 48 49.0 -3.4
GYA SS SS 07 54 32.5 +1.0
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.6s
GYA LR LR
comp=Z,580nm,20.3s
GYA LR LR
comp=Z,480nm,22.0s
GYA LR LR
comp=Z,540nm,21.5s
330A Mertzon 90.02 56 ⇓P P 07 37 42.4 +0.9
baz=90
MSTX Muleshoe 90.05 53 eP P 07 37 42.1 +0.5
comp=Z,18nm,1.0s
MSTX Muleshoe 90.05 53 ⇑P P 07 37 42.2 +0.5
baz=90,SNR=9.3
U25A Circle Dot Ran 90.07 50 ⇑P P 07 37 42.1 +0.4
baz=90,SNR=10
129A Stewart Farms, 90.08 54 ⇑P P 07 37 42.5 +0.8
baz=90
P22A Eagle 90.08 46 ⇑P P 07 37 42.5 +0.7
baz=90
MENT Mentasta 90.09 14 eP P 07 37 41.7 +0.7
MENT epP pP 07 37 53.8 +0.7
431A Sonora 90.11 56 ⇑P P 07 37 42.8 +0.9
baz=90
S24A Houchin Ranch, 90.13 48 ⇑P P 07 37 43.2 +1.0
baz=90,SNR=8.6
CHMT Chamberlain Mo 90.14 37 eP P 07 37 42.2 +0.4
comp=Z,6.8nm,1.3s
CHMT epP pP 07 37 54.8 +0.7
X27A F and S Farms, 90.14 52 ⇓P P 07 37 43.1 +1.0
baz=90,SNR=15
035Z Hargill 90.19 61 ⇓P P 07 37 43.3 +1.1
baz=90
SLMT Seeley Lake 90.20 37 eP P 07 37 42.4 +0.3
comp=Z,8.5nm,1.3s
SLMT epP pP 07 37 54.4 +0.2
632A Uvalde 90.21 58 ⇓P P 07 37 43.4 +1.1
baz=90,SNR=15
V26A Tequesquite Ra 90.21 51 ⇑P P 07 37 43.2 +0.8
baz=90,SNR=8.9
733A Divot King Ran 90.23 59 ⇑P P 07 37 43.4 +1.0
baz=90
H17A Grant Village 90.25 41 ⇓P P 07 37 44.8 +2.3
baz=90
DLBC Dease Lake 90.28 22 eP P 07 37 43.1 +1.1
DLBC epP pP 07 37 54.8 +0.6
230A Sterling City 90.29 55 ⇓P P 07 37 43.5 +0.8
baz=90
934A Benavides 90.34 60 ⇑P P 07 37 44.3 +1.3
baz=90
W27A Bowe Ranch, En 90.37 52 ⇓P P 07 37 43.8 +0.7
baz=91,SNR=16
035A Encino 90.38 61 ⇑P P 07 37 44.7 +1.6
baz=91
532A Rocksprings 90.40 57 ⇓P P 07 37 44.5 +1.2
baz=91,SNR=27
T25A Trinidad 90.43 49 ⇑P P 07 37 44.3 +0.9
baz=91,SNR=6.2
Z29A Hungry Hill Ra 90.49 54 ⇑P P 07 37 44.3 +0.7
baz=91,SNR=9.6
R24A Sanders Place, 90.50 48 ⇑P P 07 37 44.6 +0.9
baz=91,SNR=7.2
O22A Kremmling 90.51 46 ⇓P P 07 37 44.5 +0.6
baz=91
U26A Atchley Ranch, 90.53 50 ⇓P P 07 37 44.4 +0.5
baz=91,SNR=11
331A San Angelo 90.54 56 ⇑P P 07 37 44.2 +0.3
baz=91
834A Tilden 90.55 59 ⇑P P 07 37 45.0 +1.1
baz=91,SNR=7.1
J19A Crowheart 90.56 42 ⇑P P 07 37 45.0 +1.1
baz=91
PBKT Sadao Pong 90.56 288 P P 07 37 46.5 +2.3
comp=Z,28nm,1.2s
DOT Dot Lake 90.64 14 eP P 07 37 44.1 +0.6
comp=Z,20nm,1.0s
DOT epP pP 07 37 55.9 +0.2
JCT Junction City 90.64 57 eP P 07 37 45.1 +0.8
JCT e*PP pP 07 37 57.5 +1.0
JCT pmax pmax
comp=Z,9.0nm,1.1s
JCT Junction City 90.64 57 eP P 07 37 45.1 +0.8
comp=Z,9.0nm,1.1s
JCT epP pP 07 37 57.5 +1.0
JCT Junction City 90.64 57 ⇑P P 07 37 45.0 +0.6
baz=91
633A Saathoff Ranch 90.66 58 ⇓P P 07 37 45.3 +0.9
baz=91,SNR=9.3
S25A Robets Cordova 90.67 49 ⇓P P 07 37 45.2 +0.7
baz=91,SNR=7.8
X28A Dimmitt 90.73 52 ⇓P P 07 37 45.7 +0.9
baz=91,SNR=11
130A Snyder 90.73 55 ⇓P P 07 37 45.6 +0.8
baz=91
Y29A Porterfield Fa 90.80 53 ⇑P P 07 37 45.9 +0.8
baz=91,SNR=6.0
HRY Holter Researc 90.82 38 eP P 07 37 45.3 +0.4
comp=Z,6.3nm,0.9s
HRY epP pP 07 37 57.1 0.0
432A Menard 90.83 57 ⇑P P 07 37 45.8 +0.6
baz=91,SNR=12
Q24A Divide 90.83 47 ⇑P P 07 37 46.5 +1.1
baz=91
V27A Dan Oppiter Fa 90.86 51 ⇓P P 07 37 46.1 +0.7
baz=91,SNR=17
734A La Parita Cree 90.87 59 ⇓P P 07 37 46.5 +1.1
baz=91
231A Bronte 90.91 55 ⇑P P 07 37 46.0 +0.4
baz=91,SNR=8.8
Z30A Sanderson Ranc 90.93 54 ⇓P P 07 37 46.0 +0.3
baz=91,SNR=11
ISCO Idaho Springs 90.95 46 ⇓P P 07 37 47.4 +1.5
baz=91
H18A Shoshone NF, C 90.95 41 ⇓P P 07 37 46.9 +1.2
baz=91
O23A Lake Granby, G 90.95 46 ⇑P P 07 37 47.6 +1.7
baz=91
COLA College 90.98 12 diP P 07 37 44.9 -0.1
COLA pmax pmax
comp=Z,72nm,1.0s
COLA College 90.98 12 eP P 07 37 44.5 -0.5
comp=Z,25nm,1.0s
COLA epP pP 07 37 56.8 -0.4
I19A Meeteetse 91.01 42 ⇑P P 07 37 46.9 +1.0
baz=91
R25A Fountain Ranch 91.02 48 ⇓P P 07 37 46.2 +0.1
baz=91,SNR=6.2
T26A Comanche Natio 91.02 50 ⇓P P 07 37 46.8 +0.6
baz=91
IM04 Indian Mountai 91.03 9 eP P 07 37 45.6 +0.3
IM04 epP pP 07 37 57.8 +0.3
533A Kerrville 91.04 58 ⇑P P 07 37 47.0 +0.7
baz=91,SNR=15
X29A Tulia 91.06 53 ⇓P P 07 37 46.8 +0.5
baz=91,SNR=8.9
ILAR Eielson Array 91.06 12 P P 07 37 45.3 -0.2
ILAR 07 41 27.2
ILAR pmax pmax
comp=Z,6.0nm,1.0s
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 91.06 12 P P 07 37 45.2 -0.2
comp=Z,5.7nm,1.0s,baz=222,slow=5.2,SNR=24
ILAR PP PP 07 41 27.1 +4.4
comp=Z,1.7nm,1.0s,baz=222,slow=7.3,SNR=5.2
W28A Vega 91.08 52 ⇑P P 07 37 47.0 +0.7
baz=91,SNR=5.1
332A Millersview 91.10 56 ⇓P P 07 37 47.1 +0.6
baz=91,SNR=16
M22A Cedar Creek Ra 91.12 45 ⇓P P 07 37 48.3 +1.7
baz=91
835A Beeville 91.19 60 ⇓P P 07 37 48.6 +1.7
baz=91
U27A Thompson Grove 91.19 50 ⇑P P 07 37 47.1 +0.2
baz=91,SNR=5.2
131A Roby 91.20 55 ⇑P P 07 37 47.3 +0.4
baz=91
J20A Shoshoni 91.20 42 ⇓P P 07 37 48.2 +1.4
baz=91
AMTX Amarillo 91.28 52 eP P 07 37 46.7 -0.6
comp=Z,18nm,1.0s
AMTX Amarillo 91.28 52 ⇓P P 07 37 47.6 +0.3
baz=92
N23A Red Feather La 91.28 45 ⇓P P 07 37 48.1 +0.7
baz=92
V28A Channing 91.30 51 ⇑P P 07 37 48.2 +0.8
baz=92,SNR=5.8
433A Art 91.31 57 ⇑P P 07 37 47.9 +0.5
baz=92,SNR=32
S26A Kim 91.32 49 ⇑P P 07 37 48.3 +0.8
baz=92,SNR=9.2
K21A Alcova 91.34 43 ⇓P P 07 37 48.2 +0.7
baz=92
H19A Powell 91.36 41 ⇓P P 07 37 48.7 +1.2
baz=92
Y30A Stafford Cattl 91.38 53 ⇓P P 07 37 48.6 +0.8
baz=92
232A Coleman 91.40 56 ⇑P P 07 37 48.5 +0.6
baz=92,SNR=16
UTTA Uttaradit 91.41 289 P P 07 37 50.5 +2.4
comp=Z,5.4nm,1.0s
W29A Amraillo 91.41 52 ⇓P P 07 37 49.1 +1.2
baz=92,SNR=11
Q25A Bedland, Calha 91.42 48 ⇑P P 07 37 48.9 +0.9
baz=92
534A Blanco 91.46 58 ⇓P P 07 37 48.6 +0.5
baz=92,SNR=18
735A Kenedy 91.46 59 ⇓P P 07 37 49.4 +1.2
baz=92,SNR=5.9
O24A Longmont 91.47 46 ⇑P P 07 37 49.0 +0.9
baz=92
I20A Worland 91.49 42 ⇓P P 07 37 49.3 +1.2
baz=92
L22A Ellis Ranch, M 91.55 44 ⇓P P 07 37 49.4 +0.9
baz=92
T27A Campo 91.57 50 ⇓P P 07 37 49.5 +0.8
baz=92
J21A Lysite 91.59 43 ⇓P P 07 37 49.6 +1.0
baz=92
333A Richland Sprin 91.65 56 ⇓P P 07 37 49.4 +0.4
baz=92,SNR=9.6
X30A Coker Ranch, T 91.66 53 ⇓P P 07 37 49.6 +0.6
baz=92,SNR=6.5
R26A Arlington 91.67 49 ⇓P P 07 37 49.8 +0.7
baz=92,SNR=9.4
Z31A Sharp Cattle R 91.68 54 ⇓P P 07 37 49.7 +0.6
baz=92,SNR=10.0
XAN Xi'an 91.71 307 P P 07 37 50.0 +0.7
XAN pmax pmax
comp=Z,4.0nm,0.9s
XAN pmax pmax
comp=Z,61nm,7.5s
635A Leesville 91.72 59 ⇑P P 07 37 50.1 +0.7
baz=92
ABTX Abilene, Hawle 91.74 55 eP P 07 37 49.9 +0.5
comp=Z,38nm,1.3s
ABTX Abilene, Hawle 91.74 55 ⇑P P 07 37 50.1 +0.7
baz=92,SNR=7.9
S27A Las Animas 91.75 49 ⇓P P 07 37 50.2 +0.7
baz=92
P25A Willow Gulch B 91.77 47 ⇑P P 07 37 50.7 +1.1
baz=92
APG El Apazote 91.80 74 LR LR 08 11 18.9
comp=Z,359nm,18.6s,slow=30
K22A Casper 91.81 44 ⇓P P 07 37 50.8 +1.1
baz=92
H20A Greybull 91.85 42 ⇓P P 07 37 50.5 +0.7
baz=92
V29A Stinnett 91.86 51 ⇑P P 07 37 51.0 +1.1
baz=92
Y31A Rekieta Farm, 91.89 54 ⇓P P 07 37 50.8 +0.7
baz=92,SNR=14
Q26A Hugo 91.92 48 ⇓P P 07 37 50.7 +0.5
baz=92,SNR=5.7
I21A Big Trails, Te 91.93 42 ⇑P P 07 37 50.9 +0.8
baz=92
N24A Carr 91.94 46 ⇑P P 07 37 52.0 +1.6
baz=92
434A Burnet 91.97 57 ⇑P P 07 37 51.0 +0.5
baz=92,SNR=13
F19A Roth Farm, Mol 92.02 40 ⇓P P 07 37 51.1 +0.6
baz=92
233A Rising Star 92.02 56 ⇑P P 07 37 51.0 +0.3
baz=92,SNR=11
T28A Walsh 92.03 50 ⇓P P 07 37 51.1 +0.3
baz=92,SNR=6.8
L23A Garrett 92.06 44 ⇑P P 07 37 51.5 +0.6
baz=92
R27A Eads 92.11 49 ⇓P P 07 37 51.7 +0.6
baz=92,SNR=6.0
G20A Bridger 92.11 41 ⇓P P 07 37 51.7 +0.7
baz=92
Z32A Haskell 92.17 55 ⇑P P 07 37 52.2 +0.8
baz=92,SNR=24
334A Lometa 92.22 57 ⇑P P 07 37 52.6 +1.0
baz=92,SNR=7.7
J22A Midwest 92.23 43 ⇓P P 07 37 51.9 +0.4
baz=92
EGAK Eagle 92.25 14 eP P 07 37 51.4 +0.5
comp=Z,22nm,1.2s
EGAK epP pP 07 38 04.0 +0.9
133A Hamilton Ranch 92.28 55 ⇓P P 07 37 52.5 +0.7
baz=92,SNR=8.7
M24A Cheyenne 92.30 45 ⇑P P 07 37 53.6 +1.6
baz=92
U29A Oasis Ranch, S 92.31 51 ⇑P P 07 37 52.9 +0.8
baz=92
636A Smothers Creek 92.32 59 ⇑P P 07 37 52.6 +0.5
baz=92
P26A Davis Ranch, A 92.35 48 ⇓P P 07 37 53.1 +0.9
baz=93
S28A Manter 92.40 50 ⇑P P 07 37 53.3 +0.9
baz=93
X31A McDonald Ranch 92.40 53 ⇓P P 07 37 53.1 +0.7
baz=93
V30A Spur Ranch, Mi 92.41 52 ⇓P P 07 37 53.3 +0.8
baz=93
K23A Bowen Ranch, D 92.43 44 ⇑P P 07 37 53.2 +0.7
baz=93
E19A Rath Farm, Rou 92.44 40 ⇓P P 07 37 53.5 +1.2
baz=93
F20A Billings 92.46 40 ⇓P P 07 37 53.4 +0.9
baz=93
N25A Grover 92.46 46 ⇑P P 07 37 53.5 +0.8
baz=93
I22A 9 Mile Ranch, 92.47 43 ⇓P P 07 37 53.4 +0.8
baz=93
435B Jarrell 92.48 57 ⇓P P 07 37 53.2 +0.4
baz=93
BILL Bilibino 92.50 353 ⇑iP P 07 37 51.6 -0.4
BILL e 07 38 03.2
BILL pmax pmax
comp=Z,15nm,1.4s
BILL Bilibino 92.50 353 eP P 07 37 52.3 +0.3
comp=Z,9.4nm,1.0s
BILL epP pP 07 38 03.6 -0.6
H21A Big Horn, Sher 92.51 42 ⇓P P 07 37 53.4 +0.6
baz=93
Y32A R-V Farms, Ver 92.51 54 ⇑P P 07 37 53.8 +0.8
baz=93,SNR=15
HIA Hailar 92.52 324 ⇑eP P 07 37 52.5 -0.1
HIA pmax pmax
comp=Z,14nm,1.1s
LAMP Lampang 92.53 289 P P 07 37 55.5 +2.2
comp=Z,20nm,0.9s
KSCO Kaye Shedlock' 92.57 48 ⇓P P 07 37 54.0 +0.7
baz=93
234A Clairette 92.60 56 ⇑P P 07 37 53.9 +0.5
baz=93,SNR=17
T29A Hugoton 92.62 50 ⇓P P 07 37 54.1 +0.6
baz=93
KMI Kunming 92.62 296 P P 07 37 55.6 +1.7
KMI pP pP 07 38 04.4 -1.7
KMI pmax pmax
comp=Z,18nm,1.0s
W31A Holland Ranch, 92.68 53 ⇑P P 07 37 54.4 +0.7
baz=93,SNR=10
Z33A Whitaker Ranch 92.69 55 ⇓P P 07 37 54.5 +0.7
baz=93,SNR=16
O26A Horse Wrangler 92.70 47 ⇑P P 07 37 54.6 +0.8
baz=93
EGMT Eagleton 92.73 38 eP P 07 37 53.9 +0.2
comp=Z,6.1nm,1.0s
EGMT epP pP 07 38 06.3 +0.4
EGMT Eagleton 92.73 38 ⇓P P 07 37 54.6 +1.0
baz=93
D19A Cripps Ranch, 92.76 39 ⇑P P 07 37 54.9 +1.1
baz=93
U30A WK&E Inc. Balk 92.79 51 ⇓P P 07 37 54.9 +0.7
baz=93
J23A Dilts Ranch, B 92.81 43 ⇑P P 07 37 55.1 +0.9
baz=93
R28A Tribune 92.82 49 ⇓P P 07 37 55.0 +0.6
baz=93
X32A Elmer 92.82 54 ⇑P P 07 37 54.8 +0.5
baz=93,SNR=16
E20A Meyer Farm, Mu 92.84 40 ⇑P P 07 37 55.3 +1.0
baz=93
P27A Ficken Ranch, 92.86 48 ⇑P P 07 37 55.4 +0.9
baz=93
134A White-Moore Ra 92.89 56 ⇓P P 07 37 56.1 +1.4
baz=93,SNR=8.0
H22A Clearmont 92.92 42 ⇑P P 07 37 55.6 +0.9
baz=93
S29A Ulysses 92.96 50 ⇑P P 07 37 55.6 +0.6
baz=93
C19A Slack Wire Ran 92.97 38 ⇓P P 07 37 55.8 +1.1
baz=93
V31A Spring Creek L 93.02 52 ⇓P P 07 37 56.6 +1.3
baz=93,SNR=6.4
HHC Hu-ho-hao-te 93.08 314 eP P 07 37 55.8 +0.3
HHC sP sP 07 38 09.8 -2.3
HHC PP PP 07 41 41.8 +2.5
HHC SKS SKSac 07 48 24.8 -1.7
HHC S S 07 48 55.9 -3.3
HHC sS sS 07 49 15.6 -4.0
HHC SS SS 07 55 16.8 +1.7
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,560nm,6.5s
HHC LR LR
comp=Z,580nm,21.6s
HHC LR LR
comp=Z,450nm,19.1s
HHC LR LR
comp=Z,2μm,18.1s
CMAR Chiang Mai Arr 93.10 289 P P 07 37 57.5 +1.5
CMAR pmax pmax
comp=Z,18nm,1.0s
CMAR Chiang Mai Arr 93.10 289 P P 07 37 57.5 +1.5
comp=Z,18nm,0.9s,baz=127,slow=2.2,SNR=44
Y33A Hilltop Ranch, 93.12 54 ⇓P P 07 37 56.3 +0.6
baz=93,SNR=6.7
D20A Manuel Ranch, 93.15 39 ⇑P P 07 37 56.7 +1.1
baz=93
W32A Sentinel 93.16 53 ⇑P P 07 37 57.0 +1.1
baz=93,SNR=15
CMMT Chiang Mai 93.24 289 P P 07 37 58.5 +1.9
comp=Z,35nm,0.9s
CHTO Chiang Mai 93.24 289 eP P 07 37 58.2 +1.6
CHTO pmax pmax
comp=Z,21nm,0.9s
CHTO Chiang Mai 93.24 289 P P 07 37 58.5 +1.9
comp=Z,120nm,1.0s
CHTO Chiang Mai 93.24 289 eP P 07 37 58.2 +1.6
comp=Z,21nm,0.9s
G22A Birney 93.27 42 ⇓P P 07 37 57.3 +1.1
baz=94,SNR=6.0
U31A Nine Bar Ranch 93.29 52 ⇓P P 07 37 57.1 +0.6
baz=94
336A Riesel 93.32 57 ⇑P P 07 37 57.2 +0.5
baz=94
R29A Marienthal 93.32 49 ⇑P P 07 37 57.3 +0.6
baz=94
J24A Dixon Ranch, L 93.33 44 ⇓P P 07 37 57.4 +0.7
baz=94
Z34A Collier Ranch, 93.37 55 ⇓P P 07 37 57.4 +0.6
baz=94
135A Vickery Place, 93.39 56 ⇑P P 07 37 57.8 +0.8
baz=94
B19A Brinkman Farms 93.42 38 ⇑P P 07 37 57.6 +0.9
baz=94
S30A Montezuma 93.43 50 ⇑P P 07 37 57.8 +0.6
baz=94
P28A Saint Francis 93.43 48 ⇓P P 07 37 58.0 +0.9
baz=94
X33A Lawton 93.45 54 ⇑P P 07 37 57.9 +0.7
baz=94
N27A Anderson Farm, 93.49 47 ⇓P P 07 37 58.2 +0.8
baz=94
C20A Veseth Ranch, 93.55 39 ⇓P P 07 37 58.3 +0.8
baz=94
V32A Arapaho 93.58 53 ⇑P P 07 37 58.3 +0.5
baz=94
CMAI Chiengmai2 93.60 290 P P 07 38 00.5 +2.0
comp=Z,50nm,1.0s
O28A Krutsinger Ran 93.68 48 ⇓P P 07 37 59.0 +0.8
baz=94
T31A Randall Ranch, 93.74 51 ⇓P P 07 37 59.4 +0.9
baz=94
W33A Caddo, Fort Co 93.74 53 ⇑P P 07 37 59.7 +1.1
baz=94
Y34A Reagan Ranch, 93.74 55 ⇓P P 07 37 59.4 +0.8
baz=94
A19A Klindworth Far 93.78 37 ⇓P P 07 37 59.4 +1.0
baz=94
D21A La Casta Ranch 93.80 40 ⇑P P 07 37 59.8 +1.2
baz=94
G23A Biddle 93.81 42 ⇑P P 07 37 59.6 +0.8
baz=94
Z35A Perchaven, San 93.85 55 ⇓P P 07 37 59.5 +0.4
baz=94
R30A Dighton 93.86 50 ⇓P P 07 37 59.8 +0.8
baz=94
OGNE Ogallala 93.89 47 ⇑P P 07 37 59.9 +0.7
baz=94
U32A Winter Ranch, 93.90 52 ⇑P P 07 38 00.0 +0.7
baz=94
X34A Smith Ranch, M 93.97 54 ⇑P P 07 38 00.8 +1.2
baz=94
K26A Motz Farm, Whi 93.97 45 ⇑P P 07 38 00.8 +1.2
baz=94
F23A Volborg 94.06 41 ⇓P P 07 38 00.8 +1.0
baz=94
N28A Pribbeno Ranch 94.10 47 ⇓P P 07 38 01.0 +0.8
baz=94
H24A Dirks Ranch, A 94.10 43 ⇓P P 07 38 00.5 +0.4
baz=94
S31A Mullinville 94.11 51 ⇑P P 07 38 00.9 +0.6
baz=94
RSSD Black Hills 94.12 43 eP P 07 38 00.2 -0.2
RSSD pmax pmax
comp=Z,12nm,1.2s
RSSD Black Hills 94.12 43 eP P 07 38 00.1 -0.2
comp=Z,12nm,1.2s
C21A Desert Coulee 94.14 39 ⇓P P 07 38 00.8 +0.7
baz=94
V33A Lossen Ranch, 94.17 53 ⇓P P 07 38 01.0 +0.5
baz=94
A20A Cobblestone Ra 94.21 38 ⇓P P 07 38 01.4 +1.0
baz=94
Q30A Quinter 94.21 49 ⇓P P 07 38 01.5 +0.8
baz=94
CD2 Chengdu 94.24 302 eP P 07 38 01.8 +0.8
CD2 pP pP 07 38 12.9 -0.3
CD2 sP sP 07 38 17.0 -0.7
CD2 PP PP 07 41 51.8 +3.2
CD2 SKS SKSac 07 48 32.6 -0.6
CD2 S S 07 49 07.8 -1.9
CD2 sS sS 07 49 26.3 -3.9
CD2 SS SS 07 55 33.5 +1.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.6s
CD2 LR LR
comp=Z,1μm,19.8s
CD2 LR LR
comp=Z,1μm,18.2s
CD2 LR LR
comp=Z,1μm,16.5s
W34A Bridge Creek, 94.29 53 ⇑P P 07 38 01.8 +0.7
baz=94
T32A Huddler Ranch, 94.31 51 ⇓P P 07 38 01.5 +0.4
baz=94
D22A Cohagen 94.32 40 ⇑P P 07 38 02.0 +1.0
baz=95
J26A Sides Ranch, S 94.33 44 ⇓P P 07 38 02.2 +1.0
baz=95
R31A Burdett 94.39 50 ⇓P P 07 38 02.1 +0.6

baz=95
P30A Selden 94.45 49 ⇓P P 07 38 02.8 +1.0
baz=95
G24A Alzada 94.47 42 ⇓P P 07 38 02.8 +1.0
baz=95
B21A Ellsworth Farm 94.49 39 ⇓P P 07 38 03.0 +1.3
baz=95
S32A Newby Ranch, P 94.54 51 ⇑P P 07 38 03.2 +1.0
baz=95
U33A Lingo Farm, Me 94.57 52 ⇓P P 07 38 03.1 +0.7
baz=95
K27A Flueckinger Fa 94.59 45 ⇑P P 07 38 03.4 +1.1
baz=95
H25A Fruitdale 94.63 43 ⇓P P 07 38 03.5 +1.0
baz=95
F24A Ekalaka 94.71 42 ⇑P P 07 38 03.9 +1.0
baz=95
V34A Guthrie 94.74 53 ⇑P P 07 38 04.0 +0.8
baz=95
T33A Patterson Ranc 94.76 52 ⇑P P 07 38 04.1 +0.9
baz=95
C22A Vida 94.80 40 ⇓P P 07 38 05.0 +1.9
baz=95
I26A New Underwood 94.82 44 ⇑P P 07 38 04.4 +1.0
baz=95
A21A Bergtoll Ranch 94.83 38 ⇓P P 07 38 05.0 +1.7
baz=95
D23A Lindsay 94.91 40 ⇑P P 07 38 05.4 +1.7
baz=95
U34A Anderson Ranch 94.99 52 ⇓P P 07 38 05.3 +1.1
baz=95
J27A Elkhorn Farm, 94.99 45 ⇓P P 07 38 05.8 +1.6
baz=95
R32A Long Quarter, 95.02 50 ⇓P P 07 38 05.7 +1.4
baz=95
M29A Burnside Ranch 95.02 47 ⇑P P 07 38 05.8 +1.4
baz=95
G25A Newell 95.02 43 ⇑P P 07 38 05.2 +0.9
baz=95
K28A Ten Mile Ranch 95.16 45 ⇑P P 07 38 06.2 +1.2
baz=95
C23A Lambert 95.23 40 ⇓P P 07 38 06.3 +1.1
baz=96
I27A Quinn 95.35 44 ⇓P P 07 38 06.9 +1.1
baz=96
F25A Bowman 95.35 42 ⇓P P 07 38 07.0 +1.3
baz=96
Q32A Meitler Ranch, 95.38 50 ⇑P P 07 38 06.7 +0.8
baz=96
D24A Glendive 95.40 41 ⇓P P 07 38 07.0 +1.1
baz=96
R33A Olander Ranch, 95.48 51 ⇑P P 07 38 07.2 +0.7
baz=96
C24A Savage 95.55 40 ⇑P P 07 38 07.4 +0.9
baz=96
J28A Allard Ranch, 95.57 45 ⇓P P 07 38 07.8 +1.0
baz=96
G26A Maurine 95.58 43 ⇑P P 07 38 07.4 +0.7
baz=96
B23A Brockton 95.67 39 ⇓P P 07 38 07.9 +0.8
baz=96
F26A Lodgepole 95.80 42 ⇑P P 07 38 08.8 +1.0
baz=96
K29A Lazy Trails An 95.87 46 ⇑P P 07 38 09.3 +1.2
baz=96
I28A Midland 95.88 44 ⇓P P 07 38 09.0 +0.9
baz=96
Q33A Connelly Farm, 95.89 50 ⇓P P 07 38 09.2 +0.9
baz=96
G27A Dupree 96.03 43 ⇑P P 07 38 09.7 +0.9
baz=96
TUL1 Tulsa 96.04 54 ⇓P P 07 38 09.7 +0.7
baz=96
J29A Okreek 96.15 45 ⇑P P 07 38 10.1 +0.7
baz=96
F27A Lemmon 96.21 42 ⇓P P 07 38 10.3 +0.6
baz=96
E26A Carlson Angus 96.22 42 ⇑P P 07 38 10.3 +0.7
baz=96
H28A Mission Ridge 96.28 44 ⇓P P 07 38 10.9 +0.9
baz=96
K30A Basset 96.29 46 ⇑P P 07 38 11.0 +0.9
baz=96
C25A Freed Ranch, W 96.33 40 ⇑P P 07 38 11.6 +1.5
baz=97
LZH Lanzhou 96.35 307 eP P 07 38 12.5 +1.8
LZH pP pP 07 38 23.6 +0.7
LZH ePP PP 07 42 09.6 +4.6
LZH SKS SKSac 07 48 46.0 +1.5
LZH eS S 07 49 21.3 -6.8
LZH sS sS 07 49 44.3 -4.2
LZH eSS SS 07 56 04.8 +2.7
LZH pmax pmax
comp=Z,18nm,1.6s
LZH pmax pmax
comp=Z,120nm,6.3s
LZH LR LR
comp=Z,310nm,18.5s
LZH LR LR
comp=Z,320nm,18.7s
LZH LR LR
comp=Z,490nm,19.6s
I29A Vivian Onida 96.44 45 ⇓P P 07 38 11.5 +0.7
baz=97
A24A Westby 96.47 39 ⇓P P 07 38 11.5 +0.7
baz=97
G28A Parade 96.53 44 ⇑P P 07 38 12.2 +1.1
baz=97
L31A Butterfield Fa 96.58 47 ⇑P P 07 38 12.6 +1.1
baz=97
J30A Dallas 96.66 46 ⇑P P 07 38 12.8 +1.1
baz=97
E27A Carson 96.75 42 ⇓P P 07 38 12.9 +0.9
baz=97
H29A Onida 96.78 44 ⇓P P 07 38 13.1 +0.9
baz=97
C26A Wahner Farm, P 97.07 41 ⇑P Pdif 07 38 15.6 +2.1
baz=97
F29A Eureka 97.56 43 ⇓P Pdif 07 38 16.9 +1.1
baz=98
YKA Yellowknife Ar 98.64 24 P P 07 38 20.2 +0.2
comp=Z,1.4nm,0.9s,baz=235,slow=3.9,SNR=16
YKA PP PP 07 42 18.3 -3.4
comp=Z,0.7nm,1.0s,baz=236,slow=8.2,SNR=6.1
YKA PKKPbc PKKPbc 07 54 49.8 -1.4
comp=Z,0.2nm,0.8s,baz=42,slow=3.2,SNR=3.9
ULN Ulaanbaatar 99.15 318 ceP Pdif 07 38 23.2 +0.2
ULN pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 99.54 318 P Pdif 07 38 23.4 -1.3
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 99.54 318 P Pdif 07 38 23.4 -1.3
comp=Z,0.9nm,0.9s,baz=130,slow=5.8,SNR=6.3
GTA Gaotai 100.60 308 eP Pdif 07 38 32.5 +2.9
GTA pP pP 07 38 43.3 +1.4
GTA sP sP 07 38 47.1 +0.8
GTA PP PP 07 42 42.6 +5.3
GTA S Sdif 07 50 03.3 -0.5
GTA sS sS 07 50 21.0 -3.4
GTA SS SS 07 57 03.9 +2.4
GTA pmax pmax
comp=Z,4.0nm,1.7s
GTA pmax pmax
comp=Z,180nm,7.4s
GTA LR LR
comp=Z,720nm,18.5s
GTA LR LR
comp=Z,640nm,18.0s
GTA LR LR
comp=Z,870nm,20.0s
WMQ Urumqi 110.58 310 ePdif Pdif 07 39 14.6 +0.8
WMQ PP PP 07 43 54.3 +3.3
WMQ SKS SKSdf 07 50 21.5 -1.6
WMQ S Sdif 07 51 23.6 -3.2
WMQ AMB AMB
comp=Z,930nm,10.0s
WMQ LR LR
comp=Z,470nm,18.4s
WMQ LR LR
comp=Z,780nm,20.8s
WMQ LR LR
comp=Z,1µm,21.2s
ZALV Zalesovo Beam 114.30 320 i PKiKP PKPdf 07 43 20.0 -0.7
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 114.30 320 PKiKP PKPdf 07 43 20.0 -0.7
comp=Z,1.5nm,0.6s,baz=132,slow=1.5,SNR=6.6
MK31 Makanchi Array 114.90 312 ePKiKP PKPdf 07 43 21.9 -0.3
MK31 Makanchi Array 114.90 312 ePKPdf PKPdf 07 43 21.9 -0.3
MKAR Makanchi Array 114.90 312 PKiKP PKPdf 07 43 21.5 -0.7
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 114.90 312 PKP PKPdf 07 43 21.5 -0.7
comp=Z,1.8nm,0.8s,baz=66,slow=2.9,SNR=15
NVS Novosibirsk 115.32 321 ePKiKP PKPdf 07 43 21.4 -1.2
NVS pmax pmax
comp=N,2.0nm,1.3s
NVS pmax pmax
comp=Z,5.0nm,1.3s
KURK Kurchatov 117.76 316 ePKiKP PKPdf 07 43 26.9 -0.6
KURK Kurchatov 117.76 316 ePKPdf PKPdf 07 43 26.9 -0.6
KSH Kashi 118.40 303 ePKP PKPdf 07 43 31.3 +2.0
KSH esPKP 07 43 45.5
KSH PKS PKSdf 07 47 05.9 -0.1
KSH SKKS 07 51 41.8
KSH SS SS 08 01 04.6 +3.9
KSH AMB AMB
comp=Z,140nm,5.3s
KSH LR LR
comp=Z,170nm,9.3s
KSH LR LR
comp=Z,39nm,4.2s
KSH LR LR
comp=Z,400nm,17.3s
FRB Frobisher Bay 118.69 29 PKiKP PKPdf 07 43 28.2 -0.6
FRB pmax pmax
comp=Z,2.0nm,0.9s
FRB Frobisher Bay 118.69 29 PKP PKPdf 07 43 28.2 -0.6
comp=Z,2.1nm,0.9s,baz=233,slow=4.3,SNR=5.1
TKM2 Tokmak 2 119.11 307 ePKiKP PKPdf 07 43 30.3 -0.3
TKM2 Tokmak 2 119.11 307 ePKPdf PKPdf 07 43 30.3 -0.3
AAK Ala-Archa 119.89 307 ePKiKP PKPdf 07 43 32.8 +0.7
AAK Ala-Archa 119.89 307 ePKPdf PKPdf 07 43 32.8 +0.7
EKS2 Erkin-Say 120.42 307 ePKiKP PKPdf 07 43 33.2 +0.1
EKS2 Erkin-Say 120.42 307 ePKPdf PKPdf 07 43 33.2 +0.1
SUR Sutherland 121.94 197 ePKPdf PKPdf 07 43 36.7 +0.2
KKAR Karatay Array 122.85 307 ePKiKP PKPdf 07 43 37.7 +0.1
KKAR e 07 43 47.2
KKAR Karatay Array 122.85 307 ePKPdf PKPdf 07 43 37.7 +0.1
KKAR epPKPdf pPKPdf 07 43 47.2 -2.9
BRVK Borovoye 122.94 319 ePKiKP PKPdf 07 43 37.5 +0.1
BRVK Borovoye 122.94 319 ePKPdf PKPdf 07 43 37.5 +0.1
KBL Kabul 123.20 297 ePKiKP PKPdf 07 43 39.2 +0.4
KBL e 07 43 51.1
KBL Kabul 123.20 297 ePKPdf PKPdf 07 43 39.1 +0.4
KBL epPKPdf pPKPdf 07 43 51.1 -0.3
BOSA Boshof 124.10 202 PKiKP PKPdf 07 43 40.3 -0.4
BOSA pmax pmax
comp=Z,3.0nm,0.9s
BOSA Boshof 124.10 202 PKP PKPdf 07 43 40.3 -0.4
comp=Z,3.3nm,0.9s,baz=193,slow=1.3,SNR=3.7
SPITS Spitsbergen Ar 125.23 357 PKiKP PKPdf 07 43 40.7 -0.5
SPITS pmax pmax
comp=Z,12nm,0.9s
SPITS Spitsbergen Ar 125.23 357 PKP PKPdf 07 43 40.7 -0.5
comp=Z,12nm,0.9s,baz=118,slow=10,SNR=6.2
DAG Danmarks Havn 125.77 6 i PKiKP PKPdf 07 43 40.4 -1.8
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 125.77 6 i P PKPdf 07 43 40.4 -1.8
comp=Z,2.6nm,0.9s
SUMG Summit 125.82 15 i PKiKP PKPdf 07 43 43.0 +0.1
SUMG pmax pmax
comp=Z,6.0nm,1.1s
SUMG Summit 125.82 15 i P PKPdf 07 43 43.0 +0.1
comp=Z,6.4nm,1.1s
SVE Sverdlovsk 127.82 325 ePKiKP PKPdf 07 43 47.1 +0.5
SVE pmax pmax
comp=Z,16nm,1.2s
SOKR Solikamsk 128.91 329 ePKiKP PKPdf 07 44 00.5 +12
SOKR pmax pmax
comp=Z,20nm,1.4s
ARU Arti 129.03 324 i PKiKP PKPdf 07 43 49.6 +0.7
ARU 07 45 56.0
ARU 07 50 53.7
ARU Arti 129.03 324 ePKPdf PKPdf 07 43 49.7 +0.7
ARU epPKPdf pPKPdf 07 44 01.4 -0.1
ABKAR Akbulak array 129.84 315 ePKPdf PKPdf 07 43 51.8 +1.1
ABKAR epPKPdf pPKPdf 07 44 03.0 -0.2
AKTO Aktyubinsk 130.84 317 PKiKP PKPdf 07 43 52.1 -0.5
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 130.84 317 PKP PKPdf 07 43 52.1 -0.5
comp=Z,2.4nm,0.7s,baz=78,slow=2.9,SNR=7.9
ARCES ARCESS Array B 132.49 350 PKiKP PKPdf 07 43 55.0 -0.1
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 132.49 350 PKP PKPdf 07 43 55.0 -0.1
comp=Z,4.1nm,0.8s,baz=332,slow=2.1,SNR=7.6
KLMR Klimovskoe 135.68 336 ePKiKP PKPdf 07 43 59.9 -1.4
KLMR pmax pmax
comp=Z,31nm,1.5s
KMBO Kilima Mbogo 139.44 237 PKiKP PKPdf 07 44 10.7 +0.6
KMBO pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 139.44 237 PKP PKPdf 07 44 10.7 +0.6
comp=Z,1.4nm,0.7s,baz=172,slow=7.1,SNR=2.0
FINES FINESS Array B 139.47 344 i PKHKP PKPpre 07 43 59.7
FINES 07 44 08.7
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 139.47 344 PKhKP PKPpre 07 43 59.7
comp=Z,1.3nm,0.7s,baz=111,slow=4.3,SNR=3.7
FINES PKP PKPdf 07 44 08.7 +0.4
comp=Z,4.4nm,0.8s,baz=93,slow=4.0,SNR=8.8
MAK Makhachkala 139.60 309 ePKiKP PKPdf 07 44 04.9 -4.2
VRHR Novokhopersk 140.34 323 ePKiKP PKPdf 07 44 07.4 -2.8
VRHR pmax pmax
comp=N,8.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 140.59 331 ePKHKP PKPpre 07 44 05.6
OBN pmax pmax
comp=Z,12nm,1.3s
VSR Storozhevoye 141.61 325 ePKiKP PKPdf 07 44 10.8 -1.7
VSR pmax pmax
comp=N,2.0nm,0.8s
VSR pmax pmax
comp=E,2.0nm,0.8s
VSR pmax pmax
comp=Z,4.0nm,0.8s
VORD Divnogorie 141.67 324 ePKiKP PKPdf 07 44 09.3 -3.3
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,7.0nm,0.8s
VSU Vasula 141.79 341 i PKiKP PKPdf 07 44 16.0 +3.4
NB2 NORSAR Subarra142.44 354 PKP PKPpre 07 44 10.0
comp=Z,5.2nm,1.1s,baz=10,slow=2.5
NOA NORSAR Array B 142.44 354 i PKHKP PKPpre 07 44 10.4
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 142.44 354 PKhKP PKPpre 07 44 10.3
comp=Z,2.0nm,0.9s,baz=12,slow=2.7,SNR=5.1
KIV Kislovodsk 142.66 312 ePKiKP PKPdf 07 44 15.2 +0.5
KIV e 07 44 25.8
KIV pmax pmax
comp=Z,7.0nm,0.8s
HFS Hagfors 143.06 352 PKhKP PKPpre 07 44 10.6
comp=Z,2.2nm,0.7s,baz=84,slow=4.6,SNR=7.7
HFS PKP PKPdf 07 44 17.2 -0.8
comp=Z,5.4nm,0.8s,baz=54,slow=3.8,SNR=6.5
MICGM Minsk 144.58 336 e PKPab 07 44 14.0 -2.2
SIRT Sirnak 144.61 302 eP PKPbc 07 44 18.2 +1.0
NACGM Naroch 144.67 337 eP PKPab 07 44 14.0 -2.5
VRTB Varto-Mus 144.98 305 eP PKPbc 07 44 13.3 -5.1
SVAN Silvan-Diyarba 145.42 303 eP PKPdf 07 44 20.2 +0.5
BNGB Bing¨¶l 145.61 305 eP PKPdf 07 44 20.7 +0.6
GUMT Gumushane 146.06 308 eP PKPab 07 44 23.1 +0.8
KBSD Kabsdagh 146.19 301 i P PKPab 07 44 25.7 +2.9
DYBB Diyarbakir 146.28 303 eP PKPdf 07 44 22.1 +0.9
SUW Suwalki 146.60 340 ePKP2 PKPbc 07 44 22.8 +0.1
SUW Suwalki 146.60 340 ePKP PKPbc 07 44 22.7 +0.1
AKASG Malin Array Be 146.85 331 PKP2 PKPbc 07 44 23.3 -0.2
AKASG pmax pmax
comp=Z,24nm,0.8s
AKASG Malin Array Be 146.85 331 PKPbc PKPbc 07 44 23.3 -0.2
comp=Z,24nm,0.8s,baz=39,slow=3.6,SNR=39
KIEV Kiev 146.86 331 d iPKP2 PKPbc 07 44 23.4 -0.1
KIEV Kiev 146.86 331 ePKPbc PKPdf 07 44 22.6 +1.0
ILIC ilic-Erzincan 147.05 307 eP PKPab 07 44 30.5 +4.3
MUD Monsted U'grnd 147.15 355 i PKP2 PKPbc 07 44 24.4 +0.3
MUD pmax pmax
comp=Z,29nm,1.1s
MUD Monsted U'grnd 147.15 355 i P PKPbc 07 44 24.4 +0.3
comp=Z,29nm,1.0s
MALT Malatya 147.49 305 eP PKPab 07 44 28.5 +0.5
MALT Malatya 147.49 305 ⇑PKP2 PKPbc 07 44 26.9 +1.0
MALT Malatya 147.49 305 ⇑iP PKPbc 07 44 26.9 +1.0
RSDY Resadiye-TOKAT 147.63 309 eP PKPab 07 44 29.5 +1.1
BSD Bornholm Skovb 147.70 348 i P PKPdf 07 44 23.0 +0.1
comp=Z,21nm,0.9s
SIM Simferopol' 147.78 318 i PKP2 PKPab 07 44 28.1 -0.7
SIM pmax pmax
comp=Z,39nm,1.0s
EKA Eskdalemuir Ar 148.01 8 PKP2 PKPbc 07 44 26.4 -0.1
EKA pmax pmax
comp=Z,17nm,0.8s
EKA Eskdalemuir Ar 148.01 8 PKPbc PKPbc 07 44 26.4 -0.1
comp=Z,17nm,0.8s,baz=333,slow=2.1,SNR=19
BEL Belsk 149.22 340 ePKP2 PKPbc 07 44 30.7 +1.0
BEL Belsk 149.22 340 ePKP PKPbc 07 44 30.6 +0.9
BSEG Bad Segeberg 149.53 353 ePKPbc PKPbc 07 44 30.7 +0.3
ZALF Zalf 149.54 295 i P PKPbc 07 44 32.9 +1.6
KIS Kishinev 149.57 326 ePKP PKPdf 07 44 29.0 +2.8
LVV L'vov 149.72 334 ePKP2 PKPbc 07 44 31.0 -0.1
ASF Jabal al Asfar 150.01 294 PKP2 PKPbc 07 44 33.8 +1.3
ASF Jabal al Asfar 150.01 294 P PKPbc 07 44 33.8 +1.3
comp=Z,0.4nm,0.3s,baz=116,slow=2.5,SNR=7.4
MARH Ras Al Marh 150.05 297 i P PKPbc 07 44 34.7 +1.9
SALA Sala 150.07 295 i P PKPbc 07 44 33.9 +1.1
TOTH TOTAH 150.22 296 i P PKPbc 07 44 34.9 +2.0
KWP Kalwaria Pacla 150.39 335 ⇑PKiKP PKPbc 07 44 33.8 +1.1
KWP Kalwaria Pacla 150.39 335 ePKP PKPbc 07 44 33.3 +0.6
KWP Kalwaria Pacla 150.39 335 ⇑iP PKPbc 07 44 33.8 +1.1
KWP Kalwaria Pacla 150.39 335 ePKPbc PKPbc 07 44 33.5 +0.8
RUE Ruedersdorf 150.42 348 ePKPbc PKPbc 07 44 33.2 +0.6
RUE Ruedersdorf 150.42 348 ePKPbc PKPbc 07 44 33.4 +0.8
BURAR Bucovina Array 150.90 330 ⇑PKiKP PKPbc 07 44 36.3 +2.2
BURAR Bucovina Array 150.90 330 ⇑iP PKPbc 07 44 36.3 +2.2
OJC Ojcow 150.93 339 ePKiKP PKPbc 07 44 34.3 +0.3
OJC Ojcow 150.93 339 ePKP PKPbc 07 44 34.3 +0.3
NRDL Niedersach Rie 150.97 353 ePKPbc PKPbc 07 44 33.9 0.0
TESR Tescani 151.00 327 ⇓iP PKPbc 07 44 34.8 +0.5
ANTO Ankara 151.04 310 ePKiKP PKPdf 07 44 29.6 +0.7
ANTO e 07 44 35.5
ANTO Ankara 151.04 310 ⇑iP PKPbc 07 44 35.9 +1.2
ANTO Ankara 151.04 310 ePKPdf PKPdf 07 44 29.6 +0.7
ANTO ePKPbc PKPbc 07 44 35.5 +0.8
CFR Carcaliu 151.11 324 ⇑PKiKP PKPbc 07 44 35.4 +0.9
CFR Carcaliu 151.11 324 ⇑iP PKPbc 07 44 35.4 +0.9
STHS Stebnicka Huta 151.11 337 ePKiKP PKPbc 07 44 35.9 +1.5
STHS Stebnicka Huta 151.11 337 ePKP PKPbc 07 44 35.9 +1.5
MMAI Mount Meron Ar 151.13 296 PKPbc PKPbc 07 44 35.7 +0.6
comp=Z,29nm,0.8s,baz=55,slow=7.2,SNR=10
UZH Uzhgorod 151.36 335 ePKiKP PKPbc 07 44 35.7 +0.7
UZH e 07 44 46.7
IBBN Ibbenburen 151.38 355 ePKPbc PKPbc 07 44 35.2 +0.3
KSP Ksiaz 151.39 344 ePKiKP PKPbc 07 44 35.5 +0.5
KSP e 07 44 46.6
KSP Ksiaz 151.39 344 ePKP PKPbc 07 44 35.7 +0.7
VRI Vrincioaia 151.40 326 ⇑PKiKP PKPbc 07 44 34.8 -0.4
VRI Vrincioaia 151.40 326 ⇑iP PKPbc 07 44 34.8 -0.4
TIRR Tirgusor 151.41 322 ePKiKP PKPdf 07 44 29.4 +0.3
TIRR e 07 44 35.6
TIRR e 07 44 45.1
TIRR Tirgusor 151.41 322 ⇓iP PKPbc 07 44 35.6 +0.3
TIRR Tirgusor 151.41 322 ePKPdf PKPdf 07 44 29.4 +0.3
TIRR ePKPbc PKPbc 07 44 35.6 +0.3
TIRR ePKPab PKPab 07 44 45.1 +1.6
NIE Niedzica 151.44 338 ePKiKP PKPbc 07 44 36.3 +1.1
NIE Niedzica 151.44 338 ePKP PKPbc 07 44 36.3 +1.1
PLOR Plostina 151.46 326 ⇑PKiKP PKPbc 07 44 36.0 +0.6
PLOR Plostina 151.46 326 ⇑iP PKPbc 07 44 36.0 +0.6
CRVS Cervenica-Dubn 151.46 336 ePKiKP PKPdf 07 44 31.2 +2.1
CRVS e 07 44 36.1
CRVS Cervenica-Dubn 151.46 336 ePKP PKPdf 07 44 31.2 +2.1
CRVS e 07 44 36.1
HARR Harsova 151.54 323 ⇑PKiKP PKPbc 07 44 36.5 +1.0
HARR Harsova 151.54 323 ⇑iP PKPbc 07 44 36.5 +1.0
CLZ Clausthal 151.58 352 ePKPbc PKPbc 07 44 35.7 +0.2
TRPA Tarpa 151.66 334 ⇑iP PKPbc 07 44 35.7 0.0
CLL Collm 151.68 348 ⇓iPKiKP PKPbc 07 44 36.4 +0.8
CLL i 07 44 44.1
CLL i 07 44 48.2
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL pmax pmax
comp=Z,44nm,1.0s
CLL Collm 151.68 348 ePKPbc PKPbc 07 44 35.7 +0.1
CLL Collm 151.68 348 ⇓iPKPbc PKPbc 07 44 36.4 +0.8
comp=Z,44nm,0.9s
CLL ⇓iPKPab PKPab 07 44 44.1 -0.3
comp=Z,28nm,1.0s
CLL i pPKPbc pPKPbc 07 44 48.2 0.0
UPC Upice 151.77 344 ePKiKP PKPdf 07 44 30.3 +0.8
UPC e 07 44 36.4
UPC e 07 44 44.9
UPC Upice 151.77 344 ePKPDF PKPdf 07 44 30.3 +0.8
UPC ⇑ePKP PKPbc 07 44 36.4 +0.5
UPC ePKPAB PKPab 07 44 44.9 0.0
WTSB Winterswijk 151.78 357 ePKP PKPbc 07 44 35.7 -0.1
OKC Ostrava-Krasne 151.78 341 ePKiKP PKPbc 07 44 36.4 +0.5
OKC e 07 44 46.5
OKC Ostrava-Krasne 151.78 341 ⇑ePKP PKPbc 07 44 36.4 +0.5
OKC ePKPAB PKPab 07 44 46.5 +1.6
DPC Dobruska-Polom 151.84 343 ePKiKP PKPdf 07 44 30.9 +1.2
DPC e 07 44 36.0
DPC e 07 44 45.5
DPC Dobruska-Polom 151.84 343 ePKPDF PKPdf 07 44 30.9 +1.2
DPC ⇑ePKP PKPbc 07 44 36.0 -0.1
DPC ePKPAB PKPab 07 44 45.5 +0.3
DPC ex x 07 45 07.7
BRG Berggiesshubel 151.91 347 i PKP PKPbc 07 44 36.7 +0.5
comp=Z,35nm,0.9s
BRG i 07 44 48.4
comp=Z,31nm,1.0s
BRG Berggiesshubel 151.91 347 i PKiKP PKPbc 07 44 36.7 +0.5
BRG i 07 44 48.4
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 151.91 347 ePKPdf PKPdf 07 44 31.0 +1.3
BRG ePKPbc PKPbc 07 44 36.4 +0.2
MORC Moravsky Berou 152.02 341 ePKiKP PKPdf 07 44 30.2 +0.2
MORC e 07 44 37.4
MORC Moravsky Berou 152.02 341 ⇑iP PKPbc 07 44 37.9 +1.4
MORC Moravsky Berou 152.02 341 ePKPdf PKPdf 07 44 30.2 +0.2
MORC ePKPbc PKiKP 07 44 37.4 +0.5
MLR Muntele Rosu 152.06 326 PKiKP PKPdf 07 44 29.2 -1.1
MLR Muntele Rosu 152.06 326 ⇑iP PKPbc 07 44 37.4 +0.5
MLR Muntele Rosu 152.06 326 P PKPdf 07 44 29.2 -1.1
baz=38,slow=7.6
KIZT Kizilcal 152.10 309 eP PKPbc 07 44 37.9 +0.7
CJR Cluj-Napoca 152.31 331 ⇑PKiKP PKPbc 07 44 38.6 +1.3
CJR Cluj-Napoca 152.31 331 ⇑iP PKPbc 07 44 38.6 +1.3
CSS Prodhromos 152.36 300 ePKPdf PKPdf 07 44 29.5 -1.4
CSS ePKPbc PKPbc 07 44 37.7 0.0
VOIR 152.55 327 ⇑PKiKP PKPbc 07 44 39.3 +1.4
VOIR 152.55 327 ⇑iP PKPbc 07 44 39.3 +1.4
PRA Prague 152.56 346 ⇑PKP PKPbc 07 44 38.0 +0.3
MOX Moxa 152.56 350 ePKPbc PKPbc 07 44 37.9 +0.2
MOX epPKPbc pPKPbc 07 44 50.0 -0.2
PRU Pruhonice 152.61 345 ePKiKP PKPbc 07 44 37.9 +0.1
PRU e 07 44 46.7
PRU Pruhonice 152.61 345 ⇑ePKP PKPbc 07 44 37.9 +0.1
PRU ePKPAB PKPab 07 44 46.7 -1.7
UBBA Unterbreizbach 152.63 352 ePKPdf PKPdf 07 44 31.4 +0.8
TANN Tannenbergstha 152.64 348 ePKPbc PKPbc 07 44 38.1 +0.2
DRGR 152.64 332 ⇓PKiKP PKPbc 07 44 38.6 +0.5
DRGR 152.64 332 ⇓iP PKPbc 07 44 38.6 +0.5
GUNZ Gunzen 152.71 349 ePKPbc PKPbc 07 44 38.8 +0.7
VRAC Vranov 152.71 342 PKiKP PKPbc 07 44 37.6 -0.5
VRAC 07 44 49.0
VRAC pmax pmax
comp=Z,4.0nm,0.7s

VRAC pmax pmax
comp=Z,5.0nm,0.5s
VRAC Vranov 152.71 342 ⇓iP PKPbc 07 44 40.2 +2.1
VRAC Vranov 152.71 342 PKPbc PKPbc 07 44 37.6 -0.5
comp=Z,4.1nm,0.7s,baz=80,slow=12,SNR=3.0
VRAC PKPab PKPab 07 44 49.0 +0.1
comp=Z,4.5nm,0.5s,baz=47,slow=6.8,SNR=4.2
VYHS Vyhne 152.74 338 ePKIKP PKPdf 07 44 32.6 +1.6
VYHS e 07 44 38.5
VYHS e 07 44 49.6
VYHS Vyhne 152.74 338 ePKP PKPdf 07 44 32.6 +1.6
VYHS e 07 44 38.5
VYHS e 07 44 49.6
PRD Provadia 152.76 321 ⇑PKIKP PKPbc 07 44 37.7 -0.6
ARR Arges 152.81 327 ⇑iP PKPbc 07 44 40.3 +1.8
PSZ Piszkesteto 152.86 336 ePKIKP PKPdf 07 44 30.6 -0.7
PSZ e 07 44 38.7
PSZ e 07 44 49.8
PSZ Piszkesteto 152.86 336 ePKPdf PKPdf 07 44 30.6 -0.7
PSZ ePKPbc PKPbc 07 44 38.7 +0.2
PSZ ePKPab PKPab 07 44 49.8 +0.2
TREC Trest 153.02 344 ePKIKP PKPbc 07 44 39.4 +0.6
TREC e 07 44 48.5
TREC e 07 44 50.5
TREC Trest 153.02 344⇑ePKP PKPbc 07 44 39.4 +0.6
TREC ePKPAB PKPab 07 44 48.5 -1.7
TREC epPKP pPKPdf 07 44 50.5 +6.5
SMOL Smolenice 153.18 340 ePKP2 PKPab 07 44 52.5 +1.7
SMOL Smolenice 153.18 340 ePKP PKPab 07 44 52.5 +1.7
MEM Membach 153.18 357 PKPbc PKPbc 07 44 38.8 -0.2
ROTZ Rotzenmuhle 153.31 348 ePKPbc PKPbc 07 44 40.0 +0.6
ROTZ ePKPbc PKPab 07 44 51.5 +0.2
BCLA Clavier 153.39 358 PKPab PKPab 07 44 52.1 +0.5
BCLA APKPab 07 45 03.3
TNS Taunus Mts 153.39 354 epPKPbc pPKPbc 07 44 51.7 -0.4
KHC Kasperske Hory 153.63 346 ePKIKP PKPdf 07 44 32.7 +0.3
KHC e 07 44 40.9
KHC e 07 44 51.5
KHC Kasperske Hory 153.63 346 ePKPDF PKPdf 07 44 32.7 +0.3
KHC ⇑ePKP PKiKP 07 44 40.9 +0.7
KHC ePKPAB PKPab 07 44 51.5 -1.3
KHC epPKP pPKPdf 07 45 02.9 +18
KHC Kasperske Hory 153.63 346 ePKPdf PKPdf 07 44 32.7 +0.3
KHC ePKPbc PKiKP 07 44 41.2 +0.9
KHC ePKPab PKPab 07 44 51.9 -0.9
GZR Gura Zlata 153.68 330 ⇑PKIKP PKPbc 07 44 40.9 +0.5
GZR Gura Zlata 153.68 330 ⇑iP PKPbc 07 44 40.9 +0.5
WET Wettzell 153.77 347 ePKPbc PKPbc 07 44 41.5 +1.1
GERES GERESS Array B 153.87 346 PKIKP PKPdf 07 44 32.8 0.0
GERES 07 44 41.5
GERES 07 44 51.9
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=Z,5.0nm,1.0s
GERES GERESS Array B 153.87 346 PKP PKPdf 07 44 32.8 0.0
comp=Z,0.9nm,0.6s,baz=355,slow=1.5,SNR=7.1
GERES PKPbc PKiKP 07 44 41.5 +0.7
comp=Z,3.7nm,0.9s,baz=45,slow=2.1,SNR=10
GERES PKPab PKPab 07 44 51.9 -2.0
comp=Z,5.2nm,1.0s,baz=94,slow=2.0,SNR=9.4
CSNA Conrad Observa 154.17 342 ⇑iPKiKP PKPbc 07 44 41.9 +0.5
comp=Z,9.6nm,1.3s
KDZ Kurdzhali 154.88 320 ⇓PKP2 PKPab 07 45 00.5 +2.2
KDZ Kurdzhali 154.88 320 ⇓iP PKPab 07 45 00.5 +2.2
MMB Musomiste 155.89 322 ⇓PKP2 PKPab 07 45 04.5 +1.8
MMB Musomiste 155.89 322 ⇓iP PKPab 07 45 04.5 +1.8
ESDC Sonseca Array 162.71 22 PKP PKPab 07 44 44.2 +0.5
comp=Z,0.2nm,0.3s,baz=316,slow=2.7,SNR=5.6
ESDC PKPab PKPab 07 45 34.4 +2.1
comp=Z,0.2nm,0.3s,baz=352,slow=3.9,SNR=4.1
KEST Kesra 167.27 341 PKPab PKPab 07 45 52.4 -0.1
comp=Z,2.3nm,0.9s,baz=299,slow=8.7,SNR=4.4
TORD Torodi Ar. Bea 169.17 167 PKP PKPdf 07 44 48.6 -0.9
comp=Z,2.4nm,1.0s,baz=303,slow=1.3,SNR=6.8
TORD PKPab PKPab 07 46 00.8 -0.3
comp=Z,2.6nm,0.8s,baz=189,slow=4.3,SNR=9.1
TORD PP PP 07 49 51.4 +2.2
comp=Z,0.8nm,1.0s,baz=174,slow=4.3,SNR=2.9

IDC 22 07:29:59.2±0.7, 23.63S×175.88W, h0km, mb4.5/12, mb1 4.7/12, mb1mx4.5/31, mbtmp4.5/12, Error ellipse: s-maj=27.4km s-min=19.8km az=148.0
ISCJB 22 07:30:00.8±0.4, 24.08S±0.08×175.74W±0.06, h28km, mb4.5/14, Error ellipse: s-maj=12.6km s-min=7.5km az=161.2
NEIC 22 07:30:02.6±0.4, 24.21S×175.65W, h35km, mb4.7/4, Error ellipse: s-maj=13.9km s-min=9.9km az=119.0
ISC 22 07:30:02.7±0.5, 24.15S±0.07×175.72W±0.09, h28km, n53, σ1.64/53, mb4.6/14, 6C, South of Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 5.45 201 Sn Sn 07 32 32.0 +8.0
87nm,0.3s,baz=78,slow=21,SNR=3.7
RAO Raoul Island 5.45 201 Pn Pn 07 31 22.5 +0.4
MSVF Nonsavu 8.63 316 ePn Pn 07 32 06.5 +0.5
RAR Rarotonga 15.01 82 Pn Pn 07 33 25.6 -7.4
7.7nm,0.3s,baz=253,slow=10,SNR=8.0
RAR Sn Sn 07 35 53.2 -25
2.0nm,0.3s,baz=188,slow=19,SNR=2.8
RAR Rarotonga 15.01 82 ePn Pn 07 33 26.5 -6.5
RAR eSn Sn 07 36 19.0 +0.7
URZ Urewera 15.34 202 Pn P 07 33 46.0 +4.3
1.4nm,0.3s,baz=194,slow=14,SNR=5.9
URZ Sn Sn 07 36 22.2 -4.1
0.6nm,0.3s,baz=144,slow=19,SNR=4.8
URZ Urewera 15.34 202 ePn Pn 07 33 35.0 -2.3
URZ Sn Sn 07 36 22.2 -4.1
DZM Mont Dzumac 16.54 274 Pn P 07 33 58.2 +2.9
0.5nm,0.3s,baz=80,slow=16,SNR=7.1
RMQ Roma 32.13 258 P P 07 36 30.1 +2.1
baz=34,SNR=5.9
CMSA Cobar Meteorol 34.77 249 P P 07 36 52.1 +1.2
baz=36,SNR=5.1
CTA Charters Tower 35.39 269 P P 07 36 56.1 -0.2
9.2nm,0.4s,baz=95,slow=11,SNR=15
CTAO Charters Tower 35.39 269 eP P 07 36 56.1 -0.2
12nm,0.6s
QLP Quilpie 36.17 257 P P 07 37 02.9 -0.1
baz=38,SNR=5.7
STKA Stephens Creek 38.27 249 P P 07 37 21.7 +0.9
3.0nm,0.8s,baz=87,slow=18,SNR=3.5
HTT Hallett 40.55 246 P P 07 37 40.2 +0.4
baz=42,SNR=4.6
WRAB Tennant Creek 46.28 265 eP P 07 38 24.2 -2.0
10.0nm,1.0s
WRA Warramunga Arr 46.29 265 P P 07 38 24.6 -1.6
9.8nm,0.9s,baz=96,slow=8.4,SNR=27
WRKA Warakurna 50.59 257 P P 07 38 58.4 -1.0
baz=52,SNR=14
KNRA Kununurra 52.59 268 P P 07 39 14.3 -0.1
baz=54,SNR=4.4
QSPA South Pole Qui 65.94 180 P P 07 40 51.0 +4.8
5.9nm,1.0s,baz=308,slow=0.7,SNR=5.9
QSPA South Pole Qui 65.94 180 eP P 07 40 42.5 -3.6
7.5nm,1.0s
PETK Petropavlovsk- 80.33 344 P P 07 42 09.4 -1.5
9.6nm,0.8s,baz=136,slow=9.2,SNR=8.0
KSRS Korea Array 81.00 318 P P 07 42 13.5 -1.3
0.9nm,0.5s,baz=149,slow=5.6,SNR=5.0
KSAR Wonju Array Be 81.02 318 P P 07 42 13.5 -1.4
NVAR Mina Array Bea 82.27 42 P P 07 42 21.4 -0.5
2.0nm,0.9s,baz=219,slow=9.5,SNR=8.2
H03N2 Juan Fernandez 82.37 123 T T 09 14 13.5
baz=255
H03N3 Juan Fernandez 82.37 123 T T 09 14 06.2
baz=255
H03N1 Juan Fernandez 82.38 123 T T 09 14 15.1
baz=255
USRK Ussuriysk Arra 83.15 325 P P 07 42 25.9 0.0
3.9nm,0.8s,baz=85,slow=5.6,SNR=6.5
TUC Tucson 83.61 51 eP P 07 42 27.3 -1.5
3.8nm,1.1s
SYO Syowa Base 83.64 192 ⇑eP P 07 42 29.6 +1.4
TXAR Lajitas Array 87.28 56 P P 07 42 47.5 +0.4
3.3nm,0.8s,baz=216,slow=7.8,SNR=33
MENT Mentasta 90.42 14 eP P 07 43 00.8 -0.3
DLBC Dease Lake 90.59 22 eP P 07 43 02.0 -0.1
ILAR Eielson Array 91.41 12 P P 07 43 03.6 -2.0
1.7nm,0.9s,baz=225,slow=5.2,SNR=8.0
CMAR Chiang Mai Arr 93.30 289 P P 07 43 16.2 +0.8
7.6nm,0.9s,baz=131,slow=2.6,SNR=24
YKA Yellowknife Ar 98.94 24 P P 07 43 38.1 -1.9
0.5nm,0.9s,baz=246,slow=4.4,SNR=5.4
ZALV Zalesovo Beam 114.64 320 PKiKP PKPdf 07 48 38.5 -1.5
0.6nm,0.6s,baz=207,slow=0.7,SNR=3.7
MKAR Makanchi Array 115.21 312 PKP PKPdf 07 48 40.1 -1.2
0.8nm,0.8s,baz=72,slow=4.0,SNR=6.5
ABKAR Akbulak array 130.16 315 ePKPdf PKPdf 07 49 10.2 +0.3
AKASG Malin Array Be 147.21 330 PKPbc PKPdf 07 49 41.9 +1.1
8.1nm,0.6s,baz=40,slow=3.7,SNR=28
KIEV Kiev 147.22 330 ePKPbc PKPbc 07 49 42.1 -1.0
EKA Eskdalemuir Ar 148.37 8 PKPbc PKPdf 07 49 44.2 +1.6
6.9nm,0.9s,baz=348,slow=2.4,SNR=9.5
KWP Kalwaria Pacla 150.76 335 ePKPdf PKPdf 07 49 45.6 -1.0
KWP ePKPbc PKPbc 07 49 52.0 -0.2
CLL Collm 152.06 348 i PKPbc PKPbc 07 49 54.6 -0.5
comp=Z,19nm,1.0s
CLL i PKPab PKPab 07 50 01.7 -2.9
CLL i pPKiKP pPKiKP 07 50 06.3 +1.5
comp=Z,17nm,1.4s
UPC Upice 152.15 344 ⇑ePKP PKPbc 07 49 55.7 +0.3
OKC Ostrava-Krasne 152.16 341 ⇑ePKP PKPbc 07 49 56.0 +0.6
DPC Dobruska-Polom 152.21 343 ⇑ePKP PKPbc 07 49 55.8 +0.2
DPC ePKPAB PKPab 07 50 04.9 -0.4
DPC epPKP pPKPdf 07 50 15.0 +17
BRG Berggiesshubel 152.29 347 i PKP PKPbc 07 49 55.8 +0.1
comp=Z,17nm,0.9s
PRU Pruhonice 152.99 345 ⇑ePKP PKPbc 07 49 57.5 +0.2
KHC Kasperske Hory 154.01 346 ⇑ePKP PKPbc 07 49 59.6 0.0
KHC ePKPAB PKPab 07 50 11.6 -1.3
KHC epPKP pPKPdf 07 50 21.9 +21
GERES GERESS Array B 154.25 346 PKPbc PKPbc 07 50 00.0 -0.2
comp=Z,1.0nm,0.8s,baz=90,slow=1.3,SNR=5.6
TORD Torodi Ar. Bea 168.79 167 PKP PKPdf 07 50 10.3 +2.4
comp=Z,1.5nm,1.0s,baz=204,slow=1.6,SNR=4.0
TORD PKPab PKPab 07 51 20.9 +2.8
comp=Z,1.1nm,0.7s,baz=178,slow=4.8,SNR=5.0

MEX 22 07:36:22.4±0.9, 17.08N×101.55W, h20km±33km, MD3.9, Near coast of Guerrero

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ZIIG Zihuatanejo 0.53 9 eP Pb 07 36 31.8 -1.3
ZIIG i S Sb 07 36 37.9 -2.5
CAIG El Cayaco 1.23 91 i P Pn 07 36 38.0 -6.5
CAIG i S Sb 07 36 52.6 -7.8
PLIG Platanillo 2.35 56 i P Pn 07 36 56.8 -3.3
PLIG i S Sn 07 37 25.6 -2.8
TLIG Tlapa 2.89 80 i P Pn 07 37 04.4 -3.2
TLIG i S Sn 07 37 38.9 -3.0
YAIG Yautepec 2.96 53 i P Pn 07 37 05.4 -3.1
YAIG i S Sn 07 37 40.4 -3.1

CSEM 22 07:41:50.6±0.4, 35.15N×23.08E, h4km, MD3.7, Error ellipse: s-maj=10.9km s-min=3.3km az=29.0
ATH 22 07:41:51.6, 35.13N×23.05E, h35km±3km, MD3.7/21
ISCJB 22 07:41:52.3±0.7, 35.11N±0.05×23.02E±0.04, h69km±6km, mb3.6/13, Error ellipse: s-maj=9.4km s-min=4.6km az=28.0
THE 22 07:41:52.0, 35.19N×23.05E, h8km±6km, ML3.5/2, Error ellipse: s-maj=8.2km s-min=1.2km az=222.0
IDC 22 07:41:53.6±1.9, 35.11N×22.96E, h64km±19km, mb3.5/13, mb1 3.6/16, mb1mx3.5/41, mbtmp3.8/16, Error ellipse: s-maj=18.3km s-min=15.1km az=147.0
ISC 22 07:41:53.3±1.2, 35.11N±0.06×23.02E±0.05, h59km±11km, n97, σ0.79/112, mb3.6/13, Crete

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ANKY Antikythira Is 0.79 17 ePN Pn 07 42 07.2 -1.3
ANKY Antikythira Is 0.79 17 ePn Pn 07 42 07.2 -1.3
VAM Vamos 1.01 73 ePB Pn 07 42 09.8 -1.6
VAM Vamos 1.01 73 ePb Pn 07 42 09.8 -1.6
KYTH Kithira 1.17 1 ePN Pn 07 42 13.6 +0.1
KYTH Kithira 1.17 1 ePn Pn 07 42 13.6 +0.1
SIVA Sivas 1.47 93 P Pn 07 42 17.2 -0.3
SIVA Sivas 1.47 93 ePN Pn 07 42 17.5 0.0
SIVA Sivas 1.47 93 P Pn 07 42 17.2 -0.3
SIVA Sivas 1.47 93 ePn Pn 07 42 17.5 0.0
IDI Anoyia 1.54 83 P Pn 07 42 19.0 +0.4
26nm,0.3s,baz=304,slow=8.3,SNR=63
IDI S Sn 07 42 39.5 +1.9
49nm,0.3s,baz=120,slow=23,SNR=11
VLI Veliai 1.60 358 ePN Pn 07 42 20.2 +0.9
VLI Veliai 1.60 358 ePn Pn 07 42 20.2 +0.9
LAST Lasithi 2.01 88 P Pn 07 42 25.6 +0.6
LAST S Sn 07 42 51.2 +2.1
LAST Lasithi 2.01 88 ePB Pn 07 42 25.6 +0.6
LAST Lasithi 2.01 88 P Pn 07 42 25.6 +0.6
LAST S Sn 07 42 51.2 +2.1
PYL PYLOS 2.06 330 P Pn 07 42 24.4 -1.1
PYL PYLOS 2.06 330 ePN Pn 07 42 24.7 -0.8
PYL PYLOS 2.06 330 P Pn 07 42 24.4 -1.1
PYL PYLOS 2.06 330 ePn Pn 07 42 24.7 -0.8
NPS Neapolis 2.13 85 ePB Pn 07 42 27.0 +0.6
NPS Neapolis 2.13 85 ePb Pn 07 42 27.0 +0.6
ITM Ithomi 2.25 337 ePN Pn 07 42 28.2 +0.1
ITM Ithomi 2.25 337 ePn Pn 07 42 28.2 +0.1
SANT Santorini 2.35 57 P Pn 07 42 29.1 -0.4
SANT S Sn 07 42 57.8 +0.6
SANT Santorini 2.35 57 ePN Pn 07 42 29.1 -0.4
SANT eSN Sn 07 42 57.7 +0.6
SANT Santorini 2.35 57 P Pn 07 42 29.1 -0.4
SANT eSn Sn 07 42 57.7 +0.6
DID Didima 2.40 4 P Pn 07 42 29.7 -0.4
DID S Sn 07 42 59.3 +1.0
DID Didima 2.40 4 ePN Pn 07 42 30.8 +0.7
DID Didima 2.40 4 P Pn 07 42 29.7 -0.4
DID Didima 2.40 4 ePn Pn 07 42 30.8 +0.7
DID S Sn 07 42 59.3 +1.0
ZKR Zakros 2.62 89 ePN Pn 07 42 33.8 +0.6
ZKR Zakros 2.62 89 ePn Pn 07 42 33.8 +0.6
APE Apeiranthos 2.82 45 ePN Pn 07 42 35.2 -0.7
APE eSN Sn 07 43 08.6 -0.1
APE Apeiranthos 2.82 45 ePn Pn 07 42 35.2 -0.7
APE eSn Sn 07 43 08.6 -0.1
GUR Goura 2.87 349 ePN Pn 07 42 37.7 +1.0
GUR Goura 2.87 349 ePn Pn 07 42 37.7 +1.0
LTK Loutraki 2.91 359 P Pn 07 42 37.6 +0.5
LTK Loutraki 2.91 359 ePN Pn 07 42 37.7 +0.6
LTK Loutraki 2.91 359 P Pn 07 42 37.6 +0.5
KLV Kalavryta, Ach 3.01 347 ePN Pn 07 42 39.3 +0.8
KLV Kalavryta, Ach 3.01 347 ePn Pn 07 42 39.3 +0.8
DRO Drossia 3.02 340 P Pn 07 42 39.0 +0.3
DRO Drossia 3.02 340 P Pn 07 42 39.0 +0.3
RLS Riolos of Patr 3.19 337 ePN Pn 07 42 41.2 +0.2
RLS Riolos of Patr 3.19 337 ePn Pn 07 42 41.2 +0.2
LAKA Lakka 3.23 345 ePN Pn 07 42 42.0 +0.4
LAKA Lakka 3.23 345 ePn Pn 07 42 42.0 +0.4
DSF Desfina 3.32 353 P Pn 07 42 42.5 -0.2
DSF Desfina 3.32 353 ePN Pn 07 42 42.7 0.0
DSF Desfina 3.32 353 P Pn 07 42 42.7 0.0
KALE Kalithea 3.35 348 P Pn 07 42 42.8 -0.4
KALE Kalithea 3.35 348 ePN Pn 07 42 43.3 +0.1
KALE Kalithea 3.35 348 P Pn 07 42 42.8 -0.4
KALE Kalithea 3.35 348 ePn Pn 07 42 43.3 +0.1
KARP Karpathos 3.41 82 ePN Pn 07 42 44.0 0.0
KARP eSN Sn 07 43 23.5 +0.2
KARP Karpathos 3.41 82 ePn Pn 07 42 44.0 0.0
KARP eSn Sn 07 43 23.5 +0.2
EFP Efpalio 3.43 345 P Pn 07 42 43.7 -0.5
EFP Efpalio 3.43 345 P Pn 07 42 43.7 -0.5
MRKA Markates 3.62 7 P Pn 07 42 46.9 +0.1
MRKA Markates 3.62 7 ePN Pn 07 42 47.4 +0.6
MRKA Markates 3.62 7 P Pn 07 42 46.9 +0.1
MRKA Markates 3.62 7 ePn Pn 07 42 47.4 +0.6
SMIA Simia 3.76 2 ePN Pn 07 42 49.7 +0.9
SMIA Simia 3.76 2 ePn Pn 07 42 49.7 +0.9
PDO Prodromos 3.78 338 P Pn 07 42 50.1 +1.1
PDO Prodromos 3.78 338 P Pn 07 42 50.1 +1.1
EVR Evrytania 3.92 346 ePN Pn 07 42 52.6 +1.6
EVR Evrytania 3.92 346 ePn Pn 07 42 52.6 +1.6
AGG Agios Georgios 3.94 352 P Pn 07 42 51.4 +0.1
AGG Agios Georgios 3.94 352 P Pn 07 42 51.4 +0.1
SKIA Skiathos 4.06 5 ePN Pn 07 42 53.3 +0.4
SKIA Skiathos 4.06 5 ePn Pn 07 42 53.3 +0.4
CHOS Chios island 4.08 36 ePN Pn 07 42 52.6 -0.5
CHOS Chios island 4.08 36 ePn Pn 07 42 52.6 -0.5
XOR Xorichti 4.25 2 P Pn 07 42 55.8 +0.3
XOR Xorichti 4.25 2 P Pn 07 42 55.8 +0.3
ARG Arkhangelos 4.30 74 ePN Pn 07 42 56.3 +0.2
ARG eSN Sn 07 43 44.1 -0.9
ARG Arkhangelos 4.30 74 ePn Pn 07 42 56.3 +0.2
ARG eSn Sn 07 43 44.0 -0.9
THL Klokotos Trika 4.52 350 ePN Pn 07 42 59.1 0.0
THL Klokotos Trika 4.52 350 ePn Pn 07 42 59.1 0.0
EIL Elat 11.45 115 P Pn 07 44 35.0 +1.0
0.7nm,0.3s,baz=3.1,slow=2.2,SNR=6.2
EIL S Sn 07 46 32.0 -8.2
0.8nm,0.3s,baz=311,slow=19,SNR=3.1
GERES GERESS Array B 15.36 336 P Pn 07 45 27.2 +0.9
0.3nm,0.3s,baz=154,slow=10,SNR=5.4
AKASG Malin Array Be 16.22 14 P Pn 07 45 37.6 +0.5
1.6nm,0.3s,baz=204,slow=10,SNR=4.1
HFS Hagfors 25.76 349 P P 07 47 17.0 -1.2
2.2nm,0.4s,baz=152,slow=10,SNR=9.9
FINES FINESS Array B 26.42 3 P P 07 47 22.9 -1.3
0.8nm,0.4s,baz=160,slow=11,SNR=4.6
NOA NORSAR Array B 27.03 347 P P 07 47 31.0 +1.3
0.2nm,0.5s,baz=152,slow=10,SNR=5.4
EKA Eskdalemuir Ar 27.09 326 P P 07 47 31.6 +1.4
0.4nm,0.3s,baz=295,slow=30,SNR=5.8
TORD Torodi Ar. Bea 29.15 227 P P 07 47 48.0 -0.9
1.1nm,0.8s,baz=28,slow=8.6,SNR=9.7
ARCES ARCESS Array B 34.51 2 P P 07 48 34.4 -1.0
1.4nm,0.8s,baz=185,slow=8.4,SNR=9.0
DBIC Dimbokro 38.20 229 P P 07 49 06.7 -0.7
2.8nm,0.9s,baz=24,slow=9.2,SNR=4.5
SPITS Spitsbergen Ar 43.26 358 P P 07 49 48.2 -0.3
2.3nm,0.6s,baz=151,slow=12,SNR=7.5
MKAR Makanchi Array 45.26 56 P P 07 50 04.7 -0.1
0.8nm,0.3s,baz=269,slow=7.9,SNR=36
MKAR PcP PcP 07 51 45.1 +1.2
0.3nm,0.5s,baz=270,slow=5.2,SNR=2.3
ZALV Zalesovo Beam 46.30 46 P P 07 50 12.2 -0.6
1.7nm,0.4s,baz=268,slow=8.8,SNR=11
SONM Songino Array 60.86 50 P P 07 51 60.0 +0.2
0.5nm,0.9s,baz=284,slow=5.8,SNR=3.2
YKA Yellowknife Ar 76.94 341 P P 07 53 38.2 -0.9
0.1nm,0.5s,baz=37,slow=5.4,SNR=3.5
ILAR Eielson Array 80.13 356 P P 07 53 56.5 -0.1
0.1nm,0.7s,baz=348,slow=3.9,SNR=4.2

ISCJB 22 07:56:43.7±0.3, 7.46S±0.03×128.23E±0.04, h142km, mb4.0/15, Error ellipse: s-maj=5.4km s-min=4.2km az=140.4
IDC 22 07:56:47.4±2.3, 7.48S×128.04E, h157km±24km, mb3.8/10, mb1 3.9/12, mb1mx3.8/27, mbtmp4.3/12, Error ellipse: s-maj=20.1km s-min=13.1km az=45.0
NEIC 22 07:56:45.7±1.5, 7.58S×128.17E, h165km±17km, mb4.5/7, Error ellipse: s-maj=19.5km s-min=9.2km az=210.0
DJA 22 07:56:48.8±2.0, 8°S±6°×128°E±°, h146km±92km, M4.6/6, mb5.0/2, mB6.0/1, MLv4.4/6, Mw(mB)5.5/1
ISC 22 07:56:45.4±0.4, 7.56S±0.05×128.27E±0.04, h142km, n72, σ1.64/73, mb4.0/15, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSAI Masohi 4.23 9 P Pn 07 57 52.7 +4.1
NLAI Namlea 4.44 345 P Pn 07 57 55.8 +4.4
SOEI Soe 4.52 241 P Pn 07 57 55.1 +2.6
SOEI S Sn 07 58 45.8 +1.2
SOEI Soe 4.52 241 ePn Pn 07 57 55.0 +2.5
SOEI eSn Sn 07 58 41.7 -2.9
SOEI Soe 4.52 241 P Pn 07 57 54.4 +2.0
baz=4.6,SNR=5.0
SOEI S Sn 07 58 46.0 +1.4
baz=4.6,SNR=7.7
BATI Baumata 5.26 240 P Pn 07 58 03.8 +1.6
82nm,0.7s,0.6nm
BATI S Sn 07 59 03.0 +1.0
82nm,0.7s,0.6nm
BATI Baumata 5.26 240 P Pn 07 58 04.1 +1.9
35nm,0.3s,baz=86,slow=4.0,SNR=16
BATI S Sn 07 59 00.9 -1.2
45nm,0.3s,baz=218,slow=22,SNR=13
MTN Manton Dam 5.96 152 S Sn 07 59 19.9 +1.0
baz=5.5,SNR=8.5
FAKI Fak Fak 6.08 41 P Pn 07 58 14.7 +1.6
baz=6.3,SNR=8.5
FAKI S Sn 07 59 21.0 -0.7
baz=6.3,SNR=5.1
KDU Kakadu 6.57 141 P Pn 07 58 21.8 +2.1
baz=6.1,SNR=99
KDU S Sn 07 59 31.8 -1.7
baz=6.1,SNR=17
KNRA Kununurra 8.09 177 P Pn 07 58 27.9 -12
baz=7.7,SNR=5.0
KNRA S Sn 08 00 05.3 -4.8
baz=7.7,SNR=19
WRAB Tennant Creek 13.64 155 ePn Pn 07 59 52.2 -1.1
28nm,0.8s
WRAB eSn Sn 08 02 17.5 -6.7
WRA Warramunga Arr 13.65 155 P Pn 07 59 52.0 -1.3
4.7nm,0.3s,baz=320,slow=14,SNR=89
WRA S Sn 08 02 13.4 -11
5.5nm,0.3s,baz=325,slow=26,SNR=7.0
JAGI Jajag, Banyuwa 14.01 265 P P 08 00 00.4 -0.9
baz=14,SNR=3.5
COEN Coen 15.96 115 ePn P 08 00 24.7 +1.8
58nm,0.8s
COEN Coen 15.96 115 P P 08 00 25.3 +2.4
baz=16,SNR=11
COEN S Sn 08 03 12.7 -7.3
baz=16,SNR=8.4
QIS Mount Isa 16.95 141 P Pn 08 00 36.1 +1.8
baz=16,SNR=24
QIS S S 08 03 37.2 -6.2
baz=16,SNR=5.6
WRKA Warakurna 17.38 180 P P 08 00 39.8 +0.3
baz=17,SNR=74
STKI Sintang 18.38 294 P Pn 08 00 58.9 +7.6
PMG Port Moresby 18.77 97 P Pn 08 00 57.9 +2.0
0.5nm,0.3s,baz=245,slow=14,SNR=3.7
PMG Port Moresby 18.77 97 eP Pn 08 00 56.2 +0.3
2.1nm,0.3s
KSM Kuching 20.04 296 eP P 08 01 07.0 -0.5
34nm,0.9s
MEEK Meekatharra 21.08 205 P P 08 01 19.5 +0.9
baz=21,SNR=11
MEEK S Sn 08 05 15.9 -6.1
baz=21,SNR=3.5
CTA Charters Tower 21.42 127 P P 08 01 24.5 +2.1
2.8nm,0.4s,baz=306,slow=13,SNR=6.9
XMIS Christmas Isla 22.52 261 eP P 08 01 32.3 -1.3
24nm,0.4s
MDSI Maura Dua 24.15 276 P P 08 01 55.4 +6.8
LWLI Liwa 24.19 275 P P 08 01 59.1 +10
QLP Quilpie 24.26 143 P P 08 01 51.6 +2.2
baz=24,SNR=15
STKA Stephens Creek 27.20 155 P P 08 02 17.6 +1.7
2.9nm,0.5s,baz=329,slow=11,SNR=8.0
STKA Stephens Creek 27.20 155 P P 08 02 17.9 +2.0
baz=27,SNR=5.0
HTT Hallett 27.57 160 P P 08 02 25.9 +6.6
baz=27,SNR=5.1
CMSA Cobar Meteorol 28.87 148 P P 08 02 33.2 +2.4
baz=28,SNR=11
PSI Prapat 31.03 288 P P 08 02 49.5 -0.8
baz=31,SNR=5.3
CMAR Chiang Mai Arr 38.80 312 P P 08 03 54.5 -2.1
2.4nm,0.3s,baz=189,slow=10,SNR=7.5
KSAR Wonju Array Be 44.76 360 P P 08 04 44.8 0.0
KSRS Korea Array 44.77 360 P P 08 04 44.8 -0.1
1.2nm,0.5s,baz=174,slow=9.6,SNR=6.0
USRK Ussuriysk Arra 51.62 3 P P 08 05 36.6 -0.7
0.6nm,0.4s,baz=180,slow=8.2,SNR=5.1
TAPN Taplejung 52.39 313 eP P 08 05 42.9 -0.8
13nm,0.6s
TAPN Taplejung 52.39 313 eP P 08 05 42.9 -0.8
RAMN Ramite 52.97 312 eP P 08 05 47.3 -0.6
25nm,0.7s
RAMN Ramite 52.97 312 eP P 08 05 47.3 -0.6
JIRN Jiri 53.67 312 eP P 08 05 52.2 -1.0
10nm,0.7s
JIRN Jiri 53.67 312 eP P 08 05 52.2 -1.0
GUN Gumba 54.04 313 eP P 08 05 54.8 -1.0
17nm,0.6s
GUN Gumba 54.04 313 eP P 08 05 54.8 -1.0
PKI Pulchoki 54.20 312 eP P 08 05 55.6 -1.3
6.5nm,0.5s
PKI Pulchoki 54.20 312 eP P 08 05 55.8 -1.1

PKIN Phulchoki 54.21 312 eP P 08 05 55.8 -1.2
5.6nm,0.5s
KKN Kakani 54.41 312 eP P 08 05 57.0 -1.4
KKN Kakani 54.41 312 eP P 08 05 57.0 -1.4
DMN Daman 54.44 312 eP P 08 05 57.8 -0.8
4.4nm,0.3s
GKN Gorkha 55.01 312 eP P 08 06 01.7 -0.9
10nm,0.3s
KOLN Koldanda 55.65 311 eP P 08 06 06.4 -0.8
11nm,0.6s
KOLN Koldanda 55.65 311 eP P 08 06 06.4 -0.8
DANN Dangsing 55.84 312 eP P 08 06 07.9 -0.8
10nm,0.6s
DANN Dangsing 55.84 312 eP P 08 06 07.9 -0.8
PYUN Piuthan 56.28 311 eP P 08 06 10.8 -0.9
18nm,0.6s
PYUN Piuthan 56.28 311 eP P 08 06 10.8 -0.9
SONM Songino Array 58.44 343 P P 08 06 26.5 +0.1
1.9nm,0.8s,baz=170,slow=7.6,SNR=17
MK31 Makanchi Array 67.76 328 eP P 08 07 27.2 -0.6
MKAR Makanchi Array 67.76 328 P P 08 07 27.2 -0.6
1.2nm,0.4s,baz=116,slow=8.8,SNR=42
FX1 Attu Island--F 71.23 27 P P 08 07 49.6 +0.7
6.1nm,0.8s,baz=246,slow=20
ZALV Zalesovo Beam 71.33 335 P P 08 07 48.5 -1.0
1.4nm,0.5s,baz=125,slow=5.3,SNR=9.9
KURK Kurchatov 72.11 329 eP P 08 07 53.5 -0.7
2.0nm,0.9s
SEY Seymchan 72.67 11 P P 08 07 56.8 -0.5
1.5nm,0.5s,baz=153,slow=4.5,SNR=7.7
BRVK Borovoye 77.70 328 eP P 08 08 25.5 -0.8
0.9nm,0.4s
ABKAR Akbulak array 81.88 322 eP P 08 08 47.7 -1.2
0.2nm,0.3s
ILAR Eielson Array 94.58 25 P P 08 09 46.4 -3.2
0.3nm,1.0s,baz=243,slow=4.1,SNR=4.1
TXAR Lajitas Array 126.69 59 PKP PKPdf 08 15 33.5 +0.7
0.1nm,0.4s,baz=232,slow=6.2,SNR=4.3
TORD Torodi Ar. Bea 127.23 281 PKP PKPdf 08 15 33.1 -1.0
0.3nm,0.5s,baz=36,slow=2.4,SNR=4.6
JTS JuntasAbangare 147.08 83 PKPbc PKPbc 08 16 12.7 0.0
4.7nm,1.0s,baz=274,slow=8.5,SNR=3.9
LPAZ La Paz 151.28 146 PKPbc PKPbc 08 16 25.1 +1.2
0.7nm,0.4s,baz=39,slow=4.2,SNR=8.9

PGC 22 07:59:49.6±2.8, 50.58N×130.41W, h10km, ML3.2/16, Mw3.8, 7D, 211km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
HOLB Holberg 1.45 87 ⇑Pn Pn 08 00 13.6 -2.2
HOLB ⇓Sn Sn 08 00 30.6 -4.4
BPBC Brooks Peninsu 1.74 103 ⇓Pn Pn 08 00 17.4 -2.6
BPBC ⇑Sn Sn 08 00 37.0 -5.2
PHC Port Hardy 1.90 85 ⇓Pn Pn 08 00 20.2 -1.8
PHC ⇑Sn Sn 08 00 41.8 -4.1
MAYB Maynard 2.07 94 Pn Pn 08 00 22.5 -2.1
BBB Bella Bella 2.15 41 ⇓Pn Pn 08 00 23.8 -1.7
BBB ⇑Sn Sn 08 00 48.6 -3.6
BNB Barry Inlet 2.17 338 ⇑Pn Pn 08 00 23.6 -2.1
EDB Eliza Dome 2.23 107 ⇓Pn Pn 08 00 24.5 -2.0
TLCB Telegraph Cove 2.28 90 ⇑Pn Pn 08 00 26.0 -1.1
TLCB ⇓Sn Sn 08 00 52.1 -3.2
WOSB Woss 2.49 98 Pn Pn 08 00 28.6 -1.6
ETB Estevan Point 2.77 114 ⇑Pn Pn 08 00 32.7 -1.3
NCRB Newcastle Ridg 2.78 92 Pn Pn 08 00 32.8 -1.6
BCBC Bella Coola 2.90 50 ⇑Pn Pn 08 00 34.5 -1.3
BNAB Bonilla 2.92 357 Pn Pn 08 00 34.2 -1.8
DIB Dawson Inlet, 2.92 335 Pn Pn 08 00 34.4 -1.6
GDR Gold River 2.92 104 Pn Pn 08 00 34.3 -1.7
TOFB Tofino 3.24 114 ⇑Pn Pn 08 00 38.7 -1.7
BTB Buttle Lake 3.34 108 Pn Pn 08 00 40.6 -1.5
OZB Mount Ozzard 3.58 115 Pn Pn 08 00 43.4 -1.7
ALB Alberni 3.83 108 ⇑Pn Pn 08 00 47.5 -1.1
YOUB Youbou, Lake C 4.33 111 ⇓Pn Pn 08 00 55.6 +0.2
PFB Port Renfrew 4.37 115 ⇑Pn Pn 08 00 55.2 -0.8

ISCJB 22 08:04:54.1±0.6, 18.59S±0.05×70.08W±0.09, h111km±5km, mb3.8/5, Error ellipse: s-maj=14.9km s-min=7.1km az=10.9
IDC 22 08:04:55.0±1.1, 18.77S×70.00W, h107km±7km, mb3.6/5, mb1 3.7/6, mb1mx3.5/26, mbtmp3.9/6, MS4.4/1, Ms1 4.4/1, ms1mx3.4/21, Error ellipse: s-maj=30.2km s-min=22.2km az=27.0
GUC 22 08:04:55.8±0.5, 18.77S×70.26W, h96km±3km, ML3.8
ISC 22 08:04:55.3±0.7, 18.61S±0.05×70.05W±0.10, h107km±5km, n28, σ0.84/25, mb4.1/5, 1C-1D, Near coast of northern Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
ARCH Arica 0.26 296 iP Pn 08 05 09.6 -0.9
ARCH iS Sn 08 05 20.9 -0.9
MNMC Minimini 0.68 140 ⇓iP Pn 08 05 13.9 +0.4
MNMC iS Sn 08 05 27.3 +0.1
MNMC AML AML 08 05 32.8
comp=E,6µm,0.2s
PSGC Pisagua 0.99 184 iP Pn 08 05 16.9 +0.7
PSGC iS Sn 08 05 31.0 -1.1
HMBC Humberstone 1.67 175 ⇑iP Pn 08 05 24.3 +0.1
HMBC iS Sn 08 05 45.1 -1.0
HMBC AML AML 08 05 52.3
comp=E,841nm,0.4s
PATCX Punta Patache 2.21 182 eP Pn 08 05 31.3 +0.4
PATCX iS Sn 08 05 57.0 -1.1
PATCX AML AML 08 06 07.0
comp=E,438nm,0.5s
PB01 Plate Boundary 2.48 168 eP Pn 08 05 34.2 -0.3
PB01 AML AML 08 06 06.2
comp=E,638nm,0.2s
LPAZ La Paz 2.95 39 P Pn 08 05 41.8 +0.7
comp=E,3.1nm,0.3s,baz=311,slow=3.2,SNR=102
LPAZ S Sn 08 06 14.6 -1.7
comp=E,2.3nm,0.3s,baz=152,slow=20,SNR=6.9
PB07 Plate Boundary 3.11 177 eP Pn 08 05 42.6 -0.3
PB07 AML AML 08 06 20.7
comp=E,384nm,0.6s
PB09 Plate Boundary 3.27 167 eP Pn 08 05 45.4 +0.5
PB09 AML AML 08 06 22.9
comp=E,1µm,0.7s
SIV San Ignacio 8.96 75 P Pn 08 06 57.5 -4.4
comp=E,1.0nm,0.3s,baz=268,slow=12,SNR=12
CFAA Coronel Fontan 13.05 173 P Pn 08 07 52.4 -4.2
comp=E,0.1nm,0.3s,baz=357,slow=15,SNR=7.2
H03N1 Juan Fernandez 16.77 207 T T 08 25 54.2
baz=29,slow=75,SNR=31
H03N2 Juan Fernandez 16.78 207 T T 08 26 23.9
baz=29,slow=75,SNR=27
H03N3 Juan Fernandez 16.79 207 T T 08 26 25.7
baz=29,slow=75,SNR=32
BDFB Brasilia 21.27 85 P P 08 09 31.9 -1.4
comp=E,1.3nm,0.4s,baz=280,slow=8.1,SNR=4.3
PCRV Puerto La Cruz 29.09 11 LR LR 08 23 38.4
comp=E,773nm,19.4s,baz=206,slow=38
TXAR Lajitas Array 57.65 325 P P 08 14 35.6 +1.0
comp=E,0.1nm,0.5s,baz=140,slow=8.1,SNR=3.2
ULM Lac du Bonnet 72.25 343 P P 08 16 08.1 -0.6
comp=E,1.7nm,0.6s,baz=158,slow=6.1,SNR=4.0
TORD Torodi Ar. Bea 77.43 71 P P 08 16 39.5 +0.1
comp=E,1.5nm,0.5s,baz=256,slow=5.4,SNR=23
TORD pP pP 08 17 06.6 0.0
comp=E,0.8nm,0.8s,baz=261,slow=5.3,SNR=2.4
YKA Yellowknife Ar 88.11 341 P P 08 17 33.6 +0.1
comp=E,1.1nm,0.5s,baz=134,slow=4.9,SNR=40
YKA pP pP 08 18 02.5 +1.2
comp=E,0.1nm,0.4s,baz=134,slow=4.8,SNR=2.1
YKA sP sP 08 18 13.3 +0.7
comp=E,0.3nm,0.5s,baz=133,slow=4.8,SNR=3.4
H11S2 WAKE ISLAND Hy 126.39 280 T T 10 43 03.2
baz=100,slow=75,SNR=14
H11S1 WAKE ISLAND Hy 126.40 280 T T 10 43 03.8
baz=100,slow=75,SNR=15
H11N3 WAKE ISLAND Hy 126.40 281 T T 10 43 08.0
baz=100,slow=75,SNR=4.5
H11S3 WAKE ISLAND Hy 126.41 280 T T 10 43 05.6
baz=100,slow=75,SNR=16
H11N2 WAKE ISLAND Hy 126.42 281 T T 10 43 13.0
baz=100,slow=75,SNR=3.5
H11N1 WAKE ISLAND Hy 126.42 281 T T 10 43 15.3
baz=100,slow=75,SNR=6.4
WRA Warramunga Arr 134.83 213 PKP PKPdf 08 24 02.7 +0.2
comp=E,0.3nm,0.6s,baz=160,slow=2.7,SNR=2.3
SONM Songino Array 150.70 5 PKPbc PKPbc 08 24 35.4 +0.2
comp=E,0.6nm,0.5s,baz=255,slow=0.8,SNR=7.1

ISCJB 22 08:09:41.1±0.4, 46.86N±0.04×145.53E±0.08, h391km, mb3.4/13, Error ellipse: s-maj=7.4km s-min=4.6km az=18.0
MOS 22 08:09:41.9±1.3, 47.06N×145.32E, h396km, mb3.9/9, Error ellipse: s-maj=16.9km s-min=9.9km az=72.5
JMA 22 08:09:42.8±0.5, 46.50N×145.88E, h395km, M3.4
IDC 22 08:09:42.1±0.9, 46.96N×145.49E, h382km±12km, mb3.0/9, mb1 3.2/14, mb1mx3.1/30, mbtmp3.8/14, Error ellipse: s-maj=18.7km s-min=13.2km az=148.0
SKHL 22 08:09:43.2±0.5, 47.05N×145.03E, h391km±14km, mb4.5/4, mbh5.4/2
ISC 22 08:09:42.3±0.5, 46.85N±0.05×145.34E±0.06, h391km, n65, σ1.71/70, mb3.4/13, 3C-3D, Sea of Okhotsk

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
YSS Yuzh-Sakhalins 1.77 274 ⇑iPN Pn 08 10 37.9 +1.9
YSS iS S 08 11 20.0 +0.6
YSS pmax pmax
comp=N,80nm,0.5s
YSS pmax pmax
comp=E,50nm,0.5s
YSS pmax pmax
comp=Z,90nm,0.5s
YSS smax smax
comp=N,70nm,1.0s
YSS smax smax
comp=E,60nm,1.0s
YSS Yuzh-Sakhalins 1.77 274 eP Pn 08 10 37.9 +1.9
YSS AMB AMB 08 10 38.2
comp=E,137nm,0.5s
YSS eS S 08 11 21.0 +1.6
YSS A A 08 11 21.8
comp=E,472nm,0.9s
KUR Kuril'sk 2.39 132 eP Pn 08 10 46.0 +5.9
JSE Soyaes 2.69 227 P Pn 08 10 43.7 +1.3
YUK Yuzh-Kuril'sk 2.83 172 diPN Pn 08 10 47.7 +4.2
YUK iS S 08 11 37.6 +4.7
YUK pmax pmax
comp=N,24nm,0.1s
YUK pmax pmax
comp=E,12nm,0.1s
YUK pmax pmax
comp=Z,50nm,0.1s
YUK smax smax
comp=N,99nm,0.2s
YUK smax smax
comp=E,187nm,0.4s
YUK Yuzh-Kuril'sk 2.83 172 eP Pn 08 10 47.7 +4.2
YUK AMB AMB 08 10 48.5
comp=E,50nm,0.1s
YUK eS S 08 11 37.6 +4.7
YUK A A 08 11 40.2
comp=E,99nm,0.2s
YUK A A 08 11 40.2
comp=E,187nm,0.2s
JWK2 Keihoku 2.84 239 P Pn 08 10 45.7 +2.2
JTKR Abashiri--Toko 3.04 200 P Pn 08 10 45.4 +0.1
UGL Uglegorsk 3.13 317 eP Pn 08 10 46.5 +0.7
UGL AMB AMB 08 10 48.0
comp=E,340nm,1.0s
JKA Kamikawa-asahi 3.34 216 eP Pn 08 10 49.3 +1.5
ASAJ Asahikawa 3.34 216 PN Pn 08 10 49.3 +1.5
ASAJ S S 08 11 41.1 +0.3
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ Asahikawa 3.34 216 P Pn 08 10 49.3 +1.5
comp=Z,2.1nm,0.3s,baz=34,slow=3.4,SNR=19
ASAJ S S 08 11 41.0 +0.3
comp=Z,0.3nm,0.3s,baz=343,slow=19,SNR=3.0
NEM2 Nemuro 2 3.49 175 P Pn 08 10 46.4 -2.7
NEM2 eS S 08 11 37.3 -5.9
JAR Ashorobuto 3.72 198 P Pn 08 10 51.3 +0.1
JAK Akkeshi 3.88 187 P Pn 08 10 51.1 -1.6
JAK eS S 08 11 44.7 -5.0
JHR Hokuryu 4.01 221 P Pn 08 10 55.6 +1.6
JFR Furan 4.16 209 P Pn 08 10 56.3 +0.8
TYV Tymovskoe 4.39 337 eP Pn 08 10 57.5 0.0
TYV AMB AMB 08 10 58.5
comp=Z,15nm,0.9s
JCH Churui 4.46 199 P Pn 08 10 56.8 -1.6
JCH eS S 08 11 54.7 -5.3
JEW Eniwo 4.87 216 P Pn 08 11 04.0 +1.5
JNBK Urakawa-nobuka 4.92 203 P Pn 08 11 01.7 -1.4
JNBK eS S 08 12 04.1 -4.6
ERM Erimo 5.07 199 ⇑iPN Pn 08 11 04.7 0.0
ERM Erimo 5.07 199 eP Pn 08 11 04.7 0.0
JKB Kayabe 5.84 213 P Pn 08 11 12.4 -0.4
JKB eS S 08 12 23.0 -3.5
JOT Ohata 6.27 211 P Pn 08 11 17.1 -0.5
JOT eS S 08 12 29.7 -5.6
JOSM Okushiri--Mats 6.34 223 P Pn 08 11 20.0 +1.6
JANG Nango 7.04 205 P Pn 08 11 25.8 -0.4
JANG eS S 08 12 44.8 -6.2
HABR Khabarovsk 7.13 287 ePN Pn 08 11 25.9 -1.2
HABR eS S 08 12 51.3 -1.5
HABR pmax pmax
comp=Z,25nm,1.7s
HABR pmax pmax
comp=N,8.0nm,0.9s
HABR pmax pmax
comp=E,24nm,1.7s
HABR MLR MLR
comp=Z,735nm,16.0s
HABR Khabarovsk 7.13 287 eP Pn 08 11 25.9 -1.2
JOM Ohasama 7.94 203 P Pn 08 11 37.3 +0.8
JOM eS S 08 13 06.0 -3.9
USRK Ussuriysk Arra 9.74 259 P Pn 08 11 59.8 +2.6
comp=Z,0.4nm,0.3s,baz=69,slow=13,SNR=6.2
EKMR Ekimchan 10.12 313 eP P 08 12 00.5 -0.8
PETK Petropavlovsk- 10.13 47 PN P 08 11 59.8 -1.6
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 10.13 47 P P 08 11 59.8 -1.6
comp=Z,0.6nm,0.3s,baz=216,slow=8.9,SNR=15
PET Petropavlovsk 10.57 49 ⇓ePN P 08 12 05.5 -0.7
MJA0 Matsu Arr-Jizo 11.57 210 ePN Pn 08 12 21.9 +3.2
MJAR Matsushiro Arr 11.58 210 P P 08 12 20.9 +2.0
comp=Z,0.4nm,0.3s,baz=14,slow=14,SNR=6.4
MJAR Matsushiro Arr 11.58 210 eP Pn 08 12 21.9 +3.1
KSRS Korea Array 15.93 240 eP P 08 13 07.5 +2.4
KSRS Korea Array 15.93 240 P P 08 13 08.2 -0.4
comp=Z,0.3nm,0.3s,baz=43,slow=10,SNR=7.8
KSRS Korea Array 15.93 240 eP P 08 13 07.5 +2.4
BOD Bodaibo 21.86 312 eP P 08 14 01.7 -2.3
BOD pmax pmax
comp=Z,3.0nm,0.9s
BILL Bilibino 23.80 19 eP P 08 14 20.4 -1.0
BILL pmax pmax
comp=Z,10.0nm,2.9s
BILL Bilibino 23.80 19 eP P 08 14 20.4 -1.0
SONM Songino Array 26.22 287 P P 08 14 44.8 +1.4
comp=Z,0.3nm,0.3s,baz=82,slow=8.0,SNR=5.4
ILAR Eielson Array 39.80 38 eP P 08 16 37.5 -1.4
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 39.80 38 P P 08 16 37.4 -1.5
comp=Z,0.7nm,0.7s,baz=276,slow=8.7,SNR=13
ILAR Eielson Array 39.80 38 eP P 08 16 37.5 -1.4
MKAR Makanchi Array 42.09 294 eP P 08 16 58.7 +1.2
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 42.09 294 P P 08 16 58.8 +1.2
comp=Z,1.3nm,0.6s,baz=70,slow=8.5,SNR=13
BRVK Borovoye 46.63 307 ⇑eP P 08 17 33.9 +1.0
BRVK pmax pmax
comp=Z,7.0nm,1.5s
BRVK Borovoye 46.63 307 eP P 08 17 33.9 +1.0
ARU Arti 51.24 315 dP P 08 18 07.5 +0.2
ARU 08 20 05.7
ARU S S 08 24 56.1 +1.2
ARU SS SS 08 28 36.8 +1.1
ARU pmax pmax
comp=Z,7.0nm,1.7s
ARU Arti 51.24 315 eP P 08 18 07.6 +0.2
YKA Yellowknife Ar 53.96 34 P P 08 18 25.9 -0.9
comp=Z,0.3nm,0.5s,baz=303,slow=6.8,SNR=6.0
FINES FINESS Array B 61.54 332 eP P 08 19 17.6 -1.4
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 61.54 332 P P 08 19 18.2 -0.7
comp=Z,2.2nm,0.5s,baz=48,slow=6.6,SNR=19
FINES FINESS Array B 61.54 332 eP P 08 19 17.6 -1.4
NB2 NORSAR Subarra 66.25 338 P P 08 19 49.2 -0.1
comp=Z,0.8nm,0.5s,baz=31,slow=6.5
NOA NORSAR Array B 66.25 338 P P 08 19 49.3 -0.1
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 66.25 338 P P 08 19 49.3 -0.1
comp=Z,0.8nm,0.5s,baz=33,slow=6.5,SNR=5.1
NVAR Mina Array Bea 67.02 58 P P 08 19 55.9 +1.0
comp=Z,0.5nm,0.7s,baz=297,slow=7.1,SNR=4.5
WRA Warramunga Arr 67.21 191 P P 08 19 56.4 +0.6
comp=Z,0.2nm,0.4s,baz=7.3,slow=6.6,SNR=2.7
PALK Pallekele 67.47 256 iP P 08 20 01.2 +3.5
TXAR Lajitas Array 81.97 55 P P 08 21 20.3 +0.5
comp=Z,0.1nm,0.6s,baz=289,slow=3.8,SNR=3.9

IDC 22 08:42:34.3±0.5, 23.59S×175.93W, h0km, mb5.0/16, mb1 5.1/18, mb1mx5.1/23, mbtmp5.0/18, ML4.6/2, MS4.9/18, Ms1 4.9/18, ms1mx4.8/23, Error ellipse: s-maj=19.3km s-min=15.4km az=100.0
ISCJB 22 08:42:36.9±0.1, 23.83S±0.04×175.82W±0.03, h28km, mb5.2/77, MS5.1/46, Error ellipse: s-maj=6.3km s-min=3.3km az=155.4
BJI 22 08:42:37.8, 23.53S×175.37W, h40km, mB5.7/34, mb5.4/44, Ms5.4/37, Ms7 5.1/38
SZGRF 22 08:42:37.7, 23.99S×175.10W, h33km, Tonga Islands region
MOS 22 08:42:38.5±1.4, 23.64S×176.07W, h33km, mb5.5/22, MS5.2/19, Error ellipse: s-maj=14.5km s-min=10.1km az=92.2
GCMT 22 08:42:39.5±0.1, 23.73S×175.30W, h22km, MW5.5/106, Moment Tensor Solution. s91,c136; s106,c193; Duration: 1.3 Moment tensor: Scale 10^{17}Nm; Mrr1.44±.04; Mθθ-0.21±.03; Mφφ-1.23±.03; Mrθ0.25±.05; Mrφ-0.43±.02; Mθφ1.21±.04; Best double couple: Mo1.87700×10^{17} NP1:φs15.00000°, δ66.00000°, λ86.00000°. NP2:φs205.00000°, δ25.00000°, λ99.00000°. Principal axes: T 1.9100, Plg69.0000°, Azm276.0000°; N -0.0680, Plg4.0000°, Azm17.0000°; P -1.8450, Plg21.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 22 08:42:39.5±0.1, 23.66S×175.92W, h35km, mb5.2/28 Error ellipse: s-maj=7.0km s-min=5.2km az=121.0
ISC 22 08:42:38.6±0.2, 23.76S±0.05×175.75W±0.05, h28km, h27km:pP-P, n650, σ1.13/711, mb5.3/76, MS5.1/46, 193C-171D, Tonga Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
RAO Raoul Island 5.80 199 eP Pn 08 44 02.7 -0.1
RAO 08 45 10.3
RAO Raoul Island 5.80 199 Pn Pn 08 44 03.6 +0.8
49nm,0.3s,baz=255,slow=20,SNR=3.1
RAO Sn Sn 08 45 10.2 +1.8
114nm,0.3s,baz=72,slow=23,SNR=5.4
RAO Raoul Island 5.80 199 ePn Pn 08 44 02.7 -0.1
RAO Sn Sn 08 45 10.2 +1.8
NIUE Niue 7.15 50 ⇓iP Pn 08 44 13.3 -8.1
baz=6.4,SNR=37
MSVF Nonsavu 8.34 315 Pn Pn 08 44 42.6 +4.9
4µm,0.9s,SNR=44
RAR Rarotonga 14.99 83 Pn Pn 08 46 00.3 -8.2
12nm,0.3s,baz=244,slow=10,SNR=29
RAR Sn Sn 08 48 30.2 -24
1.7nm,0.3s,baz=105,slow=20,SNR=4.0
RAR LR LR 08 52 11.5
comp=Z,5µm,18.3s,baz=262,slow=38
HAZ Te Kaha 15.01 200 ePN Pn 08 46 02.0 -6.8
PUZ Puketiti 15.16 198 ePN Pn 08 46 06.4 -4.4
PUZ eSN Sn 08 48 44.4 -13
URZ Urewera 15.69 201 Pn Pn 08 46 17.5 -0.1
0.9nm,0.3s,baz=62,slow=3.2,SNR=8.1
URZ Sn Sn 08 48 59.4 -11
1.7nm,0.3s,baz=202,slow=21,SNR=8.4
URZ Urewera 15.69 201 ePN Pn 08 46 14.0 -3.6
URZ eSN Sn 08 48 56.7 -14
DZM Mont Dzumac 16.49 272 eP P 08 46 32.5 +2.0
334nm,1.3s
DZM eLQ LQ 08 49 41.0
7µm,28.6s
DZM eLR LR 08 50 24.6
7µm,22.4s
DZM Mont Dzumac 16.49 272 Pn P 08 46 31.9 +1.4
1.6nm,0.3s,baz=94,slow=17,SNR=19
DZM LR LR 08 50 30.3
comp=Z,2µm,20.4s,baz=104,slow=29
DZM Mont Dzumac 16.49 272 ePn Pn 08 46 26.8 -1.3
155nm,1.1s
DZM eSn Sn 08 49 28.3 -2.1
NOUC Port Laguerre 16.61 272 eP P 08 46 37.1 +5.3
PXZ Pawanui 17.38 199 ePN Pn 08 46 36.4 -2.7
PXZ eSN Sn 08 49 33.0 -19
THZ Tophouse 20.30 205 ePN P 08 47 08.5 -3.7
THZ eSN S 08 50 37.0 -21
WVZ Waitaha Valley 22.27 207 ePN P 08 47 30.0 -3.4
LHI Lord Howe Isla 23.58 245 ⇓P P 08 47 49.7 +2.7
baz=24,SNR=5.0
TBI Tubuai 24.10 94 eP P 08 47 48.8 -3.1
201nm,1.4s
TBI Tubuai 24.10 94 eT T 09 12 17.3
20nm,0.3s
PAE Paea 25.20 81 eP P 08 48 00.0 -2.0
26nm,1.5s
PAE Paea 25.20 81 eT T 09 13 43.1
11nm,0.4s
PPT2 Papeete2 25.23 81 eP P 08 48 02.0 -0.3
82nm,1.4s
PPT2 eS S 08 52 21.7 -4.6
1µm,30.0s
PPT2 eLQ LQ 08 52 50.6
4µm,24.0s
PPT2 eLR LR 08 54 05.3
7µm,27.8s,baz=250
PPT2 Papeete2 25.23 81 eT T 09 13 46.0
13nm,0.4s
PPT Papeete 25.23 81 LR LR 08 57 05.5
comp=Z,3µm,19.1s,baz=256,slow=34
TIAR Tiarei 25.44 81 eP P 08 48 02.5 -1.7
21nm,0.8s
TVO Taravao 25.46 82 eP P 08 48 02.6 -1.8
35nm,1.4s
TVO Taravao 25.46 82 eT T 09 14 02.6
2.5nm,0.4s
MEH Mehetia 26.51 82 eT T 09 15 20.8
37nm,0.3s
HNR Honiara 27.23 297 LR LR 08 58 31.6
comp=Z,3µm,18.2s,baz=150,slow=35
TARA Tarawa 27.28 335 eP P 08 48 18.9 -2.0
23nm,0.4s
ARMA Armidale 29.72 250 ⇓P P 08 48 43.1 +0.5
baz=30,SNR=14
EIDS Eidsvold 30.17 260 ⇑P P 08 48 46.1 -0.3
baz=31,SNR=11
MGCD Mangrove Creek 30.50 245 ⇑P P 08 48 51.3 +1.9
baz=31,SNR=6.0
RMQ Roma 32.19 258 ⇑P P 08 49 04.7 +0.4
baz=33,SNR=32
CNB Canberra Magne 32.30 241 P P 08 49 06.3 +1.0
baz=33,SNR=5.5
YNG Young 32.91 243 P P 08 49 11.2 +0.7
baz=34,SNR=13
CMSA Cobar Meteorol 34.88 249 ⇓P P 08 49 26.8 -0.9
baz=36,SNR=20
CTA Charters Tower 35.37 268 LR LR 09 01 48.0
comp=Z,1µm,21.7s,baz=43
QLP Quilpie 36.22 257 ⇑P P 08 49 38.0 -1.2
baz=37,SNR=14
TAOE Nuku Hiva Isla 37.11 72 eT T 09 28 38.6
107nm,0.3s
RKT Rikitea 37.33 97 eS S 08 55 30.8 -4.1
375nm,26.2s
RKT eLR LR 08 59 43.0
4µm,29.0s,baz=263
RKT Rikitea 37.33 97 eT T 09 28 48.4
4.5nm,0.4s
PMG Port Moresby 38.16 286 ciP P 08 49 54.3 -1.5
PMG pmax pmax
comp=Z,118nm,1.2s

PMG MLR MLR
comp=Z,2μm,15.0s
PMG Port Moresby 38.16 286 P P 08 49 54.4 -1.5
comp=Z,70nm,1.0s,baz=94,slow=9.4,SNR=8.8
PMG Port Moresby 38.16 286 eP P 08 49 54.7 -1.1
comp=Z,79nm,0.8s
STKA Stephens Creek 38.38 248 eP P 08 49 57.1 -0.5
STKA 08 52 11.2
STKA pmax pmax
comp=Z,10.0nm,1.3s
STKA Stephens Creek 38.38 248 P P 08 49 57.1 -0.5
comp=Z,18nm,1.0s,baz=95,slow=9.4,SNR=15
STKA PcP PcP 08 52 11.2 +0.3
comp=Z,5.3nm,0.7s,baz=304,slow=6.2,SNR=3.2
STKA LR LR 09 04 37.8
comp=Z,4μm,18.9s,baz=79,slow=35
STKA Stephens Creek 38.38 248 eP P 08 49 57.1 -0.5
comp=Z,9.7nm,1.3s
STKA PcP PcP 08 52 11.2 +0.3
STKA Stephens Creek 38.38 248 P P 08 49 57.0 -0.6
baz=39,SNR=12
COEN Coen 39.95 277 ⇓P P 08 50 10.1 -0.7
baz=40,SNR=12
HTT Hallett 40.68 246 ⇑P P 08 50 15.8 -0.9
baz=41,SNR=14
QIS Mount Isa 41.34 265 P P 08 50 20.7 -1.6
baz=42,SNR=9.2
ASPA Alice Springs 45.89 259 ⇓P P 08 50 57.8 -1.2
baz=46
WRAB Tennant Creek 46.29 265 P P 08 50 59.9 -2.1
comp=Z,277nm,1.1s,SNR=22
WRAB Tennant Creek 46.29 265c iP P 08 50 59.9 -2.1
WRAB pmax pmax
comp=Z,146nm,1.0s
WRAB MLR MLR
comp=Z,5μm,17.0s
WRA Warramunga Arr 46.29 265 P P 08 50 59.5 -2.6
comp=Z,37nm,0.9s,baz=101,slow=8.3,SNR=61
WRA S S 08 57 40.4 -7.2
comp=Z,6.4nm,1.1s,baz=102,slow=14,SNR=5.7
WRA LR LR 09 09 20.7
comp=Z,3μm,19.8s,baz=100,slow=35
KIP Kipapa 48.12 22 P P 08 51 17.0 +0.9
KIP pmax pmax
comp=Z,152nm,2.5s
KIP MLR MLR
comp=Z,655nm,20.0s
KIP Kipapa 48.12 22 eP P 08 51 15.9 -0.2
comp=Z,18nm,0.8s
FORT Forrest 50.00 249 ⇑P P 08 51 28.5 -2.1
baz=51,SNR=11
KDU Kakadu 50.16 273 ⇑P P 08 51 29.5 -2.4
baz=51,SNR=11
WRKA Warakurna 50.66 256 ⇓P P 08 51 33.4 -2.3
baz=51,SNR=58
MTN Manton Dam 51.33 272 ⇑P P 08 51 38.1 -2.7
baz=52,SNR=6.3
KNRA Kununurra 52.58 268 ⇑P P 08 51 48.0 -2.1
baz=53,SNR=9.3
SBA Scott Base 54.78 184 eP P 08 52 05.8 +0.5
SBA pmax pmax
comp=Z,13nm,0.7s
SBA Scott Base 54.78 184 eP P 08 52 05.8 +0.5
comp=Z,13nm,0.7s
VNDA Vanda 54.88 186 P P 08 52 08.1 +2.0
comp=Z,6.7nm,1.0s,baz=355,slow=5.8,SNR=6.2
VNDA LR LR 09 11 50.5
comp=Z,523nm,21.3s,baz=126,slow=32
KLBR Kellerberrin 58.62 246 P P 08 52 31.7 -1.7
baz=59,SNR=17
SOEI Soe 58.72 273 eP P 08 52 34.2 -0.2
comp=Z,114nm,0.9s
MEEK Meekatharra 58.87 252 P P 08 52 33.9 -1.3
baz=60,SNR=3.9
MORW Morawa 60.57 249 ⇓P P 08 52 46.5 -0.3
baz=61,SNR=4.8
CASY Casey 61.94 206 eP P 08 52 56.2 +0.7
comp=Z,34nm,0.9s
QSPA South Pole Qui 66.33 180 P P 08 53 26.2 +1.7
comp=Z,13nm,0.7s,baz=29,slow=1.3,SNR=73
QSPA South Pole Qui 66.33 180 eP P 08 53 25.0 +0.6
comp=Z,49nm,1.1s
MJAR Matsushiro Arr 74.06 323 P P 08 54 09.5 -2.4
comp=Z,2.1nm,0.8s,baz=167,slow=6.6,SNR=7.5
MJAR LR LR 09 22 16.9
comp=Z,856nm,22.0s,baz=160,slow=32
MAJO Matsushiro 74.06 323⇓eP P 08 54 11.0 -1.0
MAJO pmax pmax
comp=Z,72nm,1.3s
MAJO MLR MLR
comp=Z,4μm,18.0s
H06E1 SOCORRO T-PHAS76.05 62 T T 10 18 01.4
SNR=5.9
NACB Ninganchiao 77.22 304 eP P 08 54 29.0 -1.3
comp=Z,26nm,1.0s
YHNB Yeheng 77.66 304 eP P 08 54 30.7 -2.2
comp=Z,21nm,0.9s
MAW Mawson 79.21 199 LR LR 09 30 13.1
comp=Z,651nm,18.9s,baz=107,slow=36
PET Petropavlovsk 79.64 345 eP P 08 54 42.3 -0.7
PET eS S 09 04 39.5 -3.5
PET MLR MLR
comp=Z,700nm,16.0s
MURC Murrieta 79.73 46 ⇓P P 08 54 45.8 +1.8
baz=80
YSS Yuzh-Sakhalins 79.73 333⇓iP P 08 54 44.4 +0.8
YSS e 08 54 51.0
YSS e 08 54 54.1
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=Z,500nm,19.0s
VES Vestal, Richgr 79.89 44 ⇓P P 08 54 44.6 -0.2
baz=80,SNR=8.2
QZH Quanzhou 79.93 303⇑iP P 08 54 44.1 -1.1
QZH S S 09 04 46.8 -0.6
QZH pmax pmax
comp=Z,600nm,8.0s
QZH LR LR
comp=Z,1μm,22.0s
QZH LR LR
comp=Z,1μm,19.2s
QZH LR LR
comp=Z,1μm,23.8s
PETK Petropavlovsk- 79.95 344 P P 08 54 44.5 -0.2
comp=Z,34nm,0.9s,baz=132,slow=6.0,SNR=21
PETK LR LR 09 24 51.9
comp=Z,686nm,21.2s,baz=181,slow=32
ISA Isabella 80.17 44 ⇓P P 08 54 46.3 -0.1
baz=80,SNR=8.6
PFO Pinyon Flat Ob 80.23 47 ⇑P P 08 54 47.6 +0.7
baz=80
SWSC Sam W. Stewart 80.28 48 ⇓P P 08 54 47.6 +0.6
baz=80
LRMC Laurel Mountai 80.56 45 ⇑P P 08 54 49.4 +0.8
baz=81
KSRS Korea Array 80.69 318 P P 08 54 48.8 -0.3
comp=Z,8.6nm,1.0s,baz=140,slow=6.0,SNR=21
KSRS LR LR 09 25 07.3
comp=Z,960nm,21.6s,baz=126,slow=32
KSAR Wonju Array Be 80.71 318 P P 08 54 48.8 -0.4
KSAR Wonju Array Be 80.71 318 P P 08 54 48.8 -0.4
BC3 Big Chuckawall 80.93 47 ⇑P P 08 54 51.2 +0.6
baz=81
GLA Glamis 81.00 48 ⇑P P 08 54 52.0 +1.1
baz=81
GSC Goldstone 81.02 45 ⇑P P 08 54 51.3 +0.3
baz=81
HEC Hector,Ludlow 81.05 46 ⇑P P 08 54 51.4 +0.3
baz=81
N02D Trinity Center 81.06 38 ⇑P P 08 54 51.6 +0.5
baz=81
MLAC Mammoth Lakes 81.17 42 ⇓P P 08 54 52.2 +0.2
baz=81
M02C Callahan 81.26 37 ⇓P P 08 54 53.2 +1.1
baz=82
L02D Cave Junction, 81.37 36 ⇓P P 08 54 54.2 +1.6
baz=82
IRM Iron Mountain 81.43 47 ⇓P P 08 54 54.0 +0.8
baz=82
GMRC Granite Mounta 81.46 46 ⇓P P 08 54 53.9 +0.5
baz=82
113A Mohawk Valley, 81.56 49 ⇓P P 08 54 54.7 +0.9
baz=82
Y12C Blythe 81.61 48 ⇑P P 08 54 54.9 +0.8
baz=82
TUQ Turquoise Moun 81.67 46 ⇑P P 08 54 53.9 -0.6
baz=82
FURC Furnace Creek, 81.69 44 ⇓P P 08 54 54.3 -0.1
baz=82
GRAC Grapevine Rang 81.69 44 ⇑P P 08 54 54.5 0.0
baz=82,SNR=8.9
214A Organ Pipe Nat 81.76 50 ⇑P P 08 54 55.3 +0.3
baz=82
NVAR Mina Array Bea 82.00 42 P P 08 54 56.5 +0.2
comp=Z,4.9nm,1.0s,baz=224,slow=8.2,SNR=17
NVAR LR LR 09 26 19.2
comp=Z,829nm,18.6s,baz=108,slow=32
M04C Macdoel 82.09 38 ⇓P P 08 54 57.1 +0.5
baz=82
VLA Vladivostok 82.14 324 P P 08 54 57.0 +0.4
PDMCI Parker Dam,Lak 82.19 47 ⇓P P 08 54 57.3 +0.2
baz=82
Z14A Wintersburg 82.47 49 ⇑P P 08 54 59.1 +0.5
baz=83
I03D Drain, OR 82.55 35 ⇓P P 08 54 59.9 +1.1
baz=83
H03N2 Juan Fernandez 82.60 123 T T 10 26 47.6
baz=246,slow=72,SNR=42
H03N3 Juan Fernandez 82.60 123 T T 10 26 16.7
baz=246,slow=72,SNR=38
H03N1 Juan Fernandez 82.62 123 T T 10 26 45.3
baz=246,slow=72,SNR=41
K04D Chiloquin, OR 82.69 37 ⇓P P 08 55 00.2 +0.5
baz=83
Y14A Wickenburg 82.75 48 ⇓P P 08 55 00.1 0.0
baz=83,SNR=14
USRK Ussuriysk Arra 82.82 325 P P 08 55 00.3 +0.2
comp=Z,17nm,0.8s,baz=123,slow=3.7,SNR=27
USRK LR LR 09 31 58.1
comp=Z,277nm,18.1s,baz=145,slow=36
W13A Hualapai Mount 82.82 47 ⇓P P 08 55 00.8 +0.2
baz=83
J04D Umpqua Nationa 82.91 36 ⇓P P 08 55 01.8 +0.9
baz=83
I04A Tendick Farm, 83.12 36 ⇑P P 08 55 02.4 +0.6
baz=83
J05D Fort Rock, OR 83.42 37 ⇓P P 08 55 03.8 +0.3
baz=84
NJ2 Nanjing 83.55 309 eP P 08 55 03.8 -0.4
NJ2 pmax pmax
comp=Z,20nm,1.0s
G03D McMinnville, O 83.63 34 ⇓P P 08 55 05.0 +0.7
baz=84
R11A Troy Canyon, C 83.64 43 ⇑P P 08 55 05.1 +0.3
baz=84
319A Douglas 83.96 52 ⇑P P 08 55 06.5 +0.1
baz=84
PINOR Pine Mountain 83.96 37 eP P 08 55 06.9 +0.9
comp=Z,21nm,1.1s
SYO Syowa Base 84.01 192⇓eP P 08 55 04.4 -1.6
I05D Terrebonne, OR 84.06 36 ⇓P P 08 55 06.9 +0.3
baz=84
QIZ Qiongzhong 84.08 294 P P 08 55 06.9 -0.3
QIZ S S 09 05 28.3 -2.0
QIZ SS SS 09 10 59.9 +0.1
QIZ pmax pmax
comp=Z,210nm,6.3s
QIZ LR LR
comp=Z,260nm,17.1s
QIZ LR LR
comp=Z,510nm,18.6s
QIZ Qiongzhong 84.08 294 eP P 08 55 05.4 -1.8
comp=Z,30nm,1.2s
X16A Lo Mia Camp, P 84.09 49 ⇓P P 08 55 08.0 +0.8
baz=84,SNR=25
HABR Khabarovsk 84.30 330ceP P 08 55 05.6 -2.0
HABR e*PP pP 08 55 15.6 -1.0
HABR e*SP sP 08 55 20.0 +0.2
HABR e 08 58 19.6
HABR e 09 00 20.4
HABR eS SKSac 09 05 25.5 -3.5
HABR eSS SS 09 10 58.8 -3.1
HABR eSSS SSS 09 14 28.5
HABR pmax pmax
comp=N,28nm,1.9s
HABR pmax pmax
comp=Z,147nm,1.9s
HABR pmax pmax
comp=E,57nm,1.9s
HABR MLR MLR
comp=Z,630nm,22.0s
MDJ Mudanjiang 84.37 324 P P 08 55 08.8 +0.7
MDJ pP pP 08 55 17.8 +0.7
MDJ S S 09 05 34.3 +2.1
MDJ sS sS 09 05 51.3 +4.2
MDJ pmax pmax
comp=Z,34nm,1.3s
MDJ pmax pmax
comp=Z,270nm,6.6s
MDJ LR LR
comp=Z,260nm,27.0s
MDJ LR LR
comp=Z,520nm,23.2s
MDJ Mudanjiang 84.37 324 eP P 08 55 08.7 +0.7
comp=Z,29nm,1.1s
U15A North Rim 84.65 46 ⇓P P 08 55 10.5 +0.4
baz=85,SNR=27
G05D Wamic, OR 84.67 35 ⇓P P 08 55 09.9 +0.2
baz=85
ARUT Antelope Range 84.67 45 eP P 08 55 10.8 +0.8
ARUT Antelope Range 84.67 45 eP P 08 55 10.8 +0.8
comp=Z,336nm,1.3s
SNAA Sanae 84.70 178 P P 08 55 10.2 +0.7
SNAA Sanae 84.70 178 eP P 08 55 09.9 +0.3
SNAA pmax pmax
comp=Z,17nm,1.0s
SNAA Sanae 84.70 178 eP P 08 55 09.9 +0.3
comp=Z,16nm,1.0s
WUAZ Wupatki 84.75 48 ⇑P P 08 55 11.0 +0.5
baz=85,SNR=8.3
VNA3 Neumayer Olymp 84.76 176 P P 08 55 09.7 -0.1
X18A Snowflake 85.18 49 ⇓P P 08 55 13.0 +0.3
baz=85,SNR=14
VNA2 Neumayer--Watz 85.22 176 P P 08 55 12.3 +0.2
slow=1.0
VNA1 Neumayer--Stat 85.44 176 P P 08 55 14.1 +1.0
PLCA Paso Flores 85.53 133 P P 08 55 15.5 +1.1
comp=Z,2.2nm,0.7s,baz=197,slow=5.0,SNR=4.5
PLCA LR LR 09 29 38.5
comp=Z,315nm,18.2s,baz=292,slow=33
NVL N'lazarevskaya 85.58 183 eP P 08 55 21.7 +7.8
NVL eS S 09 05 35.7 -7.9
NVL pmax pmax
comp=Z,5.0nm,0.6s
IPM Ipoh 85.60 277 eP P 08 55 14.8 -0.2
comp=Z,14nm,0.7s
121A Cookes Peak, D 85.65 52 eP P 08 55 15.6 +0.5
comp=Z,14nm,1.0s
121A Cookes Peak, D 85.65 52 ⇓P P 08 55 15.3 +0.3
baz=86,SNR=13
W18A Petrified Fore 85.65 49 ⇓P P 08 55 15.2 +0.2
baz=86
CN2 Changchun 86.14 322 eP P 08 55 16.8 -0.1
CN2 epP pP 08 55 27.0 +1.0
CN2 esP sP 08 55 31.1 +1.9
CN2 eS SKKSac 09 05 47.5 -1.1
CN2 eSS SS 09 11 30.3 +1.0
CN2 pmax pmax
comp=Z,50nm,1.3s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,500nm,20.0s
UBPT Khong Chiam 86.15 288 P P 08 55 19.7 +2.1
comp=Z,13nm,0.7s
KULM Kulim 86.27 277 eP P 08 55 18.4 +0.1
comp=Z,14nm,0.9s
KLR Kul'dur 86.38 329 eP P 08 55 14.2 -3.8
KLR pmax pmax
comp=Z,68nm,1.6s
DUG Dugway 86.46 43 ⇑P P 08 55 18.9 0.0
baz=87
Z22A Elephant Butte 86.61 51 ⇓P P 08 55 20.1 +0.3
baz=87,SNR=34
MNTX Cornudas Mount 86.97 54 eP P 08 55 21.4 0.0
comp=Z,22nm,0.9s
TIA Tai'an 87.00 312 ⇓P P 08 55 21.8 +0.4
TIA S S 09 05 57.6 -0.8
TIA pmax pmax
comp=Z,30nm,1.1s
TIA pmax pmax
comp=Z,210nm,5.4s
TIA LR LR
comp=Z,460nm,19.7s
TIA LR LR
comp=Z,570nm,21.0s
TIA LR LR
comp=Z,700nm,18.0s
LAZ Ladron 87.08 50 eP P 08 55 23.0 +0.9
comp=Z,17nm,1.6s
TXAR Lajitas Array 87.09 56 P P 08 55 22.6 +0.5
comp=Z,16nm,0.9s,baz=218,slow=7.1,SNR=52
TXAR LR LR 09 29 38.7
comp=Z,719nm,18.4s,baz=0.0,slow=32
HLID Hailey 87.46 40 ⇑P P 08 55 24.2 +0.5
baz=88
DAU Daniels Canyon 87.56 44 eP P 08 55 24.7 +0.3
DAU pmax pmax
comp=Z,15nm,1.3s
DAU Daniels Canyon 87.56 44 eP P 08 55 24.7 +0.3
comp=Z,15nm,1.3s
Y23A Lovelace Mesa, 87.61 51 ⇓P P 08 55 25.1 +0.5
baz=88,SNR=9.4
MVCO Mesa Verde 87.62 47 ⇓P P 08 55 25.2 +0.6
baz=88
Z24A Sheeppen Canyo 87.80 52 ⇑P P 08 55 26.0 +0.4
baz=88,SNR=10.0
CHBT CHBT 87.83 285 P P 08 55 27.3 +1.5
comp=Z,24nm,1.4s
ANMO Albuquerque 87.84 50c iP P 08 55 25.8 +0.1
ANMO pmax pmax
comp=Z,39nm,1.0s
ANMO MLR MLR
comp=Z,7μm,16.0s
V22A San Miguel Ran 88.02 49 ⇓P P 08 55 26.5 -0.1
baz=88
Y24A Capitan 88.05 52 ⇑P P 08 55 27.3 +0.6
baz=88,SNR=37
PV01 Paradox Valley 88.06 47 eP P 08 55 25.7 -1.0
comp=Z,502nm,1.1s
W23A Werner Place, 88.17 50 ⇑P P 08 55 27.8 +0.5
baz=88
Z25A Roswell 88.25 52 ⇑P P 08 55 28.1 +0.5
baz=88,SNR=18
V23A Ortiz Mt. (NFS 88.44 50 ⇑P P 08 55 29.4 +0.9
baz=89,SNR=6.0
529A Stev Forest Ra 88.57 56 ⇑P P 08 55 29.4 +0.3
baz=89,SNR=10
Y25A Mesa, Roswell 88.58 52 ⇑P P 08 55 29.4 +0.3
baz=89,SNR=16
W24A Lazy 6 Ranch, 88.72 50 ⇓P P 08 55 30.3 +0.5
baz=89,SNR=8.9
U23A El Rito 88.73 49 ⇑P P 08 55 29.8 -0.1
baz=89
Z26A Caprock 88.78 53 ⇑P P 08 55 30.0 -0.1
baz=89,SNR=9.3
NEW Newport 88.82 35 ⇑P P 08 55 30.0 +0.2
baz=89
X25A Clemmons Ranch 88.91 51 ⇓P P 08 55 30.5 -0.2
baz=89
127A Arkansas Junct 88.94 54 ⇓P P 08 55 30.9 0.0
baz=89
S22A 4UR Ranch, Cre 89.03 48 ⇑P P 08 55 31.5 +0.1
baz=89,SNR=9.8
429A Davenport Ranc 89.06 56 ⇓P P 08 55 31.3 -0.1
baz=89,SNR=16
V24A Rampart Ranch, 89.07 50 ⇓P P 08 55 31.4 -0.2
baz=89,SNR=7.5
MCMT McKenzie Canyo 89.11 39 eP P 08 55 31.3 -0.2
comp=Z,4.0nm,1.3s
KTH Kantishna Hill 89.19 11 eP P 08 55 30.0 -1.2
comp=Z,13nm,0.8s
KTH epP pP 08 55 41.8 +1.5
PATY Pattaya 89.20 284 P P 08 55 34.6 +2.3
comp=Z,20nm,1.1s,comp=Z,2μm
T23A Casias Ranch, 89.20 49 ⇑P P 08 55 31.9 -0.3
baz=89
Y26A Elida 89.21 52 ⇑P P 08 55 32.0 -0.1
baz=89
530A J-C Ranch, Com 89.25 57 ⇑P P 08 55 32.4 +0.1
baz=90,SNR=6.1
O20A White River Ci 89.34 45 ⇑P P 08 55 32.7 0.0
baz=90
Z27A Tatum 89.36 53 ⇑P P 08 55 32.7 -0.1
baz=90
W25A X Bar L Ranch, 89.39 51 ⇑P P 08 55 32.7 -0.2
baz=90,SNR=13
329A Wagon Wheel Ra 89.40 55 ⇑P P 08 55 33.2 +0.2
baz=90
PKDT Phuket 89.42 279 P P 08 55 35.1 +1.7
comp=Z,44nm,1.3s,comp=Z,6μm
SURT Suratani 89.44 280 P P 08 55 34.7 +1.2
comp=Z,29nm,1.1s,comp=Z,381nm
832A Faith Ranch, C 89.45 59 ⇓P P 08 55 33.2 0.0
baz=90,SNR=12
631A Perdido Creek 89.50 58 ⇓P P 08 55 33.5 +0.1
baz=90,SNR=16
X26A CR and CF Fran 89.53 52 ⇑P P 08 55 34.1 +0.5
baz=90
128A Castleberry Fa 89.56 54 ⇑P P 08 55 34.1 +0.4
baz=90
ENH Enshi 89.58 303 eP P 08 55 34.5 +0.7
comp=Z,61nm,1.5s
V25A Rancho No Teng 89.59 50 ⇑P P 08 55 34.0 +0.1
baz=90,SNR=11
430A Baggett Ranch, 89.63 56 ⇑P P 08 55 33.8 -0.3
baz=90
732A Laxson Ranch, 89.65 58 ⇓P P 08 55 34.0 -0.2
baz=90,SNR=9.1
BJI Beijing 89.66 315 P P 08 55 33.8 -0.1
BJI pmax pmax
comp=Z,21nm,1.7s
BJI pmax pmax
comp=Z,280nm,4.1s
MSO Missoula 89.66 37 ⇑P P 08 55 34.4 +0.5
baz=90
T24B San Luis 89.67 49 ⇑P P 08 55 34.6 +0.1
baz=90
Y27A Causey 89.67 53 ⇓P P 08 55 34.1 -0.1
baz=90,SNR=20
933A Laredo 89.69 60 ⇑P P 08 55 34.2 -0.1
baz=90
N20A Spence Gulch, 89.70 45 ⇓P P 08 55 34.3 -0.1
baz=90
MCK McKinley 89.71 12 eP P 08 55 33.1 -0.5
MCK e*PP pP 08 55 45.2 +2.5
MCK pmax pmax
comp=Z,81nm,1.5s
MCK McKinley 89.71 12 eP P 08 55 33.1 -0.5
comp=Z,81nm,1.5s
MCK epP pP 08 55 45.2 +2.5
229A Bryant Ranch, 89.75 55 ⇑P P 08 55 34.4 -0.3
baz=90
W26A Owens Ranch, T 89.82 51 ⇓P P 08 55 34.5 -0.5
baz=90
531A Rocksprings 89.87 57 ⇑P P 08 55 35.2 0.0
baz=90,SNR=11
034A Hebbronville 89.91 60 ⇑P P 08 55 36.5 +1.1
baz=90,SNR=10
833A Chaparral WMA, 89.92 59 ⇑P P 08 55 35.7 +0.3
baz=90
SDCO Great Sand Dun 89.93 48 eP P 08 55 35.5 -0.1
comp=Z,12nm,1.4s
R23A Moffat 89.94 48 ⇓P P 08 55 35.9 +0.3
baz=90
I17A Pilgrim Ck. 89.94 41 ⇑P P 08 55 35.9 +0.5
baz=90
Z28A Tucker Farm, M 89.95 53 ⇑P P 08 55 35.3 -0.3
baz=90
330A Mertzon 89.97 56 ⇑P P 08 55 35.6 0.0
baz=90
MSTX Muleshoe 90.00 53 ⇓P P 08 55 35.7 -0.1
baz=90,SNR=14
U25A Circle Dot Ran 90.01 50 ⇑P P 08 55 35.5 -0.4
baz=90,SNR=7.3
P22A Eagle 90.03 46 ⇑P P 08 55 36.0 +0.1
baz=90
GYA Guiyang 90.05 299⇑iP P 08 55 36.1 -0.1
GYA pP pP 08 55 47.3 +2.0
GYA PP PP 08 59 12.0 +2.1
GYA SKS SKSac 09 06 01.8 -3.8
GYA S S 09 06 25.6 -2.4
GYA sS sS 09 06 43.4 +0.4
GYA SS SS 09 12 27.9 +0.6
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.8s

GYA LR LR
comp=Z,630nm,20.6s
GYA LR LR
comp=Z,540nm,22.4s
GYA LR LR
comp=Z,580nm,21.8s
431A Sonora 90.06 56 ⇑P P 08 55 36.1 +0.1
baz=90
S24A Houchin Ranch, 90.08 48 ⇑P P 08 55 36.2 -0.1
baz=90,SNR=9.2
X27A F and S Farms, 90.09 52 ⇑P P 08 55 36.2 0.0
baz=90,SNR=12
632A Uvalde 90.15 58 ⇑P P 08 55 36.7 +0.2
baz=90,SNR=15
V26A Tequesquite Ra 90.16 51 ⇓P P 08 55 36.5 0.0
baz=90
733A Divot King Ran 90.18 59 ⇑P P 08 55 36.5 -0.1
baz=90
H17A Grant Village 90.20 41 ⇑P P 08 55 37.3 +0.6
baz=90
230A Sterling City 90.24 55 ⇓P P 08 55 37.1 +0.2
baz=90
DLBC Dease Lake 90.25 22 eP P 08 55 37.0 +0.8
DLBC epP pP 08 55 49.7 +4.3
934A Benavides 90.28 60 ⇓P P 08 55 37.9 +0.8
baz=90
W27A Bowe Ranch, En 90.31 52 ⇑P P 08 55 37.1 -0.1
baz=90,SNR=11
035A Encino 90.32 61 ⇓P P 08 55 37.9 +0.6
baz=90
532A Rocksprings 90.34 57 ⇓P P 08 55 37.4 0.0
baz=91,SNR=22
T25A Trinidad 90.38 49 ⇓P P 08 55 37.0 -0.6
baz=91
Z29A Hungry Hill Ra 90.44 54 ⇑P P 08 55 37.5 -0.4
baz=91,SNR=9.3
R24A Sanders Place, 90.44 48 ⇑P P 08 55 37.7 -0.2
baz=91
O22A Kremmling 90.46 46 ⇓P P 08 55 38.2 +0.1
baz=91
U26A Atchley Ranch, 90.48 50 ⇓P P 08 55 37.6 -0.5
baz=91,SNR=9.4
331A San Angelo 90.49 56 ⇑P P 08 55 38.1 +0.1
baz=91
834A Tilden 90.49 59 ⇑P P 08 55 38.0 -0.1
baz=91
J19A Crowheart 90.51 42 ⇑P P 08 55 38.2 +0.1
baz=91
P23A Jefferson 90.53 47 ⇓P P 08 55 39.3 +0.9
baz=91
JCT Junction City 90.58 57 ⇑P P 08 55 38.8 +0.3
baz=91
PBKT Sadao Pong 90.61 288 P P 08 55 40.0 +1.2
comp=Z,37nm,1.6s,comp=Z,850nm
S25A Robets Cordova 90.62 49 ⇓P P 08 55 38.6 -0.1
baz=91,SNR=7.1
X28A Dimmitt 90.68 52 ⇓P P 08 55 39.3 +0.4
baz=91
130A Snyder 90.68 55 ⇑P P 08 55 39.0 +0.1
baz=91
LOEI Loei 90.74 289 P P 08 55 38.6 -0.9
comp=Z,18nm,1.5s,comp=Z,592nm
Y29A Porterfield Fa 90.75 53 ⇑P P 08 55 39.1 -0.1
baz=91,SNR=15
432A Menard 90.77 57 ⇓P P 08 55 39.6 +0.2
baz=91
Q24A Divide 90.78 47 ⇓P P 08 55 39.9 +0.3
baz=91
734A La Parita Cree 90.81 59 ⇓P P 08 55 39.8 +0.3
baz=91
V27A Dan Oppiter Fa 90.81 51 ⇓P P 08 55 39.6 0.0
baz=91,SNR=11
N22A Wattenberg Ran 90.85 45 ⇓P P 08 55 39.4 -0.5
baz=91
231A Bronte 90.86 55 ⇑P P 08 55 39.5 -0.3
baz=91
Z30A Sanderson Ranc 90.88 54 ⇓P P 08 55 39.4 -0.5
baz=91,SNR=6.1
ISCO Idaho Springs 90.89 46 ⇓P P 08 55 40.0 0.0
baz=91
O23A Lake Granby, G 90.90 46 ⇓P P 08 55 40.1 0.0
baz=91
H18A Shoshone NF, C 90.90 41 ⇑P P 08 55 40.3 +0.4
baz=91
COLA College 90.95 12 c iP P 08 55 38.3 -1.0
COLA pmax pmax
comp=Z,59nm,0.9s
COLA MLR MLR
comp=Z,2μm,19.0s
COLA College 90.95 12 eP P 08 55 37.9 -1.3
comp=Z,33nm,1.1s
COLA epP pP 08 55 50.9 +2.6
I19A Meeteetse 90.96 42 ⇑P P 08 55 40.4 +0.2
baz=91
R25A Fountain Ranch 90.97 48 ⇑P P 08 55 40.1 -0.2
baz=91
T26A Comanche Natio 90.97 50 ⇓P P 08 55 40.1 -0.3
baz=91
533A Kerrville 90.99 58 ⇓P P 08 55 40.1 -0.3
baz=91,SNR=16
WALA Waterton Lakes 90.99 35 eP P 08 55 39.8 -0.2
comp=Z,0.3nm,1.1s
X29A Tulia 91.00 53 ⇑P P 08 55 40.6 +0.1
baz=91,SNR=9.7
IM04 Indian Mountai 91.01 9 eP P 08 55 39.8 +0.2
ILAR Eielson Array 91.04 12 P P 08 55 38.9 -0.8
comp=Z,6.0nm,1.1s,baz=234,slow=1.1,SNR=26
332A Millersview 91.04 56 ⇓P P 08 55 40.6 0.0
baz=91,SNR=15
M22A Cedar Creek Ra 91.07 45 ⇓P P 08 55 41.1 +0.3
baz=91
835A Beeville 91.14 60 ⇓P P 08 55 41.1 0.0
baz=91
U27A Thompson Grove 91.14 50 ⇑P P 08 55 41.0 -0.1
baz=91
131A Roby 91.15 55 ⇓P P 08 55 40.9 -0.1
baz=91
J20A Shoshoni 91.15 42 ⇑P P 08 55 41.5 +0.5
baz=91
AMTX Amarillo 91.22 52 ⇑P P 08 55 41.2 -0.2
baz=92
N23A Red Feather La 91.23 45 ⇑P P 08 55 41.5 -0.1
baz=92
V28A Channing 91.24 51 ⇑P P 08 55 41.6 0.0
baz=92
433A Art 91.25 57 ⇓P P 08 55 41.5 -0.1
baz=92,SNR=28
S26A Kim 91.27 49 ⇑P P 08 55 41.6 -0.1
baz=92
K21A Alcova 91.29 43 ⇓P P 08 55 41.9 +0.2
baz=92
H19A Powell 91.31 41 ⇑P P 08 55 41.4 -0.3
baz=92
Y30A Stafford Cattl 91.33 53 ⇑P P 08 55 41.7 -0.2
baz=92
232A Coleman 91.34 56 ⇓P P 08 55 41.8 -0.2
baz=92,SNR=23
W29A Amraillo 91.36 52 ⇓P P 08 55 41.7 -0.4
baz=92,SNR=9.1
Q25A Bedland, Calha 91.37 48 ⇑P P 08 55 42.2 0.0
baz=92
534A Blanco 91.40 58 ⇓P P 08 55 42.1 -0.2
baz=92,SNR=16
735A Kenedy 91.40 59 ⇑P P 08 55 42.3 0.0
baz=92,SNR=7.2
O24A Longmont 91.42 46 ⇑P P 08 55 43.1 +0.8
baz=92
I20A Worland 91.44 42 ⇑P P 08 55 42.1 -0.2
baz=92
UTTA Uttaradit 91.46 289 P P 08 55 44.1 +1.4
comp=Z,8.1nm,1.1s,comp=Z,117nm
L22A Ellis Ranch, M 91.50 44 ⇓P P 08 55 43.1 +0.4
baz=92
J21A Lysite 91.54 43 ⇓P P 08 55 43.1 +0.2
baz=92
U28A Mallet 91.54 51 ⇑P P 08 55 43.2 +0.3
baz=92
333A Richland Sprin 91.59 56 ⇑P P 08 55 42.4 -0.8
baz=92,SNR=7.4
X30A Coker Ranch, T 91.61 53 ⇑P P 08 55 43.4 +0.2
baz=92
R26A Arlington 91.61 49 ⇑P P 08 55 42.7 -0.5
baz=92
Z31A Sharp Cattle R 91.62 54 ⇑P P 08 55 42.8 -0.5
baz=92,SNR=8.6
635A Leesville 91.67 59 ⇑P P 08 55 43.4 -0.1
baz=92
ABTX Abilene, Hawle 91.68 55 ⇓P P 08 55 43.3 -0.3
baz=92,SNR=11
S27A Las Animas 91.69 49 ⇑P P 08 55 43.4 -0.2
baz=92
P25A Willow Gulch B 91.72 47 ⇑P P 08 55 43.7 0.0
baz=92
XAN Xi'an 91.75 307 P P 08 55 44.1 +0.3
XAN pP pP 08 55 55.1 +2.2
XAN PP PP 08 59 25.0 +1.8
XAN SKS SKSac 09 06 12.3 -2.6
XAN S S 09 06 39.1 -3.9
XAN SS SS 09 12 49.6 -1.8
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,32nm,5.5s
XAN LR LR
comp=Z,230nm,16.9s
XAN LR LR
comp=Z,130nm,18.1s
XAN LR LR
comp=Z,190nm,20.1s
H20A Greybull 91.81 42 ⇓P P 08 55 44.0 +0.1
baz=92
Y31A Rekieta Farm, 91.83 54 ⇓P P 08 55 44.1 -0.1
baz=92,SNR=13
Q26A Hugo 91.87 48 ⇓P P 08 55 44.0 -0.4
baz=92
I21A Big Trails, Te 91.88 42 ⇓P P 08 55 44.1 -0.2
baz=92
434A Burnet 91.91 57 ⇑P P 08 55 44.3 -0.3
baz=92,SNR=11
233A Rising Star 91.97 56 ⇓P P 08 55 44.6 -0.3
baz=92,SNR=9.1
F19A Roth Farm, Mol 91.97 40 ⇓P P 08 55 44.6 -0.1
baz=92
T28A Walsh 91.97 50 ⇑P P 08 55 44.5 -0.4
baz=92
L23A Garrett 92.01 44 ⇑P P 08 55 44.8 -0.3
baz=92
DAWY Dawson 92.03 15 eP P 08 55 44.4 0.0
R27A Eads 92.05 49 ⇑P P 08 55 45.0 -0.3
baz=92
Z32A Haskell 92.11 54 ⇑P P 08 55 45.3 -0.2
baz=92,SNR=25
334A Lometa 92.17 57 ⇓P P 08 55 45.6 -0.2
baz=92,SNR=18
J22A Midwest 92.18 43 ⇑P P 08 55 45.6 -0.1
baz=92
133A Hamilton Ranch 92.22 55 ⇑P P 08 55 45.8 -0.3
baz=92,SNR=6.8
M24A Cheyenne 92.25 45 ⇓P P 08 55 46.7 +0.5
baz=92
U29A Oasis Ranch, S 92.26 51 ⇑P P 08 55 46.7 +0.6
baz=92
636A Smothers Creek 92.27 59 ⇓P P 08 55 46.5 +0.3
baz=92
P26A Davis Ranch, A 92.30 48 ⇓P P 08 55 46.5 +0.1
baz=92
X31A McDonald Ranch 92.35 53 ⇑P P 08 55 46.8 +0.2
baz=93
S28A Manter 92.35 50 ⇓P P 08 55 47.2 +0.6
baz=93
V30A Spur Ranch, Mi 92.35 52 ⇓P P 08 55 46.9 +0.3
baz=93
E19A Rath Farm, Rou 92.39 40 ⇑P P 08 55 46.2 -0.3
baz=93
F20A Billings 92.41 40 ⇓P P 08 55 46.7 0.0
baz=93
N25A Grover 92.41 46 ⇓P P 08 55 47.0 +0.1
baz=93
I22A 9 Mile Ranch, 92.42 43 ⇓P P 08 55 47.2 +0.4
baz=93
435B Jarrell 92.43 57 ⇑P P 08 55 46.8 -0.2
baz=93
Y32A R-V Farms, Ver 92.46 54 ⇑P P 08 55 46.9 -0.2
baz=93,SNR=12
BILL Bilibino 92.49 353 ⇓iP P 08 55 46.3 -0.1
BILL i 08 55 54.2
BILL e*PP PP 08 59 30.5 +2.4
BILL pmax pmax
comp=Z,13nm,1.0s
KSCO Kaye Shedlock' 92.52 48 ⇓P P 08 55 47.4 0.0
baz=93
234A Clairette 92.54 56 ⇓P P 08 55 47.0 -0.5
baz=93,SNR=17
HIA Hailar 92.54 324 eP P 08 55 46.8 -0.3
HIA pmax pmax
comp=Z,19nm,1.1s
HIA Hailar 92.54 324 eP P 08 55 46.8 -0.3
comp=Z,19nm,1.1s
T29A Hugoton 92.57 50 ⇑P P 08 55 47.7 +0.1
baz=93
LAMP Lampang 92.58 289 P P 08 55 49.2 +1.3
comp=Z,29nm,0.9s,comp=Z,208nm
W31A Holland Ranch, 92.63 53 ⇓P P 08 55 47.6 -0.3
baz=93,SNR=8.8
Z33A Whitaker Ranch 92.64 55 ⇓P P 08 55 47.8 -0.1
baz=93,SNR=16
KMI Kunming 92.67 296 P P 08 55 49.6 +1.1
KMI pP pP 08 56 01.3 +3.7
KMI sP sP 08 56 06.5 +5.7
KMI SS SS 09 13 04.6 -0.7
KMI pmax pmax
comp=Z,27nm,1.2s
KMI pmax pmax
comp=Z,150nm,5.3s
KMI LR LR
comp=Z,250nm,17.6s
KMI LR LR
comp=Z,460nm,20.2s
KMI LR LR
comp=Z,500nm,19.4s
EGMT Eagleton 92.68 38 ⇑P P 08 55 47.6 -0.3
baz=93
D19A Cripps Ranch, 92.71 39 ⇑P P 08 55 48.0 0.0
baz=93
X32A Elmer 92.76 54 ⇑P P 08 55 48.0 -0.4
baz=93,SNR=9.6
R28A Tribune 92.76 49 ⇑P P 08 55 48.5 0.0
baz=93
335A Moody 92.77 57 ⇑P P 08 55 48.1 -0.4
baz=93
E20A Meyer Farm, Mu 92.80 40 ⇑P P 08 55 48.6 +0.2
baz=93
P27A Ficken Ranch, 92.81 48 ⇓P P 08 55 48.3 -0.4
baz=93
134A White-Moore Ra 92.84 56 ⇑P P 08 55 48.5 -0.4
baz=93
S29A Ulysses 92.91 50 ⇑P P 08 55 49.0 -0.2
baz=93
C19A Slack Wire Ran 92.92 38 ⇓P P 08 55 49.6 +0.6
baz=93
V31A Spring Creek L 92.97 52 ⇓P P 08 55 50.0 +0.5
baz=93
N26A Koester Ranch, 92.99 46 ⇓P P 08 55 49.7 +0.2
baz=93
Y33A Hilltop Ranch, 93.06 54 ⇑P P 08 55 49.8 -0.1
baz=93
D20A Manuel Ranch, 93.10 39 ⇓P P 08 55 50.3 +0.5
baz=93
W32A Sentinel 93.11 53 ⇑P P 08 55 49.8 -0.3
baz=93,SNR=14
CMAR Chiang Mai Arr 93.15 289 P P 08 55 51.1 +0.5
comp=Z,25nm,0.9s,baz=128,slow=2.5,SNR=90
CMAR LR LR 09 39 48.1
comp=Z,183nm,18.1s,baz=162,slow=37
O27A Beecher Island 93.18 47 ⇓P P 08 55 50.7 +0.3
baz=93
336A Riesel 93.26 57 ⇓P P 08 55 51.0 +0.2
baz=94
R29A Marienthal 93.27 49 ⇑P P 08 55 51.2 +0.4
baz=94
CMMT Chiang Mai 93.28 289 P P 08 55 52.1 +0.9
comp=Z,67nm,1.2s,comp=Z,731nm
CHTO Chiang Mai 93.29 289 P P 08 55 52.1 +0.9
comp=Z,231nm,1.2s,comp=Z,3μm
135A Vickery Place, 93.34 56 ⇓P P 08 55 51.5 +0.3
baz=94
S30A Montezuma 93.38 50 ⇑P P 08 55 51.8 +0.5
baz=94
P28A Saint Francis 93.38 48 ⇑P P 08 55 51.7 +0.4
baz=94
C20A Veseth Ranch, 93.51 39 ⇓P P 08 55 51.9 +0.2
baz=94
V32A Arapaho 93.52 53 ⇑P P 08 55 52.2 +0.2
baz=94
CMAI Chiengmai2 93.65 290 P P 08 55 53.8 +0.7
comp=Z,27nm,1.2s,comp=Z,4μm
T31A Randall Ranch, 93.69 51 ⇓P P 08 55 52.8 +0.1
baz=94
W33A Caddo, Fort Co 93.69 53 ⇓P P 08 55 53.2 +0.4
baz=94
Y34A Reagan Ranch, 93.69 55 ⇑P P 08 55 53.0 +0.3
baz=94
EDM Edmonton 93.72 32 eP P 08 55 51.7 -0.8
EDM e*PP pP 08 56 04.5 +3.0
EDM Edmonton 93.72 32 eP P 08 55 51.7 -0.8
EDM epP pP 08 56 04.5 +3.0
G23A Biddle 93.76 42 ⇓P P 08 55 53.3 +0.3
baz=94
Z35A Perchaven, San 93.79 55 ⇓P P 08 55 54.1 +0.9
baz=94
R30A Dighton 93.81 50 ⇑P P 08 55 54.0 +0.7
baz=94
U32A Winter Ranch, 93.85 52 ⇑P P 08 55 54.2 +0.7
baz=94
MHMT Maesarieng 93.91 288 P P 08 55 56.3 +2.2
comp=Z,13nm,0.7s,comp=Z,768nm
X34A Smith Ranch, M 93.92 54 ⇑P P 08 55 54.4 +0.6
baz=94
K26A Motz Farm, Whi 93.92 45 ⇑P P 08 55 54.7 +1.0
baz=94
F23A Volborg 94.02 41 ⇓P P 08 55 54.2 +0.1
baz=94
N28A Pribbeno Ranch 94.05 47 ⇓P P 08 55 54.5 +0.2
baz=94
H24A Dirks Ranch, A 94.05 43 ⇑P P 08 55 54.2 -0.1
baz=94
S31A Mullinville 94.06 51 ⇑P P 08 55 54.4 0.0
baz=94
C21A Desert Coulee 94.09 39 ⇑P P 08 55 54.6 +0.3
baz=94
V33A Lossen Ranch, 94.12 53 ⇑P P 08 55 54.9 +0.2
baz=94
Q30A Quinter 94.16 49 ⇑P P 08 55 54.9 0.0
baz=94
A20A Cobblestone Ra 94.17 38 ⇓P P 08 55 55.0 +0.4
baz=94
W34A Bridge Creek, 94.24 53 ⇑P P 08 55 55.0 -0.2
baz=94
T32A Huddler Ranch, 94.26 51 ⇓P P 08 55 55.7 +0.3
baz=94
D22A Cohagen 94.28 40 ⇓P P 08 55 55.5 +0.3
baz=94
CD2 Chengdu 94.28 302 P P 08 55 56.3 +0.7
CD2 pP pP 08 56 07.3 +2.6
CD2 sP sP 08 56 11.4 +3.5
CD2 PP PP 08 59 46.3 +3.2
CD2 SKS SKSac 09 06 27.1 -1.9
CD2 S S 09 07 02.5 -3.1
CD2 sS sS 09 07 21.0 +0.3
CD2 SS SS 09 13 28.8 +0.9
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,160nm,5.6s
CD2 LR LR
comp=Z,360nm,19.1s
CD2 LR LR
comp=Z,630nm,18.6s
CD2 LR LR
comp=Z,460nm,22.1s
J26A Sides Ranch, S 94.28 44 ⇑P P 08 55 55.6 +0.2
baz=94
R31A Burdett 94.33 50 ⇑P P 08 55 55.1 -0.5
baz=95
G24A Alzada 94.42 42 ⇑P P 08 55 55.5 -0.5
baz=95
S32A Newby Ranch, P 94.49 51 ⇓P P 08 55 56.1 -0.3
baz=95
K27A Flueckinger Fa 94.54 45 ⇓P P 08 55 56.9 +0.3
baz=95
H25A Fruitdale 94.58 43 ⇓P P 08 55 57.2 +0.5
baz=95
F24A Ekalaka 94.66 42 ⇓P P 08 55 57.1 +0.1
baz=95
V34A Guthrie 94.69 53 ⇑P P 08 55 57.1 -0.2
baz=95
I26A New Underwood 94.77 44 ⇓P P 08 55 57.5 0.0
baz=95
A21A Bergtoll Ranch 94.79 38 ⇓P P 08 55 58.1 +0.6
baz=95
D23A Lindsay 94.86 40 ⇑P P 08 55 58.4 +0.5
baz=95
J27A Elkhorn Farm, 94.94 45 ⇓P P 08 55 59.1 +0.7
baz=95
R32A Long Quarter, 94.97 50 ⇓P P 08 55 58.8 +0.2
baz=95
K28A Ten Mile Ranch 95.11 45 ⇓P P 08 55 59.2 +0.1
baz=95
C23A Lambert 95.19 40 ⇓P P 08 55 59.9 +0.5
baz=95
J28A Allard Ranch, 95.52 45 ⇓P P 08 56 01.4 +0.5
baz=96
G26A Maurine 95.53 43 ⇑P P 08 56 00.8 -0.2
baz=96
H27A Howes 95.55 44 ⇑P P 08 56 00.9 -0.1
baz=96
B23A Brockton 95.63 39 ⇓P P 08 56 01.5 +0.2
baz=96
F26A Lodgepole 95.75 42 ⇓P P 08 56 01.9 -0.1
baz=96
K29A Lazy Trails An 95.81 46 ⇓P P 08 56 02.4 0.0
baz=96
I28A Midland 95.83 44 ⇑P P 08 56 02.7 +0.4
baz=96
TUL1 Tulsa 95.98 53 ⇓P P 08 56 03.7 +0.5
baz=96
G27A Dupree 95.99 43 ⇓P P 08 56 02.9 -0.1
baz=96
DGMT Dagmar 96.09 39 ⇑P P 08 56 03.8 +0.4
baz=96
J29A Okreek 96.10 45 ⇑P P 08 56 03.6 0.0
baz=96
F27A Lemmon 96.16 42 ⇑P P 08 56 03.7 -0.1
baz=96
E26A Carlson Angus 96.17 42 ⇑P P 08 56 03.8 -0.1
baz=96
H28A Mission Ridge 96.23 44 ⇓P P 08 56 04.2 0.0
baz=96
K30A Basset 96.24 46 ⇓P P 08 56 04.7 +0.4
baz=96
LZH Lanzhou 96.39 307 eP P 08 56 05.5 +0.3
LZH pP pP 08 56 16.6 +2.3
LZH sP sP 08 56 20.4 +2.8
LZH PP PP 09 00 02.8 +3.3
LZH SKS SKSac 09 06 38.8 -1.4
LZH eS S 09 07 21.0 -2.9
LZH sS sS 09 07 38.3 -0.7
LZH eSS SS 09 13 57.8 0.0
LZH pmax pmax
comp=Z,19nm,1.6s
LZH pmax pmax
comp=Z,140nm,9.2s
LZH LR LR
comp=Z,430nm,19.1s
LZH LR LR
comp=Z,500nm,18.7s
LZH LR LR
comp=Z,680nm,19.8s
I29A Vivian Onida 96.39 45 ⇑P P 08 56 04.5 -0.4
baz=97
D26A Manning 96.45 41 ⇑P P 08 56 05.4 +0.3
baz=97
G28A Parade 96.48 43 ⇓P P 08 56 05.4 +0.1
baz=97
L31A Butterfield Fa 96.53 47 ⇓P P 08 56 05.6 0.0
baz=97
J30A Dallas 96.61 46 ⇓P P 08 56 06.0 +0.1
baz=97
E27A Carson 96.70 42 ⇑P P 08 56 06.1 -0.1
baz=97
H29A Onida 96.72 44 ⇑P P 08 56 06.5 +0.1
baz=97
YKA Yellowknife Ar 98.60 24 P P 08 56 13.7 -0.6
comp=Z,1.4nm,0.9s,baz=240,slow=4.4,SNR=16
YKA PP PP 09 00 11.2 -4.4
comp=Z,0.6nm,1.0s,baz=240,slow=7.0,SNR=5.3
YKA PKKPbc PKKPbc 09 12 43.5 -2.3
comp=Z,0.4nm,0.8s,baz=41,slow=2.6,SNR=4.9
ECSD EROS Data Cent 98.67 46 ⇑Pdiff P 08 56 14.9 -0.3
baz=99
LPAZ La Paz 98.90 112 LR LR 09 34 01.5
comp=Z,568nm,18.9s,baz=305,slow=31
SONM Songino Array 99.56 318 P Pdif 08 56 17.7 -1.5

comp=Z,1.2nm,1.0s,baz=127,slow=5.4,SNR=7.9
SONM PP PP 09 00 21.4 -2.2
comp=Z,0.5nm,0.9s,baz=134,slow=4.3,SNR=3.7
GTA Gaotai 100.63 308 eP Pdif 08 56 24.1 -0.1
GTA pP pP 08 56 34.6 +1.3
GTA sP sP 08 56 38.6 +2.0
GTA PP PP 09 00 35.3 +3.4
GTA S Sdif 09 07 56.6 -3.0
GTA sS sS 09 08 14.3 -0.5
GTA SS SS 09 14 59.6 +2.4
GTA pmax pmax
comp=Z,5.0nm,1.9s
GTA pmax pmax
comp=Z,110nm,7.4s
GTA LR LR
comp=Z,230nm,21.9s
GTA LR LR
comp=Z,460nm,20.9s
GTA LR LR
comp=Z,690nm,20.4s
TIXI Tiksi 102.42 345 eP Pdif 08 56 30.1 -1.1
TIXI pmax pmax
comp=Z,2.0nm,1.2s
TIXI MLR MLR
comp=Z,429nm,20.0s
ZALV Zalesovo Beam 114.32 320 PKiKP PKPdf 09 01 13.9 -1.3
comp=Z,3.3nm,0.6s,baz=125,slow=0.8,SNR=12
MK31 Makanchi Array 114.93 312 ePKIKP PKPdf 09 01 15.4 -1.3
MK31 Makanchi Array 114.93 312 ePKPdf PKPdf 09 01 15.4 -1.3
MKAR Makanchi Array 114.93 312 PKP PKPdf 09 01 15.3 -1.4
comp=Z,2.4nm,0.7s,baz=77,slow=1.8,SNR=17
NVS Novosibirsk 115.34 321 ePKIKP **PKPdf 09 01 15.0 -2.1**
KURK Kurchatov 117.79 316 ePKIKP **PKPdf 09 01 20.1 -1.9**
KURK e 09 01 32.3
KURK Kurchatov 117.79 316 ePKPdf **PKPdf 09 01 20.1 -1.9**
KURK epPKPdf **pPKPdf 09 01 32.3 +1.0**
KSH Kashi 118.43 303 ePKP **PKPdf 09 01 24.3 +0.5**
KSH esPKP 09 01 39.5
KSH PKS **PKSdf 09 04 59.3 -1.3**
KSH SKKS 09 09 36.6
KSH SS **SS 09 19 01.0 +4.5**
KSH AMB AMB
comp=Z,74nm,3.3s
KSH LR LR
comp=Z,80nm,4.7s
KSH LR LR
comp=Z,99nm,6.6s
KSH LR LR
comp=Z,170nm,6.5s
TKM2 Tokmak 2 119.15 307 ePKIKP **PKPdf 09 01 24.1 -1.1**
TKM2 e 09 01 35.6
TKM2 Tokmak 2 119.15 307 ePKPdf **PKPdf 09 01 24.1 -1.1**
TKM2 epPKPdf **pPKPdf 09 01 35.6 +1.1**
AAK Ala-Archa 119.93 307 ePKIKP **PKPdf 09 01 26.0 -0.6**
AAK Ala-Archa 119.93 307 ePKPdf **PKPdf 09 01 26.0 -0.6**
EKS2 Erkin-Say 120.45 307 ePKIKP **PKPdf 09 01 27.2 -0.4**
EKS2 e 09 01 38.5
EKS2 Erkin-Say 120.45 307 ePKPdf **PKPdf 09 01 27.2 -0.4**
EKS2 epPKPdf **pPKPdf 09 01 38.5 +1.6**
KKAR Karatay Array 122.88 307 ePKIKP **PKPdf 09 01 31.3 -0.8**
KKAR Karatay Array 122.88 307 ePKPdf **PKPdf 09 01 31.3 -0.8**
BRVK Borovoye 122.96 319c iPKIKP **PKPdf 09 01 30.6 -1.3**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 122.96 319 ePKPdf **PKPdf 09 01 31.1 -0.8**
BRVK epPKPdf **pPKPdf 09 01 42.5 +1.3**
KBL Kabul 123.24 297 ePKIKP **PKPdf 09 01 33.2 -0.1**
KBL Kabul 123.24 297 ePKPdf **PKPdf 09 01 33.2 -0.1**
BOSA Boshof 124.14 202 PKP **PKPdf 09 01 35.0 -0.2**
comp=Z,4.9nm,0.9s,baz=112,slow=3.4,SNR=3.9
DAG Danmarks Havn 125.75 6 i PKIKP **PKPdf 09 01 35.5 -1.1**
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 125.75 6 i P **PKPdf 09 01 35.5 -1.1**
comp=Z,2.7nm,0.9s
SUMG Summit 125.79 15 ePKIKP **PKPdf 09 01 36.7 -0.6**
SUMG Summit 125.79 15 i P **PKPdf 09 01 36.1 -1.2**
comp=Z,5.4nm,1.1s
SUMG Summit 125.79 15 ePKPdf **PKPdf 09 01 36.7 -0.6**
SVE Sverdlovsk 127.84 325 ePKIKP **PKPdf 09 01 40.8 -0.3**
SVE pmax pmax
comp=Z,20nm,1.5s
SOKR Solikamsk 128.93 329 ePKIKP **PKPdf 09 01 43.3 +0.3**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 129.05 324 i PKIKP **PKPdf 09 01 43.0 -0.4**
ARU 09 03 48.5
ARU 09 08 46.9
ARU MLR MLR
comp=Z,546nm,22.0s
ARU Arti 129.05 324 ePKPdf **PKPdf 09 01 43.5 0.0**
ABKAR Akbulak array 129.87 315 ePKPdf **PKPdf 09 01 45.0 -0.2**
ABKAR epPKPdf **pPKPdf 09 01 57.4 +2.9**
AKTO Aktyubinsk 130.87 317 PKP **PKPdf 09 01 46.8 -0.3**
comp=Z,3.8nm,0.7s,baz=75,slow=4.8,SNR=12
ARCES ARCESS Array B 132.48 350 PKP **PKPdf 09 01 49.5 -0.1**
comp=Z,4.0nm,0.7s,baz=331,slow=1.5,SNR=8.6
APA Apatity 132.61 345 i PKIKP PKPdf 09 01 57.0 +7.1
APA MLR MLR
comp=Z,700nm,16.0s
LSZ Lusaka 134.69 213 ePKIKP **PKPdf 09 01 56.4 +0.8**
LSZ e 09 02 08.3
LSZ Lusaka 134.69 213 ePKPdf **PKPdf 09 01 56.4 +0.8**
LSZ epPKPdf **pPKPdf 09 02 08.3 +3.5**
KLMR Klimovskoe 135.69 336 ePKIKP PKPpre 09 01 50.7
KLMR pmax pmax
comp=Z,21nm,1.7s
JOF Joensuu 136.86 342 ePKIKP **PKPdf 09 01 57.0 -0.9**
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 136.86 342 ep **PKPdf 09 01 57.0 -0.9**
comp=Z,4.0nm,0.7s
KAF Kangasniemi 138.84 344 ePKIKP PKPpre 09 01 55.6
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 138.84 344 ep PKPpre 09 01 55.6
comp=Z,0.6nm,0.3s
FINES FINESS Array B 139.47 344 PKhKP PKPpre 09 01 52.1
comp=Z,1.2nm,0.6s,baz=48,slow=2.5,SNR=3.7
FINES PKP **PKPdf 09 02 02.9 +0.1**
comp=Z,4.6nm,0.7s,baz=116,slow=4.4,SNR=4.5
KMBO Kilima Mbogo 139.50 237 PKP **PKPdf 09 02 05.5 +0.9**
comp=Z,3.5nm,1.0s,baz=193,slow=1.5,SNR=4.4
KMBO Kilima Mbogo 139.50 237 PKP **PKPdf 09 02 05.5 +0.9**
KMBO ePKPdf **PKiKP 09 02 05.8 -1.2**
VRHR Novokhopersk 140.36 323 ePKHKP PKPpre 09 01 57.9
VRHR pmax pmax
comp=N,8.0nm,0.9s
VRHR pmax pmax
comp=E,8.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR MLR MLR
comp=N,170nm,20.0s
VRHR MLR MLR
comp=E,180nm,20.0s
VRHR MLR MLR
comp=Z,310nm,20.0s
OBN Obninsk 140.60 331 ePKIKP PKPpre 09 02 00.5
OBN e 09 02 13.5
OBN e 09 05 04.5
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,374nm,20.0s
OBN Obninsk 140.60 331 PKP **PKPdf 09 02 04.8 -0.2**
comp=Z,12nm,0.4s,baz=344,slow=17,SNR=3.2
VSR Storozhevoye 141.63 325 ePKIKP **PKPdf 09 02 04.3 -2.7**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,4.0nm,0.8s
VSR pmax pmax
comp=Z,9.0nm,0.8s
VSR MLR MLR
comp=N,440nm,20.0s
VSR MLR MLR
comp=E,410nm,20.0s
VSR MLR MLR
comp=Z,710nm,20.0s
GNI Garni 142.31 305⇑ i PKIKP **PKPdf 09 02 08.7 -0.1**
NB2 NORSAR Subarra142.43 354 PKP PKPpre 09 02 04.4
comp=Z,4.1nm,1.0s,baz=18,slow=3.7
NOA NORSAR Array B 142.43 354 PKhKP PKPpre 09 02 03.5
comp=Z,2.6nm,0.8s,baz=15,slow=2.7,SNR=8.4

KIV Kislovodsk 142.69 312 ePKIKP **PKPdf 09 02 05.8 -3.5**
KIV pmax pmax
comp=Z,10.0nm,1.4s
KIV MLR MLR
comp=Z,548nm,22.0s
KIV Kislovodsk 142.69 312 ePKPdf **PKPdf 09 02 07.7 -1.5**
HFS Hagfors 143.05 352 PKhKP PKPpre 09 02 05.3
comp=Z,1.7nm,0.6s,baz=64,slow=3.4,SNR=7.3
HFS PKP **PKPdf 09 02 08.6 -0.7**
comp=Z,5.7nm,0.7s,baz=49,slow=4.5,SNR=8.2
MICGM Minsk 144.59 336⇓eP **PKPab 09 02 09.0 -1.7**
MNK Minsk 144.61 336⇓ePKIKP **PKPab 09 02 09.0 -1.7**
MNK pmax pmax
comp=Z,150nm,1.1s
SIRT Sirnak 144.65 302 eP **PKPab 09 02 10.9 -0.6**
NACGM Naroch 144.67 337 e **PKPab 09 02 09.0 -1.9**
SVAN Silvan-Diyarba 145.46 303 eP **PKPdf 09 02 14.4 +0.2**
BAYT Ayd˘–ntepe-Bay 145.64 307 eP **PKPdf 09 02 14.9 +0.2**
BNGB Bing˘¶l 145.64 305 eP **PKPdf 09 02 15.4 +0.8**
ANN Anapa 145.82 316 i PKHKP PKPpre 09 02 03.5
ANN pmax pmax
comp=Z,132nm,1.5s
GUMT Gumushane 146.10 308 eP **PKPdf 09 02 16.0 +0.6**
DYBB Diyarbakir 146.32 303 eP **PKPdf 09 02 16.8 +1.1**
PTK Pertek 146.64 305 eP **PKPbc 09 02 18.9 +0.9**
AKASG Malin Array Be 146.86 331 PKPbc **PKPdf 09 02 16.8 +0.7**
comp=Z,18nm,0.6s,baz=40,slow=3.7,SNR=145
KIEV Kiev 146.87 331c iPKP2 **PKPdf 09 02 16.7 +0.6**
KIEV Kiev 146.87 331 ePKPbc **PKPdf 09 02 16.5 +0.4**
KIEV ePKPdf **pPKPdf 09 02 29.3 +3.6**
ILIC ilic-Erzincan 147.08 307 eP **PKPab 09 02 23.2 +2.5**
MUD Monsted U'grnd 147.14 355 i PKP2 **PKPbc 09 02 19.3 +0.8**
MUD pmax pmax
comp=Z,24nm,0.8s
MUD Monsted U'grnd 147.14 355 i P **PKPbc 09 02 18.3 -0.2**
comp=Z,32nm,1.1s
URFA Urfa 147.46 303 eP **PKPbc 09 02 20.4 +0.2**
MALT Malatya 147.52 305 eP **PKPbc 09 02 21.0 +0.6**
MALT Malatya 147.52 305⇓PKP2 **PKPbc 09 02 21.2 +0.8**
MALT Malatya 147.52 305⇓iP **PKPbc 09 02 21.2 +0.8**
RSDY Resadiye-TOKAT 147.67 309 eP **PKPbc 09 02 20.8 +0.1**
BSD Bornholm Skovb 147.70 349 i P **PKPdf 09 02 19.3 +2.0**
comp=Z,24nm,0.8s
SIM Simferopol' 147.81 318 i PKP2 **PKPbc 09 02 20.8 0.0**
SIM pmax pmax
comp=Z,42nm,0.7s
EKA Eskdalemuir Ar 147.99 8 PKPbc **PKPbc 09 02 20.3 -0.6**
comp=Z,17nm,1.0s,baz=355,slow=2.6,SNR=15
ESK Eskdalemuir 148.00 8 i PKP2 **PKPab 09 02 24.1 +0.4**
ESK Eskdalemuir 148.00 8 ePKPbc **PKPbc 09 02 20.2 -0.8**
SVSK Karacayir 148.07 308 eP **PKPbc 09 02 22.2 +0.5**
KMRS Kahramanmaras 148.91 304 eP **PKPbc 09 02 23.9 -0.1**
GKP Gorka Klasztor 148.93 345 ePKP2 **PKPbc 09 02 22.8 -0.6**
GKP Gorka Klasztor 148.93 345 ePKP **PKPbc 09 02 22.8 -0.6**
BEL Belsk 149.22 340 ePKP2 **PKPbc 09 02 24.5 +0.2**
BEL Belsk 149.22 340 ePKP **PKPbc 09 02 24.4 +0.2**
BSEG Bad Segeberg 149.52 353 ePKPbc **PKPbc 09 02 24.7 -0.2**
KIS Kishinev 149.59 326 ePKP2 **PKPbc 09 02 25.0 -0.3**
KIS MLR MLR
comp=Z,400nm,23.0s
KIS MLR MLR
comp=Z,300nm,24.0s
KIS Kishinev 149.59 326 ePKP **PKPbc 09 02 25.0 -0.3**
KIS LRM MLR 10 06 16.0
comp=Z,300nm,24.0s
CORM Corum 149.66 310 eP **PKPbc 09 02 25.9 0.0**
LVV L'vov 149.73 334⇓iPKP2 **PKPbc 09 02 25.0 -0.6**
KWP Kalwaria Pacla 150.40 335 ePKIKP **PKPbc 09 02 27.2 0.0**
KWP Kalwaria Pacla 150.40 335 ePKP **PKPbc 09 02 27.2 0.0**
KWP Kalwaria Pacla 150.40 335⇓iP **PKPbc 09 02 27.5 +0.3**
KWP Kalwaria Pacla 150.40 335 ePKPbc **PKPbc 09 02 27.3 +0.1**
RUE Ruedersdorf 150.41 348 ePKPbc **PKPbc 09 02 27.3 +0.2**
SAFT Safranbolu 150.54 313 eP **PKPbc 09 02 27.3 -0.5**
TLCR 150.76 323⇓PKIKP **PKPbc 09 02 28.1 0.0**
TLCR 150.76 323⇓iP **PKPbc 09 02 28.1 0.0**
BURAR Bucovina Array 150.91 330⇑PKIKP **PKPbc 09 02 29.4 +0.8**
BURAR Bucovina Array 150.91 330⇑iP **PKPbc 09 02 29.4 +0.8**
OJC Ojcow 150.94 339 ePKIKP **PKPbc 09 02 28.3 -0.1**
OJC Ojcow 150.94 339 ePKP **PKPbc 09 02 28.3 -0.1**
NRDL Niedersach Rie 150.96 353 ePKPbc **PKPbc 09 02 27.7 -0.6**
TESR Tescani 151.02 327⇓iP **PKPbc 09 02 28.4 -0.4**
ANTO Ankara 151.07 311 ePKIKP **PKPdf 09 02 22.7 -0.7**
ANTO e 09 02 28.5
ANTO Ankara 151.07 311⇓iP **PKPbc 09 02 29.3 +0.1**
ANTO Ankara 151.07 311 ePKPdf **PKPdf 09 02 22.7 -0.7**
ANTO ePKPbc **PKPbc 09 02 28.5 -0.7**
LOD Lodumlu 151.09 311 eP **PKPbc 09 02 29.1 -0.1**
STHS Stebnicka Huta 151.12 337 ePKIKP **PKPbc 09 02 29.2 +0.3**
STHS Stebnicka Huta 151.12 337 ePKP **PKPbc 09 02 29.2 +0.3**
CFR Carcaliu 151.13 324⇑PKIKP **PKPbc 09 02 28.7 -0.3**
CFR Carcaliu 151.13 324⇑iP **PKPbc 09 02 28.7 -0.3**
UZH Uzhgorod 151.37 335 ePKIKP **PKPbc 09 02 28.3 -1.2**
UZH e 09 02 38.7
UZH e 09 02 41.9
IBBN Ibbenburen 151.37 356 ePKPbc **PKPbc 09 02 28.7 -0.6**
KSP Ksiaz 151.39 344 ePKIKP **PKPbc 09 02 29.7 +0.3**
KSP e 09 02 41.1
KSP Ksiaz 151.39 344 ePKP **PKPbc 09 02 29.8 +0.3**
VRI Vrincioaia 151.42 326⇓PKIKP **PKPbc 09 02 29.3 -0.4**
VRI Vrincioaia 151.42 326⇓iP **PKPbc 09 02 29.3 -0.4**
TIRR Tirgusor 151.43 322 ePKIKP **PKPbc 09 02 28.8 -0.9**
TIRR e 09 02 37.9
TIRR Tirgusor 151.43 322⇓iP **PKPbc 09 02 29.8 +0.1**
TIRR Tirgusor 151.43 322 ePKPbc **PKPbc 09 02 28.8 -0.9**
TIRR ePKPab **PKPab 09 02 37.9 -0.2**
NIE Niedzica 151.45 338 ePKIKP **PKPbc 09 02 29.5 -0.2**
NIE Niedzica 151.45 338 ePKP **PKPbc 09 02 29.5 -0.2**
CRVS Cervenica-Dubn 151.47 336 ePKIKP **PKPdf 09 02 23.1 -0.5**
CRVS e 09 02 29.8
CRVS e 09 02 37.9
CRVS Cervenica-Dubn 151.47 336 ePKP **PKPdf 09 02 23.1 -0.5**
CRVS e 09 02 29.8
CRVS e 09 02 37.9
PLOR Plostina 151.47 326⇑PKIKP **PKPbc 09 02 29.8 -0.1**
PLOR Plostina 151.47 326⇑iP **PKPbc 09 02 29.8 -0.1**
HARR Harsova 151.56 323⇑PKIKP **PKPbc 09 02 30.4 +0.4**
HARR Harsova 151.56 323⇑iP **PKPbc 09 02 30.4 +0.4**
CLZ Clausthal 151.57 352 ePKPbc **PKPbc 09 02 29.5 -0.4**
TRPA Tarpa 151.67 334⇑iP **PKPbc 09 02 30.5 +0.3**
CLL Collm 151.68 348⇑ePKIKP **PKPdf 09 02 23.0 -0.8**
CLL i 09 02 29.8
CLL e 09 02 38.0
CLL pmax pmax
comp=Z,48nm,1.3s
CLL MLR MLR
comp=Z,400nm,18.6s
CLL Collm 151.68 348 ePKPbc **PKPbc 09 02 29.5 -0.6**
CLL Collm 151.68 348 ePKPdf **PKPdf 09 02 23.0 -0.8**
CLL ⇑iPKPbc **PKPbc 09 02 29.8 -0.3**
comp=Z,48nm,0.9s
CLL epPKPdf **pPKPdf 09 02 33.0 -0.1**
CLL ePKPab **PKPab 09 02 38.0 -0.8**
comp=Z,57nm,1.3s
CLL epPKiKP **pPKiKP 09 02 42.0 +2.2**
CLL i pPP 09 06 20.1
CLL Lm MLR 10 20 00.0
comp=N,300nm,20.1s
CLL Lm MLR 10 20 00.0
comp=E,200nm,18.4s
CLL Lm MLR 10 20 00.0
comp=Z,400nm,18.6s
WTSB Winterswijk 151.77 357 ePKP **PKPbc 09 02 29.8 -0.5**
comp=Z,48nm,0.9s
UPC Upice 151.77 344 ePKIKP **PKPdf 09 02 24.8 +0.8**
UPC e 09 02 30.2
UPC e 09 02 40.1
UPC Upice 151.77 344 ePKPDF **PKPdf 09 02 24.8 +0.8**
UPC ⇑ePKP **PKPbc 09 02 30.2 -0.2**
UPC ePKPAB **PKPab 09 02 40.1 +0.8**
UPC epPKP pPKPdf 09 02 48.1 +15
OKC Ostrava-Krasne 151.79 341 ePKIKP **PKPbc 09 02 29.9 -0.5**
OKC e 09 02 40.1
OKC MLR MLR
comp=Z,500nm,17.8s
OKC Ostrava-Krasne 151.79 341⇑ePKP **PKPbc 09 02 29.9 -0.5**
OKC ePKPAB **PKPab 09 02 40.1 +0.8**
OKC epPKP pPKPdf 09 02 48.7 +15
OKC AMS AMS 10 22 00.0
comp=Z,500nm,17.8s
DPC Dobruska-Polom 151.84 344 ePKIKP **PKPdf 09 02 24.9 +0.7**
DPC e 09 02 30.6
DPC e 09 02 38.0

DPC e 09 02 41.1
DPC Dobruska-Polom 151.84 344 ePKPDF **PKPdf 09 02 24.9 +0.7**
DPC ⇑ePKP **PKPbc 09 02 30.6 0.0**
DPC ePKPAB **PKPab 09 02 38.0 -1.6**
DPC epPKP pPKPdf 09 02 41.1 +7.6
DPC ex x 09 02 49.6
MDUB Mudurnu 151.90 313 eP **PKPbc 09 02 30.4 -0.7**
BRG Berggiesshubel 151.91 347 ePKP **PKPdf 09 02 23.4 -0.8**
comp=Z,43nm,1.9s
BRG i 09 02 30.6
comp=Z,44nm,0.9s
BRG SKP 09 05 40.2
comp=Z,8.4nm,1.4s
BRG Berggiesshubel 151.91 347 ePKIKP **PKPdf 09 02 23.4 -0.8**
BRG i 09 02 30.6
BRG pmax pmax
comp=Z,17nm,1.9s
BRG pmax pmax
comp=N,44nm,1.4s
BRG Berggiesshubel 151.91 347 ePKPbc **PKPbc 09 02 30.4 -0.2**
KRLC Kraliky 151.97 343 ePKIKP **PKPbc 09 02 30.9 0.0**
KRLC Kraliky 151.97 343⇑ePKP **PKPbc 09 02 30.9 0.0**
MORC Moravsky Berou 152.02 341 ePKIKP **PKPdf 09 02 24.8 +0.3**
MORC e 09 02 31.4
MORC Moravsky Berou 152.02 341⇓iP **PKPbc 09 02 31.2 +0.2**
MORC Moravsky Berou 152.02 341 ePKPdf **PKPdf 09 02 24.8 +0.3**
MORC ePKPbc **PKPbc 09 02 31.4 +0.3**
LADK Ladik-KONYA 152.06 308 eP **PKPbc 09 02 30.6 -1.0**
MLR Muntele Rosu 152.08 326⇓iP **PKPbc 09 02 31.0 -0.4**
MLR Muntele Rosu 152.08 326 PKPbc **PKPbc 09 02 31.1 -0.4**
comp=N,3.5nm,0.9s,baz=2.4,slow=4.8,SNR=12
KIZT Kizilcal 152.13 309 eP **PKPbc 09 02 31.1 -0.6**
BUG Bochum--Univer 152.27 356 ePKPbc **PKPbc 09 02 30.9 -0.5**
CSS Prodhromos 152.40 300 ePKPdf **PKPdf 09 02 25.9 +0.4**
CSS ePKPbc **PKPbc 09 02 31.9 -0.4**
PRA Prague 152.56 346⇑PKP **PKPbc 09 02 32.0 -0.1**
VOIR 152.57 327⇑PKIKP **PKPbc 09 02 32.5 +0.1**
VOIR 152.57 327⇑iP **PKPbc 09 02 32.5 +0.1**
PRU Pruhonice 152.61 345 ePKIKP **PKPbc 09 02 32.1 -0.2**
PRU e 09 02 39.4
PRU MLR MLR
comp=Z,800nm,19.1s
PRU Pruhonice 152.61 345⇑ePKP **PKPbc 09 02 32.1 -0.2**
PRU ePKPAB **PKPab 09 02 39.4 -3.4**
PRU AMS AMS 10 19 30.0
comp=Z,800nm,19.1s
TANN Tannenbergstha 152.63 349 ePKPab **PKPab 09 02 42.6 -0.3**
DRGR 152.65 332⇓PKIKP **PKPbc 09 02 32.4 -0.2**
DRGR 152.65 332⇓iP **PKPbc 09 02 32.4 -0.2**
VRAC Vranov 152.71 342⇓iP **PKPbc 09 02 32.8 +0.3**
VRAC Vranov 152.71 342 PKPbc **PKPbc 09 02 32.4 -0.2**
comp=Z,2.9nm,0.5s,baz=15,slow=2.2,SNR=5.4
VYHS Vyhne 152.74 339 ePKIKP **PKPbc 09 02 32.3 -0.3**
VYHS e 09 02 44.3
VYHS Vyhne 152.74 339 ePKP **PKPbc 09 02 32.3 -0.3**
VYHS e 09 02 44.3
PRD Provadia 152.79 321⇑PKIKP **PKPbc 09 02 32.8 0.0**
ARR Arges 152.82 327⇓iP **PKPbc 09 02 33.5 +0.5**
PSZ Piszkesteto 152.86 337 ePKIKP **PKPbc 09 02 32.6 -0.4**
PSZ Piszkesteto 152.86 337⇑iP **PKPab 09 02 42.8 -1.2**
PSZ Piszkesteto 152.86 337 ePKPbc **PKPbc 09 02 32.5 -0.4**
HGN Heimansgroeve 153.01 358 ePKP **PKPbc 09 02 32.6 -0.5**
TREC Trest 153.02 344 ePKIKP **PKPdf 09 02 25.0 -0.9**
TREC e 09 02 32.9
TREC MLR MLR
comp=Z,800nm,18.9s
TREC Trest 153.02 344 ePKPDF **PKPdf 09 02 25.0 -0.9**
TREC ⇑ePKP **PKPbc 09 02 32.9 -0.3**
TREC AMS AMS 10 21 50.0
comp=Z,800nm,18.9s
ROTZ Rotzenmuhle 153.30 348 ePKPab **PKPab 09 02 45.6 -0.1**
TNS Taunus Mts 153.38 354 ePKPab **PKPab 09 02 45.3 -0.8**
GRF Grafenberg Arr 153.54 350 ePKPab **PKPab 09 02 46.6 -0.2**
KHC Kasperske Hory 153.63 346 ePKIKP **PKPdf 09 02 26.7 -0.1**
KHC e 09 02 34.6
KHC Kasperske Hory 153.63 346 ePKPDF **PKPdf 09 02 26.3 -0.5**
KHC ⇑ePKP **PKPbc 09 02 33.9 -0.7**
KHC ePKPAB **PKPab 09 02 45.6 -1.6**
KHC Kasperske Hory 153.63 346 ePKPdf **PKPdf 09 02 26.7 -0.1**
KHC ePKPbc **PKPbc 09 02 34.5 -0.1**
KHC ePKPab **PKPab 09 02 48.4 +1.2**
GZR Gura Zlata 153.69 330⇑PKIKP **PKPbc 09 02 32.4 -2.5**
GZR Gura Zlata 153.69 330⇑iP **PKPbc 09 02 32.4 -2.5**
GEC2 GERESS Array S 153.87 346 ePKPab **PKPab 09 02 47.6 -0.7**
GERES GERESS Array B 153.87 346 PKP **PKPdf 09 02 25.8 -1.4**
comp=Z,2.2nm,0.8s,baz=225,slow=1.1,SNR=7.2
GERES PKPbc **PKPbc 09 02 34.5 -0.7**
comp=Z,2.8nm,0.8s,baz=40,slow=2.3,SNR=7.9
GERES PKPab **PKPab 09 02 47.0 -1.3**
comp=Z,4.5nm,0.8s,baz=11,slow=2.7,SNR=8.1
CONA Conrad Observa 154.17 342⇓iPKPdf **PKPdf 09 02 27.2 -0.5**
comp=Z,4.8nm,1.0s
CONA ⇓iPKiKP **PKPbc 09 02 36.2 +0.3**
comp=Z,9.4nm,1.0s
KDZ Kurdzhali 154.90 320⇑PKP2 **PKPab 09 02 52.8 0.0**
KDZ Kurdzhali 154.90 320⇑iP **PKPab 09 02 52.8 0.0**
RJOB Jochberg 155.12 346 ePKPab **PKPab 09 02 53.8 +0.2**
SOKA Soboth 155.54 342⇑iPKPdf **pPKPdf 09 02 41.2 +2.2**
comp=Z,11nm,1.5s
SOKA ⇓iPKPab **PKPab 09 02 55.3 -0.1**
comp=Z,26nm,1.2s
VAY Valandovo 156.73 323 ePKP **PKPab 09 03 00.4 -0.2**
SKO Skopje 156.87 326 ePKP **PKPab 09 03 00.9 -0.4**
DBIC Dimbokro 160.89 151 ePKIKP **PKPdf 09 02 36.7 -0.3**
DBIC Dimbokro 160.89 151 ePKPdf **PKPdf 09 02 36.7 -0.3**
ESDC Sonseca Array 162.68 22 PKP **PKPdf 09 02 38.3 +0.1**
comp=Z,0.3nm,0.3s,baz=332,slow=2.7,SNR=3.2
ESDC PKPab **PKPab 09 03 27.8 +1.3**
comp=Z,0.6nm,0.3s,baz=349,slow=2.8,SNR=5.4
KEST Kesra 167.28 341 PKPab **PKPab 09 03 45.2 -1.7**
comp=Z,2.8nm,0.7s,baz=252,slow=23,SNR=7.7
MDT Midelt 168.07 39 PKP **PKPdf 09 02 43.3 +0.3**
comp=Z,5.8nm,1.0s,baz=353,slow=9.4,SNR=2.9
TORD Torodi Ar. Bea 169.17 167 PKP **PKPdf 09 02 43.1 -0.9**
comp=Z,2.3nm,0.8s,baz=359,slow=1.7,SNR=9.8
TORD PKPab **PKPab 09 03 55.4 -0.2**
comp=Z,2.9nm,0.7s,baz=189,slow=4.0,SNR=7.9
TORD PP **PP 09 07 47.2 +3.5**
comp=Z,0.9nm,1.0s,baz=153,slow=5.9,SNR=3.1

ATH 22 08:45:12.3, 40.̊18N×19.̊58E, h14km±1km, MD3.4/15
TIR 22 08:45:14.8, 40.̊06N×19.̊82E, h23km, ML3.8
CSEM 22 08:45:15.6±0.2, 40.̊09N×19.̊82E, h2km, ML3.3, Error ellipse: s-maj=5.4km s-min=2.6km az=60.0
THE 22 08:45:15.7, 40.̊10N×19.̊79E, h0km±2km, ML3.3/3, Error ellipse: s-maj=2.4km s-min=0.9km az=263.0
PDG 22 08:45:15.8±0.5, 40.̊11N×19.̊78E, h8km±1km, ML3.4/9, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0
ISC 22 08:45:15.1±1.0, 40.̊09N±0.̊02×19.̊75E±0.̊02, h6km±9km, n125, σ1§28/171, 16C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.28**	**137**	i PG	**Pg**	**08 45 19.7**	**-0.9**
SRN				i SG	**Sg**	**08 45 24.9**	**+0.5**
SRN	**Sarande**	**0.28**	**137**	P	**Pg**	**08 45 20.1**	**-0.5**
SRN				S	**Sg**	**08 45 24.9**	**+0.5**
SRN	**Sarande**	**0.28**	**137**	i Pg	**Pg**	**08 45 19.7**	**-0.9**
SRN	**Sarande**	**0.28**	**137**	P	**Pg**	**08 45 20.1**	**-0.5**
SRN				S	**Sg**	**08 45 24.9**	**+0.5**
KEK	**Kerkira**	**0.38**	**174**	ePB	**Pg**	**08 45 22.1**	**-0.3**
KEK	**Kerkira**	**0.38**	**174**	ePb	**Pg**	**08 45 22.1**	**-0.3**
VLO	**Vlora**	**0.43**	**333**	i PG	**Pb**	**08 45 24.8**	**-0.3**
VLO	**Vlora**	**0.43**	**333**	P	**Pg**	**08 45 24.0**	**+0.6**
VLO				S	**Sg**	**08 45 30.3**	**+1.3**
VLO	**Vlora**	**0.43**	**333**	P	**Pg**	**08 45 24.0**	**+0.6**
VLO	**Vlora**	**0.43**	**333**	i Pg	**Pb**	**08 45 24.8**	**-0.3**
VLO				S	**Sg**	**08 45 30.3**	**+1.3**
IGT	**Igoumenitsa**	**0.71**	**141**	P	**Pg**	**08 45 28.2**	**-0.6**
IGT				S	**Sg**	**08 45 38.8**	**+0.7**
IGT	**Igoumenitsa**	**0.71**	**141**	ePG	**Pg**	**08 45 28.2**	**-0.6**
IGT	**Igoumenitsa**	**0.71**	**141**	P	**Pg**	**08 45 28.2**	**-0.6**
IGT				S	**Sg**	**08 45 38.8**	**+0.7**
JAN	**Janina**	**0.95**	**116**	ePG	**Pg**	**08 45 32.8**	**-0.6**
JAN				eSB	**Sn**	**08 45 48.8**	**-0.3**
JAN	**Janina**	**0.95**	**116**	ePG	**Pg**	**08 45 32.8**	**-0.6**
JAN				eSb	**Sn**	**08 45 48.8**	**-0.3**
KBN	**Korca**	**0.96**	**56**	i PG	**Pg**	**08 45 33.0**	**-0.5**
KBN	**Korca**	**0.96**	**56**	P	**Pg**	**08 45 33.0**	**-0.5**
KBN				S	**Sg**	**08 45 46.5**	**+0.5**
KBN	**Korca**	**0.96**	**56**	P	**Pg**	**08 45 33.0**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBN				S	Sg	08 45 46.5	+0.5
FNA	Florina	1.43	60	P	Pn	08 45 40.4	-1.3
FNA				S	Sn	08 46 01.7	+0.9
FNA	Florina	1.43	60	ePB	Pn	08 45 40.6	-1.1
FNA	Florina	1.43	60	P	Pn	08 45 40.4	-1.3
FNA				S	Sn	08 46 01.7	+0.9
LKD2	Lefkada island	1.48	151	P	Pn	08 45 42.2	-0.1
LKD2				S	Sg	08 46 03.4	+0.9
LKD2	Lefkada island	1.48	151	ePB	Pn	08 45 42.9	+0.6
LKD2	Lefkada island	1.48	151	P	Pn	08 45 42.2	-0.1
LKD2	Lefkada island	1.48	151	ePb	Pn	08 45 42.9	+0.6
LKD2				S	Sg	08 46 03.4	+0.9
KZN	Kozani	1.57	81	ePG	Pn	08 45 43.8	+0.2
KZN	Kozani	1.57	81	ePg	Pn	08 45 43.8	+0.2
THL	Klokotos Trika	1.82	106	ePN	Pn	08 45 47.9	+0.9
THL				eSN	Sb	08 46 13.0	+1.0
THL	Klokotos Trika	1.82	106	ePn	Pn	08 45 47.9	+0.9
THL				eSn	Sb	08 46 13.0	+1.0
PDO	Prodromos	1.86	143	P	Pn	08 45 47.7	+0.2
PDO				S	Sb	08 46 13.5	+0.5
PDO	Prodromos	1.86	143	ePN	Pn	08 45 47.8	+0.2
PDO	Prodromos	1.86	143	P	Pn	08 45 47.7	+0.2
PDO				S	Sb	08 46 13.5	+0.5
PE1	Pezze di Greco	1.91	293	ePn	Pb	08 45 50.3	-0.1
ULC	Ulcinj	1.91	349	⇑iPn	Pn	08 45 48.0	-0.3
ULC				eSn	Sg	08 46 16.4	-0.2
ULC	Ulcinj	1.91	349	⇑iPn	Pn	08 45 48.0	-0.3
ULC				eSn	Sg	08 46 16.4	-0.2
TAR1	Taranto	1.93	284	ePn	Pg	08 45 52.8	+0.6
PUK	Puka	1.96	3	iPN	Pn	08 45 49.0	0.0
PUK	Puka	1.96	3	iPn	Pn	08 45 49.0	0.0
EVR	Evrytania	1.98	126	ePN	Pn	08 45 50.5	+1.2
EVR	Evrytania	1.98	126	ePn	Pn	08 45 50.5	+1.2
VLS	Valsamata	2.02	161	ePB	Pn	08 45 49.2	-0.5
VLS	Valsamata	2.02	161	ePb	Pn	08 45 49.2	-0.5
LIT	Litokhoron	2.10	89	P	Pn	08 45 51.2	+0.2
LIT				S	Sn	08 46 19.3	+1.8
LIT	Litokhoron	2.10	89	P	Pn	08 45 51.2	+0.2
LIT				S	Sn	08 46 19.3	+1.8
MAKR	Makrakomi, Fth	2.13	119	ePN	Pn	08 45 52.9	+1.5
MAKR	Makrakomi, Fth	2.13	119	ePn	Pn	08 45 52.9	+1.5
DRME	Dracevica, Mon	2.14	349	⇑iPn	Pn	08 45 51.4	0.0
DRME				eSn	Sb	08 46 21.3	+0.1
DRME	Dracevica, Mon	2.14	349	⇑iPn	Pn	08 45 51.4	0.0
DRME				eSn	Sb	08 46 21.3	+0.1
GRG	Griva	2.20	66	P	Pn	08 45 52.9	+0.6
GRG	Griva	2.20	66	P	Pn	08 45 52.9	+0.6
AGG	Agios Georgios	2.26	117	ePN	Pn	08 45 54.8	+1.7
AGG	Agios Georgios	2.26	117	P	Pn	08 45 54.8	+1.7
BUM	Brajici-Budva	2.30	344	⇑iPn	Pn	08 45 54.3	+0.6
BUM				eSn	Sb	08 46 25.9	0.0
BUM	Brajici-Budva	2.30	344	⇑iPn	Pn	08 45 54.3	+0.6
BUM				eSn	Sb	08 46 25.9	0.0
EFP	Efpalio	2.36	134	P	Pn	08 45 55.6	+1.2
EFP	Efpalio	2.36	134	ePN	Pn	08 45 55.8	+1.4
EFP	Efpalio	2.36	134	P	Pn	08 45 55.6	+1.2
PDG	Podgorica	2.37	351	⇑iPn	Pn	08 45 55.9	+1.3
PDG				eSn	Sb	08 46 27.3	-0.5
TTG	Podgorica	2.37	351	⇑iPn	Pn	08 45 55.9	+1.3
TTG				eSn	Sb	08 46 27.3	-0.5
SG1	Sgolgore (BA)	2.46	289	ePn	Pg	08 46 01.6	-0.6
VAY	Valandovo	2.48	59	P	Pb	08 46 00.2	+0.2
VAY	Valandovo	2.48	59	P	Pb	08 46 00.2	+0.2
PVY	Plav	2.51	4	⇓iPn	Pn	08 45 57.9	+1.3
PVY				eSn	Sb	08 46 31.1	-0.8
PVY	Plav	2.51	4	⇓iPn	Pn	08 45 57.9	+1.3
PVY				eSn	Sb	08 46 31.1	-0.8
KALE	Kalithea	2.51	132	P	Pn	08 45 57.7	+1.1
KALE	Kalithea	2.51	132	ePB	Pn	08 45 58.3	+1.7
KALE	Kalithea	2.51	132	P	Pn	08 45 57.7	+1.1
KALE	Kalithea	2.51	132	ePb	Pn	08 45 58.3	+1.7
LAKA	Lakka	2.53	136	ePB	Pn	08 45 57.9	+1.1
LAKA	Lakka	2.53	136	ePb	Pn	08 45 57.9	+1.1
HCY	Herceg Novi	2.54	339	⇓iPn	Pn	08 45 58.3	+1.4
HCY				eSn	Sb	08 46 31.3	-1.4
HCY	Herceg Novi	2.54	339	⇓iPn	Pn	08 45 58.3	+1.4
HCY				eSn	Sb	08 46 31.3	-1.4
HORT	Hortiatis	2.61	78	ePN	Pn	08 45 57.8	-0.2
HORT	Hortiatis	2.61	78	ePn	Pn	08 45 57.8	-0.2
DRO	Drossia	2.62	144	P	Pn	08 45 58.7	+0.6
DRO	Drossia	2.62	144	ePN	Pn	08 45 58.7	+0.6
DRO	Drossia	2.62	144	P	Pn	08 45 58.7	+0.6
DSF	Desfina	2.73	127	P	Pn	08 46 00.4	+0.8
DSF	Desfina	2.73	127	P	Pn	08 46 00.4	+0.8
NKME	Niksic	2.74	348	⇑iPn	Pn	08 46 01.9	+2.1
NKME				eSn	Sn	08 46 36.3	+3.0
NKME	Niksic	2.74	348	⇑iPn	Pn	08 46 01.9	+2.1
NKME				eSn	Sn	08 46 36.3	+3.0
XOR	Xorichti	2.75	104	P	Pn	08 46 00.1	+0.2
XOR	Xorichti	2.75	104	P	Pn	08 46 00.1	+0.2
KLV	Kalavryta, Ach	2.77	137	ePB	Pn	08 46 01.4	+1.3
KLV	Kalavryta, Ach	2.77	137	ePb	Pn	08 46 01.4	+1.3
NKY	Niksic	2.78	349	⇑iPn	Pn	08 46 01.4	+1.0
NKY				eSn	Sn	08 46 37.0	+2.7
NKY	Niksic	2.78	349	⇑iPn	Pn	08 46 01.4	+1.0
NKY				eSn	Sn	08 46 37.0	+2.7
BEY	Berane	2.79	2	⇓iPn	Pn	08 46 01.2	+0.8
BEY				eSn	Sn	08 46 37.3	+2.9
IVA	Berane	2.79	2	⇓iPn	Pn	08 46 01.2	+0.8
IVA				eSn	Sn	08 46 37.3	+2.9
CDT	Castel del Mon	2.83	292	ePn	Pn	08 46 02.1	+1.2
GUR	Goura	2.95	136	P	Pn	08 46 02.7	0.0
GUR	Goura	2.95	136	ePN	Pn	08 46 02.6	-0.1
GUR	Goura	2.95	136	P	Pn	08 46 02.7	0.0
SKIA	Skiathos	3.02	107	ePN	Pn	08 46 03.8	+0.3
SKIA	Skiathos	3.02	107	ePn	Pn	08 46 03.8	+0.3
KKB	Krupnik	3.09	54	P	Pb	08 46 08.1	-2.4
KKB	Krupnik	3.09	54	P	Pb	08 46 08.1	-2.4
UPM	Unac-Piva	3.18	349	⇑iPn	Pn	08 46 07.3	+1.4
UPM				eSn	Sn	08 46 46.1	+1.9
UPM	Unac-Piva	3.18	349	⇑iPn	Pn	08 46 07.3	+1.4
UPM				eSn	Sn	08 46 46.1	+1.9
STON	Ston	3.18	332	ePn	Pn	08 46 05.5	-0.2
STON				Sn	Sn	08 46 41.0	-2.9
STON	Ston	3.18	332	ePn	Pn	08 46 05.5	-0.2
PLE	Pljevlja	3.25	355	⇑iPn	Pn	08 46 08.4	+1.6
PLE				eSn	Sn	08 46 49.0	+3.1
PLE	Pljevlja	3.25	355	⇑iPn	Pn	08 46 08.4	+1.6
PLE				eSn	Sn	08 46 49.0	+3.1
MRKA	Markates	3.28	114	ePN	Pn	08 46 07.7	+0.6
MRKA	Markates	3.28	114	ePn	Pn	08 46 07.7	+0.6
ITM	Ithomi	3.37	149	ePN	Pn	08 46 09.1	+0.8
ITM	Ithomi	3.37	149	ePn	Pn	08 46 09.1	+0.8
MMB	Musomiste	3.37	62	P	Pn	08 46 12.1	+3.7
MMB	Musomiste	3.37	62	P	Pn	08 46 12.1	+3.7
IVAS	Ivanjica	3.50	5	ePn	Pn	08 46 08.3	-1.9
DID	Didima	3.75	132	P	Pn	08 46 13.8	+0.2
DID	Didima	3.75	132	ePN	Pn	08 46 14.2	+0.6
DID	Didima	3.75	132	P	Pn	08 46 13.8	+0.2
DID	Didima	3.75	132	ePn	Pn	08 46 14.2	+0.6
GRUS	Gruza	3.87	10	ePn	Pn	08 46 16.9	+1.7
DIVS	Divibare	4.01	3	ePn	Pn	08 46 16.5	-0.8
BOLS	Boljevac	4.08	23	ePn	Pn	08 46 16.4	-1.8
TRUS	Trudelj	4.16	7	ePn	Pn	08 46 20.2	+1.0
VLI	Veliai	4.19	142	ePN	Pn	08 46 20.5	+0.8
VLI	Veliai	4.19	142	ePn	Pn	08 46 20.5	+0.8
TEKS	Tekeris	4.46	358	ePn	Pn	08 46 21.0	-2.4
NVLJ	Novalja	5.75	323	ePn	Pn	08 46 39.1	-1.9
NVLJ				Sn	Sn	08 47 44.3	-3.0
BOJS	Bojanci	6.34	330	iPn	Pn	08 46 49.2	+0.1
BOJS				eSn	Sn	08 47 58.8	-3.1
VISS	Visnje	6.75	329	iPn	Pn	08 46 55.1	+0.3
VISS				iSn	Sn	08 48 09.2	-2.9
JAVS	Javornik	7.14	326	iPn	Pn	08 46 59.8	-0.4
JAVS				iSn	Sn	08 48 17.4	-4.4

*ISCJB **22** 08:51:47.2±0.9, 34°.27N±0°.08×26°.49E±0°.07, h33km, mb3.5/7, Error ellipse: s-maj=12.7km s-min=7.6km az=21.0*

*ATH **22** 08:51:48.8, 34°.46N×26°.39E, h26km±4km, MD3.4/8*

*CSEM **22** 08:51:48.8, 34°.46N×26°.39E, h26km, MD3.4, After ATH*

*IDC **22** 08:51:53.8±3.0, 34°.51N×26°.27E, h83km±23km, mb3.4/7, mb1 3.4/9, mb1mx3.3/34, mbtmp3.6/9, Error ellipse: s-maj=31.3km s-min=21.6km az=131.0*

ISC 22 08:51:49.1±1.1, **34°.44N**±0°.09×**26°.40E**±0°.05, **h33km, n28,** σ1$93/24/33, **mb3.7**/7, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZKR	Zakros	0.69	347	ePN	Pn	08 52 01.9	-0.6
ZKR	Zakros	0.69	347	ePn	Pn	08 52 01.9	-0.6
LAST	Lasithi	1.05	314	ePN	Pn	08 52 07.9	+0.4
LAST				eSN	Sb	08 52 23.0	+0.8
LAST	Lasithi	1.05	314	ePn	Pn	08 52 07.9	+0.4
LAST				eSn	Sb	08 52 23.0	+0.8
NPS	Neapolis	1.05	322	ePN	Pb	08 52 08.7	0.0
NPS				eSN	Sb	08 52 22.2	0.0
NPS	Neapolis	1.05	322	ePn	Pb	08 52 08.7	0.0
NPS				eSn	Sb	08 52 22.2	0.0
KARP	Karpathos	1.27	29	ePN	Pb	08 52 13.0	+0.5
KARP	Karpathos	1.27	29	ePn	Pb	08 52 13.0	+0.5
SIVA	Sivas	1.43	294	ePN	Pb	08 52 15.6	+0.4
SIVA	Sivas	1.43	294	ePn	Pb	08 52 15.6	+0.4
IDI	Anoyia	1.50	305	P	Pb	08 52 16.9	+0.5
	2.5nm,0.3s,baz=118,slow=13,SNR=12						
IDI				S	Sb	08 52 35.7	+0.5
	5.8nm,0.3s,baz=317,slow=16,SNR=8.7						
ARG	Arkhangelos	2.27	38	ePN	Pn	08 52 26.2	+2.0
ARG	Arkhangelos	2.27	38	ePn	Pn	08 52 26.2	+2.0
APE	Apeiranthos	2.72	345	ePN	Pn	08 52 32.5	+2.0
APE	Apeiranthos	2.72	345	ePn	Pn	08 52 32.5	+2.0
KYTH	Kithira	3.31	305	ePN	Pn	08 52 41.1	+2.6
KYTH	Kithira	3.31	305	ePn	Pn	08 52 41.1	+2.6
VLI	Veliai	3.63	310	ePN	Pn	08 52 44.5	+1.6
VLI	Veliai	3.63	310	ePn	Pn	08 52 44.5	+1.6
AKASG	Malin Array Be	16.38	6	P	P	08 55 38.8	-0.1
	0.9nm,0.3s,baz=196,slow=11,SNR=5.6						
GERES	GERESS Array B	17.21	331	P	P	08 55 49.0	+0.9
	0.2nm,0.3s,baz=144,slow=12,SNR=5.7						
HFS	Hagfors	27.02	346	P	P	08 57 26.3	-1.5
	1.5nm,0.7s,baz=174,slow=14,SNR=3.7						
FINES	FINESS Array B	27.02	360	P	P	08 57 26.6	-1.2
	2.4nm,0.9s,baz=163,slow=14,SNR=5.2						
TORD	Torodi Ar. Bea	30.84	233	P	P	08 58 01.7	-0.5
	0.2nm,0.5s,baz=34,slow=8.3,SNR=3.5						
ARCES	ARCESS Array B	35.15	359	P	P	08 58 38.1	-1.2
	1.6nm,0.8s,baz=179,slow=9.0,SNR=5.5						
MKAR	Makanchi Array	43.32	56	P	P	08 59 47.9	+0.1
	0.3nm,0.6s,baz=272,slow=6.4,SNR=5.7						
ZALV	Zalesovo Beam	44.77	46	P	P	08 59 59.2	-0.1
	0.5nm,0.4s,baz=263,slow=8.3,SNR=4.1						
YKA	Yellowknife Ar	78.44	343	P	P	09 03 45.1	-1.1
	0.1nm,0.6s,baz=36,slow=5.4,SNR=2.6						

*IDC **22** 08:54:57.3±1.2, 23°.56S×175°.88W, h0km, mb4.3/7, mb1 4.5/8, mb1mx4.2/25, mbtmp4.3/8, ML3.7/1, MS4.0/3, Ms1 4.0/3, ms1mx3.7/25, Error ellipse: s-maj=49.3km s-min=23.9km az=148.0*

*ISCJB **22** 08:55:00.2±0.6, 23°.9S±0°.1×175°.84W±0°.10, h33km, mb4.4/12, Error ellipse: s-maj=15.9km s-min=12.1km az=160.4*

*NEIC **22** 08:55:02.1±0.7, 23°.92S×175°.82W, h35km, mb4.7/5, Error ellipse: s-maj=19.3km s-min=12.8km az=170.0*

ISC 22 08:55:00.4±0.7, **23°.79S**±0°.10×**175°.56W**±0°.10, **h28km, n36,** σ1$**83**/28, **mb4.5**/12, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.49	314	ePn	Pn	08 57 04.0	+2.4
	94nm,1.2s						
RAR	Rarotonga	14.82	83	Pn	Pn	08 58 21.8	-6.3
	2.4nm,0.3s,baz=264,slow=7.9,SNR=13						
RAR				Sn	Sn	09 00 52.0	-19
	1.3nm,0.3s,baz=58,slow=19,SNR=3.3						
RAR				LR	LR	09 04 25.7	
	comp=Z,612nm,19.7s,baz=246,slow=38						
RAR	Rarotonga	14.82	83	Pn	P	08 58 33.0	-0.7
URZ	Urewera	15.72	202	Pn	Pn	08 58 39.5	-0.4
	0.3nm,0.3s,baz=13,slow=19,SNR=3.0						
URZ				Sn	Sn	09 01 21.1	-12
	0.3nm,0.3s,baz=143,slow=20,SNR=4.8						
URZ	Urewera	15.72	202	ePn	Pn	08 58 39.1	-0.7
URZ				eSn	Sn	09 01 36.4	+3.2
DZM	Mont Dzumac	16.66	272	Pn	P	08 58 57.5	+3.2
	0.2nm,0.3s,baz=86,slow=19,SNR=3.4						
DZM	Mont Dzumac	16.66	272	Pn	Pn	08 58 50.7	-1.4
PPT	Papeete	25.07	81	LR	LR	09 09 49.6	
	comp=Z,220nm,19.3s,baz=250,slow=35						
HNR	Honiara	27.40	297	LR	LR	09 09 57.0	
	comp=Z,366nm,18.2s,baz=174,slow=33						
EIDS	Eidsvold	30.33	260	P	P	09 01 02.2	-7.5
	baz=27,SNR=4.7						
CTAO	Charters Tower	35.54	268	eP	P	09 01 54.0	-1.4
	5.4nm,0.4s						
QLP	Quilpie	36.38	257	P	P	09 02 02.6	+0.2
	baz=33,SNR=5.7						
PMG	Port Moresby	38.34	286	P	P	09 02 18.2	-0.9
	11nm,0.8s						
STKA	Stephens Creek	38.53	248	P	P	09 02 21.9	+1.2
	3.6nm,0.9s,baz=103,slow=11,SNR=7.4						
STKA	Stephens Creek	38.53	248	eP	P	09 02 20.4	-0.2
	0.3nm,0.4s						
STKA	Stephens Creek	38.53	248	P	P	09 02 22.2	+1.5
	baz=36,SNR=6.4						
WRAB	Tennant Creek	46.46	265	eP	P	09 03 22.4	-2.8
	7.8nm,1.1s						
WRA	Warramunga Arr	46.46	265	P	P	09 03 22.4	-2.8
	5.2nm,0.9s,baz=101,slow=8.1,SNR=10						
KDU	Kakadu	50.33	273	P	P	09 03 55.4	+0.3
	baz=47,SNR=3.3						
WRKA	Warakurna	50.82	256	P	P	09 03 56.0	-2.7
	baz=48,SNR=19						
KNRA	Kununurra	52.75	268	P	P	09 04 11.1	-2.0
	baz=49,SNR=4.9						
KAPI	Kappang	64.85	276	eP	P	09 05 35.6	-1.8
	5.8nm,0.4s						
CISI	Cisompet, Garu	74.78	268	P	P	09 06 43.1	+4.5
	baz=72,SNR=4.6						
PETK	Petropavlovsk-	80.03	344	P	P	09 07 05.4	-1.6
	8.1nm,1.0s,baz=108,slow=9.8,SNR=4.1						
KSRS	Korea Array	80.83	318	P	P	09 07 11.8	+0.2
	0.4nm,0.2s,baz=135,slow=5.7,SNR=3.7						
KSAR	Wonju Array Be	80.85	318	P	P	09 07 11.8	+0.1
NVAR	Mina Array Bea	81.91	42	P	P	09 07 21.1	+3.5
	0.8nm,0.8s,baz=224,slow=8.3,SNR=5.5						
H03N2	Juan Fernandez	82.44	123	T	T	10 39 16.4	
	baz=247,slow=73,SNR=9.6						
H03N3	Juan Fernandez	82.44	123	T	T	10 39 09.2	
	baz=247,slow=73,SNR=11						
H03N1	Juan Fernandez	82.45	123	T	T	10 39 07.3	
	baz=247,slow=73,SNR=14						
MNTX	Cornudas Mount	86.85	53	eP	P	09 07 44.6	+2.0
	1.6nm,0.8s						
TXAR	Lajitas Array	86.96	56	P	P	09 07 44.2	+0.9
	1.1nm,0.8s,baz=216,slow=7.7,SNR=16						
CMAR	Chiang Mai Arr	93.32	289	P	P	09 08 14.6	+1.3
	3.5nm,0.3s,baz=129,slow=2.4,SNR=7.9						
NOA	NORSAR Array B	142.48	355	PKP	PKPdf	09 14 32.8	+2.7
	0.9nm,0.8s,baz=14,slow=1.8,SNR=2.9						
AKASG	Malin Array Be	146.97	331	PKPbc	PKPbc	09 14 39.1	-1.0
	4.5nm,0.7s,baz=39,slow=3.6,SNR=18						
CLL	Collm	151.75	349	ePKPbc	PKPbc	09 14 52.0	-0.1
	comp=Z,5.0nm,0.7s						

IDC 22 09:07:41.7±4.1, **54°.57N**×**86°.40E, h0km, mb1 2.6**/1, **mb1mx2.6**/27, **mbtmp2.6**/1, **ML2.7**/1, **Error ellipse: s-maj=29.2km s-min=14.8km az=47.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.11	237	i		09 15 30.0	
	baz=56,slow=350,SNR=8.9						
ZALV	Zalesovo Beam	1.11	237	Pg	Pg	09 08 01.8	-1.3
	0.9nm,0.3s,baz=60,slow=16,SNR=10.0						
ZALV				Lg	Lg	09 08 18.7	
	4.1nm,0.3s,baz=55,slow=27,SNR=25						
MKAR	Makanchi Array	8.21	200	Pn	Pn	09 09 43.2	+1.1
	0.1nm,0.3s,baz=23,slow=13,SNR=5.0						
MKAR				Sn	Sn	09 11 15.3	-0.2
	0.1nm,0.3s,baz=22,slow=24,SNR=5.4						

IDC 22 09:31:56.2±6.0, **15°.65S**×**168°.15E, h161**km±65km, **mb3.5**/5, **mb1 3.7**/6, **mb1mx3.4**/31, **mbtmp4.0**/6, **Error ellipse: s-maj=60.4km s-min=30.1km az=153.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.59	194	P	Pn	09 33 31.8	+0.9
	9.7nm,0.3s,baz=172,slow=8.1,SNR=46						
DZM				S	Sn	09 34 44.4	-0.9
	baz=331,slow=19,SNR=2.1						
CTA	Charters Tower	21.30	255	P	P	09 36 32.1	+1.7
	3.7nm,0.6s,baz=82,slow=11,SNR=4.3						
STKA	Stephens Creek	29.07	232	P	P	09 37 42.1	+0.5
	3.1nm,0.6s,baz=40,slow=7.5,SNR=7.0						
WRA	Warramunga Arr	32.44	257	P	P	09 38 09.5	-1.9
	1.1nm,0.5s,baz=85,slow=9.2,SNR=7.1						
SONM	Songino Array	83.74	323	P	P	09 44 08.0	+0.7
	1.1nm,1.0s,baz=123,slow=5.3,SNR=6.8						
ILAR	Eielson Array	87.14	18	P	P	09 44 23.1	-0.5
	0.2nm,0.6s,baz=228,slow=4.3,SNR=5.3						

*IDC **22** 09:36:01.2±0.5, 18°.52N×72°.49W, h0km, mb4.0/20, mb1 4.3/26, mb1mx4.2/42, mbtmp4.1/26, ML3.7/6, MS3.9/7, Ms1 3.9/7, ms1mx3.7/31, Error ellipse: s-maj=16.0km s-min=12.5km az=65.0*

*ISCJB **22** 09:36:02.3±0.6, 18°.46N±0°.03×72°.54W±0°.02, h17km±4km, mb4.3/46, MS4.3/6, Error ellipse: s-maj=5.3km s-min=3.4km az=14.5*

*JSN **22** 09:36:03.7±3.5, 19°.29N×72°.66W, h0km±999km, MD5.3*

*NEIC **22** 09:36:03.1±0.6, 18°.49N×72°.56W, h9km±4km, mb4.7/31, MW4.6, Error ellipse: s-maj=4.8km s-min=3.4km az=212.0 Best double couple: NP1:φs130.00000°, δ25.00000°, λ142.00000°. NP2:φs255.00000°, δ75.00000°, λ70.00000°. Principal axes: T 1.0400, Plg55.0000°, Azm139.0000°; N 0.0000, Plg19.0000°, Azm260.0000°; P -1.0400, Plg27.0000°, Azm0.0000°;*

NEIC Felt [IV] at Delmas and Port-au-Prince and [III] at Petionville. Also felt at Cabaret, Carrefour, Croix des Bouquets, Grand Goave, Gressier, Jacmel, Kenscoff and Leogane.

ISC 22 09:36:03.3±0.9, **18°.49N**±0°.04×**72°.55W**±0°.04, **h12**km±5km, **n323,** σ**0$93**/329, **mb4.5**/46, **MS4.2**/6, **105C-102D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LGNH	LØogne	0.06	294	iPg	Pg	09 36 04.8	-0.8
PAPH	Port-au-Prince	0.24	82	iPg	Pg	09 36 07.2	-1.2
JAKH	Jacmel	0.25	172	ePg	Pg	09 36 08.5	0.0
SDDR	Presa de Saban	1.30	68	ePn	Pn	09 36 24.6	-2.8
SDDR				eSn	Sg	09 36 45.8	+0.7
GTBY	Guantanamo Bay	2.81	301	ePn	Pn	09 36 46.2	-1.9
SMN1	Samana, DR	3.18	77	ePn	Pn	09 36 54.5	+1.2
SMN1				eSn	Sn	09 37 34.7	+3.4
GRTK	Grand Turk	3.29	24	ePn	Pn	09 36 53.7	-1.0
YHJ	Yallahs	3.79	262	eP	Pn	09 37 04.3	+2.6
PCDR	Punta Cana, DR	3.96	89	ePn	Pn	09 37 05.8	+1.9
GWJ	Greenwich	3.99	265	eP	Pn	09 37 04.3	-0.2
HOJ	Hope	4.02	264	eP	Pn	09 37 05.2	+0.5
STH	Stony Hill	4.07	265	eP	Pn	09 37 05.3	-0.1
STH				iS	Sn	09 37 54.0	+0.9
PCJ	Portland Cotta	4.44	261	eP	Pn	09 37 13.9	+3.3
MTDJ	Mount Denham	4.74	268	ePn	Pn	09 37 14.2	-0.6
MCJ	Malvern	4.91	264	eP	Pn	09 37 20.7	+3.6
CRPR	Cabo Rojo, PR	5.20	94	ePn	Pn	09 37 20.8	-0.1
	71nm,0.5s						
LSP	Las Mesas	5.20	93	ePn	Pn	09 37 22.4	+1.3
LRS	Lares	5.42	91	ePn	Pn	09 37 25.9	+1.7
AOPR	Arecibo Observ	5.51	91	ePn	Pn	09 37 27.4	+2.1
OBIP	Obispado Ponce	5.67	94	ePn	Pn	09 37 26.9	-0.6
	73nm,0.7s						
CELP	Cerrillos	5.69	93	ePn	Pn	09 37 27.9	+0.1
ICMP	Isla Caja de M	5.76	95	ePn	Pn	09 37 29.5	+0.8
CBYP	Canovanas	6.36	91	ePn	Pn	09 37 38.1	+1.0
	48nm,0.8s						
HUMP	Col San Antoni	6.38	92	ePn	Pn	09 37 41.9	+4.8
CDVI	St. Croix	7.44	94	ePn	Pn	09 37 53.3	+1.5
SDV	Santo Domingo	9.73	169	ePn	Pn	09 38 23.2	-0.2
	90nm,0.8s						
LZG	Guadaloupe-1	10.55	101	eP	Pn	09 38 34.8	+0.3
MLG	Mont-d'or	10.63	101	eP	Pn	09 38 36.1	+0.4
FNG	Fond-Bernard	10.66	101	eP	Pn	09 38 36.2	+0.2
PCRV	Puerto La Cruz	11.27	136	Pn	Pn	09 38 44.1	-0.3
	4.8nm,0.3s,baz=259,slow=0.9,SNR=19						
PCRV				Sn	Sn	09 40 40.7	-10
	1.1nm,0.3s,baz=216,slow=19,SNR=3.7						
FDF	Fort de France	11.55	107	Pn	Pn	09 38 47.1	-1.1
BCIP	Isla Barro Col	11.65	218	ePn	Pn	09 38 48.3	-1.3
GRGR	Grenville	12.26	119	Pn	Pn	09 38 57.4	-0.5
ROSC	El Rosal	13.66	188	Pn	Pn	09 39 18.6	+1.2
	1.2nm,0.3s,baz=71,slow=7.5,SNR=11						
ROSC				LR	LR	09 43 52.2	
	comp=Z,148nm,21.4s,baz=44,slow=34						
JTS	JuntasAbangare	14.51	238	Pn	Pn	09 39 30.6	+1.9
	0.7nm,0.3s,baz=18,slow=6.3,SNR=9.1						
JTS				LR	LR	09 45 30.8	
	comp=Z,209nm,18.4s,baz=51,slow=39						
TEIG	Tepich	14.94	279	Pn	Pn	09 39 34.8	+0.3
	0.9nm,0.3s,baz=180,slow=4.8,SNR=4.4						
TIGA	Tifton	16.30	324	ePn	Pn	09 39 50.4	-1.8
	91nm,1.0s						
TIGA	Tifton	16.30	324	⇓P	Pn	09 39 50.4	-1.8
	baz=16						
APG	El Apazote	17.50	261	P	Pn	09 40 06.8	-0.8
	0.1nm,0.3s,baz=158,slow=11,SNR=3.3						
KMSC	Kings Mountain	18.33	337	ePn	Pn	09 40 14.7	-2.8
KMSC	Kings Mountain	18.33	337	⇑P	Pn	09 40 16.4	-1.1
	baz=18						
OTAV	Otavalo	19.04	198	eP	Pn	09 40 28.0	+1.3
	25nm,1.0s						
LRAL	Lakeview Retre	19.44	321	eP	Pn	09 40 30.8	-0.1
	11nm,1.0s						
JSRW	J. Sargeant Re	19.70	347	eP	P	09 40 33.0	+0.5
TKL	Tuckaleechee C	19.78	332	P	P	09 40 33.8	+0.3
	0.2nm,0.3s,baz=161,slow=13,SNR=7.5						
TKL				LR	LR	09 48 45.9	
	comp=Z,368nm,18.2s,baz=136,slow=39						
TKL	Tuckaleechee C	19.78	332	P	P	09 40 33.8	+0.3
TKL				ePn	Pn	09 40 35.3	+0.3
VWCC	Virginia Weste	19.79	342	ePn	Pn	09 40 35.7	+0.6
BLA	Blacksburg	19.89	341	eP	P	09 40 34.7	-0.1
	74nm,1.1s						
CPCT	Cooper Cave	19.95	330	P	Pn	09 40 37.4	+0.3
TZTN	Tazewell	20.43	334	ePn	Pn	09 40 42.3	-0.4
	24nm,1.0s						
SWET	Sewanee	20.46	327	eP	P	09 40 42.1	+1.1
	32nm,1.1s						
SDMD	Soldier's Deli	21.18	351	eP	P	09 40 49.1	+0.5
	58nm,1.4s						
MVL	Millersville	21.69	352	eP	P	09 40 54.5	+0.5
OXF	Oxford	21.91	320	eP	P	09 40 56.2	-0.2
	63nm,1.1s						
WVT	Waverly	22.15	326	eP	P	09 40 59.0	-0.1
SSPA	Standing Stone	22.55	349	eP	P	09 41 04.2	+1.0
ODNJ	Ogdensburg	22.59	356	eP	P	09 41 04.5	+0.8
	31nm,1.1s						
WCI	Wyandotte Cave	23.04	331	eP	P	09 41 08.9	+0.4
	18nm,0.9s						
ACSO	Alum Creek Sta	23.46	340	eP	P	09 41 13.0	+0.3
	25nm,0.9s						
USIN	University of	23.47	329	eP	P	09 41 12.4	-0.5
	26nm,0.8s						
BLO	Bloomington	23.91	332	eP	P	09 41 16.9	-0.3
	23nm,0.9s						
ALLY	Alegheny Colle	23.98	346	eP	P	09 41 17.8	0.0
PBMO	Poplar Bluff	24.07	323	eP	P	09 41 19.7	+1.1
	14nm,0.9s						
SIUC	Southern Illin	24.07	326	eP	P	09 41 20.0	+1.4
	23nm,0.8s						
OLIL	Olney	24.29	329	eP	P	09 41 21.5	+0.8
	24nm,0.9s						
ERPA	Erie	24.39	347	eP	P	09 41 21.4	-0.1
	6.3nm,0.5s						
MMNY	Mt. Morris Dam	24.59	350	eP	P	09 41 25.0	+1.7
	114nm,1.5s						
ACCN	Adirondack Com	24.84	358	eP	P	09 41 27.5	+2.0
636A	Smothers Creek	24.87	301	⇓P	P	09 41 26.7	+0.7
	baz=25						
SFIN	Scholer Farm	25.16	333	eP	P	09 41 29.4	+0.9
	30nm,1.0s						
SFIN	Scholer Farm	25.16	333	⇓P	P	09 41 29.1	+0.6
	baz=25,SNR=6.6						
034A	Hebbronville	25.52	294	⇑P	P	09 41 32.8	+0.8
	baz=26						
834A	Tilden	25.68	297	⇓P	P	09 41 33.8	+0.4
	baz=26						
ATAH	Atahualpa	26.11	193	LR	LR	09 52 28.6	
	comp=Z,394nm,18.7s,baz=25,slow=38						
534A	Blanco	26.21	301	⇑P	P	09 41 37.1	-1.1

baz=26
833A Chaparral WMA, 26.45 297 ⇓P P 09 41 40.5 +0.1
baz=26
633A Saathoff Ranch 26.60 299 ⇑P P 09 41 41.5 -0.2
baz=27
134A White-Moore Ra 26.88 306 ⇓P P 09 41 45.0 +0.8
baz=27
TUL1 Tulsa 26.88 315 eP P 09 41 45.1 +1.0
TUL1 Tulsa 26.88 315 ⇓P P 09 41 45.0 +0.9
baz=27
832A Faith Ranch, C 26.94 296 ⇑P P 09 41 45.5 +0.7
baz=27
433A Art 26.96 302 ⇓P P 09 41 45.9 +0.9
baz=27
732A Laxson Ranch, 27.05 297 ⇑P P 09 41 46.8 +1.0
baz=27
333A Richland Sprin 27.09 303 ⇑P P 09 41 46.4 +0.3
baz=27
Y34A Reagan Ranch, 27.26 309 ⇑P P 09 41 48.7 +1.1
baz=27
532A Rocksprings 27.41 300 ⇑P P 09 41 50.1 +1.0
baz=27
432A Menard 27.57 302 ⇓P P 09 41 51.8 +1.2
baz=28
Z33A Whitaker Ranch 27.70 307 ⇑P P 09 41 52.5 +0.9
baz=28
332A Millersview 27.71 303 ⇑P P 09 41 52.1 +0.4
baz=28
631A Perdido Creek 27.75 298 ⇓P P 09 41 52.7 +0.6
baz=28
W34A Bridge Creek, 27.89 312 ⇑P P 09 41 53.9 +0.6
baz=28
431A Sonora 28.17 301 ⇓P P 09 41 56.1 +0.2
baz=28
Z32A Haskell 28.25 307 ⇓P P 09 41 57.2 +0.6
baz=28
X32A Elmer 28.59 309 ⇑P P 09 41 59.6 +0.1
baz=29
530A J-C Ranch, Com 28.60 299 ⇓P P 09 42 00.7 +0.9
baz=29
Z31A Sharp Cattle R 28.77 306 ⇑P P 09 42 01.6 +0.5
baz=29
SAML Samuel 28.79 160 eP P 09 42 00.2 -1.2
4.4nm,0.7s
330A Mertzon 28.87 302 ⇑P P 09 42 02.3 +0.2
baz=29
W32A Sentinel 28.89 310 ⇑P P 09 42 02.3 +0.1
baz=29
230A Sterling City 28.98 303 ⇓P P 09 42 03.6 +0.5
baz=29
Y31A Rekieta Farm, 29.12 307 ⇓P P 09 42 04.7 +0.4
baz=29
429A Davenport Ranc 29.20 300 ⇓P P 09 42 05.8 +0.7
baz=29
KSU1 Kansas State U 29.27 320 eP P 09 42 06.8 +1.2
11nm,0.8s
KSU1 Kansas State U 29.27 320 ⇓P P 09 42 06.5 +1.0
baz=29
529A Stev Forest Ra 29.33 299 ⇑P P 09 42 06.6 +0.4
baz=29
R33A Olander Ranch, 29.68 317 ⇓P P 09 42 10.1 +1.0
baz=30
X30A Coker Ranch, T 29.79 308 ⇓P P 09 42 10.2 0.0
baz=30
Z29A Hungry Hill Ra 29.95 305 ⇑P P 09 42 11.4 -0.2
baz=30
Q33A Connelly Farm, 29.98 318 ⇑P P 09 42 12.6 +0.8
baz=30
Y29A Porterfield Fa 30.15 306 ⇓P P 09 42 13.7 +0.3
baz=30
T31A Randall Ranch, 30.16 313 ⇓P P 09 42 14.4 +1.0
baz=30
S31A Mullinville 30.29 315 ⇓P P 09 42 15.2 +0.5
baz=30
128A Castleberry Fa 30.33 303 ⇓P P 09 42 15.5 +0.5
baz=30
TXAR Lajitas Array 30.34 297 P P 09 42 15.5 +0.3
0.7nm,0.8s,baz=108,slow=8.0,SNR=11
R31A Burdett 30.68 316 ⇓P P 09 42 18.3 +0.3
baz=31
P32A Huiting Farm, 30.82 319 ⇓P P 09 42 19.8 +0.5
baz=31
S30A Montezuma 30.97 314 ⇑P P 09 42 21.1 +0.5
baz=31
O32A Brockman Farm, 31.00 320 ⇑P P 09 42 21.5 +0.7
baz=31
R30A Dighton 31.18 315 ⇓P P 09 42 23.2 +0.8
baz=31
P31A Stockton 31.26 318 ⇓P P 09 42 23.5 +0.4
baz=31
SPMN St. Paul 31.54 332 ⇑P P 09 42 26.0 +0.5
baz=32
O31A Woolen Ranch, 31.59 319 ⇓P P 09 42 26.5 +0.5
baz=32
GDL2 Guadalupe Moun 31.69 302 eP P 09 42 36.7 +10
N31A Bailey Ranch, 31.75 320 ⇑P P 09 42 28.2 +0.8
baz=32
P30A Selden 31.83 317 ⇓P P 09 42 28.5 +0.3
baz=32
T28A Walsh 31.87 312 ⇑P P 09 42 29.0 +0.4
baz=32
Q29A Oakley 31.96 315 ⇓P P 09 42 29.6 +0.2
baz=32,SNR=6.0
M31A Lambtecht Ranc 32.08 321 ⇑P P 09 42 30.2 -0.1
baz=32
R28A Tribune 32.24 314 ⇓P P 09 42 32.4 +0.5
baz=32
ECSD EROS Data Cent 32.30 326 eP P 09 42 31.9 -0.3
5.5nm,1.1s
ECSD EROS Data Cent 32.30 326 ⇓P P 09 42 32.2 0.0
baz=32
Z25A Roswell 32.31 303 ⇓P P 09 42 32.8 +0.3
baz=32
O29A 4D Ranch, Culb 32.50 318 ⇑P P 09 42 34.2 +0.2
baz=32
L31A Butterfield Fa 32.51 322 ⇑P P 09 42 34.1 +0.1
baz=32
Q28A Sharon Springs 32.62 315 ⇑P P 09 42 35.5 +0.3
baz=33
S27A Las Animas 32.69 312 ⇑P P 09 42 36.4 +0.5
baz=33
U26A Atchley Ranch, 32.73 309 ⇓P P 09 42 36.7 +0.4
baz=33
M30A Dale-Ortello V 32.73 320 ⇓P P 09 42 36.8 +0.7
baz=33
N29A Votaw Ranch, W 32.78 319 ⇓P P 09 42 36.2 -0.3
baz=33
P28A Saint Francis 32.83 316 ⇓P P 09 42 37.2 +0.2
baz=33
Z24A Sheeppen Canyo 32.84 303 ⇓P P 09 42 37.8 +0.5
baz=33
L30A Spencer Herefo 32.88 321 ⇑P P 09 42 37.7 +0.3
baz=33,SNR=5.8
T26A Comanche Natio 32.95 311 ⇓P P 09 42 37.9 -0.3
baz=33
Y24A Capitan 33.09 304 ⇑P P 09 42 40.3 +0.8
baz=33
KSCO Kaye Shedlock' 33.13 314 ⇓P P 09 42 40.6 +1.0
baz=33
O28A Krutsinger Ran 33.13 317 ⇓P P 09 42 40.3 +0.7
baz=33
V25A Rancho No Teng 33.15 308 ⇑P P 09 42 41.0 +1.0
baz=33
M29A Burnside Ranch 33.17 320 ⇑P P 09 42 40.7 +0.7
baz=33
EYMN Ely 33.19 337 eP P 09 42 39.9 -0.1
7.6nm,1.0s
U25A Circle Dot Ran 33.22 309 ⇓P P 09 42 40.6 0.0
baz=33
K30A Basset 33.26 322 ⇑P P 09 42 41.4 +0.7
baz=33
N28A Pribbeno Ranch 33.28 318 ⇑P P 09 42 41.1 +0.1
baz=33
R26A Arlington 33.35 313 ⇑P P 09 42 41.2 -0.4
baz=33
P27A Ficken Ranch, 33.37 315 ⇑P P 09 42 41.7 0.0
baz=33
W24A Lazy 6 Ranch, 33.52 306 ⇓P P 09 42 43.1 -0.1
baz=34
T25A Trinidad 33.53 310 ⇑P P 09 42 42.8 -0.5
baz=34
J30A Dallas 33.60 323 ⇓P P 09 42 43.4 -0.1
baz=34
V24A Rampart Ranch, 33.60 307 ⇓P P 09 42 42.9 -1.1
baz=34
Q26A Hugo 33.70 314 ⇓P P 09 42 44.4 -0.2
baz=34
K29A Lazy Trails An 33.73 322 ⇑P P 09 42 45.1 +0.4

baz=34
OGNE Ogallala 33.74 318 ⇑P P 09 42 45.0 +0.1
baz=34
S25A Robets Cordova 33.77 311 ⇓P P 09 42 45.1 -0.2
baz=34
R25A Fountain Ranch 33.87 312 ⇑P P 09 42 45.5 -0.6
baz=34
P26A Davis Ranch, A 33.88 315 ⇑P P 09 42 46.1 -0.2
baz=34
N27A Anderson Farm, 33.99 317 ⇓P P 09 42 46.9 -0.2
baz=34
Z22A Elephant Butte 34.10 302 ⇑P P 09 42 47.5 -0.7
baz=34
J29A Okreek 34.13 323 ⇑P P 09 42 47.7 -0.4
baz=34
LPM Los Pinos Moun 34.16 304 eP P 09 42 52.9 +4.2
O26A Horse Wrangler 34.20 316 ⇑P P 09 42 48.2 -0.8
baz=34
T24B San Luis 34.20 310 ⇓P P 09 42 47.6 -1.6
baz=34
M27A Reverse DX Ran 34.28 318 ⇑P P 09 42 48.3 -1.3
baz=34
S24A Houchin Ranch, 34.32 311 ⇓P P 09 42 50.5 +0.3
baz=34
P25A Willow Gulch B 34.42 314 ⇑P P 09 42 50.0 -1.0
baz=34
R24A Sanders Place, 34.49 312 ⇑P P 09 42 50.7 -1.0
baz=34
I29A Vivian Onida 34.49 324 ⇑P P 09 42 51.4 +0.1
baz=34
U23A El Rito 34.52 308 ⇑P P 09 42 51.4 -0.5
baz=34
121A Cookes Peak, D 34.56 301 ⇑P P 09 42 50.8 -1.4
baz=34
G30A Faulkton 34.58 326 ⇑P P 09 42 51.8 -0.2
baz=35
M26A McRoberts Ranc 34.72 318 ⇓P P 09 42 52.7 -0.8
baz=35
LPAZ La Paz 34.83 173 P P 09 42 55.1 0.0
1.9nm,0.9s,baz=1.1,slow=5.8,SNR=6.2
LPAZ LR LR 09 57 56.8
comp=Z,159nm,21.7s,baz=9.5,slow=38
K27A Flueckinger Fa 34.84 320 ⇑P P 09 42 54.6 +0.2
baz=35
I28A Midland 34.97 323 ⇓P P 09 42 55.7 +0.2
baz=35
R23A Moffat 34.99 311 ⇓P P 09 42 55.4 -0.6
baz=35
J27A Elkhorn Farm, 35.02 321 ⇑P P 09 42 55.9 -0.1
baz=35
AGMN Agassiz Nation 35.25 333 eP P 09 42 57.6 -0.1
6.4nm,0.8s
AGMN Agassiz Nation 35.25 333 ⇑P P 09 42 57.7 -0.1
baz=35,SNR=7.4
H28A Mission Ridge 35.30 324 ⇓P P 09 42 58.4 +0.1
baz=35
E30A Jud 35.38 328 ⇑P P 09 42 59.3 +0.3
baz=35
G28A Parade 35.50 325 ⇑P P 09 42 59.6 -0.4
baz=36
P23A Jefferson 35.50 313 ⇑P P 09 42 59.9 -0.6
baz=36
319A Douglas 35.52 298 ⇓P P 09 42 59.6 -0.9
baz=36
I27A Quinn 35.52 322 ⇑P P 09 43 00.4 +0.1
baz=36
S22A 4UR Ranch, Cre 35.53 310 ⇑P P 09 42 59.6 -1.1
baz=36
ISCO Idaho Springs 35.54 314 ⇑P P 09 43 00.8 +0.1
baz=36
J26A Sides Ranch, S 35.69 321 ⇑P P 09 43 01.7 -0.1
baz=36
D30A Buchanan 35.72 329 ⇓P P 09 43 02.0 +0.1
baz=36
K25A Mack Ranch, Ha 35.79 319 ⇓P P 09 43 03.0 +0.3
baz=36
E29A Napoleon 35.80 328 ⇓P P 09 43 02.6 +0.1
baz=36
M24A Cheyenne 35.81 317 ⇓P P 09 43 03.4 +0.5
baz=36
H27A Howes 35.88 323 ⇓P P 09 43 03.0 -0.2
baz=36
F28A McLaughlin 35.93 326 ⇓P P 09 43 03.7 0.0
baz=36
I26A New Underwood 35.97 322 ⇓P P 09 43 03.8 -0.3
baz=36
C30A Mose, Pekin 36.01 330 ⇓P P 09 43 04.7 +0.4
baz=36,SNR=14
D29A Pettibone, Tap 36.11 328 ⇓P P 09 43 05.4 +0.2
baz=36,SNR=8.1
G27A Dupree 36.25 324 ⇓P P 09 43 06.9 +0.4
baz=36
H26A Fairpoint 36.27 323 ⇓P P 09 43 07.0 +0.4
baz=36
N23A Red Feather La 36.27 315 ⇓P P 09 43 06.8 -0.1
baz=36
E28A Huff 36.34 327 ⇑P P 09 43 07.2 0.0
baz=36
O22A Kremmling 36.34 314 ⇑P P 09 43 07.3 -0.3
baz=36
B30A Myrvik Farm, E 36.47 331 ⇓P P 09 43 08.4 +0.2
baz=36,SNR=7.0
SCHQ Schefferville 36.54 6 P P 09 43 07.2 -1.6
3.7nm,0.6s,baz=196,slow=7.6,SNR=8.4
MVCO Mesa Verde 36.56 308 ⇑P P 09 43 08.1 -1.4
baz=37
G26A Maurine 36.57 324 ⇑P P 09 43 09.2 0.0
baz=37
N22A Wattenberg Ran 36.57 315 ⇓P P 09 43 08.6 -0.9
baz=37
F27A Lemmon 36.60 325 ⇑P P 09 43 09.8 +0.3
baz=37,SNR=6.6
J24A Dixon Ranch, L 36.67 319 ⇓P P 09 43 10.6 +0.4
baz=37
D28A Regan 36.69 328 ⇑P P 09 43 10.6 +0.4
baz=37
L23A Garrett 36.70 317 ⇓P P 09 43 10.7 +0.1
baz=37,SNR=6.6
E27A Carson 36.71 326 ⇓P P 09 43 10.8 +0.5
baz=37
ULM Lac du Bonnet 36.76 335 P P 09 43 09.5 -1.1
7.0nm,0.9s,baz=137,slow=6.9,SNR=13
A30A Hoffart Farm, 36.81 331 ⇑P P 09 43 11.7 +0.5
baz=37,SNR=20
I24A Kuemmerle Ranc 36.93 320 ⇓P P 09 43 14.1 +1.7
baz=37
M22A Cedar Creek Ra 36.94 316 ⇓P P 09 43 14.1 +1.4
baz=37
C28A Hausauer Farms 36.95 328 ⇑P P 09 43 13.0 +0.7
baz=37
F26A Lodgepole 36.95 324 ⇑P P 09 43 13.1 +0.6
baz=37
PV01 Paradox Valley 36.95 310 eP P 09 43 13.0 +0.2
B29A Wagenman Farm, 36.96 330 ⇓P P 09 43 12.8 +0.4
baz=37,SNR=7.0
K23A Bowen Ranch, D 36.97 318 ⇑P P 09 43 13.1 +0.3
baz=37
G25A Newell 36.97 323 ⇑P P 09 43 12.8 +0.1
baz=37,SNR=6.5
E26A Carlson Angus 37.22 325 ⇑P P 09 43 15.0 +0.3
baz=37
A29A Manning Farm, 37.23 331 ⇑P P 09 43 15.1 +0.4
baz=37,SNR=14
B28A Dugan Ranch, T 37.43 329 ⇓P P 09 43 16.8 +0.4
baz=38,SNR=5.3
K22A Casper 37.49 317 ⇓P P 09 43 17.4 +0.2
baz=38
A28A Rude Farm, Bot 37.70 330 ⇑P P 09 43 19.0 +0.2
baz=38,SNR=6.5
J22A Midwest 37.84 318 ⇓P P 09 43 20.0 -0.2
baz=38,SNR=6.1
C26A Wahner Farm, P 37.88 327 ⇓P P 09 43 20.8 +0.5
baz=38,SNR=8.4
F24A Ekalaka 37.94 323 ⇑P P 09 43 20.9 +0.1
baz=38
K21A Alcova 37.95 317 ⇑P P 09 43 21.7 +0.5
baz=38,SNR=12
I22A 9 Mile Ranch, 38.09 319 ⇑P P 09 43 21.9 -0.4
baz=38
D25A Fairfield 38.10 326 ⇑P P 09 43 22.1 -0.1
baz=38
G23A Biddle 38.12 322 ⇓P P 09 43 22.2 -0.2
baz=38
E24A Baker 38.28 324 ⇓P P 09 43 24.2 +0.5
baz=38
F23A Volborg 38.42 322 ⇑P P 09 43 24.7 -0.2
baz=38
I21A Big Trails, Te 38.55 319 ⇑P P 09 43 25.7 -0.4

baz=39,SNR=7.6
A26A Wade Farm, Ken 38.56 329 ⇓P P 09 43 26.2 +0.3
baz=39
D24A Glendive 38.62 325 ⇑P P 09 43 27.0 +0.4
baz=39
B25A Knox Farm, Ray 38.72 327 ⇑P P 09 43 27.4 +0.1
baz=39
H21A Big Horn, Sher 38.81 320 ⇑P P 09 43 28.1 -0.2
baz=39
J20A Shoshoni 38.83 317 ⇓P P 09 43 28.3 -0.2
baz=39
F22A Rosebud 38.95 322 ⇓P P 09 43 29.0 -0.3
baz=39
E22A Miles City 39.14 323 ⇓P P 09 43 31.0 +0.1
baz=39
I20A Worland 39.15 318 ⇓P P 09 43 30.8 -0.3
baz=39
U15A North Rim 39.20 305 ⇑P P 09 43 32.4 +0.6
baz=39
H20A Greybull 39.33 319 ⇓P P 09 43 32.9 +0.3
baz=39
DGMT Dagmar 39.38 327 eP P 09 43 34.4 +1.5
11nm,0.9s
J19A Crowheart 39.42 317 ⇓P P 09 43 33.4 0.0
baz=39,SNR=5.5
C23A Lambert 39.50 325 ⇑P P 09 43 34.3 +0.4
baz=40
A24A Westby 39.56 327 ⇑P P 09 43 35.0 +0.6
baz=40,SNR=8.1
D22A Cohagen 39.67 324 ⇑P P 09 43 35.4 +0.1
baz=40
I19A Meeteetse 39.74 318 ⇓P P 09 43 36.1 0.0
baz=40
B23A Brockton 39.80 326 ⇑P P 09 43 37.2 +0.9
baz=40
G20A Bridger 39.83 320 ⇓P P 09 43 36.0 -0.7
baz=40
C22A Vida 39.85 325 ⇓P P 09 43 37.3 +0.5
baz=40
H19A Powell 40.03 319 ⇓P P 09 43 39.0 +0.5
baz=40
A23A Redstone 40.04 327 ⇑P P 09 43 39.3 +0.9
baz=40
D21A La Casta Ranch 40.09 323 ⇓P P 09 43 39.2 +0.4
baz=40
F20A Billings 40.09 321 ⇑P P 09 43 38.9 +0.1
baz=40
E20A Meyer Farm, Mu 40.44 322 ⇑P P 09 43 42.0 +0.2
baz=40
H18A Shoshone NF, C 40.46 318 ⇑P P 09 43 41.5 -0.7
baz=40,SNR=6.8
F19A Roth Farm, Mol 40.59 320 ⇑P P 09 43 43.1 0.0
baz=41
A22A Carney Farms, 40.60 326 ⇓P P 09 43 43.7 +0.6
baz=41,SNR=6.4
I17A Pilgrim Ck. 40.70 317 ⇑P P 09 43 44.5 +0.4
baz=41
D20A Manuel Ranch, 40.75 322 ⇓P P 09 43 44.5 +0.2
baz=41
E19A Rath Farm, Rou 40.80 321 ⇑P P 09 43 44.9 +0.1
baz=41,SNR=6.2
C20A Veseth Ranch, 41.01 323 ⇓P P 09 43 47.0 +0.6
baz=41
A21A Bergtoll Ranch 41.14 326 ⇓P P 09 43 48.6 +1.1
baz=41
D19A Cripps Ranch, 41.22 322 ⇓P P 09 43 48.3 +0.1
baz=41
SWSC Sam W. Stewart 41.24 299 ⇑P P 09 43 48.6 +0.1
baz=41
A20A Cobblestone Ra 41.62 325 ⇑P P 09 43 51.6 +0.2
baz=42,SNR=6.8
C19A Slack Wire Ran 41.62 323 ⇑P P 09 43 51.5 0.0
baz=42
BDFB Brasilia 41.64 143 P P 09 43 51.6 -0.4
5.7nm,0.8s,baz=298,slow=9.0,SNR=8.4
BDFB LR LR 10 03 02.6
comp=Z,268nm,18.1s,baz=75,slow=39
B19A Brinkman Farms 41.95 324 ⇓P P 09 43 54.4 +0.3
baz=42
A19A Klindworth Far 42.09 324 ⇑P P 09 43 56.5 +1.2
baz=42
EGMT Eagleton 42.18 323 ⇓P P 09 43 56.3 +0.2
baz=42
MCMT McKenzie Canyo 42.56 317 eP P 09 43 59.7 +0.2
1.9nm,0.9s
HLID Hailey 43.09 315 eP P 09 44 04.1 +0.4
3.0nm,1.0s
SCI San Clemente I 43.54 299 ⇓P P 09 44 06.9 -0.3
baz=44
MSO Missoula 44.11 319 ⇓P P 09 44 11.6 -0.1
baz=44
NVAR Mina Array Bea 44.34 306 P P 09 44 13.8 0.0
1.2nm,0.9s,baz=100,slow=5.4,SNR=6.2
JTMT Jette 44.72 320 eP P 09 44 16.4 -0.1
2.0nm,0.8s
BSMT Bassoo Peak 45.07 320 eP P 09 44 19.6 +0.1
20nm,2.1s
WVOR Wild Horse Val 45.64 312 eP P 09 44 23.9 0.0
18nm,1.8s
NEW Newport 46.66 320 ⇓P P 09 44 31.9 0.0
baz=47,SNR=7.2
EDM Edmonton 46.85 327 eP P 09 44 32.7 -0.6
CPUP Villa Florida 46.94 161 P P 09 44 33.2 -0.9
2.2nm,0.6s,baz=323,slow=16,SNR=2.9
CPUP LR LR 10 05 39.7
comp=Z,264nm,18.6s,baz=351,slow=38
M04C Macdoel 47.76 310 ⇑P P 09 44 41.0 +0.4
baz=48
YBH Yreka Blue Hor 48.38 310 P P 09 44 45.1 -0.3
1.2nm,0.7s,baz=94,slow=4.8,SNR=6.5
M02C Callahan 48.41 309 ⇑P P 09 44 46.4 +0.8
baz=48
I04A Tendick Farm, 48.67 313 ⇑P P 09 44 48.2 +0.7
baz=49
SFJD Kangerlussuaq 50.52 11 P P 09 45 00.5 -0.6
7.9nm,0.9s,baz=195,slow=4.6,SNR=3.9
YKA Yellowknife Ar 52.67 337 P P 09 45 16.9 -0.4
2.6nm,0.8s,baz=123,slow=7.3,SNR=44
SUMG Summit 57.50 12 iP P 09 45 52.5 -0.1
17nm,1.0s
SUMG Summit 57.50 12 eP P 09 45 52.5 -0.1
23nm,1.0s
PLCA Paso Flores 58.95 178 P P 09 46 01.8 -0.9
3.4nm,0.7s,baz=353,slow=7.9,SNR=8.4
ESDC Sonseca Array 62.11 54 P P 09 46 24.5 +0.1
2.3nm,0.9s,baz=273,slow=7.0,SNR=4.1
EKA Eskdalemuir Ar 63.29 37 P P 09 46 31.9 0.0
0.6nm,0.6s,baz=269,slow=7.0,SNR=3.0
DAG Danmarks Havn 64.18 12 iP P 09 46 36.7 -0.8
3.4nm,1.0s
ILAR Eielson Array 66.76 333 P P 09 46 54.0 -0.3
0.8nm,0.8s,baz=111,slow=3.2,SNR=8.4
NOA NORSAR Array B 71.00 31 P P 09 47 18.9 -2.0
0.8nm,0.7s,baz=274,slow=6.1,SNR=2.4
TORD Torodi Ar. Bea 71.20 82 P P 09 47 20.8 -2.0
1.2nm,1.1s,baz=315,slow=4.7,SNR=4.5
KEST Kesra 73.02 57 P P 09 47 33.3 -0.2
0.8nm,0.7s,baz=214,slow=3.6,SNR=2.7
GERES GERESS Array B 73.88 43 P P 09 47 38.7 +0.3
1.7nm,0.8s,baz=266,slow=4.0,SNR=10
VYHS Vyhne 77.29 43 eP P 09 47 58.9 +1.1
FINES FINESS Array B 77.99 29 P P 09 48 00.5 -0.9
2.2nm,1.0s,baz=267,slow=8.4,SNR=3.0
CRVS Cervenica-Dubn 78.87 42 eP P 09 48 05.7 -0.9
MLR Muntele Rosu 82.80 45 P P 09 48 28.9 +1.1
0.9nm,0.7s,baz=171,slow=7.1,SNR=5.1
KSH Kashi 115.23 27 ePKP PKPdf 09 54 46.5 +1.2
WMQ Urumqi 115.41 16 ePKP PKPdf 09 54 46.3 +0.8
CN2 Changchun 115.86 346 ePKP PKPdf 09 54 47.4 +1.2
HHC Hu-ho-hao-te 120.84 356 ePKP PKPdf 09 54 57.8 +1.7
HHC PP PP 09 56 27.0 +4.0
HHC SKS SKSdf 10 02 10.1 +1.8
HHC SKKS SKKSac 10 03 20.8 -3.6
HHC SS SS 10 12 56.3 +3.0
HHC LR LR
comp=N,190nm,22.9s
HHC LR LR
comp=E,180nm,23.7s
HHC LR LR
comp=Z,170nm,22.0s
LZH Lanzhou 125.62 4 ePKP PKPdf 09 55 05.8 +0.4
LZH sPKP 09 55 10.3
LZH LR LR
comp=N,170nm,18.3s
LZH LR LR
comp=E,160nm,18.0s
LZH LR LR
comp=Z,190nm,20.0s

CD2 Chengdu 130.76 4 PKP PKPdf 09 55 15.3 +0.1
CD2 PP PP 09 57 33.5 +4.5
CD2 PKS PKSdf 09 58 50.3 -1.6
CD2 SKS SKSdf 10 02 24.1 -3.0
CD2 SKKS SKKSac 10 04 23.9 -3.6
CD2 SS SS 10 14 57.9 +0.4
WRA Warramunga Arr 154.57 262 PKP PKPdf 09 55 56.1 -0.4
1.0nm,0.9s,baz=85,slow=2.4,SNR=3.5

ISCJB 22 09:41:48.9±1.3, 42.5N±0.1×84.79E±0.07, h10km, Error ellipse: s-maj=16.6km s-min=7.1km az=169.4
BJI 22 09:41:54.2, 42.25N×84.91E, h5km, ML3.5/10
NNC 22 09:41:55.4±2.5, 42.47N×84.90E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=21.9km s-min=12.5km az=137.0
ISC 22 09:41:53.3±1.2, 42.4N±0.1×84.89E±0.06, h10km, n8, σ2.03/8, 6C-6D, Northern Xinjiang

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WMQ Urumqi 2.48 55 Pn Pb 09 42 37.9 -0.1
WMQ Sg Sg 09 43 13.1 0.0
WMQ smax smax
comp=N,270nm,0.4s
WMQ smax smax
comp=E,360nm,0.5s
PDGK Podgornoye 4.07 285 ⇓Pg Pg 09 43 10.6 -0.7
PDGK ⇑Lg Lg 09 44 03.0
MK31 Makanchi Array 4.75 338 ⇓Pn Pn 09 43 07.4 +2.5
0.2nm,0.2s,baz=162,slow=16,SNR=84
MK31 ⇓Pg Pg 09 43 22.2 -2.0
3.4nm,0.3s,baz=150,slow=16,SNR=36
MK31 ⇑Lg Lg 09 44 25.0
12nm,0.5s,baz=153,slow=28,SNR=6.2
TKM2 Tokmak 2 6.87 277 ⇑Pn Pn 09 43 36.3 +2.0
1.0nm,0.3s
TKM2 ⇑Pg Pg 09 44 02.4 -2.4
1.7nm,0.5s
TKM2 ⇓Lg Lg 09 45 35.3
17nm,0.6s
AAK Ala-Archa 7.68 275 ⇓Pg Pg 09 44 15.5 -4.9
1.6nm,0.7s
AAK ⇑Lg Lg 09 45 57.0
7.7nm,0.7s
KURBB Kurchatov Arra 9.29 334 ⇑Lg Lg 09 46 46.0
13nm,0.7s
OTUK Ortayu 10.58 308 ⇓Lg Lg 09 47 31.6
GTA Gaotai 11.69 100 eP Pn 09 44 39.8 -0.4
GTA pP 09 44 43.3
GTA sP 09 44 46.3

IDC 22 09:42:34.2±1.8, 5.51N×94.70E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/37, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=62.8km s-min=27.9km az=60.0, Northern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 13.52 17 Pn Pn 09 45 47.0 -0.4
0.4nm,0.3s,baz=210,slow=14,SNR=3.4
H08S3 Diego Garcia H 25.72 240 T T 10 13 22.0
baz=61,slow=76,SNR=13
H08S2 Diego Garcia H 25.72 240 T T 10 13 36.5
baz=61,slow=76,SNR=14
H08S1 Diego Garcia H 25.74 240 T T 10 13 23.3
baz=61,slow=76,SNR=14
MKAR Makanchi Array 42.50 347 P P 09 50 31.8 +0.5
1.1nm,0.6s,baz=165,slow=7.6,SNR=7.3
SONM Songino Array 43.34 11 P P 09 50 37.3 -0.9
0.3nm,0.6s,baz=180,slow=6.7,SNR=4.0
WRA Warramunga Arr 46.47 124 P P 09 51 03.4 0.0
0.3nm,0.6s,baz=306,slow=9.4,SNR=6.3
ZALV Zalesovo Beam 48.96 352 P P 09 51 22.7 +0.5
0.4nm,0.3s,baz=179,slow=5.9,SNR=4.8
GERES GERESS Array B 79.95 318 P P 09 54 44.8 -0.6
0.1nm,0.3s,baz=84,slow=5.5,SNR=3.5

ISCJB 22 09:46:19.5±0.6, 39.84N±0.05×40.79E±0.04, h11km, Error ellipse: s-maj=7.2km s-min=4.4km az=17.2
CSEM 22 09:46:19.0±0.4, 39.85N×40.70E, h30km, MD2.7, Error ellipse: s-maj=15.9km s-min=10.4km az=16.0
ISK 22 09:46:19.5, 39.91N×40.78E, h20km, MD2.7
ISC 22 09:46:18.8±0.9, 39.86N±0.05×40.79E±0.04, h11km, n11, σ0.61/16, Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KOPT Kop Dagi 0.28 306 iP Pb 09 46 25.7 -0.3
KOPT iS Sb 09 46 31.1 +0.3
KOPT Kop Dagi 0.28 306 iP Pb 09 46 25.7 -0.3
KOPT iS Sb 09 46 31.1 +0.3
EZM Erzurum 0.44 83 ePG Pb 09 46 28.4 -0.4
EZM eSG Sb 09 46 36.6 +1.0
ERZM Erzurum 0.45 83 iP Pb 09 46 28.7 -0.2
ERZM Erzurum 0.45 83 iP Pb 09 46 28.7 -0.2
ERZM iS Sg 09 46 32.2 -1.4
BAYT Ayd˘-ntepe-Bay 0.73 317 ePG Pg 09 46 33.4 +0.4
BAYT eSG Sb 09 46 43.8 0.0
BAYT Ayd˘-ntepe-Bay 0.73 317 ePg Pg 09 46 33.4 +0.4
BAYT eSg Sb 09 46 43.8 0.0
ERZN Erzincan 0.87 252 ePG Pn 09 46 36.9 -0.2
BNGB Bing˘¶l 0.87 186 ePG Pn 09 46 38.0 +1.0
BINT Bingol 1.01 193 ePg Pg 09 46 38.0 -0.2
EZC Erzincan 1.11 265 ePg Pb 09 46 36.9 -3.2

NIED 22 09:52:00, 36.50N×140.60E, h62km, Mw4.2 Best double couple: $M_0$2.36000×10^{15} NP1:ϕ_s225.00000°, δ29.00000°, λ124.00000°. NP2:ϕ_s7.00000°, δ66.00000°, λ73.00000°.
BJI 22 09:52:47.6, 36.17N×140.95E, h53km, mB4.8/23, mb4.6/34, Ms4.3/19, Ms7 4.0/18
ISCJB 22 09:52:51.4±0.3, 36.46N±0.03×140.61E±0.04, h63km±2km, mb4.5/60, Error ellipse: s-maj=5.4km s-min=3.7km az=35.9
MOS 22 09:52:51.6±0.9, 36.49N×140.53E, h64km, mb4.8/38, Error ellipse: s-maj=9.2km s-min=5.8km az=110.0
JMA 22 09:52:52.3±0.1, 36.45N×140.58E, h56km±1km, M4.4 Broadband fault plane solution: P waves. NP1: ϕ_s22.00000°, δ61.00000°, λ91.00000°. NP2:ϕ_s201.00000°, δ29.00000°, λ89.00000°. Principal axes: T Plg74.0000°, Azm294.0000°; N Plg1.0000°, Azm202.0000°; P Plg16.0000°, Azm112.0000°;
JMA Felt III J1.
NEIC 22 09:52:53.4±0.5, 36.49N×140.54E, h65km±4km, mb4.8/13, MW4.2(NIED) Error ellipse: s-maj=6.6km s-min=4.6km az=129.0
NEIC Felt at Tokyo and Tsukuba. Recorded [3 JMA] in Fukushima, Ibaraki and Tochigi; [2 JMA] in Chiba, Gumma and Saitama; [1 JMA] in Kanagawa and Tokyo.
IDC 22 09:52:54.9±2.0, 36.44N×140.46E, h80km±17km, mb4.0/22, mb1 4.1/25, mb1mx4.1/31, mbtmp4.3/25, MS3.3/3, Ms1 3.4/3, ms1mx3.0/36, Error ellipse: s-maj=15.1km s-min=12.4km az=98.0
ISC 22 09:52:52.2±0.4, 36.46N±0.03×140.63E±0.04, h56km±3km, n212, σ1.09/239, mb4.6/61, MS4.0/7, 11C-8D, Near east coast of eastern Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JHO Hitachi 0.16 343 ⇑P Pn 09 53 01.2 +0.2
JHO S Sn 09 53 07.2 -0.2
JYT Yasato 0.42 237 ⇑P Pn 09 53 02.9 -0.1
JYT S Sn 09 53 10.2 -0.6
ONAJ Iwakimizuishiy 0.66 12 ⇑P Pn 09 53 05.6 -0.2
ONAJ S Sn 09 53 15.3 -0.4
JFK Kawauchi 0.93 12 ⇑P Pn 09 53 08.8 -0.4
JFK S Sn 09 53 21.0 -0.7
JAG Ashikaga 0.95 268 ⇓P Pn 09 53 09.3 -0.1
JAG S Sn 09 53 21.0 -1.1
JFT Otama 1.08 348 ⇓P Pn 09 53 11.4 +0.2
JFT S Sn 09 53 25.3 0.0
JKT Katashina 1.15 286 P Pn 09 53 12.2 0.0
JKT S Sn 09 53 26.8 -0.2
I30JP ISUMI INFRASON 1.18 193 P Pn 09 53 13.7 +1.3
baz=307,slow=340
I30JP S Sn 09 53 30.0 +2.6
baz=146,slow=228
JFY Yanaizu 1.20 322 ⇓P Pn 09 53 13.1 +0.3
JMM Marumori 1.41 5 ⇓P Pn 09 53 15.9 +0.3
JMM S Sn 09 53 33.1 -0.1
JRY Ryogami san 1.46 253 ⇓P Pn 09 53 16.2 -0.1
JRY S Sn 09 53 33.1 -1.3
MJAR Matsushiro Arr 1.95 273 P Pn 09 53 22.9 0.0
MJAR S Sn 09 53 37.9 -8.4
MJAR pmax pmax
comp=Z,163nm,0.3s
MJAR smax smax
comp=N,198nm,0.3s
MJAR Matsushiro Arr 1.95 273 P Pn 09 53 22.9 0.0
comp=N,163nm,0.3s,baz=56,slow=10,SNR=1143
MJAR S Sn 09 53 37.9 -8.4
comp=N,198nm,0.3s,baz=100,slow=25,SNR=31
MJAR LR LR 09 54 07.0
comp=N,351nm,20.0s,baz=55,slow=40
MAJO Matsushiro 1.95 273 d iP Pn 09 53 23.0 +0.1
MAJO Matsushiro 1.95 273 ePn Pn 09 53 23.8 +0.8
MAT Matsushiro 1.95 273 P Pn 09 53 22.9 0.0
MAT S Sn 09 53 47.5 +1.2
JHJ2 Mitsune 3.40 192 ePn Pn 09 53 43.8 +1.0
JHJ2 eSn Sn 09 54 22.1 +0.3
ERM Erimo 5.89 19 iP Pn 09 54 17.9 +1.1
ERM Erimo 5.89 19 ePn Pn 09 54 17.0 +0.2
ASAJ Asahikawa 7.80 11 P Pn 09 54 41.0 -1.9
ASAJ S Sn 09 56 08.9 -0.8
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ smax smax
comp=N,2.0nm,0.3s
ASAJ Asahikawa 7.80 11 P Pn 09 54 41.0 -1.9
comp=N,4.0nm,0.3s,baz=234,slow=11,SNR=18
ASAJ S Sn 09 56 08.9 -0.8
comp=N,2.4nm,0.3s,baz=137,slow=19,SNR=3.3
ASAJ Asahikawa 7.80 11 ePn Pn 09 54 42.2 -0.7
ASAJ S Sn 09 56 08.9 -0.8
ASAJ eSn Sn 09 56 10.5 +0.8
YUK Yuzh-Kuril'sk 8.56 26 eP Pn 09 54 49.5 -3.8
YUK iS Sn 09 56 22.0 -6.4
YUK pmax pmax
comp=N,38nm,0.2s
YUK pmax pmax
comp=E,58nm,0.2s
YUK pmax pmax
comp=Z,53nm,0.2s
JNU Nakatsue 8.68 250 P Pn 09 54 56.9 +1.7
comp=Z,0.7nm,0.3s,baz=83,slow=12,SNR=5.7
CBIJ Chichi jima 9.43 171 ePn Pn 09 55 02.5 -2.8
CBIJ S Sn 09 56 39.1 -11
JCJ Chichijima 9.43 171 P Pn 09 55 02.6 -2.7
comp=Z,19nm,0.3s,baz=67,slow=23,SNR=25
JCJ S Sn 09 56 39.1 -11
comp=Z,9.6nm,0.3s,baz=285,slow=20,SNR=4.5
VLA Vladivostok 9.46 317 ⇑iP Pn 09 55 09.7 +4.1
VLA S Sn 09 56 59.8 +9.4
USRK Ussuriysk Arra 10.16 322 P Pn 09 55 17.6 +2.4
comp=Z,0.8nm,0.3s,baz=137,slow=12,SNR=21
USRK LR LR 09 58 18.2
comp=Z,118nm,21.8s,baz=211,slow=32
KSRS Korea Array 10.22 279 P Pn 09 55 18.0 +1.9
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS Korea Array 10.22 279 P Pn 09 55 18.0 +1.9
comp=Z,0.8nm,0.3s,baz=94,slow=14,SNR=30
KSRS LR LR 09 59 12.3
comp=Z,191nm,18.2s,baz=19,slow=37
KSAR Wonju Array Be 10.25 279 P Pn 09 55 18.0 +1.5
KSAR Wonju Array Be 10.25 279 P Pn 09 55 17.9 +1.5
KUR Kuril'sk 10.34 30 P Pn 09 55 16.4 -1.2
KUR eS Sn 09 57 07.5 -4.4
KUR pmax pmax
comp=Z,23nm,2.2s
KUR pmax pmax
comp=E,28nm,2.3s
KUR pmax pmax
comp=N,22nm,0.8s
KUR smax smax
comp=E,28nm,0.3s
KUR smax smax
comp=N,47nm,0.6s
YSS Yuzh-Sakhalins 10.61 8 eP Pn 09 55 21.2 -0.1
YSS Yuzh-Sakhalins 10.61 8 Pn Pn 09 55 22.0 +0.7
MDJ Mudanjiang 11.69 318 P Pn 09 55 40.5 +4.4
MDJ pmax pmax
comp=N,15nm,1.3s
MDJ pmax pmax
comp=N,130nm,2.7s
HABR Khabarovsk 12.69 343 eP Pn 09 55 50.2 +0.5
HABR eS Sn 09 58 13.9 +4.6
HABR pmax pmax
comp=Z,106nm,2.3s
HABR MLR MLR
comp=Z,167nm,14.0s
CN2 Changchun 13.72 307 eP Pn 09 56 04.3 +0.5
CN2 epP P 09 56 14.0 +3.2
CN2 eS Sn 09 58 36.5 +1.9
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
NJ2 Nanjing 18.52 263 eP Pn 09 57 04.8 +0.2
NJ2 pmax pmax
comp=Z,20nm,0.7s
TIA Tai'an 18.93 276 ⇑P P 09 57 07.4 -1.1
TIA pmax pmax
comp=Z,10.0nm,0.6s
TIA pmax pmax
comp=Z,260nm,7.9s
TIA LR LR
comp=Z,250nm,17.2s
TIA LR LR
comp=Z,280nm,16.3s
TIA LR LR
comp=Z,330nm,17.4s
BJI Beijing 19.52 288 P P 09 57 13.8 -1.0
BJI pmax pmax
comp=Z,27nm,0.5s
BJI pmax pmax
comp=Z,88nm,5.5s
PETK Petropavlovsk- 20.50 30 P Pn 09 57 27.3 -0.7
PETK pmax pmax
comp=Z,1.0nm,0.6s
PETK Petropavlovsk- 20.50 30 P Pn 09 57 27.3 -0.8
comp=Z,1.4nm,0.6s,baz=216,slow=7.1,SNR=4.5
HHC Hu-ho-hao-te 23.06 290 eP P 09 57 51.3 -1.6
HHC pP pP 09 58 05.6 -0.1
HHC sP sP 09 58 13.4 +0.7
HHC S S 10 01 53.6 -6.0
HHC sS Sn 10 02 16.6 -3.4
HHC PcS PcS 10 05 18.6 -0.9
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,150nm,6.6s
HHC LR LR
comp=Z,250nm,14.4s
HHC LR LR
comp=Z,260nm,12.8s
HHC LR LR
comp=Z,370nm,14.0s
XAN Xi'an 25.95 274 P P 09 58 18.0 -1.3
XAN pmax pmax
comp=Z,3.0nm,0.6s
XAN pmax pmax
comp=Z,26nm,10.5s
YAK Yakutsk 26.50 348 eP P 09 58 23.3 -0.6
YAK e*PP pP 09 58 43.8 +5.9
YAK e 09 59 12.3
YAK eS S 10 02 51.4 -2.4
YAK e 10 09 07.9
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,21nm,1.5s
YAK pmax pmax
comp=N,21nm,1.5s
YAK pmax pmax
comp=E,18nm,2.0s
YAK smax smax
comp=N,85nm,3.8s
YAK smax smax
comp=E,11nm,1.4s
SEY Seymchan 27.48 12 P P 09 58 33.7 +1.0
SEY pmax pmax
comp=Z,7.0nm,0.8s
SEY Seymchan 27.48 12 P P 09 58 33.7 +1.0
comp=Z,7.0nm,0.8s,baz=215,slow=7.1,SNR=35
SONM Songino Array 27.59 305 P P 09 58 32.8 -1.3
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 27.59 305 P P 09 58 32.8 -1.3
comp=Z,3.2nm,0.7s,baz=102,slow=9.0,SNR=34
BOD Bodaibo 27.69 329 ⇑iP P 09 58 33.8 -0.9
BOD pmax pmax
comp=Z,8.0nm,0.7s
H11N2 WAKE ISLAND Hy 28.41 119 T T 10 28 43.3
baz=312,slow=75,SNR=91
H11N1 WAKE ISLAND Hy 28.42 119 T T 10 28 46.2
baz=312,slow=75,SNR=88
H11N3 WAKE ISLAND Hy 28.43 119 T T 10 28 46.9
baz=312,slow=75,SNR=65
H11S1 WAKE ISLAND Hy 29.09 121 T T 10 29 37.5
baz=314,slow=76,SNR=378
H11S3 WAKE ISLAND Hy 29.09 121 T T 10 29 33.8
baz=314,slow=76,SNR=226
H11S2 WAKE ISLAND Hy 29.11 121 T T 10 29 35.1
baz=314,slow=76,SNR=344
LZH Lanzhou 29.54 280 eP P 09 58 53.1 +1.5
LZH pP pP 09 59 04.0 -1.7
LZH sP sP 09 59 10.0 -2.4
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,93nm,5.4s
LZH LR LR
comp=Z,410nm,13.0s
LZH LR LR
comp=Z,420nm,12.5s
LZH LR LR
comp=Z,600nm,14.7s
TLY Talaya 30.24 312 eP P 09 58 56.9 -0.5
TLY pmax pmax
comp=Z,2.0nm,0.9s
GYA Guiyang 30.50 261 ⇑iP P 09 58 57.3 -2.8
GYA pP pP 09 59 14.8 +0.6
GYA sP sP 09 59 22.4 +1.5
GYA PP PnPn 10 00 01.0 +0.2
GYA S S 10 03 57.5 -0.2
GYA sS sS 10 04 20.6 -1.1
GYA SS SnSn 10 05 39.3 +1.0
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=Z,530nm,17.8s
GYA LR LR
comp=Z,460nm,18.0s
GYA LR LR
comp=Z,480nm,17.6s
CD2 Chengdu 31.04 271 P P 09 59 06.3 +1.5
CD2 pP pP 09 59 19.9 +1.0
CD2 sP sP 09 59 26.4 +0.8
CD2 PP PnPn 10 00 09.6 +1.8
CD2 PcP PcP 10 02 01.5 +2.1
CD2 S S 10 04 05.8 -0.2
CD2 sS sS 10 04 29.1 -0.9
CD2 SS SnSn 10 05 52.4 +1.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.4s
GTA Gaotai 32.13 288 eP P 09 59 13.3 -1.1
GTA pP pP 09 59 28.1 -0.4
GTA sP sP 09 59 35.6 +0.4
GTA pmax pmax
comp=Z,3.0nm,1.1s
BILL Bilibino 34.76 17 eP P 09 59 37.0 +0.3
BILL e*PP PnPn 10 00 54.6 +0.5
BILL pmax pmax
comp=Z,4.0nm,1.5s
BILL MLR MLR
comp=Z,106nm,18.0s
TIXI Tiksi 35.79 354 ⇑eP P 09 59 44.9 -0.6
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 35.79 354 eP P 09 59 44.8 -0.6
comp=Z,7.0nm,0.6s
WMQ Urumqi 40.54 297 eP P 10 00 26.1 +0.2
WMQ pmax pmax
comp=Z,8.0nm,0.6s
WMQ pmax pmax
comp=Z,130nm,5.0s
WMQ LR LR
comp=Z,81nm,22.8s
WMQ LR LR
comp=Z,110nm,19.6s
WMQ LR LR
comp=Z,57nm,18.8s
CMAR Chiang Mai Arr 40.74 255 P P 10 00 27.6 -0.1
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR MLR MLR
comp=Z,58nm,18.1s
CMAR Chiang Mai Arr 40.74 255 P P 10 00 27.6 -0.1
comp=Z,1.7nm,0.6s,baz=48,slow=7.2,SNR=4.2
CMAR LR LR 10 17 56.0
comp=Z,58nm,18.1s,baz=270,slow=37
TNA Tin City 41.67 29 eP P 10 00 36.1 +1.4
comp=Z,66nm,3.0s
ZALV Zalesovo Beam 41.84 313 P P 10 00 36.4 +0.1
ZALV pmax pmax
comp=Z,15nm,0.6s
ZALV Zalesovo Beam 41.84 313 P P 10 00 36.4 +0.1
comp=Z,15nm,0.6s,baz=93,slow=6.8,SNR=61
NVS Novosibirsk 42.78 314 eP P 10 00 43.2 -0.8
NVS pmax pmax
comp=E,7.0nm,0.7s
NVS pmax pmax
comp=Z,10.0nm,0.7s
NVS pmax pmax
comp=N,2.0nm,0.5s
MKAR Makanchi Array 43.89 302 P P 10 00 53.0 -0.1
comp=N,5.1nm,0.8s,baz=90,slow=9.8,SNR=42
TAPN Taplejung 45.35 274 eP P 10 01 04.7 -0.6
comp=N,7.2nm,0.4s
KURK Kurchatov 45.79 308 P P 10 01 08.0 -0.1
KURK Kurchatov 45.79 308 eP P 10 01 07.2 -0.9
comp=N,3.8nm,0.6s
ODAN Odare 45.82 274 eP P 10 01 08.0 -0.9
comp=N,15nm,0.6s
ODAN Odare 45.82 274 eP P 10 01 08.0 -0.9
KURBB Kurchatov Arra 45.86 308 P P 10 01 08.0 -0.6
RAMN Ramite 46.41 274 eP P 10 01 12.8 -0.8
comp=N,50nm,0.7s
RAMN Ramite 46.41 274 eP P 10 01 12.8 -0.8
JIRN Jiri 46.44 275 eP P 10 01 13.8 -0.1
comp=N,36nm,0.7s
JIRN Jiri 46.44 275 eP P 10 01 13.8 -0.1
GUN Gumba 46.58 276 eP P 10 01 14.8 -0.2
comp=N,45nm,0.8s
GUN Gumba 46.58 276 eP P 10 01 14.8 -0.2
PKI Pulchoki 47.10 276 eP P 10 01 18.7 -0.4
comp=N,20nm,0.7s
PKI Pulchoki 47.10 276 eP P 10 01 18.7 -0.4
PKI Pulchoki 47.10 276 eP P 10 01 18.7 -0.4
PKIN Phulchoki 47.11 276 eP P 10 01 18.6 -0.5
comp=N,12nm,0.6s
KKN Kakani 47.12 276 eP P 10 01 18.9 -0.1
KKN Kakani 47.12 276 eP P 10 01 18.9 -0.1
KKN Kakani 47.12 276 eP P 10 01 18.9 -0.1
DMN Daman 47.33 276 eP P 10 01 20.7 -0.1
DMN Daman 47.33 276 eP P 10 01 20.7 -0.1
GKN Gorkha 47.54 277 eP P 10 01 21.9 -0.4
comp=N,47nm,0.7s
GKN Gorkha 47.54 277 eP P 10 01 21.9 -0.4
KDAK Kodiak Island 47.95 42 iP P 10 01 26.7 +1.9
DANN Dangsing 48.10 277 eP P 10 01 26.4 -0.3
comp=N,80nm,0.7s
DANN Dangsing 48.10 277 eP P 10 01 26.4 -0.3
KOLN Koldanda 48.47 277 eP P 10 01 29.5 0.0
comp=N,16nm,0.6s
KOLN Koldanda 48.47 277 eP P 10 01 29.5 0.0
PYUN Piuthan 48.82 277 eP P 10 01 32.2 0.0

comp=N,35nm,0.4s
BATI Baumata 49.09 202 P P 10 01 34.0 +0.1
comp=N,15nm,0.6s,baz=340,slow=21,SNR=3.8
TKM2 Tokmak 2 49.35 299 eP P 10 01 36.3 +0.2
TKM2 pmax pmax
comp=Z,4.0nm,0.7s
TKM2 Tokmak 2 49.35 299 eP P 10 01 36.3 +0.2
comp=Z,4.1nm,0.7s
COLA College 49.90 32⇓eP P 10 01 41.4 +1.8
COLA pmax pmax
comp=Z,13nm,0.9s
KSH Kashi 50.06 294 eP P 10 01 44.8 +3.4
KSH ePP PP 10 03 43.4 +6.7
KSH PcS PcS 10 06 56.6 -1.0
KSH S S 10 08 50.5 +1.9
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH pmax pmax
comp=Z,42nm,3.5s
KSH LR LR
comp=Z,81nm,5.0s
KSH LR LR
comp=Z,110nm,5.1s
KSH LR LR
comp=Z,280nm,5.4s
AAK Ala-Archa 50.21 299 P P 10 01 42.6 +0.1
AAK pmax pmax
comp=Z,1.0nm,0.4s
AAK Ala-Archa 50.21 299 P P 10 01 42.6 +0.1
comp=Z,1.4nm,0.4s,baz=76,slow=6.1,SNR=7.2
ILAR Eielson Array 50.32 32 P P 10 01 44.0 +1.2
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR Eielson Array 50.32 32 P P 10 01 44.0 +1.2
comp=Z,1.9nm,0.7s,baz=267,slow=5.2,SNR=23
BVAR Borovoye Array 50.49 313 P P 10 01 44.0 -0.3
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 50.49 313 P P 10 01 44.0 -0.3
comp=Z,1.2nm,0.4s,baz=102,slow=8.9,SNR=7.5
BRVK Borovoye 50.55 313 eP P 10 01 45.3 +0.6
BRVK pmax pmax
comp=Z,2.0nm,0.7s
MENT Mentasta 51.87 34 eP P 10 01 53.7 -0.8
ARU Arti 56.37 319c iP P 10 02 26.6 -0.7
ARU 10 04 34.4
ARU S S 10 10 16.3 +2.8
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 56.37 319 eP P 10 02 26.6 -0.7
comp=Z,8.3nm,0.9s
WRAB Tennant Creek 56.40 187 P P 10 02 23.0 -4.8
WRAB pmax pmax
comp=Z,31nm,2.2s
WRA Warramunga Arr 56.41 187 P P 10 02 27.7 -0.2
WRA pmax pmax
comp=Z,4.0nm,0.6s
WRA Warramunga Arr 56.41 187 P P 10 02 27.6 -0.2
comp=Z,4.1nm,0.6s,baz=2.1,slow=7.5,SNR=50
CTA Charters Tower 56.49 174 P P 10 02 27.9 -0.6
CTA pmax pmax
comp=Z,2.0nm,0.2s
CTA Charters Tower 56.49 174 P P 10 02 27.9 -0.6
comp=Z,1.8nm,0.2s,baz=31,slow=5.9,SNR=1.8
ABKAR Akbulak array 57.83 310 eP P 10 02 37.1 -0.6
AKTO Aktyubinsk 58.59 312 P P 10 02 41.8 -1.2
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 58.59 312 P P 10 02 41.8 -1.2
comp=Z,2.0nm,0.7s,baz=74,slow=12,SNR=9.2
SPITS Spitsbergen Ar 60.96 349 P P 10 02 59.1 +0.1
SPITS pmax pmax
comp=Z,1.0nm,0.3s
SPITS Spitsbergen Ar 60.96 349 P P 10 02 59.1 +0.1
comp=Z,0.5nm,0.3s,baz=86,slow=6.4,SNR=13
RES Resolute Bay 63.31 14 eP P 10 03 14.6 -0.1
RES pmax pmax
comp=Z,5.0nm,0.7s
RES Resolute Bay 63.31 14 eP P 10 03 14.6 -0.1
comp=Z,4.9nm,0.7s
YKA Yellowknife Ar 64.62 30 P P 10 03 23.9 +0.5
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 64.62 30 P P 10 03 23.9 +0.5
comp=Z,0.8nm,0.8s,baz=303,slow=6.9,SNR=18
DAG Danmarks Havn 66.29 355 iP P 10 03 33.7 -0.3
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 66.29 355 iP P 10 03 33.7 -0.3
comp=Z,4.1nm,0.8s
VRHR Novokhopersk 67.69 318 eP P 10 03 41.1 -2.2
VRHR pmax pmax
comp=N,5.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
STKA Stephens Creek 67.98 179 P P 10 03 45.3 +0.1
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 67.98 179 P P 10 03 45.3 +0.1
comp=Z,2.0nm,0.8s,baz=19,slow=4.2,SNR=3.9
OBN Obninsk 68.18 323 eP P 10 03 45.4 -0.8
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,144nm,17.0s
VSR Storozhevoye 68.95 319 eP P 10 03 50.1 -1.0
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,8.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 69.01 318 eP P 10 03 50.0 -1.5
FINES FINESS Array B 69.03 332 P P 10 03 51.2 -0.2
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 69.03 332 P P 10 03 51.2 -0.2
comp=Z,6.7nm,0.7s,baz=47,slow=6.7,SNR=25
VSU Vasula 70.63 329 P P 10 04 01.0 -0.3
VSU pmax pmax
comp=Z,37nm,0.8s
KBZ Khabaz 70.80 310 P P 10 04 02.9 +0.3
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 70.80 310 P P 10 04 02.9 +0.3
comp=Z,4.5nm,0.8s,baz=56,slow=5.3,SNR=6.0
KIV Kislovodsk 70.80 311⇑eP P 10 04 03.7 +0.9
KIV pmax pmax
comp=Z,32nm,1.6s
SUMG Summit 71.26 360 iP P 10 04 06.4 +0.9
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 71.26 360 iP P 10 04 06.4 +0.9
comp=Z,5.1nm,0.8s
SUMG Summit 71.26 360 eP P 10 04 06.3 +0.9
comp=Z,5.9nm,0.8s
ANN Anapa 73.47 314 eP P 10 04 13.3 -5.3
ANN e*PP PcP 10 04 28.5 -5.9
ANN e 10 06 57.7
ANN eS S 10 13 37.1 -6.6
AKASG Malin Array Be 74.36 322 P P 10 04 22.9 -0.8
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 74.36 322 P P 10 04 22.9 -0.8
comp=Z,4.2nm,0.5s,baz=46,slow=6.0,SNR=40
KIEV Kiev 74.38 322⇓eP P 10 04 23.4 -0.3
KIEV Kiev 74.38 322 eP P 10 04 22.7 -1.0
comp=Z,7.4nm,0.7s
NB2 NORSAR Subarra 74.47 337 P P 10 04 23.7 -0.5
comp=Z,3.7nm,0.6s,baz=41,slow=6.2
NOA NORSAR Array B 74.47 337 P P 10 04 24.0 -0.2
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA NORSAR Array B 74.47 337 P P 10 04 24.0 -0.2
comp=Z,6.2nm,0.7s,baz=39,slow=5.8,SNR=29
FFC Flin Flon 74.53 32 eP P 10 04 25.2 +0.6
FFC pmax pmax
comp=Z,7.0nm,1.2s
FFC Flin Flon 74.53 32 eP P 10 04 25.2 +0.6
comp=Z,6.8nm,1.2s
LRM Limekiln Ridge 75.00 44 eP P 10 04 29.2 +1.4
DLMT Dillon 75.19 44 eP P 10 04 29.8 +1.0
comp=Z,33nm,2.4s
NVAR Mina Array Bea 75.84 53 P P 10 04 34.3 +1.5
comp=Z,0.7nm,0.6s,baz=295,slow=6.0,SNR=6.8
STHS Stebnicka Huta 79.06 325 eP P 10 04 51.1 +0.8
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 79.06 325 eP P 10 04 51.1 +0.8
CRVS Cervenica-Dubn 79.32 324 eP P 10 04 51.4 -0.3
CRVS Cervenica-Dubn 79.32 324 eP P 10 04 51.4 -0.3
SRU San Rafael 80.27 48 eP P 10 04 58.4 +1.2
SRU pmax pmax
comp=Z,41nm,2.6s
SRU San Rafael 80.27 48 eP P 10 04 58.4 +1.2
comp=Z,41nm,2.6s
RAYN Ar Rayn 80.29 292 eP P 10 04 57.5 +0.1
DPC Dobruska-Polom 80.61 328 eP P 10 04 59.0 +0.4
DPC Dobruska-Polom 80.61 328 eP P 10 04 59.0 +0.4
UPC Upice 80.62 328 eP P 10 04 59.1 +0.4
UPC Upice 80.62 328 eP P 10 04 59.1 +0.4
VYHS Vyhne 80.84 325 eP P 10 05 00.1 +0.2
VYHS pmax pmax
comp=Z,1.0nm,0.8s
VYHS Vyhne 80.84 325 eP P 10 05 00.1 +0.2
BRG Berggiesshubel 81.22 329 eP P 10 05 01.7 -0.1
comp=Z,3.3nm,0.6s
BRG Berggiesshubel 81.22 329 eP P 10 05 01.7 -0.1
BRG pmax pmax
comp=Z,8.0nm,0.6s
CLL Collm 81.28 330 iP P 10 05 01.7 -0.4
CLL Collm 81.28 330 iP P 10 05 01.7 -0.4
comp=Z,10.0nm,0.9s
PRU Pruhonice 81.64 328 eP P 10 05 03.8 -0.3
PRU Pruhonice 81.64 328 eP P 10 05 03.8 -0.3
TREC Trest 81.75 327 eP P 10 05 05.2 +0.5
TREC Trest 81.75 327 eP P 10 05 05.2 +0.5
KHC Kasperske Hory 82.70 328 eP P 10 05 09.4 -0.3
KHC Kasperske Hory 82.70 328 eP P 10 05 09.4 -0.3
GERES GERESS Array B 82.86 328 P P 10 05 10.3 -0.3
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES GERESS Array B 82.86 328 P P 10 05 10.3 -0.3
comp=Z,1.5nm,0.5s,baz=36,slow=5.9,SNR=15
ANMO Albuquerque 85.44 49 P P 10 05 25.0 +0.9
ANMO pmax pmax
comp=Z,33nm,3.3s
BFO Black Forest 85.49 330 iP P 10 05 24.5 +0.6
CDF Champ du Feu 85.84 331 eP P 10 05 25.5 -0.2
comp=Z,16nm,0.9s
CDF Champ du Feu 85.84 331 eP P 10 05 25.5 -0.2
CDF pmax pmax
comp=Z,17nm,0.9s
CDF Champ du Feu 85.84 331 eP P 10 05 25.5 -0.2
comp=Z,16nm,0.9s
HAU Haudompre 86.54 331 eP P 10 05 28.5 -0.5
comp=Z,9.3nm,0.7s
HAU Haudompre 86.54 331 eP P 10 05 28.5 -0.5
HAU pmax pmax
comp=Z,9.0nm,0.7s
HAU Haudompre 86.54 331 eP P 10 05 28.5 -0.5
comp=Z,9.3nm,0.7s
CABF La Chapelle 87.78 331 eP P 10 05 34.6 -0.5
CABF La Chapelle 87.78 331 eP P 10 05 34.6 -0.5
CABF La Chapelle 87.78 331 eP P 10 05 34.6 -0.5
LOR Lormes 88.10 332 eP P 10 05 36.0 -0.6
LOR Lormes 88.10 332 eP P 10 05 36.0 -0.6
LOR Lormes 88.10 332 eP P 10 05 36.0 -0.6
LPG La Plagne 88.42 330 eP P 10 05 38.2 -0.3
LPG La Plagne 88.42 330 eP P 10 05 38.2 -0.3
LPG La Plagne 88.42 330 eP P 10 05 38.2 -0.3
AVF Avril sur Loir 88.69 332 eP P 10 05 38.8 -0.5
AVF Avril sur Loir 88.69 332 eP P 10 05 38.8 -0.5
AVF Avril sur Loir 88.69 332 eP P 10 05 38.8 -0.5
TXAR Lajitas Array 90.97 52 P P 10 05 51.0 +0.5
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 90.97 52 P P 10 05 51.0 +0.5
comp=Z,0.6nm,0.8s,baz=308,slow=3.9,SNR=8.7
TORD Torodi Ar. Bea 117.28 314 PKP PKPdf 10 11 31.2 -0.6
comp=Z,0.7nm,1.1s,baz=354,slow=1.4,SNR=3.4
H03N2 Juan Fernandez 147.59 97 T T 12 57 42.8
baz=288,slow=75,SNR=44
H03N3 Juan Fernandez 147.60 97 T T 12 57 39.0
baz=288,slow=75,SNR=58
H03N1 Juan Fernandez 147.61 97 T T 12 57 42.8
baz=288,slow=75,SNR=67

MEX 22 10:04:52.8±1.1,16°.86N×94°.82W,h108km±8km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.24	345	eP	Pn	10 05 06.3	-1.8
CMIG				eS	Sn	10 05 17.9	-1.7
HUIG	Huatulco	1.64	229	eP	Pn	10 05 19.2	-2.0
HUIG				eS	Sn	10 05 42.0	-0.8
VHO	Vista Hermosa	1.84	277	iP	Pn	10 05 23.2	-0.7
VHO				iS	Sn	10 05 46.4	-1.3
PCIG		1.92	126	eP	Pn	10 05 23.6	-1.0
PCIG				eS	Sn	10 05 47.3	-1.7
CCIG	Comitan	2.64	102	iP	Pn	10 05 33.3	-0.9
CCIG				iS	Sn	10 06 04.1	-1.9
PNIG	Pinotepa	3.20	262	iP	Pn	10 05 39.6	-1.9
PNIG				iS	Sn	10 06 16.9	-2.2

IDC 22 10:12:31.9±1.5,3°.34S×148°.64E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.7/24,mbtmp3.6/7,ML2.1/1,MS3.8/3, Ms1 3.8/3,ms1mx3.1/25,Error ellipse: s-maj=50.4km s-min=22.3km az=102.0
ISCJB 22 10:12:33.8±1.2,3°.30S±0°.07×148°.5E±0°.3,h21km,mb3.5/6, MS3.6/2,Error ellipse: s-maj=42.2km s-min=9.5km az=5.0
ISC 22 10:12:35.5±1.4,3°.27S±0°.09×148°.5E±0°.3,h21km,n16, σ1§19/9,mb3.6/6,Bismarck Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 6.25 193 Pn Pn 10 14 07.0 +0.4
0.3nm,0.3s,baz=105,slow=18,SNR=1.8
PMG Sn Sn 10 15 18.2 +0.8
0.4nm,0.3s,baz=297,slow=16,SNR=2.6
HNR Honiara 12.88 119 LR LR 10 20 45.7
comp=Z,379nm,18.9s,baz=330,slow=39
WRA Warramunga Arr 21.60 219 P P 10 17 22.2 -2.1
2.5nm,0.9s,baz=39,slow=12,SNR=14
WRA LR LR 10 26 33.9
comp=Z,142nm,18.6s,baz=10.0,slow=39
DZM Mont Dzumac 25.52 139 LR LR 10 26 22.4
comp=Z,271nm,18.5s,baz=223,slow=33
H11S3 WAKE ISLAND Hy 28.06 39 T T 10 47 29.8
baz=220,slow=76,SNR=92
H11S2 WAKE ISLAND Hy 28.07 39 T T 10 47 30.4
baz=220,slow=76,SNR=96
H11S1 WAKE ISLAND Hy 28.08 39 T T 10 47 31.1
baz=220,slow=76,SNR=125
H11N1 WAKE ISLAND Hy 29.10 38 T T 10 48 50.8
baz=218,slow=76,SNR=84
H11N3 WAKE ISLAND Hy 29.12 38 T T 10 48 50.9
baz=218,slow=76,SNR=34
H11N2 WAKE ISLAND Hy 29.12 38 T T 10 48 51.1
baz=218,slow=76,SNR=95
CMAR Chiang Mai Arr 53.39 296 P P 10 21 54.5 +0.4
0.6nm,0.7s,baz=125,slow=5.6,SNR=2.6
SONM Songino Array 62.82 329 P P 10 23 00.3 +0.5
0.3nm,0.6s,baz=133,slow=6.1,SNR=3.9
MKAR Makanchi Array 76.41 320 P P 10 24 23.1 -0.5
0.4nm,0.8s,baz=100,slow=7.5,SNR=4.0
ZALV Zalesovo Beam 77.56 327 P P 10 24 31.3 +1.5
0.4nm,0.4s,baz=103,slow=6.4,SNR=3.2
ILAR Eielson Array 82.39 23 P P 10 24 55.0 -0.7
0.2nm,0.7s,baz=260,slow=5.4,SNR=3.3
TORD Torodi Ar. Bea 145.80 289 PKPbc PKPab 10 32 14.3 -0.4
0.5nm,0.5s,baz=61,slow=2.3,SNR=5.5

ISCJB 22 10:39:24.8±0.3,3°.62S±0°.03×126°.90E±0°.03,h33km, mb4.4/16,MS3.4/3,Error ellipse: s-maj=5.0km s-min=4.3km az=148.7
DJA 22 10:39:26.7±0.3,3°S±4°×12°7E±°,h10km,M4.5/10,mb4.9/7, mB5.0/7,MLv4.3/10,Mw(mB)4.4/7
NEIC 22 10:39:27.7±0.7,3°.58S×126°.97E,h55km±7km,mb4.9/6, Error ellipse: s-maj=8.5km s-min=6.2km az=59.0
IDC 22 10:39:32.9±3.4,3°.72S×126°.90E,h104km±33km,mb4.0/13, mb1 4.1/15,mb1mx3.9/40,mbtmp4.3/15,MS3.3/5, Ms1 3.4/5,ms1mx3.1/26,Error ellipse: s-maj=26.6km s-min=14.5km az=72.0
ISC 22 10:39:26.7±0.5,3°.60S±0°.05×126°.88E±0°.06,h35km,n80, σ1§36/75,mb4.3/16,MS3.5/3,Buru

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NLAI Namlea 0.42 32 P Pn 10 39 30.6 -5.7
SANI Sanana 1.78 330 P Pn 10 39 52.2 -2.8
MSAI Masohi 2.06 83 P Pn 10 39 58.2 -0.7
LBMI Labuha 3.00 12 P Pn 10 40 12.2 +0.3
LBMI S Sn 10 40 48.4 +1.7
TNTI Ternate 4.37 6 P Pn 10 40 30.9 +0.3
TNTI Ternate 4.37 6 ePn Pn 10 40 30.8 +0.2
LUWI Luwuk 4.83 302 P Pn 10 40 36.7 -0.3
LUWI Luwuk 4.83 302 ePn Pn 10 40 36.7 -0.3
LUWI Luwuk 4.83 302 P Pn 10 40 36.9 0.0
baz=4.9,SNR=11
KMSI Cibinong 5.06 325 P Pn 10 40 39.9 -0.2
SWI Sorong 5.15 58 P Pn 10 40 41.4 0.0
SWI S Sn 10 41 41.5 +1.8
SWI Sorong 5.15 58 P Pn 10 40 42.0 +0.6
baz=5.1,SNR=25
SWI S Sn 10 41 41.2 +1.6
baz=5.1,SNR=10
FAKI Fak Fak 5.40 83 P Pn 10 40 45.4 +0.5
84nm,1.1s,962nm
FAKI Fak Fak 5.40 83 ePn Pn 10 40 45.1 +0.2
60nm,0.8s
FAKI Fak Fak 5.40 83 P Pn 10 40 45.3 +0.5
baz=5.4,SNR=42
APSI Ampana 5.87 297 P Pn 10 40 52.6 +1.3
414nm,0.9s,3μm
MRSI Marisa 6.38 309 P Pn 10 40 58.7 +0.3
478nm,1.0s,3μm
SOEI Soe 6.64 203 ePn Pn 10 41 04.3 +2.3
120nm,1.2s
BNSI Bone 6.80 263 P Pn 10 41 12.6 +8.5
BKSI Bulukumba 6.95 255 P Pn 10 41 11.8 +5.7
100nm,0.7s,936nm0.3nm
TTSI Tana Toraja 7.07 274 P Pn 10 41 15.2 +7.4
37nm,1.3s,1μm0.1nm
SPSI Sidrap Palu 7.11 267 P Pn 10 41 13.8 +5.5
57nm,1.1s,709nm0.2nm
KAPI Kappang 7.25 259 ePn Pn 10 41 11.8 +1.6
150nm,0.6s
BATI Baumata 7.30 206 P Pn 10 41 14.7 +3.7
2.8nm,0.3s,baz=166,slow=4.2,SNR=2.4
BATI LR LR 10 44 51.6
comp=Z,149nm,20.2s,baz=26,slow=44
TOLI Toli-Toli 7.68 308 ePn Pn 10 41 17.4 +1.2
171nm,0.5s
MPSI Mapaga 8.00 299 P Pn 10 41 22.4 +1.9
MTN Manton Dam 10.10 156 P Pn 10 41 49.1 -0.3
baz=10,SNR=4.5
KDU Kakadu 10.59 149 P Pn 10 42 00.4 +4.3
baz=11,SNR=5.7
KSM Kuching 17.31 287 ePn P 10 43 27.6 +0.6
31nm,1.0s
KSM Kuching 17.31 287 P P 10 43 29.0 +2.0
baz=17,SNR=5.7
WRAB Tennant Creek 17.80 156 ePn Pn 10 43 30.2 -1.6
20nm,0.6s
WRA Warramunga Arr 17.80 156 P Pn 10 43 30.8 -1.1
1.2nm,0.3s,baz=338,slow=11,SNR=67
WRA S S 10 46 54.4 -1.0
baz=339,slow=21,SNR=2.4
WRA LR LR 10 50 34.4
comp=Z,106nm,21.2s,baz=55,slow=37
COEN Coen 19.09 124 eP P 10 43 45.2 -1.4
160nm,0.9s
COEN Coen 19.09 124 P P 10 43 45.7 -0.9
baz=19,SNR=17
QIS Mount Isa 20.92 145 P P 10 44 06.7 +0.1
baz=21,SNR=10.0
WRKA Warakurna 21.36 176 P P 10 44 11.8 +0.6
baz=21,SNR=38
XMIS Christmas Isla 22.14 251 eP P 10 44 19.8 +0.2
151nm,0.8s
MEEK Meekatharra 24.24 198 P P 10 44 39.4 -1.1
baz=24,SNR=15
CTA Charters Tower 25.01 132 P P 10 44 46.6 -1.0
7.2nm,1.0s,baz=310,slow=9.1,SNR=4.1
BBOO Buckleboo 30.31 165 P P 10 45 36.0 +1.1
baz=30,SNR=12
NWAO Narrogin (SRO) 30.54 196 P P 10 45 36.7 -0.3
4.3nm,0.7s,baz=15,slow=8.8,SNR=3.8
STKA Stephens Creek 31.35 155 P P 10 45 42.9 -1.2
4.0nm,0.8s,baz=330,slow=8.5,SNR=6.7
STKA LR LR 10 57 42.9
comp=Z,98nm,20.2s,baz=13,slow=35
STKA Stephens Creek 31.35 155 P P 10 45 46.6 +2.5
baz=31,SNR=3.8
HTT Hallett 31.74 161 P P 10 45 50.1 +2.5
baz=32,SNR=5.9
CMAR Chiang Mai Arr 35.18 309 P P 10 46 18.7 +1.0
2.6nm,0.3s,baz=150,slow=7.1,SNR=6.1
CMAR LR LR 11 03 53.9
comp=Z,45nm,19.7s,baz=44,slow=41
KSAR Wonju Array Be 40.84 1 P P 10 47 05.7 +0.6
KSRS Korea Array 40.85 1 P P 10 47 05.7 +0.5
1.6nm,0.7s,baz=181,slow=11,SNR=9.3
MJAR Matsushiro Arr 41.31 14 P P 10 47 08.1 -0.9
24nm,1.2s,baz=192,slow=10,SNR=6.1
LSA Lhasa 47.61 317 eP P 10 47 59.7 -0.4
7.9nm,1.0s
USRK Ussuriysk Arra 47.80 5 P P 10 48 01.4 +0.7
4.5nm,0.6s,baz=183,slow=5.4,SNR=16
ODAN Odare 48.70 311 eP P 10 48 10.5 +2.3
21nm,0.8s
ODAN Odare 48.70 311 eP P 10 48 10.5 +2.3
TAPN Taplejung 48.72 312 eP P 10 48 11.9 +3.4
24nm,1.0s
TAPN Taplejung 48.72 312 eP P 10 48 11.9 +3.4
RAMN Ramite 49.34 310 eP P 10 48 13.6 +0.4
28nm,0.8s
RAMN Ramite 49.34 310 eP P 10 48 13.6 +0.4
JIRN Jiri 50.02 311 eP P 10 48 19.9 +1.4
JIRN Jiri 50.02 311 eP P 10 48 19.9 +1.4
GUN Gumba 50.39 311 eP P 10 48 23.9 +2.6
25nm,0.7s
GUN Gumba 50.39 311 eP P 10 48 23.9 +2.6
DMN Daman 50.82 310 eP P 10 48 25.7 +1.3
23nm,1.1s
DMN Daman 50.82 310 eP P 10 48 25.7 +1.3
GKN Gorkha 51.38 310 eP P 10 48 29.5 +1.0
GKN Gorkha 51.38 310 eP P 10 48 29.5 +1.0
KOLN Koldanda 52.05 310 eP P 10 48 33.6 0.0
13nm,0.7s
KOLN Koldanda 52.05 310 eP P 10 48 33.6 0.0
DANN Dangsing 52.22 310 eP P 10 48 34.7 -0.2
20nm,0.7s
DANN Dangsing 52.22 310 eP P 10 48 34.7 -0.2
SONM Songino Array 54.28 343 P P 10 48 49.8 +0.2
1.1nm,0.8s,baz=149,slow=8.2,SNR=10
PETK Petropavlovsk- 62.16 20 LR LR 11 17 28.2
comp=Z,33nm,19.6s,baz=339,slow=36
MKAR Makanchi Array 63.70 327 P P 10 49 54.4 -0.4
1.8nm,0.7s,baz=125,slow=7.6,SNR=7.3
KURBB Kurchatov Arra 68.01 329 P P 10 50 21.4 -1.0
2.1nm,0.9s,baz=129,slow=5.5,SNR=7.9
KURK Kurchatov 68.02 329 eP P 10 50 20.7 -1.7
KURK P P 10 50 21.4 -1.1
BVAR Borovoye Array 73.55 328 P P 10 50 54.1 -2.0
0.7nm,0.6s,baz=116,slow=6.6,SNR=3.7
SBA Scott Base 77.11 172 eP P 10 51 14.3 -1.8
25nm,0.5s
ABKAR Akbulak array 77.93 322 eP P 10 51 20.3 -0.9
AKTO Aktyubinsk 79.50 323 P P 10 51 28.3 -1.5
0.8nm,0.5s,baz=53,slow=10,SNR=2.7
ARCES ARCESS Array B 97.33 340 P P 10 52 54.5 -1.5
2.5nm,0.9s,baz=75,slow=7.8,SNR=2.3
TORD Torodi Ar. Bea 125.05 283 PKP PKPdf 10 58 21.3 -3.2
0.5nm,0.8s,baz=84,slow=1.4,SNR=2.6
SCHQ Schefferville 127.72 10 PKP PKPdf 10 58 26.0 -2.5
3.3nm,1.0s,baz=56,slow=11,SNR=3.2

IDC 22 10:49:44.5±2.5,54°.08N×87°.23E,h0km,mb1 3.2/3, mb1mx3.0/38,mbtmp3.2/3,ML2.9/2,Error ellipse: s-maj=22.6km s-min=13.0km az=65.0
ISC 22 10:49:50.2±3.5,54°.1N±0°.2×87°.0E±0°.2,h35km,n7,σ1§26/9, 4C-2D,Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.30 263 i 10 58 50.0
baz=80,slow=350,SNR=4.1

ZALV Zalesovo Beam 1.30 262 Pg Pn 10 50 08.9 -3.0
5.7nm,0.3s,baz=80,slow=17,SNR=52
ZALV Lg Lg 10 50 29.0
1.8nm,0.3s,baz=83,slow=27,SNR=13
ZALV Rg Rg 10 50 41.3
48nm,0.9s,baz=75,slow=29,SNR=9.5
KURBB Kurchatov Arra 6.27 239 ⇑Pn **Pn 10 51 18.8 -1.2**
4.0nm,0.6s
KURBB ⇓Sn **Sn 10 52 31.4 +0.9**
12nm,0.7s
KURBB ⇑Lg Lg 10 53 05.9
32nm,0.9s
KURBB Kurchatov Arra 6.27 239 Pn **Pn 10 51 19.6 -0.5**
0.5nm,0.3s,baz=57,slow=14,SNR=15
KURBB Lg Lg 10 53 06.5
0.1nm,0.3s,baz=56,slow=32,SNR=5.0
MK31 Makanchi Array 7.94 204 ⇑Pn **Pn 10 51 42.6 -0.4**
0.5nm,0.6s,baz=29,slow=13,SNR=5.2
MK31 ⇑Sn **Sn 10 53 13.7 +2.0**
0.5nm,0.6s,baz=33,slow=26,SNR=4.4
MK31 ⇓Lg Lg 10 53 54.2
5.3nm,0.8s,baz=36,slow=30,SNR=5.4
MKAR Makanchi Array 7.94 204 Pn **Pn 10 51 42.5 -0.6**
0.1nm,0.3s,baz=27,slow=14,SNR=6.9
MKAR Sn **Sn 10 53 10.2 -1.5**
0.1nm,0.3s,baz=34,slow=28,SNR=4.1
MKAR Lg Lg 10 53 56.2
0.1nm,0.3s,baz=27,slow=30,SNR=5.9
BVAR Borovoye Array 9.95 270 Pn **Pn 10 52 10.7 +0.2**
baz=72,slow=14,SNR=3.8
BVAR Sn **Sn 10 54 00.4 -0.3**
0.2nm,0.3s,baz=77,slow=21,SNR=7.4

*ISCJB **22** 10:50:24.0±0.8, 19°.6S±0°.2×178°.1W±0°.2, h600km, mb3.8/12, Error ellipse: s-maj=25.2km s-min=16.4km az=147.2*
*IDC **22** 10:50:25.3±4.8, 19°.56S×178°.11W, h599km±58km, mb3.4/12, mb1 3.6/12, mb1mx3.4/27, mbtmp4.3/12, Error ellipse: s-maj=25.3km s-min=20.9km az=62.0*
ISC 22 10:50:25.3±0.8, **19°.5S**±0°.2×**178°.1W**±0°.1, **h600km, n16,** $\sigma 0^s 84$/15, **mb3.8**/12, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.69**	**257**	P	**P**	**10 53 31.8**	**+1.0**
	0.6nm,0.3s,baz=230,slow=18,SNR=4.6						
CTA	**Charters Tower**	**33.52**	**263**	P	**P**	**10 56 16.8**	**-0.3**
	12nm,0.5s,baz=88,slow=10,SNR=16						
WRA	**Warramunga Arr**	**44.67**	**261**	P	**P**	**10 57 45.5**	**-1.0**
	1.9nm,0.5s,baz=97,slow=7.7,SNR=49						
VNDA	**Vanda**	**58.87**	**185**	P	**P**	**10 59 26.9**	**-0.3**
	2.1nm,0.8s,baz=6.0,slow=8.1,SNR=7.1						
MJAR	**Matsushiro Arr**	**69.38**	**324**	P	**P**	**11 00 34.5**	**+0.2**
	3.5nm,0.5s,baz=158,slow=6.2,SNR=16						
PETK	**Petropavlovsk-**	**75.31**	**345**	P	**P**	**11 01 07.8**	**-0.1**
	3.3nm,0.7s,baz=146,slow=6.6,SNR=5.1						
KSRS	**Korea Array**	**76.11**	**318**	P	**P**	**11 01 12.2**	**-0.4**
	0.8nm,0.5s,baz=130,slow=7.4,SNR=4.2						
USRK	**Ussuriysk Arra**	**78.12**	**326**	P	**P**	**11 01 24.5**	**+1.1**
	3.9nm,0.8s,baz=113,slow=4.7,SNR=8.2						
NVAR	**Mina Array Bea**	**80.37**	**43**	P	**P**	**11 01 35.9**	**+0.2**
	0.9nm,0.8s,baz=226,slow=9.8,SNR=7.5						
TXAR	**Lajitas Array**	**86.59**	**57**	P	**P**	**11 02 07.9**	**+1.4**
	1.1nm,0.7s,baz=221,slow=7.0,SNR=19						
ILAR	**Eielson Array**	**87.38**	**13**	P	**P**	**11 02 08.5**	**-0.7**
	1.1nm,0.7s,baz=214,slow=5.5,SNR=24						
CMAR	**Chiang Mai Arr**	**89.72**	**290**	P	**P**	**11 02 22.1**	**+0.9**
	1.4nm,0.7s,baz=130,slow=2.8,SNR=6.4						
YKA	**Yellowknife Ar**	**95.66**	**25**	P	**P**	**11 02 46.2**	**-1.1**
	0.1nm,0.4s,baz=227,slow=4.5,SNR=3.2						
ARCES	**ARCESS Array B**	**127.95**	**350**	PKP	**PKPdf**	**11 08 22.7**	**-0.5**
	2.3nm,0.8s,baz=48,slow=1.8,SNR=5.7						
AKASG	**Malin Array Be**	**142.12**	**332**	PKhKP	PKPpre	11 08 45.6	
	0.8nm,0.3s,baz=40,slow=4.1,SNR=10						
GERES	**GERESS Array B**	**149.24**	**345**	PKPbc	**PKPbc**	**11 09 07.4**	**+0.1**
	0.6nm,0.5s,baz=29,slow=3.0,SNR=4.4						

*IDC **22** 11:04:37.4±0.6, 27°.16S×176°.45W, h0km, mb4.8/14, mb1 5.0/15, mb1mx5.0/19, mbtmp4.8/15, ML5.4/1, MS4.5/16, Ms1 4.6/16, ms1mx4.4/21, Error ellipse: s-maj=19.5km s-min=16.5km az=130.0*
*BJI **22** 11:04:38.4, 27°.10S×176°.50W, h13km, mB5.6/31, mb5.4/42, Ms5.1/35, Ms7 4.8/36*
*MOS **22** 11:04:41.6±0.9, 27°.17S×176°.60W, h33km, mb5.3/40, MS4.9/7, Error ellipse: s-maj=11.3km s-min=9.0km az=81.0*
*ISCJB **22** 11:04:43.0±1.4, 27°.30S±0°.05×176°.57W±0°.04, h48km±12km, mb5.2/102, MS4.7/31, Error ellipse: s-maj=8.7km s-min=5.3km az=166.4*
*GCMT **22** 11:04:44.9±0.1, 27°.13S×176°.05W, h19km, MW5.3/90, Moment Tensor Solution. s70,c160; Duration: 1^s9 Moment tensor: Scale 10^{17}Nm; M_{rr}0.79±.02; $M_{\theta\theta}$-0.01±.01; $M_{\phi\phi}$-0.77±.01; $M_{r\theta}$0.05±.03; $M_{\theta\phi}$-0.19±.01; $M_{\phi r}$0.62±.03; Best double couple: $M_0$1.01500×10^{17} NP1:ϕ_s8.00000°, δ64.00000°, λ85.00000°. NP2:ϕ_s199.00000°, δ27.00000°, λ100.00000°. Principal axes: T 1.0030, Plg71.0000°, Azm267.0000°; N 0.0240, Plg5.0000°, Azm10.0000°; P -1.0270, Plg19.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 11:04:44.9±0.8, 27°.27S×176°.59W, h51km±7km, mb5.2/75 Error ellipse: s-maj=6.7km s-min=5.0km az=153.0*
ISC 22 11:04:40.0±0.5, **27°.22S**±0°.05×**176°.41W**±0°.06, **h17km**±2km, **h17km:pP-P, n595,** $\sigma 1^s 23$/609, **mb5.2**/103, **MS4.7**/32, **145C-115D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.42**	**213**	P	**Pn**	**11 05 20.2**	**+1.5**
RAO						11 05 51.7	
RAO				pmax	pmax		
	comp=Z,787nm,0.3s						
RAO				MLR	MLR		
	comp=Z,3µm,18.3s						
RAO				smax	smax		
	comp=N,796nm,0.3s						
RAO	**Raoul Island**	**2.42**	**213**	Pn	**Pn**	**11 05 20.2**	**+1.5**
	comp=N,787nm,0.3s,baz=69,slow=8.2,SNR=26						
RAO				LR	LR	11 05 49.2	
	comp=N,3µm,18.3s,baz=68,slow=29						
RAO				Sn	**Sb**	**11 05 51.7**	**-0.8**
	comp=N,796nm,0.3s,baz=265,slow=24,SNR=8.0						
NIUE	**Niue**	**10.07**	**38**	⇑P	Pn	11 06 57.6	-6.1
	baz=9.8,SNR=19						
MSVF	**Nonsavu**	**10.74**	**330**	Pn	Pn	11 07 16.8	+3.7
	comp=N,384nm,1.8s,SNR=9.0						
MSVF	**Nonsavu**	**10.74**	**330**	eP	**Pn**	**11 07 14.8**	**+1.7**
MSVF	**Nonsavu**	**10.74**	**330**	ePn	**Pn**	**11 07 14.8**	**+1.7**
HAZ	**Te Kaha**	**11.58**	**204**	ePN	Pn	11 07 16.5	-8.0
HAZ				eSN	Sn	11 09 26.8	-6.6
PUZ	**Puketiti**	**11.71**	**201**	ePN	Pn	11 07 18.0	-8.2
PUZ				eSN	Sn	11 09 29.3	-7.3
MWZ	**Matawai**	**12.19**	**203**	ePN	Pn	11 07 24.8	-8.1
MWZ				eSN	Sn	11 09 40.4	-8.0
URZ	**Urewera**	**12.28**	**205**	Pn	Pn	11 07 25.8	-8.2
	comp=N,0.6nm,0.3s,baz=249,slow=17,SNR=7.9						
URZ				Sn	Sn	11 09 41.4	-8.9
	comp=N,3.8nm,0.3s,baz=261,slow=21,SNR=9.5						
URZ	**Urewera**	**12.28**	**205**	ePn	**Pn**	**11 07 35.3**	**+1.4**
URZ				Sn	Sn	11 09 41.4	-8.9
URZ	**Urewera**	**12.28**	**205**	ePN	Pn	11 07 25.1	-8.8
URZ				eSN	Sn	11 09 42.0	-8.4
BKZ	**Black Stump Fm**	**13.30**	**205**	ePn	**Pn**	**11 07 50.1**	**+2.1**
RAR	**Rarotonga**	**16.31**	**72**	P	Pn	11 08 20.0	-8.3
RAR				pmax	pmax		
	comp=Z,12nm,0.3s						
RAR				MLR	MLR		
	comp=Z,2µm,20.5s						
RAR	**Rarotonga**	**16.31**	**72**	Pn	Pn	11 08 20.0	-8.3
	comp=Z,12nm,0.3s,baz=236,slow=7.8,SNR=22						
RAR				Sn	Sn	11 11 04.9	-24
	comp=Z,2.8nm,0.3s,baz=94,slow=19,SNR=6.2						
RAR				LR	LR	11 13 28.0	
	comp=Z,2µm,20.5s,baz=253,slow=32						
DZM	**Mont Dzumac**	**16.40**	**284**	eP	**P**	**11 08 34.4**	**+2.1**
	comp=Z,209nm,1.1s						
DZM				eLR	LR	11 12 09.6	
	comp=Z,9µm,23.9s						
DZM	**Mont Dzumac**	**16.40**	**284**	ePn	**Pn**	**11 08 28.8**	**-0.7**
	comp=Z,85nm,0.9s						
NOUC	**Port Laguerre**	**16.51**	**284**	eP	P	11 08 39.7	+6.3
THZ	**Tophouse**	**16.95**	**208**	ePN	Pn	11 08 28.6	-7.7
THZ				eSN	Sn	11 11 28.0	-16
KHZ	**Kahutara**	**17.24**	**206**	ePn	**Pn**	**11 08 37.7**	**-2.1**
	comp=Z,63nm,0.7s						
KHZ	**Kahutara**	**17.24**	**206**	ePN	Pn	11 08 33.9	-5.9
RPZ	**Rata Peaks**	**19.33**	**208**	ePn	**Pn**	**11 09 07.8**	**+2.3**
	comp=Z,22nm,0.8s						
TBI	**Tubuai**	**24.65**	**87**	eT	T	11 34 58.2	
	comp=Z,23nm,0.4s						
PAE	**Paea**	**26.52**	**75**	eP	**P**	**11 10 14.2**	**-2.5**
	comp=Z,32nm,1.3s						
PAE	**Paea**	**26.52**	**75**	eT	T	11 37 22.9	
	comp=Z,15nm,0.3s						
PPT2	**Papeete2**	**26.55**	**74**	eLQ	LQ	11 15 23.1	
	comp=Z,3µm,24.5s						
PPT2				eLR	LR	11 16 45.6	
	comp=Z,4µm,26.8s,baz=243						
PPT2	**Papeete2**	**26.55**	**74**	eT	T	11 37 26.5	
	comp=Z,7.6nm,0.4s						
PPT	**Papeete**	**26.56**	**74**	LR	LR	11 17 51.0	
	comp=Z,1µm,20.3s,baz=247,slow=30						
TVO	**Taravao**	**26.75**	**75**	eT	T	11 37 40.0	
	comp=Z,2.4nm,0.3s						
ARMA	**Armidale**	**28.13**	**256**	eP	**P**	**11 10 33.3**	**+2.0**
	comp=Z,28nm,1.4s						
ARMA	**Armidale**	**28.13**	**256**	P	**P**	**11 10 33.5**	**+2.2**
	baz=28,SNR=4.0						
HNR	**Honiara**	**28.48**	**304**	P	P	11 10 38.0	+3.5
HNR	**Honiara**	**28.48**	**304**	P	P	11 10 37.9	+3.5
	comp=Z,68nm,0.9s,baz=171,slow=7.1,SNR=3.9						
HNR				LR	LR	11 20 26.7	
	comp=Z,2µm,18.8s,baz=140,slow=33						
EIDS	**Eidsvold**	**29.16**	**266**	eP	**P**	**11 10 41.4**	**+1.0**
	comp=Z,23nm,1.0s						
EIDS	**Eidsvold**	**29.16**	**266**	⇓P	**P**	**11 10 41.3**	**+0.9**
	baz=30,SNR=7.4						
VAH	**Vaihoa**	**29.29**	**72**	eT	T	11 40 51.6	
	comp=Z,14nm,0.3s						
MILA	**Mila**	**30.62**	**243**	P	**P**	**11 10 54.7**	**+1.4**
	baz=31,SNR=6.7						
RMQ	**Roma**	**31.02**	**263**	P	**P**	**11 10 58.6**	**+1.7**
	baz=31,SNR=10.0						
CMSA	**Cobar Meteorol**	**33.19**	**253**	P	**P**	**11 11 16.3**	**+0.4**
	baz=34,SNR=9.0						
TOO	**Toolangi**	**33.58**	**242**	⇓P	**P**	**11 11 19.4**	**+0.2**
	baz=34,SNR=4.4						
CTA	**Charters Tower**	**34.83**	**274**	P	**P**	**11 11 30.6**	**+0.4**
CTA				pmax	pmax		
	comp=Z,28nm,0.7s						
CTA	**Charters Tower**	**34.83**	**274**	P	**P**	**11 11 30.6**	**+0.4**
	comp=Z,28nm,0.7s,baz=98,slow=11,SNR=38						
CTAO	**Charters Tower**	**34.83**	**274**	eP	**P**	**11 11 30.8**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,282nm,2.1s						
CTAO	**Charters Tower**	**34.83**	**274**	eP	**P**	**11 11 30.8**	**+0.6**
	comp=Z,282nm,2.1s						
QLP	**Quilpie**	**35.00**	**262**	P	**P**	**11 11 31.6**	**-0.1**
	baz=35,SNR=5.9						
STKA	**Stephens Creek**	**36.66**	**252**	eP	**P**	**11 11 46.5**	**+0.7**
STKA						11 14 08.3	
STKA	**Stephens Creek**	**36.66**	**252**	P	**P**	**11 11 46.0**	**+0.2**
	comp=Z,6.4nm,0.9s,baz=90,slow=8.1,SNR=6.9						
STKA				PcP	**PcP**	**11 14 08.3**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=102,slow=5.2,SNR=2.9						
STKA				LR	LR	11 25 31.8	
	comp=Z,2µm,19.3s,baz=86,slow=34						
STKA	**Stephens Creek**	**36.66**	**252**	eP	**P**	**11 11 46.5**	**+0.7**
STKA				PcP	**PcP**	**11 14 08.3**	**-0.3**
STKA	**Stephens Creek**	**36.66**	**252**	P	**P**	**11 11 46.1**	**+0.3**
	baz=37,SNR=3.7						
RKT	**Rikitea**	**37.61**	**93**	eS	S	11 17 36.5	-6.4
	comp=Z,253nm,28.5s						
RKT				eLR	LR	11 21 55.6	
	comp=Z,2µm,28.8s,baz=260						
RKT	**Rikitea**	**37.61**	**93**	eT	T	11 51 06.5	
	comp=Z,3.1nm,0.4s						
PMG	**Port Moresby**	**38.66**	**290**	eP	**P**	**11 12 02.2**	**-0.7**
PMG				pmax	pmax		
	comp=Z,36nm,1.2s						
PMG				MLR	MLR		
	comp=Z,2µm,16.0s						
PMG	**Port Moresby**	**38.66**	**290**	P	**P**	**11 12 02.0**	**-0.8**
	comp=Z,20nm,1.0s,baz=273,slow=19,SNR=4.8						
HTT	**Hallett**	**38.82**	**250**	P	**P**	**11 12 03.6**	**-0.5**
	baz=39,SNR=11						
COEN	**Coen**	**39.89**	**281**	eP	**P**	**11 12 14.0**	**+0.9**
	comp=Z,977nm,2.1s						
COEN	**Coen**	**39.89**	**281**	P	**P**	**11 12 15.3**	**+2.2**
	baz=40,SNR=13						
QIS	**Mount Isa**	**40.60**	**270**	P	**P**	**11 12 18.2**	**-0.9**
	baz=41,SNR=4.6						
BBOO	**Buckleboo**	**41.26**	**250**	P	**P**	**11 12 22.7**	**-1.7**
	baz=42,SNR=6.1						
AS17	**Alice Springs**	**44.70**	**263**	⇓P	**P**	**11 12 51.5**	**-0.9**
	baz=45						
ASPA	**Alice Springs**	**44.78**	**263**	⇑P	**P**	**11 12 52.0**	**-1.0**
	baz=45						
WR9	**Warramunga Arr**	**45.32**	**268**	⇑P	**P**	**11 12 56.1**	**-1.2**
	baz=46						
WRAB	**Tennant Creek**	**45.48**	**268**	P	**P**	**11 12 56.5**	**-2.0**
	comp=Z,114nm,0.9s,SNR=15						
WRAB	**Tennant Creek**	**45.48**	**268***c*	*i*P	**P**	**11 12 57.2**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,35nm,0.7s						
WRAB				MLR	MLR		
	comp=Z,3µm,15.0s						
WRAB	**Tennant Creek**	**45.48**	**268**	eP	**P**	**11 12 57.0**	**-1.5**
	comp=Z,16nm,0.9s						
WRA	**Warramunga Arr**	**45.48**	**268**	P	**P**	**11 12 57.2**	**-1.4**
WRA						11 14 37.5	
WRA				S	S	11 19 47.0	+7.2
WRA				pmax	pmax		
	comp=Z,16nm,0.7s						
WRA				smax	smax		
	comp=N,1.0nm,1.1s						
WRA	**Warramunga Arr**	**45.48**	**268**	P	**P**	**11 12 57.1**	**-1.4**
	comp=N,16nm,0.7s,baz=105,slow=8.1,SNR=54						
WRA				PcP	**PcP**	**11 14 37.5**	**+0.1**
	comp=N,13nm,1.2s,baz=107,slow=3.5,SNR=7.4						
WRA				S	S	11 19 47.0	+7.2
	comp=N,1.0nm,1.1s,baz=102,slow=14,SNR=4.5						
WRA				LR	LR	11 30 18.4	
	comp=N,1µm,21.9s,baz=105,slow=34						
JAY	**Jayapura**	**47.80**	**293**	P	**P**	**11 13 16.8**	**-0.1**
	baz=48,SNR=3.2						
FORT	**Forrest**	**48.28**	**252**	eP	**P**	**11 13 18.0**	**-2.4**
WRKA	**Warakurna**	**49.35**	**259**	P	**P**	**11 13 26.8**	**-1.9**
	baz=50,SNR=52						
KDU	**Kakadu**	**49.85**	**276**	⇑P	**P**	**11 13 30.9**	**-1.6**
	baz=50,SNR=9.4						
VNDA	**Vanda**	**51.38**	**186**	P	**P**	**11 13 43.7**	**+0.4**
	comp=N,2.8nm,0.9s,baz=19,slow=5.0,SNR=5.9						
VNDA				LR	LR	11 31 43.9	
	comp=N,512nm,21.0s,baz=29,slow=32						
KIP	**Kipapa**	**51.54**	**22**	⇑eP	**P**	**11 13 46.2**	**+1.2**
KIP				pmax	pmax		
	comp=Z,47nm,1.4s						
FAKI	**Fak Fak**	**54.65**	**287**	⇑P	**P**	**11 14 10.0**	**+1.8**
	baz=55,SNR=3.3						
KLBR	**Kellerberrin**	**56.75**	**249**	P	**P**	**11 14 21.7**	**-1.4**
	baz=57,SNR=4.0						
MEEK	**Meekatharra**	**57.31**	**255**	⇑P	**P**	**11 14 25.9**	**-1.3**
	baz=58,SNR=5.2						
MBWA	**Marble Bar**	**58.03**	**261**	eP	**P**	**11 14 32.1**	**-0.2**
SOEI	**Soe**	**58.37**	**275**	eP	**P**	**11 14 35.3**	**+0.4**
	comp=Z,94nm,0.9s						
CASY	**Casey**	**58.59**	**207**	eP	**P**	**11 14 35.3**	**-0.2**
JAGI	**Jajag, Banyuwa**	**67.91**	**272**	eP	P	11 15 33.6	-4.5
	comp=Z,34nm,0.9s						
SDKM	**Sandakan**	**71.91**	**286**	⇑P	**P**	**11 16 02.8**	**+0.1**
BTM	**Bintulu**	**74.25**	**282**	⇑P	**P**	**11 16 16.2**	**-0.3**
XMI	**Christmas Isla**	**74.59**	**266**	P	**P**	**11 16 18.5**	**-0.1**
	baz=75,SNR=4.5						
XMIS	**Christmas Isla**	**74.61**	**266**	eP	**P**	**11 16 18.5**	**-0.3**
	comp=Z,181nm,0.8s						
SBUM	**Sibu**	**74.64**	**281**	eP	**P**	**11 16 18.4**	**-0.5**
	comp=Z,17nm,0.9s						
JOW	**Kunigami**	**75.61**	**311**	eP	**P**	**11 16 25.1**	**+1.0**
	comp=Z,20nm,0.8s						
MAW	**Mawson**	**75.76**	**200**	LR	LR	11 50 10.3	
	comp=Z,697nm,18.4s,baz=118,slow=36						
KSM	**Kuching**	**75.85**	**279**	eP	**P**	**11 16 25.2**	**-0.6**
	comp=Z,38nm,0.9s						
KSM	**Kuching**	**75.85**	**279**	P	**P**	**11 16 25.6**	**-0.2**
	baz=76,SNR=8.5						
MJAR	**Matsushiro Arr**	**76.47**	**324**	P	**P**	**11 16 28.4**	**-0.4**
	comp=Z,21nm,0.9s,baz=166,slow=6.3,SNR=48						
MJAR				LR	LR	11 44 21.2	
	comp=Z,199nm,21.9s,baz=140,slow=31						
MAJO	**Matsushiro**	**76.47**	**324***c*	*i*P	**P**	**11 16 28.6**	**-0.2**
MAJO				MLR	MLR		
	comp=Z,1µm,21.0s						
MAJO	**Matsushiro**	**76.47**	**324**	eP	**P**	**11 16 28.8**	**-0.1**
	comp=Z,45nm,1.0s						
MAT	**Matsushiro**	**76.47**	**324**	P	**P**	**11 16 28.6**	**-0.2**
MAT				S	**S**	**11 26 15.4**	**+1.7**
JNU	**Nakatsue**	**78.16**	**317**	eP	**P**	**11 16 38.7**	**+0.3**
	comp=Z,31nm,1.1s						
YUK	**Yuzh-Kuril'sk**	**78.89**	**333***d*	*i*P	**P**	**11 16 40.8**	**-1.2**
YUK				*i*		11 16 46.2	
YUK				*i* S	**S**	**11 26 36.7**	**-2.7**
YUK				*i*		11 26 52.6	
SSLB	**Suanglung**	**78.90**	**304**	eP	**P**	**11 16 42.5**	**-0.2**
	comp=Z,14nm,0.8s						
SYO	**Syowa Base**	**80.51**	**192**	⇓eP	**P**	**11 16 49.4**	**-1.2**
SNAA	**Sanae**	**81.27**	**178**	P	**P**	**11 16 55.0**	**+0.1**
SNAA	**Sanae**	**81.27**	**178**	⇑eP	**P**	**11 16 54.5**	**-0.3**
SNAA				pmax	pmax		
	comp=Z,20nm,1.2s						
SNAA				MLR	MLR		
	comp=Z,502nm,18.0s						
SNAA	**Sanae**	**81.27**	**178**	eP	**P**	**11 16 54.5**	**-0.3**
	comp=Z,21nm,1.1s						
QZH	**Quanzhou**	**81.32**	**304**	⇑*i*P	**P**	**11 16 56.0**	**+0.3**
QZH				PP	**PP**	**11 19 57.8**	**-4.0**
QZH				S	**S**	**11 27 03.4**	**-2.5**
QZH				pmax	pmax		
	comp=Z,530nm,7.5s						
QZH				LR	LR		
	comp=Z,3µm,16.6s						
VNA3	**Neumayer Olymp**	**81.36**	**176**	P	**P**	**11 16 55.4**	**+0.2**
CIS	**Catalina Islan**	**81.65**	**46**	⇓P	**P**	**11 16 57.2**	**-0.1**
	baz=82						
MYKOM	**Kota Tinggi**	**81.69**	**276**	eP	**P**	**11 16 58.1**	**+0.1**
	comp=Z,28nm,1.0s						
VNA2	**Neumayer--Watz**	**81.82**	**176**	P	**P**	**11 16 58.3**	**+0.6**
	baz=193,slow=0.1						
VNA1	**Neumayer--Stat**	**82.04**	**176**	P	**P**	**11 16 58.5**	**-0.2**
NVL	**N'lazarevskaya**	**82.11**	**183**	eP	**P**	**11 16 59.8**	**+0.7**
NVL				pmax	pmax		
	comp=Z,15nm,1.1s						
YSS	**Yuzh-Sakhalins**	**82.53**	**333**	⇑*i*P	**P**	**11 17 02.5**	**+1.0**
YSS				*e*		11 17 13.1	
YSS				eS	**S**	**11 27 17.0**	**-0.4**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**82.53**	**333**	eP	**P**	**11 17 03.1**	**+1.6**
VES	**Vestal, Richgr**	**82.80**	**44**	⇓P	**P**	**11 17 04.2**	**+1.0**
	baz=83						
PET	**Petropavlovsk**	**82.81**	**345**	eP	**P**	**11 17 01.8**	**-1.0**
PET				eS	**S**	**11 27 17.8**	**-2.2**
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
KSRS	**Korea Array**	**82.87**	**319**	P	**P**	**11 17 04.5**	**+1.1**
	comp=Z,13nm,0.9s,baz=140,slow=5.7,SNR=48						
KSRS				LR	LR	11 48 07.5	
	comp=Z,166nm,21.3s,baz=126,slow=32						
KSAR	**Wonju Array Be**	**82.88**	**318**	P	**P**	**11 17 04.6**	**+1.0**
KSAR	**Wonju Array Be**	**82.88**	**318**	P	**P**	**11 17 04.5**	**+1.0**
ISA	**Isabella**	**83.06**	**44**	eP	**P**	**11 17 06.1**	**+1.4**
ISA				pmax	pmax		
	comp=Z,31nm,1.5s						
ISA	**Isabella**	**83.06**	**44**	eP	**P**	**11 17 06.1**	**+1.4**
	comp=Z,31nm,1.5s						
ISA	**Isabella**	**83.06**	**44**	⇑P	**P**	**11 17 05.9**	**+1.2**
	baz=83						
SSE	**Sheshan**	**83.11**	**310**	P	**P**	**11 17 05.1**	**+0.2**
SSE				S	**S**	**11 27 21.0**	**-3.0**
SSE				pmax	pmax		
	comp=Z,23nm,0.9s						
SSE				pmax	pmax		
	comp=Z,190nm,11.7s						
SSE				LR	LR		
	comp=Z,93nm,20.8s						
SSE				LR	LR		
	comp=Z,74nm,20.7s						
SSE				LR	LR		
	comp=Z,110nm,20.7s						
PETK	**Petropavlovsk-**	**83.11**	**345**	P	**P**	**11 17 04.5**	**+0.1**
PETK				pmax	pmax		
	comp=Z,12nm,0.8s						
PETK	**Petropavlovsk-**	**83.11**	**345**	P	**P**	**11 17 04.5**	**+0.1**
	comp=Z,12nm,0.8s,baz=142,slow=7.5,SNR=13						
CMB	**Columbia Colle**	**83.47**	**41**	eP	**P**	**11 17 08.0**	**+1.3**
CMB				pmax	pmax		
	comp=Z,15nm,1.4s						
CMB	**Columbia Colle**	**83.47**	**41**	eP	**P**	**11 17 08.0**	**+1.3**
	comp=Z,15nm,1.4s						
PLCA	**Paso Flores**	**83.64**	**133**	eP	**P**	**11 17 09.4**	**+1.6**
PLCA	**Paso Flores**	**83.64**	**133**	P	**P**	**11 17 08.8**	**+1.0**
	comp=Z,7.0nm,1.0s,baz=224,slow=6.1,SNR=8.2						
PLCA				LR	LR	11 47 53.4	
	comp=Z,325nm,18.6s,baz=272,slow=31						
PLCA	**Paso Flores**	**83.64**	**133**	eP	**P**	**11 17 09.4**	**+1.6**
BC3	**Big Chuckawall**	**83.71**	**47**	⇓P	**P**	**11 17 07.7**	**-0.4**
	baz=84						
GSC	**Goldstone**	**83.88**	**45**	eP	**P**	**11 17 11.0**	**+2.1**
GSC				pmax	pmax		
	comp=Z,41nm,1.7s						
GSC	**Goldstone**	**83.88**	**45**	eP	**P**	**11 17 11.0**	**+2.1**
	comp=Z,41nm,1.7s						
GSC	**Goldstone**	**83.88**	**45**	⇓P	**P**	**11 17 09.5**	**+0.6**
	baz=84						
WDC	**Whiskeytown Da**	**83.97**	**38**	eP	**P**	**11 17 10.1**	**+1.0**
WDC	**Whiskeytown Da**	**83.97**	**38**	eP	**P**	**11 17 10.1**	**+1.0**
MTUM	**Tungsten Hills**	**84.11**	**43**	eP	**P**	**11 17 12.2**	**+2.0**
MLAC	**Mammoth Lakes**	**84.12**	**42**	⇓P	**P**	**11 17 11.2**	**+0.9**
	baz=84						
N02D	**Trinity Center**	**84.15**	**38**	⇓P	**P**	**11 17 11.7**	**+1.5**
	baz=84						
IRM	**Iron Mountain**	**84.22**	**47**	⇓P	**P**	**11 17 11.5**	**+0.9**
	baz=85						
GMRC	**Granite Mounta**	**84.28**	**46**	⇓P	**P**	**11 17 11.6**	**+0.6**
	baz=85						
113A	**Mohawk Valley,**	**84.28**	**49**	⇓P	**P**	**11 17 11.8**	**+0.9**
	baz=85						
WAKR	**Walker**	**84.34**	**41**	eP	**P**	**11 17 12.5**	**+1.2**
M02C	**Callahan**	**84.36**	**37**	⇑P	**P**	**11 17 12.7**	**+1.5**
	baz=85						
Y12C	**Blythe**	**84.38**	**48**	⇑P	**P**	**11 17 11.9**	**+0.6**
	baz=85						
214A	**Organ Pipe Nat**	**84.44**	**50**	⇓P	**P**	**11 17 12.2**	**+0.4**
	baz=85						
L02D	**Cave Junction,**	**84.50**	**37**	⇓P	**P**	**11 17 13.2**	**+1.4**
	baz=85						
FURC	**Furnace Creek,**	**84.58**	**44**	⇑P	**P**	**11 17 13.4**	**+1.1**
	baz=85						
GRAC	**Grapevine Rang**	**84.61**	**44**	⇑P	**P**	**11 17 13.4**	**+0.9**
	baz=85						
YBH	**Yreka Blue Hor**	**84.68**	**37**	eP	**P**	**11 17 14.4**	**+1.6**
YBH	**Yreka Blue Hor**	**84.68**	**37**	eP	**P**	**11 17 14.4**	**+1.6**
LDFC	**Landfair**	**84.82**	**46**	eP	P	11 17 17.2	+3.5
	comp=Z,56nm,1.3s						
QIZ	**Qiongzhong**	**84.93**	**294**	P	**P**	**11 17 15.3**	**+0.8**
QIZ				S	**S**	**11 27 44.4**	**+1.6**
QIZ				sS	**sS**	**11 27 49.5**	**-2.8**
QIZ				pmax	pmax		
	comp=Z,150nm,8.2s						
QIZ				LR	LR		
	comp=Z,86nm,15.8s						
QIZ				LR	LR		
	comp=Z,180nm,17.1s						
NVAR	**Mina Array Bea**	**84.96**	**42**	P	**P**	**11 17 15.3**	**+0.8**
	comp=Z,8.8nm,0.9s,baz=221,slow=7.9,SNR=30						
NVAR				LR	LR	11 48 20.0	
	comp=Z,496nm,19.5s,baz=130,slow=31						
PDMCI	**Parker Dam,Lak**	**84.97**	**47**	⇓P	**P**	**11 17 14.6**	**+0.3**
	baz=85						
HUMO	**Hull Mountain**	**85.15**	**37**	eP	**P**	**11 17 16.9**	**+1.9**
	comp=Z,21nm,1.3s						
M04C	**Macdoel**	**85.18**	**38**	⇑P	**P**	**11 17 16.4**	**+1.0**
	baz=86						
Z14A	**Wintersburg**	**85.19**	**49**	⇑P	**P**	**11 17 15.6**	**+0.1**
	baz=86						
NJ2	**Nanjing**	**85.27**	**310**	eP	**P**	**11 17 15.0**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,30nm,0.8s						
USRK	**Ussuriysk Arra**	**85.31**	**326**	P	**P**	**11 17 16.6**	**+0.8**
	comp=Z,12nm,1.1s,baz=103,slow=4.1,SNR=11						
USRK				LR	LR	11 49 09.3	
	comp=Z,302nm,21.4s,baz=131,slow=31						
TPH	**Tonopah**	**85.38**	**43**	eP	**P**	**11 17 17.7**	**+1.1**

TPH				pmax	pmax		
	comp=Z,13nm,0.9s						
TPH	Tonopah	85.38	43	eP	P	11 17 17.7	+1.1
	comp=Z,13nm,0.9s						
IPM	Ipoh	85.43	277	eP	P	11 17 15.7	-1.5
	comp=Z,7.7nm,0.9s						
Y14A	Wickenburg	85.50	48	⇓P	P	11 17 18.4	+1.3
	baz=86						
W13A	Hualapai Mount	85.62	47	⇓P	P	11 17 17.7	-0.1
	baz=86						
SHPR	Sheep Range	85.67	45	eP	P	11 17 19.6	+1.6
I03D	Drain, OR	85.71	36	⇑P	P	11 17 19.1	+1.3
	baz=86						
K04D	Chiloquin, OR	85.81	37	⇓P	P	11 17 19.7	+1.2
	baz=86						
TUC	Tucson	86.04	51	eP	P	11 17 21.6	+1.8
TUC				pmax	pmax		
	comp=Z,15nm,1.0s						
TUC	Tucson	86.04	51	eP	P	11 17 21.6	+1.8
	comp=Z,14nm,1.0s						
J04D	Umpqua Nationa	86.04	37	⇓P	P	11 17 20.5	+0.7
	baz=86						
MOD	Modoc	86.11	38	eP	P	11 17 21.0	+1.0
I04A	Tendick Farm,	86.26	36	⇓P	P	11 17 21.4	+0.8
	baz=87						
K05A	Summer Lake	86.34	37	eP	P	11 17 22.6	+1.4
	comp=Z,21nm,1.3s						
J05D	Fort Rock, OR	86.53	37	⇑P	P	11 17 23.0	+0.9
	baz=87						
319A	Douglas	86.55	52	⇓P	P	11 17 24.1	+1.6
	baz=87						
R11A	Troy Canyon, C	86.55	43	eP	P	11 17 24.9	+2.6
R11A	Troy Canyon, C	86.55	43	⇑P	P	11 17 22.8	+0.4
	baz=87						
G03D	McMinnville, O	86.81	35	⇑P	P	11 17 24.3	+1.1
	baz=87						
X16A	Lo Mia Camp, P	86.82	49	⇑P	P	11 17 25.3	+1.5
	baz=87,SNR=11						
MDJ	Mudanjiang	86.83	325	P	P	11 17 23.8	+0.5
MDJ				pP	PcP	11 17 26.9	+1.4
MDJ				sP	sP	11 17 28.4	-2.7
MDJ				S	S	11 28 00.4	+0.1
MDJ				pmax	pmax		
	comp=Z,20nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,300nm,4.8s						
MDJ				LR	LR		
	comp=Z,130nm,31.2s						
MDJ				LR	LR		
	comp=Z,85nm,32.2s						
MDJ				LR	LR		
	comp=Z,230nm,24.4s						
MDJ	Mudanjiang	86.83	325	eP	P	11 17 23.7	+0.4
	comp=Z,28nm,1.3s						
BMN	Battle Mountai	86.89	41	eP	P	11 17 25.4	+1.5
BMN	Battle Mountai	86.89	41	eP	P	11 17 25.4	+1.5
HABR	Khabarovsk	86.98	330	eP	P	11 17 22.8	-1.1
HABR				e*PP	pP	11 17 33.6	+4.0
HABR				e*SP	sP	11 17 37.9	+6.2
HABR						11 20 47.0	
HABR				eS	SKSac	11 27 46.7	-3.3
HABR				e		11 28 01.0	
HABR				pmax	pmax		
	comp=Z,28nm,1.9s						
HABR				pmax	pmax		
	comp=E,40nm,1.9s						
HABR				MLR	MLR		
	comp=Z,188nm,19.0s						
H04A	Detroit Lake	86.99	35	eP	P	11 17 24.8	+0.6
	comp=Z,12nm,1.2s						
GSI	Gunungsitoli	87.04	273	eP	P	11 17 25.6	+0.4
	comp=Z,72nm,1.0s						
PINOR	Pine Mountain	87.09	37	eP	P	11 17 25.6	+1.1
	comp=Z,4.7nm,0.7s						
WVOR	Wild Horse Val	87.39	39	eP	P	11 17 27.1	+0.9
WVOR				pmax	pmax		
	comp=Z,103nm,2.8s						
WVOR	Wild Horse Val	87.39	39	eP	P	11 17 27.1	+0.9
	comp=Z,103nm,2.8s						
CCUT	Cedar City	87.44	45	eP	P	11 17 28.5	+1.7
	comp=Z,8.6nm,1.1s						
U15A	North Rim	87.45	47	⇓P	P	11 17 28.6	+1.7
	baz=88						
WUAZ	Wupatki	87.51	48	eP	P	11 17 28.8	+1.7
	comp=Z,12nm,1.1s						
WUAZ	Wupatki	87.51	48	⇓P	P	11 17 28.1	+1.0
	baz=88						
ARUT	Antelope Range	87.54	45	eP	P	11 17 28.6	+1.5
ARUT	Antelope Range	87.54	45	eP	P	11 17 28.6	+1.5
	comp=Z,126nm,1.0s						
WHN	Wuhan	87.58	306	⇑P	P	11 17 28.3	+1.1
WHN				S	SKSac	11 27 56.8	+2.3
WHN				LR	LR		
	comp=Z,420nm,10.1s						
WHN				LR	LR		
	comp=Z,1μm,23.6s						
G05D	Wamic, OR	87.83	35	⇑P	P	11 17 30.0	+1.9
	baz=88						
X18A	Snowflake	87.89	49	⇑P	P	11 17 29.9	+0.9
	baz=88,SNR=5.8						
I07A	Izee	88.00	37	eP	P	11 17 30.2	+1.1
	comp=Z,63nm,2.4s						
G06A	Carlson Farm,	88.17	36	eP	P	11 17 30.4	+0.5
	comp=Z,62nm,1.9s						
121A	Cookes Peak, D	88.25	52	eP	P	11 17 31.1	+0.4
	comp=Z,12nm,1.2s						
121A	Cookes Peak, D	88.25	52	⇓P	P	11 17 31.9	+1.2
	baz=89						
ELK	Elko	88.26	42	eP	P	11 17 31.8	+1.2
ELK	Elko	88.26	42	eP	P	11 17 31.8	+1.2
W18A	Petrified Fore	88.37	49	eP	P	11 17 31.7	+0.5
	comp=Z,26nm,1.4s						
W18A	Petrified Fore	88.37	49	⇑P	P	11 17 32.0	+0.8
	baz=89						
CN2	Changchun	88.48	322	eP	P	11 17 31.8	+0.6
CN2				SKS	SKSac	11 27 58.0	-1.4
CN2				pmax	pmax		
	comp=Z,20nm,1.3s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,500nm,23.0s						
CN2				LR	LR		
	comp=Z,300nm,23.0s						
CN2				LR	LR		
	comp=Z,300nm,25.0s						
LON	Longmire	88.61	34	eP	P	11 17 32.6	+0.7
LON	Longmire	88.61	34	eP	P	11 17 32.6	+0.7
D05A	Enumclaw	88.82	34	eP	P	11 17 34.6	+1.9
	comp=Z,75nm,1.5s						
KLR	Kul'dur	89.02	329	eP	P	11 17 30.8	-2.8
G08A	Pilot Rock	89.09	37	eP	P	11 17 35.4	+1.1
	comp=Z,31nm,1.5s						
PGC	Sidney	89.14	32	eP	P	11 17 35.6	+1.5
Z22A	Elephant Butte	89.22	52	⇑P	P	11 17 36.2	+1.0
	baz=90						
E07A	Sunnyside	89.47	35	eP	P	11 17 37.3	+1.4
	comp=Z,17nm,0.9s						
TXAR	Lajitas Array	89.49	57	P	P	11 17 37.0	+0.5
	comp=Z,3.3nm,1.0s,baz=216,slow=6.6,SNR=18						
TXAR				LR	LR	11 49 55.6	
	comp=Z,251nm,20.2s,baz=0.0,slow=30						
LTY	Liberty	89.53	34	eP	P	11 17 37.1	+0.9
	comp=Z,14nm,1.2s						
MFID	Camas Ranch	89.60	39	eP	P	11 17 38.0	+1.4
	comp=Z,76nm,2.6s						
BMO	Blue Mountains	89.69	38	eP	P	11 17 37.5	+0.5
BMO				pmax	pmax		
	comp=Z,52nm,2.3s						
BMO	Blue Mountains	89.69	38	eP	P	11 17 37.5	+0.5
	comp=Z,52nm,2.3s						
LAZ	Ladron	89.73	51	eP	P	11 17 38.6	+1.0
	comp=Z,5.6nm,1.1s						
TMUT	Trail Mountain	89.84	45	eP	P	11 17 39.7	+1.5
LPM	Los Pinos Moun	90.03	51	eP	P	11 17 40.3	+1.3
SRU	San Rafael	90.17	45	eP	P	11 17 40.5	+1.0
SRU				pmax	pmax		
	comp=Z,9.0nm,1.1s						
SRU	San Rafael	90.17	45	eP	P	11 17 40.5	+1.0
	comp=Z,8.5nm,1.1s						
Y23A	Lovelace Mesa,	90.23	52	⇓P	P	11 17 39.8	-0.2
	baz=91						
D08A	Wollman Farm,	90.28	35	eP	P	11 17 40.5	+0.9
	comp=Z,20nm,0.9s						
SPU	Mount Spurr	90.29	12	eP	P	11 17 39.3	-0.1
E09A	Wood Farm, Sta	90.32	36	eP	P	11 17 40.7	+0.9
	comp=Z,26nm,1.3s						
MVCO	Mesa Verde	90.39	48	eP	P	11 17 41.7	+1.0
	comp=Z,120nm,3.0s						
MVCO	Mesa Verde	90.39	48	⇑P	P	11 17 41.4	+0.7
	baz=91						
Z24A	Sheeppen Canyo	90.39	52	⇑P	P	11 17 40.6	-0.1
	baz=91						
F10A	Beach Ranch, E	90.46	37	eP	P	11 17 40.6	+0.1
	comp=Z,20nm,1.1s						
X23A	Hourglass Bar	90.49	51	⇓P	P	11 17 41.2	+0.5
	baz=91						
HLID	Hailey	90.49	40	eP	P	11 17 42.1	+1.2
	comp=Z,5.0nm,1.1s						
HLID	Hailey	90.49	40	⇓P	P	11 17 42.1	+1.2
	baz=91						
ANMO	Albuquerque	90.50	51	⇓eP	P	11 17 42.5	+1.3
ANMO				pmax	pmax		
	comp=Z,33nm,1.1s						
ANMO				MLR	MLR		
	comp=Z,2μm,16.0s						
ANMO	Albuquerque	90.50	51	eP	P	11 17 41.2	0.0
RC01	Rabbit Creek A	90.63	13	eP	P	11 17 41.6	+0.7
	comp=Z,38nm,1.4s						
Y24A	Capitan	90.66	52	⇓P	P	11 17 42.7	+0.7
	baz=91						
V22A	San Miguel Ran	90.72	50	⇓P	P	11 17 42.4	+0.2
	baz=91						
GAMB	Gambell	90.77	2	eP	P	11 17 42.4	+1.0
	comp=Z,49nm,2.1s						
Z25A	Roswell	90.82	53	⇑P	P	11 17 43.5	+0.9
	baz=91						
W23A	Werner Place,	90.83	50	⇓P	P	11 17 43.2	+0.5
	baz=91						
PV01	Paradox Valley	90.86	47	eP	P	11 17 43.1	+0.2
	comp=Z,464nm,0.9s						
B08A	Colville Reser	90.93	34	eP	P	11 17 43.1	+0.4
	comp=Z,7.3nm,1.0s						
529A	Stev Forest Ra	90.98	56	⇓P	P	11 17 43.3	0.0
	baz=91						
ENH	Enshi	90.99	304	eP	P	11 17 43.7	+0.3
	comp=Z,31nm,0.9s						
U22A	Llaves	91.02	49	⇓P	P	11 17 44.2	+0.6
	baz=91						
C09A	Chrisman Ranch	91.10	35	eP	P	11 17 44.4	+1.0
	comp=Z,32nm,1.6s						
V23A	Ortiz Mt. (NFS	91.12	50	⇑P	P	11 17 45.9	+1.8
	baz=92,SNR=6.5						
Y25A	Mesa, Roswell	91.18	52	⇑P	P	11 17 44.6	+0.3
	baz=92						
GYA	Guiyang	91.21	299	⇑iP	P	11 17 45.1	+0.5
GYA				PP	PP	11 21 25.8	+3.8
GYA				SKS	SKSac	11 28 16.0	-0.4
GYA				S	S	11 28 41.3	-1.3
GYA				sS	ScS	11 28 47.5	+1.9
GYA				SS	SS	11 34 49.8	+2.0
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.5s						
GYA				LR	LR		
	comp=Z,530nm,20.4s						
GYA				LR	LR		
	comp=Z,460nm,22.0s						
GYA				LR	LR		
	comp=Z,520nm,21.6s						
PMR	Palmer	91.21	13	eP	P	11 17 43.4	-0.1
PMR				pmax	pmax		
	comp=Z,83nm,2.2s						
PMR	Palmer	91.21	13	eP	P	11 17 43.4	-0.1
	comp=Z,83nm,2.2s						
Z26A	Caprock	91.34	53	⇓P	P	11 17 45.1	+0.1
	baz=92						
W24A	Lazy 6 Ranch,	91.37	51	⇑P	P	11 17 46.3	+1.0
	baz=92						
U23A	El Rito	91.44	49	⇑P	P	11 17 45.7	+0.1
	baz=92						
127A	Arkansas Junct	91.47	54	⇑P	P	11 17 46.0	+0.4
	baz=92						
429A	Davenport Ranc	91.48	56	⇑P	P	11 17 46.2	+0.6
	baz=92						
X25A	Clemmons Ranch	91.52	52	⇑P	P	11 17 45.8	-0.1
	baz=92						
BMRM	Bremner River	91.61	15	eP	P	11 17 46.5	+1.0
530A	J-C Ranch, Com	91.65	57	⇑P	P	11 17 47.0	+0.5
	baz=92						
V24A	Rampart Ranch,	91.74	50	⇑P	P	11 17 48.3	+1.3
	baz=92						
832A	Faith Ranch, C	91.74	59	⇑P	P	11 17 46.8	-0.1
	baz=92						
S22A	4UR Ranch, Cre	91.78	48	⇓P	P	11 17 48.0	+0.8
	baz=92						
Y26A	Elida	91.79	53	⇑P	P	11 17 47.6	+0.4
	baz=92						
631A	Perdido Creek	91.85	58	⇓P	P	11 17 48.3	+1.0
	baz=92						
329A	Wagon Wheel Ra	91.85	55	⇓P	P	11 17 47.9	+0.5
	baz=92						
Z27A	Tatum	91.90	53	⇓P	P	11 17 47.9	+0.2
	baz=92						
T23A	Casias Ranch,	91.93	49	⇓P	P	11 17 48.3	+0.4
	baz=92						
732A	Laxson Ranch,	91.96	59	⇓P	P	11 17 48.0	+0.1
	baz=92						
NEW	Newport	91.99	35	⇑P	P	11 17 48.7	+1.1
	baz=92						
W25A	X Bar L Ranch,	92.03	51	⇑P	P	11 17 48.6	+0.4
	baz=92,SNR=8.0						
430A	Baggett Ranch,	92.05	56	⇑P	P	11 17 48.5	+0.2
	baz=92						
128A	Castleberry Fa	92.07	54	⇑P	P	11 17 48.8	+0.4
	baz=92						
X26A	CR and CF Fran	92.13	52	⇑P	P	11 17 49.5	+0.8
	baz=92						
034A	Hebbronville	92.13	61	⇑P	P	11 17 50.2	+1.5
	baz=92,SNR=7.4						
MCMT	McKenzie Canyo	92.16	40	eP	P	11 17 49.5	+0.7
	comp=Z,3.0nm,1.0s						
O20A	White River Ci	92.20	45	⇑P	P	11 17 49.6	+0.7
	baz=93						
833A	Chaparral WMA,	92.20	59	⇓P	P	11 17 49.3	+0.3
	baz=92						
Y27A	Causey	92.24	53	⇑P	P	11 17 49.1	-0.1
	baz=93,SNR=8.8						
531A	Rocksprings	92.25	57	⇓P	P	11 17 49.4	+0.1
	baz=93						
V25A	Rancho No Teng	92.25	51	⇑P	P	11 17 50.1	+0.8
	baz=93						
035Z	Hargill	92.32	61	⇑P	P	11 17 50.4	+0.9
	baz=93						
T24B	San Luis	92.38	49	⇑P	P	11 17 50.5	+0.5
	baz=93						
330A	Mertzon	92.41	56	⇑P	P	11 17 49.8	-0.2
	baz=93						
W26A	Owens Ranch, T	92.44	52	⇑P	P	11 17 50.6	+0.5
	baz=93						
REDW	Red Top Meadow	92.44	42	eP	P	11 17 51.0	+0.9
TPAW	Teton Pass	92.46	42	eP	P	11 17 51.2	+1.0
SMCO	Snowmass	92.48	47	eP	P	11 17 51.7	+1.2
	comp=Z,6.8nm,0.9s						
Z28A	Tucker Farm, M	92.48	54	⇑P	P	11 17 50.2	-0.1
	baz=93						
632A	Uvalde	92.49	58	⇓P	P	11 17 50.5	+0.2
	baz=93						
FXWY	Fox Creek	92.50	41	eP	P	11 17 51.3	+1.0
	comp=Z,8.5nm,1.3s						
129A	Stewart Farms,	92.52	54	⇓P	P	11 17 50.6	+0.1
	baz=93						
MSTX	Muleshoe	92.56	53	eP	P	11 17 50.6	-0.1
	comp=Z,6.3nm,0.7s						
MSTX	Muleshoe	92.56	53	⇓P	P	11 17 50.8	+0.1
	baz=93						
N20A	Spence Gulch,	92.58	45	⇓P	P	11 17 51.4	+0.7
	baz=93						
DLMT	Dillon	92.62	39	eP	P	11 17 51.8	+1.1
	comp=Z,13nm,1.4s						
X27A	F and S Farms,	92.68	52	⇑P	P	11 17 51.7	+0.5
	baz=93						
U25A	Circle Dot Ran	92.69	50	⇑P	P	11 17 52.4	+1.1
	baz=93						
KTH	Kantishna Hill	92.69	11	eP	P	11 17 50.4	-0.1
R23A	Moffat	92.69	48	⇑P	P	11 17 52.2	+0.8
	baz=93						
230A	Sterling City	92.69	55	⇓P	P	11 17 51.6	+0.3
	baz=93						
IMW	Indian Meadow	92.70	41	eP	P	11 17 52.4	+1.1
	comp=Z,7.0nm,1.0s						
TRF	Thorofare Moun	92.71	11	eP	P	11 17 50.6	-0.1
	comp=Z,13nm,1.0s						
532A	Rocksprings	92.71	58	⇑P	P	11 17 51.9	+0.5
	baz=93						
TNA	Tin City	92.72	4	eP	P	11 17 50.9	+0.5
	comp=Z,8.2nm,0.9s						
LOHW	Long Hollow	92.74	42	eP	P	11 17 52.2	+0.8
MSO	Missoula	92.77	38	⇓P	P	11 17 52.6	+1.3
	baz=93						
V26A	Tequesquite Ra	92.80	51	⇑P	P	11 17 52.8	+1.0
	baz=93						
S24A	Houchin Ranch,	92.81	49	⇓P	P	11 17 52.7	+0.7
	baz=93						
P22A	Eagle	92.85	46	⇓P	P	11 17 52.6	+0.6
	baz=93						
Y28A	McKinney Farm,	92.90	53	⇓P	P	11 17 52.4	+0.2
	baz=93						
331A	San Angelo	92.91	56	⇓P	P	11 17 52.8	+0.6
	baz=93						
W27A	Bowe Ranch, En	92.92	52	⇑P	P	11 17 53.1	+0.7
	baz=93						
I17A	Pilgrim Ck.	92.93	41	⇓P	P	11 17 53.2	+0.9
	baz=93						
BSMT	Bassoo Peak	92.94	36	eP	P	11 17 53.2	+1.0
	comp=Z,1.0nm,0.8s						
FLWY	Flagg Ranch	92.95	41	eP	P	11 17 53.8	+1.4
	comp=Z,17nm,1.0s						
Z29A	Hungry Hill Ra	92.96	54	⇑P	P	11 17 52.6	+0.1
	baz=93,SNR=7.7						
QLMT	Earthquake Lak	92.97	40	eP	P	11 17 54.1	+1.7
LRM	Limekiln Ridge	92.98	39	eP	P	11 17 52.3	-0.1
	comp=Z,20nm,1.0s						
T25A	Trinidad	93.08	50	⇑P	P	11 17 53.6	+0.5
	baz=93						
YFT	Old Faithful	93.09	41	eP	P	11 17 56.3	+3.3
	comp=Z,6.1nm,0.9s						
U26A	Atchley Ranch,	93.14	50	⇑P	P	11 17 53.2	-0.2
	baz=94						
YMR	Madison River	93.14	41	eP	P	11 17 54.7	+1.5
130A	Snyder	93.16	55	⇓P	P	11 17 53.4	0.0
	baz=94						
432A	Menard	93.16	57	⇓P	P	11 17 53.5	+0.1
	baz=94						
R24A	Sanders Place,	93.19	48	⇑P	P	11 17 54.3	+0.7
	baz=94						
PAX	Paxson	93.20	14	eP	P	11 18 02.5	+10
PAX	Paxson	93.20	14	eP	P	11 18 02.5	+10
H17A	Grant Village	93.21	41	eP	P	11 17 55.7	+2.1
	comp=Z,7.6nm,1.2s						
H17A	Grant Village	93.21	41	⇑P	P	11 17 55.0	+1.4
	baz=94						
MCK	McKinley	93.21	12	eP	P	11 17 52.9	+0.1
MCK	McKinley	93.21	12	eP	P	11 17 52.9	+0.1
X28A	Dimmitt	93.25	53	⇑P	P	11 17 54.3	+0.4
	baz=94						
Y29A	Porterfield Fa	93.29	54	⇓P	P	11 17 53.9	-0.1
	baz=94,SNR=9.6						
O22A	Kremmling	93.29	46	⇓P	P	11 17 54.8	+0.6
	baz=94						
231A	Bronte	93.30	56	⇑P	P	11 17 53.6	-0.5
	baz=94						
XAN	Xi'an	93.33	307	P	P	11 17 54.9	+0.8
XAN				pP	pP	11 17 59.8	-0.1
XAN				SKS	SKSac	11 28 26.9	-0.9
XAN				S	S	11 28 58.6	-2.5
XAN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,27nm,7.1s						
XAN				LR	LR		
	comp=Z,140nm,21.5s						
XAN				LR	LR		
	comp=Z,110nm,22.8s						
XAN				LR	LR		
	comp=Z,130nm,21.5s						
533A	Kerrville	93.34	58	⇑P	P	11 17 54.0	-0.2
	baz=94						
BOZ	Bozeman (W)	93.34	39	eP	P	11 17 55.0	+1.0
BOZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BOZ	Bozeman (W)	93.34	39	eP	P	11 17 55.0	+1.0
	comp=Z,8.4nm,1.1s						
S25A	Robets Cordova	93.34	49	⇓P	P	11 17 54.8	+0.5
	baz=94						
Z30A	Sanderson Ranc	93.39	54	⇑P	P	11 17 54.0	-0.4
	baz=94,SNR=5.4						
332A	Millersview	93.45	56	⇓P	P	11 17 55.4	+0.6
	baz=94						
J19A	Crowheart	93.46	42	⇑P	P	11 17 55.2	+0.5
	baz=94						
MENT	Mentasta	93.55	14	eP	P	11 17 54.9	+0.5
X29A	Tulia	93.56	53	⇓P	P	11 17 55.2	-0.1
	baz=94						
131A	Roby	93.62	55	⇓P	P	11 17 55.3	-0.2
	baz=94						
W28A	Vega	93.62	52	⇑P	P	11 17 55.4	-0.2
	baz=94						
433A	Art	93.63	57	⇓P	P	11 17 55.8	+0.2
	baz=94						
T26A	Comanche Natio	93.65	50	⇓P	P	11 17 56.2	+0.4
	baz=94						
KMI	Kunming	93.65	296	P	P	11 17 57.8	+1.7
KMI				pP	pP	11 18 00.8	-1.0
KMI				SKS	SKSac	11 28 26.5	-3.8
KMI				S	ScS	11 29 06.3	0.0
KMI				pmax	pmax		
	comp=Z,20nm,1.3s						
KMI				pmax	pmax		
	comp=Z,150nm,5.6s						
KMI				LR	LR		
	comp=Z,160nm,15.6s						
KMI				LR	LR		
	comp=Z,190nm,17.7s						
KMI				LR	LR		
	comp=Z,240nm,19.3s						
CMAR	Chiang Mai Arr	93.69	289	P	P	11 17 57.1	+1.1
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,85nm,18.8s						
CMAR	Chiang Mai Arr	93.69	289	P	P	11 17 57.1	+1.1
	comp=Z,3.3nm,0.8s,baz=147,slow=3.2,SNR=21						
CMAR				LR	LR	12 02 26.7	
	comp=Z,85nm,18.8s,baz=120,slow=37						
ISCO	Idaho Springs	93.70	47	⇓P	P	11 17 56.7	+0.7
	baz=94						
N22A	Wattenberg Ran	93.70	46	⇑P	P	11 17 56.7	+0.7
	baz=94						
O23A	Lake Granby, G	93.72	46	⇓P	P	11 17 56.8	+0.7
	baz=94						
534A	Blanco	93.74	58	⇑P	P	11 17 55.8	-0.3
	baz=94						
232A	Coleman	93.77	56	⇓P	P	11 17 56.7	+0.5
	baz=94						
U27A	Thompson Grove	93.79	51	⇑P	P	11 17 56.9	+0.6
	baz=94						
AMTX	Amarillo	93.80	53	⇑P	P	11 17 56.5	+0.2
	baz=94						
CHTO	Chiang Mai	93.85	289	eP	P	11 17 57.4	+0.6
CHTO	Chiang Mai	93.85	289	eP	P	11 17 57.4	+0.6
HRY	Holter Researc	93.85	39	eP	P	11 17 56.8	+0.5
	comp=Z,3.1nm,0.9s						
Y30A	Stafford Cattl	93.85	54	⇑P	P	11 17 57.1	+0.6
	baz=94						
H18A	Shoshone NF, C	93.90	41	⇑P	P	11 17 57.6	+0.8
	baz=94						
I19A	Meeteetse	93.93	42	⇓P	P	11 17 57.6	+0.7
	baz=94						
M22A	Cedar Creek Ra	93.94	45	⇓P	P	11 17 57.9	+0.9
	baz=94						
W29A	Amraillo	93.94	52	⇓P	P	11 17 57.3	+0.3
	baz=94						
S26A	Kim	93.97	50	⇑P	P	11 17 57.6	+0.5
	baz=94						
333A	Richland Sprin	93.99	57	⇑P	P	11 17 57.4	+0.2
	baz=94						
N23A	Red Feather La	94.08	46	⇓P	P	11 17 58.7	+1.0
	baz=94						
J20A	Shoshoni	94.09	43	⇑P	P	11 17 58.3	+0.8
	baz=94						
Z31A	Sharp Cattle R	94.12	55	⇑P	P	11 17 58.0	+0.2
	baz=94						
ABTX	Abilene, Hawle	94.14	55	⇓P	P	11 17 58.4	+0.5
	baz=94						
X30A	Coker Ranch, T	94.15	53	⇓P	P	11 17 58.3	+0.3
	baz=94						
U28A	Mallet	94.18	51	⇑P	P	11 17 58.4	+0.3
	baz=94						
T27A	Campo	94.19	50	⇑P	P	11 17 58.3	+0.1
	baz=94						

K21A	Alcova	94.20	44	⇓P	P	11 17 58.8	+0.6
	baz=95						
434A	Burnet	94.28	58	⇑P	P	11 17 58.7	+0.2
	baz=95						
H19A	Powell	94.30	41	⇑P	P	11 17 59.5	+1.0
	baz=95						
Y31A	Rekieta Farm,	94.35	54	⇓P	P	11 17 58.9	+0.1
	baz=95						
L22A	Ellis Ranch, M	94.38	45	⇓P	P	11 17 59.6	+0.6
	baz=95						
233A	Rising Star	94.39	56	⇑P	P	11 17 59.9	+0.8
	baz=95						
I20A	Worland	94.40	42	⇑P	P	11 17 59.4	+0.4
	baz=95						
COLA	College	94.45	12	eP	P	11 17 57.4	-1.0
COLA				pmax	pmax		
	comp=Z,11nm,1.2s						
COLA	College	94.45	12	eP	P	11 17 57.4	-1.0
	comp=Z,11nm,1.2s						
J21A	Lysite	94.48	43	⇑P	P	11 17 60.0	+0.6
	baz=95						
P25A	Willow Gulch B	94.49	48	⇓P	P	11 17 59.8	+0.2
	baz=95						
ILAR	Eielson Array	94.53	12	P	P	11 17 58.4	-0.5
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	Eielson Array	94.53	12	P	P	11 17 58.4	-0.5
	comp=Z,1.7nm,0.8s,baz=219,slow=5.1,SNR=28						
636A	Smothers Creek	94.55	59	⇑P	P	11 18 00.1	+0.3
	baz=95						
Z32A	Haskell	94.60	55	⇑P	P	11 18 00.3	+0.4
	baz=95						
T28A	Walsh	94.64	51	⇓P	P	11 18 00.4	+0.3
	baz=95						
K22A	Casper	94.66	44	⇑P	P	11 18 00.6	+0.4
	baz=95						
R27A	Eads	94.77	49	⇓P	P	11 18 01.3	+0.5
	baz=95						
H20A	Greybull	94.78	42	⇑P	P	11 18 01.1	+0.5
	baz=95						
I21A	Big Trails, Te	94.83	43	⇓P	P	11 18 01.6	+0.7
	baz=95						
L23A	Garrett	94.89	45	⇑P	P	11 18 02.0	+0.7
	baz=95						
X31A	McDonald Ranch	94.89	54	⇓P	P	11 18 00.9	-0.4
	baz=95						
Y32A	R-V Farms, Ver	94.96	54	⇓P	P	11 18 01.8	+0.2
	baz=95						
F19A	Roth Farm, Mol	94.99	40	⇓P	P	11 18 02.3	+0.8
	baz=95						
HHC	Hu-ho-hao-te	95.05	314	eP	P	11 18 01.8	-0.1
HHC				sP	sP	11 18 09.4	-0.3
HHC				PP	PP	11 21 49.8	-2.1
HHC				SKS	SKSac	11 28 36.0	-0.9
HHC				S	S	11 29 14.1	-1.9
HHC				sS	ScS	11 29 21.0	+4.1
HHC				SS	SS	11 35 43.4	+1.0
HHC				pmax	pmax		
	comp=Z,23nm,0.7s						
HHC				pmax	pmax		
	comp=Z,310nm,7.0s						
HHC				LR	LR		
	comp=Z,400nm,19.1s						
HHC				LR	LR		
	comp=Z,220nm,19.0s						
HHC				LR	LR		
	comp=Z,240nm,19.1s						
G20A	Bridger	95.06	41	⇑P	P	11 18 02.3	+0.4
	baz=95						
J22A	Midwest	95.11	43	⇓P	P	11 18 02.3	+0.1
	baz=96						
Z33A	Whitaker Ranch	95.11	55	⇓P	P	11 18 02.4	+0.1
	baz=95						
W31A	Holland Ranch,	95.19	53	⇓P	P	11 18 02.7	0.0
	baz=96						
KSCO	Kaye Shedlock'	95.25	49	⇑P	P	11 18 03.5	+0.5
	baz=96						
K23A	Bowen Ranch, D	95.28	44	⇓P	P	11 18 03.7	+0.7
	baz=96						
X32A	Elmer	95.28	54	⇑P	P	11 18 03.3	+0.3
	baz=96						
I22A	9 Mile Ranch,	95.36	43	⇓P	P	11 18 04.1	+0.7
	baz=96						
E19A	Rath Farm, Rou	95.42	40	⇑P	P	11 18 04.3	+0.8
	baz=96						
H21A	Big Horn, Sher	95.43	42	⇓P	P	11 18 04.5	+0.9
	baz=96						
CD2	Chengdu	95.59	302	eP	P	11 18 06.4	+1.8
CD2				pP	pP	11 18 11.3	+0.9
CD2				sP	sP	11 18 13.4	+1.0
CD2				PP	PP	11 22 00.1	+3.9
CD2				SKS	SKSac	11 28 40.8	+0.6
CD2				S	S	11 29 19.9	-1.1
CD2				sS	sS	11 29 27.8	-2.8
CD2				SS	SS	11 35 52.5	+2.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.6s						
CD2				LR	LR		
	comp=Z,300nm,19.1s						
CD2				LR	LR		
	comp=Z,310nm,18.1s						
CD2				LR	LR		
	comp=Z,210nm,20.1s						
W32A	Sentinel	95.65	53	⇑P	P	11 18 04.7	-0.1
	baz=96						
H22A	Clearmont	95.82	42	⇓P	P	11 18 06.8	+1.4
	baz=96						
BILL	Bilibino	95.85	354	⇓iP	P	11 18 05.1	+0.3
BILL				e*PP	PP	11 21 57.2	-0.1
BILL				eS	SKSac	11 28 35.1	-4.6
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BILL	Bilibino	95.85	354	eP	P	11 18 05.0	+0.3
JTS	JuntasAbangare	95.92	82	P	P	11 18 05.4	-1.0
JTS				pmax	pmax		
	comp=Z,17nm,1.6s						
JTS				MLR	MLR		
	comp=Z,952nm,16.0s						
O27A	Beecher Island	95.95	48	⇓P	P	11 18 06.5	+0.4
	baz=96						
D20A	Manuel Ranch,	96.15	40	⇓P	P	11 18 09.0	+2.2
	baz=96						
K25A	Mack Ranch, Ha	96.30	45	⇑P	P	11 18 08.5	+0.8
	baz=97						
I24A	Kuemmerle Ranc	96.48	44	⇓P	P	11 18 09.4	+0.9
	baz=97						
S31A	Mullinville	96.70	51	⇓P	P	11 18 09.7	+0.2
	baz=97						
G23A	Biddle	96.72	42	⇑P	P	11 18 09.8	+0.3
	baz=97						
J25A	Sunshine Ranch	96.75	44	⇓P	P	11 18 10.1	+0.5
	baz=97						
K26A	Motz Farm, Whi	96.78	45	⇓P	P	11 18 09.7	-0.1
	baz=97						
Q30A	Quinter	96.86	50	⇓P	P	11 18 10.0	-0.1
	baz=97						
RSSD	Black Hills	96.98	44	eP	P	11 18 11.0	+0.2
RSSD				pmax	pmax		
	comp=Z,8.0nm,0.9s						
RSSD	Black Hills	96.98	44	eP	P	11 18 11.0	+0.2
	comp=Z,7.9nm,0.9s						
F23A	Volborg	96.99	42	⇓P	P	11 18 11.5	+0.9
	baz=97						
H24A	Dirks Ranch, A	96.99	43	⇓P	P	11 18 11.4	+0.7
	baz=97						
I25A	Rochford	97.12	44	⇑P	Pdif	11 18 12.1	+0.6
	baz=98						
J26A	Sides Ranch, S	97.16	45	⇑P	Pdif	11 18 12.1	+0.5
	baz=98						
D22A	Cohagen	97.30	40	⇑P	Pdif	11 18 13.7	+1.6
	baz=98						
H25A	Fruitdale	97.51	43	⇑P	Pdif	11 18 13.8	+0.7
	baz=98						
F24A	Ekalaka	97.63	42	⇓P	Pdif	11 18 15.0	+1.4
	baz=98						
J27A	Elkhorn Farm,	97.81	45	⇑P	Pdif	11 18 15.2	+0.7
	baz=98						
340A	Bronson	97.87	59	⇓P	Pdif	11 18 15.4	+0.5
	baz=98						
LZH	Lanzhou	97.96	306	eP	Pdif	11 18 16.1	+0.7
LZH				pP	pP	11 18 20.9	-0.2
LZH				sP	sP	11 18 23.3	+0.2
LZH				ePP	PP	11 22 18.5	+4.0
LZH				SKS	SKSac	11 28 52.3	-0.2
LZH				eS	S	11 29 39.3	-2.1
LZH				sS	sS	11 29 47.0	-4.0
LZH				eSS	SS	11 36 24.8	+0.9
LZH				pmax	pmax		
	comp=Z,20nm,1.6s						
LZH				pmax	pmax		
	comp=Z,110nm,9.5s						
LZH				LR	LR		
	comp=Z,200nm,15.0s						
LZH				LR	LR		
	comp=Z,310nm,16.3s						
LZH				LR	LR		
	comp=Z,580nm,19.7s						
LPAZ	La Paz	98.13	113	LR	LR	11 54 07.9	
	comp=Z,171nm,20.7s,baz=233,slow=30						
I27A	Quinn	98.18	45	⇑P	Pdif	11 18 17.0	+0.9
	baz=98						
D24A	Glendive	98.36	41	⇑P	Pdif	11 18 17.4	+0.7
	baz=99						
A22A	Carney Farms,	98.43	39	⇑P	Pdif	11 18 18.1	+1.1
	baz=99						
G26A	Maurine	98.46	43	⇑P	Pdif	11 18 18.2	+0.9
	baz=99						
TUL1	Tulsa	98.51	54	⇑P	Pdif	11 18 17.8	+0.2
	baz=99						
L30A	Spencer Herefo	98.64	47	⇓P	Pdif	11 18 18.3	+0.2
	baz=99						
K29A	Lazy Trails An	98.64	46	⇑P	Pdif	11 18 18.9	+0.8
	baz=99						
B23A	Brockton	98.67	40	⇑P	Pdif	11 18 19.4	+1.3
	baz=99						
I28A	Midland	98.70	45	⇓P	Pdif	11 18 19.3	+0.9
	baz=99						
G27A	Dupree	98.91	43	⇓P	Pdif	11 18 20.1	+0.9
	baz=99						
J29A	Okreek	98.95	46	⇓P	Pdif	11 18 20.3	+0.8
	baz=99						
F27A	Lemmon	99.10	43	⇓P	Pdif	11 18 20.8	+0.7
	baz=100						
H28A	Mission Ridge	99.13	44	⇓P	Pdif	11 18 21.7	+1.5
	baz=100						
J30A	Dallas	99.44	46	⇓P	Pdif	11 18 22.2	+0.6
	baz=100						
ULN	Ulaanbaatar	101.35	318	⇓iP	Pdif	11 18 30.5	+0.3
ULN				pmax	pmax		
	comp=Z,2.0nm,1.4s						
SONM	Songino Array	101.73	318	P	Pdif	11 18 32.7	+0.9
	comp=Z,0.2nm,0.5s,baz=113,slow=3.4,SNR=3.8						
YKA	Yellowknife Ar	101.99	25	P	Pdif	11 18 32.7	+0.3
	comp=Z,0.1nm,0.4s,baz=238,slow=3.9,SNR=4.5						
YKA				PP	PP	11 22 46.1	+1.9
	comp=Z,0.1nm,0.5s,baz=236,slow=7.3,SNR=4.4						
YKA				PKKPbc	PKKPbc	11 34 37.1	-1.7
	comp=Z,0.2nm,0.5s,baz=39,slow=2.8,SNR=4.2						
GTA	Gaotai	102.29	308	eP	Pdif	11 18 36.3	+1.8
GTA				pP		11 18 41.1	
GTA				sP		11 18 43.3	
GTA				PP	PP	11 22 51.9	+4.6
GTA				SKS	SKSac	11 29 13.9	+0.4
GTA				S	Sdif	11 30 16.1	-1.4
GTA				sS	sS	11 30 23.8	-3.7
GTA				SS	SS	11 37 27.0	+2.8
GTA				pmax	pmax		
	comp=Z,5.0nm,1.7s						
GTA				pmax	pmax		
	comp=Z,150nm,5.5s						
GTA				LR	LR		
	comp=Z,140nm,20.0s						
GTA				LR	LR		
	comp=Z,260nm,18.5s						
GTA				LR	LR		
	comp=Z,300nm,19.5s						
WMQ	Urumqi	112.34	309	Pdif	Pdif	11 19 19.3	+0.3
WMQ				PP	PP	11 24 03.5	+2.6
WMQ				SKS	SKSdf	11 30 21.8	-4.5
WMQ				S	Sdif	11 31 35.3	-5.7
WMQ				SS	SS	11 39 37.0	-3.2
WMQ				AMB	AMB		
	comp=Z,26nm,11.9s						
WMQ				LR	LR		
	comp=Z,120nm,21.8s						
WMQ				LR	LR		
	comp=Z,280nm,23.8s						
WMQ				LR	LR		
	comp=Z,180nm,22.6s						
ZALV	Zalesovo Beam	116.57	319	PKIKP	PKPdf	11 23 21.5	-1.1
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV	Zalesovo Beam	116.57	319	PKP	PKPdf	11 23 21.5	-1.1
	comp=Z,2.4nm,0.7s,baz=157,slow=1.6,SNR=13						
MKAR	Makanchi Array	116.78	311	PKIKP	PKPdf	11 23 22.3	-1.0
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	Makanchi Array	116.78	311	PKP	PKPdf	11 23 22.2	-1.0
	comp=Z,2.5nm,0.8s,baz=66,slow=2.9,SNR=24						
NVS	Novosibirsk	117.63	320	ePKIKP	PKPdf	11 23 20.1	-4.5
NVS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KSH	Kashi	119.79	302	ePKP	PKPdf	11 23 29.8	+0.4
KSH				ePP	PP	11 24 51.3	-2.0
KSH				PKS	PKSdf	11 27 05.6	-0.6
KSH				SKS	SKSdf	11 30 41.1	+0.2
KSH				SKKS	SKKSac	11 31 52.8	+0.5
KSH				AMB	AMB		
	comp=Z,95nm,6.6s						
KSH				LR	LR		
	comp=Z,40nm,3.8s						
KSH				LR	LR		
	comp=Z,77nm,7.3s						
KSH				LR	LR		
	comp=Z,240nm,6.5s						
KURK	Kurchatov	119.83	315	ePKIKP	PKPdf	11 23 27.6	-1.3
KURK	Kurchatov	119.83	315	ePKPdf	PKPdf	11 23 27.6	-1.3
TKM2	Tokmak 2	120.72	306	ePKIKP	PKPdf	11 23 29.9	-1.3
TKM2	Tokmak 2	120.72	306	ePKPdf	PKPdf	11 23 29.9	-1.3
AAK	Ala-Archa	121.47	305	⇓iPKIKP	PKPdf	11 23 32.1	-0.5
AAK				pmax	pmax		
	comp=Z,16nm,2.5s						
KKAR	Karatay Array	124.43	305	ePKIKP	PKPdf	11 23 37.3	-0.8
KKAR	Karatay Array	124.43	305	ePKPdf	PKPdf	11 23 37.2	-0.8
BRVK	Borovoye	125.13	317	ePKIKP	PKPdf	11 23 38.6	-0.4
BRVK	Borovoye	125.13	317	ePKPdf	PKPdf	11 23 38.6	-0.4
SUMG	Summit	129.28	15	ePKIKP	PKPdf	11 23 48.1	+1.1
SUMG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SUMG	Summit	129.28	15	i P	PKPdf	11 23 48.1	+1.1
	comp=Z,2.9nm,1.0s						
SVE	Sverdlovsk	130.27	323	ePKIKP	PKPdf	11 23 49.5	+0.8
ARU	Arti	131.47	323	i PKIKP	PKPdf	11 23 50.8	-0.2
ARU						11 26 06.6	
ARU				SS	SS	11 43 34.7	-8.4
ARU	Arti	131.47	323	ePKPdf	PKPdf	11 23 50.9	-0.2
ARCES	ARCESS Array B	135.77	349	PKIKP	PKPdf	11 23 58.1	-0.7
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARCES	ARCESS Array B	135.77	349	PKP	PKPdf	11 23 58.1	-0.7
	comp=Z,4.6nm,0.7s,baz=11,slow=6.8,SNR=8.2						
KMBO	Kilima Mbogo	137.06	234	PKIKP	PKPdf	11 24 01.8	-1.4
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KMBO	Kilima Mbogo	137.06	234	PKP	PKPdf	11 24 01.8	-1.4
	comp=Z,0.7nm,0.3s,baz=280,slow=3.2,SNR=3.3						
KLMR	Klimovskoe	138.57	334	ePKIKP	PKPdf	11 23 59.2	-4.9
KLMR				pmax	pmax		
	comp=Z,15nm,1.3s						
FINES	FINESS Array B	142.60	342	i PKIKP	PKPpre	11 24 07.2	
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	142.60	342	PKhKP	PKPpre	11 24 07.2	
	comp=Z,3.1nm,0.6s,baz=96,slow=3.8,SNR=11						
FINES				PKP	PKPdf	11 24 10.4	-1.0
	comp=Z,3.9nm,0.8s,baz=57,slow=5.1,SNR=8.5						
VRHR	Novokhopersk	142.69	320	ePKIKP	PKPdf	11 24 09.2	-2.7
VRHR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
OBN	Obninsk	143.28	328	ePKIKP	PKPbc	11 24 10.0	+0.2
OBN				pmax	pmax		
	comp=Z,15nm,1.2s						
GNI	Garni	143.72	302	i PKIKP	PKPbc	11 24 13.0	+1.1
GNI				pmax	pmax		
	comp=Z,36nm,1.7s						
ZEI	Tsey	143.88	306	i PKIKP	PKPdf	11 24 13.8	-0.8
ZEI				pmax	pmax		
	comp=Z,18nm,1.5s						
VSR	Storozhevoye	144.03	321	ePKIKP	PKPdf	11 24 13.3	-0.9
VSR				pmax	pmax		
	comp=N,6.0nm,1.2s						
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
VORD	Divnogorie	144.07	321	ePKHKP	PKPpre	11 24 10.4	
VORD				pmax	pmax		
	comp=N,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,7.0nm,0.8s						
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KBZ	Khabaz	144.38	308	PKIKP	PKPab	11 24 13.1	-0.1
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ	Khabaz	144.38	308	PKP	PKPab	11 24 13.1	-0.1
	comp=Z,3.5nm,0.9s,baz=191,slow=5.2,SNR=3.1						
KIV	Kislovodsk	144.47	308	ePKIKP	PKPab	11 24 12.7	-1.0
KIV				pmax	pmax		
	comp=Z,19nm,1.3s						
CLDR	Caldiran	144.49	300	eP	PKPbc	11 24 14.4	0.0
VSU	Vasula	144.83	339c	iPKIKP	PKPab	11 24 13.9	-0.5
VANB	Van	144.96	299	eP	PKPdf	11 24 17.4	+1.0
AGRB	Hanur-Agry	145.14	301	eP	PKPdf	11 24 17.0	+0.1
NB2	NORSAR Subarra	145.80	353	PKP	PKPdf	11 24 16.6	-0.5
	comp=Z,218nm,2.0s,baz=9.5,slow=2.9						
NB2	NORSAR Subarra	145.80	353	PKP	PKPdf	11 24 16.6	-0.5
	baz=9.5,slow=2.9						
NOA	NORSAR Array B	145.80	353	PKIKP	PKPdf	11 24 17.0	-0.1
NOA				pmax	pmax		
	comp=Z,17nm,0.8s						
NOA	NORSAR Array B	145.80	353	PKPbc	PKPdf	11 24 17.0	-0.1
	comp=Z,17nm,0.8s,baz=15,slow=4.3,SNR=40						
SIRT	Sirnak	145.83	297	eP	PKPab	11 24 19.3	+0.3
VRTB	Varto-Mus	146.38	300	eP	PKPab	11 24 21.6	+0.6
BNGB	Bing˜¶l	147.00	300	eP	PKPab	11 24 23.0	-0.4
IDID	Didziasalis	147.29	335	eP	PKPbc	11 24 22.1	+0.1
IDID				AMB	AMB	11 24 23.9	
	comp=Z,14nm,1.3s						
ISAL	Salakas	147.31	336	eP	PKPbc	11 24 22.3	+0.2
ISAL				AMB	AMB	11 24 24.4	
	comp=Z,18nm,0.9s						
KONO	Kongsberg	147.32	354	ePKP2	PKPbc	11 24 21.5	-0.5
KONO	Kongsberg	147.32	354	ePKPdf	PKPbc	11 24 21.5	-0.5
IIGN	Ignalina	147.45	336	eP	PKPbc	11 24 22.1	-0.4
IIGN				AMB	AMB	11 24 22.7	
	comp=Z,20nm,1.0s						
MICGM	Minsk	147.46	334	⇑eP	PKPdf	11 24 21.0	+1.0
MNK	Minsk	147.48	334	⇑ePKP2	PKPdf	11 24 21.0	+1.0
MNK				pmax	pmax		
	comp=Z,110nm,1.4s						
DYBB	Diyarbakir	147.58	299	eP	PKPbc	11 24 24.0	+0.5
NACGM	Naroch	147.59	335	eP	PKPdf	11 24 21.0	+0.8
GUMT	Gumushane	147.62	303	eP	PKPab	11 24 25.4	-0.5
ANN	Anapa	147.79	312	i PKHKP	PKPpre	11 24 08.6	
ANN				pmax	pmax		
	comp=Z,108nm,1.1s						
SFNV	Sufian	147.80	296	i P	PKPab	11 24 27.8	+1.2
PTK	Pertek	148.01	300	eP	PKPbc	11 24 25.4	+0.5
ILIC	ilic-Erzincan	148.53	302	eP	PKPab	11 24 29.1	-0.4
MALT	Malatya	148.86	300	⇑PKP2	PKPbc	11 24 27.8	+0.9
MALT	Malatya	148.86	300	⇑iP	PKPbc	11 24 27.8	+0.9
AKASG	Malin Array Be	149.51	327	PKP2	PKPbc	11 24 27.2	-0.8
AKASG				pmax	pmax		
	comp=Z,17nm,0.7s						
AKASG	Malin Array Be	149.51	327	PKPbc	PKPbc	11 24 27.1	-0.8
	comp=Z,17nm,0.7s,baz=39,slow=3.4,SNR=38						
KIEV	Kiev	149.52	327	⇓iPKP2	PKPbc	11 24 26.9	-1.0
KIEV	Kiev	149.52	327	ePKPbc	PKPbc	11 24 27.0	-1.0
DARE	Darende-Malaty	149.53	300	eP	PKPbc	11 24 29.6	+1.0
SUW	Suwalki	149.59	337	ePKP2	PKPbc	11 24 27.7	-0.4
SUW	Suwalki	149.59	337	ePKP	PKPbc	11 24 27.7	-0.4
SVSK	Karacayir	149.60	303	eP	PKPbc	11 24 31.0	+2.5
SIM	Simferopol'	149.89	314	i PKP2	PKPbc	11 24 29.5	+0.4
SIM				pmax	pmax		
	comp=Z,28nm,0.6s						
ZALF	Zalf	150.33	289	i P	PKPab	11 24 36.3	-0.7
SALA	Sala	150.84	289	i P	PKPab	11 24 38.7	-0.6
MARH	Ras Al Marh	150.98	292	i P	PKPab	11 24 41.2	+1.2
HAWK	Haweek	151.00	293	i P	PKPab	11 24 41.4	+1.6
BRBR	Barbar	151.46	290	i P	PKPab	11 24 43.7	+1.8
TCHB	Talchebab	151.49	289	i P	PKPab	11 24 43.3	+1.5
KIS	Kishinev	152.02	322	ePKIKP	PKPbc	11 24 34.0	0.0
KIS				e		11 24 45.0	
KIS	Kishinev	152.02	322	eP	PKPbc	11 24 34.0	0.0
BEL	Belsk	152.21	337	ePKIKP	PKPbc	11 24 34.7	+0.4
BEL	Belsk	152.21	337	ePKP	PKPbc	11 24 34.7	+0.4
LVV	L'vov	152.52	331	ePKIKP	PKPbc	11 24 37.2	+2.1
ANTO	Ankara	152.72	305	⇑PKIKP	PKPbc	11 24 36.7	+0.7
ANTO	Ankara	152.72	305	⇑iP	PKPbc	11 24 36.7	+0.7
KWP	Kalwaria Pacla	153.22	332	ePKIKP	PKPbc	11 24 37.4	+0.7
KWP	Kalwaria Pacla	153.22	332	ePKP	PKPbc	11 24 37.3	+0.6
CFR	Carcaliu	153.45	319	⇑PKIKP	PKPbc	11 24 37.3	0.0
CFR	Carcaliu	153.45	319	⇑iP	PKPbc	11 24 37.3	0.0
BURAR	Bucovina Array	153.53	326	⇑PKIKP	PKPbc	11 24 38.5	+1.0
BURAR	Bucovina Array	153.53	326	⇑iP	PKPbc	11 24 38.5	+1.0
KIZT	Kizilcal	153.70	303	eP	PKPbc	11 24 38.0	-0.2
VRI	Vrincioaia	153.85	321	⇑PKIKP	PKPbc	11 24 38.4	+0.2
VRI	Vrincioaia	153.85	321	⇑iP	PKPbc	11 24 38.4	+0.2
OJC	Ojcow	153.90	336	ePKIKP	PKPbc	11 24 37.9	-0.2
OJC	Ojcow	153.90	336	ePKP	PKPbc	11 24 37.9	-0.2
STHS	Stebnicka Huta	153.99	333	ePKIKP	PKPbc	11 24 39.5	+1.1
STHS	Stebnicka Huta	153.99	333	ePKP	PKPbc	11 24 39.5	+1.1
CRVS	Cervenica-Dubn	154.31	332	ePKIKP	PKPdf	11 24 31.2	+0.4
CRVS				e		11 24 52.9	
CRVS	Cervenica-Dubn	154.31	332	ePKP	PKPdf	11 24 31.2	+0.4
CRVS				e		11 24 52.9	
TRPA	Tarpa	154.43	330	⇑iP	PKPbc	11 24 43.0	+3.7
KSP	Ksiaz	154.51	341	ePKIKP	PKPbc	11 24 40.0	+0.6
MLR	Muntele Rosu	154.52	322	⇑PKIKP	PKPab	11 24 49.0	-5.2
MLR	Muntele Rosu	154.52	322	⇑iP	PKPab	11 24 49.0	-5.2
ADVT	Abdulvahap	154.70	308	eP	PKPab	11 24 54.4	-0.7
CAVI	Cavuskoy	154.72	307	eP	PKPab	11 24 54.4	-0.8
OKC	Ostrava-Krasne	154.80	338	ePKIKP	PKPbc	11 24 40.6	+0.6
OKC				e		11 24 55.5	
OKC	Ostrava-Krasne	154.80	338	⇑ePKP	PKPbc	11 24 40.6	+0.6
OKC				ePKPAB	PKPab	11 24 55.5	+0.4
OKC				epPKP	PKiKP	11 25 06.6	+27
UPC	Upice	154.89	341	ePKIKP	PKPbc	11 24 40.8	+0.6
UPC				e		11 24 53.8	
UPC	Upice	154.89	341	⇑ePKP	PKPbc	11 24 40.8	+0.6
UPC				ePKPAB	PKPab	11 24 53.8	-1.6
CLL	Collm	154.91	346	ePKIKP	PKPdf	11 24 30.0	-1.5
CLL				i		11 24 40.4	
CLL				e		11 24 54.0	
CLL				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CLL				pmax	pmax		
	comp=Z,15nm,0.9s						
CLL	Collm	154.91	346	ePKPdf	PKPdf	11 24 30.0	-1.5
	comp=Z,8.0nm,1.2s						
CLL				i PKPbc	PKiKP	11 24 40.4	+0.2
	comp=Z,15nm,1.2s						
CLL				esPKPdf	sPKPdf	11 24 52.0	+13
CLL				ePKPab	PKPab	11 24 54.0	-1.5
	comp=Z,16nm,0.9s						
CLL				i sPKPbc	sPKPbc	11 25 00.7	+13
CLL				ePP	PP	11 28 34.0	+3.2
CLL				LmV		12 30 00.0	
	comp=Z,200nm,21.9s						
DPC	Dobruska-Polom	154.94	341	ePKIKP	PKPdf	11 24 31.4	-0.2
DPC				e		11 24 40.8	
DPC				e		11 24 54.5	
DPC	Dobruska-Polom	154.94	341	ePKPDF	PKPdf	11 24 31.4	-0.2
DPC				⇑ePKP	PKiKP	11 24 40.8	+0.4
DPC				ePKPAB	PKPab	11 24 54.5	-1.2
DPC				ex	x	11 25 06.6	
PRD	Provadia	154.97	316	⇑PKP2	PKPab	11 24 57.5	+1.4
KRLC	Kraliky	155.04	340	ePKIKP	PKPdf	11 24 31.8	0.0
KRLC				e		11 24 41.4	
KRLC	Kraliky	155.04	340	ePKPDF	PKPdf	11 24 31.8	0.0
KRLC				⇑ePKP	PKPab	11 24 41.4	-15
KRLC				ePKPAB	PKPab	11 24 56.6	+0.4
KRLC				epPKP	pPKPdf	11 25 07.8	+30
BRG	Berggiesshubel	155.10	344	ePKP	PKPdf	11 24 41.1	+9.3
	comp=Z,12nm,1.1s						
BRG				e		11 24 52.5	

comp=Z,12nm,1.0s
BRG Berggiesshubel 155.10 344 ePKIKP PKPdf 11 24 41.1 +9.3
BRG e 11 24 52.5
BRG pmax pmax
comp=Z,3.0nm,1.2s
BRG pmax pmax
comp=Z,12nm,1.0s
VYHS Vyhne 155.68 335 ePKP2 PKPab 11 24 59.6 +0.7
VYHS Vyhne 155.68 335 ePKP PKPab 11 24 59.6 +0.7
PRA Prague 155.72 343 PKPAB PKPab 11 24 59.0 0.0
PSZ Piszkesteto 155.73 333 ⇑PKP2 PKPab 11 24 59.5 +0.3
PSZ Piszkesteto 155.73 333 ⇑P PKPab 11 24 59.5 +0.3
PRU Pruhonice 155.76 343 ePKP2 PKPab 11 24 58.7 -0.5
PRU Pruhonice 155.76 343 ePKPAB PKPab 11 24 58.7 -0.5
PRU ex x 11 25 10.1
PRU ex x 11 25 29.0
TREC Trest 156.12 341 ePKP2 PKPab 11 24 58.9 -1.9
TREC Trest 156.12 341 ePKPAB PKPab 11 24 58.9 -1.9
KHC Kasperske Hory 156.80 343 ePKIKP PKPdf 11 24 33.6 -0.6
KHC e 11 24 44.6
KHC Kasperske Hory 156.80 343 ePKPDF PKPdf 11 24 33.6 -0.6
KHC ex x 11 24 44.6
KHC ePKPAB PKPab 11 25 02.5 -1.2
KHC epPKP pPKPdf 11 25 15.5 +35
GERES GERESS Array B 157.03 343 PKPbc PKPdf 11 24 43.6 +9.0
comp=Z,1.3nm,0.9s,baz=70,slow=1.6,SNR=8.0
GERES PKPab PKPab 11 25 04.0 -0.8
comp=Z,1.6nm,0.8s,baz=34,slow=5.0,SNR=7.8
CONA Conrad Observa 157.21 338 ⇑PKPab PKPab 11 25 06.1 +0.5
comp=Z,19nm,1.6s
MOA Molln 157.78 341 ⇑PKPab PKPab 11 25 08.0 +0.1
comp=Z,13nm,1.4s
MMB Musomiste 158.13 316 ⇓PKP2 PKPab 11 25 10.7 +0.9
MMB Musomiste 158.13 316 ⇓P PKPab 11 25 10.7 +0.9
SOKA Soboth 158.58 338 ⇑PKPab PKPab 11 25 11.6 0.0
comp=Z,14nm,1.5s
ABTA Abfaltersbach 159.28 342 ⇑PKPab PKPab 11 25 13.5 -1.0
comp=Z,10nm,0.9s
TORD Torodi Ar. Bea 165.88 172 PKP PKPdf 11 24 44.4 -0.3
comp=Z,2.6nm,1.0s,baz=260,slow=0.5,SNR=10
TORD PKPab PKPab 11 25 44.2 +0.2
comp=Z,8.5nm,0.9s,baz=185,slow=4.2,SNR=19

CSEM 22 11:20:45.6±0.2, 37.91N×8.35W, h15km, ML2.9/6, Error ellipse: s-maj=3.6km s-min=2.3km az=96.0
MDD 22 11:20:46.6±0.4, 37.89N×8.36W, h16km±4km, mbLg2.6/20, Error ellipse: s-maj=4.3km s-min=2.7km az=126.0, PRXIMO
INMG 22 11:20:46.6±1.6, 37.89N×8.37W, h14km±4km, ML2.4, Error ellipse: s-maj=2.9km s-min=1.7km az=94.0
IGIL 22 11:20:47.2, 37.88N×8.38W, h10km, ML2.3
ISC 22 11:20:45.9±0.9, 37.88N±0.02×8.37W±0.02, h18km±3km, n70, σ0.88/101, 2C-2D, Portugal

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MESJ Messejana 0.12 110 eP Pg 11 20 50.0 +0.2
MESJ eS Sg 11 20 52.4 -0.1
MESJ AML AML 11 20 53.2
comp=N,664nm,0.2s
MESJ Messejana 0.12 110 ePg Pg 11 20 50.1 +0.2
MESJ eSg Sg 11 20 52.4 -0.1
MESJ A A 11 20 53.0
comp=N,203nm,0.1s
MESJ Messejana 0.12 110 Pg Pg 11 20 50.1 +0.2
MESJ Lg Lg 11 20 52.4
comp=N,203nm,0.1s
MESJ Messejana 0.12 110 Pg Pg 11 20 50.1 +0.2
MESJ eSg Sg 11 20 52.4 -0.1
comp=N,203nm,0.1s
PNCL Nicolau / Gran 0.26 331 i Pg Pg 11 20 51.7 -0.1
PNCL eSg Sg 11 20 55.2 -0.7
PNCL A A 11 20 55.4
comp=N,777nm,0.2s
PNCL Nicolau / Gran 0.26 331 eSg Sg 11 20 55.2 -0.7
comp=N,87nm,0.2s
PCVE Castro Verde 0.36 134 i P Pg 11 20 53.5 0.0
PCVE A A 11 21 00.5
comp=N,87nm,0.2s
PCVE Castro Verde 0.36 134 ⇓Pg Pg 11 20 53.5 0.0
PCVE Castro Verde 0.36 134 Pg Pg 11 20 53.5 0.0
PBEJ Beja 0.42 70 eP Pg 11 20 54.8 +0.2
PBEJ eS Sg 11 21 00.5 +0.1
PBEJ A A 11 21 01.0
comp=N,98nm,0.1s
PBEJ Beja 0.42 70 ⇑Pg Pg 11 20 54.8 +0.2
PBEJ Lg Lg 11 21 00.5
comp=N,49nm,0.1s
PBEJ Beja 0.42 70 Pg Pg 11 20 54.8 +0.2
PBEJ eS Sg 11 21 00.5 +0.1
comp=N,98nm,0.1s
PTEO Sao Teotonio 0.44 220 eP Pg 11 20 55.1 +0.2
PTEO eS Sg 11 21 00.7 -0.2
PTEO A A 11 21 00.9
comp=N,123nm,0.2s
PTEO Sao Teotonio 0.44 220 ⇑Pg Pg 11 20 55.1 +0.2
PTEO Lg Lg 11 21 00.7
comp=N,61nm,0.2s
PTEO Sao Teotonio 0.44 220 Pg Pg 11 20 55.1 +0.2
PTEO eS Sg 11 21 00.7 -0.2
comp=N,123nm,0.2s
MORF Marmelete 0.62 202 eP Pg 11 20 58.5 +0.3
MORF eS Sg 11 21 06.2 -0.2
MORF AML AML 11 21 07.4
comp=N,194nm,0.1s
MORF Marmelete 0.62 202 eP Pg 11 20 58.5 +0.3
MORF eS Sg 11 21 06.4 0.0
MORF A A 11 21 07.6
comp=N,104nm,0.1s
MORF Marmelete 0.62 202 Pg Pg 11 20 58.5 +0.3
MORF Lg Lg 11 21 06.2
comp=N,194nm,0.1s
MORF Marmelete 0.62 202 eP Pg 11 20 58.5 +0.3
MORF Lg Lg 11 21 06.2
comp=N,194nm,0.1s
MORF eS Sg 11 21 06.4 0.0
comp=N,104nm,0.1s
PVAQ Vaqueiros 0.70 133 eP Pg 11 20 59.4 -0.3
PVAQ eS Sg 11 21 09.4 +0.3
PVAQ A A 11 21 10.7
comp=N,77nm,0.1s
PVAQ Vaqueiros 0.70 133 ⇓Pg Pg 11 20 59.4 -0.3
PVAQ Lg Lg 11 21 09.4
comp=N,77nm,0.1s
PVAQ Vaqueiros 0.70 133 Pg Pg 11 20 59.4 -0.3
PVAQ eS Sg 11 21 09.4 +0.3
comp=N,77nm,0.1s
EVO Evora 0.71 23 eP Pg 11 20 59.7 -0.1
EVO eS Sg 11 21 08.8 -0.4
EVO A A 11 21 10.0
comp=N,178nm,0.1s
EVO Evora 0.71 23 Pg Pg 11 20 59.7 -0.1
EVO Lg Lg 11 21 08.8
comp=N,178nm,0.1s
EVO Evora 0.71 23 eP Pg 11 20 59.7 -0.1
EVO eS Sg 11 21 08.8 -0.4
comp=N,178nm,0.1s
PBDV Barranco-do-Ve 0.73 151 eP Pg 11 21 00.2 0.0
PBDV eS Sg 11 21 09.8 0.0
PBDV A A 11 21 13.8
comp=N,56nm,0.2s
PBDV Barranco-do-Ve 0.73 151 Pg Pg 11 21 00.2 0.0
PBDV Lg Lg 11 21 09.8
comp=N,56nm,0.2s
PBDV Barranco-do-Ve 0.73 151 eP Pg 11 21 00.2 0.0
PBDV eS Sg 11 21 09.8 0.0
comp=N,56nm,0.2s
EGRO El Granado 0.78 116 Pg Pg 11 21 01.0 -0.2
comp=N,11nm,0.2s,SNR=29
EGRO Lg Lg 11 21 11.8
comp=N,64nm,0.1s,SNR=32
EGRO El Granado 0.78 116 Pg Pg 11 21 01.0 -0.2
comp=N,11nm,0.2s,SNR=29
EGRO Lg Lg 11 21 11.8
comp=N,64nm,0.1s,SNR=32
PFVI Vila Bisbo 0.83 206 eP Pb 11 21 02.1 +0.3
PFVI eS Sg 11 21 12.4 -0.8
PFVI A A 11 21 14.6
comp=N,57nm,0.2s
PFVI Vila Bisbo 0.83 206 Pg Pb 11 21 02.0 +0.3
comp=N,9.8nm,0.2s,SNR=9.0
PFVI Lg Lg 11 21 12.3
comp=N,94nm,0.1s,SNR=27
PFVI Vila Bisbo 0.83 206 eP Pb 11 21 02.1 +0.3
PFVI Lg Lg 11 21 12.3
comp=N,94nm,0.1s,SNR=27
PFVI eS Sg 11 21 12.4 -0.8
comp=N,57nm,0.2s
PBAR Barrancos 1.09 74 eP Pb 11 21 06.6 +0.4
PBAR eS Sb 11 21 20.7 +0.7
PBAR A A 11 21 23.1
comp=N,55nm,0.3s
PBAR Barrancos 1.09 74 Pg Pb 11 21 06.6 +0.4
PBAR Lg Lg 11 21 20.7
comp=N,55nm,0.3s
PBAR Barrancos 1.09 74 eP Pb 11 21 06.6 +0.4
PBAR eS Sb 11 21 20.7 +0.7
comp=N,55nm,0.3s
PESTR Estremoz 1.16 32 eP Pn 11 21 07.9 +0.7
PESTR eS Sb 11 21 21.7 -0.4
PESTR A A 11 21 23.6
comp=N,27nm,0.2s
PESTR Estremoz 1.16 32 eP Pn 11 21 07.9 +0.7
PESTR eS Sb 11 21 21.7 -0.4
comp=N,27nm,0.2s
PMTG Montargil 1.19 5 eP Pn 11 21 08.2 +0.5
PMTG eS Sb 11 21 23.5 +0.5
PMTG A A 11 21 24.6
comp=N,37nm,0.2s
PMTG Montargil 1.19 5 eP Pn 11 21 08.2 +0.5
PMTG eS Sb 11 21 23.5 +0.5
comp=N,37nm,0.2s
EMIN Mina Concepcio 1.35 94 Pg Pn 11 21 09.5 -0.3
comp=N,2.6nm,0.1s,SNR=26
EMIN Lg Lg 11 21 28.1
comp=N,16nm,0.1s
EMIN Mina Concepcio 1.35 94 Pg Pn 11 21 09.5 -0.3
comp=N,2.6nm,0.1s,SNR=26
EMIN Lg Lg 11 21 28.1
comp=N,16nm,0.1s
EBAD Badajoz 1.38 50 Pg Pn 11 21 11.2 +1.0
comp=N,6.7nm,0.1s,SNR=7.9
EBAD Lg Lg 11 21 28.8
comp=N,77nm,0.3s,SNR=14
EBAD Badajoz 1.38 50 Pg Pn 11 21 11.2 +1.0
comp=N,6.7nm,0.1s,SNR=7.9
EBAD Lg Lg 11 21 28.8
comp=N,77nm,0.3s,SNR=14
PMRV Marv??o 1.72 26 eP Pn 11 21 14.8 -0.2
PMRV eS Sn 11 21 36.4 -0.1
PMRV A A 11 21 41.6
comp=N,24nm,0.5s
PMRV Marv??o 1.72 26 Pn Pn 11 21 14.8 -0.2
PMRV Sn Sn 11 21 36.4 -0.1
comp=N,24nm,0.5s
PMRV Marv??o 1.72 26 eP Pn 11 21 14.8 -0.2
PMRV eS Sn 11 21 36.4 -0.1
comp=N,24nm,0.5s
PTOM Tomar 1.73 359 ePn Pn 11 21 14.7 -0.4
PTOM Tomar 1.73 359 ePg Pb 11 21 18.3 +1.1
PTOM eSg Sb 11 21 40.1 +1.5
PTOM A A 11 21 40.8
comp=N,28nm,0.3s
PTOM Tomar 1.73 359 Pn Pn 11 21 14.7 -0.4
PTOM Pg Pb 11 21 18.3 +1.1
PTOM Lg Lg 11 21 40.1
comp=N,14nm,0.3s
PTOM Tomar 1.73 359 Pn Pn 11 21 14.7 -0.4
PTOM Tomar 1.73 359 Pg Pb 11 21 18.3 +1.1
PTOM eSg Sb 11 21 40.1 +1.5
comp=N,28nm,0.3s
PCBR Castelo Branco 2.08 19 eSn Sn 11 21 43.4 -1.8
PCBR eSg Sb 11 21 48.9 +0.5
PCBR A A 11 21 53.4
comp=N,14nm,0.3s
PCBR Castelo Branco 2.08 19 Sn Sn 11 21 43.4 -1.8
PCBR Lg Lg 11 21 48.9
comp=N,7.2nm,0.3s
PCBR Castelo Branco 2.08 19 Sn Sn 11 21 43.4 -1.8
PCBR eSg Sb 11 21 48.9 +0.5
comp=N,14nm,0.3s
PCAS Casmilo, Conde 2.17 357 ePg Pb 11 21 26.3 +1.7
PCAS eSg Sg 11 21 54.3 -1.5
PCAS A A 11 21 56.7
comp=N,11nm,0.2s
PCAS Casmilo, Conde 2.17 357 ePg Pb 11 21 26.3 +1.7
PCAS eSg Sg 11 21 54.3 -1.5
comp=N,11nm,0.2s
ESPR Espera 2.24 116 Lg Lg 11 21 58.2
comp=N,13nm,0.2s,SNR=7.9
ESPR Espera 2.24 116 Lg Lg 11 21 58.2
comp=N,13nm,0.2s,SNR=7.9
ECAB El Cabril 2.34 84 Pn Pn 11 21 23.3 -0.2
comp=N,1.1nm,0.2s,SNR=7.9
ECAB Pg Pb 11 21 28.3 +0.8
comp=N,1.2nm,0.2s,SNR=7.9
ECAB Lg Lg 11 21 58.5
comp=N,7.0nm,0.1s,SNR=7.9
ECAB El Cabril 2.34 84 Pn Pn 11 21 23.3 -0.2
comp=N,1.1nm,0.2s,SNR=7.9
MTE Manteigas 2.59 14 eSg Sb 11 22 06.1 +2.6
MTE Manteigas 2.59 14 Lg Lg 11 22 06.1
MTE Manteigas 2.59 14 eSg Sb 11 22 06.1 +2.6
EPLA Plasencia 2.81 39 Sn Sn 11 22 02.2 -1.3
comp=N,1.6nm,0.2s,SNR=7.9
EPLA Lg Lg 11 22 11.9
comp=N,8.6nm,0.4s,SNR=5.6
EPLA Plasencia 2.81 39 Sn Sn 11 22 02.2 -1.3
comp=N,1.6nm,0.2s,SNR=7.9
EPLA Lg Lg 11 22 11.9
comp=N,8.6nm,0.4s,SNR=5.6
MVO Moncorvo 3.44 17 Sn Sn 11 22 15.9 -3.0
comp=N,2.3nm,0.2s,SNR=7.9
MVO Lg Lg 11 22 32.6
comp=N,8.3nm,0.5s,SNR=7.9
ECAL Calabor 4.24 17 Lg Lg 11 22 58.3
comp=N,31nm,0.5s,SNR=7.9
ECAL Calabor 4.24 17 Lg Lg 11 22 58.3
comp=N,31nm,0.5s,SNR=7.9
GUD Guadarrama 4.28 49 Sn Sn 11 22 36.7 -3.0
comp=N,1.4nm,0.3s,SNR=7.9
GUD Lg Lg 11 22 57.5
comp=N,3.2nm,0.3s,SNR=7.9

CSEM 22 11:21:57.9±0.4, 39.62N×30.72E, h10km, MD2.7, Error ellipse: s-maj=8.8km s-min=8.2km az=135.0
ISK 22 11:21:57.0, 39.59N×30.73E, h3km, MD2.7
DDA 22 11:21:57.8, 39.73N×30.72E, h7km, MD2.7, Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SEYT Eskypehyr 0.23 153 i P Pg 11 22 02.7 +0.2
SEYT i S Sg 11 22 06.4 +0.7
SEYT Eskypehyr 0.23 153 i P Pg 11 22 02.7 +0.2
SEYT i S Sg 11 22 06.4 +0.7
BORA Eskisehir 0.25 308 i P Pg 11 22 03.0 0.0
BORA i S Sg 11 22 07.4 +0.9
BORA Eskisehir 0.25 308 i P Pg 11 22 03.0 +0.1
BORA i S Sg 11 22 07.4 +0.9
SVRH Sivrihisar-ESK 0.68 114 ePG Pg 11 22 09.3 -1.8
SVRH Sivrihisar-ESK 0.68 114 ePg Pg 11 22 09.3 -1.8
GULT Gulveren 0.72 348 ePG Pn 11 22 14.3 -0.2
GULT Gulveren 0.72 348 ePg Pn 11 22 14.4 -0.2
MDUB Mudurnu 0.83 26 ePG Pn 11 22 16.3 +0.2
MDUB eSG Sn 11 22 29.8 +1.1
MDUB Mudurnu 0.83 26 ePg Pn 11 22 16.3 +0.2
MDUB eSg Sn 11 22 29.8 +1.1
BTAS Taskesti 0.87 14 i P Pn 11 22 17.3 +0.7
BTAS Taskesti 0.87 14 i P Pn 11 22 17.3 +0.7
BTAS i S Sn 11 22 45.8 +16
TVSB Tavsanli 1.01 255 ePG Pg 11 22 16.6 -0.6
TVSB Tavsanli 1.01 255 ePg Pg 11 22 16.6 -0.7
GDZ Gediz 1.15 237 i P Pg 11 22 19.6 -0.4
GDZ i S Sn 11 22 36.1 -0.5
GDZ Gediz 1.15 237 i P Pg 11 22 19.6 -0.4
GDZ i S Sn 11 22 36.1 -0.5
KIZT Kizilcal 1.24 133 ePN Pb 11 22 20.0 -1.7
KIZT Kizilcal 1.24 133 ePn Pb 11 22 20.0 -1.6

ISCJB 22 11:51:09.4±1.0, 30.2N±0.1×69.85E±0.07, h12km, mb3.6/10, Error ellipse: s-maj=17.6km s-min=7.7km az=14.7
IDC 22 11:51:10.8±1.9, 30.39N×69.70E, h0km, mb3.5/10, mb1 3.7/11, mb1mx3.5/44, mbtmp3.6/11, ML4.1/1, Error ellipse: s-maj=42.6km s-min=24.2km az=147.0
NNC 22 11:51:29.4±18.0, 31.74N×69.15E, h0km, mb3.8, Error ellipse: s-maj=252.7km s-min=111.4km az=132.0
ISC 22 11:51:10.3±0.8, 30.05N±0.07×69.86E±0.05, h12km, n31, σ2.05/32, mb3.6/10, 5C-1D, Pakistan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AJM Ajmer 5.52 129 ex Pn 11 52 33.0 +0.6
AJM ex Sg 11 54 07.0 -0.6
PONG Pong 5.56 69 eP Pb 11 52 45.5 -1.8
BHK Bhakra 5.81 75 eS Sb 11 54 04.0 +2.9
DHRM DHARAMSHALA 5.94 67 eP Pn 11 52 39.4 +1.1
DHRM eS Sn 11 53 52.3 +5.9
DHRM AML AML 11 54 29.7
comp=E,304nm,0.4s
DHRM AML AML 11 54 31.1
comp=N,214nm,0.6s
SDNR Sundarnagar 6.29 75 eP Pn 11 52 44.0 +1.1
SDNR ex Sg 11 54 30.0 -2.1
SMLA Simla 6.39 79 eP Pn 11 52 45.0 +0.7
SMLA eS Sn 11 53 59.6 +2.5
SMLA AML AML 11 54 41.0
comp=E,152nm,0.6s
SMLA AML AML 11 54 44.4
comp=N,163nm,0.8s
NDI New Delhi 6.56 100 eP9 Pn 11 52 45.0 -1.7
NDI eS Sb 11 54 20.0 -2.9
DDI Dehra Dun 7.10 86 ex Sn 11 54 15.3 +0.6
DDI AML AML 11 55 04.6
comp=E,149nm,0.6s
DDI AML AML 11 55 06.0
comp=N,166nm,1.1s
BHPL Bhopal 9.58 133 eP9 Pn 11 53 29.9 +1.8
KOLN Koldanda 12.25 97 eP Pn 11 54 06.0 +1.1
comp=N,12nm,0.4s
DANN Dangsing 12.26 95 eP Pn 11 54 04.7 -0.4
comp=N,28nm,0.6s
KK31 Karatay Array 13.04 2 ⇓Pn Pn 11 54 13.1 -2.2
comp=N,0.7nm,0.3s,baz=186,slow=11,SNR=6.3
KK31 ⇑Sn Sn 11 56 20.3 -20
comp=N,1.6nm,0.6s,baz=192,slow=23,SNR=5.8
AAK Ala-Archa 13.09 15 ⇑Pn Pn 11 54 15.3 -0.9
comp=N,2.0nm,0.5s
AAK ⇑Sn Sn 11 56 24.7 -17
comp=N,3.6nm,0.8s
AAK Ala-Archa 13.09 15 Pn Pn 11 54 13.5 -2.8
comp=N,1.1nm,0.3s,baz=109,slow=5.1,SNR=17
AAK Sn Sn 11 56 22.9 -19
comp=N,0.1nm,0.3s,baz=143,slow=20,SNR=2.8
KKN Kakani 13.69 96 eP Pn 11 54 21.8 -2.8
comp=N,16nm,0.5s
GUN Gumba 14.19 95 eP Pn 11 54 26.9 -4.5
comp=N,63nm,0.6s
JIRN Jiri 14.51 95 eP Pn 11 54 31.2 -4.7
comp=N,22nm,0.4s
RAMN Ramite 15.04 98 eP Pn 11 54 36.9 -6.1
comp=N,9.7nm,0.6s
MKAR Makanchi Array 19.30 27 P P 11 55 29.8 -5.3
comp=N,0.2nm,0.3s,baz=200,slow=12,SNR=11
AB31 Akbulak array 20.61 341 ⇑P P 11 55 48.7 -0.6
comp=N,0.5nm,0.4s,baz=339,slow=3.4,SNR=28
KURBB Kurchatov Arra 21.55 15 P P 11 55 57.5 -1.9
comp=N,0.9nm,0.6s,baz=208,slow=9.5,SNR=9.3
AKTO Aktyubinsk 22.22 340 ⇑P P 11 56 09.6 +2.9
comp=N,3.6nm,0.8s
AKTO Aktyubinsk 22.22 340 P P 11 56 06.7 +0.1
comp=N,1.6nm,0.6s,baz=175,slow=12,SNR=5.5
BVAR Borovoye Array 22.96 1 P P 11 56 13.8 -0.6
comp=N,0.9nm,0.6s,baz=182,slow=11,SNR=4.9
ZALV Zalesovo Beam 26.23 20 P P 11 56 45.4 +0.4
comp=N,1.4nm,0.5s,baz=214,slow=9.8,SNR=6.4
SONM Songino Array 33.12 47 P P 11 57 47.3 +1.0
comp=N,0.3nm,0.4s,baz=233,slow=7.0,SNR=3.2
AKASG Malin Array Be 36.59 316 P P 11 58 14.1 -2.0
comp=N,0.5nm,0.4s,baz=94,slow=7.2,SNR=7.0
ARCES ARCESS Array B 46.80 340 P P 11 59 39.2 -0.3
comp=N,2.7nm,0.9s,baz=134,slow=6.4,SNR=4.6
TORD Torodi Ar. Bea 64.74 271 P P 12 01 50.5 +1.6
comp=N,0.2nm,0.4s,baz=63,slow=5.1,SNR=7.8
ILAR Eielson Array 81.23 15 P P 12 03 27.6 +1.8
comp=N,0.1nm,0.5s,baz=317,slow=4.5,SNR=3.3
YKA Yellowknife Ar 87.71 2 P P 12 03 58.9 +0.3
comp=N,0.2nm,0.4s,baz=345,slow=4.6,SNR=4.8

IDC 22 11:54:59.1±1.2, 23.92S×175.87W, h0km, mb4.2/7, mb1 4.5/8, mb1mx4.2/26, mbtmp4.2/8, ML4.5/1, MS3.6/7, Ms1 3.6/7, ms1mx3.4/21, Error ellipse: s-maj=53.1km s-min=23.3km az=149.0
ISCJB 22 11:55:01.8±0.8, 24.2S±0.1×175.8W±0.1, h28km, mb4.3/10, MS3.8/4, Error ellipse: s-maj=18.8km s-min=15.0km az=26.2
NEIC 22 11:55:03.7±0.6, 24.20S×175.67W, h35km, mb4.8/3, Error ellipse: s-maj=16.3km s-min=12.4km az=111.0
ISC 22 11:55:02.8±0.8, 24.2S±0.1×175.7W±0.1, h28km, n25, σ1.11/19, mb4.5/10, MS3.7/4, South of Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSVF Nonsavu 8.67 316 ePn Pn 11 57 08.0 +1.5
50nm,0.9s
RAR Rarotonga 14.98 82 Pn Pn 11 58 25.6 -7.1
3.3nm,0.3s,baz=229,slow=6.6,SNR=8.0
RAR LR LR 12 02 58.4
comp=Z,188nm,21.9s,baz=244,slow=32
URZ Urewera 15.33 202 Pn Pn 11 58 38.2 +1.0
2.0nm,0.3s,baz=158,slow=3.9,SNR=17
URZ LR LR 12 03 01.8
comp=Z,144nm,20.9s,baz=356,slow=31
URZ Urewera 15.33 202 ePn Pn 11 58 37.7 +0.6
DZM Mont Dzumac 16.57 274 eLR LR 12 02 43.9
248nm,22.4s
DZM Mont Dzumac 16.57 274 LR LR 12 03 20.4
comp=Z,90nm,19.1s,baz=36,slow=31
PPT2 Papeete2 25.24 80 eLR LR 12 06 45.5
197nm,22.5s
PPT Papeete 25.24 80 LR LR 12 09 30.5
comp=Z,170nm,18.8s,baz=268,slow=34
CTAO Charters Tower 35.42 269 eP P 12 01 56.8 +0.1
10nm,0.4s
STKA Stephens Creek 38.29 249 P P 12 02 20.8 -0.2
1.5nm,0.7s,baz=93,slow=9.9,SNR=7.0
STKA LR LR 12 16 24.0
comp=Z,244nm,18.4s,baz=50,slow=34
WRAB Tennant Creek 46.31 265 eP P 12 03 25.4 -1.1
6.1nm,0.8s
WRA Warramunga Arr 46.32 265 P P 12 03 25.6 -0.9
6.7nm,0.8s,baz=101,slow=8.3,SNR=23
PETK Petropavlovsk- 80.36 344 LR LR 12 37 49.7
comp=Z,28nm,19.8s,baz=146,slow=32
KSRS Korea Array 81.04 318 LR LR 12 38 04.3
comp=Z,41nm,18.9s,baz=170,slow=32
NVAR Mina Array Bea 82.26 42 P P 12 07 21.9 0.0
0.6nm,0.7s,baz=229,slow=8.5,SNR=5.1
USRK Ussuriysk Arra 83.19 325 P P 12 07 26.5 +0.3
1.6nm,0.6s,baz=153,slow=3.1,SNR=5.9
TXAR Lajitas Array 87.27 56 P P 12 07 49.0 +1.8
0.9nm,0.8s,baz=200,slow=6.6,SNR=11
ILAR Eielson Array 91.43 12 P P 12 08 04.9 -0.9
0.1nm,0.5s,baz=322,slow=32,SNR=4.4
CMAR Chiang Mai Arr 93.33 289 P P 12 08 16.6 +1.0
3.2nm,0.8s,baz=138,slow=3.5,SNR=20
CHTO Chiang Mai 93.48 289 eP P 12 08 16.6 +0.3
2.8nm,0.8s
HFS Hagfors 143.47 352 PKhKP PKPpre 12 14 30.0
1.0nm,0.7s,baz=90,slow=4.3,SNR=3.9
AKASG Malin Array Be 147.25 330 PKPbc PKPbc 12 14 42.8 -0.5
4.3nm,0.6s,baz=42,slow=3.9,SNR=31
BRTR Keskin Array B 150.85 309 PKPbc PKPbc 12 14 53.0 -0.1
1.7nm,0.7s,baz=157,slow=5.5,SNR=7.1
BRTR PKPab PKPab 12 14 58.2 -2.0
1.2nm,0.8s,baz=128,slow=5.4,SNR=3.9
CLL Collm 152.09 348 ePKPbc PKPbc 12 14 55.0 -0.3
GERES GERESS Array B 154.28 346 PKPbc PKPbc 12 15 00.7 +0.4
0.2nm,0.2s,baz=355,slow=3.3,SNR=3.0
GERES PKPab PKPab 12 15 12.1 -2.2
0.5nm,0.6s,baz=2.9,slow=5.3,SNR=3.9

IDC 22 12:00:45.9±10.0, 18.39N×147.70E, h347km±117km, mb2.8/6, mb1 2.9/6, mb1mx2.8/37, mbtmp3.5/6, Error ellipse: s-maj=35.4km s-min=21.5km az=94.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	35.51	10	P	P	12 07 10.7	-0.2
	5.8nm,1.0s,baz=198,slow=9.1,SNR=3.6						
WRA	Warramunga Arr	40.29	200	P	P	12 07 50.6	-0.1
	0.3nm,0.3s,baz=20,slow=9.1,SNR=5.9						
SONM	Songino Array	44.58	321	P	P	12 08 24.7	-0.1
	0.4nm,0.6s,baz=132,slow=6.0,SNR=3.5						
MKAR	Makanchi Array	60.05	314	P	P	12 10 16.6	-0.7
	0.1nm,0.4s,baz=103,slow=5.3,SNR=3.1						
KURBB	Kurchatov Arra	62.82	318	P	P	12 10 36.2	+0.7
	0.2nm,0.4s,baz=98,slow=7.9,SNR=6.4						
YKA	Yellowknife Ar	77.36	28	P	P	12 12 02.8	-0.1
	0.1nm,0.4s,baz=271,slow=5.4,SNR=3.8						

IDC 22 12:08:20.3±5.6,39°.48N×110°.69E,h0km,mb3.3/4, mb1 3.5/5,mb1mx3.3/40,mbtmp3.4/5,ML2.9/1,Error ellipse: s-maj=119.6km s-min=23.3km az=84.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	8.91	341	Pn	Pn	12 10 30.4	0.0
	0.1nm,0.3s,baz=155,slow=14,SNR=22						
SONM				Lg	Lg	12 12 59.5	
	0.1nm,0.3s,baz=173,slow=26,SNR=2.8						
MKAR	Makanchi Array	21.89	299	P	P	12 13 15.1	+0.3
	1.5nm,0.9s,baz=96,slow=12,SNR=14						
ZALV	Zalesovo Beam	22.72	318	P	P	12 13 24.5	+1.0
	0.2nm,0.3s,baz=125,slow=11,SNR=3.3						
CMAR	Chiang Mai Arr	23.29	209	P	P	12 13 29.1	-0.5
	0.8nm,0.4s,baz=12,slow=10,SNR=11						
KURBB	Kurchatov Arra	25.11	307	P	P	12 13 46.4	-0.2
	1.0nm,1.0s,baz=105,slow=10,SNR=6.0						

IDC 22 12:09:39.8±1.2,72°.18N×1°.37E,h0km,mb3.5/3,mb1 3.6/8, mb1mx3.3/47,mbtmp3.5/8,ML3.2/5,MS3.6/1,Ms1 3.6/1, ms1mx2.6/37,Error ellipse: s-maj=26.6km s-min=15.5km az=48.0
ISCJB 22 12:09:40.2±0.8,72°.28N±0°.06×2°.3E±0°.2,h10km,mb3.3/3, MS3.5/1,Error ellipse: s-maj=11.0km s-min=7.8km az=141.9
NAO 22 12:09:41.6±3.1,72°.16N×1°.86E,ML2.9
CSEM 22 12:09:42.7±0.4,72°.25N×2°.14E,h10km,ML2.9,Error ellipse: s-maj=14.4km s-min=5.8km az=84.0
BER 22 12:09:42.1±2.5,72°.21N×1°.56E,h0km±79km,MD1.6, ML2.9(NAO)
ISC 22 12:09:41.7±1.0,72°.27N±0°.09×1°.92E±0°.09,h10km,n26, σ1s.29/29,mb3.0/3,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	5.95	31	eP	Pn	12 11 11.0	+1.4
HSPB	Hornsund (broa	5.95	31	eP	Pn	12 11 11.0	+1.4
	SNR=49						
SPA0	Spitsbergen Ar	6.96	25	Pn	Pn	12 11 25.6	+2.1
	baz=209,slow=14						
SPA0	Spitsbergen Ar	6.96	25	Pn	Pn	12 11 25.6	+2.1
	baz=209,slow=14						
SPA0	Spitsbergen Ar	6.96	25	Pn	Pn	12 11 25.5	+2.1
	baz=209,slow=13,SNR=50						
SPITS	Spitsbergen Ar	6.96	25	Pn	Pn	12 11 25.3	+1.8
	baz=210,slow=16,SNR=41						
KBS	Kingsbay	7.12	16	Pn	Pn	12 11 25.9	+0.2
KBS	Kingsbay	7.12	16	Pn	Pn	12 11 25.9	+0.2
KBS	Kingsbay	7.12	16	Pn	Pn	12 11 25.9	+0.2
	SNR=50						
ARA0	ARCESS Array S	8.17	98	Pn	Pn	12 11 41.2	+1.1
	baz=302,slow=11						
ARA0				Sn	Sn	12 13 10.3	-2.1
	baz=293,slow=22						
ARA0	ARCESS Array S	8.17	98	Pn	Pn	12 11 41.2	+1.1
	baz=302,slow=11						
ARA0				Sn	Sn	12 13 10.3	-2.1
	baz=293,slow=22						
ARA0	ARCESS Array S	8.17	98	Pn	Pn	12 11 41.2	+1.1
	baz=302,slow=10,SNR=50						
ARA0				Sn	Sn	12 13 10.3	-2.1
	baz=293,slow=21,SNR=50						
ARCES	ARCESS Array B	8.17	98	Pn	Pn	12 11 40.7	+0.6
	0.4nm,0.3s,baz=303,slow=11,SNR=21						
ARCES				Sn	Sn	12 13 11.5	-0.8
	0.0nm,0.3s,baz=306,slow=20,SNR=2.5						
NB2	NORSAR Subarra	11.84	157	Pn	Pn	12 12 31.0	+0.6
NB2	NORSAR Subarra	11.84	157	Pn	Pn	12 12 31.0	+0.6
NB2	NORSAR Subarra	11.84	157	Pn	Pn	12 12 31.0	+0.6
	SNR=50						
NOA	NORSAR Array B	11.84	157	Pn	Pn	12 12 29.6	-0.7
	0.2nm,0.3s,baz=348,slow=14,SNR=2.5						
HFS	Hagfors	13.04	153	Pn	Pn	12 12 47.3	+0.6
	baz=336,slow=16						
HFS	Hagfors	13.04	153	Pn	Pn	12 12 47.3	+0.6
	baz=336,slow=16						
HFS	Hagfors	13.04	153	Pn	Pn	12 12 46.6	0.0
	0.3nm,0.3s,baz=347,slow=13,SNR=10						
HFS	Hagfors	13.04	153	Pn	Pn	12 12 47.3	+0.6
	baz=336,slow=15,SNR=50						
FINES	FINESS Array B	14.27	127	Pn	Pn	12 13 03.9	+0.5
	0.1nm,0.3s,baz=337,slow=14,SNR=2.9						
VRAC	Vranov	23.98	156	P	P	12 14 56.8	+0.8
	3.5nm,0.4s,baz=288,slow=2.0,SNR=3.8						
ZALV	Zalesovo Beam	37.80	73	LR	LR	12 38 34.1	
	comp=Z,74nm,18.1s,baz=64,slow=46						
YKA	Yellowknife Ar	38.78	318	P	P	12 17 04.6	-1.1
	0.1nm,0.6s,baz=18,slow=9.1,SNR=4.0						
ILAR	Eielson Array	41.60	340	P	P	12 17 28.2	-0.9
	0.2nm,0.6s,baz=4.5,slow=7.8,SNR=4.4						

ISCJB 22 12:28:09.2±0.4,62°.01N±0°.03×23°.61E±0°.05,h0km,Error ellipse: s-maj=4.1km s-min=3.1km az=151.3
CSEM 22 12:28:11.4,61°.99N×23°.66E,h0km,ML1.5,Mining explosion. After HEL
HEL 22 12:28:11.4±0.1,61°.99N×23°.66E,h0km,ML1.5,Explosion
IDC 22 12:28:11.1±0.7,61°.96N×23°.64E,h0km,mb1 2.9/3, mb1mx2.7/39,mbtmp2.9/3,ML2.3/3,Error ellipse: s-maj=10.2km s-min=5.9km az=16.0
ISC 22 12:28:09.5±0.7,62°.01N±0°.02×23°.61E±0°.02,h0km,n26, σ0s.84/52,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	Keuruu	0.61	74	eP	Pg	12 28 21.7	+0.5
KEF				eS	Sg	12 28 29.5	+0.4
KEF				eRG	Rg	12 28 31.4	
KEF	Keuruu	0.61	74	P	Pg	12 28 21.7	+0.5
KEF				S	Sg	12 28 29.5	+0.4
VAF	Ylistaro	1.12	338	eP	Pn	12 28 32.8	+0.3
VAF				eS	Sb	12 28 47.8	+0.9
VAF				eRG	Rg	12 28 52.4	
VAF	Ylistaro	1.12	338	P	Pn	12 28 32.7	+0.3
VAF				S	Sb	12 28 47.8	+0.9
KAF	Kangasniemi	1.27	84	eP	Pg	12 28 33.4	-0.4
KAF				eS	Sg	12 28 49.9	-0.5
KAF	Kangasniemi	1.27	84	P	Pg	12 28 33.4	-0.4
KAF				S	Sg	12 28 49.8	-0.5
FIA0	FINESS Array S	1.30	115	eP	Pg	12 28 34.2	-0.2
FIA0				eS	Sg	12 28 51.4	+0.1
FIA0	FINESS Array S	1.30	115	P	Pg	12 28 34.2	-0.2
FIA0				S	Sg	12 28 51.4	+0.1
FINES	FINESS Array B	1.30	115	Pg	Pg	12 28 34.2	-0.2
	1.4nm,0.3s,baz=294,slow=16,SNR=50						
FINES				Lg	Lg	12 28 51.2	
	1.1nm,0.3s,baz=295,slow=26,SNR=12						
RAF	Rauma	1.33	223	eP	Pg	12 28 35.0	+0.1
RAF				eS	Sg	12 28 51.4	-0.7
RAF	Rauma	1.33	223	P	Pg	12 28 34.9	+0.1
RAF				S	Sg	12 28 51.4	-0.7
SUF	Sumiainen	1.38	58	eP	Pg	12 28 35.8	-0.1
SUF				eS	Sg	12 28 53.8	0.0
SUF				eRG	Rg	12 29 01.4	
SUF	Sumiainen	1.38	58	P	Pg	12 28 35.8	-0.1
SUF				S	Sg	12 28 53.7	0.0
PVF	Pernaja	1.83	143	eP	Pb	12 28 43.5	-0.2
PVF				eS	Sn	12 29 05.5	-0.4
PVF	Pernaja	1.83	143	P	Pb	12 28 43.5	-0.2
PVF				S	Sn	12 29 05.4	-0.4
MEF	Metsahovi	1.84	168	eP	Pb	12 28 43.6	-0.3
MEF				eS	Sb	12 29 07.0	-0.4
MEF				MSG		12 29 07.7	
	comp=Z,2.0nm,0.2s						
MEF				eRG	Rg	12 29 17.0	
MEF	Metsahovi	1.84	168	P	Pb	12 28 43.6	-0.3
MEF				S	Sb	12 29 07.0	-0.4
VJF	Virojoki	2.41	126	eP	Pb	12 28 52.1	-1.5
VJF				eS	Sn	12 29 21.6	+1.4
VJF				eSG	Sb	12 29 24.5	+0.7
VJF				MSG		12 29 25.2	
	comp=Z,2.9nm,0.2s						
VJF	Virojoki	2.41	126	P	Pb	12 28 52.1	-1.5
VJF				S	Sn	12 29 21.6	+1.4
VJF				Sg	Sb	12 29 24.5	+0.7
AAL	Aland	2.54	225	eP	Pn	12 28 53.7	+1.8
AAL				eSB	Sb	12 29 27.2	-0.4
AAL	Aland	2.54	225	P	Pn	12 28 53.7	+1.8
AAL				Sb	Sb	12 29 27.2	-0.4
KJN	Kajaani	2.80	40	ePB	Pb	12 28 59.1	-1.1
KJN				eSB	Sb	12 29 35.0	-0.1
KJN	Kajaani	2.80	40	Pb	Pb	12 28 59.1	-1.1
KJN				Sb	Sb	12 29 34.9	-0.1
HFS	Hagfors	5.17	253	Pn	Pn	12 29 29.8	+1.8
	comp=Z,0.1nm,0.3s,baz=60,slow=13,SNR=3.6						
HFS				Sn	Sn	12 30 28.7	+0.4
	comp=Z,0.2nm,0.3s,baz=72,slow=23,SNR=4.6						
NOA	NORSAR Array B	6.01	266	Pn	Pn	12 29 40.3	+0.7
	comp=Z,0.1nm,0.3s,baz=82,slow=13,SNR=2.5						
NOA				Lg	Lg	12 31 20.3	
	comp=Z,0.2nm,0.3s,baz=72,slow=19,SNR=3.0						
ARCES	ARCESS Array B	7.60	5	Pn	Pn	12 30 02.6	+1.4
	comp=Z,0.1nm,0.3s,baz=178,slow=14,SNR=14						
ARCES				Sn	Sn	12 31 25.9	-2.1
	comp=Z,0.2nm,0.3s,baz=186,slow=22,SNR=5.6						

IDC 22 12:32:23.5±2.1,23°.55S×176°.03W,h0km,mb4.1/7, mb1 4.3/7,mb1mx4.1/24,mbtmp4.0/7,MS3.2/3,Ms1 3.2/3, ms1mx2.9/23,Error ellipse: s-maj=86.4km s-min=29.9km az=158.0
ISCJB 22 12:32:27.6±1.9,23°.5S±0°.5×176°.1W±0°.3,h33km,mb4.0/7, MS3.1/2,Error ellipse: s-maj=78.6km s-min=27.0km az=159.5
ISC 22 12:32:28.9±1.9,23°.5S±0°.5×176°.1W±0°.3,h33km,n11, σ1s.45/8,mb4.2/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	15.24	85	LR	LR	12 42 11.3	
	comp=Z,99nm,18.9s,baz=252,slow=39						
PPT	Papeete	25.48	82	LR	LR	12 45 32.3	
	comp=Z,60nm,19.6s,baz=238,slow=31						
HNR	Honiara	26.87	297	LR	LR	12 48 42.1	
	comp=Z,49nm,19.4s,baz=75,slow=36						
WRA	Warramunga Arr	46.03	264	P	P	12 40 48.6	-1.1
	3.3nm,0.8s,baz=102,slow=8.2,SNR=17						
PETK	Petropavlovsk-	79.64	344	P	P	12 44 33.5	+0.9
	1.7nm,0.7s,baz=134,slow=4.2,SNR=3.8						
NVAR	Mina Array Bea	82.01	42	P	P	12 44 44.6	-1.4
	0.2nm,0.3s,baz=219,slow=5.2,SNR=3.9						
TXAR	Lajitas Array	87.19	56	P	P	12 45 13.6	+1.4
	0.4nm,0.9s,baz=206,slow=8.3,SNR=5.4						
SEY	Seymchan	89.71	346	P	P	12 45 23.4	+0.2
	0.5nm,0.2s,baz=75,slow=20,SNR=2.6						
ILAR	Eielson Array	90.86	12	P	P	12 45 26.9	-1.6
	0.5nm,1.0s,baz=222,slow=5.0,SNR=3.0						
CMAR	Chiang Mai Arr	92.80	289	P	P	12 45 40.0	+1.5
	1.5nm,0.8s,baz=132,slow=2.9,SNR=10						
AKASG	Malin Array Be	146.51	331	PKPbc	PKPdf	12 52 05.2	+0.1
	2.4nm,0.9s,baz=40,slow=3.8,SNR=6.1						

ISCJB 22 12:37:43.1±0.3,53°.38N±0°.05×169°.58W±0°.04, h142km±2km,mb4.1/22,Error ellipse: s-maj=9.2km s-min=3.8km az=165.6
NEIC 22 12:37:44.5±0.3,53°.37N×169°.53W,h134km±3km,mb4.4/15, Error ellipse: s-maj=10.1km s-min=4.1km az=158.0
IDC 22 12:37:45.3±2.6,53°.50N×169°.69W,h154km±23km,mb3.2/7, mb1 3.4/10,mb1mx3.2/43,mbtmp3.7/10,Error ellipse: s-maj=32.4km s-min=13.3km az=176.0
ISC 22 12:37:43.4±0.7,53°.28N±0°.10×169°.57W±0°.05, h139km±6km,n299,σ1s.09/307,mb4.3/22,115C-105D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.53	125	P	Pn	12 38 03.1	-0.5
NIKH				S	Sn	12 38 18.0	-1.0
OKSO	Okmok South	0.85	84	P	Pn	12 38 05.6	-0.3
OKFG	Magazine Ridge	1.00	82	P	Pn	12 38 07.0	-0.1
MSOM	Makushin Julie	1.65	70	P	Pn	12 38 13.8	0.0
MSOM				S	Sn	12 38 37.1	+0.1
MCIR	Makushin Cirqu	1.73	66	P	Pn	12 38 14.7	0.0
MREP	Makushin Rep't	1.76	71	P	Pn	12 38 15.8	+0.6
MSW	Makushin Switc	1.78	68	P	Pn	12 38 15.1	-0.1
MSW				S	Sn	12 38 40.1	+0.5
UNV	Unalaska Valle	1.91	71	P	Pn	12 38 16.8	0.0
UNV				S	Sn	12 38 41.9	-0.5
AKRB	Akutan Reef Bi	2.25	66	P	Pn	12 38 21.5	+0.7
AKRB				S	Sn	12 38 49.6	0.0
ZRO	Akutan Zero	2.28	68	P	Pn	12 38 21.9	+0.7
AKGG	Akutan Green G	2.31	65	P	Pn	12 38 22.1	+0.5
AKGG				S	Sn	12 38 51.5	+0.5
AKUT	Akutan	2.41	68	P	Pn	12 38 23.5	+0.7
AKSA	Akutan Strait	2.45	68	P	Pn	12 38 24.1	+0.8
KOFP	Korovin Flat P	2.93	252	P	Pn	12 38 31.4	+1.9
WESE	West Dahl East	3.18	66	P	Pn	12 38 33.6	+0.9
SSLW	Shishaldin Wes	3.54	63	P	Pn	12 38 37.5	+0.2
SSLN	Shishaldin Nor	3.62	63	P	Pn	12 38 39.3	+0.9
SPIA	Saint Paul Isl	3.93	355	P	Pn	12 38 43.4	+1.2
FALS	False Pass	3.95	64	P	Pn	12 38 43.4	+0.7
FALS				S	Sn	12 39 29.4	+0.8
GSMY	Great Sitkin M	4.14	255	P	Pn	12 38 47.6	+2.4
GSTD	Great Sitkin T	4.19	256	P	Pn	12 38 47.6	+1.7
GSCK	Great Sitkin C	4.21	255	P	Pn	12 38 47.4	+1.2
ADAG	Mount Adagdak	4.48	256	P	Pn	12 38 51.0	+1.3
DRIA	Deer Island	4.62	66	P	Pn	12 38 51.2	-0.2
DT1	Dutton Round H	4.65	64	P	Pn	12 38 51.9	0.0
DTNA	Dutton South F	4.68	63	P	Pn	12 38 52.6	+0.3
KIKV	Kanaga Island	4.85	256	P	Pn	12 38 56.5	+2.0
DOL	Dolgoi Island	4.89	64	P	Pn	12 38 55.3	+0.2
HAG	Hague Volcano	4.93	62	P	Pn	12 38 56.6	+1.0
PS4A	Pavlof South-4	4.96	62	P	Pn	12 38 56.5	+0.4
SDPT	Sand Point	5.71	65	P	Pn	12 39 05.4	-0.5
AMKA	Amchitka	7.08	259	P	Pn	12 39 24.5	+0.1
CHGN	Chignik	7.12	60	P	Pn	12 39 23.8	-1.1
PLK4	Peulik 4	8.68	55	P	Pn	12 39 46.6	+0.9
SII	Sitkinak Islan	9.45	64	P	Pn	12 39 53.6	-2.4
KABR	Katmai Barrier	9.56	54	P	Pn	12 39 56.4	-1.1
FX1	Attu Island--F	10.40	275	P	Pn	12 40 10.8	+2.1
	1.5nm,0.3s,baz=135,slow=0.7,SNR=16						
FX1				S	Sn	12 42 02.1	-1.4
	0.4nm,0.3s,baz=90,slow=20,SNR=3.0						
SVW2	Sparrevohn	10.88	38	ePn	Pn	12 40 17.7	+2.6
SEW	Seward	12.96	50	ePn	Pn	12 40 39.6	-2.6
RC01	Rabbit Creek A	13.25	46	ePn	Pn	12 40 44.5	-1.4
PPLA	Purkeypile	13.27	37	ePn	Pn	12 40 47.4	+1.2
KTH	Kantishna Hill	14.13	36	ePn	Pn	12 40 58.1	+1.1
TRF	Thorofare Moun	14.29	37	eP	P	12 41 01.2	-1.2
BMRM	Bremner River	15.51	50	ePn	Pn	12 41 10.1	-4.2
PAX	Paxson	15.90	43	ePn	Pn	12 41 16.1	-3.1
COLA	College	16.00	35	eP	Pn	12 41 18.5	-1.8
ILAR	Eielson Array	16.27	36	P	Pn	12 41 21.2	-2.5
	0.4nm,0.3s,baz=223,slow=11,SNR=47						
ILAR				ScP	ScP	12 49 28.8	-0.7
	0.0nm,0.3s,baz=280,slow=3.2,SNR=4.6						
MENT	Mentasta	16.61	44	ePn	Pn	12 41 26.7	-1.1
EGAK	Eagle	18.41	40	eP	P	12 41 47.2	-0.3
DAWY	Dawson	18.84	43	eP	P	12 41 51.1	-1.1
HYT	Haines Junctio	18.84	54	eP	Pn	12 41 55.6	+1.1
PETK	Petropavlovsk-	19.52	283	P	P	12 41 59.4	-0.3
	0.2nm,0.3s,baz=94,slow=13,SNR=6.1						
SEY	Seymchan	21.97	311	P	P	12 42 25.1	-0.6
	1.3nm,0.5s,baz=92,slow=17,SNR=14						
DLBC	Dease Lake	22.53	61	P	P	12 42 33.1	+1.7
	1.2nm,0.5s,baz=214,slow=10.0,SNR=8.0						
YKA	Yellowknife Ar	29.74	50	P	P	12 43 34.6	-1.5
	0.1nm,0.5s,baz=274,slow=8.0,SNR=4.8						
G03D	McMinnville, O	30.81	86	⇑P	P	12 43 45.6	-0.1
	baz=31						
B08A	Colville Reser	31.57	78	eP	P	12 43 53.7	+1.3
	5.9nm,0.8s						
H04A	Detroit Lake	31.74	86	eP	P	12 43 56.5	+2.5
	4.5nm,0.6s						
G05D	Wamic, OR	31.96	85	⇑P	P	12 43 53.8	-2.1
	baz=32						
I04A	Tendick Farm,	32.09	88	⇓P	P	12 43 54.9	-2.2
	baz=32						
HAWA	Hanford	32.42	82	eP	P	12 44 01.8	+1.9
	7.0nm,0.6s						
I05D	Terrebonne, OR	32.44	86	⇑P	P	12 44 02.1	+2.1
	baz=32						
D08A	Wollman Farm,	32.45	80	eP	P	12 44 01.5	+1.4
	65nm,2.8s						
J04D	Umpqua Nationa	32.59	88	⇓P	P	12 44 02.0	+0.5
	baz=32						
EDM	Edmonton	32.89	67	eP	P	12 44 04.8	+0.9
NEW	Newport	32.91	77	eP	P	12 44 05.6	+1.4
	4.5nm,0.6s						
NEW	Newport	32.91	77	⇑P	P	12 44 05.5	+1.4
	baz=33						
J05D	Fort Rock, OR	33.09	88	⇑P	P	12 44 08.1	+2.2
	baz=33						
E09A	Wood Farm, Sta	33.18	81	eP	P	12 44 08.0	+1.6
	7.7nm,1.3s						
N02D	Trinity Center	33.57	92	⇑P	P	12 44 11.6	+1.7
	baz=33						
M04C	Macdoel	33.60	90	⇓P	P	12 44 11.6	+1.3
	baz=34						
K05A	Summer Lake	33.61	88	eP	P	12 44 13.9	+3.4
	142nm,2.9s						
I07A	Izee	33.68	85	eP	P	12 44 11.0	+0.1
	12nm,1.8s						
F10A	Beach Ranch, E	34.01	81	eP	P	12 44 14.8	+1.1
	4.4nm,1.1s						
BSMT	Bassoo Peak	34.48	76	eP	P	12 44 19.5	+1.6
WVOR	Wild Horse Val	35.14	87	eP	P	12 44 25.9	+2.4
	29nm,2.3s						
MSO	Missoula	35.50	77	⇓P	P	12 44 26.9	+0.4
	baz=35						
SLMT	Seeley Lake	35.55	77	eP	P	12 44 27.5	+0.5
CHMT	Chamberlain Mo	35.86	77	eP	P	12 44 30.2	+0.5
MFID	Camas Ranch	36.25	84	eP	P	12 44 34.5	+1.6
	2.5nm,0.9s						
HRY	Holter Researc	36.79	76	eP	P	12 44 38.7	+1.1
HLID	Hailey	37.01	82	eP	P	12 44 40.9	+1.4
	2.7nm,0.8s						
HLID	Hailey	37.01	82	⇓P	P	12 44 40.5	+1.1
	baz=37						
EGMT	Eagleton	37.31	73	eP	P	12 44 43.5	+1.6
	5.5nm,0.9s						
EGMT	Eagleton	37.31	73	⇑P	P	12 44 43.2	+1.4
	baz=37						
A19A	Klindworth Far	37.42	71	⇓P	P	12 44 42.9	+0.2
	baz=37						
BOZ	Bozeman (W)	37.48	78	eP	P	12 44 44.6	+1.1
	30nm,2.1s						
C19A	Slack Wire Ran	37.87	73	⇓P	P	12 44 47.1	+0.6
	baz=38						
A20A	Cobblestone Ra	37.91	71	⇓P	P	12 44 47.6	+0.7
	baz=38						
D19A	Cripps Ranch,	38.26	74	⇑P	P	12 44 51.0	+1.2
	baz=38						
A21A	Bergtoll Ranch	38.42	70	⇓P	P	12 44 52.1	+1.0
	baz=38						
C20A	Veseth Ranch,	38.48	73	⇓P	P	12 44 52.6	+1.0
	baz=38						
E19A	Rath Farm, Rou	38.70	75	⇑P	P	12 44 54.8	+1.3
	baz=38						
D20A	Manuel Ranch,	38.73	74	⇑P	P	12 44 54.9	+1.2
	baz=38						
H17A	Grant Village	38.80	79	⇓P	P	12 44 55.4	+0.8
	baz=39						
C21A	Desert Coulee	38.94	72	⇓P	P	12 44 55.9	+0.5
	baz=39						
F19A	Roth Farm, Mol	38.94	76	⇓P	P	12 44 56.4	+0.9
	baz=39						
A22A	Carney Farms,	38.99	70	⇑P	P	12 44 56.7	+0.9
	baz=39						
VES	Vestal, Richgr	39.05	96	⇓P	P	12 44 56.1	-0.3
	baz=39						
E20A	Meyer Farm, Mu	39.05	74	⇑P	P	12 44 57.0	+0.6
	baz=39						
I17A	Pilgrim Ck.	39.08	79	⇓P	P	12 44 59.1	+2.2
	baz=39						
H18A	Shoshone NF, C	39.18	78	⇓P	P	12 44 58.8	+1.1
	baz=39						
D21A	La Casta Ranch	39.40	73	⇓P	P	12 45 00.3	+0.9
	baz=39						
R11A	Troy Canyon, C	39.49	90	⇑P	P	12 45 01.8	+1.6
	baz=39						
H19A	Powell	39.58	77	⇓P	P	12 45 02.6	+1.7
	baz=39						
A23A	Redstone	39.59	69	⇑P	P	12 45 01.5	+0.6
	baz=39						
G20A	Bridger	39.72	76	⇑P	P	12 45 02.8	+0.7
	baz=40,SNR=5.5						
B23A	Brockton	39.79	70	⇓P	P	12 45 03.4	+1.0
	baz=40						
D22A	Cohagen	39.82	72	⇑P	P	12 45 04.1	+1.3
	baz=40						
I19A	Meeteetse	39.94	78	⇓P	P	12 45 05.0	+1.0
	baz=40						
FURC	Furnace Creek,	39.96	93	⇑P	P	12 45 05.5	+1.7
	baz=40						
DUG	Dugway	39.98	86	⇓P	P	12 45 05.8	+1.5
	baz=40						
C23A	Lambert	40.04	71	⇓P	P	12 45 05.8	+1.3
	baz=40						
A24A	Westby	40.10	69	⇑P	P	12 45 06.0	+1.0
	baz=40						
H20A	Greybull	40.26	77	⇑P	P	12 45 07.1	+0.6
	baz=40						
G21A	Lodge Grass	40.30	75	⇓P	P	12 45 07.5	+0.7
	baz=40						
E22A	Miles City	40.35	73	⇓P	P	12 45 07.9	+0.8
	baz=40						
J19A	Crowheart	40.36	79	⇓P	P	12 45 09.3	+1.9
	baz=40						
D23A	Lindsay	40.37	72	⇑P	P	12 45 08.8	+1.5
	baz=40						
I20A	Worland	40.50	78	⇑P	P	12 45 09.6	+1.1
	baz=40						
H21A	Big Horn, Sher	40.74	76	⇑P	P	12 45 11.5	+1.0
	baz=40						
J20A	Shoshoni	40.88	78	⇑P	P	12 45 12.8	+1.2
	baz=41						
D24A	Glendive	40.90	71	⇑P	P	12 45 12.9	+1.3
	baz=41						
F23A	Volborg	41.06	74	⇑P	P	12 45 13.8	+0.8
	baz=41						
I21A	Big Trails, Te	41.07	77	⇓P	P	12 45 13.6	+0.4
	baz=41						
E24A	Baker	41.22	72	⇓P	P	12 45 15.8	+1.5
	baz=41						
J21A	Lysite	41.26	78	⇓P	P	12 45 15.5	+0.7
	baz=41						
G23A	Biddle	41.37	74	⇓P	P	12 45 16.0	+0.5
	baz=41						
HEC	Hector,Ludlow	41.38	95	⇑P	P	12 45 15.8	+0.1
	baz=41						
I22A	9 Mile Ranch,	41.50	77	⇑P	P	12 45 17.6	+0.9
	baz=41						
F24A	Ekalaka	41.55	73	⇓P	P	12 45 17.6	+0.6
	baz=41						
C26A	Wahner Farm, P	41.77	69	⇑P	P	12 45 19.4	+0.7
	baz=42						
E25A	Miller Ranch,	41.77	72	⇓P	P	12 45 19.6	+0.9
	baz=42						
J22A	Midwest	41.78	77	⇓P	P	12 45 19.9	+0.9
	baz=42						
K21A	Alcova	41.80	79	⇓P	P	12 45 19.7	+0.5
	baz=42						
G24A	Alzada	41.86	74	⇑P	P	12 45 19.7	+0.2
	baz=42						
D26A	Manning	42.02	70	⇑P	P	12 45 21.2	+0.4
	baz=42						
A28A	Rude Farm, Bot	42.19	67	⇑P	P	12 45 22.4	+0.3
	baz=42						
K22A	Casper	42.21	78	⇓P	P	12 45 22.9	+0.4
	baz=42						
N20A	Spence Gulch,	42.30	81	⇓P	P	12 45 23.0	-0.3
	baz=42						
E26A	Carlson Angus	42.32	71	⇑P	P	12 45 24.2	+1.0
	baz=42						
L22A	Ellis Ranch, M	42.64	79	⇓P	P	12 45 27.2	+1.2
	baz=42						
H25A	Fruitdale	42.74	74	⇓P	P	12 45 27.0	+0.4
	baz=42						
A29A	Manning Farm,	42.75	66	⇑P	P	12 45 27.1	+0.5
	baz=42						
O20A	White River Ci	42.75	82	eP	P	12 45 28.0	+1.1
	7.5nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
O20A	White River Ci baz=43,SNR=5.9	42.75	82	⇓P	P	12 45 27.4	+0.5
J24A	Dixon Ranch, L baz=43	42.89	76	⇑P	P	12 45 28.4	+0.4
F27A	Lemmon baz=43	42.92	71	⇑P	P	12 45 28.5	+0.5
G26A	Maurine baz=43	42.92	73	⇓P	P	12 45 28.7	+0.6
M22A	Cedar Creek Ra baz=43	42.93	80	⇑P	P	12 45 29.5	+1.0
L23A	Garrett baz=43,SNR=8.4	43.02	78	⇓P	P	12 45 29.6	+0.4
H26A	Fairpoint baz=43	43.22	73	⇑P	P	12 45 31.0	+0.5
A30A	Hoffart Farm, baz=43	43.25	66	⇓P	P	12 45 31.2	+0.6
G27A	Dupree baz=43	43.26	72	⇓P	P	12 45 31.6	+0.9
N22A	Wattenberg Ran baz=43	43.39	80	⇑P	P	12 45 33.1	+1.0
N23A	Red Feather La baz=43	43.63	80	⇑P	P	12 45 35.1	+1.0
O22A	Kremmling baz=44	43.74	81	⇑P	P	12 45 35.7	+0.7
ULM	Lac du Bonnet 1.1nm,0.5s,baz=324,slow=2.8,SNR=4.2	43.83	63	P	P	12 45 35.1	-0.1
WUAZ	Wupatki baz=44	43.89	90	⇑P	P	12 45 37.9	+1.8
M24A	Cheyenne baz=44	43.94	78	⇑P	P	12 45 37.2	+0.8
I27A	Quinn baz=44	43.96	74	⇑P	P	12 45 37.0	+0.6
G28A	Parade baz=44	44.01	72	⇑P	P	12 45 37.0	+0.3
D30A	Buchanan baz=44	44.04	68	⇓P	P	12 45 37.4	+0.4
O23A	Lake Granby, G baz=44,SNR=8.0	44.08	81	⇑P	P	12 45 39.0	+1.3
F29A	Eureka baz=44	44.18	70	⇓P	P	12 45 38.2	+0.1
H28A	Mission Ridge baz=44	44.19	72	⇓P	P	12 45 38.6	+0.4
N24A	Carr baz=44	44.30	79	⇓P	P	12 45 39.6	+0.3
M25A	Palm-Egli Farm baz=44	44.41	78	⇓P	P	12 45 40.5	+0.4
J27A	Elkhorn Farm, baz=44	44.48	75	⇓P	P	12 45 41.3	+0.7
I28A	Midland baz=44	44.51	73	⇓P	P	12 45 41.4	+0.6
P23A	Jefferson baz=44	44.66	81	⇑P	P	12 45 43.7	+1.3
H29A	Onida baz=44	44.68	72	⇑P	P	12 45 43.1	+1.0
J28A	Allard Ranch, baz=45	44.82	74	⇓P	P	12 45 44.1	+0.8
G30A	Faulkton baz=45	44.99	71	⇑P	P	12 45 44.9	+0.4
I29A	Vivian Onida baz=45	45.00	73	⇑P	P	12 45 44.6	0.0
S22A	4UR Ranch, Cre baz=45	45.13	84	⇑P	P	12 45 47.0	+1.0
K28A	Ten Mile Ranch baz=45	45.19	75	⇓P	P	12 45 46.8	+0.7
O25A	Wiggins baz=45	45.21	79	⇓P	P	12 45 47.2	+0.8
N26A	Koester Ranch, baz=45	45.28	78	⇓P	P	12 45 48.0	+1.0
M27A	Reverse DX Ran baz=45	45.33	77	⇑P	P	12 45 47.9	+0.5
J29A	Okreek baz=45	45.36	73	⇑P	P	12 45 48.2	+0.7
R23A	Moffat baz=45	45.44	83	⇓P	P	12 45 48.8	+0.3
BRSD	Miller baz=45	45.51	71	⇑P	P	12 45 49.0	+0.4
P25A	Willow Gulch B baz=45,SNR=5.1	45.56	80	⇑P	P	12 45 50.8	+1.5
N27A	Anderson Farm, baz=46	45.70	78	⇑P	P	12 45 50.8	+0.6
K29A	Lazy Trails An baz=46	45.76	74	⇓P	P	12 45 51.4	+0.7
R24A	Sanders Place, baz=46	45.84	82	⇑P	P	12 45 52.9	+1.5
Q25A	Bedland, Calha baz=46	45.90	81	⇑P	P	12 45 52.8	+0.8
OGNE	Ogallala baz=46	45.90	77	⇑P	P	12 45 53.2	+1.4
P26A	Davis Ranch, A baz=46,SNR=5.3	46.02	79	⇑P	P	12 45 54.2	+1.4
O27A	Beecher Island baz=46	46.12	78	⇑P	P	12 45 54.4	+0.8
S24A	Houchin Ranch, baz=46	46.16	83	⇓P	P	12 45 55.8	+1.6
V22A	San Miguel Ran baz=46	46.30	86	⇓P	P	12 45 56.3	+1.1
Q26A	Hugo baz=46	46.33	80	⇑P	P	12 45 55.9	+0.6
N28A	Pribbeno Ranch baz=46	46.36	77	⇓P	P	12 45 56.7	+1.3
R25A	Fountain Ranch baz=46	46.38	82	⇓P	P	12 45 56.8	+1.2
T24B	San Luis baz=46	46.45	84	⇑P	P	12 45 57.8	+1.5
U23A	El Rito baz=46	46.45	85	⇑P	P	12 45 57.9	+1.6
O28A	Krutsinger Ran baz=46	46.58	78	⇑P	P	12 45 57.8	+0.7
S25A	Robets Cordova baz=46	46.61	82	⇑P	P	12 45 58.3	+0.7
R26A	Arlington baz=47	46.78	81	⇑P	P	12 45 59.5	+0.8
KSCO	Kaye Shedlock' baz=47	46.80	80	⇑P	P	12 46 00.5	+1.6
N29A	Votaw Ranch, W baz=47	46.81	76	⇓P	P	12 45 59.3	+0.5
V23A	Ortiz Mt. (NFS baz=47	46.85	85	⇓P	P	12 46 00.9	+1.5
P28A	Saint Francis baz=47	46.95	78	⇓P	P	12 46 00.9	+0.9
T25A	Trinidad baz=47	46.97	83	⇑P	P	12 46 01.6	+1.2
O29A	4D Ranch, Culb baz=47	47.15	77	⇑P	P	12 46 02.4	+0.8
R27A	Eads baz=47	47.17	80	⇑P	P	12 46 02.8	+1.1
S26A	Kim baz=47,SNR=5.0	47.21	82	⇑P	P	12 46 02.6	+0.5
Q28A	Sharon Springs baz=47	47.23	79	⇓P	P	12 46 03.0	+0.8
ECSD	EROS Data Cent baz=47	47.28	71	⇑P	P	12 46 01.6	-0.7
V24A	Rampart Ranch, baz=47	47.41	85	⇑P	P	12 46 05.2	+1.5
P29A	Atwood baz=47	47.41	78	⇓P	P	12 46 04.5	+0.9
T26A	Comanche Natio baz=47	47.44	82	⇓P	P	12 46 04.6	+0.7
U25A	Circle Dot Ran baz=47,SNR=5.3	47.47	83	⇓P	P	12 46 05.1	+0.9
S27A	Las Animas baz=47	47.51	81	⇓P	P	12 46 04.9	+0.5
O30A	MW Ranch, Wils baz=47	47.55	77	⇑P	P	12 46 05.4	+0.8
W24A	Lazy 6 Ranch, baz=48	47.68	85	⇑P	P	12 46 07.2	+1.4
R28A	Tribune baz=48	47.72	80	⇑P	P	12 46 06.7	+0.7
V25A	Rancho No Teng baz=48	47.72	84	⇑P	P	12 46 07.2	+1.0
Q29A	Oakley baz=48	47.85	79	⇑P	P	12 46 07.6	+0.7
P30A	Selden baz=48	47.85	77	⇑P	P	12 46 07.8	+0.8
BGNE	Belgrade baz=48	47.87	74	⇓P	P	12 46 07.6	+0.6
U26A	Atchley Ranch, baz=48	47.87	83	⇓P	P	12 46 08.2	+1.0
O31A	Woolen Ranch, baz=48	47.99	76	⇓P	P	12 46 08.5	+0.5
T27A	Campo baz=48	48.03	82	⇑P	P	12 46 09.9	+1.5
R29A	Marienthal baz=48	48.06	79	⇓P	P	12 46 09.5	+0.9
121A	Cookes Peak, D baz=48	48.10	90	⇓P	P	12 46 10.1	+1.0
S28A	Manter baz=48	48.16	80	⇓P	P	12 46 10.5	+1.1
Y23A	Lovelace Mesa, baz=48	48.16	87	⇑P	P	12 46 10.9	+1.3
W25A	X Bar L Ranch, baz=48	48.24	85	⇓P	P	12 46 11.4	+1.3
Q30A	Quinter baz=48	48.24	78	⇓P	P	12 46 11.1	+1.2
V26A	Tequesquite Ra baz=48,SNR=5.2	48.25	84	⇓P	P	12 46 10.8	+0.7
T28A	Walsh baz=48	48.35	81	⇑P	P	12 46 12.0	+1.2
U27A	Thompson Grove baz=48	48.40	82	⇑P	P	12 46 12.3	+1.1
Y24A	Capitan baz=48	48.54	87	⇑P	P	12 46 13.8	+1.3
X25A	Clemmons Ranch baz=48	48.59	86	⇑P	P	12 46 13.6	+0.8
S29A	Ulysses baz=48	48.61	80	⇓P	P	12 46 13.9	+1.1
R30A	Dighton baz=48	48.66	79	⇓P	P	12 46 13.8	+0.6
P32A	Huiting Farm, baz=49	48.76	76	⇑P	P	12 46 13.6	-0.3
U28A	Mallet baz=49	48.78	82	⇑P	P	12 46 14.6	+0.5
V27A	Dan Oppiter Fa baz=49	48.84	83	⇑P	P	12 46 15.0	+0.3
S30A	Montezuma baz=49	48.98	79	⇑P	P	12 46 16.3	+0.7
Y25A	Mesa, Roswell baz=49	48.99	86	⇑P	P	12 46 16.9	+1.1
Z24A	Sheeppen Canyo baz=49	49.00	87	⇓P	P	12 46 17.4	+1.4
X26A	CR and CF Fran baz=49	49.08	85	⇓P	P	12 46 17.3	+0.8
R31A	Burdett baz=49	49.10	78	⇓P	P	12 46 17.2	+0.7
Z25A	Roswell baz=49	49.42	87	⇓P	P	12 46 20.1	+1.0
W28A	Vega baz=49	49.56	83	⇓P	P	12 46 20.2	+0.1
U30A	WK&E Inc. Balk baz=49	49.62	81	⇑P	P	12 46 20.9	+0.5
Q33A	Connelly Farm, baz=49	49.62	76	⇓P	P	12 46 20.8	+0.5
T31A	Randall Ranch, baz=50	49.81	79	⇑P	P	12 46 22.2	+0.4
Z26A	Caprock baz=50	49.87	86	⇓P	P	12 46 23.5	+1.0
Y27A	Causey baz=50	49.93	85	⇑P	P	12 46 23.8	+0.9
MSTX	Muleshoe baz=50	50.10	85	⇑P	P	12 46 24.6	+0.4
AMTX	Amarillo baz=50	50.12	83	⇑P	P	12 46 25.2	+0.9
T32A	Huddler Ranch, baz=50	50.20	79	⇑P	P	12 46 25.4	+0.6
Z27A	Tatum baz=50	50.30	86	⇑P	P	12 46 26.6	+1.0
Y28A	McKinney Farm, baz=50	50.46	84	⇓P	P	12 46 27.6	+0.7
V31A	Spring Creek L baz=50	50.61	81	⇑P	P	12 46 28.6	+0.7
Y29A	Porterfield Fa baz=51	50.84	84	⇓P	P	12 46 30.5	+0.8
128A	Castleberry Fa baz=51	51.22	86	⇓P	P	12 46 33.3	+0.8
Z29A	Hungry Hill Ra baz=51	51.24	84	⇑P	P	12 46 33.1	+0.4
Y30A	Stafford Cattl baz=51	51.29	83	⇓P	P	12 46 33.8	+0.8
X31A	McDonald Ranch baz=51	51.31	82	⇑P	P	12 46 33.6	+0.4
W32A	Sentinel baz=51	51.41	81	⇓P	P	12 46 34.7	+0.8
U34A	Anderson Ranch baz=51	51.52	78	⇓P	P	12 46 34.8	+0.1
Z30A	Sanderson Ranc baz=51	51.56	84	⇑P	P	12 46 35.8	+0.7
X32A	Elmer baz=52	51.87	82	⇑P	P	12 46 38.0	+0.7
Y32A	R-V Farms, Ver baz=52	52.07	82	⇑P	P	12 46 39.0	+0.3
Z31A	Sharp Cattle R baz=52	52.13	83	⇑P	P	12 46 39.8	+0.6
329A	Wagon Wheel Ra baz=52	52.32	86	⇑P	P	12 46 41.6	+0.9
131A	Roby baz=52	52.43	84	⇑P	P	12 46 42.2	+0.7
Z32A	Haskell baz=52	52.53	83	⇓P	P	12 46 42.5	+0.4
230A	Sterling City baz=52	52.56	85	⇑P	P	12 46 43.0	+0.6
TXAR	Lajitas Array 0.7nm,0.4s,baz=304,slow=5.5,SNR=34	52.85	89	P	P	12 46 45.7	+1.0
TUL1	Tulsa baz=53	52.90	78	⇓P	P	12 46 45.7	+0.8
ABTX	Abilene, Hawle baz=53	52.91	83	⇓P	P	12 46 46.2	+1.2
Z33A	Whitaker Ranch baz=53	52.97	82	⇑P	P	12 46 46.2	+0.8
Y34A	Reagan Ranch, baz=53	53.10	81	⇓P	P	12 46 46.9	+0.6
529A	Stev Forest Ra baz=53	53.15	88	⇓P	P	12 46 47.6	+0.8
430A	Baggett Ranch, baz=53	53.27	86	⇑P	P	12 46 48.4	+0.8
133A	Hamilton Ranch baz=53	53.36	83	⇓P	P	12 46 48.7	+0.5
331A	San Angelo baz=53	53.38	85	⇓P	P	12 46 49.3	+0.9
232A	Coleman baz=53	53.43	84	⇑P	P	12 46 49.6	+0.7
530A	J-C Ranch, Com baz=54	53.66	87	⇑P	P	12 46 51.3	+0.8
431A	Sonora baz=54	53.72	86	⇓P	P	12 46 51.7	+0.8
332A	Millersview baz=54	53.73	85	⇑P	P	12 46 51.6	+0.6
233A	Rising Star baz=54	53.79	83	⇑P	P	12 46 52.5	+1.1
134A	White-Moore Ra baz=54	53.88	82	⇑P	P	12 46 53.4	+1.3
531A	Rocksprings baz=54	54.13	86	⇑P	P	12 46 54.4	+0.5
333A	Richland Sprin baz=54	54.23	84	⇓P	P	12 46 55.7	+1.1
334A	Lometa baz=54	54.67	84	⇓P	P	12 46 58.5	+0.8
SFIN	Scholer Farm baz=55	54.82	68	⇓P	P	12 46 58.7	+0.1
434A	Burnet baz=55	55.02	84	⇓P	P	12 47 00.8	+0.5
832A	Faith Ranch, C baz=56	55.83	87	⇑P	P	12 47 06.9	+0.8
634A	China Grove, S baz=56	56.01	85	⇓P	P	12 47 08.5	+1.1
MKAR	Makanchi Array 0.2nm,0.7s,baz=52,slow=5.5,SNR=2.9	63.09	313	P	P	12 47 54.0	-1.7
WRA	Warramunga Arr 0.2nm,0.5s,baz=35,slow=6.2,SNR=2.6	87.48	231	P	P	12 50 14.6	-0.5

MEX 22 12:39:29.8±0.8, 16.62N×99.87W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.25	3	eP	Pg	12 39 28.6	-6.1
ACX				iS	Sg	12 39 32.1	-5.9
CAIG	El Cayaco	0.57	318	iP	Pg	12 39 40.3	-0.5
CAIG				iS	Sg	12 39 48.2	0.0
TLIG	Tlapa	1.56	53	eP	Pn	12 39 54.0	-4.4
TLIG				iS	Sn	12 40 13.6	-5.6
PNIG	Pinotepa	1.69	97	iP	Pn	12 39 56.8	-3.3
PNIG				iS	Sn	12 40 17.8	-4.4
ARIG	Puente Sto Nin	1.71	345	eP	Pn	12 39 57.5	-2.9
ARIG				iS	Sn	12 40 18.3	-4.4
PLIG	Platanillo	1.80	11	iP	Pn	12 39 57.6	-4.0
PLIG				iS	Sn	12 40 20.0	-4.9
ZIIG	Zihuatanejo	1.81	303	iP	Pn	12 39 57.6	-4.0
ZIIG				iS	Sn	12 40 21.1	-3.9
YAIG	Yautepec	2.36	19	iP	Pn	12 40 06.5	-2.9
YAIG				iS	Sn	12 40 35.4	-3.5

DJA 22 12:59:23.5±0.5, 1°S±3°×12°3E±°, h28km±6km, M3.9/12, mb3.9/1, MLv3.9/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.65	241	P	Pb	12 59 35.8	-0.5
LUWI				S	Sn	12 59 46.8	+0.7
KMSI	Cibinong	1.45	26	P	Pn	12 59 48.6	+0.8
KMSI				S	Sn	13 00 05.4	-0.5
APSI	Ampana	1.70	264	P	Pb	12 59 53.0	-1.1
APSI				S	Sn	13 00 12.8	+0.6
MRSI	Marisa	1.84	311	P	Pn	12 59 51.7	-1.6
SANI	Sanana	2.95	116	P	Pn	13 00 07.9	-0.7
MPSI	Mapaga	3.60	287	P	Pn	13 00 18.5	+1.0
TTSI	Tana Toraja	4.20	237	P	Pn	13 00 25.3	-0.5
NLAI	Namlea	4.51	124	P	Pn	13 00 32.1	+2.1
SPSI	Sidrap Palu	4.80	228	P	Pn	13 00 33.5	-0.5
BNSI	Bone	4.87	221	P	Pn	13 00 34.3	-0.7
BKSI	Bulukumba	5.58	215	P	Pn	13 00 44.2	-0.5

IDC 22 13:02:10.6±1.9, 7.62S×108.42E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/35, mbtmp4.0/6, Error ellipse: s-maj=85.6km s-min=19.8km az=54.0
ISCJB 22 13:02:19.9±0.4, 7.95S±0.05×108.29E±0.03, h95km±4km, mb3.9/7, Error ellipse: s-maj=8.3km s-min=5.0km az=13.2
NEIC 22 13:02:20.5±0.6, 7.96S×108.18E, h89km±6km, mb3.9/1, Error ellipse: s-maj=11.3km s-min=9.0km az=212.0
NEIC Felt [II] at Pangandaran.
KLM 22 13:02:23.3, 7.65S×108.47E, h229km, mb4.4, MS5.4
DJA 22 13:02:23.0±0.4, 8°S±6°×10°8E±°, h42km±5km, M4.5/35, mb4.5/12, mB5.2/8, MLv4.4/35, Mw(mB)4.5/8
ISC 22 13:02:19.6±0.7, 8.06S±0.05×108.27E±0.04, h80km±6km, n73, σ1.78/68, mb3.9/7, 8C-1D, Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.32	33	P	Pn	13 02 32.6	+0.5
CMJI				S	Sn	13 02 38.3	-3.0
CISI	Cisompet, Garu	0.67	318	P	Pn	13 02 36.5	+1.4
CISI				S	Sn	13 02 47.4	+0.9
CISI	Cisompet, Garu	0.67	318	ePg	Pn	13 02 36.2	+1.1
CISI				eS	Sn	13 02 47.5	+0.9
CISI	Cisompet, Garu baz=0.8,SNR=1000	0.67	318	P	Pn	13 02 35.9	+0.8
CISI	baz=0.8,SNR=22			S	Sn	13 02 48.5	+1.9
KPJI	Karang Pucung	0.97	42	P	Pn	13 02 39.1	+0.7
CNJI	Cibinong	1.35	303	P	Pn	13 02 45.3	+2.2
LEM	Lembang	1.38	332	P	Pn	13 02 45.5	+1.9
LEM	Lembang baz=1.5,SNR=38	1.38	332	P	Pn	13 02 46.5	+2.8
SKJI	Sukabumi	1.99	301	P	Pn	13 02 55.4	+3.9
UGM	Wanagama	2.24	87	P	Pn	13 02 55.1	+0.4
UGM	Wanagama baz=2.2,SNR=74	2.24	87	P	Pn	13 02 55.2	+0.4
UGM	baz=2.2,SNR=6.2			S	Sn	13 03 20.8	-0.7
SMRI	Semarang	2.37	65	P	Pn	13 02 57.9	+1.4
SMRI	Semarang	2.37	65	eP	Pn	13 02 57.9	+1.4
SMRI				eS	Sn	13 03 23.9	-0.9
SMRI	Semarang baz=2.4,SNR=56	2.37	65	P	Pn	13 02 58.0	+1.4
SMRI	baz=2.4,SNR=6.8			S	Sn	13 03 26.7	+1.8
WOJI	Wonogiri, Jawa	2.64	85	P	Pn	13 02 59.9	-0.2
CGJI	Cibinong	2.93	299	P	Pn	13 03 06.5	+2.4
UWJI	Ujung Watu	3.11	59	P	Pn	13 03 07.2	+0.7
NGJI	Ngawi	3.23	78	P	Pn	13 03 09.5	+1.3
XMI	Christmas Isla baz=3.4,SNR=51	3.49	227	P	Pn	13 03 12.9	+1.3
XMI	baz=3.4,SNR=5.2			S	Sn	13 03 50.0	-1.8
PWJI	Pagerwojo	3.50	90	P	Pn	13 03 12.5	+0.7
XMIS	Christmas Isla	3.53	227	eP	Pn	13 03 12.9	+0.7
XMIS				eS	Sn	13 03 51.4	-1.6
XMIS	Christmas Isla baz=3.5,SNR=189	3.53	227	P	Pn	13 03 13.2	+0.9
XMIS	baz=3.5,SNR=6.8			S	Sn	13 03 51.7	-1.3
TBJI	Tambak Boyo	3.75	71	P	Pn	13 03 16.1	+0.9
GRJI	Gresik	4.33	75	P	Pn	13 03 23.7	+0.7
KASI	Kota Agung	4.51	304	P	Pn	13 03 29.4	+3.8
KLI	Kotabumi	4.64	313	P	Pn	13 03 31.4	+4.0
GMJI	Gumukmas 34nm,0.6s,1μm0.3nm	5.13	93	P	Pn	13 03 35.6	+1.7
BLJI	Banyuglugur 48nm,0.8s,2μm0.3nm	5.28	87	P	Pn	13 03 38.7	+2.6
TPI	Tanjungpandan 19nm,1.3s,0.1nm	5.30	353	P	Pn	13 03 39.4	+3.1
MDSI	Maura Dua 17nm,0.9s,1μm0.1nm	5.40	311	P	Pn	13 03 41.6	+4.0
KMMI	Kalianget 44nm,1.7s,3μm0.2nm	5.74	80	P	Pn	13 03 42.1	-0.1
JAGI	Jajag, Banyuwa 45nm,1.1s,2μm0.4nm	5.84	94	P	Pn	13 03 46.8	+3.2
JAGI	Jajag, Banyuwa 34nm,0.3s	5.84	94	eP	Pn	13 03 46.5	+2.8
JAGI	Jajag, Banyuwa baz=5.8,SNR=26	5.84	94	P	Pn	13 03 46.1	+2.4
ABJI	Asem Bagus 63nm,1.1s,0.3nm	5.91	88	P	Pn	13 03 46.3	+1.6
MNAI	Manna 163nm,1.3s,1.4nm	6.43	304	P	Pn	13 03 55.8	+4.0
IGBI	Denpasar 62nm,1.0s,2μm0.4nm	6.84	97	P	Pn	13 03 59.4	+2.0
SRBI	Singaraja 30nm,0.6s,1μm0.2nm	6.87	91	P	Pn	13 04 00.6	+2.8
KSM	Kuching	9.68	12	⇑P	Pn	13 04 34.6	-1.5
MYKOM	Kota Tinggi	10.73	336	⇑P	Pn	13 04 50.0	-0.4
SBUM	Sibu	11.15	21	⇑P	Pn	13 04 52.9	-3.4
KGM	Kluang	11.16	334	⇓P	Pn	13 04 53.6	-2.7
BTM	Bintulu	12.17	23	⇑P	Pn	13 05 01.6	-8.4
FRIM	Kepong	13.03	329	⇑P	Pn	13 05 16.9	-4.8
KTGM	Kuala Trenggan	14.25	339	⇑P	Pn	13 05 32.7	-4.9
GIRL	Giralia baz=16,SNR=4.6	15.60	159	P	Pn	13 05 55.4	+0.6
GIRL	baz=16,SNR=8.5			S	Sn	13 08 32.6	-14
KKM	Kota Kinabalu	16.09	30	⇑P	Pn	13 05 53.7	-7.6
MBWA	Marble Bar	17.09	141	P	Pn	13 06 14.4	+0.9
MEEK	Meekatharra baz=21,SNR=9.0	20.93	153	P	P	13 07 06.8	+11
MEEK	baz=21,SNR=11			S	S	13 10 42.6	-2.2
KNRA	Kununurra baz=21,SNR=7.2	21.42	113	P	P	13 07 02.8	+1.5
MORW	Morawa baz=22,SNR=3.2	22.14	162	S	S	13 11 14.1	+6.0
MTN	Manton Dam baz=23,SNR=7.4	22.97	104	P	P	13 07 17.8	+0.1
KDU	Kakadu baz=24,SNR=4.8	24.24	103	P	P	13 07 29.2	0.0
WRKA	Warakurna baz=26,SNR=5.8	25.50	134	P	P	13 07 42.8	+2.1
WRA	Warramunga Arr 0.8nm,0.5s,baz=295,slow=11,SNR=18	27.87	118	P	P	13 08 03.1	+1.1
WRAB	Tennant Creek 1.7nm,0.5s	27.87	118	eP	P	13 08 03.0	+1.0
QIS	Mount Isa baz=33,SNR=4.0	32.73	116	P	P	13 08 46.4	+1.4
H08S2	Diego Garcia H baz=93,slow=76,SNR=77	35.44	268	T	T	13 46 35.7	
H08S3	Diego Garcia H baz=93,slow=76,SNR=85	35.45	268	T	T	13 46 36.0	
H08S1	Diego Carcia H baz=93,slow=76,SNR=79	35.46	268	T	T	13 46 36.7	
QLP	Quilpie baz=39,SNR=3.7	38.77	123	P	P	13 09 39.3	+2.8
STKA	Stephens Creek 6.7nm,0.5s,baz=308,slow=7.7,SNR=17	39.00	132	P	P	13 09 40.8	+2.4
STKA	Stephens Creek baz=39,SNR=11	39.00	132	P	P	13 09 40.8	+2.4
SONM	Songino Array 0.3nm,0.5s,baz=178,slow=8.3,SNR=5.9	55.67	358	P	P	13 11 46.5	-1.1
SONM	0.2nm,0.5s,baz=167,slow=3.1,SNR=4.2			PcP	PcP	13 12 46.0	-0.1
MKAR	Makanchi Array 0.4nm,0.4s,baz=148,slow=8.1,SNR=12	59.30	340	P	P	13 12 11.3	-1.8
ZALV	Zalesovo Beam 0.3nm,0.3s,baz=134,slow=4.2,SNR=2.4	64.87	345	P	P	13 12 49.6	-0.4
PETK	Petropavlovsk- 2.3nm,0.8s,baz=197,slow=4.5,SNR=4.1	73.91	28	P	P	13 13 44.2	-1.6
SYO	Syowa Base	74.95	200	⇑eP	P	13 14 02.6	+11
YKA	Yellowknife Ar 0.2nm,0.5s,baz=317,slow=1.9,SNR=7.0	117.40	21	PKP	PKPdf	13 20 56.0	+0.4
TXAR	Lajitas Array	143.29	51	PKhKP	PKPpre	13 21 43.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.2nm,0.6s,baz=266,slow=1.7,SNR=4.7						
JCT	Junction City	145.54	46	ePKP	PKPdf	13 21 49.7	+0.4
MIAR	Mount Ida	146.86	34	ePKPbc	PKPbc	13 21 53.9	+0.7
WVT	Waverly	148.43	25	ePKPbc	PKPbc	13 21 57.0	-0.5

KRSC 22 13:17:56.6±2.1, 48.00N×156.32E, h15km±6km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.69	357	P	Pn	13 18 40.6	+1.3
SKR				S	Sn	13 19 13.3	+1.7
PAU	Pauzhetka	3.49	5	P	Pn	13 18 52.5	+2.2
PAU				S	Sn	13 19 35.5	+4.2
ASAK	Asacha	4.51	12	P	Pn	13 19 09.0	+4.6
MTVR	Mutnovka	4.65	14	S	Sn	13 20 05.5	+5.3
RUS	Russkaya	4.66	17	P	Pn	13 19 09.8	+3.5
RUS				S	Sn	13 20 05.3	+5.2
UGLR	Uglovaya	5.46	16	P	Pn	13 19 23.2	+5.7
AVH	Avacha	5.50	15	P	Pn	13 19 24.2	+6.2
KOK	Koryaka	5.50	15	P	Pn	13 19 23.9	+5.8
KRER	Koryakskii	5.54	15	P	Pn	13 19 23.9	+5.2
SDLR	Sedlovina	5.54	16	P	Pn	13 19 22.2	+3.7
GNL	Ganaly	5.80	10	P	Pn	13 19 25.1	+2.9
MKZ	Mys Kozlova	7.39	25	P	Pn	13 19 48.1	+4.3
KBTR	Krutoberegovo	9.14	23	P	Pn	13 20 11.8	+4.0

ISCJB 22 13:21:35.4±0.8, 10.13N±0.04×60.68W±0.05, h78km±7km, Error ellipse: s-maj=9.9km s-min=5.0km az=28.8
TRN 22 13:21:38.1, 10.31N×60.62W, h42km, MD3.7
FUNV 22 13:21:39.0, 9.94N×60.69W, h32km, MW3.7
ISC 22 13:21:33.8±1.5, 10.05N±0.04×60.57W±0.06, h83km±11km, n26, σ2§24/45, 1C-3D, Trinidad

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBH	Brigand Hill	0.65	311	eP	Pn	13 21 50.1	+0.9
TBH				eS	Sn	13 21 58.9	-1.7
TPP	Pointe-a-Pierr	0.91	287	eP	Pn	13 21 54.3	+2.4
TPP				eS	Sn	13 22 05.8	+0.3
TRN	Trinidad (W)	1.01	306	eS	Sn	13 22 05.8	-1.8
BOT	Bacolet	1.12	353	eP	Pn	13 21 54.6	+0.1
BOT				eS	Sn	13 22 06.5	-3.4
TPR	Prospect	1.15	350	eP	Pn	13 21 55.1	+0.3
TPR				eS	Sn	13 22 07.2	-3.3
TOSP	Speyside	1.24	2	eP	Pn	13 21 57.5	+1.5
TOSP				eS	Sn	13 22 10.5	-2.1
GUIV	Guiria	1.73	290	⇓eP	Pn	13 22 04.7	+2.5
GUIV				eS	Sn	13 22 25.3	+1.5
RIOV	Rio Grande	2.32	212	⇓eP	Pn	13 22 12.4	+2.3
RIOV				eS	Sn	13 22 37.1	-0.7
GUNV	Guanoco	2.34	273	⇓eP	Pn	13 22 13.8	+3.5
GUNV				eS	Sn	13 22 37.4	-0.9
GRW	Mount Saint Ca	2.35	333	eP	Pn	13 22 12.6	+2.0
GRW				eS	Sn	13 22 37.7	-1.0
GRHS	Sauteurs	2.40	334	eP	Pn	13 22 12.8	+1.7
GRHS				eS	Sn	13 22 39.3	-0.4
GRSS	Sisters	2.46	335	eP	Pn	13 22 13.5	+1.7
GRSS				eS	Sn	13 22 39.9	-1.1
CRUV	Carupano	2.70	284	⇑eP	Pn	13 22 17.0	+2.0
CRUV				eS	Sn	13 22 46.1	-0.7
ORIV	Oritupano	2.96	251	eP	Pn	13 22 21.0	+2.3
ORIV				eS	Sn	13 22 51.7	-1.6
SVB	Belmont	3.27	348	eP	Pn	13 22 25.1	+2.3
SVB				eS	Sn	13 22 59.4	-1.4
MCLT	Moule a Chique	3.65	354	eP	Pn	13 22 30.1	+2.0
MCLT				eS	Sn	13 23 08.4	-1.6
PCRV	Puerto La Cruz	4.01	272	eP	Pn	13 22 34.1	+1.2
PCRV				eS	Sn	13 23 16.0	-2.7
PRGV	PARIAGUAN	4.22	253	eP	Pn	13 22 37.9	+2.2
PRGV				eS	Sn	13 23 21.4	-2.6
LUEV	Luepa	4.27	192	eS	Sn	13 23 22.7	-2.7
CUPV	Cœpira	5.14	271	eP	Pn	13 22 50.9	+2.6
BIRV	Birongo	5.63	275	eP	Pn	13 22 56.9	+2.0
BIRV				eS	Sn	13 23 54.7	-3.5
MERV	Las Mercedes	5.70	262	eP	Pn	13 22 58.0	+2.1
MERV				eS	Sn	13 23 56.3	-3.8
TURV	Turiamo	7.17	274	eP	Pn	13 23 17.7	+1.7
BAUV	El Baul	7.45	262	eP	Pn	13 23 21.2	+1.3
BAUV				eS	Sn	13 24 37.5	-5.4
MAPV	Macapo	7.77	269	eP	Pn	13 23 26.2	+1.9
MONV	Montecano	9.42	282	eP	Pn	13 23 48.7	+1.9

IDC 22 13:32:19.9±0.7, 29.39N×105.64E, h0km, mb4.1/17, mb1 4.2/19, mb1mx4.0/50, mbtmp4.1/19, ML3.6/2, MS3.3/14, Ms1 3.3/14, ms1mx3.2/32, Error ellipse: s-maj=21.8km s-min=15.7km az=45.0
ISCJB 22 13:32:22.6±0.3, 29.34N±0.02×105.57E±0.03, h29km, mb4.1/20, MS3.3/14, Error ellipse: s-maj=4.3km s-min=3.5km az=15.1
BJI 22 13:32:23.1, 29.36N×105.46E, h30km, mB4.6/12, mb4.3/26, ML4.3/27, Ms4.2/34, Ms7 4.0/28
NEIC 22 13:32:26.0±0.5, 29.34N×105.63E, h44km±6km, mb4.4/3, Error ellipse: s-maj=6.2km s-min=5.2km az=95.0
NEIC Felt [II] at Chengdu. Also felt at Luzhou.
ISC 22 13:32:24.9±0.4, 29.29N±0.03×105.52E±0.03, h29km, n60, σ1§91/91, mb4.2/20, MS3.4/14, 2C-3D, Sichuan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CD2	Chengdu	2.22	317	Pn	Pn	13 32 59.5	-0.3
CD2				Pg	Pb	13 33 04.0	-0.3
CD2				Sn	Sn	13 33 25.0	-1.3
CD2				Sg	Sb	13 33 30.5	-0.9
CD2				smax	smax		
	comp=N,4μm,0.8s						
CD2				smax	smax		
	comp=E,8μm,0.6s						
CD2	Chengdu	2.22	317	Pn	Pn	13 32 59.5	-0.3
CD2				Pg	Pb	13 33 04.0	-0.3
CD2				Sn	Sn	13 33 25.0	-1.3
CD2				Sg	Sb	13 33 30.5	-0.9
GYA	Guiyang	3.00	160	⇑iPn	Pn	13 33 11.3	+0.7
GYA				Pg	Pb	13 33 21.4	+3.7
GYA				Sn	Sn	13 33 44.6	-1.0
GYA				Sg	Sb	13 33 51.8	-2.1
GYA				smax	smax		
	comp=N,1μm,0.6s						
GYA				smax	smax		
	comp=E,1μm,0.8s						
GYA				LR	LR		
	comp=N,4μm,4.7s						
GYA				LR	LR		
	comp=E,5μm,5.3s						
GYA				LR	LR		
	comp=Z,4μm,5.0s						
GYA	Guiyang	3.00	160	⇑iPn	Pn	13 33 11.3	+0.7
GYA				Pg	Pb	13 33 21.4	+3.7
GYA				Sn	Sn	13 33 44.6	-1.0
GYA				Sg	Sb	13 33 51.8	-2.1
ENH	Enshi	3.59	73	ePn	Pn	13 33 18.7	+0.1
ENH				eSn	Sn	13 34 01.2	+1.2
KMI	Kunming	4.83	211	Pn	Pn	13 33 37.9	+2.1
KMI				Sn	Sn	13 34 33.3	+2.3
KMI				smax	smax		
	comp=N,92nm,1.0s						
KMI				smax	smax		
	comp=E,120nm,0.9s						
KMI				LR	LR		
	comp=N,950nm,4.1s						
KMI				LR	LR		
	comp=E,2μm,4.3s						
KMI				LR	LR		
	comp=Z,610nm,6.3s						
KMI	Kunming	4.83	211	Pn	Pn	13 33 37.9	+2.1
KMI				Sn	Sn	13 34 33.3	+2.3
XAN	Xi'an	5.55	31	Pn	Pn	13 33 44.1	-1.5
XAN				Pg	Pb	13 34 02.4	+1.3
XAN				Sn	Sn	13 34 43.8	-4.7
XAN				Sg	Sb	13 35 08.3	+1.0
XAN				smax	smax		
	comp=N,430nm,1.0s						
XAN				smax	smax		
	comp=E,130nm,0.9s						
XAN				LR	LR		
	comp=N,680nm,5.8s						
XAN				LR	LR		
	comp=E,210nm,5.6s						
XAN	Xi'an	5.55	31	Pn	Pn	13 33 44.1	-1.5
XAN				Pg	Pb	13 34 02.4	+1.3
XAN				Sn	Sn	13 34 43.8	-4.7
XAN				Sg	Sb	13 35 08.3	+1.0
LZH	Lanzhou	6.92	349	ePn	Pn	13 34 06.5	+2.0
LZH				Sn	Sn	13 35 20.5	-1.9
LZH				Sg	Sb	13 35 59.0	+12
LZH				smax	smax		
	comp=N,280nm,1.2s						
LZH				smax	smax		
	comp=E,460nm,1.2s						
LZH				LR	LR		
	comp=N,1μm,5.3s						
LZH				LR	LR		
	comp=E,2μm,8.0s						
LZH				LR	LR		
	comp=Z,2μm,9.4s						
LZH	Lanzhou	6.92	349	ePn	Pn	13 34 06.5	+2.0
LZH				Sn	Sn	13 35 20.5	-1.9
LZH				Sg	Sb	13 35 59.0	+12
WHN	Wuhan	7.77	79	⇓Pn	Pn	13 34 15.0	-1.0
WHN				Sn	Sn	13 35 35.8	-7.2
WHN				LR	LR		
	comp=N,4μm,6.4s						
WHN				LR	LR		
	comp=E,2μm,6.6s						
WHN				LR	LR		
	comp=Z,3μm,5.5s						
WHN	Wuhan	7.77	79	⇓Pn	Pn	13 34 15.0	-1.0
WHN				Sn	Sn	13 35 35.8	-7.2
GZH	Guangzhou	9.36	130	P	Pn	13 34 33.8	-4.0
GZH				S	Sn	13 36 13.8	-8.2
GZH				LR	LR		
	comp=N,960nm,3.2s						
GZH				LR	LR		
	comp=E,1μm,3.4s						
QIZ	Qiongzhong	10.95	158	P	Pn	13 35 00.5	+0.9
QIZ				S	Sn	13 37 02.8	+1.6
QIZ				pmax	pmax		
	comp=E,23nm,1.7s						
QIZ				LR	LR		
	comp=E,410nm,7.3s						
QIZ				LR	LR		
	comp=E,410nm,12.6s						
QIZ	Qiongzhong	10.95	158	P	Pn	13 34 57.6	-2.0
GTA	Gaotai	11.14	337	eP	Pn	13 35 03.0	+0.8
GTA				pP		13 35 06.3	
GTA				sP		13 35 09.1	
GTA				S	Sn	13 37 07.5	+1.7
GTA				sS		13 37 12.8	
GTA				SS	SnSn	13 37 20.8	+2.8
GTA				pmax	pmax		
	comp=E,2.0nm,1.3s						
GTA				pmax	pmax		
	comp=E,45nm,4.3s						
GTA				LR	LR		
	comp=E,620nm,11.2s						
GTA				LR	LR		
	comp=E,820nm,12.4s						
GTA				LR	LR		
	comp=E,580nm,11.6s						
NJ2	Nanjing	11.81	73	eP	Pn	13 35 11.6	+0.3
NJ2				S	Sn	13 37 25.0	+2.9
NJ2				pmax	pmax		
	comp=E,20nm,1.0s						
NJ2				LR	LR		
	comp=E,370nm,11.0s						
NJ2				LR	LR		
	comp=E,110nm,13.0s						
NJ2				LR	LR		
	comp=E,4μm,13.0s						
TIA	Tai'an	11.96	52	⇓P	Pn	13 35 12.6	-0.8
TIA				S	Sn	13 37 27.9	+2.2
TIA				pmax	pmax		
	comp=E,10.0nm,0.8s						
TIA				LR	LR		
	comp=E,370nm,8.1s						
TIA				LR	LR		
	comp=E,430nm,12.5s						
TIA				LR	LR		
	comp=E,160nm,3.7s						
CHTO	Chiang Mai	12.03	211	eP	Pn	13 35 17.6	+3.1
	comp=E,6.1nm,1.0s						
CM31	Chiang Mai Arr	12.34	211	eP	Pn	13 35 21.8	+3.1
CMAR	Chiang Mai Arr	12.34	211	Pn	Pn	13 35 20.8	+2.1
	comp=E,0.2nm,0.3s,baz=18,slow=11,SNR=30						
CMAR				Lg	Lg	13 39 02.1	
	baz=47,slow=27,SNR=2.6						
CMAR				LR	LR	13 40 36.0	
	comp=E,92nm,19.1s,baz=35,slow=40						
LSA	Lhasa	12.52	275	P	Pn	13 35 21.1	-0.4
LSA	Lhasa	12.52	275	eP	Pn	13 35 22.4	+0.9
	comp=E,6.1nm,0.8s						
HHC	Hu-ho-hao-te	12.55	22	eP	Pn	13 35 22.5	+1.0
HHC				PP	P	13 35 33.6	+0.8
HHC				sP		13 35 35.5	
HHC				S	Sn	13 37 41.4	+1.1
HHC				SS	SnSn	13 37 59.6	+6.9
HHC				pmax	pmax		
	comp=E,19nm,0.7s						
HHC				pmax	pmax		
	comp=E,76nm,6.7s						
HHC				LR	LR		
	comp=E,590nm,12.4s						
HHC				LR	LR		
	comp=E,970nm,11.7s						
HHC				LR	LR		
	comp=E,250nm,12.5s						
BJI	Beijing	13.84	36	P	Pn	13 35 38.5	-0.5
BJI				S	Sn	13 38 10.3	-1.4
BJI				pmax	pmax		
	comp=E,8.0nm,0.5s						
BJI				pmax	pmax		
	comp=E,79nm,6.5s						
BJI				LR	LR		
	comp=E,340nm,25.2s						
BJI				LR	LR		
	comp=E,160nm,27.6s						
SONM	Songino Array	18.53	2	P	P	13 36 38.4	-0.7
	comp=E,0.1nm,0.3s,baz=180,slow=9.7,SNR=21						
SONM				LR	LR	13 44 30.5	
	comp=E,92nm,20.0s,baz=334,slow=40						
JOW	Kunigami	20.23	91	LR	LR	13 45 17.7	
	comp=E,12nm,19.8s,baz=100,slow=39						
WMQ	Urumqi	20.32	320	P	Pn	13 37 01.0	+0.3
WMQ				pP	pP	13 37 11.8	+5.4
WMQ				PP	PnPn	13 37 22.8	+7.0
WMQ				S	S	13 40 41.3	-3.6
WMQ				PcP	PcP	13 41 12.0	+0.9
WMQ				PcS	PcS	13 44 48.6	-0.1
WMQ				pmax	pmax		
	comp=E,8.0nm,0.6s						
WMQ				pmax	pmax		
	comp=E,240nm,6.2s						
WMQ				LR	LR		
	comp=E,350nm,9.4s						
WMQ				LR	LR		
	comp=E,380nm,7.6s						
WMQ				LR	LR		
	comp=E,160nm,20.8s						
KSAR	Wonju Array Be	20.34	61	P	P	13 36 57.8	-1.1
KSRS	Korea Array	20.38	61	P	P	13 36 57.8	-1.4
	comp=E,4.6nm,0.8s,baz=242,slow=11,SNR=18						
KSRS				LR	LR	13 45 14.6	
	comp=E,71nm,20.1s,baz=261,slow=38						
CN2	Changchun	21.51	42	eP	P	13 37 10.4	-1.0
CN2				ePP	PnPn	13 37 35.3	+3.2
CN2				eS	S	13 41 00.3	-8.1
CN2				pmax	pmax		
	comp=E,20nm,1.3s						
CN2				LR	LR		
	comp=E,400nm,17.0s						
CN2				LR	LR		
	comp=E,300nm,17.0s						
CN2				LR	LR		
	comp=E,300nm,18.0s						
MDJ	Mudanjiang	24.45	45	P	P	13 37 40.0	-1.1
MDJ				pP	pP	13 37 50.6	+1.0
MDJ				S	S	13 41 57.5	-1.9
IPM	Ipoh	25.04	191	eP	P	13 37 45.7	-0.9
	comp=E,12nm,0.8s						
MKAR	Makanchi Array	25.15	320	P	P	13 37 47.2	-0.2
	comp=E,3.6nm,0.7s,baz=124,slow=11,SNR=34						
MKAR				ScP	ScP	13 44 58.6	+0.5
	comp=E,0.6nm,0.8s,baz=142,slow=4.5,SNR=4.7						
MKAR				LR	LR	13 48 32.4	
	comp=E,148nm,20.4s,baz=144,slow=39						
USRK	Ussuriysk Arra	25.77	48	P	P	13 37 51.3	-1.7
	comp=E,3.2nm,0.8s,baz=252,slow=8.4,SNR=10.0						
USRK				LR	LR	13 47 54.4	
	comp=E,52nm,18.7s,baz=314,slow=36						
PSI	Prapat	27.08	195	LR	LR	13 50 08.5	
	comp=E,32nm,18.8s,baz=298,slow=39						
AAK	Ala-Archa	28.25	307	LR	LR	13 51 34.5	
	comp=E,130nm,21.2s,baz=72,slow=41						
MJAR	Matsushiro Arr	28.29	67	LR	LR	13 48 45.7	
	comp=E,54nm,19.4s,baz=230,slow=35						
ZALV	Zalesovo Beam	28.88	334	P	P	13 38 19.9	-1.0
	comp=E,3.5nm,0.8s,baz=124,slow=9.1,SNR=15						
ZALV				LR	LR	13 49 28.6	
	comp=E,78nm,18.8s,baz=256,slow=36						
KURBB	Kurchatov Arra	29.42	324	P	P	13 38 25.1	-0.6
	comp=E,1.0nm,0.2s,baz=128,slow=10,SNR=9.5						
KURK	Kurchatov	29.43	324	P	P	13 38 25.1	-0.6
JCJ	Chichijima	32.31	85	LR	LR	13 52 22.2	
	comp=E,40nm,20.1s,baz=196,slow=37						
ABKAR	Akbulak array	39.79	313	P	P	13 39 54.7	-0.5
AKTO	Aktyubinsk	41.27	314	P	P	13 40 07.2	-0.2
	comp=E,0.6nm,0.4s,baz=86,slow=14,SNR=2.9						
ARU	Arti	42.61	323	eP	P	13 40 17.8	-0.4
	comp=E,6.5nm,0.8s						
WRAB	Tennant Creek	56.29	147	eP	P	13 42 02.4	-0.6
WRA	Warramunga Arr	56.29	147	P	P	13 42 02.7	-0.3
	comp=E,6.6nm,0.8s,baz=338,slow=8.1,SNR=38						
BRTR	Keskin Array B	58.71	301	P	P	13 42 20.2	+0.1
	comp=E,1.7nm,0.9s,baz=71,slow=8.0,SNR=5.3						
ARCES	ARCESS Array B	59.41	336	P	P	13 42 22.4	-1.9
	comp=E,2.2nm,0.8s,baz=81,slow=7.4,SNR=3.0						
ARCES				LR	LR	14 11 48.2	
	comp=E,26nm,20.0s,baz=192,slow=40						
AKASG	Malin Array Be	59.52	314	P	P	13 42 24.3	-1.0
	comp=E,0.3nm,0.3s,baz=68,slow=6.9,SNR=7.9						
AKASG				LR	LR	14 09 36.3	
	comp=E,69nm,18.8s,baz=275,slow=38						
FINES	FINESS Array B	59.75	327	P	P	13 42 26.1	-0.6
	comp=E,0.6nm,0.4s,baz=99,slow=8.3,SNR=7.5						
HFS	Hagfors	65.95	327	P	P	13 43 07.1	-1.0
	comp=E,1.2nm,0.4s,baz=83,slow=6.4,SNR=14						
NOA	NORSAR Array B	66.84	328	P	P	13 43 12.6	-1.2
	comp=E,0.3nm,0.4s,baz=72,slow=9.0,SNR=5.6						
PPLA	Purkeypile	69.67	29	eP	P	13 43 31.1	-0.5
GERES	GERESS Array B	69.69	315	P	P	13 43 32.7	+0.8
	comp=E,0.3nm,0.3s,baz=147,slow=3.2,SNR=5.3						
GERES				LR	LR	14 16 12.1	
	comp=E,93nm,19.7s,baz=39,slow=38						
STKA	Stephens Creek	69.83	148	P	P	13 43 31.9	-0.8
	comp=E,3.4nm,0.9s,baz=360,slow=15,SNR=3.3						
COLA	College	70.53	26	eP	P	13 43 35.8	-0.8
	comp=E,4.7nm,1.0s						
ILAR	Eielson Array	70.94	26	P	P	13 43 37.0	-2.1
	comp=E,0.4nm,0.5s,baz=290,slow=4.2,SNR=11						
YKA	Yellowknife Ar	83.05	18	P	P	13 44 46.3	-0.9
	comp=E,1.7nm,0.6s,baz=328,slow=5.1,SNR=40						

IDC 22 13:34:28.5±0.6, 59.75S×25.59W, h0km, mb4.7/4, mb1 4.8/4, mb1mx4.2/27, mbtmp4.7/4, MS3.8/15, Ms1 3.8/15, ms1mx3.8/21, Error ellipse: s-maj=27.4km s-min=25.7km az=28.0
ISCJB 22 13:34:37.9±1.1, 60.1S±0.1×25.4W±0.4, h100km, mb4.6/5, Error ellipse: s-maj=34.0km s-min=9.1km az=144.8
NEIC 22 13:34:44.1±1.9, 59.91S×25.99W, h121km±15km, mb4.6/2, Error ellipse: s-maj=17.9km s-min=14.1km az=50.0
ISC 22 13:34:41.7±0.6, 59.8S±0.1×25.6W±0.1, h100km, n53, σ1§47/29, mb4.7/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.12	308	eP	Pn	13 36 38.4	+1.8
VNA1	Neumayer--Stat	13.01	154	PcP	PcP	13 43 14.8	+8.2
VNA1	Neumayer--Stat	13.01	154	S	Sn	13 39 56.0	-9.2
VNA3	Neumayer Olymp	13.18	157	PcP	PcP	13 43 15.7	+8.8
VNA3	Neumayer Olymp	13.18	157	S	Sn	13 39 50.0	-19
VNA2	Neumayer--Watz	13.41	154	PcP	PcP	13 43 24.0	+17
	baz=322,slow=7.2						
VNA2	Neumayer--Watz	13.41	154	S	Sn	13 39 56.0	-19
	baz=322,slow=7.2						
SNAA	Sanae	14.99	152	PcP	PcP	13 43 40.4	+31
SNAA	Sanae	14.99	152	S	Sn	13 40 22.8	-30
SNAA	Sanae	14.99	152	LR	LR	13 42 07.5	
	comp=Z,109nm,21.5s,baz=328,slow=30						
PMSA	Palmer Station	18.36	238	LR	LR	13 45 12.1	
	comp=Z,284nm,18.6s,baz=76,slow=35						
PMSA	Palmer Station	18.36	238	eP	Pn	13 38 52.6	+3.3
USHA	Ushuaia	23.36	263	P	P	13 39 39.0	-1.9
	44nm,1.0s,baz=95,slow=8.2,SNR=14						
QSPA	South Pole Qui	30.45	180	P	P	13 40 43.4	-1.1
	8.5nm,1.0s,baz=4,slow=0.5,SNR=27						
QSPA	South Pole Qui	30.45	180	eP	P	13 40 43.5	-1.1
	13nm,1.1s						
TRQA	Tornquist	31.70	297	eP	P	13 40 53.5	-2.1
PLCA	Paso Flores	33.64	284	LR	LR	13 55 04.2	
	comp=Z,190nm,18.2s,baz=112,slow=37						
MAW	Mawson	36.66	140	LR	LR	13 55 59.8	
	comp=Z,252nm,18.7s,baz=98,slow=35						
CPUP	Villa Florida	39.97	313	LR	LR	13 59 18.9	
	comp=Z,110nm,18.9s,baz=144,slow=37						
SUR	Sutherland	40.97	69	LR	LR	13 55 21.7	
	comp=Z,182nm,18.3s,baz=170,slow=31						
VNDA	Vanda	42.87	182	LR	LR	13 59 09.2	
	comp=Z,87nm,19.0s,baz=190,slow=34						
BOSA	Boshof	46.21	71	LR	LR	13 57 52.3	
	comp=Z,86nm,19.8s,baz=195,slow=30						
LVC	Limon Verde	47.97	301	eP	P	13 43 09.0	-1.5
	11nm,0.9s						
LBTB	Lobatse	49.41	68	LR	LR	13 59 49.7	
	comp=Z,110nm,18.8s,baz=224,slow=31						
TSUM	Tsumeb	50.89	56	LR	LR	14 01 00.4	
	comp=Z,173nm,18.1s,baz=143,slow=31						
H10S2	ASCENSION HYDR	51.38	14	T	T	14 39 45.1	
	baz=187,slow=74,SNR=5.4						
H10S3	ASCENSION HYDR	51.39	14	T	T	14 39 26.7	
	baz=187,slow=74,SNR=4.1						
H10S1	ASCENSION HYDR	51.40	14	T	T	14 39 24.7	
	baz=187,slow=74,SNR=5.8						
LPAZ	La Paz	53.27	306	P	P	13 43 49.4	-1.3
	3.6nm,0.3s,baz=96,slow=3.8,SNR=33						
LPAZ				LR	LR	14 06 52.6	
	comp=Z,69nm,20.3s,baz=161,slow=36						
OPO	Ambohidratompo	65.45	85	LR	LR	14 07 11.3	
	comp=Z,130nm,19.7s,baz=180,slow=30						
ROSC	El Rosal	74.96	309	LR	LR	14 19 52.5	
	comp=Z,48nm,21.0s,baz=207,slow=36						
TORD	Torodi Ar. Bea	75.94	27	P	P	13 46 17.8	+0.6
	2.2nm,0.4s,baz=201,slow=6.4,SNR=35						
TORD				LR	LR	14 14 46.6	
	comp=Z,74nm,18.5s,baz=170,slow=32						
ASAR	Alice Springs	95.16	161	LR	LR	14 27 20.9	
	comp=Z,83nm,21.1s,baz=174,slow=33						
CMAR	Chiang Mai Arr	122.91	111	PKP	PKPdf	13 53 24.7	-1.1
	0.5nm,0.3s,baz=236,slow=3.5,SNR=4.2						
ULM	Lac du Bonnet	123.51	314	PKP	PKPdf	13 53 24.8	-1.2
	1.1nm,0.4s,baz=79,slow=1.2,SNR=4.9						
NVAR	Mina Array Bea	123.58	290	PKP	PKPdf	13 53 27.3	+0.5
	0.8nm,0.7s,baz=149,slow=2.7,SNR=5.4						
FINES	FINESS Array B	127.28	28	PKP	PKPdf	13 53 33.1	+0.4
	2.2nm,0.9s,baz=168,slow=3.7,SNR=4.2						
ABKAR	Akbulak array	128.73	57	ePKPdf	PKPdf	13 53 36.3	+0.4
AKTO	Aktyubinsk	128.83	55	PKP	PKPdf	13 53 36.0	-0.1
	baz=213,slow=4.3						
ARCES	ARCESS Array B	134.09	22	PKP	PKPdf	13 53 45.4	-0.1
	2.6nm,0.9s,baz=233,slow=0.9,SNR=4.2						
MKAR	Makanchi Array	137.16	74	PKP	PKPdf	13 53 51.7	-0.2
	0.2nm,0.5s,baz=214,slow=4.9,SNR=4.1						
YKA	Yellowknife Ar	139.48	314	PKP	PKPdf	13 53 56.1	+0.5
	2.8nm,0.8s,baz=128,slow=2.4,SNR=38						
ZALV	Zalesovo Beam	143.12	67	PKhKP	PKPpre	13 53 57.4	
	0.3nm,0.5s,baz=248,slow=2.6,SNR=2.8						
ZALV				PKP	PKPbc	13 54 02.2	+2.5
	0.4nm,0.4s,baz=219,slow=3.9,SNR=3.9						
DAWY	Dawson	149.85	307	ePKPbc	PKPdf	13 54 18.0	+4.4
SONM	Songino Array	149.91	92	PKPbc	PKPbc	13 54 19.6	+0.3
	2.0nm,0.6s,baz=212,slow=3.2,SNR=21						
MENT	Mentasta	151.21	303	ePKPbc	PKPbc	13 54 21.9	+0.2
DOT	Dot Lake	151.61	304	ePKPbc	PKPbc	13 54 23.1	+0.5
KSAR	Wonju Array Be	151.92	131	PKPbc	PKPbc	13 54 24.6	+0.6
KSRS	Korea Array	151.94	131	PKPbc	PKPbc	13 54 24.6	+0.5
	0.3nm,0.3s,baz=170,slow=2.3,SNR=6.9						
PAX	Paxson	151.96	303	ePKPbc	PKPbc	13 54 24.1	+0.6
ILAR	Eielson Array	153.15	306	PKPbc	PKPbc	13 54 26.1	+0.1
	1.7nm,0.5s,baz=142,slow=2.5,SNR=44						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR				PKPab	PKPab	13 54 36.5	-1.7
	2.6nm,1.0s,baz=136,slow=1.2,SNR=6.9						
MCK	McKinley	153.69	303	ePKPbc	PKPbc	13 54 27.1	-0.1
KTH	Kantishna Hill	154.49	302	ePKPbc	PKPbc	13 54 29.2	+0.2

ISCJB 22 13:36:42.8±0.6,24.43S±0.09×175.30W±0.09,h19km, mb4.3/11,MS3.5/5,Error ellipse: s-maj=14.5km s-min=9.7km az=44.3
IDC 22 13:36:44.9±1.2,23.75S×175.87W,h0km,mb4.3/9, mb1 4.5/10,mb1mx4.2/29,mbtmp4.3/10,ML4.2/1,MS3.5/5, Ms1 3.5/5,ms1mx3.2/22,Error ellipse: s-maj=49.4km s-min=21.4km az=151.0
NEIC 22 13:36:50.7±2.3,23.93S×175.75W,h45km±19km,mb4.6/3, Error ellipse: s-maj=20.2km s-min=15.5km az=119.0
ISC 22 13:36:45.7±0.6,24.3S±0.1×175.4W±0.1,h19km,n42, σ1§39/34,mb4.5/11,MS3.3/3,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.96	316	P	Pn	13 38 49.7	-4.5
	33nm,0.8s						
RAR	Rarotonga	14.76	81	Pn	Pn	13 40 11.0	-2.5
	2.3nm,0.3s,baz=267,slow=5.9,SNR=6.3						
RAR				Sn	Sn	13 42 39.6	-17
	0.5nm,0.3s,baz=340,slow=18,SNR=2.0						
RAR				LR	LR	13 46 20.9	
	comp=Z,176nm,18.4s,baz=243,slow=38						
URZ	Urewera	15.27	203	Pn	P	13 40 28.1	+3.2
	0.9nm,0.3s,baz=263,slow=6.9,SNR=8.2						
URZ				Sn	Sn	13 43 07.1	-1.7
	0.5nm,0.3s,baz=269,slow=23,SNR=6.8						
URZ	Urewera	15.27	203	eP	P	13 40 26.0	+1.1
URZ				Sn	Sn	13 43 07.0	-1.7
DZM	Mont Dzumac	16.83	274	eLR	LR	13 44 22.6	
	223nm,23.1s						
DZM	Mont Dzumac	16.83	274	Pn	P	13 40 42.0	-0.4
	0.4nm,0.3s,baz=95,slow=22,SNR=3.7						
DZM				LR	LR	13 45 28.0	
	comp=Z,148nm,21.9s,baz=188,slow=32						
PAE	Paea	24.99	80	eT	T	14 07 57.7	
	2.5nm,0.3s						
PPT2	Papeete2	25.02	79	eLR	LR	13 48 28.8	
	165nm,25.2s						
PPT2	Papeete2	25.02	79	eT	T	14 07 58.6	
	3.3nm,0.4s						
PPT	Papeete	25.03	79	LR	LR	13 51 24.4	
	comp=Z,97nm,18.8s,baz=235,slow=35						
MEH	Mehetia	26.29	81	eT	T	14 09 46.9	
	13nm,0.3s						
HNR	Honiara	27.77	298	LR	LR	13 52 34.8	
	comp=Z,88nm,20.6s,baz=94,slow=35						
EIDS	Eidsvold	30.37	261	P	P	13 42 56.8	+0.2
EIDS	Eidsvold	30.37	261	P	P	13 42 57.0	+0.4
	baz=22,SNR=3.4						
RMQ	Roma	32.37	258	P	P	13 43 15.9	+1.7
	baz=24,SNR=5.0						
CTA	Charters Tower	35.66	269	P	P	13 43 42.1	-0.7
	9.2nm,0.4s,baz=94,slow=11,SNR=42						
CTAO	Charters Tower	35.66	269	eP	P	13 43 41.6	-1.2
	9.1nm,0.4s						
QLP	Quilpie	36.40	258	P	P	13 43 49.4	+0.3
	baz=28,SNR=3.2						
STKA	Stephens Creek	38.46	249	P	P	13 44 07.2	+0.6
	1.9nm,0.7s,baz=82,slow=10,SNR=3.2						
STKA				LR	LR	13 58 47.9	
	comp=Z,142nm,18.9s,baz=61,slow=35						
COEN	Coen	40.32	277	P	P	13 44 21.6	-0.6
	baz=32,SNR=4.2						
WRAB	Tennant Creek	46.54	265	eP	P	13 45 10.6	-1.8
	5.4nm,0.8s						
WRA	Warramunga Arr	46.55	265	P	P	13 45 10.6	-1.9
	3.9nm,0.6s,baz=103,slow=8.3,SNR=25						
KDU	Kakadu	50.50	273	P	P	13 45 41.5	-1.4
	baz=42,SNR=5.4						
WRKA	Warakurna	50.82	257	P	P	13 45 44.3	-1.0
	baz=42,SNR=31						
MTN	Manton Dam	51.66	273	P	P	13 45 50.6	-1.0
	baz=43,SNR=3.9						
KNRA	Kununurra	52.87	268	P	P	13 45 59.2	-1.4
	baz=44,SNR=9.8						
KLBR	Kellerberrin	58.67	247	P	P	13 46 42.9	+0.7
	baz=50,SNR=5.6						
BLDU	Ballidu	59.74	248	P	P	13 46 49.8	+0.3
	baz=51,SNR=8.4						
PETK	Petropavlovsk-	80.59	344	P	P	13 48 55.6	-0.9
	5.0nm,0.9s,baz=126,slow=9.8,SNR=5.8						
H03N2	Juan Fernandez	82.03	123	T	T	15 20 30.7	
	baz=255						
H03N3	Juan Fernandez	82.03	123	T	T	15 20 58.5	
	baz=255						
H03N1	Juan Fernandez	82.05	123	T	T	15 20 29.0	
	baz=255						
NVAR	Mina Array Bea	82.22	42	P	P	13 49 07.4	+1.6
	0.6nm,0.8s,baz=231,slow=5.7,SNR=3.4						
USRK	Ussuriysk Arra	83.46	325	P	P	13 49 11.7	-0.2
	1.8nm,0.6s,baz=122,slow=4.2,SNR=7.9						
TXAR	Lajitas Array	87.15	56	P	P	13 49 33.5	+2.7
	0.5nm,0.7s,baz=210,slow=7.2,SNR=7.4						
ILAR	Eielson Array	91.54	12	P	P	13 49 49.1	-1.4
	0.4nm,0.9s,baz=222,slow=5.8,SNR=4.2						
CMAR	Chiang Mai Arr	93.62	288	P	P	13 50 00.5	-0.8
	1.7nm,0.4s,baz=134,slow=3.5,SNR=23						
CHTO	Chiang Mai	93.77	289	eP	P	13 50 02.7	+0.8
	1.7nm,0.8s						
AKASG	Malin Array Be	147.51	330	PKPbc	PKPbc	13 56 28.0	-0.3
	3.6nm,0.6s,baz=41,slow=3.9,SNR=20						
BRTR	Keskin Array B	151.14	309	PKPbc	PKPbc	13 56 38.4	+0.5
	1.4nm,0.6s,baz=148,slow=5.7,SNR=8.0						
CLL	Collm	152.30	349	ePKPbc	PKPbc	13 56 41.0	+1.0
CLL				ePKPab	PKPab	13 56 51.0	+1.1
BRG	Berggiesshubel	152.54	347	eP	PKPbc	13 56 41.4	+0.8
	3.9nm,0.8s						

IDC 22 13:36:51.9±1.8,59.86S×25.94W,h0km,mb4.0/1, mb1 4.0/1,mb1mx3.6/25,mbtmp4.0/1,Error ellipse: s-maj=103.1km s-min=75.2km az=130.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	76.09	28	P	P	13 48 41.1	+0.1
	0.6nm,0.4s,baz=201,slow=6.2,SNR=6.4						
YKA	Yellowknife Ar	139.39	315	PKP	PKPdf	13 56 19.5	+0.2
	0.6nm,0.6s,baz=132,slow=2.3,SNR=7.6						
SONM	Songino Array	150.10	92	PKPbc	PKPbc	13 56 43.1	-0.4
	0.3nm,0.5s,baz=233,slow=2.0,SNR=3.2						
ILAR	Eielson Array	153.03	306	PKPbc	PKPbc	13 56 49.4	-0.2
	0.3nm,0.4s,baz=118,slow=1.3,SNR=6.2						

IDC 22 13:40:09.3±1.7,59.96S×26.02W,h0km,mb4.2/2, mb1 4.2/2,mb1mx3.9/23,mbtmp4.2/2,Error ellipse: s-maj=86.1km s-min=56.9km az=162.0
ISC 22 13:40:12.0±1.8,60.0S±0.7×26.0W±0.4,h16km,n6,σ0§62/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	75.91	67	P	P	13 51 58.1	+0.1
	1.4nm,0.3s,baz=76,slow=20,SNR=6.2						
TORD	Torodi Ar. Bea	76.21	28	P	P	13 51 59.0	-0.2
	0.4nm,0.3s,baz=200,slow=6.2,SNR=7.6						
ARCES	ARCESS Array B	134.35	23	PKP	PKPdf	13 59 28.0	+0.8
	3.2nm,0.9s,baz=222,slow=1.2,SNR=2.4						
YKA	Yellowknife Ar	139.48	314	PKP	PKPdf	13 59 37.1	+0.2
	0.4nm,0.6s,baz=128,slow=2.5,SNR=7.9						
SONM	Songino Array	150.10	92	PKPbc	PKPbc	14 00 00.4	-0.5
	0.2nm,0.4s,baz=259,slow=1.5,SNR=2.5						
ILAR	Eielson Array	153.10	306	PKPbc	PKPbc	14 00 06.7	-0.4
	0.2nm,0.4s,baz=129,slow=2.4,SNR=12						

GUC 22 14:00:14.4±0.4,34.98S×72.84W,h27km±2km,MD3.8, ML3.8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TALC	Talca	1.07	113	eP	Pn	14 00 33.2	-0.4
TALC				iS	Sn	14 00 47.7	0.0
TALC				AML	AML	14 00 49.5	
	comp=E,4μm,0.2s						
NICH	Los Niches	1.32	91	iP	Pn	14 00 37.5	+0.3
NICH				iS	Sb	14 00 54.8	-0.4
NICH				AML	AML	14 01 02.7	
	comp=E,4μm,0.5s						
LNV	Longovilo	1.56	50	iP	Pn	14 00 40.8	+0.5
LNV				iS	Sb	14 01 01.3	-0.7
CHCH	Chadas Angostu	2.09	61	iP	Pn	14 00 49.0	+1.3
CHCH				iS	Sn	14 01 15.1	+2.2
LMEL	Las Melosas	2.46	63	eP	Pn	14 00 54.5	+1.5
LMEL				iS	Sn	14 01 24.5	+2.3
LMEL				AML	AML	14 01 32.4	
	comp=N,528nm,0.4s						
CLCH	Cerro Calan	2.48	51	iP	Pn	14 00 54.5	+1.3
CLCH				iS	Sn	14 01 25.0	+2.4
CLCH				AML	AML	14 01 40.7	
	comp=E,648nm,0.6s						
PEL	Peldehue	2.56	45	eP	Pn	14 00 55.4	+1.2
PEL				iS	Sn	14 01 26.8	+2.3
PEL				AML	AML	14 01 42.0	
	comp=N,667nm,0.5s						

IDC 22 14:16:51.7±2.7,10.00S×113.48E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/25,mbtmp3.4/4,Error ellipse: s-maj=167.8km s-min=23.9km az=48.0
ISCJB 22 14:16:56.5±0.7,9.57S±0.05×113.99E±0.04,h31km, mb3.5/4,Error ellipse: s-maj=7.1km s-min=5.7km az=29.0
DJA 22 14:16:59.8±0.9,9°S±4°×11°4E±°,h39km±10km,M3.4/10, MLv3.4/10
ISC 22 14:16:57.4±1.0,9.53S±0.07×114.00E±0.05,h31km,n14, σ1§27/22,mb3.5/4,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	1.06	8	P	Pn	14 17 16.2	0.0
JAGI				S	Sn	14 17 28.3	-1.6
IGBI	Denpasar	1.33	58	P	Pn	14 17 20.0	+0.1
IGBI				S	Sn	14 17 34.1	-2.5
GMJI	Gumukmas	1.36	336	P	Pn	14 17 20.6	+0.3
GMJI				S	Sn	14 17 37.0	-0.3
DNP	Denpasar	1.46	55	P	Pn	14 17 23.3	+1.6
DNP				S	Sn	14 17 42.1	+2.3
ABJI	Asem Bagus	1.74	8	P	Pn	14 17 26.7	+1.2
BLJI	Banyuglugur	1.82	347	P	Pb	14 17 28.5	-1.5
BLJI				S	Sn	14 17 49.5	+0.9
SRBI	Singaraja	1.87	40	P	Pn	14 17 28.4	+1.1
SRBI				S	Sn	14 17 49.0	-0.8
KMMI	Kalianget	2.46	359	P	Pn	14 17 36.8	+1.3
KMMI				S	Sn	14 18 06.2	+1.7
PWJI	Pagerwojo	2.64	304	P	Pn	14 17 39.1	+1.2
PWJI				S	Sn	14 18 09.1	+0.3
UGM	Wanagama	3.79	295	P	Pn	14 17 53.8	0.0
WRA	Warramunga Arr	22.20	120	P	P	14 21 52.1	+0.7
	0.4nm,0.4s,baz=293,slow=12,SNR=7.3						
ASAR	Alice Springs	23.65	129	P	P	14 22 05.8	-0.5
	1.1nm,0.5s,baz=299,slow=9.4,SNR=10						
STKA	Stephens Creek	33.89	135	P	P	14 23 37.2	-0.3
	1.2nm,0.8s,baz=312,slow=8.4,SNR=3.2						
MKAR	Makanchi Array	62.80	336	P	P	14 27 20.5	+0.5
	0.2nm,0.6s,baz=165,slow=6.0,SNR=2.5						

ISCJB 22 14:30:39.8±0.5,36.62N±0.03×71.24E±0.08,h100km, mb3.4/4,Error ellipse: s-maj=9.4km s-min=4.2km az=172.1
NNC 22 14:30:45.3±2.0,36.90N×71.14E,h121km±37km,mb3.3, mpv4.0,Error ellipse: s-maj=16.5km s-min=15.0km az=178.0
IDC 22 14:30:45.4±8.0,36.83N×71.37E,h129km±52km,mb3.2/4, mb1 3.2/9,mb1mx3.0/40,mbtmp3.6/9,MS4.1/1,Ms1 4.1/1, ms1mx2.5/29,Error ellipse: s-maj=72.5km s-min=34.0km az=168.0
NEIC 22 14:30:46.5±5.1,37.01N×71.22E,h126km±26km,mb4.2/5, Error ellipse: s-maj=58.0km s-min=15.3km az=181.0
ISC 22 14:30:40.7±0.7,36.60N±0.06×71.28E±0.09,h100km,n38, σ1§63/42,mb3.3/4,7C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.82	169	⇓P	Pn	14 31 24.9	+0.8
CEP				S	Sn	14 31 58.0	+0.5
CHCP	Chirah Chowk	3.35	150	P	Pn	14 31 32.5	+1.3
CHCP				S	Sn	14 32 12.0	+1.8
AML	Almayashu	5.83	18	P	Pn	14 32 06.4	+1.5
	SNR=91						
UCH	Uchtor	6.15	23	P	Pn	14 32 10.9	+1.5
	SNR=15						
KZA	Kyzart	6.28	28	P	Pn	14 32 12.8	+1.8
	SNR=10						
EKS2	Erkin-Say	6.35	17	P	Pn	14 32 13.1	+1.3
	SNR=11						
EKS2	Erkin-Say	6.35	17	eP	Pn	14 32 13.2	+1.4
	5.0nm,0.6s						
AAK	Ala-Archa	6.52	21	⇑P	Pn	14 32 15.9	+1.9
	8.4nm,0.5s						
AAK				⇑S	Sn	14 33 26.8	-0.2
	5.7nm,0.6s						
AAK	Ala-Archa	6.52	21	P	Pn	14 32 16.0	+1.9
	SNR=18						
AAK	Ala-Archa	6.52	21	P	Pn	14 32 16.0	+2.0
	5.3nm,0.3s,baz=176,slow=6.5,SNR=91						
AAK				S	Sn	14 33 27.0	0.0
	0.7nm,0.3s,baz=314,slow=22,SNR=9.4						
AAK	Ala-Archa	6.52	21	eP	Pn	14 32 15.6	+1.5
	13nm,0.4s						
AAK				S	Sn	14 33 27.0	0.0
KK31	Karatay Array	6.52	355	⇑P	Pn	14 32 14.8	+0.7
	4.2nm,0.3s,baz=178,slow=13,SNR=341						
KK31				⇑S	Sn	14 33 24.9	-2.0
	1.4nm,0.3s,baz=182,slow=24,SNR=4.2						
KKAR	Karatay Array	6.52	355	eP	Pn	14 32 14.6	+0.5
	13nm,0.3s						
KKAR				eS	Sn	14 33 24.9	-2.0
KBK	Karagaybulak	6.68	24	P	Pn	14 32 18.8	+2.5
	SNR=5.6						
CHMS	Chumysh	6.93	22	P	Pn	14 32 21.3	+1.8
	SNR=12						
USP	Ospenovka	7.10	19	P	Pn	14 32 22.8	+0.9
	SNR=7.7						
TKM2	Tokmak 2	7.13	26	⇑P	Pn	14 32 24.0	+1.5
	3.8nm,0.5s						
TKM2				⇑S	Sn	14 33 42.2	+0.1
	1.0nm,0.5s						
TKM2	Tokmak 2	7.13	26	P	Pn	14 32 24.0	+1.5
	SNR=12						
TKM2	Tokmak 2	7.13	26	eP	Pn	14 32 23.7	+1.2
	5.6nm,0.5s						
MKAR	Makanchi Array	13.08	35	P	Pn	14 33 43.0	+0.5
	0.0nm,0.3s,baz=226,slow=9.7,SNR=2.3						
DANN	Dangsing	13.36	124	eP	Pn	14 33 41.3	-5.2
KOLN	Koldanda	13.64	127	eP	Pn	14 33 47.5	-2.6
	2.2nm,0.3s						
GKN	Gorkha	14.17	123	eP	Pn	14 33 51.8	-5.1
	5.1nm,0.3s						
DMN	Daman	14.74	124	eP	Pn	14 33 59.5	-4.8
AB31	Akbulak array	15.11	330	⇑P	Pn	14 34 06.7	-1.8
	0.5nm,0.3s,baz=146,slow=12,SNR=48						
ABKAR	Akbulak array	15.11	330	eP	Pn	14 34 06.8	-1.8
	1.9nm,0.5s						
JIRN	Jiri	15.44	121	eP	Pn	14 34 09.3	-4.0
	4.3nm,0.3s						
RAMN	Ramite	16.18	122	eP	Pn	14 34 19.4	-2.9
BVAR	Borovoye Array	16.44	358	P	P	14 34 25.3	-0.8
	0.2nm,0.3s,baz=162,slow=10.0,SNR=4.6						
TAPN	Taplejung	16.69	119	eP	Pn	14 34 26.9	-1.9
	2.8nm,0.4s						
AKTO	Aktyubinsk	16.81	330	⇓P	P	14 34 30.6	+0.4
	1.3nm,0.7s						
AKTO	Aktyubinsk	16.81	330	P	P	14 34 29.6	-0.7
	0.2nm,0.3s,baz=141,slow=14,SNR=4.1						
ZALV	Zalesovo Beam	19.73	24	P	P	14 35 02.2	0.0
	0.5nm,0.3s,baz=211,slow=10,SNR=11						
MMAI	Mount Meron Ar	29.57	274	LR	LR	14 49 34.9	
	comp=Z,413nm,21.1s,baz=230,slow=38						
AKASG	Malin Array Be	33.06	309	P	P	14 37 08.2	+1.7
	0.1nm,0.3s,baz=109,slow=7.4,SNR=3.0						
ARCES	ARCESS Array B	41.14	337	P	P	14 38 15.6	+1.1
	2.6nm,0.9s,baz=104,slow=7.7,SNR=4.1						
NOA	NORSAR Array B	44.44	323	P	P	14 38 41.3	0.0
	0.7nm,0.9s,baz=85,slow=7.1,SNR=2.8						
YKA	Yellowknife Ar	81.14	3	P	P	14 42 44.7	+0.1
	0.1nm,0.4s,baz=350,slow=5.4,SNR=4.1						

MAN 22 14:34:59,18.82N×120.87E,h57km,mb4.7,ML3.6,MS3.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APYP	Conner	1.02	159	eP	Pn	14 35 18.2	+1.0
APYP				eS	Sn	14 35 32.4	+1.7
ABRA	Dolores	1.18	187	eP	Pn	14 35 19.9	+0.6
ABRA				eS	Sn	14 35 37.0	+2.5
SGCP	Mt. Cagua	1.26	117	eP	Pn	14 35 22.6	+2.2
CAUP	Cauayan	2.08	154	eP	Pn	14 35 34.0	+2.4

NEIC 22 14:38:41.3,35.05S×178.70E,h240km,MG4.2(WEL), After WEL.
IDC 22 14:38:41.0±7.2,35.01S×178.89E,h209km±76km,mb3.5/2, mb1 3.7/3,mb1mx3.3/27,mbtmp4.0/3,Error ellipse: s-maj=99.7km s-min=41.3km az=3.0
WEL 22 14:38:43.3±0.5,35.27S×178.89E,h244km±11km, ML4.0/13,Error ellipse: s-maj=9.8km s-min=7.8km az=0.0
ISCJB 22 14:38:45.5±1.4,35.57S±0.10×178.6E±0.2,h261km, mb3.5/2,Error ellipse: s-maj=20.5km s-min=11.8km az=158.5
ISC 22 14:38:45.8±1.6,35.6S±0.1×178.8E±0.1,h261km,n103, σ0§82/103,1C-2D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.02	190	PN	Pn	14 39 28.4	-0.8
MXZ				SN	S	14 40 02.6	-1.1
MXZ	Matakaoa Point	2.02	190	Pn	Pn	14 39 28.4	-0.8
HAZ	Te Kaha	2.31	200	⇑PN	Pn	14 39 31.4	-0.6
HAZ				SN	S	14 40 08.7	+0.1
PUZ	Puketiti	2.52	189	PN	Pn	14 39 33.7	-0.3
PUZ				SN	S	14 40 12.6	+0.3
PUZ				AML	AML	14 40 15.8	
PUZ	Puketiti	2.52	189	Pn	Pn	14 39 33.7	-0.3
TWGZ	Tauwhareparae	2.67	193	ePN	Pn	14 39 35.2	-0.3
OPRZ	Ohinepanea	2.87	217	ePN	Pn	14 39 38.0	+0.5
OPRZ	Ohinepanea	2.87	217	Pn	Pn	14 39 38.2	+0.7
MWZ	Matawai	2.92	199	⇓PN	Pn	14 39 38.4	+0.3
MWZ				AML	AML	14 40 31.3	
MWZ				AML	AML	14 40 31.5	
MWZ	Matawai	2.92	199	Pn	Pn	14 39 38.4	+0.3
CNGZ	Carnagh Statio	2.94	188	PN	Pn	14 39 38.9	+0.7
CNGZ	Carnagh Statio	2.94	188	Pn	Pn	14 39 38.9	+0.7
URZ	Urewera	2.98	206	PN	Pn	14 39 38.3	-0.5
URZ				SN	S	14 40 22.7	+1.9
URZ	Urewera	2.98	206	P	Pn	14 39 38.3	-0.5
	2.9nm,0.3s,baz=260,slow=4.6,SNR=106						
URZ				S	S	14 40 22.2	+1.4
	5.2nm,0.3s,baz=88,slow=22,SNR=10						
TARZ	Mount Tarawera	3.21	214	Pn	Pn	14 39 42.9	+1.7
RIGZ	Rimuhau	3.22	194	PN	Pn	14 39 41.4	+0.1
SNGZ	Shannon Statio	3.39	199	PN	Pn	14 39 43.6	+0.4
PRGZ	Paritu Road	3.41	192	PN	Pn	14 39 43.7	+0.3
PRGZ	Paritu Road	3.41	192	Pn	Pn	14 39 43.7	+0.3
PRRZ	Plateau Road	3.48	212	PN	Pn	14 39 44.9	+0.9
PRRZ	Plateau Road	3.48	212	Pn	Pn	14 39 45.0	+0.9
KNZ	Kokohu	3.54	194	PN	Pn	14 39 44.7	-0.1
KNZ	Kokohu	3.54	194	Pn	Pn	14 39 44.7	-0.1
RAHZ	Arahi	3.59	201	PN	Pn	14 39 46.0	+0.6
RAHZ	Arahi	3.59	201	Pn	Pn	14 39 46.0	+0.6
MHGZ	Mahia Peninsul	3.63	191	PN	Pn	14 39 46.5	+0.7
MHGZ	Mahia Peninsul	3.63	191	Pn	Pn	14 39 46.5	+0.7
NMHZ	Naumai	3.84	203	PN	Pn	14 39 48.9	+0.6
NMHZ	Naumai	3.84	203	Pn	Pn	14 39 48.9	+0.6
BKZ	Black Stump Fm	4.01	206	PN	Pn	14 39 50.6	+0.4
MCHZ	McNeill Hill	4.19	202	PN	Pn	14 39 52.9	+0.6
MCHZ	McNeill Hill	4.19	202	Pn	Pn	14 39 52.9	+0.6
CKHZ	Cape Kidnapper	4.29	198	PN	Pn	14 39 53.8	+0.4
BHHZ	Black Hill Sta	4.45	208	PN	Pn	14 39 55.4	0.0
BHHZ	Black Hill Sta	4.45	208	Pn	Pn	14 39 55.4	0.0
KAHZ	Kahuranaki	4.47	199	PN	Pn	14 39 55.9	+0.4
KAHZ	Kahuranaki	4.47	199	Pn	Pn	14 39 55.9	+0.4
FWVZ	Far West T-bar	4.47	214	PN	Pn	14 39 55.8	+0.1
FWVZ	Far West T-bar	4.47	214	Pn	Pn	14 39 55.8	+0.1
KRHZ	Kereru	4.48	204	PN	Pn	14 39 55.4	-0.3
MOVZ	Moawhango	4.51	211	PN	Pn	14 39 55.9	-0.1
MOVZ	Moawhango	4.51	211	Pn	Pn	14 39 56.0	-0.1
TRVZ	Turoa	4.51	214	PN	Pn	14 39 56.4	+0.2
TRVZ	Turoa	4.51	214	Pn	Pn	14 39 56.4	+0.2
WNVZ	Wahianoa	4.51	213	PN	Pn	14 39 56.5	+0.4
WNVZ	Wahianoa	4.51	213	Pn	Pn	14 39 56.5	+0.4
MTVZ	Mangateitei	4.61	214	PN	Pn	14 39 57.7	+0.4
MTVZ	Mangateitei	4.61	214	Pn	Pn	14 39 57.7	+0.4
PXZ	Pawanui	4.69	198	PN	Pn	14 39 57.7	-0.4
PNHZ	Pukenui	4.78	204	PN	Pn	14 39 58.9	-0.4
PNHZ	Pukenui	4.78	204	Pn	Pn	14 39 59.0	-0.3
WPHZ	Waipukurau	4.84	202	PN	Pn	14 39 59.8	-0.1
PRHZ	Porangahau	4.97	199	PN	Pn	14 40 01.6	+0.1
PRHZ	Porangahau	4.97	199	Pn	Pn	14 40 01.6	+0.1
WAZ	Wanganui	5.13	215	PN	Pn	14 40 04.6	+1.1
DVHZ	Dannevirke	5.14	203	PN	Pn	14 40 03.1	-0.5
DVHZ	Dannevirke	5.14	203	Pn	Pn	14 40 03.1	-0.5
ANWZ	Angora Road	5.20	200	PN	Pn	14 40 04.3	+0.1
POWZ	Post Office Ro	5.36	205	PN	Pn	14 40 05.9	-0.3
POWZ	Post Office Ro	5.36	205	Pn	Pn	14 40 05.9	-0.3
PRWZ	Pori Road	5.43	203	PN	Pn	14 40 07.3	+0.2
BFZ	Birch Farm	5.47	200	PN	Pn	14 40 07.1	-0.4
BFZ	Birch Farm	5.47	200	Pn	Pn	14 40 04.6	-2.9
MRZ	Mangatainoka R	5.66	205	⇓PN	Pn	14 40 09.0	-0.9
MRZ	Mangatainoka R	5.66	205	Pn	Pn	14 40 09.0	-0.9
TIWZ	Tintock	5.66	203	AML	AML	14 41 21.0	
TIWZ	Tintock	5.66	203	Pn	Pn	14 40 05.6	-4.4
HOWZ	Holdsworth Sta	5.89	205	PN	Pn	14 40 11.8	-1.0
HOWZ	Holdsworth Sta	5.89	205	Pn	Pn	14 40 11.8	-1.0
OGWZ	Otaki Gorge	5.95	207	PN	Pn	14 40 12.4	-1.0
OGWZ	Otaki Gorge	5.95	207	Pn	Pn	14 40 12.4	-1.0
TMWZ	Te Maipa	5.96	201	PN	Pn	14 40 13.0	-0.7
TMWZ	Te Maipa	5.96	201	Pn	Pn	14 40 12.7	-0.9
KIW	Kapiti Island	6.08	209	PN	Pn	14 40 14.1	-1.0
KIW	Kapiti Island	6.08	209	Pn	Pn	14 40 14.1	-1.0
MTW	Mount Morrison	6.13	204	PN	Pn	14 40 14.7	-1.0
MTW	Mount Morrison	6.13	204	Pn	Pn	14 40 14.7	-1.0
CAW	Cannon Point	6.24	207	PN	Pn	14 40 15.8	-1.2
CAW	Cannon Point	6.24	207	Pn	Pn	14 40 15.8	-1.2
TRWZ	Traveller	6.29	202	PN	Pn	14 40 15.1	-2.5
TRWZ	Traveller	6.29	202	Pn	Pn	14 40 15.1	-2.5
PLWZ	Palliser	6.58	204	PN	Pn	14 40 20.3	-1.1
TCW	Tory Channel	6.63	211	PN	Pn	14 40 20.3	-1.7
TCW	Tory Channel	6.63	211	Pn	Pn	14 40 20.3	-1.7
NNZ	Nelson	7.04	215	PN	Pn	14 40 25.3	-1.6
NNZ	Nelson	7.04	215	Pn	Pn	14 40 25.3	-1.6
QRZ	Quartz Range	7.18	221	PN	Pn	14 40 27.2	-1.5
QRZ	Quartz Range	7.18	221	Pn	Pn	14 40 27.2	-1.5
BSWZ	Blackbirch Sta	7.22	210	PN	Pn	14 40 28.5	-0.8
THZ	Tophouse	7.69	215	PN	Pn	14 40 35.0	-0.2
KHZ	Kahutara	7.95	209	PN	Pn	14 40 37.1	-1.2
KHZ	Kahutara	7.95	209	Pn	Pn	14 40 37.1	-1.2
DSZ	Denniston Nort	8.21	219	PN	Pn	14 40 41.2	-0.6
DSZ	Denniston Nort	8.21	219	Pn	Pn	14 40 41.2	-0.6
LTZ	Lake Taylor	8.78	213	PN	Pn	14 40 47.6	-1.2
LTZ	Lake Taylor	8.78	213	Pn	Pn	14 40 47.6	-1.2
MQZ	McQueen's Vall	9.38	208	PN	Pn	14 40 54.8	-1.6
MQZ	McQueen's Vall	9.38	208	Pn	Pn	14 40 54.8	-1.6
ODZ	Otahua Downs	11.30	211	PN	Pn	14 41 21.3	+1.0
ODZ	Otahua Downs	11.30	211	Pn	Pn	14 41 21.3	+1.0
ASAR	Alice Springs	40.44	275	P	P	14 46 00.0	+0.7
	1.5nm,0.4s,baz=114,slow=7.9,SNR=10						
WRA	Warramunga Arr	41.92	280	P	P	14 46 11.1	-0.2
	1.3nm,0.5s,baz=119,slow=7.6,SNR=21						
FINES	FINESS Array B	148.87	335	PKPbc	PKPbc	14 58 01.1	-0.6
	0.7nm,0.8s,baz=54,slow=2.9,SNR=2.8						

IDC 22 14:42:49.3±4.7,58.09S×148.03E,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.9/21,mbtmp4.1/3,MS3.7/5,Ms1 3.7/5, ms1mx3.3/15,Error ellipse: s-maj=243.7km s-min=66.9km az=83.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	20.08	171	LR	LR	14 53 29.7	
	comp=Z,155nm,19.6s,baz=330,slow=32						
STKA	Stephens Creek	26.58	348	P	P	14 48 29.6	+0.6
	2.9nm,0.8s,baz=162,slow=12,SNR=4.4						
URZ	Urewera	27.39	56	LR	LR	14 58 53.0	
	comp=Z,113nm,18.9s,baz=214,slow=35						
H01W1	Cape Leeuwin H	32.33	301	T	T	15 24 18.5	
	baz=146,slow=75,SNR=36						
H01W2	Cape Leeuwin H	32.33	301	T	T	15 24 18.9	

baz=146,slow=75,SNR=32
H01W3 Cape Leeuwin H 32.35 301 T T 15 24 19.7
baz=146,slow=75,SNR=31
ASAR Alice Springs 35.86 338 P P 14 49 50.5 -0.2
1.7nm,0.7s,baz=165,slow=10.0,SNR=13
MAW Mawson 36.89 220 LR LR 15 04 56.0
comp=Z,208nm,19.1s,baz=110,slow=36
WRA Warramunga Arr 39.40 339 P P 14 50 20.2 -0.4
2.3nm,0.7s,baz=165,slow=7.4,SNR=20
H08S2 Diego Garcia H 75.91 278 T T 16 18 44.9
baz=148,slow=76,SNR=31
H08S1 Diego Garcia H 75.92 278 T T 16 18 45.6
baz=148,slow=76,SNR=31
H08S3 Diego Garcia H 75.93 278 T T 16 18 41.9
baz=148,slow=76,SNR=30
CMAR Chiang Mai Arr 86.36 314 LR LR 15 32 45.3
comp=Z,22nm,19.6s,baz=170,slow=35
CPUP Villa Florida 93.26 157 LR LR 15 35 55.4
comp=Z,30nm,18.1s,baz=180,slow=34
AKASG Malin Array Be 144.75 285 PKP PKPdf 15 02 26.3 -0.5
0.1nm,0.3s,baz=94,slow=2.7,SNR=3.1

ISCJB 22 14:49:14.1±1.5, 66.7N±0.3×174.4W±0.2, h10km, mb3.5/8, Error ellipse: s-maj=49.7km s-min=13.5km az=0.3
IDC 22 14:49:16.7±2.2, 67.05N×174.79W, h0km, mb3.6/8, mb1 3.6/10, mb1mx3.4/52, mbtmp3.5/10, ML3.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/32, Error ellipse: s-maj=75.7km s-min=19.5km az=4.0
ISC 22 14:49:15.8±1.5, 66.6N±0.4×174.41W±0.10, h10km, n11, σ1§06/10, mb3.7/8, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	11.45	86	Pn	Pn	14 51 58.4	-0.7
	0.1nm,0.3s,baz=290,slow=14,SNR=11						
SEY	Seymchan	14.51	271	Pn	Pn	14 52 40.7	-0.2
	0.0nm,0.3s,baz=69,slow=11,SNR=5.9						
FX1	Attu Island--F	15.06	210	LR	LR	14 59 14.3	
	comp=Z,45nm,18.1s,baz=126,slow=39						
YKA	Yellowknife Ar	25.15	71	P	P	14 54 41.7	+1.1
	0.1nm,0.4s,baz=302,slow=9.3,SNR=3.7						
SONM	Songino Array	43.29	285	P	P	14 57 18.0	+0.7
	0.3nm,0.7s,baz=56,slow=5.9,SNR=4.5						
ZALV	Zalesovo Beam	45.95	306	P	P	14 57 37.4	-0.9
	0.9nm,0.7s,baz=44,slow=7.2,SNR=4.4						
KURBB	Kurchatov Arra	50.80	308	P	P	14 58 14.1	-1.6
	0.3nm,0.3s,baz=25,slow=7.3,SNR=3.4						
BVAR	Borovoye Array	51.11	315	P	P	14 58 17.5	-0.6
	0.6nm,0.6s,baz=27,slow=8.4,SNR=4.4						
MKAR	Makanchi Array	52.92	303	P	P	14 58 30.4	-1.3
	0.4nm,0.7s,baz=39,slow=7.4,SNR=4.5						
AAK	Ala-Archa	59.17	307	P	P	14 59 17.1	+0.5
	0.7nm,0.6s,baz=52,slow=2.1,SNR=5.2						
AKASG	Malin Array Be	61.66	343	P	P	14 59 33.0	-0.1
	0.9nm,0.6s,baz=15,slow=6.7,SNR=4.6						

NDI 22 14:57:45.7±4.0, 32.30N×82.94E, h10km, ML3.4
DMN 22 14:58:05.4±0.5, 31.15N×83.53E, h2km, Ml4.8/5, Error ellipse: s-maj=11.8km s-min=8.9km az=125.0
IDC 22 14:58:07.6±0.8, 30.60N×83.84E, h0km, mb3.8/19, mb1 3.9/22, mb1mx3.8/46, mbtmp3.8/22, ML3.5/3, MS3.5/18, Ms1 3.5/18, ms1mx3.3/41, Error ellipse: s-maj=22.0km s-min=14.0km az=38.0
ISCJB 22 14:58:08.3±1.8, 30.82N±0.04×83.70E±0.05, h15km±14km, mb3.7/19, MS3.5/15, Error ellipse: s-maj=8.5km s-min=4.9km az=148.7
BJI 22 14:58:09.0, 30.70N×83.50E, h30km, mB4.4/10, mb4.2/22, ML4.4/1, Ms4.1/15, Ms7 3.8/13
ISC 22 14:58:10.8±0.8, 30.73N±0.04×83.80E±0.04, h17km±5km, n62, σ1§77/61, mb3.8/19, MS3.5/15, 1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	Dangsing	2.37	181	ePn	Pn	14 58 50.1	+0.9
DANN				eSn	Sb	14 59 21.8	-0.6
	4μm,0.5s						
GKN	Gorkha	2.81	165	ePn	Pn	14 58 56.5	+1.1
GKN				eSn	Sb	14 59 34.3	-0.7
	1μm,0.6s						
KOLN	Koldanda	2.96	183	ePn	Pn	14 58 57.7	+0.5
KOLN				eSn	Sn	14 59 35.0	+2.6
	3μm,1.0s						
KKN	Kakani	3.20	156	ePn	Pn	14 59 01.3	+0.7
KKN				eSn	Sn	14 59 42.9	+4.4
	762nm,0.9s						
DMN	Daman	3.31	160	ePn	Pn	14 59 02.9	+0.8
PTH	Pithoragarh	3.32	250	eP9	Pb	14 59 06.3	-3.1
PTH				eS	Sb	14 59 51.3	+1.7
LGTI	Lohaghat	3.34	248	eP9	Pg	14 59 20.2	+5.4
LGTI				eS	Sg	15 00 02.3	+4.3
GUN	Gumba	3.34	147	ePn	Pn	14 59 03.1	+0.5
GUN				eSn	Sn	14 59 46.9	+4.7
	505nm,0.6s						
PKIN	Phulchoki	3.44	156	ePn	Pn	14 59 04.5	+0.6
PKI	Pulchoki	3.45	156	ePn	Pn	14 59 04.6	+0.5
JIRN	Jiri	3.70	145	ePn	Pn	14 59 09.1	+1.5
RAMN	Ramite	4.50	146	ePn	Pn	14 59 19.2	+0.8
TAPN	Taplejung	4.80	134	ePn	Pn	14 59 23.8	+1.2
DDI	Dehra Dun	4.97	267	eS	Pg	14 59 44.8	-1.3
DDI				AML	AML	15 00 54.6	
	comp=E,134nm,0.6s						
DDI				AML	AML	15 01 00.2	
	comp=N,184nm,0.6s						
ODAN	Odare	4.98	140	ePn	Pn	14 59 25.6	+0.6
SMLA	Simla	5.71	276	eS	Pg	14 59 57.4	-2.8
SMLA				AML	AML	15 01 32.0	
	comp=N,32nm,0.4s						
SMLA				AML	AML	15 01 38.1	
	comp=E,46nm,0.6s						
SDNR	Sundarnagar	5.91	279	ex	Pg	15 00 06.0	+2.0
NDI	New Delhi	6.08	252	ex	Pn	14 59 44.0	+4.1
LSA	Lhasa	6.44	97	Pn	Pn	14 59 48.3	+3.0
DHRM	DHARAMSHALA	6.58	285	eS	Pg	15 00 10.8	-6.1
DHRM				AML	AML	15 01 41.5	
	comp=N,49nm,0.5s						
DHRM				AML	AML	15 01 51.9	
	comp=E,37nm,0.5s						
BOK	Bokaro	7.15	164	eP	Pn	14 59 53.1	-1.6
BOK				ex	x	15 01 09.2	
BOK				AML	AML	15 01 54.5	
	comp=E,36nm,0.6s						
BOK				AML	AML	15 01 56.2	
	comp=N,24nm,0.6s						
SHL	Shillong	8.79	124	eP	Pn	15 00 13.5	-3.8
AJM	Ajmer	9.10	244	ex	Pn	15 00 24.0	+2.6
BHPL	Bhopal	9.38	219	ex	Pn	15 00 20.9	-4.4
BHPL				eS	Sn	15 01 57.2	-13
CHCP	Chirah Chowk	9.39	291	P	Pn	15 00 30.1	+4.7
CHCP				S	Sn	15 02 10.0	-0.7
CEP	Cherat	10.53	290	P	Pn	15 00 40.5	-0.6
CEP				S	Sn	15 02 37.0	-1.7
KSH	Kashi	10.85	326	P	Pn	15 00 44.6	-0.9
KSH				ePP	PnPn	15 00 52.6	-0.7
KSH				pmax	pmax		
	comp=N,13nm,1.3s						
KSH				pmax	pmax		
	comp=N,66nm,2.9s						
KSH				LR	LR		
	comp=N,190nm,7.6s						
KSH				LR	LR		
	comp=N,340nm,9.0s						
KSH				LR	LR		
	comp=N,200nm,4.9s						
AAK	Ala-Archa	14.02	330	Pn	Pn	15 01 31.2	+2.4
	comp=N,0.1nm,0.3s,baz=226,slow=4.3,SNR=7.6						
AAK				LR	LR	15 07 47.8	
	comp=N,183nm,21.3s,baz=122,slow=41						
HYB	Hyderabad	14.09	201	eP	Pn	15 01 22.0	-7.8
HYB				eS	Sn	15 03 50.5	-15
HYB	Hyderabad	14.09	201	eP	Pn	15 01 22.7	-7.0
HYB				ex	x	15 03 49.9	
POO	Poona	15.14	219	ex	P	15 01 48.0	-1.0
GTA	Gaotai	15.69	52	⇓P	P	15 01 56.0	+0.8
GTA				pP	pP	15 01 59.5	-0.5
GTA				sP	sP	15 02 03.0	+0.7
GTA				pmax	pmax		
	comp=N,9.0nm,1.6s						
GTA				pmax	pmax		
	comp=N,84nm,6.2s						
GTA				LR	LR		
	comp=N,250nm,12.8s						
GTA				LR	LR		
	comp=N,280nm,13.1s						
GTA				LR	LR		
	comp=N,250nm,12.6s						
KAD	Karad	15.98	215	ex	P	15 01 57.7	-0.7
MKAR	Makanchi Array	16.08	356	Pn	Pn	15 01 55.8	-0.3
	comp=N,0.1nm,0.3s,baz=178,slow=11,SNR=4.3						
MKAR				LR	LR	15 09 17.4	
	comp=N,74nm,19.0s,baz=170,slow=41						
KMI	Kunming	17.64	104	P	Pn	15 02 12.3	-3.7
KMI				pmax	pmax		
	comp=Z,15nm,0.7s						
CMAR	Chiang Mai Arr	18.38	128	P	P	15 02 23.2	-1.7
	comp=Z,0.2nm,0.3s,baz=325,slow=12,SNR=14						
CMAR				LR	LR	15 09 50.6	
	comp=Z,86nm,20.2s,baz=326,slow=38						
KURBB	Kurchatov Arra	20.26	350	P	P	15 02 45.3	+0.1
	comp=Z,8.9nm,0.9s,baz=173,slow=9.8,SNR=42						
XAN	Xi'an	21.45	75	P	P	15 02 56.5	-1.8
XAN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,15nm,5.5s						
ZALV	Zalesovo Beam	23.21	2	P	P	15 03 16.6	-0.1
	comp=Z,4.0nm,0.8s,baz=188,slow=9.0,SNR=11						
ZALV				LR	LR	15 13 20.9	
	comp=Z,90nm,18.3s,baz=254,slow=39						
SONM	Songino Array	24.30	39	P	P	15 03 29.3	+1.8
	comp=Z,2.8nm,0.7s,baz=223,slow=11,SNR=8.5						
SONM				LR	LR	15 14 16.8	
	comp=Z,85nm,19.1s,baz=178,slow=40						
BVAR	Borovoye Array	24.33	340	P	P	15 03 27.6	0.0
	comp=Z,1.2nm,0.7s,baz=152,slow=7.8,SNR=8.0						
AKTO	Aktyubinsk	27.53	323	P	P	15 03 58.3	+1.8
	comp=Z,1.2nm,0.5s,baz=112,slow=13,SNR=5.8						
AKTO				LR	LR	15 15 14.0	
	comp=Z,64nm,20.6s,baz=142,slow=37						
KSRS	Korea Array	36.89	67	P	P	15 05 17.9	-0.5
	comp=Z,0.4nm,0.5s,baz=268,slow=9.2,SNR=3.5						
KSRS				LR	LR	15 22 27.0	
	comp=Z,77nm,18.2s,baz=274,slow=40						
USRK	Ussuriysk Arra	39.99	57	LR	LR	15 22 08.0	
	comp=Z,52nm,20.4s,baz=259,slow=36						
BRTR	Keskin Array B	41.49	297	P	P	15 05 58.0	+0.9
	comp=Z,1.5nm,1.1s,baz=81,slow=4.5,SNR=2.8						
BRTR				LR	LR	15 25 50.7	
	comp=Z,30nm,19.0s,baz=85,slow=40						
AKASG	Malin Array Be	44.78	313	P	P	15 06 22.7	-0.7
	comp=Z,0.2nm,0.3s,baz=81,slow=7.1,SNR=5.2						
AKASG				LR	LR	15 27 25.6	
	comp=Z,40nm,18.7s,baz=90,slow=39						
MJAR	Matsushiro Arr	45.17	67	LR	LR	15 26 38.8	
	comp=Z,60nm,19.8s,baz=275,slow=38						
MLR	Muntele Rosu	46.87	305	P	P	15 06 40.9	+0.8
	comp=Z,1.6nm,0.9s,baz=140,slow=6.0,SNR=5.6						
ASAJ	Asahikawa	47.62	57	LR	LR	15 28 10.9	
	comp=Z,109nm,19.3s,baz=275,slow=38						
FINES	FINESS Array B	48.17	327	P	P	15 06 49.8	-0.1
	comp=Z,1.4nm,0.6s,baz=114,slow=8.5,SNR=9.0						
FINES				LR	LR	15 28 51.7	
	comp=Z,74nm,19.1s,baz=91,slow=38						
ARCES	ARCESS Array B	50.57	337	P	P	15 07 08.9	+0.8
	comp=Z,3.9nm,0.8s,baz=84,slow=11,SNR=3.8						
ARCES				LR	LR	15 29 55.7	
	comp=Z,56nm,18.1s,baz=40,slow=38						
SEY	Seymchan	53.41	32	P	P	15 07 29.7	+0.4
	comp=Z,1.1nm,0.7s,baz=256,slow=7.8,SNR=6.4						
HFS	Hagfors	54.07	324	P	P	15 07 33.7	-0.5
	comp=Z,1.1nm,0.6s,baz=128,slow=9.6,SNR=4.9						
NB2	NORSAR Subarra	55.28	326	P	P	15 07 45.3	+2.3
	comp=Z,0.1nm,0.6s,baz=88,slow=7.9						
NOA	NORSAR Array B	55.28	326	P	P	15 07 44.8	+1.8
	comp=Z,1.3nm,0.8s,baz=94,slow=6.7,SNR=4.3						
NOA				LR	LR	15 34 01.4	
	comp=Z,44nm,18.7s,baz=65,slow=39						
WRA	Warramunga Arr	69.97	129	P	P	15 09 19.9	-1.6
	comp=Z,0.5nm,0.5s,baz=325,slow=6.5,SNR=8.4						
ASAR	Alice Springs	72.33	132	P	P	15 09 35.4	-0.4
	comp=Z,0.2nm,0.5s,baz=311,slow=4.6,SNR=2.8						
TORD	Torodi Ar. Bea	76.70	277	P	P	15 10 01.0	-0.4
	comp=Z,0.5nm,0.8s,baz=52,slow=6.0,SNR=2.9						
TORD				LR	LR	15 47 46.2	
	comp=Z,55nm,18.6s,baz=160,slow=39						
ILAR	Eielson Array	76.96	20	P	P	15 10 01.9	-0.2
	comp=Z,0.7nm,0.7s,baz=321,slow=5.3,SNR=8.8						
BOSA	Boshof	81.21	229	LR	LR	15 44 33.9	
	comp=Z,37nm,18.9s,baz=156,slow=34						
DBIC	Dimbokro	85.49	275	LR	LR	15 53 02.6	
	comp=Z,51nm,18.8s,baz=64,slow=38						
YKA	Yellowknife Ar	85.93	8	P	P	15 10 48.6	-0.9
	comp=Z,0.4nm,0.7s,baz=337,slow=5.2,SNR=9.1						

NIC 22 14:58:16.6, 34.31N×32.62E, h21km, ML3.5
ISCJB 22 14:58:19.0±1.1, 34.42N±0.06×32.68E±0.06, h33km±6km, Error ellipse: s-maj=10.9km s-min=7.2km az=35.4
NSSC 22 14:58:18.1±1.2, 34.50N×32.82E, h0km±28km, ML2.4
CSEM 22 14:58:19.1±0.6, 34.45N×32.69E, h19km±3km, ML3.5, Error ellipse: s-maj=10.9km s-min=6.9km az=35.0
ISK 22 14:58:19.1, 34.36N×32.82E, h37km, ML3.1
ISC 22 14:58:18.8±1.5, 34.46N±0.05×32.70E±0.05, h17km±11km, n40, σ0§79/58, 2C-4D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	Souni-Zanaja	0.33	27	⇑P	Pb	14 58 26.4	+0.2
	baz=205						
SZAC				S	Sn	14 58 34.5	-0.7
SZAC	Souni-Zanaja	0.33	27	⇑P	Pb	14 58 26.4	+0.2
SZAC				S	Sn	14 58 34.5	-0.7
PPCY	Paphos	0.51	325	P	Pg	14 58 28.8	-0.2
	baz=158						
PPCY	Paphos	0.51	325	P	Pg	14 58 28.8	-0.2
AKMC	Akamas	0.64	331	P	Pg	14 58 30.7	-0.7
	baz=161						
AKMC	Akamas	0.64	331	P	Pg	14 58 30.7	-0.7
LEF	Lefka	0.67	13	ePG	Pn	14 58 33.9	+0.4
LEF				eSG	Sn	14 58 44.1	+0.5
LEF	Lefka	0.67	13	ePg	Pn	14 58 33.9	+0.4
LEF				eSg	Sn	14 58 44.2	+0.5
ALFC	Alevga	0.70	353	P	Pb	14 58 32.1	-0.4
	baz=178						
ALFC				S	Sn	14 58 43.6	-0.7
ALFC	Alevga	0.70	353	P	Pb	14 58 32.1	-0.4
ALFC				S	Sn	14 58 43.6	-0.7
CSS	Prodhromos	0.72	46	P	Pb	14 58 32.4	-0.4
	baz=222						
CSS	Prodhromos	0.72	46	ePG	Pg	14 58 33.0	+0.2
CSS				eSG	Sn	14 58 44.1	-0.7
CSS	Prodhromos	0.72	46	P	Pb	14 58 32.4	-0.4
CSS	Prodhromos	0.72	46	ePg	Pg	14 58 33.0	+0.2
CSS				eSg	Sn	14 58 44.1	-0.7
MAMC	Mammari	0.82	31	⇓P	Pb	14 58 33.9	-0.7
	baz=209						
MAMC	Mammari	0.82	31	⇓P	Pb	14 58 33.9	-0.7
AKDN	Akdeniz- K¨--br	0.86	15	ePG	Pn	14 58 36.9	+0.8
AKDN	Akdeniz- K¨--br	0.86	15	ePg	Pn	14 58 36.9	+0.8
LFK	Lefkose	1.06	40	ePN	Pb	14 58 38.7	0.0
LFK	Lefkose	1.06	40	ePn	Pb	14 58 38.7	0.0
PHNC	Paralimni	1.22	63	⇓P	Pg	14 58 42.8	+0.5
	baz=239						
PHNC	Paralimni	1.22	63	⇓P	Pg	14 58 42.8	+0.5
MERS	Mersin	2.82	31	ePN	Pn	14 59 04.1	+1.0
MERS	Mersin	2.82	31	ePn	Pn	14 59 04.1	+1.0
ARNB	Al Arnab	3.02	62	eP	Pn	14 59 06.8	+0.9
ARNB				eS	Sn	14 59 40.7	-1.0
ARNB				AML	AML	14 59 44.9	
	comp=N,34nm,0.4s						
ARNB				AML	AML	14 59 47.9	
	comp=E,16nm,0.2s						
ARNB	Al Arnab	3.02	62	eP	Pn	14 59 06.8	+0.9
	SNR=45						
ARNB				eS	Sn	14 59 40.7	-1.0
	comp=E,16nm,0.2s,SNR=40						
BIDA	Albida	3.03	79	eP	Pn	14 59 05.6	-0.4
BIDA				eS	Sn	14 59 40.4	-1.5
BIDA				AML	AML	14 59 47.9	
	comp=E,26nm,0.3s						
BIDA				AML	AML	14 59 50.8	
	comp=N,65nm,0.5s						
BIDA	Albida	3.03	79	eP	Pn	14 59 05.6	-0.4
	SNR=45						
BIDA				eS	Sn	14 59 40.4	-1.5
	comp=N,65nm,0.5s,SNR=40						
HAWK	Haweek	3.06	88	eP	Pn	14 59 06.3	-0.1
HAWK				eS	Sn	14 59 42.3	-0.4
HAWK				AML	AML	14 59 48.0	
	comp=E,17nm,0.2s						
HAWK				AML	AML	14 59 49.9	
	comp=N,27nm,0.3s						
HAWK	Haweek	3.06	88	eP	Pn	14 59 06.3	-0.1
	SNR=45						
HAWK				eS	Sn	14 59 42.3	-0.4
	comp=N,27nm,0.3s,SNR=40						
MARH	Ras Al Marh	3.16	97	eP	Pn	14 59 08.6	+0.6
MARH				AML	AML	14 59 51.1	
	comp=N,27nm,0.3s						
MARH				AML	AML	14 59 51.5	
	comp=E,50nm,0.3s						
MARH	Ras Al Marh	3.16	97	eP	Pn	14 59 08.6	+0.6
	SNR=45						
TOTH	TOTAH	3.29	108	eP	Pn	14 59 10.2	+0.7
TOTH				eS	Sn	14 59 48.1	-0.2
TOTH				AML	AML	14 59 52.8	
	comp=E,43nm,0.3s						
TOTH				AML	AML	14 59 53.6	
	comp=N,44nm,0.3s						
TOTH	TOTAH	3.29	108	eP	Pn	14 59 10.2	+0.7
	SNR=45						
TOTH				eS	Sn	14 59 48.1	-0.2
	comp=N,44nm,0.3s,SNR=40						
KONT	Konya--Tatoy	3.49	356	ePN	Pn	14 59 14.1	+1.9
KONT	Konya--Tatoy	3.49	356	ePn	Pn	14 59 14.1	+1.9
SALA	Sala	3.79	116	eP	Pn	14 59 17.9	+1.3
SALA				eS	Sn	15 00 00.1	-0.8
SALA				AML	AML	15 00 06.8	
	comp=N,28nm,0.3s						
SALA				AML	AML	15 00 12.9	
	comp=E,3.2nm,0.3s						
SALA	Sala	3.79	116	eP	Pn	14 59 17.9	+1.3
	SNR=45						
SALA				eS	Sn	15 00 00.1	-0.8
	comp=E,3.2nm,0.3s,SNR=40						
KOZT	Kozan	3.94	39	ePN	Pn	14 59 19.0	+0.6
KOZT	Kozan	3.94	39	ePn	Pn	14 59 19.0	+0.6

ISCJB 22 15:44:04.7±0.9, 16.01S±0.07×167.9E±0.1, h177km, mb3.8/11, Error ellipse: s-maj=20.0km s-min=8.6km az=10.7
IDC 22 15:44:04.9±3.1, 16.02S×167.96E, h163km±30km, mb3.7/11, mb1 3.9/12, mb1mx3.6/31, mbtmp4.2/12, Error ellipse: s-maj=28.6km s-min=19.5km az=128.0
ISC 22 15:44:06.1±0.9, 16.08S±0.09×168.0E±0.2, h177km, n29, σ1§22/30, mb3.9/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.15	194	P	Pn	15 45 35.1	-0.1
	5.6nm,0.3s,baz=33,slow=5.7,SNR=51						
DZM				S	Sn	15 46 44.5	-0.8
	1.1nm,0.3s,baz=329,slow=19,SNR=3.4						
EIDS	Eidsvold	18.33	237	P	Pn	15 48 08.4	-0.8
	baz=20,SNR=4.8						
RMQ	Roma	20.70	237	P	P	15 48 33.6	+1.0
	baz=22,SNR=6.6						
CTA	Charters Tower	21.07	256	P	P	15 48 37.9	+1.3
	3.4nm,0.5s,baz=94,slow=10,SNR=9.3						
COEN	Coen	24.08	272	P	P	15 49 04.6	-0.9
	baz=26,SNR=6.5						
QLP	Quilpie	24.46	241	P	P	15 49 09.1	+0.3
	baz=26,SNR=7.5						
QIS	Mount Isa	27.32	256	P	P	15 49 38.6	+3.9
	baz=29,SNR=4.7						
STKA	Stephens Creek	28.71	232	P	P	15 49 47.6	+0.8
	2.5nm,0.6s,baz=39,slow=8.2,SNR=7.1						
WRA	Warramunga Arr	32.23	258	P	P	15 50 15.9	-2.1
	1.6nm,0.6s,baz=83,slow=7.8,SNR=32						
WRA				PcP	PcP	15 53 03.3	+1.0
	0.5nm,0.8s,baz=85,slow=2.8,SNR=3.6						
ASAR	Alice Springs	32.90	251	P	P	15 50 22.6	-1.2
	5.2nm,0.6s,baz=79,slow=8.7,SNR=53						
KDU	Kakadu	34.57	271	P	P	15 50 36.5	-1.8
	baz=36,SNR=4.2						
MTN	Manton Dam	35.83	270	P	P	15 50 49.0	-0.1
	baz=37,SNR=3.3						
KNRA	Kununurra	37.72	265	P	P	15 51 03.3	-1.7
	baz=39,SNR=4.1						
WRKA	Warakurna	38.13	250	P	P	15 51 07.5	-0.9
	baz=40,SNR=11						
FORT	Forrest	39.26	241	P	P	15 51 18.0	+0.4
	baz=41,SNR=10						
WSI	Waingapu	46.87	272	P	P	15 52 15.1	-3.9
	baz=48,SNR=3.3						
MEEK	Meekatharra	46.95	248	P	P	15 52 19.3	-0.1
	baz=49,SNR=7.4						
LUWI	Luwuk	47.02	284	P	P	15 52 16.0	-4.1
	baz=48,SNR=7.4						
UGM	Wanagama	56.67	271	P	P	15 53 31.1	-0.5
	baz=58,SNR=3.8						
MJAR	Matsushiro Arr	59.43	332	P	P	15 53 49.0	-1.2
	1.2nm,0.6s,baz=137,slow=1.8,SNR=5.5						
ASAJ	Asahikawa	64.25	340	P	P	15 54 22.6	+0.5
	14nm,1.1s,baz=198,slow=6.4,SNR=6.9						
USRK	Ussuriysk Arra	68.41	333	P	P	15 54 49.2	+0.6
	1.5nm,0.6s,baz=121,slow=4.9,SNR=5.1						
CMAR	Chiang Mai Arr	76.16	294	P	P	15 55 35.8	+0.7
	0.5nm,0.8s,baz=141,slow=5.0,SNR=6.4						
SEY	Seymchan	79.70	353	P	P	15 55 54.0	+0.4
	0.3nm,0.4s,baz=143,slow=20,SNR=3.3						
SONM	Songino Array	84.00	323	P	P	15 56 16.7	+0.1
	0.9nm,0.9s,baz=108,slow=2.7,SNR=8.4						
ILAR	Eielson Array	87.58	18	P	P	15 56 32.3	-1.4
	0.3nm,0.6s,baz=247,slow=5.0,SNR=10						
ARCES	ARCESS Array B	121.73	345	PKP	PKPdf	16 02 38.6	+0.3
	2.1nm,0.8s,baz=57,slow=2.7,SNR=8.4						
DAVOX	Davos/Dischmat	144.40	334	PKP	PKPdf	16 03 21.6	0.0
	2.3nm,0.5s,baz=335,slow=19,SNR=5.9						
TORD	Torodi Ar. Bea	166.45	259	PKP	PKPdf	16 03 51.7	+0.6
	0.1nm,0.5s,baz=188,slow=5.8,SNR=2.0						
TORD				PKPab	PKPab	16 04 53.5	-0.5
	0.2nm,0.6s,baz=101,slow=5.3,SNR=2.9						

IDC 22 16:01:14.7±2.1, 11.14N×91.83E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/27, mbtmp3.3/5, ML3.3/1, Error ellipse: s-maj=69.9km s-min=24.5km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.01	43	Pn	Pn	16 03 40.2	+0.3
	0.1nm,0.3s,baz=234,slow=15,SNR=6.5						
H08S3	Diego Garcia H	26.80	227	T	T	16 35 36.3	
	baz=46,slow=75,SNR=21						
H08S2	Diego Garcia H	26.80	227	T	T	16 35 36.7	
	baz=46,slow=75,SNR=27						
H08S1	Diego Garcia H	26.82	227	T	T	16 35 37.7	
	baz=46,slow=75,SNR=24						
MKAR	Makanchi Array	36.45	349	P	P	16 08 21.5	+0.2
	0.2nm,0.5s,baz=175,slow=8.7,SNR=3.6						
ZALV	Zalesovo Beam	43.07	354	P	P	16 09 15.6	-0.7
	0.4nm,0.6s,baz=172,slow=12,SNR=2.8						
WRA	Warramunga Arr	52.01	126	P	P	16 10 26.1	-0.2
	0.4nm,0.3s,baz=301,slow=10,SNR=14						
ASAR	Alice Springs	53.75	130	P	P	16 10 39.4	+0.2
	0.2nm,0.4s,baz=307,slow=6.9,SNR=3.4						

IDC 22 16:03:29.4±1.9, 2.99S×127.81E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/24, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=139.3km s-min=25.5km az=67.0
ISCJB 22 16:03:33.7±0.7, 3.51S±0.06×126.94E±0.06, h33km, mb3.5/2, Error ellipse: s-maj=9.7km s-min=7.4km az=36.5
DJA 22 16:03:33.8±0.8, 3°S±6°×12°7E±°, h14km±4km, M3.5/6, mb4.6/4, mB4.7/1, MLv2.9/6, Mw(mB)3.9/1
ISC 22 16:03:35.5±1.1, 3.48S±0.09×126.94E±0.07, h35km, n12, σ1§34/13, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.29	34	P	Pb	16 03 40.2	-3.2
NLAI				S	Sn	16 03 45.8	-2.9
SANI	Sanana	1.71	326	P	Pn	16 04 01.5	-1.4
SANI				S	Sn	16 04 24.7	+1.2
MSAI	Masohi	1.99	86	P	Pn	16 04 07.3	+0.6
LBMI	Labuha	2.88	113	P	Pn	16 04 20.8	+1.8
LUWI	Luwuk	4.82	300	P	Pn	16 04 46.0	+0.4
KMSI	Cibinong	5.00	324	P	Pn	16 04 48.0	-0.1
	60nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
SWI	Sorong	5.04	59	P	Pn	16 04 49.6	+0.9
	37nm,0.7s						
APSI	Ampana	5.87	296	P	Pn	16 05 01.1	+1.0
	40nm,0.7s,615nm						
MRSI	Marisa	6.36	308	P	Pn	16 05 07.7	+0.9
WRA	Warramunga Arr	17.88	157	P	Pn	16 07 41.4	-0.3
	0.2nm,0.3s,baz=338,slow=12,SNR=14						
ASAR	Alice Springs	21.16	162	P	P	16 08 17.9	0.0
	2.3nm,0.7s,baz=346,slow=12,SNR=16						
MKAR	Makanchi Array	63.64	327	P	P	16 14 03.2	0.0
	0.2nm,0.5s,baz=111,slow=7.9,SNR=3.7						

IDC **22** *16:11:38.5±0.5, 4°.66S×138°.22E, h0km, mb4.3/12, mb1 4.4/17, mb1mx4.4/22, mbtmp4.4/17, ML4.4/5, MS3.5/8, Ms1 3.5/8, ms1mx3.1/27, Error ellipse: s-maj=20.3km s-min=12.9km az=76.0*

NEIC **22** *16:11:39.5±2.7, 4°.70S×138°.18E, h9km±17km, mb4.4/11, Error ellipse: s-maj=7.7km s-min=6.1km az=224.0*

ISCJB **22** *16:11:41.6±0.2, 4°.81S±0°.03×138°.15E±0°.03, h33km, mb4.3/26, MS3.3/6, Error ellipse: s-maj=4.3km s-min=3.8km az=6.6*

DJA **22** *16:11:41.8±0.2, 5°S±2°×13°8E±°, h10km, M4.8/16, mb5.0/16, mB5.1/10, MLv5.1/10, Mw(mB)4.5/10*

BJI **22** *16:11:42.1, 4°.80S×138°.10E, h35km, mB4.9/11, mb4.5/17, Ms4.8/2, Ms7 4.4/2*

ISC 22 16:11:43.3±0.3, 4°.83S±0°.04×138°.23E±0°.04, h35km, n114, σ2§07/129, mb4.3/26, MS3.1/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
SMPI	Sarmi	2.86	10	P	Pn	16 12 26.8	+0.4
SMPI				S	Sn	16 12 54.3	-5.4
GENI	Genyem	2.94	41	P	Pn	16 12 28.3	+0.7
GENI				S	Sn	16 13 03.7	+1.9
JAY	Jayapura	3.37	47	P	Pn	16 12 33.8	+0.2
JAY	Jayapura	3.37	47	Pn	Pn	16 12 32.4	-1.1
	23nm,0.3s,baz=132,slow=0.1,SNR=134						
JAY				Lg	Lg	16 13 20.3	
	17nm,0.3s,baz=287,slow=19,SNR=6.4						
JAY	Jayapura	3.37	47	P	Pn	16 12 33.6	0.0
	baz=3.6,SNR=73						
SRPI	Serui, Papua	3.55	326	P	Pn	16 12 36.0	+0.1
BAKI	Biak	4.19	330	P	Pn	16 12 44.3	-0.4
MMPI	Merauke	4.20	150	P	Pn	16 12 49.3	+4.4
MMPI				S	Sn	16 13 40.0	+7.2
MMPI	Merauke	4.20	150	P	Pn	16 12 49.5	+4.6
	baz=4.2,SNR=3.7						
KMPI	Kaimana, Papua	4.66	284	P	Pn	16 12 51.3	+0.1
KMPI				S	Sn	16 13 37.3	-6.8
FAKI	Fak Fak	6.26	287	P	Pn	16 13 12.5	-0.7
	88nm,0.8s,1μm0.5nm						
FAKI	Fak Fak	6.26	287	ePn	Pn	16 13 12.2	-1.1
	86nm,0.8s						
FAKI	Fak Fak	6.26	287	P	Pn	16 13 12.4	-0.9
	baz=6.1,SNR=32						
SAUI	Saumlaki	7.57	245	P	Pn	16 13 33.5	+2.3
	254nm,0.8s,4μm2.6nm						
SWI	Sorong	8.00	299	P	Pn	16 13 35.9	-1.2
	68nm,0.7s,746nm0.2nm						
SWI	Sorong	8.00	299	P	Pn	16 13 35.7	-1.4
	baz=7.9,SNR=12						
BNDI	Bandanaira	8.30	272	P	Pn	16 13 41.4	+0.1
	208nm,1.1s						
MSAI	Masohi	9.39	279	P	Pn	16 13 56.8	+0.5
	12nm,0.9s,153nm						
KDU	Kakadu	9.66	216	P	Pn	16 14 00.7	+0.7
	baz=9.5,SNR=81						
PMG	Port Moresby	9.96	118	Pn	Pn	16 14 03.6	-0.4
	2.0nm,0.3s,baz=315,slow=17,SNR=8.5						
PMG				Sn	Sn	16 15 50.0	-4.6
	0.5nm,0.3s,baz=210,slow=20,SNR=2.3						
PMG				LR	LR	16 18 38.6	
	comp=Z,231nm,18.0s,baz=299,slow=42						
PMG	Port Moresby	9.96	118	ePn	Pn	16 14 05.2	+1.2
PMG				Sn	Sn	16 15 50.0	-4.6
PMG	Port Moresby	9.96	118	P	Pn	16 14 05.5	+1.5
	baz=10,SNR=7.5						
COEN	Coen	10.30	152	ePn	Pn	16 14 09.1	+0.4
	166nm,0.6s						
COEN	Coen	10.30	152	P	Pn	16 14 09.3	+0.6
	baz=10,SNR=17						
MTN	Manton Dam	10.61	221	P	Pn	16 14 13.3	+0.3
	baz=10,SNR=96						
LBMI	Labuha	11.49	291	P	Pn	16 14 25.3	+0.2
	49nm,1.0s						
SANI	Sanana	12.53	282	P	Pn	16 14 36.3	-2.9
	57nm,0.7s,501nm						
KNRA	Kununurra	14.24	220	P	Pn	16 15 01.8	-0.7
	baz=14,SNR=53						
KNRA				S	Sn	16 17 33.8	-5.5
	baz=14,SNR=7.0						
SOEI	Soe	14.69	250	P	Pn	16 15 07.0	-1.8
	114nm,0.9s,2μm						
SOEI	Soe	14.69	250	ePn	Pn	16 15 07.2	-1.6
	139nm,0.9s						
SOEI	Soe	14.69	250	P	Pn	16 15 07.1	-1.6
	baz=14,SNR=6.9						
SOEI				S	Sn	16 17 53.2	+2.7
	baz=14,SNR=3.3						
BATI	Baumata	15.39	249	P	Pn	16 15 16.6	-1.5
	54nm,0.9s						
BATI	Baumata	15.39	249	Pn	Pn	16 15 16.3	-1.7
	12nm,0.3s,baz=132,slow=3.1,SNR=13						
BATI				Sn	Sn	16 18 04.1	-3.5
	3.7nm,0.3s,baz=151,slow=19,SNR=4.7						
WRAB	Tennant Creek	15.48	194	ePn	Pn	16 15 17.5	-1.7
	36nm,0.6s						
WRA	Warramunga Arr	15.49	194	Pn	Pn	16 15 18.1	-1.2
	0.8nm,0.3s,baz=12,slow=13,SNR=32						
WRA				Sn	Sn	16 18 05.5	-4.5
	2.3nm,0.3s,baz=9.1,slow=22,SNR=6.1						
WRA				Lg	Lg	16 19 57.1	
	2.1nm,0.3s,baz=23,slow=28,SNR=5.4						
QIS	Mount Isa	15.69	175	P	Pn	16 15 19.5	-2.4
	baz=16,SNR=27						
MMRI	Maumere	16.32	256	eP	Pn	16 15 30.3	+0.3
APSI	Ampana	17.01	283	P	Pn	16 15 39.9	-0.3
	39nm,0.7s,457nm						
CTA	Charters Tower	17.06	153	P	P	16 15 40.7	-0.1
	1.1nm,0.3s,baz=328,slow=12,SNR=17						
CTA				Sn	Sn	16 18 47.3	-0.7
	0.4nm,0.3s,baz=12,slow=17,SNR=3.7						
CTA				Lg	Lg	16 20 43.2	
	0.3nm,0.3s,baz=51,slow=15,SNR=3.4						
CTAO	Charters Tower	17.06	153	eP	P	16 15 41.2	+0.4
	20nm,0.8s						
MRSI	Marisa	17.10	288	P	P	16 15 52.5	+11
FITZ	Fitzroy Crossi	18.05	222	S	Sn	16 19 05.2	-6.7
	baz=18,SNR=4.5						
BNSI	Bone	18.07	271	P	P	16 15 56.2	+4.3
ASAR	Alice Springs	19.19	192	P	Pn	16 16 07.5	+2.1
	5.5nm,0.3s,baz=24,slow=9.6,SNR=310						
ASAR				Sn	Sn	16 19 37.0	-2.4
	0.5nm,0.3s,baz=12,slow=29,SNR=4.4						
ASAR				Lg	Lg	16 21 48.0	
	baz=21,slow=29,SNR=3.2						
ASAR				LR	LR	16 23 50.0	
	comp=Z,395nm,18.5s,baz=9.5,slow=38						
HNR	Honiara	22.02	103	P	P	16 16 33.9	-1.0
	30nm,0.6s,baz=218,slow=9.6,SNR=2.7						
HNR				LR	LR	16 24 56.0	
	comp=Z,62nm,18.9s,baz=260,slow=36						
WRKA	Warakurna	22.25	204	P	P	16 16 38.1	+0.9
	baz=22,SNR=62						
QLP	Quilpie	22.38	166	P	P	16 16 40.8	+2.1
	baz=22,SNR=44						
RMQ	Roma	23.77	156	P	P	16 16 54.6	+1.8
	baz=24,SNR=9.4						
EIDS	Eidsvold	23.86	150	eP	P	16 16 54.5	+0.9
EIDS	Eidsvold	23.86	150	P	P	16 16 55.4	+1.8
	baz=24,SNR=3.4						
STKA	Stephens Creek	27.09	174	P	P	16 17 23.9	+1.1
	3.1nm,0.9s,baz=349,slow=10.0,SNR=7.6						
STKA				LR	LR	16 28 39.6	
	comp=Z,137nm,20.3s,baz=11,slow=38						
STKA	Stephens Creek	27.09	174	P	P	16 17 24.3	+1.4
	baz=27,SNR=5.0						
CMSA	Cobar Meteorol	27.48	166	P	P	16 17 32.2	+5.8
	baz=28,SNR=8.7						
MEEK	Meekatharra	28.66	219	P	P	16 17 41.4	+4.4
	baz=29,SNR=5.5						
MORW	Morawa	31.99	219	P	P	16 18 08.0	+1.6
	baz=32,SNR=4.1						
NWAO	Narrogin (SRO)	34.14	212	P	P	16 18 26.9	+1.8
	3.0nm,0.7s,baz=90,slow=13,SNR=3.5						
JNU	Nakatsue	38.38	350	P	P	16 19 00.0	-1.3
	10nm,0.9s,baz=153,slow=2.3,SNR=4.2						
MJAR	Matsushiro Arr	41.15	360	LR	LR	16 34 34.9	
	comp=Z,28nm,20.7s,baz=180,slow=34						
KSAR	Wonju Array Be	43.14	348	P	P	16 19 40.2	-0.3
KSRS	Korea Array	43.15	348	P	P	16 19 40.2	-0.3
	2.3nm,0.9s,baz=165,slow=8.8,SNR=9.3						
KSRS				LR	LR	16 34 11.3	
	comp=Z,27nm,21.9s,baz=171,slow=32						
CM31	Chiang Mai Arr	45.11	302	eP	P	16 19 56.1	-0.5
	3.7nm,0.8s						
CMAR	Chiang Mai Arr	45.11	302	P	P	16 19 56.6	+0.1
	3.3nm,0.8s,baz=123,slow=6.2,SNR=36						
CHTO	Chiang Mai	45.27	302	eP	P	16 19 56.7	-1.1
	3.8nm,0.8s						
KMI	Kunming	45.56	313	P	P	16 20 07.8	+7.5
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
RPZ	Rata Peaks	48.34	148	eP	P	16 20 22.6	+1.1
	comp=Z,34nm,1.0s						
CD2	Chengdu	48.44	319	eP	P	16 20 24.3	+1.7
CD2				pP	pP	16 20 34.6	+1.6
CD2				sP	sP	16 20 38.8	+1.6
CD2				PP	PP	16 22 16.8	+1.3
CD2				S	S	16 27 21.9	+0.6
CD2				sS	sS	16 27 39.3	+0.8
CD2				SS	SS	16 30 47.0	-4.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.6s						
CN2	Changchun	49.76	348	eP	P	16 20 33.9	+1.6
MDJ	Mudanjiang	49.83	352	P	P	16 20 34.3	+1.5
MDJ				pP	pP	16 20 40.3	-3.0
MDJ				pmax	pmax		
	comp=Z,78nm,3.9s						
GTA	Gaotai	56.49	325	eP	P	16 21 23.8	+1.6
GTA				pP	pP	16 21 32.4	-0.4
GTA				sP	sP	16 21 36.6	-0.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
LSA	Lhasa	56.69	310	eP	P	16 21 24.5	+0.3
	comp=Z,2.4nm,0.6s						
TAPN	Taplejung	58.31	306	eP	P	16 21 35.6	+0.2
	comp=Z,24nm,0.9s						
TAPN	Taplejung	58.31	306	eP	P	16 21 35.6	+0.2
ODAN	Odare	58.36	306	eP	P	16 21 35.8	+0.1
	comp=Z,18nm,0.7s						
ODAN	Odare	58.36	306	eP	P	16 21 35.8	+0.1
RAMN	Ramite	59.04	305	eP	P	16 21 40.7	+0.2
	comp=Z,27nm,0.9s						
RAMN	Ramite	59.04	305	eP	P	16 21 40.7	+0.2
SONM	Songino Array	59.43	336	P	P	16 21 41.0	-1.6
	comp=Z,0.3nm,0.5s,baz=152,slow=5.9,SNR=4.3						
JIRN	Jiri	59.66	306	eP	P	16 21 44.9	0.0
	comp=Z,14nm,0.7s						
JIRN	Jiri	59.66	306	eP	P	16 21 44.9	0.0
GUN	Gumba	60.02	306	eP	P	16 21 47.5	+0.2
	comp=Z,32nm,0.9s						
GUN	Gumba	60.02	306	eP	P	16 21 47.5	+0.2
PETK	Petropavlovsk-	60.02	13	P	P	16 21 45.7	-0.7
	comp=Z,1.3nm,0.6s,baz=178,slow=4.2,SNR=2.0						
PETK				LR	LR	16 46 02.9	
	comp=Z,9.9nm,20.7s,baz=164,slow=34						
PKI	Pulchoki	60.26	305	eP	P	16 21 48.5	-0.5
	comp=Z,5.1nm,0.6s						
PKI	Pulchoki	60.26	305	eP	P	16 21 48.5	-0.5
KKN	Kakani	60.45	306	eP	P	16 21 50.1	0.0
	comp=Z,16nm,0.9s						
KKN	Kakani	60.45	306	eP	P	16 21 50.1	0.0
DMN	Daman	60.52	305	eP	P	16 21 50.8	+0.1
	comp=Z,11nm,0.6s						
DMN	Daman	60.52	305	eP	P	16 21 50.8	+0.1
GKN	Gorkha	61.06	306	eP	P	16 21 54.1	-0.1
	comp=Z,24nm,0.8s						
GKN	Gorkha	61.06	306	eP	P	16 21 54.1	-0.1
KOLN	Koldanda	61.81	305	eP	P	16 21 59.5	+0.2
	comp=Z,19nm,0.8s						
KOLN	Koldanda	61.81	305	eP	P	16 21 59.5	+0.2
DANN	Dangsing	61.91	306	eP	P	16 22 00.0	-0.1
	comp=Z,22nm,1.0s						
DANN	Dangsing	61.91	306	eP	P	16 22 00.0	-0.1
WMQ	Urumqi	66.37	322	eP	P	16 22 30.3	+1.5
WMQ				pP	pP	16 22 40.6	+1.0
WMQ				sP	sP	16 22 44.6	+0.9
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,150nm,4.8s						
SEY	Seymchan	68.43	7	P	P	16 22 41.5	+0.2
	comp=Z,0.9nm,0.7s,baz=184,slow=12,SNR=8.4						
MKAR	Makanchi Array	71.17	323	P	P	16 22 58.2	-0.4
	comp=Z,1.1nm,0.6s,baz=116,slow=8.2,SNR=14						
ZALV	Zalesovo Beam	73.52	330	P	P	16 23 10.9	-1.5
	comp=Z,0.9nm,0.6s,baz=103,slow=6.4,SNR=5.1						
VNDA	Vanda	73.73	175	P	P	16 23 14.5	+1.2
	comp=Z,2.3nm,0.5s,baz=313,slow=7.6,SNR=12						
VNDA				LR	LR	16 55 59.6	
	comp=Z,149nm,18.3s,baz=173,slow=36						
AAK	Ala-Archa	74.39	317	eP	P	16 23 17.9	-0.1
KKAR	Karatay Array	77.30	316	eP	P	16 23 32.3	-2.1
	comp=Z,0.9nm,0.4s						
GAMB	Gambell	77.92	20	eP	P	16 23 36.6	-0.7
	comp=Z,2.8nm,0.9s						
BRVK	Borovoye	80.84	325	eP	P	16 23 51.8	-1.7
	comp=Z,2.8nm,0.8s						
QSPA	South Pole Qui	85.13	180	eP	P	16 24 16.2	+0.5
	comp=Z,12nm,1.0s						
ABKAR	Akbulak array	86.02	320	eP	P	16 24 19.2	-1.0
	comp=Z,1.2nm,0.6s						
ILAR	Eielson Array	87.95	24	P	P	16 24 28.1	-1.2
	comp=Z,1.8nm,0.7s,baz=265,slow=4.4,SNR=24						
CRVS	Cervenica-Dubn	111.04	321	e	Pdif	16 26 22.9	+8.8
VYHS	Vyhne	112.81	321	e	Pdif	16 26 30.8	+8.8
GERES	GERESS Array B	115.84	323	PKP	PKPdf	16 30 22.7	+0.2
	comp=Z,0.2nm,0.4s,baz=0.0,slow=2.9,SNR=3.1						
SFJD	Kangerlussuaq	117.64	4	PKP	PKPdf	16 30 27.5	+2.2
	comp=Z,4.8nm,0.6s,baz=297,slow=6.8,SNR=5.1						
PLCA	Paso Flores	127.55	153	PKP	PKPdf	16 30 47.2	+2.0
	comp=Z,1.8nm,0.7s,baz=284,slow=4.2,SNR=3.8						
TORD	Torodi Ar. Bea	136.34	284	PKP	PKPdf	16 31 02.7	+0.3
	comp=Z,1.2nm,0.7s,baz=42,slow=1.9,SNR=8.5						
TORD				SKPbc	SKPbc	16 34 34.1	+1.9
	comp=Z,0.6nm,0.9s,baz=103,slow=3.1,SNR=3.0						
CPUP	Villa Florida	145.55	155	PKPbc	PKPab	16 31 20.1	+1.2
	comp=Z,1.5nm,0.5s,baz=150,slow=3.2,SNR=4.8						
LPAZ	La Paz	146.53	129	PKPbc	PKPab	16 31 23.7	-0.1
	comp=Z,4.4nm,0.7s,baz=246,slow=2.5,SNR=18						

MEX 22 16:17:08.0±0.5, 18°.09N×100°.62W, h54km±5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
ARIG	Puente Sto Nin	0.32	53	iP	Pn	16 17 15.9	-1.9
ARIG				iS	Sn	16 17 23.1	-1.7
ZIIG	Zihuatanejo	0.94	239	iP	Pn	16 17 22.8	-1.8
ZIIG				iS	Sn	16 17 35.9	-1.7
MEIG	Mezcala	0.96	99	iP	Pn	16 17 24.1	-1.4
MEIG				iS	Sn	16 17 36.7	-1.7
CAIG	El Cayaco	1.09	162	eP	Pn	16 17 25.3	-1.7
CAIG				iS	Sn	16 17 38.8	-2.3
PLIG	Platanillo	1.10	74	eP	Pn	16 17 26.1	-1.2
PLIG				iS	Sn	16 17 39.1	-2.6
MAVM	Malinalco, Edo	1.37	51	iP	Pn	16 17 29.7	-1.5
MAVM				iS	Sn	16 17 47.0	-1.5
ACX	Acapulco	1.41	149	iP	Pn	16 17 23.2	-8.2
ACX				eS	Sn	16 17 40.2	-8.2
YAIG	Yautepec	1.66	62	iP	Pn	16 17 33.4	-1.6
YAIG				iS	Sn	16 17 53.2	-2.2
MZVM		1.71	50	iP	Pn	16 17 33.0	-2.4
MZVM				iS	Sn	16 17 54.8	-1.5
TLIG	Tlapa	2.02	105	iP	Pn	16 17 38.1	-1.8
TLIG				iS	Sn	16 18 01.7	-2.5
AMVM	AMECAMECA	2.02	59	iP	Pn	16 17 38.6	-1.6
MMIG	Aquila	2.60	275	iP	Pn	16 17 49.1	+1.5

BJI **22** *16:54:58.1, 71°.31N×7°.06W, h2km, mB5.2/36, mb4.8/52, Ms5.0/38, Ms7 4.7/38*

CSEM **22** *16:54:59.9±0.1, 70°.87N×6°.59W, h2km, mb4.9/96, Ms4.3, Mw5.3, Error ellipse: s-maj=3.0km s-min=2.5km az=28.0*

IDC **22** *16:55:00.2±0.3, 70°.90N×6°.57W, h0km, mb4.4/38, mb1 4.6/46, mb1mx4.5/50, mbtmp4.5/46, ML4.3/7, MS4.5/44, Ms1 4.5/44, ms1mx4.4/50, Error ellipse: s-maj=10.8km s-min=5.6km az=15.0*

ISCJB **22** *16:55:00.1±0.1, 70°.87N±0°.01×6°.66W±0°.04, h10km, mb4.8/217, MS4.6/70, Error ellipse: s-maj=2.4km s-min=1.5km az=34.6*

NAO **22** *16:55:00.0±3.5, 70°.75N×6°.71W, h15km±45km, ML5.2*

MOS **22** *16:55:00.1±1.1, 70°.94N×6°.44W, h10km, mb5.2/75, MS4.4/32, Error ellipse: s-maj=11.4km s-min=3.5km az=97.8*

NEIC **22** *16:55:01.9±0.1, 70°.90N×6°.52W, h10km, mb5.0/115, Error ellipse: s-maj=3.8km s-min=2.4km az=48.0*

GCMT **22** *16:55:01.9±0.1, 70°.89N×6°.64W, h16km, MW5.3/109, Moment Tensor Solution. s71,c100; s109,c196; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-0.25±.02; Mθθ0.91±.02; Mφφ-0.66±.02; Mrθ-0.17±.05; Mθφ0.73±.02; Mφr0.11±.05; Best double couple: M0 1.10100×10^17 NP1:φs113.00000°, δ84.00000°, λ-12.00000°. NP2:φs204.00000°, δ78.00000°, λ-174.00000°. Principal axes: T 1.2110, Plg5.0000°, Azm159.0000°; N -0.2210, Plg76.0000°, Azm268.0000°; P -0.9900, Plg13.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BGS **22** *16:55:02.7±1.9, 70°.80N×5°.42W, h10km, mb5.1*

BER **22** *16:55:03.4±3.1, 70°.77N×6°.91W, h10km, MD3.4, ML4.0, ML5.2(NAO)*

REY **22** *16:55:04.4, 70°.48N×7°.41W, h10km, ML4.8, ML3.2*

SZGRF **22** *16:55:08.6, 70°.19N×6°.09W, h10km, mb4.6, MS4.2, Jan Mayen Island region*

ISC 22 16:55:02.1±0.3, 70°.90N±0°.03×6°.67W±0°.02, h13km±1km, h13km:pP-P, n1097, σ1§42/1177, mb4.9/218, MS4.6/72, 164C-150D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
JMIC	Jan Mayen	0.61	279	Pg	Pg	16 55 12.9	-1.1
JMIC				Lg	Lg	16 55 21.0	
JMIC	Jan Mayen	0.61	279	eP	Pg	16 55 12.9	-1.1
JMIC				Lg	Lg	16 55 21.0	
JMIC	Jan Mayen	0.61	279	Pg	Pg	16 55 12.7	-1.3
	9μm,0.3s,baz=98,slow=2.7,SNR=7068						
JMIC				Lg	Lg	16 55 20.9	
	31μm,0.3s,baz=162,slow=12,SNR=63						
JMIC				LR	LR	16 55 34.1	
	comp=Z,246μm,18.0s,baz=290,slow=53						
JMI	Jan Mayen	0.68	274	eP	Pg	16 55 14.3	-1.0
JMI				eS	Sg	16 55 23.8	-0.4
JMI				IAML		16 55 26.8	
	comp=Z,182μm,0.5s						
JMI	Jan Mayen	0.68	274	eP	Pg	16 55 14.3	-1.0
	SNR=70						
JMI				eS	Sg	16 55 23.8	-0.4
	SNR=70						
ILEI	Leirhofn	5.76	223	P	Pn	16 56 24.2	-2.8
ILEI	Leirhofn	5.76	223	P	Pn	16 56 24.2	-2.8
	baz=224						
ILEI				S	Sn	16 57 28.0	-4.8
	baz=224						
IGIL	Gilhagi	6.00	221	P	Pn	16 56 27.6	-2.8
IGIL				S	Sn	16 57 34.7	-4.2
IGIL	Gilhagi	6.00	221	P	Pn	16 56 27.6	-2.8
	baz=221						
IGIL				S	Sn	16 57 34.7	-4.2
	baz=221						
IGRI	Grimsey	6.01	229	P	Pn	16 56 28.2	-2.3
IGRI	Grimsey	6.01	229	S	Sn	16 57 34.2	-4.7
	baz=230						
IGRI				P	Pn	16 56 28.2	-2.2
	baz=230						
IHED	Heoinshofoi	6.21	224	P	Pn	16 56 31.2	-2.1
IHED				S	Sn	16 57 39.5	-4.5
IHED	Heoinshofoi	6.21	224	S	Sn	16 57 39.5	-4.5
	baz=225						
IHED				P	Pn	16 56 31.2	-2.1
	baz=225						
IDIM	Dimmadals¨¡s	6.23	222	P	Pn	16 56 31.6	-1.9
IDIM	Dimmadals¨¡s	6.23	222	P	Pn	16 56 31.6	-2.0
	baz=223						
IDIM				S	Sn	16 57 40.1	-4.4
	baz=223						
IGHA	Grjothals	6.27	221	P	Pn	16 56 31.6	-2.5
IGHA	Grjothals	6.27	221	P	Pn	16 56 31.6	-2.5
	baz=221						
IGHA				S	Sn	16 57 41.8	-3.7
	baz=221						
IBRE	Brettingsstaoi	6.32	226	P	Pn	16 56 32.7	-2.0
IBRE	Brettingsstaoi	6.32	226	P	Pn	16 56 32.7	-2.1
	baz=227						
IBRE				S	Sn	16 57 42.7	-3.9
	baz=227						
ISKI	Skildingah¨‡ls	6.33	222	P	Pn	16 56 33.0	-1.9
ISKI	Skildingah¨‡ls	6.33	222	P	Pn	16 56 33.0	-1.8
	baz=222						
ISKI				S	Sn	16 57 43.2	-3.7
	baz=222						
IGRS	Grimsstaoir	6.33	218	P	Pn	16 56 33.3	-1.7
IGRS	Grimsstaoir	6.33	218	P	Pn	16 56 33.3	-1.7
	baz=218						
IGRS				S	Sn	16 57 43.3	-3.8
	baz=218						
IKVO	Krokottuvotn	6.43	221	P	Pn	16 56 34.7	-1.6
IKVO	Krokottuvotn	6.43	221	P	Pn	16 56 34.7	-1.6
	baz=221						
IKVO				S	Sn	16 57 45.9	-3.5
	baz=221						
IREN	Reynihlio	6.49	221	P	Pn	16 56 34.9	-2.2
IREN	Reynihlio	6.49	221	P	Pn	16 56 34.9	-2.2
	baz=221						
IREN				S	Sn	16 57 47.7	-3.3
	baz=221						
IMEL	Melhnausar	6.50	220	P	Pn	16 56 34.8	-2.5
IMEL	Melhnausar	6.50	220	P	Pn	16 56 34.8	-2.5
	baz=220						
IMEL				S	Sn	16 57 47.6	-3.6
	baz=220						
ISIG	Siglufjorour	6.56	229	P	Pn	16 56 37.1	-0.9
ISIG	Siglufjorour	6.56	229	P	Pn	16 56 37.1	-0.9
	baz=230						
ISIG				S	Sn	16 57 48.7	-3.8
	baz=230						
IHLA	Hella	6.58	227	P	Pn	16 56 35.7	-2.6
IHLA	Hella	6.58	227	P	Pn	16 56 35.7	-2.6
	baz=227						
IHLA				S	Sn	16 57 49.0	-4.0
	baz=227						
IGLU	Glumsstadir	6.73	212	P	Pn	16 56 38.7	-1.7
IGLU	Glumsstadir	6.73	212	P	Pn	16 56 38.7	-1.7
	baz=212						
IGLU				S	Sn	16 57 52.2	-4.5
	baz=212						
DAG	Danmarks Havn	6.76	336	⇑iP	Pn	16 56 38.7	-2.1
DAG				pmax	pmax		
	comp=Z,430nm,0.8s						
DAG				MLR	MLR		
	comp=Z,6μm,21.0s						
DAG	Danmarks Havn	6.76	336	⇑iP	Pn	16 56 38.7	-2.1
	comp=Z,582nm,0.8s						
DAG				iS	Sn	16 57 49.6	-7.9
	comp=Z,6μm,20.0s						
DAG	Danmarks Havn	6.76	336	iS	Sn	16 57 49.7	-7.8
	comp=Z,294nm,0.6s,SNR=46						
IADA	Aoalbol	6.78	214	P	Pn	16 56 39.5	-1.6
IADA				S	Sn	16 57 53.9	-4.2
IADA	Aoalbol	6.78	214	P	Pn	16 56 39.5	-1.6
	baz=213						
IADA				S	Sn	16 57 53.9	-4.2
	baz=213						
ISVA	Svartarkot	6.83	220	P	Pn	16 56 40.3	-1.5
ISVA	Svartarkot	6.83	220	P	Pn	16 56 40.3	-1.5
	baz=220						
ISVA				S	Sn	16 57 56.2	-3.2
	baz=220						
IHRN	Hraun	6.88	232	P	Pn	16 56 41.8	-0.6
IHRN	Hraun	6.88	232	P	Pn	16 56 41.8	-0.6
	baz=233						
IHRN				S	Sn	16 57 57.4	-3.0
	baz=233						
IHVA	Hvannstoosfjol	6.89	215	P	Pn	16 56 41.1	-1.6
IHVA	Hvannstoosfjol	6.89	215	P	Pn	16 56 41.1	-1.6
	baz=214						

IASK Askja 6.96 217 P Pn 16 56 41.7 -1.9
IASK Askja 6.96 217 P Pn 16 56 41.7 -1.9
baz=217
IVSH V-Sauoahnukur 7.00 214 P Pn 16 56 42.3 -1.9
IVSH V-Sauoahnukur 7.00 214 P Pn 16 56 42.3 -1.9
baz=213
IBRU Bruarjokull 7.05 215 P Pn 16 56 43.1 -1.7
IBRU Bruarjokull 7.05 215 P Pn 16 56 43.1 -1.7
baz=214
IKRE Kreppuhraun 7.14 216 P Pn 16 56 44.4 -1.8
IKRE Kreppuhraun 7.14 216 P Pn 16 56 44.4 -1.8
baz=215
LOF Lofoten 7.59 102 eP Pn 16 56 48.8 -3.5
LOF eSn Sn 16 58 13.3 -4.7
LOF IAML 16 58 22.2
comp=Z,48nm,0.5s
STEI Steigen 8.25 101 eP Pn 16 56 58.9 -2.3
STEI IAML 16 58 33.9
comp=Z,52nm,0.4s
BORG Borgarnes 8.27 229 P Pn 16 57 05.1 +3.6
BORG 16 58 36.0
BORG Borgarnes 8.27 229 Pn Pn 16 57 03.3 +1.8
comp=Z,0.9nm,0.3s,baz=55,slow=11,SNR=4.1
BORG Sn Sn 16 58 36.0 +1.4
comp=Z,2.6nm,0.3s,baz=90,slow=20,SNR=5.6
BORG LR LR 16 59 29.3
comp=Z,5μm,20.2s,baz=24,slow=32
BORG Borgarnes 8.27 229 P Pn 16 57 05.1 +3.6
BORG Sn Sn 16 58 36.0 +1.4
KONS Konsvik 8.42 112 eP Pn 16 57 01.0 -2.5
KONS eS Sn 16 58 30.9 -7.3
KONS IAML 16 58 40.6
comp=Z,59nm,0.4s
BJO Bjornoya 8.45 53 Pn Pn 16 57 04.0 +0.1
BJO Bjornoya 8.45 53 P Pn 16 57 04.0 +0.1
BJO Bjornoya 8.45 53 Pn Pn 16 57 04.0 +0.1
STOK Stokkvaagen 8.50 113 eP Pn 16 57 02.2 -2.4
STOK eS Sn 16 58 31.1 -9.0
STOK IAML 16 58 39.6
comp=N,190nm,0.5s
FLOS Flostrand 8.60 112 eP Pn 16 57 03.5 -2.5
FLOS IAML 16 58 41.2
comp=Z,128nm,0.5s
HSP Hornsund 8.61 35 Pn Pn 16 57 05.8 -0.3
HSP Hornsund 8.61 35 eP Pn 16 57 05.7 -0.4
HSP Hornsund 8.61 35 P Pn 16 57 05.8 -0.3
HSP Hornsund 8.61 35 Pn Pn 16 57 05.8 -0.3
TRO Tromso 8.72 86 eP Pn 16 57 04.9 -2.7
TRO eS Sn 16 58 40.1 -5.5
TRO IAML 16 58 47.6
comp=Z,58nm,0.5s
TRO Tromso 8.72 86 eP Pn 16 57 04.9 -2.7
SNR=47
MOR8 Moi Rana 9.04 111 eP Pn 16 57 10.1 -1.9
MOR8 eSn Sn 16 58 48.1 -5.4
MOR8 IAML 16 58 55.9
comp=Z,122nm,0.6s
MOR8 Moi Rana 9.04 111 eP Pn 16 57 10.1 -1.9
SNR=47
KBS Kingsbay 9.33 22 Pn Pn 16 57 15.7 -0.3
KBS Kingsbay 9.33 22 eP Pn 16 57 15.2 -0.8
KBS pmax pmax
comp=Z,237nm,0.6s
KBS Kingsbay 9.33 22 P Pn 16 57 15.7 -0.3
KBS Kingsbay 9.33 22 ePn Pn 16 57 15.2 -0.8
comp=Z,237nm,0.6s
KBS Kingsbay 9.33 22 Pn Pn 16 57 15.7 -0.3
SPA0 Spitsbergen Ar 9.45 29 Pn Pn 16 57 17.7 +0.1
baz=222,slow=12
SPA0 Spitsbergen Ar 9.45 29 P Pn 16 57 18.2 +0.6
baz=216,slow=16
SPA0 Spitsbergen Ar 9.45 29 Pn Pn 16 57 17.7 +0.1
SNR=8.9
SPA0 Spitsbergen Ar 9.45 29 P Pn 16 57 18.2 +0.6
SNR=47
SPITS Spitsbergen Ar 9.45 29 Pn Pn 16 57 18.1 +0.5
baz=210,slow=13,SNR=911
SPITS Sn Sn 16 59 03.8 +0.3
baz=206,slow=26,SNR=1.2
SPITS LR LR 16 59 37.4
comp=Z,1μm,21.2s,baz=235,slow=29
NSS Namsos 9.49 123 eP Pn 16 57 15.8 -2.4
NSS eS Sn 16 58 54.8 -10
NSS IAML 16 59 01.6
comp=Z,106nm,0.4s
NSS Namsos 9.49 123 eP Pn 16 57 15.8 -2.4
SNR=47
KUA Kurravaara 9.90 94 P Pn 16 57 21.3 -2.5
SUMG Summit 10.04 294 iP Pn 16 57 25.6 -0.4
SUMG Summit 10.04 294 iP Pn 16 57 25.6 -0.4
SUMG eS Sn 16 59 07.1 -12
SUMG Summit 10.04 294 ePn Pn 16 57 24.4 -1.6
comp=Z,49nm,0.7s
SUMG Summit 10.04 294 ePn Pn 16 57 24.4 -1.6
comp=Z,49nm,0.7s
SUMG Summit 10.04 294 iP Pn 16 57 25.6 -0.4
AKN Aaknes 10.28 142 Pn Pn 16 57 25.7 -3.3
AKN Aaknes 10.28 142 P Pn 16 57 25.7 -3.3
AKN Aaknes 10.28 142 Pn Pn 16 57 25.7 -3.3
KTK1 Kautokeino 10.37 86 eP Pn 16 57 28.1 -2.1
LANU Lannavaara 10.39 92 P Pn 16 57 27.7 -2.9
DUNU Dundret 10.41 98 P Pn 16 57 27.9 -2.9
MASU Masugnsbyn 10.70 95 P Pn 16 57 31.7 -3.1
ARA0 ARCESS Array S 10.91 82 Pn Pn 16 57 35.0 -2.6
baz=292,slow=11
ARA0 ARCESS Array S 10.91 82 P Pn 16 57 35.0 -2.6
baz=292,slow=11
ARA0 ARCESS Array S 10.91 82 Pn Pn 16 57 35.0 -2.6
SNR=443
ARCES ARCESS Array B 10.91 82 P Pn 16 57 36.0 -1.6
ARCES 16 59 39.3
ARCES pmax pmax
comp=Z,4.0nm,0.3s
ARCES smax smax
comp=N,1.0nm,0.3s
ARCES ARCESS Array B 10.91 82 Pn Pn 16 57 36.0 -1.6
comp=N,4.0nm,0.3s,baz=288,slow=11,SNR=210
ARCES Sn Sn 16 59 39.3 0.0
comp=N,1.1nm,0.3s,baz=304,slow=24,SNR=2.8
ARCES LR LR 17 01 15.7
comp=N,2μm,21.4s,baz=294,slow=34
LRW Lerwick 11.04 166 eP Pn 16 57 37.5 -1.9
LRW AMB AMB 16 57 47.9
comp=Z,177nm,2.2s
LRW Lerwick 11.04 166 eP Pn 16 57 37.5 -1.9
HARU Harads 11.10 102 P Pn 16 57 37.9 -2.4
ERTU Ertsjaerv 11.26 99 P Pn 16 57 39.1 -3.4
LILU Lilltraesk 11.30 107 P Pn 16 57 40.8 -2.2
KEV Kevo 11.31 80 eP Pn 16 57 40.7 -2.4
KEV pmax pmax
comp=Z,15nm,0.4s
KEV Kevo 11.31 80 ep Pn 16 57 40.7 -2.4
comp=Z,15nm,0.4s
KEV Kevo 11.31 80 eP Pn 16 57 40.6 -2.5
comp=Z,41nm,0.8s
KEV Kevo 11.31 80 eP Pn 16 57 40.6 -2.5
comp=Z,41nm,0.8s
SJUU Sjulsmark 11.72 104 P Pn 16 57 46.1 -2.5
BREU Bredtraesk 11.89 114 P Pn 16 57 49.5 -1.5
KALU Kalix 12.06 100 P Pn 16 57 50.0 -3.3
NB2 NORSAR Subarra 12.21 135 Pn Pn 16 57 52.0 -3.5
baz=335,slow=16
NB2 NORSAR Subarra 12.21 135 Pn Pn 16 57 54.5 -1.0
comp=Z,16nm,1.0s,baz=331,slow=14
NB2 NORSAR Subarra 12.21 135 P Pn 16 57 52.0 -3.5
baz=335,slow=16
NB2 NORSAR Subarra 12.21 135 Pn Pn 16 57 52.0 -3.5
SNR=1.4
NOA NORSAR Array B 12.21 135 P Pn 16 57 53.8 -1.8
NOA 17 00 12.7
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA smax smax
comp=N,1.0nm,0.3s
NOA NORSAR Array B 12.21 135 Pn Pn 16 57 53.8 -1.8
comp=N,1.3nm,0.3s,baz=324,slow=13,SNR=18
NOA Sn Sn 17 00 12.7 +1.3
comp=N,1.2nm,0.3s,baz=317,slow=19,SNR=2.7
NOA LR LR 17 02 09.7
comp=N,3μm,22.0s,baz=330,slow=35
BURU Burvik 12.26 107 P Pn 16 57 54.0 -2.1
HUSU Husum 12.49 114 P Pn 16 57 57.8 -1.4
BIGH Upper Bighouse 12.51 173 eP Pn 16 57 58.6 -0.9
BIGH AMB AMB 16 57 58.7
comp=Z,170nm,1.7s
BIGH Upper Bighouse 12.51 173 eP Pn 16 57 58.6 -0.9
UMAU Umeaa 12.54 110 P Pn 16 57 57.6 -2.2
HEMU Hemsoen 12.65 118 P Pn 16 57 59.2 -2.2
MLA1 Latheron 12.72 172 eP Pn 16 58 01.9 -0.5
MLA1 Latheron 12.72 172 eP Pn 16 58 01.9 -0.5
MVH1 Achvaich 13.07 174 eP Pn 16 58 07.2 +0.1
MVH1 Achvaich 13.07 174 eP Pn 16 58 07.2 +0.1
KONO Kongsberg 13.11 141 eP Pn 16 58 07.2 -0.5
KONO pmax pmax
comp=Z,100nm,1.6s
KONO Kongsberg 13.11 141 eP Pn 16 58 07.2 -0.5
comp=Z,100nm,1.6s
KONO Kongsberg 13.11 141 eP Pn 16 58 07.2 -0.5
comp=Z,100nm,1.6s
MCD Coleburn Disti 13.45 172 eP Pn 16 58 11.4 -0.9
MCD Coleburn Disti 13.45 172 eP Pn 16 58 11.4 -0.9
KAC Achnashellach 13.47 177 eP Pn 16 58 11.8 -0.8
KAC Achnashellach 13.47 177 eP Pn 16 58 11.8 -0.8
MDO Dochfour 13.55 175 eP Pn 16 58 12.4 -1.3
MDO Dochfour 13.55 175 eP Pn 16 58 12.4 -1.3
HFS Hagfors 13.60 132 Pn Pn 16 58 11.9 -2.5
baz=310,slow=16
HFS Hagfors 13.60 132 P Pn 16 58 12.7 -1.7
HFS 17 00 37.6
HFS pmax pmax
comp=Z,3.0nm,0.3s
HFS smax smax
comp=N,1.0nm,0.3s
HFS MLR MLR
comp=Z,4μm,21.7s
HFS Hagfors 13.60 132 P Pn 16 58 11.9 -2.5
baz=310,slow=16
HFS Hagfors 13.60 132 Pn Pn 16 58 12.7 -1.7
comp=Z,2.6nm,0.3s,baz=333,slow=12,SNR=45
HFS Sn Sn 17 00 37.6 -7.5
comp=Z,1.4nm,0.3s,baz=338,slow=22,SNR=3.9
HFS LR LR 17 03 04.2
comp=Z,4μm,21.7s,baz=330,slow=36
MME1 Meikle Cairn 13.73 172 eP Pn 16 58 16.0 -0.1
MME1 Meikle Cairn 13.73 172 eP Pn 16 58 16.0 -0.1
DRUM Mains of Drumt 14.16 171 eP Pn 16 58 21.1 -0.9
DRUM AMB AMB 16 58 22.0
comp=Z,110nm,2.6s
DRUM Mains of Drumt 14.16 171 eP Pn 16 58 21.1 -0.9
APA Apatity 14.39 84⇓iP Pn 16 58 24.2 -0.9
APA i 17 01 02.0
APA pmax pmax
comp=Z,65nm,1.0s
LVZ Lovozero 14.63 82⇑iP Pn 16 58 25.4 -3.0
LVZ pmax pmax
comp=Z,95nm,1.7s
LVZ Lovozero 14.63 82 P Pn 16 58 25.4 -3.0
comp=Z,42nm,1.0s
EAB Aberfoyle 14.80 175 eP Pn 16 58 30.6 -0.2
ILULI Ilulissat 14.99 285⇓iP Pn 16 58 31.1 -2.2
ILULI pmax pmax
comp=Z,43nm,0.9s
ILULI MLR MLR
comp=Z,4μm,12.0s
ILULI Ilulissat 14.99 285⇓iP Pn 16 58 31.1 -2.2
comp=Z,43nm,0.9s
comp=Z,4μm,11.0s
EDI Edinburgh 15.11 172 AMB AMB 16 58 29.6
comp=Z,117nm,1.0s
EBL Broad Law 15.27 172 eP Pn 16 58 36.4 -0.6
KAF Kangasniemi 15.59 108 eP Pn 16 58 38.4 -2.7
KAF pmax pmax
comp=Z,24nm,0.5s
KAF Kangasniemi 15.59 108 ep Pn 16 58 38.4 -2.7
comp=Z,24nm,0.5s
EKA Eskdalemuir Ar 15.70 173 Pn Pn 16 58 41.4 -1.2
baz=360,slow=13,SNR=15
EKA LR LR 17 03 44.6
comp=Z,2μm,21.5s,baz=330,slow=33
ESK Eskdalemuir 15.71 173 eP Pn 16 58 42.1 -0.7
ESK Eskdalemuir 15.71 173 i P Pn 16 58 44.1 +1.3
ESK Eskdalemuir 15.71 173 ePn Pn 16 58 42.6 -0.2
comp=Z,207nm,1.1s
ESK Eskdalemuir 15.71 173 ePn Pn 16 58 42.6 -0.2
comp=Z,207nm,1.1s
ECK Cauldkaine Hil 15.85 173 eP Pn 16 58 44.6 0.0
SFJD Kangerlussuaq 15.97 277 Pn Pn 16 58 45.9 -0.1
comp=Z,0.9nm,0.3s,baz=65,slow=6.0,SNR=8.1
SFJD LR LR 17 03 54.7
comp=Z,2μm,21.1s,baz=52,slow=33
SFJD Kangerlussuaq 15.97 277 eP Pn 16 58 45.4 -0.5
comp=Z,41nm,0.8s
FINES FINESS Array B 16.02 110 Pn Pn 16 58 44.5 -2.3
comp=Z,1.0nm,0.3s,baz=330,slow=11,SNR=53
FINES LR LR 17 03 53.8
comp=Z,1μm,19.9s,baz=271,slow=33
ALE Alert 16.17 337 Pn Pn 16 58 44.0 -4.5
comp=Z,275nm,0.7s,SNR=18
JOF Joensuu 16.60 100 eP Pn 16 58 50.8 -3.3
JOF pmax pmax
comp=Z,10.0nm,0.4s
JOF Joensuu 16.60 100 ep Pn 16 58 50.8 -3.3
comp=Z,10nm,0.4s
DSB Dublin 17.72 179 eP Pn 16 59 08.9 +0.8
comp=Z,55nm,1.0s
DSB Dublin 17.72 179 eP Pn 16 59 08.9 +0.8
comp=Z,55nm,1.0s
KBI1 Birley Grange 17.86 170 eP Pn 16 59 09.4 -0.5
KBI1 Birley Grange 17.86 170 eP Pn 16 59 09.4 -0.5
TMCR Tamitsa 17.95 90 eP Pn 16 59 08.3 -2.6
TMCR e 17 02 23.1
TMCR pmax pmax
comp=Z,59nm,1.4s
BSD Bornholm Skovb 18.43 138 i P Pn 16 59 18.9 +2.1
comp=Z,38nm,0.9s
comp=Z,2μm,13.0s
comp=Z,2μm,13.0s
VSU Vasula 18.60 115deP P 16 59 18.0 -0.6
VSU pmax pmax
comp=Z,224nm,1.5s
VSU MLR MLR
comp=Z,4μm,19.0s
BSEG Bad Segeberg 18.62 147 eP P 16 59 17.6 -1.2
comp=Z,71nm,1.3s
BSEG eS S 17 02 53.5 +3.1
PUL Pulkovo 18.65 108 eP Pn 16 59 21.0 +1.5
PUL pmax pmax
comp=Z,40nm,1.2s
PUL MLR MLR
comp=Z,1μm,15.0s
MCH1 Michaelchurch 19.04 173 eP P 16 59 22.8 -0.7
MCH1 AMB AMB 16 59 33.7
comp=Z,78nm,2.3s
MCH1 Michaelchurch 19.04 173 eP P 16 59 22.8 -0.7
VAL Valentia 19.10 187 eP P 16 59 24.5 +0.4
NRDL Niedersach Rie 19.96 149 eP P 16 59 33.1 -0.4
comp=Z,27nm,1.0s
NRDL eS Sn 17 03 21.2 +2.1
WTSB Winterswijk 19.96 155 eP P 16 59 33.0 -0.5
BUG Bochum--Univer 20.54 155 eP P 16 59 39.3 -0.5
comp=Z,40nm,1.1s
BUG eS S 17 03 31.0 +2.1
BUG Bochum--Univer 20.54 155 eP P 16 59 39.3 -0.5
comp=Z,40nm,1.1s
CLZ Clausthal 20.64 149 eP P 16 59 40.6 -0.3
comp=Z,31nm,1.1s
CLZ eS Sn 17 03 36.2 +0.6
CLZ Clausthal 20.64 149 eP P 16 59 40.6 -0.3
comp=Z,31nm,1.1s
GKP Gorka Klasztor 20.65 136 eP P 16 59 41.2 +0.2
GKP Gorka Klasztor 20.65 136 eP P 16 59 41.2 +0.2
GKP Gorka Klasztor 20.65 136 eP P 16 59 41.2 +0.2
RUE Ruedersdorf 20.66 143 eP Pn 16 59 43.3 -0.1
comp=Z,24nm,0.7s
RUE Ruedersdorf 20.66 143 eP Pn 16 59 43.3 -0.1
comp=Z,24nm,0.7s
KLMR Klimovskoe 20.78 95d iP P 16 59 40.2 -2.2
KLMR pmax pmax
comp=Z,166nm,1.3s
KLMR MLR MLR
comp=Z,2μm,14.0s
ISAL Salakas 20.88 120 eP P 16 59 42.2 -1.2
ISAL AMB AMB 16 59 46.9
comp=Z,20nm,1.4s
ISAL Salakas 20.88 120 eP P 16 59 42.2 -1.2
comp=Z,20nm,1.4s,SNR=35
HGN Heimansgroeve 21.02 157 eP P 16 59 45.0 0.0
comp=Z,68nm,1.2s
HGN eL L 17 07 27.0
comp=Z,1μm,21.5s
HGN Heimansgroeve 21.02 157 eP P 16 59 45.0 0.0
comp=Z,68nm,1.2s
SNF Seneffe 21.08 160 AP pP 16 59 48.3 -1.1
IIGN Ignalina 21.10 120 eP P 16 59 44.6 -1.2
IIGN AMB AMB 16 59 48.6
comp=Z,14nm,1.3s
IIGN Ignalina 21.10 120 eP P 16 59 44.6 -1.2
comp=Z,14nm,1.3s,SNR=35
MEM Membach 21.18 157 P P 16 59 47.1 +0.3
comp=Z,33nm,1.1s
IDID Didziasalis 21.27 120 eP P 16 59 46.8 -0.9
IDID AMB AMB 17 00 04.8
comp=Z,21nm,1.3s
IDID Didziasalis 21.27 120 eP P 16 59 46.8 -0.9
comp=Z,21nm,1.3s,SNR=35
BCLA Clavier 21.28 159 P P 16 59 48.7 +0.8
comp=Z,51nm,2.3s
BCLA Clavier 21.28 159 P P 16 59 48.6 +0.8
comp=Z,51nm,2.3s
SUW Suwalki 21.44 127 eP P 16 59 51.0 +1.4
SUW Suwalki 21.44 127 eP P 16 59 50.9 +1.4
SUW Suwalki 21.44 127 eP P 16 59 50.4 +0.9
comp=Z,70nm,0.8s
SUW Suwalki 21.44 127 eP P 16 59 50.4 +0.9
comp=Z,70nm,0.8s
BAIF Baives 21.51 161 eP P 16 59 50.7 +0.4
comp=Z,56nm,0.9s
BAIF Baives 21.51 161 eP P 16 59 50.7 +0.4
BAIF pmax pmax
comp=Z,56nm,0.9s
BAIF Baives 21.51 161 eP P 16 59 50.7 +0.4
comp=Z,56nm,0.9s
BAIF Baives 21.51 161 eP P 16 59 50.7 +0.4
comp=Z,28nm,0.9s
DOU Dourbes 21.52 160 P P 16 59 51.8 +1.3
comp=Z,31nm,2.6s
DOU Dourbes 21.52 160 P P 16 59 51.7 +1.3
comp=Z,31nm,2.6s
GIVF Givet 21.54 160 eP P 16 59 53.1 +2.5
comp=Z,106nm,1.1s
GIVF Givet 21.54 160 eP P 16 59 53.1 +2.5
GIVF pmax pmax
comp=Z,106nm,1.1s
GIVF Givet 21.54 160 eP P 16 59 53.1 +2.5
comp=Z,106nm,1.1s
UBBA Unterbreizbach 21.56 150 eP P 16 59 49.9 -0.8
comp=Z,32nm,1.4s
UBBA eS Sn 17 03 55.2 -2.3
UBBA Unterbreizbach 21.56 150 eP P 16 59 49.9 -0.8
comp=Z,32nm,1.4s
CLL Collm 21.62 145⇓iP P 16 59 52.0 +0.5
CLL i 16 59 54.7
CLL eS S 17 03 50.0 -0.3
CLL pmax pmax
comp=Z,16nm,0.9s
CLL MLR MLR
comp=Z,1μm,19.8s
CLL Collm 21.62 145 eP P 16 59 51.4 -0.1
comp=Z,27nm,1.0s
CLL eS Sn 17 03 57.0 -2.1
CLL Collm 21.62 145⇓iP P 16 59 52.0 +0.5
comp=Z,16nm,0.9s
CLL i pP pP 16 59 54.7 -0.6
comp=Z,27nm,1.0s
CLL i 17 00 02.4
CLL i 17 00 05.1
CLL eS S 17 03 50.0 -0.3
CLL eSSS SSS 17 04 36.0
CLL LmV 17 08 00.0
comp=Z,1μm,19.8s
CLL Collm 21.62 145 i P P 16 59 52.0 +0.5
comp=Z,16nm,0.9s
NACGM Naroch 21.65 120 eP P 16 59 48.0 -3.7
NACGM Naroch 21.65 120 eP P 16 59 51.0 -0.7
TNS Taunus Mts 21.90 153 eP P 16 59 54.0 -0.5
comp=Z,43nm,1.0s
TNS eS Sn 17 04 02.7 -3.2
TNS Taunus Mts 21.90 153 eP P 16 59 54.0 -0.5
comp=Z,43nm,1.0s
MOX Moxa 22.00 148 eP P 16 59 55.7 +0.1
comp=Z,37nm,1.1s
MOX eS Sn 17 04 05.6 -2.7
MOX eL L 17 08 14.8
comp=Z,786nm,19.4s
MOX Moxa 22.00 148 eP P 16 59 55.7 +0.1
comp=Z,37nm,1.1s
ABH Alteburg 22.10 155 eP P 16 59 57.0 +0.3
WLF Walferdange 22.13 157 P P 16 59 57.8 +0.8
WLF Walferdange 22.13 157 eP P 16 59 57.7 +0.8
WLF pmax pmax
comp=Z,28nm,1.1s
WLF Walferdange 22.13 157 eP P 16 59 56.9 -0.1
comp=Z,43nm,1.3s
WLF eS Sn 17 04 06.8 -4.5
WLF Walferdange 22.13 157 eP P 16 59 57.6 +0.7
comp=Z,28nm,1.1s
WLF Walferdange 22.13 157 eP P 16 59 57.7 +0.7
comp=Z,28nm,1.1s
RUP Ruppelstein 22.21 156⇑eP P 16 59 58.4 +0.5
BRG Berggiesshubel 22.21 144 eP P 16 59 58.0 +0.1
comp=Z,25nm,1.5s
BRG Berggiesshubel 22.21 144 eP P 17 00 02.9 +5.1
comp=Z,30nm,1.3s
BRG S S 17 04 03.0 +1.2
comp=Z,2μm,12.7s
comp=N,1μm,14.9s
comp=E,830nm,14.9s
BRG Berggiesshubel 22.21 144 eP P 16 59 58.0 +0.1
BRG Berggiesshubel 22.21 144 eP P 16 59 57.9 +0.1
comp=Z,30nm,1.3s
BRG eS Sn 17 04 10.8 -2.5
BRG Berggiesshubel 22.21 144 eP P 16 59 58.0 +0.1
PRGR Permogore 22.21 88 eP P 16 59 55.2 -2.5
PRGR pmax pmax
comp=Z,63nm,1.4s
MNK Minsk 22.30 119⇓eP P 16 59 58.0 -0.7
MNK e 17 00 19.0
MNK eS S 17 03 58.0 -5.2
MNK eSS SnSn 17 04 50.0 +20
MNK pmax pmax
comp=Z,210nm,0.8s
MNK MLR MLR
comp=Z,4μm,14.0s
MICGM Minsk 22.31 119⇓eP P 16 59 58.0 -0.8
TANN Tannenbergstha 22.38 147 eP P 16 59 59.9 +0.2
comp=Z,49nm,1.2s
TANN Tannenbergstha 22.38 147 eP P 16 59 59.9 +0.2
comp=Z,49nm,1.2s
FLN La Foliniere 22.40 169 eP P 16 59 59.6 -0.2
comp=Z,168nm,1.3s,baz=355
FLN eR
comp=Z,2μm,21.2s
FLN La Foliniere 22.40 169 eP P 16 59 59.6 -0.2
FLN pmax pmax
comp=Z,168nm,1.3s
FLN La Foliniere 22.40 169 eP P 16 59 59.6 -0.2
comp=Z,168nm,1.3s
FLN La Foliniere 22.40 169 eP P 16 59 59.6 -0.2
comp=Z,84nm,1.3s
TOD Tromm 22.55 153 eP P 17 00 01.2 -0.3
LDF La Druitiere 22.59 169 eP P 17 00 00.5 -1.4
comp=Z,120nm,0.9s
LDF La Druitiere 22.59 169 eP P 17 00 00.5 -1.4
LDF pmax pmax
comp=Z,120nm,0.9s
LDF La Druitiere 22.59 169 eP P 17 00 00.5 -1.4
comp=Z,120nm,0.9s
LDF La Druitiere 22.59 169 eP P 17 00 00.5 -1.4
comp=Z,60nm,0.9s
ROSF Rostrenen 22.69 174 eP P 17 00 02.9 -0.1
comp=Z,218nm,1.4s
ROSF Rostrenen 22.69 174 eP P 17 00 02.9 -0.1
ROSF pmax pmax
comp=Z,219nm,1.4s
ROSF Rostrenen 22.69 174 eP P 17 00 02.9 -0.1
comp=Z,218nm,1.4s
ROSF Rostrenen 22.69 174 eP P 17 00 02.9 -0.1
comp=Z,109nm,1.4s
KSP Ksiaz 22.72 140 eP P 17 00 02.2 -1.0
KSP e*PP pP 17 00 04.5 -2.6
KSP e 17 00 26.4
KSP eS S 17 04 12.0 +0.9
KSP MLR MLR
comp=Z,8μm,14.7s
KSP Ksiaz 22.72 140 eP P 17 00 02.8 -0.4
KSP eS Px 17 00 26.9
KSP Ksiaz 22.72 140 eP P 17 00 02.2 -1.0

KSP eS S 17 04 12.0 +0.9
GRR Gorron 22.75 170 eP P 17 00 04.0 +0.4
comp=Z,77nm,0.9s
GRR Gorron 22.75 170 eP P 17 00 04.0 +0.4
GRR pmax pmax
comp=Z,77nm,0.9s
GRR Gorron 22.75 170 eP P 17 00 04.0 +0.4
comp=Z,77nm,0.9s
GRR Gorron 22.75 170 eP P 17 00 04.0 +0.4
comp=Z,39nm,0.9s
SGMF Saint Gilles 22.80 173 eP P 17 00 03.8 -0.3
comp=Z,271nm,1.5s
SGMF Saint Gilles 22.80 173 eP P 17 00 03.8 -0.3
SGMF pmax pmax
comp=Z,271nm,1.5s
SGMF Saint Gilles 22.80 173 eP P 17 00 03.8 -0.3
comp=Z,271nm,1.5s
SGMF Saint Gilles 22.80 173 eP P 17 00 03.8 -0.3
comp=Z,136nm,1.5s
GRF Grafenberg Arr 22.85 149 eP P 17 00 05.0 +0.3
comp=Z,68nm,1.5s
GRF eL L 17 10 21.5
comp=Z,1µm,18.2s
ROTZ Rotzenmuhle 22.95 147 eP P 17 00 06.3 +0.6
comp=Z,35nm,1.2s
UPC Upice 22.98 141 eP P 17 00 08.4 +2.4
UPC e 17 00 12.8
UPC Upice 22.98 141 eP P 17 00 08.4 +2.4
UPC epP pP 17 00 12.8 +3.0
LANF Langenberg 23.02 155 eP P 17 00 07.5 +1.1
PRA Prague 23.08 144 P P 17 00 09.0 +2.1
QUIF Quistinic 23.11 174 eP P 17 00 06.1 -1.2
QUIF Quistinic 23.11 174 eP P 17 00 06.1 -1.2
QUIF Quistinic 23.11 174 eP P 17 00 06.1 -1.2
MEZF Maizieres J'vi 23.14 160 eP P 17 00 08.5 +0.9
comp=Z,118nm,1.1s,baz=357
MEZF Maizieres J'vi 23.14 160 eP P 17 00 08.5 +0.9
comp=Z,118nm,1.1s
PAGF Fort de Pagny 23.17 159 eP P 17 00 07.5 -0.4
comp=Z,22nm,0.9s
PAGF Fort de Pagny 23.17 159 eP P 17 00 07.5 -0.4
comp=Z,22nm,0.9s
PRU Pruhonice 23.18 144 eP P 17 00 08.2 +0.2
PRU e 17 00 11.4
PRU e 17 00 17.0
PRU eS S 17 04 20.2 +1.2
PRU MLR MLR
comp=Z,1µm,14.2s
PRU Pruhonice 23.18 144 eP P 17 00 08.2 +0.2
PRU epP pP 17 00 11.4 -0.4
PRU ex x 17 00 17.0
PRU eS S 17 04 20.2 +1.2
PRU AMS AMS 17 10 20.0
comp=Z,1µm,14.2s
PRU Pruhonice 23.18 144 P P 17 00 08.2 +0.2
PRU S S 17 04 20.2 +1.2
DPC Dobruska-Polom 23.19 141 eP P 17 00 07.7 -0.5
DPC Dobruska-Polom 23.19 141 eP P 17 00 07.7 -0.5
DPC ex x 17 00 17.0
DPC eS S 17 04 25.2 +5.9
DPC AMS AMS 17 11 40.0
DPC Dobruska-Polom 23.19 141 P P 17 00 07.7 -0.5
STU Stuttgart 23.42 153 eP P 17 00 10.8 +0.3
comp=Z,20nm,0.9s
SFTF Sexfontaines 23.43 160 eP P 17 00 11.3 +0.7
comp=Z,103nm,1.1s
SFTF Sexfontaines 23.43 160 eP P 17 00 11.3 +0.7
comp=Z,103nm,1.1s
CDF Champ du Feu 23.50 156 eP P 17 00 12.1 +0.7
comp=Z,36nm,1.1s
CDF Champ du Feu 23.50 156 eP P 17 00 12.1 +0.7
CDF pmax pmax
comp=Z,36nm,1.1s
CDF Champ du Feu 23.50 156 eP P 17 00 12.1 +0.7
comp=Z,36nm,1.1s
THEF They Montfort 23.52 158 eP P 17 00 12.3 +0.8
KRLC Kraliky 23.55 140 eP P 17 00 12.1 +0.3
KRLC e 17 00 16.1
KRLC e 17 00 19.6
KRLC Kraliky 23.55 140 eP P 17 00 12.1 +0.3
KRLC epP pP 17 00 16.1 +0.4
KRLC ex x 17 00 19.6
KRLC Kraliky 23.55 140 P P 17 00 12.1 +0.3
WET Wettzell 23.67 147 eP P 17 00 13.6 +0.7
comp=Z,17nm,1.0s
WET eS S 17 04 32.8 +5.7
ECH Echery 23.68 157 eP P 17 00 11.6 -1.4
ECH pmax pmax
comp=Z,16nm,0.9s
ECH Echery 23.68 157⇑eP P 17 00 13.4 +0.4
ECH Echery 23.68 157 eP P 17 00 11.6 -1.4
comp=Z,16nm,0.9s
ECH Echery 23.68 157 eP P 17 00 11.6 -1.4
comp=Z,16nm,0.9s
BFO Black Forest 23.73 155 P P 17 00 14.2 +0.7
comp=Z,102nm,0.8s,SNR=5.2
BFO Black Forest 23.73 155 iP P 17 00 14.9 +1.4
BFO Black Forest 23.73 155 eP P 17 00 13.9 +0.4
comp=Z,18nm,0.9s
BFO Black Forest 23.73 155 eP P 17 00 14.0 +0.5
comp=Z,48nm,1.4s
BFO Black Forest 23.73 155 eP P 17 00 14.0 +0.5
comp=Z,48nm,1.4s
HAU Haudompre 23.79 158 eP P 17 00 14.5 +0.5
comp=Z,55nm,1.2s
HAU eR
comp=Z,2µm,18.0s
HAU Haudompre 23.79 158 eP P 17 00 14.5 +0.5
HAU pmax pmax
comp=Z,55nm,1.2s
HAU Haudompre 23.79 158 eP P 17 00 14.5 +0.5
comp=Z,55nm,1.2s
KHC Kasperske Hory 23.81 146 eP P 17 00 15.2 +0.9
KHC e 17 00 18.2
KHC e 17 00 22.2
KHC eS S 17 04 32.4 +3.0
KHC MLR MLR
comp=Z,2µm,14.6s
KHC Kasperske Hory 23.81 146 eP P 17 00 15.2 +0.9
KHC epP pP 17 00 18.2 -0.1
KHC ex x 17 00 22.2
KHC eS S 17 04 32.4 +3.0
KHC AMS AMS 17 12 20.0
comp=Z,2µm,14.6s
KHC Kasperske Hory 23.81 146 eP P 17 00 15.2 +0.9
comp=Z,26nm,1.2s
KHC Kasperske Hory 23.81 146 P P 17 00 15.2 +0.9
KHC S S 17 04 32.4 +3.0
FRB Frobisher Bay 23.83 284 P P 17 00 13.7 -0.6
FRB pmax pmax
comp=Z,7.0nm,0.7s
FRB MLR MLR
comp=Z,2µm,20.4s
FRB Frobisher Bay 23.83 284 P P 17 00 13.7 -0.6
comp=Z,6.9nm,0.7s,baz=40,slow=10.0,SNR=19
FRB LR LR 17 08 52.8
comp=Z,2µm,20.4s,baz=48,slow=35
MORC Moravsky Berou 23.99 139 eP P 17 00 14.9 -1.1
MORC pmax pmax
comp=Z,10.0nm,0.8s
MORC Moravsky Berou 23.99 139⇑iP P 17 00 15.6 -0.4
MORC Moravsky Berou 23.99 139 eP P 17 00 14.9 -1.1
comp=Z,10nm,0.8s
MORC Moravsky Berou 23.99 139 eP P 17 00 14.9 -1.1
comp=Z,10nm,0.8s
TREC Trest 24.02 143 eP P 17 00 16.7 +0.4
TREC e 17 00 19.5
TREC e 17 00 23.6
TREC MLR MLR
comp=Z,2µm,15.6s
TREC Trest 24.02 143 eP P 17 00 16.7 +0.4
TREC epP pP 17 00 19.5 -0.8
TREC esP sP 17 00 23.6 +1.6
TREC eS S 17 04 39.4 +6.7
TREC AMS AMS 17 12 30.0
comp=Z,2µm,15.6s
TREC Trest 24.02 143 P P 17 00 16.7 +0.4
HINF Hinteralfeld 24.03 157 eP P 17 00 16.5 +0.1
HINF Hinteralfeld 24.03 157 eP P 17 00 16.5 +0.1
HINF Hinteralfeld 24.03 157 eP P 17 00 16.5 +0.1
HINF Hinteralfeld 24.03 157 eP P 17 00 16.5 +0.1
OKC Ostrava-Krasne 24.07 138 eP P 17 00 16.3 -0.3
OKC e 17 00 19.7
OKC e 17 00 23.3
OKC eS S 17 04 36.4 +3.1
OKC MLR MLR
comp=Z,2µm,13.9s
OKC Ostrava-Krasne 24.07 138 eP P 17 00 16.3 -0.3
OKC epP pP 17 00 19.7 -1.0
OKC esP sP 17 00 23.3 +0.9
OKC eS S 17 04 36.4 +3.1
OKC Ostrava-Krasne 24.07 138 P P 17 00 16.3 -0.3
OKC S S 17 04 36.4 +3.1
RES Resolute Bay 24.08 319 eP P 17 00 17.7 +1.2
RES Resolute Bay 24.08 319 P P 17 00 16.1 -0.4
comp=Z,6.2nm,0.9s,baz=66,slow=10,SNR=7.9
RES LR LR 17 09 17.5
comp=Z,2µm,19.4s,baz=50,slow=36
RES Resolute Bay 24.08 319 eP P 17 00 17.7 +1.2
OJC Ojcow 24.08 135 eP P 17 00 15.9 -0.9
OJC eS S 17 04 22.5 -11
OJC MLR MLR
comp=Z,5µm,13.9s
OJC Ojcow 24.08 135 eP P 17 00 15.9 -0.9
OJC eS S 17 04 22.5 -11
OJC L L 17 11 19.0
comp=Z,5µm,13.9s
OJC Ojcow 24.08 135 eP P 17 00 15.9 -0.9
GEC2 GERESS Array S 24.11 146 eP P 17 00 17.8 +0.6
comp=Z,26nm,1.2s
GEC2 eS S 17 04 42.6 +8.4
GERES GERESS Array B 24.11 146 P P 17 00 17.7 +0.5
comp=Z,8.2nm,0.9s,baz=352,slow=8.6,SNR=45
GERES LR LR 17 09 57.1
comp=Z,756nm,18.8s,baz=341,slow=37
HYF Humbligny 24.12 164 eP P 17 00 17.2 0.0
HYF Humbligny 24.12 164 eP P 17 00 17.2 0.0
MOS Moscow 24.22 106 eP P 17 00 16.2 -1.8
MOS eS S 17 04 33.1 -2.5
MOS pmax pmax
comp=Z,77nm,1.2s
MOS MLR MLR
comp=Z,900nm,16.0s
LOR Lormes 24.23 162 eP P 17 00 17.8 -0.5
comp=Z,46nm,0.8s,baz=356
LOR eR
comp=Z,1µm,20.2s
LOR Lormes 24.23 162 eP P 17 00 17.8 -0.5
LOR pmax pmax
comp=Z,46nm,0.8s
LOR Lormes 24.23 162 eP P 17 00 17.8 -0.5
comp=Z,46nm,0.8s
VRAC Vranov 24.24 141⇑iP P 17 00 21.4 +3.2
VRAC Vranov 24.24 141 P P 17 00 18.2 -0.1
comp=Z,6.2nm,0.8s,baz=348,slow=9.9,SNR=6.3
VRAC LR LR 17 09 47.5
comp=Z,769nm,18.3s,baz=338,slow=37
FUR Furstenfeldbru 24.34 150 eP P 17 00 19.7 +0.5
comp=Z,23nm,0.6s
OBN Obninsk 24.41 108 d iP P 17 00 18.2 -1.5
OBN pmax pmax
comp=Z,101nm,1.7s
OBN MLR MLR
comp=Z,839nm,15.0s
OBN Obninsk 24.41 108 P P 17 00 18.9 -0.8
comp=Z,29nm,0.7s,baz=331,slow=7.6,SNR=13
OBN LR LR 17 08 36.8
comp=Z,568nm,18.2s,baz=317,slow=34
OBN Obninsk 24.41 108 eP P 17 00 18.1 -1.6
comp=Z,106nm,1.3s
OBN Obninsk 24.41 108 eP P 17 00 18.0 -1.6
comp=Z,106nm,1.3s
SSF Saint Saulge 24.41 163 eP P 17 00 19.6 -0.2
comp=Z,34nm,0.8s
SSF Saint Saulge 24.41 163 eP P 17 00 19.6 -0.2
SSF pmax pmax
comp=Z,34nm,0.8s
SSF Saint Saulge 24.41 163 eP P 17 00 19.6 -0.2
comp=Z,34nm,0.8s
MFF Saint Martin d 24.57 169 eP P 17 00 20.9 -0.4
comp=Z,100nm,1.2s
MFF Saint Martin d 24.57 169 eP P 17 00 20.9 -0.4
MFF pmax pmax
comp=Z,100nm,1.2s
MFF Saint Martin d 24.57 169 eP P 17 00 20.9 -0.4
comp=Z,100nm,1.2s
AVF Avril sur Loir 24.66 163 eP P 17 00 21.8 -0.3
comp=Z,66nm,1.2s
AVF Avril sur Loir 24.66 163 eP P 17 00 21.8 -0.3
AVF pmax pmax
comp=Z,67nm,1.2s
AVF Avril sur Loir 24.66 163 eP P 17 00 21.8 -0.3
comp=Z,66nm,1.2s
BGF Bois d'Agland 24.84 164 eP P 17 00 23.5 -0.3
comp=Z,69nm,0.8s
BGF Bois d'Agland 24.84 164 eP P 17 00 23.5 -0.3
BGF pmax pmax
comp=Z,69nm,0.8s
BGF Bois d'Agland 24.84 164 eP P 17 00 23.5 -0.3
comp=Z,69nm,0.8s
SMF Signal de Mont 24.85 163 eP P 17 00 24.0 +0.2
comp=Z,78nm,1.2s
SMF Signal de Mont 24.85 163 eP P 17 00 24.0 +0.2
SMF pmax pmax
comp=Z,78nm,1.2s
SMF Signal de Mont 24.85 163 eP P 17 00 24.0 +0.2
comp=Z,78nm,1.2s
DAVA Damuels 24.98 153⇑iP P 17 00 25.9 +0.8
comp=Z,34nm,1.1s
DAVA Damuels 24.98 153 P P 17 00 25.9 +0.8
comp=Z,34nm,1.1s
RJOB Jochberg 25.01 148 eP P 17 00 26.1 +0.7
comp=Z,19nm,0.9s
TCF Toulx Ste Croi 25.06 165 eP P 17 00 24.5 -1.2
comp=Z,88nm,1.0s
TCF Toulx Ste Croi 25.06 165 eP P 17 00 24.5 -1.2
TCF pmax pmax
comp=Z,88nm,1.0s
TCF Toulx Ste Croi 25.06 165 eP P 17 00 24.5 -1.2
comp=Z,88nm,1.0s
MOTA Moosalm 25.11 151⇑iP P 17 00 27.0 +0.7
comp=Z,20nm,1.0s
MOTA Moosalm 25.11 151 P P 17 00 27.0 +0.7
comp=Z,20nm,1.0s
CABF La Chapelle 25.13 159 eP P 17 00 25.4 -1.0
comp=Z,97nm,1.2s
CABF La Chapelle 25.13 159 eP P 17 00 25.4 -1.0
CABF pmax pmax
comp=Z,97nm,1.2s
CABF La Chapelle 25.13 159 eP P 17 00 25.4 -1.0
comp=Z,97nm,1.2s
STHS Stebnicka Huta 25.17 134 eP P 17 00 28.0 +1.3
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS Stebnicka Huta 25.17 134 eP P 17 00 28.0 +1.3
STHS Stebnicka Huta 25.17 134 eP P 17 00 28.0 +1.3
comp=Z,7.8nm,0.9s
MOA Molln 25.17 146⇑iP P 17 00 27.0 +0.3
comp=Z,16nm,1.3s
MOA Molln 25.17 146 P P 17 00 27.0 +0.3
comp=Z,16nm,1.3s
WATA Walderalm 25.20 150⇓iP P 17 00 28.0 +0.9
comp=Z,40nm,1.3s
WATA Walderalm 25.20 150 P P 17 00 28.0 +0.9
comp=Z,40nm,1.3s
WTTA Wattenberg 25.27 150⇑iP P 17 00 28.9 +1.0
comp=Z,29nm,1.0s
WTTA Wattenberg 25.27 150 P P 17 00 28.9 +1.0
comp=Z,29nm,1.0s
KWP Kalwaria Pacla 25.32 132 eP P 17 00 28.7 +0.6
KWP Kalwaria Pacla 25.32 132 eP P 17 00 28.7 +0.6
KWP Kalwaria Pacla 25.32 132⇓iP P 17 00 28.6 +0.5
KWP Kalwaria Pacla 25.32 132 eP P 17 00 28.0 -0.1
comp=Z,87nm,1.2s
KWP Kalwaria Pacla 25.32 132 eP P 17 00 28.0 -0.1
comp=Z,87nm,1.2s
FETA Feichten 25.36 151⇑iP P 17 00 29.7 +1.1
comp=Z,16nm,1.0s
FETA Feichten 25.36 151 P P 17 00 29.7 +1.1
comp=Z,16nm,1.0s
AGO Saint Agoulin 25.37 164⇑eP P 17 00 29.2 +0.7
CONA Conrad Observa 25.40 143⇑iP P 17 00 29.3 +0.4
comp=Z,15nm,1.1s
CONA Conrad Observa 25.40 143 P P 17 00 29.3 +0.4
comp=Z,15nm,1.1s
DAVOX Davos/Dischmat 25.47 153 P P 17 00 29.5 -0.1
comp=Z,5.0nm,0.9s,baz=331,slow=9.2,SNR=3.9
DAVOX LR LR 17 10 45.1
comp=Z,959nm,20.8s,baz=290,slow=37
LVV L'vov 25.48 130 eP P 17 00 35.7 +6.2
LVV MLR MLR
comp=N,2µm,15.0s
LVV MLR MLR
comp=E,1µm,15.0s
LVV MLR MLR
comp=Z,3µm,15.0s
VYHS Vyhne 25.48 138 eP P 17 00 29.5 -0.1
PLDF La Plantade 25.50 163⇑eP P 17 00 30.5 +0.7
PYM Petit Puy Mans 25.66 164⇑eP P 17 00 32.5 +1.3
TUE Stuetta 25.69 154 eP P 17 00 32.2 +0.5
comp=Z,18nm,0.9s
TUE Stuetta 25.69 154 eP P 17 00 32.2 +0.5
comp=Z,18nm,0.9s
CRVS Cervenica-Dubn 25.70 134 eP P 17 00 32.7 +1.2
CRVS Cervenica-Dubn 25.70 134 eP P 17 00 32.7 +1.2
CRVS Cervenica-Dubn 25.70 134 eP P 17 00 32.7 +1.2
RJF Les Rejaudoux 25.98 167 eP P 17 00 34.0 -0.1
comp=Z,89nm,1.0s
RJF eR
comp=Z,1µm,20.8s
RJF Les Rejaudoux 25.98 167 eP P 17 00 34.0 -0.1
RJF pmax pmax
comp=Z,89nm,1.0s
RJF Les Rejaudoux 25.98 167 eP P 17 00 34.0 -0.1
comp=Z,89nm,1.0s
AKASG Malin Array Be 26.06 122 P P 17 00 33.6 -1.1
AKASG pmax pmax
comp=Z,15nm,0.8s
AKASG MLR MLR
comp=Z,2µm,18.3s
AKASG Malin Array Be 26.06 122 P P 17 00 33.6 -1.1
comp=Z,12nm,0.7s,baz=333,slow=9.7,SNR=30
AKASG LR LR 17 10 21.1
comp=Z,2µm,18.3s,baz=330,slow=35
KIEV Kiev 26.06 122 d eP P 17 00 33.2 -1.5
KIEV Kiev 26.06 122 eP P 17 00 33.2 -1.5
comp=Z,24nm,1.0s
KIEV Kiev 26.06 122 eP P 17 00 33.2 -1.5
comp=Z,24nm,1.0s
UZH Uzhgorod 26.15 133 eP P 17 00 35.5 0.0
UZH e 17 01 19.9
UZH eS S 17 05 04.5 -2.0
UZH MLR MLR
comp=N,2µm,14.0s
UZH MLR MLR
comp=E,2µm,14.0s
UZH MLR MLR
comp=Z,600nm,14.0s
LBL Lubilhac 26.19 164⇑eP P 17 00 36.5 +0.4
PSZ Piszkesteto 26.26 137 eP P 17 00 36.5 -0.2
PSZ pmax pmax
comp=Z,19nm,1.4s
PSZ Piszkesteto 26.26 137⇑iP P 17 00 37.9 +1.2
PSZ Piszkesteto 26.26 137 eP P 17 00 36.5 -0.2
comp=Z,19nm,1.4s
PSZ Piszkesteto 26.26 137 eP P 17 00 36.5 -0.2
comp=Z,19nm,1.4s
SSB Saint Sauveur 26.27 162 eP P 17 00 34.9 -1.8
SSB pmax pmax
comp=Z,26nm,1.0s
SSB Saint Sauveur 26.27 162 eP P 17 00 34.9 -1.8
comp=Z,26nm,1.0s
SSB Saint Sauveur 26.27 162 eP P 17 00 34.9 -1.8
comp=Z,26nm,1.0s
LPL La Plagne 26.28 158 eP P 17 00 37.9 +0.8
comp=Z,57nm,1.0s
LPL La Plagne 26.28 158 eP P 17 00 37.9 +0.8
LPL pmax pmax
comp=Z,57nm,1.0s
LPL La Plagne 26.28 158 eP P 17 00 37.9 +0.8
comp=Z,57nm,1.0s
LFF La Frestale 26.29 168 eP P 17 00 36.6 -0.2
comp=Z,119nm,1.3s
LFF La Frestale 26.29 168 eP P 17 00 36.6 -0.2
LFF pmax pmax
comp=Z,119nm,1.3s
LFF La Frestale 26.29 168 eP P 17 00 36.6 -0.2
comp=Z,119nm,1.3s
LPG La Plagne 26.30 158 eP P 17 00 38.2 +0.9
comp=Z,67nm,1.0s
LPG La Plagne 26.30 158 eP P 17 00 38.2 +0.9
LPG pmax pmax
comp=Z,67nm,1.0s
LPG La Plagne 26.30 158 eP P 17 00 38.2 +0.9
comp=Z,67nm,1.0s
CAF Calviac 26.40 166 eP P 17 00 37.8 -0.1
comp=Z,57nm,1.1s
CAF Calviac 26.40 166 eP P 17 00 37.8 -0.1
CAF pmax pmax
comp=Z,57nm,1.0s
CAF Calviac 26.40 166 eP P 17 00 37.8 -0.1
comp=Z,57nm,1.0s
TRPA Tarpa 26.68 133⇓iP P 17 00 40.4 +0.1
VIVF Saint-Julien-l 26.70 162 eP P 17 00 40.7 +0.1
comp=Z,105nm,1.1s
VIVF Saint-Julien-l 26.70 162 eP P 17 00 40.7 +0.1
VIVF pmax pmax
comp=Z,105nm,1.1s
VIVF Saint-Julien-l 26.70 162 eP P 17 00 40.7 +0.1
comp=Z,105nm,1.1s
BNI Bardonecchia 26.73 159 eP P 17 00 41.7 +0.7
BNI pmax pmax
comp=Z,19nm,0.8s
BNI Bardonecchia 26.73 159 eP P 17 00 41.7 +0.7
comp=Z,19nm,0.8s
BNI Bardonecchia 26.73 159 eP P 17 00 41.7 +0.7
comp=Z,19nm,0.8s
ORIF Oris-en-Rattie 26.77 160 eP P 17 00 41.8 +0.5
comp=Z,74nm,1.1s
ORIF eR
comp=Z,2µm,22.5s
ORIF Oris-en-Rattie 26.77 160 eP P 17 00 41.8 +0.5
ORIF pmax pmax
comp=Z,74nm,1.1s
ORIF Oris-en-Rattie 26.77 160 eP P 17 00 41.8 +0.5
comp=Z,74nm,1.1s
MBDF Montbardon 27.07 159 eP P 17 00 44.4 +0.4
comp=Z,56nm,0.9s
MBDF Montbardon 27.07 159 eP P 17 00 44.4 +0.4
MBDF pmax pmax
comp=Z,57nm,0.9s
MBDF Montbardon 27.07 159 eP P 17 00 44.4 +0.4
comp=Z,56nm,0.9s
LASF Ste Croix 27.40 163 eP P 17 00 48.0 +1.1
comp=Z,49nm,1.0s
LASF Ste Croix 27.40 163 eP P 17 00 48.0 +1.1
comp=Z,49nm,1.0s
SOKR Solikamsk 27.40 81 d iP P 17 00 46.5 -0.2
SOKR pmax pmax
comp=Z,100nm,1.5s
SOKR MLR MLR
comp=Z,1µm,15.0s
PKSM Moragy 27.61 140⇓iP P 17 00 49.0 +0.3
SMRF Simiane la Rot 27.67 161 eP P 17 00 49.2 -0.1
comp=Z,212nm,1.6s
SMRF Simiane la Rot 27.67 161 eP P 17 00 49.2 -0.1
comp=Z,212nm,1.6s
BURAR Bucovina Array 27.82 130⇑iP P 17 00 50.8 +0.1
MTLF Montolieu 27.98 166 eP P 17 00 52.0 -0.1
comp=Z,49nm,1.2s
MTLF Montolieu 27.98 166 eP P 17 00 52.0 -0.1
MTLF pmax pmax
comp=Z,49nm,1.2s
MTLF Montolieu 27.98 166 eP P 17 00 52.0 -0.1
comp=Z,49nm,1.2s
SJPF Ste Jean 27.99 171 eP P 17 00 52.9 +0.7
comp=Z,63nm,1.3s
SJPF Ste Jean 27.99 171 eP P 17 00 52.9 +0.7
SJPF pmax pmax
comp=Z,63nm,1.3s
SJPF Ste Jean 27.99 171 eP P 17 00 52.9 +0.7
comp=Z,63nm,1.3s
SBF Sospel 28.00 158 eP P 17 00 52.8 +0.5
comp=Z,66nm,0.8s
SBF Sospel 28.00 158 eP P 17 00 52.8 +0.5
SBF pmax pmax
comp=Z,66nm,0.8s
SBF Sospel 28.00 158 eP P 17 00 52.8 +0.5
comp=Z,66nm,0.8s
EPF Esparros 28.16 169 eP P 17 00 53.4 -0.3
comp=Z,39nm,0.8s
EPF Esparros 28.16 169 eP P 17 00 53.4 -0.3
EPF pmax pmax
comp=Z,39nm,0.8s
EPF Esparros 28.16 169 eP P 17 00 53.4 -0.3
comp=Z,39nm,0.8s
ETSF Etsaut 28.24 170 eP P 17 00 55.5 +1.1

comp=Z,60nm,1.2s
ETSF Etsaut 28.24 170 eP P 17 00 55.5 +1.1
ETSF pmax pmax
comp=Z,60nm,1.2s
ETSF Etsaut 28.24 170 eP P 17 00 55.5 +1.1
comp=Z,60nm,1.2s
LMR La Mourre 28.41 160 eP P 17 00 56.5 +0.7
comp=Z,326nm,1.9s
LMR La Mourre 28.41 160 eP P 17 00 56.5 +0.7
LMR pmax pmax
comp=Z,326nm,1.9s
LMR La Mourre 28.41 160 eP P 17 00 56.5 +0.7
comp=Z,326nm,1.9s
VSR Storozhevoye 28.55 109 eP P 17 00 56.0 -1.1
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=E,30nm,0.8s
VSR pmax pmax
comp=Z,50nm,0.8s
VSR MLR MLR
comp=N,440nm,13.0s
VSR MLR MLR
comp=E,390nm,13.0s
VSR MLR MLR
comp=Z,1µm,13.0s
VORD Divnogorie 28.81 109 eP P 17 00 56.9 -2.4
VORD pmax pmax
comp=N,40nm,1.0s
VORD pmax pmax
comp=E,20nm,1.0s
VORD pmax pmax
comp=Z,40nm,1.0s
VORD MLR MLR
comp=N,370nm,17.0s
VORD MLR MLR
comp=E,1µm,17.0s
VORD MLR MLR
comp=Z,1µm,17.0s
BZS Buzias 28.83 136⇓iP P 17 01 00.6 +1.0
TESR Tescani 29.20 129⇓iP P 17 01 03.0 +0.1
GZR Gura Zlata 29.30 135⇓iP P 17 01 05.3 +1.4
KIS Kishinev 29.32 126 eP P 17 01 18.0 +14
KIS eS S 17 06 04.0 +7.5
KIS eSS SnSn 17 07 30.0 +7.8
KIS MLR MLR
comp=Z,2µm,14.0s
KIS MLR MLR
comp=N,1µm,13.0s
KIS MLR MLR
comp=Z,2µm,16.0s
KIS Kishinev 29.32 126 eP P 17 01 18.0 +14
KIS eS S 17 06 04.0 +7.5
KIS eSS SnSn 17 07 30.0 +7.8
KIS eLQ LQ 17 10 18.0
KIS LRM MLR 17 12 08.0
comp=Z,2µm,16.0s
VRHR Novokhopersk 29.43 107 eP P 17 01 02.7 -2.1
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.9s
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR MLR MLR
comp=N,830nm,17.0s
VRHR MLR MLR
comp=E,2µm,17.0s
VRHR MLR MLR
comp=Z,1µm,17.0s
LOT Lotru 29.49 134⇓iP P 17 01 06.4 +0.8
PGF Pioggiola 29.49 156 eP P 17 01 06.1 +0.5
comp=Z,101nm,1.3s
PGF Pioggiola 29.49 156 eP P 17 01 06.1 +0.5
PGF pmax pmax
comp=Z,101nm,1.3s
PGF Pioggiola 29.49 156 eP P 17 01 06.1 +0.5
comp=Z,101nm,1.3s
ARR Arges 29.77 132⇑iP P 17 01 09.1 +1.1
MVO Moncorvo 29.81 181 eP P 17 01 11.4 +3.0
comp=Z,43nm,1.7s
VOIR 29.81 132⇑iP P 17 01 09.6 +1.2
PLOR Plostina 29.82 129⇑iP P 17 01 08.9 +0.5
VRI Vrincioaia 29.82 129⇑iP P 17 01 09.3 +0.9
MLR Muntele Rosu 29.98 131 P P 17 01 10.8 +0.9
MLR pmax pmax
comp=Z,1.0nm,0.9s
MLR MLR MLR
comp=Z,1µm,18.1s
MLR Muntele Rosu 29.98 131⇓iP P 17 01 10.1 +0.2
MLR Muntele Rosu 29.98 131 P P 17 01 10.8 +0.9
comp=Z,1.6nm,1.0s,baz=0.5,slow=4.7,SNR=4.3
MLR LR LR 17 14 10.4
comp=Z,1µm,18.1s,baz=342,slow=38
SCHQ Schefferville 30.12 270 P P 17 01 10.2 -0.8
comp=Z,2.2nm,0.3s,baz=27,slow=9.0,SNR=3.7
SCHQ LR LR 17 11 49.4
comp=Z,2µm,21.9s,baz=42,slow=34
PVIS Viseu 30.26 182 eP P 17 01 15.1 +2.7
ARU Arti 30.48 84 P P 17 01 14.7 +0.6
comp=Z,208nm,0.9s,SNR=14
ARU Arti 30.48 84d iP P 17 01 13.9 -0.2
ARU 17 02 09.6
ARU 17 04 10.3
ARU S S 17 06 14.1 -0.5
ARU pmax pmax
comp=Z,30nm,0.8s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 30.48 84 eP P 17 01 13.9 -0.2
comp=Z,32nm,0.9s
ARU Arti 30.48 84 eP P 17 01 13.9 -0.2
comp=Z,32nm,0.9s
MTE Manteigas 30.57 181 eP P 17 01 09.9 -5.2
CFR Carcaliu 30.83 128⇑iP P 17 01 17.1 -0.1
SVE Sverdlovsk 30.84 82⇓iP P 17 01 17.5 +0.2
SVE pmax pmax
comp=Z,39nm,1.4s
HARR Harsova 31.23 129⇓iP P 17 01 21.2 +0.4
ESDC Sonseca Array 31.32 176 P P 17 01 22.2 +0.4
comp=Z,9.3nm,1.0s,baz=356,slow=9.7,SNR=19
ESDC LR LR 17 14 22.8
comp=Z,513nm,18.0s,baz=325,slow=37
PMRV Marv??o 31.54 181 eP P 17 01 26.9 +3.3
comp=Z,60nm,1.7s
TIRR Tirgusor 31.57 128⇓iP P 17 01 24.2 +0.4
PMTG Montargil 31.91 182 eP P 17 01 29.1 +2.3
comp=Z,36nm,2.0s
PMTG Montargil 31.91 182 eP P 17 01 29.1 +2.3
comp=Z,36nm,2.0s
PESTR Estremoz 32.10 181 eP P 17 01 30.9 +2.3
comp=Z,48nm,2.0s
PESTR Estremoz 32.10 181 eP P 17 01 30.9 +2.3
comp=Z,48nm,2.0s
MMB Musomiste 33.13 136⇓iP P 17 01 37.7 +0.1
TIXI Tiksi 34.79 23⇑eP P 17 01 53.7 +2.1
TIXI pmax pmax
comp=Z,14nm,1.2s
TIXI Tiksi 34.79 23 eP P 17 01 53.5 +1.9
comp=Z,9.7nm,0.9s
TIXI Tiksi 34.79 23 eP P 17 01 53.5 +1.9
comp=Z,9.7nm,0.9s
GOF Gofitskoye 35.22 110 eP P 17 01 53.9 -1.6
AKTO Aktyubinsk 35.32 91 P P 17 01 55.8 -0.6
AKTO pmax pmax
comp=Z,9.0nm,0.8s
AKTO MLR MLR
comp=Z,787nm,18.7s
AKTO Aktyubinsk 35.32 91 P P 17 01 55.8 -0.6
comp=Z,9.3nm,0.8s,baz=323,slow=9.7,SNR=26
AKTO LR LR 17 16 06.0
comp=Z,787nm,18.7s,baz=339,slow=36
KIV Kislovodsk 36.10 112 P P 17 02 03.5 +0.2
comp=Z,218nm,1.1s,SNR=6.2
KIV Kislovodsk 36.10 112 eP P 17 02 03.5 +0.2
KIV e*PP PP 17 03 24.9 -0.2
KIV pmax pmax
comp=Z,50nm,1.3s
KIV MLR MLR
comp=Z,702nm,19.0s
KIV Kislovodsk 36.10 112 eP P 17 02 03.5 +0.2
comp=Z,38nm,0.9s
KIV Kislovodsk 36.10 112 eP P 17 02 03.5 +0.2
comp=Z,38nm,0.9s
KEST Kesra 36.25 158 P P 17 02 05.3 +0.7
comp=Z,4.4nm,1.0s,baz=244,slow=3.6,SNR=8.7
KEST LR LR 17 17 37.0
comp=Z,387nm,18.3s,baz=326,slow=37
KBZ Khabaz 36.37 111 P P 17 02 06.1 +0.7
KBZ pmax pmax
comp=Z,14nm,1.0s
KBZ MLR MLR
comp=Z,753nm,18.4s
KBZ Khabaz 36.37 111 P P 17 02 06.1 +0.7
comp=Z,14nm,0.9s,baz=334,slow=6.1,SNR=11
KBZ LR LR 17 17 40.7
comp=Z,753nm,18.4s,baz=324,slow=37
AB31 Akbulak array 36.97 90 P P 17 02 09.9 -0.6
AB31 pmax pmax
comp=Z,17nm,1.0s
ABKAR Akbulak array 36.97 90 eP P 17 02 09.6 -0.9
comp=Z,17nm,1.0s
ABKAR Akbulak array 36.97 90 eP P 17 02 09.6 -0.9
comp=Z,17nm,1.0s
BRVK Borovoye 37.09 77d iP P 17 02 11.8 +0.3
BRVK pmax pmax
comp=Z,25nm,1.2s
BRVK Borovoye 37.09 77 eP P 17 02 12.1 +0.6
comp=Z,20nm,1.0s
BRVK Borovoye 37.09 77 eP P 17 02 12.1 +0.6
comp=Z,20nm,1.0s
BVA0 Borovoye Array 37.15 77 i P P 17 02 12.3 +0.3
BVA0 pmax pmax
comp=Z,18nm,1.0s
BVAR Borovoye Array 37.15 77 LR LR 17 17 34.3
comp=Z,255nm,19.4s,baz=319,slow=36
BRTR Keskin Array B 37.37 125 P P 17 02 13.3 -0.9
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR MLR MLR
comp=Z,691nm,18.5s
BRTR Keskin Array B 37.37 125 P P 17 02 13.3 -0.9
comp=Z,4.8nm,0.8s,baz=340,slow=6.0,SNR=18
BRTR LR LR 17 18 56.3
comp=Z,691nm,18.5s,baz=326,slow=38
ZEI Tsey 37.53 111 eP P 17 02 15.6 0.0
ZEI pmax pmax
comp=Z,18nm,1.4s
YKA Yellowknife Ar 37.89 314 P P 17 02 18.1 0.0
YKA 17 04 34.3
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 37.89 314 P P 17 02 18.1 0.0
comp=Z,1.1nm,0.6s,baz=28,slow=9.0,SNR=16
YKA PcP PcP 17 04 34.3 +0.5
comp=Z,0.2nm,0.4s,baz=32,slow=2.6,SNR=2.7
IDI Anoyia 39.42 138 P P 17 02 29.8 -1.5
comp=Z,3.9nm,0.8s,baz=17,slow=17,SNR=2.4
NVS Novosibirsk 39.59 65⇑iP P 17 02 32.5 0.0
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS pmax pmax
comp=Z,23nm,1.4s
COLD Coldfoot 39.94 339 eP P 17 02 35.6 +0.3
comp=Z,14nm,1.6s
COLD Coldfoot 39.94 339 eP P 17 02 35.6 +0.3
comp=Z,14nm,1.6s
MALT Malatya 40.02 120⇑iP P 17 02 37.7 +1.3
GNI Garni 40.20 112⇓eP P 17 02 39.7 +1.8
GNI pmax pmax
comp=Z,60nm,1.7s
GNI Garni 40.20 112 P P 17 02 37.3 -0.6
comp=Z,1.3nm,0.3s,baz=50,slow=16,SNR=7.4
GNI Garni 40.20 112 eP P 17 02 38.7 +0.8
GNI Garni 40.20 112 eP P 17 02 38.7 +0.8
ZALV Zalesovo Beam 40.84 65 P P 17 02 43.3 +0.5
ZALV 17 04 18.0
ZALV pmax pmax
comp=Z,7.0nm,0.9s
ZALV pmax pmax
comp=Z,4.0nm,1.0s
ZALV Zalesovo Beam 40.84 65 P P 17 02 43.2 +0.5
comp=Z,6.7nm,0.9s,baz=322,slow=8.5,SNR=22
ZALV PP PP 17 04 17.9 +1.3
comp=Z,3.7nm,1.0s,baz=318,slow=10,SNR=6.3
ZALV LR LR 17 22 02.6
comp=Z,354nm,22.0s,baz=250,slow=40
ZALV Zalesovo Beam 40.84 65 PP PP 17 04 18.0 +1.3
EGAK Eagle 41.03 332 eP P 17 02 44.4 +0.1
comp=Z,13nm,1.1s
EGAK Eagle 41.03 332 eP P 17 02 44.4 +0.1
comp=Z,13nm,1.1s
BILL Bilibino 41.23 4 eP P 17 02 48.6 +2.7
BILL pmax pmax
comp=Z,17nm,2.0s
BILL MLR MLR
comp=Z,608nm,20.0s
BILL Bilibino 41.23 4 eP P 17 02 47.1 +1.1
comp=Z,8.4nm,1.0s
BILL Bilibino 41.23 4 eP P 17 02 47.1 +1.1
comp=Z,8.4nm,1.0s
FFC Flin Flon 41.28 299 P P 17 02 47.0 +0.5
comp=Z,81nm,1.2s,SNR=9.1
FFC Flin Flon 41.28 299 eP P 17 02 47.0 +0.5
FFC pmax pmax
comp=Z,36nm,1.3s
FFC Flin Flon 41.28 299 eP P 17 02 47.0 +0.5
comp=Z,36nm,1.3s
FFC Flin Flon 41.28 299 eP P 17 02 47.0 +0.5
comp=Z,36nm,1.3s
IM04 Indian Mountai 41.56 340 eP P 17 02 50.8 +2.1
IM04 Indian Mountai 41.56 340 eP P 17 02 50.8 +2.1
KURK Kurchatov 41.75 72 P P 17 02 50.7 +0.4
KURK 17 04 25.8
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 41.75 72 P P 17 02 50.7 +0.4
KURK PP PP 17 04 25.8 -0.7
KURK Kurchatov 41.75 72 P P 17 02 50.7 +0.4
KURBB Kurchatov Arra 41.80 72 P P 17 02 50.7 -0.1
comp=Z,7.4nm,0.8s,baz=332,slow=7.3,SNR=45
KURBB PP PP 17 04 25.8 -1.3
comp=Z,4.5nm,0.9s,baz=328,slow=10,SNR=9.0
ILAR Eielson Array 41.87 336 P P 17 02 52.3 +1.1
ILAR pmax pmax
comp=Z,7.0nm,0.9s
ILAR MLR MLR
comp=Z,908nm,20.8s
ILAR Eielson Array 41.87 336 P P 17 02 52.3 +1.1
comp=Z,6.8nm,0.8s,baz=14,slow=7.1,SNR=39
ILAR LR LR 17 21 27.7
comp=Z,908nm,20.8s,baz=34,slow=38
COLA College 41.90 336c iP P 17 02 53.6 +2.2
COLA pmax pmax
comp=Z,59nm,1.1s
COLA College 41.90 336 eP P 17 02 52.7 +1.3
comp=Z,26nm,1.2s
COLA College 41.90 336 eP P 17 02 52.7 +1.3
comp=Z,26nm,1.2s
DOT Dot Lake 42.53 333 eP P 17 02 57.7 +1.1
DOT Dot Lake 42.53 333 eP P 17 02 57.7 +1.1
MENT Mentasta 43.16 333 eP P 17 03 03.0 +1.3
MENT Mentasta 43.16 333 eP P 17 03 03.0 +1.3
ULM Lac du Bonnet 43.37 291 P P 17 03 03.4 -0.1
ULM pmax pmax
comp=Z,7.0nm,1.0s
ULM MLR MLR
comp=Z,620nm,20.2s
ULM Lac du Bonnet 43.37 291 P P 17 03 03.4 -0.1
comp=Z,7.2nm,1.0s,baz=36,slow=7.8,SNR=8.9
ULM LR LR 17 21 38.3
comp=Z,620nm,20.2s,baz=26,slow=37
PAX Paxson 43.38 334 eP P 17 03 04.5 +0.9
PAX Paxson 43.38 334 eP P 17 03 04.5 +0.9
PAX Paxson 43.38 334 eP P 17 03 04.5 +0.9
KTH Kantishna Hill 43.56 338 P P 17 03 06.5 +1.5
KTH Kantishna Hill 43.56 338 P P 17 03 06.5 +1.5
YAK Yakutsk 43.91 28 eP P 17 03 05.7 -2.0
YAK e*PP pP 17 03 13.1 +1.2
YAK e 17 04 46.4
YAK ePPP PPP 17 05 22.5
YAK eS S 17 09 33.9 -4.2
YAK eSS SS 17 12 45.2 -8.7
YAK e 17 13 06.2
YAK pmax pmax
comp=Z,15nm,1.2s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,203nm,4.1s
YAK pmax pmax
comp=N,199nm,4.2s
YAK pmax pmax
comp=E,124nm,4.0s
YAK smax smax
comp=E,203nm,15.2s
YAK smax smax
comp=N,97nm,12.6s
YAK MLR MLR
comp=Z,314nm,17.0s
YAK MLR MLR
comp=N,281nm,19.0s
EYMN Ely 44.03 286 eP P 17 03 09.3 +0.4
comp=N,24nm,1.2s
EYMN Ely 44.03 286 eP P 17 03 09.3 +0.4
comp=N,24nm,1.2s
HYT Haines Junctio 44.14 328 P P 17 03 12.7 +2.9
HYT Haines Junctio 44.14 328 P P 17 03 12.7 +2.9
MMAI Mount Meron Ar 44.16 126 P P 17 03 10.7 +0.5
comp=N,6.4nm,0.8s,baz=354,slow=4.3,SNR=3.5
BOD Bodaibo 44.95 41⇓iP P 17 03 14.7 -1.3
BOD pmax pmax
comp=Z,8.0nm,1.3s
AGMN Agassiz Nation 45.09 289 P P 17 03 18.3 +1.0
comp=Z,18nm,1.3s
AGMN Agassiz Nation 45.09 289 P P 17 03 18.3 +1.0
comp=Z,18nm,1.3s
AGMN Agassiz Nation 45.09 289 ⇑P P 17 03 17.4 +0.1
baz=45
GAMB Gambell 45.20 351 eP P 17 03 19.0 +1.1
comp=Z,27nm,1.3s
GAMB Gambell 45.20 351 eP P 17 03 19.0 +1.1
comp=Z,27nm,1.3s
A30A Hoffart Farm, 45.27 292 ⇓P P 17 03 18.8 0.0
baz=45
ASF Jabal al Asfar 45.36 125 P P 17 03 20.1 +0.4
ASF pmax pmax
comp=Z,9.0nm,0.8s
ASF Jabal al Asfar 45.36 125 P P 17 03 20.1 +0.4
comp=Z,8.7nm,0.8s,baz=322,slow=2.4,SNR=11
A29A Manning Farm, 45.57 293 ⇑P P 17 03 21.8 +0.6
baz=45,SNR=7.3
B30A Myrvik Farm, E 45.72 292 ⇑P P 17 03 22.4 +0.1
baz=46
EDM Edmonton 45.76 306 eP P 17 03 20.8 -1.8
EDM Edmonton 45.76 306 eP P 17 03 20.8 -1.8
EDM Edmonton 45.76 306 eP P 17 03 20.8 -1.8
RC01 Rabbit Creek A 45.78 336 eP P 17 03 23.2 +0.6
RC01 Rabbit Creek A 45.78 336 eP P 17 03 23.2 +0.6
KK31 Karatay Array 45.86 84 P P 17 03 24.0 +0.5
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 45.86 84 eP P 17 03 24.3 +0.8
KKAR pmax pmax
comp=Z,24nm,1.3s
KKAR Karatay Array 45.86 84 eP P 17 03 24.3 +0.8
comp=Z,24nm,1.3s
KKAR Karatay Array 45.86 84 eP P 17 03 24.3 +0.8
comp=Z,24nm,1.3s
A28A Rude Farm, Bot 45.90 294 ⇑P P 17 03 24.2 +0.4
baz=46
B28A Dugan Ranch, T 46.34 293 ⇑P P 17 03 27.3 +0.1
baz=46
MKAR Makanchi Array 46.35 72 P P 17 03 27.4 0.0
MKAR 17 05 14.9
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR pmax pmax
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 46.35 72 P P 17 03 27.4 0.0
comp=Z,5.4nm,0.9s,baz=335,slow=4.7,SNR=30
MKAR PP PP 17 05 14.9 -1.0
comp=Z,3.6nm,1.0s,baz=322,slow=3.4,SNR=3.9
C30A Mose, Pekin 46.43 291 ⇓P P 17 03 28.3 +0.4
baz=46
A26A Wade Farm, Ken 46.44 295 ⇑P P 17 03 28.4 +0.4
baz=46
USP Ospenovka 47.02 81 P P 17 03 33.1 +0.4
SNR=7.7
USP Ospenovka 47.02 81 i P P 17 03 33.0 +0.4
D30A Buchanan 47.04 291 ⇓P P 17 03 33.4 +0.7
baz=47
A23A Redstone 47.22 297 ⇓P P 17 03 34.9 +0.8
baz=47
EKS2 Erkin-Say 47.32 82 eP P 17 03 36.2 +1.1
EKS2 pmax pmax
comp=Z,7.0nm,1.1s
EKS2 Erkin-Say 47.32 82 eP P 17 03 36.2 +1.1
comp=Z,7.2nm,1.1s
EKS2 Erkin-Say 47.32 82 eP P 17 03 36.2 +1.1
comp=Z,7.2nm,1.1s
B25A Knox Farm, Ray 47.33 295 ⇑P P 17 03 34.8 -0.2
baz=47
CHMS Chumysh 47.34 81 P P 17 03 36.1 +1.0
SNR=9.0
CHMS Chumysh 47.34 81 i P P 17 03 36.1 +1.0
D29A Pettibone, Tap 47.34 292 ⇓P P 17 03 35.3 +0.3
baz=47
C26A Wahner Farm, P 47.41 294 ⇓P P 17 03 36.4 +0.8
baz=47
MOY Mondy 47.42 54 eP P 17 03 37.6 +1.8
MOY pmax pmax
comp=Z,47nm,1.3s
A22A Carney Farms, 47.49 298 ⇑P P 17 03 36.5 +0.2
baz=47
D28A Regan 47.52 293 ⇓P P 17 03 37.1 +0.6
baz=47
AAK Ala-Archa 47.58 81 P P 17 03 38.2 +1.1
comp=Z,55nm,1.0s,SNR=6.3
AAK Ala-Archa 47.58 81d iP P 17 03 38.2 +1.1
AAK pmax pmax
comp=Z,35nm,1.2s
AAK Ala-Archa 47.58 81 LR LR 17 23 45.5
comp=Z,459nm,19.8s,baz=320,slow=36
AAK Ala-Archa 47.58 81 eP P 17 03 38.3 +1.1
comp=Z,11nm,1.0s
AAK Ala-Archa 47.58 81 eP P 17 03 38.3 +1.1
comp=Z,11nm,1.0s
E30A Jud 47.63 291 ⇓P P 17 03 37.8 +0.4
baz=48
TKM2 Tokmak 2 47.68 80 P P 17 03 38.9 +0.9
SNR=12
TKM2 Tokmak 2 47.68 80 i P P 17 03 38.9 +0.9
TKM2 Tokmak 2 47.68 80 eP P 17 03 39.1 +1.1
comp=Z,13nm,1.1s
TKM2 Tokmak 2 47.68 80 eP P 17 03 39.1 +1.1
comp=Z,13nm,1.1s
B23A Brockton 47.70 297 ⇑P P 17 03 38.5 +0.7
baz=48
KBK Karagaybulak 47.71 81 P P 17 03 40.0 +1.8
SNR=8.3
IRK Irkutsk 47.76 51 eP P 17 03 37.3 -0.9
IRK e 17 05 33.6
IRK pmax pmax
comp=Z,74nm,1.2s
AML Almayashu 47.77 82 P P 17 03 41.0 +2.1
SNR=17
A21A Bergtoll Ranch 47.79 299 ⇓P P 17 03 39.2 +0.6
baz=48,SNR=11
E29A Napoleon 47.80 292 ⇑P P 17 03 39.1 +0.5
baz=48
D27A Center 47.89 293 ⇓P P 17 03 39.7 +0.4
baz=48
UCH Uchtor 47.95 81 P P 17 03 42.2 +1.8
SNR=8.6
UCH Uchtor 47.95 81 i P P 17 03 42.1 +1.8
TLY Talaya 48.11 52 eP P 17 03 41.6 +0.7
TLY pmax pmax
comp=Z,8.0nm,1.0s
TLY MLR MLR
comp=Z,499nm,16.0s
TLY Talaya 48.11 52 eP P 17 03 41.1 +0.2
comp=Z,9.4nm,1.1s
TLY Talaya 48.11 52 eP P 17 03 41.1 +0.2
comp=Z,9.4nm,1.1s
E28A Huff 48.11 292 ⇓P P 17 03 41.4 +0.4
baz=48
JFWS Jewell Farm 48.11 281 eP P 17 03 46.2 +5.1
JFWS pmax pmax
comp=Z,55nm,1.2s
JFWS Jewell Farm 48.11 281 eP P 17 03 46.2 +5.1
comp=Z,55nm,1.2s
A20A Cobblestone Ra 48.18 300 ⇑P P 17 03 41.8 +0.2
baz=48
D26A Manning 48.23 294 ⇑P P 17 03 42.1 +0.1

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     baz=48
KZA  Kyzart             48.33  81  P      P      17 03 42.7 -0.6
     SNR=5.5
KZA  Kyzart             48.33  81  i P    P      17 03 42.6 -0.6
C23A Lambert            48.35 297 ⇓P      P      17 03 43.7 +0.8
     baz=48
A19A Klindworth Far     48.37 300 ⇑P      P      17 03 44.3 +1.3
     baz=48,SNR=17
F29A Eureka             48.51 291 ⇑P      P      17 03 44.8 +0.7
     baz=48
B20A Solberg Farm,      48.60 299 ⇓P      P      17 03 45.3 +0.5
     baz=48
C22A Vida               48.61 297 ⇑P      P      17 03 45.7 +0.8
     baz=48
TAM  Tamanrasset        48.65 165 eP      P      17 03 46.6 +1.1
TAM                               pmax    pmax
     comp=Z,11nm,1.1s
TAM  Tamanrasset        48.65 165 eP      P      17 03 46.6 +1.1
     comp=Z,11nm,1.1s
TAM  Tamanrasset        48.65 165 eP      P      17 03 46.6 +1.1
     comp=Z,11nm,1.1s
D24A Glendive           48.72 296 ⇑P      P      17 03 46.7 +0.9
     baz=48
B19A Brinkman Farms     48.85 300 ⇓P      P      17 03 47.6 +0.9
     baz=49
D23A Lindsay            48.93 296 ⇓P      P      17 03 47.6 +0.3
     baz=49
G30A Faulkton           48.94 290 ⇑P      P      17 03 48.4 +1.0
     baz=49
E25A Miller Ranch,      49.00 295 ⇓P      P      17 03 48.2 +0.3
     baz=49
F27A Lemmon             49.15 293 ⇓P      P      17 03 50.5 +1.4
     baz=49,SNR=12
ZAK  Zakamensk          49.20  53 eP      P      17 03 49.9 +0.5
ZAK                               pmax    pmax
     comp=Z,7.0nm,1.3s
D22A Cohagen            49.23 297 ⇓P      P      17 03 50.8 +1.1
     baz=49,SNR=8.5
C20A Veseth Ranch,      49.25 299 ⇑P      P      17 03 50.8 +1.0
     baz=49,SNR=13
F26A Lodgepole          49.36 294 ⇓P      P      17 03 51.3 +0.6
     baz=49
SFIN Scholer Farm       49.37 277 ⇓P      P      17 03 52.3 +1.6
     baz=49
ECSD EROS Data Cent     49.41 287 ⇑P      P      17 03 51.6 +0.6
     baz=49
EGMT Eagleton           49.47 301 eP      P      17 03 51.9 +0.4
     comp=Z,28nm,0.6s
EGMT Eagleton           49.47 301 eP      P      17 03 51.9 +0.4
     comp=Z,28nm,0.6s
EGMT Eagleton           49.47 301 ⇓P      P      17 03 51.4 -0.1
     baz=49
G28A Parade             49.53 292 ⇓P      P      17 03 52.7 +0.7
     baz=49
C19A Slack Wire Ran     49.53 300 ⇓P      P      17 03 52.5 +0.5
     baz=49
D21A La Casta Ranch     49.55 298 ⇑P      P      17 03 52.9 +0.8
     baz=49
G27A Dupree             49.56 293 ⇑P      P      17 03 52.9 +0.6
     baz=49
WALA Waterton Lakes     49.68 305 eP      P      17 03 53.2  0.0
     comp=Z,1.0nm,1.5s
WALA Waterton Lakes     49.68 305 eP      P      17 03 53.2  0.0
     comp=Z,1.0nm,1.5s
H29A Onida              49.72 291 ⇓P      P      17 03 53.5 +0.1
     baz=50
G26A Maurine            49.84 293 ⇓P      P      17 03 54.8 +0.4
     baz=50
D20A Manuel Ranch,      49.85 299 ⇑P      P      17 03 55.6 +1.1
     baz=50,SNR=17
F24A Ekalaka            49.90 295 ⇑P      P      17 03 54.9 +0.1
     baz=50
H28A Mission Ridge      49.92 292 ⇑P      P      17 03 55.9 +1.0
     baz=50
D19A Cripps Ranch,      50.00 299 ⇑P      P      17 03 56.6 +1.0
     baz=50,SNR=15
G25A Newell             50.18 294 ⇑P      P      17 03 57.5 +0.5
     baz=50
F23A Volborg            50.30 296 ⇓P      P      17 03 58.7 +0.8
     baz=50
E20A Meyer Farm, Mu     50.39 299 ⇑P      P      17 03 59.4 +1.0
     baz=50,SNR=11
F22A Rosebud            50.50 297 ⇑P      P      17 04 00.0 +0.7
     baz=50
I28A Midland            50.58 291 ⇓P      P      17 04 00.5 +0.6
     baz=50
E19A Rath Farm, Rou     50.61 299 ⇑P      P      17 04 00.6 +0.4
     baz=50
J30A Dallas             50.67 290 ⇓P      P      17 04 01.6 +0.9
     baz=50
WMQ  Urumqi             50.70  69 P       P      17 04 01.5 +0.6
WMQ                               pP      pP     17 04 06.0 +0.9
WMQ                               sP      sP     17 04 08.5 +1.8
WMQ                               PcP     PcP    17 05 19.3 +1.4
WMQ                               PP      PP     17 05 58.3 +1.8
WMQ                               PcS     PcS    17 09 15.1 -0.2
WMQ                               S       S      17 11 15.8 +0.5
WMQ                               ScS     ScS    17 13 48.9 -2.0
WMQ                               SS      SS     17 14 45.8 -3.2
WMQ                               pmax    pmax
     comp=Z,14nm,1.2s
WMQ                               pmax    pmax
     comp=Z,230nm,4.0s
WMQ                               LR      LR
     comp=Z,1µm,12.8s
WMQ                               LR      LR
     comp=Z,840nm,12.6s
WMQ                               LR      LR
     comp=Z,650nm,17.8s
H25A Fruitdale          50.75 294 ⇑P      P      17 04 01.8 +0.5
     baz=51
G23A Biddle             50.77 296 ⇓P      P      17 04 02.0 +0.6
     baz=51
I27A Quinn              50.79 292 ⇑P      P      17 04 01.6 +0.1
     baz=51
YBMT Yellow Bay         50.80 304 eP      P      17 04 01.1 -0.6
     comp=Z,13nm,1.2s
YBMT Yellow Bay         50.80 304 eP      P      17 04 01.1 -0.6
     comp=Z,13nm,1.2s
J29A Okreek             50.86 290 ⇓P      P      17 04 02.6 +0.5
     baz=51
KSH  Kashi              50.87  81 eP      P      17 04 05.1 +2.8
KSH                               epP     pP     17 04 10.8 +4.3
KSH                               ePP     PP     17 06 02.3 +4.0
KSH                               PcS     PcS    17 09 18.6 +2.3
KSH                               S       S      17 11 20.0 +2.0
KSH                               SS      SS     17 14 51.8 -0.2
KSH                               pmax    pmax
     comp=Z,13nm,1.3s
KSH                               LR      LR
     comp=Z,250nm,7.4s
KSH                               LR      LR
     comp=Z,400nm,13.9s
KSH                               LR      LR
     comp=Z,260nm,14.7s
H24A Dirks Ranch, A     50.93 295 ⇑P      P      17 04 02.8 +0.2
     baz=51
JTMT Jette              50.98 304 eP      P      17 04 03.0 -0.1
     comp=Z,13nm,1.3s
JTMT Jette              50.98 304 eP      P      17 04 03.0 -0.1
     comp=Z,13nm,1.3s
G22A Birney             51.02 296 ⇓P      P      17 04 03.7 +0.4
     baz=51
BSMT Bassoo Peak        51.02 305 eP      P      17 04 03.5 +0.1
     comp=Z,19nm,1.2s
BSMT Bassoo Peak        51.02 305 eP      P      17 04 03.5 +0.1
     comp=Z,19nm,1.2s
I26A New Underwood      51.07 293 ⇑P      P      17 04 04.1 +0.4
     baz=51
J28A Allard Ranch,      51.12 291 ⇑P      P      17 04 04.7 +0.6
     baz=51
SWMT Swartz Lake        51.12 304 eP      P      17 04 05.1 +1.0
     comp=Z,7.0nm,0.8s
SWMT Swartz Lake        51.12 304 eP      P      17 04 05.1 +1.0
     comp=Z,7.0nm,0.8s
OLIL Olney              51.19 277 eP      P      17 04 08.2 +3.7
     comp=Z,9.0nm,0.6s
F19A Roth Farm, Mol     51.21 299 ⇓P      P      17 04 05.0 +0.3
     baz=51
SLMT Seeley Lake        51.23 303 eP      P      17 04 04.7 -0.2
     comp=Z,36nm,1.1s
SLMT Seeley Lake        51.23 303 eP      P      17 04 04.7 -0.2
     comp=Z,36nm,1.1s
NEW  Newport            51.27 307 P       P      17 04 05.0 -0.1
NEW                               pmax    pmax
     comp=Z,3.0nm,0.9s
NEW  Newport            51.27 307 P       P      17 04 05.0 -0.1
     comp=Z,2.6nm,0.9s,baz=52,slow=9.4,SNR=4.1
NEW  Newport            51.27 307 ⇑P      P      17 04 05.7 +0.6
     baz=51
G21A Lodge Grass        51.28 297 ⇑P      P      17 04 06.0 +0.7
     baz=51
RSSD Black Hills        51.34 294 P       P      17 04 06.6 +0.7
RSSD                              pmax    pmax
     comp=Z,4.0nm,0.8s
RSSD Black Hills        51.34 294 P       P      17 04 06.6 +0.7
     comp=Z,4.5nm,0.8s
RSSD Black Hills        51.34 294 P       P      17 04 06.6 +0.7
     comp=Z,4.4nm,0.8s
I25A Rochford           51.34 294 ⇓P      P      17 04 06.0 +0.1
     baz=51
CHMT Chamberlain Mo     51.46 303 eP      P      17 04 06.4 -0.4
     comp=Z,14nm,1.1s
CHMT Chamberlain Mo     51.46 303 eP      P      17 04 06.4 -0.4
     comp=Z,14nm,1.1s
G20A Bridger            51.58 298 ⇓P      P      17 04 08.2 +0.6
     baz=51,SNR=15
H22A Clearmont          51.60 296 ⇑P      P      17 04 08.5 +0.8
     baz=51
MSO  Missoula           51.73 303 ⇑P      P      17 04 09.0 +0.4
     baz=52,SNR=12
J26A Sides Ranch, S     51.78 293 ⇓P      P      17 04 09.5 +0.4
     baz=52
I23A Meade Ranch, G     51.91 295 ⇓P      P      17 04 09.9 -0.2
     baz=52
J25A Sunshine Ranch     51.93 293 ⇓P      P      17 04 10.6 +0.4
     baz=52
L30A Spencer Herefo     51.99 289 ⇓P      P      17 04 10.9 +0.3
     baz=52
L29A Maesberg Ranch     52.12 290 ⇑P      P      17 04 12.2 +0.7
     baz=52
H20A Greybull           52.18 297 ⇓P      P      17 04 12.7 +0.7
     baz=52
KMSC Kings Mountain     52.23 269 eP      P      17 04 14.2 +1.8
     comp=Z,23nm,1.1s
KMSC Kings Mountain     52.23 269 eP      P      17 04 14.2 +1.8
     comp=Z,23nm,1.1s
KMSC Kings Mountain     52.23 269 ⇓P      P      17 04 14.2 +1.8
     baz=52
LRM  Limekiln Ridge     52.24 302 P       P      17 04 12.6  0.0
     comp=Z,106nm,1.3s
LRM  Limekiln Ridge     52.24 302 P       P      17 04 12.6  0.0
     comp=Z,106nm,1.3s
J24A Dixon Ranch, L     52.25 294 ⇑P      P      17 04 13.0 +0.5
     baz=52
I22A 9 Mile Ranch,      52.28 296 ⇑P      P      17 04 13.2 +0.4
     baz=52
H19A Powell             52.30 298 ⇑P      P      17 04 13.6 +0.7
     baz=52
SONM Songino Array      52.35  52 P       P      17 04 13.1 -0.1
     comp=Z,3.3nm,1.1s,baz=328,slow=5.3,SNR=23
SONM                              LR      LR     17 31 45.4
     comp=Z,380nm,18.1s,baz=352,slow=42
K26A Motz Farm, Whi     52.37 292 ⇓P      P      17 04 13.8 +0.3
     baz=52
SIUC Southern Illin     52.48 277 eP      P      17 04 16.3 +2.2
     comp=Z,62nm,1.2s
SIUC Southern Illin     52.48 277 eP      P      17 04 16.3 +2.2
     comp=Z,62nm,1.2s
H18A Shoshone NF, C     52.49 299 ⇓P      P      17 04 14.5  0.0
     baz=52
I21A Big Trails, Te     52.59 296 ⇑P      P      17 04 15.3 +0.2
     baz=52,SNR=18
K25A Mack Ranch, Ha     52.66 293 ⇑P      P      17 04 16.3 +0.6
     baz=52
L27A T5 Ranch, Ells     52.67 291 ⇑P      P      17 04 16.1 +0.5
     baz=52
I20A Worland            52.71 297 ⇓P      P      17 04 16.4 +0.5
     baz=52
J22A Midwest            52.72 296 ⇓P      P      17 04 16.2 +0.1
     baz=52,SNR=11
QLMT Earthquake Lak     52.86 300 eP      P      17 04 17.0 -0.2
     comp=Z,1.2nm,0.8s
QLMT Earthquake Lak     52.86 300 eP      P      17 04 17.0 -0.2
     comp=Z,1.2nm,0.8s
I19A Meeteetse          52.89 298 ⇓P      P      17 04 17.6 +0.2
     baz=53
CPCT Cooper Cave        53.00 272 eP      P      17 04 20.1 +2.0
CPCT Cooper Cave        53.00 272 eP      P      17 04 20.1 +2.0
M28A Bar X Bar Ranc     53.01 290 ⇓P      P      17 04 18.7 +0.5
     baz=53
H17A Grant Village      53.01 299 eP      P      17 04 19.5 +1.2
     comp=Z,18nm,1.2s
H17A Grant Village      53.01 299 eP      P      17 04 19.5 +1.2
     comp=Z,18nm,1.2s
H17A Grant Village      53.01 299 ⇓P      P      17 04 19.6 +1.2
     baz=53,SNR=11
J21A Lysite             53.06 296 ⇑P      P      17 04 18.9 +0.3
     baz=53
M27A Reverse DX Ran     53.20 291 ⇑P      P      17 04 19.1 -0.5
     baz=53
J20A Shoshoni           53.24 297 ⇑P      P      17 04 20.9 +0.9
     baz=53,SNR=16
MCMT McKenzie Canyo     53.26 301 eP      P      17 04 20.7 +0.5
     comp=Z,6.1nm,1.2s
MCMT McKenzie Canyo     53.26 301 eP      P      17 04 20.7 +0.5
     comp=Z,6.1nm,1.2s
N29A Votaw Ranch, W     53.30 289 ⇓P      P      17 04 20.8 +0.5
     baz=53
K22A Casper             53.43 295 eP      P      17 04 21.2 -0.1
     comp=Z,53nm,1.3s
K22A Casper             53.43 295 eP      P      17 04 21.2 -0.1
     comp=Z,53nm,1.3s
K22A Casper             53.43 295 ⇑P      P      17 04 21.4 +0.1
     baz=53,SNR=7.3
I17A Pilgrim Ck.        53.45 299 ⇑P      P      17 04 21.6 +0.1
     baz=53
M26A McRoberts Ranc     53.49 292 ⇑P      P      17 04 22.9 +1.2
     baz=53
KSU1 Kansas State U     53.60 285 ⇑P      P      17 04 23.3 +0.9
     baz=53
J19A Crowheart          53.61 298 ⇓P      P      17 04 24.1 +1.4
     baz=53,SNR=16
OGNE Ogallala           53.62 290 eP      P      17 04 22.6 -0.1
     comp=Z,39nm,1.1s
OGNE Ogallala           53.62 290 eP      P      17 04 22.6 -0.1
     comp=Z,39nm,1.1s
OGNE Ogallala           53.62 290 ⇑P      P      17 04 23.5 +0.8
     baz=54
K21A Alcova             53.66 296 ⇓P      P      17 04 23.1  0.0
     baz=54
L23A Garrett            53.67 294 ⇓P      P      17 04 23.3 +0.2
     baz=54
P32A Huiting Farm,      53.76 287 ⇑P      P      17 04 24.4 +0.8
     baz=54
M25A Palm-Egli Farm     53.79 292 ⇑P      P      17 04 24.4 +0.4
     baz=54
N27A Anderson Farm,     53.90 291 ⇑P      P      17 04 25.5 +0.8
     baz=54
L22A Ellis Ranch, M     53.97 295 ⇓P      P      17 04 25.4 +0.1
     baz=54
O29A 4D Ranch, Culb     53.99 289 ⇑P      P      17 04 25.6 +0.3
     baz=54
M24A Cheyenne           54.00 293 ⇓P      P      17 04 26.0 +0.5
     baz=54
Q33A Connelly Farm,     54.08 286 ⇑P      P      17 04 26.5 +0.6
     baz=54
N26A Koester Ranch,     54.09 291 ⇑P      P      17 04 26.5 +0.4
     baz=54
P31A Stockton           54.09 287 ⇓P      P      17 04 26.6 +0.5
     baz=54
BW06 Boulder Array      54.21 298 eP      P      17 04 26.9 -0.2
     comp=Z,12nm,1.2s
BW06 Boulder Array      54.21 298 eP      P      17 04 26.9 -0.2
     comp=Z,12nm,1.2s
M23A Laramie            54.27 294 ⇓P      P      17 04 28.1 +0.6
     baz=54
O28A Krutsinger Ran     54.29 290 ⇑P      P      17 04 28.1 +0.6
     baz=54
Q32A Meitler Ranch,     54.32 286 ⇓P      P      17 04 28.3 +0.5
     baz=54
P30A Selden             54.34 288 ⇑P      P      17 04 28.1 +0.2
     baz=54
BMO  Blue Mountains     54.47 305 eP      P      17 04 28.2 -0.6
     comp=Z,10nm,0.9s
BMO  Blue Mountains     54.47 305 eP      P      17 04 28.2 -0.6
     comp=Z,10nm,0.9s
P29A Atwood             54.51 289 ⇓P      P      17 04 29.6 +0.5
     baz=54
Q31A Ellis              54.57 287 ⇑P      P      17 04 29.7 +0.1
     baz=54
M22A Cedar Creek Ra     54.59 295 ⇑P      P      17 04 29.7 -0.2
     baz=54
N24A Carr               54.60 293 ⇑P      P      17 04 30.1 +0.2
     baz=54
O26A Horse Wrangler     54.66 291 ⇑P      P      17 04 30.8 +0.5
     baz=54
P28A Saint Francis      54.79 290 ⇑P      P      17 04 31.2  0.0
     baz=55
Q30A Quinter            54.85 288 ⇑P      P      17 04 31.7 +0.1
     baz=55
N23A Red Feather La     54.86 294 ⇑P      P      17 04 32.4 +0.5
     baz=55,SNR=7.2
HLID Hailey             54.87 302 eP      P      17 04 31.9 +0.1
     comp=Z,18nm,1.4s
HLID Hailey             54.87 302 eP      P      17 04 31.9 +0.1
     comp=Z,18nm,1.4s
HLID Hailey             54.87 302 ⇑P      P      17 04 32.5 +0.7
     baz=55,SNR=13
O25A Wiggins            55.02 292 ⇓P      P      17 04 33.6 +0.6
     baz=55
P27A Ficken Ranch,      55.06 290 ⇑P      P      17 04 33.5 +0.3
     baz=55
N22A Wattenberg Ran     55.10 294 ⇑P      P      17 04 33.8 +0.2
     baz=55
G05D Wamic, OR          55.16 309 ⇑P      P      17 04 34.1 +0.4
     baz=55
Q29A Oakley             55.17 289 ⇑P      P      17 04 34.9 +1.0
     baz=55,SNR=5.3
R31A Burdett            55.27 287 ⇓P      P      17 04 34.9 +0.3
     baz=55
Q28A Sharon Springs     55.28 289 ⇑P      P      17 04 35.5 +0.8
     baz=55
P26A Davis Ranch, A     55.29 291 ⇑P      P      17 04 35.7 +0.8
     baz=55
O24A Longmont           55.30 293 ⇑P      P      17 04 35.6 +0.6
     baz=55
O23A Lake Granby, G     55.48 293 ⇓P      P      17 04 36.7 +0.3
     baz=55
R30A Dighton            55.51 288 ⇑P      P      17 04 36.6 +0.3
     baz=55
KSCO Kaye Shedlock'     55.57 290 P       P      17 04 39.9 +3.0
     comp=Z,41nm,1.1s
KSCO Kaye Shedlock'     55.57 290 P       P      17 04 39.9 +3.0
     comp=Z,41nm,1.1s
KSCO Kaye Shedlock'     55.57 290 ⇓P      P      17 04 37.0 +0.1
     baz=55
P25A Willow Gulch B     55.59 292 ⇑P      P      17 04 37.3 +0.2
     baz=55
N20A Spence Gulch,      55.61 296 ⇓P      P      17 04 38.2 +0.9
     baz=55,SNR=15
S32A Newby Ranch, P     55.62 286 ⇑P      P      17 04 37.7 +0.6
     baz=56
R29A Marienthal         55.65 288 ⇓P      P      17 04 37.9 +0.5
     baz=56
O22A Kremmling          55.71 294 ⇑P      P      17 04 39.2 +1.1
     baz=56,SNR=6.8
ISCO Idaho Springs      55.76 293 eP      P      17 04 38.7 +0.2
ISCO                              pmax    pmax
     comp=Z,10.0nm,1.1s
ISCO Idaho Springs      55.76 293 eP      P      17 04 38.7 +0.2
     comp=Z,10.0nm,1.1s
ISCO Idaho Springs      55.76 293 eP      P      17 04 38.7 +0.2
     comp=Z,10.0nm,1.1s
ISCO Idaho Springs      55.76 293 ⇓P      P      17 04 38.8 +0.2
     baz=56
PETK Petropavlovsk-     55.79  11 LR      LR     17 26 43.7
     comp=Z,247nm,20.6s,baz=353,slow=34
Q26A Hugo               55.93 291 ⇓P      P      17 04 39.9 +0.4
     baz=56
R28A Tribune            55.93 289 ⇓P      P      17 04 40.0 +0.6
     baz=56
RAYN Ar Rayn            55.94 119 P       P      17 04 39.5 -0.1
     comp=Z,1.0nm,1.0s,SNR=7.0
RAYN Ar Rayn            55.94 119 eP      P      17 04 39.5 -0.1
     comp=Z,25nm,1.3s
RAYN Ar Rayn            55.94 119 eP      P      17 04 39.5 -0.1
     comp=Z,25nm,1.3s
T32A Huddler Ranch,     56.09 286 ⇓P      P      17 04 40.7 +0.1
     baz=56
S30A Montezuma          56.16 288 ⇓P      P      17 04 41.7 +0.7
     baz=56
Q25A Bedland, Calha     56.16 291 ⇑P      P      17 04 41.1 -0.1
     baz=56
P23A Jefferson          56.22 293 ⇓P      P      17 04 41.5 -0.3
     baz=56
O20A White River Ci     56.24 295 eP      P      17 04 42.4 +0.6
     comp=Z,27nm,0.9s
O20A White River Ci     56.24 295 eP      P      17 04 42.4 +0.6
     comp=Z,27nm,0.9s
O20A White River Ci     56.24 295 ⇓P      P      17 04 43.0 +1.2
     baz=56,SNR=14
R27A Eads               56.29 290 ⇓P      P      17 04 42.6 +0.5
     baz=56
P22A Eagle              56.30 294 ⇑P      P      17 04 42.5 +0.3
     baz=56
TIGA Tifton             56.37 269 ⇑P      P      17 04 44.4 +1.9
     baz=56
S29A Ulysses            56.38 288 ⇑P      P      17 04 43.0 +0.4
     baz=56
Q24A Divide             56.39 292 ⇑P      P      17 04 43.5 +0.5
     baz=56
T31A Randall Ranch,     56.41 287 ⇓P      P      17 04 43.4 +0.6
     baz=56
R26A Arlington          56.48 290 ⇑P      P      17 04 43.4  0.0
     baz=56
U33A Lingo Farm, Me     56.52 285 ⇑P      P      17 04 44.6 +1.1
     baz=56
BBTS Babate             56.54 191 LR      LR     17 24 56.4
     comp=Z,517nm,21.7s,baz=12,slow=32
S28A Manter             56.65 289 ⇓P      P      17 04 44.9 +0.4
     baz=56
MIAR Mount Ida          56.79 280 P       P      17 04 48.3 +2.8
MIAR                              pmax    pmax
     comp=Z,14nm,1.0s
MIAR Mount Ida          56.79 280 P       P      17 04 48.3 +2.8
     comp=Z,14nm,1.0s
MIAR Mount Ida          56.79 280 P       P      17 04 48.3 +2.8
     comp=Z,14nm,1.0s
I04A Tendick Farm,      56.79 309 ⇑P      P      17 04 45.9 +0.4
     baz=57
U32A Winter Ranch,      56.85 286 ⇓P      P      17 04 47.6 +1.7
     baz=57
S27A Las Animas         56.88 290 ⇑P      P      17 04 47.0 +0.8
     baz=57
R25A Fountain Ranch     56.88 291 ⇓P      P      17 04 47.2 +1.0
     baz=57
V34A Guthrie            56.88 284 ⇓P      P      17 04 47.4 +1.3
     baz=57
J05D Fort Rock, OR      56.97 308 ⇑P      P      17 04 48.0 +1.2
     baz=57
R24A Sanders Place,     57.05 292 ⇓P      P      17 04 48.7 +1.1
     baz=57
S26A Kim                57.11 290 ⇓P      P      17 04 48.4 +0.5
     baz=57
I03D Drain, OR          57.12 309 ⇑P      P      17 04 48.5 +0.8
     baz=57
V33A Lossen Ranch,      57.14 285 ⇓P      P      17 04 48.7 +0.8
     baz=57
T28A Walsh              57.15 289 ⇑P      P      17 04 48.5 +0.4
     baz=57
J04D Umpqua Nationa     57.23 308 ⇑P      P      17 04 49.0 +0.2
     baz=57
U30A WK&E Inc. Balk     57.23 287 ⇓P      P      17 04 49.7 +1.0
     baz=57
R23A Moffat             57.31 292 ⇑P      P      17 04 49.9 +0.4
     baz=57
S25A Robets Cordova     57.37 291 ⇑P      P      17 04 50.4 +0.6
     baz=57
T27A Campo              57.39 289 ⇓P      P      17 04 50.8 +1.0
     baz=57
DUG  Dugway             57.53 299 P       P      17 04 49.1 -1.7
DUG                               pmax    pmax
     comp=Z,9.0nm,0.9s
DUG  Dugway             57.53 299 P       P      17 04 49.1 -1.7
     comp=Z,9.4nm,0.9s
DUG  Dugway             57.53 299 P       P      17 04 49.1 -1.7
     comp=Z,9.4nm,0.9s
DUG  Dugway             57.53 299 ⇓P      P      17 04 52.2 +1.4
     baz=57,SNR=7.3
T26A Comanche Natio     57.56 290 ⇑P      P      17 04 51.7 +0.6
     baz=57
SDCO Great Sand Dun     57.62 292 eP      P      17 04 52.4 +0.8
SDCO Great Sand Dun     57.62 292 eP      P      17 04 52.4 +0.8
S24A Houchin Ranch,     57.63 292 ⇓P      P      17 04 52.1 +0.3
     baz=58
T25A Trinidad           57.84 291 ⇓P      P      17 04 53.9 +0.7
     baz=58
SRU  San Rafael         57.87 297 P       P      17 04 53.7 +0.4
SRU                               pmax    pmax
     comp=Z,11nm,0.8s
SRU  San Rafael         57.87 297 P       P      17 04 53.6 +0.4
     comp=Z,11nm,0.8s
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SRU San Rafael 57.87 297 P P 17 04 53.7 +0.4
comp=Z,11nm,0.8s
U28A Mallet 57.87 288 ⇓P P 17 04 54.2 +1.0
baz=58
TMUT Trail Mountain 57.89 298 eP P 17 04 55.5 +1.9
comp=Z,7.5nm,0.9s
TMUT Trail Mountain 57.89 298 eP P 17 04 55.5 +1.9
comp=Z,7.5nm,0.9s
TORD Torodi Ar. Bea 57.95 170 P P 17 04 53.4 -0.4
comp=Z,11nm,0.9s,baz=349,slow=5.8,SNR=48
TORD LR LR 17 30 08.8
comp=Z,862nm,19.8s,baz=325,slow=36
MOD Modoc 58.01 306 eP P 17 04 54.9 +0.7
comp=Z,9.5nm,1.1s
MOD Modoc 58.01 306 eP P 17 04 54.9 +0.7
comp=Z,9.5nm,1.1s
U27A Thompson Grove 58.01 289 ⇓P P 17 04 54.9 +0.6
baz=58
S22A 4UR Ranch, Cre 58.02 293 ⇑P P 17 04 55.2 +0.7
baz=58
W32A Sentinel 58.08 285 ⇓P P 17 04 54.8 +0.1
baz=58
X34A Smith Ranch, M 58.11 284 ⇓P P 17 04 55.5 +0.7
baz=58
PV01 Paradox Valley 58.19 295 eP P 17 04 55.6 0.0
comp=Z,2μm,1.0s
PV01 Paradox Valley 58.19 295 eP P 17 04 55.6 0.0
comp=Z,2μm,1.0s
T24B San Luis 58.21 292 ⇑P P 17 04 57.3 +1.4
baz=58,SNR=5.9
U26A Atchley Ranch, 58.32 290 ⇑P P 17 04 57.7 +1.2
baz=58,SNR=14
GTA Gaotai 58.35 61 ⇑P P 17 04 57.5 +0.9
GTA pP pP 17 05 02.3 +1.4
GTA sP sP 17 05 04.6 +2.1
GTA S S 17 13 01.3 +2.8
GTA sS sS 17 13 08.3 +2.8
GTA SS SS 17 16 56.1 +6.3
GTA pmax pmax
comp=Z,11nm,1.6s
GTA pmax pmax
comp=Z,160nm,4.5s
GTA LR LR
comp=Z,370nm,17.6s
GTA LR LR
comp=Z,720nm,17.6s
GTA LR LR
comp=Z,510nm,18.5s
V28A Channing 58.44 288 ⇑P P 17 04 58.1 +0.8
baz=58
U25A Circle Dot Ran 58.52 290 ⇑P P 17 04 58.9 +1.0
baz=58
M04C Macdoel 58.53 307 ⇓P P 17 04 58.5 +0.8
baz=58
L02D Cave Junction, 58.63 309 ⇑P P 17 04 59.0 +0.7
baz=58
V26A Tequesquite Ra 58.89 290 ⇑P P 17 05 01.1 +0.8
baz=59
MVCO Mesa Verde 59.02 294 eP P 17 05 02.2 +0.8
comp=Z,38nm,1.0s
MVCO Mesa Verde 59.02 294 eP P 17 05 02.2 +0.8
comp=Z,38nm,1.0s
MVCO Mesa Verde 59.02 294 ⇓P P 17 05 02.9 +1.5
baz=59,SNR=18
V25A Rancho No Teng 59.11 290 ⇓P P 17 05 02.8 +0.8
baz=59
M02C Callahan 59.16 308 ⇑P P 17 05 02.9 +0.9
baz=59
U22A Llaves 59.30 293 ⇓P P 17 05 03.5 +0.2
baz=59
W27A Bowe Ranch, En 59.34 289 ⇑P P 17 05 05.0 +1.5
baz=59,SNR=5.5
V24A Rampart Ranch, 59.41 291 ⇓P P 17 05 04.9 +0.7
baz=59
Y31A Rekieta Farm, 59.47 286 ⇑P P 17 05 05.0 +0.7
baz=59
N02D Trinity Center 59.51 308 ⇑P P 17 05 04.9 +0.4
baz=59
Z33A Whitaker Ranch 59.62 284 ⇓P P 17 05 05.8 +0.5
baz=60
W25A X Bar L Ranch, 59.63 290 ⇑P P 17 05 06.6 +1.0
baz=60
V23A Ortiz Mt. (NFS 59.67 292 ⇑P P 17 05 06.3 +0.4
baz=60
NATX Nacogdoches 59.71 280 eP P 17 05 06.5 +0.6
comp=Z,40nm,0.7s
NATX Nacogdoches 59.71 280 eP P 17 05 06.5 +0.6
comp=Z,40nm,0.7s
V22A San Miguel Ran 59.74 292 ⇓P P 17 05 06.9 +0.5
baz=60
Z32A Haskell 59.83 285 ⇑P P 17 05 07.9 +1.1
baz=60
W24A Lazy 6 Ranch, 59.93 291 ⇑P P 17 05 08.4 +0.7
baz=60
R11A Troy Canyon, C 60.03 301 eP P 17 05 08.3 0.0
comp=Z,22nm,1.5s
R11A Troy Canyon, C 60.03 301 eP P 17 05 08.3 0.0
comp=Z,22nm,1.5s
R11A Troy Canyon, C 60.03 301 ⇓P P 17 05 09.5 +1.2
baz=60,SNR=17
Z31A Sharp Cattle R 60.03 285 ⇓P P 17 05 09.3 +1.1
baz=60
X26A CR and CF Fran 60.05 289 ⇓P P 17 05 09.2 +0.8
baz=60
339A Huntington 60.06 279 ⇑P P 17 05 09.4 +1.1
baz=60
HHC Hu-ho-hao-te 60.19 50 eP P 17 05 07.1 -2.2
HHC sP sP 17 05 14.3 -0.9
HHC PcP PcP 17 05 52.4 -2.3
HHC PP PP 17 07 23.0 +1.5
HHC S S 17 13 16.9 -5.3
HHC sS sS 17 13 24.6 -4.7
HHC ScS SKKSac 17 14 53.6 -5.4
HHC pmax pmax
comp=Z,26nm,0.6s
HHC pmax pmax
comp=Z,300nm,6.9s
HHC LR LR
comp=Z,420nm,18.2s
HHC LR LR
comp=Z,530nm,18.4s
HHC LR LR
comp=Z,530nm,17.7s
MSTX Muleshoe 60.26 288 ⇓P P 17 05 10.5 +0.7
baz=60
133A Hamilton Ranch 60.30 284 ⇑P P 17 05 10.9 +1.0
baz=60
Z30A Sanderson Ranc 60.37 286 ⇑P P 17 05 11.3 +0.8
baz=60
Y27A Causey 60.46 288 ⇓P P 17 05 12.7 +1.5
baz=60,SNR=6.2
ANMO Albuquerque 60.50 292 P P 17 05 13.0 +1.5
ANMO pmax pmax
comp=Z,15nm,1.5s
ANMO Albuquerque 60.50 292 P P 17 05 12.1 +0.6
comp=Z,0.9nm,0.3s,baz=22,slow=11,SNR=3.2
X24A Lazy VL Ranch, 60.54 290 ⇓P P 17 05 12.4 +0.6
baz=60
CN2 Changchun 60.57 38 eP P 17 05 11.5 -0.1
Z29A Hungry Hill Ra 60.58 287 ⇓P P 17 05 13.1 +1.1
baz=60
MDJ Mudanjiang 60.59 35 P P 17 05 10.4 -1.4
MDJ pP pP 17 05 13.8 -2.3
MDJ PcP PcP 17 05 55.5 -0.5
MDJ S S 17 13 29.6 +2.6
MDJ SS SS 17 17 24.3 0.0
MDJ pmax pmax
comp=Z,250nm,4.1s
MDJ LR LR
comp=Z,340nm,24.6s
MDJ LR LR
comp=Z,250nm,24.6s
Y26A Elida 60.63 289 ⇑P P 17 05 13.8 +1.4
baz=60,SNR=19
131A Roby 60.70 285 ⇓P P 17 05 14.5 +1.8
baz=61
NVAR Mina Array Bea 60.72 303 P P 17 05 14.2 +1.2
comp=Z,1.7nm,0.9s,baz=39,slow=9.6,SNR=6.7
NVAR LR LR 17 30 17.0
comp=Z,687nm,19.5s,baz=348,slow=35
TPH Tonopah 60.75 302 P P 17 05 13.8 +0.6
TPH pmax pmax
comp=Z,2.0nm,0.6s
TPH Tonopah 60.75 302 P P 17 05 13.8 +0.6
comp=Z,1.8nm,0.6s
TPH Tonopah 60.75 302 P P 17 05 13.8 +0.6
comp=Z,1.8nm,0.6s
X23A Hourglass Bar 60.75 291 ⇑P P 17 05 14.5 +1.2
baz=61
Z28A Tucker Farm, M 60.77 287 ⇑P P 17 05 14.3 +1.0
baz=61
U15A North Rim 60.87 297 ⇓P P 17 05 14.2 0.0
baz=61
Y25A Mesa, Roswell 60.90 290 ⇓P P 17 05 15.7 +1.5
baz=61,SNR=5.7
Z27A Tatum 61.00 288 ⇑P P 17 05 15.6 +0.7
baz=61
Y24A Capitan 61.13 290 ⇓P P 17 05 17.5 +1.7
baz=61,SNR=17
232A Coleman 61.19 284 ⇓P P 17 05 17.8 +1.7
baz=61
334A Lometa 61.26 283 ⇑P P 17 05 18.1 +1.6
baz=61
Z26A Caprock 61.28 289 ⇑P P 17 05 17.5 +0.7
baz=61
Y23A Lovelace Mesa, 61.31 291 ⇑P P 17 05 18.2 +1.2
baz=61
W18A Petrified Fore 61.33 294 ⇑P P 17 05 18.3 +1.1
baz=61
128A Castleberry Fa 61.41 287 ⇑P P 17 05 18.2 +0.6
baz=61
USRK Ussuriysk Arra 61.43 33 P P 17 05 18.1 +0.7
comp=Z,3.2nm,0.9s,baz=7.8,slow=4.2,SNR=6.0
USRK LR LR 17 33 06.7
comp=Z,390nm,18.4s,baz=340,slow=37
WUAZ Wupatki 61.45 296 eP P 17 05 18.8 +0.8
comp=Z,17nm,1.3s
WUAZ Wupatki 61.45 296 eP P 17 05 18.8 +0.8
comp=Z,17nm,1.3s
WUAZ Wupatki 61.45 296 ⇑P P 17 05 18.2 +0.2
baz=61
333A Richland Sprin 61.50 283 ⇓P P 17 05 19.6 +1.4
baz=61
Z25A Roswell 61.50 289 ⇑P P 17 05 19.1 +0.8
baz=61
MLAC Mammoth Lakes 61.61 303 ⇓P P 17 05 19.9 +0.8
baz=61
SHPR Sheep Range 61.63 300 eP P 17 05 20.7 +1.5
comp=Z,12nm,1.3s
SHPR Sheep Range 61.63 300 eP P 17 05 20.7 +1.5
comp=Z,12nm,1.3s
127A Arkansas Junct 61.64 288 ⇑P P 17 05 19.8 +0.6
baz=62
Z24A Sheeppen Canyo 61.66 290 ⇓P P 17 05 20.6 +1.2
baz=62
230A Sterling City 61.66 286 ⇑P P 17 05 20.9 +1.7
baz=62
332A Millersview 61.69 284 ⇑P P 17 05 21.7 +2.2
baz=62,SNR=5.1
434A Burnet 61.74 282 ⇓P P 17 05 21.0 +1.2
baz=62
433A Art 62.06 283 ⇑P P 17 05 22.3 +0.3
baz=62
BJI Beijing 62.10 47 P P 17 05 20.8 -1.2
BJI S S 17 13 43.3 -2.9
BJI SS SS 17 17 47.8 -0.2
BJI pmax pmax
comp=Z,7.0nm,0.5s
BJI pmax pmax
comp=Z,120nm,4.3s
BJI LR LR
comp=Z,720nm,17.7s
BJI LR LR
comp=Z,1μm,20.4s
BJI LR LR
comp=Z,550nm,31.2s
FURC Furnace Creek, 62.15 301 ⇓P P 17 05 22.9 +0.6
baz=62
534A Blanco 62.54 282 ⇑P P 17 05 26.7 +1.5
baz=62
JCT Junction City 62.55 284 eP P 17 05 26.1 +0.9
JCT pmax pmax
comp=Z,5.0nm,0.8s
JCT Junction City 62.55 284 eP P 17 05 26.1 +0.9
comp=Z,4.9nm,0.8s
JCT Junction City 62.55 284 eP P 17 05 26.1 +0.9
comp=Z,4.8nm,0.8s
LZH Lanzhou 62.59 59 eP P 17 05 26.6 +1.0
LZH pP pP 17 05 30.0 +0.1
LZH sP sP 17 05 32.3 +0.7
LZH PP PP 17 07 45.5 +2.7
LZH eS S 17 13 52.1 -0.9
LZH sS sS 17 13 58.5 -1.5
LZH eSS SS 17 17 56.1 -0.3
LZH pmax pmax
comp=Z,33nm,1.3s
LZH pmax pmax
comp=Z,140nm,7.6s
LZH LR LR
comp=Z,610nm,14.5s
LZH LR LR
comp=Z,570nm,14.0s
LZH LR LR
comp=Z,770nm,18.0s
430A Baggett Ranch, 62.72 285 ⇓P P 17 05 27.6 +1.2
baz=63
532A Rocksprings 62.90 284 ⇑P P 17 05 28.9 +1.3
baz=63
429A Davenport Ranc 63.08 286 ⇓P P 17 05 29.5 +0.7
baz=63
121A Cookes Peak, D 63.14 292 ⇓P P 17 05 29.9 +0.5
baz=63
530A J-C Ranch, Com 63.34 285 ⇑P P 17 05 31.6 +1.0
baz=63
ISA Isabella 63.35 302 eP P 17 05 31.7 +1.1
ISA pmax pmax
comp=Z,14nm,1.3s
ISA Isabella 63.35 302 eP P 17 05 31.7 +1.1
comp=Z,14nm,1.3s
ISA Isabella 63.35 302 eP P 17 05 31.7 +1.1
comp=Z,14nm,1.3s
ISA Isabella 63.35 302 ⇑P P 17 05 31.7 +1.1
baz=63
GMRC Granite Mounta 63.38 299 ⇑P P 17 05 31.3 +0.4
baz=63
529A Stev Forest Ra 63.65 286 ⇓P P 17 05 33.8 +1.3
baz=64
DANN Dangsing 63.65 80 eP P 17 05 32.8 -0.1
comp=Z,27nm,0.8s
DANN Dangsing 63.65 80 eP P 17 05 32.8 -0.1
DANN Dangsing 63.65 80 eP P 17 05 32.8 -0.1
IRM Iron Mountain 63.82 299 ⇑P P 17 05 34.6 +1.0
baz=64
KOLN Koldanda 64.13 80 eP P 17 05 35.6 -0.4
comp=Z,66nm,1.2s
KOLN Koldanda 64.13 80 eP P 17 05 35.6 -0.4
KOLN Koldanda 64.13 80 eP P 17 05 35.6 -0.4
DBIC Dimbokro 64.16 178 P P 17 05 38.0 +2.0
DBIC pmax pmax
comp=Z,4.0nm,1.0s
DBIC MLR MLR
comp=Z,684nm,20.5s
DBIC Dimbokro 64.16 178 P P 17 05 38.0 +2.0
comp=Z,3.8nm,1.0s,baz=339,slow=13,SNR=3.5
DBIC LR LR 17 32 35.4
comp=Z,684nm,20.5s,baz=345,slow=35
DBIC Dimbokro 64.16 178 P P 17 05 38.0 +2.0
732A Laxson Ranch, 64.22 283 ⇑P P 17 05 36.9 +0.6
baz=64
GKN Gorkha 64.25 79 eP P 17 05 36.5 -0.2
comp=Z,36nm,1.0s
GKN Gorkha 64.25 79 eP P 17 05 36.5 -0.2
GKN Gorkha 64.25 79 eP P 17 05 36.5 -0.2
BC3 Big Chuckawall 64.38 299 ⇑P P 17 05 37.5 +0.2
baz=64
BFSC Mount Baldy Ra 64.46 301 ⇓P P 17 05 37.5 -0.4
baz=64
LIC Lamto 64.60 178 eP P 17 05 37.6 -1.2
comp=Z,32nm,1.2s
LIC eR
comp=Z,1μm,21.2s
LIC Lamto 64.60 178 eP P 17 05 37.6 -1.2
comp=Z,32nm,1.2s
KKN Kakani 64.66 78 eP P 17 05 39.4 0.0
comp=Z,26nm,0.9s
KKN Kakani 64.66 78 eP P 17 05 39.4 0.0
KKN Kakani 64.66 78 eP P 17 05 39.4 0.0
KKN Kakani 64.66 78 eP P 17 05 39.4 0.0
GUN Gumba 64.74 78 eP P 17 05 40.1 0.0
comp=Z,88nm,1.1s
GUN Gumba 64.74 78 eP P 17 05 40.1 0.0
GUN Gumba 64.74 78 eP P 17 05 40.1 0.0
LSA Lhasa 64.75 72 eP P 17 05 40.8 +0.5
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 64.75 72 eP P 17 05 40.8 +0.5
comp=Z,11nm,0.8s
LSA Lhasa 64.75 72 eP P 17 05 40.8 +0.5
comp=Z,11nm,0.8s
DMN Daman 64.77 79 eP P 17 05 40.3 +0.1
comp=Z,31nm,0.9s
DMN Daman 64.77 79 eP P 17 05 40.3 +0.1
DMN Daman 64.77 79 eP P 17 05 40.3 +0.1
TXAR Lajitas Array 64.84 287 P P 17 05 41.2 +0.8
comp=Z,1.3nm,0.6s,baz=57,slow=5.0,SNR=11
TXAR LR LR 17 32 29.5
comp=Z,537nm,20.3s,baz=0.0,slow=35
PKI Pulchoki 64.90 78 eP P 17 05 40.8 -0.3
comp=Z,20nm,1.0s
PKI Pulchoki 64.90 78 eP P 17 05 40.8 -0.3
PKI Pulchoki 64.90 78 eP P 17 05 40.8 -0.3
PKI Pulchoki 64.90 78 eP P 17 05 40.8 -0.3
JIRN Jiri 65.07 78 eP P 17 05 42.8 +0.5
comp=Z,47nm,0.8s
JIRN Jiri 65.07 78 eP P 17 05 42.8 +0.5
JIRN Jiri 65.07 78 eP P 17 05 42.8 +0.5
TAPN Taplejung 65.85 76 eP P 17 05 47.5 +0.3
comp=Z,28nm,1.0s
TAPN Taplejung 65.85 76 eP P 17 05 47.5 +0.3
TAPN Taplejung 65.85 76 eP P 17 05 47.5 +0.3
RAMN Ramite 65.86 78 eP P 17 05 47.0 -0.3
comp=Z,40nm,0.9s
RAMN Ramite 65.86 78 eP P 17 05 47.0 -0.3
RAMN Ramite 65.86 78 eP P 17 05 47.0 -0.3
XAN Xi'an 65.92 55 P P 17 05 46.9 -0.4
XAN pP pP 17 05 50.3 -1.3
XAN PP PP 17 08 12.9 +1.0
XAN S S 17 14 30.8 -3.1
XAN sS sS 17 14 38.0 -3.0
XAN SS SS 17 18 46.9 -1.1
XAN pmax pmax
comp=Z,3.0nm,1.2s
XAN LR LR
comp=Z,400nm,15.0s
XAN LR LR
comp=Z,190nm,13.3s
XAN LR LR
comp=Z,160nm,16.0s
TIA Tai'an 65.96 47 ⇑P P 17 05 48.3 +0.8
TIA pmax pmax
comp=Z,10.0nm,1.1s
ODAN Odare 66.20 77 eP P 17 05 49.6 +0.2
comp=Z,54nm,1.0s
ODAN Odare 66.20 77 eP P 17 05 49.6 +0.2
ODAN Odare 66.20 77 eP P 17 05 49.6 +0.2
KSRS Korea Array 67.18 38 P P 17 05 55.0 -0.2
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSRS MLR MLR
comp=Z,276nm,21.1s
KSRS Korea Array 67.18 38 P P 17 05 55.0 -0.2
comp=Z,1.5nm,0.8s,baz=346,slow=5.5,SNR=4.6
KSRS LR LR 17 36 11.6
comp=Z,276nm,21.1s,baz=346,slow=37
KSAR Wonju Array Be 67.18 38 P P 17 05 55.0 -0.2
KSAR Wonju Array Be 67.18 38 P P 17 05 55.0 -0.2
KSAR Wonju Array Be 67.18 38 P P 17 05 55.0 -0.2
CD2 Chengdu 67.42 61 eP P 17 05 57.3 +0.4
CD2 pP pP 17 06 01.9 +0.6
CD2 sP sP 17 06 04.3 +1.4
CD2 PcP PcP 17 06 25.3 +0.9
CD2 PP PP 17 08 26.8 +1.7
CD2 S S 17 14 50.1 -2.1
CD2 sS sS 17 14 57.4 -1.9
CD2 SKS SKSac 17 15 51.6 -2.4
CD2 SS SS 17 19 10.8 -0.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.6s
CD2 LR LR
comp=Z,550nm,19.6s
CD2 LR LR
comp=Z,800nm,17.6s
CD2 LR LR
comp=Z,570nm,23.5s
ENH Enshi 69.63 56 eP P 17 06 10.2 -0.5
comp=Z,15nm,0.9s
ENH Enshi 69.63 56 eP P 17 06 10.2 -0.5
comp=Z,15nm,0.9s
MJAR Matsushiro Arr 69.94 30 P P 17 06 12.1 -0.4
comp=Z,21nm,1.2s,baz=348,slow=5.6,SNR=7.9
MJAR LR LR 17 36 42.6
comp=Z,168nm,20.1s,baz=345,slow=36
PCRV Puerto La Cruz 70.27 242 LR LR 17 36 22.2
comp=Z,127nm,18.1s,baz=4.0,slow=35
NJ2 Nanjing 70.35 47 eP P 17 06 15.6 +0.6
NJ2 pmax pmax
comp=Z,20nm,1.1s
SSE Sheshan 71.82 45 eP P 17 06 24.5 +0.5
SSE S S 17 15 41.0 -2.7
SSE sS sS 17 15 47.0 -3.9
SSE pmax pmax
comp=Z,15nm,0.8s
SSE pmax pmax
comp=Z,43nm,5.3s
SSE LR LR
comp=Z,140nm,20.1s
SSE LR LR
comp=Z,390nm,20.1s
SSE LR LR
comp=Z,280nm,21.0s
HYB Hyderabad 72.12 89 iP P 17 06 24.5 -1.4
GYA Guiyang 72.45 60 eP P 17 06 29.3 +1.3
GYA PP PP 17 09 10.8 +2.3
GYA S S 17 15 49.4 -1.9
GYA SKS SKSac 17 16 28.0 -4.2
GYA SS SS 17 20 28.6 -0.4
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,510nm,19.4s
GYA LR LR
comp=Z,430nm,20.0s
GYA LR LR
comp=Z,450nm,19.8s
APG El Apazote 73.90 269 P P 17 06 37.8 +1.1
comp=Z,3.9nm,0.7s,baz=325,slow=9.7,SNR=4.2
CMAI Chiengmai2 76.34 69 P P 17 06 51.5 +0.8
comp=Z,16nm,0.9s
CHTO Chiang Mai 77.36 69 eP P 17 06 56.0 -0.3
CHTO pmax pmax
comp=Z,15nm,1.2s
CHTO Chiang Mai 77.36 69 P P 17 06 56.4 +0.1
comp=Z,49nm,1.2s
CHTO Chiang Mai 77.36 69 eP P 17 06 56.0 -0.3
comp=Z,15nm,1.2s
CHTO Chiang Mai 77.36 69 eP P 17 06 56.0 -0.3
comp=Z,15nm,1.2s
CMMT Chiang Mai 77.37 69 P P 17 06 56.4 +0.1
comp=Z,14nm,1.2s
KMBO Kilima Mbogo 77.37 135 P P 17 06 58.1 +1.5
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 77.37 135 P P 17 06 58.1 +1.5
comp=Z,0.6nm,0.2s,baz=64,slow=6.0,SNR=4.4
MHMT Maesarieng 77.65 70 P P 17 07 08.8 +11
CM31 Chiang Mai Arr 77.70 69 P P 17 06 58.5 +0.3
CM31 Chiang Mai Arr 77.70 69 eP P 17 06 58.5 +0.3
CMAR Chiang Mai Arr 77.70 69 P P 17 06 58.5 +0.3
comp=Z,3.1nm,0.8s,baz=321,slow=6.2,SNR=26
CMAR LR LR 17 47 24.3
comp=Z,150nm,18.2s,baz=338,slow=40
ROSC El Rosal 78.22 250 LR LR 17 37 47.6
comp=Z,190nm,20.6s,baz=24,slow=33
LOEI Loei 79.30 68 P P 17 07 07.7 +0.7
comp=Z,176nm,0.9s
JCJ Chichijima 79.83 28 LR LR 17 45 29.9
comp=Z,33nm,18.9s,baz=306,slow=38
PBKT Sadao Pong 80.10 68 P P 17 07 12.2 +0.9
comp=Z,9.7nm,1.2s
QIZ Qiongzhong 80.39 59 P P 17 07 12.5 -0.4
QIZ PP PP 17 10 14.4 -1.0
QIZ S S 17 17 15.9 -2.4
QIZ SS SS 17 22 28.8 -0.2
QIZ pmax pmax
comp=Z,11nm,2.2s

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
QIZ				LR	LR		
	comp=Z,370nm,18.6s						
QIZ				LR	LR		
	comp=Z,480nm,17.6s						
SRDT	SRDT	81.62	71	P	P	17 07 20.5	+1.0
	comp=Z,28nm,1.6s						
OTAV	Otavalo	83.87	253	eP	P	17 07 33.1	+1.4
	comp=Z,16nm,1.3s						
OTAV	Otavalo	83.87	253	eP	P	17 07 33.1	+1.4
	comp=Z,16nm,1.3s						
CHBT	CHBT	84.11	68	P	P	17 07 35.1	+2.7
MSEY	Mahe Island	85.59	118	iP	P	17 07 43.2	+3.4
BDFB	Brasilia	90.85	220	LR	LR	17 43 47.3	
	comp=Z,218nm,18.2s,baz=12,slow=32						
PSI	Prapat	92.44	74	P	P	17 08 12.5	0.0
PSI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PSI	Prapat	92.44	74	P	P	17 08 12.5	0.0
	comp=Z,6.9nm,0.8s,baz=317,slow=3.9,SNR=7.5						
SIV	San Ignacio	94.26	232	LR	LR	17 45 12.6	
	comp=Z,267nm,19.8s,baz=52,slow=32						
LPAZ	La Paz	96.44	238	LR	LR	17 48 07.3	
	comp=Z,73nm,20.3s,baz=356,slow=33						
PPT2	Papeete2	122.28	317	eLR	LR	17 51 43.8	
	comp=Z,321nm,24.8s						
WRA	Warramunga Arr	124.12	46	PKIKP	PKPdf	17 13 58.7	-1.0
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	Warramunga Arr	124.12	46	PKP	PKPdf	17 13 58.7	-1.0
	comp=Z,1.7nm,0.9s,baz=324,slow=2.0,SNR=7.1						
ASAR	Alice Springs	127.59	47	PKIKP	PKPdf	17 14 05.6	-0.7
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	Alice Springs	127.59	47	PKP	PKPdf	17 14 05.6	-0.7
	comp=Z,1.2nm,0.8s,baz=336,slow=1.4,SNR=11						
DZM	Mont Dzumac	130.99	8	eLR	LR	17 55 47.2	
	comp=Z,237nm,23.4s						

GUC 22 16:55:42.9±0.3, 35.06S×72.83W, h32km±3km, MD3.7, ML3.9, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
CTCH	Constitucion	0.44	129	⇓iP	Pb	16 55 52.2	-0.2
CTCH				iS	Sb	16 55 59.1	+0.2
CTCH				AML	AML	16 56 03.0	
	comp=E,14µm,0.6s						
TALC	Talca	1.03	109	iP	Pn	16 56 01.3	0.0
TALC				iS	Sb	16 56 15.4	-0.2
TALC				AML	AML	16 56 17.7	
	comp=E,6µm,0.2s						
NICH	Los Niches	1.31	88	⇑iP	Pn	16 56 05.8	+0.8
NICH				iS	Sb	16 56 23.1	-0.4
NICH				AML	AML	16 56 31.7	
	comp=E,4µm,0.4s						
LNV	Longovilo	1.61	47	⇑iP	Pn	16 56 08.7	-0.4
LNV				iS	Sn	16 56 29.6	+0.8
CHCH	Chadas Angostu	2.12	59	iP	Pn	16 56 17.5	+1.3
CHCH				iS	Sb	16 56 44.1	-2.5
CLCH	Cerro Calan	2.52	50	eP	Pn	16 56 23.3	+1.6
CLCH				eS	Sn	16 56 53.8	+2.3
CLCH				AML	AML	16 57 06.0	
	comp=N,639nm,0.6s						

IDC 22 17:08:17.3±1.5, 15.26S×173.42W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/31, mbtmp4.0/7, MS3.4/3, Ms1 3.4/3, ms1mx3.1/33, Error ellipse: s-maj=69.6km s-min=22.8km az=149.0

ISCJB 22 17:08:21.5±1.4, 15.3S±0.4×173.5W±0.3, h42km, mb3.9/7, MS3.4/3, Error ellipse: s-maj=64.3km s-min=20.1km az=148.9

ISC 22 17:08:23.1±1.7, 15.4S±0.4×173.4W±0.3, h42km, n21, σ0.96/12, mb4.0/7, MS3.1/3, 1C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
PPT	Papeete	22.96	99	LR	LR	17 21 22.0	
	comp=Z,43nm,18.3s,baz=204,slow=34						
HNR	Honiara	26.67	280	LR	LR	17 23 43.6	
	comp=Z,54nm,20.4s,baz=106,slow=35						
H11S2	WAKE ISLAND Hy	38.92	329	T	T	17 56 48.4	
	baz=149,slow=76,SNR=39						
H11S3	WAKE ISLAND Hy	38.94	329	T	T	17 56 50.8	
	baz=149,slow=76,SNR=25						
H11S1	WAKE ISLAND Hy	38.94	329	T	T	17 56 49.7	
	baz=149,slow=76,SNR=34						
H11N3	WAKE ISLAND Hy	39.87	330	T	T	17 57 55.6	
	baz=149,slow=76,SNR=16						
H11N1	WAKE ISLAND Hy	39.88	330	T	T	17 57 51.6	
	baz=149,slow=76,SNR=23						
H11N2	WAKE ISLAND Hy	39.89	330	T	T	17 57 53.3	
	baz=149,slow=76,SNR=19						
WRA	Warramunga Arr	49.85	257	P	P	17 17 12.0	-0.5
	1.6nm,1.0s,baz=91,slow=6.8,SNR=8.8						
ASAR	Alice Springs	50.12	252	P	P	17 17 14.6	0.0
	4.5nm,0.8s,baz=86,slow=8.4,SNR=49						
PETK	Petropavlovsk-	72.59	342	P	P	17 19 45.1	-0.7
	2.5nm,0.8s,baz=174,slow=7.2,SNR=2.6						
NVAR	Mina Array Bea	74.30	42	P	P	17 19 56.5	0.0
	0.4nm,0.6s,baz=236,slow=9.7,SNR=2.7						
TXAR	Lajitas Array	80.59	56	P	P	17 20 31.4	-0.4
	0.7nm,1.0s,baz=251,slow=7.5,SNR=5.1						
ILAR	Eielson Array	82.40	11	P	P	17 20 40.0	-0.4
	0.9nm,0.7s,baz=227,slow=6.4,SNR=9.7						
YKA	Yellowknife Ar	90.06	23	P	P	17 21 18.5	+0.4
	0.2nm,0.3s,baz=241,slow=4.6,SNR=4.3						
JTS	JuntasAbangare	91.21	80	LR	LR	17 54 07.3	
	comp=Z,65nm,19.9s,baz=343,slow=30						
MLR	Muntele Rosu	145.82	335	⇓iP	PKPab	17 28 00.0	+1.5
GERES	GERESS Array B	146.10	352	PKPbc	PKPab	17 27 59.6	+0.2
	0.6nm,0.8s,baz=356,slow=1.7,SNR=5.8						
BRTR	Keskin Array B	146.12	321	PKPbc	PKPab	17 28 00.7	+0.8
	0.9nm,0.6s,baz=108,slow=2.7,SNR=5.9						
VOIR		146.22	336	⇓iP	PKPab	17 28 01.5	+1.5
ARR	Arges	146.44	337	⇑iP	PKPab	17 28 02.2	+1.4

TRN 22 17:23:16.4, 14.67N×61.23W, h154km, M3.6(FDF), M3.1(FDF), 7C-3D, Windward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
FDF	Fort de France	0.10	48	eP	Pn	17 23 38.1	+1.0
FDF				eS	Sn	17 23 53.9	+0.9
BVM	Bellevue	0.17	67	eP	Pn	17 23 38.2	+0.9
SVN	Savane Anatole	0.18	18	eP	Pn	17 23 38.4	+1.1
BIM	Bigot	0.21	135	eP	Pn	17 23 38.7	+1.4
BIM				eS	Sn	17 23 56.2	+3.0
TRMF	Trois Ilets	0.21	127	⇓eP	Pn	17 23 38.1	+0.8
ZAM	Aeronautique	0.21	116	⇓eP	Pn	17 23 38.3	+1.0
LPMF	Morne Lapointe	0.27	110	⇓eP	Pn	17 23 38.4	+1.0
MVM	Montagne Vaucl	0.34	109	⇑eP	Pn	17 23 38.8	+1.1
BBL	Barber's Block	0.89	345	eP	Pn	17 23 42.0	+1.3
TBG	Guadaloupe-3	1.25	341	⇑iP	Pn	17 23 44.7	+0.9
SVB	Belmont	1.39	181	eP	Pn	17 23 46.5	+1.3
SVB				eS	Sn	17 24 07.7	+0.3
PHG	Guadaloupe-2	1.40	343	⇑iP	Pn	17 23 46.6	+1.2
DOG	Dongo Capester	1.41	344	eP	Pn	17 23 46.5	+1.1
ECG	Echelle	1.43	343	⇑iP	Pn	17 23 46.9	+1.1
TAG	Tarade	1.43	343	⇑iP	Pn	17 23 47.1	+1.3
CRG	Carmichael	1.44	343	eP	Pn	17 23 47.0	+1.0
FNG	Fond-Bernard	1.46	342	⇑iP	Pn	17 23 47.1	+1.1
MLG	Mont-d'or	1.46	341	eP	Pn	17 23 47.3	+1.3
SSG	Sans Toucher	1.48	343	⇑iP	Pn	17 23 47.2	+0.9
LZG	Guadaloupe-1	1.56	340	eP	Pn	17 23 48.0	+1.0
DEG	La Desirade	1.65	6	eP	Pn	17 23 48.3	+0.3
SEG	Port Louis	1.75	351	eP	Pn	17 23 49.8	+0.9

LDG 22 17:23:42.1±0.2, 29.98N×80.06E, h10km, Mb4.9/12, Ms3.2/2, Error ellipse: s-maj=14.5km s-min=7.2km az=38.0

IDC 22 17:23:43.0±0.4, 29.98N×80.14E, h0km, mb4.4/35, mb1 4.5/37, mb1mx4.5/38, mbtmp4.4/37, ML4.1/2, MS4.0/6, Ms1 4.0/6, ms1mx3.5/34, Error ellipse: s-maj=11.3km s-min=8.5km az=71.0

BJI 22 17:23:43.6, 30.12N×80.11E, h10km, mB4.7/17, mb4.7/34, Ms4.3/12, Ms7 4.0/12

NEIC 22 17:23:45.1±0.2, 30.07N×80.03E, h10km, mb4.6/4, Error ellipse: s-maj=7.4km s-min=3.4km az=219.0

DMN 22 17:23:45.7±0.4, 30.25N×79.93E, h10km, Ml5.3/8, Error ellipse: s-maj=24.4km s-min=6.9km az=27.0

NDI 22 17:23:46.5±2.5, 29.93N×80.07E, h10km, ML4.6, mb4.6(NEIC)

MOS 22 17:23:46.6±1.0, 30.07N×80.11E, h33km, mb4.7/44, Error ellipse: s-maj=8.5km s-min=4.6km az=114.8

ISCJB 22 17:23:47.1±0.4, 29.99N±0.03×80.10E±0.02, h41km±4km, mb4.6/78, MS4.0/11, Error ellipse: s-maj=4.9km s-min=2.5km az=20.8

ISC 22 17:23:46.3±0.3, 29.99N±0.03×80.07E±0.03, h21km±3km, h20km:pP-P, n263, σ1.43/303, mb4.6/78, MS3.9/11, 17C-14D, Nepal-India border region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
PTH	Pithoragarh	0.45	163	ex	Pn	17 23 50.3	-7.5
PTH				ex	Sb	17 24 02.9	+0.9
LGTI	Lohaghat	0.56	164	eP9	Sb	17 24 05.2	+0.3
LGTI				eS	Sn	17 24 15.4	+7.8
DDI	Dehra Dun	1.77	281	eP	Pb	17 24 18.5	+0.3
DDI				eP	Pn	17 24 20.0	+4.2
DDI				eS	Sb	17 24 40.5	+0.5
DDI				eS	Sn	17 24 41.5	+3.6
DDI				AML	AML	17 24 44.3	
	comp=E,12µm,0.6s						
DDI				AML	AML	17 24 45.7	
	comp=N,13µm,0.3s						
SMLA	Simla	2.75	295	eP	Pn	17 24 31.1	+1.9
SMLA				eS	Sn	17 25 04.0	+2.2
SMLA				AML	AML	17 25 18.6	
	comp=E,4µm,1.0s						
SMLA				AML	AML	17 25 19.1	
	comp=N,3µm,0.6s						
NDI	New Delhi	2.81	243	eP	Pn	17 24 32.0	+2.0
NDI				ex	Sb	17 25 09.0	-0.7
SDNR	Sundarnagar	3.06	300	eP	Pn	17 24 37.0	+3.4
SDNR				ex	Sn	17 25 06.6	-3.0
SONA	Sohna	3.13	237	eP	Pn	17 24 35.5	+1.0
SONA				eS	Sn	17 25 13.2	+1.9
SONA				AML	AML	17 25 34.1	
	comp=E,2µm,0.5s						
SONA				AML	AML	17 25 34.7	
	comp=N,2µm,0.6s						
AGRA	Agra	3.32	215	eP	Pn	17 24 38.0	+1.0
AGRA				eS	Sn	17 25 17.3	+1.4
AGRA				AML	AML	17 25 36.8	
	comp=N,4µm,0.4s						
AGRA				AML	AML	17 25 36.8	
	comp=E,4µm,0.6s						
BHK	Bhakra	3.45	295	ex	Pb	17 24 43.8	-2.9
BHK				ex	Sb	17 25 37.0	+8.7
DANN	Dangsing	3.62	116	ePn	Pn	17 24 44.1	+2.7
DANN	Dangsing	3.62	116	ePn	Pn	17 24 44.1	+2.7
KUDL	Kundal	3.63	241	eP	Pn	17 24 41.8	+0.5
KUDL				eS	Sn	17 25 23.6	0.0
KUDL				AML	AML	17 25 42.3	
	comp=E,2µm,0.4s						
KUDL				AML	AML	17 25 42.7	
	comp=N,1µm,0.7s						
KOLN	Koldanda	3.80	125	ePn	Pn	17 24 46.3	+2.4
KOLN				eSn	Sn	17 25 30.8	+2.7
	comp=N,892nm,0.5s						
KOLN	Koldanda	3.80	125	ePn	Pn	17 24 46.3	+2.4
KOLN				eSn	Sn	17 25 30.8	+2.7
DHRM	DHARAMSHALA	3.94	306	eP	Pn	17 24 48.1	+2.3
DHRM				eS	Sn	17 25 31.8	+0.3
DHRM				AML	AML	17 25 56.2	
	comp=E,2µm,0.8s						
DHRM				AML	AML	17 25 59.3	
	comp=N,1µm,0.6s						
PONG	Pong	4.04	300	eP	Pn	17 24 50.5	+3.5
PONG				ex	Sb	17 25 45.5	+0.3
KHET	Khetri	4.19	244	eP	Pn	17 24 49.6	+0.6
KHET				eS	Sn	17 25 35.7	-1.7
KHET				AML	AML	17 25 58.9	
	comp=E,3µm,0.3s						
KHET				AML	AML	17 26 02.0	
	comp=N,4µm,0.7s						
DLH	Dalhousie	4.34	307	eP	Pn	17 24 54.0	+2.8
DLH				ex	x	17 26 04.0	
GKN	Gorkha	4.46	115	ePn	Pn	17 24 55.1	+2.2
GKN	Gorkha	4.46	115	ePn	Pn	17 24 55.1	+2.2
DMN	Daman	5.01	117	ePn	Pn	17 25 02.3	+1.7
DMN				eSn	Sn	17 25 59.0	+0.9
	comp=N,491nm,0.3s						
DMN	Daman	5.01	117	ePn	Pn	17 25 02.3	+1.7
DMN				eSn	Sn	17 25 59.0	+0.9
KKN	Kakani	5.07	114	ePn	Pn	17 25 03.0	+1.7
KKN				eSn	Sn	17 26 00.6	+1.3
	comp=N,422nm,0.3s						
KKN	Kakani	5.07	114	eP	Pn	17 25 03.0	+1.7
KKN				e		17 26 00.6	
KKN	Kakani	5.07	114	ePn	Pn	17 25 03.0	+1.7
KKN				eSn	Sn	17 26 00.6	+1.3
PKIN	Phulchoki	5.26	116	ePn	Pn	17 25 05.4	+1.5
PKIN				eSn	Sn	17 26 05.0	+1.0
	comp=N,2µm,0.5s						
PKI	Pulchoki	5.27	116	ePn	Pn	17 25 05.6	+1.5
PKI				eSn	Sn	17 26 05.9	+1.5
	comp=N,646nm,0.3s						
PKI	Pulchoki	5.27	116	eP	Pn	17 25 05.4	+1.3
PKI				e		17 26 05.0	
PKI	Pulchoki	5.27	116	ePn	Pn	17 25 05.4	+1.3
PKI				eSn	Sn	17 26 05.0	+0.6
GUN	Gumba	5.50	111	ePn	Pn	17 25 08.7	+1.4
GUN	Gumba	5.50	111	ePn	Pn	17 25 08.7	+1.4
JIRN	Jiri	5.85	112	ePn	Pn	17 25 14.1	+1.9
JIRN				eSn	Sn	17 26 19.6	+0.8
	comp=N,643nm,0.3s						
JIRN	Jiri	5.85	112	ePn	Pn	17 25 14.1	+1.9
JIRN				eSn	Sn	17 26 19.6	+0.8
AJM	Ajmer	5.93	235	eP9		17 25 13.0	
AJM				eS	Sb	17 26 47.0	+7.5
RAMN	Ramite	6.50	116	ePn	Pn	17 25 21.8	+0.9
RAMN				eSn	Sn	17 26 34.6	0.0
RAMN	Ramite	6.50	116	ePn	Pn	17 25 21.8	+0.9
RAMN				eSn	Sn	17 26 34.6	0.0
SARP	Sargodha	6.64	289	P	Pn	17 25 22.3	-0.3
CHCP	Chirah Chowk	6.85	304	⇓P	Pn	17 25 27.3	+1.7
BHPL	Bhopal	7.12	200	eP	Pn	17 25 29.6	+0.2
BHPL				eS	Sn	17 26 45.5	-4.2
BHPL				AML	AML	17 27 30.8	
	comp=E,920nm,0.8s						
BHPL				AML	AML	17 27 31.1	
	comp=N,849nm,0.6s						
ODAN	Odare	7.16	114	ePn	Pn	17 25 31.1	+1.1
ODAN				eSn	Sn	17 26 49.8	-1.1
	comp=N,362nm,0.3s						
ODAN	Odare	7.16	114	ePn	Pn	17 25 31.1	+1.1
ODAN				eSn	Sn	17 26 49.8	-1.1
TAPN	Taplejung	7.21	110	ePn	Pn	17 25 32.1	+1.3
TAPN				eSn	Sn	17 26 50.9	-1.3
	comp=N,376nm,0.4s						
TAPN	Taplejung	7.21	110	ePn	Pn	17 25 32.1	+1.3
TAPN				eSn	Sn	17 26 50.9	-1.3
CEP	Cherat	7.92	301	⇑P	Pn	17 25 41.3	+0.9
CEP				S	Sn	17 27 09.0	-0.5
BOK	Bokaro	8.06	139	eP	Pn	17 25 42.6	+0.3
BOK				eS	Sn	17 27 08.7	-4.1
NGP	Nagpur	8.85	186	eP	Pn	17 25 52.9	-0.1
NGP				eS	Sn	17 27 25.5	-6.7
LSA	Lhasa	9.63	89	eP	Pn	17 26 06.6	+2.5
KSH	Kashi	10.09	342	P	Pn	17 26 07.9	-2.1
KSH				smax	smax		
	comp=N,98nm,0.7s						
KSH				smax	smax		
	comp=N,110nm,0.6s						
SHL	Shillong	11.35	110	eP	Pn	17 26 27.0	-0.4
SHL				eS	Sn	17 28 25.0	-8.8
VIS	Vishakhapatnam	12.57	166	eP	Pn	17 26 41.8	-2.1
VIS				eS	Sn	17 28 52.5	-11
VIS				ex	x	17 29 01.9	
	comp=N,90nm,0.6s						
VIS				ex	x	17 29 18.6	
	comp=E,144nm,0.6s						
HYB	Hyderabad	12.59	187	iP	Pn	17 26 40.0	-4.3
HYB				eS	Sn	17 28 52.0	-12
HYB				LR	LR	17 31 30.0	
	comp=E,2.5nm,12.0s						
HYB	Hyderabad	12.59	187	eP	Pn	17 26 40.0	-4.3
HYB				eS	Sn	17 28 52.0	-12
POO	Poona	12.73	208	⇑iP	Pn	17 26 45.0	-1.3
	comp=E,42nm,0.9s						
AAK	Ala-Archa	13.39	342	⇓eP	Pn	17 26 53.5	-1.8
AAK				pmax	pmax		
	comp=Z,16nm,1.2s						
AAK	Ala-Archa	13.39	342	Pn	Pn	17 26 54.3	-0.9
	comp=Z,0.9nm,0.3s,baz=135,slow=3.9,SNR=16						
AAK				Sn	Sn	17 29 16.9	-6.7
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=2.5						
TKM2	Tokmak 2	13.40	346	eP	Pn	17 26 54.8	-0.6
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TKM2	Tokmak 2	13.40	346	eP	Pn	17 26 54.8	-0.6
	comp=Z,8.5nm,0.9s						
EKS2	Erkin-Say	13.62	340	eP	Pn	17 26 58.8	+0.5
EKS2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
EKS2	Erkin-Say	13.62	340	eP	Pn	17 26 58.8	+0.5
	comp=Z,10nm,0.8s						
KAD	Karad	13.72	204	ex	Pn	17 26 56.2	-3.5
KAD				ex	Sn	17 29 15.6	-16
WMQ	Urumqi	15.08	22	P	P	17 27 24.3	+1.0
WMQ				pP	pP	17 27 31.3	+2.2
WMQ				sP	sP	17 27 35.5	+3.7
WMQ				pmax	pmax		
	comp=Z,110nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,250nm,9.4s						
KK31	Karatay Array	15.16	332	eP	Pn	17 27 15.6	-3.6
KK31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KKAR	Karatay Array	15.16	332	eP	Pn	17 27 15.7	-3.5
KKAR				pmax	pmax		
	comp=Z,20nm,0.7s						
KKAR	Karatay Array	15.16	332	eP	Pn	17 27 15.7	-3.5
	comp=Z,20nm,0.7s						
MK31	Makanchi Array	16.87	5	eP	Pn	17 27 40.0	-1.1
MK31				pmax	pmax		
	comp=Z,22nm,0.9s						
MKAR	Makanchi Arr	16.87	5	Pn	Pn	17 27 39.0	-2.2
	comp=Z,0.7nm,0.3s,baz=192,slow=11,SNR=58						
MKAR				Sn	Sn	17 30 40.8	-7.1
	comp=Z,0.3nm,0.3s,baz=170,slow=28,SNR=8.8						
MKAR				ScP	ScP	17 36 01.5	+0.1
	comp=Z,0.0nm,0.3s,baz=116,slow=2.8,SNR=4.2						
GTA	Gaotai	18.73	55	⇓P	P	17 28 02.6	-1.2
GTA				pP	pP	17 28 08.9	-0.7
GTA				sP	sP	17 28 12.3	+0.1
GTA				pmax	pmax		
	comp=Z,9.0nm,2.1s						
GTA				pmax	pmax		
	comp=Z,150nm,7.1s						
GTA				LR	LR		
	comp=Z,170nm,15.0s						
GTA				LR	LR		
	comp=Z,180nm,14.5s						
GTA				LR	LR		
	comp=Z,220nm,16.2s						
CMAI	Chiengmai2	19.88	116	P	P	17 28 17.5	+1.0
	comp=Z,23nm,1.0s						
MHMT	Maesarieng	20.07	122	P	P	17 28 18.7	+0.3
	comp=Z,16nm,0.6s,comp=Z,207nm						
CHTO	Chiang Mai	20.44	119	P	P	17 28 22.7	+0.2
	comp=Z,102nm,1.4s						
CMMT	Chiang Mai	20.45	119	P	P	17 28 22.7	+0.2
	comp=Z,31nm,1.3s						
KURBB	Kurchatov Arra	20.65	357	P	P	17 28 23.4	-1.0
	comp=Z,4.2nm,0.6s,baz=182,slow=10.0,SNR=70						
KURBB				S	S	17 32 14.0	-0.1
	comp=Z,1.5nm,1.2s,baz=184,slow=20,SNR=5.9						
KURBB				ScP	ScP	17 36 09.7	+0.1
	comp=Z,0.3nm,0.6s,baz=181,slow=2.1,SNR=5.2						
CMAR	Chiang Mai Arr	20.66	119	P	P	17 28 24.4	-0.4
	comp=Z,15nm,0.7s,baz=287,slow=10,SNR=153						
CMAR				PcP	PcP	17 32 36.2	+1.4
	comp=Z,1.5nm,0.8s,baz=301,slow=3.0,SNR=6.2						
CMAR				ScP	ScP	17 36 10.3	+0.1
	comp=Z,1.2nm,0.9s,baz=295,slow=3.6,SNR=7.8						
KMI	Kunming	20.66	98	P	P	17 28 25.6	+0.5
KMI				pmax	pmax		
	comp=Z,38nm,0.9s						
KURK	Kurchatov	20.73	357	P	P	17 28 23.4	-1.9
KURK				S	S	17 32 14.0	-1.9
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KURK				smax	smax		
	comp=N,2.0nm,1.2s						
KURK	Kurchatov	20.73	357	P	P	17 28 23.4	-1.9
KURK				S	S	17 32 14.0	-1.9
KURK				ScP	ScP	17 36 09.7	-0.2
LZH	Lanzhou	20.82	67	⇑P	P	17 28 27.0	+0.4
LZH				pP	Pn	17 28 30.1	+1.0
LZH				sP	sP	17 28 31.8	-3.3
LZH				pmax	pmax		
	comp=N,23nm,1.0s						
LZH				pmax	pmax		
	comp=N,120nm,5.6s						
LZH				LR	LR		
	comp=N,390nm,14.9s						
LZH				LR	LR		
	comp=N,340nm,14.7s						
LZH				LR	LR		
	comp=N,580nm,17.6s						
PAYA	Payao	20.84	116	P	P	17 28 27.7	+0.9
	comp=N,32nm,0.7s,comp=N,269nm						
LAMP	Lampang	21.14	118	P	P	17 28 30.9	+0.9
	comp=N,9.4nm,0.9s,comp=N,96nm						
UTTA	Uttaradit	22.30	119	P	P	17 28 43.9	+1.4
	comp=N,20nm,0.9s,comp=N,188nm						
PALK	Pallekele	22.60	178	P	P	17 28 45.6	-0.2
PALK				S	S	17 32 53.1	+0.6
PALK				pmax	pmax		
	comp=Z,40nm,1.0s						
PALK				smax	smax		
	comp=N,19nm,0.7s						
PALK				MLR	MLR		
	comp=Z,574nm,18.5s						
PALK	Pallekele	22.60	178	P	P	17 28 45.6	-0.2
	comp=Z,40nm,1.0s,baz=354,slow=16,SNR=4.5						
PALK				S	S	17 32 53.1	+0.6
	comp=Z,18nm,0.7s,baz=281,slow=12,SNR=5.0						
PALK				LR	LR	17 38 02.1	
	comp=Z,574nm,18.5s,baz=338,slow=38						
KHLT	Khaolaem Dam	22.79	128	P	P	17 28 52.3	+4.6
	comp=Z,8.5nm,1.1s						
LOEI	Loei	22.99	118	P	P	17 28 52.9	+3.1
	comp=N,19nm,0.7s,comp=Z,6µm						
PBKT	Sadao Pong	23.34	120	P	P	17 28 54.2	+1.0
	comp=Z,33nm,0.6s,comp=Z,705nm						
SRDT	SRDT	23.47	127	P	P	17 28 57.4	+2.8
	comp=Z,109nm,1.4s						
BVAR	Borovoye Array	24.09	346	P	P	17 29 00.0	-0.2
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	Borovoye Array	24.09	346	P	P	17 28 60.0	-0.2
	comp=Z,2.4nm,0.6s,baz=154,slow=11,SNR=16						
BVAR				ScP	ScP	17 36 18.8	+0.3
	comp=Z,1.1nm,0.9s,baz=176,slow=8.7,SNR=3.9						
BRVK	Borovoye	24.14	345	eP	P	17 29 00.2	-0.5
BRVK				pmax	pmax		
	comp=Z,13nm,2.5s						
BRVK				MLR	MLR		
	comp=Z,332nm,20.0s						
ZAA0	Zalesovo Array	24.19	7	eP	P	17 29 00.4	-0.7
ZALV	Zalesovo Beam	24.19	7	P	P	17 29 01.0	-0.2
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,394nm,18.2s						
ZALV	Zalesovo Beam	24.19	7	P	P	17 29 01.0	-0.2
	comp=Z,8.1nm,0.6s,baz=193,slow=9.8,SNR=40						
ZALV				LR	LR	17 39 41.7	
	comp=Z,394nm,18.2s,baz=250,slow=40						
ABKAR	Akbulak array	24.58	327	eP	P	17 29 04.8	+0.1
	comp=Z,11nm,0.7s						
XAN	Xi'an	24.76	73	P	P	17 29 06.5	-0.1
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
NVS	Novosibirsk	24.94	4	eP	P	17 29 07.9	0.0
NVS				eS	S	17 33 20.7	-10
NVS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,5.0nm,1.2s						
NVS				smax	smax		
	comp=E,23nm,2.3s						
NVS				smax	smax		
	comp=N,14nm,2.7s						
AKTO	Aktyubinsk	26.29	327	P	P	17 29 20.8	+0.5
AKTO				pmax	pmax		

comp=Z,4.0nm,0.6s
AKTO Aktyubinsk 26.29 327 P P 17 29 20.8 +0.5
comp=Z,3.9nm,0.6s,baz=130,slow=8.4,SNR=18
BTO Baotou 26.53 58 eP P 17 29 22.9 +0.3
MOY Mondy 26.65 30 eP P 17 29 24.7 +1.1
ZAK Zakamensk 26.81 34 eP P 17 29 24.7 -0.4
ZAK pmax pmax
comp=Z,10.0nm,0.9s
SONM Songino Array 26.95 41 P P 17 29 27.9 +1.5
comp=Z,7.9nm,0.6s,baz=233,slow=10,SNR=11
SONM LR LR 17 40 46.4
comp=Z,262nm,18.6s,baz=273,slow=38
SURT Suratani 27.29 136 P P 17 29 42.0 +12
TLY Talaya 27.84 32 eP P 17 29 35.9 +1.7
TLY pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 30.47 336 c iP P 17 29 59.4 +2.0
ARU 17 30 56.4
ARU S S 17 35 02.5 +5.2
ARU SS SnSn 17 36 34.5 +0.9
ARU pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 30.47 336 eP P 17 29 57.6 +0.2
comp=Z,6.1nm,0.8s
TIA Tai'an 31.52 69 ⇓P P 17 30 08.4 +1.4
TIA pmax pmax
comp=Z,10.0nm,1.1s
PSI Prapat 32.41 143 P P 17 30 19.3 +4.2
PSI pmax pmax
comp=Z,3.0nm,0.4s
PSI Prapat 32.41 143 P P 17 30 19.3 +4.2
comp=Z,2.7nm,0.4s,baz=302,slow=5.7,SNR=4.4
KBZ Khabaz 32.47 305 P P 17 30 16.0 +0.9
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 32.47 305 P P 17 30 16.0 +0.9
comp=Z,3.1nm,0.8s,baz=142,slow=19,SNR=4.0
VRHR Novokhopersk 35.47 317 eP P 17 30 40.8 -0.3
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
BOD Bodaibo 36.36 30 eP P 17 30 47.8 -0.9
BOD pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 36.96 317 eP P 17 30 53.4 -0.5
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
CN2 Changchun 38.35 56 eP P 17 31 06.1 +0.4
CN2 pmax pmax
comp=Z,10.0nm,0.7s
PRGR Permogore 38.87 335 eP P 17 31 09.2 -0.6
PRGR pmax pmax
comp=Z,3.0nm,0.3s
BRTR Keskin Array B 38.95 297 P P 17 31 11.4 +0.4
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 38.95 297 P P 17 31 11.4 +0.4
comp=Z,1.4nm,0.8s,baz=116,slow=7.9,SNR=5.7
OBN Obninsk 39.77 322⇑eP P 17 31 17.8 +0.4
OBN e 17 33 21.7
OBN pmax pmax
comp=Z,45nm,2.5s
KSAR Wonju Array Be 40.11 66 P P 17 31 20.6 0.0
KSAR Wonju Array Be 40.11 66 P P 17 31 20.6 0.0
KSRS Korea Array 40.14 66 P P 17 31 20.6 -0.2
KSRS pmax pmax
comp=Z,10.0nm,0.7s
KSRS Korea Array 40.14 66 P P 17 31 20.6 -0.2
comp=Z,10nm,0.7s,baz=274,slow=8.7,SNR=51
KLMR Klimovskoe 40.86 331 eP P 17 31 25.0 -1.4
KLMR pmax pmax
comp=Z,27nm,1.6s
JOW Kunigami 42.27 82 P P 17 31 38.4 -0.1
comp=Z,2.0nm,0.7s,baz=252,slow=3.2,SNR=3.2
AKASG Malin Array Be 42.93 314 P P 17 31 43.5 0.0
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 42.93 314 P P 17 31 43.5 0.0
comp=Z,3.6nm,0.9s,baz=78,slow=7.2,SNR=31
KIEV Kiev 42.94 314⇑eP P 17 31 43.5 -0.1
USRK Ussuriysk Arra 43.08 56 P P 17 31 45.4 +0.5
comp=Z,4.4nm,0.7s,baz=261,slow=9.4,SNR=11
USRK LR LR 17 52 22.9
comp=Z,112nm,21.2s,baz=294,slow=40
CFR Carcaliu 43.12 305 ⇑P P 17 31 44.6 -0.5
CFR Carcaliu 43.12 305⇑iP P 17 31 44.6 -0.5
VRI Vrincioaia 44.14 306 ⇓P P 17 31 55.9 +2.6
VRI Vrincioaia 44.14 306⇓iP P 17 31 55.8 +2.5
PLOR Plostina 44.19 306 ⇓P P 17 31 55.3 +1.5
PLOR Plostina 44.19 306⇓iP P 17 31 55.3 +1.5
MLR Muntele Rosu 44.67 306 ⇑P P 17 31 59.8 +2.0
MLR Muntele Rosu 44.67 306⇑iP P 17 31 59.8 +2.0
BURAR Bucovina Array 45.24 309 ⇑P P 17 32 03.0 +0.8
BURAR Bucovina Array 45.24 309⇑iP P 17 32 03.0 +0.8
JOF Joensuu 45.26 331 eP P 17 32 03.4 +1.5
JOF pmax pmax
comp=Z,8.0nm,0.7s
JOF Joensuu 45.26 331 ep P 17 32 03.4 +1.5
comp=Z,8.3nm,0.7s
YAK Yakutsk 45.28 30 eP P 17 32 01.4 -0.8
YAK e*PP pP 17 32 10.3 +1.7
YAK e 17 33 46.0
YAK eS S 17 38 28.7 -13
YAK e*SS sS 17 38 51.1 -0.7
YAK pmax pmax
comp=Z,9.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK smax smax
comp=N,89nm,14.6s
YAK smax smax
comp=E,13nm,11.3s
YAK MLR MLR
comp=Z,102nm,15.0s
YAK MLR MLR
comp=E,81nm,17.0s
VOIR 45.30 306 ⇑P P 17 32 03.3 +0.6
VOIR 45.30 306⇑iP P 17 32 03.3 +0.6
ARR Arges 45.60 306⇓iP P 17 32 05.4 +0.4
VSU Vasula 45.94 324 P P 17 32 07.0 -0.4
VSU pmax pmax
comp=Z,41nm,1.0s
FINES FINESS Array B 47.06 328 P P 17 32 16.4 +0.2
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES MLR MLR
comp=Z,116nm,18.8s
FINES FINESS Array B 47.06 328 P P 17 32 16.4 +0.2
comp=Z,4.6nm,0.5s,baz=120,slow=9.3,SNR=22
FINES LR LR 17 53 02.5
comp=Z,116nm,18.8s,baz=92,slow=37
KAF Kangasniemi 47.15 329 eP P 17 32 17.5 +0.6
KAF pmax pmax
comp=Z,1.0nm,0.5s
KAF Kangasniemi 47.15 329 ep P 17 32 17.5 +0.6
comp=Z,0.9nm,0.5s
BZS Buzias 47.72 306 ⇓P P 17 32 23.1 +1.6
BZS Buzias 47.72 306⇓iP P 17 32 23.1 +1.6
CRVS Cervenica-Dubn 47.79 310 eP P 17 32 25.0 +2.9
CRVS Cervenica-Dubn 47.79 310 eP P 17 32 25.0 +2.9
STHS Stebnicka Huta 47.94 311 eP P 17 32 24.2 +1.0
STHS Stebnicka Huta 47.94 311 eP P 17 32 24.2 +1.0
MJAR Matsushiro Arr 48.42 66 P P 17 32 27.3 +0.1
MJAR pmax pmax
comp=Z,2.0nm,0.7s
MJAR Matsushiro Arr 48.42 66 P P 17 32 27.3 +0.1
comp=Z,27nm,1.2s,baz=274,slow=10,SNR=7.0
TIXI Tiksi 49.26 18⇓eP P 17 32 32.5 -0.4
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI MLR MLR
comp=Z,271nm,18.0s
KEV Kevo 49.63 339 eP P 17 32 36.4 +0.5
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 49.63 339 ep P 17 32 36.4 +0.5
comp=Z,1.3nm,0.4s
ARCES ARCESS Array B 50.03 338 P P 17 32 39.7 +0.8
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 50.03 338 P P 17 32 39.6 +0.8
comp=Z,5.1nm,0.7s,baz=102,slow=7.4,SNR=16
KRLC Kraliky 50.83 312 eP P 17 32 49.1 +3.8
KRLC e 17 32 55.0
KRLC Kraliky 50.83 312 eP P 17 32 49.1 +3.8
KRLC ex x 17 32 55.0
DPC Dobruska-Polom 51.12 312 eP P 17 32 48.4 +0.9
DPC Dobruska-Polom 51.12 312 eP P 17 32 48.4 +0.9
DPC epP pP 17 32 52.3 -1.7
KMBO Kilima Mbogo 51.20 241 P P 17 32 49.7 +0.9
KMBO pmax pmax
comp=Z,4.0nm,0.7s
KMBO Kilima Mbogo 51.20 241 P P 17 32 49.7 +0.9
comp=Z,3.6nm,0.7s,baz=36,slow=9.4,SNR=13
MOA Molln 52.62 309⇓iP P 17 32 58.8 +0.1
comp=Z,5.7nm,1.2s
GERES GERESS Array B 52.91 311 P P 17 33 01.4 +0.5
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 52.91 311 P P 17 33 01.4 +0.5
comp=Z,0.9nm,0.8s,baz=96,slow=6.8,SNR=6.8
KHC Kasperske Hory 52.97 311 eP P 17 33 03.3 +2.0
KHC Kasperske Hory 52.97 311 eP P 17 33 03.3 +2.0
CLL Collm 53.18 314 eP P 17 33 07.0 +4.3
CLL Collm 53.18 314 esP P 17 33 07.0 +4.3
NB2 NORSAR Subarra 54.07 326 P P 17 33 08.7 -0.5
comp=Z,6.2nm,0.8s,baz=96,slow=6.9
NOA NORSAR Array B 54.07 326 P P 17 33 09.0 -0.2
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA NORSAR Array B 54.07 326 P P 17 33 09.0 -0.2
comp=Z,4.7nm,0.9s,baz=93,slow=7.2,SNR=12
MOTA Moosalm 54.80 309⇑iP P 17 33 14.6 -0.3
comp=Z,6.6nm,0.8s
SPITS Spitsbergen Ar 55.54 347 P P 17 33 20.1 +0.6
SPITS pmax pmax
comp=Z,11nm,0.9s
SPITS Spitsbergen Ar 55.54 347 P P 17 33 20.1 +0.6
comp=Z,9.8nm,0.8s,baz=120,slow=7.8,SNR=5.8
DAVA Damuels 55.64 309⇑iP P 17 33 17.5 -3.4
comp=Z,16nm,1.1s
PGF Pioggiola 57.11 304 eP P 17 33 31.8 +0.4
comp=Z,151nm,1.5s
PGF Pioggiola 57.11 304 eP P 17 33 31.8 +0.4
PGF Pioggiola 57.11 304 eP P 17 33 31.8 +0.4
comp=Z,151nm,1.5s
HINF Hinteralfeld 57.57 310 eP P 17 33 34.3 -0.2
HINF Hinteralfeld 57.57 310 eP P 17 33 34.3 -0.2
HINF Hinteralfeld 57.57 310 eP P 17 33 34.3 -0.2
HAU Haudompre 57.87 310 eP P 17 33 36.6 0.0
comp=Z,12nm,0.8s
HAU Haudompre 57.87 310 eP P 17 33 36.6 0.0
HAU pmax pmax
comp=Z,12nm,0.8s
HAU Haudompre 57.87 310 eP P 17 33 36.6 0.0
comp=Z,12nm,0.8s
SBF Sospel 57.95 305 eP P 17 33 36.9 -0.3
comp=Z,40nm,0.9s
SBF Sospel 57.95 305 eP P 17 33 36.9 -0.3
SBF Sospel 57.95 305 eP P 17 33 36.9 -0.3
comp=Z,40nm,0.9s
LPG La Plagne 58.08 307 eP P 17 33 38.8 +0.4
comp=Z,31nm,0.9s
LPG La Plagne 58.08 307 eP P 17 33 38.8 +0.4
LPG La Plagne 58.08 307 eP P 17 33 38.8 +0.4
comp=Z,31nm,0.9s
LPL La Plagne 58.09 307 eP P 17 33 38.7 +0.3
comp=Z,31nm,0.7s
LPL La Plagne 58.09 307 eP P 17 33 38.7 +0.3
LPL La Plagne 58.09 307 eP P 17 33 38.7 +0.3
comp=Z,31nm,0.7s
PAGF Fort de Pagny 58.18 311 eP P 17 33 39.1 +0.4
PAGF Fort de Pagny 58.18 311 eP P 17 33 39.1 +0.4
MBDF Montbardon 58.23 307 eP P 17 33 39.6 +0.3
comp=Z,17nm,0.9s
MBDF Montbardon 58.23 307 eP P 17 33 39.6 +0.3
MBDF pmax pmax
comp=Z,17nm,0.9s
MBDF Montbardon 58.23 307 eP P 17 33 39.6 +0.3
comp=Z,17nm,0.9s
GIVF Givet 58.48 313 eP P 17 33 41.2 +0.4
GIVF Givet 58.48 313 eP P 17 33 41.2 +0.4
GIVF Givet 58.48 313 eP P 17 33 41.2 +0.4
KEST Kesra 58.52 296 P P 17 33 43.6 +2.2
comp=Z,2.2nm,0.8s,baz=344,slow=14,SNR=7.4
PETK Petropavlovsk- 59.42 43 P P 17 33 46.3 -0.9
PETK pmax pmax
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 59.42 43 P P 17 33 46.2 -0.9
comp=Z,1.8nm,0.8s,baz=237,slow=5.0,SNR=11
SMF Signal de Mont 59.82 309 eP P 17 33 50.0 -0.1
comp=Z,20nm,0.9s
SMF Signal de Mont 59.82 309 eP P 17 33 50.0 -0.1
SMF pmax pmax
comp=Z,20nm,0.9s
SMF Signal de Mont 59.82 309 eP P 17 33 50.0 -0.1
comp=Z,20nm,0.9s
SSF Saint Saulge 59.95 310 eP P 17 33 50.5 -0.5
SSF Saint Saulge 59.95 310 eP P 17 33 50.5 -0.5
SSF Saint Saulge 59.95 310 eP P 17 33 50.5 -0.5
TCF Toulx Ste Croi 61.00 309 eP P 17 33 58.4 +0.2
TCF Toulx Ste Croi 61.00 309 eP P 17 33 58.4 +0.2
TCF Toulx Ste Croi 61.00 309 eP P 17 33 58.4 +0.2
BILL Bilibino 61.16 25⇑eP P 17 33 59.7 +0.8
BILL e 17 34 42.7
BILL e*PP PP 17 36 20.6 +7.3
BILL pmax pmax
comp=Z,6.0nm,0.9s
BILL MLR MLR
comp=Z,88nm,17.0s
ESK Eskdalemuir 62.22 320 iP P 17 34 05.4 -0.8
DAG Danmarks Havn 63.02 345 iP P 17 34 11.1 -0.1
DAG pmax pmax
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 63.02 345 iP P 17 34 11.1 -0.1
comp=Z,5.6nm,0.8s
ETSF Etsaut 63.83 306 eP P 17 34 15.6 -1.6
comp=Z,16nm,0.9s
ETSF Etsaut 63.83 306 eP P 17 34 15.6 -1.6
ETSF pmax pmax
comp=Z,16nm,0.9s
ETSF Etsaut 63.83 306 eP P 17 34 15.6 -1.6
comp=Z,16nm,0.9s
ESDC Sonseca Array 67.30 304 P P 17 34 40.5 +0.8
comp=Z,1.4nm,0.7s,baz=60,slow=6.7,SNR=5.7
SUMG Summit 69.55 344 iP P 17 34 54.1 +0.5
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 69.55 344 iP P 17 34 54.1 +0.5
comp=Z,7.0nm,0.9s
WRA Warramunga Arr 72.06 127 P P 17 35 08.8 -0.4
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 72.06 127 P P 17 35 08.8 -0.4
comp=Z,1.8nm,0.5s,baz=322,slow=6.0,SNR=27
WRAB Tennant Creek 72.06 127 eP P 17 35 08.7 -0.4
WRAB pmax pmax
comp=Z,4.0nm,0.6s
WRAB Tennant Creek 72.06 127 eP P 17 35 08.7 -0.4
comp=Z,4.5nm,0.6s
TORD Torodi Ar. Bea 73.58 276 P P 17 35 18.4 0.0
comp=Z,3.4nm,0.7s,baz=55,slow=4.9,SNR=18
ASAR Alice Springs 74.28 130 P P 17 35 22.0 -0.3
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 74.28 130 P P 17 35 22.0 -0.3
comp=Z,1.8nm,0.7s,baz=313,slow=5.4,SNR=23
PMG Port Moresby 75.37 110 P P 17 35 28.0 -0.7
PMG pmax pmax
comp=Z,8.0nm,0.7s
PMG Port Moresby 75.37 110 P P 17 35 28.0 -0.7
comp=Z,8.3nm,0.7s,baz=312,slow=12,SNR=3.0
BOSA Boshof 78.31 227 P P 17 35 45.1 0.0
BOSA pmax pmax
comp=Z,7.0nm,0.9s
BOSA Boshof 78.31 227 P P 17 35 45.1 0.0
comp=Z,6.9nm,0.9s,baz=55,slow=6.6,SNR=8.7
COLA College 78.38 19⇓iP P 17 35 45.3 +0.4
COLA pmax pmax
comp=Z,32nm,0.9s
ILAR Eielson Array 78.73 19 P P 17 35 46.2 -0.6
ILAR 17 38 42.7
ILAR pmax pmax
comp=Z,4.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 78.73 19 P P 17 35 46.2 -0.6
comp=Z,3.9nm,0.9s,baz=307,slow=4.7,SNR=46
ILAR PP PP 17 38 42.7 -1.7
comp=Z,0.7nm,0.9s,baz=297,slow=5.7,SNR=5.4
ILAR LR LR 18 15 31.6
comp=Z,85nm,20.8s,baz=340,slow=40
CTA Charters Tower 80.82 119 P P 17 35 59.5 +0.6
CTA pmax pmax
comp=Z,3.0nm,0.7s
CTA Charters Tower 80.82 119 P P 17 35 59.5 +0.6
comp=Z,3.3nm,0.7s,baz=314,slow=8.1,SNR=4.1
KDAK Kodiak Island 82.07 25 iP P 17 36 05.5 +0.6
DBIC Dimbokro 82.32 273 P P 17 36 07.7 +0.7
DBIC pmax pmax
comp=Z,14nm,0.8s
DBIC Dimbokro 82.32 273 P P 17 36 07.7 +0.7
comp=Z,14nm,0.8s,baz=52,slow=6.2,SNR=9.8
LIC Lamto 82.69 273 eP P 17 36 06.3 -2.6
comp=Z,25nm,1.0s
LIC Lamto 82.69 273 eP P 17 36 06.3 -2.6
comp=Z,25nm,1.0s
FRB Frobisher Bay 83.34 347 P P 17 36 10.5 -0.9
FRB pmax pmax
comp=Z,3.0nm,0.9s
FRB Frobisher Bay 83.34 347 P P 17 36 10.5 -0.9
comp=Z,3.0nm,0.9s,baz=50,slow=14,SNR=5.2
STKA Stephens Creek 84.80 131 P P 17 36 18.9 -0.4
STKA pmax pmax
comp=Z,1.0nm,0.6s
STKA Stephens Creek 84.80 131 P P 17 36 18.9 -0.4
comp=Z,1.4nm,0.6s,baz=358,slow=7.1,SNR=4.0
YKA Yellowknife Ar 87.09 7 P P 17 36 29.3 -0.9
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 87.09 7 P P 17 36 29.3 -0.9
comp=Z,1.3nm,0.7s,baz=341,slow=4.9,SNR=25
SCHQ Schefferville 90.85 342 P P 17 36 47.9 -0.3
comp=Z,2.7nm,0.9s,baz=39,slow=6.5,SNR=4.3
QSPA South Pole Qui 119.79 180 PKP PKPdf 17 42 34.1 0.0
comp=Z,1.7nm,0.8s,baz=270,slow=0.9
TXAR Lajitas Array 120.90 4 PKP PKPdf 17 42 37.8 +0.2
comp=Z,0.1nm,0.5s,baz=5.7,slow=1.8,SNR=3.5
LPAZ La Paz 147.86 288 PKP2 PKPab 17 43 32.8 -0.9
LPAZ pmax pmax
comp=Z,4.0nm,0.8s
LPAZ La Paz 147.86 288 PKPbc PKPab 17 43 32.8 -0.9
comp=Z,3.7nm,0.8s,baz=73,slow=1.4,SNR=12
CFAA Coronel Fontan 152.77 258 PKPbc PKPbc 17 43 42.2 +0.3
comp=Z,0.8nm,0.7s,baz=353,slow=1.2,SNR=15

IDC 22 17:34:22.5±23.0, 17.70S×175.03W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/20, mbtmp4.0/5, Error ellipse: s-maj=435.5km s-min=49.8km az=62.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	21.61	197	P	P	17 39 14.5	+0.4
	3.2nm,0.5s,baz=64,slow=21,SNR=6.5						
CTA	Charters Tower	36.66	260	P	P	17 41 33.0	+1.9
	1.7nm,0.5s,baz=76,slow=12,SNR=4.2						
STKA	Stephens Creek	41.56	242	P	P	17 42 11.3	-0.7
	2.9nm,1.0s,baz=54,slow=7.6,SNR=3.1						
WRA	Warramunga Arr	47.83	259	P	P	17 43 01.8	-0.6
	0.4nm,0.3s,baz=97,slow=7.6,SNR=18						
ASAR	Alice Springs	47.94	254	P	P	17 43 02.4	-0.9
	0.6nm,0.4s,baz=85,slow=7.8,SNR=25						

MAN 22 17:47:21, 13.92N×120.36E, h75km, mb4.5, ML3.4, MS3.2, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.21	210	eP	Pn	17 47 34.5	+2.2
LUBP				eS	Sn	17 47 42.9	+2.3
TGY	Tagaytay City	0.59	72⇓	eP	Pn	17 47 36.8	+1.6
NBP	Mount Natib	0.82	4⇓	eP	Pn	17 47 39.3	+1.6
SJMP	San Jose	1.63	153	eP	Pn	17 47 49.1	+1.3
BUSP	Coron	1.91	185	eP	Pn	17 47 52.4	+0.7
ENPP	El Nido	2.85	199	eP	Pn	17 48 05.2	+0.9

IDC 22 17:54:52.0±1.3, 26.61N×97.07E, h0km, mb3.1/5, mb1 3.2/6, mb1mx3.1/40, mbtmp3.1/6, ML3.3/1, Error ellipse: s-maj=60.2km s-min=18.9km az=68.0
ISCJB 22 17:54:52.2±0.9, 26.6N±0.1×97.1E±0.3, h15km, mb3.1/5, Error ellipse: s-maj=46.8km s-min=13.4km az=162.9
ISC 22 17:54:54.0±1.0, 26.6N±0.1×97.0E±0.1, h15km, n7, σ1.25/7, mb3.4/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	4.67	258	ex	Pn	17 56 04.0	-0.2
CMAR	Chiang Mai Arr	8.32	167	Pn	Pn	17 56 54.5	+0.3
	0.1nm,0.3s,baz=340,slow=13,SNR=2.8						
SONM	Songino Array	22.45	17	P	P	17 59 52.4	-0.1
	0.1nm,0.5s,baz=210,slow=11,SNR=2.9						
MKAR	Makanchi Array	23.25	334	P	P	17 59 59.6	-1.2
	0.8nm,0.6s,baz=152,slow=10,SNR=3.9						
KURBB	Kurchatov Arra	27.81	334	P	P	18 00 44.4	+1.9
	0.3nm,0.6s,baz=148,slow=10.0,SNR=4.0						
WRA	Warramunga Arr	58.80	138	P	P	18 04 51.0	-0.9
	0.2nm,0.6s,baz=320,slow=7.6,SNR=3.4						
ASAR	Alice Springs	61.44	141	P	P	18 05 10.3	+0.3
	0.1nm,0.4s,baz=323,slow=6.6,SNR=5.4						

ISCJB 22 18:26:13.1±0.7, 36.20N±0.08×137.31E±0.10, h268km±5km, mb3.5/2, Error ellipse: s-maj=15.3km s-min=10.4km az=136.7
JMA 22 18:26:14.6±0.1, 36.14N×137.20E, h259km±1km, M2.4
IDC 22 18:26:14.2±0.8, 36.26N×137.33E, h261km±8km, mb3.3/2, mb1 3.2/5, mb1mx2.7/28, mbtmp3.8/5, Error ellipse: s-maj=31.1km s-min=19.3km az=83.0
ISC 22 18:26:14.1±1.1, 36.2N±0.1×137.30E±0.09, h263km±8km, n14, σ0.97/21, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.02	31	P	Pn	18 26 47.8	0.0
JGN				S	S	18 27 13.6	-0.8
JNG	Nsakai	0.68	72	P	Pn	18 26 49.9	+0.8
JNG				S	S	18 27 17.0	+0.3
MAT	Matsushiro	0.81	65	P	Pn	18 26 50.2	+0.7
MAT				S	S	18 27 17.9	+0.5
MAT	Matsushiro	0.81	65	P	Pn	18 26 50.1	+0.6
MAT				S	S	18 27 18.0	+0.5
MJAR	Matsushiro Arr	0.81	65	P	Pn	18 26 50.1	+0.6
	5.3nm,0.3s,baz=244,slow=7.3,SNR=63						
MJAR				S	S	18 27 17.6	+0.1
	0.4nm,0.3s,baz=250,slow=13,SNR=6.0						
JRY	Ryogami san	1.31	98	S	S	18 27 23.2	+0.7
JWT	Wachi	1.80	240	P	Pn	18 26 55.4	-0.5
JKN2	Miekihoku	2.13	204	P	Pn	18 26 58.9	+0.1
JKN2				S	S	18 27 32.5	-1.8
JYT	Yasato	2.34	89	P	Pn	18 27 00.9	+0.3
JYT				S	S	18 27 35.7	-1.9
JNU	Nakatsue	6.12	242	P	Pn	18 27 43.5	-0.5
	0.4nm,0.3s,baz=51,slow=1.8,SNR=4.2						
ASAJ	Asahikawa	8.88	26	P	Pn	18 28 16.2	-2.2
	0.8nm,0.6s,baz=216,slow=8.7,SNR=11						
ASAJ				S	S	18 29 51.6	-7.3
	0.3nm,0.3s,baz=190,slow=18,SNR=4.6						
USRK	Ussuriysk Arra	8.96	335	P	Pn	18 28 19.4	+0.2
	0.2nm,0.3s,baz=134,slow=10,SNR=5.3						
WRA	Warramunga Arr	55.91	183	P	P	18 35 25.5	+0.5
	1.2nm,0.3s,baz=360,slow=7.7,SNR=41						
ASAR	Alice Springs	59.63	184	P	P	18 35 51.6	+0.8
	0.4nm,0.4s,baz=357,slow=5.9,SNR=22						

DDA 22 18:31:48.5, 38.42N×26.87E, h7km, MD2.9
CSEM 22 18:31:48.4±0.2, 38.40N×26.88E, h12km, MD2.9, Error ellipse: s-maj=3.9km s-min=3.6km az=21.0
THE 22 18:31:50.2, 38.39N×26.75E, h20km±5km, ML1.9/2, Error ellipse: s-maj=5.7km s-min=1.4km az=235.0
ISK 22 18:31:47.7, 38.36N×26.91E, h18km, MD2.9, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BLCB	Balcova	0.11	76	PG	Pg	18 31 51.9	+0.5
BLCB				eSG	Sg	18 31 54.2	+0.2
BLCB	Balcova	0.11	76	i Pg	Pg	18 31 51.9	+0.5
BLCB				eSg	Sg	18 31 54.2	+0.2
URLA	Izmir	0.25	270	i P	Pg	18 31 53.2	-0.2
URLA				i S	Sg	18 31 56.9	-0.5
URLA	Izmir	0.25	270	i P	Pg	18 31 53.2	-0.3
URLA				i S	Sg	18 31 56.9	-0.5
ZEY	˜zmir	0.34	250	i P	Pg	18 31 55.0	+0.1
ZEY				i S	Sb	18 32 00.7	+0.2
SMG	Samos	0.65	185	P	Pn	18 32 01.9	-0.2
SMG				S	Sn	18 32 13.7	+1.8
SMG	Samos	0.65	185	P	Pn	18 32 01.9	-0.2
SMG				S	Sn	18 32 13.7	+1.8
CHOS	Chios island	0.67	273	P	Pb	18 32 00.8	-0.2
CHOS				S	Sb	18 32 09.3	-0.8
CHOS	Chios island	0.67	273	PG	Pg	18 32 01.8	+0.6
CHOS				eSG	Sg	18 32 10.9	+0.7
CHOS	Chios island	0.67	273	P	Pb	18 32 00.8	-0.2
CHOS	Chios island	0.67	273	i Pg	Pn	18 32 01.8	-0.7
CHOS				S	Sb	18 32 09.3	-0.8
CHOS				eSg	Sg	18 32 10.9	+0.7
AKHS	Akhisar	0.88	53	i P	Pn	18 32 05.6	+0.4
AKHS				i S	Sn	18 32 18.1	+0.6
AKHS	Akhisar	0.88	53	i P	Pn	18 32 05.6	+0.4
AKHS				i S	Sn	18 32 18.1	+0.6
AKS	Akhisar	0.88	53	ePG	Pn	18 32 05.1	-0.1
AKS	Akhisar	0.88	53	ePg	Pn	18 32 05.1	-0.1
PRK	Paraskevi	1.02	331	P	Pn	18 32 07.2	+0.1
PRK				S	Sg	18 32 20.6	-0.2
PRK	Paraskevi	1.02	331	P	Pn	18 32 07.2	+0.1
PRK				S	Sg	18 32 20.6	-0.2
AYDN	Tasoluk	1.03	132	i P	Pg	18 32 09.9	+2.0
AYDN				i S	Sg	18 32 25.3	+3.7
AYDN	Tasoluk	1.03	132	i P	Pg	18 32 09.9	+2.0
AYDN				i S	Sg	18 32 25.3	+3.7
SIGR	SIGRI	1.19	316	P	Pb	18 32 09.6	-0.1
SIGR				S	Sb	18 32 22.9	-1.8
SIGR	SIGRI	1.19	316	ePN	Pb	18 32 09.6	-0.1
SIGR	SIGRI	1.19	316	P	Pb	18 32 09.6	-0.1
SIGR				S	Sb	18 32 22.9	-1.8
BDRM	Kayabasi	1.36	162	i P	Pg	18 32 16.8	+2.8
BDRM				i S	Sg	18 32 33.8	+2.0
BDRM	Kayabasi	1.36	162	i P	Pg	18 32 16.8	+2.8
BDRM				i S	Sg	18 32 33.8	+2.0
KULA	Kula-Manisa	1.38	83	ePN	Pb	18 32 12.8	-0.3
KULA	Kula-Manisa	1.38	83	ePn	Pb	18 32 12.8	-0.4
BALB	Balikesir	1.48	30	ePN	Pb	18 32 14.8	0.0
BALB	Balikesir	1.48	30	ePn	Pb	18 32 14.8	0.0
BALY	Balya	1.49	22	i P	Pb	18 32 14.7	-0.2
BALY				i S	Sg	18 32 36.5	+0.6
BALY	Balya	1.49	22	i P	Pb	18 32 14.7	-0.2
BALY				i S	Sg	18 32 36.5	+0.6
EZN	Ezine	1.53	343	ePN	Pb	18 32 15.6	0.0
EZN	Ezine	1.53	343	ePn	Pb	18 32 15.6	0.0
YER	Yerkesik	1.64	138	ePN	Pn	18 32 16.4	+0.7
YER	Yerkesik	1.64	138	ePn	Pn	18 32 16.4	+0.7
APE	Apeiranthos	1.69	221	ePN	Pb	18 32 17.5	-0.8
APE	Apeiranthos	1.69	221	ePn	Pb	18 32 17.5	-0.8
DURS	Dursunbey	1.74	44	i P	Pn	18 32 15.2	-1.9
DURS				i S	Sb	18 32 40.9	+0.1
DURS	Dursunbey	1.74	44	i P	Pn	18 32 15.2	-1.9
DURS				i S	Sb	18 32 40.9	0.0
KRBG	Karabiga-Canak	2.05	8	ePN	Pn	18 32 21.5	+0.2
KRBG	Karabiga-Canak	2.05	8	ePn	Pn	18 32 21.5	+0.2
GELI	Tayfur-Gelibol	2.06	351	ePN	Pb	18 32 23.1	-1.5
GELI	Tayfur-Gelibol	2.06	351	ePn	Pb	18 32 23.1	-1.5
MRMT	Marmara Adasi	2.30	13	ePN	Pn	18 32 25.5	+0.6
MRMT	Marmara Adasi	2.30	13	ePn	Pn	18 32 25.5	+0.6
ENEZ	Enez	2.44	346	ePN	Pn	18 32 28.7	+2.0
ENEZ	Enez	2.44	346	ePn	Pn	18 32 28.7	+2.0
ALN	Alexandroupoli	2.62	346	ePN	Pn	18 32 30.8	+1.6
ALN	Alexandroupoli	2.62	346	ePn	Pn	18 32 30.8	+1.7
ARMT	Armutlu	2.67	34	ePN	Pn	18 32 30.2	+0.4
ARMT	Armutlu	2.67	34	ePn	Pn	18 32 30.3	+0.4
ELL	Elmali	2.87	123	ePN	Pn	18 32 33.4	+0.6
ELL	Elmali	2.87	123	ePn	Pn	18 32 33.4	+0.6

*ISCJB **22** 18:43:21.0±0.8, 70.°9N±0.°1×6.°44W±0.°10, h9km, Error ellipse: s-maj=15.4km s-min=4.7km az=1.7*
*CSEM **22** 18:43:22.2±0.2, 70.°84N×6.°53W, h2km, ML3.3, Error ellipse: s-maj=8.8km s-min=3.2km az=4.0*
*NAO **22** 18:43:22.0±4.5, 70.°79N×6.°61W, h4km±56km, ML2.7*
*BER **22** 18:43:23.5±0.7, 70.°83N×6.°55W, h2km±32km, MD2.8, ML3.3, ML2.7(NAO)*
ISC 22 18:43:23.0±1.0, 70.°8N±0.°1×6.°63W±0.°06, h9km, n20, σ0§61/28, 6D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNE	Jan Mayen East	0.57	287	⇓i P	Pg	18 43 34.1	0.0
JNE				eS	Sg	18 43 41.8	+0.3
JNE				IAML		18 43 45.5	
	comp=Z,2μm,0.4s						
JNE	Jan Mayen East	0.57	287	⇓i P	Pg	18 43 34.1	0.0
	SNR=91						
JNE				eS	Sg	18 43 41.8	+0.3
	SNR=91						
JNW	Jan Mayen West	0.62	290	⇓i P	Pg	18 43 34.8	-0.3
JNW				eS	Sg	18 43 43.0	-0.2
JNW				IAML		18 43 43.7	
	comp=Z,2μm,0.2s						
JNW	Jan Mayen West	0.62	290	⇓i P	Pg	18 43 34.8	-0.3
	SNR=91						
JNW				eS	Sg	18 43 43.0	-0.2
	SNR=91						
JMIC	Jan Mayen	0.64	285	Pg	Pg	18 43 34.9	-0.4
JMIC				Lg	Lg	18 43 43.4	
JMIC	Jan Mayen	0.64	285	eP	Pg	18 43 34.9	-0.4
JMIC				eSg	Sg	18 43 43.2	-0.4
JMIC	Jan Mayen	0.64	285	eP	Pg	18 43 34.9	-0.4
	SNR=91						
JMIC				eSg	Sg	18 43 43.2	-0.4
	SNR=91						
JMI	Jan Mayen	0.70	279	⇓i P	Pg	18 43 36.3	-0.2
JMI				eS	Sg	18 43 45.8	+0.2
JMI				IAML		18 43 50.3	
	comp=Z,495nm,0.3s						
JMI	Jan Mayen	0.70	279	⇓i P	Pg	18 43 36.3	-0.2
	SNR=91						
JMI				eS	Sg	18 43 45.8	+0.2
	SNR=91						
HSP	Hornsund	8.66	35	Pn	Pn	18 45 28.1	-0.2
HSP	Hornsund	8.66	35	Pn	Pn	18 45 28.1	-0.2
SPA0	Spitsbergen Ar	9.50	29	Pn	Pn	18 45 40.7	+0.9
	baz=223,slow=16						
SPA0	Spitsbergen Ar	9.50	29	Pn	Pn	18 45 40.7	+0.9
	baz=223,slow=16						
SPA0	Spitsbergen Ar	9.50	29	Pn	Pn	18 45 40.7	+0.9
	SNR=53						
ARA0	ARCESS Array S	10.91	81	Pn	Pn	18 45 57.8	-1.2
	baz=292,slow=12						
ARA0	ARCESS Array S	10.91	81	Pn	Pn	18 45 57.8	-1.2
	baz=292,slow=12						
ARA0	ARCESS Array S	10.91	81	Pn	Pn	18 45 57.8	-1.2
	SNR=53						
HFS	Hagfors	13.55	132	Pn	Pn	18 46 35.7	+0.6
	baz=323,slow=16						
HFS	Hagfors	13.55	132	Pn	Pn	18 46 35.7	+0.6
	baz=323,slow=16						
HFS	Hagfors	13.55	132	Pn	Pn	18 46 35.7	+0.6
	SNR=53						

*IDC **22** 18:43:45.6±0.8, 23.°73S×175.°84W, h0km, mb4.5/12, mb1 4.6/14, mb1mx4.5/24, mbtmp4.4/14, ML3.8/2, MS4.2/19, Ms1 4.2/19, ms1mx1.4/26, Error ellipse: s-maj=30.9km s-min=18.4km az=154.0*
*BJI **22** 18:43:49.3, 23.°58S×175.°46W, h29km, mB5.5/14, mb5.1/26, Ms5.1/9, Ms7 4.7/9*
*NEIC **22** 18:43:51.0±0.6, 23.°69S×175.°88W, h31km±4km, mb5.0/24, Error ellipse: s-maj=10.5km s-min=6.1km az=131.0*
*ISCJB **22** 18:43:50.1±0.3, 23.°80S±0.°06×175.°80W±0.°07, h34km, mb4.9/42, MS4.4/22, Error ellipse: s-maj=10.0km s-min=6.7km az=39.0*
*GCMT **22** 18:43:51.0±0.3, 23.°64S×175.°29W, h25km±1km, MW5.0/69, Moment Tensor Solution. s28,c41; s69,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr2.47±.17; Mθθ0.17±.12; Mφφ-2.64±.11; Mrθ0.03±.26; Mrφ-0.78±.07; Mθφ2.22±.21; Best double couple: Mo3.46800×10^{16} NP1:φs5.00000°, δ65.00000°, λ81.00000°. NP2: φs206.00000°, δ26.00000°, λ109.00000°. Principal axes: T 3.3200, Plg69.0000°, Azm257.0000°; N 0.3000, Plg8.0000°, Azm9.0000°; P -3.6160, Plg20.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **22** 18:43:53.5±1.5, 23.°61S×176.°20W, h33km, mb5.3/13 Error ellipse: s-maj=13.7km s-min=12.4km az=29.5*
ISC 22 18:43:51.0±0.5, 23.°87S±0.°08×175.°63W±0.°07, h33km±1km, h32km:pP-P, n188, σ1§56/203, mb4.9/44, MS4.4/22, 31C-7D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	5.74	200	Sn	Sn	18 46 21.9	+3.1
	57nm,0.3s,baz=75,slow=22,SNR=4.2						
NIUE	Niue	7.13	49	P	Pn	18 45 25.4	-7.8
	baz=6.7,SNR=17						
MSVF	Nonsavu	8.49	315	Pn	Pn	18 45 54.0	+2.1
	709nm,0.9s,SNR=14						
MSVF	Nonsavu	8.49	315	eP	Pn	18 45 54.0	+2.1
MSVF	Nonsavu	8.49	315	ePn	Pn	18 45 54.0	+2.1
RAR	Rarotonga	14.89	83	Pn	Pn	18 47 13.2	-6.0
	13nm,0.3s,baz=254,slow=5.8,SNR=18						
RAR				LR	LR	18 53 23.7	
	comp=Z,864nm,18.2s,baz=240,slow=38						
URZ	Urewera	15.63	202	Pn	Pn	18 47 28.5	-0.3
	0.8nm,0.3s,baz=342,slow=2.7,SNR=4.0						
URZ				Sn	Sn	18 50 11.4	-10
	0.7nm,0.3s,baz=83,slow=23,SNR=6.4						
DZM	Mont Dzumac	16.61	273	eP	P	18 47 46.6	+2.9
	85nm,1.4s						
DZM				eLR	LR	18 51 26.1	
	1μm,22.9s						
DZM	Mont Dzumac	16.61	273	Pn	Pn	18 47 39.6	-1.9
	0.2nm,0.3s,baz=110,slow=19,SNR=2.3						
DZM				LR	LR	18 51 31.7	
	comp=Z,197nm,19.0s,baz=106,slow=28						
DZM	Mont Dzumac	16.61	273	eP	Pn	18 47 40.0	-1.5
PAE	Paea	25.11	81	eT	T	19 15 06.7	
	4.1nm,0.3s						
PPT2	Papeete2	25.13	81	eLQ	LQ	18 54 02.6	
	635nm,24.0s						
PPT2				eLR	LR	18 55 17.4	
	2μm,27.2s,baz=248						
PPT2	Papeete2	25.13	81	eT	T	19 15 09.5	
	9.1nm,0.4s						
PPT	Papeete	25.14	80	LR	LR	18 58 26.8	
	comp=Z,513nm,18.9s,baz=260,slow=35						
MEH	Mehetia	26.41	82	eT	T	19 16 45.6	
	14nm,0.2s						
HNR	Honiara	27.38	298	LR	LR	18 59 43.2	
	comp=Z,541nm,18.1s,baz=130,slow=35						
CTAO	Charters Tower	35.48	269	eP	P	18 50 43.0	-1.8
CTAO				pmax	pmax		
	comp=Z,38nm,1.3s						
CTAO	Charters Tower	35.48	269	eP	P	18 50 43.0	-1.8
	comp=Z,38nm,1.3s						
RKT	Rikitea	37.21	97	eLR	LR	19 00 56.8	
	comp=Z,623nm,26.0s						
RKT	Rikitea	37.21	97	eT	T	19 30 23.3	
	comp=Z,2.4nm,0.4s						
PMG	Port Moresby	38.30	286	eP	P	18 51 07.1	-1.7
PMG				pmax	pmax		
	comp=Z,28nm,0.9s						
PMG	Port Moresby	38.30	286	P	P	18 51 06.3	-2.5
	comp=Z,28nm,1.1s,baz=129,slow=14,SNR=3.2						
PMG	Port Moresby	38.30	286	eP	P	18 51 07.1	-1.7
	comp=Z,28nm,0.9s						
STKA	Stephens Creek	38.45	248	P	P	18 51 08.4	-1.5
	comp=Z,4.3nm,1.0s,baz=83,slow=9.7,SNR=5.9						
STKA				LR	LR	19 05 49.4	
	comp=Z,688nm,18.8s,baz=67,slow=34						
AS01	Alice Springs	45.94	260	eP	P	18 52 08.7	-2.4
ASAR	Alice Springs	45.98	260	P	P	18 52 09.4	-2.0
	comp=Z,7.3nm,0.9s,baz=94,slow=8.4,SNR=49						
ASAR				LR	LR	19 10 33.2	
	comp=Z,556nm,19.4s,baz=105,slow=35						
WRAB	Tennant Creek	46.39	265	P	P	18 52 11.5	-3.1
	comp=Z,70nm,0.9s,SNR=7.8						
WRAB	Tennant Creek	46.39	265	c iP	P	18 52 12.0	-2.6
WRAB				pmax	pmax		
	comp=Z,56nm,1.6s						
WRAB	Tennant Creek	46.39	265	eP	P	18 52 11.7	-3.0
	comp=Z,17nm,1.1s						
WRA	Warramunga Arr	46.40	265	P	P	18 52 11.3	-3.4
	comp=Z,9.1nm,0.8s,baz=103,slow=8.4,SNR=40						
WRA				LR	LR	19 10 32.3	
	comp=Z,518nm,19.7s,baz=90,slow=35						
SBA	Scott Base	54.69	185	eP	P	18 53 20.6	+4.2
SBA	Scott Base	54.69	185	eP	P	18 53 20.6	+4.2
NWAO	Narrogin (SRO)	58.88	245	LR	LR	19 18 06.2	
	comp=Z,212nm,18.3s,slow=35						
BATI	Baumata	59.22	272	LR	LR	19 20 18.4	
	comp=Z,552nm,18.1s,slow=37						
JCJ	Chichijima	65.01	319	LR	LR	19 17 12.1	
	comp=Z,282nm,22.0s,slow=31						
MJAR	Matsushiro Arr	74.21	323	LR	LR	19 23 18.4	
	comp=Z,158nm,21.9s,baz=155,slow=32						
YSS	Yuzh-Sakhalins	79.88	332	eP	P	18 55 56.5	+0.3
PEA0	Petropavlovsk-	80.08	344	eP	P	18 55 56.1	-1.1
PETK	Petropavlovsk-	80.08	344	P	P	18 55 56.4	-0.7
	comp=Z,7.3nm,0.8s,baz=130,slow=6.6,SNR=8.4						
PETK				LR	LR	19 26 14.3	
	comp=Z,137nm,20.0s,baz=161,slow=32						
KSRS	Korea Array	80.85	318	P	P	18 56 00.6	-1.0
	comp=Z,1.2nm,0.9s,baz=147,slow=7.7,SNR=4.9						
KSRS				LR	LR	19 26 19.4	
	comp=Z,187nm,21.5s,baz=132,slow=32						
KSAR	Wonju Array Be	80.86	318	P	P	18 56 00.6	-1.1
KSAR	Wonju Array Be	80.86	318	P	P	18 56 00.6	-1.1
KS01	Wonju Array Si	80.88	318	eP	P	18 56 01.9	+0.1
WAKR	Walker	81.36	41	eP	P	18 56 04.7	0.0
	comp=Z,10nm,1.3s						
NV01	Mina Array Sit	82.00	42	eP	P	18 56 08.1	0.0
NVAR	Mina Array Bea	82.00	42	P	P	18 56 08.1	+0.1
	comp=Z,0.6nm,0.5s,baz=225,slow=6.1,SNR=8.0						
TPH	Tonopah	82.45	43	eP	P	18 56 11.0	+0.6
TPH				pmax	pmax		
	comp=Z,11nm,1.4s						
TPH	Tonopah	82.45	43	eP	P	18 56 11.0	+0.6
	comp=Z,11nm,1.4s						
H03N2	Juan Fernandez	82.45	123	T	T	20 27 50.4	
	baz=247,slow=73,SNR=9.0						
H03N3	Juan Fernandez	82.45	123	T	T	20 27 53.9	
	baz=247,slow=73,SNR=3.4						
H03N1	Juan Fernandez	82.47	123	T	T	20 27 47.9	
	baz=247,slow=73,SNR=9.0						
USRK	Ussuriysk Arra	82.97	325	P	P	18 56 11.8	-0.9
	comp=Z,4.2nm,0.9s,baz=118,slow=5.5,SNR=7.3						
USRK				LR	LR	19 28 28.5	
	comp=Z,69nm,20.9s,baz=142,slow=32						
K05A	Summer Lake	83.25	37	eP	P	18 56 15.0	+0.6
	comp=Z,50nm,1.8s						
TUC	Tucson	83.37	51	eP	P	18 56 16.3	+1.2
TUC				pmax	pmax		
	comp=Z,14nm,1.4s						
TUC	Tucson	83.37	51	eP	P	18 56 16.3	+1.2
	comp=Z,14nm,1.4s						
NJ2	Nanjing	83.70	309	eP	P	18 56 17.3	+0.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
QIZ	Qiongzhong	84.22	294	P	P	18 56 20.3	+0.6
QIZ				S	S	19 06 45.8	+2.8
WVOR	Wild Horse Val	84.33	39	eP	P	18 56 28.9	+9.0
WVOR	Wild Horse Val	84.33	39	epP	P	18 56 28.9	+9.0
MDJ	Mudanjiang	84.52	324	P	P	18 56 22.3	+1.7
MDJ				pP	pP	18 56 32.3	+1.2
MDJ				SS	SS	19 12 19.8	+3.0
CCUT	Cedar City	84.58	45	eP	P	18 56 22.8	+1.4
	comp=Z,9.1nm,1.2s						
SNAA	Sanae	84.59	178	eP	P	18 56 20.9	+0.1
SNAA				pmax	pmax		
	comp=Z,16nm,1.2s						
KNB	Kanab	84.62	46	eP	P	18 56 22.7	+1.2
KNB				pmax	pmax		
	comp=Z,15nm,1.3s						
KNB	Kanab	84.62	46	eP	P	18 56 22.7	+1.2
	comp=Z,15nm,1.3s						
WUAZ	Wupatki	84.74	48	eP	P	18 56 23.1	+1.0
	comp=Z,7.7nm,1.1s						
I07A	Izee	84.90	37	eP	P	18 56 23.1	+0.4
	comp=Z,49nm,2.5s						
PLCA	Paso Flores	85.38	133	LR	LR	19 24 51.9	
	comp=Z,54nm,21.4s,baz=268,slow=29						
G08A	Pilot Rock	85.98	36	eP	P	18 56 28.2	+0.2
	comp=Z,74nm,3.0s						
CN2	Changchun	86.29	322	eP	P	18 56 29.1	-0.3
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MNTX	Cornudas Mount	86.94	53	eP	P	18 56 33.9	+0.9
	comp=Z,7.5nm,0.9s						
TMUT	Trail Mountain	86.97	44	eP	P	18 56 33.4	+0.1
	comp=Z,3.3nm,0.7s						
TMUT				epP	pP	18 56 43.5	-0.3
TX31	Lajitas Ar. Si	87.05	56	eP	P	18 56 34.0	+0.3
TXAR	Lajitas Array	87.05	56	P	P	18 56 34.3	+0.7
	comp=Z,4.5nm,0.8s,baz=216,slow=7.7,SNR=40						
TXAR				LR	LR	19 30 13.3	
	comp=Z,118nm,18.8s,baz=0.0,slow=32						
TIA	Tai'an	87.15	312	⇑P	P	18 56 34.6	+0.8
TIA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GAMB	Gambell	87.40	2	eP	P	18 56 34.5	+0.2
	comp=Z,5.3nm,0.8s						
GSI	Gunungsitoli	87.59	272	eP	P	18 56 36.5	0.0
	comp=Z,21nm,1.0s						
ANMO	Albuquerque	87.82	50	eP	P	18 56 37.8	+0.4
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ANMO	Albuquerque	87.82	50	eP	P	18 56 37.8	+0.4
	comp=Z,6.9nm,1.2s						
KTH	Kantishna Hill	89.27	11	epP	pP	18 56 53.9	0.0
TRF	Thorofare Moun	89.29	11	eP	P	18 56 42.5	-1.1
	comp=Z,173nm,2.9s						
TNA	Tin City	89.33	3	eP	P	18 56 43.1	-0.3
	comp=Z,5.8nm,0.9s						
GYA	Guiyang	90.20	299	P	P	18 56 49.3	+0.6
GYA				pP	pP	18 57 01.0	+1.8
GYA				PP	PP	19 00 25.4	+2.5
GYA				SKS	SKSac	19 07 15.8	-1.9
GYA				S	S	19 07 38.5	-2.1
GYA				sS	sS	19 07 55.9	-2.2
GYA				SS	SS	19 13 42.0	+1.2
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.6s						
GYA				LR	LR		
	comp=Z,580nm,20.8s						
GYA				LR	LR		
	comp=Z,470nm,22.3s						
GYA				LR	LR		
	comp=Z,540nm,21.5s						
BOZ	Bozeman (W)	90.30	39	eP	P	18 56 49.4	+0.7
BOZ				pmax	pmax		
	comp=Z,66nm,3.0s						
BOZ	Bozeman (W)	90.30	39	eP	P	18 56 49.4	+0.7
	comp=Z,66nm,3.0s						
DOT	Dot Lake	90.68	14	eP	P	18 56 49.7	-0.2
	comp=Z,16nm,1.6s						
COLA	College	91.03	11	⇓eP	P	18 56 51.1	-0.3
COLA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
IL1	Eielson Array	91.12	12	eP	P	18 56 50.3	-1.5
ILAR	Eielson Array	91.12	12	P	P	18 56 50.8	-1.0
	comp=Z,1.2nm,1.0s,baz=219,slow=6.2,SNR=10						
AMTX	Amarillo	91.20	52	eP	P	18 56 52.0	-1.0
	comp=Z,10nm,0.4s						
XAN	Xi'an	91.90	306	P	P	18 56 55.3	-1.0
XAN				pmax	pmax		
	comp=Z,15nm,4.9s						
DAWY	Dawson	92.10	15	eP	P	18 56 57.0	+0.5
BILL	Bilibino	92.61	353	⇑eP	P	18 56 57.9	-0.7
BILL				pmax	pmax		
	comp=Z,5.0nm,1.9s						
BILL	Bilibino	92.61	353	eP	P	18 56 58.1	-0.6
	comp=Z,3.9nm,1.0s						
KMI	Kunming	92.81	296	P	P	18 57 02.4	+1.5
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CM01	Chiang Mai Arr	93.26	289	eP	P	18 57 03.6	+0.8
HHC	Hu-ho-hao-te	93.26	313	eP	P	18 57 02.3	-0.2
HHC				pP	pP	18 57 12.4	-0.6
HHC				sP	sP	18 57 16.4	-0.4
HHC				SKS	SKSac	19 07 32.6	-1.7
HHC				S	S	19 08 04.4	-3.1
HHC				sS	sS	19 08 22.6	-2.5
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,300nm,6.3s						
HHC				LR	LR		
	comp=Z,250nm,17.9s						
HHC				LR	LR		
	comp=Z,310nm,17.8s						
HHC				LR	LR		
	comp=Z,260nm,19.4s						
CMAR	Chiang Mai Arr	93.28	289	P	P	18 57 03.5	+0.6
	comp=Z,5.2nm,0.9s,baz=131,slow=3.2,SNR=44						
CMAR				LR	LR	19 37 50.6	
	comp=Z,27nm,19.8s,baz=154,slow=35						
CHTO	Chiang Mai	93.43	289	eP	P	18 57 04.2	+0.6
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHTO	Chiang Mai	93.43	289	eP	P	18 57 04.2	+0.6
	comp=Z,8.7nm,0.9s						
CD2	Chengdu	94.43	302	eP	P	18 57 09.0	+1.0
CD2				pP	pP	18 57 20.4	+1.8
CD2				sP	sP	18 57 24.6	+2.2
CD2				PP	PP	19 00 59.6	+3.5
CD2				SKS	SKSac	19 07 39.9	-1.1
CD2				S	S	19 08 15.9	-2.2
CD2				sS	sS	19 08 35.0	-0.7
CD2				SS	SS	19 14 43.3	+1.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.6s						
LZH	Lanzhou	96.54	306	eP	P	18 57 18.3	+0.6
LZH				pP	pP	18 57 29.5	+1.2
LZH				sP	sP	18 57 33.3	+1.3
LZH				ePP	PP	19 01 15.3	+2.8
LZH				SKS	SKSac	19 07 53.5	+1.3
LZH				eS	S	19 08 36.3	-0.1
LZH				eSS	SS	19 15 14.5	+3.2
LZH				pmax	pmax		
	comp=Z,16nm,1.6s						
LZH				pmax	pmax		
	comp=Z,93nm,9.4s						
LZH				LR	LR		
	comp=Z,220nm,17.0s						
LZH				LR	LR		
	comp=Z,200nm,17.3s						
LZH				LR	LR		
	comp=Z,320nm,19.6s						
YKA	Yellowknife Ar	98.65	24	P	P	18 57 25.5	-0.7
	comp=Z,0.2nm,0.7s,baz=228,slow=4.9,SNR=4.3						
LPAZ	La Paz	98.76	112	LR	LR	19 35 13.6	
	comp=Z,99nm,18.9s,baz=210,slow=31						
SONM	Songino Array	99.72	318	LR	LR	19 39 27.5	
	comp=Z,45nm,18.9s,baz=124,slow=34						
GTA	Gaotai	100.78	308	eP	Pdif	18 57 39.9	+3.3
GTA				pP	pP	18 57 49.8	+2.5
GTA				sP	sP	18 57 53.8	+2.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.6s						
WMQ	Urumqi	110.77	310	Pdif	Pdif	18 58 21.8	+1.0
WMQ				PP	PP	19 03 02.6	+4.2
WMQ				SKS	SKSdf	19 09 27.8	-2.5
WMQ				SS	SS	19 18 27.4	+0.8
WMQ				LR	LR		
	comp=Z,44nm,23.4s						
WMQ				LR	LR		
	comp=Z,140nm,24.4s						
WMQ				LR	LR		
	comp=Z,120nm,22.4s						
ZALV	Zalesovo Beam	114.47	320	PKP	PKPdf	19 02 25.5	-1.8
	comp=Z,0.6nm,0.6s,baz=103,slow=1.0,SNR=4.4						
MKAR	Makanchi Array	115.08	312	PKP	PKPdf	19 02 26.9	-1.8
	comp=Z,0.7nm,0.8s,baz=76,slow=2.4,SNR=5.4						
BDFB	Brasilia	115.50	122	eP	Pdif	18 58 51.2	+8.6
BDFB	Brasilia	115.50	122	ePdif	Pdif	18 58 51.2	+8.6
PKME	Peaks-Kenny Pk	117.82	50	ePdif	Pdif	18 58 49.9	-2.1
PKME				ePKPdf	PKPdf	19 02 33.6	-0.3
KURK	Kurchatov	117.94	316	ePKIKP	PKPdf	19 02 32.2	-1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KURK	Kurchatov	117.94	316	eP	PKPdf	19 02 32.2	-1.8
KSH	Kashi	118.58	303	ePKP	PKPdf	19 02 36.1	+0.3
KSH				esPKP		19 02 52.3	
KKAR	Karatay Array	123.03	307	ePKIKP	PKPdf	19 02 43.3	-0.8
KKAR	Karatay Array	123.03	307	ePKPdf	PKPdf	19 02 43.3	-0.8
BRVK	Borovoye	123.11	319	⇓iPKIKP	PKPdf	19 02 43.4	-0.5
BRVK	Borovoye	123.11	319	eP	PKPdf	19 02 43.1	-0.8
KBL	Kabul	123.39	297	ePKIKP	PKPdf	19 02 45.4	+0.1
KBL	Kabul	123.39	297	ePKPdf	PKPdf	19 02 45.4	+0.1
ARU	Arti	129.20	324	i PKIKP	PKPdf	19 02 55.6	+0.2
ARU						19 05 03.5	
FINES	FINESS Array B	139.60	344	PKP	PKPdf	19 03 14.4	-0.3
	comp=Z,2.6nm,0.9s,baz=62,slow=4.5,SNR=4.9						
OBN	Obninsk	140.75	331	ePKIKP	PKPdf	19 03 15.3	-1.7
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	NORSAR Subarra	142.55	355	P	PKPdf	19 03 26.5	+6.4
	comp=Z,1.0nm,0.8s,baz=3.1,slow=6.5						
KIV	Kislovodsk	142.85	312	ePKIKP	PKPdf	19 03 22.3	+1.0
KIV				pmax	pmax		
	comp=Z,17nm,1.3s						
KIV				MLR	MLR		
	comp=Z,108nm,20.0s						
SUW	Suwalki	146.74	340	ePKIKP	PKPbc	19 03 29.4	+0.2
SUW				e		19 03 39.3	
SUW	Suwalki	146.74	340	ePKP	PKPab	19 03 30.7	+0.2
SUW	Suwalki	146.74	340	ePKPdf	PKPbc	19 03 29.4	+0.2
SUW				epPKPdf	pPKPdf	19 03 39.3	+0.9
AKASG	Malin Array Be	147.01	331	PKPbc	PKPbc	19 03 28.6	+0.6
	comp=Z,6.1nm,0.7s,baz=40,slow=3.8,SNR=48						
KIEV	Kiev	147.02	331	ePKPdf	PKPdf	19 03 27.8	-0.3
AK11	Malin Array Si	147.05	331	ePKPdf	PKPdf	19 03 28.9	+0.8
MALT	Malatya	147.68	305	⇑PKIKP	PKPbc	19 03 31.3	-1.2
MALT	Malatya	147.68	305	⇑iP	PKPbc	19 03 31.3	-1.2
ESK	Eskdalemuir	148.09	8	i PKP2	PKPab	19 03 35.3	-0.4
LVV	L'vov	149.88	334	ePKHKP	PKPbc	19 03 36.7	-0.9
KWP	Kalwaria Pacla	150.54	335	⇑PKIKP	PKPbc	19 03 37.6	-1.7
KWP	Kalwaria Pacla	150.54	335	ePKP	PKPbc	19 03 37.5	-1.8
KWP	Kalwaria Pacla	150.54	335	⇑iP	PKPbc	19 03 37.5	-1.8
BRTR	Keskin Array B	150.69	310	PKPbc	PKPbc	19 03 39.2	-0.9
	comp=Z,3.7nm,0.8s,baz=145,slow=2.7,SNR=17						
BURAR	Bucovina Array	151.06	330	⇓PKIKP	PKPbc	19 03 39.7	-1.0
BURAR	Bucovina Array	151.06	330	⇓iP	PKPbc	19 03 39.7	-1.0
OJC	Ojcow	151.07	339	ePKIKP	PKPdf	19 03 35.1	+0.4
OJC	Ojcow	151.07	339	ePKPdf	PKPdf	19 03 35.1	+0.4
OJC				ePKPbc	PKPbc	19 03 40.0	-0.5
TESR	Tescani	151.17	327	⇑iP	PKPbc	19 03 40.2	-0.6
STHS	Stebnicka Huta	151.26	337	ePKIKP	PKPbc	19 03 41.2	+0.2
STHS	Stebnicka Huta	151.26	337	ePKP	PKPbc	19 03 41.2	+0.2
CFR	Carcaliu	151.28	324	⇑PKIKP	PKPbc	19 03 40.8	-0.3
CFR	Carcaliu	151.28	324	⇑iP	PKPbc	19 03 40.8	-0.3
UZH	Uzhgorod	151.51	335	ePKIKP	PKPbc	19 03 41.0	-0.5
UZH				e		19 03 49.3	
KSP	Ksiaz	151.53	344	ePKIKP	PKPbc	19 03 41.7	+0.2
KSP	Ksiaz	151.53	344	ePKP	PKPbc	19 03 40.9	-0.6
VRI	Vrincioaia	151.57	326	⇑PKIKP	PKPbc	19 03 41.7	-0.1
VRI	Vrincioaia	151.57	326	⇑iP	PKPbc	19 03 41.7	-0.1
CRVS	Cervenica-Dubn	151.61	336	ePKIKP	PKPbc	19 03 41.7	-0.1
CRVS				e		19 03 49.6	
CRVS	Cervenica-Dubn	151.61	336	ePKP	PKPbc	19 03 41.7	-0.1
PLOR	Plostina	151.62	326	⇑PKIKP	PKPbc	19 03 39.9	-2.0
PLOR	Plostina	151.62	326	⇑iP	PKPbc	19 03 39.9	-2.0
CLL	Collm	151.80	348	⇑iPKIKP	PKPbc	19 03 42.0	-0.1
CLL				i		19 03 52.3	
CLL				pmax	pmax		
	comp=Z,16nm,0.9s						
CLL				pmax	pmax		
	comp=Z,15nm,0.9s						
CLL	Collm	151.80	348	⇑iPKPbc	PKPbc	19 03 42.0	-0.1
	comp=Z,15nm,0.9s						
CLL				epPKPdf	pPKPdf	19 03 46.0	-0.6
CLL				i PKPab	PKPab	19 03 52.3	+1.2
	comp=Z,13nm,0.9s						
UPC	Upice	151.90	344	ePKIKP	PKPbc	19 03 42.5	+0.1
UPC				e		19 03 51.3	
UPC				e		19 03 59.2	
UPC	Upice	151.90	344	⇑ePKP	PKPbc	19 03 42.5	+0.1
UPC				ePKPAB	PKPab	19 03 51.3	-0.3
UPC				epPKP	pPKPdf	19 03 59.2	+12
OKC	Ostrava-Krasne	151.92	341	ePKIKP	PKPbc	19 03 42.5	+0.1
OKC				e		19 03 53.3	
OKC	Ostrava-Krasne	151.92	341	⇑ePKP	PKPbc	19 03 42.5	+0.1
OKC				ePKPAB	PKPab	19 03 53.3	+1.7
OKC				epPKP	pPKPdf	19 04 00.2	+13
DPC	Dobruska-Polom	151.97	344	ePKIKP	PKPdf	19 03 36.0	-0.1
DPC				e		19 03 42.5	
DPC				e		19 03 51.1	
DPC	Dobruska-Polom	151.97	344	ePKPDF	PKPdf	19 03 36.0	-0.1
DPC				⇑ePKP	PKPbc	19 03 42.5	-0.1
DPC				ePKPAB	PKPab	19 03 51.1	-0.8
BRG	Berggiesshubel	152.03	347	ePKP	PKPbc	19 03 42.1	-0.5
	comp=Z,11nm,0.9s						
BRG	Berggiesshubel	152.03	347	ePKIKP	PKPbc	19 03 42.2	-0.5
BRG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KRLC	Kraliky	152.10	343	ePKIKP	PKPbc	19 03 42.7	-0.2
KRLC				e		19 03 51.8	
KRLC				e		19 03 58.6	
KRLC	Kraliky	152.10	343	⇑ePKP	PKPbc	19 03 42.7	-0.2
KRLC				ePKPAB	PKPab	19 03 51.8	-0.7
KRLC				epPKP	pPKPdf	19 03 58.6	+11
MORC	Moravsky Berou	152.16	342	⇓PKIKP	PKPbc	19 03 43.0	0.0
MORC	Moravsky Berou	152.16	342	⇓iP	PKPbc	19 03 43.0	0.0
MLR	Muntele Rosu	152.23	326	⇑PKIKP	PKPbc	19 03 42.7	-0.8
MLR	Muntele Rosu	152.23	326	⇑iP	PKPbc	19 03 42.7	-0.8
PRA	Prague	152.69	346	⇑PKP	PKPbc	19 03 44.0	-0.1
VOIR		152.72	327	⇑PKIKP	PKPbc	19 03 43.8	-0.7
VOIR		152.72	327	⇑iP	PKPbc	19 03 43.8	-0.7
PRU	Pruhonice	152.74	346	ePKIKP	PKPbc	19 03 44.1	-0.2
PRU				e		19 03 55.6	
PRU	Pruhonice	152.74	346	⇑ePKP	PKPbc	19 03 44.1	-0.2
PRU				ePKPAB	PKPab	19 03 55.6	+0.5
PRU				epPKP	pPKPdf	19 04 01.8	+14
VYHS	Vyhne	152.88	339	ePKP	PKPab	19 03 55.1	-0.7
ARR	Arges	152.97	328	⇑iP	PKPab	19 03 38.2	+0.5
KHC	Kasperske Hory	153.76	346	ePKIKP	PKPdf	19 03 38.4	-0.3
KHC				e		19 03 46.1	
KHC				e		19 03 58.8	
KHC	Kasperske Hory	153.76	346	ePKPDF	PKPdf	19 03 38.4	-0.3
KHC				⇑ePKP	PKPbc	19 03 46.1	-0.5
KHC				ePKPAB	PKPab	19 03 58.8	-0.7
KHC				ex	x	19 04 03.6	
GERES	GERESS Array B	154.00	346	PKPbc	PKPbc	19 03 46.5	-0.8
	comp=Z,1.3nm,0.9s,baz=346,slow=0.6,SNR=5.9						
GERES				PKPab	PKPab	19 03 58.5	-2.1
	comp=Z,0.4nm,0.5s,baz=8.1,slow=2.1,SNR=4.1						
PKSM	Moragy	154.91	336	⇓iP	PKPdf	19 03 32.2	-8.1
KDZ	Kurdzhali	155.05	320	⇑PKP2	PKPab	19 04 05.8	+0.6
KDZ	Kurdzhali	155.05	320	⇑iP	PKPab	19 04 05.8	+0.6
MMB	Musomiste	156.06	322	⇑iP	PKPab	19 03 58.0	-12
TORD	Torodi Ar. Bea	169.04	166	PKP	PKPdf	19 03 54.9	-0.8
	comp=Z,1.2nm,1.0s,baz=328,slow=5.3,SNR=4.3						
TORD				PKPab	PKPab	19 05 07.6	+0.9
	comp=Z,1.5nm,0.8s,baz=190,slow=3.8,SNR=8.0						

IDC **22** *19:10:40.9±1.4, 9.°55S×123.°17E, h56km±16km, mb4.0/8, mb1 4.1/8, mb1mx3.8/19, mbtmp4.2/8, Error ellipse: s-maj=50.1km s-min=16.7km az=68.0*
NEIC **22** *19:10:41.4±0.8, 9.°80S×123.°07E, h69km±9km, mb4.2/2, Error ellipse: s-maj=18.9km s-min=10.6km az=62.0*
DJA **22** *19:10:43.3±0.3, 10°S±3°×12°3E±°, h10km, M4.4/13, mb4.5/12, mB5.1/6, MLv4.3/13, Mw(mB)4.4/6*
AUST **22** *19:10:44.2, 10.°50S×123.°51E, h15km*
ISC 22 19:10:37.4±0.6, **10.°18S**±0.°06×**122.°71E**±0.°06, **h35**km, **n69**, σ**1.°88**/57, **mb4.2**/10, **Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	0.94	92	P	Pn	19 10 57.2	+3.0
BATI				S	Sn	19 11 10.0	+3.5
BATI	Baumata	0.94	92	P	Pn	19 10 57.1	+2.9
	547nm,0.3s,baz=60,slow=1.3,SNR=900						
BATI				S	Sn	19 11 09.0	+2.5
	2μm,0.3s,baz=330,slow=20,SNR=31						
SOEI	Soe	1.59	75	ePn	Pn	19 11 02.8	-0.5
MMRI	Maumere	1.60	343	P	Pn	19 11 06.3	+3.0
MMRI				S	Sn	19 11 24.9	+2.2
MMRI	Maumere	1.60	343	ePn	Pn	19 11 05.8	+2.6
BASI	Baing, Sumba	2.10	269	P	Pn	19 11 24.0	+14
WSI	Waingapu	2.43	282	P	Pn	19 11 28.0	+13
WBSI	Waikabubak, Su	3.31	279	P	Pn	19 11 37.5	+11
BSSI	Bau Bau, Buton	4.57	331	P	Pn	19 11 49.1	+5.0
BKSI	Bulukumba	5.46	332	P	Pn	19 12 01.2	+4.8
	56nm,1.1s,546nm0.2nm						
KAPI	Kappang	5.91	330	ePn	Pn	19 12 08.5	+6.0
	97nm,0.6s						
BNSI	Bone	6.29	336	P	Pn	19 12 14.6	+6.8
	54nm,0.7s,0.2nm						
SPSI	Sidrap Palu	6.83	335	P	Pn	19 12 20.7	+5.6
	23nm,1.0s,0.1nm						
TTSI	Tana Toraja	7.64	338	P	Pn	19 12 30.8	+4.4
	23nm,0.8s,1μm0.4nm						
KNRA	Kununurra	8.04	133	P	Pn	19 12 33.5	+1.7
	baz=7.3,SNR=43						
KNRA				S	Sn	19 13 57.6	-4.0
	baz=7.3,SNR=13						
NLAI	Namlea	8.16	33	P	Pn	19 12 34.2	+0.8
	24nm,0.8s,0.1nm						
JAGI	Jajag, Banyuwa	8.61	281	P	Pn	19 12 47.2	+7.6
	16nm,1.3s						
JAGI	Jajag, Banyuwa	8.61	281	P	Pn	19 12 46.3	+6.6
	baz=9.4,SNR=8.3						
MTN	Manton Dam	8.67	109	P	Pn	19 12 38.4	-2.1
	baz=7.8,SNR=17						
SANI	Sanana	8.71	22	P	Pn	19 12 41.2	+0.2
	35nm,1.1s						
MSAI	Masohi	9.18	43	P	Pn	19 12 48.2	+0.8
	8.4nm,1.0s						
APSI	Ampana	9.27	353	P	Pn	19 12 53.6	+5.0
	308nm,0.8s,4μm						
KDU	Kakadu	9.89	106	P	Pn	19 12 54.6	-2.6
	baz=9.1,SNR=30						
KDU				S	Sn	19 14 36.5	-11
	baz=9.1,SNR=3.6						
MRSI	Marisa	10.61	356	P	Pn	19 13 09.3	+2.2
MBWA	Marble Bar	11.29	194	ePn	Pn	19 13 25.0	+8.8
FAKI	Fak Fak	11.91	53	P	Pn	19 13 23.5	-1.3
	baz=12,SNR=5.3						
WRA	Warramunga Arr	14.84	132	P	Pn	19 14 01.8	-3.0
	0.7nm,0.3s,baz=313,slow=12,SNR=52						
WRA				S	Sn	19 16 34.2	-14
	2.0nm,0.3s,baz=310,slow=24,SNR=13						
WRAB	Tennant Creek	14.84	132	ePn	Pn	19 14 02.4	-2.4
WRKA	Warakurna	15.70	161	P	P	19 14 20.7	+0.9
	baz=15,SNR=17						
WRKA				S	Sn	19 17 06.3	-2.8
	baz=15,SNR=6.1						
MEEK	Meekatharra	16.82	193	P	P	19 14 41.1	+8.9
	baz=17,SNR=7.7						
MEEK				S	Sn	19 17 38.3	+2.0
	baz=17,SNR=6.5						
ASAR	Alice Springs	17.15	143	P	P	19 14 35.1	-0.8
	0.6nm,0.3s,baz=316,slow=12,SNR=56						
ASAR				S	Sn	19 17 34.1	-10
	1.0nm,0.3s,baz=322,slow=23,SNR=16						
QIS	Mount Isa	19.27	124	P	Pn	19 15 00.4	0.0
	baz=18,SNR=9.0						
QIS				S	Sn	19 18 22.0	-14
	baz=18,SNR=4.4						
MORW	Morawa	19.80	197	S	Sn	19 18 47.0	-1.2
	baz=20,SNR=6.0						
COEN	Coen	20.36	103	P	P	19 15 10.8	-0.4
	baz=20,SNR=19						
BBOO	Buckleboo	25.67	153	P	P	19 16 07.7	+3.6
	baz=25,SNR=6.7						
HTT	Hallett	27.53	150	P	P	19 16 25.5	+4.5
	baz=27,SNR=3.6						
STKA	Stephens Creek	27.78	144	P	P	19 16 25.8	+2.6
	4.0nm,0.8s,baz=328,slow=8.6,SNR=2.9						
STKA	Stephens Creek	27.78	144	P	P	19 16 27.1	+3.9
	baz=27,SNR=4.4						
RMQ	Roma	29.48	127	P	P	19 16 39.0	+0.6
	baz=29,SNR=7.0						
RABL	Rabaul	29.81	81	P	P	19 16 48.1	+6.7
	baz=29,SNR=4.1						
CMAR	Chiang Mai Arr	36.87	320	P	P	19 17 41.9	-0.9
	0.4nm,0.6s,baz=152,slow=7.0,SNR=4.9						
MJAR	Matsushiro Arr	48.71	17	P	P	19 19 14.0	-4.5
	29nm,1.3s,baz=196,slow=9.5,SNR=5.2						
LSA	Lhasa	49.96	324	eP	P	19 19 28.6	-0.2
	2.8nm,0.6s						
TAPN	Taplejung	50.42	319	eP	P	19 19 31.4	-0.7
	11nm,1.0s						
TAPN	Taplejung	50.42	319	eP	P	19 19 31.4	-0.7
RAMN	Ramite	50.89	317	eP	P	19 19 35.8	+0.2
	4.7nm,0.5s						
RAMN	Ramite	50.89	317	eP	P	19 19 35.8	+0.2
JIRN	Jiri	51.63	318	eP	P	19 19 40.5	-0.8
JIRN	Jiri	51.63	318	eP	P	19 19 40.5	-0.8
GUN	Gumba	52.00	318	eP	P	19 19 42.6	-1.4
GUN	Gumba	52.00	318	eP	P	19 19 42.6	-1.4
PKI	Pulchoki	52.09	317	eP	P	19 19 44.0	-0.7
PKIN	Phulchoki	52.11	317	eP	P	19 19 44.1	-0.6
	1.6nm,0.3s						
DMN	Daman	52.32	317	eP	P	19 19 46.0	-0.3
DMN	Daman	52.32	317	eP	P	19 19 46.0	-0.3
GKN	Gorkha	52.89	317	eP	P	19 19 50.0	-0.4
GKN	Gorkha	52.89	317	eP	P	19 19 50.0	-0.4
KOLN	Koldanda	53.45	316	eP	P	19 19 54.2	-0.3
KOLN	Koldanda	53.45	316	eP	P	19 19 54.2	-0.3
DANN	Dangsing	53.71	317	eP	P	19 19 55.9	-0.6
	5.6nm,0.5s						
DANN	Dangsing	53.71	317	eP	P	19 19 55.9	-0.6
SONM	Songino Array	59.55	347	P	P	19 20 35.5	-1.9
	1.0nm,0.6s,baz=161,slow=8.3,SNR=16						
MKAR	Makanchi Array	67.21	331	P	P	19 21 27.5	-0.5
	2.7nm,0.5s,baz=139,slow=7.5,SNR=27						
AAK	Ala-Archa	68.55	324	P	P	19 21 36.7	-0.1
	1.3nm,0.7s,baz=117,slow=6.8,SNR=8.3						
VNDA	Vanda	70.28	172	P	P	19 21 51.0	+4.3
	0.9nm,0.4s,baz=323,slow=7.6,SNR=8.2						
ZALV	Zalesovo Beam	71.48	337	P	P	19 21 52.1	-2.2
	2.6nm,0.5s,baz=124,slow=4.8,SNR=13						
KURK	Kurchatov	71.70	332	eP	P	19 21 54.3	-1.3
	1.1nm,0.6s						
TORD	Torodi Ar. Bea	122.26	279	PKP	PKPdf	19 29 31.6	+1.9
	0.3nm,0.5s,baz=107,slow=1.3,SNR=8.5						
LPAZ	La Paz	151.60	158	PKPbc	PKPbc	19 30 32.7	+2.9
	0.9nm,0.7s,baz=243,slow=4.5,SNR=3.3						

CSEM **22** *19:26:56.1±0.2, 36.°89N×4.°22E, h5km, ML3.7, Error ellipse: s-maj=5.8km s-min=5.3km az=68.0*
MDD **22** *19:26:57.2±0.9, 36.°84N×4.°17E, h3km±10km, mb4.3/8, Error ellipse: s-maj=8.4km s-min=4.5km az=27.0, PRXIMO*
CRAAG **22** *19:26:58.1, 36.°69N×4.°05E, Ml3.7*
SFS **22** *19:27:00.0, 37.°02N×4.°01E, h0km, ML4.0*
LDG **22** *19:27:01.2±0.3, 37.°22N×3.°78E, h2km, Ml3.1/14, Error ellipse: s-maj=6.1km s-min=2.9km az=145.0*
ISC 22 19:26:56.6±1.5, **36.°91N**±0.°05×**4.°24E**±0.°02, **h26**km±16km, **n142**, σ**2.°15**/159, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABMS	Boumerdes	0.62	256	P	Pb	19 27 08.0	-0.9
ABMS	Boumerdes	0.62	256	P	Pb	19 27 08.0	-0.9
ABMS	Boumerdes	0.62	256	P	Pb	19 27 08.0	-0.9
AKET	Djebel Ketaf	0.90	198	P	Pb	19 27 10.8	-2.9
AKET	Djebel Ketaf	0.90	198	P	Pb	19 27 10.8	-2.9
AKET	Djebel Ketaf	0.90	198	P	Pb	19 27 10.8	-2.9
ABA	Alger-Bouzarea	0.97	264	P	Pb	19 27 14.1	-0.6
ABA	Alger-Bouzarea	0.97	264	P	Pb	19 27 14.1	-0.6
ABA	Alger-Bouzarea	0.97	264	P	Pb	19 27 14.1	-0.6
ADJB	Djebel Djouab	0.98	221	P	Pb	19 27 12.8	-2.2
ADJB	Djebel Djouab	0.98	221	P	Pb	19 27 12.8	-2.2
ADJB	Djebel Djouab	0.98	221	P	Pb	19 27 12.8	-2.2
ATAF	Djebel Tarf	1.03	178	P	Pn	19 27 15.5	+0.1
ATAF	Djebel Tarf	1.03	178	P	Pn	19 27 15.5	+0.1
ATAF	Djebel Tarf	1.03	178	P	Pn	19 27 15.5	+0.1
SET	Setif	1.17	127	P	Pb	19 27 20.0	+1.8
SET	Setif	1.17	127	P	Pb	19 27 20.0	+1.8
SET	Setif	1.17	127	P	Pb	19 27 20.0	+1.8
EMHD	Djebel Mahouad	1.25	236	P	Pb	19 27 19.6	+0.1
EMHD	Djebel Mahouad	1.25	236	P	Pb	19 27 19.6	+0.1
EMHD	Djebel Mahouad	1.25	236	P	Pb	19 27 19.6	+0.1
CKHR	Kef el Ahmar	1.36	130	P	Pn	19 27 21.0	+1.0
CKHR	Kef el Ahmar	1.36	130	P	Pn	19 27 21.0	+1.0
CKHR	Kef el Ahmar	1.36	130	P	Pn	19 27 21.0	+1.0
DFRA	Djebel Bou Aff	1.37	105	P	Pb	19 27 21.6	0.0
DFRA	Djebel Bou Aff	1.37	105	P	Pb	19 27 21.6	0.0
DFRA	Djebel Bou Aff	1.37	105	P	Pb	19 27 21.6	0.0
CASM	Ain Smara	1.93	109	P	Pb	19 27 32.0	+1.0
CASM	Ain Smara	1.93	109	P	Pb	19 27 32.0	+1.0
CASM	Ain Smara	1.93	109	P	Pb	19 27 32.0	+1.0
CTEI	Djebel Teioual	1.94	115	P	Pb	19 27 31.0	-0.3
CTEI	Djebel Teioual	1.94	115	P	Pb	19 27 31.0	-0.3
CTEI	Djebel Teioual	1.94	115	P	Pb	19 27 31.0	-0.3
CKFL	Kef-Lekhel	2.06	103	P	Pb	19 27 33.0	-0.4
CKFL	Kef-Lekhel	2.06	103	P	Pb	19 27 33.0	-0.4
CKFL	Kef-Lekhel	2.06	103	P	Pb	19 27 33.0	-0.4
CAEH	'Ain El Ouahch	2.10	93	P	Pn	19 27 29.8	-0.3
CAEH	'Ain El Ouahch	2.10	93	P	Pn	19 27 29.8	-0.3
CAEH	'Ain El Ouahch	2.10	93	P	Pn	19 27 29.8	-0.3
EBNR	Beni Rached	2.26	255	P	Pn	19 27 24.2	-8.1
EBNR	Beni Rached	2.26	255	P	Pn	19 27 24.2	-8.1
ECHA	Ech Chlef	2.43	253	P	Pn	19 27 26.1	-8.4
ECHA	Ech Chlef	2.43	253	P	Pn	19 27 26.1	-8.4
ECHF	Ech Chlef	2.45	253	P	Pn	19 27 26.1	-8.7
CMAH	Djebel Manchou	2.57	95	P	Pn	19 27 36.2	-0.4
CMAH	Djebel Manchou	2.57	95	P	Pn	19 27 36.2	-0.4
CMAH	Djebel Manchou	2.57	95	P	Pn	19 27 36.2	-0.4
EANR	'Ain N'Sour	2.70	250	P	Pn	19 27 41.3	+2.9
EANR	'Ain N'Sour	2.70	250	P	Pn	19 27 41.3	+2.9
EANR	'Ain N'Sour	2.70	250	P	Pn	19 27 41.3	+2.9
ETRT	Tiaret	2.82	238	P	Pb	19 27 43.7	-2.5
ETRT	Tiaret	2.82	238	P	Pb	19 27 43.7	-2.5
ETRT	Tiaret	2.82	238	P	Pb	19 27 43.7	-2.5
MAHO	Mahon	2.98	0	P	Pn	19 27 44.4	+2.2
MAHO				S	Sn	19 28 18.2	+1.1
MAHO	Mahon	2.98	0	i P	Pn	19 27 44.3	+2.2
MAHO				eS	Sn	19 28 18.2	+1.1
OKGL	Djebel Kef Gue	3.02	254	S	Sn	19 28 20.7	+2.6
	59nm,0.2s,SNR=7.9						
OKGL	Djebel Kef Gue	3.02	254	S	Sn	19 28 20.7	+2.6
	59nm,0.2s,SNR=7.9						
ETOS	Mallorca	3.07	339	P	Pn	19 27 46.4	+3.1
	3.9nm,0.1s,SNR=26						
ETOS				S	Sn	19 28 20.3	+1.1
	15nm,0.6s,SNR=6.5						
ETOS	Mallorca	3.07	339	P	Pn	19 27 46.4	+3.1
	3.9nm,0.1s,SNR=26						
ETOS				S	Sn	19 28 20.3	+1.1
	15nm,0.6s,SNR=6.5						
EIBI	Ibiza	3.12	314	P	Pn	19 27 46.5	+2.5
	0.6nm,0.1s,SNR=7.5						
EIBI				S	Sn	19 28 21.1	+0.8
	16nm,0.7s,SNR=7.6						
EIBI	Ibiza	3.12	314	P	Pn	19 27 46.5	+2.5
	0.6nm,0.1s,SNR=7.5						
EIBI				S	Sn	19 28 21.1	+0.8
	16nm,0.7s,SNR=7.6						
EBEN	Beniarda	3.96	298	P	Pn	19 27 57.7	+2.0
	0.2nm,0.1s,SNR=7.9						
EBEN				S	Sn	19 28 41.0	-0.3
	6.7nm,0.8s,SNR=7.9						
EBEN	Beniarda	3.96	298	P	Pn	19 27 57.7	+2.0
	0.2nm,0.1s,SNR=7.9						
EBEN				S	Sn	19 28 41.0	-0.3
	6.7nm,0.8s,SNR=7.9						
EMUR	La Murta	4.46	284	P	Pn	19 28 05.2	+2.7
	1.0nm,0.2s,SNR=7.9						
EMUR				S	Sn	19 28 53.5	0.0
	48nm,1.0s,SNR=7.9						
EMUR	La Murta	4.46	284	P	Pn	19 28 05.2	+2.7
	1.0nm,0.2s,SNR=7.9						
EMUR				S	Sn	19 28 53.5	0.0
	48nm,1.0s,SNR=7.9						
ETOB	Tobarra	4.90	292	P	Pn	19 28 11.4	+2.8
	1.8nm,0.2s,SNR=12						
ETOB				S	Sn	19 29 04.4	0.0
	4.0nm,0.4s,SNR=7.1						
ETOB	Tobarra	4.90	292	P	Pn	19 28 11.4	+2.8
	1.8nm,0.2s,SNR=12						
ETOB				S	Sn	19 29 04.4	0.0
	4.0nm,0.4s,SNR=7.1						
CFON	Fontmartina	5.05	345	P	Pn	19 28 13.6	+3.0
	5.2nm,0.2s,SNR=17						
CFON				S	Sn	19 29 08.8	+0.7
	38nm,1.3s						
CFON	Fontmartina	5.05	345	P	Pn	19 28 13.6	+3.0
	5.2nm,0.2s,SNR=17						
CFON				S	Sn	19 29 08.8	+0.7
	38nm,1.3s						
EMOS	Mosqueruela	5.05	315	P	Pn	19 28 13.7	+3.0
	1.2nm,0.2s,SNR=7.9						
EMOS				S	Sn	19 29 07.9	-0.4
	2.2nm,0.6s,SNR=7.9						
EMOS	Mosqueruela	5.05	315	P	Pn	19 28 13.7	+3.0
	1.2nm,0.2s,SNR=7.9						
EMOS				S	Sn	19 29 07.9	-0.4
	2.2nm,0.6s,SNR=7.9						
EMIR	Miracle	5.42	338	P	Pn	19 28 19.7	+3.9
	1.6nm,0.1s,SNR=10						
EMIR				S	Sn	19 29 16.9	-0.4
	7.1nm,0.3s,SNR=8.2						
EMIR	Miracle	5.42	338	P	Pn	19 28 19.7	+3.9
	1.6nm,0.1s,SNR=10						
EMIR				S	Sn	19 29 16.9	-0.4
	7.1nm,0.3s,SNR=8.2						
EJON	La Jonquera	5.63	350	P	Pn	19 28 22.0	+3.4
	5.5nm,0.3s,SNR=18						
EJON				S	Sn	19 29 22.5	0.0
	140nm,1.7s						
EJON	La Jonquera	5.63	350	P	Pn	19 28 22.0	+3.4
	5.5nm,0.3s,SNR=18						
SJAF	Saint Jean de	5.67	350	P	Pn	19 28 22.4	+3.3
	13nm,0.1s,SNR=7.9						
SJAF				S	Sn	19 29 22.9	-0.3
	21nm,0.5s,SNR=7.9						
SJAF	Saint Jean de	5.67	350	P	Pn	19 28 22.4	+3.3
	13nm,0.1s,SNR=7.9						
CLLI	Llivia	5.83	343	P	Pn	19 28 25.8	+4.3
	0.9nm,0.1s,SNR=36						
CLLI				S	Sn	19 29 28.7	+1.2
	4.5nm,0.5s,SNR=6.7						
EQES	Quesada	5.89	281	P	Pn	19 28 25.9	+3.7
	0.2nm,0.2s,SNR=7.9						
EQES				S	Sn	19 29 31.1	+2.3
	3.7nm,0.3s,SNR=7.9						
CSOR	Sort	5.96	337	P	Pn	19 28 27.0	+3.8
	0.4nm,0.3s,SNR=9.9						
CSOR				S	Sn	19 29 31.7	+1.0
	4.4nm,0.5s,SNR=5.7						
CSOR	Sort	5.96	337	P	Pn	19 28 27.0	+3.8
	0.4nm,0.3s,SNR=9.9						
CSOR				S	Sn	19 29 31.7	+1.0
	4.4nm,0.5s,SNR=5.7						
MTLF	Montolieu	6.61	347	ePn	Pn	19 28 32.9	+0.9
MTLF	Montolieu	6.61	347	P	Pn	19 28 32.9	+0.9
MTLF	Montolieu	6.61	347	P	Pn	19 28 32.9	+0.9
LMR	La Mourre	6.65	14	ePn	Pn	19 28 34.7	+2.2
LMR				eSn	Sn	19 29 44.4	-3.1
	2.0nm,0.2s						
LMR	La Mourre	6.65	14	P	Pn	19 28 34.7	+2.2
LMR				S	Sn	19 29 44.4	-3.1
	1.0nm,0.2s						
LMR	La Mourre	6.65	14	P	Pn	19 28 34.7	+2.2
PGF	Pioggiola	6.72	32	ePn	Pn	19 28 36.6	+2.9
PGF				eSn	Sn	19 29 49.6	+0.2
	3.4nm,0.3s						
PGF	Pioggiola	6.72	32	P	Pn	19 28 36.6	+2.9
PGF				S	Sn	19 29 49.6	+0.2
	1.7nm,0.3s						
PGF	Pioggiola	6.72	32	P	Pn	19 28 36.6	+2.9
EPF	Esparros	6.81	335	ePn	Pn	19 28 34.8	0.0
EPF				eSn	Sn	19 29 42.8	-8.6
	1.9nm,0.3s						
EPF	Esparros	6.81	335	P	Pn	19 28 34.8	0.0
EPF				S	Sn	19 29 42.8	-8.6
	0.9nm,0.3s						
EPF	Esparros	6.81	335	P	Pn	19 28 34.8	0.0
FRF	La Foret Royal	6.90	15	ePn	Pn	19 28 37.5	+1.6
FRF				eSn	Sn	19 29 50.7	-2.8
	3.1nm,0.3s						
FRF	La Foret Royal	6.90	15	P	Pn	19 28 37.5	+1.6
FRF				S	Sn	19 29 50.7	-2.8
	1.6nm,0.3s						
FRF	La Foret Royal	6.90	15	P	Pn	19 28 37.5	+1.6
ETSF	Etsaut	7.03	330	eP	Pn	19 28 40.9	+3.1
ETSF				eSn	Sn	19 29 47.5	-9.3
	2.3nm,0.6s						
ETSF	Etsaut	7.03	330	P	Pn	19 28 40.9	+3.1
ETSF				S	Sn	19 29 47.5	-9.3
	1.2nm,0.6s						
ETSF	Etsaut	7.03	330	eP	Pn	19 28 40.9	+3.1
SMRF	Simiane la Rot	7.14	8	ePn	Pn	19 28 41.0	+1.8
SMRF				eSn	Sn	19 29 54.8	-4.6
	0.9nm,0.2s						
SMRF	Simiane la Rot	7.14	8	P	Pn	19 28 41.0	+1.8
SMRF				S	Sn	19 29 54.8	-4.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.9nm,0.2s						
SMRF	Simiane la Rot	7.14	8	P	Pn	19 28 41.0	+1.8
LASF	Ste Croix	7.17	358	ePn	Pn	19 28 41.4	+1.7
LASF				eSn	Sn	19 29 54.0	-6.2
	1.6nm,0.4s						
LASF	Ste Croix	7.17	358	P	Pn	19 28 41.4	+1.7
LASF				S	Sn	19 29 54.0	-6.2
	0.8nm,0.4s						
LASF	Ste Croix	7.17	358	P	Pn	19 28 41.4	+1.7
IEPA	Eparoz	7.23	326	P	Pn	19 28 44.3	+3.7
	0.2nm,0.1s,SNR=7.9						
IEPA	Eparoz	7.23	326	P	Pn	19 28 44.3	+3.7
	0.2nm,0.1s,SNR=7.9						
IELO	Elcoad	7.27	326	P	Pn	19 28 44.6	+3.6
	0.4nm,0.2s,SNR=7.9						
IELO	Elcoad	7.27	326	P	Pn	19 28 44.7	+3.6
	0.4nm,0.2s,SNR=7.9						
SBF	Sospel	7.37	18	ePn	Pn	19 28 45.0	+2.6
SBF				eSn	Sn	19 30 02.1	-3.0
	2.5nm,0.3s						
SBF	Sospel	7.37	18	P	Pn	19 28 45.0	+2.6
SBF				S	Sn	19 30 02.1	-3.0
	1.2nm,0.3s						
SBF	Sospel	7.37	18	P	Pn	19 28 45.0	+2.6
VIVF	Saint-Julien-l	7.95	2	ePn	Pn	19 28 52.0	+1.6
VIVF				eSn	Sn	19 30 13.3	-6.1
	1.7nm,0.3s						
VIVF	Saint-Julien-l	7.95	2	P	Pn	19 28 52.0	+1.6
VIVF				S	Sn	19 30 13.3	-6.1
	0.9nm,0.3s						
VIVF	Saint-Julien-l	7.95	2	P	Pn	19 28 52.0	+1.6
MBDF	Montbardon	8.05	13	ePn	Pn	19 28 53.9	+2.1
MBDF				eSn	Sn	19 30 17.5	-4.5
	1.1nm,0.3s						
MBDF	Montbardon	8.05	13	P	Pn	19 28 53.9	+2.1
MBDF				S	Sn	19 30 17.5	-4.5
	0.6nm,0.3s						
MBDF	Montbardon	8.05	13	P	Pn	19 28 53.9	+2.1
ORIF	Oris-en-Rattie	8.10	8	ePn	Pn	19 28 54.1	+1.6
ORIF				eSn	Sn	19 30 17.9	-5.3
	0.6nm,0.2s						
ORIF	Oris-en-Rattie	8.10	8	P	Pn	19 28 54.1	+1.6
ORIF				S	Sn	19 30 17.9	-5.3
	0.3nm,0.2s						
ORIF	Oris-en-Rattie	8.10	8	P	Pn	19 28 54.1	+1.6
CAF	Calviac	8.18	349	ePn	Pn	19 28 53.6	+0.1
CAF	Calviac	8.18	349	eP	Pn	19 28 57.2	+3.7
CAF	Calviac	8.18	349	P	Pn	19 28 53.6	+0.1
CAF	Calviac	8.18	349	P	Pn	19 28 53.6	+0.1
LFF	La Frestale	8.45	343	ePn	Pn	19 28 56.5	-0.7
LFF	La Frestale	8.45	343	P	Pn	19 28 56.5	-0.7
LFF	La Frestale	8.45	343	P	Pn	19 28 56.5	-0.7
RJF	Les Rejaudoux	8.64	347	ePn	Pn	19 28 59.5	-0.3
RJF	Les Rejaudoux	8.64	347	eP	Pn	19 29 03.6	+3.8
RJF	Les Rejaudoux	8.64	347	P	Pn	19 28 59.5	-0.3
RJF	Les Rejaudoux	8.64	347	ePn	Pn	19 28 59.5	-0.3
RJF	Les Rejaudoux	8.64	347	eP	Pn	19 29 03.6	+3.8
LPG	La Plagne	8.79	12	ePn	Pn	19 29 04.6	+2.5
LPG				eSn	Sn	19 30 35.3	-5.2
	0.8nm,0.3s						
LPG	La Plagne	8.79	12	P	Pn	19 29 04.6	+2.5
LPG				S	Sn	19 30 35.3	-5.2
	0.4nm,0.3s						
LPG	La Plagne	8.79	12	P	Pn	19 29 04.6	+2.5
LPL	La Plagne	8.80	12	ePn	Pn	19 29 05.1	+2.8
LPL				eSn	Sn	19 30 35.5	-5.2
	0.6nm,0.2s						
LPL	La Plagne	8.80	12	P	Pn	19 29 05.1	+2.8
LPL				S	Sn	19 30 35.5	-5.2
	0.3nm,0.2s						
LPL	La Plagne	8.80	12	P	Pn	19 29 05.1	+2.8
BGF	Bois d'Agland	9.70	354	ePn	Pn	19 29 14.8	+0.5
BGF	Bois d'Agland	9.70	354	P	Pn	19 29 14.8	+0.5
BGF	Bois d'Agland	9.70	354	P	Pn	19 29 14.8	+0.5

IDC 22 19:33:37.8±2.0, 0.77S×131.23E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=113.9km s-min=16.3km az=76.0
ISCJB 22 19:33:39.0±1.1, 0.39S±0.08×132.4E±0.1, h33km, mb3.6/3, Error ellipse: s-maj=15.1km s-min=12.0km az=0.5
ISC 22 19:33:40.8±1.2, 0.4S±0.1×132.3E±0.1, h33km, n9, σ2°18/12, mb3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SWI	Sorong	1.11	244	P	Pb	19 34 01.5	0.0
	baz=1.2,SNR=63						
JAY	Jayapura	8.71	104	P	Pn	19 35 44.2	-0.4
	baz=8.7,SNR=3.5						
KDU	Kakadu	12.24	179	P	Pn	19 36 33.8	+0.9
	baz=12,SNR=4.5						
MTN	Manton Dam	12.44	185	P	Pn	19 36 35.7	0.0
	baz=12,SNR=5.2						
MTN				S	Sn	19 38 53.0	-0.2
	baz=12,SNR=5.4						
KNRA	Kununurra	15.60	193	P	Pn	19 37 19.6	+1.3
	baz=16,SNR=3.5						
WRA	Warramunga Arr	19.56	174	P	P	19 38 04.5	-1.4
	0.1nm,0.3s,baz=353,slow=12,SNR=15						
WRA				S	S	19 41 40.4	-4.8
	0.0nm,0.3s,baz=357,slow=23,SNR=3.9						
ASAR	Alice Springs	23.21	176	P	P	19 38 44.4	-0.8
	1.7nm,0.7s,baz=355,slow=9.9,SNR=26						
ASAR				S	S	19 42 57.5	+2.5
	0.4nm,1.0s,baz=6.5,slow=26,SNR=3.5						
STKA	Stephens Creek	32.56	165	P	P	19 40 11.7	+2.7
	1.0nm,0.8s,baz=329,slow=5.9,SNR=2.1						
MKAR	Makanchi Array	64.07	324	P	P	19 44 10.3	-1.2
	0.3nm,0.7s,baz=116,slow=6.7,SNR=3.7						

CSEM 22 19:36:57.9±0.1, 38.36N×22.02E, h10km, MD2.4, Error ellipse: s-maj=2.5km s-min=2.2km az=156.0
THE 22 19:36:58.2, 38.35N×22.03E, h0km±1km, ML1.7/6, Error ellipse: s-maj=1.9km s-min=0.4km az=351.0
ATH 22 19:36:58.2, 38.35N×22.01E, h8km±1km, MD2.4/7, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KALE	Kalithea	0.11	68	ePG	Pg	19 37 00.9	+0.1
KALE				eSG	Sg	19 37 03.0	+0.3
KALE	Kalithea	0.11	68	ePg	Pg	19 37 00.9	+0.1
KALE				eSg	Sg	19 37 03.0	+0.3
EFP	Efpalio	0.11	313	P	Pg	19 37 00.6	-0.2
EFP				S	Sg	19 37 02.8	+0.2
EFP	Efpalio	0.11	313	ePG	Pg	19 37 00.6	-0.2
EFP				eSG	Sg	19 37 02.5	-0.1
EFP	Efpalio	0.11	313	P	Pg	19 37 00.6	-0.2
EFP				eSg	Sg	19 37 02.5	-0.1
LAKA	Lakka	0.11	193	ePG	Pg	19 37 01.0	+0.2
LAKA	Lakka	0.11	193	ePg	Pg	19 37 01.0	+0.2
KLV	Kalavryta, Ach	0.33	160	P	Pg	19 37 04.5	-0.2
KLV				S	Sg	19 37 09.2	+0.1
KLV	Kalavryta, Ach	0.33	160	ePB	Pg	19 37 04.6	-0.1
KLV	Kalavryta, Ach	0.33	160	ePb	Pg	19 37 04.6	-0.1
KLV				S	Sg	19 37 09.2	+0.1
DSF	Desfina	0.41	81	P	Pg	19 37 05.6	-0.7
DSF				S	Sg	19 37 12.2	+0.4
DSF	Desfina	0.41	81	ePG	Pg	19 37 05.9	-0.4
DSF				eSB	Sg	19 37 12.1	+0.3
DSF	Desfina	0.41	81	P	Pg	19 37 05.6	-0.7
DSF	Desfina	0.41	81	ePg	Pg	19 37 05.9	-0.4
DSF				eSb	Sg	19 37 12.1	+0.3
DRO	Drossia	0.46	211	P	Pg	19 37 07.0	-0.2
DRO				S	Sg	19 37 14.4	+1.1
DRO	Drossia	0.46	211	ePB	Pg	19 37 07.1	-0.1
DRO	Drossia	0.46	211	ePb	Pg	19 37 07.1	-0.1
DRO				S	Sg	19 37 14.4	+1.1
GUR	Goura	0.49	148	P	Pg	19 37 07.1	-0.8
GUR				S	Sg	19 37 14.3	-0.1
GUR	Goura	0.49	148	ePB	Pg	19 37 07.3	-0.6
GUR	Goura	0.49	148	ePb	Pg	19 37 07.3	-0.6
GUR				S	Sg	19 37 14.3	-0.1
RLS	Riolos of Patr	0.52	236	ePB	Pg	19 37 08.4	+0.2
RLS	Riolos of Patr	0.52	236	ePb	Pg	19 37 08.4	+0.2
EVR	Evrytania	0.59	344	P	Pg	19 37 09.2	-0.5
EVR	Evrytania	0.59	344	ePG	Pg	19 37 09.3	-0.4
EVR				eSB	Sg	19 37 18.1	+0.5
EVR	Evrytania	0.59	344	ePg	Pg	19 37 09.3	-0.4
EVR				eSb	Sg	19 37 18.1	+0.5
AXAR	Agios Charalam	0.66	51	ePG	Pg	19 37 10.4	-0.5
AXAR	Agios Charalam	0.66	51	ePg	Pg	19 37 10.4	-0.5
PDO	Prodromos	0.69	291	P	Pg	19 37 11.7	+0.1
PDO				S	Sb	19 37 22.9	+0.6
PDO	Prodromos	0.69	291	ePB	Pg	19 37 11.7	+0.1
PDO	Prodromos	0.69	291	P	Pg	19 37 11.7	+0.1
PDO				S	Sb	19 37 22.9	+0.6
LKR	Lokris	0.83	69	P	Pg	19 37 13.6	-0.6
LKR				S	Sb	19 37 26.0	-0.3
LKR	Lokris	0.83	69	P	Pg	19 37 13.6	-0.6
LKR				S	Sb	19 37 26.0	-0.3

ISCJB 22 19:47:23.8±0.7, 46.8N±0.1×150.6E±0.2, h166km, mb3.2/6, Error ellipse: s-maj=22.4km s-min=4.7km az=42.8
MOS 22 19:47:24.8±1.7, 47.14N×150.62E, h168km, mb4.1/1, Error ellipse: s-maj=40.6km s-min=13.6km az=55.6
SKHL 22 19:47:25.6±0.4, 46.00N×151.27E, h201km±17km, mb4.9/3, mbh5.6/3
IDC 22 19:47:27.7±2.4, 46.98N×150.74E, h190km±21km, mb3.0/6, mb1 3.2/9, mb1mx3.0/40, mbtmp3.6/9, Error ellipse: s-maj=38.2km s-min=17.9km az=157.0
JMA 22 19:47:28.5±0.4, 45.98N×151.07E, h169km, M4.0
ISC 22 19:47:24.0±0.9, 46.7N±0.1×150.8E±0.1, h166km, n44, σ2°00/35, mb3.2/6, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.52	235 ⇑	iPN	Pn	19 48 10.7	+4.5
KUR				iS	Sn	19 48 48.2	+9.4
KUR				pmax	pmax		
	comp=N,23nm,0.2s						
KUR				pmax	pmax		
	comp=E,6.0nm,0.1s						
KUR				pmax	pmax		
	comp=Z,66nm,0.5s						
KUR				pmax	pmax		
	comp=Z,9µm,2.7s						
KUR				smax	smax		
	comp=N,229nm,0.6s						
KUR				smax	smax		
	comp=E,106nm,0.1s						
KUR				pmax	pmax		
	comp=N,231nm,2.3s						
KUR	Kuril'sk	2.52	235	eP	Pn	19 48 10.7	+4.5
KUR				AMB	AMB	19 48 11.3	
	comp=N,23nm,0.3s						
KUR				AMB	AMB	19 48 11.3	
	comp=N,6.0nm,0.3s						
KUR				AMB	AMB	19 48 11.3	
	comp=N,66nm,0.3s						
KUR				eS	Sn	19 48 46.2	+7.4
KUR				A	A	19 48 49.2	
	comp=N,260nm,0.2s						
KUR				A	A	19 48 49.2	
	comp=N,110nm,0.2s						
SHO	Shikotan	3.99	226	eP	Pn	19 48 25.4	+0.9
SHO				AMB	AMB	19 48 27.2	
	comp=N,113nm,0.9s						
SHO				eS	Sn	19 49 11.7	0.0
SHO				A	A	19 49 15.6	
	comp=N,296nm,0.6s						
YUK	Yuzh-Kuril'sk	4.39	234 d	iPN	Pn	19 48 33.9	+4.2
YUK				iS	Sn	19 49 24.8	+3.8
YUK				pmax	pmax		
	comp=N,31nm,0.1s						
YUK				pmax	pmax		
	comp=E,24nm,0.1s						
YUK				pmax	pmax		
	comp=Z,69nm,0.1s						
YUK				smax	smax		
	comp=N,163nm,0.3s						
YUK				smax	smax		
	comp=E,219nm,0.3s						
YUK	Yuzh-Kuril'sk	4.39	234	eP	Pn	19 48 33.9	+4.2
YUK				AMB	AMB	19 48 35.4	
	comp=E,30nm,0.1s						
YUK				AMB	AMB	19 48 35.4	
	comp=E,20nm,0.1s						
YUK				AMB	AMB	19 48 35.4	
	comp=E,70nm,0.1s						
YUK				eS	Sn	19 49 24.8	+3.8
YUK				A	A	19 49 31.7	
	comp=E,160nm,0.3s						
YUK				A	A	19 49 31.7	
	comp=E,220nm,0.3s						
JRA	Rausu	4.87	237	P	Pn	19 48 38.7	+2.8
NEM2	Nemuro 2	4.91	229	P	Pn	19 48 37.7	+1.3
NEM2				eS	Sn	19 49 31.6	-1.4
JTKR	Abashiri--Toko	5.58	243	P	Pn	19 48 49.4	+4.2
JAK	Akkeshi	5.71	232	P	Pn	19 48 48.7	+1.7
JAK				eS	Sn	19 49 51.4	-0.7
JOB	Onbets	6.25	235	eS	Sn	19 50 04.4	-0.4
JKA	Kamikawa-asahi	6.33	249	eP	Pn	19 49 00.1	+5.0
ASAJ	Asahikawa	6.33	249	PN	Pn	19 49 00.1	+4.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	6.33	249	P	Pn	19 49 00.1	+4.9
	comp=Z,0.9nm,0.3s,baz=44,slow=20,SNR=11						
JCH	Churui	6.70	235	P	Pn	19 49 02.1	+2.0
JCH				eS	Sn	19 50 13.6	-2.0
JBT2	Biratori 2	7.18	240	P	Pn	19 49 10.4	+4.0
ERM	Erimo	7.21	232 ⇓	ePN	Pn	19 49 09.2	+2.3
JNBK	Urakawa-nobuka	7.26	235	P	Pn	19 49 08.9	+1.4
JNBK				eS	Sn	19 50 24.5	-4.5
PETK	Petropavlovsk-	7.79	32	PN	Pn	19 49 14.9	+0.5
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	Petropavlovsk-	7.79	32	P	Pn	19 49 14.9	+0.5
	comp=Z,0.5nm,0.3s,baz=204,slow=13,SNR=18						
JNB	Noboribetsu	8.15	242	P	Pn	19 49 22.0	+2.7
JNB				eS	Sn	19 50 49.0	-1.4
JKB	Kayabe	8.50	239	P	Pn	19 49 25.3	+1.4
JKB				eS	Sn	19 50 54.7	-4.0
JTM	Tenmabayashi	9.20	233	eS	Sn	19 51 08.8	-6.6
JANG	Nango	9.25	230	P	Pn	19 49 32.7	-1.1
JANG				eS	Sn	19 51 09.6	-7.1
JTH	Tanohata	9.39	227	eS	Sn	19 51 12.9	-7.2
JIO	Ouri	10.79	223	eS	Sn	19 51 47.0	-6.8
SEY	Seymchan	16.28	3	P	P	19 51 02.6	-0.2
	comp=Z,0.2nm,0.3s,baz=185,slow=9.1,SNR=9.1						
H11N2	WAKE ISLAND Hy	29.98	148	T	T	20 24 40.6	
	baz=342						
H11N1	WAKE ISLAND Hy	29.99	148	T	T	20 24 41.7	
	baz=342,slow=74						
H11N3	WAKE ISLAND Hy	29.99	148	T	T	20 24 49.3	
	baz=342,slow=74						
H11S1	WAKE ISLAND Hy	31.03	150	T	T	20 26 00.2	
	baz=337,slow=76,SNR=69						
H11S3	WAKE ISLAND Hy	31.04	150	T	T	20 26 04.8	
	baz=337,slow=76,SNR=54						
H11S2	WAKE ISLAND Hy	31.05	150	T	T	20 26 13.4	
	baz=337,slow=76,SNR=33						
ILAR	Eielson Array	37.57	38	P	P	19 54 22.1	+0.3
	comp=Z,0.1nm,0.4s,baz=267,slow=5.6,SNR=4.5						
MKAR	Makanchi Array	45.53	296	eP	P	19 55 27.6	+0.8
MKAR	Makanchi Array	45.53	296	P	P	19 55 27.2	+0.4
	comp=Z,0.3nm,0.5s,baz=73,slow=8.4,SNR=5.5						
MKAR	Makanchi Array	45.53	296	eP	P	19 55 27.6	+0.8
YKA	Yellowknife Ar	51.90	36	P	P	19 56 14.7	-0.3
	comp=Z,0.2nm,0.5s,baz=300,slow=7.2,SNR=3.1						
FINES	FINESS Array B	63.38	334	eP	P	19 57 32.5	-2.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	63.38	334	P	P	19 57 34.2	-0.9
	comp=Z,1.1nm,0.5s,baz=38,slow=7.5,SNR=9.2						
FINES	FINESS Array B	63.38	334	eP	P	19 57 32.5	-2.6
NOA	NORSAR Array B	67.73	340	P	P	19 58 02.6	-0.4
	comp=Z,0.7nm,0.8s,baz=29,slow=6.6,SNR=4.0						
TXAR	Lajitas Array	78.89	59	P	P	19 59 09.6	+0.7
	comp=Z,0.3nm,0.5s,baz=308,slow=4.4,SNR=4.8						
LPAZ	La Paz	135.75	60	PKIKP	PKPdf	20 06 24.4	-1.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LPAZ	La Paz	135.75	60	PKP	PKPdf	20 06 24.4	-1.3
	comp=Z,1.0nm,0.4s,baz=333,slow=2.3,SNR=3.6						

MOS 22 19:48:35.1±1.8, 24.07S×175.82W, h33km, mb5.3/10, Error ellipse: s-maj=16.9km s-min=14.3km az=15.4
ISCJB 22 19:48:37.0±0.2, 24.00S±0.05×175.95W±0.05, h31km, mb5.0/56, MS4.3/17, Error ellipse: s-maj=8.0km s-min=5.1km az=144.9
NEIC 22 19:48:38.5±0.4, 24.00S×175.75W, h35km, mb5.1/17, Error ellipse: s-maj=13.1km s-min=10.2km az=136.0
GCMT 22 19:48:38.5±0.4, 23.89S×175.37W, h26km±1km, MW4.9/51, Moment Tensor Solution. s28,c36; s51,c67; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.22±.16; $M_{\theta\theta}$-0.08±.11; $M_{\phi\phi}$-2.14±.10; $M_{r\theta}$0.22±.26; $M_{r\phi}$-0.48±.07; $M_{\theta\phi}$1.67±.19; Best double couple: $M_0$2.79800×10^{16} NP1:ϕ_s10.00000°, δ64.00000°, λ87.00000°. NP2: ϕ_s196.00000°, δ27.00000°, λ95.00000°. Principal axes: T 2.7870, Plg71.0000°, Azm274.0000°; N 0.0160, Plg2.0000°, Azm11.0000°; P -2.8080, Plg18.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI 22 19:48:39.1, 23.44S×175.85W, h35km, mB5.5/22, mb5.2/35, Ms5.2/13, Ms7 4.8/12
IDC 22 19:48:41.5±2.6, 23.82S×176.09W, h53km±22km, mb4.4/20, mb1 4.5/21, mb1mx4.5/26, mbtmp4.7/21, ML4.2/1, MS4.1/15, Ms1 4.1/15, ms1mx4.0/23, Error ellipse: s-maj=17.9km s-min=12.4km az=147.0
ISC 22 19:48:38.2±0.4, 24.04S±0.06×175.81W±0.07, h31km, n240, σ1°48/262, mb5.0/55, MS4.2/17, 37C-24D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.53	200	S	Sn	19 51 02.5	+1.6
	52nm,0.3s,baz=90,slow=20,SNR=4.8						
NIUE	Niue	7.37	49 ⇑	P	Pn	19 50 14.9	-8.7
	baz=6.7,SNR=14						
MSVF	Nonsavu	8.50	316	Pn	Pn	19 50 41.1	+1.7
	1µm,1.1s,SNR=21						
MSVF	Nonsavu	8.50	316	eP	Pn	19 50 41.8	+2.5
MSVF				pmax	pmax		
	comp=Z,187nm,0.9s						
MSVF	Nonsavu	8.50	316	eP	Pn	19 50 41.8	+2.5
	comp=Z,187nm,0.9s						
RAR	Rarotonga	15.07	82	eP	Pn	19 52 00.7	-8.3
RAR				pmax	pmax		
	comp=Z,202nm,0.9s						
RAR	Rarotonga	15.07	82	P	Pn	19 52 01.2	-7.8
	comp=Z,8.7nm,0.3s,baz=246,slow=12,SNR=23						
RAR				LR	LR	19 58 12.0	
	comp=Z,646nm,18.0s,baz=244,slow=37						
RAR	Rarotonga	15.07	82	eP	Pn	19 52 00.7	-8.3
	comp=Z,202nm,0.9s						
URZ	Urewera	15.41	201	P	Pn	19 52 15.4	+2.0
	comp=Z,1.0nm,0.3s,baz=139,slow=6.4,SNR=5.0						
URZ				S	Sn	19 54 54.1	-9.0
	comp=Z,0.5nm,0.3s,baz=288,slow=20,SNR=2.6						
URZ	Urewera	15.41	201	eP	Pn	19 52 11.6	-1.8
URZ				S	Sn	19 54 54.1	-9.0
DZM	Mont Dzumac	16.45	273	eP	P	19 52 33.6	+4.2
	comp=Z,117nm,1.2s						
DZM				eLR	LR	19 56 30.7	
	comp=Z,965nm,24.4s						
DZM	Mont Dzumac	16.45	273	P	P	19 52 29.9	+0.5
	comp=Z,0.6nm,0.3s,baz=104,slow=14,SNR=6.7						
DZM				LR	LR	19 57 37.8	
	comp=Z,604nm,21.0s,baz=84,slow=33						
PAE	Paea	25.29	80	eT	T	20 20 02.5	
	comp=Z,6.9nm,0.4s						
PPT2	Papeete2	25.32	80	eS	S	19 58 25.8	-1.0
	comp=Z,168nm,30.3s						
PPT2				eLQ	LQ	19 58 51.4	
	comp=Z,404nm,23.8s						
PPT2				eLR	LR	20 00 09.3	
	comp=Z,839nm,25.5s,baz=248						
PPT	Papeete	25.33	80	LR	LR	20 03 06.4	
	comp=Z,414nm,18.9s,baz=232,slow=34						
HNR	Honiara	27.32	298	LR	LR	20 04 31.9	
	comp=Z,341nm,18.6s,baz=124,slow=35						
ARMA	Armidale	29.58	250	eP	P	19 54 40.9	+0.3
	comp=Z,19nm,1.0s						
ARMA	Armidale	29.58	250 ⇓	P	P	19 54 42.0	+1.4
	baz=30,SNR=5.3						
EIDS	Eidsvold	30.07	261	eP	P	19 54 44.1	-0.8
	comp=Z,6.8nm,1.0s						
EIDS	Eidsvold	30.07	261	P	P	19 54 44.7	-0.2
	baz=31,SNR=3.6						
RMQ	Roma	32.08	258	P	P	19 55 03.4	+0.8
	baz=33,SNR=15						
CTA	Charters Tower	35.31	269	P	P	19 55 30.1	-0.7
	comp=Z,12nm,0.4s,baz=97,slow=13,SNR=22						
CTAO	Charters Tower	35.31	269	P	P	19 55 28.2	-2.6
CTAO				pmax	pmax		
	comp=Z,33nm,0.9s						
CTAO	Charters Tower	35.31	269	P	P	19 55 28.2	-2.6
	comp=Z,32nm,0.9s						
QLP	Quilpie	36.12	257 ⇓	P	P	19 55 37.2	-0.4
	baz=37,SNR=8.3						
RKT	Rikitea	37.34	97	eLR	LR	20 05 44.0	
	comp=Z,371nm,27.2s						
RKT	Rikitea	37.34	97	eT	T	20 35 13.0	
	comp=Z,2.2nm,0.4s						
PMG	Port Moresby	38.19	286 ⇓	eP	P	19 55 54.0	-1.3
PMG				pmax	pmax		
	comp=Z,45nm,1.0s						
PMG	Port Moresby	38.19	286	P	P	19 55 53.5	-1.8
	comp=Z,38nm,0.9s,baz=110,slow=6.3,SNR=8.3						
PMG				LR	LR	20 08 50.9	
	comp=Z,191nm,21.5s,baz=162,slow=32						
PMG	Port Moresby	38.19	286	eP	P	19 55 53.8	-1.6
	comp=Z,36nm,0.8s						
STKA	Stephens Creek	38.24	248	P	P	19 55 55.0	-0.6
	comp=Z,8.2nm,0.9s,baz=97,slow=9.5,SNR=14						
STKA				LR	LR	20 10 24.0	
	comp=Z,560nm,19.4s,baz=62,slow=34						
STKA	Stephens Creek	38.24	248	P	P	19 55 56.3	+0.7
	baz=39,SNR=4.3						
COEN	Coen	39.93	277	eP	P	19 56 09.4	-0.5
	comp=Z,112nm,1.1s						
COEN	Coen	39.93	277	P	P	19 56 09.5	-0.4
	baz=40,SNR=8.2						
HTT	Hallett	40.52	246	P	P	19 56 14.7	+0.1
	baz=41,SNR=5.8						
QIS	Mount Isa	41.27	266	P	P	19 56 19.9	-1.1
	baz=42,SNR=4.9						
ASAR	Alice Springs	45.79	260	P	P	19 56 55.8	-1.6
	comp=Z,7.7nm,0.9s,baz=95,slow=8.0,SNR=35						
ASAR				S	S	20 03 37.4	-2.0
	comp=Z,0.4nm,0.7s,baz=99,slow=16,SNR=4.0						
ASAR				LR	LR	20 15 17.1	
	comp=Z,397nm,19.2s,baz=102,slow=35						
WRAB	Tennant Creek	46.21	265	P	P	19 56 58.2	-2.5
	comp=Z,109nm,0.8s,SNR=18						
WRAB	Tennant Creek	46.21	265 ⇓	eP	P	19 56 58.8	-1.9
WRAB				pmax	pmax		
	comp=Z,61nm,1.2s						
WRAB	Tennant Creek	46.21	265	eP	P	19 56 58.1	-2.6
	comp=Z,16nm,0.8s						
WRA	Warramunga Arr	46.22	265	P	P	19 56 58.4	-2.4
	comp=Z,13nm,0.7s,baz=103,slow=8.1,SNR=115						
WRA				S	S	20 03 39.8	-5.7
	comp=Z,1.8nm,1.1s,baz=100,slow=13,SNR=3.3						
WRA				LR	LR	20 15 26.7	
	comp=Z,381nm,19.5s,baz=90,slow=35						
FORT	Forrest	49.85	249	eP	P	19 57 27.1	-1.6
	comp=Z,26nm,0.7s						
KDU	Kakadu	50.12	273	P	P	19 57 28.4	-2.5
	baz=51,SNR=4.7						
WRKA	Warakurna	50.55	257	P	P	19 57 32.0	-2.1
	baz=51,SNR=35						
MTN	Manton Dam	51.29	273	P	P	19 57 37.4	-2.3
	baz=52,SNR=4.1						
KNRA	Kununurra	52.52	268 ⇑	P	P	19 57 47.2	-1.7
	baz=53,SNR=3.6						
VNDA	Vanda	54.60	186	P	P	19 58 06.7	+3.4
	comp=Z,3.0nm,0.9s,baz=35,slow=7.4,SNR=4.3						
VNDA				LR	LR	20 17 21.8	
	comp=Z,84nm,21.1s,baz=292,slow=31						
SWI	Sorong	56.15	286	P	P	19 58 13.9	-1.4
	baz=57,SNR=4.1						
KLBR	Kellerberrin	58.47	247	P	P	19 58 30.9	-0.7
	baz=59,SNR=8.8						
MEEK	Meekatharra	58.74	252	P	P	19 58 32.4	-1.2
	baz=59,SNR=4.3						
BLDU	Balladu	59.53	248 ⇓	P	P	19 58 37.5	-1.4
	baz=60,SNR=8.7						
MORW	Morawa	60.42	249 ⇑	P	P	19 58 44.2	-0.9
	baz=61,SNR=8.3						
JCJ	Chichijima	65.03	319	LR	LR	20 22 12.5	
	comp=Z,184nm,21.9s,baz=122,slow=31						
QSPA	South Pole Qui	66.05	180	P	P	19 59 24.3	+2.4
	comp=Z,5.7nm,0.6s,baz=311,slow=1.6,SNR=20						
QSPA	South Pole Qui	66.05	180	eP	P	19 59 24.1	+2.3
	comp=Z,11nm,1.0s						

MJAR Matsushiro Arr 74.25 323 LR LR 20 27 45.8
comp=Z,103nm,21.9s,baz=185,slow=32
KSM Kuching 75.92 278 eP P 20 00 21.3 -1.1
comp=Z,13nm,1.0s
KSM Kuching 75.92 278 P P 20 00 21.5 -1.0
baz=76,SNR=4.8
FX1 Attu Island--F 77.19 353 P P 20 00 28.2 -0.5
comp=Z,11nm,0.7s,baz=262,slow=2.7,SNR=4.8
ASAJ Asahikawa 77.79 331 P P 20 00 32.7 +0.4
comp=Z,9.3nm,0.8s,baz=150,slow=20,SNR=4.4
VES Vestal, Richgr 80.12 44 P P 20 00 45.7 +0.5
baz=80
PEA0B Petropavlovsk- 80.20 344 eP P 20 00 44.7 -0.6
PETK Petropavlovsk- 80.20 344 P P 20 00 44.5 -0.8
comp=Z,9.7nm,0.7s,baz=155,slow=4.5,SNR=16
PETK LR LR 20 30 43.7
comp=Z,96nm,20.2s,baz=149,slow=32
EDW2 Edwards Air Fo 80.22 45 P P 20 00 46.1 +0.2
baz=80
ISA Isabella 80.40 44 P P 20 00 47.1 +0.2
baz=81
KSRS Korea Array 80.87 318 P P 20 00 48.0 -1.2
comp=Z,2.4nm,0.8s,baz=127,slow=6.0,SNR=11
KSRS LR LR 20 31 19.2
comp=Z,109nm,21.3s,baz=138,slow=32
KSAR Wonju Array Be 80.88 318 P P 20 00 48.0 -1.3
KSAR Wonju Array Be 80.88 318 P P 20 00 48.0 -1.3
HEC Hector,Ludlow 81.27 46 P P 20 00 51.8 +0.2
baz=81
NVAR Mina Array Bea 82.24 42 P P 20 00 57.1 +0.4
comp=Z,1.5nm,0.7s,baz=221,slow=6.8,SNR=8.1
H03N2 Juan Fernandez 82.49 123 T T 21 32 57.1
baz=246,slow=73,SNR=8.3
H03N3 Juan Fernandez 82.49 123 T T 21 32 41.9
baz=246,slow=73,SNR=7.1
H03N1 Juan Fernandez 82.51 123 T T 21 32 53.1
baz=246,slow=73,SNR=8.8
I03D Drain, OR 82.80 35 P P 20 01 02.0 +2.7
baz=83
Y14A Wickenburg 82.97 48 P P 20 01 01.3 +0.8
baz=83
USRK Ussuriysk Arra 83.02 325 P P 20 01 00.7 +0.3
comp=Z,4.8nm,0.7s,baz=111,slow=3.3,SNR=14
J05D Fort Rock, OR 83.67 37 P P 20 01 04.6 +0.6
baz=84
NJ2 Nanjing 83.68 309 eP P 20 01 03.5 -0.6
NJ2 pmax pmax
comp=Z,20nm,1.1s
SYO Syowa Base 83.73 192⇓eP P 20 01 02.8 -0.9
R11A Troy Canyon, C 83.87 43 P P 20 01 05.5 +0.3
baz=84
QIZ Qiongzhong 84.14 294 P P 20 01 07.1 +0.4
QIZ S S 20 11 30.9 +1.0
X16A Lo Mia Camp, P 84.31 49 P P 20 01 07.9 +0.4
baz=84
VNA3 Neumayer Olymp 84.48 176 P P 20 01 08.1 +0.4
MDJ Mudanjiang 84.56 324 P P 20 01 09.4 +1.1
MDJ pP pP 20 01 18.8 +0.6
MDJ S S 20 11 36.3 +3.3
MDJ SS SS 20 17 01.4 -3.7
MDJ pmax pmax
comp=Z,12nm,1.4s
MDJ pmax pmax
comp=Z,160nm,3.9s
U15A North Rim 84.87 46 P P 20 01 10.7 +0.3
baz=85
VNA2 Neumayer--Watz 84.95 176 P P 20 01 10.3 +0.4
CN2 Changchun 86.33 322 eP P 20 01 16.8 -0.3
CN2 ePP PP 20 04 41.6 +2.9
CN2 eS S 20 11 49.9 -0.5
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s
KLR Kul'dur 86.59 329 eP P 20 01 14.7 -3.5
PSI Prapat 86.81 274 ⇑P P 20 01 20.0 -0.3
baz=87,SNR=4.2
TIA Tai'an 87.14 312 ⇑P P 20 01 20.9 -0.4
TIA pmax pmax
comp=Z,10.0nm,1.2s
TXAR Lajitas Array 87.28 56 P P 20 01 22.9 +0.6
comp=Z,1.4nm,0.9s,baz=224,slow=6.3,SNR=10
TXAR LR LR 20 35 14.0
comp=Z,100nm,18.8s,baz=0.0,slow=32
GSI Gunungsitoli 87.44 273 eP P 20 01 24.2 +1.0
comp=Z,25nm,0.8s
HLID Hailey 87.70 40 P P 20 01 25.8 +1.8
baz=88
CHBT CHBT 87.86 285 P P 20 01 27.6 +2.5
comp=Z,12nm,1.0s
ANMO Albuquerque 88.06 50⇓eP P 20 01 26.7 +0.8
ANMO pmax pmax
comp=Z,13nm,1.2s
Y24A Capitan 88.26 52 P P 20 01 28.2 +1.3
baz=88
V23A Ortiz Mt. (NFS 88.66 50 P P 20 01 29.7 +0.9
baz=89
Y25A Mesa, Roswell 88.79 52 P P 20 01 29.3 -0.1
baz=89
W24A Lazy 6 Ranch, 88.93 50 P P 20 01 30.4 +0.3
baz=89
Z26A Caprock 88.98 53 P P 20 01 30.0 -0.2
baz=89
PATY Pattaya 89.22 284 P P 20 01 35.1 +3.5
comp=Z,8.7nm,1.1s,comp=Z,672nm
S22A 4UR Ranch, Cre 89.25 48 P P 20 01 31.9 +0.3
baz=89
429A Davenport Ranc 89.25 56 P P 20 01 31.4 -0.1
baz=89
Y26A Elida 89.42 52 P P 20 01 32.4 +0.1
baz=90
SURT Suratani 89.44 280 P P 20 01 34.6 +1.9
comp=Z,11nm,1.3s,comp=Z,240nm
TRF Thorofare Moun 89.49 11 eP P 20 01 30.6 -1.4
comp=Z,10nm,0.7s
TNA Tin City 89.52 3 eP P 20 01 31.1 -0.7
comp=Z,3.4nm,0.9s
W25A X Bar L Ranch, 89.60 51 P P 20 01 33.3 +0.1
baz=90
V25A Rancho No Teng 89.80 50 P P 20 01 34.1 -0.1
baz=90
MCK McKinley 89.99 12 eP P 20 01 33.2 -0.9
MCK pmax pmax
comp=Z,4.0nm,0.8s
MCK McKinley 89.99 12 eP P 20 01 33.2 -0.9
comp=Z,3.6nm,0.8s
GYA Guiyang 90.14 299 P P 20 01 36.4 +0.5
GYA pP pP 20 01 48.3 +2.5
GYA PP PP 20 05 13.0 +3.1
GYA SKS SKSac 20 12 02.9 -2.2
GYA S S 20 12 26.4 -1.3
GYA sS sS 20 12 44.8 +0.6
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.5s
GYA LR LR
comp=Z,590nm,20.5s
GYA LR LR
comp=Z,520nm,22.0s
GYA LR LR
comp=Z,570nm,21.8s
SEY Seymchan 90.27 346 P P 20 01 34.7 -0.6
comp=Z,3.9nm,0.7s,baz=130,slow=5.0,SNR=27
MENT Mentasta 90.34 14 eP P 20 01 35.7 0.0
DLBC Dease Lake 90.52 22 P P 20 01 37.0 +0.2
comp=Z,3.3nm,0.8s,baz=178,slow=3.5,SNR=6.7
PBKT Sadao Pong 90.65 288 P P 20 01 39.6 +1.4
comp=Z,12nm,1.1s
U26A Atchley Ranch, 90.69 50 P P 20 01 37.9 -0.4
baz=91
LOEI Loei 90.79 289 P P 20 01 38.6 -0.3
comp=Z,149nm,0.8s
COLA College 91.23 12⇑eP P 20 01 38.8 -1.0
COLA pmax pmax
comp=Z,25nm,1.0s
COLA College 91.23 12 eP P 20 01 38.3 -1.5
comp=Z,4.1nm,0.7s
ILAR Eielson Array 91.32 12 P P 20 01 39.3 -0.9
comp=Z,2.3nm,0.9s,baz=219,slow=5.7,SNR=18
SRDT SRDT 91.36 285 P P 20 01 44.5 +3.0
comp=Z,78nm,0.8s
433A Art 91.44 57 P P 20 01 41.3 -0.4
baz=92
UTTA Uttaradit 91.50 289 P P 20 01 43.9 +1.8
comp=Z,3.8nm,1.1s,comp=Z,41nm
XAN Xi'an 91.87 307 P P 20 01 43.9 +0.3
XAN pmax pmax
comp=Z,4.0nm,0.9s
Z32A Haskell 92.31 55 P P 20 01 45.3 -0.3
baz=92
334A Lometa 92.36 57 P P 20 01 46.5 +0.6
baz=92
LAMP Lampang 92.62 289 P P 20 01 48.9 +1.6
comp=Z,15nm,0.8s,comp=Z,127nm
KMI Kunming 92.74 296 P P 20 01 48.8 +0.7
KMI pP pP 20 02 00.1 +2.1
KMI pmax pmax
comp=Z,12nm,1.0s
BILL Bilibino 92.76 353⇓eP P 20 01 46.4 -0.4
BILL pmax pmax
comp=Z,8.0nm,2.0s
PAYA Payao 92.76 290 P P 20 01 49.2 +1.2
comp=Z,7.4nm,1.1s
CM31 Chiang Mai Arr 93.19 289 eP P 20 01 51.3 +1.3
comp=Z,19nm,1.0s
CMAR Chiang Mai Arr 93.19 289 P P 20 01 50.5 +0.5
comp=Z,18nm,1.1s,baz=130,slow=3.2,SNR=93
HHC Hu-ho-hao-te 93.26 314 eP P 20 01 50.0 +0.1
HHC pP pP 20 02 00.1 +0.2
HHC sP sP 20 02 04.4 +0.9
HHC SKS SKSac 20 12 20.3 -1.7
HHC S S 20 12 52.6 -2.6
HHC sS sS 20 13 10.3 -1.5
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,420nm,7.3s
HHC LR LR
comp=Z,260nm,19.9s
HHC LR LR
comp=Z,270nm,19.0s
HHC LR LR
comp=Z,220nm,19.1s
CMMT Chiang Mai 93.33 289 P P 20 01 51.5 +0.9
comp=Z,29nm,1.1s
CHTO Chiang Mai 93.33 289 eP P 20 01 51.7 +1.0
CHTO pmax pmax
comp=Z,16nm,0.8s
CHTO Chiang Mai 93.33 289 P P 20 01 51.6 +1.0
comp=Z,100nm,1.3s
CHTO Chiang Mai 93.33 289 eP P 20 01 51.7 +1.0
comp=Z,16nm,0.8s
CMAI Chiengmai2 93.70 290 P P 20 01 53.6 +1.1
comp=Z,104nm,0.9s,comp=Z,8μm
MHMT Maesarieng 93.95 288 P P 20 01 56.3 +2.8
comp=Z,3.9nm,1.1s
CD2 Chengdu 94.39 302 eP P 20 01 56.5 +1.2
CD2 pP pP 20 02 07.6 +2.3
CD2 sP sP 20 02 11.8 +3.0
CD2 PP PP 20 05 47.3 +4.1
CD2 SKS SKSac 20 12 27.5 -1.0
CD2 S S 20 13 03.8 -1.6
CD2 sS sS 20 13 22.4 +0.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.6s
LZH Lanzhou 96.51 307 eP P 20 02 05.5 +0.5
LZH pP pP 20 02 16.6 +1.6
LZH sP sP 20 02 20.4 +1.9
LZH ePP PP 20 06 02.8 +3.1
LZH SKS SKSac 20 12 40.5 +0.7
LZH eS S 20 13 23.1 -0.8
LZH pmax pmax
comp=Z,15nm,1.6s
LZH pmax pmax
comp=Z,95nm,9.7s
LZH LR LR
comp=Z,250nm,18.0s
LZH LR LR
comp=Z,200nm,17.6s
LZH LR LR
comp=Z,380nm,19.7s
LPAZ La Paz 98.84 112 LR LR 20 41 39.0
comp=Z,42nm,18.1s,baz=228,slow=32
YKA Yellowknife Ar 98.87 24 P P 20 02 13.8 -0.9
comp=Z,0.3nm,0.7s,baz=243,slow=4.5,SNR=6.1
SONM Songino Array 99.74 318 P Pdif 20 02 17.3 -1.8
comp=Z,0.5nm,0.8s,baz=126,slow=3.3,SNR=4.0
GTA Gaotai 100.76 308 eP Pdif 20 02 26.6 +2.6
GTA pP pP 20 02 37.5 +3.5
GTA sP sP 20 02 41.0 +3.4
GTA pmax pmax
comp=Z,2.0nm,1.6s
WMQ Urumqi 110.76 310 ePdif Pdif 20 03 09.3 +1.1
WMQ PP PP 20 07 50.3 +4.5
WMQ SKS SKSdf 20 14 14.9 -3.0
WMQ AMB AMB
comp=Z,18nm,18.4s
WMQ LR LR
comp=Z,150nm,23.0s
WMQ LR LR
comp=Z,130nm,22.4s
WMQ LR LR
comp=Z,77nm,21.2s
ZALV Zalesovo Beam 114.50 320 PKP PKPdf 20 07 13.8 -1.0
comp=Z,0.8nm,0.5s,baz=105,slow=0.7,SNR=6.2
MKAR Makanchi Array 115.08 312 PKP PKPdf 20 07 15.0 -1.2
comp=Z,0.7nm,0.8s,baz=92,slow=0.3,SNR=8.8
KSH Kashi 118.55 303 ePKP PKPdf 20 07 24.0 +0.8
KSH esPKP 20 07 39.6
KSH PKS PKSdf 20 11 00.3 +0.3
KSH SKKS 20 15 37.5
KSH AMB AMB
comp=Z,81nm,4.3s
KSH LR LR
comp=Z,66nm,4.2s
KSH LR LR
comp=Z,36nm,5.9s
KSH LR LR
comp=Z,220nm,5.6s
AAK Ala-Archa 120.05 307 i PKIKP PKPdf 20 07 26.0 -0.1
AAK pmax pmax
comp=Z,4.0nm,1.2s
KKAR Karatay Array 123.01 307 ePKIKP PKPdf 20 07 30.9 -0.6
KKAR Karatay Array 123.01 307 ePKPdf PKPdf 20 07 30.9 -0.6
BRVK Borovoye 123.14 319⇓iPKIKP PKPdf 20 07 30.8 -0.6
ARU Arti 129.25 324 i PKIKP PKPdf 20 07 42.4 -0.6
ARU 20 09 53.0
ARCES ARCESS Array B 132.75 350 PKP PKPdf 20 07 48.8 -0.5
comp=Z,5.4nm,1.0s,baz=27,slow=2.4,SNR=4.7
FINES FINESS Array B 139.72 344 PKhKP PKPpre 20 07 53.0
comp=Z,0.7nm,0.6s,baz=339,slow=2.7,SNR=4.6
FINES PKP PKiKP 20 08 03.6 -1.1
comp=Z,1.1nm,0.7s,baz=90,slow=3.1,SNR=5.8
OBN Obninsk 140.82 331 ePKIKP PKPdf 20 08 03.1 -1.5
OBN pmax pmax
comp=Z,4.0nm,1.2s
NB2 NORSAR Subarra 142.70 354 PKP PKPdf 20 08 03.3 -4.6
comp=Z,0.5nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B 142.70 354 PKP PKPdf 20 08 09.4 +1.6
comp=Z,0.8nm,0.8s,baz=14,slow=4.1,SNR=4.3
NACGM Naroch 144.91 337 e PKPab 20 08 09.0 -2.0
SUW Suwalki 146.85 339 ePKIKP PKPbc 20 08 16.1 -0.9
SUW Suwalki 146.85 339 ePKP PKPbc 20 08 16.6 -0.4
SUW Suwalki 146.85 339 ePKPbc PKPbc 20 08 16.1 -0.9
AKASG Malin Array Be 147.08 330 PKPbc PKPbc 20 08 16.7 -1.1
comp=Z,9.6nm,0.6s,baz=41,slow=3.8,SNR=60
KIEV Kiev 147.09 330 c iPKIKP PKPdf 20 08 16.4 +0.8
KIEV Kiev 147.09 330 ePKPbc PKPdf 20 08 16.5 +0.8
MUD Monsted U'grnd 147.41 355 i PKIKP PKPbc 20 08 18.2 -0.3
MUD pmax pmax
comp=Z,12nm,0.8s
MUD Monsted U'grnd 147.41 355 i P PKPbc 20 08 18.2 -0.3
comp=Z,12nm,0.8s
MALT Malatya 147.64 304 ⇑PKIKP PKPbc 20 08 20.4 +0.5
MALT Malatya 147.64 304 ⇑iP PKPbc 20 08 20.4 +0.5
LVV L'vov 149.96 334 ePKHKP PKPbc 20 08 24.7 -0.6
KWP Kalwaria Pacla 150.63 335 ⇑PKIKP PKPbc 20 08 27.0 0.0
KWP Kalwaria Pacla 150.63 335 ePKP PKPbc 20 08 26.9 0.0
KWP Kalwaria Pacla 150.63 335 ⇑iP PKPbc 20 08 27.0 0.0
KWP Kalwaria Pacla 150.63 335 ePKPbc PKPbc 20 08 26.9 0.0
BRTR Keskin Array B 150.68 309 PKPbc PKPbc 20 08 26.9 -0.7
comp=Z,4.5nm,0.8s,baz=132,slow=4.1,SNR=21
BURAR Bucovina Array 151.13 330 ⇑PKIKP PKPbc 20 08 29.9 +1.6
BURAR Bucovina Array 151.13 330 ⇑iP PKPbc 20 08 29.9 +1.6
ANTO Ankara 151.22 310 ⇓PKIKP PKPbc 20 08 28.8 0.0
ANTO Ankara 151.22 310 ⇓iP PKPbc 20 08 28.8 0.0
ANTO Ankara 151.22 310 ePKPbc PKPbc 20 08 28.7 0.0
TESR Tescani 151.22 327 ⇑iP PKPbc 20 08 27.8 -0.6
CFR Carcaliu 151.33 323 ⇓PKIKP PKPbc 20 08 28.8 +0.1
CFR Carcaliu 151.33 323 ⇓iP PKPbc 20 08 28.8 +0.1
STHS Stebnicka Huta 151.35 336 ePKIKP PKPbc 20 08 29.1 +0.4
STHS e 20 08 37.3
STHS Stebnicka Huta 151.35 336 ePKP PKPbc 20 08 29.1 +0.4
STHS e 20 08 37.3
UZH Uzhgorod 151.60 334 ePKIKP PKPbc 20 08 28.5 -0.7
UZH e 20 08 34.0
UZH i 20 08 40.9
VRI Vrincioaia 151.62 326 ⇑PKIKP PKPdf 20 08 25.0 +1.9
VRI Vrincioaia 151.62 326 ⇑iP PKPdf 20 08 25.0 +1.9
KSP Ksiaz 151.65 344 ePKIKP PKPbc 20 08 29.3 +0.1
PLOR Plostina 151.67 326 ⇓PKIKP PKPbc 20 08 29.1 -0.4
PLOR Plostina 151.67 326 ⇓iP PKPbc 20 08 29.1 -0.4
CRVS Cervenica-Dubn 151.70 336 ePKIKP PKPbc 20 08 29.6 +0.1
CRVS Cervenica-Dubn 151.70 336 ePKP PKPbc 20 08 29.6 +0.1
RAC Raciborz 151.80 341 ePKIKP PKPbc 20 08 31.7 +2.1
RAC e 20 08 34.9
TRPA Tarpa 151.90 333⇓iP PKPbc 20 08 31.3 +1.4
CLL Collm 151.94 348⇑iPKIKP PKPbc 20 08 29.6 -0.3
CLL e 20 08 37.0
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 151.94 348⇑iPKPbc PKPbc 20 08 29.6 -0.3
comp=Z,14nm,0.9s
CLL ePKPab PKPab 20 08 37.0 -2.1
CLL e(sPKPbc) 20 08 43.0
UPC Upice 152.02 344 ePKIKP PKPbc 20 08 30.2 +0.1
UPC e 20 08 39.5
UPC Upice 152.02 344⇑ePKP PKPbc 20 08 30.2 +0.1
UPC ePKPAB PKPab 20 08 39.5 0.0
OKC Ostrava-Krasne 152.03 341 ePKIKP PKPbc 20 08 30.0 -0.1
OKC Ostrava-Krasne 152.03 341⇑ePKP PKPbc 20 08 30.0 -0.1
DPC Dobruska-Polom 152.09 343 ePKIKP PKPdf 20 08 21.0 -2.7
DPC e 20 08 30.6
DPC e 20 08 38.6
DPC Dobruska-Polom 152.09 343 ePKPDF PKPdf 20 08 21.0 -2.7
DPC ⇑ePKP PKiKP 20 08 30.6 -0.1
DPC ePKPAB PKPab 20 08 38.6 -1.3
DPC esPKP 20 08 45.2
BRG Berggiesshubel 152.16 347 ePKP PKPbc 20 08 28.3 -2.1
comp=Z,2.3nm,0.9s
BRG i 20 08 30.4
comp=Z,10.0nm,0.8s
BRG Berggiesshubel 152.16 347 ePKIKP PKPbc 20 08 28.3 -2.1
BRG i 20 08 30.4
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,2.0nm,0.8s
KRLC Kraliky 152.21 342 ePKIKP PKPbc 20 08 30.7 +0.1
KRLC Kraliky 152.21 342⇑ePKP PKPbc 20 08 30.7 +0.1
MORC Moravsky Berou 152.27 341 ePKIKP PKPbc 20 08 30.5 -0.3
MORC Moravsky Berou 152.27 341⇓iP PKPbc 20 08 30.7 -0.1
MORC Moravsky Berou 152.27 341 ePKPbc PKPbc 20 08 30.5 -0.3
MLR Muntele Rosu 152.28 326 ⇑PKIKP PKPbc 20 08 29.9 -1.1
MLR Muntele Rosu 152.28 326⇑iP PKPbc 20 08 29.9 -1.1
VOIR 152.77 327 ⇓PKIKP PKPbc 20 08 33.4 +1.3
VOIR 152.77 327⇓iP PKPbc 20 08 33.4 +1.3
PRU Pruhonice 152.86 345 ePKIKP PKPbc 20 08 31.3 -0.7
PRU e 20 08 39.3
PRU Pruhonice 152.86 345⇑ePKP PKPbc 20 08 31.3 -0.7
PRU ePKPAB PKPab 20 08 39.3 -3.7
DRGR 152.87 331 ⇑PKIKP PKPbc 20 08 31.8 -0.4
DRGR 152.87 331⇑iP PKPbc 20 08 31.8 -0.4
VRAC Vranov 152.96 342⇓iP PKPab 20 08 43.6 +0.1
VYHS Vyhne 152.98 338 ePKP PKPbc 20 08 32.1 -0.3
VYHS e 20 08 43.1
ARR Arges 153.03 327⇓iP PKPbc 20 08 33.3 +0.7
TREC Trest 153.27 343 ePKIKP PKPbc 20 08 32.3 -0.7
TREC e 20 08 43.7
TREC Trest 153.27 343⇑ePKP PKPbc 20 08 32.3 -0.7
TREC ePKPAB PKPab 20 08 43.7 -1.1
KHC Kasperske Hory 153.89 346 ePKIKP PKPbc 20 08 34.1 -0.2
KHC e 20 08 47.1
KHC Kasperske Hory 153.89 346⇑ePKP PKPbc 20 08 34.1 -0.2
KHC epPKP PKPab 20 08 43.0 -4.5
KHC ePKPAB PKiKP 20 08 47.1 +13
KHC ex x 20 08 57.0
GZR Gura Zlata 153.90 329 ⇑PKIKP PKPbc 20 08 33.8 -0.7
GZR Gura Zlata 153.90 329⇑iP PKPbc 20 08 33.8 -0.7
GERES GERESS Array B 154.13 346 PKPbc PKPbc 20 08 34.2 -0.7
comp=Z,0.8nm,0.7s,baz=160,slow=4.3,SNR=5.6
BZS Buzias 154.26 331 ⇑PKIKP PKPbc 20 08 34.6 -0.6
BZS Buzias 154.26 331⇑iP PKPbc 20 08 34.6 -0.6
CONA Conrad Observa 154.42 342⇓iPKIKP PKPbc 20 08 35.5 -0.1
comp=Z,2.5nm,0.8s
PKSM Moragy 155.00 336 ⇓PKIKP PKPbc 20 08 36.5 -0.2
PKSM Moragy 155.00 336⇓iP PKPbc 20 08 36.5 -0.2
KDZ Kurdzhali 155.08 320 ⇑PKP2 PKPab 20 08 54.3 +1.5
KDZ Kurdzhali 155.08 320⇑iP PKPab 20 08 54.3 +1.5
MMB Musomiste 156.10 322 ⇑PKP2 PKPab 20 08 57.7 +0.5
MMB Musomiste 156.10 322⇑iP PKPab 20 08 57.7 +0.5
TORD Torodi Ar. Bea 168.91 167 PKP PKPdf 20 08 42.2 -0.8
comp=Z,1.0nm,0.9s,baz=221,slow=0.3,SNR=5.9
TORD PKPab PKPab 20 09 55.0 +1.3
comp=Z,1.8nm,1.0s,baz=183,slow=3.6,SNR=7.6

MAN 22 19:59:31, 11.̊12N×124.̊63E, h7km, mb4.2, ML3.1, MS2.8, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.07	194	eP	Pg	19 59 34.1	+1.3
OCLP				eS	Sg	19 59 36.7	+2.6
PLP	Palo	0.35	82⇓	eP	Pb	19 59 39.0	-0.6
MSLP	Maasin	1.00	167	eP	Pb	19 59 50.9	+0.2
MSLP				eS	Sn	20 00 05.2	-0.7

CSEM 22 20:08:28.2, 50.̊06N×18.̊41E, h0km, After GFU
PRU 22 20:08:27.9, 50.̊04N×18.̊45E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.28	224	ePG	Pg	20 08 33.7	+0.4
OKC				eSG	Sg	20 08 37.2	+0.2
	19nm,0.6s						
OKC	Ostrava-Krasne	0.28	224	Pg	Pg	20 08 33.7	+0.4
OKC				Sg	Sg	20 08 37.2	+0.2
	19nm,0.6s						
KRLC	Kraliky	1.08	273	ePG	Pg	20 08 47.3	-1.3
KRLC				eSG	Sg	20 09 01.5	-1.2
KRLC	Kraliky	1.08	273	Pg	Pg	20 08 47.3	-1.3
KRLC				Sg	Sg	20 09 01.5	-1.2
DPC	Dobruska-Polom	1.40	284	ePG	Pn	20 08 53.4	-1.4
DPC				eSG	Sg	20 09 12.1	-1.0
DPC	Dobruska-Polom	1.40	284	Pg	Pn	20 08 53.4	-1.4
DPC				Sg	Sg	20 09 12.1	-1.0
UPC	Upice	1.63	288	eSG	Sn	20 09 19.4	-0.3
	1.3nm,0.2s						
UPC	Upice	1.63	288	Sg	Sn	20 09 19.4	-0.3
	1.3nm,0.2s						
PRU	Pruhonice	2.52	270	eSG	Sb	20 09 46.7	+1.1
PRU	Pruhonice	2.52	270	Sg	Sb	20 09 46.7	+1.1
KHC	Kasperske Hory	3.30	256	eSG	Sg	20 10 11.2	-2.8
KHC	Kasperske Hory	3.30	256	Sg	Sg	20 10 11.2	-2.8

IDC 22 20:47:29.5±0.6, 11.̊16N×124.̊94E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.2/26, mbtmp4.2/18, MS3.3/6, Ms1 3.4/6, ms1mx3.1/30, Error ellipse: s-maj=28.2km s-min=13.1km az=75.0
ISCJB 22 20:47:30.2±0.8, 11.̊15N±0.̊03×124.̊74E±0.̊04, h11km±5km, mb4.3/29, MS3.5/5, Error ellipse: s-maj=7.0km s-min=4.3km az=168.2
MAN 22 20:47:31, 11.̊08N×124.̊57E, h3km, mb5.3, ML4.3, MS4.5
DJA 22 20:47:35.9±0.7, 11.̊N±8.̊×12.̊5E±.̊, h10km, M4.7/12, mB5.5/4, mb4.5/12, Mw(mB)4.9/4
NEIC 22 20:47:39.8±1.6, 11.̊07N×124.̊74E, h81km±15km, mb4.5/11, Error ellipse: s-maj=16.5km s-min=9.1km az=80.0
NEIC Felt [II PIVS] at Kananga and Ormoc.
ISC 22 20:47:31.6±0.9, 11.̊09N±0.̊03×124.̊67E±0.̊05, h11km±5km, n82, σ1.̊28/80, mb4.5/29, MS3.5/5, 4C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.07	239	eP	Pg	20 47 33.4	-0.6
OCLP				eS	Sg	20 47 36.0	+0.3
MSLP	Maasin	0.97	169	eP	Pg	20 47 50.0	-0.2
MSLP				eS	Sb	20 48 03.8	+0.6

LLP	Lapu-Lapu	1.03	222⇑	eP	Pb	20 47 49.4	-2.1
LLP				eS	Sb	20 48 06.5	+1.4
CNP	Catarman	1.41	360	eP	Pb	20 47 57.9	0.0
TBP	Tagbilaran	1.60	210	eP	Pn	20 47 59.7	-0.1
MMPH	Masbate	1.63	321	eP	Pn	20 48 00.5	+0.2
MMPH				eS	Sb	20 48 22.1	-0.1
RCP	Roxas	1.95	284⇑	eP	Pn	20 48 04.4	-0.2
RCP				eS	Sn	20 48 29.7	+0.6
GUIM	Jordan	2.10	258	eP	Pn	20 48 06.3	-0.4
KALP	Kalibo	2.36	285	eP	Pb	20 48 14.1	-0.1
PVCP	Virac	2.54	349	eP	Pn	20 48 12.8	0.0
CGP	Cagayan de Oro	2.62	180⇑	iP	Pn	20 48 15.0	+1.2
CGP				iS	Sn	20 48 47.2	+1.6
BIPH	Bislig	3.33	150⇑	eP	Pn	20 48 25.8	+2.1
BIPH				iS	Sb	20 49 09.4	-1.9
DAV	Davao City (W)	4.09	167	eP	Pb	20 48 41.7	-2.0
TGY	Tagaytay City	4.72	310	LR	LR	20 50 36.5	
	comp=Z,47nm,20.4s,baz=152,slow=38						
TNTI	Ternate	10.59	165	P	Pn	20 50 10.7	+7.3
	64nm,1.5s						
SANI	Sanana	13.12	174	P	Pn	20 50 38.1	+0.1
	39nm,1.1s						
NACB	Ninganchiao	13.34	348	eP	P	20 50 56.3	+5.7
	83nm,1.0s						
YHNB	Yeheng	13.87	347	eP	P	20 51 02.9	+6.3
	102nm,0.8s						
TATO	Taipei	14.14	348	P	Pn	20 50 51.4	-0.5
	66nm,0.7s						
NLAI	Namlea	14.44	170	P	P	20 50 59.6	-3.3
	28nm,1.2s						
MTKI	Muara Teweh, K	15.41	220	P	P	20 51 21.3	+7.6
STKI	Sintang	17.09	231	P	P	20 51 35.6	+3.3
	25nm,1.5s,2μm						
KSM	Kuching	17.17	237	eP	P	20 51 34.0	+0.8
	40nm,1.4s						
SMPI	Sarmi	19.07	132	P	Pn	20 51 57.3	+2.3
	67nm,1.3s,4μm						
GENI	Genyem	20.55	131	P	Pn	20 52 17.6	+5.0
	77nm,1.8s						
BATI	Baumata	21.18	183	P	P	20 52 18.7	+1.5
	19nm,0.5s,baz=72,slow=4.2,SNR=6.2						
BATI				S	S	20 56 07.5	-5.4
	11nm,0.6s,baz=75,slow=18,SNR=4.0						
JAGI	Jajag, Banyuwa	22.07	209	eP	P	20 52 26.7	0.0
	27nm,1.2s						
IPM	Ipoh	24.32	256	eP	P	20 52 49.2	-0.4
	29nm,1.3s						
MDSI	Maura Dua	25.60	234	P	P	20 53 05.2	+4.1
CMAR	Chiang Mai Arr	25.91	289	P	P	20 53 05.5	+1.6
	1.3nm,0.9s,baz=97,slow=7.4,SNR=11						
CMAR				LR	LR	21 02 25.8	
	comp=Z,85nm,20.2s,baz=142,slow=34						
KSAR	Wonju Array Be	26.40	6	P	P	20 53 08.7	+0.5
KSRS	Korea Array	26.41	6	P	P	20 53 08.7	+0.4
	3.7nm,1.1s,baz=180,slow=10.0,SNR=10						
MJAR	Matsushiro Arr	28.14	24	LR	LR	21 04 17.6	
	comp=Z,32nm,20.1s,baz=205,slow=36						
WRA	Warramunga Arr	32.27	163	P	P	20 53 59.1	-1.4
	5.5nm,1.0s,baz=343,slow=8.9,SNR=16						
USRK	Ussuriysk Arra	33.59	10	P	P	20 54 11.0	-0.8
	12nm,1.2s,baz=188,slow=7.3,SNR=5.8						
ASAR	Alice Springs	35.70	165	P	P	20 54 30.1	-0.2
	9.1nm,0.7s,baz=344,slow=6.5,SNR=68						
ASAR				PcP	PcP	20 56 58.0	-0.6
	0.6nm,0.5s,baz=337,slow=2.4,SNR=5.6						
LSA	Lhasa	36.28	306	eP	P	20 54 39.1	+3.3
	10nm,1.4s						
TAPN	Taplejung	38.28	300	eP	P	20 54 53.0	+0.3
	4.7nm,0.5s						
TAPN	Taplejung	38.28	300	eP	P	20 54 53.0	+0.3
ODAN	Odare	38.41	299	eP	P	20 54 54.1	+0.4
	36nm,0.9s						
ODAN	Odare	38.41	299	eP	P	20 54 54.1	+0.4
RAMN	Ramite	39.11	299	eP	P	20 55 00.2	+0.6
	16nm,0.7s						
RAMN	Ramite	39.11	299	eP	P	20 55 00.2	+0.6
JIRN	Jiri	39.67	300	eP	P	20 55 04.3	0.0
	32nm,0.8s						
JIRN	Jiri	39.67	300	eP	P	20 55 04.3	0.0
SONM	Songino Array	39.72	341	P	P	20 55 05.2	+1.0
	3.3nm,1.1s,baz=156,slow=7.3,SNR=18						
SONM				LR	LR	21 13 24.1	
	comp=Z,64nm,18.3s,baz=173,slow=39						
GUN	Gumba	40.00	300	eP	P	20 55 07.5	+0.4
	48nm,1.0s						
GUN	Gumba	40.00	300	eP	P	20 55 07.5	+0.4
PKI	Pulchoki	40.30	300	eP	P	20 55 09.2	-0.3
	10.0nm,0.5s						
PKI	Pulchoki	40.30	300	eP	P	20 55 09.3	-0.3
PKIN	Phulchoki	40.32	300	eP	P	20 55 09.2	-0.4
	6.1nm,0.5s						
PKIN	Phulchoki	40.32	300	eP	P	20 55 09.3	-0.4
KKN	Kakani	40.48	300	eP	P	20 55 10.8	-0.1
	6.3nm,0.6s						
KKN	Kakani	40.48	300	eP	P	20 55 10.8	-0.1
DMN	Daman	40.57	300	eP	P	20 55 11.7	0.0
	19nm,0.9s						
DMN	Daman	40.57	300	eP	P	20 55 11.7	0.0
GKN	Gorkha	41.08	300	eP	P	20 55 15.4	-0.4
	2.5nm,0.4s						
KOLN	Koldanda	41.90	299	eP	P	20 55 22.7	+0.1
	12nm,0.8s						
KOLN	Koldanda	41.90	299	eP	P	20 55 22.7	+0.1
DANN	Dangsing	41.92	300	eP	P	20 55 22.5	-0.3
	13nm,0.6s						
DANN	Dangsing	41.92	300	eP	P	20 55 22.5	-0.3
BBOO	Buckleboo	44.99	166	eP	P	20 55 46.6	-0.4
	624nm,0.9s						
STKA	Stephens Creek	45.69	160	P	P	20 55 52.6	0.0
	4.9nm,0.7s,baz=354,slow=6.1,SNR=8.3						
MKAR	Makanchi Array	50.43	323	P	P	20 56 30.2	+1.0
	0.8nm,0.7s,baz=118,slow=8.5,SNR=10						
DZM	Mont Dzumac	52.58	129	LR	LR	21 17 51.5	
	comp=Z,76nm,18.1s,baz=58,slow=35						
ZALV	Zalesovo Beam	53.16	332	P	P	20 56 49.8	+0.3
	0.5nm,0.5s,baz=111,slow=7.9,SNR=4.7						
KURK	Kurchatov	54.51	326	eP	P	20 57 00.1	+0.7
	7.0nm,1.3s						
KKAR	Karatay Array	56.56	315	eP	P	20 57 12.6	-1.7
	1.3nm,0.5s						
BRVK	Borovoye	60.18	326	eP	P	20 57 40.3	+0.9
	4.2nm,1.0s						
TIXI	Tiksi	60.57	2	eP	P	20 57 41.6	-0.1
	5.8nm,0.9s						
ABKAR	Akbulak array	65.23	319	eP	P	20 58 11.6	-1.6
	1.6nm,0.8s						
ARU	Arti	67.68	327	eP	P	20 58 29.6	+0.9
	4.8nm,1.0s						
ILAR	Eielson Array	79.39	26	P	P	20 59 35.5	-1.9
	0.2nm,0.5s,baz=271,slow=4.2,SNR=3.4						
ARCES	ARCESS Array B	82.88	340	P	P	20 59 55.1	-0.9
	5.4nm,0.9s,baz=81,slow=5.7,SNR=11						
BRTR	Keskin Array B	83.80	309	P	P	21 00 02.5	+1.0
	0.2nm,0.4s,baz=78,slow=5.7,SNR=2.9						
FINES	FINESS Array B	84.43	331	P	P	21 00 02.7	-1.4
	2.5nm,0.6s,baz=94,slow=5.7,SNR=15						
AKASG	Malin Array Be	84.94	321	P	P	21 00 05.4	-1.4
	3.5nm,0.8s,baz=64,slow=5.1,SNR=12						
KIEV	Kiev	84.95	321	eP	P	21 00 08.3	+1.5
	4.8nm,1.0s						
KMBO	Kilima Mbogo	87.68	268	P	P	21 00 23.6	+2.2
	1.6nm,0.2s,baz=49,slow=20,SNR=9.7						
HFS	Hagfors	90.60	332	P	P	21 00 33.3	-0.6
	1.0nm,0.7s,baz=126,slow=7.3,SNR=4.4						
NOA	NORSAR Array B	91.33	333	LR	LR	21 44 46.3	
	comp=Z,35nm,19.7s,baz=170,slow=38						
YKA	Yellowknife Ar	93.64	24	P	P	21 00 46.9	-1.0
	0.1nm,0.4s,baz=306,slow=4.7,SNR=4.0						

ISCJB 22 20:50:35.2±0.3,23°.97N±0°.02×122°.93E±0°.02,h13km, Error ellipse: s-maj=3.7km s-min=2.0km az=159.5
TAP 22 20:50:36.4,24°.04N×122°.93E,h25km,ML3.2,C
JMA 22 20:50:36.5,24°.08N×122°.90E,h38km±2km,M2.5
ISC 22 20:50:35.2±0.8,23°.99N±0°.04×122°.94E±0°.02,h13km,n43, σ1§17/78,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.46	1	P	Pb	20 50 45.4	+0.1
JYNG				eS	Sb	20 50 51.5	-0.6
YOJ	Yonaguni jima	0.48	8	P	Pb	20 50 45.7	+0.2
YOJ				eS	Sb	20 50 52.1	-0.4
YOJ	Yonaguni jima	0.48	8	eP	Pb	20 50 45.4	-0.1
	241nm,0.5s						
YOJ	Yonaguni jima	0.48	8⇓	iP	Pb	20 50 45.7	+0.2
	baz=8.0						
YOJ				iS	Sb	20 50 52.1	-0.4
	baz=8.0						
HATJ	Hateruma jima	0.79	85	P	Pg	20 50 51.7	+1.1
IRIF	Iriomote-Funau	0.80	64	P	Pg	20 50 51.2	+0.4
IRIF				eS	Sg	20 51 02.2	+0.9
JKRS	Kuro-shima	1.01	75	P	Pb	20 50 54.8	+0.3
JKRS				eS	Sb	20 51 08.7	+1.0
JIJ	Ishigaki jima	1.16	71	P	Pb	20 50 55.2	-0.4
JIJ				eS	Sb	20 51 11.8	-0.3
TWC	Suao	1.17	302	eP	Pb	20 50 56.5	-0.9
	baz=300						
TWC				S	Sb	20 51 12.2	-0.3
	baz=300						
ENA	Nanau	1.18	292	eP	Pb	20 50 57.1	-0.4
	baz=289						
ENA				eS	Sg	20 51 13.2	-0.2
	baz=289						
TWD	Chiawan	1.23	275	eP	Pn	20 50 58.1	-0.1
	baz=272						
EGS		1.26	313	eP	Pb	20 50 58.8	0.0
	baz=312						
TWB1	Santiao Chiao	1.34	320	eP	Pn	20 50 58.7	-0.9
	baz=332						
TWB1				eS	Sb	20 51 15.6	-1.6
	baz=332						
JISG	Ishigakijimahi	1.39	64	P	Pn	20 50 59.9	-0.4
JISG				eS	Sn	20 51 17.0	-1.5
ESL	Shilin	1.39	263	eP	Pn	20 50 58.2	-2.1
	baz=248						
ESL				eS	Sn	20 51 16.0	-2.6
	baz=248						
NNS	Nan Shan	1.50	288	eP	Pb	20 51 03.2	+0.1
	baz=285						
NNS				eS	Sn	20 51 20.8	-0.7
	baz=285						
NWF	Wu-fen Shan	1.51	316	P	Pn	20 51 01.2	-0.9
	baz=314						
NWF				eS	Sn	20 51 20.6	-1.1
	baz=314						
WHF	Hehuan Shan	1.54	276	eP	Pn	20 51 02.3	-0.5
	baz=274						
WHF				eS	Sn	20 51 23.3	+0.4
	baz=274						
EHY	Hungye	1.56	252	eP	Pn	20 51 03.5	+0.9
	baz=250						
EHY				eS	Sn	20 51 21.1	-1.7
	baz=250						
TWA	Mucha	1.58	309	eP	Pn	20 51 02.4	-0.6
	baz=321						
TWA				eS	Sn	20 51 23.3	-0.1
	baz=321						
NSK	Sanguang	1.60	296	eP	Pn	20 51 04.3	+1.0
	baz=277						
NSK				eS	Sb	20 51 24.2	-0.7
	baz=277						
TWF1	Yuli	1.63	248	eP	Pn	20 51 03.3	-0.4
	baz=233						
TWF1				eS	Sn	20 51 23.3	-1.3
	baz=233						
CHKT	Chengkung	1.69	239	eP	Pn	20 51 04.2	-0.4
	baz=224						
CHKT				eS	Sn	20 51 22.3	-3.8
	baz=224						
JTJ	Tarama	1.73	68	P	Pn	20 51 05.1	0.0
JTJ				eS	Sn	20 51 25.3	-1.8
SMLT	Sun Moon Lake	1.87	267	eP	Pn	20 51 07.9	+0.8
	baz=265						
SMLT				eS	Sn	20 51 30.3	-0.3
	baz=265						
NSTT	Nanjuang	1.88	290	eP	Pn	20 51 08.6	+1.5
	baz=288						
NSTT				eS	Sn	20 51 31.6	+0.8
	baz=288						
YUS	Yu-Shan	1.89	255	eP	Pn	20 51 07.2	-0.4
	baz=253						
YUS				eS	Sn	20 51 30.7	-0.9
	baz=253						
TYC	Yuchr	1.91	268	eP	Pn	20 51 08.7	+1.2
	baz=266						
TYC				eS	Sn	20 51 31.2	-0.1
	baz=266						
ELDTW	Lidau	1.94	246	eP	Pn	20 51 08.0	+0.1
	baz=243						
ELDTW				eS	Sn	20 51 29.8	-2.4
	baz=243						
TWQ1	Liyutan	2.01	281	eP	Pn	20 51 10.0	+1.1
	baz=266						
TWQ1				eS	Sn	20 51 34.6	+0.7
	baz=266						
ALS	Alishan	2.01	257	eP	Pn	20 51 09.8	+0.6
	baz=244						
TWG	Pinlang	2.07	236	eP	Pn	20 51 08.6	-1.1
	baz=224						
TWG				eS	Sn	20 51 32.6	-2.8
	baz=224						
TCU	Taichung	2.08	275	eP	Pn	20 51 10.9	+1.2
	baz=273						
TCU				eS	Sn	20 51 36.7	+1.2
	baz=273						
CHN5	Tsauling	2.11	260	eP	Pn	20 51 11.2	+0.9
	baz=247						
CHN5				eS	Sn	20 51 36.8	+0.4
	baz=247						
CHN4	Tsaushan	2.24	254	eP	Pn	20 51 13.9	+1.9
	baz=241						
CHN4				eS	Sn	20 51 41.1	+1.5
	baz=241						
WTP	Ta-pu	2.26	251	eP	Pn	20 51 13.6	+1.3
	baz=241						
WTP				eS	Sn	20 51 41.4	+1.3
	baz=241						
ECL	Taimali	2.29	233	eP	Pn	20 51 11.1	-1.6
	baz=245						
SGST	Jiashian	2.34	248	eP	Pn	20 51 15.6	+2.1
	baz=235						
SGST				eS	Sn	20 51 43.9	+1.8
	baz=235						
CHN1	Nanshi	2.35	251	eP	Pn	20 51 15.0	+1.4
	baz=241						
CHN1				eS	Sn	20 51 43.9	+1.5
	baz=241						
TWK	Hsinying	2.36	253	eP	Pn	20 51 15.3	+1.6
	baz=250						
TWK				eS	Sn	20 51 43.6	+1.0
	baz=250						
SSD	Sandimen	2.45	240	eP	Pn	20 51 15.7	+0.7
	baz=231						
SSD				eS	Sn	20 51 45.3	+0.5
	baz=231						
EAST	Anshuo	2.50	231	eP	Pn	20 51 15.0	-0.7
	baz=238						
EAST				eS	Sn	20 51 44.8	-1.2
	baz=238						
SCZT	Fangliau	2.67	234	eP	Pn	20 51 18.2	+0.2
	baz=232						

MOS 22 21:00:20.6±2.8,50°.13N×98°.16E,h10km,mb4.4/1,Error ellipse: s-maj=63.1km s-min=19.4km az=49.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	Mondy	2.36	48	ePN	Pb	21 01 03.1	-0.3
MOY				e		21 01 35.2	
MOY				pmax	pmax		
	comp=Z,14nm,0.4s						
MOY				smax	smax		
	comp=E,794nm,0.8s						
ORL	Orlik	2.62	23	ePN	Pb	21 01 08.2	+0.3
ORL				e		21 01 42.9	
ORL				pmax	pmax		
	comp=Z,45nm,0.4s						
ORL				smax	smax		
	comp=N,186nm,1.0s						
ZAK	Zakamensk	3.30	84	ePN	Pn	21 01 14.7	+2.3
ZAK				e		21 01 20.0	
ZAK				eS	Sg	21 02 03.8	-2.9
ZAK				pmax	pmax		
	comp=Z,32nm,0.6s						
ZAK				smax	smax		
	comp=N,263nm,0.9s						
TLY	Talaya	3.80	64	ePN	Pb	21 01 29.1	+1.3
TLY				e		21 02 19.8	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.4s						
IRK	Irkutsk	4.39	59	ePN	Pb	21 01 39.2	+1.4
IRK				e		21 02 36.4	
IRK				pmax	pmax		
	comp=Z,113nm,0.1s						
IRK				smax	smax		
	comp=E,304nm,0.6s						
KAB	Kabansk	5.69	67	ePN	Pb	21 02 04.1	+4.2
OGRR	Ongureny	6.82	55	ePN	Pn	21 01 59.4	-1.2
OGRR				e		21 02 21.2	
OGRR				e		21 03 49.3	
OGRR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
OGRR				smax	smax		
	comp=N,115nm,1.3s						
NIZ	Nizh Angarsk	8.89	46	eP	Pn	21 02 30.0	+1.0

MAN 22 21:18:01,11°.06N×124°.65E,h9km,mb4.6,ML3.5,MS3.4, 1C-1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.04	260	eP	Pg	21 18 03.8	+1.0
OCLP				eS	Sg	21 18 07.9	+3.8
PLP	Palo	0.34	72⇓	eP	Pb	21 18 08.9	-0.3
MSLP	Maasin	0.94	167	eP	Pn	21 18 20.8	+0.4
MSLP				eS	Sn	21 18 35.6	+1.6
LLP	Lapu-Lapu	1.00	222	eP	Pn	21 18 20.9	-0.3
LLP				eS	Sn	21 18 35.8	+0.4
RCP	Roxas	1.94	285⇑	eP	Pb	21 18 35.5	-0.9

ARO 22 21:18:15.0,15°N±3°×4°3E±3°4,h15km±99km,ML3.4
SGS 22 21:18:18.7,14°.28N×42°.60E,h26km
CSEM 22 21:18:18.1±1.1,14°.30N×42°.17E,h30km,ML3.6,Error ellipse: s-maj=27.9km s-min=12.1km az=50.0
DHMR 22 21:18:19.9±2.0,14°.39N×42°.65E,h5km±15km,ML3.6
ISC 22 21:18:16.6±1.9,14°.39N±0°.05×42°.48E±0°.06,h7km±17km, n19,σ0§79/28,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	1.50	106	iP	Pg	21 18 45.9	+0.4
UDYN				iS	Sg	21 19 04.8	-0.1
UDYN				AML	AML	21 19 13.4	
	comp=E,435nm,0.5s						
DHBB	Dhamar BB	1.86	84	iP	Pb	21 18 51.2	0.0
DHBB				iS	Sb	21 19 15.4	+0.6
DHBB	Dhamar BB	1.86	84	iP	Pb	21 18 51.2	0.0
DHBB				iS	Sb	21 19 15.4	+0.6
SANA	San'a	1.94	59	iP	Pb	21 18 52.5	-0.1
SANA				iS	Sb	21 19 17.1	-0.1
SANA				AML	AML	21 19 21.3	
	comp=E,3μm,0.3s						
TRBA	At Turbah	1.96	126	iP	Pb	21 18 52.6	-0.2
TRBA				iS	Sb	21 19 17.7	+0.1
TRBA				AML	AML	21 19 26.9	
	comp=N,382nm,0.4s						
MAOD	Malaho	2.29	186	eP	Pg	21 18 59.5	-1.1
FRSS	Farasan al Kab	2.37	352	P	Pn	21 18 56.0	0.0
FRSS	Farasan al Kab	2.37	352	P	Pn	21 18 56.4	+0.4
OBO	Obock	2.51	162	eP	Pb	21 19 02.3	+0.1
TDD	Tadjoura Ara	2.60	171	eP	Pb	21 19 03.5	-0.1
JAZS	Jizan	2.70	9	P	Pn	21 19 01.0	+0.4
JAZS	Jizan	2.70	9	P	Pn	21 19 00.5	-0.1
LBOS		2.73	100	iP	Pb	21 19 03.9	-2.3
LBOS				iS	Sb	21 19 40.0	0.0
ATD	Arta Tunnel	2.86	173	eP	Pb	21 19 07.7	-0.4
ATD	Arta Tunnel	2.86	173	eP	Pb	21 19 07.8	-0.4
ATD				eS	Sg	21 19 50.6	+2.0
SGH	Sud-Ghoubbet	2.93	177	eP	Pb	21 19 09.0	-0.4
ATA	Atar	3.00	166	eP	Pb	21 19 09.7	-0.8
BDHA	Al Bayda'	3.02	97	iP	Pb	21 19 10.0	-1.0
BDHA				iS	Sb	21 19 48.4	+0.2
BDHA				AML	AML	21 20 02.1	
	comp=N,269nm,0.5s						
BDHA	Al Bayda'	3.02	97	iP	Pb	21 19 10.0	-1.0
BDHA				iS	Sb	21 19 48.4	+0.2
	comp=N,135nm,0.5s						

MAN 22 21:37:04,11°.09N×124°.62E,h8km,mb4.2,ML3.0,MS2.8, 1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.04	193	eP	Pg	21 37 06.5	+0.9
OCLP				eS	Sg	21 37 08.9	+2.2
PLP	Palo	0.36	78⇓	eP	Pb	21 37 12.1	-0.7
MSLP	Maasin	0.98	166	eP	Pb	21 37 23.4	+0.1
MSLP				eS	Sn	21 37 37.2	-0.9

ISCJB 22 21:44:38.3±0.4,51°.47N±0°.02×16°.08E±0°.02,h0km, mb3.0/3,Error ellipse: s-maj=3.2km s-min=1.9km az=6.6
CSEM 22 21:44:39.8±0.2,51°.49N×16°.09E,h2km,ML3.7/10,Ms3.9, Error ellipse: s-maj=3.8km s-min=2.5km az=12.0
IDC 22 21:44:40.4±0.6,51°.50N×16°.04E,h0km,mb3.1/3, mb1 3.4/11,mb1mx3.3/29,mbtmp3.3/11,ML3.0/8,Error ellipse: s-maj=12.6km s-min=6.8km az=107.0
BGR 22 21:44:41.4±0.5,51°.47N×16°.08E,h1km,ML3.3/15,Error ellipse: s-maj=4.4km s-min=3.3km az=12.0
VIE 22 21:44:43.0±0.5,51°.23N×16°.09E,h0km,mb2.8/8,ML3.1/8, Ms3.9/1,Error ellipse: s-maj=3.3km s-min=2.8km az=159.0 66 km WNW of Wroclaw Suspected Mining induced.
ISC 22 21:44:38.8±0.6,51°.57N±0°.03×16°.10E±0°.02,h0km,n97, σ1§09/170,mb3.1/3,12C-6D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.73	170	ePg	Pg	21 44 53.5	+0.6
KSP	Ksiaz	0.73	170	ePg	Pg	21 44 53.4	+0.6
KSP				eSg	Sg	21 45 03.6	+1.3
KSP	Ksiaz	0.73	170	e	Sn	21 45 07.5	-0.8
KSP	Ksiaz	0.73	170	Pg	Pg	21 44 53.5	+0.6
KSP				eSg	Sg	21 45 02.8	+0.5
UPC	Upice	1.06	183	ePG	Pg	21 44 59.4	+0.3
UPC				eSG	Sg	21 45 12.1	-0.7
	79nm,0.2s						
UPC	Upice	1.06	183	Pg	Pg	21 44 59.4	+0.3
UPC				Sg	Sg	21 45 12.1	-0.7
	79nm,0.2s						
DPC	Dobruska-Polom	1.23	173	ePg	Pg	21 45 02.3	0.0
DPC				eSg	Sg	21 45 18.0	-0.1
DPC	Dobruska-Polom	1.23	173	ePG	Pg	21 45 02.2	0.0
DPC				eSG	Sg	21 45 17.6	-0.5
DPC	Dobruska-Polom	1.23	173	Pg	Pg	21 45 02.3	0.0
DPC				Sg	Sg	21 45 17.6	-0.5
BRG	Berggiesshubel	1.52	244	PN	Pn	21 45 06.7	-0.5
BRG				PG	Pg	21 45 08.4	+0.5
BRG				SG	Sn	21 45 28.7	+1.0
	281nm,0.5s						
BRG	Berggiesshubel	1.52	244	ePn	Pb	21 45 07.8	0.0
BRG				eSg	Sn	21 45 28.6	+1.0
BRG	Berggiesshubel	1.52	244	Pn	Pb	21 45 07.8	0.0
BRG				Sg	Sn	21 45 28.6	+0.9
KRLC	Kraliky	1.55	163	ePG	Pn	21 45 07.4	-0.3
KRLC				eSG	Sn	21 45 27.7	-0.9
KRLC	Kraliky	1.55	163	Pg	Pn	21 45 07.4	-0.3
KRLC				Sg	Sn	21 45 27.7	-0.9
PRA	Prague	1.83	216	PN	Pn	21 45 11.0	-0.5
PRA				PG	Pb	21 45 13.0	-0.1
PRA				SG	Sn	21 45 36.0	+0.7
FBE	Freiberg	1.84	251	ePn	Pn	21 45 14.0	0.0
FBE				eSg	Sg	21 45 38.4	+0.6
FBE	Freiberg	1.84	251	Pn	Pn	21 45 14.0	0.0
FBE				Sg	Sg	21 45 38.4	+0.6
PRU	Pruhonice	1.86	213	ePN	Pn	21 45 11.8	-0.1
PRU				ePG	Pb	21 45 13.8	+0.2
PRU				eSG	Sb	21 45 37.7	+0.3
	81nm,0.3s						
PRU	Pruhonice	1.86	213	Pn	Pn	21 45 11.8	-0.1
CLL	Collm	1.95	264	ePn	Pn	21 45 13.1	-0.1
CLL				eSg	Sg	21 45 42.5	+1.0
CLL	Collm	1.95	264	iPn	Pn	21 45 13.0	-0.1
CLL				ePg	Pg	21 45 16.0	-0.2
CLL				e		21 45 18.0	
CLL				eSg	Sg	21 45 42.0	+0.5
	comp=Z,94nm,0.8s						
CLL	Collm	1.95	264	Pn	Pn	21 45 13.1	-0.1
CLL				Sg	Sg	21 45 42.5	+1.0

RAC Raciborz 1.99 137 ePg Pg 21 45 16.6 -0.3
RAC eSg Sg 21 45 42.9 +0.2
MORC Moravsky Berou 2.01 152 ePn Pn 21 45 13.7 -0.3
MORC Moravsky Berou 2.01 152⇓iP Pn 21 45 13.8 -0.3
MORC Moravsky Berou 2.01 152 S Sb 21 45 41.2 -0.7
MORC Moravsky Berou 2.01 152 Pn Pn 21 45 13.7 -0.3
MORC eSg Sb 21 45 41.7 -0.2
OKC Ostrava-Krasne 2.17 142 ePN Pn 21 45 15.4 -0.7
OKC ePG Pb 21 45 18.8 0.0
OKC eSG Sb 21 45 47.3 +1.1
comp=Z,70nm,0.5s
OKC Ostrava-Krasne 2.17 142 Pn Pn 21 45 15.4 -0.7
CHZP Chorzow 2.23 124 ePg Pg 21 45 22.1 +0.6
CHZP eSg Sg 21 45 52.5 +2.0
VRAC Vranov 2.28 172⇑iP Pn 21 45 18.7 +1.0
VRAC Vranov 2.28 172 S Sb 21 45 48.9 -0.7
VRAC Vranov 2.28 172 Pn Pn 21 45 17.5 -0.1
comp=Z,4.7nm,0.3s,baz=347,slow=15,SNR=22
VRAC Lg Lg 21 45 52.1
comp=Z,7.9nm,0.3s,baz=84,slow=18,SNR=6.6
VRAC Vranov 2.28 172 ePn Pn 21 45 18.0 +0.3
VRAC eSg Sb 21 45 48.3 -1.3
TREC Trest 2.31 190 ePN Pn 21 45 18.4 +0.4
TREC ePG Pb 21 45 21.4 +0.2
TREC eSG Sb 21 45 51.6 +1.3
comp=Z,51nm,0.4s
TREC Trest 2.31 190 Pn Pn 21 45 18.4 +0.4
TANN Tannenbergstha 2.57 245 ePn Pn 21 45 22.2 +0.5
TANN eSg Sg 21 46 01.5 +0.2
TANN Tannenbergstha 2.57 245 Pn Pn 21 45 22.2 +0.5
TANN Sg Sg 21 46 01.5 +0.2
WERD Werda 2.64 246 ePn Pn 21 45 23.1 +0.4
WERD eSg Sg 21 46 04.0 +0.4
WERD Werda 2.64 246 Pn Pn 21 45 23.1 +0.4
WERD Sg Sg 21 46 04.0 +0.4
OJC Ojcow 2.70 118 ePn Pn 21 45 22.0 -1.5
OJC ePg Pg 21 45 31.4 +0.8
OJC eSg Sg 21 46 06.4 +0.8
OJC Ojcow 2.70 118 ePn Pn 21 45 22.0 -1.5
KHC Kasperske Hory 2.92 214 ePN Pn 21 45 26.7 +0.2
KHC ePG Pb 21 45 33.0 +1.3
KHC eSN Sn 21 46 01.4 -0.9
KHC eSG Sb 21 46 11.9 -0.7
comp=Z,30nm,0.4s
KHC Kasperske Hory 2.92 214 Pn Pn 21 45 26.7 +0.2
MOX Moxa 2.97 254 ePn Pn 21 45 28.0 +0.9
MOX eSg Sg 21 46 14.3 +0.2
MOX Moxa 2.97 254 Pn Pn 21 45 28.0 +0.9
MOX Sg Sg 21 46 14.3 +0.2
MANZ Manzenberg 2.98 240 ePn Pn 21 45 28.0 +0.6
MANZ eSg Sg 21 46 14.1 -0.5
MANZ Manzenberg 2.98 240 Pn Pn 21 45 28.0 +0.6
MANZ Sg Sg 21 46 14.1 -0.5
ROTZ Rotzenmuhle 3.06 235 ePn Pn 21 45 29.3 +0.9
ROTZ eSg Sg 21 46 16.7 -0.3
ROTZ Rotzenmuhle 3.06 235 Pn Pn 21 45 29.3 +0.9
ROTZ Sg Sg 21 46 16.7 -0.3
GEC2 GERESS Array S 3.13 210 ePn Pn 21 45 30.5 +1.1
GEC2 eSg Sg 21 46 18.1 -1.1
GEC2 GERESS Array S 3.13 210 Pn Pn 21 45 30.5 +1.1
GEC2 Sg Sg 21 46 18.1 -1.1
GERES GERESS Array B 3.13 210 Pn Pn 21 45 29.8 +0.4
comp=Z,2.4nm,0.3s,baz=30,slow=12,SNR=74
GERES Pg Pb 21 45 37.2 +1.9
comp=Z,4.7nm,0.3s,baz=27,slow=17,SNR=37
GERES Lg Lg 21 46 15.6
comp=Z,7.0nm,0.3s,baz=29,slow=25,SNR=8.5
SMOL Smolenice 3.17 164 ePG Pg 21 45 39.4 -0.1
SMOL eSG Sg 21 46 19.2 -1.4
SMOL Smolenice 3.17 164 ePg Pg 21 45 39.4 -0.1
SMOL eSg Sg 21 46 19.2 -1.4
WET Wettzell 3.18 222 ePn Pn 21 45 30.5 +0.5
WET eSg Sg 21 46 18.5 -2.4
WET Wettzell 3.18 222 Pn Pn 21 45 30.5 +0.5
WET Sg Sg 21 46 18.5 -2.4
NIE Niedzica 3.44 127 eP Pg 21 45 43.4 -1.4
NIE eS Sg 21 46 27.7 -1.7
VYHS Vyhne 3.55 149 ePN Pn 21 45 35.0 -0.1
VYHS ePG Pg 21 45 47.7 +1.0
VYHS eSG Sg 21 46 31.7 -0.9
VYHS Vyhne 3.55 149 ePn Pn 21 45 35.0 -0.1
CLZ Clausthal 3.57 277 ePn Pn 21 45 36.7 +1.3
CLZ Clausthal 3.57 277 Pn Pn 21 45 36.7 +1.3
BSD Bornholm Skovb 3.62 349 iP Pn 21 45 35.8 -0.3
BSD iS Sn 21 46 16.5 -3.0
BSD Bornholm Skovb 3.62 349 Pn Pn 21 45 35.8 -0.3
GRA1 Grafenberg Arr 3.63 241 Pn Pn 21 45 37.2 +1.0
GRA1 Sg Sg 21 46 35.8 +0.6
GRF Grafenberg Arr 3.63 241 ePn Pn 21 45 37.2 +1.0
GRF eSg Sg 21 46 35.8 +0.6
CONA Conrad Observa 3.64 182⇓iPn Pn 21 45 37.0 +0.5
CONA ⇑iSg Sb 21 46 32.6 +3.8
comp=Z,45nm,0.6s
CONA Conrad Observa 3.64 182 Pn Pn 21 45 37.0 +0.5
CONA Sg Sb 21 46 32.6 +3.8
comp=Z,45nm,0.6s
MOA Molln 3.90 198⇑iPn Pn 21 45 40.3 +0.3
SNR=23
MOA ⇑iSg Sg 21 46 43.0 -1.1
comp=Z,34nm,0.4s
MOA Molln 3.90 198 Pn Pn 21 45 40.3 +0.3
SNR=23
MOA Sg Sg 21 46 43.0 -1.1
comp=Z,34nm,0.4s
STHS Stebnicka Huta 3.93 121 ePN Pn 21 45 41.4 +1.1
STHS ePG Pg 21 45 55.4 +1.4
STHS eSG Sg 21 46 48.2 +3.3
STHS Stebnicka Huta 3.93 121 ePn Pn 21 45 41.4 +1.1
ARSA Arzberg 4.33 185⇑iPn Pn 21 45 45.4 -0.5
ARSA ⇑iSg Sg 21 46 55.2 -2.7
comp=Z,39nm,0.6s
ARSA Arzberg 4.33 185 Pn Pn 21 45 45.4 -0.5
ARSA Sg Sg 21 46 55.2 -2.7
comp=Z,39nm,0.6s
CRVS Cervenica-Dubn 4.36 126 ePN Pn 21 45 47.0 +0.9
CRVS ePG Pg 21 46 03.8 +1.6
CRVS eSG Sg 21 47 00.5 +1.9
CRVS Cervenica-Dubn 4.36 126 ePn Pn 21 45 47.1 +0.9
PSZ Piszkesteto 4.40 145⇓iP Pn 21 45 47.1 +0.2
KBA Koelnbreinsper 4.84 203⇑iPn Pn 21 45 52.1 -0.9
SNR=9.9
KBA ⇓iSg Sg 21 47 12.7 -1.4
comp=Z,27nm,0.7s
KBA Koelnbreinsper 4.84 203 Pn Pn 21 45 52.1 -0.9
SNR=9.9
KBA Sg Sg 21 47 12.7 -1.4
comp=Z,27nm,0.7s
MOTA Moosalm 5.33 220⇑iPn Pn 21 46 00.1 +0.3
MOTA ⇑iSg Sg 21 47 30.2 +0.2
comp=Z,8.5nm,0.5s
MOTA Moosalm 5.33 220 Pn Pn 21 46 00.1 +0.3
MOTA Sg Sg 21 47 30.2 +0.2
comp=Z,8.5nm,0.5s
TRPA Tarpa 5.40 127⇑iP Pn 21 46 01.3 +0.8
VNDS Vrh nad Dolski 5.54 190 iPn Pn 21 46 03.6 +1.1
PKSM Moragy 5.61 162⇓iP Pn 21 46 05.0 +1.6
DAVOX Davos/Dischmat 6.29 223 Pn Pn 21 46 14.5 +1.7
comp=Z,0.3nm,0.3s,baz=0.0,slow=12,SNR=6.5
DAVOX Lg Lg 21 47 56.5
comp=Z,0.5nm,0.3s,baz=307,slow=20,SNR=3.5
DRGR 6.45 135⇑iP Pn 21 46 15.1 +0.1
BZS Buzias 6.99 146⇑iP Pn 21 46 23.3 +1.0
BURAR Bucovina Array 7.12 120⇓iP Pn 21 46 23.7 -0.6
AKASG Malin Array Be 8.31 91 Pn Pn 21 46 39.5 -0.8
comp=Z,1.4nm,0.3s,baz=279,slow=12,SNR=12
HFS Hagfors 8.69 352 Pn Pn 21 46 45.3 -0.4
comp=Z,0.1nm,0.3s,baz=169,slow=15,SNR=4.1
NOA NORSAR Array B 9.87 346 Pn Pn 21 47 02.0 +0.2
comp=Z,0.1nm,0.3s,baz=176,slow=13,SNR=3.0
FINES FINESS Array B 11.32 25 Pn Pn 21 47 20.2 -1.3
comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=5.1
FINES Sn Sn 21 49 19.2 -9.3
comp=Z,0.3nm,0.3s,baz=210,slow=22,SNR=3.9
EKA Eskdalemuir Ar 12.07 296 Pn Pn 21 47 29.1 -2.8
baz=105,slow=14,SNR=3.3
ARCES ARCESS Array B 18.57 10 Pn P 21 48 53.5 -3.4
comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=4.9
TORD Torodi Ar. Bea 40.05 202 P P 21 52 16.4 +0.8
comp=Z,0.5nm,1.0s,baz=11,slow=7.8,SNR=2.5
MKAR Makanchi Array 42.20 69 P P 21 52 34.4 +1.3
comp=Z,0.1nm,0.6s,baz=311,slow=7.4,SNR=3.4
YKA Yellowknife Ar 59.80 336 P P 21 54 46.4 +1.3
comp=Z,0.2nm,0.6s,baz=26,slow=6.5,SNR=3.5

DJA 22 22:09:48.5±1.2, 9°S±6°×11°8E±°, h21km±15km, M4.1/10, MLv4.1/10
IDC 22 22:09:48.1±1.6, 9°48S×117°34E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/22, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=65.9km s-min=24.9km az=37.0
ISC 22 22:09:48.7±0.8, 9°4S±0°2×117°37E±0°07, h10km, n15, σ1§72/18, Sumbawa region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WBSI Waikabubak, Su 2.01 97 P Pn 22 10 19.8 -2.9
DNP Denpasar 2.25 288 P Pb 22 10 27.5 -1.9
DNP S Sb 22 10 56.1 -1.2
IGBI Denpasar 2.27 284 P Pn 22 10 24.8 -1.4
IGBI S Sn 22 10 54.2 -0.1
SRBI Singaraja 2.50 301 P Pn 22 10 27.0 -2.4
JAGI Jajag, Banyuwa 3.31 286 P Pn 22 10 39.7 -0.9
JAGI S Sn 22 11 22.5 +2.5
ABJI Asem Bagus 3.48 297 P Pn 22 10 43.8 +0.9
GMJI Gumukmas 4.04 286 P Pn 22 10 51.8 +1.2
GMJI S Sn 22 11 38.1 +0.2
BLJI Banyuglugur 4.08 293 P Pn 22 10 51.7 +0.6
BKSI Bulukumba 4.88 34 P Pn 22 10 55.1 -7.0
BNSI Bone 5.66 29 S Sn 22 12 09.0 -8.9
PWJI Pagerwojo 5.67 283 P Pn 22 11 16.3 +3.3
BATI Baumata 6.25 98 Pn Pn 22 11 21.4 +0.3
7.8nm,0.3s,baz=283,slow=14,SNR=8.6
BATI Sn Sn 22 12 33.6 +0.9
2.5nm,0.3s,baz=99,slow=19,SNR=2.2
WRA Warramunga Arr 19.46 124 P Pn 22 14 16.6 -0.3
0.1nm,0.3s,baz=299,slow=12,SNR=8.0
ASAR Alice Springs 21.24 134 P P 22 14 37.4 +2.3
0.6nm,0.5s,baz=307,slow=9.1,SNR=11
ASAR PcP PcP 22 18 38.9 -1.4
0.2nm,0.5s,baz=295,slow=1.3,SNR=5.2
MKAR Makanchi Array 64.09 334 P P 22 20 25.3 +2.4
0.2nm,0.5s,baz=145,slow=6.6,SNR=4.3

ISCJB 22 22:11:01.7±0.2, 53°19N±0°04×157°92E±0°07, h182km±2km, mb3.7/20, Error ellipse: s-maj=8.1km s-min=4.7km az=137.5
KRSC 22 22:11:01.2±1.1, 53°10N×158°19E, h184km±9km, ML4.2
MOS 22 22:11:01.7±1.2, 53°27N×157°81E, h180km, mb4.0/14, Error ellipse: s-maj=12.5km s-min=8.7km az=78.0
IDC 22 22:11:02.5±0.4, 53°35N×157°61E, h169km±4km, mb3.3/16, mb1 3.5/18, mb1mx3.4/30, mbtmp3.8/18, Error ellipse: s-maj=16.6km s-min=10.7km az=154.0
ISC 22 22:11:02.7±0.6, 53°20N±0°04×157°95E±0°05, h178km±4km, n80, σ1§22/107, mb3.6/20, 5D, Kamchatka Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PETK Petropavlovsk- 0.17 240 PN Pn 22 11 26.2 -0.1
PETK S Sn 22 11 43.4 -0.9
PETK pmax pmax
comp=Z,37nm,0.3s
PETK smax smax
comp=N,12nm,0.3s
PETK Petropavlovsk- 0.17 240 P Pn 22 11 26.2 -0.1
comp=N,37nm,0.3s,baz=96,slow=3.2,SNR=3037
PETK S Sn 22 11 43.4 -0.9
comp=N,12nm,0.3s,baz=21,slow=25,SNR=9.2
KOK Koryaka 0.42 77 iP Pn 22 11 27.5 +0.5
KRX Arik 0.45 68 iP Pn 22 11 27.4 +0.2
PET Petropavlovsk 0.46 112⇓PN Pn 22 11 26.9 -0.1
PET S Sn 22 11 46.0 +0.4
PET pmax pmax
comp=Z,8.0nm,0.6s
PET smax smax
comp=E,65nm,0.5s
PET Petropavlovsk 0.46 112 iP Pn 22 11 26.9 -0.1
PET iS Sn 22 11 46.0 +0.4
AVH Avacha 0.48 81 iP Pn 22 11 27.6 +0.4
KRER Koryakskii 0.49 77 iP Pn 22 11 27.8 +0.4
GNL Ganaly 0.50 360 iP Pn 22 11 27.6 +0.3
GNL iS Sn 22 11 46.5 +0.1
SMAR Somma 0.52 82 iP Pn 22 11 27.8 +0.3
UGLR Uglovaya 0.53 88 iP Pn 22 11 27.9 +0.5
UGLR eS Sn 22 11 47.0 +0.6
APC Apacha 0.55 241 iP Pn 22 11 27.5 +0.1
APC iS Sn 22 11 46.0 -0.3
SDLR Sedlovina 0.57 81 iP Pn 22 11 27.8 +0.2
SDLR eS Sn 22 11 47.1 +0.3
MTVR Mutnovka 0.73 169 iP Pn 22 11 28.7 +0.2
MTVR eS Sn 22 11 48.5 +0.1
ASAK Asacha 0.81 182 iP Pn 22 11 29.3 +0.3
ASAK eS Sn 22 11 49.8 +0.6
RUS Russkaya 0.84 156 PN Pn 22 11 28.3 -0.7
RUS S Sn 22 11 48.0 -1.2
RUS Russkaya 0.84 156 iP Pn 22 11 28.3 -0.7
RUS eS Sn 22 11 48.0 -1.2
NLC Nalytchevo 0.84 91 PN Pn 22 11 28.7 -0.3
NLC S Sn 22 11 48.7 -0.5
NLC Nalytchevo 0.84 91 eP Pn 22 11 28.7 -0.3
NLC eS Sn 22 11 48.7 -0.5
MIPR Malaya Ipel'ka 1.17 219 iP Pn 22 11 31.3 -0.2
MIPR eS Sn 22 11 52.6 -1.1
KII Karymskiy 1.23 46 iP Pn 22 11 32.6 +0.6
SPN Mys Shipunski 1.25 94 PN Pn 22 11 31.4 -0.7
SPN S Sn 22 11 52.7 -2.2
SPN Mys Shipunski 1.25 94 eP Pn 22 11 31.4 -0.7
SPN eS Sn 22 11 52.7 -2.2
PAU Pauzhetka 1.87 202 PN Pn 22 11 38.4 +0.3
PAU Pauzhetka 1.87 202 eP Pn 22 11 38.4 +0.3
KZV Kizimen 2.37 35 eP Pn 22 11 45.0 +1.3
TUMR Tumrok 2.46 31 eP Pn 22 11 46.4 +1.6
TUMR eS Sn 22 12 19.1 +1.5
MKZ Mys Kozlova 2.62 57 PN Pn 22 11 46.4 -0.1
MKZ S Sn 22 12 18.1 -2.6
MKZ Mys Kozlova 2.62 57 iP Pn 22 11 46.4 -0.1
MKZ eS Sn 22 12 18.1 -2.6
SKR Severo-Kuril's 2.76 205 ePN Pn 22 11 43.4 -4.9
SKR pmax pmax
comp=Z,60nm,0.5s
SKR Severo-Kuril's 2.76 205 eP Pn 22 11 48.3 0.0
SKR eS Sn 22 12 22.9 -0.8
ESO Esso 2.77 9 PN Pn 22 11 50.0 +1.7
ESO Esso 2.77 9 eP Pn 22 11 50.0 +1.7
SRDR Sredinnyy 3.29 17 P Pn 22 11 56.5 +1.8
KBTR Krutoberegovo 4.13 41 PN Pn 22 12 05.4 +0.1
KBTR S Sn 22 12 52.1 -2.3
KBTR Krutoberegovo 4.13 41 eP Pn 22 12 05.4 +0.1
KBTR S Sn 22 12 52.1 -2.3
BKI Bering 5.12 64 PN Pn 22 12 17.6 -0.4
BKI Bering 5.12 64 eP Pn 22 12 17.6 -0.4
BKI eS Sn 22 13 08.4 -8.8
FX1 Attu Island--F 9.18 86 PN Pn 22 13 14.2 +2.9
FX1 S Sn 22 14 50.7 -2.8
FX1 pmax pmax
comp=Z,3.0nm,0.3s
FX1 smax smax
comp=N,12nm,0.3s
FX1 Attu Island--F 9.18 86 P Pn 22 13 14.2 +2.9
comp=N,2.5nm,0.3s,baz=194,slow=12,SNR=27
FX1 S Sn 22 14 50.7 -2.8
comp=N,12nm,0.3s,baz=14,slow=19,SNR=9.3
SEY Seymchan 10.20 345 P Pn 22 13 24.8 +0.3
baz=153,slow=11,SNR=4.2
YUK Yuzh-Kuril'sk 12.15 226 PN Pn 22 13 53.0 -2.2
ASAJ Asahikawa 13.59 234 P P 22 14 10.3 -1.0
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 13.59 234 P P 22 14 10.2 -1.0
comp=Z,1.1nm,0.3s,baz=90,slow=14,SNR=5.1
HABR Khabarovsk 15.19 261 eP Pn 22 14 27.1 -0.9
HABR S Sn 22 17 16.0 -1.4
HABR pmax pmax
comp=Z,46nm,1.8s
YAK Yakutsk 17.40 312 eP P 22 14 52.1 -0.9
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
USRK Ussuriysk Arra 19.26 253 P P 22 15 13.4 -0.1
comp=N,0.2nm,0.3s,baz=52,slow=12,SNR=6.8
MJA0 Matsu Arr-Jizo 21.61 227 eP P 22 15 42.1 +3.5
MJA0 pmax pmax
comp=Z,2.0nm,0.5s
MJAR Matsushiro Arr 21.63 228 P P 22 15 38.5 -0.3
MJAR pmax pmax
comp=Z,8.0nm,0.8s
MJAR Matsushiro Arr 21.63 228 P P 22 15 38.5 -0.3
comp=Z,7.6nm,0.8s,baz=16,slow=10,SNR=9.4
TIXI Tiksi 22.46 336⇓eP P 22 15 47.1 +0.6
TIXI pmax pmax
comp=Z,3.0nm,0.6s
HIA Hailar 24.05 276⇓eP P 22 16 00.9 -0.3
HIA pmax pmax
comp=Z,7.0nm,0.8s
BOD Bodaibo 24.96 298 eP P 22 16 08.7 -0.7
KSRS Korea Array 26.07 245 eP P 22 16 20.1 +0.6
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS Korea Array 26.07 245 P P 22 16 19.9 +0.4
comp=Z,0.9nm,0.4s,baz=37,slow=9.2,SNR=6.1
KDAK Kodiak Island 27.88 61 iP P 22 16 36.7 +1.3
ILAR Eielson Array 29.66 45 eP P 22 16 51.8 +0.6
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 29.66 45 P P 22 16 52.2 +1.0
comp=Z,0.8nm,0.7s,baz=264,slow=6.2,SNR=12
SONM Songino Array 32.62 282 eP P 22 17 17.5 +0.1
SONM Songino Array 32.62 282 P P 22 17 17.3 -0.1
comp=Z,0.3nm,0.4s,baz=68,slow=7.6,SNR=9.9
SONM PcP PcP 22 19 58.3 -0.7
comp=Z,0.3nm,0.7s,baz=90,slow=1.4,SNR=4.1
ZALV Zalesovo Beam 41.63 302 P P 22 18 30.7 -2.2
comp=Z,0.3nm,0.4s,baz=52,slow=9.9,SNR=2.4
YKA Yellowknife Ar 43.96 42 P P 22 18 52.5 +1.0
comp=Z,0.2nm,0.4s,baz=303,slow=7.1,SNR=3.6
KURK Kurchatov 46.58 301 P P 22 19 11.3 -0.9
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURBB Kurchatov Arra 46.67 301 P P 22 19 11.2 -1.8
comp=Z,0.9nm,0.4s,baz=58,slow=8.0,SNR=12
SPITS Spitsbergen Ar 46.81 350 P P 22 19 13.2 -0.6
SPITS pmax pmax
comp=Z,11nm,1.1s
SPITS Spitsbergen Ar 46.81 350 P P 22 19 13.2 -0.6
comp=Z,11nm,1.1s,baz=79,slow=7.5,SNR=6.2
MKAR Makanchi Array 46.94 294 P P 22 19 13.6 -1.6
comp=Z,0.3nm,0.4s,baz=56,slow=6.2,SNR=22
BRVK Borovoye 49.34 307diP P 22 19 32.3 -1.1
BRVK pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 52.44 316diP P 22 19 56.1 -0.3
ARU 22 21 52.5
ARU S S 22 27 08.6 +0.3
ARU pmax pmax
comp=Z,7.0nm,2.5s
NVAR Mina Array Bea 56.92 69 P P 22 20 31.5 +2.3
comp=Z,0.6nm,0.6s,baz=307,slow=7.8,SNR=5.2
CMAR Chiang Mai Arr 56.94 256 P P 22 20 29.9 +0.5
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 56.94 256 P P 22 20 29.9 +0.5
comp=Z,0.5nm,0.3s,baz=20,slow=7.4,SNR=6.5
NOA NORSAR Array B 63.07 343 P P 22 21 09.7 -0.7
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 63.07 343 P P 22 21 09.7 -0.7
comp=Z,0.9nm,0.8s,baz=20,slow=7.0,SNR=3.8
HFS Hagfors 63.44 341 P P 22 21 11.4 -1.5
HFS pmax pmax
comp=Z,3.0nm,0.9s
HFS Hagfors 63.44 341 P P 22 21 11.4 -1.5
comp=Z,3.0nm,0.9s,baz=40,slow=5.6,SNR=4.9
TXAR Lajitas Array 71.78 65 P P 22 22 07.2 +1.5
TXAR pmax pmax
comp=Z,1.0nm,0.4s
TXAR Lajitas Array 71.78 65 P P 22 22 07.2 +1.5
comp=Z,0.4nm,0.4s,baz=278,slow=4.0,SNR=5.1
WRA Warramunga Arr 75.65 203 P P 22 22 28.3 +0.3
comp=Z,0.4nm,0.6s,baz=25,slow=6.2,SNR=7.4
ASAR Alice Springs 79.34 202 P P 22 22 49.4 +1.0
comp=Z,0.3nm,0.5s,baz=13,slow=6.1,SNR=4.5

IDC 22 22:30:39.3±1.6, 34°42N×25°32E, h0km, mb3.3/2, mb1 3.2/3, mb1mx3.0/24, mbtmp3.2/3, ML2.3/1, MS2.9/1, Ms1 2.7/1, ms1mx2.2/21, Error ellipse: s-maj=26.7km s-min=13.6km az=68.0
ISCJB 22 22:30:41.1±1.8, 34°4N±0°1×25°19E±0°07, h25km±11km, mb3.1/2, Error ellipse: s-maj=18.3km s-min=8.4km az=158.9
CSEM 22 22:30:42.1±0.3, 34°45N×25°17E, h20km, MD3.2, Error ellipse: s-maj=6.9km s-min=3.7km az=8.0
ATH 22 22:30:43.1, 34°56N×25°19E, h41km±2km, MD3.2/7
THE 22 22:30:43.2, 34°52N×25°19E, h13km±3km, ML3.0/1, Error ellipse: s-maj=4.0km s-min=1.2km az=325.0
ISC 22 22:30:43.0±2.0, 34°50N±0°10×25°17E±0°04, h26km±13km, n31, σ0§57/43, Crete

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SIVA Sivas 0.60 330 P Pb 22 30 55.2 +0.3
SIVA S Sb 22 31 03.6 +0.6
SIVA Sivas 0.60 330 eP Pn 22 30 55.5 -0.4
SIVA eS Sn 22 31 04.2 -0.5
SIVA Sivas 0.60 330 P Pb 22 30 55.2 +0.3
SIVA S Sb 22 31 03.6 +0.6
LAST Lasithi 0.71 21 P Pb 22 30 55.8 -1.1
LAST S Sb 22 31 07.0 +0.7
LAST Lasithi 0.71 21 eP Pb 22 30 56.2 -0.7
LAST eS Sb 22 31 06.1 -0.2
LAST Lasithi 0.71 21 eP Pb 22 30 56.2 -0.7
LAST S Sb 22 31 07.0 +0.7
IDI Anoyia 0.82 344 Pg Pb 22 30 58.4 -0.3
6.9nm,0.3s,baz=150,slow=20,SNR=71
IDI Lg Lg 22 31 09.6
43nm,0.3s,baz=90,slow=20,SNR=25
IDI LR LR 22 31 28.0
comp=Z,64nm,18.4s,baz=104,slow=52
NPS Neapolis 0.85 25 P Pb 22 30 58.0 -1.1
NPS S Sb 22 31 10.2 +0.1
NPS Neapolis 0.85 25 eP Pb 22 30 58.3 -0.8
NPS Neapolis 0.85 25 eP Pb 22 30 58.3 -0.8
NPS S Sb 22 31 10.2 +0.1
ZKR Zakros 1.06 54 P Pn 22 31 02.4 +0.2
ZKR S Sn 22 31 16.3 +0.2
ZKR Zakros 1.06 54 eP Pn 22 31 02.3 +0.1
ZKR eS Sb 22 31 16.1 -0.1
ZKR Zakros 1.06 54 eP Pn 22 31 02.3 +0.1
ZKR S Sn 22 31 16.3 +0.2
VAM Vamos 1.21 319 P Pn 22 31 03.9 -0.3
VAM Vamos 1.21 319 eP Pn 22 31 04.0 -0.3
VAM Vamos 1.21 319 eP Pn 22 31 04.0 -0.3
SANT Santorini 1.89 7 eP Pn 22 31 14.0 +0.4
SANT Santorini 1.89 7 eP Pn 22 31 14.0 +0.4
KARP Karpathos 1.94 57 P Pn 22 31 14.5 +0.1
KARP S Sn 22 31 39.0 +1.0
KARP Karpathos 1.94 57 eP Pn 22 31 14.9 +0.5
KARP Karpathos 1.94 57 P Pn 22 31 14.5 +0.1
KARP S Sn 22 31 39.0 +1.0
APE Apeiranthos 2.58 6 eP Pn 22 31 23.7 +0.5
APE Apeiranthos 2.58 6 eP Pn 22 31 23.7 +0.5
ARG Arkhangelos 2.96 54 eP Pn 22 31 28.5 +0.1
ARG Arkhangelos 2.96 54 eP Pn 22 31 28.5 +0.1
SMG Samos 3.48 22 eP Pn 22 31 35.7 +0.2
SMG Samos 3.48 22 eP Pn 22 31 35.7 +0.2
BRTR Keskin Array B 8.54 50 Pn Pn 22 32 46.1 +1.0
0.0nm,0.3s,baz=216,slow=14,SNR=2.8
KBZ Khabaz 16.54 51 LR LR 22 42 57.5
comp=Z,35nm,18.1s,baz=132,slow=45
TORD Torodi Ar. Bea 30.07 231 P P 22 36 50.7 +0.4
0.4nm,0.6s,baz=40,slow=8.7,SNR=6.1
MKAR Makanchi Array 44.14 56 P P 22 38 48.3 -0.9
0.1nm,0.4s,baz=270,slow=9.3,SNR=4.2

IDC 22 23:02:43.6±18.0, 17°97S×178°13W, h526km±167km, mb3.3/3, mb1 3.5/3, mb1mx3.0/18, mbtmp4.3/3, Error ellipse: s-maj=144.8km s-min=71.1km az=114.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 38.83 241 P P 23 09 23.8 +0.3
0.7nm,0.3s,baz=83,slow=8.1,SNR=3.7
WRA Warramunga Arr 44.88 260 P P 23 10 11.1 -0.4
1.2nm,0.4s,baz=94,slow=7.4,SNR=68

WRA				PcP	PcP	23 11 41.6	-0.3
	0.4nm,0.3s,baz=99,slow=3.2,SNR=7.4						
ASAR	**Alice Springs**	**45.03**	**254**	P	P	23 10 12.5	-0.1
	7.9nm,0.6s,baz=89,slow=8.9,SNR=97						
ASAR				PcP	PcP	23 11 41.5	-0.9
	0.6nm,0.4s,baz=101,slow=3.9,SNR=5.6						
BRTR	**Keskin Array B**	**145.02**	**315**	PKPbc	PKPdf	23 21 21.5	+0.1
	0.8nm,0.4s,baz=95,slow=2.3,SNR=10						
GERES	**GERESS Array B**	**147.74**	**345**	PKPbc	PKPbc	23 21 28.6	-0.7
	0.4nm,0.6s,baz=64,slow=2.3,SNR=3.5						

NEIC 22 23:08:13.0, 9.32S × 79.67W, h64km, mb3.7/3, After ARE., Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**3.84**	**134**	*e*P	Pn	23 09 09.8	0.0
NNA				*e*Sn	Sn	23 09 51.5	-2.2
SAML	**Samuel**	**16.28**	**90**	*e*Pn	Pn	23 11 54.8	-3.0
	2.3nm,0.4s						
JTS	**JuntasAbangare**	**20.18**	**345**	P	P	23 12 42.3	-0.2
DWPF	**Disney**	**37.25**	**357**	*e*P	P	23 15 18.5	-0.1
	0.2nm,0.7s						
MIAR	**Mount Ida**	**45.57**	**344**	*e*P	P	23 16 26.4	-0.3
	9.3nm,1.4s						

*BJI **22** 23:29:39.2, 57.10N × 153.70W, h20km, mB5.1/27, mb5.0/42, Ms4.9/16, Ms7 4.5/15*

*MOS **22** 23:29:39.1±0.7, 57.09N × 153.80W, h10km, mb5.2/62, MS4.0/5, Error ellipse: s-maj=9.5km s-min=4.1km az=87.0*

*ISCJB **22** 23:29:40.9±0.5, 57.09N±0.02 × 153.70W±0.03, h20km±3km, mb4.8/169, MS4.0/19, Error ellipse: s-maj=3.0km s-min=2.2km az=38.4*

*NEIC **22** 23:29:42.5, 56.84N × 153.37W, h22km, mb4.9/101, ML4.5(AEIC), After AEIC.*

NEIC Felt at Akhiok, Kodiak and Old Harbor.

*IDC **22** 23:29:43.2±0.7, 57.06N × 153.73W, h28km±4km, mb4.3/26, mb1 4.4/30, mb1mx4.4/34, mbtmp4.5/30, ML3.9/4, MS3.8/13, Ms1 3.8/13, ms1mx3.6/34, Error ellipse: s-maj=16.9km s-min=9.7km az=18.0*

*SZGRF **22** 23:29:44.1, 56.79N × 153.48W, h33km, mb4.9, Kodiak Island, Alaska, United States, region*

ISC 22 23:29:42.6±0.3, 57.01N±0.03 × 153.68W±0.03, h25km±2km, h24km:pP-P, n761, σ1.09/800, mb4.9/168, MS4.0/20, 191C-138D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.53**	**212**	P	**Pb**	**23 29 52.5**	**-0.7**
SII				S	**Sb**	**23 30 01.0**	**+0.5**
KDAK	**Kodiak Island**	**0.98**	**37**	*i*P	**Pn**	**23 30 00.1**	**-0.5**
KABR	**Katmai Barrier**	**1.32**	**329**	P	**Pb**	**23 30 07.2**	**+0.4**
KCE	**Katmai Mt Cerb**	**1.48**	**327**	P	**Pb**	**23 30 09.9**	**+0.4**
KAKN	**Katmai Knife C**	**1.49**	**331**	P	**Pb**	**23 30 09.7**	**0.0**
KAKN				S	**Sb**	**23 30 32.1**	**+3.9**
PLK3	**Peulik 3**	**1.56**	**297**	P	**Pb**	**23 30 10.7**	**-0.1**
PLK4	**Peulik 4**	**1.58**	**294**	P	**Pb**	**23 30 10.7**	**-0.6**
KVTA	**Katmai Vly 10**	**1.63**	**328**	P	**Pb**	**23 30 11.7**	**-0.2**
KAPH	**Katmai Pasha**	**1.63**	**348**	P	**Pb**	**23 30 11.8**	**-0.2**
PLWL	**Peulik Whale M**	**1.77**	**307**	P	**Pb**	**23 30 13.3**	**-1.1**
KAHC	**Katmai Hardscr**	**1.79**	**337**	P	**Pb**	**23 30 14.0**	**-0.8**
KELA	**Mount Kelaz**	**1.81**	**323**	P	**Pb**	**23 30 14.1**	**-1.0**
PLK5	**Peulik 5**	**1.99**	**301**	P	**Pb**	**23 30 16.6**	**-1.5**
HOM	**Homer**	**2.87**	**21**	P	**Pn**	**23 30 27.8**	**+1.2**
INE	**Iliamna NE**	**3.08**	**6**	P	**Pn**	**23 30 30.4**	**+0.7**
BRLK	**Bradley Lake**	**3.13**	**27**	P	**Pn**	**23 30 30.2**	**0.0**
RSO	**Redoubt South**	**3.50**	**8**	*e*Pn	**Pn**	**23 30 36.9**	**+1.4**
RDWB	**Redoubt West**	**3.52**	**7**	P	**Pn**	**23 30 36.9**	**+1.2**
RDN	**Redoubt North**	**3.55**	**7**	P	**Pn**	**23 30 37.9**	**+1.8**
NCT	**North Crescent**	**3.59**	**6**	P	**Pn**	**23 30 38.2**	**+1.6**
DFR	**Drift River**	**3.63**	**8**	P	**Pn**	**23 30 38.8**	**+1.5**
SLKM	**Skilak Lake**	**3.94**	**26**	P	**Pn**	**23 30 41.4**	**-0.1**
SLKM	**Skilak Lake**	**3.94**	**26**	P	**Pn**	**23 30 41.4**	**-0.1**
SDPT	**Sand Point**	**4.15**	**249**	*e*Pn	**Pn**	**23 30 43.9**	**-0.4**
SDPT				*e*Sn	**Sn**	**23 31 32.3**	**+0.5**
SVW2	**Sparrevohn**	**4.22**	**347**	P	**Pn**	**23 30 47.0**	**+1.8**
CKL	**Chakachamna La**	**4.26**	**9**	P	**Pn**	**23 30 47.6**	**+1.8**
SPU	**Mount Spurr**	**4.27**	**11**	*e*Pn	**Pn**	**23 30 47.3**	**+1.4**
SPU				*e*Sn	**Sn**	**23 31 34.8**	**-0.1**
SPBG	**Spurr Blockage**	**4.32**	**8**	P	**Pn**	**23 30 48.6**	**+1.9**
BGL	**Barrier Glacie**	**4.32**	**8**	P	**Pn**	**23 30 48.6**	**+1.9**
RC01	**Rabbit Creek A**	**4.57**	**25**	*e*Pn	**Pn**	**23 30 49.6**	**-0.4**
RC01				*e*Sn	**Sn**	**23 31 36.9**	**-5.4**
STLK	**Strandline Lak**	**4.60**	**11**	P	**Pn**	**23 30 52.0**	**+1.4**
SUA	**Susitna One**	**4.72**	**17**	P	**Pn**	**23 30 52.3**	**+0.1**
PWL	**Port Wells**	**4.75**	**33**	P	**Pn**	**23 30 51.7**	**-0.8**
PS4A	**Pavlof South-4**	**4.87**	**253**	P	**Pn**	**23 30 54.1**	**+0.1**
HAG	**Hague Volcano**	**4.90**	**253**	P	**Pn**	**23 30 54.8**	**+0.2**
HAG	**Hague Volcano**	**4.90**	**253**	P	**Pn**	**23 30 54.8**	**+0.2**
DTNA	**Dutton South F**	**5.15**	**252**	P	**Pn**	**23 30 58.3**	**+0.2**
PMR	**Palmer**	**5.15**	**25**	*e*P	**Pn**	**23 30 57.1**	**-0.9**
PMR				*e*		23 31 53.8	
PMR	**Palmer**	**5.15**	**25**	*e*Pn	**Pn**	**23 30 57.0**	**-0.9**
PMR				*e*Sn	**Sn**	**23 31 53.8**	**-2.8**
GLI	**Glacier Island**	**5.17**	**39**	P	**Pn**	**23 30 57.0**	**-1.2**
DT1	**Dutton Round H**	**5.18**	**252**	P	**Pn**	**23 30 58.1**	**-0.4**
EYAK	**Cordova Ski Ar**	**5.44**	**46**	P	**Pn**	**23 31 00.8**	**-1.2**
JPK	**Jack Peak**	**5.46**	**39**	P	**Pn**	**23 31 01.9**	**-0.4**
VLZ	**Valdez**	**5.61**	**39**	P	**Pn**	**23 31 03.3**	**-0.9**
SGAM	**Sherman Glacie**	**5.63**	**48**	P	**Pn**	**23 31 03.4**	**-1.2**
RAGM	**Ragged Mountai**	**5.79**	**50**	P	**Pn**	**23 31 04.9**	**-1.8**
DIV	**Divide**	**5.80**	**41**	P	**Pn**	**23 31 06.1**	**-0.9**
SCM	**Sheep Creek Mo**	**5.82**	**31**	P	**Pn**	**23 31 06.9**	**-0.4**
SCM	**Sheep Creek Mo**	**5.82**	**31**	P	**Pn**	**23 31 06.9**	**-0.4**
GOAT	**Goat Mountain**	**5.87**	**49**	P	**Pn**	**23 31 06.7**	**-1.2**
FALS	**False Pass**	**5.88**	**253**	*e*Pn	Pb	23 31 17.3	-7.0
PPLA	**Purkeypile**	**5.96**	**7**	*e*Pn	**Pn**	**23 31 10.3**	**+1.2**
PPLA				*e*Sn	**Sn**	**23 32 14.5**	**-2.0**
KLU	**Klutina**	**6.00**	**38**	P	**Pn**	**23 31 09.1**	**-0.6**
TT01	**Tatalina**	**6.03**	**350**	P	**Pn**	**23 31 12.1**	**+2.0**
BMRM	**Bremner River**	**6.14**	**46**	P	**Pn**	**23 31 10.2**	**-1.5**
CAST	**Castle Rocks**	**6.48**	**6**	*e*Pn	**Pn**	**23 31 18.3**	**+2.0**
WESE	**West Dahl East**	**6.66**	**252**	P	**Pn**	**23 31 19.3**	**+0.4**
TRF	**Thorofare Moun**	**6.68**	**13**	P	**Pn**	**23 31 19.6**	**+0.4**
KTH	**Kantishna Hill**	**6.71**	**11**	P	**Pn**	**23 31 20.3**	**+0.9**
GLB	**Gilahina Butte**	**6.73**	**45**	P	**Pn**	**23 31 18.9**	**-0.9**
RND	**Reindeer**	**6.85**	**18**	P	**Pn**	**23 31 21.5**	**+0.1**
RND	**Reindeer**	**6.85**	**18**	P	**Pn**	**23 31 21.4**	**+0.1**
HARP	**HAARP**	**6.92**	**35**	P	**Pn**	**23 31 21.6**	**-0.6**
MCK	**McKinley**	**7.14**	**17**	*e*P	**Pn**	**23 31 24.9**	**-0.4**
MCK				*e*		23 32 45.6	
MCK	**McKinley**	**7.14**	**17**	*e*Pn	**Pn**	**23 31 24.9**	**-0.4**
MCK				*e*Sn	**Sn**	**23 32 45.6**	**0.0**
CHX	**Chaix Hills**	**7.25**	**60**	P	**Pn**	**23 31 25.1**	**-1.8**
PAX	**Paxson**	**7.25**	**31**	P	**Pn**	**23 31 26.5**	**-0.4**
PAX	**Paxson**	**7.25**	**31**	P	**Pn**	**23 31 26.5**	**-0.4**
AKUT	**Akutan**	**7.44**	**252**	*e*Pn	Pn	23 31 39.0	+10
BWN	**Browne**	**7.48**	**14**	P	**Pn**	**23 31 30.1**	**+0.2**
WRH	**Wood River Hil**	**7.97**	**18**	P	**Pn**	**23 31 36.5**	**-0.1**
MLY	**Manley**	**8.18**	**9**	P	**Pn**	**23 31 39.2**	**-0.2**
CCB	**Clear Creek Bu**	**8.18**	**18**	P	**Pn**	**23 31 39.2**	**-0.3**
DOT	**Dot Lake**	**8.18**	**32**	*e*Pn	**Pn**	**23 31 40.5**	**+0.9**
COLA	**College**	**8.38**	**17**	⇑*e*P	**Pn**	**23 31 41.1**	**-1.1**
COLA				pmax	pmax		
	comp=Z,86nm,1.1s						
COLA	**College**	**8.38**	**17**	P	**Pn**	**23 31 41.5**	**-0.8**
MDM	**Murphy Dome**	**8.40**	**16**	P	**Pn**	**23 31 41.9**	**-0.7**
IL1	**Eielson Array**	**8.46**	**20**	P	**Pn**	**23 31 42.7**	**-0.6**
ILAR	**Eielson Array**	**8.46**	**20**	Pn	**Pn**	**23 31 42.7**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=209,slow=13,SNR=58						
ILAR				Sn	**Sn**	**23 33 13.3**	**-4.5**
	comp=Z,1.0nm,0.3s,baz=207,slow=19,SNR=2.6						
ILAR				LR	LR	23 35 25.9	
	comp=Z,946nm,19.0s,baz=218,slow=41						
ILB	**Eielson Array**	**8.46**	**20**	P	**Pn**	**23 31 42.6**	**-0.6**
SCRK	**Sand Creek**	**8.46**	**30**	P	**Pn**	**23 31 41.8**	**-1.7**
BCA3	**Beaver Creek A**	**8.49**	**39**	P	**Pn**	**23 31 42.5**	**-1.4**
IM04	**Indian Mountai**	**9.00**	**360**	*e*Pn	**Pn**	**23 31 50.5**	**-0.2**
IM3	**Indian Mountai**	**9.01**	**360**	P	**Pn**	**23 31 50.8**	**0.0**
HYT	**Haines Junctio**	**9.19**	**59**	*e*Pn	Pn	23 32 02.2	+8.7
EGAK	**Eagle**	**9.88**	**33**	*e*Pn	**Pn**	**23 32 03.5**	**+3.0**
DAWY	**Dawson**	**9.96**	**39**	*e*Pn	**Pn**	**23 32 03.5**	**-0.4**
COLD	**Coldfoot**	**10.38**	**8**	*e*Pn	**Pn**	**23 32 09.2**	**-0.4**
TNA	**Tin City**	**10.95**	**327**	*e*Pn	Pn	23 32 20.6	+3.3
GAMB	**Gambell**	**11.17**	**315**	*e*Pn	**Pn**	**23 32 23.4**	**+3.0**
DLBC	**Dease Lake**	**12.70**	**74**	Pn	**Pn**	**23 32 42.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=264,slow=12,SNR=4.2						
DLBC				Sn	**Sn**	**23 34 58.4**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=108,slow=19,SNR=3.1						
DLBC				LR	LR	23 37 30.5	
	comp=Z,398nm,18.2s,baz=288,slow=37						
DLBC	**Dease Lake**	**12.70**	**74**	*e*Pn	**Pn**	**23 32 42.9**	**+1.4**
DLBC				*e*Sn	**Sn**	**23 34 59.5**	**-2.4**
ADK	**Adak**	**14.30**	**259**	*e*P	**Pn**	**23 33 01.5**	**-1.7**
ADK	**Adak**	**14.30**	**259**	*e*Pn	**Pn**	**23 33 01.5**	**-1.7**
INK	**Inuvik**	**14.53**	**31**	P	**Pn**	**23 33 06.0**	**-0.2**
INK	**Inuvik**	**14.53**	**31**	Pn	**Pn**	**23 33 06.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=231,slow=12,SNR=20						
BBB	**Bella Bella**	**15.53**	**97**	Pn	**Pn**	**23 33 21.4**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=294,slow=9.2,SNR=4.1						
BBB				LR	LR	23 37 58.7	
	comp=Z,474nm,20.2s,baz=300,slow=32						
AMKA	**Amchitka**	**16.72**	**262**	*e*Pn	**Pn**	**23 33 34.2**	**-0.6**
FX1	**Attu Island--F**	**19.37**	**272**	*e*P	**Pn**	**23 34 06.9**	**-0.4**
FX1	**Attu Island--F**	**19.37**	**272**	P	**P**	**23 34 06.2**	**+0.1**
	comp=Z,5.3nm,0.3s,baz=316,slow=2.7,SNR=12						
FX1	**Attu Island--F**	**19.37**	**272**	*e*P	**Pn**	**23 34 06.9**	**-0.4**
YKA	**Yellowknife Ar**	**20.18**	**58**	P	**P**	**23 34 14.7**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=271,slow=9.7,SNR=54						
YKA				PcP	**PcP**	**23 38 27.7**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=278,slow=1.4,SNR=4.4						
YKA				pPcP		23 38 36.4	
	comp=Z,0.7nm,0.7s,baz=274,slow=1.6,SNR=4.6						
BILL	**Bilibino**	**21.07**	**318c**	*i*P	**P**	**23 34 24.5**	**0.0**
BILL				*e*		23 38 31.4	
BILL				pmax	pmax		
	comp=Z,67nm,1.3s						
BILL				MLR	MLR		
	comp=Z,597nm,19.0s						
BILL	**Bilibino**	**21.07**	**318**	*e*P	**P**	**23 34 23.4**	**-1.1**
	comp=Z,38nm,0.8s						
BMW	**Boistfort Moun**	**21.41**	**106**	P	**P**	**23 34 29.7**	**+1.3**
BMW	**Boistfort Moun**	**21.41**	**106**	P	**P**	**23 34 29.7**	**+1.3**
D05A	**Enumclaw**	**21.61**	**103**	*e*P	**P**	**23 34 32.3**	**+1.8**
	comp=Z,21nm,0.9s						
LON	**Longmire**	**21.99**	**104**	*e*P	**P**	**23 34 35.6**	**+1.1**
LON				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LON	**Longmire**	**21.99**	**104**	*e*P	**P**	**23 34 35.6**	**+1.1**
	comp=Z,9.6nm,1.1s						
TDL	**Tradedollar La**	**22.03**	**105**	P	**P**	**23 34 36.1**	**+1.0**
LVP	**Lakeview Peak**	**22.11**	**106**	P	**P**	**23 34 37.1**	**+1.2**
F04A	**Amboy**	**22.20**	**107**	*e*P	**P**	**23 34 37.9**	**+1.2**
	comp=Z,39nm,1.4s						
G03D	**McMinnville, O**	**22.24**	**109**	⇑P	**P**	**23 34 37.5**	**+0.3**
	baz=22						
ETW	**Entiat**	**22.25**	**101**	P	**P**	**23 34 38.3**	**+1.0**
LTY	**Liberty**	**22.28**	**102**	*e*P	**P**	**23 34 38.0**	**+0.4**
	comp=Z,11nm,0.6s						
B08A	**Colville Reser**	**22.33**	**98**	*e*P	**P**	**23 34 38.9**	**+0.6**
	comp=Z,21nm,1.0s						
WTV	**Waterville**	**22.39**	**100**	P	**P**	**23 34 39.5**	**+0.6**
MPOR	**Mary's Peak**	**22.58**	**111**	P	**P**	**23 34 42.0**	**+1.0**
GULW	**Guler Mountain**	**22.63**	**106**	P	**P**	**23 34 42.4**	**+0.9**
EDM	**Edmonton**	**23.13**	**82**	*e*P	**P**	**23 34 47.2**	**+0.7**
EDM	**Edmonton**	**23.13**	**82**	*e*P	**P**	**23 34 47.2**	**+0.7**
E07A	**Sunnyside**	**23.15**	**102**	*e*P	**P**	**23 34 48.2**	**+1.4**
	comp=Z,13nm,1.0s						
H04A	**Detroit Lake**	**23.16**	**109**	*e*P	**P**	**23 34 47.8**	**+0.9**
	comp=Z,20nm,0.9s						
G05D	**Wamic, OR**	**23.23**	**107**	⇑P	**P**	**23 34 48.2**	**+0.6**
	baz=23						
I03D	**Drain, OR**	**23.25**	**112**	⇓P	**P**	**23 34 47.8**	**0.0**
	baz=23						
D08A	**Wollman Farm,**	**23.34**	**100**	*e*P	**P**	**23 34 49.2**	**+0.6**
	comp=Z,14nm,1.3s						
NEW	**Newport**	**23.59**	**96**	*e*P	**P**	**23 34 51.7**	**+0.6**
NEW				pmax	pmax		
	comp=Z,121nm,2.6s						
NEW	**Newport**	**23.59**	**96**	P	**P**	**23 34 51.3**	**+0.2**
	comp=Z,4.1nm,0.8s,baz=311,slow=12,SNR=8.4						
NEW	**Newport**	**23.59**	**96**	*e*P	**P**	**23 34 51.7**	**+0.6**
	comp=Z,121nm,2.6s						
NEW	**Newport**	**23.59**	**96**	⇑P	**P**	**23 34 51.6**	**+0.5**
	baz=23						
I04A	**Tendick Farm,**	**23.66**	**111**	⇑P	**P**	**23 34 52.7**	**+0.8**
	baz=23						
I05D	**Terrebonne, OR**	**23.84**	**108**	⇓P	**P**	**23 34 54.9**	**+1.3**
	baz=24						
J04D	**Umpqua Nationa**	**24.21**	**111**	⇑P	**P**	**23 34 58.7**	**+1.5**
	baz=24						
HUMO	**Hull Mountain**	**24.24**	**113**	*e*P	**P**	**23 34 59.1**	**+1.9**
	comp=Z,8.6nm,0.8s						
L02D	**Cave Junction,**	**24.25**	**115**	⇓P	**P**	**23 34 59.4**	**+2.1**
	baz=24						
PINOR	**Pine Mountain**	**24.44**	**109**	*e*P	**P**	**23 35 00.1**	**+1.1**
	comp=Z,3.5nm,0.4s						
G08A	**Pilot Rock**	**24.45**	**104**	*e*P	**P**	**23 35 00.0**	**+0.8**
	comp=Z,4.9nm,0.8s						
J05D	**Fort Rock, OR**	**24.63**	**110**	⇑P	**P**	**23 35 02.8**	**+1.9**
	baz=24						
WALA	**Waterton Lakes**	**24.89**	**92**	*e*P	**P**	**23 35 04.0**	**+0.8**
	comp=Z,0.3nm,1.0s						
F10A	**Beach Ranch, E**	**24.93**	**101**	*e*P	**P**	**23 35 04.3**	**+0.8**
	comp=Z,8.7nm,0.9s						
I07A	**Izee**	**24.97**	**106**	*e*P	**P**	**23 35 05.2**	**+1.3**
	comp=Z,13nm,1.3s						
YBH	**Yreka Blue Hor**	**25.01**	**114**	*e*P	**P**	**23 35 06.4**	**+2.1**
YBH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YBH	**Yreka Blue Hor**	**25.01**	**114**	P	**P**	**23 35 05.9**	**+1.6**
	comp=Z,7.1nm,0.9s,baz=315,slow=13,SNR=13						
YBH	**Yreka Blue Hor**	**25.01**	**114**	*e*P	**P**	**23 35 06.4**	**+2.1**
	comp=Z,8.1nm,0.8s						
BSMT	**Bassoo Peak**	**25.10**	**95**	*e*P	**P**	**23 35 06.1**	**+0.8**
M02C	**Callahan**	**25.19**	**115**	⇓P	**P**	**23 35 07.3**	**+1.3**
	baz=25						
K05A	**Summer Lake**	**25.20**	**110**	*e*P	**P**	**23 35 08.2**	**+2.1**
	comp=Z,20nm,1.0s						
M04C	**Macdoel**	**25.41**	**113**	⇑P	**P**	**23 35 09.5**	**+1.6**
	baz=25						
JTMT	**Jette**	**25.44**	**94**	*e*P	**P**	**23 35 08.9**	**+0.7**
YBMT	**Yellow Bay**	**25.52**	**94**	*e*P	**P**	**23 35 09.3**	**+0.4**
N02D	**Trinity Center**	**25.58**	**116**	⇓P	**P**	**23 35 10.5**	**+1.1**
	baz=25						
BMO	**Blue Mountains**	**25.61**	**103**	*e*P	**P**	**23 35 10.8**	**+1.0**
	comp=Z,4.3nm,0.8s						
SWMT	**Swartz Lake**	**25.73**	**95**	*e*P	**P**	**23 35 11.8**	**+0.9**
WDC	**Whiskeytown Da**	**25.96**	**116**	*e*P	**P**	**23 35 14.4**	**+1.6**
WDC				pmax	pmax		
	comp=Z,105nm,2.8s						
WDC	**Whiskeytown Da**	**25.96**	**116**	*e*P	**P**	**23 35 14.4**	**+1.6**
	comp=Z,105nm,2.8s						
MOD	**Modoc**	**26.10**	**111**	*e*P	**P**	**23 35 15.8**	**+1.5**
	comp=Z,15nm,1.0s						
MSO	**Missoula**	**26.18**	**96**	⇓P	**P**	**23 35 15.5**	**+0.6**
	baz=26						
WVOR	**Wild Horse Val**	**26.57**	**108**	*e*P	**P**	**23 35 20.0**	**+1.5**
WVOR				pmax	pmax		
	comp=Z,13nm,1.0s						
WVOR	**Wild Horse Val**	**26.57**	**108**	*e*P	**P**	**23 35 19.9**	**+1.5**
	comp=Z,13nm,1.0s						
SEY	**Seymchan**	**26.92**	**305**	P	**P**	**23 35 20.0**	**-1.3**
SEY	**Seymchan**	**26.92**	**305**	P	**P**	**23 35 19.9**	**-1.3**
	comp=Z,9.2nm,0.8s,baz=74,slow=11,SNR=44						
PET	**Petropavlovsk**	**27.17**	**282**	⇑*i*P	**P**	**23 35 24.7**	**+1.1**
PET				*e*S	**S**	**23 39 55.1**	**-5.4**
PET				pmax	pmax		
	comp=Z,16nm,0.5s						
PET				MLR	MLR		
	comp=Z,300nm,19.0s						
PETK	**Petropavlovsk-**	**27.64**	**283**	P	**P**	**23 35 27.3**	**-0.6**
	comp=Z,6.4nm,0.4s,baz=80,slow=11,SNR=52						
PETK				LR	LR	23 46 59.7	
	comp=Z,117nm,20.8s,baz=79,slow=38						
EGMT	**Eagleton**	**27.75**	**90**	*e*P	**P**	**23 35 29.0**	**0.0**
	comp=Z,16nm,1.0s						
EGMT	**Eagleton**	**27.75**	**90**	⇓P	**P**	**23 35 29.0**	**0.0**
	baz=28,SNR=6.9						
A19A	**Klindworth Far**	**27.79**	**87**	⇑P	**P**	**23 35 29.5**	**+0.2**
	baz=28,SNR=6.0						
B19A	**Brinkman Farms**	**27.95**	**88**	⇑P	**P**	**23 35 31.6**	**+0.9**
	baz=28						
HLID	**Hailey**	**28.02**	**102**	⇓P	**P**	**23 35 32.5**	**+1.0**
	baz=28						
RES	**Resolute Bay**	**28.07**	**29**	*e*P	**P**	**23 35 31.3**	**-0.2**
RES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RES	**Resolute Bay**	**28.07**	**29**	P	**P**	**23 35 31.5**	**0.0**
	comp=Z,1.8nm,0.9s,baz=255,slow=13,SNR=12						
RES	**Resolute Bay**	**28.07**	**29**	*e*P	**P**	**23 35 31.3**	**-0.2**
	comp=Z,6.8nm,0.8s						
A20A	**Cobblestone Ra**	**28.26**	**87**	⇑P	**P**	**23 35 33.7**	**+0.2**
	baz=28,SNR=6.2						
C19A	**Slack Wire Ran**	**28.31**	**90**	⇑P	**P**	**23 35 34.6**	**+0.6**
	baz=28,SNR=8.6						
B20A	**Solberg Farm,**	**28.46**	**88**	⇓P	**P**	**23 35 36.1**	**+0.8**
	baz=28						
D19A	**Cripps Ranch,**	**28.74**	**91**	⇑P	**P**	**23 35 38.6**	**+0.8**
	baz=28						
A21A	**Bergtoll Ranch**	**28.75**	**86**	⇓P	**P**	**23 35 38.0**	**+0.2**
	baz=28,SNR=5.7						
YMR	**Madison River**	**29.16**	**97**	*e*P	**P**	**23 35 43.1**	**+1.4**
	comp=Z,6.9nm,1.0s						
D20A	**Manuel Ranch,**	**29.19**	**90**	⇓P	**P**	**23 35 43.1**	**+1.3**
	baz=29,SNR=9.1						
E19A	**Rath Farm, Rou**	**29.21**	**92**	⇑P	**P**	**23 35 42.9**	**+0.9**
	baz=29						
C21A	**Desert Coulee**	**29.32**	**88**	⇓P	**P**	**23 35 43.8**	**+0.9**
	baz=29						
F19A	**Roth Farm, Mol**	**29.50**	**93**	⇓P	**P**	**23 35 45.7**	**+1.1**
	baz=29						
H17A	**Grant Village**	**29.54**	**97**	*e*P	**P**	**23 35 47.8**	**+2.6**
	comp=Z,9.5nm,1.3s						
H17A	**Grant Village**	**29.54**	**97**	⇑P	**P**	**23 35 47.0**	**+1.9**
	baz=29						
E20A	**Meyer Farm, Mu**	**29.55**	**91**	⇓P	**P**	**23 35 45.9**	**+0.9**
	baz=29,SNR=6.6						
ELK	**Elko**	**29.56**	**107**	P	**P**	**23 35 45.4**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=328,slow=9.5,SNR=4.0						
IMW	**Indian Meadow**	**29.67**	**98**	*e*P	**P**	**23 35 48.0**	**+1.7**
	comp=Z,3.4nm,0.8s						
FLWY	**Flagg Ranch**	**29.68**	**97**	*e*P	**P**	**23 35 47.9**	**+1.6**
	comp=Z,8.2nm,0.8s						
NVAR	**Mina Array Bea**	**29.71**	**113**	P	**P**	**23 35 47.7**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=301,slow=9.0,SNR=12						
NVAR				pP	**pP**	**23 35 55.4**	**+1.3**
	comp=Z,3.3nm,0.7s,baz=301,slow=9.1,SNR=12						
D21A	**La Casta Ranch**	**29.83**	**89**	⇑P	**P**	**23 35 48.7**	**+1.3**
	baz=30						
H18A	**Shoshone NF, C**	**29.86**	**95**	⇓P	**P**	**23 35 49.0**	**+1.1**
	baz=30						
F20A	**Billings**	**29.97**	**92**	⇓P	**P**	**23 35 49.9**	**+1.2**
	baz=30						
LOHW	**Long Hollow**	**30.04**	**98**	*e*P	**P**	**23 35 51.1**	**+1.5**
	comp=Z,14nm,1.8s						
B23A	**Brockton**	**30.10**	**85**	⇓P	**P**	**23 35 50.2**	**+0.4**
	baz=30						
H19A	**Powell**	**30.23**	**95**	⇑P	**P**	**23 35 51.7**	**+0.6**
	baz=30						
G20A	**Bridger**	**30.30**	**93**	⇑P	**P**	**23 35 52.8**	**+1.1**
	baz=30						
C23A	**Lambert**	**30.38**	**87**	⇓P	**P**	**23 35 53.1**	**+0.8**
	baz=30,SNR=5.4						
E22A	**Miles City**	**30.78**	**89**	⇓P	**P**	**23 35 57.0**	**+1.2**
	baz=30						
F22A	**Rosebud**	**31.02**	**91**	⇑P	**P**	**23 35 58.5**	**+0.6**
	baz=31						
R11A	**Troy Canyon, C**	**31.16**	**110**	*e*P	**P**	**23 36 00.1**	**+0.8**
	comp=Z,4.6nm,0.8s						
R11A				*e*ScP	**ScP**	**23 42 34.6**	**-0.2**
R11A	**Troy Canyon, C**	**31.16**	**110**	⇑P	**P**	**23 35 59.8**	**+0.4**
	baz=31,SNR=8.4						
I20A	**Worland**	**31.17**	**95**	⇓P	**P**	**23 36 00.6**	**+1.2**
	baz=31						
BW06	**Boulder Array**	**31.18**	**98**	*e*P	**P**	**23 36 00.2**	**+0.6**
	comp=Z,3.4nm,0.8s						
BW06				*e*		23 36 07.9	
D24A	**Glendive**	**31.26**	**87**	⇓P	**P**	**23 36 02.0**	**+2.0**
	baz=31,SNR=5.7						
H21A	**Big Horn, Sher**	**31.32**	**93**	⇑P	**P**	**23 36 01.2**	**+0.5**
	baz=31						
F23A	**Volborg**	**31.52**	**90**	⇑P	**P**	**23 36 03.4**	**+1.0**
	baz=31						
J20A	**Shoshoni**	**31.59**	**96**	⇓P	**P**	**23 36 04.0**	**+0.9**
	baz=31						
E24A	**Baker**	**31.60**	**88**	⇓P	**P**	**23 36 04.2**	**+1.1**
	baz=31						
I21A	**Big Trails, Te**	**31.71**	**94**	⇓P	**P**	**23 36 05.1**	**+0.9**
	baz=31						
H22A	**Clearmont**	**31.72**	**92**	⇑P	**P**	**23 36 05.2**	**+1.0**
	baz=31						
PKM	**Peak Mountain**	**31.77**	**120**	⇑P	**P**	**23 36 06.2**	**+1.4**
	baz=32						
ISA	**Isabella**	**31.80**	**117**	⇓P	**P**	**23 36 05.6**	**+0.7**
	baz=32						
G23A	**Biddle**	**31.86**	**91**	⇓P	**P**	**23 36 06.3**	**+0.9**
	baz=32						
J21A	**Lysite**	**31.94**	**95**	⇑P	**P**	**23 36 07.1**	**+0.8**
	baz=32						
F24A	**Ekalaka**	**31.97**	**89**	⇑P	**P**	**23 36 07.4**	**+1.1**
	baz=32						
C26A	**Wahner Farm, P**	**32.05**	**84**	⇑P	**P**	**23 36 08.3**	**+1.3**
	baz=32						
I22A	**9 Mile Ranch,**	**32.10**	**94**	⇑P	**P**	**23 36 08.9**	**+1.4**
	baz=32						
LRMC	**Laurel Mountai**	**32.33**	**116**	⇓P	**P**	**23 36 11.0**	**+1.4**
	baz=32						
J22A	**Midwest**	**32.42**	**94**	⇑P	**P**	**23 36 11.6**	**+1.2**
	baz=32						
K21A	**Alcova**	**32.52**	**96**	⇑P	**P**	**23 36 12.3**	**+1.0**
	baz=32						
H24A	**Dirks Ranch, A**	**32.60**	**91**	⇑P	**P**	**23 36 13.8**	**+1.9**
	baz=32,SNR=6.4						
GSC	**Goldstone**	**32.91**	**115**	⇑P	**P**	**23 36 16.3**	**+1.7**
	baz=33						
J23A	**Dilts Ranch, B**	**32.93**	**93**	⇑P	**P**	**23 36 16.8**	**+1.9**
	baz=33						
F26A	**Lodgepole**	**32.94**	**88**	⇓P	**P**	**23 36 16.2**	**+1.4**
	baz=33						
G25A	**Newell**	**32.94**	**89**	⇑P	**P**	**23 36 16.4**	**+1.6**
	baz=33						
A29A	**Manning Farm,**	**32.96**	**80**	⇑P	**P**	**23 36 16.2**	**+1.2**
	baz=33						
H25A	**Fruitdale**	**33.21**	**90**	⇓P	**P**	**23 36 18.4**	**+1.3**
	baz=33,SNR=6.6						
N20A	**Spence Gulch,**	**33.21**	**99**	⇓P	**P**	**23 36 18.9**	**+1.5**
	baz=33,SNR=5.9						
SRU	**San Rafael**	**33.23**	**104**	*e*P	**P**	**23 36 18.9**	**+1.3**
SRU				pmax	pmax		
	comp=Z,16nm,0.7s						
SRU	**San Rafael**	**33.23**	**104**	*e*P	**P**	**23 36 18.9**	**+1.3**
	comp=Z,16nm,0.7s						
D28A	**Regan**	**33.26**	**84**	⇓P	**P**	**23 36 19.0**	**+1.4**
	baz=33						
F27A	**Lemmon**	**33.28**	**87**	⇓P	**P**	**23 36 19.1**	**+1.4**
	baz=33						
RSSD	**Black Hills**	**33.29**	**91**	*e*P	**P**	**23 36 19.3**	**+1.2**
RSSD				pmax	pmax		
	comp=Z,11nm,0.7s						
RSSD	**Black Hills**	**33.29**	**91**	*e*P	**P**	**23 36 19.2**	**+1.2**
	comp=Z,11nm,0.7s						
G26A	**Maurine**	**33.33**	**88**	⇑P	**P**	**23 36 19.9**	**+1.8**
	baz=33						
K23A	**Bowen Ranch, D**	**33.33**	**94**	⇓P	**P**	**23 36 19.3**	**+0.9**
	baz=33						
BFSC	**Mount Baldy Ra**	**33.34**	**118**	⇓P	**P**	**23 36 20.6**	**+2.1**
	baz=33						
L22A	**Ellis Ranch, M**	**33.38**	**96**	⇓P	**P**	**23 36 20.0**	**+1.2**
	baz=33						
A30A	**Hoffart Farm,**	**33.46**	**80**	⇑P	**P**	**23 36 20.2**	**+0.9**
	baz=33						
HEC	**Hector,Ludlow**	**33.52**	**115**	⇓P	**P**	**23 36 21.2**	**+1.3**
	baz=33						
I25A	**Rochford**	**33.52**	**91**	⇓P	**P**	**23 36 20.5**	**+0.4**
	baz=33						
L23A	**Garrett**	**33.72**	**95**	⇓P	**P**	**23 36 22.5**	**+0.7**
	baz=33,SNR=10						
M22A	**Cedar Creek Ra**	**33.72**	**97**	⇓P	**P**	**23 36 23.2**	**+1.4**
	baz=33						
O20A	**White River Ci**	**33.72**	**100**	*e*P	**P**	**23 36 22.5**	**+0.7**
	comp=Z,9.9nm,0.8s						
O20A	**White River Ci**	**33.72**	**100**	⇑P	**P**	**23 36 22.3**	**+0.5**
	baz=33						
TIXI	**Tiksi**	**33.74**	**326**	*de*P	**P**	**23 36 21.3**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,133nm,15.0s						
TIXI	**Tiksi**	**33.74**	**326**	*e*P	**P**	**23 36 20.7**	**-0.7**
	comp=Z,8.6nm,0.8s						
GMRC	**Granite Mounta**	**33.89**	**115**	⇑P	**P**	**23 36 24.0**	**+0.8**
	baz=34						
ULM	**Lac du Bonnet**	**34.01**	**76**	P	**P**	**23 36 23.8**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=300,slow=8.1,SNR=2.0						
ULM				LR	LR	23 50 29.1	
	comp=Z,264nm,18.1s,baz=322,slow=37						
N22A	**Wattenberg Ran**	**34.21**	**98**	⇑P	**P**	**23 36 26.4**	**+0.2**
	baz=34						
D30A	**Buchanan**	**34.30**	**83**	⇓P	**P**	**23 36 26.8**	**+0.3**
	baz=34						
U15A	**North Rim**	**34.31**	**109**	⇑P	**P**	**23 36 28.2**	**+1.1**
	baz=34						

BELC Belle Mtn. Jos 34.34 116 ⇑P P 23 36 28.8 +1.6
baz=34
J26A Sides Ranch, S 34.35 91 ⇑P P 23 36 27.8 +0.7
baz=34
I27A Quinn 34.41 90 ⇑P P 23 36 28.7 +1.1
baz=34
W13A Hualapai Mount 34.53 112 ⇓P P 23 36 30.2 +1.3
baz=34
H28A Mission Ridge 34.58 88 ⇑P P 23 36 30.5 +1.5
baz=34,SNR=5.9
O22A Kremmling 34.61 99 ⇓P P 23 36 30.6 +0.9
baz=34
IRM Iron Mountain 34.64 115 ⇓P P 23 36 31.1 +1.5
baz=34
BC3 Big Chuckawall 34.89 116 ⇑P P 23 36 32.9 +1.0
baz=35
P22A Eagle 34.90 100 ⇑P P 23 36 33.0 +0.9
baz=35
O23A Lake Granby, G 34.92 98 ⇓P P 23 36 33.3 +0.9
baz=35
I28A Midland 34.94 89 ⇓P P 23 36 32.9 +0.8
baz=35
MONP Monument Peak 35.04 117 ⇓P P 23 36 33.9 +0.6
baz=35
H29A Onida 35.05 87 ⇓P P 23 36 34.0 +0.8
baz=35
M25A Palm-Egli Farm 35.08 95 ⇓P P 23 36 34.9 +1.4
baz=35
Y12C Blythe 35.27 114 ⇓P P 23 36 35.9 +0.9
baz=35
ISCO Idaho Springs 35.38 98 ⇑P P 23 36 36.4 +0.2
baz=35
I29A Vivian Onida 35.40 88 ⇑P P 23 36 36.8 +0.7
baz=35
WUAZ Wupatki 35.49 109 ⇑P P 23 36 38.3 +1.2
baz=35
P23A Jefferson 35.56 99 ⇓P P 23 36 38.9 +1.0
baz=35
J29A Okreek 35.79 89 ⇓P P 23 36 40.3 +0.9
baz=36,SNR=6.1
Y14A Wickenburg 35.89 112 ⇓P P 23 36 41.4 +1.0
baz=36
S22A 4UR Ranch, Cre 36.21 102 ⇓P P 23 36 44.6 +1.2
baz=36
Q24A Divide 36.22 99 ⇑P P 23 36 44.8 +1.3
baz=36
J30A Dallas 36.30 88 ⇑P P 23 36 45.3 +1.5
baz=36,SNR=5.8
X16A Lo Mia Camp, P 36.31 110 ⇑P P 23 36 45.9 +1.8
baz=36
O26A Horse Wrangler 36.31 95 ⇓P P 23 36 45.6 +1.5
baz=36
N27A Anderson Farm, 36.34 94 ⇓P P 23 36 46.1 +1.8
baz=36
P25A Willow Gulch B 36.36 97 ⇓P P 23 36 46.3 +1.8
baz=36
Z14A Wintersburg 36.38 113 ⇑P P 23 36 45.9 +1.4
baz=36
R23A Moffat 36.42 100 ⇑P P 23 36 46.5 +1.3
baz=36
113A Mohawk Valley, 36.44 114 ⇑P P 23 36 46.1 +1.1
baz=36
OGNE Ogallala 36.52 94 ⇓P P 23 36 46.9 +1.1
baz=36
M28A Bar X Bar Ranc 36.57 92 ⇑P P 23 36 47.2 +1.0
baz=36
L29A Maesberg Ranch 36.60 91 ⇑P P 23 36 47.4 +1.0
baz=36
K30A Basset 36.67 89 ⇑P P 23 36 48.2 +1.2
baz=36
Q25A Bedland, Calha 36.75 98 ⇑P P 23 36 49.3 +1.4
baz=36
P26A Davis Ranch, A 36.78 96 ⇓P P 23 36 49.6 +1.5
baz=36
R24A Sanders Place, 36.78 100 ⇓P P 23 36 49.7 +1.5
baz=36
X18A Snowflake 36.99 108 ⇑P P 23 36 51.5 +1.5
baz=37
YAK Yakutsk 37.08 310 eP P 23 36 48.5 -1.7
YAK e 23 38 15.9
YAK e 23 39 07.8
YAK eS S 23 42 30.1 -4.2
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=Z,88nm,4.3s
YAK pmax pmax
comp=N,145nm,4.0s
YAK pmax pmax
comp=E,59nm,2.9s
YAK smax smax
comp=N,153nm,4.2s
YAK smax smax
comp=E,161nm,4.1s
YAK Yakutsk 37.08 310 eP P 23 36 49.2 -1.0
comp=E,52nm,0.7s
Q26A Hugo 37.14 97 ⇓P P 23 36 53.0 +1.9
baz=37,SNR=6.1
S24A Houchin Ranch, 37.15 100 ⇑P P 23 36 53.1 +1.7
baz=37,SNR=6.4
U22A Llaves 37.21 103 ⇓P P 23 36 53.2 +1.3
baz=37
R25A Fountain Ranch 37.28 99 ⇑P P 23 36 54.0 +1.6
baz=37,SNR=5.4
T24B San Luis 37.49 101 ⇑P P 23 36 55.6 +1.3
baz=37
V22A San Miguel Ran 37.53 104 ⇑P P 23 36 56.0 +1.4
baz=37
S25A Robets Cordova 37.56 100 ⇓P P 23 36 55.9 +1.2
baz=37
KSCO Kaye Shedlock' 37.56 96 eP P 23 36 56.4 +1.7
comp=E,27nm,0.8s
KSCO Kaye Shedlock' 37.56 96 ⇓P P 23 36 56.1 +1.4
baz=37
214A Organ Pipe Nat 37.57 114 ⇑P P 23 36 56.4 +1.6
baz=37
U23A El Rito 37.60 103 ⇓P P 23 36 56.5 +1.3
baz=37,SNR=8.1
ECSD EROS Data Cent 37.60 86 ⇓P P 23 36 55.8 +1.0
baz=37
R26A Arlington 37.62 98 ⇑P P 23 36 56.7 +1.5
baz=37,SNR=6.4
EYMN Ely 37.69 77 eP P 23 36 54.4 -1.2
comp=E,8.5nm,1.0s
O29A 4D Ranch, Culb 37.77 93 ⇓P P 23 36 57.5 +1.1
baz=38
T25A Trinidad 37.95 100 ⇑P P 23 36 59.5 +1.4
baz=38
Q28A Sharon Springs 37.95 96 ⇑P P 23 36 59.3 +1.3
baz=38
R27A Eads 37.99 97 ⇓P P 23 36 59.9 +1.6
baz=38,SNR=6.8
V23A Ortiz Mt. (NFS 38.04 103 ⇑P P 23 37 00.6 +1.7
baz=38
P29A Atwood 38.06 94 ⇑P P 23 37 00.4 +1.5
baz=38
S26A Kim 38.10 99 ⇑P P 23 37 00.7 +1.4
baz=38,SNR=7.1
N31A Bailey Ranch, 38.29 91 ⇑P P 23 37 01.4 +0.7
baz=38
BGNE Belgrade 38.33 90 ⇓P P 23 37 01.6 +0.6
baz=38
T26A Comanche Natio 38.37 99 ⇓P P 23 37 02.7 +1.1
baz=38
S27A Las Animas 38.37 98 ⇑P P 23 37 02.7 +1.2
baz=38
P30A Selden 38.48 94 ⇑P P 23 37 03.6 +1.3
baz=38
R28A Tribune 38.48 96 ⇓P P 23 37 04.0 +1.5
baz=38
U25A Circle Dot Ran 38.50 101 ⇓P P 23 37 04.4 +1.7
baz=38,SNR=8.2
ANMO Albuquerque 38.50 104 ⇑P P 23 37 05.0 +2.2
ANMO pmax pmax
comp=Z,9.0nm,1.7s
W23A Werner Place, 38.50 104 ⇓P P 23 37 03.4 +0.6
baz=38
Q29A Oakley 38.54 95 ⇑P P 23 37 03.7 +0.8
baz=38
V24A Rampart Ranch, 38.54 102 ⇑P P 23 37 04.2 +1.0
baz=38
O31A Woolen Ranch, 38.55 92 ⇓P P 23 37 03.5 +0.6
baz=38
R29A Marienthal 38.79 96 ⇑P P 23 37 05.8 +0.8
baz=38
V25A Rancho No Teng 38.81 102 ⇑P P 23 37 06.2 +0.9
baz=38
W24A Lazy 6 Ranch, 38.86 103 ⇑P P 23 37 07.0 +1.2
baz=39
U26A Atchley Ranch, 38.86 100 ⇑P P 23 37 07.3 +1.5
baz=39,SNR=8.6
Q30A Quinter 38.89 94 ⇑P P 23 37 06.3 +0.5
baz=39
T27A Campo 38.92 99 ⇓P P 23 37 06.8 +0.7
baz=39
X23A Hourglass Bar 38.92 105 ⇓P P 23 37 07.2 +0.8
baz=39
P31A Stockton 38.97 93 ⇑P P 23 37 07.0 +0.6
baz=39
S28A Manter 38.98 97 ⇓P P 23 37 07.7 +1.1
baz=39
T28A Walsh 39.21 98 ⇓P P 23 37 09.5 +0.9
baz=39
V26A Tequesquite Ra 39.29 101 ⇓P P 23 37 10.4 +1.2
baz=39,SNR=15
P32A Huiting Farm, 39.32 92 ⇓P P 23 37 10.2 +0.9
baz=39
Q31A Ellis 39.33 93 ⇓P P 23 37 10.3 +0.9
baz=39
U27A Thompson Grove 39.34 99 ⇑P P 23 37 10.6 +0.9
baz=39
R30A Dighton 39.36 95 ⇑P P 23 37 11.0 +1.3
baz=39
W25A X Bar L Ranch, 39.36 102 ⇑P P 23 37 11.1 +1.2
baz=39
S29A Ulysses 39.38 96 ⇑P P 23 37 10.9 +0.9
baz=39
Y23A Lovelace Mesa, 39.49 105 ⇑P P 23 37 12.5 +1.5
baz=39
Z22A Elephant Butte 39.54 107 ⇑P P 23 37 13.0 +1.6
baz=39
T29A Hugoton 39.62 97 ⇓P P 23 37 13.4 +1.4
baz=39
121A Cookes Peak, D 39.67 108 ⇓P P 23 37 13.9 +1.3
baz=39
U28A Mallet 39.69 99 ⇑P P 23 37 13.8 +1.2
baz=39
S30A Montezuma 39.72 96 ⇓P P 23 37 13.9 +1.2
baz=39
R31A Burdett 39.77 94 ⇓P P 23 37 14.5 +1.4
baz=40
Q32A Meitler Ranch, 39.79 93 ⇑P P 23 37 13.9 +0.6
baz=40,SNR=5.0
Y24A Capitan 39.83 104 ⇓P P 23 37 15.2 +1.3
baz=40
V27A Dan Oppiter Fa 39.83 100 ⇓P P 23 37 14.7 +1.0
baz=40
P33A Williams Farm, 39.95 91 ⇓P P 23 37 15.3 +0.7
baz=40
R32A Long Quarter, 40.11 93 ⇑P P 23 37 17.0 +1.0
baz=40
Q33A Connelly Farm, 40.18 92 ⇑P P 23 37 17.0 +0.5
baz=40,SNR=6.2
X26A CR and CF Fran 40.21 102 ⇑P P 23 37 17.9 +1.0
baz=40
Y25A Mesa, Roswell 40.22 104 ⇑P P 23 37 18.3 +1.2
baz=40,SNR=7.7
W27A Bowe Ranch, En 40.23 101 ⇑P P 23 37 18.0 +1.0
baz=40
S31A Mullinville 40.27 95 ⇓P P 23 37 18.3 +1.0
baz=40
Z24A Sheeppen Canyo 40.32 105 ⇑P P 23 37 19.2 +1.2
baz=40
U30A WK&E Inc. Balk 40.43 97 ⇓P P 23 37 19.7 +1.1
baz=40
V29A Stinnett 40.45 99 ⇓P P 23 37 19.7 +0.8
baz=40
X27A F and S Farms, 40.52 101 ⇓P P 23 37 20.0 +0.5
baz=40
W28A Vega 40.54 100 ⇑P P 23 37 20.6 +1.0
baz=40
T31A Randall Ranch, 40.55 96 ⇑P P 23 37 20.4 +0.8
baz=40,SNR=5.9
R33A Olander Ranch, 40.59 93 ⇑P P 23 37 20.6 +0.6
baz=40,SNR=5.3
Y26A Elida 40.68 103 ⇓P P 23 37 21.8 +1.0
baz=40
Z25A Roswell 40.70 104 ⇓P P 23 37 21.9 +0.9
baz=40
KSU1 Kansas State U 40.78 91 eP P 23 37 29.7 +8.2
comp=Z,8.8nm,0.8s
Y27A Causey 41.07 102 ⇑P P 23 37 24.5 +0.5
baz=41
Z26A Caprock 41.10 104 ⇑P P 23 37 25.6 +1.3
baz=41
AMTX Amarillo 41.10 100 eP P 23 37 25.3 +1.1
comp=Z,21nm,1.3s
AMTX Amarillo 41.10 100 ⇓P P 23 37 25.0 +0.7
baz=41
MSTX Muleshoe 41.21 102 eP P 23 37 25.9 +0.7
comp=Z,6.8nm,0.9s
MSTX Muleshoe 41.21 102 ⇓P P 23 37 25.4 +0.2
baz=41
X29A Tulia 41.42 100 ⇑P P 23 37 27.4 +0.5
baz=41
V31A Spring Creek L 41.43 97 ⇑P P 23 37 27.5 +0.6
baz=41
U32A Winter Ranch, 41.44 96 ⇑P P 23 37 27.9 +0.9
baz=41
Z27A Tatum 41.48 103 ⇑P P 23 37 27.9 +0.5
baz=41
Y28A McKinney Farm, 41.54 101 ⇑P P 23 37 28.5 +0.6
baz=41
W31A Holland Ranch, 41.82 98 ⇑P P 23 37 31.0 +1.0
baz=42
Y29A Porterfield Fa 41.88 101 ⇑P P 23 37 30.8 +0.1
baz=42,SNR=5.5
U34A Anderson Ranch 42.20 94 eP P 23 37 41.5 +8.4
comp=Z,19nm,0.7s
U34A Anderson Ranch 42.20 94 ⇓P P 23 37 32.9 -0.2
baz=42,SNR=5.2
W32A Sentinel 42.24 97 ⇓P P 23 37 34.6 +1.1
baz=42
V33A Lossen Ranch, 42.24 96 ⇑P P 23 37 34.5 +1.1
baz=42
Y30A Stafford Cattl 42.29 100 ⇑P P 23 37 34.7 +0.7
baz=42
Z29A Hungry Hill Ra 42.33 101 ⇑P P 23 37 35.0 +0.8
baz=42
128A Castleberry Fa 42.40 103 ⇑P P 23 37 35.6 +0.8
baz=42
Z30A Sanderson Ranc 42.62 101 ⇑P P 23 37 37.0 +0.4
baz=42
V34A Guthrie 42.65 95 ⇓P P 23 37 37.8 +1.0
baz=42
228A UT Block 9, Go 42.73 103 ⇓P P 23 37 38.6 +1.0
baz=42
X32A Elmer 42.75 98 ⇓P P 23 37 38.6 +1.0
baz=42
Y32A R-V Farms, Ver 42.98 99 ⇓P P 23 37 40.0 +0.5
baz=43
Z31A Sharp Cattle R 43.12 100 ⇑P P 23 37 40.0 -0.6
baz=43
229A Bryant Ranch, 43.27 103 ⇓P P 23 37 42.3 +0.4
baz=43
SUMG Summit 43.29 23 eP P 23 37 42.4 +0.5
SUMG pmax pmax
comp=Z,11nm,0.7s
SUMG Summit 43.29 23 iP P 23 37 42.3 +0.4
comp=Z,11nm,0.8s
SUMG i 23 37 56.4
SUMG Summit 43.29 23 eP P 23 37 42.4 +0.5
comp=Z,11nm,0.7s
KLR Kul'dur 43.32 293 ⇓iP P 23 37 38.0 -4.0
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,60nm,1.0s
Z32A Haskell 43.49 99 ⇑P P 23 37 43.7 +0.1
baz=43
DAG Danmarks Havn 43.49 14 iP P 23 37 42.9 -0.2
comp=Z,13nm,0.8s
DAG i 23 37 55.8
329A Wagon Wheel Ra 43.55 103 ⇓P P 23 37 44.7 +0.6
baz=43
230A Sterling City 43.70 102 ⇑P P 23 37 45.9 +0.5
baz=43
SFJD Kangerlussuaq 43.85 34 iP P 23 37 46.9 +0.9
comp=Z,5.7nm,0.9s
SFJD i 23 37 53.0
ABTX Abilene, Hawle 43.92 100 eP P 23 37 47.6 +0.5
comp=Z,11nm,0.8s
ABTX e 23 37 54.0
ABTX Abilene, Hawle 43.92 100 ⇓P P 23 37 47.7 +0.6
baz=44
Y34A Reagan Ranch, 43.93 97 ⇓P P 23 37 47.2 +0.1
baz=44
330A Mertzon 44.04 103 ⇓P P 23 37 48.4 +0.3
baz=44
KBS Kingsbay 44.04 4 eP P 23 37 49.3 +1.8
KBS pmax pmax
comp=Z,22nm,0.9s
KBS Kingsbay 44.04 4 eP P 23 37 49.3 +1.8
comp=Z,22nm,0.9s
231A Bronte 44.09 101 ⇑P P 23 37 48.6 +0.2
baz=44
429A Davenport Ranc 44.27 104 ⇓P P 23 37 50.5 +0.6
baz=44
Z34A Collier Ranch, 44.28 98 ⇑P P 23 37 50.6 +0.6
baz=44
133A Hamilton Ranch 44.33 99 ⇑P P 23 37 50.5 +0.1
baz=44
TXAR Lajitas Array 44.36 107 P P 23 37 51.6 +0.9
comp=Z,1.3nm,0.8s,baz=324,slow=6.2,SNR=12
TXAR pP pP 23 37 59.4 +1.0
comp=Z,2.2nm,0.7s,baz=313,slow=5.7,SNR=16
TXAR pPcP 23 39 42.5
comp=Z,1.2nm,1.0s,baz=236,slow=1.4,SNR=3.5
TXAR LR LR 23 55 40.8
comp=Z,193nm,18.0s,baz=0.0,slow=35
232A Coleman 44.49 101 ⇑P P 23 37 51.7 0.0
baz=44
529A Stev Forest Ra 44.49 105 ⇓P P 23 37 52.1 +0.4
baz=44
430A Baggett Ranch, 44.49 103 ⇑P P 23 37 52.0 +0.3
baz=44
233A Rising Star 44.79 100 ⇓P P 23 37 54.4 +0.4
baz=44
134A White-Moore Ra 44.80 99 ⇓P P 23 37 54.5 +0.4
baz=44
332A Millersview 44.83 101 ⇑P P 23 37 54.6 +0.3
baz=44
431A Sonora 44.91 103 ⇓P P 23 37 55.5 +0.4
baz=45
530A J-C Ranch, Com 44.94 104 ⇑P P 23 37 55.7 +0.5
baz=45
432A Menard 45.19 102 ⇑P P 23 37 57.7 +0.4
baz=45
234A Clairette 45.21 99 ⇑P P 23 37 57.7 +0.4
baz=45
333A Richland Sprin 45.28 101 ⇓P P 23 37 58.5 +0.5
baz=45
531A Rocksprings 45.35 103 ⇑P P 23 37 58.6 +0.1
baz=45,SNR=5.7
JCT Junction City 45.50 102 eP P 23 38 00.2 +0.5
JCT pmax pmax
comp=Z,18nm,1.0s
JCT Junction City 45.50 102 eP P 23 38 00.2 +0.5
comp=Z,18nm,1.0s
JCT Junction City 45.50 102 ⇑P P 23 37 59.8 +0.1
baz=45,SNR=6.2
SCHQ Schefferville 45.56 54 P P 23 37 59.0 -0.9
comp=Z,4.6nm,0.8s,baz=305,slow=6.5,SNR=12
SCHQ pP pP 23 38 08.0 +0.5
comp=Z,6.3nm,0.6s,baz=305,slow=8.1,SNR=6.2
SCHQ LR LR 23 57 57.9
comp=Z,86nm,19.3s,baz=344,slow=37
SCHQ Schefferville 45.56 54 eP P 23 37 59.9 0.0
comp=Z,114nm,2.4s
SCHQ pP pP 23 38 08.0 +0.5
433A Art 45.66 101 ⇓P P 23 38 01.0 +0.1
baz=45
334A Lometa 45.67 100 ⇑P P 23 38 01.3 +0.3
baz=45
OLIL Olney 45.69 84 eP P 23 38 08.2 +7.2
comp=Z,30nm,1.2s
532A Rocksprings 45.72 103 ⇑P P 23 38 01.0 -0.4
baz=45
MIAR Mount Ida 45.76 93 eP P 23 38 01.7 0.0
MIAR e 23 38 08.4
MIAR pmax pmax
comp=Z,4.0nm,0.7s
MIAR Mount Ida 45.76 93 eP P 23 38 01.7 0.0
comp=Z,4.4nm,0.7s
MIAR e 23 38 08.4
631A Perdido Creek 45.92 104 ⇓P P 23 38 03.0 0.0
baz=46
BOD Bodaibo 45.95 312 ⇓iP P 23 38 01.8 -1.1
BOD pmax pmax
comp=Z,26nm,0.9s
434A Burnet 46.06 100 ⇓P P 23 38 04.4 +0.3
baz=46,SNR=6.3
533A Kerrville 46.23 102 ⇓P P 23 38 05.7 +0.3
baz=46
632A Uvalde 46.27 103 ⇑P P 23 38 06.1 +0.4
baz=46
435B Jarrell 46.45 100 ⇓P P 23 38 07.9 +0.8
baz=46
USRK Ussuriysk Arra 46.54 287 LR LR 23 57 53.6
comp=Z,94nm,21.5s,baz=21,slow=36
534A Blanco 46.56 101 ⇑P P 23 38 08.4 +0.3
baz=46
633A Saathoff Ranch 46.63 102 ⇓P P 23 38 08.7 +0.1
baz=46
732A Laxson Ranch, 46.79 104 ⇓P P 23 38 10.4 +0.7
baz=46
832A Faith Ranch, C 47.14 104 ⇑P P 23 38 13.2 +0.7
baz=47
733A Divot King Ran 47.16 103 ⇓P P 23 38 13.6 +0.9
baz=47
833A Chaparral WMA, 47.42 104 ⇓P P 23 38 16.1 +1.4
baz=47
MDJ Mudanjiang 47.50 289 P P 23 38 17.1 +1.9
MDJ pmax pmax
comp=Z,130nm,4.1s
WVT Waverly 47.73 87 eP P 23 38 24.5 +7.4
WVT pmax pmax
comp=Z,110nm,2.8s
WVT Waverly 47.73 87 eP P 23 38 24.5 +7.4
comp=Z,110nm,2.8s
834A Tilden 48.02 103 ⇑P P 23 38 20.9 +1.5
baz=48
933A Laredo 48.05 104 ⇑P P 23 38 21.1 +1.5
baz=48
HKT Hockley 48.05 99 eP P 23 38 28.0 +8.5
HKT pmax pmax
comp=Z,10.0nm,1.0s
HKT Hockley 48.05 99 eP P 23 38 27.9 +8.5
comp=Z,9.7nm,1.0s
MAJO Matsushiro 48.66 276 eP P 23 38 24.0 -0.3
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MAJO Matsushiro 48.66 276 eP P 23 38 23.9 -0.3
comp=Z,9.6nm,0.9s
MJAR Matsushiro Arr 48.66 276 P P 23 38 23.4 -0.9
comp=Z,16nm,1.1s,baz=27,slow=8.2,SNR=7.4
MJAR LR LR 23 58 06.3
comp=Z,75nm,21.7s,baz=50,slow=35
CN2 Changchun 50.20 291 eP P 23 38 35.3 -0.6
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
KMSC Kings Mountain 52.00 82 eP P 23 38 50.0 +0.5
KMSC e 23 38 56.8
KSRS Korea Array 53.53 284 P P 23 39 01.0 +0.3
comp=Z,4.1nm,0.8s,baz=52,slow=6.7,SNR=14
KEV Kevo 53.54 360 eP P 23 39 00.2 -0.2
KEV pmax pmax
comp=Z,1.0nm,0.5s
KEV Kevo 53.54 360 ep P 23 39 00.2 -0.2
comp=Z,1.0nm,0.5s
KSAR Wonju Array Be 53.56 284 P P 23 39 01.0 0.0
KSAR Wonju Array Be 53.56 284 P P 23 39 01.0 0.0
ARCES ARCESS Array B 53.76 0 P P 23 39 01.8 -0.2
comp=Z,7.9nm,0.9s,baz=8.3,slow=7.2,SNR=18
ARCES pP pP 23 39 09.3 -0.5
comp=Z,3.9nm,0.5s,baz=13,slow=7.8,SNR=3.6
ARCES LR LR 00 02 34.2
comp=Z,49nm,20.9s,baz=352,slow=37
TLY Talaya 54.53 312 eP P 23 39 08.1 +0.2
TLY pmax pmax
comp=Z,11nm,0.9s
TLY MLR MLR
comp=Z,327nm,19.0s
TLY Talaya 54.53 312 eP P 23 39 08.6 +0.6
comp=Z,14nm,1.1s
LVZ Lovozero 55.25 356 deP P 23 39 13.4 +0.5
LVZ pmax pmax

comp=Z,53nm,1.7s
LVZ Lovozero 55.25 356 eP P 23 39 13.6 +0.7
comp=Z,43nm,1.1s
MOY Mondy 55.61 313 eP P 23 39 16.9 +1.1
ZAK Zakamensk 55.67 311 eP P 23 39 16.1 -0.2
ZAK e 23 40 14.8
ZAK pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 56.29 307 P P 23 39 21.5 +0.7
comp=Z,20nm,0.7s,baz=49,slow=6.8,SNR=140
SONM LR LR 00 05 06.5
comp=Z,290nm,19.3s,baz=48,slow=38
TMCR Tamitsa 58.82 354 eP P 23 39 38.5 +0.4
TMCR e 23 41 49.2
TMCR pmax pmax
comp=Z,23nm,1.1s
HHC Hu-ho-hao-te 59.27 298 eP P 23 39 41.8 0.0
HHC pP pP 23 39 48.8 -0.9
HHC sP sP 23 39 51.3 -1.4
HHC PP PP 23 41 54.5 +2.1
HHC PcS PcS 23 44 32.9 +1.1
HHC S S 23 47 45.8 -2.5
HHC pmax pmax
comp=Z,27nm,0.7s
HHC pmax pmax
comp=Z,240nm,6.9s
HHC LR LR
comp=Z,180nm,17.8s
HHC LR LR
comp=Z,260nm,17.8s
HHC LR LR
comp=Z,160nm,17.9s
NVS Novosibirsk 59.33 326 eP P 23 39 39.2 -2.6
NVS pmax pmax
comp=Z,22nm,1.7s
NVS pmax pmax
comp=N,17nm,1.8s
NVS pmax pmax
comp=E,15nm,1.5s
ZAA0 Zalesovo Array 59.59 324 eP P 23 39 43.7 +0.1
ZALV Zalesovo Beam 59.59 324 P P 23 39 44.0 +0.3
ZALV Zalesovo Beam 59.59 324 P P 23 39 44.0 +0.3
comp=E,12nm,0.7s,baz=35,slow=6.8,SNR=57
JOF Joensuu 60.34 357 eP P 23 39 49.3 +0.6
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 60.34 357 ep P 23 39 49.3 +0.6
comp=Z,6.4nm,0.6s
PRGR Permogore 60.73 350⇑iP P 23 39 51.8 +0.5
PRGR pmax pmax
comp=Z,24nm,0.9s
KAF Kangasniemi 61.22 0 eP P 23 39 54.9 +0.3
KAF pmax pmax
comp=Z,5.0nm,0.6s
KAF Kangasniemi 61.22 0 ep P 23 39 54.9 +0.3
comp=Z,5.1nm,0.6s
SOKR Solikamsk 61.26 343 eP P 23 39 54.9 0.0
SOKR pmax pmax
comp=Z,20nm,1.1s
SOKR MLR MLR
comp=Z,400nm,31.0s
NB2 NORSAR Subarra 61.70 8 P P 23 39 57.6 -0.3
comp=Z,0.6nm,0.7s,baz=353,slow=6.9
NOA NORSAR Array B 61.70 8 P P 23 39 57.8 -0.1
comp=Z,4.9nm,0.8s,baz=351,slow=6.8,SNR=22
NOA pP pP 23 40 07.8 +2.0
comp=Z,4.8nm,0.8s,baz=351,slow=6.8,SNR=5.1
NOA LR LR 00 08 19.8
comp=Z,30nm,19.2s,baz=320,slow=38
FINES FINESS Array B 61.89 0 P P 23 39 59.1 0.0
comp=Z,6.4nm,0.8s,baz=18,slow=7.2,SNR=26
KLMR Klimovskoe 62.02 353 eP P 23 39 57.1 -2.9
KLMR pmax pmax
comp=Z,28nm,1.2s
SVE Sverdlovsk 63.20 340⇑iP P 23 40 08.3 +0.3
SVE pmax pmax
comp=Z,23nm,1.0s
ARU Arti 63.97 341c iP P 23 40 12.5 -0.5
ARU 23 40 47.2
ARU S S 23 48 48.1 +1.1
ARU SS SS 23 52 58.9 +4.3
ARU pmax pmax
comp=Z,21nm,0.8s
ARU Arti 63.97 341 eP P 23 40 12.7 -0.3
comp=Z,19nm,0.8s
KURK Kurchatov 64.31 326 eP P 23 40 15.1 -0.3
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 64.31 326 eP P 23 40 15.1 -0.3
comp=Z,3.6nm,0.8s
BRVK Borovoye 64.55 332c iP P 23 40 16.9 0.0
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 64.55 332 eP P 23 40 17.0 +0.1
comp=Z,18nm,0.9s
VSU Vasula 64.88 360⇓eP P 23 40 19.5 +0.6
VSU pmax pmax
comp=Z,61nm,1.1s
GTA Gaotai 65.87 306 ⇑P P 23 40 25.8 -0.1
GTA pP pP 23 40 37.1 +3.3
GTA pmax pmax
comp=Z,9.0nm,1.3s
GTA pmax pmax
comp=Z,100nm,4.5s
GTA LR LR
comp=Z,290nm,17.6s
GTA LR LR
comp=Z,270nm,18.3s
GTA LR LR
comp=Z,340nm,17.1s
XAN Xi'an 65.93 296 P P 23 40 25.8 -0.4
XAN pmax pmax
comp=Z,3.0nm,1.0s
XAN pmax pmax
comp=Z,15nm,4.9s
MKAR Makanchi Array 66.56 322 P P 23 40 29.9 -0.2
comp=Z,9.6nm,0.7s,baz=32,slow=6.3,SNR=161
LZH Lanzhou 66.73 301 eP P 23 40 31.1 -0.4
LZH pP pP 23 40 38.5 -0.9
LZH sP sP 23 40 41.6 -0.8
LZH ePP PP 23 42 59.5 +1.4
LZH pmax pmax
comp=Z,21nm,1.5s
LZH pmax pmax
comp=Z,76nm,7.0s
LZH LR LR
comp=Z,360nm,15.0s
LZH LR LR
comp=Z,340nm,15.7s
LZH LR LR
comp=Z,400nm,18.5s
WMQ Urumqi 67.18 316 P P 23 40 34.9 +0.8
WMQ pP pP 23 40 41.1 -1.0
WMQ sP sP 23 40 43.9 -1.2
WMQ PcP PcP 23 41 03.0 +1.0
WMQ S S 23 49 26.4 -0.4
WMQ sS sS 23 49 36.8 -3.1
WMQ SS SS 23 53 47.3 +2.0
WMQ pmax pmax
comp=Z,11nm,0.8s
WMQ pmax pmax
comp=Z,210nm,5.8s
WMQ LR LR
comp=Z,100nm,24.4s
WMQ LR LR
comp=Z,100nm,19.0s
WMQ LR LR
comp=Z,100nm,17.0s
OBN Obninsk 67.93 354⇑eP P 23 40 38.3 -0.2
OBN e 23 40 47.0
OBN pmax pmax
comp=Z,12nm,1.0s
SUW Suwalki 69.31 2 eP P 23 40 47.1 0.0
SUW pmax pmax
comp=Z,31nm,1.0s
SUW Suwalki 69.31 2 eP P 23 40 47.1 0.0
comp=Z,31nm,1.0s
NRDL Niedersach Rie 70.05 10 eP P 23 40 52.1 +0.5
comp=Z,13nm,1.0s
ABKAR Akbulak array 70.50 337 eP P 23 40 54.5 -0.1
CLZ Clausthal 70.72 10 eP P 23 40 56.8 +0.9
comp=Z,17nm,0.9s
BUG Bochum--Univer 70.78 12 eP P 23 40 56.4 +0.2
comp=Z,9.0nm,0.8s
CD2 Chengdu 71.00 297 eP P 23 40 59.3 +1.3
CD2 pP pP 23 41 06.3 +0.3
CD2 sP sP 23 41 09.4 +0.5
CD2 PcP PcP 23 41 20.3 +2.1
CD2 PP PP 23 43 38.3 +3.3
CD2 S S 23 50 11.3 -1.0
CD2 sS sS 23 50 22.9 -2.6
CD2 SKS SKSac 23 50 55.8 -3.0
CD2 SS SS 23 54 45.3 +0.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.6s
CLL Collm 71.49 9⇓iP P 23 41 01.2 +0.7
CLL i 23 41 05.1
CLL pmax pmax
comp=Z,14nm,1.3s
CLL Collm 71.49 9 eP P 23 41 00.6 +0.1
comp=Z,17nm,1.3s
CLL Collm 71.49 9⇓iP P 23 41 01.2 +0.7
comp=Z,17nm,1.3s
CLL i 23 41 05.1
CLL i sP sP 23 41 12.1 +0.6
CLL e 23 41 16.0
VRHR Novokhopersk 71.52 350 eP P 23 40 58.2 -2.5
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,5.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 71.62 352 eP P 23 41 00.4 -0.9
VSR pmax pmax
comp=N,6.0nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
BAIF Baives 71.74 15⇑iP P 23 41 02.5 +0.5
comp=Z,13nm,0.8s
BAIF Baives 71.74 15⇑iP P 23 41 02.5 +0.5
BAIF pmax pmax
comp=Z,13nm,0.8s
BAIF Baives 71.74 15⇑iP P 23 41 02.5 +0.5
comp=Z,13nm,0.8s
GIVF Givet 71.78 14 eP P 23 41 02.6 +0.3
comp=Z,47nm,1.2s
GIVF Givet 71.78 14 eP P 23 41 02.6 +0.3
GIVF pmax pmax
comp=Z,47nm,1.2s
GIVF Givet 71.78 14 eP P 23 41 02.6 +0.3
comp=Z,47nm,1.2s
VORD Divnogorie 71.86 351 eP P 23 41 01.2 -1.5
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=E,2.0nm,0.6s
PMOR Pomariorio Ree 71.90 174 eT T 00 59 01.8
comp=E,49nm,0.4s
BRG Berggiesshubel 72.00 8 eP P 23 41 04.0 +0.4
comp=E,7.5nm,1.1s
BRG Berggiesshubel 72.00 8 eP P 23 41 04.0 +0.4
BRG pmax pmax
comp=Z,3.0nm,1.1s
BRG Berggiesshubel 72.00 8 eP P 23 41 03.9 +0.3
comp=Z,7.0nm,0.9s
MOX Moxa 72.03 10 eP P 23 41 04.3 +0.5
comp=Z,17nm,1.1s
TNS Taunus Mts 72.12 12 eP P 23 41 04.7 +0.3
comp=Z,11nm,1.0s
ROSF Rostrenen 72.18 20 eP P 23 41 05.1 +0.4
ROSF Rostrenen 72.18 20 eP P 23 41 05.1 +0.4
ROSF Rostrenen 72.18 20 eP P 23 41 05.1 +0.4
TKM2 Tokmak 2 72.20 324 P P 23 41 06.1 +0.9
SNR=20
TKM2 Tokmak 2 72.20 324 i P P 23 41 06.1 +0.9
TKM2 Tokmak 2 72.20 324 eP P 23 41 06.4 +1.2
comp=Z,19nm,0.8s
USP Ospenovka 72.23 325 P P 23 41 06.1 +0.8
SNR=16
USP Ospenovka 72.23 325 i P P 23 41 06.0 +0.8
FLN La Foliniere 72.27 18 eP P 23 41 05.2 -0.1
FLN eR
comp=Z,117nm,17.5s
FLN La Foliniere 72.27 18 eP P 23 41 05.2 -0.1
FLN La Foliniere 72.27 18 eP P 23 41 05.2 -0.1
TANN Tannenbergstha 72.33 9 eP P 23 41 06.3 +0.6
comp=Z,8.0nm,1.2s
SGMF Saint Gilles 72.39 20 eP P 23 41 06.2 +0.2
comp=Z,90nm,1.4s
SGMF Saint Gilles 72.39 20 eP P 23 41 06.2 +0.2
SGMF pmax pmax
comp=Z,90nm,1.4s
SGMF Saint Gilles 72.39 20 eP P 23 41 06.2 +0.2
comp=Z,90nm,1.4s
CHMS Chumysh 72.39 325 P P 23 41 07.2 +1.0
SNR=23
CHMS Chumysh 72.39 325 i P P 23 41 07.1 +1.0
LDF La Druitiere 72.50 18 eP P 23 41 06.2 -0.4
LDF La Druitiere 72.50 18 eP P 23 41 06.2 -0.4
LDF La Druitiere 72.50 18 eP P 23 41 06.2 -0.4
UPC Upice 72.51 7 eP P 23 41 06.8 +0.1
UPC e 23 41 11.6
UPC e 23 41 19.9
UPC Upice 72.51 7 eP P 23 41 06.8 +0.1
UPC ex x 23 41 11.6
UPC esP sP 23 41 19.9 +2.2
GRR Gorron 72.57 19 eP P 23 41 07.3 +0.3
comp=Z,40nm,1.3s
GRR Gorron 72.57 19 eP P 23 41 07.3 +0.3
GRR pmax pmax
comp=Z,40nm,1.3s
GRR Gorron 72.57 19 eP P 23 41 07.3 +0.3
comp=Z,40nm,1.3s
QUIF Quistinic 72.60 20 eP P 23 41 07.4 +0.2
QUIF Quistinic 72.60 20 eP P 23 41 07.4 +0.2
QUIF Quistinic 72.60 20 eP P 23 41 07.4 +0.2
AKASG Malin Array Be 72.63 358 P P 23 41 06.7 -0.6
comp=Z,9.4nm,0.8s,baz=2.0,slow=5.9,SNR=50
AKBB Malin Array Si 72.63 358 eP P 23 41 06.2 -1.1
AKBB Malin Array Si 72.63 358 eP P 23 41 06.2 -1.1
KIEV Kiev 72.64 358c iP P 23 41 06.7 -0.7
KIEV Kiev 72.64 358 eP P 23 41 07.0 -0.4
comp=Z,25nm,1.2s
AK01 Malin Array Si 72.64 358 eP P 23 41 06.3 -1.1
KBK Karagaybulak 72.64 325 P P 23 41 08.9 +1.1
SNR=29
AK02 Malin Array Si 72.67 358 eP P 23 41 07.0 -0.6
DPC Dobruska-Polom 72.69 7 eP P 23 41 08.4 +0.6
DPC Dobruska-Polom 72.69 7 eP P 23 41 07.8 0.0
DPC ex x 23 41 12.7
DPC epP pP 23 41 19.5 +3.7
DPC ex x 23 41 22.6
DPC Dobruska-Polom 72.69 7 eP P 23 41 08.4 +0.6
AAK Ala-Archa 72.81 325 P P 23 41 09.6 +0.8
SNR=16
AAK Ala-Archa 72.81 325c iP P 23 41 09.5 +0.7
AAK Ala-Archa 72.81 325 eP P 23 41 09.6 +0.8
comp=Z,16nm,0.8s
PRU Pruhonice 72.92 8 eP P 23 41 09.5 +0.4
PRU e 23 41 14.3
PRU e 23 41 23.9
PRU Pruhonice 72.92 8 eP P 23 41 09.5 +0.4
PRU epP pP 23 41 14.3 -2.8
PRU ex x 23 41 23.9
GRF Grafenberg Arr 72.93 10 eP P 23 41 09.6 +0.4
comp=Z,16nm,1.2s
ROTZ Rotzenmuhle 72.95 10 eP P 23 41 10.2 +0.9
comp=Z,7.0nm,0.9s
KRLC Kraliky 72.99 6 eP P 23 41 10.2 +0.6
KRLC e 23 41 14.3
KRLC e 23 41 24.1
KRLC Kraliky 72.99 6 eP P 23 41 10.2 +0.6
KRLC ex x 23 41 14.3
KRLC esP sP 23 41 24.1 +3.5
EKS2 Erkin-Say 73.00 325 P P 23 41 10.9 +1.0
SNR=24
EKS2 Erkin-Say 73.00 325 i P P 23 41 10.9 +1.0
EKS2 Erkin-Say 73.00 325 eP P 23 41 10.8 +0.8
comp=Z,22nm,0.8s
KZA Kyzart 73.07 324 P P 23 41 12.0 +1.3
SNR=11
KZA Kyzart 73.07 324 i P P 23 41 11.9 +1.3
OKC Ostrava-Krasne 73.31 6 eP P 23 41 12.1 +0.7
OKC e 23 41 26.4
OKC Ostrava-Krasne 73.31 6 eP P 23 41 12.1 +0.7
OKC ePCP PcP 23 41 26.4 -1.3
MORC Moravsky Berou 73.33 6⇓iP P 23 41 12.5 +0.9
AML Almayashu 73.51 325 P P 23 41 14.5 +1.3
SNR=17
KKAR Karatay Array 73.58 328 eP P 23 41 13.6 +0.4
KKAR Karatay Array 73.58 328 eP P 23 41 13.6 +0.4
SFTF Sexfontaines 73.67 15 eP P 23 41 13.8 +0.2
SFTF Sexfontaines 73.67 15 eP P 23 41 13.8 +0.2
TREC Trest 73.68 7 eP P 23 41 14.1 +0.4
TREC e 23 41 28.6
TREC Trest 73.68 7 eP P 23 41 14.1 +0.4
TREC ePCP PcP 23 41 28.6 -0.7
KHC Kasperske Hory 73.70 9 eP P 23 41 14.7 +0.9
KHC pmax pmax
comp=Z,9.0nm,0.9s
KHC Kasperske Hory 73.70 9 eP P 23 41 14.7 +0.9
KHC epP pP 23 41 19.0 -2.8
KHC esP sP 23 41 23.9 -0.9
KHC ePCP PcP 23 41 29.0 -0.4
KHC Kasperske Hory 73.70 9 eP P 23 41 14.7 +0.9
comp=Z,9.1nm,0.9s
VRAC Vranov 73.74 7⇑iP P 23 41 14.6 +0.6
CDF Champ du Feu 73.76 13⇑iP P 23 41 14.5 +0.3
CDF Champ du Feu 73.76 13⇑iP P 23 41 14.5 +0.3
CDF Champ du Feu 73.76 13⇑iP P 23 41 14.5 +0.3
GEC2 GERESS Array S 73.99 9 eP P 23 41 16.4 +0.8
GEC2 GERESS Array S 73.99 9 eP P 23 41 15.8 +0.2
comp=Z,8.0nm,1.0s
GEC2 GERESS Array S 73.99 9 eP P 23 41 16.4 +0.8
GERES GERESS Array B 73.99 9 P P 23 41 16.0 +0.4
comp=Z,3.9nm,0.7s,baz=353,slow=5.4,SNR=36
HAU Haudompre 74.04 14⇑iP P 23 41 16.0 +0.2
comp=Z,17nm,0.8s
HAU eR
comp=Z,125nm,20.8s
HAU Haudompre 74.04 14⇑iP P 23 41 16.0 +0.2
HAU pmax pmax
comp=Z,17nm,0.8s
HAU Haudompre 74.04 14⇑iP P 23 41 16.0 +0.2
comp=Z,17nm,0.8s
HYF Humbligny 74.23 17 eP P 23 41 17.3 +0.4
HYF Humbligny 74.23 17 eP P 23 41 17.3 +0.4
HINF Hinteralfeld 74.29 13⇑iP P 23 41 17.2 -0.1
comp=Z,18nm,1.1s
HINF Hinteralfeld 74.29 13⇑iP P 23 41 17.2 -0.1
HINF pmax pmax
comp=Z,18nm,1.1s
HINF Hinteralfeld 74.29 13⇑iP P 23 41 17.2 -0.1
comp=Z,18nm,1.1s
PPT Papeete 74.37 176 LR LR 00 07 19.1
comp=Z,166nm,19.0s,baz=4.5,slow=30
PPT2 Papeete2 74.39 176 eLR LR 00 03 24.8
comp=Z,122nm,21.2s
LOR Lormes 74.42 16⇑iP P 23 41 18.2 +0.2
comp=Z,16nm,0.8s
LOR eR
comp=Z,104nm,17.0s
LOR Lormes 74.42 16⇑iP P 23 41 18.2 +0.2
LOR pmax pmax
comp=Z,16nm,0.8s
LOR Lormes 74.42 16⇑iP P 23 41 18.2 +0.2
comp=Z,16nm,0.8s
MFF Saint Martin d 74.42 19 eP P 23 41 18.3 +0.4
comp=Z,28nm,1.0s
MFF Saint Martin d 74.42 19 eP P 23 41 18.3 +0.4
MFF pmax pmax
comp=Z,28nm,1.0s
MFF Saint Martin d 74.42 19 eP P 23 41 18.3 +0.4
comp=Z,28nm,1.0s
FUR Furstenfeldbru 74.45 10 eP P 23 41 18.5 +0.4
comp=Z,18nm,1.0s
SSF Saint Saulge 74.57 16⇑iP P 23 41 19.1 +0.3
comp=Z,30nm,0.9s
SSF Saint Saulge 74.57 16⇑iP P 23 41 19.1 +0.3
SSF pmax pmax
comp=Z,30nm,0.9s
SSF Saint Saulge 74.57 16⇑iP P 23 41 19.1 +0.3
comp=Z,30nm,0.9s
AVF Avril sur Loir 74.81 16⇑iP P 23 41 20.3 +0.1
comp=Z,14nm,0.6s
AVF Avril sur Loir 74.81 16⇑iP P 23 41 20.3 +0.1
AVF pmax pmax
comp=Z,14nm,0.6s
AVF Avril sur Loir 74.81 16⇑iP P 23 41 20.3 +0.1
comp=Z,14nm,0.6s
BGF Bois d'Agland 74.96 17⇑iP P 23 41 21.1 0.0
comp=Z,27nm,1.0s
BGF Bois d'Agland 74.96 17⇑iP P 23 41 21.1 0.0
BGF pmax pmax
comp=Z,27nm,1.0s
BGF Bois d'Agland 74.96 17⇑iP P 23 41 21.1 0.0
comp=Z,27nm,1.0s
RJOB Jochberg 75.02 9 eP P 23 41 21.7 +0.2
comp=Z,12nm,0.9s
SMF Signal de Mont 75.02 16⇑iP P 23 41 21.4 -0.1
comp=Z,20nm,1.0s
SMF Signal de Mont 75.02 16⇑iP P 23 41 21.4 -0.1
SMF pmax pmax
comp=Z,20nm,1.0s
SMF Signal de Mont 75.02 16⇑iP P 23 41 21.4 -0.1
comp=Z,20nm,1.0s
CONA Conrad Observa 75.07 7 i P P 23 41 22.6 +0.7
comp=Z,7.4nm,0.9s,SNR=7.6
TCF Toulx Ste Croi 75.12 17 eP P 23 41 22.1 0.0
TCF Toulx Ste Croi 75.12 17 eP P 23 41 22.1 0.0
TCF Toulx Ste Croi 75.12 17 eP P 23 41 22.1 0.0
TRPA Tarpa 75.18 3⇓iP P 23 41 23.3 +1.0
PSZ Piszkesteto 75.30 4 eP P 23 41 24.5 +1.3
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 75.30 4⇓iP P 23 41 23.9 +0.7
PSZ Piszkesteto 75.30 4 eP P 23 41 24.5 +1.3
comp=Z,6.7nm,0.9s
CABF La Chapelle 75.38 14⇑iP P 23 41 24.2 +0.6
comp=Z,30nm,1.0s
CABF La Chapelle 75.38 14⇑iP P 23 41 24.2 +0.6
CABF pmax pmax
comp=Z,30nm,1.0s
CABF La Chapelle 75.38 14⇑iP P 23 41 24.2 +0.6
comp=Z,30nm,1.0s
WTTA Wattenberg 75.38 10⇑iP P 23 41 24.6 +0.9
comp=Z,18nm,1.2s
FETA Feichten 75.53 11⇓iP P 23 41 25.8 +1.3
comp=Z,9.4nm,0.9s
KBA Koelnbreinsper 75.72 9⇑iP P 23 41 23.5 -2.1
comp=Z,9.8nm,0.6s
BURAR Bucovina Array 75.74 1⇓iP P 23 41 25.8 +0.1
FUORN Ofenpass-Fuorn 75.87 11 eP P 23 41 27.8 +1.1
comp=Z,14nm,1.1s
TUE Stuetta 75.92 12 eP P 23 41 28.3 +1.4
comp=Z,83nm,2.3s
RJF Les Rejaudoux 75.96 18 eP P 23 41 27.7 +0.8
RJF eR
comp=Z,126nm,20.0s
RJF Les Rejaudoux 75.96 18 eP P 23 41 27.7 +0.8
RJF Les Rejaudoux 75.96 18 eP P 23 41 27.7 +0.8
LFF La Frestale 76.18 18 eP P 23 41 28.5 +0.4
comp=Z,29nm,0.8s
LFF La Frestale 76.18 18 eP P 23 41 28.5 +0.4
LFF pmax pmax
comp=Z,29nm,0.8s
LFF La Frestale 76.18 18 eP P 23 41 28.5 +0.4
comp=Z,29nm,0.8s
SOKA Soboth 76.25 8 i P P 23 41 29.5 +0.9
comp=Z,12nm,1.2s,SNR=6.3
PERS Pernice 76.30 8 eP P 23 41 29.9 +1.1
OBKA Obir 76.38 8 iP P 23 41 30.0 +0.6
comp=Z,20nm,0.7s,SNR=22
CAF Calviac 76.42 17 eP P 23 41 29.6 +0.1
comp=Z,17nm,1.0s
CAF Calviac 76.42 17 eP P 23 41 29.6 +0.1
CAF pmax pmax
comp=Z,17nm,1.0s
CAF Calviac 76.42 17 eP P 23 41 29.6 +0.1
comp=Z,17nm,1.0s
DRGR 76.53 3⇓iP P 23 41 30.6 +0.5
LPL La Plagne 76.54 14 eP P 23 41 30.5 +0.1
LPL La Plagne 76.54 14 eP P 23 41 30.5 +0.1
LPL La Plagne 76.54 14 eP P 23 41 30.5 +0.1
LPG La Plagne 76.56 14 eP P 23 41 30.9 +0.3
LPG La Plagne 76.56 14 eP P 23 41 30.9 +0.3
LPG La Plagne 76.56 14 eP P 23 41 30.9 +0.3
LEOM Leova 76.88 359⇑iP P 23 41 32.5 +0.5

VIVF Saint-Julien-l 76.89 16 eP P 23 41 32.5 +0.3
comp=Z,26nm,1.0s
VIVF Saint-Julien-l 76.89 16 eP P 23 41 32.5 +0.3
VIVF pmax pmax
comp=Z,26nm,1.0s
VIVF Saint-Julien-l 76.89 16 eP P 23 41 32.5 +0.3
comp=Z,26nm,1.0s
PKSM Moragy 76.95 5⇓/P P 23 41 32.3 -0.1
ORIF Oris-en-Rattie 77.01 15 eP P 23 41 33.3 +0.4
ORIF eR
comp=Z,88nm,22.8s
ORIF Oris-en-Rattie 77.01 15 eP P 23 41 33.3 +0.4
ORIF Oris-en-Rattie 77.01 15 eP P 23 41 33.3 +0.4
MBDF Montbardon 77.32 14 eP P 23 41 35.8 +1.1
comp=Z,9.6nm,0.8s
MBDF Montbardon 77.32 14 eP P 23 41 35.8 +1.1
MBDF pmax pmax
comp=Z,10.0nm,0.8s
MBDF Montbardon 77.32 14 eP P 23 41 35.8 +1.1
comp=Z,9.6nm,0.8s
GOF Gofitskoye 77.34 348 eP P 23 41 35.0 +0.3
VRI Vrincioaia 77.49 360⇑/P P 23 41 36.4 +0.9
PLOR Plostina 77.51 360⇑/P P 23 41 36.3 +0.7
BZS Buzias 77.67 3⇑/P P 23 41 36.8 +0.3
QIZ Qiongzhong 77.71 286 P P 23 41 37.8 +0.7
QIZ S S 23 51 24.4 -3.2
QIZ LR LR
comp=Z,170nm,22.2s
QIZ LR LR
comp=Z,230nm,24.0s
LSA Lhasa 77.87 306 P P 23 41 39.5 +1.1
LSA Lhasa 77.87 306 eP P 23 41 39.1 +0.7
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 77.87 306 eP P 23 41 39.1 +0.7
comp=Z,7.7nm,0.8s
MLR Muntele Rosu 77.87 0⇓/P P 23 41 38.9 +1.1
SMRF Simiane la Rot 77.89 15 eP P 23 41 38.2 +0.4
comp=Z,16nm,0.9s
SMRF Simiane la Rot 77.89 15 eP P 23 41 38.2 +0.4
comp=Z,16nm,0.9s
VOIR 77.92 1⇑/P P 23 41 38.5 +0.5
GZR Gura Zlata 77.92 3⇑/P P 23 41 38.3 +0.3
ETSF Etsaut 77.93 20⇑/P P 23 41 38.8 +0.7
comp=Z,20nm,0.8s
ETSF Etsaut 77.93 20⇑/P P 23 41 38.8 +0.7
ETSF pmax pmax
comp=Z,21nm,0.8s
ETSF Etsaut 77.93 20⇑/P P 23 41 38.8 +0.7
comp=Z,20nm,0.8s
EPF Esparros 77.96 19 eP P 23 41 37.8 -0.4
comp=Z,10nm,0.9s
EPF Esparros 77.96 19 eP P 23 41 37.8 -0.4
EPF pmax pmax
comp=Z,11nm,0.9s
EPF Esparros 77.96 19 eP P 23 41 37.8 -0.4
comp=Z,10nm,0.9s
ARR Arges 77.98 1⇓/P P 23 41 39.0 +0.7
MTLF Montolieu 77.99 18 eP P 23 41 38.7 +0.4
comp=Z,8.3nm,0.7s
MTLF Montolieu 77.99 18 eP P 23 41 38.7 +0.4
MTLF pmax pmax
comp=Z,8.0nm,0.7s
MTLF Montolieu 77.99 18 eP P 23 41 38.7 +0.4
comp=Z,8.3nm,0.7s
CFR Carcaliu 78.17 359⇑/P P 23 41 39.2 0.0
SBF Sospel 78.25 14 eP P 23 41 40.1 +0.3
SBF Sospel 78.25 14 eP P 23 41 40.1 +0.3
SBF Sospel 78.25 14 eP P 23 41 40.1 +0.3
FRF La Foret Royal 78.44 14 eP P 23 41 41.2 +0.4
FRF La Foret Royal 78.44 14 eP P 23 41 41.2 +0.4
FRF La Foret Royal 78.44 14 eP P 23 41 41.2 +0.4
KIV Kislovodsk 78.47 348 eP P 23 41 41.8 +0.7
KIV pmax pmax
comp=Z,12nm,0.7s
KIV Kislovodsk 78.47 348 eP P 23 41 41.8 +0.7
comp=Z,12nm,0.7s
KBZ Khabaz 78.67 348 P P 23 41 42.9 +0.9
comp=Z,11nm,0.8s,baz=338,slow=6.1,SNR=14
TIRR Tirgusor 78.89 358⇑/P P 23 41 43.4 +0.2
ZEI Tsey 79.48 347 eP P 23 41 46.0 -0.8
ZEI pmax pmax
comp=Z,20nm,1.9s
PGF Pioggiola 79.75 13 eP P 23 41 48.2 +0.1
PGF Pioggiola 79.75 13 eP P 23 41 48.2 +0.1
PGF Pioggiola 79.75 13 eP P 23 41 48.2 +0.1
ESDC Sonseca Array 80.35 23 P P 23 41 51.7 +0.4
comp=Z,4.1nm,0.8s,baz=342,slow=5.2,SNR=14
RKT Rikitea 81.36 163 eT T 01 10 55.6
comp=Z,2.2nm,0.3s
TAPN Taplejung 81.40 308 eP P 23 41 57.6 +0.1
comp=Z,34nm,0.9s
TAPN Taplejung 81.40 308 eP P 23 41 57.6 +0.1
comp=Z,34nm,0.9s
GUN Gumba 81.69 310 eP P 23 41 59.5 +0.4
comp=Z,30nm,0.9s
GUN Gumba 81.69 310 eP P 23 41 59.5 +0.4
comp=Z,30nm,0.9s
MMB Musomiste 81.75 2⇑/P P 23 41 59.5 +0.8
JIRN Jiri 81.78 309 eP P 23 42 00.0 +0.4
comp=Z,28nm,0.6s
JIRN Jiri 81.78 309 eP P 23 42 00.0 +0.4
comp=Z,28nm,0.6s
KBL Kabul 81.92 326 eP P 23 41 59.1 -0.9
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 81.92 326 eP P 23 41 59.1 -0.9
comp=Z,6.0nm,0.6s
ODAN Odare 81.97 308 eP P 23 42 00.5 +0.1
comp=Z,17nm,0.8s
ODAN Odare 81.97 308 eP P 23 42 00.5 +0.1
comp=Z,17nm,0.8s
KKN Kakani 82.05 310 eP P 23 42 01.2 +0.4
KKN Kakani 82.05 310 eP P 23 42 01.2 +0.4
KKN Kakani 82.05 310 eP P 23 42 01.2 +0.4
GKN Gorkha 82.14 311 eP P 23 42 01.2 +0.1
comp=Z,27nm,1.0s
GKN Gorkha 82.14 311 eP P 23 42 01.2 +0.1
comp=Z,27nm,1.0s
DANN Dangsing 82.19 311 eP P 23 42 02.1 +0.5
comp=Z,85nm,0.8s
DANN Dangsing 82.19 311 eP P 23 42 02.1 +0.5
comp=Z,85nm,0.8s
PKI Pulchoki 82.19 310 eP P 23 42 01.6 0.0
comp=Z,18nm,0.6s
PKI Pulchoki 82.19 310 eP P 23 42 01.6 0.0
PKI pmax pmax
comp=Z,18nm,0.6s
PKI Pulchoki 82.19 310 eP P 23 42 01.6 0.0
comp=Z,18nm,0.6s
PKIN Phulchoki 82.19 310 eP P 23 42 01.6 0.0
comp=Z,10nm,0.5s
RAMN Ramite 82.23 309 eP P 23 42 01.9 +0.1
comp=Z,35nm,0.8s
RAMN Ramite 82.23 309 eP P 23 42 01.9 +0.1
comp=Z,35nm,0.8s
DMN Daman 82.28 310 eP P 23 42 02.4 +0.3
comp=Z,19nm,0.6s
DMN Daman 82.28 310 eP P 23 42 02.4 +0.3
comp=Z,19nm,0.6s
KOLN Koldanda 82.77 311 eP P 23 42 04.6 +0.1
comp=Z,18nm,0.7s
KOLN Koldanda 82.77 311 eP P 23 42 04.6 +0.1
comp=Z,18nm,0.7s
BR131 Keskin Array S 83.43 354 eP P 23 42 07.7 +0.1
comp=Z,3.3nm,1.0s
BRTR Keskin Array B 83.43 354 P P 23 42 07.6 -0.1
comp=Z,3.4nm,0.8s,baz=8.3,slow=2.4,SNR=17
CHTO Chiang Mai 83.48 295 eP P 23 42 07.2 -0.8
CHTO pmax pmax
comp=Z,7.0nm,1.4s
CHTO Chiang Mai 83.48 295 eP P 23 42 07.2 -0.8
comp=Z,6.8nm,1.4s
CMAR Chiang Mai Arr 83.78 294 P P 23 42 09.1 -0.5
comp=Z,5.9nm,0.9s,baz=10,slow=5.6,SNR=30
MALT Malatya 84.86 350⇓/P P 23 42 14.6 +1.5
KEST Kesra 86.51 14 P P 23 42 23.6 +0.6
comp=Z,1.2nm,0.8s,baz=21,slow=2.4,SNR=4.3
RAYN Ar Rayn 98.17 342 eP Pdif 23 43 17.7 +0.4
comp=Z,3.0nm,0.9s
QSPA South Pole Qui 146.80 180 ePKPdf PKPdf 23 49 19.9 +0.9
BOSA Boshof 151.61 2 PKPbc PKPbc 23 49 32.6 -1.7
comp=Z,5.3nm,0.8s,baz=47,slow=2.4,SNR=7.4

WEL 22 23:35:35.4±0.5,36.74S×176.93E,h264km±3km,ML4.0/10, 5C-5D,Error ellipse: s-maj=5.4km s-min=4.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.23	146	PN	Pn	23 36 12.9	-0.2
URZ	Urewera	1.53	175	⇑PN	Pn	23 36 15.1	-0.1
URZ				SN	S	23 36 46.2	-0.5
TWGZ	Tauwhareparae	1.67	150	⇑PN	Pn	23 36 16.7	+0.4
MWZ	Matawai	1.67	164	PN	Pn	23 36 16.2	0.0
MWZ				SN	S	23 36 48.1	-0.5
RAGZ	Rawiri	1.80	168	PN	Pn	23 36 17.6	+0.3
CNGZ	Carnagh Statio	2.02	150	⇓PN	Pn	23 36 19.5	+0.3
SNGZ	Shannon Statio	2.07	171	PN	Pn	23 36 19.8	+0.2
RIGZ	Rimuhau	2.08	162	PN	Pn	23 36 19.9	+0.2
RAHZ	Arahi	2.18	177	PN	Pn	23 36 20.9	+0.3
WHHZ	Waihua	2.35	174	PN	Pn	23 36 22.3	+0.1
KNZ	Kokohu	2.36	166	PN	Pn	23 36 21.9	-0.3
NMHZ	Naumai	2.36	182	⇓PN	Pn	23 36 23.0	+0.7
BKZ	Black Stump Fm	2.45	188	PN	Pn	23 36 23.0	-0.2
BKZ				SN	S	23 37 00.4	-0.7
MHGZ	Mahia Peninsul	2.54	162	PN	Pn	23 36 23.9	0.0
OTVZ	Oturere	2.62	202	⇑PN	Pn	23 36 26.0	+1.0
MCHZ	McNeill Hill	2.71	184	⇓PN	Pn	23 36 25.9	+0.2
TUVZ	Tukino	2.72	201	PN	Pn	23 36 26.5	+0.5
FWVZ	Far West T-bar	2.74	203	⇓PN	Pn	23 36 26.9	+0.7
TRVZ	Turoa	2.78	203	PN	Pn	23 36 27.2	+0.5
WNVZ	Wahianoa	2.79	202	PN	Pn	23 36 27.1	+0.3
MOVZ	Moawhango	2.82	199	PN	Pn	23 36 26.8	-0.1
BHHZ	Black Hill Sta	2.83	194	PN	Pn	23 36 26.7	-0.3
MTVZ	Mangateitei	2.88	203	⇑PN	Pn	23 36 28.2	+0.7
CKHZ	Cape Kidnapper	2.92	178	PN	Pn	23 36 27.5	-0.3
KRHZ	Kereru	2.94	188	⇓PN	Pn	23 36 27.5	-0.5
KAHZ	Kahuranaki	3.06	181	PN	Pn	23 36 28.9	-0.4
PNHZ	Pukenui	3.23	190	PN	Pn	23 36 30.3	-0.8
PXZ	Pawanui	3.29	181	PN	Pn	23 36 31.0	-0.8
WPHZ	Waipukurau	3.35	186	PN	Pn	23 36 31.9	-0.4
TSZ	Takapari Road	3.40	193	PN	Pn	23 36 32.1	-0.9
PRHZ	Porangahau	3.53	184	PN	Pn	23 36 33.8	-0.7
DVHZ	Dannevirke	3.61	189	PN	Pn	23 36 34.4	-0.9
ANWZ	Angora Road	3.74	185	PN	Pn	23 36 36.3	-0.4
PRWZ	Pori Road	3.89	191	PN	Pn	23 36 38.0	-0.5
BFZ	Birch Farm	3.98	187	PN	Pn	23 36 38.5	-0.9
MRZ	Mangatainoka R	4.06	195	PN	Pn	23 36 39.1	-1.3
MRZ				SN	S	23 37 29.8	-2.5
HOWZ	Holdsworth Sta	4.30	194	PN	Pn	23 36 42.0	-1.2
OGWZ	Otaki Gorge	4.30	198	PN	Pn	23 36 41.5	-1.7
KIW	Kapiti Island	4.41	200	PN	Pn	23 36 43.0	-1.5
TMWZ	Te Maipa	4.44	190	PN	Pn	23 36 43.9	-0.9
TCW	Tory Channel	4.92	204	PN	Pn	23 36 48.9	-1.6
TUWZ	Tuamarina	5.23	205	PN	Pn	23 36 52.6	-1.7
NNZ	Nelson	5.26	211	PN	Pn	23 36 52.4	-2.2
QRZ	Quartz Range	5.34	219	PN	Pn	23 36 53.3	-2.3
THZ	Tophouse	5.91	211	PN	Pn	23 37 00.9	-1.8
KHZ	Kahutara	6.25	204	⇑PN	Pn	23 37 04.9	-1.8
DSZ	Denniston Nort	6.39	217	PN	Pn	23 37 06.8	-1.8
LTZ	Lake Taylor	7.02	209	PN	Pn	23 37 14.1	-2.3
MQZ	McQueen's Vall	7.69	204	PN	Pn	23 37 21.7	-3.0

WEL 22 23:39:56.0±0.2,37.15S×176.46E,h206km±2km,ML3.6/8, 2C,Error ellipse: s-maj=4.2km s-min=3.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.22	120	PN	Pn	23 40 27.8	0.0
HAZ				SN	S	23 40 53.1	+0.6
URZ	Urewera	1.22	155	PN	Pn	23 40 27.9	0.0
URZ				SN	S	23 40 52.8	+0.1
MWZ	Matawai	1.46	145	PN	Pn	23 40 30.1	+0.2
MWZ				SN	S	23 40 55.8	-0.3
MXZ	Matakaoa Point	1.53	106	PN	Pn	23 40 30.7	+0.3
TWGZ	Tauwhareparae	1.58	131	PN	Pn	23 40 31.5	+0.5
PUZ	Puketiti	1.70	123	PN	Pn	23 40 32.0	0.0
PUZ				SN	S	23 40 58.8	-0.9
SNGZ	Shannon Statio	1.77	157	PN	Pn	23 40 32.7	0.0
RAHZ	Arahi	1.83	165	PN	Pn	23 40 33.5	+0.2
RIGZ	Rimuhau	1.86	147	PN	Pn	23 40 33.6	0.0
CNGZ	Carnagh Statio	1.92	134	PN	Pn	23 40 34.5	+0.4
NMHZ	Naumai	1.97	172	PN	Pn	23 40 35.0	+0.4
BKZ	Black Stump Fm	2.02	179	PN	Pn	23 40 35.1	-0.1
WHHZ	Waihua	2.02	163	PN	Pn	23 40 35.3	+0.2
KNZ	Kokohu	2.10	153	⇑PN	Pn	23 40 35.1	-0.7
KNZ				SN	S	23 41 04.9	-1.8
FWVZ	Far West T-bar	2.22	198	ePN	Pn	23 40 37.7	+0.2
TRVZ	Turoa	2.27	198	PN	Pn	23 40 38.4	+0.5
WNVZ	Wahianoa	2.28	197	PN	Pn	23 40 38.3	+0.3
MCHZ	McNeill Hill	2.30	175	PN	Pn	23 40 38.1	0.0
MOVZ	Moawhango	2.32	194	PN	Pn	23 40 38.3	-0.1
BHHZ	Black Hill Sta	2.36	187	PN	Pn	23 40 38.0	-0.7
KRHZ	Kereru	2.49	182	PN	Pn	23 40 39.4	-0.8
CKHZ	Cape Kidnapper	2.55	169	PN	Pn	23 40 39.9	-0.9
KAHZ	Kahuranaki	2.66	173	PN	Pn	23 40 41.0	-1.1
PNHZ	Pukenui	2.77	184	PN	Pn	23 40 41.8	-1.4
PXZ	Pawanui	2.90	174	AML	AML	23 41 25.2	
BFZ	Birch Farm	3.53	183	ePN	Pn	23 40 49.9	-2.3
MRZ	Mangatainoka R	3.58	191	PN	Pn	23 40 49.6	-3.1
OGWZ	Otaki Gorge	3.80	195	⇑PN	Pn	23 40 52.9	-2.5
HOWZ	Holdsworth Sta	3.82	191	PN	Pn	23 40 52.7	-3.0
KIW	Kapiti Island	3.90	198	PN	Pn	23 40 53.8	-2.9
THZ	Tophouse	5.37	210	PN	Pn	23 41 12.1	-3.1
DSZ	Denniston Nort	5.84	217	PN	Pn	23 41 18.8	-2.3
MQZ	McQueen's Vall	7.17	203	PN	Pn	23 41 33.3	-4.9

BJI 22 23:47:36.2,4.50S×101.42E,h67km,mB5.0/34,mb5.0/50, Ms4.6/30,Ms7 4.2/30
MOS 22 23:47:42.7±1.0,3.27S×101.77E,h46km,mb5.2/32,Error ellipse: s-maj=12.6km s-min=5.4km az=113.6
ISCJB 22 23:47:43.8±0.5,3.55S±0.03×101.51E±0.03,h63km±4km, mb4.8/83,Error ellipse: s-maj=6.7km s-min=3.1km az=141.3
IDC 22 23:47:43.9±0.5,3.37S×101.57E,h44km±4km,mb4.5/23, mb1 4.5/24,mb1mx4.5/25,mbtmp4.7/24,MS3.7/15, Ms1 3.7/15,ms1mx3.5/30,Error ellipse: s-maj=14.6km s-min=10.7km az=53.0
DJA 22 23:47:44.4±0.7,4.S±3×10.1E±,h35km±6km,M4.9/53, mB5.4/28,mb5.0/53,MLv5.2/26,Mw(mB)4.8/28
KLM 22 23:47:44.6,3.60S×101.44E,h100km,mb5.0,ML5.0, MS6.0
NEIC 22 23:47:44.3±0.5,3.53S×101.52E,h55km±4km,mb4.9/26, Error ellipse: s-maj=7.3km s-min=4.2km az=53.0
ISC 22 23:47:44.3±0.3,3.65S±0.04×101.48E±0.04,h56km±2km, h56km:pP-P,n427,σ1.34/457,mb4.9/85,MS3.9/26, 82C-83D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	1.63	116	P	Pn	23 48 11.1	+0.4
MNAI				S	Sn	23 48 31.7	+1.1
MNAI	Manna	1.63	116	ePn	Pn	23 48 10.7	0.0
MNAI	Manna	1.63	116	⇑P	Pn	23 48 10.7	0.0
	baz=1.6,SNR=132						
LHSI	Lahat	2.04	95	P	Pn	23 48 17.1	+0.8
SDSI	Sungai Dareh	2.70	359	P	Pn	23 48 25.5	+0.2
MDSI	Maura Dua	2.81	107	P	Pn	23 48 28.3	+1.5
LWLI	Liwa	2.91	118	P	Pn	23 48 30.3	+2.1
PDSI	Padang	2.91	339	P	Pn	23 48 28.4	+0.2
PMBI	Palembang	3.36	78	P	Pn	23 48 35.2	+0.8
PMBI	Palembang	3.36	78	ePn	Pn	23 48 35.2	+0.8
PMBI				eSn	Sn	23 49 29.6	+17
PMBI	Palembang	3.36	78	⇑P	Pn	23 48 34.2	-0.1
	baz=3.3,SNR=3.5						
RGRI	Rengat	3.39	15	P	Pn	23 48 34.8	0.0
KASI	Kota Agung	3.53	122	P	Pn	23 48 39.0	+2.3
KLI	Kotabumi	3.57	110	P	Pn	23 48 40.4	+3.2
BKNI	Bangkinang	3.98	354	P	Pn	23 48 43.2	+0.3
BKNI	Bangkinang	3.98	354	ePn	Pn	23 48 42.3	-0.5
BKNI	Bangkinang	3.98	354	⇓P	Pn	23 48 43.1	+0.3
	baz=4.0,SNR=7.6						
BLSI	Bandar Lampung	4.12	115	P	Pn	23 48 47.5	+2.7
DSRI	Dabo	4.42	45	P	Pn	23 48 47.9	-0.9
MNSI	Mandailing Nat	4.81	337	P	Pn	23 48 54.0	-0.2
CGJI	Cibinong	5.12	125	P	Pn	23 48 59.2	+0.7
	303nm,0.8s,4μm2.6nm						
SBJI	Serang	5.24	118	P	Pn	23 49 28.2	+28
TPRI	Tanjung Pinang	5.47	34	P	Pn	23 49 03.6	+0.4
	427nm,1.4s,10μm1.9nm						
BTDF	Bukit Timah Da	5.48	25	⇓P	Pn	23 49 03.1	-0.3
	baz=5.5,SNR=9.2						
MYKOM	Kota Tinggi	5.90	24	ePn	Pn	23 49 08.8	-0.4
MYKOM	Kota Tinggi	5.90	24	⇓P	Pn	23 49 09.1	-0.1
KGM	Kluang	5.92	18	⇑P	Pn	23 49 09.5	0.0
TPI	Tanjungpandan	6.23	82	P	Pn	23 49 12.8	-0.8
	34nm,0.7s,572nm0.5nm						
GSI	Gunungsitoli	6.28	322	P	Pn	23 49 14.2	-0.3
	213nm,0.6s,3μm1.1nm						
GSI	Gunungsitoli	6.28	322	ePn	Pn	23 49 14.2	-0.3
CNJI	Cibinong	6.69	123	P	Pn	23 49 20.4	+0.4
	200nm,0.8s,2μm0.9nm						
FRIM	Kepong	6.85	1	⇑P	Pn	23 49 22.7	+0.5
LEM	Lembang	6.88	118	P	Pn	23 49 24.5	+1.8
	193nm,1.2s,2μm0.7nm						
PSI	Prapat	6.90	338	P	Pn	23 49 19.6	-3.5
	3.6nm,0.3s,baz=356,slow=9.2,SNR=9.5						
PSI				S	Sn	23 50 48.5	+8.2
	1.3nm,0.3s,baz=300,slow=20,SNR=2.0						
PSI	Prapat	6.90	338	⇑P	Pn	23 49 23.4	+0.3
	baz=6.9,SNR=5.0						
CISI	Cisompet, Garu	7.40	122	P	Pn	23 49 30.0	+0.2
	158nm,0.6s,6μm1.4nm						
CISI	Cisompet, Garu	7.40	122	ePn	Pn	23 49 29.5	-0.3
SNSI	Sinabang, Aceh	7.92	319	P	Pn	23 49 36.9	0.0
	400nm,0.8s,4μm1.3nm						
XMIS	Christmas Isla	7.95	149	ePn	Pn	23 49 33.3	-3.9
KCSI	Kotacane, Aceh	8.03	332	P	Pn	23 49 36.9	-1.6
	43nm,1.1s,954nm0.5nm						
CMJI	Cimerak	8.05	121	P	Pn	23 49 38.9	+0.2
	115nm,0.8s,1μm						
IPM	Ipoh	8.09	357	ePn	Pn	23 49 40.0	+0.8
IPM				eSn	Sn	23 51 11.8	+2.4
IPM	Ipoh	8.09	357	⇑P	Pn	23 49 41.5	+2.2
KPJI	Karang Pucung	8.27	117	P	Pn	23 49 45.3	+3.7
	100nm,0.6s						
KULM	Kulim	8.92	355	ePn	Pn	23 49 49.5	-1.1
KULM				eSn	Sn	23 51 29.1	-0.7
KTGM	Kuala Trenggan	9.07	10	⇓P	Pn	23 49 54.7	+2.0
SMRI	Semarang	9.54	111	P	Pn	23 50 14.3	+15
COCO	West Island	9.65	208	Pn	Pn	23 50 02.8	+2.3
	5μm,0.5s,SNR=28						
COCO	West Island	9.65	208	eP	Pn	23 50 01.2	+0.7
COCO	West Island	9.65	208	ePn	Pn	23 50 01.2	+0.7
LHMI	Lhok Sumawe	9.92	333	ePn	Pn	23 50 03.0	-1.2
UGM	Wanagama	9.94	116	P	Pn	23 50 05.0	+0.5
	100nm,1.0s						
UGM	Wanagama	9.94	116	ePn	Pn	23 50 06.6	+2.0
UGM	Wanagama	9.94	116	⇑P	Pn	23 50 05.3	+0.8
	baz=9.9,SNR=8.2						
NGJI	Ngawi	10.60	111	P	Pn	23 50 28.1	+15
STKI	Sintang	10.65	70	P	Pn	23 50 18.4	+4.2
	34nm,1.0s,25μm						
PWJI	Pagerwojo	11.15	113	P	Pn	23 50 22.3	+1.3
	58nm,0.8s						
SBUM	Sibu	12.33	61	ePn	Pn	23 50 40.6	+3.4
SBUM	Sibu	12.33	61	⇓P	Pn	23 50 40.9	+3.8
BLJI	Banyuglugur	12.72	109	P	Pn	23 50 44.4	+1.9
	54nm,0.7s,3μm						
GMJI	Gumukmas	12.75	112	P	Pn	23 50 44.0	+1.1
	29nm,0.7s						
KMMI	Kalianget	12.88	106	P	Pn	23 50 45.4	+0.7
	67nm,1.1s						
BBKI	Banjar Baru	13.34	90	P	Pn	23 50 52.9	+2.0
	247nm,0.8s,7μm						
ABJI	Asem Bagus	13.34	109	P	Pn	23 50 52.4	+1.4
	178nm,0.6s,2μm						
JAGI	Jajag, Banyuwa	13.47	111	P	Pn	23 50 50.8	-2.0
	72nm,0.9s,1μm						
JAGI	Jajag, Banyuwa	13.47	111	ePn	Pn	23 50 51.7	-1.2
	72nm,0.8s						
JAGI	Jajag, Banyuwa	13.47	111	⇑P	Pn	23 50 50.9	-1.9
	baz=13,SNR=6.2						
MTKI	Muara Teweh, K	13.67	79	P	Pn	23 50 56.9	+1.4
	71nm,1.1s						
SRBI	Singaraja	14.35	108	P	Pn	23 51 06.0	+1.5
	40nm,0.6s						
IGBI	Denpasar	14.52	111	P	Pn	23 51 08.7	+2.0
	54nm,0.8s						
BKB	Balikpapan	15.58	82	P	P	23 51 23.2	-0.6
	76nm,1.8s						
CHBT	CHBT	16.32	3	P	P	23 51 33.5	+1.5
	17nm,0.9s						
KKM	Kota Kinabalu	17.59	57	ePn	P	23 51 45.9	+0.1
	34nm,1.2s						
SPSI	Sidrap Palu	18.25	92	P	P	23 51 53.0	-0.4
	31nm,0.9s						
KAPI	Kappang	18.27	95	ePn	P	23 51 54.7	+0.7
	48nm,1.0s						
TTSI	Tana Toraja	18.32	89	P	P	23 51 55.7	+1.1
	39nm,1.2s,712nm						
BNSI	Bone	18.59	93	P	P	23 51 58.5	+0.6
	59nm,0.9s						
BKSI	Bulukumba	18.66	96	P	P	23 51 58.5	-0.2
	82nm,1.0s,658nm						
MPSI	Mapaga	18.83	78	P	P	23 52 00.9	+0.2
	41nm,1.1s,517nm						
UBPT	Khong Chiam	19.22	12	P	P	23 52 03.0	-1.0
	27nm,1.0s						
PBKT	Sadao Pong	20.10	359	P	P	23 52 12.8	-0.7
	9.3nm,1.1s,2μm						
APSI	Ampana	20.33	83	P	P	23 52 17.1	+1.0
	192nm,1.0s,2μm						
MRSI	Marisa	20.85	79	P	P	23 52 21.9	+0.1
	57nm,0.8s						
LOEI	Loei	21.03	359	P	P	23 52 20.7	-2.9
	77nm,0.7s,5μm						
UTTA	Uttaradit	21.28	358	P	P	23 52 28.2	+1.9
	2.3nm,0.8s						
LUWI	Luwuk	21.43	84	P	P	23 52 30.1	+2.2
	120nm,1.2s,9μm						
LUWI	Luwuk	21.43	84	eP	P	23 52 28.1	+0.2
	158nm,1.1s						
MHMT	Maesarieng	21.97	351	P	P	23 52 33.8	+0.1
	6.2nm,1.0s,504nm						
LAMP	Lampang	22.11	355	P	P	23 52 35.2	0.0
	4.7nm,1.0s						
CMAR	Chiang Mai Arr	22.11	354	P	P	23 52 31.8	-3.4
	8.1nm,0.8s,baz=184,slow=8.6,SNR=31						
CMAR				PcP	PcP	23 56 32.6	+1.5
	2.6nm,0.4s,baz=216,slow=3.2,SNR=6.3						
CMAR				LR	LR	00 01 33.9	
	comp=Z,237nm,18.4s,baz=176,slow=38						
CMMT	Chiang Mai	22.46	354	P	P	23 52 37.6	-1.4
	14nm,1.0s,2μm						
CHTO	Chiang Mai	22.46	354	eP	P	23 52 37.2	-1.8
CHTO	Chiang Mai	22.46	354	P	P	23 52 37.7	-1.3
	49nm,1.0s						
CHTO	Chiang Mai	22.46	354	eP	P	23 52 37.2	-1.8
	7.8nm,0.9s						
BATI	Baumata	22.95	108	P	P	23 52 42.9	-1.3
	21nm,0.4s,baz=260,slow=12,SNR=3.1						
QIZ	Qiongzhong	24.00	20	P	P	23 52 53.8	-0.1
QIZ				S	S	23 57 07.9	+0.7
QIZ				pmax	pmax		
	comp=Z,25nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,140nm,6.0s						
QIZ				LR	LR		
	comp=N,170nm,23.5s						
QIZ				LR	LR		
	comp=Z,220nm,25.7s						
MBWA	Marble Bar	24.85	136	eP	P	23 53 02.3	+0.6
	68nm,1.8s						
LBMI	Labuha	26.17	84	P	P	23 53 18.0	+4.2
	47nm,0.9s						
KMI	Kunming	28.63	2	P	P	23 53 35.5	-0.4
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
H08S2	Diego Garcia H	29.11	261	T	T	00 23 42.3	
	baz=84						
H08S3	Diego Garcia H	29.12	261	T	T	00 23 46.6	
	baz=84						
H08S1	Diego Garcia H	29.13	261	T	T	00 23 42.8	
	baz=84						
GYA	Guiyang	30.35	9	⇑/P	P	23 53 54.8	+3.7
GYA				pP	pP	23 54 08.8	+3.7
GYA				sP	sP	23 54 15.0	+3.4
GYA				PP	PP	23 54 56.3	-4.2
GYA				S	S	23 58 50.0	+2.2
GYA				sS	sS	23 59 16.4	+4.9
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.9s						
GYA				LR	LR		

comp=N,560nm,17.5s
GYA LR LR
comp=E,490nm,18.0s
GYA LR LR
comp=Z,550nm,17.8s
NWAO Narrogin (SRO) 32.64 155 pP pP 23 54 24.3 -0.8
7.5nm,0.5s,baz=322,slow=7.9,SNR=4.2
H01W3 Cape Leeuwin H 33.22 161 T T 00 29 03.4
baz=337,slow=76,SNR=27
H01W2 Cape Leeuwin H 33.23 161 T T 00 28 58.5
baz=337,slow=76,SNR=25
H01W1 Cape Leeuwin H 33.23 161 T T 00 29 04.6
baz=337,slow=76,SNR=18
ODAN Odare 33.25 337 eP P 23 54 16.3 -0.4
77nm,1.0s
ODAN Odare 33.25 337 eP P 23 54 16.3 -0.4
WRKA Warakurna 33.43 132 ⇓P P 23 54 19.1 +1.1
baz=33,SNR=3.9
TAPN Taplejung 33.57 337 eP P 23 54 19.4 -0.1
105nm,0.9s
TAPN Taplejung 33.57 337 eP P 23 54 19.4 -0.1
RAMN Ramite 33.65 336 eP P 23 54 20.3 +0.1
27nm,0.6s
RAMN Ramite 33.65 336 eP P 23 54 20.3 +0.1
YHNB Yeheng 34.16 33 eP P 23 54 23.6 -0.8
128nm,2.1s
CD2 Chengdu 34.44 3 P P 23 54 29.8 +3.1
CD2 pP pP 23 54 44.4 +3.6
CD2 sP sP 23 54 51.3 +3.9
CD2 PP PP 23 55 47.8 +2.1
CD2 S S 23 59 54.3 +3.2
CD2 sS sS 00 00 19.0 +3.9
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,160nm,5.6s
CD2 LR LR
comp=N,460nm,17.6s
CD2 LR LR
comp=E,280nm,12.7s
CD2 LR LR
comp=Z,470nm,20.6s
JIRN Jiri 34.45 336 eP P 23 54 27.3 +0.1
98nm,0.9s
JIRN Jiri 34.45 336 eP P 23 54 27.3 +0.1
LSA Lhasa 34.61 344 eP P 23 54 27.8 -0.9
LSA pmax pmax
comp=Z,11nm,0.9s
LSA Lhasa 34.61 344 eP P 23 54 27.8 -0.9
comp=Z,11nm,0.9s
PKI Pulchoki 34.70 334 eP P 23 54 29.1 -0.2
comp=Z,26nm,0.8s
PKI Pulchoki 34.70 334 eP P 23 54 29.4 +0.1
PKI Pulchoki 34.70 334 eP P 23 54 29.4 +0.1
PKIN Phulchoki 34.71 334 eP P 23 54 29.4 0.0
GUN Gumba 34.80 335 eP P 23 54 30.2 0.0
comp=Z,122nm,0.7s
GUN Gumba 34.80 335 eP P 23 54 30.2 0.0
DMN Daman 34.86 334 eP P 23 54 30.8 +0.1
comp=Z,48nm,0.9s
DMN Daman 34.86 334 eP P 23 54 30.8 +0.1
KKN Kakani 34.95 334 eP P 23 54 31.5 +0.2
comp=Z,86nm,0.9s
KKN Kakani 34.95 334 eP P 23 54 31.5 +0.2
KKN Kakani 34.95 334 eP P 23 54 31.5 +0.2
GKN Gorkha 35.41 334 eP P 23 54 35.2 -0.1
comp=Z,150nm,1.1s
GKN Gorkha 35.41 334 eP P 23 54 35.2 -0.1
KOLN Koldanda 35.68 332 eP P 23 54 38.1 +0.4
comp=Z,142nm,0.9s
KOLN Koldanda 35.68 332 eP P 23 54 38.1 +0.4
WRA Warramunga Arr 35.89 119 P P 23 54 39.5 +0.1
comp=Z,16nm,1.0s,baz=304,slow=9.1,SNR=67
WRA S S 00 00 09.3 -4.4
comp=Z,2.1nm,1.0s,baz=294,slow=16,SNR=6.0
WRAB Tennant Creek 35.90 119 P P 23 54 39.4 0.0
comp=Z,134nm,1.0s,SNR=16
WRAB Tennant Creek 35.90 119d iP P 23 54 39.8 +0.4
WRAB pmax pmax
comp=Z,62nm,1.2s
WRAB Tennant Creek 35.90 119 eP P 23 54 39.5 0.0
DANN Dangsing 36.10 333 eP P 23 54 41.5 +0.2
DANN Dangsing 36.10 333 eP P 23 54 41.5 +0.2
FORT Forrest 36.83 140 eP P 23 54 46.9 -0.3
comp=Z,36nm,1.2s
XAN Xi'an 38.14 10 P P 23 54 56.6 -1.7
XAN pmax pmax
comp=Z,4.0nm,0.6s
NJ2 Nanjing 39.16 24 eP P 23 55 07.8 +1.0
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
LZH Lanzhou 39.59 3 eP P 23 55 09.8 -0.7
LZH pP pP 23 55 24.8 -0.1
LZH sP sP 23 55 32.0 +0.6
LZH PP PnPn 23 56 46.3 +0.4
LZH PcP PcP 23 57 14.8 -2.1
LZH eS S 00 01 09.5 -0.2
LZH pmax pmax
comp=Z,41nm,1.3s
LZH pmax pmax
comp=Z,170nm,5.0s
LZH LR LR
comp=Z,530nm,13.5s
LZH LR LR
comp=Z,490nm,13.0s
LZH LR LR
comp=Z,860nm,17.6s
NDI New Delhi 39.72 326 eP P 23 55 13.5 +2.0
JOW Kunigami 39.86 39 eP P 23 55 11.4 -1.3
comp=Z,121nm,2.5s
QIS Mount Isa 40.73 118 ⇓P P 23 55 19.9 -0.1
baz=41,SNR=8.6
COEN Coen 42.38 107 eP P 23 55 28.8 -4.8
comp=Z,218nm,1.6s
GTA Gaotai 42.88 358 ⇑P P 23 55 36.3 -1.1
GTA pP pP 23 55 51.8 -0.1
GTA sP sP 23 55 58.3 0.0
GTA S S 00 01 57.8 -0.5
GTA pmax pmax
comp=Z,8.0nm,1.6s
GTA pmax pmax
comp=Z,150nm,6.2s
GTA LR LR
comp=Z,240nm,17.6s
GTA LR LR
comp=Z,140nm,16.1s
GTA LR LR
comp=Z,320nm,17.1s
BBOO Buckleboo 43.44 136 eP P 23 55 42.5 +0.6
comp=Z,3μm,2.3s
BBOO Buckleboo 43.44 136 ⇓P P 23 55 43.3 +1.3
baz=44,SNR=4.7
HHC Hu-ho-hao-te 45.24 11 eP P 23 55 56.8 +0.5
HHC pP pP 23 56 12.8 +2.0
HHC sP sP 23 56 18.5 +1.2
HHC PP PP 23 57 43.4 +0.3
HHC S S 00 02 32.4 -0.2
HHC sS sS 00 03 00.3 +3.2
HHC ScS ScS 00 05 45.1 -3.2
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,190nm,6.9s
HHC LR LR
comp=Z,380nm,15.3s
HHC LR LR
comp=Z,360nm,15.0s
HHC LR LR
comp=Z,210nm,16.5s
BJI Beijing 45.53 16 P P 23 56 01.1 +2.7
BJI S S 00 02 39.8 +3.3
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI pmax pmax
comp=Z,40nm,3.4s
BJI LR LR
comp=Z,210nm,24.9s
BJI LR LR
comp=Z,180nm,26.1s
BJI LR LR
comp=Z,89nm,32.8s
HTT Hallett 45.78 135 ⇑P P 23 56 02.5 +1.8
baz=46,SNR=7.9
CTA Charters Tower 46.56 114 P P 23 56 07.3 +0.4
comp=Z,13nm,0.9s,baz=290,slow=10,SNR=10
CTA pP pP 23 56 19.1 -2.5
comp=Z,6.6nm,0.6s,baz=303,slow=10.0,SNR=3.4
CTAO Charters Tower 46.56 114 eP P 23 56 06.8 -0.2
CTAO pmax pmax
comp=Z,8.0nm,0.7s
CTAO Charters Tower 46.56 114 eP P 23 56 06.8 -0.2
comp=Z,8.1nm,0.7s
QLP Quilpie 46.81 124 ⇓P P 23 56 10.0 +1.2
baz=47,SNR=4.2
STKA Stephens Creek 46.95 131 eP P 23 56 11.5 +1.7
STKA *PP pP 23 56 22.6 -1.9
STKA pmax pmax
comp=Z,5.0nm,0.8s
STKA Stephens Creek 46.95 131 P P 23 56 11.3 +1.5
comp=Z,12nm,0.5s,baz=305,slow=7.1,SNR=26
STKA pP pP 23 56 22.6 -1.9
comp=Z,14nm,0.7s,baz=311,slow=7.8,SNR=7.7
STKA LR LR 00 17 46.1
comp=Z,96nm,19.1s,baz=286,slow=38
STKA Stephens Creek 46.95 131 eP P 23 56 11.5 +1.7
comp=Z,4.5nm,0.8s
STKA pP pP 23 56 22.6 -1.9
STKA Stephens Creek 46.95 131 ⇓P P 23 56 11.2 +1.3
baz=47,SNR=12
KSAR Wonju Array Be 47.69 29 P P 23 56 13.7 -1.7
KSAR Wonju Array Be 47.69 29 P P 23 56 13.7 -1.7
KSRS Korea Array 47.72 29 P P 23 56 13.7 -1.9
comp=Z,1.0nm,0.5s,baz=233,slow=7.3,SNR=7.0
KSRS LR LR 00 16 22.2
comp=Z,33nm,19.9s,baz=234,slow=36
KBL Kabul 48.73 324 eP P 23 56 23.2 -0.6
KBL Kabul 48.73 324 eP P 23 56 23.2 -0.6
WMQ Urumqi 48.86 347 P P 23 56 24.8 +0.4
WMQ pP pP 23 56 40.3 +1.2
WMQ sP sP 23 56 47.3 +1.8
WMQ PcP PcP 23 57 49.0 +0.7
WMQ PP PP 23 58 18.6 +0.4
WMQ PcS PcS 00 01 43.9 -0.6
WMQ S S 00 03 22.3 -1.7
WMQ ScS ScS 00 06 08.4 -3.5
WMQ pmax pmax
comp=Z,180nm,5.8s
WMQ LR LR
comp=Z,100nm,24.2s
WMQ LR LR
comp=Z,100nm,17.6s
WMQ LR LR
comp=Z,100nm,17.0s
KSH Kashi 48.96 334 eP P 23 56 24.1 -1.2
KSH epP pP 23 56 38.9 -1.1
KSH esP sP 23 56 46.9 +0.5
KSH PcS PcS 00 01 39.1 -6.1
KSH S S 00 03 19.1 -6.5
KSH pmax pmax
comp=Z,20nm,1.1s
KSH LR LR
comp=Z,520nm,7.7s
KSH LR LR
comp=Z,190nm,10.1s
KSH LR LR
comp=Z,130nm,7.5s
JCJ Chichijima 49.77 50 LR LR 00 17 49.9
comp=Z,28nm,20.2s,baz=148,slow=36
CMSA Cobar Meteorol 49.93 129 ⇓P P 23 56 34.2 +1.5
baz=50,SNR=24
RMQ Roma 50.59 122 ⇓P P 23 56 39.1 +1.3
baz=50,SNR=4.5
KZA Kyzart 51.38 335 P P 23 56 44.4 +0.5
SNR=7.6
KZA Kyzart 51.38 335 iP P 23 56 44.4 +0.5
SONM Songino Array 51.45 4 P P 23 56 43.8 -0.3
comp=Z,13nm,0.6s,baz=190,slow=8.9,SNR=126
ULN Ulaanbaatar 51.53 5 eP P 23 56 43.5 -1.2
ULN pmax pmax
comp=Z,15nm,0.9s
ULN Ulaanbaatar 51.53 5 eP P 23 56 43.5 -1.2
comp=Z,15nm,0.9s
UCH Uchtor 51.81 335 P P 23 56 47.5 +0.3
SNR=7.3
UCH Uchtor 51.81 335 iP P 23 56 47.5 +0.3
CN2 Changchun 51.93 22 eP P 23 56 46.0 -1.5
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
TKM2 Tokmak 2 51.93 336 P P 23 56 48.1 +0.3
SNR=10
TKM2 Tokmak 2 51.93 336 iP P 23 56 48.1 +0.3
TKM2 Tokmak 2 51.93 336 eP P 23 56 47.4 -0.5
comp=Z,18nm,0.8s
KBK Karagaybulak 51.98 335 P P 23 56 48.7 +0.5
SNR=10.0
AML Almayashu 52.09 334 P P 23 56 49.7 +0.5
SNR=12
AAK Ala-Archa 52.15 335 P P 23 56 49.8 +0.4
comp=Z,46nm,0.8s,SNR=6.7
AAK Ala-Archa 52.15 335 P P 23 56 49.6 +0.2
SNR=7.7
AAK Ala-Archa 52.15 335c iP P 23 56 49.5 +0.1
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 52.15 335 eP P 23 56 48.6 -0.8
comp=Z,6.2nm,0.8s
EIDS Eidsvold 52.26 119 eP P 23 56 50.5 +0.1
comp=Z,11nm,1.0s
EIDS Eidsvold 52.26 119 ⇑P P 23 56 51.0 +0.7
baz=52,SNR=3.7
CHMS Chumysh 52.34 335 P P 23 56 50.7 0.0
SNR=8.7
CHMS Chumysh 52.34 335 iP P 23 56 50.6 0.0
EKS2 Erkin-Say 52.48 334 P P 23 56 52.1 +0.2
SNR=28
EKS2 Erkin-Say 52.48 334 iP P 23 56 52.0 +0.2
EKS2 Erkin-Say 52.48 334 eP P 23 56 51.6 -0.2
comp=Z,27nm,0.8s
MJAR Matsushiro Arr 52.65 37 P P 23 56 50.6 -2.4
comp=Z,5.3nm,1.1s,baz=220,slow=8.0,SNR=7.3
MJAR LR LR 00 19 57.3
comp=Z,25nm,20.7s,baz=225,slow=37
USP Ospenovka 52.67 335 P P 23 56 52.9 -0.2
SNR=7.7
USP Ospenovka 52.67 335 iP P 23 56 52.8 -0.2
MKAR Makanchi Array 53.02 344 P P 23 56 55.0 -0.5
comp=Z,27nm,0.5s,baz=150,slow=8.0,SNR=273
ZAK Zakamensk 53.84 1⇑iP P 23 57 00.8 -0.8
ZAK pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 54.29 332 eP P 23 57 03.2 -1.8
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 54.29 332 eP P 23 57 03.2 -1.8
comp=Z,3.1nm,0.7s
USRK Ussuriysk Arra 54.94 26 P P 23 57 08.4 -1.1
comp=Z,15nm,0.6s,baz=215,slow=4.8,SNR=38
USRK pP pP 23 57 21.7 -2.8
comp=Z,12nm,0.8s,baz=221,slow=6.4,SNR=8.1
USRK LR LR 00 22 24.8
comp=Z,87nm,18.7s,baz=204,slow=38
MOY Mondy 55.11 360 eP P 23 57 09.6 -1.2
TLY Talaya 55.15 2 eP P 23 57 10.9 -0.1
TLY pmax pmax
comp=Z,13nm,0.9s
TLY MLR MLR
comp=Z,89nm,13.0s
TLY Talaya 55.15 2 eP P 23 57 10.2 -0.8
comp=Z,10nm,0.9s
IRK Irkutsk 55.74 2 eP P 23 57 13.8 -1.4
IRK pmax pmax
comp=Z,19nm,1.3s
KURK Kurchatov 57.61 343 P P 23 57 27.9 -0.5
comp=Z,73nm,0.8s,SNR=19
KURK Kurchatov 57.61 343 eP P 23 57 27.3 -1.1
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 57.61 343 eP P 23 57 27.3 -1.1
comp=Z,8.5nm,0.8s
KLR Kul'dur 58.85 23 eP P 23 57 32.0 -5.2
ZALV Zalesovo Beam 59.06 349 P P 23 57 37.2 -1.3
comp=Z,20nm,0.5s,baz=163,slow=5.6,SNR=163
ZALV pP pP 23 57 49.6 -4.1
comp=Z,12nm,0.7s,baz=163,slow=5.4,SNR=6.5
ZALV LR LR 00 26 14.6
comp=Z,89nm,21.0s,baz=70,slow=39
NVS Novosibirsk 60.22 348⇑iP P 23 57 44.9 -1.6
NVS e 23 58 01.7
NVS eS S 00 05 59.0 +2.9
NVS pmax pmax
comp=Z,20nm,1.2s
NVS pmax pmax
comp=N,8.0nm,1.1s
NVS pmax pmax
comp=E,8.0nm,1.3s
NVS smax smax
comp=E,11nm,1.9s
NVS smax smax
comp=N,6.0nm,1.5s
RAYN Ar Rayn 60.83 299 eP P 23 57 51.3 0.0
comp=N,5.6nm,0.8s
BOD Bodaibo 62.10 8⇑iP P 23 57 58.1 -1.1
BOD pmax pmax
comp=Z,11nm,0.9s
YSS Yuzh-Sakhalins 62.11 31 eP P 23 57 58.6 -0.9
BRVK Borovoye 62.30 339 P P 23 57 59.3 -1.3
comp=Z,67nm,0.5s,SNR=7.1
BRVK Borovoye 62.30 339c iP P 23 57 59.3 -1.3
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 62.30 339 eP P 23 57 59.1 -1.5
comp=Z,7.5nm,0.7s
KMBO Kilima Mbogo 64.21 271 P P 23 58 17.1 +2.7
comp=Z,0.4nm,0.6s,baz=64,slow=6.7,SNR=5.8
KMBO pP pP 23 58 29.1 -0.6
comp=Z,0.6nm,0.4s,baz=55,slow=8.9,SNR=4.4
SVE Sverdlovsk 68.77 337⇓eP P 23 58 41.8 -0.5
SVE pmax pmax
comp=Z,16nm,0.9s
YAK Yakutsk 68.97 14 eP P 23 58 40.5 -2.9
YAK e 23 59 02.0
YAK e*PP PcP 23 59 06.7 -0.6
YAK ePPP PPP 00 02 53.2
YAK eS S 00 07 37.5 -6.2
YAK e*SS sS 00 08 17.8 +8.2
YAK e 00 08 29.9
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK smax smax
comp=N,77nm,3.4s
YAK smax smax
comp=E,181nm,4.4s
YAK Yakutsk 68.97 14 eP P 23 58 41.4 -2.0
comp=E,42nm,1.1s
MAW Mawson 69.07 195 LR LR 00 21 30.1
comp=E,225nm,21.0s,baz=9.0,slow=29
ARU Arti 69.31 336c iP P 23 58 44.7 -0.9
ARU *PP pP 23 58 59.0 -2.0
ARU S S 00 07 49.8 +1.9
ARU SS SS 00 12 07.3 -8.5
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 69.31 336 eP P 23 58 44.4 -1.2
comp=Z,6.4nm,0.8s
ZEI Tsey 69.45 318 eP P 23 58 46.9 -0.2
ZEI pmax pmax
comp=Z,20nm,1.0s
KBZ Khabaz 70.52 319 P P 23 58 54.0 +0.7
KBZ Khabaz 70.52 319 P P 23 58 54.0 +0.7
comp=Z,19nm,0.9s,baz=126,slow=6.1,SNR=22
KIV Kislovodsk 70.75 319⇑iP P 23 58 56.3 +1.4
KIV e*PP PP 00 01 28.3 -4.0
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,44nm,18.0s
KIV Kislovodsk 70.75 319 eP P 23 58 53.4 -1.5
comp=Z,24nm,1.1s
EIL Elat 71.66 303 ⇑P P 23 59 02.3 +1.8
baz=72,SNR=3.4
SOKR Solikamsk 72.16 338 eP P 23 59 02.8 0.0
SOKR pmax pmax
comp=Z,10.0nm,0.8s
LSZ Lusaka 72.94 255 LR LR 00 27 25.3
comp=Z,68nm,18.7s,baz=134,slow=32
PETK Petropavlovsk- 73.50 32 P P 23 59 09.7 -1.3
comp=Z,3.0nm,0.6s,baz=206,slow=3.6,SNR=7.7
PETK LR LR 00 33 17.9
comp=Z,16nm,18.4s,baz=225,slow=37
PET Petropavlovsk 73.96 32 iP P 23 59 12.4 -1.2
PET pmax pmax
comp=Z,19nm,0.6s
VRHR Novokhopersk 74.52 326 eP P 23 59 15.1 -1.9
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
BRTR Keskin Array B 75.52 312 P P 23 59 23.2 0.0
comp=Z,7.6nm,0.6s,baz=134,slow=7.2,SNR=52
VORD Divnogorie 75.80 325 eP P 23 59 22.6 -1.7
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,30nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 75.97 325 eP P 23 59 24.2 -1.1
VSR pmax pmax
comp=N,4.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
BOSA Boshof 76.17 242 P P 23 59 29.8 +2.7
comp=Z,2.9nm,0.7s,baz=100,slow=4.2,SNR=9.1
BOSA pP pP 23 59 43.6 +0.8
comp=Z,5.0nm,1.0s,baz=90,slow=9.1,SNR=3.4
BOSA LR LR 00 27 32.7
comp=Z,60nm,20.1s,baz=126,slow=31
TIXI Tiksi 77.25 9⇓iP P 23 59 30.0 -2.1
PRGR Permogore 77.77 336 eP P 23 59 33.8 -1.4
PRGR e 23 59 44.4
PRGR e*PP pP 23 59 48.2 -2.6
PRGR pmax pmax
comp=Z,15nm,0.6s
OBN Obninsk 78.97 328d iP P 23 59 42.2 +0.2
OBN pmax pmax
comp=Z,24nm,1.2s
OBN Obninsk 78.97 328 eP P 23 59 41.5 -0.4
comp=Z,5.1nm,0.6s
KLMR Klimovskoe 79.95 334 eP P 23 59 45.7 -1.5
KLMR pmax pmax
comp=Z,27nm,1.5s
VNDA Vanda 80.26 169 P P 23 59 51.4 +2.8
comp=Z,1.4nm,0.9s,baz=326,slow=6.4,SNR=3.6
VNDA pP pP 00 00 05.0 +0.6
comp=Z,3.4nm,0.7s,baz=340,slow=7.4,SNR=4.8
VNDA LR LR 00 33 45.9
comp=Z,47nm,19.6s,baz=260,slow=34
AKASG Malin Array Be 81.69 322 P P 23 59 56.0 -0.7
comp=Z,3.3nm,0.6s,baz=89,slow=4.9,SNR=16
AKASG LR LR 00 40 04.1
comp=Z,26nm,20.7s,baz=60,slow=38
KIEV Kiev 81.70 322⇓eP P 23 59 56.7 0.0
TMCR Tamitsa 82.03 337 eP P 23 59 58.8 +0.6
TMCR e 00 03 10.0
TMCR pmax pmax
comp=Z,26nm,1.2s
MLR Muntele Rosu 82.51 317 P P 00 00 02.3 +1.0
BURAR Bucovina Array 83.47 319 ⇓P P 00 00 07.9 +1.7
BILL Bilibino 84.19 20⇓iP P 00 00 08.3 -1.0
BILL e 00 03 21.4
BILL pmax pmax
comp=Z,7.0nm,1.3s
JOF Joensuu 84.34 334 eP P 00 00 06.7 -3.4
JOF pmax pmax
comp=Z,5.0nm,0.7s
JOF Joensuu 84.34 334 ep P 00 00 06.7 -3.4
comp=Z,5.2nm,0.7s
CJR Cluj-Napoca 84.36 317 ⇓P P 00 00 12.8 +2.1
BMR Baia Mare 84.62 318 ⇑P P 00 00 13.7 +1.8
GZR Gura Zlata 84.67 316 ⇓P P 00 00 13.6 +1.3
DRGR 84.98 317 ⇓P P 00 00 15.2 +1.4
BZS Buzias 85.52 316 ⇓P P 00 00 17.1 +0.7
FINES FINESS Array B 86.25 332 P P 00 00 19.8 +0.1
comp=Z,2.9nm,0.7s,baz=115,slow=4.6,SNR=26
FINES PP PP 00 03 39.1 -2.0
comp=Z,1.9nm,1.0s,baz=116,slow=4.4,SNR=3.7
KAF Kangasniemi 86.32 333 eP P 00 00 19.0 -1.0
KAF pmax pmax

comp=Z,6.0nm,0.6s
KAF Kangasniemi 86.32 333 ep P 00 00 19.0 -1.0
comp=Z,5.6nm,0.6s
STHS Stebnicka Huta 86.41 320 eP P 00 00 22.6 +1.8
STHS pmax pmax
comp=Z,5.0nm,0.8s
PKSM Moragy 87.66 316 ⇓P P 00 00 27.6 +0.7
VYHS Vyhne 87.84 319 eP P 00 00 28.2 +0.5
VYHS pmax pmax
comp=Z,36nm,3.0s
KEV Kevo 88.07 340 eP P 00 00 27.0 -1.3
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV Kevo 88.07 340 ep P 00 00 27.0 -1.3
comp=Z,5.4nm,0.7s
OKC Ostrava-Krasne 88.47 320 eP P 00 00 31.7 +1.1
OKC Ostrava-Krasne 88.47 320 eP P 00 00 31.7 +1.1
ARCES ARCESS Array B 88.52 340 P P 00 00 30.2 -0.3
comp=Z,8.7nm,0.8s,baz=95,slow=5.1,SNR=14
ARCES pP pP 00 00 44.5 -1.9
comp=Z,7.1nm,0.8s,baz=64,slow=2.8,SNR=3.8
ARCES LR LR 00 44 24.1
comp=Z,35nm,21.0s,baz=143,slow=38
MORC Moravsky Berou 88.85 320 ⇑P P 00 00 34.0 +1.5
KRLC Kraliky 89.37 320 eP P 00 00 36.3 +1.3
KRLC e 00 00 49.7
KRLC Kraliky 89.37 320 eP P 00 00 36.3 +1.3
KRLC epP pP 00 00 49.7 -1.2
DPC Dobruska-Polom 89.69 320 eP P 00 00 38.1 +1.6
DPC e 00 00 51.3
DPC e 00 00 55.0
DPC Dobruska-Polom 89.69 320 eP P 00 00 38.1 +1.6
DPC ex x 00 00 51.3
DPC ex x 00 00 55.0
CONA Conrad Observa 89.75 318⇑/PcP PcP 00 00 37.6 -0.5
comp=Z,3.9nm,1.2s
UPC Upice 89.91 320 eP P 00 00 37.3 -0.1
UPC Upice 89.91 320 eP P 00 00 37.3 -0.1
TREC Trest 90.13 319 eP P 00 00 40.0 +1.5
TREC Trest 90.13 319 eP P 00 00 40.0 +1.5
SOKA Soboth 90.19 317 i PcP PcP 00 00 40.1 0.0
comp=Z,9.9nm,0.9s
PRU Pruhonice 90.80 320 eP P 00 00 42.7 +1.1
PRU Pruhonice 90.80 320 eP P 00 00 42.7 +1.1
GERES GERESS Array B 91.26 319 P P 00 00 44.5 +0.7
comp=Z,1.8nm,0.8s,baz=90,slow=5.3,SNR=16
KHC Kasperske Hory 91.36 319 eP P 00 00 43.2 -1.1
KHC Kasperske Hory 91.36 319 eP P 00 00 43.2 -1.1
NB2 NORSAR Subarra 93.30 331 P P 00 00 52.8 -0.1
comp=Z,0.2nm,0.8s,baz=95,slow=5.3
NOA NORSAR Array B 93.30 331 P P 00 00 52.0 -0.9
comp=Z,2.4nm,1.0s,baz=94,slow=4.9,SNR=3.8
NOA LR LR 00 47 10.0
comp=Z,34nm,19.5s,baz=110,slow=38
KEST Kesra 93.84 305 P P 00 00 56.9 +0.8
comp=Z,1.5nm,1.0s,baz=16,slow=1.0,SNR=3.7
YKA Yellowknife Ar 115.50 18 PKP PKPdf 00 06 18.1 -1.6
comp=Z,0.2nm,0.7s,baz=339,slow=2.2,SNR=4.0
I03D Drain, OR 123.84 38 ⇓P PKPdf 00 06 37.5 +1.2
baz=124
J04D Umpqua Nationa 124.85 38 ⇓P PKPdf 00 06 39.0 +0.4
baz=125
J05D Fort Rock, OR 125.36 37 ⇑P PKPdf 00 06 40.0 +0.6
baz=125
M04C Macdoel 125.81 39 ⇑P PKPdf 00 06 40.4 0.0
baz=126
MSO Missoula 127.19 30 ⇓P PKPdf 00 06 43.0 +0.1
baz=127
A21A Bergtoll Ranch 128.74 24 ⇑P PKPdf 00 06 46.0 +0.3
baz=128
C19A Slack Wire Ran 128.83 26 ⇑P PKPdf 00 06 46.2 +0.3
baz=129
HLID Hailey 129.14 33 ⇓P PKPdf 00 06 47.3 +0.5
baz=129
A22A Carney Farms, 129.14 23 ⇑P PKPdf 00 06 46.6 +0.2
baz=129
A23A Redstone 129.57 22 ⇓P PKPdf 00 06 48.9 +1.7
baz=129
NVAR Mina Array Bea 129.90 41 PKP PKPdf 00 06 49.6 +1.2
comp=Z,0.8nm,0.5s,baz=321,slow=1.3,SNR=5.2
DGMT Dagmar 130.23 22 ⇓P PKPdf 00 06 49.2 +0.7
baz=130
PKM Peak Mountain 130.72 46 ⇓P PKPdf 00 06 49.7 -0.3
baz=130
H19A Powell 131.16 29 ⇓P PKPdf 00 06 52.1 +1.6
baz=131
A28A Rude Farm, Bot 131.23 19 ⇑P PKPdf 00 06 52.0 +1.7
baz=131
ULM Lac du Bonnet 131.30 15 PKP PKPdf 00 06 50.7 +0.3
comp=Z,1.7nm,0.5s,baz=351,slow=2.5,SNR=4.2
I20A Worland 132.10 29 ⇓P PKPdf 00 06 52.8 +0.6
baz=132
J20A Shoshoni 132.57 29 ⇑P PKPdf 00 06 53.6 +0.4
baz=132
I21A Big Trails, Te 132.60 28 ⇑P PKPdf 00 06 53.6 +0.4
baz=132
J21A Lysite 132.88 29 ⇑P PKPdf 00 06 54.5 +0.7
baz=133
H24A Dirks Ranch, A 133.11 25 ⇓P PKPdf 00 06 54.2 +0.1
baz=133
O20A White River Ci 134.84 32 ⇓P PKPdf 00 06 58.7 +1.0
baz=135
U15A North Rim 134.95 39 ⇓P PKPdf 00 06 59.1 +1.0
baz=135
I29A Vivian Onida 135.43 22 ⇓P PKPdf 00 06 59.5 +1.1
baz=135
N23A Red Feather La 135.46 30 ⇑P PKPdf 00 06 59.8 +0.9
baz=135
J28A Allard Ranch, 135.57 24 ⇑P PKPdf 00 06 59.9 +1.1
baz=135
M25A Palm-Egli Farm 135.96 28 ⇑P PKPdf 00 07 00.9 +1.2
baz=136
O23A Lake Granby, G 135.99 30 ⇑P PKPdf 00 07 00.9 +1.0
baz=136
ECSD EROS Data Cent 136.99 19 ⇓P PKPdf 00 07 02.5 +1.2
baz=137
S22A 4UR Ranch, Cre 137.31 34 ⇓P PKPdf 00 07 04.0 +1.6
baz=137
P25A Willow Gulch B 137.40 30 ⇓P PKPdf 00 07 04.0 +1.6
baz=137
P26A Davis Ranch, A 137.76 29 ⇑P PKPdf 00 07 04.8 +1.8
baz=138
R25A Fountain Ranch 138.38 31 ⇓P PKPdf 00 07 05.9 +1.7
baz=138
V22A San Miguel Ran 138.56 36 ⇓P PKPdf 00 07 06.5 +1.8
baz=138
T24B San Luis 138.60 33 ⇑P PKPdf 00 07 06.6 +1.8
baz=138
S25A Robets Cordova 138.67 32 ⇑P PKPdf 00 07 06.6 +1.8
baz=138
U23A El Rito 138.68 35 ⇓P PKPdf 00 07 06.5 +1.6
baz=138
T25A Trinidad 139.07 32 ⇓P PKPdf 00 07 07.3 +1.7
baz=139
S26A Kim 139.20 31 ⇑P PKPdf 00 07 07.2 +1.5
baz=139
R28A Tribune 139.46 29 ⇑P PKPdf 00 07 08.0 +1.9
baz=139
U25A Circle Dot Ran 139.62 33 ⇓P PKPdf 00 07 07.4 +0.8
baz=139
V24A Rampart Ranch, 139.63 34 ⇑P PKPdf 00 07 07.7 +1.0
baz=139
V25A Rancho No Teng 139.92 34 ⇑P PKPdf 00 07 09.0 +1.8
baz=140
W24A Lazy 6 Ranch, 139.92 35 ⇓P PKPdf 00 07 08.5 +1.3
baz=140
121A Cookes Peak, D 140.29 40 ⇑P PKPdf 00 07 09.1 +1.2
baz=140
Z22A Elephant Butte 140.34 39 ⇓P PKPdf 00 07 09.5 +1.6
baz=140
V26A Tequesquite Ra 140.40 33 ⇑P PKPdf 00 07 09.5 +1.5
baz=140
W25A X Bar L Ranch, 140.46 34 ⇓P PKPdf 00 07 09.4 +1.4
baz=140
R31A Burdett 140.55 26 ⇑P PKPdf 00 07 10.1 +2.0
baz=140
Y24A Capitan 140.81 37 ⇓P PKPdf 00 07 11.0 +2.1
baz=141
Y25A Mesa, Roswell 141.25 36 ⇑P PKPdf 00 07 11.4 +1.8
baz=141
Z24A Sheeppen Canyo 141.27 37 ⇓P PKPdf 00 07 11.8 +2.1
baz=141
W27A Bowe Ranch, En 141.34 33 ⇓P PKPdf 00 07 12.0 +2.4
baz=141
U30A WK&E Inc. Balk 141.46 29 ⇑P PKPdf 00 07 12.1 +2.3
baz=141
Z25A Roswell 141.69 37 ⇓P PKPdf 00 07 12.3 +2.0
baz=142
Z27A Tatum 142.55 35 ⇓P PKPdf 00 07 12.4 +0.6
baz=142
SFIN Scholer Farm 142.63 11 ⇓P PKPdf 00 07 12.8 +1.2
baz=142
X31A McDonald Ranch 143.29 30 ⇓P PKPbc 00 07 10.5 +0.3
baz=143
Z29A Hungry Hill Ra 143.44 34 ⇑P PKPbc 00 07 11.5 +0.8
baz=143
CFAA Coronel Fontan 143.60 195 PKP PKPdf 00 07 13.5 -0.2
comp=Z,0.5nm,0.8s,baz=175,slow=3.7,SNR=6.6
Z30A Sanderson Ranc 143.73 33 ⇓P PKPbc 00 07 11.6 +0.1
baz=144
228A UT Block 9, Go 143.77 36 ⇓P PKPdf 00 07 14.1 +0.1
baz=144
CPUP Villa Florida 143.82 213 PKP PKPdf 00 07 13.4 -0.6
comp=Z,1.9nm,0.5s,baz=180,slow=2.7,SNR=4.6
CPUP pPKP pPKPdf 00 07 27.5 -3.2
comp=Z,2.8nm,0.6s,baz=244,slow=1.3,SNR=4.0
TUL1 Tulsa 144.15 24 ⇑P PKPab 00 07 12.3 +0.2
baz=144
Z31A Sharp Cattle R 144.24 32 ⇓P PKPab 00 07 12.5 0.0
baz=144
BDFB Brasilia 144.24 237 PKP PKPdf 00 07 15.9 +0.7
comp=Z,4.1nm,0.5s,baz=129,slow=3.8,SNR=10.0
BDFB pPKP pPKPdf 00 07 30.0 -1.8
comp=Z,2.9nm,0.5s,baz=36,slow=7.6,SNR=4.3
130A Snyder 144.34 34 ⇓P PKPbc 00 07 13.3 -0.1
baz=144
X34A Smith Ranch, M 144.36 28 ⇑P PKPbc 00 07 13.2 -0.1
baz=144
329A Wagon Wheel Ra 144.59 36 ⇑P PKPab 00 07 13.6 -0.4
baz=144,SNR=5.7
Z32A Haskell 144.59 31 ⇑P PKPab 00 07 13.6 -0.3
baz=144
131A Roby 144.60 33 ⇑P PKPab 00 07 13.7 -0.3
baz=144
230A Sterling City 144.79 35 ⇑P PKPab 00 07 14.4 -0.3
baz=145,SNR=16
WCI Wyandotte Cave 144.86 11 ePKIKP PKPab 00 07 14.0 -0.7
WCI Wyandotte Cave 144.86 11 ePKPdf PKPab 00 07 14.0 -0.7
Y34A Reagan Ranch, 144.92 28 ⇑P PKPab 00 07 14.5 -0.5
baz=145,SNR=8.4
Z33A Whitaker Ranch 144.97 30 ⇓P PKPab 00 07 14.6 -0.6
baz=145
ABTX Abilene, Hawle 145.04 32 ePKPdf PKPbc 00 07 14.0 -1.5
ABTX Abilene, Hawle 145.04 32 ⇓P PKPbc 00 07 15.1 -0.4
baz=145
TXAR Lajitas Array 145.05 40 PKP PKPab 00 07 15.9 +0.2
comp=Z,10.0nm,0.6s,baz=281,slow=1.0,SNR=158
TXAR pPKP pPKPdf 00 07 29.4 -3.5
comp=Z,3.6nm,0.5s,baz=185,slow=0.4,SNR=7.9
330A Mertzon 145.12 35 ⇑P PKPbc 00 07 15.6 -0.3
baz=145
231A Bronte 145.20 34 ⇓P PKPbc 00 07 15.2 -0.9
baz=145,SNR=6.1
429A Davenport Ranc 145.26 37 ⇑P PKPbc 00 07 16.0 -0.3
baz=145
Z34A Collier Ranch, 145.32 29 ⇓P PKPbc 00 07 15.6 -0.8
baz=145
529A Stev Forest Ra 145.42 38 ⇑P PKPbc 00 07 16.6 -0.3
baz=145,SNR=18
133A Hamilton Ranch 145.43 31 ⇑P PKPbc 00 07 15.9 -0.8
baz=145,SNR=10
430A Baggett Ranch, 145.53 36 ⇑P PKPdf 00 07 16.7 -0.4
baz=145,SNR=5.0
232A Coleman 145.60 33 ⇑P PKPdf 00 07 17.1 0.0
baz=145,SNR=21
331A San Angelo 145.61 34 ⇓P PKPdf 00 07 16.8 -0.3
baz=145,SNR=7.3
Z35A Perchaven, San 145.68 28 ⇑P PKPdf 00 07 17.2 +0.1
baz=145
134A White-Moore Ra 145.89 30 ⇑P PKPdf 00 07 17.7 +0.2
baz=146
233A Rising Star 145.90 32 ⇓P PKPdf 00 07 17.9 +0.3
baz=146,SNR=12
530A J-C Ranch, Com 145.94 37 ⇑P PKPbc 00 07 18.5 +0.1
baz=146,SNR=19
332A Millersview 145.94 34 ⇓P PKPbc 00 07 18.6 +0.1
baz=146,SNR=29
431A Sonora 145.98 35 ⇓P PKPbc 00 07 18.6 0.0
baz=146,SNR=6.1
432A Menard 146.30 34 ⇑P PKPbc 00 07 19.1 -0.4
baz=146,SNR=5.2
234A Clairette 146.31 31 ⇑P PKPbc 00 07 19.5 0.0
baz=146
531A Rocksprings 146.39 36 ⇑P PKPbc 00 07 19.4 -0.4
baz=146,SNR=9.4
333A Richland Sprin 146.40 33 ⇓P PKPdf 00 07 19.0 +0.6
baz=146,SNR=21
UALR University of 146.48 21 ePKPdf PKPdf 00 07 19.2 -0.6
JCT Junction City 146.59 35 ePKP2 PKPdf 00 07 18.8 -0.1
JCT Junction City 146.59 35 ePKPdf PKPdf 00 07 18.8 -0.1
JCT Junction City 146.59 35 ⇓P PKPbc 00 07 19.8 -0.6
baz=146,SNR=15
433A Art 146.78 34 ⇓P PKPdf 00 07 19.8 +0.7
baz=146,SNR=10
334A Lometa 146.79 32 ⇓P PKPbc 00 07 20.2 -0.7
baz=147,SNR=8.9
532A Rocksprings 146.79 35 ⇑P PKPbc 00 07 20.2 -0.8
baz=147,SNR=10
631A Perdido Creek 146.93 37 ⇑P PKPbc 00 07 20.9 -0.4
baz=147,SNR=5.7
434A Burnet 147.18 32 ⇓P PKPbc 00 07 21.4 -0.6
baz=147,SNR=11
335A Moody 147.25 31 ⇓P PKPbc 00 07 21.9 -0.3
baz=147,SNR=9.9
533A Kerrville 147.33 34 ⇓P PKPbc 00 07 22.4 0.0
baz=147
336A Riesel 147.46 30 ⇓P PKPbc 00 07 22.8 0.0
baz=147
435B Jarrell 147.57 32 ⇑P PKPbc 00 07 22.8 -0.2
baz=147
534A Blanco 147.68 34 ⇓P PKPbc 00 07 22.9 -0.5
baz=147,SNR=6.2
633A Saathoff Ranch 147.71 35 ⇑P PKPbc 00 07 23.9 +0.4
baz=148
732A Laxson Ranch, 147.78 37 ⇓P PKPbc 00 07 24.3 +0.6
baz=148
436A Wall Ranch, Ga 147.98 31 ⇑P PKPbc 00 07 24.3 +0.2
baz=148
337A Centerville 147.99 29 ⇑P PKPbc 00 07 25.0 +0.8
baz=148
832A Faith Ranch, C 148.10 38 ⇑P PKPbc 00 07 25.6 +1.0
baz=148
733A Divot King Ran 148.19 36 ⇑P PKPbc 00 07 24.6 -0.2
baz=148
338A Crockett 148.23 28 ⇓P PKPbc 00 07 25.4 +0.6
baz=148
833A Chaparral WMA, 148.43 37 ⇓P PKPbc 00 07 26.3 +0.9
baz=148
734A La Parita Cree 148.53 35 ⇑P PKPbc 00 07 26.0 +0.4
baz=148
635A Leesville 148.56 33 ⇓P PKPbc 00 07 26.4 +0.7
baz=148
KMSC Kings Mountain 148.56 4 ePKPdf PKPdf 00 07 21.7 -0.2
KMSC Kings Mountain 148.56 4 ⇓P PKPbc 00 07 24.8 -0.7
baz=148
636A Smothers Creek 148.87 32 ⇑P PKPbc 00 07 28.2 +1.6
baz=149
735A Kenedy 148.95 34 ⇑P PKPbc 00 07 28.2 +1.5
baz=149
933A Laredo 149.01 38 ⇑P PKPbc 00 07 28.0 +1.0
baz=149
834A Tilden 149.07 36 ⇑P PKPbc 00 07 28.4 +1.4
baz=149
034A Hebbronville 149.77 38 ⇑P PKPbc 00 07 30.5 +1.6
baz=150
GOGA Godfrey 150.04 8 ePKPdf PKPdf 00 07 24.6 +0.3
GOGA ePKPbc PKPbc 00 07 29.2 -0.1
936A North Padre Is 150.32 35 ⇑P PKPbc 00 07 31.2 +1.1
baz=150
TIGA Tifton 151.95 9 ⇓P PKPbc 00 07 33.9 +0.1
baz=152
LPAZ La Paz 157.68 207 PKIKP PKPdf 00 07 38.0 +1.6
LPAZ La Paz 157.68 207 PKP PKPdf 00 07 38.0 +1.6
comp=Z,1.4nm,0.9s,baz=41,slow=8.3,SNR=3.5

MAN 23 00:00:57,13.83N×120.59E,h101km,mb4.0,ML2.8,
MS2.4,1C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.35	254	eP	Pn	00 01 14.4	+2.5
LUBP				eS	Sn	00 01 26.2	+3.1
PGP	Puerto Galera	0.48	133	⇓eP	Pn	00 01 14.4	+1.6
PGP				i S	Sn	00 01 27.6	+3.0
SJMP	San Jose	1.46	159	eP	Pn	00 01 24.4	+1.6
SJMP				eS	Sn	00 01 43.9	+1.6
BUSP	Coron	1.86	192	eP	Pn	00 01 26.9	-0.9
BOLP	Bolinao	2.62	346	eP	Pn	00 01 39.0	+1.2
RCP	Roxas	3.08	137	⇑eP	Pn	00 01 39.3	-4.6

ISCJB 23 00:06:36.9±0.5, 22.83S±0.03×66.65W±0.05, h200km±5km, mb4.4/35, Error ellipse: s-maj=7.8km s-min=5.7km az=174.0
NEIC 23 00:06:37.8±0.5, 22.84S×66.65W, h194km±5km, mb4.7/16, Error ellipse: s-maj=9.6km s-min=6.5km az=75.0
IDC 23 00:06:38.2±1.2, 22.85S×66.63W, h195km±10km, mb3.8/17, mb1 4.0/25, mb1mx3.8/46, mbtmp4.4/25, Error ellipse: s-maj=13.9km s-min=9.8km az=49.0
GUC 23 00:06:40.0±0.5, 22.73S×67.41W, h257km±9km, ML5.3
ISC 23 00:06:38.6±0.5, 22.85S±0.04×66.78W±0.05, h205km±5km, n89, σ1.49/108, mb4.5/35, 17C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.99	276	ePn	Pn	00 07 18.9	+1.2
LVC				eSn	S	00 07 48.3	+0.8
PB09	Plate Boundary	2.51	294	⇑eP	Pn	00 07 24.6	+1.4
PB09				eS	S	00 07 57.9	+0.6
PB09				AML	AML	00 08 02.0	
	comp=E,15μm,0.5s						
PB09	Plate Boundary	2.51	294	⇑eP	Pn	00 07 24.6	+1.4
PB09				eS	S	00 07 57.9	+0.6
PB04	Plate Boundary	2.57	283	⇑eP	Pn	00 07 30.9	+7.3
PB04				eS	S	00 08 09.5	+11
PB04				AML	AML	00 08 15.1	
	comp=E,4μm,0.8s						
PB04	Plate Boundary	2.57	283	⇑eP	Pn	00 07 30.9	+7.3
PB04				eS	S	00 08 09.5	+11
PB06	Plate Boundary	2.58	273	⇑eP	Pn	00 07 24.5	+0.6
PB06				eS	S	00 07 59.4	+0.7
PB06				AML	AML	00 08 01.4	
	comp=E,4μm,0.7s						
PB06	Plate Boundary	2.58	273	⇑eP	Pn	00 07 24.5	+0.6
PB06				eS	S	00 07 59.4	+0.7
MACH	Maria Elena	2.83	283	eP	Pn	00 07 27.4	+0.5
MACH				i S	S	00 08 03.5	-0.4
MACH	Maria Elena	2.83	283	eP	Pn	00 07 27.4	+0.5
MACH				i S	S	00 08 03.5	-0.4
PB07	Plate Boundary	3.09	291	⇑eP	Pn	00 07 30.3	+0.5
PB07				eS	S	00 08 08.1	-1.1
PB07	Plate Boundary	3.09	291	⇑eP	Pn	00 07 30.3	+0.5
PB07				eS	S	00 08 08.1	-1.1
PB01	Plate Boundary	3.10	305	⇑eP	Pn	00 07 30.3	+0.5
PB01				eS	S	00 08 09.0	-0.2
PB01				AML	AML	00 08 11.2	
	comp=E,5μm,0.3s						
PB01	Plate Boundary	3.10	305	⇑eP	Pn	00 07 30.3	+0.5
PB01				eS	S	00 08 09.0	-0.2
CEN1	Los Morros	3.20	260	eP	Pn	00 07 33.4	+2.4
CEN1				eS	S	00 08 13.8	+2.5
CEN1				AML	AML	00 08 19.1	
	comp=N,2μm,0.7s						
CEN1	Los Morros	3.20	260	eP	Pn	00 07 33.4	+2.4
CEN1				eS	S	00 08 13.8	+2.5
ANCH	Antofagasta	3.44	255	⇑eP	Pn	00 07 31.0	-2.7
ANCH				eS	S	00 08 11.6	-4.8
ANCH				AML	AML	00 08 15.8	
	comp=N,4μm,0.6s						
ANCH	Antofagasta	3.44	255	⇑eP	Pn	00 07 31.0	-2.7
ANCH				eS	S	00 08 11.6	-4.8
PB10	Plate Boundary	3.54	259	⇑eP	Pn	00 07 34.9	-0.1
PB10				eS	S	00 08 16.9	-1.7
PB10				AML	AML	00 08 22.1	
	comp=N,5μm,0.4s						
PATCX	Punta Patache	3.73	302	⇑eP	Pn	00 07 37.1	-0.3
PATCX				eS	S	00 08 20.9	-2.1
HMBC	Humberstone	3.87	311	eP	Pn	00 07 38.2	-0.9
HMBC	Humberstone	3.87	311	P	Pn	00 07 38.2	-0.9
PB11	Plate Boundary	4.08	318	⇑eP	Pn	00 07 41.4	-0.4
PB11	Plate Boundary	4.08	318	P	Pn	00 07 41.4	-0.4
PSGC	Pisagua	4.50	315	⇑eP	Pn	00 07 45.1	-1.8
PSGC	Pisagua	4.50	315	P	Pn	00 07 45.1	-1.8
MNMC	Minimini	4.54	324	⇑eP	Pn	00 07 47.9	+0.2
MNMC	Minimini	4.54	324	P	Pn	00 07 47.9	+0.2
CPCH	Copiapo	5.54	215	eP	Pn	00 07 57.8	-2.2
CPCH	Copiapo	5.54	215	P	Pn	00 07 57.8	-2.2
CDCH	Caldera	5.58	220	eP	Pn	00 07 58.9	-1.6
CDCH	Caldera	5.58	220	P	Pn	00 07 58.9	-1.6
LPAZ	La Paz	6.65	349	P	Pn	00 08 16.1	+1.1
	comp=N,5.1nm,0.3s,baz=156,slow=6.9,SNR=108						
LPAZ				S	S	00 09 30.4	-0.9
	comp=N,2.5nm,0.3s,baz=246,slow=24,SNR=5.1						
LPAZ	La Paz	6.65	349	ePn	Pn	00 08 16.2	+1.1
LPAZ				eSn	S	00 09 28.9	-2.4
ARE	Arequipa	7.75	324	eP	Pn	00 08 27.0	-2.1
ARE				eS	S	00 09 49.0	-7.9
SIV	San Ignacio	8.69	39	P	Pn	00 08 38.8	-2.2
	comp=N,15nm,0.3s,baz=229,slow=13,SNR=100						
SIV				S	S	00 10 05.0	-14
	baz=244,slow=18,SNR=3.6						
CFAA	Coronel Fontan	8.81	188	P	Pn	00 08 41.7	-0.7
	comp=N,0.6nm,0.3s,baz=59,slow=4.1,SNR=32						
CFAA				S	S	00 10 15.1	-6.5
	comp=N,1.2nm,0.3s,baz=311,slow=23,SNR=9.6						
CPUP	Villa Florida	9.27	114	P	Pn	00 08 45.9	-2.4
	comp=N,0.2nm,0.3s,baz=265,slow=14,SNR=2.0						
SAML	Samuel	14.25	15	ePn	Pn	00 09 51.0	-0.5
SAML				eS	S	00 12 21.5	-8.4
NNA	Nana	14.45	317	P	P	00 09 55.5	+0.2
	comp=N,0.8nm,0.3s,baz=159,slow=11,SNR=9.2						
NNA				S	S	00 12 35.6	+1.1
	comp=N,1.4nm,0.3s,baz=238,slow=19,SNR=2.7						
NNA	Nana	14.45	317	ePn	Pn	00 09 52.7	-1.4
NNA				S	S	00 12 35.6	+1.1
TRQA	Tornquist	15.70	166	ePn	P	00 10 08.7	-0.2
	comp=N,87nm,2.1s						
PLCA	Paso Flores	18.11	189	P	P	00 10 36.2	+0.9
	comp=N,1.4nm,0.3s,baz=10,slow=11,SNR=32						
PLCA	Paso Flores	18.11	189	eP	P	00 10 36.3	+0.9
	comp=N,20nm,0.8s						
BDFB	Brasilia	19.10	71	P	P	00 10 46.5	+0.3
	comp=N,5.3nm,0.3s,baz=244,slow=12,SNR=178						
BDFB	Brasilia	19.10	71	eP	P	00 10 46.4	+0.1
ATAH	Atahualpa	19.22	323	P	Pn	00 10 50.9	-0.4
	comp=N,0.3nm,0.3s,baz=180,slow=9.1,SNR=3.5						
SDV	Santo Domingo	31.77	353	eP	P	00 12 43.2	-0.9
	comp=N,18nm,0.9s						
RCBR	Riachuelo	34.24	65	P	P	00 13 05.2	-0.2
	comp=N,22nm,0.7s,baz=229,slow=12,SNR=12						
GRGR	Grenville	35.13	9	eP	P	00 13 12.6	-0.2
	comp=N,124nm,0.6s						
ANWB	Willy Bob	40.57	7	eP	P	00 13 56.3	-1.9
	comp=N,66nm,0.6s						
CPD	Cerro la Pandu	40.65	1	eP	P	00 13 59.0	0.0
	comp=N,34nm,1.4s						
CBYP	Canovanas	40.88	1	eP	P	00 14 00.1	-0.9
	comp=N,17nm,1.0s						
PMSA	Palmer Station	41.95	178	eP	P	00 14 11.4	+2.5
	comp=N,535nm,2.7s						
APG	El Apazote	44.20	326	P	P	00 14 25.7	-2.1
	comp=N,4.7nm,0.9s,baz=162,slow=14,SNR=12						
TEIG	Tepich	47.68	332	eP	P	00 14 54.7	0.0
	comp=N,225nm,2.5s						
TRIS	Tristan da Cun	48.65	120	eP	P	00 15 00.3	-1.7
	comp=N,169nm,0.5s						
SNAA	Sanae	60.36	161	P	P	00 16 25.0	-0.7
	comp=N,3.2nm,1.1s,baz=272,slow=9.3,SNR=5.1						
SNAA	Sanae	60.36	161	eP	P	00 16 23.4	-2.3
	comp=N,10nm,1.0s						
TKL	Tuckaleechee C	60.38	344	P	P	00 16 25.3	-0.9
	comp=N,4.7nm,0.9s,baz=152,slow=9.7,SNR=3.4						
WVT	Waverly	61.95	341	eP	P	00 16 35.8	-1.0
	comp=N,11nm,1.2s						
TXAR	Lajitas Array	62.87	324	P	P	00 16 43.9	+0.7
	comp=N,0.3nm,0.6s,baz=146,slow=9.7,SNR=4.3						
LIC	Lamto	66.89	72	eP	P	00 17 09.1	-0.2
	comp=N,8.5nm,0.3s						
TIC	Toumodi	67.09	72	eP	P	00 17 07.9	-2.7
	comp=N,5.7nm,0.2s						
KIC	Kosan Boka	67.20	72	eP	P	00 17 10.2	-1.0
	comp=N,16nm,0.4s						
DBIC	Dimbokro	67.25	72	P	P	00 17 10.1	-1.4
	comp=N,7.2nm,0.7s,baz=218,slow=4.1,SNR=34						
DBIC				pP	pP	00 18 02.2	+2.9
	comp=N,5.1nm,1.0s,baz=209,slow=13,SNR=2.8						
QSPA	South Pole Qui	67.35	180	eP	P	00 17 13.5	+2.0

	comp=N,141nm,2.9s						
SADO	Sadowa	68.24	351	P	P	00 17 17.6	+0.6
	comp=N,2.2nm,0.5s,baz=133,slow=2.3,SNR=3.6						
ANMO	Albuquerque	68.72	326	P	P	00 17 21.2	+0.8
	comp=N,1.4nm,0.9s,baz=138,slow=8.8,SNR=4.6						
PFO	Pinyon Flat Ob	73.42	318	P	P	00 17 49.2	+0.6
	comp=N,1.3nm,0.5s,baz=129,slow=11,SNR=2.2						
TORD	Torodi Ar. Bea	75.97	69	P	P	00 18 02.5	-1.0
	comp=N,4.6nm,0.3s,baz=263,slow=6.1,SNR=129						
TORD				pP	pP	00 18 55.1	+2.7
	comp=N,3.8nm,0.8s,baz=253,slow=5.3,SNR=4.6						
TPH	Tonopah	76.91	321	eP	P	00 18 09.9	+1.3
	comp=N,12nm,1.5s						
ULM	Lac du Bonnet	77.21	341	P	P	00 18 10.6	+0.9
	comp=N,0.7nm,0.4s,baz=159,slow=8.7,SNR=2.7						
SCHQ	Schefferville	77.36	360	P	P	00 18 10.5	+0.1
	comp=N,3.6nm,0.8s,baz=217,slow=5.0,SNR=3.7						
LOHW	Long Hollow	77.41	329	eP	P	00 18 13.4	+2.1
	comp=N,14nm,1.8s						
NVAR	Mina Array Bea	77.78	321	P	P	00 18 15.4	+2.0
	comp=N,0.4nm,0.2s,baz=160,slow=5.5,SNR=3.9						
IMW	Indian Meadow	77.79	329	eP	P	00 18 15.7	+2.3
	comp=N,31nm,2.4s						
HLID	Hailey	79.24	327	eP	P	00 18 23.9	+2.7
	comp=N,4.6nm,1.3s						
BOSA	Boshof	81.07	117	P	P	00 18 33.1	+1.7
	comp=N,1.1nm,0.5s,baz=257,slow=4.8,SNR=5.0						
MDT	Midelt	81.11	49	P	P	00 18 31.8	+0.4
	comp=N,8.8nm,0.9s,baz=225,slow=5.3,SNR=6.1						
NEW	Newport	83.91	329	P	P	00 18 47.2	+1.9
	comp=N,0.7nm,0.7s,baz=68,slow=11,SNR=1.8						
ESDC	Sonseca Array	85.43	44	P	P	00 18 54.1	+0.9
	comp=N,3.4nm,0.8s,baz=244,slow=4.5,SNR=9.3						
YKA	Yellowknife Ar	93.12	340	P	P	00 19 30.1	+1.3
	comp=N,0.2nm,0.4s,baz=129,slow=3.9,SNR=3.8						
YKA				pP	pP	00 20 26.2	+6.9
	comp=N,1.1nm,0.8s,baz=128,slow=4.4,SNR=7.8						
HYT	Haines Junctio	100.80	332	ePdif	Pdif	00 20 04.5	+0.8
WRA	Warramunga Arr	132.74	207	PKP	PKPdf	00 25 31.1	+1.2
	comp=N,0.5nm,0.4s,baz=161,slow=1.7,SNR=15						
WRA				SKPbc	SKPbc	00 28 38.4	+0.3
	comp=N,2.5nm,1.1s,baz=150,slow=3.5,SNR=6.7						
ZALV	Zalesovo Beam	142.29	27	PKP	PKPdf	00 25 45.3	-1.1
	comp=N,0.7nm,0.6s,baz=19,slow=27,SNR=3.4						
MKAR	Makanchi Array	145.51	39	PKPbc	PKPab	00 25 53.7	+0.4
	comp=N,0.9nm,0.3s,baz=341,slow=2.5,SNR=50						
MKAR				pPKPbc	pPKPbc	00 26 48.8	+3.8
	comp=N,2.4nm,0.9s,baz=298,slow=2.6,SNR=5.0						
MKAR				SKPbc	SKiKP	00 29 13.8	+0.8
	comp=N,0.9nm,0.9s,baz=302,slow=2.7,SNR=4.3						
HYB	Hyderabad	147.05	93	i PKP	PKPbc	00 25 58.0	-0.1
SONM	Songino Array	154.48	11	PKPab	PKPab	00 26 30.4	+0.3
	comp=N,1.1nm,0.8s,baz=321,slow=6.4,SNR=5.0						
CMAR	Chiang Mai Arr	165.94	105	PKPab	PKPab	00 27 21.3	+0.4
	comp=N,0.8nm,0.4s,baz=251,slow=5.0,SNR=7.3						

*NIED **23** 00:17:00, 24°.00N×122°.90E, h26km, Mw3.9 Best double couple: M$_0$8.58000×10^{14} NP1:φ$_s$194.00000°, δ23.00000°, λ-60.00000°. NP2:φ$_s$342.00000°, δ70.00000°, λ-102.00000°.*
*IDC **23** 00:17:24.4±1.0, 24°.09N×122°.84E, h0km, mb3.6/10, mb1 3.8/11, mb1mx3.7/33, mbtmp3.6/11, ML2.0/1, MS3.1/2, Ms1 3.2/2, ms1mx2.7/21, Error ellipse: s-maj=26.9km s-min=23.5km az=65.0*
*ISCJB **23** 00:17:28.8±0.5, 23°.98N±0°.02×122°.97E±0°.02, h31km±4km, mb3.5/10, MS3.0/1, Error ellipse: s-maj=4.2km s-min=2.9km az=160.4*
*TAP **23** 00:17:28.9, 24°.02N×122°.91E, h23km, ML4.0, C*
*JMA **23** 00:17:29.1±0.1, 24°.03N×122°.92E, h30km±3km, M3.5*
ISC 23 00:17:27.8±1.1, **23°.96N**±0°.03×**122°.91E**±0°.02, **h26**km±8km, **n69**, σ**1ˢ.22**/98, **mb3.5**/10, **1C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.49	3	P	Pb	00 17 38.1	+0.2
JYNG				eS	Sb	00 17 44.3	-0.5
YOJ	Yonaguni jima	0.51	10	P	Pb	00 17 38.5	+0.3
YOJ				eS	Sb	00 17 44.8	-0.5
YOJ	Yonaguni jima	0.51	10	⇓iP	Pb	00 17 38.5	+0.3
	baz=10.0						
YOJ				i S	Sb	00 17 45.0	-0.3
	baz=10.0						
HATJ	Hateruma jima	0.82	83	P	Pn	00 17 44.0	+0.3
HATJ				eS	Sb	00 17 54.4	+0.3
IRIF	Iriomote-Funau	0.83	63	P	Pb	00 17 43.8	+0.1
IRIF				eS	Sb	00 17 54.6	+0.1
JKRS	Kuro-shima	1.04	74	P	Pb	00 17 47.5	+0.4
JKRS				eS	Sb	00 18 00.3	0.0
TWC	Suao	1.17	304	P	Pb	00 17 49.8	+0.4
	baz=302						
TWC				S	Sb	00 18 04.8	+0.7
	baz=302						
ENA	Nanau	1.17	294	eP	Pb	00 17 50.0	+0.7
	baz=304						
ENA				S	Sb	00 18 06.3	+2.2
	baz=304						
JIJ	Ishigaki jima	1.19	70	P	Pb	00 17 49.7	0.0
JIJ				S	Sb	00 18 05.0	+0.2
TWD	Chiawan	1.21	276	eP	Pb	00 17 50.2	+0.1
	baz=273						
EGS		1.26	315	eP	Pb	00 17 51.6	+0.7
	baz=313						
TWB1	Santiao Chiao	1.34	321	P	Pb	00 17 51.9	-0.5
	baz=333						
TWB1				eS	Sb	00 18 09.2	+0.1
	baz=333						
ESL	Shilin	1.36	264	eP	Pn	00 17 51.7	+0.6
	baz=262						
JISG	Ishigakijimahi	1.42	63	P	Pn	00 17 52.6	+0.6
NNS	Nan Shan	1.49	289	eP	Pn	00 17 54.4	+1.4
	baz=287						
NWF	Wu-fen Shan	1.52	317	P	Pb	00 17 54.8	-0.5
	baz=316						
NWF				S	Sn	00 18 13.3	+1.0
	baz=316						
WHF	Hehuan Shan	1.52	277	⇑P	Pn	00 17 54.9	+1.2
	baz=275						
EHY	Hungye	1.53	253	eP	Pn	00 17 54.7	+1.3
	baz=251						
EHY				eS	Sn	00 18 13.0	+0.6
	baz=251						
TWA	Mucha	1.58	310	eP	Pb	00 17 55.8	-0.6
	baz=322						
TWA				eS	Sb	00 18 16.1	+0.1
	baz=322						
NSK	Sanguang	1.59	297	eP	Pb	00 17 56.2	-0.3
	baz=295						
NSK				eS	Sb	00 18 16.1	-0.2
	baz=295						
TWF1	Yuli	1.60	248	eP	Pb	00 17 55.7	+1.2
	baz=233						
TWF1				eS	Sn	00 18 15.2	+0.9
	baz=233						
TWT	Tachien	1.62	281	eP	Pb	00 17 56.8	-0.3
	baz=279						
CHKT	Chengkung	1.66	239	eP	Pn	00 17 55.9	+0.7
	baz=225						
CHKT				eS	Sn	00 18 15.2	-0.5
	baz=225						
TAP1	Taipei	1.66	311	eP	Pb	00 17 57.4	-0.4
	baz=322						
TAP1				eS	Sb	00 18 18.2	-0.1
	baz=322						
JTJ	Tarama	1.77	67	P	Pn	00 17 58.1	+1.4
TWS1	Kuangyinshan	1.78	310	eP	Pb	00 17 59.5	-0.2
	baz=309						
TWY	Chenhua	1.78	318	eP	Pn	00 17 57.1	+0.2
	baz=317						
SMLT	Sun Moon Lake	1.84	268	eP	Pn	00 17 59.6	+1.7
	baz=266						
YUS	Yu-Shan	1.86	256	P	Pn	00 18 00.1	+1.7
	baz=254						
NSTT	Nanjuang	1.87	291	eP	Pb	00 18 00.2	-1.1
	baz=290						
TYC	Yuchr	1.88	269	eP	Pb	00 18 00.6	-0.9
	baz=267						
TYC				eS	Sb	00 18 23.8	-0.8
	baz=267						
ELDTW	Lidau	1.90	247	eP	Pn	00 17 60.0	+1.3
	baz=245						
ALS	Alishan	1.98	257	eP	Pn	00 18 02.0	+2.0
	baz=256						
ALS				eS	Sn	00 18 26.1	+2.0
	baz=256						
TWQ1	Liyutan	1.99	282	eP	Pb	00 18 02.5	-0.9
	baz=280						
TWG	Pinlang	2.04	237	eP	Pn	00 18 01.6	+1.1
	baz=226						
TWG				eS	Sn	00 18 25.2	+0.2
	baz=226						
TCU	Taichung	2.06	276	eP	Pn	00 18 02.8	+2.1
	baz=274						
TCU				eS	Sb	00 18 28.5	-1.0
	baz=274						
CHN5	Tsauling	2.08	261	eP	Pb	00 18 03.9	-1.0
	baz=259						
CHN4	Tsaushan	2.21	255	eP	Pb	00 18 06.3	-0.8
	baz=242						
CHN4				eS	Sb	00 18 33.2	-0.9
	baz=242						
WTP	Ta-pu	2.23	252	eP	Pb	00 18 06.0	-1.4
	baz=239						
WTP				eS	Sb	00 18 33.4	-1.1
	baz=239						
ECL	Taimali	2.25	233	eP	Pn	00 18 03.7	+0.2
	baz=245						
LAY	Lan-yu	2.29	214	P	Pn	00 18 04.3	+0.4
	baz=212						
LAY				eS	Sn	00 18 30.0	-1.2
	baz=212						
SGST	Jiashian	2.31	248	eP	Pb	00 18 08.1	-0.7
	baz=236						
SGST				eS	Sb	00 18 36.9	0.0
	baz=236						
CHN1	Nanshi	2.32	251	eP	Pb	00 18 07.8	-1.2
	baz=250						
CHN1				eS	Sb	00 18 36.6	-0.6
	baz=250						
CHY	Chiayi	2.33	259	eP	Pb	00 18 07.3	-1.7
	baz=258						
TWK	Hsinying	2.33	253	eP	Pb	00 18 07.9	-1.2
	baz=252						
TWK				eS	Sb	00 18 35.9	-1.6
	baz=252						
JIKM	Ikemajima	2.33	65	P	Pn	00 18 06.0	+1.5
SSD	Sandimen	2.42	241	eP	Pn	00 18 07.7	+2.0
	baz=231						
EAST	Anshuo	2.46	231	eP	Pn	00 18 07.8	+1.5
	baz=241						
TWM1	Shoushan	2.55	244	eP	Pb	00 18 11.6	-1.4
	baz=243						
SCZT	Fangliau	2.63	234	eP	Pn	00 18 10.5	+1.8
	baz=232						
TSEB	Hengchuen, Pin	2.76	223	eP	Pn	00 18 13.4	+2.9
	baz=222						
TSEB				eS	Sn	00 18 46.8	+3.8
	baz=222						
HEN	Hengchun	2.79	226	eP	Pn	00 18 13.5	+2.7
	baz=225						
HEN				eS	Sn	00 18 46.3	+2.6
	baz=225						
TWK1	Hengchun	2.79	225	eP	Pn	00 18 12.8	+2.0
	baz=224						
TWK1				eS	Sn	00 18 45.4	+1.7
	baz=224						
TWP	Hsiaoliuchiu	2.84	236	eP	Pb	00 18 16.2	-1.6
	baz=229						
WDGT	Dungji	3.06	258	eP	Pn	00 18 15.8	+1.2
	baz=256						
PNG	Penghu	3.10	264	eP	Pn	00 18 16.0	+0.9
	baz=263						
JOW	Kunigami	5.63	58	Pn	Pn	00 18 48.0	-1.9
	0.1nm,0.3s,baz=247,slow=13,SNR=2.9						
KSRS	Korea Array	14.12	17	Pn	Pn	00 20 44.6	-1.5
	0.2nm,0.3s,baz=195,slow=12,SNR=2.7						
KSRS				LR	LR	00 26 57.7	
	comp=Z,50nm,18.4s,baz=200,slow=41						
USRK	Ussuriysk Arra	21.52	18	P	P	00 22 15.5	+0.7
	1.0nm,0.7s,baz=219,slow=9.9,SNR=3.8						
CMAR	Chiang Mai Arr	22.99	261	LR	LR	00 32 20.8	
	comp=Z,53nm,18.7s,baz=35,slow=39						
SONM	Songino Array	27.21	335	P	P	00 23 08.5	-1.1
	0.7nm,0.6s,baz=145,slow=6.5,SNR=4.8						
MKAR	Makanchi Array	39.60	315	P	P	00 24 56.7	-0.4
	0.3nm,0.6s,baz=102,slow=9.1,SNR=7.5						
ZALV	Zalesovo Beam	41.30	326	P	P	00 25 09.3	-1.6
	0.4nm,0.4s,baz=134,slow=8.5,SNR=4.5						
WRA	Warramunga Arr	45.03	165	P	P	00 25 43.3	+1.8
	1.3nm,0.8s,baz=346,slow=8.4,SNR=7.2						
ILAR	Eielson Array	68.69	27	P	P	00 28 28.6	-0.1
	0.1nm,0.5s,baz=253,slow=5.1,SNR=4.8						
FINES	FINESS Array B	72.44	330	P	P	00 28 51.2	-0.4
	0.6nm,0.6s,baz=52,slow=3.1,SNR=3.8						
BRTR	Keskin Array B	74.58	307	P	P	00 29 04.9	0.0
	0.4nm,0.8s,baz=98,slow=2.1,SNR=2.5						
YKA	Yellowknife Ar	82.56	23	P	P	00 29 48.3	+0.1
	1.0nm,0.6s,baz=309,slow=5.2,SNR=21						
GERES	GERESS Array B	84.02	321	P	P	00 29 56.0	-0.1
	0.4nm,0.6s,baz=40,slow=6.4,SNR=3.4						

IDC 23 01:12:45.2±6.0, **14°.73S**×**167°.29E**, **h101**km±57km, **mb3.5**/6, **mb1 3.7/7, mb1mx3.5/19, mbtmp3.9/7, Error ellipse: s-maj=44.9km s-min=31.4km az=156.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.35	186	P	Pn	01 14 31.1	+1.2
	3.6nm,0.3s,baz=25,slow=19,SNR=22						
DZM				S	Sn	01 15 51.1	-0.6
	1.8nm,0.3s,baz=122,slow=21,SNR=5.5						
CTA	Charters Tower	20.76	252	P	P	01 17 17.5	-0.6
	3.4nm,0.6s,baz=73,slow=11,SNR=4.2						
STKA	Stephens Creek	29.01	230	P	P	01 18 36.3	+0.7
	1.7nm,0.4s,baz=57,slow=9.2,SNR=9.7						
WRA	Warramunga Arr	31.84	256	P	P	01 18 59.5	-1.3
	0.3nm,0.7s,baz=86,slow=9.0,SNR=3.7						
SONM	Songino Array	82.51	324	P	P	01 24 58.1	+1.3
	0.4nm,0.6s,baz=134,slow=6.2,SNR=3.7						
ILAR	Eielson Array	86.52	18	P	P	01 25 15.3	-1.1
	0.5nm,0.7s,baz=246,slow=5.9,SNR=7.0						
MKAR	Makanchi Array	97.22	316	P	P	01 26 05.7	-0.9
	0.4nm,0.7s,baz=87,slow=6.8,SNR=5.2						
ARCES	ARCESS Array B	120.26	345	PKP	PKPdf	01 31 23.1	-0.8
	8.3nm,1.0s,baz=67,slow=2.0,SNR=13						
AKASG	Malin Array Be	130.75	326	PKP	PKPdf	01 31 45.0	+0.5
	0.2nm,0.3s,baz=20,slow=1.4,SNR=3.0						
KEST	Kesra	151.22	321	PKPbc	PKPbc	01 32 27.8	+0.4
	0.5nm,0.8s,baz=162,slow=5.2,SNR=4.0						

*ISCJB **23** 01:26:36.4±0.5, 36°.90N±0°.04×31°.28E±0°.03, h134km±6km, Error ellipse: s-maj=6.6km s-min=3.5km az=22.3*
*ISK **23** 01:26:36.7, 36°.87N×31°.30E, h118km, MD3.5*
*NSSC **23** 01:26:36.1±0.9, 36°.83N×31°.95E, h280km±70km, MD1.9, ML2.6*
*CSEM **23** 01:26:37.1±0.3, 36°.92N×31°.27E, h128km±4km, MD3.5, Error ellipse: s-maj=6.0km s-min=3.4km az=21.0*
*DDA **23** 01:26:41.0, 37°.02N×31°.26E, h51km, MD3.6*
*NIC **23** 01:26:42.0, 36°.81N×31°.47E, h34km, ML3.5*
ISC 23 01:26:36.7±1.1, **36°.91N**±0°.04×**31°.27E**±0°.03, **h140**km±8km, **n78**, σ**1ˢ.37**/109, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	Antalya	0.49	269	ePG	Pn	01 26 55.3	-1.5
ANTB				eSG	Sn	01 27 07.9	-4.2
ANTB	Antalya	0.49	269	ePg	Pn	01 26 55.3	-1.5
KORT	Korkueli	0.74	278	i P	Pn	01 26 58.3	-0.3
KORT				i S	Sn	01 27 14.8	-0.4
KORT	Korkueli	0.74	278	i P	Pn	01 26 58.3	-0.3
KORT				i S	Sn	01 27 14.8	-0.4
BCK	Bucak	0.77	316	ePG	Pn	01 26 58.1	-0.7
BCK	Bucak	0.77	316	ePg	Pn	01 26 58.1	-0.7
GAZI	Gazipasa	1.08	128	i P	Pn	01 27 01.8	+0.5
GAZI				i S	Sn	01 27 19.5	-0.5
GAZI	Gazipasa	1.08	128	i P	Pn	01 27 01.8	+0.5
GAZI				i S	Sn	01 27 19.5	-0.5
ISP	Isparta	1.09	327	ePN	Pn	01 27 00.4	-1.1
ISP	Isparta	1.09	327	ePn	Pn	01 27 00.4	-1.1
ELL	Elmali	1.10	262	ePN	Pn	01 27 00.3	-1.3
ELL	Elmali	1.10	262	ePn	Pn	01 27 00.3	-1.3
ERMK	Ermenek	1.35	101	i P	Pn	01 27 05.5	+1.4
ERMK				i S	Sn	01 27 24.9	-0.1
ERMK	Ermenek	1.35	101	i P	Pn	01 27 05.5	+1.4
ERMK				i S	Sn	01 27 24.9	-0.1
KONT	Konya--Tatoy	1.35	40	ePN	Pn	01 27 03.8	-0.2
KONT	Konya--Tatoy	1.35	40	ePn	Pn	01 27 03.8	-0.2
GOLH	Golhisar	1.40	284	i P	Pn	01 27 06.0	+1.4
GOLH				i S	Sn	01 27 26.3	+0.5
GOLH	Golhisar	1.40	284	i P	Pn	01 27 06.0	+1.4
GOLH				i S	Sn	01 27 26.3	+0.5
GLHS	Glhisar (BURDU	1.44	281	ePN	Pn	01 27 04.4	-0.5
GLHS	Glhisar (BURDU	1.44	281	ePn	Pn	01 27 04.4	-0.5
AKAS	Kas	1.50	244	i P	Pn	01 27 06.4	+0.8
AKAS				i S	Sn	01 27 26.6	-1.0
AKAS	Kas	1.50	244	i P	Pn	01 27 06.4	+0.8
AKAS				i S	Sn	01 27 26.6	-1.0
LADK	Ladik-KONYA	1.56	34	ePN	Pn	01 27 04.9	-1.4
LADK	Ladik-KONYA	1.56	34	ePn	Pn	01 27 04.9	-1.4
SHUT	Suhut-Afyon	1.74	341	ePN	Pn	01 27 08.4	+0.1
SHUT	Suhut-Afyon	1.74	341	ePn	Pn	01 27 08.4	+0.1
KDHN	Kadinhani	1.75	22	i P	Pn	01 27 08.4	0.0
KDHN				i S	Sn	01 27 30.8	-1.9
KDHN	Kadinhani	1.75	22	i P	Pn	01 27 08.4	0.0
KDHN				i S	Sn	01 27 30.8	-1.9
FETY	Fethiye	1.77	262	ePN	Pn	01 27 09.0	+0.4
FETY	Fethiye	1.77	262	ePn	Pn	01 27 09.0	+0.4
KHL	Karahalli	1.98	316	ePN	Pn	01 27 10.8	-0.2
KHL	Karahalli	1.98	316	ePn	Pn	01 27 10.8	-0.2
KHAL	Karahalli	2.03	317	i P	Pn	01 27 11.9	+0.2
KHAL				i S	Sn	01 27 37.6	-0.9
KHAL	Karahalli	2.03	317	i P	Pn	01 27 11.9	+0.2
KHAL				i S	Sn	01 27 37.6	-0.9
ALFC	Alevga	2.05	148	P	Pn	01 27 11.5	-0.4
	baz=331						
ALFC				S	Sn	01 27 35.5	-3.4
ALFC	Alevga	2.05	148	P	Pn	01 27 11.5	-0.4
ALFC				S	Sn	01 27 35.5	-3.4
AKMC	Akamas	2.06	155	P	Pn	01 27 12.6	+0.5
	baz=338						
AKMC	Akamas	2.06	155	P	Pn	01 27 12.6	+0.5
DALY	Dalyan (Mu˜la	2.10	268	ePN	Pn	01 27 12.2	-0.1
DALY	Dalyan (Mu˜la	2.10	268	ePn	Pn	01 27 12.2	-0.1
LEF	Lefka	2.22	143	ePN	Pn	01 27 12.5	-1.4
LEF	Lefka	2.22	143	ePn	Pn	01 27 12.5	-1.4
MAMC	Mammari	2.35	137	P	Pn	01 27 16.0	+0.5
	baz=319						
MAMC	Mammari	2.35	137	P	Pn	01 27 16.0	+0.5
KIZK	Mersin	2.35	100	i P	Pn	01 27 18.0	+2.5
KIZK				i S	Sn	01 27 46.2	+0.9
KIZK	Mersin	2.35	100	i P	Pn	01 27 18.0	+2.5
KIZK				i S	Sn	01 27 46.2	+0.9
YER	Yerkesik	2.40	276	ePN	Pn	01 27 16.3	+0.2
YER	Yerkesik	2.40	276	ePn	Pn	01 27 16.3	+0.2
LFK	Lefkose	2.45	131	ePN	Pn	01 27 16.0	-0.8
LFK	Lefkose	2.45	131	ePn	Pn	01 27 16.0	-0.8
SZAC	Souni-Zanaja	2.52	148	P	Pn	01 27 18.9	+1.3
	baz=331						
SZAC				S	Sn	01 27 47.0	-2.1
SZAC	Souni-Zanaja	2.52	148	P	Pn	01 27 18.9	+1.3
SZAC				S	Sn	01 27 47.0	-2.1
CSS	Prodhromos	2.56	139	P	Pn	01 27 18.8	+0.6
	baz=321						
CSS	Prodhromos	2.56	139	ePN	Pn	01 27 17.4	-0.8
CSS	Prodhromos	2.56	139	ePn	Pn	01 27 17.4	-0.8
CSS	Prodhromos	2.56	139	P	Pn	01 27 18.8	+0.6
MERS	Mersin	2.61	90	ePN	Pn	01 27 18.4	-0.4
MERS	Mersin	2.61	90	ePn	Pn	01 27 18.4	-0.4
KULA	Kula-Manisa	2.62	309	ePN	Pn	01 27 18.9	+0.1
KULA	Kula-Manisa	2.62	309	ePn	Pn	01 27 19.0	+0.1
AYDN	Tasoluk	2.80	287	i P	Pn	01 27 22.5	+1.3
AYDN				i S	Sn	01 27 52.8	-2.7
AYDN	Tasoluk	2.80	287	i P	Pn	01 27 22.5	+1.3
AYDN				i S	Sn	01 27 52.8	-2.7
AYDB	Zeytinkoy-Aydi	2.88	292	ePN	Pn	01 27 22.4	+0.2
AYDB	Zeytinkoy-Aydi	2.88	292	ePn	Pn	01 27 22.5	+0.2
KARA	Karaisali	3.05	82	ePN	Pn	01 27 23.9	-0.4
KARA	Karaisali	3.05	82	ePn	Pn	01 27 23.9	-0.4
BDRM	Kayabasi	3.06	274	i P	Pn	01 27 25.2	+0.7
BDRM				i S	Sn	01 27 59.7	-1.7
BDRM	Kayabasi	3.06	274	i P	Pn	01 27 25.2	+0.7
BDRM				i S	Sn	01 27 59.7	-1.7
KOZT	Kozan	3.69	80	ePN	Pn	01 27 33.2	+0.7
KOZT	Kozan	3.69	80	ePn	Pn	01 27 33.3	+0.7
ARNB	Al Arnab	3.94	104	i P	Pn	01 27 36.2	+0.2
ARNB				eS	Sn	01 28 20.9	-0.9
ARNB				AML	AML	01 28 24.5	
	comp=N,43nm,0.4s						
ARNB				AML	AML	01 28 27.1	
	comp=E,18nm,0.7s						
ARNB	Al Arnab	3.94	104	i P	Pn	01 27 36.2	+0.2
	SNR=125						
ARNB				eS	Sn	01 28 21.0	-0.9
	comp=E,18nm,0.7s,SNR=125						
BTCH	Batrach	4.28	100	i P	Pn	01 27 40.7	+0.3
BTCH				eS	Sn	01 28 27.3	-2.5
BTCH	Batrach	4.28	100	i P	Pn	01 27 40.7	+0.3
	SNR=123						
BTCH				eS	Sn	01 28 27.3	-2.5
	SNR=123						
BIDA	Albida	4.52	113	i P	Pn	01 27 43.5	-0.1
BIDA				eS	Sn	01 28 31.6	-4.0
BIDA				AML	AML	01 28 38.6	
	comp=E,15nm,0.6s						
BIDA				AML	AML	01 28 40.9	
	comp=N,41nm,0.5s						
BIDA	Albida	4.52	113	i P	Pn	01 27 43.5	-0.1
	SNR=121						
BIDA				eS	Sn	01 28 31.6	-4.0
	comp=N,41nm,0.5s,SNR=121						
HAWK	Haweek	4.81	118	i P	Pn	01 27 48.0	+0.5
HAWK				eS	Sn	01 28 39.3	-3.4
HAWK	Haweek	4.81	118	i P	Pn	01 27 48.0	+0.5
	SNR=119						
HAWK				eS	Sn	01 28 39.3	-3.4
	SNR=119						

*IDC **23** 01:33:21.6±2.8, 23°.65S×175°.78W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/27, mbtmp3.7/6, MS3.4/5, Ms1 3.4/5, ms1mx3.1/22, Error ellipse: s-maj=151.0km s-min=28.4km az=159.0*
*ISCJB **23** 01:33:25.3±2.4, 23°.6S±0°.8×175°.9W±0°.4, h33km, mb3.8/6, MS3.4/3, Error ellipse: s-maj=127.0km s-min=25.2km az=159.2*
ISC 23 01:33:26.9±2.6, **23°.5S**±0°.9×**175°.9W**±0°.4, **h33**km, **n18**, σ**0ˢ.76**/7, **mb3.6**/5, **MS3.4**/3, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	15.05	84	LR	LR	01 43 14.6	
	comp=Z,100nm,18.1s,baz=260,slow=40						
DZM	Mont Dzumac	16.39	272	eLR	LR	01 41 00.1	
	172nm,21.6s						
DZM	Mont Dzumac	16.39	272	LR	LR	01 42 29.8	
	comp=Z,110nm,21.0s,baz=200,slow=33						
PPT2	Papeete2	25.28	81	eLR	LR	01 45 05.4	
	103nm,23.0s						
PPT	Papeete	25.29	81	LR	LR	01 47 32.4	
	comp=Z,71nm,18.6s,baz=236,slow=34						
STKA	Stephens Creek	38.38	248	LR	LR	01 55 46.9	
	comp=Z,102nm,18.1s,baz=40,slow=35						
WRA	Warramunga Arr	46.22	264	P	P	01 41 48.4	-0.8
	2.0nm,0.9s,baz=98,slow=8.5,SNR=15						
KSRS	Korea Array	80.46	318	LR	LR	02 16 37.8	
	comp=Z,18nm,19.4s,baz=144,slow=32						
NVAR	Mina Array Bea	81.89	42	P	P	01 45 43.2	-0.1
	0.2nm,0.3s,baz=254,slow=6.5,SNR=2.2						
H03N2	Juan Fernandez	82.80	123	T	T	03 17 31.5	
	baz=250						
H03N3	Juan Fernandez	82.80	123	T	T	03 17 39.3	
	baz=250						
H03N1	Juan Fernandez	82.82	123	T	T	03 17 38.8	
	baz=250						
TXAR	Lajitas Array	87.04	56	P	P	01 46 09.4	0.0
	0.1nm,0.6s,baz=213,slow=8.1,SNR=2.5						
ILAR	Eielson Array	90.83	12	P	P	01 46 25.9	-0.4
	0.3nm,1.0s,baz=210,slow=5.2,SNR=2.5						
CMAR	Chiang Mai Arr	92.99	289	P	P	01 46 38.5	+1.1
	0.8nm,0.3s,baz=134,slow=2.6,SNR=7.8						
YKA	Yellowknife Ar	98.43	24	P	Pdif	01 47 01.5	+0.3
	0.1nm,0.5s,baz=253,slow=13,SNR=2.5						
AKASG	Malin Array Be	146.62	331	PKPbc	PKPab	01 53 05.8	-0.2
	0.4nm,0.4s,baz=37,slow=3.5,SNR=6.3						
BRTR	Keskin Array B	150.32	310	PKPbc	PKPbc	01 53 15.7	+0.6
	0.7nm,0.9s,baz=53,slow=2.9,SNR=3.9						

*ISCJB **23** 01:38:48.6±0.4, 31°.80S±0°.03×66°.89W±0°.03, h132km±4km, mb3.3/3, Error ellipse: s-maj=5.7km s-min=4.4km az=151.7*

GUC 23 01:38:48.6±0.6,31°.75S×67°.09W,h178km±96km,ML4.6
SJA 23 01:38:49.0±1.3,31°.81S×66°.88W,h123km±6km,MD3.7, ML3.8,MW3.1
IDC 23 01:38:49.3±0.8,31°.81S×66°.90W,h126km±5km,mb3.3/3, mb1 3.7/6,mb1mx3.5/17,mbtmp3.8/6,Error ellipse: s-maj=27.2km s-min=11.6km az=180.0
ISC 23 01:38:49.2±0.7,31°.80S±0°.04×66°.90W±0°.03,h127km±4km, n36,σ0§88/61,mb3.3/3,1C-4D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAN	Cantantal	0.53	208	eP	Pn	01 39 08.6	+0.4
ACAN				iS	Sn	01 39 22.7	+0.2
ACHE	Chepes	0.67	18	iP	Pn	01 39 09.7	+0.5
ACHE				iS	Sn	01 39 24.4	+0.1
CFAA	Coronel Fontan	1.16	280	P	Pn	01 39 13.9	+0.5
	4.7nm,0.3s,baz=96,slow=10,SNR=1199						
CFAA				S	Sn	01 39 31.7	-0.1
	48nm,0.3s,baz=292,slow=18,SNR=244						
CFAA	Coronel Fontan	1.16	280	eP	Pn	01 39 13.9	+0.5
CFAA				⇓iS	Sn	01 39 32.1	+0.3
AVFE	Valle Fertil	1.24	337	iP	Pn	01 39 15.3	+1.0
AVFE				iS	Sn	01 39 33.7	+0.3
AVFE					IAML	01 39 34.6	
	comp=Z,752nm,0.2s						
RTCV	Cerro Valdivia	1.40	267	iP	Pn	01 39 16.6	+0.6
RTCV				iS	Sn	01 39 37.3	+0.9
RTLL	Cerro Villicun	1.43	289	iP	Pn	01 39 16.8	+0.5
RTLL				⇓iS	Sn	01 39 37.5	+0.6
APLL	PUNTA DE LOS L	1.44	13	iP	Pn	01 39 17.6	+1.1
APLL				iS	Sn	01 39 37.5	+0.3
SJA	San Juan	1.44	281	eP	Pn	01 39 17.3	+0.8
SJA				iS	Sn	01 39 37.8	+0.6
SJA					IAML	01 39 38.8	
	comp=Z,2μm,0.4s						
AMOG	MOGNA	1.61	302	eP	Pn	01 39 19.0	+0.5
AMOG				eS	Sn	01 39 40.9	+0.1
ASAL	Salagasta	1.82	244	eP	Pn	01 39 21.8	+0.9
ASAL				iP	Pn	01 39 21.9	+1.0
ASAL				eS	Sn	01 39 45.4	+0.3
ARCO	CERRO ARCO	2.01	238	eP	Pn	01 39 24.0	+0.8
ARCO				eS	Sn	01 39 49.7	+0.4
ARCO					IAML	01 39 52.8	
	comp=Z,860nm,0.4s						
TCA	Tanti	2.02	77	iP	Pn	01 39 24.8	+1.5
TCA				eP	Pn	01 39 24.9	+1.5
TCA				eS	Sn	01 39 47.5	-1.9
TCA					IAML	01 39 53.4	
	comp=Z,498nm,0.2s						
RTLS	Leoncito	2.04	270	eP	Pn	01 39 24.7	+0.9
AAGR	Agrelo	2.07	231	eP	Pn	01 39 25.1	+1.1
AVIZ	Vizcacheras	2.15	219	iP	Pn	01 39 26.1	+1.2
AUSP	Uspallata	2.16	258	eP	Pn	01 39 26.1	+0.9
SUCO	SUCO	2.29	133	iP	Pn	01 39 27.5	+0.8
SUCO				eP	Pn	01 39 28.3	+1.6
SUCO				eS	Sn	01 39 55.3	-0.1
SUCO					IAML	01 39 58.4	
	comp=Z,292nm,0.3s						
AGUA	GUANDACOL	2.69	329	iP	Pn	01 39 32.9	+1.0
AGUA				eS	Sn	01 40 05.0	+0.5
LMEL	Las Melosas	3.45	233	⇑eP	Pn	01 39 42.8	+1.1
CLCH	Cerro Calan	3.46	242	eP	Pn	01 39 42.2	+0.4
CLCH				eS	Sn	01 40 23.1	+0.7
CLCH				AML	AML	01 40 27.2	
	comp=E,528nm,0.5s						
PEL	Peldehue	3.47	246	⇓eP	Pn	01 39 42.1	+0.3
PEL				eS	Sn	01 40 23.3	+0.7
PEL				AML	AML	01 40 29.4	
	comp=N,427nm,0.5s						
CMCH	Combarbala	3.56	279	⇓eP	Pn	01 39 43.1	-0.1
CMCH				eS	Sn	01 40 23.4	-1.4
CMCH				AML	AML	01 40 26.7	
	comp=N,1μm,0.4s						
ROCH	El Roble	3.67	250	eP	Pn	01 39 44.5	-0.2
ROCH				eS	Sn	01 40 27.2	-0.4
ROCH				AML	AML	01 40 29.4	
	comp=N,422nm,0.2s						
CHCH	Chadas Angostu	3.81	235	eP	Pn	01 39 47.0	+0.7
LNV	Longovilo	4.36	239	eP	Pn	01 39 52.0	-1.7
PLCA	Paso Flores	9.38	197	P	Pn	01 41 00.6	-0.7
	comp=N,0.1nm,0.3s,baz=355,slow=8.4,SNR=3.4						
CPUP	Villa Florida	9.99	59	P	Pn	01 41 07.7	-1.7
	comp=N,3.0nm,0.3s,baz=225,slow=12,SNR=12						
LPAZ	La Paz	15.49	356	P	Pn	01 42 20.9	-0.5
	comp=N,0.6nm,0.3s,baz=144,slow=9.2,SNR=13						
TXAR	Lajitas Array	70.13	326	P	P	01 49 47.8	-0.1
	comp=N,0.1nm,0.4s,baz=133,slow=6.3,SNR=3.4						
TORD	Torodi Ar. Bea	79.39	67	P	P	01 50 42.0	+0.5
	comp=N,2.0nm,0.7s,baz=275,slow=6.5,SNR=21						
TORD				sP	sP	01 51 26.9	0.0
	comp=N,0.5nm,0.8s,baz=276,slow=5.6,SNR=2.1						
NVAR	Mina Array Bea	84.69	322	P	P	01 51 09.7	+0.7
	comp=N,0.2nm,0.4s,baz=141,slow=5.8,SNR=2.6						
NVAR				sP	sP	01 51 52.8	-1.9
	comp=N,0.1nm,0.3s,baz=134,slow=4.9,SNR=1.5						
YKA	Yellowknife Ar	101.45	339	P	Pdif	01 52 25.3	-0.3
	comp=N,0.1nm,0.6s,baz=139,slow=4.4,SNR=4.0						
YKA				sP		01 53 09.2	
	comp=N,0.2nm,0.5s,baz=248,slow=9.0,SNR=3.9						
WRA	Warramunga Arr	124.67	204	PKP	PKPdf	01 57 33.4	-0.9
	comp=N,0.5nm,0.4s,baz=162,slow=1.7,SNR=15						
ZALV	Zalesovo Beam	150.02	34	PKPbc	PKPbc	01 58 24.6	+0.4
	comp=N,1.0nm,0.4s,baz=268,slow=2.4,SNR=9.9						
ZALV				pPKPbc	pPKPbc	01 58 59.2	+1.1
	comp=N,1.1nm,0.8s,baz=298,slow=3.2,SNR=3.5						
MKAR	Makanchi Array	152.07	49	PKPbc	PKPbc	01 58 29.3	0.0
	comp=N,0.9nm,0.6s,baz=253,slow=2.6,SNR=14						

MEX 23 01:52:00.8±0.9,17°.85N×100°.21W,h60km±7km,MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.45	343	iP	Pn	01 52 11.0	-1.4
ARIG				iS	Sn	01 52 19.4	-1.3
MEIG	Mezcala	0.57	82	eP	Pn	01 52 12.2	-1.3
MEIG				iS	Sn	01 52 21.2	-1.7
CAIG	El Cayaco	0.80	184	iP	Pn	01 52 14.5	-1.7
CAIG				iS	Sn	01 52 25.6	-1.9
PLIG	Platanillo	0.86	51	eP	Pn	01 52 14.9	-2.3
PLIG				iS	Sn	01 52 27.2	-2.2
ACX	Acapulco	1.03	161	iP	Pn	01 52 21.5	+2.3
ACX				iS	Sn	01 52 35.4	+2.5
ZIIG	Zihuatanejo	1.22	259	iP	Pn	01 52 20.1	-1.6
ZIIG				iS	Sn	01 52 35.9	-1.5
YAIG	Yautepec	1.48	47	iP	Pn	01 52 24.0	-1.5
YAIG				eS	Sn	01 52 41.8	-2.2
TLIG	Tlapa	1.59	100	iP	Pn	01 52 26.1	-0.8
TLIG				iS	Sn	01 52 44.5	-2.0
PNIG	Pinotepa	2.46	126	iP	Pn	01 52 37.1	-1.5
PNIG				iS	Sn	01 53 05.8	-1.7

KRNET 23 01:53:34.5±0.1,39°.60N×74°.89E,h3km,mb3.7
NNC 23 01:53:36.4±3.2,39°.58N×74°.83E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=24.7km s-min=16.2km az=170.0
ISC 23 01:53:30.6±2.1,39°.51N±0°.08×75°.04E±0°.06,h6km±14km, n18,σ1§55/24,6C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.28	293	eP	Pn	01 53 52.9	-2.4
	baz=292						
SFK				eS	Sb	01 54 10.7	-1.5
	baz=292						
OHH	Osh	2.00	301	eP	Pb	01 54 08.6	+1.1
	baz=301						
OHH				eS	Sg	01 54 36.2	+1.2
	baz=301						
ARSB	Arslanbob	2.40	320	eP	Pb	01 54 14.8	+0.6
	baz=320						
ARSB				eS	Sg	01 54 47.8	+0.2
	baz=320						
ARLS	Aral	2.41	347	iP	Pb	01 54 15.4	+1.0
	baz=349						
ARLS				iS	Sg	01 54 48.4	+0.4
	baz=349						
DRK	Karamyk	2.51	270	eP	Pb	01 54 18.0	+1.8
	baz=268						
DRK				eS	Sg	01 54 52.2	+1.1
	baz=268						
KZA	Kyzart	2.57	3	P	Pg	01 54 20.0	+0.2
	SNR=15						
UCH	Uchtor	2.74	352	P	Pb	01 54 21.6	+1.3
	SNR=17						
AML	Almayashu	2.81	339	P	Pb	01 54 21.7	+0.3
	SNR=24						
ULHL	Ulahol	2.88	18	P	Pb	01 54 25.0	+2.5
	SNR=13						
KBK	Karagaybulak	3.14	359	P	Pb	01 54 27.6	+0.6
	SNR=8.5						
AAK	Ala-Archa	3.14	353	⇑Pn	Pb	01 54 26.7	-0.3
	7.4nm,0.5s						
AAK				⇑Lg	Lg	01 55 11.9	
	13nm,0.7s						
AAK	Ala-Archa	3.14	353	P	Pb	01 54 27.1	+0.1
	SNR=11						
TKM2	Tokmak 2	3.43	7	⇑Pn	Pb	01 54 31.0	-0.8
	9.3nm,0.3s						
TKM2				⇑Sn	Sb	01 55 13.8	-0.1
	26nm,0.6s						
TKM2	Tokmak 2	3.43	7	P	Pb	01 54 31.1	-0.8
	SNR=60						
CHMS	Chumysh	3.49	357	P	Pb	01 54 31.2	-1.6
	SNR=7.2						
TRKS	Terek-Say	3.59	305	iP	Pb	01 54 32.0	-2.6
	baz=305						
KK31	Karatay Array	4.95	318	⇓Pn	Pn	01 54 49.7	+4.2
	0.5nm,0.4s,baz=121,slow=12,SNR=33						
KK31				⇑Sn	Sn	01 55 46.5	+3.5
	1.1nm,0.4s,baz=131,slow=24,SNR=2.5						
KK31				⇑Lg	Lg	01 56 07.2	
	3.4nm,0.6s						
PDGK	Podgornoye	5.07	40	⇓Pg	Pg	01 55 07.3	-0.4
PDGK				⇓Lg	Lg	01 56 14.4	

THR 23 01:59:28.4±0.8,35°.94N×53°.47E,h15km,ML3.6
ISCJB 23 01:59:29.6±1.1,36°.08N±0°.04×53°.27E±0°.08,h10km,Error ellipse: s-maj=9.8km s-min=5.7km az=178.8
AZER 23 01:59:30.7±99.0,36°.16N×53°.06E,h5km,Error ellipse: s-maj=22.8km s-min=20.7km az=308.0
CSEM 23 01:59:31.5±0.4,35°.91N×53°.13E,h10km,ML3.6,Error ellipse: s-maj=9.1km s-min=4.4km az=87.0
ISC 23 01:59:29.6±1.6,36°.02N±0°.05×53°.42E±0°.09,h10km,n30, σ1§22/49,12C-9D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAMV	Damavand	1.24	252	ePg	Pb	01 59 51.8	-1.4
DAMV				eSg	Sb	02 00 09.3	0.0
DAMV	Damavand	1.24	252	ePg	Pb	01 59 51.8	-1.4
DAMV				eSg	Sb	02 00 09.3	0.0
DAMV				AML	AML	02 00 15.9	
	comp=N,756nm,0.3s						
CHTH	Charan	1.86	267	ePg	Pn	02 00 03.4	+1.6
CHTH	Charan	1.86	267	ePg	Pn	02 00 03.4	+1.6
GHVR	GHOM	2.32	229	ePg	Pn	02 00 10.2	+2.3
GHVR	GHOM	2.32	229	ePg	Pn	02 00 10.2	+2.3
GHVR				AML	AML	02 00 49.1	
	comp=E,388nm,1.0s						
NASN	Na'in	3.25	189	ePn	Pn	02 00 20.7	-0.2
NASN	Na'in	3.25	189	ePn	Pn	02 00 20.7	-0.2
LKRN	Lenkeran, Azer	4.57	307	⇑P	Pn	02 00 39.0	+0.3
	SNR=4.0						
LKRN				⇓S	Sn	02 01 30.8	-1.0
LKRN	Lenkeran, Azer	4.57	307	P	Pn	02 00 39.0	+0.3
	SNR=4.0						
LKRN				S	Sn	02 01 30.8	-1.0
LRK	Lerik	4.82	304	⇑P	Pn	02 00 42.8	+0.4
LRK				⇓S	Sn	02 01 38.4	0.0
LRK	Lerik	4.82	304	P	Pn	02 00 42.8	+0.4
LRK				S	Sn	02 01 38.4	0.0
GLBA	Clilabad	5.12	310	P	Pn	02 00 47.0	+0.7
	SNR=16						
GLBA				⇓S	Sn	02 01 45.2	-0.3
GLBA	Clilabad	5.12	310	P	Pn	02 00 47.0	+0.7
	SNR=16						
GLBA				S	Sn	02 01 45.2	-0.3
ATGJ	Altiaghaj	5.98	325	⇓S	Sn	02 02 07.2	+0.4
ATGJ	Altiaghaj	5.98	325	S	Sn	02 02 07.2	+0.4
KDMR	Kurdemir	5.99	318	⇑S	Sn	02 02 06.2	-0.7
PQL	Pirkuli	6.09	323	⇑P	Pn	02 01 02.1	+2.4
PQL				⇑S	Sn	02 02 09.8	+0.3
PQL	Pirkuli	6.09	323	P	Pn	02 01 02.1	+2.4
PQL				S	Sn	02 02 09.8	+0.3
SIZA	Siyzn	6.17	326	⇓P	Pn	02 01 02.2	+1.4
SIZA				⇑S	Sn	02 02 11.5	+0.1
SIZA	Siyzn	6.17	326	P	Pn	02 01 02.2	+1.4
SIZA				S	Sn	02 02 11.5	+0.1
IML	Ismayilli	6.29	321	⇓P	Pn	02 01 03.9	+1.4
	SNR=3.1						
IML				⇓S	Sn	02 02 13.0	-1.5
IML	Ismayilli	6.29	321	P	Pn	02 01 03.9	+1.4
	SNR=3.1						
IML				S	Sn	02 02 13.0	-1.5
QUBA	Quba, Azerbaij	6.58	326	⇑P	Pn	02 01 08.1	+1.8
	SNR=3.4						
QUBA				⇑S	Sn	02 02 22.2	+0.8
QUBA	Quba, Azerbaij	6.58	326	P	Pn	02 01 08.1	+1.8
	SNR=3.4						
QUBA				S	Sn	02 02 22.2	+0.8
SEKA	Sheki	7.11	319	⇑P	Pn	02 01 14.4	+0.7
	SNR=6.0						
SEKA				⇑S	Sn	02 02 33.1	-1.5
SEKA	Sheki	7.11	319	P	Pn	02 01 14.4	+0.7
	SNR=6.0						
SEKA				S	Sn	02 02 33.1	-1.5
GANJ	Ganja	7.24	312	⇓P	Pn	02 01 15.6	+0.1
GANJ				⇑S	Sn	02 02 35.8	-2.0
GANJ	Ganja	7.24	312	P	Pn	02 01 15.6	+0.1
GANJ				S	Sn	02 02 35.8	-2.0
ZKTA	Zakatala	7.72	319	⇓P	Pn	02 01 22.8	+0.8
ZKTA				⇑S	Sn	02 02 48.1	-1.4

IDC 23 02:23:45.5±6.2,39°.03N×111°.10E,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.3/31,mbtmp3.5/4,Error ellipse: s-maj=133.0km s-min=28.4km az=85.0,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	9.44	340	Pn	Pn	02 26 02.4	-0.5
	baz=159,slow=14,SNR=3.5						
SONM				Sn	Sn	02 28 00.0	+10
	0.0nm,0.3s,baz=160,slow=17,SNR=3.7						
SONM				Lg	Lg	02 28 38.1	
	0.1nm,0.3s,baz=167,slow=32,SNR=4.4						
MKAR	Makanchi Array	22.39	300	P	P	02 28 44.9	-0.5
	0.6nm,0.8s,baz=96,slow=12,SNR=7.5						
CMAR	Chiang Mai Arr	23.06	211	P	P	02 28 52.5	-0.1
	2.8nm,0.3s,baz=16,slow=8.9,SNR=9.3						
ZALV	Zalesovo Beam	23.27	319	P	P	02 28 55.0	+0.6
	0.2nm,0.3s,baz=147,slow=12,SNR=2.9						

ISCJB 23 02:36:52.0±0.2,36°.31N±0°.02×28°.57E±0°.02,h84km±3km, mb3.6/7,Error ellipse: s-maj=2.8km s-min=2.3km az=17.1
IDC 23 02:36:52.5±1.3,36°.37N×28°.54E,h53km±19km,mb3.5/5, mb1 3.7/9,mb1mx3.3/28,mbtmp3.7/9,ML3.7/4,MS2.5/1, Ms1 2.6/1,ms1mx1.9/31,Error ellipse: s-maj=18.5km s-min=8.8km az=157.0
NSSC 23 02:36:52.1±1.2,36°.50N×29°.02E,h0km±246km,ML3.5
DDA 23 02:36:53.6,36°.47N×28°.53E,h41km,MD3.7
ISK 23 02:36:53.8,36°.44N×28°.51E,h66km,ML3.5
CSEM 23 02:36:53.3±0.1,36°.30N×28°.53E,h60km,ML3.7,Error ellipse: s-maj=3.7km s-min=3.0km az=26.0
ATH 23 02:36:54.0,36°.40N×28°.42E,h66km±1km
THE 23 02:36:55.1,36°.38N×28°.54E,h62km±3km,ML3.7/7,Error ellipse: s-maj=3.5km s-min=1.0km az=162.0
NIC 23 02:36:56.3,36°.56N×29°.02E,h49km,mb4.4,ML4.0
HLW 23 02:36:59.1,35°.69N×28°.50E,h28km±7km,Md4.2,Ml3.8
ISC 23 02:36:53.2±0.7,36°.33N±0°.03×28°.56E±0°.02,h70km±5km, n216,σ1§18/281,mb3.5/7,4C-8D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.37	252	P	Pn	02 37 05.2	+0.4
ARG				S	Sn	02 37 13.8	+0.4
ARG	Arkhangelos	0.37	252	ePG	Pn	02 37 05.2	+0.4
ARG				eSG	Sn	02 37 14.6	+1.2
ARG	Arkhangelos	0.37	252	eP	Pn	02 37 05.3	+0.4
ARG				eS	Sn	02 37 13.5	+0.1
ARG	Arkhangelos	0.37	252	eP	Pn	02 37 05.3	+0.4
ARG				S	Sn	02 37 13.8	+0.4
ARG				eSg	Sn	02 37 14.6	+1.2
DALY	Dalyan (Mu˜la	0.49	9	ePG	Pn	02 37 06.2	+0.4
DALY				eSG	Sn	02 37 14.4	-0.8
DALY	Dalyan (Mu˜la	0.49	9	ePg	Pn	02 37 06.3	+0.4
DALY				eSg	Sn	02 37 14.4	-0.8
FETY	Fethiye	0.52	54	ePG	Pn	02 37 06.6	+0.4
FETY				eSG	Sn	02 37 15.9	+0.1
FETY	Fethiye	0.52	54	ePg	Pn	02 37 06.6	+0.4
FETY				eSg	Sn	02 37 15.9	+0.1
YER	Yerkesik	0.83	345	ePG	Pn	02 37 10.8	+1.2
YER	Yerkesik	0.83	345	ePg	Pn	02 37 10.9	+1.2
AKAS	Kas	0.85	96	iP	Pn	02 37 10.7	+0.8
AKAS				iS	Sn	02 37 23.6	+1.2
AKAS	Kas	0.85	96	iP	Pn	02 37 10.7	+0.8
AKAS				iS	Sn	02 37 23.6	+1.2
BDRM	Kayabasi	1.16	310	iP	Pn	02 37 14.0	+0.3
BDRM				iS	Sn	02 37 28.6	-0.4
BDRM	Kayabasi	1.16	310	iP	Pn	02 37 14.0	+0.3
BDRM				iS	Sn	02 37 28.6	-0.4
ELL	Elmali	1.16	69	ePN	Pn	02 37 15.7	+1.8
ELL	Elmali	1.16	69	ePn	Pn	02 37 15.7	+1.8
GOLH	Golhisar	1.21	41	iP	Pn	02 37 16.3	+1.9
GOLH				iS	Sn	02 37 32.9	+2.5
GOLH	Golhisar	1.21	41	iP	Pn	02 37 16.3	+1.9
GOLH				iS	Sn	02 37 32.9	+2.5
BODT	Bodrum	1.24	306	ePN	Pn	02 37 14.9	+0.1
BODT	Bodrum	1.24	306	ePn	Pn	02 37 14.9	+0.1
KARP	Karpathos	1.38	236	P	Pn	02 37 17.6	+1.0
KARP				S	Sn	02 37 34.6	+0.5
KARP	Karpathos	1.38	236	eP	Pn	02 37 17.6	+1.0
KARP				eS	Sn	02 37 34.8	+0.7
KARP	Karpathos	1.38	236	eP	Pn	02 37 17.6	+1.0
KARP				eS	Sn	02 37 34.8	+0.7
AYDN	Tasoluk	1.44	338	iP	Pn	02 37 18.6	+1.2
AYDN				iS	Sn	02 37 36.1	+0.6
AYDN	Tasoluk	1.44	338	iP	Pn	02 37 18.6	+1.2
AYDN				iS	Sn	02 37 36.1	+0.6
KORT	Korkueli	1.59	65	iP	Pn	02 37 21.8	+2.4
KORT				iS	Sn	02 37 42.5	+3.3
KORT	Korkueli	1.59	65	iP	Pn	02 37 21.8	+2.4
KORT				iS	Sn	02 37 42.5	+3.3
AYDB	Zeytinkoy-Aydi	1.70	342	ePN	Pn	02 37 20.5	-0.4
AYDB	Zeytinkoy-Aydi	1.70	342	ePn	Pn	02 37 20.5	-0.4
ANTB	Antalya	1.78	71	ePN	Pn	02 37 23.8	+2.0
ANTB	Antalya	1.78	71	ePn	Pn	02 37 23.8	+2.0
SMG	Samos	1.95	315	P	Pn	02 37 24.4	+0.3
SMG				S	Sn	02 37 47.5	-0.2
SMG	Samos	1.95	315	eP	Pn	02 37 24.6	+0.5
SMG				eS	Sn	02 37 46.9	-0.8
SMG	Samos	1.95	315	eP	Pn	02 37 24.6	+0.5
SMG				S	Sn	02 37 47.5	-0.2
BCK	Bucak	1.98	55	ePN	Pn	02 37 26.3	+1.7
BCK	Bucak	1.98	55	ePn	Pn	02 37 26.3	+1.7
KHL	Karahalli	2.13	21	ePN	Pn	02 37 26.9	+0.2
KHL	Karahalli	2.13	21	ePn	Pn	02 37 26.9	+0.2
ISP	Isparta	2.16	46	P	Pn	02 37 28.4	+1.3
ISP				S	Sn	02 37 52.6	-0.4
ISP	Isparta	2.16	46	ePN	Pn	02 37 28.4	+1.3
ISP	Isparta	2.16	46	⇓iP	Pn	02 37 28.1	+1.0
ISP	Isparta	2.16	46	S	Sn	02 37 53.7	+0.7
ISP	Isparta	2.16	46	P	Pn	02 37 28.4	+1.3
ISP				S	Sn	02 37 52.6	-0.4
KHAL	Karahalli	2.17	20	iP	Pn	02 37 27.3	+0.1
KHAL				iS	Sn	02 37 52.4	-0.7
KHAL	Karahalli	2.17	20	iP	Pn	02 37 27.3	+0.1
KHAL				iS	Sn	02 37 52.4	-0.7
KULA	Kula-Manisa	2.18	2	P	Pn	02 37 27.6	+0.3
KULA	Kula-Manisa	2.18	2	ePN	Pn	02 37 27.7	+0.4
KULA	Kula-Manisa	2.18	2	ePn	Pn	02 37 27.7	+0.4
ZKR	Zakros	2.26	238	P	Pn	02 37 30.1	+1.7
ZKR	Zakros	2.26	238	eP	Pn	02 37 30.0	+1.7
ZKR				eS	Sn	02 37 56.9	+1.7
ZKR	Zakros	2.26	238	eP	Pn	02 37 30.0	+1.7
ZKR				eS	Sn	02 37 56.9	+1.7
BLCB	Balcova	2.38	330	ePN	Pn	02 37 30.3	+0.4
BLCB	Balcova	2.38	330	ePn	Pn	02 37 30.3	+0.4
SANT	Santorini	2.50	272	P	Pn	02 37 32.5	+0.9
SANT				S	Sn	02 38 01.9	+0.7
SANT	Santorini	2.50	272	eP	Pn	02 37 32.6	+0.9
SANT	Santorini	2.50	272	P	Pn	02 37 32.5	+0.9
SANT				S	Sn	02 38 01.9	+0.7
ZEY	˜zmir	2.52	320	iP	Pn	02 37 32.0	+0.2
ZEY				iS	Sn	02 38 00.6	-0.7
APE	Apeiranthos	2.54	288	eP	Pn	02 37 32.9	+0.7
APE	Apeiranthos	2.54	288	⇑iP	Pn	02 37 32.4	+0.2
APE	Apeiranthos	2.54	288	S	Sn	02 38 01.0	-1.2
APE	Apeiranthos	2.54	288	eP	Pn	02 37 32.9	+0.7
URLA	Izmir	2.56	323	iP	Pn	02 37 33.9	+1.5
URLA				iS	Sn	02 38 01.7	-0.8
URLA	Izmir	2.56	323	iP	Pn	02 37 33.9	+1.5
URLA				iS	Sn	02 38 01.7	-0.8
AKHS	Akhisar	2.61	347	iP	Pn	02 37 33.0	-0.1
AKHS				iS	Sn	02 38 02.4	-1.4
AKHS	Akhisar	2.61	347	iP	Pn	02 37 33.0	-0.1
AKHS				iS	Sn	02 38 02.4	-1.4
AKS	Akhisar	2.61	347	ePN	Pn	02 37 33.0	-0.1
AKS	Akhisar	2.61	347	ePn	Pn	02 37 33.0	-0.1
NPS	Neapolis	2.62	247	P	Pn	02 37 34.0	+0.8
NPS	Neapolis	2.62	247	eP	Pn	02 37 34.0	+0.8
NPS				eS	Sn	02 38 03.0	-1.0
NPS	Neapolis	2.62	247	eP	Pn	02 37 34.0	+0.8
NPS				eS	Sn	02 38 03.0	-1.0
SHUT	Suhut-Afyon	2.73	35	ePN	Pn	02 37 35.7	+1.0
SHUT	Suhut-Afyon	2.73	35	ePn	Pn	02 37 35.7	+1.0
LAST	Lasithi	2.77	246	P	Pn	02 37 36.1	+0.9
LAST				S	Sn	02 38 07.5	-0.1
LAST	Lasithi	2.77	246	eP	Pn	02 37 36.2	+1.0
LAST				eS	Sn	02 38 07.5	-0.1
LAST	Lasithi	2.77	246	P	Pn	02 37 36.1	+0.9
LAST				S	Sn	02 38 07.5	-0.1
GDZ	Gediz	2.85	15	iP	Pn	02 37 36.7	+0.3
GDZ				iS	Sn	02 38 08.5	-1.2
GDZ	Gediz	2.85	15	iP	Pn	02 37 36.7	+0.3
GDZ				iS	Sn	02 38 08.5	-1.2
CHOS	Chios island	2.86	317	P	Pn	02 37 37.0	+0.4
CHOS				S	Sn	02 38 09.2	-0.8
CHOS	Chios island	2.86	317	eP	Pn	02 37 37.2	+0.6
CHOS				eS	Sn	02 38 09.1	-0.9
CHOS	Chios island	2.86	317	P	Pn	02 37 37.0	+0.4
CHOS				S	Sn	02 38 09.2	-0.8
ALT	Altintas	2.99	24	ePN	Pn	02 37 39.0	+0.8
ALT	Altintas	2.99	24	ePn	Pn	02 37 39.0	+0.8
GAZI	Gazipasa	3.04	91	iP	Pn	02 37 38.9	+0.1
GAZI				iS	Sn	02 38 12.9	-1.2
GAZI	Gazipasa	3.04	91	iP	Pn	02 37 38.9	+0.1
GAZI				iS	Sn	02 38 12.9	-1.2
IDI	Anoyia	3.16	252	P	Pn	02 37 41.3	+0.7
	4.1nm,0.3s,baz=69,slow=12,SNR=51						
IDI				S	Sn	02 38 16.1	-1.1
	38nm,0.3s,baz=336,slow=20,SNR=27						
TVSB	Tavsanli	3.19	13	ePN	Pn	02 37 41.7	+0.6
TVSB	Tavsanli	3.19	13	ePn	Pn	02 37 41.7	+0.6
SIVA	Sivas	3.32	248	P	Pn	02 37 44.8	+2.1
SIVA	Sivas	3.32	248	eP	Pn	02 37 45.0	+2.3
SIVA	Sivas	3.32	248	P	Pn	02 37 44.8	+2.1
AKMC	Akamas	3.33	112	P	Pn	02 37 43.2	+0.3
	baz=300						
AKMC	Akamas	3.33	112	P	Pn	02 37 43.2	+0.3
PPCY	Paphos	3.40	114	P	Pn	02 37 44.7	+0.9
	baz=302						
PPCY	Paphos	3.40	114	P	Pn	02 37 44.7	+0.9
PRK	Paraskevi	3.43	329	P	Pn	02 37 45.1	+0.8
PRK				S	Sn	02 38 22.3	-1.3
PRK	Paraskevi	3.43	329	eP	Pn	02 37 45.0	+0.8
PRK				eS	Sn	02 38 22.4	-1.2
PRK	Paraskevi	3.43	329	eP	Pn	02 37 45.0	+0.8
PRK				S	Sn	02 38 22.4	-1.2
KONT	Konya--Tatoy	3.44	61	ePN	Pn	02 37 46.7	+2.4
KONT	Konya--Tatoy	3.44	61	ePn	Pn	02 37 46.7	+2.4
ALFC	Alevga	3.49	108	P	Pn	02 37 45.0	0.0
	baz=296						
ALFC				S	Sn	02 38 23.6	-1.5
ALFC	Alevga	3.49	108	P	Pn	02 37 45.0	0.0
ALFC				S	Sn	02 38 23.6	-1.5
LADK	Ladik-KONYA	3.56	57	ePN	Pn	02 37 47.7	+1.6
LADK	Ladik-KONYA	3.56	57	ePn	Pn	02 37 47.7	+1.6
KDHN	Kadinhani	3.58	51	iP	Pn	02 37 47.4	+1.1
KDHN				iS	Sn	02 38 28.8	+1.4
KDHN	Kadinhani	3.58	51	iP	Pn	02 37 47.4	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDHN				i S	Sn	02 38 28.8	+1.4
SIGR	SIGRI	3.59	324	P	Pn	02 37 47.3	+1.0
SIGR				S	Sn	02 38 25.9	-1.6
SIGR	SIGRI	3.59	324	eP	Pn	02 37 47.5	+1.2
SIGR				eS	Sn	02 38 25.8	-1.7
SIGR	SIGRI	3.59	324	P	Pn	02 37 47.3	+1.0
SIGR				S	Sn	02 38 25.9	-1.6
KIZT	Kizilcal	3.66	45	ePN	Pn	02 37 49.1	+1.6
KIZT	Kizilcal	3.66	45	ePn	Pn	02 37 49.1	+1.6
SZAC	Souni-Zanaja	3.86	113	⇓P	Pn	02 37 50.5	+0.4
	baz=300						
SZAC				S	Sn	02 38 32.8	-1.4
SZAC	Souni-Zanaja	3.86	113	⇓P	Pn	02 37 50.5	+0.4
SZAC				S	Sn	02 38 32.8	-1.4
SVRH	Sivrihisar-ESK	3.90	36	ePN	Pn	02 37 51.9	+1.3
SVRH	Sivrihisar-ESK	3.90	36	ePn	Pn	02 37 51.9	+1.3
MAMC	Mammari	3.96	106	P	Pn	02 37 51.7	+0.3
	baz=293						
MAMC	Mammari	3.96	106	P	Pn	02 37 51.7	+0.3
CSS	Prodhromos	4.12	108	i P	Pn	02 37 54.1	+0.5
	baz=295						
CSS	Prodhromos	4.12	108	P	Pn	02 37 54.3	+0.7
CSS	Prodhromos	4.12	108	i P	Pn	02 37 54.1	+0.5
KYTH	Kithira	4.46	271	P	Pn	02 37 59.7	+1.4
KYTH	Kithira	4.46	271	P	Pn	02 37 59.7	+1.4
VLI	Veliai	4.55	277	P	Pn	02 38 01.2	+1.8
VLI	Veliai	4.55	277	P	Pn	02 38 01.2	+1.8
SMTH	Samothraki Isl	4.77	331	P	Pn	02 38 03.2	+0.7
SMTH				S	Sn	02 38 54.8	-1.7
ANTO	Ankara	4.86	42	S	Sn	02 38 58.6	-0.2
BRTR	Keskin Array B	5.25	48	P	Pn	02 38 10.2	+1.1
	0.8nm,0.3s,baz=228,slow=15,SNR=48						
BRTR				S	Sn	02 39 07.2	-1.2
	1.5nm,0.3s,baz=219,slow=25,SNR=15						
SLUM		5.57	211	P	Pn	02 38 12.5	-1.0
	baz=215						
SLUM				AMP		02 39 00.0	
	comp=E,100μm,0.2s,logA/T=5.7,baz=215						
SLUM				S	Sn	02 39 08.3	-7.8
	baz=215						
SLUM		5.57	211	P	Pn	02 38 12.5	-1.0
NAQL	Naqoura	6.29	119	eP	Pn	02 38 23.8	+0.4
NAQL	Naqoura	6.29	119	eP	Pn	02 38 23.8	+0.4
BHL	Bhannes	6.30	111	eP	Pn	02 38 22.0	-1.5
BHL	Bhannes	6.30	111	eP	Pn	02 38 22.0	-1.5
JMB	Yambol	6.32	347	⇓iP	Pn	02 38 24.3	+0.7
HWQ	Hawqa	6.38	107	eP	Pn	02 38 24.4	-0.2
HWQ	Hawqa	6.38	107	eP	Pn	02 38 24.4	-0.2
BIDA	Albida	6.45	99	i P	Pn	02 38 24.4	-1.2
BIDA				eS	Sn	02 39 30.6	-7.2
BIDA				AML	AML	02 39 36.1	
	comp=E,55nm,0.2s						
BIDA				AML	AML	02 39 36.8	
	comp=N,185nm,0.6s						
BIDA	Albida	6.45	99	i P	Pn	02 38 24.4	-1.2
	SNR=45						
MMB	Musomiste	6.46	326	⇓iP	Pn	02 38 24.3	-1.3
MMAI	Mount Meron Ar	6.54	118	P	Pn	02 38 27.0	+0.3
	comp=N,60nm,0.3s,baz=308,slow=11,SNR=296						
MMAI				S	Sn	02 39 34.7	-5.1
	comp=N,45nm,0.3s,baz=297,slow=26,SNR=15						
RCY	Rachaya	6.61	113	eP	Pn	02 38 27.6	-0.2
RCY	Rachaya	6.61	113	eP	Pn	02 38 27.6	-0.2
HAWK	Haweek	6.65	103	i P	Pn	02 38 27.9	-0.4
HAWK				eS	Sn	02 39 37.2	-5.6
HAWK				AML	AML	02 39 41.8	
	comp=N,87nm,0.4s						
HAWK				AML	AML	02 39 42.1	
	comp=E,86nm,0.5s						
HAWK	Haweek	6.65	103	i P	Pn	02 38 27.9	-0.4
	SNR=45						
BRBR	Barbar	6.74	113	i P	Pn	02 38 29.2	-0.4
BRBR				eS	Sn	02 39 39.1	-5.8
BRBR				AML	AML	02 39 42.0	
	comp=E,90nm,0.4s						
BRBR				AML	AML	02 39 46.0	
	comp=N,61nm,0.7s						
BRBR	Barbar	6.74	113	i P	Pn	02 38 29.2	-0.4
	SNR=45						
HMYD	Mayadein	6.78	163	P	Pn	02 38 28.9	-1.1
	baz=161						
HMYD	Mayadein	6.78	163	P	Pn	02 38 28.9	-1.1
KOT	Kottamia	6.95	156	P	Pn	02 38 31.8	-0.5
	baz=153						
KOT	Kottamia	6.95	156	P	Pn	02 38 31.8	-0.5
AYT	Al 'Ayyat	6.96	161	P	Pn	02 38 31.6	-0.8
	baz=158						
AYT	Al 'Ayyat	6.96	161	P	Pn	02 38 31.6	-0.8
HHAG	Hagoal	7.02	154	P	Pn	02 38 33.1	-0.2
	baz=151						
HHAG	Hagoal	7.02	154	P	Pn	02 38 33.1	-0.2
TOTH	TOTAH	7.11	112	i P	Pn	02 38 34.5	-0.1
TOTH				eS	Sn	02 39 49.1	-4.9
TOTH	TOTAH	7.11	112	i P	Pn	02 38 34.5	-0.1
	SNR=45						
TCHB	Talchebab	7.12	119	i P	Pn	02 38 35.3	+0.6
TCHB				eS	Sn	02 39 50.1	-4.1
TCHB	Talchebab	7.12	119	i P	Pn	02 38 35.3	+0.6
	SNR=45						
HSAF	As Saff	7.15	159	P	Pn	02 38 34.4	-0.7
	baz=156						
HSAF	As Saff	7.15	159	P	Pn	02 38 34.4	-0.7
GLL	Jalalah	7.23	158	P	Pn	02 38 35.4	-0.8
	baz=155						
GLL	Jalalah	7.23	158	P	Pn	02 38 35.4	-0.8
SWA2		7.53	201	P	Pn	02 38 39.4	-0.9
	baz=203						
SWA2				AMP		02 40 00.0	
	comp=N,80μm,0.2s,logA/T=5.5,baz=203						
SWA2		7.53	201	P	Pn	02 38 39.4	-0.9
MSAB	Monastry St. A	7.77	356	⇑iP	Pn	02 38 44.2	+0.7
ZNM		7.83	151	P	Pn	02 38 44.2	-0.1
	baz=148						
ZNM		7.83	151	P	Pn	02 38 44.2	-0.1
AWBH		7.99	178	P	Pn	02 38 45.0	-1.5
	baz=177						
AWBH		7.99	178	P	Pn	02 38 45.1	-1.5
ASF	Jabal al Asfar	8.05	119	P	Pn	02 38 48.9	+1.5
	comp=N,4.1nm,0.3s,baz=283,slow=4.5,SNR=28						
ASF				S	Sn	02 40 15.0	-2.0
	comp=N,1.0nm,0.3s,baz=186,slow=19,SNR=3.3						
TIRR	Tirgusor	8.12	359	⇑iP	Pn	02 38 49.3	+1.1
CFR	Carcaliu	8.85	358	⇓iP	Pn	02 38 58.7	+0.6
TLCR		8.85	1	⇓iP	Pn	02 38 59.9	+1.7
HFRF	Wahat Farafira	9.16	181	P	Pn	02 39 01.2	-1.3
	baz=182						
HFRF	Wahat Farafira	9.16	181	P	Pn	02 39 01.2	-1.3
MLR	Muntele Rosu	9.36	349	⇓iP	Pn	02 39 06.4	+1.1
MLR	Muntele Rosu	9.36	349	P	Pn	02 39 06.6	+1.2
	comp=N,0.1nm,0.3s,baz=49,slow=5.5,SNR=8.4						
MLR				S	Sn	02 40 47.7	-1.4
	baz=149,slow=19						
VRI	Vrincioaia	9.63	352	⇑iP	Pn	02 39 10.6	+1.8
STHS	Stebnicka Huta	14.13	340	e	Pn	02 40 06.7	-3.0
KEST	Kesra	15.56	273	P	P	02 40 30.3	-1.0
	comp=N,0.1nm,0.3s,baz=76,slow=3.1,SNR=7.5						
VRAC	Vranov	15.64	330	P	P	02 40 33.1	+1.2
	comp=N,0.2nm,0.3s,baz=187,slow=8.4,SNR=3.4						
DPC	Dobruska-Polom	16.57	332	eP	P	02 40 46.7	+4.4
GERES	GERESS Array B	16.58	324	P	Pn	02 40 42.0	+0.9
	comp=N,0.2nm,0.3s,baz=133,slow=11,SNR=9.5						
KHC	Kasperske Hory	16.84	324	eP	P	02 40 46.8	+1.5
KHC	Kasperske Hory	16.84	324	P	P	02 40 46.8	+1.5
SBF	Sospel	17.80	301	eP	P	02 40 50.1	-5.9
MBDF	Montbardon	18.53	304	eP	P	02 41 00.2	-3.8
	comp=N,26nm,1.2s						
LPG	La Plagne	18.81	306	eP	P	02 41 05.7	-1.6
LPG	La Plagne	18.81	306	eP	P	02 41 05.7	-1.6
LPL	La Plagne	18.83	306	eP	P	02 41 06.0	-1.4
LPL	La Plagne	18.83	306	eP	P	02 41 06.0	-1.4
CABF	La Chapelle	19.66	308	eP	P	02 41 14.0	-2.4
	comp=N,6.8nm,0.7s						
CABF	La Chapelle	19.66	308	eP	P	02 41 14.0	-2.4
	comp=N,3.4nm,0.7s						
VIVF	Saint-Julien-I	19.99	303	eP	P	02 41 19.2	-0.6
VIVF	Saint-Julien-I	19.99	303	eP	P	02 41 19.2	-0.6
SMF	Signal de Mont	21.11	307	eP	P	02 41 31.6	-0.3
	comp=N,10.0nm,0.8s						
SMF	Signal de Mont	21.11	307	eP	P	02 41 31.6	-0.3
	comp=N,5.0nm,0.8s						
MTLF	Montolieu	21.35	297	eP	P	02 41 34.0	-0.5
MTLF	Montolieu	21.35	297	eP	P	02 41 34.0	-0.5
SSF	Saint Saulge	21.47	308	eP	P	02 41 35.4	-0.4
	comp=N,11nm,0.8s						
SSF	Saint Saulge	21.47	308	eP	P	02 41 35.4	-0.4
	comp=N,5.7nm,0.8s						
AVF	Avril sur Loir	21.48	307	eP	P	02 41 35.6	-0.2
AVF	Avril sur Loir	21.48	307	eP	P	02 41 35.6	-0.2
EPF	Esparros	22.66	296	eP	P	02 41 47.2	-1.4
EPF	Esparros	22.66	296	eP	P	02 41 47.2	-1.4
LFF	La Frestale	22.71	301	eP	P	02 41 47.9	-1.1
LFF	La Frestale	22.71	301	eP	P	02 41 47.9	-1.1
LDF	La Druitiere	24.30	309	eP	P	02 42 04.0	+0.2
LDF	La Druitiere	24.30	309	eP	P	02 42 04.0	+0.2
FLN	La Foliniere	24.58	309	eP	P	02 42 05.8	-0.6
FLN	La Foliniere	24.58	309	eP	P	02 42 05.8	-0.6
FINES	FINESS Array B	25.18	357	P	P	02 42 12.5	+0.8
	comp=N,1.1nm,0.8s,baz=159,slow=11,SNR=7.6						
HFS	Hagfors	25.67	343	P	P	02 42 16.0	-0.2
	comp=N,0.8nm,0.6s,baz=153,slow=13,SNR=2.8						
ESDC	Sonseca Array	25.77	287	P	P	02 42 16.9	-0.4
	comp=N,1.0nm,0.6s,baz=81,slow=9.5,SNR=5.2						
NOA	NORSAR Array B	27.07	341	LR	LR	02 55 09.3	
	comp=N,10.0nm,18.9s,baz=215,slow=41						
ARCES	ARCESS Array B	33.30	358	P	P	02 43 24.3	+0.5
	comp=N,3.5nm,1.0s,baz=173,slow=8.2,SNR=2.8						
TORD	Torodi Ar. Bea	33.38	233	P	P	02 43 26.7	+1.7
	comp=N,0.2nm,0.3s,baz=36,slow=9.0,SNR=16						

ISCJB 23 03:04:15.4±0.6,38°.13N±0°.03×20°.44E±0°.04,h19km±4km, Error ellipse: s-maj=5.6km s-min=3.7km az=135.9
CSEM 23 03:04:15.6±0.3,38°.08N×20°.50E,h10km,ML2.9,Ms3.8, Error ellipse: s-maj=6.5km s-min=3.6km az=41.0
ATH 23 03:04:15.5,38°.10N×20°.54E,h19km,MD3.4/29
THE 23 03:04:17.8,38°.14N×20°.63E,h11km,ML2.9/3,Error ellipse: s-maj=1.7km s-min=1.0km az=237.0
ISC 23 03:04:16.0±0.8,38°.13N±0°.02×20°.53E±0°.03,h19km±1km, n104,σ1§12/146,4C-1D,Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.07	43	P	Pg	03 04 19.7	+0.1
VLS				S	Sg	03 04 21.9	-0.1
VLS	Valsamata	0.07	43	ePB	Pg	03 04 19.7	+0.1
VLS				eSB	Sg	03 04 22.2	+0.2
VLS	Valsamata	0.07	43	P	Pg	03 04 19.7	+0.1
VLS				S	Sg	03 04 21.9	-0.1
VLS				eSb	Sg	03 04 22.2	+0.2
KFL	Anninata	0.20	94	P	Pb	03 04 20.8	+0.2
KFL				S	Sb	03 04 23.4	-0.2
KFL	Anninata	0.20	94	P	Pb	03 04 20.8	+0.2
KFL				S	Sb	03 04 23.4	-0.2
PDO	Prodromos	0.70	47	P	Pb	03 04 29.5	-0.1
PDO	Prodromos	0.70	47	ePN	Pb	03 04 29.5	-0.1
PDO				eSN	Sg	03 04 39.4	+0.3
PDO	Prodromos	0.70	47	ePn	Pb	03 04 29.5	-0.1
PDO				S	Sb	03 04 39.2	+0.4
RLS	Riolos of Patr	0.74	95	P	Pb	03 04 29.7	-0.7
RLS				S	Sg	03 04 40.6	+0.1
RLS	Riolos of Patr	0.74	95	ePN	Pb	03 04 29.7	-0.7
RLS				eSN	Sg	03 04 41.1	+0.6
RLS	Riolos of Patr	0.74	95	ePn	Pb	03 04 29.7	-0.7
RLS				S	Sg	03 04 40.6	+0.1
RLS				eSn	Sg	03 04 41.1	+0.6
PVO	Paravola	0.92	58	P	Pb	03 04 33.8	+0.3
PVO	Paravola	0.92	58	P	Pb	03 04 33.8	+0.3
PVO				S	Sn	03 04 47.3	+0.5
DRO	Drossia	0.95	100	P	Pb	03 04 33.4	-0.5
DRO	Drossia	0.95	100	ePN	Pb	03 04 33.4	-0.5
DRO				eSN	Sb	03 04 46.5	+0.4
DRO	Drossia	0.95	100	P	Pb	03 04 33.4	-0.5
DRO				eSn	Sb	03 04 46.5	+0.4
DRO				S	Sn	03 04 47.8	+0.4
SFD	Strofades	0.95	156	P	Pg	03 04 34.8	+0.1
SFD				S	Sn	03 04 50.6	+3.1
SFD	Strofades	0.95	156	ePN	Pg	03 04 34.7	+0.1
SFD				eSN	Sb	03 04 46.2	0.0
SFD	Strofades	0.95	156	ePn	Pg	03 04 34.7	+0.1
SFD				eSn	Sb	03 04 46.2	0.0
SFD				S	Sn	03 04 50.6	+3.1
AMT	Artemida-Makis	1.11	122	P	Pg	03 04 37.2	-0.3
AMT	Artemida-Makis	1.11	122	ePN	Pg	03 04 37.4	-0.1
AMT	Artemida-Makis	1.11	122	ePn	Pg	03 04 37.4	-0.1
AMT				S	Sg	03 04 53.2	+1.2
EFP	Efpalio	1.12	74	P	Pn	03 04 36.2	-0.6
EFP	Efpalio	1.12	74	ePN	Pn	03 04 36.2	-0.6
EFP				eSN	Sg	03 04 52.4	-0.2
EFP	Efpalio	1.12	74	P	Pn	03 04 36.2	-0.6
EFP				S	Sn	03 04 52.3	+0.6
LAKA	Lakka	1.15	84	ePN	Pn	03 04 36.8	-0.3
LAKA	Lakka	1.15	84	ePn	Pn	03 04 36.8	-0.3
EVR	Evrytania	1.28	51	P	Pb	03 04 39.5	-0.1
EVR				S	Sb	03 04 56.4	+0.7
EVR	Evrytania	1.28	51	ePN	Pb	03 04 39.5	-0.1
EVR	Evrytania	1.28	51	P	Pb	03 04 39.5	-0.1
EVR				S	Sb	03 04 56.4	+0.7
KLV	Kalavryta, Ach	1.28	93	P	Pn	03 04 38.9	-0.1
KLV				S	Sg	03 04 57.2	-0.4
KLV	Kalavryta, Ach	1.28	93	ePN	Pn	03 04 38.8	-0.2
KLV				eSN	Sb	03 04 56.9	+1.2
KLV	Kalavryta, Ach	1.28	93	P	Pn	03 04 38.9	-0.1
KLV				eSn	Sb	03 04 56.9	+1.2
KLV				S	Sg	03 04 57.2	-0.4
KALE	Kalithea	1.29	78	ePN	Pn	03 04 39.2	0.0
KALE				eSN	Sg	03 04 58.2	+0.2
KALE	Kalithea	1.29	78	ePn	Pn	03 04 39.2	0.0
KALE				eSn	Sg	03 04 58.2	+0.2
IGT	Igoumenitsa	1.41	354	P	Pb	03 04 42.4	+0.6
IGT				S	Sg	03 05 01.9	+0.1
IGT	Igoumenitsa	1.41	354	ePN	Pb	03 04 42.4	+0.6
IGT	Igoumenitsa	1.41	354	P	Pb	03 04 42.4	+0.6
IGT				S	Sg	03 05 01.9	+0.1
GUR	Goura	1.44	97	P	Pn	03 04 41.6	+0.3
GUR	Goura	1.44	97	ePN	Pn	03 04 41.7	+0.4
GUR	Goura	1.44	97	P	Pn	03 04 41.6	+0.3
ITM	Ithomi	1.46	130	P	Pb	03 04 42.6	0.0
ITM				S	Sb	03 05 01.2	+0.5
ITM	Ithomi	1.46	130	ePN	Pb	03 04 42.6	0.0
ITM	Ithomi	1.46	130	P	Pb	03 04 42.6	0.0
ITM				S	Sb	03 05 01.2	+0.5
MAKR	Makrakomi, Fth	1.54	54	ePN	Pb	03 04 44.5	+0.5
MAKR	Makrakomi, Fth	1.54	54	ePn	Pb	03 04 44.5	+0.5
JAN	Janina	1.55	9	ePN	Pb	03 04 45.1	+0.9
JAN	Janina	1.55	9	ePn	Pb	03 04 45.1	+0.9
PYL	PYLOS	1.56	141	P	Pn	03 04 43.3	+0.5
PYL	PYLOS	1.56	141	ePN	Pn	03 04 43.2	+0.5
PYL	PYLOS	1.56	141	P	Pn	03 04 43.3	+0.5
DSF	Desfina	1.60	79	P	Pn	03 04 44.0	+0.7
DSF	Desfina	1.60	79	ePN	Pn	03 04 44.1	+0.7
DSF	Desfina	1.60	79	P	Pn	03 04 44.0	+0.7
VLX	Vlachokerasia	1.65	117	P	Pb	03 04 46.5	+0.6
AGG	Agios Georgios	1.67	57	P	Pb	03 04 46.1	-0.1
AGG	Agios Georgios	1.67	57	ePN	Pb	03 04 46.6	+0.4
AGG	Agios Georgios	1.67	57	P	Pb	03 04 46.1	-0.1
AGG	Agios Georgios	1.67	57	ePn	Pb	03 04 46.6	+0.4
KEK	Kerkira	1.68	340	P	Pb	03 04 46.2	-0.2
KEK	Kerkira	1.68	340	ePN	Pb	03 04 46.2	-0.2
KEK	Kerkira	1.68	340	P	Pb	03 04 46.2	-0.2
SRN	Sarande	1.80	347	P	Pb	03 04 48.0	-0.4
SRN	Sarande	1.80	347	P	Pb	03 04 48.0	-0.4
LTK	Loutraki	1.93	92	P	Pb	03 04 49.3	-1.3
LTK	Loutraki	1.93	92	ePN	Pb	03 04 49.5	-1.1
LTK	Loutraki	1.93	92	P	Pb	03 04 49.3	-1.3
LKR	Lokris	2.01	74	P	Pb	03 04 50.8	-1.2
LKR	Lokris	2.01	74	P	Pb	03 04 50.8	-1.2
DID	Didima	2.23	105	P	Pb	03 04 54.1	-1.7
DID	Didima	2.23	105	ePN	Pb	03 04 54.0	-1.7
DID	Didima	2.23	105	P	Pb	03 04 54.1	-1.7
NEO	Neokhori	2.42	60	P	Pn	03 04 56.7	+2.1
NEO	Neokhori	2.42	60	P	Pn	03 04 56.7	+2.1
XOR	Xorichti	2.42	58	P	Pn	03 04 56.8	+2.1
XOR	Xorichti	2.42	58	ePB	Pb	03 04 57.0	-2.0
XOR	Xorichti	2.42	58	P	Pn	03 04 56.8	+2.1
MRKA	Markates	2.47	76	ePN	Pn	03 04 56.9	+1.6
MRKA	Markates	2.47	76	ePn	Pn	03 04 56.9	+1.6
FNA	Florina	2.73	14	ePN	Pn	03 05 01.6	+2.6
FNA	Florina	2.73	14	ePn	Pn	03 05 01.6	+2.6
AOS	Alonnisos	2.82	67	ePN	Pn	03 05 02.0	+1.8
AOS	Alonnisos	2.82	67	ePn	Pn	03 05 02.0	+1.8
PAIG	Paliouri	3.04	53	ePN	Pn	03 05 05.0	+1.8
PAIG	Paliouri	3.04	53	ePn	Pn	03 05 05.0	+1.8
SOH	Sokhos	3.47	38	ePN	Pn	03 05 11.5	+2.4
SOH	Sokhos	3.47	38	ePn	Pn	03 05 11.5	+2.4
OUR	Ouranopolis	3.47	49	ePN	Pn	03 05 10.8	+1.8
OUR	Ouranopolis	3.47	49	ePn	Pn	03 05 10.8	+1.8
SRS	Serrai	3.81	37	ePN	Pn	03 05 15.7	+2.0
SRS	Serrai	3.81	37	ePn	Pn	03 05 15.7	+2.0
STON	Ston	5.21	336	ePn	Pn	03 05 33.1	+0.1
STON				Sn	Sn	03 06 29.8	-2.7
STON	Ston	5.21	336	ePn	Pn	03 05 33.0	+0.1
STON				Sn	Sn	03 06 29.7	-2.7
DIVS	Divibare	5.98	356	ePn	Pn	03 05 44.0	+0.4
UDBI	Udbina	7.33	332	ePn	Pn	03 06 03.6	+1.5
UDBI				Sn	Sn	03 07 24.7	-0.1
UDBI	Udbina	7.33	332	ePn	Pn	03 06 03.6	+1.5
UDBI				Sn	Sn	03 07 24.7	-0.1
NVLJ	Novalja	7.71	328	i Pn	Pn	03 06 08.1	+0.8
NVLJ				Sn	Sn	03 07 31.5	-2.5
NVLJ	Novalja	7.71	328	i Pn	Pn	03 06 08.0	+0.8
SOKA	Soboth	9.46	336	⇑iPn	Pn	03 06 31.6	+0.2
SOKA	Soboth	9.46	336	Pn	Pn	03 06 31.6	+0.2
OBKA	Obir	9.47	334	⇑iPn	Pn	03 06 31.7	+0.2
OBKA				⇓iSn	Sn	03 08 14.8	-2.7
OBKA	Obir	9.47	334	Pn	Pn	03 06 31.7	+0.2
MOA	Molln	10.74	337	⇑iPn	Pn	03 06 49.6	+0.7
MOA				⇑iSn	Sn	03 08 45.7	-2.8
MOA	Molln	10.74	337	Pn	Pn	03 06 49.6	+0.7

MEX 23 03:47:15.5±0.7,18°.51N×103°.29W,h42km±11km,MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.23	195	i P	Pn	03 47 21.4	-1.9
MMIG				i S	Sn	03 47 27.3	-1.4
R15V		0.93	315	eP	Pn	03 47 30.4	-1.9
R15V				i S	Sn	03 47 42.6	-1.9
EZ5V		1.01	343	eP	Pn	03 47 31.9	-1.7
EZ5V				i S	Sn	03 47 44.2	-2.7
ZIIG	Zihuatanejo	1.95	117	i P	Pn	03 47 45.5	-0.7
ZIIG				i S	Sn	03 48 07.5	-1.9
SFJM	Santa Fe	1.98	7	eP	Pn	03 47 48.8	+2.0
SFJM				i S	Sn	03 48 12.3	+1.7
ARIG	Puente Sto Nin	2.80	94	eP	Pn	03 47 55.9	-2.0
ARIG				i S	Sn	03 48 28.3	-2.1
YAIG	Yautepec	4.01	84	i P	Pn	03 48 14.5	-0.2
YAIG				i S	Sn	03 48 59.2	-1.4
TLIG	Tlapa	4.59	101	i P	Pn	03 48 21.5	-1.0
TLIG				i S	Sn	03 49 13.4	-1.3

IDC 23 04:03:18.8±2.8,51°.51N×173°.95E,h0km,mb3.1/4, mb1 3.5/4,mb1mx3.2/30,mbtmp3.1/4,Error ellipse: s-maj=81.0km s-min=30.7km az=176.0
NEIC 23 04:03:21.9,51°.95N×174°.00E,h30km,ML3.1(AEIC),After AEIC.
ISCJB 23 04:03:22.8±1.2,51°.93N±0°.09×174°.0E±0°.1,h28km, mb3.1/4,Error ellipse: s-maj=16.2km s-min=7.6km az=137.0
ISC 23 04:03:24.4±1.5,52°.0N±0°.1×174°.04E±0°.10,h28km,n15, σ0§97/10,mb3.1/4,Near Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMY	Shemya	0.72	3	ePn	Pb	04 03 38.0	-0.4
SMY				eS	Sb	04 03 47.7	-0.2
FX1	Attu Island--F	1.02	329	ePn	Pn	04 03 42.2	-0.7
FX1				eS	Sb	04 03 57.3	+0.7
LSSA	Little Sitkin	2.77	90	P	Pn	04 04 06.2	-0.6
LSNW	Little Sitkin	2.77	89	P	Pn	04 04 07.1	+0.3
CETU	Semis' Tuman	3.37	89	P	Pn	04 04 14.2	-0.9
ILAR	Eielson Array	23.66	42	P	P	04 08 35.1	+2.0
	0.4nm,0.7s,baz=245,slow=8.9,SNR=8.4						
H11N2	WAKE ISLAND Hy	32.70	193	T	T	04 44 58.7	
	baz=8.5,slow=76						
H11N3	WAKE ISLAND Hy	32.71	192	T	T	04 45 07.8	
	baz=8.5,slow=76						
H11N1	WAKE ISLAND Hy	32.72	193	T	T	04 45 15.7	
	baz=8.5,slow=76						
H11S1	WAKE ISLAND Hy	33.93	193	T	T	04 46 38.2	
	baz=8.8						
H11S3	WAKE ISLAND Hy	33.95	193	T	T	04 46 46.7	
	baz=8.8						
H11S2	WAKE ISLAND Hy	33.95	193	T	T	04 46 44.5	
	baz=8.8						
YKA	Yellowknife Ar	38.00	46	P	P	04 10 42.2	+2.8
	0.1nm,0.5s,baz=287,slow=7.9,SNR=2.3						
MKAR	Makanchi Array	56.07	304	P	P	04 13 00.7	+0.1
	0.2nm,0.7s,baz=40,slow=5.8,SNR=3.1						
TXAR	Lajitas Array	62.90	76	P	P	04 13 47.6	-0.5
	0.2nm,0.7s,baz=305,slow=6.5,SNR=4.1						

MEX 23 04:12:51.7±0.5,17°.37N×100°.06W,h20km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.53	158	eP	Pb	04 12 59.3	-3.2
ACX				i S	Sb	04 13 06.2	-3.6
MEIG	Mezcala	0.70	37	i P	Pb	04 13 02.8	-2.6
MEIG				eS	Sb	04 13 11.8	-2.9
ARIG	Puente Sto Nin	0.95	343	eP	Pb	04 13 06.4	-3.1
ARIG				i S	Sb	04 13 18.7	-2.9
PLIG	Platanillo	1.15	28	eP	Pb	04 13 10.4	-2.4
PLIG				i S	Sb	04 13 24.0	-3.7
TLIG	Tlapa	1.44	82	eP	Pb	04 13 13.8	-3.1
TLIG				i S	Sn	04 13 31.3	-4.1

IDC 23 04:20:23.8±11.0,19°.56S×178°.93E,h552km±111km, mb2.7/5,mb1 3.0/5,mb1mx2.9/20,mbtmp3.6/5,Error ellipse: s-maj=133.1km s-min=47.6km az=139.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.63	242	P	P	04 26 35.6	-0.1
	0.8nm,0.3s,baz=92,slow=11,SNR=3.5						
WRA	Warramunga Arr	41.87	262	P	P	04 27 25.8	-0.5
	0.4nm,0.8s,baz=95,slow=7.6,SNR=4.3						
ASAR	Alice Springs	41.93	256	P	P	04 27 26.8	0.0
	0.4nm,0.6s,baz=88,slow=8.9,SNR=6.6						
ILAR	Eielson Array	88.07	14	P	P	04 32 15.1	-0.1
	0.5nm,0.9s,baz=224,slow=5.0,SNR=4.1						
YKA	Yellowknife Ar	96.89	25	P	P	04 32 55.2	-0.3
	0.1nm,0.4s,baz=239,slow=7.2,SNR=2.9						
ARCES	ARCESS Array B	127.45	349	PKP	PKPdf	04 38 24.3	-1.1
	4.2nm,0.9s,baz=54,slow=2.3,SNR=3.5						
AKASG	Malin Array Be	140.76	330	PKP	PKPdf	04 38 49.2	-1.6
	0.3nm,0.5s,baz=36,slow=0.8,SNR=2.6						
BRTR	Keskin Array B	144.06	312	PKP	PKPab	04 38 57.0	+0.1
	0.4nm,0.6s,baz=131,slow=5.5,SNR=3.2						
GERES	GERESS Array B	148.45	341	PKPbc	PKPbc	04 39 08.6	+0.1
	0.6nm,0.8s,baz=38,slow=5.0,SNR=4.4						

ISCJB 23 04:45:48.9±1.2,55°.28N±0°.02×162°.80E±0°.05,h2km±9km, mb3.0/3,Error ellipse: s-maj=4.5km s-min=3.5km az=14.7
KRSC 23 04:45:48.4±0.8,55°.24N×162°.81E,h7km±2km,ML3.7
IDC 23 04:45:52.1±1.2,55°.35N×163°.14E,h0km,mb3.1/3, mb1 3.3/5,mb1mx3.2/31,mbtmp3.1/5,ML2.8/2,Error ellipse: s-maj=28.0km s-min=13.8km az=14.0
ISC 23 04:45:51.0±1.5,55°.33N±0°.03×162°.78E±0°.04,h12km±11km, n39,σ1§35/53,mb3.1/3,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.88	2	i P	Pb	04 46 07.3	-0.9
KBTR				S	Sg	04 46 21.9	+2.3
KBG	Krutoberegovo	0.93	358	P	Pb	04 46 08.1	-0.9
KBG				i P	Pg	04 46 08.2	-0.7
KBG				S	Sn	04 46 24.1	+1.1
MKZ	Mys Kozlova	0.98	218	i P	Pb	04 46 06.9	-2.9
MKZ				S	Sb	04 46 20.3	-2.4
BZGR	Bezymyannyi-Gr	1.33	298	P	Pn	04 46 14.1	-1.3
BZGR				S	Sn	04 46 32.4	-0.7
BZMR	Bezymyannaya	1.43	296	P	Pn	04 46 16.2	-0.7
BZWR	Bezymyannyi-We	1.44	297	P	Pn	04 46 16.2	-0.8
BZWR				S	Sn	04 46 36.6	+0.7
SMKR	Semkarok	1.46	330	P	Pn	04 46 15.8	-1.3
SMKR				S	Sn	04 46 37.3	+0.8
TUMR	Tumrok	1.50	269	i P	Pn	04 46 16.7	-1.1

TUMR S Sn 04 46 37.4 0.0
KMNR Kamenistaya 1.50 288 i P Pn 04 46 17.3 -0.5
KMNR S Sn 04 46 38.1 +0.7
BDR Baidarnaya 1.52 325 P Pn 04 46 17.2 -0.9
BDR S Sn 04 46 38.2 +0.4
KLY Klyuchi 1.55 310 P Pn 04 46 16.0 -2.4
KLY S Sn 04 46 35.2 -3.2
KPT Kopyto 1.58 295 P Pn 04 46 17.8 -1.1
SRKR Sorokina 1.61 326 P Pn 04 46 18.1 -1.1
SRKR S Sn 04 46 40.5 +0.6
KOZ Kozyrevsk 1.80 295 P Pn 04 46 21.9 +0.1
KOZ S Sn 04 46 45.9 +1.4
BKI Bering 1.83 93 P Pn 04 46 21.8 -0.4
BKI S Sn 04 46 44.9 -0.4
ESO Esso 2.39 286 i P Pn 04 46 29.6 -0.3
ESO i P Pb 04 46 30.1 -3.8
SDLR Sedlovina 3.07 230 i P Pn 04 46 38.4 -0.9
SDLR S Sn 04 47 15.6 -0.3
KRER Koryakskii 3.11 231 i P Pn 04 46 39.6 -0.4
KRER S Sn 04 47 17.2 +0.1
SMAR Somma 3.11 230 i P Pn 04 46 39.0 -1.0
KRX Arik 3.12 232 i P Pn 04 46 40.2 +0.2
AVH Avacha 3.14 231 P Pn 04 46 41.3 +1.0
AVH S Sn 04 47 19.4 +1.7
UGLR Uglovaya 3.14 229 i P Pn 04 46 39.5 -0.8
KOK Koryaka 3.17 232 i P Pn 04 46 41.4 +0.7
GNL Ganaly 3.26 242 i P Pn 04 46 41.3 -0.6
PET Petropavlovsk 3.34 228 P Pn 04 46 42.9 -0.1
PET S Sn 04 47 23.5 +0.9
PETK Petropavlovsk- 3.72 235 Pn Pn 04 46 51.2 +3.1
1.7nm,0.3s,baz=94,slow=19,SNR=28
PETK Sn Sb 04 47 40.0 -1.5
0.4nm,0.3s,baz=87,slow=32,SNR=2.5
RUS Russkaya 3.84 223 P Pn 04 46 51.5 +1.7
RUS S Sn 04 47 36.5 +1.7
MTVR Mutnovka 3.94 226 P Pn 04 46 53.3 +2.0
OSSR Ossora 3.94 2 P Pn 04 46 52.6 +1.5
APC Apacha 4.09 236 P Pn 04 46 55.4 +2.2
ASAK Asacha 4.13 226 P Pn 04 46 55.0 +1.2
ASAK S Sn 04 47 42.1 +0.1
TILK Tilichiki 5.44 18 P Pn 04 47 14.9 +3.2
FX1 Attu Island--F 6.58 108 Pn Pn 04 47 27.6 +0.2
1.1nm,0.3s,baz=333,slow=6.2,SNR=11
FX1 Sn Sn 04 48 37.9 -4.4
0.4nm,0.3s,baz=157,slow=18,SNR=3.7
ILAR Eielson Array 26.14 49 P P 04 51 25.1 +0.7
0.2nm,0.5s,baz=274,slow=9.6,SNR=4.6
H11N2 WAKE ISLAND Hy 35.67 173 T T 05 30 37.3
baz=352,slow=74
H11N3 WAKE ISLAND Hy 35.69 173 T T 05 30 35.9
baz=352
H11N1 WAKE ISLAND Hy 35.69 173 T T 05 30 37.4
baz=352,slow=74
YKA Yellowknife Ar 40.46 45 P P 04 53 29.7 +1.0
0.1nm,0.4s,baz=297,slow=8.0,SNR=2.3
MKAR Makanchi Array 48.61 295 P P 04 54 39.4 +5.3
0.2nm,0.6s,baz=54,slow=7.3,SNR=2.8

IDC 23 05:02:58.1±1.2, 34.°98N×32.°26E, h0km, mb3.7/3, mb1 3.7/8, mb1mx3.5/26, mbtmp3.6/8, ML3.6/5, MS2.4/1, Ms1 2.4/1, ms1mx1.9/35, Error ellipse: s-maj=27.4km s-min=16.9km az=52.0
ISCJB 23 05:03:00.9±0.6, 34.°75N±0.°03×32.°19E±0.°03, h26km±4km, mb3.7/3, Error ellipse: s-maj=6.0km s-min=3.8km az=38.0
NIC 23 05:03:01.0, 34.°85N×32.°17E, h22km, ML3.7
NSSC 23 05:03:01.7±1.3, 34.°75N×32.°43E, h0km±45km, MD1.8, ML2.8
CSEM 23 05:03:02.3±0.3, 34.°80N×32.°30E, h15km, ML3.7, Error ellipse: s-maj=8.4km s-min=4.2km az=25.0
DDA 23 05:03:05.8, 35.°19N×31.°73E, h11km, MD3.6
ISK 23 05:03:05.4, 35.°19N×32.°43E, h8km, MD3.5
ISC 23 05:03:01.6±1.0, 34.°79N±0.°03×32.°26E±0.°03, h19km±2km, n84, σ1.°45/113, mb3.8/3, 4D, Cyprus region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PPCY Paphos 0.12 37 ⇓i P Pg 05 03 05.7 0.0
baz=254
PPCY Paphos 0.12 37 ⇓i P Pg 05 03 05.7 0.0
AKMC Akamas 0.24 14 ⇓i P Pb 05 03 07.0 -0.2
baz=216
AKMC Akamas 0.24 14 ⇓i P Pb 05 03 07.0 -0.2
ALFC Alevga 0.46 37 P Pg 05 03 10.7 -0.4
baz=228
ALFC S Sb 05 03 18.2 +0.4
ALFC Alevga 0.46 37 P Pg 05 03 10.7 -0.4
ALFC S Sb 05 03 18.2 +0.4
SZAC Souni-Zanaja 0.52 94 P Pb 05 03 12.6 +0.5
baz=278
SZAC S Sn 05 03 21.7 -0.6
SZAC Souni-Zanaja 0.52 94 P Pb 05 03 12.6 +0.5
LEF Lefka 0.61 57 ePG Pb 05 03 12.0 -1.7
LEF Lefka 0.61 57 ePg Pb 05 03 12.0 -1.7
MAMC Mammari 0.88 64 P Pb 05 03 17.0 -1.2
baz=249
MAMC Mammari 0.88 64 P Pb 05 03 17.0 -1.2
CSS Prodhromos 0.90 79 P Pb 05 03 18.5 -0.1
baz=263
CSS S Sn 05 03 32.5 +0.8
CSS Prodhromos 0.90 79 ePG Pn 05 03 20.3 +1.0
CSS eSG Sn 05 03 32.6 +0.8
CSS Prodhromos 0.90 79 P Pb 05 03 18.5 -0.1
CSS Prodhromos 0.90 79 ePg Pn 05 03 20.3 +1.0
CSS eSg Sn 05 03 32.6 +0.8
LFK Lefkose 1.16 65 ePG Pg 05 03 23.9 -0.1
LFK Lefkose 1.16 65 ePg Pg 05 03 23.9 -0.1
GAZI Gazipasa 1.44 2 i P Pn 05 03 26.1 -0.7
GAZI i S Sn 05 03 43.9 -1.3
GAZI Gazipasa 1.44 2 i P Pn 05 03 26.1 -0.7
GAZI i S Sn 05 03 43.9 -1.3
EREN Erenkoy 1.73 64 ePN Pb 05 03 32.7 -0.1
EREN Erenkoy 1.73 64 ePn Pb 05 03 32.7 -0.1
ERMK Ermenek 1.92 16 i P Pn 05 03 34.2 +0.6
ERMK i S Sb 05 03 59.8 -0.2
ERMK Ermenek 1.92 16 i P Pn 05 03 34.2 +0.6
ERMK i S Sb 05 03 59.8 -0.2
ANTB Antalya 2.48 329 ePN Pb 05 03 44.4 -1.1
ANTB Antalya 2.48 329 ePn Pb 05 03 44.4 -1.1
KORT Korkueli 2.69 325 i P Pb 05 03 48.7 -0.6
KORT Korkueli 2.69 325 i P Pb 05 03 48.7 -0.6
KORT i S Sg 05 04 30.3 +1.9
ELL Elmali 2.73 316 ePN Pb 05 03 48.3 -1.7
ELL Elmali 2.73 316 ePn Pb 05 03 48.3 -1.7
MERS Mersin 2.77 41 ePN Pn 05 03 46.0 +0.9
MERS Mersin 2.77 41 ePn Pn 05 03 46.0 +0.9
HWQ Hawqa 3.09 98 eP Pn 05 03 50.2 +0.7
HWQ Hawqa 3.09 98 eP Pn 05 03 50.2 +0.7
KONT Konya--Tatoy 3.15 1 ePN Pn 05 03 51.4 +1.1
KONT Konya--Tatoy 3.15 1 ePn Pn 05 03 51.4 +1.1
MMAI Mount Meron Ar 3.16 123 Pn Pn 05 03 50.9 +0.5
24nm,0.3s,baz=312,slow=12,SNR=27
MMAI Sn Sn 05 04 31.4 +3.8
25nm,0.3s,baz=310,slow=24,SNR=8.9
MMAI LR LR 05 05 30.0
comp=Z,56nm,19.4s,baz=335,slow=46
ARNB Al Arnab 3.22 70 i P Pn 05 03 52.5 +1.2
ARNB eS Sn 05 04 28.6 -0.5
ARNB AML AML 05 04 47.0
comp=N,69nm,0.8s
ARNB AML AML 05 04 51.8
comp=E,30nm,0.6s
ARNB Al Arnab 3.22 70 i P Pn 05 03 52.5 +1.2
SNR=45
RCY Rachaya 3.24 112 eP Pn 05 03 51.9 +0.3
RCY Rachaya 3.24 112 eP Pn 05 03 51.9 +0.3
GOLH Golhisar 3.28 319 i P Pn 05 03 54.4 +2.3
GOLH i S Sn 05 04 34.6 +4.0
GOLH Golhisar 3.28 319 i P Pn 05 03 54.4 +2.3
GOLH i S Sn 05 04 34.6 +4.0
ISP Isparta 3.34 336 ePN Pn 05 03 55.6 +2.8
ISP Isparta 3.34 336 ePn Pn 05 03 55.7 +2.8
KARA Karaisali 3.35 42 ePN Pn 05 03 54.2 +1.2
KARA Karaisali 3.35 42 ePn Pn 05 03 54.2 +1.2
BRBR Barbar 3.36 113 i P Pn 05 03 54.3 +1.0
BRBR eS Sn 05 04 31.7 -1.1
BRBR AML AML 05 04 36.5
comp=E,154nm,0.5s
BRBR AML AML 05 04 40.9
comp=N,68nm,0.9s
BRBR Barbar 3.36 113 i P Pn 05 03 54.3 +1.0
SNR=45
BRBR eS Sn 05 04 31.7 -1.1
comp=N,68nm,0.9s,SNR=40
LADK Ladik-KONYA 3.41 1 ePN Pn 05 03 54.6 +0.7
LADK Ladik-KONYA 3.41 1 ePn Pn 05 03 54.6 +0.7
WRDH Warideh 3.48 77 i P Pn 05 03 55.2 +0.4
WRDH eS Sn 05 04 33.9 -1.6
WRDH Warideh 3.48 77 i P Pn 05 03 55.2 +0.4
SNR=45
SULT Sultanhani-AKS 3.55 16 ePN Pn 05 03 56.1 +0.3
SULT Sultanhani-AKS 3.55 16 ePn Pn 05 03 56.1 +0.3
CEYT Ceyhan 3.60 51 ePN Pn 05 03 57.3 +0.9
CEYT Ceyhan 3.60 51 ePn Pn 05 03 57.3 +0.9
BTCH Batrach 3.65 69 i P Pn 05 03 58.0 +0.8
BTCH eS Sn 05 04 39.9 +0.1
BTCH AML AML 05 04 56.5
comp=E,80nm,0.4s
BTCH AML AML 05 05 05.4
comp=N,83nm,0.6s
BTCH Batrach 3.65 69 i P Pn 05 03 58.0 +0.8
SNR=45
BTCH eS Sn 05 04 39.9 +0.1
comp=N,83nm,0.6s,SNR=40
TCHB Talchebab 3.75 123 i P Pn 05 03 58.7 +0.2
TCHB eS Sn 05 04 40.9 -1.2
TCHB Talchebab 3.75 123 i P Pn 05 03 58.7 +0.2
SNR=45
TCHB eS Sn 05 04 40.9 -1.2
SNR=40
NIG Nigde 3.82 29 ePN Pn 05 04 00.8 +1.2
NIG Nigde 3.82 29 ePn Pn 05 04 00.8 +1.2
KIZT Kizilcal 4.09 356 ePN Pn 05 04 04.3 +1.0
KIZT Kizilcal 4.09 356 ePn Pn 05 04 04.3 +1.0
KHAL Karahalli 4.21 329 i P Pn 05 04 05.7 +0.8
KHAL i S Sn 05 04 52.3 -1.3
KHAL Karahalli 4.21 329 i P Pn 05 04 05.7 +0.8
KHAL i S Sn 05 04 52.3 -1.3
BDRM Kayabasi 4.52 302 i P Pn 05 04 09.3 +0.3
BDRM Kayabasi 4.52 302 i P Pn 05 04 09.3 +0.3
BDRM i S Sn 05 04 56.6 -4.5
AYDN Tasoluk 4.55 310 i P Pn 05 04 10.3 +0.7
AYDN i S Sn 05 05 01.2 -0.8
AYDN Tasoluk 4.55 310 i P Pn 05 04 10.3 +0.7
AYDN i S Sn 05 05 01.2 -0.8
KMRS Kahramanmaras 4.63 53 ePN Pn 05 04 12.1 +1.5
KMRS Kahramanmaras 4.63 53 ePn Pn 05 04 12.1 +1.5
ASF Jabal al Asfar 4.67 123 Pn Pn 05 04 12.0 +0.8
comp=N,1.5nm,0.3s,baz=270,slow=4.5,SNR=12
ASF Sn Sb 05 05 14.8 -4.2
comp=N,1.0nm,0.3s,baz=57,slow=20,SNR=5.7
BRTR Keskin Array B 5.05 12 Pn Pn 05 04 19.1 +2.7
comp=N,0.6nm,0.3s,baz=190,slow=16,SNR=21
BRTR Sn Sn 05 05 16.9 +2.6
comp=N,0.2nm,0.3s,baz=182,slow=24,SNR=5.2
EIL Elat 5.59 155 Pn Pn 05 04 24.4 +0.6
comp=N,1.5nm,0.3s,baz=3.8,slow=2.1,SNR=9.6
EIL Sn Sn 05 05 32.4 +4.9
comp=N,1.6nm,0.3s,baz=122,slow=21,SNR=3.2
DURS Dursunbey 5.67 329 i P Pn 05 04 25.6 +0.6
DURS Dursunbey 5.67 329 i P Pn 05 04 25.6 +0.6
DURS i S Sn 05 05 21.6 -8.0
IDI Anoyia 6.06 277 Pn Pn 05 04 28.9 -1.5
comp=N,0.3nm,0.3s,baz=144,slow=19,SNR=2.6
IDI Sn Sn 05 05 35.8 -3.5
comp=N,3.2nm,0.3s,baz=170,slow=22,SNR=7.4
AKASG Malin Array Be 16.06 353 Pn Pn 05 06 47.8 +1.6
comp=N,0.3nm,0.3s,baz=174,slow=9.6,SNR=4.0
GERES GERESS Array B 19.64 321 P P 05 07 27.5 -1.6
comp=N,0.1nm,0.3s,baz=128,slow=10,SNR=6.1
FINES FINESS Array B 26.96 353 P P 05 08 39.4 -2.4
comp=N,1.1nm,0.5s,baz=147,slow=13,SNR=4.2
ARCES ARCESS Array B 35.00 356 P P 05 09 50.0 -2.5
comp=N,2.0nm,0.8s,baz=171,slow=12,SNR=4.2
TORD Torodi Ar. Bea 35.04 240 P P 05 09 53.3 -0.1
comp=N,0.3nm,0.6s,baz=49,slow=6.7,SNR=5.5

IDC 23 05:34:00.1±2.9, 53.°91N×86.°57E, h0km, mb1 2.4/1, mb1mx2.4/34, mbtmp2.4/1, ML2.4/1, Error ellipse: s-maj=22.8km s-min=13.4km az=66.0, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.04 273 i 05 41 15.5
baz=90,slow=346
ZALV Zalesovo Beam 1.04 273 Pg Pg 05 34 19.0 -1.0
0.2nm,0.3s,baz=91,slow=15,SNR=5.4
ZALV Lg Lg 05 34 35.0
0.5nm,0.3s,baz=94,slow=30,SNR=6.4
MKAR Makanchi Array 7.63 203 Pn Pn 05 35 53.9 +1.4
0.1nm,0.3s,baz=23,slow=12,SNR=6.0

IDC 23 05:55:35.8±0.7, 23.°56S×175.°92W, h0km, mb4.5/17, mb1 4.6/19, mb1mx4.5/35, mbtmp4.5/19, ML4.7/2, MS3.6/1, Ms1 3.6/1, ms1mx3.2/32, Error ellipse: s-maj=22.4km s-min=17.2km az=147.0
ISCJB 23 05:55:38.4±0.4, 23.°78S±0.°06×175.°93W±0.°07, h31km, mb4.5/22, MS3.7/1, Error ellipse: s-maj=10.2km s-min=7.9km az=136.3
NEIC 23 05:55:40.8±0.4, 23.°70S×175.°90W, h35km, mb4.8/7, Error ellipse: s-maj=9.7km s-min=7.6km az=121.0
ISC 23 05:55:39.9±0.5, 23.°78S±0.°09×175.°81W±0.°08, h31km, n52, σ1.°12/44, mb4.6/22, 3C, Tonga Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 5.77 199 Sn Sn 05 58 08.5 0.0
34nm,0.3s,baz=90,slow=20,SNR=3.5
MSVF Nonsavu 8.32 315 ePn Pn 05 57 39.0 +0.5
111nm,1.0s
RAR Rarotonga 15.04 83 Pn Pn 05 59 11.2 +1.0
5.4nm,0.3s,baz=322,slow=5.0,SNR=4.7
URZ Urewera 15.65 201 Pn P 05 59 21.6 -0.3
1.5nm,0.3s,baz=283,slow=5.0,SNR=6.9
URZ Sn Sn 06 02 00.3 -10
0.2nm,0.3s,baz=184,slow=15,SNR=3.8
DZM Mont Dzumac 16.44 272 eLR LR 06 03 12.0
724nm,21.6s
DZM Mont Dzumac 16.44 272 Pn P 05 59 35.3 +4.4
0.4nm,0.3s,baz=100,slow=17,SNR=6.6
DZM Mont Dzumac 16.44 272 ePn Pn 05 59 27.6 -0.9
99nm,1.6s
TBI Tubuai 24.14 94 eT T 06 25 53.0
11nm,0.4s
PAE Paea 25.25 81 eT T 06 26 55.4
5.1nm,0.4s
PPT2 Papeete2 25.28 81 eS S 06 05 27.4 -0.4
74nm,25.5s
PPT2 eLR LR 06 07 19.1
487nm,23.0s
PPT2 Papeete2 25.28 81 eT T 06 27 02.9
5.6nm,0.3s
EIDS Eidsvold 30.11 260 eP P 06 01 46.5 -0.4
6.4nm,1.0s
CTA Charters Tower 35.32 268 P P 06 02 32.6 +0.1
6.3nm,0.5s,baz=89,slow=12
CTAO Charters Tower 35.32 268 eP P 06 02 31.7 -0.7
7.6nm,0.6s
RKT Rikitea 37.38 97 eT T 06 42 27.0
2.2nm,0.4s
PMG Port Moresby 38.12 286 P P 06 02 55.7 -0.7
6.6nm,0.5s,baz=102,slow=4.9,SNR=2.3
STKA Stephens Creek 38.33 248 P P 06 02 58.1 +0.1
3.1nm,0.8s,baz=83,slow=11,SNR=3.9
COEN Coen 39.90 277 eP P 06 03 09.7 -1.6
41nm,0.9s
AS31 Alice Springs 45.84 259 eP P 06 03 58.9 -0.5
ASAR Alice Springs 45.84 259 P P 06 03 58.7 -0.7
6.8nm,0.9s,baz=90,slow=8.6,SNR=42
WRAB Tennant Creek 46.24 265 eP P 06 04 01.2 -1.4
8.1nm,0.8s
WRA Warramunga Arr 46.24 265 P P 06 04 00.6 -2.0
11nm,0.9s,baz=100,slow=8.0,SNR=28
VNDA Vanda 54.86 186 P P 06 05 10.4 +3.6
2.9nm,1.0s,baz=41,slow=7.2,SNR=2.9
RPN Rapa Nui 59.48 108 LR LR 06 25 40.0
comp=Z,55nm,20.2s,baz=19,slow=30
MJAR Matsushiro Arr 74.04 323 P P 06 07 11.0 -1.7
0.9nm,0.6s,baz=164,slow=7.4,SNR=4.7
ASAJ Asahikawa 77.56 331 P P 06 07 33.3 +0.6
9.1nm,0.9s,baz=131,slow=19,SNR=3.1
PETK Petropavlovsk- 79.95 344 P P 06 07 45.3 -0.3
8.4nm,1.1s,baz=127,slow=9.3,SNR=5.6
KSRS Korea Array 80.67 318 P P 06 07 50.3 +0.5
1.3nm,0.7s,baz=153,slow=7.8,SNR=5.3
KSAR Wonju Array Be 80.69 318 P P 06 07 50.3 +0.4
NVAR Mina Array Bea 82.04 42 P P 06 07 57.5 +0.1
1.1nm,0.9s,baz=221,slow=9.8,SNR=6.4
H03N2 Juan Fernandez 82.63 123 T T 07 39 23.7
baz=246,slow=73,SNR=12
H03N3 Juan Fernandez 82.63 123 T T 07 39 22.6
baz=246,slow=73,SNR=11
H03N1 Juan Fernandez 82.65 123 T T 07 39 33.7
baz=246,slow=73,SNR=10
USRK Ussuriysk Arra 82.80 325 P P 06 08 01.7 +0.8
6.3nm,1.0s,baz=148,slow=3.9,SNR=9.1
TXAR Lajitas Array 87.14 56 P P 06 08 23.9 +0.7
1.7nm,0.8s,baz=218,slow=7.9,SNR=12
TRF Thorofare Moun 89.23 11 eP P 06 08 31.5 -0.9
4.4nm,0.6s
SEY Seymchan 90.02 346 P P 06 08 35.8 -0.1
3.2nm,1.0s,baz=163,slow=5.7,SNR=11
ILAR Eielson Array 91.06 12 P P 06 08 40.0 -0.8
1.2nm,1.0s,baz=221,slow=6.2,SNR=6.9
CMAR Chiang Mai Arr 93.11 289 P P 06 08 52.9 +1.6
6.8nm,0.9s,baz=130,slow=3.2,SNR=25
CHTO Chiang Mai 93.25 289 eP P 06 08 51.9 0.0
8.4nm,1.0s
YKA Yellowknife Ar 98.64 24 P P 06 09 14.6 -0.7
0.1nm,0.5s,baz=224,slow=5.2,SNR=6.4
FINES FINESS Array B 139.47 344 PKP PKPdf 06 15 12.0 +8.4
0.7nm,0.6s,baz=31,slow=3.2,SNR=3.3
AKASG Malin Array Be 146.85 331 PKPbc PKPdf 06 15 17.9 +1.0
7.2nm,0.9s,baz=38,slow=3.5,SNR=20
KIEV Kiev 146.86 331 ePKPdf PKPdf 06 15 17.5 +0.6
BRTR Keskin Array B 150.51 310 PKPbc PKPbc 06 15 28.6 -0.2
2.5nm,0.9s,baz=131,slow=2.3,SNR=10
BUR08 Bucovina Ar. S 150.89 330 ePKPbc PKPbc 06 15 30.8 +1.4
CLL Collm 151.69 348 ePKPdf PKPdf 06 15 25.0 +0.3
CLL ⇑i PKPbc PKPbc 06 15 30.9 -0.1
comp=Z,11nm,1.1s
CLL epPKPdf pPKPdf 06 15 35.0 +0.1
UPC Upice 151.78 344 ⇑ePKP PKPbc 06 15 32.2 +1.0
DPC Dobruska-Polom 151.84 343 ⇑ePKP PKPbc 06 15 32.1 +0.7
DPC ePKPAB PKPab 06 15 38.3 -2.2
DPC esPKP 06 15 56.4
BRG Berggiesshubel 151.91 347 eP PKPbc 06 15 32.0 +0.5
comp=Z,4.7nm,0.9s
BRG e 06 15 49.1
comp=Z,7.1nm,0.8s
GERES GERESS Array B 153.88 346 PKPbc PKPbc 06 15 36.3 +0.3
comp=Z,0.3nm,0.3s,baz=221,slow=1.0,SNR=4.6
TORD Torodi Ar. Bea 169.17 167 PKPab PKPab 06 16 56.3 -0.1
comp=Z,0.5nm,0.8s,baz=204,slow=3.4,SNR=2.4

IDC 23 06:02:31.6±0.6, 3.°23N×128.°60E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.1/40, mbtmp4.2/14, Error ellipse: s-maj=33.1km s-min=12.6km az=82.0
ISCJB 23 06:02:34.7±0.4, 3.°28N±0.°04×128.°96E±0.°05, h33km, mb4.3/22, Error ellipse: s-maj=7.5km s-min=5.1km az=14.4
NEIC 23 06:02:39.1±1.4, 3.°24N×128.°76E, h56km±12km, mb4.5/9, Error ellipse: s-maj=16.4km s-min=6.6km az=82.0
DJA 23 06:02:41.5±1.9, 3.°N±6.°×12.°9E±.°, h17km±18km, M4.7/10, mb5.0/7, mB5.2/4, MLv4.7/10, Mw(mB)4.6/4
ISC 23 06:02:36.8±0.5, 3.°24N±0.°06×128.°96E±0.°08, h35km, n64, σ0.°88/65, mb4.3/21, North of Halmahera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TNTI Ternate 2.92 213 P Pn 06 03 20.5 -0.4
TNTI Ternate 2.92 213 ePn Pn 06 03 20.6 -0.2
SGSI Sangihe 3.46 277 P Pn 06 03 28.1 -0.1
SGSI S Sn 06 04 09.4 +1.4
LBMI Labuha 4.12 201 P Pn 06 03 38.7 +1.4
DAV Davao City (W) 5.08 319 Pn Pn 06 03 51.6 +1.0
KMSI Cibinong 5.64 242 P Pn 06 03 58.5 +0.3
480nm,0.9s,1.6nm
SANI Sanana 6.04 210 P Pn 06 04 03.3 -0.4
62nm,0.9s,920nm0.2nm
NLAI Namlea 6.70 196 P Pn 06 04 13.3 +0.5
35nm,0.7s,2μm0.1nm
MRSI Marisa 7.54 249 P Pn 06 04 25.1 +0.8
212nm,0.8s,2μm0.7nm
APSI Ampana 8.39 241 P Pn 06 04 36.8 +0.7
221nm,1.0s,2μm0.6nm
MPSI Mapaga 9.51 253 P Pn 06 04 52.9 +1.6
KAPI Kappang 12.32 228 ePn Pn 06 05 29.4 -0.6
23nm,0.6s
BATI Baumata 14.36 202 Pn Pn 06 06 00.9 +3.1
7.5nm,0.3s,baz=105,slow=4.1,SNR=4.2
BATI LR LR 06 11 50.6
comp=Z,224nm,19.9s,baz=316,slow=39
JAGI Jajag, Banyuwa 18.80 232 eP P 06 06 52.8 -0.7
43nm,1.0s
SSLB Suanglung 21.85 340 eP P 06 07 26.8 +0.3
9.5nm,0.7s
WRAB Tennant Creek 23.63 167 eP P 06 07 45.8 +0.9
24nm,0.9s
WRA Warramunga Arr 23.63 167 P P 06 07 45.1 +0.1
7.3nm,0.8s,baz=344,slow=10,SNR=20
ASAR Alice Springs 27.17 170 P P 06 08 17.9 +0.7
1.4nm,0.7s,baz=351,slow=12,SNR=14
KSAR Wonju Array Be 34.05 358 P P 06 09 17.6 -0.1
KSRS Korea Array 34.06 359 P P 06 09 17.6 -0.2
0.9nm,0.4s,baz=180,slow=9.8,SNR=3.9
MJAR Matsushiro Arr 34.22 13 P P 06 09 18.5 -0.7
7.4nm,0.8s,baz=188,slow=10,SNR=16
MAT Matsushiro 34.22 13 P P 06 09 19.3 0.0
STKA Stephens Creek 36.93 162 P P 06 09 43.1 +0.6
3.8nm,0.6s,baz=344,slow=9.4,SNR=11
NWAO Narrogin (SRO) 37.65 196 P P 06 09 46.7 -1.9
2.7nm,0.5s,baz=26,slow=8.3,SNR=3.7
USRK Ussuriysk Arra 40.88 3 P P 06 10 16.0 +0.6
2.3nm,0.6s,baz=177,slow=6.5,SNR=7.1
LSA Lhasa 44.45 310 eP P 06 10 45.4 +0.2
5.6nm,0.5s
TAPN Taplejung 46.11 306 eP P 06 10 57.8 -0.5
23nm,0.9s
TAPN Taplejung 46.11 306 eP P 06 10 57.8 -0.5
ODAN Odare 46.17 305 eP P 06 10 58.3 -0.4
18nm,0.7s
ODAN Odare 46.17 305 eP P 06 10 58.3 -0.4
RAMN Ramite 46.86 304 eP P 06 11 03.9 -0.2
17nm,0.8s
RAMN Ramite 46.86 304 eP P 06 11 03.9 -0.2
JIRN Jiri 47.47 305 eP P 06 11 08.3 -0.7
20nm,0.7s
JIRN Jiri 47.47 305 eP P 06 11 08.3 -0.7
GUN Gumba 47.82 305 eP P 06 11 11.1 -0.6
23nm,0.7s
GUN Gumba 47.82 305 eP P 06 11 11.1 -0.6
PKI Pulchoki 48.08 305 eP P 06 11 12.8 -0.9
10nm,0.7s
PKI Pulchoki 48.08 305 eP P 06 11 12.8 -0.9
KKN Kakani 48.27 305 eP P 06 11 15.0 0.0
KKN Kakani 48.27 305 eP P 06 11 15.0 0.0
ULN Ulaanbaatar 48.30 340 eP P 06 11 14.3 -0.6
1.6nm,0.7s
DMN Daman 48.34 305 eP P 06 11 15.4 -0.2
20nm,0.9s
DMN Daman 48.34 305 eP P 06 11 15.4 -0.2
SONM Songino Array 48.50 340 P P 06 11 15.4 -0.9
0.8nm,0.7s,baz=152,slow=9.4,SNR=6.4
SONM PcP PcP 06 12 41.7 -0.3
0.7nm,0.7s,baz=158,slow=3.4,SNR=3.3
KOLN Koldanda 49.64 304 eP P 06 11 25.1 -0.4
37nm,0.7s
KOLN Koldanda 49.64 304 eP P 06 11 25.1 -0.4
DANN Dangsing 49.72 305 eP P 06 11 25.6 -0.6
56nm,0.8s
DANN Dangsing 49.72 305 eP P 06 11 25.6 -0.6
PYUN Piuthan 50.26 304 eP P 06 11 29.9 -0.4
42nm,0.5s
PYUN Piuthan 50.26 304 eP P 06 11 29.9 -0.4
PETK Petropavlovsk- 55.07 21 P P 06 12 06.8 +1.7
5.6nm,0.6s,baz=184,slow=4.3,SNR=15
MK31 Makanchi Array 59.24 324 eP P 06 12 34.2 -0.6
MKAR Makanchi Array 59.24 324 P P 06 12 34.3 -0.5
6.3nm,0.5s,baz=116,slow=8.1,SNR=160
ZALV Zalesovo Beam 62.05 332 P P 06 12 52.0 -1.6
1.4nm,0.7s,baz=106,slow=5.3,SNR=7.0
KURK Kurchatov 63.36 327 eP P 06 13 01.3 -1.2
3.9nm,0.6s
TIXI Tiksi 68.32 360 eP P 06 13 33.1 -0.9
5.8nm,0.6s
BVAR Borovoye Array 68.95 326 P P 06 13 37.3 -1.1

baz=124,slow=7.7
ABKAR Akbulak array 73.94 320 eP P 06 14 07.1 -1.5
0.6nm,0.4s
AKTO Aktyubinsk 75.43 321 P P 06 14 16.1 -1.1
1.4nm,0.7s,baz=90,slow=8.9,SNR=5.5
COLD Coldfoot 83.48 23 eP P 06 15 01.4 +0.8
4.8nm,0.9s
ILAR Eielson Array 84.59 25 P P 06 15 06.9 +0.6
0.5nm,0.6s,baz=235,slow=5.1,SNR=11
YKA Yellowknife Ar 99.01 25 P Pdif 06 16 13.9 +0.1
0.2nm,0.6s,baz=304,slow=4.1,SNR=6.0
TORD Torodi Ar. Bea 125.19 288 PKP PKPdf 06 21 34.2 -0.6
0.5nm,0.8s,baz=53,slow=1.9,SNR=3.7
CFAA Coronel Fontan 147.46 152 PKPbc PKPab 06 22 20.1 +0.3
0.3nm,0.8s,baz=260,slow=1.0,SNR=5.1

IDC **23** *06:04:56.6±0.5, 23.64S×175.84W, h0km, mb4.9/23, mb1 5.0/25, mb1mx4.8/39, mbtmp4.9/25, ML4.8/2, MS4.8/15, Ms1 4.8/15, ms1mx4.5/25, Error ellipse: s-maj=16.2km s-min=13.9km az=133.0*
ISCJB **23** *06:04:59.1±2.9, 23.81S±0.05×175.86W±0.04, h26km±20km, mb5.1/117, MS5.0/41, Error ellipse: s-maj=8.4km s-min=5.1km az=163.1*
NEIC **23** *06:05:01.9±0.2, 23.75S×175.87W, h35km, mb5.1/71, Error ellipse: s-maj=8.1km s-min=4.4km az=146.0*
GCMT **23** *06:05:01.9±0.1, 23.83S×175.82W, h21km, MW5.4/99, Moment Tensor Solution. s82,c131; s99,c181; Duration: 1.2 Moment tensor: Scale 10^17Nm; Mrr1.09±.03; Mθθ-0.11±.02; Mφφ-0.98±.02; Mrθ0.30±.04; Mθφ-0.36±.01; Mφr0.70±.03; Best double couple: M0 1.34100×10^17 NP1:φs22.00000°, δ62.00000°, λ92.00000°. NP2:φs198.00000°, δ28.00000°, λ86.00000°. Principal axes: T 1.3290, Plg73.0000°, Azm297.0000°; N 0.0220, Plg2.0000°, Azm201.0000°; P -1.3520, Plg17.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS **23** *06:05:01.7±1.1, 23.67S×175.93W, h42km, mb5.3/29, MS5.1/14 Error ellipse: s-maj=12.0km s-min=9.4km az=59.0*
SZGRF **23** *06:05:03.6, 23.01S×175.58W, h40km, mb5.2, Tonga Islands region*
BJI **23** *06:05:04.2, 23.21S×175.97W, h45km, mB5.5/36, mb5.2/43, Ms5.2/35, Ms7 4.9/37*
ISC 23 06:05:03.0±0.4, 23.80S±0.05×175.82W±0.06, h44km±2km, h44km:pP-P, n636, σ1.14/688, mb5.2/116, MS5.0/43, 156C-152D, Tonga Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 5.74 199 Pn Pn 06 06 25.6 -0.1
46nm,0.3s,baz=32,slow=24,SNR=4.8
RAO Sn Sn 06 07 28.8 -1.6
77nm,0.3s,baz=96,slow=23,SNR=7.8
MSVF Nonsavu 8.32 315 Pn Pn 06 07 05.0 +3.7
1μm,0.9s,SNR=29
MSVF Nonsavu 8.32 315 eP Pn 06 07 04.4 +3.1
MSVF Nonsavu 8.32 315 ePn Pn 06 07 04.4 +3.1
RAR Rarotonga 15.05 83 Pn Pn 06 08 21.7 -11
14nm,0.3s,baz=232,slow=8.7,SNR=14
RAR LR LR 06 14 40.7
comp=Z,4μm,18.4s,baz=256,slow=39
URZ Urewera 15.63 201 Pn Pn 06 08 40.5 +0.3
1.7nm,0.3s,baz=95,slow=2.4,SNR=9.2
URZ Sn Sn 06 11 21.0 -11
1.7nm,0.3s,baz=266,slow=24,SNR=6.7
URZ Urewera 15.63 201 ePn Pn 06 08 40.2 0.0
21nm,0.8s
URZ Sn Sn 06 11 21.0 -11
DZM Mont Dzumac 16.43 273 eP P 06 08 55.3 +2.5
237nm,1.6s
DZM eLR LR 06 12 38.4
5μm,23.5s
DZM Mont Dzumac 16.43 273 Pn P 06 08 55.1 +2.3
0.8nm,0.3s,baz=88,slow=18,SNR=17
DZM LR LR 06 12 52.9
comp=Z,1μm,20.0s,baz=108,slow=29
DZM Mont Dzumac 16.43 273 ePn Pn 06 08 51.2 +0.6
84nm,0.9s
BFZ Birch Farm 18.11 200 ePn P 06 09 08.8 -2.4
104nm,1.1s
LHI Lord Howe Isla 23.50 245 ⇓P P 06 10 11.5 +2.5
baz=25,SNR=4.4
TBI Tubuai 24.16 94 eT T 06 35 02.1
9.7nm,0.4s
PAE Paea 25.27 81 eT T 06 36 16.6
4.6nm,0.3s
PPT2 Papeete2 25.29 81 eS S 06 14 52.9 +4.1
3μm,23.5s
PPT2 eLR LR 06 16 41.6
3μm,22.5s,baz=246
PPT2 Papeete2 25.29 81 eT T 06 36 19.1
6.3nm,0.3s
PPT Papeete 25.30 81 LR LR 06 19 25.4
comp=Z,3μm,18.7s,baz=258,slow=34
MEH Mehetia 26.57 82 eT T 06 37 55.5
15nm,0.2s
ARMA Armidale 29.64 250 eP P 06 11 05.6 +1.0
230nm,2.5s
ARMA epP pP 06 11 15.4 -0.9
ARMA Armidale 29.64 250 P P 06 11 06.1 +1.5
baz=31,SNR=6.1
EIDS Eidsvold 30.10 260 P P 06 11 09.8 +1.3
baz=32,SNR=6.3
RMQ Roma 32.12 258 P P 06 11 28.0 +1.6
baz=34,SNR=6.2
CMSA Cobar Meteorol 34.81 249 P P 06 11 49.8 +0.1
baz=36,SNR=9.0
CTA Charters Tower 35.30 268 P P 06 11 53.5 -0.7
12nm,0.5s,baz=92,slow=10,SNR=20
CTAO Charters Tower 35.30 268 eP P 06 11 53.4 -0.7
CTAO pmax pmax
comp=Z,25nm,1.0s
CTAO Charters Tower 35.30 268 eP P 06 11 53.4 -0.7
comp=Z,25nm,1.0s
QLP Quilpie 36.15 257 ⇓P P 06 12 00.8 -0.5
baz=38,SNR=4.7
RKT Rikitea 37.39 97 eS S 06 18 04.0 +6.9
comp=Z,256nm,26.5s
RKT eLR LR 06 22 02.6
comp=Z,2μm,30.2s,baz=264
RKT Rikitea 37.39 97 eT T 06 51 35.9
comp=Z,3.7nm,0.4s
RKT Rikitea 37.39 97 eLR LR 06 12 58.0
comp=Z,327nm,23.5s
PMG Port Moresby 38.12 286 c iP P 06 12 17.1 -0.9
PMG pmax pmax
comp=Z,53nm,1.2s
PMG MLR MLR
comp=Z,2μm,16.0s
PMG Port Moresby 38.12 286 P P 06 12 17.2 -0.9
comp=Z,26nm,0.8s,baz=135,slow=11,SNR=6.1
PMG Port Moresby 38.12 286 eP P 06 12 17.4 -0.6
STKA Stephens Creek 38.31 248 P P 06 12 19.4 -0.1
comp=Z,12nm,1.1s,baz=92,slow=9.8,SNR=8.5
STKA Stephens Creek 38.31 248 ⇓P P 06 12 19.5 -0.1
baz=40,SNR=6.7
COEN Coen 39.89 277 eP P 06 12 32.8 -0.2
comp=Z,216nm,1.4s
COEN Coen 39.89 277 P P 06 12 33.7 +0.8
baz=42,SNR=9.3
HTT Hallett 40.60 246 P P 06 12 38.2 -0.5
baz=42,SNR=12
QIS Mount Isa 41.28 265 P P 06 12 43.8 -0.6
baz=43,SNR=6.7
BBOO Buckleboo 43.00 247 eP P 06 12 57.2 -1.1
comp=Z,4μm,2.8s
BBOO Buckleboo 43.00 247 P P 06 12 57.2 -1.1
baz=44,SNR=5.9
AS17 Alice Springs 45.74 260 ⇓P P 06 13 19.2 -1.1
baz=47
AS31 Alice Springs 45.82 260 eP P 06 13 19.9 -1.1
ASAR Alice Springs 45.82 260 P P 06 13 19.8 -1.2
comp=Z,14nm,0.9s,baz=93,slow=8.4,SNR=65
ASAR PcP PcP 06 14 57.9 0.0
comp=Z,1.7nm,0.8s,baz=109,slow=4.3,SNR=4.2
ASAR S S 06 19 59.3 -2.8
comp=Z,0.7nm,0.8s,baz=93,slow=17,SNR=2.6
ASAR LR LR 06 32 03.2
comp=Z,3μm,19.0s,baz=102,slow=36
WR0 Warramunga Arr 46.04 265 ⇓P P 06 13 20.9 -1.8
baz=48
WRAB Tennant Creek 46.22 265 P P 06 13 22.8 -1.3
comp=Z,182nm,1.0s,SNR=11
WRAB Tennant Creek 46.22 265 d iP P 06 13 22.4 -1.7
WRAB pmax pmax
comp=Z,82nm,1.0s
WRAB MLR MLR
comp=Z,4μm,19.0s
WRAB Tennant Creek 46.22 265 eP P 06 13 21.9 -2.2
comp=Z,39nm,1.1s
WRA Warramunga Arr 46.23 265 P P 06 13 22.1 -2.1
comp=Z,26nm,0.9s,baz=101,slow=8.3,SNR=72
WRA LR LR 06 32 03.1
comp=Z,2μm,19.6s,baz=105,slow=35
FORT Forrest 49.92 249 eP P 06 13 51.4 -1.2
comp=Z,46nm,0.7s
FORT Forrest 49.92 249 ⇑P P 06 13 50.8 -1.8
baz=51,SNR=25
KDU Kakadu 50.10 273 ⇑P P 06 13 52.5 -1.5
baz=52,SNR=5.9
WRKA Warakurna 50.59 256 P P 06 13 55.8 -2.0
baz=52,SNR=41
MTN Manton Dam 51.27 272 ⇓P P 06 14 00.8 -2.1
baz=53,SNR=4.0
KNRA Kununurra 52.51 268 ⇑P P 06 14 10.4 -1.7
baz=54,SNR=12
VNDA Vanda 54.83 186 P P 06 14 30.5 +2.3
comp=Z,9.6nm,0.9s,baz=0.8,slow=6.7,SNR=10
VNDA LR LR 06 35 28.8
comp=Z,469nm,19.7s,baz=18,slow=33
SWI Sorong 56.07 286 ⇓P P 06 14 36.9 -1.1
baz=58,SNR=4.8
SOEI Soe 58.66 273 eP P 06 14 55.7 -0.8
comp=Z,61nm,0.7s
BATI Baumata 59.04 272 P P 06 14 59.0 -0.1
comp=Z,37nm,0.6s,baz=170,slow=4.3,SNR=3.5
JCJ Chichijima 64.84 319 LR LR 06 39 25.6
comp=Z,1μm,20.8s,baz=126,slow=32
QSPA South Pole Qui 66.28 180 P P 06 15 47.7 +1.1
comp=Z,21nm,1.0s,baz=49,slow=2.7,SNR=32
MJAR Matsushiro Arr 74.05 323 P P 06 16 33.8 -0.6
comp=Z,9.2nm,0.9s,baz=164,slow=7.0,SNR=5.0
MJAR LR LR 06 44 38.7
comp=Z,557nm,21.7s,baz=160,slow=32
MAJO Matsushiro 74.05 323 P P 06 16 33.7 -0.7
MAJO pmax pmax
comp=Z,51nm,1.2s
MAJO MLR MLR
comp=Z,3μm,17.0s
KSM Kuching 75.87 278 eP P 06 16 45.4 0.0
comp=Z,14nm,0.7s
JNU Nakatsue 76.05 316 P P 06 16 45.4 -0.6
comp=Z,5.1nm,0.6s,baz=97,slow=4.3,SNR=4.9
JNU Nakatsue 76.05 316 eP P 06 16 45.7 -0.3
YUK Yuzh-Kuril'sk 76.09 333 c iP P 06 16 37.5 -8.4
YUK i SSS SSS 06 34 29.5
SSLB Suanglung 77.47 303 eP P 06 16 52.0 -2.1
comp=Z,11nm,0.8s
ASAJ Asahikawa 77.58 331 P P 06 16 54.2 -0.1
comp=Z,15nm,0.9s,baz=193,slow=8.1,SNR=8.1
PET Petropavlovsk 79.66 345 eP P 06 17 04.6 -0.9
PET eS S 06 26 58.8 -5.5
PET eSS SS 06 32 16.3 +2.2
PET pmax pmax
comp=Z,100nm,13.6s
PET MLR MLR
comp=Z,400nm,19.0s
ARVC Arvin 79.68 44 ⇓P P 06 17 06.5 +0.4
baz=80
YSS Yuzh-Sakhalins 79.74 333 eP P 06 17 06.8 +0.7
YSS e 06 17 11.1
YSS pmax pmax
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 79.74 333 eP P 06 17 06.4 +0.3
comp=Z,60nm,1.0s
MURC Murrieta 79.80 46 ⇑P P 06 17 07.0 +0.1
baz=80
BFSC Mount Baldy Ra 79.89 46 ⇑P P 06 17 07.1 -0.4
baz=80
MONP Monument Peak 79.90 47 ⇓P P 06 17 07.3 -0.3
baz=80
QZH Quanzhou 79.90 303 ⇑ iP P 06 17 07.4 -0.1
QZH eS S 06 27 08.1 +0.1
QZH LR LR
comp=Z,670nm,15.7s
QZH LR LR
comp=Z,860nm,16.0s
QZH LR LR
comp=Z,1μm,20.1s
VES Vestal, Richgr 79.97 44 ⇑P P 06 17 06.8 -0.8
baz=80,SNR=6.7
PETK Petropavlovsk- 79.97 344 P P 06 17 06.7 -0.5
comp=Z,12nm,0.7s,baz=146,slow=8.1,SNR=22
PETK LR LR 06 47 34.4
comp=Z,474nm,20.2s,baz=176,slow=32
EDW2 Edwards Air Fo 80.07 45 ⇓P P 06 17 07.5 -0.7
baz=80,SNR=5.8
RCTC Rector, Farmer 80.16 43 ⇑P P 06 17 08.9 +0.3
baz=80
ISA Isabella 80.24 44 eP P 06 17 08.7 -0.5
ISA pmax pmax
comp=Z,12nm,1.1s
ISA Isabella 80.24 44 eP P 06 17 08.7 -0.5
comp=Z,12nm,1.1s
ISA Isabella 80.24 44 ⇑P P 06 17 09.3 0.0
baz=80
PFO Pinyon Flat Ob 80.31 47 P P 06 17 08.9 -0.8
comp=Z,8.1nm,1.1s,baz=231,slow=4.5,SNR=5.7
PFO Pinyon Flat Ob 80.31 47 ⇑P P 06 17 09.6 0.0
baz=80
CMB Columbia Colle 80.55 41 eP P 06 17 10.5 -0.3
CMB pmax pmax
comp=Z,35nm,1.7s
CMB Columbia Colle 80.55 41 eP P 06 17 10.5 -0.3
comp=Z,35nm,1.7s
LRMC Laurel Mountai 80.63 45 ⇓P P 06 17 11.7 +0.3
baz=81
KSRS Korea Array 80.68 318 P P 06 17 12.1 +0.6
comp=Z,3.0nm,0.7s,baz=139,slow=5.7,SNR=13
KSRS LR LR 06 48 22.2
comp=Z,682nm,20.6s,baz=130,slow=32
KSAR Wonju Array Be 80.70 318 P P 06 17 12.1 +0.6
KSAR Wonju Array Be 80.70 318 P P 06 17 12.1 +0.6
BELC Belle Mtn. Jos 80.84 47 ⇑P P 06 17 12.4 -0.2
baz=81
WDC Whiskeytown Da 80.96 38 eP P 06 17 13.2 +0.3
WDC pmax pmax
comp=Z,15nm,1.4s
WDC Whiskeytown Da 80.96 38 eP P 06 17 13.2 +0.3
comp=Z,15nm,1.4s
GSC Goldstone 81.09 45 eP P 06 17 12.8 -1.0
GSC pmax pmax
comp=Z,24nm,1.7s
GSC Goldstone 81.09 45 eP P 06 17 12.8 -1.0
comp=Z,24nm,1.7s
GSC Goldstone 81.09 45 ⇑P P 06 17 13.8 -0.1
baz=81
N02D Trinity Center 81.13 38 ⇑P P 06 17 14.5 +0.6
baz=81
MTUM Tungsten Hills 81.24 43 eP P 06 17 15.2 +0.5
MLAC Mammoth Lakes 81.24 42 ⇓P P 06 17 14.9 +0.1
baz=82
SSE Sheshan 81.34 309 P P 06 17 15.3 +0.2
SSE pP pP 06 17 29.9 +1.8
SSE pmax pmax
comp=Z,9.0nm,0.7s
SSE pmax pmax
comp=Z,150nm,10.3s
SSE LR LR
comp=Z,83nm,19.4s
SSE LR LR
comp=Z,160nm,19.8s
SSE LR LR
comp=Z,210nm,17.8s
WAKR Walker 81.43 41 eP P 06 17 14.8 -0.9
IRM Iron Mountain 81.50 47 ⇓P P 06 17 15.9 -0.1
baz=82
GMRC Granite Mounta 81.53 46 ⇓P P 06 17 15.7 -0.5
baz=82
113A Mohawk Valley, 81.64 49 ⇓P P 06 17 16.3 -0.3
baz=82
YBH Yreka Blue Hor 81.64 37 P P 06 17 16.3 -0.3
comp=Z,2.9nm,0.7s,baz=80,slow=7.2,SNR=8.5
TUQ Turquoise Moun 81.75 46 ⇓P P 06 17 17.0 -0.4
baz=82
FURC Furnace Creek, 81.77 44 ⇓P P 06 17 16.7 -0.5
baz=82
GRAC Grapevine Rang 81.77 44 ⇓P P 06 17 17.1 -0.2
baz=82
SHOC Shoshone 81.80 45 ⇓P P 06 17 17.2 -0.2
baz=82
NVAR Mina Array Bea 82.07 42 P P 06 17 18.4 -0.6
comp=Z,4.9nm,0.8s,baz=224,slow=9.2,SNR=33
M04C Macdoel 82.16 38 ⇓P P 06 17 19.9 +0.6
baz=82
PDMCI Parker Dam,Lak 82.26 47 ⇑P P 06 17 19.6 -0.3
baz=82
TPH Tonopah 82.52 43 eP P 06 17 20.9 -0.5
TPH pmax pmax
comp=Z,27nm,1.5s
TPH Tonopah 82.52 43 eP P 06 17 20.9 -0.5
comp=Z,27nm,1.5s
Z14A Wintersburg 82.54 49 ⇓P P 06 17 21.4 0.0
baz=83
H03N2 Juan Fernandez 82.63 123 T T 07 48 52.0
baz=246,slow=72,SNR=17
H03N3 Juan Fernandez 82.63 123 T T 07 49 14.2
baz=246,slow=72,SNR=14
H03N1 Juan Fernandez 82.65 123 T T 07 49 12.2
baz=246,slow=72,SNR=20
USRK Ussuriysk Arra 82.81 325 P P 06 17 23.1 +0.6
comp=Z,22nm,1.0s,baz=115,slow=3.3,SNR=30
Y14A Wickenburg 82.83 48 ⇓P P 06 17 22.4 -0.5
baz=83,SNR=6.3
SHPR Sheep Range 82.88 45 eP P 06 17 23.1 -0.2
W13A Hualapai Mount 82.90 47 ⇓P P 06 17 23.0 -0.5
baz=83,SNR=6.6
J04D Umpqua Nationa 82.98 36 ⇑P P 06 17 24.3 +0.6
baz=83
MOD Modoc 83.10 38 eP P 06 17 24.0 -0.3
comp=Z,16nm,1.3s
I04A Tendick Farm, 83.19 36 ⇑P P 06 17 25.4 +0.8
baz=83
K05A Summer Lake 83.31 37 eP P 06 17 25.1 -0.2
comp=Z,35nm,1.2s
TUC Tucson 83.46 51 eP P 06 17 24.8 -1.4
TUC pmax pmax
comp=Z,14nm,1.3s
TUC Tucson 83.46 51 eP P 06 17 24.8 -1.4
comp=Z,14nm,1.3s
J05D Fort Rock, OR 83.49 37 ⇑P P 06 17 26.5 +0.3
baz=84
NJ2 Nanjing 83.53 309 eP P 06 17 26.6 +0.1
NJ2 pmax pmax
comp=Z,30nm,1.1s
R11A Troy Canyon, C 83.71 43 eP P 06 17 27.1 -0.4
comp=Z,26nm,2.1s
R11A Troy Canyon, C 83.71 43 ⇑P P 06 17 27.4 -0.2
baz=84
SYO Syowa Base 83.95 192 ⇑eP P 06 17 27.2 -0.9
BMN Battle Mountai 83.97 41 eP P 06 17 29.3 +0.5
BMN pmax pmax
comp=Z,56nm,2.2s
BMN Battle Mountai 83.97 41 eP P 06 17 29.3 +0.5
comp=Z,56nm,2.2s
319A Douglas 84.03 52 ⇑P P 06 17 29.3 0.0
baz=84
QIZ Qiongzhong 84.04 294 P P 06 17 29.8 +0.4
QIZ sP sP 06 17 46.3 -1.1
QIZ PP PP 06 20 40.1 -3.9
QIZ S S 06 27 51.6 +0.8
QIZ SS SS 06 33 18.8 -1.7
QIZ pmax pmax
comp=Z,9.0nm,1.6s
QIZ pmax pmax
comp=Z,180nm,9.7s
QIZ LR LR
comp=Z,170nm,17.9s
QIZ LR LR
comp=Z,340nm,19.1s
I05D Terrebonne, OR 84.13 36 ⇑P P 06 17 29.6 +0.3
baz=84
X16A Lo Mia Camp, P 84.17 49 ⇑P P 06 17 29.9 0.0
baz=84
HABR Khabarovsk 84.30 330 eP P 06 17 29.7 -0.3
HABR *SP sP 06 17 50.1 +2.1
HABR eS SKSac 06 27 47.9 -1.9
HABR pmax pmax
comp=Z,22nm,2.0s
HABR MLR MLR
comp=Z,380nm,18.0s
MDJ Mudanjiang 84.37 324 P P 06 17 31.8 +1.3
MDJ pP pP 06 17 44.0 +0.4
MDJ sP sP 06 17 48.0 -0.5
MDJ S SKKSac 06 27 56.3 +0.3
MDJ pmax pmax
comp=Z,26nm,1.3s
MDJ pmax pmax
comp=Z,190nm,5.4s
MDJ LR LR
comp=Z,190nm,17.5s
MDJ LR LR
comp=Z,470nm,20.5s
MDJ LR LR
comp=Z,530nm,17.0s
CCUT Cedar City 84.66 45 eP P 06 17 32.8 +0.3
comp=Z,11nm,0.9s
SNAA Sanae 84.66 178 P P 06 17 31.5 -0.2
SNAA Sanae 84.66 178 ⇓ iP P 06 17 32.2 +0.4
SNAA pmax pmax
comp=Z,29nm,1.7s
SNAA MLR MLR
comp=Z,326nm,17.0s
SNAA Sanae 84.66 178 eP P 06 17 31.1 -0.7
comp=Z,17nm,1.0s
VNA3 Neumayer Olymp 84.72 176 P P 06 17 31.7 -0.4
U15A North Rim 84.72 46 ⇑P P 06 17 32.8 -0.1
baz=85,SNR=29
ARUT Antelope Range 84.75 45 eP P 06 17 32.9 +0.1
ARUT Antelope Range 84.75 45 eP P 06 17 32.9 +0.1
comp=Z,205nm,1.1s
WUAZ Wupatki 84.82 48 eP P 06 17 33.3 0.0
comp=Z,24nm,1.4s
WUAZ Wupatki 84.82 48 ⇑P P 06 17 33.1 -0.1
baz=85,SNR=6.9
I07A Izee 84.96 37 eP P 06 17 33.2 -0.4
comp=Z,11nm,1.1s
G06A Carlson Farm, 85.09 36 eP P 06 17 33.4 -0.8
comp=Z,38nm,1.6s
VNA2 Neumayer--Watz 85.18 176 P P 06 17 34.2 -0.1
baz=153,slow=2.1
X18A Snowflake 85.26 49 ⇑P P 06 17 35.4 -0.1
baz=85,SNR=7.2
ELK Elko 85.36 42 eP P 06 17 36.3 +0.4
ELK pmax pmax
comp=Z,8.0nm,1.4s
ELK Elko 85.36 42 eP P 06 17 36.3 +0.4
comp=Z,7.5nm,1.4s
VNA1 Neumayer--Stat 85.40 176 P P 06 17 35.8 +0.4
DL2 Dalian 85.50 316 eP P 06 17 39.4 +3.1
DL2 eS S 06 28 08.9 +4.3
DL2 pmax pmax
comp=Z,190nm,5.9s
DL2 LR LR
comp=Z,290nm,20.6s
NVL N'lazarevskaya 85.54 183 eP P 06 17 38.1 +2.0
NVL eS S 06 28 08.6 +4.5
NVL pmax pmax
comp=Z,3.0nm,0.3s
IPM Ipoh 85.54 277 eP P 06 17 37.0 -0.1
comp=Z,9.9nm,0.7s
PLCA Paso Flores 85.55 133 LR LR 06 48 46.0
comp=Z,292nm,19.7s,baz=272,slow=31
D05A Enumclaw 85.69 34 eP P 06 17 38.2 +1.2
comp=Z,44nm,1.4s
121A Cookes Peak, D 85.72 52 eP P 06 17 37.2 -0.6
comp=Z,22nm,1.4s
121A Cookes Peak, D 85.72 52 ⇑P P 06 17 37.7 -0.1
baz=86
W18A Petrified Fore 85.72 49 eP P 06 17 38.2 +0.5
comp=Z,56nm,1.8s
W18A Petrified Fore 85.72 49 ⇑P P 06 17 38.1 +0.3
baz=86
WHN Wuhan 86.01 306 P P 06 17 36.8 -2.2
WHN S S 06 28 14.8 +4.9
WHN LR LR
comp=Z,620nm,19.0s
G08A Pilot Rock 86.03 36 eP P 06 17 38.3 -0.6
comp=Z,33nm,1.7s
UBPT Khong Chiam 86.10 288 P P 06 17 42.4 +2.6
comp=Z,18nm,0.8s
CN2 Changchun 86.13 322 eP P 06 17 39.8 +0.5
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s

CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
E07A Sunnyside 86.37 35 eP P 06 17 40.0 -0.4
comp=Z,19nm,1.3s
KLR Kul'dur 86.38 329 eP P 06 17 37.6 -2.8
KLR pmax pmax
comp=Z,45nm,1.6s
HAWA Hanford 86.43 35 eP P 06 17 41.5 +0.8
BMO Blue Mountains 86.66 37 eP P 06 17 43.3 +1.3
comp=Z,9.9nm,1.5s
Z22A Elephant Butte 86.69 52 ⇓P P 06 17 42.6 +0.1
baz=87
PSI Prapat 86.78 274 P P 06 17 43.1 -0.2
comp=Z,9.0nm,0.8s,baz=189,slow=4.5,SNR=12
TIA Tai'an 86.98 312 ⇓P P 06 17 44.9 +1.2
TIA pmax pmax
comp=Z,30nm,1.2s
TMUT Trail Mountain 87.04 45 eP P 06 17 44.7 +0.4
comp=Z,15nm,1.0s
MNTX Cornudas Mount 87.04 54 eP P 06 17 43.1 -1.1
comp=Z,11nm,1.0s
TXAR Lajitas Array 87.16 56 P P 06 17 44.2 -0.6
comp=Z,3.9nm,0.8s,baz=218,slow=7.9,SNR=29
TXAR LR LR 06 51 22.5
comp=Z,618nm,19.0s,baz=0.0,slow=32
D08A Wollman Farm, 87.18 35 eP P 06 17 44.5 +0.1
comp=Z,10nm,1.0s
E09A Wood Farm, Sta 87.25 36 eP P 06 17 44.4 -0.3
comp=Z,17nm,1.3s
GAMB Gambell 87.34 2 eP P 06 17 44.8 +0.1
comp=Z,36nm,1.6s
SRU San Rafael 87.38 45 eP P 06 17 45.6 -0.2
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael 87.38 45 eP P 06 17 45.6 -0.2
comp=Z,8.9nm,0.9s
F10A Beach Ranch, E 87.41 37 eP P 06 17 44.2 -1.4
comp=Z,9.1nm,1.0s
GSI Gunungsitoli 87.41 273 eP P 06 17 48.1 +1.8
comp=Z,65nm,0.9s
HLID Hailey 87.53 40 eP P 06 17 48.6 +2.2
comp=Z,3.2nm,1.0s
HLID Hailey 87.53 40 ⇑P P 06 17 47.1 +0.7
baz=88
Y23A Lovelace Mesa, 87.68 51 ⇑P P 06 17 46.8 -0.6
baz=88,SNR=8.4
MVCO Mesa Verde 87.69 47 ⇓P P 06 17 47.5 +0.1
baz=88
B08A Colville Reser 87.81 34 eP P 06 17 45.8 -1.6
comp=Z,7.2nm,1.0s
B08A epP pP 06 18 01.2 +0.7
Z24A Sheeppen Canyo 87.88 52 ⇑P P 06 17 47.6 -0.7
baz=88,SNR=5.7
ANMO Albuquerque 87.92 50⇓/P P 06 17 48.1 -0.4
ANMO pmax pmax
comp=Z,112nm,2.5s
ANMO MLR MLR
comp=Z,6µm,18.0s
ANMO Albuquerque 87.92 50 eP P 06 17 47.7 -0.8
X23A Hourglass Bar 87.92 51 ⇑P P 06 17 48.6 +0.1
baz=88
TCUT Toone Canyon 87.94 43 eP P 06 17 48.4 -0.1
comp=Z,36nm,1.4s
C09A Chrisman Ranch 88.00 35 eP P 06 17 47.9 -0.4
comp=Z,20nm,1.4s
C09A epP pP 06 18 02.6 +1.1
V22A San Miguel Ran 88.10 49 ⇓P P 06 17 49.3 -0.1
baz=88
Y24A Capitan 88.12 52 ⇑P P 06 17 49.1 -0.4
baz=88,SNR=19
BMRM Bremner River 88.18 15 eP P 06 17 49.0 +0.1
comp=Z,19nm,0.9s
BMRM epP pP 06 18 01.2 -0.9
W23A Werner Place, 88.24 50 ⇓P P 06 17 49.8 -0.2
baz=88
Z25A Roswell 88.32 52 ⇓P P 06 17 50.2 -0.1
baz=88
U22A Llaves 88.38 49 ⇓P P 06 17 50.4 -0.2
baz=89
X24A Lazy VL Ranch, 88.45 51 ⇑P P 06 17 50.9 -0.1
baz=89
V23A Ortiz Mt. (NFS 88.52 50 ⇑P P 06 17 51.2 -0.1
baz=89
529A Stev Forest Ra 88.64 56 ⇑P P 06 17 51.5 -0.3
baz=89
Y25A Mesa, Roswell 88.66 52 ⇓P P 06 17 51.1 -0.8
baz=89,SNR=7.6
W24A Lazy 6 Ranch, 88.79 51 ⇓P P 06 17 52.0 -0.6
baz=89,SNR=6.9
U23A El Rito 88.81 49 ⇑P P 06 17 53.1 +0.4
baz=89
Z26A Caprock 88.85 53 ⇑P P 06 17 52.1 -0.7
baz=89,SNR=7.0
NEW Newport 88.89 35 ⇓P P 06 17 52.3 -0.2
baz=89
X25A Clemmons Ranch 88.98 51 ⇓P P 06 17 52.4 -1.1
baz=89,SNR=6.6
S22A 4UR Ranch, Cre 89.10 48 ⇓P P 06 17 53.7 -0.4
baz=89,SNR=8.3
429A Davenport Ranc 89.13 56 ⇑P P 06 17 53.1 -1.0
baz=89,SNR=9.3
V24A Rampart Ranch, 89.15 50 ⇓P P 06 17 54.3 0.0
baz=89
KTH Kantishna Hill 89.24 11 eP P 06 17 52.0 -1.8
comp=Z,14nm,1.0s
TRF Thorofare Moun 89.26 11 eP P 06 17 52.8 -1.3
comp=Z,15nm,0.7s
T23A Casias Ranch, 89.28 49 ⇓P P 06 17 54.9 0.0
baz=90
TNA Tin City 89.28 3 eP P 06 17 53.5 -0.3
comp=Z,66nm,2.0s
Y26A Elida 89.28 52 ⇓P P 06 17 53.6 -1.2
baz=90,SNR=6.4
228A UT Block 9, Go 89.32 54 ⇑P P 06 17 55.4 +0.4
baz=90
530A J-C Ranch, Com 89.33 57 ⇑P P 06 17 55.2 +0.2
baz=90
O20A White River Ci 89.42 45 ⇓P P 06 17 56.0 +0.6
baz=90
Z27A Tatum 89.43 53 ⇓P P 06 17 55.9 +0.4
baz=90
W25A X Bar L Ranch, 89.47 51 ⇓P P 06 17 55.0 -0.7
baz=90,SNR=11
329A Wagon Wheel Ra 89.47 55 ⇑P P 06 17 56.1 +0.3
baz=90
832A Faith Ranch, C 89.52 59 ⇑P P 06 17 55.5 -0.5
baz=90
631A Perdido Creek 89.57 58 ⇑P P 06 17 55.7 -0.4
baz=90
X26A CR and CF Fran 89.60 52 ⇓P P 06 17 55.7 -0.6
baz=90
128A Castleberry Fa 89.64 54 ⇓P P 06 17 56.1 -0.4
baz=90
DLMT Dillon 89.64 39 eP P 06 17 56.2 -0.1
comp=Z,33nm,1.9s
BJI Beijing 89.64 315 P P 06 17 56.8 +0.6
BJI S S 06 28 44.5 +0.3
BJI pmax pmax
comp=Z,17nm,1.5s
BJI pmax pmax
comp=Z,240nm,4.6s
BJI LR LR
comp=Z,270nm,19.8s
BJI LR LR
comp=Z,280nm,19.2s
BJI LR LR
comp=Z,250nm,24.7s
V25A Rancho No Teng 89.66 50 ⇑P P 06 17 55.9 -0.7
baz=90,SNR=7.5
430A Baggett Ranch, 89.70 56 ⇑P P 06 17 55.8 -1.0
baz=90
732A Laxson Ranch, 89.73 58 ⇑P P 06 17 56.7 -0.2
baz=90
MSO Missoula 89.73 37 ⇓P P 06 17 57.1 +0.5
baz=90
T24B San Luis 89.74 49 ⇓P P 06 17 56.7 -0.4
baz=90
Y27A Causey 89.75 53 ⇓P P 06 17 56.0 -1.0
baz=90,SNR=6.9
SMCO Snowmass 89.75 46 eP P 06 17 56.6 -0.6
comp=Z,6.1nm,1.1s
PAX Paxson 89.76 13 eP P 06 17 55.7 -0.6
PAX pmax pmax
comp=Z,11nm,1.2s

PAX Paxson 89.76 13 eP P 06 17 55.7 -0.6
comp=Z,11nm,1.2s
MCK McKinley 89.76 12 eP P 06 17 56.0 -0.2
MCK pmax pmax
comp=Z,17nm,1.0s
MCK McKinley 89.76 12 eP P 06 17 56.0 -0.2
comp=Z,17nm,1.0s
N20A Spence Gulch, 89.78 45 ⇓P P 06 17 57.1 -0.1
baz=90
IMW Indian Meadow 89.78 41 eP P 06 17 58.0 +0.8
comp=Z,7.7nm,1.3s
LOHW Long Hollow 89.83 41 eP P 06 17 57.7 +0.4
comp=Z,22nm,1.9s
W26A Owens Ranch, T 89.90 51 ⇑P P 06 17 58.0 +0.3
baz=90
531A Rocksprings 89.94 57 ⇑P P 06 17 58.2 +0.3
baz=90
034A Hebbronville 89.99 60 ⇑P P 06 17 58.5 +0.4
baz=90
833A Chaparral WMA, 89.99 59 ⇓P P 06 17 58.5 +0.4
baz=90
SDCO Great Sand Dun 90.01 48 eP P 06 17 57.7 -0.7
comp=Z,4.2nm,0.8s
R23A Moffat 90.01 48 ⇓P P 06 17 58.6 +0.2
baz=90
I17A Pilgrim Ck. 90.01 41 ⇓P P 06 17 58.7 +0.6
baz=90
QLMT Earthquake Lak 90.02 40 eP P 06 18 00.9 +2.8
GYA Guiyang 90.02 299 P P 06 17 59.3 +0.9
GYA pP pP 06 18 13.6 +1.9
GYA PP PP 06 21 35.0 +2.7
GYA SKS SKSac 06 28 23.3 -2.9
GYA S S 06 28 47.9 -0.7
GYA sS sS 06 29 10.4 -0.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
GYA LR LR
comp=Z,560nm,20.8s
GYA LR LR
comp=Z,510nm,22.2s
GYA LR LR
comp=Z,590nm,21.5s
Z28A Tucker Farm, M 90.03 53 ⇑P P 06 17 58.1 -0.2
baz=90
FLWY Flagg Ranch 90.03 41 eP P 06 17 59.1 +0.9
comp=Z,47nm,1.7s
330A Mertzon 90.04 56 ⇓P P 06 17 59.1 +0.7
baz=90
MSTX Muleshoe 90.07 53 eP P 06 17 58.0 -0.5
comp=Z,15nm,1.0s
MSTX Muleshoe 90.07 53 ⇑P P 06 17 58.3 -0.2
baz=90
U25A Circle Dot Ran 90.09 50 ⇑P P 06 17 58.5 -0.1
baz=90,SNR=5.4
129A Stewart Farms, 90.10 54 ⇓P P 06 17 58.9 +0.3
baz=90
P22A Eagle 90.11 46 ⇓P P 06 17 58.9 +0.2
baz=90
MENT Mentasta 90.11 14 eP P 06 17 57.6 -0.3
431A Sonora 90.14 56 ⇓P P 06 17 59.0 +0.2
baz=90
S24A Houchin Ranch, 90.15 48 ⇑P P 06 17 59.0 -0.1
baz=90
X27A F and S Farms, 90.16 52 ⇓P P 06 17 58.8 -0.1
baz=90
CHMT Chamberlain Mo 90.17 37 eP P 06 18 00.2 +1.5
YMR Madison River 90.20 40 eP P 06 18 00.3 +1.4
comp=Z,25nm,1.4s
SLMT Seeley Lake 90.22 37 eP P 06 18 00.7 +1.8
632A Uvalde 90.23 58 ⇑P P 06 17 59.3 +0.1
baz=90
V26A Tequesquite Ra 90.23 51 ⇓P P 06 17 58.7 -0.5
baz=90,SNR=5.8
H17A Grant Village 90.28 41 ⇑P P 06 18 00.3 +0.9
baz=90
BOZ Bozeman (W) 90.36 39 eP P 06 18 00.1 +0.5
BOZ pmax pmax
comp=Z,17nm,1.3s
BOZ Bozeman (W) 90.36 39 eP P 06 18 00.1 +0.5
comp=Z,17nm,1.3s
W27A Bowe Ranch, En 90.39 52 ⇑P P 06 17 59.2 -0.8
baz=91,SNR=5.9
532A Rocksprings 90.42 57 ⇑P P 06 17 59.3 -0.8
baz=91,SNR=9.1
Y28A McKinney Farm, 90.42 53 ⇑P P 06 17 59.5 -0.6
baz=91
T25A Trinidad 90.45 49 ⇑P P 06 17 59.8 -0.6
baz=91
Z29A Hungry Hill Ra 90.52 54 ⇓P P 06 17 60.0 -0.6
baz=91
R24A Sanders Place, 90.52 48 ⇓P P 06 18 00.7 +0.1
baz=91
O22A Kremmling 90.54 46 ⇑P P 06 17 59.8 -1.0
baz=91
U26A Atchley Ranch, 90.55 50 ⇓P P 06 17 59.4 -1.4
baz=91,SNR=6.6
331A San Angelo 90.56 56 ⇓P P 06 18 00.6 -0.2
baz=91
PBKT Sadao Pong 90.57 288 P P 06 18 03.0 +2.0
comp=Z,21nm,1.3s
834A Tilden 90.57 59 ⇑P P 06 18 00.4 -0.4
baz=91
J19A Crowheart 90.58 42 ⇓P P 06 18 00.6 -0.2
baz=91
JCT Junction City 90.66 57 eP P 06 18 01.3 +0.1
JCT pmax pmax
comp=Z,41nm,1.9s
JCT Junction City 90.66 57 eP P 06 18 01.3 +0.1
comp=Z,40nm,1.9s
JCT Junction City 90.66 57 ⇓P P 06 18 01.4 +0.2
baz=91
DOT Dot Lake 90.66 14 eP P 06 18 00.3 -0.1
comp=Z,13nm,1.0s
S25A Robets Cordova 90.69 49 ⇓P P 06 18 01.1 -0.3
baz=91
LOEI Loei 90.70 289 P P 06 18 01.6 0.0
comp=Z,12nm,1.1s,comp=Z,634nm
X28A Dimmitt 90.75 52 ⇑P P 06 18 01.8 +0.2
baz=91
Y29A Porterfield Fa 90.82 53 ⇑P P 06 18 01.9 -0.1
baz=91
432A Menard 90.85 57 ⇑P P 06 18 01.2 -0.9
baz=91
HRY Holter Researc 90.85 38 eP P 06 18 03.1 +1.3
Q24A Divide 90.86 47 ⇓P P 06 18 02.5 +0.2
baz=91
V27A Dan Oppiter Fa 90.89 51 ⇑P P 06 18 02.8 +0.6
baz=91
N22A Wattenberg Ran 90.93 45 ⇑P P 06 18 02.5 0.0
baz=91
231A Bronte 90.94 55 ⇑P P 06 18 02.0 -0.5
baz=91
Z30A Sanderson Ranc 90.95 54 ⇑P P 06 18 02.0 -0.6
baz=91
ISCO Idaho Springs 90.97 46 ⇓P P 06 18 02.7 -0.1
baz=91
H18A Shoshone NF, C 90.98 41 ⇑P P 06 18 03.1 +0.4
baz=91
O23A Lake Granby, G 90.98 46 ⇑P P 06 18 02.5 -0.3
baz=91
COLA College 91.00 12ceP P 06 18 01.1 -0.8
COLA pmax pmax
comp=Z,57nm,1.0s
COLA College 91.00 12 eP P 06 18 00.7 -1.2
comp=Z,14nm,1.0s
I19A Meeteetse 91.03 42 ⇓P P 06 18 02.9 +0.1
baz=91
T26A Comanche Natio 91.04 50 ⇓P P 06 18 02.2 -0.8
baz=91
R25A Fountain Ranch 91.04 48 ⇑P P 06 18 02.1 -0.9
baz=91
IM04 Indian Mountai 91.06 9 eP P 06 18 01.4 -0.9
WALA Waterton Lakes 91.06 35 eP P 06 18 03.0 +0.2
comp=Z,0.9nm,1.6s
533A Kerrville 91.06 58 ⇑P P 06 18 02.5 -0.6
baz=91
X29A Tulia 91.08 53 ⇓P P 06 18 03.1 -0.1
baz=91
ILAR Eielson Array 91.09 12 P P 06 18 01.0 -1.4
comp=Z,3.5nm,0.9s,baz=221,slow=5.1,SNR=22
W28A Vega 91.10 52 ⇑P P 06 18 02.6 -0.7
baz=91
332A Millersview 91.12 56 ⇑P P 06 18 02.7 -0.6
baz=91
U27A Thompson Grove 91.21 50 ⇑P P 06 18 03.2 -0.6
baz=91

J20A Shoshoni 91.22 42 ⇓P P 06 18 03.8 +0.1
baz=91
AMTX Amarillo 91.30 52 eP P 06 18 03.9 -0.3
comp=Z,10nm,1.1s
AMTX Amarillo 91.30 52 ⇓P P 06 18 03.6 -0.6
baz=92
V28A Channing 91.32 51 ⇑P P 06 18 03.7 -0.6
baz=92
433A Art 91.33 57 ⇓P P 06 18 03.9 -0.4
baz=92,SNR=6.0
S26A Kim 91.34 49 ⇑P P 06 18 04.2 -0.1
baz=92
K21A Alcova 91.37 43 ⇑P P 06 18 04.6 +0.1
baz=92
H19A Powell 91.38 41 ⇓P P 06 18 04.4 +0.1
baz=92
UTTA Uttaradit 91.41 289 P P 06 18 06.9 +2.0
comp=Z,5.3nm,1.0s
232A Coleman 91.42 56 ⇓P P 06 18 04.0 -0.8
baz=92,SNR=7.1
W29A Amraillo 91.44 52 ⇓P P 06 18 04.5 -0.3
baz=92
Q25A Bedland, Calha 91.44 48 ⇓P P 06 18 04.7 -0.2
baz=92
534A Blanco 91.48 58 ⇑P P 06 18 05.1 0.0
baz=92
I20A Worland 91.51 42 ⇑P P 06 18 05.4 +0.4
baz=92
CFAA Coronel Fontan 91.54 126 P P 06 18 07.1 +1.6
comp=Z,0.6nm,1.2s,baz=41,slow=19,SNR=3.1
T27A Campo 91.59 50 ⇓P P 06 18 05.6 +0.1
baz=92
J21A Lysite 91.62 43 ⇓P P 06 18 06.1 +0.5
baz=92
U28A Mallet 91.62 51 ⇑P P 06 18 05.5 -0.2
baz=92
333A Richland Sprin 91.67 56 ⇓P P 06 18 05.6 -0.3
baz=92
X30A Coker Ranch, T 91.68 53 ⇑P P 06 18 05.2 -0.7
baz=92
R26A Arlington 91.69 49 ⇓P P 06 18 05.0 -1.0
baz=92
Z31A Sharp Cattle R 91.70 54 ⇑P P 06 18 04.7 -1.3
baz=92
XAN Xi'an 91.72 307 P P 06 18 06.4 +0.3
XAN pP pP 06 18 20.0 +0.7
XAN PP PP 06 21 47.5 +2.0
XAN SKS SKSac 06 28 33.3 -2.2
XAN S S 06 29 00.8 -2.8
XAN sS sS 06 29 23.1 -2.7
XAN SS SS 06 35 11.1 -1.2
XAN pmax pmax
comp=Z,5.0nm,0.9s
XAN pmax pmax
comp=Z,37nm,8.0s
XAN LR LR
comp=Z,150nm,19.5s
XAN LR LR
comp=Z,100nm,20.6s
XAN LR LR
comp=Z,160nm,20.0s
ABTX Abilene, Hawle 91.76 55 eP P 06 18 06.3 0.0
ABTX Abilene, Hawle 91.76 55 ⇓P P 06 18 06.5 +0.3
baz=92
P25A Willow Gulch B 91.79 47 ⇓P P 06 18 06.3 -0.1
baz=92
K22A Casper 91.83 44 ⇓P P 06 18 06.7 +0.2
baz=92
Y31A Rekieta Farm, 91.91 54 ⇓P P 06 18 06.4 -0.6
baz=92
Q26A Hugo 91.94 48 ⇑P P 06 18 06.5 -0.6
baz=92
I21A Big Trails, Te 91.96 42 ⇓P P 06 18 06.8 -0.3
baz=92
434A Burnet 91.99 57 ⇓P P 06 18 06.6 -0.8
baz=92
F19A Roth Farm, Mol 92.04 40 ⇓P P 06 18 07.9 +0.5
baz=92
233A Rising Star 92.04 56 ⇑P P 06 18 07.7 +0.1
baz=92
T28A Walsh 92.05 50 ⇓P P 06 18 07.1 -0.5
baz=92
DAWY Dawson 92.08 15 eP P 06 18 06.2 -0.8
L23A Garrett 92.08 44 ⇓P P 06 18 08.0 +0.2
baz=92
O25A Wiggins 92.12 47 ⇓P P 06 18 09.1 +1.2
baz=92
R27A Eads 92.13 49 ⇑P P 06 18 07.7 -0.2
baz=92
Z32A Haskell 92.19 55 ⇑P P 06 18 07.5 -0.7
baz=92,SNR=9.0
334A Lometa 92.24 57 ⇓P P 06 18 07.7 -0.8
baz=92,SNR=9.1
J22A Midwest 92.25 43 ⇓P P 06 18 07.9 -0.6
baz=92
EGAK Eagle 92.28 14 eP P 06 18 07.3 -0.6
comp=Z,11nm,1.1s
133A Hamilton Ranch 92.30 55 ⇑P P 06 18 07.8 -1.0
baz=92
U29A Oasis Ranch, S 92.33 51 ⇓P P 06 18 08.8 -0.1
baz=92
S28A Manter 92.42 50 ⇑P P 06 18 09.3 0.0
baz=93
X31A McDonald Ranch 92.42 53 ⇓P P 06 18 08.9 -0.4
baz=93
E19A Rath Farm, Rou 92.46 40 ⇓P P 06 18 09.7 +0.4
baz=93
I22A 9 Mile Ranch, 92.50 43 ⇓P P 06 18 09.7 +0.1
baz=93
BILL Bilibino 92.52 353⇓eP P 06 18 08.9 0.0
BILL e 06 21 47.1
BILL eSS SS 06 35 34.6 +12
BILL pmax pmax
comp=Z,16nm,1.6s
BILL MLR MLR
comp=Z,761nm,21.0s
BILL Bilibino 92.52 353 eP P 06 18 09.1 +0.2
comp=Z,8.7nm,1.0s
LAMP Lampang 92.53 289 P P 06 18 12.0 +1.9
comp=Z,21nm,0.8s
Y32A R-V Farms, Ver 92.53 54 ⇑P P 06 18 09.0 -0.8
baz=93,SNR=7.4
H21A Big Horn, Sher 92.53 42 ⇓P P 06 18 09.6 -0.1
baz=93
KSCO Kaye Shedlock' 92.59 48 ⇓P P 06 18 10.3 +0.1
baz=93
234A Clairette 92.62 56 ⇑P P 06 18 10.1 -0.1
baz=93
KMI Kunming 92.63 296 P P 06 18 12.8 +2.1
KMI pP pP 06 18 24.3 +0.4
KMI SS SS 06 35 26.0 0.0
KMI pmax pmax
comp=Z,21nm,1.3s
KMI LR LR
comp=Z,190nm,14.9s
KMI LR LR
comp=Z,340nm,18.1s
KMI LR LR
comp=Z,490nm,20.0s
W31A Holland Ranch, 92.70 53 ⇓P P 06 18 09.8 -0.8
baz=93
Z33A Whitaker Ranch 92.71 55 ⇑P P 06 18 09.9 -0.7
baz=93
EGMT Eagleton 92.75 38 ⇓P P 06 18 10.4 -0.2
baz=93
D19A Cripps Ranch, 92.78 39 ⇓P P 06 18 11.0 +0.3
baz=93
U30A WK&E Inc. Balk 92.81 51 ⇓P P 06 18 11.1 0.0
baz=93
R28A Tribune 92.84 49 ⇑P P 06 18 11.6 +0.4
baz=93
X32A Elmer 92.84 54 ⇑P P 06 18 10.0 -1.2
baz=93,SNR=6.1
E20A Meyer Farm, Mu 92.87 40 ⇓P P 06 18 11.4 +0.3
baz=93
C19A Slack Wire Ran 92.99 38 ⇑P P 06 18 11.9 +0.2
baz=93
V31A Spring Creek L 93.04 52 ⇓P P 06 18 12.1 0.0
baz=93
CMAR Chiang Mai Arr 93.10 289 P P 06 18 14.6 +1.8
comp=Z,13nm,0.8s,baz=133,slow=3.1,SNR=68
CMAR LR LR 07 01 55.6
comp=Z,88nm,18.0s,baz=180,slow=37
Y33A Hilltop Ranch, 93.14 54 ⇓P P 06 18 12.8 +0.2
baz=93
D20A Manuel Ranch, 93.17 39 ⇓P P 06 18 13.2 +0.7
baz=93
W32A Sentinel 93.18 53 ⇓P P 06 18 12.8 0.0

baz=93
CMMT Chiang Mai 93.24 289 P P 06 18 14.8 +1.4
comp=Z,53nm,0.9s
CHTO Chiang Mai 93.24 289 eP P 06 18 14.6 +1.2
CHTO Chiang Mai 93.24 289 P P 06 18 14.9 +1.5
comp=Z,146nm,1.0s
CHTO Chiang Mai 93.24 289 eP P 06 18 14.6 +1.2
U31A Nine Bar Ranch 93.31 52 ⇓P P 06 18 13.8 +0.5
baz=94
336A Riesel 93.34 57 ⇓P P 06 18 14.0 +0.5
baz=94
B19A Brinkman Farms 93.44 38 ⇓P P 06 18 13.9 +0.2
baz=94
P28A Saint Francis 93.46 48 ⇓P P 06 18 14.0 -0.1
baz=94
E21A Keefer Ranch, 93.51 40 ⇓P P 06 18 14.7 +0.6
baz=94
C20A Veseth Ranch, 93.58 39 ⇓P P 06 18 15.3 +1.0
baz=94
V32A Arapaho 93.60 53 ⇓P P 06 18 15.0 +0.3
baz=94
F22A Rosebud 93.60 41 ⇑P P 06 18 15.6 +1.1
baz=94
CMAI Chiengmai2 93.61 290 P P 06 18 17.3 +2.0
O28A Krutsinger Ran 93.70 48 ⇑P P 06 18 15.2 +0.1
baz=94
T31A Randall Ranch, 93.76 51 ⇑P P 06 18 15.2 -0.2
baz=94
W33A Caddo, Fort Co 93.77 53 ⇓P P 06 18 15.2 -0.3
baz=94
EDM Edmonton 93.79 32 eP P 06 18 15.3 +0.1
EDM Edmonton 93.79 32 eP P 06 18 15.2 +0.1
A19A Klindworth Far 93.81 38 ⇑P P 06 18 15.7 +0.3
baz=94
D21A La Casta Ranch 93.83 40 ⇑P P 06 18 15.9 +0.4
baz=94
G23A Biddle 93.84 42 ⇓P P 06 18 15.8 +0.2
baz=94
R30A Dighton 93.88 50 ⇓P P 06 18 15.7 -0.2
baz=94
U32A Winter Ranch, 93.92 52 ⇑P P 06 18 15.9 -0.3
baz=94
X34A Smith Ranch, M 93.99 54 ⇑P P 06 18 16.2 -0.3
baz=94
K26A Motz Farm, Whi 94.00 45 ⇓P P 06 18 16.7 +0.3
baz=94
LAO LASA Array 94.09 40 eP P 06 18 16.6 -0.1
comp=Z,12nm,1.1s
F23A Volborg 94.09 41 ⇓P P 06 18 16.7 -0.1
baz=94
H24A Dirks Ranch, A 94.13 43 ⇑P P 06 18 16.7 -0.3
baz=94
S31A Mullinville 94.14 51 ⇓P P 06 18 16.9 -0.3
baz=94
RSSD Black Hills 94.14 43 eP P 06 18 15.5 -1.7
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 94.14 43 eP P 06 18 15.5 -1.7
comp=Z,8.5nm,1.1s
V33A Lossen Ranch, 94.19 53 ⇑P P 06 18 16.9 -0.5
baz=94
Q30A Quinter 94.23 49 ⇓P P 06 18 17.6 0.0
baz=94
A20A Cobblestone Ra 94.24 38 ⇑P P 06 18 17.8 +0.5
baz=94
CD2 Chengdu 94.25 302 eP P 06 18 18.1 +0.3
CD2 pP pP 06 18 31.8 +0.7
CD2 sP sP 06 18 37.1 +1.1
CD2 PP PP 06 22 08.4 +2.9
CD2 SKS SKSac 06 28 47.9 -1.7
CD2 S S 06 29 23.5 -2.7
CD2 sS sS 06 29 46.8 -1.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.8s
CD2 LR LR
comp=Z,430nm,18.6s
CD2 LR LR
comp=Z,580nm,19.6s
CD2 LR LR
comp=Z,420nm,22.5s
D22A Cohagen 94.35 40 ⇑P P 06 18 18.4 +0.5
baz=94
J26A Sides Ranch, S 94.36 44 ⇓P P 06 18 18.1 +0.1
baz=94
S32A Newby Ranch, P 94.56 51 ⇓P P 06 18 18.8 -0.3
baz=95
K27A Flueckinger Fa 94.61 45 ⇓P P 06 18 19.6 +0.4
baz=95
H25A Fruitdale 94.66 43 ⇓P P 06 18 19.3 -0.1
baz=95
F24A Ekalaka 94.73 42 ⇑P P 06 18 20.1 +0.4
baz=95
T33A Patterson Ranc 94.78 52 ⇑P P 06 18 20.1 0.0
baz=95
A21A Bergtoll Ranch 94.86 38 ⇑P P 06 18 20.6 +0.4
baz=95
D23A Lindsay 94.93 40 ⇓P P 06 18 21.3 +0.7
baz=95
J27A Elkhorn Farm, 95.02 45 ⇑P P 06 18 21.5 +0.4
baz=95
R32A Long Quarter, 95.04 50 ⇓P P 06 18 21.1 -0.1
baz=95
K28A Ten Mile Ranch 95.18 45 ⇓P P 06 18 21.9 0.0
baz=95
F25A Bowman 95.38 42 ⇓P P 06 18 22.8 +0.1
baz=96
D24A Glendive 95.43 41 ⇑P P 06 18 23.7 +0.8
baz=96
A22A Carney Farms, 95.43 38 ⇑P P 06 18 24.5 +1.6
baz=96
R33A Olander Ranch, 95.50 51 ⇓P P 06 18 23.7 +0.4
baz=96
F26A Lodgepole 95.82 42 ⇓P P 06 18 24.9 +0.2
baz=96
K29A Lazy Trails An 95.89 46 ⇓P P 06 18 25.5 +0.5
baz=96
Q33A Connelly Farm, 95.91 50 ⇓P P 06 18 25.8 +0.6
baz=96
G27A Dupree 96.06 43 ⇓P P 06 18 25.7 0.0
baz=96
J29A Okreek 96.18 45 ⇑P P 06 18 26.6 +0.3
baz=96
F27A Lemmon 96.23 42 ⇓P P 06 18 27.3 +0.7
baz=96
E26A Carlson Angus 96.24 42 ⇑P P 06 18 27.3 +0.7
baz=96
LZH Lanzhou 96.36 307 eP P 06 18 28.4 +0.9
LZH pP pP 06 18 42.0 +1.3
LZH sP sP 06 18 47.3 +1.7
LZH SKS SKSac 06 29 00.0 -0.8
LZH eS S 06 29 43.1 -1.4
LZH sS sS 06 30 04.5 -2.3
LZH pmax pmax
comp=Z,17nm,1.4s
LZH pmax pmax
comp=Z,93nm,6.8s
LZH LR LR
comp=Z,290nm,17.0s
LZH LR LR
comp=Z,250nm,18.3s
LZH LR LR
comp=Z,560nm,19.8s
J30A Dallas 96.68 46 ⇑P P 06 18 28.7 +0.1
baz=97
E27A Carson 96.77 42 ⇑P P 06 18 29.6 +0.6
baz=97
YKA Yellowknife Ar 98.67 24 P P 06 18 35.6 -1.4
comp=Z,0.6nm,0.7s,baz=238,slow=4.3,SNR=11
ECSD EROS Data Cent 98.75 46 ⇓Pdiff Pdif 06 18 38.3 +0.4
baz=99
LPAZ La Paz 98.94 112 LR LR 06 56 02.1
comp=Z,562nm,19.1s,baz=242,slow=31
ULN Ulaanbaatar 99.17 318⇓eP Pdif 06 18 39.8 0.0
ULN pmax pmax
comp=Z,5.0nm,1.7s
ULN MLR MLR
comp=Z,203nm,22.0s
ULN Ulaanbaatar 99.17 318 eP Pdif 06 18 39.5 -0.3
comp=Z,2.1nm,0.8s
SONM Songino Array 99.55 318 P Pdif 06 18 41.1 -0.4
comp=Z,0.7nm,0.9s,baz=104,slow=4.7,SNR=4.2
SONM PKiKP PP 06 22 56.5 +10
comp=Z,0.4nm,0.6s,baz=97,slow=5.8,SNR=3.1
SONM LR LR 07 00 57.2
comp=Z,126nm,18.9s,baz=121,slow=34

GTA Gaotai 100.61 308 eP Pdif 06 18 47.5 +1.1
GTA pP pP 06 19 01.3 +1.5
GTA sP sP 06 19 06.6 +2.0
GTA PP PP 06 22 58.8 +4.5
GTA SKS SKSac 06 29 22.0 0.0
GTA S Sdif 06 30 18.9 -1.4
GTA pmax pmax
comp=Z,3.0nm,2.0s
GTA pmax pmax
comp=Z,74nm,7.1s
GTA LR LR
comp=Z,410nm,20.9s
GTA LR LR
comp=Z,730nm,21.9s
GTA LR LR
comp=Z,410nm,21.4s
KMSC Kings Mountain 106.78 59 ⇓Pdiff PKiKP 06 23 24.0 +0.1
baz=107
PAPH Port-au-Prince 109.26 78 ePdif Pdif 06 19 16.8 -8.4
WMQ Urumqi 110.59 310 ePdif Pdif 06 19 31.9 +1.2
WMQ PP PP 06 24 12.3 +4.4
WMQ SKS SKSdf 06 30 38.3 -1.1
WMQ S Sdif 06 31 41.6 -1.7
WMQ AMB AMB
comp=Z,170nm,5.8s
WMQ LR LR
comp=Z,180nm,20.8s
WMQ LR LR
comp=Z,350nm,21.6s
WMQ LR LR
comp=Z,470nm,21.2s
ZALV Zalesovo Beam 114.31 320 PKP PKPdf 06 23 35.8 -1.7
comp=Z,1.1nm,0.7s,baz=103,slow=1.4,SNR=6.2
MK31 Makanchi Array 114.91 312 ePKIKP PKPdf 06 23 37.0 -1.9
MK31 Makanchi Array 114.91 312 ePKPdf PKPdf 06 23 37.0 -2.0
MKAR Makanchi Array 114.91 312 PKP PKPdf 06 23 37.4 -1.5
comp=Z,1.5nm,0.8s,baz=70,slow=2.7,SNR=15
KSH Kashi 118.40 303 ePKP PKPdf 06 23 48.3 +2.3
KSH esPKP 06 24 02.9
KSH PKS PKSdf 06 27 23.4 +0.6
KSH AMB AMB
comp=Z,84nm,5.4s
KSH LR LR
comp=Z,59nm,4.8s
KSH LR LR
comp=Z,21nm,3.7s
KSH LR LR
comp=Z,190nm,6.0s
AAK Ala-Archa 119.90 307⇓iPKIKP PKPdf 06 23 48.7 -0.2
AAK pmax pmax
comp=Z,4.0nm,1.0s
AAK MLR MLR
comp=Z,873nm,23.0s
KKAR Karatay Array 122.86 307 ePKIKP PKPdf 06 23 53.5 -0.9
KKAR Karatay Array 122.86 307 ePKPdf PKPdf 06 23 53.5 -0.9
BRVK Borovoye 122.95 319⇓iPKIKP PKPdf 06 23 53.8 -0.4
BRVK pmax pmax
comp=Z,5.0nm,1.2s
BRVK MLR MLR
comp=Z,302nm,25.0s
BOSA Boshof 124.07 202 PKIKP PKPdf 06 23 58.0 +0.6
BOSA Boshof 124.07 202 PKP PKPdf 06 23 58.0 +0.6
comp=Z,4.1nm,0.8s,baz=121,slow=6.4,SNR=4.3
DAG Danmarks Havn 125.80 6 iPKIKP PKPdf 06 24 09.5 +11
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 125.80 6 iP PKPdf 06 24 09.5 +11
comp=Z,2.2nm,0.8s
SUMG Summit 125.85 15 iPKIKP PKPdf 06 23 59.2 -0.5
SUMG pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 125.85 15 iP PKPdf 06 23 59.2 -0.5
comp=Z,3.7nm,1.0s
ARU Arti 129.05 324 iPKIKP PKPdf 06 24 05.8 +0.1
ARU 06 26 12.5
ARU 06 31 08.2
ABKAR Akbulak array 129.85 315 ePKPdf PKPdf 06 24 07.6 +0.1
ARCES ARCESS Array B 132.51 350 PKP PKPdf 06 24 11.0 -0.9
comp=Z,2.3nm,0.8s,baz=149,slow=1.7,slow=4.0,SNR=6.1
KLMR Klimovskoe 135.70 336 ePKIKP PKPdf 06 24 13.7 -4.4
KLMR pmax pmax
comp=Z,11nm,1.1s
KMBO Kilima Mbogo 139.43 237 ePKIKP PKPdf 06 24 25.6 -1.2
KMBO Kilima Mbogo 139.43 237 PKP PKPdf 06 24 27.9 +1.1
comp=Z,0.8nm,0.3s,baz=143,slow=7.3,SNR=4.1
KMBO Kilima Mbogo 139.43 237 ePKPdf PKPdf 06 24 25.6 -1.2
KMBO PKP PKPdf 06 24 27.9 +1.1
FINES FINESS Array B 139.49 344 PKP PKPdf 06 24 24.8 -0.3
comp=Z,4.7nm,1.0s,baz=110,slow=2.1,SNR=7.5
OBN Obninsk 140.61 331⇑iPKIKP PKPdf 06 24 27.9 +0.6
OBN e 06 27 25.5
OBN e 06 31 23.6
OBN pmax pmax
comp=Z,14nm,1.2s
OBN MLR MLR
comp=Z,295nm,20.0s
NB2 NORSAR Subarra142.47 354 PKP PKPpre 06 24 26.0
comp=Z,2.2nm,0.7s,baz=10.0,slow=3.7
NOA NORSAR Array B 142.47 354 PKhKP PKPpre 06 24 26.1
comp=Z,1.1nm,0.8s,baz=14,slow=4.3,SNR=4.1
DDEM Demirkent 144.30 308 iP PKPdf 06 24 34.6 +0.1
DBAD Bademkaya 144.30 308 iP PKPbc 06 24 32.8 -0.1
HOMI Horasan 144.42 306 iP PKPab 06 24 32.2 -1.0
MICGM Minsk 144.60 336 e PKPab 06 24 32.0 -1.0
MNK Minsk 144.62 336 ePKIKP PKPab 06 24 32.0 -1.1
NACGM Naroch 144.69 337 e PKPab 06 24 31.0 -2.3
KOPT Kop Dagi 145.47 307 iP PKPab 06 24 38.2 +1.1
ANN Anapa 145.80 316 ePKP2 PKPdf 06 24 36.2 -0.6
ANN e 06 27 55.2
ANN pmax pmax
comp=Z,64nm,1.3s
KELT Kelkit 146.34 307 iP PKPab 06 24 40.3 0.0
HCB Kahramanmara˜ 146.61 302 iP PKPab 06 24 45.7 +4.5
SUW Suwalki 146.62 340 ePKP2 PKPbc 06 24 39.3 -0.2
SUW Suwalki 146.62 340 ePKP PKPbc 06 24 39.2 -0.2
SUW Suwalki 146.62 340 ePKPdf PKPbc 06 24 39.3 -0.2
SFNV Sufian 146.66 301 eP PKPbc 06 24 39.8 -0.5
AKASG Malin Array Be 146.87 330 PKPbc PKPdf 06 24 39.0 +0.7
comp=Z,18nm,0.7s,baz=41,slow=3.8,SNR=147
KIEV Kiev 146.88 330c iPKP2 PKPbc 06 24 39.5 -0.8
KIEV Kiev 146.88 330 ePKPdf PKPdf 06 24 38.4 0.0
ELZG Elazig 147.02 305 iP PKPab 06 24 42.4 -0.6
SUSE Susehri 147.08 308 iP PKPbc 06 24 42.2 +0.7
KEMA Kemaliye 147.17 306 iP PKPbc 06 24 42.4 +0.8
MUD Monsted U'grnd 147.18 355 ePKP2 PKPbc 06 24 41.6 +0.6
MUD pmax pmax
comp=Z,21nm,1.1s
MUD Monsted U'grnd 147.18 355 iP PKPbc 06 24 41.6 +0.6
comp=Z,21nm,1.0s
MALT Malatya 147.50 305 ⇑PKP2 PKPbc 06 24 43.6 +1.0
MALT Malatya 147.50 305⇑iP PKPbc 06 24 43.6 +1.0
BSD Bornholm Skovb 147.72 348 ePKP2 PKPab 06 24 46.2 +1.3
BSD pmax pmax
comp=Z,20nm,0.8s
BSD Bornholm Skovb 147.72 348 iP PKPab 06 24 46.2 +1.3
comp=Z,20nm,0.7s
SIM Simferopol' 147.80 318 ePKP2 PKPbc 06 24 43.3 +0.2
SIM pmax pmax
comp=Z,30nm,0.8s
SIM pmax pmax
comp=Z,200nm,9.0s
AKCD Akcadag 147.88 305 iP PKPbc 06 24 44.5 +0.7
GZT Gaziantep 148.42 303 iP PKPbc 06 24 45.6 +0.4
SLMH Al Salmeh 148.43 301 eP PKPdf 06 24 41.0 -0.6
BOYT Boyabat 148.94 312 iP PKPbc 06 24 46.5 +0.2
GKP Gorka Klasztor 148.96 345 ePKP2 PKPbc 06 24 46.0 +0.2
GKP Gorka Klasztor 148.96 345 ePKP PKPbc 06 24 45.9 +0.2
BEL Belsk 149.24 340 ePKP2 PKPbc 06 24 47.2 +0.6
BEL Belsk 149.24 340 ePKP PKPbc 06 24 47.1 +0.5
ANDN Andirin 149.28 304 iP PKPbc 06 24 46.7 -0.7
CTKT Corum 149.35 311 iP PKPbc 06 24 47.2 -0.2
RABH Abou Rabah 149.39 298 eP PKPdf 06 24 43.8 +0.6
ZALF Zalf 149.54 295 eP PKPdf 06 24 44.3 +0.8
BSEG Bad Segeberg 149.55 353 ePKPbc PKPbc 06 24 47.1 -0.1
KIS Kishinev 149.59 326 ePKP2 PKPbc 06 24 48.0 +0.4
KIS MLR MLR
comp=Z,400nm,22.0s
KIS MLR MLR
comp=Z,300nm,22.0s
KIS Kishinev 149.59 326 ePKP PKPbc 06 24 48.0 +0.4
KIS Kishinev 149.59 326 ePP PP 06 28 13.0 -7.5
KIS eL L 07 20 16.0
KIS LRM MLR 07 31 12.0
comp=Z,300nm,22.0s

BTCH Batrach 149.62 301 eP PKPdf 06 24 43.9 +0.4
LVV L'vov 149.74 334 ePKP2 PKPbc 06 24 47.6 -0.3
ILGA Ilgaz 149.91 312 iP PKPbc 06 24 46.7 -2.2
CDAG Cicekdag 150.04 309 iP PKPbc 06 24 48.9 -0.2
MARH Ras Al Marh 150.05 297 eP PKPdf 06 24 46.2 +1.6
SALA Sala 150.08 295 eP PKPdf 06 24 43.8 -0.7
TOTH TOTAH 150.22 296 eP PKPdf 06 24 45.4 +0.8
ELDT Eldivan 150.35 311 iP PKPbc 06 24 49.6 -0.3
KWP Kalwaria Pacla 150.41 335 ePKIKP PKPbc 06 24 49.9 +0.4
KWP Kalwaria Pacla 150.41 335 ePKP PKPbc 06 24 49.9 +0.4
KWP Kalwaria Pacla 150.41 335⇑iP PKPbc 06 24 49.6 +0.1
KWP Kalwaria Pacla 150.41 335 ePKPbc PKPbc 06 24 49.3 -0.2
BR131 Keskin Array S 150.52 310 ePKPbc PKPbc 06 24 49.3 -1.0
BRTR Keskin Array B 150.52 310 PKPbc PKPbc 06 24 49.7 -0.6
comp=Z,9.9nm,0.8s,baz=136,slow=3.9,SNR=46
GULE Gulek 150.56 304 iP PKPbc 06 24 50.4 -0.1
BRBR Barbar 150.61 296 eP PKPdf 06 24 47.0 +1.7
TCHB Talchebab 150.72 295 eP PKPdf 06 24 45.6 +0.3
BUR08 Bucovina Ar. S 150.90 330 ePKPdf PKPdf 06 24 45.9 +0.7
BUR08 ePKPbc PKiKP 06 24 51.4 -0.1
BUR08 ePKPab PKPab 06 24 57.2 -1.1
BURAR Bucovina Array 150.92 330⇑iP PKPbc 06 24 52.0 +1.1
OJC Ojcow 150.95 339 ePKIKP PKPbc 06 24 50.9 +0.1
OJC Ojcow 150.95 339 ePKP PKPbc 06 24 50.9 +0.1
NRDL Niedersach Rie 151.00 353 ePKPbc PKPbc 06 24 50.4 -0.3
NRDL epPKPbc pPKPbc 06 25 02.6 -1.7
TESR Tescani 151.02 327⇑iP PKPbc 06 24 50.7 -0.4
ANTO Ankara 151.05 310 ePKIKP PKPdf 06 24 44.9 -0.7
ANTO Ankara 151.05 310⇓iP PKPbc 06 24 51.9 +0.4
ANTO Ankara 151.05 310 ePKPdf PKPdf 06 24 44.9 -0.7
ANTO ePKPbc PKPbc 06 24 51.2 -0.3
CFR Carcaliu 151.13 324 ⇑PKIKP PKPbc 06 24 50.7 -0.6
CFR Carcaliu 151.13 324⇑iP PKPbc 06 24 50.7 -0.6
STHS Stebnicka Huta 151.13 337 ePKIKP PKPbc 06 24 51.8 +0.5
STHS Stebnicka Huta 151.13 337 ePKP PKPbc 06 24 51.8 +0.5
BCAM Yenicaga 151.13 313 iP PKPbc 06 24 50.8 -0.8
IBBN Ibbenburen 151.41 355 ePKPbc PKPbc 06 24 51.5 -0.2
KSP Ksiaz 151.42 344 ePKIKP PKPbc 06 24 51.7 -0.1
KSP e 06 24 57.8
KSP Ksiaz 151.42 344 ePKP PKPbc 06 24 51.8 -0.1
VRI Vrincioaia 151.42 326 ⇑PKIKP PKPbc 06 24 52.0 0.0
VRI Vrincioaia 151.42 326⇑iP PKPbc 06 24 52.0 0.0
TIRR Tirgusor 151.43 322 ⇓PKIKP PKPbc 06 24 50.8 -1.2
TIRR Tirgusor 151.43 322⇓iP PKPbc 06 24 50.8 -1.2
NIE Niedzica 151.46 338 ePKP PKPbc 06 24 52.8 +0.8
PLOR Plostina 151.47 326 ⇑PKIKP PKPbc 06 24 51.7 -0.5
PLOR Plostina 151.47 326⇑iP PKPbc 06 24 51.7 -0.5
CRVS Cervenica-Dubn 151.48 336 ePKIKP PKPbc 06 24 52.6 +0.5
CRVS e 06 25 01.2
CRVS Cervenica-Dubn 151.48 336 ePKP PKPbc 06 24 52.6 +0.5
CRVS e 06 25 01.2
CLZ Clausthal 151.60 352 ePKPbc PKPbc 06 24 52.1 -0.2
CLZ epPKPbc pPKPbc 06 25 04.2 -1.7
CLL Collm 151.71 348⇑ePKIKP PKPdf 06 24 46.0 -0.1
CLL i 06 25 01.3
CLL pmax pmax
comp=Z,42nm,1.1s
CLL pmax pmax
comp=Z,17nm,0.9s
CLL MLR MLR
comp=Z,400nm,18.2s
CLL Collm 151.71 348 ePKPbc PKPbc 06 24 51.9 -0.5
CLL epPKPbc pPKPbc 06 25 04.2 -1.9
CLL Collm 151.71 348 ePKPdf PKPdf 06 24 46.0 -0.1
CLL ⇑iPKPbc PKPbc 06 24 52.0 -0.5
comp=Z,42nm,1.1s
CLL ipPKPdf pPKPdf 06 24 57.2 -2.6
CLL ⇓iPKPab PKPab 06 25 01.3 0.0
comp=Z,17nm,0.9s
CLL ipPKPbc pPKPbc 06 25 04.0 -2.1
CLL epPKPab pPKPab 06 25 13.0 -1.6
CLL ePP PP 06 28 30.0 -2.0
CLL LmV 07 43 00.0
comp=Z,400nm,18.2s
UPC Upice 151.79 344 ePKIKP PKPbc 06 24 52.9 +0.2
UPC e 06 25 02.2
UPC e 06 25 09.6
UPC Upice 151.79 344⇑ePKP PKPbc 06 24 52.9 +0.2
UPC ePKPAB PKPab 06 25 02.2 +0.5
UPC epPKP pPKPdf 06 25 09.6 +10
UPC esPKP 06 25 14.3
OKC Ostrava-Krasne 151.81 341 ePKIKP PKPbc 06 24 53.1 +0.4
OKC e 06 25 02.7
OKC e 06 25 09.3
OKC Ostrava-Krasne 151.81 341⇑ePKP PKPbc 06 24 53.1 +0.4
OKC ePKPAB PKPab 06 25 02.7 +0.9
OKC ex x 06 25 09.3
OKC epPKP pPKPdf 06 25 13.9 +14
OKC esPKP 06 25 17.4
DPC Dobruska-Polom 151.86 343 ePKIKP PKPdf 06 24 47.0 +0.5
DPC e 06 25 03.1
DPC Dobruska-Polom 151.86 343 ePKPDF PKPdf 06 24 47.0 +0.5
DPC ⇑ePKP PKPbc 06 24 52.5 -0.4
DPC ePKPAB PKPab 06 25 03.1 +1.0
DPC epPKP pPKPdf 06 25 14.3 +14
BRG Berggiesshubel 151.93 347 iPKP PKPbc 06 24 53.1 +0.1
comp=Z,32nm,1.1s
BRG e 06 25 02.1
comp=Z,18nm,0.7s
BRG Berggiesshubel 151.93 347 iPKIKP PKPbc 06 24 53.1 +0.1
BRG e 06 25 02.1
BRG pmax pmax
comp=Z,32nm,1.1s
BRG pmax pmax
comp=Z,18nm,0.7s
BRG Berggiesshubel 151.93 347 ePKP PKPbc 06 24 52.7 -0.3
KRLC Kraliky 151.99 343 ePKIKP PKPbc 06 24 53.4 +0.2
KRLC Kraliky 151.99 343⇑ePKP PKPbc 06 24 53.4 +0.2
ISR Istrita 152.02 325⇑iP PKPab 06 25 03.9 +0.9
MORC Moravsky Berou 152.04 341 ePKIKP PKPdf 06 24 46.9 +0.1
MORC Moravsky Berou 152.04 341⇑iP PKPbc 06 24 53.7 +0.3
MORC Moravsky Berou 152.04 341 ePKPdf PKPdf 06 24 46.9 +0.1
MORC ePKPbc PKPbc 06 24 52.5 -0.8
MLR Muntele Rosu 152.08 326 ⇑PKIKP PKPbc 06 24 54.1 +0.3
MLR Muntele Rosu 152.08 326⇑iP PKPbc 06 24 54.0 +0.3
KDHN Kadinhani 152.09 308 iP PKPbc 06 24 53.2 -0.7
ERMK Ermenek 152.18 304 iP PKPbc 06 24 54.3 0.0
CSS Prodhromos 152.37 300 ePKPdf PKPdf 06 24 47.4 -0.3
CSS ePKPbc PKPbc 06 24 53.3 -1.3
VOIR 152.57 327⇓iP PKPbc 06 24 56.2 +1.5
PRA Prague 152.58 346 ⇑PKP PKPbc 06 24 55.0 +0.5
PRA PKPAB PKPab 06 25 04.0 -1.0
MOX Moxa 152.59 350 ePKPbc PKPbc 06 24 53.9 -0.6
MOX eL L 07 41 42.0
comp=Z,359nm,20.1s
PRU Pruhonice 152.63 345 ePKIKP PKPbc 06 24 54.5 -0.1
PRU e 06 25 03.6
PRU e 06 25 11.1
PRU MLR MLR
comp=Z,600nm,16.7s
PRU Pruhonice 152.63 345⇑ePKP PKPbc 06 24 54.5 -0.1
PRU ePKPAB PKPab 06 25 03.6 -1.6
PRU ex x 06 25 11.1
PRU epPKP pPKPdf 06 25 15.0 +14
PRU AMS AMS 07 42 50.0
comp=Z,600nm,16.7s
DRGR 152.66 332 ⇑PKIKP PKPbc 06 24 54.8 -0.1
DRGR 152.66 332⇑iP PKPbc 06 24 54.8 -0.1
BORA Eskisehir 152.66 312 iP PKPbc 06 24 54.5 -0.6
TANN Tannenbergstha 152.66 348 ePKPbc PKPbc 06 24 54.4 -0.3
VRAC Vranov 152.73 342 ⇑PKIKP PKPbc 06 24 55.8 +0.9
VRAC Vranov 152.73 342⇑iP PKPbc 06 24 55.8 +0.9
VYHS Vyhne 152.76 338 ePKP PKPbc 06 24 55.8 +0.8
VYHS e 06 25 07.1
GAZI Gazipasa 152.77 304 iP PKPab 06 25 05.2 -1.2
ARR Arges 152.82 327⇑iP PKPdf 06 24 49.0 +0.9
PSZ Piszkesteto 152.88 336 ePKPbc PKPbc 06 24 55.6 +0.3
TREC Trest 153.04 344 ePKIKP PKPbc 06 24 54.8 -0.8
TREC e 06 25 03.7
TREC e 06 25 09.3
TREC MLR MLR
comp=Z,700nm,18.3s
TREC Trest 153.04 344⇑ePKP PKPbc 06 24 54.8 -0.8
TREC ePKPAB PKPab 06 25 03.7 -3.3
TREC epPKP pPKPdf 06 25 09.3 +7.4
TREC AMS AMS 07 43 20.0
comp=Z,700nm,18.3s
ROTZ Rotzenmuhle 153.33 348 epPKPbc PKPab 06 25 08.2 0.0
TNS Taunus Mts 153.42 354 epPKPbc PKPab 06 25 08.4 -0.2
GRF Grafenberg Arr 153.57 350 eL L 07 40 53.7
comp=Z,356nm,20.5s

KHC	Kasperske Hory	153.66 346	ePKIKP	PKPbc	06 24 57.0	+0.1
KHC	Kasperske Hory	153.66 346	⇑ePKP	PKPbc	06 24 57.0	+0.1
KHC			epPKP	PKPab	06 25 18.0	+8.4
GZR	Gura Zlata	153.69 330	⇓PKIKP	PKPbc	06 24 54.9	-2.3
GZR	Gura Zlata	153.69 330	⇓iP	PKPbc	06 24 54.9	-2.3
WET	Wettzell	153.79 347	ePKPbc	PKPbc	06 24 56.9	-0.3
GERES	GERESS Array B	153.90 346	PKP	PKPdf	06 24 49.9	+0.3
	comp=Z,0.4nm,0.6s,baz=108,slow=3.2,SNR=5.3					
GERES			PKPbc	PKiKP	06 24 57.7	+0.1
	comp=Z,2.4nm,0.8s,baz=29,slow=2.2,SNR=12					
GERES			PKPab	PKPab	06 25 11.6	+0.8
	comp=Z,2.5nm,0.9s,baz=17,slow=4.1,SNR=5.8					
KHAL	Karahalli	154.02 310	iP	PKPbc	06 24 58.1	-0.1
BZS	Buzias	154.05 331	⇑iP	PKPbc	06 24 57.6	-0.2
CONA	Conrad Observa	154.19 342	⇑iPKiKP	PKiKP	06 24 58.4	+0.2
	comp=Z,13nm,1.7s					
CONA			⇓iPKPab	PKPab	06 25 10.4	-1.7
	comp=Z,16nm,1.3s					
BALY	Balya	154.62 314	iP	PKPbc	06 25 02.1	+2.8
PKSM	Moragy	154.78 336	⇑PKIKP	PKPdf	06 24 50.3	-0.4
PKSM	Moragy	154.78 336	⇑iP	PKPdf	06 24 50.3	-0.4
RZN	Rozhen	155.28 321	eP	PKPab	06 25 17.0	0.0
SOKA	Soboth	155.56 342	⇓iPKPdf	pPKPdf	06 25 01.4	-4.3
	comp=Z,3.5nm,1.0s					
SOKA			⇑iPKPab	PKPab	06 25 18.4	+0.5
	comp=Z,19nm,1.4s					
MMB	Musomiste	155.90 322	eP	PKPab	06 25 19.3	-0.2
KEST	Kesra	167.29 341	PKPab	PKPab	06 26 08.7	-0.7
	comp=Z,1.5nm,0.8s,baz=279,slow=4.7,SNR=3.5					
TORD	Torodi Ar. Bea	169.15 167	PKP	PKPdf	06 25 05.6	-0.6
	comp=Z,2.6nm,1.1s,baz=297,slow=2.3,SNR=7.4					
TORD			PKPab	PKPab	06 26 17.6	-0.2
	comp=Z,3.2nm,0.8s,baz=181,slow=3.8,SNR=9.5					

*JSN **23** 06:26:18.9±1.1, 19.37N×72.52W, h0km±999km, MD5.3*
*IDC **23** 06:26:19.5±0.5, 18.50N×72.50W, h0km, mb4.3/23, mb1 4.5/28, mb1mx4.5/32, mbtmp4.4/28, ML3.7/5, MS3.8/8, Ms1 3.8/8, ms1mx3.5/35, Error ellipse: s-maj=15.3km s-min=11.1km az=74.0*
*ISCJB **23** 06:26:20.5±0.4, 18.47N±0.03×72.52W±0.02, h19km±3km, mb4.6/94, MS4.2/7, Error ellipse: s-maj=4.4km s-min=2.5km az=16.2*
*NEIC **23** 06:26:20.8±0.6, 18.45N×72.59W, h10km±3km, mb4.8/74, Error ellipse: s-maj=4.1km s-min=2.7km az=207.0*
NEIC Felt [IV] at Delmas, Petionville and Port-au-Prince and [III] at Kenscoff. Also felt at Cabaret, Carrefour, Croix des Bouquets, Jacmel, La Chapelle, Port-de-Paix, Saint-Louis du Nord, Saint-Marc and Vieux Bourg d'Aquin.
*SZGRF **23** 06:26:24.4, 18.51N×72.25W, h10km, mb6.6, Haiti region*
ISC 23 06:26:21.2±0.8, 18.49N±0.03×72.51W±0.04, h14km±5km, n436, σ1.03/433, mb4.7/94, MS4.0/7, 106C-94D, Haiti region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGNH	LØgne	0.10 284	⇓iPg	Pg	06 26 22.8	-1.4
PAPH	Port-au-Prince	0.20 80	Pg	Pg	06 26 25.5	-0.3
PAPH			Sg	Sg	06 26 29.5	+0.7
JAKH	Jacmel	0.25 183	⇑iPg	Pg	06 26 26.4	-0.1
JAKH			eSg	Sb	06 26 31.3	-0.5
SDDR	Presa de Saban	1.26 67	ePn	Pn	06 26 42.9	-1.6
GTBY	Guantanamo Bay	2.85 301	ePn	Pn	06 27 04.2	-2.1
SMN1	Samana, DR	3.14 77	ePn	Pn	06 27 12.2	+1.8
GRTK	Grand Turk	3.27 23	ePn	Pn	06 27 12.0	-0.2
PCDR	Punta Cana, DR	3.92 89	ePn	Pn	06 27 23.3	+2.3
GWJ	Greenwich	4.03 265	eP	Pn	06 27 22.2	-0.6
HOJ	Hope	4.06 264	eP	Pn	06 27 23.7	+0.7
STH	Stony Hill	4.11 265	eP	Pn	06 27 23.8	0.0
STH			iS	Sn	06 28 12.7	+1.0
PCJ	Portland Cotta	4.49 261	eP	Pn	06 27 30.2	+1.3
MTDJ	Mount Denham	4.78 268	ePn	Pn	06 27 29.6	-3.5
MCJ	Malvern	4.96 264	eP	Pn	06 27 36.0	+0.6
AGPR	Aguadilla, PR	5.12 89	ePn	Pn	06 27 41.0	+3.4
CRPR	Cabo Rojo, PR	5.15 94	ePn	Pn	06 27 38.9	+0.9
LSP	Las Mesas	5.16 93	ePn	Pn	06 27 40.2	+2.0
LRS	Lares	5.38 91	ePn	Pn	06 27 43.4	+2.2
AOPR	Arecibo Observ	5.46 91	ePn	Pn	06 27 44.9	+2.5
OBIP	Obispado Ponce	5.62 94	ePn	Pn	06 27 45.6	+1.1
CELP	Cerrillos	5.65 93	ePn	Pn	06 27 46.1	+1.2
ICMP	Isla Caja de M	5.72 95	ePn	Pn	06 27 46.9	+1.1
CBYP	Canovanas	6.32 91	ePn	Pn	06 27 56.0	+1.8
HUMP	Col San Antoni	6.33 92	ePn	Pn	06 27 57.0	+2.7
STVI	Saint Thomas	7.17 90	ePn	Pn	06 28 08.9	+3.1
CDVI	St. Croix	7.40 94	ePn	Pn	06 28 08.9	0.0
SABA	Saba	8.86 94	eP	Pn	06 28 32.0	+3.1
SABA	Saba	8.86 94	ePn	Pn	06 28 30.7	+1.8
SMRT	St. Maarten	8.97 91	ePn	Pn	06 28 31.0	+0.5
SDV	Santo Domingo	9.71 169	ePn	Pn	06 28 41.1	+0.2
	207nm,0.7s					
SDV			eSn	Sn	06 30 24.9	-5.1
SDV			eS	ScS	06 42 04.7	+1.7
LZG	Guadaloupe-1	10.51 101	eP	Pn	06 28 52.4	+0.8
MLG	Mont-d'or	10.59 102	eP	Pn	06 28 53.4	+0.6
FNG	Fond-Bernard	10.61 101	eP	Pn	06 28 53.5	+0.4
SSG	Sans Toucher	10.61 101	eP	Pn	06 28 54.6	+1.5
HMG	Houelmont	10.62 102	eP	Pn	06 28 54.5	+1.3
TAG	Tarade	10.64 102	eP	Pn	06 28 55.5	+2.0
ECG	Echelle	10.65 102	eP	Pn	06 28 54.8	+1.1
PHG	Guadaloupe-2	10.67 102	eP	Pn	06 28 54.5	+0.6
SEG	Port Louis	10.70 99	eP	Pn	06 28 54.9	+0.6
TBG	Guadaloupe-3	10.71 103	eP	Pn	06 28 56.0	+1.7
DEG	La Desirade	11.14 99	eP	Pn	06 29 01.9	+1.6
H05N1	Guadeloupe/Mar	11.14 99	Pn	Pn	06 29 01.2	+0.9
	SNR=26					
H05N1			Sn	Sn	06 31 01.4	-3.4
PCRV	Puerto La Cruz	11.24 136	Pn	Pn	06 29 01.6	-0.1
	9.7nm,0.3s,baz=319,slow=2.5,SNR=50					
PCRV			Sn	Sn	06 31 07.0	-0.2
	6.4nm,0.3s,baz=244,slow=22,SNR=6.0					
PCRV			LR	LR	06 33 43.9	
	comp=Z,277nm,19.9s,baz=305,slow=39					
FDF	Fort de France	11.51 107	ePn	Pn	06 29 03.7	-1.6
BCIP	Isla Barro Col	11.68 218	ePn	Pn	06 29 04.6	-3.1
H05S1	Guadeloupe/Mar	11.90 108	Pn	Pn	06 29 11.9	+1.3
	SNR=9.7					
H05S1			Sn	Sn	06 31 15.0	-8.3
GRGR	Grenville	12.22 120	Pn	Pn	06 29 13.5	-1.6
ROSC	El Rosal	13.66 188	Pn	Pn	06 29 36.2	+1.1
	2.0nm,0.3s,baz=74,slow=4.5,SNR=25					
ROSC			Sn	Sn	06 32 10.1	+3.0
	0.7nm,0.3s,baz=73,slow=19,SNR=2.5					
ROSC	El Rosal	13.66 188	ePn	Pn	06 29 35.1	-0.1
ROSC			Sn	Sn	06 32 10.1	+3.0
JTS	JuntasAbangare	14.54 238	Pn	Pn	06 29 49.0	+2.2
	0.9nm,0.3s,baz=326,slow=14,SNR=7.5					
JTS			LR	LR	06 35 36.3	
	comp=Z,253nm,18.4s,baz=24,slow=38					
JTS	JuntasAbangare	14.54 238	ePn	Pn	06 29 47.8	+0.9
TEIG	Tepich	14.98 279	Pn	Pn	06 29 53.0	+0.2
	0.9nm,0.3s,baz=298,slow=4.0,SNR=8.3					
BBSR	BB Station	15.51 25	ePn	Pn	06 29 57.6	-2.1
	35nm,0.5s					
TIGA	Tifton	16.33 324	Pn	Pn	06 30 10.6	+0.3
	141nm,1.4s					
APG	El Apazote	17.54 261	P	P	06 30 27.6	+0.7
	0.3nm,0.3s,baz=102,slow=13,SNR=6.6					
APG			LR	LR	06 38 12.0	
	comp=Z,316nm,18.8s,baz=128,slow=41					
KMSC	Kings Mountain	18.35 336	ePn	Pn	06 30 34.0	-1.5
	32nm,1.2s					
KMSC	Kings Mountain	18.35 336	⇑P	Pn	06 30 35.4	0.0
	baz=18					
OTAV	Otavalo	19.05 198	eP	P	06 30 40.6	-3.2
	17nm,0.9s					
LRAL	Lakeview Retre	19.47 321	P	P	06 30 45.2	-2.5
JSRW	J. Sargeant Re	19.71 347	eP	P	06 30 50.9	+0.6
TKL	Tuckaleechee C	19.80 332	P	Pn	06 30 53.2	+0.3
	0.3nm,0.3s,baz=150,slow=14,SNR=5.9					
TKL			LR	LR	06 38 44.3	
	comp=Z,498nm,19.6s,baz=158,slow=38					
TKL	Tuckaleechee C	19.80 332	ePn	P	06 30 51.5	+0.1
VWCC	Virginia Weste	19.81 342	ePn	Pn	06 30 53.6	+0.6
BLA	Blacksburg	19.91 341	ePn	P	06 30 52.7	+0.1
	41nm,0.8s					
CPCT	Cooper Cave	19.97 330	eP	P	06 30 55.8	+0.9
TZTN	Tazewell	20.45 334	ePn	Pn	06 31 00.5	-0.2
	31nm,0.8s					
SWET	Sewanee	20.48 327	eP	P	06 30 59.1	+0.2
	26nm,1.0s					
SDMD	Soldier's Deli	21.19 351	eP	P	06 31 06.1	-0.2
	48nm,1.2s					
MVL	Millersville	21.69 352	eP	P	06 31 12.7	+0.9
	17nm,0.9s					
OXF	Oxford	21.94 320	eP	P	06 31 14.9	+0.5
	52nm,1.0s					
WVT	Waverly	22.18 325	eP	P	06 31 17.0	0.0
	22nm,1.0s					
SSPA	Standing Stone	22.55 349	eP	P	06 31 22.1	+1.0
ODNJ	Ogdensburg	22.59 356	eP	P	06 31 22.6	+1.2
	40nm,1.1s					
WCI	Wyandotte Cave	23.06 331	eP	P	06 31 27.6	+1.2
	23nm,0.9s					
ACSO	Alum Creek Sta	23.48 340	eP	P	06 31 32.0	+1.4
	25nm,0.9s					
USIN	University of	23.50 329	eP	P	06 31 30.6	-0.2
	35nm,1.0s					
PARMO	Parma	23.63 324	eP	P	06 31 31.6	-0.4
BINY	Binghamton	23.82 354	eP	P	06 31 34.9	+1.0
	147nm,2.0s					
BLO	Bloomington	23.93 332	eP	P	06 31 36.1	+1.2
	20nm,0.8s					
HKT	Hockley	24.09 303	eP	P	06 31 37.0	+0.6
	20nm,1.3s					
PBMO	Poplar Bluff	24.09 323	eP	P	06 31 37.4	+0.9
	16nm,0.9s					
SIUC	Southern Illin	24.10 326	eP	P	06 31 37.8	+1.3
	198nm,2.1s					
OLIL	Olney	24.31 329	eP	P	06 31 39.4	+0.9
	19nm,0.8s					
MMNY	Mt. Morris Dam	24.60 350	eP	P	06 31 41.1	+0.1
	54nm,1.1s					
ACCN	Adirondack Com	24.84 358	eP	P	06 31 44.9	+1.7
	18nm,0.8s					
SFIN	Scholer Farm	25.18 333	eP	P	06 31 47.3	+1.0
	33nm,1.0s					
SFIN	Scholer Farm	25.18 333	⇓P	P	06 31 46.8	+0.5
	baz=25					
MDV	Middlebury	25.44 359	P	P	06 31 48.9	+0.2
	62µm,0.6s					
NCB	Newcomb	25.45 357	eP	P	06 31 50.0	+1.2
	22nm,1.1s					
934A	Benavides	25.55 296	⇑P	P	06 31 48.4	-1.5
	baz=26					
AAM	Ann Arbor	25.56 341	eP	P	06 31 49.7	-0.1
834A	Tilden	25.73 297	⇓P	P	06 31 50.9	-0.5
	baz=26					
ATAH	Atahualpa	26.11 193	P	P	06 31 56.5	+1.0
	6.2nm,0.6s,baz=343,slow=19,SNR=3.3					
ATAH			LR	LR	06 43 27.2	
	comp=Z,232nm,20.5s,baz=2.1,slow=39					
534A	Blanco	26.25 301	⇓P	P	06 31 55.1	-1.2
	baz=26,SNR=8.3					
434A	Burnet	26.36 303	⇑P	P	06 31 56.8	-0.5
	baz=26					
833A	Chaparral WMA,	26.49 297	⇓P	P	06 31 58.1	-0.3
	baz=26					
334A	Lometa	26.54 304	⇓P	P	06 31 58.5	-0.3
	baz=26					
633A	Saathoff Ranch	26.64 299	⇓P	P	06 31 59.7	-0.1
	baz=27					
234A	Clairette	26.72 305	⇑P	P	06 32 00.4	0.0
	baz=27					
SADO	Sadowa	26.79 349	P	P	06 32 00.8	0.0
	3.4nm,0.7s,baz=223,slow=2.0,SNR=4.3					
SADO			LR	LR	06 42 07.5	
	comp=Z,267nm,18.6s,baz=176,slow=35					
TUL1	Tulsa	26.91 315	eP	P	06 32 02.9	+0.8
	25nm,1.1s					
TUL1	Tulsa	26.91 315	⇑P	P	06 32 02.6	+0.5
	baz=27					
134A	White-Moore Ra	26.91 306	⇑P	P	06 32 02.3	+0.2
	baz=27					
832A	Faith Ranch, C	26.98 296	⇓P	P	06 32 02.7	0.0
	baz=27					
433A	Art	27.00 302	⇓P	P	06 32 03.2	+0.2
	baz=27					
732A	Laxson Ranch,	27.09 297	⇑P	P	06 32 03.7	-0.1
	baz=27					
333A	Richland Sprin	27.12 303	⇓P	P	06 32 04.0	-0.1
	baz=27,SNR=6.9					
Y34A	Reagan Ranch,	27.29 309	⇑P	P	06 32 07.0	+1.5
	baz=27,SNR=5.3					
532A	Rocksprings	27.45 300	⇓P	P	06 32 07.4	+0.3
	baz=27,SNR=7.6					
133A	Hamilton Ranch	27.57 306	⇑P	P	06 32 08.8	+0.7
	baz=28					
432A	Menard	27.61 302	⇓P	P	06 32 09.1	+0.6
	baz=28					
Z33A	Whitaker Ranch	27.74 307	⇓P	P	06 32 10.6	+1.1
	baz=28					
332A	Millersview	27.75 303	⇑P	P	06 32 10.2	+0.5
	baz=28					
631A	Perdido Creek	27.79 298	⇑P	P	06 32 10.2	+0.1
	baz=28					
531A	Rocksprings	27.99 300	⇑P	P	06 32 12.2	+0.2
	baz=28					
V34A	Guthrie	28.05 313	⇑P	P	06 32 13.1	+0.8
	baz=28					
431A	Sonora	28.21 301	⇓P	P	06 32 13.4	-0.5
	baz=28					
Z32A	Haskell	28.29 307	⇑P	P	06 32 15.0	+0.5
	baz=28					
Y32A	R-V Farms, Ver	28.56 308	⇑P	P	06 32 17.3	+0.4
	baz=28					
JFWS	Jewell Farm	28.61 332	eP	P	06 32 17.3	+0.1
	36nm,0.7s					
530A	J-C Ranch, Com	28.64 299	⇑P	P	06 32 17.9	+0.2
	baz=29					
SAML	Samuel	28.77 161	eP	P	06 32 17.9	-0.9
	9.6nm,0.6s					
W32A	Sentinel	28.92 310	⇓P	P	06 32 20.8	+0.6
	baz=29					
Y31A	Rekieta Farm,	29.16 307	⇑P	P	06 32 23.1	+0.9
	baz=29					
T33A	Patterson Ranc	29.20 315	⇑P	P	06 32 23.4	+0.8
	baz=29					
KSU1	Kansas State U	29.30 320	eP	P	06 32 23.4	0.0
	19nm,1.0s					
KSU1	Kansas State U	29.30 320	⇑P	P	06 32 24.3	+0.9
	baz=29					
W31A	Holland Ranch,	29.46 310	⇓P	P	06 32 25.4	+0.5
	baz=29					
Z30A	Sanderson Ranc	29.55 306	⇑P	P	06 32 26.0	+0.3
	baz=30					
329A	Wagon Wheel Ra	29.58 302	⇓P	P	06 32 26.2	+0.1
	baz=30					
229A	Bryant Ranch,	29.60 303	⇓P	P	06 32 26.7	+0.4
	baz=30					
V31A	Spring Creek L	29.66 311	⇑P	P	06 32 27.3	+0.6
	baz=30					
R33A	Olander Ranch,	29.71 317	⇑P	P	06 32 27.9	+0.9
	baz=30					
T32A	Huddler Ranch,	29.72 314	⇑P	P	06 32 27.9	+0.8
	baz=30					
X30A	Coker Ranch, T	29.82 308	⇑P	P	06 32 29.0	+0.9
	baz=30					
Z29A	Hungry Hill Ra	29.98 305	⇑P	P	06 32 30.5	+0.9
	baz=30					
Q33A	Connelly Farm,	30.01 318	⇑P	P	06 32 30.9	+1.2
	baz=30					
Y29A	Porterfield Fa	30.19 306	⇑P	P	06 32 32.1	+0.7
	baz=30					
T31A	Randall Ranch,	30.19 313	⇑P	P	06 32 32.3	+1.0
	baz=30					
S31A	Mullinville	30.33 314	⇑P	P	06 32 32.9	+0.4
	baz=30					
128A	Castleberry Fa	30.36 303	⇑P	P	06 32 32.8	-0.2
	baz=30					
TXAR	Lajitas Array	30.38 297	P	P	06 32 33.8	+0.7
	1.1nm,0.8s,baz=108,slow=8.0,SNR=6.0					
X29A	Tulia	30.44 307	⇑P	P	06 32 33.9	+0.2
	baz=30					
Q32A	Meitler Ranch,	30.46 318	⇓P	P	06 32 34.3	+0.5
	baz=30					
U30A	WK&E Inc. Balk	30.59 312	⇑P	P	06 32 35.7	+0.7
	baz=31					
AMTX	Amarillo	30.61 308	eP	P	06 32 39.0	+3.9
	8.0nm,1.0s					
AMTX	Amarillo	30.61 308	⇑P	P	06 32 35.5	+0.3
	baz=31					
R31A	Burdett	30.71 316	⇑P	P	06 32 36.7	+0.8
	baz=31					
S30A	Montezuma	31.00 314	⇑P	P	06 32 39.1	+0.6
	baz=31					
Z27A	Tatum	31.18 304	⇓P	P	06 32 40.3	0.0
	baz=31					
R30A	Dighton	31.21 315	⇑P	P	06 32 41.0	+0.6
	baz=31					
P31A	Stockton	31.29 318	⇓P	P	06 32 41.8	+0.8
	baz=31					
S29A	Ulysses	31.45 313	⇓P	P	06 32 43.2	+0.8
	baz=31					
Q30A	Quinter	31.54 316	⇓P	P	06 32 44.1	+0.9
	baz=32					
SPMN	St. Paul	31.57 332	⇓P	P	06 32 43.2	-0.1
	baz=32					
P30A	Selden	31.86 317	⇑P	P	06 32 45.9	-0.2
	baz=32					
Y26A	Elida	31.87 305	⇑P	P	06 32 45.2	-1.1
	baz=32					
T28A	Walsh	31.91 312	⇓P	P	06 32 46.5	-0.1
	baz=32					
S28A	Manter	31.97 313	⇓P	P	06 32 47.0	-0.2
	baz=32					
Q29A	Oakley	31.99 315	⇓P	P	06 32 47.5	+0.2
	baz=32,SNR=7.9					
X26A	CR and CF Fran	32.09 306	⇑P	P	06 32 47.9	-0.3
	baz=32					
O30A	MW Ranch, Wils	32.09 318	⇓P	P	06 32 48.5	+0.4
	baz=32					
U27A	Thompson Grove	32.10 310	⇓P	P	06 32 47.9	-0.4
	baz=32					
W26A	Owens Ranch, T	32.26 307	⇑P	P	06 32 49.7	0.0
	baz=32					
R28A	Tribune	32.28 314	⇓P	P	06 32 49.9	+0.1
	baz=32					
ECSD	EROS Data Cent	32.32 326	⇓P	P	06 32 50.0	0.0
	baz=32					
Z25A	Roswell	32.35 303	⇓P	P	06 32 50.0	-0.5
	baz=32,SNR=6.1					
O29A	4D Ranch, Culb	32.53 317	⇓P	P	06 32 52.4	+0.4
	baz=32					
V26A	Tequesquite Ra	32.55 308	⇓P	P	06 32 52.0	-0.3
	baz=32					
U26A	Atchley Ranch,	32.76 309	⇓P	P	06 32 54.2	-0.1
	baz=33					
W25A	X Bar L Ranch,	32.83 307	⇓P	P	06 32 54.8	0.0
	baz=33					
P28A	Saint Francis	32.86 316	⇓P	P	06 32 55.2	+0.3
	baz=33					
Z24A	Sheeppen Canyo	32.88 303	⇓P	P	06 32 55.8	+0.5
	baz=33,SNR=7.1					
L30A	Spencer Herefo	32.91 321	⇑P	P	06 32 56.1	+0.8
	baz=33					
R27A	Eads	32.93 313	⇑P	P	06 32 56.0	+0.4
	baz=33					
T26A	Comanche Natio	32.99 311	⇑P	P	06 32 56.1	0.0
	baz=33					
Y24A	Capitan	33.13 304	⇑P	P	06 32 57.7	+0.2
	baz=33,SNR=7.4					
V25A	Rancho No Teng	33.19 308	⇑P	P	06 32 58.4	+0.5
	baz=33,SNR=5.9					
M29A	Burnside Ranch	33.20 320	⇓P	P	06 32 58.8	+1.0
	baz=33					
EYMN	Ely	33.21 336	eP	P	06 32 57.7	-0.1
	8.0nm,0.9s					
U25A	Circle Dot Ran	33.26 309	⇓P	P	06 32 58.4	-0.1
	baz=33					
K30A	Basset	33.29 322	⇓P	P	06 32 58.9	+0.4
	baz=33					
N28A	Pribbeno Ranch	33.31 318	⇑P	P	06 32 59.5	+0.6
	baz=33					
X24A	Lazy VL Ranch,	33.34 305	⇓P	P	06 33 00.3	+1.0
	baz=33,SNR=5.3					
R26A	Arlington	33.39 313	⇓P	P	06 33 00.7	+1.1
	baz=33					
W24A	Lazy 6 Ranch,	33.55 306	⇓P	P	06 33 02.2	+1.0
	baz=34,SNR=5.5					
T25A	Trinidad	33.56 310	⇓P	P	06 33 01.9	+0.7
	baz=34					
Y23A	Lovelace Mesa,	33.62 304	⇑P	P	06 33 02.3	+0.6
	baz=34					
J30A	Dallas	33.63 323	⇓P	P	06 33 01.5	+0.1
	baz=34					
Q26A	Hugo	33.73 314	⇓P	P	06 33 03.3	+0.8
	baz=34					
S25A	Robets Cordova	33.80 311	⇑P	P	06 33 03.6	+0.4
	baz=34					
R25A	Fountain Ranch	33.91 312	⇑P	P	06 33 04.5	+0.4
	baz=34					
X23A	Hourglass Bar	33.94 305	⇑P	P	06 33 04.8	+0.4
	baz=34					
T24B	San Luis	34.24 309	⇑P	P	06 33 07.6	+0.4
	baz=34					
ANMO	Albuquerque	34.27 305	eP	P	06 33 12.4	+5.1
	51nm,2.8s					
V23A	Ortiz Mt. (NFS	34.33 307	⇓P	P	06 33 08.7	+0.8
	baz=34					
K28A	Ten Mile Ranch	34.35 321	⇓P	P	06 33 08.6	+0.7
	baz=34					
S24A	Houchin Ranch,	34.35 311	⇑P	P	06 33 08.3	+0.2
	baz=34					
R24A	Sanders Place,	34.53 312	⇓P	P	06 33 09.6	+0.1
	baz=34					
U23A	El Rito	34.55 308	⇑P	P	06 33 10.9	+1.0
	baz=34,SNR=6.5					
L27A	T5 Ranch, Ells	34.57 319	⇓P	P	06 33 09.5	-0.2
	baz=35					
121A	Cookes Peak, D	34.60 301	eP	P	06 33 13.9	+3.7
	11nm,1.2s					
LPAZ	La Paz	34.82 173	P	P	06 33 14.0	+1.4
	2.2nm,0.7s,baz=40,slow=4.2,SNR=9.5					
LPAZ	La Paz	34.82 173	eP	P	06 33 12.3	-0.4
K27A	Flueckinger Fa	34.87 320	⇓P	P	06 33 12.4	+0.1
	baz=35					
V22A	San Miguel Ran	34.95 307	⇓P	P	06 33 14.4	+1.1
	baz=35,SNR=5.0					
R23A	Moffat	35.02 311	⇓P	P	06 33 14.1	+0.2
	baz=35					
U22A	Llaves	35.07 308	⇓P	P	06 33 15.7	+1.4
	baz=35,SNR=5.3					
AGMN	Agassiz Nation	35.27 333	eP	P	06 33 15.8	+0.2
	8.4nm,0.8s					
AGMN	Agassiz Nation	35.27 333	⇑P	P	06 33 16.0	+0.4
	baz=35					
E30A	Jud	35.41 328	⇓P	P	06 33 17.1	+0.3
	baz=35					
G28A	Parade	35.52 325	⇓P	P	06 33 18.3	+0.4
	baz=36					
I27A	Quinn	35.55 322	⇑P	P	06 33 18.1	-0.1
	baz=36					
319A	Douglas	35.56 298	⇑P	P	06 33 18.5	+0.1
	baz=36					
S22A	4UR Ranch, Cre	35.57 310	⇑P	P	06 33 19.2	+0.5
	baz=36					
ISCO	Idaho Springs	35.57 314	eP	P	06 33 22.6	+3.9
	5.3nm,1.3s					
D30A	Buchanan	35.75 329	⇓P	P	06 33 20.2	+0.5
	baz=36,SNR=5.5					
E29A	Napoleon	35.82 327	⇓P	P	06 33 20.9	+0.5
	baz=36					
M24A	Cheyenne	35.84 317	⇓P	P	06 33 20.7	-0.1
	baz=36					
H27A	Howes	35.90 323	⇓P	P	06 33 21.2	+0.1
	baz=36					
C30A	Mose, Pekin	36.03 330	⇓P	P	06 33 22.5	+0.4
	baz=36,SNR=7.2					
D29A	Pettibone, Tap	36.13 328	⇓P	P	06 33 23.8	+0.8
	baz=36					
PHWY	Pilot Hill	36.17 316	eP	P	06 33 28.1	+4.3
	44nm,2.6s					
L24A	Wheatland	36.20 317	⇑P	P	06 33 24.4	+0.6
	baz=36					
SMCO	Snowmass	36.25 312	eP	P	06 33 25.2	+0.6
	17nm,1.7s					
G27A	Dupree	36.27 324	⇓P	P	06 33 24.8	+0.5
	baz=36					
E28A	Huff	36.37 327	⇓P	P	06 33 25.1	0.0
	baz=36					
B30A	Myrvik Farm, E	36.49 331	⇑P	P	06 33 26.5	+0.4
	baz=36,SNR=5.9					
I25A	Rochford	36.51 321	⇓P	P	06 33 27.0	+0.4
	baz=36					
SCHQ	Schefferville	36.54 6	P	P	06 33 26.5	+0.2
	8.1nm,0.7s,baz=201,slow=6.8,SNR=26					
SCHQ			LR	LR	06 48 45.3	
	comp=Z,114nm,18.1s,baz=143,slow=37					
G26A	Maurine	36.60 324	⇓P	P	06 33 27.5	+0.5
	baz=37					
N22A	Wattenberg Ran	36.60 315	⇓P	P	06 33 27.8	+0.3
	baz=37					
D28A	Regan	36.71 328	⇑P	P	06 33 28.3	+0.3
	baz=37					
L23A	Garrett	36.73 317	⇑P	P	06 33 28.1	-0.4
	baz=37,SNR=5.4					
E27A	Carson	36.73 326	⇑P	P	06 33 28.9	+0.7
	baz=37					

H25A Fruitdale 36.77 322 ⇓P P 06 33 28.7 +0.1
baz=37
ULM Lac du Bonnet 36.78 335 P P 06 33 27.8 -0.6
9.0nm,0.9s,baz=136,slow=6.9,SNR=16
ULM Lac du Bonnet 36.78 335 eP P 06 33 27.7 -0.8
8.6nm,1.0s
A30A Hoffart Farm, 36.84 331 ⇑P P 06 33 29.2 +0.2
baz=37,SNR=18
F26A Lodgepole 36.97 324 ⇓P P 06 33 30.6 +0.4
baz=37
B29A Wagenman Farm, 36.98 330 ⇓P P 06 33 30.9 +0.6
baz=37
G25A Newell 37.00 323 ⇑P P 06 33 30.8 +0.3
baz=37
E26A Carlson Angus 37.24 325 ⇓P P 06 33 32.9 +0.4
baz=37
A29A Manning Farm, 37.25 331 ⇑P P 06 33 32.7 +0.2
baz=37,SNR=11
J23A Dilts Ranch, B 37.29 319 ⇑P P 06 33 33.1 0.0
baz=37
H24A Dirks Ranch, A 37.41 322 ⇑P P 06 33 34.0 -0.1
baz=37
B28A Dugan Ranch, T 37.46 329 ⇑P P 06 33 35.0 +0.7
baz=38
K22A Casper 37.52 317 eP P 06 33 35.2 +0.2
K22A Casper 37.52 317 ⇑P P 06 33 35.3 +0.2
baz=38
O20A White River Ci 37.54 313 ⇓P P 06 33 35.6 +0.3
baz=38
A28A Rude Farm, Bot 37.73 330 ⇑P P 06 33 37.3 +0.7
baz=38
J22A Midwest 37.87 318 ⇑P P 06 33 38.4 +0.4
baz=38
C26A Wahner Farm, P 37.91 327 ⇑P P 06 33 38.3 +0.1
baz=38,SNR=7.5
K21A Alcova 37.98 317 ⇑P P 06 33 39.4 +0.4
baz=38,SNR=13
I22A 9 Mile Ranch, 38.12 319 ⇑P P 06 33 40.5 +0.4
baz=38
B26A Jensen Ranch, 38.34 328 ⇑P P 06 33 43.0 +1.2
baz=38
F23A Volborg 38.45 322 ⇑P P 06 33 42.8 0.0
baz=38
J21A Lysite 38.45 318 ⇓P P 06 33 43.0 0.0
baz=38,SNR=7.7
A26A Wade Farm, Ken 38.58 329 ⇓P P 06 33 44.2 +0.4
baz=39
I21A Big Trails, Te 38.59 319 ⇑P P 06 33 43.4 -0.7
baz=39,SNR=9.4
D24A Glendive 38.65 325 ⇑P P 06 33 44.6 +0.2
baz=39
G22A Birney 38.70 321 ⇓P P 06 33 45.0 +0.1
baz=39
J20A Shoshoni 38.87 317 ⇑P P 06 33 46.6 +0.2
baz=39
F22A Rosebud 38.98 322 ⇑P P 06 33 47.2 0.0
baz=39,SNR=7.1
A25A Svangstu Ranch 39.15 328 ⇑P P 06 33 49.4 +0.9
baz=39
D23A Lindsay 39.17 324 ⇑P P 06 33 48.8 +0.1
baz=39
I20A Worland 39.18 318 ⇑P P 06 33 49.0 0.0
baz=39
U15A North Rim 39.24 305 ⇑P P 06 33 50.2 +0.4
baz=39,SNR=5.3
J19A Crowheart 39.45 317 ⇑P P 06 33 51.7 +0.4
baz=39
C23A Lambert 39.53 325 ⇑P P 06 33 52.3 +0.6
baz=40
A24A Westby 39.59 327 ⇓P P 06 33 52.9 +0.7
baz=40,SNR=9.8
D22A Cohagen 39.70 324 ⇑P P 06 33 54.0 +0.8
baz=40
I19A Meeteetse 39.77 318 ⇑P P 06 33 54.1 +0.1
baz=40
B23A Brockton 39.82 326 ⇑P P 06 33 55.1 +0.9
baz=40
C22A Vida 39.88 325 ⇑P P 06 33 54.9 +0.2
baz=40
MPU Maple Canyon 39.89 311 eP P 06 33 59.4 +4.3
JLU Jordanelle 39.97 312 eP P 06 33 57.0 +1.1
37nm,2.3s
A23A Redstone 40.06 327 ⇓P P 06 33 57.3 +1.2
baz=40
H19A Powell 40.07 319 ⇓P P 06 33 56.5 +0.1
baz=40
D21A La Casta Ranch 40.11 323 ⇑P P 06 33 57.0 +0.4
baz=40
F20A Billings 40.12 321 ⇓P P 06 33 57.0 +0.2
baz=40
W13A Hualapai Mount 40.15 303 ⇓P P 06 33 58.4 +1.0
baz=40
B22A Reddig Ranch S 40.26 325 ⇓P P 06 33 58.6 +0.7
baz=40
RLMT Red Lodge 40.46 319 eP P 06 33 59.7 -0.1
17nm,1.3s
E20A Meyer Farm, Mu 40.47 322 ⇓P P 06 33 59.4 -0.2
baz=40
H18A Shoshone NF, C 40.49 318 ⇓P P 06 33 59.5 -0.5
baz=40,SNR=5.8
ARUT Antelope Range 40.51 307 eP P 06 34 00.6 +0.4
124nm,1.0s
C21A Desert Coulee 40.59 324 ⇑P P 06 34 01.1 +0.5
baz=41
LOHW Long Hollow 40.62 316 eP P 06 34 01.6 +0.6
17nm,1.4s
F19A Roth Farm, Mol 40.62 320 ⇑P P 06 34 01.0 +0.1
baz=41
A22A Carney Farms, 40.63 326 ⇓P P 06 34 01.7 +0.9
baz=41,SNR=7.9
REDW Red Top Meadow 40.67 316 eP P 06 34 01.7 +0.2
18nm,1.1s
I17A Pilgrim Ck. 40.73 317 ⇓P P 06 34 02.3 +0.3
baz=41,SNR=8.2
D20A Manuel Ranch, 40.78 322 ⇑P P 06 34 02.3 +0.1
baz=41
TPAW Teton Pass 40.79 316 eP P 06 34 03.2 +0.6
8.6nm,1.0s
DUG Dugway 40.80 311 eP P 06 34 01.9 -0.6
5.3nm,1.1s
DUG Dugway 40.80 311 ⇑P P 06 34 02.3 -0.2
baz=41
E19A Rath Farm, Rou 40.83 321 ⇑P P 06 34 03.0 +0.4
baz=41
FLWY Flagg Ranch 40.88 317 eP P 06 34 03.0 -0.2
FXWY Fox Creek 40.90 316 eP P 06 34 03.5 0.0
8.5nm,1.1s
H17A Grant Village 40.94 318 eP P 06 34 06.8 +2.9
H17A Grant Village 40.94 318 ⇑P P 06 34 03.8 0.0
baz=41
IMW Indian Meadow 40.96 317 eP P 06 34 04.3 +0.3
IRM Iron Mountain 40.97 301 ⇑P P 06 34 02.7 -1.2
baz=41,SNR=5.3
C20A Veseth Ranch, 41.04 323 ⇑P P 06 34 04.9 +0.6
baz=41
A21A Bergtoll Ranch 41.16 326 ⇓P P 06 34 06.4 +1.1
baz=41,SNR=8.9
BGU Big Grassy Mou 41.21 312 eP P 06 34 07.1 +1.2
D19A Cripps Ranch, 41.25 322 ⇓P P 06 34 06.5 +0.4
baz=41
SHPR Sheep Range 41.49 305 eP P 06 34 13.1 +4.8
BDFB Brasilia 41.62 143 P P 06 34 09.5 +0.2
7.7nm,0.6s,baz=307,slow=7.5,SNR=16
A20A Cobblestone Ra 41.64 325 ⇑P P 06 34 09.8 +0.5
baz=42,SNR=10
C19A Slack Wire Ran 41.65 323 ⇑P P 06 34 09.5 +0.2
baz=42
QLMT Earthquake Lak 41.68 318 eP P 06 34 13.6 +3.8
B19A Brinkman Farms 41.97 324 ⇑P P 06 34 12.7 +0.7
baz=42
A19A Klindworth Far 42.12 324 ⇓P P 06 34 13.8 +0.6
baz=42
BOZ Bozeman (W) 42.18 319 eP P 06 34 13.9 +0.2
19nm,1.8s
EGMT Eagleton 42.21 323 eP P 06 34 14.6 +0.7
15nm,1.4s
EGMT Eagleton 42.21 323 ⇓P P 06 34 14.4 +0.5
baz=42
R11A Troy Canyon, C 42.29 307 ⇑P P 06 34 14.9 +0.1
baz=42
MURC Murrieta 42.55 300 ⇓P P 06 34 17.0 +0.2
baz=42
FFC Flin Flon 42.61 335 eP P 06 34 16.1 -0.8
DLMT Dillon 42.66 318 eP P 06 34 18.8 +1.1
HRY Holter Researc 42.79 320 eP P 06 34 21.3 +2.6
HLID Hailey 43.12 315 eP P 06 34 25.4 +3.8
HLID Hailey 43.12 315 ⇑P P 06 34 21.9 +0.3
baz=43

FCC Fort Churchill 43.20 344 eP P 06 34 20.6 -1.1
RCBR Riachuelo 43.43 120 P P 06 34 25.5 +1.3
13nm,1.1s,baz=308,slow=4.6,SNR=4.1
TPH Tonopah 43.47 306 eP P 06 34 23.4 -1.0
MFID Camas Ranch 44.03 314 eP P 06 34 28.8 0.0
3.6nm,0.9s
NVAR Mina Array Bea 44.38 306 P P 06 34 32.7 +0.9
1.4nm,0.9s,baz=76,slow=7.5,SNR=10
SWMT Swartz Lake 44.47 320 eP P 06 34 30.3 -1.9
JTMT Jette 44.75 320 eP P 06 34 35.1 +0.7
BSMT Bassoo Peak 45.10 320 eP P 06 34 36.1 -1.2
8.7nm,1.5s
NEW Newport 46.70 320 eP P 06 34 49.4 -0.3
9.5nm,1.1s
NEW Newport 46.70 320 ⇓P P 06 34 49.6 -0.1
baz=47,SNR=6.8
EDM Edmonton 46.88 327 eP P 06 34 50.4 -0.7
CPUP Villa Florida 46.93 161 P P 06 34 50.5 -1.1
2.4nm,0.6s,baz=338,slow=11,SNR=6.4
CPUP Villa Florida 46.93 161 eP P 06 34 50.0 -1.7
0.3nm,0.7s
SFJD Kangerlussuaq 50.51 11 P P 06 35 18.8 +0.1
9.4nm,0.7s,baz=221,slow=5.9,SNR=5.9
YKA Yellowknife Ar 52.69 337 P P 06 35 34.8 -0.3
3.5nm,0.8s,baz=123,slow=7.3,SNR=44
SUMG Summit 57.49 12⇓iP P 06 36 10.4 +0.3
27nm,0.9s
SUMG Summit 57.49 12 eP P 06 36 10.3 +0.2
42nm,1.0s
RES Resolute Bay 57.52 353 eP P 06 36 09.3 -0.4
3.7nm,0.9s
PLCA Paso Flores 58.94 178 P P 06 36 20.1 -0.2
4.3nm,0.7s,baz=357,slow=9.0,SNR=11
ESDC Sonseca Array 62.07 54 P P 06 36 42.9 +1.1
2.2nm,0.6s,baz=276,slow=7.4,SNR=16
ROSF Rostrenen 62.66 45 eP P 06 36 46.2 +0.7
ROSF Rostrenen 62.66 45 eP P 06 36 46.2 +0.7
SJPF Ste Jean 64.05 50 eP P 06 36 56.1 +1.3
23nm,0.8s
SJPF Ste Jean 64.05 50 eP P 06 36 56.1 +1.3
23nm,0.8s
DAG Danmarks Havn 64.17 12 iP P 06 36 54.2 -0.8
5.4nm,0.9s
GRR Gorron 64.27 45 eP P 06 36 56.1 0.0
41nm,1.2s
GRR Gorron 64.27 45 eP P 06 36 56.1 0.0
41nm,1.2s
FLN La Foliniere 64.53 44 eP P 06 36 59.3 +1.5
FLN eR
166nm,20.2s
FLN La Foliniere 64.53 44 eP P 06 36 59.3 +1.5
ETSF Etsaut 64.54 51 eP P 06 36 58.3 +0.2
23nm,1.0s
ETSF Etsaut 64.54 51 eP P 06 36 58.3 +0.2
23nm,1.0s
MFF Saint Martin d 64.75 47 eP P 06 37 00.2 +0.9
21nm,0.7s
MFF Saint Martin d 64.75 47 eP P 06 37 00.2 +0.9
21nm,0.7s
LDF La Druitiere 64.76 44 eP P 06 37 00.0 +0.6
LDF La Druitiere 64.76 44 eP P 06 37 00.0 +0.6
EPF Esparros 65.19 51 eP P 06 37 03.7 +1.3
28nm,1.0s
EPF Esparros 65.19 51 eP P 06 37 03.7 +1.3
28nm,1.0s
LFF La Frestale 65.41 48 eP P 06 37 04.3 +0.7
LFF La Frestale 65.41 48 eP P 06 37 04.3 +0.7
RJF Les Rejaudoux 65.94 48 eP P 06 37 07.6 +0.5
RJF eR
97nm,20.5s
RJF Les Rejaudoux 65.94 48 eP P 06 37 07.6 +0.5
PAX Paxson 65.96 331 eP P 06 37 06.9 -0.1
12nm,1.6s
CAF Calviac 66.35 48 eP P 06 37 10.4 +0.6
CAF Calviac 66.35 48 eP P 06 37 10.4 +0.6
TCF Toulx Ste Croi 66.39 47 eP P 06 37 10.4 +0.4
TCF Toulx Ste Croi 66.39 47 eP P 06 37 10.4 +0.4
MTLF Montolieu 66.55 50 eP P 06 37 11.6 +0.6
13nm,0.8s
MTLF Montolieu 66.55 50 eP P 06 37 11.6 +0.6
13nm,0.8s
ILAR Eielson Array 66.78 333 P P 06 37 11.9 -0.2
1.2nm,0.9s,baz=106,slow=4.2,SNR=15
BGF Bois d'Agland 66.81 47 eP P 06 37 12.7 0.0
23nm,0.9s
BGF Bois d'Agland 66.81 47 eP P 06 37 12.7 0.0
23nm,0.9s
AVF Avril sur Loir 67.15 46 eP P 06 37 15.0 +0.2
AVF Avril sur Loir 67.15 46 eP P 06 37 15.0 +0.2
SSF Saint Saulge 67.24 46 eP P 06 37 16.4 +1.0
SSF Saint Saulge 67.24 46 eP P 06 37 16.4 +1.0
LOR Lormes 67.47 46 eP P 06 37 17.1 +0.3
13nm,0.8s
LOR eR
158nm,18.0s
LOR Lormes 67.47 46 eP P 06 37 17.1 +0.3
13nm,0.8s
SMF Signal de Mont 67.50 46 eP P 06 37 17.2 +0.2
13nm,0.9s
SMF Signal de Mont 67.50 46 eP P 06 37 17.2 +0.2
13nm,0.9s
LASF Ste Croix 67.68 49 eP P 06 37 19.3 +1.1
16nm,0.9s
LASF Ste Croix 67.68 49 eP P 06 37 19.3 +1.1
16nm,0.9s
MEZF Maizieres J'vi 68.20 44 eP P 06 37 22.0 +0.6
MEZF Maizieres J'vi 68.20 44 eP P 06 37 22.0 +0.6
VIVF Saint-Julien-l 68.20 48 eP P 06 37 22.8 +1.3
24nm,1.0s
VIVF Saint-Julien-l 68.20 48 eP P 06 37 22.8 +1.3
24nm,1.0s
SFTF Sexfontaines 68.21 45 eP P 06 37 21.8 +0.3
13nm,0.8s
SFTF Sexfontaines 68.21 45 eP P 06 37 21.8 +0.3
13nm,0.8s
COLD Coldfoot 68.34 336 eP P 06 37 22.9 +1.0
19nm,1.6s
ORIF Oris-en-Rattie 69.05 48 eP P 06 37 28.2 +1.3
ORIF Oris-en-Rattie 69.05 48 eP P 06 37 28.2 +1.3
LPL La Plagne 69.59 47 eP P 06 37 31.4 +1.0
15nm,0.8s
LPL La Plagne 69.59 47 eP P 06 37 31.4 +1.0
15nm,0.8s
LPG La Plagne 69.61 47 eP P 06 37 31.5 +0.9
8.2nm,0.7s
LPG La Plagne 69.61 47 eP P 06 37 31.5 +0.9
8.2nm,0.7s
CDF Champ du Feu 69.68 44 eP P 06 37 31.0 +0.3
CDF Champ du Feu 69.68 44 eP P 06 37 31.0 +0.3
MBDF Montbardon 69.70 48 eP P 06 37 32.8 +1.8
27nm,1.0s
MBDF Montbardon 69.70 48 eP P 06 37 32.8 +1.8
27nm,1.0s
IM04 Indian Mountai 69.73 334 eP P 06 37 29.6 -1.0
SBF Sospel 70.27 49 eP P 06 37 35.0 +0.6
40nm,0.9s
SBF Sospel 70.27 49 eP P 06 37 35.0 +0.6
40nm,0.9s
NB2 NORSAR Subarra 70.98 31 P P 06 37 39.2 +0.9
comp=Z,4.2nm,1.0s,baz=278,slow=6.2
NOA NORSAR Array B 70.98 31 P P 06 37 39.3 +0.9
comp=Z,1.1nm,0.8s,baz=274,slow=6.3,SNR=3.9
TORD Torodi Ar. Bea 71.16 82 P P 06 37 39.9 -0.3
comp=Z,1.3nm,1.0s,baz=288,slow=5.6,SNR=5.4
GRF Grafenberg Arr 72.12 43 eP P 06 37 50.2 +4.8
comp=Z,6.0nm,1.1s
FETA Feichten 72.16 46⇑iP P 06 37 47.2 +1.3
comp=Z,6.7nm,0.8s
KEST Kesra 72.98 57 P P 06 37 52.1 +1.2
comp=Z,2.5nm,0.7s,baz=245,slow=1.5,SNR=8.3
KEST Kesra 72.98 57 eP P 06 37 51.6 +0.7
CLL Collm 73.02 41 eP P 06 37 49.0 -1.7
BRG Berggiesshubel 73.67 41 iP P 06 37 55.4 +0.8
comp=Z,5.1nm,0.8s
KHC Kasperske Hory 73.73 43 eP P 06 37 56.0 +1.0
GERES GERESS Array B 73.86 43 P P 06 37 56.7 +0.8
comp=Z,4.4nm,0.9s,baz=270,slow=4.0,SNR=24
TNA Tin City 75.56 335 eP P 06 38 05.6 +0.4
comp=Z,3.4nm,0.9s
ARCES ARCESS Array B 75.61 21 P P 06 38 05.8 +0.3
comp=Z,2.9nm,0.9s,baz=242,slow=1.9,SNR=6.4
MORC Moravsky Berou 76.15 42 eP P 06 38 09.8 +0.9
comp=Z,2.6nm,0.7s
VYHS Vyhne 77.26 43 eP P 06 38 16.8 +1.6
FINES FINESS Array B 77.97 29 P P 06 38 19.4 +0.5
comp=Z,1.8nm,0.6s,baz=220,slow=4.7,SNR=6.5

CRVS Cervenica-Dubn 78.84 42 eP P 06 38 24.9 +0.9
CRVS e 06 56 48.5
AKASG Malin Array Be 83.08 39 P P 06 38 46.8 +0.2
comp=Z,1.6nm,0.6s,baz=290,slow=4.2,SNR=8.1
PPT Papeete 83.80 249 LR LR 07 07 31.7
comp=Z,64nm,19.3s,baz=344,slow=30
BILL Bilibino 83.86 341 eP P 06 38 50.7 +0.4
comp=Z,14nm,1.3s
BRTR Keskin Array B 90.17 48 P P 06 39 22.4 +0.6
comp=Z,1.2nm,0.7s,baz=278,slow=3.6,SNR=7.8
SYO Syowa Base 115.00 158⇑eP PP 06 46 07.0 +6.4
KSH Kashi 115.22 27 ePKP PKPdf 06 45 05.3 +2.4
WMQ Urumqi 115.40 16 ePKP PKPdf 06 44 59.8 -3.2
WMQ LR LR
comp=Z,67nm,20.0s
WMQ LR LR
comp=Z,65nm,21.6s
WMQ LR LR
comp=Z,73nm,19.6s
HHC Hu-ho-hao-te 120.85 356 ePKP PKPdf 06 45 03.3 -10
HHC PP PP 06 46 27.4 -13
HHC Hu-ho-hao-te 120.85 356 SS SS 07 02 51.1 -20
HHC AMB AMB
comp=Z,270nm,18.1s
HHC LR LR
comp=N,530nm,17.2s
HHC LR LR
comp=E,320nm,16.7s
HHC LR LR
comp=Z,400nm,19.6s
LZH Lanzhou 125.61 4 ePKP PKPdf 06 45 22.4 -0.6
LZH sPKP 06 45 27.0
LZH LR LR
comp=Z,150nm,17.9s
LZH LR LR
comp=Z,160nm,18.0s
LZH LR LR
comp=Z,190nm,20.1s
CD2 Chengdu 130.76 4 PKP PKPdf 06 45 32.4 -0.4
CD2 PP PP 06 47 51.3 +4.7
CD2 PKS PKSdf 06 49 07.4 -2.1
CD2 SKS SKSdf 06 52 41.3 -3.1
CD2 SKKS SKKSac 06 54 41.5 -3.3
CD2 SS SS 07 05 15.9 +1.0
STKA Stephens Creek 146.53 240 PKPbc PKPab 06 46 03.5 -0.3
comp=Z,1.8nm,0.7s,baz=99,slow=5.6,SNR=6.2
ASAR Alice Springs 154.84 254 PKPbc PKPbc 06 46 21.3 -1.8
comp=Z,0.7nm,0.8s,baz=92,slow=2.4,SNR=5.3

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*ISCJB **23** 06:38:01.3±0.8, 18°.5N±0°.1×72°.5W±0°.1, h13km, mb3.5/6, Error ellipse: s-maj=20.0km s-min=14.3km az=153.1*
*IDC **23** 06:38:01.2±1.1, 18°.54N×72°.29W, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/26, mbtmp3.7/7, ML2.4/1, Error ellipse: s-maj=41.2km s-min=23.7km az=63.0*
ISC 23 06:38:03.0±0.9, **18°.5N**±0°.1×**72°.3W**±0°.2, **h13**km, **n8**, σ**1s.00**/7, **mb3.6**/6, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05N1	Guadeloupe/Mar	10.98	100	Pn	Pn	06 40 43.3	+3.4
	SNR=5.6						
ROSC	El Rosal	13.69	188	Pn	Pn	06 41 17.0	-0.3
	0.4nm,0.3s,baz=86,slow=13,SNR=4.4						
SCHQ	Schefferville	36.52	5	P	P	06 45 07.6	-0.5
	2.1nm,0.7s,baz=211,slow=5.9,SNR=3.7						
BDFB	Brasilia	41.52	143	P	P	06 45 50.6	+0.2
	1.5nm,0.6s,baz=291,slow=8.6,SNR=4.6						
NVAR	Mina Array Bea	44.50	306	P	P	06 46 15.5	+0.9
	0.3nm,0.7s,baz=97,slow=7.5,SNR=3.5						
YKA	Yellowknife Ar	52.75	337	P	P	06 47 15.9	-1.5
	0.4nm,0.7s,baz=127,slow=7.6,SNR=6.8						
ILAR	Eielson Array	66.85	333	P	P	06 48 55.1	+0.7
	0.2nm,0.7s,baz=97,slow=5.0,SNR=2.8						
GERES	GERESS Array B	73.74	43	P	P	06 49 37.5	+0.5
	0.2nm,0.2s,baz=289,slow=6.0,SNR=4.1						

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*IDC **23** 06:42:27.6±0.6, 5°.17S×130°.98E, h0km, mb4.3/11, mb1 4.6/13, mb1mx4.4/27, mbtmp4.4/13, ML4.8/2, MS4.1/1, Ms1 4.0/1, ms1mx3.1/38, Error ellipse: s-maj=33.8km s-min=14.1km az=80.0*
*ISCJB **23** 06:42:34.9±0.4, 5°.24S±0°.02×131°.08E±0°.03, h73km±4km, mb4.5/31, Error ellipse: s-maj=4.8km s-min=3.9km az=170.4*
*DJA **23** 06:42:37.7±1.1, 5°S±2°×13°1E±°, h28km±12km, M5.3/29, mB5.7/18, mb5.2/29, MLv5.5/16, Mw(mB)5.2/18*
*BJI **23** 06:42:37.4, 5°.19S×130°.80E, h88km, mB5.0/19, mb4.7/35, Ms4.7/13, Ms7 4.3/7*
*NEIC **23** 06:42:38.6±0.8, 5°.14S×131°.01E, h88km±8km, mb4.6/15, Error ellipse: s-maj=8.8km s-min=6.6km az=59.0*
ISC 23 06:42:38.8±0.4, **5°.22S**±0°.04×**131°.17E**±0°.04, **h99**km±3km, **n113**, σ**1s.70**/121, **mb4.5**/31, **1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.44	299	P	Pn	06 42 58.8	-5.5
BNDI				S	Sn	06 43 16.6	-6.9
FAKI	Fak Fak	2.53	25	P	Pn	06 43 16.2	-2.2
FAKI				S	Sn	06 43 42.9	-5.8
FAKI	Fak Fak	2.53	25	ePn	Pn	06 43 15.9	-2.5
FAKI				eSn	Sn	06 43 42.2	-6.5
FAKI	Fak Fak	2.53	25	P	Pn	06 43 15.6	-2.8
	baz=2.8,SNR=986						
FAKI				S	Sn	06 43 44.6	-4.1
	baz=2.8,SNR=36						
SAUI	Saumlaki	2.75	177	P	Pn	06 43 22.0	+0.8
SAUI				S	Sn	06 43 55.4	+1.6
SAUI	Saumlaki	2.75	177	ePn	Pn	06 43 21.4	+0.1
MSAI	Masohi	2.91	310	P	Pn	06 43 18.1	-5.2
KMPI	Kaimana, Papua	2.97	59	P	Pn	06 43 24.3	+0.1
SWI	Sorong	4.33	1	P	Pn	06 43 39.1	-3.4
SWI	Sorong	4.33	1	P	Pn	06 43 38.5	-4.0
	baz=4.5,SNR=38						
SWI				S	Sn	06 44 22.8	-9.1
	baz=4.5,SNR=14						
NLAI	Namlea	4.51	296	P	Pn	06 43 40.4	-4.5
LBMI	Labuha	5.84	321	P	Pn	06 43 58.2	-4.8
	523nm,1.0s,6μm1.7nm						
SANI	Sanana	6.05	301	P	Pn	06 44 01.3	-4.6
	422nm,0.5s,5μm1.4nm						
SRPI	Serui, Papua	6.06	57	P	Pn	06 44 06.1	+0.1
	971nm,0.6s,16μm4.4nm						
BAKI	Biak	6.35	51	P	Pn	06 44 10.4	+0.4
	1μm,0.6s,14μm5.0nm						
BAKI				S	Sn	06 45 20.4	-0.8
	1μm,0.6s,14μm5.0nm						
KDU	Kakadu	7.53	170	P	Pn	06 44 23.5	-2.5
	baz=7.5,SNR=210						
KDU				S	Sn	06 45 46.6	-3.2
	baz=7.5,SNR=12						
MTN	Manton Dam	7.57	180	P	Pn	06 44 24.8	-1.8
	baz=7.5,SNR=64						
MTN				S	Sn	06 45 46.7	-4.2
	baz=7.5,SNR=19						
SMPI	Sarmi	8.19	67	P	Pn	06 44 36.3	+1.4
	80nm,0.9s,16μm						
SOEI	Soe	8.19	236	ePn	Pn	06 44 33.4	-1.7
SOEI	Soe	8.19	236	P	Pn	06 44 25.3	-10
	baz=7.9,SNR=7.7						
BATI	Baumata	8.93	236	P	Pn	06 44 44.2	-0.9
	133nm,0.8s,1μm0.4nm						
BATI	Baumata	8.93	236	Pn	Pn	06 44 43.2	-1.8
	8.3nm,0.3s,baz=183,slow=2.9,SNR=11						
BATI				Sn	Sn	06 46 21.8	-2.2
	13nm,0.3s,baz=149,slow=18,SNR=3.9						
KMSI	Cibinong	9.09	250	P	Pn	06 44 50.9	+2.2
	227nm,0.8s						
LUWI	Luwuk	9.35	296	P	Pn	06 44 49.4	-1.4
	80nm,1.1s,3μm						
GENI	Genyem	9.35	74	P	Pn	06 44 54.5	+3.7
	143nm,0.8s						
MMRI	Maumere	9.49	249	P	Pn	06 44 56.6	+3.9
MMRI	Maumere	9.49	249	ePn	Pn	06 44 53.5	+0.9
	285nm,1.0s						
MMPI	Merauke	9.70	110	S	Sn	06 46 40.0	-2.8
	baz=10.0,SNR=5.5						
JAY	Jayapura	9.89	75	P	Pn	06 45 02.5	+4.4
	baz=10,SNR=7.6						
APSI	Ampana	10.42	294	P	Pn	06 45 06.2	+0.8
	152nm,1.1s,2μm						
KNRA	Kununurra	10.65	193	P	Pn	06 45 04.0	-4.5
	baz=11,SNR=178						
KNRA				S	Sn	06 46 55.1	-11

baz=11,SNR=8.3
BSSI **Bau Bau, Buton** **10.66 265** P Pn 06 45 02.8 -5.8
MRSI **Marisa** **10.81 301** P Pn 06 45 06.5 -4.2
53nm,1.1s,3µm
BKSI **Bulukumba** **11.00 269** P **Pn** **06 45 11.2 -2.0**
64nm,1.0s
BNSI **Bone** **11.05 274** P Pn 06 45 20.9 +7.0
KAPI **Kappang** **11.37 271** ePn **Pn** **06 45 18.1 -0.1**
SPSI **Sidrap Palu** **11.43 276** P **Pn** **06 45 17.8 -1.2**
56nm,0.8s,738nm
TTSI **Tana Toraja** **11.52 280** P **Pn** **06 45 19.2 -1.0**
38nm,0.8s
MPSI **Mapaga** **12.54 296** P **Pn** **06 45 31.9 -1.8**
18nm,1.2s,528nm
COEN **Coen** **14.67 127** ePn **Pn** **06 46 00.4 -1.2**
COEN **Coen** **14.67 127** P **Pn** **06 46 00.1 -1.5**
baz=15,SNR=141
COEN S Sn 06 48 35.8 -7.7
baz=15,SNR=6.2
WRAB **Tennant Creek** **14.95 168** ePn Pn 06 46 02.5 -2.5
22nm,0.6s
WRA **Warramunga Arr** **14.96 168** Pn Pn 06 45 59.8 -5.3
3.0nm,0.3s,baz=350,slow=13,SNR=33
WRA Sn Sn 06 48 36.4 -14
7.7nm,0.3s,baz=347,slow=22,SNR=13
MYLDM **Lahad Datu** **16.33 309** ePn **Pn** **06 46 20.6 -1.8**
58nm,1.1s
BBKI **Banjar Baru** **16.37 275** P **P** **06 46 25.2 +1.2**
68nm,1.0s,6µm
PMG **Port Moresby** **16.40 106** eP **P** **06 46 26.3 +2.0**
29nm,0.9s
ABJI **Asem Bagus** **17.01 260** P **P** **06 46 34.2 +3.1**
60nm,1.0s
JAGI **Jajag, Banyuwa** **17.20 258** ePn Pn 06 46 27.4 -5.7
18nm,0.5s
JAGI **Jajag, Banyuwa** **17.20 258** P **Pn** **06 46 29.2 -3.8**
baz=17,SNR=3.6
KMMI **Kalianget** **17.20 263** P **P** **06 46 33.5 +0.4**
82nm,0.9s,2µm
QIS **Mount Isa** **17.31 152** P **P** **06 46 33.1 -1.3**
baz=18,SNR=51
BLJI **Banyuglugur** **17.64 261** P **P** **06 46 37.0 -0.9**
94nm,0.8s,4µm
AS31 **Alice Springs** **18.53 172** eP **P** **06 46 48.4 +0.7**
ASAR **Alice Springs** **18.53 172** P **P** **06 46 47.6 -0.1**
5.7nm,0.3s,baz=351,slow=9.6,SNR=173
ASAR S S 06 50 04.8 -9.2
3.2nm,0.3s,baz=354,slow=26,SNR=11
KKM **Kota Kinabalu** **18.66 307** eP **P** **06 46 47.4 -1.9**
26nm,0.6s
MBWA **Marble Bar** **19.34 214** eP **P** **06 46 55.0 -1.5**
46nm,1.3s
PWJI **Pagerwojo** **19.43 261** P **Pn** **06 46 58.3 -1.4**
68nm,0.8s
WRKA **Warakurna** **19.89 188** P **P** **06 47 03.0 +0.4**
baz=20,SNR=82
SBUM **Sibu** **20.40 291** eP **P** **06 47 05.9 -2.2**
9.3nm,0.9s
CTA **Charters Tower** **20.83 137** P Pn 06 47 16.7 +0.7
14nm,0.7s,baz=320,slow=12,SNR=16
CTAO **Charters Tower** **20.83 137** eP Pn 06 47 16.5 +0.5
45nm,0.8s
KPJI **Karang Pucung** **22.20 263** P P 06 47 35.9 +8.6
GIRL **Giralia** **23.82 222** P **P** **06 47 42.2 -0.7**
baz=24,SNR=6.7
MEEK **Meekatharra** **24.44 208** P **P** **06 47 47.2 -1.2**
baz=24,SNR=20
FORT **Forrest** **25.59 186** eP **P** **06 47 59.6 +0.8**
44nm,0.7s
EIDS **Eidsvold** **27.67 138** eP **P** **06 48 21.2 +3.5**
7.3nm,0.9s
MORW **Morawa** **27.71 209** P **P** **06 48 17.7 -0.2**
baz=28,SNR=5.2
BBOO **Buckleboo** **27.83 171** P **P** **06 48 20.1 +1.2**
baz=28,SNR=9.0
STKA **Stephens Creek** **28.26 161** P **P** **06 48 24.3 +1.5**
3.7nm,0.4s,baz=339,slow=8.1,SNR=21
STKA LR LR 07 00 42.9
comp=Z,340nm,18.4s,baz=349,slow=39
STKA **Stephens Creek** **28.26 161** eP **P** **06 48 25.1 +2.3**
2.8nm,0.8s
STKA **Stephens Creek** **28.26 161** P **P** **06 48 24.7 +1.9**
baz=28,SNR=19
BLDU **Ballidu** **28.69 207** P **P** **06 48 26.4 -0.3**
baz=29,SNR=12
HTT **Hallett** **28.98 167** P **P** **06 48 31.3 +2.1**
baz=29,SNR=5.2
KLBR **Kellerberrin** **29.09 204** P **P** **06 48 29.8 -0.4**
baz=29,SNR=20
CMSA **Cobar Meteorol** **29.51 154** P **P** **06 48 36.9 +3.0**
baz=30,SNR=9.3
NWAO **Narrogin (SRO)** **30.48 204** P **P** **06 48 41.7 -0.6**
4.3nm,0.6s,baz=34,slow=7.6,SNR=6.1
QIZ **Qiongzhong** **31.97 319** P **P** **06 48 55.4 -0.2**
RKGY **Rocky Gully** **32.06 202** P **P** **06 48 57.5 +1.3**
baz=32,SNR=5.5
LOEI **Loei** **37.17 308** P P 06 49 37.1 -3.5
5.9nm,1.4s,432nm
NJ2 **Nanjing** **38.88 343** eP **P** **06 49 54.4 -0.2**
NJ2 pmax pmax
comp=Z,20nm,1.1s
GYA **Guiyang** **39.44 324** eP **P** **06 50 01.0 +1.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
CMAR **Chiang Mai Arr** **39.53 307** P **P** **06 49 59.2 -1.2**
1.2nm,0.3s,baz=140,slow=7.9,SNR=9.4
CMMT **Chiang Mai** **39.72 308** P **P** **06 50 01.6 -0.4**
10nm,0.9s
CHTO **Chiang Mai** **39.73 308** P **P** **06 50 01.6 -0.4**
36nm,0.9s
CMAI **Chiengmai2** **40.28 309** P **P** **06 50 06.1 -0.6**
ENH **Enshi** **40.95 331** eP **P** **06 50 10.9 -1.0**
8.9nm,0.8s
MJAR **Matsushiro Arr** **42.06 8** P **P** **06 50 20.3 -0.6**
8.3nm,0.8s,baz=186,slow=9.6,SNR=8.2
XAN **Xi'an** **44.35 333** P **P** **06 50 38.3 -1.1**
XAN pmax pmax
comp=Z,4.0nm,0.9s
XAN pmax pmax
comp=Z,11nm,5.1s
CD2 **Chengdu** **44.47 326** eP **P** **06 50 42.3 +1.9**
CD2 pP **pP** **06 51 04.0 +0.3**
CD2 sP **sP** **06 51 14.8 -0.1**
CD2 PcP **PP** **06 52 24.4 -1.6**
CD2 PcS **PcS** **06 56 16.6 +0.7**
CD2 S **S** **06 57 10.1 +1.9**
CD2 sS **sS** **06 57 48.3 0.0**
CD2 SS **ScS** **07 00 23.1 -5.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.6s
BJI **Beijing** **47.11 344** P **P** **06 51 01.8 +0.9**
BJI pmax pmax
comp=Z,12nm,0.7s
BJI pmax pmax
comp=Z,220nm,5.1s
LZH **Lanzhou** **48.42 330** eP **P** **06 51 10.8 -0.5**
LZH pP **pP** **06 51 33.6 -1.4**
LZH sP **sP** **06 51 44.0 -2.1**
LZH ePP **PP** **06 53 05.0 0.0**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,72nm,6.9s
LZH LR LR
comp=N,300nm,14.2s
LZH LR LR
comp=E,310nm,15.0s
USRK **Ussuriysk Arra** **49.20 1** P **P** **06 51 18.0 +1.0**
0.8nm,0.4s,baz=180,slow=6.9,SNR=6.4
HHC **Hu-ho-hao-te** **49.25 340** eP **P** **06 51 19.8 +2.3**
HHC PP **PP** **06 53 16.0 +3.6**
HHC S **S** **06 58 18.0 +1.9**
HHC sS **sS** **06 58 58.6 +1.7**
HHC SS **SS** **07 01 46.9 -2.2**
HHC pmax pmax
comp=Z,32nm,1.3s
HHC pmax pmax
comp=Z,120nm,5.4s
HHC LR LR
comp=N,230nm,16.1s
HHC LR LR
comp=E,230nm,17.1s
HHC LR LR
comp=Z,100nm,17.5s
MDJ **Mudanjiang** **49.63 359** P **P** **06 51 21.1 +0.9**
MDJ pmax pmax
comp=Z,3.0nm,1.0s
MDJ pmax pmax
comp=Z,82nm,3.8s
LSA **Lhasa** **51.75 315** eP **P** **06 51 36.7 -0.3**
6.4nm,0.6s
GTA **Gaotai** **53.01 330** eP **P** **06 51 46.1 +0.4**
GTA pP **pP** **06 52 09.5 -0.2**
GTA sP **sP** **06 52 20.6 -0.2**
GTA S **S** **06 59 07.8 -0.3**
GTA sS **sS** **06 59 48.8 -0.5**
GTA SS **SS** **07 02 47.6 -1.2**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,5.5s
GTA LR LR
comp=N,120nm,16.6s
GTA LR LR
comp=E,210nm,18.0s
SONM **Songino Array** **57.15 340** P **P** **06 52 16.1 +0.7**
1.1nm,0.8s,baz=158,slow=7.1,SNR=5.8
PETK **Petropavlovsk-** **62.29 18** P **P** **06 52 52.5 +2.2**
2.6nm,0.8s,baz=179,slow=5.9,SNR=3.7
WMQ **Urumqi** **62.56 326** P **P** **06 52 52.9 +0.4**
WMQ pP **pP** **06 53 18.8 +1.7**
WMQ sP **sP** **06 53 29.3 +1.3**
WMQ pmax pmax
comp=Z,9.0nm,0.9s
WMQ pmax pmax
comp=Z,180nm,4.8s
WMQ LR LR
comp=N,150nm,21.6s
WMQ LR LR
comp=E,54nm,19.6s
MK31 **Makanchi Array** **67.40 326** eP **P** **06 53 24.1 +0.4**
MKAR **Makanchi Array** **67.40 326** P **P** **06 53 24.1 +0.5**
6.4nm,1.0s,baz=118,slow=8.2,SNR=53
KSH **Kashi** **67.52 317** eP **P** **06 53 25.5 +0.8**
KSH epP **pP** **06 53 50.4 +0.7**
KSH esP **sP** **06 54 02.8 +2.3**
KSH ePP **PP** **06 55 57.1 +2.3**
KSH PcS 06 57 51.5
KSH S **S** **07 02 09.8 -3.8**
KSH SS **SS** **07 06 33.4 -2.7**
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH pmax pmax
comp=Z,200nm,5.8s
ZALV **Zalesovo Beam** **70.52 333** P **P** **06 53 42.7 -0.1**
1.6nm,0.6s,baz=132,slow=5.3,SNR=9.2
VNDA **Vanda** **74.06 173** P **P** **06 54 05.1 +1.5**
1.8nm,0.5s,baz=307,slow=7.5,SNR=5.8
BRVK **Borovoye** **77.27 327** eP **P** **06 54 22.3 +0.1**
3.3nm,0.8s
SYO **Syowa Base** **85.73 201**⇑eP **P** **06 55 06.3 -0.2**
RAYN **Ar Rayn** **88.09 294** eP **P** **06 55 18.9 -0.1**
3.3nm,0.8s
ILAR **Eielson Array** **91.25 25** P **P** **06 55 33.0 +0.2**
0.5nm,0.4s,baz=257,slow=4.6,SNR=16
VYHS **Vyhne** **108.61 320** PDIF **Pdif** **06 56 51.1 -0.2**
TORD **Torodi Ar. Bea** **129.58 283** PKP **PKPdf** **07 01 38.1 +0.9**
1.4nm,0.8s,baz=62,slow=2.1,SNR=7.0
CPUP **Villa Florida** **147.57 166** PKPbc **PKPab** **07 02 14.5 -0.1**
1.2nm,0.4s,baz=226,slow=2.3,SNR=6.3
CPUP **Villa Florida** **147.57 166** ePKPdf **PKPdf** **07 02 10.3 +0.7**
CPUP PKPbc **PKPab** **07 02 14.5 -0.1**
LPAZ **La Paz** **151.34 139** PKPbc **PKPbc** **07 02 25.7 +2.9**
5.8nm,1.0s,baz=45,slow=1.3,SNR=12

IDC 23 06:54:44.9±4.0**, 5°.36S**×**150°.94E, h0**km**, mb3.2**/2**, mb1 3.5**/2**, mb1mx3.2**/38**, mbtmp3.3**/2**, Error ellipse: s-maj=171.5km s-min=48.2km az=117.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.70**	**227**	P	P	06 59 37.9	+0.2
	0.5nm,0.4s,baz=53,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**24.51**	**220**	P	P	07 00 06.1	-0.1
	0.3nm,0.5s,baz=54,slow=9.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**148.71**	**286**	PKPbc	PKPbc	07 14 34.6	-0.7
	1.9nm,0.7s,baz=83,slow=2.7,SNR=11						

LDG ***23*** *06:55:37.6±0.4, 25°.72N×93°.24E, h10km, Mb4.6/15, Error ellipse: s-maj=19.0km s-min=9.4km az=168.0*
ISCJB ***23*** *06:55:43.4±0.7, 25°.82N±0°.04×93°.21E±0°.03, h47km±6km, mb4.4/63, MS3.5/7, Error ellipse: s-maj=6.6km s-min=4.8km az=19.6*
MOS ***23*** *06:55:43.5±1.0, 25°.82N×93°.35E, h49km, mb4.6/47, Error ellipse: s-maj=9.8km s-min=4.7km az=119.2*
IDC ***23*** *06:55:44.2±0.5, 25°.85N×93°.37E, h41km±4km, mb4.1/27, mb1 4.1/28, mb1mx4.0/37, mbtmp4.3/28, ML4.3/1, Error ellipse: s-maj=14.9km s-min=9.6km az=55.0*
NEIC ***23*** *06:55:45.6±0.5, 25°.82N×93°.28E, h54km±4km, mb4.7/21, Error ellipse: s-maj=5.7km s-min=4.1km az=214.0*
ISC 23 06:55:44.3±0.4**, 25°.82N**±0°.05×**93°.24E**±0°.04**, h40**km±4km**, h40**km**:pP-P, n213,** σ1s.39/250**, mb4.5**/63**, MS3.5**/7**, 5C-5D, Northeastern India**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SHL **Shillong** **1.25 259**⇓iP **Pn** **06 56 07.5 +2.0**
SHL eS **Sn** **06 56 24.7 +3.4**
LSA **Lhasa** **4.29 335** eP **Pn** **06 56 50.1 +2.6**
LSA e 06 57 36.1
LSA **Lhasa** **4.29 335** ePn **Pn** **06 56 50.1 +2.6**
LSA eSn **Sn** **06 57 36.1 -0.4**
TAPN **Taplejung** **5.18 288** ePn **Pn** **06 57 01.8 +2.1**
TAPN eSn **Sn** **06 57 58.1 -0.3**
851nm,0.5s
TAPN **Taplejung** **5.18 288** ePn **Pn** **06 57 01.8 +2.1**
TAPN eSn **Sn** **06 57 58.1 -0.3**
ODAN **Odare** **5.36 282** ePn Pn 06 57 05.5 +3.6
ODAN eSn **Sn** **06 58 04.5 +2.0**
597nm,0.3s
ODAN **Odare** **5.36 282** ePn Pn 06 57 05.5 +3.6
ODAN eSn **Sn** **06 58 04.5 +2.0**
RAMN **Ramite** **6.07 282** ePn **Pn** **06 57 14.5 +2.8**
RAMN eSn **Sn** **06 58 21.7 +1.7**
753nm,0.5s
RAMN **Ramite** **6.07 282** ePn **Pn** **06 57 14.5 +2.8**
RAMN eSn **Sn** **06 58 21.7 +1.7**
JIRN **Jiri** **6.57 288** ePn **Pn** **06 57 20.4 +1.7**
JIRN eSn **Sn** **06 58 32.4 -0.2**
589nm,0.3s
JIRN **Jiri** **6.57 288** ePn **Pn** **06 57 20.4 +1.7**
JIRN eSn **Sn** **06 58 32.4 -0.2**
GUN **Gumba** **6.90 289** ePn **Pn** **06 57 25.0 +1.7**
GUN eSn **Sn** **06 58 39.6 -1.1**
473nm,0.4s
GUN **Gumba** **6.90 289** ePn **Pn** **06 57 25.0 +1.7**
GUN eSn **Sn** **06 58 39.6 -1.1**
BOK **Bokaro** **6.98 255** eP **Pn** **06 57 25.9 +1.8**
BOK eS **Sn** **06 58 41.7 -0.6**
PKI **Pulchoki** **7.22 286** ePn **Pn** **06 57 28.9 +1.2**
PKI **Pulchoki** **7.22 286** eP **Pn** **06 57 29.4 +1.7**
PKI e 06 58 48.7
PKI **Pulchoki** **7.22 286** ePn **Pn** **06 57 29.4 +1.7**
PKI eSn **Sn** **06 58 48.7 +0.1**
PKIN **Phulchoki** **7.24 286** ePn **Pn** **06 57 29.4 +1.6**
PKIN eSn **Sn** **06 58 48.7 -0.1**
229nm,0.4s
KKN **Kakani** **7.38 287** ePn **Pn** **06 57 31.3 +1.5**
KKN eSn **Sn** **06 58 51.7 -0.7**
422nm,0.5s
KKN **Kakani** **7.38 287** eP **Pn** **06 57 31.3 +1.5**
KKN e 06 58 51.7
KKN **Kakani** **7.38 287** ePn **Pn** **06 57 31.3 +1.5**
KKN eSn **Sn** **06 58 51.7 -0.7**
DMN **Daman** **7.49 286** ePn **Pn** **06 57 32.6 +1.3**
DMN eSn **Sn** **06 58 55.6 +0.4**
336nm,0.6s
DMN **Daman** **7.49 286** ePn **Pn** **06 57 32.6 +1.3**
DMN eSn **Sn** **06 58 55.6 +0.4**
GKN **Gorkha** **7.99 288** ePn **Pn** **06 57 39.6 +1.6**
GKN eSn **Sn** **06 59 06.3 -0.8**
424nm,0.3s
GKN **Gorkha** **7.99 288** ePn **Pn** **06 57 39.6 +1.6**
GKN eSn **Sn** **06 59 06.3 -0.8**
CHTO **Chiang Mai** **8.74 142** eP **Pn** **06 57 50.0 +1.8**
CHTO **Chiang Mai** **8.74 142** ePn **Pn** **06 57 50.0 +1.8**
DANN **Dangsing** **8.82 289** ePn **Pn** **06 57 49.2 -0.4**
DANN eSn **Sn** **06 59 25.0 -2.9**
250nm,0.6s
DANN **Dangsing** **8.82 289** ePn **Pn** **06 57 49.2 -0.4**
DANN eSn **Sn** **06 59 25.0 -2.9**
KOLN **Koldanda** **8.84 285** ePn **Pn** **06 57 50.2 +0.5**
KOLN eSn **Sn** **06 59 26.1 -2.0**
333nm,0.4s
KOLN **Koldanda** **8.84 285** ePn **Pn** **06 57 50.2 +0.5**
KOLN eSn **Sn** **06 59 26.1 -2.0**
CMAR **Chiang Mai Arr** **9.03 143** P **Pn** **06 57 52.7 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR **Chiang Mai Arr** **9.03 143** P **Pn** **06 57 52.7 +0.5**
comp=Z,0.8nm,0.3s,baz=318,slow=13,SNR=12
PYUN **Piuthan** **9.43 286** ePn **Pn** **06 57 57.3 -0.5**
PYUN eSn **Sn** **06 59 40.3 -2.3**
comp=Z,608nm,0.6s
PYUN **Piuthan** **9.43 286** ePn **Pn** **06 57 57.3 -0.5**
PYUN eSn **Sn** **06 59 40.3 -2.3**
VIS **Vishakhapatnam** **12.23 231** eP3 06 58 36.6
VIS eS **Sn** **07 00 45.6 -5.5**
DDI **Dehra Dun** **14.14 292** eS Sn 07 01 31.3 -6.3
DDI AML AML 07 02 35.8
comp=N,107nm,0.3s
DDI AML AML 07 02 39.4
comp=E,112nm,0.3s
BHPL **Bhopal** **14.63 263** eP **Pn** **06 59 07.2 -1.4**
BHPL ex x 07 01 38.2
ENH **Enshi** **15.01 69** ePn **Pn** **06 59 15.0 +1.3**
comp=E,11nm,0.5s
SMLA **Simla** **15.09 294** eP **Pn** **06 59 12.2 -2.6**
SMLA AMB AMB 06 59 13.2
comp=Z,11nm,1.3s
SMLA ex x 07 01 46.1
HYB **Hyderabad** **16.00 241** eP **Pn** **06 59 24.5 -2.1**
HYB eS Sn 07 02 15.0 -8.1
HYB **Hyderabad** **16.00 241** i P **Pn** **06 59 24.5 -2.1**
HYB e 07 02 15.0
HYB eS **Sn** **07 02 24.0 +0.9**
HYB **Hyderabad** **16.00 241** eP **P** **06 59 28.4 -1.3**
HYB AMB AMB 06 59 28.6
comp=Z,15nm,0.6s
HYB **Hyderabad** **16.00 241** eP **Pn** **06 59 24.5 -2.1**
HYB eS Sn 07 02 15.0 -8.1
DHRM **DHARAMSHALA** **16.14 297** eP **Pn** **06 59 25.5 -3.0**
DHRM AMB AMB 06 59 26.8
comp=Z,21nm,0.6s
DHRM ex x 07 02 12.8
POO **Poona** **19.36 252** ex S 07 03 33.7 -10
LHMI **Lhok Sumawe** **20.78 170** PFAKE 07 00 30.0 +5.4
LHMI LR LR
comp=Z,500nm,18.2s
KZA **Kyzart** **21.97 322** P **P** **07 00 37.8 +2.6**
SNR=8.2
KZA **Kyzart** **21.97 322** i P **P** **07 00 37.7 +2.6**
PALK **Pallekele** **21.98 215** P **P** **07 00 36.2 +1.2**
PALK pmax pmax
comp=Z,8.0nm,0.6s
PALK **Pallekele** **21.98 215** P **P** **07 00 36.2 +1.2**
comp=Z,7.5nm,0.6s,baz=35,slow=14,SNR=2.7
TKM2 **Tokmak 2** **22.36 324** P **P** **07 00 40.3 +1.2**
SNR=22
TKM2 **Tokmak 2** **22.36 324** i P **P** **07 00 40.2 +1.2**
TKM2 **Tokmak 2** **22.36 324** eP **P** **07 00 40.3 +1.2**
comp=Z,19nm,0.9s
TKM2 LR LR
comp=Z,100nm,21.6s
UCH **Uchtor** **22.48 321** P **P** **07 00 41.8 +1.1**
SNR=12
UCH **Uchtor** **22.48 321** i P **P** **07 00 41.8 +1.1**
KBK **Karagaybulak** **22.52 323** P **P** **07 00 42.5 +1.7**
SNR=6.5
KBL **Kabul** **22.61 298** eP **P** **07 00 43.5 +1.6**
KBL pmax pmax
comp=Z,17nm,0.8s
KBL MLR MLR
comp=Z,100nm,20.7s
KBL **Kabul** **22.61 298** eP **P** **07 00 43.5 +1.6**
comp=Z,16nm,0.8s
KBL LR LR
comp=Z,100nm,20.7s
MK31 **Makanchi Array** **22.68 340** eP **P** **07 00 41.7 -0.5**
MK31 pmax pmax
comp=Z,12nm,0.4s
MK31 **Makanchi Array** **22.68 340** eP **P** **07 00 41.7 -0.5**
MKAR **Makanchi Array** **22.68 340** P **P** **07 00 41.7 -0.5**
comp=Z,18nm,0.6s,baz=151,slow=12,SNR=110
AAK **Ala-Archa** **22.76 322** P **P** **07 00 45.0 +1.7**
SNR=12
AAK **Ala-Archa** **22.76 322** P **P** **07 00 45.0 +1.7**
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK **Ala-Archa** **22.76 322** P **P** **07 00 45.0 +1.7**
comp=Z,8.0nm,0.7s,baz=110,slow=6.6,SNR=20
AAK **Ala-Archa** **22.76 322** eP **P** **07 00 45.0 +1.7**
comp=Z,11nm,0.8s
AAK LR LR
comp=Z,200nm,21.5s
AML **Almayashu** **22.89 320** P **P** **07 00 46.3 +1.4**
SNR=13
EKS2 **Erkin-Say** **23.18 321** P **P** **07 00 49.5 +1.9**
SNR=7.7
EKS2 **Erkin-Say** **23.18 321** i P **P** **07 00 49.4 +1.9**
EKS2 **Erkin-Say** **23.18 321** PFAKE 07 01 00.0 +12
EKS2 LR LR
comp=Z,200nm,18.3s
USP **Ospenovka** **23.18 323** P **P** **07 00 48.0 +0.5**
SNR=11
USP **Ospenovka** **23.18 323** i P **P** **07 00 47.9 +0.5**
PSI **Prapat** **23.53 166** P **P** **07 00 51.6 +0.5**
PSI pmax pmax
comp=Z,3.0nm,0.5s
PSI **Prapat** **23.53 166** P **P** **07 00 51.6 +0.5**
comp=Z,3.0nm,0.5s,baz=315,slow=9.5,SNR=4.0
SONM **Songino Array** **24.30 22** P **P** **07 00 58.4 +0.3**
SONM pmax pmax
comp=Z,6.0nm,0.6s
SONM **Songino Array** **24.30 22** P **P** **07 00 58.4 +0.3**
comp=Z,6.2nm,0.6s,baz=201,slow=9.0,SNR=42
ULN **Ulaanbaatar** **24.55 23** eP **P** **07 01 00.2 -0.1**
ULN pmax pmax
comp=Z,14nm,0.8s
ULN **Ulaanbaatar** **24.55 23** eP **P** **07 01 00.2 -0.1**
comp=Z,14nm,0.8s
SSLB **Suanglung** **25.22 89** PFAKE 07 01 20.0 +13
SSLB LR LR
comp=Z,100nm,20.7s
KK31 **Karatay Array** **25.34 319** i P **P** **07 01 08.3 +0.9**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR **Karatay Array** **25.34 319** eP **P** **07 01 08.4 +1.0**
KKAR **Karatay Array** **25.34 319** eP **P** **07 01 08.4 +1.0**
ZAK **Zakamensk** **25.72 15**⇑iP **P** **07 01 11.2 +0.3**
ZAK pmax pmax
comp=Z,7.0nm,0.9s
TLY **Talaya** **27.01 14** eP **P** **07 01 24.3 +1.9**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY **Talaya** **27.01 14** P **P** **07 01 21.9 -0.5**
comp=Z,0.9nm,0.5s,baz=181,slow=9.6,SNR=4.4
TLY **Talaya** **27.01 14** P **P** **07 01 21.9 -0.5**
TLY LR LR
comp=Z,300nm,18.3s
KURBB **Kurchatov Arra** **27.23 339** P **P** **07 01 24.6 +0.3**
comp=Z,5.4nm,0.6s,baz=150,slow=10,SNR=30
KURK **Kurchatov** **27.28 340** P **P** **07 01 24.6 -0.2**
KURK pmax pmax
comp=Z,9.0nm,0.7s
KURK **Kurchatov** **27.28 340** P **P** **07 01 24.6 -0.2**
ZAA0 **Zalesovo Array** **28.79 350** eP **P** **07 01 37.7 -0.5**
ZALV **Zalesovo Beam** **28.79 350** P **P** **07 01 38.3 +0.1**
ZALV pmax pmax
comp=Z,5.0nm,0.4s
ZALV **Zalesovo Beam** **28.79 350** P **P** **07 01 38.2 +0.1**
comp=Z,4.7nm,0.4s,baz=168,slow=7.6,SNR=35
NVS **Novosibirsk** **29.92 348**⇑iP **P** **07 01 47.9 -0.3**
NVS e 07 03 01.1
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=Z,10.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.8s

HIA Hailar 31.17 34 eP P 07 01 59.1 -0.3
HIA e*PP pP 07 02 10.6 +0.2
HIA pmax pmax
comp=Z,2.0nm,0.7s
BVA0 Borovoye Array 32.13 334 i P P 07 02 07.2 -0.5
BVA0 pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 32.13 334 P P 07 02 07.7 0.0
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 32.13 334 P P 07 02 07.7 0.0
comp=Z,1.8nm,0.5s,baz=143,slow=12,SNR=20
BRVK Borovoye 32.19 334⇓iP P 07 02 08.6 +0.3
BRVK pmax pmax
comp=Z,8.0nm,2.5s
AB31 Akbulak array 34.84 321 i P P 07 02 31.9 +0.6
AB31 pmax pmax
comp=Z,5.0nm,0.4s
BOD Bodaibo 35.22 19 eP P 07 02 34.5 0.0
BOD pmax pmax
comp=Z,4.0nm,1.3s
AKTO Aktyubinsk 36.50 322 P P 07 02 46.0 +0.3
AKTO pmax pmax
comp=Z,6.0nm,0.7s
AKTO Aktyubinsk 36.50 322 P P 07 02 46.0 +0.3
comp=Z,5.6nm,0.7s,baz=108,slow=7.9,SNR=19
SVE Sverdlovsk 38.81 332 eP P 07 03 05.8 +0.8
SVE pmax pmax
comp=Z,23nm,0.7s
ARU Arti 39.48 330c iP P 07 03 10.7 +0.1
ARU S S 07 09 03.6 -6.2
ARU SS SS 07 11 56.1 -9.0
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 39.48 330 eP P 07 03 10.8 +0.2
comp=Z,30nm,1.7s
MAJO Matsushiro 39.61 63 P P 07 03 11.5 -0.5
MAJO Matsushiro 39.61 63 P P 07 03 11.5 -0.5
MAT Matsushiro 39.61 63 P pP 07 03 24.3 +1.0
MJAR Matsushiro Arr 39.61 63 P P 07 03 10.8 -1.3
MJAR *PP pP 07 03 22.5 -0.9
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR pmax pmax
comp=Z,3.0nm,0.6s
MJAR Matsushiro Arr 39.61 63 P P 07 03 10.8 -1.3
comp=Z,9.3nm,0.9s,baz=268,slow=11,SNR=5.9
MJAR pP pP 07 03 22.5 -0.9
comp=Z,3.1nm,0.6s,baz=267,slow=10,SNR=5.5
SOKR Solikamsk 42.13 333 eP P 07 03 32.7 +0.4
SOKR pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 42.61 302 P P 07 03 38.4 +1.5
GNI pmax pmax
comp=Z,3.0nm,0.4s
GNI Garni 42.61 302 P P 07 03 38.4 +1.5
comp=Z,3.2nm,0.4s,baz=162,slow=16,SNR=2.8
RAYN Ar Rayn 43.26 278 eP P 07 03 43.4 +1.2
comp=Z,4.0nm,0.8s
ZEI Tsey 43.49 306 eP P 07 03 46.1 +2.1
ZEI pmax pmax
comp=Z,7.0nm,0.6s
KIV Kislovodsk 44.51 307 eP P 07 03 53.0 +1.0
KIV pmax pmax
comp=Z,11nm,1.0s
PRGR Permogore 47.88 332 eP P 07 04 17.7 -0.3
PRGR pmax pmax
comp=Z,6.0nm,0.4s
TIXI Tiksi 49.99 14⇓iP P 07 04 33.2 -0.9
TIXI pmax pmax
comp=Z,8.0nm,2.5s
TIXI Tiksi 49.99 14 eP P 07 04 33.0 -1.1
comp=Z,4.7nm,1.0s
OBN Obninsk 50.28 321⇑eP P 07 04 37.1 +0.6
OBN e 07 06 31.0
OBN eS S 07 11 50.6 +4.5
OBN pmax pmax
comp=Z,7.0nm,1.2s
BR131 Keskin Array S 51.14 301 eP P 07 04 44.1 +0.6
comp=Z,1.3nm,0.6s
BRTR Keskin Array B 51.14 301 P P 07 04 44.1 +0.6
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 51.14 301 P P 07 04 44.1 +0.6
comp=Z,1.7nm,0.6s,baz=120,slow=7.7,SNR=14
MBWA Marble Bar 53.30 149 eP P 07 04 60.0 +0.5
comp=Z,91nm,1.7s
SEY Seymchan 53.37 29 P P 07 04 58.5 -0.9
SEY pmax pmax
comp=Z,1.0nm,0.5s
SEY Seymchan 53.37 29 P P 07 04 58.5 -0.9
comp=Z,1.2nm,0.5s,baz=275,slow=7.0,SNR=5.6
AKASG Malin Array Be 54.17 315 P P 07 05 04.7 -0.8
AKASG *PP pP 07 05 18.5 +1.4
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 54.17 315 P P 07 05 04.7 -0.8
comp=Z,1.6nm,0.4s,baz=80,slow=6.9,SNR=13
AKASG pP pP 07 05 18.5 +1.4
comp=Z,0.4nm,0.3s,baz=79,slow=6.7,SNR=3.7
KIEV Kiev 54.18 315 eP P 07 04 58.4 -7.2
FINES FINESS Array B 56.78 328 P P 07 05 23.8 -0.3
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 56.78 328 P P 07 05 23.8 -0.3
comp=Z,2.2nm,0.6s,baz=104,slow=8.0,SNR=11
ARCES ARCESS Array B 58.30 338 P P 07 05 33.8 -0.8
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 58.30 338 P P 07 05 33.8 -0.8
comp=Z,2.6nm,0.8s,baz=91,slow=7.4,SNR=9.4
BILL Bilibino 59.98 25⇓iP P 07 05 46.0 -0.3
BILL eS S 07 14 01.0 +5.4
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 59.98 25 eP P 07 05 45.9 -0.4
comp=Z,9.2nm,1.3s
WRA Warramunga Arr 60.52 135 P P 07 05 49.8 -0.8
WRA *PP pP 07 06 02.1 -0.3
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA pmax pmax
comp=Z,6.0nm,0.7s
WRA Warramunga Arr 60.52 135 P P 07 05 49.8 -0.8
comp=Z,2.2nm,0.7s,baz=323,slow=7.2,SNR=10
WRA pP pP 07 06 02.1 -0.3
comp=Z,6.3nm,0.7s,baz=323,slow=7.2,SNR=20
WRAB Tennant Creek 60.52 135d iP pP 07 06 02.5 +0.1
WRAB pmax pmax
comp=Z,23nm,1.7s
ASAR Alice Springs 63.00 138 P P 07 06 06.8 -0.5
ASAR *PP pP 07 06 19.2 0.0
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 63.00 138 P P 07 06 06.8 -0.5
comp=Z,0.9nm,0.5s,baz=321,slow=6.6,SNR=14
ASAR pP pP 07 06 19.1 0.0
comp=Z,2.7nm,0.6s,baz=322,slow=6.7,SNR=12
NB2 NORSAR Subarra 63.95 328 P P 07 06 12.1 -1.0
comp=Z,1.6nm,0.6s,baz=83,slow=6.5
NOA NORSAR Array B 63.95 328 P P 07 06 12.4 -0.7
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 63.95 328 P P 07 06 12.4 -0.7
comp=Z,1.6nm,0.6s,baz=83,slow=6.5,SNR=11
GERES GERESS Array B 64.33 314 P P 07 06 15.6 -0.3
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 64.33 314 P P 07 06 15.6 -0.3
comp=Z,2.0nm,0.6s,baz=69,slow=6.0,SNR=14
CDF Champ du Feu 68.58 314 eP P 07 06 42.8 -0.3
comp=Z,6.2nm,0.7s
CDF Champ du Feu 68.58 314 eP P 07 06 42.8 -0.3
CDF pmax pmax
comp=Z,6.0nm,0.6s
CDF Champ du Feu 68.58 314 eP P 07 06 42.8 -0.3
comp=Z,6.2nm,0.6s
LPG La Plagne 69.72 312 eP P 07 06 50.4 0.0
comp=Z,10nm,0.8s
LPG La Plagne 69.72 312 eP P 07 06 50.4 0.0
LPG pmax pmax
comp=Z,10.0nm,0.8s
LPG La Plagne 69.72 312 eP P 07 06 50.4 0.0
comp=Z,10nm,0.8s
LPL La Plagne 69.72 312 eP P 07 06 50.4 0.0
comp=Z,6.5nm,0.5s
LPL La Plagne 69.72 312 eP P 07 06 50.4 0.0
LPL pmax pmax
comp=Z,7.0nm,0.5s
LPL La Plagne 69.72 312 eP P 07 06 50.4 0.0
comp=Z,6.5nm,0.5s
MBDF Montbardon 69.92 311 eP P 07 06 52.2 +0.6
comp=Z,7.3nm,0.7s
MBDF Montbardon 69.92 311 eP P 07 06 52.2 +0.6
MBDF pmax pmax
comp=Z,7.0nm,0.7s
MBDF Montbardon 69.92 311 eP P 07 06 52.2 +0.6
comp=Z,7.3nm,0.7s
ORIF Oris-en-Rattie 70.47 311 eP P 07 06 54.8 -0.1
ORIF Oris-en-Rattie 70.47 311 eP P 07 06 54.8 -0.1
ORIF Oris-en-Rattie 70.47 311 eP P 07 06 54.8 -0.1
KEST Kesra 70.75 301 P P 07 06 55.7 -1.0
comp=Z,2.4nm,0.9s,baz=41,slow=5.0,SNR=5.5
SMF Signal de Mont 71.31 313 eP P 07 06 59.2 -0.6
comp=Z,7.4nm,0.6s
SMF Signal de Mont 71.31 313 eP P 07 06 59.2 -0.6
SMF pmax pmax
comp=Z,7.0nm,0.6s
SMF Signal de Mont 71.31 313 eP P 07 06 59.2 -0.6
comp=Z,7.4nm,0.6s
SSF Saint Saulge 71.40 314 eP P 07 06 59.9 -0.4
comp=Z,11nm,0.7s
SSF Saint Saulge 71.40 314 eP P 07 06 59.9 -0.4
SSF pmax pmax
comp=Z,11nm,0.7s
SSF Saint Saulge 71.40 314 eP P 07 06 59.9 -0.4
comp=Z,11nm,0.7s
AVF Avril sur Loir 71.59 314 eP P 07 07 01.0 -0.4
comp=Z,5.2nm,0.6s
AVF Avril sur Loir 71.59 314 eP P 07 07 01.0 -0.4
AVF pmax pmax
comp=Z,5.0nm,0.6s
AVF Avril sur Loir 71.59 314 eP P 07 07 01.0 -0.4
comp=Z,5.2nm,0.6s
LASF Ste Croix 72.11 311 eP P 07 07 04.6 -0.1
LASF Ste Croix 72.11 311 eP P 07 07 04.6 -0.1
TCF Toulx Ste Croi 72.50 313 eP P 07 07 06.9 0.0
TCF Toulx Ste Croi 72.50 313 eP P 07 07 06.9 0.0
TCF Toulx Ste Croi 72.50 313 eP P 07 07 06.9 0.0
CAF Calviac 73.04 312 eP P 07 07 10.3 +0.1
CAF Calviac 73.04 312 eP P 07 07 10.3 +0.1
CAF Calviac 73.04 312 eP P 07 07 10.3 +0.1
LDF La Druitiere 73.22 316 eP P 07 07 10.5 -0.6
comp=Z,20nm,0.9s
LDF La Druitiere 73.22 316 eP P 07 07 10.5 -0.6
LDF pmax pmax
comp=Z,20nm,0.9s
LDF La Druitiere 73.22 316 eP P 07 07 10.5 -0.6
comp=Z,20nm,0.9s
RJF Les Rejaudoux 73.28 313 eP P 07 07 11.8 +0.2
RJF Les Rejaudoux 73.28 313 eP P 07 07 11.8 +0.2
RJF Les Rejaudoux 73.28 313 eP P 07 07 11.8 +0.2
MTLF Montolieu 73.47 310 eP P 07 07 12.6 -0.2
comp=Z,5.0nm,0.7s
MTLF Montolieu 73.47 310 eP P 07 07 12.6 -0.2
MTLF pmax pmax
comp=Z,5.0nm,0.7s
MTLF Montolieu 73.47 310 eP P 07 07 12.6 -0.2
comp=Z,5.0nm,0.7s
STKA Stephens Creek 73.62 139 P P 07 07 13.7 +0.1
STKA *PP pP 07 07 24.5 -1.2
STKA pmax pmax
comp=Z,1.0nm,0.6s
STKA Stephens Creek 73.62 139 P P 07 07 13.7 +0.1
comp=Z,0.9nm,0.6s,baz=333,slow=6.8,SNR=2.2
STKA pP pP 07 07 24.5 -1.2
comp=Z,3.2nm,0.6s,baz=318,slow=5.8,SNR=4.9
GRR Gorron 73.75 316 eP P 07 07 13.7 -0.5
comp=Z,14nm,0.7s
GRR Gorron 73.75 316 eP P 07 07 13.7 -0.5
GRR pmax pmax
comp=Z,14nm,0.7s
GRR Gorron 73.75 316 eP P 07 07 13.7 -0.5
comp=Z,14nm,0.7s
LFF La Frestale 73.92 312 eP P 07 07 15.5 +0.2
LFF La Frestale 73.92 312 eP P 07 07 15.5 +0.2
LFF La Frestale 73.92 312 eP P 07 07 15.5 +0.2
SGMF Saint Gilles 74.85 316 eP P 07 07 20.5 -0.2
SGMF Saint Gilles 74.85 316 eP P 07 07 20.5 -0.2
SGMF Saint Gilles 74.85 316 eP P 07 07 20.5 -0.2
ETSF Etsaut 75.53 311 eP P 07 07 25.0 +0.2
comp=Z,3.6nm,0.5s
ETSF Etsaut 75.53 311 eP P 07 07 25.0 +0.2
ETSF pmax pmax
comp=Z,4.0nm,0.5s
ETSF Etsaut 75.53 311 eP P 07 07 25.0 +0.2
comp=Z,3.6nm,0.5s
COLA College 78.13 22 eP P 07 07 39.2 +0.3
COLA pmax pmax
comp=Z,18nm,1.0s
ILAR Eielson Array 78.52 22 P P 07 07 39.6 -1.5
ILAR 07 10 37.0
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 78.52 22 P P 07 07 39.6 -1.5
comp=Z,1.5nm,0.8s,baz=306,slow=4.8,SNR=20
ILAR PP PP 07 10 37.0 -1.4
comp=Z,0.4nm,0.9s,baz=292,slow=7.5,SNR=4.3
KDAK Kodiak Island 80.33 30c eP P 07 07 50.7 -0.3
BOSA Boshof 84.80 235 P P 07 08 16.0 +1.1
BOSA *PP pP 07 08 27.2 0.0
BOSA pmax pmax
comp=Z,1.0nm,0.7s
BOSA pmax pmax
comp=Z,4.0nm,0.8s
BOSA Boshof 84.80 235 P P 07 08 16.0 +1.1
comp=Z,1.3nm,0.7s,baz=53,slow=4.3,SNR=3.2
BOSA pP pP 07 08 27.2 0.0
comp=Z,4.0nm,0.8s,baz=122,slow=5.0,SNR=3.1
TORD Torodi Ar. Bea 85.75 282 P P 07 08 20.8 +0.9
comp=Z,2.8nm,0.7s,baz=56,slow=5.4,SNR=28
TORD pP pP 07 08 32.3 +0.2
comp=Z,1.3nm,0.5s,baz=66,slow=4.7,SNR=3.9
YKA Yellowknife Ar 89.22 13 P P 07 08 34.5 -1.2
comp=Z,0.4nm,0.7s,baz=334,slow=4.8,SNR=6.0
TXAR Lajitas Array 122.81 18 PKP PKPdf 07 14 36.6 0.0
comp=Z,0.3nm,0.5s,baz=29,slow=1.4,SNR=4.9
ROSC El Rosal 147.21 337 PKPbc PKPbc 07 15 24.2 -0.3
comp=Z,6.3nm,0.6s,baz=7.7,slow=22,SNR=5.5
CPUP Villa Florida 153.59 262 PKIKP PKPbc 07 15 38.3 -0.8
CPUP pmax pmax
comp=Z,2.0nm,0.5s
CPUP Villa Florida 153.59 262 PKPbc PKPbc 07 15 38.3 -0.8
comp=Z,1.6nm,0.5s,baz=146,slow=4.3,SNR=5.6

IDC 23 06:57:13.2±6.9, 18.53S×177.79W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/36, mbtmp3.8/3, Error ellipse: s-maj=302.8km s-min=37.7km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.10	260	P	P	07 05 31.7	+0.1
	0.4nm,0.3s,baz=95,slow=7.5,SNR=4.9						
ASAR	Alice Springs	45.19	255	P	P	07 05 31.9	-0.4
	1.2nm,0.6s,baz=94,slow=8.3,SNR=14						
ILAR	Eielson Array	86.36	13	P	P	07 09 56.8	0.0
	0.3nm,0.3s,baz=215,slow=5.1,SNR=5.9						

IDC 23 07:08:47.5±1.1, 10.12S±0.08×161.25E, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.9/20, mbtmp3.8/9, ML3.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/29, Error ellipse: s-maj=40.3km s-min=23.7km az=134.0
ISCJB 23 07:08:53.4±0.7, 10.52S±0.08×161.4E±0.1, h61km, mb3.6/7, Error ellipse: s-maj=16.2km s-min=11.3km az=162.3
ISC 23 07:08:54.8±0.8, 10.46S±0.10×161.4E±0.1, h61km, n16, σ1§49/10, mb3.7/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.52	158	Pn	Pn	07 11 51.9	+1.6
	0.7nm,0.3s,baz=14,slow=9.4,SNR=16						
DZM				Sn	Sn	07 14 05.7	-2.4
	0.3nm,0.3s,baz=127,slow=20,SNR=4.0						
PMG	Port Moresby	14.08	273	LR	LR	07 17 10.6	

comp=Z,55nm,21.0s,baz=91,slow=36
CTA Charters Tower 17.46 235 P Pn 07 12 55.4 +1.1
0.2nm,0.3s,baz=63,slow=18,SNR=3.2
WRA Warramunga Arr 27.74 247 P P 07 14 37.8 0.0
0.6nm,0.6s,baz=77,slow=8.7,SNR=4.9
H11S2 WAKE ISLAND Hy 29.23 10 T T 07 46 13.1
baz=189,slow=76,SNR=7.9
H11S3 WAKE ISLAND Hy 29.23 10 T T 07 46 13.5
baz=189,slow=76,SNR=6.1
H11S1 WAKE ISLAND Hy 29.25 10 T T 07 46 14.6
baz=189,slow=76,SNR=8.4
ASAR Alice Springs 29.32 240 P P 07 14 52.0 0.0
0.3nm,0.8s,baz=69,slow=10,SNR=3.0
H11N1 WAKE ISLAND Hy 30.46 10 T T 07 47 45.5
baz=191
H11N3 WAKE ISLAND Hy 30.47 10 T T 07 47 46.3
baz=191
H11N2 WAKE ISLAND Hy 30.48 10 T T 07 47 47.2
baz=191
SONM Songino Array 75.72 325 P P 07 20 33.9 0.0
0.6nm,0.6s,baz=142,slow=5.2,SNR=5.8
ILAR Eielson Array 84.36 20 P P 07 21 20.0 0.0
0.5nm,0.4s,baz=246,slow=16
NVAR Mina Array Bea 88.93 51 P P 07 21 44.3 +1.1
0.3nm,0.7s,baz=231,slow=8.0,SNR=3.0
MKAR Makanchi Array 90.20 318 P P 07 21 46.5 -2.2
0.3nm,0.8s,baz=94,slow=4.5,SNR=3.4
YKA Yellowknife Ar 96.42 28 P P 07 22 17.0 +0.1
0.3nm,0.5s,baz=256,slow=4.7,SNR=6.0

ISCJB 23 07:21:12.5±0.4, 6.76N±0.04×72.96W±0.04, h168km±3km, mb4.1/27, Error ellipse: s-maj=6.9km s-min=5.7km az=137.5
FUNV 23 07:21:12.5, 6.69N×73.16W, h168km, MW4.0
IDC 23 07:21:13.4±1.9, 6.75N×72.90W, h166km±18km, mb3.7/11, mb1 3.9/13, mb1mx3.6/38, mbtmp4.2/13, Error ellipse: s-maj=21.8km s-min=13.9km az=55.0
NEIC 23 07:21:14.9±0.8, 6.67N×73.21W, h173km±8km, mb4.3/20, Error ellipse: s-maj=12.4km s-min=8.2km az=77.0
NEIC Felt at Bucaramanga.
ISC 23 07:21:13.2±0.7, 6.80N±0.05×73.06W±0.06, h159km±7km, n284, σ0§99/290, mb4.2/27, 116C-112D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.29	35⇑	iP	Pn	07 21 42.6	+0.9
CAPV				eS	Sn	07 22 04.2	+0.7
ROSC	El Rosal	2.31	213	P	Pn	07 21 54.2	+1.3
	217nm,0.3s,baz=186,slow=2.3,SNR=427						
ROSC				S	Sn	07 22 21.6	-1.9
	334nm,0.3s,baz=98,slow=15,SNR=15						
ROSC	El Rosal	2.31	213	ePn	Pn	07 21 54.2	+1.3
ROSC				eSn	Sn	07 22 23.2	-0.3
VIGV	El Vigia	2.63	40⇑	iP	Pn	07 21 57.0	+0.6
VIGV				eS	Sn	07 22 30.3	+0.3
SOCV	Socops	2.64	56⇑	eP	Pn	07 21 56.6	+0.1
SOCV				eS	Sn	07 22 29.1	-0.8
ELOV	Elorza	3.56	87	eP	Pn	07 22 08.7	+0.7
VIRV	Villa del Rosa	3.73	10⇑	iP	Pn	07 22 09.2	-1.1
VIRV				eS	Sn	07 22 53.3	-1.5
SANV	Sanarito	4.40	52⇑	eP	Pn	07 22 18.8	-0.3
CURV	Curarigua	4.43	44⇑	iP	Pn	07 22 19.2	-0.2
DABV	Dabajuro	4.74	30⇑	iP	Pn	07 22 23.4	0.0
SIQV	Siquisique	5.00	40⇑	iP	Pn	07 22 26.2	-0.6
BAUV	El Baul	5.41	67	eP	Pn	07 22 30.8	-1.4
MONV	Montecano	5.96	31	eP	Pn	07 22 38.7	-0.8
JACV	Jacura	5.97	44	eP	Pn	07 22 39.7	+0.1
TURV	Turiamo	6.31	55⇑	eP	Pn	07 22 43.8	-0.4
BCIP	Isla Barro Col	7.11	290	ePn	Pn	07 22 52.5	-2.2
MERV	Las Mercedes	7.13	70	eP	Pn	07 22 54.2	-0.9
FUNV	FUNVISIS	7.18	59	eP	Pn	07 22 54.0	-1.8
BIRV	Birongo	7.64	61	eP	Pn	07 23 00.2	-1.7
CUPV	Cœpira	7.89	65	eP	Pn	07 23 03.9	-1.3
OTAV	Otavalo	8.45	220	ePn	Pn	07 23 12.4	-0.7
MTDJ	Mount Denham	12.16	339	ePn	Pn	07 24 03.9	+2.4
MTDJ				eSn	Sn	07 26 15.2	-1.0
SDDR	Presa de Saban	12.23	8	ePn	P	07 24 05.8	-2.2
JTS	JuntasAbangare	12.26	287	P	Pn	07 24 04.5	+1.9
	0.3nm,0.3s,baz=32,slow=18,SNR=3.7						
JTS	JuntasAbangare	12.26	287	eP	P	07 24 09.7	+1.3
GTBY	Guantanamo Bay	13.20	352	ePn	P	07 24 18.0	-0.8
SAML	Samuel	18.49	148	eP	P	07 25 16.8	-0.5
	3.5nm,0.4s						
APG	El Apazote	18.92	297	P	P	07 25 17.7	-4.5
	0.2nm,0.3s,baz=78,slow=5.4,SNR=5.0						
TEIG	Tepich	19.89	314	P	Pn	07 25 33.9	-1.9
	14nm,0.5s,baz=329,slow=1.6,SNR=18						
TEIG	Tepich	19.89	314	eP	Pn	07 25 34.3	-1.5
	23nm,0.8s						
LPAZ	La Paz	23.46	168	P	P	07 26 08.1	-1.0
	1.6nm,0.8s,baz=316,slow=16,SNR=5.5						
034A	Hebbronville	31.60	313	⇓P	P	07 27 21.7	+0.7
	baz=32						
WVT	Waverly	32.17	337	eP	P	07 27 26.7	+0.8
	4.3nm,0.3s						
933A	Laredo	32.34	313	⇓P	P	07 27 27.7	+0.2
	baz=32						
832A	Faith Ranch, C	33.23	313	⇑P	P	07 27 35.5	+0.2
	baz=33						
434A	Burnet	33.59	319	⇑P	P	07 27 38.3	-0.1
	baz=34						
632A	Uvalde	33.81	315	⇑P	P	07 27 40.4	+0.1
	baz=34						
334A	Lometa	33.91	319	⇓P	P	07 27 41.4	+0.2
	baz=34						
433A	Art	34.10	318	⇓P	P	07 27 42.7	-0.1
	baz=34,SNR=7.5						
532A	Rocksprings	34.27	316	⇓P	P	07 27 44.8	+0.5
	baz=34						
631A	Perdido Creek	34.31	314	⇓P	P	07 27 45.3	+0.7
	baz=34						
333A	Richland Sprin	34.39	319	⇓P	P	07 27 45.5	+0.2
	baz=34						
134A	White-Moore Ra	34.63	321	⇓P	P	07 27 48.4	+1.1
	baz=35						
432A	Menard	34.65	317	⇑P	P	07 27 48.0	+0.4
	baz=35						
531A	Rocksprings	34.73	315	⇑P	P	07 27 48.5	+0.2
	baz=35						
233A	Rising Star	34.78	320	⇓P	P	07 27 49.2	+0.6
	baz=35						
332A	Millersview	34.93	318	⇓P	P	07 27 50.4	+0.5
	baz=35						
Z34A	Collier Ranch,	35.07	322	⇓P	P	07 27 51.8	+0.8
	baz=35						
431A	Sonora	35.09	316	⇓P	P	07 27 51.7	+0.4
	baz=35						
133A	Hamilton Ranch	35.18	320	⇑P	P	07 27 52.7	+0.6
	baz=35						
232A	Coleman	35.18	319	⇓P	P	07 27 52.9	+0.8
	baz=35						
530A	J-C Ranch, Com	35.28	315	⇑P	P	07 27 53.2	+0.3
	baz=35,SNR=5.4						
331A	San Angelo	35.34	317	⇓P	P	07 27 54.1	+0.7
	baz=35						
Y34A	Reagan Ranch,	35.38	323	⇓P	P	07 27 54.6	+1.0
	baz=36						
Z33A	Whitaker Ranch	35.53	321	⇓P	P	07 27 55.7	+0.7
	baz=36						
430A	Baggett Ranch,	35.58	316	⇑P	P	07 27 55.7	+0.2
	baz=36						
ABTX	Abilene, Hawle	35.65	320	⇑P	P	07 27 56.3	+0.2
	baz=36						
231A	Bronte	35.66	318	⇓P	P	07 27 56.4	+0.2
	baz=36						
TUL1	Tulsa	35.68	327	⇓P	P	07 27 56.1	-0.2
	baz=36						
SFIN	Scholer Farm	35.72	342	eP	P	07 27 57.6	+1.1
	56nm,1.7s						
SFIN	Scholer Farm	35.72	342	⇓P	P	07 27 57.5	+1.1
	baz=36						
X34A	Smith Ranch, M	35.87	324	⇑P	P	07 27 58.9	+1.0
	baz=36						
529A	Stev Forest Ra	35.89	314	⇓P	P	07 27 58.3	+0.1
	baz=36						
330A	Mertzon	35.91	317	⇑P	P	07 27 58.4	+0.1
	baz=36						
Y33A	Hilltop Ranch,	35.94	322	⇓P	P	07 27 59.2	+0.8
	baz=36						
429A	Davenport Ranc	35.95	315	⇓P	P	07 27 58.9	+0.2
	baz=36						
Z32A	Haskell	35.99	321	⇓P	P	07 27 59.9	+0.9
	baz=36						

230A Sterling City 36.16 317 ⇓P P 07 28 01.2 +0.8
baz=36
W34A Bridge Creek, 36.29 325 ⇑P P 07 28 01.8 +0.4
baz=36
Z31A Sharp Cattle R 36.42 320 ⇑P P 07 28 03.3 +0.7
baz=36
Y32A R-V Farms, Ver 36.43 322 ⇓P P 07 28 03.4 +0.7
baz=36
329A Wagon Wheel Ra 36.51 316 ⇓P P 07 28 04.0 +0.5
baz=37
TXAR Lajitas Array 36.52 312 P P 07 28 04.2 +0.7
1.1nm,0.4s,baz=128,slow=9.1,SNR=15
TXAR PcP PcP 07 30 24.3 +0.4
0.5nm,0.7s,baz=134,slow=5.4,SNR=3.8
V34A Guthrie 36.57 326 ⇑P P 07 28 04.1 +0.3
baz=37
X32A Elmer 36.62 322 ⇑P P 07 28 05.2 +1.0
baz=37
229A Bryant Ranch, 36.68 317 ⇓P P 07 28 05.5 +0.6
baz=37
Y31A Rekieta Farm, 36.91 321 ⇓P P 07 28 07.8 +1.0
baz=37
V33A Lossen Ranch, 37.00 325 ⇓P P 07 28 07.4 0.0
baz=37
U34A Anderson Ranch 37.02 326 ⇓P P 07 28 07.6 0.0
baz=37
Z30A Sanderson Ranc 37.03 319 ⇑P P 07 28 08.5 +0.6
baz=37
W32A Sentinel 37.07 323 ⇓P P 07 28 08.6 +0.5
baz=37
129A Stewart Farms, 37.12 318 ⇑P P 07 28 09.2 +0.6
baz=37
X31A McDonald Ranch 37.18 322 ⇑P P 07 28 09.8 +0.8
baz=37
Y30A Stafford Cattl 37.26 320 ⇓P P 07 28 10.5 +0.8
baz=37
Z29A Hungry Hill Ra 37.40 319 ⇓P P 07 28 11.1 +0.2
baz=38,SNR=6.4
128A Castleberry Fa 37.53 317 ⇓P P 07 28 12.7 +0.7
baz=38,SNR=7.9
W31A Holland Ranch, 37.53 323 ⇓P P 07 28 12.2 +0.2
baz=38
X30A Coker Ranch, T 37.61 321 ⇓P P 07 28 13.2 +0.5
baz=38,SNR=5.6
Y29A Porterfield Fa 37.75 319 ⇓P P 07 28 14.5 +0.6
baz=38,SNR=5.9
Z28A Tucker Farm, M 37.86 318 ⇑P P 07 28 15.3 +0.5
baz=38
V31A Spring Creek L 37.87 323 ⇓P P 07 28 15.3 +0.5
baz=38
X29A Tulia 38.14 320 ⇓P P 07 28 17.6 +0.5
baz=38
Y28A McKinney Farm, 38.15 319 ⇑P P 07 28 17.8 +0.5
baz=38
AMTX Amarillo 38.40 321 ⇓P P 07 28 20.4 +1.0
baz=38
Z27A Tatum 38.43 317 ⇑P P 07 28 19.8 +0.1
baz=38,SNR=13
X28A Dimmitt 38.50 320 ⇓P P 07 28 20.5 +0.3
baz=39
MSTX Muleshoe 38.53 319 ⇑P P 07 28 20.8 +0.4
baz=39
T31A Randall Ranch, 38.69 325 ⇓P P 07 28 22.4 +0.7
baz=39
Y27A Causey 38.74 318 ⇑P P 07 28 22.4 +0.2
baz=39
Z26A Caprock 38.92 317 ⇑P P 07 28 24.3 +0.6
baz=39,SNR=8.3
V29A Stinnett 38.95 322 ⇓P P 07 28 25.2 +1.3
baz=39
Q33A Connelly Farm, 39.07 329 ⇑P P 07 28 25.6 +0.8
baz=39
Y26A Elida 39.20 318 ⇑P P 07 28 26.4 +0.3
baz=39,SNR=6.5
W27A Bowe Ranch, En 39.40 320 ⇑P P 07 28 28.2 +0.5
baz=40
Z25A Roswell 39.43 316 ⇑P P 07 28 28.8 +0.8
baz=40,SNR=5.3
R31A Burdett 39.45 327 ⇑P P 07 28 28.2 +0.3
baz=40
X26A CR and CF Fran 39.57 319 ⇑P P 07 28 29.5 +0.4
baz=40
V27A Dan Oppiter Fa 39.69 321 ⇓P P 07 28 30.4 +0.3
baz=40
Y25A Mesa, Roswell 39.78 317 ⇑P P 07 28 31.6 +0.7
baz=40
R30A Dighton 39.86 326 ⇑P P 07 28 31.7 +0.3
baz=40
W26A Owens Ranch, T 39.87 319 ⇑P P 07 28 32.0 +0.5
baz=40
S29A Ulysses 39.88 324 ⇓P P 07 28 32.3 +0.7
baz=40
Z24A Sheeppen Canyo 39.91 316 ⇓P P 07 28 32.8 +0.8
baz=40
U27A Thompson Grove 40.10 322 ⇓P P 07 28 34.6 +1.1
baz=40
X25A Clemmons Ranch 40.12 318 ⇓P P 07 28 34.4 +0.7
baz=40
Y24A Capitan 40.29 316 ⇓P P 07 28 36.1 +1.0
baz=40,SNR=6.1
S28A Manter 40.31 324 ⇓P P 07 28 35.9 +0.8
baz=40,SNR=6.8
V26A Tequesquite Ra 40.31 320 ⇓P P 07 28 36.1 +0.9
baz=40
W25A X Bar L Ranch, 40.40 319 ⇑P P 07 28 37.1 +1.2
baz=40
X24A Lazy VL Ranch, 40.66 317 ⇓P P 07 28 39.6 +1.4
baz=41,SNR=5.1
U26A Atchley Ranch, 40.66 321 ⇑P P 07 28 39.1 +1.0
baz=41
Y23A Lovelace Mesa, 40.72 316 ⇓P P 07 28 40.0 +1.3
baz=41
R28A Tribune 40.77 325 ⇓P P 07 28 39.7 +0.8
baz=41
V25A Rancho No Teng 40.87 319 ⇑P P 07 28 40.8 +0.9
baz=41
W24A Lazy 6 Ranch, 41.01 318 ⇓P P 07 28 42.2 +1.2
baz=41
T26A Comanche Natio 41.06 322 ⇓P P 07 28 42.3 +0.9
baz=41
U25A Circle Dot Ran 41.08 320 ⇑P P 07 28 42.8 +1.2
baz=41
121A Cookes Peak, D 41.20 313 ⇓P P 07 28 44.0 +1.4
baz=41
V24A Rampart Ranch, 41.23 319 ⇑P P 07 28 44.2 +1.3
baz=41
S26A Kim 41.27 322 ⇑P P 07 28 44.3 +1.3
baz=41
R27A Eads 41.31 324 ⇓P P 07 28 44.0 +0.8
baz=41
T25A Trinidad 41.54 321 ⇑P P 07 28 46.8 +1.5
baz=42
U24A Moreno Valley 41.64 320 ⇑P P 07 28 47.8 +1.5
baz=42
KSCO Kaye Shedlock' 41.69 325 ⇓P P 07 28 47.6 +1.1
baz=42
R26A Arlington 41.70 323 ⇑P P 07 28 47.5 +0.9
baz=42
V23A Ortiz Mt. (NFS 41.84 318 ⇓P P 07 28 49.8 +2.0
baz=42
S25A Robets Cordova 41.88 322 ⇓P P 07 28 49.4 +1.3
baz=42
O28A Krutsinger Ran 41.98 327 ⇓P P 07 28 49.2 +0.4
baz=42
R25A Fountain Ranch 42.10 322 ⇑P P 07 28 51.0 +1.2
baz=42
T24B San Luis 42.10 320 ⇑P P 07 28 52.2 +2.2
baz=42
Q26A Hugo 42.15 324 ⇓P P 07 28 51.4 +1.2
baz=42
U23A El Rito 42.19 319 ⇑P P 07 28 52.5 +1.9
baz=42
ECSD EROS Data Cent 42.19 334 ⇑P P 07 28 50.5 +0.2
baz=42
L30A Spencer Herefo 42.23 330 ⇓P P 07 28 51.5 +0.8
baz=42
S24A Houchin Ranch, 42.35 321 ⇓P P 07 28 53.6 +1.6
baz=42
V22A San Miguel Ran 42.42 318 ⇓P P 07 28 53.4 +0.9
baz=42
P26A Davis Ranch, A 42.48 325 ⇑P P 07 28 53.7 +0.9
baz=43
T23A Casias Ranch, 42.51 320 ⇑P P 07 28 54.7 +1.4
baz=43
R24A Sanders Place, 42.66 322 ⇑P P 07 28 56.1 +1.7
baz=43
L29A Maesberg Ranch 42.70 330 ⇓P P 07 28 54.7 +0.2
baz=43

K30A Basset 42.73 331 ⇓P P 07 28 54.7 +0.1
baz=43
O26A Horse Wrangler 42.92 326 ⇑P P 07 28 57.1 +0.8
baz=43
R23A Moffat 43.08 321 ⇓P P 07 28 59.4 +1.6
baz=43
S22A 4UR Ranch, Cre 43.44 320 ⇓P P 07 29 02.1 +1.4
baz=44
K28A Ten Mile Ranch 43.62 330 ⇑P P 07 29 02.9 +1.1
baz=44
J29A Okreek 43.62 331 ⇓P P 07 29 01.5 -0.3
baz=44
X18A Snowflake 43.77 314 ⇓P P 07 29 04.7 +1.4
baz=44
BRSD Miller 43.78 333 eP P 07 29 03.1 +0.1
50nm,0.9s
BRSD Miller 43.78 333 ⇓P P 07 29 03.4 +0.4
baz=44
W18A Petrified Fore 43.92 315 ⇑P P 07 29 06.0 +1.5
baz=44
ISCO Idaho Springs 43.95 323 eP P 07 29 05.5 +0.7
1.1nm,0.6s
ISCO Idaho Springs 43.95 323 ⇑P P 07 29 06.2 +1.3
baz=44
K27A Flueckinger Fa 44.05 329 ⇑P P 07 29 05.4 0.0
baz=44
I29A Vivian Onida 44.08 332 ⇓P P 07 29 05.3 -0.1
baz=44
J28A Allard Ranch, 44.08 330 ⇑P P 07 29 05.6 +0.1
baz=44
N24A Carr 44.20 325 ⇑P P 07 29 08.0 +1.4
baz=44
MVCO Mesa Verde 44.21 318 ⇑P P 07 29 07.8 +1.0
baz=44
I28A Midland 44.47 331 ⇑P P 07 29 08.4 -0.2
baz=45
H29A Onida 44.49 332 ⇑P P 07 29 08.2 -0.5
baz=45
P22A Eagle 44.51 322 ⇓P P 07 29 10.3 +1.1
baz=45
214A Organ Pipe Nat 44.68 309 ⇓P P 07 29 09.9 -0.6
baz=45
O22A Kremmling 44.74 323 ⇓P P 07 29 12.1 +1.0
baz=45
PV01 Paradox Valley 44.78 319 eP P 07 29 12.4 +1.0
N23A Red Feather La 44.85 324 ⇑P P 07 29 13.9 +2.0
baz=45
I27A Quinn 44.95 330 ⇓P P 07 29 12.8 +0.4
baz=45
N22A Wattenberg Ran 45.09 324 ⇑P P 07 29 15.9 +2.1
baz=45
G28A Parade 45.16 332 ⇑P P 07 29 14.0 0.0
baz=45
WUAZ Wupatki 45.27 315 eP P 07 29 16.7 +1.5
5.3nm,0.8s
WUAZ Wupatki 45.27 315 ⇑P P 07 29 16.9 +1.7
baz=45
AGMN Agassiz Nation 45.66 339 ⇑P P 07 29 18.1 +0.3
baz=46
F28A McLaughlin 45.69 333 ⇑P P 07 29 18.5 +0.3
baz=46
O20A White River Ci 45.75 322 ⇑P P 07 29 20.1 +1.2
baz=46
G27A Dupree 45.86 332 ⇓P P 07 29 19.7 +0.2
baz=46
G26A Maurine 46.12 331 ⇑P P 07 29 21.0 -0.5
baz=46
C30A Mose, Pekin 46.16 336 ⇑P P 07 29 22.1 +0.4
baz=46
N20A Spence Gulch, 46.18 323 ⇑P P 07 29 23.4 +1.1
baz=46
E28A Huff 46.20 334 ⇑P P 07 29 22.7 +0.6
baz=46
U15A North Rim 46.37 315 ⇑P P 07 29 25.5 +1.6
baz=46
G25A Newell 46.44 330 ⇑P P 07 29 24.3 +0.2
baz=47
E27A Carson 46.48 333 ⇑P P 07 29 25.0 +0.6
baz=47
F26A Lodgepole 46.56 332 ⇑P P 07 29 25.1 +0.2
baz=47
K21A Alcova 46.72 325 ⇓P P 07 29 27.3 +0.9
baz=47
J22A Midwest 46.79 327 ⇓P P 07 29 27.7 +0.8
baz=47
E26A Carlson Angus 46.92 332 ⇑P P 07 29 28.1 +0.3
baz=47
I22A 9 Mile Ranch, 47.12 327 ⇓P P 07 29 30.0 +0.6
baz=47
B29A Wagenman Farm, 47.12 336 ⇑P P 07 29 30.1 +0.8
baz=47
ULM Lac du Bonnet 47.32 340 P P 07 29 30.3 -0.4
4.7nm,0.5s,baz=146,slow=7.9,SNR=15
D26A Manning 47.33 333 ⇑P P 07 29 31.4 +0.5
baz=48
E25A Miller Ranch, 47.38 332 ⇑P P 07 29 31.9 +0.5
baz=48
F24A Ekalaka 47.41 330 ⇑P P 07 29 31.9 +0.3
baz=48
G23A Biddle 47.43 329 ⇓P P 07 29 32.3 +0.5
baz=48
C27A Sayler Ranch, 47.43 334 ⇑P P 07 29 32.9 +1.2
baz=48
I21A Big Trails, Te 47.50 326 ⇓P P 07 29 32.9 +0.5
baz=48
H22A Clearmont 47.52 328 ⇓P P 07 29 33.7 +1.2
baz=48
B28A Dugan Ranch, T 47.52 336 ⇓P P 07 29 33.0 +0.7
baz=48
C26A Wahner Farm, P 47.78 334 ⇓P P 07 29 35.2 +0.9
baz=48
F23A Volborg 47.80 330 ⇓P P 07 29 35.2 +0.6
baz=48
D25A Fairfield 47.82 332 ⇓P P 07 29 35.4 +0.7
baz=48
H21A Big Horn, Sher 47.90 327 ⇑P P 07 29 36.3 +0.8
baz=48
G22A Birney 47.91 329 ⇓P P 07 29 36.2 +0.8
baz=48
I20A Worland 48.05 326 ⇑P P 07 29 37.2 +0.6
baz=48,SNR=5.2
J19A Crowheart 48.14 325 ⇑P P 07 29 37.9 +0.5
baz=48
SCHQ Schefferville 48.16 5 P P 07 29 37.8 +0.7
3.2nm,0.7s,baz=179,slow=5.7,SNR=7.9
C25A Freed Ranch, W 48.21 333 ⇑P P 07 29 38.9 +1.2
baz=48
D24A Glendive 48.26 332 ⇓P P 07 29 39.1 +1.0
baz=48
F22A Rosebud 48.27 329 ⇓P P 07 29 39.3 +1.1
baz=48
TCUT Toone Canyon 48.28 321 eP P 07 29 39.4 +0.8
6.1nm,0.6s
H20A Greybull 48.33 327 ⇑P P 07 29 39.3 +0.6
baz=48
G21A Lodge Grass 48.39 328 ⇑P P 07 29 39.8 +0.6
baz=48
A26A Wade Farm, Ken 48.57 335 ⇑P P 07 29 41.3 +1.0
baz=49
E22A Miles City 48.57 330 ⇓P P 07 29 40.8 +0.3
baz=49
B25A Knox Farm, Ray 48.58 333 ⇑P P 07 29 41.5 +1.0
baz=49,SNR=6.4
I19A Meeteetse 48.59 326 ⇑P P 07 29 41.3 +0.5
baz=49
DUG Dugway 48.66 319 ⇑P P 07 29 42.8 +1.4
baz=49
D23A Lindsay 48.72 331 ⇑P P 07 29 42.5 +0.8
baz=49
G20A Bridger 48.92 327 ⇑P P 07 29 43.3 0.0
baz=49
H19A Powell 48.99 326 ⇓P P 07 29 44.7 +1.0
baz=49
C23A Lambert 49.16 332 ⇑P P 07 29 45.8 +0.9
baz=49
D22A Cohagen 49.18 330 ⇓P P 07 29 46.3 +1.2
baz=49,SNR=6.2
DGMT Dagmar 49.19 333 eP P 07 29 46.1 +0.9
15nm,0.5s
DGMT Dagmar 49.19 333 ⇓P P 07 29 46.5 +1.3
baz=49
BGU Big Grassy Mou 49.19 320 eP P 07 29 46.1 +0.6
1.8nm,0.5s
E21A Keefer Ranch, 49.21 329 ⇓P P 07 29 46.1 +0.7
baz=49
REDW Red Top Meadow 49.24 324 eP P 07 29 46.3 +0.5
4.1nm,0.6s
LOHW Long Hollow 49.25 324 eP P 07 29 46.5 +0.6

2.0nm,0.7s
F20A Billings 49.27 328 ⇓P P 07 29 46.6 +0.7
baz=49
H18A Shoshone NF, C 49.37 326 ⇓P P 07 29 47.0 +0.2
baz=50
I17A Pilgrim Ck. 49.42 325 ⇓P P 07 29 48.0 +0.9
baz=50
A24A Westby 49.44 333 ⇓P P 07 29 48.6 +1.6
baz=50
C22A Vida 49.45 331 ⇓P P 07 29 47.9 +0.8
baz=50,SNR=7.3
D21A La Casta Ranch 49.52 330 ⇓P P 07 29 49.3 +1.6
baz=50
B23A Brockton 49.55 332 ⇑P P 07 29 49.5 +1.7
baz=50
R11A Troy Canyon, C 49.60 316 ⇑P P 07 29 49.5 +0.9
baz=50
IMW Indian Meadow 49.61 324 eP P 07 29 49.5 +0.7
5.7nm,1.4s
E20A Meyer Farm, Mu 49.72 329 ⇓P P 07 29 50.3 +1.1
baz=50,SNR=8.8
EDW2 Edwards Air Fo 49.83 311 ⇑P P 07 29 50.9 +0.7
baz=50
A23A Redstone 49.86 333 ⇓P P 07 29 51.7 +1.6
baz=50
E19A Rath Farm, Rou 50.03 328 ⇓P P 07 29 52.6 +1.0
baz=50
C21A Desert Coulee 50.10 331 ⇓P P 07 29 53.2 +1.2
baz=50
D20A Manuel Ranch, 50.12 329 ⇑P P 07 29 53.1 +1.0
baz=50
A22A Carney Farms, 50.36 332 ⇑P P 07 29 55.3 +1.4
baz=50,SNR=9.3
D19A Cripps Ranch, 50.54 329 ⇑P P 07 29 56.0 +0.6
baz=51,SNR=6.7
A21A Bergtoll Ranch 50.83 332 ⇓P P 07 29 59.2 +1.7
baz=51
C19A Slack Wire Ran 51.01 329 ⇑P P 07 30 00.0 +1.2
baz=51
VES Vestal, Richgr 51.03 311 ⇑P P 07 29 58.7 -0.5
baz=51
A20A Cobblestone Ra 51.22 331 ⇑P P 07 30 01.7 +1.3
baz=51
HLID Hailey 51.49 322 eP P 07 30 03.0 +0.3
1.8nm,0.9s
HLID Hailey 51.49 322 ⇓P P 07 30 03.5 +0.9
baz=52
NVAR Mina Array Bea 51.54 315 P P 07 30 04.2 +1.0
1.0nm,0.6s,baz=122,slow=7.1,SNR=9.9
NVAR PcP PcP 07 31 15.6 +0.5
0.4nm,0.4s,baz=129,slow=5.4,SNR=4.0
EGMT Eagleton 51.55 329 ⇓P P 07 30 04.1 +1.2
baz=52
A19A Klindworth Far 51.65 331 ⇓P P 07 30 04.9 +1.2
baz=52
MFID Camas Ranch 52.28 321 eP P 07 30 09.0 +0.6
2.8nm,0.7s
CMB Columbia Colle 52.86 313 eP P 07 30 14.1 +1.4
2.2nm,1.0s
MSO Missoula 53.05 326 ⇑P P 07 30 15.6 +1.5
baz=53
FCC Fort Churchill 54.30 347 eP P 07 30 22.8 +0.1
F10A Beach Ranch, E 54.47 323 eP P 07 30 24.6 +0.3
14nm,1.7s
G08A Pilot Rock 55.16 322 eP P 07 30 30.0 +0.6
55nm,2.8s
M04C Macdoel 55.42 317 ⇑P P 07 30 32.1 +0.8
baz=56
J05D Fort Rock, OR 55.67 319 ⇓P P 07 30 33.7 +0.7
baz=56
I05D Terrebonne, OR 56.21 320 ⇑P P 07 30 37.3 +0.6
baz=56
J04D Umpqua Nationa 56.22 318 ⇓P P 07 30 37.9 +0.8
baz=56
EDM Edmonton 56.67 332 eP P 07 30 39.3 -0.5
YKA Yellowknife Ar 63.30 340 P P 07 31 24.7 0.0
2.8nm,0.6s,baz=132,slow=6.7,SNR=67
DBIC Dimbokro 67.68 86 P P 07 31 52.4 -1.5
12nm,1.2s,baz=202,slow=11,SNR=4.0
DBIC Dimbokro 67.68 86 eP P 07 31 55.6 +1.8
34nm,1.7s
SUMG Summit 69.00 11 eP P 07 32 01.5 0.0
3.0nm,0.5s
TORD Torodi Ar. Bea 73.69 78 P P 07 32 28.3 -1.8
0.2nm,0.3s,baz=287,slow=6.4,SNR=4.5
ILAR Eielson Array 77.00 335 P P 07 32 48.1 0.0
0.4nm,0.8s,baz=109,slow=4.5,SNR=7.4
ARCES ARCESS Array B 86.67 20 P P 07 33 38.3 -0.3
3.2nm,0.9s,baz=285,slow=3.5,SNR=3.9
WMQ Urumqi 126.69 17 ePKP PKPdf 07 39 58.8 +0.7
LZH Lanzhou 137.24 4 ⇓PKP PKPdf 07 40 13.8 -4.6
LZH sPKP 07 41 20.3
CD2 Chengdu 142.38 4 PKP PKPdf 07 40 25.1 -2.6
ASAR Alice Springs 149.15 234 PKPbc PKPbc 07 40 42.8 -0.9
1.2nm,0.5s,baz=117,slow=3.5,SNR=24
WRA Warramunga Arr 150.38 241 PKPbc PKPbc 07 40 45.9 -0.9
1.5nm,0.4s,baz=107,slow=2.7,SNR=47

BJI ***23*** *07:27:56.5, 32°.42N×47°.49E, h33km, mB4.9/23, mb4.6/39, Ms4.5/19, Ms7 4.4/17*
IDC ***23*** *07:27:58.9±0.6, 32°.54N×48°.32E, h0km, mb4.1/31, mb1 4.2/37, mb1mx4.2/42, mbtmp4.1/37, ML3.8/6, MS4.0/20, Ms1 4.0/20, ms1mx3.8/43, Error ellipse: s-maj=12.9km s-min=10.4km az=166.0*
NSSC ***23*** *07:27:58.7±1.8, 33°.50N×49°.04E, h0km±999km, MD3.2, ML4.0*
ISCJB ***23*** *07:27:59.6±0.2, 32°.40N±0°.02×48°.25E±0°.02, h17km, mb4.4/78, MS4.1/25, Error ellipse: s-maj=3.1km s-min=2.2km az=29.4*
CSEM ***23*** *07:28:00.6±0.1, 32°.45N×48°.25E, h10km, mb4.6/33, Ms3.8, Mw4.9, Error ellipse: s-maj=5.0km s-min=3.5km az=35.0*
SGS ***23*** *07:28:01.3, 32°.83N×48°.20E, h25km*
MOS ***23*** *07:28:02.2±1.3, 32°.53N×48°.24E, h33km, mb4.6/38, Error ellipse: s-maj=6.3km s-min=4.4km az=108.9*
GCMT ***23*** *07:28:02.7±0.2, 32°.52N×48°.18E, h17km, MW4.9/79, Moment Tensor Solution. s33,c36; s79,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.52±.13; $M_{\theta\theta}$-2.07±.09; $M_{\phi\phi}$-0.45±.08; $M_{r\theta}$0.88±.20; $M_{\theta\phi}$1.03±.05; $M_{\phi r}$-1.03±.27; Best double couple: $M_0$2.88400×10^{16} NP1:ϕ_s127.00000°,δ59.00000°,λ101.00000°. NP2: ϕ_s286.00000°,δ33.00000°,λ72.00000°. Principal axes: T 2.9040, Plg74.0000°, Azm66.0000°; N -0.0470, Plg10.0000°, Azm301.0000°; P -2.8650, Plg13.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *07:28:02.7, 32°.54N×48°.37E, h23km, mb4.6/18, ML5.1(THR), MN4.7(TEH), After THR.*
THR ***23*** *07:28:02.3±0.6, 32°.58N×48°.42E, h14km±6km, ML4.9*
TEH ***23*** *07:28:02.8, 32°.49N×48°.30E, h11km, ML4.7*
AZER ***23*** *07:28:48.9±99.0, 36°.88N×50°.98E, h7km, Error ellipse: s-maj=24.6km s-min=8.6km az=21.0*

ISC 23 07:28:01.9±0.3**, 32°.51N**±0°.03×**48°.24E**±0°.02**, h17km, n446, σ1ˢ.49**/454**, mb4.5**/78**, MS4.1**/25**, 33C-37D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.62**	**130**	*e*Pg	**Pg**	**07 28 13.3**	**-0.9**
	88µm,0.7s						
SHGR	**Shooshtar-Gavs**	**0.62**	**130**	*e*Pg	**Pg**	**07 28 13.3**	**-0.9**
SHGR				AML	AML	07 28 33.1	
	comp=N,92µm,0.4s						
SHGR				AML	AML	07 28 35.6	
	comp=E,88µm,0.7s						
IKMR	**Kamar-syah**	**1.01**	**7**	*e*Pn	Pb	07 28 18.2	-2.8
IKMR	**Kamar-syah**	**1.01**	**7**	*e*Pn	Pb	07 28 18.2	-2.8
IKFM	**Kafar-mosalman**	**1.06**	**342**	*e*Pg	**Pb**	**07 28 20.6**	**-1.2**
IKFM				*e*Sg	**Sb**	**07 28 36.7**	**+1.3**
IKFM	**Kafar-mosalman**	**1.06**	**342**	*e*Pg	**Pb**	**07 28 20.6**	**-1.2**
IKFM				*e*Sg	**Sb**	**07 28 36.7**	**+1.3**
IDOB	**Doab**	**1.27**	**358**	*e*Pn	**Pn**	**07 28 23.4**	**-1.8**
IDOB				*e*Sg	**Sn**	**07 28 42.1**	**+0.2**
IDOB	**Doab**	**1.27**	**358**	*e*Pn	**Pn**	**07 28 23.4**	**-1.8**
IDOB				*e*Sg	**Sn**	**07 28 42.1**	**+0.2**
IKOM	**Komasi**	**1.77**	**340**	*e*Pn	**Pn**	**07 28 34.4**	**+2.5**
IKOM				*e*Sg	**Sb**	**07 28 59.3**	**+3.4**
IKOM				*e*		07 29 06.0	
	comp=Z,65µm,0.2s						
IKOM	**Komasi**	**1.77**	**340**	Pn	**Pn**	**07 28 34.3**	**+2.5**
IKOM	**Komasi**	**1.77**	**340**	*e*Pn	**Pn**	**07 28 34.4**	**+2.5**
IKOM				*e*Sg	**Sb**	**07 28 59.3**	**+3.4**
KHMZ	**Khomeyn**	**1.90**	**49**	*e*Pg	**Pn**	**07 28 34.0**	**+0.4**

KHMZ Khomeyn 1.90 49 ePg Pn 07 28 34.0 +0.4
IBZA Bozab 1.98 351 ePn Pn 07 28 36.6 +1.8
IBZA e 07 29 12.2
comp=Z,28µm,0.4s
IBZA Bozab 1.98 351 Pn Pn 07 28 36.6 +1.8
IBZA Bozab 1.98 351 ePn Pn 07 28 36.6 +1.8
IPIR Pirpir 2.25 85 ePn Pn 07 28 39.1 +0.5
IPIR e 07 29 14.3
comp=Z,89µm,0.3s
IPIR Pirpir 2.25 85 Pn Pn 07 28 39.1 +0.5
IPIR Pirpir 2.25 85 ePn Pn 07 28 39.2 +0.5
IGHG Ghaleghazi 2.29 323 e Sg 07 29 26.2 +11
comp=Z,38µm,0.3s
ILIN Lien 2.62 337 ePn Pn 07 28 45.5 +1.8
ILIN e 07 29 31.0
comp=Z,24µm,0.3s
ILIN Lien 2.62 337 Pn Pn 07 28 45.5 +1.8
ILIN Lien 2.62 337 ePn Pn 07 28 45.5 +1.8
IDHR Dehrash 2.67 325 ePn Pn 07 28 45.9 +1.6
IDHR e 07 29 33.5
comp=Z,29µm,0.2s
IDHR Dehrash 2.67 325 Pn Pn 07 28 45.7 +1.3
IDHR Dehrash 2.67 325 ePn Pn 07 28 45.9 +1.6
IKLH Kolahrood 2.92 73 ePn Pn 07 28 49.3 +1.4
IKLH e 07 29 37.2
comp=Z,63µm,0.3s
IKLH Kolahrood 2.92 73 ePn Pn 07 28 49.3 +1.4
IRAZ Razeghan 3.21 26 ePn Pn 07 28 53.8 +2.0
IRAZ e 07 30 01.6
comp=Z,20µm,0.4s
IRAZ Razeghan 3.21 26 ePn Pn 07 28 53.8 +2.0
GHVR GHOM 3.22 52 ePn Pn 07 28 52.3 +0.5
GHVR GHOM 3.22 52 ePn Pn 07 28 52.3 +0.5
GHVR GHOM 3.22 52 ePn Pn 07 28 52.3 +0.5
GHVR AML AML 07 29 44.2
comp=E,2µm,0.0s
IZEF Zefreh 3.47 83 ePn Pn 07 28 55.9 +0.5
IZEF e 07 29 49.6
comp=Z,21µm,0.2s
IZEF Zefreh 3.47 83 Pn Pn 07 28 56.0 +0.6
IZEF Zefreh 3.47 83 ePn Pn 07 28 55.9 +0.5
IMHD Mahdasht 3.75 32 e Sg 07 30 06.4 +3.9
comp=N,15µm,0.4s
IR3 Iran Long-Peri 3.76 37 ePn Pn 07 29 00.2 +1.1
IR3 Iran Long-Peri 3.76 37 ePn Pn 07 29 00.2 +1.1
IVRN Varamin 3.82 49 ePn Pn 07 29 00.9 +0.9
IVRN Varamin 3.82 49 ePn Pn 07 29 00.9 +0.9
NASN Na'in 3.87 85 ePn Pn 07 29 01.6 +0.7
NASN Na'in 3.87 85 ePn Pn 07 29 01.6 +0.7
NASN Na'in 3.87 85 ePn Pn 07 29 01.6 +0.7
NASN AML AML 07 30 05.0
comp=E,1µm,0.0s
IKAZ Kazeroun 4.12 130 ePn Pn 07 29 05.0 +0.7
IKAZ e 07 30 42.0
comp=Z,40µm,0.4s
IKAZ Kazeroun 4.12 130 Pn Pn 07 29 05.0 +0.7
IKAZ Kazeroun 4.12 130 ePn Pn 07 29 05.0 +0.7
CHTH Charan 4.15 34 ePn Pn 07 29 05.5 +0.9
CHTH Charan 4.15 34 ePn Pn 07 29 05.6 +0.9
CHTH Charan 4.15 34 ePn Pn 07 29 05.5 +0.9
ZNJK Zanjan 4.17 5 ePn Pn 07 29 06.8 +1.9
ZNJK Zanjan 4.17 5 ePn Pn 07 29 06.8 +1.9
ZNJK Zanjan 4.17 5 ePn Pn 07 29 06.8 +1.9
IGZV Ghazvin 4.20 22 ePn Pn 07 29 06.2 +0.9
IGZV e 07 30 23.7
comp=Z,4µm,0.3s
IGZV Ghazvin 4.20 22 ePn Pn 07 29 06.2 +0.9
KFJS 4.32 183 P Pn 07 29 09.0 +2.2
KFJS S Sn 07 29 59.0 +2.3
KFJS 4.32 183 P Pn 07 29 09.2 +2.5
IDMV Damavand 4.39 45 ePn Pn 07 29 08.8 +0.8
IDMV e 07 30 42.3
comp=Z,12µm,0.5s
IDMV Damavand 4.39 45 Pn Pn 07 29 08.5 +0.4
IDMV Damavand 4.39 45 ePn Pn 07 29 08.8 +0.8
DAMV Damavand 4.39 44 ePn Pn 07 29 08.6 +0.6
DAMV eSg Sb 07 30 13.5 +2.0
DAMV Damavand 4.39 44 ePn Pn 07 29 08.6 +0.6
DAMV eSg Sb 07 30 13.5 +2.0
ISAD Sadrabad 4.66 96 ePn Pn 07 29 12.1 +0.3
ISAD e 07 30 32.6
comp=Z,17µm,0.3s
ISAD Sadrabad 4.66 96 ePn Pn 07 29 12.0 +0.3
ILAS Lasjerd 4.86 53 ePn Pn 07 29 14.9 +0.5
ILAS Lasjerd 4.86 53 ePn Pn 07 29 14.9 +0.5
IFIR Firoozkooh 4.88 49 ePn Pn 07 29 15.2 +0.5
IFIR e 07 30 42.6
comp=Z,2µm,0.3s
IFIR Firoozkooh 4.88 49 Pn Pn 07 29 15.2 +0.5
IFIR Firoozkooh 4.88 49 ePn Pn 07 29 15.2 +0.5
IPAR Pars 4.91 122 ePn Pn 07 29 15.4 +0.2
IPAR e 07 30 15.2
comp=Z,16µm,0.5s
IPAR Pars 4.91 122 Pn Pn 07 29 15.3 +0.2
IPAR Pars 4.91 122 ePn Pn 07 29 15.4 +0.2
ISRV Sarvestan 5.22 125 ePn Pn 07 29 19.7 +0.2
ISRV Sarvestan 5.22 125 ePn Pn 07 29 19.7 +0.2
ICHK Chekchek 5.23 91 ePn Pn 07 29 19.6 +0.1
ICHK e 07 30 48.9
comp=Z,12µm,0.6s
ICHK Chekchek 5.23 91 Pn Pn 07 29 19.4 -0.1
ICHK Chekchek 5.23 91 ePn Pn 07 29 19.6 +0.1
IBST Bostanabad 5.29 348 ePn Pn 07 29 22.0 +1.6
IBST e 07 29 46.9
comp=Z,671nm,0.2s
IBST Bostanabad 5.29 348 Pn Pn 07 29 22.2 +1.8
IBST Bostanabad 5.29 348 ePn Pn 07 29 22.0 +1.6
ISRB Sarab 5.32 355 ePn Pn 07 29 22.2 +1.4
ISRB e 07 30 48.1
comp=Z,2µm,0.4s
ISRB Sarab 5.32 355 ePn Pn 07 29 22.2 +1.4
IMEH Mehriz 5.53 100 ePn Pn 07 29 23.8 +0.1
IMEH Mehriz 5.53 100 ePn Pn 07 29 23.8 +0.1
IANJ Anjilo 5.56 56 ePn Pn 07 29 24.4 +0.3
IANJ e 07 31 15.3
comp=Z,6µm,0.4s
IANJ Anjilo 5.56 56 ePn Pn 07 29 24.4 +0.3
IHRS Heris 5.88 351 ePn Pn 07 29 29.7 +1.3
IHRS Heris 5.88 351 Pn Pn 07 29 30.5 +2.1
IHRS Heris 5.88 351 ePn Pn 07 29 29.7 +1.3
ASYS 6.02 215 P Pn 07 29 31.0 +0.7
ASYS S Sn 07 30 41.0 +2.1
ASYS 6.02 215 P Pn 07 29 31.4 +1.1
LRK Lerik 6.12 1 ⇓P Pn 07 29 34.4 +2.7
LRK ⇑S Sn 07 30 13.4 -28
LRK Lerik 6.12 1 P Pn 07 29 34.4 +2.7
LRK S Sn 07 30 13.4 -28
LKRN Lenkeran, Azer 6.20 4 ⇓P Pn 07 29 35.1 +2.5
LKRN ⇑S Sn 07 30 07.1 -36
LKRN Lenkeran, Azer 6.20 4 P Pn 07 29 35.1 +2.5
LKRN S Sn 07 30 07.1 -36
GRMI Germi 6.29 358 ePn Pn 07 29 36.0 +2.0
GRMI Germi 6.29 358 ePn Pn 07 29 36.0 +2.0
IBAF Bafgh 6.29 96 ePn Pn 07 29 33.7 -0.4
IBAF e 07 31 47.1
comp=Z,4µm,0.5s
IBAF Bafgh 6.29 96 Pn Pn 07 29 33.6 -0.4
IBAF Bafgh 6.29 96 ePn Pn 07 29 33.7 -0.4
IMRD Marand 6.52 342 e Sn 07 30 22.5 -29
comp=Z,994nm,0.3s
BOQSS 6.69 171 P Pn 07 29 42.0 +2.6
BOQSS 6.69 171 P Pn 07 29 41.6 +2.2
GLBA Clilabad 6.72 1 ⇓P Pn 07 29 42.1 +2.4
SNR=6.9
GLBA ⇓S Sn 07 30 22.6 -33
GLBA Clilabad 6.72 1 P Pn 07 29 42.1 +2.4
SNR=6.9
GLBA S Sn 07 30 22.6 -33
MZRK Al-Mazaregh 7.10 300 eP Pn 07 29 48.0 +3.0
MZRK eS Sn 07 31 06.0 +0.7
MZRK AML AML 07 31 11.8
comp=E,214nm,0.4s
MZRK AML AML 07 31 14.3
comp=N,138nm,0.4s
MZRK Al-Mazaregh 7.10 300 eP Pn 07 29 48.0 +3.0
SNR=45
MZRK eS Sn 07 31 06.0 +0.7
comp=N,138nm,0.4s,SNR=40
MAKU Maku 7.41 338 ePn Pn 07 29 52.1 +2.7
MAKU Maku 7.41 338 ePn Pn 07 29 52.1 +2.7
KBSD Kabsdagh 7.75 307 eP Pn 07 29 54.7 +0.7
KBSD eS Sn 07 31 18.0 -3.4
KBSD AML AML 07 31 23.6
comp=E,120nm,0.4s
KBSD AML AML 07 31 41.2
comp=N,94nm,0.8s
KBSD Kabsdagh 7.75 307 eP Pn 07 29 54.7 +0.7
SNR=45
KBSD eS Sn 07 31 18.0 -3.4
comp=N,94nm,0.8s,SNR=40
SFNV Sufian 7.76 302 eP Pn 07 29 54.4 +0.3
SFNV eS Sn 07 31 20.3 -1.2
SFNV AML AML 07 31 24.7
comp=N,137nm,0.4s
SFNV AML AML 07 31 34.2
comp=E,140nm,0.5s
SFNV Sufian 7.76 302 eP Pn 07 29 54.4 +0.3
SNR=45
SFNV eS Sn 07 31 20.3 -1.2
comp=E,140nm,0.5s,SNR=40
GOBA Gobu 7.97 8 ⇑P Pn 07 29 48.6 -8.3
GOBA Gobu 7.97 8 P Pn 07 29 48.6 -8.3
GALA Gala 8.03 11 ⇑P Pn 07 29 48.4 -9.3
GALA Gala 8.03 11 P Pn 07 29 48.4 -9.3
GNI Garni 8.13 341 LR LR 07 33 51.8
comp=E,814nm,19.7s,baz=151,slow=43
MNKR ALMNKUR 8.17 297 eP Pn 07 30 03.1 +3.3
MNKR eS Sn 07 31 32.4 +0.6
MNKR AML AML 07 31 52.1
comp=N,276nm,0.3s
MNKR AML AML 07 31 54.0
comp=E,217nm,0.4s
MNKR ALMNKUR 8.17 297 eP Pn 07 30 03.1 +3.3
SNR=45
MNKR eS Sn 07 31 32.4 +0.6
comp=E,217nm,0.4s,SNR=40
MRVT Maraveh tapeh 8.23 49 ePn Pn 07 30 01.9 +1.3
MRVT Maraveh tapeh 8.23 49 ePn Pn 07 30 01.9 +1.3
GANJ Ganja 8.26 350 ⇓P Pn 07 30 12.2 +11
GANJ Ganja 8.26 350 P Pn 07 30 12.2 +11
PQL Pirkuli 8.27 2 ⇑P Pn 07 29 59.6 -1.5
PQL Pirkuli 8.27 2 P Pn 07 29 59.6 -1.5
ATGJ Altiaghaj 8.35 4 ⇓P Pn 07 29 59.0 -3.3
ATGJ Altiaghaj 8.35 4 P Pn 07 29 59.0 -3.3
SIZA Siyzn 8.56 3 ⇓P Pn 07 30 01.6 -3.6
SIZA Siyzn 8.56 3 P Pn 07 30 01.6 -3.6
SEKA Sheki 8.72 355 ⇓P Pn 07 30 10.2 +2.9
SNR=7.8
SEKA ⇑S Sn 07 31 13.6 -32
SEKA Sheki 8.72 355 P Pn 07 30 10.2 +2.9
SNR=7.8
SEKA S Sn 07 31 13.6 -32
BTHS 8.74 164 P Pn 07 30 08.0 +0.5
BTHS 8.74 164 P Pn 07 30 07.6 +0.1
QUBA Quba, Azerbaij 8.83 1 ⇑P Pn 07 30 06.5 -2.3
QUBA Quba, Azerbaij 8.83 1 P Pn 07 30 06.5 -2.3
ZKTA Zakatala 9.20 352 ⇓P Pn 07 30 18.2 +4.4
RAYN Ar Rayn 9.27 196 ePn Pn 07 30 14.4 -0.5
RAYN eSn Sn 07 32 01.9 +3.0
RAYN Ar Rayn 9.27 196 ePn Pn 07 30 14.4 -0.5
SLMH Al Salmeh 9.29 296 eP Pn 07 30 18.6 +3.6
SLMH AMB AMB 07 31 43.0
comp=N,43nm,1.3s
SLMH eS Sn 07 32 00.3 +1.2
SLMH AML AML 07 33 27.6
comp=E,85nm,0.7s
SLMH Al Salmeh 9.29 296 eP Pn 07 30 18.6 +3.6
comp=E,43nm,1.3s,SNR=45
SLMH eS Sn 07 32 00.3 +1.2
comp=E,85nm,0.7s,SNR=40
ASF Jabal al Asfar 9.60 271 Pn Pn 07 30 20.2 +0.9
comp=E,1.7nm,0.3s,baz=46,slow=11,SNR=12
ASF Lg Lg 07 33 13.2
comp=E,1.1nm,0.3s,baz=229,slow=21,SNR=3.9
BANOM Banah 9.63 131 ⇓P Pn 07 30 17.6 -2.1
SNR=52
BANOM ⇑S Sn 07 31 59.8 -7.7
BANOM Banah 9.63 131 P Pn 07 30 17.6 -2.1
SNR=52
BANOM S Sn 07 31 59.8 -7.7
ASHO Ashiyiah 10.39 137 ⇑P Pn 07 30 28.4 -1.8
SNR=24
ASHO ⇓S Sn 07 32 17.3 -9.0
ASHO Ashiyiah 10.39 137 P Pn 07 30 28.4 -1.8
SNR=24
ASHO S Sn 07 32 17.3 -9.0
MAK Makhachkala 10.45 357 eP Pn 07 30 38.0 +7.2
MAK MLR MLR
comp=Z,1µm,12.0s
ARQ Araqi 11.71 139 ⇑P Pn 07 30 46.7 -1.5
ARQ ⇓S Sn 07 32 51.6 -7.0
ARQ Araqi 11.71 139 P Pn 07 30 46.7 -1.5
ARQ S Sn 07 32 51.6 -7.0
EIL Elat 11.73 260 Pn Pn 07 30 48.5 0.0
comp=Z,0.8nm,0.3s,baz=86,slow=14,SNR=3.2
EIL Lg Lg 07 34 12.2
comp=Z,1.3nm,0.3s,baz=106,slow=17,SNR=3.6
EIL LR LR 07 36 34.5
comp=Z,1µm,19.3s,baz=221,slow=44
KBZ Khabaz 11.96 341 Pn Pn 07 30 55.5 +4.0
comp=Z,0.1nm,0.3s,baz=221,slow=9.3,SNR=3.4
HOQ Hoqain 11.97 136 ⇓P Pn 07 30 50.0 -1.7
HOQ ⇑S Sn 07 32 55.9 -9.0
HOQ Hoqain 11.97 136 P Pn 07 30 50.0 -1.7
HOQ S Sn 07 32 55.9 -9.0
KIV Kislovodsk 12.23 341 eP Pn 07 30 53.8 -1.5
KIV pmax pmax
comp=Z,5.0nm,0.6s
KIV MLR MLR
comp=Z,313nm,10.0s
SMDO Samad 12.80 135 ⇓P Pn 07 31 01.2 -2.1
SNR=6.7
SMDO Samad 12.80 135 P Pn 07 31 01.2 -2.1
SNR=6.7
JMDO Jabal Madar 13.36 137 ⇓P Pn 07 31 07.3 -3.5
JMDO Jabal Madar 13.36 137 P Pn 07 31 07.3 -3.5
WBK Wadi Bani Khal 13.70 133 ⇑P Pn 07 31 12.3 -3.1
WBK Wadi Bani Khal 13.70 133 P Pn 07 31 12.3 -3.1
BR131 Keskin Array S 13.81 306 ePn Pn 07 31 19.5 +2.5
comp=Z,1.8nm,0.4s
BR131 Keskin Array S 13.81 306 ePn Pn 07 31 19.5 +2.5
comp=Z,1.8nm,0.4s
BRTR Keskin Array B 13.81 305 Pn Pn 07 31 19.6 +2.5
comp=Z,0.1nm,0.3s,baz=102,slow=10,SNR=5.5
BRTR LR LR 07 37 09.6
comp=Z,228nm,21.1s,baz=98,slow=40
ABTO Aybut 15.77 162 ⇓P Pn 07 31 39.5 -3.8
ABTO Aybut 15.77 162 P Pn 07 31 39.5 -3.8
RBK Rabkut 15.89 159 ⇑P Pn 07 31 41.0 -3.8
RBK ⇑S Sn 07 34 28.3 -12
SIM Simferopol' 16.57 323 P Pn 07 31 54.2 +0.9
SIM S Sn 07 34 58.0 +1.1
SIM MLR MLR
comp=Z,90nm,8.6s
KBL Kabul 17.47 78 eP Pn 07 32 05.8 +0.9
KBL pmax pmax
comp=Z,28nm,1.0s
KBL Kabul 17.47 78 ePn Pn 07 32 05.8 +0.9
comp=Z,28nm,1.0s
AB31 Akbulak array 18.89 24 iP P 07 32 21.1 -0.2
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 18.89 24 eP P 07 32 21.0 -0.4
comp=Z,4.0nm,0.5s
VRHR Novokhopersk 19.20 347 eP P 07 32 25.6 +0.9
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s
AKTO Aktyubinsk 19.32 19 P P 07 32 25.6 -0.5
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 19.32 19 P P 07 32 25.6 -0.5
comp=Z,0.7nm,0.3s,baz=202,slow=9.9,SNR=12
PRD Provadia 19.56 309 ⇑P P 07 32 30.6 +1.9
IDI Anoyia 19.57 285 P P 07 32 30.4 +1.4
comp=Z,2.1nm,0.3s,baz=96,slow=5.6,SNR=14
VORD Divnogorie 19.58 343 eP P 07 32 27.2 -1.7
VORD eS S 07 36 10.4 +1.1
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,6.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD smax smax
comp=N,60nm,0.8s
VORD smax smax
comp=Z,10.0nm,0.8s
VORD smax smax
comp=E,40nm,0.7s
NEF NEVSHA 19.67 309 eP Pn 07 32 32.8 +1.4
VSR Storozhevoye 19.84 343 eP P 07 32 30.4 -1.4
VSR eS S 07 36 11.2 -3.3
VSR pmax pmax
comp=N,50nm,0.8s
VSR pmax pmax
comp=E,20nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
VSR smax smax
comp=N,40nm,1.0s
VSR smax smax
comp=E,60nm,1.0s
VSR smax smax
comp=Z,10.0nm,1.0s
VSR MLR MLR
comp=N,560nm,17.0s
VSR MLR MLR
comp=E,500nm,17.0s
VSR MLR MLR
comp=Z,420nm,17.0s
CFR Carcaliu 20.06 315 ⇓P P 07 32 34.6 +0.4
CFR Carcaliu 20.06 315⇓iP P 07 32 34.6 +0.4
KDZ Kurdzhali 20.32 303 ⇑P P 07 32 37.4 +0.4
KDZ Kurdzhali 20.32 303⇑iP P 07 32 37.3 +0.3
KK31 Karatay Array 20.47 53 iP P 07 32 40.2 +1.4
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 20.47 53 eP P 07 32 40.3 +1.5
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 20.47 53 eP P 07 32 40.2 +1.5
comp=Z,7.9nm,0.8s
SZH Strazhica 20.56 308 eP P 07 32 40.3 +0.7
VRI Vrincioaia 21.26 315 ⇓P P 07 32 48.3 +1.0
VRI Vrincioaia 21.26 315⇓iP P 07 32 48.3 +1.0
PLOR Plostina 21.30 315 ⇓P P 07 32 48.7 +1.0
PLOR Plostina 21.30 315⇓iP P 07 32 48.7 +1.0
PGB Panagyurishte 21.49 305 eP P 07 32 53.1 +3.3
MMB Musomiste 21.50 302 ⇑P P 07 32 50.5 +0.6
MMB Musomiste 21.50 302 eP P 07 32 49.5 -0.4
MMB Musomiste 21.50 302⇑iP P 07 32 50.5 +0.6
MMB Musomiste 21.50 302 eP P 07 32 49.5 -0.4
MLR Muntele Rosu 21.55 313 P P 07 32 51.9 +1.5
MLR pmax pmax
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 21.55 313⇓iP P 07 32 53.2 +2.8
MLR Muntele Rosu 21.55 313 P P 07 32 51.9 +1.5
comp=Z,3.5nm,1.0s,baz=196,slow=10,SNR=12
TESR Tescani 21.65 316⇓iP P 07 32 51.3 -0.1
KKB Krupnik 22.04 302 eP P 07 32 55.3 -0.3
KKB Krupnik 22.04 302 eP P 07 32 55.3 -0.3
MPEP Malo Peshtene 22.07 306 eP P 07 32 57.2 +1.3
VOIR 22.08 312 ⇑P P 07 32 57.4 +1.3
VOIR 22.08 312⇑iP P 07 32 57.4 +1.3
DOPR Dopca 22.12 314⇑iP P 07 32 58.5 +2.0
ARR Arges 22.30 312⇓iP P 07 33 00.5 +2.0
EKS2 Erkin-Say 22.56 56 eP P 07 33 01.3 0.0
EKS2 pmax pmax
comp=Z,12nm,1.0s
EKS2 Erkin-Say 22.56 56 eP P 07 33 01.3 0.0
comp=Z,12nm,1.0s
LOT Lotru 22.89 311⇑iP P 07 33 05.0 +0.3
AKASG Malin Array Be 22.96 328 P P 07 33 03.9 -1.3
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 22.96 328 P P 07 33 03.9 -1.3
comp=Z,1.7nm,0.4s,baz=134,slow=9.0,SNR=16
KIEV Kiev 22.96 328⇓iP P 07 33 03.5 -1.8
KIEV Kiev 22.96 328 eP P 07 33 04.3 -1.0
comp=Z,20nm,1.4s
AAK Ala-Archa 23.05 56 eP P 07 33 08.2 +1.6
AAK pmax pmax
comp=Z,11nm,1.1s
AAK Ala-Archa 23.05 56 P P 07 33 07.2 +0.6
comp=Z,1.4nm,0.7s,baz=216,slow=9.4,SNR=5.7
AAK Ala-Archa 23.05 56 eP P 07 33 08.2 +1.6
comp=Z,11nm,1.1s
BURAR Bucovina Array 23.07 318 ⇓P P 07 33 06.7 +0.1
BURAR Bucovina Array 23.07 318⇓iP P 07 33 06.7 +0.1
KSH Kashi 23.44 65 P P 07 33 08.1 -2.3
KSH epP pP 07 33 18.1 +2.7
KSH esP sP 07 33 21.3 +3.7
KSH ePP PnPn 07 33 36.3 -0.6
KSH S S 07 37 11.1 -12
KSH pmax pmax
comp=Z,59nm,2.2s
KSH LR LR
comp=Z,240nm,6.8s
KSH LR LR
comp=Z,260nm,7.3s
KSH LR LR
comp=Z,1µm,14.9s
GZR Gura Zlata 23.50 311⇓iP P 07 33 10.8 0.0
TKM2 Tokmak 2 23.91 56 P P 07 33 14.0 -1.1
TKM2 pmax pmax
comp=Z,11nm,0.9s
TKM2 Tokmak 2 23.91 56 eP P 07 33 15.4 +0.4
comp=Z,11nm,1.0s
OBN Obninsk 24.05 343⇓eP P 07 33 16.0 +0.1
OBN pmax pmax
comp=Z,33nm,1.7s
OBN MLR MLR
comp=Z,348nm,18.0s
OBN Obninsk 24.05 343 P P 07 33 15.1 -0.8
comp=Z,10nm,0.4s,baz=151,slow=12,SNR=3.7
OBN LR LR 07 44 06.7
comp=Z,330nm,18.6s,baz=102,slow=40
DRGR 24.14 314 ⇓P P 07 33 18.2 +1.2
DRGR 24.14 314⇓iP P 07 33 18.1 +1.1
MOS Moscow 24.38 345 eP P 07 33 20.0 +1.0
MOS e 07 33 50.4
MOS pmax pmax
comp=Z,33nm,1.1s
TRPA Tarpa 24.88 316⇑iP P 07 33 25.6 +2.0
ARU Arti 24.97 14 d iP P 07 33 25.0 +0.7
ARU 07 33 58.2
ARU S S 07 37 47.2 +0.1
ARU SS SnSn 07 38 36.0 +0.3
ARU pmax pmax
comp=Z,37nm,1.7s
ARU Arti 24.97 14 eP P 07 33 24.7 +0.5
comp=Z,32nm,1.1s
SVE Sverdlovsk 25.78 16 eP P 07 33 32.2 +0.6
SVE pmax pmax
comp=Z,22nm,1.3s
CRVS Cervenica-Dubn 25.89 317 eP P 07 33 34.7 +2.0
CRVS Cervenica-Dubn 25.89 317 eP P 07 33 34.7 +2.0
BRVK Borovoye 25.95 31 d iP P 07 33 32.9 -0.4
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK Borovoye 25.95 31 eP P 07 33 33.6 +0.4
comp=Z,12nm,1.0s
BVA0 Borovoye Array 25.98 31 iP P 07 33 33.2 -0.3
BVA0 pmax pmax
comp=Z,10.0nm,0.9s
BVAR Borovoye Array 25.98 31 P P 07 33 33.6 +0.1
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR MLR MLR
comp=Z,169nm,19.6s
BVAR Borovoye Array 25.98 31 P P 07 33 33.6 +0.1
comp=Z,3.2nm,0.6s,baz=226,slow=8.0,SNR=18
BVAR LR LR 07 44 03.5
comp=Z,168nm,19.6s,baz=276,slow=37
STHS Stebnicka Huta 26.26 318 eP P 07 33 39.7 +3.5
STHS Stebnicka Huta 26.26 318 eP P 07 33 39.7 +3.5
TIP Timpagrande 26.28 294 eP P 07 33 37.3 +0.8
comp=Z,103nm,2.6s
MICGM Minsk 26.29 333 e P 07 33 34.0 -2.3
MNK Minsk 26.31 333 eP P 07 33 34.0 -2.5
PSZ Piszkesteto 26.36 314 eP P 07 33 40.6 +3.5
PSZ pmax pmax
comp=Z,12nm,0.7s
PSZ Piszkesteto 26.36 314⇑iP P 07 33 40.5 +3.5
PSZ Piszkesteto 26.36 314 eP P 07 33 40.6 +3.5
comp=Z,12nm,0.7s
PKSM Moragy 26.48 310 ⇑P P 07 33 39.6 +1.5
PKSM Moragy 26.48 310⇑iP P 07 33 39.6 +1.5

CEL Celeste 26.90 291 eP P 07 33 43.6 +1.6
comp=Z,17nm,0.9s
NACGM Naroch 27.02 332 e P 07 33 44.0 +1.1
VYHS Vyhne 27.25 314 eP P 07 33 46.7 +1.7
VYHS Vyhne 27.25 314 eP P 07 33 46.6 +1.6
SOKR Solikamsk 27.69 9 eP P 07 33 49.5 +0.8
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SOKR MLR MLR
comp=Z,280nm,16.0s
KURBB Kurchatov Arra 28.71 42 P P 07 33 58.5 +0.5
comp=Z,2.2nm,0.5s,baz=247,slow=9.5,SNR=15
KURK Kurchatov 28.81 42 P P 07 33 58.6 -0.3
KURK pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 28.81 42 P P 07 33 58.5 -0.3
KLMR Klimovskoe 28.92 351 eP P 07 33 58.5 -1.3
KLMR pmax pmax
comp=Z,16nm,1.2s
MK31 Makanchi Array 29.59 51 i P P 07 34 05.3 -0.6
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 29.59 51 eP P 07 34 05.5 -0.4
MK31 Makanchi Array 29.59 51 eP P 07 34 05.5 -0.4
MKAR Makanchi Array 29.59 51 eP P 07 34 05.7 -0.2
MKAR Makanchi Array 29.59 51 P P 07 34 05.5 -0.4
comp=Z,5.0nm,0.7s,baz=247,slow=8.1,SNR=28
MKAR LR LR 07 47 16.1
comp=Z,174nm,19.1s,baz=250,slow=39
MKAR Makanchi Array 29.59 51 eP P 07 34 05.7 -0.2
PYUN Piuthan 30.24 89 eP P 07 34 11.7 -0.4
comp=Z,22nm,0.5s
PYUN Piuthan 30.24 89 eP P 07 34 11.7 -0.4
GERES GERESS Array B 30.53 313 P P 07 34 13.9 -0.4
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 30.53 313 P P 07 34 13.9 -0.4
comp=Z,0.5nm,0.4s,baz=96,slow=6.8,SNR=7.2
DANN Dangsing 30.82 88 eP P 07 34 17.2 -0.1
comp=Z,68nm,0.9s
DANN Dangsing 30.82 88 eP P 07 34 17.2 -0.1
DANN Dangsing 30.82 88 eP P 07 34 17.2 -0.1
KOLN Koldanda 30.86 89 eP P 07 34 16.4 -1.1
comp=Z,18nm,1.0s
KOLN Koldanda 30.86 89 eP P 07 34 16.4 -1.1
KOLN Koldanda 30.86 89 eP P 07 34 16.4 -1.1
HYB Hyderabad 31.19 111 i P P 07 34 19.0 -1.3
HYB e 07 35 05.0
GKN Gorkha 31.66 88 eP P 07 34 23.7 -0.9
comp=Z,46nm,1.0s
GKN Gorkha 31.66 88 eP P 07 34 23.7 -0.9
GKN Gorkha 31.66 88 eP P 07 34 23.7 -0.9
MOTA Moosalm 31.76 309⇑i P P 07 34 25.2 0.0
comp=Z,5.6nm,0.7s
MOTA Moosalm 31.76 309 P P 07 34 25.2 0.0
comp=Z,5.6nm,0.7s
FETA Feichten 31.93 308⇓i P P 07 34 27.2 +0.4
comp=Z,5.2nm,0.7s
FETA Feichten 31.93 308 P P 07 34 27.2 +0.4
comp=Z,5.2nm,0.7s
DMN Daman 32.18 89 eP P 07 34 28.2 -1.0
comp=Z,32nm,0.8s
DMN Daman 32.18 89 eP P 07 34 28.2 -1.0
DMN Daman 32.18 89 eP P 07 34 28.2 -1.0
KEST Kesra 32.21 287 P P 07 34 29.9 +0.7
comp=Z,1.3nm,0.7s,baz=357,slow=7.7,SNR=4.9
KKN Kakani 32.27 89 eP P 07 34 29.2 -0.8
comp=Z,32nm,0.8s
KKN Kakani 32.27 89 eP P 07 34 29.2 -0.8
KKN Kakani 32.27 89 eP P 07 34 29.2 -0.8
KKN Kakani 32.27 89 eP P 07 34 29.2 -0.8
FINES FINESS Array B 32.32 340 P P 07 34 28.9 -0.9
comp=Z,2.7nm,0.4s,baz=159,slow=10,SNR=12
FINES LR LR 07 50 12.1
comp=Z,207nm,19.3s,baz=91,slow=41
PKI Pulchoki 32.45 89 eP P 07 34 31.0 -0.7
comp=Z,63nm,1.0s
PKI Pulchoki 32.45 89 eP P 07 34 31.0 -0.7
PKI Pulchoki 32.45 89 eP P 07 34 31.0 -0.7
PKI Pulchoki 32.45 89 eP P 07 34 31.0 -0.7
DAVOX Davos/Dischmat 32.45 307 P P 07 34 31.5 +0.2
DAVOX pmax pmax
comp=Z,1.0nm,0.3s
DAVOX Davos/Dischmat 32.45 307 P P 07 34 31.5 +0.2
comp=Z,0.9nm,0.3s,baz=153,slow=11,SNR=2.8
DAVA Damuels 32.56 308⇓i P P 07 34 31.7 -0.5
comp=Z,9.1nm,0.6s
DAVA Damuels 32.56 308 P P 07 34 31.7 -0.5
comp=Z,9.1nm,0.6s
WMQ Urumqi 32.73 58 P P 07 34 33.9 +0.2
WMQ pP pP 07 34 43.5 +4.6
WMQ sP sP 07 34 47.4 +6.4
WMQ PP PnPn 07 35 43.9 +2.1
WMQ S S 07 39 47.6 -1.9
WMQ sS sS 07 40 02.8 +4.7
WMQ PcS PcS 07 41 03.3 -0.8
WMQ ScS ScS 07 44 57.6 -4.3
WMQ pmax pmax
comp=Z,130nm,4.0s
WMQ LR LR
comp=Z,290nm,22.6s
WMQ LR LR
comp=Z,170nm,22.4s
WMQ LR LR
comp=Z,160nm,23.6s
GUN Gumba 32.74 88 eP P 07 34 33.6 -0.7
comp=Z,111nm,1.1s
GUN Gumba 32.74 88 eP P 07 34 33.6 -0.7
GUN Gumba 32.74 88 eP P 07 34 33.6 -0.7
JIRN Jiri 33.08 88 eP P 07 34 36.3 -0.9
comp=Z,58nm,0.9s
JIRN Jiri 33.08 88 eP P 07 34 36.3 -0.9
JIRN Jiri 33.08 88 eP P 07 34 36.3 -0.9
ZALV Zalesovo Beam 33.65 39 P P 07 34 41.1 -0.3
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV MLR MLR
comp=Z,169nm,20.9s
ZALV Zalesovo Beam 33.65 39 P P 07 34 41.1 -0.3
comp=Z,4.0nm,0.4s,baz=238,slow=7.8,SNR=10
ZALV LR LR 07 49 25.4
comp=Z,169nm,20.9s,baz=252,slow=38
RAMN Ramite 33.65 89 eP P 07 34 40.5 -1.6
comp=Z,28nm,0.7s
RAMN Ramite 33.65 89 eP P 07 34 40.5 -1.6
RAMN Ramite 33.65 89 eP P 07 34 40.5 -1.6
MBDF Montbardon 34.26 303 eP P 07 34 46.9 -0.2
comp=Z,36nm,1.1s
MBDF Montbardon 34.26 303 eP P 07 34 46.9 -0.2
MBDF pmax pmax
comp=Z,36nm,1.0s
MBDF Montbardon 34.26 303 eP P 07 34 46.9 -0.2
comp=Z,36nm,1.0s
MBDF Montbardon 34.26 303 eP P 07 34 46.9 -0.2
comp=Z,18nm,1.1s
ODAN Odare 34.34 89 eP P 07 34 46.9 -1.2
ODAN Odare 34.34 89 eP P 07 34 46.9 -1.2
ODAN Odare 34.34 89 eP P 07 34 46.9 -1.2
BNI Bardonecchia 34.37 304 eP P 07 34 48.0 0.0
BNI pmax pmax
comp=Z,90nm,1.9s
BNI Bardonecchia 34.37 304 eP P 07 34 48.0 0.0
comp=Z,90nm,1.9s
BNI Bardonecchia 34.37 304 eP P 07 34 48.0 0.0
comp=Z,90nm,1.9s
LPG La Plagne 34.37 304 eP P 07 34 48.5 +0.3
comp=Z,18nm,0.6s
LPG La Plagne 34.37 304 eP P 07 34 48.5 +0.3
LPG pmax pmax
comp=Z,18nm,0.6s
LPG La Plagne 34.37 304 eP P 07 34 48.5 +0.3
comp=Z,18nm,0.6s
LPG La Plagne 34.37 304 eP P 07 34 48.5 +0.3
comp=Z,8.8nm,0.6s
LPL La Plagne 34.38 304 eP P 07 34 47.9 -0.4
comp=Z,26nm,0.9s
LPL La Plagne 34.38 304 eP P 07 34 47.9 -0.4
LPL pmax pmax
comp=Z,26nm,0.9s
LPL La Plagne 34.38 304 eP P 07 34 47.9 -0.4
comp=Z,26nm,0.9s
LPL La Plagne 34.38 304 eP P 07 34 47.9 -0.4
comp=Z,13nm,0.9s
TAPN Taplejung 34.46 88 eP P 07 34 48.6 -0.6
comp=Z,30nm,0.9s
TAPN Taplejung 34.46 88 eP P 07 34 48.6 -0.6
TAPN Taplejung 34.46 88 eP P 07 34 48.6 -0.6
ORIF Oris-en-Rattie 34.91 303 eP P 07 34 51.1 -1.6
comp=Z,16nm,1.0s
ORIF Oris-en-Rattie 34.91 303 eP P 07 34 51.1 -1.6
ORIF pmax pmax
comp=Z,16nm,1.0s
ORIF Oris-en-Rattie 34.91 303 eP P 07 34 51.1 -1.6
comp=Z,16nm,1.0s
ORIF Oris-en-Rattie 34.91 303 eP P 07 34 51.1 -1.6
comp=Z,7.9nm,1.0s
CABF La Chapelle 34.98 306 eP P 07 34 53.0 -0.3
comp=Z,40nm,0.9s
CABF La Chapelle 34.98 306 eP P 07 34 53.0 -0.3
CABF pmax pmax
comp=Z,40nm,0.9s
CABF La Chapelle 34.98 306 eP P 07 34 53.0 -0.3
comp=Z,40nm,0.9s
CABF La Chapelle 34.98 306 eP P 07 34 53.0 -0.3
comp=Z,20nm,0.9s
KMBO Kilima Mbogo 35.03 199 P P 07 34 55.8 +1.7
comp=Z,0.3nm,0.3s,baz=16,slow=12,SNR=4.5
KMBO LR LR 07 49 56.9
comp=Z,245nm,18.0s,baz=254,slow=38
VIVF Saint-Julien-l 35.76 303 eP P 07 34 58.8 -1.1
VIVF Saint-Julien-l 35.76 303 eP P 07 34 58.8 -1.1
VIVF Saint-Julien-l 35.76 303 eP P 07 34 58.8 -1.1
VIVF Saint-Julien-l 35.76 303 eP P 07 34 58.8 -1.1
HFS Hagfors 35.77 331 P P 07 34 59.0 -0.6
comp=Z,2.8nm,0.3s,baz=121,slow=9.0,SNR=35
LASF Ste Croix 36.29 302 eP P 07 35 03.5 -0.9
LASF Ste Croix 36.29 302 eP P 07 35 03.5 -0.9
LASF Ste Croix 36.29 302 eP P 07 35 03.5 -0.9
SMF Signal de Mont 36.52 306 eP P 07 35 05.6 -0.8
comp=Z,19nm,0.7s
SMF Signal de Mont 36.52 306 eP P 07 35 05.6 -0.8
SMF pmax pmax
comp=Z,19nm,0.7s
SMF Signal de Mont 36.52 306 eP P 07 35 05.6 -0.8
comp=Z,19nm,0.7s
SMF Signal de Mont 36.52 306 eP P 07 35 05.6 -0.8
comp=Z,9.4nm,0.7s
LOR Lormes 36.59 307 eP P 07 35 05.9 -1.0
comp=Z,3.9nm,0.5s
LOR Lormes 36.59 307 eP P 07 35 05.9 -1.0
LOR pmax pmax
comp=Z,4.0nm,0.5s
LOR Lormes 36.59 307 eP P 07 35 05.9 -1.0
comp=Z,3.9nm,0.5s
LOR Lormes 36.59 307 eP P 07 35 05.9 -1.0
comp=Z,2.0nm,0.5s
SSF Saint Saulge 36.80 307 eP P 07 35 07.9 -0.8
comp=Z,12nm,0.8s
SSF Saint Saulge 36.80 307 eP P 07 35 07.9 -0.8
SSF pmax pmax
comp=Z,12nm,0.8s
SSF Saint Saulge 36.80 307 eP P 07 35 07.9 -0.8
comp=Z,12nm,0.8s
SSF Saint Saulge 36.80 307 eP P 07 35 07.9 -0.8
comp=Z,5.9nm,0.8s
AVF Avril sur Loir 36.87 306 eP P 07 35 08.7 -0.6
comp=Z,15nm,1.0s
AVF Avril sur Loir 36.87 306 eP P 07 35 08.7 -0.6
AVF pmax pmax
comp=Z,15nm,1.0s
AVF Avril sur Loir 36.87 306 eP P 07 35 08.7 -0.6
comp=Z,15nm,1.0s
AVF Avril sur Loir 36.87 306 eP P 07 35 08.7 -0.6
comp=Z,7.4nm,1.0s
NB2 NORSAR Subarra 37.29 331 P P 07 35 11.2 -1.5
comp=Z,0.8nm,0.5s,baz=124,slow=8.6
NB2 NORSAR Subarra 37.29 331 P P 07 35 11.2 -1.5
comp=Z,0.8nm,0.5s,SNR=7.2
NOA NORSAR Array B 37.29 331 P P 07 35 11.5 -1.2
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 37.29 331 P P 07 35 11.5 -1.2
comp=Z,1.4nm,0.7s,baz=124,slow=8.6,SNR=7.2
SHL Shillong 38.58 89 eP P 07 35 22.0 -2.2
ARCES ARCESS Array B 39.21 348 P P 07 35 28.3 -0.5
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 39.21 348 P P 07 35 28.2 -0.5
comp=Z,1.5nm,0.4s,baz=158,slow=8.9,SNR=22
LDF La Druitiere 39.40 309 eP P 07 35 29.1 -1.5
LDF La Druitiere 39.40 309 eP P 07 35 29.1 -1.5
LDF La Druitiere 39.40 309 eP P 07 35 29.1 -1.5
LDF La Druitiere 39.40 309 eP P 07 35 29.1 -1.5
GRR Gorron 39.87 308 eP P 07 35 33.0 -1.5
GRR Gorron 39.87 308 eP P 07 35 33.0 -1.5
GRR Gorron 39.87 308 eP P 07 35 33.0 -1.5
GRR Gorron 39.87 308 eP P 07 35 33.0 -1.5
GTA Gaotai 41.84 65 ⇓P P 07 35 51.1 0.0
GTA pP pP 07 36 01.0 +4.6
GTA sP sP 07 36 04.8 +6.3
GTA S S 07 42 05.3 -3.0
GTA sS sS 07 42 22.0 +5.0
GTA pmax pmax
comp=Z,10.0nm,1.6s
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=Z,310nm,19.0s
GTA LR LR
comp=Z,380nm,20.9s
GTA LR LR
comp=Z,310nm,20.4s
ESDC Sonseca Array 42.28 295 P P 07 35 55.1 +0.5
comp=Z,1.2nm,0.5s,baz=72,slow=9.5,SNR=4.6
MOY Mondy 42.53 47 eP P 07 35 57.2 +0.7
MOY Mondy 42.53 47 eP P 07 35 57.2 +0.7
ZAK Zakamensk 43.88 49 eP P 07 36 04.5 -2.9
ZAK pmax pmax
comp=Z,3.0nm,1.6s
TLY Talaya 44.17 47 eP P 07 36 11.2 +1.5
TLY e 07 45 48.9
TLY pmax pmax
comp=Z,3.0nm,1.4s
TLY MLR MLR
comp=Z,140nm,12.0s
TLY Talaya 44.17 47 P P 07 36 08.6 -1.0
comp=Z,0.8nm,0.4s,baz=212,slow=19,SNR=1.9
LZH Lanzhou 45.55 69 eP P 07 36 20.8 -0.2
LZH pP pP 07 36 31.5 +5.1
LZH sP sP 07 36 35.3 +6.8
LZH ePP PP 07 38 07.5 -0.1
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,67nm,6.5s
SONM Songino Array 45.93 53 P P 07 36 23.7 -0.1
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM MLR MLR
comp=Z,203nm,18.7s
SONM Songino Array 45.93 53 P P 07 36 23.7 -0.1
comp=Z,1.2nm,1.0s,baz=256,slow=15,SNR=7.6
SONM LR LR 07 58 56.2
comp=Z,203nm,18.7s,baz=332,slow=40
ULN Ulaanbaatar 46.37 53ceP P 07 36 27.5 +0.2
ULN pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 46.37 53 eP P 07 36 27.0 -0.3
comp=Z,6.9nm,1.0s
ULN Ulaanbaatar 46.37 53 eP P 07 36 27.0 -0.3
comp=Z,6.9nm,1.0s
TORD Torodi Ar. Bea 46.60 257 P P 07 36 28.9 -0.5
comp=Z,1.8nm,0.7s,baz=46,slow=8.3,SNR=14
TORD LR LR 07 59 04.3
comp=Z,283nm,19.0s,baz=5.0,slow=40
CD2 Chengdu 46.80 76 eP P 07 36 31.4 +0.6
CD2 pP pP 07 36 41.8 +5.6
CD2 sP sP 07 36 45.9 +7.7
CD2 PP PP 07 38 21.0 +0.1
CD2 S S 07 43 17.8 -2.7
CD2 sS sS 07 43 35.0 +5.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.8s
CMAR Chiang Mai Arr 47.45 94 P P 07 36 34.7 -1.3
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,96nm,18.6s
CMAR Chiang Mai Arr 47.45 94 P P 07 36 34.6 -1.3
comp=Z,0.9nm,0.3s,baz=289,slow=6.5,SNR=6.4
CMAR LR LR 07 58 43.0
comp=Z,96nm,18.6s,baz=310,slow=39
SPITS Spitsbergen Ar 47.83 352 P P 07 36 38.2 +0.1
SPITS pmax pmax
comp=Z,6.0nm,0.8s
SPITS Spitsbergen Ar 47.83 352 P P 07 36 38.2 +0.1
comp=Z,0.9nm,0.3s,baz=149,slow=12,SNR=22
SPITS Spitsbergen Ar 47.83 352 P P 07 36 38.2 +0.1
comp=Z,6.0nm,0.8s
XAN Xi'an 50.09 71 P P 07 36 54.5 -1.6
XAN pmax pmax
comp=Z,2.0nm,1.2s
XAN pmax pmax
comp=Z,16nm,4.4s
BOD Bodaibo 50.40 39 eP P 07 36 56.4 -1.6
BOD pmax pmax
comp=Z,6.0nm,1.3s
BOD Bodaibo 50.40 39 eP P 07 36 56.4 -1.6
comp=Z,6.0nm,1.3s
HHC Hu-ho-hao-te 50.49 61 eP P 07 37 00.1 +1.0
HHC pP pP 07 37 11.6 +7.1
HHC ScS ScS 07 46 46.9 -2.7
HHC SS SS 07 47 43.5 -2.6
HHC pmax pmax
comp=Z,24nm,0.5s
HHC pmax pmax
comp=Z,220nm,7.3s
HHC LR LR
comp=Z,460nm,14.9s
HHC LR LR
comp=Z,180nm,12.6s
HHC LR LR
comp=Z,400nm,20.2s
OPO Ambohidratompo 50.80 181 P P 07 37 02.8 +1.2
comp=Z,3.2nm,0.9s,baz=8.3,slow=10,SNR=3.0
DAG Danmarks Havn 53.35 345 eP P 07 37 20.3 +0.6
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG Danmarks Havn 53.35 345 i P P 07 37 20.3 +0.6
comp=Z,3.8nm,0.7s
BJI Beijing 54.10 61 P P 07 37 25.9 +0.1
BJI pmax pmax
comp=Z,5.0nm,0.7s
HIA Hailar 54.57 50 eP P 07 37 29.4 +0.3
HIA pmax pmax
comp=Z,6.0nm,1.2s
HIA Hailar 54.57 50 eP P 07 37 29.4 +0.3
comp=Z,6.0nm,1.2s
DBIC Dimbokro 55.55 254 P P 07 37 36.7 +0.1
comp=Z,3.4nm,0.7s,baz=7.5,slow=10,SNR=3.6
DBIC LR LR 08 04 20.2
comp=Z,263nm,19.9s,baz=28,slow=39
TIA Tai'an 55.89 66 ⇑P P 07 37 37.8 -1.0
PSI Prapat 55.90 111 P P 07 37 37.1 -2.1
comp=Z,2.7nm,0.5s,baz=232,slow=2.9,SNR=4.2
LIC Lamto 55.94 254 eP P 07 37 39.6 +0.2
comp=Z,5.9nm,0.6s
LIC Lamto 55.94 254 eP P 07 37 39.6 +0.2
comp=Z,5.9nm,0.6s
LIC Lamto 55.94 254 eP P 07 37 39.6 +0.2
comp=Z,3.0nm,0.6s
TIXI Tiksi 56.57 22ceP P 07 37 43.4 +0.3
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TIXI MLR MLR
comp=Z,137nm,18.0s
TIXI Tiksi 56.57 22 eP P 07 37 43.1 +0.1
comp=Z,8.8nm,1.2s
TIXI Tiksi 56.57 22 eP P 07 37 43.1 +0.1
comp=Z,8.8nm,1.2s
SUMG Summit 58.35 339 eP P 07 37 56.0 -0.1
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG Summit 58.35 339 i P P 07 37 55.7 -0.4
comp=Z,8.2nm,0.8s
SUMG Summit 58.35 339 eP P 07 37 56.0 -0.1
comp=Z,14nm,1.0s
SUMG Summit 58.35 339 eP P 07 37 56.0 -0.1
comp=Z,14nm,1.0s
NJ2 Nanjing 58.63 70 eP P 07 38 00.1 +1.9
NJ2 pmax pmax
comp=Z,10.0nm,1.2s
LBTB Lobatse 61.15 203 eP P 07 38 17.0 +1.5
LBTB Lobatse 61.15 203 eP P 07 38 17.0 +1.5
comp=Z,174nm,2.9s
LBTB Lobatse 61.15 203 eP P 07 38 17.0 +1.5
comp=Z,174nm,2.9s
KLR Kul'dur 62.19 47 eP P 07 38 17.7 -4.6
MDJ Mudanjiang 62.28 53 P P 07 38 23.0 0.0
MDJ pmax pmax
comp=Z,8.0nm,2.2s
MDJ pmax pmax
comp=Z,58nm,3.7s
KSAR Wonju Array Be 63.60 61 P P 07 38 30.0 -1.8
KSAR Wonju Array Be 63.60 61 P P 07 38 30.0 -1.8
KSRS Korea Array 63.62 61 P P 07 38 30.0 -2.0
KSRS pmax pmax
comp=Z,1.0nm,0.4s
KSRS Korea Array 63.62 61 P P 07 38 30.0 -2.0
comp=Z,1.4nm,0.4s,baz=287,slow=6.7,SNR=4.7
KSRS LR LR 08 09 12.8
comp=Z,116nm,18.8s,baz=293,slow=39
KSRS Korea Array 63.62 61 P P 07 38 30.0 -2.0
comp=Z,1.0nm,0.4s
USRK Ussuriysk Arra 64.04 53 P P 07 38 32.1 -2.5
comp=Z,1.1nm,0.6s,baz=306,slow=5.2,SNR=3.0
BOSA Boshof 64.59 202 P P 07 38 38.6 +0.1
comp=Z,4.2nm,0.8s,baz=39,slow=5.9,SNR=8.8
BOSA LR LR 08 07 58.3
comp=Z,250nm,18.8s,baz=2.0,slow=37
JOW Kunigami 68.24 71 LR LR 08 11 07.6
comp=Z,499nm,19.8s,slow=38
BILL Bilibino 69.74 21⇑eP P 07 39 11.7 +1.2
BILL e 07 41 41.4
BILL pmax pmax
comp=Z,5.0nm,1.2s
BILL MLR MLR
comp=Z,113nm,18.0s
BILL Bilibino 69.74 21 eP P 07 39 11.3 +0.7
comp=Z,8.0nm,1.1s
MJAR Matsushiro Arr 71.49 58 LR LR 08 13 09.1
comp=Z,66nm,18.9s,baz=295,slow=38
PETK Petropavlovsk- 75.11 36 LR LR 08 16 36.4
comp=Z,74nm,18.5s,baz=290,slow=39
JCJ Chichijima 79.02 65 LR LR 08 18 20.5
comp=Z,62nm,20.6s,baz=106,slow=38
ILAR Eielson Array 82.32 6 P P 07 40 20.4 -1.8
comp=Z,0.5nm,0.8s,baz=340,slow=2.4,SNR=7.2
YKA Yellowknife Ar 84.32 352 P P 07 40 31.2 -1.4
comp=Z,0.3nm,0.4s,baz=12,slow=5.4,SNR=13
KDAK Kodiak Island 88.36 11ceP P 07 40 53.7 +1.2
ULM Lac du Bonnet 91.68 338 P P 07 41 06.5 -1.6
comp=Z,1.4nm,0.7s,baz=348,slow=3.2,SNR=3.8
ULM LR LR 08 24 55.5
comp=Z,103nm,18.0s,baz=12,slow=37

IDC 23 07:29:19.7±1.3, 2.11N×128.57E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.7/44, mbtmp4.0/8, Error ellipse: s-maj=159.3km s-min=15.7km az=69.0, Halmahera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 22.63 166 P P 07 34 23.1 +0.6
0.8nm,0.3s,baz=338,slow=11,SNR=13
ASAR Alice Springs 26.14 169 P P 07 34 55.9 +0.1
0.5nm,0.5s,baz=354,slow=7.7,SNR=11
ASAR PcP PcP 07 38 21.1 -2.4
0.3nm,0.5s,baz=343,slow=2.3,SNR=4.4
STKA Stephens Creek 35.99 161 P P 07 36 23.1 +0.6
2.0nm,0.5s,baz=341,slow=9.7,SNR=8.6
H11N1 WAKE ISLAND Hy 41.33 62 T T 08 21 22.5
baz=250
H11N2 WAKE ISLAND Hy 41.34 62 T T 08 21 24.3
baz=250
H11N3 WAKE ISLAND Hy 41.35 62 T T 08 21 23.9
baz=250
SONM Songino Array 49.42 340 P P 07 38 13.4 +1.8
0.5nm,0.5s,baz=162,slow=7.9,SNR=2.7
MKAR Makanchi Array 59.93 325 P P 07 39 28.4 +0.6
1.7nm,0.5s,baz=119,slow=9.0,SNR=24
KURBB Kurchatov Arra 64.09 327 P P 07 39 55.2 -0.3
1.5nm,0.5s,baz=126,slow=6.0,SNR=11
BVAR Borovoye Array 69.68 327 P P 07 40 30.6 -0.5
0.4nm,0.6s,baz=122,slow=11,SNR=3.0
ARCES ARCESS Array B 92.59 340 P P 07 42 31.3 -1.6

2.8nm,0.9s,baz=81,slow=5.7,SNR=4.4

IDC **23** *07:48:28.4±1.7, 24.01S×175.79W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.1/28, mbtmp4.2/10, Error ellipse: s-maj=76.3km s-min=20.9km az=152.0*
ISCJB **23** *07:48:29.3±0.9, 24.3S±0.2×175.7W±0.1, h19km, mb4.2/12, Error ellipse: s-maj=25.6km s-min=16.4km az=156.9*
NEIC **23** *07:48:31.8±0.8, 24.40S×175.46W, h35km, mb4.6/3, Error ellipse: s-maj=28.2km s-min=13.6km az=170.0*
ISC 23 07:48:30.8±1.0, 24.3S±0.2×175.6W±0.1, h19km, n21, σ1s12/16, mb4.3/12, South of Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
MSVF Nonsavu 8.82 317 *e*Pn **Pn 07 50 38.3 +0.8**
40nm,0.8s
RAR Rarotonga 14.93 81 Pn Pn 07 51 55.9 -4.9
1.9nm,0.3s,baz=255,slow=9.7,SNR=9.1
CTA Charters Tower 35.48 269 P **P 07 55 25.4 -1.1**
3.4nm,0.3s,baz=113,slow=12,SNR=18
CTAO Charters Tower 35.48 269 *e*P **P 07 55 26.4 0.0**
9.8nm,1.0s
STKA Stephens Creek 38.30 249 P **P 07 55 51.4 +1.1**
0.7nm,0.5s,baz=92,slow=8.7,SNR=3.3
ASAR Alice Springs 45.92 260 P **P 07 56 52.1 -0.5**
0.9nm,0.8s,baz=93,slow=6.9,SNR=10.0
WRAB Tennant Creek 46.37 265 *e*P **P 07 56 54.6 -1.5**
10nm,1.2s
WRA Warramunga Arr 46.38 265 P **P 07 56 54.4 -1.8**
1.4nm,0.5s,baz=96,slow=8.4,SNR=21
QSPA South Pole Qui 65.78 180 *e*P **P 07 59 19.4 +5.0**
6.3nm,1.3s
PETK Petropavlovsk- 80.51 344 P **P 08 00 40.7 -0.6**
3.6nm,0.8s,baz=146,slow=11,SNR=4.8
H03N2 Juan Fernandez 82.19 123 T T 09 32 15.0
baz=247,slow=74,SNR=6.9
H03N3 Juan Fernandez 82.19 123 T T 09 32 15.5
baz=247,slow=74,SNR=6.5
H03N1 Juan Fernandez 82.21 123 T T 09 32 16.3
baz=247,slow=74,SNR=6.5
NVAR Mina Array Bea 82.32 42 P **P 08 00 52.0 +0.5**
1.7nm,1.0s,baz=212,slow=8.1,SNR=6.7
TXAR Lajitas Array 87.28 56 P **P 08 01 16.7 +0.1**
0.7nm,0.9s,baz=218,slow=7.9,SNR=4.1
SEY Seymchan 90.58 346 P **P 08 01 30.1 -1.1**
1.3nm,0.7s,baz=146,slow=5.4,SNR=8.0
ILAR Eielson Array 91.55 12 P **P 08 01 34.9 -0.7**
1.0nm,0.8s,baz=222,slow=4.9,SNR=14
CMAR Chiang Mai Arr 93.44 289 P **P 08 01 46.7 +1.2**
1.8nm,0.6s,baz=129,slow=2.6,SNR=10.0
AKASG Malin Array Be 147.40 330 PKPbc **PKPdf 08 08 12.4 +1.9**
2.4nm,0.8s,baz=42,slow=3.9,SNR=15
BRTR Keskin Array B 150.99 309 PKPbc **PKPbc 08 08 22.2 -0.4**
1.1nm,0.7s,baz=130,slow=3.6,SNR=6.2
CLL Collm 152.24 348 *e*PKPbc **PKPbc 08 08 25.0 0.0**

IDC **23** *07:52:14.2±2.5, 54.41N×86.46E, h0km, mb1 3.3/3, mb1mx3.1/30, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=22.2km s-min=14.4km az=56.0*
NNC **23** *07:52:14.1±3.7, 54.52N×86.15E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=26.8km s-min=24.4km az=53.0*
ISC 23 07:52:16.7±4.2, 54.6N±0.2×86.4E±0.2, h35km, n9, σ1s24/12, 6C-5D, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
I46RU ZALESOVO INFRA 1.11 237 *i* 08 00 09.1
baz=60,slow=349,SNR=2.4
ZALV Zalesovo Beam 1.11 237 Pg Pn 07 52 32.8 -2.9
3.4nm,0.3s,baz=57,slow=17,SNR=40
ZALV Lg Lg 07 52 49.8
3.9nm,0.3s,baz=58,slow=28,SNR=21
KURK Kurchatov 6.10 234 ⇓Pn **Pn 07 53 44.4 +0.1**
0.4nm,0.4s
KURK ⇓Sn **Sn 07 54 54.5 +1.7**
0.7nm,0.6s
KURK ⇑Lg Lg 07 55 28.3
1.4nm,0.6s
KURBB Kurchatov Arra 6.21 234 ⇑Pn **Pn 07 53 45.9 +0.1**
2.6nm,0.3s
KURBB ⇑Sn **Sn 07 54 55.4 0.0**
2.6nm,0.5s
KURBB ⇓Lg Lg 07 55 30.9
4.8nm,0.6s
KURBB Kurchatov Arra 6.21 234 Pn **Pn 07 53 46.4 +0.7**
0.8nm,0.3s,baz=52,slow=14,SNR=12
KURBB Lg Lg 07 55 36.4
0.2nm,0.3s,baz=50,slow=32,SNR=5.6
MK31 Makanchi Array 8.21 200 ⇓Pn **Pn 07 54 12.8 -0.4**
0.3nm,0.5s,baz=26,slow=13,SNR=12
MK31 ⇑Sn **Sn 07 55 45.0 +0.3**
0.3nm,0.5s,baz=18,slow=28,SNR=4.8
MK31 ⇑Lg Lg 07 56 33.1
0.3nm,0.6s
MKAR Makanchi Array 8.21 200 Pn **Pn 07 54 12.9 -0.3**
0.3nm,0.3s,baz=24,slow=12,SNR=12
MKAR Sn **Sn 07 55 44.5 -0.2**
0.2nm,0.3s,baz=21,slow=26,SNR=6.2
MKAR Lg Lg 07 56 38.1
0.0nm,0.3s,baz=26,slow=30,SNR=5.3
VOSK Vostochnaya 9.34 265 ⇓Pn **Pn 07 54 28.5 -0.2**
0.6nm,0.3s
VOSK ⇑Sn **Sn 07 56 10.0 -2.3**
BVAR Borovoye Array 9.60 267 Pn **Pn 07 54 34.3 +2.1**
0.2nm,0.3s,baz=83,slow=13,SNR=4.3

IDC 23 07:56:33.7±8.1, 23.24N×145.96E, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.4/34, mbtmp3.6/4, ML4.2/1, Error ellipse: s-maj=196.0km s-min=36.1km az=30.0, North Pacific Ocean

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
JCJ Chichijima 5.14 319 Pn Pn 07 57 53.3 +1.3
8.8nm,0.3s,baz=255,slow=20,SNR=24
JCJ Sn Sn 07 58 50.8 -1.3
9.2nm,0.3s,baz=48,slow=22,SNR=6.1
ILAR Eielson Array 59.50 27 P P 08 06 39.0 +0.7
0.2nm,0.9s,baz=284,slow=7.3,SNR=3.2
YKA Yellowknife Ar 73.89 28 P P 08 08 09.0 -1.2
0.2nm,0.4s,baz=294,slow=5.5,SNR=5.5
NVAR Mina Array Bea 80.17 52 P P 08 08 46.8 +0.4
0.4nm,0.7s,baz=280,slow=5.4,SNR=3.8

IDC **23** *08:18:17.9±1.1, 14.10S×166.91E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/32, mbtmp3.9/7, ML4.3/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/28, Error ellipse: s-maj=30.6km s-min=23.2km az=101.0*
ISCJB **23** *08:18:21.8±1.2, 14.22S±0.08×166.8E±0.2, h33km, mb3.8/6, MS3.2/1, Error ellipse: s-maj=25.3km s-min=11.2km az=173.4*
ISC 23 08:18:23.3±1.1, 14.1S±0.1×166.9E±0.2, h35km, n11, σ0s98/9, mb3.9/6, Vanuatu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
DZM Mont Dzumac 7.92 183 Pn **Pn 08 20 16.2 +0.2**
4.3nm,0.3s,baz=339,slow=12,SNR=48
DZM Sn **Sn 08 21 44.6 +0.1**
3.0nm,0.3s,baz=149,slow=19,SNR=4.2
DZM LR LR 08 22 42.2
comp=Z,93nm,20.2s,baz=86,slow=33
HNR Honiara 8.24 304 LR LR 08 24 06.5
comp=Z,168nm,18.0s,baz=121,slow=42
PMG Port Moresby 19.87 281 LR LR 08 29 32.8
comp=Z,195nm,18.1s,baz=46,slow=34
RAO Raoul Island 20.61 139 LR LR 08 29 02.5
comp=Z,99nm,20.8s,baz=280,slow=31
URZ Urewera 25.70 161 P **P 08 23 49.4 -0.7**
4.6nm,0.8s,baz=354,slow=9.2,SNR=2.9
STKA Stephens Creek 29.11 228 P **P 08 24 21.7 +0.8**
1.3nm,0.4s,baz=48,slow=9.3,SNR=7.5
WRA Warramunga Arr 31.62 255 P **P 08 24 43.2 0.0**
0.5nm,0.8s,baz=85,slow=9.2,SNR=4.1
ASAR Alice Springs 32.55 248 P **P 08 24 50.9 -0.5**
1.0nm,0.6s,baz=74,slow=9.4,SNR=19
ILAR Eielson Array 86.07 18 P **P 08 31 01.3 +1.3**
0.2nm,0.7s,baz=238,slow=5.0,SNR=3.9
MKAR Makanchi Array 96.51 316 P **P 08 31 48.7 -0.6**
0.4nm,0.6s,baz=84,slow=6.5,SNR=3.8
ARCES ARCESS Array B 119.57 345 PKP **PKPdf 08 37 07.3 -1.5**

2.2nm,0.9s,baz=66,slow=2.2,SNR=3.2

IDC 23 08:25:48.1±1.7, 17.68S×168.32E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/30, mbtmp3.9/6, ML3.5/1, MS3.5/1, Ms1 3.4/1, ms1mx2.7/20, Error ellipse: s-maj=59.5km s-min=26.6km az=129.0, Vanuatu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
DZM Mont Dzumac 4.71 202 Pn Pn 08 27 01.8 +1.3
2.3nm,0.3s,baz=72,slow=13,SNR=61
DZM Sn Sn 08 27 52.7 -3.2
5.9nm,0.3s,baz=322,slow=21,SNR=7.1
STKA Stephens Creek 27.98 235 P P 08 31 40.1 -0.5
1.8nm,0.6s,baz=24,slow=4.0,SNR=4.6
STKA LR LR 08 40 58.9
comp=Z,92nm,19.6s,baz=35,slow=33
WRA Warramunga Arr 32.21 261 P P 08 32 17.6 -0.6
1.4nm,0.7s,baz=91,slow=9.3,SNR=7.8
ASAR Alice Springs 32.69 254 P P 08 32 22.6 +0.2
2.4nm,0.8s,baz=79,slow=9.1,SNR=21
SONM Songino Array 85.45 323 P P 08 38 29.0 +1.2
0.8nm,0.8s,baz=134,slow=6.4,SNR=5.2
ILAR Eielson Array 89.02 18 P P 08 38 44.5 +0.1
0.2nm,0.6s,baz=226,slow=3.4,SNR=4.2
ARCES ARCESS Array B 123.35 345 PKP PKPdf 08 44 45.1 -1.4
6.6nm,1.0s,baz=38,slow=6.1,SNR=6.8

IDC **23** *08:36:10.0±2.0, 24.01S×175.79W, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/27, mbtmp4.0/7, MS3.2/1, Ms1 3.2/1, ms1mx2.7/21, Error ellipse: s-maj=123.7km s-min=22.4km az=157.0*
ISCJB **23** *08:36:11.4±1.0, 24.3S±0.2×175.8W±0.2, h19km, mb4.0/8, MS3.1/1, Error ellipse: s-maj=26.8km s-min=19.1km az=163.1*
NEIC **23** *08:36:14.6±0.8, 24.38S×175.67W, h35km, mb4.4/2, Error ellipse: s-maj=24.0km s-min=15.1km az=169.0*
ISC 23 08:36:12.6±1.1, 24.4S±0.2×175.7W±0.2, h19km, n13, σ0s73/12, mb4.0/8, South of Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
MSVF Nonsavu 8.87 317 *e*Pn **Pn 08 38 20.0 +0.1**
PPT Papeete 25.25 79 LR LR 08 50 43.3
comp=Z,53nm,19.8s,baz=238,slow=34
CTA Charters Tower 35.44 269 P **P 08 43 07.5 -0.5**
2.9nm,0.4s,baz=74,slow=10,SNR=6.5
CTAO Charters Tower 35.44 269 *e*P **P 08 43 08.2 +0.2**
3.1nm,0.5s
STKA Stephens Creek 38.23 249 P **P 08 43 32.0 +0.5**
1.3nm,0.8s,baz=130,slow=8.8,SNR=2.0
ASAR Alice Springs 45.87 260 P **P 08 44 33.8 -0.2**
1.4nm,0.8s,baz=98,slow=9.0,SNR=12
WRAB Tennant Creek 46.32 265 *e*P **P 08 44 37.1 -0.5**
2.8nm,0.8s
WRA Warramunga Arr 46.33 265 P **P 08 44 36.9 -0.8**
2.0nm,0.9s,baz=103,slow=9.7,SNR=11
NVAR Mina Array Bea 82.42 42 P **P 08 48 33.4 -0.5**
0.3nm,0.8s,baz=224,slow=6.3,SNR=3.5
TXAR Lajitas Array 87.37 56 P **P 08 48 59.3 +0.5**
0.4nm,0.7s,baz=203,slow=6.5,SNR=3.7
CMAR Chiang Mai Arr 93.44 289 P **P 08 49 28.1 +0.7**
0.7nm,0.4s,baz=132,slow=3.7,SNR=5.7
AKASG Malin Array Be 147.46 330 PKPbc **PKPdf 08 55 53.1 +0.6**
1.3nm,0.5s,baz=42,slow=4.0,SNR=12
BRTR Keskin Array B 151.02 309 PKPbc **PKPbc 08 56 03.2 -1.4**
1.0nm,0.8s,baz=105,slow=4.3,SNR=4.5

IDC 23 08:39:26.4±2.3, 30.45S×177.49W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/24, mbtmp3.6/2, Error ellipse: s-maj=55.2km s-min=34.0km az=111.0, Kermadec Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
RAO Raoul Island 1.25 343 Pn Pn 08 39 51.1 0.0
60nm,0.3s,baz=23,slow=22,SNR=8.9
RAO Sn Sg 08 40 01.9 -4.6
604nm,0.3s,baz=339,slow=22,SNR=18
ASAR Alice Springs 43.55 267 P P 08 47 32.1 -0.1
0.2nm,0.4s,baz=109,slow=7.0,SNR=4.9
WRA Warramunga Arr 44.54 272 P P 08 47 40.0 -0.2
0.4nm,0.2s,baz=110,slow=8.2,SNR=19
H10S3 ASCENSION HYDR 37.49 154 T T 11 33 04.7
baz=204
H10S2 ASCENSION HYDR 37.49 154 T T 11 33 02.5
baz=204
H10S1 ASCENSION HYDR 37.51 154 T T 11 33 08.1
baz=204
H10N3 ASCENSION HYDR 38.57 154 T T 11 34 23.0
baz=204,slow=75,SNR=5.2
H10N1 ASCENSION HYDR 38.58 154 T T 11 34 22.2
baz=204,slow=75,SNR=5.9
H10N2 ASCENSION HYDR 38.59 154 T T 11 34 24.3
baz=204,slow=75,SNR=5.6
FINES FINESS Array B 145.34 340 PKPbc PKPbc 08 59 04.8 -0.5
2.7nm,1.1s,baz=20,slow=4.4,SNR=5.5
AKASG Malin Array Be 151.60 323 PKPbc PKPbc 08 59 21.8 -0.4
0.3nm,0.3s,baz=50,slow=2.5,SNR=2.7

ISCJB **23** *09:12:49.0±1.4, 28.99S±0.07×177.7W±0.2, h57km, mb4.2/6, Error ellipse: s-maj=26.9km s-min=9.3km az=9.6*
NEIC **23** *09:12:57.8±1.0, 29.08S×177.61W, h132km±8km, mb4.1/4, Error ellipse: s-maj=22.8km s-min=15.4km az=160.0*
IDC **23** *09:12:57.5±1.1, 29.07S×177.64W, h125km±12km, mb3.9/4, mb1 4.0/4, mb1mx3.7/24, mbtmp4.3/4, Error ellipse: s-maj=108.6km s-min=27.7km az=166.0*
ISC 23 09:12:49.4±1.1, 29.0S±0.1×177.5W±0.2, h57km, n20, σ1s37/18, mb4.3/6, Kermadec Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
RAO Raoul Island 0.48 238 P Pn 09 13 16.1 +15
220nm,0.3s,baz=70,slow=9.1,SNR=22
RAO S Sn 09 13 29.6 +20
2μm,0.3s,baz=107,slow=19,SNR=26
HAZ Te Kaha 9.60 203 *e*PN Pn 09 15 05.9 +1.1
HAZ *e*SN **Sn 09 16 52.2 +1.1**
URZ Urewera 10.29 205 *e*Pn Pn 09 15 20.5 +6.3
URZ *e*Sn **Sn 09 17 10.7 +2.7**
SNGZ Shannon Statio 10.67 203 *e*SN **Sn 09 17 14.3 -3.1**
MRZ Mangatainoka R 12.96 204 *e*SN Sn 09 18 04.6 -8.7
MQZ McQueen's Vall 16.68 206 *e*SN Sn 09 19 26.8 -17
CTA Charters Tower 34.08 277 P **P 09 19 29.6 +1.0**
1.9nm,0.3s,baz=89,slow=10.0,SNR=4.3
CTAO Charters Tower 34.08 277 *e*P **P 09 19 29.2 +0.7**
1.8nm,0.4s
STKA Stephens Creek 35.28 255 P **P 09 19 39.4 +0.6**
2.6nm,0.7s,baz=106,slow=12,SNR=7.7
STKA Stephens Creek 35.28 255 *e*P **P 09 19 38.7 -0.2**
0.3nm,0.5s
AS31 Alice Springs 43.68 265 *e*P **P 09 20 48.0 -0.9**
ASAR Alice Springs 43.68 265 P **P 09 20 47.9 -1.0**
1.9nm,0.5s,baz=100,slow=6.5,SNR=42
ASAR PcP **PcP 09 22 34.9 -0.4**
0.2nm,0.4s,baz=122,slow=4.0,SNR=4.6
WRAB Tennant Creek 44.54 270 *e*P **P 09 20 55.6 -0.2**
2.5nm,0.4s
WRA Warramunga Arr 44.54 270 P **P 09 20 55.8 -0.1**
2.2nm,0.5s,baz=108,slow=7.7,SNR=8.5
HVU Hansel Valley 92.28 43 *e*P **P 09 25 54.8 +1.4**
0.5nm,0.4s
SDV Santo Domingo 108.93 90 *e*PKPdf 09 31 12.6
MKAR Makanchi Array 117.23 311 PKP **PKPdf 09 31 28.7 +0.6**
0.3nm,0.5s,baz=116,slow=2.8,SNR=5.3
FINES FINESS Array B 143.99 341 PKP **PKPab 09 32 15.0 -0.2**
3.0nm,0.9s,baz=53,slow=3.2,SNR=5.5
AKASG Malin Array Be 150.46 325 PKP **PKPdf 09 32 27.7 -1.1**
0.5nm,0.5s,baz=7.9,slow=31,SNR=4.7
AKASG PKPbc **PKPbc 09 32 33.5 -0.7**
1.3nm,0.4s,baz=43,slow=3.1,SNR=21
BRTR Keskin Array B 152.32 301 PKPbc **PKPbc 09 32 37.7 -1.4**
0.6nm,0.4s,baz=143,slow=6.5,SNR=3.7

ISCJB **23** *09:32:07.3±0.5, 24.00S±0.04×67.04W±0.06, h178km±7km, mb3.7/7, Error ellipse: s-maj=8.9km s-min=7.2km az=6.0*
IDC **23** *09:32:07.5±1.5, 24.07S×66.97W, h168km±14km, mb3.7/6, mb1 3.9/11, mb1mx3.7/23, mbtmp4.2/11, MS2.6/1, Ms1 2.7/1, ms1mx2.4/22, Error ellipse: s-maj=17.1km s-min=12.3km az=95.0*
GUC **23** *09:32:11.3±0.4, 23.74S×67.71W, h236km±12km, ML4.8*
NEIC **23** *09:32:11.3, 23.74S×67.71W, h236km, mb4.0/5, After GUC.*
NEIC Felt [II] at Arica and Codpa.
ISC 23 09:32:07.8±0.7, 24.03S±0.05×67.08W±0.06, h177km±8km, n41, σ1s77/54, mb4.0/7, 8C-2D, Chile-Argentina border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
LVC Limon Verde 2.20 310 *e*Pn **Pn 09 32 49.4 +2.2**
LVC *e*Sn **Sn 09 33 15.2 -2.5**
PB06 Plate Boundary 2.65 299⇑*e*P **Pn 09 32 54.3 +2.0**
PB06 *e*S **Sn 09 33 27.1 +0.4**
PB06 AML AML 09 33 29.0
comp=N,4μm,0.5s
PB06 Plate Boundary 2.65 299⇑*e*P **Pn 09 32 54.3 +2.0**
PB06 *e*S **Sn 09 33 27.1 +0.4**
PB04 Plate Boundary 2.83 308 *e*P Pn 09 33 01.1 +6.8
PB04 *e*S Sn 09 33 39.6 +9.2
PB04 AML AML 09 33 43.7
comp=E,2μm,0.7s
PB04 Plate Boundary 2.83 308 *e*P Pn 09 33 01.1 +6.8
PB04 *e*S Sn 09 33 39.6 +9.2
CEN1 Los Morros 2.93 282⇓*e*P Pn 09 32 58.7 +3.1
CEN1 *e*S **Sn 09 33 34.1 +1.3**
CEN1 AML AML 09 33 37.0
comp=E,911nm,0.4s
CEN1 Los Morros 2.93 282⇓*e*P Pn 09 32 58.7 +3.1
CEN1 *e*S **Sn 09 33 34.1 +1.3**
ANCH Antofagasta 3.07 276⇑*i*P **Pn 09 32 55.5 -1.6**
ANCH *e*S **Sn 09 33 31.7 -3.9**
ANCH AML AML 09 33 35.3
comp=E,1μm,0.4s
ANCH Antofagasta 3.07 276⇑*i*P **Pn 09 32 55.5 -1.6**
ANCH *e*S **Sn 09 33 31.7 -3.9**
PB10 Plate Boundary 3.23 278⇑*e*P **Pn 09 33 00.7 +1.5**
PB10 *e*S **Sn 09 33 37.9 -1.3**
PB10 AML AML 09 33 43.8
comp=E,3μm,0.5s
PB07 Plate Boundary 3.46 311⇑*e*P **Pn 09 33 03.4 +1.2**
PB07 *e*S **Sn 09 33 43.2 -1.4**
PB07 AML AML 09 33 47.9
comp=E,2μm,0.4s
PB07 Plate Boundary 3.46 311⇑*e*P **Pn 09 33 03.4 +1.2**
PB07 *e*S **Sn 09 33 43.2 -1.4**
PB01 Plate Boundary 3.72 323⇑*e*P **Pn 09 33 06.3 +0.9**
PB01 *e*S **Sn 09 33 49.0 -1.3**
PB01 AML AML 09 33 52.8
comp=N,647nm,0.3s
PB01 Plate Boundary 3.72 323 P **Pn 09 33 06.3 +0.9**
PB01 *e*S **Sn 09 33 49.0 -1.3**
PATCX Punta Patache 4.28 318 *e*P **Pn 09 33 12.5 0.0**
HMBC Humberstone 4.55 325 *e*P **Pn 09 33 15.4 -0.8**
HMBC Humberstone 4.55 325 P **Pn 09 33 15.4 -0.8**
MNMC Minimini 5.41 334 *e*P **Pn 09 33 27.5 +0.1**
MNMC Minimini 5.41 334 P **Pn 09 33 27.5 +0.1**
CFAA Coronel Fontan 7.62 187 P **Pn 09 33 56.5 +0.4**
comp=N,0.2nm,0.3s,baz=0.2,slow=3.5,SNR=26
CFAA S **Sn 09 35 17.3 -4.4**
comp=N,0.5nm,0.3s,baz=227,slow=16,SNR=12
LPAZ La Paz 7.77 352 P **Pn 09 34 00.1 +1.4**
comp=N,1.7nm,0.3s,baz=141,slow=5.1,SNR=35
LPAZ S **Sn 09 35 25.7 -0.6**
comp=N,0.9nm,0.3s,baz=268,slow=19,SNR=5.0
LPAZ LR LR 09 37 36.0
comp=N,39nm,19.2s,baz=228,slow=42
LPAZ La Paz 7.77 352 *e*Pn **Pn 09 34 00.4 +1.7**
comp=N,4.1nm,0.4s
LPAZ *e*S **Sn 09 35 23.9 -2.3**
CPUP Villa Florida 9.12 107 P **Pn 09 34 15.7 -0.2**
comp=N,1.8nm,0.3s,baz=262,slow=8.2,SNR=3.4
SIV San Ignacio 9.79 36 P **Pn 09 34 23.5 -1.3**
comp=N,2.9nm,0.3s,baz=224,slow=14,SNR=46
SIV S **Sn 09 36 11.9 -1.8**
comp=N,0.3nm,0.3s,baz=203,slow=15,SNR=3.0
TRQA Tornquist 14.64 164 *e*P **Pn 09 35 27.1 +0.5**
comp=N,8.7nm,0.6s
SAML Samuel 15.45 15 *e*P **Pn 09 35 34.4 -2.3**
comp=N,5.6nm,0.8s
PLCA Paso Flores 16.91 189 P **Pn 09 35 54.8 +0.7**
comp=N,0.3nm,0.3s,baz=4.4,slow=12,SNR=9.4
PLCA Paso Flores 16.91 189 *e*P **Pn 09 35 55.5 +1.3**
comp=N,5.3nm,0.5s
BDFB Brasilia 19.76 69 P **P 09 36 24.6 +0.1**
comp=N,4.0nm,0.3s,baz=240,slow=11,SNR=54
OTAV Otavalo 26.53 334 *e*P **P 09 37 25.3 -4.4**
comp=N,0.8nm,0.5s
TXAR Lajitas Array 63.66 324 P **P 09 42 23.1 +2.7**
comp=N,0.2nm,0.4s,baz=169,slow=5.2,SNR=2.7
DBIC Dimbokro 67.88 72 P **P 09 42 48.6 +1.1**
comp=N,2.4nm,0.5s,baz=195,slow=6.6,SNR=6.7
TORD Torodi Ar. Bea 76.64 69 P **P 09 43 39.3 -0.2**
comp=N,2.4nm,0.6s,baz=262,slow=5.8,SNR=26
ULM Lac du Bonnet 78.23 342 P **P 09 43 48.1 +0.6**
comp=N,1.5nm,0.5s,baz=146,slow=8.4,SNR=5.4
NVAR Mina Array Bea 78.52 321 P **P 09 43 50.3 +0.7**
comp=N,0.4nm,0.6s,baz=142,slow=7.5,SNR=4.5
YKA Yellowknife Ar 94.13 340 P **P 09 45 06.0 +0.4**
comp=N,0.5nm,0.5s,baz=126,slow=4.8,SNR=14
ASAR Alice Springs 128.40 205 PKP **PKPdf 09 50 54.6 +0.5**
comp=N,1.3nm,0.6s,baz=130,slow=1.6,SNR=26
WRA Warramunga Arr 131.57 207 PKP **PKPdf 09 51 01.4 +1.2**
comp=N,1.3nm,0.5s,baz=162,slow=1.7,SNR=9.4
ZALV Zalesovo Beam 143.45 28 PKP PKPbc 09 51 19.3 +0.7
comp=N,1.0nm,0.5s,baz=346,slow=5.0,SNR=4.2
MK31 Makanchi Array 146.59 39 *e*PKPdf **PKPdf 09 51 24.5 -2.1**
MK31 *e*PKPbc **PKPbc 09 51 26.9 -1.5**
MK31 *e*PKPab **PKPab 09 51 29.3 -0.6**
MKAR Makanchi Array 146.59 39 PKPbc **PKPdf 09 51 27.3 +0.7**
comp=N,1.5nm,0.7s,baz=299,slow=1.3,SNR=15

IDC **23** *09:50:59.8±0.6, 44.05N×83.05E, h0km, mb4.0/14, mb1 4.1/20, mb1mx4.0/36, mbtmp4.0/20, ML3.6/7, MS3.0/3, Ms1 3.0/3, ms1mx2.6/43, Error ellipse: s-maj=13.1km s-min=8.8km az=73.0*
ISCJB **23** *09:51:01.9±0.4, 44.24N±0.04×82.99E±0.05, h17km, mb4.0/17, Error ellipse: s-maj=6.2km s-min=5.2km az=27.7*
BJI **23** *09:51:04.1, 44.13N×83.01E, h5km, mB4.4/2, mb4.0/4, ML3.9/11, Ms3.7/3, Ms7 3.7/1*
NNC **23** *09:51:07.4±2.3, 44.39N×82.50E, h0km, mb4.4, mpv3.9, Error ellipse: s-maj=25.0km s-min=9.0km az=117.0*
ISC 23 09:51:03.4±0.5, 44.23N±0.05×83.03E±0.04, h17km, n47, σ1s34/55, mb3.9/17, 17C-9D, Northern Xinjiang

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
MK31 Makanchi Array 2.61 349 Pn **Pb 09 51 49.0 -0.7**
81nm,0.6s,baz=188,slow=14,SNR=2496
MK31 ⇑Lg Lg 09 52 22.1
264nm,0.5s,baz=172,slow=25,SNR=18
MKAR Makanchi Array 2.61 349 Pn **Pb 09 51 48.9 -0.9**
9.9nm,0.3s,baz=163,slow=14,SNR=260
MKAR Sn **Sb 09 52 21.9 +0.3**
102nm,0.3s,baz=172,slow=20,SNR=11
MKAR Lg Lg 09 52 28.5
144nm,0.3s,baz=175,slow=33,SNR=18
PDGK Podgornoye 2.72 252 ⇑Pn **Pb 09 51 47.0 +0.7**
PDGK ⇓Lg Lg 09 52 23.4
WMQ Urumqi 3.39 95 Pn **Pn 09 51 57.6 +2.0**
WMQ Sn **Sn 09 52 37.3 +1.9**
WMQ smax smax
comp=N,330nm,0.5s
WMQ smax smax
comp=E,380nm,0.5s
WMQ LR LR
comp=N,420nm,4.0s
WMQ LR LR
comp=E,380nm,4.0s
KNDC Almaty 4.51 259 ⇓Pg **Pb 09 52 24.5 +2.4**
54nm,0.5s
KNDC ⇑Lg Lg 09 53 23.4
185nm,0.6s
TKM2 Tokmak 2 5.56 259 ⇑Pn **Pn 09 52 27.2 +1.7**
8.1nm,0.8s
TKM2 ⇑Pg **Pg 09 52 47.4 -2.4**
31nm,0.8s
TKM2 ⇑Lg Lg 09 53 51.8
106nm,0.8s
AAK Ala-Archa 6.42 259 ⇓Pn **Pn 09 52 39.3 +2.0**
2.9nm,0.8s

AAK ⇑Pg Pg 09 53 00.9 -5.3
23nm,0.8s
AAK ⇑Lg Lg 09 54 21.9
44nm,0.8s
AAK Ala-Archa 6.42 259 Pn Pn 09 52 38.7 +1.4
0.9nm,0.3s,baz=119,slow=8.1,SNR=9.2
AAK Lg Lg 09 54 22.6
3.0nm,0.3s,baz=295,slow=24,SNR=6.8
KSH Kashi 7.07 231 Pn Pb 09 52 56.6 -9.1
KSH smax smax
comp=N,54nm,1.3s
KSH smax smax
comp=E,67nm,1.3s
KURBB Kurchatov Arra 7.08 336 ⇑Pn Pn 09 52 47.7 +1.5
1.7nm,0.3s,baz=175,slow=13
KURBB ⇓Sn Sn 09 54 06.9 +0.7
47nm,0.6s
KURBB ⇓Lg Lg 09 54 47.5
111nm,0.8s
KURBB Kurchatov Arra 7.08 336 Pn Pn 09 52 48.2 +2.0
1.3nm,0.3s,baz=165,slow=13,SNR=9.0
KURBB Sn Sn 09 54 08.0 +1.8
3.2nm,0.3s,baz=330,slow=19,SNR=4.9
KURBB Lg Lg 09 54 50.2
5.9nm,0.3s,baz=146,slow=29,SNR=6.6
KURK Kurchatov 7.14 337 ⇑Sn Sn 09 54 09.5 +1.8
12nm,0.5s
KURK ⇑Lg Lg 09 54 50.2
74nm,1.2s
KK31 Karatay Array 9.15 267 ⇑Pn Pn 09 53 15.8 +1.2
0.3nm,0.3s
KK31 ⇑Lg Lg 09 55 50.0
7.9nm,0.6s
ZALV Zalesovo Beam 9.79 6 Pn Pn 09 53 25.1 +1.8
1.0nm,0.3s,baz=189,slow=13,SNR=9.8
ZALV Sn Sn 09 55 11.9 -0.9
11nm,0.3s,baz=184,slow=25,SNR=24
ZALV Lg Lg 09 56 18.3
baz=195,slow=27,SNR=2.4
ZALV LR LR 09 57 27.9
comp=Z,62nm,20.6s,baz=252,slow=39
VOSK Vostochnaya 11.65 321 ⇓Pn Pn 09 53 49.4 +0.6
20nm,0.8s
VOSK ⇑Lg Lg 09 57 04.0
29nm,0.9s
BVA0 Borovoye Array 12.12 321 ⇓Pn Pn 09 53 55.5 +0.3
4.1nm,0.6s,baz=281,slow=51,SNR=5.2
BVA0 ⇓Lg Lg 09 57 21.4
35nm,1.2s
BVAR Borovoye Array 12.12 321 Pn Pn 09 53 56.3 +1.1
1.4nm,0.3s,baz=129,slow=13,SNR=30
BVAR Lg Lg 09 57 31.3
0.9nm,0.3s,baz=135,slow=29,SNR=3.7
BRVK Borovoye 12.19 321 ⇑Pn Pn 09 53 56.9 +0.8
11nm,0.6s
BRVK ⇑Lg Lg 09 57 20.3
58nm,1.5s
CHCP Chirah Chowk 13.00 219 P Pn 09 54 06.9 -0.4
GTA Gaotai 13.41 105 eP P 09 54 22.6 +0.2
GTA pP pP 09 54 26.3
GTA sP 09 54 28.8
GTA S S 09 56 55.3 -10
GTA sS sS 09 56 59.9
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA LR LR
comp=N,87nm,8.1s
GTA LR LR
comp=E,100nm,9.5s
CEP Cherat 13.51 223 P Pn 09 54 15.0 +0.7
AB31 Akbulak array 16.58 296 ⇑P Pn 09 54 53.0 -1.9
4.1nm,0.8s
SONM Songino Array 16.60 69 Pn Pn 09 54 53.9 -1.5
0.1nm,0.3s,baz=263,slow=12,SNR=2.8
SONM LR LR 10 02 00.9
comp=Z,96nm,19.6s,baz=147,slow=40
LZH Lanzhou 17.84 110 eP P 09 55 14.6 +3.1
LZH pP pP 09 55 16.5 +0.2
LZH sP sP 09 55 19.3 +0.8
LZH ePP PnPn 09 55 29.4 +7.9
LZH pmax pmax
comp=Z,18nm,1.0s
AKTO Aktyubinsk 18.01 299 ⇓P Pn 09 55 11.4 -1.3
6.9nm,1.2s
AKTO Aktyubinsk 18.01 299 P P 09 55 12.8 -0.3
0.4nm,0.3s,baz=99,slow=10,SNR=8.7
AKTO S Sn 09 58 24.6 -8.5
0.1nm,0.3s,baz=61,slow=19,SNR=2.4
AKTO LR LR 10 02 37.9
comp=Z,42nm,20.6s,baz=152,slow=39
CMAR Chiang Mai Arr 28.96 147 P P 09 57 00.8 -1.2
0.6nm,0.3s,baz=322,slow=8.8,SNR=5.4
AKASG Malin Array Be 36.25 300 P P 09 58 05.2 -0.2
0.4nm,0.3s,baz=63,slow=9.2,SNR=5.1
BRTR Keskin Array B 36.55 281 P P 09 58 08.1 -0.1
1.5nm,0.7s,baz=85,slow=6.6,SNR=7.7
FINES FINESS Array B 37.06 318 P P 09 58 13.4 +1.3
0.8nm,0.5s,baz=99,slow=12,SNR=3.7
FINES PcP PcP 10 00 31.4 -1.0
1.2nm,0.6s,baz=83,slow=6.0,SNR=3.9
ARCES ARCESS Array B 38.14 331 P P 09 58 22.3 +1.1
3.0nm,0.5s,baz=89,slow=8.4,SNR=34
SEY Seymchan 42.77 39 P P 09 59 00.1 +0.6
0.3nm,0.3s,baz=163,slow=19,SNR=3.0
NB2 NORSAR Subarra 44.24 318 P P 09 59 11.5 +0.1
comp=Z,1.1nm,0.7s,baz=77,slow=7.9
NOA NORSAR Array B 44.24 318 P P 09 59 11.6 +0.1
comp=Z,0.9nm,0.4s,baz=72,slow=6.1,SNR=7.9
LPG La Plagne 52.11 300 eP P 10 00 14.0 +1.2
comp=Z,9.8nm,0.5s
LPL La Plagne 52.12 300 eP P 10 00 13.9 +1.2
comp=Z,14nm,0.5s
ORIF Oris-en-Rattie 52.93 300 eP P 10 00 19.0 +0.4
comp=Z,5.7nm,0.6s
FRF La Foret Royal 53.10 298 eP P 10 00 20.2 +0.4
ETSF Etsaut 57.96 301 eP P 10 00 56.1 +1.3
SJPF Ste Jean 58.26 301 eP P 10 00 57.9 +1.1
ESDC Sonseca Array 61.89 299 P P 10 01 21.4 -0.5
comp=Z,0.3nm,0.3s,baz=49,slow=6.7,SNR=3.9
ILAR Eielson Array 64.55 21 P P 10 01 39.1 +0.1
comp=Z,1.2nm,0.7s,baz=321,slow=5.4,SNR=22
YKA Yellowknife Ar 72.68 8 P P 10 02 29.3 -0.4
comp=Z,0.8nm,0.8s,baz=342,slow=5.8,SNR=13
TORD Torodi Ar. Bea 74.78 274 P P 10 02 41.3 -1.5
comp=Z,2.3nm,0.4s,baz=43,slow=5.3,SNR=48
WRA Warramunga Arr 79.22 132 P P 10 03 05.8 -1.8
comp=Z,0.5nm,0.6s,baz=333,slow=5.4,SNR=5.3
ASAR Alice Springs 82.04 134 P P 10 03 20.6 -2.1
comp=Z,0.5nm,0.5s,baz=324,slow=5.2,SNR=13
DBIC Dimbokro 83.89 273 P P 10 03 30.8 -1.7
comp=Z,2.5nm,0.7s,baz=32,slow=5.9,SNR=4.5

HEL 23 10:00:29.9±0.4, 59°.16N×28°.03E, h0km, ML1.4, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPE	Suurupi	1.90	281	ePG	Pn	10 01 04.1	+0.6
SRPE				eSG	Sn	10 01 27.3	-0.7
MEF	Metsahovi	2.12	301	ePG	Pb	10 01 08.1	-1.1
MEF				eSG	Sn	10 01 34.0	+0.4
MEF				MSG		10 01 34.3	
	comp=Z,1.7nm,0.1s						
MTSE	Matsula	2.23	260	ePG	Pb	10 01 09.7	-1.3
MTSE				eSG	Sb	10 01 38.0	-1.1
KAF	Kangasniemi	3.08	345	ePB	Pb	10 01 22.9	-2.6
KAF				MSG	Sg	10 02 03.9	-4.9
	comp=Z,0.7nm,0.2s						
KAF				eSG	Sg	10 02 03.9	-4.9
SUF	Sumiainen	3.69	346	ePB	Pb	10 01 33.2	-2.6
SUF				eSG	Sb	10 02 22.0	+1.0
SUF				MSG		10 02 22.5	
	comp=Z,0.6nm,0.3s						
JOF	Joensuu	4.09	22	eP	Pn	10 01 34.5	+0.8
AAL	Aland	4.20	287	eSG	Sb	10 02 38.3	+2.5

IDC 23 10:04:08.3±0.5, 20°.31S×67°.83E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.2/42, mbtmp4.3/20, ML3.6/1, MS4.1/8, Ms1 4.1/8, ms1mx3.7/52, Error ellipse: s-maj=18.3km s-min=14.3km az=3.0
ISCJB 23 10:04:09.1±0.4, 20°.38S±0°.08×67°.81E±0°.06, h15km, mb4.5/37, MS4.5/64, Error ellipse: s-maj=11.7km s-min=7.6km az=159.4
BJI 23 10:04:09.6, 19°.88S×67°.46E, h10km, mB5.0/13, mb4.6/26, Ms4.9/13, Ms7 4.5/13
NEIC 23 10:04:10.4±0.4, 20°.30S×67°.83E, h10km, mb4.7/10, Error ellipse: s-maj=13.8km s-min=9.0km az=173.0
ISC 23 10:04:11.4±0.5, 20°.33S±0°.09×67°.73E±0°.08, h15km, n138, σ1.37/109, mb4.5/37, MS4.3/64, Mid-Indian Ridge

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
H08S1 Diego Carcia H 13.42 21 T T 10 20 53.3
baz=200,slow=76,SNR=277
H08S2 Diego Garcia H 13.43 21 T T 10 20 54.8
baz=200,slow=76,SNR=638
H08S3 Diego Garcia H 13.44 21 T T 10 20 58.8
baz=200,slow=76,SNR=164
H08N3 Diego Garcia H 14.26 13 T T 10 22 05.9
baz=210,slow=75,SNR=60
H08N1 Diego Garcia H 14.27 13 T T 10 21 59.1
baz=210,slow=75,SNR=45
H08N2 Diego Garcia H 14.28 13 T T 10 22 01.7
baz=210,slow=75,SNR=44
ABPO Ambohimpanom 19.35 270 eP Pn 10 08 38.8 +1.0
19nm,1.2s
OPO Ambohidratompo 19.45 272 P Pn 10 08 39.5 +0.4
0.2nm,0.3s,baz=73,slow=16,SNR=4.5
OPO LR LR 10 14 24.7
comp=Z,673nm,19.2s,baz=110,slow=32
PALK Pallekele 30.25 26 LR LR 10 20 32.5
comp=Z,606nm,18.2s,baz=203,slow=33
KMBO Kilima Mbogo 35.38 299 P P 10 11 07.6 +0.5
3.3nm,0.8s,baz=83,slow=8.8,SNR=9.9
KMBO Kilima Mbogo 35.38 299 eP P 10 11 08.0 +0.9
KMBO LR LR
comp=Z,300nm,18.9s
LSZ Lusaka 37.92 271 eP P 10 11 29.3 +0.6
comp=Z,7.1nm,1.0s
BKNI Bangkinang 38.53 62 PFAKE 10 11 40.0 +6.4
BKNI LR LR
comp=Z,200nm,20.3s
LBTB Lobatse 39.04 255 P P 10 11 37.3 -0.7
comp=Z,4.3nm,0.9s,baz=83,slow=7.4,SNR=5.7
BOSA Boshof 39.36 249 P P 10 11 40.0 -0.7
comp=Z,3.0nm,1.0s,baz=65,slow=19,SNR=2.6
BOSA LR LR 10 24 35.3
comp=Z,80nm,19.2s,baz=94,slow=31
PMBI Palembang 40.04 69 PFAKE 10 12 00.0 +14
PMBI LR LR
comp=Z,200nm,18.4s
FURI Furi 40.75 313 PFAKE 10 12 00.0 +7.5
FURI LR LR
comp=Z,200nm,21.1s
CISI Cisompet, Garu 40.80 78 PFAKE 10 12 00.0 +7.3
CISI LR LR
comp=Z,200nm,20.6s
IPM Ipoh 40.95 57 PFAKE 10 12 00.0 +6.1
IPM LR LR
comp=Z,99nm,20.5s
MYKOM Kota Tinggi 41.67 62 PFAKE 10 12 10.0 +10
MYKOM LR LR
comp=Z,100nm,20.1s
H01W2 Cape Leeuwin H 43.23 120 T T 10 58 06.4
baz=279,slow=74,SNR=11
H01W3 Cape Leeuwin H 43.23 120 T T 10 58 11.1
baz=279,slow=74,SNR=11
H01W1 Cape Leeuwin H 43.24 120 T T 10 58 11.2
baz=279,slow=74,SNR=8.7
SMRI Semarang 43.41 78 PFAKE 10 12 20.0 +6.1
SMRI LR LR
comp=Z,300nm,18.0s
NWAO Narrogin (SRO) 45.62 117 LR LR 10 27 21.3
comp=Z,187nm,20.1s,baz=322,slow=31
JAGI Jajag, Banyuwa 46.33 82 PFAKE 10 12 50.0 +13
JAGI LR LR
comp=Z,200nm,19.0s
KSM Kuching 47.00 68 PFAKE 10 12 50.0 +7.6
KSM LR LR
comp=Z,100nm,19.5s
MAW Mawson 47.36 183 LR LR 10 27 24.3
comp=Z,256nm,21.4s,baz=19,slow=30
MBWA Marble Bar 48.45 101 PFAKE 10 13 00.0 +6.3
MBWA LR LR
comp=Z,300nm,20.5s
RAYN Ar Rayn 48.68 332 PFAKE 10 13 10.0 +15
RAYN LR LR
comp=Z,2µm,18.0s
SBUM Sibu 49.14 68 eP P 10 12 59.3 +0.3
comp=Z,5.9nm,0.9s
SBUM LR LR
comp=Z,200nm,21.0s
CMAR Chiang Mai Arr 49.22 41 P P 10 12 58.2 -1.2
comp=Z,3.6nm,0.7s,baz=235,slow=8.5,SNR=20
CMAR LR LR 10 30 09.3
comp=Z,143nm,21.4s,baz=200,slow=32
CHTO Chiang Mai 49.50 40 PFAKE 10 13 10.0 +8.4
CHTO LR LR
comp=Z,200nm,19.9s
KOLN Koldanda 50.23 18 eP P 10 13 07.4 +0.2
comp=Z,28nm,0.8s
KOLN Koldanda 50.23 18 eP P 10 13 07.4 +0.2
PYUN Piuthan 50.36 18 eP P 10 13 08.2 0.0
comp=Z,22nm,0.6s
PYUN Piuthan 50.36 18 eP P 10 13 08.2 0.0
RAMN Ramite 50.44 22 eP P 10 13 09.1 +0.2
comp=Z,17nm,0.7s
RAMN Ramite 50.44 22 eP P 10 13 09.1 +0.2
DMN Daman 50.54 20 eP P 10 13 09.9 +0.2
comp=Z,24nm,0.8s
DMN Daman 50.54 20 eP P 10 13 09.9 +0.2
PKI Pulchoki 50.60 20 eP P 10 13 09.9 -0.3
PKI Pulchoki 50.60 20 eP P 10 13 10.5 +0.3
PKIN Phulchoki 50.60 20 eP P 10 13 10.5 +0.3
GKN Gorkha 50.76 19 eP P 10 13 11.1 -0.1
comp=Z,14nm,0.6s
GKN Gorkha 50.76 19 eP P 10 13 11.1 -0.1
KKN Kakani 50.77 20 eP P 10 13 11.6 +0.3
KKN Kakani 50.77 20 eP P 10 13 11.6 +0.3
DANN Dangsing 50.82 18 eP P 10 13 11.6 -0.2
comp=Z,27nm,0.7s
DANN Dangsing 50.82 18 eP P 10 13 11.6 -0.2
JIRN Jiri 50.95 21 eP P 10 13 12.9 0.0
comp=Z,15nm,0.8s
JIRN Jiri 50.95 21 eP P 10 13 12.9 0.0
GUN Gumba 51.07 21 eP P 10 13 13.8 0.0
comp=Z,34nm,0.7s
GUN Gumba 51.07 21 eP P 10 13 13.8 0.0
TAPN Taplejung 51.20 23 eP P 10 13 14.1 -0.6
TAPN Taplejung 51.20 23 eP P 10 13 14.1 -0.6
KAPI Kappang 52.75 81 PFAKE 10 13 40.0 +14
KAPI LR LR
comp=Z,100nm,18.0s
MMRI Maumere 53.82 86 PFAKE 10 13 50.0 +16
MMRI LR LR
comp=Z,100nm,18.5s
KKM Kota Kinabalu 54.38 66 PFAKE 10 13 50.0 +12
KKM LR LR
comp=Z,100nm,19.0s
FITZ Fitzroy Crossi 54.49 98 eP P 10 13 39.5 +0.6
comp=Z,7.4nm,0.9s
KBL Kabul 54.58 1 PFAKE 10 13 50.0 +11
KBL LR LR
comp=Z,1µm,21.3s
LSA Lhasa 54.62 25 eP P 10 13 41.1 +0.9
comp=Z,34nm,1.7s
FORT Forrest 54.85 114 PFAKE 10 13 50.0 +8.6
FORT LR LR
comp=Z,300nm,18.0s
SOEI Soe 55.37 88 PFAKE 10 14 00.0 +14
SOEI LR LR
comp=Z,200nm,18.8s
TOLI Toli-Toli 56.15 74 PFAKE 10 14 00.0 +9.1
TOLI LR LR
comp=Z,200nm,18.8s
QIZ Qiongzhong 56.86 49 P P 10 13 52.4 -3.5
QIZ PP PP 10 16 01.8 -0.7
QIZ S S 10 21 46.5 -2.7
QIZ LR LR
comp=Z,180nm,18.6s
QIZ LR LR
comp=Z,220nm,19.8s
LUWI Luwuk 57.05 78 PFAKE 10 14 10.0 +13
LUWI LR LR
comp=Z,100nm,18.7s
GYA Guiyang 59.91 41 P P 10 14 19.3 +2.1
GYA pmax pmax
comp=Z,10.0nm,1.0s
KSH Kashi 60.03 7 P P 10 14 14.4 -3.4
KSH epP pP 10 14 17.1 -5.5
KSH ePP PP 10 16 28.3 -2.2
KSH ePcS PcS 10 18 58.4 -7.6
KSH eS S 10 22 20.1 -10
KSH eSS SS 10 26 16.3 -11
KSH pmax pmax
comp=Z,8.0nm,0.6s
KSH LR LR
comp=Z,72nm,5.8s
KSH LR LR
comp=Z,39nm,3.1s
KSH LR LR
comp=Z,220nm,8.0s
ASAR Alice Springs 60.96 106 P P 10 14 23.2 -1.3
comp=Z,3.1nm,0.8s,baz=266,slow=6.1,SNR=42
ASAR LR LR 10 37 30.4
comp=Z,269nm,19.6s,baz=288,slow=33
BBOO Buckleboo 61.44 117 PFAKE 10 14 40.0 +12
BBOO LR LR
comp=Z,6µm,18.2s
CD2 Chengdu 61.59 35 eP P 10 14 31.3 +2.8
CD2 pP pP 10 14 35.8 +2.5
CD2 sP sP 10 14 38.3 +3.2
CD2 PcP PcP 10 15 12.5 +2.4
CD2 PcS PcS 10 19 14.1 +1.0
CD2 S S 10 22 51.8 +1.6
CD2 sS sS 10 22 58.9 +0.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.6s
TNTI Ternate 61.99 78 PFAKE 10 14 40.0 +8.6
TNTI LR LR
comp=Z,100nm,18.0s
WRA Warramunga Arr 62.12 102 P P 10 14 31.0 -1.3
comp=Z,3.9nm,0.8s,baz=260,slow=6.0,SNR=12
WRAB Tennant Creek 62.13 102 eP P 10 14 31.2 -1.2
comp=Z,4.7nm,0.7s
WRAB LR LR
comp=Z,100nm,19.0s
EKS2 Erkin-Say 62.93 5 PFAKE 10 14 50.0 +13
EKS2 LR LR
comp=Z,3µm,19.7s
AAK Ala-Archa 62.96 6 eP P 10 14 37.8 +0.2
comp=Z,4.5nm,1.1s
AAK LR LR
comp=Z,3µm,18.0s
DAV Davao City (W) 63.04 71 PFAKE 10 14 50.0 +12
DAV LR LR
comp=Z,300nm,20.9s
TKM2 Tokmak 2 63.35 6 eP P 10 14 39.6 -0.6
comp=Z,4.9nm,0.7s
TKM2 LR LR
comp=Z,3µm,19.9s
GNI Garni 63.88 341 PFAKE 10 15 00.0 +16
GNI LR LR
comp=Z,701nm,19.9s
CSS Prodhromos 63.96 329 PFAKE 10 15 00.0 +16
CSS LR LR
comp=Z,300nm,19.0s
ENH Enshi 64.38 40 eP P 10 14 46.2 -0.8
comp=Z,6.2nm,0.8s
SNAA Sanae 64.76 199 PFAKE 10 15 00.0 +11
SNAA LR LR
comp=Z,300nm,19.9s
LZH Lanzhou 65.70 32 eP P 10 14 54.3 -1.3
LZH pP pP 10 15 05.1 +4.6
LZH sP sP 10 15 09.3 +7.0
LZH ePP PP 10 17 21.5 +0.9
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,73nm,7.2s
LZH LR LR
comp=Z,360nm,15.0s
LZH LR LR
comp=Z,360nm,14.8s
LZH LR LR
comp=Z,400nm,18.3s
STKA Stephens Creek 66.21 117 P P 10 14 59.0 0.0
comp=Z,1.5nm,0.6s,baz=309,slow=6.5,SNR=3.3
STKA LR LR 10 40 02.7
comp=Z,134nm,19.8s,baz=220,slow=33
WMQ Urumqi 66.42 16 P P 10 15 00.4 +0.5
WMQ pP pP 10 15 05.1 +0.3
WMQ sP sP 10 15 07.4 +0.8
WMQ PcP PcP 10 15 30.5 +0.9
WMQ PP PP 10 17 28.0 +1.4
WMQ PcS 10 19 33.6
WMQ S S 10 23 47.4 -2.2
WMQ sS sS 10 23 55.1 -2.5
WMQ SS SS 10 28 04.6 -2.3
WMQ pmax pmax
comp=Z,10.0nm,1.4s
WMQ pmax pmax
comp=Z,190nm,4.8s
WMQ LR LR
comp=Z,280nm,15.8s
WMQ LR LR
comp=Z,230nm,18.0s
WMQ LR LR
comp=Z,210nm,16.8s
GTA Gaotai 66.58 27 eP P 10 15 01.0 -0.1
GTA pP pP 10 15 05.8 -0.2
GTA sP sP 10 15 08.1 +0.3
GTA S S 10 23 51.5 -0.3
GTA sS sS 10 23 59.6 -0.3
GTA pmax pmax
comp=Z,6.0nm,1.6s
GTA pmax pmax
comp=Z,74nm,5.0s
GTA LR LR
comp=Z,390nm,17.1s
GTA LR LR
comp=Z,330nm,16.2s
GTA LR LR
comp=Z,420nm,15.2s
XAN Xi'an 66.80 37 P P 10 15 01.4 -1.2
XAN pmax pmax
comp=Z,1.0nm,0.8s
XAN pmax pmax
comp=Z,11nm,4.3s
TPUB Ta-pu 67.38 53 PFAKE 10 15 20.0 +14
TPUB LR LR
comp=Z,100nm,19.0s
ISP Isparta 67.61 329 PFAKE 10 15 20.0 +12
ISP LR LR
comp=Z,1µm,18.5s
BRTR Keskin Array B 67.70 332 P P 10 15 08.0 -0.3
comp=Z,0.9nm,1.0s,baz=130,slow=4.5,SNR=2.9
SSLB Suanglung 67.91 52 PFAKE 10 15 20.0 +10
SSLB LR LR
comp=Z,100nm,20.8s
YULB Yu-li 67.93 53 PFAKE 10 15 20.0 +10
YULB LR LR
comp=Z,200nm,18.4s
KIV Kislovodsk 67.97 341 PFAKE 10 15 20.0 +10
KIV LR LR
comp=Z,1µm,18.0s
MK31 Makanchi Array 68.09 11 eP P 10 15 09.7 -0.8
MKAR Makanchi Array 68.09 11 P P 10 15 09.3 -1.2
comp=Z,2.0nm,0.6s,baz=203,slow=5.9,SNR=31
MKAR Makanchi Array 68.09 11 eP P 10 15 09.8 -0.7
ANTO Ankara 68.19 332 PFAKE 10 15 20.0 +8.7
ANTO LR LR
comp=Z,2µm,19.6s
NACB Ninganchiao 68.61 52 PFAKE 10 15 30.0 +16
NACB LR LR
comp=Z,100nm,18.4s
YHNB Yeheng 68.73 52 PFAKE 10 15 30.0 +15
YHNB LR LR
comp=Z,200nm,18.4s
TATO Taipei 68.99 52 PFAKE 10 15 30.0 +13
TATO LR LR
comp=Z,200nm,19.9s
SANT Santorini 69.11 324 PFAKE 10 15 30.0 +13
SANT LR LR
comp=Z,700nm,20.0s
QSPA South Pole Qui 69.78 180 P P 10 15 20.0 -0.9
comp=Z,4.6nm,1.1s,baz=129,slow=0.5,SNR=11
KURK Kurchatov 71.39 7 eP P 10 15 29.5 -1.1
comp=Z,2.4nm,0.9s
KURK LR LR
comp=Z,1µm,20.1s

NJ2 Nanjing 71.47 44 eP P 10 15 30.3 -1.3
NJ2 pmax pmax
comp=Z,20nm,1.2s
COEN Coen 71.83 99 PFAKE 10 15 50.0 +16
COEN LR LR
comp=Z,2μm,18.5s
CTAO Charters Tower 72.94 106 PFAKE 10 15 50.0 +9.3
CTAO LR LR
comp=Z,200nm,18.0s
TORD Torodi Ar. Bea 72.95 291 P P 10 15 39.8 -1.0
comp=Z,1.0nm,0.8s,baz=96,slow=6.4,SNR=7.5
BRVK Borovoye 73.11 2 PFAKE 10 15 50.0 +9.1
BRVK LR LR
comp=Z,1μm,20.3s
HHC Hu-ho-hao-te 73.23 33 eP P 10 15 43.4 +1.3
HHC sP sP 10 15 55.3 +6.5
HHC S SKiKP 10 25 16.4 +2.8
HHC sS sS 10 25 21.3 +3.3
HHC ScS SKSac 10 25 46.9 -0.8
HHC SS SS 10 29 55.3 +3.1
HHC pmax pmax
comp=Z,31nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.4s
HHC LR LR
comp=Z,210nm,15.7s
HHC LR LR
comp=Z,530nm,15.9s
HHC LR LR
comp=Z,400nm,20.6s
TIRR Tirgusor 73.81 332 PFAKE 10 16 00.0 +15
TIRR LR LR
comp=Z,900nm,18.4s
JOW Kunigami 75.09 54 PFAKE 10 16 00.0 +6.9
JOW LR LR
comp=Z,100nm,19.4s
WDD Wield Dalam 75.22 318 PFAKE 10 16 10.0 +16
WDD LR LR
comp=Z,400nm,20.4s
ZAA0 Zalesovo Array 75.43 10 eP P 10 15 53.4 -0.9
ZALV Zalesovo Beam 75.43 10 P P 10 15 53.3 -1.1
comp=Z,6.3nm,0.6s,baz=196,slow=5.9,SNR=32
EIDS Eidsvold 75.79 112 PFAKE 10 16 10.0 +13
EIDS LR LR
comp=Z,200nm,18.3s
CEL Celeste 75.91 320 PFAKE 10 16 10.0 +12
CEL LR LR
comp=Z,400nm,21.5s
TIP Timpagrande 76.00 322 PFAKE 10 16 10.0 +12
TIP LR LR
comp=Z,400nm,19.5s
DBIC Dimbokro 76.17 283 P P 10 15 59.8 +0.2
comp=Z,2.3nm,0.7s,baz=96,slow=7.3,SNR=3.5
SONM Songino Array 76.21 26 P P 10 15 58.2 -0.9
comp=Z,1.2nm,0.8s,baz=208,slow=4.8,SNR=6.0
AKASG Malin Array Be 78.44 336 P P 10 16 10.0 -1.4
comp=Z,0.5nm,0.4s,baz=134,slow=4.8,SNR=6.0
KSAR Wonju Array Be 80.64 44 P P 10 16 21.7 -2.0
KSRS Korea Array 80.67 44 P P 10 16 21.7 -2.2
comp=Z,0.6nm,0.5s,baz=267,slow=4.8,SNR=3.3
MDJ Mudanjiang 85.74 39 P P 10 16 49.3 -0.6
MJAR Matsushiro Arr 87.26 49 P P 10 16 57.0 -0.7
comp=Z,8.2nm,0.9s,baz=230,slow=6.5,SNR=11
FINES FINESS Array B 88.05 341 P P 10 17 01.1 +0.4
comp=Z,2.9nm,1.1s,baz=163,slow=5.2,SNR=3.1
ARCES ARCESS Array B 94.53 346 P P 10 17 29.5 -1.2
comp=Z,3.5nm,0.9s,baz=160,slow=2.9,SNR=2.8
ILAR Eielson Array 130.02 19 PKP PKPdf 10 23 19.7 -0.4
comp=Z,0.1nm,0.8s,baz=235,slow=3.2,SNR=2.7
YKA Yellowknife Ar 137.84 2 PKP PKPdf 10 23 35.2 +0.4
comp=Z,0.1nm,0.3s,baz=17,slow=3.2,SNR=4.5
FFC Flin Flon 144.78 350 ePKPdf PKPdf 10 23 49.1 +1.6
EDM Edmonton 147.16 1 ePKPbc PKPbc 10 23 54.2 +0.4
EDM ePKPab PKiKP 10 23 56.4 +0.1
ULM Lac du Bonnet 147.44 340 PKPbc PKPdf 10 23 53.3 +1.2
comp=Z,1.7nm,0.6s,baz=14,slow=4.2,SNR=2.2
ULM Lac du Bonnet 147.44 340 ePKPbc PKPab 10 23 56.9 +0.3
C09A Chrisman Ranch 152.17 9 ePKPab PKPab 10 24 13.0 -3.0
EGMT Eagleton 152.30 356 ePKPab PKPab 10 24 13.6 -3.0
BSMT Bassoo Peak 152.47 4 ePKPdf PKPdf 10 23 60.0 -0.5
BSMT ePKPbc PKiKP 10 24 08.6 +1.0
BSMT ePKPab PKPab 10 24 16.9 -0.6
SWMT Swartz Lake 152.85 3 ePKPdf PKPdf 10 24 02.1 +1.2
SWMT ePKPbc PKiKP 10 24 08.5 +0.2
SWMT ePKPab PKPab 10 24 16.3 -2.7
TXAR Lajitas Array 168.12 321 PKPab PKPab 10 25 27.2 +1.4
comp=Z,0.3nm,0.8s,baz=132,slow=2.7,SNR=2.4

MOS **23** *10:16:03.6±0.9, 6°.13N×126°.30E, h50km, mb4.9/19, Error ellipse: s-maj=15.6km s-min=7.1km az=113.9*
IDC **23** *10:16:03.6±1.8, 6°.14N×126°.33E, h36km±13km, mb4.2/22, mb1 4.3/23, mb1mx4.2/30, mbtmp4.4/23, ML4.1/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/48, Error ellipse: s-maj=21.6km s-min=10.8km az=74.0*
BJI **23** *10:16:04.7, 6°.02N×126°.30E, h61km, mB4.9/26, mb4.6/40, Ms4.6/15, Ms7 4.3/16*
ISCJB **23** *10:16:05.3±0.4, 6°.20N±0°.02×126°.35E±0°.04, h62km±3km, mb4.5/74, Error ellipse: s-maj=6.1km s-min=3.3km az=166.8*
KLM **23** *10:16:06.0, 6°.37N×126°.47E, h48km, mb4.8, MS5.8*
NEIC **23** *10:16:08.0±1.1, 6°.19N×126°.34E, h74km±9km, mb4.6/18, Error ellipse: s-maj=11.2km s-min=6.9km az=73.0*
NEIC Felt at Davao and San Jose.
MAN **23** *10:16:07, 6°.47N×125°.91E, h1km, mb5.0, ML3.9, MS4.0*
DJA **23** *10:16:14.8±0.8, 6°N±6°×12°6E±°, h10km, M4.8/13, mB5.2/9, mb5.0/13, MLv4.9/4, Mw(mB)4.6/9*
ISC 23 10:16:07.4±0.4, 6°.22N±0°.03×126°.29E±0°.05, h64km±2km, h64km:pP-P, n201, σ1°53/245, mb4.5/74, 12C-9D, Mindanao

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

MATI Mati 0.72 357 eP Pn 10 16 19.2 -3.0
MATI eS Sn 10 16 33.2 +0.1
DAV Davao City (W) 1.10 320 ePn Pn 10 16 25.3 -1.6
DAV eSn Sn 10 16 40.1 -1.3
GSPH General Santos 1.34 264⇓eP Pn 10 16 24.3 -5.8
GSPH eS Sn 10 16 40.4 -6.8
BIPH Bislig 1.96 2⇓iP Pn 10 16 38.3 -0.7
BIPH iS Sn 10 17 03.2 +1.4
BUKP Musuan 2.05 324 eP Pn 10 16 38.4 -1.3
BUKP eS Sn 10 16 59.5 -4.8
CTBH Cotabato--PC H 2.26 296⇑eP Pn 10 16 39.8 -2.7
CTBH eS Sn 10 17 08.6 -0.7
SGSI Sangihe 2.63 197 P Pn 10 16 46.1 -1.4
SGSI S Sn 10 17 12.8 -5.5
CGP Cagayan de Oro 2.73 325⇑iP Pn 10 16 46.6 -2.2
CGP iS Sn 10 17 23.1 +2.3
BUTP Butuan 2.81 346 eP Pn 10 16 50.7 +0.6
PAGZ Pagadian 3.31 299 eP Pn 10 16 55.2 -1.6
MSLP Maasin 4.14 340 eP Pn 10 17 09.6 +1.4
TBP Tagbilaran 4.21 325 eP Pn 10 17 08.3 -0.7
TBP eS Sn 10 17 54.6 -2.4
LLP Lapu-Lapu 4.68 331 eP Pn 10 17 14.6 -1.0
LLP eS Sn 10 18 08.7 +0.2
PLP Palo 5.08 345⇓eP Pn 10 17 21.0 -0.1
TNTI Ternate 5.52 169 P Pn 10 17 28.9 +1.9
275nm,0.8s,3μm0.9nm
TNTI Ternate 5.52 169 ePn Pn 10 17 28.4 +1.4
TNTI eSn Sn 10 18 29.1 0.0
GUIM Jordan 5.71 320 eP Pn 10 17 29.2 -0.4
KMSI Cibinong 6.06 202 P Pn 10 17 37.7 +3.2
438nm,0.9s,1.4nm
RCP Roxas 6.36 327⇑eP Pn 10 17 38.4 -0.2
LBMI Labuha 6.92 170 P Pn 10 17 47.6 +1.4
140nm,0.9s,1μm
MRSI Marisa 7.17 217 P Pn 10 17 47.7 -1.9
137nm,0.9s,1μm
MYLDM Lahad Datu 7.82 263 ePn Pn 10 18 02.2 +3.6
MYLDM Lahad Datu 7.82 263 ⇓P Pn 10 17 58.9 +0.3
LUWI Luwuk 8.02 206 P Pn 10 18 03.7 +2.4
272nm,1.1s,3μm
LUWI Luwuk 8.02 206 ePn Pn 10 18 02.0 +0.7
LUWI eSn Sn 10 19 34.6 +4.0
LUWI Luwuk 8.02 206 P Pn 10 18 03.2 +1.9
baz=8.5,SNR=7.2
SANI Sanana 8.22 182 P Pn 10 18 01.7 -2.3
71nm,0.9s,1μm
I39PW PALAU INFRASON 8.30 80 i 11 10 00.0
baz=269,slow=289,SNR=0.2
APSI Ampana 8.46 213 P Pn 10 18 09.8 +2.4
142nm,1.1s,1μm
TSM Tawau 8.60 258 ⇓P Pn 10 18 09.2 0.0
SDKM Sandakan 9.06 267 ⇑P Pn 10 18 17.0 +1.4
KDM Kudat 9.42 275 ⇑P Pn 10 18 21.2 +0.8
NLAI Namlea 9.43 175 P Pn 10 18 23.1 +2.5
61nm,1.0s,1μm
TGY Tagaytay City 9.44 327 LR LR 10 22 50.4
comp=Z,6.5nm,20.6s,baz=121,slow=43
KKM Kota Kinabalu 10.02 270 ⇑P Pn 10 18 30.5 +1.7
TTSI Tana Toraja 11.24 215 P Pn 10 18 47.8 +2.4
41nm,0.8s,566nm
KAPI Kappang 12.93 210 ePn Pn 10 19 11.3 +2.9
202nm,1.3s
SBUM Sibu 14.52 256 ePn Pn 10 19 29.8 +0.2
SBUM Sibu 14.52 256 ⇓P Pn 10 19 30.7 +1.1
BBKI Banjar Baru 14.94 230 P P 10 19 39.9 +0.7
77nm,1.5s,6μm
STKI Sintang 16.00 248 P P 10 19 53.5 +2.5
BATI Baumata 16.52 189 Pn Pn 10 19 52.3 -2.9
0.7nm,0.3s,baz=126,slow=8.7,SNR=2.0
KSM Kuching 16.62 254 eP P 10 19 59.2 +1.3
41nm,1.1s
KSM Kuching 16.62 254 P P 10 19 59.4 +1.5
baz=17,SNR=6.0
KSM Kuching 16.62 254 ⇑P P 10 19 58.4 +0.5
KDU Kakadu 19.76 162 P P 10 20 31.9 -0.4
baz=20,SNR=4.8
QIZ Qiongzhong 20.46 310 P P 10 20 39.3 -0.7
QIZ sP sP 10 20 58.3 -3.3
QIZ S S 10 24 24.9 -0.7
QIZ sS sS 10 24 47.6 -0.3
QIZ pmax pmax
comp=Z,5.0nm,1.1s
QIZ pmax pmax
comp=Z,46nm,4.6s
QIZ LR LR
comp=N,180nm,18.6s
QIZ LR LR
comp=Z,220nm,20.2s
KNRA Kununurra 21.89 174 P P 10 20 53.8 -1.5
baz=22,SNR=24
UBPT Khong Chiam 22.33 295 P P 10 21 00.3 +0.2
15nm,1.1s
MYKOM Kota Tinggi 22.81 260 eP P 10 21 06.7 +1.5
50nm,1.2s
KTGM Kuala Trenggan 23.05 269 ⇓P P 10 21 08.4 +0.7
FITZ Fitzroy Crossi 24.17 182 eP P 10 21 16.7 -1.2
104nm,2.2s
FITZ Fitzroy Crossi 24.17 182 P P 10 21 16.9 -1.0
baz=25,SNR=7.2
IPM Ipoh 25.21 267 eP P 10 21 26.8 -0.8
43nm,0.7s
KULM Kulim 25.53 269 eP P 10 21 30.5 +0.1
31nm,0.9s
KULM Kulim 25.53 269 ⇑P P 10 21 30.8 +0.4
JCJ Chichijima 25.69 34 LR LR 10 29 39.8
comp=Z,65nm,21.2s,baz=134,slow=32
PMG Port Moresby 25.95 127 LR LR 10 32 29.4
comp=Z,87nm,20.4s,baz=270,slow=38
COEN Coen 26.13 140 P P 10 21 34.7 -1.0
baz=26,SNR=4.4
NJ2 Nanjing 26.62 346 eP P 10 21 39.6 -0.4
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
WHN Wuhan 26.67 337 P P 10 21 43.4 +2.9
PBKT Sadao Pong 26.83 295 P P 10 21 43.2 +1.1
14nm,0.9s,822nm
LOEI Loei 26.90 297 P P 10 21 40.5 -2.2
17nm,0.8s,500nm
WRAB Tennant Creek 27.17 163 eP P 10 21 44.7 -0.4
WRAB pmax pmax
comp=Z,9.0nm,0.7s
WRAB Tennant Creek 27.17 163 eP P 10 21 44.7 -0.4
comp=Z,9.0nm,0.7s
WRA Warramunga Arr 27.18 163 P P 10 21 42.9 -2.3
comp=Z,3.0nm,0.8s,baz=345,slow=10,SNR=13
WRA ScP ScP 10 28 39.8 +0.3
comp=Z,1.4nm,1.0s,baz=340,slow=3.0,SNR=4.7
SURT Suratani 27.39 277 P P 10 21 48.2 +1.1
comp=Z,12nm,0.8s
GYA Guiyang 27.48 319 P P 10 21 47.6 -0.4
GYA pP pP 10 22 03.8 +0.4
GYA sP sP 10 22 12.4 +1.4
GYA PP PnPn 10 22 37.0 +1.1
GYA S S 10 26 22.1 -2.4
GYA SS SnSn 10 27 43.3 +2.9
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.5s
GYA LR LR
comp=Z,480nm,14.8s
GYA LR LR
comp=Z,360nm,15.2s
GYA LR LR
comp=Z,460nm,14.7s
PSI Prapat 27.49 264 P P 10 21 47.4 -0.8
comp=Z,18nm,1.0s,baz=58,slow=3.0,SNR=11
PSI PcP PcP 10 25 02.3 -3.1
comp=Z,5.9nm,0.9s,baz=148,slow=2.0,SNR=4.1
PSI LR LR 10 33 32.7
comp=Z,82nm,20.5s,baz=90,slow=38
PSI Prapat 27.49 264 P P 10 21 48.9 +0.7
baz=28,SNR=7.0
UTTA Uttaradit 27.61 297 P P 10 21 51.1 +2.0
comp=Z,2.5nm,0.8s
PKDT Phuket 27.79 275 P P 10 21 51.8 +1.1
comp=Z,34nm,0.8s
SRDT SRDT 27.90 289 P P 10 21 54.7 +3.0
comp=Z,74nm,0.9s
LAMP Lampang 28.71 298 P P 10 22 01.3 +2.4
comp=Z,4.5nm,0.8s,comp=Z,76nm
GSI Gunungsitoli 29.06 261 eP P 10 22 00.2 -1.8
comp=Z,60nm,0.8s
CMAR Chiang Mai Arr 29.30 297 P P 10 22 04.0 -0.2
comp=Z,3.0nm,0.7s,baz=115,slow=7.1,SNR=20
CMAR PcP PcP 10 25 08.8 -0.9
comp=Z,0.9nm,0.3s,baz=130,slow=0.6,SNR=7.6
CMAR ScP ScP 10 28 47.7 +1.6
comp=Z,1.4nm,0.4s,baz=149,slow=2.0,SNR=4.9
QIS Mount Isa 29.65 154 P P 10 22 06.4 -0.8
baz=30,SNR=12
CMAI Chiengmai2 29.77 300 P P 10 22 12.3 +3.9
comp=Z,13nm,0.9s,comp=Z,4μm
MHMT Maesarieng 30.10 296 P P 10 22 13.1 +1.9
comp=Z,8.4nm,0.8s
ASAR Alice Springs 30.62 166 P P 10 22 14.4 -1.3
comp=Z,1.5nm,0.6s,baz=342,slow=7.1,SNR=37
ASAR PcP PcP 10 25 12.5 -0.5
comp=Z,2.1nm,0.6s,baz=346,slow=2.4,SNR=8.9
ASAR ScP ScP 10 28 51.8 +1.6
comp=Z,1.6nm,0.8s,baz=352,slow=2.5,SNR=11
KSAR Wonju Array Be 31.11 2 P P 10 22 21.1 +1.2
KSAR 10 25 14.2
KSAR Wonju Array Be 31.11 2 P P 10 22 21.1 +1.2
KSAR PcP PcP 10 25 14.2 +0.2
KSAR ScP ScP 10 28 54.2 +2.7
KSRS Korea Array 31.13 3 P P 10 22 21.1 +1.1
comp=Z,1.3nm,0.7s,baz=189,slow=10,SNR=7.0
KSRS PcP PcP 10 25 14.2 +0.2
comp=Z,0.8nm,0.6s,baz=175,slow=3.8,SNR=4.3
KSRS ScP ScP 10 28 54.3 +2.7
comp=Z,0.6nm,0.8s,baz=191,slow=5.1,SNR=2.8
KSRS LR LR 10 34 51.8
comp=Z,50nm,21.9s,baz=207,slow=36
WRKA Warakurna 31.13 176 P P 10 22 19.7 -0.5
baz=32,SNR=10
XAN Xi'an 32.02 332 P P 10 22 29.4 +1.4
XAN pmax pmax
comp=Z,3.0nm,0.7s
XAN pmax pmax
comp=Z,19nm,6.8s
CD2 Chengdu 32.41 322 eP P 10 22 32.3 +0.9
CD2 pP pP 10 22 48.1 +1.1
CD2 sP sP 10 22 56.0 +1.5
CD2 PP PnPn 10 23 42.3 +1.9
CD2 PcP PcP 10 25 18.1 +0.4
CD2 S S 10 27 41.1 -0.3
CD2 sS sS 10 28 08.6 +0.5
CD2 SS SnSn 10 29 40.5 +0.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.4s
MEEK Meekatharra 33.50 193 P P 10 22 38.7 -2.2
baz=34,SNR=8.9
BJI Beijing 34.88 346 P P 10 22 52.0 -0.7
BJI pmax pmax
comp=Z,8.0nm,0.5s
BJI pmax pmax
comp=Z,82nm,3.5s
SNY Shenyang 35.54 357 ⇓P P 10 22 59.8 +1.5
SNY pmax pmax
comp=Z,11nm,1.2s
LZH Lanzhou 36.16 328 eP P 10 23 11.8 +7.9
LZH pP pP 10 23 28.3 +8.6
LZH sP sP 10 23 35.5 +8.3
LZH ePP PP 10 24 38.6 +11
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,76nm,5.0s
LZH LR LR
comp=N,380nm,12.7s
LZH LR LR
comp=E,370nm,13.0s
LZH LR LR
comp=Z,500nm,17.6s
HHC Hu-ho-hao-te 36.91 341 eP P 10 23 11.8 +1.6
HHC pP pP 10 23 21.8 -4.2
HHC S S 10 28 52.4 +1.7
HHC sS sS 10 29 18.3 +0.7
HHC pmax pmax
comp=Z,41nm,0.7s
HHC pmax pmax
comp=Z,200nm,4.0s
HHC LR LR
comp=Z,420nm,14.6s
HHC LR LR
comp=Z,280nm,13.3s
HHC LR LR
comp=Z,280nm,16.1s
QLP Quilpie 36.96 153 P P 10 23 09.4 -1.2
baz=37,SNR=4.4
BLDU Ballidu 37.76 194 P P 10 23 15.3 -2.1
baz=38,SNR=6.9
USRK Ussuriysk Arra 38.16 7 P P 10 23 18.6 -2.0
comp=Z,1.9nm,0.7s,baz=176,slow=11,SNR=7.7
MDJ Mudanjiang 38.36 4 P P 10 23 21.1 -1.1
MDJ pmax pmax
comp=Z,5.0nm,1.6s
MDJ pmax pmax
comp=Z,35nm,3.6s
NWAO Narrogin (SRO) 39.87 192 P P 10 23 32.2 -2.7
comp=Z,22nm,1.1s,baz=354,slow=9.6,SNR=4.4
BBOO Buckleboo 39.91 167 eP P 10 23 34.8 -0.5
comp=Z,1μm,1.6s
BBOO Buckleboo 39.91 167 P P 10 23 34.7 -0.7
baz=40,SNR=8.9
STKA Stephens Creek 40.60 160 eP P 10 23 40.6 -0.4
STKA 10 25 41.8
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 40.60 160 P P 10 23 39.6 -1.4
comp=Z,8.8nm,0.7s,baz=335,slow=7.4,SNR=23
STKA PcP PcP 10 25 41.8 -0.3
comp=Z,6.8nm,0.7s,baz=341,slow=5.4,SNR=5.6
STKA ScP ScP 10 29 28.8 +2.5
comp=Z,1.9nm,1.0s,baz=281,slow=8.5,SNR=3.2
STKA Stephens Creek 40.60 160 eP P 10 23 40.6 -0.4
comp=Z,2.3nm,0.8s
STKA PcP PcP 10 25 41.8 -0.3
STKA ScP ScP 10 29 28.8 +2.5
STKA Stephens Creek 40.60 160 P P 10 23 40.4 -0.7
baz=41,SNR=16
GTA Gaotai 40.76 328 eP P 10 23 44.8 +2.3
GTA pP pP 10 24 00.6 +2.1
GTA sP sP 10 24 07.3 +1.5
GTA PcP PcP 10 25 45.3 +2.5
GTA S S 10 29 51.8 +3.1
GTA sS sS 10 30 17.4 +1.6
GTA SS SS 10 32 49.4 -2.3
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,36nm,5.7s
GTA LR LR
comp=Z,390nm,17.1s
GTA LR LR
comp=Z,330nm,15.7s
GTA LR LR
comp=Z,330nm,15.2s
HTT Hallett 41.21 164 P P 10 23 45.5 -0.6
baz=42,SNR=7.4
H11N1 WAKE ISLAND Hy 41.65 67 T T 11 08 50.8
baz=266,slow=74,SNR=40
H11N2 WAKE ISLAND Hy 41.66 67 T T 11 08 51.3
baz=266,slow=74,SNR=25
H11N3 WAKE ISLAND Hy 41.67 67 T T 11 08 52.2
baz=266,slow=74,SNR=24
TAPN Taplejung 42.23 304 eP P 10 23 55.2 +0.3
comp=Z,19nm,0.9s
TAPN Taplejung 42.23 304 eP P 10 23 55.2 +0.3
ODAN Odare 42.31 304 eP P 10 23 55.9 +0.4
comp=Z,14nm,0.5s
ODAN Odare 42.31 304 eP P 10 23 55.9 +0.4
RAMN Ramite 42.99 303 eP P 10 24 01.3 +0.2
comp=Z,20nm,0.8s
RAMN Ramite 42.99 303 eP P 10 24 01.3 +0.2
JIRN Jiri 43.59 304 eP P 10 24 05.7 -0.3
comp=Z,15nm,0.8s
JIRN Jiri 43.59 304 eP P 10 24 05.7 -0.3
ARMA Armidale 43.78 148 P P 10 24 07.2 +0.1
baz=44,SNR=5.7
GUN Gumba 43.94 304 eP P 10 24 08.3 -0.5
comp=Z,27nm,0.8s
GUN Gumba 43.94 304 eP P 10 24 08.3 -0.5
PKI Pulchoki 44.21 304 eP P 10 24 11.2 +0.3
PKI Pulchoki 44.21 304 eP P 10 24 11.2 +0.3
PKI Pulchoki 44.21 304 eP P 10 24 11.2 +0.3
KKN Kakani 44.39 304 eP P 10 24 12.3 +0.1
KKN Kakani 44.39 304 eP P 10 24 12.3 +0.1
KKN Kakani 44.39 304 eP P 10 24 12.3 +0.1
DMN Daman 44.47 303 eP P 10 24 12.7 -0.2
DMN Daman 44.47 303 eP P 10 24 12.7 -0.2
ULN Ulaanbaatar 44.63 342 eP P 10 24 14.7 +1.0
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 44.63 342 eP P 10 24 14.7 +1.0
comp=Z,5.0nm,0.9s
SONM Songino Array 44.82 341 P P 10 24 14.5 -0.7
comp=Z,1.3nm,0.9s,baz=163,slow=7.7,SNR=6.4
SONM PcP PcP 10 25 56.0 -0.1
comp=Z,2.0nm,0.7s,baz=156,slow=4.6,SNR=6.3
SONM ScP ScP 10 29 46.3 +3.1
comp=Z,0.7nm,0.8s,baz=163,slow=1.5,SNR=2.9
KOLN Koldanda 45.78 303 eP P 10 24 22.8 -0.4
comp=Z,19nm,0.8s
KOLN Koldanda 45.78 303 eP P 10 24 22.8 -0.4
DANN Dangsing 45.85 304 eP P 10 24 23.3 -0.6
comp=Z,16nm,0.7s
DANN Dangsing 45.85 304 eP P 10 24 23.3 -0.6
PYUN Piuthan 46.40 303 eP P 10 24 27.8 -0.3
comp=Z,18nm,0.6s
PYUN Piuthan 46.40 303 eP P 10 24 27.8 -0.3
ZAK Zakamensk 48.05 340 eP P 10 24 41.8 +1.4
ZAK e 10 26 07.3
ZAK pmax pmax
comp=Z,2.0nm,1.0s
DZM Mont Dzumac 48.34 127 LR LR 10 43 34.1
comp=Z,59nm,19.0s,baz=331,slow=34
TLY Talaya 49.05 341 eP P 10 24 48.0 0.0
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,226nm,18.0s
WMQ Urumqi 50.45 324 eP P 10 24 59.3 +0.4
WMQ pP pP 10 25 14.9 -0.4
WMQ sP sP 10 25 22.0 -0.6
WMQ PcP PcP 10 26 17.3 +1.0
WMQ PP PP 10 26 56.5 +1.4
WMQ ScP ScP 10 30 06.4 -0.6
WMQ S S 10 32 06.8 -1.2
WMQ sS sS 10 32 33.6 -2.3
WMQ SS SS 10 35 38.1 -4.6
WMQ pmax pmax
comp=Z,8.0nm,0.6s
WMQ pmax pmax
comp=Z,130nm,4.8s
WMQ LR LR
comp=Z,860nm,15.8s

WMQ LR LR
comp=Z,610nm,12.8s
WMQ LR LR
comp=Z,450nm,24.6s
BOD Bodaibo 52.35 352 *e*P **P 10 25 12.8 +0.1**
BOD pmax pmax
comp=Z,4.0nm,1.5s
PETK Petropavlovsk- 53.32 23 P **P 10 25 19.7 -0.2**
comp=Z,1.1nm,0.7s,baz=217,slow=6.9,SNR=3.8
MK31 Makanchi Array 55.28 325 *e*P **P 10 25 34.0 -0.3**
MK31 Makanchi Array 55.28 325 *e*P **P 10 25 34.0 -0.3**
MKAR Makanchi Array 55.28 325 P **P 10 25 33.9 -0.5**
comp=Z,3.5nm,0.5s,baz=127,slow=7.9,SNR=30
YAK Yakutsk 55.75 2 *e*P **P 10 25 37.5 +0.1**
YAK *e**PP **pP 10 25 54.6 +0.5**
YAK *e* 10 26 34.3
YAK *e* 10 27 42.1
YAK *e*PPP PPP 10 28 56.1
YAK *e*S **S 10 33 14.8 -4.4**
YAK *e* 10 35 21.2
YAK *e*SS **SS 10 37 01.9 -3.5**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=Z,104nm,5.6s
YAK pmax pmax
comp=N,42nm,4.2s
YAK pmax pmax
comp=E,67nm,4.6s
YAK smax smax
comp=N,70nm,3.5s
YAK smax smax
comp=E,67nm,4.1s
YAK Yakutsk 55.75 2 *e*P **P 10 25 38.1 +0.8**
comp=E,26nm,0.8s
KSH Kashi 55.99 314 *e*P **P 10 25 42.6 +2.9**
KSH *e*pP **pP 10 25 58.1 +1.7**
TKM2 Tokmak 2 57.61 318 *e*P **P 10 25 52.0 +0.7**
TKM2 pmax pmax
comp=Z,2.0nm,0.9s
TKM2 Tokmak 2 57.61 318 *e*P **P 10 25 52.0 +0.7**
comp=Z,2.4nm,0.9s
ZAA0 Zalesovo Array 58.19 333 *e*P P 10 25 50.1 -4.7
AAK Ala-Archa 58.24 317 *e*P **P 10 25 56.7 +1.1**
AAK pmax pmax
comp=Z,3.0nm,1.2s
EKS2 Erkin-Say 58.74 317 *e*P **P 10 25 58.2 -0.8**
EKS2 pmax pmax
comp=Z,5.0nm,0.9s
EKS2 Erkin-Say 58.74 317 *e*P **P 10 25 58.2 -0.8**
comp=Z,4.8nm,0.9s
KURBB Kurchatov Arra 59.42 327 P **P 10 26 03.0 -0.5**
comp=Z,3.9nm,0.7s,baz=126,slow=6.0,SNR=42
KURK Kurchatov 59.42 327 P **P 10 26 03.0 -0.4**
KURK Kurchatov 59.42 327 P **P 10 26 03.0 -0.4**
BVAR Borovoye Array 65.01 327 P **P 10 26 41.8 +1.0**
comp=Z,4.6nm,0.7s,baz=121,slow=7.8,SNR=20
BRVK Borovoye 65.08 327 *e*P **P 10 26 42.9 +1.7**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 65.38 1 *e*P **P 10 26 43.2 +0.4**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
TIXI Tiksi 65.38 1 *e*P **P 10 26 41.7 -1.0**
comp=Z,6.4nm,0.8s
BILL Bilibino 67.28 15⇑*i*P **P 10 26 54.9 -0.1**
BILL pmax pmax
comp=Z,2.0nm,1.2s
ABKAR Akbulak array 69.96 320 *e*P **P 10 27 11.4 -0.7**
comp=Z,1.9nm,0.6s
AKTO Aktyubinsk 71.45 321 P **P 10 27 21.6 +0.5**
comp=Z,5.1nm,0.9s,baz=107,slow=7.6,SNR=15
SVE Sverdlovsk 71.63 328 *e*P **P 10 27 23.5 +1.5**
ARU Arti 72.61 327*c i*P **P 10 27 28.5 +0.6**
ARU 10 30 05.7
ARU S **S 10 36 51.0 +3.1**
ARU SS **SS 10 41 27.7 -0.3**
ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 72.61 327 *e*P **P 10 27 28.3 +0.3**
comp=Z,4.5nm,0.6s
KDAK Kodiak Island 80.04 33*ce*P **P 10 28 10.3 +0.4**
PRGR Permogore 80.12 331 P **P 10 28 13.2 +2.9**
PRGR pmax pmax
comp=Z,11nm,0.9s
ZEI Tsey 80.22 312 *e*P **P 10 28 11.5 -0.1**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
COLD Coldfoot 81.79 23 *e*P **P 10 28 19.7 +0.6**
comp=Z,5.5nm,0.9s
VRHR Novokhopersk 81.85 321 *e*P **P 10 28 19.4 -0.3**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,8.0nm,0.8s
MCK McKinley 82.15 27 *e*P **P 10 28 20.8 -0.3**
MCK pmax pmax
comp=Z,8.0nm,0.8s
MCK McKinley 82.15 27 *e*P **P 10 28 20.8 -0.3**
comp=Z,8.2nm,0.8s
ILAR Eielson Array 83.06 26 P **P 10 28 24.8 -1.1**
comp=Z,1.3nm,0.6s,baz=247,slow=5.3,SNR=19
VORD Divnogorie 83.32 321 *e*P **P 10 28 27.5 +0.1**
VORD pmax pmax
comp=N,250nm,0.7s
VORD pmax pmax
comp=E,120nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 83.39 321 *e*P **P 10 28 27.9 +0.1**
VSR pmax pmax
comp=E,4.0nm,0.9s
VSR pmax pmax
comp=Z,7.0nm,0.9s
VSR pmax pmax
comp=N,1.0nm,0.7s
MENT Mentasta 84.51 27 *e*P **P 10 28 33.9 +0.6**
OBN Obninsk 84.79 325⇓*e*P **P 10 28 36.0 +1.2**
OBN pmax pmax
comp=Z,29nm,2.5s
OBN Obninsk 84.79 325 LR LR 11 07 07.7
comp=Z,288nm,20.4s,baz=167,slow=36
VNDA Vanda 85.93 173 P **P 10 28 38.4 -1.6**
comp=Z,2.8nm,0.8s,baz=320,slow=5.0,SNR=5.3
ARCES ARCESS Array B 87.98 340 P **P 10 28 48.8 -1.3**
comp=Z,7.5nm,1.0s,baz=90,slow=4.9,SNR=8.8
BRTR Keskin Array B 88.11 310 P P 10 28 48.4 -3.2
comp=Z,0.5nm,0.8s,baz=84,slow=3.8,SNR=3.8
FINES FINESS Array B 89.45 332 P **P 10 28 56.7 -0.5**
comp=Z,1.0nm,0.5s,baz=84,slow=5.9,SNR=8.4
AKASG Malin Array Be 89.70 321 P **P 10 28 57.8 -0.8**
comp=Z,2.0nm,0.9s,baz=68,slow=4.6,SNR=4.9
KIEV Kiev 89.71 321 *e*P **P 10 28 57.1 -1.6**
KIEV pmax pmax
comp=Z,8.0nm,1.3s
KIEV Kiev 89.71 321 *e*P **P 10 28 57.1 -1.6**
comp=Z,7.9nm,1.3s
SYO Syowa Base 94.57 201⇑*e*P P 10 29 14.2 -6.5
DAG Danmarks Havn 94.75 352 *i* P **P 10 29 20.1 -1.3**
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 94.75 352 *i* P **P 10 29 20.1 -1.3**
comp=Z,4.3nm,0.9s
CRVS Cervenica-Dubn 94.99 320 *e*P **P 10 29 25.1 +1.9**
CRVS Cervenica-Dubn 94.99 320 *e* **P 10 29 25.1 +1.9**
STHS Stebnicka Huta 95.00 321 *e*P **P 10 29 22.0 -1.2**
STHS Stebnicka Huta 95.00 321 *e*P **P 10 29 22.0 -1.2**
STHS *e* 10 29 27.2
HFS Hagfors 95.63 332 P **P 10 29 25.9 +0.1**
comp=Z,10nm,1.3s,baz=120,slow=8.8,SNR=4.4
NOA NORSAR Array B 96.38 334 P **P 10 29 27.8 -1.4**
comp=Z,0.9nm,0.8s,baz=64,slow=4.7,SNR=3.4
YKA Yellowknife Ar 97.43 24 P **P 10 29 33.2 -0.6**
comp=Z,0.8nm,0.8s,baz=299,slow=4.6,SNR=12
DBIC Dimbokro 129.60 284 PKP **PKPdf 10 35 10.1 -0.2**
comp=Z,4.1nm,0.9s,baz=62,slow=3.5,SNR=3.6
JTS JuntasAbangare 144.83 62 PKP **PKPab 10 35 37.2 -0.2**
comp=Z,5.9nm,0.8s,baz=302,slow=4.3,SNR=8.5
TRQA Tornquist 147.43 168 *e*PKPbc **PKPbc 10 35 44.0 -0.6**
CFAA Coronel Fontan 151.32 154 PKPbc **PKPbc 10 35 54.5 -0.1**
comp=Z,1.8nm,0.7s,baz=222,slow=2.6,SNR=25
LPAZ La Paz 162.69 127 PKP **PKPdf 10 36 03.9 -0.2**

comp=Z,1.4nm,0.8s,baz=123,slow=3.4,SNR=6.7

IDC 23 10:25:16.2±2.3, 54.25N×86.08E, h0km, mb1 3.5/2, mb1mx3.2/50, mbtmp3.5/2, ML3.5/2, 2C-2D, Error ellipse: s-maj=18.6km s-min=10.1km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.80**	**249**	*i*		10 30 20.0	
	baz=67,slow=346,SNR=15						
ZALV	**Zalesovo Beam**	**0.80**	**249**	Pg	Pg	10 25 29.9	-1.8
	2.5nm,0.3s,baz=70,slow=17,SNR=43						
ZALV				Lg	Lg	10 25 43.3	
	16nm,0.3s,baz=69,slow=29,SNR=58						
KURK	**Kurchatov**	**5.77**	**235**	⇓Pn	Pg	10 27 17.9	+11
	2.0nm,1.0s						
KURK				⇑Sn	Sn	10 27 44.5	-5.4
	3.5nm,0.6s						
KURBB	**Kurchatov Arra**	**5.87**	**235**	⇓Pn	Pg	10 27 17.4	+8.6
	3.9nm,0.3s,baz=300,slow=17						
KURBB				⇑Sn	Sn	10 27 43.9	-8.5
	12nm,0.5s,baz=308,slow=29						
KURBB	**Kurchatov Arra**	**5.87**	**235**	Pn	Pn	10 26 45.7	+1.3
	1.3nm,0.3s,baz=52,slow=13,SNR=18						
MKAR	**Makanchi Array**	**7.84**	**199**	Pn	Pn	10 27 12.2	+0.7
	0.8nm,0.3s,baz=21,slow=13,SNR=17						
MKAR				Sn	Sn	10 28 40.8	-0.2
	0.2nm,0.3s,baz=23,slow=30,SNR=5.1						
MKAR				Lg	Lg	10 29 26.5	
	0.2nm,0.3s,baz=25,slow=32,SNR=5.2						

CSEM ***23*** *10:25:53.6±0.1, 32.54N×48.29E, h10km, mb5.1/99, Ms4.1, Mw5.2, Error ellipse: s-maj=3.2km s-min=2.3km az=11.0*
SGS ***23*** *10:25:54.1, 32.66N×48.34E, h13km*
ISN ***23*** *10:25:54.6±2.6, 32.53N×47.79E, h0km±8km, ML4.8*
SZGRF ***23*** *10:25:54.5, 32.80N×48.94E, h33km, mb5.1, MS4.1, Western Iran*
TEH ***23*** *10:25:54.9, 32.56N×48.26E, h6km, ML5.2*
NSSC ***23*** *10:25:54.2±3.9, 33.29N×47.89E, h394km±212km*
ISCJB ***23*** *10:25:55.0±0.2, 32.42N±0.02×48.30E±0.01, h40km±2km, mb5.0/195, MS4.6/48, Error ellipse: s-maj=2.7km s-min=1.9km az=24.2*
BJI ***23*** *10:25:55.9, 32.60N×48.30E, h69km, mB5.1/42, mb4.8/58, Ms5.1/46, Ms7 4.9/41*
THR ***23*** *10:25:55.0±0.9, 32.58N×48.37E, h14km±9km, ML4.7*
IDC ***23*** *10:25:55.7±1.4, 32.57N×48.33E, h25km±8km, mb4.5/35, mb1 4.5/43, mb1mx4.5/45, mbtmp4.6/43, ML3.0/2, MS4.5/26, Ms1 4.5/26, ms1mx4.3/53, Error ellipse: s-maj=9.1km s-min=7.9km az=142.0*
GCMT ***23*** *10:25:56.8±0.2, 32.60N×48.21E, h16km, MW5.2/75, Moment Tensor Solution. s42,c54; s75,c132; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.45±.23; Mθθ-6.27±.18; Mφφ0.82±.17; Mrθ-1.26±.51; Mrφ3.25±.15; Mθr1.90±.60; Best double couple: Mo6.96500×10¹⁶ NP1:φs307.00000°, δ55.00000°, λ111.00000°. NP2: φs93.00000°, δ40.00000°, λ62.00000°. Principal axes: T 6.1310, Plg71.0000°, Azm268.0000°; N 1.6710, Plg18.0000°, Azm115.0000°; P -7.8000, Plg8.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *10:25:56.9±0.2, 32.51N×48.29E, h35km, mb5.2/72, ML4.7(THR), MN5.2(TEH) Error ellipse: s-maj=4.9km s-min=3.0km az=185.0*
NEIC Felt [IV] at Al 'Amarah and [II] at Al Basrah and Baghdad, Iraq. Also felt at An Nasiriyah. Felt [III] at Abadan and Eshafan, Iran. Also felt at Ahvaz, Dezful and Ilam. Felt [II] at Kuwait, Kuwait. Also felt at Abdulla al-Salem and Salwa.
MOS ***23*** *10:25:58.2±1.0, 32.61N×48.30E, h64km, mb5.2/73, MS4.5/25, Error ellipse: s-maj=5.4km s-min=2.9km az=122.2*

ISC 23 10:25:56.7±0.3, 32.49N±0.03×48.38E±0.03, h36km±1km, h36km:pP-P, n1180, σ1.43/1265, mb5.1/195, MS4.5/51, 128C-19D, Western Iran

Code Station Name Δ° AZ° Phase Op ID ISC Time h m s Res ISC
SHGR Shooshtar-Gavs 0.52 137 *e*Pg **Pn 10 26 06.9 -0.7**
SHGR Shooshtar-Gavs 0.52 137 *e*Pg **Pn 10 26 06.6 -1.1**
41μm,0.6s
SHGR Shooshtar-Gavs 0.52 137 *e*Pg **Pn 10 26 06.6 -1.1**
SHGR AML AML 10 26 29.0
comp=E,54μm,0.8s
SHGR AML AML 10 26 29.7
comp=N,41μm,0.6s
IKMR Kamar-syah 1.03 360 *e*Pg Pn 10 26 11.0 -3.6
IKMR *e*Sg **Sn 10 26 24.3 -3.4**
IKMR Kamar-syah 1.03 360 *e*Pg Pn 10 26 11.0 -3.6
IKMR *e*Sg **Sn 10 26 24.3 -3.4**
IKFM Kafar-mosalman 1.13 337 *e*Pg **Pn 10 26 13.1 -2.8**
IKFM Kafar-mosalman 1.13 337 *e*Pg **Pn 10 26 13.1 -2.8**
IDOB Doab 1.31 352 *e*Pg **Pn 10 26 16.1 -2.6**
IDOB Doab 1.31 352 *e*Pg **Pn 10 26 16.1 -2.6**
KHMZ Khomeyn 1.82 46 *e*Pg **Pn 10 26 27.4 +1.7**
KHMZ Khomeyn 1.82 46 *e*Pg **Pn 10 26 27.4 +1.7**
IKOM Komasi 1.83 337 *e*Pn **Pn 10 26 26.8 +1.0**
IKOM *e* 10 26 58.7
comp=Z,25μm,0.3s
IKOM Komasi 1.83 337 *e*Pn **Pn 10 26 26.8 +1.0**
IBZA Bozab 2.02 348 *e*Pn **Pn 10 26 28.5 -0.1**
IBZA *e*Sg **Sn 10 26 55.0 +2.3**
IBZA *e* 10 27 03.5
comp=Z,14μm,0.3s
IBZA Bozab 2.02 348 *e*Pn **Pn 10 26 28.5 -0.1**
IBZA *e*Sg **Sn 10 26 55.0 +2.3**
IPIR Pirpir 2.13 84 *e*Pn **Pn 10 26 32.8 +2.8**
IPIR *e* 10 27 09.8
comp=Z,7μm,0.3s
IPIR Pirpir 2.13 84 *e*Pn **Pn 10 26 32.8 +2.8**
IBDR Badra 2.16 287 *e*PG **Pn 10 26 32.6 +2.5**
IBDR *e*SG **Sn 10 26 59.1 +3.5**
IGHG Ghaleghazi 2.38 321 *e*Pn **Pn 10 26 32.7 -0.7**
IGHG *e* 10 27 21.5
comp=Z,70μm,0.3s
IGHG Ghaleghazi 2.38 321 *e*Pn **Pn 10 26 32.7 -0.7**
NSR Nassriya 2.41 233 *e*Pg Pn 10 26 38.0 +4.3
SNR=90
NSR *e*Sg Sn 10 27 10.0 +8.1
SNR=90
NSR Nassriya 2.41 233 *e*Pg Pn 10 26 38.0 +4.3
NSR *e*Sg Sn 10 27 10.0 +8.1
ILIN Lien 2.70 334 *e*Pn **Pn 10 26 36.3 -1.5**
ILIN *e* 10 27 23.3
comp=Z,26μm,0.4s
ILIN Lien 2.70 334 *e*Pn **Pn 10 26 36.3 -1.5**
SNGE Sanandaj 2.74 342 *e*Pn **Pn 10 26 40.9 +2.5**
SNGE Sanandaj 2.74 342 *e*Pn **Pn 10 26 39.3 +1.0**
SNGE Sanandaj 2.74 342 *e*Pn **Pn 10 26 39.3 +1.0**
IDHR Dehrash 2.76 323 *e*Pn **Pn 10 26 38.4 -0.3**
IDHR *e* 10 27 26.2
comp=Z,41μm,0.2s
IDHR Dehrash 2.76 323 *e*Pn **Pn 10 26 38.4 -0.3**
IKLH Kolahrood 2.81 72 *e*Pn **Pn 10 26 41.5 +2.2**
IKLH *e* 10 27 38.4
comp=Z,43μm,0.3s
IKLH Kolahrood 2.81 72 *e*Pn **Pn 10 26 41.6 +2.2**
GHVR GHOM 3.14 50 *e*Pn **Pn 10 26 45.4 +1.7**
GHVR GHOM 3.14 50 *e*Pn **Pn 10 26 45.4 +1.7**
comp=Z,3μm,0.9s
GHVR GHOM 3.14 50 *e*Pn **Pn 10 26 45.4 +1.7**
GHVR AML AML 10 27 43.7
comp=E,3μm,0.9s
IZEF Zefreh 3.35 82 *e*Pn **Pn 10 26 49.1 +2.2**
IZEF *e* 10 27 45.0
comp=Z,16μm,0.5s
IZEF Zefreh 3.35 82 *e*Pn **Pn 10 26 49.1 +2.2**
BHD Baghdad 3.46 284 *e*Pg Pn 10 27 00.0 +12
SNR=90
BHD *e*Sg Sn 10 27 45.8 +18
SNR=90
BHD Baghdad 3.46 284 *e*PG Pn 10 27 00.0 +12
BHD *e*SG Sn 10 27 45.8 +18
IR3 Iran Long-Peri 3.70 36 *e*Pn **Pn 10 26 52.4 +0.9**
IR3 Iran Long-Peri 3.70 36 *e*Pn **Pn 10 26 52.4 +0.9**
IMHD Mahdasht 3.71 30 *e*Pn **Pn 10 26 53.1 +1.5**
IMHD *e* 10 28 01.7
comp=Z,16μm,0.4s

IMHD Mahdasht 3.71 30 *e*Pn **Pn 10 26 53.1 +1.5**
IVRN Varamin 3.74 47 *e*Pn **Pn 10 26 53.3 +1.3**
IVRN Varamin 3.74 47 *e*Pn **Pn 10 26 53.3 +1.3**
NASN Na'in 3.75 84 *e*Pn **Pn 10 26 54.7 +2.4**
NASN Na'in 3.75 84 *e*Pn **Pn 10 26 54.7 +2.4**
comp=Z,608nm,0.5s
NASN Na'in 3.75 84 *e*Pn **Pn 10 26 54.7 +2.4**
NASN AML AML 10 27 57.5
comp=E,962nm,0.9s
NASN AML AML 10 27 59.1
comp=N,608nm,0.5s
IKAZ Kazeroun 4.01 131 *e*Pn **Pn 10 26 57.8 +1.8**
IKAZ *e* 10 28 18.8
comp=Z,34μm,0.4s
IKAZ Kazeroun 4.01 131 *e*Pn **Pn 10 26 57.7 +1.8**
CHTH Charan 4.10 33 *e*Pn **Pn 10 26 58.3 +1.2**
CHTH Charan 4.10 33 *e*Pn **Pn 10 26 58.3 +1.2**
IGZV Ghazvin 4.17 21 *e*Pn **Pn 10 26 58.5 +0.4**
IGZV Ghazvin 4.17 21 *e*Pn **Pn 10 26 58.5 +0.4**
ZNJK Zanjan 4.18 3 *e*Pn **Pn 10 26 59.9 +1.8**
ZNJK Zanjan 4.18 3 *e*Pn **Pn 10 26 59.7 +1.5**
ZNJK Zanjan 4.18 3 *e*Pn **Pn 10 26 59.7 +1.5**
KFJS 4.30 185 P **Pn 10 27 02.0 +2.3**
KFJS 4.30 185 P **Pn 10 27 01.9 +2.1**
IDMV Damavand 4.32 44 *e*Pn **Pn 10 27 01.3 +1.1**
IDMV *e* 10 28 20.9
comp=Z,47μm,0.8s
IDMV Damavand 4.32 44 *e*Pn **Pn 10 27 01.3 +1.1**
DAMV Damavand 4.32 43 *e*Pn **Pn 10 27 01.3 +1.1**
comp=Z,714nm,0.7s
DAMV Damavand 4.32 43 *e*Pn **Pn 10 27 01.3 +1.1**
DAMV AML AML 10 28 23.0
comp=E,871nm,0.6s
DAMV AML AML 10 28 23.0
comp=N,714nm,0.7s
ISAD Sadrabad 4.53 96 *e*Pn **Pn 10 27 05.2 +2.1**
ISAD Sadrabad 4.53 96 *e*Pn **Pn 10 27 05.2 +2.1**
IPAR Pars 4.79 122 *e*Pn **Pn 10 27 08.2 +1.5**
IPAR Pars 4.79 122 *e*Pn **Pn 10 27 08.2 +1.5**
IFIR Firoozkooh 4.80 48 *e*Pn **Pn 10 27 07.8 +1.0**
IFIR Firoozkooh 4.80 48 *e*Pn **Pn 10 27 07.8 +1.0**
ICHK Chekchek 5.10 91 *e*Pn **Pn 10 27 12.7 +1.8**
ICHK Chekchek 5.10 91 *e*Pn **Pn 10 27 12.7 +1.8**
ISRV Sarvestan 5.11 126 *e*Pn **Pn 10 27 13.1 +2.0**
ISRV Sarvestan 5.11 126 *e*Pn **Pn 10 27 13.1 +2.0**
IMEH Mehriz 5.41 100 *e*Pn **Pn 10 27 16.8 +1.7**
IMEH *e* 10 28 54.0
comp=Z,3μm,0.5s
IMEH Mehriz 5.41 100 *e*Pn **Pn 10 27 16.8 +1.7**
MSL Mosul 5.85 313 *e*Pn **Pn 10 27 19.0 -1.9**
*e*SN Sn 10 28 18.8 -7.8
ASYS 6.08 216 P **Pn 10 27 24.0 -0.1**
ASYS S **Sn 10 28 31.0 -1.5**
ASYS 6.08 216 P **Pn 10 27 23.6 -0.5**
BOQSS 6.65 172 P **Pn 10 27 33.0 +1.0**
BOQSS S **Sn 10 28 47.0 +0.4**
BOQSS 6.65 172 S **Sn 10 28 46.7 +0.1**
BOQSS 6.65 172 P **Pn 10 27 32.7 +0.7**
RTB Rutbah 6.82 277 *e*Pn Pn 10 27 31.2 -3.1
SNR=39
RTB Rutbah 6.82 277 *e*PN Pn 10 27 31.2 -3.1
RTB *e*SN Sn 10 28 38.9 -12
SIRT Sirnak 6.98 317 *e*P **Pn 10 27 35.2 -1.4**
SIRT Sirnak 6.98 317 *e*P **Pn 10 27 35.2 -1.4**
MZRK Al-Mazaregh 7.22 300 *e*P **Pn 10 27 40.3 +0.6**
MZRK *e*S **Sn 10 28 56.1 -4.4**
MZRK Al-Mazaregh 7.22 300 *e*P **Pn 10 27 40.3 +0.6**
SNR=118
VANB Van 7.33 328 *e*P **Pn 10 27 41.7 +0.4**
VANB Van 7.33 328 *e*P **Pn 10 27 41.7 +0.4**
MAKU Maku 7.48 337 *e*Pn **Pn 10 27 46.0 +2.5**
KBSD Kabsdagh 7.87 307 *e*P **Pn 10 27 46.9 -1.7**
KBSD *e*S Sn 10 29 05.5 -11
KBSD Kabsdagh 7.87 307 *e*P **Pn 10 27 46.9 -1.7**
SNR=116
SFNV Sufian 7.88 302 *e*P **Pn 10 27 46.8 -2.0**
SFNV *e*S Sn 10 29 10.1 -6.6
SFNV Sufian 7.88 302 *e*P **Pn 10 27 46.8 -2.0**
SNR=115
SLWS 7.92 165 P **Pn 10 27 51.0 +1.7**
SLWS 7.92 165 S **Sn 10 29 16.1 -1.5**
SLWS 7.92 165 P **Pn 10 27 50.6 +1.3**
SVAN Silvan-Diyarba 8.14 316 *e*P Pn 10 27 57.1 +4.7
GNI Garni 8.19 340 *e*Pn Pn 10 27 57.5 +4.3
GNI Garni 8.19 340 Pn **Pn 10 27 54.3 +1.2**
comp=Z,0.4nm,0.3s,baz=166,slow=19,SNR=2.5
GNI Lg Lg 10 30 17.7
comp=Z,0.9nm,0.3s,baz=5.2,slow=6.5,SNR=3.7
GNI LR LR 10 31 43.4
comp=Z,4μm,20.9s,baz=154,slow=43
GNI Garni 8.19 340 *e*Pn **Pn 10 27 52.1 -1.1**
GNI *e*Sn **Sn 10 29 25.7 +1.2**
GNI Lg Lg 10 30 17.8
GNI Garni 8.19 340 *e*Pn **Pn 10 27 52.1 -1.1**
GNI *e*Sn **Sn 10 29 25.7 +1.2**
MNKR ALMNKUR 8.29 297 *e*P **Pn 10 27 52.4 -2.1**
MNKR ALMNKUR 8.29 297 *e*P **Pn 10 27 52.4 -2.1**
SNR=114
AGRB Hanur-Agry 8.31 330 *e*P Pn 10 28 00.0 +5.2
BTHS 8.69 165 P **Pn 10 28 00.0 +0.1**
BTHS 8.69 165 S **Sn 10 29 35.2 -1.4**
BTHS 8.69 165 P **Pn 10 28 00.0 +0.1**
KARS Kars 9.17 334 *e*P Pn 10 28 10.1 +3.5
DGRG David-gareji 9.26 346 P Pn 10 28 13.7 +5.9
RAYN Ar Rayn 9.29 197 Pn Pn 10 28 03.3 -4.9
comp=Z,1.0nm,1.0s,SNR=20
RAYN Ar Rayn 9.29 197 *e*Pn Pn 10 28 03.8 -4.4
RAYN *e*Sn **Sn 10 29 51.0 -0.4**
BANOM Banah 9.52 131 P **Pn 10 28 10.7 -0.7**
SNR=32
BANOM P **Pn 10 28 10.9 -0.4**
SNR=7.5
BANOM ⇓S **Sn 10 29 53.6 -3.5**
RABH Abou Rabah 9.54 285 *e*P **Pn 10 28 08.7 -2.9**
RABH Abou Rabah 9.54 285 *e*P **Pn 10 28 08.7 -2.9**
SNR=111
TBLG Delisi 9.67 344 P **Pn 10 28 15.7 +2.4**
AKH Akhalkalaki 9.72 338 P Pn 10 28 17.9 +3.8
ASF Jabal al Asfar 9.72 271 P **Pn 10 28 12.9 -1.3**
ASF 10 30 04.6
ASF pmax pmax
comp=Z,5.0nm,0.3s
ASF smax smax
comp=N,6.0nm,0.3s
ASF Jabal al Asfar 9.72 271 Pn **Pn 10 28 12.9 -1.3**
comp=N,4.6nm,0.3s,baz=62,slow=8.0,SNR=38
ASF Sn **Sn 10 30 04.6 +2.5**
comp=N,6.3nm,0.3s,baz=278,slow=4.4,SNR=3.4
ASF Lg Lg 10 31 06.4
comp=N,10nm,0.3s,baz=114,slow=21,SNR=3.8
UOSS Wadi Hilu 10.18 136 Pn **Pn 10 28 19.1 -1.2**
comp=N,543nm,1.0s,SNR=21
ASHO Ashiyiah 10.29 137 P **Pn 10 28 21.5 -0.5**
SNR=61
ASHO P **Pn 10 28 21.7 -0.2**
SNR=30
ASHO ⇓S **Sn 10 30 13.4 -2.6**
BIDA Albida 10.35 287 *e*P **Pn 10 28 21.1 -1.7**
BIDA Albida 10.35 287 *e*P **Pn 10 28 21.1 -1.7**
SNR=109
GUDG Gudauri 10.43 344 P Pn 10 28 29.2 +5.3
MAK Makhachkala 10.48 356 *e*P **Pn 10 28 25.4 +1.1**
MAK *e*S **Sn 10 30 20.8 +0.5**
MAK pmax pmax
comp=Z,127nm,7.1s
MAK MLR MLR
comp=Z,5μm,11.0s
MAK Makhachkala 10.48 356 *e*P **Pn 10 28 25.4 +1.1**
comp=Z,127nm,7.1s
MAK *e*S **Sn 10 30 20.8 +0.5**
comp=Z,5μm,11.0s
HWQ Hawqa 10.55 283 *e*P Pn 10 28 29.6 +4.1
KMRS Kahramanmaras 10.66 301 *e*P **Pn 10 28 25.3 -1.7**
KMRS Kahramanmaras 10.66 301 *e*P **Pn 10 28 25.3 -1.7**
BHL Bhannes 10.76 281 *e*P **Pn 10 28 30.9 +2.5**
ONI Oni 10.81 340 P Pn 10 28 34.1 +5.1
ARNB Al Arnab 10.82 292 *e*P **Pn 10 28 28.7 -0.4**
ARNB Al Arnab 10.82 292 *e*P **Pn 10 28 28.7 -0.4**
SNR=108
ZEI Tsey 10.88 342 *e*P **Pn 10 28 32.3 +2.3**
ZEI pmax pmax
comp=Z,64nm,1.8s
MMAI Mount Meron Ar 10.94 276 Pn **Pn 10 28 29.9 -1.0**

comp=Z,1.2nm,0.3s,baz=75,slow=17,SNR=4.5
MMAI Sn Sn 10 30 34.7 +2.6
comp=Z,8.0nm,0.3s,baz=94,slow=24,SNR=4.3
MMAI Lg Lg 10 31 46.0
comp=Z,14nm,0.3s,baz=90,slow=39,SNR=4.0
CEYT Ceyhan 11.33 297 eP Pn 10 28 31.3 -4.7
KOZT Kozan 11.44 299 eP Pn 10 28 40.1 +2.6
ARQ Araqi 11.61 140 P Pn 10 28 39.5 -0.5
SNR=58
ARQ P Pn 10 28 40.0 +0.1
SNR=45
SVSK Karacayir 11.80 312 eP Pn 10 28 42.0 -0.5
SVSK Karacayir 11.80 312 eP Pn 10 28 42.0 -0.5
EIL Elat 11.85 260 Pn Pn 10 28 40.9 -2.3
comp=Z,1.9nm,0.3s,baz=19,slow=11,SNR=11
EIL Elat 11.85 260 P Pn 10 28 40.9 -2.3
baz=88,SNR=9.0
HOQ Hoqain 11.86 136 P Pn 10 28 43.0 -0.4
SNR=13
BNN Bunyan 12.00 305 eP Pn 10 28 42.9 -2.5
BNN Bunyan 12.00 305 eP Pn 10 28 42.9 -2.5
KBZ Khabaz 12.02 341 Pn Pn 10 28 47.2 +1.8
comp=Z,0.1nm,0.3s,baz=110,slow=12,SNR=3.7
MERS Mersin 12.21 295 eP Pn 10 28 51.3 +3.1
KIV Kislovodsk 12.29 340 Pn Pn 10 28 54.0 +4.8
comp=Z,261nm,1.1s,SNR=5.3
KIV Kislovodsk 12.29 340 eP Pn 10 28 51.9 +2.7
KIV eS Sn 10 31 08.4 +3.5
KIV pmax pmax
comp=Z,33nm,1.1s
KIV MLR MLR
comp=Z,1μm,10.0s
KIV Kislovodsk 12.29 340 ePn Pn 10 28 50.0 +0.8
KIV Kislovodsk 12.29 340 ePn Pn 10 28 50.0 +0.8
SMDO Samad 12.70 135 P Pn 10 28 54.1 -0.8
SNR=64
SMDO P Pn 10 28 54.3 -0.7
SNR=46
CSS Prodhromos 12.77 285 eP Pn 10 28 58.1 +2.4
CSS Prodhromos 12.77 285 ePn Pn 10 28 53.7 -2.1
CSS eSn Sn 10 31 16.3 -0.4
CSS Prodhromos 12.77 285 ePn Pn 10 28 53.7 -2.1
CSS eSn Sn 10 31 16.3 -0.4
SOC Sochi 13.00 331 eP Pn 10 28 58.5 -0.3
SOC e 10 31 22.2
SOC pmax pmax
comp=Z,52nm,0.8s
SOC MLR MLR
comp=Z,3μm,14.0s
SOC Sochi 13.00 331 eP Pn 10 28 58.5 -0.3
comp=Z,3μm,14.0s
SOC eS Sn 10 31 22.2 0.0
GOF Gofitskoye 13.22 343 eP Pn 10 29 05.2 +3.4
GOF pmax pmax
comp=Z,170nm,1.6s
JMDO Jabal Madar 13.26 137 P Pn 10 29 01.2 -1.3
SNR=31
SULT Sultanhani-AKS 13.40 299 eP Pn 10 29 06.5 +2.1
WBK Wadi Bani Khal 13.59 134 P Pn 10 29 07.6 +0.5
SNR=18
BR131 Keskin Array S 13.93 305 ePn Pn 10 29 11.8 +0.2
comp=Z,7.9nm,0.5s
BR131 Keskin Array S 13.93 305 ePn Pn 10 29 11.8 +0.2
comp=Z,7.9nm,0.5s
BRTR Keskin Array B 13.93 305 P Pn 10 29 12.0 +0.3
BRTR MLR MLR
comp=Z,1μm,19.7s
BRTR Keskin Array B 13.93 305 Pn Pn 10 29 11.9 +0.3
comp=Z,0.1nm,0.3s,baz=128,slow=9.9,SNR=21
BRTR LR LR 10 35 22.6
comp=Z,1μm,19.7s,baz=112,slow=41
BRTR ScP ScP 10 38 04.8 +2.0
comp=Z,0.1nm,0.3s,baz=151,slow=3.3,SNR=6.4
AFSR Af˘ar-Bala (A 14.20 304 eP Pn 10 29 15.1 -0.2
AFSR Af˘ar-Bala (A 14.20 304 eP Pn 10 29 15.1 -0.2
LADK Ladik-KONYA 14.26 298 eP Pn 10 29 17.6 +1.5
LADK Ladik-KONYA 14.26 298 eP Pn 10 29 17.6 +1.5
TOS Tosya 14.31 311 eP Pn 10 29 17.0 +0.1
ANTO Ankara 14.57 305 ⇑P Pn 10 29 21.0 +0.6
ANTO Ankara 14.57 305⇑iP Pn 10 29 21.0 +0.6
ANTO Ankara 14.57 305 ePn Pn 10 29 20.1 -0.3
ANTO eSn Sn 10 32 06.3 +5.7
ANTO Ankara 14.57 305 ePn Pn 10 29 20.1 -0.3
KIZT Kizilcal 14.84 300 eP Pn 10 29 24.2 +0.2
ANN Anapa 14.96 328 eP Pn 10 29 26.4 +1.0
ANN eS Sn 10 32 11.9 +2.1
ANN pmax pmax
comp=Z,76nm,2.0s
ANN MLR MLR
comp=Z,2μm,14.0s
ANN MLR MLR
comp=N,2μm,14.0s
ANN MLR MLR
comp=E,1μm,14.0s
ISP Isparta 15.54 295 P Pn 10 29 32.9 -0.3
ISP Isparta 15.54 295 ⇑P Pn 10 29 33.4 +0.2
ISP Isparta 15.54 295⇑iP Pn 10 29 33.4 +0.2
ISP Isparta 15.54 295 ePn Pn 10 29 29.9 -3.4
comp=E,159nm,1.1s
ISP eSn Sn 10 32 18.4 -5.9
ISP Isparta 15.54 295 ePn Pn 10 29 29.9 -3.4
comp=E,159nm,1.1s
ABTO Aybut 15.71 162 P Pn 10 29 32.3 -3.2
SNR=53
RBK Rabkut 15.82 159 P Pn 10 29 33.8 -3.1
SNR=67
MDUB Mudurnu 15.94 305 eP P 10 29 41.4 -0.1
MDUB Mudurnu 15.94 305 eP P 10 29 41.4 -0.1
ALT Altintas 16.20 299 P Pn 10 29 41.1 -0.6
ALT Altintas 16.20 299 P Pn 10 29 41.1 -0.6
SIM Simferopol' 16.66 322ceP Pn 10 29 48.4 +1.0
SIM eS Sn 10 32 51.7 +0.5
SIM pmax pmax
comp=Z,140nm,9.4s
SIM Simferopol' 16.66 322 eP Pn 10 29 48.4 +1.0
comp=Z,140nm,9.4s
CAVI Cavuskoy 16.79 303 eP P 10 29 51.4 +0.5
CAVI Cavuskoy 16.79 303 eP P 10 29 51.4 +0.5
DALY Dalyan (Mu˘la 16.79 290 eP Pn 10 29 47.5 -1.6
ADVT Abdulvahap 16.95 303 eP P 10 29 53.1 +0.5
ADVT Abdulvahap 16.95 303 eP P 10 29 53.1 +0.5
ARG Arkhangelos 17.13 288 eP Pn 10 29 52.1 -1.2
KULA Kula-Manisa 17.14 296 P Pn 10 29 52.7 -0.7
KULA Kula-Manisa 17.14 296 eP Pn 10 29 53.1 -0.3
KULA Kula-Manisa 17.14 296 P Pn 10 29 52.7 -0.7
KULA Kula-Manisa 17.14 296 P Pn 10 29 52.7 -0.7
YER Yerkesik 17.14 291 eP Pn 10 29 52.1 -1.4
YER Yerkesik 17.14 291 eP Pn 10 29 52.1 -1.4
HRT Hereke 17.14 304 eP Pn 10 29 51.8 -1.7
HRT Hereke 17.14 304 eP Pn 10 29 51.8 -1.7
KBL Kabul 17.35 78 eP P 10 29 59.2 +1.8
KBL pmax pmax
comp=Z,69nm,1.2s
KBL Kabul 17.35 78 eP P 10 29 59.2 +1.8
comp=Z,69nm,1.2s
KBL Kabul 17.35 78 eP P 10 29 59.2 +1.8
comp=Z,69nm,1.2s
AYDB Zeytinkoy-Aydi 17.60 294 eP Pn 10 29 58.2 -1.0
AYDB Zeytinkoy-Aydi 17.60 294 eP Pn 10 29 58.2 -1.0
KARP Karpathos 17.85 286 eP Pn 10 30 01.4 -0.9
MUKL Al Mukalla 17.94 178 eP Pn 10 30 00.4 -3.1
SMG Samos 18.37 292 eP P 10 30 06.8 -1.6
MRMT Marmara Adasi 18.53 302 eP P 10 30 08.3 -1.9
MRMT Marmara Adasi 18.53 302 eP P 10 30 08.3 -1.9
ZKR Zakros 18.60 284 eP P 10 30 10.3 -0.6
LBOS 18.75 190 eP P 10 30 09.8 -3.1
LBOS AMb AMB 10 30 11.1
comp=Z,221nm,1.7s
AB31 Akbulak array 18.86 24 eP P 10 30 13.4 -0.2
AB31 pmax pmax
comp=Z,10.0nm,0.5s
AB31 Akbulak array 18.86 24 eP P 10 30 13.4 -0.2
comp=Z,10.0nm,0.5s
ABKAR Akbulak array 18.86 24 eP Pn 10 30 13.9 -0.4
comp=Z,4.3nm,0.4s
ABKAR eS Sn 10 33 44.3 +0.1
ABKAR Akbulak array 18.86 24 eP Pn 10 30 13.9 -0.4
comp=Z,4.3nm,0.4s
CHOS Chios island 19.10 294 P P 10 30 16.6 +0.1
CHOS Chios island 19.10 294 eP P 10 30 14.7 -1.8
CHOS Chios island 19.10 294 P P 10 30 16.6 +0.1
CHOS Chios island 19.10 294 P P 10 30 16.6 +0.1
NPS Neapolis 19.10 285 P P 10 30 16.7 +0.3
NPS Neapolis 19.10 285 P P 10 30 16.7 +0.3
NPS Neapolis 19.10 285 eP P 10 30 17.0 +0.6
NPS Neapolis 19.10 285 P P 10 30 16.7 +0.3
NPS Neapolis 19.10 285 P P 10 30 16.7 +0.3
PRK Paraskevi 19.12 297 eP P 10 30 16.6 0.0
LAST Lasithi 19.21 284 P P 10 30 17.2 -0.5
LAST Lasithi 19.21 284 eP Pn 10 30 18.9 +0.1
LAST Lasithi 19.21 284 P P 10 30 17.2 -0.5
LAST Lasithi 19.21 284 P P 10 30 17.2 -0.5
VRHR Novokhopersk 19.25 347 eP Pn 10 30 18.6 -0.4
VRHR eS Sn 10 33 51.5 -2.1
VRHR pmax pmax
comp=N,120nm,0.8s
VRHR pmax pmax
comp=E,110nm,0.8s
VRHR pmax pmax
comp=Z,210nm,0.8s
VRHR smax smax
comp=N,450nm,2.2s
VRHR smax smax
comp=E,460nm,2.2s
VRHR smax smax
comp=Z,120nm,2.2s
VRHR MLR MLR
comp=N,1μm,19.0s
VRHR MLR MLR
comp=E,960nm,19.0s
VRHR MLR MLR
comp=Z,3μm,19.0s
VRHR Novokhopersk 19.25 347 eP Pn 10 30 18.6 -0.4
SANT Santorini 19.29 288 eP P 10 30 17.7 -0.9
SANT Santorini 19.29 288 eP P 10 30 18.5 0.0
SANT Santorini 19.29 288 eP P 10 30 17.6 -0.9
comp=Z,298nm,1.1s
SANT eS Sn 10 33 56.1 +1.1
SANT Santorini 19.29 288 eP P 10 30 17.6 -0.9
comp=Z,298nm,1.1s
SANT eS Sn 10 33 56.1 +1.1
AKTK Aktyubinsk 19.30 19 P P 10 30 18.1 -0.3
comp=Z,49nm,1.0s
AKTO Aktyubinsk 19.30 19 P P 10 30 18.1 -0.3
AKTO pmax pmax
comp=Z,49nm,1.0s
AKTO Aktyubinsk 19.30 19 P P 10 30 18.9 +0.5
comp=Z,2.2nm,0.3s,baz=213,slow=13,SNR=4.5
AKTO S Sn 10 33 55.6 +0.7
comp=Z,0.3nm,0.3s,baz=318,slow=18,SNR=3.0
AKTO ScP ScP 10 38 13.2 +0.2
comp=Z,0.1nm,0.3s,baz=131,slow=3.5,SNR=4.4
APE Apeiranthos 19.31 290 P P 10 30 18.7 0.0
APE Apeiranthos 19.31 290 eP Pn 10 30 19.5 -0.5
APE Apeiranthos 19.31 290c iP P 10 30 18.4 -0.3
APE Apeiranthos 19.31 290 eP P 10 30 12.6 -6.1
APE Apeiranthos 19.31 290⇑iP Pn 10 30 19.9 0.0
APE Apeiranthos 19.31 290 P P 10 30 18.7 0.0
APE Apeiranthos 19.31 290 i P P 10 30 18.4 -0.3
PSN Preselentsi 19.38 311 ⇑P P 10 30 19.7 +0.3
PSN Preselentsi 19.38 311⇑iP P 10 30 19.7 +0.3
PSN Preselentsi 19.38 311 P P 10 30 19.7 +0.3
TRBA At Turbah 19.56 192 eP P 10 30 18.6 -3.2
EDRB Edirne 19.57 305 P P 10 30 21.1 -0.4
EDRB Edirne 19.57 305 eP Pn 10 30 22.6 -0.3
EDRB Edirne 19.57 305 P P 10 30 21.1 -0.4
EDRB Edirne 19.57 305 P P 10 30 21.1 -0.4
ENEZ Enez 19.62 301 eP P 10 30 22.5 +0.6
ENEZ Enez 19.62 301 eP P 10 30 22.5 +0.6
TIRR Tirgusor 19.62 313 ⇑P P 10 30 22.2 +0.2
TIRR Tirgusor 19.62 313⇑iP P 10 30 22.2 +0.2
TIRR Tirgusor 19.62 313 eP P 10 30 21.5 -0.5
comp=Z,32nm,0.9s
TIRR eS Sn 10 34 03.4 +0.7
TIRR Tirgusor 19.62 313 eP P 10 30 21.5 -0.5
comp=Z,32nm,0.9s
TIRR eS Sn 10 34 03.4 +0.7
VORD Divnogorie 19.64 343 eP P 10 30 20.4 -1.7
VORD eS S 10 33 56.0 -5.6
VORD pmax pmax
comp=N,350nm,0.8s
VORD pmax pmax
comp=E,130nm,0.8s
VORD pmax pmax
comp=Z,110nm,0.8s
VORD smax smax
comp=N,80nm,1.4s
VORD smax smax
comp=E,230nm,1.4s
VORD smax smax
comp=Z,70nm,1.4s
VORD MLR MLR
comp=N,980nm,14.0s
VORD MLR MLR
comp=E,470nm,14.0s
VORD MLR MLR
comp=Z,1μm,14.0s
VORD Divnogorie 19.64 343 eP P 10 30 20.4 -1.7
PRD Provadia 19.67 309 ⇓P P 10 30 23.1 +0.6
PRD Provadia 19.67 309 eP P 10 30 22.4 -0.1
PRD Provadia 19.67 309 eP P 10 30 22.4 -0.1
IDI Anoyia 19.69 285 P P 10 30 23.5 +0.6
comp=Z,5.4nm,0.3s,baz=96,slow=9.4,SNR=75
IDI S S 10 33 59.5 -3.7
comp=Z,0.3nm,0.3s,baz=123,slow=16,SNR=3.5
IDI ScP ScP 10 38 16.2 +1.9
comp=Z,0.2nm,0.3s,baz=57,slow=15,SNR=3.5
CEP Cherat 19.74 80 ⇑P Pn 10 30 24.6 -0.6
CEP S S 10 34 05.0 +0.8
ALN Alexandroupoli 19.74 301 P P 10 30 23.4 0.0
ALN Alexandroupoli 19.74 301 eP P 10 30 23.3 0.0
ALN Alexandroupoli 19.74 301 P P 10 30 23.4 0.0
ALN Alexandroupoli 19.74 301 eP P 10 30 23.6 +0.3
ALN Alexandroupoli 19.74 301 P P 10 30 23.4 0.0
ALN Alexandroupoli 19.74 301 P P 10 30 23.4 0.0
SIVA Sivas 19.75 284 P P 10 30 23.4 -0.1
SIVA Sivas 19.75 284 eP P 10 30 24.1 +0.6
SIVA Sivas 19.75 284 P P 10 30 23.4 -0.1
SIVA Sivas 19.75 284 P P 10 30 23.4 -0.1
NEF NEVSHA 19.78 309 eP Pn 10 30 25.5 0.0
NEF NEVSHA 19.78 309 eP Pn 10 30 25.5 0.0
MSAB Monastry St. A 19.80 312⇑iP P 10 30 24.5 +0.5
VSR Storozhevoye 19.90 343 eP P 10 30 24.0 -1.0
VSR eS S 10 34 00.4 -6.5
VSR pmax pmax
comp=N,160nm,0.9s
VSR pmax pmax
comp=E,70nm,0.9s
VSR pmax pmax
comp=Z,80nm,0.9s
VSR smax smax
comp=N,160nm,1.1s
VSR smax smax
comp=E,160nm,1.1s
VSR smax smax
comp=Z,50nm,1.1s
VSR MLR MLR
comp=N,1μm,16.0s
VSR MLR MLR
comp=E,760nm,16.0s
VSR MLR MLR
comp=Z,2μm,16.0s
VSR Storozhevoye 19.90 343 eP P 10 30 24.0 -1.0
JMB Yambol 19.91 306 ⇑P Pn 10 30 26.2 -0.8
JMB Yambol 19.91 306⇑iP Pn 10 30 26.2 -0.8
JMB Yambol 19.91 306 P Pn 10 30 26.2 -0.8
SMTH Samothraki Isl 19.99 300 eP P 10 30 22.9 -3.2
HARR Harsova 20.04 313 ⇓P P 10 30 27.1 +0.6
HARR Harsova 20.04 313⇓iP P 10 30 27.0 +0.6
HARR Harsova 20.04 313 P P 10 30 27.1 +0.6
LIA Limnos Island 20.10 298 eP P 10 30 27.2 0.0
CFR Carcaliu 20.16 315 ⇑P P 10 30 27.1 -0.8
CFR Carcaliu 20.16 315⇑iP P 10 30 27.1 -0.8
CFR Carcaliu 20.16 315 P P 10 30 27.1 -0.8
VAM Vamos 20.26 285 P P 10 30 27.3 -1.8
VAM Vamos 20.26 285 P P 10 30 27.3 -1.8
VAM Vamos 20.26 285 eP P 10 30 27.1 -2.0
VAM Vamos 20.26 285 P P 10 30 27.3 -1.8
VAM Vamos 20.26 285 P P 10 30 27.3 -1.8
VOR Voronezh 20.37 343 eP P 10 30 31.0 +1.0
VOR pmax pmax
comp=Z,300nm,2.0s
VOR Voronezh 20.37 343 eP P 10 30 31.0 +1.0
comp=Z,300nm,2.0s
KK31 Karatay Array 20.39 52 i P P 10 30 31.4 +1.0
KK31 Karatay Array 20.39 52 i P P 10 30 31.4 +1.0
KDZ Kurdzhali 20.43 303 ⇑P P 10 30 31.7 +0.8
KDZ Kurdzhali 20.43 303 eP P 10 30 30.9 0.0
KDZ Kurdzhali 20.43 303⇑iP P 10 30 31.7 +0.8
KDZ Kurdzhali 20.43 303 P P 10 30 31.7 +0.8
DIM Dimitrovgrad 20.48 304 eP P 10 30 31.4 0.0
DIM Dimitrovgrad 20.48 304 eP P 10 30 31.4 0.0
SARP Sargodha 20.55 85 P P 10 30 31.9 -0.4
SZH Strazhica 20.67 308 eP P 10 30 33.2 -0.2
SZH Strazhica 20.67 308 eP P 10 30 33.2 -0.2
PTL Penteli 20.75 292 P P 10 30 34.7 +0.4
PTL Penteli 20.75 292 eP P 10 30 35.0 +0.7
PTL Penteli 20.75 292 P P 10 30 34.7 +0.4
PTL Penteli 20.75 292 P P 10 30 34.7 +0.4
KIS Kishinev 20.81 320⇓iP P 10 30 34.0 -0.8
KIS i S S 10 34 18.0 -6.9
KIS i 10 34 39.0
KIS i SS SnSn 10 34 50.0 +3.8
KIS pmax pmax
comp=N,220nm,1.6s
KIS pmax pmax
comp=Z,290nm,1.6s
KIS pmax pmax
comp=E,260nm,1.7s
KIS smax smax
comp=E,1μm,9.0s
KIS smax smax
comp=N,700nm,3.0s
KIS MLR MLR
comp=N,1μm,16.0s
KIS MLR MLR
comp=E,1μm,16.0s
KIS MLR MLR
comp=Z,2μm,16.0s
KIS MLR MLR
comp=Z,2μm,16.0s
KIS Kishinev 20.81 320 i P P 10 30 34.0 -0.8
comp=Z,300nm,1.6s
KIS Kishinev 20.81 320 i PP PP 10 30 50.0
KIS i S S 10 34 18.0 -6.9
comp=Z,1μm,9.0s
KIS Kishinev 20.81 320 i PcP PcP 10 34 39.0 -3.7
KIS i SS SS 10 34 50.0
KIS eLi 10 36 27.0
KIS eLg1 10 36 48.0
KIS eLg2 10 37 41.0
KIS eRg Rg 10 38 40.0
KIS LRM MLR 10 40 56.0
comp=Z,2μm,16.0s
KIS Kishinev 20.81 320 i P P 10 30 34.0 -0.8
ATH Athens Observa 20.85 292 eP P 10 30 33.8 -1.6
CHCP Chirah Chowk 20.87 80 P P 10 30 36.1 +0.3
KAVA Kavala 20.88 301 P P 10 30 35.0 -0.7
KAVA Kavala 20.88 301 P P 10 30 35.0 -0.7
KAVA Kavala 20.88 301 P P 10 30 35.0 -0.7
BHJ Bhuj 20.90 111 eP P 10 30 36.7 +0.6
AOS Alonnisos 20.92 295 P P 10 30 36.3 +0.1
AOS Alonnisos 20.92 295 eP P 10 30 37.0 +0.9
AOS Alonnisos 20.92 295 eP P 10 30 36.5 +0.3
AOS Alonnisos 20.92 295 P P 10 30 36.3 +0.1
AOS Alonnisos 20.92 295 P P 10 30 36.3 +0.1
RZN Rozhen 20.94 303 eP P 10 30 36.3 -0.3
RZN Rozhen 20.94 303 eP P 10 30 36.3 -0.3
PETR Petresti 20.99 315⇑iP P 10 30 37.7 +0.9
ANKY Antikythira Is 21.01 286 eP P 10 30 37.7 +0.6
PVL Pavlikeni 21.05 307 eP P 10 30 38.0 +0.5
PVL Pavlikeni 21.05 307 eP P 10 30 38.0 +0.5
MRKA Markates 21.06 294 eP P 10 30 38.2 +0.5
PLD Plovdiv 21.09 304 P P 10 30 37.4 -0.5
PLD Plovdiv 21.09 304 P P 10 30 37.4 -0.5
PLD Plovdiv 21.09 304 eP P 10 30 37.1 -0.8
PLD Plovdiv 21.09 304 P P 10 30 37.4 -0.5
PLD Plovdiv 21.09 304 P P 10 30 37.4 -0.5
OUR Ouranopolis 21.10 299 P P 10 30 37.7 -0.3
OUR Ouranopolis 21.10 299 P P 10 30 37.7 -0.3
OUR Ouranopolis 21.10 299 eP P 10 30 37.7 -0.3
OUR Ouranopolis 21.10 299 P P 10 30 37.7 -0.3
OUR Ouranopolis 21.10 299 P P 10 30 37.7 -0.3
ISR Istrita 21.10 313 ⇑P P 10 30 38.1 0.0
ISR Istrita 21.10 313⇑iP P 10 30 38.1 0.0
ISR Istrita 21.10 313 P P 10 30 38.1 0.0
DID Didima 21.17 291 eP P 10 30 37.5 -1.4
PAIG Paliouri 21.23 297 P P 10 30 39.6 +0.2
PAIG Paliouri 21.23 297 P P 10 30 39.6 +0.2
PAIG Paliouri 21.23 297 eP P 10 30 39.2 -0.2
PAIG Paliouri 21.23 297 P P 10 30 39.6 +0.2
PAIG Paliouri 21.23 297 P P 10 30 39.6 +0.2
SKIA Skiathos 21.24 295 eP P 10 30 39.7 +0.1
KYTH Kithira 21.24 287 P P 10 30 39.0 -0.6
KYTH Kithira 21.24 287 eP P 10 30 39.0 -0.6
KYTH Kithira 21.24 287 P P 10 30 39.0 -0.6
KYTH Kithira 21.24 287 P P 10 30 39.0 -0.6
VLI Veliai 21.34 288 P P 10 30 38.8 -1.9
VLI Veliai 21.34 288 eP P 10 30 38.8 -1.9
VLI Veliai 21.34 288 P P 10 30 38.8 -1.9
VLI Veliai 21.34 288 P P 10 30 38.8 -1.9
VRI Vrincioaia 21.37 315 ⇑P P 10 30 40.8 -0.1
VRI Vrincioaia 21.37 315⇑iP P 10 30 40.8 -0.1
VRI Vrincioaia 21.37 315 P P 10 30 40.8 -0.1
SMIA Simia 21.38 294 eP P 10 30 41.9 +0.7
PLOR Plostina 21.41 315 ⇑P P 10 30 41.3 -0.1
PLOR Plostina 21.41 315⇑iP P 10 30 41.3 -0.1
PLOR Plostina 21.41 315 P P 10 30 41.3 -0.1
LTK Loutraki 21.45 292 eP P 10 30 40.9 -0.9
NEO Neokhori 21.45 296 P P 10 30 41.6 -0.3
NEO Neokhori 21.45 296 eP P 10 30 41.7 -0.2
NEO Neokhori 21.45 296 P P 10 30 41.6 -0.3
NEO Neokhori 21.45 296 P P 10 30 41.6 -0.3
NVR Nevrokopi 21.45 301 P P 10 30 41.3 -0.6
NVR Nevrokopi 21.45 301 eP P 10 30 41.4 -0.5
NVR Nevrokopi 21.45 301 P P 10 30 41.3 -0.6
NVR Nevrokopi 21.45 301 P P 10 30 41.3 -0.6
XOR Xorichti 21.48 296 P P 10 30 42.0 -0.3
XOR Xorichti 21.48 296 eP P 10 30 41.9 -0.3
XOR Xorichti 21.48 296 P P 10 30 42.0 -0.3
XOR Xorichti 21.48 296 P P 10 30 42.0 -0.3
PLG Polygyros 21.50 299 P P 10 30 42.6 +0.1
PLG Polygyros 21.50 299 P P 10 30 42.6 +0.1
PLG Polygyros 21.50 299 eP P 10 30 42.2 -0.3
PLG Polygyros 21.50 299 P P 10 30 42.6 +0.1
PLG Polygyros 21.50 299 P P 10 30 42.6 +0.1
LKR Lokris 21.51 294 P P 10 30 42.0 -0.5
LKR Lokris 21.51 294 eP P 10 30 42.0 -0.5
LKR Lokris 21.51 294 P P 10 30 42.0 -0.5
LKR Lokris 21.51 294 P P 10 30 42.0 -0.5
SRS Serrai 21.58 301 P P 10 30 42.1 -1.2
SRS Serrai 21.58 301 P P 10 30 42.1 -1.2
SRS Serrai 21.58 301 eP P 10 30 42.5 -0.8
SRS Serrai 21.58 301 P P 10 30 42.1 -1.2
SRS Serrai 21.58 301 P P 10 30 42.1 -1.2
PGB Panagyurishte 21.61 305 eP P 10 30 43.4 -0.2
PGB Panagyurishte 21.61 305 eP P 10 30 43.4 -0.2
MMB Musomiste 21.62 302 ⇑P P 10 30 43.3 -0.4
MMB Musomiste 21.62 302 eP P 10 30 43.0 -0.7
MMB Musomiste 21.62 302⇑iP P 10 30 43.3 -0.4
MMB Musomiste 21.62 302 P P 10 30 43.3 -0.4
MLR Muntele Rosu 21.65 313 ⇑P P 10 30 45.8 +1.7
MLR Muntele Rosu 21.65 313⇑iP P 10 30 45.8 +1.7
MLR Muntele Rosu 21.65 313 P P 10 30 44.2 0.0
comp=Z,11nm,0.8s,baz=121,slow=5.7,SNR=20
MLR S S 10 34 46.6 +4.7
comp=Z,0.7nm,0.6s,baz=90,slow=20,SNR=2.6
MLR LR LR 10 41 28.8
comp=Z,366nm,18.5s,baz=120,slow=43
SOH Sokhos 21.68 300 P P 10 30 44.0 -0.3
SOH Sokhos 21.68 300 P P 10 30 44.0 -0.3
SOH Sokhos 21.68 300 eP P 10 30 44.1 -0.3
SOH Sokhos 21.68 300 P P 10 30 44.0 -0.3
SOH Sokhos 21.68 300 P P 10 30 44.0 -0.3
TESR Tescani 21.75 316⇑iP P 10 30 44.0 -1.0
AXAR Agios Charalam 21.79 294 eP P 10 30 45.6 +0.1
HORT Hortiatis 21.81 299 P P 10 30 45.4 -0.4
HORT Hortiatis 21.81 299 eP P 10 30 45.5 -0.4
HORT Hortiatis 21.81 299 P P 10 30 45.4 -0.4
HORT Hortiatis 21.81 299 P P 10 30 45.4 -0.4
DSF Desfina 21.84 293 P P 10 30 45.8 -0.3
DSF Desfina 21.84 293 eP P 10 30 44.8 -1.3
DSF Desfina 21.84 293 P P 10 30 45.8 -0.3
DSF Desfina 21.84 293 P P 10 30 45.8 -0.3
VLX Vlachokerasia 21.84 290 P P 10 30 47.2 +1.0
VLX Vlachokerasia 21.84 290 eP P 10 30 44.3 -1.9
VLX Vlachokerasia 21.84 290 P P 10 30 47.2 +1.0
VLX Vlachokerasia 21.84 290 P P 10 30 47.2 +1.0
THE Thessaloniki 21.92 299 eP P 10 30 46.2 -0.7

GUR Goura 21.93 292 P P 10 30 46.7 -0.4
GUR Goura 21.93 292 eP P 10 30 46.0 -1.1
GUR Goura 21.93 292 P P 10 30 46.7 -0.4
GUR Goura 21.93 292 P P 10 30 46.7 -0.4
MTUR Matau 22.08 312 ⇑P P 10 30 49.9 +1.3
MTUR Matau 22.08 312⇑iP P 10 30 49.9 +1.3
MTUR Matau 22.08 312 P P 10 30 49.9 +1.3
AGG Agios Georgios 22.08 294 P P 10 30 48.0 -0.7
AGG Agios Georgios 22.08 294 P P 10 30 48.0 -0.7
AGG Agios Georgios 22.08 294 eP P 10 30 48.2 -0.5
AGG Agios Georgios 22.08 294 P P 10 30 48.0 -0.7
AGG Agios Georgios 22.08 294 P P 10 30 48.0 -0.7
KLV Kalavryta, Ach 22.09 292 P P 10 30 45.8 -3.0
KLV Kalavryta, Ach 22.09 292 eP P 10 30 48.5 -0.3
KLV Kalavryta, Ach 22.09 292 P P 10 30 45.8 -3.0
KLV Kalavryta, Ach 22.09 292 P P 10 30 45.8 -3.0
KNT Kendrikon 22.10 300 P P 10 30 49.2 +0.4
KNT Kendrikon 22.10 300 P P 10 30 49.2 +0.4
KNT Kendrikon 22.10 300 eP P 10 30 47.4 -1.4
KNT Kendrikon 22.10 300 P P 10 30 49.2 +0.4
KNT Kendrikon 22.10 300 P P 10 30 49.2 +0.4
KALE Kalithea 22.14 293 eP P 10 30 49.3 0.0
LIT Litokhoron 22.16 297 P P 10 30 51.4 +1.9
LIT Litokhoron 22.16 297 P P 10 30 51.4 +1.9
LIT Litokhoron 22.16 297 eP P 10 30 45.3 -4.2
LIT Litokhoron 22.16 297 P P 10 30 51.4 +1.9
LIT Litokhoron 22.16 297 P P 10 30 51.4 +1.9
KKB Krupnik 22.16 302 eP P 10 30 47.7 -1.8
KKB Krupnik 22.16 302 eP P 10 30 47.7 -1.8
MPEP Malo Peshtene 22.18 306 eP P 10 30 49.3 -0.4
VOIR 22.18 312 ⇓P P 10 30 50.1 +0.3
VOIR 22.18 312⇓iP P 10 30 50.1 +0.3
VOIR 22.18 312 P P 10 30 50.1 +0.3
DOPR Dopca 22.23 314⇑iP P 10 30 51.2 +1.0
MAKR Makrakomi, Fth 22.23 294 eP P 10 30 49.6 -0.7
AML Almayashu 22.25 57 P P 10 30 55.0 +4.2
SNR=12
LAKA Lakka 22.25 292 eP P 10 30 50.4 -0.1
PYL PYLOS 22.31 289 eP P 10 30 47.4 -3.7
EFP Efpalio 22.33 293 eP P 10 30 49.3 -2.0
AMT Artemida-Makis 22.39 290 eP P 10 30 50.3 -1.6
ARR Arges 22.41 312⇑iP P 10 30 52.3 +0.1
GRG Griva 22.41 300 P P 10 30 53.5 +1.3
GRG Griva 22.41 300 P P 10 30 53.5 +1.3
GRG Griva 22.41 300 P P 10 30 53.5 +1.3
GRG Griva 22.41 300 P P 10 30 53.5 +1.3
THL Klokotos Trika 22.41 296 P P 10 30 52.0 -0.2
THL Klokotos Trika 22.41 296 eP P 10 30 50.4 -1.8
THL Klokotos Trika 22.41 296 P P 10 30 52.0 -0.2
DRO Drossia 22.42 292 P P 10 30 51.4 -1.0
DRO Drossia 22.42 292 eP P 10 30 51.6 -0.8
DRO Drossia 22.42 292 P P 10 30 51.4 -1.0
EKS2 Erkin-Say 22.47 56 P P 10 30 56.2 +3.3
SNR=8.3
EKS2 Erkin-Say 22.47 56 iP P 10 30 56.2 +3.3
EKS2 Erkin-Say 22.47 56 eP P 10 30 54.2 +1.3
comp=Z,9.6nm,0.8s
EKS2 Erkin-Say 22.47 56 eP P 10 30 54.2 +1.3
comp=Z,9.6nm,0.8s
EVR Evrytania 22.47 294 P P 10 30 50.4 -2.5
EVR Evrytania 22.47 294 eP P 10 30 51.4 -1.5
EVR Evrytania 22.47 294 P P 10 30 50.4 -2.5
EVR Evrytania 22.47 294 P P 10 30 50.4 -2.5
RLS Riolos of Patr 22.63 292 eP P 10 30 53.0 -1.5
UCH Uchtor 22.86 57 P P 10 31 03.2 +5.8
SNR=17
UCH Uchtor 22.86 57 iP P 10 31 03.2 +5.8
PDO Prodromos 22.91 293 eP P 10 30 54.6 -2.8
AAK Ala-Archa 22.96 56 eP P 10 31 00.7 +2.6
AAK pmax pmax
comp=Z,24nm,1.2s
AAK Ala-Archa 22.96 56 P P 10 30 59.6 +1.5
comp=Z,3.3nm,0.6s,baz=237,slow=9.7,SNR=9.9
AAK S S 10 35 09.0 +3.0
comp=Z,2.2nm,0.8s,baz=196,slow=7.4,SNR=2.6
AAK ScP ScP 10 38 23.3 +1.0
comp=Z,4.6nm,1.0s,baz=160,slow=5.8,SNR=5.1
AAK LR LR 10 41 10.9
comp=Z,2μm,19.8s,baz=252,slow=40
AAK Ala-Archa 22.96 56 eP P 10 30 59.4 +1.3
comp=Z,42nm,1.5s
AAK S S 10 35 09.0 +3.0
AAK ScP ScP 10 38 23.3 +1.0
AAK Ala-Archa 22.96 56 eP P 10 30 59.4 +1.3
comp=Z,42nm,1.5s
AAK S S 10 35 09.0 +3.0
LOT Lotru 22.99 311⇓iP P 10 30 57.8 -0.6
AKASG Malin Array Be 23.04 328 P P 10 30 56.4 -2.2
AKASG S S 10 35 03.4 -3.4
AKASG pmax pmax
comp=Z,21nm,0.8s
AKASG smax smax
comp=N,12nm,1.1s
AKASG pmax pmax
comp=N,2.0nm,0.8s
AKASG MLR MLR
comp=Z,16nm,28.6s
AKASG Malin Array Be 23.04 328 P P 10 30 56.4 -2.2
comp=Z,21nm,0.8s,baz=134,slow=9.2,SNR=46
AKASG S S 10 35 03.4 -3.4
comp=Z,12nm,1.1s,baz=132,slow=20,SNR=9.1
AKASG ScP ScP 10 38 23.3 +1.1
comp=Z,1.8nm,0.8s,baz=107,slow=2.1,SNR=7.9
AKASG LR LR 10 41 12.3
comp=Z,931nm,19.2s,baz=120,slow=40
KIEV Kiev 23.04 328 eP P 10 30 56.4 -2.3
KIEV eS S 10 35 05.7 -1.2
KIEV pmax pmax
comp=Z,107nm,1.6s
KIEV Kiev 23.04 328 eP P 10 30 56.4 -2.3
comp=Z,107nm,1.6s
KIEV eS S 10 35 05.7 -1.2
KIEV Kiev 23.04 328 eP P 10 30 56.4 -2.3
comp=Z,107nm,1.6s
FNA Florina 23.13 299 P P 10 30 58.4 -1.4
FNA Florina 23.13 299 P P 10 30 58.4 -1.4
FNA Florina 23.13 299 eP P 10 30 58.8 -1.0
FNA Florina 23.13 299 P P 10 30 58.4 -1.4
FNA Florina 23.13 299 P P 10 30 58.4 -1.4
USP Ospenovka 23.16 55 P P 10 31 02.3 +2.3
SNR=11
USP Ospenovka 23.16 55 iP P 10 31 02.3 +2.3
USP Ospenovka 23.16 55 iP P 10 31 02.3 +2.3
BURAR Bucovina Array 23.17 317 ⇑P P 10 30 59.6 -0.6
BURAR Bucovina Array 23.17 317⇑iP P 10 30 59.5 -0.6
BUR08 Bucovina Ar. S 23.20 317 eP P 10 30 59.1 -1.3
BUR08 Bucovina Ar. S 23.20 317 eP P 10 30 59.1 -1.3
KBK Karagaybulak 23.29 57 P P 10 31 03.6 +2.2
SNR=9.2
JAN Janina 23.32 296 eP P 10 31 00.6 -1.0
VLS Valsamata 23.33 292 P P 10 30 59.8 -1.9
VLS Valsamata 23.33 292 P P 10 30 59.8 -1.9
VLS Valsamata 23.33 292 eP P 10 30 59.2 -2.5
VLS Valsamata 23.33 292 P P 10 30 59.8 -1.9
VLS Valsamata 23.33 292 P P 10 30 59.8 -1.9
KSH Kashi 23.34 65 P P 10 31 00.8 -1.1
KSH epP pP 10 31 14.6 +3.0
KSH esP sP 10 31 21.8 +5.7
KSH S S 10 35 03.6 -8.6
KSH pmax pmax
comp=Z,18nm,1.3s
KSH pmax pmax
comp=Z,220nm,4.4s
KSH LR LR
comp=Z,3μm,13.9s
KSH LR LR
comp=Z,2μm,12.6s
KSH LR LR
comp=Z,4μm,13.7s
KZA Kyzart 23.34 58 P P 10 31 07.3 +5.0
SNR=9.2
KZA Kyzart 23.34 58 iP P 10 31 07.2 +5.0
DHRM DHARAMSHALA 23.56 83 eP P 10 31 05.4 +1.2
DHRM AMB AMB 10 31 15.0
comp=Z,133nm,1.1s
BOLS Boljevac 23.56 306 iP P 10 31 02.1 -1.8
AJM Ajmer 23.60 98 ex P 10 31 06.0 +1.6
GZR Gura Zlata 23.61 310⇑iP P 10 31 03.1 -1.2
IGT Igoumenitsa 23.69 295 eP P 10 31 03.0 -2.2
BHK Bhakra 23.79 85 ex x 10 31 14.2
TKM2 Tokmak 2 23.82 56 P P 10 31 08.4 +1.8
SNR=20
TKM2 Tokmak 2 23.82 56 eP P 10 31 07.4 +0.8
TKM2 pmax pmax
comp=Z,331nm,2.5s
TKM2 Tokmak 2 23.82 56 eP P 10 31 07.3 +0.8
comp=Z,331nm,2.5s
TKM2 Tokmak 2 23.82 56 eP P 10 31 07.3 +0.7
comp=Z,331nm,2.5s
SELS Selova 23.95 304⇑iP P 10 31 06.2 -1.3
PHP Peshkopia 24.02 300 P P 10 31 08.9 +0.6
PHP Peshkopia 24.02 300 P P 10 31 08.9 +0.6
PHP Peshkopia 24.02 300 P P 10 31 08.9 +0.6
PHP Peshkopia 24.02 300 P P 10 31 08.9 +0.6
OBN Obninsk 24.10 343 P P 10 31 09.2 +0.4
comp=Z,400nm,1.0s,SNR=6.9
OBN Obninsk 24.10 343ceP P 10 31 08.0 -0.8
OBN e 10 31 39.7
OBN eS S 10 35 22.5 -1.4
OBN pmax pmax
comp=Z,153nm,1.7s
OBN MLR MLR
comp=Z,1μm,22.0s
OBN Obninsk 24.10 343 P P 10 31 08.8 0.0
comp=Z,38nm,0.7s,baz=152,slow=3.6,SNR=13
OBN S S 10 35 26.6 +2.7
comp=Z,7.3nm,0.3s,baz=80,slow=23,SNR=3.9
OBN LR LR 10 41 48.1
comp=Z,1μm,18.2s,baz=135,slow=40
OBN Obninsk 24.10 343 eP P 10 31 09.2 +0.4
OBN S S 10 35 26.6 +2.7
OBN Obninsk 24.10 343 eP P 10 31 09.2 +0.4
OBN S S 10 35 26.5 +2.7
KEK Kerkira 24.13 295 eP P 10 31 08.4 -0.8
DRGR 24.25 314 ⇑P P 10 31 10.6 +0.3
DRGR 24.25 314⇑iP P 10 31 10.6 +0.3
DRGR 24.25 314 P P 10 31 10.6 +0.3
GRUS Gruza 24.43 306⇑iP P 10 31 11.8 -0.1
MOS Moscow 24.43 345 eP P 10 31 11.4 -0.4
MOS ePPP PPP 10 31 48.9
MOS eS S 10 35 29.2 0.0
MOS eSSS SSS 10 36 25.9
MOS pmax pmax
comp=Z,500nm,1.8s
MOS pmax pmax
comp=Z,207nm,1.3s
MOS MLR MLR
comp=Z,1μm,14.0s
MOS Moscow 24.43 345 eP P 10 31 11.4 -0.4
comp=Z,207nm,1.3s
BZS Buzias 24.44 310 ⇑P P 10 31 11.0 -1.0
BZS Buzias 24.44 310⇑iP P 10 31 11.0 -1.0
BZS Buzias 24.44 310 P P 10 31 11.0 -1.0
SMLA Simla 24.47 85 eP P 10 31 13.2 +0.8
SMLA AMB AMB 10 31 19.5
comp=Z,56nm,1.2s
IVAS Ivanjica 24.72 305 iP P 10 31 14.4 -0.3
TRUS Trudelj 24.75 306⇑iP P 10 31 13.6 -1.2
ARU Arti 24.96 13 P P 10 31 17.8 +1.2
comp=Z,589nm,1.0s,SNR=14
ARU Arti 24.96 13diP P 10 31 17.3 +0.8
ARU 10 31 53.6
ARU S S 10 35 39.3 +1.6
ARU SS SnSn 10 36 35.7 +8.0
ARU pmax pmax
comp=Z,1μm,18.1s
ARU Arti 24.96 13 eP P 10 31 17.4 +0.8
comp=Z,134nm,1.1s
ARU Arti 24.96 13 iP P 10 31 17.3 +0.8
comp=Z,1μm,18.1s
TRPA Tarpa 24.98 316⇑iP P 10 31 17.1 +0.2
DIVS Divibare 24.99 306 P P 10 31 17.4 +0.3
DIVS Divibare 24.99 306⇑iP P 10 31 17.1 0.0
LVV L'vov 25.04 321 eP P 10 31 17.4 0.0
LVV e 10 31 35.0
LVV e 10 31 53.2
LVV eS S 10 35 38.6 -0.6
LVV e 10 36 55.0
LVV L'vov 25.04 321 eP P 10 31 17.4 0.0
NDI New Delhi 25.08 91 eP3 10 31 20.5
FURI Furi 25.14 203 eP P 10 31 23.1 +4.2
UZH Uzhgorod 25.37 317 eP P 10 31 19.3 -1.1
UZH e 10 31 35.5
UZH e 10 32 01.7
UZH e 10 32 10.9
UZH iS S 10 35 43.3 -1.1
UZH Uzhgorod 25.37 317 eP P 10 31 19.3 -1.1
DDI Dehra Dun 25.38 87 eP P 10 31 20.6 -0.2
DDI AMB AMB 10 31 22.2
comp=Z,40nm,0.6s
TEKS Tekeris 25.45 307 iP P 10 31 21.0 -0.2
FGSL Fruska Gora 25.46 308⇑iP P 10 31 21.3 0.0
KOLS Kolonicke sedl 25.54 318 eP P 10 31 22.6 +0.7
KOLS pmax pmax
comp=Z,82nm,1.0s
KOLS Kolonicke sedl 25.54 318 eP P 10 31 22.6 +0.7
KOLS eS S 10 35 55.0 +7.9
KOLS Kolonicke sedl 25.54 318 eP P 10 31 22.6 +0.7
comp=Z,82nm,1.0s
KWP Kalwaria Pacla 25.66 319 eP P 10 31 23.3 +0.3
KWP Kalwaria Pacla 25.66 319 eP P 10 31 23.3 +0.3
KWP Kalwaria Pacla 25.66 319 eP P 10 31 23.2 +0.2
comp=Z,47nm,0.4s
KWP Kalwaria Pacla 25.66 319 eP P 10 31 23.2 +0.2
comp=Z,47nm,0.4s
SVE Sverdlovsk 25.77 16 eP P 10 31 24.8 +0.9
SVE eS S 10 35 51.6 +1.1
SVE pmax pmax
comp=Z,73nm,1.4s
SVE MLR MLR
comp=Z,1μm,13.0s
SVE Sverdlovsk 25.77 16 eP P 10 31 24.8 +0.9
comp=Z,73nm,1.4s
BRVK Borovoye 25.91 31 P P 10 31 26.7 +1.5
comp=Z,237nm,0.9s,SNR=8.3
BRVK Borovoye 25.91 31 eP P 10 31 26.3 +1.1
BRVK pmax pmax
comp=Z,17nm,1.0s
BRVK Borovoye 25.91 31 eP P 10 31 25.5 +0.3
comp=Z,36nm,0.9s
BRVK eScP ScP 10 38 30.4 +0.3
BRVK Borovoye 25.91 31 eP P 10 31 25.5 +0.3
comp=Z,36nm,0.9s
BVA0 Borovoye Array 25.93 31 iP P 10 31 26.0 +0.6
BVA0 pmax pmax
comp=Z,44nm,1.1s
BVA0 Borovoye Array 25.93 31 iP P 10 31 26.0 +0.6
comp=Z,44nm,1.1s
BVAR Borovoye Array 25.93 31 P P 10 31 26.1 +0.6
comp=Z,13nm,0.8s,baz=221,slow=7.9,SNR=24
BVAR S S 10 36 00.7 +7.6
comp=Z,0.9nm,0.8s,baz=243,slow=6.3,SNR=1.7
BVAR ScP ScP 10 38 30.0 -0.2
comp=Z,4.9nm,0.7s,baz=240,slow=2.9,SNR=12
BVAR LR LR 10 43 08.2
comp=Z,846nm,20.1s,baz=264,slow=40
CRVS Cervenica-Dubn 25.99 317 eP P 10 31 26.0 0.0
CRVS pmax pmax
comp=Z,52nm,1.2s
CRVS Cervenica-Dubn 25.99 317 eP P 10 31 26.0 0.0
CRVS eS S 10 36 03.1 +8.9
CRVS Cervenica-Dubn 25.99 317 eP P 10 31 26.0 0.0
comp=Z,52nm,1.2s
VOSK Vostochnaya 25.99 32 P P 10 31 25.3 -0.7
VOSK pmax pmax
comp=Z,19nm,1.2s
VOSK Vostochnaya 25.99 32 P P 10 31 25.3 -0.7
comp=Z,19nm,1.2s
PE1 Pezze di Greco 26.09 297 eP P 10 31 26.0 -1.0
TAR1 Taranto 26.15 297 eP P 10 31 26.5 -1.0
STHS Stebnicka Huta 26.36 318 eP P 10 31 30.4 +1.0
STHS pmax pmax
comp=Z,24nm,1.0s
STHS Stebnicka Huta 26.36 318 eP P 10 31 30.4 +1.0
STHS Stebnicka Huta 26.36 318 eP P 10 31 30.4 +1.0
comp=Z,24nm,1.0s
MICGM Minsk 26.37 333⇓eP P 10 31 28.0 -1.4
MNK Minsk 26.39 333⇓eP P 10 31 28.0 -1.5
MNK eS S 10 35 54.0 -6.3
MNK pmax pmax
comp=N,320nm,1.5s
MNK pmax pmax
comp=E,240nm,1.5s
MNK pmax pmax
comp=Z,360nm,1.0s
MNK MLR MLR
comp=Z,3μm,18.0s
MNK Minsk 26.39 333 eP P 10 31 28.0 -1.5
comp=Z,360nm,1.0s
TIP Timpagrande 26.41 294 P P 10 31 29.9 -0.1
TIP Timpagrande 26.41 294 eP P 10 31 29.1 -0.8
comp=Z,61nm,1.1s
TIP Timpagrande 26.41 294 eP P 10 31 29.1 -0.8
comp=Z,61nm,1.1s
PSZ Piszkesteto 26.46 314 ⇑P P 10 31 30.3 -0.1
PSZ Piszkesteto 26.46 314⇑iP P 10 31 30.3 -0.1
PSZ Piszkesteto 26.46 314 eP P 10 31 29.9 -0.5
comp=Z,88nm,1.2s
PSZ Piszkesteto 26.46 314⇑eP P 10 31 30.7 +0.3
PSZ Piszkesteto 26.46 314 P P 10 31 30.3 -0.1
PKSM Moragy 26.59 310 ⇑P P 10 31 31.5 0.0
PKSM Moragy 26.59 310⇑iP P 10 31 31.5 0.0
PKSM Moragy 26.59 310⇑eP P 10 31 31.5 0.0
PKSM Moragy 26.59 310⇑eP P 10 31 31.5 0.0
POO Poona 26.77 115 eP P 10 31 34.5 +1.1
NIE Niedzica 26.90 317 eP P 10 31 34.1 -0.1
NIE e*PP pP 10 31 44.5 +0.1
NIE Niedzica 26.90 317 eP P 10 31 34.1 -0.1
NIE epP pP 10 31 44.5 +0.1
NIE Niedzica 26.90 317 eP P 10 31 34.1 -0.1
CDT Castel del Mon 26.99 298 eP P 10 31 34.3 -0.9
CEL Celeste 27.02 291 eP P 10 31 35.8 +0.3
comp=Z,124nm,0.9s
CEL Celeste 27.02 291 eP P 10 31 35.8 +0.3
comp=Z,124nm,0.9s
NACGM Naroch 27.10 332 e P 10 31 32.0 -3.9
PKSG 27.18 312⇑eP P 10 31 37.5 +0.7
CUC Castrocucco 27.20 295 eP P 10 31 38.1 +1.0
comp=Z,35nm,0.9s
CUC Castrocucco 27.20 295 eP P 10 31 38.1 +1.0
comp=Z,35nm,0.9s
BHPL Bhopal 27.21 102 eP P 10 31 37.0 -0.2
VYHS Vyhne 27.35 314 eP P 10 31 38.1 -0.2
VYHS pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 27.35 314 eP P 10 31 38.1 -0.2
VYHS eS S 10 36 20.8 +5.1
PKST T's 27.36 312⇑eP P 10 31 39.0 +0.6
OJC Ojcow 27.57 318 eP P 10 31 39.9 -0.4
OJC e*PP pP 10 31 50.4 -0.1
OJC eS S 10 36 18.6 -0.6
OJC MLR MLR
comp=Z,1μm,12.6s
OJC Ojcow 27.57 318 eP P 10 31 39.9 -0.4
OJC epP pP 10 31 50.4 -0.1
OJC eS S 10 36 18.6 -0.6
OJC L L 10 45 21.0
comp=Z,1μm,12.6s
SOKR Solikamsk 27.69 9c iP P 10 31 42.6 +1.5
SOKR S S 10 36 21.1 +0.5
SOKR pmax pmax
comp=Z,20nm,0.9s
SOKR MLR MLR
comp=Z,960nm,15.0s
SUW Suwalki 28.01 328 eP P 10 31 43.5 -0.6
SUW Suwalki 28.01 328 eP P 10 31 43.5 -0.6
KOGS Kog 28.23 309 eP P 10 31 46.2 0.0
OKC Ostrava-Krasne 28.34 317 eP P 10 31 46.3 -0.8
OKC MLR MLR
comp=Z,1μm,16.5s
OKC Ostrava-Krasne 28.34 317 eP P 10 31 46.3 -0.8
OKC ex x 10 37 03.9
OKC AMS AMS 10 46 50.0
comp=Z,1μm,16.5s
OKC Ostrava-Krasne 28.34 317 P P 10 31 46.3 -0.8
BOJS Bojanci 28.63 307 iP P 10 31 49.7 0.0
KURBB Kurchatov Arra 28.65 42 P P 10 31 50.5 +0.8
comp=Z,12nm,0.9s,baz=245,slow=9.4,SNR=38
KURBB ScP ScP 10 38 38.0 -0.4
comp=Z,5.0nm,1.2s,baz=256,slow=3.7,SNR=9.8
MORC Moravsky Berou 28.67 316 ⇑P P 10 31 49.8 -0.3
MORC Moravsky Berou 28.67 316⇑iP P 10 31 49.8 -0.3
MORC Moravsky Berou 28.67 316 eP P 10 31 49.5 -0.6
comp=Z,17nm,1.1s
MORC Moravsky Berou 28.67 316 eP P 10 31 49.5 -0.6
comp=Z,17nm,1.1s
KURK Kurchatov 28.74 42 P P 10 31 51.3 +0.7
comp=Z,91nm,1.1s,SNR=14
KURK Kurchatov 28.74 42 eP P 10 31 51.4 +0.8
KURK Kurchatov 28.74 42 eP P 10 31 51.4 +0.8
KURK ScP ScP 10 38 38.0 -0.7
KURK eScP SS 10 38 38.4 -1.3
KURK Kurchatov 28.74 42 eP P 10 31 51.4 +0.8
ARSA Arzberg 28.96 310⇓iP P 10 31 52.4 -0.3
comp=Z,10.0nm,1.0s
ARSA Arzberg 28.96 310 P P 10 31 52.4 -0.3
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 28.96 351 eP P 10 31 51.1 -1.4
KLMR S S 10 36 45.6 +4.9
KLMR pmax pmax
comp=Z,68nm,1.2s
KLMR MLR MLR
comp=Z,2μm,13.0s
CONA Conrad Observa 28.97 312⇑iP P 10 31 52.5 -0.3
comp=Z,15nm,1.0s,SNR=7.1
CONA Conrad Observa 28.97 312 P P 10 31 52.5 -0.3
comp=Z,15nm,1.0s,SNR=7.1
VRAC Vranov 29.03 315 P P 10 31 53.1 -0.2
VRAC pmax pmax
comp=Z,7.0nm,0.9s
VRAC MLR MLR
comp=Z,16nm,28.6s
VRAC Vranov 29.03 315 P P 10 31 53.1 -0.2
comp=Z,7.2nm,0.9s,baz=115,slow=9.2,SNR=8.5
VRAC LR LR 10 45 34.1
comp=Z,751nm,18.7s,baz=101,slow=41
SOKA Soboth 29.10 309⇑iP P 10 31 53.8 -0.2
comp=Z,8.3nm,1.0s
SOKA Soboth 29.10 309 P P 10 31 53.8 -0.2
comp=Z,8.3nm,1.0s
PRGR Permogore 29.21 357 eP P 10 31 53.4 -1.3
PRGR eS S 10 36 42.0 -2.6
PRGR pmax pmax
comp=Z,17nm,0.8s
MK31 Makanchi Array 29.50 51 iP P 10 31 58.3 +0.8
MK31 pmax pmax
comp=Z,13nm,0.7s
MK31 Makanchi Array 29.50 51 eP P 10 31 57.9 +0.4
MK31 ePcP PcP 10 35 01.7 -0.5
MK31 Makanchi Array 29.50 51 eP P 10 31 57.9 +0.4
MKAR Makanchi Array 29.50 51 P P 10 31 58.4 +0.9
MKAR 10 38 40.5
MKAR pmax pmax
comp=Z,13nm,0.9s
MKAR MLR MLR
comp=Z,16nm,28.6s
MKAR Makanchi Array 29.50 51 P P 10 31 58.4 +0.9
comp=Z,13nm,0.8s,baz=246,slow=7.3,SNR=41
MKAR ScP ScP 10 38 40.5 -0.8
comp=Z,4.8nm,1.1s,baz=262,slow=3.7,SNR=6.4
MKAR LR LR 10 45 45.8
comp=Z,783nm,19.3s,baz=249,slow=40
JAVS Javornik 29.53 307 eP P 10 31 57.6 -0.3
DPC Dobruska-Polom 29.62 317 eP P 10 31 57.6 -0.9
DPC Dobruska-Polom 29.62 317 eP P 10 31 57.0 -1.5
DPC ex x 10 32 02.2
DPC AMS AMS 10 45 50.0
DPC Dobruska-Polom 29.62 317 eP P 10 31 57.6 -0.9
DPC Dobruska-Polom 29.62 317 eP P 10 31 57.6 -0.9
TREC Trest 29.70 314 eP P 10 31 58.8 -0.4
TREC MLR MLR
comp=Z,1μm,10.4s
TREC Trest 29.70 314 eP P 10 31 58.8 -0.4
TREC AMS AMS 10 47 00.0
comp=Z,1μm,10.4s
TREC Trest 29.70 314 P P 10 31 58.8 -0.4
VSU Vasula 29.81 337⇓iP P 10 31 59.4 -0.6
KSP Ksiaz 29.85 317⇑eP P 10 32 00.0 -0.4
KSP Ksiaz 29.85 317 eP P 10 32 00.1 -0.4
UPC Upice 29.87 317 eP P 10 31 59.9 -0.8
UPC Upice 29.87 317 eP P 10 31 59.9 -0.8
UPC ex x 10 32 04.6
UPC Upice 29.87 317 P P 10 31 59.9 -0.8
MOA Molln 29.96 311⇑iP P 10 32 01.4 -0.1
comp=Z,19nm,0.9s,SNR=6.8
MOA Molln 29.96 311 P P 10 32 01.4 -0.1
comp=Z,19nm,0.9s,SNR=6.8
PYUN Piuthan 30.12 89 eP P 10 32 04.0 +0.6
comp=Z,38nm,0.7s
PYUN Piuthan 30.12 89 eP P 10 32 04.0 +0.6
PYUN Piuthan 30.12 89 eP P 10 32 04.0 +0.6

KBA Koelnbreinsper 30.33 309 iP P 10 32 04.9 0.0
comp=Z,37nm,1.0s,SNR=7.9
KBA Koelnbreinsper 30.33 309 P P 10 32 04.9 0.0
comp=Z,37nm,1.0s,SNR=7.9
PRU Pruhonice 30.53 315 eP P 10 32 06.2 -0.3
PRU MLR MLR
comp=Z,900nm,16.7s
PRU Pruhonice 30.53 315 eP P 10 32 06.2 -0.3
PRU AMS AMS 10 47 30.0
comp=Z,900nm,16.7s
PRU Pruhonice 30.53 315 P P 10 32 06.2 -0.3
GEC2 GERESS Array S 30.64 312 eP P 10 32 06.3 -1.3
comp=Z,10.0nm,1.2s
GEC2 GERESS Array S 30.64 312 eP P 10 32 06.3 -1.3
comp=Z,10.0nm,1.2s
GERES GERESS Array B 30.64 312 P P 10 32 06.0 -1.6
GERES 10 35 04.8
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES MLR MLR
comp=Z,16nm,28.6s
GERES GERESS Array B 30.64 312 P P 10 32 06.0 -1.6
comp=Z,3.2nm,0.8s,baz=112,slow=10,SNR=11
GERES PcP PcP 10 35 04.8 -0.4
comp=Z,1.2nm,0.6s,baz=297,slow=0.6,SNR=3.7
GERES LR LR 10 46 26.1
comp=Z,613nm,19.5s,baz=108,slow=40
GERES GERESS Array B 30.64 312 P P 10 32 06.0 -1.6
DANN Dangsing 30.70 88 eP P 10 32 09.3 +0.7
comp=Z,51nm,0.8s
DANN Dangsing 30.70 88 eP P 10 32 09.3 +0.7
DANN Dangsing 30.70 88 eP P 10 32 09.3 +0.7
KOLN Koldanda 30.73 89 eP P 10 32 09.1 +0.3
comp=Z,25nm,1.0s
KOLN Koldanda 30.73 89 eP P 10 32 09.1 +0.3
KOLN Koldanda 30.73 89 eP P 10 32 09.1 +0.3
ABTA Abfaltersbach 30.79 308 ⇑iP P 10 32 08.7 -0.3
comp=Z,19nm,0.9s
ABTA Abfaltersbach 30.79 308 P P 10 32 08.7 -0.3
comp=Z,19nm,0.9s
KHC Kasperske Hory 30.81 313 eP P 10 32 08.1 -0.9
KHC e 10 32 19.5
KHC e 10 32 31.5
KHC MLR MLR
comp=Z,1μm,15.8s
KHC Kasperske Hory 30.81 313 eP P 10 32 08.1 -0.9
KHC epP pP 10 32 19.5 +0.2
KHC ex x 10 32 31.5
KHC AMS AMS 10 47 40.0
comp=Z,1μm,15.8s
KHC Kasperske Hory 30.81 313 eP P 10 32 07.9 -1.1
KHC Kasperske Hory 30.81 313 eP P 10 32 07.9 -1.1
HYB Hyderabad 31.06 112 iP P 10 32 11.5 -0.1
HYB Hyderabad 31.06 112 eP P 10 32 11.5 -0.1
BRG Berggiesshubel 31.22 316 iP P 10 32 11.8 -0.8
comp=Z,26nm,1.8s
comp=Z,850nm,14.8s
comp=N,864nm,18.8s
comp=E,932nm,18.8s
BRG Berggiesshubel 31.22 316 iP P 10 32 11.8 -0.8
BRG pmax pmax
comp=Z,26nm,1.8s
BRG MLR MLR
comp=Z,850nm,14.8s
BRG MLR MLR
comp=N,864nm,18.8s
BRG MLR MLR
comp=E,932nm,18.8s
BRG Berggiesshubel 31.22 316 eP P 10 32 11.3 -1.3
comp=Z,26nm,1.8s
BRG Berggiesshubel 31.22 316 eP P 10 32 11.3 -1.3
comp=Z,26nm,1.8s
WET Wettzell 31.25 313 eP P 10 32 11.3 -1.6
comp=Z,14nm,1.1s
WET Wettzell 31.25 313 eP P 10 32 11.3 -1.6
comp=Z,14nm,1.1s
WTTA Wattenberg 31.50 309 ⇑iP P 10 32 14.7 -0.6
comp=Z,35nm,1.2s,SNR=7.7
WTTA Wattenberg 31.50 309 P P 10 32 14.7 -0.6
comp=Z,35nm,1.2s,SNR=7.7
GKN Gorkha 31.54 89 eP P 10 32 16.4 +0.6
comp=Z,54nm,0.9s
GKN Gorkha 31.54 89 eP P 10 32 16.4 +0.6
GKN Gorkha 31.54 89 eP P 10 32 16.4 +0.6
WATA Walderalm 31.56 309 ⇑iP P 10 32 14.8 -1.0
comp=Z,28nm,1.0s
WATA Walderalm 31.56 309 P P 10 32 14.8 -1.0
comp=Z,28nm,1.0s
VLC Villacollemand 31.74 303 eP P 10 32 17.3 0.0
comp=Z,49nm,0.9s
VLC Villacollemand 31.74 303 eP P 10 32 17.3 0.0
comp=Z,49nm,0.9s
ROTZ Rotzenmuhle 31.86 314 eP P 10 32 17.8 -0.5
comp=Z,106nm,2.0s
ROTZ Rotzenmuhle 31.86 314 eP P 10 32 17.8 -0.5
comp=Z,106nm,2.0s
MOTA Moosalm 31.87 309 ⇑iP P 10 32 17.2 -1.3
comp=Z,33nm,1.0s,SNR=12
MOTA Moosalm 31.87 309 P P 10 32 17.2 -1.3
comp=Z,33nm,1.0s,SNR=12
CLL Collm 31.93 317 eP P 10 32 18.5 -0.3
CLL pmax pmax
comp=Z,16nm,1.0s
CLL Collm 31.93 317 eP P 10 32 17.5 -1.3
comp=Z,21nm,1.2s
CLL Collm 31.93 317 ⇑iP P 10 32 17.9 -0.9
comp=Z,21nm,1.2s
CLL i 10 32 25.7
CLL eS S 10 37 30.0 +2.5
CLL ePcS PcS 10 38 51.0 -1.9
CLL e 10 40 24.0
CLL Collm 31.93 317 eP P 10 32 18.5 -0.3
comp=Z,16nm,1.0s
CLL Collm 31.93 317 eP P 10 32 17.5 -1.3
comp=Z,21nm,1.2s
FUR Furstenfeldbru 31.97 310 eP P 10 32 18.1 -1.2
comp=Z,66nm,0.7s
FUR Furstenfeldbru 31.97 310 eP P 10 32 18.1 -1.2
comp=Z,66nm,0.7s
FETA Feichten 32.04 308 ⇑iP P 10 32 19.6 -0.5
comp=Z,24nm,0.9s,SNR=7.2
FETA Feichten 32.04 308 P P 10 32 19.6 -0.5
comp=Z,24nm,0.9s,SNR=7.2
DMN Daman 32.05 89 eP P 10 32 21.0 +0.5
comp=Z,64nm,1.0s
DMN Daman 32.05 89 eP P 10 32 21.0 +0.5
DMN Daman 32.05 89 eP P 10 32 21.0 +0.5
RETA Reutte 32.13 309 ⇑iP P 10 32 19.6 -1.1
comp=Z,9.5nm,0.7s
RETA Reutte 32.13 309 P P 10 32 19.6 -1.1
comp=Z,9.5nm,0.7s
VSL Villasalto 32.13 294 eP P 10 32 21.6 +0.8
comp=Z,83nm,1.4s
VSL Villasalto 32.13 294 eP P 10 32 21.6 +0.8
comp=Z,83nm,1.4s
KKN Kakani 32.15 89 eP P 10 32 21.9 +0.7
comp=Z,42nm,0.7s
KKN Kakani 32.15 89 eP P 10 32 21.9 +0.7
KKN Kakani 32.15 89 eP P 10 32 21.9 +0.7
KKN Kakani 32.15 89 eP P 10 32 21.9 +0.7
FUORN Ofenpass-Fuorn 32.27 307 eP P 10 32 25.0 +2.9
comp=Z,24nm,1.1s
PKIN Phulchoki 32.31 89 eP P 10 32 23.3 +0.6
comp=Z,16nm,0.5s
PKI Pulchoki 32.32 89 eP P 10 32 23.3 +0.4
comp=Z,82nm,1.0s
PKI Pulchoki 32.32 89 eP P 10 32 23.3 +0.4
PKI Pulchoki 32.32 89 eP P 10 32 23.3 +0.4
PKI Pulchoki 32.32 89 eP P 10 32 23.3 +0.4
JOF Joensuu 32.32 345 eP P 10 32 19.9 -2.2
JOF pmax pmax
comp=Z,18nm,0.8s
JOF Joensuu 32.32 345 ep P 10 32 19.9 -2.2
comp=Z,18nm,0.8s
KEST Kesra 32.34 287 P P 10 32 24.0 +1.2
comp=Z,7.2nm,0.9s,baz=341,slow=0.5,SNR=13
KEST PcP PcP 10 35 11.3 +1.3
comp=Z,1.7nm,0.7s,baz=235,slow=3.3,SNR=2.9
KEST Kesra 32.34 287 eP P 10 32 23.9 +1.2
KEST PcP PcP 10 35 11.3 +1.3
KEST ePcP PcP 10 35 11.7 +1.7
KEST Kesra 32.34 287 eP P 10 32 23.9 +1.2
TMCR Tamitsa 32.35 352 eP P 10 32 23.2 +0.9
TMCR e 10 33 31.7
TMCR pmax pmax
comp=Z,32nm,1.0s

FINES FINESS Array B 32.38 340 P P 10 32 21.1 -1.5
FINES pmax pmax
comp=Z,11nm,0.4s
FINES MLR MLR
comp=Z,873nm,19.1s
FINES FINESS Array B 32.38 340 P P 10 32 21.1 -1.5
comp=Z,6.7nm,0.4s,baz=149,slow=10,SNR=53
FINES LR LR 10 47 40.5
comp=Z,873nm,19.1s,baz=91,slow=40
GRA1 Grafenberg Arr 32.45 313 eP P 10 32 22.6 -0.8
comp=Z,74nm,1.4s
GRF Grafenberg Arr 32.45 313 eP P 10 32 22.6 -0.8
comp=Z,74nm,1.4s
GRF eL L 10 47 12.5
comp=Z,520nm,19.0s
GRFO Grafenberg 32.45 313 eP P 10 32 22.9 -0.5
GRFO Grafenberg 32.45 313 eP P 10 32 22.9 -0.5
GRFO Grafenberg 32.45 313 eP P 10 32 22.9 -0.5
MOX Moxa 32.51 315 eP P 10 32 23.9 -0.1
comp=Z,22nm,1.6s
MOX eL L 10 49 43.3
comp=Z,334nm,18.3s
MOX Moxa 32.51 315 eP P 10 32 23.9 -0.1
comp=Z,22nm,1.6s
DAVOX Davos/Dischmat 32.56 307 P P 10 32 24.3 -0.3
DAVOX S S 10 37 36.7 -1.0
DAVOX pmax pmax
comp=Z,6.0nm,0.5s
DAVOX smax smax
comp=N,3.0nm,1.0s
DAVOX Davos/Dischmat 32.56 307 P P 10 32 24.3 -0.3
comp=N,6.2nm,0.5s,baz=93,slow=4.3,SNR=7.7
DAVOX S S 10 37 36.7 -1.0
comp=N,3.3nm,1.0s,baz=216,slow=19,SNR=3.7
DAVOX LR LR 10 47 17.5
comp=N,502nm,20.5s,baz=83,slow=40
BSD Bornholm Skovb 32.59 324 iP P 10 32 22.9 -1.6
BSD pmax pmax
comp=Z,32nm,0.9s
BSD Bornholm Skovb 32.59 324 iP P 10 32 22.9 -1.6
comp=Z,32nm,0.8s
BSD Bornholm Skovb 32.59 324 iP P 10 32 23.0 -1.6
comp=Z,32nm,0.9s,SNR=54
GUN Gumba 32.62 88 eP P 10 32 26.2 +0.7
comp=Z,103nm,0.9s
GUN Gumba 32.62 88 eP P 10 32 26.2 +0.7
GUN Gumba 32.62 88 eP P 10 32 26.2 +0.7
WMQ Urumqi 32.63 58 P P 10 32 27.6 +2.4
WMQ pP pP 10 32 42.5 +7.0
WMQ sP sP 10 32 49.8 +10
WMQ PP PP 10 33 38.9 -0.3
WMQ PcP PcP 10 35 11.6 +1.0
WMQ S S 10 37 40.3 +1.6
WMQ sS sS 10 38 04.9 +9.2
WMQ PcS PcS 10 38 55.8 0.0
WMQ ScS ScS 10 42 47.8 -3.6
WMQ pmax pmax
comp=Z,21nm,0.6s
WMQ pmax pmax
comp=Z,170nm,6.0s
WMQ LR LR
comp=Z,860nm,15.4s
WMQ LR LR
comp=Z,640nm,12.4s
WMQ LR LR
comp=Z,450nm,24.6s
DAVA Damuels 32.67 308 iP P 10 32 24.6 -0.9
comp=Z,43nm,0.9s,SNR=12
DAVA Damuels 32.67 308 P P 10 32 24.6 -0.9
comp=Z,43nm,0.9s,SNR=12
TUE Stuetta 32.85 307 eP P 10 32 26.7 -0.5
comp=Z,81nm,2.0s
TUE eS S 10 37 48.6 +6.2
TUE Stuetta 32.85 307 eP P 10 32 26.7 -0.5
comp=Z,81nm,2.0s
KAF Kangasniemi 32.86 341 eP P 10 32 24.9 -1.9
KAF pmax pmax
comp=Z,10.0nm,0.8s
KAF Kangasniemi 32.86 341 ep P 10 32 24.9 -1.9
comp=Z,9.7nm,0.8s
JIRN Jiri 32.95 88 eP P 10 32 29.2 +0.7
comp=Z,79nm,1.0s
JIRN Jiri 32.95 88 eP P 10 32 29.2 +0.7
JIRN Jiri 32.95 88 eP P 10 32 29.2 +0.7
NVS Novosibirsk 33.15 37 eP P 10 32 28.5 -0.9
NVS e*PP pP 10 32 51.7 +12
NVS eS S 10 37 42.2 -4.1
NVS pmax pmax
comp=E,13nm,2.0s
NVS pmax pmax
comp=Z,44nm,2.0s
NVS pmax pmax
comp=N,15nm,2.2s
NVS smax smax
comp=N,19nm,1.9s
NVS smax smax
comp=E,14nm,1.7s
RAMN Ramite 33.52 89 eP P 10 32 33.2 -0.1
comp=E,53nm,0.9s
RAMN Ramite 33.52 89 eP P 10 32 33.2 -0.1
RAMN Ramite 33.52 89 eP P 10 32 33.2 -0.1
ZAA0 Zalesovo Array 33.58 39 eP P 10 32 33.4 +0.2
ZAA0 Zalesovo Array 33.58 39 eP P 10 32 33.4 +0.2
ZALV Zalesovo Beam 33.58 39 P P 10 32 33.5 +0.3
ZALV pmax pmax
comp=Z,15nm,0.7s
ZALV MLR MLR
comp=Z,557nm,19.2s
ZALV Zalesovo Beam 33.58 39 P P 10 32 33.5 +0.3
comp=Z,15nm,0.7s,baz=260,slow=8.6,SNR=28
ZALV LR LR 10 48 37.9
comp=Z,557nm,19.2s,baz=250,slow=41
CLZ Clausthal 33.66 316 eP P 10 32 33.4 -0.6
comp=Z,26nm,1.0s
CLZ Clausthal 33.66 316 eP P 10 32 33.4 -0.6
comp=Z,26nm,1.0s
SBF Sospel 33.81 302 ⇑iP P 10 32 35.1 -0.4
comp=Z,77nm,0.8s
SBF Sospel 33.81 302 ⇑iP P 10 32 35.1 -0.4
SBF pmax pmax
comp=Z,77nm,0.8s
SBF Sospel 33.81 302 ⇑iP P 10 32 35.1 -0.4
comp=Z,77nm,0.8s
SBF Sospel 33.81 302 ⇑iP P 10 32 35.1 -0.4
comp=Z,38nm,0.8s
NRDL Niedersach Rie 34.04 317 eP P 10 32 37.2 +0.1
comp=Z,92nm,1.7s
NRDL Niedersach Rie 34.04 317 eP P 10 32 37.2 +0.1
comp=Z,92nm,1.7s
ODAN Odare 34.22 89 eP P 10 32 39.5 +0.1
comp=Z,20nm,0.7s
ODAN Odare 34.22 89 eP P 10 32 39.5 +0.1
ODAN Odare 34.22 89 eP P 10 32 39.5 +0.1
SENIN Lac Senin/Sane 34.23 306 eP P 10 32 38.8 -0.4
SENIN Lac Senin/Sane 34.23 306 eP P 10 32 38.8 -0.4
TNS Taunus Mts 34.31 313 eP P 10 32 38.9 -0.8
comp=Z,78nm,1.7s
TNS Taunus Mts 34.31 313 eP P 10 32 38.9 -0.8
comp=Z,78nm,1.7s
TAPN Taplejung 34.33 88 eP P 10 32 40.9 +0.5
comp=Z,197nm,1.5s
TAPN Taplejung 34.33 88 eP P 10 32 40.9 +0.5
TAPN Taplejung 34.33 88 eP P 10 32 40.9 +0.5
MBDF Montbardon 34.38 303 ⇑iP P 10 32 39.8 -0.7
comp=Z,68nm,0.7s
MBDF Montbardon 34.38 303 ⇑iP P 10 32 39.8 -0.7
MBDF pmax pmax
comp=Z,68nm,0.7s
MBDF Montbardon 34.38 303 ⇑iP P 10 32 39.8 -0.7
comp=Z,68nm,0.7s
MBDF Montbardon 34.38 303 ⇑iP P 10 32 39.8 -0.7
comp=Z,34nm,0.7s
BSEG Bad Segeberg 34.46 320 eP P 10 32 40.2 -0.6
comp=Z,20nm,1.2s
BSEG Bad Segeberg 34.46 320 eP P 10 32 40.2 -0.6
comp=Z,20nm,1.2s
BNI Bardonecchia 34.48 304 eP P 10 32 40.6 -0.7
BNI pmax pmax
comp=Z,64nm,0.8s
BNI Bardonecchia 34.48 304 eP P 10 32 40.6 -0.7
comp=Z,64nm,0.8s
BNI Bardonecchia 34.48 304 eP P 10 32 40.6 -0.7
comp=Z,64nm,0.8s
LPG La Plagne 34.48 304 eP P 10 32 40.7 -0.8
comp=Z,76nm,0.7s
LPG La Plagne 34.48 304 eP P 10 32 40.7 -0.8

LPG pmax pmax
comp=Z,76nm,0.7s
LPG La Plagne 34.48 304 eP P 10 32 40.7 -0.8
comp=Z,76nm,0.7s
LPG La Plagne 34.48 304 eP P 10 32 40.7 -0.8
comp=Z,38nm,0.7s
LPL La Plagne 34.50 304 ⇑iP P 10 32 40.8 -0.8
comp=Z,102nm,0.9s
LPL La Plagne 34.50 304 ⇑iP P 10 32 40.8 -0.8
LPL pmax pmax
comp=Z,102nm,0.9s
LPL La Plagne 34.50 304 ⇑iP P 10 32 40.8 -0.8
comp=Z,102nm,0.9s
LPL La Plagne 34.50 304 ⇑iP P 10 32 40.8 -0.8
comp=Z,51nm,0.9s
CDF Champ du Feu 34.62 310 eP P 10 32 40.6 -1.9
comp=Z,16nm,0.9s
CDF Champ du Feu 34.62 310 eP P 10 32 40.6 -1.9
CDF pmax pmax
comp=Z,16nm,0.9s
CDF Champ du Feu 34.62 310 eP P 10 32 40.6 -1.9
comp=Z,16nm,0.9s
CDF Champ du Feu 34.62 310 eP P 10 32 40.6 -1.9
comp=Z,8.1nm,0.9s
ECH Echery 34.66 309 eP P 10 32 41.4 -1.3
ECH pmax pmax
comp=Z,39nm,1.5s
ECH Echery 34.66 309 eP P 10 32 41.4 -1.3
comp=Z,39nm,1.5s
ECH Echery 34.66 309 eP P 10 32 41.4 -1.3
comp=Z,39nm,1.5s
VIS Vishakhapatnam 34.71 107 eP P 10 32 44.0 +0.6
HINF Hinteralfeld 34.78 308 eP P 10 32 42.5 -1.3
comp=Z,43nm,1.2s
HINF Hinteralfeld 34.78 308 eP P 10 32 42.5 -1.3
HINF pmax pmax
comp=Z,43nm,1.2s
HINF Hinteralfeld 34.78 308 eP P 10 32 42.5 -1.3
comp=Z,43nm,1.2s
HINF Hinteralfeld 34.78 308 eP P 10 32 42.5 -1.3
comp=Z,22nm,1.2s
ORIF Oris-en-Rattie 35.03 303 eP P 10 32 44.7 -1.3
comp=Z,27nm,0.7s
ORIF eR
comp=Z,566nm,22.8s
ORIF Oris-en-Rattie 35.03 303 eP P 10 32 44.7 -1.3
ORIF pmax pmax
comp=Z,27nm,0.7s
ORIF Oris-en-Rattie 35.03 303 eP P 10 32 44.7 -1.3
comp=Z,27nm,0.7s
ORIF Oris-en-Rattie 35.03 303 eP P 10 32 44.7 -1.3
comp=Z,13nm,0.7s
DFRA Djebel Bou Aff 35.05 289 P P 10 32 25.6 -21
DFRA Djebel Bou Aff 35.05 289 P P 10 32 25.6 -21
KMBO Kilima Mbogo 35.05 200 P P 10 32 48.2 +1.6
comp=Z,1.6nm,0.2s,baz=9.3,slow=9.8,SNR=15
KMBO LR LR 10 47 22.4
comp=Z,833nm,19.3s,baz=68,slow=37
KMBO Kilima Mbogo 35.05 200 eP P 10 32 47.6 +1.0
comp=Z,30nm,1.6s
KMBO Kilima Mbogo 35.05 200 eP P 10 32 47.6 +1.0
comp=Z,30nm,1.6s
CABF La Chapelle 35.10 306 ⇑iP P 10 32 46.0 -0.6
comp=Z,128nm,0.9s
CABF La Chapelle 35.10 306 ⇑iP P 10 32 46.0 -0.6
CABF pmax pmax
comp=Z,128nm,0.9s
CABF La Chapelle 35.10 306 ⇑iP P 10 32 46.0 -0.6
comp=Z,128nm,0.9s
CABF La Chapelle 35.10 306 ⇑iP P 10 32 46.0 -0.6
comp=Z,64nm,0.9s
HAU Haudompre 35.15 309 eP P 10 32 45.5 -1.4
comp=Z,25nm,0.8s
HAU eR
comp=Z,416nm,23.0s
HAU Haudompre 35.15 309 eP P 10 32 45.5 -1.4
HAU pmax pmax
comp=Z,25nm,0.8s
HAU Haudompre 35.15 309 eP P 10 32 45.5 -1.4
comp=Z,25nm,0.8s
HAU Haudompre 35.15 309 eP P 10 32 45.5 -1.4
comp=Z,12nm,0.8s
IBBN Ibbenburen 35.34 316 eP P 10 32 48.5 +0.1
comp=Z,35nm,0.8s
IBBN Ibbenburen 35.34 316 eP P 10 32 48.5 +0.1
comp=Z,35nm,0.8s
BUG Bochum--Univer 35.37 315 eP P 10 32 48.3 -0.4
comp=Z,64nm,1.5s
BUG Bochum--Univer 35.37 315 eP P 10 32 48.3 -0.4
comp=Z,64nm,1.5s
SET Setif 35.47 288 P P 10 32 35.0 -15
SET Setif 35.47 288 P P 10 32 35.0 -15
WLF Walferdange 35.61 311 eP P 10 32 49.7 -1.2
comp=Z,21nm,0.8s
WLF Walferdange 35.61 311 eP P 10 32 49.7 -1.2
comp=Z,21nm,0.8s
HFS Hagfors 35.84 331 P P 10 32 51.8 -0.9
HFS pmax pmax
comp=Z,17nm,0.6s
HFS MLR MLR
comp=Z,973nm,19.8s
HFS Hagfors 35.84 331 P P 10 32 51.8 -0.9
comp=Z,17nm,0.6s,baz=120,slow=8.1,SNR=60
HFS LR LR 10 48 50.8
comp=Z,973nm,19.8s,baz=124,slow=38
VIVF Saint-Julien-l 35.88 303 eP P 10 32 51.8 -1.4
comp=Z,37nm,1.1s
VIVF Saint-Julien-l 35.88 303 eP P 10 32 51.8 -1.4
VIVF pmax pmax
comp=Z,37nm,1.1s
VIVF Saint-Julien-l 35.88 303 eP P 10 32 51.8 -1.4
comp=Z,37nm,1.1s
VIVF Saint-Julien-l 35.88 303 eP P 10 32 51.8 -1.4
comp=Z,19nm,1.1s
SSB Saint Sauveur 36.01 304 eP P 10 32 53.2 -1.1
SSB pmax pmax
comp=Z,5.0nm,0.5s
SSB Saint Sauveur 36.01 304 eP P 10 32 53.2 -1.1
comp=Z,5.0nm,0.5s
SSB Saint Sauveur 36.01 304 eP P 10 32 53.2 -1.1
comp=Z,5.0nm,0.5s
SFTF Sexfontaines 36.05 309 eP P 10 32 53.5 -1.1
comp=Z,94nm,1.1s
SFTF Sexfontaines 36.05 309 eP P 10 32 53.5 -1.1
comp=Z,94nm,1.1s
SFTF Sexfontaines 36.05 309 eP P 10 32 53.5 -1.1
comp=Z,47nm,1.1s
MUD Monsted U'grnd 36.08 323 iP P 10 32 54.4 -0.3
MUD pmax pmax
comp=Z,21nm,1.0s
MUD Monsted U'grnd 36.08 323 iP P 10 32 54.4 -0.3
comp=Z,21nm,0.9s
MUD Monsted U'grnd 36.08 323 iP P 10 32 54.4 -0.3
comp=Z,21nm,1.0s,SNR=52
MEZF Maizieres J'vi 36.09 309 eP P 10 32 54.1 -0.9
comp=Z,76nm,0.9s
MEZF Maizieres J'vi 36.09 309 eP P 10 32 54.1 -0.9
comp=Z,76nm,0.9s
MEZF Maizieres J'vi 36.09 309 eP P 10 32 54.1 -0.9
comp=Z,38nm,0.9s
APA Apatity 36.20 350 ⇓iP P 10 32 56.4 +0.8
APA i 10 34 26.6
APA iS S 10 38 32.0 -1.0
APA iSS SnSn 10 40 50.0 -11
APA MLR MLR
comp=Z,1μm,14.0s
BCLA Clavier 36.32 312 P P 10 32 58.5 +1.7
BCLA Clavier 36.32 312 P P 10 32 58.5 +1.7
LASF Ste Croix 36.41 302 ⇑iP P 10 32 56.7 -1.0
comp=Z,42nm,0.9s
LASF Ste Croix 36.41 302 ⇑iP P 10 32 56.7 -1.0
comp=Z,42nm,0.9s
LASF Ste Croix 36.41 302 ⇑iP P 10 32 56.7 -1.0
comp=Z,21nm,0.9s
GIVF Givet 36.55 312 eP P 10 32 58.3 -0.5
comp=Z,72nm,1.2s
GIVF Givet 36.55 312 eP P 10 32 58.3 -0.5
GIVF pmax pmax
comp=Z,72nm,1.2s
GIVF Givet 36.55 312 eP P 10 32 58.3 -0.5
comp=Z,72nm,1.2s
GIVF Givet 36.55 312 eP P 10 32 58.3 -0.5
comp=Z,36nm,1.2s
LSA Lhasa 36.55 83 eP P 10 33 01.6 +1.9
LSA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 36.55 83 eP P 10 33 01.6 +1.9

comp=Z,6.7nm,0.8s
LSA Lhasa 36.55 83 eP P 10 33 01.6 +1.9
comp=Z,6.7nm,0.8s
SMF Signal de Mont 36.63 306⇑ iP P 10 32 58.5 -1.1
comp=Z,116nm,0.8s
SMF Signal de Mont 36.63 306⇑ iP P 10 32 58.5 -1.1
SMF pmax pmax
comp=Z,116nm,0.8s
SMF Signal de Mont 36.63 306⇑ iP P 10 32 58.5 -1.1
comp=Z,116nm,0.8s
SMF Signal de Mont 36.63 306⇑ iP P 10 32 58.5 -1.1
comp=Z,58nm,0.8s
DOU Dourbes 36.69 312 P P 10 32 59.8 -0.2
DOU Dourbes 36.69 312 P P 10 32 59.8 -0.2
LOR Lormes 36.70 307⇑ iP P 10 32 58.8 -1.4
comp=Z,36nm,0.9s
LOR eR
comp=Z,600nm,18.0s
LOR Lormes 36.70 307⇑ iP P 10 32 58.8 -1.4
LOR pmax pmax
comp=Z,37nm,0.9s
LOR Lormes 36.70 307⇑ iP P 10 32 58.8 -1.4
comp=Z,36nm,0.9s
LOR Lormes 36.70 307⇑ iP P 10 32 58.8 -1.4
comp=Z,18nm,0.9s
SSF Saint Saulge 36.91 307⇑ iP P 10 33 00.8 -1.2
comp=Z,44nm,0.8s
SSF Saint Saulge 36.91 307⇑ iP P 10 33 00.8 -1.2
SSF pmax pmax
comp=Z,44nm,0.8s
SSF Saint Saulge 36.91 307⇑ iP P 10 33 00.8 -1.2
comp=Z,44nm,0.8s
SSF Saint Saulge 36.91 307⇑ iP P 10 33 00.8 -1.2
comp=Z,22nm,0.8s
BAIF Baives 36.93 312⇑ iP P 10 33 01.7 -0.4
comp=Z,52nm,1.0s
BAIF Baives 36.93 312⇑ iP P 10 33 01.7 -0.4
BAIF pmax pmax
comp=Z,52nm,1.0s
BAIF Baives 36.93 312⇑ iP P 10 33 01.7 -0.4
comp=Z,52nm,1.0s
BAIF Baives 36.93 312⇑ iP P 10 33 01.7 -0.4
comp=Z,26nm,1.0s
SNF Seneffe 36.97 312 P P 10 33 03.6 +1.2
SNF Seneffe 36.97 312 P P 10 33 03.6 +1.2
AVF Avril sur Loir 36.98 306⇑ iP P 10 33 01.4 -1.2
comp=Z,60nm,1.0s
AVF Avril sur Loir 36.98 306⇑ iP P 10 33 01.4 -1.2
AVF pmax pmax
comp=Z,60nm,1.0s
AVF Avril sur Loir 36.98 306⇑ iP P 10 33 01.4 -1.2
comp=Z,60nm,1.0s
AVF Avril sur Loir 36.98 306⇑ iP P 10 33 01.4 -1.2
comp=Z,30nm,1.0s
BGF Bois d'Agland 37.31 306⇑ iP P 10 33 04.2 -1.2
comp=Z,43nm,0.9s
BGF Bois d'Agland 37.31 306⇑ iP P 10 33 04.2 -1.2
BGF pmax pmax
comp=Z,43nm,0.9s
BGF Bois d'Agland 37.31 306⇑ iP P 10 33 04.2 -1.2
comp=Z,43nm,0.9s
BGF Bois d'Agland 37.31 306⇑ iP P 10 33 04.2 -1.2
comp=Z,22nm,0.9s
NB2 NORSAR Subarra 37.37 331 P P 10 33 04.0 -1.7
comp=Z,8.2nm,0.9s,baz=123,slow=9.3
NB2 NORSAR Subarra 37.37 331 P P 10 33 04.0 -1.7
comp=Z,8.2nm,0.9s,SNR=5.0
NOA NORSAR Array B 37.37 331 P P 10 33 04.1 -1.7
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA MLR MLR
comp=Z,803nm,18.9s
NOA NORSAR Array B 37.37 331 P P 10 33 04.1 -1.7
comp=Z,4.3nm,0.7s,baz=124,slow=8.6,SNR=24
NOA LR LR 10 49 47.0
comp=Z,803nm,18.9s,baz=125,slow=38
EMHD Djebel Mahouad 37.43 289 P P 10 33 07.8 +1.1
EMHD Djebel Mahouad 37.43 289 P P 10 33 07.8 +1.1
SHL Shillong 38.45 89⇑ iP P 10 33 15.0 -0.5
ETRT Tiaret 38.88 288 P P 10 33 18.0 -0.9
ETRT Tiaret 38.88 288 P P 10 33 18.0 -0.9
EANR 'Ain N'Sour 38.95 289 P P 10 33 19.8 +0.4
EANR 'Ain N'Sour 38.95 289 P P 10 33 19.8 +0.4
TAM Tamanrasset 38.96 267 eP P 10 33 20.8 +1.1
TAM pmax pmax
comp=Z,48nm,1.4s
TAM Tamanrasset 38.96 267 eP P 10 33 20.8 +1.1
comp=Z,48nm,1.4s
TAM Tamanrasset 38.96 267 eP P 10 33 20.8 +1.1
comp=Z,48nm,1.4s
KEV Kevo 39.19 348 eP P 10 33 19.3 -1.5
KEV pmax pmax
comp=Z,12nm,0.7s
KEV Kevo 39.19 348 ep P 10 33 19.3 -1.5
comp=Z,12nm,0.7s
ARCES ARCESS Array B 39.26 348 P P 10 33 21.1 -0.4
ARCES pmax pmax
comp=Z,8.0nm,0.7s
ARCES MLR MLR
comp=Z,1μm,20.0s
ARCES ARCESS Array B 39.26 348 P P 10 33 21.1 -0.4
comp=Z,7.7nm,0.7s,baz=153,slow=9.0,SNR=36
ARCES LR LR 10 51 05.7
comp=Z,1μm,20.0s,baz=142,slow=39
LDF La Druitiere 39.51 309 eP P 10 33 22.1 -1.7
LDF La Druitiere 39.51 309 eP P 10 33 22.1 -1.7
LDF La Druitiere 39.51 309 eP P 10 33 22.1 -1.7
LDF La Druitiere 39.51 309 eP P 10 33 22.1 -1.7
FLN La Foliniere 39.77 309 eP P 10 33 24.3 -1.6
FLN eR
comp=Z,585nm,19.0s
FLN La Foliniere 39.77 309 eP P 10 33 24.3 -1.6
FLN La Foliniere 39.77 309 eP P 10 33 24.3 -1.6
FLN La Foliniere 39.77 309 eP P 10 33 24.3 -1.6
GRR Gorron 39.98 308 eP P 10 33 26.2 -1.5
GRR Gorron 39.98 308 eP P 10 33 26.2 -1.5
GRR Gorron 39.98 308 eP P 10 33 26.2 -1.5
GRR Gorron 39.98 308 eP P 10 33 26.2 -1.5
WOL Wolverton 40.54 313 eP P 10 33 31.4 -0.9
WOL AMB AMB 10 33 32.9
comp=Z,193nm,2.1s
WOL Wolverton 40.54 313 eP P 10 33 31.4 -0.9
KBI1 Birley Grange 41.03 316 eP P 10 33 35.9 -0.5
KBI1 Birley Grange 41.03 316 eP P 10 33 35.9 -0.5
STRD Stroud 41.19 313 eP P 10 33 36.5 -1.1
STRD AMB AMB 10 33 43.3
comp=Z,150nm,2.4s
STRD Stroud 41.19 313 eP P 10 33 36.5 -1.1
HPK Haverah Park 41.22 317 eP P 10 33 36.9 -0.9
HPK AMB AMB 10 33 37.5
comp=Z,126nm,2.2s
HPK Haverah Park 41.22 317 eP P 10 33 36.9 -0.9
MONM Monmouth 41.59 313 eP P 10 33 39.7 -1.2
MONM AMB AMB 10 33 41.3
comp=Z,99nm,4.3s
MONM Monmouth 41.59 313 eP P 10 33 39.7 -1.2
HLM1 Long Mynd 41.73 314 eP P 10 33 40.8 -1.3
HLM1 Long Mynd 41.73 314 eP P 10 33 40.8 -1.3
MCH1 Michaelchurch 41.73 313 eP P 10 33 40.3 -1.8
MCH1 AMB AMB 10 33 47.3
comp=Z,116nm,2.7s
MCH1 Michaelchurch 41.73 313 eP P 10 33 40.3 -1.8
GTA Gaotai 41.74 65 eP P 10 33 43.8 +1.3
GTA pP pP 10 33 59.0 +6.0
GTA sP sP 10 34 06.1 +8.9
GTA PcP PcP 10 35 39.0 +0.5
GTA S S 10 39 56.3 -1.0
GTA sS sS 10 40 23.3 +8.7
GTA SS SS 10 42 59.1 -4.5
GTA pmax pmax
comp=Z,14nm,1.7s
GTA pmax pmax
comp=Z,170nm,5.7s
GTA LR LR
comp=Z,1μm,18.1s
GTA LR LR
comp=Z,1μm,17.6s
GTA LR LR
comp=Z,1μm,17.6s
ESY Stoneypath 42.16 319 eP P 10 33 44.5 -1.0
ESY Stoneypath 42.16 319 eP P 10 33 44.5 -1.0
KESW Keswick, Cumbr 42.18 317 eP P 10 33 45.1 -0.7
KESW Keswick, Cumbr 42.18 317 eP P 10 33 45.1 -0.7
ECK Cauldkaine Hil 42.30 318 eP P 10 33 45.4 -1.3
ECK Cauldkaine Hil 42.30 318 eP P 10 33 45.4 -1.3

DRUM Mains of Drumt 42.31 321 eP P 10 33 45.4 -1.3
DRUM AMB AMB 10 33 49.1
comp=Z,61nm,2.9s
DRUM Mains of Drumt 42.31 321 eP P 10 33 45.4 -1.3
EBL Broad Law 42.37 319 eP P 10 33 46.3 -1.0
EBL Broad Law 42.37 319 eP P 10 33 46.3 -1.0
ESK Eskdalemuir 42.37 318 eP P 10 33 46.0 -1.3
ESK AMB AMB 10 33 55.8
comp=Z,84nm,4.0s
ESK Eskdalemuir 42.37 318 eP P 10 33 46.0 -1.3
ESDC Sonseca Array 42.41 295 P P 10 33 47.6 -0.3
comp=Z,4.1nm,0.7s,baz=70,slow=9.3,SNR=22
ESDC ScP ScP 10 39 30.5 +1.9
comp=Z,0.2nm,0.3s,baz=58,slow=4.8,SNR=4.1
WPM1 Penmaenmawr 42.45 315 eP P 10 33 46.8 -1.1
WPM1 Penmaenmawr 42.45 315 eP P 10 33 46.8 -1.1
MME1 Meikle Cairn 42.66 321 eP P 10 33 48.4 -1.2
MME1 Meikle Cairn 42.66 321 eP P 10 33 48.4 -1.2
MCD Coleburn Disti 42.87 322 eP P 10 33 50.1 -1.2
MCD Coleburn Disti 42.87 322 eP P 10 33 50.1 -1.2
EAB Aberfoyle 43.16 319 eP P 10 33 52.6 -1.1
EAB Aberfoyle 43.16 319 eP P 10 33 52.6 -1.1
MVH1 Achvaich 43.43 322 eP P 10 33 54.2 -1.6
MVH1 Achvaich 43.43 322 eP P 10 33 54.2 -1.6
ZAK Zakamensk 43.80 49 eP P 10 33 57.5 -1.5
ZAK e 10 35 42.0
ZAK pmax pmax
comp=Z,8.0nm,2.0s
KAC Achnashellach 43.93 321 eP P 10 33 58.5 -1.3
KAC Achnashellach 43.93 321 eP P 10 33 58.5 -1.3
TLY Talaya 44.10 47 eP P 10 34 05.4 +4.1
TLY eSSS SSS 10 43 36.3
TLY pmax pmax
comp=Z,12nm,1.3s
TLY MLR MLR
comp=Z,668nm,18.0s
ZFT Errachidia 44.21 284 iP P 10 34 03.0 +0.3
MDT Midelt 44.22 285 P P 10 34 02.5 -0.2
comp=Z,12nm,0.9s,baz=93,slow=8.2,SNR=9.9
PBRG Braganca 44.25 298 eP P 10 34 02.0 -0.7
comp=Z,68nm,1.9s
PBRG Braganca 44.25 298 eP P 10 34 02.0 -0.7
comp=Z,68nm,1.9s
IRK Irkutsk 44.52 47 eP P 10 34 03.9 -0.8
IRK e 10 35 52.4
IRK pmax pmax
comp=Z,49nm,1.4s
MVO Moncorvo 44.54 298 eP P 10 34 04.7 -0.4
comp=Z,85nm,1.5s
MVO Moncorvo 44.54 298 eP P 10 34 04.7 -0.4
comp=Z,85nm,1.5s
DGPR DIGLIPUR 44.95 105 eP P 10 34 08.2 -0.3
PBAR Barrancos 45.01 293 eP P 10 34 08.3 -0.4
comp=Z,139nm,2.3s
PBAR Barrancos 45.01 293 eP P 10 34 08.3 -0.4
comp=Z,139nm,2.3s
MTE Manteigas 45.03 297 eP P 10 34 09.2 +0.2
comp=Z,99nm,1.9s
MTE Manteigas 45.03 297 eP P 10 34 09.2 +0.2
comp=Z,99nm,1.9s
PMRV Marv??o 45.06 295 eP P 10 34 08.5 -0.7
comp=Z,56nm,1.6s
PMRV Marv??o 45.06 295 eP P 10 34 08.5 -0.7
comp=Z,56nm,1.6s
PCBR Castelo Branco 45.07 296 eP P 10 34 08.9 -0.3
comp=Z,97nm,1.6s
PCBR Castelo Branco 45.07 296 eP P 10 34 08.9 -0.3
comp=Z,97nm,1.6s
POLO Lamas de Olo 45.09 298 eP P 10 34 09.2 -0.2
comp=Z,47nm,1.9s
POLO Lamas de Olo 45.09 298 eP P 10 34 09.2 -0.2
comp=Z,47nm,1.9s
PVIS Viseu 45.25 297 eP P 10 34 10.0 -0.7
comp=Z,87nm,1.7s
PVIS Viseu 45.25 297 eP P 10 34 10.0 -0.7
comp=Z,87nm,1.7s
KIB El Ksiba 45.44 285 iP P 10 34 14.0 +1.6
LZH Lanzhou 45.44 69 eP P 10 34 13.4 +1.0
LZH pP pP 10 34 30.0 +7.0
LZH sP sP 10 34 35.5 +8.3
LZH PP PP 10 36 01.5 +2.5
LZH eS S 10 40 50.4 -1.2
LZH sS sS 10 41 18.3 +9.3
LZH SS ScS 10 44 04.5 -1.9
LZH pmax pmax
comp=Z,55nm,1.4s
LZH pmax pmax
comp=Z,200nm,5.2s
LZH LR LR
comp=Z,820nm,13.6s
LZH LR LR
comp=Z,1μm,15.0s
LZH LR LR
comp=Z,2μm,18.0s
PVAQ Vaqueiros 45.68 292 eP P 10 34 19.7 +5.7
comp=Z,120nm,1.7s
PCAS Casmilo, Conde 45.81 296 eP P 10 34 15.1 0.0
comp=Z,116nm,1.9s
PCAS Casmilo, Conde 45.81 296 eP P 10 34 15.1 0.0
comp=Z,116nm,1.9s
PTOM Tomar 45.81 296 eP P 10 34 15.1 0.0
comp=Z,127nm,1.3s
PTOM Tomar 45.81 296 eP P 10 34 15.1 0.0
comp=Z,127nm,1.3s
SONM Songino Array 45.84 53 P P 10 34 15.9 +0.5
comp=Z,1.5nm,0.5s,baz=279,slow=8.2,SNR=9.1
SONM PcP PcP 10 35 51.6 -0.6
comp=Z,2.1nm,0.9s,baz=242,slow=3.7,SNR=3.9
SONM ScP ScP 10 39 42.3 -0.2
comp=Z,1.8nm,1.1s,baz=258,slow=5.6,SNR=5.0
TZC Tazercounte 45.93 285 iP P 10 34 17.0 +0.7
MESJ Messejana 45.98 293 eP P 10 34 14.9 -1.5
MESJ Messejana 45.98 293 eP P 10 34 14.9 -1.5
PNCL Nicolau / Gran 46.17 294 eP P 10 34 17.8 -0.1
comp=Z,121nm,1.8s
PNCL Nicolau / Gran 46.17 294 eP P 10 34 17.8 -0.1
comp=Z,121nm,1.8s
VAL Valentia 46.20 313⇓ iP P 10 34 17.2 -0.7
ULN Ulaanbaatar 46.28 53⇑ iP P 10 34 19.5 +0.6
ULN pmax pmax
comp=Z,16nm,1.7s
ULN Ulaanbaatar 46.28 53 eP P 10 34 19.4 +0.6
comp=Z,14nm,0.9s
ULN Ulaanbaatar 46.28 53 eP P 10 34 19.4 +0.6
comp=Z,14nm,0.9s
MHMT Maesarieng 46.60 95 P P 10 34 30.3 +8.8
CD2 Chengdu 46.69 76 P P 10 34 21.5 -0.6
CD2 pP pP 10 34 38.1 +5.4
CD2 sP sP 10 34 45.8 +8.8
CD2 PcP PcP 10 35 54.4 -1.0
CD2 PP PP 10 36 12.0 -0.2
CD2 PcS PcS 10 39 47.9 -2.5
CD2 S S 10 41 05.8 -3.6
CD2 sS sS 10 41 34.3 +7.5
CD2 SS SS 10 44 25.5 -10
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,180nm,5.6s
CD2 LR LR
comp=Z,1μm,27.4s
CD2 LR LR
comp=Z,860nm,21.1s
CD2 LR LR
comp=Z,1μm,18.6s
TOA0 Torodi Ar. Sit 46.72 257 eP P 10 34 22.0 -0.5
TOA0 Torodi Ar. Sit 46.72 257 eP P 10 34 22.0 -0.5
TORD Torodi Ar. Bea 46.72 257 P P 10 34 21.6 -0.9
comp=Z,11nm,0.7s,baz=53,slow=8.5,SNR=66
TORD LR LR 10 56 57.6
comp=Z,872nm,18.8s,baz=50,slow=40
CHTO Chiang Mai 47.16 94 eP P 10 34 26.3 +0.4
CHTO pmax pmax
comp=Z,7.0nm,0.7s
CHTO Chiang Mai 47.16 94 P P 10 34 26.4 +0.5
comp=Z,43nm,1.2s
CHTO Chiang Mai 47.16 94 eP P 10 34 26.3 +0.4
comp=Z,6.8nm,0.7s
CHTO Chiang Mai 47.16 94 eP P 10 34 26.3 +0.4
comp=Z,6.8nm,0.7s
CMMT Chiang Mai 47.17 94 P P 10 34 26.4 +0.4
comp=Z,14nm,1.5s
OUK Oukaimeden 47.32 284 iP P 10 34 27.0 -0.4
CMAR Chiang Mai Arr 47.33 94 P P 10 34 26.7 -0.5
CMAR P 10 35 58.2

CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR MLR MLR
comp=Z,148nm,18.2s
CMAR Chiang Mai Arr 47.33 94 P P 10 34 26.7 -0.5
comp=Z,2.5nm,0.8s,baz=295,slow=8.4,SNR=15
CMAR PcP PcP 10 35 58.2 +0.4
comp=Z,2.9nm,0.9s,baz=290,slow=5.7,SNR=4.5
CMAR LR LR 10 58 04.2
comp=Z,148nm,18.2s,baz=309,slow=41
KMI Kunming 47.77 84 P P 10 34 31.3 +0.5
KMI S S 10 41 21.9 -3.3
KMI pmax pmax
comp=Z,13nm,1.0s
KMI LR LR
comp=Z,200nm,15.6s
KMI LR LR
comp=Z,370nm,16.4s
KMI LR LR
comp=Z,470nm,16.4s
SPITS Spitsbergen Ar 47.87 352 P P 10 34 30.0 -0.6
SPITS pmax pmax
comp=Z,20nm,0.7s
SPITS Spitsbergen Ar 47.87 352 P P 10 34 30.0 -0.6
comp=Z,20nm,0.7s,baz=143,slow=11,SNR=48
JMIC Jan Mayen 48.98 339 LR LR 10 56 01.3
comp=Z,367nm,18.3s,baz=81,slow=37
KBS Kingsbay 49.01 351 iP P 10 34 39.5 +0.1
comp=Z,14nm,0.9s,SNR=46
UTTA Uttaradit 49.01 94 P P 10 34 45.9 +5.7
comp=Z,2.4nm,0.7s
PBKT Sadao Pong 49.91 95 P P 10 34 47.8 +0.7
comp=Z,9.0nm,1.5s,comp=Z,2μm
XAN Xi'an 49.98 71 P P 10 34 47.3 -0.2
XAN pP pP 10 35 03.0 +4.8
XAN sP sP 10 35 10.0 +7.6
XAN S S 10 41 51.6 -4.3
XAN sS sS 10 42 18.3 +4.9
XAN SS SS 10 45 21.1 -7.8
XAN pmax pmax
comp=Z,4.0nm,1.1s
XAN pmax pmax
comp=Z,27nm,5.9s
XAN LR LR
comp=Z,670nm,20.8s
XAN LR LR
comp=Z,370nm,18.6s
XAN LR LR
comp=Z,340nm,20.2s
BOD Bodaibo 50.34 39 eP P 10 34 48.9 -0.9
BOD pmax pmax
comp=Z,22nm,1.7s
HHC Hu-ho-hao-te 50.39 61 eP P 10 34 51.0 +0.4
HHC pP pP 10 35 03.5 +2.3
HHC S S 10 41 57.6 -3.9
HHC SS SS 10 45 30.9 -4.3
HHC pmax pmax
comp=Z,33nm,0.6s
HHC LR LR
comp=Z,2μm,26.0s
HHC LR LR
comp=Z,1μm,17.2s
HHC LR LR
comp=Z,2μm,26.0s
GYA Guiyang 50.56 81⇑ iP P 10 34 51.3 -0.8
GYA pP pP 10 35 09.3 +6.5
GYA sP sP 10 35 16.0 +9.0
GYA PP PP 10 36 48.8 +0.8
GYA ScP ScP 10 39 57.3 -5.6
GYA S S 10 42 01.8 -2.5
GYA SS SS 10 45 32.5 -6.0
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,540nm,19.0s
GYA LR LR
comp=Z,490nm,20.4s
GYA LR LR
comp=Z,550nm,18.8s
OPO Ambohidratompo 50.78 181 P P 10 34 55.9 +2.2
comp=Z,6.1nm,0.7s,baz=320,slow=7.9,SNR=6.3
OPO LR LR 10 56 10.9
comp=Z,507nm,21.6s,baz=358,slow=36
ABPO Ambohimpanom 51.23 181 eP P 10 34 59.5 +2.5
ABPO pmax pmax
comp=Z,26nm,1.2s
ABPO Ambohimpanom 51.23 181 eP P 10 34 59.5 +2.5
comp=Z,26nm,1.2s
ABPO Ambohimpanom 51.23 181 eP P 10 34 59.5 +2.5
comp=Z,26nm,1.2s
LSZ Lusaka 51.28 205 eP P 10 34 59.6 +2.2
LSZ Lusaka 51.28 205 P P 10 34 59.2 +1.8
comp=Z,12nm,0.9s,baz=21,slow=11,SNR=12
LSZ Lusaka 51.28 205 eP P 10 34 59.6 +2.2
LSZ Lusaka 51.28 205 eP P 10 34 59.6 +2.2
ENH Enshi 51.58 75 eP P 10 35 02.8 +3.2
comp=Z,8.9nm,0.7s
DAG Danmarks Havn 53.41 345⇑ iP P 10 35 11.8 -0.5
DAG pmax pmax
comp=Z,10.0nm,0.8s
DAG Danmarks Havn 53.41 345⇑ iP P 10 35 11.8 -0.5
comp=Z,13nm,0.8s
HIA Hailar 54.49 50⇓ iP P 10 35 21.6 +0.9
HIA pmax pmax
comp=Z,11nm,1.2s
HIA Hailar 54.49 50 eP P 10 35 21.6 +0.9
comp=Z,25nm,1.1s
HIA Hailar 54.49 50 eP P 10 35 21.6 +0.9
comp=Z,25nm,1.1s
WHN Wuhan 55.44 73 P P 10 35 30.6 +2.8
DBIC Dimbokro 55.66 255 eP P 10 35 29.3 -0.3
DBIC Dimbokro 55.66 255 P P 10 35 29.1 -0.5
comp=Z,26nm,1.1s,baz=43,slow=9.2,SNR=12
DBIC LR LR 11 02 01.2
comp=Z,794nm,18.8s,baz=31,slow=39
DBIC Dimbokro 55.66 255 eP P 10 35 29.3 -0.3
DBIC Dimbokro 55.66 255 eP P 10 35 29.3 -0.3
KULM Kulim 55.67 108 eP P 10 35 29.3 -0.4
comp=Z,215nm,2.3s
KULM Kulim 55.67 108 eP P 10 35 29.3 -0.4
comp=Z,215nm,2.3s
KIC Kosan Boka 55.74 254 eP P 10 35 30.1 -0.1
comp=Z,144nm,1.2s
TIA Tai'an 55.79 66 ⇑P P 10 35 30.6 +0.3
TIA pmax pmax
comp=Z,30nm,1.0s
TIC Toumodi 55.81 255 eP P 10 35 30.5 -0.2
comp=Z,37nm,1.0s
LIC Lamto 56.05 254⇑ iP P 10 35 32.2 -0.2
comp=Z,85nm,1.0s
LIC eR
comp=Z,1μm,22.2s
LIC Lamto 56.05 254 eP P 10 35 32.2 -0.2
comp=Z,132nm,1.2s
LIC Lamto 56.05 254⇑ iP P 10 35 32.2 -0.2
comp=Z,85nm,1.0s
LIC Lamto 56.05 254⇑ iP P 10 35 32.2 -0.2
comp=Z,43nm,1.0s
QIZ Qiongzhong 56.27 88 P P 10 35 28.1 -5.8
QIZ sP sP 10 35 54.5 +5.6
QIZ S S 10 43 16.3 -5.4
QIZ sS sS 10 43 44.4 +5.0
QIZ pmax pmax
comp=Z,8.0nm,0.9s
QIZ pmax pmax
comp=Z,150nm,7.7s
QIZ LR LR
comp=Z,330nm,21.0s
QIZ LR LR
comp=Z,170nm,20.5s
IPM Ipoh 56.45 108 eP P 10 35 33.9 -1.3
comp=Z,21nm,0.8s
IPM Ipoh 56.45 108 eP P 10 35 33.9 -1.3
comp=Z,21nm,0.8s
TIXI Tiksi 56.54 22⇓ iP P 10 35 34.7 -0.4
TIXI pmax pmax
comp=Z,20nm,1.2s
TIXI Tiksi 56.54 22 eP P 10 35 34.6 -0.4
comp=Z,22nm,1.1s
TIXI Tiksi 56.54 22 eP P 10 35 34.6 -0.5
comp=Z,22nm,1.1s
YAK Yakutsk 57.88 33 eP P 10 35 44.7 +0.1
YAK pmax pmax
comp=Z,12nm,1.1s

YAK pmax pmax
comp=E,8.0nm,1.3s
SUMG Summit 58.41 339⇑iP P 10 35 48.8 +0.1
SUMG pmax pmax
comp=Z,22nm,0.8s
SUMG Summit 58.41 339⇑iP P 10 35 48.8 +0.1
comp=Z,22nm,0.8s
SUMG Summit 58.41 339 eP P 10 35 48.5 -0.2
comp=Z,31nm,0.9s
SUMG Summit 58.41 339 eP P 10 35 48.5 -0.2
comp=Z,31nm,0.9s
NJ2 Nanjing 58.52 70 eP P 10 35 50.0 +0.4
NJ2 pP **pP 10 36 03.9 +3.5**
NJ2 sP sP 10 36 11.3 +6.7
NJ2 pmax pmax
comp=Z,20nm,0.9s
CN2 Changchun 59.62 55 eP P 10 36 01.6 +4.5
CN2 pmax pmax
comp=Z,10.0nm,1.2s
QZH Quanzhou 61.05 77⇓iP P 10 36 09.1 +2.0
QZH S S 10 44 14.1 -10
LBTB Lobatse 61.18 204 eP P 10 36 09.9 +2.0
LBTB pmax pmax
comp=Z,29nm,0.9s
LBTB Lobatse 61.18 204 eP P 10 36 09.9 +2.0
comp=Z,29nm,0.9s
LBTB Lobatse 61.18 204 eP P 10 36 09.9 +2.0
comp=Z,29nm,0.9s
KLR Kul'dur 62.12 47 eP P 10 36 08.8 -5.1
MDJ Mudanjiang 62.20 53 P **P 10 36 13.8 -0.8**
MDJ pP **pP 10 36 29.6 +4.1**
MDJ sP sP 10 36 36.6 +7.0
MDJ S **S 10 44 35.9 -1.8**
MDJ sS sS 10 45 03.8 +8.2
MDJ LR LR
comp=Z,1µm,21.2s
MDJ LR LR
comp=Z,2µm,21.0s
MDJ LR LR
comp=Z,2µm,22.8s
YHNB Yeheng 63.46 77 eP P 10 36 24.9 +1.5
comp=Z,22nm,1.0s
YHNB Yeheng 63.46 77 eP P 10 36 24.9 +1.5
comp=Z,22nm,1.0s
KSAR Wonju Array Be 63.50 61 P **P 10 36 22.4 -1.0**
KSAR Wonju Array Be 63.50 61 P **P 10 36 22.4 -1.0**
KSAR Wonju Array Be 63.50 61 P **P 10 36 22.4 -1.0**
KSRS Korea Array 63.52 61 P **P 10 36 22.4 -1.1**
KSRS pmax pmax
comp=Z,4.0nm,0.5s
KSRS Korea Array 63.52 61 P **P 10 36 22.4 -1.1**
comp=Z,3.7nm,0.5s,baz=283,slow=7.2,SNR=21
SFJD Kangerlussuaq 63.92 334 LR LR 11 05 05.9
comp=Z,343nm,19.2s,baz=62,slow=37
USRK Ussuriysk Arra 63.95 53 P **P 10 36 25.2 -1.0**
comp=Z,4.2nm,0.7s,baz=276,slow=6.3,SNR=11
BOSA Boshof 64.62 202 P **P 10 36 31.8 +1.1**
BOSA pmax pmax
comp=Z,29nm,1.0s
BOSA MLR MLR
comp=Z,975nm,18.7s
BOSA Boshof 64.62 202 P **P 10 36 31.8 +1.1**
comp=Z,29nm,1.0s,baz=28,slow=6.2,SNR=15
BOSA LR LR 11 06 01.7
comp=Z,974nm,18.7s,baz=18,slow=37
SUR Sutherland 69.58 205 P **P 10 37 03.4 +1.1**
comp=Z,15nm,1.0s,baz=292,slow=1.6,SNR=3.4
BILL Bilibino 69.72 21⇑iP P 10 37 02.6 +0.1
BILL e 10 39 36.2
BILL eS **S 10 46 11.4 +2.9**
BILL pmax pmax
comp=Z,42nm,2.5s
YSS Yuzh-Sakhalins 69.80 47 eP P 10 37 04.8 +1.5
RES Resolute Bay 70.41 350 eP P 10 37 06.6 0.0
RES pmax pmax
comp=Z,15nm,1.3s
RES Resolute Bay 70.41 350 eP P 10 37 06.5 0.0
comp=Z,15nm,1.3s
RES Resolute Bay 70.41 350 eP P 10 37 06.6 0.0
comp=Z,15nm,1.3s
PETK Petropavlovsk- 75.05 36 LR LR 11 14 38.1
comp=Z,152nm,19.2s,baz=287,slow=39
SCHQ Schefferville 76.84 327 P **P 10 37 45.3 +0.6**
comp=Z,4.7nm,0.9s,baz=17,slow=1.9,SNR=8.0
TNA Tin City 78.30 15 eP P 10 37 52.0 -0.6
comp=Z,16nm,1.3s
TNA Tin City 78.30 15 eP P 10 37 52.0 -0.6
comp=Z,16nm,1.3s
GAMB Gambell 78.95 17 eP P 10 37 55.8 -0.4
comp=Z,8.7nm,1.1s
GAMB Gambell 78.95 17 eP P 10 37 55.8 -0.4
comp=Z,8.7nm,1.1s
COLD Coldfoot 79.60 7 eP P 10 38 00.3 +0.5
comp=Z,17nm,1.1s
COLD Coldfoot 79.60 7 eP P 10 38 00.3 +0.5
comp=Z,17nm,1.1s
IM04 Indian Mountai 80.37 9 eP P 10 38 03.5 -0.5
IM04 Indian Mountai 80.37 9 eP P 10 38 03.5 -0.5
COLA College 82.13 7 eP P 10 38 13.1 -0.2
COLA pmax pmax
comp=Z,23nm,1.1s
COLA College 82.13 7 eP P 10 38 13.1 -0.2
comp=Z,23nm,1.1s
COLA College 82.13 7 eP P 10 38 13.1 -0.2
comp=Z,23nm,1.1s
ILAR Eielson Array 82.32 7 P **P 10 38 13.8 -0.5**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 82.32 7 P **P 10 38 13.8 -0.5**
comp=Z,1.4nm,0.7s,baz=325,slow=3.6,SNR=17
FX1 Attu Island--F 82.35 30 LR LR 11 20 51.4
comp=Z,166nm,18.3s,baz=320,slow=40
EGAK Eagle 82.77 4 eP P 10 38 16.6 0.0
comp=Z,8.4nm,0.8s
EGAK Eagle 82.77 4 eP P 10 38 16.6 0.0
comp=Z,8.4nm,0.8s
KTH Kantishna Hill 83.06 9 eP P 10 38 17.6 -0.7
comp=Z,26nm,1.3s
KTH Kantishna Hill 83.06 9 eP P 10 38 17.6 -0.7
comp=Z,26nm,1.3s
MCK McKinley 83.12 8 eP P 10 38 17.9 -0.6
MCK pmax pmax
comp=Z,23nm,1.3s
MCK McKinley 83.12 8 eP P 10 38 17.9 -0.6
comp=Z,24nm,1.3s
MCK McKinley 83.12 8 eP P 10 38 17.9 -0.6
comp=Z,24nm,1.3s
PPLA Purkeypile 83.52 9 eP P 10 38 21.5 +0.7
comp=Z,1.8nm,0.5s
PPLA Purkeypile 83.52 9 eP P 10 38 21.5 +0.7
comp=Z,1.8nm,0.5s
DAWY Dawson 83.57 3 eP P 10 38 20.6 -0.3
DAWY Dawson 83.57 3 eP P 10 38 20.6 -0.3
DOT Dot Lake 83.68 6 eP P 10 38 21.6 +0.2
comp=Z,19nm,1.1s
DOT Dot Lake 83.68 6 eP P 10 38 21.6 +0.2
comp=Z,19nm,1.1s
FCC Fort Churchill 83.86 341 eP P 10 38 22.4 +0.1
FCC Fort Churchill 83.86 341 eP P 10 38 22.4 +0.1
comp=Z,1.0nm,1.5s
FCC Fort Churchill 83.86 341 eP P 10 38 22.4 +0.1
comp=Z,1.0nm,1.5s
YKA Yellowknife Ar 84.36 352 P **P 10 38 24.0 -0.8**
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 84.36 352 P **P 10 38 24.0 -0.8**
comp=Z,2.6nm,0.9s,baz=11,slow=5.3,SNR=38
YKA Yellowknife Ar 84.36 352 P **P 10 38 24.0 -0.8**
MENT Mentasta 84.41 6 eP P 10 38 25.4 +0.2
MENT Mentasta 84.41 6 eP P 10 38 25.4 +0.2
PMR Palmer 85.18 8 eP P 10 38 28.9 0.0
PMR pmax pmax
comp=Z,37nm,1.4s
PMR Palmer 85.18 8 eP P 10 38 28.9 0.0
comp=Z,37nm,1.4s
PMR Palmer 85.18 8 eP P 10 38 28.9 0.0
comp=Z,37nm,1.4s
RC01 Rabbit Creek A 85.59 9 eP P 10 38 30.9 -0.1
comp=Z,27nm,1.2s
RC01 Rabbit Creek A 85.59 9 eP P 10 38 31.0 -0.1
comp=Z,27nm,1.2s
KDAK Kodiak Island 88.36 11 eP P 10 38 45.0 +0.5
DLBC Dease Lake 89.41 359 eP P 10 38 50.7 +1.1
DLBC Dease Lake 89.41 359 eP P 10 38 50.7 +1.1
FFC Flin Flon 89.47 343 eP P 10 38 49.2 -0.6
FFC pmax pmax
comp=Z,16nm,1.5s
FFC Flin Flon 89.47 343 eP P 10 38 49.2 -0.6
comp=Z,16nm,1.5s
FFC Flin Flon 89.47 343 eP P 10 38 49.2 -0.6
comp=Z,16nm,1.5s
ULM Lac du Bonnet 91.75 338 P **P 10 38 59.3 -1.2**
ULM pmax pmax
comp=Z,3.0nm,0.7s
ULM Lac du Bonnet 91.75 338 P **P 10 38 59.2 -1.2**
comp=Z,3.7nm,0.9s,baz=57,slow=2.3,SNR=8.1
WRA Warramunga Arr 97.19 109 P **P 10 39 25.3 -0.7**
comp=Z,0.4nm,0.4s,baz=314,slow=4.1,SNR=6.8
ASAR Alice Springs 98.79 112 P **P 10 39 31.3 -1.8**
ASAR pmax pmax
comp=Z,4.0nm,0.3s
ASAR Alice Springs 98.79 112 P **P 10 39 31.2 -1.8**
comp=Z,0.5nm,0.7s,baz=303,slow=4.5,SNR=7.2
LPAZ La Paz 120.75 270 PKIKP **PKPdf 10 44 46.0 -0.3**
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 120.75 270 PKP **PKPdf 10 44 46.0 -0.3**
comp=Z,1.1nm,0.7s,baz=182,slow=6.6,SNR=4.1
QSPA South Pole Qui 122.32 180 ePKPdf PKPdf 10 44 47.4 +0.3
QSPA South Pole Qui 122.32 180 ePKIKP PKPdf 10 44 47.4 +0.3
CFAA Coronel Fontan 127.01 253 PKP **PKPdf 10 44 57.4 +0.2**
comp=Z,0.3nm,0.8s,baz=34,slow=0.7,SNR=4.9

ISCJB 23 10:31:36.3±0.5, 57.71S±0.07×65.9W±0.3, h10km, mb4.5/12, MS3.6/5, Error ellipse: s-maj=21.6km s-min=6.4km az=160.1
IDC 23 10:31:36.4±0.7, 57.73S×65.89W, h0km, mb4.3/8, mb1 4.4/10, mb1mx4.2/33, mbtmp4.3/10, ML4.0/2, MS4.1/7, Ms1 4.1/7, ms1mx3.9/21, Error ellipse: s-maj=35.7km s-min=15.4km az=81.0
NEIC 23 10:31:41.5±2.0, 57.69S×66.11W, h35km±17km, mb4.8/5, Error ellipse: s-maj=24.4km s-min=11.5km az=84.0
ISC 23 10:31:37.8±0.5, 57.69S±0.08×65.9W±0.2, h10km, n48, σ0.91/53, mb4.4/12, MS3.7/5, Drake Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**3.18**	**333**	Pn	**Pn**	**10 32 28.2**	**+0.4**
	18nm,0.3s,baz=146,slow=13,SNR=69						
USHA				Sn	**Sn**	**10 33 07.0**	**+1.3**
	43nm,0.3s,baz=58,slow=18,SNR=8.1						
USHA				LR	LR	10 33 42.2	
	comp=Z,5µm,18.6s,baz=134,slow=39						
PMSA	**Palmer Station**	**7.17**	**174**	LR	LR	10 35 23.5	
	comp=Z,3µm,19.7s,baz=326,slow=32						
PLCA	**Paso Flores**	**17.23**	**348**	P	**P**	**10 35 39.7**	**-0.2**
	0.1nm,0.3s,baz=99,slow=0.8,SNR=3.6						
PLCA				LR	LR	10 42 45.4	
	comp=Z,1µm,18.2s,baz=186,slow=39						
PLCA	**Paso Flores**	**17.23**	**348**	*e*Pn	**P**	**10 35 39.5**	**-0.4**
	88nm,1.6s						
PLCA				*e*Sn	**Sn**	**10 38 48.9**	**-1.0**
TRQA	**Tornquist**	**19.81**	**9**	*e*P	**Pn**	**10 36 09.7**	**-0.2**
	51nm,1.0s						
CFAA	**Coronel Fontan**	**26.13**	**356**	LR	LR	10 47 18.3	
	comp=Z,24nm,21.8s,baz=190,slow=36						
VNA3	**Neumayer Olymp**	**26.54**	**143**	P	**P**	**10 37 15.2**	**0.0**
VNA2	**Neumayer--Watz**	**27.28**	**142**	P	**P**	**10 37 21.5**	**-0.4**
	baz=272,slow=9.4						
SNAA	**Sanae**	**28.71**	**144**	P	**P**	**10 37 34.2**	**-0.5**
SNAA	**Sanae**	**28.71**	**144**	P	**P**	**10 37 33.7**	**-1.0**
	2.8nm,0.9s,baz=302,slow=11,SNR=7.8						
SNAA				LR	LR	10 46 56.9	
	comp=Z,97nm,19.4s,baz=264,slow=32						
SNAA	**Sanae**	**28.71**	**144**	*e*P	**P**	**10 37 34.6**	**-0.1**
CPUP	**Villa Florida**	**31.93**	**15**	LR	LR	10 51 35.9	
	comp=Z,306nm,19.4s,baz=172,slow=38						
QSPA	**South Pole Qui**	**32.55**	**180**	P	**P**	**10 38 09.2**	**+0.5**
	18nm,1.0s,baz=149,slow=4.8,SNR=26						
QSPA	**South Pole Qui**	**32.55**	**180**	*e*P	**P**	**10 38 08.5**	**-0.2**
	21nm,0.9s						
LPAZ	**La Paz**	**41.36**	**357**	P	**P**	**10 39 25.4**	**+0.9**
	4.4nm,0.7s,baz=134,slow=3.9,SNR=12						
LPAZ				LR	LR	10 58 33.2	
	comp=Z,319nm,18.4s,baz=170,slow=39						
SIV	**San Ignacio**	**41.78**	**7**	P	**P**	**10 39 26.5**	**-0.8**
	4.5nm,0.9s,baz=198,slow=5.4,SNR=8.7						
VNDA	**Vanda**	**41.86**	**194**	LR	LR	10 54 38.0	
	comp=Z,94nm,20.2s,baz=160,slow=33						
BDFB	**Brasilia**	**44.08**	**25**	P	**P**	**10 39 46.3**	**+0.3**
	2.8nm,0.7s,baz=195,slow=8.1,SNR=3.1						
OTAV	**Otavalo**	**58.61**	**345**	*e*P	**P**	**10 41 34.6**	**-0.7**
	14nm,1.1s						
H10S3	**ASCENSION HYDR**	**62.46**	**60**	T	T	11 46 57.3	
	baz=204,slow=75,SNR=12						
H10S2	**ASCENSION HYDR**	**62.46**	**60**	T	T	11 46 57.2	
	baz=204,slow=75,SNR=8.7						
H10S1	**ASCENSION HYDR**	**62.47**	**60**	T	T	11 46 58.6	
	baz=204,slow=75,SNR=6.0						
JTS	**JuntasAbangare**	**69.51**	**340**	*e*P	**P**	**10 42 44.5**	**-1.8**
	11nm,1.3s						
APG	**El Apazote**	**75.21**	**335**	P	**P**	**10 43 18.2**	**-2.4**
	5.4nm,0.5s,baz=174,slow=2.0,SNR=3.5						
STKA	**Stephens Creek**	**87.82**	**203**	P	**P**	**10 44 27.2**	**+0.2**
	2.4nm,0.9s,baz=190,slow=20,SNR=3.1						
TORD	**Torodi Ar. Bea**	**89.51**	**64**	P	**P**	**10 44 36.4**	**+1.3**
	0.8nm,1.1s,baz=212,slow=2.5,SNR=2.6						
TXAR	**Lajitas Array**	**92.30**	**328**	P	**P**	**10 44 49.0**	**+1.2**
	0.8nm,0.8s,baz=155,slow=15,SNR=5.2						
ASAR	**Alice Springs**	**97.27**	**198**	P	**P**	**10 45 10.2**	**-0.6**
	5.2nm,0.3s,baz=156,slow=4.9,SNR=3.6						
WRA	**Warramunga Arr**	**100.84**	**199**	P	**Pdif**	**10 45 24.9**	**-1.9**
	1.0nm,0.8s,baz=172,slow=4.1,SNR=6.4						
YKA	**Yellowknife Ar**	**125.62**	**335**	PKP	**PKPdf**	**10 50 38.4**	**+0.7**
	0.3nm,0.7s,baz=144,slow=2.1,SNR=6.5						
BRTR	**Keskin Array B**	**127.29**	**73**	PKP	**PKPdf**	**10 50 41.3**	**-0.6**
	0.4nm,0.7s,baz=288,slow=0.5,SNR=2.7						
CMAR	**Chiang Mai Arr**	**139.26**	**158**	PKP	**PKPdf**	**10 51 05.0**	**+0.1**
	0.4nm,0.3s,baz=222,slow=3.4,SNR=4.7						
AKTO	**Aktyubinsk**	**147.17**	**78**	PKPbc	**PKPbc**	**10 51 18.8**	**+1.0**
	3.4nm,0.9s,baz=247,slow=3.4,SNR=6.3						
ABKAR	**Akbulak array**	**147.51**	**81**	*e*PKPbc	**PKPdf**	**10 51 18.7**	**+0.5**
LSA	**Lhasa**	**147.81**	**141**	*e*PKPbc	**PKPbc**	**10 51 24.0**	**+1.0**
KKAR	**Karatay Array**	**149.25**	**99**	*e*PKPbc	**PKPbc**	**10 51 26.1**	**+0.4**
KKAR				*e*PKPab	**PKPab**	**10 51 29.4**	**-1.0**
AML	**Almayashu**	**150.25**	**104**	P	**PKPbc**	**10 51 30.0**	**+1.4**
	SNR=7.4						
ARU	**Arti**	**150.50**	**68**	*e*PKPdf	**PKPdf**	**10 51 22.8**	**-0.1**
ARU				*e*PKPbc	**PKiKP**	**10 51 28.9**	**0.0**
ARU				*e*PKPab	**PKPab**	**10 51 34.5**	**-0.5**
EKS2	**Erkin-Say**	**150.66**	**103**	*e*PKPdf	**PKPdf**	**10 51 25.1**	**+1.3**
EKS2				*e*PKPbc	**PKPbc**	**10 51 29.5**	**+0.2**
EKS2				*e*PKPab	**PKPab**	**10 51 36.1**	**-0.2**
UCH	**Uchtor**	**150.74**	**105**	P	**PKPbc**	**10 51 31.5**	**+1.6**
	SNR=6.3						
KZA	**Kyzart**	**151.01**	**106**	P	**PKPbc**	**10 51 32.1**	**+1.6**
	SNR=5.3						
AAK	**Ala-Archa**	**151.02**	**104**	P	**PKPbc**	**10 51 30.5**	**+0.3**
	SNR=11						
AAK	**Ala-Archa**	**151.02**	**104**	PKPbc	**PKPbc**	**10 51 30.5**	**+0.3**
	7.1nm,0.7s,baz=156,slow=4.9,SNR=30						
AAK	**Ala-Archa**	**151.02**	**104**	*e*PKPdf	**PKPdf**	**10 51 24.3**	**-0.1**
AAK				*e*PKPbc	**PKPbc**	**10 51 30.0**	**-0.1**
AAK				PKPbc	**PKPbc**	**10 51 30.5**	**+0.3**
AAK				*e*PKPab	**PKPab**	**10 51 37.7**	**-0.1**
KBK	**Karagaybulak**	**151.27**	**104**	P	**PKPbc**	**10 51 32.2**	**+1.4**
	SNR=7.5						
USP	**Ospenovka**	**151.47**	**103**	P	**PKPbc**	**10 51 32.0**	**+1.0**
	SNR=12						
TKM2	**Tokmak 2**	**151.79**	**105**	P	**PKPbc**	**10 51 30.9**	**-1.1**
	SNR=8.0						
TKM2	**Tokmak 2**	**151.79**	**105**	*e*PKPdf	**PKPdf**	**10 51 25.4**	**-0.2**
TKM2				*e*PKPbc	**PKPbc**	**10 51 31.5**	**-0.5**
TKM2				*e*PKPab	**PKPab**	**10 51 40.4**	**-0.7**

CSEM 23 10:36:36.5, 65.09N×19.46E, h0km, ML1.0, Mining explosion. After UPP
UPP 23 10:36:36.5, 65.09N×19.46E, h0km, ML1.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LILU	**Lilltraesk**	**0.26**	**39**	P	Pg	10 36 41.6	+0.1
LILU				S	Sg	10 36 45.4	+0.6
BURU	**Burvik**	**0.96**	**121**	P	Pg	10 36 54.4	-0.5
SJUU	**Sjulsmark**	**1.00**	**64**	P	Pg	10 36 55.3	-0.3
HARU	**Harads**	**1.25**	**29**	P	Pg	10 37 00.2	-0.3
BREU	**Bredtraesk**	**1.26**	**198**	P	Pg	10 37 00.1	-0.5
ERTU	**Ertsjaerv**	**1.85**	**36**	P	Pn	10 37 07.6	-1.9

IDC 23 10:39:00.5±1.2, 32.43N×48.12E, h0km, mb3.6/12, mb1 3.7/14, mb1mx3.6/31, mbtmp3.6/14, ML3.7/2, Error ellipse: s-maj=24.9km s-min=18.9km az=145.0
ISCJB 23 10:39:01.8±0.6, 32.56N±0.06×48.00E±0.07, h15km, mb3.6/13, Error ellipse: s-maj=8.9km s-min=7.3km az=36.7
TEH 23 10:39:03.0, 32.55N×47.95E, h13km, ML3.6
CSEM 23 10:39:03.0, 32.55N×47.95E, h13km, ML3.6, After TEH
ISC 23 10:39:03.5±0.8, 32.57N±0.07×48.03E±0.07, h15km, n28, σ0.95/30, mb3.6/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.97**	**351**	*e*Pn	**Pn**	**10 39 22.5**	**0.0**
IKFM				*e*		10 39 40.8	
	comp=Z,99nm,0.2s						
IKFM	**Kafar-mosalman**	**0.97**	**351**	*e*Pn	**Pn**	**10 39 22.5**	**0.0**
IKMR	**Kamar-syah**	**0.99**	**17**	*e*Pg	**Pb**	**10 39 21.1**	**-1.3**
IKMR				*e*Sg	**Sb**	**10 39 35.4**	**+0.1**
IKMR				*e*		10 39 39.3	
	comp=Z,99nm,0.2s						
IKMR	**Kamar-syah**	**0.99**	**17**	*e*Pg	**Pb**	**10 39 21.0**	**-1.3**
IKMR				*e*Sg	**Sb**	**10 39 35.4**	**+0.1**
IDOB	**Doab**	**1.22**	**6**	*e*Pg	**Pn**	**10 39 26.0**	**-0.3**
IDOB				*e*		10 39 48.6	
	comp=Z,99nm,0.2s						
IDOB	**Doab**	**1.22**	**6**	*e*Pg	**Pn**	**10 39 26.0**	**-0.3**
IPIR	**Pirpir**	**2.42**	**86**	*e*Pn	**Pn**	**10 39 42.9**	**+0.2**
IPIR				*e*		10 40 14.3	
	comp=Z,3µm,0.3s						
IPIR	**Pirpir**	**2.42**	**86**	*e*Pn	**Pn**	**10 39 42.9**	**+0.2**
IKLH	**Kolahrood**	**3.07**	**75**	*e*Pn	**Pn**	**10 39 52.5**	**+0.8**
IKLH				*e*		10 40 40.1	
	comp=N,2µm,0.3s						
IKLH	**Kolahrood**	**3.07**	**75**	*e*Pn	**Pn**	**10 39 52.6**	**+0.8**
IZEF	**Zefreh**	**3.63**	**84**	*e*Pn	**Pn**	**10 39 59.9**	**+0.4**
IZEF				*e*		10 40 59.7	
	comp=Z,461nm,0.3s						
IZEF	**Zefreh**	**3.63**	**84**	*e*Pn	**Pn**	**10 39 59.9**	**+0.4**
BRTR	**Keskin Array B**	**13.64**	**306**	Pn	**P**	**10 42 27.6**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=122,slow=10,SNR=3.8						
AKTO	**Aktyubinsk**	**19.32**	**20**	P	**P**	**10 43 28.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=180,slow=19,SNR=2.2						
IDI	**Anoyia**	**19.39**	**284**	P	**Pn**	**10 43 30.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=104,slow=8.3,SNR=3.4						
MLR	**Muntele Rosu**	**21.39**	**314**	P	**P**	**10 43 53.1**	**+2.6**
	comp=Z,0.5nm,0.6s,baz=100,slow=21,SNR=1.8						
AKASG	**Malin Array Be**	**22.82**	**328**	P	**P**	**10 44 05.7**	**0.0**
	comp=Z,0.2nm,0.3s,baz=130,slow=8.9,SNR=4.1						
BVAR	**Borovoye Array**	**26.02**	**32**	P	**P**	**10 44 37.3**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=234,slow=8.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**28.79**	**42**	P	**P**	**10 45 00.3**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=246,slow=9.4,SNR=3.9						
MKAR	**Makanchi Array**	**29.68**	**51**	P	**P**	**10 45 07.7**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=240,slow=7.8,SNR=5.7						
FINES	**FINESS Array B**	**32.21**	**340**	P	**P**	**10 45 31.3**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=146,slow=8.9,SNR=7.0						
ZALV	**Zalesovo Beam**	**33.71**	**40**	P	**P**	**10 45 43.8**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=232,slow=7.1,SNR=2.7						
KMBO	**Kilima Mbogo**	**35.03**	**199**	P	**P**	**10 45 54.4**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=341,slow=6.0,SNR=3.8						
HFS	**Hagfors**	**35.63**	**331**	P	**P**	**10 46 00.6**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=117,slow=8.8,SNR=9.0						
NOA	**NORSAR Array B**	**37.16**	**331**	P	**P**	**10 46 13.4**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=117,slow=6.9,SNR=2.6						
ARCES	**ARCESS Array B**	**39.12**	**348**	P	**P**	**10 46 29.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=57,slow=4.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**46.45**	**256**	P	**P**	**10 47 29.4**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=60,slow=7.3,SNR=3.8						
SPITS	**Spitsbergen Ar**	**47.75**	**352**	P	**P**	**10 47 40.0**	**+0.6**
	comp=Z,13nm,1.0s,baz=144,slow=11,SNR=8.2						

IDC 23 10:40:48.4±6.9, 31.97N×48.08E, h0km, mb3.9/8, mb1 3.9/9, mb1mx3.5/57, mbtmp3.8/9, ML3.5/1, Error ellipse: s-maj=131.3km s-min=29.6km az=5.0, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**19.87**	**19**	P	P	10 45 20.3	-0.7
	0.1nm,0.3s,baz=198,slow=14,SNR=2.5						
BVAR	**Borovoye Array**	**26.50**	**31**	P	P	10 46 28.8	+1.4
	0.4nm,0.5s,baz=240,slow=8.4,SNR=3.9						
KURBB	**Kurchatov Arra**	**29.20**	**41**	P	P	10 46 51.4	-0.1
	0.3nm,0.7s,baz=248,slow=9.8,SNR=3.1						
MKAR	**Makanchi Array**	**30.03**	**51**	P	P	10 46 58.2	-0.8
	0.5nm,0.6s,baz=243,slow=7.2,SNR=3.9						
FINES	**FINESS Array B**	**32.78**	**341**	P	P	10 47 22.5	-0.4
	0.7nm,0.4s,baz=140,slow=11,SNR=4.5						
HFS	**Hagfors**	**36.17**	**331**	P	P	10 47 52.5	+0.3
	0.8nm,0.3s,baz=120,slow=8.7,SNR=7.9						
NOA	**NORSAR Array B**	**37.70**	**331**	P	P	10 48 04.7	-0.6
	0.6nm,0.7s,baz=121,slow=8.0,SNR=2.8						
ARCES	**ARCESS Array B**	**39.71**	**348**	P	P	10 48 21.8	-0.3
	3.2nm,1.1s,baz=150,slow=9.8,SNR=5.3						
SPITS	**Spitsbergen Ar**	**48.34**	**352**	P	P	10 49 31.6	+0.4
	11nm,0.9s,baz=139,slow=13,SNR=7.1						

ISCJB 23 10:42:12.5±1.1, 32.53N±0.07×48.2E±0.1, h15km, mb3.8/6, Error ellipse: s-maj=17.0km s-min=10.6km az=177.4
IDC 23 10:42:12.3±16.0, 32.60N×48.21E, h0km, mb3.9/6, mb1 3.9/6, mb1mx3.5/52, mbtmp3.9/6, Error ellipse: s-maj=336.0km s-min=34.1km az=11.0
TEH 23 10:42:16.7, 32.61N×48.24E, h19km, ML3.5
CSEM 23 10:42:16.7, 32.61N×48.24E, h19km, ML3.5, After TEH
ISC 23 10:42:14.9±1.3, 32.58N±0.10×48.24E±0.09, h15km, n16, σ0.83/18, mb3.9/6, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKMR	**Kamar-syah**	**0.94**	**7**	*e*Pg	**Pb**	**10 42 31.8**	**-1.1**
IKMR				*e*Sg	**Sg**	**10 42 45.9**	**+0.5**
IKMR				*e*		10 42 52.3	
	comp=Z,99nm,0.1s						
IKMR	**Kamar-syah**	**0.94**	**7**	*e*Pg	**Pb**	**10 42 31.8**	**-1.1**
IKMR				*e*Sg	**Sg**	**10 42 45.9**	**+0.5**
IKFM	**Kafar-mosalman**	**0.99**	**341**	*e*Pg	**Pb**	**10 42 34.5**	**+0.7**
IKFM				*e*		10 42 53.3	
	comp=Z,99nm,0.2s						
IKFM	**Kafar-mosalman**	**0.99**	**341**	*e*Pg	**Pb**	**10 42 34.5**	**+0.7**
IDOB	**Doab**	**1.20**	**358**	*e*Pn	**Pb**	**10 42 38.4**	**+0.9**
IDOB				*e*		10 43 01.2	
	comp=Z,99nm,0.1s						
IDOB	**Doab**	**1.20**	**358**	*e*Pn	**Pb**	**10 42 38.4**	**+0.9**
IGHG	**Ghaleghazi**	**2.23**	**322**	*e*Pn	**Pg**	**10 42 57.6**	**-0.1**
IGHG				*e*		10 43 37.0	
	comp=N,4µm,0.1s						
IGHG	**Ghaleghazi**	**2.23**	**322**	*e*Pn	**Pg**	**10 42 57.6**	**-0.1**
IPIR	**Pirpir**	**2.24**	**87**	*e*Pn	**Pn**	**10 42 53.0**	**+1.3**
IPIR				*e*		10 43 24.9	
	comp=Z,3µm,0.4s						
IPIR	**Pirpir**	**2.24**	**87**	*e*Pn	**Pn**	**10 42 53.0**	**+1.3**
KURBB	**Kurchatov Arra**	**28.66**	**42**	P	**P**	**10 48 10.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=245,slow=9.6,SNR=3.9						
MKAR	**Makanchi Array**	**29.54**	**51**	P	**P**	**10 48 18.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=246,slow=7.7,SNR=4.4						
FINES	**FINESS Array B**	**32.25**	**340**	P	**P**	**10 48 41.7**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=156,slow=14,SNR=2.8						
HFS	**Hagfors**	**35.70**	**331**	P	**P**	**10 49 11.9**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=115,slow=10.0,SNR=7.0						
ARCES	**ARCESS Array B**	**39.14**	**348**	P	**P**	**10 49 40.8**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=150,slow=9.8,SNR=5.0						
SPITS	**Spitsbergen Ar**	**47.76**	**352**	P	**P**	**10 50 50.7**	**-0.2**
	comp=Z,8.7nm,1.0s,baz=161,slow=9.2,SNR=4.2						

BJI 23 10:43:04.5, 49.85N×156.31E, h41km, mB5.2/41, mb5.0/62, Ms4.9/61, Ms7 4.6/57
SZGRF 23 10:43:06.0, 48.72N×155.02E, h33km, mb5.0, MS4.9, Kuril Islands, Russia
KRSC 23 10:43:10.0±3.4, 49.69N×156.21E, h80km±23km, ML5.6, FELT [II-III] at Severo-Kurilsk.
ISCJB 23 10:43:10.7±0.3, 49.71N±0.02×155.87E±0.02, h67km±2km, mb5.2/388, Error ellipse: s-maj=3.4km s-min=1.7km az=156.1
GCMT 23 10:43:10.3±0.2, 49.59N×156.31E, h48km, MW5.3/94, Moment Tensor Solution. s81,c137; s94,c169; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 1.09±.03; Mθθ -0.30±.02; Mφφ -0.78±.02; Mrθ 0.22±.02;

$M_{\theta\phi}$-0.53±.01; $M_{\phi r}$0.37±.01; Best double couple: $M_0$1.19100×10^{17} NP1:ϕ_s32.00000°,δ56.00000°, λ89.00000°. NP2:ϕ_s214.00000°,δ34.00000°,λ92.00000°. Principal axes: T 1.1710, Plg79.0000°, Azm297.0000°; N 0.0400, Plg1.0000°, Azm32.0000°; P -1.2110, Plg11.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC **23** 10:43:10.3±0.1, 49.70N×155.79E, mb5.4/250 Error ellipse: s-maj=3.4km s-min=2.0km az=154.0

NEIC Felt [III] at Severo-Kuril'sk.

MOS **23** 10:43:10.7±1.0, 49.75N×155.84E, h71km, mb5.5/120, MS4.6/21, Error ellipse: s-maj=6.4km s-min=4.1km az=85.7

MOS Felt (II-III) at Severo-Kuril'sk.

IDC **23** 10:43:12.2±2.0, 49.75N×155.77E, h68km±18km, mb4.7/44, mb1 4.8/49, mb1mx4.8/50, mbtmp5.0/49, MS4.6/27, Ms1 4.6/27, ms1mx4.4/50, Error ellipse: s-maj=11.0km s-min=7.7km az=143.0

KMA **23** 10:43:25.5, 48.83N×154.73E, h100km

ISC 23 10:43:10.1±0.2, **49.68N**±0.04×**155.87E**±0.03, **h49**km±1km, **h48**km**:pP-P, n1416, σ1.00**/1583, **mb5.3**/388, **MS4.7**/52, **360C-243D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.02**	**9**⇓	iPN	Pn	10 43 24.0	-4.0
SKR				iS	**Sn**	**10 43 38.4**	**-2.9**
SKR				pmax	pmax		
	comp=N,18μm,2.0s						
SKR				pmax	pmax		
	comp=Z,17μm,2.0s						
SKR				pmax	pmax		
	comp=E,11μm,3.0s						
SKR				smax	smax		
	comp=N,87μm,2.0s						
SKR				smax	smax		
	comp=E,122μm,2.0s						
SKR	**Severo-Kuril's**	**1.02**	**9**	iP	**Pn**	**10 43 29.1**	**+1.1**
SKR				iS	**Sn**	**10 43 43.1**	**+1.8**
PAU	**Pauzhetka**	**1.89**	**18**	PN	**Pn**	**10 43 41.0**	**+1.1**
PAU				S	**Sn**	**10 44 03.3**	**+0.8**
PAU	**Pauzhetka**	**1.89**	**18**	iP	**Pn**	**10 43 41.0**	**+1.1**
PAU				eS	**Sn**	**10 44 03.3**	**+0.8**
MIPR	**Malaya Ipel'ka**	**2.67**	**12**	iP	**Pn**	**10 43 52.3**	**+1.8**
ASAK	**Asacha**	**3.00**	**25**	iP	**Pn**	**10 43 57.0**	**+1.9**
MTVR	**Mutnovka**	**3.17**	**27**	eP	**Pn**	**10 43 58.5**	**+1.0**
MTVR				eS	**Sn**	**10 44 32.8**	**-1.3**
RUS	**Russkaya**	**3.23**	**30**	PN	**Pn**	**10 43 58.2**	**+0.1**
RUS				S	**Sn**	**10 44 32.2**	**-3.1**
RUS	**Russkaya**	**3.23**	**30**	iP	**Pn**	**10 43 58.2**	**+0.1**
RUS				eS	**Sn**	**10 44 32.2**	**-3.1**
APC	**Apacha**	**3.35**	**13**	eP	**Pn**	**10 44 01.3**	**+1.4**
I44RU	**PETROPAVLOVSK-**	**3.62**	**18**	i		11 00 40.0	
	baz=197,slow=340,SNR=0.7						
PEA0B	**Petropavlovsk-**	**3.62**	**18**	ePn	**Pn**	**10 44 05.9**	**+2.3**
PEA0B				eSn	**Sn**	**10 44 47.1**	**+2.0**
PETK	**Petropavlovsk-**	**3.62**	**18**	PN	**Pn**	**10 44 06.0**	**+2.4**
PETK				pmax	pmax		
	comp=Z,65nm,0.3s						
PETK				MLR	MLR		
	comp=Z,8μm,21.0s						
PETK	**Petropavlovsk-**	**3.62**	**18**	P	**Pn**	**10 44 06.0**	**+2.4**
	comp=Z,65nm,0.3s,baz=178,slow=14,SNR=580						
PETK				LR	LR	10 45 41.5	
	comp=Z,8μm,21.0s,baz=197,slow=42						
PET	**Petropavlovsk**	**3.78**	**26**c	iPN	**Pn**	**10 44 06.9**	**+1.2**
PET				eS	**Sn**	**10 44 50.6**	**+1.7**
PET				pmax	pmax		
	comp=Z,600nm,1.4s						
PET				pmax	pmax		
	comp=Z,959nm,0.7s						
PET				smax	smax		
	comp=E,11μm,0.6s						
PET				smax	smax		
	comp=N,11μm,0.5s						
PET				smax	smax		
	comp=N,12μm,1.3s						
PET				MLR	MLR		
	comp=Z,7μm,18.0s						
PET	**Petropavlovsk**	**3.78**	**26**	iP	**Pn**	**10 44 07.2**	**+1.5**
PET				iS	**Sn**	**10 44 49.6**	**+0.7**
PET	**Petropavlovsk**	**3.78**	**26**	ePn	**Pn**	**10 44 06.8**	**+1.0**
PET				eSn	**Sn**	**10 44 51.6**	**+2.7**
INSR	**Institute**	**3.81**	**26**	eP	**Pn**	**10 44 08.4**	**+2.3**
INSR				eS	**Sn**	**10 44 51.4**	**+1.9**
UGLR	**Uglovaya**	**3.99**	**26**	iP	**Pn**	**10 44 11.1**	**+2.3**
KOK	**Koryaka**	**4.01**	**24**	iP	**Pn**	**10 44 11.9**	**+2.9**
KOK				eS	**Sn**	**10 44 56.8**	**+2.0**
AVH	**Avacha**	**4.02**	**25**	iP	**Pn**	**10 44 11.8**	**+2.7**
SMAR	**Somma**	**4.03**	**26**	eP	**Pn**	**10 44 11.7**	**+2.3**
SMAR				eS	**Sn**	**10 44 56.3**	**+0.8**
KRER	**Koryakskii**	**4.06**	**25**	iP	**Pn**	**10 44 12.0**	**+2.3**
KRER				eS	**Sn**	**10 44 57.5**	**+1.5**
SDLR	**Sedlovina**	**4.07**	**26**	iP	**Pn**	**10 44 11.3**	**+1.4**
KRX	**Arik**	**4.08**	**24**	iP	**Pn**	**10 44 12.7**	**+2.7**
KRX				eS	**Sn**	**10 44 58.0**	**+1.6**
NLC	**Nalytchevo**	**4.12**	**31**	eP	**Pn**	**10 44 10.1**	**-0.3**
NLC				eS	**Sn**	**10 44 55.0**	**-2.3**
GNL	**Ganaly**	**4.23**	**17**	iP	**Pn**	**10 44 14.7**	**+2.7**
KII	**Karymskiy**	**4.90**	**26**	eP	**Pn**	**10 44 24.1**	**+2.9**
KII				eS	**Sn**	**10 45 18.3**	**+1.8**
MKZ	**Mys Kozlova**	**6.08**	**34**	PN	**Pn**	**10 44 36.9**	**-0.3**
MKZ	**Mys Kozlova**	**6.08**	**34**	iP	**Pn**	**10 44 36.9**	**-0.3**
MKZ				eS	**Sn**	**10 45 41.9**	**-3.4**
TUMR	**Tumrok**	**6.20**	**23**	iP	**Pn**	**10 44 41.8**	**+2.9**
TUMR				eS	**Sn**	**10 45 48.3**	**-0.1**
ESO	**Esso**	**6.49**	**14**	PN	Pn	10 44 46.5	+3.6
ESO				S	**Sn**	**10 45 58.0**	**+2.4**
ESO	**Esso**	**6.49**	**14**	iP	Pn	10 44 46.5	+3.6
ESO				eS	**Sn**	**10 45 58.0**	**+2.4**
KMNR	**Kamenistaya**	**6.64**	**22**	P	**Pn**	**10 44 48.2**	**+3.1**
KPT	**Kopyto**	**6.83**	**21**	eP	**Pn**	**10 44 50.6**	**+3.0**
KOZ	**Kozyrevsk**	**6.84**	**19**	eP	Pn	10 44 51.5	+3.8
KIRR	**Kirishev**	**6.85**	**22**	eP	Pn	10 44 51.8	+3.9
KOZR	**Kozyr**	**6.85**	**19**	PN	Pn	10 44 51.5	+3.7
BZMR	**Bezymyannaya**	**6.87**	**22**	P	Pn	10 44 51.7	+3.5
BZMR				S	**Sn**	**10 46 06.0**	**+1.0**
BZWR	**Bezymyannyi-We**	**6.89**	**22**	P	Pn	10 44 52.1	+3.5
BZGR	**Bezymyannyi-Gr**	**6.92**	**23**	eP	**Pn**	**10 44 50.1**	**+1.2**
KUR	**Kuril'sk**	**7.01**	**234**d	iPN	**Pn**	**10 44 52.7**	**+2.7**
KUR				iS	Sn	10 46 16.2	+7.9
KUR				pmax	pmax		
	comp=N,225nm,1.1s						
SRDR	**Sredinnyy**	**7.05**	**18**	eP	Pn	10 44 54.1	+3.5
KRSR	**Krestovskiy**	**7.14**	**22**	eP	Pn	10 44 55.5	+3.6
KLY	**Klyuchi**	**7.25**	**22**	PN	**Pn**	**10 44 55.8**	**+2.6**
KLY	**Klyuchi**	**7.25**	**22**	P	**Pn**	**10 44 55.8**	**+2.6**
KLY				S	**Sn**	**10 46 13.2**	**-0.9**
BDR	**Baidarnaya**	**7.61**	**23**	eP	**Pn**	**10 45 00.6**	**+2.3**
SRKR	**Sorokina**	**7.68**	**22**	eP	**Pn**	**10 45 01.4**	**+2.2**
SRKR				S	**Sn**	**10 46 22.5**	**-2.3**
SMKR	**Semkarok**	**7.69**	**24**	eP	**Pn**	**10 45 01.2**	**+1.8**
SMKR				eS	**Sn**	**10 46 22.9**	**-2.2**
KBTR	**Krutoberegovo**	**7.77**	**30**	PN	**Pn**	**10 45 00.5**	**+0.1**
KBTR	**Krutoberegovo**	**7.77**	**30**	eP	**Pn**	**10 45 00.5**	**+0.1**
KBTR				S	**Sn**	**10 46 21.5**	**-5.5**
BKI	**Bering**	**8.29**	**44**	PN	**Pn**	**10 45 06.2**	**-1.3**
BKI	**Bering**	**8.29**	**44**	iP	**Pn**	**10 45 06.1**	**-1.4**
BKI				eS	Sn	10 46 29.4	-10
YUK	**Yuzh-Kuril'sk**	**8.88**	**234**c	iPN	**Pn**	**10 45 15.9**	**+0.3**
YUK				pmax	pmax		
	comp=N,82nm,0.5s						
YUK				pmax	pmax		
	comp=E,126nm,0.5s						
YUK				pmax	pmax		
	comp=Z,982nm,0.5s						
YUK				pmax	pmax		
	comp=Z,3μm,2.8s						
YUK				MLR	MLR		
	comp=N,5μm,17.0s						
YUK				MLR	MLR		
	comp=E,4μm,17.0s						
YUK				MLR	MLR		
	comp=Z,4μm,17.0s						
OKH	**Okha**	**8.93**	**301**	ePN	Pn	10 45 20.0	+3.7
OKH				pmax	pmax		
	comp=Z,2μm,3.0s						
OKH				MLR	MLR		
	comp=Z,5μm,17.0s						
UGL	**Uglegorsk**	**9.03**	**271**⇑	iPN	Pn	10 45 23.5	+5.9
UGL				S	**Sn**	**10 47 02.0**	**+4.2**
UGL				pmax	pmax		
	comp=N,337nm,0.8s						
UGL				pmax	pmax		
	comp=E,217nm,0.8s						
UGL				pmax	pmax		
	comp=Z,1μm,0.8s						
UGL				smax	smax		
	comp=N,180nm,1.0s						
UGL				smax	smax		
	comp=E,135nm,1.0s						
UGL				MLR	MLR		
	comp=E,6μm,15.0s						
UGL				MLR	MLR		
	comp=Z,11μm,15.0s						
UGL				MLR	MLR		
	comp=N,3μm,13.0s						
YSS	**Yuzh-Sakhalins**	**9.15**	**258**a	iPN	Pn	10 45 23.9	+4.5
YSS				eS	**Sn**	**10 47 05.8**	**+4.9**
YSS				pmax	pmax		
	comp=N,370nm,1.0s						
YSS				pmax	pmax		
	comp=E,720nm,1.0s						
YSS				pmax	pmax		
	comp=Z,430nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**9.15**	**258**	ePn	Pn	10 45 24.0	+4.7
YSS				eSn	Sn	10 47 08.6	+7.7
PALN	**Palana**	**9.73**	**13**	P	Pn	10 45 30.8	+3.6
OSSR	**Ossora**	**10.46**	**21**	P	**Pn**	**10 45 39.8**	**+2.7**
ASAJ	**Asahikawa**	**10.64**	**244**	P	Pn	10 45 43.0	+3.3
	comp=Z,5.9nm,0.3s,baz=82,slow=14,SNR=50						
ASAJ				LR	LR	10 49 17.7	
	comp=Z,4μm,22.0s,baz=64,slow=34						
FX1	**Attu Island--F**	**11.30**	**67**	P	**Pn**	**10 45 46.1**	**-2.5**
	comp=Z,32nm,0.3s,baz=314,slow=6.3,SNR=55						
FX1				S	Sn	10 47 42.1	-11
	comp=Z,115nm,0.3s,baz=68,slow=24,SNR=16						
FX1				LR	LR	10 49 50.7	
	comp=Z,2μm,21.3s,baz=282,slow=35						
ERM	**Erimo**	**11.70**	**234**	Pn	**Pn**	**10 45 53.4**	**-0.8**
	comp=Z,1μm,0.5s,SNR=8.6						
ERM	**Erimo**	**11.70**	**234**	ePN	**Pn**	**10 45 53.7**	**-0.5**
ERM				pmax	pmax		
	comp=Z,162nm,1.0s						
ERM	**Erimo**	**11.70**	**234**	ePn	**Pn**	**10 45 53.8**	**-0.5**
ERM				eSn	**Sn**	**10 47 59.5**	**-3.8**
SMY	**Shemya**	**11.84**	**68**	ePN	**Pn**	**10 45 53.7**	**-2.3**
SMY				pmax	pmax		
	comp=Z,476nm,0.6s						
SMY	**Shemya**	**11.84**	**68**	ePn	**Pn**	**10 45 53.7**	**-2.3**
	comp=Z,476nm,0.6s						
TILK	**Tilichiki**	**12.28**	**25**	eP	**Pn**	**10 46 02.6**	**+0.7**
SEY	**Seymchan**	**13.43**	**353**	PN	**Pn**	**10 46 20.3**	**+2.6**
SEY				pmax	pmax		
	comp=Z,4.0nm,0.3s						
SEY	**Seymchan**	**13.43**	**353**	P	**Pn**	**10 46 20.2**	**+2.6**
	comp=Z,3.5nm,0.3s,baz=159,slow=11,SNR=86						
HABR	**Khabarovsk**	**13.70**	**273**c	eP	Pn	10 46 25.0	+3.6
HABR				S	**Sn**	**10 48 55.9**	**+4.0**
HABR				pmax	pmax		
	comp=N,8.0nm,0.6s						
HABR				pmax	pmax		
	comp=Z,74nm,1.6s						
HABR				pmax	pmax		
	comp=E,75nm,1.6s						
HABR				MLR	MLR		
	comp=Z,3μm,17.0s						
KLR	**Kul'dur**	**15.68**	**278**	eP	**Pn**	**10 46 46.8**	**-0.7**
KLR				pmax	pmax		
	comp=E,210nm,2.2s						
KLR				pmax	pmax		
	comp=Z,200nm,2.2s						
KLR				MLR	MLR		
	comp=E,1μm,12.5s						
KLR				MLR	MLR		
	comp=Z,4μm,12.5s						
USRK	**Ussuriysk Arra**	**17.17**	**261**	P	**P**	**10 47 07.0**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=60,slow=12,SNR=28						
USRK				LR	LR	10 53 28.7	
	comp=Z,2μm,21.3s,baz=54,slow=36						
VLA	**Vladivostok**	**17.75**	**257**	iP	**Pn**	**10 47 12.6**	**-0.8**
MAJO	**Matsushiro**	**18.34**	**231**c	iP	**P**	**10 47 18.6**	**-1.7**
MAJO	**Matsushiro**	**18.34**	**231**	eP	**P**	**10 47 18.6**	**-1.7**
	comp=Z,89nm,0.9s						
MAJO				eSn	**Sn**	**10 50 43.4**	**-1.2**
MJAR	**Matsushiro Arr**	**18.34**	**231**	P	**Pn**	**10 47 20.7**	**0.0**
	comp=Z,1.6nm,0.3s,baz=27,slow=8.4,SNR=88						
MJAR				PcP	**PcP**	**10 51 48.6**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=51,slow=1.0,SNR=4.8						
MJAR				LR	LR	10 54 55.5	
	comp=Z,1μm,20.4s,baz=50,slow=38						
MDJ	**Mudanjiang**	**18.53**	**264**	P	**P**	**10 47 21.6**	**-0.7**
MDJ				pP	**pP**	**10 47 31.8**	**-1.7**
MDJ				sP	**sP**	**10 47 37.1**	**-2.5**
MDJ				S	**Sn**	**10 50 45.6**	**-3.4**
MDJ				sS	**sS**	**10 51 07.8**	**-1.1**
MDJ				LR	LR		
	comp=Z,1μm,21.0s						
MDJ				LR	LR		
	comp=Z,2μm,22.9s						
MDJ				LR	LR		
	comp=Z,2μm,22.7s						
MDJ	**Mudanjiang**	**18.53**	**264**	eP	**P**	**10 47 21.6**	**-0.7**
	comp=Z,91nm,1.0s						
MDJ				eS	**S**	**10 50 50.2**	**-0.8**
YAK	**Yakutsk**	**19.04**	**320**c	iP	**P**	**10 47 28.3**	**+0.5**
YAK				eS	**Sn**	**10 51 02.3**	**+1.2**
YAK				pmax	pmax		
	comp=Z,177nm,0.9s						
YAK				pmax	pmax		
	comp=N,35nm,1.1s						
YAK				pmax	pmax		
	comp=E,75nm,1.2s						
YAK				smax	smax		
	comp=N,233nm,1.9s						
YAK				smax	smax		
	comp=E,131nm,2.7s						
YAK				MLR	MLR		
	comp=Z,2μm,20.0s						
YAK				MLR	MLR		
	comp=N,1μm,21.0s						
YAK				MLR	MLR		
	comp=E,1μm,19.0s						
YAK	**Yakutsk**	**19.04**	**320**	eP	**P**	**10 47 27.9**	**+0.1**
	comp=E,242nm,0.8s						
BILL	**Bilibino**	**19.14**	**12**d	eP	**P**	**10 47 28.9**	**+0.1**
BILL				eS	S	10 50 54.6	-8.3
BILL				pmax	pmax		
	comp=Z,129nm,1.2s						
BILL				MLR	MLR		
	comp=Z,4μm,19.0s						
BILL	**Bilibino**	**19.14**	**12**	eP	**P**	**10 47 28.3**	**-0.5**
	comp=Z,102nm,1.0s						
CLNS	**Chul'man**	**19.74**	**303**	eP	**Pn**	**10 47 37.3**	**0.0**
CLNS				eS	**S**	**10 51 13.6**	**-1.6**
CLNS				pmax	pmax		
	comp=Z,97nm,0.9s						
CLNS				pmax	pmax		
	comp=E,56nm,0.9s						
CLNS				pmax	pmax		
	comp=N,39nm,1.0s						
CLNS				smax	smax		
	comp=E,512nm,13.2s						
CLNS				smax	smax		
	comp=N,387nm,10.6s						
CLNS				MLR	MLR		
	comp=Z,3μm,16.0s						
CLNS				MLR	MLR		
	comp=E,3μm,18.0s						
CLNS				MLR	MLR		
	comp=N,905nm,16.0s						
JHJ2	**Mitsune**	**20.39**	**222**	eP	**P**	**10 47 43.3**	**+0.6**
	comp=N,205nm,1.0s						
CN2	**Changchun**	**21.57**	**266**	eP	**P**	**10 47 52.3**	**-3.0**
CN2				eS	S	10 51 42.4	-9.1
CN2				pmax	pmax		
	comp=N,20nm,1.0s						
CN2				pmax	pmax		
	comp=N,200nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,20.0s						
CN2				LR	LR		
	comp=N,2μm,20.0s						
CN2				LR	LR		
	comp=N,1μm,22.0s						
GAMB	**Gambell**	**22.38**	**39**	eP	**P**	**10 48 03.4**	**-0.3**
	comp=N,136nm,1.5s						
KSSKC	**Sokcho**	**22.60**	**250**	P	**P**	**10 48 06.8**	**+0.4**
	SNR=5.1						
KSJMJ	**Jumunjin**	**22.72**	**249**	P	**P**	**10 48 08.5**	**+0.9**
	SNR=5.8						
SEHB	**SEOHWA**	**22.78**	**250**	P	**P**	**10 48 08.4**	**+0.1**
	SNR=5.1						
KSDGY	**Daegwallycong**	**22.89**	**249**	P	**P**	**10 48 09.6**	**+0.1**
	SNR=9.3						
KSIJA	**INJE**	**23.04**	**250**	P	**P**	**10 48 11.9**	**+0.9**
	SNR=15						
KSTBA	**Taebaek**	**23.09**	**247**	P	**P**	**10 48 13.5**	**+2.0**
	SNR=12						
KSULJ	**Uljin**	**23.10**	**246**	P	**P**	**10 48 11.9**	**+0.4**
	SNR=13						
HIA	**Hailar**	**23.34**	**283**	eP	**P**	**10 48 13.3**	**-0.6**
HIA				pmax	pmax		
	comp=Z,24nm,0.9s						
HIA	**Hailar**	**23.34**	**283**	eP	**P**	**10 48 12.9**	**-1.0**
	comp=Z,88nm,0.9s						
HIA				ePcP	**PcP**	**10 51 59.7**	**+0.5**
KSCWO	**Cheorwon**	**23.35**	**251**	P	**P**	**10 48 14.5**	**+0.5**
	SNR=16						
KSWJU	**Wonju**	**23.45**	**249**	P	**P**	**10 48 15.4**	**+0.4**
	SNR=9.2						
KSPHA	**Pohang**	**23.47**	**245**	P	**P**	**10 48 15.3**	**+0.2**
	SNR=5.8						
KSRS	**Korea Array**	**23.50**	**249**	P	**P**	**10 48 15.5**	**+0.1**
	comp=Z,71nm,0.8s,baz=45,slow=9.8,SNR=163						
KSRS				PcP	**PcP**	**10 52 00.3**	**+0.7**
	comp=Z,7.4nm,0.9s,baz=31,slow=0.8,SNR=8.1						
KSRS				LR	LR	10 56 50.0	
	comp=Z,1μm,20.0s,baz=79,slow=35						
KSAR	**Wonju Array Be**	**23.53**	**249**	P	**P**	**10 48 15.5**	**-0.2**
KSAR						10 52 00.4	
KSAR	**Wonju Array Be**	**23.53**	**249**	P	**P**	**10 48 15.5**	**-0.2**
KSAR				PcP	**PcP**	**10 52 00.3**	**+0.6**
SNY	**Shenyang**	**23.72**	**263**	⇓P	**P**	**10 48 16.8**	**-0.6**
SNY				pmax	pmax		
	comp=Z,16nm,1.6s						
SNY				pmax	pmax		
	comp=Z,220nm,10.3s						
SNY				LR	LR		
	comp=Z,1μm,21.0s						
SNY				LR	LR		
	comp=Z,1μm,22.8s						
SNY				LR	LR		
	comp=Z,1μm,22.2s						
KSCHJ	**Chungju**	**23.84**	**248**	P	**P**	**10 48 20.0**	**+1.3**
	SNR=5.4						
KSICN	**Icheon**	**23.91**	**250**	P	**P**	**10 48 20.7**	**+1.5**
	SNR=9.3						
KSBON	**Boeun**	**24.20**	**248**	P	**P**	**10 48 23.1**	**+1.2**
	SNR=6.9						
KSSWO	**Suwon**	**24.20**	**250**	P	**P**	**10 48 22.9**	**+1.1**
	SNR=7.8						
INCN	**Inchon**	**24.27**	**251**	eP	**P**	**10 48 23.2**	**+0.7**
	comp=Z,149nm,1.5s						
KSBUS	**Busan**	**24.27**	**244**	P	**P**	**10 48 23.7**	**+1.1**
	SNR=5.6						
KSCPR	**CHUPUNGNYEONG**	**24.28**	**247**	P	**P**	**10 48 24.3**	**+1.6**
	SNR=20						
KSCEA	**Cheonan**	**24.31**	**249**	P	**P**	**10 48 23.8**	**+0.9**
	SNR=7.3						
TNA	**Tin City**	**24.58**	**36**	eP	**P**	**10 48 25.6**	**+0.6**
	comp=Z,244nm,0.9s						
JNU	**Nakatsue**	**24.82**	**238**	P	**P**	**10 48 28.1**	**+0.5**
	comp=Z,113nm,0.9s,baz=50,slow=7.6,SNR=64						
JNU	**Nakatsue**	**24.82**	**238**	eP	**P**	**10 48 28.2**	**+0.6**
	comp=Z,50nm,0.9s						
CBIJ	**Chichi jima**	**24.89**	**210**	P	**P**	**10 48 27.4**	**-0.8**
JCJ	**Chichijima**	**24.89**	**210**	P	**P**	**10 48 27.4**	**-0.8**
	comp=Z,109nm,0.9s,baz=258,slow=9.9,SNR=3.9						
JCJ				LR	LR	10 58 51.7	
	comp=Z,155nm,20.0s,baz=358,slow=38						
KSGUS	**GUNSAN**	**25.12**	**248**	P	**P**	**10 48 31.1**	**+0.9**
	SNR=9.3						
TIXI	**Tiksi**	**25.25**	**340**c	iP	**P**	**10 48 29.6**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,95nm,0.8s						
TIXI	**Tiksi**	**25.25**	**340**	eP	**P**	**10 48 29.6**	**-1.5**
	comp=Z,86nm,0.7s						
KSJEU	**Jeongeup**	**25.39**	**247**	P	**P**	**10 48 33.6**	**+0.8**
	SNR=16						
BOD	**Bodaibo**	**25.69**	**305**	eP	**P**	**10 48 33.9**	**-1.3**
BOD				e		10 48 49.5	
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KSMOK	**Mokpo**	**26.01**	**246**	P	**P**	**10 48 39.5**	**+1.3**
	SNR=9.4						
KSWAN	**Wando**	**26.29**	**245**	P	**P**	**10 48 41.7**	**+0.9**
	SNR=9.5						
KSJDO	**Jindo**	**26.46**	**246**	P	**P**	**10 48 43.3**	**+0.9**
	SNR=7.8						
SVW2	**Sparrevohn**	**29.14**	**48**	eP	**P**	**10 49 06.8**	**+0.7**
	comp=Z,32nm,1.1s						
BJI	**Beijing**	**29.43**	**266**	P	**P**	**10 49 08.5**	**-0.3**
BJI				S	**S**	**10 53 59.4**	**0.0**
BJI				pmax	pmax		
	comp=Z,11nm,0.9s						
BJI				pmax	pmax		
	comp=Z,210nm,8.2s						
BJI				LR	LR		
	comp=Z,1μm,19.3s						
BJI				LR	LR		
	comp=Z,1μm,24.4s						
BJI				LR	LR		
	comp=Z,940nm,26.2s						
IM04	**Indian Mountai**	**30.31**	**39**	eP	**P**	**10 49 16.6**	**+0.2**
RSO	**Redoubt South**	**30.54**	**50**	eP	**P**	**10 49 19.4**	**+0.7**
OHAK	**Old Harbor**	**30.57**	**56**	eP	**P**	**10 49 21.1**	**+2.4**
	comp=Z,62nm,1.0s						
OHAK				ePcP	**PcP**	**10 52 16.9**	**+0.7**
PPLA	**Purkeypile**	**30.77**	**45**	eP	**P**	**10 49 21.9**	**+1.2**
	comp=Z,182nm,1.6s						
CAST	**Castle Rocks**	**30.83**	**44**	eP	**P**	**10 49 22.0**	**+1.0**
	comp=Z,19nm,0.8s						
SPU	**Mount Spurr**	**30.85**	**48**	eP	**P**	**10 49 22.0**	**+0.7**
TIA	**Tai'an**	**31.03**	**259**	⇑P	**P**	**10 49 23.9**	**+0.9**
TIA				LR	LR		
	comp=Z,960nm,22.5s						
TIA				LR	LR		
	comp=Z,810nm,22.6s						
TIA				LR	LR		
	comp=Z,1μm,20.5s						
H11N2	**WAKE ISLAND Hy**	**31.15**	**160**	T	T	11 22 11.9	
	baz=348,slow=74						
JOW	**Kunigami**	**31.15**	**233**	P	**P**	**10 49 24.1**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=37,slow=6.0,SNR=7.8						
JOW				LR	LR	11 03 13.1	
	comp=Z,37nm,21.9s,baz=46,slow=39						
JOW	**Kunigami**	**31.15**	**233**	eP	**P**	**10 49 24.6**	**+0.4**
	comp=Z,28nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**31.17**	**160**	T	T	11 22 13.1	
	baz=348,slow=76						
H11N3	**WAKE ISLAND Hy**	**31.17**	**160**	T	T	11 22 16.6	
	baz=348,slow=74						
KTH	**Kantishna Hill**	**31.35**	**44**	eP	**P**	**10 49 26.3**	**+0.7**
	comp=Z,144nm,1.3s						
TRF	**Thorofare Moun**	**31.64**	**44**	eP	**P**	**10 49 28.5**	**+0.2**
	comp=Z,51nm,1.0s						
ULN	**Ulaanbaatar**	**31.78**	**286**⇓	iP	**P**	**10 49 30.1**	**+0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**31.78**	**286**	eP	**P**	**10 49 29.2**	**-0.4**
	comp=Z,6.8nm,0.9s						
COLD	**Coldfoot**	**31.88**	**37**	eP	**P**	**10 49 30.5**	**+0.3**
	comp=Z,43nm,0.8s						
SSE	**Sheshan**	**31.90**	**247**	P	**P**	**10 49 31.1**	**+0.4**
SSE				S	**S**	**10 54 39.3**	**+1.2**
SSE				sS	**sS**	**10 55 00.9**	**+1.5**
SSE				pmax	pmax		
	comp=Z,35nm,1.1s						
SSE				pmax	pmax		
	comp=Z,140nm,3.9s						
SSE				LR	LR		
	comp=Z,860nm,23.0s						
SSE				LR	LR		
	comp=Z,290nm,23.0s						
SSE				LR	LR		
	comp=Z,580nm,21.5s						
RC01	**Rabbit Creek A**	**31.98**	**48**	eP	**P**	**10 49 31.3**	**+0.1**
	comp=Z,32nm,0.9s						
HHC	**Hu-ho-hao-te**	**32.00**	**271**	eP	**P**	**10 49 31.3**	**-0.4**
HHC				pP	**pP**	**10 49 42.3**	**-2.0**
HHC				sP	**sP**	**10 49 48.3**	**-1.8**
HHC				sS	**sS**	**10 55 02.8**	**+1.6**

HHC pmax pmax
comp=Z,35nm,0.7s
HHC pmax pmax
comp=Z,310nm,5.3s
HHC LR LR
comp=Z,2µm,18.2s
HHC LR LR
comp=Z,2µm,17.7s
HHC LR LR
comp=Z,2µm,18.1s
IRK Irkutsk 32.04 295 *e*P P 10 49 46.1 +14
IRK *e* 10 50 03.4
IRK pmax pmax
comp=Z,40nm,2.1s
SONM Songino Array 32.20 286 P **P 10 49 33.5 +0.1**
comp=Z,0.8nm,0.5s,baz=71,slow=7.7,SNR=4.1
SONM PcP **PcP 10 52 21.0 +0.1**
comp=Z,12nm,0.8s,baz=102,slow=2.0,SNR=15
SONM LR LR 11 03 56.4
comp=Z,1µm,19.1s,baz=65,slow=39
SEW Seward 32.21 50 *e*P **P 10 49 32.3 -0.8**
comp=Z,40nm,0.9s
PMR Palmer 32.24 47 *e*P **P 10 49 32.2 -1.1**
PMR pmax pmax
comp=Z,24nm,1.1s
PMR Palmer 32.24 47 *e*P **P 10 49 32.2 -1.1**
comp=Z,24nm,1.1s
MCK McKinley 32.24 43 *e*P **P 10 49 33.4 0.0**
MCK pmax pmax
comp=Z,76nm,0.9s
MCK McKinley 32.24 43 *e*P **P 10 49 33.4 0.0**
comp=Z,76nm,0.9s
H11S1 WAKE ISLAND Hy 32.29 160 T T 11 23 41.8
baz=347,slow=76,SNR=3473
H11S3 WAKE ISLAND Hy 32.30 161 T T 11 23 42.5
baz=347,slow=76,SNR=6551
H11S2 WAKE ISLAND Hy 32.31 160 T T 11 23 35.5
baz=347,slow=76,SNR=2878
TLY Talaya 32.58 294 P **P 10 49 36.7 +0.2**
comp=Z,100nm,1.0s,SNR=5.5
TLY Talaya 32.58 294 *e*P **P 10 49 36.9 +0.4**
TLY *e* 10 49 53.3
TLY pmax pmax
comp=Z,14nm,0.8s
TLY MLR MLR
comp=Z,1µm,18.0s
TLY Talaya 32.58 294 P **P 10 49 36.8 +0.4**
comp=Z,11nm,0.9s,baz=69,slow=6.3,SNR=15
TLY PcP **PcP 10 52 22.8 +1.0**
comp=Z,6.9nm,0.8s,baz=270,slow=1.7,SNR=4.8
TLY LR LR 11 03 26.9
comp=Z,2µm,18.4s,baz=54,slow=37
TLY Talaya 32.58 294 *e*P **P 10 49 36.9 +0.4**
comp=Z,26nm,1.2s
TLY PcP **PcP 10 52 22.8 +1.0**
NJ2 Nanjing 32.65 251 *e*P **P 10 49 37.1 -0.1**
NJ2 pmax pmax
comp=Z,30nm,1.2s
COLA College 32.71 41*c i*P **P 10 49 38.0 +0.6**
COLA College 32.71 41 *e*P **P 10 49 38.0 +0.6**
comp=Z,109nm,0.8s
ILAR Eielson Array 33.12 41 P **P 10 49 40.8 -0.3**
comp=Z,24nm,0.8s,baz=258,slow=7.8,SNR=324
ILAR LR LR 11 04 49.9
comp=Z,525nm,19.4s,baz=256,slow=39
ZAK Zakamensk 33.21 292 *e*P **P 10 49 41.6 -0.5**
ZAK *e* 10 52 23.0
ZAK pmax pmax
comp=Z,13nm,1.1s
PAX Paxson 33.84 44 *e*P **P 10 49 47.3 -0.1**
PAX pmax pmax
comp=Z,38nm,1.3s
PAX Paxson 33.84 44 *e*P **P 10 49 47.3 -0.1**
comp=Z,38nm,1.3s
DIV Divide 33.89 48 *e*P **P 10 49 48.1 +0.2**
comp=Z,59nm,0.7s
MOY Mondy 34.15 295 *e*P **P 10 49 50.9 +0.6**
DOT Dot Lake 34.41 43 *e*P **P 10 49 51.6 -0.7**
comp=Z,31nm,0.8s
BMRM Bremner River 34.48 48 *e*P **P 10 49 53.2 +0.3**
comp=Z,72nm,1.0s
RAGM Ragged Mountai 34.53 49 *e*P **P 10 49 54.5 +1.1**
comp=Z,139nm,1.6s
MENT Mentasta 34.64 44 *e*P **P 10 49 54.9 +0.6**
EGAK Eagle 35.57 41 *e*P **P 10 50 02.0 -0.2**
comp=Z,86nm,0.8s
DAWY Dawson 36.42 42 *e*P **P 10 50 09.5 -0.1**
DAWY *e*pP **pP 10 50 21.9 -0.4**
DAWY *e*sP **sP 10 50 28.4 +0.3**
WHN Wuhan 36.48 254 ⇓P **P 10 50 10.3 0.0**
WHN S S 10 55 56.0 +7.2
WHN pmax pmax
comp=Z,96nm,0.6s
WHN LR LR
comp=Z,840nm,10.8s
WHN LR LR
comp=Z,1µm,13.1s
WHN LR LR
comp=Z,1µm,16.4s
YHNB Yeheng 36.61 240 *e*P **P 10 50 12.4 +0.7**
comp=Z,26nm,0.7s
SSLB Suanglung 37.54 239 *e*P **P 10 50 19.9 +0.5**
comp=Z,16nm,0.8s
XAN Xi'an 37.64 264 P **P 10 50 19.1 -1.1**
HYT Haines Junctio 37.91 47 *e*P P 10 50 26.0 +3.7
QZH Quanzhou 37.99 243⇓*i*P **P 10 50 20.8 -2.4**
QZH S **S 10 56 11.9 +0.1**
QZH pmax pmax
comp=Z,270nm,1.5s
QZH LR LR
comp=Z,650nm,11.4s
QZH LR LR
comp=Z,460nm,12.9s
QZH LR LR
comp=Z,1µm,18.9s
TPUB Ta-pu 38.11 239 *e*P **P 10 50 23.6 -0.6**
comp=Z,42nm,0.8s
TPUB *e*PcP **PcP 10 52 41.7 +3.3**
TWG Pinlang 38.24 238 *e*P **P 10 50 26.2 +0.9**
comp=Z,339nm,1.3s
LZH Lanzhou 39.68 270 ⇓P **P 10 50 37.0 -0.5**
LZH pP **pP 10 50 49.5 -0.9**
LZH sP **sP 10 50 55.0 -1.1**
LZH PP **PnPn 10 52 12.5 0.0**
LZH PcP **PcP 10 52 43.6 +0.2**
LZH S **S 10 56 37.0 -0.5**
LZH sS **sS 10 56 56.1 -3.0**
LZH pmax pmax
comp=Z,47nm,1.0s
LZH pmax pmax
comp=Z,270nm,4.5s
LZH LR LR
comp=Z,830nm,13.8s
LZH LR LR
comp=Z,1µm,14.0s
LZH LR LR
comp=Z,2µm,17.8s
GTA Gaotai 40.38 277 ⇑P **P 10 50 42.6 -0.6**
GTA pP **pP 10 50 54.8 -1.3**
GTA sP **sP 10 51 00.4 -1.4**
GTA PP **PnPn 10 52 20.4 -0.3**
GTA PcP **PcP 10 52 46.8 +1.3**
GTA PcS **PcS 10 56 37.0 +0.8**
GTA S **S 10 56 46.3 -1.5**
GTA sS **sS 10 57 07.1 -2.4**
GTA pmax pmax
comp=Z,9.0nm,1.7s
GTA pmax pmax
comp=Z,250nm,5.0s
GTA LR LR
comp=Z,770nm,16.2s
GTA LR LR
comp=Z,2µm,16.9s
GTA LR LR
comp=Z,2µm,17.1s
WRAK Wrangell Islan 41.85 52 *e*P **P 10 50 57.2 +2.4**
comp=Z,45nm,0.9s
WRAK *e*pP **pP 10 51 09.9 +2.1**
DLBC Dease Lake 42.26 49 P **P 10 50 59.4 +1.2**
comp=Z,14nm,0.9s,baz=270,slow=5.2,SNR=21
DLBC Dease Lake 42.26 49 *e*P **P 10 51 00.2 +2.0**
DLBC *e*pP **pP 10 51 12.7 +1.4**
ZAA0 Zalesovo Array 42.45 304 *e*P **P 10 50 58.3 -1.5**
ZAA0 *e*PcP **PcP 10 52 52.3 +0.4**
ZALV Zalesovo Beam 42.45 304 P **P 10 50 58.9 -0.8**
comp=Z,6.3nm,0.6s,baz=60,slow=7.5,SNR=33
ZALV PcP **PcP 10 52 52.1 +0.3**
comp=Z,12nm,0.6s,baz=41,slow=2.9,SNR=11
ZALV LR LR 11 09 41.0
comp=Z,598nm,18.9s,baz=69,slow=38
NVS Novosibirsk 42.92 306 *i* P **P 10 51 02.3 -1.3**
NVS *e* 10 51 15.3
NVS *e* 10 52 52.3
NVS pmax pmax
comp=Z,52nm,1.3s
NVS pmax pmax
comp=N,12nm,1.1s
NVS pmax pmax
comp=E,41nm,1.5s
CD2 Chengdu 42.99 264 *e*P **P 10 51 05.3 +0.8**
CD2 pP **pP 10 51 17.9 +0.4**
CD2 sP **sP 10 51 23.5 +0.3**
CD2 PP **PP 10 52 47.8 +3.0**
CD2 PcS **PcS 10 56 47.3 +0.6**
CD2 S **S 10 57 25.9 -0.5**
CD2 sS **sS 10 57 47.3 -0.9**
CD2 pmax pmax
comp=E,30nm,0.5s
CD2 pmax pmax
comp=E,360nm,6.4s
CD2 LR LR
comp=E,650nm,19.6s
CD2 LR LR
comp=E,1µm,20.6s
CD2 LR LR
comp=E,780nm,15.2s
GYA Guiyang 44.16 257⇑*i*P **P 10 51 13.8 -0.2**
GYA pP **pP 10 51 27.4 +0.3**
GYA sP **sP 10 51 33.0 +0.3**
GYA PP **PcP 10 52 58.6 +0.3**
GYA PcP **PP 10 53 01.0 +3.5**
GYA ScP **ScP 10 56 45.4 -0.5**
GYA S **S 10 57 42.9 -0.8**
GYA sS **sS 10 58 05.3 -0.3**
GYA SS SS 11 00 52.6 -10
GYA pmax pmax
comp=E,20nm,0.8s
GYA pmax pmax
comp=E,130nm,4.9s
GYA LR LR
comp=E,740nm,17.5s
GYA LR LR
comp=E,590nm,18.0s
GYA LR LR
comp=E,650nm,17.6s
WMQ Urumqi 45.62 290 P **P 10 51 25.8 +0.4**
WMQ pP **pP 10 51 38.1 -0.4**
WMQ sP **sP 10 51 43.4 -0.8**
WMQ PcP **PcP 10 53 04.4 +1.4**
WMQ PP **PP 10 53 13.0 +0.3**
WMQ PcS **PcS 10 56 57.3 +0.2**
WMQ S **S 10 58 03.5 -0.9**
WMQ sS **sS 10 58 24.8 -1.6**
WMQ SS **ScS 11 01 19.0 +1.9**
WMQ pmax pmax
comp=E,14nm,0.7s
WMQ pmax pmax
comp=E,28nm,5.8s
WMQ LR LR
comp=E,690nm,14.8s
WMQ LR LR
comp=E,630nm,15.4s
WMQ LR LR
comp=E,790nm,22.6s
KIP Kipapa 45.92 111 *e*P **P 10 51 28.0 +0.1**
MK31 Makanchi Array 47.27 296 *e*P **P 10 51 37.6 -0.6**
MK31 *e* 10 53 08.8
MK31 Makanchi Array 47.27 296 *e*P **P 10 51 37.6 -0.6**
MK31 *e*PcP **PcP 10 53 08.8 +0.2**
MK31 *e*ScP **ScP 10 57 02.1 +3.8**
MKAR Makanchi Array 47.27 296 *e*P **P 10 51 37.7 -0.6**
MKAR 10 53 09.0
MKAR Makanchi Array 47.27 296 P **P 10 51 37.2 -1.1**
comp=E,18nm,0.9s,baz=63,slow=8.3,SNR=76
MKAR PcP **PcP 10 53 09.0 +0.3**
comp=E,12nm,0.9s,baz=59,slow=7.2,SNR=4.5
MKAR LR LR 11 12 52.2
comp=E,3µm,19.3s,baz=46,slow=38
MKAR Makanchi Array 47.27 296 *e*P **P 10 51 37.6 -0.6**
MKAR PcP **PcP 10 53 09.0 +0.3**
KURK Kurchatov 47.31 302 P **P 10 51 37.9 -0.6**
comp=E,193nm,1.0s,SNR=18
KURK Kurchatov 47.31 302 P **P 10 51 38.3 -0.2**
KURK 10 53 09.0
KURK pmax pmax
comp=Z,31nm,0.8s
KURK Kurchatov 47.31 302 *e*P **P 10 51 37.4 -1.1**
comp=Z,32nm,1.0s
KURK PcP **PcP 10 53 09.0 +0.3**
KURBB Kurchatov Arra 47.41 302 P **P 10 51 38.3 -0.9**
comp=Z,31nm,0.8s,baz=64,slow=7.8,SNR=127
KURBB PcP **PcP 10 53 09.0 -0.1**
comp=Z,18nm,0.8s,baz=62,slow=3.3,SNR=12
RES Resolute Bay 47.47 20 P **P 10 51 39.7 +0.4**
RES 10 53 09.0
RES pmax pmax
comp=Z,19nm,0.7s
RES Resolute Bay 47.47 20 P **P 10 51 39.7 +0.4**
comp=Z,19nm,0.7s,baz=305,slow=7.3,SNR=39
RES PcP **PcP 10 53 09.0 +0.2**
comp=Z,11nm,0.8s,baz=280,slow=8.2,SNR=4.5
RES Resolute Bay 47.47 20 *e*P **P 10 51 39.1 -0.2**
comp=Z,30nm,0.9s
RES PcP **PcP 10 53 09.0 +0.2**
YKA Yellowknife Ar 47.48 39 P **P 10 51 40.2 +0.6**
comp=Z,25nm,0.9s,baz=298,slow=7.7,SNR=150
KMI Kunming 47.60 259 P **P 10 51 41.3 0.0**
KMI pmax pmax
comp=Z,13nm,1.1s
KMI LR LR
comp=Z,480nm,19.5s
KMI LR LR
comp=Z,360nm,16.4s
KMI LR LR
comp=Z,480nm,24.1s
QIZ Qiongzhong 47.69 247 P **P 10 51 42.8 +1.0**
QIZ sP **sP 10 51 58.0 -2.6**
QIZ S **S 10 58 30.8 -3.5**
QIZ pmax pmax
comp=Z,39nm,1.0s
QIZ pmax pmax
comp=Z,170nm,5.7s
QIZ LR LR
comp=Z,320nm,14.3s
QIZ LR LR
comp=Z,460nm,19.4s
QIZ Qiongzhong 47.69 247 *e*P **P 10 51 43.2 +1.5**
comp=Z,22nm,0.9s
SPITS Spitsbergen Ar 50.06 350 P **P 10 51 57.1 -2.1**
SPITS 10 53 18.9
SPITS pmax pmax
comp=Z,3.0nm,0.5s
SPITS Spitsbergen Ar 50.06 350 P **P 10 51 57.1 -2.1**
comp=Z,3.4nm,0.5s,baz=79,slow=8.7,SNR=19
SPITS PcP **PcP 10 53 18.9 +0.6**
comp=Z,25nm,0.7s,baz=113,slow=8.5,SNR=6.6
PGC Sidney 50.30 58 *e*P **P 10 52 01.1 -0.2**
comp=Z,3.9nm,1.7s
PGC *e*pP **pP 10 52 15.1 +0.4**
BVA0 Borovoye Array 50.45 309 *i* P **P 10 52 01.6 -0.9**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 50.45 309 P **P 10 52 02.1 -0.4**
BVAR 10 53 20.1
BVAR pmax pmax
comp=Z,30nm,0.7s
BVAR MLR MLR
comp=Z,965nm,21.0s
BVAR Borovoye Array 50.45 309 P **P 10 52 02.1 -0.4**
comp=Z,30nm,0.7s,baz=60,slow=8.8,SNR=89
BVAR PcP **PcP 10 53 20.1 +0.1**
comp=Z,15nm,0.7s,baz=82,slow=2.8,SNR=7.9
BVAR LR LR 11 14 40.8
comp=Z,965nm,21.0s,baz=64,slow=38
BRVK Borovoye 50.48 309 P **P 10 52 02.1 -0.6**
comp=Z,375nm,1.0s,SNR=23
BRVK Borovoye 50.48 309*c i*P **P 10 52 02.1 -0.6**
BRVK pmax pmax
comp=Z,52nm,0.8s
BRVK Borovoye 50.48 309 *e*P **P 10 52 02.3 -0.4**
comp=Z,52nm,0.9s
NLWA Neilton Lookou 50.77 60 *e*P **P 10 52 06.1 +1.0**
comp=Z,14nm,1.0s
NLWA *e*pP **pP 10 52 19.4 +1.1**
A05A Maple Falls 50.86 57 *e*P **P 10 52 06.5 +1.0**
comp=Z,46nm,1.4s
B06A Marblemount 51.45 57 *e*P **P 10 52 10.4 +0.4**
comp=Z,26nm,1.0s
D05A Enumclaw 51.94 59 *e*P **P 10 52 14.6 +0.9**
comp=Z,76nm,1.4s
LSA Lhasa 51.96 273 *e*P **P 10 52 15.8 +1.1**
LSA pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 51.96 273 *e*P **P 10 52 15.8 +1.1**
comp=Z,9.7nm,0.6s
TDL Tradedollar La 52.30 60 P **P 10 52 16.9 +0.3**
NLW Nelson Butte 52.34 57 P **P 10 52 17.1 +0.3**
F04A Amboy 52.42 61 *e*P **P 10 52 17.6 +0.2**
comp=Z,21nm,1.0s
ETW Entiat 52.61 58 P **P 10 52 18.9 0.0**
LTY Liberty 52.63 58 *e*P **P 10 52 18.9 0.0**
comp=Z,15nm,1.0s
B08A Colville Reser 52.72 57 *e*P **P 10 52 19.7 +0.2**
comp=Z,43nm,1.1s
WTV Waterville 52.77 58 P **P 10 52 20.0 +0.1**
SVE Sverdlovsk 52.95 317⇓*e*P **P 10 52 20.2 -0.9**
SVE pmax pmax
comp=Z,26nm,0.8s
EDM Edmonton 52.98 49 *e*P **P 10 52 21.8 +0.4**
EDM *e**PP **pP 10 52 34.9 +0.2**
EDM Edmonton 52.98 49 *e*P **P 10 52 21.8 +0.4**
EDM *e*pP **pP 10 52 34.9 +0.2**
I03D Drain, OR 53.21 63 ⇑P **P 10 52 24.4 +1.2**
baz=53
UBPT Khong Chiam 53.22 248 P **P 10 52 24.4 +0.9**
comp=Z,64nm,1.2s
H04A Detroit Lake 53.30 62 *e*P **P 10 52 24.8 +0.9**
comp=Z,20nm,1.0s
VFP Flag Point 53.33 61 P **P 10 52 24.8 +0.5**
TKM2 Tokmak 2 53.38 296 P **P 10 52 25.4 +0.7**
SNR=7.0
TKM2 Tokmak 2 53.38 296 *i* P **P 10 52 25.4 +0.7**
TKM2 Tokmak 2 53.38 296 *e*P **P 10 52 24.4 -0.3**
comp=Z,8.2nm,0.8s
ULHL Ulahol 53.41 295 P **P 10 52 25.4 +0.5**
SNR=6.1
ULHL Ulahol 53.41 295 *i* P **P 10 52 25.4 +0.5**
G05D Wamic, OR 53.46 61 ⇓P **P 10 52 26.0 +1.0**
baz=53
E07A Sunnyside 53.49 59 *e*P **P 10 52 25.5 +0.2**
comp=Z,22nm,0.9s
SMPI Sarmi 53.55 202 P **P 10 52 27.0 +1.1**
comp=Z,111nm,1.0s
C09A Chrisman Ranch 53.62 57 *e*P **P 10 52 26.1 -0.1**
comp=Z,22nm,0.9s
CMAI Chiengmai2 53.69 258 P **P 10 52 28.2 +1.0**
comp=Z,35nm,1.2s,comp=Z,1µm
I04A Tendick Farm, 53.70 63 ⇓P **P 10 52 27.5 +0.6**
baz=54
D08A Wollman Farm, 53.71 58 *e*P **P 10 52 26.8 -0.1**
comp=Z,12nm,0.9s
HAWA Hanford 53.77 59 *e*P **P 10 52 27.4 +0.2**
comp=Z,19nm,1.0s
HAWA *e*pP **pP 10 52 41.1 +0.5**
DAG Danmarks Havn 53.78 358 *i* P **P 10 52 25.7 -1.2**
DAG *i* 10 52 53.8
DAG pmax pmax
comp=Z,8.0nm,0.8s
DAG Danmarks Havn 53.78 358 *i* P **P 10 52 25.7 -1.2**
comp=Z,11nm,0.8s
DAG *i* 10 52 53.8
GENI Genyem 53.80 200 P **P 10 52 29.1 +1.4**
comp=Z,104nm,0.9s
USP Ospenovka 53.81 297 P **P 10 52 27.4 -0.2**
SNR=8.6
USP Ospenovka 53.81 297 *i* P **P 10 52 27.4 -0.2**
CHMS Chumysh 53.83 296 P **P 10 52 28.0 +0.2**
SNR=6.0
CHMS Chumysh 53.83 296 *i* P **P 10 52 27.9 +0.2**
NEW Newport 53.97 56 *e*P **P 10 52 28.8 +0.1**
NEW 10 53 33.8
NEW pmax pmax
comp=Z,24nm,1.0s
NEW Newport 53.97 56 P **P 10 52 28.7 +0.1**
comp=Z,9.0nm,0.9s,baz=311,slow=7.1,SNR=16
NEW PcP **PcP 10 53 33.8 +0.4**
comp=Z,8.6nm,1.1s,baz=281,slow=3.5,SNR=4.4
NEW Newport 53.97 56 *e*P **P 10 52 28.8 +0.1**
comp=Z,24nm,1.0s
NEW *e*pP **pP 10 52 41.7 -0.4**
NEW PcP **PcP 10 53 33.8 +0.4**
NEW Newport 53.97 56 ⇑P **P 10 52 28.8 +0.1**
baz=54,SNR=11
I05D Terrebonne, OR 53.99 62 ⇑P **P 10 52 29.6 +0.6**
baz=54
L02D Cave Junction, 54.00 65 ⇑P **P 10 52 29.9 +1.0**
baz=54
KULLO Kullorsuaq 54.06 10⇑*i*P **P 10 52 28.3 -0.6**
KULLO pmax pmax
comp=Z,48nm,0.8s
KULLO Kullorsuaq 54.06 10⇑*i*P **P 10 52 28.3 -0.6**
comp=Z,48nm,0.8s
LOEI Loei 54.10 254 P **P 10 52 28.2 -1.8**
comp=Z,46nm,1.0s,comp=Z,469nm
HUMO Hull Mountain 54.10 64 *e*P **P 10 52 30.8 +1.1**
comp=Z,21nm,1.3s
HUMO *e*pP **pP 10 52 43.2 +0.1**
ARU Arti 54.11 317 P **P 10 52 28.3 -1.3**
comp=Z,235nm,1.0s,SNR=8.1
ARU Arti 54.11 317*c i*P **P 10 52 28.2 -1.3**
ARU *PP **pP 10 52 44.6 +1.7**
ARU *e* 10 53 32.7
ARU 10 54 28.6
ARU S **S 11 00 01.5 -0.7**
ARU SS **SS 11 03 42.7 -0.9**
ARU pmax pmax
comp=Z,50nm,1.2s
ARU MLR MLR
comp=Z,761nm,20.0s
ARU Arti 54.11 317 *e*P **P 10 52 28.5 -1.1**
comp=Z,29nm,0.8s
AAK Ala-Archa 54.20 296 *e*P **P 10 52 31.2 +0.6**
AAK pmax pmax
comp=Z,14nm,0.8s
AAK Ala-Archa 54.20 296 P **P 10 52 30.8 +0.2**
comp=Z,8.7nm,0.8s,baz=109,slow=4.0,SNR=8.2
AAK LR LR 11 17 22.0
comp=Z,2µm,18.0s,baz=40,slow=38
J04D Umpqua Nationa 54.21 63 ⇓P **P 10 52 31.8 +1.1**
baz=54
SHL Shillong 54.29 268 *e*P **P 10 52 31.0 -0.5**
LAMP Lampang 54.36 256 P **P 10 52 33.1 +1.2**
comp=Z,40nm,0.9s,comp=Z,295nm
UTTA Uttaradit 54.37 255 P **P 10 52 32.8 +0.9**
comp=Z,28nm,0.8s,comp=Z,208nm
MYLDM Lahad Datu 54.38 228 *e*P **P 10 52 33.9 +1.9**
comp=Z,60nm,1.1s
MYLDM Lahad Datu 54.38 228 ⇑P P 10 52 35.3 +3.3
E09A Wood Farm, Sta 54.46 58 *e*P **P 10 52 32.5 +0.2**
comp=Z,30nm,0.8s
PINOR Pine Mountain 54.57 62 *e*P **P 10 52 34.3 +1.3**
comp=Z,11nm,1.0s
PINOR *e*pP **pP 10 52 48.8 +2.3**
CMMT Chiang Mai 54.58 257 P **P 10 52 34.1 +0.6**
comp=Z,134nm,1.0s,comp=Z,1µm
CHTO Chiang Mai 54.58 257 *e*P **P 10 52 33.9 +0.4**
CHTO pmax pmax
comp=Z,67nm,0.8s
CHTO Chiang Mai 54.58 257 P **P 10 52 34.1 +0.6**
comp=Z,465nm,1.0s,comp=Z,5µm
CHTO Chiang Mai 54.58 257 *e*P **P 10 52 33.9 +0.4**
comp=Z,67nm,0.8s
EKS2 Erkin-Say 54.60 296 P **P 10 52 33.6 +0.1**
SNR=6.5
EKS2 Erkin-Say 54.60 296 *i* P **P 10 52 33.6 +0.1**
SWI Sorong 54.60 211 P **P 10 52 33.3 -0.3**
comp=Z,152nm,0.9s,comp=Z,2µm
SDKM Sandakan 54.62 230 ⇑P **P 10 52 34.9 +1.1**
J05D Fort Rock, OR 54.69 63 ⇑P **P 10 52 35.2 +1.0**
baz=54
KHMM Horse Mountain 54.71 66 *e*P **P 10 52 34.5 +0.2**
comp=Z,27nm,0.9s
G08A Pilot Rock 54.76 59 *e*P **P 10 52 35.1 +0.5**
comp=Z,10nm,1.2s
KKM Kota Kinabalu 54.76 231 ⇓P **P 10 52 37.3 +2.4**
YBH Yreka Blue Hor 54.78 65 *e*P **P 10 52 36.2 +1.4**
YBH *e**PP **pP 10 52 50.3 +2.1**

YBH pmax pmax
comp=Z,18nm,0.8s
YBH Yreka Blue Hor 54.78 65 *e*P **P 10 52 36.2 +1.4**
comp=Z,18nm,0.8s
YBH *e*pP **pP 10 52 50.3 +2.1**
K04D Chiloquin, OR 54.79 64 ⇓P **P 10 52 35.9 +1.0**
baz=55
CMAR Chiang Mai Arr 54.85 257 P **P 10 52 36.7 +1.3**
CMAR pmax pmax
comp=Z,40nm,0.8s
CMAR MLR MLR
comp=Z,349nm,20.1s
CMAR Chiang Mai Arr 54.85 257 P **P 10 52 36.6 +1.3**
comp=Z,40nm,0.8s,baz=30,slow=7.0,SNR=207
CMAR LR LR 11 17 06.6
comp=Z,349nm,20.1s,baz=46,slow=37
M02C Callahan 54.91 65 ⇑P **P 10 52 37.1 +1.4**
baz=55
PBKT Sadao Pong 54.99 253 P **P 10 52 37.2 +0.8**
comp=Z,42nm,1.2s
WALA Waterton Lakes 55.18 53 *e*P **P 10 52 38.0 +0.3**
comp=Z,1.5nm,0.8s
WALA *e*pP **pP 10 52 51.4 +0.4**
I07A Izee 55.19 61 *e*P **P 10 52 38.8 +1.0**
comp=Z,16nm,1.2s
KEV Kevo 55.19 341 *e*P P 10 52 43.2 +6.0
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 55.19 341 *e*p P 10 52 43.2 +6.0
comp=Z,0.6nm,0.4s
K05A Summer Lake 55.23 63 *e*P **P 10 52 39.5 +1.4**
comp=Z,38nm,1.0s
KSH Kashi 55.25 292 *e*P **P 10 52 40.9 +2.7**
KSH *e*pP **pP 10 52 53.3 +1.6**
KSH *e*sP **sP 10 52 57.5 +0.3**
KSH *e*PP **PP 10 54 45.8 +4.0**
KSH *e*S **S 11 00 18.5 +0.2**
KSH *e*ScS **ScS 11 02 22.9 -0.2**
KSH pmax pmax
comp=Z,11nm,1.1s
KSH LR LR
comp=Z,560nm,12.4s
KSH LR LR
comp=Z,280nm,12.5s
KSH LR LR
comp=Z,1µm,15.8s
N02D Trinity Center 55.26 66 ⇑P **P 10 52 39.2 +1.0**
baz=55
M04C Macdoel 55.26 64 ⇑P **P 10 52 39.3 +1.0**
baz=55
F10A Beach Ranch, E 55.30 58 *e*P **P 10 52 38.6 +0.1**
comp=Z,14nm,1.0s
APA Apatity 55.38 337 *e*P **P 10 52 36.0 -2.5**
APA MLR MLR
comp=Z,1µm,19.0s
TSM Tawau 55.45 228 ⇓P **P 10 52 41.0 +1.3**
BSMT Bassoo Peak 55.46 55 *e*P **P 10 52 40.4 +0.6**
BSMT *e*pP **pP 10 52 54.0 +0.8**
BLMT Blacktail Moun 55.59 54 *e*P **P 10 52 41.3 +0.7**
BLMT *e*pP **pP 10 52 54.9 +0.8**
WDC Whiskeytown Da 55.60 66 *e*P **P 10 52 41.4 +0.8**
WDC pmax pmax
comp=Z,15nm,1.0s
WDC Whiskeytown Da 55.60 66 *e*P **P 10 52 41.4 +0.8**
comp=Z,15nm,1.0s
ARCES ARCESS Array B 55.69 341 P **P 10 52 38.8 -2.0**
ARCES 10 53 39.7
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES MLR MLR
comp=Z,598nm,21.7s
ARCES ARCESS Array B 55.69 341 P **P 10 52 38.8 -2.0**
comp=Z,3.7nm,0.8s,baz=32,slow=7.5,SNR=11
ARCES PcP **PcP 10 53 39.7 +0.1**
comp=Z,6.8nm,0.6s,baz=45,slow=5.3,SNR=8.5
ARCES LR LR 11 19 55.1
comp=Z,598nm,21.7s,baz=32,slow=40
MHMT Maesarieng 55.70 257 P **P 10 52 42.8 +1.3**
comp=Z,44nm,0.9s,comp=Z,819nm
TAPN Taplejung 55.78 273 *e*P **P 10 52 42.6 +0.2**
comp=Z,28nm,0.8s
TAPN Taplejung 55.78 273 *e*P **P 10 52 42.6 +0.2**
JTMT Jette 55.80 55 *e*P **P 10 52 42.6 +0.6**
JTMT *e*pP **pP 10 52 56.2 +0.7**
YBMT Yellow Bay 55.87 54 *e*P **P 10 52 43.1 +0.5**
YBMT *e*pP **pP 10 52 56.7 +0.7**
PRGR Permogore 55.90 327 *e*P P 10 52 39.0 -3.4
PRGR *e* 10 53 38.2
PRGR pmax pmax
comp=Z,19nm,0.8s
BMO Blue Mountains 55.95 59 *e*P **P 10 52 43.7 +0.5**
comp=Z,14nm,0.9s
BMO *e*pP **pP 10 52 57.2 +0.6**
MOD Modoc 56.09 63 *e*P **P 10 52 45.2 +1.0**
comp=Z,24nm,0.7s
MOD *e*pP **pP 10 52 58.6 +1.0**
SWMT Swartz Lake 56.09 55 *e*P **P 10 52 44.6 +0.4**
SWMT *e*pP **pP 10 52 57.0 -0.5**
KKAR Karatay Array 56.21 299 *e*P **P 10 52 44.8 -0.1**
KKAR pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 56.21 299 *e*P **P 10 52 44.8 -0.1**
comp=Z,5.3nm,0.7s
FAKI Fak Fak 56.22 209 P **P 10 52 44.9 -0.3**
comp=Z,146nm,1.0s,comp=Z,1µm
FAKI Fak Fak 56.22 209 *e*P **P 10 52 44.3 -0.9**
comp=Z,103nm,0.8s
ODAN Odare 56.32 273 *e*P **P 10 52 45.6 -0.6**
ODAN Odare 56.32 273 *e*P **P 10 52 45.6 -0.6**
SLMT Seeley Lake 56.53 55 *e*P **P 10 52 47.6 +0.3**
MSO Missoula 56.55 55 *e*P **P 10 52 47.8 +0.3**
comp=Z,50nm,1.1s
MSO Missoula 56.55 55 ⇓P **P 10 52 47.6 +0.2**
baz=56,SNR=37
JIRN Jiri 56.55 275 *e*P **P 10 52 48.3 +0.3**
comp=Z,33nm,0.7s
JIRN Jiri 56.55 275 *e*P **P 10 52 48.3 +0.3**
GUN Gumba 56.58 275 *e*P **P 10 52 48.1 -0.1**
comp=Z,34nm,0.8s
GUN Gumba 56.58 275 *e*P **P 10 52 48.1 -0.1**
WVOR Wild Horse Val 56.71 62 *e*P **P 10 52 49.5 +0.9**
WVOR *e**PP **pP 10 53 04.1 +2.0**
WVOR Wild Horse Val 56.71 62 *e*P **P 10 52 49.5 +0.9**
WVOR *e*pP **pP 10 53 04.0 +2.0**
RAMN Ramite 56.77 274 *e*P **P 10 52 49.6 +0.2**
comp=Z,71nm,0.8s
RAMN Ramite 56.77 274 *e*P **P 10 52 49.6 +0.2**
CHMT Chamberlain Mo 56.86 55 P **P 10 52 49.9 +0.1**
MRSI Marisa 56.95 222 P **P 10 52 50.2 -0.2**
comp=Z,55nm,1.0s,comp=Z,724nm
OHCM Honcut 57.02 66 *e*P **P 10 52 50.7 0.0**
KKN Kakani 57.05 275 *e*P **P 10 52 51.8 +0.5**
comp=Z,39nm,0.5s
KKN Kakani 57.05 275 *e*P **P 10 52 51.8 +0.5**
KKN Kakani 57.05 275 *e*P **P 10 52 51.8 +0.5**
CHBT CHBT 57.08 249 P **P 10 52 52.8 +1.4**
comp=Z,92nm,1.1s,comp=Z,4µm
PKI Pulchoki 57.12 275 *e*P **P 10 52 52.2 +0.3**
comp=Z,28nm,0.7s
PKI Pulchoki 57.12 275 *e*P **P 10 52 52.4 +0.5**
PKI Pulchoki 57.12 275 *e*P **P 10 52 52.4 +0.5**
PKIN Phulchoki 57.12 275 *e*P **P 10 52 52.4 +0.5**
comp=Z,16nm,0.7s
DMN Daman 57.29 275 *e*P **P 10 52 53.7 +0.6**
comp=Z,64nm,0.8s
DMN Daman 57.29 275 *e*P **P 10 52 53.7 +0.6**
FFC Flin Flon 57.32 42 P **P 10 52 53.0 +0.4**
comp=Z,191nm,1.1s,SNR=18
FFC Flin Flon 57.32 42 *e*P **P 10 52 52.7 +0.1**
FFC pmax pmax
comp=Z,38nm,0.9s
FFC Flin Flon 57.32 42 *e*P **P 10 52 52.6 +0.1**
comp=Z,38nm,0.9s
FFC *e*pP **pP 10 53 06.0 -0.1**
GKN Gorkha 57.32 276 *e*P **P 10 52 53.6 +0.4**
comp=Z,30nm,0.7s
GKN Gorkha 57.32 276 *e*P **P 10 52 53.6 +0.4**
SANI Sanana 57.59 216 P **P 10 52 53.6 -1.3**
comp=Z,135nm,0.9s,comp=Z,1µm
SUMG Summit 57.64 5⇑*i*P **P 10 52 55.2 +0.1**
SUMG pmax pmax
comp=Z,61nm,0.9s
SUMG Summit 57.64 5⇑*i*P **P 10 52 55.2 +0.1**
comp=Z,61nm,0.9s
SUMG *i* 10 53 07.3

SUMG Summit 57.64 5 *e*P **P 10 52 55.1 +0.1**
comp=Z,83nm,0.9s
DANN Dangsing 57.65 277 *e*P **P 10 52 56.2 +0.5**
comp=Z,40nm,0.6s
DANN Dangsing 57.65 277 *e*P **P 10 52 56.2 +0.5**
MFID Camas Ranch 57.68 60 *e*P **P 10 52 56.2 +0.7**
comp=Z,19nm,1.0s
MFID *e*pP **pP 10 53 09.6 +0.7**
HRY Holter Researc 57.75 54 *e*P **P 10 52 56.6 +0.7**
FCC Fort Churchill 57.81 35 *e*P **P 10 52 56.0 +0.1**
FCC Fort Churchill 57.81 35 *e*P **P 10 52 56.0 +0.1**
comp=Z,1.4nm,1.0s
KHLT Khaolaem Dam 57.82 254 P **P 10 52 58.1 +1.6**
comp=Z,20nm,1.1s,comp=Z,312nm
SRDT SRDT 57.83 253 P **P 10 52 57.7 +1.1**
comp=Z,108nm,1.1s
A19A Klindworth Far 57.91 51 ⇓P **P 10 52 57.1 +0.1**
baz=58,SNR=14
LUWI Luwuk 57.97 220 P **P 10 52 57.0 -0.5**
comp=Z,86nm,1.0s,comp=Z,2µm
LUWI Luwuk 57.97 220 *e*P **P 10 52 56.5 -1.1**
comp=Z,55nm,0.8s
ABKAR Akbulak array 57.97 310 *e*P **P 10 52 56.8 -0.4**
EGMT Eagleton 57.98 52 *e*P **P 10 52 57.5 +0.1**
comp=Z,73nm,1.2s
EGMT *e*pP **pP 10 53 11.2 +0.2**
EGMT Eagleton 57.98 52 ⇓P **P 10 52 57.7 +0.2**
baz=58,SNR=18
LRM Limekiln Ridge 57.99 56 *e*P **P 10 52 58.2 +0.4**
B19A Brinkman Farms 58.12 51 ⇓P **P 10 52 58.7 +0.4**
baz=58,SNR=24
AKTO Aktyubinsk 58.15 312 P **P 10 52 57.6 -0.9**
AKTO 10 53 49.7
AKTO pmax pmax
comp=Z,9.0nm,0.5s
AKTO MLR MLR
comp=Z,218nm,19.1s
AKTO Aktyubinsk 58.15 312 P **P 10 52 57.5 -0.9**
comp=Z,8.8nm,0.5s,baz=63,slow=9.0,SNR=29
AKTO PcP **PcP 10 53 49.7 +0.1**
comp=Z,14nm,0.9s,baz=151,slow=2.2,SNR=5.0
AKTO LR LR 11 20 19.3
comp=Z,218nm,19.1s,baz=39,slow=38
KOLN Koldanda 58.15 276 *e*P **P 10 52 59.0 -0.1**
comp=Z,16nm,0.5s
KOLN Koldanda 58.15 276 *e*P **P 10 52 59.0 -0.1**
DLMT Dillon 58.20 56 *e*P **P 10 52 60.0 +0.8**
comp=Z,55nm,1.7s
PYUN Piuthan 58.32 277 *e*P **P 10 53 00.1 -0.1**
comp=Z,46nm,0.5s
PYUN Piuthan 58.32 277 *e*P **P 10 53 00.1 -0.1**
APSI Ampana 58.32 221 P **P 10 52 59.5 -0.5**
comp=Z,74nm,1.1s,comp=Z,695nm
A20A Cobblestone Ra 58.35 50 ⇑P **P 10 53 00.3 +0.3**
baz=58,SNR=19
HLID Hailey 58.37 59 *e*P **P 10 53 01.1 +0.8**
comp=Z,26nm,1.2s
HLID Hailey 58.37 59 ⇓P **P 10 53 01.2 +0.8**
baz=58,SNR=28
CMB Columbia Colle 58.51 67 *e*P **P 10 53 01.6 +0.4**
CMB *e**PP **pP 10 53 15.5 +0.8**
CMB pmax pmax
comp=Z,10.0nm,0.9s
CMB Columbia Colle 58.51 67 *e*P **P 10 53 01.6 +0.4**
comp=Z,10nm,0.9s
CMB *e*pP **pP 10 53 15.5 +0.8**
C19A Slack Wire Ran 58.53 52 ⇓P **P 10 53 02.1 +0.9**
baz=58,SNR=31
BOZ Bozeman (W) 58.54 55 *e*P **P 10 53 02.4 +0.9**
BOZ *e**PP **pP 10 53 16.1 +1.1**
BOZ pmax pmax
comp=Z,45nm,0.9s
BOZ Bozeman (W) 58.54 55 *e*P **P 10 53 02.4 +0.9**
comp=Z,45nm,0.9s
BOZ *e*pP **pP 10 53 16.1 +1.1**
KLMR Klimovskoe 58.55 329 *e*P P 10 52 57.4 -3.7
KLMR pmax pmax
comp=Z,17nm,0.9s
B20A Solberg Farm, 58.59 51 ⇓P **P 10 53 01.9 +0.2**
baz=58
SAO San Andreas Ge 58.70 69 *e*P **P 10 53 03.0 +0.5**
SAO pmax pmax
comp=Z,15nm,1.0s
SAO San Andreas Ge 58.70 69 *e*P **P 10 53 03.0 +0.5**
comp=Z,15nm,1.0s
WAKR Walker 58.77 66 *e*P **P 10 53 04.0 +0.8**
WAKR *e*pP **pP 10 53 17.4 +0.6**
A21A Bergtoll Ranch 58.78 50 ⇓P **P 10 53 03.5 +0.5**
baz=59,SNR=32
BTM Bintulu 58.79 232 ⇑P **P 10 53 03.4 +0.1**
BMN Battle Mountai 58.81 63 *e*P **P 10 53 04.4 +0.9**
BMN pmax pmax
comp=Z,17nm,0.7s
BMN Battle Mountai 58.81 63 *e*P **P 10 53 04.4 +0.9**
comp=Z,17nm,0.7s
BMN *e*pP **pP 10 53 17.7 +0.7**
HNR Honiara 58.96 175 LR LR 11 14 47.6
comp=Z,366nm,21.4s,baz=348,slow=32
D19A Cripps Ranch, 58.99 52 ⇑P **P 10 53 05.1 +0.6**
baz=59,SNR=22
C20A Veseth Ranch, 59.08 52 ⇓P **P 10 53 05.8 +0.7**
baz=59,SNR=20
B21A Ellsworth Farm 59.11 50 ⇓P **P 10 53 05.4 +0.2**
baz=59,SNR=5.7
JMIC Jan Mayen 59.12 354 LR LR 11 17 28.0
comp=Z,127nm,19.5s,baz=77,slow=35
QLMT Earthquake Lak 59.18 56 *e*P **P 10 53 07.0 +1.0**
A22A Carney Farms, 59.28 49 ⇑P **P 10 53 07.0 +0.6**
baz=59,SNR=22
PMG Port Moresby 59.32 190*c i*P **P 10 53 06.7 -0.2**
PMG pmax pmax
comp=Z,75nm,1.2s
PMG Port Moresby 59.32 190 *e*P **P 10 53 06.7 -0.2**
comp=Z,51nm,0.9s
D20A Manuel Ranch, 59.42 52 ⇑P **P 10 53 08.4 +0.9**
baz=59,SNR=39
C21A Desert Coulee 59.46 51 ⇓P **P 10 53 08.1 +0.4**
baz=59,SNR=14
NVAR Mina Array Bea 59.49 65 P **P 10 53 08.9 +0.6**
comp=Z,8.7nm,0.7s,baz=295,slow=7.4,SNR=76
E19A Rath Farm, Rou 59.50 53 ⇑P **P 10 53 09.1 +1.0**
baz=59,SNR=18
JOF Joensuu 59.52 334 *e*P **P 10 53 05.5 -2.2**
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 59.52 334 *e*p **P 10 53 05.5 -2.2**
comp=Z,4.6nm,0.6s
YMR Madison River 59.53 56 *e*P **P 10 53 09.6 +1.1**
comp=Z,67nm,1.1s
YMR *e*pP **pP 10 53 23.2 +1.2**
YNR Norris Junctio 59.66 56 *e*P **P 10 53 11.1 +1.8**
comp=Z,41nm,1.2s
YNR *e*pP **pP 10 53 24.6 +1.7**
B22A Reddig Ranch S 59.70 50 ⇓P **P 10 53 09.7 +0.4**
baz=60,SNR=11
MLAC Mammoth Lakes 59.70 66 ⇑P **P 10 53 10.5 +0.7**
baz=60
ELK Elko 59.75 62 *e*P **P 10 53 10.8 +0.8**
ELK pmax pmax
comp=Z,7.0nm,0.8s
ELK Elko 59.75 62 LR LR 11 15 22.1
comp=Z,667nm,20.0s,baz=228,slow=32
ELK Elko 59.75 62 *e*P **P 10 53 10.8 +0.8**
comp=Z,6.5nm,0.8s
YFT Old Faithful 59.75 56 *e*P **P 10 53 12.4 +2.4**
comp=Z,47nm,0.8s
YFT *e*pP **pP 10 53 25.9 +2.4**
ILULI Ilulissat 59.77 11⇑*i*P **P 10 53 08.6 -0.8**
ILULI *i* 10 53 34.4
ILULI pmax pmax
comp=Z,38nm,0.8s
ILULI Ilulissat 59.77 11⇑*i*P **P 10 53 08.6 -0.8**
comp=Z,38nm,0.8s
ILULI *i* 10 53 34.4
A23A Redstone 59.81 49 ⇓P **P 10 53 10.6 +0.6**
baz=60
E20A Meyer Farm, Mu 59.81 53 ⇓P **P 10 53 10.9 +0.7**
baz=60,SNR=18
F19A Roth Farm, Mol 59.82 54 ⇑P **P 10 53 11.0 +0.8**
baz=60,SNR=35
SBUM Sibu 59.87 233 *e*P **P 10 53 12.1 +1.3**
comp=Z,27nm,0.8s
H17A Grant Village 59.92 56 *e*P **P 10 53 13.7 +2.5**
comp=Z,59nm,1.0s
H17A *e*pP **pP 10 53 27.1 +2.3**
H17A Grant Village 59.92 56 ⇓P **P 10 53 13.6 +2.4**

baz=60,SNR=55
D21A La Casta Ranch 60.02 52 ⇑P **P 10 53 12.3 +0.7**
baz=60,SNR=35
MTUM Tungsten Hills 60.05 66 *e*P **P 10 53 13.2 +1.1**
IMW Indian Meadow 60.06 56 *e*P **P 10 53 13.5 +1.4**
comp=Z,67nm,1.4s
FLWY Flagg Ranch 60.06 56 *e*P **P 10 53 13.7 +1.6**
comp=Z,40nm,1.0s
B23A Brockton 60.09 49 ⇓P **P 10 53 12.5 +0.6**
baz=60,SNR=25
C22A Vida 60.13 50 ⇑P **P 10 53 12.7 +0.5**
baz=60,SNR=25
RLMT Red Lodge 60.14 54 *e*P **P 10 53 13.7 +1.1**
comp=Z,80nm,1.1s
RLMT *e*pP **pP 10 53 27.6 +1.4**
FXWY Fox Creek 60.18 57 *e*P **P 10 53 14.2 +1.3**
comp=Z,23nm,1.0s
H18A Shoshone NF, C 60.23 55 ⇑P **P 10 53 14.0 +0.8**
baz=60,SNR=8.8
I17A Pilgrim Ck. 60.24 56 ⇓P **P 10 53 14.9 +1.6**
baz=60,SNR=22
A24A Westby 60.26 48 ⇓P **P 10 53 13.5 +0.4**
baz=60,SNR=11
F20A Billings 60.27 53 ⇑P **P 10 53 14.4 +1.1**
baz=60,SNR=15
TPAW Teton Pass 60.32 57 *e*P **P 10 53 15.5 +1.6**
comp=Z,39nm,0.9s
E21A Keefer Ranch, 60.33 52 ⇑P **P 10 53 14.9 +1.2**
baz=60,SNR=15
RCTC Rector, Farmer 60.34 68 ⇑P **P 10 53 14.1 +0.4**
baz=60
D22A Cohagen 60.38 51 ⇓P **P 10 53 14.7 +0.7**
baz=60,SNR=34
LOHW Long Hollow 60.43 56 *e*P **P 10 53 15.9 +1.3**
comp=Z,54nm,1.3s
C23A Lambert 60.44 50 ⇑P **P 10 53 15.2 +0.8**
baz=60,SNR=22
TIN Tinemaha 60.45 67 ⇑P **P 10 53 15.0 +0.3**
baz=60
HVU Hansel Valley 60.45 59 *e*P **P 10 53 15.6 +0.9**
HVU *e**PP **pP 10 53 29.4 +1.1**
HVU pmax pmax
comp=Z,19nm,1.1s
HVU Hansel Valley 60.45 59 *e*P **P 10 53 15.6 +0.9**
comp=Z,19nm,1.1s
HVU *e*pP **pP 10 53 29.4 +1.1**
REDW Red Top Meadow 60.46 57 *e*P **P 10 53 16.3 +1.5**
comp=Z,73nm,1.2s
DGMT Dagmar 60.47 49 *e*P **P 10 53 15.1 +0.5**
comp=Z,104nm,1.0s
DGMT *e*pP **pP 10 53 28.6 +0.4**
DGMT Dagmar 60.47 49 ⇑P **P 10 53 15.3 +0.7**
baz=60,SNR=21
SMMC Simmler 60.54 69 ⇑P **P 10 53 15.9 +0.6**
baz=60
H19A Powell 60.59 55 ⇓P **P 10 53 16.8 +1.2**
baz=60,SNR=26
G20A Bridger 60.63 54 ⇑P **P 10 53 16.1 +0.3**
baz=60,SNR=33
LAO LASA Array 60.67 51 *e*P **P 10 53 17.1 +1.2**
comp=Z,126nm,1.0s
LAO *e*pP **pP 10 53 30.4 +0.8**
A25A Svangstu Ranch 60.68 48 ⇑P **P 10 53 16.7 +0.7**
baz=60,SNR=12
VES Vestal, Richgr 60.74 68 ⇓P **P 10 53 16.5 -0.1**
baz=61
F21A Absaloka Mine, 60.79 53 ⇑P **P 10 53 17.4 +0.5**
baz=61
D23A Lindsay 60.85 51 ⇑P **P 10 53 18.1 +0.9**
baz=61,SNR=20
BGU Big Grassy Mou 60.88 60 *e*P **P 10 53 18.3 +0.7**
comp=Z,5.9nm,1.3s
PKM Peak Mountain 60.93 69 ⇓P **P 10 53 18.7 +0.6**
baz=61
SPUT South Promonto 60.95 59 *e*P **P 10 53 18.9 +0.8**
comp=Z,27nm,1.1s
SPUT *e*pP **pP 10 53 32.7 +1.0**
GRAC Grapevine Rang 60.99 66 ⇑P **P 10 53 19.2 +0.9**
baz=61
C24A Savage 61.00 50 ⇑P **P 10 53 19.0 +0.8**
baz=61
I19A Meeteetse 61.01 55 ⇑P **P 10 53 19.3 +0.8**
baz=61,SNR=17
B25A Knox Farm, Ray 61.11 49 ⇑P **P 10 53 19.8 +0.9**
baz=61,SNR=9.7
R11A Troy Canyon, C 61.14 64 *e*P **P 10 53 19.7 +0.2**
comp=Z,19nm,1.1s
R11A *e*pP **pP 10 53 34.0 +0.9**
R11A Troy Canyon, C 61.14 64 ⇑P **P 10 53 19.8 +0.4**
baz=61,SNR=30
G21A Lodge Grass 61.15 53 ⇓P **P 10 53 19.5 +0.2**
baz=61
A26A Wade Farm, Ken 61.23 47 ⇑P **P 10 53 20.1 +0.4**
baz=61,SNR=8.7
H20A Greybull 61.23 54 ⇓P **P 10 53 20.3 +0.4**
baz=61,SNR=10
F22A Rosebud 61.27 52 ⇑P **P 10 53 20.7 +0.6**
baz=61,SNR=24
SAUI Saumlaki 61.29 208 P **P 10 53 22.2 +1.8**
comp=Z,450nm,1.1s
SAUI Saumlaki 61.29 208 *e*P **P 10 53 21.3 +0.9**
comp=Z,511nm,1.1s
D24A Glendive 61.33 50 ⇑P **P 10 53 21.7 +1.3**
baz=61,SNR=31
ARVC Arvin 61.38 69 ⇓P **P 10 53 21.1 +0.2**
baz=61
MTKI Muara Teweh, K 61.44 228 P **P 10 53 22.7 +1.2**
comp=Z,123nm,1.2s
C25A Freed Ranch, W 61.45 49 ⇑P **P 10 53 22.2 +1.0**
baz=61,SNR=22
B26A Jensen Ranch, 61.49 48 ⇓P **P 10 53 22.4 +0.9**
baz=61,SNR=5.6
DUG Dugway 61.49 61 *e*P **P 10 53 22.6 +0.8**
DUG *e**PP **pP 10 53 36.0 +0.6**
DUG pmax pmax
comp=Z,33nm,1.1s
DUG Dugway 61.49 61 *e*P **P 10 53 22.6 +0.8**
comp=Z,33nm,1.1s
DUG *e*pP **pP 10 53 36.0 +0.6**
DUG Dugway 61.49 61 ⇓P **P 10 53 22.7 +0.9**
baz=61,SNR=32
J19A Crowheart 61.50 56 ⇓P **P 10 53 23.1 +1.2**
baz=61,SNR=18
I20A Worland 61.53 55 ⇓P **P 10 53 23.0 +1.1**
baz=61,SNR=25
KAF Kangasniemi 61.55 336 *e*P **P 10 53 19.1 -2.5**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 61.55 336 *e*p **P 10 53 19.1 -2.5**
comp=Z,4.1nm,0.5s
BW06 Boulder Array 61.56 57 *e*P **P 10 53 22.5 +0.2**
comp=Z,56nm,1.1s
BW06 *e*pP **pP 10 53 36.5 +0.6**
A27A Ledoux Ranch, 61.57 47 ⇓P **P 10 53 22.8 +0.9**
baz=61
G22A Birney 61.63 53 ⇓P **P 10 53 23.0 +0.5**
baz=61,SNR=12
H21A Big Horn, Sher 61.64 54 ⇑P **P 10 53 23.6 +0.9**
baz=61,SNR=25
FURC Furnace Creek, 61.65 66 ⇑P **P 10 53 23.3 +0.6**
baz=62,SNR=14
TCUT Toone Canyon 61.66 59 *e*P **P 10 53 24.1 +1.1**
comp=Z,19nm,0.9s
TCUT *e*pP **pP 10 53 38.2 +1.6**
KSM Kuching 61.70 234 *e*P **P 10 53 24.6 +1.4**
comp=Z,57nm,1.1s
KSM *e*pP **pP 10 53 37.8 +0.9**
E24A Baker 61.72 51 ⇓P **P 10 53 23.6 +0.5**
baz=62,SNR=7.2
F23A Volborg 61.74 52 ⇑P **P 10 53 23.9 +0.6**
baz=62,SNR=31
CTU Camp Tracy 61.76 60 *e*P **P 10 53 24.6 +1.0**
comp=Z,12nm,0.9s
CTU *e*pP **pP 10 53 37.9 +0.7**
OSI Osito Adit 61.78 69 ⇓P **P 10 53 23.7 0.0**
baz=62
D25A Fairfield 61.81 50 ⇑P **P 10 53 24.6 +0.9**
baz=62,SNR=7.9
LRMC Laurel Mountai 61.83 68 ⇓P **P 10 53 24.1 +0.1**
baz=62,SNR=7.0
SPSI Sidrap Palu 61.87 222 P **P 10 53 24.8 +0.5**
comp=Z,40nm,1.4s
SFJD Kangerlussuaq 61.93 11 *e*P **P 10 53 23.7 -0.4**
SFJD *e**SP **sP 10 53 42.1 -1.1**
SFJD pmax pmax
comp=Z,28nm,0.6s
SFJD Kangerlussuaq 61.93 11⇑*i*P **P 10 53 23.5 -0.6**

comp=Z,20nm,0.8s
SFJD Kangerlussuaq 61.93 11 P P 10 53 23.5 -0.6
comp=Z,20nm,0.5s,baz=342,slow=5.2,SNR=30
SFJD Kangerlussuaq 61.93 11 eP P 10 53 23.7 -0.4
comp=Z,28nm,0.6s
SFJD epP pP 10 53 37.5 -0.2
SFJD esP sP 10 53 42.1 -1.1
B27A Peters Farms, 61.94 47 ⇑P P 10 53 25.3 +0.8
baz=62,SNR=5.5
C26A Wahner Farm, P 61.94 48 ⇓P P 10 53 25.3 +0.8
baz=62,SNR=18
J20A Shoshoni 61.96 55 ⇓P P 10 53 25.9 +1.1
baz=62,SNR=22
JLU Jordanelle 61.99 59 eP P 10 53 26.1 +0.9
comp=Z,19nm,1.2s
H22A Clearmont 62.02 53 ⇑P P 10 53 25.4 +0.1
baz=62,SNR=7.5
EDW2 Edwards Air Fo 62.05 68 ⇓P P 10 53 25.6 +0.1
baz=62,SNR=9.3
A28A Rude Farm, Bot 62.06 46 ⇓P P 10 53 25.8 +0.5
baz=62,SNR=8.4
I21A Big Trails, Te 62.07 54 ⇑P P 10 53 26.1 +0.5
baz=62,SNR=39
NLU North Lily Min 62.07 60 eP P 10 53 26.0 +0.2
comp=Z,19nm,1.0s
G23A Biddle 62.11 52 ⇓P P 10 53 26.2 +0.5
baz=62,SNR=21
BNSI Bone 62.12 221 P P 10 53 27.2 +1.3
comp=Z,72nm,1.1s,comp=Z,924nm
F24A Ekalaka 62.15 51 ⇑P P 10 53 26.8 +0.8
baz=62,SNR=21
FINES FINESS Array B 62.16 335 P P 10 53 24.3 -1.4
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES FINESS Array B 62.16 335 P P 10 53 24.2 -1.4
comp=Z,4.7nm,0.5s,baz=45,slow=6.7,SNR=34
SURT Suratani 62.19 250 P P 10 53 28.3 +1.8
comp=Z,12nm,1.8s,comp=Z,232nm
E25A Miller Ranch, 62.22 50 ⇓P P 10 53 27.1 +0.7
baz=62,SNR=14
DAU Daniels Canyon 62.22 60 eP P 10 53 27.8 +0.9
DAU Daniels Canyon 62.22 60 eP P 10 53 27.8 +0.9
DAU epP pP 10 53 40.9 +0.3
DECC Green Verdugo 62.27 69 ⇑P P 10 53 26.8 -0.1
baz=62,SNR=5.0
MPU Maple Canyon 62.28 60 eP P 10 53 28.3 +1.2
comp=Z,18nm,0.9s
MPU epP pP 10 53 41.8 +1.0
STKI Sintang 62.28 232 P P 10 53 28.7 +1.6
comp=Z,77nm,1.0s,comp=Z,19μm
C27A Sayler Ranch, 62.30 48 ⇓P P 10 53 27.7 +0.7
baz=62,SNR=8.3
J21A Lysite 62.30 55 ⇑P P 10 53 27.6 +0.3
baz=62,SNR=18
PUL Pulkovo 62.32 332 eP P 10 53 27.5 +0.7
D26A Manning 62.33 49 ⇑P P 10 53 27.7 +0.6
baz=62,SNR=7.9
B28A Dugan Ranch, T 62.34 47 ⇓P P 10 53 27.7 +0.6
baz=62,SNR=15
SHOC Shoshone 62.38 66 ⇓P P 10 53 27.9 +0.3
baz=62
I22A 9 Mile Ranch, 62.44 54 ⇑P P 10 53 29.0 +0.9
baz=62,SNR=19
MWC Mount Wilson 62.45 69 eP P 10 53 28.7 +0.4
MWC pmax pmax
comp=Z,26nm,1.1s
MWC Mount Wilson 62.45 69 eP P 10 53 28.7 +0.4
comp=Z,26nm,1.1s
GSC Goldstone 62.48 67 eP P 10 53 28.6 +0.2
GSC e*SP sP 10 53 48.3 +0.8
GSC pmax pmax
comp=Z,13nm,0.9s
GSC Goldstone 62.48 67 eP P 10 53 28.6 +0.2
comp=Z,13nm,0.9s
GSC epP pP 10 53 42.7 +0.7
GSC esP sP 10 53 48.2 +0.8
GSC Goldstone 62.48 67 ⇓P P 10 53 28.3 0.0
baz=62,SNR=6.0
KTGM Kuala Trenggan 62.49 243 ⇓P P 10 53 31.1 +2.6
G24A Alzada 62.52 52 ⇓P P 10 53 28.5 0.0
baz=62,SNR=17
A29A Manning Farm, 62.53 46 ⇑P P 10 53 29.0 +0.6
baz=62,SNR=21
H23A Clabaugh Cattl 62.54 53 ⇓P P 10 53 28.7 0.0
baz=62
F25A Bowman 62.59 51 ⇑P P 10 53 29.7 +0.8
baz=62,SNR=8.3
SHPR Sheep Range 62.63 65 eP P 10 53 30.0 +0.5
SHPR epP pP 10 53 44.1 +1.0
RRX Edison Barstow 62.65 68 ⇓P P 10 53 29.4 0.0
baz=62
BFSC Mount Baldy Ra 62.69 69 ⇑P P 10 53 29.7 -0.1
baz=62
KBL Kabul 62.69 292 eP P 10 53 28.9 -1.1
KBL pmax pmax
comp=Z,15nm,1.0s
KBL Kabul 62.69 292 eP P 10 53 28.9 -1.1
comp=Z,15nm,1.0s
E26A Carlson Angus 62.70 50 ⇓P P 10 53 30.1 +0.5
baz=62,SNR=19
D27A Center 62.72 49 ⇓P P 10 53 30.2 +0.5
baz=62,SNR=6.4
ARUT Antelope Range 62.76 63 eP P 10 53 30.7 +0.4
ARUT Antelope Range 62.76 63 eP P 10 53 30.7 +0.4
comp=Z,289nm,1.0s
J22A Midwest 62.77 54 ⇓P P 10 53 30.6 +0.4
baz=63,SNR=30
B29A Wagenman Farm, 62.80 46 ⇑P P 10 53 30.6 +0.4
baz=63,SNR=10
KAPI Kappang 62.82 221 eP P 10 53 30.9 +0.2
comp=Z,62nm,1.3s
C28A Hausauer Farms 62.84 47 ⇓P P 10 53 31.2 +0.7
baz=63,SNR=7.9
H24A Dirks Ranch, A 62.85 52 ⇑P P 10 53 30.7 0.0
baz=63,SNR=22
K21A Alcova 62.90 55 ⇓P P 10 53 31.6 +0.4
baz=63,SNR=50
TUQ Turquoise Moun 62.91 66 ⇑P P 10 53 31.4 +0.1
baz=63,SNR=8.9
I23A Meade Ranch, G 62.92 53 ⇑P P 10 53 31.3 0.0
baz=63
BKSI Bulukumba 62.94 221 P P 10 53 32.3 +0.9
comp=Z,31nm,1.0s
A30A Hoffart Farm, 62.95 45 ⇓P P 10 53 31.7 +0.4
baz=63,SNR=11
CCUT Cedar City 62.97 63 eP P 10 53 32.5 +0.6
comp=Z,21nm,1.1s
CCUT epP pP 10 53 47.8 +2.3
TMUT Trail Mountain 63.01 60 eP P 10 53 33.0 +0.8
comp=Z,29nm,1.1s
TMUT epP pP 10 53 46.2 +0.4
F26A Lodgepole 63.03 50 ⇑P P 10 53 32.2 +0.3
baz=63,SNR=32
HEC Hector,Ludlow 63.08 67 ⇑P P 10 53 32.5 +0.1
baz=63,SNR=15
ULM Lac du Bonnet 63.11 43 P P 10 53 32.0 -0.2
ULM pmax pmax
comp=Z,11nm,0.7s
ULM Lac du Bonnet 63.11 43 P P 10 53 32.0 -0.2
comp=Z,11nm,0.7s,baz=312,slow=7.0,SNR=29
ULM Lac du Bonnet 63.11 43 eP P 10 53 32.0 -0.2
comp=Z,21nm,1.1s
ULM epP pP 10 53 44.8 -1.1
BBRC Big Bear Solar 63.12 68 ⇓P P 10 53 32.8 0.0
baz=63,SNR=6.3
G25A Newell 63.12 51 ⇓P P 10 53 32.7 +0.2
baz=63,SNR=12
D28A Regan 63.12 48 ⇓P P 10 53 33.1 +0.7
baz=63,SNR=7.0
E27A Carson 63.17 49 ⇓P P 10 53 33.2 +0.4
baz=63,SNR=21
J23A Dilts Ranch, B 63.26 54 ⇑P P 10 53 33.9 +0.3
baz=63
K22A Casper 63.27 55 ⇓P P 10 53 33.9 +0.2
baz=63,SNR=9.8
B30A Myrvik Farm, E 63.29 46 ⇓P P 10 53 33.9 +0.4
baz=63,SNR=30
PKDT Phuket 63.31 249 P P 10 53 35.9 +1.9
comp=Z,34nm,1.3s,comp=Z,5μm
F27A Lemmon 63.34 50 ⇑P P 10 53 34.1 +0.2
baz=63,SNR=20
MURC Murrieta 63.40 69 ⇑P P 10 53 34.2 -0.2
baz=63,SNR=5.2
H25A Fruitdale 63.42 52 ⇑P P 10 53 34.8 +0.3
baz=63,SNR=14
I24A Kuemmerle Ranc 63.43 53 ⇓P P 10 53 34.5 -0.1
baz=63,SNR=11

G26A Maurine 63.46 51 ⇑P P 10 53 35.0 +0.3
baz=63,SNR=33
E28A Huff 63.50 49 ⇑P P 10 53 35.3 +0.4
baz=63,SNR=9.9
GMRC Granite Mounta 63.52 67 ⇓P P 10 53 35.6 +0.3
baz=63,SNR=11
RSSD Black Hills 63.55 52 eP P 10 53 35.5 -0.1
RSSD e*PP pP 10 53 49.2 0.0
RSSD pmax pmax
comp=Z,51nm,0.9s
RSSD Black Hills 63.55 52 eP P 10 53 35.5 -0.1
comp=Z,52nm,0.9s
RSSD epP pP 10 53 49.2 0.0
N20A Spence Gulch, 63.59 57 ⇑P P 10 53 36.7 +0.9
baz=63,SNR=35
BBKI Banjar Baru 63.66 227 P P 10 53 36.5 +0.2
comp=Z,251nm,1.2s,comp=Z,3μm
K23A Bowen Ranch, D 63.68 54 ⇓P P 10 53 36.2 -0.1
baz=64,SNR=5.5
D29A Pettibone, Tap 63.68 48 ⇑P P 10 53 36.4 +0.3
baz=63
G27A Dupree 63.73 50 ⇑P P 10 53 36.6 +0.1
baz=64,SNR=21
L22A Ellis Ranch, M 63.75 55 ⇓P P 10 53 38.0 +1.1
baz=64,SNR=13
C30A Mose, Pekin 63.76 46 ⇓P P 10 53 36.9 +0.3
baz=64
I25A Rochford 63.78 52 ⇓P P 10 53 37.2 +0.2
baz=64
J24A Dixon Ranch, L 63.78 53 ⇑P P 10 53 36.9 -0.1
baz=64,SNR=8.5
PFO Pinyon Flat Ob 63.84 68 P P 10 53 36.7 -0.8
PFO pmax pmax
comp=Z,4.0nm,0.9s
PFO Pinyon Flat Ob 63.84 68 P P 10 53 36.7 -0.8
comp=Z,3.9nm,0.8s,baz=314,slow=7.3,SNR=4.0
PFO Pinyon Flat Ob 63.84 68 ⇑P P 10 53 37.2 -0.3
baz=64
H26A Fairpoint 63.85 51 ⇓P P 10 53 37.3 0.0
baz=64,SNR=7.3
BELC Belle Mtn. Jos 63.85 68 ⇑P P 10 53 37.3 -0.3
baz=64
OBN Obninsk 63.92 326 d iP P 10 53 36.0 -1.5
OBN e 10 54 12.5
OBN e 10 55 58.2
OBN eS S 11 02 04.8 -4.4
OBN pmax pmax
comp=Z,45nm,2.5s
OBN MLR MLR
comp=Z,580nm,22.0s
109C Camp Elliot, M 63.95 69 ⇓P P 10 53 38.0 0.0
baz=64
F28A McLaughlin 63.96 49 ⇓P P 10 53 38.2 +0.2
baz=64,SNR=12
KULM Kulm 63.98 246 eP P 10 53 39.5 +1.2
comp=Z,46nm,1.1s
KULM Kulm 63.98 246 ⇓P P 10 53 39.6 +1.2
E29A Napoleon 64.01 48 ⇑P P 10 53 38.2 -0.1
baz=64,SNR=6.1
D30A Buchanan 64.05 47 ⇑P P 10 53 38.3 -0.2
baz=64,SNR=22
L23A Garrett 64.08 55 ⇓P P 10 53 39.0 -0.1
baz=64,SNR=11
O20A White River Ci 64.09 58 ⇓P P 10 53 39.1 0.0
baz=64,SNR=16
M22A Cedar Creek Ra 64.10 56 ⇓P P 10 53 39.5 +0.3
baz=64,SNR=32
K24A Anderson Ranch 64.13 54 ⇓P P 10 53 39.0 -0.2
baz=64
J25A Sunshine Ranch 64.19 53 ⇓P P 10 53 39.5 -0.1
baz=64,SNR=7.0
H27A Howes 64.19 51 ⇑P P 10 53 39.8 +0.3
baz=64,SNR=13
I26A New Underwood 64.22 52 ⇑P P 10 53 40.2 +0.5
baz=64,SNR=14
IRM Iron Mountain 64.25 67 ⇓P P 10 53 40.3 +0.3
baz=64,SNR=8.2
COEN Coen 64.34 194 eP P 10 53 40.6 0.0
comp=Z,572nm,0.8s
W13A Hualapai Mount 64.35 65 ⇑P P 10 53 40.9 0.0
baz=64,SNR=8.2
MONP Monument Peak 64.36 69 ⇑P P 10 53 40.7 -0.3
baz=64
U15A North Rim 64.36 63 ⇓P P 10 53 41.6 +0.5
baz=64,SNR=11
IPM Ipoh 64.41 245 eP P 10 53 41.4 +0.2
comp=Z,43nm,1.3s
IPM Ipoh 64.41 245 ⇑P P 10 53 41.4 +0.2
E30A Jud 64.41 48 ⇑P P 10 53 40.9 0.0
baz=64,SNR=9.3
BC3 Big Chuckawall 64.42 68 ⇓P P 10 53 41.1 -0.1
baz=64
F29A Eureka 64.45 49 ⇓P P 10 53 41.0 -0.1
baz=64,SNR=6.4
G28A Parade 64.45 50 ⇑P P 10 53 41.3 +0.1
baz=64,SNR=12
M23A Laramie 64.53 55 ⇑P P 10 53 41.8 -0.1
baz=64
AGMN Agassiz Nation 64.54 45 eP P 10 53 41.4 -0.2
comp=Z,36nm,1.1s
AGMN epP pP 10 53 54.0 -1.4
AGMN Agassiz Nation 64.54 45 ⇑P P 10 53 41.3 -0.4
baz=64,SNR=14
L24A Wheatland 64.54 55 ⇑P P 10 53 41.9 0.0
baz=64
PBKI Pangkalan Bun 64.56 230 P P 10 53 43.8 +1.7
comp=Z,251nm,1.0s
N22A Wattenberg Ran 64.60 56 ⇑P P 10 53 43.2 +0.7
baz=64,SNR=22
I27A Quinn 64.60 51 ⇓P P 10 53 42.5 +0.3
baz=64,SNR=16
J26A Sides Ranch, S 64.61 52 ⇑P P 10 53 42.6 +0.3
baz=64,SNR=16
H28A Mission Ridge 64.69 50 ⇑P P 10 53 42.9 +0.2
baz=64,SNR=34
K25A Mack Ranch, Ha 64.70 53 ⇓P P 10 53 43.3 +0.3
baz=64
PDMCI Parker Dam,Lak 64.75 66 ⇓P P 10 53 43.5 +0.2
baz=65,SNR=6.0
PHWY Pilot Hill 64.78 55 eP P 10 53 44.0 +0.3
comp=Z,23nm,1.4s
N23A Red Feather La 64.81 56 ⇓P P 10 53 44.8 +0.9
baz=65,SNR=26
G29A Hoven 64.86 49 ⇓P P 10 53 43.7 -0.2
baz=65
PV04 Paradox Valley 64.93 60 eP P 10 53 45.2 +0.6
PV04 epP pP 10 53 58.9 +0.6
MYKOM Kota Tinggi 64.96 240 eP P 10 53 46.3 +1.5
comp=Z,26nm,0.9s
MYKOM Kota Tinggi 64.96 240 ⇑P P 10 53 47.7 +2.9
K26A Motz Farm, Whi 65.00 53 ⇓P P 10 53 44.9 0.0
baz=65,SNR=7.1
O22A Kremmling 65.00 57 ⇓P P 10 53 45.6 +0.4
baz=65,SNR=10
M24A Cheyenne 65.00 55 ⇓P P 10 53 45.7 +0.7
baz=65,SNR=12
VRHR Novokhopersk 65.05 321 eP P 10 53 41.8 -3.1
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR MLR MLR
comp=N,380nm,19.0s
VRHR MLR MLR
comp=E,880nm,19.0s
VRHR MLR MLR
comp=Z,680nm,19.0s
MMRI Maumere 65.07 217 P P 10 53 45.9 +0.5
comp=Z,162nm,1.2s,comp=Z,2μm
MMRI Maumere 65.07 217 eP P 10 53 45.1 -0.3
comp=Z,123nm,1.0s
I28A Midland 65.10 51 ⇑P P 10 53 45.5 +0.1
baz=65,SNR=17
H29A Onida 65.13 50 ⇓P P 10 53 45.3 -0.3
baz=65,SNR=6.9
J27A Elkhorn Farm, 65.21 52 ⇑P P 10 53 46.5 +0.3
baz=65,SNR=11
GLA Glamis 65.21 68 ⇓P P 10 53 46.6 +0.3
baz=65
P22A Eagle 65.28 58 ⇑P P 10 53 47.4 +0.5
baz=65,SNR=21
G30A Faulkton 65.29 49 ⇑P P 10 53 46.3 -0.3
baz=65,SNR=11
PV01 Paradox Valley 65.30 60 eP P 10 53 47.1 0.0
comp=Z,752nm,0.6s
O23A Lake Granby, G 65.30 57 ⇑P P 10 53 47.9 +0.7

baz=65,SNR=35
SOEI Soe 65.33 215 P P 10 53 48.7 +1.5
comp=Z,98nm,1.1s
SOEI Soe 65.33 215 eP P 10 53 46.2 -1.0
comp=Z,82nm,1.0s
N24A Carr 65.43 55 ⇑P P 10 53 48.6 +0.9
baz=65,SNR=5.5
M25A Palm-Egli Farm 65.44 54 ⇓P P 10 53 48.5 +0.7
baz=65,SNR=7.1
SMCO Snowmass 65.46 58 eP P 10 53 48.7 +0.5
comp=Z,28nm,0.9s
J28A Allard Ranch, 65.48 51 ⇑P P 10 53 48.4 +0.4
baz=65,SNR=25
K27A Flueckinger Fa 65.48 52 ⇓P P 10 53 48.0 0.0
baz=65,SNR=11
I29A Vivian Onida 65.52 50 ⇑P P 10 53 48.0 -0.1
baz=65,SNR=6.1
L26A Underwood Farm 65.52 53 ⇑P P 10 53 48.6 +0.3
baz=65
WUAZ Wupatki 65.53 64 eP P 10 53 49.7 +1.1
comp=Z,31nm,1.2s
WUAZ epP pP 10 54 03.3 +1.1
WUAZ Wupatki 65.53 64 ⇑P P 10 53 49.2 +0.6
baz=65,SNR=13
Y14A Wickenburg 65.68 66 ⇑P P 10 53 49.8 +0.4
baz=66,SNR=8.2
ISCO Idaho Springs 65.76 57 eP P 10 53 51.0 +0.9
ISCO e*PP pP 10 54 05.0 +1.1
ISCO pmax pmax
comp=Z,46nm,1.0s
ISCO Idaho Springs 65.76 57 eP P 10 53 51.0 +0.9
comp=Z,46nm,1.0s
ISCO epP pP 10 54 05.0 +1.1
ISCO Idaho Springs 65.76 57 ⇓P P 10 53 51.0 +0.9
baz=66,SNR=55
O24A Longmont 65.82 56 ⇓P P 10 53 51.4 +1.1
baz=66,SNR=7.4
N25A Grover 65.86 55 ⇑P P 10 53 51.5 +1.0
baz=66
BRSD Miller 65.88 49 eP P 10 53 50.5 +0.1
comp=Z,41nm,0.9s
BRSD Miller 65.88 49 ⇓P P 10 53 50.2 -0.2
baz=66
L27A T5 Ranch, Ells 65.88 53 ⇓P P 10 53 50.9 +0.3
baz=66
M26A McRoberts Ranc 65.89 54 ⇑P P 10 53 51.5 +0.8
baz=66,SNR=8.1
BORG Borgarnes 65.90 359 P P 10 53 50.2 +0.1
BORG pmax pmax
comp=Z,22nm,0.8s
BORG Borgarnes 65.90 359 P P 10 53 50.2 +0.1
comp=Z,20nm,1.1s,baz=56,slow=2.7,SNR=4.3
K28A Ten Mile Ranch 65.92 52 ⇓P P 10 53 51.2 +0.4
baz=66,SNR=6.7
P23A Jefferson 65.94 57 ⇓P P 10 53 52.6 +1.3
baz=66,SNR=7.9
J29A Okreek 65.95 51 ⇑P P 10 53 50.9 0.0
baz=66,SNR=24
VSR Storozhevoye 65.95 322 eP P 10 53 48.7 -2.1
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR MLR MLR
comp=N,250nm,22.0s
VSR MLR MLR
comp=E,510nm,22.0s
VSR MLR MLR
comp=Z,830nm,22.0s
BATI Baumata 65.97 215 P P 10 53 53.1 +1.9
comp=Z,30nm,1.0s
MVCO Mesa Verde 65.99 60 eP P 10 53 52.0 +0.5
comp=Z,27nm,1.0s
MVCO epP pP 10 54 05.8 +0.5
MVCO Mesa Verde 65.99 60 ⇓P P 10 53 51.9 +0.3
baz=66,SNR=17
NB2 NORSAR Subarra 66.03 342 P P 10 53 49.6 -1.6
comp=Z,4.1nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 66.03 342 P P 10 53 49.5 -1.7
comp=Z,3.2nm,0.5s,baz=26,slow=6.3,SNR=21
NOA LR LR 11 27 20.8
comp=Z,766nm,19.7s,baz=285,slow=40
113A Mohawk Valley, 66.05 67 ⇓P P 10 53 51.8 +0.2
baz=66
Z14A Wintersburg 66.12 66 ⇑P P 10 53 52.3 +0.2
baz=66
M27A Reverse DX Ran 66.25 53 ⇓P P 10 53 53.4 +0.5
baz=66
X16A Lo Mia Camp, P 66.26 64 ⇓P P 10 53 54.2 +0.9
baz=66
Q23A Hartsel 66.28 57 ⇑P P 10 53 54.3 +0.9
baz=66
N26A Koester Ranch, 66.31 54 ⇑P P 10 53 54.1 +0.7
baz=66,SNR=5.7
HFS Hagfors 66.34 340 P P 10 53 52.0 -1.1
HFS pmax pmax
comp=Z,10.0nm,0.7s
HFS MLR MLR
comp=Z,413nm,18.2s
HFS Hagfors 66.34 340 P P 10 53 52.0 -1.1
comp=Z,9.9nm,0.7s,baz=41,slow=2.9,SNR=24
HFS LR LR 11 26 55.9
comp=Z,412nm,18.2s,baz=14,slow=40
O25A Wiggins 66.34 56 ⇑P P 10 53 54.4 +0.8
baz=66,SNR=8.8
P24A Kohler Place, 66.34 56 ⇓P P 10 53 54.6 +0.9
baz=66,SNR=11
K29A Lazy Trails An 66.42 51 ⇓P P 10 53 54.5 +0.5
baz=66,SNR=15
J30A Dallas 66.43 50 ⇑P P 10 53 53.9 -0.1
baz=66,SNR=19
S22A 4UR Ranch, Cre 66.55 59 ⇓P P 10 53 56.1 +0.9
baz=66,SNR=51
Q24A Divide 66.61 57 ⇑P P 10 53 56.1 +0.5
baz=66
TPI Tanjungpandan 66.67 234 P P 10 53 56.4 +0.7
comp=Z,60nm,1.1s,comp=Z,701nm
IMYA Miami 66.68 299 eP P 10 53 53.9 -2.0
O26A Horse Wrangler 66.68 55 ⇓P P 10 53 56.2 +0.4
baz=66,SNR=10
N27A Anderson Farm, 66.69 54 ⇑P P 10 53 56.2 +0.5
baz=66,SNR=13
P25A Willow Gulch B 66.75 56 ⇓P P 10 53 57.0 +0.7
baz=66,SNR=26
EYMN Ely 66.75 42 eP P 10 53 55.6 -0.4
comp=Z,35nm,0.9s
EYMN epP pP 10 54 08.4 -1.3
W18A Petrified Fore 66.76 63 eP P 10 53 57.3 +0.8
comp=Z,22nm,1.1s
W18A Petrified Fore 66.76 63 ⇑P P 10 53 57.0 +0.6
baz=67,SNR=6.9
R23A Moffat 66.79 58 ⇓P P 10 53 57.3 +0.6
baz=67,SNR=22
K30A Basset 66.84 51 ⇑P P 10 53 56.7 +0.1
baz=67,SNR=14
L29A Maesberg Ranch 66.84 52 ⇑P P 10 53 56.8 +0.1
baz=67,SNR=9.6
OGNE Ogallala 66.85 54 eP P 10 53 57.6 +0.9
comp=Z,151nm,0.9s
OGNE epP pP 10 54 10.9 +0.4
OGNE Ogallala 66.85 54 ⇓P P 10 53 57.3 +0.5
baz=67,SNR=13
M28A Bar X Bar Ranc 66.87 53 ⇓P P 10 53 57.3 +0.4
baz=67,SNR=13
PSI Prapat 66.99 245 P P 10 53 58.4 +0.4
PSI pmax pmax
comp=Z,14nm,0.9s
PSI MLR MLR
comp=Z,157nm,19.1s
PSI Prapat 66.99 245 P P 10 53 58.4 +0.4
comp=Z,14nm,0.8s,baz=16,slow=2.9,SNR=14
PSI LR LR 11 25 32.6
comp=Z,157nm,19.1s,slow=38
S23A Nye Farm, Mont 67.04 59 ⇓P P 10 53 59.3 +1.0
baz=67,SNR=16
X18A Snowflake 67.06 63 ⇓P P 10 53 59.2 +0.9
baz=67,SNR=17
WBSI Waikabubak, Su 67.13 220 P P 10 54 07.7 +9.0
Q25A Bedland, Calha 67.13 57 ⇑P P 10 53 59.1 +0.3
baz=67,SNR=32
P26A Davis Ranch, A 67.15 55 ⇓P P 10 53 59.1 +0.3
baz=67,SNR=17
R24A Sanders Place, 67.15 58 ⇓P P 10 53 59.6 +0.6
baz=67,SNR=21
O27A Beecher Island 67.16 54 ⇑P P 10 53 59.1 +0.3
baz=67,SNR=15

M29A Burnside Ranch 67.19 52 ⇓P P 10 53 58.8 -0.1
baz=67,SNR=9.5
214A Organ Pipe Nat 67.19 67 ⇓P P 10 53 59.4 +0.4
baz=67
KMMI Kalianget 67.22 226 P P 10 54 01.3 +2.1
comp=Z,48nm,1.6s
SDCO Great Sand Dun 67.29 58 eP P 10 54 00.3 +0.5
comp=Z,25nm,1.3s
SDCO epP pP 10 54 14.4 +0.8
N28A Pribbeno Ranch 67.29 54 ⇓P P 10 53 59.6 0.0
baz=67,SNR=14
L30A Spencer Herefo 67.31 52 ⇑P P 10 53 59.4 -0.3
baz=67,SNR=5.9
ISFR Sfrayin 67.36 301 eP P 10 53 59.7 -0.6
NACGM Naroch 67.42 331 e P 10 54 09.0 +9.0
T23A Casias Ranch, 67.50 59 ⇑P P 10 54 01.5 +0.3
baz=67
U22A Llaves 67.51 60 ⇓P P 10 54 01.9 +0.7
baz=67,SNR=10
Q26A Hugo 67.52 56 ⇑P P 10 54 01.4 +0.3
baz=67,SNR=6.0
S24A Houchin Ranch, 67.52 58 ⇑P P 10 54 01.9 +0.5
baz=67,SNR=23
M30A Dale-Ortello V 67.54 52 ⇓P P 10 54 01.1 0.0
baz=67
ECSD EROS Data Cent 67.55 48 ⇓P P 10 54 00.7 -0.4
baz=67,SNR=48
SRBI Singaraja 67.55 224 P P 10 54 01.8 +0.5
comp=Z,80nm,1.3s
P27A Ficken Ranch, 67.57 55 ⇑P P 10 54 01.4 0.0
baz=67,SNR=14
O28A Krutsinger Ran 67.58 54 ⇑P P 10 54 01.3 -0.1
baz=67,SNR=18
L31A Butterfield Fa 67.59 51 ⇓P P 10 54 01.3 -0.2
baz=67,SNR=16
R25A Fountain Ranch 67.67 57 ⇓P P 10 54 02.3 +0.3
baz=68,SNR=7.7
N29A Votaw Ranch, W 67.67 53 ⇑P P 10 54 01.7 -0.3
baz=67,SNR=6.3
ABJI Asem Bagus 67.75 225 P P 10 54 03.2 +0.7
comp=Z,118nm,1.0s
BKNI Bangkinang 67.76 242 P P 10 54 04.4 +1.7
comp=Z,163nm,0.9s,comp=Z,2μm
BKNI Bangkinang 67.76 242 eP P 10 54 04.0 +1.4
comp=Z,181nm,1.1s
V22A San Miguel Ran 67.81 60 ⇓P P 10 54 03.6 +0.5
baz=68,SNR=13
T24B San Luis 67.84 59 ⇑P P 10 54 04.4 +1.1
baz=68,SNR=18
U23A El Rito 67.92 60 ⇓P P 10 54 04.4 +0.6
baz=68,SNR=74
S25A Robets Cordova 67.93 58 ⇓P P 10 54 03.8 0.0
baz=68,SNR=13
KSCO Kaye Shedlock' 67.94 55 eP P 10 54 03.9 +0.2
comp=Z,42nm,1.1s
KSCO epP pP 10 54 17.6 +0.1
KSCO Kaye Shedlock' 67.94 55 ⇑P P 10 54 03.9 +0.2
baz=68,SNR=7.8
N30A Hueftle Ranch, 67.96 53 ⇑P P 10 54 03.6 -0.2
baz=68
P28A Saint Francis 67.99 55 ⇓P P 10 54 03.8 -0.2
baz=68,SNR=7.7
R26A Arlington 68.01 56 ⇓P P 10 54 04.3 +0.1
baz=68,SNR=34
O29A 4D Ranch, Culb 68.09 54 ⇑P P 10 54 04.5 -0.1
baz=68,SNR=9.1
M31A Lambtecht Ranc 68.14 52 ⇑P P 10 54 04.4 -0.4
baz=68
TUC Tucson 68.14 66 eP P 10 54 05.3 +0.2
TUC e*PP pP 10 54 19.7 +0.8
TUC pmax pmax
comp=Z,11nm,1.0s
TUC Tucson 68.14 66 eP P 10 54 05.3 +0.2
comp=Z,11nm,1.0s
TUC epP pP 10 54 19.7 +0.8
SPMN St. Paul 68.23 45 eP P 10 54 05.2 -0.1
comp=Z,32nm,0.8s
SPMN epP pP 10 54 17.7 -1.3
SPMN St. Paul 68.23 45 ⇑P P 10 54 04.9 -0.4
baz=68,SNR=9.4
Q28A Sharon Springs 68.32 55 ⇑P P 10 54 05.7 -0.5
baz=68,SNR=5.1
T25A Trinidad 68.32 58 ⇓P P 10 54 06.6 +0.3
baz=68,SNR=29
V23A Ortiz Mt. (NFS 68.34 60 ⇑P P 10 54 07.8 +1.3
baz=68,SNR=24
U24A Moreno Valley 68.37 59 ⇑P P 10 54 07.5 +0.8
baz=68,SNR=19
R27A Eads 68.37 56 ⇑P P 10 54 06.3 -0.1
baz=68,SNR=19
P29A Atwood 68.40 54 ⇑P P 10 54 06.3 -0.3
baz=68,SNR=7.9
O30A MW Ranch, Wils 68.44 53 ⇓P P 10 54 06.5 -0.3
baz=68
S26A Kim 68.49 57 ⇑P P 10 54 06.9 -0.3
baz=68,SNR=14
BGNE Belgrade 68.51 51 eP P 10 54 06.8 -0.4
comp=Z,75nm,0.9s
BGNE Belgrade 68.51 51 ⇑P P 10 54 06.6 -0.5
baz=68,SNR=9.4
N31A Bailey Ranch, 68.53 52 ⇓P P 10 54 07.1 -0.2
baz=68
GMJI Gumukmas 68.53 226 P P 10 54 09.3 +1.8
comp=Z,25nm,1.1s
T26A Comanche Natio 68.75 57 ⇑P P 10 54 08.6 -0.3
baz=68,SNR=26
HYB Hyderabad 68.75 272 iP P 10 54 08.0 -1.0
HYB e 10 54 29.0
S27A Las Animas 68.75 57 ⇑P P 10 54 09.0 +0.1
baz=68
ANMO Albuquerque 68.76 61c iP P 10 54 09.4 +0.4
ANMO pmax pmax
comp=Z,69nm,1.2s
ANMO Albuquerque 68.76 61 P P 10 54 09.6 +0.5
comp=Z,9.1nm,0.9s,baz=317,slow=7.6,SNR=45
ANMO Albuquerque 68.76 61 eP P 10 54 09.5 +0.4
comp=Z,16nm,1.1s
ANMO epP pP 10 54 23.7 +0.9
ANMO esP sP 10 54 29.0 +0.7
W23A Werner Place, 68.78 61 ⇓P P 10 54 09.9 +0.7
baz=69,SNR=11
P30A Selden 68.81 54 ⇑P P 10 54 08.5 -0.5
baz=69,SNR=16
O31A Woolen Ranch, 68.84 53 ⇑P P 10 54 08.5 -0.7
baz=69,SNR=5.3
R28A Tribune 68.86 55 ⇓P P 10 54 09.2 -0.3
baz=69,SNR=11
U25A Circle Dot Ran 68.86 58 ⇑P P 10 54 10.1 +0.5
baz=69,SNR=33
V24A Rampart Ranch, 68.87 60 ⇑P P 10 54 10.3 +0.5
baz=69,SNR=26
Q29A Oakley 68.90 55 ⇑P P 10 54 09.3 -0.3
baz=69,SNR=14
N32A Stulken Farm, 68.91 52 ⇑P P 10 54 09.1 -0.5
baz=69
GOF Gofitskoye 69.04 316 eP P 10 54 10.2 -0.2
GOF pmax pmax
comp=Z,40nm,0.8s
PWJI Pagerwojo 69.09 228 P P 10 54 10.0 -0.9
V25A Rancho No Teng 69.15 59 ⇑P P 10 54 12.0 +0.6
baz=69,SNR=12
R29A Marienthal 69.16 55 ⇑P P 10 54 11.2 -0.1
baz=69,SNR=7.4
W24A Lazy 6 Ranch, 69.17 60 ⇑P P 10 54 12.2 +0.7
baz=69,SNR=35
X23A Hourglass Bar 69.18 61 ⇓P P 10 54 12.3 +0.7
baz=69
U26A Atchley Ranch, 69.23 58 ⇑P P 10 54 11.8 -0.2
baz=69,SNR=10
Q30A Quinter 69.24 54 ⇑P P 10 54 11.4 -0.3
baz=69,SNR=30
P31A Stockton 69.28 53 ⇑P P 10 54 11.2 -0.8
baz=69,SNR=11
O32A Brockman Farm, 69.30 52 ⇓P P 10 54 10.9 -1.2
baz=69
T27A Campo 69.31 57 ⇓P P 10 54 11.9 -0.4
baz=69,SNR=11
S28A Manter 69.36 56 ⇓P P 10 54 12.2 -0.4
baz=69,SNR=15
T28A Walsh 69.59 57 ⇓P P 10 54 13.8 -0.2
baz=69,SNR=20
P32A Huiting Farm, 69.60 53 ⇑P P 10 54 13.0 -1.0
baz=69,SNR=18
X24A Lazy VL Ranch, 69.62 60 ⇑P P 10 54 14.8 +0.4
baz=69,SNR=5.5
V26A Tequesquite Ra 69.64 59 ⇑P P 10 54 14.2 -0.2
baz=69,SNR=8.9
Q31A Ellis 69.65 53 ⇓P P 10 54 13.6 -0.7
baz=69,SNR=5.2
W25A X Bar L Ranch, 69.69 59 ⇓P P 10 54 15.2 +0.5
baz=70,SNR=27
Z22A Elephant Butte 69.70 62 ⇑P P 10 54 15.5 +0.7
baz=70,SNR=8.3
319A Douglas 69.70 65 ⇑P P 10 54 15.4 +0.5
baz=70,SNR=17
U27A Thompson Grove 69.72 57 ⇑P P 10 54 14.5 -0.3
baz=70,SNR=20
R30A Dighton 69.72 55 ⇓P P 10 54 14.3 -0.5
baz=70,SNR=22
Y23A Lovelace Mesa, 69.73 61 ⇑P P 10 54 15.6 +0.6
baz=70,SNR=24
121A Cookes Peak, D 69.74 63 eP P 10 54 16.2 +1.1
comp=Z,32nm,1.3s
121A Cookes Peak, D 69.74 63 ⇑P P 10 54 15.8 +0.7
baz=70,SNR=10.0
S29A Ulysses 69.76 56 ⇓P P 10 54 14.5 -0.5
baz=70,SNR=8.1
SCHQ Schefferville 69.89 25 P P 10 54 15.6 +0.1
comp=Z,26nm,0.6s,baz=339,slow=5.2,SNR=87
SCHQ Schefferville 69.89 25 eP P 10 54 15.4 -0.1
comp=Z,63nm,1.1s
CTAO Charters Tower 69.97 190 eP P 10 54 15.1 -1.1
CTAO pmax pmax
comp=Z,57nm,1.0s
CTAO Charters Tower 69.97 190 eP P 10 54 15.1 -1.1
comp=Z,57nm,1.0s
T29A Hugoton 70.01 56 ⇑P P 10 54 16.1 -0.5
baz=70,SNR=7.6
KIV Kislovodsk 70.05 315 eP P 10 54 16.4 -0.3
KIV pmax pmax
comp=Z,14nm,0.9s
KIV MLR MLR
comp=Z,288nm,17.0s
KIV Kislovodsk 70.05 315 eP P 10 54 18.0 +1.3
comp=Z,15nm,0.6s
U28A Mallet 70.08 57 ⇓P P 10 54 16.5 -0.5
baz=70,SNR=13
X25A Clemmons Ranch 70.08 60 ⇑P P 10 54 17.9 +0.7
baz=70,SNR=14
Y24A Capitan 70.08 61 ⇑P P 10 54 17.4 +0.2
baz=70,SNR=28
Q32A Meitler Ranch, 70.09 53 ⇓P P 10 54 16.2 -0.8
baz=70,SNR=10
S30A Montezuma 70.10 55 ⇓P P 10 54 16.4 -0.7
baz=70,SNR=5.8
R31A Burdett 70.11 54 ⇑P P 10 54 15.9 -1.2
baz=70,SNR=9.7
AKASG Malin Array Be 70.11 327 P P 10 54 14.8 -2.1
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG MLR MLR
comp=Z,853nm,21.5s
AKASG Malin Array Be 70.11 327 P P 10 54 14.8 -2.1
comp=Z,4.5nm,0.4s,baz=33,slow=6.2,SNR=28
AKASG LR LR 11 27 32.0
comp=Z,853nm,21.5s,baz=310,slow=38
KIEV Kiev 70.12 327 ⇓iP P 10 54 14.4 -2.5
KIEV Kiev 70.12 327 eP P 10 54 14.6 -2.4
comp=Z,15nm,1.0s
KBZ Khabaz 70.13 315 P P 10 54 17.2 +0.1
KBZ pmax pmax
comp=Z,14nm,0.8s
KBZ MLR MLR
comp=Z,564nm,19.5s
KBZ Khabaz 70.13 315 P P 10 54 17.1 +0.1
comp=Z,14nm,0.8s,baz=90,slow=2.5,SNR=27
KBZ LR LR 11 28 50.7
comp=Z,564nm,19.4s,baz=26,slow=39
W26A Owens Ranch, T 70.17 59 ⇑P P 10 54 17.5 -0.1
baz=70,SNR=12
V27A Dan Oppiter Fa 70.20 58 ⇑P P 10 54 18.2 +0.4
baz=70
P33A Williams Farm, 70.21 52 ⇓P P 10 54 17.0 -0.7
baz=70
GUDG Gudauri 70.36 313 P P 10 54 20.4 +1.5
ZEI Tsey 70.39 314 eP P 10 54 17.2 -1.7
ZEI pmax pmax
comp=Z,12nm,0.9s
R32A Long Quarter, 70.44 53 ⇓P P 10 54 18.2 -0.9
baz=70
Q33A Connelly Farm, 70.47 53 ⇓P P 10 54 18.3 -0.9
baz=70,SNR=34
T30A Plains 70.50 56 ⇑P P 10 54 18.9 -0.6
baz=70
Y25A Mesa, Roswell 70.51 60 ⇑P P 10 54 19.8 +0.1
baz=70,SNR=48
V28A Channing 70.54 58 ⇓P P 10 54 20.2 +0.3
baz=70
U29A Oasis Ranch, S 70.54 56 ⇓P P 10 54 19.6 -0.2
baz=70
X26A CR and CF Fran 70.54 59 ⇓P P 10 54 20.3 +0.4
baz=70,SNR=28
Z24A Sheeppen Canyo 70.56 61 ⇑P P 10 54 20.5 +0.4
baz=70,SNR=24
SCIA State Center 70.56 48 eP P 10 54 19.8 0.0
comp=Z,102nm,0.7s
W27A Bowe Ranch, En 70.58 59 ⇑P P 10 54 20.1 0.0
baz=70,SNR=9.8
S31A Mullinville 70.63 55 ⇑P P 10 54 19.2 -1.1
baz=70,SNR=5.5
DGRG David-gareji 70.71 312 P P 10 54 20.6 -0.1
ONI Oni 70.75 314 P P 10 54 20.8 -0.1
TBLG Delisi 70.80 312 P P 10 54 21.1 -0.1
U30A WK&E Inc. Balk 70.82 56 ⇓P P 10 54 20.7 -0.8
baz=71,SNR=6.7
V29A Stinnett 70.83 57 ⇑P P 10 54 21.8 +0.2
baz=71
S32A Newby Ranch, P 70.86 54 ⇓P P 10 54 20.8 -0.9
baz=71,SNR=9.2
X27A F and S Farms, 70.87 59 ⇑P P 10 54 22.0 +0.1
baz=71,SNR=11
R33A Olander Ranch, 70.90 53 ⇓P P 10 54 20.7 -1.2
baz=71,SNR=6.8
W28A Vega 70.91 58 ⇓P P 10 54 22.3 +0.2
baz=71
T31A Randall Ranch, 70.92 55 ⇑P P 10 54 21.1 -0.9
baz=71,SNR=8.2
Z25A Roswell 70.96 61 ⇑P P 10 54 22.9 +0.4
baz=71,SNR=15
POO Poona 70.99 276 eP P 10 54 24.0 +1.3
Y26A Elida 71.00 60 ⇓P P 10 54 23.0 +0.3
baz=71,SNR=32
KSU1 Kansas State U 71.02 52 eP P 10 54 20.7 -1.9
comp=Z,38nm,0.8s
KSU1 epP pP 10 54 35.0 -1.4
KSU1 Kansas State U 71.02 52 ⇑P P 10 54 21.2 -1.3
baz=71,SNR=10
JFWS Jewell Farm 71.18 45 eP P 10 54 22.8 -0.7
JFWS pmax pmax
comp=Z,57nm,1.6s
JFWS Jewell Farm 71.18 45 eP P 10 54 22.8 -0.7
comp=Z,57nm,1.6s
T32A Huddler Ranch, 71.25 54 ⇑P P 10 54 23.3 -0.8
baz=71,SNR=7.9
W29A Amraillo 71.32 58 ⇑P P 10 54 24.5 -0.1
baz=71
U31A Nine Bar Ranch 71.37 56 ⇑P P 10 54 24.5 -0.3
baz=71,SNR=9.1
V30A Spur Ranch, Mi 71.37 57 ⇑P P 10 54 24.6 -0.2
baz=71
Z26A Caprock 71.39 60 ⇑P P 10 54 25.1 +0.1
baz=71,SNR=24
Y27A Causey 71.39 60 ⇑P P 10 54 25.3 +0.2
baz=71,SNR=43
S33A Kaszmaul Farm, 71.43 54 ⇑P P 10 54 24.5 -0.6
baz=71
X28A Dimmitt 71.46 58 ⇓P P 10 54 25.3 -0.2
baz=71,SNR=6.7
AMTX Amarillo 71.48 58 eP P 10 54 25.9 +0.3
comp=Z,35nm,1.1s
AMTX epP pP 10 54 39.7 +0.3
AMTX Amarillo 71.48 58 ⇑P P 10 54 25.8 +0.3
baz=71
MSTX Muleshoe 71.55 59 eP P 10 54 26.0 0.0
comp=Z,48nm,1.1s
MSTX Muleshoe 71.55 59 ⇓P P 10 54 26.1 0.0
baz=71,SNR=18
AKH Akhalkalaki 71.64 313 P P 10 54 21.8 -4.7
T33A Patterson Ranc 71.69 54 ⇓P P 10 54 26.3 -0.4
baz=72
ANN Anapa 71.72 319 eP P 10 54 24.1 -2.6
ANN pmax pmax
comp=Z,23nm,0.9s
ANN MLR MLR
comp=Z,412nm,22.0s
MNTX Cornudas Mount 71.74 63 eP P 10 54 27.4 +0.3
comp=Z,22nm,1.2s
Z27A Tatum 71.79 60 ⇑P P 10 54 27.4 -0.1
baz=72,SNR=47
X29A Tulia 71.79 58 ⇓P P 10 54 27.6 +0.2
baz=72,SNR=19
U32A Winter Ranch, 71.81 55 ⇑P P 10 54 27.4 -0.1
baz=72
V31A Spring Creek L 71.82 56 ⇑P P 10 54 27.8 +0.3
baz=72,SNR=20
W30A Crocket Farms 71.86 57 ⇓P P 10 54 28.0 +0.2
baz=72
WRAB Tennant Creek 71.88 201 P P 10 54 27.0 -0.8
comp=Z,630nm,1.0s,SNR=37
WRAB Tennant Creek 71.88 201c iP P 10 54 27.3 -0.6
WRAB Tennant Creek 71.88 201 eP P 10 54 27.2 -0.6
comp=Z,99nm,0.9s
Y28A McKinney Farm, 71.89 59 ⇓P P 10 54 28.0 -0.1
baz=72,SNR=7.8
WRA Warramunga Arr 71.89 201 P P 10 54 27.4 -0.5
WRA pmax pmax
comp=Z,85nm,0.9s
WRA Warramunga Arr 71.89 201 P P 10 54 27.4 -0.5
comp=Z,86nm,0.9s,baz=19,slow=6.7,SNR=170
GNI Garni 72.01 311 eP P 10 54 29.5 +0.7
GNI pmax pmax
comp=Z,24nm,1.2s
DZM Mont Dzumac 72.04 170 eP P 10 54 30.0 +1.2
comp=Z,24nm,1.1s
DZM epP pP 10 54 44.1 +1.4
127A Arkansas Junct 72.18 60 ⇓P P 10 54 29.9 +0.1
baz=72
W31A Holland Ranch, 72.20 57 ⇓P P 10 54 30.0 +0.2
baz=72,SNR=16
Y29A Porterfield Fa 72.24 59 ⇓P P 10 54 30.2 +0.1
baz=72,SNR=6.9
U33A Lingo Farm, Me 72.25 54 ⇑P P 10 54 29.4 -0.6
baz=72,SNR=9.0
X30A Coker Ranch, T 72.25 58 ⇑P P 10 54 30.1 0.0
baz=72,SNR=15
Z28A Tucker Farm, M 72.27 59 ⇑P P 10 54 30.3 -0.1
baz=72,SNR=9.4
V32A Arapaho 72.29 56 ⇑P P 10 54 30.0 -0.3
baz=72,SNR=9.9
IVRN Varamin 72.32 303 eP P 10 54 29.3 -1.2
U34A Anderson Ranch 72.55 54 eP P 10 54 31.4 -0.4
comp=Z,151nm,1.9s
U34A epP pP 10 54 44.7 -1.0
U34A Anderson Ranch 72.55 54 ⇓P P 10 54 31.4 -0.4
baz=72,SNR=6.4
X31A McDonald Ranch 72.60 57 ⇓P P 10 54 32.2 0.0
baz=72,SNR=17
V33A Lossen Ranch, 72.61 55 ⇑P P 10 54 31.8 -0.4
baz=72,SNR=8.4
W32A Sentinel 72.62 56 ⇑P P 10 54 32.8 +0.4
baz=72,SNR=21
Y30A Stafford Cattl 72.66 58 ⇓P P 10 54 32.6 0.0
baz=72,SNR=7.1
Z29A Hungry Hill Ra 72.67 59 ⇑P P 10 54 32.9 +0.2
baz=72,SNR=18
128A Castleberry Fa 72.71 60 ⇑P P 10 54 33.1 +0.1
baz=72,SNR=15
Y31A Rekieta Farm, 72.94 58 ⇑P P 10 54 34.1 -0.1
baz=73,SNR=8.0
Z30A Sanderson Ranc 72.97 59 ⇓P P 10 54 34.5 +0.1
baz=73,SNR=31
IRAZ Razeghan 72.98 305 eP P 10 54 34.2 -0.4
SIM Simferopol' 72.99 321 eP P 10 54 34.5 +0.2
SIM pmax pmax
comp=Z,16nm,0.9s
SIM MLR MLR
comp=N,300nm,17.0s
V34A Guthrie 73.01 55 ⇓P P 10 54 34.6 0.0
baz=73
W33A Caddo, Fort Co 73.02 56 ⇓P P 10 54 35.3 +0.6
baz=73,SNR=9.3
228A UT Block 9, Go 73.03 60 ⇑P P 10 54 34.8 0.0
baz=73,SNR=10
129A Stewart Farms, 73.05 60 ⇓P P 10 54 34.6 -0.4
baz=73,SNR=5.4
X32A Elmer 73.13 57 ⇑P P 10 54 35.4 +0.1
baz=73,SNR=12
KWP Kalwaria Pacla 73.22 330 eP P 10 54 36.7 +1.1
KWP Kalwaria Pacla 73.22 330 eP P 10 54 36.7 +1.1
W34A Bridge Creek, 73.33 55 eP P 10 54 36.8 +0.4
comp=N,37nm,1.0s
W34A epP pP 10 54 49.8 -0.6
W34A Bridge Creek, 73.33 55 ⇓P P 10 54 36.5 0.0
baz=73,SNR=7.1
KIS Kishinev 73.36 325 eP P 10 54 35.0 -1.4
KIS MLR MLR
comp=Z,800nm,20.0s
KIS Kishinev 73.36 325 eP P 10 54 35.0 -1.4
KIS eL L 11 19 46.0
KIS LRM MLR 11 29 34.0
comp=Z,700nm,20.0s
Y32A R-V Farms, Ver 73.36 57 ⇑P P 10 54 36.5 -0.2
baz=73,SNR=8.8
X33A Lawton 73.47 56 ⇑P P 10 54 36.7 -0.6
baz=73
Z31A Sharp Cattle R 73.49 58 ⇑P P 10 54 37.2 -0.3
baz=73,SNR=25
229A Bryant Ranch, 73.58 60 ⇓P P 10 54 38.2 +0.1
baz=73,SNR=13
130A Snyder 73.58 59 ⇓P P 10 54 38.0 -0.1
baz=73,SNR=6.7
OJC Ojcow 73.62 332 eP P 10 54 38.3 +0.4
OJC Ojcow 73.62 332 eP P 10 54 38.3 +0.4
X34A Smith Ranch, M 73.78 56 ⇑P P 10 54 39.4 +0.3
baz=74,SNR=9.8
Y33A Hilltop Ranch, 73.80 56 ⇑P P 10 54 38.9 -0.3
baz=74,SNR=11
329A Wagon Wheel Ra 73.84 60 ⇑P P 10 54 39.9 +0.3
baz=74,SNR=26
131A Roby 73.84 59 ⇑P P 10 54 39.7 +0.2
baz=74,SNR=14
TUL1 Tulsa 73.86 53 ⇓P P 10 54 39.3 -0.2
baz=74,SNR=22
Z32A Haskell 73.87 58 ⇓P P 10 54 39.4 -0.2
baz=74,SNR=17
STHS Stebnicka Huta 73.88 331 eP P 10 54 39.8 +0.3
STHS pmax pmax
comp=Z,13nm,0.8s
STHS Stebnicka Huta 73.88 331 eP P 10 54 39.8 +0.3
EKA Eskdalemuir Ar 73.90 348 P P 10 54 38.3 -1.1
EKA pmax pmax
comp=Z,6.0nm,0.5s
EKA Eskdalemuir Ar 73.90 348 P P 10 54 38.3 -1.1
comp=Z,6.1nm,0.5s,baz=21,slow=5.5,SNR=18
KOLS Kolonicke sedl 73.97 330 eP P 10 54 39.4 -0.6
KOLS pmax pmax
comp=Z,14nm,1.1s
KOLS Kolonicke sedl 73.97 330 eP P 10 54 39.4 -0.6
KOLS e 11 05 38.8
230A Sterling City 74.03 60 ⇑P P 10 54 40.4 -0.3
baz=74
KSP Ksiaz 74.08 335 eP P 10 54 40.0 -0.6
KSP MLR MLR
comp=Z,6μm,22.0s
KSP Ksiaz 74.08 335 eP P 10 54 41.5 +0.9
BUR08 Bucovina Ar. S 74.11 328 eP P 10 54 39.9 -1.0
BURAR Bucovina Array 74.13 328 ⇓iP P 10 54 40.3 -0.8
NRDL Niedersach Rie 74.14 339 eP P 10 54 41.6 +0.8
comp=Z,13nm,1.0s
UZH Uzhgorod 74.23 330 eP P 10 54 40.7 -0.8
UZH e 10 54 55.7
XMIS Christmas Isla 74.25 232 eP P 10 54 42.0 0.0
comp=Z,285nm,1.1s
CRVS Cervenica-Dubn 74.26 331 eP P 10 54 41.1 -0.6
CRVS pmax pmax
comp=Z,29nm,1.9s
CRVS Cervenica-Dubn 74.26 331 eP P 10 54 41.1 -0.6
Z33A Whitaker Ranch 74.27 57 ⇑P P 10 54 41.8 -0.3
baz=74,SNR=5.4
ABTX Abilene, Hawle 74.29 58 eP P 10 54 42.3 +0.1
comp=Z,46nm,0.9s
ABTX Abilene, Hawle 74.29 58 ⇑P P 10 54 42.2 +0.1
baz=74,SNR=14
Y34A Reagan Ranch, 74.31 56 ⇑P P 10 54 42.2 0.0
baz=74,SNR=11
330A Mertzon 74.36 60 ⇓P P 10 54 42.4 -0.2
baz=74,SNR=17
231A Bronte 74.44 59 ⇑P P 10 54 42.9 -0.2
baz=74,SNR=8.6
OKC Ostrava-Krasne 74.45 333 eP P 10 54 42.2 -0.5
OKC MLR MLR
comp=Z,1μm,18.6s
OKC Ostrava-Krasne 74.45 333 eP P 10 54 42.2 -0.5

OKC ex x 10 54 48.2
OKC AMS AMS 11 30 40.0
comp=Z,1μm,18.6s
UPC Upice 74.46 335 eP P 10 54 40.9 -1.9
UPC Upice 74.46 335 eP P 10 54 40.9 -1.9
UPC ex x 10 54 43.2
UPC ex x 10 54 47.3
TXAR Lajitas Array 74.48 63 P P 10 54 43.7 +0.3
TXAR pmax pmax
comp=Z,22nm,0.8s
TXAR Lajitas Array 74.48 63 P P 10 54 43.7 +0.3
comp=Z,22nm,0.8s,baz=296,slow=4.0,SNR=117
DPC Dobruska-Polom 74.51 334 eP P 10 54 44.5 +1.3
DPC Dobruska-Polom 74.51 334 eP P 10 54 42.3 -0.9
DPC ex x 10 54 49.1
DPC AMS AMS 11 30 50.0
DPC Dobruska-Polom 74.51 334 eP P 10 54 44.5 +1.3
CLL Collm 74.53 337 eP P 10 54 43.6 +0.4
CLL pmax pmax
comp=Z,18nm,0.8s
CLL Collm 74.53 337 eP P 10 54 42.8 -0.4
comp=Z,18nm,0.9s
CLL Collm 74.53 337 ⇓iP P 10 54 43.1 -0.1
comp=Z,18nm,0.9s
CLL epP pP 10 54 57.0 -0.1
CLL i sP sP 10 55 02.3 -0.3
CLL e 10 55 05.0
CLL eS S 11 04 18.0 +3.6
CLL e(SS) 11 09 54.0
CLL eSSS SSS 11 12 42.0
CLL LmH 11 29 00.0
comp=N,600nm,21.7s
CLL LmH 11 29 00.0
comp=E,300nm,21.1s
CLL Collm 74.53 337 eP P 10 54 43.6 +0.4
comp=E,18nm,0.8s
429A Davenport Ranc 74.54 61 ⇓P P 10 54 43.4 -0.2
baz=74,SNR=14
SLM Saint Louis 74.54 48 eP P 10 54 43.3 -0.1
SLM pmax pmax
comp=Z,60nm,1.1s
SLM Saint Louis 74.54 48 eP P 10 54 43.3 -0.1
comp=Z,60nm,1.1s
TRPA Tarpa 74.59 330⇑iP P 10 54 43.3 -0.2
AAM Ann Arbor 74.61 42 eP P 10 54 44.3 +0.5
AAM pmax pmax
comp=Z,53nm,0.8s
AAM Ann Arbor 74.61 42 eP P 10 54 44.3 +0.5
comp=Z,53nm,0.8s
SFIN Scholer Farm 74.63 45 eP P 10 54 43.8 -0.1
comp=Z,24nm,0.8s
SFIN Scholer Farm 74.63 45 eP P 10 54 43.2 -0.8
baz=74
Z34A Collier Ranch, 74.67 56 ⇓P P 10 54 44.0 -0.3
baz=74,SNR=10
MORC Moravsky Berou 74.68 333 eP P 10 54 43.6 -0.5
MORC pmax pmax
comp=Z,24nm,0.9s
MORC Moravsky Berou 74.68 333⇓iP P 10 54 44.1 0.0
MORC Moravsky Berou 74.68 333 eP P 10 54 43.6 -0.5
comp=Z,24nm,0.9s
BRG Berggiesshubel 74.68 336 i P P 10 54 43.8 -0.3
comp=Z,13nm,1.3s
BRG i 10 54 50.4
comp=Z,8.1nm,1.0s
BRG Berggiesshubel 74.68 336 i P P 10 54 43.8 -0.3
BRG pmax pmax
comp=Z,13nm,1.3s
BRG Berggiesshubel 74.68 336 eP P 10 54 43.8 -0.3
comp=Z,13nm,1.3s
CLZ Clausthal 74.69 339 eP P 10 54 44.5 +0.4
comp=Z,20nm,1.0s
133A Hamilton Ranch 74.70 58 ⇓P P 10 54 44.6 0.0
baz=74,SNR=17
529A Stev Forest Ra 74.72 61 ⇑P P 10 54 45.0 +0.2
baz=74,SNR=25
430A Baggett Ranch, 74.79 60 ⇓P P 10 54 44.9 -0.2
baz=75,SNR=36
EIDS Eidsvold 74.83 184 eP P 10 54 45.5 +0.5
comp=Z,49nm,1.3s
232A Coleman 74.85 59 ⇑P P 10 54 45.2 -0.2
baz=75,SNR=12
331A San Angelo 74.85 59 ⇓P P 10 54 45.2 -0.2
baz=75,SNR=18
PALK Pallekele 74.89 263 eP P 10 54 46.0 +0.1
comp=Z,183nm,0.8s,SNR=5.2
PALK Pallekele 74.89 263 i P P 10 54 47.0 +1.1
PALK Pallekele 74.89 263 eP P 10 54 46.5 +0.6
comp=Z,91nm,1.4s
Z35A Perchaven, San 75.06 56 ⇓P P 10 54 46.4 -0.2
baz=75
VRI Vrincioaia 75.09 326⇓iP P 10 54 46.5 0.0
CFR Carcaliu 75.15 325⇑iP P 10 54 46.5 -0.3
233A Rising Star 75.16 58 ⇑P P 10 54 47.1 -0.1
baz=75,SNR=13
332A Millersview 75.17 59 ⇑P P 10 54 47.2 -0.1
baz=75,SNR=16
134A White-Moore Ra 75.19 57 ⇓P P 10 54 47.2 -0.1
baz=75,SNR=11
530A J-C Ranch, Com 75.21 61 ⇓P P 10 54 47.5 0.0
baz=75,SNR=23
431A Sonora 75.22 60 ⇓P P 10 54 47.5 -0.1
baz=75,SNR=28
PRA Prague 75.28 335 P P 10 54 48.0 +0.5
PRU Pruhonice 75.33 335 eP P 10 54 48.1 +0.3
PRU MLR MLR
comp=Z,1μm,21.6s
PRU Pruhonice 75.33 335 eP P 10 54 48.1 +0.3
PRU AMS AMS 11 31 10.0
comp=Z,1μm,21.6s
VRAC Vranov 75.37 334 P P 10 54 47.3 -0.8
VRAC pmax pmax
comp=Z,20nm,0.9s
VRAC Vranov 75.37 334⇓iP P 10 54 47.8 -0.3
VRAC Vranov 75.37 334 P P 10 54 47.3 -0.8
comp=Z,20nm,0.9s,baz=30,slow=6.8,SNR=14
WTSB Winterswijk 75.38 341 eP P 10 54 48.9 +0.9
comp=Z,22nm,0.7s
VYHS Vyhne 75.44 332 eP P 10 54 48.8 +0.3
VYHS pmax pmax
comp=Z,9.0nm,1.0s
VYHS Vyhne 75.44 332 eP P 10 54 48.8 +0.3
CJR Cluj-Napoca 75.47 328⇑iP P 10 54 48.0 -0.7
OLIL Olney 75.48 47 eP P 10 54 48.6 -0.2
comp=Z,110nm,1.5s
TANN Tannenbergstha 75.49 337 eP P 10 54 48.7 -0.1
comp=Z,11nm,1.3s
MOX Moxa 75.49 337 eP P 10 54 48.7 0.0
comp=Z,17nm,1.2s
432A Menard 75.53 59 ⇑P P 10 54 49.1 -0.2
baz=75,SNR=16
135A Vickery Place, 75.56 57 ⇓P P 10 54 49.5 0.0
baz=75,SNR=6.1
AS31 Alice Springs 75.58 201 eP P 10 54 49.8 +0.3
ASAR Alice Springs 75.58 201 P P 10 54 49.8 +0.3
ASAR pmax pmax
comp=Z,26nm,0.7s
ASAR Alice Springs 75.58 201 P P 10 54 49.8 +0.3
comp=Z,26nm,0.7s,baz=14,slow=4.8,SNR=312
234A Clairette 75.59 57 ⇓P P 10 54 49.7 0.0
baz=75,SNR=13
PSZ Piszkesteto 75.62 331 eP P 10 54 50.0 +0.4
PSZ pmax pmax
comp=Z,21nm,1.0s
PSZ Piszkesteto 75.62 331⇑iP P 10 54 49.6 0.0
PSZ Piszkesteto 75.62 331 eP P 10 54 50.0 +0.4
comp=Z,21nm,1.0s
333A Richland Sprin 75.64 59 ⇓P P 10 54 49.8 -0.1
baz=75,SNR=24
531A Rocksprings 75.64 60 ⇓P P 10 54 50.0 0.0
baz=76,SNR=25
TIRR Tirgusor 75.66 324⇓iP P 10 54 49.6 -0.2
MLR Muntele Rosu 75.69 326 P P 10 54 50.3 +0.1
MLR pmax pmax
comp=Z,3.0nm,0.5s
MLR Muntele Rosu 75.69 326⇓iP P 10 54 50.4 +0.2
MLR Muntele Rosu 75.69 326 P P 10 54 50.3 +0.2
comp=Z,2.7nm,0.5s,baz=4.4,SNR=26
DRGR 75.70 329⇑iP P 10 54 49.3 -0.8
TREC Trest 75.70 334 eP P 10 54 49.0 -1.0
TREC MLR MLR
comp=Z,2μm,20.1s
TREC Trest 75.70 334 eP P 10 54 49.0 -1.0
TREC AMS AMS 11 31 10.0
comp=Z,2μm,20.1s
SIUC Southern Illin 75.75 48 eP P 10 54 50.2 -0.2

comp=Z,67nm,1.1s
ISR Istrita 75.80 326⇑iP P 10 54 50.3 -0.3
JCT Junction City 75.83 60 ⇑P P 10 54 50.7 -0.3
baz=76,SNR=24
BLO Bloomington 75.86 45 eP P 10 54 51.1 0.0
BLO pmax pmax
comp=Z,246nm,2.5s
BLO Bloomington 75.86 45 eP P 10 54 51.1 0.0
comp=Z,246nm,2.5s
PBMO Poplar Bluff 75.91 49 eP P 10 54 51.0 -0.3
comp=Z,43nm,1.0s
WHTX Lake Whitney 75.97 57 ⇑P P 10 54 51.7 -0.1
baz=76
433A Art 76.01 59 ⇓P P 10 54 51.9 -0.2
baz=76,SNR=19
532A Rocksprings 76.03 60 ⇓P P 10 54 52.3 +0.1
baz=76,SNR=21
334A Lometa 76.05 58 ⇑P P 10 54 52.0 -0.2
baz=76,SNR=14
VOIR 76.06 327⇑iP P 10 54 52.5 +0.3
MIAR Mount Ida 76.06 53 eP P 10 54 50.3 -2.0
MIAR pmax pmax
comp=Z,46nm,0.8s
MIAR Mount Ida 76.06 53 eP P 10 54 50.2 -2.0
comp=Z,46nm,0.8s
ROTZ Rotzenmuhle 76.15 337 eP P 10 54 52.8 +0.3
comp=Z,15nm,1.2s
MSAB Monastry St. A 76.19 324⇑iP P 10 54 52.8 0.0
631A Perdido Creek 76.20 61 ⇓P P 10 54 53.3 +0.1
baz=76,SNR=32
PTN Potsdam (NY) 76.20 35 eP P 10 54 52.0 -0.9
PTN pmax pmax
comp=Z,41nm,0.7s
PTN Potsdam (NY) 76.20 35 eP P 10 54 52.0 -0.9
comp=Z,41nm,0.7s
ARR Arges 76.27 327⇓iP P 10 54 53.7 +0.3
USIN University of 76.30 47 eP P 10 54 53.8 +0.3
comp=Z,98nm,1.0s
LONY Lake Ozonia 76.31 35 eP P 10 54 52.6 -0.9
comp=Z,83nm,1.8s
ERPA Erie 76.31 39 eP P 10 54 51.3 -2.2
comp=Z,57nm,1.0s
PARMO Parma 76.33 49 eP P 10 54 54.1 +0.4
KHC Kasperske Hory 76.37 336 eP P 10 54 53.9 +0.1
KHC pmax pmax
comp=Z,18nm,0.9s
KHC Kasperske Hory 76.37 336 eP P 10 54 53.0 -0.8
KHC ex x 10 54 59.3
KHC ex x 10 55 32.0
KHC AMS AMS 11 32 20.0
comp=Z,1μm,19.4s
KHC Kasperske Hory 76.37 336 eP P 10 54 53.9 +0.1
comp=Z,18nm,0.9s
434A Burnet 76.42 58 ⇓P P 10 54 54.1 -0.4
baz=76,SNR=21
GRF Grafenberg Arr 76.47 337 eP P 10 54 54.7 +0.4
comp=Z,34nm,0.9s
GRF eL L 11 40 34.7
comp=Z,732nm,20.4s
KBSD Kabsdagh 76.52 312 eP P 10 54 55.0 +0.1
335A Moody 76.53 57 ⇓P P 10 54 54.9 -0.1
baz=76,SNR=9.4
WET Wettzell 76.54 336 eP P 10 54 55.1 +0.3
comp=Z,23nm,1.1s
533A Kerrville 76.56 59 ⇓P P 10 54 55.1 -0.2
baz=76,SNR=26
632A Uvalde 76.57 60 ⇑P P 10 54 55.2 0.0
baz=76,SNR=17
ACSO Alum Creek Sta 76.60 42 eP P 10 54 55.2 0.0
comp=Z,37nm,1.0s
GEC2 GERESS Array S 76.60 335 eP P 10 54 55.3 +0.1
GEC2 GERESS Array S 76.60 335 eP P 10 54 54.8 -0.4
comp=Z,11nm,1.0s
GEC2 GERESS Array S 76.60 335 eP P 10 54 55.2 +0.1
GERES GERESS Array B 76.60 335 P P 10 54 54.6 -0.6
comp=Z,4.0nm,0.7s,baz=45,slow=4.0,SNR=20
GERES LR LR 11 32 37.0
comp=Z,1μm,19.9s,baz=355,slow=39
HGN Heimansgroeve 76.69 341 eP P 10 54 55.2 -0.3
comp=Z,40nm,1.0s
WCI Wyandotte Cave 76.73 46 eP P 10 54 55.4 -0.6
WCI pmax pmax
comp=Z,63nm,0.9s
WCI Wyandotte Cave 76.73 46 eP P 10 54 55.4 -0.6
comp=Z,63nm,0.9s
336A Riesel 76.77 57 ⇓P P 10 54 56.1 -0.2
baz=77,SNR=8.7
MEM Membach 76.82 341 P P 10 54 56.6 +0.3
comp=Z,22nm,1.3s
MEM XP sP 10 55 18.8 +3.1
MEM Membach 76.82 341 eP P 10 54 57.2 +0.9
MEM pmax pmax
comp=Z,28nm,0.9s
MEM Membach 76.82 341 eP P 10 54 57.2 +0.9
comp=Z,28nm,0.9s
435B Jarrell 76.83 58 ⇑P P 10 54 56.6 0.0
baz=77
CONA Conrad Observa 76.83 334⇑iP P 10 54 57.2 +0.7
comp=Z,21nm,0.8s,SNR=7.6
GZR Gura Zlata 76.90 328⇑iP P 10 54 56.1 -0.8
534A Blanco 76.91 59 ⇑P P 10 54 56.9 -0.3
baz=77,SNR=18
633A Saathoff Ranch 76.95 60 ⇑P P 10 54 57.5 +0.1
baz=77,SNR=11
NCB Newcomb 76.99 35 eP P 10 54 57.2 -0.3
comp=Z,166nm,2.1s
732A Laxson Ranch, 77.06 61 ⇑P P 10 54 58.6 +0.6
baz=77,SNR=33
BZS Buzias 77.09 329⇑iP P 10 54 57.8 -0.1
BCLA Clavier 77.15 341 P P 10 54 58.0 -0.1
SFNV Sufian 77.19 312 eP P 10 54 59.1 +0.3
436A Wall Ranch, Ga 77.27 57 ⇑P P 10 54 59.5 +0.4
baz=77
UOSS Wadi Hilu 77.30 293 P P 10 54 59.2 -0.2
comp=Z,446nm,1.1s,SNR=20
337A Centerville 77.34 56 ⇑P P 10 55 00.5 +0.9
baz=77
MOA Molln 77.35 335⇑iP P 10 55 00.6 +1.2
comp=Z,13nm,0.8s
832A Faith Ranch, C 77.40 61 ⇓P P 10 55 00.2 +0.3
baz=77,SNR=24
535A Dale 77.41 58 ⇑P P 10 55 00.0 +0.1
baz=77
733A Divot King Ran 77.45 60 ⇓P P 10 55 00.5 +0.3
baz=77,SNR=6.4
MBWA Marble Bar 77.47 214 eP P 10 54 59.1 -1.0
comp=Z,50nm,1.0s
634A China Grove, S 77.47 59 ⇓P P 10 55 00.4 +0.1
baz=77
BR131 Keskin Array S 77.48 318 eP P 10 55 00.4 0.0
comp=Z,4.0nm,0.6s
BRTR Keskin Array B 77.48 318 P P 10 55 00.1 -0.3
BRTR pmax pmax
comp=Z,24nm,1.2s
BRTR Keskin Array B 77.48 318 P P 10 55 00.1 -0.3
comp=Z,24nm,1.2s,baz=60,slow=3.0,SNR=38
PKSM Moragy 77.53 331⇑iP P 10 55 00.2 -0.1
ARSA Arzberg 77.54 334⇑iP P 10 55 00.5 +0.1
comp=Z,18nm,1.0s,SNR=6.7
GIVF Givet 77.55 341 eP P 10 55 00.5 +0.1
GIVF Givet 77.55 341 eP P 10 55 00.5 +0.1
GIVF Givet 77.55 341 eP P 10 55 00.5 +0.1
LBNH Lisbon 77.59 33 eP P 10 55 01.3 +0.5
LBNH Lisbon 77.59 33 eP P 10 55 01.2 +0.5
DOU Dourbes 77.60 342 P P 10 55 00.8 +0.1
SZH Strazhica 77.61 325 eP P 10 55 00.0 -0.8
338A Crockett 77.62 56 ⇓P P 10 55 01.5 +0.4
baz=77,SNR=7.1
536A Bastrop 77.66 58 ⇑P P 10 55 01.7 +0.4
baz=78
NATX Nacogdoches 77.66 55 eP P 10 55 02.1 +0.9
comp=Z,104nm,1.2s
WVT Waverly 77.69 48 eP P 10 55 01.2 -0.2
WVT pmax pmax
comp=Z,20nm,0.9s
WVT Waverly 77.69 48 eP P 10 55 01.2 -0.2
comp=Z,20nm,0.9s
833A Chaparral WMA, 77.70 61 ⇑P P 10 55 02.2 +0.6
baz=78,SNR=9.5
ACCN Adirondack Com 77.70 35 eP P 10 55 01.0 -0.4
comp=Z,22nm,1.0s
BAIF Baives 77.72 342 eP P 10 55 01.4 +0.1
comp=Z,28nm,0.9s
BAIF Baives 77.72 342 eP P 10 55 01.4 +0.1
BAIF pmax pmax
comp=Z,28nm,0.9s
BAIF Baives 77.72 342 eP P 10 55 01.4 +0.1

comp=Z,28nm,0.9s
ANTO Ankara 77.73 319 eP P 10 55 02.6 +0.9
ANTO pmax pmax
comp=Z,46nm,1.4s
ANTO Ankara 77.73 319 eP P 10 55 02.6 +0.9
comp=Z,46nm,1.4s
734A La Parita Cree 77.77 60 ⇓P P 10 55 02.8 +0.8
baz=78,SNR=7.2
635A Leesville 77.79 59 ⇑P P 10 55 02.2 +0.2
baz=78
HNH Hanover 77.93 34 eP P 10 55 02.5 -0.1
comp=Z,14nm,0.8s
LANF Langenberg 77.95 339 eP P 10 55 02.0 -0.7
MNKR ALMNKUR 77.98 312 eP P 10 54 55.1 -7.9
339A Huntington 78.05 55 ⇑P P 10 55 03.9 +0.5
baz=78
KOGS Kog 78.05 333 i P P 10 55 07.0 +3.8
537A Green Hill Far 78.06 58 ⇓P P 10 55 04.4 +0.8
baz=78,SNR=7.9
VAL Valentia 78.08 351⇓iP P 10 55 03.7 +0.5
WVL Waterville 78.09 31 eP P 10 55 03.6 +0.1
comp=Z,27nm,0.9s
636A Smothers Creek 78.12 58 ⇓P P 10 55 04.8 +0.9
baz=78,SNR=8.1
KSRV Kasrt alli 78.17 312 eP P 10 55 00.5 -3.6
735A Kenedy 78.18 59 ⇑P P 10 55 05.3 +1.0
baz=78,SNR=8.2
SOKA Soboth 78.20 334⇑iP P 10 55 03.9 -0.2
comp=Z,35nm,1.2s,SNR=10
OXF Oxford 78.21 50 eP P 10 55 04.4 +0.1
OXF pmax pmax
comp=Z,78nm,1.0s
OXF Oxford 78.21 50 eP P 10 55 04.4 +0.1
comp=Z,78nm,1.0s
PERS Pernice 78.21 334 i P P 10 55 04.4 +0.2
933A Laredo 78.31 61 ⇓P P 10 55 06.2 +1.2
baz=78,SNR=15
KBA Koelnbreinsper 78.31 335⇑iP P 10 55 05.4 +0.5
comp=Z,89nm,1.2s,SNR=28
834A Tilden 78.32 60 ⇓P P 10 55 06.4 +1.4
baz=78,SNR=10
340A Bronson 78.34 55 ⇓P P 10 55 05.4 +0.4
baz=78
538A Harpers Horsep 78.41 57 ⇑P P 10 55 06.9 +1.5
baz=78
SSPA Standing Stone 78.41 39 eP P 10 55 05.0 -0.3
comp=Z,92nm,2.0s
BFO Black Forest 78.44 339 i P P 10 55 05.9 +0.5
BFO Black Forest 78.44 339 eP P 10 55 05.1 -0.3
comp=Z,20nm,1.1s
BFO Black Forest 78.44 339 eP P 10 55 05.1 -0.3
comp=Z,17nm,1.1s
OBKA Obir 78.49 334⇑iP P 10 55 05.7 -0.1
comp=Z,14nm,0.7s
EDRB Edirne 78.52 324 P P 10 55 05.5 -0.4
WATA Walderalm 78.55 336⇑iP P 10 55 06.9 +0.7
comp=Z,25nm,0.9s
WTTA Wattenberg 78.60 336⇑iP P 10 55 07.3 +0.8
comp=Z,49nm,0.8s,SNR=13
835A Beeville 78.61 60 ⇑P P 10 55 08.1 +1.6
baz=78
CDF Champ du Feu 78.61 339⇑iP P 10 55 06.3 -0.1
comp=Z,47nm,1.1s
CDF Champ du Feu 78.61 339⇑iP P 10 55 06.3 -0.1
CDF pmax pmax
comp=Z,47nm,1.1s
CDF Champ du Feu 78.61 339⇑iP P 10 55 06.3 -0.1
comp=Z,47nm,1.1s
RETA Reutte 78.62 337⇓iP P 10 55 06.9 +0.4
comp=Z,10nm,0.7s
MYKA Terra Mystica 78.64 334⇓iP P 10 55 06.6 +0.1
comp=Z,28nm,1.6s,SNR=5.1
MOTA Moosalm 78.67 336 i P P 10 55 07.6 +0.8
comp=Z,32nm,0.9s,SNR=14
934A Benavides 78.74 61 ⇓P P 10 55 07.8 +0.5
baz=79,SNR=7.5
DIM Dimitrovgrad 78.81 325 eP P 10 55 07.0 -0.5
ECH Echery 78.82 339 eP P 10 55 07.7 +0.2
ECH pmax pmax
comp=Z,17nm,1.1s
ECH Echery 78.82 339⇑eP P 10 55 06.1 -1.4
ECH Echery 78.82 339 eP P 10 55 07.7 +0.2
comp=Z,17nm,1.1s
PAGF Fort de Pagny 78.82 340 eP P 10 55 07.8 +0.3
comp=Z,14nm,0.7s
PAGF Fort de Pagny 78.82 340 eP P 10 55 07.8 +0.3
comp=Z,14nm,0.7s
ABTA Abfaltersbach 78.84 335⇑iP P 10 55 07.4 -0.3
comp=Z,23nm,1.3s,SNR=5.0
CRES Cresnjev 78.85 333 i P P 10 55 07.2 -0.5
MEZF Maizieres J'vi 79.02 341 eP P 10 55 08.8 +0.3
comp=Z,54nm,1.0s
MEZF Maizieres J'vi 79.02 341 eP P 10 55 08.8 +0.3
comp=Z,54nm,1.0s
DAVA Damuels 79.03 337⇓iP P 10 55 08.9 0.0
comp=Z,31nm,0.8s,SNR=6.9
034A Hebbronville 79.06 61 ⇑P P 10 55 10.7 +1.6
baz=79,SNR=9.2
FETA Feichten 79.06 337⇑iP P 10 55 09.1 +0.1
comp=Z,22nm,1.1s,SNR=7.1
THEF They Montfort 79.08 340⇑eP P 10 55 08.9 0.0
MOF Molkenrain 79.17 339⇑eP P 10 55 08.9 -0.6
HAU Haudompre 79.20 340 eP P 10 55 09.5 -0.1
comp=Z,36nm,1.0s
HAU eR
comp=Z,763nm,17.0s
HAU Haudompre 79.20 340 eP P 10 55 09.5 -0.1
HAU pmax pmax
comp=Z,37nm,1.0s
HAU Haudompre 79.20 340 eP P 10 55 09.5 -0.1
comp=Z,36nm,1.0s
BTCH Batrach 79.24 314 eP P 10 55 10.1 0.0
HINF Hinteralfeld 79.27 339 eP P 10 55 09.5 -0.5
HINF Hinteralfeld 79.27 339 eP P 10 55 09.5 -0.5
HINF Hinteralfeld 79.27 339 eP P 10 55 09.5 -0.5
SFTF Sexfontaines 79.30 341⇑iP P 10 55 10.2 +0.1
comp=Z,98nm,1.0s
SFTF Sexfontaines 79.30 341⇑iP P 10 55 10.2 +0.1
comp=Z,98nm,1.0s
TZTN Tazewell 79.37 45 eP P 10 55 09.1 -1.6
comp=Z,42nm,1.3s
VBMS Vicksburg 79.47 52 eP P 10 55 11.8 +0.6
comp=Z,356nm,1.6s
DAVOX Davos/Dischmat 79.50 337 P P 10 55 11.9 +0.5
DAVOX pmax pmax
comp=Z,14nm,0.6s
DAVOX Davos/Dischmat 79.50 337 P P 10 55 11.9 +0.5
comp=Z,14nm,0.6s,baz=3.9,slow=5.4,SNR=20
ALT Altintas 79.54 320 P P 10 55 11.5 -0.2
FUORN Ofenpass-Fuorn 79.55 337 eP P 10 55 12.8 +1.0
comp=Z,31nm,0.8s
ALN Alexandroupoli 79.61 324 P P 10 55 11.3 -0.5
WRDH Warideh 79.69 314 eP P 10 55 18.2 +5.7
LOMF Lomont 79.71 339⇑eP P 10 55 11.3 -1.1
KFRA Kufra 79.75 313 eP P 10 55 06.3 -6.5
CPCT Cooper Cave 79.81 46 eP P 10 55 14.1 +1.1
CPCT epP pP 10 55 28.0 +0.9
CPCT esP sP 10 55 34.4 +1.8
ARMA Armidale 79.83 184 eP P 10 55 14.1 +1.1
comp=Z,41nm,1.2s
FLN La Foliniere 79.85 344⇑iP P 10 55 13.0 0.0
comp=Z,92nm,0.9s
FLN eR
comp=Z,1μm,21.8s
FLN La Foliniere 79.85 344⇑iP P 10 55 13.0 0.0
FLN pmax pmax
comp=Z,93nm,0.9s
FLN La Foliniere 79.85 344⇑iP P 10 55 13.0 0.0
comp=Z,92nm,0.9s
KKB Krupnik 79.87 326 eP P 10 55 13.1 -0.2
MMB Musomiste 79.88 326 eP P 10 55 13.2 -0.2
MMB Musomiste 79.88 326⇓iP P 10 55 13.4 0.0
TUE Stuetta 79.92 337 eP P 10 55 13.8 0.0
comp=Z,38nm,0.8s
LDF La Druitiere 79.95 344⇑iP P 10 55 13.5 -0.1
comp=Z,38nm,0.7s
LDF La Druitiere 79.95 344⇑iP P 10 55 13.5 -0.1
LDF pmax pmax
comp=Z,38nm,0.7s
LDF La Druitiere 79.95 344⇑iP P 10 55 13.5 -0.1
comp=Z,38nm,0.7s
TKL Tuckaleechee C 79.99 46 P P 10 55 12.9 -1.1
TKL pmax pmax
comp=Z,11nm,1.0s
TKL Tuckaleechee C 79.99 46 P P 10 55 12.9 -1.1
comp=Z,11nm,1.0s,baz=76,slow=1.7,SNR=6.5

NVR	**Nevrokopi**	**80.04**	**325**	P	**P**	**10 55 13.6**	**-0.6**
NVR	**Nevrokopi**	**80.04**	**325**	*e*P	**P**	**10 55 14.3**	**+0.1**
KAVA	**Kavala**	**80.10**	**325**	*e*P	**P**	**10 55 13.8**	**-0.7**
BIDA	**Albida**	**80.14**	**314**	*e*P	**P**	**10 55 12.0**	**-2.9**
BLA	**Blacksburg**	**80.22**	**42**	*e*P	**P**	**10 55 15.4**	**+0.1**
BLA				pmax	pmax		
	comp=Z,15nm,0.9s						
BLA	**Blacksburg**	**80.22**	**42**	*e*P	**P**	**10 55 15.4**	**+0.1**
	comp=Z,15nm,0.9s						
GRR	**Gorron**	**80.28**	**345⇑**	*i*P	**P**	**10 55 15.5**	**+0.2**
	comp=Z,202nm,0.9s						
GRR	**Gorron**	**80.28**	**345⇑**	*i*P	**P**	**10 55 15.5**	**+0.2**
GRR	**Gorron**	**80.28**	**345⇑**	*i*P	**P**	**10 55 15.5**	**+0.2**
	comp=Z,202nm,0.9s						
SRS	**Serrai**	**80.34**	**325**	P	**P**	**10 55 14.9**	**-0.9**
SRS	**Serrai**	**80.34**	**325**	*e*P	**P**	**10 55 15.4**	**-0.4**
SKO	**Skopje**	**80.36**	**327**	*e*P	**P**	**10 55 15.1**	**-0.9**
COCO	**West Island**	**80.37**	**238**	*i* P	**P**	**10 55 18.9**	**+2.8**
LOR	**Lormes**	**80.44**	**341**	*e*P	**P**	**10 55 16.2**	**-0.1**
	comp=Z,78nm,1.1s						
LOR				*e*R			
	comp=Z,1µm,23.0s						
LOR	**Lormes**	**80.44**	**341**	*e*P	**P**	**10 55 16.2**	**-0.1**
LOR				pmax	pmax		
	comp=Z,78nm,1.1s						
LOR	**Lormes**	**80.44**	**341**	*e*P	**P**	**10 55 16.2**	**-0.1**
	comp=Z,78nm,1.1s						
HAWK	**Haweek**	**80.50**	**313**	*e*P	**P**	**10 55 16.4**	**-0.5**
SENIN	**Lac Senin/Sane**	**80.53**	**339**	*e*P	**P**	**10 55 17.4**	**+0.4**
VAY	**Valandovo**	**80.53**	**326**	*i* P	**P**	**10 55 14.9**	**-1.9**
CABF	**La Chapelle**	**80.58**	**339⇑**	*i*P	**P**	**10 55 17.3**	**+0.2**
	comp=Z,41nm,1.0s						
CABF	**La Chapelle**	**80.58**	**339⇑**	*i*P	**P**	**10 55 17.3**	**+0.2**
CABF				pmax	pmax		
	comp=Z,41nm,1.0s						
CABF	**La Chapelle**	**80.58**	**339⇑**	*i*P	**P**	**10 55 17.3**	**+0.2**
	comp=Z,41nm,1.0s						
LRAL	**Lakeview Retre**	**80.58**	**49**	*e*P	**P**	**10 55 16.8**	**-0.4**
	comp=Z,131nm,2.5s						
KULA	**Kula-Manisa**	**80.60**	**321**	P	**P**	**10 55 16.8**	**-0.6**
SGMF	**Saint Gilles**	**80.69**	**346⇑**	*i*P	**P**	**10 55 17.8**	**+0.2**
	comp=Z,161nm,0.8s						
SGMF	**Saint Gilles**	**80.69**	**346⇑**	*i*P	**P**	**10 55 17.8**	**+0.2**
SGMF				pmax	pmax		
	comp=Z,161nm,0.8s						
SGMF	**Saint Gilles**	**80.69**	**346⇑**	*i*P	**P**	**10 55 17.8**	**+0.2**
	comp=Z,161nm,0.8s						
SSF	**Saint Saulge**	**80.72**	**341⇑**	*i*P	**P**	**10 55 17.7**	**0.0**
	comp=Z,28nm,0.8s						
SSF	**Saint Saulge**	**80.72**	**341⇑**	*i*P	**P**	**10 55 17.7**	**0.0**
SSF				pmax	pmax		
	comp=Z,28nm,0.8s						
SSF	**Saint Saulge**	**80.72**	**341⇑**	*i*P	**P**	**10 55 17.7**	**0.0**
	comp=Z,28nm,0.8s						
ROSF	**Rostrenen**	**80.72**	**346⇑**	*i*P	**P**	**10 55 18.0**	**+0.3**
	comp=Z,229nm,1.1s						
ROSF	**Rostrenen**	**80.72**	**346⇑**	*i*P	**P**	**10 55 18.0**	**+0.3**
ROSF				pmax	pmax		
	comp=Z,229nm,1.1s						
ROSF	**Rostrenen**	**80.72**	**346⇑**	*i*P	**P**	**10 55 18.0**	**+0.3**
	comp=Z,229nm,1.1s						
LIA	**Limnos Island**	**80.80**	**324**	*e*P	**P**	**10 55 17.8**	**-0.5**
MARH	**Ras Al Marh**	**80.87**	**313**	*e*P	**P**	**10 55 19.2**	**0.0**
OUR	**Ouranopolis**	**80.88**	**325**	*e*P	**P**	**10 55 18.0**	**-0.7**
AVF	**Avril sur Loir**	**81.00**	**341⇑**	*i*P	**P**	**10 55 19.4**	**+0.1**
	comp=Z,49nm,0.8s						
AVF	**Avril sur Loir**	**81.00**	**341⇑**	*i*P	**P**	**10 55 19.4**	**+0.1**
AVF				pmax	pmax		
	comp=Z,49nm,0.8s						
AVF	**Avril sur Loir**	**81.00**	**341⇑**	*i*P	**P**	**10 55 19.4**	**+0.1**
	comp=Z,49nm,0.8s						
SMF	**Signal de Mont**	**81.04**	**341**	*e*P	**P**	**10 55 19.5**	**0.0**
	comp=Z,95nm,1.0s						
SMF	**Signal de Mont**	**81.04**	**341**	*e*P	**P**	**10 55 19.5**	**0.0**
SMF				pmax	pmax		
	comp=Z,95nm,1.0s						
SMF	**Signal de Mont**	**81.04**	**341**	*e*P	**P**	**10 55 19.5**	**0.0**
	comp=Z,95nm,1.0s						
PLG	**Polygyros**	**81.04**	**325**	*e*P	**P**	**10 55 19.0**	**-0.6**
QUIF	**Quistinic**	**81.12**	**346⇑**	*i*P	**P**	**10 55 19.9**	**+0.1**
	comp=Z,148nm,1.1s						
QUIF	**Quistinic**	**81.12**	**346⇑**	*i*P	**P**	**10 55 19.9**	**+0.1**
QUIF				pmax	pmax		
	comp=Z,148nm,1.1s						
QUIF	**Quistinic**	**81.12**	**346⇑**	*i*P	**P**	**10 55 19.9**	**+0.1**
	comp=Z,148nm,1.1s						
BGF	**Bois d'Agland**	**81.33**	**342**	*e*P	**P**	**10 55 21.2**	**+0.2**
	comp=Z,17nm,0.5s						
BGF	**Bois d'Agland**	**81.33**	**342**	*e*P	**P**	**10 55 21.2**	**+0.2**
BGF				pmax	pmax		
	comp=Z,17nm,0.5s						
BGF	**Bois d'Agland**	**81.33**	**342**	*e*P	**P**	**10 55 21.2**	**+0.2**
	comp=Z,17nm,0.5s						
PAIG	**Paliouri**	**81.34**	**325**	P	**P**	**10 55 20.1**	**-1.1**
ZALF	**Zalf**	**81.36**	**312**	*e*P	**P**	**10 55 22.9**	**+1.5**
FNA	**Florina**	**81.43**	**327**	*e*P	**P**	**10 55 20.9**	**-0.8**
LPL	**La Plagne**	**81.46**	**339⇑**	*i*P	**P**	**10 55 22.7**	**+0.7**
	comp=Z,73nm,0.7s						
LPL	**La Plagne**	**81.46**	**339⇑**	*i*P	**P**	**10 55 22.7**	**+0.7**
LPL				pmax	pmax		
	comp=Z,73nm,0.7s						
LPL	**La Plagne**	**81.46**	**339⇑**	*i*P	**P**	**10 55 22.7**	**+0.7**
	comp=Z,73nm,0.7s						
LPG	**La Plagne**	**81.47**	**339⇑**	*i*P	**P**	**10 55 22.9**	**+0.7**
	comp=Z,70nm,0.7s						
LPG	**La Plagne**	**81.47**	**339⇑**	*i*P	**P**	**10 55 22.9**	**+0.7**
LPG				pmax	pmax		
	comp=Z,70nm,0.7s						
LPG	**La Plagne**	**81.47**	**339⇑**	*i*P	**P**	**10 55 22.9**	**+0.7**
	comp=Z,70nm,0.7s						
KMSC	**Kings Mountain**	**81.53**	**44**	*e*P	**P**	**10 55 21.8**	**-0.4**
	comp=Z,16nm,0.9s						
KMSC	**Kings Mountain**	**81.53**	**44**	⇓P	**P**	**10 55 22.0**	**-0.3**
	baz=81						
CSS	**Prodhromos**	**81.56**	**316**	*e*P	**P**	**10 55 22.6**	**+0.1**
CSS	**Prodhromos**	**81.56**	**316**	*e*P	**P**	**10 55 22.3**	**-0.2**
	comp=Z,11nm,0.8s						
LIT	**Litokhoron**	**81.63**	**326**	*e*P	**P**	**10 55 21.4**	**-1.4**
KZN	**Kozani**	**81.71**	**326**	*e*P	**P**	**10 55 22.1**	**-1.1**
TCF	**Toulx Ste Croi**	**81.72**	**342⇑**	*i*P	**P**	**10 55 23.4**	**+0.3**
	comp=Z,51nm,0.8s						
TCF	**Toulx Ste Croi**	**81.72**	**342⇑**	*i*P	**P**	**10 55 23.4**	**+0.3**
TCF				pmax	pmax		
	comp=Z,51nm,0.8s						
TCF	**Toulx Ste Croi**	**81.72**	**342⇑**	*i*P	**P**	**10 55 23.4**	**+0.3**
	comp=Z,51nm,0.8s						
PLDF	**La Plantade**	**81.73**	**341⇑**	*e*P	**P**	**10 55 22.9**	**-0.3**
AGO	**Saint Agoulin**	**81.75**	**341⇑**	*e*P	**P**	**10 55 23.4**	**+0.1**
CHOS	**Chios island**	**81.76**	**322**	*e*P	**P**	**10 55 22.3**	**-1.2**
VLC	**Villacollemand**	**81.81**	**336**	*e*P	**P**	**10 55 24.8**	**+1.2**
	comp=Z,93nm,1.5s						
SALA	**Sala**	**81.82**	**312**	*e*P	**P**	**10 55 24.2**	**+0.1**
MFF	**Saint Martin d**	**81.87**	**344⇑**	*i*P	**P**	**10 55 24.3**	**+0.4**
	comp=Z,74nm,0.8s						
MFF	**Saint Martin d**	**81.87**	**344⇑**	*i*P	**P**	**10 55 24.3**	**+0.4**
MFF				pmax	pmax		
	comp=Z,74nm,0.8s						
MFF	**Saint Martin d**	**81.87**	**344⇑**	*i*P	**P**	**10 55 24.3**	**+0.4**
	comp=Z,74nm,0.8s						
BNI	**Bardonecchia**	**81.91**	**338**	*e*P	**P**	**10 55 25.3**	**+1.1**
BNI				pmax	pmax		
	comp=Z,24nm,1.0s						
BNI	**Bardonecchia**	**81.91**	**338**	*e*P	**P**	**10 55 25.3**	**+1.1**
	comp=Z,24nm,1.0s						
XOR	**Xorichti**	**82.02**	**325**	P	**P**	**10 55 23.2**	**-1.6**
XOR	**Xorichti**	**82.02**	**325**	*e*P	**P**	**10 55 23.4**	**-1.4**
NEO	**Neokhori**	**82.06**	**325**	*e*P	**P**	**10 55 23.7**	**-1.3**
PYM	**Petit Puy Mans**	**82.07**	**341⇑**	*e*P	**P**	**10 55 25.0**	**0.0**
SKIA	**Skiathos**	**82.09**	**325**	*e*P	**P**	**10 55 24.0**	**-1.1**
STKA	**Stephens Creek**	**82.18**	**192**	*e*P	**P**	**10 55 25.4**	**+0.1**
STKA	**Stephens Creek**	**82.18**	**192**	P	**P**	**10 55 24.7**	**-0.7**
	comp=Z,16nm,1.0s,baz=353,slow=7.1,SNR=14						
STKA				LR	LR	11 30 25.4	
	comp=Z,228nm,21.4s,baz=27,slow=34						
STKA	**Stephens Creek**	**82.18**	**192**	*e*P	**P**	**10 55 25.4**	**+0.1**
SSB	**Saint Sauveur**	**82.19**	**340**	*e*P	**P**	**10 55 25.9**	**+0.3**
SSB				pmax	pmax		
	comp=Z,27nm,0.8s						
SSB	**Saint Sauveur**	**82.19**	**340⇑**	*e*P	**P**	**10 55 26.0**	**+0.3**
SSB	**Saint Sauveur**	**82.19**	**340**	*e*P	**P**	**10 55 25.9**	**+0.3**
	comp=Z,27nm,0.8s						
MBDF	**Montbardon**	**82.19**	**338⇑**	*i*P	**P**	**10 55 26.0**	**+0.2**
	comp=Z,28nm,0.8s						
MBDF	**Montbardon**	**82.19**	**338⇑**	*i*P	**P**	**10 55 26.0**	**+0.2**
MBDF				pmax	pmax		
	comp=Z,28nm,0.8s						
MBDF	**Montbardon**	**82.19**	**338⇑**	*i*P	**P**	**10 55 26.0**	**+0.2**
	comp=Z,28nm,0.8s						
ORIF	**Oris-en-Rattie**	**82.22**	**339⇑**	*i*P	**P**	**10 55 26.6**	**+0.7**
	comp=Z,84nm,0.9s						
ORIF				*e*R			
	comp=Z,1µm,21.5s						
ORIF	**Oris-en-Rattie**	**82.22**	**339⇑**	*i*P	**P**	**10 55 26.6**	**+0.7**
ORIF				pmax	pmax		
	comp=Z,84nm,0.9s						
ORIF	**Oris-en-Rattie**	**82.22**	**339⇑**	*i*P	**P**	**10 55 26.6**	**+0.7**
	comp=Z,84nm,0.9s						
TCHB	**Talchebab**	**82.22**	**312**	*e*P	P	10 55 18.6	-7.4
MRKA	**Markates**	**82.44**	**324**	*e*P	**P**	**10 55 25.5**	**-1.5**
FRNF	**Fournols**	**82.51**	**341⇑**	*e*P	**P**	**10 55 28.1**	**+0.8**
LBL	**Lubilhac**	**82.51**	**341⇑**	*e*P	**P**	**10 55 27.3**	**0.0**
VIVF	**Saint-Julien-l**	**82.56**	**340⇑**	*i*P	**P**	**10 55 28.1**	**+0.6**
	comp=Z,42nm,0.8s						
VIVF	**Saint-Julien-l**	**82.56**	**340⇑**	*i*P	**P**	**10 55 28.1**	**+0.6**
VIVF				pmax	pmax		
	comp=Z,42nm,0.8s						
VIVF	**Saint-Julien-l**	**82.56**	**340⇑**	*i*P	**P**	**10 55 28.1**	**+0.6**
	comp=Z,42nm,0.8s						
AGG	**Agios Georgios**	**82.64**	**325**	*e*P	**P**	**10 55 26.0**	**-2.1**
LKR	**Lokris**	**82.72**	**325**	*e*P	**P**	**10 55 26.7**	**-1.7**
MAKR	**Makrakomi, Fth**	**82.72**	**325**	*e*P	**P**	**10 55 26.8**	**-1.7**
AUTN	**L'Aution**	**82.72**	**338**	*e*P	**P**	**10 55 28.4**	**-0.2**
TOUF	**Mont Tournerai**	**82.75**	**338**	*e*P	**P**	**10 55 28.6**	**-0.1**
ARG	**Arkhangelos**	**82.78**	**320**	*e*P	**P**	**10 55 28.4**	**-0.4**
RJF	**Les Rejaudoux**	**82.80**	**342⇑**	*i*P	**P**	**10 55 29.2**	**+0.4**
	comp=Z,83nm,0.9s						
RJF				*e*R			
	comp=Z,2µm,22.2s						
RJF	**Les Rejaudoux**	**82.80**	**342⇑**	*i*P	**P**	**10 55 29.2**	**+0.4**
RJF				pmax	pmax		
	comp=Z,83nm,0.9s						
RJF	**Les Rejaudoux**	**82.80**	**342⇑**	*i*P	**P**	**10 55 29.2**	**+0.4**
	comp=Z,83nm,0.9s						
SBF	**Sospel**	**82.84**	**338**	*e*P	**P**	**10 55 28.9**	**-0.2**
	comp=Z,54nm,0.8s						
SBF	**Sospel**	**82.84**	**338**	*e*P	**P**	**10 55 28.9**	**-0.2**
SBF				pmax	pmax		
	comp=Z,54nm,0.8s						
SBF	**Sospel**	**82.84**	**338**	*e*P	**P**	**10 55 28.9**	**-0.2**
	comp=Z,54nm,0.8s						
MVIF	**Mont Vial**	**82.88**	**338**	*e*P	**P**	**10 55 29.3**	**-0.1**
EVR	**Evrytania**	**82.92**	**326**	*e*P	**P**	**10 55 27.9**	**-1.7**
REVF	**Revere**	**82.98**	**338**	*e*P	**P**	**10 55 30.4**	**+0.7**
CAF	**Calviac**	**83.05**	**342⇑**	*i*P	**P**	**10 55 30.8**	**+0.7**
	comp=Z,84nm,0.8s						
CAF	**Calviac**	**83.05**	**342⇑**	*i*P	**P**	**10 55 30.8**	**+0.7**
CAF				pmax	pmax		
	comp=Z,84nm,0.8s						
CAF	**Calviac**	**83.05**	**342⇑**	*i*P	**P**	**10 55 30.8**	**+0.7**
	comp=Z,84nm,0.8s						
CALN	**Calern**	**83.08**	**338**	*e*P	**P**	**10 55 29.9**	**-0.5**
SMRF	**Simiane la Rot**	**83.19**	**339**	*e*P	**P**	**10 55 31.8**	**+1.0**
	comp=Z,275nm,1.6s						
SMRF	**Simiane la Rot**	**83.19**	**339**	*e*P	**P**	**10 55 31.8**	**+1.0**
	comp=Z,275nm,1.6s						
KALE	**Kalithea**	**83.26**	**325**	*e*P	**P**	**10 55 29.5**	**-1.8**
LTK	**Loutraki**	**83.28**	**324**	*e*P	**P**	**10 55 28.5**	**-2.9**
LFF	**La Frestale**	**83.31**	**342**	*e*P	**P**	**10 55 31.9**	**+0.6**
	comp=Z,109nm,0.8s						
LFF	**La Frestale**	**83.31**	**342**	*e*P	**P**	**10 55 31.9**	**+0.6**
LFF				pmax	pmax		
	comp=Z,109nm,0.8s						
LFF	**La Frestale**	**83.31**	**342**	*e*P	**P**	**10 55 31.9**	**+0.6**
	comp=Z,109nm,0.8s						
EFP	**Efpalio**	**83.32**	**325**	*e*P	**P**	**10 55 30.4**	**-1.1**
FRF	**La Foret Royal**	**83.32**	**338**	*e*P	**P**	**10 55 31.4**	**-0.1**
FRF	**La Foret Royal**	**83.32**	**338**	*e*P	**P**	**10 55 31.4**	**-0.1**
FRF	**La Foret Royal**	**83.32**	**338**	*e*P	**P**	**10 55 31.4**	**-0.1**
PDO	**Prodromos**	**83.43**	**326**	*e*P	**P**	**10 55 31.1**	**-1.0**
LAKA	**Lakka**	**83.46**	**325**	*e*P	**P**	**10 55 31.2**	**-1.1**
LASF	**Ste Croix**	**83.48**	**340⇑**	*i*P	**P**	**10 55 33.1**	**+0.8**
	comp=Z,75nm,1.2s						
LASF	**Ste Croix**	**83.48**	**340⇑**	*i*P	**P**	**10 55 33.1**	**+0.8**
	comp=Z,75nm,1.2s						
TIGA	**Tifton**	**83.55**	**48**	*e*P	**P**	**10 55 33.3**	**+0.5**
	comp=Z,548nm,1.5s						
KLV	**Kalavryta, Ach**	**83.57**	**325**	*e*P	**P**	**10 55 31.0**	**-1.9**
LMR	**La Mourre**	**83.57**	**338⇑**	*i*P	**P**	**10 55 32.9**	**+0.2**
	comp=Z,253nm,1.3s						
LMR	**La Mourre**	**83.57**	**338⇑**	*i*P	**P**	**10 55 32.9**	**+0.2**
LMR				pmax	pmax		
	comp=Z,253nm,1.3s						
LMR	**La Mourre**	**83.57**	**338⇑**	*i*P	**P**	**10 55 32.9**	**+0.2**
	comp=Z,253nm,1.3s						
GUR	**Goura**	**83.59**	**325**	*e*P	**P**	**10 55 30.5**	**-2.6**
DID	**Didima**	**83.63**	**324**	*e*P	**P**	**10 55 30.0**	**-3.2**
PGF	**Pioggiola**	**83.67**	**336⇑**	*i*P	**P**	**10 55 33.2**	**-0.2**
	comp=Z,32nm,0.6s						
PGF	**Pioggiola**	**83.67**	**336⇑**	*i*P	**P**	**10 55 33.2**	**-0.2**
PGF				pmax	pmax		
	comp=Z,33nm,0.6s						
PGF	**Pioggiola**	**83.67**	**336⇑**	*i*P	**P**	**10 55 33.2**	**-0.2**
	comp=Z,32nm,0.6s						
KARP	**Karpathos**	**83.76**	**320**	*e*P	**P**	**10 55 30.9**	**-3.0**
RLS	**Riolos of Patr**	**83.81**	**325**	*e*P	**P**	**10 55 32.1**	**-1.9**
DRO	**Drossia**	**83.81**	**325**	*e*P	**P**	**10 55 33.5**	**-0.6**
FORT	**Forrest**	**83.83**	**204**	*e*P	**P**	**10 55 34.1**	**+0.2**
	comp=Z,137nm,0.8s						
BBOO	**Buckleboo**	**83.99**	**197**	*e*P	**P**	**10 55 34.9**	**+0.2**
	comp=Z,1µm,1.2s						
VLS	**Valsamata**	**84.02**	**326**	*e*P	**P**	**10 55 34.2**	**-1.0**
CUC	**Castrocucco**	**84.03**	**330**	*e*P	**P**	**10 55 33.6**	**-1.6**
	comp=Z,15nm,0.9s						
AMT	**Artemida-Makis**	**84.18**	**325**	*e*P	**P**	**10 55 34.3**	**-1.7**
TIP	**Timpagrande**	**84.46**	**329**	P	**P**	**10 55 37.2**	**-0.2**
TIP	**Timpagrande**	**84.46**	**329**	*e*P	**P**	**10 55 36.7**	**-0.7**
	comp=Z,35nm,1.2s						
ZKR	**Zakros**	**84.52**	**321**	P	**P**	**10 55 36.9**	**-0.8**
ZKR	**Zakros**	**84.52**	**321**	*e*P	**P**	**10 55 36.6**	**-1.1**
MTLF	**Montolieu**	**84.54**	**341⇑**	*i*P	**P**	**10 55 38.3**	**+0.6**
	comp=Z,56nm,1.0s						
MTLF	**Montolieu**	**84.54**	**341⇑**	*i*P	**P**	**10 55 38.3**	**+0.6**
MTLF				pmax	pmax		
	comp=Z,56nm,1.0s						
MTLF	**Montolieu**	**84.54**	**341⇑**	*i*P	**P**	**10 55 38.3**	**+0.6**
	comp=Z,56nm,1.0s						
RAYN	**Ar Rayn**	**84.59**	**300**	P	**P**	**10 55 38.0**	**-0.3**
	comp=Z,1.0nm,1.0s,SNR=39						
RAYN	**Ar Rayn**	**84.59**	**300**	*e*P	**P**	**10 55 38.4**	**+0.1**
	comp=Z,76nm,0.8s						
NPS	**Neapolis**	**84.64**	**321**	*e*P	**P**	**10 55 36.2**	**-2.1**
LAST	**Lasithi**	**84.78**	**321**	P	**P**	**10 55 37.4**	**-1.8**
LAST	**Lasithi**	**84.78**	**321**	*e*P	**P**	**10 55 37.8**	**-1.4**
IDI	**Anoyia**	**84.91**	**322**	P	**P**	**10 55 37.5**	**-2.3**
	comp=Z,18nm,0.6s,baz=32,slow=9.8,SNR=21						
EPF	**Esparros**	**85.22**	**342**	*e*P	**P**	**10 55 41.2**	**0.0**
	comp=Z,25nm,0.8s						
EPF	**Esparros**	**85.22**	**342**	*e*P	**P**	**10 55 41.2**	**0.0**
EPF				pmax	pmax		
	comp=Z,25nm,0.8s						
EPF	**Esparros**	**85.22**	**342**	*e*P	**P**	**10 55 41.2**	**0.0**
	comp=Z,25nm,0.8s						
SJPF	**Ste Jean**	**85.44**	**343**	*e*P	**P**	**10 55 43.0**	**+0.8**
	comp=Z,8.8nm,0.6s						
SJPF	**Ste Jean**	**85.44**	**343**	*e*P	**P**	**10 55 43.0**	**+0.8**
SJPF				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SJPF	**Ste Jean**	**85.44**	**343**	*e*P	**P**	**10 55 43.0**	**+0.8**
	comp=Z,8.8nm,0.6s						
ETSF	**Etsaut**	**85.52**	**343⇑**	*i*P	**P**	**10 55 43.4**	**+0.7**
	comp=Z,18nm,0.7s						
ETSF	**Etsaut**	**85.52**	**343⇑**	*i*P	**P**	**10 55 43.4**	**+0.7**
ETSF				pmax	pmax		
	comp=Z,18nm,0.7s						
ETSF	**Etsaut**	**85.52**	**343⇑**	*i*P	**P**	**10 55 43.4**	**+0.7**
	comp=Z,18nm,0.7s						
VSL	**Villasalto**	**86.42**	**335**	*e*P	**P**	**10 55 46.2**	**-0.9**
	comp=Z,62nm,1.0s						
ESDC	**Sonseca Array**	**89.27**	**345**	P	**P**	**10 55 59.7**	**-1.1**
	comp=Z,3.6nm,0.5s,baz=9.1,slow=4.0,SNR=20						
PAB	**San Pablo**	**89.46**	**345**	*e*P	**P**	**10 56 01.0**	**-0.7**
PAB				pmax	pmax		
	comp=Z,39nm,1.5s						
PAB	**San Pablo**	**89.46**	**345**	*e*P	**P**	**10 56 01.0**	**-0.7**
	comp=Z,39nm,1.5s						
KEST	**Kesra**	**89.94**	**333**	P	**P**	**10 56 04.2**	**+0.2**
	comp=Z,9.9nm,0.9s,baz=256,slow=0.7,SNR=19						
KEST	**Kesra**	**89.94**	**333**	*e*P	**P**	**10 56 04.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**113.44**	**332**	PKiKP	**PKiKP**	**11 01 42.2**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=8.6,slow=2.8,SNR=6.1						
TORD				PKKPbc	**PKKPbc**	**11 12 23.9**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=250,slow=1.9,SNR=5.4						
TORD				PKKPab	**PKKPab**	**11 12 33.6**	**-3.3**
	comp=Z,2.9nm,1.0s,baz=213,slow=2.6,SNR=8.0						
TORD				PKKP	**PKKPdf**	**11 12 46.0**	**+0.7**
	comp=Z,3.8nm,1.0s,baz=214,slow=4.4,SNR=7.1						
DBIC	**Dimbokro**	**121.43**	**337**	PKIKP	**PKPdf**	**11 01 57.2**	**-1.0**
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DBIC	**Dimbokro**	**121.43**	**337**	PKP	**PKPdf**	**11 01 57.2**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=37,slow=5.5,SNR=5.3						
BOSA	**Boshof**	**137.22**	**281**	PKIKP	**PKPdf**	**11 02 27.9**	**+0.1**
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BOSA	**Boshof**	**137.22**	**281**	PKP	**PKPdf**	**11 02 27.9**	**+0.1**
	comp=Z,6.5nm,0.8s,baz=338,slow=2.4,SNR=9.7						
SYO	**Syowa Base**	**144.37**	**214⇓**	*e*PKPbc	**PKPab**	**11 02 35.7**	**-1.8**
SYO	**Syowa Base**	**144.37**	**214⇓**	*e*PKPdf	**PKPdf**	**11 02 40.0**	**+0.8**
CPUP	**Villa Florida**	**145.41**	**60**	PKIKP	**PKPdf**	**11 02 41.9**	**-0.5**
CPUP				pmax	pmax		
	comp=Z,27nm,0.8s						
CPUP	**Villa Florida**	**145.41**	**60**	PKPbc	**PKPdf**	**11 02 41.9**	**-0.5**
	comp=Z,27nm,0.8s,baz=297,slow=2.9,SNR=15						
CPUP	**Villa Florida**	**145.41**	**60**	PKPbc	**PKPdf**	**11 02 41.9**	**-0.5**
CPUP				*e*PKPdf	**PKPbc**	**11 02 42.1**	**-0.3**
SNAA	**Sanae**	**155.88**	**196**	P	**PKPab**	**11 03 23.8**	**-0.6**

IDC ***23*** *10:52:12.0±0.5, 15.°99N×91.°15W, h0^{km}, mb4.6/28, mb1 4.7/31, mb1mx4.7/38, mbtmp4.6/31, ML3.1/1, MS4.9/26, Ms1 4.9/26, ms1mx4.7/38, Error ellipse: s-maj=18.6km s-min=8.2km az=59.0*

BJI ***23*** *10:52:13.3, 16.°00N×91.°20W, h10^{km}, mB5.7/13, Ms5.6/18, Ms7 5.3/19*

NEIC ***23*** *10:52:14.0±1.0, 15.°91N×91.°21W, h9^{km}±6^{km}, mb5.2/184, MD5.5(MEX), Error ellipse: s-maj=4.9km s-min=3.1km az=214.0*

NEIC Felt [IV] at Antigua Guatemala, Fraijanes, Guatemala, Mixco, Quetzaltenango, Santa Catarina Pinula and Villa Nueva. Felt in much of Belize and Guatemala and in parts of Chiapas, Campeche and Tabasco, Mexico. Also felt at Jose Santos Guardiola, Honduras.

GCMT ***23*** *10:52:14.1±0.2, 16.°24N×91.°32W, h19^{km}, MW5.4/100, Moment Tensor Solution. s87,c142; s100,c180; Duration: 1.^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.80±.02; $M_{\theta\theta}$-0.47±.02; $M_{\phi\phi}$-0.33±.02; $M_{r\theta}$-0.90±.05; $M_{\theta\phi}$0.52±.01; $M_{\phi r}$0.48±.04; Best double couple: $M_0$1.33600×10^{17} NP1:ϕ_s301.00000°, δ70.00000°, λ81.00000°. NP2:ϕ_s144.00000°, δ22.00000°, λ112.00000°. Principal axes: T 1.2910, Plg64.0000°, Azm197.0000°; N 0.0890, Plg8.0000°, Azm304.0000°; P -1.3810, Plg25.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MEX ***23*** *10:52:15.3±0.7, 15.°93N×91.°11W, h25^{km}, MD5.5*

CASC ***23*** *10:52:15.9±2.1, 16.°17N×91.°25W, h20^{km}±121^{km}, MD5.0, ML4.5, mb5.6(NEIC)*

MOS ***23*** *10:52:16.2±1.0, 15.°98N×91.°18W, h33^{km}, mb5.5/51, Error ellipse: s-maj=7.9km s-min=4.7km az=98.4*

SZGRF ***23*** *10:52:16.9, 15.°83N×91.°57W, h33^{km}, mb5.5, MS5.1, Mexico-Guatemala border region*

ISCJB ***23*** *10:52:16.3±0.1, 16.°11N±0.°02×91.°25W±0.°02, h30^{km}, mb5.0/216, MS5.0/32, Error ellipse: s-maj=2.9km s-min=1.8km az=41.1*

GCG ***23*** *10:52:17.3, 16.°16N×91.°16W, h77^{km}, MD5.3, ML4.6, MW5.3*

ISC 23 10:52:16.9±0.3, **16.°02N**±0.°03×**91.°28W**±0.°03, **h30^{km}, n893,** σ**1.^{s}20**/904, **mb5.1**/218, **MS4.9**/33, **204C-186D,**
Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.87**	**288**	*e*P	**Pn**	**10 52 30.8**	**-2.4**
CCIG				*i* S	**Sn**	**10 52 44.9**	**-0.1**
CCIG	**Comitan**	**0.87**	**288**	*e*P	**Pn**	**10 52 30.8**	**-2.4**
CCIG				*i* S	**Sn**	**10 52 44.9**	**-0.1**
APG	**El Apazote**	**1.28**	**142**	Pg	Pn	10 52 34.8	-4.1
	4µm,0.3s,baz=334,slow=15						
APG				Lg	Lg	10 52 51.0	
	29µm,0.3s,baz=225,slow=7.1,SNR=42						
APG				LR	LR	10 53 00.0	
	comp=Z,12µm,19.9s,baz=182,slow=41						
GCG	**Guatemala City**	**1.59**	**153**	*e*P	**Pb**	**10 52 45.9**	**0.0**
GCG				*e*S	**Sb**	**10 53 07.9**	**+2.2**
NBG	**Las Nubes**	**1.68**	**148**	*e*P	**Pb**	**10 52 46.7**	**-0.7**
JAT	**Jato**	**1.73**	**192**	*e*P	**Pb**	**10 52 47.9**	**-0.2**
JAT				AML	AML	10 53 32.2	
	comp=Z,8µm,0.5s						
PCG	**Pacaya**	**1.74**	**158**	*e*P	**Pb**	**10 52 48.1**	**-0.3**
PCG				AML	AML	10 53 12.9	
	comp=Z,7µm,0.4s						
MRL	**Marmol**	**1.80**	**122**	*e*P	**Pn**	**10 52 47.0**	**+0.9**
MRL				AML	AML	10 53 15.3	
	comp=Z,7µm,0.2s						
PCIG		**1.90**	**261**	*e*P	**Pn**	**10 52 46.3**	**-1.0**
PCIG				*i* S	**Sn**	**10 53 09.9**	**-0.2**
PCIG		**1.90**	**261**	*e*P	**Pn**	**10 52 46.3**	**-1.0**
PCIG				*i* S	**Sn**	**10 53 09.9**	**-0.2**
RBDL	**Robledal**	**2.44**	**141**	*e*P	**Pn**	**10 52 55.4**	**+0.5**
MTO2	**Montecristo 2**	**2.45**	**131**	*e*P	**Pn**	**10 52 55.4**	**+0.3**
RTR	**El Retiro**	**2.63**	**143⇑**	*e*P	**Pn**	**10 52 58.6**	**+1.0**
SNJE	**San Jose**	**2.68**	**143**	*e*P	**Pn**	**10 52 59.1**	**+0.8**
SBLS	**San Blas**	**2.69**	**143⇑**	*e*P	**Pn**	**10 52 59.4**	**+1.0**
SCIG	**Sabancuy**	**2.93**	**2**	*e*P	**Pn**	**10 53 00.1**	**-1.4**
SCIG				*i* S	**Sn**	**10 53 34.7**	**-1.0**
SCIG	**Sabancuy**	**2.93**	**2**	*e*P	**Pn**	**10 53 00.1**	**-1.4**
SCIG				*i* S	**Sn**	**10 53 34.7**	**-1.0**
BOQS	**Boqueron**	**2.98**	**139**	*e*P	**Pn**	**10 53 03.5**	**+1.1**
SNET	**Serv Nac Est T**	**3.05**	**139**	*e*P	**Pn**	**10 53 04.0**	**+0.9**
SNET				*e*S	**Sb**	**10 53 51.4**	**+4.0**
SNET				AML	AML	10 54 08.8	
	comp=Z,11µm,0.6s						
LFU	**La Fuente**	**3.08**	**137**	*e*P	**Pn**	**10 53 04.5**	**+0.9**
LBRS	**Las Brisas**	**3.13**	**136**	*e*P	**Pn**	**10 53 05.4**	**+1.0**
LFRS	**El Faro**	**3.20**	**138**	*e*P	**Pn**	**10 53 06.5**	**+1.2**
TUIG	**Tuzandepetl**	**3.62**	**304**	*e*P	**Pn**	**10 53 10.9**	**0.0**
TUIG				*i* S	**Sn**	**10 53 53.5**	**+0.9**
TUIG	**Tuzandepetl**	**3.62**	**304**	*e*P	**Pn**	**10 53 10.9**	**0.0**
TUIG				*i* S	**Sn**	**10 53 53.5**	**+0.9**
CMIG	**Matias Romero**	**3.62**	**288**	*e*P	**Pn**	**10 53 11.3**	**+0.3**
CMIG				*e*S	**Sn**	**10 53 53.6**	**+0.8**
CMIG	**Matias Romero**	**3.62**	**288**	*e*P	**Pn**	**10 53 11.3**	**+0.3**
CMIG				*e*S	**Sn**	**10 53 53.6**	**+0.8**
CAHU	**Cacacuatique**	**3.71**	**127**	*e*P	**Pn**	**10 53 13.1**	**+0.7**
HUIG	**Huatulco**	**4.66**	**268**	*i* P	**Pn**	**10 53 25.5**	**+0.2**
HUIG				*i* S	**Sn**	**10 54 19.4**	**+1.0**
HUIG	**Huatulco**	**4.66**	**268**	*i* P	**Pn**	**10 53 25.5**	**+0.2**
HUIG				*i* S	**Sn**	**10 54 19.4**	**+1.0**
TEIG	**Tepich**	**5.06**	**34**	Pn	**Pn**	**10 53 29.8**	**-1.0**
	comp=Z,1µm,0.3s,baz=26,slow=0.5,SNR=5514						
TEIG				Sn	**Sn**	**10 54 28.3**	**0.0**
	comp=Z,711nm,0.3s,baz=43,slow=20,SNR=14						
TEIG				LR	LR	10 56 02.9	
	comp=Z,25µm,20.1s,baz=226,slow=46						
TEIG	**Tepich**	**5.06**	**34**	*e*Pn	**Pn**	**10 53 29.9**	**-0.9**
TEIG				*e*Sn	**Sn**	**10 54 29.6**	**+1.3**
VHO	**Vista Hermosa**	**5.34**	**282**	*e*P	**Pn**	**10 53 35.2**	**+0.4**
VHO				*e*S	**Sn**	**10 54 36.2**	**+0.7**
VHO	**Vista Hermosa**	**5.34**	**282**	*e*P	**Pn**	**10 53 35.2**	**+0.4**
VHO				*e*S	**Sn**	**10 54 36.2**	**+0.7**
JTS	**JuntasAbangare**	**8.39**	**132**	P	**Pn**	**10 54 15.9**	**-0.6**
JTS	**JuntasAbangare**	**8.39**	**132**	Pn	**Pn**	**10 54 18.7**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=292,slow=10.0,SNR=30						
JTS	**JuntasAbangare**	**8.39**	**132**	Pn	**Pn**	**10 54 15.9**	**-0.6**
JTS				*e*Sn	Sb	10 56 06.4	-14
JCR	**Jicaral**	**8.58**	**135**	*e*P	Pn	10 54 23.0	+3.7
CGA2	**Cerro Gallo 2**	**8.92**	**131**	*e*P	Pn	10 54 29.6	+5.6
QCR	**Quepos**	**9.54**	**133**	*e*P	**Pn**	**10 54 35.5**	**+3.1**
BUS	**Buena Vista**	**9.75**	**130**	*e*P	Pn	10 54 39.5	+3.9
ACR	**Cerro Adams**	**10.78**	**132**	*e*P	Pn	10 54 52.7	+3.2
BCIP	**Isla Barro Col**	**13.07**	**120**	*e*Pn	**Pn**	**10 55 18.6**	**-2.1**
BCIP				*e*Sn	**Sn**	**10 57 43.6**	**-1.6**
MCJ	**Malvern**	**13.14**	**80**	*i* P	**Pn**	**10 55 22.2**	**+0.6**
CVJ	**Coleyville**	**13.32**	**79**	*i* P	Pn	10 55 28.5	+4.3
MTDJ	**Mount Denham**	**13.32**	**79**	*e*Pn	**Pn**	**10 55 24.0**	**-0.1**
MTDJ				*e*Sn	Sn	10 57 45.1	-6.2
STH	**Stony Hill**	**13.98**	**80**	*i* P	**Pn**	**10 55 33.1**	**-0.1**
HOJ	**Hope**	**14.03**	**80**	*i* P	**Pn**	**10 55 33.8**	**0.0**
GWJ	**Greenwich**	**14.06**	**80**	*i* P	**P**	**10 55 39.1**	**-2.7**
734A	**La Parita Cree**	**14.43**	**333**	⇓P	**Pn**	**10 55 39.3**	**+0.2**

baz=15
HKT Hockley 14.48 344 eP Pn 10 55 38.1 -1.7
HKT e 10 58 20.3
HKT Hockley 14.48 344 ePn Pn 10 55 38.1 -1.7
HKT eSn Sn 10 58 20.3 +0.9
635A Leesville 14.59 337 ⇑P Pn 10 55 42.1 +0.8
baz=15
733A Divot King Ran 14.65 331 ⇑P Pn 10 55 41.8 -0.3
baz=15,SNR=11
537A Green Hill Far 14.74 343 ⇓P Pn 10 55 43.4 0.0
baz=15
634A China Grove, S 14.81 335 ⇑P Pn 10 55 44.8 +0.5
baz=15
732A Laxson Ranch, 14.98 329 ⇓P Pn 10 55 47.8 +1.2
baz=15
535A Dale 15.09 339 ⇑P Pn 10 55 49.4 +1.3
baz=15
633A Saathoff Ranch 15.22 333 ⇑P Pn 10 55 50.1 +0.3
baz=15,SNR=15
BRAL Brewton 15.41 14 ePn Pn 10 55 52.1 -0.2
comp=Z,141nm,0.8s
BRAL eSn Sn 10 58 38.5 -3.7
534A Blanco 15.43 336 ⇑P Pn 10 55 52.5 0.0
baz=16
340A Bronson 15.51 352 ⇓P Pn 10 55 53.2 -0.4
baz=16
436A Wall Ranch, Ga 15.53 342 ⇑P Pn 10 55 54.0 +0.2
baz=16
339A Huntington 15.54 349 ⇓P Pn 10 55 53.6 -0.3
baz=16
632A Uvalde 15.54 331 ⇑P Pn 10 55 54.8 +0.8
baz=16
533A Kerrville 15.70 334 ⇓P Pn 10 55 57.4 +1.4
baz=16,SNR=5.2
338A Crockett 15.71 347 ⇓P Pn 10 55 56.0 -0.1
baz=16
435B Jarrell 15.79 340 ⇑P Pn 10 55 57.4 +0.2
baz=16
337A Centerville 15.80 345 ⇑P Pn 10 55 56.7 -0.6
baz=16
631A Perdido Creek 15.84 329 ⇑P Pn 10 55 59.0 +1.1
baz=16,SNR=8.5
GTBY Guantanamo Bay 15.86 73 ePn Pn 10 55 57.9 -0.2
comp=Z,389nm,1.1s
NATX Nacogdoches 15.97 349 ePn Pn 10 56 00.2 +0.8
comp=Z,62nm,0.8s
NATX eSn Sn 10 58 40.0 -16
434A Burnet 16.06 338 ⇓P Pn 10 56 01.3 +0.6
baz=16,SNR=17
336A Riesel 16.12 343 ⇓P Pn 10 56 02.5 +1.1
baz=16
532A Rocksprings 16.12 332 ⇑P P 10 56 02.9 -1.6
baz=16
VBMS Vicksburg 16.14 2 ePn P 10 56 04.2 -0.4
comp=Z,194nm,0.8s
335A Moody 16.20 341 ⇑P Pn 10 56 02.7 +0.3
baz=16
433A Art 16.32 335 ⇓P Pn 10 56 04.7 +0.7
baz=16
JCT Junction City 16.38 333 ⇓P Pn 10 56 04.8 +0.1
baz=17
531A Rocksprings 16.45 330 ⇓P Pn 10 56 05.7 0.0
baz=17
334A Lometa 16.52 339 ⇓P Pn 10 56 06.3 -0.1
baz=17
432A Menard 16.71 334 ⇓P P 10 56 10.2 -0.9
baz=17
333A Richland Sprin 16.78 337 ⇑P P 10 56 11.2 -0.6
baz=17
530A J-C Ranch, Com 16.82 328 ⇑P P 10 56 11.4 -0.9
baz=17
WHTX Lake Whitney 16.87 342 ePn P 10 56 11.7 -1.0
comp=Z,153nm,0.7s
WHTX eSn Sn 10 59 02.0 -15
WHTX Lake Whitney 16.87 342 ⇓P P 10 56 12.8 +0.2
baz=17,SNR=7.5
TIGA Tifton 16.88 23 ePn Pn 10 56 11.7 +0.7
comp=Z,548nm,1.5s
TIGA eSn Sn 10 58 58.5 -19
TIGA Tifton 16.88 23 ⇓P Pn 10 56 11.4 +0.5
baz=17
431A Sonora 16.91 331 ⇑P P 10 56 13.1 -0.1
baz=17
234A Clairette 17.09 340 ⇑P P 10 56 15.3 +0.1
baz=17,SNR=12
332A Millersview 17.13 335 ⇑P P 10 56 15.9 +0.2
baz=17,SNR=11
529A Stev Forest Ra 17.26 326 ⇑P P 10 56 17.8 +0.6
baz=17
430A Baggett Ranch, 17.29 330 ⇓P P 10 56 18.6 +1.1
baz=18,SNR=5.6
331A San Angelo 17.36 333 ⇑P P 10 56 19.4 +1.2
baz=18
233A Rising Star 17.37 338 ⇑P P 10 56 18.9 +0.6
baz=18,SNR=19
LRAL Lakeview Retre 17.38 12 ePn P 10 56 17.9 -0.4
comp=Z,52nm,1.0s
135A Vickery Place, 17.38 342 ⇑P P 10 56 18.5 +0.1
baz=18
TXAR Lajitas Array 17.48 321 P P 10 56 20.6 +1.0
baz=147,slow=7.5,SNR=4.3
TXAR LR LR 11 05 04.1
comp=Z,1µm,20.4s,baz=0.0,slow=44
429A Davenport Ranc 17.49 328 ⇓P P 10 56 20.0 +0.3
baz=18,SNR=17
232A Coleman 17.54 336 ⇑P P 10 56 21.1 +0.9
baz=18
134A White-Moore Ra 17.60 341 ⇑P P 10 56 20.4 -0.4
baz=18
330A Mertzon 17.78 331 ⇓P P 10 56 23.2 +0.3
baz=18,SNR=12
231A Bronte 17.85 334 ⇓P P 10 56 24.6 +0.9
baz=18,SNR=14
133A Hamilton Ranch 17.91 339 ⇑P P 10 56 25.2 +0.9
baz=18,SNR=15
Z35A Perchaven, San 18.06 344 ⇓P P 10 56 26.4 +0.5
baz=18
230A Sterling City 18.16 332 ⇓P P 10 56 28.3 +1.2
baz=18
ABTX Abilene, Hawle 18.19 337 ePn P 10 56 28.2 +0.8
comp=Z,106nm,1.1s
ABTX eSn S 10 59 55.3 +1.2
ABTX Abilene, Hawle 18.19 337 ⇑P P 10 56 28.2 +0.8
baz=18
329A Wagon Wheel Ra 18.23 330 ⇓P P 10 56 27.8 -0.1
baz=18
Z34A Collier Ranch, 18.29 342 ⇑P Pn 10 56 29.0 +0.5
baz=18
Z33A Whitaker Ranch 18.48 340 ⇑P Pn 10 56 31.3 +0.5
baz=19,SNR=16
OXF Oxford 18.49 5 eP P 10 56 30.0 -0.6
OXF Oxford 18.49 5 ePn P 10 56 30.0 -0.6
131A Roby 18.53 335 ⇑P Pn 10 56 31.9 +0.5
baz=19
229A Bryant Ranch, 18.55 331 ⇓P Pn 10 56 32.2 +0.5
baz=19
MIAR Mount Ida 18.56 354 eP Pn 10 56 32.0 +0.2
MIAR pmax pmax
comp=Z,89nm,1.1s
MIAR Mount Ida 18.56 354 eP Pn 10 56 32.0 +0.2
comp=Z,89nm,1.1s
130A Snyder 18.70 334 ⇑P Pn 10 56 33.4 -0.1
baz=19
GOGA Godfrey 18.70 21 eP Pn 10 56 33.1 -0.4
GOGA eS S 11 00 06.9 +2.7
GOGA pmax pmax
comp=Z,164nm,1.5s
GOGA Godfrey 18.70 21 eP Pn 10 56 33.1 -0.4
comp=Z,164nm,1.5s
GOGA eS S 11 00 06.9 +2.7
UALR University of 18.70 357 eP Pn 10 56 33.7 +0.3
comp=Z,98nm,1.1s
Z32A Haskell 18.74 338 ⇑P Pn 10 56 34.9 +0.9
baz=19,SNR=23
Y34A Reagan Ranch, 18.79 343 ⇑P Pn 10 56 34.2 -0.4
baz=19,SNR=16
Z31A Sharp Cattle R 19.00 337 ⇑P Pn 10 56 37.0 -0.1
baz=19,SNR=9.9
228A UT Block 9, Go 19.04 329 ⇑P Pn 10 56 37.7 0.0
baz=19,SNR=14
Y33A Hilltop Ranch, 19.10 341 ⇑P Pn 10 56 37.8 -0.5
baz=19
129A Stewart Farms, 19.12 332 ⇓P Pn 10 56 38.7 +0.1
baz=19,SNR=13
SDDR Presa de Saban 19.29 78 eP P 10 56 39.6 +0.1
comp=Z,113nm,1.1s
Y32A R-V Farms, Ver 19.36 339 ⇑P P 10 56 40.5 +0.3
baz=20

Z30A Sanderson Ranc 19.36 334 ⇓P Pn 10 56 40.6 -0.9
baz=20
128A Castleberry Fa 19.41 330 ⇑P Pn 10 56 41.5 -0.5
baz=20,SNR=27
X34A Smith Ranch, M 19.42 344 ⇓P Pn 10 56 41.6 -0.6
baz=20,SNR=18
HBAR Harrisburg 19.46 2 eP Pn 10 56 43.1 +0.5
HBAR eS S 11 00 16.5 -3.1
X33A Lawton 19.55 342 ⇑P P 10 56 42.2 -0.1
baz=20,SNR=15
Z29A Hungry Hill Ra 19.59 333 ⇓P Pn 10 56 43.4 -0.8
baz=20,SNR=26
LPIG La Paz 19.59 297 P Pn 10 56 44.4 +0.2
comp=Z,2.9nm,0.3s,baz=166,slow=12,SNR=3.3
LPIG LR LR 11 04 18.3
comp=Z,7µm,18.5s,baz=125,slow=37
Y31A Rekieta Farm, 19.62 337 ⇓P P 10 56 43.3 +0.3
baz=20,SNR=25
X32A Elmer 19.69 340 ⇓P P 10 56 43.9 +0.1
baz=20,SNR=19
CSU Charleston Sou 19.70 29 eP Pn 10 56 45.4 -0.1
SWET Sewanee 19.71 13 eP Pn 10 56 45.3 -0.3
SWET eS S 11 00 23.6 -1.1
NHSC New Hope 19.76 29 eP Pn 10 56 45.2 -0.9
comp=Z,378nm,1.2s
Y30A Stafford Cattl 19.78 336 ⇓P P 10 56 45.1 +0.2
baz=20
GRTK Grand Turk 19.83 71 eP Pn 10 56 47.1 0.0
comp=Z,502nm,1.1s
127A Arkansas Junct 19.88 329 ⇓P P 10 56 45.5 -0.5
baz=20
HALT Halls 19.89 5 eP P 10 56 45.6 -0.3
HALT eS Sn 11 00 30.3 0.0
GNAR Gosnell 19.90 3 eP Pn 10 56 48.1 +0.4
comp=Z,7µm,1.5s
Z28A Tucker Farm, M 19.91 332 ⇑P P 10 56 46.6 +0.2
baz=20,SNR=22
ROSC El Rosal 20.00 122 P P 10 56 47.2 -0.5
comp=Z,1.1nm,0.3s,baz=84,slow=4.2,SNR=14
ROSC LR LR 11 05 19.7
comp=Z,3µm,18.9s,baz=346,slow=40
ROSC El Rosal 20.00 122 eP Pn 10 56 49.1 -0.5
W34A Bridge Creek, 20.00 344 eP Pn 10 56 47.9 -1.1
comp=Z,116nm,0.9s
W34A Bridge Creek, 20.00 344 ⇓P P 10 56 47.2 +0.1
baz=20,SNR=12
Y29A Porterfield Fa 20.09 334 ⇑P Pn 10 56 49.0 -1.1
baz=20,SNR=7.4
W33A Caddo, Fort Co 20.11 343 ⇓P P 10 56 49.0 +0.6
baz=20,SNR=21
X31A McDonald Ranch 20.11 339 ⇓P P 10 56 48.6 +0.2
baz=20,SNR=22
OTAV Otavalo 20.15 140 eP P 10 56 49.7 +0.3
comp=Z,107nm,1.4s
MNTX Cornudas Mount 20.21 323 eP Pn 10 56 51.9 +0.3
TUL1 Tulsa 20.22 349 eP P 10 56 49.4 -0.1
comp=Z,83nm,0.8s
TUL1 Tulsa 20.22 349 ⇑P P 10 56 49.1 -0.4
baz=20
WVT Waverly 20.26 8 eP Pn 10 56 51.2 -0.9
WVT pmax pmax
comp=Z,78nm,1.2s
WVT Waverly 20.26 8 eP Pn 10 56 51.2 -0.9
comp=Z,78nm,1.2s
CPCT Cooper Cave 20.27 16 eP Pn 10 56 52.9 +0.7
CPCT eS Sn 11 00 47.4 +7.7
X30A Coker Ranch, T 20.28 337 ⇑P P 10 56 50.6 +0.4
baz=20,SNR=21
W32A Sentinel 20.32 341 ⇓P P 10 56 50.5 -0.2
baz=20,SNR=26
Z27A Tatum 20.32 330 ⇑P P 10 56 51.1 +0.4
baz=20,SNR=30
Y28A McKinney Farm, 20.37 333 ⇑P P 10 56 51.6 +0.2
baz=21,SNR=44
V34A Guthrie 20.51 345 eP P 10 56 52.9 +0.3
comp=Z,123nm,1.0s
V34A Guthrie 20.51 345 ⇑P P 10 56 51.8 -0.9
baz=21
X29A Tulia 20.60 335 ⇑P P 10 56 54.0 +0.2
baz=21,SNR=20
PARMO Parma 20.61 3 eP Pn 10 56 55.5 -0.5
W31A Holland Ranch, 20.61 339 ⇓P P 10 56 53.4 -0.4
baz=21,SNR=12
MSTX Muleshoe 20.66 332 eP P 10 56 55.2 +0.7
comp=Z,67nm,0.8s
MSTX Muleshoe 20.66 332 ⇑P P 10 56 54.3 -0.2
baz=21,SNR=21
Z26A Caprock 20.66 329 ⇓P P 10 56 54.0 -0.5
baz=21,SNR=6.0
TKL Tuckaleechee C 20.68 18 eP Pn 10 56 55.8 -1.1
TKL Tuckaleechee C 20.68 18 P P 10 56 55.0 +0.6
comp=Z,40nm,0.9s,baz=192,slow=10,SNR=8.7
TKL LR LR 11 05 44.9
comp=Z,6µm,21.1s,baz=198,slow=39
TKL Tuckaleechee C 20.68 18 eP Pn 10 56 55.8 -1.2
V33A Lossen Ranch, 20.69 344 ⇑P P 10 56 53.7 -0.9
baz=21,SNR=24
Y27A Causey 20.77 331 ⇓P P 10 56 55.4 -0.2
baz=21,SNR=14
V32A Arapaho 20.81 342 ⇑P P 10 56 55.1 -0.9
baz=21,SNR=22
W30A Crocket Farms 20.82 338 ⇓P P 10 56 55.8 -0.3
baz=21
X28A Dimmitt 20.87 334 ⇓P P 10 56 56.4 -0.4
baz=21,SNR=11
AMTX Amarillo 20.98 335 eP P 10 56 58.5 +0.7
comp=Z,127nm,0.9s
AMTX Amarillo 20.98 335 ⇓P P 10 56 57.4 -0.4
baz=21
KMSC Kings Mountain 21.02 23 eP P 10 56 59.3 +1.1
comp=Z,55nm,0.8s
KMSC eS S 11 00 49.4 -1.4
KMSC Kings Mountain 21.02 23 ⇑P P 10 56 57.7 -0.5
baz=21,SNR=8.5
Z25A Roswell 21.05 327 ⇑P P 10 56 58.5 -0.1
baz=21,SNR=20
U34A Anderson Ranch 21.08 346 eP P 10 56 58.4 -0.5
comp=Z,78nm,0.9s
U34A Anderson Ranch 21.08 346 ⇑P P 10 56 59.5 +0.6
baz=21,SNR=5.2
V31A Spring Creek L 21.11 340 ⇓P P 10 56 58.9 -0.3
baz=21,SNR=6.2
Y26A Elida 21.11 330 ⇑P P 10 56 59.4 +0.1
baz=21,SNR=23
W29A Amarillo 21.17 336 ⇑P P 10 57 00.3 +0.4
baz=21,SNR=16
U33A Lingo Farm, Me 21.22 345 ⇓P P 10 57 00.8 +0.4
baz=21,SNR=9.4
SDV Santo Domingo 21.35 107 eP P 10 57 03.5 +1.4
comp=Z,250nm,0.9s
SDV eS S 11 01 01.5 +3.5
X27A F and S Farms, 21.37 332 ⇑P P 10 57 02.5 +0.3
baz=22,SNR=24
V30A Spur Ranch, Mi 21.38 339 ⇑P P 10 57 02.5 +0.3
baz=22,SNR=18
U32A Winter Ranch, 21.41 343 ⇑P P 10 57 02.5 0.0
baz=22
Z24A Sheeppen Canyo 21.43 326 ⇓P P 10 57 02.4 -0.4
baz=22,SNR=9.5
W28A Vega 21.51 335 ⇓P P 10 57 03.5 -0.1
baz=22
Y25A Mesa, Roswell 21.54 328 ⇓P P 10 57 04.0 0.0
baz=22,SNR=37
TZTN Tazewell 21.57 17 eP P 10 57 05.4 +1.4
comp=Z,92nm,1.1s
X26A CR and CF Fran 21.62 331 ⇓P P 10 57 04.2 -0.5
baz=22,SNR=12
U31A Nine Bar Ranch 21.66 341 ⇓P P 10 57 05.5 +0.4
baz=22,SNR=9.5
SIUC Southern Illin 21.69 4 eP P 10 57 05.8 +0.5
comp=Z,254nm,0.8s
W27A Bowe Ranch, En 21.71 333 ⇓P P 10 57 05.8 +0.1
baz=22,SNR=15
V29A Stinnett 21.79 337 ⇑P P 10 57 06.8 +0.3
baz=22
T33A Patterson Ranc 21.87 345 ⇑P P 10 57 07.3 -0.1
baz=22
Y24A Capitan 21.93 327 ⇓P P 10 57 08.2 +0.1
baz=22,SNR=26
V28A Channing 21.95 336 ⇓P P 10 57 08.4 +0.2
baz=22,SNR=6.9
X25A Clemmons Ranch 22.01 329 ⇓P P 10 57 09.0 0.0
baz=22,SNR=9.0
W26A Owens Ranch, T 22.04 332 ⇑P P 10 57 09.9 +0.6
baz=22,SNR=8.6
U30A WK&E Inc. Balk 22.07 340 ⇓P P 10 57 09.4 -0.1
baz=22

USIN University of 22.09 8 eP P 10 57 09.6 0.0
comp=Z,706nm,1.5s
T32A Huddler Ranch, 22.14 344 ⇑P P 10 57 09.5 -0.7
baz=22
V27A Dan Oppiter Fa 22.20 334 ⇑P P 10 57 10.8 -0.3
baz=22
U29A Oasis Ranch, S 22.21 338 ⇑P P 10 57 11.3 +0.2
baz=22,SNR=9.5
121A Cookes Peak, D 22.24 321 eP P 10 57 12.5 +1.0
comp=Z,203nm,1.7s
121A Cookes Peak, D 22.24 321 ⇑P P 10 57 11.2 -0.3
baz=22,SNR=19
Y23A Lovelace Mesa, 22.26 326 ⇑P P 10 57 11.2 -0.6
baz=22,SNR=26
Z22A Elephant Butte 22.26 323 ⇑P P 10 57 11.5 -0.2
baz=22,SNR=11
T31A Randall Ranch, 22.28 342 ⇓P P 10 57 12.2 +0.5
baz=22,SNR=5.7
S33A Kaszmaul Farm, 22.30 346 ⇑P P 10 57 11.7 -0.3
baz=22
X24A Lazy VL Ranch, 22.42 328 ⇓P P 10 57 14.1 +0.6
baz=23
319A Douglas 22.43 316 ⇓P P 10 57 12.6 -0.9
baz=23,SNR=15
W25A X Bar L Ranch, 22.47 331 ⇓P P 10 57 13.8 -0.1
baz=23,SNR=16
U28A Mallet 22.50 336 ⇓P P 10 57 14.4 +0.2
baz=23
T30A Plains 22.50 340 ⇓P P 10 57 14.2 +0.1
baz=23
SLM Saint Louis 22.55 2 eP P 10 57 15.1 +0.5
SLM pmax pmax
comp=Z,82nm,1.0s
SLM Saint Louis 22.55 2 eP P 10 57 15.1 +0.5
comp=Z,82nm,1.0s
WCI Wyandotte Cave 22.56 10 eP P 10 57 14.9 +0.2
WCI pmax pmax
comp=Z,192nm,1.2s
WCI Wyandotte Cave 22.56 10 eP P 10 57 14.9 +0.2
comp=Z,192nm,1.2s
CNNC Cliffs of the 22.58 30 eP P 10 57 16.8 +1.9
comp=Z,226nm,1.4s
S32A Newby Ranch, P 22.63 344 ⇓P P 10 57 15.0 -0.5
baz=23
V26A Tequesquite Ra 22.64 333 ⇑P P 10 57 16.2 +0.4
baz=23,SNR=11
S31A Mullinville 22.71 343 ⇓P P 10 57 16.7 +0.4
baz=23
U27A Thompson Grove 22.77 335 ⇑P P 10 57 16.8 -0.2
baz=23,SNR=33
OLIL Olney 22.80 6 eP P 10 57 17.6 +0.4
comp=Z,169nm,0.9s
X23A Hourglass Bar 22.83 327 ⇓P P 10 57 18.7 +1.0
baz=23
Y22D IRIS PASSCAL I 22.84 325 ⇑P P 10 57 18.7 +0.8
baz=23
T29A Hugoton 22.85 339 ⇓P P 10 57 18.5 +0.7
baz=23,SNR=8.1
W24A Lazy 6 Ranch, 22.92 329 ⇓P P 10 57 18.8 +0.1
baz=23,SNR=25
R33A Olander Ranch, 22.98 346 ⇓P P 10 57 18.8 -0.3
baz=23
S30A Montezuma 23.02 341 ⇓P P 10 57 19.0 -0.5
baz=23
V25A Rancho No Teng 23.05 331 ⇓P P 10 57 20.1 0.0
baz=23,SNR=23
T28A Walsh 23.11 337 ⇓P P 10 57 20.3 -0.2
baz=23
U26A Atchley Ranch, 23.13 334 ⇑P P 10 57 21.4 +0.6
baz=23,SNR=31
BLA Blacksburg 23.20 22 eP P 10 57 21.7 +0.4
BLA pmax pmax
comp=Z,286nm,1.4s
BLA Blacksburg 23.20 22 eP P 10 57 21.7 +0.4
comp=Z,286nm,1.4s
S29A Ulysses 23.21 340 ⇓P P 10 57 21.5 -0.1
baz=23
ANMO Albuquerque 23.25 327 eP P 10 57 23.2 +1.1
ANMO pmax pmax
comp=Z,37nm,1.3s
ANMO Albuquerque 23.25 327 P P 10 57 24.0 +1.9
comp=Z,7.6nm,1.0s,baz=144,slow=13,SNR=7.4
ANMO LR LR 11 08 33.4
comp=Z,956nm,19.5s,baz=172,slow=42
ANMO Albuquerque 23.25 327 eP P 10 57 23.2 +1.1
comp=Z,37nm,1.3s
W23A Werner Place, 23.25 328 ⇑P P 10 57 21.8 -0.3
baz=23,SNR=19
R32A Long Quarter, 23.26 345 ⇓P P 10 57 20.3 -1.6
baz=24
V24A Rampart Ranch, 23.27 330 ⇓P P 10 57 21.8 -0.5
baz=24
T27A Campo 23.29 336 ⇓P P 10 57 21.5 -0.9
baz=24
R31A Burdett 23.34 343 ⇑P P 10 57 21.3 -1.5
baz=24,SNR=17
VWCC Virginia Weste 23.39 23 eP P 10 57 24.3 +1.1
U25A Circle Dot Ran 23.42 333 ⇑P P 10 57 23.6 -0.2
baz=24,SNR=12
BLO Bloomington 23.44 9 eP P 10 57 24.4 +0.8
BLO pmax pmax
comp=Z,121nm,1.2s
BLO Bloomington 23.44 9 eP P 10 57 24.4 +0.8
comp=Z,121nm,1.2s
S28A Manter 23.45 338 ⇑P P 10 57 23.3 -0.6
baz=24,SNR=7.7
KSU1 Kansas State U 23.47 350 eP P 10 57 23.5 -0.5
comp=Z,75nm,0.9s
KSU1 Kansas State U 23.47 350 ⇓P P 10 57 22.7 -1.2
baz=24
R30A Dighton 23.55 342 ⇑P P 10 57 23.8 -1.1
baz=24
Q33A Connelly Farm, 23.60 347 ⇑P P 10 57 24.2 -1.0
baz=24
V23A Ortiz Mt. (NFS 23.73 329 ⇓P P 10 57 26.5 -0.2
baz=24,SNR=14
T26A Comanche Natio 23.73 335 ⇑P P 10 57 24.5 -2.2
baz=24,SNR=6.4
Q32A Meitler Ranch, 23.76 346 ⇑P P 10 57 24.7 -2.1
baz=24
U24A Moreno Valley 23.82 331 ⇓P P 10 57 26.4 -1.4
baz=24,SNR=18
S27A Las Animas 23.90 337 ⇑P P 10 57 26.9 -1.3
baz=24
R29A Marienthal 23.95 341 ⇓P P 10 57 27.3 -1.3
baz=24
Q31A Ellis 23.98 344 ⇑P P 10 57 27.2 -1.7
baz=24
P33A Williams Farm, 24.00 348 ⇓P P 10 57 27.5 -1.5
baz=24
TUC Tucson 24.01 316 eP P 10 57 30.3 +1.0
TUC pmax pmax
comp=Z,35nm,1.4s
TUC Tucson 24.01 316 eP P 10 57 30.3 +1.0
comp=Z,35nm,1.4s
T25A Trinidad 24.04 334 ⇑P P 10 57 28.6 -1.1
baz=24,SNR=60
S26A Kim 24.07 336 ⇓P P 10 57 28.3 -1.5
baz=24,SNR=7.4
R28A Tribune 24.09 339 ⇑P P 10 57 27.4 -2.6
baz=24,SNR=10.0
Q30A Quinter 24.18 343 ⇓P P 10 57 29.7 -1.0
baz=24
U23A El Rito 24.20 330 ⇑P P 10 57 31.1 -0.1
baz=24,SNR=42
V22A San Miguel Ran 24.23 328 ⇑P P 10 57 30.4 -1.0
baz=24,SNR=7.1
Q29A Oakley 24.32 341 ⇓P P 10 57 31.5 -0.6
baz=24
P32A Huiting Farm, 24.37 346 ⇑P P 10 57 31.3 -1.2
baz=25
HUMP Col San Antoni 24.39 81 eP P 10 57 39.3 +6.5
R27A Eads 24.39 338 ⇓P P 10 57 32.2 -0.5
baz=25,SNR=6.6
T24B San Luis 24.41 332 ⇑P P 10 57 33.4 +0.3
baz=25,SNR=30
P31A Stockton 24.46 345 ⇑P P 10 57 32.6 -0.7
baz=25,SNR=13
S25A Robets Cordova 24.49 334 ⇓P P 10 57 33.6 -0.2
baz=25,SNR=30
SFIN Scholer Farm 24.54 8 eP P 10 57 34.2 +0.2
comp=Z,109nm,1.1s
SFIN Scholer Farm 24.54 8 ⇓P P 10 57 32.5 -1.4
baz=25
U22A Llaves 24.56 329 ⇓P P 10 57 33.8 -0.7
baz=25
JSRW J. Sargeant Re 24.62 26 eP P 10 57 35.9 +1.2
R26A Arlington 24.65 337 ⇑P P 10 57 34.3 -0.8

	baz=25						
T23A	Casias Ranch,	24.69	331	⇑P	P	10 57 36.3	+0.7
	baz=25						
P30A	Selden	24.71	343	⇓P	P	10 57 35.6	0.0
	baz=25,SNR=18						
Q28A	Sharon Springs	24.75	340	⇓P	P	10 57 37.0	+1.0
	baz=25,SNR=5.8						
S24A	Houchin Ranch,	24.81	333	⇓P	P	10 57 38.4	+1.6
	baz=25,SNR=21						
R25A	Fountain Ranch	24.84	335	⇑P	P	10 57 37.8	+0.9
	baz=25						
O32A	Brockman Farm,	24.91	347	⇑P	P	10 57 37.6	+0.3
	baz=25,SNR=11						
X18A	Snowflake	24.92	321	⇑P	P	10 57 38.9	+1.2
	baz=25						
P29A	Atwood	24.96	342	⇑P	P	10 57 38.5	+0.6
	baz=25						
KSCO	Kaye Shedlock'	24.98	339	eP	P	10 57 40.0	+1.9
	comp=Z,66nm,1.0s						
KSCO	Kaye Shedlock'	24.98	339	⇓P	P	10 57 38.1	+0.1
	baz=25						
O31A	Woolen Ranch,	25.05	345	⇑P	P	10 57 39.1	+0.5
	baz=25						
ACSO	Alum Creek Sta	25.18	15	eP	P	10 57 40.9	+1.2
	comp=Z,153nm,1.1s						
P28A	Saint Francis	25.19	341	⇑P	P	10 57 40.3	+0.3
	baz=25						
W18A	Petrified Fore	25.20	322	eP	P	10 57 42.3	+2.1
	comp=Z,41nm,1.1s						
W18A	Petrified Fore	25.20	322	⇓P	P	10 57 40.9	+0.7
	baz=25						
214A	Organ Pipe Nat	25.20	313	⇑P	P	10 57 39.6	-0.5
	baz=25						
S23A	Nye Farm, Mont	25.22	332	⇑P	P	10 57 41.2	+0.7
	baz=25						
Q26A	Hugo	25.22	337	⇑P	P	10 57 40.9	+0.6
	baz=25						
STVI	Saint Thomas	25.25	81	eP	P	10 57 40.6	+0.1
	comp=Z,67nm,0.9s						
O30A	MW Ranch, Wils	25.26	344	⇑P	P	10 57 41.1	+0.6
	baz=26,SNR=13						
R24A	Sanders Place,	25.26	334	⇑P	P	10 57 41.3	+0.6
	baz=26,SNR=11						
N32A	Stulken Farm,	25.40	348	⇑P	P	10 57 41.5	-0.3
	baz=26						
O29A	4D Ranch, Culb	25.41	343	⇑P	P	10 57 41.8	-0.1
	baz=26						
CDVI	St. Croix	25.42	82	eP	P	10 57 46.8	+4.7
	comp=Z,80nm,0.8s						
P27A	Ficken Ranch,	25.45	339	⇑P	P	10 57 41.8	-0.6
	baz=26						
Q25A	Bedland, Calha	25.49	336	⇑P	P	10 57 43.2	+0.4
	baz=26,SNR=16						
R23A	Moffat	25.54	333	⇓P	P	10 57 44.0	+0.6
	baz=26,SNR=24						
N31A	Bailey Ranch,	25.60	346	⇓P	P	10 57 43.8	+0.2
	baz=26						
S22A	4UR Ranch, Cre	25.63	331	⇑P	P	10 57 44.7	+0.5
	baz=26,SNR=23						
O28A	Krutsinger Ran	25.70	341	⇓P	P	10 57 45.4	+0.8
	baz=26						
P26A	Davis Ranch, A	25.72	338	⇑P	P	10 57 46.4	+1.5
	baz=26,SNR=9.1						
X16A	Lo Mia Camp, P	25.77	319	⇑P	P	10 57 46.2	+0.8
	baz=26						
Q24A	Divide	25.89	335	⇓P	P	10 57 46.7	+0.1
	baz=26						
P25A	Willow Gulch B	25.98	337	⇓P	P	10 57 47.3	0.0
	baz=26						
O27A	Beecher Island	25.98	340	⇑P	P	10 57 47.0	-0.2
	baz=26						
BGNE	Belgrade	25.99	348	⇑P	P	10 57 47.3	+0.2
	baz=26						
N29A	Votaw Ranch, W	26.01	344	⇓P	P	10 57 47.8	+0.5
	baz=26						
MVCO	Mesa Verde	26.04	327	eP	P	10 57 49.4	+1.5
	comp=Z,41nm,1.0s						
MVCO	Mesa Verde	26.04	327	⇓P	P	10 57 48.4	+0.5
	baz=26,SNR=17						
Z14A	Wintersburg	26.10	315	⇓P	P	10 57 49.0	+0.8
	baz=26						
M31A	Lambtecht Ranc	26.10	347	⇑P	P	10 57 48.4	+0.3
	baz=26						
N28A	Pribbeno Ranch	26.14	342	⇑P	P	10 57 48.8	+0.2
	baz=26						
P24A	Kohler Place,	26.27	336	⇓P	P	10 57 50.1	+0.3
	baz=26						
ATAH	Atahualpa	26.30	150	P	P	10 57 52.3	+1.7
	comp=Z,13nm,0.9s,baz=323,slow=13,SNR=8.2						
ATAH				LR	LR	11 07 28.4	
	comp=Z,2µm,18.3s,baz=325,slow=35						
O26A	Horse Wrangler	26.31	339	⇓P	P	10 57 50.0	-0.2
	baz=26						
113A	Mohawk Valley,	26.32	313	⇓P	P	10 57 50.9	+0.7
	baz=26						
WUAZ	Wupatki	26.45	321	eP	P	10 57 53.6	+2.2
	comp=Z,32nm,1.1s						
WUAZ	Wupatki	26.45	321	⇑P	P	10 57 50.7	-0.8
	baz=27						
Y14A	Wickenburg	26.48	316	⇑P	P	10 57 51.8	+0.2
	baz=27						
O25A	Wiggins	26.48	338	⇑P	P	10 57 50.9	-0.9
	baz=27						
M30A	Dale-Ortello V	26.49	345	⇑P	P	10 57 50.8	-0.9
	baz=27						
SDMD	Soldier's Deli	26.50	26	eP	P	10 57 53.4	+1.6
	comp=Z,103nm,1.5s						
P23A	Jefferson	26.53	334	⇓P	P	10 57 51.0	-1.4
	baz=27						
OGNE	Ogallala	26.53	342	⇑P	P	10 57 51.7	-0.4
	baz=27						
N27A	Anderson Farm,	26.56	341	⇓P	P	10 57 52.0	-0.3
	baz=27						
PCRV	Puerto La Cruz	26.57	99	P	P	10 57 52.4	-0.3
	comp=Z,4.6nm,0.5s,baz=264,slow=2.7,SNR=3.5						
PCRV				LR	LR	11 09 52.5	
	comp=Z,1µm,18.7s,baz=319,slow=40						
M29A	Burnside Ranch	26.61	344	⇑P	P	10 57 51.5	-1.3
	baz=27						
PV01	Paradox Valley	26.79	329	eP	P	10 57 57.8	+3.2
ISCO	Idaho Springs	26.79	335	eP	P	10 57 56.8	+2.0
ISCO				pmax	pmax		
	comp=Z,29nm,1.3s						
ISCO	Idaho Springs	26.79	335	eP	P	10 57 56.8	+2.0
	comp=Z,29nm,1.3s						
ISCO	Idaho Springs	26.79	335	⇑P	P	10 57 55.4	+0.6
	baz=27						
JFWS	Jewell Farm	26.82	2	eP	P	10 57 54.8	+0.2
JFWS				pmax	pmax		
	comp=Z,44nm,0.8s						
JFWS	Jewell Farm	26.82	2	eP	P	10 57 54.8	+0.2
	comp=Z,44nm,0.8s						
L30A	Spencer Herefo	26.84	346	⇓P	P	10 57 55.2	+0.3
	baz=27						
SMCO	Snowmass	26.86	332	eP	P	10 57 58.4	+2.9
	comp=Z,20nm,1.0s						
P22A	Eagle	27.11	333	⇓P	P	10 57 58.0	+0.6
	baz=27						
SSPA	Standing Stone	27.14	23	eP	P	10 57 58.4	+0.9
	comp=Z,131nm,1.6s						
PV04	Paradox Valley	27.15	329	eP	P	10 57 59.7	+1.9
MVL	Millersville	27.20	26	eP	P	10 57 59.8	+1.8
	comp=Z,97nm,1.5s						
PDMCI	Parker Dam,Lak	27.45	316	⇑P	P	10 58 01.7	+1.4
	baz=28						
O22A	Kremmling	27.48	334	⇑P	P	10 58 01.1	+0.1
	baz=28						
U15A	North Rim	27.61	321	⇓P	P	10 58 02.9	+0.8
	baz=28						
K29A	Lazy Trails An	27.75	346	⇑P	P	10 58 03.7	+0.6
	baz=28						
W13A	Hualapai Mount	27.76	317	⇓P	P	10 58 04.3	+0.9
	baz=28						
ERPA	Erie	27.76	18	eP	P	10 58 04.1	+1.1
	comp=Z,274nm,1.8s						
N23A	Red Feather La	27.86	336	⇑P	P	10 58 06.3	+2.0
	baz=28						
M24A	Cheyenne	27.93	338	⇑P	P	10 58 06.9	+2.2
	baz=28						
K28A	Ten Mile Ranch	27.97	344	⇓P	P	10 58 07.7	+2.7
	baz=28						
N22A	Wattenberg Ran	27.98	335	⇑P	P	10 58 07.5	+2.2
	baz=28						
BC3	Big Chuckawall	27.99	313	⇓P	P	10 58 07.7	+2.4
	baz=28						
ECSD	EROS Data Cent	28.00	352	eP	P	10 58 04.3	-0.8
	comp=Z,31nm,0.9s						
ECSD	EROS Data Cent	28.00	352	⇓P	P	10 58 06.3	+1.2
	baz=28						
PHWY	Pilot Hill	28.02	337	eP	P	10 58 09.3	+3.6
	comp=Z,16nm,1.0s						
K27A	Flueckinger Fa	28.20	343	⇓P	P	10 58 07.7	+0.6
	baz=28						
O20A	White River Ci	28.20	332	eP	P	10 58 09.0	+1.8
	comp=Z,38nm,1.2s						
O20A	White River Ci	28.20	332	⇑P	P	10 58 08.4	+1.1
	baz=28,SNR=12						
K26A	Motz Farm, Whi	28.48	341	⇓P	P	10 58 11.4	+1.8
	baz=29						
SRU	San Rafael	28.52	328	eP	P	10 58 11.5	+1.4
SRU				pmax	pmax		
	comp=Z,60nm,1.8s						
SRU	San Rafael	28.52	328	eP	P	10 58 11.5	+1.4
	comp=Z,60nm,1.8s						
M22A	Cedar Creek Ra	28.55	335	⇑P	P	10 58 12.4	+2.1
	baz=29						
J28A	Allard Ranch,	28.61	345	⇓P	P	10 58 11.9	+1.3
	baz=29						
PFO	Pinyon Flat Ob	28.67	312	P	P	10 58 11.8	+0.4
	comp=Z,3.4nm,0.9s,baz=93,slow=8.3,SNR=3.6						
PFO	Pinyon Flat Ob	28.67	312	⇓P	P	10 58 13.8	+2.4
	baz=29						
GMRC	Granite Mounta	28.75	315	⇑P	P	10 58 13.9	+1.8
	baz=29						
N20A	Spence Gulch,	28.78	333	⇑P	P	10 58 13.4	+1.0
	baz=29						
I29A	Vivian Onida	28.95	346	⇓P	P	10 58 13.6	0.0
	baz=29						
CCUT	Cedar City	29.00	322	eP	P	10 58 16.6	+2.2
	comp=Z,9.5nm,1.1s						
J26A	Sides Ranch, S	29.01	342	⇓P	P	10 58 14.4	+0.2
	baz=29						
TMUT	Trail Mountain	29.01	327	eP	P	10 58 17.2	+2.7
	comp=Z,13nm,1.0s						
BRSD	Miller	29.07	349	eP	P	10 58 14.6	-0.1
	comp=Z,43nm,1.0s						
BRSD	Miller	29.07	349	⇑P	P	10 58 15.3	+0.6
	baz=29						
BBSR	BB Station	29.09	51	eP	P	10 58 16.1	+1.1
	comp=Z,53nm,1.0s						
I28A	Midland	29.13	345	⇑P	P	10 58 14.5	-0.7
	baz=29						
SPMN	St. Paul	29.14	358	eP	P	10 58 14.3	-0.9
	comp=Z,29nm,0.7s						
SPMN	St. Paul	29.14	358	⇑P	P	10 58 14.7	-0.6
	baz=29						
ARUT	Antelope Range	29.20	322	eP	P	10 58 19.9	+3.8
ARUT	Antelope Range	29.20	322	eP	P	10 58 19.9	+3.8
	comp=Z,247nm,0.9s						
MURC	Murrieta	29.20	312	⇓P	P	10 58 15.8	-0.2
	baz=29						
BINY	Binghamton	29.21	24	eP	P	10 58 17.2	+1.2
	comp=Z,31nm,1.0s						
TUQ	Turquoise Moun	29.30	316	⇑P	P	10 58 17.1	+0.1
	baz=30						
BBRC	Big Bear Solar	29.34	313	⇑P	P	10 58 19.2	+1.8
	baz=30						
SHPR	Sheep Range	29.44	318	eP	P	10 58 20.8	+2.6
H29A	Onida	29.50	347	⇓P	P	10 58 19.3	+0.8
	baz=30						
K22A	Casper	29.58	337	eP	P	10 58 22.2	+2.8
	comp=Z,57nm,1.5s						
H28A	Mission Ridge	29.73	346	⇑P	P	10 58 20.0	-0.6
	baz=30						
MPU	Maple Canyon	29.77	327	eP	P	10 58 22.5	+1.4
	comp=Z,22nm,1.1s						
G30A	Faulkton	29.77	349	⇓P	P	10 58 20.5	-0.3
	baz=30						
GSC	Goldstone	29.82	315	eP	P	10 58 24.4	+2.8
GSC				pmax	pmax		
	comp=Z,12nm,1.1s						
GSC	Goldstone	29.82	315	eP	P	10 58 24.4	+2.8
	comp=Z,12nm,1.1s						
K21A	Alcova	29.85	336	⇓P	P	10 58 22.4	+0.5
	baz=30						
DAU	Daniels Canyon	29.87	328	eP	P	10 58 24.0	+1.8
DAU	Daniels Canyon	29.87	328	eP	P	10 58 24.0	+1.8
H27A	Howes	29.95	344	⇓P	P	10 58 22.0	-0.6
	baz=30						
NLU	North Lily Min	29.95	327	eP	P	10 58 24.7	+1.9
	comp=Z,23nm,1.5s						
G29A	Hoven	29.98	348	⇓P	P	10 58 22.6	-0.2
	baz=30						
RSSD	Black Hills	30.03	341	eP	P	10 58 25.7	+2.2
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.7s						
RSSD	Black Hills	30.03	341	eP	P	10 58 25.6	+2.2
	comp=Z,5.3nm,0.7s						
G28A	Parade	30.08	346	⇓P	P	10 58 23.6	-0.1
	baz=30						
JLU	Jordanelle	30.11	328	eP	P	10 58 27.2	+3.0
	comp=Z,22nm,1.3s						
CTU	Camp Tracy	30.33	328	eP	P	10 58 28.3	+2.3
	comp=Z,22nm,1.1s						
H25A	Fruitdale	30.36	342	⇑P	P	10 58 28.0	+1.9
	baz=31						
EDW2	Edwards Air Fo	30.42	313	⇑P	P	10 58 28.3	+1.5
	baz=31						
DUG	Dugway	30.52	326	eP	P	10 58 29.6	+1.9
DUG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
DUG	Dugway	30.52	326	eP	P	10 58 29.6	+1.9
	comp=Z,8.4nm,0.9s						
DUG	Dugway	30.52	326	⇓P	P	10 58 28.9	+1.3
	baz=31						
FURC	Furnace Creek,	30.52	317	⇑P	P	10 58 28.8	+1.3
	baz=31						
LRMC	Laurel Mountai	30.52	314	⇓P	P	10 58 28.7	+0.9
	baz=31						
J21A	Lysite	30.53	336	⇑P	P	10 58 29.1	+1.3
	baz=31						
TRY	Troy	30.59	26	eP	P	10 58 30.0	+1.8
	comp=Z,88nm,1.6s						
G27A	Dupree	30.61	345	⇓P	P	10 58 29.8	+1.4
	baz=31						
I22A	9 Mile Ranch,	30.64	338	⇓P	P	10 58 30.1	+1.4
	baz=31						
G26A	Maurine	30.70	344	⇓P	P	10 58 30.4	+1.3
	baz=31						
H24A	Dirks Ranch, A	30.76	341	⇑P	P	10 58 30.6	+0.9
	baz=31						
J20A	Shoshoni	30.78	336	⇓P	P	10 58 30.7	+0.6
	baz=31						
F28A	McLaughlin	30.79	347	⇑P	P	10 58 30.4	+0.4
	baz=31						
G25A	Newell	30.83	343	⇓P	P	10 58 29.7	-0.6
	baz=31						
R11A	Troy Canyon, C	30.85	321	eP	P	10 58 33.3	+2.6
	comp=Z,22nm,1.5s						
R11A	Troy Canyon, C	30.85	321	⇓P	P	10 58 33.1	+2.4
	baz=31						
H23A	Clabaugh Cattl	30.86	340	⇓P	P	10 58 30.9	+0.3
	baz=31						
I21A	Big Trails, Te	30.87	337	⇓P	P	10 58 31.1	+0.3
	baz=31						
BW06	Boulder Array	30.91	333	eP	P	10 58 32.1	+0.8
E30A	Jud	31.05	350	⇓P	P	10 58 32.5	+0.3
	baz=31						
F27A	Lemmon	31.09	345	⇓P	P	10 58 32.8	+0.2
	baz=31						
J19A	Crowheart	31.10	334	⇑P	P	10 58 32.9	+0.1
	baz=31						
ARVC	Arvin	31.14	313	⇓P	P	10 58 34.9	+1.8
	baz=31						
BGU	Big Grassy Mou	31.16	327	eP	P	10 58 35.1	+1.7
	comp=Z,8.5nm,1.0s						
GRAC	Grapevine Rang	31.16	317	⇑P	P	10 58 35.0	+1.7
	baz=31						
BSC	Santa Cruz Isl	31.16	310	⇑P	P	10 58 33.6	+0.3
	baz=31						
ISA	Isabella	31.16	314	eP	P	10 58 35.9	+2.5
ISA				pmax	pmax		
	comp=Z,79nm,2.3s						
ISA	Isabella	31.16	314	eP	P	10 58 35.9	+2.5
	comp=Z,80nm,2.3s						
ISA	Isabella	31.16	314	⇓P	P	10 58 34.2	+0.8
	baz=31						
H22A	Clearmont	31.21	339	⇑P	P	10 58 33.7	0.0
	baz=31						
F26A	Lodgepole	31.24	345	⇓P	P	10 58 33.1	-0.8
	baz=31						
G24A	Alzada	31.24	342	⇑P	P	10 58 34.3	+0.3
	baz=31						
E29A	Napoleon	31.25	349	⇑P	P	10 58 34.4	+0.4
	baz=32						
I20A	Worland	31.30	336	⇑P	P	10 58 34.7	+0.1
	baz=32						
NCB	Newcomb	31.40	24	eP	P	10 58 36.3	+1.0
	comp=Z,67nm,1.5s						
G23A	Biddle	31.43	341	⇑P	P	10 58 34.4	-1.1
	baz=32						
E28A	Huff	31.46	348	⇑P	P	10 58 35.1	-0.7
	baz=32						
H21A	Big Horn, Sher	31.48	338	⇑P	P	10 58 35.3	-0.8
	baz=32						
E27A	Carson	31.51	346	⇓P	P	10 58 36.1	-0.1
	baz=32,SNR=11						
F25A	Bowman	31.51	344	⇓P	P	10 58 35.8	-0.5
	baz=32						
D30A	Buchanan	31.61	350	⇓P	P	10 58 36.1	-1.0
	baz=32						
HVU	Hansel Valley	31.65	329	eP	P	10 58 39.1	+1.4
HVU				pmax	pmax		
	comp=Z,110nm,1.9s						
HVU	Hansel Valley	31.65	329	eP	P	10 58 39.1	+1.4
	comp=Z,110nm,1.9s						
VES	Vestal, Richgr	31.68	314	⇑P	P	10 58 37.1	-0.7
	baz=32,SNR=7.1						
TPH	Tonopah	31.69	319	eP	P	10 58 41.9	+3.7
TPH				pmax	pmax		
	comp=Z,14nm,1.1s						
TPH	Tonopah	31.69	319	eP	P	10 58 41.9	+3.7
	comp=Z,14nm,1.1s						
H20A	Greybull	31.71	337	⇑P	P	10 58 37.7	-0.4
	baz=32						
D29A	Pettibone, Tap	31.71	349	⇓P	P	10 58 38.0	0.0
	baz=32						
F24A	Ekalaka	31.72	342	⇓P	P	10 58 38.5	+0.3
	baz=32						
I19A	Meeteetse	31.72	335	⇑P	P	10 58 38.8	+0.5
	baz=32						
PKM	Peak Mountain	31.73	312	⇑P	P	10 58 38.0	-0.4
	baz=32						
G22A	Birney	31.74	340	⇑P	P	10 58 38.8	+0.5
	baz=32						
TIN	Tinemaha	31.75	316	⇓P	P	10 58 39.4	+0.8
	baz=32						
E26A	Carlson Angus	31.76	345	⇓P	P	10 58 38.5	0.0
	baz=32						
LONY	Lake Ozonia	31.81	23	eP	P	10 58 39.6	+0.7
	comp=Z,132nm,1.8s						
EYMN	Ely	31.84	360	eP	P	10 58 37.9	-1.2
	comp=Z,17nm,1.0s						
MDV	Middlebury	31.84	25	eP	P	10 58 39.8	+0.7
F23A	Volborg	31.89	341	⇓P	P	10 58 39.4	-0.3
	baz=32						
REDW	Red Top Meadow	31.96	333	eP	P	10 58 40.8	+0.3
	comp=Z,151nm,1.4s						
D28A	Regan	32.03	348	⇓P	P	10 58 41.2	+0.4
	baz=32						
E25A	Miller Ranch,	32.03	344	⇓P	P	10 58 41.5	+0.7
	baz=32						
RCTC	Rector, Farmer	32.03	314	⇓P	P	10 58 41.5	+0.6
	baz=32						
LOHW	Long Hollow	32.05	333	eP	P	10 58 41.4	+0.1
	comp=Z,35nm,1.1s						
G21A	Lodge Grass	32.05	339	⇓P	P	10 58 41.4	+0.3
	baz=32						
SMMC	Simmler	32.06	312	⇓P	P	10 58 41.1	-0.1
	baz=32						
TPAW	Teton Pass	32.10	333	eP	P	10 58 42.1	+0.3
	comp=Z,63nm,1.1s						
MTUM	Tungsten Hills	32.14	317	eP	P	10 58 48.9	+6.8
D27A	Center	32.15	347	⇑P	P	10 58 42.5	+0.7
	baz=32						
C30A	Mose, Pekin	32.15	351	⇓P	P	10 58 41.7	-0.1
	baz=32						
F22A	Rosebud	32.22	340	⇓P	P	10 58 42.7	+0.2
	baz=32						
ELK	Elko	32.22	325	eP	P	10 58 44.9	+2.1
ELK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ELK	Elko	32.22	325	eP	P	10 58 44.9	+2.1
	comp=Z,7.4nm,1.0s						
H19A	Powell	32.24	336	⇓P	P	10 58 42.5	-0.4
	baz=32						
FXWY	Fox Creek	32.25	333	eP	P	10 58 43.6	+0.5
	comp=Z,18nm,1.0s						
D26A	Manning	32.28	346	⇓P	P	10 58 42.7	-0.3
	baz=32						
I17A	Pilgrim Ck.	32.28	333	⇑P	P	10 58 44.1	+0.8
	baz=32,SNR=22						
E24A	Baker	32.33	343	⇓P	P	10 58 43.4	-0.1
	baz=32						
AGMN	Agassiz Nation	32.41	354	eP	P	10 58 43.2	-0.9
	comp=Z,18nm,0.9s						
AGMN	Agassiz Nation	32.41	354	⇓P	P	10 58 43.1	-0.9
	baz=33						
G20A	Bridger	32.41	337	⇑P	P	10 58 44.9	+0.6
	baz=33						
IMW	Indian Meadow	32.42	333	eP	P	10 58 44.8	+0.2
	comp=Z,34nm,1.4s						
FLWY	Flagg Ranch	32.46	333	eP	P	10 58 46.7	+1.8
	comp=Z,28nm,0.9s						
MLAC	Mammoth Lakes	32.48	317	⇑P	P	10 58 46.1	+1.0
	baz=33						
C28A	Hausauer Farms	32.49	349	⇓P	P	10 58 44.8	0.0
	baz=33						
H18A	Shoshone NF, C	32.52	335	⇑P	P	10 58 45.1	-0.3
	baz=33,SNR=9.1						
NVAR	Mina Array Bea	32.59	318	P	P	10 58 48.3	+2.2
	comp=Z,5.4nm,0.7s,baz=131,slow=9.0,SNR=27						
D25A	Fairfield	32.61	345	⇑P	P	10 58 46.5	+0.5
	baz=33						
H17A	Grant Village	32.66	334	eP	P	10 58 49.1	+2.5
	comp=Z,21nm,1.0s						
H17A	Grant Village	32.66	334	⇑P	P	10 58 48.0	+1.3
	baz=33						
E22A	Miles City	32.71	341	⇑P	P	10 58 46.5	-0.3
	baz=33						
C27A	Sayler Ranch,	32.72	347	⇑P	P	10 58 47.4	+0.6
	baz=33						
RLMT	Red Lodge	32.73	336	eP	P	10 58 48.4	+1.2
	comp=Z,8.1nm,0.8s						
YFT	Old Faithful	32.82	334	eP	P	10 58 50.4	+2.4
	comp=Z,39nm,1.1s						
D24A	Glendive	32.84	343	⇑P	P	10 58 48.1	+0.1
	baz=33						
B30A	Myrvik Farm, E	32.86	351	⇓P	P	10 58 47.6	-0.4
	baz=33						
F20A	Billings	32.89	338	⇑P	P	10 58 48.2	-0.2
	baz=33						
C26A	Wahner Farm, P	32.95	347	⇑P	P	10 58 48.5	-0.3
	baz=33						
YNR	Norris Junctio	32.97	334	eP	P	10 58 51.6	+2.3
	comp=Z,18nm,1.2s						
LAO	LASA Array	33.02	341	eP	P	10 58 50.6	+1.1
	comp=Z,23nm,1.2s						
B29A	Wagenman Farm,	33.03	350	⇑P	P	10 58 49.5	0.0
	baz=33						
YMR	Madison River	33.05	334	eP	P	10 58 52.1	+2.1
	comp=Z,42nm,1.1s						
C25A	Freed Ranch, W	33.12	345	⇑P	P	10 58 50.5	+0.2
	baz=33						
D23A	Lindsay	33.14	343	⇑P	P	10 58 50.6	0.0
	baz=33						
BMN	Battle Mountai	33.15	322	eP	P	10 58 53.2	+2.3
BMN				pmax	pmax		
	comp=Z,28nm,1.3s						
BMN	Battle Mountai	33.15	322	eP	P	10 58 53.2	+2.3
	comp=Z,28nm,1.3s						
E21A	Keefer Ranch,	33.16	340	⇓P	P	10 58 51.0	+0.3
	baz=33						
B28A	Dugan Ranch, T	33.19	349	⇑P	P	10 58 50.2	-0.7
	baz=33,SNR=12						
F19A	Roth Farm, Mol	33.22	337	⇑P	P	10 58 51.4	+0.1
	baz=33						
B27A	Peters Farms,	33.32	348	⇓P	P	10 58 52.1	+0.1
	baz=34						
A30A	Hoffart Farm,	33.33	352	⇑P	P	10 58 51.6	-0.5
	baz=34						
WAKR	Walker	33.36	318	eP	P	10 58 55.4	+2.6
QLMT	Earthquake Lak	33.38	334	eP	P	10 58 55.4	+2.5
D22A	Cohagen	33.41	341	⇓P	P	10 58 52.6	-0.4
	baz=34						
A29A	Manning Farm,	33.45	350	⇑P	P	10 58 53.3	+0.1
	baz=34						
E20A	Meyer Farm, Mu	33.48	339	⇓P	P	10 58 54.0	+0.4
	baz=34						
B26A	Jensen Ranch,	33.50	347	⇑P	P	10 58 53.5	-0.2
	baz=34						
D21A	La Casta Ranch	33.59	340	⇓P	P	10 58 54.9	+0.4
	baz=34						
B25A	Knox Farm, Ray	33.62	346	⇑P	P	10 58 54.7	+0.1

baz=34
A28A Rude Farm, Bot 33.62 349 ⇑P P 10 58 54.3 -0.3
baz=34
E19A Rath Farm, Rou 33.68 338 ⇑P P 10 58 55.0 -0.3
baz=34
C23A Lambert 33.71 343 ⇑P P 10 58 54.3 -1.2
baz=34
CMB Columbia Colle 33.73 316 eP P 10 58 57.6 +1.8
CMB pmax pmax
comp=Z,11nm,1.1s
CMB Columbia Colle 33.73 316 eP P 10 58 57.6 +1.8
comp=Z,11nm,1.1s
HLID Hailey 33.78 329 eP P 10 58 57.8 +1.4
comp=Z,109nm,2.4s
HLID Hailey 33.78 329 ⇑P P 10 58 56.8 +0.4
baz=34
A27A Ledoux Ranch, 33.84 348 ⇑P P 10 58 56.6 +0.1
baz=34
C22A Vida 33.86 342 ⇑P P 10 58 56.9 +0.1
baz=34
A26A Wade Farm, Ken 33.95 347 ⇓P P 10 58 57.4 -0.2
baz=34
D20A Manuel Ranch, 33.99 339 ⇓P P 10 58 57.8 -0.2
baz=34
DGMT Dagmar 34.06 345 eP P 10 58 59.7 +1.2
comp=Z,35nm,0.9s
DGMT Dagmar 34.06 345 ⇓P P 10 58 58.2 -0.3
baz=34
BOZ Bozeman (W) 34.12 334 eP P 10 59 01.3 +2.1
BOZ pmax pmax
comp=Z,13nm,0.9s
BOZ Bozeman (W) 34.12 334 eP P 10 59 01.3 +2.1
comp=Z,13nm,0.9s
A25A Svangstu Ranch 34.23 346 ⇓P P 10 58 59.7 -0.3
baz=34
B23A Brockton 34.26 344 ⇑P P 10 59 00.3 +0.1
baz=34
C21A Desert Coulee 34.30 341 ⇓P P 10 59 00.3 -0.4
baz=34
DLMT Dillon 34.30 333 eP P 10 59 02.3 +1.5
comp=Z,22nm,1.1s
D19A Cripps Ranch, 34.32 339 ⇓P P 10 59 00.5 -0.3
baz=34
ULM Lac du Bonnet 34.34 355 eP P 10 58 59.6 -1.3
ULM pmax pmax
comp=Z,13nm,1.0s
ULM Lac du Bonnet 34.34 355 P P 10 58 59.6 -1.3
comp=Z,7.0nm,0.7s,baz=182,slow=9.1,SNR=11
ULM LR LR 11 16 56.6
comp=Z,3µm,18.1s,baz=178,slow=43
ULM Lac du Bonnet 34.34 355 eP P 10 58 59.5 -1.3
comp=Z,13nm,1.0s
MFID Camas Ranch 34.39 328 eP P 10 59 00.2 -1.3
comp=Z,18nm,1.1s
B22A Reddig Ranch S 34.39 343 ⇓P P 10 59 01.5 +0.1
baz=35
A24A Westby 34.43 345 ⇑P P 10 59 01.5 -0.2
baz=35
C20A Veseth Ranch, 34.49 340 ⇓P P 10 59 02.5 +0.2
baz=35
LRM Limekiln Ridge 34.60 334 eP P 10 59 04.1 +0.6
A23A Redstone 34.68 344 ⇓P P 10 59 04.2 +0.3
baz=35
B21A Ellsworth Farm 34.81 342 ⇑P P 10 59 05.0 0.0
baz=35
C19A Slack Wire Ran 34.86 339 ⇓P P 10 59 05.7 +0.2
baz=35
A22A Carney Farms, 34.99 343 ⇑P P 10 59 07.2 +0.6
baz=35
HRY Holter Researc 35.05 335 eP P 10 59 08.8 +1.6
OHCM Honcut 35.15 317 eP P 10 59 10.7 +2.7
WVOR Wild Horse Val 35.25 324 eP P 10 59 09.8 +0.8
WVOR pmax pmax
comp=Z,21nm,1.1s
WVOR Wild Horse Val 35.25 324 eP P 10 59 09.8 +0.8
comp=Z,21nm,1.1s
A21A Bergtoll Ranch 35.28 342 ⇑P P 10 59 09.5 +0.3
baz=36
EGMT Eagleton 35.36 338 eP P 10 59 09.9 +0.1
comp=Z,60nm,1.5s
EGMT Eagleton 35.36 338 ⇓P P 10 59 10.0 +0.2
baz=36
B19A Brinkman Farms 35.45 340 ⇑P P 10 59 11.2 +0.7
baz=36
A20A Cobblestone Ra 35.49 341 ⇓P P 10 59 11.6 +0.7
baz=36
A19A Klindworth Far 35.79 340 ⇓P P 10 59 14.1 +0.6
baz=36
MOD Modoc 35.88 322 eP P 10 59 15.7 +1.2
comp=Z,33nm,1.6s
MSO Missoula 36.03 333 eP P 10 59 16.9 +1.3
comp=Z,44nm,1.5s
MSO Missoula 36.03 333 ⇑P P 10 59 16.4 +0.8
baz=36
BMO Blue Mountains 36.16 328 eP P 10 59 17.1 +0.3
comp=Z,17nm,1.0s
SWMT Swartz Lake 36.59 334 eP P 10 59 21.8 +1.4
M04C Macdoel 36.74 321 ⇑P P 10 59 23.5 +1.7
baz=37
I07A Izee 36.80 325 eP P 10 59 21.9 -0.3
comp=Z,26nm,1.4s
N02D Trinity Center 36.83 319 ⇑P P 10 59 22.6 +0.2
baz=37
YBMT Yellow Bay 36.87 334 eP P 10 59 24.3 +1.5
JTMT Jette 36.89 334 eP P 10 59 24.2 +1.2
F10A Beach Ranch, E 36.91 329 eP P 10 59 24.1 +1.0
comp=Z,24nm,0.9s
BLMT Blacktail Moun 37.15 334 eP P 10 59 27.0 +1.9
M02C Callahan 37.15 319 ⇑P P 10 59 25.4 +0.2
baz=37
K04D Chiloquin, OR 37.18 322 ⇑P P 10 59 26.1 +0.6
baz=37
BSMT Bassoo Peak 37.19 334 eP P 10 59 27.6 +2.1
YBH Yreka Blue Hor 37.25 320 LR LR 11 17 28.1
comp=Z,2µm,18.3s,baz=147,slow=41
SAML Samuel 37.27 130 eP P 10 59 23.8 -2.6
comp=Z,17nm,0.8s
J05D Fort Rock, OR 37.27 323 ⇑P P 10 59 28.2 +1.9
baz=37
G08A Pilot Rock 37.31 327 eP P 10 59 27.0 +0.5
comp=Z,27nm,1.7s
PINOR Pine Mountain 37.39 324 eP P 10 59 29.4 +2.3
comp=Z,37nm,1.2s
E09A Wood Farm, Sta 37.74 329 eP P 10 59 31.9 +1.8
comp=Z,12nm,1.1s
J04D Umpqua Nationa 37.76 322 ⇓P P 10 59 32.2 +1.7
baz=38
WALA Waterton Lakes 37.78 336 eP P 10 59 32.5 +2.0
comp=Z,3.9nm,2.4s
I05D Terrebonne, OR 37.98 324 ⇑P P 10 59 33.3 +1.1
baz=38
L02D Cave Junction, 38.04 320 ⇑P P 10 59 32.9 +0.2
baz=38
I04A Tendick Farm, 38.26 323 ⇑P P 10 59 35.4 +0.9
baz=38
HAWA Hanford 38.35 328 eP P 10 59 37.9 +2.7
comp=Z,82nm,2.5s
D08A Wollman Farm, 38.50 329 eP P 10 59 37.0 +0.5
comp=Z,49nm,1.8s
NEW Newport 38.53 332 eP P 10 59 38.2 +1.5
NEW pmax pmax
comp=Z,107nm,2.7s
NEW Newport 38.53 332 LR LR 11 17 57.0
comp=Z,491nm,21.3s,baz=158,slow=40
NEW Newport 38.53 332 eP P 10 59 38.2 +1.5
comp=Z,106nm,2.7s
NEW Newport 38.53 332 ⇓P P 10 59 37.2 +0.6
baz=39
G05D Wamic, OR 38.53 325 ⇑P P 10 59 38.2 +1.4
baz=39
E07A Sunnyside 38.63 328 eP P 10 59 40.8 +3.3
comp=Z,10nm,1.0s
H04A Detroit Lake 38.67 324 eP P 10 59 39.3 +1.3
comp=Z,18nm,0.9s
C09A Chrisman Ranch 38.72 331 eP P 10 59 39.2 +0.9
comp=Z,20nm,0.8s
I03D Drain, OR 38.75 322 ⇑P P 10 59 39.6 +1.1
baz=39
LPAZ La Paz 39.40 144 eP P 10 59 44.9 -0.1
LPAZ pmax pmax
comp=Z,13nm,0.9s
LPAZ La Paz 39.40 144 P P 10 59 44.9 -0.1
comp=Z,8.0nm,0.9s,baz=336,slow=9.1,SNR=25
LPAZ LR LR 11 16 34.8
comp=Z,1µm,18.1s,baz=311,slow=37
LPAZ La Paz 39.40 144 eP P 10 59 44.9 -0.1
comp=Z,13nm,0.9s
FFC Flin Flon 39.51 350 eP P 10 59 44.7 -0.1
FFC pmax pmax
comp=Z,26nm,1.4s
FFC Flin Flon 39.51 350 eP P 10 59 44.6 -0.1
comp=Z,26nm,1.4s
LTY Liberty 39.51 328 eP P 10 59 46.5 +1.5
comp=Z,74nm,1.9s
G03D McMinnville, O 39.60 324 ⇓P P 10 59 46.6 +0.9
baz=40
B08A Colville Reser 39.61 331 eP P 10 59 46.4 +0.6
comp=Z,62nm,2.6s
LON Longmire 39.76 327 eP P 10 59 48.6 +1.5
LON pmax pmax
comp=Z,9.0nm,1.0s
LON Longmire 39.76 327 eP P 10 59 48.6 +1.5
comp=Z,8.5nm,1.0s
D05A Enumclaw 40.14 327 eP P 10 59 51.2 +1.0
comp=Z,46nm,1.4s
B06A Marblemount 40.76 329 eP P 10 59 56.2 +1.0
comp=Z,29nm,1.4s
EDM Edmonton 40.98 340 eP P 10 59 56.3 -0.7
EDM Edmonton 40.98 340 eP P 10 59 56.2 -0.7
FCC Fort Churchill 42.72 358 eP P 11 00 10.7 -0.4
FCC Fort Churchill 42.72 358 eP P 11 00 10.7 -0.4
comp=Z,0.6nm,0.9s
SCHQ Schefferville 43.10 21 P P 11 00 13.5 -0.8
comp=Z,19nm,1.0s,baz=233,slow=7.7,SNR=12
SCHQ LR LR 11 19 00.4
comp=Z,6µm,19.4s,baz=219,slow=37
SCHQ Schefferville 43.10 21 eP P 11 00 14.1 -0.2
LVC Limon Verde 44.20 150 eP P 11 00 24.4 +0.7
comp=Z,110nm,1.9s
RPN Rapa Nui 46.33 202 LR LR 11 15 42.4
comp=Z,1µm,18.4s,baz=22,slow=30
BBB Bella Bella 46.37 329 LR LR 11 23 13.5
comp=Z,808nm,18.6s,baz=142,slow=40
YKA Yellowknife Ar 49.24 346 P P 11 01 02.2 -0.2
comp=Z,6.5nm,0.6s,baz=145,slow=7.7,SNR=42
DLBC Dease Lake 51.12 335 eP P 11 01 19.2 +2.3
BDFB Brasilia 53.04 124 eP P 11 01 30.2 -1.6
BDFB Brasilia 53.04 124 P P 11 01 29.8 -2.0
comp=Z,2.7nm,0.4s,baz=310,slow=4.9,SNR=4.6
BDFB LR LR 11 26 57.5
comp=Z,1µm,18.9s,baz=300,slow=39
BDFB Brasilia 53.04 124 eP P 11 01 30.2 -1.6
CPUP Villa Florida 53.49 141 P P 11 01 33.3 -1.4
comp=Z,9.0nm,0.8s,baz=311,slow=8.8,SNR=12
CPUP LR LR 11 26 05.5
comp=Z,617nm,19.1s,baz=320,slow=38
HYT Haines Junctio 55.59 335 eP P 11 01 50.5 +0.7
RKT Rikitea 57.79 229 eS S 11 10 03.9 +0.7
comp=Z,1µm,28.2s
RKT eSS SS 11 13 53.8 -0.7
comp=Z,298nm,26.5s
RKT eLQ LQ 11 16 50.3
comp=Z,279nm,32.0s
RKT eLR LR 11 19 13.2
comp=Z,2µm,25.0s,baz=45
DAWY Dawson 58.09 337 eP P 11 02 07.5 +0.3
BMRM Bremner River 58.70 333 eP P 11 02 14.2 +2.6
comp=Z,19nm,1.2s
RES Resolute Bay 58.70 359 LR LR 11 30 06.7
comp=Z,3µm,18.4s,baz=180,slow=39
RCBR Riachuelo 58.94 107 eP P 11 02 13.2 -0.8
comp=Z,46nm,0.9s
EGAK Eagle 59.12 338 eP P 11 02 15.4 +1.1
comp=Z,12nm,1.3s
MENT Mentasta 59.20 335 eP P 11 02 16.7 +1.7
PLCA Paso Flores 59.65 162 eP P 11 02 18.0 -0.4
PLCA pmax pmax
comp=Z,48nm,1.1s
PLCA Paso Flores 59.65 162 P P 11 02 17.8 -0.6
comp=Z,16nm,0.8s,baz=344,slow=8.3,SNR=21
PLCA LR LR 11 22 46.9
comp=Z,912nm,20.8s,baz=340,slow=31
PLCA Paso Flores 59.65 162 eP P 11 02 18.0 -0.4
comp=Z,48nm,1.1s
DOT Dot Lake 59.67 336 eP P 11 02 19.6 +1.4
comp=Z,26nm,1.4s
PAX Paxson 59.93 335 eP P 11 02 22.0 +1.9
PAX pmax pmax
comp=Z,8.0nm,0.8s
PAX Paxson 59.93 335 eP P 11 02 22.0 +1.9
comp=Z,7.8nm,0.8s
PMR Palmer 60.95 332 eP P 11 02 28.5 +1.6
PMR pmax pmax
comp=Z,68nm,1.9s
PMR Palmer 60.95 332 eP P 11 02 28.5 +1.6
comp=Z,68nm,1.9s
RC01 Rabbit Creek A 61.04 332 eP P 11 02 28.8 +1.1
comp=Z,28nm,1.2s
ILAR Eielson Array 61.28 336 P P 11 02 29.4 +0.3
comp=Z,2.9nm,1.0s,baz=113,slow=5.4,SNR=22
ILAR LR LR 11 33 18.0
comp=Z,428nm,18.5s,baz=125,slow=40
MCK McKinley 61.67 335 eP P 11 02 32.2 +0.3
MCK pmax pmax
comp=Z,162nm,2.7s
MCK McKinley 61.67 335 eP P 11 02 32.2 +0.3
comp=Z,162nm,2.7s
COLA College 61.70 336 eP P 11 02 32.9 +1.0
COLA pmax pmax
comp=Z,19nm,1.1s
COLA College 61.70 336 eP P 11 02 32.9 +1.0
comp=Z,19nm,1.1s
TRF Thorofare Moun 62.13 334 eP P 11 02 36.9 +1.8
comp=Z,88nm,1.8s
RSO Redoubt South 62.24 331 eP P 11 02 40.2 +4.3
comp=Z,35nm,0.8s
KTH Kantishna Hill 62.43 334 eP P 11 02 37.9 +0.9
comp=Z,111nm,2.4s
COLD Coldfoot 63.52 338 eP P 11 02 47.0 +2.9
comp=Z,11nm,1.2s
SUMG Summit 64.11 15 iP P 11 02 48.7 +0.3
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 64.11 15 iP P 11 02 48.7 +0.3
comp=Z,12nm,0.8s
SUMG Summit 64.11 15 eP P 11 02 50.0 +1.6
comp=Z,15nm,0.9s
PPT2 Papeete2 66.45 242 eS S 11 11 49.4 -3.4
comp=Z,1µm,29.5s
PPT2 eLQ LQ 11 20 06.0
comp=Z,502nm,28.2s
PPT2 eLR LR 11 23 10.0
comp=Z,863nm,22.5s
TNA Tin City 70.01 334 eP P 11 03 27.6 +2.1
comp=Z,37nm,1.8s
DAG Danmarks Havn 70.55 13 iP P 11 03 28.5 -0.1
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 70.55 13 iP P 11 03 28.5 -0.1
comp=Z,7.1nm,0.8s
GAMB Gambell 71.53 332 eP P 11 03 36.9 +2.1
comp=Z,16nm,1.4s
EVOP Sao Brissos 74.93 54 eP P 11 03 57.8 +2.5
EVOP pmax pmax
comp=Z,140nm,1.4s
EVOP Sao Brissos 74.93 54 eP P 11 03 57.8 +2.5
comp=Z,140nm,1.4s
EVO Evora 75.01 54 eP P 11 03 57.8 +2.0
comp=Z,140nm,1.4s
EVO eR
comp=Z,729nm,19.8s
EKA Eskdalemuir Ar 75.93 36 P P 11 03 59.2 -1.5
comp=Z,12nm,0.7s,baz=277,slow=6.6,SNR=19
ESDC Sonseca Array 77.92 52 P P 11 04 11.3 -1.1
comp=Z,2.1nm,0.7s,baz=284,slow=5.2,SNR=7.1
ESDC LR LR 11 33 01.3
comp=Z,519nm,21.3s,baz=340,slow=32
ESLA Sonseca Array 77.92 52 eP P 11 04 13.1 +0.7
comp=Z,9.4nm,1.2s
GRR Gorron 78.48 43 eP P 11 04 15.5 +0.3
comp=Z,94nm,1.1s
GRR Gorron 78.48 43 eP P 11 04 15.5 +0.3
GRR pmax pmax
comp=Z,94nm,1.1s
GRR Gorron 78.48 43 eP P 11 04 15.5 +0.3
comp=Z,94nm,1.1s
FLN La Foliniere 78.65 42 eP P 11 04 16.5 +0.4
comp=Z,74nm,1.0s
FLN La Foliniere 78.65 42 eP P 11 04 16.5 +0.4
FLN pmax pmax
comp=Z,74nm,1.0s
FLN La Foliniere 78.65 42 eP P 11 04 16.5 +0.4
comp=Z,74nm,1.0s
MDT Midelt 78.75 59 P P 11 04 17.1 0.0
comp=Z,5.0nm,0.7s,baz=310,slow=6.7,SNR=5.6
LDF La Druitiere 78.92 43 eP P 11 04 17.9 +0.3
comp=Z,84nm,1.1s
LDF La Druitiere 78.92 43 eP P 11 04 17.9 +0.3
LDF pmax pmax
comp=Z,84nm,1.1s
LDF La Druitiere 78.92 43 eP P 11 04 17.9 +0.3
comp=Z,84nm,1.1s
SJPF Ste Jean 79.27 48 eP P 11 04 20.0 +0.3
SJPF Ste Jean 79.27 48 eP P 11 04 20.0 +0.3
SJPF Ste Jean 79.27 48 eP P 11 04 20.0 +0.3
MFF Saint Martin d 79.31 45 eP P 11 04 19.8 0.0
comp=Z,107nm,1.4s
MFF Saint Martin d 79.31 45 eP P 11 04 19.8 0.0
MFF pmax pmax
comp=Z,107nm,1.4s
MFF Saint Martin d 79.31 45 eP P 11 04 19.8 0.0
comp=Z,107nm,1.4s
ETSF Etsaut 79.80 48 eP P 11 04 23.7 +1.1
comp=Z,40nm,1.1s
ETSF Etsaut 79.80 48 eP P 11 04 23.7 +1.1
ETSF pmax pmax
comp=Z,40nm,1.1s
ETSF Etsaut 79.80 48 eP P 11 04 23.7 +1.1
comp=Z,40nm,1.1s
BILL Bilibino 79.86 338⇓eP P 11 04 23.3 +1.0
BILL eS S 11 14 35.4 +12
BILL pmax pmax
comp=Z,18nm,1.2s
LFF La Frestale 80.27 46 eP P 11 04 25.0 0.0
comp=Z,70nm,1.0s
LFF La Frestale 80.27 46 eP P 11 04 25.0 0.0
LFF pmax pmax
comp=Z,70nm,1.0s
LFF La Frestale 80.27 46 eP P 11 04 25.0 0.0
comp=Z,70nm,1.0s
EPF Esparros 80.41 48 eP P 11 04 26.6 +0.7
comp=Z,47nm,1.2s
EPF Esparros 80.41 48 eP P 11 04 26.6 +0.7
EPF pmax pmax
comp=Z,47nm,1.2s
EPF Esparros 80.41 48 eP P 11 04 26.6 +0.7
comp=Z,47nm,1.2s
RJF Les Rejaudoux 80.72 46 eP P 11 04 27.4 -0.1
comp=Z,66nm,1.2s
RJF Les Rejaudoux 80.72 46 eP P 11 04 27.4 -0.1
RJF pmax pmax
comp=Z,66nm,1.2s
RJF Les Rejaudoux 80.72 46 eP P 11 04 27.4 -0.1
comp=Z,66nm,1.2s
TCF Toulx Ste Croi 80.96 44 eP P 11 04 29.3 +0.5
comp=Z,38nm,1.1s
TCF Toulx Ste Croi 80.96 44 eP P 11 04 29.3 +0.5
TCF pmax pmax
comp=Z,38nm,1.1s
TCF Toulx Ste Croi 80.96 44 eP P 11 04 29.3 +0.5
comp=Z,38nm,1.1s
CAF Calviac 81.19 46 eP P 11 04 30.7 +0.7
comp=Z,26nm,1.1s
CAF Calviac 81.19 46 eP P 11 04 30.7 +0.7
CAF pmax pmax
comp=Z,26nm,1.1s
CAF Calviac 81.19 46 eP P 11 04 30.7 +0.7
comp=Z,26nm,1.1s
BGF Bois d'Agland 81.33 44 eP P 11 04 30.6 -0.1
comp=Z,31nm,0.7s
BGF Bois d'Agland 81.33 44 eP P 11 04 30.6 -0.1
BGF pmax pmax
comp=Z,31nm,0.7s
BGF Bois d'Agland 81.33 44 eP P 11 04 30.6 -0.1
comp=Z,31nm,0.7s
BAIF Baives 81.35 40 eP P 11 04 31.2 +0.5
comp=Z,62nm,1.3s
BAIF Baives 81.35 40 eP P 11 04 31.2 +0.5
BAIF pmax pmax
comp=Z,62nm,1.3s
BAIF Baives 81.35 40 eP P 11 04 31.2 +0.5
comp=Z,62nm,1.3s
DOU Dourbes 81.58 40 P P 11 04 33.8 +1.9
AVF Avril sur Loir 81.61 44 eP P 11 04 31.7 -0.4
comp=Z,28nm,1.1s
AVF Avril sur Loir 81.61 44 eP P 11 04 31.7 -0.4
AVF pmax pmax
comp=Z,28nm,1.0s
AVF Avril sur Loir 81.61 44 eP P 11 04 31.7 -0.4
comp=Z,28nm,1.0s
SSF Saint Saulge 81.64 44 eP P 11 04 32.1 -0.2
comp=Z,34nm,1.0s
SSF Saint Saulge 81.64 44 eP P 11 04 32.1 -0.2
SSF pmax pmax
comp=Z,34nm,1.0s
SSF Saint Saulge 81.64 44 eP P 11 04 32.1 -0.2
comp=Z,34nm,1.0s
MTLF Montolieu 81.67 47 eP P 11 04 32.6 0.0
comp=Z,44nm,1.1s
MTLF Montolieu 81.67 47 eP P 11 04 32.6 0.0
MTLF pmax pmax
comp=Z,44nm,1.1s
MTLF Montolieu 81.67 47 eP P 11 04 32.6 0.0
comp=Z,44nm,1.1s
LOR Lormes 81.82 43 eP P 11 04 33.3 0.0
comp=Z,62nm,1.0s
LOR Lormes 81.82 43 eP P 11 04 33.3 0.0
LOR pmax pmax
comp=Z,62nm,1.0s
LOR Lormes 81.82 43 eP P 11 04 33.3 0.0
comp=Z,62nm,1.0s
BCLA Clavier 81.93 40 P P 11 04 34.6 +0.9
SMF Signal de Mont 81.97 44 eP P 11 04 33.6 -0.5
comp=Z,26nm,1.0s
SMF Signal de Mont 81.97 44 eP P 11 04 33.6 -0.5
SMF pmax pmax
comp=Z,26nm,1.0s
SMF Signal de Mont 81.97 44 eP P 11 04 33.6 -0.5
comp=Z,26nm,1.0s
NB2 NORSAR Subarra 82.05 29 P P 11 04 36.0 +1.8
comp=Z,8.8nm,1.0s,baz=289,slow=5.3
NOA NORSAR Array B 82.05 29 P P 11 04 35.2 +1.0
comp=Z,2.9nm,0.9s,baz=289,slow=5.2,SNR=5.9
NOA LR LR 11 38 57.1
comp=Z,1µm,21.6s,baz=270,slow=34
MEZF Maizieres J'vi 82.28 42 eP P 11 04 36.1 +0.5
comp=Z,38nm,0.9s
MEZF Maizieres J'vi 82.28 42 eP P 11 04 36.1 +0.5
comp=Z,38nm,0.9s
SFTF Sexfontaines 82.35 42 eP P 11 04 36.2 +0.2
comp=Z,58nm,1.0s
SFTF Sexfontaines 82.35 42 eP P 11 04 36.2 +0.2
comp=Z,58nm,1.0s
LASF Ste Croix 82.64 46 eP P 11 04 38.2 +0.6
comp=Z,45nm,0.8s
LASF Ste Croix 82.64 46 eP P 11 04 38.2 +0.6
comp=Z,45nm,0.8s
WLF Walferdange 82.67 41 P P 11 04 39.7 +2.1
WLF Walferdange 82.67 41 eP P 11 04 43.0 +5.4
WLF pmax pmax
comp=Z,19nm,0.9s
WLF Walferdange 82.67 41 eP P 11 04 37.8 +0.2
comp=Z,56nm,1.5s
WLF Walferdange 82.67 41 eP P 11 04 43.0 +5.4
comp=Z,18nm,0.9s
PAGF Fort de Pagny 82.70 42 eP P 11 04 38.3 +0.5
comp=Z,7.9nm,0.6s
PAGF Fort de Pagny 82.70 42 eP P 11 04 38.3 +0.5
comp=Z,7.9nm,0.6s
BUG Bochum--Univer 82.85 39 eP P 11 04 38.6 +0.1
comp=Z,32nm,1.0s
IBBN Ibbenburen 82.89 38 eP P 11 04 39.0 +0.3
comp=Z,29nm,1.1s
VIVF Saint-Julien-l 83.00 45 eP P 11 04 40.2 +0.7
comp=Z,40nm,1.1s
VIVF Saint-Julien-l 83.00 45 eP P 11 04 40.2 +0.7
VIVF pmax pmax
comp=Z,40nm,1.1s
VIVF Saint-Julien-l 83.00 45 eP P 11 04 40.2 +0.7
comp=Z,40nm,1.1s
HAU Haudompre 83.25 42 eP P 11 04 41.0 +0.3
comp=Z,38nm,0.7s
HAU Haudompre 83.25 42 eP P 11 04 41.0 +0.3
HAU pmax pmax
comp=Z,38nm,0.7s
HAU Haudompre 83.25 42 eP P 11 04 41.0 +0.3
comp=Z,38nm,0.7s
CABF La Chapelle 83.47 43 eP P 11 04 42.2 +0.2
comp=Z,76nm,1.3s
CABF La Chapelle 83.47 43 eP P 11 04 42.2 +0.2
CABF pmax pmax
comp=Z,76nm,1.3s

CABF La Chapelle 83.47 43 eP P 11 04 42.2 +0.2
comp=Z,76nm,1.3s
HFS Hagfors 83.51 29 P P 11 04 41.9 +0.1
comp=Z,2.4nm,0.9s,baz=287,slow=5.9,SNR=3.0
HINF Hinteralfeld 83.63 42 eP P 11 04 42.8 +0.1
comp=Z,16nm,0.6s
HINF Hinteralfeld 83.63 42 eP P 11 04 42.8 +0.1
HINF pmax pmax
comp=Z,16nm,0.6s
HINF Hinteralfeld 83.63 42 eP P 11 04 42.8 +0.1
comp=Z,16nm,0.6s
CDF Champ du Feu 83.73 42 eP P 11 04 43.7 +0.4
comp=Z,27nm,0.9s
CDF Champ du Feu 83.73 42 eP P 11 04 43.7 +0.4
CDF pmax pmax
comp=Z,27nm,0.9s
CDF Champ du Feu 83.73 42 eP P 11 04 43.7 +0.4
comp=Z,27nm,0.9s
ORIF Oris-en-Rattie 83.81 45 eP P 11 04 44.4 +0.7
comp=Z,30nm,1.0s
ORIF Oris-en-Rattie 83.81 45 eP P 11 04 44.4 +0.7
ORIF pmax pmax
comp=Z,30nm,1.0s
ORIF Oris-en-Rattie 83.81 45 eP P 11 04 44.4 +0.7
comp=Z,30nm,1.0s
SMRF Simiane la Rot 83.86 46 eP P 11 04 44.9 +0.9
SMRF Simiane la Rot 83.86 46 eP P 11 04 44.9 +0.9
BSEG Bad Segeberg 83.86 36 eP P 11 04 44.6 +0.9
comp=Z,126nm,1.9s
TNS Taunus Mts 83.92 40 eP P 11 04 44.3 +0.1
comp=Z,33nm,1.2s
ARCES ARCESS Array B 84.01 18 P P 11 04 44.0 -0.1
comp=Z,5.5nm,0.8s,baz=276,slow=2.3,SNR=8.3
ARCES LR LR 11 42 43.8
comp=Z,1μm,18.1s,baz=311,slow=36
NRDL Niedersach Rie 84.20 37 eP P 11 04 46.2 +0.8
comp=Z,34nm,1.3s
LPG La Plagne 84.23 44 eP P 11 04 46.0 -0.1
comp=Z,67nm,1.2s
LPG La Plagne 84.23 44 eP P 11 04 46.0 -0.1
LPG pmax pmax
comp=Z,67nm,1.2s
LPG La Plagne 84.23 44 eP P 11 04 46.0 -0.1
comp=Z,67nm,1.2s
SENIN Lac Senin/Sane 84.34 43 eP P 11 04 48.4 +1.7
KEV Kevo 84.35 18 eP P 11 04 48.3 +2.5
KEV Kevo 84.35 18 ep P 11 04 48.3 +2.5
comp=Z,0.4nm,0.4s
BFO Black Forest 84.42 41 i P P 11 04 51.4 +4.7
BFO Black Forest 84.42 41 eP P 11 04 46.0 -0.7
MBDF Montbardon 84.47 45 eP P 11 04 47.8 +0.6
comp=Z,28nm,0.8s
MBDF Montbardon 84.47 45 eP P 11 04 47.8 +0.6
MBDF pmax pmax
comp=Z,28nm,0.8s
MBDF Montbardon 84.47 45 eP P 11 04 47.8 +0.6
comp=Z,28nm,0.8s
CLZ Clausthal 84.57 38 eP P 11 04 48.0 +0.6
comp=Z,30nm,1.0s
TIC Toumodi 84.61 85 eP P 11 04 49.3 +1.0
comp=Z,30nm,0.8s
UBBA Unterbreizbach 84.68 39 eP P 11 04 48.1 +0.3
LIC Lamto 84.72 85 eP P 11 04 48.0 -0.8
comp=Z,35nm,0.8s,baz=262
LIC eR
comp=Z,453nm,19.2s
LIC Lamto 84.72 85 eP P 11 04 49.9 +1.1
comp=Z,54nm,0.8s
LIC Lamto 84.72 85 eP P 11 04 48.0 -0.8
comp=Z,35nm,0.8s
DBIC Dimbokro 84.76 85 eP P 11 04 49.6 +0.6
DBIC pmax pmax
comp=Z,21nm,0.9s
DBIC Dimbokro 84.76 85 P P 11 04 48.0 -1.0
comp=Z,14nm,0.8s,baz=265,slow=4.6,SNR=11
DBIC LR LR 11 43 09.0
comp=Z,332nm,18.3s,baz=313,slow=36
DBIC Dimbokro 84.76 85 eP P 11 04 49.6 +0.6
comp=Z,21nm,0.9s
STU Stuttgart 84.83 41 eP P 11 04 48.7 0.0
comp=Z,22nm,0.5s
KIC Kosan Boka 84.95 85 eP P 11 04 51.2 +1.2
comp=Z,64nm,1.0s
TUE Stuetta 85.66 43 eP P 11 04 53.0 -0.1
comp=Z,39nm,1.1s
MOX Moxa 85.70 38 eP P 11 04 53.5 +0.4
comp=Z,108nm,2.1s
MOX eL L 11 30 52.7
comp=Z,701nm,22.0s
DAVA Damuels 85.74 42⇑iP P 11 04 54.0 +0.5
comp=Z,43nm,1.6s
GRF Grafenberg Arr 85.79 39 eP P 11 04 54.2 +0.7
comp=Z,38nm,1.3s
DAVOX Davos/Dischmat 85.91 43 P P 11 04 53.5 -0.9
comp=Z,9.1nm,0.9s,baz=241,slow=6.0,SNR=11
FUORN Ofenpass-Fuorn 86.21 43 eP P 11 04 56.0 0.0
comp=Z,36nm,0.9s
RETA Reutte 86.24 42⇑iPcP P 11 04 56.8 +0.9
comp=Z,50nm,1.4s
TANN Tannenbergstha 86.29 39 eP P 11 04 56.6 +0.6
comp=Z,46nm,1.4s
CLL Collm 86.30 38 eP P 11 04 55.1 -0.9
CLL pmax pmax
comp=Z,41nm,1.4s
CLL Collm 86.30 38 eP P 11 04 56.3 +0.4
comp=Z,35nm,1.5s
CLL Collm 86.30 38 eP P 11 04 55.0 -0.9
comp=Z,43nm,2.1s
CLL i 11 05 04.0
comp=Z,35nm,1.5s
CLL i 11 05 09.1
CLL eS S 11 15 29.0 -0.3
CLL Lm MLR 11 41 00.0
comp=N,400nm,21.4s
CLL Lm MLR 11 41 00.0
comp=E,400nm,20.2s
CLL Lm MLR 11 41 00.0
comp=Z,600nm,21.2s
CLL Collm 86.30 38 eP P 11 04 55.1 -0.9
comp=Z,41nm,1.4s
FUR Furstenfeldbru 86.34 41 eP P 11 04 56.4 +0.1
comp=Z,43nm,1.3s
ROTZ Rotzenmuhle 86.36 39 eP P 11 04 57.1 +0.7
comp=Z,45nm,1.5s
FETA Feichten 86.38 42⇑iP P 11 04 55.8 -0.9
comp=Z,27nm,1.3s
MOTA Moosalm 86.51 42⇑iP P 11 04 56.5 -0.8
comp=Z,16nm,0.8s
PGF Pioggiola 86.67 47 eP P 11 04 57.6 -0.5
PGF Pioggiola 86.67 47 eP P 11 04 57.6 -0.5
PGF Pioggiola 86.67 47 eP P 11 04 57.6 -0.5
WET Wettzell 87.00 40 eP P 11 05 00.2 +0.7
comp=Z,50nm,1.3s
BRG Berggiesshubel 87.00 38 eP P 11 05 00.0 +0.6
comp=Z,14nm,1.1s
SEY Seymchan 87.21 336 P P 11 04 59.2 -1.0
comp=Z,3.9nm,0.8s,baz=61,slow=5.8,SNR=17
KHC Kasperske Hory 87.43 39 eP P 11 05 03.0 +1.4
KHC pmax pmax
comp=Z,13nm,1.0s
KHC Kasperske Hory 87.43 39 eP P 11 05 02.9 +1.4
KHC epP pP 11 05 07.3 -3.9
KHC ex x 11 05 10.4
KHC ex x 11 05 16.6
KHC Kasperske Hory 87.43 39 eP P 11 05 03.0 +1.4
comp=Z,13nm,1.0s
RJOB Jochberg 87.45 41 eP P 11 05 01.9 +0.2
comp=Z,28nm,1.3s
APA Apatity 87.52 18 eP P 11 05 03.0 +1.4
APA MLR MLR
comp=Z,2μm,20.0s
GEC2 GERESS Array S 87.61 40 eP P 11 05 03.7 +1.2
GEC2 GERESS Array S 87.61 40 eP P 11 05 02.8 +0.3
comp=Z,54nm,2.1s
GEC2 GERESS Array S 87.61 40 eP P 11 05 03.7 +1.2
GERES GERESS Array B 87.61 40 P P 11 05 02.4 -0.2
comp=Z,2.6nm,0.9s,baz=282,slow=2.6,SNR=10
ABTA Abfaltersbach 87.62 42⇑iP P 11 05 02.9 +0.3
comp=Z,32nm,1.3s
PRU Pruhonice 87.69 38 eP P 11 05 07.1 +4.3
PRU e 11 05 16.9
PRU Pruhonice 87.69 38 eP P 11 05 07.1 +4.3
PRU ex x 11 05 11.6
PRU ex x 11 05 16.9
KAF Kangasniemi 88.13 25 eP P 11 05 04.2 -0.4
KAF pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 88.13 25 ep P 11 05 04.2 -0.4
comp=Z,4.8nm,0.8s
FINES FINESS Array B 88.38 25 P P 11 05 04.9 -0.9
comp=Z,8.1nm,0.8s,baz=259,slow=3.9,SNR=15
FINES LR LR 11 45 30.5
comp=Z,321nm,18.7s,baz=271,slow=36
TIXI Tiksi 88.44 348⇓iP P 11 05 04.6 -1.2
TIXI pmax pmax
comp=Z,25nm,1.4s
TIXI Tiksi 88.44 348 eP P 11 05 04.7 -1.1
comp=Z,15nm,1.0s
TREC Trest 88.53 39 eP P 11 05 14.4 +7.6
TREC e 11 05 22.2
DPC Dobruska-Polom 88.61 38 eP P 11 05 05.8 -1.4
DPC e 11 05 16.9
DPC Dobruska-Polom 88.61 38 eP P 11 05 05.8 -1.4
DPC epP pP 11 05 13.7 -3.1
DPC ex x 11 05 16.9
DPC Dobruska-Polom 88.61 38 eP P 11 05 07.7 +0.5
KEST Kesra 89.13 53 P P 11 05 09.6 -0.4
comp=Z,1.8nm,0.8s,baz=163,slow=9.3,SNR=3.9
KEST Kesra 89.13 53 eP P 11 05 10.7 +0.7
TORD Torodi Ar. Bea 89.23 77 P P 11 05 10.4 -0.3
comp=Z,1.3nm,0.6s,baz=293,slow=4.6,SNR=8.5
PETK Petropavlovsk- 89.38 326 P P 11 05 11.5 +0.8
comp=Z,2.9nm,0.9s,baz=113,slow=13,SNR=3.8
TAM Tamanrasset 89.97 66 eP P 11 05 15.5 +1.3
TAM pmax pmax
comp=Z,7.0nm,1.0s
TAM Tamanrasset 89.97 66 eP P 11 05 15.5 +1.3
comp=Z,7.3nm,1.0s
VYHS Vyhne 90.87 39 eP P 11 05 19.6 +1.8
VYHS Vyhne 90.87 39 eP P 11 05 19.5 +1.8
STHS Stebnicka Huta 91.88 37 eP P 11 05 26.6 +4.2
STHS Stebnicka Huta 91.88 37 epP P 11 05 26.6 +4.2
CRVS Cervenica-Dubn 92.25 38 eP P 11 05 25.0 +0.9
CRVS Cervenica-Dubn 92.25 38 eP P 11 05 25.0 +0.9
UZH Uzhgorod 92.86 38 eP P 11 05 30.5 +3.6
UZH e 11 05 41.5
UZH eS S 11 16 30.7 +0.1
KLMR Klimovskoe 93.92 22 eP P 11 05 30.9 -0.6
KLMR pmax pmax
comp=Z,20nm,1.3s
PRGR Permogore 95.42 19 eP P 11 05 37.0 -1.3
PRGR pmax pmax
comp=Z,27nm,1.2s
KIEV Kiev 95.66 33 eP P 11 05 40.0 +0.3
AKASG Malin Array Be 95.67 33 P P 11 05 38.6 -1.1
comp=Z,0.8nm,0.6s,baz=290,slow=4.3,SNR=4.8
AKASG LR LR 11 51 38.3
comp=Z,404nm,18.1s,baz=320,slow=37
OBN Obninsk 96.58 27⇓eP P 11 05 43.0 -0.7
OBN e 11 09 37.2
OBN pmax pmax
comp=Z,10.0nm,1.7s
OBN MLR MLR
comp=Z,1μm,21.0s
DZM Mont Dzumac 106.99 251 eLR LR 11 41 56.8
comp=Z,813nm,22.1s
KURK Kurchatov 112.96 7 PKKPbc PKKPbc 11 21 35.8 -3.8
KURBB Kurchatov Arra 113.05 7 PKKPbc PKKPbc 11 21 35.8 -3.5
comp=Z,0.5nm,0.6s,baz=189,slow=2.9,SNR=8.2
KSRS Korea Array 115.28 326 PKP PKPdf 11 10 54.0 -1.9
comp=Z,0.3nm,0.3s,baz=6.1,slow=1.0,SNR=3.8
KSAR Wonju Array Be 115.31 326 PKIKP PKPdf 11 10 54.1 -1.9
KSAR Wonju Array Be 115.31 326 PKP PKPdf 11 10 54.0 -1.9
MKAR Makanchi Array 117.21 5 PKP PKPdf 11 10 57.7 -1.7
comp=Z,0.7nm,0.9s,baz=0.0,slow=1.2,SNR=4.0
MKAR PKKPbc PKKPbc 11 21 25.3 +0.3
comp=Z,0.5nm,0.9s,baz=162,slow=5.1,SNR=4.9
HHC Hu-ho-hao-te 119.58 340 ePKP PKPdf 11 11 05.8 +1.5
HHC PP PP 11 12 33.6 +8.1
HHC SKS SKSdf 11 18 10.0 -4.6
HHC SS SS 11 28 50.0 +3.5
HHC LR LR
comp=Z,1μm,19.6s
HHC LR LR
comp=Z,470nm,16.2s
HHC LR LR
comp=Z,1μm,20.6s
WMQ Urumqi 120.45 1 SS SS 11 28 43.0 -14
WMQ AMB AMB
comp=Z,280nm,10.4s
WMQ LR LR
comp=N,630nm,25.2s
WMQ LR LR
comp=E,350nm,26.2s
WMQ LR LR
comp=Z,580nm,23.8s
BOSA Boshof 120.55 114 PKP PKPdf 11 11 06.4 0.0
comp=Z,5.9nm,0.9s,baz=69,slow=2.8,SNR=3.2
KSH Kashi 123.48 12 ePKP PKPdf 11 11 14.8 +2.9
KSH ePKS PKSdf 11 14 49.5 +0.8
KSH eSKKS 11 19 47.8
KSH eSS SS 11 29 41.8 +5.6
KSH AMB AMB
comp=Z,130nm,5.9s
KSH LR LR
comp=Z,170nm,8.8s
KSH LR LR
comp=Z,180nm,7.3s
KSH LR LR
comp=Z,200nm,7.4s
GTA Gaotai 123.89 350 ePKP PKPdf 11 11 12.3 -0.4
GTA PP PP 11 12 59.9 +5.2
GTA SKS SKSdf 11 18 18.9 -3.9
GTA SKKS SKKSac 11 19 47.8 -5.1
GTA SS SS 11 29 42.3 +1.0
GTA AMB AMB
comp=Z,320nm,7.8s
GTA LR LR
comp=Z,550nm,18.5s
GTA LR LR
comp=Z,320nm,18.0s
GTA LR LR
comp=Z,580nm,21.4s
LZH Lanzhou 126.24 345 ePKP PKPdf 11 11 16.9 -0.4
LZH PP PP 11 13 15.1 +4.6
LZH SKS SKSdf 11 18 25.0 -2.4
LZH SKKS SKKSac 11 20 03.1 -5.0
LZH AMB AMB
comp=Z,300nm,6.8s
LZH LR LR
comp=Z,490nm,17.0s
LZH LR LR
comp=Z,740nm,17.2s
LZH LR LR
comp=Z,960nm,20.1s
XAN Xi'an 126.63 339 PKP PKPdf 11 11 17.3 -0.6
KMBO Kilima Mbogo 127.17 79 PKIKP PKPdf 11 11 21.0 +1.2
KMBO Kilima Mbogo 127.17 79 PKP PKPdf 11 11 20.9 +1.2
comp=Z,1.7nm,0.2s,baz=288,slow=4.8,SNR=5.1
CD2 Chengdu 131.15 343 PKP PKPdf 11 11 26.5 -0.1
CD2 PP PP 11 13 47.3 +4.3
CD2 PKS PKSdf 11 15 01.5 -1.8
CD2 SKS SKSdf 11 18 35.8 -0.6
CD2 SKKS SKKSac 11 20 37.4 -1.3
CD2 SS SS 11 31 14.1 +2.4
CD2 AMB AMB
comp=Z,220nm,6.8s
CD2 LR LR
comp=Z,730nm,18.1s
CD2 LR LR
comp=Z,870nm,13.7s
CD2 LR LR
comp=Z,980nm,13.7s
GYA Guiyang 134.32 337 Pdif Pdif 11 08 32.0 -0.6
GYA PKP PKiKP 11 11 33.6 -0.6
GYA PP PP 11 14 08.9 +5.8
GYA PKS PKSdf 11 15 07.4 -2.1
GYA SKKS 11 20 57.8
GYA SS SS 11 31 54.3 +3.8
GYA AMB AMB
comp=Z,140nm,7.8s
GYA LR LR
comp=Z,160nm,22.4s
GYA LR LR
comp=Z,120nm,23.2s
GYA LR LR
comp=Z,150nm,21.6s
WRA Warramunga Arr 136.54 258 PKhKP PKPpre 11 11 25.6
comp=Z,0.3nm,0.5s,baz=92,slow=3.4,SNR=4.6
WRA PKP PKPdf 11 11 35.6 -1.3
comp=Z,2.1nm,0.9s,baz=79,slow=1.6,SNR=10
ASAR Alice Springs 136.97 252 PKhKP PKPpre 11 11 26.2
comp=Z,0.3nm,0.7s,baz=112,slow=2.7,SNR=4.3
ASAR PKP PKPdf 11 11 35.6 -2.1
comp=Z,1.1nm,0.9s,baz=92,slow=2.0,SNR=7.4
QIZ Qiongzhong 139.44 328 PKP PKPdf 11 11 39.0 -3.3
QIZ PP PP 11 14 34.5 -0.8
QIZ SS SS 11 32 49.8 -2.1
QIZ LR LR
comp=Z,120nm,23.9s
QIZ LR LR
comp=Z,200nm,25.2s
CMAR Chiang Mai Arr 144.29 343 PKP PKPab 11 11 48.5 -0.4
comp=Z,5.2nm,0.8s,baz=336,slow=3.6,SNR=33
HYB Hyderabad 145.29 17 i PKP PKPbc 11 11 51.0 -1.5

CSEM 23 10:54:25.8±0.2, 38.29N×38.80E, h10km, MD2.6, Error ellipse: s-maj=5.6km s-min=4.1km az=142.0
ISK 23 10:54:25.5, 38.29N×38.83E, h6km, MD2.6
DDA 23 10:54:26.4, 38.36N×38.74E, h7km, MD2.6
ISC 23 10:54:25.8±1.0, 38.30N±0.03×38.78E±0.03, h15km±11km, n11, σ0.43/21, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.26	39	i P	Pg	10 54 31.5	-0.1
ELZG				i S	Sg	10 54 35.5	-0.1
ELZG	Elazig	0.26	39	i P	Pg	10 54 31.5	-0.1
ELZG				i S	Sg	10 54 35.5	-0.1
MALT	Malatya	0.27	274	ePG	Pb	10 54 32.5	0.0
MALT				eSG	Sb	10 54 36.9	-0.1
MALT	Malatya	0.27	274⇓	iP	Pg	10 54 31.6	-0.2
MALT	Malatya	0.27	274	ePg	Pb	10 54 32.5	0.0
MALT				eSg	Sb	10 54 36.9	-0.1
AKCD	Akcadag	0.67	270	i P	Pg	10 54 38.6	-0.4
AKCD				i S	Sg	10 54 48.4	+0.5
AKCD	Akcadag	0.67	270	i P	Pg	10 54 38.6	-0.4
AKCD				i S	Sg	10 54 48.4	+0.5
PTK	Pertek	0.77	39	ePG	Pg	10 54 40.9	+0.1
PTK				eSG	Sg	10 54 51.0	0.0
PTK	Pertek	0.77	39	ePg	Pg	10 54 40.9	+0.1
PTK				eSg	Sg	10 54 51.0	0.0
URFA	Urfa	0.85	178	ePG	Pg	10 54 41.8	-0.6
URFA				eSG	Sg	10 54 54.5	+0.9
URFA	Urfa	0.85	178	ePg	Pg	10 54 41.8	-0.6
URFA				eSg	Sg	10 54 54.5	+0.9

IDC 23 11:10:37.6±2.7, 55.23N×153.97W, h0km, mb3.2/2, mb1 3.6/5, mb1mx3.3/61, mbtmp3.4/5, ML3.5/2, Error ellipse: s-maj=42.3km s-min=26.8km az=157.0
ISCJB 23 11:10:40.4±0.8, 55.60N±0.06×153.94W±0.08, h33km, mb3.4/2, Error ellipse: s-maj=10.2km s-min=5.0km az=150.6
NEIC 23 11:10:42.8, 55.66N×153.86W, h26km, ML3.5(AEIC), After AEIC.
ISC 23 11:10:43.4±1.1, 55.69N±0.09×154.03W±0.07, h35km, n38, σ1.04/36, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	Sitkinak Islan	0.88	354	P	Pn	11 10 58.2	-1.1
OHAK	Old Harbor	1.59	15	P	Pn	11 11 08.4	-0.6
OHAK				S	Sn	11 11 27.5	-0.8
KDAK	Kodiak Island	2.25	20	P	Pn	11 11 16.8	-1.2
KDAK				S	Sn	11 11 41.9	-2.5
PLK4	Peulik 4	2.34	328	P	Pn	11 11 19.1	-0.2
PLK2	Peulik 2	2.44	330	P	Pn	11 11 20.9	+0.2
KABR	Katmai Barrier	2.50	348	P	Pn	11 11 21.2	-0.4
CHGN	Chignik	2.54	286	P	Pn	11 11 21.2	-0.8
PLK1	Peulik 1	2.55	327	P	Pn	11 11 23.0	+0.9
KCE	Katmai Mt Cerb	2.64	347	P	Pn	11 11 24.2	+0.7
KAKN	Katmai Knife C	2.68	348	P	Pn	11 11 23.8	-0.2
KAWH	Katmai	2.74	351	P	Pn	11 11 24.2	-0.6
KAHC	Katmai Hardscr	3.02	350	P	Pn	11 11 28.5	-0.2
SDPT	Sand Point	3.68	267	P	Pn	11 11 36.9	-0.8
HOM	Homer	4.18	17	P	Pn	11 11 45.1	+0.5
BRLK	Bradley Lake	4.42	21	P	Pn	11 11 47.4	-0.5
PS4A	Pavlof South-4	4.46	269	P	Pn	11 11 47.2	-1.2
DTNA	Dutton South F	4.72	267	P	Pn	11 11 51.2	-0.8
RSO	Redoubt South	4.84	7	ePn	Pn	11 11 55.0	+1.2
RDWB	Redoubt West	4.86	7	P	Pn	11 11 53.9	0.0
SEW	Seward	5.06	27	P	Pn	11 11 55.2	-1.4
FALS	False Pass	5.43	265	P	Pn	11 12 01.0	-0.7
SVW2	Sparrevohn	5.49	352	P	Pn	11 12 02.5	0.0
SSBA	Shishaldin	5.85	265	P	Pn	11 12 06.7	-0.9
RC01	Rabbit Creek A	5.87	21	P	Pn	11 12 07.3	-0.4
PWL	Port Wells	5.99	28	P	Pn	11 12 08.1	-1.3
SUA	Susitna One	6.04	15	P	Pn	11 12 10.4	+0.2
PAX	Paxson	8.51	27	ePn	Pn	11 12 45.1	+1.1
	4.2nm,0.9s						
ILAR	Eielson Array	9.77	18	Pn	Pn	11 13 01.7	+0.5
	0.4nm,0.3s,baz=206,slow=13,SNR=27						
ILAR				Sn	Sn	11 14 47.2	-2.3
	0.4nm,0.3s,baz=199,slow=28,SNR=6.9						
DLBC	Dease Lake	13.32	68	Pn	Pn	11 13 51.1	+1.3
	0.1nm,0.3s,baz=223,slow=2.3,SNR=2.6						
DLBC				Sn	Sn	11 16 15.7	-0.8
	0.1nm,0.3s,baz=342,slow=20,SNR=3.2						
INK	Inuvik	15.78	29	Pn	Pn	11 14 23.8	+1.2
	baz=222,slow=4.4						
YKA	Yellowknife Ar	21.08	55	P	P	11 15 25.4	+1.2
	0.4nm,0.5s,baz=270,slow=9.3,SNR=6.0						
H11N2	WAKE ISLAND Hy	46.31	235	T	T	12 08 47.7	
	baz=29,slow=76,SNR=36						
H11N3	WAKE ISLAND Hy	46.32	235	T	T	12 08 47.7	
	baz=29,slow=76,SNR=44						
H11N1	WAKE ISLAND Hy	46.33	235	T	T	12 08 48.7	
	baz=29,slow=76,SNR=34						
H11S1	WAKE ISLAND Hy	47.46	235	T	T	12 10 13.6	
	baz=28,slow=76,SNR=105						
H11S2	WAKE ISLAND Hy	47.48	235	T	T	12 10 13.4	
	baz=28,slow=76,SNR=57						
H11S3	WAKE ISLAND Hy	47.48	235	T	T	12 10 16.4	
	baz=28,slow=76,SNR=45						
SONM	Songino Array	56.94	308	P	P	11 20 25.7	+0.9
	0.5nm,0.5s,baz=48,slow=6.6,SNR=4.1						

ISCJB 23 11:14:26.7±1.2, 18.7S±0.1×174.7W±0.2, h10km, mb4.5/9, Error ellipse: s-maj=23.3km s-min=18.2km az=168.4
IDC 23 11:14:26.7±2.0, 18.69S×174.60W, h0km, mb4.3/6, mb1 4.5/6, mb1mx3.9/39, mbtmp4.3/6, Error ellipse: s-maj=79.3km s-min=26.7km az=139.0
NEIC 23 11:14:32.3±0.7, 18.69S×174.68W, h35km, mb4.5/4, Error ellipse: s-maj=15.3km s-min=12.6km az=101.0
ISC 23 11:14:27.8±1.1, 18.7S±0.2×174.6W±0.2, h10km, n14, σ0.77/15, mb4.5/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.09	277	ePn	Pn	11 16 11.5	-0.2
URZ	Urewera	20.82	199	eP	Pn	11 19 11.0	-0.9
	3.6nm,0.4s						
RPZ	Rata Peaks	27.74	203	eP	P	11 20 15.4	-1.2
	41nm,1.3s						
CTA	Charters Tower	36.93	261	P	P	11 21 37.4	+0.1
	3.2nm,0.4s,baz=92,slow=11,SNR=8.5						
CTAO	Charters Tower	36.93	261	eP	P	11 21 37.5	+0.1
	3.5nm,0.3s						
MCQ	Macquarie Isla	41.10	203	eP	P	11 22 12.2	+0.5
	883nm,0.3s						
STKA	Stephens Creek	41.50	243	P	P	11 22 16.4	+1.1
	1.6nm,0.9s,baz=93,slow=8.1,SNR=3.2						
WRAB	Tennant Creek	48.08	260	eP	P	11 23 08.0	0.0
	1.6nm,0.4s						
WRA	Warramunga Arr	48.09	260	P	P	11 23 08.1	0.0
	0.9nm,0.3s,baz=97,slow=7.5,SNR=46						
WRA				PcP	PcP	11 24 35.1	-0.8
	0.4nm,0.8s,baz=89,slow=3.9,SNR=2.5						
ASAR	Alice Springs	48.11	255	P	P	11 23 08.2	0.0
	2.8nm,0.6s,baz=94,slow=7.2,SNR=70						
ASAR				PcP	PcP	11 24 35.1	-0.7
	0.5nm,0.5s,baz=104,slow=4.1,SNR=5.6						
MJAR	Matsushiro Arr	70.75	321	P	P	11 25 44.4	0.0
	1.2nm,0.6s,baz=166,slow=6.6,SNR=5.8						
ILAR	Eielson Array	85.86	12	P	P	11 27 08.1	+0.8
	0.4nm,0.7s,baz=226,slow=6.1,SNR=7.3						
BRTR	Keskin Array B	147.89	317	PKPbc	PKPab	11 34 14.6	-1.6
	0.9nm,0.7s,baz=51,slow=4.0,SNR=4.6						
GERES	GERESS Array B	149.18	349	PKPbc	PKPbc	11 34 16.9	+0.3
	0.2nm,0.3s,baz=29,slow=2.2,SNR=2.7						

IDC 23 11:23:44.7±14.0, 33.04N×48.11E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.4/31, mbtmp3.7/6, Error ellipse: s-maj=282.4km s-min=36.9km az=13.0
ISC 23 11:23:46.5±14.0, 33°N±2°×48.3E±0.5, h11km, n6, σ1§27/5, mb3.7/6, Western Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BVAR Borovoye Array 25.56 32 P P 11 29 14.5 -0.8
0.2nm,0.3s,baz=220,slow=11,SNR=1.9
KURBB Kurchatov Arra 28.34 42 P P 11 29 41.5 +1.3
0.4nm,0.7s,baz=246,slow=9.2,SNR=3.8
MKAR Makanchi Array 29.26 52 P P 11 29 48.5 -0.1
0.8nm,0.7s,baz=249,slow=7.5,SNR=8.8
FINES FINESS Array B 31.92 340 P P 11 30 11.7 0.0
1.2nm,0.6s,baz=141,slow=9.0,SNR=5.0
ZALV Zalesovo Beam 33.26 40 P P 11 30 24.6 +1.0
0.5nm,0.5s,baz=258,slow=7.2,SNR=2.9
ARCES ARCESS Array B 38.79 347 P P 11 31 08.4 -2.3
2.6nm,0.9s,baz=166,slow=16,SNR=5.5

ISCJB 23 12:13:23.2±1.0, 35.35N±0.02×91.21E±0.02, h2km±7km, mb4.4/58, MS4.1/30, Error ellipse: s-maj=4.1km s-min=3.2km az=26.8
BJI 23 12:13:23.3, 35.30N×91.25E, h10km, mB4.9/25, mb4.5/43, ML4.6/1, Ms4.6/34, Ms7 4.3/40
IDC 23 12:13:23.9±0.6, 35.22N×91.24E, h0km, mb4.2/20, mb1 4.3/27, mb1mx4.2/49, mbtmp4.2/27, ML4.0/5, MS4.0/26, Ms1 4.0/26, ms1mx3.9/35, Error ellipse: s-maj=17.0km s-min=12.4km az=15.0
NEIC 23 12:13:26.6±0.3, 35.41N×91.19E, h10km, mb4.7/18, Error ellipse: s-maj=6.0km s-min=4.4km az=106.0
GCMT 23 12:13:26.0±0.3, 35.30N×91.30E, h24km±1km, MW4.8/72, Moment Tensor Solution. s13,c16; s72,c98; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.13±.16; Mθθ-1.21±.10; Mφφ1.34±.12; Mrθ0.17±.14; Mrφ1.96±.09; Mθφ0.26±.15; Best double couple: Mo2.35700×10^16 NP1:φs74.00000°, δ86.00000°, λ5.00000°. NP2: φs343.00000°, δ85.00000°, λ176.00000°. Principal axes: T 2.4400, Plg7.0000°, Azm299.0000°; N -0.1640, Plg83.0000°, Azm112.0000°; P -2.2740, Plg1.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
MOS 23 12:13:28.2±1.1, 35.37N×91.19E, h37km, mb4.6/33 Error ellipse: s-maj=7.4km s-min=4.7km az=120.1
ISC 23 12:13:26.9±0.5, 35.35N±0.04×91.20E±0.03, h13km±3km, h12km:pP-P, n246, σ1§59/269, mb4.5/58, MS4.1/30, 29C-8D, Qinghai

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LSA Lhasa 5.64 180 P Pn 12 14 54.0 +3.1
LSA pmax pmax
comp=Z,20nm,1.0s
LSA Lhasa 5.64 180 eP Pn 12 14 53.0 +2.1
LSA pmax pmax
comp=Z,175nm,0.8s
LSA Lhasa 5.64 180 ePn Pn 12 14 53.0 +2.1
comp=Z,175nm,0.8s
LSA eSg **Sg 12 16 29.2 +1.2**
GTA Gaotai 7.96 57 ⇑P Pn 12 15 22.5 0.0
GTA pP pP 12 15 26.8
GTA sP 12 15 28.9
GTA S **Sn 12 16 53.6 +1.0**
GTA sS sS 12 16 58.8
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,180nm,5.2s
GTA LR LR
comp=Z,6μm,14.0s
GTA LR LR
comp=Z,3μm,14.0s
GTA LR LR
comp=Z,2μm,13.8s
TAPN Taplejung 8.52 201 eP Pn 12 15 30.4 +0.1
comp=Z,56nm,1.1s
GUN Gumba 8.69 213 eP Pn 12 15 33.7 +0.9
comp=Z,28nm,0.6s
GUN Gumba 8.69 213 eP Pn 12 15 33.7 +0.9
comp=Z,28nm,0.6s
JIRN Jiri 8.78 210 eP Pn 12 15 34.9 +0.9
comp=Z,41nm,0.7s
JIRN Jiri 8.78 210 eP Pn 12 15 34.9 +0.9
comp=Z,41nm,0.7s
WMQ Urumqi 8.88 343 P Pn 12 15 35.8 +0.8
WMQ pP pP 12 15 39.0
WMQ sP 12 15 41.8
WMQ S **Sn 12 17 18.3 +3.4**
WMQ sS sS 12 17 23.3
WMQ PcP **PcP 12 21 58.9 -1.3**
WMQ PcS **PcS 12 25 30.8 -2.5**
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,190nm,7.0s
WMQ LR LR
comp=Z,4μm,13.0s
WMQ LR LR
comp=Z,4μm,14.6s
WMQ LR LR
comp=Z,660nm,15.8s
KKN Kakani 9.07 215 eP Pn 12 15 39.3 +1.5
comp=Z,26nm,0.7s
KKN Kakani 9.07 215 eP Pn 12 15 39.3 +1.5
KKN pmax pmax
comp=Z,26nm,0.7s
KKN Kakani 9.07 215 eP Pn 12 15 39.3 +1.5
comp=Z,26nm,0.7s
ODAN Odare 9.07 202 eP Pn 12 15 37.5 -0.4
ODAN Odare 9.07 202 eP Pn 12 15 37.5 -0.4
PKI Pulchoki 9.20 214 eP Pn 12 15 41.2 +1.5
comp=Z,31nm,0.8s
PKI Pulchoki 9.20 214 eP Pn 12 15 41.2 +1.5
PKI pmax pmax
comp=Z,31nm,0.8s
PKI Pulchoki 9.20 214 eP Pn 12 15 41.2 +1.5
comp=Z,31nm,0.8s
GKN Gorkha 9.21 219 eP Pn 12 15 40.7 +1.0
comp=Z,20nm,0.6s
GKN Gorkha 9.21 219 eP Pn 12 15 40.7 +1.0
comp=Z,20nm,0.6s
RAMN Ramite 9.25 206 eP Pn 12 15 39.6 -0.8
comp=Z,64nm,0.5s
RAMN Ramite 9.25 206 eP Pn 12 15 39.6 -0.8
comp=Z,64nm,0.5s
DMN Daman 9.31 216 eP Pn 12 15 42.2 +1.1
comp=Z,20nm,0.6s
DMN Daman 9.31 216 eP Pn 12 15 42.2 +1.1
comp=Z,20nm,0.6s
DANN Dangsing 9.42 224 eP Pn 12 15 43.0 +0.3
comp=Z,19nm,0.7s
DANN Dangsing 9.42 224 eP Pn 12 15 43.0 +0.3
comp=Z,19nm,0.7s
SHL Shillong 9.77 176 eP Pn 12 15 47.0 -0.4
SHL AMB AMB 12 15 58.4
comp=Z,8.5nm,0.0s
SHL ex x 12 18 40.0
KOLN Koldanda 9.95 223 eP Pn 12 15 50.6 +0.7
comp=Z,15nm,0.7s
KOLN Koldanda 9.95 223 eP Pn 12 15 50.6 +0.7
comp=Z,15nm,0.7s
LZH Lanzhou 10.31 82 eP Pn 12 15 56.1 +1.4
LZH pP 12 15 58.3
LZH sP 12 16 00.3
LZH PP **PnPn 12 16 04.5 +2.2**
LZH eS **Sn 12 17 53.0 +2.7**
LZH sS 12 17 57.5
LZH eSS **SnSn 12 18 08.0 +6.2**
LZH pmax pmax
comp=Z,39nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.1s
LZH LR LR
comp=Z,4μm,10.0s
LZH LR LR
comp=Z,2μm,9.0s
LZH LR LR
comp=Z,1μm,11.5s
BOK Bokaro 12.41 203 eP Pn 12 16 22.8 -0.5
BOK AMB AMB 12 16 24.3
comp=Z,13nm,1.8s
SMLA Simla 12.48 254 eP Pn 12 16 23.3 -0.9
SMLA AMB AMB 12 16 27.3
comp=Z,8.3nm,0.7s
DHRM DHARAMSHALA 12.77 260 eP Pn 12 16 26.4 -2.0
DHRM AMB AMB 12 16 31.0
comp=Z,20nm,2.2s
KSH Kashi 12.79 293 eP Pn 12 16 31.3 +2.7
KSH epP P 12 16 33.6 -6.1
KSH esP 12 16 38.3
KSH ePP **PnPn 12 16 42.1 +5.7**
KSH eS **Sn 12 18 54.3 +3.3**
KSH SS **SnSn 12 19 09.3 +6.3**
KSH pmax pmax
comp=Z,10.0nm,1.2s
KSH LR LR
comp=Z,800nm,8.0s
KSH LR LR
comp=Z,470nm,8.1s
KSH LR LR
comp=Z,1μm,16.1s
MK31 Makanchi Array 13.25 332 eP Pn 12 16 33.2 -1.5
MK31 e 12 19 04.2
MK31 Makanchi Array 13.25 332 ePn Pn 12 16 33.2 -1.5
MK31 eSn **Sn 12 19 04.2 +2.3**
MKAR Makanchi Array 13.25 332 eP Pn 12 16 33.5 -1.2
MKAR Makanchi Array 13.25 332 Pn Pn 12 16 33.3 -1.4
comp=Z,1.1nm,0.3s,baz=145,slow=14,SNR=51
MKAR Lg Lg 12 20 35.2
comp=Z,0.1nm,0.3s,baz=139,slow=25,SNR=2.7
MKAR LR LR 12 21 43.8
comp=Z,323nm,20.0s,baz=158,slow=37
ULHL Ulahol 13.53 305 P Pn 12 16 40.2 +1.4
SNR=11
ULHL Ulahol 13.53 305 *i* P Pn 12 16 40.2 +1.4
KZA Kyzart 14.14 303 P Pn 12 16 46.7 -0.6
SNR=8.9
KZA Kyzart 14.14 303 *i* P Pn 12 16 46.6 -0.6
KMI Kunming 14.25 133 P Pn 12 16 48.4 -0.3
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI LR LR
comp=Z,880nm,8.0s
KMI LR LR
comp=Z,1μm,11.7s
KMI LR LR
comp=Z,1μm,14.1s
TKM2 Tokmak 2 14.26 307 P Pn 12 16 49.0 +0.2
SNR=20
TKM2 Tokmak 2 14.26 307 eP Pn 12 16 48.1 -0.6
TKM2 Tokmak 2 14.26 307 ePn Pn 12 16 48.1 -0.6
KBK Karagaybulak 14.57 305 P Pn 12 16 53.5 +0.4
SNR=9.0
XAN Xi'an 14.64 90 P Pn 12 16 49.5 -4.4
XAN S Sn 12 19 28.5 -7.6
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN LR LR
comp=Z,3μm,16.4s
XAN LR LR
comp=Z,540nm,19.1s
XAN LR LR
comp=Z,290nm,12.7s
UCH Uchtor 14.70 303 P Pn 12 16 53.3 -1.8
SNR=5.2
UCH Uchtor 14.70 303 *i* P Pn 12 16 53.2 -1.8
CHMS Chumysh 14.85 306 P P 12 17 03.5 +1.1
SNR=12
CHMS Chumysh 14.85 306 *i* P P 12 17 03.5 +1.1
AAK Ala-Archa 14.87 304 P Pn 12 16 57.0 -0.1
SNR=8.9
AAK Ala-Archa 14.87 304 eP Pn 12 16 57.2 +0.2
AAK pmax pmax
comp=Z,34nm,1.2s
AAK Ala-Archa 14.87 304 Pn Pn 12 16 56.9 -0.2
comp=Z,0.1nm,0.3s,baz=115,slow=12,SNR=12
AAK LR LR 12 23 48.4
comp=Z,1μm,20.0s,baz=94,slow=42
AAK Ala-Archa 14.87 304 ePn Pn 12 16 56.8 -0.2
AAK eSn **Sn 12 19 42.3 +0.6**
USP Ospenovka 15.13 306 P P 12 17 07.7 +2.1
SNR=17
USP Ospenovka 15.13 306 *i* P P 12 17 07.7 +2.1
AML Almayashu 15.23 302 P P 12 17 09.7 +2.6
SNR=13
AML Almayashu 15.23 302 *i* P P 12 17 09.7 +2.6
EKS2 Erkin-Say 15.37 304 P Pn 12 17 03.8 +0.2
SNR=7.1
EKS2 Erkin-Say 15.37 304 eP Pn 12 17 03.5 -0.1
EKS2 pmax pmax
comp=Z,49nm,0.8s
EKS2 Erkin-Say 15.37 304 ePn Pn 12 17 03.5 -0.1
comp=Z,49nm,0.8s
GYA Guiyang 15.95 120 ⇑*i*P Pn 12 17 06.5 -4.7
GYA PP **PnPn 12 17 23.3 +3.5**
GYA S **Sn 12 20 06.8 -1.2**
GYA SS **S 12 20 27.0 +5.0**
GYA pmax pmax
comp=Z,20nm,1.1s
GYA pmax pmax
comp=Z,80nm,4.6s
GYA LR LR
comp=Z,410nm,13.4s
GYA LR LR
comp=Z,320nm,14.2s
GYA LR LR
comp=Z,450nm,12.6s
ENH Enshi 16.18 103 eP Pn 12 17 14.8 +0.7
comp=Z,18nm,1.0s
SONM Songino Array 16.84 38 Pn Pn 12 17 21.2 -1.2
comp=Z,0.4nm,0.3s,baz=221,slow=13,SNR=49
SONM Lg Lg 12 22 15.0
comp=Z,0.1nm,0.3s,baz=213,slow=29,SNR=3.5
SONM LR LR 12 25 02.5
comp=Z,220nm,21.8s,baz=200,slow=41
CMAI Chiengmai2 16.85 154 P Pn 12 17 23.5 +0.7
comp=Z,25nm,1.3s,comp=Z,1μm
HHC Hu-ho-hao-te 16.93 65 eP Pn 12 17 21.8 -1.9
HHC pP **P 12 17 26.8 +1.2**
HHC S **Sn 12 20 29.6 -2.1**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,260nm,3.5s
BHPL Bhopal 17.01 228 eP Pn 12 17 24.5 -0.2
BHPL AMB AMB 12 17 31.7
comp=Z,16nm,0.2s
ULN Ulaanbaatar 17.19 39 eP Pn 12 17 26.8 -0.1
ULN pmax pmax
comp=Z,22nm,1.2s
ULN Ulaanbaatar 17.19 39 ePn Pn 12 17 26.8 -0.1
comp=Z,29nm,1.4s
ULN eSn **Sn 12 20 33.1 -4.8**
ZAK Zakamensk 17.40 27 eP Pn 12 17 25.7 -3.8
ZAK pmax pmax
comp=Z,6.0nm,1.4s
MOY Mondy 17.76 20 eP Pn 12 17 34.3 +0.4
KKAR Karatay Array 17.77 302 eP P 12 17 34.8 0.0
KKAR Karatay Array 17.77 302 eP P 12 17 34.8 0.0
KURBB Kurchatov Arra 17.81 333 Pn Pn 12 17 32.5 -1.9
comp=Z,0.6nm,0.3s,baz=143,slow=11,SNR=19
KURBB Lg Lg 12 22 58.1
baz=152,slow=38,SNR=2.7
CHTO Chiang Mai 17.85 155 eP Pn 12 17 31.6 -3.5
CHTO pmax pmax
comp=Z,8.0nm,1.2s
CHTO Chiang Mai 17.85 155 P P 12 17 35.8 +0.1
comp=Z,29nm,1.1s
CHTO Chiang Mai 17.85 155 ePn Pn 12 17 31.6 -3.5
comp=Z,7.6nm,1.2s
KURK Kurchatov 17.86 333 P Pn 12 17 32.5 -2.5
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 17.86 333 eP Pn 12 17 32.1 -2.9
comp=Z,12nm,1.1s
KURK Lg Lg 12 22 58.1
MHMT Maesarieng 18.12 159 P P 12 17 39.1 +0.3
comp=Z,15nm,1.0s,comp=Z,319nm
CMAR Chiang Mai Arr 18.18 156 P Pn 12 17 35.8 -3.4
comp=Z,0.4nm,0.3s,baz=335,slow=12,SNR=16
CMAR LR LR 12 25 47.5
comp=Z,312nm,19.4s,baz=355,slow=41
KBL Kabul 18.18 274 eP Pn 12 17 37.0 -2.3
KBL pmax pmax
comp=Z,27nm,0.9s
KBL Kabul 18.18 274 ePn Pn 12 17 37.0 -2.3
comp=Z,27nm,0.9s
LAMP Lampang 18.36 154 P P 12 17 42.1 +0.7
comp=Z,7.0nm,0.9s
TLY Talaya 18.61 25 eP Pn 12 17 45.1 +0.9
TLY pmax pmax
comp=Z,5.0nm,1.0s
TLY MLR MLR
comp=Z,361nm,15.0s
TLY Talaya 18.61 25 P Pn 12 17 44.7 +0.5
comp=Z,0.0nm,0.3s,baz=245,slow=3.5,SNR=3.4
TLY Lg Lg 12 23 09.5
comp=Z,0.0nm,0.3s,baz=132,slow=14,SNR=0.9
TLY LR LR 12 25 24.8
comp=Z,547nm,21.3s,baz=216,slow=38
ZALV Zalesovo Beam 19.12 348 P Pn 12 17 50.4 0.0
comp=Z,0.1nm,0.3s,baz=163,slow=11,SNR=26
ZALV LR LR 12 25 40.5
comp=Z,285nm,18.8s,baz=243,slow=38
IRK Irkutsk 19.29 25 eP Pn 12 17 52.4 0.0
IRK pmax pmax
comp=Z,35nm,1.3s
UTTA Uttaradit 19.41 152 P P 12 17 52.7 -0.2
comp=Z,4.4nm,0.9s
LOEI Loei 19.90 151 P Pn 12 17 59.5 -0.5
comp=Z,11nm,1.2s,comp=Z,390nm
WHN Wuhan 20.00 97 P Pn 12 18 06.1 +5.1
WHN S **Sn 12 21 49.4 +3.6**
WHN LR LR
comp=N,4μm,16.7s
WHN LR LR
comp=E,2μm,12.6s
WHN LR LR
comp=Z,2μm,23.5s
NVS Novosibirsk 20.26 347 ⇓*i*P P 12 18 01.7 -0.2
NVS eS **S 12 21 47.7 -1.0**
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.3s
NVS pmax pmax
comp=Z,15nm,1.3s
NVS smax smax
comp=N,8.0nm,2.5s
NVS smax smax
comp=E,37nm,3.3s
PBKT Sadao Pong 20.64 153 P P 12 18 05.3 -1.0
comp=E,19nm,1.5s,comp=E,8μm
KRAR Krasnoyarsk 20.69 3 ⇑*i*P P 12 18 07.6 +1.0
KRAR pmax pmax
comp=Z,31nm,1.0s
TIA Tai'an 21.04 80 ⇓P P 12 18 09.6 -0.9
TIA pmax pmax
comp=Z,30nm,1.0s
HYB Hyderabad 21.11 215 eP P 12 18 06.0 -5.5
HYB Hyderabad 21.11 215 *i* P P 12 18 12.0 +0.5
HYB Hyderabad 21.11 215 ex P 12 18 08.1 -3.5
HYB AMB AMB 12 18 08.7
comp=Z,23nm,0.2s
HYB Hyderabad 21.11 215 eP P 12 18 06.0 -5.5
KHLT Khaolaem Dam 21.52 160 P P 12 18 16.5 +0.7
comp=Z,10nm,1.2s
DGPR DIGLIPUR 22.14 176 eP P 12 18 22.3 -0.1
DGPR AMB AMB 12 18 23.4
comp=Z,32nm,2.9s
POO Poona 22.74 227 eP P 12 18 29.6 +0.7
POO AMB AMB 12 18 35.0
comp=Z,23nm,1.1s
POO Poona 22.74 227 ex P 12 18 29.0 0.0
BVAR Borovoye Array 22.98 327 P P 12 18 32.2 +1.0
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR MLR MLR
comp=Z,376nm,21.2s
BVAR Borovoye Array 22.98 327 P P 12 18 32.2 +1.0
comp=Z,3.7nm,0.6s,baz=134,slow=11,SNR=20
BVAR LR LR 12 27 34.7
comp=Z,376nm,21.2s,baz=130,slow=37
BRVK Borovoye 23.05 327 eP P 12 18 33.3 +1.4
BRVK pmax pmax
comp=Z,26nm,1.7s
BRVK Borovoye 23.05 327 eP P 12 18 33.1 +1.2
comp=Z,65nm,1.8s
QIZ Qiongzhong 23.16 130 P P 12 18 32.3 -0.9
QIZ S S 12 22 35.3 -9.3
QIZ LR LR
comp=Z,1μm,13.7s
QIZ LR LR
comp=Z,2μm,16.8s
NJ2 Nanjing 23.21 90 eP P 12 18 32.1 -1.6
NJ2 pP **pP 12 18 38.1 +0.7**
NJ2 sP **sP 12 18 40.4 +1.4**
NJ2 S **S 12 22 47.3 +1.9**
NJ2 pmax pmax
comp=Z,20nm,1.1s
NJ2 LR LR
comp=Z,170nm,24.0s
NJ2 LR LR
comp=Z,560nm,19.0s
HIA Hailar 25.09 48 eP P 12 18 53.8 +2.5
HIA pmax pmax
comp=Z,3.0nm,1.0s
SSE Sheshan 25.39 91 P P 12 18 54.9 +0.8
SSE pmax pmax
comp=Z,27nm,0.8s
SSE pmax pmax
comp=Z,280nm,9.1s
SSE LR LR
comp=Z,1μm,14.2s
SSE LR LR
comp=Z,550nm,14.4s
SSE LR LR
comp=Z,400nm,12.3s
SNY Shenyang 26.02 66 ⇓P P 12 18 59.8 +0.1
SNY pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 26.75 311 eP P 12 19 06.3 +0.2
comp=Z,0.8nm,0.6s
BOD Bodaibo 27.14 27 eP P 12 19 09.0 -0.7
BOD pmax pmax
comp=Z,5.0nm,1.0s
CN2 Changchun 27.56 62 eP P 12 19 13.3 -0.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,900nm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
AKTO Aktyubinsk 28.32 312 P P 12 19 20.0 -0.2
comp=Z,4.1nm,1.0s,baz=94,slow=8.9,SNR=6.9
AKTO LR LR 12 31 37.5
comp=Z,398nm,20.1s,baz=114,slow=38
TJN Taejon 29.22 77 *i* P P 12 19 28.6 +0.2
KSAR Wonju Array Be 29.49 75 P P 12 19 31.4 +0.6
KSAR Wonju Array Be 29.49 75 P P 12 19 31.4 +0.6
KSRS Korea Array 29.52 75 P P 12 19 31.4 +0.4
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KSRS MLR MLR
comp=Z,209nm,20.3s
KSRS Korea Array 29.52 75 P P 12 19 31.4 +0.4
comp=Z,2.4nm,0.7s,baz=274,slow=9.4,SNR=13
KSRS LR LR 12 31 36.0
comp=Z,209nm,20.3s,baz=276,slow=37
SVE Sverdlovsk 29.76 326 ⇑eP P 12 19 34.0 +1.1
SVE pmax pmax
comp=Z,16nm,0.9s
ARU Arti 30.53 324 *d i*P P 12 19 40.2 +0.4
ARU 12 20 38.6
ARU S **S 12 24 41.0 +0.2**
ARU pmax pmax
comp=Z,20nm,1.7s
ARU Arti 30.53 324 eP P 12 19 40.3 +0.6
comp=Z,9.2nm,0.9s
MDJ Mudanjiang 30.60 61 P P 12 19 40.4 -0.1
MDJ pP **pP 12 19 43.3 -1.1**
MDJ sP **sP 12 19 44.5 -1.5**
MDJ S **S 12 24 43.8 +1.6**
MDJ sS **sS 12 24 48.9 +0.3**
MDJ PcS **PcS 12 26 22.1 -0.4**
MDJ pmax pmax
comp=Z,6.0nm,1.7s

MDJ LR LR
comp=Z,670nm,19.5s
USRK Ussuriysk Arra 32.29 62 P **P 12 19 55.1 -0.4**
comp=Z,2.8nm,0.9s,baz=261,slow=7.5,SNR=5.7
USRK LR LR 12 33 58.1
comp=Z,683nm,19.3s,baz=257,slow=38
TGY Tagaytay City 34.09 121 LR LR 12 35 07.1
comp=Z,7.8nm,18.2s,baz=126,slow=38
KBZ Khabaz 37.72 298 P **P 12 20 43.5 +1.2**
comp=Z,1.5nm,0.8s,baz=22,slow=5.4,SNR=2.6
KBZ LR LR 12 39 36.6
comp=Z,332nm,19.3s,baz=72,slow=42
MJAR Matsushiro Arr 37.78 74 P **P 12 20 40.6 -2.3**
MJAR pmax pmax
comp=Z,12nm,1.1s
MJAR MLR MLR
comp=Z,144nm,19.4s
MJAR Matsushiro Arr 37.78 74 P **P 12 20 40.6 -2.3**
comp=Z,12nm,1.1s,baz=276,slow=10,SNR=3.2
MJAR LR LR 12 36 31.1
comp=Z,144nm,19.4s,baz=300,slow=37
KIV Kislovodsk 37.86 298 eP **P 12 20 45.5 +1.9**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,244nm,15.0s
VRHR Novokhopersk 38.62 310 eP **P 12 20 47.8 -1.9**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 40.08 309 eP **P 12 21 00.5 -1.4**
VORD pmax pmax
comp=N,20nm,1.0s
VORD pmax pmax
comp=E,20nm,1.0s
VORD pmax pmax
comp=Z,8.0nm,1.0s
VSR Storozhevoye 40.17 310 eP **P 12 21 01.0 -1.7**
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=E,5.0nm,0.7s
VSR pmax pmax
comp=Z,6.0nm,0.7s
TIXI Tiksi 41.30 17 eP **P 12 21 12.5 +0.8**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TIXI MLR MLR
comp=Z,161nm,20.0s
TIXI Tiksi 41.30 17 eP **P 12 21 11.6 0.0**
comp=Z,6.0nm,1.1s
KLMR Klimovskoe 41.37 324 eP **P 12 21 11.4 -1.0**
KLMR e 12 22 47.4
KLMR pmax pmax
comp=Z,32nm,1.7s
OBN Obninsk 41.98 316 eP **P 12 21 17.3 -0.2**
OBN e 12 22 53.9
OBN pmax pmax
comp=Z,29nm,1.7s
OBN MLR MLR
comp=Z,247nm,19.0s
YUK Yuzh-Kuril'sk 42.27 61 eP **P 12 21 18.5 -1.5**
YUK iS **S 12 27 35.1 -5.1**
YUK MLR MLR
comp=Z,775nm,20.0s
ASF Jabal al Asfar 44.78 282 P **P 12 21 41.0 +0.4**
ASF pmax pmax
comp=Z,5.0nm,0.8s
ASF Jabal al Asfar 44.78 282 P **P 12 21 41.0 +0.4**
comp=Z,5.0nm,0.8s,baz=74,slow=7.8,SNR=5.4
BR131 Keskin Array S 45.18 293 eP **P 12 21 43.5 -0.2**
comp=Z,2.7nm,0.8s
BR131 ePcP **PcP 12 23 23.2 -0.7**
BRTR Keskin Array B 45.18 293 P **P 12 21 42.7 -1.0**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 45.18 293 P **P 12 21 42.7 -1.0**
comp=Z,2.1nm,0.7s,baz=103,slow=8.2,SNR=14
JOF Joensuu 45.58 326 eP **P 12 21 45.6 -0.8**
JOF pmax pmax
comp=Z,2.0nm,0.8s
JOF Joensuu 45.58 326 ep **P 12 21 45.6 -0.8**
comp=Z,2.2nm,0.8s
SEY Seymchan 46.17 34 P **P 12 21 50.7 -0.3**
SEY pmax pmax
comp=Z,3.0nm,0.7s
SEY Seymchan 46.17 34 P **P 12 21 50.7 -0.3**
comp=Z,2.6nm,0.7s,baz=252,slow=8.1,SNR=20
AKASG Malin Array Be 46.46 309 P **P 12 21 52.7 -0.7**
comp=Z,2.5nm,0.9s,baz=78,slow=6.7,SNR=10
AKASG LR LR 12 44 41.2
comp=Z,241nm,18.3s,baz=65,slow=40
KIEV Kiev 46.48 309⇑iP **P 12 21 53.3 -0.3**
VSU Vasula 47.52 320 eP **P 12 22 03.2 +1.6**
FINES FINESS Array B 47.90 324 P **P 12 22 02.6 -1.9**
comp=Z,3.4nm,0.7s,baz=112,slow=6.7,SNR=9.3
FINES LR LR 12 41 27.0
comp=Z,180nm,19.4s,baz=90,slow=35
CFR Carcaliu 48.00 302 ⇑P **P 12 22 05.1 -0.4**
CFR Carcaliu 48.00 302⇑iP **P 12 22 05.1 -0.4**
MSAB Monastry St. A 48.44 301⇑iP **P 12 22 08.8 -0.1**
TESR Tescani 48.76 304⇑iP **P 12 22 09.9 -1.5**
VRI Vrincioaia 48.83 303 ⇑P **P 12 22 12.5 +0.5**
VRI Vrincioaia 48.83 303⇑iP **P 12 22 12.5 +0.5**
ARCES ARCESS Array B 48.88 335 P **P 12 22 13.6 +1.5**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES MLR MLR
comp=Z,142nm,19.8s
ARCES ARCESS Array B 48.88 335 P **P 12 22 13.6 +1.5**
comp=Z,2.1nm,0.7s,baz=84,slow=8.3,SNR=6.8
ARCES LR LR 12 42 40.5
comp=Z,142nm,19.8s,baz=94,slow=36
PLOR Plostina 48.89 303 ⇑P **P 12 22 12.9 +0.4**
PLOR Plostina 48.89 303⇑iP **P 12 22 12.9 +0.4**
PETK Petropavlovsk- 49.00 47 LR LR 12 45 05.2
comp=Z,152nm,18.2s,baz=288,slow=39
MLR Muntele Rosu 49.45 303 ⇓P **P 12 22 16.8 -0.1**
MLR Muntele Rosu 49.45 303⇓iP **P 12 22 16.8 -0.1**
BURAR Bucovina Array 49.51 306 ⇑P **P 12 22 20.0 +2.7**
BURAR Bucovina Array 49.51 306⇑iP **P 12 22 20.0 +2.7**
BUR08 Bucovina Ar. S 49.52 306 eP **P 12 22 17.2 -0.1**
JMB Yambol 49.70 299 ⇑P **P 12 22 19.1 +0.5**
JMB Yambol 49.70 299⇑iP **P 12 22 19.1 +0.5**
VOIR 50.08 303 ⇑P **P 12 22 21.7 +0.1**
VOIR 50.08 303⇑iP **P 12 22 21.6 0.0**
ARR Arges 50.38 303⇑iP **P 12 22 23.9 +0.1**
KWP Kalwaria Pacla 50.76 309 eP **P 12 22 27.4 +0.8**
KWP pmax pmax
comp=Z,23nm,0.9s
KWP Kalwaria Pacla 50.76 309 eP **P 12 22 27.4 +0.8**
comp=Z,23nm,0.9s
LOT Lotru 50.95 303⇑iP **P 12 22 28.3 +0.1**
KOLS Kolonicke sedl 51.18 308 eP **P 12 22 31.8 +2.0**
KOLS pmax pmax
comp=Z,7.0nm,1.2s
KOLS Kolonicke sedl 51.18 308 eP **P 12 22 31.8 +2.0**
DRGR 51.35 305 ⇑P **P 12 22 31.4 +0.2**
DRGR 51.35 305⇑iP **P 12 22 31.4 +0.2**
GZR Gura Zlata 51.64 303 ⇓P **P 12 22 32.2 -1.1**
GZR Gura Zlata 51.64 303⇓iP **P 12 22 32.2 -1.1**
CRVS Cervenica-Dubn 51.71 308 eP **P 12 22 33.0 -0.7**
CRVS pmax pmax
comp=Z,19nm,2.2s
CRVS Cervenica-Dubn 51.71 308 eP **P 12 22 33.0 -0.7**
STHS Stebnicka Huta 51.74 309 eP **P 12 22 34.2 +0.2**
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 51.74 309 eP **P 12 22 34.2 +0.2**
BILL Bilibino 52.20 27⇑eP **P 12 22 39.8 +2.7**
BILL e 12 24 41.1
BILL pmax pmax
comp=Z,12nm,1.7s
VYHS Vyhne 53.50 308 eP **P 12 22 47.6 +0.6**
VYHS pmax pmax
comp=Z,11nm,1.7s
VYHS Vyhne 53.50 308 eP **P 12 22 47.6 +0.6**
PKSM Moragy 54.22 305 ⇑P **P 12 22 51.8 -0.5**
PKSM Moragy 54.22 305⇑iP **P 12 22 51.8 -0.5**
DPC Dobruska-Polom 54.62 311 eP **P 12 22 55.5 +0.3**
DPC e 12 23 03.8
DPC Dobruska-Polom 54.62 311 eP **P 12 22 55.5 +0.3**
DPC epP **pP 12 22 58.6 -0.7**
DPC ex x 12 23 03.8
UPC Upice 54.78 311 eP **P 12 22 56.3 0.0**
UPC Upice 54.78 311 eP **P 12 22 56.3 0.0**
NB2 NORSAR Subarra 55.08 324 P **P 12 22 57.4 -1.0**
comp=Z,2.3nm,0.7s,baz=79,slow=7.4
NOA NORSAR Array B 55.08 324 P **P 12 22 57.7 -0.7**
comp=Z,3.7nm,0.8s,baz=79,slow=7.3,SNR=12
NOA LR LR 12 48 01.1
comp=Z,126nm,18.9s,baz=90,slow=38
CONA Conrad Observa 55.56 308⇑iP **P 12 23 01.9 -0.2**
comp=Z,9.8nm,1.0s
CLL Collm 56.40 312 eP **P 12 23 09.0 +1.1**
CLL Collm 56.40 312 eP **P 12 23 09.0 +1.1**
CLL eSS **SS 12 34 42.0 -2.7**
SOKA Soboth 56.47 307⇑iP **P 12 23 08.1 -0.5**
comp=Z,11nm,1.1s
KHC Kasperske Hory 56.67 310 eP **P 12 23 07.7 -2.2**
KHC Kasperske Hory 56.67 310 eP **P 12 23 07.7 -2.2**
GERES GERESS Array B 56.68 309 P **P 12 23 09.0 -1.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES MLR MLR
comp=Z,138nm,19.5s
GERES GERESS Array B 56.68 309 P **P 12 23 09.0 -1.1**
comp=Z,0.8nm,0.6s,baz=64,slow=4.5,SNR=5.2
GERES LR LR 12 52 12.1
comp=Z,138nm,19.5s,baz=72,slow=41
KMBO Kilima Mbogo 61.98 246 P **P 12 23 46.3 -1.0**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO MLR MLR
comp=Z,175nm,20.6s
KMBO Kilima Mbogo 61.98 246 P **P 12 23 46.3 -1.0**
comp=Z,0.6nm,0.5s,baz=58,slow=13,SNR=2.6
KMBO LR LR 12 50 36.1
comp=Z,175nm,20.6s,baz=93,slow=36
LPG La Plagne 62.28 308 eP **P 12 23 48.9 -0.1**
comp=Z,28nm,0.9s
LPG La Plagne 62.28 308 eP **P 12 23 48.9 -0.1**
LPG pmax pmax
comp=Z,28nm,0.9s
LPG La Plagne 62.28 308 eP **P 12 23 48.9 -0.1**
comp=Z,28nm,0.9s
LPL La Plagne 62.29 308 eP **P 12 23 48.9 -0.1**
comp=Z,19nm,0.9s
LPL La Plagne 62.29 308 eP **P 12 23 48.9 -0.1**
LPL pmax pmax
comp=Z,19nm,0.9s
LPL La Plagne 62.29 308 eP **P 12 23 48.9 -0.1**
comp=Z,19nm,0.9s
ORIF Oris-en-Rattie 63.08 307 eP **P 12 23 53.9 -0.2**
ORIF Oris-en-Rattie 63.08 307 eP **P 12 23 53.9 -0.2**
ORIF Oris-en-Rattie 63.08 307 eP **P 12 23 53.9 -0.2**
SMF Signal de Mont 63.67 310 eP **P 12 23 57.5 -0.4**
comp=Z,17nm,1.0s
SMF Signal de Mont 63.67 310 eP **P 12 23 57.5 -0.4**
SMF pmax pmax
comp=Z,17nm,1.0s
SMF Signal de Mont 63.67 310 eP **P 12 23 57.5 -0.4**
comp=Z,17nm,1.0s
KEST Kesra 64.58 297 LR LR 12 56 57.0
comp=Z,33nm,20.8s,baz=194,slow=40
TCF Toulx Ste Croi 64.85 310 eP **P 12 24 05.1 -0.6**
TCF Toulx Ste Croi 64.85 310 eP **P 12 24 05.1 -0.6**
TCF Toulx Ste Croi 64.85 310 eP **P 12 24 05.1 -0.6**
COLD Coldfoot 67.77 22 eP **P 12 24 24.5 +0.5**
comp=Z,6.0nm,0.8s
WRAB Tennant Creek 68.54 136 eP **P 12 24 30.1 +0.7**
WRAB pmax pmax
comp=Z,13nm,1.2s
WRAB Tennant Creek 68.54 136 eP **P 12 24 29.9 +0.5**
comp=Z,5.9nm,0.9s
WRA Warramunga Arr 68.54 136 P **P 12 24 28.1 -1.3**
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA MLR MLR
comp=Z,144nm,19.3s
WRA Warramunga Arr 68.54 136 P **P 12 24 28.1 -1.3**
comp=Z,2.7nm,1.0s,baz=333,slow=6.7,SNR=11
WRA LR LR 12 57 03.0
comp=Z,144nm,19.3s,baz=195,slow=38
PPLA Purkeypile 69.86 26 eP **P 12 24 39.2 +2.0**
comp=Z,13nm,1.1s
COLA College 70.04 23 eP **P 12 24 37.9 -0.2**
COLA pmax pmax
comp=Z,7.0nm,0.8s
COLA College 70.04 23 eP **P 12 24 37.9 -0.2**
comp=Z,7.3nm,0.8s
ILAR Eielson Array 70.41 23 P **P 12 24 39.4 -1.0**
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR MLR MLR
comp=Z,111nm,18.2s
ILAR Eielson Array 70.41 23 P **P 12 24 39.4 -1.0**
comp=Z,2.7nm,0.8s,baz=294,slow=4.7,SNR=24
ILAR LR LR 12 59 37.3
comp=Z,111nm,18.2s,baz=316,slow=39
KDAK Kodiak Island 72.97 30ceP **P 12 24 59.0 +3.1**
YKA Yellowknife Ar 80.30 12 P **P 12 25 37.1 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 80.30 12 P **P 12 25 37.1 -0.2**
comp=Z,0.8nm,0.9s,baz=344,slow=4.9,SNR=11
TORD Torodi Ar. Bea 82.12 280 P **P 12 25 45.8 -2.0**
comp=Z,2.9nm,0.8s,baz=44,slow=3.9,SNR=14
TORD LR LR 13 06 45.1
comp=Z,128nm,19.1s,baz=95,slow=39
BBB Bella Bella 86.30 23 LR LR 13 08 32.6
comp=Z,96nm,21.9s,baz=32,slow=38
SCHQ Schefferville 88.21 347 P **P 12 26 16.0 -1.6**
comp=Z,4.2nm,0.8s,baz=21,slow=5.9,SNR=5.1
BOSA Boshof 88.94 233 LR LR 13 04 56.8
comp=Z,64nm,19.3s,baz=48,slow=35
DBIC Dimbokro 91.10 279 LR LR 13 10 13.1
comp=Z,126nm,19.4s,baz=45,slow=37
SAML Samuel 144.81 312 ePKPdf PKPbc 12 33 03.5 +0.2
CPUP Villa Florida 151.62 280 PKIKP **PKPbc 12 33 22.0 +0.7**
CPUP pmax pmax
comp=Z,4.0nm,0.8s
CPUP Villa Florida 151.62 280 PKPbc **PKPbc 12 33 22.0 +0.7**
comp=Z,4.1nm,0.8s,baz=66,slow=4.7,SNR=5.6

*MAN **23** 12:16:21, 13°29N×124°54E, h65km, mb4.8, ML3.7, MS3.8*
*ISCJB **23** 12:16:23.0±0.5, 13°16N±0°04×124°44E±0°05, h80km±4km, mb4.0/10, Error ellipse: s-maj=9.6km s-min=4.8km az=153.1*
*IDC **23** 12:16:27.0±3.8, 13°03N×124°49E, h101km±36km, mb3.7/10, mb1 3.7/11, mb1mx3.5/27, mbtmp4.0/11, Error ellipse: s-maj=38.9km s-min=12.0km az=67.0*
ISC 23 12:16:24.1±0.8, 13°16N±0°04×124°44E±0°06, h72km±8km, n45, σ1ˢ44/45, mb4.2/10, 1C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.52**	**327**	⇓eP	Pn	12 16 35.7	-1.6
PVCP				iS	Sn	12 16 46.2	-0.7
CNP	**Catarman**	**0.68**	**162**	eP	Pn	12 16 38.9	0.0
AUQP	**San Andres**	**1.73**	**276**	eP	Pn	12 16 53.0	+0.9
AUQP				eS	Sn	12 17 15.2	+1.7
BESP	**Borongan**	**1.83**	**148**	eP	Pn	12 16 53.9	+0.4
PLP	**Palo**	**2.05**	**165**	⇑iP	Pn	12 16 57.2	+0.8
PLP				eS	Sn	12 17 22.4	+1.3
GQP	**Guinayangan**	**2.08**	**291**	⇓eP	Pn	12 16 55.6	-1.3
GQP				eS	Sn	12 17 20.4	-1.4
OCLP	**Ormoc**	**2.10**	**176**	eP	Pn	12 16 57.8	+0.6
RCP	**Roxas**	**2.30**	**226**	⇓eP	Pn	12 16 59.7	-0.2
OTRP	**Odiongan**	**2.49**	**252**	eP	Pn	12 17 03.0	+0.5
LLP	**Lapu-Lapu**	**2.86**	**189**	eP	Pn	12 17 06.9	-0.6
LLP				eS	Sn	12 17 36.6	-4.2
MSLP	**Maasin**	**3.03**	**172**	eP	Pn	12 17 10.4	+0.6
GUIM	**Jordan**	**3.10**	**216**	eP	Pn	12 17 11.0	+0.2
SJMP	**San Jose**	**3.32**	**258**	eP	Pn	12 17 14.4	+0.8
TBP	**Tagbilaran**	**3.49**	**189**	eP	Pn	12 17 15.9	-0.2
TBP				eS	Sn	12 17 55.9	-0.3
BALP	**Baler**	**3.78**	**313**	eP	Pn	12 17 17.6	-2.4
LUBP	**Lubang**	**4.12**	**278**	eP	Pn	12 17 24.7	0.0
CAUP	**Cauayan**	**4.54**	**326**	eP	Pn	12 17 28.6	-1.6
PAGZ	**Pagadian**	**5.38**	**191**	eP	Pn	12 17 42.9	+1.1
BOLP	**Bolinao**	**5.43**	**307**	eP	Pn	12 17 42.6	+0.1
PALU	**Palau**	**11.43**	**119**	P	Pn	12 19 09.9	+5.3
	baz=6.4,SNR=3.4						
JOW	**Kunigami**	**14.07**	**14**	P	**Pn**	**12 19 41.5**	**+1.5**

KSRS Korea Array 24.39 7 P **P 12 21 37.1 +1.5**
0.7nm,0.5s,baz=184,slow=9.3,SNR=4.7
CMAR Chiang Mai Arr 25.08 285 P **P 12 21 43.1 +1.0**
0.4nm,0.4s,baz=98,slow=6.5,SNR=3.4
KNRA Kununurra 28.97 171 P **P 12 22 16.4 -0.5**
baz=24,SNR=3.4
WRA Warramunga Arr 34.30 163 P **P 12 23 01.9 -1.9**
0.7nm,0.3s,baz=343,slow=9.2,SNR=40
QIS Mount Isa 36.67 156 P **P 12 23 22.0 -2.1**
baz=31,SNR=3.1
SONM Songino Array 37.71 340 P **P 12 23 35.0 +2.2**
1.9nm,1.1s,baz=172,slow=12,SNR=2.9
ASAR Alice Springs 37.75 166 P **P 12 23 32.1 -1.1**
1.8nm,0.3s,baz=338,slow=7.0,SNR=148
ASAR S **S 12 29 14.6 -4.2**
0.5nm,0.8s,baz=330,slow=11,SNR=4.9
WRKA Warakurna 38.15 174 P **P 12 23 35.1 -1.5**
baz=33,SNR=12
H11S3 WAKE ISLAND Hy 40.92 77 T T 13 07 32.7
baz=269,slow=75,SNR=28
H11S1 WAKE ISLAND Hy 40.93 77 T T 13 07 33.4
baz=269,slow=75,SNR=20
H11S2 WAKE ISLAND Hy 40.94 77 T T 13 07 33.6
baz=269,slow=75,SNR=28
H11N1 WAKE ISLAND Hy 41.15 75 T T 13 07 57.0
baz=267,slow=74,SNR=76
H11N2 WAKE ISLAND Hy 41.15 75 T T 13 07 57.7
baz=267,slow=74,SNR=56
H11N3 WAKE ISLAND Hy 41.17 75 T T 13 07 57.8
baz=267,slow=74,SNR=69
QLP Quilpie 43.94 154 P **P 12 24 23.7 -0.3**
baz=38,SNR=6.1
STKA Stephens Creek 47.70 160 P **P 12 24 53.5 -0.1**
1.6nm,0.4s,baz=350,slow=7.8,SNR=6.6
STKA Stephens Creek 47.70 160 P **P 12 24 53.6 -0.1**
baz=42,SNR=6.5
HTT Hallett 48.34 164 P **P 12 24 58.5 -0.1**
baz=43,SNR=3.3
MKAR Makanchi Array 48.66 322 P **P 12 25 01.8 +0.8**
2.0nm,0.7s,baz=117,slow=8.7,SNR=15
CMSA Cobar Meteorol 48.89 156 P **P 12 25 03.5 +0.7**
baz=43,SNR=9.2
ZALV Zalesovo Beam 51.25 331 P **P 12 25 20.6 +0.2**
1.5nm,0.6s,baz=112,slow=8.0,SNR=6.8
ARPS Mount Arapiles 52.30 162 P **P 12 25 27.7 -0.6**
baz=47,SNR=5.7
KURBB Kurchatov Arra 52.70 325 P **P 12 25 31.9 +0.8**
1.1nm,0.5s,baz=123,slow=7.8,SNR=12
BVAR Borovoye Array 58.29 325 P **P 12 26 11.8 +0.5**
1.2nm,0.5s,baz=125,slow=7.4,SNR=7.0

DJA 23 12:27:44.5±0.6, 3°S±5°×12°8E±°, h21km±10km, M3.6/7, MLv3.6/7, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.97**	**236**	P	Pb	12 28 02.4	-0.2
NLAI				S	Sn	12 28 16.9	+0.9
MSAI	**Masohi**	**1.20**	**122**	P	Pb	12 28 06.6	0.0
SANI	**Sanana**	**2.03**	**289**	P	Pn	12 28 16.7	-0.7
SANI				S	Sn	12 28 40.7	-1.4
LBMI	**Labuha**	**2.09**	**349**	P	Pb	12 28 21.3	-0.4
BNDI	**Bandanaira**	**2.69**	**132**	P	Pn	12 28 27.4	+0.8
SWI	**Sorong**	**3.81**	**61**	P	Pn	12 28 42.7	+0.7
SWI				S	Sn	12 29 27.7	+1.4
FAKI	**Fak Fak**	**4.34**	**93**	P	Pn	12 28 48.8	-0.5

MAN 23 12:55:29, 13°53N×120°62E, h64km, mb4.1, ML3.0, MS2.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.33**	**94**	⇓iP	Pn	12 55 42.1	+2.4
PGP				iS	Sn	12 55 55.4	+7.8
LUBP	**Lubang**	**0.41**	**300**	eP	Pn	12 55 43.1	+2.7
LUBP				eS	Sn	12 55 53.4	+4.6
SJMP	**San Jose**	**1.17**	**155**	eP	Pn	12 55 52.2	+2.8
SJMP				eS	Sn	12 56 06.9	+2.3
BUSP	**Coron**	**1.57**	**195**	eP	Pn	12 55 56.5	+1.7
ENPP	**El Nido**	**2.58**	**207**	eP	Pn	12 56 10.1	+1.6

*ISCJB **23** 12:57:25.6±0.4, 51°78N±0°06×175°32W±0°03, h63km±3km, mb4.3/38, Error ellipse: s-maj=9.5km s-min=3.1km az=171.8*
*MOS **23** 12:57:25.6±1.3, 51°93N×175°35W, h59km, mb4.5/6, Error ellipse: s-maj=14.0km s-min=10.7km az=52.3*
*NEIC **23** 12:57:26.9±0.6, 51°71N×175°37W, h57km±4km, mb4.3/24, ML4.3(AEIC), Error ellipse: s-maj=11.5km s-min=3.9km az=165.0*
*BJI **23** 12:57:26.0, 51°70N×175°50W, h73km, mB4.8/7, mb4.5/13, Ms4.6/4, Ms7 4.3/3*
*IDC **23** 12:57:27.4±1.9, 51°94N×175°43W, h58km±15km, mb3.9/18, mb1 4.1/20, mb1mx3.9/39, mbtmp4.1/20, MS3.1/7, Ms1 3.2/7, ms1mx3.0/31, Error ellipse: s-maj=20.6km s-min=10.6km az=170.0*
ISC 23 12:57:27.6±0.7, 51°84N±0°10×175°36W±0°04, h63km±5km, n334, σ0ˢ88/338, mb4.3/38, 100C-97D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.48**	**296**	P	**Pn**	**12 57 37.9**	**-1.6**
GSCK	**Great Sitkin C**	**0.53**	**290**	P	**Pn**	**12 57 38.4**	**-1.7**
GSTD	**Great Sitkin T**	**0.53**	**295**	P	**Pn**	**12 57 38.6**	**-1.6**
ADAG	**Mount Adagdak**	**0.78**	**281**	P	**Pn**	**12 57 42.4**	**-0.6**
ADK	**Adak**	**0.82**	**274**	P	**Pn**	**12 57 41.5**	**-1.9**
ADK				S	**Sn**	**12 57 54.0**	**-1.1**
ADK	**Adak**	**0.82**	**274**	P	**Pn**	**12 57 41.5**	**-1.9**
ADK				S	**Sn**	**12 57 54.0**	**-1.1**
KOKL	**Mount Kliuchef**	**0.87**	**55**	P	**Pn**	**12 57 42.2**	**-1.9**
KOFP	**Korovin Flat P**	**0.90**	**60**	P	**Pn**	**12 57 42.3**	**-2.1**
KIRH	**Kanaga Island**	**1.08**	**274**	P	**Pn**	**12 57 45.3**	**-1.4**
KIKV	**Kanaga Island**	**1.12**	**273**	P	**Pn**	**12 57 46.0**	**-1.3**
TAFL	**Tanaga Flats**	**1.58**	**268**	P	**Pn**	**12 57 52.2**	**-1.1**
TAFP	**Tanaga Falls P**	**1.63**	**273**	P	**Pn**	**12 57 53.4**	**-0.7**
GAEA	**Gareloi East**	**2.10**	**270**	P	**Pn**	**12 58 00.2**	**-0.2**
CERAA	**Semis' Rag'd T**	**3.07**	**273**	P	**Pn**	**12 58 14.2**	**+0.5**
CERAA				S	**Sn**	**12 58 51.3**	**+2.1**
CEAP	**Semis' Anvil P**	**3.14**	**275**	P	**Pn**	**12 58 15.2**	**+0.6**
CESW	**Semis' Southwe**	**3.15**	**273**	P	**Pn**	**12 58 14.9**	**+0.3**
AMKA	**Amchitka**	**3.36**	**264**	P	**Pn**	**12 58 17.1**	**-0.4**
AMKA				S	**Sn**	**12 58 56.2**	**+0.1**
LSPA	**Little Sitkin**	**3.76**	**274**	P	**Pn**	**12 58 23.1**	**+0.1**
LSNW	**Little Sitkin**	**3.80**	**274**	P	**Pn**	**12 58 23.6**	**+0.1**
NIKH	**Nikolski High**	**4.14**	**71**	P	**Pn**	**12 58 26.8**	**-1.5**
NIKH				S	**Sn**	**12 59 13.7**	**-1.7**
OKSP	**Okmok Steeple**	**4.54**	**69**	P	**Pn**	**12 58 33.8**	**+0.1**
OKFG	**Magazine Ridge**	**4.80**	**68**	P	**Pn**	**12 58 38.5**	**+1.2**
MSOM	**Makushin Julie**	**5.47**	**65**	P	**Pn**	**12 58 46.0**	**-0.4**
MSOM	**Makushin Julie**	**5.47**	**65**	P	**Pn**	**12 58 46.0**	**-0.4**
UNV	**Unalaska Valle**	**5.73**	**66**	P	**Pn**	**12 58 49.6**	**-0.4**
SPIA	**Saint Paul Isl**	**6.12**	**27**	P	**Pn**	**12 58 56.1**	**+0.8**
AKGG	**Akutan Green G**	**6.13**	**64**	P	**Pn**	**12 58 55.5**	**+0.1**
FX1	**Attu Island--F**	**7.11**	**283**	P	**Pn**	**12 59 08.8**	**0.0**
	18nm,0.3s,baz=183,slow=7.7,SNR=38						
FX1				S	**Sn**	**13 00 28.3**	**+0.2**
	3.4nm,0.3s,baz=239,slow=19,SNR=1.3						
FX1				LR	LR	13 01 08.4	
	comp=Z,66nm,20.3s,baz=92,slow=31						
SDPT	**Sand Point**	**9.52**	**62**	P	**Pn**	**12 59 39.7**	**-2.0**
GAMB	**Gambell**	**12.13**	**8**	ePn	**P**	**13 00 18.5**	**+1.2**
SVW2	**Sparrevohn**	**14.28**	**42**	ePn	**P**	**13 00 50.0**	**-1.7**
TNA	**Tin City**	**14.28**	**13**	ePn	**P**	**13 00 49.2**	**-2.4**
KDAK	**Kodiak Island**	**14.38**	**57**	eP	**P**	**13 00 52.0**	**-0.8**
KDAK	**Kodiak Island**	**14.38**	**57**	ePn	**P**	**13 00 52.0**	**-0.8**
RSO	**Redoubt South**	**15.20**	**47**	ePn	**P**	**13 01 01.8**	**-0.4**
	12nm,0.5s						
PETK	**Petropavlovsk-**	**16.43**	**285**	P	**P**	**13 01 15.6**	**0.0**
	0.3nm,0.3s,baz=101,slow=14,SNR=3.7						
PETK				LR	LR	13 06 59.5	
	comp=Z,52nm,21.6s,baz=103,slow=35						
PPLA	**Purkeypile**	**16.59**	**39**	eP	**P**	**13 01 19.9**	**+2.5**
	11nm,1.0s						
SEW	**Seward**	**16.60**	**50**	ePn	**P**	**13 01 18.7**	**+1.3**
	18nm,0.6s						
KTH	**Kantishna Hill**	**17.42**	**38**	ePn	**P**	**13 01 27.7**	**+1.2**
TRF	**Thorofare Moun**	**17.61**	**39**	ePn	**P**	**13 01 29.9**	**+1.2**
IM04	**Indian Mountai**	**17.88**	**29**	ePn	**Pn**	**13 01 33.5**	**+2.0**
MCK	**McKinley**	**18.28**	**39**	eP	**Pn**	**13 01 37.6**	**+1.2**
MCK				pmax	pmax		
	comp=Z,10.0nm,0.5s						

MCK	McKinley	18.28	39	*e*P	Pn	13 01 37.6	+1.2
	comp=Z,10.0nm,0.5s						
BMRM	Bremner River	19.14	50	*e*P	Pn	13 01 48.4	+1.5
	comp=Z,9.1nm,0.8s						
COLA	College	19.25	37	*e*P	P	13 01 45.3	-1.1
COLA	College	19.25	37	*e*P	P	13 01 45.3	-1.1
PAX	Paxson	19.38	43	*e*P	Pn	13 01 48.7	-1.0
PAX				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PAX	Paxson	19.38	43	*e*P	Pn	13 01 48.7	-1.0
	comp=Z,6.5nm,0.6s						
ILAR	Eielson Array	19.56	38	P	P	13 01 48.0	-1.9
ILAR	Eielson Array	19.56	38	P	P	13 01 47.9	-1.9
	comp=Z,1.3nm,0.3s,baz=237,slow=9.6,SNR=61						
ILAR				ScP	ScP	13 09 38.7	+1.1
	comp=Z,0.1nm,0.3s,baz=269,slow=3.3,SNR=7.5						
COLD	Coldfoot	19.78	29	*e*P	Pn	13 01 54.3	0.0
	comp=Z,15nm,0.8s						
MENT	Mentasta	20.12	44	*e*P	Pn	13 01 56.7	-1.7
DOT	Dot Lake	20.21	42	*e*P	P	13 01 56.7	-0.3
	comp=Z,20nm,0.7s						
SEY	Seymchan	20.38	315	P	Pn	13 02 00.5	-0.9
	comp=Z,10nm,0.7s,baz=112,slow=9.4,SNR=40						
EGAK	Eagle	21.80	40	*e*P	P	13 02 13.4	-0.6
	comp=Z,13nm,0.9s						
DAWY	Dawson	22.31	43	*e*P	P	13 02 18.8	-0.7
DLBC	Dease Lake	26.31	58	P	P	13 02 58.3	+1.2
	comp=Z,2.1nm,1.1s,baz=189,slow=13,SNR=3.1						
ASAJ	Asahikawa	28.85	271	P	P	13 03 21.1	+1.3
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ASAJ	Asahikawa	28.85	271	P	P	13 03 21.1	+1.3
	comp=Z,7.5nm,0.7s,baz=111,slow=8.4,SNR=6.5						
YKA	Yellowknife Ar	33.35	47	P	P	13 03 58.0	-1.2
	comp=Z,0.2nm,0.4s,baz=283,slow=7.3,SNR=7.3						
YKA				PcP	PcP	13 06 40.1	+0.7
	comp=Z,0.8nm,0.6s,baz=287,slow=2.9,SNR=14						
YKA				ScP	ScP	13 10 19.0	+0.9
	comp=Z,0.1nm,0.5s,baz=292,slow=3.0,SNR=3.6						
H11N2	WAKE ISLAND Hy	34.93	210	T	T	13 41 01.4	
	baz=18,slow=76,SNR=291						
H11N3	WAKE ISLAND Hy	34.94	210	T	T	13 40 59.3	
	baz=18,slow=76,SNR=250						
H11N1	WAKE ISLAND Hy	34.95	210	T	T	13 41 02.9	
	baz=18,slow=76,SNR=302						
USRK	Ussuriysk Arra	35.36	279	P	P	13 04 16.3	-0.4
	comp=Z,2.8nm,0.7s,baz=68,slow=9.1,SNR=8.8						
USRK				PcP	PcP	13 06 44.3	-1.2
	comp=Z,1.8nm,0.8s,baz=270,slow=1.4,SNR=4.8						
MJAR	Matsushiro Arr	35.97	263	LR	LR	13 19 15.3	
	comp=Z,26nm,20.0s,baz=70,slow=36						
I05D	Terrebonne, OR	36.12	80	⇑P	P	13 04 24.7	+1.4
	baz=36						
H11S1	WAKE ISLAND Hy	36.14	210	T	T	13 42 38.7	
	baz=19,slow=76,SNR=307						
H11S2	WAKE ISLAND Hy	36.15	210	T	T	13 42 40.0	
	baz=19,slow=76,SNR=205						
H11S3	WAKE ISLAND Hy	36.16	210	T	T	13 42 48.3	
	baz=19,slow=76,SNR=158						
MDJ	Mudanjiang	36.60	281	P	P	13 04 25.1	-2.3
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,62nm,3.5s						
EDM	Edmonton	36.71	63	*e*P	P	13 04 28.2	0.0
EDM	Edmonton	36.71	63	*e*P	P	13 04 28.2	0.0
NEW	Newport	36.71	72	P	P	13 04 28.7	+0.4
	comp=Z,5.1nm,0.6s,baz=297,slow=10,SNR=12						
NEW	Newport	36.71	72	⇑P	P	13 04 28.2	-0.1
	baz=37,SNR=5.7						
BSMT	Bassoo Peak	38.28	71	*e*P	P	13 04 41.8	0.0
	comp=Z,5.3nm,0.6s						
RES	Resolute Bay	38.43	25	PcP	PcP	13 06 54.4	0.0
	comp=Z,2.3nm,0.5s,baz=297,slow=4.5,SNR=3.6						
BLMT	Blacktail Moun	38.45	71	*e*P	P	13 04 43.8	+0.5
	comp=Z,5.7nm,0.4s						
WVOR	Wild Horse Val	38.81	81	*e*P	P	13 04 47.0	+0.8
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WVOR	Wild Horse Val	38.81	81	*e*P	P	13 04 47.0	+0.8
	comp=Z,3.6nm,0.9s						
MSO	Missoula	39.29	72	⇓P	P	13 04 49.8	-0.4
	baz=39,SNR=5.7						
WAKR	Walker	40.62	86	*e*P	P	13 05 04.1	+2.8
HLID	Hailey	40.75	77	⇑P	P	13 05 02.2	-0.1
	baz=41						
EGMT	Eagleton	41.12	68	*e*P	P	13 05 04.8	-0.5
	comp=Z,4.1nm,0.8s						
EGMT	Eagleton	41.12	68	⇑P	P	13 05 04.5	-0.8
	baz=41						
A19A	Klindworth Far	41.24	67	⇓P	P	13 05 04.9	-1.3
	baz=41						
BOZ	Bozeman (W)	41.27	72	*e*P	P	13 05 06.7	+0.1
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BOZ	Bozeman (W)	41.27	72	*e*P	P	13 05 06.7	+0.1
	comp=Z,3.6nm,0.7s						
B19A	Brinkman Farms	41.37	67	⇑P	P	13 05 06.7	-0.5
	baz=41,SNR=7.0						
NVAR	Mina Array Bea	41.37	86	P	P	13 05 09.4	+1.8
	comp=Z,1.4nm,0.7s,baz=295,slow=7.5,SNR=10						
C19A	Slack Wire Ran	41.68	68	⇑P	P	13 05 09.4	-0.3
	baz=42,SNR=16						
A20A	Cobblestone Ra	41.73	66	⇑P	P	13 05 09.6	-0.6
	baz=42,SNR=5.7						
KSRS	Korea Array	41.77	273	P	P	13 05 11.6	+1.1
	comp=Z,3.8nm,0.8s,baz=58,slow=7.5,SNR=16						
KSRS				PcP	PcP	13 07 06.5	+0.9
	comp=Z,0.8nm,0.7s,baz=67,slow=4.2,SNR=3.7						
KSRS				LR	LR	13 20 35.7	
	comp=Z,14nm,20.2s,baz=265,slow=33						
KSAR	Wonju Array Be	41.80	273	P	P	13 05 11.6	+0.8
KSAR						13 07 06.5	
KSAR	Wonju Array Be	41.80	273	P	P	13 05 11.6	+0.8
KSAR				PcP	PcP	13 07 06.5	+0.8
D19A	Cripps Ranch,	42.08	69	⇑P	P	13 05 12.5	-0.5
	baz=42						
A21A	Bergtoll Ranch	42.24	66	⇓P	P	13 05 13.6	-0.7
	baz=42,SNR=5.2						
C20A	Veseth Ranch,	42.29	68	⇓P	P	13 05 14.5	-0.3
	baz=42,SNR=5.2						
B21A	Ellsworth Farm	42.48	66	⇑P	P	13 05 15.6	-0.6
	baz=42,SNR=6.7						
E19A	Rath Farm, Rou	42.51	70	⇓P	P	13 05 16.5	0.0
	baz=42						
D20A	Manuel Ranch,	42.55	69	⇑P	P	13 05 16.4	-0.4
	baz=42						
H17A	Grant Village	42.59	73	*e*P	P	13 05 19.0	+1.5
	comp=Z,9.6nm,1.1s						
H17A	Grant Village	42.59	73	⇓P	P	13 05 18.1	+0.7
	baz=42,SNR=5.9						
F19A	Roth Farm, Mol	42.74	71	⇑P	P	13 05 18.1	-0.4
	baz=43						
C21A	Desert Coulee	42.75	67	⇓P	P	13 05 17.5	-1.0
	baz=43						
A22A	Carney Farms,	42.81	65	⇑P	P	13 05 17.8	-1.2
	baz=43,SNR=8.3						
I17A	Pilgrim Ck.	42.85	74	⇑P	P	13 05 19.7	+0.1
	baz=43						
E20A	Meyer Farm, Mu	42.87	69	⇑P	P	13 05 19.2	-0.2
	baz=43						
RLMT	Red Lodge	42.96	72	*e*P	P	13 05 20.6	+0.2
	comp=Z,8.3nm,1.0s						
H18A	Shoshone NF, C	42.97	73	⇑P	P	13 05 20.7	+0.2
	baz=43						
SBC	Santa Barbara	43.04	91	⇑P	P	13 05 21.6	+0.7
	baz=43						
R11A	Troy Canyon, C	43.10	84	⇓P	P	13 05 21.5	-0.1
	baz=43						
B22A	Reddig Ranch S	43.13	66	⇑P	P	13 05 21.3	-0.2
	baz=43						
D21A	La Casta Ranch	43.22	68	⇓P	P	13 05 21.9	-0.4
	baz=43						
F20A	Billings	43.24	70	⇑P	P	13 05 22.0	-0.4
	baz=43						
H19A	Powell	43.37	72	⇓P	P	13 05 23.3	-0.4
	baz=43						
A23A	Redstone	43.41	65	⇓P	P	13 05 23.8	0.0
	baz=43,SNR=5.5						
E21A	Keefer Ranch,	43.46	69	⇓P	P	13 05 23.8	-0.3
	baz=43						
C22A	Vida	43.49	67	⇑P	P	13 05 24.0	-0.4
	baz=43						
FURC	Furnace Creek,	43.49	87	⇑P	P	13 05 24.4	0.0
	baz=43						
G20A	Bridger	43.52	71	⇓P	P	13 05 24.4	-0.4
	baz=43,SNR=7.6						
B23A	Brockton	43.61	65	⇓P	P	13 05 24.7	-0.7
	baz=44,SNR=10.0						
D22A	Cohagen	43.64	68	⇓P	P	13 05 25.6	0.0
	baz=44,SNR=10						
DUG	Dugway	43.67	80	*e*P	P	13 05 26.3	+0.2
DUG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
DUG	Dugway	43.67	80	*e*P	P	13 05 26.2	+0.2
	comp=Z,4.6nm,1.1s						
DUG	Dugway	43.67	80	⇑P	P	13 05 26.7	+0.5
	baz=44						
I19A	Meeteetse	43.73	73	⇓P	P	13 05 26.4	-0.2
	baz=44						
C23A	Lambert	43.86	66	⇓P	P	13 05 27.1	-0.3
	baz=44,SNR=9.4						
LAO	LASA Array	43.87	68	*e*P	P	13 05 27.9	+0.4
	comp=Z,5.3nm,0.8s						
A24A	Westby	43.92	64	⇑P	P	13 05 27.8	-0.1
	baz=44,SNR=6.8						
DGMT	Dagmar	44.06	65	⇑P	P	13 05 28.4	-0.5
	baz=44						
H20A	Greybull	44.06	72	⇓P	P	13 05 29.0	-0.1
	baz=44						
G21A	Lodge Grass	44.11	70	⇓P	P	13 05 29.0	-0.5
	baz=44						
BW06	Boulder Array	44.12	75	*e*P	P	13 05 29.6	-0.2
	comp=Z,3.1nm,0.7s						
J19A	Crowheart	44.13	74	⇑P	P	13 05 30.2	+0.4
	baz=44						
E22A	Miles City	44.16	68	⇑P	P	13 05 29.8	0.0
	baz=44						
D23A	Lindsay	44.19	67	⇑P	P	13 05 30.0	0.0
	baz=44,SNR=6.4						
GSC	Goldstone	44.28	88	⇑P	P	13 05 30.4	-0.6
	baz=44						
I20A	Worland	44.29	73	⇓P	P	13 05 30.2	-0.7
	baz=44						
F22A	Rosebud	44.35	69	⇑P	P	13 05 30.5	-0.9
	baz=44						
A25A	Svangstu Ranch	44.41	64	⇑P	P	13 05 31.3	-0.4
	baz=44,SNR=6.5						
C24A	Savage	44.44	66	⇓P	P	13 05 31.8	-0.2
	baz=44						
H21A	Big Horn, Sher	44.54	71	⇓P	P	13 05 32.7	-0.3
	baz=44						
G22A	Birney	44.65	70	⇑P	P	13 05 33.1	-0.6
	baz=44						
J20A	Shoshoni	44.66	73	⇓P	P	13 05 34.3	+0.3
	baz=44						
D24A	Glendive	44.72	67	⇓P	P	13 05 34.7	+0.5
	baz=45,SNR=11						
I21A	Big Trails, Te	44.86	72	⇑P	P	13 05 35.5	-0.1
	baz=45						
F23A	Volborg	44.88	69	⇑P	P	13 05 35.1	-0.5
	baz=45,SNR=7.9						
H22A	Clearmont	44.97	71	⇑P	P	13 05 36.1	-0.2
	baz=45						
A26A	Wade Farm, Ken	45.03	63	⇓P	P	13 05 36.1	-0.6
	baz=45						
E24A	Baker	45.04	67	⇑P	P	13 05 36.4	-0.4
	baz=45						
J21A	Lysite	45.04	73	⇓P	P	13 05 37.5	+0.4
	baz=45						
G23A	Biddle	45.18	69	⇑P	P	13 05 37.5	-0.5
	baz=45						
I22A	9 Mile Ranch,	45.29	72	⇓P	P	13 05 39.1	+0.2
	baz=45						
F24A	Ekalaka	45.36	68	⇓P	P	13 05 39.4	-0.1
	baz=45						
A27A	Ledoux Ranch,	45.44	63	⇑P	P	13 05 39.5	-0.4
	baz=45						
J22A	Midwest	45.58	72	⇑P	P	13 05 40.9	-0.3
	baz=46,SNR=7.4						
K21A	Alcova	45.58	73	⇓P	P	13 05 40.6	-0.7
	baz=46						
C26A	Wahner Farm, P	45.59	65	⇓P	P	13 05 40.3	-0.8
	baz=46,SNR=6.2						
E25A	Miller Ranch,	45.59	67	⇓P	P	13 05 41.1	-0.1
	baz=46						
G24A	Alzada	45.67	69	⇑P	P	13 05 41.2	-0.7
	baz=46						
D26A	Manning	45.84	66	⇓P	P	13 05 41.9	-1.2
	baz=46						
F25A	Bowman	45.88	68	⇓P	P	13 05 42.8	-0.8
	baz=46						
C27A	Sayler Ranch,	45.98	64	⇓P	P	13 05 43.5	-0.7
	baz=46						
A28A	Rude Farm, Bot	46.00	62	⇓P	P	13 05 43.6	-0.8
	baz=46						
N20A	Spence Gulch,	46.05	76	⇑P	P	13 05 44.4	-0.7
	baz=46						
E26A	Carlson Angus	46.14	66	⇑P	P	13 05 44.7	-0.8
	baz=46,SNR=7.4						
B28A	Dugan Ranch, T	46.20	63	⇑P	P	13 05 46.1	+0.2
	baz=46						
D27A	Center	46.31	65	⇑P	P	13 05 46.1	-0.7
	baz=46						
G25A	Newell	46.33	68	⇓P	P	13 05 46.3	-0.7
	baz=46						
U15A	North Rim	46.34	84	⇑P	P	13 05 48.0	+0.5
	baz=46						
O20A	White River Ci	46.49	77	*e*P	P	13 05 48.2	-0.3
	comp=Z,3.3nm,0.4s						
O20A	White River Ci	46.49	77	⇓P	P	13 05 48.4	-0.1
	baz=46						
A29A	Manning Farm,	46.56	62	⇓P	P	13 05 48.7	0.0
	baz=46						
J24A	Dixon Ranch, L	46.70	71	⇓P	P	13 05 49.6	-0.4
	baz=47						
M22A	Cedar Creek Ra	46.70	74	⇓P	P	13 05 50.0	-0.2
	baz=47						
F27A	Lemmon	46.74	67	⇓P	P	13 05 49.1	-1.1
	baz=47,SNR=5.5						
G26A	Maurine	46.74	68	⇑P	P	13 05 49.8	-0.4
	baz=47						
D28A	Regan	46.80	65	⇑P	P	13 05 50.2	-0.4
	baz=47						
L23A	Garrett	46.81	73	⇓P	P	13 05 50.4	-0.6
	baz=47						
I25A	Rochford	46.83	70	⇑P	P	13 05 50.6	-0.5
	baz=47						
A30A	Hoffart Farm,	47.06	61	⇑P	P	13 05 51.3	-1.3
	baz=47						
G27A	Dupree	47.07	67	⇑P	P	13 05 52.5	-0.3
	baz=47						
N22A	Wattenberg Ran	47.16	75	⇓P	P	13 05 53.8	0.0
	baz=47						
B30A	Myrvik Farm, E	47.32	62	⇑P	P	13 05 53.9	-0.8
	baz=47						
F28A	McLaughlin	47.44	66	⇑P	P	13 05 55.3	-0.4
	baz=47						
O22A	Kremmling	47.49	76	⇓P	P	13 05 56.3	-0.2
	baz=47						
WUAZ	Wupatki	47.50	84	⇓P	P	13 05 57.6	+1.2
	baz=47						
PV01	Paradox Valley	47.54	79	*e*P	P	13 05 56.2	-0.5
	comp=Z,252nm,0.8s						
I27A	Quinn	47.78	69	⇑P	P	13 05 57.6	-0.6
	baz=48,SNR=5.3						
G28A	Parade	47.83	67	⇓P	P	13 05 57.5	-1.2
	baz=48						
O23A	Lake Granby, G	47.84	75	⇓P	P	13 05 58.5	-0.7
	baz=48						
D30A	Buchanan	47.86	64	⇓P	P	13 05 57.5	-1.3
	baz=48						
H28A	Mission Ridge	48.01	68	⇓P	P	13 05 59.9	-0.2
	baz=48						
E30A	Jud	48.13	64	⇓P	P	13 06 00.2	-0.7
	baz=48						
I28A	Midland	48.33	68	⇓P	P	13 06 02.1	-0.4
	baz=48						
SONM	Songino Array	48.34	298	P	P	13 06 02.3	-0.4
	comp=Z,0.4nm,0.5s,baz=42,slow=7.9,SNR=2.9						
SONM				PcP	PcP	13 07 27.2	-1.2
	comp=Z,1.1nm,0.5s,baz=95,slow=2.8,SNR=6.2						
SONM				ScP	ScP	13 11 19.1	+1.8
	comp=Z,0.8nm,0.9s,baz=66,slow=3.7,SNR=4.2						
H29A	Onida	48.50	67	⇑P	P	13 06 03.6	-0.2
	baz=48						
J28A	Allard Ranch,	48.64	69	⇓P	P	13 06 05.0	0.0
	baz=48						
G30A	Faulkton	48.81	66	⇓P	P	13 06 05.3	-0.8
	baz=49						
I29A	Vivian Onida	48.81	68	⇓P	P	13 06 05.5	-0.8
	baz=49						
K28A	Ten Mile Ranch	48.99	70	⇑P	P	13 06 07.3	-0.4
	baz=49						
J29A	Okreek	49.17	69	⇑P	P	13 06 08.8	-0.2
	baz=49						
P25A	Willow Gulch B	49.33	75	⇑P	P	13 06 10.2	-0.2
	baz=49						
R24A	Sanders Place,	49.58	77	⇑P	P	13 06 12.6	+0.2
	baz=50						
HHC	Hu-ho-hao-te	49.61	288	*e*P	P	13 06 10.5	-2.0
HHC				pP	pP	13 06 29.5	+0.9
HHC				S	S	13 13 17.3	+1.3
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,4.3s						
HHC				LR	LR		
	comp=Z,120nm,16.7s						
HHC				LR	LR		
	comp=Z,210nm,17.3s						
P26A	Davis Ranch, A	49.79	74	⇑P	P	13 06 14.1	+0.2
	baz=50						
S24A	Houchin Ranch,	49.90	77	⇓P	P	13 06 14.9	0.0
	baz=50						
R25A	Fountain Ranch	50.13	76	⇓P	P	13 06 16.1	-0.4
	baz=50						
U23A	El Rito	50.15	79	⇑P	P	13 06 17.3	+0.5
	baz=50						
S25A	Robets Cordova	50.35	77	⇓P	P	13 06 17.7	-0.5
	baz=50						
R26A	Arlington	50.53	76	⇑P	P	13 06 19.0	-0.5
	baz=50						
T25A	Trinidad	50.71	77	⇑P	P	13 06 20.5	-0.4
	baz=51						
R27A	Eads	50.93	75	⇑P	P	13 06 22.2	-0.3
	baz=51						
S26A	Kim	50.96	76	⇓P	P	13 06 22.4	-0.3
	baz=51						
ECSD	EROS Data Cent	51.10	66	*e*P	P	13 06 21.8	-1.7
	comp=Z,6.7nm,1.0s						
ECSD	EROS Data Cent	51.10	66	⇓P	P	13 06 22.3	-1.2
	baz=51,SNR=5.5						
V24A	Rampart Ranch,	51.11	79	⇓P	P	13 06 24.1	+0.1
	baz=51						
T26A	Comanche Natio	51.18	77	⇑P	P	13 06 23.9	-0.6
	baz=51						
U25A	Circle Dot Ran	51.19	78	⇑P	P	13 06 23.4	-1.1
	baz=51						
P29A	Atwood	51.20	73	⇑P	P	13 06 24.4	0.0
	baz=51						
M31A	Lambtecht Ranc	51.24	70	⇑P	P	13 06 23.9	-0.8
	baz=51						
O30A	MW Ranch, Wils	51.35	72	⇓P	P	13 06 25.0	-0.5
	baz=51						
W24A	Lazy 6 Ranch,	51.37	80	⇓P	P	13 06 25.8	-0.1
	baz=51						
V25A	Rancho No Teng	51.43	79	⇑P	P	13 06 26.0	-0.3
	baz=51						
R28A	Tribune	51.49	75	⇓P	P	13 06 25.9	-0.8
	baz=51						
319A	Douglas	51.57	86	⇑P	P	13 06 28.2	+0.9
	baz=52						
U26A	Atchley Ranch,	51.60	78	⇑P	P	13 06 27.5	-0.1
	baz=52						
P30A	Selden	51.64	72	⇑P	P	13 06 27.5	-0.2
	baz=52						
BGNE	Belgrade	51.68	69	⇑P	P	13 06 26.7	-1.2
	baz=52						
O31A	Woolen Ranch,	51.80	71	⇓P	P	13 06 28.8	0.0
	baz=52						
Y23A	Lovelace Mesa,	51.83	82	⇑P	P	13 06 30.1	+0.8
	baz=52						
S28A	Manter	51.93	75	⇓P	P	13 06 29.7	-0.2
	baz=52						
W25A	X Bar L Ranch,	51.94	79	⇓P	P	13 06 29.9	-0.2
	baz=52						
V26A	Tequesquite Ra	51.97	78	⇑P	P	13 06 29.9	-0.4
	baz=52						
T28A	Walsh	52.10	76	⇑P	P	13 06 31.1	-0.1
	baz=52						
U27A	Thompson Grove	52.14	77	⇓P	P	13 06 30.3	-1.2
	baz=52						
P31A	Stockton	52.17	72	⇑P	P	13 06 31.0	-0.6
	baz=52						
Y24A	Capitan	52.21	81	⇑P	P	13 06 32.3	+0.2
	baz=52						
X25A	Clemmons Ranch	52.28	80	⇓P	P	13 06 32.5	-0.2
	baz=52						
SPMN	St. Paul	52.29	62	⇑P	P	13 06 30.8	-1.6
	baz=52						
R30A	Dighton	52.44	74	⇓P	P	13 06 33.2	-0.5
	baz=52						
U28A	Mallet	52.53	77	⇓P	P	13 06 33.8	-0.6
	baz=52						
P32A	Huiting Farm,	52.56	71	⇓P	P	13 06 33.4	-1.1
	baz=52						
Z24A	Sheeppen Canyo	52.66	82	⇓P	P	13 06 35.6	+0.1
	baz=52						
Y25A	Mesa, Roswell	52.67	81	⇑P	P	13 06 35.7	+0.2
	baz=52						
X26A	CR and CF Fran	52.78	79	⇑P	P	13 06 36.2	-0.1
	baz=53						
R31A	Burdett	52.88	73	⇑P	P	13 06 36.0	-0.9
	baz=53						
W27A	Bowe Ranch, En	52.90	78	⇓P	P	13 06 36.6	-0.5
	baz=53						
Q32A	Meitler Ranch,	53.00	72	⇑P	P	13 06 36.8	-0.9
	baz=53						
Y26A	Elida	53.20	80	⇑P	P	13 06 39.2	-0.2
	baz=53						
U30A	WK&E Inc. Balk	53.37	75	⇓P	P	13 06 40.2	-0.3
	baz=53						
Q33A	Connelly Farm,	53.42	71	⇓P	P	13 06 39.8	-1.0
	baz=53						
Z26A	Caprock	53.55	81	⇓P	P	13 06 41.7	-0.2
	baz=53						
T31A	Randall Ranch,	53.58	74	⇓P	P	13 06 41.0	-1.1
	baz=53						
S32A	Newby Ranch, P	53.62	73	⇑P	P	13 06 41.0	-1.3
	baz=54						
Y27A	Causey	53.63	80	⇑P	P	13 06 42.2	-0.3
	baz=54						
X28A	Dimmitt	53.79	78	⇑P	P	13 06 43.2	-0.4
	baz=54						
MSTX	Muleshoe	53.81	79	⇑P	P	13 06 43.4	-0.5
	baz=54						
AMTX	Amarillo	53.85	78	⇓P	P	13 06 43.8	-0.4
	baz=54						
Z27A	Tatum	53.98	80	⇓P	P	13 06 44.6	-0.6
	baz=54						
Y28A	McKinney Farm,	54.17	79	⇑P	P	13 06 46.3	-0.1
	baz=54						
Y29A	Porterfield Fa	54.55	79	⇓P	P	13 06 49.2	-0.1
	baz=54						
X30A	Coker Ranch, T	54.64	78	⇑P	P	13 06 49.4	-0.4
	baz=54						
Z29A	Hungry Hill Ra	54.94	79	⇑P	P	13 06 51.6	-0.5
	baz=55						
X31A	McDonald Ranch	55.05	77	⇓P	P	13 06 52.0	-0.7
	baz=55						
ZALV	Zalesovo Beam	55.25	315	PcP	PcP	13 07 53.9	-0.1
	comp=Z,0.4nm,0.4s,baz=25,slow=3.9,SNR=3.8						
Z30A	Sanderson Ranc	55.28	79	⇑P	P	13 06 53.8	-0.6
	baz=55						
U34A	Anderson Ranch	55.30	73	⇑P	P	13 06 53.6	-0.9
	baz=55						
X32A	Elmer	55.62	76	⇓P	P	13 06 56.4	-0.4
	baz=56						
Z31A	Sharp Cattle R	55.85	78	⇓P	P	13 06 57.7	-0.8
	baz=56						
Z32A	Haskell	56.26	78	⇓P	P	13 07 00.6	-0.8
	baz=56						
TXAR	Lajitas Array	56.47	84	P	P	13 07 03.9	+0.9
	comp=Z,0.8nm,0.5s,baz=309,slow=5.7,SNR=4.1						
ABTX	Abilene, Hawle	56.63	78	⇑P	P	13 07 03.9	-0.2
	baz=56						
429A	Davenport Ranc	56.65	82	⇓P	P	13 07 03.9	-0.4
	baz=56						
Z33A	Whitaker Ranch	56.71	77	⇓P	P	13 07 04.1	-0.5
	baz=57						
529A	Stev Forest Ra	56.80	82	⇑P	P	13 07 04.5	-0.8
	baz=57						
Y34A	Reagan Ranch,	56.85	76	⇑P	P	13 07 05.0	-0.6
	baz=57						
430A	Baggett Ranch,	56.94	81	⇑P	P	13 07 05.2	-1.1
	baz=57						
331A	San Angelo	57.07	80	⇓P	P	13 07 06.4	-0.8
	baz=57						
133A	Hamilton Ranch	57.09	78	⇓P	P	13 07 06.7	-0.5
	baz=57						
232A	Coleman	57.14	79	⇓P	P	13 07 06.7	-1.0
	baz=57						

LZH Lanzhou 57.30 288 eP P 13 07 09.5 +0.6
LZH pP pP 13 07 28.1 +2.7
LZH sP sP 13 07 36.4 +3.9
LZH ePP PP 13 09 18.8 +2.5
LZH pmax pmax
comp=Z,17nm,1.4s
LZH pmax pmax
comp=Z,45nm,7.2s
LZH LR LR
comp=Z,270nm,15.3s
LZH LR LR
comp=Z,270nm,15.8s
LZH LR LR
comp=Z,310nm,18.3s
530A J-C Ranch, Com 57.33 82 ⇓P P 13 07 07.9 -1.2
baz=57
431A Sonora 57.40 81 ⇑P P 13 07 08.5 -1.1
baz=57
332A Millersview 57.44 79 ⇓P P 13 07 08.9 -0.8
baz=57
233A Rising Star 57.51 78 ⇓P P 13 07 09.6 -0.6
baz=57
531A Rocksprings 57.80 81 ⇓P P 13 07 12.1 -0.3
baz=57
333A Richland Sprin 57.94 79 ⇑P P 13 07 13.0 -0.3
baz=58
ARCES ARCESS Array B 57.98 352 P P 13 07 12.4 -0.5
comp=Z,7.7nm,1.1s,baz=8.6,slow=7.2,SNR=13
ARCES PcP PcP 13 08 04.7 +0.3
comp=Z,6.1nm,1.1s,baz=38,slow=4.6,SNR=3.7
ARCES LR LR 13 35 42.4
comp=Z,33nm,18.2s,baz=108,slow=40
433A Art 58.28 79 ⇓P P 13 07 15.2 -0.5
baz=58
334A Lometa 58.39 78 ⇓P P 13 07 15.9 -0.5
baz=58
SFIN Scholer Farm 58.64 63 eP P 13 07 17.4 -0.6
comp=Z,10nm,0.8s
SFIN Scholer Farm 58.64 63 ⇓P P 13 07 16.7 -1.3
baz=58
434A Burnet 58.73 79 ⇑P P 13 07 18.4 -0.5
baz=59
832A Faith Ranch, C 59.49 82 ⇑P P 13 07 23.9 -0.1
baz=59
733A Divot King Ran 59.59 81 ⇑P P 13 07 24.2 -0.5
baz=60
833A Chaparral WMA, 59.81 82 ⇑P P 13 07 26.1 -0.1
baz=60
CD2 Chengdu 60.96 284 eP P 13 07 34.3 +0.2
MKAR Makanchi Array 61.40 310 P P 13 07 35.5 -1.3
comp=Z,0.7nm,0.3s,baz=47,slow=6.5,SNR=18
KMSC Kings Mountain 65.56 64 ⇑P P 13 08 04.0 -0.4
baz=65
FINES FINESS Array B 65.78 349 P P 13 08 05.2 -0.2
comp=Z,1.5nm,0.7s,baz=22,slow=8.0,SNR=6.1
NOA NORSAR Array B 67.35 357 P P 13 08 15.1 -0.4
comp=Z,0.5nm,0.5s,baz=17,slow=6.5,SNR=5.6
ABKAR Akbulak array 68.84 325 eP P 13 08 25.4 +0.5
comp=Z,1.3nm,0.5s
TAPN Taplejung 73.03 293 eP P 13 08 51.0 -0.1
comp=Z,7.9nm,0.6s
CMAR Chiang Mai Arr 73.08 278 P P 13 08 51.5 +0.4
comp=Z,4.1nm,0.8s,baz=26,slow=7.1,SNR=23
GUN Gumba 73.65 294 eP P 13 08 54.2 -0.6
comp=Z,11nm,0.3s
JIRN Jiri 73.67 294 eP P 13 08 54.1 -0.8
RAMN Ramite 73.97 293 eP P 13 08 55.9 -0.7
comp=Z,14nm,0.5s
GKN Gorkha 74.28 295 eP P 13 08 57.6 -0.6
comp=Z,4.5nm,0.5s
DMN Daman 74.32 295 eP P 13 08 58.2 -0.3
DANN Dangsing 74.50 296 eP P 13 08 59.4 -0.2
comp=Z,9.3nm,0.6s
AKASG Malin Array Be 75.73 344 P P 13 09 04.5 -1.4
comp=Z,1.1nm,0.3s,baz=18,slow=6.1,SNR=6.5
AKASG LR LR 13 46 25.5
comp=Z,24nm,18.9s,baz=0.0,slow=39
KOLS Kolonicke sedl 78.49 348 eP P 13 09 17.1 -4.4
KOLS Kolonicke sedl 78.49 348 e P 13 09 17.1 -4.4
CRVS Cervenica-Dubn 78.62 349 eP P 13 09 16.6 -5.6
CRVS Cervenica-Dubn 78.62 349 e P 13 09 16.6 -5.6
GERES GERESS Array B 79.40 354 LR LR 13 48 21.1
comp=Z,26nm,18.2s,baz=322,slow=38
WRAB Tennant Creek 83.85 227 eP P 13 09 49.2 -0.9
WRAB pmax pmax
comp=Z,2.0nm,0.8s
WRAB Tennant Creek 83.85 227 eP P 13 09 49.2 -0.9
comp=Z,1.9nm,0.8s
WRA Warramunga Arr 83.86 227 P P 13 09 49.1 -1.2
comp=Z,0.7nm,0.7s,baz=36,slow=6.5,SNR=6.1
ASAR Alice Springs 87.31 225 P P 13 10 06.9 -0.4
comp=Z,1.2nm,0.7s,baz=30,slow=4.7,SNR=18
STKA Stephens Creek 91.51 216 P P 13 10 26.7 0.0
comp=Z,1.4nm,0.6s,baz=46,slow=6.0,SNR=4.9
TORD Torodi Ar. Bea 115.24 3 PKP PKPdf 13 16 01.2 -0.8
comp=Z,0.7nm,0.4s,baz=349,slow=2.1,SNR=15
H03N2 Juan Fernandez 119.22 108 T T 15 28 07.9
baz=315,slow=75,SNR=26
H03N1 Juan Fernandez 119.24 108 T T 15 28 11.5
baz=315,slow=75,SNR=22
H03N3 Juan Fernandez 119.24 108 T T 15 28 11.9
baz=315,slow=75,SNR=31
DBIC Dimbokro 121.16 11 PKP PKPdf 13 16 12.4 -1.0
comp=Z,4.2nm,1.1s,baz=359,slow=3.9,SNR=6.1
KMBO Kilima Mbogo 122.54 320 PKP PKPdf 13 16 17.2 +0.9
comp=Z,0.6nm,0.3s,baz=63,slow=6.8,SNR=3.5
LBTB Lobatse 148.81 321 ePKP2 PKPbc 13 17 08.4 +0.5
LBTB Lobatse 148.81 321 ePKPbc PKPbc 13 17 08.4 +0.5
LBTB ePKPab PKPab 13 17 12.6 +0.7
BOSA Boshof 152.16 318 PKIKP PKPbc 13 17 15.9 +0.1
BOSA pmax pmax
comp=Z,11nm,0.4s
BOSA Boshof 152.16 318 ePKIKP PKPbc 13 17 16.1 +0.3
BOSA Boshof 152.16 318 PKPbc PKPbc 13 17 15.9 +0.1
comp=Z,11nm,0.4s,baz=42,slow=1.8,SNR=29
BOSA Boshof 152.16 318 ePKPbc PKPbc 13 17 16.1 +0.3

NIED ***23*** *13:03:00, 35.70N×136.40E, h5km, Mw3.3 Best double couple: $M_0$1.09000×10^{14} NP1:ϕ_s37.00000°, δ52.00000°, λ-129.00000°. NP2:ϕ_s270.00000°, δ53.00000°, λ-51.00000°.*

JMA 23 13:03:25.2, 35.69N×136.38E, h12km±1km, M3.5, 1C-1D Broadband fault plane solution: P waves. NP1: ϕ_s42.00000°**,** δ89.00000°**,** λ-174.00000°. **NP2:** ϕ_s312.00000°**,** δ84.00000°**,** λ-1.00000°. **Principal axes:** T Plg4.0000°, Azm177.0000°**;** N Plg84.0000°, Azm48.0000°**;** P Plg5.0000°, Azm267.0000°; **Western Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JFM Mihama 0.36 244 ⇓P Pg 13 03 32.6 +0.2
JFM S Sg 13 03 37.6 +0.3
JKG Kaga 0.59 356 ⇑P Pg 13 03 36.6 -0.1
MAT Matsushiro 1.71 60 P Pn 13 03 55.3 +0.5
MAT S Sg 13 04 19.6 -0.5

BJI ***23*** *13:24:06.2, 1.92N×96.25E, h33km, mB4.8/35, mb4.7/50, Ms4.4/32, Ms7 4.1/30*
MOS ***23*** *13:24:09.1±0.9, 2.31N×96.28E, h33km, mb4.8/21, Error ellipse: s-maj=14.5km s-min=6.2km az=105.7*
DJA ***23*** *13:24:10.5±0.6, 2°N±3°×9°6E±°, h10km, M4.7/9, mb4.9/7, mB5.3/5, MLv4.5/9, Mw(mB)4.7/5, Mwp6.0/1*
ISCJB ***23*** *13:24:10.1±0.7, 2.22N±0.04×96.22E±0.05, h45km±6km, mb4.5/62, MS3.9/14, Error ellipse: s-maj=8.8km s-min=4.7km az=146.7*
KLM ***23*** *13:24:11.8, 2.27N×96.27E, h140km, mb4.5, ML4.3, MS5.2*
IDC ***23*** *13:24:11.1±7.3, 2.31N×96.20E, h33km±56km, mb4.2/16, mb1 4.3/18, mb1mx4.1/31, mbtmp4.3/18, ML4.0/2, MS3.6/8, Ms1 3.6/8, ms1mx3.3/31, Error ellipse: s-maj=24.1km s-min=15.2km az=51.0*
NEIC ***23*** *13:24:13.0±0.8, 2.34N×96.31E, h50km±7km, mb4.5/18, Error ellipse: s-maj=9.6km s-min=5.8km az=55.0*
ISC 23 13:24:11.5±0.5**, 2.21N**±0.04×**96.15E**±0.05**, h43km**±2km**, h43km:pP-P, n191,** σ1.77/221**, mb4.5**/62**, MS3.9**/15**, 8C-4D, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
GSI Gunungsitoli 1.68 122 P Pn 13 24 37.7 -0.7
GSI S Sn 13 24 56.9 -1.9
GSI Gunungsitoli 1.68 122 ePn Pn 13 24 37.8 -0.6
KCSI Kotacane, Aceh 2.08 51 P Pn 13 24 43.4 -0.5
KCSI S Sn 13 25 11.2 +2.6
TSI Tuntungan 2.73 62 P Pn 13 24 53.5 +0.6
PSI Prapat 2.83 78 Pn Pn 13 24 53.8 -0.5
7.0nm,0.3s,baz=266,slow=5.8,SNR=44
PSI LR LR 13 26 14.8
comp=Z,753nm,18.2s,baz=40,slow=45
PSI Prapat 2.83 78 P Pn 13 24 53.9 -0.5
baz=3.4,SNR=25
LHMI Lhok Sumawe 3.11 15 P Pn 13 24 57.2 -0.8
LHMI Lhok Sumawe 3.11 15 ePn Pn 13 24 57.3 -0.8
LHMI Lhok Sumawe 3.11 15 P Pn 13 24 57.4 -0.6
baz=3.5,SNR=5.4
BSI Banda Aceh 3.38 345 P Pn 13 25 03.5 +1.7
MNSI Mandailing Nat 3.70 112 P Pn 13 25 06.4 +0.2
BKNI Bangkinang 5.23 111 eP Pn 13 25 27.1 -0.1
CMBY CAMPBELL BAY 5.26 335 eP Pn 13 25 25.6 -2.1
CMBY AMB AMB 13 25 34.8
comp=Z,107nm,0.0s
PDSI Padang 5.31 126 P Pn 13 25 27.7 -0.6
comp=Z,32nm,0.6s,comp=Z,2μmcomp=Z,122μm
IPM Ipoh 5.36 65 eP Pn 13 25 28.6 -0.5
comp=Z,65nm,0.4s
IPM Ipoh 5.36 65 ⇑P Pn 13 25 29.3 +0.2
KULM Kulim 5.43 56 eP Pn 13 25 29.2 -0.9
comp=Z,223nm,0.8s
KULM Kulim 5.43 56 ⇑P Pn 13 25 29.8 -0.2
FRIM Kepong 5.56 79 ⇑P Pn 13 25 30.0 -1.7
PKDT Phuket 6.05 21 P Pn 13 25 41.6 +3.1
comp=Z,56nm,0.7s,comp=Z,854nmcomp=Z,0.2nm
KGM Kluang 7.17 91 ⇑P Pn 13 25 52.2 -1.6
SURT Suratani 7.21 21 P Pn 13 25 53.8 -0.5
comp=Z,12nm,0.8s,comp=Z,234nmcomp=Z,0.0nm
KTGM Kuala Trenggan 7.63 66 ⇑P Pn 13 25 58.2 -1.9
MYKOM Kota Tinggi 7.71 93 ⇑P Pn 13 25 59.3 -1.8
MNAI Manna 9.42 134 eP Pn 13 26 24.3 -0.4
MNAI Manna 9.42 134 P Pn 13 26 24.1 -0.6
baz=9.8,SNR=13
MNAI S Sn 13 28 06.1 -3.3
baz=9.8,SNR=5.0
LHSI Lahat 9.50 129 P Pn 13 26 33.7 +7.9
MDSI Maura Dua 10.42 130 P Pn 13 26 37.2 -1.2
comp=Z,44nm,0.9s
LWLI Liwa 10.67 132 P Pn 13 26 45.1 +3.1
comp=Z,59nm,0.7s,comp=Z,4μm
DGPR DIGLIPUR 11.36 344 eP Pn 13 26 53.1 +1.9
DGPR AMB AMB 13 26 56.7
comp=Z,13nm,1.3s
CHBT CHBT 12.13 30 P Pn 13 27 02.8 +0.9
comp=Z,19nm,0.7s,comp=Z,2μm
KHLT Khaolaem Dam 12.74 11 P P 13 27 21.7 +1.4
KSM Kuching 14.17 93 eP Pn 13 27 31.8 +2.2
comp=Z,24nm,0.9s
KSM Kuching 14.17 93 P P 13 27 38.3 +2.0
baz=15,SNR=7.5
PBKT Sadao Pong 15.04 18 P Pn 13 27 41.5 +0.3
comp=Z,27nm,0.9s
MHMT Maesarieng 15.97 6 P Pn 13 27 54.5 +1.3
comp=Z,7.3nm,1.0s,comp=Z,1μm
UTTA Uttaradit 16.04 15 P P 13 27 56.0 -1.0
comp=Z,7.6nm,0.8s
PALK Pallekele 16.20 289 Pn P 13 28 01.3 +2.5
comp=Z,0.7nm,0.3s,baz=112,slow=9.4,SNR=4.9
PALK Sn Sn 13 30 38.6 -16
comp=Z,2.0nm,0.3s,baz=23,slow=19,SNR=4.8
CM31 Chiang Mai Arr 16.38 9 eP Pn 13 27 57.2 -1.3
comp=Z,8.6nm,0.8s
CMAR Chiang Mai Arr 16.38 9 Pn Pn 13 27 56.1 -2.4
comp=Z,0.5nm,0.3s,baz=200,slow=11,SNR=53
CMAR LR LR 13 35 09.0
comp=Z,390nm,18.2s,baz=200,slow=40
LAMP Lampang 16.57 12 P P 13 28 02.1 -0.8
comp=Z,4.3nm,0.9s
CMMT Chiang Mai 16.73 9 P Pn 13 28 00.9 -2.0
comp=Z,11nm,0.8s
CHTO Chiang Mai 16.73 9 eP Pn 13 28 00.4 -2.5
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 16.73 9 P Pn 13 28 00.9 -2.0
comp=Z,36nm,0.8s
CHTO Chiang Mai 16.73 9 eP Pn 13 28 00.4 -2.5
comp=Z,5.6nm,0.8s
CMAI Chiengmai2 17.84 9 P P 13 28 27.2 +10
KKM Kota Kinabalu 20.37 79 eP P 13 28 45.0 +0.2
comp=Z,48nm,0.8s
KKM Kota Kinabalu 20.37 79 P P 13 28 45.5 +0.7
baz=21,SNR=14
JAGI Jajag, Banyuwa 20.85 121 P P 13 28 46.1 -3.8
baz=21,SNR=4.6
QIZ Qiongzhong 21.43 38 P P 13 28 56.3 +0.2
QIZ sP sP 13 29 09.4 -2.6
QIZ S S 13 32 51.5 -0.3
QIZ pmax pmax
comp=Z,8.0nm,0.9s
QIZ pmax pmax
comp=Z,43nm,4.7s
QIZ LR LR
comp=Z,550nm,13.5s
QIZ LR LR
comp=Z,640nm,12.6s
HYB Hyderabad 22.96 312 iP P 13 29 17.5 +5.0
HYB Hyderabad 22.96 312 eP P 13 29 13.6 +1.1
HYB AMB AMB 13 29 32.2
comp=Z,8.3nm,0.8s
SHL Shillong 23.59 350 eP P 13 29 18.0 -0.7
SHL AMB AMB 13 29 19.5
comp=Z,39nm,0.8s
SHL eS S 13 33 30.0 -0.2
BOK Bokaro 23.65 336 eP P 13 29 18.9 -0.3
BOK AMB AMB 13 29 22.6
comp=Z,57nm,2.9s
KMI Kunming 23.66 15 P P 13 29 20.3 +0.9
KMI S S 13 33 37.6 +6.2
KMI pmax pmax
comp=Z,17nm,1.1s
KMI LR LR
comp=Z,340nm,13.4s
KMI LR LR
comp=Z,200nm,11.5s
KMI LR LR
comp=Z,340nm,12.9s
KAPI Kappang 24.64 107 eP P 13 29 28.2 -0.1
comp=Z,63nm,0.9s
H08S2 Diego Garcia H 25.55 247 T T 13 56 06.9
baz=68,slow=76
H08S3 Diego Garcia H 25.55 247 T T 13 56 06.5
baz=68,slow=76,SNR=8205
H08S1 Diego Garcia H 25.57 247 T T 13 56 07.4
baz=68,slow=76
ODAN Odare 25.92 342 eP P 13 29 40.5 +0.5
comp=Z,76nm,1.0s
ODAN Odare 25.92 342 eP P 13 29 40.5 +0.5
GYA Guiyang 26.14 22 ⇑iP P 13 29 41.3 -0.6
GYA pP pP 13 29 53.6 +0.2
GYA PP PnPn 13 30 27.0 +5.1
GYA S S 13 34 11.3 +0.4
GYA sS sS 13 34 28.9 -1.3
GYA SS SnSn 13 35 19.8 +7.4
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,90nm,4.2s
GYA LR LR
comp=Z,450nm,15.8s
GYA LR LR
comp=Z,380nm,16.2s
GYA LR LR
comp=Z,460nm,15.6s
RAMN Ramite 26.25 340 eP P 13 29 44.2 +1.1
comp=Z,48nm,0.6s
RAMN Ramite 26.25 340 eP P 13 29 44.2 +1.1
TAPN Taplejung 26.28 343 eP P 13 29 44.0 +0.6
comp=Z,77nm,0.9s
TAPN Taplejung 26.28 343 eP P 13 29 44.0 +0.6
H08N1 Diego Garcia H 26.50 251 T T 13 58 09.4
baz=101,slow=74,SNR=26
H08N2 Diego Garcia H 26.50 251 T T 13 58 07.5
baz=101,slow=74,SNR=24
H08N3 Diego Garcia H 26.52 251 T T 13 58 09.1
baz=101,slow=74,SNR=32
WSI Waingapu 26.79 117 P P 13 29 56.4 +8.6
baz=27,SNR=11
JIRN Jiri 27.05 340 eP P 13 29 51.3 +0.9
comp=Z,92nm,0.7s
JIRN Jiri 27.05 340 eP P 13 29 51.3 +0.9
PKI Pulchoki 27.24 339 eP P 13 29 52.5 +0.5
comp=Z,42nm,0.9s
PKI Pulchoki 27.24 339 eP P 13 29 53.1 +1.1
PKI Pulchoki 27.24 339 eP P 13 29 53.1 +1.1
PKIN Phulchoki 27.25 339 eP P 13 29 53.1 +1.0
comp=Z,18nm,0.7s
DMN Daman 27.38 338 eP P 13 29 53.9 +0.6
comp=Z,21nm,0.6s
DMN Daman 27.38 338 eP P 13 29 53.9 +0.6
GUN Gumba 27.38 340 eP P 13 29 54.1 +0.7
comp=Z,80nm,0.7s
GUN Gumba 27.38 340 eP P 13 29 54.1 +0.7
KKN Kakani 27.48 339 eP P 13 29 54.7 +0.6
comp=Z,41nm,0.7s
KKN Kakani 27.48 339 eP P 13 29 54.7 +0.6
KKN Kakani 27.48 339 eP P 13 29 54.7 +0.6
BHPL Bhopal 27.69 321 ex P 13 29 49.8 -6.0
LSA Lhasa 27.75 351 P P 13 29 57.3 +0.5
LSA pmax pmax
comp=Z,30nm,0.8s
LSA Lhasa 27.75 351 eP P 13 29 57.1 +0.3
LSA pmax pmax
comp=Z,32nm,1.0s
LSA Lhasa 27.75 351 eP P 13 29 57.1 +0.3
comp=Z,32nm,1.0s
GKN Gorkha 27.91 338 eP P 13 29 58.4 +0.5
comp=Z,60nm,0.8s
GKN Gorkha 27.91 338 eP P 13 29 58.4 +0.5
KOLN Koldanda 28.11 336 eP P 13 30 00.7 +1.0
comp=Z,46nm,0.8s
KOLN Koldanda 28.11 336 eP P 13 30 00.7 +1.0
DANN Dangsing 28.56 337 eP P 13 30 04.6 +0.8
comp=Z,28nm,0.6s
DANN Dangsing 28.56 337 eP P 13 30 04.6 +0.8
CD2 Chengdu 29.44 13 eP P 13 30 13.5 +2.2
CD2 pP pP 13 30 24.3 +1.4
CD2 sP sP 13 30 29.1 +1.1
CD2 PP PnPn 13 31 10.0 +3.2
CD2 S S 13 35 03.9 +1.2
CD2 sS sS 13 35 22.1 +0.1
CD2 SS SnSn 13 36 38.1 +5.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.4s
ENH Enshi 30.64 23 eP P 13 30 20.6 -1.3
comp=Z,5.5nm,0.7s
WHN Wuhan 33.04 30 P P 13 30 43.3 +0.4
WHN S S 13 36 03.9 +5.1
WHN LR LR
comp=Z,360nm,10.5s
WHN LR LR
comp=Z,360nm,5.0s
WHN LR LR
comp=Z,630nm,16.2s
XAN Xi'an 33.84 19 P P 13 30 49.0 -1.0
XAN pmax pmax
comp=Z,22nm,0.7s
XAN pmax pmax
comp=Z,17nm,6.9s
SMLA Simla 33.91 330 eP P 13 30 50.2 -0.3
SMLA AMB AMB 13 30 51.4
comp=Z,11nm,0.8s
LZH Lanzhou 34.46 11 eP P 13 30 54.6 -0.8
LZH pP pP 13 31 05.5 -1.6
LZH sP sP 13 31 10.3 -1.9
LZH ePP PnPn 13 32 10.8 -0.6
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,52nm,4.6s
LZH LR LR
comp=Z,360nm,12.5s
LZH LR LR
comp=Z,350nm,12.8s
LZH LR LR
comp=Z,460nm,17.2s
DHRM DHARAMSHALA 35.24 330 eP P 13 31 01.6 -0.7
NJ2 Nanjing 36.58 33 eP P 13 31 13.0 -0.5
KNRA Kununurra 36.82 120 P P 13 31 15.1 -0.6
baz=37,SNR=3.9
GTA Gaotai 37.18 5 P P 13 31 18.0 -0.7
GTA pP pP 13 31 25.8 -4.6
GTA sP sP 13 31 28.8 -6.7
GTA PcP PcP 13 33 35.8 -2.3
GTA S S 13 37 02.5 -0.1
GTA SS SnSn 13 39 34.6 -5.8
GTA pmax pmax
comp=Z,20nm,1.5s
GTA pmax pmax
comp=Z,55nm,5.5s
GTA LR LR
comp=Z,150nm,15.2s
GTA LR LR
comp=Z,140nm,15.0s
GTA LR LR
comp=Z,180nm,14.3s
H01W3 Cape Leeuwin H 40.57 157 T T 14 14 56.5
baz=332,slow=76,SNR=278
H01W2 Cape Leeuwin H 40.58 157 T T 14 14 57.7
baz=332,slow=76,SNR=280
H01W1 Cape Leeuwin H 40.59 157 T T 14 14 57.7
baz=332,slow=76,SNR=279
HHC Hu-ho-hao-te 40.91 18 eP P 13 31 50.1 +0.3
HHC pP pP 13 31 58.1 -3.6
HHC S S 13 37 56.8 -1.9
HHC sS sS 13 38 12.3 -6.1
HHC pmax pmax
comp=Z,23nm,0.5s
HHC pmax pmax
comp=Z,170nm,4.7s
HHC LR LR
comp=Z,400nm,10.1s
HHC LR LR
comp=Z,280nm,8.9s
HHC LR LR
comp=Z,270nm,12.8s
WRKA Warakurna 41.29 133 P P 13 31 54.2 +1.2
baz=42,SNR=4.5
KSH Kashi 41.43 336 eP P 13 31 53.3 -0.8
KSH epP pP 13 32 06.8 +0.8
KSH esP sP 13 32 11.4 +0.4
KSH ePP PnPn 13 33 33.5 -1.9
KSH PcS PcS 13 37 39.3 -3.6
KSH eS S 13 38 01.5 -5.0
KSH SS SS 13 41 06.3 -5.6
KSH pmax pmax
comp=Z,5.0nm,0.9s
KSH pmax pmax
comp=Z,96nm,4.4s
KSH LR LR
comp=Z,110nm,5.3s
KSH LR LR
comp=Z,83nm,7.2s
KSH LR LR
comp=Z,130nm,5.7s
WMQ Urumqi 42.12 351 P P 13 32 00.0 +0.4
WMQ pP pP 13 32 12.3 +0.8
WMQ sP sP 13 32 17.8 +1.3
WMQ PP PP 13 33 41.1 +3.4
WMQ PcP PcP 13 33 55.3 +1.7
WMQ PcS PcS 13 37 45.6 +0.3
WMQ S S 13 38 15.4 -0.9
WMQ sS sS 13 38 36.1 0.0
WMQ SS SS 13 41 17.9 -7.3
WMQ pmax pmax
comp=Z,11nm,0.8s
WMQ pmax pmax
comp=Z,150nm,5.0s
WMQ LR LR
comp=Z,76nm,20.2s
WMQ LR LR
comp=Z,110nm,21.6s
WMQ LR LR
comp=Z,91nm,23.2s
WRA Warramunga Arr 43.45 122 P P 13 32 10.8 0.0
comp=Z,4.1nm,0.8s,baz=301,slow=9.1,SNR=19
WRAB Tennant Creek 43.46 122 eP P 13 32 11.4 +0.6
WRAB pmax pmax
comp=Z,7.0nm,0.8s
WRAB Tennant Creek 43.46 122 eP P 13 32 11.4 +0.6
comp=Z,6.6nm,0.8s
UCH Uchtor 44.32 337 P P 13 32 19.1 +1.2
SNR=12
UCH Uchtor 44.32 337 iP P 13 32 19.1 +1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TKM2	Tokmak 2	44.50	338	P	P	13 32 20.1	+1.1
	SNR=6.8						
TKM2	Tokmak 2	44.50	338	i P	P	13 32 20.1	+1.1
TKM2	Tokmak 2	44.50	338	eP	P	13 32 19.9	+0.8
	comp=Z,6.2nm,0.9s						
KBK	Karagaybulak	44.52	338	P	P	13 32 21.1	+2.0
	SNR=7.5						
AML	Almayashu	44.56	336	P	P	13 32 20.9	+1.2
	SNR=9.4						
AAK	Ala-Archa	44.67	337	eP	P	13 32 22.1	+1.8
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AAK	Ala-Archa	44.67	337	eP	P	13 32 22.1	+1.8
	comp=Z,5.0nm,1.0s						
ASAR	Alice Springs	44.83	127	P	P	13 32 22.1	+0.3
	comp=Z,2.1nm,0.7s,baz=300,slow=8.0,SNR=79						
ASAR				PcP	PP	13 34 11.2	+4.1
	comp=Z,0.7nm,0.7s,baz=308,slow=4.1,SNR=5.0						
EKS2	Erkin-Say	44.98	337	P	P	13 32 24.4	+1.6
	SNR=9.8						
EKS2	Erkin-Say	44.98	337	i P	P	13 32 24.3	+1.6
EKS2	Erkin-Say	44.98	337	eP	P	13 32 24.0	+1.3
	comp=Z,5.1nm,0.8s						
USP	Ospenovka	45.21	338	P	P	13 32 25.4	+1.0
	SNR=20						
USP	Ospenovka	45.21	338	i P	P	13 32 25.4	+1.0
KSAR	Wonju Array Be	45.61	36	P	P	13 32 27.2	-0.4
KSAR	Wonju Array Be	45.61	36	P	P	13 32 27.2	-0.4
KSRS	Korea Array	45.64	36	P	P	13 32 27.2	-0.6
	comp=Z,1.4nm,0.5s,baz=228,slow=7.5,SNR=9.4						
KSRS				LR	LR	13 53 49.9	
	comp=Z,56nm,18.3s,baz=220,slow=39						
MK31	Makanchi Array	46.03	347	i P	P	13 32 30.9	+0.1
MK31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MK31	Makanchi Array	46.03	347	eP	P	13 32 30.8	0.0
MKAR	Makanchi Array	46.03	347	P	P	13 32 30.8	0.0
	comp=Z,15nm,0.8s,baz=162,slow=8.0,SNR=131						
MKAR				LR	LR	13 54 37.3	
	comp=Z,57nm,21.2s,baz=162,slow=40						
SONM	Songino Array	46.31	10	P	P	13 32 33.1	-0.1
	comp=Z,5.9nm,0.4s,baz=189,slow=9.5,SNR=53						
SONM				PcP	PcP	13 34 09.1	+1.1
	comp=Z,1.5nm,0.7s,baz=182,slow=3.3,SNR=4.1						
ULN	Ulaanbaatar	46.45	10⇑	i P	P	13 32 34.1	-0.2
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ULN	Ulaanbaatar	46.45	10	eP	P	13 32 33.5	-0.8
	comp=Z,3.6nm,0.6s						
KK31	Karatay Array	46.70	334	i P	P	13 32 36.8	+0.6
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KKAR	Karatay Array	46.70	334	eP	P	13 32 37.2	+1.0
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KKAR	Karatay Array	46.70	334	eP	P	13 32 37.2	+1.0
	comp=Z,3.2nm,0.6s						
ZAK	Zakamensk	48.38	6	eP	P	13 32 48.1	-1.1
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
TLY	Talaya	49.70	6	eP	P	13 33 00.7	+1.5
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,75nm,16.0s						
TLY	Talaya	49.70	6	eP	P	13 32 59.5	+0.3
	comp=Z,6.0nm,0.8s						
KURK	Kurchatov	50.56	346	eP	P	13 33 06.0	+0.3
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KURK	Kurchatov	50.56	346	eP	P	13 33 06.0	+0.3
	comp=Z,4.7nm,1.1s						
MDJ	Mudanjiang	51.52	30	P	P	13 33 14.3	+1.3
MDJ				pmax	pmax		
	comp=Z,11nm,2.5s						
MDJ				pmax	pmax		
	comp=Z,74nm,3.9s						
MJAR	Matsushiro Arr	51.67	43	P	P	13 33 14.5	+0.1
	comp=Z,0.9nm,0.5s,baz=257,slow=6.8,SNR=4.8						
MJAR				LR	LR	13 55 52.7	
	comp=Z,35nm,21.4s,baz=205,slow=37						
ZAA0	Zalesovo Array	52.41	352	eP	P	13 33 19.5	0.0
ZALV	Zalesovo Beam	52.41	352	P	P	13 33 19.6	+0.1
	comp=Z,18nm,0.6s,baz=178,slow=7.2,SNR=106						
USRK	Ussuriysk Arra	52.47	32	P	P	13 33 20.6	+0.6
	comp=Z,1.8nm,0.8s,baz=268,slow=3.5,SNR=5.3						
NVS	Novosibirsk	53.52	351	i P	P	13 33 27.4	-0.2
NVS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NVS				pmax	pmax		
	comp=N,7.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.9s						
QLP	Quilpie	54.49	125	P	P	13 33 37.0	+1.8
	baz=55,SNR=4.7						
STKA	Stephens Creek	54.80	132	eP	P	13 33 38.4	+1.0
STKA	Stephens Creek	54.80	132	P	P	13 33 38.7	+1.3
	comp=E,2.2nm,0.7s,baz=300,slow=7.9,SNR=4.7						
STKA	Stephens Creek	54.80	132	eP	P	13 33 38.4	+1.0
BVA0	Borovoye Array	54.97	341	i P	P	13 33 37.6	-0.6
BVA0				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRVK	Borovoye	55.03	341	eP	P	13 33 38.5	-0.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	Borovoye	55.03	341	eP	P	13 33 38.4	-0.2
	comp=Z,3.4nm,0.6s						
KLR	Kul'dur	55.84	27	eP	P	13 33 40.2	-4.3
AB31	Akbulak array	56.14	332	i P	P	13 33 46.9	+0.2
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ABKAR	Akbulak array	56.14	332	eP	P	13 33 46.7	0.0
	comp=Z,3.7nm,0.7s						
BOD	Bodaibo	57.23	11	eP	P	13 33 53.7	-0.5
BOD				pmax	pmax		
	comp=Z,11nm,0.9s						
CMSA	Cobar Meteorol	57.74	130	P	P	13 34 00.1	+1.7
	baz=58,SNR=6.7						
AKTO	Aktyubinsk	57.86	332	P	P	13 33 56.7	-2.1
AKTO				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KMBO	Kilima Mbogo	58.98	267	P	P	13 34 10.1	+2.4
	comp=Z,0.8nm,0.5s,baz=20,slow=12,SNR=2.7						
ARU	Arti	61.86	337⇓	i P	P	13 34 26.3	+0.1
ARU						13 36 38.5	
ARU				S	S	13 42 47.6	+1.0
ARU				SS	SS	13 46 44.7	-4.6
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s						
KBZ	Khabaz	62.63	319	P	P	13 34 32.1	+0.6
	comp=Z,2.5nm,0.8s,baz=92,slow=6.4,SNR=6.1						
KIV	Kislovodsk	62.87	319	eP	P	13 34 33.4	+0.1
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
YAK	Yakutsk	64.76	17	eP	P	13 34 44.2	-1.1
YAK				pmax	pmax		
	comp=Z,27nm,0.9s						
YAK	Yakutsk	64.76	17	eP	P	13 34 44.4	-0.9
	comp=Z,34nm,0.8s						
BRTR	Keskin Array B	67.67	312	P	P	13 35 04.0	-0.6
	comp=Z,1.0nm,0.7s,baz=126,slow=6.5,SNR=6.1						
PRGR	Permogore	70.31	337	eP	P	13 35 19.1	-1.2
PRGR				e		13 35 41.8	
PRGR				pmax	pmax		
	comp=Z,17nm,0.9s						
OBN	Obninsk	71.22	328⇓	i P	P	13 35 26.2	+0.2
OBN				e*PP	PcP	13 35 43.1	-2.6
OBN				e		13 38 10.0	
OBN				eS	SKiKP	13 45 11.1	+7.7
OBN				pmax	pmax		
	comp=Z,25nm,2.5s						
TIXI	Tiksi	72.39	10⇓	eP	P	13 35 32.4	-0.3
TIXI				pmax	pmax		
	comp=Z,14nm,1.7s						
TIXI	Tiksi	72.39	10	eP	P	13 35 31.8	-0.9
	comp=Z,4.7nm,0.8s						
KLMR	Klimovskoe	72.40	335	eP	P	13 35 29.7	-3.3
KLMR				pmax	pmax		
	comp=Z,18nm,1.5s						
AKASG	Malin Array Be	73.83	322	P	P	13 35 41.1	-0.5
	comp=Z,1.4nm,0.6s,baz=91,slow=4.8,SNR=8.8						
JOF	Joensuu	76.80	335	eP	P	13 35 56.6	-1.8
JOF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JOF	Joensuu	76.80	335	ep	P	13 35 56.6	-1.8
	comp=Z,2.6nm,0.8s						
CRVS	Cervenica-Dubn	78.30	319	eP	P	13 36 07.0	-0.2
CRVS	Cervenica-Dubn	78.30	319	eP	P	13 36 07.0	-0.2
STHS	Stebnicka Huta	78.53	320	eP	P	13 36 09.7	+1.3
STHS	Stebnicka Huta	78.53	320	eP	P	13 36 09.7	+1.3
FINES	FINESS Array B	78.63	333	P	P	13 36 08.8	+0.2
	comp=Z,3.7nm,0.7s,baz=108,slow=6.2,SNR=13						
FINES				LR	LR	14 15 14.6	
	comp=Z,54nm,19.6s,baz=90,slow=39						
KAF	Kangasniemi	78.72	333	eP	P	13 36 09.1	0.0
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KAF	Kangasniemi	78.72	333	ep	P	13 36 09.1	0.0
	comp=Z,4.2nm,0.6s						
BILL	Bilibino	80.61	21⇓	eP	P	13 36 17.5	-1.8
BILL				e		13 36 25.5	
BILL				i *PP	pP	13 36 35.8	+3.7
BILL				eS	S	13 46 21.3	-1.7
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ARCES	ARCESS Array B	81.24	340	P	P	13 36 23.5	+0.8
	comp=Z,1.7nm,0.4s,baz=93,slow=5.7,SNR=18						
ARCES				LR	LR	14 17 27.4	
	comp=Z,25nm,18.3s,baz=151,slow=39						
GERES	GERESS Array B	83.37	319	P	P	13 36 35.0	+0.7
	comp=Z,0.5nm,0.3s,baz=104,slow=5.6,SNR=8.9						
NOA	NORSAR Array B	85.62	331	LR	LR	14 18 42.9	
	comp=Z,33nm,21.0s,baz=90,slow=38						
ILAR	Eielson Array	99.19	23	PP	PP	13 41 51.1	+0.2
	comp=Z,0.3nm,0.8s,baz=297,slow=7.0,SNR=4.9						

MAN 23 14:01:41, 18°.32N×120°.73E, h21km, mb4.3, ML3.2, MS3.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.11	271⇓	i P	Pb	14 01 47.1	-0.6
PIP				eS	Sb	14 01 52.8	+0.4
APYP	Conner	0.67	133	eP	Pb	14 01 52.5	-1.6
APYP				eS	Sb	14 01 57.5	-5.4
ABRA	Dolores	0.67	182	eP	Pb	14 01 54.2	+0.1
CAUP	Cauayan	1.72	143	eP	Pb	14 02 11.3	-0.6

MAN 23 14:08:03, 13°.54N×120°.14E, h32km, mb4.3, ML3.2, MS3.0, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.22	29	eP	Pn	14 08 11.4	+1.3
LUBP				eS	Sn	14 08 15.9	+1.2
PGP	Puerto Galera	0.80	92⇑	eP	Pn	14 08 12.7	-5.4
PGP				i S	Sn	14 08 19.0	-10
SJMP	San Jose	1.44	138	eP	Pb	14 08 28.1	-1.1
SJMP				eS	Sn	14 08 44.5	0.0
OTRP	Odiongan	2.18	122	eP	Pn	14 08 38.8	+1.7
ENPP	El Nido	2.42	197	eP	Pn	14 08 41.4	+1.1

DDA 23 14:13:59.5, 38°.25N×38°.08E, h7km, MD2.7

ISC 23 14:13:58.2±5.6, 38°.1N±0°.3×38°.04E±0°.09, h9km, n3, σ0.09/6, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKCD	Akcadag	0.20	333	i P	Pg	14 14 02.4	0.0
AKCD				i S	Sg	14 14 05.2	0.0
MALT	Malatya	0.36	58	ePG	Pg	14 14 05.5	0.0
MALT				eSG	Sg	14 14 10.4	+0.1
ELZG	Elazig	0.83	63	i P	Pg	14 14 14.4	0.0
ELZG				i S	Sg	14 14 25.2	-0.1

DJA 23 14:25:58.1±0.7, 8°S±4°×10°7E±°, h16km±7km, M3.9/14, MLv3.9/14, Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	0.83	355	P	Pb	14 26 13.8	-0.3
CNJI				S	Sb	14 26 24.5	-0.6
CISI	Cisompet, Garu	0.84	46	P	Pb	14 26 12.9	-1.6
CISI				S	Sb	14 26 22.9	-2.7
CMJI	Cimerak	1.29	74	P	Pn	14 26 18.8	-2.6
SKJI	Sukabumi	1.29	330	P	Pn	14 26 21.6	0.0
SKJI				S	Sb	14 26 38.5	0.0
LEM	Lembang	1.37	18	P	Pn	14 26 22.7	-0.1
KPJI	Karang Pucung	1.89	65	P	Pn	14 26 29.4	-0.4
CGJI	Cibinong	2.13	315	P	Pn	14 26 32.5	-0.5
CGJI				S	Sn	14 26 56.6	-2.6
UGM	Wanagama	3.30	86	P	Pn	14 26 47.5	-1.7
KASI	Kota Agung	3.74	314	P	Pn	14 26 56.9	+1.7
PWJI	Pagerwojo	4.56	89	P	Pn	14 27 06.6	+0.1

IDC 23 14:39:18.2±5.0, 16°.27S×175°.03W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/26, mbtmp3.8/3, Error ellipse: s-maj=168.2km s-min=99.9km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.24	240	P	P	14 47 13.6	+0.2
	0.7nm,0.5s,baz=110,slow=12,SNR=2.5						
WRA	Warramunga Arr	48.12	258	P	P	14 48 00.3	-0.1
	0.4nm,0.6s,baz=94,slow=6.9,SNR=16						
ASAR	Alice Springs	48.35	253	P	P	14 48 01.5	-0.6
	2.1nm,1.0s,baz=90,slow=7.7,SNR=27						
ASAR				PcP	PcP	14 49 28.7	-0.2
	0.1nm,0.4s,baz=95,slow=4.1,SNR=5.1						

ISCJB 23 14:57:02.2±0.7, 60°.8S±0°.1×27°.2W±0°.4, h10km, mb4.1/5, Error ellipse: s-maj=32.8km s-min=10.8km az=154.1
IDC 23 14:57:03.3±1.0, 60°.68S×27°.47W, h0km, mb4.1/3, mb1 4.1/3, mb1mx3.8/17, mbtmp4.0/3, Error ellipse: s-maj=48.9km s-min=36.5km az=35.0
NEIC 23 14:57:08.3±0.6, 60°.84S×27°.28W, h35km, mb4.2/2, Error ellipse: s-maj=35.5km s-min=16.6km az=65.0
AWI 23 14:57:27.8, 61°.49S×22°.45W

ISC 23 14:57:04.5±0.7, 60°.8S±0°.1×27°.4W±0°.2, h10km, n24, σ1.11/18, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.53	150	P	Pn	15 00 01.7	-0.8
VNA3	Neumayer Olymp	12.62	153	P	Pn	15 00 02.4	-1.4
VNA3	Neumayer Olymp	12.62	153	S	Sn	15 02 11.1	-13
VNA2	Neumayer--Watz	12.93	150	P	Pn	15 00 07.5	-0.5
SNAA	Sanae	14.55	148	P	Pn	15 00 29.6	-0.6
SNAA	Sanae	14.55	148	eP	Pn	15 00 28.7	-1.5
QSPA	South Pole Qui	29.41	180	eP	P	15 03 08.3	+0.6
	4.9nm,1.0s						
H10S2	ASCENSION HYDR	52.63	16	T	T	16 03 18.8	
	baz=188,slow=75,SNR=12						
H10S3	ASCENSION HYDR	52.64	16	T	T	16 03 19.1	
	baz=188,slow=75,SNR=16						
H10S1	ASCENSION HYDR	52.65	16	T	T	16 03 20.1	
	baz=188,slow=75,SNR=14						
LPAZ	La Paz	53.16	308	P	P	15 06 23.1	0.0
	0.9nm,0.6s,baz=169,slow=5.2,SNR=3.2						
H10N1	ASCENSION HYDR	53.75	16	T	T	16 04 40.3	
	baz=195						
H10N3	ASCENSION HYDR	53.75	16	T	T	16 04 43.0	
	baz=195,slow=74,SNR=12						
H10N2	ASCENSION HYDR	53.77	16	T	T	16 04 41.7	
	baz=195,slow=74,SNR=6.1						
SAML	Samuel	58.16	317	eP	P	15 06 57.0	-1.4
	1.5nm,0.6s						
TOA0	Torodi Ar. Sit	77.30	29	eP	P	15 08 58.3	-0.6
TORD	Torodi Ar. Bea	77.30	29	P	P	15 08 58.6	-0.3
	2.7nm,0.6s,baz=197,slow=6.2,SNR=19						
ASAR	Alice Springs	94.45	163	P	P	15 10 25.7	+1.0
	0.3nm,0.7s,baz=176,slow=4.8,SNR=5.0						
FINES	FINESS Array B	128.65	30	PKP	PKPdf	15 16 10.6	+0.4
	1.1nm,0.8s,baz=248,slow=1.5,SNR=3.9						
MKAR	Makanchi Array	138.33	77	PKP	PKPdf	15 16 31.1	+2.2
	0.7nm,1.0s,baz=256,slow=0.5,SNR=4.0						
YKA	Yellowknife Ar	139.55	314	PKP	PKPdf	15 16 31.1	+0.6
	0.3nm,0.7s,baz=115,slow=2.2,SNR=5.3						
ZALV	Zalesovo Beam	144.37	70	PKP	PKPab	15 16 37.3	-0.3
	0.4nm,0.4s,baz=264,slow=2.4,SNR=3.8						
SONM	Songino Array	150.78	95	PKPbc	PKPbc	15 16 56.6	+0.6
	1.0nm,0.6s,baz=231,slow=2.2,SNR=12						
ILAR	Eielson Array	152.99	305	PKPbc	PKPbc	15 17 00.7	+0.3
	0.7nm,0.6s,baz=184,slow=1.4,SNR=14						
ILAR				PKPab	PKPab	15 17 10.1	-1.8
	0.3nm,0.7s,baz=145,slow=2.2,SNR=4.6						

CASC 23 15:01:50.0±1.8, 13°.43N×90°.41W, h36km±189km, MD3.7, ML4.0, 4C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.86	62⇑	eP	Pn	15 02 05.8	-0.2
RTR	El Retiro	0.87	58⇑	i P	Pn	15 02 06.2	+0.2
SNJE	San Jose	0.89	61⇑	eP	Pn	15 02 06.0	-0.2
RBDL	Robledal	0.97	46⇑	eP	Pn	15 02 07.5	+0.1
PCG	Pacaya	0.97	348	eP	Pn	15 02 08.2	+0.7
PCG				eS	Sn	15 02 20.9	+0.6
BOQS	Boqueron	1.14	75	eP	Pn	15 02 09.9	+0.3
BOQS				eS	Sn	15 02 25.0	+0.8
NBG	Las Nubes	1.15	3	eP	Pn	15 02 11.3	+1.4
NBG				eS	Sn	15 02 27.4	+2.7
SNET	Serv Nac Est T	1.17	77	eP	Pn	15 02 10.1	+0.1
SNET				AML	AML	15 02 29.0	
	comp=Z,3µm,0.2s						
LFU	La Fuente	1.30	76	eP	Pn	15 02 12.2	+0.6
LFU				eS	Sn	15 02 28.4	+0.6
LFRS	El Faro	1.32	82	eP	Pn	15 02 12.0	-0.1
LFRS				eS	Sn	15 02 28.9	+0.3
LBRS	Las Brisas	1.36	77	eP	Pn	15 02 12.6	0.0
LBRS				eS	Sn	15 02 30.7	+1.2
MTO2	Montecristo 2	1.40	46	eP	Pn	15 02 12.9	-0.4
MTO2				eS	Sn	15 02 31.3	+0.6
JAT	Jato	1.48	306	eP	Pn	15 02 14.8	+0.6
SNVI	San Vicente	1.54	83	eP	Pn	15 02 15.4	+0.3
SNVI				eS	Sn	15 02 35.2	+1.2
MRL	Marmol	1.76	23⇓	i P	Pn	15 02 18.5	+0.2
MRL			⇓	eP	Pn	15 02 19.4	+1.2
VSM	San Miguel	2.08	90	eP	Pn	15 02 23.5	+0.9
VSM				eS	Sn	15 02 49.2	+1.7
CAHU	Cacacuatique	2.16	81	eP	Pn	15 02 23.6	-0.1
CNCH	Conchagua	2.51	93	eP	Pn	15 02 28.6	+0.2
CNCH				eS	Sn	15 02 58.5	+0.6
COPN	Copaltepe	3.92	108	eP	Pn	15 02 47.3	-0.5

IDC 23 15:06:58.9±6.2, 6°.38S×153°.18E, h124km±49km, mb3.0/4, mb1 3.3/5, mb1mx3.0/26, mbtmp3.5/5, Error ellipse: s-maj=79.4km s-min=31.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.68	243	P	Pn	15 08 34.3	-0.3
	0.9nm,0.3s,baz=30,slow=12,SNR=5.0						
WRA	Warramunga Arr	22.73	232	P	P	15 11 51.2	+0.5
	0.4nm,0.6s,baz=56,slow=9.5,SNR=7.5						
ASAR	Alice Springs	25.28	225	P	P	15 12 13.5	-0.5
	0.1nm,0.5s,baz=57,slow=9.4,SNR=7.2						
MKAR	Makanchi Array	81.76	319	P	P	15 19 04.2	+0.3
	0.1nm,0.6s,baz=99,slow=6.9,SNR=3.0						
ILAR	Eielson Array	83.47	22	P	P	15 19 12.2	-0.2
	1.1nm,1.1s,baz=238,slow=8.4,SNR=4.9						

IDC 23 15:15:58.6±0.4, 16°.03N×91°.18W, h0km, mb4.7/31, mb1 4.8/33, mb1mx4.8/38, mbtmp4.7/33, ML4.1/2, MS5.1/29, Ms1 5.1/29, ms1mx4.9/41, Error ellipse: s-maj=16.6km s-min=7.5km az=64.0

NEIC 23 15:16:00.4±0.2, 15°.97N×91°.26W, h10km, mb5.3/173, MS5.2/118, MW5.4, MD5.4(MEX), Error ellipse: s-maj=4.5km s-min=3.1km az=218.0, Moment Tensor Solution. s56 Moment tensor: Scale 10^{17}Nm; M_{rr}0.67; $M_{\theta\theta}$-0.74; $M_{\phi\phi}$0.07; $M_{r\theta}$-1.24; $M_{\theta\phi}$0.18; $M_{\phi r}$0.62; Best double couple: $M_0$1.60000×10^{17} NP1:ϕ_s87.00000°, δ15.00000°, λ62.00000°. NP2:ϕ_s295.00000°, δ77.00000°, λ97.00000°. Principal axes: T 1.5300, Plg57.0000°, Azm214.0000°; N 0.0700, Plg7.0000°, Azm113.0000°; P -1.6000, Plg31.0000°, Azm19.0000°;

NEIC Felt [IV] at Antigua Guatemala, Coban, Guatemala, Panajachel, Quetzaltenango, San Cristobal Verapaz, Santa Catarina Pinula, Solola and Villa Nueva; [III] at Atitlan, Mixco, San Jose Pinula and San Lucas Sacatepequez; [II] at Flores. Felt in much of Guatemala. Felt [III] at Belize City and [II] at Belmopan and San Ignacio, Belize. Also felt at Benque Viejo and Orange Walk. Felt [III] at Tuxtla Gutierrez, Mexico. Also felt at Campeche, Ciudad del Carmen, San Cristobal de las Casas, Tapachula and Villahermosa. Felt at San Pedro Sula, Honduras.

GCMT 23 15:16:00.1±0.1, 16°.23N×91°.33W, h20km, MW5.6/107, Moment Tensor Solution. s103,c187; s107,c207; Duration: 1.5s Moment tensor: Scale 10^{17}Nm; M_{rr}1.91±.03; $M_{\theta\theta}$-1.23±.03; $M_{\phi\phi}$-0.68±.03; $M_{r\theta}$-1.80±.07; $M_{\theta\phi}$1.18±.02; $M_{\phi r}$0.73±.06; Best double couple: $M_0$2.82200×10^{17} NP1:ϕ_s297.00000°, δ67.00000°, λ80.00000°. NP2:ϕ_s142.00000°, δ25.00000°, λ113.00000°. Principal axes: T 2.7390, Plg66.0000°, Azm188.0000°; N 0.1630, Plg9.0000°, Azm301.0000°; P -2.9040, Plg22.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BJI 23 15:16:00.9, 16°.00N×91°.40W, h10km, mB5.5/22, Ms5.7/25, Ms7 5.4/26

ISCJB 23 15:16:02.0±0.2, 16°.00N±0°.02×91°.29W±0°.02, h30km, mb5.1/218, MS5.2/160, Error ellipse: s-maj=3.2km s-min=2.0km az=25.0

MOS 23 15:16:02.9±0.9, 16°.05N×91°.24W, h37km, mb5.4/65, MS5.2/18, Error ellipse: s-maj=13.5km s-min=5.2km az=108.7

MEX 23 15:16:03.8±0.6, 15°.99N×91°.22W, h27km±18km, MD5.4

SZGRF 23 15:16:05.4, 16°.32N×91°.52W, h33km, mb5.4, MS5.4, Mexico-Guatemala border region

ISC 23 15:16:03.2±0.2, 15°.95N±0°.03×91°.25W±0°.03, h30km, n1003, σ1.17/948, mb5.2/222, MS5.2/167, 172C-158D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.91	291	eP	Pn	15 16 17.9	-2.3
CCIG				i S	Sn	15 16 30.6	-1.9
CCIG	Comitan	0.91	291	eP	Pn	15 16 17.9	-2.3
CCIG				i S	Sn	15 16 30.6	-1.9
APG	El Apazote	1.21	141	Pg	Pn	15 16 21.9	-2.4
	4µm,0.3s,baz=296,slow=12,SNR=7760						
APG				Lg	Lg	15 16 40.0	
	17µm,0.3s,baz=273,slow=19,SNR=33						
APG				LR	LR	15 17 04.6	
	comp=Z,147µm,18.7s,baz=220,slow=54						
PCIG		1.91	263	eP	Pn	15 16 33.4	-0.3
PCIG				i S	Sn	15 16 55.4	-1.5
PCIG		1.91	263	eP	Pn	15 16 33.4	-0.3
PCIG				i S	Sn	15 16 55.4	-1.5
SCIG	Sabancuy	3.00	1	eP	Pn	15 16 47.2	-1.5
SCIG				i S	Sn	15 17 21.4	-2.3
SCIG	Sabancuy	3.00	1	eP	Pn	15 16 47.2	-1.5
SCIG				i S	Sn	15 17 21.4	-2.3
CMIG	Matias Romero	3.67	289	eP	Pn	15 16 56.4	-1.5
CMIG				i S	Sn	15 17 38.3	-1.9
CMIG	Matias Romero	3.67	289	eP	Pn	15 16 56.4	-1.5
CMIG				i S	Sn	15 17 38.3	-1.9
TUIG	Tuzandepetl	3.67	305	eP	Pn	15 16 57.6	-0.5
TUIG				i S	Sn	15 17 38.9	-1.5
TUIG	Tuzandepetl	3.67	305	eP	Pn	15 16 57.6	-0.5
TUIG				i S	Sn	15 17 38.9	-1.5
HUIG	Huatulco	4.68	268	eP	Pn	15 17 11.1	-0.8
HUIG				i S	Sn	15 18 04.4	-0.8
HUIG	Huatulco	4.68	268	eP	Pn	15 17 11.1	-0.8
HUIG				i S	Sn	15 18 04.4	-0.8
TEIG	Tepich	5.11	33	eP	Pn	15 17 16.8	-0.9
TEIG				i S	Sn	15 18 13.8	-1.9
TEIG	Tepich	5.11	33	Pn	Pn	15 17 16.9	-0.9
	2µm,0.3s,baz=228,slow=13,SNR=1367						
TEIG				Sn	Sn	15 18 14.5	-1.2
	1µm,0.3s,baz=354,slow=22,SNR=13						
TEIG				Lg	Lg	15 18 45.2	
	739nm,0.3s,baz=69,slow=20,SNR=4.9						
TEIG				LR	LR	15 19 51.2	
	comp=Z,48µm,19.8s,baz=232,slow=46						
TEIG	Tepich	5.11	33	ePn	Pn	15 17 17.4	-0.3
	7µm,0.5s						
TEIG				Sn	Sn	15 18 14.5	-1.2

TEIG Lg Lg 15 18 45.2
OXX Oaxaca 5.37 283 iP Pn 15 17 20.8 -0.7
OXX iS Sn 15 18 22.6 +0.1
OXX Oaxaca 5.37 283 iP Pn 15 17 20.8 -0.7
OXX iS Sn 15 18 22.6 +0.1
VHO Vista Hermosa 5.38 283 eP Pn 15 17 21.8 +0.1
VHO iS Sn 15 18 22.2 -0.5
VHO Vista Hermosa 5.38 283 eP Pn 15 17 21.8 +0.1
VHO iS Sn 15 18 22.2 -0.5
TPIG Tehuac#an 6.34 294 iP Pn 15 17 34.2 -0.6
TPIG iS Sn 15 18 44.8 -1.5
TPIG Tehuac#an 6.34 294 iP Pn 15 17 34.2 -0.6
TPIG iS Sn 15 18 44.8 -1.5
PNIG Pinotepa 6.62 275 iP Pn 15 17 38.0 -0.6
PNIG iS Sn 15 18 53.5 +0.4
PNIG Pinotepa 6.62 275 iP Pn 15 17 38.0 -0.6
PNIG iS Sn 15 18 53.5 +0.4
JTS JuntasAbangare 8.32 132 Pn Pn 15 18 08.5 +6.5
730nm,1.2s,SNR=20
JTS JuntasAbangare 8.32 132 eP Pn 15 18 06.0 +4.0
JTS pmax pmax
comp=Z,266nm,1.0s
JTS JuntasAbangare 8.32 132 Pn Pn 15 17 59.3 -2.7
comp=Z,0.9nm,0.3s,baz=297,slow=15,SNR=2.6
JTS LR LR 15 21 29.9
comp=Z,5μm,21.3s,baz=308,slow=40
JTS JuntasAbangare 8.32 132 ePn Pn 15 18 06.0 +4.0
comp=Z,266nm,1.0s
BCIP Isla Barro Col 13.02 120 Pn Pn 15 19 09.3 +3.1
comp=Z,117nm,1.5s
034A Hebbronville 13.04 329 ⇑P Pn 15 19 08.5 +2.0
baz=13,SNR=11
CVJ Coleyville 13.31 78 iP Pn 15 19 14.7 +4.4
MTDJ Mount Denham 13.31 78 eP Pn 15 19 12.8 +2.5
comp=Z,342nm,0.7s
934A Benavides 13.41 331 ⇑P Pn 15 19 12.4 +0.8
baz=13
835A Beeville 13.70 335 ⇑P Pn 15 19 16.3 +0.8
baz=14
933A Laredo 13.79 329 ⇑P Pn 15 19 17.4 +0.7
baz=14
834A Tilden 13.87 332 ⇓P Pn 15 19 19.7 +1.9
baz=14,SNR=7.2
STH Stony Hill 13.97 79 iP Pn 15 19 21.1 +1.8
HOJ Hope 14.02 80 iP Pn 15 19 21.1 +1.2
GWJ Greenwich 14.05 79 iP Pn 15 19 22.0 +1.5
735A Kenedy 14.20 336 ⇓P Pn 15 19 24.1 +1.8
baz=14
YHJ Yallahs 14.25 80 iP P 15 19 28.8 -1.3
833A Chaparral WMA, 14.43 330 ⇑P Pn 15 19 25.8 +0.3
baz=14,SNR=11
636A Smothers Creek 14.49 339 ⇓P Pn 15 19 25.8 -0.4
baz=14
734A La Parita Cree 14.50 334 ⇓P Pn 15 19 27.9 +1.5
baz=14
HKT Hockley 14.56 344 P Pn 15 19 24.5 -2.6
HKT pmax pmax
comp=Z,47nm,1.1s
HKT Hockley 14.56 344 P Pn 15 19 24.5 -2.6
comp=Z,48nm,1.1s
635A Leesville 14.66 337 ⇓P Pn 15 19 27.1 -1.5
baz=15
832A Faith Ranch, C 14.69 328 ⇓P Pn 15 19 28.1 -0.9
baz=15,SNR=15
733A Divot King Ran 14.72 331 ⇓P Pn 15 19 29.6 +0.2
baz=15,SNR=15
538A Harpers Horsep 14.73 345 ⇑P Pn 15 19 29.7 +0.2
baz=15
537A Green Hill Far 14.81 343 ⇑P Pn 15 19 31.6 +0.9
baz=15
634A China Grove, S 14.88 335 ⇑P Pn 15 19 31.6 +0.1
baz=15
536A Bastrop 15.04 340 ⇓P Pn 15 19 31.5 -2.1
baz=15
732A Laxson Ranch, 15.05 329 ⇑P Pn 15 19 32.1 -1.7
baz=15,SNR=15
535A Dale 15.17 339 ⇑P Pn 15 19 33.6 -1.8
baz=15
633A Saathoff Ranch 15.29 333 ⇑P Pn 15 19 34.7 -2.4
baz=15,SNR=16
BRAL Brewton 15.47 14 eP Pn 15 19 40.1 +0.7
comp=Z,162nm,0.8s
534A Blanco 15.50 336 P Pn 15 19 37.5 -2.3
baz=16,SNR=19
340A Bronson 15.58 352 ⇓P Pn 15 19 40.6 -0.2
baz=16
632A Uvalde 15.61 331 ⇓P Pn 15 19 39.0 -2.3
baz=16,SNR=21
533A Kerrville 15.77 334 ⇑P Pn 15 19 41.9 -1.3
baz=16
338A Crockett 15.78 347 ⇑P Pn 15 19 42.8 -0.5
baz=16
GTBY Guantanamo Bay 15.86 73 eP P 15 19 47.5 -0.3
comp=Z,373nm,1.0s
435B Jarrell 15.86 340 ⇑P Pn 15 19 43.1 -1.3
baz=16
337A Centerville 15.87 345 ⇓P Pn 15 19 43.5 -1.0
baz=16
631A Perdido Creek 15.91 329 ⇓P Pn 15 19 43.7 -1.4
baz=16,SNR=35
NATX Nacogdoches 16.04 349 eP Pn 15 19 47.1 +0.4
comp=Z,96nm,0.7s
434A Burnet 16.13 338 ⇑P Pn 15 19 46.9 -1.0
baz=16,SNR=17
336A Riesel 16.19 343 ⇓P Pn 15 19 47.3 -1.3
baz=16
532A Rocksprings 16.19 332 ⇑P Pn 15 19 47.1 -1.6
baz=16,SNR=31
335A Moody 16.27 341 ⇓P Pn 15 19 49.2 -0.5
baz=16
433A Art 16.39 335 ⇑P Pn 15 19 49.9 -1.3
baz=16
JCT Junction City 16.45 333 eP Pn 15 19 51.8 -0.2
JCT pmax pmax
comp=Z,61nm,0.7s
JCT Junction City 16.45 333 eP Pn 15 19 51.8 -0.2
comp=Z,61nm,0.7s
JCT Junction City 16.45 333 ⇓P Pn 15 19 50.9 -1.0
baz=16,SNR=17
531A Rocksprings 16.52 331 ⇓P Pn 15 19 51.5 -1.4
baz=17,SNR=14
PAYG Puerto Ayora 16.55 177 P Pn 15 19 54.0 +0.8
comp=Z,76nm,0.8s
334A Lometa 16.59 339 P Pn 15 19 53.5 -0.1
baz=17,SNR=16
432A Menard 16.79 334 ⇑P Pn 15 19 55.5 -0.7
baz=17,SNR=38
333A Richland Sprin 16.85 337 ⇑P Pn 15 19 56.4 -0.7
baz=17,SNR=22
530A J-C Ranch, Com 16.89 329 ⇑P Pn 15 19 56.8 -0.8
baz=17,SNR=28
TIGA Tifton 16.93 23 eP Pn 15 19 57.5 -0.4
comp=Z,125nm,0.7s
TIGA Tifton 16.93 23 ⇓P P 15 20 01.3 +1.6
baz=17
WHTX Lake Whitney 16.94 342 eP P 15 19 59.7 -0.1
comp=Z,148nm,0.6s
WHTX Lake Whitney 16.94 342 ⇓P Pn 15 19 58.1 0.0
baz=17,SNR=9.9
431A Sonora 16.98 331 ⇓P Pn 15 19 58.1 -0.6
baz=17,SNR=39
234A Clairette 17.17 340 ⇓P P 15 20 01.5 -0.9
baz=17,SNR=6.9
332A Millersview 17.21 335 ⇑P Pn 15 20 01.2 -0.3
baz=17,SNR=70
529A Stev Forest Ra 17.33 326 ⇓P Pn 15 20 02.6 -0.5
baz=17,SNR=23
430A Baggett Ranch, 17.36 330 ⇑P Pn 15 20 03.5 0.0
baz=17,SNR=37
331A San Angelo 17.43 333 ⇑P Pn 15 20 03.5 -0.8
baz=18,SNR=27
LRAL Lakeview Retre 17.44 12 eP Pn 15 20 03.4 -0.9
comp=Z,51nm,0.7s
233A Rising Star 17.44 338 ⇑P Pn 15 20 04.3 -0.1
baz=18,SNR=30
135A Vickery Place, 17.45 342 ⇓P Pn 15 20 04.2 -0.3
baz=18
TXAR Lajitas Array 17.55 321 P Pn 15 20 05.2 -0.6
comp=Z,0.3nm,0.3s,baz=168,slow=7.4,SNR=35
TXAR LR LR 15 28 20.5
comp=Z,2μm,18.2s,baz=0.0,slow=42
429A Davenport Ranc 17.56 328 ⇑P Pn 15 20 05.1 -0.7
baz=18,SNR=45
232A Coleman 17.61 336 ⇓P Pn 15 20 06.0 -0.5
baz=18,SNR=31
134A White-Moore Ra 17.67 341 ⇓P P 15 20 07.3 -0.6
baz=18

330A Mertzon 17.85 331 ⇑P Pn 15 20 08.9 -0.6
baz=18,SNR=34
231A Bronte 17.93 334 ⇑P Pn 15 20 09.9 -0.4
baz=18,SNR=44
133A Hamilton Ranch 17.98 339 ⇓P Pn 15 20 10.0 -1.0
baz=18,SNR=32
Z35A Perchaven, San 18.14 344 ⇓P Pn 15 20 11.5 -1.4
baz=18,SNR=6.8
230A Sterling City 18.23 332 ⇑P Pn 15 20 13.1 -1.0
baz=18,SNR=12
ABTX Abilene, Hawle 18.26 337 eP P 15 20 12.3 -2.1
comp=Z,336nm,1.4s
ABTX Abilene, Hawle 18.26 337 ⇓P P 15 20 13.5 -1.0
baz=18,SNR=30
329A Wagon Wheel Ra 18.30 330 ⇓P P 15 20 12.8 -2.2
baz=18,SNR=29
Z34A Collier Ranch, 18.36 342 ⇓P P 15 20 14.0 -1.5
baz=18
Z33A Whitaker Ranch 18.55 340 ⇑P P 15 20 16.6 -1.0
baz=19,SNR=34
OXF Oxford 18.56 5 eP P 15 20 16.8 -0.8
OXF pmax pmax
comp=Z,391nm,1.0s
OXF Oxford 18.56 5 eP P 15 20 16.8 -0.8
comp=Z,391nm,1.0s
131A Roby 18.60 335 ⇑P P 15 20 17.2 -1.0
baz=19,SNR=16
229A Bryant Ranch, 18.62 331 ⇑P P 15 20 17.6 -0.9
baz=19,SNR=16
MIAR Mount Ida 18.63 354 eP P 15 20 18.1 -0.4
MIAR pmax pmax
comp=Z,225nm,1.3s
MIAR Mount Ida 18.63 354 eP P 15 20 18.1 -0.4
comp=Z,225nm,1.3s
GOGA Godfrey 18.75 21 eP Pn 15 20 20.3 -0.1
GOGA pmax pmax
comp=Z,57nm,0.8s
GOGA Godfrey 18.75 21 eP Pn 15 20 20.3 -0.1
comp=Z,57nm,0.8s
130A Snyder 18.77 334 ⇓P P 15 20 19.6 -0.5
baz=19
UALR University of 18.77 357 eP P 15 20 19.9 -0.1
comp=Z,320nm,1.4s
Z32A Haskell 18.81 338 ⇓P P 15 20 20.3 -0.2
baz=19,SNR=54
Y34A Reagan Ranch, 18.86 343 ⇑P P 15 20 20.9 -0.1
baz=19,SNR=30
Z31A Sharp Cattle R 19.07 337 ⇑P Pn 15 20 23.6 -0.7
baz=19,SNR=33
228A UT Block 9, Go 19.11 329 ⇑P P 15 20 23.5 -0.4
baz=19,SNR=34
Y33A Hilltop Ranch, 19.17 341 ⇑P P 15 20 24.5 +0.1
baz=19,SNR=9.0
129A Stewart Farms, 19.20 332 ⇓P P 15 20 24.0 -0.8
baz=19,SNR=42
SDDR Presa de Saban 19.28 78 eP Pn 15 20 28.5 +1.5
comp=Z,66nm,0.7s
Y32A R-V Farms, Ver 19.43 339 ⇓P P 15 20 27.4 +0.1
baz=20
Z30A Sanderson Ranc 19.43 334 P P 15 20 27.6 +0.2
baz=20,SNR=40
128A Castleberry Fa 19.48 330 ⇓P P 15 20 27.9 0.0
baz=20,SNR=59
X34A Smith Ranch, M 19.49 344 ⇑P P 15 20 28.9 -0.3
baz=20,SNR=33
HBAR Harrisburg 19.53 1 eP Pn 15 20 29.7 0.0
X33A Lawton 19.62 342 ⇑P Pn 15 20 30.4 -0.4
baz=20,SNR=13
LPIG La Paz 19.64 297 P Pn 15 20 30.6 -0.5
comp=Z,24nm,0.3s,baz=108,slow=14,SNR=4.2
LPIG LR LR 15 28 13.7
comp=Z,19μm,18.1s,baz=126,slow=37
Z29A Hungry Hill Ra 19.66 333 ⇓P P 15 20 29.7 -0.1
baz=20,SNR=82
Y31A Rekieta Farm, 19.69 337 P Pn 15 20 30.6 -1.1
baz=20,SNR=48
CSU Charleston Sou 19.75 29 eP Pn 15 20 31.3 -1.0
X32A Elmer 19.76 340 P Pn 15 20 31.5 -1.0
baz=20,SNR=39
SWET Sewanee 19.77 13 eP P 15 20 31.3 +0.3
comp=Z,3.3nm,0.8s
NHSC New Hope 19.80 28 eP Pn 15 20 32.2 -0.8
comp=Z,376nm,1.1s
GRTK Grand Turk 19.83 71 eP Pn 15 20 34.2 +0.8
comp=Z,242nm,0.9s
Y30A Stafford Cattl 19.86 336 ⇓P P 15 20 32.4 +0.4
baz=20,SNR=20
ROSC El Rosal 19.94 122 P Pn 15 20 36.7 +1.5
comp=Z,1.2nm,0.3s,baz=289,slow=17,SNR=20
ROSC LR LR 15 29 08.3
comp=Z,6μm,19.0s,baz=342,slow=40
127A Arkansas Junct 19.95 329 ⇓P P 15 20 32.7 -0.3
baz=20,SNR=18
Z28A Tucker Farm, M 19.98 332 ⇑P P 15 20 33.2 -0.2
baz=20,SNR=30
W34A Bridge Creek, 20.07 344 eP P 15 20 34.3 0.0
comp=Z,210nm,0.9s
W34A Bridge Creek, 20.07 344 ⇓P P 15 20 34.8 +0.5
baz=20,SNR=12
OTAV Otavalo 20.08 140 eP Pn 15 20 37.7 +0.6
comp=Z,214nm,1.5s
OTAV LR LR
comp=Z,2μm,21.0s
Y29A Porterfield Fa 20.16 334 ⇑P P 15 20 35.1 -0.2
baz=20,SNR=50
W33A Caddo, Fort Co 20.18 343 ⇑P P 15 20 35.4 -0.1
baz=20,SNR=22
X31A McDonald Ranch 20.19 339 ⇑P P 15 20 35.2 -0.4
baz=20,SNR=46
MNTX Cornudas Mount 20.28 323 eP P 15 20 36.6 0.0
comp=Z,12nm,1.6s
MNTX LR LR
comp=Z,3μm,21.0s
TUL1 Tulsa 20.29 349 eP P 15 20 35.5 -1.0
comp=Z,141nm,0.8s
TUL1 Tulsa 20.29 349 ⇑P P 15 20 36.7 +0.1
baz=20,SNR=11
WVT Waverly 20.33 8 eP P 15 20 37.3 +0.3
WVT pmax pmax
comp=Z,65nm,0.8s
WVT Waverly 20.33 8 eP P 15 20 37.3 +0.3
comp=Z,65nm,0.8s
CPCT Cooper Cave 20.33 16 P Pn 15 20 39.6 +0.4
X30A Coker Ranch, T 20.35 337 ⇓P P 15 20 36.9 -0.4
baz=20,SNR=26
W32A Sentinel 20.39 341 ⇓P P 15 20 38.1 +0.4
baz=20,SNR=28
Z27A Tatum 20.39 330 P P 15 20 37.5 -0.3
baz=20,SNR=86
Y28A McKinney Farm, 20.45 333 ⇓P P 15 20 38.2 -0.2
baz=20,SNR=81
V34A Guthrie 20.58 345 eP P 15 20 38.8 -1.0
comp=Z,262nm,0.9s
V34A Guthrie 20.58 345 P P 15 20 39.5 -0.2
baz=21,SNR=32
X29A Tulia 20.68 335 ⇑P P 15 20 40.7 -0.2
baz=21,SNR=27
W31A Holland Ranch, 20.68 339 ⇑P P 15 20 41.4 +0.5
baz=21,SNR=30
MSTX Muleshoe 20.73 332 eP P 15 20 39.6 -1.9
comp=Z,409nm,1.4s
MSTX Muleshoe 20.73 332 ⇓P P 15 20 41.2 -0.3
baz=21,SNR=10
TKL Tuckaleechee C 20.73 17 eP P 15 20 42.0 +0.6
TKL S Sn 15 24 35.3 -1.8
TKL Tuckaleechee C 20.73 17 P Pn 15 20 42.6 -1.3
comp=Z,22nm,0.8s,baz=191,slow=13,SNR=16
TKL S Sn 15 24 35.2 -1.8
comp=Z,32nm,0.8s,baz=334,slow=9.0,SNR=4.0
TKL LR LR 15 29 33.3
comp=Z,12μm,21.2s,baz=200,slow=40
TKL Tuckaleechee C 20.73 17 eP P 15 20 42.0 +0.6
TKL S Sn 15 24 35.2 -1.8
Z26A Caprock 20.73 329 ⇑P P 15 20 41.0 -0.6
baz=21,SNR=48
V33A Lossen Ranch, 20.76 344 P P 15 20 41.6 -0.1
baz=21,SNR=28
Y27A Causey 20.84 331 ⇑P P 15 20 42.3 -0.4
baz=21,SNR=15
V32A Arapaho 20.88 342 ⇓P P 15 20 43.4 +0.4
baz=21,SNR=23
W30A Crocket Farms 20.89 338 ⇓P P 15 20 43.3 +0.1
baz=21
X28A Dimmitt 20.94 334 ⇓P P 15 20 43.7 -0.2
baz=21
AMTX Amarillo 21.05 336 eP P 15 20 44.4 -0.5
comp=Z,226nm,0.9s
AMTX Amarillo 21.05 336 ⇑P P 15 20 44.6 -0.3

baz=21
KMSC Kings Mountain 21.07 23 eP P 15 20 47.9 +2.8
comp=Z,59nm,0.8s
KMSC Kings Mountain 21.07 23 ⇓P P 15 20 49.8 +4.7
baz=21
Z25A Roswell 21.12 327 ⇑P P 15 20 45.6 -0.2
baz=21,SNR=31
U34A Anderson Ranch 21.16 346 eP P 15 20 43.5 -2.4
comp=Z,110nm,0.8s
U34A Anderson Ranch 21.16 346 ⇑P P 15 20 46.6 +0.7
baz=21,SNR=14
V31A Spring Creek L 21.18 340 ⇑P P 15 20 47.5 +1.3
baz=21,SNR=7.7
Y26A Elida 21.18 330 ⇑P P 15 20 45.8 -0.6
baz=21,SNR=53
SMN1 Samana, DR 21.19 78 P P 15 20 49.8 +3.2
W29A Amraillo 21.24 336 ⇑P P 15 20 46.9 -0.1
baz=21,SNR=21
U33A Lingo Farm, Me 21.29 345 ⇓P P 15 20 48.2 +0.7
baz=21
X27A F and S Farms, 21.44 332 ⇓P P 15 20 48.4 -0.8
baz=22,SNR=25
V30A Spur Ranch, Mi 21.46 339 ⇑P P 15 20 49.9 +0.7
baz=22,SNR=20
U32A Winter Ranch, 21.48 343 ⇓P P 15 20 49.8 +0.3
baz=22
Z24A Sheeppen Canyo 21.50 326 ⇓P P 15 20 50.0 +0.1
baz=22,SNR=41
W28A Vega 21.59 335 ⇓P P 15 20 50.6 -0.1
baz=22
Y25A Mesa, Roswell 21.61 328 P P 15 20 51.5 +0.5
baz=22,SNR=76
X26A CR and CF Fran 21.69 331 P P 15 20 52.5 +0.7
baz=22,SNR=45
U31A Nine Bar Ranch 21.73 341 ⇓P P 15 20 53.4 +1.2
baz=22
SIUC Southern Illin 21.75 4 eP P 15 20 52.6 +0.3
comp=Z,516nm,1.0s
W27A Bowe Ranch, En 21.78 333 P P 15 20 53.5 +0.7
baz=22,SNR=37
V29A Stinnett 21.86 337 ⇑P P 15 20 54.4 +0.8
baz=22
T33A Patterson Ranc 21.94 345 ⇑P P 15 20 56.2 +1.8
baz=22,SNR=13
Y24A Capitan 22.00 327 P P 15 20 55.8 +0.6
baz=22,SNR=58
V28A Channing 22.02 336 ⇑P P 15 20 56.0 +0.6
baz=22,SNR=12
X25A Clemmons Ranch 22.08 329 P P 15 20 56.5 +0.5
baz=22,SNR=40
W26A Owens Ranch, T 22.11 332 P P 15 20 57.5 +1.1
baz=22,SNR=23
U30A WK&E Inc. Balk 22.14 340 ⇓P P 15 20 58.2 +1.6
baz=22,SNR=16
USIN University of 22.16 8 eP P 15 20 56.5 -0.1
comp=Z,364nm,1.0s
T32A Huddler Ranch, 22.21 344 ⇑P P 15 20 58.2 +0.9
baz=22,SNR=7.2
V27A Dan Oppiter Fa 22.27 334 ⇑P P 15 20 59.2 +1.1
baz=22,SNR=12
U29A Oasis Ranch, S 22.28 338 ⇑P P 15 20 59.3 +1.2
baz=22,SNR=5.4
121A Cookes Peak, D 22.31 321 eP P 15 20 59.1 +0.6
comp=Z,382nm,1.6s
121A Cookes Peak, D 22.31 321 P P 15 20 59.6 +1.1
baz=22,SNR=36
Y23A Lovelace Mesa, 22.33 326 P P 15 20 59.5 +0.8
baz=22,SNR=30
Z22A Elephant Butte 22.33 323 ⇑P P 15 20 59.1 +0.3
baz=22,SNR=23
T31A Randall Ranch, 22.35 342 ⇓P P 15 20 59.5 +0.7
baz=22
S33A Kaszmaul Farm, 22.37 346 ⇓P P 15 21 00.1 +1.1
baz=22
X24A Lazy VL Ranch, 22.49 328 P P 15 21 01.1 +0.6
baz=22,SNR=20
319A Douglas 22.50 316 ⇓P P 15 21 01.7 +1.1
baz=22,SNR=30
W25A X Bar L Ranch, 22.54 331 P P 15 21 01.5 +0.5
baz=23,SNR=29
U28A Mallet 22.57 336 ⇓P P 15 21 02.0 +0.8
baz=23
T30A Plains 22.57 340 ⇓P P 15 21 02.0 +0.8
baz=23
SLM Saint Louis 22.62 2 eP P 15 21 02.6 +1.0
SLM pmax pmax
comp=Z,78nm,0.7s
SLM Saint Louis 22.62 2 eP P 15 21 02.6 +1.0
comp=Z,78nm,0.7s
WCI Wyandotte Cave 22.62 10 eP P 15 21 00.8 -0.9
WCI pmax pmax
comp=Z,127nm,0.8s
WCI Wyandotte Cave 22.62 10 eP P 15 21 00.8 -0.9
comp=Z,127nm,0.8s
CNNC Cliffs of the 22.63 29 eP P 15 21 03.5 +1.8
comp=Z,125nm,1.0s
CNNC LR LR
comp=Z,14μm,19.0s
S32A Newby Ranch, P 22.70 344 ⇓P P 15 21 03.3 +0.7
baz=23
V26A Tequesquite Ra 22.71 333 P P 15 21 03.5 +0.7
baz=23,SNR=41
S31A Mullinville 22.78 343 ⇓P P 15 21 04.0 +0.6
baz=23
U27A Thompson Grove 22.84 335 ⇑P P 15 21 04.3 +0.2
baz=23,SNR=17
OLIL Olney 22.86 6 eP P 15 21 04.0 -0.2
comp=Z,286nm,1.1s
X23A Hourglass Bar 22.90 327 ⇓P P 15 21 05.2 +0.4
baz=23,SNR=10
Y22D IRIS PASSCAL I 22.91 325 ⇓P P 15 21 06.0 +1.1
baz=23
T29A Hugoton 22.92 339 P P 15 21 06.5 +1.6
baz=23,SNR=7.3
W24A Lazy 6 Ranch, 22.99 329 ⇓P P 15 21 06.0 +0.2
baz=23,SNR=24
R33A Olander Ranch, 23.05 346 ⇑P P 15 21 07.4 +1.3
baz=23
S30A Montezuma 23.09 341 ⇑P P 15 21 06.7 +0.1
baz=23
V25A Rancho No Teng 23.12 331 ⇑P P 15 21 08.0 +0.9
baz=23,SNR=20
T28A Walsh 23.18 337 P P 15 21 08.5 +0.9
baz=23,SNR=10
U26A Atchley Ranch, 23.20 334 P P 15 21 08.5 +0.6
baz=23,SNR=53
BLA Blacksburg 23.25 22 eP P 15 21 08.7 +0.5
BLA pmax pmax
comp=Z,88nm,0.9s
BLA MLR MLR
comp=Z,14μm,19.0s
BLA Blacksburg 23.25 22 eP P 15 21 08.7 +0.5
comp=Z,88nm,0.9s
BLA LR LR
comp=Z,14μm,19.0s
S29A Ulysses 23.28 340 ⇓P P 15 21 08.2 -0.3
baz=23,SNR=17
ANMO Albuquerque 23.32 327 ceP P 15 21 09.6 +0.5
ANMO pmax pmax
comp=Z,152nm,2.5s
ANMO Albuquerque 23.32 327 P P 15 21 08.8 -0.3
comp=Z,2.3nm,0.7s,baz=153,slow=8.9,SNR=10
ANMO LR LR 15 32 20.8
comp=Z,2μm,20.1s,baz=176,slow=42
ANMO Albuquerque 23.32 327 eP P 15 21 08.8 -0.3
comp=Z,44nm,1.3s
W23A Werner Place, 23.32 328 ⇓P P 15 21 08.1 -1.1
baz=23,SNR=19
R32A Long Quarter, 23.33 345 ⇑P P 15 21 09.7 +0.7
baz=23,SNR=5.3
V24A Rampart Ranch, 23.34 330 ⇑P P 15 21 09.2 -0.2
baz=23,SNR=21
T27A Campo 23.36 336 ⇓P P 15 21 08.6 -0.7
baz=23,SNR=15
R31A Burdett 23.42 343 ⇓P P 15 21 10.1 +0.3
baz=24
VWCC Virginia Weste 23.44 23 eP P 15 21 11.9 +1.8
U25A Circle Dot Ran 23.49 333 ⇓P P 15 21 09.9 -0.9
baz=24,SNR=28
BLO Bloomington 23.50 9 eP P 15 21 10.3 -0.3
BLO pmax pmax
comp=Z,96nm,0.8s
BLO Bloomington 23.50 9 eP P 15 21 10.3 -0.3
comp=Z,96nm,0.8s
S28A Manter 23.52 338 ⇑P P 15 21 10.3 -0.6
baz=24
KSU1 Kansas State U 23.54 350 eP P 15 21 09.1 -1.8
comp=Z,75nm,0.8s

KSU1 LR LR
comp=Z,3μm,21.0s
KSU1 Kansas State U 23.54 350 ⇑P P 15 21 10.0 -1.0
baz=24
R30A Dighton 23.63 342 ⇓P P 15 21 11.9 0.0
baz=24,SNR=15
Q33A Connelly Farm, 23.68 347 ⇓P P 15 21 11.5 -0.8
baz=24
CELP Cerrillos 23.68 81 P P 15 21 14.5 +1.9
V23A Ortiz Mt. (NFS 23.80 329 ⇓P P 15 21 14.0 +0.3
baz=24,SNR=20
T26A Comanche Natio 23.80 335 ⇓P P 15 21 13.8 +0.1
baz=24,SNR=14
Q32A Meitler Ranch, 23.83 346 ⇑P P 15 21 13.5 -0.3
baz=24,SNR=9.3
U24A Moreno Valley 23.90 331 ⇓P P 15 21 13.9 -0.8
baz=24
S27A Las Animas 23.97 337 ⇓P P 15 21 14.8 -0.4
baz=24
R29A Marienthal 24.02 341 ⇓P P 15 21 15.0 -0.7
baz=24
Q31A Ellis 24.05 344 ⇑P P 15 21 15.2 -0.7
baz=24
P33A Williams Farm, 24.07 348 ⇑P P 15 21 15.3 -0.7
baz=24
T25A Trinidad 24.11 334 ⇓P P 15 21 16.9 +0.2
baz=24,SNR=41
S26A Kim 24.14 336 ⇓P P 15 21 16.4 -0.4
baz=24,SNR=24
R28A Tribune 24.17 339 ⇑P P 15 21 17.1 +0.1
baz=24,SNR=16
Q30A Quinter 24.25 343 ⇑P P 15 21 17.6 -0.2
baz=24
U23A El Rito 24.27 330 ⇑P P 15 21 18.1 +0.1
baz=24,SNR=47
V22A San Miguel Ran 24.30 328 ⇓P P 15 21 18.3 -0.1
baz=24,SNR=32
Q29A Oakley 24.40 341 ⇑P P 15 21 18.9 -0.1
baz=24
P32A Huiting Farm, 24.44 346 ⇓P P 15 21 18.9 -0.5
baz=24
R27A Eads 24.46 338 P P 15 21 20.6 +0.9
baz=24,SNR=9.5
T24B San Luis 24.48 332 ⇑P P 15 21 19.5 -0.6
baz=24,SNR=14
P31A Stockton 24.54 345 ⇓P P 15 21 19.8 -0.5
baz=25
S25A Robets Cordova 24.57 334 ⇓P P 15 21 20.2 -0.6
baz=25,SNR=46
SFIN Scholer Farm 24.61 8 eP P 15 21 20.1 -0.7
comp=Z,86nm,0.8s
SFIN Scholer Farm 24.61 8 ⇑P P 15 21 23.5 +2.6
baz=25
U22A Llaves 24.63 329 ⇓P P 15 21 22.3 +0.9
baz=25,SNR=7.2
JSRW J. Sargeant Re 24.67 26 eP P 15 21 22.8 +1.3
R26A Arlington 24.72 337 ⇑P P 15 21 23.2 +1.2
baz=25,SNR=16
T23A Casias Ranch, 24.76 331 ⇓P P 15 21 23.5 +0.8
baz=25,SNR=11
P30A Selden 24.79 343 ⇓P P 15 21 22.6 0.0
baz=25
Q28A Sharon Springs 24.82 340 ⇑P P 15 21 23.5 +0.6
baz=25
S24A Houchin Ranch, 24.88 333 ⇑P P 15 21 24.8 +1.1
baz=25,SNR=30
R25A Fountain Ranch 24.92 335 P P 15 21 24.8 +0.9
baz=25,SNR=24
O32A Brockman Farm, 24.98 347 ⇑P P 15 21 24.5 +0.2
baz=25
X18A Snowflake 24.99 321 ⇑P P 15 21 25.7 +1.1
baz=25,SNR=14
P29A Atwood 25.04 342 ⇓P P 15 21 25.2 +0.3
baz=25
KSCO Kaye Shedlock' 25.05 339 eP P 15 21 25.0 -0.1
comp=Z,223nm,1.4s
KSCO Kaye Shedlock' 25.05 339 ⇑P P 15 21 24.9 -0.1
baz=25
SDCO Great Sand Dun 25.09 333 eP P 15 21 26.4 +0.7
comp=Z,81nm,0.6s
SDCO LR LR
comp=Z,2μm,21.0s
O31A Woolen Ranch, 25.12 345 ⇓P P 15 21 25.6 +0.1
baz=25
STVI Saint Thomas 25.23 81 eP P 15 21 26.8 +0.1
comp=Z,426nm,1.7s
ACSO Alum Creek Sta 25.24 15 eP P 15 21 27.1 +0.5
comp=Z,114nm,1.0s
ACSO LR LR
comp=Z,8μm,19.0s
214A Organ Pipe Nat 25.26 313 eP P 15 21 22.1 -4.9
comp=Z,26nm,0.9s
214A Organ Pipe Nat 25.26 313 ⇑P P 15 21 28.7 +1.7
baz=25,SNR=8.3
P28A Saint Francis 25.26 341 ⇓P P 15 21 26.9 -0.1
baz=25,SNR=5.4
W18A Petrified Fore 25.27 322 eP P 15 21 26.6 -0.6
comp=Z,63nm,1.1s
W18A Petrified Fore 25.27 322 ⇓P P 15 21 28.1 +1.0
baz=25,SNR=7.7
S23A Nye Farm, Mont 25.29 332 ⇓P P 15 21 27.5 +0.2
baz=25
Q26A Hugo 25.29 337 ⇓P P 15 21 28.6 +1.4
baz=25,SNR=9.3
O30A MW Ranch, Wils 25.33 344 ⇑P P 15 21 28.1 +0.6
baz=25,SNR=8.8
R24A Sanders Place, 25.33 334 ⇑P P 15 21 28.0 +0.3
baz=25,SNR=12
N32A Stulken Farm, 25.47 347 ⇓P P 15 21 29.1 +0.4
baz=26
O29A 4D Ranch, Culb 25.48 343 ⇓P P 15 21 29.0 +0.2
baz=26
P27A Ficken Ranch, 25.52 339 ⇑P P 15 21 30.0 +0.8
baz=26,SNR=17
Q25A Bedland, Calha 25.56 336 ⇓P P 15 21 30.5 +0.7
baz=26,SNR=21
R23A Moffat 25.61 333 ⇓P P 15 21 31.2 +0.9
baz=26,SNR=6.4
N31A Bailey Ranch, 25.67 346 ⇓P P 15 21 30.3 -0.2
baz=26
S22A 4UR Ranch, Cre 25.70 331 P P 15 21 31.9 +0.7
baz=26,SNR=42
O28A Krutsinger Ran 25.77 341 ⇓P P 15 21 32.4 +0.8
baz=26
P26A Davis Ranch, A 25.79 338 ⇑P P 15 21 33.6 +1.8
baz=26,SNR=13
X16A Lo Mia Camp, P 25.83 319 ⇑P P 15 21 32.2 0.0
baz=26
N30A Hueftle Ranch, 25.92 344 ⇑P P 15 21 35.1 +2.2
baz=26,SNR=5.3
SCIA State Center 25.92 357 eP P 15 21 32.3 -0.5
comp=Z,34nm,0.7s
SCIA LR LR
comp=Z,2μm,22.0s
Q24A Divide 25.97 335 ⇑P P 15 21 33.3 -0.3
baz=26
P25A Willow Gulch B 26.05 337 ⇑P P 15 21 36.1 +1.9
baz=26,SNR=6.2
O27A Beecher Island 26.06 340 ⇑P P 15 21 35.0 +0.8
baz=26
N29A Votaw Ranch, W 26.08 344 ⇓P P 15 21 35.1 +0.8
baz=26
MVCO Mesa Verde 26.11 327 eP P 15 21 35.3 +0.5
comp=Z,90nm,1.2s
MVCO LR LR
comp=Z,2μm,21.0s
MVCO Mesa Verde 26.11 327 P P 15 21 35.8 +1.0
baz=26,SNR=30
M31A Lambtecht Ranc 26.17 347 ⇓P P 15 21 36.5 +1.4
baz=26
Q23A Hartsel 26.20 334 ⇑P P 15 21 36.2 +0.4
baz=26
N28A Pribbeno Ranch 26.22 342 ⇑P P 15 21 36.3 +0.7
baz=26
ATAH Atahualpa 26.23 150 P P 15 21 37.6 +1.4
comp=Z,30nm,1.1s,baz=344,slow=6.6,SNR=11
ATAH LR LR 15 31 16.1
comp=Z,5μm,18.2s,baz=326,slow=35
113A Mohawk Valley, 26.39 313 ⇓P P 15 21 36.9 -0.2
baz=26
WUAZ Wupatki 26.52 321 eP P 15 21 39.0 +0.6
comp=Z,35nm,0.9s
WUAZ LR LR
comp=Z,1μm,21.0s
WUAZ Wupatki 26.52 321 P P 15 21 39.5 +1.1
baz=26,SNR=9.7
PCRV Puerto La Cruz 26.54 99 P P 15 21 39.2 +0.5
comp=Z,8.8nm,0.8s,baz=303,slow=6.5,SNR=3.1
PCRV LR LR 15 33 32.6
comp=Z,2μm,19.6s,baz=314,slow=40
Y14A Wickenburg 26.55 316 ⇑P P 15 21 38.9 +0.3
baz=27
P23A Jefferson 26.60 334 ⇑P P 15 21 39.8 +0.4
baz=27
OGNE Ogallala 26.60 342 eP P 15 21 39.1 0.0
comp=Z,162nm,1.3s
OGNE LR LR
comp=Z,2μm,20.0s
OGNE Ogallala 26.60 342 ⇑P P 15 21 40.0 +1.0
baz=27
PV01 Paradox Valley 26.86 329 eP P 15 21 41.9 +0.3
comp=Z,4μm,1.4s
ISCO Idaho Springs 26.86 335 eP P 15 21 40.3 -1.4
ISCO pmax pmax
comp=Z,24nm,1.1s
ISCO MLR MLR
comp=Z,3μm,19.0s
ISCO Idaho Springs 26.86 335 eP P 15 21 40.3 -1.4
comp=Z,24nm,1.1s
ISCO LR LR
comp=Z,3μm,19.0s
ISCO Idaho Springs 26.86 335 ⇑P P 15 21 42.2 +0.5
baz=27,SNR=6.9
N26A Koester Ranch, 26.88 340 ⇑P P 15 21 42.1 +0.6
baz=27
JFWS Jewell Farm 26.89 2 eP P 15 21 40.1 -1.4
JFWS pmax pmax
comp=Z,71nm,0.9s
JFWS MLR MLR
comp=Z,7μm,19.0s
JFWS Jewell Farm 26.89 2 eP P 15 21 40.1 -1.4
comp=Z,72nm,0.9s
JFWS LR LR
comp=Z,7μm,19.0s
L30A Spencer Herefo 26.92 346 ⇑P P 15 21 43.0 +1.1
baz=27
AAM Ann Arbor 27.06 12 PFAKE 15 21 50.0 +7.0
AAM LR LR
comp=Z,7μm,20.0s
P22A Eagle 27.18 333 ⇓P P 15 21 44.7 +0.3
baz=27
SSPA Standing Stone 27.20 23 eP P 15 21 45.4 +1.2
comp=Z,67nm,1.4s
PV04 Paradox Valley 27.22 329 eP P 15 21 45.2 +0.4
GLA Glamis 27.29 313 eP P 15 21 45.7 +0.4
GLA pmax pmax
comp=Z,25nm,1.1s
GLA Glamis 27.29 313 eP P 15 21 45.7 +0.4
comp=Z,25nm,1.1s
GLA Glamis 27.29 313 ⇓P P 15 21 45.9 +0.6
baz=27
O23A Lake Granby, G 27.34 335 ⇑P P 15 21 47.2 +1.3
baz=27
ALLY Alegheny Colle 27.34 18 P P 15 21 46.9 +1.3
comp=Z,93nm,1.2s
M26A McRoberts Ranc 27.42 340 ⇑P P 15 21 48.4 +1.9
baz=28
PDMCI Parker Dam,Lak 27.52 316 P P 15 21 48.9 +1.6
baz=28,SNR=14
O22A Kremmling 27.56 334 ⇓P P 15 21 48.4 +0.5
baz=28
K30A Basset 27.58 347 ⇑P P 15 21 49.5 +1.7
baz=28
U15A North Rim 27.68 321 ⇑P P 15 21 49.2 +0.2
baz=28
ERPA Erie 27.82 18 eP P 15 21 49.3 -0.5
comp=Z,65nm,1.0s
ERPA LR LR
comp=Z,14μm,20.0s
W13A Hualapai Mount 27.83 317 ⇓P P 15 21 51.7 +1.4
baz=28,SNR=24
SWSC Sam W. Stewart 27.92 312 ⇓P P 15 21 52.6 +1.7
baz=28
N23A Red Feather La 27.93 336 ⇑P P 15 21 52.2 +1.0
baz=28
M24A Cheyenne 28.00 338 ⇓P P 15 21 52.9 +1.2
baz=28
BC3 Big Chuckawall 28.05 313 P P 15 21 53.5 +1.3
baz=28,SNR=12
N22A Wattenberg Ran 28.06 335 ⇑P P 15 21 53.4 +1.1
baz=28
ECSD EROS Data Cent 28.07 352 eP P 15 21 50.0 -2.0
comp=Z,78nm,0.4s
ECSD LR LR
comp=Z,3μm,20.0s
ECSD EROS Data Cent 28.07 352 ⇑P P 15 21 53.5 +1.5
baz=28
IRM Iron Mountain 28.12 315 ⇓P P 15 21 53.5 +0.7
baz=28
ANWB Willy Bob 28.25 82 PFAKE 15 22 10.0 +16
ANWB LR LR
comp=Z,2μm,21.0s
O20A White River Ci 28.28 332 eP P 15 21 54.5 +0.3
comp=Z,40nm,1.0s
O20A White River Ci 28.28 332 P P 15 21 55.5 +1.3
baz=28,SNR=15
MONP Monument Peak 28.34 311 ⇓P P 15 21 55.1 +0.3
baz=28
J29A Okreek 28.44 346 ⇓P P 15 21 57.3 +1.8
baz=28
SRU San Rafael 28.59 328 eP P 15 21 57.7 +0.7
SRU pmax pmax
comp=Z,31nm,1.2s
SRU San Rafael 28.59 328 eP P 15 21 57.7 +0.7
comp=Z,31nm,1.2s
LDFC Landfair 28.62 316 eP P 15 21 58.5 +1.3
comp=Z,36nm,0.4s
M22A Cedar Creek Ra 28.62 335 ⇑P P 15 21 58.8 +1.5
baz=29
BELC Belle Mtn. Jos 28.62 313 ⇓P P 15 21 58.1 +0.8
baz=29
J28A Allard Ranch, 28.68 345 ⇑P P 15 21 58.7 +1.1
baz=29
K25A Mack Ranch, Ha 28.69 340 ⇓P P 15 21 59.3 +1.5
baz=29
PFO Pinyon Flat Ob 28.74 312 eP P 15 21 59.2 +0.9
PFO pmax pmax
comp=Z,16nm,1.2s
PFO Pinyon Flat Ob 28.74 312 P P 15 21 57.0 -1.2
comp=Z,4.4nm,0.8s,baz=134,slow=6.0,SNR=4.8
PFO LR LR 15 34 42.3
comp=Z,3μm,18.4s,baz=146,slow=39
PFO Pinyon Flat Ob 28.74 312 eP P 15 21 59.2 +0.9
comp=Z,16nm,1.2s
PFO Pinyon Flat Ob 28.74 312 ⇓P P 15 21 58.8 +0.5
baz=29
GMRC Granite Mounta 28.82 315 P P 15 22 00.3 +1.2
baz=29,SNR=21
L23A Garrett 28.89 337 ⇓P P 15 22 00.2 +0.5
baz=29
GRGR Grenville 28.95 94 PFAKE 15 22 10.0 +10
GRGR LR LR
comp=Z,3μm,20.0s
I29A Vivian Onida 29.02 346 ⇑P P 15 22 01.2 +0.7
baz=29
FDF Fort de France 29.04 88 PFAKE 15 22 10.0 +8.9
FDF LR LR
comp=Z,4μm,20.0s
CCUT Cedar City 29.06 322 eP P 15 22 02.3 +1.0
comp=Z,14nm,1.1s
J26A Sides Ranch, S 29.08 342 ⇑P P 15 22 02.1 +1.0
baz=29
TMUT Trail Mountain 29.09 327 eP P 15 22 00.5 -1.1
comp=Z,9.0nm,0.4s
L22A Ellis Ranch, M 29.09 336 ⇑P P 15 22 02.1 +0.6
baz=29
BBSR BB Station 29.11 51 eP P 15 22 02.4 +0.9
comp=Z,73nm,1.1s
BBSR LR LR
comp=Z,3μm,21.0s
SPMN St. Paul 29.21 358 eP P 15 22 01.2 -1.0
comp=Z,60nm,0.9s
SPMN St. Paul 29.21 358 ⇑P P 15 22 02.2 0.0
baz=29
BINY Binghamton 29.27 24 eP P 15 22 02.9 +0.1
comp=Z,44nm,1.0s
BINY LR LR
comp=Z,9μm,19.0s
ARUT Antelope Range 29.27 322 eP P 15 22 03.1 +0.1
ARUT Antelope Range 29.27 322 eP P 15 22 03.1 +0.1
comp=Z,372nm,0.9s
HEC Hector,Ludlow 29.30 315 ⇓P P 15 22 04.4 +1.2
baz=29
J25A Sunshine Ranch 29.37 341 ⇑P P 15 22 05.2 +1.4
baz=29
TUQ Turquoise Moun 29.37 316 P P 15 22 05.2 +1.3
baz=29,SNR=13
BBRC Big Bear Solar 29.41 313 ⇑P P 15 22 04.7 +0.3
baz=29
SHPR Sheep Range 29.50 318 eP P 15 22 06.0 +0.9
comp=Z,39nm,1.5s
H29A Onida 29.57 347 ⇑P P 15 22 07.6 +2.2
baz=30
J24A Dixon Ranch, L 29.59 340 ⇑P P 15 22 07.8 +2.1
baz=30
K22A Casper 29.66 337 P P 15 22 05.3 -1.1
comp=Z,53nm,1.4s
K22A Casper 29.66 337 ⇓P P 15 22 08.0 +1.6
baz=30
MPU Maple Canyon 29.84 327 eP P 15 22 08.9 +0.9
comp=Z,37nm,1.1s
G30A Faulkton 29.84 349 ⇑P P 15 22 08.8 +1.0
baz=30,SNR=5.7
GSC Goldstone 29.89 315 eP P 15 22 09.5 +1.0
GSC pmax pmax
comp=Z,43nm,1.5s
GSC Goldstone 29.89 315 eP P 15 22 09.5 +1.0
comp=Z,43nm,1.5s
GSC Goldstone 29.89 315 ⇑P P 15 22 09.8 +1.4
baz=30
BFSC Mount Baldy Ra 29.92 312 ⇓P P 15 22 08.4 -0.4
baz=30
DAU Daniels Canyon 29.94 328 eP P 15 22 09.1 0.0
DAU pmax pmax
comp=Z,52nm,1.3s
DAU Daniels Canyon 29.94 328 eP P 15 22 09.1 0.0
comp=Z,52nm,1.3s
NLU North Lily Min 30.02 327 eP P 15 22 09.4 -0.3
comp=Z,85nm,2.0s
RSSD Black Hills 30.10 341 P P 15 22 10.6 +0.2
RSSD pmax pmax
comp=Z,7.0nm,0.8s
RSSD Black Hills 30.10 341 P P 15 22 10.6 +0.2
comp=Z,7.5nm,0.8s
COWI Conover 30.11 3 PFAKE 15 22 20.0 +10
COWI LR LR
comp=Z,9μm,20.0s
G28A Parade 30.16 346 ⇑P P 15 22 11.2 +0.5
baz=30
JLU Jordanelle 30.18 328 eP P 15 22 11.6 +0.5
comp=Z,22nm,1.2s
J22A Midwest 30.30 338 ⇓P P 15 22 13.2 +1.2
baz=30
CTU Camp Tracy 30.40 328 eP P 15 22 13.6 +0.6
comp=Z,40nm,1.1s
H25A Fruitdale 30.43 342 ⇓P P 15 22 14.3 +1.3
baz=30
EDW2 Edwards Air Fo 30.48 313 ⇑P P 15 22 14.4 +0.7
baz=30
SADO Sadowa 30.49 17 P P 15 22 13.8 +0.3
comp=Z,11nm,0.7s,baz=253,slow=7.0,SNR=12
TCUT Toone Canyon 30.55 329 eP P 15 22 14.7 +0.3
comp=Z,65nm,1.0s
FURC Furnace Creek, 30.59 317 ⇓P P 15 22 14.6 +0.2
baz=31
DUG Dugway 30.59 326 eP P 15 22 14.5 -0.1
DUG pmax pmax
comp=Z,19nm,1.1s
DUG MLR MLR
comp=Z,1μm,20.0s
DUG Dugway 30.59 326 eP P 15 22 14.5 -0.1
comp=Z,19nm,1.1s
DUG LR LR
comp=Z,1μm,20.0s
DUG Dugway 30.59 326 ⇓P P 15 22 15.6 +1.0
baz=31,SNR=7.9
LRMC Laurel Mountai 30.59 314 ⇓P P 15 22 15.4 +0.7
baz=31
J21A Lysite 30.60 336 ⇓P P 15 22 15.1 +0.3
baz=31
I22A 9 Mile Ranch, 30.71 338 ⇑P P 15 22 15.5 -0.1
baz=31
BBGH Gun Hill 30.79 91 PFAKE 15 22 30.0 +14
BBGH LR LR
comp=Z,6μm,20.0s
H24A Dirks Ranch, A 30.83 341 ⇓P P 15 22 17.3 +0.7
baz=31
J20A Shoshoni 30.86 336 ⇓P P 15 22 17.6 +0.6
baz=31,SNR=7.1
F28A McLaughlin 30.86 347 ⇑P P 15 22 17.9 +1.1
baz=31
OSI Osito Adit 30.87 312 eP P 15 22 16.8 -0.3
G25A Newell 30.90 343 ⇑P P 15 22 18.2 +0.9
baz=31
R11A Troy Canyon, C 30.92 321 eP P 15 22 17.8 +0.2
comp=Z,17nm,1.4s
R11A Troy Canyon, C 30.92 321 ⇓P P 15 22 18.4 +0.8
baz=31,SNR=14
I21A Big Trails, Te 30.94 337 ⇑P P 15 22 18.7 +1.0
baz=31
BW06 Boulder Array 30.98 333 eP P 15 22 17.0 -1.3
comp=Z,13nm,1.0s
BW06 LR LR
comp=Z,4μm,19.0s
E30A Jud 31.12 350 ⇓P P 15 22 20.3 +1.2
baz=31
J19A Crowheart 31.18 334 P P 15 22 20.7 +0.8
baz=31,SNR=13
ARVC Arvin 31.20 313 ⇓P P 15 22 19.8 -0.1
baz=31
NNA Nana 31.21 152 P P 15 22 19.7 -0.5
comp=Z,3.6nm,0.3s,baz=329,slow=12,SNR=3.1
NNA LR LR 15 33 08.4
comp=Z,2μm,21.3s,baz=322,slow=33
SPUT South Promonto 31.21 328 eP P 15 22 20.9 +0.7
comp=Z,58nm,1.4s
BGU Big Grassy Mou 31.23 327 eP P 15 22 20.6 +0.3
comp=Z,16nm,1.2s
ISA Isabella 31.23 314 eP P 15 22 21.4 +1.1
ISA pmax pmax
comp=Z,32nm,1.4s
ISA Isabella 31.23 314 eP P 15 22 21.4 +1.1
comp=Z,32nm,1.4s
ISA Isabella 31.23 314 ⇓P P 15 22 21.4 +1.1
baz=31,SNR=7.5
H22A Clearmont 31.28 339 ⇓P P 15 22 20.6 -0.1
baz=31
F26A Lodgepole 31.31 345 ⇓P P 15 22 21.5 +0.7
baz=31
G24A Alzada 31.31 342 ⇑P P 15 22 21.9 +1.0
baz=31
I20A Worland 31.38 336 ⇑P P 15 22 22.1 +0.6
baz=31,SNR=5.6
NCB Newcomb 31.45 24 eP P 15 22 22.8 +0.7
comp=Z,24nm,0.9s
NCB LR LR
comp=Z,8μm,19.0s
G23A Biddle 31.50 341 ⇑P P 15 22 22.1 -0.5
baz=32
E28A Huff 31.53 348 ⇑P P 15 22 22.9 +0.1
baz=32
H21A Big Horn, Sher 31.55 338 ⇑P P 15 22 22.4 -0.6
baz=32
E27A Carson 31.58 346 ⇓P P 15 22 24.1 +0.9
baz=32
F25A Bowman 31.59 344 ⇓P P 15 22 23.4 +0.1
baz=32
AHID Auburn Hatcher 31.67 332 eP P 15 22 24.4 +0.2
comp=Z,29nm,0.8s
AHID LR LR
comp=Z,3μm,19.0s
D30A Buchanan 31.69 350 ⇑P P 15 22 24.8 +0.7
baz=32
HVU Hansel Valley 31.72 329 eP P 15 22 24.5 -0.2
HVU pmax pmax
comp=Z,21nm,0.9s
HVU Hansel Valley 31.72 329 eP P 15 22 24.5 -0.2
comp=Z,21nm,0.9s
VES Vestal, Richgr 31.75 314 ⇓P P 15 22 26.0 +1.3
baz=32,SNR=7.9
TPH Tonopah 31.76 319 eP P 15 22 26.2 +1.1
TPH pmax pmax
comp=Z,7.0nm,0.4s
TPH Tonopah 31.76 319 eP P 15 22 26.2 +1.1
comp=Z,7.1nm,0.4s
PKM Peak Mountain 31.79 312 ⇓P P 15 22 25.4 +0.1
baz=32
F24A Ekalaka 31.79 342 ⇑P P 15 22 25.0 -0.1
baz=32
I19A Meeteetse 31.79 335 ⇓P P 15 22 25.5 +0.3
baz=32,SNR=7.0
G22A Birney 31.81 340 ⇓P P 15 22 25.2 0.0
baz=32
TIN Tinemaha 31.82 317 ⇑P P 15 22 25.9 +0.4

	baz=32						
E26A	Carlson Angus	31.84	345	⇑P	P	15 22 25.0	-0.4
	baz=32						
LONY	Lake Ozonia	31.86	23	eP	P	15 22 25.3	-0.4
	comp=Z,30nm,0.9s						
LONY				LR	LR		
	comp=Z,9µm,19.0s						
EYMN	Ely	31.91	360	eP	P	15 22 24.5	-1.5
	comp=Z,15nm,0.8s						
EYMN				LR	LR		
	comp=Z,6µm,19.0s						
F23A	Volborg	31.97	341	⇑P	P	15 22 26.2	-0.4
	baz=32						
D28A	Regan	32.10	348	⇑P	P	15 22 27.5	-0.2
	baz=32						
RCTC	Rector, Farmer	32.10	314	⇑P	P	15 22 26.3	-1.5
	baz=32						
E25A	Miller Ranch,	32.10	344	⇑P	P	15 22 27.2	-0.6
	baz=32						
G21A	Lodge Grass	32.13	339	⇓P	P	15 22 27.4	-0.7
	baz=32						
D27A	Center	32.22	347	⇓P	P	15 22 28.0	-0.8
	baz=32						
C30A	Mose, Pekin	32.22	351	⇑P	P	15 22 28.5	-0.2
	baz=32						
F22A	Rosebud	32.29	340	⇓P	P	15 22 29.3	-0.2
	baz=32						
H19A	Powell	32.31	336	⇑P	P	15 22 29.9	+0.1
	baz=32						
D26A	Manning	32.35	346	⇓P	P	15 22 29.8	-0.1
	baz=32						
I17A	Pilgrim Ck.	32.35	333	⇑P	P	15 22 30.8	+0.6
	baz=32,SNR=24						
E24A	Baker	32.40	343	⇑P	P	15 22 30.4	0.0
	baz=32						
AGMN	Agassiz Nation	32.48	354	PFAKE		15 22 40.0	+9.0
AGMN				LR	LR		
	comp=Z,3µm,21.0s						
G20A	Bridger	32.49	337	⇑P	P	15 22 30.8	-0.4
	baz=32						
C28A	Hausauer Farms	32.56	349	⇓P	P	15 22 32.2	+0.5
	baz=33						
H18A	Shoshone NF, C	32.59	335	⇑P	P	15 22 32.7	+0.4
	baz=33,SNR=7.9						
LBNH	Lisbon	32.61	26	PFAKE		15 22 40.0	+7.8
LBNH				LR	LR		
	comp=Z,12µm,19.0s						
NVAR	Mina Array Bea	32.66	319	P	P	15 22 34.2	+1.3
	comp=Z,12nm,0.7s,baz=132,slow=9.2,SNR=48						
H17A	Grant Village	32.73	334	eP	P	15 22 34.3	+0.7
	comp=Z,24nm,0.9s						
H17A	Grant Village	32.73	334	⇓P	P	15 22 34.6	+1.0
	baz=33,SNR=11						
RLMT	Red Lodge	32.80	336	eP	P	15 22 33.5	-0.7
	comp=Z,16nm,1.0s						
RLMT				LR	LR		
	comp=Z,2µm,21.0s						
YFT	Old Faithful	32.89	334	eP	P	15 22 36.4	+1.5
	comp=Z,54nm,1.0s						
D24A	Glendive	32.92	343	⇑P	P	15 22 34.9	0.0
	baz=33						
B30A	Myrvik Farm, E	32.93	351	⇑P	P	15 22 34.8	-0.1
	baz=33						
F20A	Billings	32.96	338	⇑P	P	15 22 35.6	+0.3
	baz=33						
C26A	Wahner Farm, P	33.02	347	⇓P	P	15 22 35.3	-0.5
	baz=33						
YNR	Norris Junctio	33.04	334	eP	P	15 22 36.3	0.0
	comp=Z,16nm,0.9s						
LAO	LASA Array	33.09	341	PFAKE		15 22 50.0	+14
LAO				LR	LR		
	comp=Z,3µm,20.0s						
B29A	Wagenman Farm,	33.10	350	⇓P	P	15 22 36.6	+0.2
	baz=33,SNR=7.3						
YMR	Madison River	33.12	334	eP	P	15 22 37.9	+1.0
	comp=Z,75nm,1.0s						
D23A	Lindsay	33.22	343	⇑P	P	15 22 37.2	-0.3
	baz=33						
BMN	Battle Mountai	33.22	322	eP	P	15 22 37.3	-0.5
BMN				pmax	pmax		
	comp=Z,32nm,1.4s						
BMN	Battle Mountai	33.22	322	eP	P	15 22 37.3	-0.5
	comp=Z,32nm,1.4s						
E21A	Keefer Ranch,	33.23	340	⇓P	P	15 22 37.1	-0.6
	baz=33						
B28A	Dugan Ranch, T	33.26	349	⇑P	P	15 22 37.4	-0.5
	baz=33						
F19A	Roth Farm, Mol	33.29	337	⇑P	P	15 22 37.4	-0.9
	baz=33						
A30A	Hoffart Farm,	33.40	352	P	P	15 22 38.5	-0.5
	baz=34,SNR=14						
WAKR	Walker	33.43	318	eP	P	15 22 41.0	+1.3
	comp=Z,37nm,1.3s						
D22A	Cohagen	33.48	341	⇑P	P	15 22 40.1	+0.2
	baz=34,SNR=16						
A29A	Manning Farm,	33.52	350	⇓P	P	15 22 40.1	0.0
	baz=34,SNR=13						
E20A	Meyer Farm, Mu	33.56	339	⇑P	P	15 22 39.8	-0.7
	baz=34,SNR=15						
A28A	Rude Farm, Bot	33.69	349	⇑P	P	15 22 41.1	-0.5
	baz=34						
B25A	Knox Farm, Ray	33.69	346	⇓P	P	15 22 41.5	-0.1
	baz=34						
E19A	Rath Farm, Rou	33.75	338	⇑P	P	15 22 42.8	+0.6
	baz=34,SNR=6.4						
C23A	Lambert	33.78	343	⇓P	P	15 22 41.8	-0.6
	baz=34						
CMB	Columbia Colle	33.79	316	eP	P	15 22 43.7	+1.0
CMB				pmax	pmax		
	comp=Z,23nm,1.1s						
CMB	Columbia Colle	33.79	316	eP	P	15 22 43.7	+1.0
	comp=Z,23nm,1.1s						
HLID	Hailey	33.85	329	eP	P	15 22 43.1	-0.2
	comp=Z,19nm,1.0s						
HLID				LR	LR		
	comp=Z,2µm,19.0s						
HLID	Hailey	33.85	329	P	P	15 22 43.7	+0.4
	baz=34,SNR=28						
A27A	Ledoux Ranch,	33.91	348	⇑P	P	15 22 43.6	+0.1
	baz=34						
C22A	Vida	33.93	342	⇑P	P	15 22 43.5	-0.2
	baz=34						
A26A	Wade Farm, Ken	34.02	347	⇓P	P	15 22 44.1	-0.4
	baz=34						
D20A	Manuel Ranch,	34.07	339	P	P	15 22 45.2	+0.2
	baz=34,SNR=16						
DGMT	Dagmar	34.13	345	eP	P	15 22 46.7	+1.3
	comp=Z,30nm,0.7s						
DGMT				LR	LR		
	comp=Z,3µm,19.0s						
DGMT	Dagmar	34.13	345	⇓P	P	15 22 45.9	+0.5
	baz=34						
BOZ	Bozeman (W)	34.19	334	eP	P	15 22 45.8	-0.3
BOZ				pmax	pmax		
	comp=Z,18nm,0.9s						
BOZ				MLR	MLR		
	comp=Z,3µm,22.0s						
BOZ	Bozeman (W)	34.19	334	eP	P	15 22 45.8	-0.3
	comp=Z,18nm,0.9s						
BOZ				LR	LR		
	comp=Z,3µm,22.0s						
A25A	Svangstu Ranch	34.30	346	⇓P	P	15 22 47.3	+0.4
	baz=34						
B23A	Brockton	34.33	344	⇓P	P	15 22 47.5	+0.3
	baz=34						
C21A	Desert Coulee	34.37	341	⇑P	P	15 22 47.6	0.0
	baz=34						
D19A	Cripps Ranch,	34.39	339	P	P	15 22 47.8	0.0
	baz=34,SNR=18						
ULM	Lac du Bonnet	34.41	355	eP	P	15 22 45.3	-2.5
ULM				pmax	pmax		
	comp=Z,19nm,0.9s						
ULM	Lac du Bonnet	34.41	355	P	P	15 22 45.6	-2.2
	comp=Z,16nm,0.8s,baz=174,slow=8.5,SNR=16						
ULM				LR	LR	15 39 28.5	
	comp=Z,1µm,21.3s,baz=174,slow=41						
ULM	Lac du Bonnet	34.41	355	eP	P	15 22 45.3	-2.5
	comp=Z,19nm,0.9s						
MFID	Camas Ranch	34.46	328	eP	P	15 22 47.9	-0.6
	comp=Z,22nm,1.1s						
B22A	Reddig Ranch S	34.46	343	⇑P	P	15 22 48.3	-0.1
	baz=34						
A24A	Westby	34.50	345	⇑P	P	15 22 49.6	+1.0
	baz=35						
PKME	Peaks-Kenny Pk	34.57	28	PFAKE		15 23 00.0	+11
PKME				LR	LR		
	comp=Z,5µm,20.0s						
C19A	Slack Wire Ran	34.94	339	⇑P	P	15 22 52.4	-0.1
	baz=35,SNR=13						
A22A	Carney Farms,	35.07	343	⇓P	P	15 22 53.8	+0.2
	baz=35						
WVOR	Wild Horse Val	35.32	324	eP	P	15 22 56.0	+0.1
WVOR				pmax	pmax		
	comp=Z,66nm,1.6s						
WVOR				MLR	MLR		
	comp=Z,2µm,20.0s						
WVOR	Wild Horse Val	35.32	324	eP	P	15 22 56.0	+0.1
	comp=Z,66nm,1.6s						
WVOR				LR	LR		
	comp=Z,2µm,20.0s						
A21A	Bergtoll Ranch	35.36	342	⇑P	P	15 22 56.4	+0.3
	baz=35						
EGMT	Eagleton	35.43	338	eP	P	15 22 56.0	-0.7
	comp=Z,20nm,0.6s						
EGMT				LR	LR		
	comp=Z,1µm,22.0s						
EGMT	Eagleton	35.43	338	P	P	15 22 56.5	-0.3
	baz=36,SNR=15						
B19A	Brinkman Farms	35.52	340	⇑P	P	15 22 57.4	-0.1
	baz=36						
A20A	Cobblestone Ra	35.56	341	⇓P	P	15 22 58.4	+0.6
	baz=36						
A19A	Klindworth Far	35.87	340	P	P	15 23 00.6	+0.2
	baz=36,SNR=11						
MOD	Modoc	35.95	322	eP	P	15 23 00.9	-0.5
	comp=Z,21nm,1.3s						
MSO	Missoula	36.10	333	⇑P	P	15 23 02.6	+0.1
	baz=36						
BMO	Blue Mountains	36.23	328	eP	P	15 23 02.0	-1.6
	comp=Z,25nm,1.1s						
BMO				LR	LR		
	comp=Z,3µm,19.0s						
SWMT	Swartz Lake	36.66	334	eP	P	15 23 04.5	-2.8
	comp=Z,10nm,1.0s						
M04C	Macdoel	36.81	321	⇑P	P	15 23 08.2	-0.4
	baz=37						
YBMT	Yellow Bay	36.94	334	eP	P	15 23 07.4	-2.4
	comp=Z,8.3nm,0.8s						
JTMT	Jette	36.96	334	eP	P	15 23 09.3	-0.6
	comp=Z,23nm,1.3s						
BLMT	Blacktail Moun	37.20	334	eP	P	15 23 10.5	-1.6
	comp=Z,25nm,1.1s						
SAML	Samuel	37.21	130	eP	P	15 23 10.9	-1.3
	comp=Z,41nm,1.0s						
SAML				LR	LR		
	comp=Z,2µm,21.0s						
BSMT	Bassoo Peak	37.26	334	eP	P	15 23 11.3	-1.2
	comp=Z,12nm,1.0s						
PINOR	Pine Mountain	37.46	324	eP	P	15 23 12.6	-1.4
	comp=Z,25nm,1.1s						
J04D	Umpqua Nationa	37.82	322	⇓P	P	15 23 16.8	-0.6
	baz=38						
WALA	Waterton Lakes	37.85	336	eP	P	15 23 16.2	-1.2
	comp=Z,1.6nm,1.5s						
I05D	Terrebonne, OR	38.05	324	⇑P	P	15 23 18.3	-0.8
	baz=38						
HAWA	Hanford	38.42	328	PFAKE		15 23 30.0	+7.9
HAWA				LR	LR		
	comp=Z,1µm,20.0s						
NEW	Newport	38.60	332	eP	P	15 23 22.9	-0.7
NEW				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NEW				MLR	MLR		
	comp=Z,3µm,20.0s						
NEW	Newport	38.60	332	eP	P	15 23 22.9	-0.7
	comp=Z,9.0nm,0.8s						
NEW				LR	LR		
	comp=Z,3µm,20.0s						
NEW	Newport	38.60	332	⇑P	P	15 23 23.2	-0.4
	baz=39						
KEBM	Edson Butte	38.95	320	eP	P	15 23 27.8	+1.1
	comp=Z,113nm,1.1s						
LPAZ	La Paz	39.33	143	P	P	15 23 31.1	+0.4
	comp=Z,12nm,0.7s,baz=330,slow=7.4,SNR=40						
LPAZ				LR	LR	15 40 31.4	
	comp=Z,3µm,18.1s,baz=312,slow=37						
ASR	Mount Adams--S	39.33	326	P	P	15 23 31.6	+1.7
WTV	Waterville	39.52	329	P	P	15 23 31.6	+0.2
FFC	Flin Flon	39.58	350	eP	P	15 23 31.4	-0.3
FFC				pmax	pmax		
	comp=Z,29nm,1.1s						
FFC				MLR	MLR		
	comp=Z,3µm,19.0s						
FFC	Flin Flon	39.58	350	eP	P	15 23 31.4	-0.3
	comp=Z,29nm,1.1s						
FFC				LR	LR		
	comp=Z,3µm,19.0s						
ETW	Entiat	39.65	329	P	P	15 23 32.9	+0.4
LON	Longmire	39.83	327	eP	P	15 23 34.3	+0.3
LON				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LON	Longmire	39.83	327	eP	P	15 23 34.3	+0.3
	comp=Z,9.5nm,0.8s						
EDM	Edmonton	41.05	340	eP	P	15 23 42.6	-1.3
EDM	Edmonton	41.05	340	eP	P	15 23 42.6	-1.3
CMW	Cultus Mountai	41.09	329	P	P	15 23 44.2	-0.2
NLWA	Neilton Lookou	41.33	326	PFAKE		15 24 00.0	+14
NLWA				LR	LR		
	comp=Z,4µm,21.0s						
FCC	Fort Churchill	42.79	358	eP	P	15 23 56.9	-1.1
FCC	Fort Churchill	42.79	358	eP	P	15 23 56.9	-1.1
	comp=Z,0.7nm,0.9s						
SCHQ	Schefferville	43.15	20	P	P	15 24 00.2	-0.8
	comp=Z,26nm,0.9s,baz=206,slow=5.9,SNR=20						
SCHQ				LR	LR	15 42 57.8	
	comp=Z,12µm,18.1s,baz=216,slow=38						
SCHQ	Schefferville	43.15	20	eP	P	15 24 00.8	-0.2
	comp=Z,28nm,0.8s						
SIV	San Ignacio	43.53	135	P	P	15 24 04.4	-0.1
	comp=Z,40nm,0.8s,baz=316,slow=8.9,SNR=72						
LVC	Limon Verde	44.13	150	eP	P	15 24 11.3	+1.8
	comp=Z,75nm,1.5s						
LVC				LR	LR		
	comp=Z,1µm,20.0s						
RPN	Rapa Nui	46.28	203	P	P	15 24 27.8	+1.6
	comp=Z,34nm,0.9s,baz=14,slow=4.2,SNR=2.7						
BBB	Bella Bella	46.44	329	LR	LR	15 48 04.1	
	comp=Z,2µm,19.1s,baz=154,slow=42						
YKA	Yellowknife Ar	49.31	346	P	P	15 24 49.0	-0.3
YKA	Yellowknife Ar	49.31	346	P	P	15 24 49.0	-0.3
	comp=Z,6.1nm,0.5s,baz=146,slow=7.5,SNR=44						
YKA	Yellowknife Ar	49.31	346	P	P	15 24 49.0	-0.3
FRB	Frobisher Bay	50.26	13	P	P	15 24 55.5	-1.0
	comp=Z,6.9nm,0.8s,baz=212,slow=8.2,SNR=9.2						
WRAK	Wrangell Islan	50.96	332	PFAKE		15 25 10.0	+8.2
WRAK				LR	LR		
	comp=Z,2µm,21.0s						
DLBC	Dease Lake	51.19	335	LR	LR	15 51 30.6	
	comp=Z,3µm,18.5s,baz=136,slow=42						
DLBC	Dease Lake	51.19	335	eP	P	15 25 05.2	+1.5
CFAA	Coronel Fontan	52.19	155	P	P	15 25 11.0	-0.4
	comp=Z,1.5nm,0.7s,baz=347,slow=5.6,SNR=19						
BDFB	Brasilia	52.98	124	P	P	15 25 17.1	-0.6
	comp=Z,3.5nm,0.5s,baz=320,slow=3.6,SNR=7.2						
BDFB				LR	LR	15 50 36.8	
	comp=Z,2µm,18.5s,baz=299,slow=39						
CPUP	Villa Florida	53.42	141	P	P	15 25 19.8	-0.7
	comp=Z,8.1nm,0.8s,baz=315,slow=7.8,SNR=8.9						
CPUP				LR	LR	15 49 53.4	
	comp=Z,1µm,18.9s,baz=314,slow=38						
CPUP	Villa Florida	53.42	141	eP	P	15 25 19.9	-0.7
	comp=Z,2.4nm,1.3s						
PTCN	Pitcairn Islan	55.64	224	PFAKE		15 25 50.0	+13
PTCN				LR	LR		
	comp=Z,2µm,19.0s						
SFJD	Kangerlussuaq	57.45	18	iP	P	15 25 45.5	-3.4
	comp=Z,8.6nm,0.8s						
SFJD	Kangerlussuaq	57.45	18	P	P	15 25 47.3	-1.6
	comp=Z,8.7nm,0.7s,baz=209,slow=7.2,SNR=5.8						
SFJD	Kangerlussuaq	57.45	18	P	P	15 25 47.3	-1.6
SFJD				LR	LR		
	comp=Z,6µm,20.0s						
RKT	Rikitea	57.77	229	eS	S	15 33 46.7	-2.5
	comp=Z,2µm,27.8s						
RKT				eSS	SS	15 37 43.5	+3.1
	comp=Z,320nm,28.8s						
RKT				eLQ	LQ	15 40 19.3	
	comp=Z,863nm,30.0s						
RKT				eLR	LR	15 42 47.0	
	comp=Z,4µm,25.0s,baz=45						
DAWY	Dawson	58.16	337	eP	P	15 25 53.8	-0.3
BMRM	Bremner River	58.77	333	P	P	15 26 00.5	+2.1
	comp=Z,18nm,1.2s						
RES	Resolute Bay	58.77	359	eP	P	15 25 58.1	0.0
RES				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RES	Resolute Bay	58.77	359	LR	LR	15 53 55.0	
	comp=Z,6µm,18.3s,baz=170,slow=39						
RES	Resolute Bay	58.77	359	eP	P	15 25 58.1	0.0
	comp=Z,8.3nm,0.8s						
RCBR	Riachuelo	58.89	107	eP	P	15 26 00.8	+0.8
	comp=Z,92nm,1.2s						
RCBR				LR	LR		
	comp=Z,2µm,20.0s						
EGAK	Eagle	59.19	338	eP	P	15 25 59.6	-1.5
	comp=Z,9.0nm,1.0s						
EGAK				LR	LR		
	comp=Z,1µm,20.0s						
MENT	Mentasta	59.27	335	P	P	15 26 03.9	+2.0
PLCA	Paso Flores	59.58	162	eP	P	15 26 04.3	+0.1
PLCA				pmax	pmax		
	comp=Z,52nm,1.2s						
PLCA	Paso Flores	59.58	162	P	P	15 26 04.1	-0.1
	comp=Z,16nm,0.8s,baz=347,slow=8.0,SNR=25						
PLCA				LR	LR	15 46 34.3	
	comp=Z,2µm,20.9s,baz=336,slow=31						
PLCA	Paso Flores	59.58	162	eP	P	15 26 04.3	+0.1
	comp=Z,52nm,1.2s						
DOT	Dot Lake	59.74	336	eP	P	15 26 04.9	-0.2
	comp=Z,15nm,1.1s						
PAX	Paxson	60.01	335	eP	P	15 26 05.7	-1.2
PAX				pmax	pmax		
	comp=Z,13nm,0.8s						
PAX	Paxson	60.01	335	eP	P	15 26 05.7	-1.2
	comp=Z,13nm,0.8s						
TRQA	Tornquist	60.34	154	PFAKE		15 26 20.0	+11
TRQA				LR	LR		
	comp=Z,2µm,20.0s						
RC01	Rabbit Creek A	61.12	332	eP	P	15 26 15.2	+0.7
	comp=Z,58nm,1.4s						
ILAR	Eielson Array	61.35	336	P	P	15 26 15.6	-0.4
	comp=Z,2.5nm,0.8s,baz=143,slow=5.1,SNR=29						
ILAR				LR	LR	15 58 28.2	
	comp=Z,639nm,18.3s,baz=124,slow=42						
KDAK	Kodiak Island	61.46	328	PFAKE		15 26 30.0	+13
KDAK				LR	LR		
	comp=Z,1µm,21.0s						
KULLO	Kullorsuaq	61.55	10	iP	P	15 26 21.7	+4.6
KULLO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KULLO	Kullorsuaq	61.55	10	iP	P	15 26 21.7	+4.6
	comp=Z,10nm,1.1s						
MCK	McKinley	61.74	335	eP	P	15 26 17.0	-1.7
MCK				pmax	pmax		
	comp=Z,11nm,0.8s						
MCK	McKinley	61.74	335	eP	P	15 26 17.0	-1.7
	comp=Z,11nm,0.8s						
COLA	College	61.77	336	eP	P	15 26 18.2	-0.5
	comp=Z,17nm,0.9s						
COLA				LR	LR		
	comp=Z,1µm,19.0s						
TRF	Thorofare Moun	62.20	334	eP	P	15 26 21.9	0.0
	comp=Z,21nm,0.8s						
KTH	Kantishna Hill	62.50	334	eP	P	15 26 23.7	-0.1
	comp=Z,45nm,1.6s						
PPLA	Purkeypile	62.82	333	eP	P	15 26 25.7	-0.3
	comp=Z,66nm,1.5s						
KIP	Kipapa	63.08	286	eP	P	15 26 30.9	+2.6
KIP				pmax	pmax		
	comp=Z,103nm,2.5s						
SUMG	Summit	64.17	15	eP	P	15 26 35.2	+0.1
SUMG				pmax	pmax		
	comp=Z,29nm,0.8s						
SUMG	Summit	64.17	15	iP	P	15 26 35.6	+0.5
	comp=Z,25nm,0.8s						
SUMG	Summit	64.17	15	eP	P	15 26 35.2	+0.1
	comp=Z,30nm,0.8s						
SACV	Santiago Islan	64.93	81	PFAKE		15 26 50.0	+9.4
SACV				LR	LR		
	comp=Z,1µm,20.0s						
PPT2	Papeete2	66.44	242	eS	S	15 35 35.5	-3.5
	comp=Z,2µm,30.5s						
PPT2				eLQ	LQ	15 43 53.7	
	comp=Z,997nm,28.0s						
PPT2				eLR	LR	15 46 48.8	
	comp=Z,1µm,22.0s,baz=57						
BORG	Borgarnes	67.15	26	PFAKE		15 27 10.0	+16
BORG				LR	LR		
	comp=Z,3µm,19.0s						
PMOZ	Porto Moniz, M	68.29	61	eLR	LR	15 48 18.7	
	comp=Z,1µm,22.0s						
TNA	Tin City	70.09	334	eP	P	15 27 11.7	-0.6
	comp=Z,18nm,1.3s						
DAG	Danmarks Havn	70.61	13	iP	P	15 27 14.6	-0.7
DAG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DAG	Danmarks Havn	70.61	13	iP	P	15 27 14.6	-0.7
	comp=Z,5.5nm,0.7s						
GAMB	Gambell	71.60	333	eP	P	15 27 21.5	+0.1
	comp=Z,8.5nm,1.0s						
PCAS	Casmilo, Conde	74.44	52	eP	P	15 27 39.8	+1.0
	comp=Z,190nm,1.4s						
PCAS	Casmilo, Conde	74.44	52	eLR	LR	15 51 36.9	
	comp=Z,1µm,18.0s						
PNCL	Nicolau / Gran	74.69	54	eLR	LR	15 51 51.0	
	comp=Z,984nm,20.0s						
MORF	Marmelete	74.71	55	eLR	LR	15 51 51.5	
	comp=Z,1µm,20.0s						
PMTG	Montargil	74.79	53	eLR	LR	15 51 07.1	
	comp=Z,828nm,20.0s						
POLO	Lamas de Olo	74.79	51	eLR	LR	15 51 46.3	
	comp=Z,632nm,20.0s						
ADK	Adak	74.82	320	PFAKE		15 27 50.0	+9.3
ADK				LR	LR		
	comp=Z,819nm,20.0s						
EVOP	Sao Brissos	74.95	54	eP	P	15 27 43.3	+1.6
EVOP				pmax	pmax		
	comp=Z,133nm,1.5s						
EVOP	Sao Brissos	74.95	54	eP	P	15 27 43.3	+1.6
	comp=Z,133nm,1.5s						
EVO	Evora	75.03	54	eP	P	15 27 43.3	+1.1
	comp=Z,133nm,1.5s						
EVO				eR			
	comp=Z,1µm,20.8s						
MTE	Manteigas	75.11	52	eLQ	LQ	15 46 58.4	
MTE				eLR	LR	15 52 25.9	
	comp=Z,1µm,22.0s						
MTE	Manteigas	75.11	52	PFAKE		15 27 50.0	+7.2
MTE				LR	LR		
	comp=Z,2µm,19.0s						
PBDV	Barranco-do-Ve	75.29	55	eLR	LR	15 52 00.7	
	comp=Z,1µm,20.0s						
PMRV	Marv??o	75.38	53	eP	P	15 27 45.6	+1.4
	comp=Z,65nm,1.7s						
PMRV	Marv??o	75.38	53	eLR	LR	15 51 15.4	
	comp=Z,1µm,18.0s						
MVO	Moncorvo	75.39	51	eP	P	15 27 44.5	+0.1
	comp=Z,59nm,1.4s						
MVO				iP	pP	15 27 49.9	-3.9
MVO	Moncorvo	75.39	51	eLR	LR	15 51 47.3	
	comp=Z,973nm,18.0s						
PVAQ	Vaqueiros	75.43	55	eLQ	LQ	15 40 05.8	
PVAQ	Vaqueiros	75.43	55	eLR	LR	15 51 40.3	
	comp=Z,1µm,18.0s						
PBRG	Braganca	75.51	50	eLR	LR	15 51 46.6	
	comp=Z,2µm,18.0s						
PBAR	Barrancos	75.84	54	eP	P	15 27 46.2	-0.7
	comp=Z,100nm,1.8s						
PBAR	Barrancos	75.84	54	eLR	LR	15 51 35.0	
	comp=Z,2µm,18.0s						
RTC	Rabat Centre	76.70	58	PFAKE		15 28 00.0	+8.2
RTC				LR	LR		
	comp=Z,2µm,20.0s						
ROSF	Rostrenen	76.93	43	eP	P	15 27 52.6	-0.3
ROSF	Rostrenen	76.93	43	eP	P	15 27 52.6	-0.3
ROSF	Rostrenen	76.93	43	eP	P	15 27 52.6	-0.3
KBS	Kingsbay	76.97	11	eP	P	15 27 59.2	+6.7
KBS				eS	S	15 37 51.6	+13
KBS				IAMs_20	IAMs_20	16 04 19.6	
	comp=Z,4µm,19.5s						
KBS	Kingsbay	76.97	11	PFAKE		15 28 00.0	+7.5
KBS				LR	LR		
	comp=Z,4µm,19.0s						
QUIF	Quistinic	77.07	44	eP	P	15 27 53.0	-0.7
QUIF	Quistinic	77.07	44	eP	P	15 27 53.0	-0.7
QUIF	Quistinic	77.07	44	eP	P	15 27 53.0	-0.7
SGMF	Saint Gilles	77.42	43	eP	P	15 27 55.5	-0.1
SGMF	Saint Gilles	77.42	43	eP	P	15 27 55.5	-0.1
SGMF	Saint Gilles	77.42	43	eP	P	15 27 55.5	-0.1
PAB	San Pablo	77.68	52	PFAKE		15 28 10.0	+13
PAB				LR	LR		
	comp=Z,2µm,20.0s						

ESDC Sonseca Array 77.95 52 P P 15 27 58.1 -0.8
comp=Z,3.6nm,0.7s,baz=286,slow=6.4,SNR=6.6
ESDC LR LR 15 56 49.8
comp=Z,967nm,21.1s,baz=310,slow=32
SPA0 Spitsbergen Ar 78.04 12 eP P 15 28 03.4 +4.8
SPA0 IAMs_20 IAMs_20 16 05 11.3
comp=Z,7µm,20.4s
HSPB Hornsund (broa 78.28 13 eP P 15 28 02.9 +3.0
HSPB eS S 15 38 03.6 +11
HSPB IAMs_20 IAMs_20 16 03 35.5
comp=Z,7µm,21.5s
GRR Gorron 78.51 43 eP P 15 28 01.1 -0.6
comp=Z,80nm,0.8s
GRR Gorron 78.51 43 eP P 15 28 01.1 -0.6
GRR pmax pmax
comp=Z,80nm,0.8s
GRR Gorron 78.51 43 eP P 15 28 01.1 -0.6
comp=Z,80nm,0.8s
FLN La Foliniere 78.68 42 eP P 15 28 02.1 -0.5
comp=Z,48nm,0.8s
FLN eR
comp=Z,2µm,21.0s
FLN La Foliniere 78.68 42 eP P 15 28 02.1 -0.5
FLN pmax pmax
comp=Z,48nm,0.8s
FLN La Foliniere 78.68 42 eP P 15 28 02.1 -0.5
comp=Z,48nm,0.8s
LDF La Druitiere 78.95 43 eP P 15 28 03.6 -0.5
comp=Z,51nm,0.9s
LDF La Druitiere 78.95 43 eP P 15 28 03.6 -0.5
LDF pmax pmax
comp=Z,51nm,0.9s
LDF La Druitiere 78.95 43 eP P 15 28 03.6 -0.5
comp=Z,51nm,0.9s
SUE Sulen 79.07 30 eP P 15 28 10.7 +6.3
SUE eS S 15 38 05.6 +4.1
SUE eS SKSac 15 38 08.1 -10
SUE IAMs_20 IAMs_20 16 00 32.4
comp=Z,3µm,19.3s
FOO Floro 79.08 29 e P 15 28 21.7 +17
FOO eS S 15 38 08.1 +6.5
FOO IAMs_20 IAMs_20 16 01 14.5
comp=Z,626nm,20.4s
SJPF Ste Jean 79.30 48 eP P 15 28 05.7 -0.4
comp=Z,60nm,1.2s
SJPF Ste Jean 79.30 48 eP P 15 28 05.7 -0.4
SJPF pmax pmax
comp=Z,60nm,1.2s
SJPF Ste Jean 79.30 48 eP P 15 28 05.7 -0.4
comp=Z,60nm,1.2s
MFF Saint Martin d 79.34 45 eP P 15 28 05.2 -1.0
comp=Z,111nm,1.4s
MFF Saint Martin d 79.34 45 eP P 15 28 05.2 -1.0
MFF pmax pmax
comp=Z,111nm,1.4s
MFF Saint Martin d 79.34 45 eP P 15 28 05.2 -1.0
comp=Z,111nm,1.4s
BER Bergen 79.50 30 eP P 15 28 13.4 +6.6
BER IAMs_20 IAMs_20 16 00 20.5
comp=Z,2µm,21.5s
ASCN Ascension 79.71 101 PFAKE 15 28 20.0 +11
ASCN LR LR
comp=Z,740nm,21.0s
ETSF Etsaut 79.82 48 eP P 15 28 08.8 -0.3
comp=Z,30nm,0.9s
ETSF Etsaut 79.82 48 eP P 15 28 08.8 -0.3
ETSF pmax pmax
comp=Z,30nm,0.9s
ETSF Etsaut 79.82 48 eP P 15 28 08.8 -0.3
comp=Z,30nm,0.9s
BILL Bilibino 79.93 338⇑eP P 15 28 09.3 +0.3
BILL iS S 15 38 06.7 -3.8
BILL eSS SS 15 43 15.1 -4.6
BILL pmax pmax
comp=Z,18nm,1.7s
BILL Bilibino 79.93 338 eP P 15 28 08.6 -0.4
comp=Z,35nm,1.2s
BILL LR LR
comp=Z,1µm,20.0s
LFF La Frestale 80.30 46 eP P 15 28 10.7 -0.8
comp=Z,61nm,0.9s
LFF La Frestale 80.30 46 eP P 15 28 10.7 -0.8
LFF pmax pmax
comp=Z,61nm,0.9s
LFF La Frestale 80.30 46 eP P 15 28 10.7 -0.8
comp=Z,61nm,0.9s
EPF Esparros 80.44 48 eP P 15 28 11.6 -0.8
EPF Esparros 80.44 48 eP P 15 28 11.6 -0.8
EPF Esparros 80.44 48 eP P 15 28 11.6 -0.8
HOPEN Hopen 80.47 12 eP P 15 28 15.6 +3.8
RJF Les Rejaudoux 80.75 46 eP P 15 28 13.1 -0.8
comp=Z,64nm,1.2s
RJF eR
comp=Z,2µm,21.8s
RJF Les Rejaudoux 80.75 46 eP P 15 28 13.1 -0.8
RJF pmax pmax
comp=Z,64nm,1.2s
RJF Les Rejaudoux 80.75 46 eP P 15 28 13.1 -0.8
comp=Z,64nm,1.2s
TCF Toulx Ste Croi 80.99 44 eP P 15 28 14.2 -1.1
comp=Z,22nm,0.8s
TCF Toulx Ste Croi 80.99 44 eP P 15 28 14.2 -1.1
TCF pmax pmax
comp=Z,22nm,0.8s
TCF Toulx Ste Croi 80.99 44 eP P 15 28 14.2 -1.1
comp=Z,22nm,0.8s
CAF Calviac 81.22 46 eP P 15 28 15.4 -1.1
comp=Z,26nm,1.0s
CAF Calviac 81.22 46 eP P 15 28 15.4 -1.1
CAF pmax pmax
comp=Z,26nm,1.0s
CAF Calviac 81.22 46 eP P 15 28 15.4 -1.1
comp=Z,26nm,1.0s
BGF Bois d'Agland 81.36 44 eP P 15 28 16.4 -0.7
comp=Z,73nm,0.8s
BGF Bois d'Agland 81.36 44 eP P 15 28 16.4 -0.7
BGF pmax pmax
comp=Z,73nm,0.8s
BGF Bois d'Agland 81.36 44 eP P 15 28 16.4 -0.7
comp=Z,73nm,0.8s
BAIF Baives 81.38 40 eP P 15 28 16.8 -0.4
comp=Z,30nm,1.0s
BAIF Baives 81.38 40 eP P 15 28 16.8 -0.4
BAIF pmax pmax
comp=Z,30nm,1.0s
BAIF Baives 81.38 40 eP P 15 28 16.8 -0.4
comp=Z,30nm,1.0s
DOU Dourbes 81.61 40 P P 15 28 18.8 +0.4
comp=Z,14nm,1.3s
AVF Avril sur Loir 81.64 44 eP P 15 28 17.4 -1.2
comp=Z,17nm,0.7s
AVF Avril sur Loir 81.64 44 eP P 15 28 17.4 -1.2
AVF pmax pmax
comp=Z,17nm,0.7s
AVF Avril sur Loir 81.64 44 eP P 15 28 17.4 -1.2
comp=Z,17nm,0.7s
PYM Petit Puy Mans 81.66 45 eP P 15 28 18.8 -0.1
AGO Saint Agoulin 81.67 45 eP P 15 28 18.6 -0.2
SSF Saint Saulge 81.67 44 eP P 15 28 17.8 -1.0
comp=Z,35nm,0.8s
SSF Saint Saulge 81.67 44 eP P 15 28 17.8 -1.0
SSF pmax pmax
comp=Z,35nm,0.8s
SSF Saint Saulge 81.67 44 eP P 15 28 17.8 -1.0
comp=Z,35nm,0.8s
MTLF Montolieu 81.70 47 eP P 15 28 18.3 -0.7
MTLF Montolieu 81.70 47 eP P 15 28 18.3 -0.7
MTLF Montolieu 81.70 47 eP P 15 28 18.3 -0.7
GIVF Givet 81.75 40 eP P 15 28 18.8 -0.3
GIVF Givet 81.75 40 eP P 15 28 18.8 -0.3
GIVF Givet 81.75 40 eP P 15 28 18.8 -0.3
KONO Kongsberg 81.76 30 eP P 15 28 24.5 +5.6
KONO eS S 15 38 33.6 +3.8
KONO IAMs_20 IAMs_20 16 01 49.0
comp=Z,2µm,19.9s
KONO Kongsberg 81.76 30 PFAKE 15 28 30.0 +11
KONO LR LR
comp=Z,2µm,21.0s
LOR Lormes 81.86 43 eP P 15 28 19.0 -0.8
comp=Z,46nm,1.0s
LOR eR
comp=Z,1µm,21.5s
LOR Lormes 81.86 43 eP P 15 28 19.0 -0.8
LOR pmax pmax
comp=Z,46nm,1.0s
LOR Lormes 81.86 43 eP P 15 28 19.0 -0.8
comp=Z,46nm,1.0s
LBL Lubilhac 81.95 45 eP P 15 28 20.9 +0.5
BCLA Clavier 81.97 40 P P 15 28 20.7 +0.4
comp=Z,16nm,1.3s
TRO Tromso 81.97 19 eP P 15 28 25.9 +6.0
TRO eSKSac SKSac 15 38 37.9 +0.1
SMF Signal de Mont 82.00 44 eP P 15 28 19.3 -1.2
comp=Z,31nm,0.8s
SMF Signal de Mont 82.00 44 eP P 15 28 19.3 -1.2
SMF pmax pmax
comp=Z,31nm,0.8s
SMF Signal de Mont 82.00 44 eP P 15 28 19.3 -1.2
comp=Z,31nm,0.8s
NB2 NORSAR Subarra 82.09 29 P P 15 28 21.5 +0.7
comp=Z,22nm,1.4s,baz=286,slow=5.3
NB2 NORSAR Subarra 82.09 29 P P 15 28 21.5 +0.7
baz=286,slow=5.3
NOA NORSAR Array B 82.09 29 P P 15 28 21.5 +0.7
comp=Z,5.6nm,1.1s,baz=290,slow=5.0,SNR=5.2
NOA LR LR 16 02 45.6
comp=Z,2µm,21.6s,baz=280,slow=34
HGN Heimansgroeve 82.26 39 eP P 15 28 21.5 -0.3
comp=Z,14nm,0.8s
MEZF Maizieres J'vi 82.31 42 eP P 15 28 21.8 -0.3
comp=Z,60nm,0.8s
MEZF Maizieres J'vi 82.31 42 eP P 15 28 21.8 -0.3
comp=Z,60nm,0.8s
NC602 NORSAR Array S 82.34 29 eP P 15 28 27.9 +5.9
NC602 eSKSac SKSac 15 38 41.5 +0.8
SFTF Sexfontaines 82.38 42 eP P 15 28 21.9 -0.6
comp=Z,43nm,0.8s
SFTF Sexfontaines 82.38 42 eP P 15 28 21.9 -0.6
comp=Z,43nm,0.8s
WTSB Winterswijk 82.46 38 eP P 15 28 23.2 +0.5
LASF Ste Croix 82.67 46 eP P 15 28 23.9 -0.2
comp=Z,107nm,1.3s
LASF Ste Croix 82.67 46 eP P 15 28 23.9 -0.2
comp=Z,107nm,1.3s
WLF Walferdange 82.70 41 P P 15 28 24.6 +0.5
comp=Z,20nm,1.3s
WLF Walferdange 82.70 41 eP P 15 28 24.5 +0.4
comp=Z,64nm,1.5s
WLF Walferdange 82.70 41 PFAKE 15 28 40.0 +16
WLF LR LR
comp=Z,2µm,20.0s
PAGF Fort de Pagny 82.73 42 eP P 15 28 24.1 -0.2
comp=Z,12nm,0.7s
PAGF Fort de Pagny 82.73 42 eP P 15 28 24.1 -0.2
comp=Z,12nm,0.7s
SSB Saint Sauveur 82.83 45 PFAKE 15 28 40.0 +15
SSB LR LR
comp=Z,1µm,21.0s
BUG Bochum--Univer 82.89 39 eP P 15 28 25.3 +0.3
comp=Z,51nm,1.3s
THEF They Montfort 82.99 42 eP P 15 28 25.6 -0.1
VIVF Saint-Julien-l 83.03 45 eP P 15 28 25.9 -0.1
comp=Z,80nm,1.3s
VIVF Saint-Julien-l 83.03 45 eP P 15 28 25.9 -0.1
VIVF pmax pmax
comp=Z,80nm,1.3s
VIVF Saint-Julien-l 83.03 45 eP P 15 28 25.9 -0.1
comp=Z,80nm,1.3s
PMSA Palmer Station 83.11 169 PFAKE 15 28 40.0 +14
PMSA LR LR
comp=Z,1µm,19.0s
HAU Haudompre 83.28 42 eP P 15 28 26.7 -0.5
comp=Z,59nm,0.8s
HAU eR
comp=Z,1µm,20.2s
HAU Haudompre 83.28 42 eP P 15 28 26.7 -0.5
HAU pmax pmax
comp=Z,59nm,0.8s
HAU Haudompre 83.28 42 eP P 15 28 26.7 -0.5
comp=Z,59nm,0.8s
CABF La Chapelle 83.50 43 eP P 15 28 28.0 -0.5
comp=Z,32nm,0.9s
CABF La Chapelle 83.50 43 eP P 15 28 28.0 -0.5
CABF pmax pmax
comp=Z,32nm,0.9s
CABF La Chapelle 83.50 43 eP P 15 28 28.0 -0.5
comp=Z,32nm,0.9s
HINF Hinteralfeld 83.66 42 eP P 15 28 28.5 -0.7
comp=Z,26nm,0.8s
HINF Hinteralfeld 83.66 42 eP P 15 28 28.5 -0.7
HINF pmax pmax
comp=Z,27nm,0.8s
HINF Hinteralfeld 83.66 42 eP P 15 28 28.5 -0.7
comp=Z,26nm,0.8s
ECH Echery 83.74 42 eP P 15 28 28.5 -1.1
ECH pmax pmax
comp=Z,25nm,1.1s
ECH MLR MLR
comp=Z,2µm,19.0s
ECH Echery 83.74 42 eP P 15 28 29.1 -0.5
ECH Echery 83.74 42 eP P 15 28 28.5 -1.1
comp=Z,25nm,1.1s
ECH LR LR
comp=Z,2µm,19.0s
CDF Champ du Feu 83.76 42 eP P 15 28 29.3 -0.4
comp=Z,50nm,1.1s
CDF Champ du Feu 83.76 42 eP P 15 28 29.3 -0.4
CDF pmax pmax
comp=Z,50nm,1.1s
CDF Champ du Feu 83.76 42 eP P 15 28 29.3 -0.4
comp=Z,50nm,1.1s
MOF Molkenrain 83.83 42 eP P 15 28 29.5 -0.6
ORIF Oris-en-Rattie 83.84 45 eP P 15 28 30.1 -0.1
comp=Z,30nm,1.0s
ORIF eR
comp=Z,2µm,22.0s
ORIF Oris-en-Rattie 83.84 45 eP P 15 28 30.1 -0.1
ORIF pmax pmax
comp=Z,30nm,1.0s
ORIF Oris-en-Rattie 83.84 45 eP P 15 28 30.1 -0.1
comp=Z,30nm,1.0s
SMRF Simiane la Rot 83.89 46 eP P 15 28 29.7 -0.7
SMRF Simiane la Rot 83.89 46 eP P 15 28 29.7 -0.7
BSEG Bad Segeberg 83.90 36 eP P 15 28 31.1 +0.9
comp=Z,33nm,1.1s
LANF Langenberg 83.93 41 eP P 15 28 29.3 -1.2
TNS Taunus Mts 83.96 40 eP P 15 28 30.8 +0.1
comp=Z,42nm,1.4s
HOPE Hope Point 84.02 151 PFAKE 15 28 40.0 +9.4
HOPE LR LR
comp=Z,976nm,20.0s
ARCES ARCESS Array B 84.07 18 P P 15 28 30.7 -0.1
comp=Z,4.2nm,0.6s,baz=293,slow=6.3,SNR=23
ARCES LR LR 16 06 32.2
comp=Z,3µm,18.3s,baz=312,slow=36
ARE0 ARCESS Array S 84.07 18 eP P 15 28 35.1 +4.3
ARE0 eSKSac S 15 38 53.4 +0.4
NRDL Niedersach Rie 84.24 37 eP P 15 28 32.6 +0.7
comp=Z,51nm,1.4s
LPL La Plagne 84.24 44 eP P 15 28 31.6 -0.8
comp=Z,28nm,0.9s
LPL La Plagne 84.24 44 eP P 15 28 31.6 -0.8
LPL pmax pmax
comp=Z,28nm,0.9s
LPL La Plagne 84.24 44 eP P 15 28 31.6 -0.8
comp=Z,28nm,0.9s
LPG La Plagne 84.26 44 eP P 15 28 31.9 -0.7
LPG La Plagne 84.26 44 eP P 15 28 31.9 -0.7
LPG La Plagne 84.26 44 eP P 15 28 31.9 -0.7
BNI Bardonecchia 84.34 45 eP P 15 28 32.8 0.0
BNI pmax pmax
comp=Z,14nm,0.8s
BNI MLR MLR
comp=Z,2µm,20.0s
BNI Bardonecchia 84.34 45 eP P 15 28 32.8 0.0
comp=Z,14nm,0.8s
BNI LR LR
comp=Z,2µm,20.0s
KEV Kevo 84.40 18 eP P 15 28 36.7 +4.3
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV Kevo 84.40 18 ep P 15 28 36.7 +4.3
comp=Z,5.2nm,0.7s
KEV Kevo 84.40 18 PFAKE 15 28 40.0 +7.6
KEV LR LR
comp=Z,3µm,20.0s
BFO Black Forest 84.46 41 eP P 15 28 32.8 -0.4
comp=Z,31nm,1.6s
BFO Black Forest 84.46 41 PFAKE 15 28 40.0 +6.8
BFO LR LR
comp=Z,2µm,21.0s
MBDF Montbardon 84.50 45 eP P 15 28 33.5 -0.2
comp=Z,38nm,0.7s
MBDF Montbardon 84.50 45 eP P 15 28 33.5 -0.2
MBDF pmax pmax
comp=Z,38nm,0.7s
MBDF Montbardon 84.50 45 eP P 15 28 33.5 -0.2
comp=Z,38nm,0.7s
TIC Toumodi 84.59 85 eP P 15 28 35.0 +0.5
comp=Z,26nm,0.2s
CLZ Clausthal 84.61 38 eP P 15 28 34.5 +0.6
comp=Z,26nm,1.0s
LIC Lamto 84.70 85 eP P 15 28 34.5 -0.5
comp=Z,58nm,1.0s,baz=285
LIC eR
comp=Z,983nm,19.0s
LIC Lamto 84.70 85 eP P 15 28 36.1 +1.1
comp=Z,78nm,1.0s
LIC Lamto 84.70 85 eP P 15 28 34.5 -0.5
comp=Z,58nm,1.0s
UBBA Unterbreizbach 84.72 39 eP P 15 28 34.7 +0.4
comp=Z,36nm,1.6s
LMR La Mourre 84.72 47 eP P 15 28 34.0 -0.6
LMR La Mourre 84.72 47 eP P 15 28 34.0 -0.6
LMR La Mourre 84.72 47 eP P 15 28 34.0 -0.6
DBIC Dimbokro 84.74 85 eP P 15 28 34.7 -0.5
DBIC pmax pmax
comp=Z,59nm,1.4s
DBIC Dimbokro 84.74 85 P P 15 28 34.3 -0.9
comp=Z,10.0nm,0.7s,baz=257,slow=5.7,SNR=15
DBIC LR LR 16 07 06.4
comp=Z,712nm,18.2s,baz=276,slow=36
DBIC Dimbokro 84.74 85 eP P 15 28 34.7 -0.5
comp=Z,59nm,1.4s
FRF La Foret Royal 84.75 46 eP P 15 28 34.4 -0.4
comp=Z,78nm,1.0s
FRF La Foret Royal 84.75 46 eP P 15 28 34.4 -0.4
FRF pmax pmax
comp=Z,78nm,1.0s
FRF La Foret Royal 84.75 46 eP P 15 28 34.4 -0.4
comp=Z,78nm,1.0s
KIC Kosan Boka 84.94 85 eP P 15 28 37.3 +1.1
comp=Z,66nm,1.0s
SBF Sospel 85.21 46 eP P 15 28 36.4 -0.7
comp=Z,115nm,1.1s
SBF Sospel 85.21 46 eP P 15 28 36.4 -0.7
SBF pmax pmax
comp=Z,115nm,1.1s
SBF Sospel 85.21 46 eP P 15 28 36.4 -0.7
comp=Z,115nm,1.1s
TUE Stuetta 85.69 43 eP P 15 28 40.1 +0.4
comp=Z,52nm,1.3s
TUE LR LR
comp=Z,1µm,20.0s
MOX Moxa 85.74 38 eP P 15 28 40.0 +0.4
comp=Z,18nm,1.1s
MOX eL L 16 06 11.5
comp=Z,1µm,20.5s
DAVA Damuels 85.78 42⇓iPcP P 15 28 40.6 +0.6
comp=Z,29nm,0.9s
GRF Grafenberg Arr 85.83 39 eP P 15 28 40.7 +0.7
comp=Z,66nm,1.5s
GRF eL L 16 04 23.0
comp=Z,1µm,20.2s
DAVOX Davos/Dischmat 85.94 43 LR LR 16 01 30.6
comp=Z,70nm,21.1s,baz=260,slow=32
TANN Tannenbergstha 86.33 39 eP P 15 28 42.5 0.0
comp=Z,69nm,1.8s
CLL Collm 86.33 38 eP P 15 28 42.0 -0.4
CLL i 15 28 51.1
CLL eS SKSac 15 39 08.0 +1.3
CLL pmax pmax
comp=Z,28nm,1.2s
CLL MLR MLR
comp=Z,1µm,21.5s
CLL Collm 86.33 38 eP P 15 28 42.8 +0.4
comp=Z,24nm,1.0s
CLL Collm 86.33 38 eP P 15 28 42.0 -0.4
comp=Z,6.0nm,1.0s
CLL i P(2) 15 28 47.7
comp=Z,9.0nm,0.8s
CLL i pP(2) 15 28 51.1
comp=Z,28nm,1.2s
CLL i 15 28 53.8
CLL e 15 28 58.0
CLL ePP PP 15 32 03.0 -0.3
CLL eSKSac SKSac 15 39 08.0 +1.3
comp=N,400nm,19.9s
CLL eSKSac SKSac 15 39 08.0 +1.3
comp=E,700nm,22.2s
CLL eSP SPn 15 40 09.0 -3.2
CLL eSS SS 15 44 54.0 -1.2
CLL eSSS SSS 15 48 21.0
CLL Lm MLR 16 05 00.0
comp=N,700nm,21.4s
CLL Lm MLR 16 05 00.0
comp=E,800nm,20.9s
CLL Lm MLR 16 05 00.0
comp=Z,1µm,21.5s
ROTZ Rotzenmuhle 86.40 39 eP P 15 28 43.5 +0.7
comp=Z,42nm,1.5s
FETA Feichten 86.41 42⇑iP P 15 28 43.4 +0.3
comp=Z,23nm,0.9s
MOTA Moosalm 86.54 42⇓iP P 15 28 44.0 +0.2
comp=Z,26nm,0.9s
PGF Pioggiola 86.70 47 eP P 15 28 43.1 -1.5
comp=Z,111nm,1.1s
PGF Pioggiola 86.70 47 eP P 15 28 43.1 -1.5
PGF pmax pmax
comp=Z,111nm,1.1s
PGF Pioggiola 86.70 47 eP P 15 28 43.1 -1.5
comp=Z,111nm,1.1s
WET Wettzell 87.03 40 eP P 15 28 46.7 +0.7
comp=Z,30nm,1.1s
BRG Berggiesshubel 87.04 38 eP P 15 28 46.3 +0.4
comp=Z,11nm,1.3s
BRG e 15 28 54.8
comp=Z,24nm,1.3s
BRG e 15 29 02.1
comp=Z,27nm,1.3s
comp=Z,2µm,18.5s
comp=N,720nm,18.5s
comp=E,1µm,18.5s
BRG Berggiesshubel 87.04 38 eP P 15 28 46.6 +0.7
comp=Z,24nm,1.3s
VLC Villacollemand 87.14 45 PFAKE 15 29 00.0 +13
VLC LR LR
comp=Z,947nm,20.0s
SEY Seymchan 87.28 336 P P 15 28 46.5 -0.4
comp=Z,3.4nm,0.8s,baz=92,slow=4.4,SNR=20
KHC Kasperske Hory 87.46 39 eP P 15 28 47.7 -0.3
KHC pmax pmax
comp=Z,20nm,1.3s
KHC Kasperske Hory 87.46 39 eP P 15 28 47.8 -0.3
KHC ex x 15 28 55.9
KHC ex x 15 29 04.5
KHC eSKS SKSac 15 39 14.6 +0.7
KHC AMS AMS 16 09 30.0
comp=Z,1µm,17.4s
KHC Kasperske Hory 87.46 39 eP P 15 28 47.7 -0.3
comp=Z,20nm,1.3s
RJOB Jochberg 87.48 41 eP P 15 28 48.5 +0.3
comp=Z,21nm,0.9s
PRA Prague 87.63 38 P P 15 28 50.0 +1.2
GEC2 GERESS Array S 87.64 40 eP P 15 28 49.4 +0.4
comp=Z,29nm,1.3s
GERES GERESS Array B 87.64 40 P P 15 28 48.7 -0.3
comp=Z,1.9nm,0.8s,baz=302,slow=3.0,SNR=9.3
GERES LR LR 16 05 49.3
comp=Z,1µm,21.2s,baz=292,slow=34
ABTA Abfaltersbach 87.65 42⇑iPcP P 15 28 49.8 +0.7
comp=Z,50nm,1.2s
PRU Pruhonice 87.73 38 eP P 15 28 49.9 +0.6
PRU e 15 28 58.5
PRU e 15 39 16.5
PRU MLR MLR
comp=Z,2µm,17.2s
PRU Pruhonice 87.73 38 eP P 15 28 49.9 +0.6
PRU ex x 15 28 58.5
PRU eSKS SKSac 15 39 16.5 +1.2
PRU AMS AMS 16 09 40.0
comp=Z,2µm,17.2s
LVZ Lovozero 87.75 18 PFAKE 15 29 00.0 +11
LVZ LR LR
comp=Z,4µm,21.0s
VSL Villasalto 87.95 50 PFAKE 15 29 00.0 +9.4
VSL LR LR
comp=Z,1µm,19.0s
KBA Koelnbreinsper 88.07 41⇓iPcP P 15 28 51.3 +0.1
comp=Z,18nm,1.4s

KAF Kangasniemi 88.18 25 eP P 15 28 50.2 -0.9
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 88.18 25 ep P 15 28 50.2 -0.9
comp=Z,3.9nm,0.7s
UPC Upice 88.40 38 eP P 15 28 54.0 +1.5
UPC e 15 29 02.7
UPC Upice 88.40 38 eP P 15 28 54.0 +1.5
UPC ex x 15 29 02.7
FINES FINESS Array B 88.43 25 P P 15 28 52.0 -0.3
comp=Z,7.7nm,0.8s,baz=283,slow=1.8,SNR=18
TIXI Tiksi 88.51 348 ⇓iP P 15 28 54.0 +1.5
TIXI Tiksi 88.51 348 eP P 15 28 51.2 -1.3
comp=Z,17nm,0.9s
TIXI LR LR
comp=Z,1μm,20.0s
TREC Trest 88.56 39 eP P 15 29 01.4 +8.1
TREC e 15 29 09.6
TREC e 15 39 14.0
TREC MLR MLR
comp=Z,2μm,20.6s
DPC Dobruska-Polom 88.64 38 eP P 15 28 54.1 +0.4
DPC e 15 29 02.6
DPC Dobruska-Polom 88.64 38 eP P 15 28 54.1 +0.4
DPC ex x 15 29 02.6
DPC AMS AMS 16 07 50.0
PET Petropavlovsk 88.97 325c iP P 15 28 55.5 +0.5
PET e 15 39 20.9
PET eS S 15 39 37.5 -3.6
PET eSS SS 15 45 37.4 +4.0
PET pmax pmax
comp=Z,200nm,12.4s
PET MLR MLR
comp=Z,600nm,19.0s
PET Petropavlovsk 88.97 325 PFAKE 15 29 10.0 +15
PET LR LR
comp=Z,316nm,20.0s
KRLC Kraliky 89.03 38 eP P 15 28 57.4 +1.9
KRLC e 15 29 04.5
KRLC Kraliky 89.03 38 eP P 15 28 57.4 +1.9
KRLC ex x 15 29 04.5
KEST Kesra 89.15 53 P P 15 28 56.6 +0.2
comp=Z,4.9nm,0.9s,baz=286,slow=6.7,SNR=10.0
KEST LR LR 16 06 03.5
comp=Z,304nm,18.9s,baz=224,slow=34
KEST Kesra 89.15 53 eP P 15 28 55.2 -1.1
TORD Torodi Ar. Bea 89.22 77 P P 15 28 56.7 -0.3
comp=Z,1.8nm,0.6s,baz=288,slow=5.0,SNR=24
TORD LR LR 16 04 29.4
comp=Z,2μm,21.5s,baz=280,slow=33
PETK Petropavlovsk- 89.45 326 P P 15 28 57.4 +0.1
comp=Z,2.6nm,0.8s,baz=52,slow=9.6,SNR=5.5
JOF Joensuu 89.66 23 eP P 15 28 55.0 -3.1
JOF pmax pmax
comp=Z,1.0nm,0.5s
JOF Joensuu 89.66 23 ep P 15 28 55.0 -3.1
comp=Z,1.0nm,0.5s
OKC Ostrava-Krasne 89.93 38 eP P 15 28 59.5 -0.1
OKC e 15 39 17.6
OKC MLR MLR
comp=Z,2μm,20.2s
OKC Ostrava-Krasne 89.93 38 eP P 15 28 59.5 -0.1
OKC ex x 15 39 17.6
OKC AMS AMS 16 08 30.0
comp=Z,2μm,20.2s
TAM Tamanrasset 89.97 66 eP P 15 29 03.3 +2.7
TAM pmax pmax
comp=Z,7.0nm,1.0s
TAM MLR MLR
comp=Z,1μm,19.0s
TAM Tamanrasset 89.97 66 eP P 15 29 03.3 +2.7
comp=Z,7.5nm,1.0s
TAM LR LR
comp=Z,1μm,19.0s
SHEL Horse Pasture 90.12 106 PFAKE 15 29 10.0 +8.8
SHEL LR LR
comp=Z,895nm,21.0s
VYHS Vyhne 90.91 39 eP P 15 29 07.6 +3.4
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 90.91 39 eP P 15 29 07.6 +3.4
PSZ Piszkesteto 91.80 39 PFAKE 15 29 20.0 +12
PSZ LR LR
comp=Z,811nm,19.0s
STHS Stebnicka Huta 91.92 37 eP P 15 29 20.8 +12
STHS Stebnicka Huta 91.92 37 e P 15 29 20.8 +12
CRVS Cervenica-Dubn 92.28 38 eP P 15 29 17.0 +6.4
CRVS pmax pmax
comp=Z,11nm,1.6s
CRVS Cervenica-Dubn 92.28 38 esP P 15 29 17.0 +6.4
CUC Castrocucco 92.41 47 PFAKE 15 29 20.0 +8.6
CUC LR LR
comp=Z,696nm,20.0s
KWP Kalwaria Pacla 92.66 37 PFAKE 15 29 20.0 +7.6
KWP LR LR
comp=Z,1μm,21.0s
KOLS Kolonicke sedl 92.74 37 eP P 15 29 19.3 +6.6
KOLS pmax pmax
comp=Z,42nm,2.7s
KOLS Kolonicke sedl 92.74 37 esP P 15 29 19.3 +6.6
UZH Uzhgorod 92.90 38 eP P 15 29 11.0 -2.4
UZH i 15 29 20.0
UZH e 15 29 29.5
UZH e 15 39 41.0
UZH eS S 15 40 11.0 -6.2
UZH MLR MLR
comp=N,1μm,26.0s
UZH MLR MLR
comp=E,2μm,26.0s
UZH MLR MLR
comp=Z,250nm,26.0s
WDD Wield Dalam 93.04 52 PFAKE 15 29 30.0 +16
WDD LR LR
comp=Z,980nm,19.0s
CEL Celeste 93.14 49 PFAKE 15 29 30.0 +15
CEL LR LR
comp=Z,736nm,20.0s
TIP Timpagrande 93.40 48 PFAKE 15 29 30.0 +14
TIP LR LR
comp=Z,557nm,20.0s
KLMR Klimovskoe 93.98 22 eP P 15 29 12.1 -6.0
KLMR pmax pmax
comp=Z,27nm,1.8s
MSVF Nonsavu 95.39 253 PFAKE 15 29 40.0 +14
MSVF LR LR
comp=Z,2μm,19.0s
PRGR Permogore 95.47 19 P P 15 29 23.6 -1.3
PRGR pmax pmax
comp=Z,4.0nm,0.3s
KIEV Kiev 95.70 33 eP P 15 29 24.9 -1.3
KIEV Kiev 95.70 33 PFAKE 15 29 40.0 +14
KIEV LR LR
comp=Z,988nm,19.0s
AKASG Malin Array Be 95.71 33 P P 15 29 24.1 -2.2
comp=Z,1.7nm,0.7s,baz=290,slow=4.4,SNR=5.1
AKASG LR LR 16 15 26.8
comp=Z,836nm,18.1s,baz=275,slow=37
YAK Yakutsk 95.84 342 PFAKE 15 29 40.0 +13
YAK LR LR
comp=Z,785nm,20.0s
OBN Obninsk 96.62 27 eP P 15 29 31.1 +0.8
OBN e 15 33 20.0
OBN iS SKSac 15 40 05.6 +0.6
OBN eSS SS 15 47 33.4 +11
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 96.62 27 PFAKE 15 29 40.0 +10
OBN LR LR
comp=Z,2μm,21.0s
SANT Santorini 100.82 47 PFAKE 15 30 00.0 +10
SANT LR LR
comp=Z,536nm,20.0s
YSS Yuzh-Sakhalins 100.86 326 PFAKE 15 30 00.0 +11
YSS LR LR
comp=Z,252nm,20.0s
SNZO South Karori 103.34 231 PFAKE 15 30 10.0 +10
SNZO LR LR
comp=Z,1μm,19.0s
ISP Isparta 103.55 44 PFAKE 15 30 10.0 +8.2
ISP LR LR
comp=Z,825nm,22.0s
ARU Arti 103.58 17 PFAKE 15 30 10.0 +8.6
ARU LR LR
comp=Z,3μm,20.0s
ERM Erimo 103.60 321 PFAKE 15 30 10.0 +8.3
ERM LR LR
comp=Z,430nm,21.0s
ANTO Ankara 103.89 41 PFAKE 15 30 10.0 +6.8
ANTO LR LR
comp=Z,659nm,21.0s
QSPA South Pole Qui 105.89 180 PFAKE 15 34 40.0
QSPA LR LR
comp=Z,2μm,19.0s
DZM Mont Dzumac 106.99 251 ePP PP 15 34 35.1 -9.0
comp=Z,127nm,26.9s
DZM Mont Dzumac 106.99 251 eLR LR 16 05 35.5
comp=Z,2μm,22.2s
CSS Prodhromos 107.02 45 PFAKE 15 34 40.0
CSS LR LR
comp=Z,123nm,19.0s
KIV Kislovodsk 107.05 33 PFAKE 15 34 40.0
KIV LR LR
comp=Z,671nm,19.0s
SBA Scott Base 108.02 193 PFAKE 15 34 40.0
SBA LR LR
comp=Z,726nm,19.0s
MDJ Mudanjiang 109.18 330 Pdif Pdif 15 30 24.8 -1.8
MDJ PP PP 15 35 02.0 +3.6
MDJ AMB AMB
comp=Z,90nm,5.5s
MDJ LR LR
comp=Z,260nm,26.1s
MDJ LR LR
comp=Z,300nm,27.7s
MDJ LR LR
comp=Z,430nm,26.1s
BRVK Borovoye 109.45 12 PFAKE 15 34 40.0
BRVK LR LR
comp=Z,2μm,19.0s
MAJO Matsushiro 109.98 319 PFAKE 15 34 40.0
MAJO LR LR
comp=Z,422nm,20.0s
MAK Makhachkala 110.21 31 ePKIKP PKiKP 15 34 36.1 +3.7
MAK e 15 35 06.9
MAK eSP SP 15 44 30.8 -1.0
HNR Honiara 110.51 266 PFAKE 15 34 50.0
HNR LR LR
comp=Z,395nm,22.0s
GNI Garni 110.79 35 PFAKE 15 34 50.0
GNI LR LR
comp=Z,689nm,20.0s
TLY Talaya 111.41 350 PFAKE 15 34 50.0
TLY LR LR
comp=Z,1μm,19.0s
ZAK Zakamensk 112.73 350 ePKIKP PKiKP 15 34 38.5 +1.3
ZAK pmax pmax
comp=Z,3.0nm,1.5s
KURK Kurchatov 113.03 7 PFAKE 15 34 50.0
KURK LR LR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 114.40 347 PFAKE 15 34 50.0 +9.5
ULN LR LR
comp=Z,827nm,21.0s
SONM Songino Array 114.57 347 PKP PKPdf 15 34 40.1 -0.7
comp=Z,0.5nm,0.7s,baz=14,slow=1.7,SNR=5.5
SONM PKKPbc PKKPbc 15 45 21.4 +0.8
comp=Z,0.5nm,0.9s,baz=196,slow=4.4,SNR=5.2
INCN Inchon 116.01 327 PFAKE 15 35 00.0 +16
INCN LR LR
comp=Z,611nm,21.0s
SUR Sutherland 116.83 119 PFAKE 15 35 00.0 +14
SUR LR LR
comp=Z,1μm,19.0s
MK31 Makanchi Array 117.28 5 PKIKP PKPdf 15 34 45.1 -0.8
MK31 Makanchi Array 117.28 5 PKPdf PKPdf 15 34 45.1 -0.8
MKAR Makanchi Array 117.28 5 PKP PKPdf 15 34 44.6 -1.3
comp=Z,0.5nm,0.7s,baz=25,slow=4.0,SNR=4.7
MKAR PKKPbc PKKPbc 15 45 08.7 -2.3
comp=Z,0.5nm,0.9s,baz=162,slow=5.1,SNR=4.2
BJI Beijing 118.72 336 PKP PKPdf 15 34 48.5 -0.3
BJI SS SS 15 52 22.8 +1.2
BJI LR LR
comp=Z,370nm,22.6s
BJI LR LR
comp=Z,610nm,22.6s
BJI LR LR
comp=Z,580nm,26.3s
GEYT Alibeck 119.17 27 PKP PKPdf 15 34 48.7 -1.1
comp=Z,1.2nm,0.5s,baz=290,slow=5.8,SNR=4.4
EKS2 Erkin-Say 120.07 13 PFAKE 15 35 00.0 +8.5
EKS2 LR LR
comp=Z,1μm,20.0s
TKM2 Tokmak 2 120.18 11 PFAKE 15 35 00.0 +8.1
TKM2 LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 120.25 12 iPKIKP PKPdf 15 34 50.9 -1.0
AAK pmax pmax
comp=Z,4.0nm,1.2s
AAK Ala-Archa 120.25 12 PFAKE 15 35 00.0 +8.1
AAK LR LR
comp=Z,2μm,21.0s
BOSA Boshof 120.50 114 PKP PKPdf 15 34 52.5 -0.1
comp=Z,4.2nm,0.9s,baz=278,slow=6.1
WMQ Urumqi 120.51 1 ePKP PKPdf 15 34 54.3 +2.0
WMQ PP PP 15 36 24.5 +6.6
WMQ PKS PKSdf 15 38 29.6 +0.6
WMQ SKS SKSdf 15 42 05.1 +2.7
WMQ SKKS SKKSac 15 43 17.1 0.0
WMQ SS SS 15 52 50.9 +6.6
WMQ LR LR
comp=Z,1μm,23.8s
PMG Port Moresby 122.79 269 PFAKE 15 35 10.0 +13
PMG LR LR
comp=Z,730nm,19.0s
CAN Canberra 123.20 238 PFAKE 15 35 10.0 +12
CAN LR LR
comp=Z,608nm,20.0s
KSH Kashi 123.55 12 ePKP PKPdf 15 35 00.3 +2.0
KSH ePP PP 15 36 45.0 +6.3
KSH ePKS PKSdf 15 38 33.4 -1.7
KSH eSKS SKSdf 15 42 10.0 +1.5
KSH SKKS SKKSac 15 43 37.0 0.0
KSH eSS SS 15 53 28.1 +4.8
KSH AMB AMB
comp=Z,130nm,4.2s
KSH LR LR
comp=Z,220nm,9.6s
KSH LR LR
comp=Z,140nm,8.4s
KSH LR LR
comp=Z,1μm,23.1s
GTA Gaotai 123.97 350 ePKP PKPdf 15 34 58.0 -1.1
GTA PP PP 15 36 45.0 +3.5
GTA SKS SKSdf 15 42 08.3 -1.0
GTA SKKS SKKSac 15 43 36.9 -2.8
GTA SS SS 15 53 29.5 +1.0
GTA AMB AMB
comp=Z,90nm,8.1s
GTA LR LR
comp=Z,770nm,21.4s
GTA LR LR
comp=Z,670nm,19.5s
GTA LR LR
comp=Z,1μm,21.9s
LZH Lanzhou 126.31 345 ePKP PKPdf 15 35 03.5 -0.3
LZH sPKP 15 35 08.3
LZH ePP PP 15 37 01.4 +4.1
LZH SKS SKSdf 15 42 11.3 -2.6
LZH SKKS SKKSac 15 43 50.0 -4.8
LZH eSS SS 15 53 57.6 -0.7
LZH AMB AMB
comp=Z,170nm,6.7s
LZH LR LR
comp=Z,420nm,18.0s
LZH LR LR
comp=Z,650nm,18.3s
LZH LR LR
comp=Z,780nm,20.3s
XAN Xi'an 126.70 339 PKP PKPdf 15 35 02.4 -2.0
XAN PP PP 15 37 05.5 +5.7
XAN PKS PKSdf 15 38 37.6 -3.5
XAN SKKS 15 43 53.5
XAN SS SS 15 54 09.5 +6.4
XAN AMB AMB
comp=Z,50nm,6.6s
XAN LR LR
comp=Z,770nm,20.7s
XAN LR LR
comp=Z,340nm,19.3s
XAN LR LR
comp=Z,320nm,19.3s
KMBO Kilima Mbogo 127.16 79 PKIKP PKPdf 15 35 06.6 +0.6
KMBO MLR MLR
comp=Z,980nm,19.0s
KMBO Kilima Mbogo 127.16 79 PKP PKPdf 15 35 06.6 +0.6
comp=Z,0.9nm,0.4s,baz=359,slow=4.5,SNR=4.9
KMBO Kilima Mbogo 127.16 79 PKP PKPdf 15 35 06.6 +0.6
KMBO ePKPdf PKiKP 15 35 07.0 +0.5
KMBO LR LR
comp=Z,980nm,19.0s
WHN Wuhan 127.61 332 PKP PKPdf 15 35 06.8 +0.7
WHN PP PP 15 37 08.8 +2.8
WHN LR LR
comp=Z,1μm,17.0s
WHN LR LR
comp=Z,1μm,18.4s
WHN LR LR
comp=Z,2μm,19.8s
CASY Casey 127.67 191 PFAKE 15 35 20.0 +15
CASY LR LR
comp=Z,1μm,19.0s
TATO Taipei 128.29 321 PFAKE 15 35 20.0 +12
TATO LR LR
comp=Z,778nm,19.0s
STKA Stephens Creek 129.63 242 PKP PKPdf 15 35 09.6 -0.3
comp=Z,2.9nm,1.1s,baz=90,slow=6.1,SNR=3.6
CD2 Chengdu 131.22 343 PKP PKPdf 15 35 13.5 +0.4
CD2 PP PP 15 37 34.3 +4.9
CD2 PKS PKSdf 15 38 48.5 -1.2
CD2 SKS SKSdf 15 42 19.3 -3.5
CD2 SKKS SKKSac 15 44 20.8 -4.6
CD2 SS SS 15 54 57.9 -1.0
CD2 AMB AMB
comp=Z,280nm,6.8s
CD2 LR LR
comp=Z,1μm,18.6s
CD2 LR LR
comp=Z,870nm,18.6s
CD2 LR LR
comp=Z,1μm,20.6s
GYA Guiyang 134.39 337 Pdif Pdif 15 32 16.8 -2.4
GYA PKP PKPdf 15 35 19.0 -0.3
GYA PP PP 15 37 52.4 +2.5
GYA PKS PKSdf 15 38 52.4 -3.5
GYA SKKS 15 44 42.6
GYA SS SS 15 55 38.9 +1.2
GYA AMB AMB
comp=Z,160nm,8.0s
GYA LR LR
comp=Z,190nm,20.9s
GYA LR LR
comp=Z,160nm,21.0s
GYA LR LR
comp=Z,210nm,20.8s
LSA Lhasa 134.56 357 PKIKP PKPdf 15 35 20.1 +0.1
LSA Lhasa 134.56 357 PKPdf PKPdf 15 35 20.1 +0.1
WRA Warramunga Arr 136.55 258 PKhKP PKPpre 15 35 11.7
comp=Z,0.4nm,0.7s,baz=101,slow=2.7,SNR=4.6
WRA PKP PKPdf 15 35 23.0 -0.2
comp=Z,2.1nm,0.9s,baz=87,slow=2.1,SNR=7.2
KMI Kunming 136.96 341 PKP PKPdf 15 35 26.6 +2.4
KMI PP PP 15 38 07.3 +1.2
KMI PKS PKSdf 15 38 56.8 -4.0
KMI SKKS 15 44 57.5
KMI SS SS 15 56 07.0 -1.5
KMI LR LR
comp=Z,860nm,22.7s
KMI LR LR
comp=Z,370nm,18.6s
KMI LR LR
comp=Z,1μm,20.2s
ASAR Alice Springs 136.97 252 PKhKP PKPpre 15 35 07.9
comp=Z,0.4nm,0.9s,baz=67,slow=2.8,SNR=3.8
ASAR PKP PKPdf 15 35 23.4 -0.6
comp=Z,1.2nm,0.6s,baz=85,slow=1.8,SNR=12
QIZ Qiongzhong 139.51 328 PKP PKPdf 15 35 27.5 -1.2
QIZ PP PP 15 38 22.5 +0.4
QIZ SS SS 15 56 40.6 +1.6
QIZ AMB AMB
comp=Z,230nm,9.4s
QIZ LR LR
comp=Z,630nm,20.9s
QIZ LR LR
comp=Z,960nm,18.4s
CHTO Chiang Mai 144.03 343 ePKIKP PKPab 15 35 33.5 -0.7
CHTO Chiang Mai 144.03 343 P PKPab 15 35 33.8 -0.4
comp=Z,25nm,1.8s,comp=Z,875nm
CHTO Chiang Mai 144.03 343 ePKPpre PKPab 15 35 33.5 -0.7
CMMT Chiang Mai 144.03 343 P PKPab 15 35 33.7 -0.5
comp=Z,13nm,1.2s,comp=Z,282nm
LAMP Lampang 144.11 342 P PKPdf 15 35 38.4 +1.4
comp=Z,7.1nm,0.8s,comp=Z,76nm
CM31 Chiang Mai Arr 144.37 343 ePKPpre PKPab 15 35 35.4 -0.1
CMAR Chiang Mai Arr 144.37 343 PKP PKPbc 15 35 35.3 -0.4
comp=Z,9.9nm,0.9s,baz=341,slow=3.3,SNR=64
LOEI Loei 144.54 339 P PKPab 15 35 35.0 -1.1
comp=Z,12nm,0.9s,comp=Z,1μm
UTTA Uttaradit 144.55 340 P PKPbc 15 35 36.5 +0.2
comp=Z,6.4nm,0.9s,comp=Z,61nm
SOEI Soe 144.87 276 ePKPdf PKPdf 15 35 38.9 +0.4
HYB Hyderabad 145.35 17 iPKP PKPbc 15 35 37.0 -2.0
MSEY Mahe Island 145.46 75 iPKIKP PKPab 15 35 46.5 +6.8
PBKT Sadao Pong 145.51 339 P PKPdf 15 35 38.7 -0.7
comp=Z,57nm,1.0s,comp=Z,948nm
CHBT CHBT 148.47 334 P PKPbc 15 35 49.1 +1.2
comp=Z,31nm,1.4s
MBWA Marble Bar 150.21 255 ePKPbc PKPbc 15 35 51.9 -0.3
IPM Ipoh 156.34 328 ePKPab PKPab 15 36 23.7 -0.5

KRSC 23 15:32:02.4±3.0, 49.59N×156.94E, h15km±7km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
SKR	Severo-Kuril's	1.21	334	eP	Pn	15 32 22.9	-1.9
SKR				eS	Sb	15 32 38.1	-2.4
PAU	Pauzhetka	1.88	358	P	Pb	15 32 35.5	-0.9
PAU				eS	Sb	15 33 00.0	+0.4
MIPR	Malaya Ipel'ka	2.69	358	P	Pn	15 32 46.3	+1.2
MTVR	Mutnovka	3.00	15	S	Sn	15 33 28.2	+2.9
RUS	Russkaya	3.01	19	eP	Pn	15 32 51.7	+2.2
UGLR	Uglovaya	3.81	17	P	Pn	15 33 04.7	+4.1
AVH	Avacha	3.85	16	P	Pb	15 33 06.5	-3.5
KOK	Koryaka	3.85	15	P	Pb	15 33 06.6	-3.6
KRER	Koryakskii	3.88	16	P	Pb	15 33 06.7	-4.1
SDLR	Sedlovina	3.89	17	P	Pb	15 33 06.5	-4.2
KRX	Arik	3.92	15	P	Pn	15 33 06.7	+4.5
GNL	Ganaly	4.16	8	P	Pn	15 33 07.7	+2.3
MKZ	Mys Kozlova	5.78	29	P	Pn	15 33 30.6	+3.1
TUMR	Tumrok	6.03	18	P	Pn	15 33 36.3	+5.2
KBTR	Krutoberegovo	7.52	26	P	Pn	15 33 54.7	+3.4

CSEM 23 15:32:33.9±0.1, 38.10N×22.09E, h10km, MD2.7, Error ellipse: s-maj=1.6km s-min=1.4km az=67.0
ATH 23 15:32:34.4, 38.11N×22.08E, h5km±2km, MD2.7/15
THE 23 15:32:34.4, 38.11N×22.08E, h4km±3km, ML1.8/6, Error ellipse: s-maj=3.0km s-min=0.3km az=122.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
KLV	Kalavryta, Ach	0.09	139	P	Pg	15 32 36.2	-0.1
KLV				S	Sg	15 32 37.7	+0.1
KLV	Kalavryta, Ach	0.09	139	ePG	Pg	15 32 36.3	0.0
KLV				eSG	Sg	15 32 37.9	+0.3
KLV	Kalavryta, Ach	0.09	139	ePg	Pg	15 32 36.3	0.0
KLV				S	Sg	15 32 37.7	+0.1
LAKA	Lakka	0.15	329	P	Pg	15 32 37.4	-0.1
LAKA	Lakka	0.15	329	ePG	Pg	15 32 37.4	-0.1
LAKA	Lakka	0.15	329	P	Pg	15 32 37.4	-0.1
GUR	Goura	0.27	129	P	Pg	15 32 39.3	-0.5
GUR				S	Sg	15 32 43.5	+0.1
GUR	Goura	0.27	129	ePG	Pg	15 32 39.2	-0.6
GUR				eSG	Sg	15 32 43.8	+0.4
GUR	Goura	0.27	129	P	Pg	15 32 39.3	-0.5
GUR				S	Sg	15 32 43.5	+0.1
KALE	Kalithea	0.29	10	P	Pg	15 32 39.7	-0.4
KALE				S	Sg	15 32 44.0	0.0
KALE	Kalithea	0.29	10	ePG	Pg	15 32 39.8	-0.3
KALE				eSG	Sg	15 32 44.2	+0.2
KALE	Kalithea	0.29	10	ePg	Pg	15 32 39.8	-0.3

KALE				S	Sg	15 32 44.0	0.0
UPR	**University Cam**	**0.29**	**307**	P	Pg	15 32 40.0	0.0
UPR	**University Cam**	**0.29**	**307**	P	Pg	15 32 40.0	0.0
DRO	**Drossia**	**0.33**	**242**	P	Pg	15 32 40.9	+0.1
DRO				S	Sg	15 32 45.4	+0.2
DRO	**Drossia**	**0.33**	**242**	ePG	Pg	15 32 40.7	-0.1
DRO				eSB	Sg	15 32 45.6	+0.4
DRO	**Drossia**	**0.33**	**242**	ePg	Pg	15 32 40.7	-0.1
DRO				S	Sg	15 32 45.4	+0.2
EFP	**Efpalio**	**0.35**	**337**	P	Pg	15 32 40.8	-0.3
EFP				S	Sg	15 32 46.4	+0.7
EFP	**Efpalio**	**0.35**	**337**	ePG	Pg	15 32 40.9	-0.2
EFP				eSB	Sg	15 32 46.2	+0.5
EFP	**Efpalio**	**0.35**	**337**	ePg	Pg	15 32 40.9	-0.2
EFP				eSb	Sg	15 32 46.2	+0.5
DSF	**Desfina**	**0.47**	**49**	P	Pg	15 32 43.5	0.0
DSF				S	Sg	15 32 50.1	+0.5
DSF	**Desfina**	**0.47**	**49**	ePB	Pg	15 32 43.7	+0.2
DSF				eSB	Sg	15 32 49.8	+0.2
DSF	**Desfina**	**0.47**	**49**	P	Pg	15 32 43.5	0.0
DSF				eSb	Sg	15 32 49.8	+0.2
DSF				S	Sb	15 32 50.1	-2.5
RLS	**Riolos of Patr**	**0.49**	**264**	P	Pg	15 32 43.4	-0.3
RLS				S	Sg	15 32 50.7	+0.6
RLS	**Riolos of Patr**	**0.49**	**264**	ePB	Pg	15 32 44.0	+0.3
RLS				eSB	Sg	15 32 50.7	+0.6
RLS	**Riolos of Patr**	**0.49**	**264**	P	Pg	15 32 43.4	-0.3
RLS	**Riolos of Patr**	**0.49**	**264**	ePb	Pg	15 32 44.0	+0.3
RLS				S	Sg	15 32 50.7	+0.6
AMT	**Artemida-Makis**	**0.65**	**207**	P	Pg	15 32 46.6	-0.2
AMT				S	Sg	15 32 56.2	+0.9
AMT	**Artemida-Makis**	**0.65**	**207**	ePG	Pg	15 32 46.5	-0.3
AMT				eSB	Sg	15 32 56.1	+0.8
AMT	**Artemida-Makis**	**0.65**	**207**	P	Pg	15 32 46.6	-0.2
AMT				eSb	Sg	15 32 56.1	+0.8
PVO	**Paravola**	**0.67**	**320**	P	Pg	15 32 47.1	-0.2
PVO				S	Sg	15 32 57.0	+1.0
PVO	**Paravola**	**0.67**	**320**	P	Pg	15 32 47.1	-0.2
PVO				S	Sg	15 32 57.0	+1.0
LTK	**Loutraki**	**0.71**	**97**	ePB	Pg	15 32 48.1	+0.1
LTK				eSB	Sg	15 32 57.3	+0.1
LTK	**Loutraki**	**0.71**	**97**	ePb	Pg	15 32 48.1	+0.1
LTK				eSb	Sg	15 32 57.3	+0.1
VLX	**Vlachokerasia**	**0.77**	**162**	P	Pg	15 32 48.4	-1.0
VLX				S	Sb	15 33 00.6	-0.9
VLX	**Vlachokerasia**	**0.77**	**162**	P	Pg	15 32 48.4	-1.0
VLX				S	Sb	15 33 00.6	-0.9
AXAR	**Agios Charalam**	**0.80**	**35**	ePB	Pg	15 32 49.6	-0.2
AXAR				eSB	Sg	15 33 00.9	+0.6
AXAR	**Agios Charalam**	**0.80**	**35**	ePb	Pg	15 32 49.6	-0.2
AXAR				eSb	Sg	15 33 00.9	+0.6
EVR	**Evrytania**	**0.83**	**345**	P	Pg	15 32 50.2	-0.4
EVR				S	Sg	15 33 01.8	+0.2
EVR	**Evrytania**	**0.83**	**345**	ePB	Pg	15 32 50.2	-0.4
EVR				eSB	Sg	15 33 01.4	-0.2
EVR	**Evrytania**	**0.83**	**345**	P	Pg	15 32 50.2	-0.4
EVR				eSb	Sg	15 33 01.4	-0.2
PDO	**Prodromos**	**0.86**	**305**	P	Pg	15 32 50.3	-0.6
PDO	**Prodromos**	**0.86**	**305**	ePG	Pg	15 32 50.5	-0.4
PDO				eSB	Sg	15 33 02.8	+0.7
PDO	**Prodromos**	**0.86**	**305**	ePg	Pg	15 32 50.5	-0.4
PDO				eSb	Sg	15 33 02.8	+0.7
LKR	**Lokris**	**0.90**	**53**	ePB	Pg	15 32 51.5	-0.3
LKR	**Lokris**	**0.90**	**53**	ePb	Pg	15 32 51.5	-0.3
MAKR	**Makrakomi, Fth**	**0.91**	**3**	P	Pg	15 32 51.3	-0.6
MAKR				S	Sb	15 33 04.9	-0.3
MAKR	**Makrakomi, Fth**	**0.91**	**3**	ePB	Pg	15 32 51.9	0.0
MAKR	**Makrakomi, Fth**	**0.91**	**3**	P	Pg	15 32 51.3	-0.6
MAKR	**Makrakomi, Fth**	**0.91**	**3**	ePb	Pg	15 32 51.9	0.0
MAKR				S	Sb	15 33 04.9	-0.3
AGG	**Agios Georgios**	**0.93**	**12**	P	Pg	15 32 51.8	-0.6
AGG	**Agios Georgios**	**0.93**	**12**	ePB	Pg	15 32 52.0	-0.4
AGG				eSB	Sg	15 33 04.6	0.0
AGG	**Agios Georgios**	**0.93**	**12**	ePb	Pg	15 32 52.0	-0.4
AGG				eSb	Sg	15 33 04.6	0.0
DID	**Didima**	**1.10**	**123**	ePG	Pg	15 32 54.8	-0.7
DID				eSB	Sg	15 33 10.2	+0.4
DID	**Didima**	**1.10**	**123**	ePg	Pg	15 32 54.8	-0.7
DID				eSb	Sg	15 33 10.2	+0.4
VLS	**Valsamata**	**1.18**	**274**	ePB	Pg	15 32 57.0	0.0
VLS	**Valsamata**	**1.18**	**274**	ePb	Pg	15 32 57.0	0.0

*CSEM **23** 15:33:38.6±0.6, 39°.42N×29°.07E, h1km, MD2.4, Error ellipse: s-maj=14.0km s-min=13.0km az=163.0, Mining explosion.*
*DDA **23** 15:33:43.9, 39°.67N×29°.44E, h7km, MD2.9*
ISK 23 15:33:39.5, 39°.48N×29°.12E, h31km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.26**	**97**	PG	Pn	15 33 47.5	0.0
TVSB				eSG	Sn	15 33 52.3	-0.2
TVSB	**Tavsanli**	**0.26**	**97**	iPg	Pn	15 33 47.5	+0.1
TVSB				eSg	Sn	15 33 52.3	-0.2
GDZ	**Gediz**	**0.48**	**145**	iP	Pn	15 33 55.4	+4.9
GDZ				iS	Sn	15 34 04.4	+6.4
DURS	**Dursunbey**	**0.52**	**284**	iP	Pn	15 33 58.2	+7.3
DURS				iS	Sn	15 34 10.5	+12
ORLT	**Orhaneli**	**0.59**	**343**	ePG	Pn	15 33 51.7	-0.1
ORLT	**Orhaneli**	**0.59**	**343**	ePg	Pb	15 33 51.7	+0.2
ALT	**Altintas**	**0.88**	**119**	ePG	Pn	15 33 56.0	+0.1
ALT	**Altintas**	**0.88**	**119**	ePg	Pn	15 33 56.0	+0.2
MDNY	**Mudanya-Bursa**	**0.91**	**348**	ePG	Pb	15 33 56.8	0.0
MDNY	**Mudanya-Bursa**	**0.91**	**348**	ePg	Pb	15 33 56.8	+0.1
CAVI	**Cavuskoy**	**0.91**	**37**	ePG	Pn	15 33 56.3	+0.0
CAVI	**Cavuskoy**	**0.91**	**37**	ePg	Pn	15 33 56.3	+0.1
BALB	**Balikesir**	**0.97**	**280**	ePG	Pb	15 33 57.5	-0.3
BALB	**Balikesir**	**0.97**	**280**	ePg	Pb	15 33 57.5	-0.4
KULA	**Kula-Manisa**	**1.03**	**201**	ePG	Pb	15 33 58.7	-0.3
KULA	**Kula-Manisa**	**1.03**	**201**	ePg	Pb	15 33 58.7	-0.2
BORA	**Eskisehir**	**1.10**	**68**	iP	Pn	15 33 59.1	+0.2
BORA				iS	Sn	15 34 12.4	-0.8
BORA	**Eskisehir**	**1.10**	**68**	iP	Pn	15 33 59.1	+0.2
BORA				iS	Sn	15 34 12.4	-0.8
AKS	**Akhisar**	**1.18**	**240**	ePN	Pn	15 33 59.8	-0.1
AKS	**Akhisar**	**1.18**	**240**	ePn	Pn	15 33 59.8	-0.2
KHL	**Karahalli**	**1.20**	**165**	ePN	Pn	15 33 59.8	-0.4
KHL	**Karahalli**	**1.20**	**165**	ePn	Pn	15 33 59.8	-0.5
SEYT	**Eskypehyr**	**1.34**	**88**	iP	Pb	15 34 05.2	+1.1
SEYT	**Eskypehyr**	**1.34**	**88**	iP	Pb	15 34 05.2	+1.1
SEYT				iS	Sb	15 34 23.6	+2.6

JMA 23 15:34:09.6±0.3, 24°.95N×123°.21E, h155km±4km, M1.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.52**	**200**	P	Pn	15 34 31.7	+0.1
YOJ				S	Sn	15 34 48.8	+0.4
JYNG	**Yonagunijimaku**	**0.55**	**206**	P	Pn	15 34 31.9	+0.1
JYNG				S	Sn	15 34 48.9	+0.2
IRIF	**Iriomote-Funau**	**0.77**	**142**	S	Sn	15 34 50.9	-0.2
JKRS	**Kuro-shima**	**1.02**	**134**	P	Pn	15 34 35.6	+0.6
JKRS				S	Sn	15 34 54.6	+0.3
JIJ	**Ishigaki jima**	**1.03**	**124**	P	Pn	15 34 35.2	+0.1
JIJ				S	Sn	15 34 53.6	-1.0
JISG	**Ishigakijimahi**	**1.06**	**110**	P	Pn	15 34 35.2	-0.2
JISG				S	Sn	15 34 54.4	-0.6
JTJ	**Tarama**	**1.39**	**102**	P	Pn	15 34 38.6	+0.2
JTJ				S	Sn	15 35 00.3	-0.2

*ISCJB **23** 15:36:07.9±0.2, 15°.19S±0°.06×173°.06W±0°.04, h53km, mb4.9/66, MS4.8/21, Error ellipse: s-maj=9.7km s-min=4.5km az=154.5*
*SZGRF **23** 15:36:07.3, 16°.53S×172°.73W, h56km, Samoa Islands region*
*NEIC **23** 15:36:09.6±0.2, 15°.11S×173°.00W, mb5.0/30, Error ellipse: s-maj=11.4km s-min=6.7km az=137.0*
NEIC Felt at Apia, Samoa.
*GCMT **23** 15:36:09.6±0.4, 15°.05S×172°.75W, h41km±4km, MW5.0/72, Moment Tensor Solution. s12,c15; s72,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-1.11±.30; Mθθ2.01±.22; Mφφ-0.90±.20; Mrθ-3.20±.33; Mrφ-1.38±.15; Mθφ0.58±.13; Best double couple: Mo3.78000×10^{16} NP1:φs96.00000°, δ77.00000°, λ-105.00000°. NP2: φs325.00000°, δ20.00000°, λ-43.00000°. Principal axes: T 4.4210, Plg30.0000°, Azm198.0000°; N -1.2900, Plg14.0000°, Azm100.0000°; P -3.1390, Plg56.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **23** 15:36:10.3, 14°.35S×172°.78W, h47km, mB5.4/25, mb4.8/37, Ms5.3/28, Ms7 5.1/26*
*IDC **23** 15:36:10.3±0.6, 15°.23S×172°.96W, h64km±4km, mb4.3/18, mb1 4.6/18, mb1mx4.5/24, mbtmp4.6/18, MS4.4/12, Ms1 4.4/12, ms1mx4.2/25, Error ellipse: s-maj=19.2km s-min=12.4km az=130.0*
*MOS **23** 15:36:11.5±1.6, 14°.75S×173°.31W, h66km, mb5.4/11, Error ellipse: s-maj=14.7km s-min=11.7km az=80.0*
ISC 23 15:36:10.0±0.4, 15°.15S±0°.07×172°.91W±0°.06, h54km±2km, h54km:pP-P, n512, σ1.01/539, mb4.9/66, MS4.8/22, 169C-128D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.05**	**252**	Pn	Pn	15 38 23.0	+4.9
	695nm,0.9s,SNR=14						
MSVF	**Nonsavu**	**9.05**	**252**	eP	Pn	15 38 23.0	+4.9
MSVF				pmax	pmax		
	comp=Z,149nm,1.0s						
MSVF	**Nonsavu**	**9.05**	**252**	eP	Pn	15 38 23.0	+4.9
	comp=Z,149nm,1.0s						
RAR	**Rarotonga**	**13.86**	**118**	P	Pn	15 39 17.4	-6.3
	comp=Z,4.1nm,0.3s,baz=275,slow=9.1,SNR=7.1						
RAR				LR	LR	15 43 12.6	
	comp=Z,524nm,22.0s,baz=278,slow=30						
RAO	**Raoul Island**	**14.78**	**197**	LR	LR	15 44 41.3	
	comp=Z,2μm,21.9s,baz=24,slow=35						
DZM	**Mont Dzumac**	**20.73**	**248**	eP	Pn	15 40 48.7	-0.5
	comp=Z,190nm,1.5s						
DZM				eLR	LR	15 46 22.1	
	comp=Z,2μm,22.2s						
DZM	**Mont Dzumac**	**20.73**	**248**	P	**P**	**15 40 46.1**	**-0.2**
	comp=Z,43nm,1.1s,baz=153,slow=14,SNR=8.0						
DZM				LR	LR	15 47 39.6	
	comp=Z,727nm,21.5s,baz=56,slow=33						
PMOR	**Pomariorio Ree**	**24.15**	**93**	eP	**P**	**15 41 21.6**	**+0.3**
	comp=Z,232nm,1.1s						
URZ	**Urewera**	**24.65**	**199**	P	**P**	**15 41 23.8**	**-1.9**
	comp=Z,25nm,0.4s,baz=303,slow=2.3,SNR=28						
URZ				LR	LR	15 50 29.2	
	comp=Z,436nm,18.7s,baz=24,slow=35						
URZ	**Urewera**	**24.65**	**199**	eP	**P**	**15 41 25.2**	**-0.5**
HNR	**Honiara**	**27.11**	**279**	LR	LR	15 50 30.4	
	comp=Z,286nm,20.0s,baz=142,slow=32						
ARMA	**Armidale**	**35.88**	**239**	P	**P**	**15 43 02.9**	**-2.3**
	baz=30,SNR=7.0						
RKT	**Rikitea**	**36.62**	**108**	eLR	LR	15 52 53.1	
	comp=Z,290nm,28.0s						
RMQ	**Roma**	**37.43**	**246**	P	**P**	**15 43 15.9**	**-2.4**
	baz=32,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**39.00**	**328**	T	T	16 24 05.0	
	baz=146,slow=76,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**39.01**	**328**	T	T	16 24 06.6	
	baz=146,slow=76,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**39.01**	**328**	T	T	16 24 06.8	
	baz=146,slow=76,SNR=10.0						
KIP	**Kipapa**	**39.17**	**22**	⇑iP	**P**	**15 43 32.8**	**-0.1**
KIP				pmax	pmax		
	comp=Z,90nm,1.2s						
H11N3	**WAKE ISLAND Hy**	**39.93**	**330**	T	T	16 25 14.5	
	baz=146,slow=76,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**39.94**	**330**	T	T	16 25 14.1	
	baz=146,slow=76,SNR=9.2						
H11N2	**WAKE ISLAND Hy**	**39.95**	**330**	T	T	16 25 40.4	
	baz=146,slow=76,SNR=7.1						
CMSA	**Cobar Meteorol**	**41.09**	**239**	P	**P**	**15 43 46.4**	**-2.4**
	baz=35,SNR=11						
QLP	**Quilpie**	**41.45**	**247**	P	**P**	**15 43 48.9**	**-2.9**
	baz=36,SNR=5.9						
COEN	**Coen**	**42.47**	**266**	P	**P**	**15 44 00.2**	**-0.1**
	baz=38,SNR=8.0						
TOO	**Toolangi**	**42.99**	**231**	P	**P**	**15 44 02.8**	**-1.4**
	baz=37,SNR=5.1						
STKA	**Stephens Creek**	**44.57**	**240**	P	**P**	**15 44 15.2**	**-1.8**
	comp=Z,8.6nm,0.7s,baz=86,slow=11,SNR=13						
STKA				PcP	**PcP**	**15 45 59.9**	**+0.5**
	comp=Z,5.3nm,0.8s,baz=126,slow=2.2,SNR=4.4						
STKA	**Stephens Creek**	**44.57**	**240**	P	**P**	**15 44 15.4**	**-1.6**
	baz=39,SNR=12						
HTT	**Hallett**	**47.08**	**238**	P	**P**	**15 44 34.9**	**-1.9**
	baz=41,SNR=5.0						
WRAB	**Tennant Creek**	**50.35**	**257**	⇑iP	**P**	**15 44 59.8**	**-2.3**
WRAB				pmax	pmax		
	comp=Z,41nm,1.7s						
WRA	**Warramunga Arr**	**50.36**	**257**	P	**P**	**15 44 59.6**	**-2.5**
	comp=Z,5.5nm,0.7s,baz=92,slow=7.0,SNR=42						
WRA				PcP	**PcP**	**15 46 20.9**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=87,slow=4.0,SNR=7.0						
WRA				pPcP		15 46 37.1	
	comp=Z,4.5nm,0.9s,baz=85,slow=4.2,SNR=6.4						
AS31	**Alice Springs**	**50.64**	**252**	eP	**P**	**15 45 02.0**	**-2.2**
ASAR	**Alice Springs**	**50.64**	**252**	P	**P**	**15 45 01.7**	**-2.6**
	comp=Z,21nm,0.8s,baz=85,slow=8.6,SNR=93						
WRKA	**Warakurna**	**55.73**	**250**	P	**P**	**15 45 39.9**	**-1.7**
	baz=50,SNR=13						
FORT	**Forrest**	**55.95**	**243**	P	**P**	**15 45 40.9**	**-2.2**
	baz=50,SNR=6.8						
VNDA	**Vanda**	**63.67**	**186**	P	**P**	**15 46 33.2**	**-2.1**
	comp=Z,15nm,0.8s,baz=7.0,slow=5.1,SNR=16						
VNDA				LR	LR	16 10 38.6	
	comp=Z,975nm,19.4s,baz=108,slow=32						
MEEK	**Meekatharra**	**64.35**	**247**	P	**P**	**15 46 39.4**	**-1.3**
	baz=59,SNR=4.4						
KLBR	**Kellerberrin**	**64.77**	**242**	P	**P**	**15 46 43.0**	**-0.4**
	baz=59,SNR=4.1						
MJAR	**Matsushiro Arr**	**69.06**	**319**	P	**P**	**15 47 08.4**	**-1.9**
	comp=Z,6.0nm,1.0s,baz=163,slow=6.1,SNR=12						
MAT	**Matsushiro**	**69.06**	**319**	P	**P**	**15 47 10.0**	**-0.4**
PKM	**Peak Mountain**	**70.80**	**44**	⇑P	**P**	**15 47 21.6**	**+0.3**
	baz=71						
VES	**Vestal, Richgr**	**71.83**	**44**	⇓P	**P**	**15 47 27.4**	**+0.1**
	baz=72						
MURC	**Murrieta**	**71.88**	**47**	⇓P	**P**	**15 47 27.7**	**0.0**
	baz=72						
BFSC	**Mount Baldy Ra**	**71.91**	**46**	⇑P	**P**	**15 47 27.6**	**-0.3**
	baz=72						
EDW2	**Edwards Air Fo**	**72.03**	**45**	⇑P	**P**	**15 47 28.6**	**0.0**
	baz=72						
MONP	**Monument Peak**	**72.05**	**48**	⇓P	**P**	**15 47 28.9**	**0.0**
	baz=72						
ISA	**Isabella**	**72.14**	**44**	⇓P	**P**	**15 47 29.5**	**+0.3**
	baz=72						
PETK	**Petropavlovsk-**	**72.54**	**342**	P	**P**	**15 47 30.2**	**-1.0**
	comp=Z,17nm,0.9s,baz=138,slow=9.7,SNR=19						
LRMC	**Laurel Mountai**	**72.57**	**45**	⇓P	**P**	**15 47 31.8**	**-0.1**
	baz=73						
N02D	**Trinity Center**	**72.64**	**38**	⇑P	**P**	**15 47 32.7**	**+0.6**
	baz=73						
M02C	**Callahan**	**72.82**	**37**	⇓P	**P**	**15 47 34.0**	**+0.8**
	baz=73						
BELC	**Belle Mtn. Jos**	**72.94**	**47**	⇓P	**P**	**15 47 33.9**	**-0.2**
	baz=73						
GSC	**Goldstone**	**73.08**	**45**	⇓P	**P**	**15 47 34.7**	**-0.1**
	baz=73						
BC3	**Big Chuckawall**	**73.14**	**47**	⇑P	**P**	**15 47 35.3**	**0.0**
	baz=73						
WAKR	**Walker**	**73.14**	**41**	eP	**P**	**15 47 35.1**	**-0.3**
	comp=Z,19nm,1.4s						
GLA	**Glamis**	**73.27**	**48**	⇑P	**P**	**15 47 35.3**	**-0.7**
	baz=74						
YSS	**Yuzh-Sakhalins**	**73.50**	**330**	eP	**P**	**15 47 37.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**73.50**	**330**	eP	**P**	**15 47 37.0**	**+0.1**
	comp=Z,40nm,1.3s						
GMRC	**Granite Mounta**	**73.59**	**46**	⇓P	**P**	**15 47 37.3**	**-0.6**
	baz=74						
IRM	**Iron Mountain**	**73.62**	**47**	⇓P	**P**	**15 47 37.8**	**-0.2**
	baz=74						
M04C	**Macdoel**	**73.65**	**37**	⇑P	**P**	**15 47 38.2**	**+0.1**
	baz=74						
TUQ	**Turquoise Moun**	**73.75**	**45**	⇑P	**P**	**15 47 39.0**	**+0.1**
	baz=74						
NVAR	**Mina Array Bea**	**73.83**	**42**	P	**P**	**15 47 38.9**	**-0.5**
	comp=Z,4.6nm,0.8s,baz=228,slow=9.8,SNR=22						
NVAR				PcP	**pP**	**15 47 53.9**	**-0.6**
	comp=Z,5.5nm,0.8s,baz=229,slow=10,SNR=13						
113A	**Mohawk Valley,**	**73.89**	**49**	⇓P	**P**	**15 47 39.5**	**-0.1**
	baz=74						
I03D	**Drain, OR**	**74.00**	**35**	⇓P	**P**	**15 47 40.3**	**+0.4**
	baz=74						
LDFC	**Landfair**	**74.13**	**46**	eP	**P**	**15 47 41.2**	**+0.1**
214A	**Organ Pipe Nat**	**74.19**	**50**	eP	**P**	**15 47 41.3**	**0.0**
214A	**Organ Pipe Nat**	**74.19**	**50**	⇓P	**P**	**15 47 41.4**	**0.0**
	baz=74						
PDMCI	**Parker Dam,Lak**	**74.41**	**47**	⇑P	**P**	**15 47 42.8**	**+0.2**
	baz=75						
J04D	**Umpqua Nationa**	**74.41**	**36**	⇑P	**P**	**15 47 43.0**	**+0.3**
	baz=75						
I04A	**Tendick Farm,**	**74.59**	**35**	⇑P	**P**	**15 47 44.2**	**+0.8**
	baz=75						
MOD	**Modoc**	**74.63**	**38**	eP	**P**	**15 47 43.4**	**-0.5**
	comp=Z,17nm,1.4s						
SHPR	**Sheep Range**	**74.85**	**45**	eP	**P**	**15 47 45.1**	**-0.2**
	comp=Z,7.2nm,1.2s						
QSPA	**South Pole Qui**	**74.89**	**180**	eP	**P**	**15 47 46.5**	**+1.4**
	comp=Z,40nm,1.3s						
J05D	**Fort Rock, OR**	**74.94**	**36**	⇓P	**P**	**15 47 46.3**	**+0.7**
	baz=75						
W13A	**Hualapai Mount**	**75.00**	**47**	⇑P	**P**	**15 47 46.4**	**+0.2**
	baz=75						
G03D	**McMinnville, O**	**75.03**	**34**	⇑P	**P**	**15 47 46.4**	**+0.5**
	baz=75						
Y14A	**Wickenburg**	**75.03**	**48**	⇑P	**P**	**15 47 46.3**	**0.0**
	baz=75						
PINOR	**Pine Mountain**	**75.47**	**36**	eP	**P**	**15 47 49.1**	**+0.7**
	comp=Z,11nm,0.9s						
I05D	**Terrebonne, OR**	**75.53**	**35**	⇑P	**P**	**15 47 49.5**	**+0.6**
	baz=76						
R11A	**Troy Canyon, C**	**75.55**	**43**	⇑P	**P**	**15 47 49.4**	**+0.1**
	baz=76						
G05D	**Wamic, OR**	**76.11**	**35**	⇑P	**P**	**15 47 52.6**	**+0.5**
	baz=76						
KSRS	**Korea Array**	**76.31**	**315**	P	**P**	**15 47 52.9**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=128,slow=6.6,SNR=13						
KSAR	**Wonju Array Be**	**76.33**	**315**	P	**P**	**15 47 52.9**	**-0.6**
KSAR	**Wonju Array Be**	**76.33**	**315**	P	**P**	**15 47 52.9**	**-0.6**
X16A	**Lo Mia Camp, P**	**76.40**	**48**	⇑P	**P**	**15 47 54.6**	**+0.4**
	baz=77						
319A	**Douglas**	**76.56**	**52**	⇑P	**P**	**15 47 55.7**	**+0.5**
	baz=77						
U15A	**North Rim**	**76.79**	**46**	⇓P	**P**	**15 47 56.6**	**+0.1**
	baz=77						
WUAZ	**Wupatki**	**76.98**	**47**	⇓P	**P**	**15 47 57.8**	**+0.3**
	baz=77						
RSO	**Redoubt South**	**77.08**	**10**	eP	**P**	**15 47 56.1**	**-1.4**
	comp=Z,16nm,0.9s						
USRK	**Ussuriysk Arra**	**77.47**	**323**	P	**P**	**15 47 59.4**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=73,slow=6.4,SNR=5.0						
USRK				LR	LR	16 17 18.9	
	comp=Z,246nm,21.8s,baz=27,slow=32						
X18A	**Snowflake**	**77.53**	**49**	⇓P	**P**	**15 48 01.0**	**+0.4**
	baz=78						
W18A	**Petrified Fore**	**77.96**	**48**	⇓P	**P**	**15 48 03.2**	**+0.2**
	baz=78						
121A	**Cookes Peak, D**	**78.22**	**52**	⇓P	**P**	**15 48 04.9**	**+0.5**
	baz=78						
HABR	**Khabarovsk**	**78.38**	**328**	eP	**P**	**15 48 02.2**	**-2.5**
HABR				e		15 48 11.1	
HABR				e*SP	**sP**	**15 48 22.5**	**-3.4**
HABR						15 50 59.0	
HABR				eS	**S**	**15 57 53.5**	**-2.6**
HABR				e		15 58 11.6	
HABR				eSS	**SS**	**16 02 56.1**	**-4.3**
HABR				pmax	pmax		
	comp=Z,22nm,1.6s						
HABR				MLR	MLR		
	comp=Z,462nm,20.0s						
GAMB	**Gambell**	**78.68**	**1**	eP	**P**	**15 48 06.1**	**+0.1**
	comp=Z,25nm,1.3s						
GAMB				epP	**pP**	**15 48 21.2**	**-0.1**
PMR	**Palmer**	**78.78**	**11**	eP	**P**	**15 48 05.6**	**-1.0**
PMR				e*PP	**pP**	**15 48 20.4**	**-1.4**
PMR				pmax	pmax		
	comp=Z,19nm,1.2s						
PMR	**Palmer**	**78.78**	**11**	eP	**P**	**15 48 05.6**	**-1.0**
	comp=Z,19nm,1.2s						
PMR				epP	**pP**	**15 48 20.4**	**-1.4**
DIV	**Divide**	**79.05**	**13**	eP	**P**	**15 48 07.3**	**-0.9**
	comp=Z,15nm,0.7s						
DIV				epP	**pP**	**15 48 22.3**	**-1.2**
MDJ	**Mudanjiang**	**79.12**	**322**	P	**P**	**15 48 09.8**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.6s						
HLID	**Hailey**	**79.13**	**39**	⇓P	**P**	**15 48 09.5**	**+0.3**
	baz=79						
Z22A	**Elephant Butte**	**79.16**	**51**	⇑P	**P**	**15 48 09.8**	**+0.2**
	baz=79,SNR=5.8						
BMRM	**Bremner River**	**79.16**	**14**	eP	**P**	**15 48 07.9**	**-0.9**
	comp=Z,48nm,1.0s						
BMRM				epP	**pP**	**15 48 22.0**	**-2.0**
MVCO	**Mesa Verde**	**79.83**	**47**	⇓P	**P**	**15 48 13.1**	**-0.1**
	baz=80						
TXAR	**Lajitas Array**	**80.08**	**56**	P	**P**	**15 48 14.8**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=232,slow=6.2,SNR=5.7						
TXAR				LR	LR	16 18 12.8	
	comp=Z,203nm,18.5s,baz=0.0,slow=32						
Y23A	**Lovelace Mesa,**	**80.14**	**51**	⇓P	**P**	**15 48 14.8**	**-0.1**
	baz=80						
PV01	**Paradox Valley**	**80.21**	**46**	eP	**P**	**15 48 15.2**	**0.0**
	comp=Z,731nm,1.1s						
PV01				epP	**pP**	**15 48 30.2**	**-0.4**
NEW	**Newport**	**80.23**	**34**	P	**P**	**15 48 14.3**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=228,slow=7.7,SNR=4.7						
NEW	**Newport**	**80.23**	**34**	⇓P	**P**	**15 48 14.9**	**0.0**
	baz=80						
ANMO	**Albuquerque**	**80.28**	**50**	ceP	**P**	**15 48 16.1**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,37nm,1.7s						
KTH	**Kantishna Hill**	**80.28**	**10**	eP	**P**	**15 48 13.1**	**-1.8**
	comp=Z,15nm,0.9s						
KTH				epP	**pP**	**15 48 27.9**	**-2.2**
TRF	**Thorofare Moun**	**80.30**	**10**	eP	**P**	**15 48 13.6**	**-1.5**
	comp=Z,18nm,0.7s						
TRF				epP	**pP**	**15 48 28.9**	**-1.4**
X23A	**Hourglass Bar**	**80.32**	**50**	⇓P	**P**	**15 48 16.0**	**+0.1**
	baz=80						
V22A	**San Miguel Ran**	**80.38**	**49**	⇑P	**P**	**15 48 16.3**	**+0.1**
	baz=81						
NJ2	**Nanjing**	**80.39**	**307**	eP	**P**	**15 48 15.8**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
Z24A	**Sheeppen Canyo**	**80.40**	**52**	⇓P	**P**	**15 48 16.7**	**+0.3**
	baz=81						
TNA	**Tin City**	**80.56**	**2**	eP	**P**	**15 48 16.1**	**-0.1**
	comp=Z,38nm,1.2s						
TNA				epP	**pP**	**15 48 30.8**	**-0.6**
KLR	**Kul'dur**	**80.57**	**327**	eP	P	15 48 12.8	-3.8
KLR				MLR	MLR		
	comp=Z,600nm,17.0s						
W23A	**Werner Place,**	**80.60**	**50**	⇑P	**P**	**15 48 17.7**	**+0.3**
	baz=81						
Y24A	**Capitan**	**80.60**	**51**	⇑P	**P**	**15 48 17.3**	**-0.1**
	baz=81,SNR=7.6						
U22A	**Llaves**	**80.62**	**48**	⇑P	**P**	**15 48 17.6**	**+0.1**
	baz=81						
MCK	**McKinley**	**80.79**	**11**	eP	**P**	**15 48 16.2**	**-1.3**
MCK				e*PP	**pP**	**15 48 31.7**	**-1.1**
MCK				pmax	pmax		
	comp=Z,38nm,0.9s						
MCK	**McKinley**	**80.79**	**11**	eP	**P**	**15 48 16.2**	**-1.3**
	comp=Z,38nm,0.9s						
MCK				epP	**pP**	**15 48 31.6**	**-1.1**
V23A	**Ortiz Mt. (NFS**	**80.83**	**49**	⇓P	**P**	**15 48 19.1**	**+0.4**
	baz=81						
HYT	**Haines Junctio**	**80.83**	**17**	eP	**P**	**15 48 19.7**	**+1.7**
HYT				epP	**pP**	**15 48 35.3**	**+2.1**
Z25A	**Roswell**	**80.87**	**52**	⇑P	**P**	**15 48 18.9**	**+0.1**
	baz=81						
X24A	**Lazy VL Ranch,**	**80.87**	**51**	⇑P	**P**	**15 48 18.8**	**-0.1**
	baz=81						
U23A	**El Rito**	**81.08**	**49**	⇑P	**P**	**15 48 19.7**	**-0.2**
	baz=81,SNR=5.9						
MENT	**Mentasta**	**81.10**	**13**	eP	**P**	**15 48 18.6**	**-0.6**
MENT				epP	**pP**	**15 48 33.8**	**-0.7**
Y25A	**Mesa, Roswell**	**81.16**	**51**	⇓P	**P**	**15 48 20.1**	**-0.2**
	baz=81,SNR=7.5						
W24A	**Lazy 6 Ranch,**	**81.17**	**50**	⇓P	**P**	**15 48 20.3**	**-0.1**
	baz=81,SNR=7.0						
MSO	**Missoula**	**81.20**	**37**	⇑P	**P**	**15 48 19.7**	**-0.5**
	baz=81						
CN2	**Changchun**	**81.20**	**320**	eP	**P**	**15 48 20.5**	**+0.4**
CN2				esP	**sP**	**15 48 39.8**	**-1.6**
CN2				eS	**S**	**15 58 30.1**	**+3.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,10.0s						
CN2				LR	LR		
	comp=Z,600nm,16.0s						

CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,700nm,17.0s
S22A 4UR Ranch, Cre 81.25 47 ⇓P P 15 48 21.1 +0.2
baz=81,SNR=9.1
BSMT Bassoo Peak 81.28 35 eP P 15 48 20.0 -0.7
comp=Z,7.4nm,0.8s
BSMT epP pP 15 48 34.6 -1.4
O20A White River Ci 81.37 44 ⇓P P 15 48 21.2 -0.2
Z26A Caprock 81.43 52 ⇑P P 15 48 21.6 -0.1
baz=82,SNR=8.7
X25A Clemmons Ranch 81.43 51 ⇓P P 15 48 21.9 +0.1
baz=82
V24A Rampart Ranch, 81.49 50 ⇓P P 15 48 22.3 +0.2
baz=82
T23A Casias Ranch, 81.50 48 ⇑P P 15 48 22.2 0.0
baz=82
529A Stev Forest Ra 81.55 56 ⇑P P 15 48 22.2 -0.2
baz=82
DOT Dot Lake 81.66 13 eP P 15 48 21.3 -0.8
comp=Z,13nm,0.9s
DOT epP pP 15 48 36.6 -0.9
127A Arkansas Junct 81.66 53 ⇑P P 15 48 22.8 -0.2
baz=82
N20A Spence Gulch, 81.69 44 ⇓P P 15 48 23.1 +0.1
baz=82
I17A Pilgrim Ck. 81.69 40 ⇑P P 15 48 23.1 +0.1
baz=82
PDAR Pinedale Array 81.76 42 P P 15 48 21.6 -1.8
comp=Z,1.0nm,0.7s,baz=197,slow=2.8,SNR=6.8
PDAR LR LR 16 20 38.0
comp=Z,262nm,18.3s,baz=268,slow=33
Y26A Elida 81.81 52 ⇑P P 15 48 23.6 -0.2
baz=82,SNR=8.3
W25A X Bar L Ranch, 81.87 50 ⇑P P 15 48 23.5 -0.5
baz=82
H17A Grant Village 81.93 40 ⇑P P 15 48 24.7 +0.4
baz=82
T24B San Luis 81.98 48 ⇓P P 15 48 24.6 -0.2
baz=82
429A Davenport Ranc 82.00 55 ⇑P P 15 48 24.4 -0.4
baz=82
V25A Rancho No Teng 82.02 50 ⇑P P 15 48 24.8 -0.1
baz=82,SNR=9.0
COLA College 82.03 11 eP P 15 48 22.9 -1.1
COLA pmax pmax
comp=Z,35nm,1.0s
COLA College 82.03 11 eP P 15 48 22.9 -1.1
comp=Z,35nm,1.0s
Z27A Tatum 82.03 52 ⇑P P 15 48 24.3 -0.6
baz=82
228A UT Block 9, Go 82.03 54 ⇓P P 15 48 24.7 -0.2
baz=82
X26A CR and CF Fran 82.08 51 ⇓P P 15 48 24.9 -0.2
baz=82
ILAR Eielson Array 82.11 11 P P 15 48 23.1 -1.4
comp=Z,5.0nm,0.9s,baz=227,slow=6.5,SNR=77
ILAR LR LR 16 17 49.8
comp=Z,273nm,20.5s,baz=218,slow=30
P22A Eagle 82.14 46 ⇓P P 15 48 25.3 -0.2
baz=82
IM04 Indian Mountai 82.15 8 eP P 15 48 23.8 -0.8
IM04 epP pP 15 48 39.5 -0.5
R23A Moffat 82.16 47 ⇓P P 15 48 25.8 +0.1
baz=82
SDCO Great Sand Dun 82.20 48 eP P 15 48 25.6 -0.3
comp=Z,1.8nm,0.9s
530A J-C Ranch, Com 82.26 56 ⇓P P 15 48 25.3 -0.8
baz=82
329A Wagon Wheel Ra 82.27 55 ⇑P P 15 48 26.1 0.0
baz=82
Y27A Causey 82.30 52 ⇓P P 15 48 26.0 -0.3
baz=82,SNR=6.1
128A Castleberry Fa 82.31 53 ⇑P P 15 48 26.4 0.0
baz=82,SNR=5.2
J19A Crowheart 82.33 41 ⇓P P 15 48 26.1 -0.2
baz=82
S24A Houchin Ranch, 82.36 48 ⇑P P 15 48 26.7 0.0
baz=82,SNR=5.5
SEY Seymchan 82.40 345 P P 15 48 25.1 -0.9
comp=Z,13nm,0.9s,baz=145,slow=5.6,SNR=52
O22A Kremmling 82.54 45 ⇓P P 15 48 27.6 -0.1
baz=83,SNR=9.3
229A Bryant Ranch, 82.58 54 ⇑P P 15 48 27.8 +0.1
baz=83
430A Baggett Ranch, 82.58 55 ⇑P P 15 48 28.1 +0.3
baz=83
631A Perdido Creek 82.60 57 ⇑P P 15 48 27.9 +0.1
baz=83
V26A Tequesquite Ra 82.61 50 ⇑P P 15 48 27.6 -0.3
baz=83
MSTX Muleshoe 82.63 52 eP P 15 48 27.6 -0.4
comp=Z,12nm,0.9s
MSTX epP pP 15 48 42.3 -1.1
MSTX Muleshoe 82.63 52 ⇑P P 15 48 27.8 -0.2
baz=83
Z28A Tucker Farm, M 82.66 53 ⇓P P 15 48 28.0 -0.2
baz=83
P23A Jefferson 82.67 46 ⇓P P 15 48 28.4 0.0
baz=83
832A Faith Ranch, C 82.67 58 ⇓P P 15 48 27.9 -0.3
baz=83
R24A Sanders Place, 82.69 47 ⇑P P 15 48 28.5 +0.2
baz=83,SNR=5.9
T25A Trinidad 82.72 49 ⇑P P 15 48 28.3 -0.2
baz=83
I19A Meeteetse 82.74 41 ⇑P P 15 48 28.4 0.0
baz=83
129A Stewart Farms, 82.80 54 ⇓P P 15 48 28.6 -0.3
baz=83
W27A Bowe Ranch, En 82.85 51 ⇓P P 15 48 29.0 -0.2
baz=83
330A Mertzon 82.87 55 ⇓P P 15 48 28.3 -1.0
baz=83
N22A Wattenberg Ran 82.89 45 ⇑P P 15 48 29.3 -0.1
baz=83
U26A Atchley Ranch, 82.89 49 ⇓P P 15 48 29.1 -0.4
baz=83,SNR=7.3
531A Rocksprings 82.90 56 ⇓P P 15 48 29.1 -0.4
baz=83
S25A Robets Cordova 82.92 48 ⇑P P 15 48 29.3 -0.2
baz=83,SNR=7.5
Q24A Divide 82.97 47 ⇓P P 15 48 29.7 -0.2
baz=83
O23A Lake Granby, G 82.99 45 ⇓P P 15 48 29.8 -0.1
baz=83
J20A Shoshoni 82.99 42 ⇓P P 15 48 29.9 +0.2
baz=83,SNR=7.3
933A Laredo 83.01 59 ⇑P P 15 48 30.2 +0.3
baz=83
ISCO Idaho Springs 83.02 46 eP P 15 48 29.5 -0.6
ISCO pmax pmax
comp=Z,2.0nm,0.9s
ISCO Idaho Springs 83.02 46 eP P 15 48 29.5 -0.6
comp=Z,2.2nm,0.9s
ISCO Idaho Springs 83.02 46 ⇓P P 15 48 30.1 0.0
baz=83
431A Sonora 83.05 56 ⇑P P 15 48 30.0 -0.1
baz=83
H19A Powell 83.05 40 ⇓P P 15 48 30.4 +0.4
baz=83,SNR=6.1
DAWY Dawson 83.06 14 eP P 15 48 28.6 -0.8
M22A Cedar Creek Ra 83.06 44 ⇑P P 15 48 30.6 +0.3
baz=83
230A Sterling City 83.10 54 ⇓P P 15 48 30.2 -0.2
baz=83
833A Chaparral WMA, 83.17 58 ⇑P P 15 48 30.6 -0.1
baz=83
Z29A Hungry Hill Ra 83.17 53 ⇓P P 15 48 30.2 -0.6
baz=83
K21A Alcova 83.19 43 ⇑P P 15 48 30.5 -0.3
baz=83
R25A Fountain Ranch 83.24 48 ⇑P P 15 48 31.2 +0.1
baz=83
I20A Worland 83.25 41 ⇑P P 15 48 31.0 0.0
baz=83
QIZ Qiongzhong 83.25 292 P P 15 48 34.0 +2.6
QIZ S S 15 58 49.8 +1.6
QIZ pmax pmax
comp=Z,8.0nm,1.9s
QIZ LR LR
comp=Z,170nm,15.7s
QIZ LR LR
comp=Z,180nm,21.6s
EGAK Eagle 83.27 13 eP P 15 48 29.9 -0.5
comp=Z,11nm,1.1s
EGAK epP pP 15 48 45.0 -0.8
632A Uvalde 83.27 57 ⇓P P 15 48 31.2 -0.2
baz=83
N23A Red Feather La 83.28 45 ⇑P P 15 48 31.4 0.0
baz=84
X28A Dimmitt 83.29 52 ⇓P P 15 48 31.2 -0.1
baz=84
V27A Dan Oppiter Fa 83.30 50 ⇑P P 15 48 31.5 0.0
baz=84
034A Hebbronville 83.31 60 ⇓P P 15 48 31.6 +0.1
baz=84
T26A Comanche Natio 83.33 49 ⇑P P 15 48 31.1 -0.5
baz=84
J21A Lysite 83.40 42 ⇓P P 15 48 31.8 -0.1
baz=84,SNR=16
532A Rocksprings 83.40 57 ⇑P P 15 48 32.1 0.0
baz=84
TIA Tai'an 83.41 310 ⇑P P 15 48 34.8 +3.0
TIA pmax pmax
comp=Z,20nm,0.9s
331A San Angelo 83.42 55 ⇓P P 15 48 31.7 -0.4
baz=84
L22A Ellis Ranch, M 83.46 43 ⇓P P 15 48 31.8 -0.4
baz=84
U27A Thompson Grove 83.58 50 ⇑P P 15 48 32.4 -0.5
baz=84
H20A Greybull 83.58 41 ⇑P P 15 48 32.8 +0.1
baz=84
Q25A Bedland, Calha 83.59 47 ⇑P P 15 48 32.4 -0.6
baz=84
S26A Kim 83.60 48 ⇑P P 15 48 32.5 -0.5
baz=84
035Z Hargill 83.61 61 ⇓P P 15 48 32.7 -0.3
baz=84
Z30A Sanderson Ranc 83.62 53 ⇓P P 15 48 32.7 -0.4
baz=84
934A Benavides 83.63 59 ⇑P P 15 48 32.5 -0.7
baz=84
X29A Tulia 83.63 52 ⇑P P 15 48 33.0 -0.2
baz=84
F19A Roth Farm, Mol 83.66 39 ⇑P P 15 48 32.9 -0.1
baz=84,SNR=8.6
M23A Laramie 83.68 44 ⇑P P 15 48 33.4 0.0
baz=84
I21A Big Trails, Te 83.72 42 ⇑P P 15 48 33.0 -0.4
baz=84,SNR=13
231A Bronte 83.75 55 ⇑P P 15 48 33.1 -0.6
baz=84
633A Saathoff Ranch 83.75 57 ⇑P P 15 48 33.4 -0.3
baz=84
432A Menard 83.77 56 ⇓P P 15 48 33.6 -0.2
baz=84
834A Tilden 83.79 59 ⇑P P 15 48 34.0 0.0
baz=84
G20A Bridger 83.80 40 ⇑P P 15 48 33.6 -0.2
baz=84
AMTX Amarillo 83.82 52 eP P 15 48 33.6 -0.5
comp=Z,8.1nm,0.9s
AMTX Amarillo 83.82 52 ⇑P P 15 48 33.5 -0.5
baz=84
COLD Coldfoot 83.82 9 eP P 15 48 33.5 +0.2
comp=Z,27nm,1.2s
P25A Willow Gulch B 83.90 46 ⇑P P 15 48 34.1 -0.4
baz=84,SNR=6.5
R26A Arlington 83.90 48 ⇑P P 15 48 34.0 -0.5
baz=84,SNR=6.2
T27A Campo 83.92 49 ⇓P P 15 48 34.3 -0.3
baz=84
W29A Amraillo 83.94 51 ⇓P P 15 48 34.4 -0.3
baz=84
131A Roby 83.97 54 ⇓P P 15 48 34.6 -0.2
baz=84
N24A Carr 83.97 45 ⇑P P 15 48 34.8 0.0
baz=84
L23A Garrett 83.98 44 ⇑P P 15 48 34.2 -0.8
baz=84,SNR=5.3
332A Millersview 84.00 55 ⇓P P 15 48 35.3 +0.3
baz=84
Y30A Stafford Cattl 84.03 53 ⇑P P 15 48 34.9 -0.3
baz=84
E19A Rath Farm, Rou 84.05 39 ⇓P P 15 48 34.9 -0.1
baz=84,SNR=7.4
J22A Midwest 84.06 42 ⇓P P 15 48 34.8 -0.4
baz=84,SNR=8.0
533A Kerrville 84.09 57 ⇑P P 15 48 35.3 -0.2
baz=84
Q26A Hugo 84.11 47 ⇑P P 15 48 35.5 -0.1
baz=84
F20A Billings 84.12 40 ⇑P P 15 48 35.4 +0.1
baz=84
EGMT Eagleton 84.25 37 ⇓P P 15 48 35.6 -0.3
baz=84,SNR=6.2
H21A Big Horn, Sher 84.25 41 ⇑P P 15 48 36.6 +0.4
baz=84
232A Coleman 84.26 55 ⇓P P 15 48 35.8 -0.5
baz=84
X30A Coker Ranch, T 84.27 52 ⇓P P 15 48 36.1 -0.2
baz=84
I22A 9 Mile Ranch, 84.27 42 ⇓P P 15 48 36.1 -0.1
baz=84
M24A Cheyenne 84.29 44 ⇑P P 15 48 36.2 -0.3
baz=84
433A Art 84.29 56 ⇑P P 15 48 36.4 0.0
baz=84
K23A Bowen Ranch, D 84.32 43 ⇓P P 15 48 36.3 -0.2
baz=84
BILL Bilibino 84.32 352 ⇑iP P 15 48 35.5 -0.3
BILL e 15 51 52.7
BILL pmax pmax
comp=Z,9.0nm,1.2s
BILL Bilibino 84.32 352 eP P 15 48 35.0 -0.8
comp=Z,9.3nm,1.2s
D19A Cripps Ranch, 84.33 38 ⇑P P 15 48 36.3 -0.1
baz=84,SNR=6.9
R27A Eads 84.36 48 ⇑P P 15 48 36.2 -0.6
baz=84
T28A Walsh 84.38 49 ⇑P P 15 48 36.5 -0.5
baz=85
Z31A Sharp Cattle R 84.40 53 ⇑P P 15 48 36.5 -0.5
baz=85
E20A Meyer Farm, Mu 84.47 39 ⇓P P 15 48 37.3 +0.2
baz=85
P26A Davis Ranch, A 84.49 47 ⇓P P 15 48 37.5 0.0
baz=85
C19A Slack Wire Ran 84.51 38 ⇑P P 15 48 37.3 0.0
baz=85,SNR=15
534A Blanco 84.52 57 ⇑P P 15 48 37.6 -0.1
baz=85
ABTX Abilene, Hawle 84.53 54 eP P 15 48 36.6 -1.1
comp=Z,68nm,1.7s
ABTX epP pP 15 48 51.3 -1.8
ABTX Abilene, Hawle 84.53 54 ⇑P P 15 48 36.9 -0.8
baz=85
Y31A Rekieta Farm, 84.55 53 ⇓P P 15 48 37.2 -0.5
baz=85
333A Richland Sprin 84.58 56 ⇓P P 15 48 37.9 -0.1
baz=85
J23A Dilts Ranch, B 84.65 42 ⇓P P 15 48 38.5 +0.3
baz=85
H22A Clearmont 84.68 41 ⇑P P 15 48 38.4 +0.1
baz=85
D20A Manuel Ranch, 84.74 38 ⇓P P 15 48 38.5 +0.1
baz=85,SNR=10
233A Rising Star 84.90 55 ⇓P P 15 48 39.4 -0.1
baz=85
Z32A Haskell 84.91 54 ⇓P P 15 48 39.6 +0.1
baz=85
B19A Brinkman Farms 84.93 37 ⇓P P 15 48 39.3 0.0
baz=85,SNR=6.9
434A Burnet 84.97 56 ⇑P P 15 48 40.1 +0.2
baz=85
G22A Birney 85.00 41 ⇓P P 15 48 39.8 0.0
baz=85
EDM Edmonton 85.03 31 eP P 15 48 38.6 -1.1
EDM Edmonton 85.03 31 eP P 15 48 38.6 -1.1
R28A Tribune 85.09 48 ⇑P P 15 48 40.7 +0.2
baz=85
133A Hamilton Ranch 85.10 55 ⇓P P 15 48 40.4 -0.1
baz=85
C20A Veseth Ranch, 85.12 38 ⇑P P 15 48 40.9 +0.5
baz=85
334A Lometa 85.18 56 ⇑P P 15 48 40.5 -0.4
baz=85
Y32A R-V Farms, Ver 85.20 53 ⇓P P 15 48 41.1 +0.2
baz=85
J24A Dixon Ranch, L 85.21 43 ⇑P P 15 48 41.0 +0.1
baz=85
W31A Holland Ranch, 85.25 52 ⇑P P 15 48 41.4 +0.1
baz=85
A19A Klindworth Far 85.28 37 ⇑P P 15 48 40.9 -0.2
baz=86,SNR=8.5
D21A La Casta Ranch 85.42 39 ⇓P P 15 48 42.0 +0.2
baz=86
B20A Solberg Farm, 85.46 37 ⇓P P 15 48 42.6 +0.6
baz=86
Z33A Whitaker Ranch 85.46 54 ⇑P P 15 48 42.3 0.0
baz=86
X32A Elmer 85.47 53 ⇓P P 15 48 42.3 0.0
baz=86
234A Clairette 85.50 55 ⇓P P 15 48 42.9 +0.4
baz=86
V31A Spring Creek L 85.55 51 ⇓P P 15 48 43.3 +0.6
baz=86
G23A Biddle 85.56 41 ⇓P P 15 48 42.6 0.0
baz=86
BJI Beijing 85.64 313 P P 15 48 43.5 +0.5
BJI S S 15 59 11.9 +0.7
BJI SS SS 16 04 49.4 +0.6
BJI pmax pmax
comp=Z,9.0nm,1.1s
BJI pmax pmax
comp=Z,150nm,4.9s
BJI LR LR
comp=Z,370nm,25.3s
BJI LR LR
comp=Z,610nm,21.8s
BJI LR LR
comp=Z,570nm,25.3s
C21A Desert Coulee 85.71 38 ⇓P P 15 48 43.5 +0.2
baz=86
A20A Cobblestone Ra 85.73 37 ⇑P P 15 48 43.2 -0.1
baz=86,SNR=10.0
134A White-Moore Ra 85.74 55 ⇓P P 15 48 43.6 -0.1
baz=86
W32A Sentinel 85.76 52 ⇑P P 15 48 43.2 -0.5
baz=86,SNR=5.4
F23A Volborg 85.78 40 ⇓P P 15 48 43.4 -0.3
baz=86
Y33A Hilltop Ranch, 85.83 53 ⇑P P 15 48 43.6 -0.6
baz=86
H24A Dirks Ranch, A 85.89 42 ⇓P P 15 48 43.7 -0.6
baz=86,SNR=5.3
K26A Motz Farm, Whi 85.92 44 ⇓P P 15 48 44.8 +0.3
baz=86
D22A Cohagen 85.95 39 ⇑P P 15 48 44.7 +0.2
baz=86
RSSD Black Hills 85.96 42 eP P 15 48 43.6 -1.2
RSSD e*PP pP 15 48 59.0 -1.2
RSSD pmax pmax
comp=Z,3.0nm,0.9s
RSSD Black Hills 85.96 42 eP P 15 48 43.6 -1.2
comp=Z,3.4nm,0.9s
RSSD epP pP 15 48 59.0 -1.2
WHTX Lake Whitney 86.03 56 ⇑P P 15 48 45.3 +0.1
baz=86
B21A Ellsworth Farm 86.04 38 ⇑P P 15 48 45.0 +0.2
baz=86
V32A Arapaho 86.13 52 ⇑P P 15 48 45.9 +0.3
baz=86
T31A Randall Ranch, 86.17 50 ⇓P P 15 48 46.2 +0.4
baz=86
R30A Dighton 86.18 49 ⇓P P 15 48 46.1 +0.3
baz=86
A21A Bergtoll Ranch 86.36 37 ⇓P P 15 48 46.5 +0.1
baz=87,SNR=6.7
F24A Ekalaka 86.44 41 ⇑P P 15 48 47.1 +0.1
baz=87
Y34A Reagan Ranch, 86.48 54 ⇓P P 15 48 47.2 -0.2
baz=87
Q30A Quinter 86.49 48 ⇓P P 15 48 47.3 0.0
baz=87
D23A Lindsay 86.55 39 ⇑P P 15 48 47.5 +0.1
baz=87
B22A Reddig Ranch S 86.59 38 ⇑P P 15 48 47.8 +0.3
baz=87
X34A Smith Ranch, M 86.66 53 ⇓P P 15 48 48.6 +0.4
baz=87
V33A Lossen Ranch, 86.74 52 ⇓P P 15 48 48.4 -0.2
baz=87
C23A Lambert 86.85 39 ⇓P P 15 48 48.8 0.0
baz=87
A22A Carney Farms, 86.95 37 ⇓P P 15 48 49.2 -0.1
baz=87
337A Centerville 87.06 57 ⇑P P 15 48 50.2 0.0
baz=87
D24A Glendive 87.07 40 ⇑P P 15 48 50.2 +0.2
baz=87
B23A Brockton 87.26 38 ⇑P P 15 48 50.6 -0.2
baz=87,SNR=7.6
HIA Hailar 87.28 323 ⇓iP P 15 48 50.9 0.0
HIA pmax pmax
comp=Z,4.0nm,1.0s
IPM Ipoh 87.37 275 eP P 15 48 52.9 +0.7
comp=Z,5.9nm,0.8s
IPM epP pP 15 49 10.5 +2.9
G26A Maurine 87.38 42 ⇓P P 15 48 51.1 -0.4
baz=88
A24A Westby 88.05 38 ⇓P P 15 48 54.4 -0.2
baz=88
MAW Mawson 88.18 198 LR LR 16 26 35.8
comp=Z,651nm,18.8s,baz=215,slow=34
GYA Guiyang 88.34 298 ⇑iP P 15 48 58.1 +1.5
GYA pP pP 15 49 14.3 +2.2
GYA sP sP 15 49 19.4 +1.4
GYA PP PP 15 52 27.0 +2.0
GYA SKS SKSac 15 59 18.5 -3.0
GYA S S 15 59 35.8 -2.3
GYA sS sS 16 00 02.1 -2.2
GYA SS SS 16 05 30.8 +1.6
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,540nm,19.7s
GYA LR LR
comp=Z,460nm,20.0s
GYA LR LR
comp=Z,510nm,18.6s
C26A Wahner Farm, P 88.74 40 ⇑P P 15 48 57.8 0.0
baz=89
XAN Xi'an 88.87 306 P P 15 48 59.8 +1.0
XAN pP pP 15 49 15.9 +1.6
XAN pmax pmax
comp=Z,3.0nm,1.2s
YAK Yakutsk 89.07 337 eP P 15 48 57.2 -1.8
YAK pmax pmax
comp=Z,19nm,0.9s
YAK Yakutsk 89.07 337 eP P 15 48 57.6 -1.4
comp=Z,9.0nm,0.7s
HHC Hu-ho-hao-te 89.20 313 eP P 15 48 58.0 -2.3
HHC PP PP 15 52 35.6 +4.1
HHC S S 15 59 48.0 +2.4
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,250nm,5.8s
HHC LR LR
comp=Z,370nm,26.3s
HHC LR LR
comp=Z,490nm,28.6s
HHC LR LR
comp=Z,370nm,30.4s
YKA Yellowknife Ar 89.68 23 P P 15 49 01.3 -0.5
comp=Z,3.7nm,0.9s,baz=239,slow=4.6,SNR=38
JTS JuntasAbangare 90.70 80 eP P 15 49 08.9 +1.1
JTS e*PP pP 15 49 24.7 +1.4
JTS pmax pmax
comp=Z,17nm,0.9s
JTS JuntasAbangare 90.70 80 eP P 15 49 08.9 +1.1
comp=Z,17nm,0.9s
JTS epP pP 15 49 24.7 +1.4
A29A Manning Farm, 90.93 39 ⇑P P 15 49 07.1 -1.0
baz=91
CD2 Chengdu 92.08 301 eP P 15 49 15.4 +1.5
CD2 pP pP 15 49 30.6 +1.2
CD2 sP sP 15 49 36.5 +1.2
CD2 PP PP 15 52 58.6 +4.0
CD2 SKS SKSac 15 59 42.3 -0.5
CD2 S S 16 00 11.3 -1.0
CD2 sS sS 16 00 37.1 -1.5
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,220nm,6.2s

CD2 LR LR
comp=Z,1µm,18.6s
CD2 LR LR
comp=Z,870nm,18.6s
CD2 LR LR
comp=Z,1µm,20.6s
SYO Syowa Base 92.94 191⇑eP pP 15 49 35.4 +2.9
CMAR Chiang Mai Arr 92.99 288 P P 15 49 17.9 -0.4
comp=Z,0.8nm,0.9s,baz=107,slow=2.5,SNR=7.3
CMAR pP pP 15 49 36.7 +2.9
comp=Z,4.3nm,1.0s,baz=93,slow=2.7,SNR=13
ULM Lac du Bonnet 93.44 39 LR LR 16 26 31.6
comp=Z,388nm,19.1s,baz=247,slow=32
LZH Lanzhou 93.46 306 eP P 15 49 23.3 +3.1
LZH pP pP 15 49 38.8 +3.0
LZH sP sP 15 49 44.8 +3.1
LZH ePP PP 15 53 11.5 +6.1
LZH SKS SKSac 15 59 50.3 -0.2
LZH eS S 16 00 24.5 0.0
LZH sS sS 16 00 49.8 -1.1
LZH pmax pmax
comp=Z,21nm,1.6s
LZH pmax pmax
comp=Z,130nm,9.8s
LZH LR LR
comp=Z,1µm,19.0s
LZH LR LR
comp=Z,770nm,18.0s
LZH LR LR
comp=Z,2µm,20.0s
VNA2 Neumayer--Watz 93.56 175 P P 15 49 21.7 +1.8
ULN Ulaanbaatar 94.56 318 eP P 15 49 25.4 +0.4
ULN pmax pmax
comp=Z,1.0nm,0.5s
TIXI Tiksi 94.89 344⇑eP P 15 49 25.2 -0.5
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 94.89 344 eP P 15 49 24.8 -0.9
comp=Z,6.8nm,1.3s
TIXI epP pP 15 49 40.1 -1.2
SONM Songino Array 94.97 318 PP PP 15 53 14.9 -1.9
comp=Z,0.6nm,0.9s,baz=98,slow=7.6,SNR=4.0
GTA Gaotai 97.39 309 eP Pdif 15 49 40.3 +2.1
GTA pP pP 15 49 55.5 +1.8
GTA sP sP 15 50 02.0 +2.4
GTA SKS SKSac 16 00 12.3 +1.1
GTA S S 16 00 56.8 -1.6
GTA sS sS 16 01 24.0 -0.9
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA pmax pmax
comp=Z,62nm,5.2s
GTA LR LR
comp=Z,770nm,22.3s
GTA LR LR
comp=Z,670nm,20.0s
GTA LR LR
comp=Z,1µm,21.8s
WMQ Urumqi 107.06 312 ePdif Pdif 15 50 21.8 +0.9
WMQ PP PP 15 54 51.8 +3.7
WMQ S Sdif 16 02 17.5 -1.5
WMQ LR LR
comp=Z,55nm,18.8s
WMQ LR LR
comp=Z,60nm,20.0s
WMQ LR LR
comp=Z,55nm,19.6s
ZALV Zalesovo Beam 109.32 322 PKiKP PKiKP 15 54 33.8 -0.3
comp=Z,0.3nm,0.3s,baz=106,slow=3.7,SNR=3.3
MKAR Makanchi Array 110.99 315 PKiKP PKiKP 15 54 37.2 -0.3
comp=Z,0.3nm,0.6s,baz=82,slow=1.8,SNR=5.2
MKAR PKKPab PKKPab 16 05 46.0 +1.8
comp=Z,0.2nm,0.6s,baz=300,slow=2.9,SNR=3.6
KSH Kashi 115.70 307 ePKP PKPdf 15 54 49.9 +3.1
KSH ePKS PKSdf 15 58 25.6 +2.0
KSH AMB AMB
comp=Z,95nm,4.6s
KSH LR LR
comp=Z,50nm,7.3s
KSH LR LR
comp=Z,57nm,7.2s
KSH LR LR
comp=Z,320nm,14.6s
ARU Arti 123.38 329 i PKIKP PKPdf 15 55 10.9 +10
ARCES ARCESS Array B 124.43 352 PKP PKPdf 15 55 01.9 -0.7
comp=Z,5.8nm,0.8s,baz=15,slow=3.7,SNR=5.5
ABKAR Akbulak array 125.33 320 PKPdf PKPdf 15 55 05.2 +0.4
ABKAR pPKPdf pPKPdf 15 55 21.3 +0.4
FINES FINESS Array B 131.80 348 PKP PKPdf 15 55 15.9 -0.9
comp=Z,2.0nm,0.9s,baz=27,slow=1.6,SNR=3.3
AKASG Malin Array Be 140.29 338 PKhKP PKPpre 15 55 25.4
comp=Z,0.3nm,0.4s,baz=38,slow=4.1,SNR=4.6
AKASG PKP PKPdf 15 55 32.5 -0.3
comp=Z,1.5nm,0.8s,baz=36,slow=3.9,SNR=6.1
RAYN Ar Rayn 142.90 289 ePKPpre PKPpre 15 55 36.6
LSZ Lusaka 143.28 216 PKP PKPbc 15 55 37.5 +1.0
comp=Z,1.8nm,0.5s,baz=90,slow=5.5,SNR=4.4
LSZ pPKP pPKPdf 15 55 54.7 -0.8
comp=Z,2.0nm,0.6s,baz=76,slow=8.1,SNR=2.8
OJC Ojcow 143.53 346 ePKIKP PKPbc 15 55 36.2 +0.1
OJC Ojcow 143.53 346 ePKP PKPbc 15 55 36.2 +0.1
CLL Collm 143.62 354⇓iPKPdf PKPbc 15 55 36.5 +0.2
CLL e 15 55 53.0
CLL pmax pmax
comp=Z,12nm,0.8s
CLL Collm 143.62 354 ePKPbc PKPbc 15 55 36.6 +0.3
CLL Collm 143.62 354⇓iPKPdf PKPbc 15 55 36.5 +0.2
comp=Z,12nm,0.8s
CLL i PKiKP PKPdf 15 55 39.3 +0.5
CLL epPKPdf pPKPdf 15 55 53.0 -1.9
STHS Stebnicka Huta 143.92 344 ePKIKP PKPbc 15 55 37.8 +0.5
STHS Stebnicka Huta 143.92 344 ePKP PKPbc 15 55 37.8 +0.5
UPC Upice 144.00 350 ePKIKP PKPbc 15 55 38.2 +0.7
UPC e 15 55 55.6
UPC Upice 144.00 350 ePKP PKPbc 15 55 38.2 +0.7
UPC epPKP pPKPdf 15 55 55.6 0.0
MALT Malatya 144.02 316⇑PKIKP PKPdf 15 55 39.8 -0.3
MALT Malatya 144.02 316⇑iP PKPdf 15 55 39.8 -0.3
KOLS Kolonicke sedl 144.08 343 ePKIKP PKPdf 15 55 39.2 -0.5
KOLS Kolonicke sedl 144.08 343 ePKP PKPdf 15 55 39.2 -0.5
DPC Dobruska-Polom 144.10 350 ePKIKP PKPbc 15 55 38.2 +0.3
DPC e 15 55 55.6
DPC Dobruska-Polom 144.10 350 ePKP PKPbc 15 55 38.2 +0.3
DPC epPKP pPKPdf 15 55 55.6 -0.3
NIE Niedzica 144.15 345 ePKIKP PKPbc 15 55 38.6 +0.6
NIE Niedzica 144.15 345 ePKP PKPbc 15 55 38.6 +0.6
OKC Ostrava-Krasne 144.25 348 ePKIKP PKPbc 15 55 38.3 0.0
OKC e 15 55 56.4
OKC Ostrava-Krasne 144.25 348 ePKP PKPbc 15 55 38.3 0.0
OKC epPKP pPKPdf 15 55 56.4 +0.3
KRLC Kraliky 144.28 349 ePKIKP PKPab 15 55 38.1 0.0
KRLC Kraliky 144.28 349 ePKP PKPab 15 55 38.1 0.0
KRLC ex x 15 55 50.2
BUR08 Bucovina Ar. S 144.29 339 ePKPpre PKPab 15 55 38.6 +0.4
BURAR Bucovina Array 144.31 339 ⇓PKIKP PKPab 15 55 38.5 +0.2
BURAR Bucovina Array 144.31 339⇓iP PKPab 15 55 38.5 +0.2
CRVS Cervenica-Dubn 144.33 344 ePKIKP PKPbc 15 55 38.8 +0.2
CRVS Cervenica-Dubn 144.33 344 ePKP PKPbc 15 55 38.8 +0.2
TSUM Tsumeb 144.34 197 PKP PKPbc 15 55 39.9 +0.3
comp=Z,6.9nm,0.9s,baz=164,slow=3.9,SNR=8.0
TSUM pPKP pPKPdf 15 55 58.1 +0.7
comp=Z,7.3nm,0.8s,baz=139,slow=4.0,SNR=7.1
UZH Uzhgorod 144.34 343 ePKIKP PKPab 15 55 37.7 -0.6
UZH e 15 55 57.3
MOX Moxa 144.41 355 ePKPbc PKPbc 15 55 38.9 +0.1
MORC Moravsky Berou 144.43 348⇑PKIKP PKPab 15 55 37.3 -1.3
MORC Moravsky Berou 144.43 348⇑iP PKPab 15 55 37.3 -1.3
MEM Membach 144.62 1 PKP PKPab 15 55 39.1 -0.1
SNF Seneffe 144.66 3 PKP PKPbc 15 55 39.8 +0.3
TESR Tescani 144.71 336⇑iP PKPab 15 55 39.4 -0.3
TRPA Tarpa 144.72 342⇑iP PKPbc 15 55 39.9 +0.1
PRU Pruhonice 144.73 352 ePKIKP PKPab 15 55 39.3 -0.3
PRU e 15 55 56.0
PRU Pruhonice 144.73 352 ePKP PKPab 15 55 39.3 -0.3
PRU epPKP pPKPdf 15 55 56.0 -0.9
BCLA Clavier 144.79 2 PKP PKPab 15 55 39.5 -0.4
BMR Baia Mare 144.83 341⇑PKIKP PKPbc 15 55 40.6 +0.4
BMR Baia Mare 144.83 341⇑iP PKPbc 15 55 40.6 +0.4
TNS Taunus Mts 145.00 358 ePKPbc PKPab 15 55 40.7 0.0
VRAC Vranov 145.06 349⇑PKIKP PKPbc 15 55 39.7 -1.2
VRAC Vranov 145.06 349⇑iP PKPbc 15 55 39.7 -1.2
DOU Dourbes 145.09 3 PKP PKPbc 15 55 40.9 0.0
CFR Carcaliu 145.19 334⇑PKIKP PKPdf 15 55 41.6 -0.1
CFR Carcaliu 145.19 334⇑iP PKPdf 15 55 41.6 -0.1
VRI Vrincioaia 145.22 336 ⇑PKIKP PKPdf 15 55 41.8 0.0
VRI Vrincioaia 145.22 336⇑iP PKPdf 15 55 41.8 0.0
ROTZ Rotzenmuhle 145.22 354 ePKPbc PKPdf 15 55 41.8 +0.1
PLOR Plostina 145.26 336 ⇑PKIKP PKPdf 15 55 41.9 0.0
PLOR Plostina 145.26 336⇑iP PKPdf 15 55 41.9 0.0
TREC Trest 145.26 350 ePKIKP PKPbc 15 55 41.2 -0.3
TREC Trest 145.26 350 ePKP PKPbc 15 55 41.2 -0.3
VYHS Vyhne 145.37 346 ePKIKP PKPab 15 55 42.3 +0.2
VYHS Vyhne 145.37 346 ePKP PKPab 15 55 42.3 +0.2
GRF Grafenberg Arr 145.38 355 ePKPbc PKPab 15 55 42.2 +0.1
WLF Walferdange 145.57 1 PKP PKPab 15 55 43.1 +0.3
WLF Walferdange 145.57 1 ePKIKP PKPab 15 55 43.1 +0.3
WLF e 15 55 59.1
WLF Walferdange 145.57 1 ePKPbc PKPab 15 55 42.9 +0.1
WLF epPKPbc pPKPbc 15 55 59.6 +1.2
WLF Walferdange 145.57 1 ePKP PKPab 15 55 43.1 +0.3
WLF epPKP pPKPdf 15 55 59.1 +0.7
TIRR Tirgusor 145.64 333 ⇑PKIKP PKPab 15 55 43.4 +0.2
TIRR Tirgusor 145.64 333⇑iP PKPab 15 55 43.4 +0.2
TIRR Tirgusor 145.64 333 ePKP PKPab 15 55 43.2 +0.1
CJR Cluj-Napoca 145.64 340 ⇑PKIKP PKPab 15 55 43.4 +0.2
CJR Cluj-Napoca 145.64 340⇑iP PKPab 15 55 43.4 +0.2
DOPR Dopca 145.65 337⇑iP PKPbc 15 55 42.8 -0.1
PSZ Piszkesteto 145.65 345 ⇑PKIKP PKPab 15 55 43.4 +0.2
PSZ Piszkesteto 145.65 345⇑iP PKPab 15 55 43.4 +0.2
PSZ Piszkesteto 145.65 345 ePKP PKPbc 15 55 43.0 +0.1
PSZ Piszkesteto 145.65 345⇑ePKPbc PKPab 15 55 43.6 +0.4
KHC Kasperske Hory 145.70 352 ePKIKP PKPbc 15 55 43.1 +0.2
KHC Kasperske Hory 145.70 352 ePKP PKPdf 15 55 42.6 0.0
KHC epPKP pPKPdf 15 55 59.1 +0.4
KHC Kasperske Hory 145.70 352 ePKP PKPbc 15 55 43.1 +0.2
WET Wettzell 145.77 353 ePKPbc PKPab 15 55 43.4 -0.2
MLR Muntele Rosu 145.83 336 ⇑PKIKP PKPab 15 55 44.1 0.0
MLR Muntele Rosu 145.83 336⇑iP PKPab 15 55 44.1 0.0
DRGR 145.86 341 ⇓PKIKP PKPbc 15 55 43.8 +0.2
DRGR 145.86 341⇓iP PKPbc 15 55 43.8 +0.2
ISR Istrita 145.90 335 ⇑PKIKP PKPab 15 55 44.4 +0.2
ISR Istrita 145.90 335⇑iP PKPab 15 55 44.4 +0.2
GEC2 GERESS Array S 145.96 352 ePKPbc PKPbc 15 55 43.8 -0.1
GERES GERESS Array B 145.96 352 PKP2 PKPbc 15 55 44.0 +0.1
GERES GERESS Array B 145.96 352 PKPbc PKPbc 15 55 44.0 +0.1
comp=Z,15nm,0.7s,baz=19,slow=3.1,SNR=117
GERES pPKPbc pPKPbc 15 56 00.1 +0.3
comp=Z,7.7nm,0.9s,baz=22,slow=4.3,SNR=6.2
AMRR Amara 145.99 334 ⇑PKIKP PKPab 15 55 45.6 +1.1
AMRR Amara 145.99 334⇑iP PKPab 15 55 45.6 +1.1
KMBO Kilima Mbogo 146.07 244 ePKP2 PKPab 15 55 46.7 +0.6
KMBO Kilima Mbogo 146.07 244 PKPbc PKPab 15 55 47.1 +1.0
comp=Z,3.3nm,0.6s,baz=87,slow=4.6,SNR=19
KMBO Kilima Mbogo 146.07 244 ePKPbc PKPab 15 55 46.7 +0.6
MSAB Monastry St. A 146.19 333⇑iP PKPbc 15 55 44.8 +0.3
VOIR 146.22 337 ⇑PKP2 PKPab 15 55 45.6 +0.1
VOIR 146.22 337⇑iP PKPab 15 55 45.6 +0.1
BRTR Keskin Array B 146.26 322 PKPbc PKPab 15 55 45.7 -0.2
comp=Z,21nm,0.8s,baz=109,slow=2.0,SNR=95
BRTR pPKPbc pPKPbc 15 56 01.8 +0.7
comp=Z,21nm,0.8s,baz=101,slow=2.5,SNR=13
STU Stuttgart 146.43 357 epPKPbc pPKPbc 15 56 01.6 +0.6
ARR Arges 146.44 337⇑iP PKPab 15 55 46.6 +0.3
CONA Conrad Observa 146.52 349 i PKiKP PKPab 15 55 46.1 -0.4
comp=Z,24nm,0.8s,SNR=16
ANTO Ankara 146.67 323 ePKP2 PKPab 15 55 47.2 -0.2
ANTO Ankara 146.67 323⇑iP PKPab 15 55 47.5 +0.1
ANTO Ankara 146.67 323 ePKPbc PKPab 15 55 47.2 -0.2
LOT Lotru 146.68 338⇑iP PKPbc 15 55 45.6 -0.5
MOA Molln 146.86 351⇓iPKPab PKPbc 15 55 46.9 +0.4
comp=Z,21nm,0.8s,SNR=7.1
FUR Furstenfeldbru 146.90 355 ePKPbc PKPbc 15 55 46.6 +0.1
BFO Black Forest 146.90 358 ePKP2 PKPbc 15 55 46.8 +0.2
BFO Black Forest 146.90 358 ePKPbc PKPbc 15 55 46.6 +0.1
BFO epPKPbc pPKPbc 15 56 02.8 +0.3
BFO Black Forest 146.90 358 ePKPbc PKPbc 15 55 46.8 +0.2
ECH Echery 147.03 360 ePKP2 PKPbc 15 55 46.9 0.0
ECH Echery 147.03 360 ePKPbc PKPbc 15 55 46.9 0.0
GZR Gura Zlata 147.07 339 ⇓PKP2 PKPbc 15 55 47.3 +0.1
GZR Gura Zlata 147.07 339⇓iP PKPbc 15 55 47.3 +0.1
RJOB Jochberg 147.16 353 ePKPbc PKPbc 15 55 47.4 +0.1
RJOB epPKPbc pPKPbc 15 56 03.7 +0.4
ARSA Arzberg 147.23 349 i PKPab PKPbc 15 55 47.6 +0.1
comp=Z,14nm,0.9s,SNR=7.1
BZS Buzias 147.25 341 ⇑PKP2 PKPbc 15 55 47.4 -0.2
PKSM Moragy 147.55 345 ⇓PKIKP PKPdf 15 55 45.7 0.0
PKSM Moragy 147.55 345⇓iP PKPdf 15 55 45.7 0.0
PKSM Moragy 147.55 345⇑ePKPdf PKPbc 15 55 48.3 -0.1
RETA Reutte 147.61 355⇑iPKPab PKPbc 15 55 49.0 +0.4
comp=Z,30nm,1.3s,SNR=5.4
MOTA Moosalm 147.72 355⇓iPKPab PKPbc 15 55 49.0 0.0
comp=Z,25nm,1.0s,SNR=7.8
KBA Koelnbreinsper 147.74 352⇑iPKPbc PKPdf 15 55 46.9 +0.7
comp=Z,14nm,1.1s,SNR=5.8
WTTA Wattenberg 147.76 354⇓iPKPab PKPbc 15 55 49.2 +0.1
comp=Z,26nm,0.7s,SNR=9.6
KOGS Kog 147.87 348 i PKPbc PKPbc 15 55 48.9 -0.3
KOGS i pPKPbc pPKPbc 15 56 04.9 -0.3
SOKA Soboth 147.87 350⇑iPKPab PKPbc 15 55 49.2 -0.1
comp=Z,27nm,1.0s,SNR=9.6
DAVA Damuels 147.87 356 i PKPab PKPbc 15 55 50.0 +0.6
comp=Z,35nm,0.9s,SNR=7.8
PERS Pernice 147.90 350 ePKPbc PKPbc 15 55 49.2 -0.2
PERS i pPKPbc pPKPbc 15 56 05.0 -0.3
FETA Feichten 148.08 355⇑iPKiKP PKPbc 15 55 50.4 +0.4
comp=Z,19nm,1.0s,SNR=6.7
OBKA Obir 148.12 350⇑iPKiKP PKPbc 15 55 49.7 -0.3
comp=Z,16nm,0.8s
MYKA Terra Mystica 148.14 351 i PKiKP PKPbc 15 55 49.7 -0.3
comp=Z,16nm,0.7s,SNR=6.6
ABTA Abfaltersbach 148.17 353 i PKiKP PKPbc 15 55 50.1 -0.1
comp=Z,26nm,0.8s,SNR=9.1
LJU Ljubljana 148.57 350 i PKPbc PKPbc 15 55 51.4 +0.3
LJU i pPKPbc pPKPbc 15 56 07.0 0.0
TUE Stuetta 148.71 357 ePKPbc PKPbc 15 55 51.9 +0.2
RZN Rozhen 149.47 333 eP PKPbc 15 55 53.7 -0.1
MMB Musomiste 149.97 335 ⇓PKP2 PKPbc 15 55 55.1 +0.3
MMB Musomiste 149.97 335 eP PKPbc 15 55 53.4 -1.4
MMB Musomiste 149.97 335⇓iP PKPbc 15 55 55.1 +0.3
KKB Krupnik 150.00 336 eP PKPbc 15 55 54.1 -0.7
BNI Bardonecchia 150.19 1 ePKP2 PKPbc 15 55 56.3 +1.0
BNI Bardonecchia 150.19 1 ePKPbc PKPbc 15 55 56.3 +1.0
POLO Lamas de Olo 150.86 23 PKPdf PKPdf 15 55 53.5 +2.2
PBRG Braganca 150.87 22 ePKPab PKPbc 15 55 57.5 +0.6
MVO Moncorvo 151.33 23 PKPdf PKPbc 15 55 57.6 -0.4
MVO Moncorvo 151.33 23 PKPab PKPab 15 56 15.3 +9.1
MTE Manteigas 151.79 24 ePKPdf PKPdf 15 55 55.2 +2.5
MTE Manteigas 151.79 24 ePKPab PKPab 15 56 07.2 -0.9
PMTG Montargil 152.63 27 PKPdf PKPbc 15 55 58.9 -2.1
PMTG Montargil 152.63 27 PKPab PKPab 15 56 16.6 +5.0
PMRV Marv??o 152.68 25 i P PKPab 15 56 17.1 +5.3
PNCL Nicolau / Gran 153.28 28 ePKPdf PKPdf 15 55 50.7 -4.2
PNCL i P PKPbc 15 56 01.8 -0.6
ESDC Sonseca Array 153.72 20 PKPbc PKPbc 15 56 03.5 +0.1
comp=Z,1.0nm,0.7s,baz=327,slow=2.4,SNR=4.6
ESDC PKPab PKPab 15 56 16.5 +0.2
comp=Z,2.1nm,0.8s,baz=333,slow=3.0,SNR=5.0
TORD Torodi Ar. Bea 174.40 110 PKP PKPdf 15 56 12.9 -1.8
comp=Z,0.8nm,0.7s,baz=289,slow=1.5,SNR=4.1
TORD PKPab PKPab 15 57 46.7 -0.9
comp=Z,2.3nm,1.2s,baz=255,slow=4.8,SNR=3.2

DDA **23** *15:39:07.9, 34.°04N×26.°18E, h19km, MD3.5*
ISK **23** *15:39:08.5, 34.°25N×26.°44E, h63km, ML3.8*
ISCJB **23** *15:39:08.2±0.7, 34.°21N±0.°02×26.°40E±0.°02, h25km±6km, mb3.9/15, Error ellipse: s-maj=4.0km s-min=2.6km az=28.0*
CSEM **23** *15:39:08.5±0.2, 34.°20N×26.°34E, h10km, ML3.4, Error ellipse: s-maj=5.4km s-min=3.2km az=20.0*
ATH **23** *15:39:09.2, 34.°24N×26.°11E, h27km, MD3.9/36*
THE **23** *15:39:09.7, 34.°28N×26.°30E, h0km±1km, ML3.4/1, Error ellipse: s-maj=3.0km s-min=0.7km az=159.0*
HLW **23** *15:39:10.6, 34.°22N×26.°39E, h30km±23km, Md3.6, Ml3.5*
NSSC **23** *15:39:10.4±1.4, 34.°23N×26.°39E, h38km, MD2.4, ML3.1*
IDC **23** *15:39:14.5±2.3, 34.°42N×26.°24E, h55km±18km, mb3.7/15, mb1 3.8/19, mb1mx3.7/32, mbtmp3.9/19, ML3.6/4, MS3.3/2, Ms1 3.3/2, ms1mx2.8/37, Error ellipse: s-maj=21.5km s-min=11.5km az=176.0*
NIC **23** *15:39:16.4, 34.°82N×26.°80E, h64km, mb4.3, ML3.8*
ISC 23 15:39:08.3±1.4**, 34.°17N**±0.°04×**26.°32E**±0.°03**, h14**km±8km**, n265,** σ1°**37**/309**, mb3.8**/15**, Crete**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ZKR Zakros 0.95 355 P Pb 15 39 26.0 -0.5
ZKR S Sb 15 39 38.6 -0.3
ZKR Zakros 0.95 355 ePG Pg 15 39 26.9 +0.3
ZKR Zakros 0.95 355 ePN Pb 15 39 26.0 -0.5
ZKR eSN Sg 15 39 39.1 0.0
ZKR Zakros 0.95 355 P Pb 15 39 26.0 -0.5
ZKR S Sb 15 39 38.6 -0.3
ZKR eSn Sg 15 39 39.1 0.0
LAST Lasithi 1.21 325 P Pn 15 39 30.4 -0.5
LAST S Sg 15 39 47.9 +0.5
LAST Lasithi 1.21 325 ePN Pn 15 39 30.0 -0.9
LAST eSN Sb 15 39 44.4 -2.1
LAST Lasithi 1.21 325 ePn Pn 15 39 30.0 -0.9
LAST Lasithi 1.21 325 P Pn 15 39 30.4 -0.5
LAST eSn Sb 15 39 44.4 -2.1
LAST S Sg 15 39 47.9 +0.5
NPS Neapolis 1.24 332 P Pn 15 39 30.9 -0.3
NPS S Sg 15 39 48.4 +0.1
NPS Neapolis 1.24 332 ePN Pn 15 39 30.0 -1.2
NPS eSN Sb 15 39 44.5 -2.8
NPS Neapolis 1.24 332 ePn Pn 15 39 30.0 -1.2
NPS Neapolis 1.24 332 P Pn 15 39 30.9 -0.3
NPS eSn Sb 15 39 44.5 -2.8
NPS S Sg 15 39 48.4 +0.1
SIVA Sivas 1.51 305 P Pb 15 39 36.2 +0.2
SIVA S Sg 15 39 56.6 -0.3
SIVA Sivas 1.51 305 ePN Pn 15 39 34.3 -0.5
SIVA Sivas 1.51 305 ePN Pn 15 39 34.0 -0.9
SIVA eSN Sn 15 39 52.2 -2.1
SIVA Sivas 1.51 305 ePn Pn 15 39 34.3 -0.5
SIVA Sivas 1.51 305 P Pb 15 39 36.2 +0.2
SIVA eSn Sn 15 39 52.2 -2.1
SIVA S Sg 15 39 56.6 -0.3
KARP Karpathos 1.54 26 P Pb 15 39 36.3 -0.3
KARP S Sb 15 39 56.3 +0.3
KARP Karpathos 1.54 26 ePN Pg 15 39 37.8 -0.1
KARP eSN Sg 15 39 58.2 +0.3
KARP Karpathos 1.54 26 P Pb 15 39 36.3 -0.3
KARP Karpathos 1.54 26 ePn Pg 15 39 37.8 -0.1
KARP S Sb 15 39 56.3 +0.3
KARP eSn Sg 15 39 58.2 +0.3
IDI Anoyia 1.62 314 P Pb 15 39 38.3 +0.2
20nm,0.3s,baz=132,slow=12,SNR=123
IDI S Sn 15 39 55.6 -1.7
28nm,0.3s,baz=240,slow=9.4,SNR=7.9
IDI LR LR 15 40 34.4
comp=Z,251nm,19.1s,baz=208,slow=57
VAM Vamos 2.14 306 P Pn 15 39 43.9 +0.3
VAM S Sn 15 40 11.0 +1.1
VAM Vamos 2.14 306 ePB Pn 15 39 42.6 -1.0
VAM eSN Sn 15 40 07.8 -2.1
VAM Vamos 2.14 306 ePb Pn 15 39 42.6 -1.0
VAM Vamos 2.14 306 P Pn 15 39 43.9 +0.3
VAM eSn Sn 15 40 07.8 -2.1
VAM S Sn 15 40 11.0 +1.1
SANT Santorini 2.31 342 P Pn 15 39 46.4 +0.5
SANT Santorini 2.31 342 ePN Pn 15 39 46.5 +0.5
SANT Santorini 2.31 342 ePN Pn 15 39 45.8 -0.1
SANT Santorini 2.31 342 P Pn 15 39 46.4 +0.5
ARG Arkhangelos 2.52 35 P Pb 15 39 51.7 -1.6
ARG Arkhangelos 2.52 35 ePN Pn 15 39 47.4 -1.4
ARG Arkhangelos 2.52 35 ePN Pb 15 39 51.7 -1.6
ARG eSN Sb 15 40 21.9 -2.3
ARG Arkhangelos 2.52 35 ePn Pn 15 39 47.4 -1.4
ARG Arkhangelos 2.52 35 P Pb 15 39 51.7 -1.6
ARG eSn Sb 15 40 21.9 -2.3
SLUM 2.83 200 P Pn 15 39 54.1 +1.1
baz=201
SLUM AMP 15 40 00.0
comp=N,110µm,0.3s,logA/T=5.6,baz=201
SLUM S Sn 15 40 27.7 +0.8
baz=201
SLUM 2.83 200 P Pn 15 39 54.1 +1.1
SLUM S Sn 15 40 27.7 +0.8
APE Apeiranthos 2.97 348 P Pn 15 39 55.7 +0.7
APE Apeiranthos 2.97 348 ePN Pn 15 39 54.3 -0.7
APE Apeiranthos 2.97 348 ePN Pn 15 39 55.0 0.0
APE Apeiranthos 2.97 348 ePn Pn 15 39 55.0 0.0
APE Apeiranthos 2.97 348 P Pn 15 39 55.7 +0.7
BODT Bodrum 3.00 15 ePN Pn 15 39 53.6 -1.8
BODT Bodrum 3.00 15 ePn Pn 15 39 53.6 -1.8
ANKY Antikythira Is 3.00 305 ePN Pn 15 39 54.5 -0.9
ANKY Antikythira Is 3.00 305 ePn Pn 15 39 54.5 -0.9
BDRM Kayabasi 3.03 17 i P Pn 15 39 56.8 +0.9
BDRM i S Sn 15 40 32.2 +0.2
BDRM Kayabasi 3.03 17 i P Pn 15 39 56.8 +0.9
BDRM i S Sn 15 40 32.2 +0.2
HMAT Matruh 3.13 168 AMP 15 40 00.0
comp=N,210µm,0.8s,logA/T=5.4,baz=169
DALY Dalyan (Mu˜la 3.26 35 ePN Pn 15 39 57.5 -1.4
DALY Dalyan (Mu˜la 3.26 35 ePn Pn 15 39 57.5 -1.4
FETY Fethiye 3.34 42 ePN Pn 15 39 58.3 -1.8
FETY Fethiye 3.34 42 ePn Pn 15 39 58.3 -1.8
YER Yerkesik 3.36 28 ePN Pn 15 39 59.1 -1.3
YER Yerkesik 3.36 28 ePn Pn 15 39 59.1 -1.3
AKAS Kas 3.39 52 i P Pn 15 40 02.6 +1.8
AKAS i S Sn 15 40 39.0 -1.9
AKAS Kas 3.39 52 i P Pn 15 40 02.6 +1.8
AKAS i S Sn 15 40 39.0 -1.9
KYTH Kithira 3.42 309 P Pn 15 40 01.8 +0.7
KYTH Kithira 3.42 309 ePN Pn 15 40 00.8 -0.3
KYTH Kithira 3.42 309 ePn Pn 15 40 00.8 -0.3
KYTH Kithira 3.42 309 P Pn 15 40 01.8 +0.7
SMG Samos 3.56 7 P Pn 15 40 04.0 +0.9
SMG Samos 3.56 7 ePN Pn 15 40 04.2 +1.1
SMG Samos 3.56 7 P Pn 15 40 04.0 +0.9
VLI Veliai 3.76 314 P Pn 15 40 06.1 +0.3
VLI Veliai 3.76 314 ePN Pn 15 40 06.2 +0.4
VLI Veliai 3.76 314 ePn Pn 15 40 06.2 +0.4
ELL Elmali 3.90 48 ePN Pn 15 40 07.0 -0.9
ELL Elmali 3.90 48 ePn Pn 15 40 07.0 -0.9
AYDB Zeytinkoy-Aydi 3.98 18 ePN Pn 15 40 08.2 -0.8
AYDB Zeytinkoy-Aydi 3.98 18 ePn Pn 15 40 08.2 -0.8
GOLH Golhisar 4.04 40 i P Pn 15 40 12.2 +2.4
GOLH i S Sn 15 41 00.3 +3.3
GOLH Golhisar 4.04 40 i P Pn 15 40 12.2 +2.4
GOLH i S Sn 15 41 00.3 +3.3
DID Didima 4.17 324 P Pn 15 40 11.9 +0.4
DID Didima 4.17 324 ePN Pn 15 40 11.8 +0.3
DID Didima 4.17 324 P Pn 15 40 11.9 +0.4
CHOS Chios island 4.22 357 P Pn 15 40 12.7 +0.5
CHOS Chios island 4.22 357 ePN Pn 15 40 10.6 -1.5
CHOS Chios island 4.22 357 ePN Pn 15 40 13.5 +1.3
CHOS Chios island 4.22 357 P Pn 15 40 12.7 +0.5
CHOS Chios island 4.22 357 ePn Pn 15 40 13.5 +1.3
BLCB Balcova 4.25 8 ePN Pn 15 40 10.9 -1.6
BLCB Balcova 4.25 8 ePn Pn 15 40 10.9 -1.6
NAIG Nisos Aigina 4.26 328 ePN Pn 15 40 13.6 +0.9
NAIG Nisos Aigina 4.26 328 ePn Pn 15 40 13.6 +0.9
KORT Korkueli 4.33 48 i P Pn 15 40 16.8 +3.0
KORT i S Sn 15 41 06.8 +2.6
KORT Korkueli 4.33 48 i P Pn 15 40 16.8 +3.0
KORT i S Sn 15 41 06.8 +2.6
VLX Vlachokerasia 4.53 316 P Pn 15 40 16.7 +0.2
VLX Vlachokerasia 4.53 316 ePN Pn 15 40 16.7 +0.2
VLX Vlachokerasia 4.53 316 P Pn 15 40 16.7 +0.2
PYL PYLOS 4.62 307 P Pn 15 40 17.2 -0.5
PYL PYLOS 4.62 307 ePN Pn 15 40 17.2 -0.5
PYL PYLOS 4.62 307 P Pn 15 40 17.2 -0.5
ITM Ithomi 4.67 311 P Pn 15 40 18.9 +0.5
ITM Ithomi 4.67 311 ePN Pn 15 40 19.1 +0.7
ITM Ithomi 4.67 311 P Pn 15 40 18.9 +0.5
LTK Loutraki 4.71 326 P Pn 15 40 19.4 +0.5
LTK Loutraki 4.71 326 ePN Pn 15 40 19.5 +0.5
LTK Loutraki 4.71 326 P Pn 15 40 19.4 +0.5
KULA Kula-Manisa 4.73 23 ePN Pn 15 40 17.2 -2.0
KULA Kula-Manisa 4.73 23 ePn Pn 15 40 17.2 -2.0
BCK Bucak 4.78 45 ePN Pn 15 40 18.4 -1.5
BCK Bucak 4.78 45 ePn Pn 15 40 18.4 -1.5
AKS Akhisar 4.85 14 ePN Pn 15 40 20.0 -0.9
AKS Akhisar 4.85 14 ePn Pn 15 40 20.0 -0.9
KHL Karahalli 4.89 31 ePN Pn 15 40 19.2 -2.2
KHL Karahalli 4.89 31 ePn Pn 15 40 19.2 -2.2
KHAL Karahalli 4.91 30 i P Pn 15 40 22.7 +0.9
KHAL i S Sn 15 41 16.9 -1.6
KHAL Karahalli 4.91 30 i P Pn 15 40 22.7 +0.9
KHAL i S Sn 15 41 16.9 -1.6
GUR Goura 4.95 321 P Pn 15 40 22.6 +0.3

GUR Goura 4.95 321 ePN Pn 15 40 22.7 +0.4
GUR Goura 4.95 321 ePn Pn 15 40 22.7 +0.4
SWA2 4.96 189 P Pn 15 40 24.4 +2.0
baz=190
SWA2 AMP 15 41 00.0
comp=N,60µm,0.4s,logA/T=5.1,baz=190
SWA2 4.96 189 P Pn 15 40 24.4 +2.0
AKMC Akamas 5.03 78 P Pn 15 40 23.5 +0.2
baz=269
AKMC Akamas 5.03 78 P Pn 15 40 23.5 +0.2
AMT Artemida-Makis 5.03 313 P Pn 15 40 24.5 +1.2
AMT Artemida-Makis 5.03 313 ePN Pn 15 40 24.0 +0.7
AMT Artemida-Makis 5.03 313 ePn Pn 15 40 24.0 +0.7
AMT Artemida-Makis 5.03 313 P Pn 15 40 24.5 +1.2
MRKA Markates 5.04 335 P Pn 15 40 24.8 +1.4
MRKA Markates 5.04 335 ePN Pn 15 40 23.8 +0.4
MRKA Markates 5.04 335 ePn Pn 15 40 23.8 +0.4
MRKA Markates 5.04 335 P Pn 15 40 24.8 +1.4
SIGR SIGRI 5.05 356 ePN Pn 15 40 24.8 +1.3
SIGR SIGRI 5.05 356 ePn Pn 15 40 24.8 +1.3
KLV Kalavryta, Ach 5.13 320 P Pn 15 40 25.1 +0.3
KLV Kalavryta, Ach 5.13 320 ePN Pn 15 40 25.0 +0.3
KLV Kalavryta, Ach 5.13 320 P Pn 15 40 25.1 +0.3
LKR Lokris 5.21 330 ePN Pn 15 40 26.9 +1.1
LKR Lokris 5.21 330 ePn Pn 15 40 26.9 +1.1
ALFC Alevga 5.27 77 P Pn 15 40 27.2 +0.6
baz=267
ALFC S Sn 15 41 22.1 -5.0
ALFC Alevga 5.27 77 P Pn 15 40 27.2 +0.6
DRO Drossia 5.31 317 P Pn 15 40 28.6 +1.4
DRO Drossia 5.31 317 ePN Pn 15 40 27.9 +0.7
DRO Drossia 5.31 317 ePn Pn 15 40 27.9 +0.7
DRO Drossia 5.31 317 P Pn 15 40 28.6 +1.4
GAZI Gazipasa 5.32 66 i P Pn 15 40 28.0 +0.7
GAZI i S Sn 15 41 23.8 -4.7
GAZI Gazipasa 5.32 66 i P Pn 15 40 28.0 +0.7
GAZI i S Sn 15 41 23.8 -4.7
SMIA Simia 5.33 333 ePN Pn 15 40 28.2 +0.8
SMIA Simia 5.33 333 ePn Pn 15 40 28.2 +0.8
AOS Alonnisos 5.36 339 ePN Pn 15 40 28.0 +0.1
AOS Alonnisos 5.36 339 ePn Pn 15 40 28.0 +0.1
SZAC Souni-Zanaja 5.45 82 P Pn 15 40 30.5 +1.4
baz=272
SZAC S Sn 15 41 27.8 -3.9
SZAC Souni-Zanaja 5.45 82 P Pn 15 40 30.5 +1.4
AXAR Agios Charalam 5.46 328 ePN Pn 15 40 30.5 +1.3
AXAR Agios Charalam 5.46 328 ePn Pn 15 40 30.5 +1.3
SKIA Skiathos 5.49 336 ePN Pn 15 40 30.5 +0.9
SKIA Skiathos 5.49 336 ePn Pn 15 40 30.5 +0.9
LEF Lefka 5.50 78 ePN Pn 15 40 27.5 -2.2
RLS Riolos of Patr 5.52 316 ePN Pn 15 40 30.2 +0.2
RLS Riolos of Patr 5.52 316 ePn Pn 15 40 30.2 +0.2
ALT Altintas 5.75 31 ePN Pn 15 40 31.8 -1.5
ALT Altintas 5.75 31 ePn Pn 15 40 31.8 -1.5
XOR Xorichti 5.76 335 ePN Pn 15 40 34.3 +0.9
XOR Xorichti 5.76 335 ePn Pn 15 40 34.3 +0.9
AGG Agios Georgios 5.81 328 P Pn 15 40 34.5 +0.4
AGG Agios Georgios 5.81 328 ePN Pn 15 40 34.7 +0.6
AGG Agios Georgios 5.81 328 P Pn 15 40 34.5 +0.4
CSS Prodhromos 5.84 80 P Pn 15 40 34.9 +0.5
baz=270
CSS S Sn 15 41 37.1 -4.0
CSS Prodhromos 5.84 80 PN Pn 15 40 33.1 -1.3
CSS Prodhromos 5.84 80 i Pn Pn 15 40 33.1 -1.3
CSS Prodhromos 5.84 80 P Pn 15 40 34.9 +0.5
MAKR Makrakomi, Fth 5.89 326 ePN Pn 15 40 35.9 +0.7
MAKR Makrakomi, Fth 5.89 326 ePn Pn 15 40 35.9 +0.7
LFK Lefkose 6.04 77 ePN Pn 15 40 35.8 -1.4
LFK Lefkose 6.04 77 ePn Pn 15 40 35.8 -1.4
PDO Prodromos 6.06 318 ePN Pn 15 40 38.1 +0.7
PDO Prodromos 6.06 318 ePn Pn 15 40 38.1 +0.7
VLS Valsamata 6.12 312 ePN Pn 15 40 39.3 +1.0
VLS Valsamata 6.12 312 ePn Pn 15 40 39.3 +1.0
PAIG Paliouri 6.12 341 ePN Pn 15 40 40.5 +2.2
PAIG Paliouri 6.12 341 ePn Pn 15 40 40.5 +2.2
KONT Konya--Tatoy 6.17 51 ePN Pn 15 40 37.0 -2.1
AWBH 6.23 159 P Pn 15 40 41.6 +1.7
baz=159
AWBH 6.23 159 P Pn 15 40 41.6 +1.7
KOT Kottamia 6.30 131 P Pn 15 40 41.7 +0.9
baz=131
LADK Ladik-KONYA 6.33 49 ePN Pn 15 40 38.5 -2.7
KDHN Kadinhani 6.38 45 i P Pn 15 40 44.5 +2.5
KDHN i S Sn 15 41 54.6 0.0
KDHN Kadinhani 6.38 45 i P Pn 15 40 44.5 +2.5
KDHN i S Sn 15 41 54.6 0.0
THL Klokotos Trika 6.40 329 ePN Pn 15 40 43.5 +1.5
THL Klokotos Trika 6.40 329 ePn Pn 15 40 43.5 +1.5
OUR Ouranopolis 6.43 344 ePN Pn 15 40 44.3 +1.8
OUR Ouranopolis 6.43 344 ePn Pn 15 40 44.3 +1.8
HHAG Hagoal 6.46 129 P Pn 15 40 44.0 +1.0
baz=129
GLL Jalalah 6.47 134 P Pn 15 40 43.9 +0.7
baz=134
KIZT Kizilcal 6.49 42 ePN Pn 15 40 41.7 -1.8
KIZT Kizilcal 6.49 42 ePn Pn 15 40 41.7 -1.8
LIT Litokhoron 6.67 334 ePN Pn 15 40 46.9 +1.1
LIT Litokhoron 6.67 334 ePn Pn 15 40 46.9 +1.1
ALN Alexandroupoli 6.72 358 ePN Pn 15 40 48.3 +1.8
ALN Alexandroupoli 6.72 358 ePn Pn 15 40 48.3 +1.8
SUZ 7.01 126 P Pn 15 40 51.5 +1.0
baz=126
SUZ 7.01 126 P Pn 15 40 51.5 +1.0
IGT Igoumenitsa 7.19 320 ePN Pn 15 40 53.8 +0.8
IGT Igoumenitsa 7.19 320 ePn Pn 15 40 53.8 +0.8
MERS Mersin 7.21 66 ePN Pn 15 40 50.8 -2.5
KNT Kendrikon 7.49 340 ePN Pn 15 40 58.2 +1.1
KNT Kendrikon 7.49 340 ePn Pn 15 40 58.2 +1.1
MMAI Mount Meron Ar 7.66 96 P Pn 15 40 59.1 -0.4
comp=N,3.5nm,0.3s,baz=285,slow=11,SNR=8.2
MMAI S Sn 15 42 23.6 -2.6
comp=N,9.3nm,0.3s,baz=261,slow=24,SNR=7.4
MMAI LR LR 15 44 53.5
comp=N,179nm,18.9s,baz=150,slow=44
FNA Florina 7.68 331 ePN Pn 15 41 01.4 +1.6
FNA Florina 7.68 331 ePn Pn 15 41 01.4 +1.6
KARA Karaisali 7.74 64 ePN Pn 15 40 57.5 -3.1
BRBR Barbar 8.05 93 eP Pn 15 41 05.2 +0.2
BRBR eS Sn 15 42 28.7 -7.2
BRBR AML AML 15 42 36.3
comp=E,32nm,0.5s
BRBR AML AML 15 42 40.0
comp=N,32nm,0.4s
BRBR AML AML 15 42 40.5
comp=Z,16nm,0.4s
BRBR Barbar 8.05 93 eP Pn 15 41 05.2 +0.2
SNR=90
BRTR Keskin Array B 8.06 44 P Pn 15 41 06.2 +1.1
comp=Z,0.2nm,0.3s,baz=224,slow=13,SNR=7.2
BRTR S Sn 15 42 34.9 -1.3
comp=Z,0.1nm,0.3s,baz=212,slow=24,SNR=3.0
ARNB Al Arnab 8.10 75 eP Pn 15 41 06.5 +1.0
ARNB eS Sn 15 42 28.4 -8.4
ARNB AML AML 15 42 38.0
comp=E,10nm,0.5s
ARNB AML AML 15 42 38.7
comp=N,23nm,0.3s
ARNB Al Arnab 8.10 75 eP Pn 15 41 06.5 +1.0
SNR=90
TCHB Talchebab 8.20 98 eP Pn 15 41 07.8 +0.9
TCHB eS Sn 15 42 31.5 -7.9
TCHB AML AML 15 42 40.3
comp=Z,19nm,0.3s
TCHB AML AML 15 42 43.2
comp=E,61nm,0.7s
TCHB Talchebab 8.20 98 eP Pn 15 41 07.8 +0.9
SNR=90
BIDA Albida 8.29 81 eP Pn 15 41 08.0 -0.1
BIDA eS Sn 15 42 34.5 -7.1
BIDA AML AML 15 42 38.2
comp=E,72nm,0.3s
BIDA AML AML 15 42 44.7
comp=N,19nm,0.3s
BIDA Albida 8.29 81 eP Pn 15 41 08.0 -0.1
SNR=90
HAWK Haweek 8.35 85 eP Pn 15 41 09.7 +0.8
HAWK eS Sn 15 42 37.0 -6.1
HAWK AML AML 15 42 42.0
comp=E,11nm,0.4s
HAWK AML AML 15 42 44.0
comp=N,14nm,1.0s
HAWK Haweek 8.35 85 eP Pn 15 41 09.7 +0.8
SNR=90

KOZT Kozan 8.40 64 ePN Pn 15 41 06.5 -3.0
WRDH Warideh 8.40 78 eP Pn 15 41 09.6 -0.1
WRDH eS Sn 15 42 35.8 -8.6
WRDH AML AML 15 42 41.8
comp=N,13nm,0.4s
WRDH AML AML 15 42 45.0
comp=Z,20nm,0.4s
WRDH AML AML 15 42 46.0
comp=E,32nm,0.3s
WRDH Warideh 8.40 78 eP Pn 15 41 09.6 -0.1
SNR=90
MARH Ras Al Marh 8.43 88 eP Pn 15 41 11.7 +1.4
MARH eS Sn 15 42 38.1 -7.3
MARH AML AML 15 42 48.1
comp=Z,7.3nm,0.4s
MARH AML AML 15 42 48.8
comp=E,17nm,0.4s
MARH AML AML 15 42 51.2
comp=N,15nm,0.5s
MARH Ras Al Marh 8.43 88 eP Pn 15 41 11.7 +1.4
SNR=90
BTCH Batrach 8.51 74 eP Pn 15 41 11.6 +0.4
BTCH eS Sn 15 42 38.8 -8.3
BTCH AML AML 15 42 47.1
comp=N,34nm,0.4s
BTCH AML AML 15 42 48.1
comp=E,32nm,0.3s
BTCH Batrach 8.51 74 eP Pn 15 41 11.6 +0.4
SNR=90
EIL Elat 8.60 119 P Pn 15 41 14.2 +2.0
comp=E,0.8nm,0.3s,baz=257,slow=0.7,SNR=16
KFRA Kufra 8.69 80 eP Pn 15 41 13.6 0.0
KFRA AML AML 15 42 52.1
comp=N,70nm,0.5s
KFRA Kufra 8.69 80 eP Pn 15 41 13.6 0.0
SNR=90
SALA Sala 8.82 97 eP Pn 15 41 15.3 -0.2
SALA eS Sn 15 42 47.5 -7.4
SALA AML AML 15 43 02.7
comp=Z,13nm,0.4s
SALA AML AML 15 43 03.9
comp=E,1.7nm,0.5s
SALA Sala 8.82 97 eP Pn 15 41 15.4 -0.2
SNR=90
RABH Abou Rabah 9.01 85 eP Pn 15 41 19.7 +1.7
RABH eS Sn 15 42 51.1 -8.2
RABH AML AML 15 42 57.6
comp=N,8.7nm,0.7s
RABH AML AML 15 43 00.6
comp=E,7.7nm,1.0s
RABH Abou Rabah 9.01 85 eP Pn 15 41 19.7 +1.7
SNR=90
STON Ston 11.00 325 ePn Pn 15 41 40.9 -4.3
STON Sn Sn 15 43 36.1 -12
KIS Kishinev 12.96 8 e Pn 15 42 10.0 -1.8
KIS eL L 16 04 36.0
KIS LRM MLR 16 16 56.0
comp=E,600nm,18.0s
NVLJ Novalja 13.63 323 ePn Pn 15 42 14.2 -6.9
NVLJ Sn Sn 15 44 39.5 -13
STHS Stebnicka Huta 15.69 348 eP P 15 42 53.1 +0.2
STHS Stebnicka Huta 15.69 348 eP P 15 42 53.1 +0.2
KBZ Khabaz 16.02 49 P P 15 42 55.4 -1.1
comp=E,0.1nm,0.3s,baz=263,slow=5.0,SNR=4.9
AKASG Malin Array Be 16.66 6 P Pn 15 43 00.3 -0.8
comp=E,1.6nm,0.3s,baz=200,slow=11,SNR=14
GERES GERESS Array B 17.41 331 P Pn 15 43 10.9 +0.1
comp=E,0.2nm,0.3s,baz=144,slow=12,SNR=6.4
GERES LR LR 15 51 03.9
comp=E,98nm,20.6s,baz=49,slow=41
KHC Kasperske Hory 17.69 332 eP Pn 15 43 14.5 +0.4
KHC Kasperske Hory 17.69 332 P Pn 15 43 14.5 +0.4
DPC Dobruska-Polom 17.76 339 eP Pn 15 43 14.5 -0.5
DPC Dobruska-Polom 17.76 339 P Pn 15 43 14.5 -0.5
CLL Collm 19.67 335 eP P 15 43 37.0 +0.3
ESDC Sonseca Array 24.76 292 P P 15 44 29.4 -0.1
comp=E,0.7nm,0.4s,baz=86,slow=9.7,SNR=2.8
GEYT Alibeck 25.91 72 P P 15 44 41.5 +1.5
comp=E,1.7nm,0.3s,baz=276,slow=7.8,SNR=8.9
HFS Hagfors 27.26 346 P P 15 44 49.0 -2.8
comp=E,0.9nm,0.4s,baz=140,slow=12,SNR=9.5
FINES FINESS Array B 27.29 360 P P 15 44 50.2 -1.8
comp=E,0.6nm,0.3s,baz=166,slow=13,SNR=8.3
AKTO Aktyubinsk 28.24 45 P P 15 45 00.5 -0.2
comp=E,1.3nm,0.7s,baz=256,slow=5.9,SNR=5.3
NOA NORSAR Array B 28.60 345 P P 15 45 02.5 -1.4
comp=E,0.7nm,0.8s,baz=167,slow=9.4,SNR=3.2
TORD Torodi Ar. Bea 30.62 233 P P 15 45 23.2 +1.1
comp=E,0.6nm,0.3s,baz=32,slow=8.9,SNR=14
ARCES ARCESS Array B 35.42 360 P P 15 46 01.9 -1.5
comp=E,4.8nm,0.9s,baz=183,slow=8.8,SNR=16
MKAR Makanchi Array 43.53 56 P P 15 47 12.6 +1.2
comp=E,2.8nm,0.7s,baz=278,slow=6.4,SNR=31
ZALV Zalesovo Beam 45.01 45 P P 15 47 23.6 +0.6
comp=E,6.0nm,0.3s,baz=264,slow=8.8,SNR=25
DANN Dangsing 48.90 80 eP P 15 47 55.9 +1.7
comp=E,16nm,0.5s
KOLN Koldanda 48.98 81 eP P 15 47 55.9 +1.1
comp=E,5.1nm,0.6s
GKN Gorkha 49.74 80 eP P 15 48 01.4 +0.9
comp=E,9.0nm,0.6s
DMN Daman 50.28 81 eP P 15 48 05.9 +1.2
comp=E,6.7nm,0.6s
KKN Kakani 50.35 80 eP P 15 48 06.2 +1.0
comp=E,5.7nm,0.5s
PKIN Phulchoki 50.53 81 eP P 15 48 07.8 +1.2
PKI Pulchoki 50.54 81 eP P 15 48 07.7 +0.9
comp=E,5.4nm,0.7s
GUN Gumba 50.80 80 eP P 15 48 09.6 +0.9
comp=E,24nm,1.1s
JIRN Jiri 51.15 80 eP P 15 48 12.3 +0.9
comp=E,3.6nm,0.4s
SONM Songino Array 59.38 50 P P 15 49 11.7 +1.6
comp=E,0.5nm,0.5s,baz=282,slow=7.2,SNR=6.9
SCHQ Schefferville 64.56 320 P P 15 49 44.8 0.0
comp=E,1.7nm,0.3s,baz=74,slow=4.6,SNR=18
CMAR Chiang Mai Arr 65.73 84 P P 15 49 53.8 +0.9
comp=E,0.5nm,0.7s,baz=296,slow=8.8,SNR=3.5
SEY Seymchan 74.11 23 P P 15 50 44.5 +0.9
comp=E,0.4nm,0.4s,baz=286,slow=7.7,SNR=3.5
YKA Yellowknife Ar 78.68 343 P P 15 51 09.3 -0.3
comp=E,0.2nm,0.4s,baz=47,slow=5.6,SNR=4.2

MAN 23 16:27:21, 11°54N×125°41E, h29km, mb4.3, ML3.1, MS2.9, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.07	23	eP	Pb	16 27 27.3	+1.2
PLP	Palo	0.56	229	⇓eP	Pn	16 27 34.4	+1.3
PLP				eS	Sn	16 27 43.3	+1.8
MSLP	Maasin	1.50	201	eP	Pb	16 27 47.9	-0.2
MSLP				eS	Sb	16 28 06.6	-0.2
PVCP	Virac	2.38	329	eP	Pn	16 28 00.1	+2.0

TIF 23 16:36:12.6, 42°.95N×46°.33E, h18km±3km
IDC 23 16:36:12.7±1.5, 43°.26N×46°.35E, h61km±23km, mb3.1/2, mb1 3.4/6, mb1mx3.0/28, mbtmp3.5/6, ML3.8/4, Error ellipse: s-maj=15.0km s-min=11.7km az=43.0
ISCJB 23 16:36:13.1±0.3, 43°.06N±0°.03×46°.30E±0°.03, h105km±4km, mb3.2/2, Error ellipse: s-maj=5.3km s-min=2.5km az=37.8
MOS 23 16:36:13.0±1.1, 43°.09N×46°.34E, h100km, mb4.4/1, Error ellipse: s-maj=10.1km s-min=7.0km az=18.1
CSEM 23 16:36:14.2±0.1, 43°.04N×46°.28E, h100km, mb4.4, Error ellipse: s-maj=3.9km s-min=2.3km az=35.0
AZER 23 16:36:14.8±2.7, 42°.81N×46°.28E, h30km, Error ellipse: s-maj=3.8km s-min=2.7km az=5.0
ISC 23 16:36:13.0±0.7, 43°.09N±0°.03×46°.35E±0°.03, h102km±6km, n98, σ1§41/167, 13C-22D, Eastern Caucasus

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DBC Dubki 0.36 101 ⇓i P Pn 16 36 28.0 -0.3
DBC i S Sn 16 36 37.7 -2.0
DBC Dubki 0.36 101 i P Pn 16 36 28.0 -0.3
BUJR Buynaksk 0.62 115 ⇓i P Pn 16 36 31.0 +1.0
BUJR i S Sn 16 36 43.2 +0.5
BUJR pmax pmax
comp=Z,134nm,0.2s
BUJR Buynaksk 0.62 115 i P Pn 16 36 31.0 +1.0
comp=Z,134nm,0.2s
BUJR i S Sn 16 36 43.2 +0.5

KMKR Kumukh 1.11 150 eP Pn 16 36 36.5 +1.5
KMKR eS Sn 16 36 52.0 +0.4
KMKR pmax pmax
comp=Z,148nm,0.3s
KMKR Kumukh 1.11 150 eP Pn 16 36 36.5 +1.5
comp=Z,148nm,0.3s
KMKR eS Sn 16 36 52.0 +0.4
SNJR Sundja 1.12 269 i P Pn 16 36 35.9 +0.9
SNJR eS Sn 16 36 52.9 +1.3
SNJR Sundja 1.12 269 i P Pn 16 36 35.9 +0.9
SNJR eS Sn 16 36 52.9 +1.3
VLKR Vladikavkaz 1.22 268 i P Pn 16 36 37.1 +1.0
VLKR eS Sn 16 36 54.4 +0.8
VLKR pmax pmax
comp=Z,18nm,0.2s
VLKR smax smax
comp=E,62nm,0.2s
VLKR Vladikavkaz 1.22 268 i P Pn 16 36 37.1 +1.0
comp=E,18nm,0.2s
VLKR eS Sn 16 36 54.4 +0.8
TRKR Terskaya 1.33 299 i P Pn 16 36 38.6 +1.2
TRKR eS Sn 16 36 56.9 +1.1
TRKR pmax pmax
comp=Z,221nm,0.1s
TRKR smax smax
comp=E,442nm,0.2s
TRKR Terskaya 1.33 299 i P Pn 16 36 38.6 +1.2
comp=E,221nm,0.1s
TRKR eS Sn 16 36 56.9 +1.1
BTKR Batakoyurt 1.35 283 ⇑i P Pn 16 36 38.8 +1.2
BTKR eS Sn 16 36 57.1 +0.9
BTKR Batakoyurt 1.35 283 i P Pn 16 36 38.8 +1.2
BTKR eS Sn 16 36 57.1 +0.9
ZKTA Zakatala 1.47 172 ⇑P Pn 16 36 39.7 +0.7
SNR=27
ZKTA ⇑S Sn 16 36 58.7 0.0
ARNR Ardon 1.51 274 ⇓i P Pn 16 36 40.8 +1.3
ARNR i S Sn 16 37 00.2 +0.5
ARNR Ardon 1.51 274 i P Pn 16 36 40.8 +1.3
ARNR i S Sn 16 37 00.2 +0.5
GUDG Gudauri 1.51 246 P Pn 16 36 39.9 +0.1
GUDG Gudauri 1.51 246 P Pn 16 36 39.9 +0.1
GUDG S Sn 16 36 59.6 -0.4
LACR Lac 1.53 261 ⇑i P Pn 16 36 39.7 -0.1
LACR i S Sn 16 36 58.7 -1.5
LACR Lac 1.53 261 i P Pn 16 36 39.7 -0.1
LACR i S Sn 16 36 58.7 -1.5
DUS Dusheti 1.57 231 P Pn 16 36 42.1 +1.7
DUS Dusheti 1.57 231 P Pn 16 36 42.1 +1.7
DUS S Sn 16 37 02.3 +1.2
PRTR Priterechnaya 1.64 294 ⇓i P Pn 16 36 42.6 +1.5
PRTR i S Sn 16 37 04.4 +1.9
PRTR Priterechnaya 1.64 294 i P Pn 16 36 42.6 +1.5
PRTR i S Sn 16 37 04.4 +1.9
KORR Kora 1.67 271 ⇓i P Pn 16 36 42.1 +0.6
KORR eS Sn 16 37 03.4 +0.2
KORR Kora 1.67 271 i P Pn 16 36 42.1 +0.6
KORR eS Sn 16 37 03.4 +0.2
STDR Stavd-Durt 1.69 280 ⇓i P Pn 16 36 43.0 +1.3
STDR i S Sn 16 37 04.9 +1.3
STDR Stavd-Durt 1.69 280 i P Pn 16 36 43.0 +1.3
STDR i S Sn 16 37 04.9 +1.3
SEAG Tbilisi Sea 1.75 221 P Pn 16 36 43.1 +0.6
SEAG Tbilisi Sea 1.75 221 P Pn 16 36 43.1 +0.6
SEAG S Sn 16 37 04.4 -0.6
DGRG David-gareji 1.79 204 P Pn 16 36 44.1 +1.0
DGRG David-gareji 1.79 204 P Pn 16 36 44.1 +1.0
DGRG S Sn 16 37 05.5 -0.5
TBLG Delisi 1.81 222 P Pn 16 36 44.3 +1.1
TBLG Delisi 1.81 222 P Pn 16 36 44.3 +1.1
TBLG S Sn 16 37 05.9 -0.4
ZEI Tsey 1.82 261 ⇓i P Pn 16 36 42.9 -0.7
ZEI eS Sn 16 37 04.5 -2.3
ZEI Tsey 1.82 261 i P Pn 16 36 42.9 -0.7
ZEI eS Sn 16 37 04.5 -2.3
LSNR Lesken 1.85 277 i P Pn 16 36 44.8 +1.0
LSNR eS Sn 16 37 06.5 -0.8
LSNR pmax pmax
comp=Z,63nm,0.2s
LSNR Lesken 1.85 277 i P Pn 16 36 44.8 +1.0
comp=Z,63nm,0.2s
LSNR eS Sn 16 37 06.5 -0.8
SEKA Sheki 1.98 161 ⇑P Pn 16 36 46.3 +0.7
SNR=11
SEKA ⇓S Sn 16 37 10.0 -0.4
SEKA Sheki 1.98 161 P Pn 16 36 46.3 +0.7
SNR=11
SEKA S Sn 16 37 10.0 -0.4
DIGR Digorskoe uzhe 2.04 266 i P Pn 16 36 46.1 -0.2
DIGR eS Sn 16 37 10.1 -1.7
DIGR pmax pmax
comp=Z,30nm,0.2s
DIGR smax smax
comp=N,64nm,0.1s
DIGR Digorskoe uzhe 2.04 266 i P Pn 16 36 46.1 -0.2
comp=N,30nm,0.2s
DIGR eS Sn 16 37 10.1 -1.7
comp=N,64nm,0.1s
QZX Qazax, Azerbai 2.16 200 ⇑P Pn 16 36 47.7 -0.1
QZX ⇓S Sn 16 37 13.0 -1.3
QZX Qazax, Azerbai 2.16 200 P Pn 16 36 47.7 -0.1
QZX S Sn 16 37 13.0 -1.3
ONI Oni 2.19 258 P Pn 16 36 49.8 +1.7
ONI Oni 2.19 258 P Pn 16 36 49.8 +1.7
ONI S Sn 16 37 19.1 +4.1
KUBR Kubataba 2.25 289 i P Pn 16 36 49.8 +0.8
KUBR eS Sn 16 37 14.8 -1.7
KUBR Kubataba 2.25 289 i P Pn 16 36 49.8 +0.8
QUBA Quba, Azerbaij 2.36 137 ⇑P Pn 16 36 52.2 +1.9
SNR=15
QUBA ⇓S Sn 16 37 20.3 +1.3
QUBA Quba, Azerbaij 2.36 137 P Pn 16 36 52.2 +1.9
SNR=15
QUBA S Sn 16 37 20.3 +1.3
MNGR Mingechevir, A 2.38 166 ⇑P Pn 16 36 50.5 -0.1
MNGR Mingechevir, A 2.38 166 P Pn 16 36 50.5 -0.1
GANJ Ganja 2.44 180 ⇓P Pn 16 36 51.6 +0.1
SNR=4.8
GANJ ⇓S Sn 16 37 18.5 -2.5
GANJ Ganja 2.44 180 P Pn 16 36 51.6 +0.1
SNR=4.8
GANJ S Sn 16 37 18.5 -2.5
PYA Pyatigorsk 2.57 293 i P Pn 16 36 53.5 +0.4
PYA eS Sn 16 37 21.8 -2.1
PYA Pyatigorsk 2.57 293 i P Pn 16 36 53.5 +0.4
KBZ Khabaz 2.59 285 P Pn 16 36 53.6 +0.2
KBZ S Sn 16 37 22.0 -2.3
KBZ pmax pmax
comp=Z,19nm,0.3s
KBZ smax smax
comp=N,22nm,0.3s
KBZ Khabaz 2.59 285 P Pn 16 36 53.5 +0.2
comp=N,19nm,0.3s,baz=137,slow=5.2,SNR=738
KBZ S Sn 16 37 22.0 -2.3
comp=N,22nm,0.3s,baz=284,slow=18,SNR=21
NEY Neytrino 2.66 275 i P Pn 16 36 55.0 +0.6
NEY eS Sn 16 37 24.6 -1.6
NEY Neytrino 2.66 275 i P Pn 16 36 55.0 +0.6
NEY eS Sn 16 37 24.6 -1.6
SIZA Siyzn 2.77 136 ⇓P Pn 16 36 58.6 +2.8
SIZA ⇓S Sn 16 37 31.3 +2.6
SIZA Siyzn 2.77 136 P Pn 16 36 58.6 +2.8
SIZA S Sn 16 37 31.3 +2.6
KIV Kislovodsk 2.80 289 i P Pn 16 36 56.6 +0.4
KIV eS Sn 16 37 27.6 -1.8
KIV Kislovodsk 2.80 289 i P Pn 16 36 56.6 +0.4
PQL Pirkuli 2.85 143 ⇑P Pn 16 36 58.3 +1.4
SNR=9.3
PQL ⇓S Sn 16 37 30.9 +0.2
PQL Pirkuli 2.85 143 P Pn 16 36 58.3 +1.4
SNR=9.3
PQL S Sn 16 37 30.9 +0.2
BRDA Brd 2.90 167 ⇓S Sn 16 37 31.1 -0.4
BRDA Brd 2.90 167 S Sn 16 37 31.1 -0.4
ATGJ Altiaghaj 2.95 138 ⇓P Pn 16 36 58.9 +0.7
SNR=3.8
ATGJ ⇓S Sn 16 37 34.3 +1.3
ATGJ Altiaghaj 2.95 138 P Pn 16 36 58.9 +0.7
SNR=3.8
ATGJ S Sn 16 37 34.3 +1.3
GOF Gofitskoye 3.09 311 eP Pn 16 37 00.9 +1.0
GOF eS Sn 16 37 36.1 0.0

GOF pmax pmax
comp=Z,20nm,0.7s
GOF smax smax
comp=Z,130nm,1.2s
GOF smax smax
comp=N,120nm,0.7s
GOF Gofitskoye 3.09 311 *e*P **Pn 16 37 00.9 +1.0**
comp=N,20nm,0.7s
GOF *e*S Sn 16 37 36.1 0.0
comp=N,120nm,0.7s
GNI Garni 3.18 203 *e*P **Pn 16 37 02.4 +1.1**
GNI Garni 3.18 203 P **Pn 16 37 02.8 +1.5**
comp=N,0.9nm,0.3s,baz=180,slow=21,SNR=4.5
GNI S Sn 16 37 41.6 +3.0
comp=N,3.0nm,0.3s,baz=31,slow=12,SNR=3.8
GNI Garni 3.18 203 *e*P **Pn 16 37 02.4 +1.1**
ALIB Äli-Bayra 3.71 147 ⇑S **Sn 16 37 52.2 +1.0**
ALIB Äli-Bayra 3.71 147 S **Sn 16 37 52.2 +1.0**
GLBA Clilabad 4.14 157 ⇓S **Sn 16 37 59.2 -2.4**
GLBA Clilabad 4.14 157 S **Sn 16 37 59.2 -2.4**
LRK Lerik 4.69 161 ⇓P **Pn 16 37 22.3 +0.6**
LRK ⇑S **Sn 16 38 14.0 -1.1**
LRK Lerik 4.69 161 P **Pn 16 37 22.3 +0.6**
LRK S **Sn 16 38 14.0 -1.1**
LKRN Lenkeran, Azer 4.75 156 ⇑P **Pn 16 37 22.8 +0.5**
LKRN Lenkeran, Azer 4.75 156 P **Pn 16 37 22.8 +0.5**
ANN Anapa 6.66 288 *e*P **Pn 16 37 48.6 +0.5**
ANN *e*S **Sn 16 39 01.4 -1.1**
ANN pmax pmax
comp=Z,38nm,1.2s
ANN Anapa 6.66 288 *e*P **Pn 16 37 48.6 +0.5**
comp=Z,38nm,1.2s
ANN *e*S **Sn 16 39 01.4 -1.1**
GEYT Alibeck 10.34 116 P **Pn 16 38 37.2 -1.0**
comp=Z,1.0nm,0.3s,baz=319,slow=14,SNR=8.7
GEYT S **Sn 16 40 29.6 -2.6**
comp=Z,0.4nm,0.3s,baz=321,slow=48,SNR=3.3
AKTO Aktyubinsk 10.85 43 ⇑Pn **Pn 16 38 43.9 -1.2**
comp=Z,1.7nm,0.7s
AKTO ⇓Sn Sn 16 40 37.8 -6.7
comp=Z,3.7nm,0.7s
AKTO Aktyubinsk 10.85 43 P **Pn 16 38 44.1 -1.1**
AKTO S **Sn 16 40 40.9 -3.6**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 10.85 43 P **Pn 16 38 44.0 -1.1**
comp=Z,0.6nm,0.3s,baz=222,slow=7.9,SNR=11
AKTO S **Sn 16 40 40.9 -3.6**
comp=Z,0.4nm,0.3s,baz=85,slow=18,SNR=9.3
AB31 Akbulak array 11.26 52 Pn **Pn 16 38 51.1 +0.6**
comp=Z,0.3nm,0.3s,baz=240,slow=11,SNR=25
AB31 ⇓Sn **Sn 16 40 49.3 -4.9**
comp=Z,1.5nm,0.4s,baz=244,slow=20,SNR=14
AB31 Akbulak array 11.26 52 Pn **Pn 16 38 51.2 +0.6**
comp=Z,0.3nm,0.3s,SNR=25
ARU Arti 15.47 26 P **P 16 39 47.8 +0.2**
ARU S **S 16 42 43.4 -1.7**
BRVK Borovoye 18.76 50 *e*P **Pn 16 40 26.6 +1.2**
BRVK pmax pmax
comp=Z,1.0nm,1.2s
BRVK Borovoye 18.76 50 *e*P **Pn 16 40 26.6 +1.2**
comp=Z,1.0nm,1.2s
BVAR Borovoye Array 18.81 50 P **Pn 16 40 27.5 +1.6**
comp=Z,0.2nm,0.3s,baz=250,slow=12,SNR=7.6
FINES FINESS Array B 22.00 334 P **P 16 41 00.0 +1.5**
comp=Z,0.4nm,0.3s,baz=139,slow=12,SNR=4.2
YKA Yellowknife Ar 73.66 351 P **P 16 47 37.9 +3.0**
comp=Z,0.2nm,0.4s,baz=12,slow=6.2,SNR=5.5

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*NEIC **23** 17:07:40.3±2.4, 33°.78S×179°.80W, h123km±18km, mb4.7/10, Error ellipse: s-maj=24.3km s-min=14.0km az=55.0*
*IDC **23** 17:07:41.1±3.9, 33°.87S×179°.84E, h119km±32km, mb4.1/5, mb1 4.2/7, mb1mx4.0/22, mbtmp4.4/7, MS3.8/3, Ms1 3.8/3, ms1mx3.1/27, Error ellipse: s-maj=30.2km s-min=22.2km az=58.0*
ISC 23 17:07:42.6±0.6, 34°.23S±0°.06×179°.79W±0°.08, h150km, n106, σ2s.05/97, mb4.3/14, South of Kermadec Islands

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MXZ Matakaoa Point 3.67 204 PN **Pn 17 08 39.7 +1.2**
MXZ *e*SN **Sn 17 09 27.3 +5.4**
HAZ Te Kaha 4.03 209 *e*PN **Pn 17 08 44.1 +0.8**
HAZ *e*SN **Sn 17 09 35.1 +4.7**
PUZ Puketiti 4.15 202 PN **Pn 17 08 45.4 +0.6**
PUZ SN **Sn 17 09 35.8 +2.6**
TWGZ Tauwhareparae 4.33 204 *e*PN **Pn 17 08 48.7 +1.5**
TWGZ SN **Sn 17 09 40.4 +2.9**
CNGZ Carnagh Statio 4.55 200 *e*PN **Pn 17 08 51.2 +1.3**
MWZ Matawai 4.64 207 PN **Pn 17 08 51.6 +0.4**
MWZ SN **Sn 17 09 46.6 +1.9**
URZ Urewera 4.74 211 P **Pn 17 08 53.0 +0.5**
3.1nm,0.3s,baz=275,slow=5.0,SNR=62
URZ S **Sn 17 09 47.9 +0.9**
19nm,0.3s,baz=252,slow=3.3,SNR=11
URZ Urewera 4.74 211 *e*Pn **Pn 17 08 52.9 +0.4**
145nm,0.7s
URZ *e*Sn Sn 17 09 36.7 -10
URZ S **Sn 17 09 47.9 +0.9**
URZ Urewera 4.74 211 *e*PN **Pn 17 08 52.6 +0.1**
URZ SN **Sn 17 09 47.8 +0.9**
RAGZ Rawiri 4.82 207 *e*PN **Pn 17 08 53.9 +0.3**
RAGZ *e*SN **Sn 17 09 50.5 +1.4**
RIGZ Rimuhau 4.88 203 *e*PN **Pn 17 08 54.6 +0.1**
SNGZ Shannon Statio 5.10 206 PN **Pn 17 08 57.5 +0.2**
KNZ Kokohu 5.20 202 PN **Pn 17 08 57.7 -0.9**
MHGZ Mahia Peninsul 5.25 200 *e*PN **Pn 17 08 59.6 +0.3**
RAHZ Arahi 5.31 207 *e*PN **Pn 17 09 00.3 +0.2**
WHHZ Waihua 5.40 205 *e*PN **Pn 17 09 01.4 +0.2**
OUZ Omahuta 5.54 258 *e*Pn **Pn 17 09 03.3 +0.2**
46nm,0.9s
NMHZ Naumai 5.58 208 *e*PN **Pn 17 09 03.5 -0.2**
BKZ Black Stump Fm 5.76 210 *e*PN **Pn 17 09 05.0 -1.1**
KAHZ Kahuranaki 6.16 205 *e*PN **Pn 17 09 10.6 -0.9**
BHHZ Black Hill Sta 6.21 211 *e*PN **Pn 17 09 11.3 -0.9**
KRHZ Kereru 6.22 209 *e*PN **Pn 17 09 10.4 -1.7**
FWVZ Far West T-bar 6.26 215 *e*PN **Pn 17 09 13.3 +0.4**
PXZ Pawanui 6.38 204 *e*PN **Pn 17 09 12.1 -2.1**
PXZ SN **Sn 17 10 23.8 -2.3**
PRHZ Porangahau 6.67 204 *e*PN **Pn 17 09 16.2 -1.9**
WAZ Wanganui 6.92 216 *e*PN **Pn 17 09 21.1 -0.4**
PRWZ Pori Road 7.16 207 *e*PN **Pn 17 09 23.5 -1.2**
BFZ Birch Farm 7.17 205 *e*SN **Sn 17 10 41.8 -3.3**
MRZ Mangatainoka R 7.40 208 *e*PN Pn 17 09 24.4 -3.6
MRZ *e*SN **Sn 17 10 45.9 -4.8**
HOWZ Holdsworth Sta 7.63 208 PN **Pn 17 09 28.4 -2.6**
TMWZ Te Maipa 7.67 205 *e*PN **Pn 17 09 29.8 -1.7**
KIW Kapiti Island 7.85 211 *e*PN Pn 17 09 30.4 -3.5
MTW Mount Morrison 7.86 207 *e*PN **Pn 17 09 30.9 -3.2**
CAW Cannon Point 7.99 209 *e*PN Pn 17 09 31.8 -3.9
SNZO South Karori 8.30 210 *e*Sn Sn 17 11 04.7 -7.5
PLWZ Palliser 8.31 207 *e*PN Pn 17 09 36.7 -3.3
TCW Tory Channel 8.41 212 *e*PN Pn 17 09 37.1 -4.2
TUWZ Tuamarina 8.73 213 *e*PN Pn 17 09 42.0 -3.6
NNZ Nelson 8.83 216 *e*PN Pn 17 09 43.0 -3.9
NNZ *e*SN **Sn 17 11 19.7 -5.2**
QRZ Quartz Range 8.98 221 *e*PN Pn 17 09 44.4 -4.6
THZ Tophouse 9.47 215 *e*PN **Pn 17 09 52.7 -2.9**
THZ *e*SN **Sn 17 11 35.2 -5.4**
CTZ Chatham Island 9.81 166 *e*SN **Sn 17 11 48.0 -0.4**
MQZ McQueen's Vall 11.14 210 PN Pn 17 10 12.9 -4.5
MQZ *e*SN Sn 17 12 10.3 -10
ODZ Otahua Downs 13.07 211 *e*PN Pn 17 10 38.0 -4.5
DZM Mont Dzumac 17.13 311 P **P 17 11 29.4 -3.0**
0.2nm,0.3s,baz=80,slow=19,SNR=4.3
DZM LR LR 17 15 59.2
comp=Z,162nm,18.8s,baz=217,slow=30
EIDS Eidsvold 26.70 281 *e*P **P 17 13 08.0 +0.1**
3.1nm,0.5s
EIDS Eidsvold 26.70 281 P **P 17 13 08.5 +0.6**
baz=27,SNR=5.4
TAU Tasmania Unive 27.00 241 P **P 17 13 14.0 +3.7**
29nm,1.0s
MOO Moorlands 27.04 243 P **P 17 13 15.5 +4.8**
baz=27,SNR=3.7
RMQ Roma 28.14 277 P **P 17 13 22.8 +2.1**
baz=28,SNR=13
CMSA Cobar Meteorol 29.03 266 P **P 17 13 30.3 +1.8**
baz=29,SNR=6.5
QLP Quilpie 31.83 274 P **P 17 13 54.0 +0.8**
baz=32,SNR=8.5
STKA Stephens Creek 32.33 263 P **P 17 13 59.4 +1.9**
1.5nm,0.7s,baz=108,slow=7.1,SNR=5.9
STKA LR LR 17 26 29.2
comp=Z,305nm,19.9s,baz=287,slow=35
STKA Stephens Creek 32.33 263 P **P 17 13 58.0 +0.5**
0.6nm,0.9s
CTAO Charters Tower 33.16 286 *e*P **P 17 14 05.4 +0.5**
24nm,1.2s
BBOO Buckleboo 36.62 260 S **S 17 20 06.6 +0.3**
baz=37,SNR=8.3
QIS Mount Isa 38.29 280 P **P 17 14 49.0 +0.3**
baz=38,SNR=6.6
COEN Coen 39.08 292 *e*P **P 17 14 54.6 -0.6**
70nm,0.9s
COEN Coen 39.08 292 P **P 17 14 55.6 +0.4**
baz=39,SNR=6.8
PMG Port Moresby 39.09 301 P P 17 14 50.9 -4.4
RABL Rabaul 39.65 313 P **P 17 14 59.4 -0.6**
baz=40,SNR=16
AS31 Alice Springs 41.56 272 *e*P **P 17 15 14.9 -0.7**
ASAR Alice Springs 41.56 272 P **P 17 15 15.4 -0.2**
5.8nm,0.7s,baz=112,slow=7.7,SNR=101
WRAB Tennant Creek 42.89 277 *e*P **P 17 15 25.2 -1.3**
5.2nm,0.6s
WRA Warramunga Arr 42.90 277 P **P 17 15 25.9 -0.6**
3.9nm,0.5s,baz=116,slow=8.3,SNR=57
WRKA Warakurna 45.63 267 P **P 17 15 47.6 -0.6**
baz=46,SNR=13
KNRA Kununurra 49.63 279 P **P 17 16 20.6 +1.6**
baz=50,SNR=6.0
FITZ Fitzroy Crossi 50.97 274 P **P 17 16 29.1 0.0**
baz=51,SNR=5.3
KLBR Kellerberrin 51.77 254 P **P 17 16 35.6 +0.7**
baz=52,SNR=4.2
MEEK Meekatharra 52.95 261 P **P 17 16 42.9 -0.9**
baz=53,SNR=4.8
QSPA South Pole Qui 55.89 180 *e*P P 17 17 09.4 +4.9
9.9nm,0.8s
BATI Baumata 56.76 281 LR LR 17 41 28.4
comp=Z,95nm,18.1s,baz=36
SNAA Sanae 74.37 179 P P 17 19 07.9 +4.5
SNAA Sanae 74.37 179 *e*P P 17 19 07.6 +4.2
8.0nm,0.9s
VNA3 Neumayer Olymp 74.59 177 P P 17 19 09.2 +4.6
VNA2 Neumayer--Watz 75.00 177 P P 17 19 12.2 +5.2
baz=170,slow=5.9
H03N3 Juan Fernandez 79.82 123 T T 18 48 24.2
baz=236,slow=74,SNR=16
H03N2 Juan Fernandez 79.83 123 T T 18 48 26.8
baz=236,slow=74,SNR=21
H03N1 Juan Fernandez 79.84 123 T T 18 48 25.4
baz=236,slow=74,SNR=19
KSRS Korea Array 86.31 321 P **P 17 20 07.3 0.0**
0.8nm,0.6s,baz=138,slow=5.3,SNR=4.8
KSAR Wonju Array Be 86.33 321 P **P 17 20 07.3 -0.1**
PETK Petropavlovsk- 89.16 347 P **P 17 20 20.9 +0.3**
3.0nm,0.6s,baz=140,slow=5.3,SNR=17
ISA Isabella 90.06 46 P P 17 20 31.4 +6.0
1.8nm,0.8s
NVAR Mina Array Bea 92.06 44 P P 17 20 38.5 +3.7
1.5nm,0.7s,baz=221,slow=6.7,SNR=11
MKAR Makanchi Array 119.03 309 PKP **PKPdf 17 26 12.6 -0.5**
0.4nm,0.7s,baz=105,slow=4.2,SNR=4.5
ZALV Zalesovo Beam 119.84 317 PKP **PKPdf 17 26 13.7 -0.7**
0.5nm,0.5s,baz=112,slow=1.6,SNR=4.2
KKAR Karatay Array 125.86 302 *e*PKPdf **PKPdf 17 26 26.2 -0.2**
ARU Arti 135.00 318 *e*PKPdf **PKPdf 17 26 44.1 +0.9**
ARCES ARCESS Array B 141.96 346 PKhKP PKPpre 17 26 51.8
6.1nm,0.9s,baz=20,slow=3.4,SNR=3.5
JOF Joensuu 145.34 335 *e*p **PKPbc 17 27 01.7 -0.1**
4.1nm,0.8s
KBZ Khabaz 145.81 299 PKPbc **PKPab 17 27 04.2 -0.4**
1.9nm,0.9s,baz=116,slow=3.4,SNR=6.0
OBN Obninsk 147.31 321 *e*PKPdf **PKPbc 17 27 07.4 -0.4**
KAF Kangasniemi 147.57 337 *e*p **PKPbc 17 27 07.4 -0.9**
5.4nm,0.6s
FINES FINESS Array B 148.13 337 PKPbc **PKPbc 17 27 09.6 -0.2**
13nm,0.7s,baz=93,slow=3.8,SNR=34
LIC Lamto 151.72 169 *e*PKIKP **PKPab 17 27 25.2 -3.9**
63nm,0.6s
KIC Kosan Boka 151.89 170 *e*PKIKP **PKPab 17 27 25.6 -4.3**
27nm,0.6s
TIC Toumodi 152.13 169 *e*PKIKP **PKPab 17 27 26.1 -4.8**
6.6nm,0.2s
DBIC Dimbokro 152.18 169 *e*PKPbc **PKPab 17 27 26.1 -4.9**
6.3nm,0.5s,baz=172,slow=3.7,SNR=14
NB2 NORSAR Subarra152.25 348 PKP **PKPbc 17 27 19.7 -0.1**
comp=Z,4.9nm,0.7s,baz=21,slow=2.5
NOA NORSAR Array B 152.25 348 PKPbc **PKPbc 17 27 19.9 +0.1**
comp=Z,4.3nm,0.8s,baz=13,slow=4.0,SNR=19
CSS Prodhromos 152.79 281 *e*PKPbc **PKPbc 17 27 21.0 -0.8**
BRTR Keskin Array B 152.84 291 PKPbc **PKPbc 17 27 22.4 +0.5**
comp=Z,2.6nm,0.6s,baz=125,slow=3.0,SNR=18
AKASG Malin Array Be 153.24 317 PKPbc **PKPbc 17 27 22.1 -0.1**
comp=Z,2.9nm,0.7s,baz=65,slow=2.3,SNR=23
AK01 Malin Array Si 153.25 317 *e*PKPdf **PKPdf 17 27 13.9 -0.7**
AK01 *e*PKPbc **PKPbc 17 27 21.4 -0.8**
AK02 Malin Array Si 153.27 317 *e*PKPbc **PKPbc 17 27 21.9 -0.4**
TORD Torodi Ar. Bea 158.97 184 PKP **PKPdf 17 27 26.0 +2.8**
comp=Z,1.0nm,1.0s,baz=190,slow=1.9,SNR=3.8
TORD PKPab **PKPab 17 28 04.2 +4.2**
comp=Z,5.0nm,0.8s,baz=168,slow=3.5,SNR=13

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*IDC **23** 17:38:12.4±1.2, 19°.79N×122°.38E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/33, mbtmp3.4/5, ML3.8/1, Error ellipse: s-maj=70.2km s-min=20.4km az=72.0*
*MAN **23** 17:38:40, 18°.13N×121°.07E, h33km, mb4.7, ML3.6, MS3.6*
ISC 23 17:38:17.7±0.9, 19°.85N±0°.08×121°.4E±0°.2, h36km, n11, σ1s.89/9, mb3.1/4, 1C, Philippine Islands region

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PIP Pasuquin 1.67 205 ⇑*i*P Pn 17 38 43.1 -1.3
PIP *e*S **Sn 17 39 03.8 -0.8**
APYP Conner 1.98 183 *e*P **Pn 17 38 49.1 +0.4**
APYP *e*S Sn 17 38 56.0 -16
ABRA Dolores 2.27 196 *e*P **Pn 17 38 53.1 +0.3**
CAUP Cauayan 2.93 171 *e*P **Pn 17 39 04.0 +2.2**
BOLP Bolinao 3.71 202 *e*P **Pn 17 39 12.4 -0.1**
BALP Baler 4.09 177 *e*P **Pn 17 39 19.6 +1.8**
KSRS Korea Array 18.45 17 P **P 17 42 28.0 -2.2**
0.3nm,0.3s,baz=198,slow=11,SNR=8.9
SONM Songino Array 30.44 340 P **P 17 44 28.8 +1.9**
0.2nm,0.5s,baz=157,slow=10,SNR=3.4
WRA Warramunga Arr 41.55 161 P P 17 45 58.2 -3.7
0.2nm,0.5s,baz=343,slow=9.1,SNR=4.0
MKAR Makanchi Array 41.63 319 P P 17 46 08.8 +6.3
0.1nm,0.5s,baz=107,slow=8.8,SNR=2.9
ASAR Alice Springs 44.95 164 P **P 17 46 27.6 -1.9**
0.3nm,0.2s,baz=354,slow=7.5,SNR=4.4

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*CASC **23** 17:51:24.8±1.4, 16°.33N×91°.29W, h63km±82km, MD4.1*
*ISCJB **23** 17:51:25.9±1.2, 16°.17N±0°.05×91°.35W±0°.05, h26km±12km, Error ellipse: s-maj=9.2km s-min=6.2km az=139.3*
*MEX **23** 17:51:26.4±1.0, 16°.03N×91°.24W, h15km, MD4.0*
ISC 23 17:51:25.1±1.9, 16°.14N±0°.05×91°.37W±0°.05, h16km±14km, n10, σ0s.63/18, Mexico-Guatemala border region

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CCIG Comitan 0.75 281 *e*P **Pg 17 51 39.9 0.0**
CCIG *i* S **Sn 17 51 51.7 -0.6**
JAT Jato 1.83 188 *e*P **Pn 17 51 56.7 +0.8**
NBG Las Nubes 1.83 147 *e*P **Pn 17 51 56.7 +0.5**
NBG *e*S **Sb 17 52 20.7 -0.4**
PCIG 1.83 257 *e*P **Pn 17 51 55.8 -0.1**
PCIG *i* S **Sn 17 52 18.7 0.0**
PCG Pacaya 1.88 157 *e*P **Pn 17 51 58.0 +1.1**
MRL Marmol 1.94 123 *e*P **Pn 17 51 57.4 -0.1**
MRL *e*S **Sn 17 52 21.3 -0.2**
IXG Ixpaco 2.14 156 *e*P **Pn 17 52 00.8 +0.5**
IXG *e*S **Sb 17 52 29.3 -0.8**
RBDL Robledal 2.59 141 *e*P **Pn 17 52 06.5 0.0**
RBDL *e*S **Sn 17 52 38.3 +0.6**
MTO2 Montecristo 2 2.60 132 *e*P **Pn 17 52 06.3 -0.3**
MTO2 *e*S **Sn 17 52 37.4 -0.5**
SCIG Sabancuy 2.82 4 *i* P **Pn 17 52 09.4 0.0**
SCIG *i* S **Sn 17 52 44.1 +1.0**

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*IDC **23** 17:54:07.6±1.5, 23°.66S×175°.90W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/30, mbtmp4.0/5, MS3.4/4, Ms1 3.4/4, ms1mx3.0/35, Error ellipse: s-maj=42.6km s-min=39.1km az=20.0*
*ISCJB **23** 17:54:12.8±2.3, 23°.9S±0°.4×176°.3W±0°.3, h33km, mb4.2/9, MS3.5/3, Error ellipse: s-maj=57.6km s-min=31.2km az=33.4*
*NEIC **23** 17:54:12.3±1.3, 23°.64S×176°.02W, h30km, mb4.5/4, Error ellipse: s-maj=37.5km s-min=28.7km az=177.0*
ISC 23 17:54:13.3±1.4, 23°.75S±0°.3×176°.1W±0°.2, h33km, n17, σ1s.19/13, mb4.2/9, MS3.6/3, South of Fiji Islands

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DZM Mont Dzumac 16.20 272 LR LR 18 03 14.6
comp=Z,104nm,19.8s,baz=102,slow=34
HNR Honiara 26.96 298 LR LR 18 10 16.2
comp=Z,66nm,18.4s,baz=134,slow=36
EIDS Eidsvold 29.88 260 *e*P **P 18 00 15.9 -2.1**
4.0nm,1.0s
CTAO Charters Tower 35.08 268 *e*P **P 18 01 04.2 +0.7**
5.0nm,0.5s
STKA Stephens Creek 38.12 248 P **P 18 01 30.7 +1.3**
2.3nm,1.0s,baz=101,slow=9.9,SNR=3.1
AS31 Alice Springs 45.61 260 *e*P **P 18 02 31.3 +0.6**
ASAR Alice Springs 45.61 260 P **P 18 02 31.2 +0.4**
1.7nm,0.8s,baz=96,slow=8.6,SNR=14
WRAB Tennant Creek 46.00 265 *e*P **P 18 02 32.8 -1.1**
2.5nm,0.8s
WRA Warramunga Arr 46.01 265 P **P 18 02 33.1 -0.8**
2.5nm,0.8s,baz=103,slow=8.2,SNR=18
QSPA South Pole Qui 66.35 180 P **P 18 04 58.5 -0.1**
1.1nm,0.8s,baz=2.1,slow=0.7,SNR=5.9
KSM Kuching 75.64 278 P **P 18 05 54.7 -0.9**
12nm,1.1s
KSRS Korea Array 80.48 318 LR LR 18 36 06.7
comp=Z,26nm,20.3s,baz=146,slow=31
CMAR Chiang Mai Arr 92.86 289 P **P 18 07 25.1 +1.9**
1.0nm,0.8s,baz=142,slow=3.7,SNR=9.1
NNA Nana 93.51 105 LR LR 18 40 60.0
comp=Z,28nm,18.4s,baz=248,slow=30
AKASG Malin Array Be 146.69 330 PKPbc **PKPdf 18 13 50.0 +0.2**
1.3nm,0.6s,baz=42,slow=3.9,SNR=18
BRTR Keskin Array B 150.30 310 PKPbc **PKPbc 18 14 00.6 -0.9**
0.8nm,0.7s,baz=132,slow=4.1,SNR=6.7
CLL Collm 151.59 348 *e*(PKPbc) **PKPab 18 14 12.0 -0.5**

DJA 23 18:14:50.5±0.6, 3°S±8°×14°0E±°, h25km±11km, M3.2/4, mb4.6/1, mB5.1/1, MLv2.5/4, Mw(mB)4.5/1, Near north coast of Irian Jaya

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

GENI Genyem 0.31 5 P Pn 18 14 59.8 +0.4
GENI S Sn 18 15 04.4 -0.7
JAY Jayapura 0.68 56 P Pb 18 15 03.8 0.0
SMPI Sarmi 1.69 302 P Pn 18 15 18.4 -0.1
WAMI Wamena 1.73 236 P Pn 18 15 17.8 -1.2

IDC 23 18:15:44.8±1.2, 3°.15N×129°.32E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/35, mbtmp3.6/5, Error ellipse: s-maj=94.3km s-min=19.4km az=76.0, North of Halmahera

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

WRA Warramunga Arr 23.47 168 P P 18 20 55.6 -0.7
0.7nm,0.4s,baz=348,slow=9.8,SNR=6.0
ASAR Alice Springs 27.02 171 P P 18 21 27.3 -1.6
0.3nm,0.6s,baz=349,slow=8.3,SNR=5.2
KSRS Korea Array 34.16 358 P P 18 22 31.7 -0.1
0.4nm,0.6s,baz=178,slow=8.8,SNR=3.4
STKA Stephens Creek 36.74 162 P P 18 22 55.0 +1.0
1.1nm,0.5s,baz=330,slow=8.1,SNR=4.1
H11S3 WAKE ISLAND Hy 39.62 65 T T 19 06 45.8
baz=252
H11S2 WAKE ISLAND Hy 39.64 65 T T 19 06 45.6
baz=252
H11S1 WAKE ISLAND Hy 39.64 65 T T 19 06 53.3
baz=252
H11N1 WAKE ISLAND Hy 40.20 63 T T 19 07 25.1
baz=250,slow=75
H11N2 WAKE ISLAND Hy 40.21 63 T T 19 07 25.8
baz=250
H11N3 WAKE ISLAND Hy 40.21 63 T T 19 07 26.4
baz=250,slow=75
MKAR Makanchi Array 59.52 324 P P 18 25 50.6 +0.6
0.1nm,0.3s,baz=120,slow=7.4,SNR=5.8

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*NIED **23** 18:18:00, 46°.80N×153°.10E, h32km, Mw3.8 Best double couple: M₀4.91000×10¹⁴ NP1:ϕₛ65.00000°, δ16.00000°, λ-86.00000°. NP2:ϕₛ241.00000°, δ74.00000°, λ-91.00000°.*
*JMA **23** 18:18:33.4±0.9, 46°.80N×153°.15E, h30km, M4.2*
*SKHL **23** 18:18:34.5±0.4, 46°.68N×153°.20E, h63km±4km, mb4.8/2*
*MOS **23** 18:18:36.6±1.4, 47°.19N×152°.74E, h59km, mb4.2/4, Error ellipse: s-maj=26.4km s-min=13.0km az=59.0*
*IDC **23** 18:18:39.7±3.0, 47°.06N×152°.87E, h75km±26km, mb3.4/9, mb1 3.5/12, mb1mx3.3/30, mbtmp3.7/12, Error ellipse: s-maj=40.1km s-min=16.4km az=150.0*
ISC 23 18:18:34.4±1.1, 46°.6N±0°.1×153°.2E±0°.1, h50km, n55, σ2s.03/48, mb3.6/8, 1C, Kuril Islands

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

KUR Kuril'sk 3.96 252 ⇑*i*PN **Pn 18 19 35.4 +2.9**
KUR *i* 18 20 17.9
KUR pmax pmax
comp=N,29nm,0.1s
KUR pmax pmax
comp=Z,74nm,0.6s
KUR pmax pmax
comp=Z,8μm,0.2s
KUR pmax pmax
comp=E,27nm,0.2s
KUR Kuril'sk 3.96 252 *e*P **Pn 18 19 33.4 +0.9**
KUR AMB AMB 18 19 35.8
comp=E,29nm,0.3s
KUR AMB AMB 18 19 35.8
comp=E,74nm,0.3s
KUR *e*S **Sn 18 20 17.5 -0.2**
KUR A A 18 20 25.4
comp=E,103nm,0.3s
KUR A A 18 20 25.4
comp=E,43nm,0.3s
SKR Severo-Kuril's 4.52 24 *e*PN Pn 18 19 36.5 -3.6
SKR *e*S Sn 18 20 23.9 -7.4
SKR smax smax
comp=N,120nm,0.2s
SKR smax smax
comp=E,180nm,0.2s
SKR Severo-Kuril's 4.52 24 *e*P **Pn 18 19 39.3 -0.8**
SKR AMB AMB 18 19 49.1
comp=E,151nm,0.9s
SKR *e*S **Sn 18 20 28.2 -3.1**
SKR A A 18 20 28.8
comp=E,120nm,0.4s
SKR A A 18 20 28.8
comp=E,180nm,0.4s
SKR A A 18 20 28.8
comp=E,40nm,0.4s
SHO Shikotan 5.26 241 *e*P **Pn 18 19 50.9 +0.6**
SHO *e*S **Sn 18 20 47.9 -1.7**
SHO A A 18 21 00.7
comp=E,120nm,0.7s
PAU Pauzhetka 5.42 25 *e*S **Sn 18 20 50.8 -2.6**
NEM2 Nemuro 2 6.20 241 P **Pn 18 20 02.9 -0.3**
NEM2 *e*S **Sn 18 21 09.1 -3.5**
JRA Rausu 6.29 248 P **Pn 18 20 06.5 +2.1**
JNK Nakash 6.71 246 P **Pn 18 20 11.7 +1.4**
JNK *e*S **Sn 18 21 25.2 -0.2**
JAK Akkeshi 7.04 242 P **Pn 18 20 14.3 -0.4**
JAK *e*S **Sn 18 21 29.3 -4.0**
JTKR Abashiri--Toko 7.06 251 P **Pn 18 20 17.2 +2.2**
PETK Petropavlovsk- 7.13 22 P **Pn 18 20 17.4 +1.4**
comp=E,0.2nm,0.3s,baz=187,slow=14,SNR=7.7
PET Petropavlovsk 7.33 27 *e*S **Sn 18 21 36.2 -4.2**
PET A A 18 21 38.1
comp=E,300nm,0.6s
JMP Maruseppu 7.40 253 P **Pn 18 20 22.6 +2.8**
JAR Ashorobuto 7.46 247 P **Pn 18 20 22.1 +1.6**
JOB Onbets 7.62 244 P **Pn 18 20 23.5 +0.8**
JKK2 Kamakawa 2 7.86 253 P **Pn 18 20 28.7 +2.7**

JKA Kamikawa-asahi 7.86 255 eP Pn 18 20 28.8 +2.8
ASAJ Asahikawa 7.87 255 PN Pn 18 20 28.8 +2.7
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 7.87 255 P Pn 18 20 29.4 +3.3
ASAJ Asahikawa 7.87 255 P Pn 18 20 28.8 +2.7
comp=Z,0.9nm,0.3s,baz=77,slow=13,SNR=12
JCH Churui 8.07 244 P Pn 18 20 28.9 +0.1
JCH eS Sn 18 21 54.7 -3.9
JNBK Urakawa-nobuka 8.63 244 P Pn 18 20 35.7 -0.8
JNB Noboribetsu 9.61 249 P Pn 18 20 50.5 +0.5
JKB Kayabe 9.91 246 P Pn 18 20 53.1 -1.0
JKB eS Sn 18 22 37.1 -6.8
JYM2 Yakumo 2 10.22 249 P Pn 18 20 58.0 -0.2
JANG Nango 10.52 238 P Pn 18 20 59.9 -2.5
JANG eS Sn 18 22 49.1 -10
EKMR Ekimchan 14.55 304 erx rx 18 22 00.5
USRK Ussuriysk Arra 15.08 269 P Pn 18 22 04.0 -0.1
comp=Z,0.1nm,0.3s,baz=83,slow=13,SNR=3.5
KSRS Korea Array 20.81 253 P Pn 18 23 15.9 +1.7
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS Korea Array 20.81 253 P Pn 18 23 15.9 +1.7
comp=Z,1.0nm,0.7s,baz=55,slow=11,SNR=4.8
H11N2 WAKE ISLAND Hy 29.07 153 T T 18 56 01.0
baz=340,slow=76,SNR=114
H11N1 WAKE ISLAND Hy 29.08 153 T T 18 56 10.6
baz=340,slow=76,SNR=29
H11N3 WAKE ISLAND Hy 29.08 153 T T 18 56 03.2
baz=340,slow=76,SNR=36
H11S1 WAKE ISLAND Hy 30.16 154 T T 18 57 26.1
baz=340,slow=76,SNR=45
H11S3 WAKE ISLAND Hy 30.16 154 T T 18 57 19.1
baz=340,slow=76,SNR=79
H11S2 WAKE ISLAND Hy 30.17 154 T T 18 57 06.7
baz=340,slow=76,SNR=64
INK Inuvik 41.74 32 P P 18 26 20.1 +2.1
INK pmax pmax
comp=Z,1.0nm,0.7s
INK Inuvik 41.74 32 P P 18 26 20.1 +2.1
comp=Z,0.7nm,0.5s,baz=282,slow=5.0,SNR=4.3
MKAR Makanchi Array 47.05 298 P P 18 26 59.9 -0.9
comp=Z,0.2nm,0.5s,baz=67,slow=8.3,SNR=3.3
YKA Yellowknife Ar 51.01 37 P P 18 27 31.3 +0.6
comp=Z,0.3nm,0.5s,baz=298,slow=7.6,SNR=8.5
CMAR Chiang Mai Arr 52.39 257 P P 18 27 44.0 +2.4
CMAR Chiang Mai Arr 52.39 257 P P 18 27 44.0 +2.4
comp=Z,0.4nm,0.8s,baz=39,slow=7.4,SNR=4.0
CMAR Chiang Mai Arr 52.39 257 eP P 18 27 44.0 +2.4
FINES FINESS Array B 64.19 335 P P 18 29 02.4 -0.9
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 64.19 335 P P 18 29 02.4 -0.9
comp=Z,1.0nm,0.4s,baz=46,slow=6.0,SNR=12
NB2 NORSAR Subarra 68.38 341 P P 18 29 29.6 -0.6
comp=Z,0.7nm,0.5s,baz=28,slow=6.5
NOA NORSAR Array B 68.38 341 P P 18 29 29.8 -0.4
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 68.38 341 P P 18 29 29.8 -0.4
comp=Z,0.9nm,0.6s,baz=29,slow=6.4,SNR=5.3
AKASG Malin Array Be 71.69 326 P P 18 29 49.7 -0.9
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.69 326 P P 18 29 49.7 -0.9
comp=Z,1.0nm,0.3s,baz=34,slow=6.1,SNR=9.2
TXAR Lajitas Array 77.52 61 P P 18 30 26.5 +1.6
comp=Z,0.2nm,0.5s,baz=308,slow=4.4,SNR=2.8
H03N2 Juan Fernandez 138.70 91 T T 21 13 07.2
baz=306,slow=75,SNR=4.1
H03N1 Juan Fernandez 138.71 91 T T 21 13 00.1
baz=306,slow=75,SNR=4.5
H03N3 Juan Fernandez 138.71 91 T T 21 13 00.5
baz=306,slow=75,SNR=4.2

IDC 23 18:21:39.1±1.9, 9°.36S×125°.70E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.4/31, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=40.9km s-min=32.2km az=54.0
DJA 23 18:21:42.0±1.4, 8°S±11°×12°4E±°, h79km±28km, M3.3/4, MLv3.3/4
ISC 23 18:21:44.2±1.5, 9°.5S±0°.2×125°.64E±0°.10, h35km, n6, σ0°.54/8, Timor region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SOEI Soe 1.37 260 P Pn 18 22 07.4 +0.5
SOEI S Sn 18 22 30.3 +6.3
BATI Baumata 2.06 250 P Pn 18 22 16.9 +0.5
BATI S Sn 18 22 40.2 -0.7
BATI Baumata 2.06 250 Pn Pn 18 22 16.9 +0.5
7.6nm,0.3s,baz=300,slow=2.0,SNR=22
BATI Sn Sn 18 22 40.7 -0.3
9.9nm,0.3s,baz=147,slow=19,SNR=8.7
WRA Warramunga Arr 13.35 142 Pn Pn 18 24 51.1 -0.2
0.4nm,0.3s,baz=318,slow=13,SNR=9.9
WRA Sn Sn 18 27 12.8 -5.8
0.3nm,0.3s,baz=322,slow=24,SNR=6.7
ASAR Alice Springs 16.14 152 Pn Pn 18 25 28.8 +0.3
0.3nm,0.3s,baz=319,slow=11,SNR=21
ASAR Sn Sn 18 28 19.7 -6.9
0.1nm,0.3s,baz=317,slow=20,SNR=5.3
MKAR Makanchi Array 68.06 329 P P 18 32 40.0 -0.2
0.3nm,0.6s,baz=121,slow=6.9,SNR=6.1

IDC 23 18:33:16.1±4.9, 25°.51S×174°.77W, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.8/33, mbtmp4.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/29, Error ellipse: s-maj=261.2km s-min=46.6km az=155.0, South of Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PPT Papeete 24.70 76 LR LR 18 47 31.8
comp=Z,66nm,19.0s,baz=269,slow=35
ASAR Alice Springs 46.48 261 P P 18 41 46.1 +0.8
0.7nm,0.6s,baz=96,slow=7.4,SNR=20
WRA Warramunga Arr 47.04 266 P P 18 41 48.3 -1.5
0.9nm,0.4s,baz=106,slow=8.6,SNR=16
CMAR Chiang Mai Arr 94.55 288 P P 18 46 40.4 +1.4
0.5nm,0.3s,baz=120,slow=3.2,SNR=8.2
AKASG Malin Array Be 148.82 330 PKPbc PKPbc 18 53 04.1 -1.2
0.3nm,0.3s,baz=42,slow=3.7,SNR=8.5
BRTR Keskin Array B 152.33 308 PKPbc PKPbc 18 53 14.0 -0.3
0.6nm,0.8s,baz=59,slow=3.7,SNR=3.5

ISCJB 23 18:42:18.4±0.6, 22°.48N±0°.08×142°.3E±0°.2, h260km, mb3.6/16, Error ellipse: s-maj=24.1km s-min=10.9km az=177.1
IDC 23 18:42:18.7±2.2, 22°.43N×142°.28E, h246km±20km, mb3.4/13, mb1 3.6/15, mb1mx3.3/48, mbtmp4.0/15, Error ellipse: s-maj=19.1km s-min=10.9km az=82.0
ISC 23 18:42:20.0±0.7, 22°.58N±0°.09×142°.1E±0°.2, h260km, n19, σ1°.34/21, mb3.6/16, Volcano Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JCJ Chichijima 4.49 1 P Pn 18 43 29.3 -0.6
11nm,0.3s,baz=148,slow=8.7,SNR=17
JCJ S S 18 44 23.0 -2.9
23nm,0.3s,baz=129,slow=24,SNR=16
KSRS Korea Array 19.22 324 P Pn 18 46 28.3 -0.9
0.2nm,0.3s,baz=143,slow=10,SNR=3.2
WRA Warramunga Arr 42.94 191 P P 18 49 52.8 -1.0
1.3nm,0.4s,baz=7.5,slow=7.8,SNR=26
WRA PcP PcP 18 51 39.2 -0.1
0.3nm,0.5s,baz=6.4,slow=3.4,SNR=5.6
ASAR Alice Springs 46.66 190 P P 18 50 21.4 -1.5
0.5nm,0.5s,baz=22,slow=11,SNR=12
ZALV Zalesovo Beam 52.91 321 P P 18 51 10.3 +0.9
0.6nm,0.4s,baz=117,slow=8.1,SNR=4.4
MKAR Makanchi Array 53.37 312 P P 18 51 14.8 +1.9
0.6nm,0.5s,baz=91,slow=9.1,SNR=13
STKA Stephens Creek 54.15 181 P P 18 51 17.5 -1.1
1.3nm,0.7s,baz=37,slow=10,SNR=3.8
KURBB Kurchatov Arra 56.20 317 P P 18 51 34.6 +1.5
1.0nm,0.5s,baz=93,slow=7.5,SNR=19
BVAR Borovoye Array 61.36 319 P P 18 52 10.1 +1.7
1.6nm,0.5s,baz=98,slow=7.9,SNR=16
ILAR Eielson Array 61.71 27 P P 18 52 10.6 0.0
0.5nm,0.7s,baz=256,slow=5.8,SNR=9.1
YKA Yellowknife Ar 76.14 28 P P 18 53 39.9 +0.8
0.9nm,0.6s,baz=290,slow=5.7,SNR=13
KEV Kevo 77.21 341 ep P 18 53 46.5 +1.6
0.5nm,0.3s
ARCES ARCESS Array B 77.77 341 P P 18 53 49.7 +1.6
2.6nm,0.7s,baz=64,slow=6.1,SNR=12
JOF Joensuu 79.09 334 ep P 18 53 56.0 +0.7
2.4nm,0.6s
KAF Kangasniemi 81.50 335 ep P 18 54 07.1 -1.1
0.8nm,0.3s
FINES FINESS Array B 81.96 334 P P 18 54 11.0 +0.5
2.6nm,0.4s,baz=74,slow=4.5,SNR=48
NVAR Mina Array Bea 83.37 51 P P 18 54 19.6 +1.0
1.0nm,0.6s,baz=268,slow=5.4,SNR=6.7
NOA NORSAR Array B 87.76 338 P P 18 54 39.3 -0.2
0.6nm,0.7s,baz=53,slow=6.2,SNR=2.7
LPAZ La Paz 150.83 83 PKPbc PKPbc 19 01 44.0 +0.7
1.6nm,0.4s,baz=326,slow=3.3,SNR=10

MEX 23 18:44:01.9±0.5, 14°.77N×93°.34W, h16km±22km, MD3.5, Near coast of Chiapas

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PCIG 0.94 7 iP Pb 18 44 16.4 -3.5
PCIG eS Sb 18 44 28.1 -4.0
THIG 1.05 82 iP Pb 18 44 18.0 -3.7
THIG iS Sb 18 44 30.8 -4.4
CCIG Comitan 1.90 37 eP Pn 18 44 31.1 -2.8
CCIG iS Sn 18 44 52.7 -5.1
HUIG Huatulco 2.85 291 eP Pn 18 44 43.5 -3.2

DJA 23 19:01:53.6±0.3, 8°S±4°×11°8E±°, h10km, M3.7/9, MLv3.7/9, Sumbawa region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WBSI Waikabubak, Su 1.98 145 P Pn 19 02 26.3 -1.0
WSI Waingapu 2.62 129 P Pn 19 02 36.9 +0.9
WSI S Sn 19 03 09.1 +1.3
BSSI Bau Bau, Buton 2.90 50 P Pn 19 02 39.2 -0.7
DNP Denpasar 3.07 257 S Sg 19 03 38.3 +6.0
IGBI Denpasar 3.17 255 P Pb 19 02 50.5 +0.5
IGBI S Sg 19 03 33.4 -2.0
BKSI Bulukumba 3.26 35 P Pn 19 02 44.4 -0.4
BNSI Bone 4.04 27 P Pn 19 02 56.8 +1.3
JAGI Jajag, Banyuwa 4.07 263 P Pn 19 02 54.9 -1.1

KRNET 23 19:25:28.8±0.1, 39°.66N×73°.98E, h3km, mb3.6
NNC 23 19:25:34.9±3.1, 39°.90N×74°.00E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=24.9km s-min=14.7km az=165.0
ISC 23 19:25:32.3±2.2, 39°.4N±0°.1×74°.05E±0°.08, h28km, n19, σ1°.67/27, 6C-3D, Southern Xinjiang

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SFK Sufi-Kurgan 0.71 324 iP Pb 19 25 37.2 -9.2
baz=315
SFK eS Sb 19 25 44.9 -11
baz=315
OHH Osh 1.46 319 eP Pn 19 25 54.0 -2.9
baz=314
OHH eS Sn 19 26 12.5 -2.6
baz=314
DRK Karamyk 1.74 272 eP Pn 19 26 01.0 0.0
baz=265
DRK eS Sn 19 26 24.4 +2.0
baz=265
ARSB Arslanbob 2.06 337 eP Pn 19 26 04.0 -1.1
baz=336
ARSB eS Sn 19 26 30.0 +0.1
baz=336
ARLS Aral 2.43 5 ⇓iP Pn 19 26 10.3 0.0
baz=7.0
ARLS ⇓eS Sn 19 26 40.2 +1.0
baz=7.0
BTK Batken 2.57 285 eP Pb 19 26 16.2 -1.5
baz=280
BTK eS Sb 19 26 50.0 +1.1
baz=280
AML Almayashu 2.71 354 P Pn 19 26 14.7 +0.4
SNR=36
KZA Kyzart 2.79 19 P Pn 19 26 17.2 +1.7
SNR=21
UCH Uchtor 2.81 7 P Pn 19 26 15.9 +0.1
SNR=40
ARK Arkit 2.84 327 eP Pn 19 26 17.7 +1.7
baz=325
ARK eS Sn 19 26 50.8 +1.5
baz=325
TRKS Terek-Say 3.05 314 eP Pn 19 26 19.0 +0.2
baz=311
TRKS eS Sn 19 26 57.0 +2.5
baz=311
AAK Ala-Archa 3.21 6 ⇓Pn Pn 19 26 21.7 +0.6
3.0nm,0.5s
AAK ⇑Lg Lg 19 27 02.1
22nm,0.8s
AAK Ala-Archa 3.21 6 P Pn 19 26 18.0 -3.1
SNR=8.6
EKS2 Erkin-Say 3.23 356 P Pn 19 26 22.7 +1.4
SNR=11
EKS Erkin-Say 3.23 357 eP Pn 19 26 23.0 +1.7
baz=357
EKS eS Sn 19 27 01.5 +2.5
baz=357
KBK Karagaybulak 3.29 12 P Pn 19 26 23.2 +1.1
SNR=10
TKM2 Tokmak 2 3.67 18 ⇑Pn Pn 19 26 27.0 -0.5
2.1nm,0.6s
TKM2 ⇑Sn Sn 19 27 07.7 -2.1
2.7nm,0.5s
TKM2 ⇑Lg Lg 19 27 19.6
11nm,0.8s
USP Ospenovka 3.84 5 P Pb 19 26 35.5 -3.9
SNR=6.2
KK31 Karatay Array 4.53 325 Pn Pn 19 26 39.7 +0.6
0.2nm,0.2s,baz=135,slow=13,SNR=22
KK31 Pg Pb 19 26 46.4 -4.7
0.9nm,0.5s,baz=141,slow=12,SNR=4.3
KK31 ⇑Sn Sn 19 27 30.7 -0.1
1.3nm,0.3s,baz=139,slow=25,SNR=2.8
KK31 ⇑Lg Lg 19 27 46.4
2.1nm,0.4s,baz=152,slow=24,SNR=3.5

ISCJB 23 19:29:27.3±0.3, 35°.90N±0°.03×71°.01E±0°.05, h102km, mb3.7/18, Error ellipse: s-maj=6.5km s-min=3.3km az=150.7
IDC 23 19:29:27.8±2.7, 35°.89N×70°.82E, h85km±24km, mb3.6/16, mb1 3.8/21, mb1mx3.6/35, mbtmp4.0/21, MS2.8/2, Ms1 2.8/2, ms1mx2.4/33, Error ellipse: s-maj=19.0km s-min=13.6km az=7.0
NNC 23 19:29:34.1±3.6, 36°.42N×70°.61E, h122km±44km, mb3.7, mpv4.4, Error ellipse: s-maj=27.9km s-min=20.3km az=33.0
ISC 23 19:29:28.8±0.6, 35°.99N±0°.05×71°.05E±0°.07, h102km, n67, σ1°.89/72, mb3.7/18, 7C-8D, Pakistan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CEP Cherat 2.27 162 ⇑P Pn 19 30 05.6 +0.5
CEP S Sn 19 30 35.0 +2.1
CHCP Chirah Chowk 2.95 141 ⇓P Pn 19 30 15.5 +1.5
DLH Dalhousie 5.32 129 eP Pn 19 30 48.0 +1.8
DLH eS Sn 19 31 48.0 +1.7
DHRM DHARAMSHALA 5.73 129 eP Pn 19 30 51.9 +0.2
DHRM eS Sn 19 31 55.9 -0.2
DHRM AML AML 19 31 59.7
comp=N,226nm,0.2s
DHRM AML AML 19 31 59.7
comp=E,190nm,0.2s
BHK Bhakra 6.38 134 ex x 19 31 30.4
AML Almayashu 6.47 18 P Pn 19 31 03.4 +1.6
SNR=99
SDNR Sundarnagar 6.65 131 eP Pn 19 31 03.0 -1.0
UCH Uchtor 6.79 22 P Pn 19 31 08.2 +2.0
SNR=21
KZA Kyzart 6.90 27 P Pn 19 31 10.0 +2.3
SNR=17
EKS2 Erkin-Say 6.99 17 P Pn 19 31 10.5 +1.8
SNR=29
SMLA Simla 7.03 132 eP Pn 19 31 09.2 0.0
SMLA eS Sn 19 32 24.1 -3.5
SMLA AML AML 19 32 27.7
comp=E,71nm,0.2s
SMLA AML AML 19 32 28.4
comp=N,117nm,0.2s
KK31 Karatay Array 7.12 357 P Pn 19 31 10.4 +0.1
comp=N,10nm,0.3s,baz=172,slow=8.9,SNR=468
KK31 ⇓S Sn 19 32 24.7 -4.9
comp=N,9.0nm,0.3s,baz=189,slow=23,SNR=8.5
AAK Ala-Archa 7.15 21 ⇓P Pn 19 31 12.7 +1.8
comp=N,17nm,0.4s
AAK ⇑S Sn 19 32 32.2 +1.5
comp=N,14nm,0.6s
AAK Ala-Archa 7.15 21 P Pn 19 31 13.1 +2.2
SNR=57
AAK Ala-Archa 7.15 21 P Pn 19 31 13.1 +2.2
comp=N,11nm,0.3s,baz=160,slow=4.3,SNR=121
AAK S Sn 19 32 33.1 +2.5
comp=N,2.2nm,0.3s,baz=119,slow=19,SNR=8.2
AAK LR LR 19 34 38.1
comp=N,55nm,21.3s,baz=231,slow=42
KBK Karagaybulak 7.31 23 P Pn 19 31 15.8 +2.7
SNR=13
CHMS Chumysh 7.56 21 P Pn 19 31 18.5 +2.2
SNR=29
USP Ospenovka 7.74 19 P Pn 19 31 20.8 +2.0
SNR=28
TKM2 Tokmak 2 7.76 26 ⇑P Pn 19 31 21.3 +2.1
comp=N,7.0nm,0.5s
TKM2 ⇓S Sn 19 32 45.4 -0.2
comp=N,11nm,1.1s
TKM2 Tokmak 2 7.76 26 P Pn 19 31 21.7 +2.4
SNR=5.7
DDI Dehra Dun 8.14 132 eP Pn 19 31 22.9 -1.4
DDI eS Sn 19 32 50.2 -4.5
DDI AML AML 19 33 32.4
comp=N,45nm,0.4s
DDI AML AML 19 33 34.6
comp=E,55nm,0.4s
PDGK Podgornoye 9.79 39 ⇓P Pn 19 31 48.2 +1.7
GEYT Alibeck 10.53 284 P Pn 19 31 51.8 -5.0
comp=E,3.5nm,0.3s,baz=119,slow=10,SNR=51
GEYT S Sn 19 33 40.2 -13
comp=E,1.5nm,0.3s,baz=198,slow=23,SNR=5.9
DANN Dangsing 13.18 122 eP Pn 19 32 29.5 -2.7
comp=E,12nm,0.2s
KOLN Koldanda 13.43 124 eP Pn 19 32 32.8 -2.7
comp=E,7.6nm,0.3s
MK31 Makanchi Array 13.69 34 P Pn 19 32 38.6 +0.1
comp=E,0.7nm,0.5s,baz=222,slow=12,SNR=13
MKAR Makanchi Array 13.69 34 P Pn 19 32 40.0 +1.5
comp=E,0.1nm,0.3s,baz=217,slow=13,SNR=11
BHPL Bhopal 13.85 155 eP Pn 19 32 33.4 -7.4
BHPL ex x 19 35 04.0
GKN Gorkha 14.00 121 eP Pn 19 32 40.1 -2.7
comp=E,13nm,0.3s
DMN Daman 14.57 121 eP Pn 19 32 48.1 -2.1
comp=E,11nm,0.4s
KKN Kakani 14.58 120 eP Pn 19 32 47.4 -2.9
comp=E,16nm,0.4s
PKIN Phulchoki 14.79 121 eP Pn 19 32 51.0 -2.0
comp=E,10nm,0.3s
PKI Pulchoki 14.80 121 eP Pn 19 32 51.0 -2.2
comp=E,15nm,0.4s
GUN Gumba 14.93 118 eP Pn 19 32 52.9 -2.0
comp=E,13nm,0.4s
JIRN Jiri 15.30 119 eP Pn 19 32 57.4 -2.2
comp=E,22nm,0.4s
AB31 Akbulak array 15.56 332 P Pn 19 33 00.0 -2.2
comp=E,16nm,0.4s,baz=159,slow=11,SNR=343
AB31 S Sn 19 35 42.8 -11
comp=E,7.5nm,0.8s,baz=150,slow=23,SNR=7.6
KURBB Kurchatov Arra 15.60 18 ⇑P Pn 19 33 03.9 +1.2
comp=E,2.3nm,0.5s
KURBB Kurchatov Arra 15.60 18 P Pn 19 33 01.6 -1.1
comp=E,0.4nm,0.3s,baz=210,slow=11,SNR=5.9
RAMN Ramite 16.02 120 eP Pn 19 33 06.6 -1.8
comp=E,7.7nm,0.3s
TAPN Taplejung 16.57 117 eP Pn 19 33 13.9 -1.5
comp=E,11nm,0.3s
ODAN Odare 16.63 119 eP Pn 19 33 15.1 -0.9
comp=E,19nm,0.5s
VOSK Vostochnaya 16.73 360 ⇓P Pn 19 33 15.2 -1.7
comp=E,4.2nm,1.0s
VOSK ⇓S Sn 19 36 14.0 -8.5
comp=E,3.7nm,1.0s
BVA0 Borovoye Array 17.04 359 ⇑P P 19 33 20.7 -0.1
comp=E,2.0nm,0.7s,baz=171,slow=12,SNR=13
BVA0 S Sn 19 36 26.1 -3.8
comp=E,0.2nm,0.5s,baz=160,slow=24,SNR=5.0
BVAR Borovoye Array 17.04 359 P P 19 33 20.7 -0.1
comp=E,0.6nm,0.3s,baz=168,slow=12,SNR=8.3
BRVK Borovoye 17.08 358 ⇓P P 19 33 21.0 -0.2
comp=E,8.3nm,1.1s
AKTO Aktyubinsk 17.25 331 ⇑P P 19 33 23.2 0.0
comp=E,17nm,0.8s
AKTO ⇑S Sn 19 36 24.5 -10
comp=E,6.1nm,0.9s
AKTO Aktyubinsk 17.25 331 P P 19 33 23.1 0.0
comp=E,2.1nm,0.3s,baz=131,slow=13,SNR=46
AKTO LR LR 19 40 15.4
comp=E,39nm,20.7s,baz=58,slow=38
ZALV Zalesovo Beam 20.36 24 P Pn 19 33 58.8 -1.2
comp=E,3.4nm,0.4s,baz=213,slow=10.0,SNR=29
GNI Garni 21.10 289 P P 19 34 05.4 +0.2
comp=E,3.5nm,0.4s,baz=118,slow=5.6,SNR=5.8
KBZ Khabaz 22.88 298 P P 19 34 23.4 -0.2
comp=E,1.2nm,0.8s,baz=120,slow=8.1,SNR=2.7
BRTR Keskin Array B 29.64 289 P P 19 35 23.6 -1.1
comp=E,1.4nm,0.8s,baz=106,slow=8.9,SNR=6.3
CMAR Chiang Mai Arr 30.17 118 P P 19 35 32.1 +2.7
comp=E,0.5nm,0.8s,baz=294,slow=8.2,SNR=4.9
AKASG Malin Array Be 33.30 309 P P 19 35 56.4 -0.2
comp=E,0.8nm,0.5s,baz=82,slow=7.4,SNR=3.4
MLR Muntele Rosu 35.07 300 P P 19 36 12.6 +0.5
comp=E,0.7nm,0.9s,baz=268,slow=18,SNR=5.5
JOF Joensuu 36.34 330 ep P 19 36 23.9 +1.5
comp=E,3.3nm,0.5s
FINES FINESS Array B 37.94 326 P P 19 36 36.8 +0.9
comp=E,2.6nm,0.5s,baz=124,slow=10.0,SNR=28
KAF Kangasniemi 38.08 328 ep P 19 36 37.2 0.0
comp=E,1.2nm,0.5s
KEV Kevo 41.30 338 ep P 19 37 04.3 +0.6
comp=E,0.5nm,0.4s
ARCES ARCESS Array B 41.64 338 P P 19 37 08.0 +1.5
comp=E,3.3nm,0.7s,baz=105,slow=8.9,SNR=11
NB2 NORSAR Subarra 44.82 323 P P 19 37 32.5 +0.2
comp=Z,1.0nm,0.4s,baz=99,slow=7.9
NOA NORSAR Array B 44.82 323 P P 19 37 32.6 +0.3
comp=Z,1.2nm,0.4s,baz=100,slow=7.9,SNR=8.7
TORD Torodi Ar. Bea 65.75 269 P P 19 40 01.1 -2.0
comp=Z,0.5nm,0.6s,baz=49,slow=6.7,SNR=5.1
INK Inuvik 74.40 9 P P 19 40 56.9 +1.8
comp=Z,0.6nm,0.4s,baz=342,slow=6.4,SNR=6.1
ILAR Eielson Array 75.26 16 P P 19 41 01.2 +1.0
comp=Z,0.4nm,0.7s,baz=322,slow=5.7,SNR=7.2
WRA Warramunga Arr 81.68 122 P P 19 41 37.6 +1.5
comp=Z,0.5nm,0.4s,baz=325,slow=4.9,SNR=26
YKA Yellowknife Ar 81.76 3 P P 19 41 36.8 +1.0
comp=Z,0.3nm,0.4s,baz=350,slow=5.3,SNR=14
ASAR Alice Springs 83.92 125 P P 19 41 49.1 +1.5
comp=Z,0.4nm,0.8s,baz=316,slow=5.2,SNR=3.1

BJI 23 19:31:43.6, 32°.50N×48°.30E, h5km, mB5.0/3, mb4.3/8
IDC 23 19:31:45.4±0.7, 32°.53N×48°.38E, h0km, mb3.9/19, mb1 4.0/21, mb1mx3.9/40, mbtmp3.9/21, ML4.3/2, MS3.1/3, Ms1 3.0/3, ms1mx2.6/39, Error ellipse: s-maj=18.4km s-min=14.7km az=6.0
CSEM 23 19:31:47.2±0.1, 32°.48N×48°.25E, h10km, mb4.4/24, Ms4.5, Error ellipse: s-maj=5.7km s-min=3.8km az=45.0
ISN 23 19:31:48.8±0.9, 32°.29N×48°.87E, h28km±999km, ML4.1
THR 23 19:31:48.9±1.1, 32°.56N×48°.42E, h14km±10km, ML4.1
MOS 23 19:31:48.5±1.0, 32°.58N×48°.33E, h33km, mb4.3/20, Error ellipse: s-maj=8.7km s-min=6.2km az=118.0
SGS 23 19:31:48.7, 32°.74N×48°.16E, h17km
NEIC 23 19:31:48.0, 32°.49N×48°.30E, h3km, mb4.1/10, MN4.2(TEH), After TEH.
TEH 23 19:31:48.8, 32°.49N×48°.30E, h3km, ML4.2
DSN 23 19:32:01.0±0.0, 32°.07N×49°.64E, h5km, mb4.2/5, Ms4.5/5, Error ellipse: s-maj=14.7km s-min=3.5km az=230.0
ISC 23 19:31:50.0±0.8, 32°.57N±0°.03×48°.37E±0°.03, h31km±6km, n294, σ1°.36/300, mb4.0/37, 10C-13D, Western Iran

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SHGR Shooshtar-Gavs 0.58 141 ePg Pb 19 31 59.9 -1.9

SHGR Shooshtar-Gavs 0.58 141 ePg Pb 19 31 59.9 -1.9
IKMR Kamar-syah 0.95 1 eSg Sn 19 32 21.0 +1.2
IKMR ePg Pb 19 32 05.4 -2.5
IKMR e 19 32 27.4
comp=Z,99nm,0.1s
IKMR Kamar-syah 0.95 1 ePg Pb 19 32 05.4 -2.5
IKMR eSg Sn 19 32 21.0 +1.2
IKFM Kafar-mosalman 1.05 336 e 19 32 28.3
comp=Z,99nm,0.1s
IKFM ePg Pn 19 32 08.0 -0.6
IDOB Doab 1.23 353 ePg Pb 19 32 12.2 -0.6
IDOB e 19 32 14.4
comp=Z,99nm,0.1s
IDOB eSg Sb 19 32 29.6 +1.2
IDOB Doab 1.23 353 ePg Pb 19 32 12.2 -0.6
IDOB eSg Sb 19 32 29.6 +1.2
IKOM Komasi 1.76 336 ePn Pb 19 32 21.3 -0.5
IKOM eSg Sb 19 32 45.7 +2.2
IKOM e 19 32 51.9
comp=Z,14µm,0.2s
IKOM Komasi 1.76 336 Pn Pb 19 32 21.2 -0.5
IKOM Komasi 1.76 336 ePn Pb 19 32 21.3 -0.5
IKOM eSg Sb 19 32 45.7 +2.2
KHMZ Khomeyn 1.78 48 ePg Pb 19 32 20.6 -1.4
KHMZ eSg Sb 19 32 44.8 +0.8
comp=Z,2µm,0.4s
KHMZ Khomeyn 1.78 48 ePg Pb 19 32 20.6 -1.4
KHMZ eSg Sb 19 32 44.8 +0.8
KHMZ AML AML 19 32 48.2
comp=E,2µm,0.5s
KHMZ AML AML 19 32 49.2
comp=N,2µm,0.4s
IBDR Badra 2.12 285 ePG Pb 19 32 34.6 +6.8
IBDR eSG Sb 19 33 05.7 +12
IPIR Pirpir 2.13 86 ePn Pn 19 32 25.2 +1.5
IPIR e 19 32 59.1
comp=Z,30µm,0.2s
IPIR Pirpir 2.13 86 Pn Pn 19 32 25.2 +1.5
IPIR Pirpir 2.13 86 ePn Pn 19 32 25.3 +1.5
IGHG Ghaleghazi 2.31 320 ePn Pb 19 32 28.2 -3.0
IGHG e 19 33 28.5
comp=Z,9µm,0.5s
IGHG Ghaleghazi 2.31 320 Pn Pb 19 32 28.2 -3.0
IGHG Ghaleghazi 2.31 320 ePn Pb 19 32 28.2 -3.0
ASAO Ashtian 2.41 35 ePn Pb 19 32 30.7 -2.2
ASAO Ashtian 2.41 35 ePn Pb 19 32 30.7 -2.2
NSR Nassriya 2.45 231 ePg Pb 19 32 33.0 -0.3
NSR eSg Sb 19 33 05.0 +1.9
ILIN Lien 2.62 334 ePn Pb 19 32 34.2 -2.3
ILIN e 19 32 40.6
comp=Z,4µm,0.2s
ILIN Lien 2.62 334 ePn Pb 19 32 34.2 -2.3
SNGE Sanandaj 2.66 342 ePn Pb 19 32 33.7 -3.4
SNGE Sanandaj 2.66 342 ePn Pb 19 32 33.7 -3.4
IDHR Dehrash 2.70 323 ePn Pn 19 32 33.0 +1.5
IDHR e 19 32 39.4
comp=Z,5µm,0.2s
IDHR Dehrash 2.70 323 Pn Pn 19 32 32.9 +1.5
IDHR Dehrash 2.70 323 ePn Pn 19 32 33.0 +1.5
IKLH Kolahrood 2.80 74 ePn Pn 19 32 35.8 +2.8
IKLH e 19 33 23.3
comp=Z,10µm,0.2s
IKLH Kolahrood 2.80 74 Pn Pn 19 32 35.7 +2.8
IKLH Kolahrood 2.80 74 ePn Pn 19 32 35.8 +2.8
IRAZ Razeghan 3.12 24 ePn Pn 19 32 40.8 +3.6
IRAZ e 19 33 40.4
comp=Z,8µm,0.3s
IRAZ Razeghan 3.12 24 ePn Pn 19 32 40.8 +3.6
IZEF Zefreh 3.35 83 ePn Pn 19 32 43.1 +2.6
IZEF e 19 33 41.4
comp=Z,4µm,0.4s
IZEF Zefreh 3.35 83 Pn Pn 19 32 43.1 +2.6
IZEF Zefreh 3.35 83 ePn Pn 19 32 43.1 +2.6
BHD Baghdad 3.43 283 ePn Pn 19 32 44.4 +3.1
BHD eSn Sn 19 33 23.0 +2.1
BHD Baghdad 3.43 283 ePN Pn 19 32 44.4 +3.1
BHD ePN Pn 19 32 44.4 +3.1
BHD eSN Pn 19 32 45.4 +4.2
BHD eSn Sn 19 33 23.0 +2.1
IMHD Mahdasht 3.65 31 ePn Pn 19 32 47.3 +2.8
IMHD e 19 33 49.4
comp=Z,4µm,0.4s
IMHD Mahdasht 3.65 31 ePn Pn 19 32 47.3 +2.8
IVRN Varamin 3.70 48 ePn Pn 19 32 48.1 +2.9
IVRN e 19 33 56.7
comp=Z,3µm,0.3s
IVRN Varamin 3.70 48 ePn Pn 19 32 48.1 +2.9
NASN Na'in 3.75 85 ePn Pn 19 32 48.0 +1.9
NASN Na'in 3.75 85 ePn Pn 19 32 48.0 +1.9
CHTH Charan 4.04 34 ePn Pn 19 32 52.3 +2.3
CHTH Charan 4.04 34 ePn Pn 19 32 52.3 +2.3
IKAZ Kazeroun 4.07 132 ePn Pn 19 32 51.9 +1.4
IKAZ e 19 33 44.7
comp=Z,7µm,0.2s
IKAZ Kazeroun 4.07 132 ePn Pn 19 32 51.9 +1.4
IGZV Ghazvin 4.11 21 ePn Pn 19 32 53.0 +2.1
IGZV e 19 33 11.9
comp=Z,2µm,0.2s
IGZV Ghazvin 4.11 21 ePn Pn 19 32 53.0 +2.1
IDMV Damavand 4.28 44 ePn Pn 19 32 55.2 +1.9
IDMV e 19 34 10.0
comp=Z,2µm,0.3s
IDMV Damavand 4.28 44 ePn Pn 19 32 55.2 +1.9
DAMV Damavand 4.28 43 ePn Pn 19 32 55.3 +2.1
comp=Z,187nm,0.7s
DAMV Damavand 4.28 43 ePn Pn 19 32 55.3 +2.1
DAMV AML AML 19 34 07.8
comp=N,186nm,0.7s
KFJS 4.38 185 P Pn 19 32 56.0 +1.6
KFJS S Sn 19 33 46.0 +1.6
KFJS 4.38 185 S Sn 19 33 45.6 +1.2
KFJS 4.38 185 P Pn 19 32 55.8 +1.4
IKRK Kirkuk 4.38 311 ePn Pb 19 33 00.1 -6.1
IKRK eSn Sn 19 33 50.0 +5.6
ISAD Sadrabad 4.55 97 ePn Pn 19 32 58.8 +1.8
ISAD e 19 34 20.2
comp=Z,3µm,0.4s
ISAD Sadrabad 4.55 97 ePn Pn 19 32 58.8 +1.8
IFIR Firoozkooh 4.76 49 e 19 33 03.4
comp=Z,1µm,0.1s
IFIR ePn Pn 19 33 02.2 +2.3
ICHK Chekchek 5.12 92 ePn Pn 19 33 06.1 +1.3
ICHK e 19 34 06.8
comp=Z,1µm,0.2s
ICHK Chekchek 5.12 92 Pn Pn 19 33 06.1 +1.3
ICHK Chekchek 5.12 92 ePn Pn 19 33 06.1 +1.3
ISRV Sarvestan 5.16 127 ePn Pn 19 33 06.8 +1.3
ISRV e 19 34 20.7
comp=Z,2µm,0.3s
ISRV Sarvestan 5.16 127 Pn Pn 19 33 06.7 +1.3
ISRV Sarvestan 5.16 127 ePn Pn 19 33 06.8 +1.3
IMEH Mehriz 5.43 101 ePn Pn 19 33 10.6 +1.4
IMEH e 19 34 13.8
comp=Z,574nm,0.2s
IMEH Mehriz 5.43 101 Pn Pn 19 33 10.5 +1.4
IMEH Mehriz 5.43 101 ePn Pn 19 33 10.6 +1.4
MSL Mosul 5.79 313 ePN Pn 19 33 19.1 +5.4
MSL eSn Sn 19 34 23.0 +4.0
ASYS 6.13 216 P Pn 19 33 18.0 -0.6
ASYS 6.13 216 P Pn 19 33 18.2 -0.3
IBAF Bafgh 6.19 97 ePn Pn 19 33 20.8 +1.4
IBAF e 19 33 21.3
comp=Z,414nm,0.2s
IBAF Bafgh 6.19 97 Pn Pn 19 33 20.7 +1.4
IBAF Bafgh 6.19 97 ePn Pn 19 33 20.8 +1.4
HAKT HAKKARI 6.28 324 iP Pn 19 33 22.1 +1.4
HAKT HAKKARI 6.28 324 iP Pn 19 33 22.1 +1.4
HAKT iS Sn 19 34 29.9 -1.6
BOQSS 6.73 172 P Pn 19 33 29.0 +2.3
BOQSS 6.73 172 P Pn 19 33 28.6 +1.8
RTB Rutbah 6.80 276 ePN Pn 19 33 30.8 +3.1
RTB eSN Sn 19 34 42.3 -1.9
SIRN Sˇ-rnak 6.93 317 iP Pn 19 33 29.4 -0.1
SIRN iS Sn 19 34 45.6 -1.8
SIRN Sˇ-rnak 6.93 317 iP Pn 19 33 29.4 -0.1
SIRN iS Sn 19 34 45.6 -1.8
MARD Mardin 7.83 309 iP Pn 19 33 41.4 -0.4
MARD iS Sn 19 35 06.5 -3.0
SLWS 7.99 165 P Pn 19 33 44.0 0.0
SLWS 7.99 165 P Pn 19 33 43.8 -0.3
GNI Garni 8.11 340 P Pn 19 33 48.3 +2.5
GNI pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 8.11 340 Pn Pn 19 33 48.3 +2.5
comp=Z,8.7nm,0.8s
GNI Garni 8.11 340 P Pn 19 33 48.3 +2.5
comp=Z,9.0nm,0.8s
BTHS 8.76 165 P Pn 19 33 53.0 -1.6
BTHS 8.76 165 P Pn 19 33 53.3 -1.3
RAYN Ar Rayn 9.36 196 ePn Pn 19 34 01.3 -1.5
comp=Z,138nm,1.3s
RAYN eSn Sn 19 35 39.9 -7.1
RAYN Ar Rayn 9.36 196 ePn Pn 19 34 01.3 -1.5
comp=Z,138nm,1.3s
BANOM Banah 9.58 132 P Pn 19 34 05.1 -0.7
SNR=9.8
BANOM Banah 9.58 132 P Pn 19 34 05.1 -0.7
SNR=9.8
NAZ Nazwa, Dubai 9.89 138 P Pn 19 34 10.3 +0.2
SNR=8.4
NAZ Nazwa, Dubai 9.89 138 ⇓iP Pn 19 34 10.3 +0.2
SNR=8.4
ASUD Al Ashush, Dub 10.00 141 P Pn 19 34 11.5 0.0
SNR=6.5
ASUD S Sn 19 35 53.3 -9.4
ASUD Al Ashush, Dub 10.00 141 ⇑iP Pn 19 34 11.5 0.0
SNR=6.5
ASUD ⇓S Sn 19 35 53.3 -9.4
FAQ Al Faqa, Dubai 10.04 139 P Pn 19 34 11.8 -0.4
FAQ Al Faqa, Dubai 10.04 139 ⇓P Pn 19 34 11.8 -0.4
HATD Hatta, Dubai 10.29 137 P Pn 19 34 14.6 -0.9
SNR=7.7
HATD Hatta, Dubai 10.29 137 ⇑iP Pn 19 34 14.6 -0.9
SNR=7.7
ASHO Ashiyiah 10.35 137 P Pn 19 34 15.8 -0.7
SNR=6.9
ASHO Ashiyiah 10.35 137 P Pn 19 34 15.8 -0.7
SNR=6.9
ARQ Araqi 11.68 140 P Pn 19 34 34.2 -0.4
SNR=8.2
ARQ Araqi 11.68 140 P Pn 19 34 34.2 -0.4
SNR=8.2
KBZ Khabaz 11.94 340 LR LR 19 39 53.0
comp=Z,82nm,18.5s,baz=153,slow=41
KIV Kislovodsk 12.21 340 iP Pn 19 34 38.6 -3.3
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,39nm,14.0s
KIV Kislovodsk 12.21 340 ePn Pn 19 34 38.4 -3.5
SMDO Samad 12.76 135 P Pn 19 34 48.2 -1.3
SNR=14
SMDO Samad 12.76 135 P Pn 19 34 48.2 -1.3
SNR=14
BRTR Keskin Array B 13.87 305 Pn Pn 19 35 04.0 -0.6
comp=Z,0.1nm,0.3s,baz=126,slow=9.3,SNR=4.9
VRHR Novokhopersk 19.17 347 eP Pn 19 36 12.4 +0.5
VRHR pmax pmax
comp=N,5.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR Novokhopersk 19.17 347 eP Pn 19 36 12.4 +0.5
AKTK Aktyubinsk 19.23 19 P Pn 19 36 12.9 +0.2
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 19.23 19 P Pn 19 36 12.9 +0.2
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 19.23 19 P Pn 19 36 12.8 +0.2
comp=Z,0.6nm,0.3s,baz=194,slow=10.0,SNR=4.5
VORD Divnogorie 19.57 343 eP P 19 36 13.8 -1.3
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,5.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 19.57 343 eP P 19 36 13.8 -1.3
IDI Anoyia 19.66 284 P P 19 36 16.7 +0.2
comp=Z,1.0nm,0.3s,baz=83,slow=17,SNR=6.9
VSR Storozhevoye 19.83 343 eP P 19 36 16.9 -1.1
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.8s
VSR pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 19.83 343 eP P 19 36 16.9 -1.1
CFR Carcaliu 20.10 315 ⇑P P 19 36 21.3 +0.3
CFR Carcaliu 20.10 315 ⇑iP P 19 36 21.3 +0.3
CFR Carcaliu 20.10 315 P P 19 36 21.3 +0.3
KKAR Karatay Array 20.35 53 P P 19 36 24.2 +0.3
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 20.35 53 P P 19 36 24.2 +0.3
comp=Z,3.9nm,0.7s
KKAR Karatay Array 20.35 53 P P 19 36 24.2 +0.3
comp=Z,3.9nm,0.7s
KDZ Kurdzhali 20.38 303 ⇑P P 19 36 24.8 +0.6
KDZ Kurdzhali 20.38 303 ⇑iP P 19 36 24.8 +0.6
KDZ Kurdzhali 20.38 303 P P 19 36 24.8 +0.6
VRI Vrincioaia 21.30 315 ⇓P P 19 36 34.0 -0.1
VRI Vrincioaia 21.30 315 ⇓iP P 19 36 34.0 -0.1
VRI Vrincioaia 21.30 315 P P 19 36 34.0 -0.1
PLOR Plostina 21.34 315 ⇓P P 19 36 36.2 +1.7
PLOR Plostina 21.34 315 ⇓iP P 19 36 36.2 +1.7
PLOR Plostina 21.34 315 P P 19 36 36.2 +1.7
MLR Muntele Rosu 21.59 313 ⇑P P 19 36 36.3 -1.0
MLR Muntele Rosu 21.59 313 ⇑iP P 19 36 36.3 -1.0
MLR Muntele Rosu 21.59 313 P P 19 36 39.1 +1.8
comp=Z,1.9nm,0.9s,baz=132,slow=14,SNR=8.0
MLR Muntele Rosu 21.59 313 P P 19 36 36.3 -1.0
TESR Tescani 21.69 316 ⇑iP P 19 36 37.9 -0.3
VOIR 22.12 312 ⇓P P 19 36 44.0 +1.0
VOIR 22.12 312 ⇓iP P 19 36 44.0 +1.0
VOIR 22.12 312 P P 19 36 44.0 +1.0
EKS2 Erkin-Say 22.43 56 eP P 19 36 47.2 +0.8
EKS2 pmax pmax
comp=Z,5.0nm,1.2s
EKS2 Erkin-Say 22.43 56 eP P 19 36 47.2 +0.8
comp=Z,5.4nm,1.2s
EKS2 Erkin-Say 22.43 56 eP P 19 36 47.2 +0.8
comp=Z,5.4nm,1.2s
AAK Ala-Archa 22.93 57 P P 19 36 50.0 -1.6
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 22.93 57 P P 19 36 50.0 -1.6
comp=Z,4.3nm,1.3s
AKASG Malin Array Be 22.97 328 P P 19 36 50.5 -1.2
comp=Z,0.2nm,0.3s,baz=133,slow=8.9,SNR=7.7
BURAR Bucovina Array 23.11 317 ⇓P P 19 36 54.1 +0.7
BURAR Bucovina Array 23.11 317 ⇓iP P 19 36 54.0 +0.7
BUR08 Bucovina Ar. S 23.13 317 eP P 19 36 53.1 -0.5
BUR08 Bucovina Ar. S 23.13 317 eP P 19 36 53.1 -0.5
GZR Gura Zlata 23.55 310 ⇑iP P 19 36 54.8 -2.9
TKM2 Tokmak 2 23.79 56 eP P 19 37 00.6 +0.4
TKM2 pmax pmax
comp=Z,6.0nm,0.7s
TKM2 Tokmak 2 23.79 56 eP P 19 37 00.6 +0.4
comp=Z,6.1nm,0.7s
TKM2 Tokmak 2 23.79 56 eP P 19 37 00.6 +0.4
comp=Z,6.1nm,0.7s
DRGR 24.19 313 ⇓P P 19 37 02.1 -1.6
DRGR 24.19 313 ⇓iP P 19 37 02.1 -1.6
DRGR 24.19 313 P P 19 37 02.1 -1.6
MOS Moscow 24.36 345 eP P 19 37 11.6 +6.6
ARU Arti 24.89 14 eP P 19 37 10.7 +0.9
ARU pmax pmax
comp=Z,12nm,1.0s
ARU Arti 24.89 14 eP P 19 37 10.7 +0.9
comp=Z,12nm,1.0s
ARU Arti 24.89 14 eP P 19 37 10.7 +0.9
comp=Z,12nm,1.0s
KOLS Kolonicke sedl 25.47 318 eP P 19 37 17.5 +2.3
KOLS pmax pmax
comp=Z,14nm,1.3s
KOLS Kolonicke sedl 25.47 318 eP P 19 37 17.5 +2.3
BVAR Borovoye Array 25.87 31 P P 19 37 18.8 0.0
comp=Z,1.4nm,0.6s,baz=216,slow=8.4,SNR=5.8
BVAR LR LR 19 48 46.7
comp=Z,46nm,20.4s,baz=261,slow=39
CRVS Cervenica-Dubn 25.92 317 eP P 19 37 22.2 +2.9
CRVS pmax pmax
comp=Z,4.0nm,1.0s
CRVS Cervenica-Dubn 25.92 317 eP P 19 37 22.2 +2.9
TIP Timpagrande 26.36 293 P P 19 37 23.9 +0.4
comp=Z,32nm,1.6s
TIP Timpagrande 26.36 293 P P 19 37 23.9 +0.4
comp=Z,32nm,1.6s
KURBB Kurchatov Arra 28.60 42 P P 19 37 44.4 +1.1
comp=Z,2.3nm,0.7s,baz=244,slow=9.6,SNR=7.8
KURK Kurchatov 28.69 42 P P 19 37 44.4 +0.3
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 28.69 42 eP P 19 37 44.1 0.0
comp=Z,3.0nm,0.9s
KURK Kurchatov 28.69 42 P P 19 37 44.4 +0.3
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 29.47 51 P P 19 37 52.2 +1.1
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 29.47 51 P P 19 37 52.2 +1.1
comp=Z,3.2nm,0.7s,baz=246,slow=8.1,SNR=27
GERES GERESS Array B 30.58 312 P P 19 38 02.3 +1.3
comp=Z,0.4nm,0.6s,baz=91,slow=8.8,SNR=4.0
GERES LR LR 19 53 32.7
comp=Z,29nm,21.0s,baz=58,slow=43
DANN Dangsing 30.71 88 eP P 19 38 03.2 +0.6
comp=Z,14nm,0.8s
DANN Dangsing 30.71 88 eP P 19 38 03.2 +0.6
DANN Dangsing 30.71 88 eP P 19 38 03.2 +0.6
GKN Gorkha 31.55 89 eP P 19 38 10.0 +0.2
comp=Z,10nm,0.7s
GKN Gorkha 31.55 89 eP P 19 38 10.0 +0.2
GKN Gorkha 31.55 89 eP P 19 38 10.0 +0.2
DMN Daman 32.06 89 eP P 19 38 14.7 +0.2
comp=Z,15nm,0.9s
DMN Daman 32.06 89 eP P 19 38 14.7 +0.2
DMN Daman 32.06 89 eP P 19 38 14.7 +0.2
KKN Kakani 32.16 89 eP P 19 38 15.3 +0.1
comp=Z,9.9nm,0.6s
KKN Kakani 32.16 89 eP P 19 38 15.3 +0.1
KKN Kakani 32.16 89 eP P 19 38 15.3 +0.1
KKN Kakani 32.16 89 eP P 19 38 15.3 +0.1
JOF Joensuu 32.25 345 eP P 19 38 15.5 +0.2
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 32.25 345 ep P 19 38 15.5 +0.2
comp=Z,2.7nm,0.7s
JOF Joensuu 32.25 345 eP P 19 38 15.5 +0.2
comp=Z,3.0nm,0.7s
FINES FINESS Array B 32.30 340 P P 19 38 15.7 -0.2
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 32.30 340 P P 19 38 15.7 -0.2
comp=Z,1.7nm,0.5s,baz=148,slow=11,SNR=7.2
PKI Pulchoki 32.33 89 eP P 19 38 17.0 +0.1
comp=Z,8.0nm,0.6s
PKI Pulchoki 32.33 89 eP P 19 38 17.0 +0.1
PKI Pulchoki 32.33 89 eP P 19 38 17.0 +0.1
PKI Pulchoki 32.33 89 eP P 19 38 17.0 +0.1
GUN Gumba 32.63 88 eP P 19 38 20.1 +0.6
comp=Z,30nm,0.9s
GUN Gumba 32.63 88 eP P 19 38 20.1 +0.6
GUN Gumba 32.63 88 eP P 19 38 20.1 +0.6
KAF Kangasniemi 32.78 341 eP P 19 38 18.9 -1.1
KAF pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 32.78 341 ep P 19 38 18.9 -1.1
comp=Z,2.0nm,0.8s
KAF Kangasniemi 32.78 341 eP P 19 38 18.9 -1.1
comp=Z,2.0nm,0.8s
JIRN Jiri 32.96 88 eP P 19 38 22.9 +0.4
comp=Z,14nm,0.7s
JIRN Jiri 32.96 88 eP P 19 38 22.9 +0.4
JIRN Jiri 32.96 88 eP P 19 38 22.9 +0.4
RAMN Ramite 33.53 89 eP P 19 38 27.1 -0.2
comp=Z,12nm,0.7s
RAMN Ramite 33.53 89 eP P 19 38 27.1 -0.2
RAMN Ramite 33.53 89 eP P 19 38 27.1 -0.2
ZALV Zalesovo Beam 33.53 39 P P 19 38 27.2 +0.5
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 33.53 39 P P 19 38 27.2 +0.5
comp=Z,2.0nm,0.5s,baz=250,slow=7.3,SNR=12
ODAN Odare 34.23 89 eP P 19 38 33.6 +0.2
ODAN Odare 34.23 89 eP P 19 38 33.6 +0.2
ODAN Odare 34.23 89 eP P 19 38 33.6 +0.2
MBDF Montbardon 34.33 303 eP P 19 38 33.3 -0.6
comp=Z,20nm,1.0s
MBDF Montbardon 34.33 303 eP P 19 38 33.3 -0.6
MBDF pmax pmax
comp=Z,20nm,1.0s
MBDF Montbardon 34.33 303 eP P 19 38 33.3 -0.6
comp=Z,20nm,1.0s
MBDF Montbardon 34.33 303 eP P 19 38 33.3 -0.6
comp=Z,20nm,1.0s
TAPN Taplejung 34.34 88 eP P 19 38 33.8 -0.6
TAPN Taplejung 34.34 88 eP P 19 38 33.8 -0.6
TAPN Taplejung 34.34 88 eP P 19 38 33.8 -0.6
LPG La Plagne 34.43 304 eP P 19 38 34.3 -0.7
comp=Z,15nm,1.0s
LPG La Plagne 34.43 304 eP P 19 38 34.3 -0.7
LPG pmax pmax
comp=Z,15nm,1.0s
LPG La Plagne 34.43 304 eP P 19 38 34.3 -0.7
comp=Z,15nm,1.0s
LPG La Plagne 34.43 304 eP P 19 38 34.3 -0.7
comp=Z,15nm,1.0s
LPL La Plagne 34.45 304 eP P 19 38 34.4 -0.6
comp=Z,18nm,1.0s
LPL La Plagne 34.45 304 eP P 19 38 34.4 -0.6
LPL pmax pmax
comp=Z,18nm,1.0s
LPL La Plagne 34.45 304 eP P 19 38 34.4 -0.6
comp=Z,18nm,1.0s
LPL La Plagne 34.45 304 eP P 19 38 34.4 -0.6
comp=Z,18nm,1.0s
CABF La Chapelle 35.04 306 eP P 19 38 39.5 -0.5
comp=Z,14nm,0.8s
CABF La Chapelle 35.04 306 eP P 19 38 39.5 -0.5
CABF pmax pmax
comp=Z,14nm,0.8s
CABF La Chapelle 35.04 306 eP P 19 38 39.5 -0.5
comp=Z,14nm,0.8s
CABF La Chapelle 35.04 306 eP P 19 38 39.5 -0.5
comp=Z,14nm,0.8s
SMF Signal de Mont 36.58 306 eP P 19 38 52.1 -1.0
comp=Z,28nm,1.1s
SMF Signal de Mont 36.58 306 eP P 19 38 52.1 -1.0
SMF Signal de Mont 36.58 306 eP P 19 38 52.1 -1.0
comp=Z,28nm,1.1s
SMF Signal de Mont 36.58 306 eP P 19 38 52.1 -1.0
comp=Z,28nm,1.1s
AVF Avril sur Loir 36.93 306 eP P 19 38 54.8 -1.2
AVF Avril sur Loir 36.93 306 eP P 19 38 54.8 -1.2
AVF Avril sur Loir 36.93 306 eP P 19 38 54.8 -1.2
AVF Avril sur Loir 36.93 306 eP P 19 38 54.8 -1.2
NOA NORSAR Array B 37.30 331 P P 19 38 58.1 -0.9
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 37.30 331 P P 19 38 58.1 -0.9
comp=Z,0.7nm,0.8s,baz=124,slow=8.5,SNR=3.0
TAM Tamanrasset 38.95 267 P P 19 39 15.4 +1.8
TAM pmax pmax
comp=Z,2.0nm,0.9s
TAM Tamanrasset 38.95 267 P P 19 39 15.4 +1.8
comp=Z,1.8nm,0.9s
ARCES ARCESS Array B 39.19 348 P P 19 39 15.2 +0.4
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 39.19 348 P P 19 39 15.2 +0.4
comp=Z,4.7nm,1.0s,baz=159,slow=7.7,SNR=9.4
FLN La Foliniere 39.71 309 eP P 19 39 17.9 -1.5
FLN La Foliniere 39.71 309 eP P 19 39 17.9 -1.5
FLN La Foliniere 39.71 309 eP P 19 39 17.9 -1.5
FLN La Foliniere 39.71 309 eP P 19 39 17.9 -1.5
GRR Gorron 39.92 308 eP P 19 39 19.8 -1.4
GRR Gorron 39.92 308 eP P 19 39 19.8 -1.4
GRR Gorron 39.92 308 eP P 19 39 19.8 -1.4
GRR Gorron 39.92 308 eP P 19 39 19.8 -1.4
GTA Gaotai 41.72 66 eP P 19 39 37.1 +0.8
GTA pP pP 19 39 45.8 +0.4
GTA pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 45.80 53 P P 19 40 09.7 +0.7
comp=Z,0.3nm,0.5s,baz=280,slow=8.3,SNR=3.4
ULN Ulaanbaatar 46.25 53 eP P 19 40 12.5 0.0
ULN pmax pmax
comp=Z,1.0nm,0.7s
ULN Ulaanbaatar 46.25 53 eP P 19 40 12.4 0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
	comp=Z,0.6nm,0.7s						
ULN	Ulaanbaatar	46.25	53	eP	P	19 40 12.5	0.0
	comp=Z,1.0nm,0.7s						
TORD	Torodi Ar. Bea	46.73	257	P	P	19 40 17.2	+0.7
	comp=Z,1.5nm,0.9s,baz=47.1,slow=9.4,SNR=5.6						
CHTO	Chiang Mai	47.18	94	eP	P	19 40 19.5	-0.5
CHTO	Chiang Mai	47.18	94	eP	P	19 40 19.5	-0.5
CHTO	Chiang Mai	47.18	94	eP	P	19 40 19.5	-0.5
CMAR	Chiang Mai Arr	47.34	94	P	P	19 40 21.2	0.0
	comp=Z,0.3nm,0.5s,baz=289,slow=8.4,SNR=4.9						
CMAR				PcP	PcP	19 41 52.1	+0.2
	comp=Z,0.6nm,0.9s,baz=298,slow=4.2,SNR=4.2						
LIC	Lamto	56.06	254	eP	P	19 41 26.7	+0.3
LIC	Lamto	56.06	254	eP	P	19 41 26.7	+0.3
LIC	Lamto	56.06	254	eP	P	19 41 26.7	+0.3
YHNB	Yeheng	63.46	77	P	P	19 42 16.0	-1.3
YHNB	Yeheng	63.46	77	P	P	19 42 16.0	-1.3
KSAR	Wonju Array Be	63.48	61	P	P	19 42 16.9	-0.2
KSAR	Wonju Array Be	63.48	61	P	P	19 42 16.9	-0.2
KSAR	Wonju Array Be	63.48	61	P	P	19 42 16.9	-0.2
KSRS	Korea Array	63.50	61	P	P	19 42 16.9	-0.4
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSRS	Korea Array	63.50	61	P	P	19 42 16.9	-0.4
	comp=Z,2.2nm,0.6s,baz=288,slow=6.9,SNR=11						
BOSA	Boshof	64.68	202	P	P	19 42 25.9	+0.8
BOSA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BOSA	Boshof	64.68	202	P	P	19 42 25.9	+0.8
	comp=Z,5.1nm,0.9s,baz=11,slow=5.0,SNR=4.9						
BOSA	Boshof	64.68	202	eP	P	19 42 25.9	+0.8
	comp=Z,8.2nm,1.0s						
BOSA	Boshof	64.68	202	eP	P	19 42 25.9	+0.8
	comp=Z,8.2nm,1.0s						
ILAR	Eielson Array	82.25	7	P	P	19 44 06.5	-1.4
	comp=Z,0.3nm,0.8s,baz=333,slow=4.9,SNR=4.2						
YKA	Yellowknife Ar	84.29	352	P	P	19 44 17.8	-0.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	84.29	352	P	P	19 44 17.8	-0.7
	comp=Z,0.6nm,0.8s,baz=13,slow=5.1,SNR=10						
WRA	Warramunga Arr	97.23	109	P	P	19 45 19.2	-0.9
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA	Warramunga Arr	97.23	109	P	P	19 45 19.2	-0.9
	comp=Z,0.6nm,1.1s,baz=316,slow=4.5,SNR=3.1						
ASAR	Alice Springs	98.83	112	P	P	19 45 26.0	-1.3
ASAR	Alice Springs	98.83	112	P	P	19 45 26.0	-1.3
	comp=Z,0.3nm,0.9s,baz=319,slow=3.9,SNR=3.0						
ASAR	Alice Springs	98.83	112	P	P	19 45 26.0	-1.3

KRSC 23 19:32:23.7±2.4, 48.85N×156.21E, h81km±32km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	Malaya Ipel'ka	3.44	6	P	Pn	19 33 15.5	+0.5
ASAK	Asacha	3.69	16	eP	Pn	19 33 21.0	+2.5
ASAK				S	Sn	19 34 03.3	+2.4
MTVR	Mutnovka	3.84	18	eP	Pn	19 33 23.8	+3.2
MTVR				eS	Sn	19 34 08.1	+3.4
RUS	Russkaya	3.87	21	eP	Pn	19 33 23.3	+2.5
RUS				S	Sn	19 34 07.1	+2.1
AVH	Avacha	4.70	19	eP	Pn	19 33 36.2	+4.1
KOK	Koryaka	4.70	18	eP	Pn	19 33 36.1	+3.9
SMAR	Somma	4.71	19	eP	Pn	19 33 36.2	+3.8
KRER	Koryakskii	4.74	19	eP	Pn	19 33 36.7	+3.9
SDLR	Sedlovina	4.74	20	eP	Pn	19 33 35.7	+2.9
KRX	Arik	4.77	18	eP	Pn	19 33 36.7	+3.6
GNL	Ganaly	4.97	12	eP	Pn	19 33 37.5	+1.6
MKZ	Mys Kozlova	6.66	29	eP	Pn	19 34 01.0	+2.3
TUMR	Tumrok	6.88	19	P	Pn	19 34 05.4	+3.5
KBTR	Krutoberegovo	8.39	26	eP	Pn	19 34 24.2	+1.9

CASC 23 19:37:05.3±1.6, 16.37N×91.25W, h35km±999km, MD4.0
ISCJB 23 19:37:08.4±1.2, 16.12N±0.04×91.27W±0.04, h28km±11km, Error ellipse: s-maj=7.9km s-min=6.3km az=135.1
MEX 23 19:37:09.3±0.7, 16.06N×91.23W, h6km±11km, MD4.0
ISC 23 19:37:08.3±1.8, 16.09N±0.05×91.29W±0.06, h18km±8km, n9, σ1§15/14, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.84	283	eP	Pg	19 37 24.6	-0.1
CCIG				i S	Sg	19 37 36.5	+0.5
THIG		1.51	219	eP	Pn	19 37 33.9	-0.5
THIG				i S	Sn	19 37 51.9	-1.6
NBG	Las Nubes	1.75	149	eP	Pn	19 37 37.4	-0.4
NBG				eS	Sn	19 38 00.6	+0.7
JAT	Jato	1.79	191	eP	Pn	19 37 38.6	+0.3
MRL	Marmol	1.84	123	eP	Pn	19 37 36.7	-2.4
MRL				eS	Sn	19 38 01.2	-0.8
PCIG		1.90	259	eP	Pn	19 37 39.3	-0.5
PCIG				i S	Sn	19 38 03.8	+0.6
IXG	Ixpaco	2.06	157	eP	Pn	19 37 40.7	-1.5
IXG				eS	Sn	19 38 09.6	+2.1
RBDL	Robledal	2.50	142	eP	Pn	19 37 46.8	-1.3
RBDL				eS	Sn	19 38 19.6	+1.3
SCIG	Sabancuy	2.87	2	eP	Pn	19 37 53.3	+0.2
SCIG				i S	Sn	19 38 26.8	-0.3

MAN 23 19:38:09, 11.06N×124.66E, h2km, mb4.5, ML3.4, MS3.3, Leyte

KLM 23 20:01:30.2, 2.14N×96.71E, h630km, mb4.3, ML4.5, MS5.8
IDC 23 20:02:08.9±1.7, 2.28N×99.45E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/26, mbtmp3.4/4, MS2.6/1, Ms1 2.6/1, ms1mx2.2/22, Error ellipse: s-maj=75.2km s-min=10.9km az=35.0
DJA 23 20:02:10.7±0.4, 2°N±3°×9°E±°, h10km, M3.9/8, MLv3.9/8
ISC 23 20:02:09.3±0.8, 2.27N±0.06×99.39E±0.06, h10km, n18, σ1§54/13, mb3.4/4, 2C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	0.70	319	Pg	Pg	20 02 21.4	-1.6
	14nm,0.3s,baz=184,slow=8.0,SNR=25						
PSI				Lg	Lg	20 02 31.1	
	30nm,0.3s,baz=162,slow=15,SNR=28						
PSI				LR	LR	20 02 41.6	
	comp=Z,64nm,21.0s,baz=330,slow=49						
MNSI	Mandailing Nat	1.48	173	P	Pn	20 02 34.1	-1.8
TSI	Tuntungan	1.48	326	P	Pb	20 02 37.2	+0.3
KCSI	Kotacane, Aceh	2.04	308	P	Pn	20 02 42.6	-1.1
KCSI				S	Sb	20 03 11.6	-0.4
GSI	Gunungsitoli	2.05	242	P	Pn	20 02 36.3	-7.6
GSI				S	Sn	20 02 58.4	-11
FRIM	Kepong	2.43	67	⇑P	Pg	20 03 01.9	+6.0
BKNI	Bangkinang	2.54	139	P	Pg	20 02 57.2	-0.8
IPM	Ipoh	2.74	37	⇓P	Pg	20 03 04.3	+2.5
KULM	Kulim	3.25	23	⇓P	Pb	20 03 05.1	-2.2
KGM	Kluang	3.94	94	⇓P	Pb	20 03 18.7	-0.1
MYKOM	Kota Tinggi	4.48	96	⇓P	Pb	20 03 23.2	-5.0
KTGM	Kuala Trenggan	4.82	51	⇑P	Pn	20 03 21.9	0.0
CMAR	Chiang Mai Arr	16.10	358	Pn	P	20 06 06.2	+7.0
	0.0nm,0.3s,baz=191,slow=13,SNR=8.4						
WRA	Warramunga Arr	40.78	124	P	P	20 09 51.2	+0.1
	0.2nm,0.5s,baz=302,slow=9.3,SNR=4.3						
JNU	Nakatsue	42.57	40	LR	LR	20 27 54.5	
	comp=Z,6.8nm,20.3s,slow=36						
MKAR	Makanchi Array	46.78	344	P	P	20 10 39.4	+0.3
	0.1nm,0.6s,baz=175,slow=9.4,SNR=3.0						
ZALV	Zalesovo Beam	52.89	349	P	P	20 11 27.0	+1.7
	0.5nm,0.5s,baz=165,slow=6.0,SNR=2.9						
BRTR	Keskin Array B	70.03	312	P	P	20 13 24.6	+2.8
	0.6nm,0.7s,baz=129,slow=4.6,SNR=3.6						

IDC 23 20:27:22.2±1.5, 1.88N×98.81E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.4/4, ML2.0/1, MS3.2/1, Ms1 3.3/1, ms1mx2.5/30, Error ellipse: s-maj=38.0km s-min=19.0km az=82.0
KLM 23 20:27:25.7, 1.94N×98.83E, h159km, mb3.9, ML3.9
DJA 23 20:27:26.8±0.3, 2°N±3°×9°E±°, h10km, M3.6/8, MLv3.6/8
ISCJB 23 20:27:28.0±0.5, 1.99N±0.05×99.04E±0.04, h33km, mb3.3/3, MS3.3/1, Error ellipse: s-maj=7.1km s-min=6.4km az=12.8
ISC 23 20:27:28.7±0.9, 1.98N±0.05×98.98E±0.05, h35km, n17, σ1§32/17, mb3.4/3, 3C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	0.82	356	LR	LR	20 27 34.8	
	comp=Z,42nm,20.4s,baz=36,slow=15						
PSI				Pg	Pn	20 27 37.8	-6.1
	19nm,0.3s,baz=152,slow=11,SNR=34						
MNSI	Mandailing Nat	1.32	153	P	Pn	20 27 50.3	-0.3
GSI	Gunungsitoli	1.56	244	P	Pn	20 27 54.7	+0.8
GSI				S	Sn	20 28 14.9	+2.1
TSI	Tuntungan	1.57	345	P	Pn	20 27 54.6	+0.6
KCSI	Kotacane, Aceh	1.95	322	P	Pn	20 27 58.7	-0.6
KCSI				S	Sn	20 28 24.3	+1.7
FRIM	Kepong	2.92	65	⇑P	Pn	20 28 14.5	+1.8
IPM	Ipoh	3.22	39	⇓P	Pn	20 28 18.9	+2.2
PDSI	Padang	3.23	153	P	Pn	20 28 18.7	+1.7
KULM	Kulim	3.69	27	⇑P	Pn	20 28 23.6	+0.4
KGM	Kluang	4.34	89	⇓P	Pn	20 28 31.8	-0.4
MYKOM	Kota Tinggi	4.87	92	⇓P	Pn	20 28 39.9	+0.4
KTGM	Kuala Trenggan	5.32	51	⇑P	Pn	20 28 45.7	+0.1
CMAR	Chiang Mai Arr	16.38	360	Pn	Pn	20 31 16.6	+0.6
	0.0nm,0.3s,baz=192,slow=13,SNR=5.9						
WRA	Warramunga Arr	40.96	124	P	P	20 35 07.6	-0.8
	0.4nm,0.6s,baz=303,slow=9.1,SNR=8.8						
MKAR	Makanchi Array	46.95	344	P	P	20 35 55.5	-0.6
	0.1nm,0.4s,baz=153,slow=8.4,SNR=4.5						
BRTR	Keskin Array B	69.91	312	P	P	20 38 35.0	-1.7
	0.7nm,0.7s,baz=107,slow=6.8,SNR=5.6						
NOA	NORSAR Array B	87.19	331	LR	LR	21 24 39.6	
	comp=Z,10nm,18.6s,baz=230,slow=39						

ISCJB 23 20:43:15.2±0.5, 2.75N±0.05×128.46E±0.06, h250km, mb3.6/11, Error ellipse: s-maj=8.0km s-min=6.6km az=1.2
IDC 23 20:43:15.7±5.0, 2.82N×128.76E, h237km±54km, mb3.3/10, mb1 3.5/11, mb1mx3.4/22, mbtmp4.0/11, Error ellipse: s-maj=25.5km s-min=13.3km az=76.0
DJA 23 20:43:18.6±0.8, 3°N±5°×12°8E±°, h215km±6km, M4.1/10, mb3.9/6, mB4.5/2, MLv4.2/10, Mw(mB)3.7/2
ISC 23 20:43:16.5±0.7, 2.74N±0.07×128.46E±0.08, h250km, n31, σ1§75/30, mb3.7/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.23	209	P	Pn	20 43 59.2	-2.0
SGSI	Sangihe	3.07	288	P	Pn	20 43 59.3	-10
SGSI				S	S	20 44 48.1	-3.8
LBMI	Labuha	3.48	196	P	Pn	20 44 12.6	-1.8
KMSI	Cibinong	4.96	244	P	Pn	20 44 31.4	-0.4
KMSI				S	S	20 45 32.2	+0.3
SANI	Sanana	5.36	207	P	Pn	20 44 34.3	-2.4
	28nm,0.7s,834nm0.3nm						
SANI				S	S	20 45 33.3	-7.4
	28nm,0.7s,834nm0.3nm						
NLAI	Namlea	6.09	193	P	Pn	20 44 43.4	-2.4
	21nm,1.0s,0.1nm						
FAKI	Fak Fak	6.78	146	P	Pn	20 44 53.4	-1.0
	24nm,1.3s,0.1nm						
LUWI	Luwuk	6.81	237	P	Pn	20 44 52.5	-2.3
	26nm,1.0s,803nm0.3nm						
LUWI				S	S	20 46 09.6	-4.1
	26nm,1.0s,803nm0.3nm						
LUWI	Luwuk	6.81	237	P	Pn	20 44 58.1	+3.3
	baz=7.7,SNR=4.3						
LUWI				S	S	20 46 17.6	+3.9
	baz=7.7,SNR=3.5						
MRSI	Marisa	6.89	251	P	Pn	20 44 57.0	+1.2
	8.5nm,1.0s,0.1nm						
APSI	Ampana	7.71	242	P	Pn	20 45 06.6	+0.4
SOEI	Soe	13.09	199	P	P	20 46 20.3	+4.9
	baz=14,SNR=3.8						
BATI	Baumata	13.71	200	P	P	20 46 22.5	+0.3
	5.2nm,0.3s,baz=9.5,slow=12,SNR=14						
MTN	Manton Dam	15.70	170	P	P	20 46 45.4	+0.2
	baz=17,SNR=4.3						
KDU	Kakadu	15.83	165	P	P	20 46 48.0	+1.2
	baz=17,SNR=5.6						
KNRA	Kununurra	18.30	179	P	P	20 47 13.4	+1.0
	baz=20,SNR=30						
FITZ	Fitzroy Crossi	20.89	188	P	P	20 47 40.0	-0.1
	baz=22,SNR=8.0						
WRA	Warramunga Arr	23.27	166	P	P	20 48 02.1	-0.1
	1.3nm,0.5s,baz=344,slow=10.0,SNR=51						
QIS	Mount Isa	25.60	155	P	P	20 48 27.2	+4.0
	baz=27,SNR=3.0						
WRKA	Warakurna	27.61	180	P	P	20 48 42.0	+0.9
	baz=29,SNR=9.4						
CMAR	Chiang Mai Arr	32.86	300	P	P	20 49 30.0	+2.7
	0.7nm,0.6s,baz=112,slow=7.3,SNR=8.3						
KSRS	Korea Array	34.55	359	P	P	20 49 41.6	0.0
	0.9nm,0.4s,baz=178,slow=10,SNR=5.7						
MJAR	Matsushiro Arr	34.83	14	P	P	20 49 42.2	-1.7
	2.1nm,0.6s,baz=187,slow=10,SNR=12						
STKA	Stephens Creek	36.62	161	P	P	20 49 59.8	+0.6
	1.1nm,0.4s,baz=338,slow=7.6,SNR=6.0						
STKA	Stephens Creek	36.62	161	P	P	20 50 00.1	+0.9
	baz=38,SNR=5.7						
USRK	Ussuriysk Arra	41.41	4	P	P	20 50 38.4	-0.2
	0.9nm,0.6s,baz=179,slow=11,SNR=4.8						
SONM	Songino Array	48.80	340	P	P	20 51 37.4	+0.8
	0.5nm,0.7s,baz=152,slow=6.5,SNR=3.5						
MKAR	Makanchi Array	59.35	325	P	P	20 52 53.7	+1.1
	0.9nm,0.4s,baz=117,slow=8.4,SNR=36						
ZALV	Zalesovo Beam	62.25	333	P	P	20 53 11.6	-0.3
	0.5nm,0.3s,baz=126,slow=6.6,SNR=4.7						
ILAR	Eielson Array	85.26	25	P	P	20 55 25.5	+0.6
	0.1nm,0.4s,baz=262,slow=4.8,SNR=4.4						
ARCES	ARCESS Array B	91.97	340	P	P	20 55 56.4	-0.1
	7.5nm,1.2s,baz=79,slow=4.9,SNR=6.7						

IDC 23 21:00:09.1±0.9, 23.94S×175.86W, h0km, mb4.5/14, mb1 4.6/14, mb1mx4.5/24, mbtmp4.5/14, MS3.7/12, Ms1 3.7/12, ms1mx3.6/23, Error ellipse: s-maj=35.8km s-min=19.5km az=158.0
ISCJB 23 21:00:11.9±0.5, 24.20S±0.07×175.91W±0.10, h33km, mb4.6/23, MS3.8/10, Error ellipse: s-maj=13.7km s-min=9.6km az=29.1
NEIC 23 21:00:15.8±2.6, 23.87S×175.95W, h46km±19km, mb4.9/10, Error ellipse: s-maj=21.6km s-min=11.7km az=149.0
ISC 23 21:00:14.1±0.5, 23.99S±0.08×175.88W±0.10, h31km, n68, σ1§61/61, mb4.8/22, MS3.8/10, 15C-1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.55	199	Pn	Pn	21 01 29.5	-5.0
	28nm,0.3s,baz=68,slow=19,SNR=2.8						
RAO				Sn	Sn	21 02 40.6	+3.3
	50nm,0.3s,baz=90,slow=20,SNR=4.8						
MSVF	Nonsavu	8.42	317	ePn	Pn	21 02 14.0	-0.1
	70nm,1.0s						
RAR	Rarotonga	15.13	83	Pn	Pn	21 03 36.2	-9.4
	6.8nm,0.3s,baz=265,slow=0.2,SNR=5.8						
RAR				Sn	Sn	21 06 06.8	-25
	3.3nm,0.3s,baz=90,slow=20,SNR=3.1						
RAR				LR	LR	21 09 56.1	
	comp=Z,274nm,18.7s,baz=236,slow=39						
URZ	Urewera	15.43	201	Pn	Pn	21 03 40.5	-9.1
	1.2nm,0.3s,baz=156,slow=18,SNR=5.1						
URZ				Sn	Sn	21 06 32.8	-6.7
	1.6nm,0.3s,baz=80,slow=16,SNR=5.6						
DZM	Mont Dzumac	16.39	273	eP	P	21 04 08.6	+4.0
	68nm,1.8s						
DZM				eLR	LR	21 08 11.6	
	389nm,22.3s						
DZM	Mont Dzumac	16.39	273	Pn	P	21 04 09.3	+4.7
	0.2nm,0.3s,baz=77,slow=18,SNR=7.7						
DZM				LR	LR	21 08 14.4	
	comp=Z,97nm,19.1s,baz=34,slow=30						
DZM	Mont Dzumac	16.39	273	ePn	Pn	21 04 01.8	-0.2
	11nm,0.7s						
PPT2	Papeete2	25.38	80	eLR	LR	21 11 42.4	
	347nm,26.2s						
PPT	Papeete	25.38	80	LR	LR	21 14 40.2	
	comp=Z,189nm,18.8s,baz=234,slow=34						
HNR	Honiara	27.24	298	LR	LR	21 16 17.1	
	comp=Z,162nm,19.6s,baz=108,slow=36						
EIDS	Eidsvold	30.01	260	eP	P	21 06 19.6	-0.7
	7.4nm,1.0s						
CTA	Charters Tower	35.24	269	P	P	21 07 06.2	+0.1
	9.5nm,0.4s,baz=91,slow=10,SNR=25						
CTAO	Charters Tower	35.24	269	eP	P	21 07 05.5	-0.6
	9.9nm,0.5s						
RKT	Rikitea	37.42	97	eLR	LR	21 17 18.5	
	292nm,38.2s						
PMG	Port Moresby	38.12	286	P	P	21 07 29.9	-0.7
	13nm,0.9s,baz=106,slow=7.4,SNR=4.8						
STKA	Stephens Creek	38.19	248	P	P	21 07 29.4	-1.7
	2.7nm,0.9s,baz=90,slow=10,SNR=3.3						
STKA				LR	LR	21 22 20.9	
	comp=Z,276nm,18.2s,baz=49,slow=35						
WRAB	Tennant Creek	46.15	265	eP	P	21 08 34.9	-1.2
	13nm,1.0s						
WRA	Warramunga Arr	46.16	265	P	P	21 08 34.9	-1.2
	9.0nm,0.8s,baz=97,slow=8.5,SNR=75						
BATI	Baumata	58.99	272	P	P	21 10 12.0	+0.7
	12nm,0.8s,baz=94,slow=19,SNR=2.8						
JCJ	Chichijima	64.95	319	LR	LR	21 33 47.0	
	comp=Z,78nm,21.6s,baz=116,slow=31						
QSPA	South Pole Qui	66.10	180	eP	P	21 10 59.9	+1.8
	11nm,1.1s						
MJAR	Matsushiro Arr	74.17	323	P	P	21 11 44.4	-3.4
	0.9nm,0.7s,baz=151,slow=5.4,SNR=4.5						
PMSA	Palmer Station	77.32	156	LR	LR	21 41 23.6	
	comp=Z,118nm,18.2s,baz=196,slow=32						
ASAJ	Asahikawa	77.72	331	P	P	21 12 08.3	+0.6
	8.9nm,0.8s,baz=301,slow=9.8,SNR=4.1						
PETK	Petropavlovsk-	80.14	344	P	P	21 12 20.6	-0.2
	6.8nm,0.9s,baz=128,slow=6.8,SNR=7.8						
PETK				LR	LR	21 41 56.4	
	comp=Z,40nm,20.7s,baz=152,slow=31						
KSRS	Korea Array	80.79	318	P	P	21 12 24.4	-0.2
	1.8nm,0.9s,baz=137,slow=7.3,SNR=6.0						
KSRS				LR	LR	21 42 53.2	
	comp=Z,56nm,19.2s,baz=152,slow=32						
KSAR	Wonju Array Be	80.80	318	P	P	21 12 24.4	-0.3
NVAR	Mina Array Bea	82.25	42	P	P	21 12 31.8	-0.9
	0.6nm,0.7s,baz=238,slow=8.5,SNR=4.2						
USRK	Ussuriysk Arra	82.94	325	P	P	21 12 36.5	+0.6
	5.4nm,0.9s,baz=132,slow=4.4,SNR=9.2						
PLCA	Paso Flores	85.47	133	LR	LR	21 44 20.3	
	comp=Z,31nm,21.5s,baz=206,slow=31						
MNTX	Cornudas Mount	87.20	54	eP	P	21 12 56.9	-0.7
	3.9nm,1.0s						
TXAR	Lajitas Array	87.31	56	P	P	21 12 58.1	-0.1
	0.8nm,0.8s,baz=236,slow=6.8,SNR=6.0						
TXAR				LR	LR	21 46 55.9	
	comp=Z,56nm,18.7s,baz=0.0,slow=32						
TRF	Thorofare Moun	89.45	11	eP	P	21 13 05.0	-2.7
	8.4nm,0.9s						
ILAR	Eielson Array	91.28	12	P	P	21 13 14.6	-1.4
	1.3nm,0.9s,baz=218,slow=5.9,SNR=13						
CM31	Chiang Mai Arr	93.11	289	eP	P	21 13 24.8	-0.7
	8.3nm,1.0s						
CMAR	Chiang Mai Arr	93.11	289	P	P	21 13 27.2	+1.7
	6.3nm,0.9s,baz=140,slow=3.3,SNR=45						
CMAR				LR	LR	21 51 52.8	
	comp=Z,9.4nm,21.5s,baz=0.0,slow=33						
CHTO	Chiang Mai	93.25	289	eP	P	21 13 26.4	+0.2
	8.6nm,0.9s						
JTS	JuntasAbangare	94.95	81	eP	P	21 13 33.9	-0.2
	29nm,0.8s						
SONM	Songino Array	99.66	318	P	Pdif	21 13 54.7	-0.1
	0.4nm,0.9s,baz=137,slow=13,SNR=3.6						
ZALV	Zalesovo Beam	114.42	320	PKP	PKPdf	21 18 49.0	-1.5
	0.3nm,0.5s,baz=72,slow=4.7,SNR=2.2						
MKAR	Makanchi Array	115.00	312	PKP	PKPdf	21 18 50.8	-1.1
	0.3nm,0.6s,baz=71,slow=8.0,SNR=4.8						
GEYT	Alibeck	132.27	300	PKP	PKPdf	21 19 25.7	+0.4
	1.3nm,0.8s,baz=90,slow=4.3,SNR=3.7						
ARCES	ARCESS Array B	132.69	350	PKP	PKPdf	21 19 26.1	+1.1
	10nm,1.1s,baz=47,slow=15,SNR=3.8						
FINES	FINESS Array B	139.66	344	PKP	PKPdf	21 19 37.5	-0.7
	1.8nm,0.9s,baz=37,slow=2.6,SNR=2.6						
NOA	NORSAR Array B	142.65	354	PKhKP	PKPpre	21 19 39.4	
	1.6nm,1.0s,baz=17,slow=2.8,SNR=4.1						
SUW	Suwalki	146.78	339	ePKPdf	PKPdf	21 19 50.1	-0.9
AKASG	Malin Array Be	147.00	330	PKPbc	PKPdf	21 19 52.4	-1.1
	4.9nm,0.6s,baz=41,slow=3.8,SNR=22						
MALT	Malatya	147.56	304	⇑i P	PKPbc	21 19 56.3	+0.7
KWP	Kalwaria Pacla	150.56	335	⇑i P	PKPbc	21 20 03.3	+0.6
KWP	Kalwaria Pacla	150.56	335	ePKPdf	PKPdf	21 19 57.8	+0.6
BRTR	Keskin Array B	150.60	309	PKPbc	PKPbc	21 20 02.8	-0.5
	2.6nm,0.8s,baz=134,slow=5.3,SNR=17						
BURAR	Bucovina Array	151.05	330	⇑i P	PKPbc	21 20 04.1	+0.1
CLL	Collm	151.88	348	⇑i PKPbc	PKPbc	21 20 05.4	-0.2
	comp=Z,12nm,1.0s						
CLL				e(PKPab)	PKPab	21 20 16.0	+1.2
UPC	Upice	151.96	344	⇑ePKP	PKPbc	21 20 06.7	+0.8
UPC				ePKPAB	PKPab	21 20 15.7	+0.5
OKC	Ostrava-Krasne	151.96	340	⇑ePKP	PKPbc	21 20 06.2	+0.3
OKC				ePKPAB	PKPab	21 20 15.0	-0.2
DPC	Dobruska-Polom	152.02	343	⇑ePKP	PKPbc	21 20 06.1	0.0
DPC				ePKPAB	PKPab	21 20 15.1	-0.4
BRG	Berggiesshubel	152.10	347	i P	PKPbc	21 20 06.2	0.0
	comp=Z,9.5nm,1.0s						
BRG				e		21 20 15.8	
	comp=Z,4.7nm,0.9s						
KRLC	Kraliky	152.15	342	⇑ePKP	PKPbc	21 20 06.2	-0.2
MLR	Muntele Rosu	152.20	326	⇑i P	PKPbc	21 20 06.8	0.0
VOIR		152.69	327	⇓i P	PKPdf	21 20 03.3	+2.6
DRGR		152.80	331	⇑i P	PKPbc	21 20 08.1	+0.1
PRU	Pruhonice	152.80	345	⇑ePKP	PKPbc	21 20 07.7	-0.1
PRU				epPKP	pPKPdf	21 20 13.7	+2.8
ARR	Arges	152.95	327	⇑i P	PKPbc	21 20 08.7	+0.3
KHC	Kasperske Hory	153.82	346	⇑ePKP	PKPbc	21 20 13.1	+3.0
KHC				ePKPAB	PKPab	21 20 20.8	-2.3
GERES	GERESS Array B	154.06	345	PKPbc	PKPbc	21 20 10.5	-0.2
	comp=Z,0.6nm,0.8s,baz=20,slow=1.6,SNR=4.7						
PKSM	Moragy	154.93	336	⇑i P	PKPbc	21 20 08.9	-3.6
MMB	Musomiste	156.02	322	⇑i P	PKPab	21 20 33.7	+1.0
TORD	Torodi Ar. Bea	168.97	168	PKPab	PKPab	21 21 31.4	+1.5
	comp=Z,0.8nm,0.7s,baz=191,slow=3.8,SNR=4.4						

ISCJB 23 21:57:18.1±0.8, 0.76N±0.07×99.7E±0.1, h12km±6km, Error ellipse: s-maj=19.1km s-min=9.7km az=152.6
DJA 23 21:57:18.1±0.3, 1°N±3°×10°0E±°, h10km, M4.0/8, MLv4.0/8
KLM 23 21:57:33.6, 2.48N×99.90E, h276km, mb3.4, ML3.5
ISC 23 21:57:17.4±1.5, 0.74N±0.05×99.73E±0.04, h2km±15km, n15, σ1§46/17, 6C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	0.16	288	P	Pg	21 57 20.1	-0.4
MNSI				S	Sg	21 57 23.4	+0.8
BKNI	Bangkinang	1.37	108	P	Pn	21 57 41.0	-2.6
PDSI	Padang	1.80	156	P	Pn	21 57 49.2	-0.3
PDSI				S	Sn	21 58 13.3	+0.3
GSI	Gunungsitoli	2.23	284	P	Pn	21 57 54.2	-1.2
SDSI	Sungai Dareh	2.38	134	P	Pn	21 57 59.6	+2.2
FRIM	Kepong	3.12	37	⇓P	Pb	21 58 13.7	+0.1
KCSI	Kotacane, Aceh	3.38	325	P	Pn	21 58 11.9	+0.6
IPM	Ipoh	3.93	19	⇓P	Pn	21 58 20.9	+2.1
IPM	Ipoh	3.93	19	⇓P	Pn	21 58 20.9	+2.1
MYKOM	Kota Tinggi	4.25	76	⇑P	Pg	21 58 38.7	-0.1
MYKOM	Kota Tinggi	4.25	76	⇑P	Pg	21 58 38.7	-0.1
KULM	Kulim	4.61	11	⇑P	Pn	21 58 26.8	-1.4
KULM	Kulim	4.61	11	⇑P	Pn	21 58 26.8	-1.4
KTGM	Kuala Trenggan	5.68	37	⇑P	Pn	21 58 42.1	-0.8
KTGM	Kuala Trenggan	5.68	37	⇑P	Pn	21 58 42.1	-0.8

BJI 23 21:58:17.1, 4.91S×129.13E, h50km, mB5.0/25, mb4.6/40, Ms4.6/13, Ms7 4.1/10
IDC 23 21:58:18.3±0.6, 4.23S×128.70E, h0km, mb4.5/16, mb1 4.6/18, mb1mx4.4/32, mbtmp4.5/18, ML4.1/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/31, Error ellipse: s-maj=25.0km s-min=14.3km az=64.0
ISCJB 23 21:58:21.5±0.2, 4.19S±0.03×128.85E±0.03, h32km, mb4.6/52, MS3.9/10, Error ellipse: s-maj=4.4km s-min=3.7km az=141.5
MOS 23 21:58:21.9±0.7, 4.15S×128.71E, h33km, mb4.9/17, Error ellipse: s-maj=18.5km s-min=7.3km az=123.1
DJA 23 21:58:22.9±0.3, 4°S±2°×12°9E±°, h10km, M4.8/13, mb4.8/5, mB5.6/2, MLv4.8/13, Mw(mB)5.1/2
KLM 23 21:58:24.7, 4.24S×128.82E, h35km, mb4.7, ML4.0, MS5.5
NEIC 23 21:58:25.0±0.7, 4.12S×128.89E, h49km±6km, mb4.7/19, Error ellipse: s-maj=7.6km s-min=5.7km az=48.0
ISC 23 21:58:24.0±0.3, 4.14S±0.04×128.87E±0.04, h32km, n182, σ1§87/208, mb4.7/52, MS4.0/10, 9C-6D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.79	4	P	Pn	21 58 36.4	-2.6

MSAI S Sn 21 58 47.2 -2.5
BNDI Bandanaira 1.10 110 P Pn 21 58 42.4 -0.8
BNDI S Sb 21 58 59.1 +0.5
NLAI Namlea 1.98 297 P Pn 21 58 51.5 -3.8
SANI Sanana 3.55 306 P Pn 21 59 14.7 -2.2
FAKI Fak Fak 3.59 70 P Pn 21 59 19.0 +1.5
FAKI Fak Fak 3.59 70 ePn Pn 21 59 18.6 +1.1
FAKI eSn Sn 22 00 01.0 +2.3
FAKI Fak Fak 3.59 70 P Pn 21 59 18.8 +1.3
baz=3.6,SNR=83
LBMI Labuha 3.74 339 P Pn 21 59 20.1 +0.6
SWI Sorong 4.04 36 P Pn 21 59 24.1 +0.4
SWI Sorong 4.04 36 P Pn 21 59 23.9 +0.2
baz=4.1,SNR=28
SWI S Sn 22 00 11.0 +1.1
baz=4.1,SNR=7.7
KMPI Kaimana, Papua 4.85 85 P Pn 21 59 36.0 +1.2
TNTI Ternate 5.10 343 P Pn 21 59 38.0 -0.4
TNTI Ternate 5.10 343 ePn Pn 21 59 37.9 -0.4
KMSI Cibinong 6.77 314 P Pb 22 00 19.4 -1.5
LUWI Luwuk 6.82 297 P Pn 22 00 03.0 +1.1
102nm,0.9s,12μm0.7nm
LUWI Luwuk 6.82 297 eP Pn 22 00 00.8 -1.2
90nm,1.0s
SOEI Soe 7.21 219 P Pn 22 00 10.8 +3.4
73nm,1.1s,0.3nm
SOEI Soe 7.21 219 ePn Pn 22 00 10.5 +3.1
APSI Ampana 7.89 294 P Pn 22 00 17.6 +1.0
153nm,1.0s,1μm
BATI Baumata 7.94 220 P Pn 22 00 20.3 +3.0
34nm,1.1s
BATI Baumata 7.94 220 Pn Pn 22 00 19.1 +1.9
6.0nm,0.3s,baz=52,slow=3.5,SNR=6.7
BATI LR LR 22 03 37.3
comp=Z,405nm,18.1s,baz=33,slow=41
MRSI Marisa 8.30 303 P Pn 22 00 23.3 +1.0
BKSI Bulukumba 8.79 262 P Pn 22 00 43.5 +14
MTN Manton Dam 8.93 166 P Pn 22 00 31.1 +0.2
baz=8.9,SNR=16
KAPI Kappang 9.13 264 ePn Pn 22 00 35.2 +1.6
KDU Kakadu 9.21 157 P Pn 22 00 34.4 -0.3
baz=9.2,SNR=21
MPSI Mapaga 10.01 296 P Pn 22 00 50.2 +4.6
KNRA Kununurra 11.46 181 P Pn 22 01 03.9 -1.7
baz=11,SNR=24
TSM Tawau 13.81 307 ⇑P Pn 22 01 40.2 +2.4
MYLDM Lahad Datu 13.89 312 ⇓P Pn 22 01 39.7 +0.9
FITZ Fitzroy Crossi 14.23 193 ePn Pn 22 01 39.7 -3.7
FITZ Fitzroy Crossi 14.23 193 P Pn 22 01 41.0 -2.5
baz=14,SNR=5.3
KMMI Kalianget 15.11 258 P P 22 02 03.4 +3.3
BLJI Banyuglugur 15.61 256 P P 22 02 09.5 +3.8
KKM Kota Kinabalu 16.18 309 ⇑P Pn 22 02 10.3 +0.9
KDM Kudat 16.28 312 ⇑P Pn 22 02 11.3 +0.9
WRAB Tennant Creek 16.58 162 eP Pn 22 02 10.8 -3.5
WRAB pmax pmax
comp=Z,81nm,1.2s
WRAB Tennant Creek 16.58 162 ePn Pn 22 02 10.6 -3.7
comp=Z,58nm,1.2s
WRA Warramunga Arr 16.59 162 Pn Pn 22 02 10.1 -4.3
comp=Z,1.3nm,0.3s,baz=345,slow=13,SNR=66
COEN Coen 17.16 126 ePn Pn 22 02 19.2 -2.3
comp=Z,249nm,1.0s
COEN Coen 17.16 126 P Pn 22 02 19.5 -2.0
baz=17,SNR=22
BTM Bintulu 17.38 295 ⇓P Pn 22 02 24.6 +0.3
PWJI Pagerwojo 17.40 256 P P 22 02 26.9 +1.3
NGJI Ngawi 17.61 259 P P 22 02 39.9 +12
SBUM Sibu 17.88 291 ⇓P Pn 22 02 31.9 +1.0
PMG Port Moresby 18.90 107 eP Pn 22 02 44.1 +1.2
PMG pmax pmax
comp=Z,32nm,1.7s
PMG Port Moresby 18.90 107 P Pn 22 02 43.5 +0.6
comp=Z,0.8nm,0.3s,baz=281,slow=13,SNR=8.7
PMG LR LR 22 11 12.5
comp=Z,75nm,18.7s,baz=284,slow=41
PMG Port Moresby 18.90 107 eP P 22 02 40.3 -1.8
comp=Z,32nm,1.1s
KSM Kuching 19.37 286 ⇓P Pn 22 02 50.7 +2.2
QIS Mount Isa 19.38 148 P P 22 02 47.7 +0.3
baz=19,SNR=15
AS31 Alice Springs 20.01 166 eP P 22 02 52.9 -1.3
ASAR Alice Springs 20.01 166 PcP PcP 22 07 08.5 -1.3
comp=Z,0.5nm,0.3s,baz=348,slow=1.8,SNR=17
KPJI Karang Pucung 20.09 260 P Pn 22 02 56.5 -0.6
CMJI Cimerak 20.62 259 P P 22 03 01.6 +0.6
WRKA Warakurna 20.79 181 P P 22 03 03.2 +0.6
baz=21,SNR=20
CISI Cisompet, Garu 21.21 260 eP P 22 03 02.1 -5.3
comp=Z,27nm,0.7s
CTA Charters Tower 23.20 135 P P 22 03 28.4 0.0
comp=Z,5.2nm,0.8s,baz=315,slow=10.0,SNR=5.9
CTAO Charters Tower 23.20 135 eP P 22 03 28.6 +0.2
CTAO pmax pmax
comp=Z,15nm,1.0s
CTAO Charters Tower 23.20 135 eP P 22 03 28.6 +0.2
comp=Z,15nm,1.0s
MEEK Meekatharra 24.43 203 P P 22 03 39.8 -0.1
baz=24,SNR=5.1
MYKOM Kota Tinggi 25.68 283 ⇓P P 22 03 53.7 +2.2
KGM Kluang 26.25 283 ⇑P P 22 03 59.0 +2.4
IPM Ipoh 29.10 287 ⇑P P 22 04 20.8 -1.4
QIZ Qiongzhong 29.68 321 P P 22 04 28.0 +0.8
QIZ sP sP 22 04 44.5 +4.2
QIZ S S 22 09 22.1 +1.0
QIZ pmax pmax
comp=Z,11nm,1.1s
QIZ LR LR
comp=Z,86nm,6.3s
STKA Stephens Creek 30.07 158 P P 22 04 29.4 -1.1
comp=Z,4.2nm,0.8s,baz=326,slow=8.2,SNR=7.2
STKA LR LR 22 17 12.7
comp=Z,125nm,21.9s,baz=20,slow=38
STKA Stephens Creek 30.07 158 P P 22 04 30.7 +0.2
baz=30,SNR=5.1
JOW Kunigami 30.80 359 P P 22 04 36.8 -0.2
comp=Z,1.6nm,0.9s,baz=174,slow=4.9,SNR=3.5
LOEI Loei 34.71 309 P P 22 05 08.5 -2.9
comp=Z,40nm,0.7s,comp=Z,5μm
UTTA Uttaradit 35.40 309 P P 22 05 17.4 +0.2
comp=Z,3.5nm,0.8s
CMAR Chiang Mai Arr 37.06 308 P P 22 05 31.4 -0.1
comp=Z,4.2nm,0.7s,baz=141,slow=7.5,SNR=38
CMAR PcP PcP 22 07 51.3 -0.6
comp=Z,1.3nm,0.5s,baz=170,slow=3.1,SNR=5.6
NJ2 Nanjing 37.23 346 eP P 22 05 32.8 +0.1
NJ2 pmax pmax
comp=Z,30nm,1.2s
GYA Guiyang 37.24 326 P P 22 05 33.8 +0.7
GYA pP pP 22 05 46.6 +4.1
GYA sP sP 22 05 52.4 +6.1
GYA PP PnPn 22 07 02.8 +3.7
GYA S S 22 11 19.3 +0.9
GYA sS ScP 22 11 40.0 +2.6
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=Z,440nm,17.9s
GYA LR LR
comp=Z,360nm,18.0s
GYA LR LR
comp=Z,410nm,17.5s
CMMT Chiang Mai 37.26 309 P P 22 05 32.8 -0.4
comp=Z,22nm,0.9s
CHTO Chiang Mai 37.26 309 eP P 22 05 31.6 -1.6
CHTO pmax pmax
comp=Z,13nm,0.9s
CHTO Chiang Mai 37.26 309 P P 22 05 32.8 -0.4
comp=Z,74nm,0.9s
CHTO Chiang Mai 37.26 309 eP P 22 05 31.6 -1.6
comp=Z,13nm,0.9s
KSAR Wonju Array Be 41.38 359 P P 22 06 07.8 +0.6
KSAR Wonju Array Be 41.38 359 P P 22 06 07.8 +0.6
KSRS Korea Array 41.39 359 P P 22 06 07.8 +0.5
comp=Z,3.1nm,0.7s,baz=179,slow=8.9,SNR=14
KSRS LR LR 22 22 47.5
comp=Z,40nm,19.1s,baz=175,slow=35
MJAR Matsushiro Arr 41.40 11 P P 22 06 06.4 -1.1
comp=Z,9.5nm,0.9s,baz=192,slow=10.0,SNR=9.5
MJAR LR LR 22 21 08.3
comp=Z,17nm,22.0s,baz=180,slow=33
CD2 Chengdu 42.30 327 eP P 22 06 16.5 +1.5
CD2 pP pP 22 06 29.5 +5.0
CD2 sP sP 22 06 35.3 +7.0
CD2 PP PP 22 07 58.5 +5.1
CD2 PcS PcS 22 11 59.8 -0.6
CD2 S S 22 12 35.1 +1.1
CD2 sS sS 22 12 57.3 +7.7
CD2 SS SS 22 15 39.9 -3.5
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.6s
XAN Xi'an 42.39 335 P P 22 06 13.9 -1.7
XAN pmax pmax
comp=Z,2.0nm,0.9s
LZH Lanzhou 46.37 332 eP P 22 06 47.5 -0.1
LZH pP pP 22 07 00.6 +3.4
LZH sP sP 22 07 05.8 +4.8
LZH PP PP 22 08 37.4 +0.5
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,75nm,5.6s
LZH LR LR
comp=Z,400nm,14.0s
LZH LR LR
comp=Z,380nm,13.8s
LZH LR LR
comp=Z,490nm,18.0s
USRK Ussuriysk Arra 48.20 3 P P 22 07 01.6 +0.2
comp=Z,4.0nm,0.6s,baz=181,slow=6.9,SNR=25
MDJ Mudanjiang 48.54 1 P P 22 07 04.9 +0.8
MDJ pmax pmax
comp=Z,2.0nm,1.2s
MDJ pmax pmax
comp=Z,31nm,3.9s
LSA Lhasa 49.37 315 eP P 22 07 10.4 -1.0
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 49.37 315 eP P 22 07 10.4 -1.0
comp=Z,4.6nm,0.6s
ASAJ Asahikawa 49.60 13 P P 22 07 13.1 +0.8
comp=Z,9.0nm,0.8s,baz=238,slow=19,SNR=5.1
TAPN Taplejung 50.57 311 eP P 22 07 19.0 -1.3
comp=Z,11nm,0.4s
GTA Gaotai 50.94 331 eP P 22 07 22.1 -0.6
GTA pP pP 22 07 34.8 +2.5
GTA sP sP 22 07 40.0 +3.9
GTA PcP PcP 22 08 39.4 +0.6
GTA S S 22 14 34.9 -2.6
GTA SS SS 22 18 08.0 -4.9
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,28nm,5.7s
GTA LR LR
comp=Z,68nm,13.8s
GTA LR LR
comp=Z,79nm,15.0s
RAMN Ramite 51.20 310 eP P 22 07 24.1 -0.9
comp=Z,40nm,0.5s
RAMN Ramite 51.20 310 eP P 22 07 24.1 -0.9
JIRN Jiri 51.88 310 eP P 22 07 28.9 -1.3
comp=Z,11nm,0.5s
JIRN Jiri 51.88 310 eP P 22 07 28.9 -1.3
GUN Gumba 52.24 310 eP P 22 07 31.5 -1.4
comp=Z,26nm,0.5s
GUN Gumba 52.24 310 eP P 22 07 31.5 -1.4
PKI Pulchoki 52.43 310 eP P 22 07 32.5 -1.8
comp=Z,9.5nm,0.7s
PKI Pulchoki 52.43 310 eP P 22 07 32.5 -1.8
PKI Pulchoki 52.43 310 eP P 22 07 32.5 -1.8
KKN Kakani 52.64 310 eP P 22 07 34.3 -1.4
comp=Z,9.9nm,0.5s
KKN Kakani 52.64 310 eP P 22 07 34.3 -1.4
KKN Kakani 52.64 310 eP P 22 07 34.3 -1.4
DMN Daman 52.69 309 eP P 22 07 34.5 -1.6
comp=Z,22nm,0.9s
DMN Daman 52.69 309 eP P 22 07 34.5 -1.6
KLR Kul'dur 53.21 2 eP P 22 07 31.3 -7.9
GKN Gorkha 53.24 310 eP P 22 07 38.6 -1.4
comp=Z,21nm,0.7s
GKN Gorkha 53.24 310 eP P 22 07 38.6 -1.4
KOLN Koldanda 53.93 309 eP P 22 07 43.9 -1.2
comp=Z,44nm,0.8s
KOLN Koldanda 53.93 309 eP P 22 07 43.9 -1.2
DANN Dangsing 54.08 310 eP P 22 07 45.0 -1.4
comp=Z,32nm,0.6s
DANN Dangsing 54.08 310 eP P 22 07 45.0 -1.4
ULN Ulaanbaatar 55.22 342 eP P 22 07 54.0 0.0
ULN pmax pmax
comp=Z,8.0nm,1.2s
ULN Ulaanbaatar 55.22 342 eP P 22 07 53.0 -1.0
comp=Z,14nm,1.5s
SONM Songino Array 55.39 342 P P 22 07 55.1 -0.2
comp=Z,2.2nm,1.0s,baz=152,slow=6.3,SNR=15
SONM PcP PcP 22 08 55.0 -0.4
comp=Z,1.0nm,0.6s,baz=168,slow=3.9,SNR=4.6
ZAK Zakamensk 58.61 341 eP P 22 08 10.0 -8.0
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TLY Talaya 59.62 342 eP P 22 08 25.0 +0.1
TLY pmax pmax
comp=Z,4.0nm,0.9s
WMQ Urumqi 60.40 327 P P 22 08 30.1 -0.3
WMQ pP pP 22 08 42.9 +2.6
WMQ sP sP 22 08 48.1 +4.1
WMQ PcP PcP 22 09 14.6 -0.6
WMQ PcS PcS 22 13 15.3 -2.3
WMQ S S 22 16 41.8 -1.6
WMQ sS sS 22 17 02.1 +2.5
WMQ ScS SKKSac 22 18 13.3 -5.5
WMQ pmax pmax
comp=Z,12nm,0.8s
WMQ pmax pmax
comp=Z,160nm,5.4s
WMQ LR LR
comp=Z,36nm,20.8s
WMQ LR LR
comp=Z,40nm,19.8s
MOY Mondy 60.46 340 eP P 22 08 30.9 +0.1
PETK Petropavlovsk- 61.99 19 P P 22 08 41.2 +0.3
comp=Z,8.8nm,0.8s,baz=189,slow=5.6,SNR=8.7
BOD Bodaibo 62.91 351 eP P 22 08 46.2 -0.8
BOD pmax pmax
comp=Z,9.0nm,0.9s
KSH Kashi 65.17 317 eP P 22 09 01.9 -0.5
KSH epP pP 22 09 14.3 +2.0
KSH esP sP 22 09 19.5 +3.5
KSH ePP PP 22 11 27.3 +1.2
KSH ePcS 22 13 33.4
KSH eS S 22 17 37.5 -6.0
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,120nm,3.7s
KSH LR LR
comp=Z,60nm,7.2s
KSH LR LR
comp=Z,84nm,6.4s
KSH LR LR
comp=Z,57nm,8.3s
MK31 Makanchi Array 65.23 327 eP P 22 09 01.4 -1.1
MK31 Makanchi Array 65.23 327 eP P 22 09 01.4 -1.1
MKAR Makanchi Array 65.23 327 eP P 22 09 01.6 -0.9
MKAR Makanchi Array 65.23 327 P P 22 09 01.5 -1.0
comp=Z,6.7nm,0.6s,baz=115,slow=8.4,SNR=139
MKAR Makanchi Array 65.23 327 eP P 22 09 01.6 -0.9
YAK Yakutsk 65.99 0 c iP P 22 09 06.8 -0.2
YAK e 22 09 40.0
YAK e 22 11 31.6
YAK ePPP PPP 22 13 09.1
YAK eS S 22 17 46.5 -5.8
YAK e*SS sS 22 18 25.6 +17
YAK e 22 18 52.3
YAK eSSS SSS 22 25 05.6
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=Z,67nm,4.6s
YAK pmax pmax
comp=N,25nm,3.2s
YAK pmax pmax
comp=E,47nm,3.5s
YAK smax smax
comp=N,44nm,3.5s
YAK smax smax
comp=E,110nm,4.1s
YAK Yakutsk 65.99 0 eP P 22 09 06.2 -0.8
comp=E,42nm,0.8s
KZA Kyzart 66.89 319 P P 22 09 13.3 -0.4
SNR=7.5
KZA Kyzart 66.89 319 iP P 22 09 13.3 -0.4
TKM2 Tokmak 2 67.08 320 P P 22 09 13.8 -0.9
SNR=12
TKM2 Tokmak 2 67.08 320 iP P 22 09 13.8 -0.9
TKM2 Tokmak 2 67.08 320 eP P 22 09 13.7 -0.9
comp=E,6.6nm,0.7s
UCH Uchtor 67.44 319 P P 22 09 16.6 -0.7
SNR=7.8
UCH Uchtor 67.44 319 iP P 22 09 16.6 -0.7
AAK Ala-Archa 67.64 320 eP P 22 09 18.0 -0.2
AAK pmax pmax
comp=Z,10.0nm,1.7s
AAK Ala-Archa 67.64 320 eP P 22 09 17.5 -0.8
comp=Z,4.2nm,0.9s
AML Almayashu 67.93 319 P P 22 09 19.6 -0.7
SNR=11
USP Ospenovka 67.95 320 P P 22 09 19.0 -0.9
SNR=13
USP Ospenovka 67.95 320 iP P 22 09 19.0 -0.9
KBL Kabul 68.08 310 eP P 22 09 19.8 -1.4
KBL pmax pmax
comp=Z,5.0nm,0.9s
KBL Kabul 68.08 310 eP P 22 09 19.8 -1.4
comp=Z,4.8nm,0.9s
EKS2 Erkin-Say 68.12 319 P P 22 09 20.6 -0.6
SNR=8.8
EKS2 Erkin-Say 68.12 319 eP P 22 09 20.6 -0.6
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 68.12 319 eP P 22 09 20.6 -0.6
comp=Z,5.7nm,0.8s
ZAA0 Zalesovo Array 68.54 334 eP P 22 09 21.4 -1.9
ZALV Zalesovo Beam 68.54 334 P P 22 09 21.7 -1.6
comp=Z,7.3nm,0.8s,baz=116,slow=5.1,SNR=34
KURK Kurchatov 69.50 329 eP P 22 09 28.4 -1.0
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 69.50 329 eP P 22 09 28.4 -1.0
comp=Z,9.5nm,1.0s
NVS Novosibirsk 69.82 334 ⇑iP P 22 09 29.8 -1.5
NVS i 22 09 50.7
NVS pmax pmax
comp=Z,11nm,1.0s
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,9.0nm,1.1s
KKAR Karatay Array 70.46 319 eP P 22 09 34.3 -1.2
KKAR Karatay Array 70.46 319 eP P 22 09 34.3 -1.2
VOSK Vostochnaya 74.60 328 eP P 22 09 58.2 -1.7
VOSK pmax pmax
comp=Z,6.0nm,0.7s
VOSK Vostochnaya 74.60 328 eP P 22 09 58.2 -1.7
comp=Z,5.5nm,0.7s
BRVK Borovoye 75.13 328 eP P 22 10 02.4 -0.6
BRVK pmax pmax
comp=Z,9.0nm,1.2s
BRVK Borovoye 75.13 328 eP P 22 10 02.1 -0.9
comp=Z,9.5nm,1.1s
TIXI Tiksi 75.65 360 eP P 22 10 04.8 -0.7
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 75.65 360 eP P 22 10 03.7 -1.9
comp=Z,6.0nm,0.7s
BILL Bilibino 76.61 14 ⇓eP P 22 10 12.0 +0.9
BILL e 22 13 01.9
BILL eS S 22 20 00.5 +5.5
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL MLR MLR
comp=Z,120nm,20.0s
GEYT Alibeck 77.52 310 P P 22 10 15.7 -1.2
comp=Z,3.1nm,0.8s,baz=220,slow=5.6,SNR=9.4
ABKAR Akbulak array 79.58 322 eP P 22 10 26.8 -1.2
SVE Sverdlovsk 81.75 329 ⇑iP P 22 10 39.0 -0.4
SVE pmax pmax
comp=Z,12nm,1.0s
ARU Arti 82.70 328 c iP P 22 10 43.0 -1.4
ARU 22 13 53.1
ARU S S 22 20 59.9 +0.1
ARU pmax pmax
comp=Z,16nm,1.2s
ARU Arti 82.70 328 eP P 22 10 42.5 -1.9
comp=Z,10nm,0.9s
TNA Tin City 83.00 22 eP P 22 10 46.7 +0.9
comp=Z,2.4nm,0.8s
QSPA South Pole Qui 85.82 180 LR LR 22 51 45.7
comp=Z,86nm,18.7s,baz=54,slow=37
ZEI Tsey 89.09 313 eP P 22 11 14.8 -1.8
ZEI pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 89.92 314 P P 22 11 19.3 -0.9
comp=Z,1.8nm,0.8s,baz=174,slow=6.2,SNR=5.1
ILAR Eielson Array 91.26 25 P P 22 11 24.5 -1.5
comp=Z,1.0nm,0.7s,baz=240,slow=5.2,SNR=24
DAWY Dawson 94.46 26 eP P 22 11 41.1 +0.3
BRTR Keskin Array B 96.65 309 P P 22 11 49.2 -2.3
comp=Z,0.1nm,0.3s,baz=58,slow=3.1,SNR=3.7
ARCES ARCESS Array B 98.52 340 P P 22 11 57.2 -1.9
comp=Z,2.0nm,0.6s,baz=80,slow=5.8,SNR=11
AKASG Malin Array Be 99.30 321 LR LR 22 59 21.3
comp=Z,67nm,21.8s,baz=280,slow=37
STHS Stebnicka Huta 104.57 320 eP Pdif 22 12 28.8 +2.3
STHS Stebnicka Huta 104.57 320 PDIF Pdif 22 12 28.8 +2.3
YKA Yellowknife Ar 105.69 26 Pdiff Pdif 22 12 27.5 -3.6
comp=Z,0.2nm,0.7s,baz=268,slow=3.5,SNR=4.3
DLMT Dillon 112.75 42 ePdif Pdif 22 13 02.7 -0.4
ANMO Albuquerque 120.47 52 i PKIKP PKPdf 22 17 12.5 -0.7
ANMO pmax pmax
comp=Z,5.0nm,1.2s
TXAR Lajitas Array 124.38 57 PKP PKPdf 22 17 19.1 -1.6
comp=Z,0.4nm,0.6s,baz=258,slow=4.5,SNR=3.3
TORD Torodi Ar. Bea 127.11 283 PKP PKPdf 22 17 25.2 -0.9
comp=Z,1.7nm,0.7s,baz=73,slow=1.7,SNR=11
CPUP Villa Florida 149.12 169 PKPbc PKPbc 22 18 09.1 -0.9
comp=Z,5.6nm,0.9s,baz=160,slow=0.9,SNR=8.0
LPAZ La Paz 153.65 141 PKPbc PKPbc 22 18 21.1 -0.4
comp=Z,0.5nm,0.5s,baz=113,slow=3.9,SNR=3.6

MEX 23 22:16:30.3±1.2, 16.27N×91.14W, h20km±25km, MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.96	271	eP	Pb	22 16 45.5	-3.0
CCIG				iS	Sb	22 16 57.4	-3.5
THIG		1.74	219	iP	Pn	22 16 57.2	-2.1
THIG				iS	Sn	22 17 16.3	-4.7
PCIG		2.08	254	eP	Pn	22 17 00.7	-3.4
PCIG				eS	Sn	22 17 26.4	-3.0

DDA 23 22:26:32.9, 38.50N×39.46E, h16km, MD3.0
CSEM 23 22:26:33.3±0.2, 38.51N×39.42E, h2km, MD3.0, Error ellipse: s-maj=5.3km s-min=5.0km az=129.0
ISK 23 22:26:33.3, 38.56N×39.43E, h7km, MD3.0
ISC 23 22:26:33.7±1.1, 38.54N±0.02×39.44E±0.02, h5km±10km, n40, σ0.88/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	Pertek	0.35	355	PG	Pg	22 26 40.4	-0.2
PTK				eSG	Sg	22 26 45.3	0.0
PTK	Pertek	0.35	355	i Pg	Pg	22 26 40.4	-0.2
PTK				eSg	Sg	22 26 45.3	0.0
ELZG	Elazig	0.36	264	i P	Pg	22 26 40.8	+0.2
ELZG	Elazig	0.36	264	i P	Pg	22 26 40.8	+0.2
ELZG				i S	Sb	22 26 49.9	+1.3
DYBB	Diyarbakir	0.81	136	ePG	Pb	22 26 49.4	-0.8
MALT	Malatya	0.82	254	PG	Pg	22 26 49.5	0.0
MALT	Malatya	0.82	254	i Pg	Pg	22 26 49.5	0.0
DIY	Diyarbakir	0.90	136	ePg	Pg	22 26 49.4	-1.4
KEMA	Kemaliye	1.03	315	i P	Pg	22 26 52.4	-1.1
KEMA				i S	Sb	22 27 08.4	+0.3
KEMA	Kemaliye	1.03	315	i P	Pg	22 26 52.4	-1.1
KEMA				i S	Sb	22 27 08.4	+0.3
ERZN	Erzincan	1.07	12	ePG	Pg	22 26 54.2	0.0

BNGB Bing¨¶l 1.07 65 ePG Pg 22 26 54.2 -0.1
ILIC ilic-Erzincan 1.14 324 ePN Pg 22 26 55.4 -0.1
ILIC ilic-Erzincan 1.14 324 ePn Pg 22 26 55.4 -0.1
EUZM Uzumlu 1.18 10 iP Pb 22 26 55.8 -0.9
EUZM iS Sn 22 27 13.6 -0.1
EUZM Uzumlu 1.18 10 iP Pb 22 26 55.8 -0.9
EUZM iS Sn 22 27 13.6 -0.1
URFA Urfa 1.20 204 ePN Pn 22 26 57.0 -0.3
URFA Urfa 1.20 204 ePn Pn 22 26 57.0 -0.3
AKCD Akcadag 1.21 259 iP Pg 22 26 55.9 -1.0
AKCD Akcadag 1.21 259 iP Pg 22 26 55.9 -1.0
AKCD iS Sn 22 27 15.4 +1.0
BNGL BINGOL 1.40 72 iP Pg 22 27 01.0 +0.5
BNGL iS Sg 22 27 22.5 +3.7
SVAN Silvan-Diyarba 1.44 105 ePN Pb 22 27 00.5 -0.5
DARE Darende-Malaty 1.53 272 ePN Pb 22 27 01.9 -0.7
DARE Darende-Malaty 1.53 272 ePn Pb 22 27 01.9 -0.7
BEST Besiri 1.58 114 iP Pn 22 27 02.0 -0.5
BEST iS Sg 22 27 24.1 -0.5
KELT Kelkit 1.61 355 iP Pb 22 27 03.8 -0.3
KELT iS Sg 22 27 26.1 +0.5
KELT Kelkit 1.61 355 iP Pb 22 27 03.8 -0.3
KELT iS Sg 22 27 26.1 +0.5
MARD Mardin 1.62 139 iP Pn 22 27 02.2 -0.8
MARD iS Sb 22 27 24.2 -0.7
BTMT Batman 1.65 101 ePN Pn 22 27 03.2 -0.3
BTMT Batman 1.65 101 ePn Pn 22 27 03.2 -0.3
VRTB Varto-Mus 1.70 68 ePN Pb 22 27 04.9 -0.6
VRTB Varto-Mus 1.70 68 ePn Pb 22 27 04.9 -0.6
GZT Gaziantep 1.89 232 iP Pg 22 27 11.3 +1.4
GZT iS Sg 22 27 39.7 +5.2
SUSE Susehri 1.92 331 iP Pb 22 27 09.3 -0.1
SUSE Susehri 1.92 331 iP Pb 22 27 09.3 -0.1
BAYT Ayd¨-ntepe-Bay 1.93 16 ePN Pn 22 27 06.5 -0.9
BAYT Ayd¨-ntepe-Bay 1.93 16 ePn Pn 22 27 06.5 -0.9
EZM Erzurum 2.03 47 ePN Pn 22 27 09.2 +0.5
SIRT Sirnak 2.59 113 ePN Pn 22 27 17.6 +1.2
SIRT Sirnak 2.59 113 ePn Pn 22 27 17.6 +1.2

*ISCJB **23** 22:27:25.1±0.5, 24.08S±0.04×69.25W±0.05, h91km±3km, mb4.6/67, Error ellipse: s-maj=7.9km s-min=6.0km az=147.0*
*GUC **23** 22:27:27.2±0.5, 23.89S×69.41W, h97km±5km, ML4.9*
*IDC **23** 22:27:27.2±0.4, 24.03S×69.16W, h94km±3km, mb4.3/15, mb1 4.4/20, mb1mx4.3/23, mbtmp4.6/20, MS3.4/7, Ms1 3.4/7, ms1mx3.2/30, Error ellipse: s-maj=15.1km s-min=11.8km az=59.0*
*NEIC **23** 22:27:27.2, 23.89S×69.41W, h97km, mb4.6/52, After GUC.*
NEIC Felt [IV] at Calama and [III] at Sierra Gorda.
*BJI **23** 22:27:31.7, 24.00S×68.90W, h98km, mB5.3/5*
ISC 23 22:27:26.6±0.3, 24.09S±0.05×69.33W±0.04, h93km±2km, h93km:pP-P, n498, σ1.14/520, mb4.7/67, 171C-164D, Northern Chile

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

CEN1 Los Morros 1.06 311 ⇓iP Pn 22 27 46.4 -1.0
CEN1 iS Sn 22 28 01.4 -1.6
CEN1 Los Morros 1.06 311 ⇓iP Pn 22 27 46.4 -1.0
CEN1 iS Sn 22 28 01.4 -1.6
ANCH Antofagasta 1.07 292 ⇑iP Pn 22 27 43.6 -3.7
ANCH iS Sn 22 27 58.2 -4.7
ANCH AML AML 22 28 00.2
comp=E,27μm,0.4s
ANCH Antofagasta 1.07 292 ⇑iP Pn 22 27 43.6 -3.7
ANCH iS Sn 22 27 58.2 -4.7
PB10 Plate Boundary 1.26 297 ⇑iP Pn 22 27 49.2 -0.4
PB10 iS Sn 22 28 05.8 -1.1
PB10 AML AML 22 28 10.1
comp=E,29μm,0.2s
PB06 Plate Boundary 1.40 351 ⇑iP Pn 22 27 50.8 -0.7
PB06 iS Sn 22 28 08.4 -1.8
PB06 AML AML 22 28 09.7
comp=N,40μm,0.7s
PB06 Plate Boundary 1.40 351 ⇑iP Pn 22 27 50.8 -0.7
PB06 iS Sn 22 28 08.4 -1.8
LVC Limon Verde 1.52 15 ePn Pn 22 27 52.4 -0.7
LVC eSn Sn 22 28 11.1 -2.0
SPCH San Pedro de A 1.57 42 ⇑iP Pn 22 27 54.2 +0.5
SPCH iS Sn 22 28 14.6 +0.4
SPCH AML AML 22 28 15.6
comp=N,25μm,0.3s
SPCH San Pedro de A 1.57 42 ⇑iP Pn 22 27 54.2 +0.5
SPCH iS Sn 22 28 14.6 +0.4
PB04 Plate Boundary 1.82 355 ⇑iP Pn 22 27 56.5 -0.2
PB04 iS Sn 22 28 19.1 -0.5
PB04 AML AML 22 28 20.3
comp=E,10μm,0.5s
PB04 Plate Boundary 1.82 355 ⇑iP Pn 22 27 56.5 -0.2
PB04 iS Sn 22 28 19.1 -0.5
MACH Maria Elena 1.93 348 ⇑iP Pn 22 27 57.1 -1.1
MACH iS Sn 22 28 19.9 -2.4
MACH Maria Elena 1.93 348 ⇑iP Pn 22 27 57.1 -1.1
MACH iS Sn 22 28 19.9 -2.4
PB09 Plate Boundary 2.29 2 AML AML 22 28 34.4
comp=N,23μm,0.6s
PB07 Plate Boundary 2.41 348 AML AML 22 28 41.2
comp=E,5μm,0.3s
PATCX Punta Patache 3.34 347 AML AML 22 29 23.7
comp=E,2μm,0.3s
CFAA Coronel Fontan 7.55 173 P Pn 22 29 13.8 -0.2
comp=E,1.8nm,0.3s,baz=348,slow=8.2,SNR=138
CFAA S Sn 22 30 33.5 -4.4
comp=E,1.0nm,0.3s,baz=171,slow=14,SNR=7.5
CFAA LR LR 22 31 44.6
comp=E,20nm,21.5s,baz=342,slow=34
LPAZ La Paz 7.85 8 P Pn 22 29 18.2 -0.4
comp=E,5.4nm,0.3s,baz=210,slow=5.0,SNR=83
LPAZ LR LR 22 33 09.1
comp=E,243nm,20.8s,baz=186,slow=44
ARE Arequipa 7.86 345 eP Pn 22 29 15.0 -3.5
ARE eS Sn 22 30 38.5 -7.5
CPUP Villa Florida 11.09 104 P Pn 22 29 59.2 -3.0
comp=E,0.9nm,0.3s,baz=272,slow=12,SNR=14
CPUP LR LR 22 34 47.8
comp=E,327nm,20.7s,baz=261,slow=40
CPUP Villa Florida 11.09 104 ePn Pn 22 30 01.4 -0.8
comp=E,1.1nm,0.8s
SIV San Ignacio 11.18 45 P Pn 22 29 58.7 -4.9
comp=E,2.2nm,0.3s,baz=246,slow=11,SNR=24
SIV S Sn 22 31 53.3 -13
comp=E,1.5nm,0.3s,baz=156,slow=20,SNR=4.1
H03N1 Juan Fernandez 12.54 220 T T 22 42 38.8
baz=41,slow=75,SNR=146
H03N2 Juan Fernandez 12.55 220 T T 22 42 35.3
baz=41,slow=75,SNR=124
H03N3 Juan Fernandez 12.56 220 T T 22 42 25.4
baz=41,slow=75,SNR=159
NNA Nana 13.99 328 P Pn 22 30 42.8 +1.9
comp=E,1.2nm,0.3s,baz=146,slow=18,SNR=2.6
NNA LR LR 22 35 27.6
comp=E,71nm,21.1s,baz=170,slow=34
TRQA Tornquist 15.27 157 ePn Pn 22 30 55.7 -1.3
comp=E,58nm,0.9s
SAML Samuel 16.16 22 ePn Pn 22 31 03.7 -4.7
comp=E,4.1nm,0.9s
PLCA Paso Flores 16.62 183 P Pn 22 31 13.9 0.0
comp=E,0.2nm,0.3s,baz=4.0,slow=13,SNR=6.4
PLCA Paso Flores 16.62 183 eP P 22 31 17.1 +2.2
comp=E,19nm,0.9s
ATAH Atahualpa 18.97 331 P Pn 22 31 46.3 +3.5
comp=E,0.3nm,0.3s,baz=180,slow=18,SNR=2.5
BB16B Bebedouro 19.40 85 ⇑eP P 22 31 42.3 -3.1
BB16B i 22 31 45.1
BB16B i 22 31 50.8
BDFB Brasilia 21.72 71 P P 22 32 07.5 -2.9
comp=E,18nm,0.8s,baz=250,slow=11,SNR=22
BDFB LR LR 22 40 56.3
comp=E,85nm,20.7s,baz=238,slow=38
BDFB Brasilia 21.72 71 eP P 22 32 06.3 -4.2
OTAV Otavalo 25.75 339 epP pP 22 33 12.9 +2.8
ROSC El Rosal 29.18 350 LR LR 22 45 31.7
comp=E,100nm,19.9s,baz=177,slow=37
TEIG Tepich 47.76 336 LR LR 22 56 00.7
comp=E,47nm,19.7s,baz=157,slow=36
034A Hebbronville 58.22 329 ⇓P P 22 37 12.2 +0.9
baz=58
934A Benavides 58.60 330 ⇓P P 22 37 14.8 +0.9
baz=59
933A Laredo 58.97 329 ⇑P P 22 37 17.3 +0.8
baz=59
834A Tilden 59.06 330 ⇓P P 22 37 18.5 +1.4
baz=59
636A Smothers Creek 59.56 332 ⇓P P 22 37 21.8 +1.3
baz=60
833A Chaparral WMA, 59.62 329 ⇓P P 22 37 21.4 +0.5
baz=60,SNR=7.2
734A La Parita Cree 59.68 330 ⇑P P 22 37 22.2 +0.9
baz=60
832A Faith Ranch, C 59.86 329 ⇓P P 22 37 23.0 +0.4
baz=60,SNR=7.8
733A Divot King Ran 59.91 330 ⇓P P 22 37 23.4 +0.5
baz=60
KMSC Kings Mountain 60.00 349 ⇑P P 22 37 23.3 -0.1
baz=60
536A Bastrop 60.08 332 ⇓P P 22 37 24.4 +0.3
baz=60
732A Laxson Ranch, 60.23 329 ⇑P P 22 37 25.9 +0.7
baz=60
535A Dale 60.26 332 ⇑P P 22 37 25.7 +0.5
baz=60
633A Saathoff Ranch 60.48 330 ⇑P P 22 37 27.0 +0.2
baz=60
534A Blanco 60.65 331 ⇓P P 22 37 27.8 -0.2
baz=61
632A Uvalde 60.80 330 ⇑P P 22 37 29.3 +0.3
baz=61,SNR=5.2
TKL Tuckaleechee C 60.98 347 eP P 22 37 29.3 -0.8
631A Perdido Creek 61.09 329 ⇓P P 22 37 31.0 0.0
baz=61,SNR=6.5
336A Riesel 61.13 333 ⇑P P 22 37 31.2 0.0
baz=61
434A Burnet 61.24 332 ⇑P P 22 37 31.7 -0.2
baz=61
335A Moody 61.28 333 ⇑P P 22 37 32.5 +0.3
baz=61
532A Rocksprings 61.38 330 ⇓P P 22 37 33.2 +0.2
baz=61,SNR=6.7
433A Art 61.55 331 ⇑P P 22 37 33.8 -0.2
baz=62,SNR=10
JCT Junction City 61.63 330 eP P 22 37 35.0 +0.4
comp=E,22nm,0.9s
JCT epP pP 22 37 58.4 +0.4
JCT Junction City 61.63 330 ⇓P P 22 37 34.6 0.0
baz=62,SNR=11
334A Lometa 61.67 332 ⇑P P 22 37 34.9 +0.1
baz=62
531A Rocksprings 61.71 329 ⇓P P 22 37 35.7 +0.5
baz=62,SNR=10
WHTX Lake Whitney 61.91 333 ⇓P P 22 37 36.3 -0.1
baz=62
432A Menard 61.97 330 ⇓P P 22 37 36.8 0.0
baz=62,SNR=9.0
333A Richland Sprin 61.99 331 ⇓P P 22 37 36.7 -0.3
baz=62,SNR=9.3
530A J-C Ranch, Com 62.07 329 ⇑P P 22 37 37.9 +0.3
baz=62,SNR=10
431A Sonora 62.17 330 ⇑P P 22 37 38.2 0.0
baz=62,SNR=5.6
234A Clairette 62.21 332 ⇓P P 22 37 38.2 -0.2
baz=62,SNR=9.7
332A Millersview 62.37 331 ⇓P P 22 37 39.5 -0.1
baz=62,SNR=7.5
WVT Waverly 62.40 343 eP P 22 37 38.4 -1.2
comp=E,14nm,0.9s
529A Stev Forest Ra 62.47 328 ⇓P P 22 37 40.8 +0.5
baz=62,SNR=18
TXAR Lajitas Array 62.54 326 P P 22 37 41.2 +0.4
comp=E,2.2nm,0.8s,baz=139,slow=8.2,SNR=14
233A Rising Star 62.55 332 ⇓P P 22 37 40.8 +0.1
baz=63
430A Baggett Ranch, 62.55 329 ⇑P P 22 37 40.7 -0.1
baz=63,SNR=6.3
331A San Angelo 62.62 330 ⇑P P 22 37 41.0 -0.2
baz=63,SNR=7.3
134A White-Moore Ra 62.67 333 ⇑P P 22 37 41.1 -0.4
baz=63
MIAR Mount Ida 62.70 338 eP P 22 37 41.6 0.0
comp=E,13nm,0.8s
429A Davenport Ranc 62.73 329 ⇓P P 22 37 42.4 +0.4
baz=63,SNR=10
232A Coleman 62.76 331 ⇑P P 22 37 42.0 -0.1
baz=63,SNR=13
Z35A Perchaven, San 63.00 334 ⇓P P 22 37 43.8 +0.2
baz=63
330A Mertzon 63.04 330 ⇑P P 22 37 44.2 +0.2
baz=63
133A Hamilton Ranch 63.06 332 ⇑P P 22 37 44.1 0.0
baz=63
231A Bronte 63.10 331 ⇑P P 22 37 44.2 -0.2
baz=63
Z34A Collier Ranch, 63.30 333 ⇓P P 22 37 45.6 -0.1
baz=63
ABTX Abilene, Hawle 63.39 332 eP P 22 37 46.6 +0.3
ABTX Abilene, Hawle 63.39 332 ⇑P P 22 37 46.2 -0.1
baz=63,SNR=8.0
329A Wagon Wheel Ra 63.49 329 ⇓P P 22 37 47.1 +0.1
baz=64,SNR=12
Z33A Whitaker Ranch 63.58 333 ⇓P P 22 37 47.5 0.0
baz=64
Y34A Reagan Ranch, 63.75 334 ⇑P P 22 37 48.3 -0.2
baz=64,SNR=6.0
131A Roby 63.76 331 ⇓P P 22 37 48.8 +0.1
baz=64,SNR=6.0
229A Bryant Ranch, 63.81 329 ⇑P P 22 37 49.4 +0.3
baz=64
Z32A Haskell 63.90 332 ⇓P P 22 37 49.9 +0.3
baz=64
130A Snyder 63.95 330 ⇓P P 22 37 49.9 -0.1
baz=64,SNR=9.6
WCI Wyandotte Cave 64.00 345 eP P 22 37 48.2 -2.0
Y33A Hilltop Ranch, 64.14 333 ⇑P P 22 37 51.2 0.0
baz=64
Z31A Sharp Cattle R 64.20 332 ⇑P P 22 37 51.5 -0.1
baz=64,SNR=9.7
228A UT Block 9, Go 64.30 329 ⇑P P 22 37 52.4 +0.1
baz=64
X34A Smith Ranch, M 64.34 334 ⇑P P 22 37 52.2 -0.2
baz=64
129A Stewart Farms, 64.39 330 ⇓P P 22 37 53.2 +0.3
baz=64
Y32A R-V Farms, Ver 64.48 332 ⇓P P 22 37 53.7 +0.3
baz=64
Z30A Sanderson Ranc 64.60 331 ⇑P P 22 37 54.2 0.0
baz=65,SNR=11
128A Castleberry Fa 64.67 329 ⇓P P 22 37 54.9 +0.2
baz=65
TUL1 Tulsa 64.71 336 eP P 22 37 54.9 +0.1
comp=E,15nm,0.8s
TUL1 Tulsa 64.71 336 ⇑P P 22 37 54.7 -0.1
baz=65
Y31A Rekieta Farm, 64.80 332 ⇓P P 22 37 55.5 0.0
baz=65,SNR=9.9
Z29A Hungry Hill Ra 64.84 330 ⇓P P 22 37 55.5 -0.3
baz=65,SNR=8.0
W34A Bridge Creek, 64.87 334 ⇑P P 22 37 56.0 +0.1
baz=65
Y30A Stafford Cattl 65.00 331 ⇑P P 22 37 56.7 -0.2
baz=65
W33A Caddo, Fort Co 65.07 334 ⇑P P 22 37 57.6 +0.4
baz=65,SNR=5.6
Z28A Tucker Farm, M 65.18 330 ⇓P P 22 37 57.8 -0.2
baz=65,SNR=5.2
X31A McDonald Ranch 65.25 332 ⇑P P 22 37 58.2 -0.2
baz=65,SNR=7.3
MNTX Cornudas Mount 65.32 326 eP P 22 37 57.7 -1.1
comp=E,14nm,1.4s
Y29A Porterfield Fa 65.33 331 ⇓P P 22 37 58.7 -0.3
baz=65
W32A Sentinel 65.36 333 ⇑P P 22 37 58.9 -0.3
baz=65,SNR=11
X30A Coker Ranch, T 65.47 332 ⇑P P 22 37 59.4 -0.5
baz=66,SNR=6.0
Z27A Tatum 65.58 329 ⇑P P 22 38 00.5 -0.2
baz=66,SNR=13
V33A Lossen Ranch, 65.58 334 ⇑P P 22 38 00.3 -0.1
baz=66
Y28A McKinney Farm, 65.63 330 ⇑P P 22 38 00.8 -0.1
baz=66
W31A Holland Ranch, 65.71 333 ⇑P P 22 38 01.0 -0.3
baz=66
V32A Arapaho 65.80 334 ⇑P P 22 38 01.8 -0.1
baz=66
U34A Anderson Ranch 65.83 335 eP P 22 38 01.0 -1.0
comp=E,7.2nm,0.7s
U34A Anderson Ranch 65.83 335 ⇑P P 22 38 01.6 -0.4
baz=66
X29A Tulia 65.83 331 ⇓P P 22 38 01.7 -0.6
baz=66
Z26A Caprock 65.91 329 ⇓P P 22 38 03.0 +0.2
baz=66,SNR=13
MSTX Muleshoe 65.92 330 eP P 22 38 03.1 +0.2
comp=E,31nm,1.1s
MSTX Muleshoe 65.92 330 ⇓P P 22 38 02.7 -0.1
baz=66,SNR=6.9
Y27A Causey 66.03 330 ⇑P P 22 38 03.3 -0.3
baz=66,SNR=13
U33A Lingo Farm, Me 66.05 335 ⇓P P 22 38 03.5 0.0
baz=66
QSPA South Pole Qui 66.11 180 P P 22 38 05.3 +1.6
comp=E,12nm,0.9s,baz=165,slow=1.4,SNR=39
QSPA pP pP 22 38 28.6 +1.3
comp=E,5.1nm,0.9s,baz=242,slow=1.4,SNR=1.7
QSPA South Pole Qui 66.11 180 eP P 22 38 04.5 +0.8
comp=E,23nm,1.2s
QSPA pP pP 22 38 28.6 +1.3
AMTX Amarillo 66.20 331 ⇑P P 22 38 03.8 -0.7
baz=66
Z25A Roswell 66.27 328 ⇑P P 22 38 05.1 0.0
baz=66,SNR=9.2
U32A Winter Ranch, 66.35 334 ⇑P P 22 38 05.7 +0.3
baz=66
Y26A Elida 66.37 329 ⇑P P 22 38 06.1 +0.4
baz=66
W29A Amraillo 66.38 331 ⇑P P 22 38 05.7 0.0
baz=66
V30A Spur Ranch, Mi 66.51 333 ⇓P P 22 38 06.9 +0.4
baz=67
Z24A Sheeppen Canyo 66.63 328 ⇑P P 22 38 08.0 +0.5
baz=67,SNR=18
T33A Patterson Ranc 66.67 335 ⇑P P 22 38 07.2 -0.3
baz=67
W28A Vega 66.74 331 ⇓P P 22 38 08.2 +0.2
baz=67
Y25A Mesa, Roswell 66.78 328 ⇓P P 22 38 08.2 -0.1
baz=67,SNR=7.8
X26A CR and CF Fran 66.88 329 ⇑P P 22 38 09.2 +0.2
baz=67,SNR=11
W27A Bowe Ranch, En 66.96 330 ⇓P P 22 38 09.5 0.0
baz=67,SNR=5.1
T32A Huddler Ranch, 67.02 335 ⇓P P 22 38 09.5 -0.1
baz=67
319A Douglas 67.11 323 ⇓P P 22 38 11.9 +1.4
baz=67,SNR=6.4
Y24A Capitan 67.14 328 ⇑P P 22 38 11.6 +0.9
baz=67
121A Cookes Peak, D 67.21 325 ⇓P P 22 38 12.6 +1.4
baz=67,SNR=6.1
T31A Randall Ranch, 67.25 334 ⇓P P 22 38 11.4 +0.4
baz=67
W26A Owens Ranch, T 67.30 330 ⇓P P 22 38 12.3 +0.6
baz=67,SNR=8.5
Z22A Elephant Butte 67.36 326 ⇑P P 22 38 13.4 +1.3
baz=67,SNR=29
V27A Dan Oppiter Fa 67.44 331 ⇓P P 22 38 12.9 +0.5
baz=68
Y23A Lovelace Mesa, 67.45 327 ⇑P P 22 38 13.5 +0.8
baz=68
S31A Mullinville 67.62 334 ⇑P P 22 38 13.9 +0.5
baz=68
R33A Olander Ranch, 67.65 336 ⇓P P 22 38 13.3 -0.3
baz=68
U28A Mallet 67.69 332 ⇑P P 22 38 14.2 +0.2
baz=68
W25A X Bar L Ranch, 67.73 329 ⇑P P 22 38 14.5 +0.2
baz=68,SNR=12
KSU1 Kansas State U 67.85 337 eP P 22 38 13.4 -1.4
comp=E,34nm,0.7s
V26A Tequesquite Ra 67.90 330 ⇑P P 22 38 15.6 +0.3
baz=68,SNR=7.4
T29A Hugoton 67.96 333 ⇑P P 22 38 15.9 +0.3
baz=68
U27A Thompson Grove 67.99 331 ⇓P P 22 38 16.4 +0.5
baz=68
S30A Montezuma 68.03 334 ⇑P P 22 38 16.0 0.0
baz=68
LPM Los Pinos Moun 68.04 327 eP P 22 38 18.0 +1.7
W24A Lazy 6 Ranch, 68.17 329 ⇓P P 22 38 17.9 +0.7
baz=68
R31A Burdett 68.22 335 ⇓P P 22 38 18.2 +1.1
baz=68
T28A Walsh 68.27 332 ⇓P P 22 38 18.1 +0.4
baz=68
S29A Ulysses 68.28 333 ⇓P P 22 38 18.3 +0.7
baz=68
V25A Rancho No Teng 68.31 330 ⇓P P 22 38 18.4 +0.4
baz=68,SNR=9.9
U26A Atchley Ranch, 68.38 331 ⇓P P 22 38 18.8 +0.4
baz=68,SNR=12
Q32A Meitler Ranch, 68.46 336 ⇓P P 22 38 18.9 +0.2
baz=68
ANMO Albuquerque 68.46 328 eP P 22 38 20.1 +1.2
comp=E,8.8nm,0.9s
T27A Campo 68.48 332 ⇑P P 22 38 19.1 +0.2
baz=69,SNR=5.6
W23A Werner Place, 68.49 328 ⇓P P 22 38 20.2 +1.0
baz=68,SNR=6.4
R30A Dighton 68.51 334 ⇑P P 22 38 19.4 +0.4
baz=69
V24A Rampart Ranch, 68.53 329 ⇑P P 22 38 20.0 +0.6
baz=69,SNR=12
S28A Manter 68.58 333 ⇓P P 22 38 20.1 +0.6
baz=69
TUC Tucson 68.65 323 eP P 22 38 18.2 -1.8
comp=E,13nm,1.2s
U25A Circle Dot Ran 68.68 330 ⇑P P 22 38 21.1 +0.8
baz=69
Q31A Ellis 68.79 335 ⇓P P 22 38 21.4 +0.7
baz=69
T26A Comanche Natio 68.96 331 ⇑P P 22 38 22.6 +0.5
baz=69,SNR=8.2
R29A Marienthal 68.97 334 ⇓P P 22 38 22.5 +0.6
baz=69
V23A Ortiz Mt. (NFS 68.97 328 ⇓P P 22 38 23.5 +1.3
baz=69,SNR=6.2
Q30A Quinter 69.08 335 ⇓P P 22 38 23.3 +0.7
baz=69
SADO Sadowa 69.11 353 LR LR 23 09 42.9
comp=E,55nm,21.8s,baz=350,slow=37
R28A Tribune 69.18 333 ⇓P P 22 38 24.0 +0.7
baz=69
P31A Stockton 69.23 336 ⇑P P 22 38 23.8 +0.4
baz=69
S26A Kim 69.28 332 ⇓P P 22 38 24.7 +0.8
baz=69,SNR=8.8
T25A Trinidad 69.29 331 ⇑P P 22 38 25.0 +0.9
baz=69
Q29A Oakley 69.31 334 ⇓P P 22 38 24.0 0.0
baz=69,SNR=5.6
JFWS Jewell Farm 69.41 344 eP P 22 38 23.9 -0.4
comp=E,9.9nm,0.6s
U23A El Rito 69.45 329 ⇓P P 22 38 26.1 +1.0
baz=70
V22A San Miguel Ran 69.46 328 ⇓P P 22 38 26.7 +1.5
baz=70,SNR=7.4
LIC Lamto 69.50 73 eP P 22 38 24.9 -0.7
comp=E,40nm,1.4s
214A Organ Pipe Nat 69.52 321 eP P 22 38 23.9 -1.5
comp=E,15nm,1.2s
214A Organ Pipe Nat 69.52 321 ⇓P P 22 38 27.4 +2.0
baz=70
R27A Eads 69.54 332 ⇓P P 22 38 26.1 +0.6
baz=70
P30A Selden 69.58 335 ⇓P P 22 38 26.5 +0.8
baz=70
T24B San Luis 69.67 330 ⇓P P 22 38 28.1 +1.6
baz=70,SNR=8.8
TIC Toumodi 69.70 73 eP P 22 38 26.3 -0.6
comp=E,4.0nm,0.2s
S25A Robets Cordova 69.73 331 ⇑P P 22 38 27.6 +0.9
baz=70,SNR=7.0
Q28A Sharon Springs 69.80 334 ⇑P P 22 38 28.2 +1.1
baz=70
U22A Llaves 69.80 328 ⇓P P 22 38 29.2 +1.9
baz=70
KIC Kosan Boka 69.81 73 eP P 22 38 27.2 -0.4
comp=E,34nm,0.7s
R26A Arlington 69.83 332 ⇑P P 22 38 28.0 +0.7
baz=70,SNR=6.8
DBIC Dimbokro 69.86 73 P P 22 38 27.6 -0.1
comp=E,13nm,0.6s,baz=221,slow=6.7,SNR=30
DBIC pP pP 22 38 51.3 -0.3
comp=E,13nm,0.9s,baz=215,slow=7.4,SNR=5.3
DBIC Dimbokro 69.86 73 eP P 22 38 27.7 -0.1
DBIC epP pP 22 38 51.8 +0.1
X18A Snowflake 69.90 325 ⇓P P 22 38 29.9 +2.0

baz=70
P29A Atwood 69.90 334 ⇑P P 22 38 29.2 +1.5
baz=70
T23A Casias Ranch, 69.95 329 ⇓P P 22 38 29.7 +1.5
baz=70
O30A MW Ranch, Wils 70.06 335 ⇓P P 22 38 29.7 +1.1
baz=70
S24A Houchin Ranch, 70.06 330 ⇓P P 22 38 30.2 +1.2
baz=70,SNR=6.7
R25A Fountain Ranch 70.07 331 ⇑P P 22 38 29.9 +1.1
baz=70
W18A Petrified Fore 70.24 326 eP P 22 38 31.9 +2.0
comp=E,14nm,0.8s
W18A Petrified Fore 70.24 326 ⇑P P 22 38 31.8 +1.8
baz=70
SDCO Great Sand Dun 70.28 330 eP P 22 38 28.5 -1.8
comp=E,14nm,1.2s
SDCO epP pP 22 38 54.6 +0.5
Q26A Hugo 70.39 332 ⇑P P 22 38 31.5 +0.9
baz=70,SNR=5.3
BGNE Belgrade 70.44 337 eP P 22 38 31.1 +0.4
comp=E,49nm,0.8s
BGNE Belgrade 70.44 337 ⇑P P 22 38 31.2 +0.4
baz=70
R24A Sanders Place, 70.50 331 ⇑P P 22 38 33.0 +1.5
baz=71
X16A Lo Mia Camp, P 70.60 324 ⇑P P 22 38 33.7 +1.5
baz=71,SNR=13
113A Mohawk Valley, 70.66 321 ⇑P P 22 38 34.3 +2.0
baz=71
O28A Krutsinger Ran 70.68 334 ⇓P P 22 38 33.2 +0.8
baz=71
Q25A Bedland, Calha 70.69 332 ⇓P P 22 38 33.6 +1.0
baz=71
R23A Moffat 70.79 330 ⇑P P 22 38 34.1 +0.8
baz=71
P26A Davis Ranch, A 70.85 333 ⇓P P 22 38 34.4 +0.9
baz=71
S22A 4UR Ranch, Cre 70.89 329 ⇑P P 22 38 35.0 +1.0
baz=71
O27A Beecher Island 71.02 334 ⇑P P 22 38 35.4 +0.9
baz=71
Y14A Wickenburg 71.10 323 ⇓P P 22 38 36.8 +1.8
baz=71
Q24A Divide 71.12 331 ⇓P P 22 38 36.5 +1.1
baz=71
P25A Willow Gulch B 71.15 332 ⇑P P 22 38 36.6 +1.2
baz=71
MVCO Mesa Verde 71.26 328 eP P 22 38 37.5 +1.4
comp=E,12nm,1.0s
MVCO Mesa Verde 71.26 328 ⇓P P 22 38 37.3 +1.1
baz=71,SNR=6.3
L31A Butterfield Fa 71.36 337 ⇓P P 22 38 37.1 +0.7
baz=71
WUAZ Wupatki 71.40 325 eP P 22 38 38.7 +1.7
comp=E,17nm,1.0s
WUAZ Wupatki 71.40 325 ⇑P P 22 38 38.6 +1.7
baz=72,SNR=12
O26A Horse Wrangler 71.41 333 ⇑P P 22 38 37.9 +1.1
baz=72
L30A Spencer Herefo 71.47 337 ⇓P P 22 38 38.4 +1.3
baz=72
P24A Kohler Place, 71.47 332 ⇑P P 22 38 39.3 +1.9
baz=72
OGNE Ogallala 71.48 334 ⇓P P 22 38 38.7 +1.5
baz=72
M28A Bar X Bar Ranc 71.61 335 ⇓P P 22 38 39.7 +1.7
baz=72
O25A Wiggins 71.63 333 ⇓P P 22 38 39.9 +1.7
baz=72
L29A Maesberg Ranch 71.85 336 ⇓P P 22 38 40.4 +1.0
baz=72
ECSD EROS Data Cent 71.99 340 eP P 22 38 40.0 -0.2
comp=E,8.6nm,1.1s
ECSD EROS Data Cent 71.99 340 ⇑P P 22 38 39.7 -0.4
baz=72
ISCO Idaho Springs 72.02 331 eP P 22 38 42.0 +1.2
comp=E,9.3nm,1.3s
ISCO Idaho Springs 72.02 331 ⇓P P 22 38 41.6 +0.8
baz=72,SNR=5.1
K30A Basset 72.07 337 ⇓P P 22 38 41.1 +0.5
baz=72
SMCO Snowmass 72.12 330 eP P 22 38 43.1 +1.7
SPMN St. Paul 72.23 343 ⇑P P 22 38 40.9 -0.5
baz=72
BC3 Big Chuckawall 72.28 321 ⇓P P 22 38 43.6 +1.5
baz=72,SNR=5.1
MONP Monument Peak 72.29 320 ⇓P P 22 38 44.1 +1.7
baz=72
P22A Eagle 72.36 330 ⇓P P 22 38 43.2 +0.5
baz=72
K29A Lazy Trails An 72.40 337 ⇓P P 22 38 43.1 +0.5
baz=72,SNR=5.6
W13A Hualapai Mount 72.44 323 ⇑P P 22 38 44.7 +1.5
baz=72
IRM Iron Mountain 72.47 321 ⇑P P 22 38 44.6 +1.4
baz=72,SNR=7.0
O23A Lake Granby, G 72.49 331 ⇓P P 22 38 44.5 +1.0
baz=73,SNR=5.4
U15A North Rim 72.58 325 ⇓P P 22 38 45.8 +1.7
baz=73,SNR=9.6
J30A Dallas 72.60 337 ⇑P P 22 38 44.5 +0.8
baz=73
O22A Kremmling 72.72 331 ⇓P P 22 38 45.6 +0.7
baz=73,SNR=6.8
PFO Pinyon Flat Ob 72.83 320 ⇓P P 22 38 47.4 +1.9
baz=73
L26A Underwood Farm 72.83 334 ⇑P P 22 38 45.9 +0.7
baz=73
BELC Belle Mtn. Jos 72.84 321 ⇑P P 22 38 46.9 +1.4
baz=73
J29A Okreek 72.96 337 ⇑P P 22 38 46.2 +0.3
baz=73,SNR=5.7
M24A Cheyenne 73.06 333 ⇓P P 22 38 48.1 +1.4
baz=73
N23A Red Feather La 73.06 332 ⇓P P 22 38 47.9 +1.1
baz=73
K27A Flueckinger Fa 73.06 335 ⇓P P 22 38 47.4 +0.8
baz=73
PHWY Pilot Hill 73.19 332 eP P 22 38 48.8 +1.2
comp=E,8.9nm,1.1s
GMRC Granite Mounta 73.20 322 ⇑P P 22 38 49.4 +1.7
baz=73,SNR=8.6
N22A Wattenberg Ran 73.21 331 ⇑P P 22 38 48.9 +1.2
baz=73,SNR=5.4
L25A Engebretsen Ra 73.28 334 ⇓P P 22 38 49.1 +1.2
baz=73
J28A Allard Ranch, 73.31 336 ⇑P P 22 38 48.5 +0.6
baz=73,SNR=5.8
K26A Motz Farm, Whi 73.43 335 ⇓P P 22 38 49.6 +0.9
baz=74
M23A Laramie 73.44 332 ⇑P P 22 38 50.3 +1.3
baz=74
J27A Elkhorn Farm, 73.45 336 ⇓P P 22 38 50.0 +1.1
baz=74,SNR=6.3
O20A White River Ci 73.47 330 ⇑P P 22 38 50.5 +1.3
baz=74
HEC Hector,Ludlow 73.62 321 ⇑P P 22 38 51.8 +1.8
baz=74,SNR=7.8
SRU San Rafael 73.74 328 eP P 22 38 50.2 -0.6
comp=E,14nm,1.1s
I28A Midland 73.78 337 ⇓P P 22 38 51.6 +0.9
baz=74
TUQ Turquoise Moun 73.83 322 ⇑P P 22 38 52.8 +1.5
baz=74,SNR=6.7
J26A Sides Ranch, S 73.91 335 ⇓P P 22 38 52.8 +1.4
baz=74
L23A Garrett 73.96 333 ⇓P P 22 38 52.8 +0.7
baz=74
BFSC Mount Baldy Ra 73.98 320 ⇑P P 22 38 53.8 +1.6
baz=74
H29A Onida 73.99 338 ⇓P P 22 38 52.2 +0.3
baz=74
CCUT Cedar City 73.99 325 eP P 22 38 54.4 +2.1
comp=E,15nm,0.9s
CCUT epP pP 22 39 18.6 +2.2
N20A Spence Gulch, 74.04 330 ⇑P P 22 38 53.8 +1.3
baz=74
I27A Quinn 74.17 336 ⇓P P 22 38 53.7 +0.8
baz=74
SHPR Sheep Range 74.18 323 eP P 22 38 55.1 +1.7
SYO Syowa Base 74.22 159⇑eP P 22 38 52.4 -0.6
GSC Goldstone 74.23 321 eP P 22 38 55.7 +2.1
comp=E,8.9nm,1.0s
GSC Goldstone 74.23 321 ⇑P P 22 38 55.6 +2.1
baz=74
VNDA Vanda 74.24 190 P P 22 38 52.3 -0.7
comp=E,2.7nm,1.0s,baz=140,slow=5.9,SNR=2.9
J25A Sunshine Ranch 74.25 335 ⇑P P 22 38 54.6 +1.1
baz=74
H28A Mission Ridge 74.31 337 ⇑P P 22 38 54.3 +0.5
baz=74
PPT Papeete 74.37 257 P P 22 38 55.2 +0.5
comp=E,53nm,1.0s,baz=43,slow=5.3,SNR=2.0
I26A New Underwood 74.43 336 ⇓P P 22 38 55.9 +1.4
baz=74
K23A Bowen Ranch, D 74.46 333 ⇑P P 22 38 55.8 +1.0
baz=74
J24A Dixon Ranch, L 74.54 334 ⇑P P 22 38 56.5 +1.2
baz=75
EDW2 Edwards Air Fo 74.62 320 ⇓P P 22 38 57.1 +1.3
baz=75
G28A Parade 74.62 337 ⇓P P 22 38 56.4 +0.8
baz=75
H27A Howes 74.66 336 ⇑P P 22 38 56.8 +1.0
baz=75
K22A Casper 74.75 332 ⇓P P 22 38 57.2 +0.7
baz=75
I25A Rochford 74.76 335 ⇑P P 22 38 57.6 +1.0
baz=75,SNR=10
LRMC Laurel Mountai 74.87 321 ⇑P P 22 38 58.8 +1.5
baz=75
F29A Eureka 74.91 338 ⇑P P 22 38 57.7 +0.5
baz=75
RSSD Black Hills 74.96 335 eP P 22 38 58.1 +0.3
I24A Kuemmerle Ranc 74.97 334 ⇓P P 22 38 58.8 +1.1
baz=75
MPU Maple Canyon 74.98 328 eP P 22 38 59.6 +1.6
comp=E,10.0nm,0.9s
BSC Santa Cruz Isl 74.98 319 ⇓P P 22 39 00.2 +2.3
baz=75
K21A Alcova 75.04 332 ⇓P P 22 38 59.3 +1.0
baz=75,SNR=12
FURC Furnace Creek, 75.10 322 ⇓P P 22 39 00.6 +2.2
baz=75
DAU Daniels Canyon 75.11 328 eP P 22 39 00.5 +1.7
H25A Fruitdale 75.22 335 ⇓P P 22 38 59.8 +0.7
baz=75
G27A Dupree 75.25 337 ⇓P P 22 39 00.0 +0.8
baz=75
JLU Jordanelle 75.35 328 eP P 22 39 01.7 +1.6
comp=E,5.6nm,0.8s
J22A Midwest 75.35 333 ⇓P P 22 39 00.4 +0.5
baz=75,SNR=5.8
G26A Maurine 75.42 336 ⇓P P 22 39 00.7 +0.6
baz=76
ISA Isabella 75.45 320 eP P 22 39 02.5 +1.9
comp=E,7.8nm,0.9s
ISA Isabella 75.45 320 ⇑P P 22 39 02.3 +1.7
baz=76,SNR=7.9
E29A Napoleon 75.49 339 ⇓P P 22 39 00.5 0.0
baz=76
D30A Buchanan 75.69 340 ⇑P P 22 39 01.9 +0.3
baz=76
H24A Dirks Ranch, A 75.69 335 ⇑P P 22 39 02.2 +0.4
baz=76,SNR=5.5
DUG Dugway 75.70 327 eP P 22 39 03.3 +1.3
comp=E,9.3nm,1.0s
DUG Dugway 75.70 327 ⇓P P 22 39 03.3 +1.3
baz=76,SNR=8.3
F27A Lemmon 75.70 337 ⇓P P 22 39 02.5 +0.7
baz=76
J21A Lysite 75.70 332 ⇑P P 22 39 02.8 +0.8
baz=76
PKM Peak Mountain 75.71 319 ⇑P P 22 39 04.0 +1.8
baz=76
I22A 9 Mile Ranch, 75.75 333 ⇑P P 22 39 02.8 +0.7
baz=76,SNR=6.6
R11A Troy Canyon, C 75.76 324 eP P 22 39 04.0 +1.7
R11A Troy Canyon, C 75.76 324 ⇑P P 22 39 04.1 +1.7
baz=76,SNR=10
AGMN Agassiz Nation 75.89 342 eP P 22 39 02.3 -0.4
comp=E,7.9nm,0.9s
AGMN Agassiz Nation 75.89 342 ⇑P P 22 39 02.5 -0.1
baz=76
F26A Lodgepole 75.92 337 ⇓P P 22 39 03.5 +0.5
baz=76,SNR=7.8
VES Vestal, Richgr 75.93 320 ⇓P P 22 39 05.0 +1.8
baz=76
J20A Shoshoni 75.98 332 ⇑P P 22 39 04.4 +0.9
baz=76
I21A Big Trails, Te 76.02 333 ⇓P P 22 39 04.2 +0.4
baz=76,SNR=12
E27A Carson 76.02 338 ⇑P P 22 39 04.0 +0.5
baz=76
G24A Alzada 76.12 335 ⇑P P 22 39 04.7 +0.5
baz=76
C30A Mose, Pekin 76.13 340 ⇓P P 22 39 04.4 +0.3
baz=76,SNR=6.2
PDAR Pinedale Array 76.16 331 P P 22 39 05.4 +0.7
comp=E,1.6nm,0.9s,baz=121,slow=7.8,SNR=6.9
BW06 Boulder Array 76.16 331 eP P 22 39 03.8 -0.9
comp=E,5.7nm,1.3s
F25A Bowman 76.27 336 ⇑P P 22 39 05.6 +0.6
baz=76
H22A Clearmont 76.27 334 ⇑P P 22 39 05.4 +0.3
baz=76
TIN Tinemaha 76.29 322 ⇓P P 22 39 07.2 +1.8
baz=76
J19A Crowheart 76.33 331 ⇓P P 22 39 06.2 +0.6
baz=76,SNR=11
D28A Regan 76.35 339 ⇓P P 22 39 05.6 +0.2
baz=76
BGU Big Grassy Mou 76.36 327 eP P 22 39 07.1 +1.3
comp=E,4.7nm,1.3s
E26A Carlson Angus 76.37 337 ⇑P P 22 39 06.1 +0.5
baz=76
G23A Biddle 76.39 335 ⇓P P 22 39 06.0 +0.2
baz=76,SNR=5.5
I20A Worland 76.48 332 ⇓P P 22 39 07.0 +0.6
baz=77
F24A Ekalaka 76.57 336 ⇓P P 22 39 07.4 +0.7
baz=77
H21A Big Horn, Sher 76.58 333 ⇑P P 22 39 07.0 +0.2
baz=77
B30A Myrvik Farm, E 76.75 341 ⇑P P 22 39 07.6 +0.1
baz=77,SNR=8.2
G22A Birney 76.77 334 ⇓P P 22 39 08.0 +0.2
baz=77
F23A Volborg 76.83 335 ⇓P P 22 39 08.5 +0.3
baz=77
D26A Manning 76.84 337 ⇑P P 22 39 08.7 +0.5
baz=77
H20A Greybull 76.86 333 ⇑P P 22 39 08.8 +0.4
baz=77
HVU Hansel Valley 76.89 328 eP P 22 39 09.8 +1.0
comp=E,8.4nm,0.9s
I19A Meeteetse 76.93 332 ⇑P P 22 39 09.8 +0.9
baz=77
MLAC Mammoth Lakes 77.03 322 ⇑P P 22 39 11.1 +1.4
baz=77
B29A Wagenman Farm, 77.07 340 ⇓P P 22 39 09.8 +0.4
baz=77,SNR=9.7
C27A Sayler Ranch, 77.11 338 ⇑P P 22 39 10.2 +0.5
baz=77
E24A Baker 77.12 336 ⇑P P 22 39 10.5 +0.7
baz=77,SNR=6.4
G21A Lodge Grass 77.14 334 ⇓P P 22 39 10.7 +0.8
baz=77
A30A Hoffart Farm, 77.17 341 ⇓P P 22 39 10.3 +0.4
baz=77
F22A Rosebud 77.21 334 ⇓P P 22 39 10.8 +0.5
baz=77,SNR=7.0
REDW Red Top Meadow 77.21 330 eP P 22 39 11.9 +1.3
comp=E,11nm,1.0s
D25A Fairfield 77.26 337 ⇑P P 22 39 11.5 +1.0
baz=77
NVAR Mina Array Bea 77.30 323 P P 22 39 12.7 +1.5
comp=E,1.6nm,0.8s,baz=162,slow=5.8,SNR=6.6
NVAR pP pP 22 39 36.9 +1.5
comp=E,1.9nm,0.9s,baz=175,slow=5.7,SNR=3.1
LOHW Long Hollow 77.30 331 eP P 22 39 11.8 +0.8
comp=E,8.2nm,1.0s
ELK Elko 77.34 326 eP P 22 39 12.6 +1.3
comp=E,5.7nm,0.9s
TPAW Teton Pass 77.36 330 eP P 22 39 12.7 +1.3
B28A Dugan Ranch, T 77.38 339 ⇓P P 22 39 11.6 +0.5
baz=78,SNR=5.5
C26A Wahner Farm, P 77.41 338 ⇓P P 22 39 11.9 +0.6
baz=78
H19A Powell 77.43 332 ⇓P P 22 39 12.3 +0.7
baz=78,SNR=5.4
A29A Manning Farm, 77.44 340 ⇓P P 22 39 11.3 -0.1
baz=78,SNR=11
E23A Ismay 77.44 335 ⇑P P 22 39 11.9 +0.4
baz=78
FXWY Fox Creek 77.51 330 eP P 22 39 13.4 +1.1
comp=E,5.7nm,1.0s
I17A Pilgrim Ck. 77.53 331 ⇑P P 22 39 13.9 +1.6
baz=78,SNR=12
G20A Bridger 77.55 333 ⇓P P 22 39 12.6 +0.4
baz=78,SNR=7.9
F21A Absaloka Mine, 77.59 334 ⇓P P 22 39 13.3 +0.8
baz=78
D24A Glendive 77.60 336 ⇓P P 22 39 12.9 +0.5
baz=78
ULM Lac du Bonnet 77.67 343 P P 22 39 11.8 -0.8
comp=E,3.8nm,0.5s,baz=158,slow=6.0,SNR=9.5
ULM pP pP 22 39 36.6 -0.3
comp=E,1.9nm,0.5s,baz=193,slow=5.7,SNR=2.4
ULM sP sP 22 39 46.5 -0.4
comp=E,3.2nm,0.6s,baz=150,slow=4.0,SNR=3.4
IMW Indian Meadow 77.67 331 eP P 22 39 14.6 +1.4
comp=E,9.2nm,1.0s
FLWY Flagg Ranch 77.71 331 eP P 22 39 14.7 +1.4
comp=E,18nm,0.9s
H18A Shoshone NF, C 77.73 332 ⇓P P 22 39 14.2 +0.7
baz=78,SNR=10
A28A Rude Farm, Bot 77.75 340 ⇑P P 22 39 13.3 +0.1
baz=78
H17A Grant Village 77.90 331 eP P 22 39 17.1 +2.6
RLMT Red Lodge 77.91 332 eP P 22 39 13.0 -1.4
comp=E,4.6nm,0.8s
RLMT epP pP 22 39 38.6 0.0
LAO LASA Array 77.95 335 eP P 22 39 15.1 +0.7
comp=E,11nm,0.8s
C24A Savage 77.98 337 ⇑P P 22 39 15.2 +0.6
baz=78
A27A Ledoux Ranch, 78.10 339 ⇓P P 22 39 15.7 +0.6
baz=78
B25A Knox Farm, Ray 78.16 338 ⇑P P 22 39 16.3 +0.8
baz=78
E21A Keefer Ranch, 78.16 334 ⇓P P 22 39 16.4 +0.9
baz=78
YMR Madison River 78.29 331 eP P 22 39 18.6 +2.1
comp=E,19nm,1.0s
A26A Wade Farm, Ken 78.32 339 ⇓P P 22 39 16.8 +0.5
baz=78
D22A Cohagen 78.32 335 ⇑P P 22 39 17.5 +1.1
baz=78
F19A Roth Farm, Mol 78.36 333 ⇑P P 22 39 17.4 +0.6
baz=78,SNR=8.1
C23A Lambert 78.49 336 ⇑P P 22 39 18.0 +0.7
baz=79
E20A Meyer Farm, Mu 78.55 334 ⇓P P 22 39 18.5 +0.8
baz=79,SNR=12
D21A La Casta Ranch 78.56 335 ⇓P P 22 39 18.4 +0.6
baz=79
TOA0 Torodi Ar. Sit 78.60 70 eP P 22 39 17.9 -0.7
TOA0 epP pP 22 39 42.9 0.0
TOA0 esP sP 22 39 53.2 +0.3
TORD Torodi Ar. Bea 78.60 70 P P 22 39 18.3 -0.3
comp=E,22nm,0.7s,baz=257,slow=5.2,SNR=299
TORD pP pP 22 39 42.9 0.0
comp=E,36nm,0.9s,baz=253,slow=5.2,SNR=20
TORD sP sP 22 39 53.3 +0.4
comp=E,12nm,0.6s,baz=257,slow=5.1,SNR=4.7
SCHQ Schefferville 78.63 1 P P 22 39 17.9 0.0
comp=E,3.4nm,0.7s,baz=208,slow=7.2,SNR=6.1
SCHQ pP pP 22 39 42.9 +0.8
comp=E,3.1nm,0.8s,baz=197,slow=5.9,SNR=2.8
DGMT Dagmar 78.69 337 ⇓P P 22 39 19.1 +0.7
baz=79
C22A Vida 78.70 336 ⇑P P 22 39 19.2 +0.7
baz=79
A25A Svangstu Ranch 78.72 338 ⇑P P 22 39 19.3 +0.8
baz=79
E19A Rath Farm, Rou 78.79 333 ⇑P P 22 39 19.6 +0.6
baz=79,SNR=8.3
B23A Brockton 78.97 337 ⇓P P 22 39 20.4 +0.4
baz=79
A24A Westby 79.01 338 ⇑P P 22 39 21.0 +0.8
baz=79
HLID Hailey 79.03 328 eP P 22 39 22.1 +1.5
comp=E,14nm,0.9s
HLID Hailey 79.03 328 ⇑P P 22 39 22.1 +1.5
baz=79,SNR=25
D20A Manuel Ranch, 79.03 334 ⇓P P 22 39 20.9 +0.6
baz=79,SNR=5.7
B22A Reddig Ranch S 79.20 336 ⇑P P 22 39 22.0 +0.7
baz=79
C21A Desert Coulee 79.23 335 ⇑P P 22 39 22.1 +0.8
baz=79
MCMT McKenzie Canyo 79.26 330 eP P 22 39 20.8 -1.0
MCMT epP pP 22 39 46.2 0.0
D19A Cripps Ranch, 79.39 334 ⇓P P 22 39 23.1 +0.8
baz=80
MFID Camas Ranch 79.61 327 eP P 22 39 25.2 +1.6
comp=E,11nm,1.3s
B21A Ellsworth Farm 79.69 336 ⇑P P 22 39 24.8 +0.9
baz=80
A22A Carney Farms, 79.75 336 ⇑P P 22 39 24.9 +0.7
baz=80,SNR=6.5
LRM Limekiln Ridge 79.84 331 eP P 22 39 26.4 +1.4
C19A Slack Wire Ran 79.92 334 ⇑P P 22 39 25.8 +0.7
baz=80
B20A Solberg Farm, 80.08 335 ⇑P P 22 39 26.3 +0.3
baz=80
A21A Bergtoll Ranch 80.12 336 ⇑P P 22 39 26.6 +0.4
baz=80
HRY Holter Researc 80.26 332 eP P 22 39 29.1 +2.0
A20A Cobblestone Ra 80.41 335 ⇑P P 22 39 28.2 +0.4
baz=80,SNR=8.9
EGMT Eagleton 80.44 334 ⇑P P 22 39 28.4 +0.5
baz=80
B19A Brinkman Farms 80.46 335 ⇓P P 22 39 28.6 +0.6
baz=80
A19A Klindworth Far 80.76 335 ⇑P P 22 39 30.2 +0.6
baz=81
MOD Modoc 80.82 324 eP P 22 39 31.7 +1.5
MSO Missoula 81.28 331 ⇑P P 22 39 33.7 +1.2
baz=81
BMO Blue Mountains 81.38 328 eP P 22 39 34.1 +1.0
comp=E,9.5nm,1.2s
SLMT Seeley Lake 81.40 331 eP P 22 39 34.0 +0.9
SWMT Swartz Lake 81.82 331 eP P 22 39 36.7 +1.3
I07A Izee 81.93 326 eP P 22 39 37.4 +1.4
comp=E,9.5nm,1.1s
YBMT Yellow Bay 82.10 331 eP P 22 39 38.1 +1.3
JTMT Jette 82.13 331 eP P 22 39 38.2 +1.3
F10A Beach Ranch, E 82.16 329 eP P 22 39 38.1 +1.0
comp=E,10nm,1.1s
J05D Fort Rock, OR 82.27 325 ⇓P P 22 39 39.2 +1.4
baz=82
BLMT Blacktail Moun 82.36 331 eP P 22 39 39.5 +1.3
BSMT Bassoo Peak 82.43 331 eP P 22 39 39.8 +1.2
BOSA Boshof 82.58 118 P P 22 39 40.2 +0.3
comp=E,5.5nm,0.8s,baz=258,slow=4.2,SNR=8.6
BOSA pP pP 22 40 05.0 +0.6
comp=E,3.0nm,0.7s,baz=302,slow=3.4,SNR=2.5
FFC Flin Flon 83.35 342 eP P 22 39 43.0 +0.1
comp=E,5.7nm,1.1s
NEW Newport 83.79 330 ⇑P P 22 39 46.2 +0.8
baz=84
C09A Chrisman Ranch 83.98 329 eP P 22 39 47.4 +1.1
comp=E,10nm,0.8s
B08A Colville Reser 84.88 329 eP P 22 39 51.2 +0.4
comp=E,9.2nm,1.4s
FCC Fort Churchill 85.06 347 eP P 22 39 50.4 -1.0
comp=E,0.1nm,1.0s
EDM Edmonton 85.94 335 eP P 22 39 54.6 -1.4
FRB Frobisher Bay 87.55 0 P P 22 40 03.0 -0.6
comp=E,2.0nm,0.8s,baz=157,slow=9.3,SNR=3.9
FRB pP pP 22 40 27.9 -0.4
comp=E,1.5nm,0.3s,baz=159,slow=8.6,SNR=2.5
ESDC Sonseca Array 87.94 45 P P 22 40 05.5 -0.6
comp=E,0.7nm,0.7s,baz=254,slow=3.7,SNR=3.8
YKA Yellowknife Ar 93.49 341 P P 22 40 31.1 -0.2
comp=E,3.4nm,0.8s,baz=138,slow=4.6,SNR=70
YKA pP pP 22 40 55.8 -0.3
comp=E,0.9nm,0.6s,baz=140,slow=4.6,SNR=4.5
BRTR Keskin Array B 114.62 56 PKP PKPdf 22 45 57.0 +0.8
comp=E,0.5nm,0.7s,baz=154,slow=2.1,SNR=2.8
KBZ Khabaz 122.02 52 PKP PKPdf 22 46 10.3 +0.2
comp=E,3.5nm,1.0s,baz=255,slow=3.1,SNR=6.2
H11S2 WAKE ISLAND Hy127.77 275 T T 01 06 27.5
baz=111
H11S1 WAKE ISLAND Hy127.78 275 T T 01 06 37.6
baz=111
H11S3 WAKE ISLAND Hy127.79 275 T T 01 06 30.8
baz=111
H11N3 WAKE ISLAND Hy127.92 277 T T 01 06 39.9
baz=111

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**127.94**	**277**	T	T	01 06 42.5	
	baz=111						
H11N1	**WAKE ISLAND Hy**	**127.94**	**277**	T	T	01 06 35.9	
	baz=111						
WRA	**Warramunga Arr**	**130.53**	**210**	PKP	**PKPdf**	**22 46 27.8**	**+0.5**
	comp=E,3.7nm,1.0s,baz=152,slow=1.8,SNR=18						
SEY	**Seymchan**	**132.30**	**336**	PKP	**PKPdf**	**22 46 30.4**	**+1.2**
	comp=E,1.2nm,0.3s,baz=82,slow=2.2,SNR=6.7						
ABKAR	**Akbulak array**	**133.29**	**44**	*e*PKPdf	**PKPdf**	**22 46 30.5**	**-1.0**
ABKAR				*e*pPKPdf	**pPKPdf**	**22 46 58.2**	**+0.8**
EKS2	**Erkin-Say**	**144.41**	**50**	*e*PKPdf	**PKPab**	**22 46 50.6**	**0.0**
ZAA0	**Zalesovo Array**	**144.45**	**26**	*e*PKPdf	PKPbc	22 46 50.9	+0.5
ZAA0				*e*pPKPdf	pPKPdf	22 47 16.1	-1.4
ZALV	**Zalesovo Beam**	**144.45**	**26**	PKP	**PKPdf**	**22 46 51.3**	**-0.4**
	comp=E,12nm,0.8s,baz=297,slow=4.3,SNR=65						
ZALV				pPKP	**pPKPdf**	**22 47 17.2**	**-0.4**
	comp=E,8.2nm,0.9s,baz=304,slow=3.4,SNR=5.5						
ZALV				SKPbc	**SKiKP**	**22 50 24.4**	**+1.3**
	comp=E,1.0nm,0.8s,baz=322,slow=4.4,SNR=3.6						
AML	**Almayashu**	**144.53**	**50**	P	**PKPdf**	**22 46 53.3**	**+0.5**
	SNR=12						
USP	**Ospenovka**	**144.70**	**48**	P	**PKPdf**	**22 46 52.9**	**+0.3**
	SNR=5.6						
AAK	**Ala-Archa**	**144.92**	**49**	P	**PKPdf**	**22 46 54.0**	**+0.9**
	SNR=19						
AAK	**Ala-Archa**	**144.92**	**49**	P	PKPdf	22 47 19.8	+27
	SNR=6.8						
AAK	**Ala-Archa**	**144.92**	**49**	*e*PKP	**PKPdf**	**22 46 53.0**	**-0.1**
CHMS	**Chumysh**	**144.97**	**49**	P	**PKPdf**	**22 46 54.2**	**+1.2**
	SNR=7.6						
CHMS	**Chumysh**	**144.97**	**49**	P	PKPdf	22 47 19.4	+26
	SNR=6.0						
UCH	**Uchtor**	**145.07**	**50**	P	**PKPdf**	**22 46 55.1**	**+1.4**
	SNR=23						
UCH	**Uchtor**	**145.07**	**50**	P	PKPdf	22 47 20.3	+27
	SNR=8.0						
KBK	**Karagaybulak**	**145.22**	**49**	P	**PKPdf**	**22 46 55.2**	**+1.6**
	SNR=19						
KBK	**Karagaybulak**	**145.22**	**49**	P	PKPdf	22 47 20.4	+27
	SNR=8.0						
TKM2	**Tokmak 2**	**145.57**	**48**	P	**PKPab**	**22 46 55.9**	**+0.9**
	SNR=14						
TKM2	**Tokmak 2**	**145.57**	**48**	P	PKPab	22 47 21.2	+26
	SNR=13						
TKM2	**Tokmak 2**	**145.57**	**48**	*e*PKPdf	**PKPdf**	**22 46 53.9**	**-0.4**
KZA	**Kyzart**	**145.64**	**50**	P	**PKPab**	**22 46 57.2**	**+1.7**
	SNR=8.1						
KZA	**Kyzart**	**145.64**	**50**	P	PKPab	22 47 22.4	+27
	SNR=5.2						
ULHL	**Ulahol**	**146.27**	**49**	P	PKPab	22 47 24.0	+26
	SNR=7.9						
KSH	**Kashi**	**146.98**	**54**	*e*PKPbc	**PKPbc**	**22 46 58.0**	**-0.8**
KSH				*e*pPKP	**pPKPdf**	**22 47 22.6**	**+0.1**
KSH				*e*sPKP		22 47 36.3	
KSH				*e*PKS	**PKSdf**	**22 50 31.4**	**-0.6**
KSH				*e*SKKS		22 57 04.8	
KSH				*e*SS	**SS**	**23 09 14.1**	**-3.6**
KSH				AMB	AMB		
	comp=E,92nm,4.9s						
KSH				LR	LR		
	comp=E,46nm,3.9s						
ASAJ	**Asahikawa**	**147.17**	**315**	PKPbc	**PKPab**	**22 47 00.1**	**-0.8**
	comp=E,3.7nm,0.4s,baz=93,slow=17,SNR=3.8						
MKAR	**Makanchi Array**	**147.93**	**38**	PKPbc	**PKPdf**	**22 46 59.3**	**+1.5**
	comp=E,3.0nm,0.7s,baz=341,slow=2.5,SNR=52						
MKAR				pPKPbc	**pPKPbc**	**22 47 27.4**	**+0.7**
	comp=E,7.5nm,0.8s,baz=322,slow=2.9,SNR=11						
HYB	**Hyderabad**	**149.29**	**96**	*i* PKP	**PKPbc**	**22 47 05.0**	**-0.3**
HYB				*e*		22 47 30.5	
WMQ	**Urumqi**	**152.76**	**38**	*e*PKPbc	**PKPdf**	**22 47 04.6**	**-1.0**
WMQ				LR	LR		
	comp=E,88nm,20.9s						
WMQ				LR	LR		
	comp=E,87nm,21.6s						
WMQ				LR	LR		
	comp=E,92nm,20.0s						
MJAR	**Matsushiro Arr**	**153.28**	**304**	PKP	**PKPdf**	**22 47 08.0**	**+1.6**
	comp=E,28nm,1.3s,baz=186,slow=1.2,SNR=3.4						
MJAR				PKPbc	**PKiKP**	**22 47 14.6**	**+0.4**
	comp=E,2.2nm,0.9s,baz=127,slow=1.7,SNR=7.8						
MJAR				PKPab	**PKPab**	**22 47 27.4**	**+1.1**
	comp=E,2.8nm,0.9s,baz=72,slow=2.0,SNR=9.2						
USRK	**Ussuriysk Arra**	**153.43**	**324**	PKPbc	**PKPbc**	**22 47 14.7**	**+0.7**
	comp=E,1.9nm,0.8s,baz=106,slow=2.0,SNR=7.9						
SONM	**Songino Array**	**156.06**	**7**	PKP	**PKPdf**	**22 47 11.2**	**+1.1**
	comp=E,1.0nm,1.0s,baz=119,slow=1.9,SNR=6.7						
SONM				PKPab	**PKPab**	**22 47 38.4**	**+0.6**
	comp=E,1.5nm,0.8s,baz=327,slow=4.5,SNR=11						
SONM				pPKPab	**pPKPab**	**22 48 03.7**	**+0.9**
	comp=E,0.8nm,0.8s,baz=319,slow=4.4,SNR=3.6						
KSRS	**Korea Array**	**160.12**	**316**	PKP	**PKPdf**	**22 47 13.9**	**-1.2**
	comp=E,1.4nm,0.9s,baz=230,slow=1.0,SNR=4.6						
KSRS				PKPab	**PKPab**	**22 47 57.0**	**+1.5**
	comp=E,1.7nm,0.7s,baz=48,slow=5.1,SNR=5.7						
KSAR	**Wonju Array Be**	**160.15**	**316**	PKP	**PKPdf**	**22 47 13.9**	**-1.3**
KSAR				PKPab	**PKPab**	**22 47 57.0**	**+1.3**
GTA	**Gaotai**	**162.18**	**28**	*e*P	**PKPab**	**22 48 05.8**	**+1.1**
GTA				pP		22 48 30.8	
GTA				sP		22 48 43.3	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**163.27**	**358**	*e*PKP	**PKPdf**	**22 47 18.0**	**-0.5**
HHC				SS	SS	23 12 13.4	+2.2
HHC				AMB	AMB		
	comp=Z,200nm,10.5s						
HHC				LR	LR		
	comp=Z,340nm,20.6s						
HHC				LR	LR		
	comp=Z,480nm,17.6s						
HHC				LR	LR		
	comp=Z,510nm,17.9s						
LZH	**Lanzhou**	**166.67**	**25**	*e*PKP	**PKPdf**	**22 47 24.3**	**+2.7**
LZH				pPKP	**pPKPdf**	**22 47 53.3**	**+5.7**
LZH				sPKP		22 48 02.0	
LZH				LR	LR		
	comp=Z,150nm,18.0s						
LZH				LR	LR		
	comp=Z,140nm,18.1s						
LZH				LR	LR		
	comp=Z,170nm,20.3s						
CMAR	**Chiang Mai Arr**	**167.72**	**115**	PKP	**PKPdf**	**22 47 22.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=239,slow=1.9,SNR=5.0						
CMAR				PKPab	**PKPab**	**22 48 29.8**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=264,slow=7.0,SNR=3.7						
CMAR				pPKPab	**pPKPab**	**22 48 53.0**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=195,slow=1.4,SNR=1.2						
NJ2	**Nanjing**	**169.28**	**319**	*e*PKP	**PKPdf**	**22 47 24.1**	**+0.8**
CD2	**Chengdu**	**170.85**	**41**	PKP	**PKPdf**	**22 47 22.8**	**-1.5**
RAO	**Raoul Island**	**5.76**	**199**	P	**Pn**	**22 40 00.9**	**+2.1**
RAO						22 41 04.5	
RAO				pmax	pmax		
	comp=Z,121nm,0.3s						
RAO				smax	smax		
	comp=N,219nm,0.3s						
RAO	**Raoul Island**	**5.76**	**199**	Pn	**Pn**	**22 40 00.9**	**+2.1**
	comp=N,121nm,0.3s,baz=106,slow=11,SNR=7.0						
RAO				Sn	**Sn**	**22 41 04.5**	**+0.4**
	comp=N,219nm,0.3s,baz=295,slow=24,SNR=8.3						
NIUE	**Niue**	**7.18**	**50**	⇓P	Pn	22 40 11.8	-6.5
	baz=6.8,SNR=35						
MSVF	**Nonsavu**	**8.36**	**315**	Pn	Pn	22 40 38.0	+3.4
	comp=N,3µm,1.2s,SNR=69						
MSVF	**Nonsavu**	**8.36**	**315**	*e*P	**Pn**	**22 40 36.1**	**+1.4**
MSVF				*e*		22 42 03.9	
MSVF	**Nonsavu**	**8.36**	**315**	*e*Pn	**Pn**	**22 40 36.0**	**+1.4**
MSVF				*e*Sn	**Sn**	**22 42 03.9**	**-4.4**
OUZ	**Omahuta**	**14.66**	**217**	*e*Pn	**Pn**	**22 41 58.6**	**-2.1**
RAR	**Rarotonga**	**15.00**	**83**	*e*P	Pn	22 42 00.5	-4.7
RAR				pmax	pmax		
	comp=Z,445nm,1.2s						
RAR	**Rarotonga**	**15.00**	**83**	Pn	Pn	22 41 59.5	-5.7
	comp=Z,26nm,0.3s,baz=250,slow=8.3,SNR=18						
RAR				Sn	Sn	22 44 31.3	-19
	comp=Z,5.5nm,0.3s,baz=98,slow=21,SNR=4.5						
RAR				LR	LR	22 48 40.8	
	comp=Z,2µm,18.0s,baz=258,slow=40						
RAR	**Rarotonga**	**15.00**	**83**	*e*Pn	Pn	22 42 00.5	-4.7
	comp=Z,445nm,1.2s						
RAR				Sn	Sn	22 44 31.4	-19
RAR				*e*Sn	Sn	22 44 32.9	-18
NFK	**Norfolk Island**	**15.51**	**247**	⇑P	**P**	**22 42 15.9**	**-0.2**
	baz=16,SNR=4.4						
URZ	**Urewera**	**15.65**	**201**	Pn	**Pn**	**22 42 09.2**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=90,slow=13,SNR=3.2						
URZ				Sn	Sn	22 44 52.7	-14
	comp=Z,4.0nm,0.3s,baz=184,slow=19,SNR=7.2						
URZ	**Urewera**	**15.65**	**201**	*e*Pn	**Pn**	**22 42 12.6**	**-1.1**
	comp=Z,28nm,0.7s						
URZ				Sn	Sn	22 44 52.7	-14
DZM	**Mont Dzumac**	**16.49**	**272**	*e*P	**P**	**22 42 28.2**	**+1.1**
	comp=Z,426nm,1.5s						
DZM				*e*LQ	LQ	22 45 41.0	
	comp=Z,6µm,29.9s						
DZM				*e*LR	LR	22 46 26.0	
	comp=Z,5µm,23.0s						
DZM	**Mont Dzumac**	**16.49**	**272**	Pn	**P**	**22 42 28.7**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=93,slow=15,SNR=23						
DZM	**Mont Dzumac**	**16.49**	**272**	*e*Pn	**Pn**	**22 42 22.8**	**-1.8**
	comp=Z,303nm,1.5s						
NOUC	**Port Laguerre**	**16.61**	**272**	*e*P	P	22 42 34.3	+5.9
BKZ	**Black Stump Fm**	**16.67**	**201**	*e*Pn	**Pn**	**22 42 24.0**	**-2.9**
	comp=Z,58nm,1.5s						
BFZ	**Birch Farm**	**18.13**	**200**	*e*Pn	**Pn**	**22 42 41.0**	**-3.8**
	comp=Z,44nm,0.9s						
KHZ	**Kahutara**	**20.59**	**203**	*e*P	**P**	**22 43 09.7**	**-2.2**
	comp=Z,254nm,2.0s						
RPZ	**Rata Peaks**	**22.64**	**205**	*e*P	**P**	**22 43 34.5**	**+0.5**
	comp=Z,570nm,2.7s						
LHI	**Lord Howe Isla**	**23.55**	**245**	⇓P	**P**	**22 43 44.0**	**+0.7**
	baz=24,SNR=4.1						
ODZ	**Otahua Downs**	**23.91**	**204**	*e*P	**P**	**22 43 45.5**	**-1.2**
	comp=Z,68nm,1.7s						
TBI	**Tubuai**	**24.10**	**94**	*e*T	T	23 08 34.8	
	comp=Z,39nm,0.4s						
PAE	**Paea**	**25.21**	**81**	*e*T	T	23 09 59.6	
	comp=Z,17nm,0.4s						
PPT2	**Papeete2**	**25.24**	**81**	*e*S	**S**	**22 48 18.0**	**-5.5**
	comp=Z,1µm,28.5s						
PPT2				*e*LQ	LQ	22 48 51.4	
	comp=Z,3µm,24.5s						
PPT2				*e*LR	LR	22 50 07.8	
	comp=Z,5µm,26.8s,baz=244						
PPT2	**Papeete2**	**25.24**	**81**	*e*T	T	23 10 02.5	
	comp=Z,17nm,0.3s						
PPT	**Papeete**	**25.24**	**81**	LR	LR	22 53 17.4	
	comp=Z,1µm,19.3s,baz=253,slow=35						
TVO	**Taravao**	**25.47**	**81**	*e*T	T	23 10 19.0	
	comp=Z,3.3nm,0.4s						
WHZ	**Wether Hill Ro**	**25.68**	**207**	*e*P	**P**	**22 44 03.0**	**+0.2**
	comp=Z,408nm,2.4s						
DCZ	**Deep Cove**	**25.69**	**208**	*e*P	**P**	**22 44 02.1**	**-0.7**
	comp=Z,87nm,1.4s						
MEH	**Mehetia**	**26.52**	**82**	*e*T	T	23 11 37.5	
	comp=Z,53nm,0.3s						
HNR	**Honiara**	**27.25**	**298**	LR	LR	22 53 29.2	
	comp=Z,2µm,20.7s,baz=155,slow=33						
VAH	**Vaihoa**	**27.81**	**77**	*e*T	T	23 13 14.4	
	comp=Z,6.8nm,0.3s						
ARMA	**Armidale**	**29.70**	**250**	*e*P	**P**	**22 44 39.8**	**+0.8**
	comp=Z,51nm,1.0s						
ARMA	**Armidale**	**29.70**	**250**	P	**P**	**22 44 39.9**	**+0.8**
	baz=30,SNR=7.9						
EIDS	**Eidsvold**	**30.15**	**260**	*e*P	**P**	**22 44 42.6**	**-0.4**
	comp=Z,38nm,1.1s						
EIDS	**Eidsvold**	**30.15**	**260**	P	**P**	**22 44 42.7**	**-0.4**
	baz=30,SNR=10.0						
MGCD	**Mangrove Creek**	**30.48**	**245**	⇓P	**P**	**22 44 46.7**	**+0.8**
	baz=31,SNR=6.8						
RMQ	**Roma**	**32.17**	**258**	P	**P**	**22 45 01.4**	**+0.6**
	baz=33,SNR=30						
YNG	**Young**	**32.89**	**243**	⇑P	**P**	**22 45 07.3**	**+0.3**
	baz=33,SNR=11						
CMSA	**Cobar Meteorol**	**34.86**	**249**	P	**P**	**22 45 23.6**	**-0.6**
	baz=35,SNR=21						
CTA	**Charters Tower**	**35.36**	**268**	P	**P**	**22 45 27.5**	**-1.1**
CTA				pmax	pmax		
	comp=Z,25nm,0.4s						
CTA	**Charters Tower**	**35.36**	**268**	P	**P**	**22 45 27.5**	**-1.1**
	comp=Z,25nm,0.4s,baz=92,slow=11,SNR=50						
CTAO	**Charters Tower**	**35.36**	**268**	*e*P	**P**	**22 45 27.6**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,75nm,1.1s						
CTAO	**Charters Tower**	**35.36**	**268**	*e*P	**P**	**22 45 27.6**	**-1.1**
	comp=Z,75nm,1.1s						
QLP	**Quilpie**	**36.21**	**257**	⇓P	**P**	**22 45 35.4**	**-0.4**
	baz=37,SNR=5.5						
RKT	**Rikitea**	**37.33**	**97**	*e*S	**S**	**22 51 30.0**	**-1.9**
	comp=Z,292nm,25.5s						
RKT				*e*LQ	LQ	22 54 07.5	
	comp=Z,446nm,28.0s						
RKT				*e*LR	LR	22 55 46.5	
	comp=Z,3µm,28.0s,baz=262						
RKT	**Rikitea**	**37.33**	**97**	*e*T	T	23 25 06.0	
	comp=Z,6.1nm,0.4s						
PMG	**Port Moresby**	**38.17**	**286**	P	**P**	**22 45 51.5**	**-1.1**
PMG				pmax	pmax		
	comp=Z,61nm,1.0s						
PMG	**Port Moresby**	**38.17**	**286**	P	**P**	**22 45 51.5**	**-1.1**
	comp=Z,61nm,1.0s,baz=117,slow=5.3,SNR=18						
PMG	**Port Moresby**	**38.17**	**286**	*e*P	**P**	**22 45 51.1**	**-1.5**
	comp=Z,128nm,1.3s						
STKA	**Stephens Creek**	**38.37**	**248**	*e*P	**P**	**22 45 53.8**	**-0.3**
STKA	**Stephens Creek**	**38.37**	**248**	P	**P**	**22 45 53.6**	**-0.5**
	comp=Z,29nm,1.1s,baz=88,slow=8.4,SNR=20						
STKA				LR	LR	22 59 42.0	
	comp=Z,3µm,21.0s,baz=78,slow=33						
STKA	**Stephens Creek**	**38.37**	**248**	*e*P	**P**	**22 45 53.8**	**-0.3**
STKA	**Stephens Creek**	**38.37**	**248**	P	**P**	**22 45 53.6**	**-0.3**
	baz=39,SNR=15						
ARPS	**Mount Arapiles**	**38.53**	**240**	P	**P**	**22 45 55.3**	**-0.1**
	baz=39,SNR=6.5						
COEN	**Coen**	**39.95**	**277**	*e*P	**P**	**22 46 06.8**	**-0.8**
	comp=Z,251nm,1.1s						
COEN	**Coen**	**39.95**	**277**	P	**P**	**22 46 06.7**	**-0.8**
	baz=40,SNR=14						
HTT	**Hallett**	**40.66**	**246**	P	**P**	**22 46 12.5**	**-0.8**
	baz=41,SNR=27						
QIS	**Mount Isa**	**41.34**	**265**	⇑P	**P**	**22 46 17.8**	**-1.1**
	baz=42,SNR=9.9						
BBOO	**Buckleboo**	**43.05**	**247**	*e*P	**P**	**22 46 31.6**	**-1.2**
	comp=Z,1µm,1.1s						
BBOO	**Buckleboo**	**43.05**	**247**	P	**P**	**22 46 31.7**	**-1.2**
	baz=43,SNR=7.5						
AS31	**Alice Springs**	**45.88**	**260**	*e*P	**P**	**22 46 53.5**	**-2.0**
WRAB	**Tennant Creek**	**46.28**	**265**	P	**P**	**22 46 56.5**	**-2.2**
	comp=Z,269nm,1.2s,SNR=10						
WRAB	**Tennant Creek**	**46.28**	**265** *c*	*i*P	**P**	**22 46 56.8**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,135nm,1.0s						
WRAB	**Tennant Creek**	**46.28**	**265**	*e*P	**P**	**22 46 56.3**	**-2.4**
	comp=Z,61nm,1.1s						
WRA	**Warramunga Arr**	**46.29**	**265**	P	**P**	**22 46 56.0**	**-2.7**
	comp=Z,30nm,0.8s,baz=90,slow=6.0,SNR=107						
WRA				PcP	**PcP**	**22 48 34.4**	**+0.3**
	comp=Z,8.6nm,1.0s,baz=95,slow=3.9,SNR=4.8						
WRA				LR	LR	23 06 07.6	
	comp=Z,2µm,18.2s,baz=95,slow=36						
KIP	**Kipapa**	**48.16**	**22**	*e*P	**P**	**22 47 13.2**	**+0.1**
KIP				pmax	pmax		
	comp=Z,68nm,1.7s						
FORT	**Forrest**	**49.98**	**249**	*e*P	**P**	**22 47 26.1**	**-1.1**
	comp=Z,43nm,0.7s						
FORT	**Forrest**	**49.98**	**249**	⇑P	**P**	**22 47 24.5**	**-2.6**
	baz=50,SNR=20						
KDU	**Kakadu**	**50.15**	**273**	P	**P**	**22 47 26.2**	**-2.4**
	baz=50,SNR=7.5						
WRKA	**Warakurna**	**50.64**	**256**	P	**P**	**22 47 30.0**	**-2.3**
	baz=51,SNR=57						
MTN	**Manton Dam**	**51.33**	**272**	P	**P**	**22 47 34.9**	**-2.6**
	baz=52,SNR=5.7						
KNRA	**Kununurra**	**52.57**	**268**	P	**P**	**22 47 45.0**	**-1.7**
	baz=53,SNR=16						
FITZ	**Fitzroy Crossi**	**54.71**	**264**	*e*P	**P**	**22 48 01.8**	**-0.6**
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**54.71**	**264**	P	**P**	**22 48 00.9**	**-1.5**
	baz=55,SNR=12						
SBA	**Scott Base**	**54.74**	**184**	*e*P	P	22 48 06.4	+4.6
SBA				pmax	pmax		
	comp=Z,41nm,1.0s						
SBA	**Scott Base**	**54.74**	**184**	*e*P	P	22 48 06.4	+4.6
	comp=Z,41nm,1.0s						
VNDA	**Vanda**	**54.84**	**186**	*e*P	P	22 48 06.1	+3.6
VNDA				pmax	pmax		
	comp=Z,12nm,0.9s						
VNDA	**Vanda**	**54.84**	**186**	P	**P**	**22 48 05.6**	**+3.1**
	comp=Z,8.9nm,0.9s,baz=0.3,slow=6.9,SNR=14						
VNDA	**Vanda**	**54.84**	**186**	*e*P	P	22 48 06.1	+3.6
	comp=Z,12nm,0.9s						
SWI	**Sorong**	**56.12**	**286**	P	**P**	**22 48 11.7**	**-0.9**
	baz=56,SNR=5.1						
KLBR	**Kellerberrin**	**58.60**	**246**	P	**P**	**22 48 28.5**	**-1.4**
	baz=59,SNR=8.1						
SOEI	**Soe**	**58.71**	**273**	*e*P	**P**	**22 48 29.6**	**-1.4**
	comp=Z,82nm,0.9s						
SOEI	**Soe**	**58.71**	**273**	⇑P	**P**	**22 48 30.4**	**-0.6**
	baz=59,SNR=6.0						
MEEK	**Meekatharra**	**58.85**	**252**	⇑P	**P**	**22 48 30.5**	**-1.3**
	baz=59,SNR=7.0						
BATI	**Baumata**	**59.10**	**272**	P	**P**	**22 48 34.1**	**+0.5**
	comp=Z,18nm,0.5s,baz=287,slow=1.3,SNR=2.6						
BATI				LR	LR	23 14 32.5	
	comp=Z,2µm,18.1s,baz=158,slow=37						
MBWA	**Marble Bar**	**59.21**	**259**	*e*P	**P**	**22 48 32.5**	**-1.8**
	comp=Z,211nm,2.4s						
BLDU	**Ballidu**	**59.66**	**247**	⇑P	**P**	**22 48 34.7**	**-2.6**
	baz=60,SNR=8.8						
MORW	**Morawa**	**60.55**	**249**	⇓P	**P**	**22 48 42.4**	**-1.0**
	baz=61,SNR=10						
JCJ	**Chichijima**	**64.88**	**319**	LR	LR	23 12 07.2	
	comp=Z,880nm,22.0s,baz=120,slow=31						
QSPA	**South Pole Qui**	**66.29**	**180**	P	**P**	**22 49 23.1**	**+2.2**
	comp=Z,37nm,1.0s,baz=60,slow=2.8,SNR=70						
QSPA	**South Pole Qui**	**66.29**	**180**	*e*P	**P**	**22 49 23.1**	**+2.2**
	comp=Z,72nm,1.2s						
MYLDM	**Lahad Datu**	**70.20**	**285**	*e*P	**P**	**22 49 44.6**	**-1.4**
	comp=Z,35nm,1.2s						
JOW	**Kunigami**	**73.86**	**310**	P	**P**	**22 50 07.1**	**-0.7**
	comp=Z,2.7nm,1.1s,baz=149,slow=8.2,SNR=3.2						
JOW				LR	LR	23 20 02.5	
	comp=Z,42nm,19.4s,slow=34						
MJAR	**Matsushiro Arr**	**74.08**	**323**	P	**P**	**22 50 07.1**	**-1.8**
MJAR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MJAR				MLR	MLR		
	comp=Z,246nm,19.2s						
MJAR	**Matsushiro Arr**	**74.08**	**323**	P	**P**	**22 50 07.1**	**-1.8**
	comp=Z,5.6nm,1.1s,baz=155,slow=6.1,SNR=8.9						
MJAR				LR	LR	23 21 18.9	
	comp=Z,246nm,19.2s,baz=105,slow=35						
KSM	**Kuching**	**75.93**	**278**	*e*P	**P**	**22 50 19.7**	**-0.3**
	comp=Z,64nm,1.5s						
KSM	**Kuching**	**75.93**	**278**	P	**P**	**22 50 19.6**	**-0.5**
	baz=76,SNR=4.9						
H06S1	**SOCORRO T**	**76.03**	**62**	T	T	00 13 59.4	
	SNR=9.8						
JNU	**Nakatsue**	**76.09**	**316**	P	**P**	**22 50 19.4**	**-1.2**
	comp=Z,22nm,1.1s,baz=40,slow=2.9,SNR=8.3						
JNU	**Nakatsue**	**76.09**	**316**	*e*P	**P**	**22 50 19.6**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**76.12**	**333** *d*	*i*P	**P**	**22 50 18.1**	**-2.2**
YUK				*i* S	**S**	**23 00 07.6**	**+5.1**
YUK				*i* SS	**SS**	**23 04 49.6**	**-7.1**
TPUB	**Ta-pu**	**77.50**	**302**	*e*P	**P**	**22 50 25.7**	**-3.0**
	comp=Z,25nm,0.9s						
SSLB	**Suanglung**	**77.51**	**303**	*e*P	**P**	**22 50 27.1**	**-1.7**
	comp=Z,10nm,0.9s						
ASAJ	**Asahikawa**	**77.61**	**331**	P	**P**	**22 50 28.8**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ASAJ	**Asahikawa**	**77.61**	**331**	P	**P**	**22 50 28.8**	**0.0**
	comp=Z,3.6nm,0.4s,baz=211,slow=11,SNR=3.8						
YHNB	**Yeheng**	**77.67**	**304**	*e*P	**P**	**22 50 28.3**	**-1.4**
	comp=Z,31nm,1.1s						
SCI	**San Clemente I**	**78.49**	**46**	⇓P	**P**	**22 50 34.2**	**+0.3**
	baz=79						
PKM	**Peak Mountain**	**78.86**	**44**	⇑P	**P**	**22 50 37.4**	**+1.2**
	baz=79						
MAW	**Mawson**	**79.17**	**199**	P	**P**	**22 50 38.6**	**+1.5**
	comp=Z,47nm,1.1s,baz=148,slow=7.3,SNR=6.2						
MAW				LR	LR	23 26 19.4	
	comp=Z,453nm,18.2s,baz=102,slow=36						
PET	**Petropavlovsk**	**79.67**	**345**	*e*P	**P**	**22 50 38.2**	**-1.7**
PET				*e*		22 53 42.0	
PET				*e*S	**S**	**23 00 40.7**	**+0.2**
PET				*e*PS	**PnS**	**23 01 31.2**	**+4.5**
PET				*e*SS	**SS**	**23 05 46.6**	**-3.4**
PET				pmax	pmax		
	comp=Z,11nm,1.0s						
PET				pmax	pmax		
	comp=Z,200nm,12.2s						
MURC	**Murrieta**	**79.76**	**46**	⇑P	**P**	**22 50 41.8**	**+0.9**
	baz=80						
YSS	**Yuzh-Sakhalins**	**79.76**	**333** ⇓	*e*P	**P**	**22 50 41.0**	**+0.5**
YSS				*e*		22 50 56.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				MLR	MLR		
	comp=N,1µm,18.0s						
YSS				MLR	MLR		
	comp=Z,1µm,18.0s						
YSS	**Yuzh-Sakhalins**	**79.76**	**333**	*e*P	**P**	**22 50 42.1**	**+1.6**
	comp=Z,49nm,1.1s						
BFSC	**Mount Baldy Ra**	**79.85**	**46**	⇑P	**P**	**22 50 42.0**	**+0.5**
	baz=80						
MONP	**Monument Peak**	**79.85**	**47**	⇓P	**P**	**22 50 42.7**	**+1.0**
	baz=80						
VES	**Vestal, Richgr**	**79.92**	**44**	⇑P	**P**	**22 50 43.0**	**+1.3**
	baz=80						
QZH	**Quanzhou**	**79.95**	**303** ⇑	*i*P	**P**	**22 50 42.1**	**0.0**
QZH				S	**S**	**23 00 43.5**	**-1.1**
QZH				pmax	pmax		
	comp=Z,410nm,6.2s						
QZH				LR	LR		
	comp=Z,550nm,26.8s						
PEA0B	**Petropavlovsk-**	**79.99**	**344**	*e*P	**P**	**22 50 40.5**	**-1.1**
PETK	**Petropavlovsk-**	**79.99**	**344**	P	**P**	**22 50 41.3**	**-0.3**
	comp=Z,51nm,1.0s,baz=122,slow=7.5,SNR=35						
PETK				LR	LR	23 20 08.0	
	comp=Z,368nm,21.6s,baz=157,slow=31						
EDW2	**Edwards Air Fo**	**80.03**	**45**	⇓P	**P**	**22 50 42.8**	**+0.4**
	baz=80,SNR=13						
ISA	**Isabella**	**80.20**	**44**	*e*P	**P**	**22 50 44.9**	**+1.6**
ISA				pmax	pmax		
	comp=Z,22nm,1.2s						
ISA	**Isabella**	**80.20**	**44**	*e*P	**P**	**22 50 44.9**	**+1.6**
	comp=Z,22nm,1.2s						
ISA	**Isabella**	**80.20**	**44**	⇑P	**P**	**22 50 44.0**	**+0.7**
	baz=81,SNR=14						
PFO	**Pinyon Flat Ob**	**80.26**	**47**	*e*P	**P**	**22 50 45.2**	**+1.4**
PFO	**Pinyon Flat Ob**	**80.26**	**47**	P	**P**	**22 50 44.8**	**+1.0**
	comp=Z,7.9nm,1.0s,baz=273,slow=4.0,SNR=5.3						
PFO				LR	LR	23 22 13.5	
	comp=Z,723nm,18.2s,baz=204,slow=33						
PFO	**Pinyon Flat Ob**	**80.26**	**47**	*e*P	**P**	**22 50 45.2**	**+1.4**
PFO	**Pinyon Flat Ob**	**80.26**	**47**	⇑P	**P**	**22 50 44.7**	**+1.0**
	baz=81						
SWSC	**Sam W. Stewart**	**80.31**	**48**	⇓P	**P**	**22 50 45.1**	**+1.3**
	baz=81						
CMB	**Columbia Colle**	**80.51**	**41**	*e*P	**P**	**22 50 46.3**	**+1.4**
CMB				pmax	pmax		
	comp=Z,13nm,1.3s						

BJI ***23*** *22:38:28.9, 23°.60S × 175°.28W, h5km, mB5.7/39, mb5.5/46, Ms5.2/35, Ms7 4.9/39*

ISCJB ***23*** *22:38:31.7±3.0, 23°.76S±0°.04 × 175°.96W±0°.04, h15km±20km, mb5.2/134, MS4.8/38, Error ellipse: s-maj=7.3km s-min=5.2km az=163.4*

IDC ***23*** *22:38:31.4±0.4, 23°.60S × 175°.93W, h0km, mb5.0/28, mb1 5.1/29, mb1mx5.1/31, mbtmp5.0/29, ML5.5/1, MS4.7/21, Ms1 4.7/21, ms1mx4.7/28, Error ellipse: s-maj=15.2km s-min=13.3km az=125.0*

MOS ***23*** *22:38:36.0±1.1, 23°.52S × 176°.09W, h33km, mb5.4/52, MS4.5/4, Error ellipse: s-maj=11.1km s-min=8.9km az=76.9*

SZGRF ***23*** *22:38:36.7, 23°.70S × 176°.66W, h33km, South of Fiji Islands*

GCMT ***23*** *22:38:37.6±0.1, 23°.80S × 175°.37W, h30km, MW5.3/95, Moment Tensor Solution. s87,c142; s95,c166; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}1.08±.02; $M_{\theta\theta}$-0.14±.02; $M_{\phi\phi}$-0.94±.02; $M_{r\theta}$0.15±.03; $M_{\theta\phi}$-0.34±.01; $M_{\phi r}$0.75±.02; Best double couple: $M_0$1.31900×10^{17} NP1:ϕ_s15.00000°, δ63.00000°, λ86.00000°. NP2:ϕ_s204.00000°, δ27.00000°, λ98.00000°. Principal axes: T 1.3310, Plg72.0000°, Azm275.0000°; N -0.0210, Plg4.0000°, Azm17.0000°; P -1.3060, Plg18.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***23*** *22:38:37.6±0.9, 23°.83S × 176°.00W, h44km±8km, mb5.3/90 Error ellipse: s-maj=6.2km s-min=4.7km az=144.0*

ISC 23 22:38:34.8±0.5, **23°.80S**±0°.04 × **175°.76W**±0°.05, **h25**km±2km, **h24**km**:pP-P, n799,** σ**1s30**/852, **mb5.3**/132, **MS4.8**/39, **198C-126D, Tonga Islands region**

CMB Columbia Colle 80.51 41 eP P 22 50 46.3 +1.4
comp=Z,13nm,1.3s
LRMC Laurel Mountai 80.59 45 ⇓P P 22 50 46.1 +0.6
baz=81
KSRS Korea Array 80.72 318 P P 22 50 45.4 -0.5
comp=Z,10nm,1.1s,baz=139,slow=5.8,SNR=18
KSRS LR LR 23 20 52.9
comp=Z,498nm,22.0s,baz=133,slow=32
KSAR Wonju Array Be 80.74 318 P P 22 50 45.4 -0.6
KSAR Wonju Array Be 80.74 318 P P 22 50 45.4 -0.6
BELC Belle Mtn. Jos 80.80 47 ⇓P P 22 50 47.6 +0.9
baz=81,SNR=7.8
BC3 Big Chuckawall 80.96 47 ⇑P P 22 50 48.7 +1.2
baz=81,SNR=5.9
GLA Glamis 81.03 48 eP P 22 50 49.3 +1.5
GLA pmax pmax
comp=Z,18nm,1.1s
GLA Glamis 81.03 48 eP P 22 50 49.3 +1.5
comp=Z,18nm,1.1s
GLA Glamis 81.03 48 ⇓P P 22 50 49.1 +1.3
baz=81
GSC Goldstone 81.05 45 eP P 22 50 49.0 +1.1
GSC pmax pmax
comp=Z,17nm,1.2s
GSC Goldstone 81.05 45 eP P 22 50 49.0 +1.1
comp=Z,17nm,1.2s
GSC Goldstone 81.05 45 ⇑P P 22 50 48.7 +0.8
baz=81,SNR=8.2
HEC Hector,Ludlow 81.08 46 ⇑P P 22 50 48.8 +0.8
baz=82,SNR=12
MTUM Tungsten Hills 81.20 43 eP P 22 50 50.5 +1.8
MLAC Mammoth Lakes 81.20 42 ⇑P P 22 50 49.8 +1.0
baz=82
M02C Callahan 81.29 37 ⇑P P 22 50 50.0 +1.0
baz=82
WAKR Walker 81.39 41 eP P 22 50 51.4 +1.7
IRM Iron Mountain 81.46 47 ⇓P P 22 50 51.0 +0.9
baz=82,SNR=9.6
GMRC Granite Mounta 81.49 46 ⇓P P 22 50 51.6 +1.3
baz=82
113A Mohawk Valley, 81.59 49 ⇓P P 22 50 51.7 +1.0
baz=82
YBH Yreka Blue Hor 81.60 37 P P 22 50 51.7 +1.0
YBH pmax pmax
comp=Z,4.0nm,0.9s
YBH Yreka Blue Hor 81.60 37 P P 22 50 51.7 +1.0
comp=Z,4.0nm,0.9s,baz=168,slow=2.0,SNR=4.0
TUQ Turquoise Moun 81.71 46 ⇑P P 22 50 52.3 +0.8
baz=82,SNR=5.6
FURC Furnace Creek, 81.72 44 ⇑P P 22 50 52.1 +0.8
baz=82
GRAC Grapevine Rang 81.73 44 ⇑P P 22 50 52.6 +1.2
baz=82
SHOC Shoshone 81.75 45 ⇓P P 22 50 52.9 +1.4
baz=82
214A Organ Pipe Nat 81.79 50 ⇓P P 22 50 53.1 +1.3
baz=82
MYKOM Kota Tinggi 81.93 276 eP P 22 50 52.7 -0.3
comp=Z,17nm,0.9s
LDFC Landfair 82.03 46 eP P 22 50 55.2 +2.1
comp=Z,41nm,1.3s
NVAR Mina Array Bea 82.03 42 P P 22 50 54.5 +1.3
comp=Z,5.1nm,0.7s,baz=209,slow=8.3,SNR=10
M04C Macdoel 82.12 38 ⇓P P 22 50 54.8 +1.4
baz=82
PDMCI Parker Dam,Lak 82.22 47 ⇑P P 22 50 54.9 +0.9
baz=83,SNR=8.3
TPH Tonopah 82.48 43 eP P 22 50 57.6 +2.1
TPH pmax pmax
comp=Z,15nm,1.0s
TPH Tonopah 82.48 43 eP P 22 50 57.6 +2.1
comp=Z,15nm,1.0s
Z14A Wintersburg 82.50 49 ⇑P P 22 50 57.0 +1.6
baz=83
H03N2 Juan Fernandez 82.58 123 T T 00 22 49.4
baz=247,slow=74,SNR=111
H03N3 Juan Fernandez 82.58 123 T T 00 22 58.0
baz=247,slow=74,SNR=78
H03N1 Juan Fernandez 82.60 123 T T 00 22 48.7
baz=247,slow=74,SNR=109
Y14A Wickenburg 82.78 48 ⇓P P 22 50 58.1 +1.1
baz=83,SNR=6.9
SHPR Sheep Range 82.84 45 eP P 22 50 58.7 +1.3
USRK Ussuriysk Arra 82.85 325 P P 22 50 56.4 -0.6
comp=Z,15nm,1.1s,baz=111,slow=3.0,SNR=17
USRK LR LR 23 26 50.4
comp=Z,254nm,18.5s,baz=126,slow=35
W13A Hualapai Mount 82.85 47 ⇓P P 22 50 58.9 +1.3
baz=83,SNR=13
K05A Summer Lake 83.27 37 eP P 22 51 01.2 +1.7
comp=Z,32nm,1.1s
TUC Tucson 83.42 51 eP P 22 51 01.1 +0.7
TUC pmax pmax
comp=Z,18nm,1.1s
TUC Tucson 83.42 51 eP P 22 51 01.1 +0.7
comp=Z,18nm,1.1s
J05D Fort Rock, OR 83.45 37 ⇑P P 22 51 01.7 +1.3
baz=84
KDAK Kodiak Island 83.56 12 ceP P 22 51 03.2 +2.9
NJ2 Nanjing 83.57 309 eP P 22 51 02.4 +1.4
NJ2 pmax pmax
comp=Z,10.0nm,1.1s
H04A Detroit Lake 83.87 35 eP P 22 51 03.3 +1.0
comp=Z,142nm,2.5s
SYO Syowa Base 83.97 192 ⇑eP P 22 51 01.1 -1.4
319A Douglas 83.98 52 ⇑P P 22 51 05.1 +1.7
baz=84
QIZ Qiongzhong 84.09 294 P P 22 51 03.9 -0.1
QIZ PP PP 22 54 16.5 -2.0
QIZ S S 23 01 30.9 +3.4
QIZ SS SS 23 06 59.0 +2.1
QIZ pmax pmax
comp=Z,7.0nm,1.2s
QIZ pmax pmax
comp=Z,170nm,10.1s
QIZ LR LR
comp=Z,94nm,18.1s
QIZ LR LR
comp=Z,240nm,19.9s
I05D Terrebonne, OR 84.09 36 ⇓P P 22 51 04.9 +1.4
baz=84
X16A Lo Mia Camp, P 84.12 49 ⇓P P 22 51 05.4 +1.3
baz=84,SNR=22
HABR Khabarovsk 84.33 330 eP P 22 51 03.7 -0.8
HABR e*PP pP 22 51 14.0 +1.5
HABR e*SP sP 22 51 18.0 +2.7
HABR e 22 54 17.4
HABR eS SKSac 23 01 23.4 -2.9
HABR SS SS 23 06 56.9 -2.5
HABR pmax pmax
comp=Z,158nm,2.2s
HABR pmax pmax
comp=E,51nm,2.2s
HABR pmax pmax
comp=N,68nm,2.8s
HABR MLR MLR
comp=Z,222nm,18.0s
MDJ Mudanjiang 84.40 324 P P 22 51 05.3 +0.3
MDJ S S 23 01 37.6 +8.1
MDJ SS SS 23 07 02.3 +1.6
MDJ pmax pmax
comp=Z,21nm,1.4s
MDJ pmax pmax
comp=Z,200nm,5.3s
MDJ LR LR
comp=Z,270nm,22.1s
MDJ Mudanjiang 84.40 324 eP P 22 51 05.1 +0.1
comp=Z,36nm,1.1s
E03A Lebam 84.42 33 eP P 22 51 06.8 +1.7
comp=Z,110nm,1.4s
F04A Amboy 84.59 34 eP P 22 51 07.2 +1.4
comp=Z,52nm,1.4s
CCUT Cedar City 84.62 45 eP P 22 51 08.6 +2.1
comp=Z,22nm,1.3s
SNAA Sanae 84.66 178 P P 22 51 07.3 +1.1
SNAA Sanae 84.66 178 eP P 22 51 07.0 +0.9
SNAA pmax pmax
comp=Z,25nm,1.0s
SNAA Sanae 84.66 178 eP P 22 51 06.6 +0.5
comp=Z,40nm,1.2s
U15A North Rim 84.68 46 ⇑P P 22 51 08.3 +1.3
baz=85,SNR=28
ARUT Antelope Range 84.70 45 eP P 22 51 07.5 +0.6
ARUT Antelope Range 84.70 45 eP P 22 51 07.5 +0.6
comp=Z,353nm,1.2s
VNA3 Neumayer Olymp 84.72 176 P P 22 51 07.3 +0.9
WUAZ Wupatki 84.78 48 eP P 22 51 09.4 +2.0
comp=Z,21nm,1.1s
WUAZ Wupatki 84.78 48 ⇓P P 22 51 08.7 +1.3
baz=85,SNR=9.1
I07A Izee 84.92 37 eP P 22 51 04.8 -3.0
comp=Z,14nm,1.1s
G06A Carlson Farm, 85.06 36 eP P 22 51 09.4 +1.1
comp=Z,234nm,2.8s
VNA2 Neumayer--Watz 85.18 176 P P 22 51 10.0 +1.4
baz=168,slow=2.8
X18A Snowflake 85.21 49 ⇓P P 22 51 10.9 +1.4
baz=86,SNR=9.2
ELK Elko 85.32 42 LR LR 23 23 04.0
comp=Z,401nm,19.7s,baz=181,slow=31
VNA1 Neumayer--Stat 85.40 176 P P 22 51 11.1 +1.4
PLCA Paso Flores 85.51 133 P P 22 51 11.8 +0.8
PLCA pmax pmax
comp=Z,5.0nm,1.1s
PLCA MLR MLR
comp=Z,145nm,18.0s
PLCA Paso Flores 85.51 133 P P 22 51 11.8 +0.8
comp=Z,5.1nm,1.1s,baz=253,slow=4.0,SNR=2.4
PLCA LR LR 23 23 12.1
comp=Z,144nm,18.0s,baz=270,slow=31
121A Cookes Peak, D 85.67 52 eP P 22 51 13.3 +1.4
comp=Z,18nm,1.1s
121A Cookes Peak, D 85.67 52 ⇑P P 22 51 13.4 +1.4
baz=86
W18A Petrified Fore 85.68 49 eP P 22 51 13.8 +1.9
comp=Z,24nm,1.1s
W18A Petrified Fore 85.68 49 ⇓P P 22 51 13.3 +1.4
baz=86,SNR=6.1
G08A Pilot Rock 86.00 36 eP P 22 51 13.8 +0.6
comp=Z,12nm,1.0s
SNY Shenyang 86.06 319 ⇓P P 22 51 13.6 +0.3
SNY pmax pmax
comp=Z,12nm,1.5s
WHN Wuhan 86.06 306 P P 22 51 13.4 -0.2
WHN S S 23 01 47.8 +1.3
WHN LR LR
comp=Z,650nm,20.6s
UBPT Khong Chiam 86.16 288 P P 22 51 16.7 +2.3
comp=Z,12nm,1.6s,comp=Z,894nm
KLR Kul'dur 86.41 329 eP P 22 51 11.6 -3.3
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,48nm,1.4s
DUG Dugway 86.49 43 ⇓P P 22 51 17.0 +1.2
baz=87
BMO Blue Mountains 86.63 37 eP P 22 51 16.4 +0.2
BMO pmax pmax
comp=Z,12nm,1.3s
BMO Blue Mountains 86.63 37 eP P 22 51 16.4 +0.2
comp=Z,12nm,1.3s
Z22A Elephant Butte 86.64 51 ⇓P P 22 51 18.0 +1.4
baz=87,SNR=21
MNTX Cornudas Mount 87.00 54 eP P 22 51 19.4 +1.1
TMUT Trail Mountain 87.00 45 eP P 22 51 20.3 +1.8
comp=Z,26nm,1.2s
TIA Tai'an 87.02 312 ⇑P P 22 51 19.4 +1.2
TIA pmax pmax
comp=Z,30nm,1.2s
LAZ Ladron 87.11 50 eP P 22 51 19.9 +1.0
comp=Z,6.0nm,1.2s
TXAR Lajitas Array 87.11 56 P P 22 51 20.2 +1.2
TXAR pmax pmax
comp=Z,15nm,1.0s
TXAR MLR MLR
comp=Z,640nm,18.4s
TXAR Lajitas Array 87.11 56 P P 22 51 20.2 +1.2
comp=Z,15nm,1.0s,baz=216,slow=6.2,SNR=44
TXAR LR LR 23 25 40.1
comp=Z,640nm,18.4s,baz=0.0,slow=32
D08A Wollman Farm, 87.15 35 eP P 22 51 19.8 +1.2
comp=Z,23nm,1.4s
RC01 Rabbit Creek A 87.18 12 eP P 22 51 19.3 +1.0
comp=Z,56nm,1.5s
E09A Wood Farm, Sta 87.21 36 eP P 22 51 19.7 +0.8
comp=Z,21nm,1.4s
SRU San Rafael 87.34 45 eP P 22 51 21.2 +1.2
SRU pmax pmax
comp=Z,10.0nm,1.0s
SRU San Rafael 87.34 45 eP P 22 51 21.2 +1.2
comp=Z,9.7nm,1.0s
GAMB Gambell 87.34 2 eP P 22 51 19.2 +0.2
comp=Z,18nm,1.2s
F10A Beach Ranch, E 87.37 37 eP P 22 51 20.3 +0.5
comp=Z,9.9nm,1.0s
LPM Los Pinos Moun 87.42 51 eP P 22 51 21.6 +1.2
GSI Gunungsitoli 87.47 273 eP P 22 51 22.4 +1.5
comp=Z,88nm,1.1s
DAU Daniels Canyon 87.60 44 eP P 22 51 22.4 +1.1
DAU pmax pmax
comp=Z,8.0nm,1.2s
DAU Daniels Canyon 87.60 44 eP P 22 51 22.4 +1.1
comp=Z,7.8nm,1.2s
Y23A Lovelace Mesa, 87.64 51 ⇑P P 22 51 22.3 +0.8
baz=88,SNR=7.4
MVCO Mesa Verde 87.65 47 ⇑P P 22 51 22.5 +1.0
baz=88
PMR Palmer 87.75 12 eP P 22 51 21.5 +0.4
PMR pmax pmax
comp=Z,61nm,1.6s
PMR Palmer 87.75 12 eP P 22 51 21.5 +0.4
comp=Z,60nm,1.6s
B08A Colville Reser 87.77 34 eP P 22 51 21.9 +0.3
comp=Z,9.9nm,1.0s
Z24A Sheeppen Canyo 87.83 52 ⇓P P 22 51 23.3 +0.9
baz=88,SNR=8.8
CHBT CHBT 87.84 285 P P 22 51 25.2 +2.6
comp=Z,18nm,1.0s,comp=Z,731nm
ANMO Albuquerque 87.87 50 eP P 22 51 23.7 +1.1
ANMO Albuquerque 87.87 50 P P 22 51 22.6 0.0
comp=Z,7.4nm,1.0s,baz=241,slow=5.4,SNR=12
ANMO LR LR 23 25 58.7
comp=Z,1µm,18.7s,baz=246,slow=32
ANMO Albuquerque 87.87 50 eP P 22 51 23.6 +1.1
X23A Hourglass Bar 87.87 51 ⇑P P 22 51 23.8 +1.1
baz=88
C09A Chrisman Ranch 87.96 35 eP P 22 51 23.4 +1.0
comp=Z,26nm,1.4s
GDL2 Guadalupe Moun 88.00 54 eP P 22 51 24.6 +1.4
DIV Divide 88.04 14 eP P 22 51 23.4 +0.8
comp=Z,32nm,1.2s
V22A San Miguel Ran 88.05 49 ⇑P P 22 51 24.2 +0.7
baz=88
Y24A Capitan 88.08 52 ⇓P P 22 51 24.9 +1.3
baz=88,SNR=18
PV01 Paradox Valley 88.09 47 eP P 22 51 24.0 +0.4
comp=Z,492nm,1.1s
W23A Werner Place, 88.20 50 ⇓P P 22 51 24.8 +0.6
baz=89
Z25A Roswell 88.27 52 ⇑P P 22 51 25.5 +1.1
baz=89,SNR=7.0
U22A Llaves 88.33 49 ⇓P P 22 51 25.4 +0.6
baz=89
V23A Ortiz Mt. (NFS 88.47 50 ⇓P P 22 51 26.5 +1.0
baz=89
529A Stev Forest Ra 88.59 56 ⇓P P 22 51 26.7 +0.7
baz=89
Y25A Mesa, Roswell 88.61 52 ⇑P P 22 51 27.1 +1.1
baz=89,SNR=11
W24A Lazy 6 Ranch, 88.75 50 ⇓P P 22 51 27.6 +0.9
baz=89
U23A El Rito 88.77 49 ⇑P P 22 51 27.7 +0.9
baz=89
Z26A Caprock 88.81 53 ⇓P P 22 51 27.3 +0.3
baz=89,SNR=10.0
NEW Newport 88.85 35 eP P 22 51 27.2 +0.5
NEW Newport 88.85 35 P P 22 51 25.9 -0.8
comp=Z,4.1nm,1.0s,baz=259,slow=3.5,SNR=6.0
NEW Newport 88.85 35 eP P 22 51 27.1 +0.5
NEW Newport 88.85 35 ⇓P P 22 51 26.7 0.0
baz=89,SNR=6.2
X25A Clemmons Ranch 88.93 51 ⇑P P 22 51 28.3 +0.7
baz=89
S22A 4UR Ranch, Cre 89.06 48 ⇓P P 22 51 28.9 +0.7
baz=89
429A Davenport Ranc 89.08 56 ⇑P P 22 51 28.7 +0.5
baz=89,SNR=8.2
V24A Rampart Ranch, 89.10 50 ⇑P P 22 51 28.9 +0.5
baz=90
PATY Pattaya 89.21 284 P P 22 51 32.1 +3.0
comp=Z,16nm,1.0s
KTH Kantishna Hill 89.23 11 eP P 22 51 27.4 -0.8
comp=Z,19nm,1.0s
T23A Casias Ranch, 89.23 49 ⇑P P 22 51 29.5 +0.4
baz=90
Y26A Elida 89.24 52 ⇓P P 22 51 29.4 +0.4
baz=90
TRF Thorofare Moun 89.25 11 eP P 22 51 26.3 -2.1
comp=Z,17nm,0.8s
228A UT Block 9, Go 89.27 54 ⇓P P 22 51 29.6 +0.5
baz=90
TNA Tin City 89.28 3 eP P 22 51 28.1 -0.1
comp=Z,16nm,1.2s
530A J-C Ranch, Com 89.28 57 ⇓P P 22 51 29.7 +0.5
baz=90
O20A White River Ci 89.38 45 ⇓P P 22 51 30.0 +0.4
baz=90
Z27A Tatum 89.39 53 ⇓P P 22 51 30.1 +0.5
baz=90
W25A X Bar L Ranch, 89.42 51 ⇓P P 22 51 30.4 +0.6
baz=90,SNR=9.3
329A Wagon Wheel Ra 89.42 55 ⇓P P 22 51 30.5 +0.6
baz=90
PKDT Phuket 89.42 279 P P 22 51 32.0 +1.8
comp=Z,31nm,1.4s,comp=Z,645nm
832A Faith Ranch, C 89.47 59 ⇑P P 22 51 30.6 +0.5
baz=90
631A Perdido Creek 89.52 58 ⇓P P 22 51 30.8 +0.5
baz=90,SNR=11
FXWY Fox Creek 89.55 41 eP P 22 51 32.3 +2.0
comp=Z,12nm,1.7s
X26A CR and CF Fran 89.56 52 ⇓P P 22 51 30.7 +0.2
baz=90,SNR=5.8
128A Castleberry Fa 89.59 54 ⇑P P 22 51 31.2 +0.6
baz=90,SNR=5.2
ENH Enshi 89.59 303 eP P 22 51 30.2 -0.4
comp=Z,40nm,1.4s
V25A Rancho No Teng 89.62 50 ⇓P P 22 51 31.3 +0.5
baz=90
430A Baggett Ranch, 89.66 56 ⇑P P 22 51 31.4 +0.5
baz=90
732A Laxson Ranch, 89.68 58 ⇑P P 22 51 31.5 +0.5
baz=90,SNR=5.4
BJI Beijing 89.68 315 P P 22 51 30.9 +0.2
BJI S S 23 02 25.9 +5.2
BJI SS SS 23 08 23.4 +5.2
BJI pmax pmax
comp=Z,18nm,1.6s
BJI pmax pmax
comp=Z,260nm,5.7s
BJI LR LR
comp=Z,220nm,19.2s
BJI LR LR
comp=Z,180nm,25.2s
BJI LR LR
comp=Z,270nm,26.3s
MSO Missoula 89.70 37 ⇓P P 22 51 31.0 +0.2
baz=90
T24B San Luis 89.70 49 ⇓P P 22 51 32.1 +0.8
baz=90
Y27A Causey 89.70 53 ⇑P P 22 51 31.6 +0.4
baz=90,SNR=9.0
SMCO Snowmass 89.70 46 eP P 22 51 34.8 +3.4
comp=Z,30nm,2.0s
933A Laredo 89.72 60 ⇓P P 22 51 31.7 +0.5
baz=90
N20A Spence Gulch, 89.73 45 ⇑P P 22 51 31.6 +0.3
baz=90
IMW Indian Meadow 89.74 41 eP P 22 51 33.4 +2.0
comp=Z,11nm,1.3s
PAX Paxson 89.75 13 eP P 22 51 30.7 +0.1
PAX pmax pmax
comp=Z,18nm,1.2s
PAX Paxson 89.75 13 eP P 22 51 30.7 +0.1
comp=Z,18nm,1.2s
MCK McKinley 89.75 12 eP P 22 51 30.1 -0.4
MCK pmax pmax
comp=Z,19nm,1.0s
MCK McKinley 89.75 12 eP P 22 51 30.1 -0.4
comp=Z,19nm,1.0s
229A Bryant Ranch, 89.78 55 ⇓P P 22 51 32.1 +0.6
baz=90
W26A Owens Ranch, T 89.85 51 ⇓P P 22 51 32.8 +0.9
baz=90
531A Rocksprings 89.89 57 ⇓P P 22 51 32.7 +0.6
baz=90,SNR=6.2
034A Hebbronville 89.94 60 ⇓P P 22 51 32.9 +0.6
baz=90
833A Chaparral WMA, 89.94 59 ⇑P P 22 51 33.0 +0.8
baz=90
BW06 Boulder Array 89.96 42 eP P 22 51 31.3 -1.0
comp=Z,3.6nm,1.2s
PDAR Pinedale Array 89.96 42 P P 22 51 32.6 +0.3
comp=Z,1.7nm,0.9s,baz=198,slow=3.2,SNR=8.8
R23A Moffat 89.97 48 ⇑P P 22 51 33.2 +0.7
baz=90
I17A Pilgrim Ck. 89.97 41 ⇑P P 22 51 33.0 +0.7
baz=90
QLMT Earthquake Lak 89.98 40 eP P 22 51 34.3 +2.0
Z28A Tucker Farm, M 89.98 53 ⇑P P 22 51 32.4 0.0
baz=90,SNR=5.4
FLWY Flagg Ranch 89.99 41 eP P 22 51 33.9 +1.6
comp=Z,19nm,1.3s
330A Mertzon 89.99 56 ⇑P P 22 51 32.9 +0.4
baz=90
MSTX Muleshoe 90.02 53 eP P 22 51 33.5 +0.8
comp=Z,14nm,0.9s
MSTX Muleshoe 90.02 53 ⇑P P 22 51 33.0 +0.3
baz=90,SNR=6.5
U25A Circle Dot Ran 90.04 50 ⇓P P 22 51 33.2 +0.4
baz=90,SNR=6.0
129A Stewart Farms, 90.05 54 ⇑P P 22 51 33.1 +0.4
baz=90
SEY Seymchan 90.05 346 P P 22 51 31.9 0.0
SEY pmax pmax
comp=Z,11nm,0.9s
SEY Seymchan 90.05 346 P P 22 51 31.9 0.0
comp=Z,11nm,0.9s,baz=152,slow=5.3,SNR=24
GYA Guiyang 90.07 299 ⇑iP P 22 51 32.9 -0.1
GYA PP PP 22 55 09.8 +3.0
GYA SKS SKSac 23 02 04.0 +1.2
GYA S S 23 02 25.6 +0.4
GYA SS SS 23 08 27.4 +2.8
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=Z,580nm,22.0s
GYA LR LR
comp=Z,490nm,23.0s
GYA LR LR
comp=Z,540nm,22.5s
431A Sonora 90.09 56 ⇑P P 22 51 33.3 +0.4
baz=90
S24A Houchin Ranch, 90.11 48 ⇑P P 22 51 33.7 +0.5
baz=90
X27A F and S Farms, 90.12 52 ⇓P P 22 51 33.9 +0.8
baz=90
CHMT Chamberlain Mo 90.13 37 eP P 22 51 32.9 -0.1
035Z Hargill 90.16 61 ⇑P P 22 51 34.3 +1.0
baz=90
632A Uvalde 90.18 58 ⇑P P 22 51 34.1 +0.8
baz=90,SNR=8.8
230A Sterling City 90.27 55 ⇓P P 22 51 34.3 +0.5
baz=91
BOZ Bozeman (W) 90.32 39 eP P 22 51 35.0 +1.2
BOZ pmax pmax
comp=Z,11nm,1.0s
BOZ Bozeman (W) 90.32 39 eP P 22 51 35.0 +1.2
comp=Z,11nm,1.0s
W27A Bowe Ranch, En 90.34 52 ⇑P P 22 51 34.1 0.0
baz=91,SNR=6.6
532A Rocksprings 90.37 57 ⇑P P 22 51 35.0 +0.7
baz=91,SNR=14
Y28A McKinney Farm, 90.38 53 ⇓P P 22 51 34.6 +0.3
baz=91
T25A Trinidad 90.41 49 ⇑P P 22 51 34.7 +0.2
baz=91
Z29A Hungry Hill Ra 90.47 54 ⇑P P 22 51 35.6 +0.8
baz=91,SNR=5.6
O22A Kremmling 90.50 46 ⇓P P 22 51 35.0 0.0
baz=91
U26A Atchley Ranch, 90.51 50 ⇑P P 22 51 35.1 +0.1
baz=91
331A San Angelo 90.51 56 ⇑P P 22 51 35.3 +0.4
baz=91
834A Tilden 90.52 59 ⇓P P 22 51 35.7 +0.8
baz=91
J19A Crowheart 90.54 42 ⇓P P 22 51 35.1 +0.2
baz=91
JCT Junction City 90.61 57 eP P 22 51 36.1 +0.7

JCT pmax pmax
comp=Z,12nm,1.0s
JCT Junction City 90.61 57 eP P 22 51 36.1 +0.7
comp=Z,12nm,1.0s
JCT Junction City 90.61 57 eP P 22 51 36.0 +0.6
baz=91
PBKT Sadao Pong 90.62 288 P P 22 51 37.0 +1.4
comp=Z,38nm,1.3s,comp=Z,574nm
633A Saathoff Ranch 90.63 58 ⇓P P 22 51 36.2 +0.8
baz=91
DOT Dot Lake 90.65 14 eP P 22 51 34.9 +0.2
comp=Z,35nm,1.1s
S25A Robets Cordova 90.65 49 ⇓P P 22 51 36.4 +0.8
baz=91
X28A Dimmitt 90.70 52 ⇓P P 22 51 36.8 +0.9
baz=91
130A Snyder 90.71 55 ⇓P P 22 51 36.4 +0.6
baz=91
LOEI Loei 90.75 289 P P 22 51 35.6 -0.7
comp=Z,47nm,1.6s
Y29A Porterfield Fa 90.78 53 ⇑P P 22 51 36.5 +0.3
baz=91,SNR=8.5
432A Menard 90.80 57 ⇑P P 22 51 36.5 +0.2
baz=91
HRY Holter Researc 90.81 38 eP P 22 51 37.0 +1.0
Q24A Divide 90.81 47 ⇑P P 22 51 36.8 +0.4
baz=91
V27A Dan Oppiter Fa 90.84 51 ⇑P P 22 51 36.8 +0.3
baz=91,SNR=5.4
N22A Wattenberg Ran 90.89 45 ⇓P P 22 51 36.8 +0.1
baz=91
231A Bronte 90.89 55 ⇓P P 22 51 36.5 -0.1
baz=91,SNR=6.7
Z30A Sanderson Ranc 90.91 54 ⇓P P 22 51 36.8 +0.1
baz=91,SNR=5.0
ISCO Idaho Springs 90.93 46 ⇑P P 22 51 37.5 +0.5
baz=91
COLA College 90.99 12 eP P 22 51 35.9 -0.3
COLA pmax pmax
comp=Z,32nm,1.2s
COLA College 90.99 12 eP P 22 51 35.9 -0.3
comp=Z,32nm,1.2s
I19A Meeteetse 90.99 42 ⇓P P 22 51 37.8 +0.8
baz=91
T26A Comanche Natio 90.99 50 ⇑P P 22 51 36.8 -0.4
baz=91
533A Kerrville 91.01 58 ⇑P P 22 51 37.5 +0.2
baz=91,SNR=6.1
X29A Tulia 91.03 53 ⇑P P 22 51 37.7 +0.3
baz=91
IM04 Indian Mountai 91.05 9 eP P 22 51 36.7 +0.2
IM04 ePP PP 22 55 14.8 +1.2
332A Millersview 91.07 56 ⇓P P 22 51 37.9 +0.4
baz=91,SNR=7.2
ILAR Eielson Array 91.08 12 P P 22 51 36.2 -0.4
comp=Z,10nm,1.1s,baz=220,slow=5.2,SNR=34
ILAR LR LR 23 27 45.5
comp=Z,173nm,19.4s,baz=210,slow=32
U27A Thompson Grove 91.17 50 ⇑P P 22 51 38.1 +0.2
baz=92
131A Roby 91.17 55 ⇑P P 22 51 37.8 -0.1
baz=92
J20A Shoshoni 91.19 42 ⇑P P 22 51 38.4 +0.5
baz=92,SNR=5.5
AMTX Amarillo 91.25 52 eP P 22 51 39.8 +1.4
comp=Z,18nm,1.0s
AMTX Amarillo 91.25 52 ⇑P P 22 51 38.8 +0.5
baz=92
433A Art 91.28 57 ⇑P P 22 51 38.5 0.0
baz=92,SNR=20
S26A Kim 91.30 49 ⇓P P 22 51 38.6 +0.1
baz=92,SNR=5.7
K21A Alcova 91.33 43 ⇑P P 22 51 39.0 +0.4
baz=92
H19A Powell 91.34 41 ⇑P P 22 51 39.2 +0.6
baz=92
Y30A Stafford Cattl 91.35 53 ⇑P P 22 51 39.0 +0.2
baz=92
232A Coleman 91.37 56 ⇓P P 22 51 39.4 +0.5
baz=92,SNR=12
W29A Amraillo 91.39 52 ⇑P P 22 51 39.3 +0.3
baz=92
534A Blanco 91.43 58 ⇑P P 22 51 39.2 0.0
baz=92,SNR=10
UTTA Uttaradit 91.47 289 P P 22 51 41.0 +1.5
comp=Z,9.4nm,1.1s,comp=Z,91nm
I20A Worland 91.47 42 ⇑P P 22 51 39.6 +0.4
baz=92
U28A Mallet 91.57 51 ⇓P P 22 51 40.1 +0.3
baz=92
J21A Lysite 91.58 43 ⇑P P 22 51 40.1 +0.3
baz=92,SNR=6.0
333A Richland Sprin 91.62 56 ⇑P P 22 51 40.3 +0.3
baz=92,SNR=5.8
X30A Coker Ranch, T 91.64 53 ⇓P P 22 51 40.4 +0.4
baz=92
R26A Arlington 91.64 49 ⇑P P 22 51 40.3 +0.2
baz=92
Z31A Sharp Cattle R 91.65 54 ⇓P P 22 51 40.3 +0.1
baz=92,SNR=5.9
ABTX Abilene, Hawle 91.71 55 eP P 22 51 41.3 +0.9
comp=Z,24nm,1.1s
ABTX Abilene, Hawle 91.71 55 ⇑P P 22 51 40.8 +0.4
baz=92,SNR=7.1
H20A Greybull 91.84 42 ⇑P P 22 51 41.4 +0.6
baz=92
Y31A Rekieta Farm, 91.86 54 ⇓P P 22 51 41.6 +0.5
baz=92,SNR=7.0
Q26A Hugo 91.90 48 ⇓P P 22 51 41.7 +0.4
baz=92
I21A Big Trails, Te 91.92 42 ⇓P P 22 51 41.4 +0.1
baz=92,SNR=5.4
N24A Carr 91.93 46 ⇑P P 22 51 42.1 +0.7
baz=92
434A Burnet 91.94 57 ⇑P P 22 51 41.5 0.0
baz=92,SNR=7.6
233A Rising Star 92.00 56 ⇑P P 22 51 42.4 +0.6
baz=92
F19A Roth Farm, Mol 92.00 40 ⇓P P 22 51 41.7 +0.2
baz=92
T28A Walsh 92.00 50 ⇓P P 22 51 42.1 +0.3
baz=92
L23A Garrett 92.04 44 ⇑P P 22 51 42.4 +0.4
baz=92
R27A Eads 92.08 49 ⇓P P 22 51 42.2 +0.1
baz=92
G20A Bridger 92.10 41 ⇑P P 22 51 42.4 +0.4
baz=92
Z32A Haskell 92.14 54 ⇓P P 22 51 42.5 +0.2
baz=92,SNR=15
334A Lometa 92.19 57 ⇓P P 22 51 42.9 +0.3
baz=92,SNR=14
J22A Midwest 92.21 43 ⇑P P 22 51 42.8 +0.1
baz=93
133A Hamilton Ranch 92.25 55 ⇑P P 22 51 43.2 +0.3
baz=93,SNR=6.4
EGAK Eagle 92.26 14 eP P 22 51 42.5 +0.4
comp=Z,22nm,1.1s
M24A Cheyenne 92.28 45 ⇓P P 22 51 43.5 +0.4
baz=93
P26A Davis Ranch, A 92.33 48 ⇑P P 22 51 43.3 +0.1
baz=93
X31A McDonald Ranch 92.38 53 ⇓P P 22 51 43.6 +0.2
baz=93
K23A Bowen Ranch, D 92.42 44 ⇓P P 22 51 44.3 +0.7
baz=93
F20A Billings 92.44 40 ⇓P P 22 51 44.1 +0.6
baz=93
Y32A R-V Farms, Ver 92.48 54 ⇑P P 22 51 44.4 +0.4
baz=93,SNR=8.5
BILL Bilibino 92.53 353 ⇑iP P 22 51 43.3 0.0
BILL e 22 55 30.1
BILL pmax pmax
comp=Z,24nm,1.2s
BILL Bilibino 92.53 353 eP P 22 51 43.5 +0.2
comp=Z,20nm,1.1s
234A Clairette 92.57 56 ⇑P P 22 51 44.8 +0.4
baz=93,SNR=9.6
HIA Hailar 92.57 324 eP P 22 51 43.4 -0.6
HIA pmax pmax
comp=Z,7.0nm,0.3s
HIA Hailar 92.57 324 eP P 22 51 43.4 -0.6
comp=Z,6.7nm,0.3s
LAMP Lampang 92.58 289 P P 22 51 46.3 +1.6
comp=Z,28nm,1.0s,comp=Z,208nm
W31A Holland Ranch, 92.66 53 ⇓P P 22 51 44.9 +0.1
baz=93
Z33A Whitaker Ranch 92.67 55 ⇑P P 22 51 45.2 +0.4
baz=93,SNR=8.4
KMI Kunming 92.68 296 P P 22 51 46.4 +1.1
KMI pmax pmax
comp=Z,29nm,1.3s
KMI LR LR
comp=Z,260nm,22.0s
KMI LR LR
comp=Z,150nm,24.0s
KMI LR LR
comp=Z,270nm,19.4s
G21A Lodge Grass 92.70 41 ⇑P P 22 51 45.2 +0.4
EGMT Eagleton 92.71 38 ⇓P P 22 51 45.0 +0.2
baz=93
D19A Cripps Ranch, 92.75 39 ⇑P P 22 51 45.5 +0.6
baz=93
X32A Elmer 92.79 54 ⇑P P 22 51 45.4 0.0
baz=93,SNR=7.5
R28A Tribune 92.79 49 ⇓P P 22 51 45.9 +0.5
baz=93
E20A Meyer Farm, Mu 92.83 40 ⇓P P 22 51 46.0 +0.7
baz=93
134A White-Moore Ra 92.86 56 ⇑P P 22 51 46.2 +0.5
baz=93,SNR=5.8
H22A Clearmont 92.90 42 ⇓P P 22 51 46.4 +0.6
baz=93
C19A Slack Wire Ran 92.96 38 ⇑P P 22 51 46.7 +0.8
baz=93,SNR=12
WHTX Lake Whitney 93.08 56 ⇑P P 22 51 46.9 +0.2
baz=93
Y33A Hilltop Ranch, 93.09 54 ⇓P P 22 51 47.2 +0.4
baz=94
HHC Hu-ho-hao-te 93.13 314 eP P 22 51 47.3 +0.4
HHC SKS SKSac 23 02 17.3 -2.2
HHC S SKKSac 23 02 43.4 +5.0
HHC pmax pmax
comp=Z,48nm,1.3s
HHC pmax pmax
comp=Z,240nm,4.7s
HHC LR LR
comp=Z,320nm,19.6s
HHC LR LR
comp=Z,560nm,19.6s
HHC LR LR
comp=Z,810nm,23.3s
D20A Manuel Ranch, 93.14 39 ⇑P P 22 51 47.7 +1.0
baz=94,SNR=6.2
W32A Sentinel 93.14 53 ⇓P P 22 51 47.6 +0.6
baz=94,SNR=7.4
CMAR Chiang Mai Arr 93.15 289 P P 22 51 48.8 +1.4
comp=Z,26nm,0.9s,baz=129,slow=3.2,SNR=142
CMAR LR LR 23 32 35.8
comp=Z,130nm,20.3s,baz=148,slow=35
CHTO Chiang Mai 93.30 289 eP P 22 51 49.1 +1.0
CHTO pmax pmax
comp=Z,43nm,1.0s
CHTO Chiang Mai 93.30 289 P P 22 51 49.0 +1.0
comp=Z,211nm,1.1s,comp=Z,2μm
CHTO Chiang Mai 93.30 289 eP P 22 51 49.0 +1.0
comp=Z,43nm,1.0s
Z34A Collier Ranch, 93.34 55 ⇓P P 22 51 48.2 +0.3
baz=94
B19A Brinkman Farms 93.40 38 ⇑P P 22 51 48.7 +0.8
baz=94
V32A Arapaho 93.55 53 ⇓P P 22 51 49.5 +0.6
baz=94
I24A Kuemmerle Ranc 93.60 43 ⇑P P 22 51 48.9 -0.1
baz=94
CMAI Chiengmai2 93.66 290 P P 22 51 51.4 +1.5
comp=Z,180nm,0.8s,comp=Z,15μm
Y34A Reagan Ranch, 93.72 55 ⇑P P 22 51 50.4 +0.8
baz=94
EDM Edmonton 93.76 32 eP P 22 51 49.3 -0.1
EDM Edmonton 93.76 32 eP P 22 51 49.3 -0.1
A19A Klindworth Far 93.77 37 ⇓P P 22 51 50.4 +0.8
baz=94
D21A La Casta Ranch 93.79 40 ⇓P P 22 51 50.5 +0.8
baz=94
G23A Biddle 93.80 42 ⇓P P 22 51 50.2 +0.4
baz=94
Z35A Perchaven, San 93.82 55 ⇑P P 22 51 51.0 +0.9
baz=94
R30A Dighton 93.83 50 ⇑P P 22 51 51.0 +0.9
baz=94
U32A Winter Ranch, 93.88 52 ⇑P P 22 51 51.1 +0.8
baz=94
X34A Smith Ranch, M 93.94 54 ⇑P P 22 51 51.4 +0.8
baz=94,SNR=6.2
K26A Motz Farm, Whi 93.96 45 ⇑P P 22 51 51.7 +1.0
baz=94
F23A Volborg 94.05 41 ⇓P P 22 51 51.5 +0.6
baz=94
H24A Dirks Ranch, A 94.08 43 ⇑P P 22 51 51.7 +0.5
baz=94
S31A Mullinville 94.09 51 ⇑P P 22 51 51.8 +0.5
baz=94
RSSD Black Hills 94.10 43 eP P 22 51 51.8 +0.4
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 94.10 43 eP P 22 51 51.8 +0.4
comp=Z,9.4nm,1.1s
C21A Desert Coulee 94.12 39 ⇑P P 22 51 51.8 +0.6
baz=94
V33A Lossen Ranch, 94.15 53 ⇓P P 22 51 52.6 +1.0
baz=94
I25A Rochford 94.24 43 ⇑P P 22 51 52.5 +0.5
baz=95
CD2 Chengdu 94.30 302 eP P 22 51 53.4 +1.0
CD2 pP pP 22 51 58.3 -2.2
CD2 sP sP 22 52 00.4 -3.0
CD2 PP PP 22 55 43.3 +3.3
CD2 SKS SKSac 23 02 28.1 +1.9
CD2 S S 23 03 03.3 +0.5
CD2 sS ScS 23 03 09.9 +5.8
CD2 SS SS 23 09 28.4 +3.3
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,240nm,6.2s
CD2 LR LR
comp=Z,320nm,22.5s
CD2 LR LR
comp=Z,290nm,22.5s
CD2 LR LR
comp=Z,440nm,18.6s
D22A Cohagen 94.31 40 ⇓P P 22 51 53.0 +1.0
baz=95
V34A Guthrie 94.71 53 ⇓P P 22 51 55.3 +1.1
baz=95
R32A Long Quarter, 95.00 50 ⇑P P 22 51 56.7 +1.2
baz=95
C23A Lambert 95.22 40 ⇑P P 22 51 57.5 +1.3
baz=96
D24A Glendive 95.39 41 ⇑P P 22 51 57.9 +0.9
baz=96
J28A Allard Ranch, 95.55 45 ⇓P P 22 51 59.0 +1.1
baz=96
G26A Maurine 95.56 43 ⇑P P 22 51 58.8 +1.0
baz=96
B23A Brockton 95.66 39 ⇑P P 22 51 59.4 +1.2
baz=96
G27A Dupree 96.02 43 ⇑P P 22 52 00.8 +0.9
baz=96
J29A Okreek 96.13 45 ⇓P P 22 52 01.6 +1.1
baz=96
F27A Lemmon 96.19 42 ⇓P P 22 52 01.3 +0.6
baz=97
LZH Lanzhou 96.41 307 eP P 22 51 59.8 -2.3
LZH ePP PP 22 55 56.0 -0.4
LZH SKS SKSac 23 02 35.6 -1.9
LZH eS S 23 03 17.6 -3.5
LZH pmax pmax
comp=Z,29nm,1.6s
LZH pmax pmax
comp=Z,130nm,9.5s
LZH LR LR
comp=Z,230nm,17.0s
LZH LR LR
comp=Z,370nm,17.3s
LZH LR LR
comp=Z,500nm,19.6s
J30A Dallas 96.64 46 ⇑P P 22 52 03.8 +1.0
baz=97
INK Inuvik 96.91 15 P P 22 52 02.9 -0.5
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 96.91 15 P P 22 52 02.9 -0.5
comp=Z,4.1nm,1.1s,baz=200,slow=5.1,SNR=9.2
INK Inuvik 96.91 15 P P 22 52 02.9 -0.5
comp=Z,1.7nm,1.2s
A25A Svangstu Ranch 96.98 39 ⇓P P 22 52 06.5 +2.3
baz=97
YKA Yellowknife Ar 98.64 24 P Pdif 22 52 11.3 +0.1
comp=Z,1.5nm,1.0s,baz=236,slow=4.3,SNR=15
YKA PKKPbc PKKPbc 23 08 40.7 -1.7
comp=Z,0.2nm,0.6s,baz=53,slow=2.4,SNR=5.3
LPAZ La Paz 98.89 112 LR LR 23 30 39.1
comp=Z,238nm,18.3s,baz=212,slow=32
ULN Ulaanbaatar 99.20 318 eP Pdif 22 52 13.7 -0.7
ULN pmax pmax
comp=Z,5.0nm,1.4s
ULN Ulaanbaatar 99.20 318 eP Pdif 22 52 12.5 -1.9
comp=Z,6.9nm,1.4s
SONM Songino Array 99.59 318 P Pdif 22 52 15.5 -0.6
SONM 22 56 19.6
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,1.2s
SONM Songino Array 99.59 318 P Pdif 22 52 15.5 -0.6
comp=Z,0.8nm,1.0s,baz=106,slow=5.3,SNR=6.2
SONM PP PP 22 56 19.6 -0.9
comp=Z,1.0nm,1.2s,baz=125,slow=9.3,SNR=3.9
SONM LR LR 23 33 50.7
comp=Z,112nm,20.9s,baz=102,slow=33
GTA Gaotai 100.65 308 eP Pdif 22 52 21.1 +0.1
GTA pP pP 22 52 30.9 +1.8
GTA PP PP 22 56 31.3 +2.6
GTA SKS SKSac 23 02 56.3 -2.4
GTA S Sdif 23 03 51.4 -5.5
GTA sS sS 23 04 09.9 -0.5
GTA SS SS 23 10 52.8 -1.7
GTA pmax pmax
comp=Z,5.0nm,1.8s
GTA pmax pmax
comp=Z,100nm,5.5s
GTA LR LR
comp=Z,180nm,19.0s
GTA LR LR
comp=Z,200nm,19.5s
GTA LR LR
comp=Z,320nm,18.5s
WMQ Urumqi 110.64 310 ePdif Pdif 22 53 05.8 +0.6
WMQ PP PP 22 57 42.6 +0.2
WMQ SKS SKSdf 23 04 16.3 +0.3
WMQ S Sdif 23 05 18.8 -1.1
WMQ SS SS 23 13 11.5 +0.9
WMQ AMB AMB
comp=Z,160nm,5.8s
WMQ LR LR
comp=Z,120nm,20.6s
WMQ LR LR
comp=Z,290nm,22.6s
WMQ LR LR
comp=Z,380nm,23.6s
ZALV Zalesovo Beam 114.35 320 PKIKP PKPdf 22 57 11.1 -0.9
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 114.35 320 PKP PKPdf 22 57 11.1 -1.0
comp=Z,1.3nm,0.7s,baz=88,slow=1.2,SNR=7.8
MKAR Makanchi Array 114.95 312 PKIKP PKPdf 22 57 12.5 -1.0
MKAR 23 07 50.8
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 114.95 312 PKP PKPdf 22 57 12.5 -1.0
comp=Z,2.0nm,0.8s,baz=66,slow=3.0,SNR=16
MKAR PKKPbc PKKPbc 23 07 50.8 0.0
comp=Z,0.3nm,0.6s,baz=263,slow=5.0,SNR=4.5
NVS Novosibirsk 115.37 321 ePKIKP PKPdf 22 57 12.6 -1.4
NVS pmax pmax
comp=Z,19nm,2.5s
NVS pmax pmax
comp=N,24nm,3.3s
NVS pmax pmax
comp=E,13nm,2.6s
BDFB Brasilia 115.64 122 PKKPab PKKPab 23 07 51.2 -3.7
comp=E,2.0nm,0.8s,baz=63,slow=6.8,SNR=3.0
KSH Kashi 118.45 303 ePKP PKPdf 22 57 19.3 -1.3
KSH ePKS PKSdf 23 00 55.8 -1.6
KSH SKS SKSdf 23 04 31.3 0.0
KSH eSKKS SKKSac 23 05 35.4 -1.1
KSH eSS SS 23 14 58.4 +4.6
KSH AMB AMB
comp=E,11nm,4.5s
KSH LR LR
comp=E,95nm,5.7s
KSH LR LR
comp=E,76nm,5.6s
KSH LR LR
comp=E,130nm,5.4s
TKM2 Tokmak 2 119.17 307 P PKPdf 22 57 21.0 -1.0
SNR=5.7
TKM2 Tokmak 2 119.17 307 ePKIKP PKPdf 22 57 20.0 -2.0
TKM2 Tokmak 2 119.17 307 ePKPdf PKPdf 22 57 20.0 -2.0
KZA Kyzart 119.33 306 P PKPdf 22 57 22.9 +0.3
SNR=5.5
UCH Uchtor 119.89 306 P PKPdf 22 57 23.7 0.0
SNR=6.3
AAK Ala-Archa 119.95 307 i PKIKP PKPdf 22 57 23.5 +0.1
AAK pmax pmax
comp=Z,11nm,1.2s
AAK Ala-Archa 119.95 307 ePKPdf PKPdf 22 57 22.7 -0.7
USP Ospenovka 120.00 307 P PKPdf 22 57 22.7 -0.6
SNR=5.9
EKS2 Erkin-Say 120.47 307 ePKIKP PKPdf 22 57 23.9 -0.5
EKS2 Erkin-Say 120.47 307 ePKPdf PKPdf 22 57 23.9 -0.5
AML Almayashu 120.49 306 P PKPdf 22 57 23.9 -0.9
SNR=8.2
KKAR Karatay Array 122.90 307 ePKIKP PKPdf 22 57 28.2 -0.7
KKAR Karatay Array 122.90 307 ePKPdf PKPdf 22 57 28.2 -0.7
BRVK Borovoye 122.99 319 i PKIKP PKPdf 22 57 28.3 -0.4
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 122.99 319 ePKPdf PKPdf 22 57 27.8 -1.0
BOSA Boshof 124.10 202 PKIKP PKPdf 22 57 32.7 +0.8
BOSA pmax pmax
comp=Z,9.0nm,1.0s
BOSA Boshof 124.10 202 PKP PKPdf 22 57 32.7 +0.8
comp=Z,8.5nm,1.0s,baz=169,slow=2.1,SNR=6.7
BOSA Boshof 124.10 202 ePKPdf PKPdf 22 57 32.6 +0.7
BOSA PKP PKPdf 22 57 32.7 +0.8
DAG Danmarks Havn 125.79 6 i PKIKP PKPdf 22 57 31.9 -1.5
DAG pmax pmax
comp=Z,3.0nm,1.0s
DAG Danmarks Havn 125.79 6 i P PKPdf 22 57 31.9 -1.5
comp=Z,3.2nm,1.0s
SUMG Summit 125.83 15 ePKIKP PKPdf 22 57 34.4 +0.3
SUMG Summit 125.83 15 i P PKPdf 22 57 34.3 +0.2
comp=Z,9.0nm,1.1s
SUMG Summit 125.83 15 ePKPdf PKPdf 22 57 34.4 +0.3
SVE Sverdlovsk 127.87 325 ePKIKP PKPdf 22 57 38.1 +0.2
SVE pmax pmax
comp=Z,13nm,1.1s
SOKR Solikamsk 128.96 329 i PKIKP PKPdf 22 57 40.0 +0.1
SOKR pmax pmax
comp=Z,20nm,1.0s
ARU Arti 129.08 324 i PKIKP PKPdf 22 57 40.2 0.0
ARU 22 59 46.7
ARU 23 04 44.3
ARU SS SS 23 16 55.7 -11
ARU Arti 129.08 324 ePKPdf PKPdf 22 57 39.9 -0.3
ABKAR Akbulak array 129.89 315 ePKPdf PKPdf 22 57 41.8 -0.2
GEYT Alibeck 132.27 300 PKP PKPdf 22 57 46.7 -0.2
comp=Z,1.5nm,0.3s,baz=270,slow=1.5,SNR=10
ARCES ARCESS Array B 132.52 350 PKIKP PKPdf 22 57 46.7 +0.3
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 132.52 350 PKP PKPdf 22 57 46.7 +0.3
comp=Z,5.5nm,0.9s,baz=39,slow=3.5,SNR=12
PRGR Permogore 132.90 334 ePKIKP PKPdf 22 57 45.9 -1.4
PRGR pmax pmax
comp=Z,14nm,1.3s
LSZ Lusaka 134.66 213 ePKIKP PKPdf 22 57 52.4 +0.2
LSZ Lusaka 134.66 213 ePKPdf PKPdf 22 57 52.4 +0.2
KLMR Klimovskoe 135.72 336 ePKIKP PKPdf 22 57 45.8 -6.8
KLMR pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 136.89 342 ePKIKP PKPdf 22 57 56.1 +1.4
JOF pmax pmax
comp=Z,2.0nm,0.8s
JOF Joensuu 136.89 342 ep PKPdf 22 57 56.1 +1.4
comp=Z,2.1nm,0.8s

KAF	Kangasniemi	138.88 344	ePKIKP	PKPdf	22 57 55.6	-2.8
KAF			pmax	pmax		
	comp=Z,2.0nm,0.7s					
KAF	Kangasniemi	138.88 344	ep	PKPdf	22 57 55.6	-2.8
	comp=Z,1.6nm,0.7s					
KMBO	Kilima Mbogo	139.47 237	i PKHKP	PKPpre	22 57 54.0	
KMBO					22 58 02.5	
KMBO			pmax	pmax		
	comp=Z,3.0nm,1.0s					
KMBO	Kilima Mbogo	139.47 237	PKhKP	PKPpre	22 57 54.0	
	comp=Z,0.4nm,0.5s,baz=354,slow=10,SNR=2.8					
KMBO			PKP	PKPdf	22 58 02.5	+1.2
	comp=Z,2.5nm,1.0s,baz=84,slow=1.1,SNR=7.4					
FINES	FINESS Array B	139.50 344	i PKHKP	PKPpre	22 57 53.4	
FINES					22 57 58.8	
FINES			pmax	pmax		
	comp=Z,5.0nm,1.0s					
FINES			pmax	pmax		
	comp=Z,4.0nm,0.8s					
FINES	FINESS Array B	139.50 344	PKhKP	PKPpre	22 57 53.4	
	comp=Z,4.8nm,1.0s,baz=64,slow=4.4,SNR=5.0					
FINES			PKP	PKPdf	22 57 58.8	-0.8
	comp=Z,3.8nm,0.8s,baz=45,slow=2.2,SNR=6.7					
VRHR	Novokhopersk	140.39 323	ePKIKP	PKPdf	22 57 58.2	-3.3
VRHR			pmax	pmax		
	comp=N,9.0nm,0.9s					
VRHR			pmax	pmax		
	comp=E,3.0nm,0.9s					
VRHR			pmax	pmax		
	comp=Z,8.0nm,0.9s					
OBN	Obninsk	140.63 331	⇑ePKIKP	PKPdf	22 58 00.6	-1.2
OBN			e		23 01 04.8	
OBN			eSS	SS	23 19 23.5	-1.4
OBN			pmax	pmax		
	comp=Z,28nm,1.9s					
OBN			MLR	MLR		
	comp=Z,219nm,22.0s					
VSR	Storozhevoye	141.66 325	ePKIKP	PKPdf	22 58 04.5	+0.7
VSR			pmax	pmax		
	comp=N,4.0nm,1.1s					
VSR			pmax	pmax		
	comp=Z,8.0nm,1.1s					
VSR			pmax	pmax		
	comp=E,4.0nm,0.9s					
VORD	Divnogorie	141.72 324	ePKIKP	PKPdf	22 57 59.4	-4.5
VORD			pmax	pmax		
	comp=N,9.0nm,1.0s					
VORD			pmax	pmax		
	comp=E,9.0nm,1.0s					
VORD			pmax	pmax		
	comp=Z,5.0nm,1.0s					
GNI	Garni	142.33 305	i PKIKP	PKPdf	22 58 07.0	+1.4
GNI			pmax	pmax		
	comp=Z,10.0nm,1.2s					
GNI	Garni	142.33 305	ePKPdf	PKPdf	22 58 05.9	+0.3
NB2	NORSAR Subarra	142.47 354	PKP	PKPpre	22 58 00.7	
	comp=Z,3.7nm,1.0s,baz=13,slow=2.9					
NOA	NORSAR Array B	142.47 354	i PKHKP	PKPpre	22 57 59.1	
NOA			pmax	pmax		
	comp=Z,2.0nm,0.8s					
NOA	NORSAR Array B	142.47 354	PKhKP	PKPpre	22 57 59.1	
	comp=Z,1.6nm,0.8s,baz=14,slow=2.7,SNR=5.0					
KIV	Kislovodsk	142.72 312	i PKIKP	PKPdf	22 58 02.9	-3.2
KIV			eSS	SS	23 19 41.6	-9.0
KIV			pmax	pmax		
	comp=Z,6.0nm,1.0s					
KIV			MLR	MLR		
	comp=Z,320nm,22.0s					
HFS	Hagfors	143.09 352	PKhKP	PKPpre	22 58 02.3	
	comp=Z,3.3nm,0.8s,baz=60,slow=5.8,SNR=11					
HAKT	HAKKARI	143.66 302	i P	PKPbc	22 58 06.4	+0.7
EATA	Eleskirt	144.08 306	i P	PKPdf	22 58 08.4	-0.5
DAGI	Agillar	144.17 308	i P	PKPbc	22 58 06.7	-0.2
DBOC	Borcka	144.27 308	i P	PKPbc	22 58 07.4	+0.3
DDEM	Demirkent	144.34 308	i P	PKPbc	22 58 08.0	+0.6
DBAD	Bademkaya	144.35 308	i P	PKPbc	22 58 08.0	+0.6
MICGM	Minsk	144.62 336	⇓eP	PKPbc	22 58 08.0	+0.3
MNK	Minsk	144.64 336	⇓ePKIKP	PKPbc	22 58 08.0	+0.2
MNK			pmax	pmax		
	comp=Z,160nm,1.1s					
SIRN	S˜rnak	144.68 302	i P	PKPbc	22 58 09.0	+0.4
NACGM	Naroch	144.71 337	e	PKPab	22 58 06.0	-1.8
SOC	Sochi	144.86 313	ePKIKP	PKPab	22 58 06.8	-2.0
SOC			i		22 58 12.8	
SOC			e		23 01 25.2	
SOC			pmax	pmax		
	comp=Z,13nm,1.1s					
SOC			MLR	MLR		
	comp=Z,306nm,20.0s					
ERZM	Erzurum	144.90 306	i P	PKPdf	22 58 10.4	+0.1
BNGL	BINGOL	145.32 305	i P	PKPdf	22 58 12.0	+1.1
MVH1	Achvaich	145.37 8	eP	PKPbc	22 58 09.1	-0.9
KOPT	Kop Dagi	145.51 307	i P	PKPab	22 58 12.3	+0.6
KAC	Achnashellach	145.63 9	⇑eP	PKPbc	22 58 10.6	0.0
MACK	Trabzon	145.76 309	i P	PKPab	22 58 13.0	+0.8
MCD	Coleburn Disti	145.82 7	eP	PKPbc	22 58 10.4	-0.5
ANN	Anapa	145.84 316	i PKP2	PKPdf	22 58 10.4	-0.9
ANN			pmax	pmax		
	comp=Z,78nm,1.3s					
KSB	Sheil Bridge	145.89 9	⇑eP	PKPbc	22 58 11.2	+0.2
MARD	Mardin	145.99 302	i P	PKPab	22 58 14.0	+0.6
EUZM	Uzumlu	146.19 306	i P	PKPab	22 58 15.0	+0.9
KELT	Kelkit	146.38 307	i P	PKPab	22 58 14.7	-0.2
SUW	Suwalki	146.64 340	ePKP2	PKPbc	22 58 13.8	-0.2
SUW	Suwalki	146.64 340	ePKP	PKPbc	22 58 13.8	-0.2
SUW	Suwalki	146.64 340	ePKPdf	PKPbc	22 58 13.2	-0.8
HCB	Kahramanmara˜	146.66 302	i P	PKPab	22 58 21.6	+5.8
SFNV	Sufian	146.71 301	eP	PKPdf	22 58 11.4	-1.8
GRSN	GIRESUNGRSN	146.83 309	i P	PKPbc	22 58 14.3	-0.7
AKASG	Malin Array Be	146.89 331	PKP2	PKPbc	22 58 14.1	-0.7
AKASG			pmax	pmax		
	comp=Z,54nm,1.0s					
AKASG	Malin Array Be	146.89 331	PKPbc	PKPbc	22 58 14.1	-0.7
	comp=Z,54nm,1.0s,baz=38,slow=3.5,SNR=94					
AKBB	Malin Array Si	146.89 331	ePKIKP	PKPdf	22 58 12.9	0.0
AKBB	Malin Array Si	146.89 331	ePKPdf	PKPdf	22 58 12.9	0.0
AK01	Malin Array Si	146.91 331	ePKPdf	PKPdf	22 58 13.6	+0.6
KIEV	Kiev	146.91 331	ePKP2	PKPdf	22 58 13.3	+0.4
KIEV	Kiev	146.91 331	ePKPdf	PKPdf	22 58 13.3	+0.4
AK02	Malin Array Si	146.93 331	ePKPdf	PKPdf	22 58 13.1	+0.1
ELZG	Elazig	147.07 305	i P	PKPab	22 58 17.3	-0.3
SUSE	Susehri	147.12 308	i P	PKPab	22 58 17.3	-0.4
MUD	Monsted U'grnd	147.18 355	i PKP2	PKPbc	22 58 15.5	+0.1
MUD			pmax	pmax		
	comp=Z,30nm,1.1s					
MUD	Monsted U'grnd	147.18 355	i P	PKPbc	22 58 15.5	+0.1
	comp=Z,30nm,1.1s					
KEMA	Kemaliye	147.21 306	i P	PKPab	22 58 17.7	-0.3
MNKR	ALMNKUR	147.47 300	eP	PKPdf	22 58 15.4	+1.0
ESY	Stoneypath	147.52 7	⇑eP	PKPbc	22 58 15.8	-0.6
MALT	Malatya	147.54 305	⇑PKP2	PKPbc	22 58 18.0	+0.8
MALT	Malatya	147.54 305	⇑iP	PKPbc	22 58 18.0	+0.8
COP	Copenhagen	147.58 351	i PKP2	PKPbc	22 58 16.7	+0.2
COP			pmax	pmax		
	comp=Z,15nm,0.9s					
COP	Copenhagen	147.58 351	i P	PKPbc	22 58 16.7	+0.2
	comp=Z,15nm,0.9s					
EBL	Broad Law	147.61 8	⇑eP	PKPbc	22 58 16.6	-0.1
BSD	Bornholm Skovb	147.73 349	i PKP2	PKPbc	22 58 16.7	-0.3
BSD			pmax	pmax		
	comp=Z,19nm,0.9s					
BSD	Bornholm Skovb	147.73 349	i P	PKPbc	22 58 16.7	-0.3
	comp=Z,19nm,0.9s					
SIM	Simferopol'	147.84 318	i PKP2	PKPbc	22 58 17.9	+0.2
AKCD	Akcadag	147.93 305	i P	PKPbc	22 58 18.8	+0.4
EKA	Eskdalemuir Ar	148.03 8	PKP2	PKPbc	22 58 17.5	-0.3
EKA			pmax	pmax		
	comp=Z,20nm,0.9s					
EKA	Eskdalemuir Ar	148.03 8	PKPbc	PKPbc	22 58 17.5	-0.3
	comp=Z,20nm,0.9s,baz=329,slow=2.1,SNR=20					
GAL1	Galloway	148.26 10	eP	PKPbc	22 58 18.2	-0.2
GZT	Gaziantep	148.47 303	i P	PKPbc	22 58 20.6	+0.9
HAVZ	Havza	148.57 311	i P	PKPbc	22 58 20.0	+0.2
GKP	Gorka Klasztor	148.97 345	ePKP2	PKPbc	22 58 20.5	+0.2
GKP	Gorka Klasztor	148.97 345	ePKP	PKPbc	22 58 20.4	+0.2
BOYT	Boyabat	148.99 312	i P	PKPbc	22 58 21.6	+0.8
KUZU	Kuzuini	149.00 302	i P	PKPbc	22 58 21.6	+0.6
KAMA	Osmaniye	149.20 303	i P	PKPbc	22 58 22.3	+0.7
BEL	Belsk	149.26 340	ePKP2	PKPbc	22 58 21.6	+0.5
BEL	Belsk	149.26 340	ePKP	PKPbc	22 58 21.6	+0.5
ANDN	Andirin	149.33 304	i P	PKPbc	22 58 22.7	+0.8
ROOS	tl_alroos	149.42 297	eP	PKPbc	22 58 21.4	-0.7
RABH	Abou Rabah	149.44 298	eP	PKPbc	22 58 20.1	-2.0
BSEG	Bad Segeberg	149.56 353	ePKPbc	PKPbc	22 58 22.1	+0.4
BSEG			ePKPab	PKPab	22 58 26.9	+0.2
ZALF	Zalf	149.60 295	eP	PKPbc	22 58 20.5	-2.1
KIS	Kishinev	149.62 326	ePKP2	PKPbc	22 58 22.0	-0.1
KIS			pmax	pmax		
	comp=Z,110nm,1.4s					
KIS			MLR	MLR		
	comp=Z,400nm,22.0s					
KIS			MLR	MLR		
	comp=Z,400nm,22.0s					
KIS	Kishinev	149.62 326	ePKP	PKPbc	22 58 22.0	-0.1
	comp=Z,100nm,1.4s					
BTCH	Batrach	149.67 301	eP	PKPbc	22 58 22.5	-0.3
LVV	L'vov	149.77 334	ePKP2	PKPbc	22 58 22.3	-0.1
WRDH	Warideh	149.84 300	eP	PKPbc	22 58 23.5	+0.4
ILGA	Ilgaz	149.95 312	i P	PKPbc	22 58 24.6	+1.2
BIDA	Albida	150.03 299	eP	PKPbc	22 58 24.3	+0.6
CDAG	Cicekdag	150.08 309	i P	PKPbc	22 58 23.6	0.0
ARNB	Al Arnab	150.10 301	eP	PKPbc	22 58 24.4	+0.7
MARH	Ras Al Marh	150.10 297	eP	PKPbc	22 58 24.4	+0.3
LEOM	Leova	150.26 325	⇑PKP2	PKPbc	22 58 23.4	-0.3
LEOM	Leova	150.26 325	⇑iP	PKPbc	22 58 23.4	-0.3
KWP	Kalwaria Pacla	150.43 335	⇑PKIKP	PKPbc	22 58 23.8	-0.2
KWP	Kalwaria Pacla	150.43 335	ePKP	PKPbc	22 58 24.3	+0.3
KWP	Kalwaria Pacla	150.43 335	⇑iP	PKPbc	22 58 23.8	-0.2
KWP	Kalwaria Pacla	150.43 335	ePKPbc	PKPbc	22 58 24.3	+0.3
RUE	Ruedersdorf	150.45 348	ePKPdf	PKPdf	22 58 19.2	+0.6
RUE			ePKPbc	PKiKP	22 58 24.3	-0.3
BR131	Keskin Array S	150.56 310	ePKPdf	PKPdf	22 58 19.8	+0.3
BR131			ePKPbc	PKPbc	22 58 24.4	-0.5
BRTR	Keskin Array B	150.56 310	PKIKP	PKPdf	22 58 19.0	-0.5
BRTR					22 58 24.4	
BRTR			pmax	pmax		
	comp=Z,4.0nm,1.2s					
BRTR	Keskin Array B	150.56 310	PKP	PKPdf	22 58 18.9	-0.5
	comp=Z,3.8nm,1.2s,baz=151,slow=5.4,SNR=6.8					
BRTR			PKPbc	PKPbc	22 58 24.4	-0.5
	comp=Z,16nm,1.0s,baz=132,slow=1.8,SNR=54					
GULE	Gulek	150.61 304	i P	PKPbc	22 58 24.6	-0.5
PRAR	RASCA	150.66 329	⇑iP	PKPbc	22 58 25.1	+0.4
BRBR	Barbar	150.66 296	eP	PKPbc	22 58 25.4	0.0
TCHB	Talchebab	150.77 295	eP	PKPbc	22 58 26.0	+0.6
TLCR		150.78 323	⇑PKIKP	PKPbc	22 58 24.6	-0.4
TLCR		150.78 323	⇑iP	PKPbc	22 58 24.6	-0.4
BUR08	Bucovina Ar. S	150.93 330	ePKPdf	PKPdf	22 58 20.2	+0.5
BUR08			ePKPbc	PKiKP	22 58 26.1	+0.1
BUR08			ePKPab	PKPab	22 58 33.1	+0.3
BURAR	Bucovina Array	150.94 330	⇑PKIKP	PKPbc	22 58 25.7	+0.3
BURAR	Bucovina Array	150.94 330	⇑iP	PKPbc	22 58 25.7	+0.3
OJC	Ojcow	150.97 339	ePKIKP	PKPbc	22 58 25.3	0.0
OJC	Ojcow	150.97 339	ePKP	PKPbc	22 58 25.3	0.0
BBAL	Bala	151.00 310	i P	PKPbc	22 58 25.6	-0.3
NRDL	Niedersach Rie	151.00 353	ePKPbc	PKPbc	22 58 25.5	+0.3
TESR	Tescani	151.05 327	⇑iP	PKPbc	22 58 25.4	-0.2
ANTO	Ankara	151.09 310	⇑PKIKP	PKPbc	22 58 26.0	0.0
ANTO	Ankara	151.09 310	⇑iP	PKPbc	22 58 26.0	0.0
ANTO	Ankara	151.09 310	ePKPbc	PKPbc	22 58 25.7	-0.3
STHS	Stebnicka Huta	151.15 337	ePKIKP	PKPbc	22 58 26.3	+0.5
STHS	Stebnicka Huta	151.15 337	ePKP	PKPbc	22 58 26.3	+0.5
CFR	Carcaliu	151.16 324	⇑PKIKP	PKPbc	22 58 24.9	-1.0
CFR	Carcaliu	151.16 324	⇑iP	PKPbc	22 58 24.9	-1.0
KOLS	Kolonicke sedl	151.16 335	ePKIKP	PKPdf	22 58 20.1	+0.2
KOLS			e		22 58 26.5	
KOLS	Kolonicke sedl	151.16 335	ePKP	PKPdf	22 58 20.1	+0.2
KOLS			e		22 58 26.5	
BCAM	Yenicaga	151.18 313	i P	PKPbc	22 58 26.6	+0.4
MCH1	Michaelchurch	151.30 9	⇑eP	PKPdf	22 58 22.7	+2.7
KIZK	Mersin	151.34 303	i P	PKPbc	22 58 26.6	0.0
UZH	Uzhgorod	151.40 335	⇓iPKIKP	PKPbc	22 58 26.4	+0.1
UZH			e		22 58 34.8	
UZH			e		22 58 38.6	
IBBN	Ibbenburen	151.41 355	ePKPbc	PKPbc	22 58 26.7	+0.5
IBBN			ePKPab	PKPab	22 58 34.4	0.0
KSP	Ksiaz	151.43 344	ePKIKP	PKPdf	22 58 20.6	+0.4
KSP	Ksiaz	151.43 344	ePKP	PKPbc	22 58 26.9	+0.6
VRI	Vrincioaia	151.45 326	⇑PKIKP	PKPbc	22 58 25.2	-1.4
VRI	Vrincioaia	151.45 326	⇑iP	PKPbc	22 58 25.2	-1.4
TIRR	Tirgusor	151.46 322	⇑PKIKP	PKPbc	22 58 26.9	+0.3
TIRR	Tirgusor	151.46 322	⇑iP	PKPbc	22 58 26.9	+0.3
NIE	Niedzica	151.48 338	ePKIKP	PKPbc	22 58 27.3	+0.7
NIE	Niedzica	151.48 338	ePKP	PKPbc	22 58 27.3	+0.7
CRVS	Cervenica-Dubn	151.50 336	ePKIKP	PKPdf	22 58 19.7	-0.7
CRVS			e		22 58 27.1	
CRVS	Cervenica-Dubn	151.50 336	ePKP	PKPdf	22 58 19.7	-0.7
CRVS			e		22 58 27.0	
PLOR	Plostina	151.50 326	⇓PKIKP	PKPbc	22 58 23.9	-2.8
PLOR	Plostina	151.50 326	⇓iP	PKPbc	22 58 23.9	-2.8
HARR	Harsova	151.59 323	⇑PKIKP	PKPbc	22 58 26.3	-0.6
HARR	Harsova	151.59 323	⇑iP	PKPbc	22 58 26.3	-0.6
CLZ	Clausthal	151.61 352	ePKPbc	PKPbc	22 58 27.1	+0.3
CLZ			ePKPab	PKPab	22 58 35.1	-0.2
BMR	Baia Mare	151.66 332	⇓PKIKP	PKPdf	22 58 23.5	+2.8
BMR	Baia Mare	151.66 332	⇓iP	PKPdf	22 58 23.5	+2.8
TRPA	Tarpa	151.70 334	⇑iP	PKPbc	22 58 27.1	+0.1
CLL	Collm	151.72 348	⇓iPKIKP	PKPdf	22 58 20.8	+0.2
CLL			i		22 58 27.1	
CLL			i		22 58 35.4	
CLL			pmax	pmax		
	comp=Z,58nm,1.0s					
CLL			pmax	pmax		
	comp=Z,34nm,1.1s					
CLL	Collm	151.72 348	ePKPbc	PKPbc	22 58 27.2	+0.2
CLL			ePKPab	PKPab	22 58 35.3	-0.4
CLL	Collm	151.72 348	⇓iPKPdf	PKPdf	22 58 20.8	+0.2
CLL			⇑iPKPbc	PKPbc	22 58 27.1	+0.1
	comp=Z,58nm,1.0s					
CLL			⇓iPKPab	PKPab	22 58 35.4	-0.3
	comp=Z,34nm,1.1s					
CLL			i pPKPbc	pPKPbc	22 58 39.2	+4.0
CLL			ePP	PP	23 02 09.0	+2.6
CLL			ePSKS		23 12 22.0	
CLL			eSPP	SPP	23 14 50.0	
CLL			eSS	SS	23 21 24.0	-6.1
UPC	Upice	151.81 344	ePKIKP	PKPdf	22 58 21.8	+1.0
UPC			e		22 58 27.5	
UPC			e		22 58 36.0	
UPC	Upice	151.81 344	ePKPDF	PKPdf	22 58 21.8	+1.0
UPC			⇑ePKP	PKiKP	22 58 27.5	-0.1
UPC			ePKPAB	PKPab	22 58 36.0	-0.2
WTSB	Winterswijk	151.81 357	ePKPdf	PKPbc	22 58 27.1	0.0
	comp=Z,37nm,0.9s					
OKC	Ostrava-Krasne	151.82 341	ePKIKP	PKPbc	22 58 27.7	+0.4
OKC			e		22 58 35.4	
OKC	Ostrava-Krasne	151.82 341	⇑ePKP	PKPbc	22 58 27.7	+0.4
OKC			ePKPAB	PKPab	22 58 35.4	-0.8
DPC	Dobruska-Polom	151.87 343	ePKIKP	PKPdf	22 58 21.5	+0.5
DPC			e		22 58 27.2	
DPC			e		22 58 36.0	
DPC	Dobruska-Polom	151.87 343	ePKPDF	PKPdf	22 58 21.5	+0.5
DPC			⇑ePKP	PKPbc	22 58 27.2	-0.2
DPC			ePKPAB	PKPab	22 58 36.0	-0.5
BRG	Berggiesshubel	151.94 347	ePKP	PKPdf	22 58 21.5	+0.5
	comp=Z,8.0nm,1.3s					
BRG			i		22 58 28.0	
	comp=Z,44nm,1.0s					
BRG	Berggiesshubel	151.94 347	ePKPbc	PKPbc	22 58 27.8	+0.3
KRLC	Kraliky	152.00 343	ePKIKP	PKPdf	22 58 21.9	+0.7
KRLC			e		22 58 28.3	
KRLC			e		22 58 37.4	
KRLC	Kraliky	152.00 343	ePKPDF	PKPdf	22 58 21.9	+0.7
KRLC			⇑ePKP	PKiKP	22 58 28.3	+0.2
KRLC			ePKPAB	PKPab	22 58 37.4	+0.3
KRLC			epPKP	pPKPdf	22 58 42.9	+13
ISR	Istrita	152.05 325	⇑PKIKP	PKPbc	22 58 25.4	-2.6
ISR	Istrita	152.05 325	⇑iP	PKPbc	22 58 25.4	-2.6
MORC	Moravsky Berou	152.06 341	ePKIKP	PKPdf	22 58 21.2	-0.1
MORC			e		22 58 27.8	
MORC			e		22 58 37.2	
MORC	Moravsky Berou	152.06 341	ePKPdf	PKPdf	22 58 21.2	-0.1
MORC			ePKPbc	PKPbc	22 58 27.8	0.0
MORC			ePKPab	PKPab	22 58 37.2	-0.1
MLR	Muntele Rosu	152.11 326	⇑PKIKP	PKPbc	22 58 27.6	-0.6
MLR	Muntele Rosu	152.11 326	⇑iP	PKPbc	22 58 27.6	-0.6
KDHN	Kadinhani	152.13 308	i P	PKPbc	22 58 27.9	-0.5
ERMK	Ermenek	152.23 304	i P	PKPbc	22 58 29.6	+0.7
BUG	Bochum--Univer	152.31 356	ePKPbc	PKPbc	22 58 28.4	+0.1
CJR	Cluj-Napoca	152.35 331	⇑PKIKP	PKPbc	22 58 29.0	+0.4
CJR	Cluj-Napoca	152.35 331	⇑iP	PKPbc	22 58 29.0	+0.4
CSS	Prodhromos	152.41 300	ePKPdf	PKPdf	22 58 23.1	+0.9
CSS			ePKPbc	PKPbc	22 58 28.7	-0.4
CSS			ePKPab	PKPab	22 58 39.5	+0.2
PRA	Prague	152.59 346	PKPDF	PKPdf	22 58 22.0	0.0
PRA			⇑PKP	PKPbc	22 58 29.0	0.0
PRA			PKPAB	PKPab	22 58 39.0	-0.5
MOX	Moxa	152.59 350	ePKPbc	PKPbc	22 58 29.4	+0.4
SEYT	Eskypehyr	152.60 311	i P	PKPbc	22 58 28.3	-1.2
VOIR		152.60 327	⇑PKIKP	PKPdf	22 58 23.3	+1.0
VOIR		152.60 327	⇑iP	PKPdf	22 58 23.3	+1.0
PRU	Pruhonice	152.65 345	ePKIKP	PKPdf	22 58 22.2	+0.1
PRU			e		22 58 29.2	
PRU			e		22 58 38.6	
PRU	Pruhonice	152.65 345	ePKPDF	PKPdf	22 58 22.2	+0.1
PRU			⇑ePKP	PKiKP	22 58 29.2	-0.1
PRU			ePKPAB	PKPab	22 58 38.6	-1.1
PRU			epPKP	pPKPdf	22 58 49.5	+19
UBBA	Unterbreizbach	152.66 352	ePKPbc	PKPbc	22 58 29.1	+0.1
TANN	Tannenbergstha	152.67 349	ePKPbc	PKPbc	22 58 29.6	+0.4
DRGR		152.68 332	⇑PKIKP	PKPbc	22 58 28.3	-1.1
DRGR		152.68 332	⇑iP	PKPbc	22 58 28.3	-1.1
BORA	Eskisehir	152.70 312	i P	PKPbc	22 58 29.3	-0.4
VRAC	Vranov	152.75 342	⇑PKIKP	PKPbc	22 58 26.7	-2.7
VRAC	Vranov	152.75 342	⇑iP	PKPbc	22 58 26.6	-2.8
VYHS	Vyhne	152.78 339	ePKIKP	PKPdf	22 58 22.2	-0.1
VYHS			e		22 58 29.2	
VYHS	Vyhne	152.78 339	ePKP	PKPdf	22 58 22.2	-0.1
VYHS			e		22 58 29.2	
VYHS			e		22 58 41.2	
PRD	Provadia	152.82 321	⇑PKIKP	PKPbc	22 58 27.9	-1.8
GAZI	Gazipasa	152.82 304	i P	PKPbc	22 58 29.3	-0.7
ARR	Arges	152.85 327	⇑iP	PKPdf	22 58 23.6	+1.0
PSZ	Piszkesteto	152.90 337	⇑PKIKP	PKPdf	22 58 24.4	+1.8
PSZ	Piszkesteto	152.90 337	⇑iP	PKPdf	22 58 24.4	+1.8
PSZ	Piszkesteto	152.90 337	ePKPdf	PKPdf	22 58 23.0	+0.4
PSZ			ePKPbc	PKPbc	22 58 29.6	-0.3
PSZ			ePKPab	PKPab	22 58 41.0	0.0
HGN	Heimansgroeve	153.05 358	ePKPdf	PKPbc	22 58 29.5	-0.4
	comp=Z,94nm,1.7s					
TREC	Trest	153.06 344	ePKIKP	PKPdf	22 58 22.9	+0.2
TREC			e		22 58 29.5	
TREC			e		22 58 41.4	
TREC	Trest	153.06 344	ePKPDF	PKPdf	22 58 22.9	+0.2
TREC			⇑ePKP	PKPbc	22 58 29.5	-0.6
TREC			ePKPAB	PKPab	22 58 41.4	-0.1
MEM	Membach	153.20 358	PKPbc	PKPbc	22 58 30.4	+0.1
ROTZ	Rotzenmuhle	153.34 348	ePKPbc	PKPbc	22 58 31.1	+0.4
TNS	Taunus Mts	153.42 354	ePKPab	PKPab	22 58 42.6	-0.4
GRF	Grafenberg Arr	153.58 350	ePKPab	PKPab	22 58 43.8	+0.1
KHC	Kasperske Hory	153.67 346	ePKIKP	PKPdf	22 58 23.3	-0.3
KHC			e		22 58 31.7	
KHC			e		22 58 41.1	
KHC	Kasperske Hory	153.67 346	ePKPDF	PKPdf	22 58 23.3	-0.3
KHC			⇑ePKP	PKiKP	22 58 31.7	+0.1
KHC			ePKPAB	PKPab	22 58 41.1	-3.0
KHC			epPKP	pPKPdf	22 58 55.0	+23
KHC	Kasperske Hory	153.67 346	ePKPdf	PKPdf	22 58 23.3	-0.3
KHC			ePKPbc	PKiKP	22 58 31.7	+0.1
KHC			ePKPab	PKPab	22 58 44.4	+0.3
KHC			ePP	PP	23 02 19.7	+2.1
GZR	Gura Zlata	153.72 330	⇑PKIKP	PKPdf	22 58 24.1	+0.2
GZR	Gura Zlata	153.72 330	⇑iP	PKPdf	22 58 24.1	+0.2
GDZ	Gediz	153.74 311	i P	PKPbc	22 58 31.6	-0.5
JMB	Yambol	153.74 321	⇑PKIKP	PKPbc	22 58 30.9	-0.8
JMB	Yambol	153.74 321	eP	PKPab	22 58 45.8	+1.2
JMB	Yambol	153.74 321	⇑iP	PKPbc	22 58 30.9	-0.8
DOU	Dourbes	153.75 359	PKPbc	PKPbc	22 58 32.2	+0.7
WET	Wettzell	153.80 347	ePKPbc	PKPbc	22 58 32.3	+0.6
WET			ePKPab	PKPab	22 58 44.7	+0.1
GEC2	GERESS Array S	153.91 346	ePKPbc	PKPbc	22 58 32.3	+0.2
GERES	GERESS Array B	153.91 346	PKIKP	PKPdf	22 58 23.4	-0.7
GERES					22 58 32.2	
GERES			pmax	pmax		
	comp=Z,2.0nm,0.9s					
GERES	GERESS Array B	153.91 346	PKP	PKPdf	22 58 23.4	-0.7
	comp=Z,1.9nm,0.9s,baz=93,slow=2.7,SNR=8.5					
GERES			PKPbc	PKPbc	22 58 32.2	+0.2
	comp=Z,5.5nm,1.0s,baz=157,slow=1.0,SNR=8.3					
KORT	Korkueli	154.02 306	i P	PKPbc	22 58 32.2	-0.5
KHAL	Karahalli	154.06 310	i P	PKPbc	22 58 31.3	-1.5
BZS	Buzias	154.07 331	⇓PKIKP	PKPdf	22 58 23.5	-0.8
BZS	Buzias	154.07 331	⇓iP	PKPdf	22 58 23.5	-0.8
WLF	Walferdange	154.14 357	ePKPbc	PKPbc	22 58 33.6	+1.2
WLF			ePKPab	PKPab	22 58 46.7	+0.7
CONA	Conrad Observa	154.21 342	⇓iPKPdf	PKPdf	22 58 24.1	-0.4
	comp=Z,7.4nm,1.4s					
CONA			⇑iPKiKP	PKiKP	22 58 32.9	+0.2
	comp=Z,16nm,1.4s					
CONA			⇑ipPKiKP	PKPab	22 58 47.2	+0.7
	comp=Z,19nm,1.1s					
GOLH	Golhisar	154.50 308	i P	PKPab	22 58 49.8	+1.7
DIM	Dimitrovgrad	154.61 321	eP	PKPab	22 58 47.9	-0.4
MOA	Molln	154.71 344	⇑iPKPab	PKPab	22 58 47.8	-0.7
	comp=Z,19nm,1.2s					
STU	Stuttgart	154.77 352	ePKPbc	PKPbc	22 58 34.5	+0.8
PKSM	Moragy	154.80 336	⇑PKIKP	PKPdf	22 58 25.2	0.0
PKSM	Moragy	154.80 336	⇑iP	PKPdf	22 58 25.2	0.0
AKAS	Kas	154.87 305	i P	PKPab	22 58 54.3	+4.5
FUR	Furstenfeldbru	155.05 349	ePKPab	PKPab	22 58 50.1	+0.1
PGB	Panagyurishte	155.05 323	eP	PKPab	22 58 51.1	+0.8
RJOB	Jochberg	155.16 346	ePKPab	PKPab	22 58 51.1	+0.6
BFO	Black Forest	155.30 353	ePKPab	PKPab	22 58 51.0	0.0
RZN	Rozhen	155.31 321	eP	PKPab	22 58 51.2	-0.4
SOKA	Soboth	155.58 342	⇓iPKPdf	PKPdf	22 58 25.8	-0.6
	comp=Z,6.7nm,1.2s					
SOKA			⇓ipPKPdf	pPKPdf	22 58 35.6	+0.9
	comp=Z,7.7nm,1.4s					
SOKA			⇑iPKPab	PKPab	22 58 52.3	0.0
	comp=Z,22nm,1.1s					
MOTA	Moosalm	155.87 349	⇑iPKPdf	PKPdf	22 58 25.8	-1.1
	comp=Z,6.9nm,1.1s					
MOTA			⇑iPKPab	PKPab	22 58 53.4	-0.2
	comp=Z,16nm,1.1s					
MOTA	Moosalm	155.87 349	P	PKPab	22 58 40.7	-13
	comp=Z,4.0nm,0.9s					
MMB	Musomiste	155.94 322	eP	PKPab	22 58 53.8	-0.2
KKB	Krupnik	156.11 323	eP	PKPab	22 58 54.8	+0.1
ABTA	Abfaltersbach	156.16 346	⇑iPKPdf	PKPdf	22 58 26.0	-1.2
	comp=Z,10nm,1.0s					
FETA	Feichten	156.25 349	⇑iPKPdf	PKPdf	22 58 26.8	-0.6
	comp=Z,13nm,1.2s					
CEY	Cerknica	156.61 342	ePKPdf	PKPdf	22 58 27.0	-0.8
CEY			ePKPab	PKPab	22 58 56.0	-0.7
VAY	Valandovo	156.76 323	ePKP	PKPab	22 58 55.2	-2.3
SKO	Skopje	156.90 326	ePKP	PKPab	22 58 55.2	-2.9
DBIC	Dimbokro	160.86 151	PKIKP	PKPdf	22 58 32.0	-1.7
DBIC					22 59 15.4	
DBIC			pmax	pmax		
	comp=Z,3.0nm,1.0s					
DBIC			pmax	pmax		
	comp=Z,2.0nm,0.8s					
DBIC	Dimbokro	160.86 151	PKP	PKPdf	22 58 32.0	-1.7
	comp=Z,2.8nm,0.9s,baz=190,slow=6.1,SNR=2.4					
DBIC			PKPab	PKPab	22 59 15.4	-0.5
	comp=Z,2.2nm,0.8s,baz=112,slow=5.4,SNR=2.6					
ESDC	Sonseca Array	162.72 22	PKP	PKPdf	22 58 35.6	+0.7
	comp=Z,0.1nm,0.3s,baz=304,slow=3.0,SNR=4.7					
ESDC			PKPab	PKPab	22 59 22.8	-0.7
	comp=Z,0.4nm,0.5s,baz=353,slow=3.0,SNR=5.4					
KEST	Kesra	167.31 341	PKPab	PKPab	22 59 43.8	0.0
	comp=Z,2.3nm,1.1s,baz=288,slow=3.2,SNR=3.5					
TORD	Torodi Ar. Bea	169.13 167	PKP	PKPdf	22 58 39.4	-1.3
	comp=Z,6.9nm,1.2s,baz=176,slow=0.9,SNR=14					
TORD			PKPab	PKPab	22 59 53.0	+0.8
	comp=Z,3.1nm,0.8s,baz=166,slow=2.8,SNR=9.0					
TAM	Tamanrasset	178.45 230	ePKIKP	PKPdf	22 58 44.5	+0.4
TAM	Tamanrasset	178.45 230	ePKPdf	PKPdf	22 58 44.5	+0.4

MEX 23 22:52:25.7±0.3, 14.°64N×93.°75W, h16km±7km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.18	26	eP	Pn	22 52 43.7	-3.8
PCIG				i S	Sb	22 52 57.7	-5.0
THIG		1.46	79	i P	Pn	22 52 48.1	-3.3
THIG				i S	Sn	22 53 04.9	-5.4
CCIG	Comitan	2.26	44	i P	Pn	22 52 59.9	-2.7
CCIG				i S	Sn	22 53 26.1	-4.2
HUIG	Huatulco	2.53	297	i P	Pn	22 53 03.5	-2.7
HUIG				i S	Sn	22 53 31.9	-4.9

GUC 23 22:52:49.8±0.4, 21.°86S×67.°45W, h193km±14km, ML3.8, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	Plate Boundary	1.93	258	eP	Pn	22 53 35.6	+8.6
PB04				eS	Sn	22 54 09.9	+14
PB06	Plate Boundary	2.14	246	⇑eP	Pn	22 53 30.5	+1.1
PB06				eS	Sn	22 54 01.9	+1.6
PB06				AML	AML	22 54 04.1	
	comp=E,158nm,0.2s						
PB07	Plate Boundary	2.27	273	eP	Pn	22 53 32.9	+2.0
PB07				eS	Sn	22 54 04.7	+1.8
PB07				AML	AML	22 54 06.1	
	comp=N,239nm,0.5s						
PATCX	Punta Patache	2.73	292	eP	Pn	22 53 37.7	+1.7
PATCX				eS	Sn	22 54 13.8	+1.9
PATCX				AML	AML	22 54 16.2	
	comp=E,227nm,0.4s						
HMBC	Humberstone	2.77	304	⇑eP	Pn	22 53 38.0	+1.4
HMBC				eS	Sn	22 54 14.7	+1.7
HMBC				AML	AML	22 54 16.1	
	comp=N,111nm,0.7s						
PB11	Plate Boundary	2.94	315	⇑eP	Pn	22 53 40.1	+1.5
PB11				eS	Sn	22 54 18.6	+2.0
PB11				AML	AML	22 54 20.8	
	comp=N,366nm,0.2s						
MNMC	Minimini	3.38	323	eP	Pn	22 53 46.1	+2.0
MNMC				eS	Sn	22 54 28.5	+1.9
MNMC				AML	AML	22 54 30.1	
	comp=N,123nm,0.2s						

PRU 23 22:57:19.7, 50°.37N×19°.24E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.39	113	ePg	Pg	22 57 27.5	+0.3
OJC				eSg	Sg	22 57 32.2	-0.1
OKC	Ostrava-Krasne	0.88	233	ePG	Pg	22 57 36.2	-0.4
OKC				eSG	Sg	22 57 47.8	-0.3
	3.4nm,0.5s						
KRLC	Kraliky	1.61	260	ePG	Pn	22 57 49.7	+0.3
KRLC				eSG	Sg	22 58 11.5	0.0
DPC	Dobruska-Polom	1.87	271	ePG	Pn	22 57 53.1	+0.1
DPC				eSG	Sg	22 58 20.0	+0.1

NNC 23 23:02:14.0±9.6, 36°.60N×69°.05E, h0km, mb3.8, mpv3.5, 6C-1D, Error ellipse: s-maj=80.9km s-min=62.9km az=149.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.59	9	⇓Pn	Pn	23 03 55.2	+3.1
	0.7nm,0.4s,baz=188,slow=13						
KK31				⇑Sn	Sn	23 05 08.4	+0.4
	1.8nm,0.6s,baz=196,slow=23						
KK31				⇑Lg	Lg	23 05 45.6	
	7.0nm,0.9s						
AAK	Ala-Archa	7.34	33	⇑Pn	Pn	23 03 59.0	-3.7
	9.1nm,1.1s						
AAK				⇑Sn	Sn	23 05 28.2	+1.3
	3.4nm,0.8s						
AAK				⇑Lg	Lg	23 06 07.7	
	6.0nm,1.4s						
AB31	Akbulak array	14.28	335	⇑Pn	Pn	23 05 38.6	+1.2
	0.5nm,0.6s						

WEL 23 23:06:45.5±0.4, 38°.89S×179°.55E, h33km, ML3.9/19, 4C-2D, Error ellipse: s-maj=3.7km s-min=2.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	Carnagh Statio	1.13	290	PN	Pn	23 07 04.6	-0.3
PUZ	Puketiti	1.30	308	⇑PN	Pn	23 07 06.5	-0.9
PUZ				AML	AML	23 07 24.7	
PUZ				AML	AML	23 07 26.1	
PRGZ	Paritu Road	1.30	268	PN	Pn	23 07 06.6	-0.8
PRGZ				SN	Sn	23 07 21.8	-1.9
MHGZ	Mahia Peninsul	1.31	258	PN	Pn	23 07 06.8	-0.7
MHGZ				SN	Sn	23 07 23.0	-0.8
RIGZ	Rimuhau	1.41	277	PN	Pn	23 07 08.6	-0.3
RIGZ				SN	Sn	23 07 25.9	-0.5
TWGZ	Tauwhareparae	1.42	299	⇑PN	Pn	23 07 08.6	-0.5
KNZ	Kokohu	1.47	264	PN	Pn	23 07 08.8	-0.8
KNZ				eSN	Sn	23 07 26.5	-1.2
MXZ	Matakaoa Point	1.65	323	PN	Pn	23 07 11.7	-0.4
MXZ				AML	AML	23 07 33.1	
MXZ				AML	AML	23 07 33.1	
MXZ				AML	AML	23 07 36.0	
MWZ	Matawai	1.68	288	⇑PN	Pn	23 07 11.9	-0.7
MWZ				AML	AML	23 07 33.0	
MWZ				AML	AML	23 07 33.0	
MWZ				AML	AML	23 07 33.6	
MWZ				AML	AML	23 07 33.6	
RAGZ	Rawiri	1.72	282	PN	Pn	23 07 13.1	-0.1
SNGZ	Shannon Statio	1.73	273	PN	Pn	23 07 13.1	-0.2
HAZ	Te Kaha	1.79	308	PN	Pn	23 07 13.4	-0.7
WHHZ	Waihua	1.82	263	PN	Pn	23 07 14.5	+0.1
RAHZ	Arahi	1.93	268	⇓PN	Pn	23 07 16.0	+0.1
URZ	Urewera	2.01	287	PN	Pn	23 07 17.0	-0.2
URZ				AML	AML	23 07 42.5	
URZ				AML	AML	23 07 42.8	
CKHZ	Cape Kidnapper	2.07	247	PN	Pn	23 07 16.8	-1.1
NMHZ	Naumai	2.15	263	PN	Pn	23 07 19.0	-0.1
KAHZ	Kahuranaki	2.27	246	PN	Pn	23 07 19.6	-1.0
MCHZ	McNeill Hill	2.29	255	PN	Pn	23 07 20.9	0.0
PXZ	Pawanui	2.38	240	PN	Pn	23 07 20.6	-1.5
PXZ				AML	AML	23 07 50.2	
PXZ				AML	AML	23 07 50.8	
PXZ				AML	AML	23 07 50.9	
PXZ				AML	AML	23 07 54.1	
BKZ	Black Stump Fm	2.40	262	⇓PN	Pn	23 07 22.2	-0.3
BKZ				SN	Sn	23 07 48.8	-2.1
BKZ				AML	AML	23 07 53.7	
TARZ	Mount Tarawera	2.48	284	PN	Pn	23 07 24.0	+0.4
OPRZ	Ohinepanea	2.58	293	PN	Pn	23 07 24.4	-0.5
KRHZ	Kereru	2.58	252	PN	Pn	23 07 24.3	-0.7
PRHZ	Porangahau	2.64	238	PN	Pn	23 07 23.3	-2.5
WPHZ	Waipukurau	2.68	243	SN	Sn	23 07 55.6	-2.1
PNHZ	Pukenui	2.79	247	PN	Pn	23 07 26.6	-1.3
ANWZ	Angora Road	2.85	236	PN	Pn	23 07 26.3	-2.3
DVHZ	Dannevirke	2.97	241	PN	Pn	23 07 28.6	-1.8
MOVZ	Moawhango	3.00	259	PN	Pn	23 07 30.9	0.0
MOVZ				AML	AML	23 08 06.1	
MOVZ				AML	AML	23 08 07.0	
TSZ	Takapari Road	3.02	246	⇑PN	Pn	23 07 29.4	-1.6
TSZ				SN	Sn	23 08 03.0	-3.0
TSZ				AML	AML	23 08 06.5	
OTVZ	Oturere	3.04	264	PN	Pn	23 07 31.5	+0.1
OTVZ				AML	AML	23 08 07.8	
OTVZ				AML	AML	23 08 13.1	
KRVZ	Karewarewa	3.06	265	PN	Pn	23 07 31.5	-0.1
KRVZ				AML	AML	23 08 09.9	
WNVZ	Wahianoa	3.11	261	PN	Pn	23 07 32.4	0.0
WNVZ				AML	AML	23 08 14.3	
WNVZ				AML	AML	23 08 14.6	
BFZ	Birch Farm	3.12	234	PN	Pn	23 07 29.1	-3.2
FWVZ	Far West T-bar	3.13	262	PN	Pn	23 07 32.5	-0.4
FWVZ				AML	AML	23 08 11.6	
FWVZ				AML	AML	23 08 12.7	
MTVZ	Mangateitei	3.21	260	AML	AML	23 08 17.4	
MTVZ				AML	AML	23 08 18.5	
PRWZ	Pori Road	3.23	238	PN	Pn	23 07 32.1	-1.7
POWZ	Post Office Ro	3.29	242	PN	Pn	23 07 33.0	-1.7
TIWZ	Tintock	3.40	235	PN	Pn	23 07 33.6	-2.6
TIWZ				AML	AML	23 08 17.3	
TIWZ				AML	AML	23 08 21.6	
MRZ	Mangatainoka R	3.54	239	PN	Pn	23 07 35.4	-2.7
MRZ				SN	Sn	23 08 14.6	-4.2
MRZ				AML	AML	23 08 17.7	
TMWZ	Te Maipa	3.58	231	PN	Pn	23 07 35.3	-3.5
HOWZ	Holdsworth Sta	3.70	236	PN	Pn	23 07 36.9	-3.4
MTW	Mount Morrison	3.85	233	AML	AML	23 08 24.6	
OGWZ	Otaki Gorge	3.88	239	PN	Pn	23 07 40.8	-2.1
PAWZ	Paruwai Farm	4.03	230	PN	Pn	23 07 41.0	-3.9
PAWZ				AML	AML	23 08 27.5	
CAW	Cannon Point	4.10	236	ePN	Pn	23 07 42.7	-3.1
CAW				AML	AML	23 08 31.2	
CAW				AML	AML	23 08 32.5	
TCW	Tory Channel	4.67	238	PN	Pn	23 07 50.4	-3.2
TCW				AML	AML	23 08 43.5	
CTZ	Chatham Island	5.64	150	PN	Pn	23 08 06.6	-0.3
THZ	Tophouse	5.84	238	PN	Pn	23 08 06.0	-3.8
MQZ	McQueen's Vall	7.08	225	eSN	Sn	23 09 35.5	-11
ODZ	Otahua Downs	9.05	224	ePN	Pn	23 08 49.4	-4.3

NNC 23 23:07:03.4±6.1, 36°.76N×69°.38E, h0km, mb3.6, mpv3.4, 6C-3D, Error ellipse: s-maj=49.8km s-min=36.4km az=165.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.40	7	⇑Pn	Pn	23 08 39.7	+0.8
	0.6nm,0.3s,baz=177,slow=12						
KK31				⇑Sn	Sn	23 09 52.1	-0.7
	4.0nm,0.9s,baz=188,slow=25						
KK31				⇓Lg	Lg	23 10 27.8	
	4.7nm,0.8s,baz=185,slow=27						
AAK	Ala-Archa	7.07	32	⇑Pn	Pn	23 08 49.1	+0.8
	2.0nm,0.6s						
AAK				⇑Sn	Sn	23 10 11.8	+2.2
	3.0nm,0.8s						
AAK				⇓Lg	Lg	23 10 51.3	
	3.3nm,1.1s						
TKM2	Tokmak 2	7.79	36	⇑Pn	Pn	23 08 58.6	+0.2
	1.9nm,0.9s						
TKM2				⇓Sn	Sn	23 10 28.6	+1.1
	1.2nm,0.7s						
AB31	Akbulak array	14.26	334	⇑Pn	Pn	23 10 22.1	-4.4
	0.4nm,0.5s						

IDC 23 23:11:04.1±1.1, 2°.39N×126°.59E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/32, mbtmp3.9/6, Error ellipse: s-maj=57.6km s-min=18.9km az=68.0
ISCJB 23 23:11:09.3±0.9, 2°.4N±0°.2×126°.6E±0°.3, h55km, mb3.8/6, Error ellipse: s-maj=49.4km s-min=16.3km az=157.5
ISC 23 23:11:11.1±1.0, 2°.4N±0°.2×126°.6E±0°.3, h55km, n6, σ0§98/6, mb3.9/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.45	161	P	P	23 16 14.6	-1.3
	1.6nm,0.6s,baz=341,slow=11,SNR=22						
CMAR	Chiang Mai Arr	31.47	302	P	P	23 17 28.1	+0.2
	0.9nm,0.3s,baz=121,slow=11,SNR=5.5						
KSRS	Korea Array	34.92	2	P	P	23 17 57.9	+0.3
	0.5nm,0.3s,baz=186,slow=9.8,SNR=2.5						
STKA	Stephens Creek	36.92	159	P	P	23 18 15.8	+1.0
	1.3nm,0.4s,baz=334,slow=12,SNR=4.3						
SONM	Songino Array	48.53	342	P	P	23 19 48.3	-0.5
	0.2nm,0.5s,baz=155,slow=7.2,SNR=4.1						
MKAR	Makanchi Array	58.59	326	P	P	23 21 02.3	-0.1
	0.6nm,0.6s,baz=114,slow=7.3,SNR=11						

IDC 23 23:59:57.8±0.8, 33°.11N×95°.71E, h0km, mb3.8/16, mb1 3.9/19, mb1mx3.8/39, mbtmp3.8/19, ML3.7/3, MS2.8/1, Ms1 3.0/1, ms1mx2.5/30, Error ellipse: s-maj=22.2km s-min=16.8km az=31.0
ISCJB 23 23:59:58.2±0.4, 33°.17N±0°.05×95°.53E±0°.07, h10km, mb3.8/16, Error ellipse: s-maj=9.0km s-min=5.0km az=36.0
BJI 23 23:59:59.8, 33°.11N×95°.62E, h10km, mb4.1/8, ML3.6/3, Ms3.6/3, Ms7 3.4/3
ISC 24 00:00:00.2±0.6, 33°.25N±0°.07×95°.58E±0°.08, h10km, n37, σ1§02/37, mb3.9/16, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	7.04	28	ePn	Pn	00 01 48.0	+4.6
LZH	Lanzhou	7.37	65	ePn	Pn	00 01 48.0	-0.1
LZH				LR	LR		
	comp=N,250nm,8.5s						
LZH				LR	LR		
	comp=E,260nm,9.0s						
LZH				LR	LR		
	comp=Z,300nm,10.5s						
SHL	Shillong	8.30	204	eP	Pn	00 02 02.0	+1.1
SHL				eS	Sn	00 03 35.0	+0.1
TAPN	Taplejung	8.99	231	eP	Pn	00 02 09.8	-0.6
	7.4nm,0.5s						
ODAN	Odare	9.53	230	eP	Pn	00 02 18.4	+0.6
	26nm,0.5s						
JIRN	Jiri	9.83	238	eP	Pn	00 02 22.0	0.0
	10nm,0.7s						
GUN	Gumba	9.91	240	eP	Pn	00 02 22.1	-0.9
	16nm,0.5s						
RAMN	Ramite	9.99	233	eP	Pn	00 02 23.8	-0.3
	10nm,0.6s						
KKN	Kakani	10.41	241	eP	Pn	00 02 28.6	-1.2
	6.4nm,0.4s						
PKI	Pulchoki	10.44	240	eP	Pn	00 02 29.1	-1.2
	23nm,0.6s						
PKIN	Phulchoki	10.45	240	eP	Pn	00 02 30.1	-0.3
	8.6nm,0.4s						
DMN	Daman	10.64	241	eP	Pn	00 02 31.9	-1.1
	8.8nm,0.4s						
GKN	Gorkha	10.78	244	eP	Pn	00 02 33.0	-1.7
	7.2nm,0.5s						
DANN	Dangsing	11.27	247	eP	Pn	00 02 40.6	-1.1
	18nm,0.5s						
KOLN	Koldanda	11.68	245	eP	Pn	00 02 46.2	-1.0
	11nm,0.6s						
CMAR	Chiang Mai Arr	15.03	168	Pn	Pn	00 03 33.8	+1.0
	0.2nm,0.3s,baz=327,slow=13,SNR=4.3						
CMAR				LR	LR	00 09 14.8	
	comp=Z,32nm,19.2s,baz=345,slow=37						
SONM	Songino Array	16.70	26	Pn	Pn	00 03 55.1	+0.7
	0.2nm,0.3s,baz=207,slow=14,SNR=15						
MKAR	Makanchi Array	16.90	327	Pn	Pn	00 03 56.9	+0.2
	0.3nm,0.3s,baz=128,slow=14,SNR=27						
AAK	Ala-Archa	19.05	306	P	Pn	00 04 25.4	+2.0
	0.2nm,0.3s,baz=93,slow=9.9,SNR=9.6						
KURBB	Kurchatov Arra	21.41	329	P	P	00 04 49.1	+1.0
	5.8nm,0.8s,baz=137,slow=11,SNR=100						
ZALV	Zalesovo Beam	22.06	343	P	P	00 04 55.5	+0.5
	1.9nm,0.7s,baz=152,slow=9.6,SNR=11						
CN2	Changchun	25.51	57	eP	P	00 05 30.5	+1.8
KSRS	Korea Array	26.64	72	P	P	00 05 38.7	-0.3
	0.4nm,0.3s,baz=279,slow=9.7,SNR=2.4						
BVAR	Borovoye Array	26.76	325	P	P	00 05 41.1	+1.1
	0.8nm,0.7s,baz=128,slow=9.6,SNR=4.9						
GEYT	Alibeck	30.68	290	P	P	00 06 16.8	+1.7
	1.9nm,0.8s,baz=116,slow=6.8,SNR=5.8						
BRTR	Keskin Array B	49.36	296	P	P	00 08 51.1	+1.2
	0.6nm,0.7s,baz=91,slow=6.4,SNR=4.3						
AKASG	Malin Array Be	50.59	311	P	P	00 08 58.3	-0.7
	0.4nm,0.4s,baz=79,slow=6.2,SNR=5.5						
FINES	FINESS Array B	51.72	325	P	P	00 09 07.2	-0.1
	1.2nm,0.6s,baz=85,slow=6.3,SNR=7.4						
ARCES	ARCESS Array B	52.32	335	P	P	00 09 11.9	+0.2
	2.8nm,0.8s,baz=89,slow=7.8,SNR=5.5						
NB2	NORSAR Subarra	58.89	326	P	P	00 09 58.4	-0.7
	comp=Z,1.9nm,0.8s,baz=78,slow=7.4						
NOA	NORSAR Array B	58.89	326	P	P	00 09 58.7	-0.4
	comp=Z,1.1nm,0.6s,baz=72,slow=9.0,SNR=6.4						
GERES	GERESS Array B	60.80	311	P	P	00 10 12.4	-0.1
	comp=Z,0.3nm,0.6s,baz=68,slow=7.7,SNR=3.4						
WRA	Warramunga Arr	64.55	139	P	P	00 10 35.8	-1.8
	comp=Z,1.2nm,0.7s,baz=324,slow=8.2,SNR=12						
KMBO	Kilima Mbogo	64.58	250	P	P	00 10 37.7	-0.6
	comp=Z,0.6nm,0.5s,baz=62,slow=19,SNR=3.4						
ILAR	Eielson Array	70.91	24	P	P	00 11 16.7	-0.5
	comp=Z,0.6nm,1.1s,baz=303,slow=5.0,SNR=3.8						
YKA	Yellowknife Ar	81.55	14	P	P	00 12 16.3	-1.4
	comp=Z,0.3nm,0.7s,baz=335,slow=4.8,SNR=5.5						
TORD	Torodi Ar. Bea	86.10	283	P	P	00 12 41.0	-0.8
	comp=Z,1.2nm,0.9s,baz=50,slow=4.6,SNR=6.9						

KRNET 24 00:05:58.3±0.1, 39°.35N×74°.74E, h3km, mb3.5
NNC 24 00:06:03.4±5.2, 39°.68N×74°.77E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=39.1km s-min=23.4km az=155.0
ISC 24 00:05:57.8±3.2, 39°.4N±0°.2×74°.80E±0°.09, h0km±16km, n7, σ1§45/13, 6C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.20	303	eP	Pg	00 06 19.4	-1.3
	baz=305						
SFK				eS	Sb	00 06 36.6	-1.0
	baz=305						
OHH	Osh	1.94	307	eP	Pg	00 06 34.8	-0.1
	baz=308						
OHH				eS	Sg	00 07 02.5	+2.5
	baz=308						
ARSB	Arslanbob	2.40	325	eP	Pb	00 06 41.0	-1.0
	baz=326						
ARSB				eS	Sb	00 07 10.7	-1.5
	baz=326						
ARLS	Aral	2.52	352	iP	Pb	00 06 42.4	-1.6
	baz=353						
ARLS				eS	Sb	00 07 15.7	0.0
	baz=353						
AAK	Ala-Archa	3.28	356	⇓Pg	Pb	00 06 56.7	-0.2
	0.8nm,0.5s						
AAK				⇑Lg	Lg	00 07 38.3	
	2.8nm,0.6s						
TKM2	Tokmak 2	3.61	9	⇑Pn	Pn	00 06 56.1	+1.1
	2.7nm,0.7s						
TKM2				⇑Sn	Sn	00 07 38.5	0.0
	1.8nm,0.5s						
KK31	Karatay Array	4.94	321	⇑Pn	Pn	00 07 15.0	+1.7
	0.6nm,0.8s,baz=134,slow=16,SNR=3.6						
KK31				⇑Sn	Sn	00 08 11.0	-0.2
	0.3nm,0.5s,baz=165,slow=30,SNR=3.8						
KK31				⇑Lg	Lg	00 08 32.0	
	0.5nm,0.4s,baz=130,slow=28						

SKHL 24 00:07:44.1±1.3, 51°.19N×141°.86E, h14km±2km, mb4.8/11, Ms4.6/4, msh5.0/1
SKHL Felt (III) at Trambaus, De-Kastri; (II-III) at Tymovskoye, Mariinskoye; (II) at Viahtu. Felt (IV-V) at Hoye; (IV) at Mgachi, Aleksandrovsk-Sakhalinskii;.
ISCJB 24 00:07:45.9±0.1, 51°.32N±0°.02×142°.02E±0°.02, h10km, mb4.7/97, MS4.3/26, Error ellipse: s-maj=2.7km s-min=2.0km az=161.0
MOS 24 00:07:46.5±0.9, 51°.31N×142°.10E, h16km, mb4.9/55, Error ellipse: s-maj=7.7km s-min=4.2km az=94.9
MOS Felt (IV-V) at Khoye; (IV) at Mgachi, Aleksandrovsk-Sakhalinskiy; (III) at Trambaus, De-Kastri; (II-III) at Tymovskoye, Mariinskoye; (II) at Viakhtu.
IDC 24 00:07:49.1±6.0, 51°.33N×142°.06E, h21km±39km, mb4.3/24, mb1 4.4/31, mb1mx4.7/31, mbtmp4.4/31, ML3.8/7, MS3.9/16, Ms1 3.9/16, ms1mx3.7/33, Error ellipse: s-maj=14.2km s-min=10.5km az=145.0
BJI 24 00:07:49.9, 51°.50N×141°.83E, h27km, mB4.9/38, mb4.6/48, Ms4.9/45, Ms7 4.5/40
NEIC 24 00:07:51.4±0.5, 51°.29N×142°.00E, h39km±5km, mb4.8/42, Error ellipse: s-maj=5.0km s-min=3.3km az=152.0
NEIC Felt at Aleksandrovsk-Sakhalinskiy.
ISC 24 00:07:48.0±0.2, 51°.29N±0°.03×142°.03E±0°.02, h10km, n595, σ1§20/630, mb4.7/97, MS4.3/26, 154C-159D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	Tymovskoe	0.58	137	ePg	Pg	00 07 56.0	-3.3
TYV				AMB	AMB	00 07 58.0	
	445nm,0.6s						
TYV				eSg	Sg	00 08 04.3	-2.7
NKL	Nikolayevsk	2.04	336	iPb	Pn	00 08 22.0	-0.3
NKL				AMB	AMB	00 08 22.5	
	2μm,1.0s						
NKL				iPg	Pb	00 08 25.5	+0.4
NKL				eSg	Sg	00 08 56.0	+2.5
NKL				A	A	00 08 59.0	
	11μm,1.5s						
NKL				A	A	00 08 59.0	
	15μm,1.5s						
NKL				AMS	AMS	00 09 52.0	
	6μm,6.0s						
UGL	Uglegorsk	2.22	179	ePN	Pn	00 08 22.5	-2.3
UGL				eS	Sn	00 08 53.5	+1.3
UGL				pmax	pmax		
	comp=Z,1μm,1.6s						
UGL				pmax	pmax		
	comp=Z,414nm,0.7s						
UGL				smax	smax		
	comp=E,7μm,0.6s						
UGL				smax	smax		
	comp=Z,3μm,0.6s						
UGL				smax	smax		
	comp=N,2μm,0.5s						
UGL	Uglegorsk	2.22	179	ePb	Pn	00 08 22.5	-2.3
UGL				ePg	Pb	00 08 26.0	-2.2
UGL				AMB	AMB	00 08 28.0	
	comp=N,1μm,1.6s						
UGL				AMB	AMB	00 08 29.0	
	comp=N,414nm,0.7s						
UGL				pP	pP	00 08 29.8	
UGL				eSg	Sn	00 08 54.0	+1.8
UGL				A	A	00 08 54.2	
	comp=N,2μm,0.6s						
UGL				A	A	00 08 54.2	
	comp=N,7μm,0.6s						
UGL				A	A	00 08 54.2	
	comp=N,3μm,0.6s						
OKH	Okha	2.33	13	ePN	Pn	00 08 27.0	+0.7
OKH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OKH	Okha	2.33	13	⇑iP	Pn	00 08 26.5	+0.2
OKH				AMB	AMB	00 08 30.0	
	comp=Z,4μm,0.2s						
OKH				AMB	AMB	00 08 31.0	
	comp=Z,3μm,0.6s						
OKH				⇑iPg	Pg	00 08 34.5	+1.9
OKH				sP	sP	00 08 35.1	
OKH				eSg	Sg	00 09 11.0	+8.3
GRNR	Gornyy	3.58	264	⇓iP	Pn	00 08 41.4	-2.2
GRNR				AMB	AMB	00 08 41.8	
	comp=Z,55nm,0.2s						
GRNR				AMB	AMB	00 08 41.8	
	comp=Z,48nm,0.2s						
GRNR				ePg	Pb	00 08 52.0	+0.6
GRNR				AMB	AMB	00 08 52.2	
	comp=Z,280nm,0.2s						
GRNR				AMB	AMB	00 08 52.2	
	comp=Z,140nm,0.2s						
GRNR				eSg	Sg	00 09 40.8	-2.2
GRNR				A	A	00 09 50.0	
	comp=Z,2μm,0.6s						
YSS	Yuzh-Sakhalins	4.37	174	ePN	Pn	00 08 51.6	-2.8
YSS				e		00 09 52.0	
YSS				MLR	MLR		
	comp=Z,1μm,12.0s						
YSS				MLR	MLR		
	comp=N,2μm,13.0s						
YSS				MLR	MLR		
	comp=E,2μm,13.0s						
YSS	Yuzh-Sakhalins	4.37	174	eP	Pn	00 08 51.0	-3.4
YSS				pP	Pb	00 08 57.0	-7.8
YSS				ePg	Pg	00 09 09.0	-2.7
YSS				AMB	AMB	00 09 12.8	
	comp=E,160nm,0.7s						
YSS				eSg	Sg	00 10 08.0	-0.2
YSS				A	A	00 10 19.2	
	comp=E,282nm,0.4s						
YSS				AMS	AMS	00 11 22.0	
	comp=E,2μm,12.0s						
YSS				AMS	AMS	00 11 22.0	
	comp=E,2μm,12.0s						
YSS				AMS	AMS	00 11 22.0	
	comp=E,1μm,12.0s						
YSS	Yuzh-Sakhalins	4.37	174	ePn	Pn	00 08 54.0	-0.4
YSS				eSn	Sn	00 09 46.6	+1.3
HABR	Khabarovsk	5.32	241	ePN	Pn	00 09 07.6	+0.1
EKMR	Ekimchan	5.87	291	eP	Pn	00 09 10.5	-4.5
EKMR				ePg	Pg	00 09 38.4	-1.9
EKMR				AMB	AMB	00 09 38.9	
	comp=E,72nm,0.5s						
EKMR				AMB	AMB	00 09 38.9	
	comp=E,49nm,0.5s						
EKMR				AMB	AMB	00 09 38.9	
	comp=E,100nm,0.5s						
EKMR				eSg	Sg	00 10 58.3	+2.2
EKMR				A	A	00 11 01.5	
	comp=E,360nm,0.6s						
EKMR				A	A	00 11 01.5	
	comp=E,480nm,0.6s						
EKMR				A	A	00 11 01.5	
	comp=E,350nm,0.6s						
KLR	Kul'dur	6.91	257	ePN	Pn	00 09 25.3	-4.0
KLR	Kul'dur	6.91	257	eP	Pn	00 09 25.3	-4.0
KLR				AMS	AMS	00 12 21.5	
	comp=E,3μm,8.0s						

KLR AMS AMS 00 12 21.5
comp=E,5μm,8.0s
ASAJ Asahikawa 7.19 177 Pn Pn 00 09 32.6 -0.5
comp=E,2.0nm,0.3s,baz=32,slow=11,SNR=6.6
ASAJ Sn Sn 00 11 07.6 +13
baz=30,slow=20,SNR=2.3
ASAJ LR LR 00 12 48.8
comp=E,1μm,19.4s,baz=33,slow=42
ASAJ Asahikawa 7.19 177 ePn Pn 00 09 32.9 -0.2
ASAJ eSn **Sn 00 10 55.3 +0.5**
TEY Ternei 7.24 212 eP Pn 00 09 31.3 -2.4
TEY AMB AMB 00 09 32.0
comp=E,7.0nm,0.6s
TEY eSg **Sg 00 11 42.0 +1.9**
TEY A A 00 11 47.0
comp=E,364nm,0.8s
TEY A A 00 12 50.6
comp=E,2μm,8.0s
TEY A A 00 12 50.6
comp=E,4μm,8.0s
YUK Yuzh-Kuril'sk 7.71 159 PN **Pn 00 09 40.5 +0.3**
YUK MLR MLR
comp=Z,723nm,12.0s
YUK Yuzh-Kuril'sk 7.71 159 eP **Pn 00 09 40.6 +0.3**
YUK AMS AMS 00 13 31.7
comp=Z,720nm,12.0s
BMKR Bomnak 8.66 298 eP Pn 00 09 51.0 -2.3
BMKR ePg Pg 00 10 27.5 -6.2
BMKR AMB AMB 00 10 29.5
comp=Z,8.0nm,0.6s
BMKR eSg **Sg 00 12 26.5 +0.8**
BMKR A A 00 12 29.7
comp=Z,251nm,0.9s
YASR Yasnyy 8.85 289 eP Pn 00 09 47.2 -8.6
YASR AMB AMB 00 09 51.7
comp=Z,5.0nm,0.7s
YASR AMB AMB 00 09 51.7
comp=Z,11nm,0.7s
YASR AMB AMB 00 09 51.7
comp=Z,13nm,0.7s
YASR eSg Sg 00 12 21.2 -10
YASR A A 00 12 25.7
comp=Z,910nm,1.0s
ERM Erimo 9.31 175 cePN **Pn 00 10 04.4 +2.2**
ERM pmax pmax
comp=Z,41nm,1.2s
ZEA Zeya 9.34 291 eP **Pn 00 10 03.3 +0.7**
ZEA AMB AMB 00 10 11.4
comp=Z,19nm,0.5s
ZEA AMB AMB 00 10 11.4
comp=Z,30nm,0.5s
ZEA eSg Sn 00 12 48.5 +61
ZEA AMS AMS 00 14 44.0
comp=Z,1μm,8.0s
ZEA AMS AMS 00 14 44.0
comp=Z,1μm,8.0s
KROS Kirovskiy 9.64 295 eP **Pn 00 10 08.5 +1.9**
KROS AMB AMB 00 10 16.5
comp=Z,19nm,0.8s
KROS eSg 00 13 04.5
KROS A A 00 13 07.5
comp=Z,180nm,0.8s
PETK Petropavlovsk- 9.79 73 Pn **Pn 00 10 09.8 +1.0**
comp=Z,0.7nm,0.3s,baz=276,slow=11,SNR=4.7
PETK Sn **Sn 00 11 54.8 -3.9**
comp=Z,0.3nm,0.3s,baz=239,slow=25,SNR=2.8
PETK LR LR 00 14 12.6
comp=Z,295nm,18.1s,baz=240,slow=39
USRK Ussuriysk Arra 9.80 227 Pn **Pn 00 10 08.0 -0.9**
comp=Z,1.5nm,0.3s,baz=39,slow=16,SNR=24
USRK Lg Lg 00 12 52.4
comp=Z,3.0nm,0.3s,baz=42,slow=30,SNR=10
USRK LR LR 00 14 27.7
comp=Z,676nm,19.7s,baz=29,slow=40
PET Petropavlovsk 10.36 74 ePN Pn 00 10 20.4 +3.9
PET eS **Sn 00 12 17.9 +5.4**
PET pmax pmax
comp=Z,14nm,1.2s
PET pmax pmax
comp=Z,200nm,5.5s
PET pmax pmax
comp=Z,500nm,4.8s
PET MLR MLR
comp=Z,600nm,10.0s
PET MLR MLR
comp=Z,500nm,15.0s
PET Petropavlovsk 10.36 74 eP Pn 00 10 20.4 +3.9
PET AMB AMB 00 10 20.6
comp=Z,30nm,0.9s
PET AMS AMS 00 14 55.8
comp=Z,613nm,10.0s
MDJ Mudanjiang 10.68 236 P **Pn 00 10 23.3 +2.3**
MDJ S **Sn 00 12 21.3 +0.8**
MDJ PcP **PcP 00 16 25.4 +2.4**
MDJ ScP **ScP 00 19 53.9 -1.3**
MDJ PcS **PcS 00 19 57.6 +1.1**
MDJ ScS **ScS 00 23 29.3 -0.8**
MDJ pmax pmax
comp=Z,9.0nm,1.2s
MDJ pmax pmax
comp=Z,63nm,4.3s
MDJ LR LR
comp=Z,1μm,5.7s
MDJ LR LR
comp=Z,900nm,6.0s
MDJ LR LR
comp=Z,2μm,12.7s
VLA Vladivostok 10.69 224 PN **Pn 00 10 21.8 +0.7**
VLA Vladivostok 10.69 224 eP **Pn 00 10 21.8 +0.7**
CLNS Chul'man 11.48 306 ePN **Pn 00 10 34.9 +2.9**
CLNS eS Sn 00 12 46.3 +6.1
CLNS pmax pmax
comp=Z,6.0nm,0.8s
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS smax smax
comp=E,357nm,1.6s
CLNS smax smax
comp=N,760nm,1.8s
CLNS MLR MLR
comp=Z,930nm,10.0s
CLNS MLR MLR
comp=E,581nm,11.0s
CLNS MLR MLR
comp=N,481nm,10.0s
YAK Yakutsk 12.70 333 ePN **Pn 00 10 49.3 +0.9**
YAK eSS Sn 00 13 19.7 +10
YAK pmax pmax
comp=Z,27nm,1.4s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,11nm,1.3s
YAK MLR MLR
comp=Z,632nm,10.0s
YAK MLR MLR
comp=E,208nm,8.0s
YAK MLR MLR
comp=N,517nm,10.0s
SEY Seymchan 12.93 22 Pn **Pn 00 10 52.6 +1.0**
comp=N,0.3nm,0.3s,baz=213,slow=9.4,SNR=7.7
CN2 Changchun 13.46 243 eP Pn 00 11 02.1 +3.2
CN2 esP 00 11 14.3
CN2 eS **Sn 00 13 30.6 +2.1**
CN2 pmax pmax
comp=N,10.0nm,1.2s
CN2 pmax pmax
comp=N,200nm,4.0s
CN2 LR LR
comp=N,2μm,10.0s
CN2 LR LR
comp=N,1μm,10.0s
CN2 LR LR
comp=N,2μm,10.0s
HIA Hailar 14.39 271 eP **Pn 00 11 12.5 +0.9**
HIA Hailar 14.39 271 ePn **Pn 00 11 11.5 -0.2**
comp=N,31nm,0.7s
MJA0 Matsu Arr-Jizo 14.99 192 eP **Pn 00 11 21.8 +1.9**
MAJO Matsushiro 15.00 192 eP **Pn 00 11 20.4 +0.4**
MAJO Matsushiro 15.00 192 ePn **Pn 00 11 20.6 +0.6**
comp=N,24nm,0.9s
MAT Matsushiro 15.00 192 P **Pn 00 11 20.2 +0.2**
MJAR Matsushiro Arr 15.00 192 Pn **Pn 00 11 20.8 +0.8**
comp=N,0.3nm,0.3s,baz=0.2,slow=12,SNR=14

MJAR LR LR 00 16 40.9
comp=N,209nm,18.8s,baz=20,slow=35
SNY Shenyang 15.80 240 ⇓P P 00 11 41.0 +6.8
SNY S S 00 14 58.6 +19
SNY pmax pmax
comp=Z,24nm,1.4s
SNY pmax pmax
comp=Z,230nm,9.5s
SNY LR LR
comp=N,1μm,7.7s
SNY LR LR
comp=E,1μm,9.0s
SNY LR LR
comp=Z,2μm,9.7s
KSRS Korea Array 17.08 221 P **Pn 00 11 48.4 +1.6**
comp=Z,0.1nm,0.3s,baz=37,slow=11,SNR=12
KSRS LR LR 00 17 57.8
comp=Z,551nm,20.2s,baz=40,slow=36
KSAR Wonju Array Be 17.11 221 P **Pn 00 11 48.4 +1.3**
KSAR Wonju Array Be 17.11 221 P **Pn 00 11 48.4 +1.3**
BOD Bodaibo 17.43 303 eP **Pn 00 11 51.8 +0.8**
BOD pmax pmax
comp=Z,8.0nm,1.4s
FX1 Attu Island--F 19.12 73 P **P 00 12 12.6 +0.9**
FX1 pmax pmax
comp=Z,1.0nm,0.3s
FX1 MLR MLR
comp=Z,162nm,20.4s
FX1 Attu Island--F 19.12 73 P **Pn 00 12 12.6 +0.9**
comp=Z,1.3nm,0.3s,baz=316,slow=23,SNR=4.2
FX1 LR LR 00 19 24.1
comp=Z,162nm,20.4s,baz=290,slow=36
JNU Nakatsue 19.91 208 P **P 00 12 21.7 +2.0**
comp=Z,1.2nm,0.3s,baz=28,slow=7.5,SNR=4.3
JNU LR LR 00 19 55.9
comp=Z,293nm,18.1s,baz=7.5,slow=36
JNU Nakatsue 19.91 208 eP **P 00 12 18.7 -0.9**
BILL Bilibino 20.53 26 ⇑iP **P 00 12 26.4 +0.3**
BILL i 00 12 33.3
BILL i 00 12 48.9
BILL i 00 16 34.6
BILL pmax pmax
comp=Z,47nm,1.0s
BILL MLR MLR
comp=Z,819nm,15.0s
BILL Bilibino 20.53 26 eP **P 00 12 25.8 -0.3**
comp=Z,33nm,0.8s
BJI Beijing 21.17 248 P **P 00 12 33.9 +0.7**
BJI S **S 00 16 27.3 -1.2**
BJI pmax pmax
comp=Z,43nm,0.7s
BJI pmax pmax
comp=Z,140nm,3.6s
BJI LR LR
comp=Z,2μm,10.4s
BJI LR LR
comp=Z,2μm,10.0s
BJI LR LR
comp=Z,510nm,18.9s
TIXI Tiksi 21.27 349 ⇑iP **P 00 12 33.5 -0.6**
TIXI pmax pmax
comp=Z,32nm,1.1s
TIXI MLR MLR
comp=Z,186nm,14.0s
TIXI Tiksi 21.27 349 eP **P 00 12 33.2 -0.9**
comp=Z,22nm,0.7s
ULN Ulaanbaatar 22.81 275 eP **P 00 12 50.7 -0.2**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 22.81 275 eP **P 00 12 50.7 -0.2**
comp=Z,13nm,1.0s
IRK Irkutsk 23.22 287 eP **P 00 12 54.3 -0.7**
IRK pmax pmax
comp=Z,37nm,2.5s
SONM Songino Array 23.23 276 P **P 00 12 54.5 -0.7**
SONM 00 16 42.1
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM MLR MLR
comp=Z,500nm,19.7s
SONM Songino Array 23.23 276 P **P 00 12 54.5 -0.7**
comp=Z,6.6nm,0.8s,baz=70,slow=8.7,SNR=26
SONM PcP **PcP 00 16 42.1 -0.6**
comp=Z,1.5nm,0.7s,baz=69,slow=2.1,SNR=6.8
SONM LR LR 00 22 50.9
comp=Z,500nm,19.7s,baz=62,slow=39
HHC Hu-ho-hao-te 23.42 255 eP **P 00 12 59.3 +2.1**
HHC sP sP 00 13 14.6 +13
HHC PP PnPn 00 13 30.8 +7.6
HHC S **S 00 17 08.4 -1.9**
HHC SS **SnSn 00 17 53.3 +8.1**
HHC pmax pmax
comp=Z,37nm,1.4s
HHC pmax pmax
comp=Z,150nm,3.7s
HHC LR LR
comp=Z,2μm,13.7s
HHC LR LR
comp=Z,2μm,12.4s
HHC LR LR
comp=Z,2μm,16.2s
TLY Talaya 23.73 286 eP **P 00 13 00.0 0.0**
TLY eS S 00 17 03.9 -11
TLY pmax pmax
comp=Z,30nm,1.1s
TLY MLR MLR
comp=Z,407nm,14.0s
TLY Talaya 23.73 286 P **P 00 13 00.5 +0.5**
comp=Z,13nm,0.9s,baz=94,slow=12,SNR=18
TLY LR LR 00 22 36.8
comp=Z,197nm,19.8s,baz=72,slow=37
TLY Talaya 23.73 286 eP **P 00 13 00.8 +0.7**
comp=Z,50nm,1.4s
ZAK Zakamensk 24.30 283 ⇑iP **P 00 13 05.6 0.0**
ZAK pmax pmax
comp=Z,25nm,1.4s
MOY Mondy 25.33 287 eP **P 00 13 17.6 +2.8**
NJ2 Nanjing 25.69 230 eP **P 00 13 18.8 +0.8**
NJ2 pP pP 00 13 28.3 +7.2
NJ2 S **S 00 17 43.0 -3.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 LR LR
comp=Z,2μm,21.0s
NJ2 LR LR
comp=Z,2μm,22.6s
NJ2 LR LR
comp=Z,1μm,25.4s
GAMB Gambell 27.11 45 ePcP **PcP 00 16 47.9 -3.1**
TNA Tin City 28.89 41 ePcP PcP 00 16 49.8 -5.5
WHN Wuhan 29.16 235 P **P 00 13 51.5 +2.3**
WHN S **S 00 18 45.3 +4.0**
WHN LR LR
comp=Z,1μm,8.6s
WHN LR LR
comp=Z,980nm,10.2s
WHN LR LR
comp=Z,2μm,11.1s
LZH Lanzhou 31.11 256 eP **P 00 14 08.1 +1.4**
LZH pP pP 00 14 18.3 +8.6
LZH sP sP 00 14 22.5 +12
LZH PP **PnPn 00 15 10.6 +2.7**
LZH eS **S 00 19 09.0 -3.2**
LZH sS sS 00 19 26.0 +8.8
LZH SS **SnSn 00 20 54.3 +1.1**
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.1s
LZH LR LR
comp=Z,820nm,12.0s
LZH LR LR
comp=Z,630nm,12.5s
LZH LR LR
comp=Z,1μm,13.7s
GTA Gaotai 31.53 265 eP **P 00 14 13.1 +2.8**
GTA pP pP 00 14 22.6 +9.3
GTA sP sP 00 14 26.6 +12
GTA S **S 00 19 19.6 +1.0**
GTA sS sS 00 19 35.5 +12
GTA pmax pmax
comp=Z,8.0nm,1.5s
GTA pmax pmax
comp=Z,71nm,6.6s
GTA LR LR
comp=Z,880nm,13.5s

GTA LR LR
comp=Z,560nm,13.1s
GTA LR LR
comp=Z,530nm,12.4s
ENH Enshi 31.98 242 eP **P 00 14 13.2 -0.9**
comp=Z,11nm,0.9s
ZAA0 Zalesovo Array 34.03 297 eP **P 00 14 30.5 -1.3**
ZALV Zalesovo Beam 34.03 297 P **P 00 14 31.2 -0.6**
ZALV 00 17 08.1
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 34.03 297 P **P 00 14 31.2 -0.6**
comp=Z,1.3nm,0.4s,baz=63,slow=7.4,SNR=8.4
ZALV PcP **PcP 00 17 08.1 -1.2**
comp=Z,2.5nm,0.7s,baz=48,slow=2.2,SNR=7.7
NVS Novosibirsk 34.61 299 ⇓iP **P 00 14 36.7 -0.1**
NVS pmax pmax
comp=Z,13nm,1.5s
NVS pmax pmax
comp=N,9.0nm,1.8s
NVS pmax pmax
comp=E,12nm,1.6s
IM04 Indian Mountai 34.71 40 eP **P 00 14 36.8 -0.9**
IM04 ePcP **PcP 00 17 10.0 -1.1**
CD2 Chengdu 34.77 249 eP **P 00 14 39.4 +0.9**
CD2 pP pP 00 14 49.5 +7.9
CD2 sP sP 00 14 53.8 +11
CD2 PP **PnPn 00 15 56.8 +2.3**
CD2 S **S 00 20 05.9 -2.9**
CD2 sS sS 00 20 22.8 +8.9
CD2 PcS **PcS 00 20 58.5 -0.1**
CD2 SS **SnSn 00 22 19.5 -2.4**
CD2 pmax pmax
comp=E,20nm,0.5s
CD2 pmax pmax
comp=E,220nm,5.8s
CD2 LR LR
comp=E,560nm,12.7s
CD2 LR LR
comp=E,540nm,13.5s
CD2 LR LR
comp=E,430nm,10.2s
PPLA Purkeypile 35.92 45 eP **P 00 14 49.1 +0.9**
comp=E,36nm,1.5s
COLD Coldfoot 35.96 38 eP **P 00 14 48.2 -0.2**
comp=E,11nm,0.8s
KTH Kantishna Hill 36.33 44 eP **P 00 14 52.8 +1.1**
comp=E,24nm,1.4s
GYA Guiyang 36.50 241 ⇓iP **P 00 14 52.8 -0.7**
GYA pP pP 00 15 04.6 +8.0
GYA PP **PP 00 16 19.3 +2.9**
GYA S **S 00 20 33.5 -2.0**
GYA ScP **ScP 00 21 01.0 -2.5**
GYA SS **SnSn 00 23 01.0 -3.0**
GYA pmax pmax
comp=E,30nm,0.8s
GYA pmax pmax
comp=E,120nm,5.0s
GYA LR LR
comp=E,560nm,17.2s
GYA LR LR
comp=E,470nm,18.0s
GYA LR LR
comp=E,510nm,17.6s
TRF Thorofare Moun 36.63 44 eP **P 00 14 54.6 +0.2**
comp=E,22nm,1.1s
WMQ Urumqi 36.68 280 P **P 00 14 55.3 +0.5**
WMQ pP pP 00 15 05.0 +7.1
WMQ sP sP 00 15 09.0 +10
WMQ PP **PP 00 16 21.3 +3.1**
WMQ PcP **PcP 00 17 18.5 +1.1**
WMQ S **S 00 20 35.3 -2.7**
WMQ sS sS 00 20 51.4 +8.3
WMQ PcS **PcS 00 21 05.3 0.0**
WMQ ScS **ScS 00 25 06.5 -4.1**
WMQ pmax pmax
comp=E,13nm,1.0s
WMQ pmax pmax
comp=E,150nm,5.4s
WMQ LR LR
comp=E,2μm,13.0s
WMQ LR LR
comp=E,640nm,16.6s
WMQ LR LR
comp=E,250nm,16.6s
KDAK Kodiak Island 37.12 54 ceP **P 00 14 57.1 -1.2**
MCK McKinley 37.16 43 eP **P 00 14 59.3 +0.7**
MCK pmax pmax
comp=Z,31nm,1.2s
MCK McKinley 37.16 43 eP **P 00 14 59.3 +0.7**
comp=Z,31nm,1.2s
COLA College 37.35 41 eP **P 00 14 59.9 -0.2**
COLA pmax pmax
comp=Z,13nm,0.8s
COLA College 37.35 41 eP **P 00 14 59.9 -0.2**
comp=Z,13nm,0.8s
ILAR Eielson Array 37.77 41 P **P 00 15 03.1 -0.6**
comp=Z,8.0nm,0.7s,baz=290,slow=7.9,SNR=104
ILAR PcP **PcP 00 17 18.1 -2.1**
comp=Z,1.4nm,0.9s,baz=276,slow=3.7,SNR=4.3
ILAR LR LR 00 32 28.8
comp=Z,95nm,19.9s,baz=330,slow=39
MK31 Makanchi Array 38.48 287 eP **P 00 15 09.2 -0.7**
MK31 e 00 16 39.3
MK31 e 00 17 22.0
MK31 Makanchi Array 38.48 287 eP **P 00 15 09.2 -0.7**
MK31 ePP **PP 00 16 39.3 +1.6**
MK31 ePcP **PcP 00 17 21.9 -0.8**
MKAR Makanchi Array 38.48 287 P **P 00 15 09.5 -0.4**
comp=Z,6.1nm,0.8s,baz=67,slow=6.7,SNR=51
MKAR PcP **PcP 00 17 21.9 -0.9**
comp=Z,2.1nm,1.0s,baz=67,slow=4.6,SNR=3.3
MKAR LR LR 00 31 07.1
comp=Z,176nm,18.7s,baz=60,slow=36
KURK Kurchatov 38.79 295 eP **P 00 15 11.5 -1.0**
KURK e 00 17 22.7
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK Kurchatov 38.79 295 eP **P 00 15 11.5 -1.0**
comp=Z,8.2nm,0.7s
KURK ePcP **PcP 00 17 22.7 -0.9**
PAX Paxson 38.87 44 eP **P 00 15 12.8 -0.3**
PAX e 00 17 23.9
PAX pmax pmax
comp=Z,9.0nm,1.2s
PAX Paxson 38.87 44 eP **P 00 15 12.8 -0.3**
comp=Z,8.8nm,1.2s
PAX ePcP **PcP 00 17 23.9 +0.1**
KMI Kunming 39.73 244 P **P 00 15 23.5 +2.7**
KMI pP pP 00 15 32.1 +8.2
KMI sP sP 00 15 36.9 +12
KMI S **S 00 21 23.4 -1.2**
KMI SS SS 00 24 11.8 -8.4
KMI pmax pmax
comp=Z,15nm,1.5s
KMI pmax pmax
comp=Z,88nm,4.8s
KMI LR LR
comp=Z,310nm,11.5s
KMI LR LR
comp=Z,290nm,10.6s
KMI LR LR
comp=Z,380nm,11.9s
EGAK Eagle 40.12 40 eP **P 00 15 22.6 -0.8**
comp=Z,20nm,0.8s
QIZ Qiongzhong 40.98 230 P **P 00 15 32.1 +1.1**
QIZ sP sP 00 15 44.3 +9.0
QIZ S **S 00 21 42.4 -0.6**
QIZ pmax pmax
comp=Z,14nm,1.3s
QIZ pmax pmax
comp=Z,90nm,3.9s
QIZ LR LR
comp=Z,300nm,15.3s
QIZ LR LR
comp=Z,380nm,15.4s
INK Inuvik 41.83 34 eP **P 00 15 36.0 -1.4**
INK 00 17 31.3
INK pmax pmax
comp=Z,16nm,0.9s
INK Inuvik 41.83 34 P **P 00 15 37.3 -0.1**
comp=Z,13nm,0.8s,baz=308,slow=7.4,SNR=53
INK PcP **PcP 00 17 31.3 -1.8**
comp=Z,1.6nm,0.8s,baz=207,slow=6.8,SNR=3.1
INK Inuvik 41.83 34 eP **P 00 15 36.0 -1.4**

comp=Z,16nm,0.9s
INK PcP PcP 00 17 31.3 -1.8
BRVK Borovoye 42.34 302 eP P 00 15 40.1 -1.6
BRVK pmax pmax
comp=Z,7.0nm,0.9s
BRVK Borovoye 42.34 302 eP P 00 15 40.1 -1.6
comp=Z,7.2nm,0.9s
HYT Haines Junctio 43.16 45 eP P 00 15 52.0 +3.5
LSA Lhasa 43.25 260 eP P 00 15 41.3 -8.8
LSA Lhasa 43.25 260 eP P 00 15 49.2 -0.8
LSA Lhasa 43.25 260 eP P 00 15 49.2 -0.8
comp=Z,1µm,0.1s
TKM2 Tokmak 2 44.56 286 P P 00 16 00.3 +0.2
SNR=9.8
TKM2 Tokmak 2 44.56 286 iP P 00 16 00.3 +0.2
TKM2 Tokmak 2 44.56 286 eP P 00 16 00.7 +0.6
comp=Z,7.1nm,0.9s
USP Ospenovka 45.02 287 P P 00 16 04.2 +0.5
SNR=13
USP Ospenovka 45.02 287 iP P 00 16 04.1 +0.5
KBK Karagaybulak 45.11 286 P P 00 16 04.8 +0.4
SNR=18
KZA Kyzart 45.26 286 P P 00 16 06.9 +1.0
SNR=23
KZA Kyzart 45.26 286 iP P 00 16 06.9 +1.0
AAK Ala-Archa 45.39 287 P P 00 16 07.0 +0.3
SNR=15
AAK Ala-Archa 45.39 287c iP P 00 16 06.8 +0.1
AAK pmax pmax
comp=Z,38nm,1.0s
AAK Ala-Archa 45.39 287 eP P 00 16 06.9 +0.3
SVE Sverdlovsk 45.43 310 eP P 00 16 06.6 0.0
SVE pmax pmax
comp=Z,19nm,1.4s
SHL Shillong 45.78 255 eP P 00 16 10.0 +0.1
EKS2 Erkin-Say 45.81 287 P P 00 16 10.2 +0.3
SNR=20
EKS2 Erkin-Say 45.81 287 iP P 00 16 10.2 +0.3
EKS2 Erkin-Say 45.81 287 eP P 00 16 10.1 +0.2
comp=Z,14nm,0.8s
KSH Kashi 46.34 282 eP P 00 16 18.6 +4.4
KSH epP pP 00 16 28.9 +12
KSH esP sP 00 16 33.0 +14
KSH ePP PP 00 18 06.6 +3.9
KSH PcS PcS 00 21 43.4 -0.4
KSH eS S 00 23 03.3 +2.0
KSH SS SS 00 26 20.8 -5.8
KSH pmax pmax
comp=Z,7.0nm,1.3s
KSH pmax pmax
comp=Z,93nm,3.4s
KSH LR LR
comp=Z,140nm,4.9s
KSH LR LR
comp=Z,180nm,4.9s
KSH LR LR
comp=Z,120nm,5.5s
ARU Arti 46.62 311c iP P 00 16 15.0 -1.0
ARU 00 18 05.2
ARU S S 00 23 02.8 -1.8
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 46.62 311 eP P 00 16 14.2 -1.8
CHTO Chiang Mai 46.86 242 eP P 00 16 17.5 -0.7
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 46.86 242 eP P 00 16 17.4 -0.7
comp=Z,7.5nm,0.9s
TAPN Taplejung 47.05 261 eP P 00 16 19.5 -0.5
comp=Z,24nm,0.7s
CMAR Chiang Mai Arr 47.14 242 P P 00 16 20.9 +0.4
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR MLR MLR
comp=Z,219nm,18.1s
CMAR Chiang Mai Arr 47.14 242 P P 00 16 20.9 +0.4
comp=Z,1.9nm,0.4s,baz=25,slow=7.1,SNR=14
CMAR LR LR 00 38 47.2
comp=Z,219nm,18.1s,baz=66,slow=39
KKAR Karatay Array 47.49 290 eP P 00 16 22.9 -0.1
KKAR Karatay Array 47.49 290 eP P 00 16 22.9 -0.1
ODAN Odare 47.60 261 eP P 00 16 24.6 +0.4
comp=Z,24nm,0.6s
JIRN Jiri 47.77 262 eP P 00 16 25.1 -0.6
comp=Z,38nm,0.8s
GUN Gumba 47.79 263 eP P 00 16 24.8 -1.0
comp=Z,36nm,0.7s
RAMN Ramite 48.02 261 eP P 00 16 26.8 -0.7
comp=Z,64nm,0.5s
KKN Kakani 48.25 263 eP P 00 16 29.4 +0.2
comp=Z,34nm,0.8s
PKI Pulchoki 48.32 263 eP P 00 16 29.6 -0.3
comp=Z,17nm,0.9s
PKIN Phulchoki 48.32 263 eP P 00 16 29.9 0.0
comp=Z,6.7nm,0.6s
DMN Daman 48.48 263 eP P 00 16 30.4 -0.7
comp=Z,27nm,0.8s
GKN Gorkha 48.50 264 eP P 00 16 30.2 -0.9
comp=Z,20nm,0.6s
RES Resolute Bay 48.76 17 eP P 00 16 29.6 -2.6
RES e 00 17 56.1
RES pmax pmax
comp=Z,5.0nm,1.0s
RES Resolute Bay 48.76 17 eP P 00 16 29.6 -2.6
comp=Z,4.6nm,1.0s
RES ePcP PcP 00 17 56.1 -0.9
DANN Dangsing 48.80 265 eP P 00 16 33.0 -0.6
comp=Z,55nm,0.7s
KOLN Koldanda 49.31 265 eP P 00 16 36.9 -0.5
comp=Z,52nm,1.2s
PRGR Permogore 49.43 321⇓iP P 00 16 37.1 -0.5
PRGR pmax pmax
comp=Z,13nm,0.7s
ABKAR Akbulak array 49.87 302 eP P 00 16 40.3 -0.8
APA Apatity 50.08 332⇓iP P 00 16 46.2 +3.8
APA iS S 00 23 54.0 +0.8
APA i 00 26 25.0
APA iSS SS 00 27 20.0 -5.5
APA MLR MLR
comp=Z,900nm,11.0s
KEV Kevo 50.42 336 eP P 00 16 45.6 +0.6
KEV Kevo 50.42 336 ep P 00 16 45.6 +0.6
comp=Z,0.4nm,0.5s
ARCES ARCESS Array B 50.95 336 eP P 00 16 49.1 0.0
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 50.95 336 P P 00 16 48.5 -0.6
comp=Z,3.0nm,0.9s,baz=46,slow=6.9,SNR=3.6
YKA Yellowknife Ar 51.54 35 P P 00 16 52.7 -0.8
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 51.54 35 P P 00 16 52.7 -0.8
comp=Z,2.1nm,0.7s,baz=308,slow=7.3,SNR=41
DAG Danmarks Havn 51.62 354 iP P 00 16 52.2 -1.7
DAG pmax pmax
comp=Z,1.0nm,0.8s
DAG Danmarks Havn 51.62 354 iP P 00 16 52.2 -1.7
comp=Z,1.9nm,0.8s
KLMR Klimovskoe 52.26 323 eP P 00 16 57.3 -1.6
KLMR pmax pmax
comp=Z,20nm,1.4s
KBL Kabul 53.78 282 eP P 00 17 12.5 +1.7
KBL pmax pmax
comp=Z,9.0nm,1.3s
KBL Kabul 53.78 282 eP P 00 17 12.5 +1.7
comp=Z,8.6nm,1.3s
JOF Joensuu 53.82 328 eP P 00 17 08.9 -1.5
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 53.82 328 ep P 00 17 08.9 -1.5
comp=Z,3.9nm,0.6s
KAF Kangasniemi 56.03 329 eP P 00 17 24.8 -1.6
KAF pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 56.03 329 ep P 00 17 24.8 -1.6
comp=Z,4.8nm,0.8s
SUMG Summit 56.43 0 iP P 00 17 29.3 -0.3
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 56.43 0 iP P 00 17 29.3 -0.3
comp=Z,12nm,1.0s
SUMG Summit 56.43 0 eP P 00 17 28.9 -0.6
comp=Z,40nm,1.4s
FINES FINESS Array B 56.60 329 P P 00 17 29.6 -0.8
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 56.60 329 P P 00 17 29.6 -0.8
comp=Z,9.1nm,0.8s,baz=59,slow=7.3,SNR=20
OBN Obninsk 57.26 319 eP P 00 17 34.1 -1.1
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,237nm,18.0s
VRHR Novokhopersk 57.82 313 eP P 00 17 36.0 -3.2
VRHR pmax pmax
comp=N,8.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
GEYT Alibeck 58.06 292 P P 00 17 41.2 +0.1
comp=Z,16nm,0.7s,baz=31,slow=3.2,SNR=29
GEYT LR LR 00 43 57.6
comp=Z,151nm,19.2s,baz=75,slow=37
EDM Edmonton 58.22 43 eP P 00 17 41.5 -0.6
EDM Edmonton 58.22 43 eP P 00 17 41.5 -0.6
VSR Storozhevoye 58.86 314 eP P 00 17 45.5 -1.0
VSR pmax pmax
comp=N,4.0nm,1.0s
VSR pmax pmax
comp=E,6.0nm,1.0s
VSR pmax pmax
comp=Z,9.0nm,1.0s
VORD Divnogorie 58.98 314 eP P 00 17 45.3 -2.0
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
NEW Newport 59.99 49 ⇓P P 00 17 52.4 -2.0
baz=60
I03D Drain, OR 60.06 57 ⇓P P 00 17 54.9 +0.1
baz=60
I04A Tendick Farm, 60.48 56 ⇓P P 00 17 56.3 -1.5
baz=60
MAK Makhachkala 60.52 303 eP P 00 18 13.5 +15
MAK MLR MLR
comp=Z,347nm,15.0s
I05D Terrebonne, OR 60.65 55 ⇑P P 00 17 58.0 -1.1
baz=60
J04D Umpqua Nationa 61.02 56 ⇓P P 00 18 01.1 -0.6
baz=61
NB2 NORSAR Subarra 61.30 335 P P 00 18 02.3 -0.9
comp=Z,6.4nm,0.7s,baz=32,slow=6.9
NOA NORSAR Array B 61.30 335 P P 00 18 02.4 -0.8
comp=Z,0.6nm,0.6s,baz=38,slow=4.8,SNR=15
NOA LR LR 00 47 54.5
comp=Z,55nm,18.3s,baz=190,slow=39
GOF Gofitskoye 61.35 307 eP P 00 18 03.5 -0.1
J05D Fort Rock, OR 61.45 56 ⇓P P 00 18 03.9 -0.7
baz=61
FFC Flin Flon 61.68 36 eP P 00 18 04.9 -0.8
FFC pmax pmax
comp=Z,24nm,1.3s
FFC Flin Flon 61.68 36 eP P 00 18 04.9 -0.8
comp=Z,24nm,1.3s
JTMT Jette 61.70 48 eP P 00 18 05.5 -0.7
comp=Z,6.7nm,1.2s
M02C Callahan 61.93 58 ⇓P P 00 18 07.1 -0.7
baz=62
SWMT Swartz Lake 62.00 48 eP P 00 18 08.1 -0.1
M04C Macdoel 62.19 57 ⇑P P 00 18 08.2 -1.4
baz=62
N02D Trinity Center 62.30 58 ⇓P P 00 18 09.7 -0.5
baz=62
KIV Kislovodsk 62.31 306 eP P 00 18 10.2 -0.1
KIV pmax pmax
comp=Z,25nm,0.9s
KIV MLR MLR
comp=Z,165nm,17.0s
KIV Kislovodsk 62.31 306 eP P 00 18 09.6 -0.7
comp=Z,26nm,0.9s
BMO Blue Mountains 62.33 52 eP P 00 18 09.7 -0.6
comp=Z,79nm,2.9s
KBZ Khabaz 62.37 306 P P 00 18 10.2 -0.3
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 62.37 306 P P 00 18 10.2 -0.3
comp=Z,3.3nm,0.8s,baz=53,slow=7.6,SNR=7.6
ZEI Tsey 62.52 305 eP P 00 18 09.9 -2.0
ZEI pmax pmax
comp=Z,5.0nm,1.0s
MSO Missoula 62.52 49 ⇑P P 00 18 10.9 -0.7
baz=62
A19A Klindworth Far 63.34 44 ⇓P P 00 18 16.3 -0.8
baz=63,SNR=7.9
AKASG Malin Array Be 63.52 319 eP P 00 18 16.7 -1.4
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 63.52 319 P P 00 18 16.6 -1.5
comp=Z,3.6nm,0.7s,baz=38,slow=7.4,SNR=22
AKASG LR LR 00 46 30.8
comp=Z,68nm,18.6s,baz=255,slow=37
KIEV Kiev 63.53 319 eP P 00 18 16.9 -1.2
KIEV Kiev 63.53 319 eP P 00 18 16.9 -1.2
AK01 Malin Array Si 63.53 319 eP P 00 18 16.3 -1.9
AK02 Malin Array Si 63.56 319 eP P 00 18 15.9 -2.5
EGMT Eagleton 63.57 45 ⇓P P 00 18 17.4 -1.1
baz=63
A20A Cobblestone Ra 63.73 44 ⇑P P 00 18 18.9 -0.7
baz=64
A21A Bergtoll Ranch 64.08 43 ⇑P P 00 18 21.4 -0.4
baz=64,SNR=6.0
C19A Slack Wire Ran 64.10 45 ⇑P P 00 18 21.2 -0.9
baz=64,SNR=5.4
A22A Carney Farms, 64.51 43 ⇑P P 00 18 23.7 -1.0
baz=64
C20A Veseth Ranch, 64.58 45 ⇓P P 00 18 24.6 -0.5
baz=64
D19A Cripps Ranch, 64.60 46 ⇑P P 00 18 24.8 -0.6
baz=64
HLID Hailey 64.69 51 ⇓P P 00 18 25.6 -0.5
baz=64
D20A Manuel Ranch, 64.99 45 ⇓P P 00 18 27.4 -0.5
baz=65,SNR=8.7
E19A Rath Farm, Rou 65.18 46 ⇑P P 00 18 28.8 -0.4
baz=65,SNR=5.2
B23A Brockton 65.31 42 ⇓P P 00 18 29.1 -0.7
baz=65
E20A Meyer Farm, Mu 65.44 46 ⇑P P 00 18 30.5 -0.3
baz=65
C22A Vida 65.48 43 ⇑P P 00 18 30.7 -0.3
baz=65
F19A Roth Farm, Mol 65.57 47 ⇑P P 00 18 31.7 0.0
baz=65,SNR=7.8
BMN Battle Mountai 65.58 55 eP P 00 18 31.2 -0.7
BMN pmax pmax
comp=Z,4.0nm,1.0s
BMN Battle Mountai 65.58 55 eP P 00 18 31.2 -0.7
comp=Z,4.2nm,1.0s
C23A Lambert 65.74 43 ⇓P P 00 18 32.5 -0.2
baz=66
H17A Grant Village 65.91 49 ⇑P P 00 18 34.7 +0.5
baz=66,SNR=5.4
RLMT Red Lodge 65.97 47 eP P 00 18 34.5 0.0
comp=Z,18nm,1.2s
H18A Shoshone NF, C 66.13 48 ⇓P P 00 18 35.5 0.0
baz=66
A26A Wade Farm, Ken 66.20 40 ⇑P P 00 18 35.3 -0.3
baz=66
C24A Savage 66.27 43 ⇓P P 00 18 36.0 -0.1
baz=66
I17A Pilgrim Ck. 66.27 49 ⇓P P 00 18 36.6 +0.2
baz=66
G20A Bridger 66.38 47 ⇓P P 00 18 36.6 -0.3
baz=66
H19A Powell 66.45 47 ⇓P P 00 18 37.5 +0.1
baz=66
NVAR Mina Array Bea 66.48 58 P P 00 18 37.8 -0.1
comp=Z,5.4nm,0.9s,baz=302,slow=6.2,SNR=26
D24A Glendive 66.64 43 ⇑P P 00 18 38.4 0.0
baz=66
F22A Rosebud 66.83 45 ⇑P P 00 18 39.3 -0.5
baz=67
G21A Lodge Grass 66.83 46 ⇓P P 00 18 39.6 -0.2
baz=67
I19A Meeteetse 66.93 48 ⇓P P 00 18 40.2 -0.4
baz=67
KWP Kalwaria Pacla 66.96 322⇑iP P 00 18 39.7 -0.7
C26A Wahner Farm, P 67.02 41 ⇑P P 00 18 40.1 -0.7
baz=67,SNR=5.3
D25A Fairfield 67.04 42 ⇑P P 00 18 40.8 -0.2
baz=67
H20A Greybull 67.04 47 ⇑P P 00 18 40.7 -0.5
baz=67
E24A Baker 67.08 43 ⇑P P 00 18 40.0 -1.3
baz=67
B28A Dugan Ranch, T 67.23 40 ⇓P P 00 18 41.3 -0.9
baz=67
G22A Birney 67.25 45 ⇓P P 00 18 41.8 -0.7
baz=67
F23A Volborg 67.25 45 ⇑P P 00 18 41.9 -0.5
baz=67
A29A Manning Farm, 67.30 39 ⇑P P 00 18 41.8 -0.8
baz=67
C27A Sayler Ranch, 67.35 41 ⇓P P 00 18 42.2 -0.8
baz=67
PRAR RASCA 67.36 318⇑iP P 00 18 42.1 -0.9
H21A Big Horn, Sher 67.37 46 ⇑P P 00 18 42.6 -0.7
baz=67
I20A Worland 67.39 47 ⇓P P 00 18 43.6 +0.1
baz=67
J19A Crowheart 67.49 48 ⇑P P 00 18 44.1 0.0
baz=67
D26A Manning 67.50 42 ⇓P P 00 18 44.0 0.0
baz=67
ULM Lac du Bonnet 67.51 36 P P 00 18 42.5 -1.4
ULM pmax pmax
comp=Z,7.0nm,0.8s
ULM MLR MLR
comp=Z,117nm,20.2s
ULM Lac du Bonnet 67.51 36 P P 00 18 42.5 -1.4
comp=Z,6.8nm,0.8s,baz=327,slow=7.0,SNR=12
ULM LR LR 00 51 15.9
comp=Z,117nm,20.2s,baz=11,slow=39
BUR08 Bucovina Ar. S 67.56 319 eP P 00 18 43.1 -1.3
BURAR Bucovina Array 67.58 319⇓iP P 00 18 43.2 -1.3
F24A Ekalaka 67.58 44 ⇓P P 00 18 44.3 -0.3
baz=67
B29A Wagenman Farm, 67.62 39 ⇓P P 00 18 44.3 -0.3
baz=67
BW06 Boulder Array 67.63 49 eP P 00 18 43.9 -1.2
comp=Z,5.7nm,1.1s
PDAR Pinedale Array 67.63 49 P P 00 18 44.7 -0.4
comp=Z,5.2nm,0.9s,baz=316,slow=2.5,SNR=30
A30A Hoffart Farm, 67.65 38 ⇓P P 00 18 44.2 -0.6
baz=67
G23A Biddle 67.67 45 ⇓P P 00 18 44.7 -0.3
baz=67
KOLS Kolonicke sedl 67.69 322 eP P 00 18 43.9 -1.2
KOLS Kolonicke sedl 67.69 322 eP P 00 18 43.9 -1.2
STHS Stebnicka Huta 67.70 323 eP P 00 18 45.1 0.0
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 67.70 323 eP P 00 18 45.1 0.0
H22A Clearmont 67.71 46 ⇑P P 00 18 45.1 -0.3
baz=67
TESR Tescani 67.85 318⇑iP P 00 18 41.6 -4.5
J20A Shoshoni 67.87 48 ⇓P P 00 18 46.1 -0.4
baz=68
I21A Big Trails, Te 67.89 47 ⇑P P 00 18 46.1 -0.5
baz=68,SNR=11
UZH Uzhgorod 67.93 322 eP P 00 18 41.5 -5.0
UZH e 00 18 50.3
R11A Troy Canyon, C 67.97 56 ⇑P P 00 18 46.6 -0.7
baz=68
G24A Alzada 68.00 44 ⇓P P 00 18 46.3 -0.9
baz=68
DUG Dugway 68.00 53 ⇑P P 00 18 47.2 -0.1
baz=68,SNR=5.5
CRVS Cervenica-Dubn 68.03 322 eP P 00 18 50.1 +2.9
CRVS Cervenica-Dubn 68.03 322 e P 00 18 50.1 +2.9
B30A Myrvik Farm, E 68.04 39 ⇑P P 00 18 46.4 -0.9
baz=68,SNR=5.1
I22A 9 Mile Ranch, 68.19 46 ⇑P P 00 18 48.4 -0.1
baz=68
TRPA Tarpa 68.24 321⇑iP P 00 18 48.1 -0.4
PKM Peak Mountain 68.28 61 ⇓P P 00 18 49.6 +0.4
baz=68
VRI Vrincioaia 68.33 317⇑iP P 00 18 51.4 +2.2
F26A Lodgepole 68.34 43 ⇓P P 00 18 49.3 +0.1
baz=68
E27A Carson 68.35 42 ⇓P P 00 18 49.2 -0.1
baz=68
H24A Dirks Ranch, A 68.39 45 ⇑P P 00 18 48.9 -0.8
baz=68
ISA Isabella 68.44 60 ⇓P P 00 18 49.2 -0.9
baz=68
OKC Ostrava-Krasne 68.50 325 eP P 00 18 49.8 -0.3
OKC Ostrava-Krasne 68.50 325 eP P 00 18 49.8 -0.3
J22A Midwest 68.57 47 ⇑P P 00 18 50.1 -0.8
baz=68
F27A Lemmon 68.60 42 ⇓P P 00 18 50.2 -0.7
baz=68
MALT Malatya 68.63 305⇑iP P 00 18 51.5 +0.2
UPC Upice 68.70 326 eP P 00 18 51.1 -0.3
UPC e 00 18 54.7
UPC Upice 68.70 326 eP P 00 18 51.1 -0.3
UPC ex x 00 18 54.7
FURC Furnace Creek, 68.71 58 ⇓P P 00 18 52.2 +0.6
baz=68
DPC Dobruska-Polom 68.73 326 eP P 00 18 51.6 0.0
DPC e 00 18 54.8
DPC Dobruska-Polom 68.73 326 eP P 00 18 51.6 0.0
DPC ex x 00 18 54.8
MORC Moravsky Berou 68.77 325 eP P 00 18 50.9 -1.0
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 68.77 325⇑iP P 00 18 51.4 -0.5
MORC Moravsky Berou 68.77 325 eP P 00 18 50.9 -1.0
comp=Z,5.0nm,0.8s
KRLC Kraliky 68.79 326 eP P 00 18 51.8 -0.2
KRLC Kraliky 68.79 326 eP P 00 18 51.8 -0.2
G26A Maurine 68.81 43 ⇑P P 00 18 50.9 -1.3
baz=68
K21A Alcova 68.82 48 ⇑P P 00 18 51.6 -0.9
baz=69
D30A Buchanan 68.95 40 ⇓P P 00 18 51.8 -1.2
baz=69
MLR Muntele Rosu 68.96 317⇓iP P 00 18 51.7 -1.5
ISR Istrita 69.00 317⇑iP P 00 18 53.4 0.0
CLL Collm 69.04 329⇑iP P 00 18 52.3 -1.1
CLL i 00 18 55.8
CLL pmax pmax
comp=Z,16nm,1.3s
CLL Collm 69.04 329⇑iP P 00 18 52.3 -1.1
comp=Z,16nm,1.3s
CLL iP(2) 00 18 55.8
I24A Kuemmerle Ranc 69.06 45 ⇓P P 00 18 53.1 -0.7
baz=69
AGMN Agassiz Nation 69.11 37 ⇓P P 00 18 52.7 -1.2
baz=69
K22A Casper 69.14 47 ⇓P P 00 18 53.6 -0.8
baz=69
DRGR 69.25 320⇑iP P 00 18 54.0 -1.0
EDW2 Edwards Air Fo 69.29 60 ⇓P P 00 18 55.1 -0.3
baz=69,SNR=5.4
I25A Rochford 69.33 45 ⇓P P 00 18 54.6 -1.0
baz=69
VYHS Vyhne 69.36 324 eP P 00 18 55.1 -0.4
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 69.36 324 eP P 00 18 55.1 -0.4
VOIR 69.39 318⇑iP P 00 18 55.2 -0.6
PSZ Piszkesteto 69.44 323⇑iP P 00 18 49.2 -6.9
VRAC Vranov 69.50 325⇑iP P 00 18 55.7 -0.7
H27A Howes 69.56 43 ⇑P P 00 18 55.6 -1.2
baz=69
GSC Goldstone 69.61 59 ⇓P P 00 18 57.2 -0.2
baz=69
ARR Arges 69.61 318⇑iP P 00 18 57.4 +0.2
PRU Pruhonice 69.65 327 eP P 00 18 56.8 -0.4
PRU Pruhonice 69.65 327 eP P 00 18 56.8 -0.4
N20A Spence Gulch, 69.74 50 ⇑P P 00 18 58.0 -0.3
baz=70
J25A Sunshine Ranch 69.79 45 ⇓P P 00 18 57.3 -1.1
baz=70
L23A Garrett 69.94 47 ⇓P P 00 18 57.9 -1.6
baz=70
BFSC Mount Baldy Ra 69.95 60 ⇓P P 00 18 59.3 -0.3
baz=70
BR131 Keskin Array S 69.96 309 eP P 00 18 57.9 -1.6
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 69.96 309 P P 00 18 58.8 -0.8
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 69.96 309 P P 00 18 58.8 -0.8
comp=Z,2.2nm,0.7s,baz=73,slow=3.8,SNR=15

H28A Mission Ridge 69.98 43 ⇓P P 00 18 58.4 -1.0
baz=70
TUQ Turquoise Moun 69.98 58 ⇑P P 00 18 59.6 -0.1
baz=70
M22A Cedar Creek Ra 70.08 48 ⇑P P 00 18 59.9 -0.4
baz=70
HEC Hector,Ludlow 70.22 59 ⇑P P 00 19 00.8 -0.4
baz=70
O20A White River Ci 70.29 50 ⇑P P 00 19 00.8 -0.8
baz=70,SNR=5.7
GZR Gura Zlata 70.36 319⇑/P P 00 19 01.1 -0.7
G30A Faulkton 70.40 41 ⇓P P 00 19 01.1 -0.8
baz=70
K26A Motz Farm, Whi 70.62 45 ⇑P P 00 19 03.0 -0.4
baz=70
N22A Wattenberg Ran 70.62 48 ⇑P P 00 19 03.0 -0.7
baz=70
GMRC Granite Mounta 70.62 58 ⇑P P 00 19 03.8 +0.1
baz=70
BZS Buzias 70.65 320⇓/P P 00 19 01.0 -2.5
KHC Kasperske Hory 70.71 327 eP P 00 19 02.4 -1.4
KHC Kasperske Hory 70.71 327 eP P 00 19 02.4 -1.4
N23A Red Feather La 70.79 48 ⇓P P 00 19 04.1 -0.6
baz=70
I29A Vivian Onida 70.81 43 ⇑P P 00 19 03.8 -0.7
baz=70
J28A Allard Ranch, 70.89 44 ⇑P P 00 19 04.5 -0.6
baz=71,SNR=6.7
GERES GERESS Array B 70.91 327 eP P 00 19 03.4 -1.7
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 70.91 327 P P 00 19 03.2 -1.9
comp=Z,0.6nm,0.7s,baz=30,slow=3.8,SNR=5.1
CONA Conrad Observa 70.93 325⇑/P P 00 19 05.3 +0.1
comp=Z,6.5nm,1.3s
BELC Belle Mtn. Jos 71.03 59 ⇓P P 00 19 05.3 -0.8
baz=71
BRSD Miller 71.03 41 ⇓P P 00 19 05.2 -0.6
baz=71
O22A Kremmling 71.08 49 ⇓P P 00 19 06.1 -0.4
baz=71
U15A North Rim 71.14 55 ⇑P P 00 19 06.8 -0.1
baz=71,SNR=6.0
WRAB Tennant Creek 71.24 188 eP P 00 19 07.1 0.0
WRAB pmax pmax
comp=Z,12nm,1.1s
WRA Warramunga Arr 71.25 188 P P 00 19 05.6 -1.6
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 71.25 188 P P 00 19 05.6 -1.6
comp=Z,1.4nm,0.5s,baz=3.8,slow=6.6,SNR=35
J29A Okreek 71.30 43 ⇑P P 00 19 06.9 -0.6
baz=71
W13A Hualapai Mount 71.32 57 ⇓P P 00 19 07.1 -0.9
baz=71
PKSM Moragy 71.33 322⇑/P P 00 19 06.3 -1.3
N24A Carr 71.33 47 ⇑P P 00 19 07.6 -0.3
baz=71
O23A Lake Granby, G 71.34 49 ⇓P P 00 19 06.8 -1.3
baz=71
IRM Iron Mountain 71.37 59 ⇓P P 00 19 08.2 +0.1
baz=71,SNR=5.9
P22A Eagle 71.42 49 ⇑P P 00 19 07.9 -0.7
baz=71
SCHQ Schefferville 71.54 17 P P 00 19 06.8 -1.9
comp=Z,8.5nm,0.9s,baz=335,slow=5.6,SNR=13
BC3 Big Chuckawall 71.59 59 ⇑P P 00 19 09.1 -0.3
baz=71
J30A Dallas 71.72 42 ⇓P P 00 19 09.6 -0.4
baz=71
PDMCI Parker Dam,Lak 71.80 58 ⇑P P 00 19 10.4 -0.2
baz=72
ISCO Idaho Springs 71.81 49 ⇑P P 00 19 10.3 -0.6
baz=72
K29A Lazy Trails An 71.82 43 ⇑P P 00 19 09.9 -0.8
baz=72
M27A Reverse DX Ran 71.91 45 ⇓P P 00 19 10.5 -0.8
baz=72
P23A Jefferson 72.03 49 ⇑P P 00 19 11.9 -0.5
baz=72
K30A Basset 72.20 43 ⇓P P 00 19 12.5 -0.5
baz=72
WUAZ Wupatki 72.31 55 ⇑P P 00 19 14.2 +0.3
baz=72
GLA Glamis 72.39 59 ⇑P P 00 19 14.5 +0.3
baz=72
N27A Anderson Farm, 72.42 46 ⇑P P 00 19 14.3 0.0
baz=72
MVCO Mesa Verde 72.45 52 ⇓P P 00 19 14.5 -0.2
baz=72
OGNE Ogallala 72.54 46 eP P 00 19 13.9 -1.1
comp=Z,42nm,1.2s
OGNE Ogallala 72.54 46 ⇑P P 00 19 14.2 -0.8
baz=72,SNR=7.4
KBA Koelnbreinsper 72.55 326⇑/P P 00 19 14.9 -0.2
comp=Z,8.9nm,1.1s
ECSD EROS Data Cent 72.58 40 ⇑P P 00 19 13.8 -1.4
baz=72,SNR=14
Y14A Wickenburg 72.68 57 ⇑P P 00 19 15.4 -0.5
baz=72
P25A Willow Gulch B 72.71 48 ⇓P P 00 19 15.5 -0.7
baz=72
L30A Spencer Herefo 72.74 43 ⇑P P 00 19 15.7 -0.5
baz=72
SPMN St. Paul 72.84 37 ⇑P P 00 19 15.4 -1.2
baz=72
S22A 4UR Ranch, Cre 72.84 51 ⇑P P 00 19 16.9 -0.3
baz=73,SNR=5.2
L31A Butterfield Fa 72.94 43 ⇓P P 00 19 16.7 -0.6
baz=73
O27A Beecher Island 72.94 46 ⇑P P 00 19 16.9 -0.6
baz=73
R23A Moffat 72.98 50 ⇓P P 00 19 17.3 -0.7
baz=73
P26A Davis Ranch, A 73.05 47 ⇓P P 00 19 17.5 -0.7
baz=73
X16A Lo Mia Camp, P 73.13 56 ⇓P P 00 19 18.7 -0.1
baz=73,SNR=7.3
Q25A Bedland, Calha 73.15 48 ⇑P P 00 19 18.1 -0.7
baz=73
113A Mohawk Valley, 73.17 59 ⇓P P 00 19 18.9 +0.2
baz=73
R24A Sanders Place, 73.29 49 ⇑P P 00 19 18.7 -1.0
baz=73
CDF Champ du Feu 73.39 330 eP P 00 19 19.0 -1.0
comp=Z,30nm,1.4s
CDF Champ du Feu 73.39 330 eP P 00 19 19.0 -1.0
CDF pmax pmax
comp=Z,30nm,1.4s
CDF Champ du Feu 73.39 330 eP P 00 19 19.0 -1.0
comp=Z,30nm,1.4s
P27A Ficken Ranch, 73.41 47 ⇑P P 00 19 19.6 -0.7
baz=73
Q26A Hugo 73.48 48 ⇓P P 00 19 20.2 -0.6
baz=73
M31A Lambtecht Ranc 73.56 43 ⇑P P 00 19 20.1 -0.9
baz=73
S24A Houchin Ranch, 73.71 50 ⇓P P 00 19 22.2 0.0
baz=74
PAGF Fort de Pagny 73.74 331 eP P 00 19 21.1 -0.8
comp=Z,17nm,1.4s
PAGF Fort de Pagny 73.74 331 eP P 00 19 21.1 -0.8
comp=Z,17nm,1.4s
R25A Fountain Ranch 73.75 49 ⇓P P 00 19 21.9 -0.4
baz=74
P28A Saint Francis 73.77 46 ⇓P P 00 19 21.5 -0.8
baz=74
X18A Snowflake 73.81 55 ⇑P P 00 19 23.1 +0.3
baz=74
BGNE Belgrade 73.86 43 ⇓P P 00 19 22.1 -0.7
baz=74
U22A Llaves 73.91 52 ⇑P P 00 19 23.1 -0.4
baz=74
N31A Bailey Ranch, 73.99 44 ⇑P P 00 19 23.0 -0.5
baz=74
R26A Arlington 74.02 48 ⇑P P 00 19 22.9 -0.9
baz=74,SNR=5.6
HAU Haudompre 74.04 331 eP P 00 19 23.5 -0.2
comp=Z,26nm,1.3s
HAU Haudompre 74.04 331 eP P 00 19 23.5 -0.2
HAU pmax pmax
comp=Z,26nm,1.3s
HAU Haudompre 74.04 331 eP P 00 19 23.5 -0.2
comp=Z,26nm,1.3s
O30A MW Ranch, Wils 74.04 45 ⇑P P 00 19 23.1 -0.8
baz=74
S25A Robets Cordova 74.06 49 ⇑P P 00 19 23.0 -1.2
baz=74
T24B San Luis 74.09 50 ⇑P P 00 19 24.6 +0.1
baz=74
Q28A Sharon Springs 74.15 47 ⇑P P 00 19 24.1 -0.5
baz=74
V22A San Miguel Ran 74.25 52 ⇓P P 00 19 25.1 -0.4
baz=74
SFTF Sexfontaines 74.25 332 eP P 00 19 23.9 -1.0
SFTF Sexfontaines 74.25 332 eP P 00 19 23.9 -1.0
U23A El Rito 74.28 51 ⇓P P 00 19 25.4 -0.1
baz=74,SNR=5.9
N32A Stulken Farm, 74.33 43 ⇑P P 00 19 25.4 -0.1
baz=74
R27A Eads 74.33 48 ⇑P P 00 19 24.3 -1.3
baz=74,SNR=5.8
TUE Stuetta 74.44 328 eP P 00 19 21.7 -4.5
comp=Z,3.7nm,1.0s
P30A Selden 74.47 45 ⇓P P 00 19 25.6 -0.8
baz=74
T25A Trinidad 74.49 49 ⇓P P 00 19 26.0 -0.7
baz=74
S26A Kim 74.55 49 ⇓P P 00 19 26.0 -0.9
baz=74
Q29A Oakley 74.67 46 ⇓P P 00 19 26.4 -1.2
baz=74,SNR=7.4
R28A Tribune 74.74 47 ⇓P P 00 19 26.9 -1.1
baz=74,SNR=5.8
V23A Ortiz Mt. (NFS 74.75 52 ⇓P P 00 19 28.5 +0.2
baz=74
T26A Comanche Natio 74.85 49 ⇑P P 00 19 27.4 -1.4
baz=75
P31A Stockton 74.88 45 ⇓P P 00 19 27.3 -1.4
baz=75
Q30A Quinter 74.95 46 ⇑P P 00 19 27.9 -1.3
baz=75,SNR=5.2
AS31 Alice Springs 74.97 188 eP P 00 19 27.3 -1.9
R29A Marienthal 74.98 47 ⇓P P 00 19 28.0 -1.4
baz=75,SNR=5.3
U25A Circle Dot Ran 75.08 50 ⇑P P 00 19 29.2 -1.0
baz=75
P32A Huiting Farm, 75.13 44 ⇑P P 00 19 29.0 -1.2
baz=75
ANMO Albuquerque 75.25 52 eP P 00 19 29.7 -1.4
ANMO pmax pmax
comp=Z,17nm,1.7s
FLN La Foliniere 75.29 335 eP P 00 19 29.6 -1.3
FLN La Foliniere 75.29 335 eP P 00 19 29.6 -1.3
FLN La Foliniere 75.29 335 eP P 00 19 29.6 -1.3
T27A Campo 75.35 48 ⇓P P 00 19 30.8 -0.9
baz=75
V25A Rancho No Teng 75.44 50 ⇓P P 00 19 31.5 -0.7
baz=75
LOR Lormes 75.45 332 eP P 00 19 30.5 -1.3
LOR Lormes 75.45 332 eP P 00 19 30.5 -1.3
LOR Lormes 75.45 332 eP P 00 19 30.5 -1.3
R30A Dighton 75.49 46 ⇑P P 00 19 31.4 -0.9
baz=75
W24A Lazy 6 Ranch, 75.55 51 ⇑P P 00 19 32.5 -0.4
baz=75
T28A Walsh 75.59 48 ⇓P P 00 19 32.2 -0.8
baz=75
S29A Ulysses 75.65 47 ⇓P P 00 19 31.7 -1.5
baz=75
Q32A Meitler Ranch, 75.67 44 ⇓P P 00 19 31.7 -1.6
baz=75
P33A Williams Farm, 75.68 44 ⇓P P 00 19 32.3 -1.1
baz=75
GRR Gorron 75.73 335 eP P 00 19 32.6 -0.8
GRR Gorron 75.73 335 eP P 00 19 32.6 -0.8
GRR Gorron 75.73 335 eP P 00 19 32.6 -0.8
SSF Saint Saulge 75.74 332 eP P 00 19 32.2 -1.3
SSF Saint Saulge 75.74 332 eP P 00 19 32.2 -1.3
SSF Saint Saulge 75.74 332 eP P 00 19 32.2 -1.3
R31A Burdett 75.82 46 ⇑P P 00 19 32.7 -1.4
baz=76
U27A Thompson Grove 75.82 49 ⇓P P 00 19 33.2 -1.1
baz=76
V26A Tequesquite Ra 75.87 50 ⇓P P 00 19 33.4 -1.2
baz=76
S30A Montezuma 75.93 47 ⇑P P 00 19 33.7 -1.2
baz=76
Q33A Connelly Farm, 75.98 44 ⇑P P 00 19 33.5 -1.6
baz=76
W25A X Bar L Ranch, 76.01 51 ⇓P P 00 19 34.4 -1.0
baz=76
SMF Signal de Mont 76.01 332 eP P 00 19 34.0 -1.1
comp=Z,11nm,1.0s
SMF Signal de Mont 76.01 332 eP P 00 19 34.0 -1.1
SMF pmax pmax
comp=Z,11nm,1.0s
SMF Signal de Mont 76.01 332 eP P 00 19 34.0 -1.1
comp=Z,11nm,1.0s
AVF Avril sur Loir 76.03 332 eP P 00 19 34.0 -1.1
comp=Z,25nm,1.4s
AVF Avril sur Loir 76.03 332 eP P 00 19 34.0 -1.1
AVF pmax pmax
comp=Z,25nm,1.4s
AVF Avril sur Loir 76.03 332 eP P 00 19 34.0 -1.1
comp=Z,25nm,1.4s
R32A Long Quarter, 76.07 45 ⇑P P 00 19 34.0 -1.6
baz=76
LPG La Plagne 76.14 329 eP P 00 19 35.7 -0.5
comp=Z,24nm,1.4s
LPG La Plagne 76.14 329 eP P 00 19 35.7 -0.5
LPG pmax pmax
comp=Z,24nm,1.4s
LPG La Plagne 76.14 329 eP P 00 19 35.7 -0.5
comp=Z,24nm,1.4s
Y23A Lovelace Mesa, 76.25 53 ⇑P P 00 19 36.8 -0.1
baz=76,SNR=6.0
SGMF Saint Gilles 76.29 337 eP P 00 19 35.8 -0.8
SGMF Saint Gilles 76.29 337 eP P 00 19 35.8 -0.8
SGMF Saint Gilles 76.29 337 eP P 00 19 35.8 -0.8
Z22A Elephant Butte 76.33 54 ⇓P P 00 19 37.2 -0.1
baz=76,SNR=5.4
S31A Mullinville 76.39 46 ⇓P P 00 19 35.7 -1.7
baz=76
KSU1 Kansas State U 76.43 43 ⇓P P 00 19 36.2 -1.4
baz=76
W26A Owens Ranch, T 76.45 50 ⇑P P 00 19 37.3 -0.6
baz=76
X25A Clemmons Ranch 76.47 51 ⇑P P 00 19 38.1 +0.1
baz=76
R33A Olander Ranch, 76.49 44 ⇑P P 00 19 36.7 -1.2
baz=76
121A Cookes Peak, D 76.49 55 eP P 00 19 37.4 -0.9
comp=Z,8.7nm,1.2s
121A ePcP PcP 00 19 49.2 -0.7
121A Cookes Peak, D 76.49 55 ⇓P P 00 19 38.3 0.0
baz=76,SNR=5.1
Y24A Capitan 76.57 52 ⇓P P 00 19 38.1 -0.6
baz=76,SNR=5.2
319A Douglas 76.63 56 ⇓P P 00 19 39.0 0.0
baz=76
T31A Randall Ranch, 76.73 46 ⇑P P 00 19 38.3 -1.1
baz=76
TCF Toulx Ste Croi 76.82 333 eP P 00 19 38.9 -0.8
comp=Z,22nm,1.2s
TCF Toulx Ste Croi 76.82 333 eP P 00 19 38.9 -0.8
TCF pmax pmax
comp=Z,23nm,1.2s
TCF Toulx Ste Croi 76.82 333 eP P 00 19 38.9 -0.8
comp=Z,22nm,1.2s
MBDF Montbardon 76.83 329 eP P 00 19 38.7 -1.2
MBDF Montbardon 76.83 329 eP P 00 19 38.7 -1.2
MBDF Montbardon 76.83 329 eP P 00 19 38.7 -1.2
X26A CR and CF Fran 76.86 51 ⇓P P 00 19 39.3 -1.0
baz=77
Y25A Mesa, Roswell 76.94 52 ⇓P P 00 19 40.0 -0.7
baz=77,SNR=5.6
T32A Huddler Ranch, 77.00 46 ⇑P P 00 19 39.8 -1.1
baz=77
W28A Vega 77.06 49 ⇓P P 00 19 40.9 -0.4
baz=77
Z24A Sheeppen Canyo 77.08 52 ⇓P P 00 19 41.0 -0.6
baz=77,SNR=6.2
X27A F and S Farms, 77.13 50 ⇓P P 00 19 41.6 -0.1
baz=77
MFF Saint Martin d 77.19 334 eP P 00 19 40.2 -1.5
MFF Saint Martin d 77.19 334 eP P 00 19 40.2 -1.5
MFF Saint Martin d 77.19 334 eP P 00 19 40.2 -1.5
Y26A Elida 77.36 51 ⇑P P 00 19 42.9 -0.2
baz=77
T33A Patterson Ranc 77.39 45 ⇓P P 00 19 42.2 -0.9
baz=77
Z25A Roswell 77.44 52 ⇓P P 00 19 43.5 0.0
baz=77
AMTX Amarillo 77.61 49 ⇓P P 00 19 44.2 -0.2
baz=77
U32A Winter Ranch, 77.63 46 ⇓P P 00 19 44.2 -0.2
baz=77
X28A Dimmitt 77.66 50 ⇑P P 00 19 44.4 -0.3
baz=77
Y27A Causey 77.71 51 ⇑P P 00 19 44.9 -0.1
baz=78
V31A Spring Creek L 77.74 47 ⇑P P 00 19 44.9 -0.2
baz=78
Z26A Caprock 77.81 52 ⇑P P 00 19 45.0 -0.6
baz=78,SNR=9.6
MSTX Muleshoe 77.83 50 ⇑P P 00 19 44.9 -0.8
baz=78
X29A Tulia 77.96 49 ⇓P P 00 19 46.1 -0.3
baz=78
U33A Lingo Farm, Me 77.99 46 ⇑P P 00 19 45.7 -0.6
baz=78
Y28A McKinney Farm, 78.14 50 ⇑P P 00 19 47.0 -0.4
baz=78
Z27A Tatum 78.15 51 ⇓P P 00 19 47.0 -0.5
baz=78
V32A Arapaho 78.15 47 ⇓P P 00 19 46.8 -0.5
baz=78
W31A Holland Ranch, 78.18 48 ⇑P P 00 19 47.0 -0.5
baz=78
U34A Anderson Ranch 78.24 45 ⇓P P 00 19 47.5 -0.3
baz=78
X30A Coker Ranch, T 78.35 49 ⇓P P 00 19 47.6 -0.9
baz=78
MNTX Cornudas Mount 78.38 53 eP P 00 19 47.7 -1.0
comp=Z,11nm,1.3s
V33A Lossen Ranch, 78.42 46 ⇑P P 00 19 48.0 -0.8
baz=78
Y29A Porterfield Fa 78.45 50 ⇓P P 00 19 48.7 -0.4
baz=78
W32A Sentinel 78.55 47 ⇓P P 00 19 49.3 -0.2
baz=78
X31A McDonald Ranch 78.62 48 ⇓P P 00 19 49.0 -0.9
baz=78,SNR=5.4
V34A Guthrie 78.75 46 ⇓P P 00 19 49.9 -0.7
baz=78
Z29A Hungry Hill Ra 78.93 50 ⇑P P 00 19 50.9 -0.8
baz=79,SNR=6.4
Y31A Rekieta Farm, 79.04 49 ⇓P P 00 19 51.7 -0.6
baz=79
128A Castleberry Fa 79.07 51 ⇓P P 00 19 51.9 -0.6
baz=79
X32A Elmer 79.11 48 ⇑P P 00 19 51.5 -1.1
baz=79
W34A Bridge Creek, 79.13 46 ⇑P P 00 19 51.7 -1.0
baz=79
Z30A Sanderson Ranc 79.18 50 ⇓P P 00 19 51.6 -1.5
baz=79
Y32A R-V Farms, Ver 79.39 48 ⇓P P 00 19 53.4 -0.7
baz=79
TUL1 Tulsa 79.45 44 ⇓P P 00 19 53.7 -0.7
baz=79
Z31A Sharp Cattle R 79.62 49 ⇑P P 00 19 55.2 -0.2
baz=79
X34A Smith Ranch, M 79.63 46 ⇓P P 00 19 55.4 -0.1
baz=79
Y33A Hilltop Ranch, 79.76 47 ⇓P P 00 19 55.8 -0.4
baz=80
Z32A Haskell 79.95 48 ⇑P P 00 19 56.6 -0.6
baz=80
131A Roby 80.04 49 ⇑P P 00 19 57.1 -0.6
baz=80
Y34A Reagan Ranch, 80.20 47 ⇓P P 00 19 57.5 -1.0
baz=80
329A Wagon Wheel Ra 80.24 51 ⇑P P 00 19 57.8 -1.0
baz=80
Z33A Whitaker Ranch 80.30 48 ⇓P P 00 19 57.9 -1.1
baz=80
230A Sterling City 80.33 50 ⇓P P 00 19 58.3 -1.1
baz=80
ABTX Abilene, Hawle 80.43 49 ⇓P P 00 19 58.7 -1.1
baz=80
Z34A Collier Ranch, 80.62 47 ⇓P P 00 19 59.7 -1.1
baz=80
231A Bronte 80.68 50 ⇑P P 00 20 00.1 -1.1
baz=80
330A Mertzon 80.70 51 ⇓P P 00 20 00.3 -1.1
baz=80
133A Hamilton Ranch 80.79 48 ⇓P P 00 20 00.6 -1.1
baz=80
Z35A Perchaven, San 80.96 47 ⇑P P 00 20 01.6 -1.0
baz=81
429A Davenport Ranc 80.99 52 ⇓P P 00 20 01.7 -1.2
baz=81
232A Coleman 81.04 49 ⇓P P 00 20 02.1 -1.0
baz=81,SNR=5.2
331A San Angelo 81.14 50 ⇑P P 00 20 02.8 -0.8
baz=81
TXAR Lajitas Array 81.16 54 P P 00 20 03.7 -0.1
TXAR pmax pmax
comp=Z,4.0nm,0.9s
TXAR Lajitas Array 81.16 54 P P 00 20 03.7 -0.1
comp=Z,3.5nm,0.9s,baz=290,slow=4.4,SNR=26
430A Baggett Ranch, 81.18 51 ⇑P P 00 20 03.2 -0.7
baz=81
134A White-Moore Ra 81.21 48 ⇑P P 00 20 03.0 -0.9
baz=81
529A Stev Forest Ra 81.24 52 ⇓P P 00 20 03.6 -0.6
baz=81,SNR=5.9
233A Rising Star 81.28 49 ⇑P P 00 20 03.7 -0.7
baz=81
332A Millersview 81.41 50 ⇑P P 00 20 04.4 -0.6
baz=81
135A Vickery Place, 81.53 47 ⇓P P 00 20 04.9 -0.7
baz=81
431A Sonora 81.57 51 ⇓P P 00 20 05.1 -0.9
baz=81
530A J-C Ranch, Com 81.65 51 ⇓P P 00 20 05.5 -0.9
baz=81,SNR=5.1
234A Clairette 81.65 48 ⇓P P 00 20 05.8 -0.6
baz=81
432A Menard 81.80 50 ⇑P P 00 20 06.0 -1.1
baz=82,SNR=5.3
333A Richland Sprin 81.82 49 ⇓P P 00 20 06.7 -0.5
baz=82,SNR=5.9
WHTX Lake Whitney 81.98 48 ⇑P P 00 20 07.6 -0.5
baz=82
531A Rocksprings 82.03 51 ⇓P P 00 20 07.5 -0.9
baz=82
JCT Junction City 82.13 50 ⇑P P 00 20 08.0 -0.9
baz=82
334A Lometa 82.17 49 ⇓P P 00 20 08.1 -0.9
baz=82,SNR=6.6
433A Art 82.24 50 ⇓P P 00 20 08.4 -1.0
baz=82
532A Rocksprings 82.37 50 ⇓P P 00 20 09.0 -1.2
baz=82,SNR=5.7
434A Burnet 82.58 49 ⇓P P 00 20 10.0 -1.2
baz=82
335A Moody 82.59 48 ⇓P P 00 20 10.2 -1.0
baz=82
631A Perdido Creek 82.63 51 ⇓P P 00 20 10.7 -0.8
baz=82,SNR=6.1
STKA Stephens Creek 82.81 180 P P 00 20 11.0 -1.0
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA Stephens Creek 82.81 180 P P 00 20 11.0 -1.0
comp=Z,2.2nm,0.7s,baz=0.1,slow=7.0,SNR=4.8
533A Kerrville 82.83 50 ⇑P P 00 20 11.6 -0.9
baz=83
632A Uvalde 82.94 51 ⇑P P 00 20 12.1 -1.0
baz=83
534A Blanco 83.14 49 ⇑P P 00 20 13.0 -1.1
baz=83
337A Centerville 83.27 47 ⇑P P 00 20 13.3 -1.4
baz=83
633A Saathoff Ranch 83.28 50 ⇓P P 00 20 14.3 -0.5
baz=83
732A Laxson Ranch, 83.49 51 ⇓P P 00 20 15.7 -0.2
baz=83
733A Divot King Ran 83.83 51 ⇓P P 00 20 17.4 -0.2
baz=84
340A Bronson 84.09 45 ⇑P P 00 20 18.3 -0.6
baz=84
833A Chaparral WMA, 84.11 51 ⇓P P 00 20 18.6 -0.5
baz=84
ESDC Sonseca Array 84.65 334 P P 00 20 21.1 -0.7
comp=Z,2.6nm,0.9s,baz=8.3,slow=4.6,SNR=6.6
KMSC Kings Mountain 85.88 34 ⇓P P 00 20 26.7 -1.1
baz=86
NVL N'lazarevskaya 150.30 211⇑/PKIKP PKPbc 00 27 37.8 0.0
NVL pmax pmax
comp=Z,3.0nm,0.2s

CPUP Villa Florida 151.04 38 PKIKP PKPbc 00 27 39.9 -1.0
CPUP pmax pmax
comp=Z,4.0nm,0.7s
CPUP Villa Florida 151.04 38 PKPbc PKPbc 00 27 39.9 -1.0
comp=Z,3.7nm,0.7s,baz=0.0,slow=4.0,SNR=5.1

WEL 24 00:24:23.9±0.6,46.04S×165.99E,h12km,ML3.7/7,2C-1D, Error ellipse: s-maj=6.2km s-min=2.6km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.99	56	⇑P*	Pb	00 24 42.1	-0.9
DCZ				S*	Sg	00 24 54.8	-1.1
DCZ				S*	Sb	00 24 54.9	-1.1
DCZ				AML	AML	00 24 56.2	
DCZ				AML	AML	00 24 56.2	
WHZ	Wether Hill Ro	1.37	84	⇓PN	Pn	00 24 48.2	-0.7
WHZ				SN	Sn	00 25 06.2	-0.8
WHZ				AML	AML	00 25 11.4	
APZ	The Paps	1.59	121	⇑PN	Pn	00 24 50.8	-1.2
APZ				SN	Sn	00 25 10.5	-2.0
APZ				AML	AML	00 25 21.0	
MLZ	Mavora Lakes	1.68	66	PN	Pn	00 24 52.1	-1.1
MLZ				SN	Sn	00 25 13.7	-0.9
MLZ				AML	AML	00 25 20.1	
SYZ	Scrubby Hill	2.24	104	PN	Pn	00 25 00.6	-0.1
SYZ				SN	Sn	00 25 28.9	+0.7
SYZ				AML	AML	00 25 29.8	
WKZ	Wanaka	2.45	61	AML	AML	00 25 44.6	
WKZ				AML	AML	00 25 45.5	
EAZ	Earnscleugh	2.46	72	PN	Pn	00 25 03.3	-0.6
EAZ				AML	AML	00 25 43.4	
EAZ				AML	AML	00 25 45.9	
TUZ	Tuapeka	2.54	89	SN	Sn	00 25 34.0	-1.8
ODZ	Otahua Downs	3.42	75	PN	Pn	00 25 16.3	-0.7
WVZ	Waitaha Valley	4.50	50	PN	Pn	00 25 31.8	-0.1
QRZ	Quartz Range	7.06	45	PN	Pn	00 26 07.0	0.0

MOS 24 00:47:09.5±2.3,52.37N×108.50E,h4km,mb4.2/1,Error ellipse: s-maj=22.5km s-min=19.8km az=55.8
BYKL 24 00:47:09.9±0.2,53.38N×108.46E,h9km±5km
ISC 24 00:47:09.2±0.7,53.25N±0.02×108.44E±0.02,h10km,n36, σ2.08/65,4C-2D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	Maximikha	0.19	85	⇑iPg	Pg	00 47 14.0	+0.9
MXMB				eSg	Sg	00 47 16.9	+1.0
MXMB				Pmax			
	816nm,0.1s						
MXMB				Smax			
	16μm,0.7s						
OGRR	Ongureny	0.64	309	ePG	Pg	00 47 21.5	-0.1
OGRR				pmax	pmax		
	comp=Z,86nm,0.2s						
OGRR	Ongureny	0.64	309	⇑iPg	Pg	00 47 21.5	-0.1
	comp=Z,56nm,0.5s						
OGRR				⇓iPg	Pg	00 47 21.5	-0.1
	comp=Z,64nm,0.5s						
OGRR				⇑iPg	Pg	00 47 21.5	-0.1
	comp=Z,104nm,0.5s						
OGRR				eSg	Sg	00 47 29.5	-0.5
OGRR				Pmax			
	comp=Z,104nm,0.2s						
OGRR				Smax			
	comp=Z,2μm,0.3s						
SYVR	Suvo	1.02	66	ePg	Pg	00 47 26.9	-1.9
SYVR				eSg	Sg	00 47 40.0	-2.1
SYVR				Pmax			
	comp=Z,16nm,0.2s						
SYVR				Smax			
	comp=Z,112nm,0.4s						
ZRHB	Zarechye	1.04	229	ePg	Pn	00 47 30.9	+1.1
ZRHB				ePb	Pb	00 47 32.4	+3.1
ZRHB				eSg	Sn	00 47 46.5	+2.0
ZRHB				max			
	comp=Z,125nm,0.3s						
ZRHB				Smax			
	comp=Z,2μm,0.6s						
TRG	Tyrgan	1.35	250	ePG	Pg	00 47 35.5	+0.3
TRG				e		00 47 54.5	
TRG				pmax	pmax		
	comp=Z,214nm,0.3s						
TRG				smax	smax		
	comp=N,888nm,0.3s						
TRG	Tyrgan	1.35	250	ePg	Pg	00 47 35.4	+0.3
TRG				eSg	Sg	00 47 54.5	+1.8
TRG				Pmax			
	comp=N,217nm,0.3s						
TRG				Smax			
	comp=N,870nm,0.3s						
UUDB	Ulan-Yde	1.46	199	⇑iPg	Pg	00 47 38.8	+1.6
UUDB				eSg	Sg	00 48 00.0	+3.9
UUDB				eSb	Sb	00 48 01.9	+6.8
UUDB				Pmax			
	comp=N,140nm,0.6s						
UUDB				max			
	comp=N,659nm,0.5s						
KAB	Kabansk	1.62	223	ePg	Pg	00 47 41.1	+0.9
KAB				eSg	Sg	00 48 04.6	+3.5
KAB				Pmax			
	comp=N,138nm,0.2s						
KAB				Smax			
	comp=N,1μm,0.5s						
HRMR	Khuramsha	1.86	210	ePn	Pg	00 47 44.4	-0.4
HRMR				iPg	Pb	00 47 45.8	+2.6
HRMR				eSg	Sg	00 48 12.4	+3.6
YLYR	Ulyunkhan	2.29	43	ePn	Pn	00 47 46.9	-0.1
YLYR				⇓iPg	Pb	00 47 48.9	-1.7
YLYR				iSg	Sb	00 48 18.2	-0.7
YLYR				Pmax			
	comp=N,26nm,0.6s						
YLYR				Smax			
	comp=N,164nm,0.7s						
LSTR	Listvyanka	2.60	239	ePn	Pb	00 47 53.6	-2.2
LSTR				ePg	Pg	00 47 57.7	-1.2
LSTR				eSn	Sb	00 48 26.5	-1.2
LSTR				eSg	Sg	00 48 32.8	+0.3
LSTR				Pmax			
	comp=N,13nm,0.5s						
LSTR				Smax			
	comp=N,162nm,0.7s						
NIZ	Nizh Angarsk	2.61	14	ePg	Pn	00 47 52.7	+1.3
NIZ				ePgPg	Pb	00 47 54.9	-1.2
NIZ				eSg	Sn	00 48 24.6	+1.4
NIZ				max			
	comp=N,40nm,0.5s						
NIZ				Smax			
	comp=N,100nm,0.5s						
IRK	Irkutsk	2.72	250	ePN	Pg	00 48 00.7	-0.6
IRK				e		00 48 35.6	
IRK				pmax	pmax		
	comp=Z,126nm,0.1s						
IRK				smax	smax		
	comp=N,398nm,0.4s						
IRK	Irkutsk	2.72	250	eSg	Sg	00 48 36.1	-0.5
IRK				Smax			
	comp=N,399nm,0.4s						
KMO	Kumora	3.10	30	ePN	Pn	00 47 56.7	-1.4
KMO				pmax	pmax		
	comp=Z,37nm,0.3s						
KMO	Kumora	3.10	30	ePn	Pn	00 47 57.7	-0.4
KMO				ePg	Pb	00 48 02.9	-1.4
KMO				eSg	Sb	00 48 42.5	+0.4
KMO				Pmax			
	comp=Z,46nm,0.7s						
KMO				Smax			
	comp=Z,136nm,1.0s						
TLY	Talaya	3.32	244	ePN	Pn	00 48 02.1	+0.9
TLY				pmax	pmax		
	comp=Z,11nm,0.5s						
TLY	Talaya	3.32	244	ePn	Pn	00 48 02.1	+0.9
TLY				ePg	Pb	00 48 10.1	+1.9
TLY				eSn	Sb	00 48 44.4	-4.3
TLY				eSg	Sg	00 48 54.4	-1.5
TLY				Pmax			
	comp=Z,10.0nm,0.5s						
TLY				Smax			
	comp=Z,84nm,0.5s						
CIT	Chita	3.35	109	eSg	Sg	00 48 54.9	-1.8
CIT				Smax			
	comp=Z,111nm,0.5s						
YOA	Uoyan	3.46	32	Pg	Pb	00 48 10.2	-0.4
YOA				e		00 48 24.5	
YOA				eSg	Sb	00 48 54.7	+2.0
YOA				max			
	comp=Z,89nm,0.2s						
YOA				Smax			
	comp=Z,322nm,0.8s						
ARS	Arshan	3.90	252	ePN	Pn	00 48 11.8	+2.6
ARS				e		00 48 21.5	
ARS				e		00 49 10.2	
ARS				pmax	pmax		
	comp=Z,18nm,0.2s						
ARS				smax	smax		
	comp=E,288nm,0.5s						
ARS	Arshan	3.90	252	ePn	Pn	00 48 12.3	+3.1
ARS				ePg	Pb	00 48 20.2	+2.2
ARS				e		00 48 22.1	
ARS				eSg	Sg	00 49 11.5	-2.8
ARS				max			
	comp=E,24nm,0.5s						
ARS				Smax			
	comp=E,231nm,0.8s						
SVKR	Severomuysk	4.14	44	e	Sn	00 48 54.1	-6.7
SVKR				eSg	Sb	00 49 15.6	+3.6
SVKR				Smax			
	comp=E,119nm,0.9s						
ZAK	Zakamensk	4.30	230	e	Pb	00 48 24.7	-0.1
ZAK				ePg	Pg	00 48 28.8	-2.6
ZAK				eSn	Sn	00 49 07.5	+2.7
ZAK				eSg	Sg	00 49 26.8	-0.2
ZAK				Pmax			
	comp=E,6.0nm,0.9s						
ZAK				Smax			
	comp=E,35nm,1.3s						
KPC	Khapcheranga	4.32	144	ePg	Pg	00 48 28.0	-3.9
KPC				eSn	Sn	00 49 05.4	0.0
KPC				eSg	Sg	00 49 25.0	-2.8
KPC				Pmax			
	comp=E,14nm,0.7s						
KPC				Smax			
	comp=E,83nm,1.1s						
MOY	Mondy	4.82	254	ePn	Pn	00 48 26.0	+4.2
MOY				ePg	Pb	00 48 34.9	+1.2
MOY				eSg	Sg	00 49 39.7	-4.1
MOY				Pmax			
	comp=E,11nm,0.4s						
MOY				Smax			
	comp=E,65nm,0.9s						
ORL	Orlik	5.27	266	ePN	Pn	00 48 31.9	+3.9
ORL				e		00 48 47.2	
ORL				eS	Sn	00 49 30.9	+2.0
ORL				e		00 49 53.5	
ORL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ORL				smax	smax		
	comp=N,48nm,1.2s						
ORL	Orlik	5.27	266	ePg	Pb	00 48 44.3	+2.9
ORL				eSn	Sn	00 49 30.8	+1.9
ORL				eSg	Sg	00 49 53.1	-5.2
ORL				Pmax			
	comp=N,14nm,1.4s						
ORL				Smax			
	comp=N,47nm,1.4s						
NLYR	Nelyaty	5.31	49	ePN	Pb	00 48 42.2	+0.3
NLYR				e		00 49 49.7	
NLYR				pmax	pmax		
	comp=Z,22nm,0.7s						
NLYR				smax	smax		
	comp=N,54nm,1.3s						
NLYR	Nelyaty	5.31	49	ePg	Pb	00 48 43.5	+1.6
NLYR				e		00 48 48.9	
NLYR				eSg	Sb	00 49 52.9	+7.2
NLYR				max			
	comp=N,6.0nm,0.6s						
NLYR				Smax			
	comp=N,56nm,1.1s						
ULN	Ulaanbaatar	5.46	190	ePn	Pn	00 48 33.8	+3.1
ULN				ePg	Pg	00 48 50.4	-3.3
ULN				e		00 48 52.6	
ULN				eSg	Sg	00 50 03.9	-0.5
BOD	Bodaibo	5.57	32	eSg	Sb	00 49 58.3	+5.3
BOD				Smax			
	comp=N,18nm,1.2s						
CRS	Chara	6.73	53	eSg	Sb	00 50 35.1	+8.6
CRS				Smax			
	comp=N,30nm,1.6s						
TUP	Tupik	6.92	76	ePN	Pn	00 48 52.9	+2.3
TUP				pmax	pmax		
	comp=Z,4.0nm,0.4s						
TUP	Tupik	6.92	76	eSg	Sb	00 50 40.9	+8.9
TUP				Smax			
	comp=Z,21nm,0.9s						

IDC 24 01:23:26.9±1.9,2.77S×139.26E,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.5/24,mbtmp3.6/3,ML3.8/1,Error ellipse: s-maj=75.4km s-min=40.1km az=99.0
ISCJB 24 01:23:32.3±0.7,2.83S±0.08×138.83E±0.09,h46km, mb3.5/2,Error ellipse: s-maj=13.9km s-min=9.3km az=34.2
DJA 24 01:23:32.4±0.7,3°S±6°×13°9E±1°4,h17km±29km,M3.6/4, MLv3.6/4
ISC 24 01:23:34.1±0.9,2.75S±0.09×138.88E±0.09,h46km,n12, σ1.56/12,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.77	347	P	Pn	01 23 47.4	-1.3
GENI	Genyem	1.30	83	P	Pn	01 23 55.4	-0.4
JAY	Jayapura	1.84	83	P	Pn	01 24 03.8	+0.5
JAY	Jayapura	1.84	83	P	Pn	01 24 03.7	+0.5
	baz=1.8,SNR=9.6						
KDU	Kakadu	11.73	212	P	Pn	01 26 17.2	-1.8
	baz=12,SNR=6.3						
COEN	Coen	11.92	159	P	Pn	01 26 20.9	-0.6
	baz=12,SNR=5.8						
MTN	Manton Dam	12.62	217	P	Pn	01 26 31.1	0.0
	baz=12,SNR=7.7						
LUWI	Luwuk	16.19	276	P	P	01 27 24.5	+3.4
	baz=16,SNR=4.2						
KNRA	Kununurra	16.26	217	P	Pn	01 27 19.6	+0.2
	baz=16,SNR=5.2						
WRA	Warramunga Arr	17.65	194	P	Pn	01 27 35.5	-1.3
	0.3nm,0.3s,baz=13,slow=13,SNR=15						
MKAR	Makanchi Array	69.92	322	P	P	01 34 41.7	+1.1
	0.2nm,0.4s,baz=108,slow=4.7,SNR=6.7						
ILAR	Eielson Array	85.80	24	P	P	01 36 07.2	-1.2
	0.4nm,0.8s,baz=255,slow=4.9,SNR=3.5						

ISCJB 24 02:33:49.2±0.3,5.85S±0.02×130.83E±0.04,h86km, mb4.4/22,Error ellipse: s-maj=5.1km s-min=3.4km az=174.9
BJI 24 02:33:50.2,5.55S×131.74E,h118km,mB4.7/2,mb4.6/5
NEIC 24 02:33:51.3±0.8,5.77S×130.82E,h88km±7km,mb4.5/17, Error ellipse: s-maj=8.6km s-min=6.8km az=61.0
DJA 24 02:33:52.9±0.3,6°S±2°×13°1E±°,h67km±6km,M4.9/12, mb4.8/12,mB5.5/6,MLv4.9/12,Mw(mB)5.0/6
IDC 24 02:33:53.1±3.5,5.71S×130.76E,h96km±32km,mb4.1/11, mb1 4.2/12,mb1mx3.9/31,mbtmp4.5/12,MS3.3/5, Ms1 3.3/5,ms1mx2.9/27,Error ellipse: s-maj=24.4km s-min=13.5km az=63.0
ISC 24 02:33:51.0±0.3,5.75S±0.04×130.84E±0.05,h86km,n112, σ1.55/115,mb4.5/22,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.54	323	P	Pn	02 34 19.4	+2.4
BNDI				S	Sn	02 34 38.3	+1.6
SAUI	Saumlaki	2.26	168	P	Pn	02 34 28.9	+2.4
SAUI				S	Sn	02 34 58.6	+4.9
MSAI	Masohi	3.06	321	P	Pn	02 34 38.6	+1.4
MSAI				S	Sn	02 35 12.5	-0.4
FAKI	Fak Fak	3.15	27	P	Pn	02 34 39.4	+1.0
FAKI				S	Sn	02 35 15.1	+0.1
FAKI	Fak Fak	3.15	27	ePn	Pn	02 34 39.1	+0.7
FAKI				eSn	Sn	02 35 14.9	-0.2
FAKI	Fak Fak	3.15	27	P	Pn	02 34 39.3	+0.8
	baz=3.3,SNR=249						
FAKI				S	Sn	02 35 14.9	-0.2
	baz=3.3,SNR=14						
NLAI	Namlea	4.49	304	P	Pn	02 35 00.0	+3.4
SWI	Sorong	4.88	5	P	Pn	02 35 02.1	+0.2
SWI				S	Sn	02 35 52.6	-4.5
SWI	Sorong	4.88	5	P	Pn	02 35 01.8	-0.1
	baz=5.1,SNR=21						
SWI				S	Sn	02 35 52.8	-4.4
	baz=5.1,SNR=17						
LBMI	Labuha	6.08	327	P	Pn	02 35 19.4	+1.1
	133nm,0.9s,4μm1.0nm						
SANI	Sanana	6.08	307	P	Pn	02 35 20.6	+2.3
	52nm,0.6s,987nm0.3nm						
BAKI	Biak	6.94	49	P	Pn	02 35 32.8	+2.7
	301nm,0.9s,2μm1.0nm						
MTN	Manton Dam	7.05	178	P	Pn	02 35 30.8	-0.8
	baz=6.9,SNR=286						
MTN				S	Sn	02 36 46.6	-3.7
	baz=6.9,SNR=7.2						
KDU	Kakadu	7.08	167	P	Pn	02 35 31.2	-0.7
	baz=6.9,SNR=889						
KDU				S	Sn	02 36 46.3	-4.5
	baz=6.9,SNR=6.4						
SOEI	Soe	7.63	238	ePn	Pn	02 35 39.1	-0.5
	72nm,0.6s						
SOEI				eSn	Sn	02 37 04.3	-0.3
BATI	Baumata	8.37	238	P	Pn	02 35 50.7	+1.1
	85nm,0.9s						
BATI	Baumata	8.37	238	P	Pn	02 35 50.6	+1.0
	24nm,0.3s,baz=110,slow=1.6,SNR=12						
BATI				S	Sn	02 37 21.9	-0.6
	21nm,0.3s,baz=14,slow=18,SNR=13						
BATI				LR	LR	02 39 03.4	
	comp=Z,165nm,20.8s,baz=86,slow=38						
KNRA	Kununurra	10.07	192	P	Pn	02 36 10.3	-2.5
	baz=10.0,SNR=295						
KNRA				S	Sn	02 37 56.1	-7.8
	baz=10.0,SNR=9.1						
JAY	Jayapura	10.35	72	LR	LR	02 41 58.9	
	comp=Z,367nm,19.4s,baz=18,slow=46						
BKSI	Bulukumba	10.68	272	P	Pn	02 36 36.6	+16
BNSI	Bone	10.78	277	P	Pn	02 36 37.4	+15
KAPI	Kappang	11.06	273	ePn	Pn	02 36 27.4	+1.0
	61nm,0.9s						
WSI	Waingapu	11.15	249	P	Pn	02 36 24.5	-3.0
	baz=11,SNR=4.4						
WSI				S	Sn	02 38 19.1	-11
	baz=11,SNR=5.4						
MPSI	Mapaga	12.49	299	P	P	02 36 57.7	+3.8
WRAB	Tennant Creek	14.50	167	ePn	Pn	02 37 07.1	-5.0
	44nm,0.5s						
WRAB				eSn	Sn	02 39 37.7	-14
WRA	Warramunga Arr	14.51	167	P	Pn	02 37 07.5	-4.6
	6.1nm,0.3s,baz=354,slow=13,SNR=158						
WRA				S	Sn	02 39 40.1	-12
	9.4nm,0.3s,baz=346,slow=22,SNR=9.5						
COEN	Coen	14.62	125	ePn	Pn	02 37 12.8	-0.9
	81nm,0.5s						
COEN				eSn	Sn	02 39 42.9	-12
COEN	Coen	14.62	125	P	Pn	02 37 12.7	-0.9
	baz=14,SNR=102						
COEN				S	Sn	02 39 43.5	-11
	baz=14,SNR=11						
BBKI	Banjar Baru	16.11	277	P	P	02 37 35.9	+1.7
	54nm,0.9s						
KMMI	Kalianget	16.82	265	P	P	02 37 45.4	+3.4
	72nm,0.8s						
QIS	Mount Isa	17.00	151	P	Pn	02 37 42.5	-1.0
	baz=17,SNR=26						
AS31	Alice Springs	18.05	171	eP	P	02 37 54.4	-1.1
KKM	Kota Kinabalu	18.72	309	eP	P	02 38 03.3	+0.2
	32nm,0.8s						
KKM	Kota Kinabalu	18.72	309	P	Pn	02 38 03.8	-0.6
	baz=19,SNR=3.3						
MBWA	Marble Bar	18.72	214	eP	P	02 38 02.3	-0.6
	13nm,0.9s						
WRKA	Warakurna	19.33	187	P	P	02 38 10.3	+0.7
	baz=19,SNR=86						
WRKA				S	S	02 41 34.9	-9.0
	baz=19,SNR=4.4						
CTA	Charters Tower	20.68	135	P	Pn	02 38 27.5	+0.2
	3.3nm,0.6s,baz=313,slow=15,SNR=8.2						
CTAO	Charters Tower	20.68	135	eP	P	02 38 27.7	+0.4
	6.4nm,0.8s						
MEEK	Meekatharra	23.82	208	P	P	02 38 56.6	+0.4
	baz=24,SNR=6.7						
QLP	Quilpie	24.34	150	P	P	02 39 03.2	+2.3
	baz=24,SNR=4.7						
CGJI	Cibinong	25.02	267	P	P	02 39 09.2	+2.0
FORT	Forrest	25.03	186	eP	P	02 39 07.9	+0.8
	23nm,0.7s						
MNAI	Manna	27.81	272	S	S	02 44 04.8	-4.7
	baz=28,SNR=5.2						
STKA	Stephens Creek	27.87	160	P	P	02 39 34.1	+1.4
	3.9nm,0.4s,baz=332,slow=8.0,SNR=18						
STKA				LR	LR	02 50 35.3	
	comp=Z,81nm,20.2s,baz=11,slow=36						
STKA	Stephens Creek	27.87	160	eP	P	02 39 33.7	+1.0
	1.3nm,0.5s						
STKA	Stephens Creek	27.87	160	P	P	02 39 34.2	+1.5
	baz=28,SNR=15						
BLDU	Ballidu	28.08	207	P	P	02 39 34.9	+0.3
	baz=28,SNR=5.3						
HNR	Honiara	29.07	99	LR	LR	02 51 23.0	
	comp=Z,37nm,19.2s,baz=357,slow=36						
KULM	Kulim	32.08	289	eP	P	02 40 07.5	-2.6
	18nm,1.2s						
DZM	Mont Dzumac	38.03	119	eP	P	02 41 01.6	+0.2
	14nm,1.4s						
CMAR	Chiang Mai Arr	39.60	308	P	P	02 41 13.6	-0.8
	2.4nm,0.5s,baz=136,slow=8.1,SNR=12						
CHTO	Chiang Mai	39.80	309	eP	P	02 41 15.8	-0.2
	12nm,1.0s						
USRK	Ussuriysk Arra	49.73	1	P	P	02 42 35.5	+1.0
	1.4nm,0.6s,baz=186,slow=7.3,SNR=7.7						
ASAJ	Asahikawa	50.76	11	LR	LR	03 02 52.5	
	comp=Z,13nm,19.1s,baz=34						
PALK	Pallekele	51.67	284	eP	P	02 42 49.1	-0.6
LSA	Lhasa	51.90	315	eP	P	02 42 52.0	+0.4
	2.8nm,0.4s						
ODAN	Odare	53.09	310	eP	P	02 42 59.6	-0.6
	7.3nm,0.3s						
TAPN	Taplejung	53.10	310	eP	P	02 42 59.7	-0.6
	12nm,0.4s						
RAMN	Ramite	53.74	309	eP	P	02 43 04.7	-0.3
	32nm,0.5s						
JIRN	Jiri	54.42	310	eP	P	02 43 09.2	-0.8
	10nm,0.6s						
GUN	Gumba	54.78	310	eP	P	02 43 12.0	-0.6
	32nm,0.9s						
PKI	Pulchoki	54.97	309	eP	P	02 43 12.9	-1.1
	6.5nm,0.5s						
PKIN	Phulchoki	54.98	309	eP	P	02 43 13.2	-0.8
KKN	Kakani	55.18	310	eP	P	02 43 14.7	-0.6
GKN	Gorkha	55.78	309	eP	P	02 43 18.9	-0.7
	14nm,0.3s						
KOLN	Koldanda	56.47	309	eP	P	02 43 24.1	-0.4
	16nm,0.6s						
DANN	Dangsing	56.62	309	eP	P	02 43 25.0	-0.7
	26nm,1.0s						
ULN	Ulaanbaatar	57.35	341	eP	P	02 43 31.3	+1.0
SONM	Songino Array	57.54	341	P	P	02 43 32.7	+1.0
	1.9nm,0.6s,baz=160,slow=6.6,SNR=22						
SONM				PcP	PcP	02 44 23.7	-0.5
	0.7nm,0.6s,baz=157,slow=4.2,SNR=3.7						
MK31	Makanchi Array	67.66	326	eP	P	02 44 39.4	+0.5
MKAR	Makanchi Array	67.66	326	P	P	02 44 39.6	+0.8
	18nm,0.8s,baz=123,slow=7.9,SNR=191						
KZA	Kyzart	69.38	319	P	P	02 44 51.4	+1.2
	SNR=5.9						
TKM2	Tokmak 2	69.57	320	P	P	02 44 51.9	+0.8
	SNR=7.4						
TKM2	Tokmak 2	69.57	320	eP	P	02 44 51.4	+0.3
	2.9nm,0.6s						
UCH	Uchtor	69.94	319	P	P	02 44 55.2	+1.5
	SNR=7.5						
AAK	Ala-Archa	70.14	319	eP	P	02 44 55.3	+0.7
	3.6nm,1.1s						
AML	Almayashu	70.43	318	P	P	02 44 57.1	+0.4
	SNR=12						
SEY	Seymchan	70.44	10	P	P	02 44 56.8	+1.1
	2.7nm,0.7s,baz=195,slow=4.8,SNR=18						
USP	Ospenovka	70.44	320	P	P	02 44 56.6	+0.4
	SNR=8.2						
EKS2	Erkin-Say	70.62	319	P	P	02 44 58.9	+1.5
	SNR=7.5						
EKS2	Erkin-Say	70.62	319	eP	P	02 44 58.4	+0.9
	9.9nm,1.2s						
ZALV	Zalesovo Beam	70.85	333	P	P	02 44 58.1	-0.3
	2.1nm,0.3s,baz=125,slow=5.4,SNR=17						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
KURK	Kurchatov	71.90	328	eP	P	02 45 04.9	+0.1
	6.5nm,1.1s						
VNDA	Vanda	73.58	173	P	P	02 45 15.7	+1.4
	2.7nm,0.8s,baz=322,slow=6.1,SNR=7.2						
VNDA	Vanda	73.58	173	eP	P	02 45 15.3	+1.0
	5.5nm,1.1s						
BRVK	Borovoye	77.54	327	eP	P	02 45 37.4	+0.1
	6.0nm,0.8s						
GEYT	Alibeck	80.05	310	P	P	02 45 52.0	+0.5
	2.1nm,0.5s,baz=144,slow=3.5,SNR=9.1						
ABKAR	Akbulak array	82.06	321	eP	P	02 46 01.2	-0.6
ARU	Arti	85.10	328	eP	P	02 46 16.9	-0.4
	4.4nm,0.6s						
MCK	McKinley	90.80	26	eP	P	02 46 45.3	+0.9
ILAR	Eielson Array	91.87	25	P	P	02 46 48.7	-0.6
	0.7nm,0.8s,baz=272,slow=4.6,SNR=9.1						
SNAA	Sanae	97.06	193	eP	Pdif	02 47 13.5	+0.3
INK	Inuvik	97.40	22	eP	P	02 47 13.7	-0.8
	10nm,1.7s						
FINES	FINESS Array B	102.07	332	P	Pdif	02 47 34.3	-1.2
	1.2nm,0.9s,baz=90,slow=1.4,SNR=2.8						
GERES	GERESS Array B	112.00	321	PKiKP	PKiKP	02 52 16.4	-0.1
	0.2nm,0.5s,baz=85,slow=1.5,SNR=5.9						
BNI	Bardonecchia	117.80	318	ePKPdf	PKPdf	02 52 27.8	0.0
MNTX	Cornudas Mount	121.58	56	ePKPdf	PKPdf	02 52 36.5	+1.2
TXAR	Lajitas Array	123.57	59	PKP	PKPdf	02 52 40.6	+1.3
	0.3nm,0.6s,baz=128,slow=2.6,SNR=4.0						
TAM	Tamanrasset	124.69	294	ePKPdf	PKPdf	02 52 40.8	-0.9
JCT	Junction City	126.51	56	ePKPdf	PKPdf	02 52 46.1	+1.2
TOA0	Torodi Ar. Sit	129.38	282	ePKPdf	PKPdf	02 52 50.7	+0.1
TORD	Torodi Ar. Bea	129.38	282	PKP	PKPdf	02 52 51.0	+0.3
	1.0nm,0.6s,baz=94,slow=2.3,SNR=16						
DBIC	Dimbokro	135.96	274	PKP	PKPdf	02 53 03.7	+0.7
	0.6nm,0.6s,baz=98,slow=5.6,SNR=4.1						
JTS	JuntasAbangare	144.29	80	ePKPdf	PKPdf	02 53 18.6	+0.5
LVC	Limon Verde	145.82	146	ePKPbc	PKPab	02 53 24.1	+2.1
CPUP	Villa Florida	147.14	166	ePKPdf	PKPdf	02 53 20.9	-1.8
NNA	Nana	147.31	123	ePKPbc	PKPbc	02 53 24.5	-1.3
BCIP	Isla Barro Col	149.40	82	ePKPdf	PKPdf	02 53 24.3	-2.4
BCIP				ePKPbc	PKPbc	02 53 29.2	-2.0
OTAV	Otavalo	150.25	100	ePKPdf	PKPdf	02 53 28.1	-0.5
LPAZ	La Paz	151.16	140	PKPbc	PKPbc	02 53 38.0	+1.9
	2.9nm,0.4s,baz=14,slow=2.2,SNR=34						
SAML	Samuel	159.78	136	ePKPdf	PKPdf	02 53 41.8	+0.8
SAML				ePKPab	PKPab	02 54 20.3	+0.2
RCBR	Riachuelo	162.46	229	ePKPdf	PKPdf	02 53 44.1	+0.1

ISCJB 24 02:49:34.9±0.5,50.18S±0.09×114.6E±0.2,h17km, mb4.4/14,MS3.9/7,Error ellipse: s-maj=17.2km s-min=9.8km az=32.1

IDC 24 02:49:34.3±1.0,50.21S×114.58E,h0km,mb4.1/5, mb1 4.2/5,mb1mx3.9/22,mbtmp4.1/5,MS3.9/8,Ms1 3.9/8, ms1mx3.7/15,Error ellipse: s-maj=46.1km s-min=21.7km az=110.0

NEIC 24 02:49:35.3±0.3,50.21S×114.47E,h10km,mb4.7/10,Error ellipse: s-maj=12.9km s-min=8.1km az=119.0

ISC 24 02:49:36.5±0.4,50.22S±0.09×114.6E±0.1,h17km,n54, σ0§96/40,mb4.6/14,MS3.9/7,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
H01W2	Cape Leeuwin H	15.31	359	T	T	03 08 37.0	
	baz=179,slow=74,SNR=74						
H01W1	Cape Leeuwin H	15.32	359	T	T	03 08 37.4	
	baz=179,slow=74,SNR=86						
H01W3	Cape Leeuwin H	15.33	359	T	T	03 08 38.1	
	baz=179,slow=74,SNR=81						
NWAO	Narrogin (SRO)	17.39	8	LR	LR	02 58 35.9	
	comp=Z,584nm,21.4s,baz=192,slow=31						
FORT	Forrest	21.90	33	eP	P	02 54 29.2	+0.6
	30nm,0.9s						
STKA	Stephens Creek	27.18	58	P	P	02 55 19.1	+0.1
	2.9nm,1.0s,baz=231,slow=12,SNR=3.0						
STKA				LR	LR	03 04 06.9	
	comp=Z,264nm,21.5s,baz=210,slow=32						
MBWA	Marble Bar	29.29	10	eP	P	02 55 37.9	+0.1
	16nm,1.2s						
AS31	Alice Springs	30.50	37	eP	P	02 55 48.8	+0.2
VNDA	Vanda	32.56	163	LR	LR	03 08 48.6	
	comp=Z,325nm,18.2s,baz=302,slow=35						
VNDA	Vanda	32.56	163	eP	P	02 56 06.6	+0.5
	11nm,1.4s						
WRA	Warramunga Arr	34.05	35	P	P	02 56 20.3	+0.5
	3.7nm,0.9s,baz=203,slow=9.0,SNR=11						
WRAB	Tennant Creek	34.07	35	eP	P	02 56 19.8	-0.1
	9.7nm,1.2s						
CTAO	Charters Tower	39.16	51	eP	P	02 57 04.0	+0.7
	6.3nm,1.0s						
QSPA	South Pole Qui	39.91	180	P	P	02 57 09.3	0.0
	1.9nm,0.7s,baz=343,slow=7.8,SNR=7.7						
COEN	Coen	43.02	43	eP	P	02 57 34.2	-0.8
SNAA	Sanae	50.69	201	P	P	02 58 35.6	+1.1
	2.3nm,1.1s,baz=134,slow=21,SNR=3.5						
SNAA	Sanae	50.69	201	eP	P	02 58 35.6	+1.1
	18nm,1.1s						
H08S2	Diego Garcia H	54.97	306	T	T	03 58 00.3	
	baz=148,slow=76,SNR=32						
H08S1	Diego Garcia H	54.98	306	T	T	03 57 56.6	
	baz=148,slow=76,SNR=29						
H08S3	Diego Garcia H	54.99	306	T	T	03 58 01.8	
	baz=148,slow=76,SNR=27						
IPM	Ipoh	55.72	344	eP	P	02 59 12.8	+0.8
KKM	Kota Kinabalu	56.05	2	eP	P	02 59 14.5	0.0
	3.9nm,0.5s						
H08N1	Diego Garcia H	56.84	305	T	T	04 00 18.8	
	baz=146,slow=75,SNR=9.3						
H08N3	Diego Garcia H	56.85	305	T	T	04 00 25.4	
	baz=146,slow=75,SNR=8.9						
H08N2	Diego Garcia H	56.86	305	T	T	04 00 21.6	
	baz=146,slow=75,SNR=9.2						
PALK	Pallekele	64.35	322	eP	P	03 00 12.0	+0.7
SUR	Sutherland	68.10	246	eP	P	03 00 36.1	+0.7
BOSA	Boshof	68.16	251	LR	LR	03 24 12.1	
	comp=Z,82nm,18.1s,baz=151,slow=30						
CMAR	Chiang Mai Arr	69.75	344	P	P	03 00 45.6	+0.2
	0.5nm,0.4s,baz=188,slow=5.5,SNR=3.6						
CMAR				LR	LR	03 30 12.7	
	comp=Z,40nm,19.1s,baz=185,slow=35						
LBTB	Lobatse	70.56	254	eP	P	03 00 50.4	-0.2
	5.8nm,1.1s						
LSZ	Lusaka	76.12	263	eP	P	03 01 23.3	-0.2
	12nm,1.5s						
TSUM	Tsumeb	79.81	252	eP	P	03 01 44.9	+0.9
	14nm,1.4s						
KSRS	Korea Array	88.09	11	LR	LR	03 44 37.7	
	comp=Z,16nm,18.6s,baz=195,slow=38						
PLCA	Paso Flores	89.32	176	LR	LR	03 42 27.4	
	comp=Z,95nm,19.1s,baz=164,slow=36						
SONM	Songino Array	97.93	354	LR	LR	03 47 04.6	
	comp=Z,38nm,21.0s,baz=143,slow=35						
BR131	Keskin Array S	114.18	303	ePKP	PKPdf	03 08 14.8	+0.4
RCBR	Riachuelo	118.60	214	ePKPdf	PKPdf	03 08 21.3	-2.4
SAML	Samuel	121.05	183	ePKPdf	PKPdf	03 08 28.9	+0.6
TIP	Timpagrande	123.36	293	ePKPdf	PKPdf	03 08 30.8	-1.2
BUR08	Bucovina Ar. S	124.03	305	ePKPdf	PKPdf	03 08 31.5	-1.5
PSZ	Piszkesteto	127.03	303	ePKPdf	PKPdf	03 08 37.0	-1.7
WLF	Walferdange	135.59	298	ePKPdf	PKPdf	03 08 52.9	-1.8
MCK	McKinley	135.95	39	ePKPdf	PKPdf	03 08 55.2	+0.2
JTS	JuntasAbangare	137.05	151	ePKPdf	PKPdf	03 08 56.7	-1.9
BCIP	Isla Barro Col	137.37	159	ePKPdf	PKPdf	03 08 58.3	-0.9
WUAZ	Wupatki	143.88	96	ePKPdf	PKPdf	03 09 10.7	+0.2
TXAR	Lajitas Array	144.51	111	PKP	PKPdf	03 09 12.2	+0.5
	1.1nm,0.9s,baz=212,slow=4.4,SNR=9.1						
MNTX	Cornudas Mount	145.14	107	ePKPbc	PKPdf	03 09 13.5	+0.8
ANMO	Albuquerque	146.64	101	ePKPbc	PKPab	03 09 18.9	+0.8
AMTX	Amarillo	149.57	106	ePKPbc	PKPbc	03 09 24.4	-0.2
YKA	Yellowknife Ar	150.90	46	PKPbc	PKPbc	03 09 27.3	+0.6
	0.7nm,0.7s,baz=276,slow=2.0,SNR=11						
RES	Resolute Bay	152.56	16	ePKPbc	PKPbc	03 09 30.7	+0.5
RES				ePKPab	PKPab	03 09 40.0	-0.9
WVT	Waverly	158.55	123	ePKPdf	PKPdf	03 09 32.9	+0.4
WVT				ePKPab	PKPab	03 10 05.8	-1.8
WCI	Wyandotte Cave	160.92	121	ePKPab	PKPab	03 10 18.3	+0.5

IDC 24 02:57:25.5±3.8,50.00S×113.87E,h0km,mb4.3/1, mb1 4.6/1,mb1mx3.7/21,mbtmp4.3/1,Error ellipse: s-maj=212.4km s-min=54.8km az=109.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
H01W2	Cape Leeuwin H	15.10	1	T	T	03 16 34.5	
	baz=179,slow=74,SNR=28						
H01W1	Cape Leeuwin H	15.10	1	T	T	03 16 33.3	
	baz=179,slow=74,SNR=32						
H01W3	Cape Leeuwin H	15.11	1	T	T	03 16 33.3	
	baz=179,slow=74,SNR=38						
WRA	Warramunga Arr	34.13	36	P	P	03 04 12.1	-0.1
	3.0nm,0.7s,baz=202,slow=9.0,SNR=16						
H08S2	Diego Garcia H	54.48	306	T	T	04 05 49.4	
	baz=148,slow=76,SNR=13						
H08S1	Diego Garcia H	54.49	306	T	T	04 05 50.3	
	baz=148,slow=76,SNR=7.6						
H08S3	Diego Garcia H	54.50	306	T	T	04 05 51.0	
	baz=148,slow=76,SNR=10						
H08N1	Diego Garcia H	56.36	306	T	T	04 08 12.7	
	baz=141						
H08N3	Diego Garcia H	56.37	306	T	T	04 08 17.6	
	baz=141						
H08N2	Diego Garcia H	56.38	306	T	T	04 08 16.0	
	baz=141						
TXAR	Lajitas Array	145.00	112	PKPbc	PKPbc	03 17 03.1	-0.8
	0.2nm,0.5s,baz=201,slow=4.8,SNR=3.9						
YKA	Yellowknife Ar	151.07	46	PKPbc	PKPbc	03 17 18.7	-0.4
	0.4nm,0.8s,baz=272,slow=2.3,SNR=8.3						

GUC 24 03:10:52.0±0.6,32.70S×71.79W,h22km±4km,MD3.5, ML3.2,2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
IHA	Instituto Hidr	0.35	159	⇓iP	Pb	03 10 59.6	0.0
IHA				iS	Sb	03 11 04.2	-0.6
ROCH	El Roble	0.71	113	⇓iP	Pb	03 11 05.7	-0.3
ROCH				iS	Sb	03 11 15.2	-0.5
JACH	Jahuel	1.01	90	eP	Pb	03 11 10.4	-0.5
PEL	Peldehue	1.03	116	eP	Pn	03 11 10.9	-0.3
PEL				eS	Sb	03 11 24.7	+0.2
PEL				AML	AML	03 11 27.7	
	comp=E,2μm,0.2s						
TACH	Talagante	1.19	143	eP	Pn	03 11 12.7	-0.7
SAN	Santiago	1.21	129	eP	Pn	03 11 13.3	-0.3
SAN				iS	Sb	03 11 30.0	+0.4
CLCH	Cerro Calan	1.26	124	eP	Pn	03 11 14.3	-0.1
CLCH				eS	Sb	03 11 32.0	+0.9
CLCH				AML	AML	03 11 36.2	
	comp=E,459nm,0.6s						
LNV	Longovilo	1.30	166	eP	Pn	03 11 13.5	-1.3
ANTU	Antumapu	1.30	132	eP	Pn	03 11 15.1	+0.1
ANTU				eS	Sb	03 11 32.7	+0.4
ANTU				AML	AML	03 11 35.4	
	comp=E,533nm,0.4s						
CHCH	Chadas Angostu	1.56	143	eP	Pn	03 11 19.2	+0.7
CHCH				iS	Sb	03 11 39.2	-0.5
CMCH	Combarbala	1.66	24	eP	Pn	03 11 20.9	+1.0
CMCH				eS	Sb	03 11 42.6	0.0
CMCH				AML	AML	03 11 47.4	
	comp=E,866nm,0.8s						
LMEL	Las Melosas	1.76	131	eP	Pn	03 11 22.4	+1.0
LMEL				eS	Sb	03 11 45.4	-0.2
LMEL				AML	AML	03 11 48.6	
	comp=N,353nm,0.2s						

DJA 24 03:22:11.4±0.9,4°S±11°×14°0E±1°2,h23km±23km,M3.5/4, MLv3.5/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
GENI	Genyem	0.99	18	P	Pb	03 22 28.8	-1.1
GENI				S	Sb	03 22 42.7	+0.2
WAMI	Wamena	1.20	253	P	Pn	03 22 30.1	-2.6
JAY	Jayapura	1.32	40	P	Pn	03 22 33.9	-0.6
SMPI	Sarmi	1.92	323	P	Pn	03 22 42.7	0.0

GUC 24 03:33:34.2±0.6,32.47S×71.95W,h26km±4km,MD3.5, ML2.8,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
IHA	Instituto Hidr	0.62	155	eP	Pb	03 33 45.6	-0.9
IHA				iS	Sb	03 33 54.9	+0.1
ROCH	El Roble	0.94	123	⇓eP	Pn	03 33 51.5	-0.5
ROCH				eS	Sn	03 34 04.9	0.0
ROCH				AML	AML	03 34 07.3	
	comp=N,522nm,0.4s						
PEL	Peldehue	1.26	123	eP	Pn	03 33 56.6	+0.3
PEL				eS	Sb	03 34 13.8	+0.5
PEL				AML	AML	03 34 18.6	
	comp=E,640nm,0.2s						
CLCH	Cerro Calan	1.51	128	eP	Pn	03 34 00.4	+0.8
CLCH				eS	Sb	03 34 20.2	-0.3
CLCH				AML	AML	03 34 32.5	
	comp=E,160nm,0.7s						
CMCH	Combarbala	1.52	32	eP	Pn	03 34 00.6	+0.8
CMCH				eS	Sb	03 34 21.0	+0.2
CMCH				AML	AML	03 34 27.9	
	comp=N,319nm,0.6s						
LNV	Longovilo	1.55	163	eP	Pn	03 33 58.9	-1.3
CHCH	Chadas Angostu	1.82	144	eP	Pb	03 34 05.6	-1.4
CHCH				iS	Sb	03 34 30.0	+0.5
LMEL	Las Melosas	2.01	134	eP	Pn	03 34 08.0	+1.2
LMEL				eS	Sb	03 34 34.0	-1.2
LMEL				AML	AML	03 34 39.9	
	comp=N,105nm,0.2s						

ISCJB 24 03:51:08.4±0.9,30.65N±0.05×103.42E±0.08,h10km, mb3.2/2,Error ellipse: s-maj=10.4km s-min=6.9km az=11.6

IDC 24 03:51:08.4±1.7,30.59N×103.39E,h0km,mb3.2/2, mb1 3.4/3,mb1mx3.2/26,mbtmp3.2/3,ML2.9/1,Error ellipse: s-maj=89.8km s-min=28.4km az=61.0

BJI 24 03:51:10.5,30.75N×103.37E,h21km,ML3.3/8

ISC 24 03:51:10.4±1.1,30.72N±0.05×103.39E±0.08,h10km,n7, σ1§53/12,Sichuan

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
CD2	Chengdu	0.37	59	Pg	Pg	03 51 17.0	-0.7
CD2				Sg	Sg	03 51 22.3	-0.4
CD2				smax	smax		
	comp=N,4μm,0.5s						
CD2				smax	smax		
	comp=E,3μm,0.7s						
GYA	Guiyang	5.13	145	Pn	Pn	03 52 27.3	-0.1
GYA				Sn	Sn	03 53 24.9	-1.9
GYA				Sg	Sb	03 53 45.8	+3.7
GYA				smax	smax		
	comp=N,60nm,0.7s						
GYA				smax	smax		
	comp=E,60nm,0.7s						
LZH	Lanzhou	5.37	4	ePg	Pg	03 52 53.8	+0.7
LZH				Sg	Sg	03 54 02.0	-0.6
LZH				smax	smax		
	comp=N,33nm,1.0s						
LZH				smax	smax		
	comp=E,37nm,1.1s						
LZH				LR	LR		
	comp=N,160nm,5.4s						
LZH				LR	LR		
	comp=E,150nm,5.6s						
LZH				LR	LR		
	comp=Z,170nm,8.4s						
XAN	Xi'an	5.73	53	Pn	Pn	03 52 36.1	+0.5
XAN				Pg	Pg	03 52 55.0	-5.2
XAN				Sn	Sn	03 53 41.8	+0.3
XAN				Sg	Sb	03 54 06.4	+7.1
XAN				smax	smax		
	comp=Z,34nm,0.9s						
XAN				smax	smax		
	comp=Z,18nm,0.8s						
SONM	Songino Array	17.25	7	P	P	03 55 12.5	-0.4
	comp=Z,0.0nm,0.3s,baz=185,slow=11,SNR=4.0						
MKAR	Makanchi Array	22.87	320	P	P	03 56 14.4	+0.5
	comp=Z,0.2nm,0.5s,baz=110,slow=9.9,SNR=4.3						
WRA	Warramunga Arr	58.50	145	P	P	04 01 05.8	-1.2
	comp=Z,0.5nm,0.7s,baz=337,slow=7.7,SNR=3.2						

ISCJB 24 04:12:17.1±0.4,62.65N±0.04×125.11W±0.06,h10km, mb3.5/8,Error ellipse: s-maj=5.9km s-min=3.6km az=156.4

PGC 24 04:12:19.4±0.1,62.65N×125.08W,h1km,ML4.0/21, Mw3.6,221km Wnw of Fort Simpson, Nt Northwest Territories, Canada

IDC 24 04:12:23.3±2.1,62.91N×125.00W,h26km±15km,mb3.4/9, mb1 3.6/13,mb1mx3.4/42,mbtmp3.5/13,ML3.4/4,Error ellipse: s-maj=16.0km s-min=9.4km az=16.0

ISC 24 04:12:17.9±0.7,62.69N±0.05×125.12W±0.04,h10km,n41, σ2§15/52,mb3.5/8,19D,Northwest Territories

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
GALN	Gameti Lake	3.79	64	⇑Pn	Pn	04 13 17.8	+1.5
GALN				⇓Sn	Sn	04 14 01.6	+0.6
GALN				⇑Sg	Sg	04 14 16.4	-3.2
FNBB	Fort Nelson	3.95	164	Pn	Pn	04 13 18.8	+0.3
FNBB				⇓Sn	Sn	04 14 04.2	-0.7
FNBB				⇓Sg	Sb	04 14 20.6	+5.3
CTLN	Castor Lake	4.43	63	⇑Pn	Pn	04 13 27.0	+1.9
CTLN				⇑Sn	Sn	04 14 16.9	+0.2
CTLN				⇓Sg	Sg	04 14 35.7	-4.3
YKR1	Yellowknife Ar	4.71	88	⇑Pn	Pn	04 13 30.3	+1.4
YKR2	Yellowknife Ar	4.73	88	⇓Pn	Pn	04 13 30.6	+1.4
YKR5	Yellowknife Ar	4.80	88	⇑Pn	Pn	04 13 31.4	+1.3
YKR6	Yellowknife Ar	4.82	88	⇑Pn	Pn	04 13 31.8	+1.3
YKR7	Yellowknife Ar	4.84	88	⇓Pn	Pn	04 13 31.5	+0.7
YKW3	Yellowknife Ar	4.85	87	⇑Pn	Pn	04 13 31.9	+1.0
YKW3				⇑Sn	Sn	04 14 25.7	-1.3
YKW3				⇓Sg	Sg	04 14 48.6	-4.9
YKB0	Yellowknife Ar	4.85	86	⇑Pn	Pn	04 13 32.1	+1.2
YKB9	Yellowknife Ar	4.86	87	⇓Pn	Pn	04 13 32.0	+1.1
YKB8	Yellowknife Ar	4.86	87	⇓Pn	Pn	04 13 31.9	+0.9
YKB7	Yellowknife Ar	4.86	87	⇑Pn	Pn	04 13 31.9	+0.9
YKB6	Yellowknife Ar	4.86	87	⇑Pn	Pn	04 13 32.4	+1.3
YKA	Yellowknife Ar	4.87	88	Pn	Pn	04 13 32.5	+1.4
	1.0nm,0.3s,baz=273,slow=13,SNR=36						
YKA				Pg	Pg	04 13 50.1	-0.9
	4.6nm,0.3s,baz=272,slow=16,SNR=24						
YKA				Sn	Sn	04 14 26.1	-1.3
	4.0nm,0.3s,baz=272,slow=24,SNR=4.3						
YKA				Lg	Lg	04 14 50.4	
	10nm,0.3s,baz=276,slow=30,SNR=9.4						
YKR8	Yellowknife Ar	4.87	88	⇑Pn	Pn	04 13 32.4	+1.3
YKB4	Yellowknife Ar	4.87	88	⇓Pn	Pn	04 13 32.7	+1.6
YKB3	Yellowknife Ar	4.87	88	⇑Pn	Pn	04 13 32.9	+1.8
YKB2	Yellowknife Ar	4.88	88	⇓Pn	Pn	04 13 32.7	+1.5
YKR9	Yellowknife Ar	4.89	88	⇓Pn	Pn	04 13 32.9	+1.5
DLBC	Dease Lake	4.90	212	⇓Pn	Pn	04 13 32.5	+0.9
DLBC				⇑Sg	Sg	04 14 49.8	-5.4
DLBC	Dease Lake	4.90	212	Pn	Pn	04 13 32.5	+0.9
	2.7nm,0.3s,baz=37,slow=11,SNR=61						
DLBC				Sn	Sn	04 14 29.5	+1.1
	3.9nm,0.3s,baz=18,slow=20,SNR=3.1						
WHY	Whitehorse	5.07	251	⇑Pn	Pn	04 13 34.4	+0.4
WHY				⇑Sn	Sn	04 14 32.4	-0.2
WHY				⇑Sg	Sg	04 14 55.5	-5.1
HILA	High Level	5.75	132	⇑Pn	Pn	04 13 44.6	+1.4
HILA				⇓Sn	Sn	04 14 47.1	-2.1
HYT	Haines Junctio	6.17	258	⇓Pn	Pn	04 13 52.6	+3.5
HYT				⇓Sg	Sg	04 15 33.1	-2.6
DAWY	Dawson	6.56	288	⇓Pn	Pn	04 13 55.3	+0.9
SNLN	Sandy Lake, NW	8.04	81	⇓Pn	Pn	04 14 16.0	+1.5
SNLN				⇑Sn	Sn	04 15 42.2	-3.0
WAPA	Wapiti River	8.11	155	⇓Pn	Pn	04 14 15.4	-0.3
FSB	Fort Saint Jam	8.24	177	⇑Pn	Pn	04 14 18.0	+0.5
FSB				⇑Sg	Sg	04 16 32.8	-10
ILAR	Eielson Array	9.86	292	Pn	Pn	04 14 39.8	+0.3
	0.1nm,0.3s,baz=97,slow=11,SNR=12						
ILAR				Lg	Lg	04 17 28.3	
	0.1nm,0.3s,baz=93,slow=26,SNR=7.0						
NEW	Newport	15.13	159	Pn	P	04 15 55.0	-1.8
	0.1nm,0.3s,baz=345,slow=13,SNR=1.7						
RES	Resolute Bay	16.00	29	Pn	P	04 16 01.2	-1.4
	0.6nm,0.3s,baz=232,slow=9.8,SNR=6.2						
RES				Sn	Sn	04 18 51.2	-8.5
	0.7nm,0.3s,baz=227,slow=10,SNR=5.0						
RES				Lg	Lg	04 20 39.1	
	0.4nm,0.3s,baz=322,slow=19,SNR=3.3						
ULM	Lac du Bonnet	20.17	115	P	Pn	04 16 56.7	+2.6
	1.2nm,0.5s,baz=320,slow=14,SNR=2.9						
PDAR	Pinedale Array	21.95	148	P	P	04 17 14.8	+3.0
	0.6nm,0.8s,baz=350,slow=7.5,SNR=4.3						
NVAR	Mina Array Bea	24.64	167	P	P	04 17 43.3	+4.6
	0.6nm,0.5s,baz=341,slow=7.3,SNR=4.9						
FRB	Frobisher Bay	24.81	62	P	P	04 17 41.5	+1.8
	0.6nm,0.5s,baz=289,slow=8.1,SNR=3.2						
TXAR	Lajitas Array	36.16	147	P	P	04 19 23.8	+3.5
	0.2nm,0.6s,baz=345,slow=10,SNR=3.5						
FINES	FINESS Array B	54.28	17	P	P	04 21 44.9	+1.4
	2.6nm,0.8s,baz=324,slow=6.9,SNR=3.7						
ZALV	Zalesovo Beam	61.36	340	P	P	04 22 35.6	+2.3
	0.4nm,0.3s,baz=15,slow=6.1,SNR=2.3						
MKAR	Makanchi Array	68.70	340	P	P	04 23 22.9	+1.8
	0.1nm,0.5s,baz=20,slow=5.5,SNR=3.0						
TORD	Torodi Ar. Bea	93.94	51	P	P	04 25 37.9	+2.1
	0.2nm,0.7s,baz=319,slow=5.7,SNR=2.6						

MAN 24 04:25:21,13.31N×120.17E,h33km,mb4.2,ML3.0,MS2.8, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
LUBP	Lubang	0.43	10	eP	Pn	04 25 32.5	+1.6
LUBP				eS	Sn	04 25 39.3	+1.8
PGP	Puerto Galera	0.78	76	⇓eP	Pb	04 25 36.8	+0.5
PGP				iS	Sb	04 25 47.3	+0.6
SJMP	San Jose	1.25	132	eP	Pn	04 25 42.7	+0.5
BUSP	Coron	1.30	179	eP	Pn	04 25 43.4	+0.5

MEX 24 04:34:33.3±0.5,17.95N×101.90W,h9km±6km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
ZIIG	Zihuatanejo	0.54	130	eP	Pg	04 34 42.9	-0.9
ZIIG				eS	Sg	04 34 50.6	-0.3
MMIG	Aquila	1.41	284	eP	Pn	04 34 56.2	-3.0
MMIG				iS	Sn	04 35 12.6	-5.4
ARIG	Puente Sto Nin	1.51	77	eP	Pn	04 34 56.7	-3.9
ARIG				eS	Sn	04 35 15.8	-4.7
CAIG	El Cayaco	1.80	120	eP	Pn	04 35 01.5	-3.1
CAIG				iS	Sn	04 35 22.9	-4.6
MOIG	Morelia	1.84	21	eP	Pn	04 35 02.4	-3.1
MOIG				eS	Sn	04 35 23.7	-5.5
PLIG	Platanillo	2.32	79	eP	Pn	04 35 08.9	-3.0
PLIG				iS	Sn	04 35 35.5	-5.1

ISCJB 24 04:36:37.6±0.3,37.55N±0.03×72.29E±0.06,h176km, mb3.6/12,Error ellipse: s-maj=6.7km s-min=3.1km az=161.5

IDC 24 04:36:37.8±3.1,37.49N×72.45E,h174km±25km,mb3.3/11, mb1 3.5/15,mb1mx3.3/54,mbtmp3.9/15,Error ellipse: s-maj=24.0km s-min=16.5km az=1.0

NNC 24 04:36:47.8±2.6,38.33N×72.31E,h214km±22km,mb3.0, mpv4.0,Error ellipse: s-maj=24.4km s-min=14.8km az=14.0

ISC 24 04:36:38.1±0.5,37.62N±0.05×72.52E±0.07,h176km,n60, σ1§68/66,mb3.5/12,7C-9D,Tajikistan

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
CEP	Cherat	3.82	188	⇓P	Pn	04 37 37.7	+0.8
CEP				S	Sn	04 38 22.0	+1.4
CHCP	Chirah Chowk	4.00	171	⇓P	Pn	04 37 41.3	+2.2
AML	Almayashu	4.60	11	P	Pn	04 37 48.9	+1.8
	SNR=144						
UCH	Uchtor	4.86	18	P	Pn	04 37 52.4	+2.0
	SNR=56						
KZA	Kyzart	4.93	24	P	Pn	04 37 53.0	+1.7
	SNR=15						
EKS2	Erkin-Say	5.13	10	P	Pn	04 37 55.8	+2.1
	SNR=17						
AAK	Ala-Archa	5.24	16	⇓P	Pn	04 37 57.6	+2.5
	22nm,0.4s						
AAK				⇓S	Sn	04 38 53.6	-2.1
	42nm,0.8s						
AAK	Ala-Archa	5.24	16	P	Pn	04 37 57.7	+2.6
	SNR=44						
AAK	Ala-Archa	5.24	16	P	Pn	04 37 57.6	+2.5
	16nm,0.3s,baz=169,slow=6.2,SNR=166						
AAK				S	Sn	04 38 57.4	+1.8

7.6nm,0.3s,baz=323,slow=22,SNR=19
KBK Karagaybulak 5.37 20 P Pn 04 38 00.4 +3.6
SNR=12
ULHL Ulahol 5.44 31 P Pn 04 38 00.0 +2.2
SNR=5.5
CHMS Chumysh 5.64 17 P Pn 04 38 02.5 +2.2
SNR=11
SARP Sargodha 5.68 179 P Pn 04 38 00.5 -0.4
KK31 Karatay Array 5.69 345 ⇑P Pn 04 38 01.7 +0.8
12nm,0.4s,baz=159,slow=11,SNR=171
KK31 ⇓S Sn 04 39 02.0 -4.1
43nm,0.3s,baz=170,slow=21,SNR=32
DLH Dalhousie 5.80 150 eP Pn 04 38 04.0 +1.4
DLH eS Sn 04 39 07.0 -2.0
TKM2 Tokmak 2 5.80 23 ⇓P Pn 04 38 04.4 +1.9
4.7nm,0.5s
TKM2 ⇓S Sn 04 39 06.8 -2.1
9.9nm,1.1s
TKM2 Tokmak 2 5.80 23 P Pn 04 38 04.6 +2.1
SNR=17
USP Ospenovka 5.84 14 P Pn 04 38 04.4 +1.5
SNR=14
DHRM DHARAMSHALA 6.19 149 eP Pn 04 38 09.2 +1.4
DHRM eS Sn 04 39 16.4 -1.9
DHRM AML AML 04 39 19.7
comp=E,709nm,0.4s
DHRM AML AML 04 39 21.5
comp=N,745nm,0.3s
SMLA Simla 7.53 148 eP Pn 04 38 25.7 +0.6
SMLA eS Sn 04 39 45.0 -4.7
SMLA AML AML 04 39 47.7
comp=E,416nm,0.4s
SMLA AML AML 04 39 50.2
comp=N,374nm,0.6s
DDI Dehra Dun 8.61 146 ex Sn 04 40 12.9 -2.7
DDI AML AML 04 40 14.4
comp=E,208nm,0.4s
DDI AML AML 04 40 14.8
comp=N,181nm,0.3s
NDI New Delhi 9.74 155 eS Sn 04 40 30.0 -13
MK31 Makanchi Array 11.68 35 ⇑P Pn 04 39 22.1 +2.7
comp=N,0.8nm,0.8s,baz=206,slow=9.0,SNR=6.6
MKAR Makanchi Array 11.68 35 P P 04 39 22.8 -2.7
comp=N,0.1nm,0.3s,baz=216,slow=13,SNR=5.3
PYUN Piuthan 12.94 134 eP Pn 04 39 35.6 -0.2
comp=N,90nm,0.4s
DANN Dangsing 13.20 131 eP Pn 04 39 39.9 +0.7
comp=N,36nm,0.3s
KOLN Koldanda 13.54 133 eP Pn 04 39 44.0 +0.7
comp=N,12nm,0.3s
KURBB Kurchatov Arra 13.70 16 ⇑P P 04 39 47.7 -0.1
comp=N,4.3nm,0.6s
KURK Kurchatov 13.80 16 ⇑P P 04 39 48.3 -0.6
comp=N,2.3nm,0.9s
GKN Gorkha 13.98 130 eP Pn 04 39 49.7 +0.8
comp=N,130nm,0.5s
KKN Kakani 14.53 129 eP P 04 39 57.0 -0.5
comp=N,9.5nm,0.2s
DMN Daman 14.55 130 eP P 04 39 58.1 +0.3
comp=N,16nm,0.3s
PKIN Phulchoki 14.75 129 eP P 04 40 00.2 +0.1
comp=N,22nm,0.3s
PKI Pulchoki 14.76 129 eP P 04 39 59.5 -0.8
comp=N,24nm,0.4s
AB31 Akbulak array 14.77 326 ⇓P Pn 04 39 57.5 -0.7
comp=N,4.5nm,0.5s,baz=141,slow=12,SNR=92
AB31 S Sn 04 42 30.4 -12
comp=N,6.2nm,0.5s,baz=140,slow=25,SNR=19
GUN Gumba 14.82 127 eP P 04 40 01.0 +0.1
comp=N,42nm,0.4s
BHPL Bhopal 14.94 162 eS Sn 04 42 33.6 -14
VOSK Vostochnaya 15.15 356 ⇑P Pn 04 40 03.2 +0.3
comp=N,3.5nm,1.2s
JIRN Jiri 15.19 127 eP P 04 40 05.8 +0.8
comp=N,48nm,0.4s
BVA0 Borovoye Array 15.48 355 P Pn 04 40 07.3 +0.4
comp=N,2.9nm,0.9s,baz=159,slow=11,SNR=11
BVA0 ⇑S Sn 04 42 49.8 -10
comp=N,3.0nm,0.9s,baz=162,slow=22,SNR=4.0
BVAR Borovoye Array 15.48 355 P Pn 04 40 06.8 -0.2
comp=N,0.3nm,0.3s,baz=166,slow=11,SNR=11
BVAR S Sn 04 42 56.9 -2.8
comp=N,0.2nm,0.3s,baz=164,slow=23,SNR=5.3
RAMN Ramite 15.95 128 eP P 04 40 15.9 +2.6
comp=N,42nm,0.5s
TAPN Taplejung 16.39 124 eP Pn 04 40 20.6 +2.1
comp=N,10nm,0.3s
AKTO Aktyubinsk 16.48 326 ⇓P P 04 40 18.6 -0.1
comp=N,6.6nm,0.5s
AKTO ⇑S S 04 43 12.6 -8.5
comp=N,5.5nm,0.6s
AKTO Aktyubinsk 16.48 326 P P 04 40 18.9 +0.2
comp=N,2.3nm,0.3s,baz=122,slow=10,SNR=39
AKTO S S 04 43 14.3 -6.7
comp=N,0.8nm,0.3s,baz=166,slow=22,SNR=9.8
ODAN Odare 16.51 126 eP Pn 04 40 21.9 +1.9
comp=N,12nm,0.4s
ZALV Zalesovo Beam 18.41 24 P P 04 40 41.4 -0.5
comp=N,1.4nm,0.3s,baz=211,slow=8.8,SNR=26
KBZ Khabaz 23.20 295 P P 04 41 29.6 +0.4
comp=N,1.5nm,0.7s,baz=154,slow=5.0,SNR=4.5
BRTR Keskin Array B 30.27 286 P P 04 42 33.3 +0.7
comp=N,0.4nm,0.6s,baz=106,slow=6.6,SNR=4.3
AKASG Malin Array Be 33.21 307 P P 04 42 58.8 +0.8
comp=N,0.7nm,0.6s,baz=108,slow=9.2,SNR=4.3
JOF Joensuu 35.53 329 ep P 04 43 18.4 +0.7
comp=N,1.6nm,0.4s
FINES FINESS Array B 37.25 325 P P 04 43 32.9 +0.6
comp=N,0.8nm,0.4s,baz=122,slow=11,SNR=12
ARCES ARCESS Array B 40.59 337 P P 04 44 01.1 +1.1
comp=N,3.0nm,0.5s,baz=116,slow=8.8,SNR=26
HFS Hagfors 42.95 321 P P 04 44 19.5 +0.3
comp=N,2.4nm,0.5s,baz=98,slow=11,SNR=25
NB2 NORSAR Subarra 44.23 322 P P 04 44 29.2 -0.3
comp=Z,1.0nm,0.5s,baz=92,slow=7.9
NOA NORSAR Array B 44.23 322 P P 04 44 29.6 +0.1
comp=Z,0.4nm,0.5s,baz=105,slow=6.9,SNR=7.6
TORD Torodi Ar. Bea 66.95 269 P P 04 47 10.7 -1.2
comp=Z,0.3nm,0.4s,baz=46,slow=5.6,SNR=19
ILAR Eielson Array 73.37 16 P P 04 47 50.5 +0.3
comp=Z,0.2nm,0.5s,baz=326,slow=6.8,SNR=3.5
YKA Yellowknife Ar 80.07 3 P P 04 48 28.5 +0.9
comp=Z,0.4nm,0.4s,baz=350,slow=5.4,SNR=12
WRA Warramunga Arr 81.57 123 P P 04 48 36.1 -0.1
comp=Z,0.2nm,0.3s,baz=327,slow=4.8,SNR=3.2

MAN 24 04:41:50,7°.89N×127°.27E, h36km, mb4.5, ML3.4, MS3.3, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.94	288	⇑iP	Pn	04 42 05.1	-1.6
BIPH				iS	Sn	04 42 14.9	-4.1
MATI	Mati	1.37	227	eP	Pn	04 42 14.2	+1.6
MATI				eS	Sn	04 42 30.4	+0.9
BUTP	Butuan	1.95	304	eP	Pn	04 42 21.5	+0.9
BUTP				eS	Sn	04 42 46.1	+2.2
BUKP	Musuan	2.18	270	eP	Pn	04 42 26.0	+2.1
BUKP				eS	Sn	04 42 51.5	+1.8
SCPH	Surigao	2.58	317	⇓eP	Pn	04 42 30.1	+0.9
CGP	Cagayan de Oro	2.61	283	⇓iP	Pn	04 42 30.9	+1.3
CGP				iS	Sn	04 43 04.3	+4.3
PAGZ	Pagadian	3.85	270	eP	Pn	04 42 49.5	+2.8

IDC 24 04:43:57.8±1.5, 25°.74N×65°.12E, h0km, mb3.7/14, mb1 3.8/15, mb1mx3.6/56, mbtmp3.7/15, ML3.7/1, Error ellipse: s-maj=32.4km s-min=20.0km az=5.0
ISCJB 24 04:44:01.1±1.1, 25°.8N±0°.2×65°.2E±0°.1, h33km, mb3.7/14, Error ellipse: s-maj=22.1km s-min=14.3km az=171.1
ISC 24 04:44:03.3±1.3, 25°.8N±0°.2×65°.2E±0°.1, h35km, n19, σ0§81/16, mb3.7/14, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	9.91	35	P	Pn	04 46 23.1	-0.3
AAK	Ala-Archa	18.46	22	P	Pn	04 48 16.0	-0.4
	0.3nm,0.3s,baz=206,slow=4.2,SNR=6.8						
MKAR	Makanchi Array	24.99	29	P	P	04 49 24.6	+0.9
	4.0nm,0.5s,baz=211,slow=9.3,SNR=56						
AKTO	Aktyubinsk	25.20	349	P	P	04 49 26.5	+1.0
	0.9nm,0.7s,baz=127,slow=2.4,SNR=3.5						
KBZ	Khabaz	25.45	320	P	P	04 49 28.8	+1.0
	2.8nm,0.9s,baz=143,slow=10,SNR=3.0						
BVAR	Borovoye Array	27.47	7	P	P	04 49 45.5	-0.5
	1.5nm,1.0s,baz=181,slow=5.8,SNR=3.6						
ZALV	Zalesovo Beam	31.69	22	P	P	04 50 24.2	+0.9
	0.6nm,0.5s,baz=214,slow=10,SNR=3.6						
CMAR	Chiang Mai Arr	32.07	96	P	P	04 50 27.6	+0.5
	0.5nm,0.3s,baz=285,slow=8.3,SNR=4.7						
H08N2	Diego Garcia H	32.43	169	T	T	05 23 54.5	
	baz=350,slow=75,SNR=14						
H08N3	Diego Garcia H	32.45	169	T	T	05 23 55.9	
	baz=350,slow=75,SNR=15						
H08N1	Diego Garcia H	32.45	169	T	T	05 23 56.0	
	baz=350,slow=75,SNR=14						
AKASG	Malin Array Be	37.04	322	P	P	04 51 09.8	+0.2
	0.1nm,0.3s,baz=98,slow=8.9,SNR=2.7						
SONM	Songino Array	39.05	45	P	P	04 51 26.0	-0.9
	0.1nm,0.4s,baz=232,slow=7.1,SNR=2.6						
FINES	FINESS Array B	44.29	334	P	P	04 52 09.5	+0.2
	0.8nm,0.7s,baz=119,slow=11,SNR=2.8						
HFS	Hagfors	49.02	329	P	P	04 52 45.5	-0.9
	1.7nm,0.8s,baz=134,slow=6.2,SNR=3.3						
ARCES	ARCESS Array B	49.51	343	P	P	04 52 48.6	-1.4
	3.6nm,0.9s,baz=130,slow=6.3,SNR=4.5						
NOA	NORSAR Array B	50.48	329	P	P	04 52 57.8	+0.2
	0.5nm,0.7s,baz=106,slow=7.3,SNR=2.5						
TORD	Torodi Ar. Bea	60.65	271	P	P	04 54 10.6	-0.7
	0.5nm,0.9s,baz=66,slow=4.6,SNR=4.4						
YKA	Yellowknife Ar	92.02	360	P	P	04 57 08.3	+0.1
	0.1nm,0.5s,baz=351,slow=4.0,SNR=5.6						

THR 24 04:51:44.5±0.4, 34°.53N×52°.09E, h14km±4km, ML3.5
IDC 24 04:51:44.5±1.9, 33°.96N×52°.39E, h0km, mb3.2/3, mb1 3.4/5, mb1mx3.1/41, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=42.6km s-min=20.4km az=153.0
ISCJB 24 04:51:45.1±0.4, 34°.56N±0°.03×52°.05E±0°.04, h10km, mb3.2/3, Error ellipse: s-maj=5.5km s-min=4.2km az=24.9
CSEM 24 04:51:45.0±0.3, 34°.54N×52°.05E, h10km, ML3.9, Error ellipse: s-maj=7.9km s-min=6.1km az=99.0
TEH 24 04:51:46.0, 34°.53N×52°.03E, h9km, ML3.9
ISC 24 04:51:46.2±0.7, 34°.56N±0°.03×52°.10E±0°.03, h10km, n56, σ1§10/54, mb3.3/3, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVRN	Varamin	0.53	325	ePg	Pg	04 51 56.0	-0.6
IVRN				e		04 52 11.3	
	comp=Z,35µm,0.1s						
IVRN	Varamin	0.53	325	ePg	Pg	04 51 56.0	-0.6
GHVR	GHOM	0.67	263	ePg	Pg	04 51 58.2	-0.9
	comp=Z,4µm,0.2s						
GHVR	GHOM	0.67	263	ePg	Pg	04 51 58.2	-0.9
GHVR				AML	AML	04 52 16.8	
	comp=N,3µm,0.8s						
GHVR				AML	AML	04 52 27.8	
	comp=E,4µm,0.2s						
IDMV	Damavand	1.02	357	eSg	Sb	04 52 19.5	-0.2
IDMV				ePg	Pg	04 52 04.2	-1.6
IDMV				e		04 52 38.0	
	comp=Z,9µm,0.3s						
DAMV	Damavand	1.07	355	ePg	Pg	04 52 05.4	-1.6
DAMV	Damavand	1.07	355	ePg	Pg	04 52 05.4	-1.6
ILAS	Lasjerd	1.09	41	eSg	Sb	04 52 22.4	+0.8
ILAS				ePg	Pb	04 52 06.0	-1.3
ILAS				e		04 52 27.6	
	comp=Z,26µm,0.1s						
ILAS	Lasjerd	1.09	41	ePg	Pb	04 52 06.0	-1.3
ILAS				eSg	Sb	04 52 22.4	+0.8
IFIR	Firoozkooh	1.21	26	e		04 52 31.0	
	comp=Z,20µm,0.1s						
IFIR				ePg	Pn	04 52 07.0	-2.5
IKLH	Kolahrood	1.31	199	e		04 52 26.7	
	comp=Z,46µm,0.1s						
IKLH				ePg	Pn	04 52 08.5	-2.3
CHTH	Charan	1.56	330	ePg	Pn	04 52 13.5	-0.8
CHTH	Charan	1.56	330	ePg	Pn	04 52 13.5	-0.8
IMHD	Mahdasht	1.62	314	ePn	Pn	04 52 14.4	-0.6
IMHD				e		04 52 47.8	
	comp=Z,11µm,0.1s						
IMHD	Mahdasht	1.62	314	ePn	Pn	04 52 14.4	-0.6
IALA	Alasht	1.63	21	ePn	Pn	04 52 15.6	+0.3
IALA				e		04 52 42.1	
	comp=Z,18µm,0.1s						
IALA	Alasht	1.63	21	ePn	Pn	04 52 15.6	+0.3
IZEF	Zefreh	1.67	173	ePn	Pn	04 52 15.1	-0.7
IZEF				e		04 52 40.0	
	comp=Z,24µm,0.1s						
IZEF	Zefreh	1.67	173	ePn	Pn	04 52 15.1	-0.7
IPRN	Peran	1.69	7	ePn	Pb	04 52 16.5	-1.1
IPRN				e		04 52 43.9	
	comp=Z,11µm,0.2s						
IPRN	Peran	1.69	7	ePn	Pb	04 52 16.5	-1.1
ASAO	Ashtian	1.71	270	ePg	Pn	04 52 15.9	-0.4
ASAO	Ashtian	1.71	270	ePg	Pn	04 52 15.9	-0.4
IANJ	Anjilo	1.75	58	ePn	Pn	04 52 16.5	-0.4
IANJ				e		04 52 41.4	
	comp=Z,34µm,0.1s						
IANJ	Anjilo	1.75	58	ePn	Pn	04 52 16.5	-0.4
NASN	Na'in	1.85	161	ePg	Pn	04 52 18.1	-0.3
NASN	Na'in	1.85	161	ePg	Pn	04 52 18.1	-0.3
KHMZ	Khomeyn	1.95	246	ePg	Pn	04 52 19.9	+0.2
KHMZ	Khomeyn	1.95	246	ePg	Pn	04 52 19.9	+0.2
IRAZ	Razeghan	1.97	296	ePn	Pn	04 52 18.9	-1.0
IRAZ				e		04 53 04.3	
	comp=Z,8µm,0.2s						
IRAZ	Razeghan	1.97	296	ePn	Pn	04 52 18.9	-1.0
IKIA	Kiasar	2.10	38	ePn	Pn	04 52 21.7	0.0
IKIA				e		04 52 54.7	
	comp=Z,5µm,0.2s						
IKIA	Kiasar	2.10	38	ePn	Pn	04 52 21.7	0.0
IPIR	Pirpir	2.12	209	ePn	Pn	04 52 21.5	-0.5
IPIR				e		04 52 52.5	
	comp=Z,6µm,0.1s						
IPIR	Pirpir	2.12	209	ePn	Pn	04 52 21.5	-0.5
IGAR	Gharneh	2.15	181	ePn	Pb	04 52 24.3	-1.1
IGLO	Ghaloghah	2.40	36	ePn	Pn	04 52 27.4	+1.6
IGLO				e		04 53 08.0	
	comp=Z,12µm,0.2s						
ISAD	Sadrabad	2.96	153	e	Sg	04 53 19.5	-1.8
	comp=Z,9µm,0.2s						
ICHK	Chekchek	3.01	139	ePn	Pn	04 52 33.8	-0.4
ICHK				e		04 53 26.5	
	comp=Z,5µm,0.1s						
ICHK	Chekchek	3.01	139	ePn	Pn	04 52 33.8	-0.4
ZNJK	Zanjan	3.49	308	ePn	Pn	04 52 40.8	0.0
	comp=Z,52nm,0.5s						
ZNJK	Zanjan	3.49	308	ePn	Pn	04 52 40.9	0.0
ZNJK				AML	AML	04 53 43.9	
	comp=N,52nm,0.5s						
IBZA	Bozab	3.50	270	e	Sg	04 53 52.1	+13
	comp=Z,2µm,0.3s						
IMEH	Mehriz	3.80	145	e	Sg	04 53 50.5	+2.1
	comp=Z,2µm,0.2s						
IKOM	Komasi	3.81	266	e	Sg	04 53 59.0	+10
	comp=Z,2µm,0.3s						
SNGE	Sanandaj	3.94	279	ePn	Pn	04 52 47.0	0.0
SNGE	Sanandaj	3.94	279	ePn	Pn	04 52 47.0	0.0
IBAF	Bafgh	4.15	134	ePn	Pn	04 52 49.9	0.0
IBAF				e		04 54 10.2	
	comp=Z,2µm,0.3s						
IBAF	Bafgh	4.15	134	ePn	Pn	04 52 49.9	0.0
IDHR	Dehrash	4.71	273	e	Pg	04 53 19.8	+3.4
	comp=Z,646nm,0.3s						
IHRS	Heris	5.54	314	e	Sg	04 54 50.0	+5.9
	comp=Z,218nm,0.3s						
GEYT	Alibeck	5.92	54	Pn	Pn	04 53 14.2	+0.3
	comp=Z,2.0nm,0.3s,baz=242,slow=18,SNR=4.9						
GEYT				Lg	Lg	04 54 59.2	
	comp=Z,0.5nm,0.3s,baz=232,slow=31,SNR=5.5						
BRTR	Keskin Array B	15.59	295	Pn	P	04 55 34.2	+3.8
	comp=Z,0.1nm,0.3s,baz=112,slow=11,SNR=6.5						
BVAR	Borovoye Array	22.58	30	P	P	04 56 52.4	+5.8
	comp=Z,0.4nm,0.7s,baz=219,slow=9.6,SNR=3.2						
MKAR	Makanchi Array	25.79	53	P	P	04 57 17.6	+0.3
	comp=Z,0.4nm,0.6s,baz=247,slow=10,SNR=5.6						
TORD	Torodi Ar. Bea	50.20	258	P	P	05 00 43.2	+0.7
	comp=Z,0.3nm,0.8s,baz=54,slow=7.3,SNR=4.3						

IDC 24 04:55:47.3±2.4, 4°.63S×153°.34E, h33km±16km, mb4.5/24, mb1 4.5/26, mb1mx4.4/39, mbtmp4.6/26, ML3.7/2, MS3.6/16, Ms1 3.6/16, ms1mx3.5/28, Error ellipse: s-maj=20.1km s-min=12.0km az=84.0
MOS 24 04:55:48.2±1.1, 4°.42S×153°.05E, h40km, mb5.2/19, Error ellipse: s-maj=11.7km s-min=7.6km az=100.5
NEIC 24 04:55:48.5±1.0, 4°.62S×153°.27E, h42km±8km, mb4.9/31, Error ellipse: s-maj=9.1km s-min=5.3km az=95.0
ISCJB 24 04:55:49.3±1.1, 4°.63S±0°.04×153°.22E±0°.05, h65km±10km, mb4.7/67, Error ellipse: s-maj=9.5km s-min=6.6km az=25.8
BJI 24 04:55:51.7, 4°.37S×153°.36E, h83km, mB4.9/31, mb4.8/48, Ms4.9/15, Ms7 4.7/9
ISC 24 04:55:52.1±0.6, 4°.64S±0°.04×153°.17E±0°.06, h74km±4km, n306, σ1§37/338, mb4.8/66, 54C-6D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.10	294	S	Pn	04 56 10.4	-1.6
	baz=0.3,SNR=296						
PMG	Port Moresby	7.61	231	ceP	Pn	04 57 41.1	+0.7
PMG				pmax	pmax		
	comp=Z,105nm,0.8s						
PMG	Port Moresby	7.61	231	Pn	Pn	04 57 39.0	-1.4
	comp=Z,4.7nm,0.3s,baz=43,slow=15,SNR=7.4						
PMG				Sn	Sn	04 59 01.8	-3.4
	comp=Z,8.5nm,0.3s,baz=323,slow=20,SNR=6.4						
PMG				LR	LR	05 01 14.5	
	comp=Z,439nm,18.1s,baz=28,slow=42						
PMG	Port Moresby	7.61	231	ePn	Pn	04 57 38.8	-1.6
PMG				eS	Sn	04 58 52.0	-13
PMG	Port Moresby	7.61	231	P	Pn	04 57 41.3	+0.9
	baz=7.5,SNR=3.6						
PMG				S	Sn	04 59 02.9	-2.4
	baz=7.5,SNR=8.1						
PATS	Pohnpei	12.50	24	P	Pn	04 58 45.1	-2.1
	baz=12,SNR=12						
COEN	Coen	13.52	226	ePn	Pn	04 58 59.3	-1.5
COEN	Coen	13.52	226	P	P	04 59 08.0	+0.7
	baz=14,SNR=4.8						
CTA	Charters Tower	16.77	203	Pn	Pn	04 59 42.2	-0.1
	comp=Z,0.3nm,0.3s,baz=22,slow=16,SNR=2.8						
CTA				LR	LR	05 05 03.7	
	comp=Z,359nm,21.2s,baz=83,slow=33						
CTAO	Charters Tower	16.77	203	eP	Pn	04 59 42.2	-0.1
CTAO				pmax	pmax		
	comp=Z,33nm,1.4s						
CTAO	Charters Tower	16.77	203	ePn	Pn	04 59 42.2	-0.1
	comp=Z,33nm,1.4s						
GUMO	Guam	19.90	336	eP	P	05 00 17.8	+0.1
GUMO				pmax	pmax		
	comp=Z,383nm,1.0s						
GUMO	Guam	19.90	336	eP	P	05 00 17.8	+0.1
	comp=Z,383nm,1.0s						
QIS	Mount Isa	20.60	219	P	Pn	05 00 28.1	-0.2
	baz=21,SNR=10						
EIDS	Eidsvold	20.71	185	eP	P	05 00 26.2	-0.3
	comp=Z,18nm,1.0s						
NOUC	Port Laguerre	21.52	145	eP	P	05 00 34.7	-0.5
DZM	Mont Dzumac	21.58	145	P	P	05 00 34.4	-1.5
	comp=Z,59nm,1.0s,baz=329,slow=17,SNR=21						
DZM				LR	LR	05 08 13.9	
	comp=Z,473nm,20.9s,baz=278,slow=35						
DZM	Mont Dzumac	21.58	145	eP	P	05 00 34.2	-1.7
	comp=Z,87nm,1.1s						
KDU	Kakadu	21.95	247	P	P	05 00 38.8	-1.0
	baz=22,SNR=37						
KDU				S	S	05 04 38.4	+0.2
	baz=22,SNR=6.0						
MTN	Manton Dam	23.24	248	P	P	05 00 52.1	-1.1
	baz=23,SNR=12						
QLP	Quilpie	23.43	200	P	P	05 00 54.1	-0.8
	baz=24,SNR=6.0						
WRAB	Tennant Creek	23.81	229	eP	P	05 00 57.0	-1.4
WRAB				pmax	pmax		
	comp=Z,32nm,0.9s						
WRAB	Tennant Creek	23.81	229	eP	P	05 00 57.0	-1.4
	comp=Z,32nm,0.9s						
WRA	Warramunga Arr	23.82	229	P	P	05 00 57.8	-0.7
	comp=Z,7.2nm,0.5s,baz=51,slow=10.0,SNR=24						
WRA				PcP	PcP	05 04 41.0	+0.8
	comp=Z,2.6nm,0.8s,baz=54,slow=2.9,SNR=5.1						
WRA				S	S	05 05 13.1	+4.0
	comp=Z,2.1nm,1.0s,baz=51,slow=14,SNR=4.2						
WRA				ScP	ScP	05 08 16.8	+4.6
	comp=Z,1.8nm,0.9s,baz=52,slow=2.9,SNR=5.9						
WRA				LR	LR	05 09 44.5	
	comp=Z,229nm,21.4s,baz=65,slow=35						
KNRA	Kununurra	26.37	244	P	P	05 01 22.2	+0.6
	baz=26,SNR=34						
AS31	Alice Springs	26.51	223	eP	P	05 01 22.5	-0.4
H11S3	WAKE ISLAND Hy	26.57	30	T	T	05 29 10.8	
	baz=210,slow=76,SNR=16						
H11S2	WAKE ISLAND Hy	26.58	30	T	T	05 29 10.8	
	baz=210,slow=76,SNR=11						
H11S1	WAKE ISLAND Hy	26.59	30	T	T	05 29 12.1	
	baz=210,slow=76,SNR=10						
H11N1	WAKE ISLAND Hy	27.71	29	T	T	05 30 51.6	
	baz=202,slow=76						
H11N3	WAKE ISLAND Hy	27.72	29	T	T	05 30 50.1	
	baz=202,slow=76						
H11N2	WAKE ISLAND Hy	27.73	29	T	T	05 30 52.1	
	baz=202,slow=76						
STKA	Stephens Creek	29.19	200	eP	P	05 01 46.1	-0.6
STKA				e*PP	pP	05 01 55.1	-9.0
STKA						05 04 53.3	
STKA						05 08 32.5	
STKA	Stephens Creek	29.19	200	P	P	05 01 45.7	-0.9
	comp=Z,1.6nm,0.9s,baz=41,slow=9.3,SNR=3.0						
STKA				PcP	PcP	05 04 53.3	+0.8
	comp=Z,4.1nm,0.8s,baz=342,slow=1.8,SNR=3.5						
STKA				ScP	ScP	05 08 32.5	+4.7
	comp=Z,4.7nm,0.9s,baz=27,slow=2.3,SNR=5.6						
STKA				LR	LR	05 13 17.0	
	comp=Z,178nm,21.0s,baz=22,slow=36						
STKA	Stephens Creek	29.19	200	eP	P	05 01 46.1	-0.6
STKA				epP	pP	05 01 55.1	-9.0
STKA				PcP	PcP	05 04 53.3	+0.8
STKA				ScP	ScP	05 08 32.5	+4.7
STKA	Stephens Creek	29.19	200	P	P	05 01 45.4	-1.2
	baz=30,SNR=4.0						
WRKA	Warakurna	31.34	227	P	P	05 02 04.2	-1.5
	baz=31,SNR=24						
FORT	Forrest	35.14	219	eP	P	05 02 38.4	-0.4
	comp=Z,35nm,0.8s						
FORT				epP	pP	05 02 49.3	-7.2
MBWA	Marble Bar	36.37	240	eP	P	05 02 48.2	-1.2
	comp=Z,33nm,1.3s						
JOW	Kunigami	39.48	324	P	P	05 03 17.1	+1.6
	comp=Z,3.9nm,0.7s,baz=143,slow=10,SNR=7.2						
MEEK	Meekatharra	39.59	233	P	P	05 03 15.4	-1.1
	baz=40,SNR=13						
MEEK				S	S	05 09 37.8	+24
	baz=40,SNR=3.6						
GIRL	Giralia	41.66	241	P	P	05 03 36.5	+3.0
	baz=41,SNR=5.1						
YHNB	Yeheng	42.49	315	eP	P	05 03 40.6	+0.2
	comp=Z,36nm,1.0s						
MORW	Morawa	42.73	231	P	P	05 03 45.0	+2.8
	baz=43,SNR=9.2						
BLDU	Ballidu	42.96	229	P	P	05 03 46.2	+2.2
	baz=43,SNR=5.4						
JNU	Nakatsue	43.09	332	P	P	05 03 44.6	-0.5
	comp=Z,24nm,0.8s,baz=60,slow=2.9,SNR=14						
JNU	Nakatsue	43.09	332	eP	P	05 03 44.9	-0.1
	comp=Z,11nm,0.9s						
JNU				e		05 04 01.4	
MJAR	Matsushiro Arr	43.29	342	P	P	05 03 44.2	-2.3
	comp=Z,22nm,1.2s,baz=171,slow=8.8,SNR=7.5						
MJAR				PcP	PcP	05 05 34.6	+0.2
	comp=Z,6.2nm,0.8s,baz=174,slow=3.9,SNR=9.8						
MJAR				LR	LR	05 19 56.3	
	comp=Z,85nm,21.9s,baz=175,slow=34						
CISI	Cisompet, Garu	45.17	264	eP	P	05 03 59.3	-2.7
	comp=Z,45nm,0.6s						
KSRS	Korea Array	48.02	333	P	P	05 04 23.6	-0.2
	comp=Z,5.0nm,0.8s,baz=152,slow=8.1,SNR=15						
KSRS				PcP	PcP	05 05 52.2	+1.3
	comp=Z,1.3nm,0.5s,baz=155,slow=4.0,SNR=3.7						
KSRS				ScP	ScP	05 09 43.4	+4.5
	comp=Z,0.6nm,0.4s,baz=142,slow=4.2,SNR=3.7						
KSRS				LR	LR	05 23 11.8	
	comp=Z,26nm,18.7s,baz=140,slow=34						
KSAR	Wonju Array Be	48.03	333	P	P	05 04 23.7	-0.2
KSAR						05 05 52.2	
KSAR	Wonju Array Be	48.03	333	P	P	05 04 23.6	-0.2
KSAR				PcP	PcP	05 05 52.2	+1.3
KSAR				ScP	ScP	05 09 43.4	+4.5
QIZ	Qiongzhong	48.70	300	P	P	05 04 28.8	-0.6
QIZ				sP	sP	05 05 00.5	+4.1
QIZ				S	S	05 11 24.8	-2.0
QIZ				sS	sS	05 12 00.4	+2.0
QIZ				pmax	pmax		

comp=Z,12nm,1.1s
QIZ pmax pmax
comp=Z,36nm,3.2s
ASAJ Asahikawa 49.46 350 P P 05 04 35.0 +0.3
comp=Z,11nm,0.7s,baz=250,slow=12,SNR=8.1
USRK Ussuriysk Arra 52.22 341 P P 05 04 56.1 +0.7
comp=Z,9.0nm,0.8s,baz=170,slow=8.2,SNR=19
USRK LR LR 05 27 18.4
comp=Z,36nm,18.6s,baz=171,slow=36
CN2 Changchun 54.30 335 eP P 05 05 11.0 +0.2
CN2 epP pP 05 05 34.6 +5.0
CN2 PcP PcP 05 06 14.3 +0.3
CN2 eS S 05 12 40.1 -3.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
GYA Guiyang 54.59 307 eP P 05 05 15.0 +1.6
GYA pP pP 05 05 38.3 +6.1
GYA sP sP 05 05 48.6 +8.0
GYA PP PP 05 07 19.4 +2.8
GYA S S 05 12 45.8 -2.0
GYA sS sS 05 13 25.0 +5.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.4s
BJI Beijing 55.96 326 P P 05 05 23.8 +1.0
BJI pmax pmax
comp=Z,6.0nm,0.6s
XAN Xi'an 56.76 316 P P 05 05 29.8 +1.1
XAN pmax pmax
comp=Z,2.0nm,1.0s
XAN pmax pmax
comp=Z,21nm,6.3s
KLR Kul'dur 56.80 343 eP P 05 05 24.9 -3.7
KLR pmax pmax
comp=Z,50nm,1.6s
KMI Kunming 57.20 304 P P 05 05 35.5 +3.3
KMI S S 05 13 21.5 -1.2
KMI pmax pmax
comp=Z,9.0nm,1.0s
PPT Papeete 57.42 108 LR LR 05 25 24.6
comp=Z,38nm,21.9s,baz=152,slow=31
PETK Petropavlovsk- 57.66 3 P P 05 05 35.0 +0.4
PETK Petropavlovsk- 57.66 3 P P 05 05 35.0 +0.4
comp=Z,4.2nm,0.5s,baz=160,slow=7.0,SNR=15
PETK LR LR 05 26 39.7
comp=Z,29nm,22.0s,baz=184,slow=32
CMAR Chiang Mai Arr 58.14 295 P P 05 05 39.9 +1.3
comp=Z,3.0nm,0.7s,baz=116,slow=5.7,SNR=20
CMAR LR LR 05 29 07.8
comp=Z,40nm,21.6s,baz=126,slow=34
CD2 Chengdu 58.91 310 eP P 05 05 45.3 +1.5
CD2 pP pP 05 06 08.1 +5.2
CD2 sP sP 05 06 18.3 +7.1
CD2 PcP PcP 05 06 33.1 +0.7
CD2 PP PP 05 07 58.3 +3.4
CD2 PcS PcS 05 10 33.5 -1.0
CD2 S S 05 13 42.6 -1.9
CD2 sS sS 05 14 22.3 +5.3
CD2 SS SS 05 17 39.5 +0.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
CD2 LR LR
comp=Z,220nm,18.6s
HHC Hu-ho-hao-te 59.13 324 eP P 05 05 46.4 +1.2
HHC PP PP 05 08 01.9 +5.2
HHC PcS PcS 05 10 33.6 -1.6
HHC S S 05 13 46.3 -0.8
HHC sS sS 05 14 18.6 -1.0
HHC pmax pmax
comp=Z,24nm,1.1s
HHC pmax pmax
comp=Z,120nm,3.7s
HHC LR LR
comp=Z,230nm,13.7s
HHC LR LR
comp=Z,340nm,14.9s
LZH Lanzhou 61.37 316 eP P 05 06 01.9 +1.2
LZH pP pP 05 06 25.0 +5.1
LZH sP sP 05 06 35.6 +7.4
LZH ePP PP 05 08 20.1 +3.4
LZH eS S 05 14 15.0 -1.1
LZH sS sS 05 14 54.3 +5.5
LZH eSS SS 05 18 17.5 -0.6
LZH pmax pmax
comp=Z,29nm,1.5s
LZH pmax pmax
comp=Z,110nm,7.2s
LZH LR LR
comp=Z,300nm,15.0s
LZH LR LR
comp=Z,410nm,16.0s
LZH LR LR
comp=Z,580nm,18.2s
GTA Gaotai 65.79 317 ⇓P P 05 06 31.3 +1.6
GTA pP pP 05 06 52.5 +3.4
GTA sP sP 05 07 02.4 +5.1
GTA S S 05 15 08.3 -2.5
GTA sS sS 05 15 49.9 +6.1
GTA SS SS 05 19 27.0 +0.1
GTA pmax pmax
comp=Z,11nm,1.3s
GTA pmax pmax
comp=Z,110nm,6.4s
GTA LR LR
comp=Z,70nm,14.0s
GTA LR LR
comp=Z,95nm,16.6s
ULN Ulaanbaatar 66.06 328 eP P 05 06 32.4 +1.1
ULN pmax pmax
comp=Z,13nm,0.8s
ULN Ulaanbaatar 66.06 328 eP P 05 06 32.1 +0.9
SONM Songino Array 66.39 328 P P 05 06 34.4 +1.0
comp=Z,4.5nm,0.5s,baz=138,slow=5.2,SNR=21
SONM LR LR 05 36 32.6
comp=Z,32nm,18.6s,baz=134,slow=37
SEY Seymchan 67.39 360 P P 05 06 39.2 0.0
comp=Z,1.6nm,0.6s,baz=173,slow=8.7,SNR=18
YAK Yakutsk 68.89 348 eP P 05 06 48.8 +0.2
YAK pmax pmax
comp=Z,14nm,0.7s
YAK Yakutsk 68.89 348 eP P 05 06 48.8 +0.2
comp=Z,14nm,0.7s
ZAK Zakamensk 69.55 328 eP P 05 06 53.2 +0.1
ZAK pmax pmax
comp=Z,8.0nm,0.8s
BOD Bodaibo 69.77 339 eP P 05 06 53.0 -1.2
BOD pmax pmax
comp=Z,8.0nm,1.2s
TLY Talaya 70.12 330 eP P 05 06 56.6 +0.1
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY Talaya 70.12 330 P P 05 06 57.1 +0.6
comp=Z,3.2nm,0.7s,baz=117,slow=6.8,SNR=4.0
TLY LR LR 05 35 47.2
comp=Z,27nm,20.5s,baz=154,slow=34
TLY Talaya 70.12 330 eP P 05 06 57.3 +0.8
comp=Z,4.3nm,0.9s
VNDA Vanda 72.98 178 eP P 05 07 13.1 -0.1
VNDA pmax pmax
comp=Z,3.0nm,0.7s
VNDA Vanda 72.98 178 P P 05 07 13.5 +0.3
comp=Z,2.3nm,0.7s,baz=337,slow=6.0,SNR=11
VNDA Vanda 72.98 178 eP P 05 07 13.1 -0.1
comp=Z,2.6nm,0.7s
BILL Bilibino 73.10 5 ⇑iP P 05 07 14.0 0.0
BILL i 05 07 30.9
BILL pmax pmax
comp=Z,12nm,1.0s
BILL Bilibino 73.10 5 eP P 05 07 14.1 0.0
comp=Z,11nm,0.7s
GAMB Gambell 73.13 15 eP P 05 07 14.6 +0.3
comp=Z,6.1nm,1.0s
TNA Tin City 75.54 16 eP P 05 07 27.9 -0.3
comp=Z,3.4nm,0.9s
WMQ Urumqi 75.87 317 P P 05 07 31.3 +0.6
WMQ PcP PcP 05 07 43.8 +0.9
WMQ pP pP 05 07 56.3 +5.7
WMQ sP sP 05 08 07.1 +8.4
WMQ PP PP 05 10 24.5 +2.6
WMQ S S 05 17 03.8 -3.7
WMQ SKS SKSac 05 17 27.4 -7.5
WMQ ScS SKKSac 05 17 33.0 -2.3
WMQ sS sS 05 17 47.5 +6.2
WMQ SS SS 05 22 00.4 -1.0
WMQ pmax pmax
comp=Z,13nm,1.2s
WMQ pmax pmax
comp=Z,150nm,4.8s
WMQ LR LR
comp=Z,48nm,17.6s
WMQ LR LR
comp=Z,88nm,21.0s
HYB Hyderabad 76.79 289 iP P 05 07 35.5 -0.9
TIXI Tiksi 77.79 352 eP P 05 07 40.2 -0.6
TIXI pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 77.79 352 eP P 05 07 38.7 -2.0
comp=Z,14nm,1.5s
PMR Palmer 79.39 24 eP P 05 07 49.4 -0.4
PMR pmax pmax
comp=Z,3.0nm,0.6s
PMR Palmer 79.39 24 eP P 05 07 49.4 -0.4
comp=Z,2.6nm,0.6s
KTH Kantishna Hill 79.73 22 eP P 05 07 50.4 -1.3
comp=Z,8.8nm,1.0s
TRF Thorofare Moun 79.91 22 eP P 05 07 52.8 -0.1
comp=Z,6.7nm,0.9s
IM04 Indian Mountai 80.09 19 eP P 05 07 53.2 -0.4
MK31 Makanchi Array 80.45 319 eP P 05 07 56.3 +0.4
MK31 Makanchi Array 80.45 319 eP P 05 07 56.3 +0.4
MKAR Makanchi Array 80.45 319 P P 05 07 56.6 +0.7
comp=Z,12nm,0.9s,baz=103,slow=6.8,SNR=107
MKAR LR LR 05 43 39.9
comp=Z,28nm,20.1s,baz=98,slow=36
MCK McKinley 80.58 22 eP P 05 07 54.8 -1.4
MCK pmax pmax
comp=Z,16nm,0.9s
MCK McKinley 80.58 22 eP P 05 07 54.8 -1.4
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 81.22 326 P P 05 07 59.1 -0.7
comp=Z,3.5nm,0.5s,baz=107,slow=5.6,SNR=24
COLA College 81.57 22 eP P 05 08 00.5 -0.9
COLA pmax pmax
comp=Z,34nm,1.0s
COLA College 81.57 22 eP P 05 08 00.0 -1.3
comp=Z,20nm,1.4s
ILAR Eielson Array 81.87 22 P P 05 08 01.2 -1.8
comp=Z,3.6nm,0.9s,baz=240,slow=5.5,SNR=40
ILAR LR LR 05 41 58.6
comp=Z,64nm,19.6s,baz=200,slow=34
COLD Coldfoot 81.99 19 eP P 05 08 03.6 +0.1
comp=Z,8.9nm,1.4s
DOT Dot Lake 82.44 24 eP P 05 08 05.6 -0.5
KSH Kashi 83.11 311 eP P 05 08 12.6 +2.4
KSH epP pP 05 08 35.0 +4.7
KSH esP sP 05 08 47.0 +8.6
KSH ePP PP 05 11 28.4 +6.1
KSH eSKS S 05 18 18.0 -6.4
KSH S SKSac 05 18 22.0 -4.0
KSH eSS SS 05 23 55.4 +5.3
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH LR LR
comp=Z,29nm,3.5s
KSH LR LR
comp=Z,51nm,5.4s
KSH LR LR
comp=Z,120nm,5.4s
ULHL Ulahol 83.48 313 P P 05 08 13.1 +0.9
SNR=5.5
ULHL Ulahol 83.48 313 iP P 05 08 13.0 +0.9
KURK Kurchatov 83.87 322 eP P 05 08 13.2 -0.4
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 83.87 322 eP P 05 08 13.2 -0.4
comp=Z,10.0nm,1.0s
EGAK Eagle 84.07 23 eP P 05 08 14.3 -0.1
comp=Z,108nm,2.7s
TKM2 Tokmak 2 84.08 314 P P 05 08 15.6 +0.3
SNR=21
TKM2 Tokmak 2 84.08 314 iP P 05 08 15.5 +0.3
TKM2 Tokmak 2 84.08 314 eP P 05 08 15.4 +0.2
comp=Z,13nm,0.8s
HYT Haines Junctio 84.12 27 eP P 05 08 15.1 +0.2
KZA Kyzart 84.16 313 P P 05 08 17.4 +1.5
SNR=34
KZA Kyzart 84.16 313 iP P 05 08 17.4 +1.5
DAWY Dawson 84.49 24 eP P 05 08 16.5 -0.1
KBK Karagaybulak 84.50 313 P P 05 08 18.5 +1.2
SNR=13
CHMS Chumysh 84.71 314 P P 05 08 18.9 +0.7
SNR=14
CHMS Chumysh 84.71 314 iP P 05 08 18.8 +0.7
UCH Uchtor 84.73 313 P P 05 08 20.3 +1.4
SNR=32
UCH Uchtor 84.73 313 iP P 05 08 20.2 +1.4
AAK Ala-Archa 84.82 313 P P 05 08 19.9 +1.0
SNR=21
AAK Ala-Archa 84.82 313 eP P 05 08 19.7 +0.8
AAK pmax pmax
comp=Z,19nm,0.8s
AAK Ala-Archa 84.82 313 P P 05 08 19.9 +1.0
comp=Z,18nm,0.7s,baz=116,slow=4.6,SNR=69
AAK Ala-Archa 84.82 313 eP P 05 08 19.7 +0.8
comp=Z,19nm,0.8s
USP Ospenovka 84.94 314 P P 05 08 20.2 +0.8
SNR=32
USP Ospenovka 84.94 314 iP P 05 08 20.1 +0.8
AML Almayashu 85.31 313 P P 05 08 22.9 +1.3
SNR=56
QSPA South Pole Qui 85.32 180 eP P 05 08 20.4 -0.4
comp=Z,8.0nm,0.8s
EKS2 Erkin-Say 85.35 313 P P 05 08 22.5 +1.0
SNR=33
EKS2 Erkin-Say 85.35 313 eP P 05 08 22.5 +1.0
EKS2 pmax pmax
comp=Z,20nm,0.8s
EKS2 Erkin-Say 85.35 313 eP P 05 08 22.5 +1.0
comp=Z,20nm,0.8s
KKAR Karatay Array 87.79 313 eP P 05 08 33.2 0.0
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 87.79 313 eP P 05 08 33.2 0.0
comp=Z,4.0nm,0.8s
VOSK Vostochnaya 88.93 323 P P 05 08 37.1 -1.3
VOSK pmax pmax
comp=Z,14nm,0.7s
BVA0 Borovoye Array 89.33 323 P P 05 08 39.4 -0.9
BVA0 pmax pmax
comp=Z,26nm,0.8s
BVAR Borovoye Array 89.33 323 P P 05 08 39.5 -0.7
comp=Z,21nm,0.7s,baz=106,slow=5.8,SNR=141
BVAR LR LR 05 47 17.6
comp=Z,34nm,21.9s,baz=83,slow=35
BRVK Borovoye 89.40 323 eP P 05 08 39.9 -0.7
BRVK Borovoye 89.40 323 eP P 05 08 39.9 -0.7
NVAR Mina Array Bea 91.70 52 P P 05 08 51.5 -0.4
comp=Z,1.1nm,0.8s,baz=240,slow=7.2,SNR=4.9
YKA Yellowknife Ar 95.11 28 P P 05 09 06.0 -0.8
YKA Yellowknife Ar 95.11 28 P P 05 09 06.0 -0.8
comp=Z,1.1nm,0.7s,baz=269,slow=4.7,SNR=14
YKA PKKPbc PKKPdf 05 25 59.9 -3.4
comp=Z,0.3nm,0.9s,baz=87,slow=2.5,SNR=3.9
AB31 Akbulak array 95.59 319 iP P 05 09 07.2 -2.0
AB31 pmax pmax
comp=Z,1.0nm,0.5s
ABKAR Akbulak array 95.59 319 eP P 05 09 07.8 -1.5
comp=Z,3.8nm,0.9s
ARU Arti 96.39 326c iP P 05 09 10.8 -1.9
ARU 05 13 05.1
ARU S SKSac 05 19 39.7 -3.0
ARU SP SP 05 21 45.6 -0.9
ARU PS PS 05 21 55.0 -1.3
ARU pmax pmax
comp=Z,21nm,2.5s
AKTO Aktyubinsk 96.83 320 P P 05 09 13.6 -1.3
comp=Z,3.7nm,1.1s,baz=101,slow=5.4,SNR=7.4
PDAR Pinedale Array 98.47 48 P Pdif 05 09 23.1 +0.4
comp=Z,0.2nm,0.5s,baz=203,slow=2.1,SNR=4.7
PRGR Permogore 102.36 332 eP Pdif 05 09 37.1 -2.2
PRGR pmax pmax
comp=Z,20nm,1.2s
FINES FINESS Array B 111.06 336 Pdiff Pdif 05 10 17.1 -0.9
comp=Z,1.4nm,0.8s,baz=68,slow=5.1,SNR=8.0
AKASG Malin Array Be 114.58 325 PKP PKPdf 05 14 23.3 -0.5
comp=Z,2.2nm,0.5s,baz=60,slow=2.2,SNR=20
AK01 Malin Array Si 114.59 325 ePKPdf PKPdf 05 14 23.7 -0.1
BRTR Keskin Array B 115.47 312 PKP PKPdf 05 14 25.9 -0.2
comp=Z,0.9nm,0.6s,baz=123,slow=2.9,SNR=6.9
NB2 NORSAR Subarra 116.89 340 PKPdf PKPdf 05 14 27.3 -0.7
comp=Z,1.2nm,0.6s,baz=45,slow=1.9
NOA NORSAR Array B 116.89 340 PKP PKPdf 05 14 27.6 -0.4
comp=Z,1.3nm,0.6s,baz=48,slow=2.0,SNR=7.4
MLR Muntele Rosu 118.77 320 PKP PKPdf 05 14 32.1 -0.1
comp=Z,0.2nm,0.5s,baz=207,slow=9.0,SNR=3.4
KOLS Kolonicke sedl 119.39 325 ePKIKP PKPdf 05 14 33.9 +0.7
KOLS Kolonicke sedl 119.39 325 ePKPdf PKPdf 05 14 33.9 +0.7
PLCA Paso Flores 119.69 143 PKP PKPdf 05 14 34.8 +0.7
comp=Z,1.3nm,0.6s,baz=232,slow=2.9,SNR=6.7
STHS Stebnicka Huta 119.72 326 ePKIKP PKPdf 05 14 34.7 +0.9
STHS Stebnicka Huta 119.72 326 ePKP PKPdf 05 14 34.6 +0.8
CRVS Cervenica-Dubn 119.86 325 ePKIKP PKPdf 05 14 34.0 -0.1
CRVS Cervenica-Dubn 119.86 325 ePKP PKPdf 05 14 34.0 -0.1
OKC Ostrava-Krasne 121.18 328 ePKIKP PKPdf 05 14 36.9 +0.4
OKC Ostrava-Krasne 121.18 328 ePKPdf PKPdf 05 14 36.9 +0.4
VYHS Vyhne 121.56 326 ePKIKP PKPdf 05 14 37.5 +0.2
VYHS Vyhne 121.56 326 ePKP PKPdf 05 14 37.5 +0.2
DPC Dobruska-Polom 121.84 329 ePKIKP PKPdf 05 14 38.6 +0.7
DPC Dobruska-Polom 121.84 329 ePKPdf PKPdf 05 14 38.6 +0.7
BSEG Bad Segeberg 122.31 335 ePKPdf PKPdf 05 14 39.2 +0.7
BRG Berggiesshubel 122.71 331 iPKP PKPdf 05 14 39.4 0.0
comp=Z,10nm,0.8s
BRG Berggiesshubel 122.71 331 iPKIKP PKPdf 05 14 39.4 0.0
BRG pmax pmax
comp=Z,11nm,0.8s
BRG Berggiesshubel 122.71 331 ePKPdf PKPdf 05 14 39.8 +0.3
CLL Collm 122.89 331 ⇓iPKIKP PKPdf 05 14 40.0 +0.2
CLL pmax pmax
comp=Z,10.0nm,0.7s
CLL Collm 122.89 331 ePKPdf PKPdf 05 14 39.8 0.0
CLL Collm 122.89 331 ⇓iPKPdf PKPdf 05 14 40.0 +0.2
comp=Z,10.0nm,0.7s
CLL e 05 15 03.0
TREC Trest 122.91 328 ePKIKP PKPdf 05 14 40.3 +0.4
TREC Trest 122.91 328 ePKPdf PKPdf 05 14 40.3 +0.4
PRU Pruhonice 122.97 329 ePKIKP PKPdf 05 14 40.3 +0.3
PRU Pruhonice 122.97 329 ePKPdf PKPdf 05 14 40.3 +0.3
NRDL Niedersach Rie 123.41 334 ePKPdf PKPdf 05 14 41.2 +0.6
CONA Conrad Observa 123.52 327 ⇓iPKIKP PKiKP 05 14 41.4 -0.1
comp=Z,4.5nm,0.8s
TANN Tannenbergstha 123.73 331 ePKPdf PKPdf 05 14 41.8 +0.3
CLZ Clausthal 123.75 333 ePKPdf PKPdf 05 14 42.0 +0.5
KHC Kasperske Hory 123.99 329 ePKIKP PKPdf 05 14 42.2 +0.2
KHC Kasperske Hory 123.99 329 ePKPdf PKPdf 05 14 42.2 +0.2
KHC esPKP 05 15 02.7
KHC Kasperske Hory 123.99 329 ePKPdf PKPdf 05 14 42.3 +0.2
GEC2 GERESS Array S 124.11 329 ePKPdf PKPdf 05 14 42.3 0.0
GERES GERESS Array B 124.11 329 PKP PKPdf 05 14 42.5 +0.1
comp=Z,6.4nm,0.8s,baz=66,slow=1.5,SNR=43
WET Wettzell 124.34 329 ePKPdf PKPdf 05 14 43.0 +0.3
GRF Grafenberg Arr 124.81 331 ePKPdf PKPdf 05 14 43.7 +0.2
RJOB Jochberg 125.27 328 ePKPdf PKPdf 05 14 44.3 -0.3
TNS Taunus Mts 125.75 333 ePKPdf PKPdf 05 14 45.7 +0.3
ABTA Abfaltersbach 126.04 327 ⇑iPKIKP PKPdf 05 14 46.0 -0.2
comp=Z,14nm,1.1s
WTTA Wattenberg 126.18 328 ⇓iPKIKP PKPdf 05 14 46.1 -0.4
comp=Z,19nm,1.0s
MOTA Moosalm 126.41 329 ⇓iPKIKP PKPdf 05 14 46.8 0.0
comp=Z,8.4nm,0.7s
STU Stuttgart 126.41 331 ePKPdf PKPdf 05 14 47.2 +0.6
MEM Membach 126.55 335 PKP PKPdf 05 14 47.3 +0.5
FETA Feichten 126.81 329 iPKiKP PKiKP 05 14 48.1 0.0
comp=Z,16nm,1.0s
BCLA Clavier 126.99 335 PKP PKPdf 05 14 48.5 +0.9
WLF Walferdange 127.18 334 PKP PKPdf 05 14 49.0 +1.0
WLF Walferdange 127.18 334 ePKPdf PKPdf 05 14 49.3 +1.2
SNF Seneffe 127.35 335 PKP PKPdf 05 14 47.9 -0.5
GIVF Givet 127.43 335 ⇑iPKIKP PKPdf 05 14 49.7 +1.2
GIVF Givet 127.43 335 ⇑iPKIKP PKPdf 05 14 49.7 +1.2
GIVF Givet 127.43 335 ⇑iPKPdf PKPdf 05 14 49.7 +1.2
DOU Dourbes 127.53 335 PKP PKPdf 05 14 48.8 +0.1
CDF Champ du Feu 127.57 332 ⇑iPKIKP PKPdf 05 14 49.7 +0.7
comp=Z,15nm,1.1s
CDF Champ du Feu 127.57 332 ⇑iPKIKP PKPdf 05 14 49.7 +0.7
CDF Champ du Feu 127.57 332 ⇑iPKPdf PKPdf 05 14 49.7 +0.7
BAIF Baives 127.73 335 ⇑iPKIKP PKPdf 05 14 50.3 +1.2
BAIF Baives 127.73 335 ⇑iPKIKP PKPdf 05 14 50.3 +1.2
BAIF Baives 127.73 335 ⇑iPKPdf PKPdf 05 14 50.3 +1.2
TUE Stuetta 127.89 329 ePKPdf PKPdf 05 14 50.1 +0.3
HINF Hinteralfeld 128.20 332 ⇑iPKIKP PKPdf 05 14 50.8 +0.7
comp=Z,29nm,1.1s
HINF Hinteralfeld 128.20 332 ⇑iPKIKP PKPdf 05 14 50.8 +0.7
HINF Hinteralfeld 128.20 332 ⇑iPKPdf PKPdf 05 14 50.8 +0.7
HAU Haudompre 128.30 332 ⇑iPKIKP PKPdf 05 14 51.2 +0.9
comp=Z,25nm,0.9s
HAU eR
comp=Z,129nm,18.0s
HAU Haudompre 128.30 332 ⇑iPKIKP PKPdf 05 14 51.2 +0.9
HAU Haudompre 128.30 332 ⇑iPKPdf PKPdf 05 14 51.2 +0.9
MEZF Maizieres J'vi 128.53 333 ⇑iPKIKP PKPdf 05 14 52.2 +1.5
MEZF Maizieres J'vi 128.53 333 ⇑iPKPdf PKPdf 05 14 52.2 +1.5
CABF La Chapelle 129.42 331 ⇑iPKIKP PKPdf 05 14 54.0 +1.4
comp=Z,23nm,1.0s
CABF La Chapelle 129.42 331 ⇑iPKIKP PKPdf 05 14 54.0 +1.4
CABF La Chapelle 129.42 331 ⇑iPKPdf PKPdf 05 14 54.0 +1.4
LPL La Plagne 129.87 330 ⇑iPKIKP PKPdf 05 14 55.0 +1.4
LPL La Plagne 129.87 330 ⇑iPKIKP PKPdf 05 14 55.0 +1.4
LPL La Plagne 129.87 330 ⇑iPKPdf PKPdf 05 14 55.0 +1.4
LPG La Plagne 129.88 330 ⇑iPKIKP PKPdf 05 14 55.1 +1.4
comp=Z,6.4nm,0.7s
LPG La Plagne 129.88 330 ⇑iPKIKP PKPdf 05 14 55.1 +1.4
LPG La Plagne 129.88 330 ⇑iPKPdf PKPdf 05 14 55.1 +1.4
LOR Lormes 129.98 333 ⇑iPKIKP PKPdf 05 14 54.8 +1.3
comp=Z,13nm,0.8s
LOR eR
comp=Z,126nm,18.0s
LOR Lormes 129.98 333 ⇑iPKIKP PKPdf 05 14 54.8 +1.3
LOR Lormes 129.98 333 ⇑iPKPdf PKPdf 05 14 54.8 +1.3
SSF Saint Saulge 130.30 333 ⇑iPKIKP PKPdf 05 14 55.5 +1.4
comp=Z,13nm,0.9s
SSF Saint Saulge 130.30 333 ⇑iPKIKP PKPdf 05 14 55.5 +1.4
SSF Saint Saulge 130.30 333 ⇑iPKPdf PKPdf 05 14 55.5 +1.4
MBDF Montbardon 130.40 329 ePKIKP PKPdf 05 14 56.0 +1.4
comp=Z,6.5nm,0.8s
MBDF Montbardon 130.40 329 ePKIKP PKPdf 05 14 56.0 +1.4
MBDF Montbardon 130.40 329 ePKPdf PKPdf 05 14 56.0 +1.4
SMF Signal de Mont 130.46 332 ⇑iPKIKP PKPdf 05 14 55.5 +1.1
comp=Z,12nm,0.9s
SMF Signal de Mont 130.46 332 ⇑iPKIKP PKPdf 05 14 55.5 +1.1
SMF Signal de Mont 130.46 332 ⇑iPKPdf PKPdf 05 14 55.5 +1.1
AVF Avril sur Loir 130.57 333 ePKIKP PKPdf 05 14 55.5 +0.9
AVF Avril sur Loir 130.57 333 ePKIKP PKPdf 05 14 55.5 +0.9
AVF Avril sur Loir 130.57 333 ePKPdf PKPdf 05 14 55.5 +0.9
FLN La Foliniere 130.64 337 ePKIKP PKPdf 05 14 55.1 +0.4
FLN eR
comp=Z,160nm,23.0s
FLN La Foliniere 130.64 337 ePKIKP PKPdf 05 14 55.1 +0.4
FLN La Foliniere 130.64 337 ePKPdf PKPdf 05 14 55.1 +0.4
PGF Pioggiola 130.64 325 ePKIKP PKPdf 05 14 56.2 +1.2
comp=Z,45nm,1.1s
PGF Pioggiola 130.64 325 ePKIKP PKPdf 05 14 56.2 +1.2
PGF Pioggiola 130.64 325 ePKPdf PKPdf 05 14 56.2 +1.2
SBF Sospel 130.64 328 ⇑iPKIKP PKPdf 05 14 55.7 +0.8
comp=Z,55nm,1.1s
SBF Sospel 130.64 328 ⇑iPKIKP PKPdf 05 14 55.7 +0.8
SBF Sospel 130.64 328 ⇑iPKPdf PKPdf 05 14 55.7 +0.8
ORIF Oris-en-Rattie 130.72 330 ⇑iPKIKP PKPdf 05 14 55.7 +0.6
comp=Z,12nm,0.7s
ORIF eR
comp=Z,115nm,18.8s
ORIF Oris-en-Rattie 130.72 330 ⇑iPKIKP PKPdf 05 14 55.7 +0.6
ORIF Oris-en-Rattie 130.72 330 ⇑iPKPdf PKPdf 05 14 55.7 +0.6
BGF Bois d'Agland 130.98 333 ⇑iPKIKP PKPdf 05 14 56.8 +1.4
comp=Z,28nm,1.0s
BGF Bois d'Agland 130.98 333 ⇑iPKIKP PKPdf 05 14 56.8 +1.4
BGF Bois d'Agland 130.98 333 ⇑iPKPdf PKPdf 05 14 56.8 +1.4
GRR Gorron 131.09 337 ePKIKP PKPdf 05 14 56.2 +0.7
comp=Z,28nm,0.9s
GRR Gorron 131.09 337 ePKIKP PKPdf 05 14 56.2 +0.7
GRR Gorron 131.09 337 ePKPdf PKPdf 05 14 56.2 +0.7
FRF La Foret Royal 131.27 328 ePKIKP PKPdf 05 14 56.5 +0.5
comp=Z,43nm,1.2s
FRF La Foret Royal 131.27 328 ePKIKP PKPdf 05 14 56.5 +0.5
FRF La Foret Royal 131.27 328 ePKPdf PKPdf 05 14 56.5 +0.5
VIVF Saint-Julien-l 131.37 330 ePKIKP PKPdf 05 14 57.8 +1.6
comp=Z,8.4nm,0.8s
VIVF Saint-Julien-l 131.37 330 ePKIKP PKPdf 05 14 57.8 +1.6
VIVF Saint-Julien-l 131.37 330 ePKPdf PKPdf 05 14 57.8 +1.6
TCF Toulx Ste Croi 131.47 333 ⇑iPKIKP PKPdf 05 14 57.8 +1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,36nm,1.2s						
TCF	Toulx Ste Croi	131.47	333⇑	iPKIKP	PKPdf	05 14 57.8	+1.4
TCF	Toulx Ste Croi	131.47	333⇑	iPKPdf	PKPdf	05 14 57.8	+1.4
LMR	La Mourre	131.49	328	ePKIKP	PKPdf	05 14 56.9	+0.5
	comp=Z,16nm,0.9s						
LMR	La Mourre	131.49	328	ePKIKP	PKPdf	05 14 56.9	+0.5
LMR	La Mourre	131.49	328	ePKPdf	PKPdf	05 14 56.9	+0.5
SMRF	Simiane la Rot	131.54	329	ePKPdf	PKPdf	05 14 57.6	+1.0
	comp=Z,33nm,1.1s						
SMRF	Simiane la Rot	131.54	329	ePKPdf	PKPdf	05 14 57.6	+1.0
SGMF	Saint Gilles	131.84	338	ePKIKP	PKPdf	05 14 57.4	+0.5
SGMF	Saint Gilles	131.84	338	ePKIKP	PKPdf	05 14 57.4	+0.5
SGMF	Saint Gilles	131.84	338	ePKPdf	PKPdf	05 14 57.4	+0.5
MFF	Saint Martin d	132.24	335	ePKIKP	PKPdf	05 14 58.5	+0.7
MFF	Saint Martin d	132.24	335	ePKIKP	PKPdf	05 14 58.5	+0.7
MFF	Saint Martin d	132.24	335	ePKPdf	PKPdf	05 14 58.5	+0.7
LASF	Ste Croix	132.34	330	ePKIKP	PKPdf	05 14 59.0	+0.9
	comp=Z,30nm,1.1s						
LASF	Ste Croix	132.34	330	ePKPdf	PKPdf	05 14 59.0	+0.9
MTLF	Montolieu	133.68	331	ePKIKP	PKPdf	05 15 01.6	+1.0
	comp=Z,13nm,1.0s						
MTLF	Montolieu	133.68	331	ePKIKP	PKPdf	05 15 01.6	+1.0
MTLF	Montolieu	133.68	331	ePKPdf	PKPdf	05 15 01.6	+1.0
LPAZ	La Paz	134.17	118	SKPbc	SKPab	05 18 30.0	+0.9
	comp=Z,3.1nm,1.0s,baz=286,slow=2.7,SNR=6.5						
KEST	Kesra	134.53	318	PKP	PKPdf	05 15 04.3	+1.8
	comp=Z,0.9nm,0.7s,baz=47,slow=6.0,SNR=4.4						
ETSF	Etsaut	135.34	332⇑	iPKIKP	PKPdf	05 15 05.3	+1.5
	comp=Z,14nm,0.7s						
ETSF	Etsaut	135.34	332⇑	iPKIKP	PKPdf	05 15 05.3	+1.5
ETSF	Etsaut	135.34	332⇑	iPKPdf	PKPdf	05 15 05.3	+1.5
SJPF	Ste Jean	135.47	333	ePKIKP	PKPdf	05 15 06.4	+2.4
	comp=Z,24nm,1.1s						
SJPF	Ste Jean	135.47	333	ePKIKP	PKPdf	05 15 06.4	+2.4
SJPF	Ste Jean	135.47	333	ePKPdf	PKPdf	05 15 06.4	+2.4
SDV	Santo Domingo	136.32	82	ePKPdf	PKPdf	05 15 05.7	-0.9
ESDC	Sonseca Array	139.46	333	PKP	PKPdf	05 15 13.5	+2.0
	comp=Z,0.1nm,0.3s,baz=5.9,slow=2.7,SNR=4.2						
TAM	Tamanrasset	143.90	303	ePKIKP	PKPbc	05 15 18.9	+1.0
TAM	Tamanrasset	143.90	303	ePKPdf	PKPbc	05 15 18.9	+1.0
TORD	Torodi Ar. Bea	150.60	289	PKPbc	PKPbc	05 15 36.3	-0.3
	comp=Z,20nm,0.8s,baz=60,slow=2.2,SNR=68						
BDFB	Brasilia	150.92	134	PKPbc	PKPbc	05 15 36.5	-1.0
	comp=Z,4.2nm,0.6s,baz=243,slow=2.2,SNR=5.0						

IDC 24 05:06:28.4±5.5, 51°.39N×177°.53E, h78km±41km, mb2.8/4, mb1 3.1/5, mb1mx2.9/44, mbtmp3.1/5, ML2.8/1, Error ellipse: s-maj=66.6km s-min=23.2km az=180.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	3.08	301	P	Pn	05 07 15.1	+0.5
	4.5nm,0.3s,baz=90,slow=14,SNR=11						
FX1				S	Sn	05 07 50.6	+0.3
	3.3nm,0.3s,baz=75,slow=20,SNR=3.7						
ILAR	Eielson Array	22.70	40	P	P	05 11 22.7	-0.6
	0.2nm,0.5s,baz=251,slow=8.5,SNR=4.3						
YKA	Yellowknife Ar	36.89	46	P	P	05 13 29.1	+0.2
	0.1nm,0.4s,baz=285,slow=7.4,SNR=5.0						
MKAR	Makanchi Array	58.20	306	P	P	05 16 14.1	0.0
	0.2nm,0.6s,baz=46,slow=4.2,SNR=3.1						
TXAR	Lajitas Array	60.92	79	P	P	05 16 32.9	-0.2
	0.1nm,0.4s,baz=313,slow=6.9,SNR=4.0						

LDG 24 05:21:24.8±0.1, 46°.10N×14°.59E, h10km, Ml2.9/26, Error ellipse: s-maj=2.2km s-min=1.9km az=29.0
BEO 24 05:21:24.8±0.2, 46°.11N×14°.62E, h11km±2km, ML3.0/1
LJU 24 05:21:24.7, 46°.11N×14°.60E, h11km, ML3.2
ISCJB 24 05:21:24.8±0.2, 46°.09N±0°.01×14°.61E±0°.02, h18km±2km, Error ellipse: s-maj=2.3km s-min=1.9km az=18.5
CSEM 24 05:21:24.5±0.1, 46°.11N×14°.57E, h12km, ML3.8/25, Error ellipse: s-maj=2.6km s-min=2.2km az=20.0
ROM 24 05:21:24.5±0.2, 46°.07N×14°.64E, h10km, Ml3.2/19, Error ellipse: s-maj=2.8km s-min=2.2km az=16.0
VIE 24 05:21:24.5±0.2, 46°.12N×14°.60E, h6km±1km, mb2.6/12, ML3.1/13, Error ellipse: s-maj=1.5km s-min=1.0km az=134.0 10 km NE of Ljubljana
PRU 24 05:21:25.5, 46°.17N×14°.60E, h1km
SZGRF 24 05:21:27.4, 46°.19N×14°.62E, h10km, mb2.9, Northwestern Balkan Peninsula

ISC 24 05:21:23.7±0.8, 46°.09N±0°.01×14°.57E±0°.01, h18km±2km, n238, σ1°.39/362, 18C-30D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LJU	Ljubljana	0.06	215⇑	iPg	Pg	05 21 28.0	+0.9
LJU				iSg	Sg	05 21 29.8	+0.4
LJU							
	comp=Z,8μm,0.1s						
LJU	Ljubljana	0.06	215	ePg	Pg	05 21 27.4	+0.3
LJU				eSg	Sg	05 21 29.7	+0.3
LJU	Ljubljana	0.06	215	ePg	Pg	05 21 27.4	+0.3
LJU				eSg	Sg	05 21 29.7	+0.3
VNDS	Vrh nad Dolski	0.09	82⇑	iPg	Pg	05 21 27.9	+0.5
VNDS				iSg	Sg	05 21 29.6	-0.2
VNDS							
	comp=Z,6μm,0.1s						
CRNS	Crni Vrh	0.22	268⇑	iPg	Pg	05 21 30.3	+1.4
CRNS				iSg	Sg	05 21 34.0	+1.4
CRNS							
	comp=Z,2μm,0.1s						
MOZS	Mozjanca	0.22	336⇓	iPg	Pg	05 21 30.2	+1.1
MOZS				eSg	Sg	05 21 33.2	+0.4
MOZS							
	comp=Z,3μm,0.2s						
MOZS	Mozjanca	0.22	336⇓	iPg	Pg	05 21 30.2	+1.1
MOZS				eSg	Sg	05 21 33.2	+0.4
	comp=Z,3μm,0.2s						
PDKS	Podkum	0.30	95⇑	iPg	Pb	05 21 31.0	+0.6
PDKS				iSg	Sb	05 21 35.0	0.0
PDKS							
	comp=Z,1μm,0.2s						
PDKS	Podkum	0.30	95⇑	iPg	Pb	05 21 31.0	+0.6
PDKS				iSg	Sb	05 21 35.0	0.0
	comp=Z,1μm,0.2s						
VISS	Visnje	0.34	147⇓	iPg	Pb	05 21 31.9	+0.6
VISS				iSg	Sb	05 21 36.4	+0.1
VISS							
	comp=Z,3μm,0.1s						
VISS	Visnje	0.34	147⇓	iPg	Pb	05 21 31.9	+0.6
VISS				iSg	Sb	05 21 36.4	+0.1
	comp=Z,3μm,0.1s						
CEY	Cerknica	0.37	196⇓	iPg	Pb	05 21 32.5	+0.7
CEY				iSg	Sb	05 21 38.4	+1.3
CEY							
	comp=Z,1μm,0.1s						
CEY	Cerknica	0.37	196	ePg	Pb	05 21 32.2	+0.5
CEY				eSg	Sb	05 21 38.5	+1.3
CEY	Cerknica	0.37	196⇓	iPg	Pb	05 21 32.5	+0.7
CEY				iSg	Sb	05 21 38.4	+1.3
	comp=Z,1μm,0.1s						
JAVS	Javornik	0.41	241⇓	iPg	Pb	05 21 33.2	+0.8
JAVS				iSg	Sb	05 21 39.2	+0.9
JAVS							
	comp=Z,338nm,0.1s						
JAVS	Javornik	0.41	241⇓	iPg	Pb	05 21 33.2	+0.8
JAVS				iSg	Sb	05 21 39.2	+0.9
	comp=Z,338nm,0.1s						
OBKA	Obir	0.42	358	ePg	Pb	05 21 33.3	+0.6
OBKA				eSg	Sb	05 21 39.7	+0.9
OBKA	Obir	0.42	358	ePg	Pb	05 21 33.3	+0.6
	SNR=860						
OBKA				⇓iSg	Sg	05 21 38.2	-0.1
	comp=Z,388nm,0.1s						
OBKA	Obir	0.42	358	ePg	Pb	05 21 33.3	+0.6
OBKA				Sg	Sg	05 21 38.2	-0.1
	comp=Z,388nm,0.1s						
GORS	Gorjuse	0.46	300⇓	iPg	Pb	05 21 34.3	+0.9
GORS				iSg	Sb	05 21 40.8	+0.9
GORS							
	comp=Z,538nm,0.1s						
GORS	Gorjuse	0.46	300⇓	iPg	Pb	05 21 34.3	+0.9
GORS				iSg	Sb	05 21 40.8	+0.9
	comp=Z,538nm,0.1s						
VOJS	Vojsko	0.48	263	iPg	Pb	05 21 34.5	+0.8
VOJS				iSg	Sb	05 21 42.0	+1.5
VOJS							
	comp=Z,225nm,0.1s						
VOJS	Vojsko	0.48	263	iPg	Pb	05 21 34.5	+0.8
VOJS				iSg	Sb	05 21 42.0	+1.5
	comp=Z,225nm,0.1s						
LEGS	Legarje	0.54	105⇓	iPg	Pb	05 21 35.1	+0.6
LEGS				iSg	Sb	05 21 42.3	+0.4
LEGS	Legarje	0.54	105⇓	iPg	Pb	05 21 35.1	+0.6
LEGS				iSg	Sb	05 21 42.3	+0.4
GBRS	Gornja Briga	0.58	163⇓	iPg	Pg	05 21 36.0	+0.7
GBRS				iSg	Sn	05 21 45.2	-0.9
	comp=Z,501nm,0.1s						
CADS	Cadrg	0.60	284⇑	iPg	Pn	05 21 36.4	-0.9
CADS				iSg	Sn	05 21 45.5	-1.1
CADS							
	comp=Z,460nm,0.1s						
CADS	Cadrg	0.60	284⇑	iPg	Pn	05 21 36.4	-0.9
CADS				iSg	Sn	05 21 45.5	-1.1
	comp=Z,460nm,0.1s						
DOBS	Dobrina	0.63	84⇓	iPg	Pg	05 21 36.5	+0.4
DOBS							
	comp=Z,353nm,0.1s						
DOBS	Dobrina	0.63	84⇓	iPg	Pg	05 21 36.5	+0.4
	comp=Z,353nm,0.1s						
CESS	Cesta pri Krsk	0.63	100	iPg	Pn	05 21 37.0	-0.7
CESS							
	comp=Z,507nm,0.1s						
CESS	Cesta pri Krsk	0.63	100	iPg	Pn	05 21 37.0	-0.7
	comp=Z,507nm,0.1s						
PERS	Pernice	0.66	34⇓	iPg	Pg	05 21 37.2	+0.4
PERS				iSg	Sb	05 21 45.1	-0.5
PERS							
	comp=Z,1μm,0.2s						
PERS	Pernice	0.66	34⇓	iPg	Pg	05 21 37.2	+0.4
PERS				iSg	Sb	05 21 45.1	-0.5
	comp=Z,1μm,0.2s						
SOKA	Soboth	0.67	28	ePg	Pg	05 21 37.4	+0.5
	SNR=213						
SOKA				⇓iSg	Sb	05 21 45.4	-0.4
	comp=Z,170nm,0.2s						
SOKA	Soboth	0.67	28	Pg	Pg	05 21 37.4	+0.5
	SNR=213						
SOKA				Sg	Sb	05 21 45.4	-0.4
	comp=Z,170nm,0.2s						
CRES	Cresnjev	0.67	113	iPg	Pg	05 21 37.3	+0.4
CRES							
	comp=Z,199nm,0.2s						
CRES	Cresnjev	0.67	113	iPg	Pg	05 21 37.3	+0.4
	comp=Z,199nm,0.2s						
SKDS	Skadanscina	0.67	216⇓	iPg	Pg	05 21 37.4	+0.4
SKDS				iSg	Sn	05 21 47.8	-0.5
SKDS							
	comp=Z,480nm,0.1s						
SKDS	Skadanscina	0.67	216	ePg	Pg	05 21 37.3	+0.4
SKDS				eSg	Sn	05 21 47.5	-0.8
SKDS	Skadanscina	0.67	216⇓	iPg	Pg	05 21 37.4	+0.4
SKDS				eSg	Sn	05 21 47.5	-0.8
BISS	Bistriski jare	0.68	34⇓	iPg	Pg	05 21 37.5	+0.4
BISS				iSg	Sb	05 21 45.4	-0.6
BISS							
	comp=Z,1μm,0.1s						
BISS	Bistriski jare	0.68	34⇓	iPg	Pg	05 21 37.5	+0.4
BISS				iSg	Sb	05 21 45.4	-0.6
	comp=Z,1μm,0.1s						
SABO	M.te Sabotino	0.69	261	Pn	Pn	05 21 37.8	-0.7
SABO				Sn	Sn	05 21 48.8	+0.1
	comp=Z,856nm,0.4s						
SABO	M.te Sabotino	0.69	261	Pn	Pn	05 21 37.8	-0.7
SABO				Sn	Sn	05 21 48.8	+0.1
	comp=Z,856nm,0.4s						
GOLS	Golise	0.74	96	iPg	Pn	05 21 38.8	-0.4
GOLS							
	comp=Z,347nm,0.1s						
GOLS	Golise	0.74	96	iPg	Pn	05 21 38.8	-0.4
	comp=Z,347nm,0.1s						
BOJS	Bojanci	0.75	141⇓	iPg	Pn	05 21 39.0	-0.3
BOJS				iSg	Sg	05 21 48.9	+0.4
BOJS							
	comp=Z,605nm,0.2s						
BOJS	Bojanci	0.75	141	ePg	Pn	05 21 39.1	-0.3
BOJS				eSg	Sg	05 21 49.1	+0.6
BOJS	Bojanci	0.75	141	ePg	Pn	05 21 39.1	-0.3
BOJS				eSg	Sg	05 21 49.1	+0.6
ROBS	Robic	0.76	282	iPg	Pn	05 21 39.2	-0.2
ROBS				iSg	Sn	05 21 50.4	0.0
ROBS							
	comp=Z,142nm,0.2s						
ROBS	Robic	0.76	282	iPg	Pn	05 21 39.2	-0.2
ROBS				iSg	Sn	05 21 50.4	0.0
	comp=Z,142nm,0.2s						
GCIS	Gornji Cirnik	0.77	106	iPg	Pn	05 21 39.3	-0.3
GCIS							
	comp=Z,794nm,0.2s						
GCIS	Gornji Cirnik	0.77	106	iPg	Pn	05 21 39.3	-0.3
RIY	Rijeka	0.77	185	eSg	Sn	05 21 50.6	0.0
MYKA	Terra Mystica	0.84	310	ePg	Pn	05 21 41.1	+0.4
	SNR=63						
MYKA				⇑iSg	Sn	05 21 52.4	-0.2
	comp=Z,184nm,0.3s						
MYKA	Terra Mystica	0.84	310	Pg	Pn	05 21 41.1	+0.4
	SNR=63						
MYKA				Sg	Sn	05 21 52.4	-0.2
	comp=Z,184nm,0.3s						
ACOM	Acomizza, Ital	0.87	302	Pn	Pn	05 21 41.7	+0.6
ACOM				Sn	Sn	05 21 53.7	+0.3
	comp=Z,960nm,0.3s						
ACOM	Acomizza, Ital	0.87	302	Pn	Pn	05 21 41.7	+0.6
ACOM				Sn	Sn	05 21 53.7	+0.3
	comp=Z,960nm,0.3s						
PTCC	Patocco-Chiusa	0.90	291	Pn	Pn	05 21 41.9	+0.4
PTCC				Sn	Sn	05 21 55.2	+1.1
	comp=Z,282nm,0.3s						
PTCC	Patocco-Chiusa	0.90	291	Pn	Pn	05 21 41.9	+0.4
PTCC				Sn	Sn	05 21 55.2	+1.1
	comp=Z,282nm,0.3s						
VINO	Villanova	0.91	281	Pn	Pn	05 21 41.9	+0.3
VINO				Sn	Sn	05 21 56.2	+1.9
	comp=Z,203nm,0.3s						
VINO	Villanova	0.91	281	Pn	Pn	05 21 41.9	+0.3
VINO				Sn	Sn	05 21 56.2	+1.9
	comp=Z,203nm,0.3s						
GEPF	Gemona	1.01	281	Pn	Pg	05 21 43.9	+0.5
GEPF				Sn	Sn	05 21 59.4	+2.7
	comp=Z,385nm,0.5s						
GEPF	Gemona	1.01	281	Pn	Pg	05 21 43.9	+0.5
GEPF				Sn	Sn	05 21 59.4	+2.7
	comp=Z,385nm,0.5s						
KOGS	Kog	1.22	72	iPg	Pn	05 21 46.7	-0.5
KOGS				iSg	Sg	05 22 03.9	+0.8
KOGS							
	comp=Z,268nm,0.2s						
KOGS	Kog	1.22	72	iPg	Pn	05 21 46.7	-0.5
KOGS				iSg	Sg	05 22 03.9	+0.8
	comp=Z,268nm,0.2s						
KBA	Koelnbreinsper	1.30	320	ePn	Pn	05 21 49.4	+0.5
KBA				eSg	Sg	05 22 06.2	+0.3
KBA	Koelnbreinsper	1.30	320	ePg	Pg	05 21 49.4	+0.5
	SNR=100						
KBA				⇓iSg	Sg	05 22 06.7	+0.7
	comp=Z,62nm,0.2s						
KBA	Koelnbreinsper	1.30	320	Pg	Pg	05 21 49.4	+0.5
	SNR=100						
KBA				Sg	Sg	05 22 06.7	+0.7
	comp=Z,62nm,0.2s						
ARSA	Arzberg	1.33	29	ePn	Pg	05 21 49.0	-0.5
ARSA				eSg	Sb	05 22 05.7	+0.9
ARSA	Arzberg	1.33	29	ePg	Pg	05 21 48.9	-0.5
ARSA				eSg	Sb	05 22 05.8	+0.9
ARSA	Arzberg	1.33	29⇑	iPn	Pg	05 21 48.9	-0.5
ARSA				⇑ePg	Pg	05 21 49.8	+0.4
	SNR=96						
ARSA				⇓iSg	Sg	05 22 07.0	+0.1
	comp=Z,48nm,0.2s						
ARSA	Arzberg	1.33	29	Pn	Pg	05 21 48.9	-0.5
	comp=Z,78nm,0.5s						
ARSA	Arzberg	1.33	29	Pn	Pg	05 21 48.9	-0.5
	comp=Z,78nm,0.5s						
ARSA	Arzberg	1.33	29	Pg	Pg	05 21 49.8	+0.4
	SNR=96						
ARSA				Sg	Sg	05 22 07.0	+0.1
	comp=Z,48nm,0.2s						
SISC	Sisak	1.40	116	ePg	Pg	05 21 51.5	+0.8
SISC				Sg	Sg	05 22 09.9	+0.8
SISC	Sisak	1.40	116	ePg	Pg	05 21 51.5	+0.8
SISC				Sg	Sg	05 22 09.8	+0.8
POLC	Polcenigo	1.45	268	Pn	Pg	05 21 52.1	+0.6
	comp=Z,755nm,0.4s						
POLC	Polcenigo	1.45	268	Pn	Pg	05 21 52.1	+0.6
	comp=Z,755nm,0.4s						
NVLJ	Novalja	1.54	172	iPn	Pg	05 21 53.4	0.0
NVLJ				Sn	Sg	05 22 14.4	+1.0
NVLJ	Novalja	1.54	172	iPn	Pg	05 21 53.3	0.0
NVLJ				Sn	Sg	05 22 14.4	+1.0
ABTA	Abfaltersbach	1.57	296⇑	ePg	Pg	05 21 54.1	+0.1
	SNR=32						
ABTA	Abfaltersbach	1.57	296	Pg	Pg	05 21 54.1	+0.1
	SNR=32						
BEHE	Becsehely	1.57	75	ePn	Pb	05 21 52.0	-0.2
BEHE				eSn	Sg	05 22 16.7	+2.2
AGOR	Agordo	1.77	277	Pn	Pg	05 21 57.4	-0.3
	comp=Z,171nm,0.5s						
AGOR	Agordo	1.77	277	Pn	Pg	05 21 57.4	-0.3
	comp=Z,171nm,0.5s						
MOA	Molln	1.77	353	ePn	Pg	05 21 56.7	-1.1
MOA				eSg	Sg	05 22 20.8	-0.1
MOA	Molln	1.77	353	ePg	Pb	05 21 56.3	+0.6
MOA				eSg	Sg	05 22 20.7	-0.1
MOA	Molln	1.77	353⇓	ePn	Pb	05 21 55.8	+0.1
	SNR=43						
MOA				⇓iSn	Sb	05 22 18.9	+1.3
MOA	Molln	1.77	353	Pn	Pb	05 21 55.8	+0.1
	SNR=43						
MOA	Molln	1.77	353	ePg	Pb	05 21 56.3	+0.6
MOA				Sn	Sb	05 22 18.9	+1.3
MOA				eSg	Sg	05 22 20.8	-0.1
UDBI	Udbina	1.77	151	ePn	Pg	05 21 57.0	-0.9
UDBI				Sn	Sg	05 22 19.6	-1.3
UDBI	Udbina	1.77	151	ePn	Pg	05 21 56.9	-0.9
UDBI				Sn	Sg	05 22 19.6	-1.3
RISI	Rein	1.93	297	Pn	Pb	05 21 58.6	+0.3
	comp=Z,250nm,0.5s						
RISI	Rein	1.93	297	Pn	Pb	05 21 58.6	+0.3
	comp=Z,250nm,0.5s						
CGRP	Cima Grappa	1.94	265	Pn	Pb	05 21 58.3	-0.4
	comp=Z,200nm,0.6s						
CGRP	Cima Grappa	1.94	265	Pn	Pb	05 21 58.3	-0.4
	comp=Z,200nm,0.6s						
CONA	Conrad Observa	2.04	25⇑	ePn	Pb	05 21 59.3	-0.9
	SNR=15						
CONA	Conrad Observa	2.04	25	Pn	Pb	05 21 59.3	-0.9
	SNR=15						
RJOB	Jochberg	2.05	324	ePn	Pb	05 22 01.2	+0.8
RJOB				eSg	Sg	05 22 29.6	-0.1
RJOB	Jochberg	2.05	324	ePn	Pb	05 22 01.2	+0.8
RJOB				eSg	Sg	05 22 29.6	-0.1
SOP	Sopron	2.10	40⇑	ePn	Pb	05 22 00.3	-0.8
SOP				eSn	Sg	05 22 31.6	+0.4
SOP	Sopron	2.10	40⇑	ePn	Pb	05 22 00.3	-0.8
TEOL	Teolo	2.16	251	Pn	Pb	05 22 01.2	-1.0
	comp=Z,414nm,0.6s						
TEOL	Teolo	2.16	251	Pn	Pb	05 22 01.2	-1.0
	comp=Z,414nm,0.6s						
KOSI	Kohlern	2.25	281	Pn	Pb	05 22 03.1	-0.7
	comp=Z,107nm,0.5s						
KOSI	Kohlern	2.25	281	Pn	Pb	05 22 03.1	-0.7
	comp=Z,107nm,0.5s						
BLY	Banja Luka	2.27	125	ePg	Pg	05 22 06.4	-1.0
BLY	Banja Luka	2.27	125	Pn	Pb	05 22 03.7	-0.5
BLY	Banja Luka	2.27	125	Pn	Pb	05 22 03.7	-0.5
BLY	Banja Luka	2.27	125	ePg	Pg	05 22 06.4	-1.0
WTTA	Wattenberg	2.34	301	ePn	Pb	05 22 05.0	-0.4
WTTA	Wattenberg	2.34	301⇑	ePn	Pb	05 22 04.4	-1.0
	SNR=6.7						
WTTA				⇓iSn	Sb	05 22 34.0	0.0
WTTA	Wattenberg	2.34	301	Pn	Pb	05 22 04.9	-0.4
WTTA	Wattenberg	2.34	301	Pn	Pb	05 22 04.4	-1.0
	SNR=6.7						
WTTA				Sn	Sb	05 22 34.0	0.0
ABSI	Aberstueckl	2.34	287	Pn	Pb	05 22 04.9	-0.5
ABSI	Aberstueckl	2.34	287	Pn	Pb	05 22 04.9	-0.5
APPI	Appiano	2.35	281	Pn	Pb	05 22 04.4	-1.2
	comp=Z,81nm,0.4s						
APPI	Appiano	2.35	281	Pn	Pb	05 22 04.4	-1.2
	comp=Z,81nm,0.4s						
ROVR	Rover˜¤ Verone	2.49	261	Pn	Pb	05 22 05.6	-2.3
ROVR	Rover˜¤ Verone	2.49	261	Pn	Pb	05 22 05.6	-2.3
PKS9	Tamasi	2.61	78	e	Pg	05 22 23.3	+9.5
AOI	Ancona	2.63	196	Pn	Pb	05 22 08.1	-2.2
	comp=Z,89nm,0.7s						
AOI	Ancona	2.63	196	Pn	Pb	05 22 08.1	-2.2
	comp=Z,89nm,0.7s						
MOTA	Moosalm	2.70	299⇑	ePn	Pn	05 22 08.5	+2.2
	SNR=7.4						
MOTA	Moosalm	2.70	299	Pn	Pn	05 22 08.5	+2.2
	SNR=7.4						
FSSB	Fossombrone	2.72	209	Pn	Pn	05 22 08.6	+2.2
	comp=Z,196nm,0.5s						
FSSB	Fossombrone	2.72	209	Pn	Pn	05 22 08.6	+2.2
	comp=Z,196nm,0.5s						
MAGA	Magasa	2.77	265	Pn	Pb	05 22 10.5	-2.2
MAGA	Magasa	2.77	265	Pn	Pb	05 22 10.5	-2.2
GEC2	GERESS Array S	2.82	348	ePn	Pn	05 22 10.0	+2.1
GEC2				eSg	Sg	05 22 54.8	+0.5
GEC2	GERESS Array S	2.82	348	ePn	Pn	05 22 10.0	+2.1
GEC2				eSg	Sg	05 22 54.8	+0.5
PKSM	Moragy	2.83	86	ePn	Pn	05 22 07.9	0.0
PKSM	Moragy	2.83	86⇓	ePn	Pn	05 22 08.1	+0.2
PKSM				eSn	Sn	05 22 41.2	-0.3
PKSM	Moragy	2.83	86	ePn	Pn	05 22 07.9	0.0
PKSM				eSn	Sn	05 22 41.2	-0.3
MOSI	Grossmontoni	2.84	282	Pn	Pn	05 22 11.4	-2.5
MOSI	Grossmontoni	2.84	282	Pn	Pn	05 22 11.4	-2.5
CSKK	Cs˜‡kako	2.84	62	ePn	Pn	05 22 11.4	-2.4
CSKK				eSn	Sg	05 22 56.7	+1.8
CSKK	Cs˜‡kako	2.84	62	ePn	Pb	05 22 11.4	-2.4
PIEI	Pieia	2.94	210	Pn	Pn	05 22 11.3	+1.8
	comp=Z,60nm,0.4s						
PIEI	Pieia	2.94	210	Pn	Pn	05 22 11.3	+1.8
	comp=Z,60nm,0.4s						
PARC	Parchiule	2.95	215	Pn	Pn	05 22 11.8	+2.1
	comp=Z,34nm,0.4s						
PARC	Parchiule	2.95	215	Pn	Pn	05 22 11.8	+2.1
	comp=Z,34nm,0.4s						
KHC	Kasperske Hory	3.12	348	ePN	Pb	05 22 15.4	-3.2
KHC				ePG	Pg	05 22 21.5	-1.9
KHC				eSN	Sn	05 22 50.2	+1.5
KHC				eSG	Sg	05 23 02.0	-1.8
	comp=Z,16nm,0.5s						
KHC	Kasperske Hory	3.12	348	Pn	Pb	05 22 15.4	-3.2
FDMO	Fiordimonte	3.23	200	Pn	Pn	05 22 15.5	+2.0
FDMO	Fiordimonte	3.23	200	Pn	Pn	05 22 15.5	+2.0
WET	Wettzell	3.26	340	ePn	Pn	05 22 16.2	+2.3
WET	Wettzell	3.26	340	ePn	Pn	05 22 16.2	+2.3
TREC	Trest	3.27	11	ePN	Pn	05 22 16.1	+2.1
TREC				ePG	Pg	05 22 23.1	+2.0
TREC	Trest	3.27	11	Pn	Pn	05 22 16.1	+2.1
CESI	CESI - Serrava	3.31	202	Pn	Pn	05 22 16.7	+2.1
	comp=Z,20nm,0.5s						
CESI	CESI - Serrava	3.31	202	Pn	Pn	05 22 16.7	+2.1
	comp=Z,20nm,0.5s						
NRCA	Norcia	3.42	198	Pn	Pn	05 22 18.2	+2.1
	comp=Z,34nm,0.9s						
NRCA	Norcia	3.42	198	Pn	Pn	05 22 18.2	+2.1
	comp=Z,34nm,0.9s						
VRAC	Vranov	3.50	22	ePn	Pn	05 22 18.9	+1.8
VYHS	Vyhne	3.77	49	ePN	Pn	05 22 24.2	+3.4
VYHS				ePG	Pg	05 22 38.1	+2.3
VYHS				eSN	Sn	05 23 03.8	-0.9
VYHS				eSG	Sg	05 23 29.2	+4.6
VYHS	Vyhne	3.77	49	ePn	Pn	05 22 24.2	+3.4
FRGS	Fruska Gora	3.79	102	eSn	Sn	05 23 05.4	+0.1
FGSL	Fruska Gora	3.79	102	eSn	Sn	05 23 05.4	+0.1
TEKS	Tekeris	3.82	112	ePn	Pn	05 22 23.7	+2.1
TEKS	Tekeris	3.82	112	ePn	Pn	05 22 23.7	+2.1
PRU	Pruhonice	3.90	360	ePN	Pn	05 22 24.9	+2.2
PRU				ePG	Pg	05 22 37.1	-1.3
PRU				eSN	Sn	05 23 08.6	+0.7
PRU				eSG	Sg	05 23 26.7	-2.2
	comp=Z,17nm,0.8s						
PRU	Pruhonice	3.90	360	Pn	Pn	05 22 24.9	+2.2
PRU				Sn	Sn	05 23 08.6	+0.7
PRU				Sg	Sg	05 23 26.7	-2.2
	comp=Z,17nm,0.8s						
STON	Ston	3.92	144	ePn	Pn	05 22 26.6	+3.7
STON	Ston	3.92	144	ePn	Pn	05 22 25.1	+2.2
STON				eSn	Sn	05 23 10.6	+2.3
STON	Ston	3.92	144	ePn	Pn	05 22 25.1	+2.2
STON				eSn	Sn	05 23 10.6	+2.3
PSZ	Piszkesteto	4.07	61⇑	ePn	Pn	05 22 26.4	+1.3
PSZ	Piszkesteto	4.07	61⇑	ePn	Pn	05 22 26.4	+1.3

BBLS	Lazići	4.09	121	ePn	Pn	05 22 27.7	+2.4
BBLS				eSn	Sn	05 23 12.6	0.0
BBLS	Lazići	4.09	121	ePn	Pn	05 22 27.7	+2.4
BBLS				eSn	Sn	05 23 12.6	0.0
MORC	Moravsky Berou	4.19	27	ePn	Pn	05 22 28.9	+2.2
GRA1	Grafenberg Arr	4.25	329	ePg	Pg	05 22 44.8	-0.3
GRF	Grafenberg Arr	4.25	329	ePg	Pg	05 22 44.8	-0.3
DIVS	Divibare	4.32	115	ePn	Pn	05 22 30.6	+2.1
DIVS	Divibare	4.32	115	ePn	Pn	05 22 30.6	+2.1
DPC	Dobruska-Polom	4.42	15	ePN	Pn	05 22 33.1	+3.3
DPC				ePG	Pg	05 22 45.1	-3.2
DPC	Dobruska-Polom	4.42	15	Pn	Pn	05 22 33.1	+3.3
PCP	Piancastagn	4.53	252	P	Pn	05 22 34.3	+0.3
TRUS	Trudelj	4.53	112	ePn	Pn	05 22 32.3	+1.0
TRUS				eSn	Sn	05 23 22.2	-1.2
TRUS	Trudelj	4.53	112	ePn	Pn	05 22 32.3	+1.0
TRUS				eSn	Sn	05 23 22.2	-1.2
SATI	Passo dei Sala	4.68	270	P	Pn	05 22 36.8	+3.1
IVAS	Ivanjica	4.70	120	ePn	Pn	05 22 36.0	+2.3
IVAS				eSn	Sn	05 23 28.2	+0.5
IVAS	Ivanjica	4.70	120	ePn	Pn	05 22 36.0	+2.3
IVAS				eSn	Sn	05 23 28.2	+0.5
SJES	Sjenica	4.78	124	ePn	Pn	05 22 37.5	+2.7
BRG	Berggiesshubel	4.81	355	PG	Pg	05 22 54.6	-1.1
BRG				SN	Sn	05 23 27.8	-2.4
BRG				e		05 23 37.0	
BRG	Berggiesshubel	4.81	355	SG	Sg	05 23 57.0	-0.9
	comp=Z,6.9nm,0.6s						
BFO	Black Forest	4.81	300	ePn	Pn	05 22 37.2	+2.0
BFO				eSn	Sn	05 23 29.9	-0.5
BFO	Black Forest	4.81	300	ePn	Pn	05 22 37.2	+2.0
BFO				eSn	Sn	05 23 29.9	-0.5
MOX	Moxa	4.97	338	ePn	Pn	05 22 39.2	+1.9
MOX				eSn	Sn	05 23 33.6	-0.6
MOX	Moxa	4.97	338	ePn	Pn	05 22 39.2	+1.9
MOX				eSn	Sn	05 23 33.6	-0.6
CLL	Collm	5.33	349	ePn	Pn	05 22 47.0	+4.8
CLL				eSn	Sn	05 23 43.0	0.0
CLL				eSg	Sg	05 24 11.0	-3.5
	comp=Z,31nm,1.1s						
PGF	Pioggiola	5.34	230	ePn	Pn	05 22 42.3	-0.2
PGF				eSn	Sn	05 23 41.8	-1.8
	comp=Z,3.8nm,0.3s						
PGF	Pioggiola	5.34	230	ePn	Pn	05 22 42.3	-0.2
PGF				eSn	Sn	05 23 41.8	-1.8
	comp=Z,1.9nm,0.3s						
CRVS	Cervenica-Dubn	5.45	56	ePN	Pn	05 22 49.7	+5.8
SELS	Selova	5.48	119	ePn	Pn	05 22 46.0	+1.6
SELS				eSn	Sn	05 23 45.0	-1.9
SELS	Selova	5.48	119	ePn	Pn	05 22 46.0	+1.6
CDF	Champ du Feu	5.49	298	ePn	Pn	05 22 44.4	-0.1
CDF				eSn	Sn	05 23 44.3	-2.8
	comp=Z,0.7nm,0.2s						
CDF	Champ du Feu	5.49	298	ePn	Pn	05 22 44.4	-0.1
LPG	La Plagne	5.50	267	ePn	Pn	05 22 45.6	+0.7
LPG				eSn	Sn	05 23 45.3	-2.5
	comp=Z,1.2nm,0.3s						
LPG	La Plagne	5.50	267	ePn	Pn	05 22 45.6	+0.7
LPL	La Plagne	5.51	267	ePn	Pn	05 22 45.2	+0.2
LPL				eSn	Sn	05 23 45.4	-2.6
	comp=Z,2.0nm,0.4s						
LPL	La Plagne	5.51	267	ePn	Pn	05 22 45.2	+0.2
SBF	Sospel	5.53	249	ePn	Pn	05 22 45.2	+0.1
SBF				eSn	Sn	05 23 46.0	-2.3
	comp=Z,8.2nm,0.4s						
SBF	Sospel	5.53	249	ePn	Pn	05 22 45.2	+0.1
HINF	Hinteralfeld	5.56	291	ePn	Pn	05 22 45.4	-0.1
HINF				eSn	Sn	05 23 46.1	-2.8
	comp=Z,4.1nm,0.3s						
HINF	Hinteralfeld	5.56	291	ePn	Pn	05 22 45.4	-0.1
STHS	Stebnicka Huta	5.59	51	ePN	Pn	05 22 50.8	+4.9
MBDF	Montbardon	5.66	259	ePn	Pn	05 22 47.0	0.0
MBDF				eSn	Sn	05 23 49.0	-2.5
	comp=Z,1.1nm,0.2s						
MBDF	Montbardon	5.66	259	ePn	Pn	05 22 47.0	0.0
TNS	Taunus Mts	5.82	317	ePn	Pn	05 22 52.2	+3.1
TNS				eSn	Sn	05 23 54.5	-0.8
TNS	Taunus Mts	5.82	317	ePn	Pn	05 22 52.2	+3.1
CABF	La Chapelle	5.90	278	ePn	Pn	05 22 50.1	-0.1
CABF				eSn	Sn	05 23 54.5	-2.8
	comp=Z,0.8nm,0.3s						
CABF	La Chapelle	5.90	278	ePn	Pn	05 22 50.1	-0.1
HAU	Haudompre	5.94	292	ePn	Pn	05 22 50.6	-0.1
HAU				eSn	Sn	05 23 55.2	-3.0
	comp=Z,2.2nm,0.3s						
HAU	Haudompre	5.94	292	ePn	Pn	05 22 50.6	-0.1
FRF	La Foret Royal	6.18	249	ePn	Pn	05 22 54.1	+0.2
FRF				eSn	Sn	05 24 01.4	-2.7
	comp=Z,3.8nm,0.3s						
FRF	La Foret Royal	6.18	249	ePn	Pn	05 22 54.1	+0.2
ORIF	Oris-en-Rattie	6.22	262	ePn	Pn	05 22 54.9	+0.3
ORIF				eSn	Sn	05 24 02.4	-2.9
	comp=Z,1.1nm,0.3s						
ORIF	Oris-en-Rattie	6.22	262	ePn	Pn	05 22 54.9	+0.3
LMR	La Mourre	6.37	247	ePn	Pn	05 22 56.6	0.0
LMR				eSn	Sn	05 24 06.1	-2.7
	comp=Z,3.9nm,0.3s						
LMR	La Mourre	6.37	247	ePn	Pn	05 22 56.6	0.0
PAGF	Fort de Pagny	6.50	295	ePn	Pn	05 22 58.1	-0.3
PAGF				eSn	Sn	05 24 08.5	-3.5
	comp=Z,0.2nm,0.2s						
PAGF	Fort de Pagny	6.50	295	ePn	Pn	05 22 58.1	-0.3
SMRF	Simiane la Rot	6.72	255	ePn	Pn	05 23 01.3	-0.1
SMRF				eSn	Sn	05 24 14.3	-3.1
	comp=Z,1.2nm,0.4s						
SMRF	Simiane la Rot	6.72	255	ePn	Pn	05 23 01.3	-0.1
SFTF	Sexfontaines	6.84	291	ePn	Pn	05 23 02.8	-0.2
SFTF				eSn	Sn	05 24 16.6	-3.7
	comp=Z,1.8nm,0.2s						
SFTF	Sexfontaines	6.84	291	ePn	Pn	05 23 02.8	-0.2
VIVF	Saint-Julien-l	7.07	264	ePn	Pn	05 23 06.2	0.0
VIVF				eSn	Sn	05 24 22.6	-3.5
	comp=Z,0.9nm,0.3s						
VIVF	Saint-Julien-l	7.07	264	ePn	Pn	05 23 06.2	0.0
SMF	Signal de Mont	7.45	278	ePn	Pn	05 23 11.1	-0.3
SMF				eSn	Sn	05 24 31.4	-3.9
	comp=Z,2.5nm,0.5s						
SMF	Signal de Mont	7.45	278	ePn	Pn	05 23 11.1	-0.3
LOR	Lormes	7.46	283	ePn	Pn	05 23 11.4	-0.2
LOR				eSn	Sn	05 24 31.6	-4.2
	comp=Z,0.8nm,0.2s						
LOR	Lormes	7.46	283	ePn	Pn	05 23 11.4	-0.2
BAIF	Baives	8.00	304	ePn	Pn	05 23 18.6	-0.2
BAIF				eSn	Sn	05 24 44.2	-4.5
	comp=Z,3.2nm,0.5s						
BAIF	Baives	8.00	304	ePn	Pn	05 23 18.6	-0.2
BGF	Bois d'Agland	8.13	278	ePn	Pn	05 23 20.4	-0.4
BGF				eSn	Sn	05 24 47.7	-4.5
	comp=Z,0.6nm,0.2s						

MAN 24 05:37:21,13.62N×120.45E,h59km,mb4.2,ML3.1,MS2.8, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.22	300	eP	Pn	05 37 32.4	+2.0
LUBP				eS	Sn	05 37 40.0	+2.7
PGP	Puerto Galera	0.51	103	⇑iP	Pn	05 37 34.4	+1.3
PGP				iS	Sn	05 37 45.4	+3.6
SJMP	San Jose	1.33	150	eP	Pn	05 37 44.9	+1.5
BUSP	Coron	1.63	189	eP	Pn	05 37 48.0	+0.6

MEX 24 05:43:57.1±0.6,14.72N×93.84W,h16km±15km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.15	31	iP	Pn	05 44 14.7	-3.9
PCIG				iS	Sb	05 44 28.9	-4.4
THIG		1.54	83	iP	Pn	05 44 20.3	-3.6
THIG				iS	Sn	05 44 39.2	-4.3
CCIG	Comitan	2.26	46	iP	Pn	05 44 30.7	-3.4
CCIG				iS	Sn	05 44 57.5	-4.4
CMIG	Matias Romero	2.56	337	eP	Pn	05 44 35.6	-2.5
CMIG				eS	Sn	05 45 04.5	-4.5

IDC 24 05:50:54.3±3.0,8.19S×156.27E,h0km,mb3.9/5, mb1 4.1/5,mb1mx3.8/24,mbtmp3.9/5,MS2.6/1,Ms1 2.6/1, ms1mx2.4/24,Error ellipse: s-maj=83.3km s-min=30.2km az=102.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	9.09	262	LR	LR	05 56 10.4	
	comp=Z,40nm,19.9s,baz=112,slow=35						
WRA	Warramunga Arr	24.23	239	P	P	05 56 12.2	-0.9
	0.9nm,0.6s,baz=64,slow=9.5,SNR=6.3						
STKA	Stephens Creek	27.24	208	P	P	05 56 40.6	+0.4
	1.1nm,0.3s,baz=25,slow=14,SNR=3.8						
CMAR	Chiang Mai Arr	62.44	296	P	P	06 01 21.3	+1.5
	0.7nm,0.3s,baz=113,slow=5.0,SNR=6.7						
SONM	Songino Array	71.02	327	P	P	06 02 13.9	-0.3
	0.7nm,0.8s,baz=133,slow=6.2,SNR=7.4						
MKAR	Makanchi Array	85.13	318	P	P	06 03 31.6	-0.8
	1.3nm,0.9s,baz=107,slow=6.5,SNR=11						

IDC 24 06:17:25.3±2.2,10.02S×117.24E,h0km,mb3.8/4, mb1 4.0/6,mb1mx3.7/35,mbtmp3.9/6,ML3.9/2,MS3.3/2, Ms1 3.3/2,ms1mx2.6/32,Error ellipse: s-maj=74.3km s-min=25.8km az=39.0
ISCJB 24 06:17:29.8±0.4,10.31S±0.05×117.47E±0.04,h34km, mb3.9/4,MS3.2/2,Error ellipse: s-maj=7.7km s-min=4.5km az=27.1
DJA 24 06:17:33.9±0.5,10°S±9°×11°7E±°,h56km±22km,M4.4/15, MLv4.4/15
AUST 24 06:17:37.7±19.0,11.00S×117.99E,h0km,Error ellipse: s-maj=2.6km s-min=1.2km az=332.0
ISC 24 06:17:31.2±0.6,10.16S±0.08×117.51E±0.04,h34km,n31, σ2.30/31,mb3.9/4,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.92	75	P	Pn	06 18 03.3	+1.7
IGBI	Denpasar	2.69	300	P	Pn	06 18 12.7	+0.7
IGBI				S	Sn	06 18 42.6	-0.8
DNP	Denpasar	2.71	303	P	Pb	06 18 20.8	+1.8
WSI	Waingapu	2.79	80	P	Pb	06 18 21.3	+0.9
BASI	Baing, Sumba	3.02	91	P	Pn	06 18 19.0	+2.4
SRBI	Singaraja	3.07	312	P	Pn	06 18 20.3	+3.0
JAGI	Jajag, Banyuwa	3.72	297	P	Pn	06 18 26.2	0.0
ABJI	Asem Bagus	4.00	306	P	Pn	06 18 32.3	+2.2
GMJI	Gumukmas	4.43	295	P	Pn	06 18 35.9	-0.1
BLJI	Banyuglugur	4.55	302	P	Pn	06 18 37.5	-0.2
KMMI	Kalianget	4.67	311	P	Pn	06 18 42.2	+2.8
MMRI	Maumere	4.90	72	P	Pn	06 18 43.7	+1.2
BSSI	Bau Bau, Buton	4.96	37	P	Pn	06 18 44.2	+0.8
BKSI	Bulukumba	5.46	28	P	Pn	06 18 54.4	+4.2
BATI	Baumata	6.06	91	Pn	Pn	06 19 00.4	+1.9
	9.6nm,0.3s,baz=272,slow=3.4,SNR=4.9						
BATI				Sn	Sn	06 20 08.4	+1.8
	9.6nm,0.3s,baz=252,slow=20,SNR=7.6						
KNRA	Kununurra	12.26	118	P	Pn	06 20 23.8	+0.3
	baz=12,SNR=6.4						
GIRL	Giralia	12.80	194	P	Pn	06 20 30.8	0.0
	baz=12,SNR=10						
GIRL				S	Sn	06 22 42.7	-10
	baz=12,SNR=5.5						
MTN	Manton Dam	13.61	103	P	Pn	06 20 40.9	-1.1
	baz=13,SNR=3.9						
MTN				S	Sn	06 23 08.0	-4.1
	baz=13,SNR=4.4						
MEEK	Meekatharra	16.42	177	P	Pn	06 21 20.0	+0.8
	baz=16,SNR=14						
MEEK				S	Sn	06 24 08.3	-12
	baz=16,SNR=9.9						
WRKA	Warakurna	18.00	147	P	P	06 21 42.5	+3.4
	baz=17,SNR=13						
WRKA				S	Sn	06 24 52.8	-5.9
	baz=17,SNR=4.7						
MORW	Morawa	18.86	184	P	Pn	06 21 52.4	+3.1
	baz=18,SNR=3.8						
MORW				S	Sn	06 25 05.7	-14
	baz=18,SNR=9.9						
WRA	Warramunga Arr	18.92	123	P	Pn	06 21 50.7	+0.6
	0.2nm,0.3s,baz=300,slow=13,SNR=16						
WRA				S	Sn	06 25 10.9	-10
	0.3nm,0.3s,baz=293,slow=24,SNR=3.6						
BLDU	Ballidu	20.37	182	S	S	06 25 43.4	-8.0
	baz=20,SNR=9.1						
NWAO	Narrogin (SRO)	22.66	181	LR	LR	06 32 00.4	
	comp=Z,48nm,19.4s,baz=212,slow=38						
QIS	Mount Isa	23.65	119	P	P	06 22 43.0	+3.3
	baz=23,SNR=4.4						
STKA	Stephens Creek	31.04	138	LR	LR	06 36 45.6	
	comp=Z,84nm,20.9s,baz=207,slow=37						
USRK	Ussuriysk Arra	55.68	13	P	P	06 27 02.6	-1.4
	0.9nm,0.5s,baz=179,slow=7.2,SNR=4.4						
SONM	Songino Array	58.58	351	P	P	06 27 22.6	-2.0
	0.5nm,0.5s,baz=169,slow=8.5,SNR=8.5						
MKAR	Makanchi Array	64.83	334	P	P	06 28 04.5	-2.2
	0.6nm,0.6s,baz=152,slow=6.8,SNR=11						
ZALV	Zalesovo Beam	69.61	340	P	P	06 28 34.6	-2.1
	0.5nm,0.4s,baz=131,slow=3.8,SNR=3.4						
YKA	Yellowknife Ar	115.84	24	PKP	PKPdf	06 36 10.1	+0.2
	0.1nm,0.4s,baz=300,slow=1.8,SNR=5.1						

ISCJB 24 06:19:19.2±0.6,36.94N±0.03×9.63W±0.04,h10km,Error ellipse: s-maj=5.4km s-min=4.4km az=149.3
CNRM 24 06:19:21.6,36.61N×10.13W,h30km,MD3.3
MDD 24 06:19:23.0±1.1,36.90N×9.77W,h45km±25km,mb4.8/19, Error ellipse: s-maj=10.2km s-min=6.5km az=67.0, PRXIMO
CSEM 24 06:19:23.9±0.3,37.02N×9.62W,h30km,ML3.2/4,Error ellipse: s-maj=5.7km s-min=3.7km az=55.0
IGIL 24 06:19:23.7,36.89N×9.75W,h31km,ML3.0
INMG 24 06:19:24.0±0.8,36.90N×9.74W,h31km,MD2.2,ML2.7, Error ellipse: s-maj=2.8km s-min=1.8km az=67.0
LDG 24 06:19:25.2±0.4,37.15N×9.40W,h56km±4km,Ml3.0/3, Error ellipse: s-maj=8.7km s-min=5.3km az=46.0
ISC 24 06:19:18.8±1.6,36.90N±0.05×9.80W±0.06,h10km,n122, σ2.10/201,8C-1D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.82	73	iP	Pn	06 19 37.3	+1.0
PFVI				eS	Sb	06 19 47.5	+1.4
PFVI				A	A	06 19 47.8	
	615nm,0.2s						
PFVI	Vila Bisbo	0.82	73	⇑P	Pn	06 19 37.3	+1.0
	174nm,0.1s,SNR=18						
PFVI				S	Sb	06 19 47.1	+1.0
	1μm,0.2s,SNR=12						
PFVI	Vila Bisbo	0.82	73	P	Pn	06 19 37.3	+1.0
	174nm,0.1s,SNR=18						
PFVI				eS	Sb	06 19 47.5	+1.4
	615nm,0.2s						
MORF	Marmelete	1.01	66	eP	Pb	06 19 39.9	+1.7
MORF				eS	Sg	06 19 51.8	+0.5
MORF				AML	AML	06 19 53.7	
	comp=N,430nm,0.3s						
MORF	Marmelete	1.01	66	iP	Pb	06 19 40.0	+1.7
MORF				eS	Sg	06 19 51.8	+0.5
MORF				A	A	06 19 54.5	
	comp=N,260nm,0.2s						
MORF	Marmelete	1.01	66	⇑P	Pb	06 19 40.0	+1.7
MORF				S	Sg	06 19 51.8	+0.5
	comp=N,260nm,0.2s						
MORF	Marmelete	1.01	66	P	Pb	06 19 40.0	+1.7
MORF				S	Sg	06 19 51.8	+0.5
	comp=N,260nm,0.2s						
PTEO	Sao Teotonio	1.08	53	iP	Pb	06 19 41.0	+1.5
PTEO				eS	Sg	06 19 53.9	+0.5
PTEO				A	A	06 19 54.2	
	comp=N,78nm,0.6s						
PTEO	Sao Teotonio	1.08	53	⇑P	Pb	06 19 41.0	+1.5
PTEO				S	Sg	06 19 53.9	+0.5
	comp=N,39nm,0.6s						
PTEO	Sao Teotonio	1.08	53	P	Pb	06 19 41.0	+1.5
PTEO				S	Sg	06 19 53.9	+0.5
	comp=N,39nm,0.6s						
PBDV	Barranco-do-Ve	1.54	77	eP	Pn	06 19 47.5	+1.2
PBDV				eS	Sn	06 20 04.3	-2.0
PBDV				A	A	06 20 06.7	
	comp=N,42nm,0.1s						
PBDV	Barranco-do-Ve	1.54	77	P	Pn	06 19 47.5	+1.2
PBDV				S	Sn	06 20 04.3	-2.0
	comp=N,42nm,0.1s						
PBDV	Barranco-do-Ve	1.54	77	eP	Pn	06 19 47.5	+1.2
PBDV				S	Sn	06 20 04.3	-2.0
	comp=N,42nm,0.1s						
MESJ	Messejana	1.57	53	eP	Pn	06 19 47.7	+1.0
MESJ				eS	Sn	06 20 05.3	-1.8
MESJ				AML	AML	06 20 06.5	
	comp=N,88nm,0.1s						
MESJ	Messejana	1.57	53	eP	Pn	06 19 47.7	+1.0
MESJ				S	Sn	06 20 05.8	-1.3
MESJ	Messejana	1.57	53	⇑P	Pn	06 19 47.7	+1.0
MESJ				S	Sn	06 20 05.3	-1.8
	comp=N,88nm,0.1s						
MESJ				S	Sn	06 20 05.8	-1.3
MESJ	Messejana	1.57	53	P	Pn	06 19 47.7	+1.0
MESJ				S	Sn	06 20 05.3	-1.8
	comp=N,88nm,0.1s						
PNCL	Nicolau / Gran	1.58	40	eP	Pn	06 19 47.9	+1.1
PNCL				S	Sn	06 20 06.0	-1.3
PNCL				A	A	06 20 08.8	
	comp=N,32nm,0.1s						
PCVE	Castro Verde	1.59	62	iP	Pn	06 19 48.0	+1.1
PCVE				eS	Sn	06 20 05.9	-1.6
PCVE				A	A	06 20 08.4	
	comp=N,59nm,0.4s						
PCVE	Castro Verde	1.59	62	⇑P	Pn	06 19 48.0	+1.1
PCVE				S	Sn	06 20 05.9	-1.6
	comp=N,59nm,0.4s						
PCVE	Castro Verde	1.59	62	P	Pn	06 19 48.0	+1.1
PCVE				S	Sn	06 20 05.9	-1.6
	comp=N,59nm,0.4s						
PVAQ	Vaqueiros	1.74	73	eP	Pn	06 19 50.1	+1.1
PVAQ				S	Sn	06 20 09.4	-1.9
PVAQ				A	A	06 20 11.2	
	comp=N,116nm,0.3s						
PVAQ	Vaqueiros	1.74	73	P	Pn	06 19 50.1	+1.1
PVAQ				S	Sn	06 20 09.4	-1.9
	comp=N,116nm,0.3s						
PVAQ	Vaqueiros	1.74	73	eP	Pn	06 19 50.1	+1.1
PVAQ				S	Sn	06 20 09.4	-1.9
	comp=N,116nm,0.3s						
EGRO	El Granado	1.96	70	P	Pn	06 19 52.8	+0.8
	comp=N,2.3nm,0.1s,SNR=26						
EGRO				S	Sn	06 20 14.2	-2.5
	comp=N,79nm,0.2s,SNR=25						
EGRO	El Granado	1.96	70	P	Pn	06 19 52.8	+0.8
	comp=N,2.3nm,0.1s,SNR=26						
EGRO				S	Sn	06 20 14.2	-2.5
	comp=N,79nm,0.2s,SNR=25						
PMAFR	Mafra	2.09	11	ePn	Pn	06 19 55.0	+1.1
PMAFR				eSn	Sn	06 20 18.9	-1.1
PMAFR				A	A	06 20 21.9	
	comp=N,74nm,0.1s						
PMAFR	Mafra	2.09	11	⇑P	Pn	06 19 54.8	+1.0
	comp=N,53nm,0.1s,SNR=18						
PMAFR				S	Sn	06 20 18.9	-1.1
	comp=N,97nm,0.1s,SNR=7.9						
PMAFR	Mafra	2.09	11	ePn	Pn	06 19 55.0	+1.1
PMAFR				S	Sn	06 20 18.9	-1.1
	comp=N,97nm,0.1s,SNR=7.9						
EVO	Evora	2.16	41	ePn	Pn	06 19 55.7	+0.9
EVO				eSn	Sn	06 20 19.7	-2.0
EVO				A	A	06 20 20.8	
	comp=N,56nm,0.1s						
EVO	Evora	2.16	41	P	Pn	06 19 55.7	+0.9
EVO				S	Sn	06 20 19.7	-2.0
	comp=N,56nm,0.1s						
EVO	Evora	2.16	41	P	Pn	06 19 55.7	+0.9
EVO				S	Sn	06 20 19.7	-2.0
	comp=N,56nm,0.1s						
PMTG	Montargil	2.50	29	ePn	Pn	06 20 00.5	+1.0
PMTG				eSn	Sn	06 20 28.2	-1.8
PMTG				A	A	06 20 33.8	
	comp=N,10nm,0.1s						
PMTG	Montargil	2.50	29	ePn	Pn	06 20 00.5	+1.0
PMTG				eSn	Sn	06 20 28.2	-1.8
	comp=N,10nm,0.1s						
PBAR	Barrancos	2.54	59	ePn	Pn	06 20 00.8	+0.8
PBAR				eSn	Sn	06 20 28.4	-2.6
PBAR				A	A	06 20 30.0	
	comp=N,70nm,0.1s						
PBAR	Barrancos	2.54	59	P	Pn	06 20 00.8	+0.8
PBAR				S	Sn	06 20 28.4	-2.6
	comp=N,70nm,0.1s						
PBAR	Barrancos	2.54	59	P	Pn	06 20 00.8	+0.8
PBAR				S	Sn	06 20 28.4	-2.6
	comp=N,70nm,0.1s						
EMIN	Mina Concepcio	2.64	70	P	Pn	06 20 02.0	+0.6
	comp=N,8.9nm,0.2s,SNR=69						
EMIN				S	Sn	06 20 30.8	-2.8
	comp=N,21nm,0.1s,SNR=25						
EMIN	Mina Concepcio	2.64	70	P	Pn	06 20 02.0	+0.6
	comp=N,8.9nm,0.2s,SNR=69						
EMIN				S	Sn	06 20 30.8	-2.8
	comp=N,21nm,0.1s,SNR=25						
EBAD	Badajoz	2.88	49	P	Pn	06 20 05.1	+0.4
	comp=N,18nm,0.1s,SNR=147						
EBAD				S	Sn	06 20 36.7	-2.8
	comp=N,66nm,0.2s,SNR=9.2						
EBAD	Badajoz	2.88	49	P	Pn	06 20 05.1	+0.4
	comp=N,18nm,0.1s,SNR=147						
EBAD				S	Sn	06 20 36.7	-2.8
	comp=N,66nm,0.2s,SNR=9.2						
PTOM	Tomar	2.93	22	ePn	Pn	06 20 06.3	+1.0
PTOM				eSn	Sn	06 20 38.1	-2.4
PTOM				A	A	06 20 47.0	
	comp=N,16nm,0.1s						
PTOM	Tomar	2.93	22	P	Pn	06 20 06.3	+1.0
PTOM				S	Sn	06 20 38.1	-2.4
	comp=N,8.1nm,0.1s						
PTOM	Tomar	2.93	22	P	Pn	06 20 06.3	+1.0
PTOM				S	Sn	06 20 38.1	-2.4
	comp=N,8.1nm,0.1s						
PMRV	Marv??o	3.16	36	ePn	Pn	06 20 09.4	+0.8
PMRV				eSn	Sn	06 20 43.8	-2.5
PMRV				A	A	06 20 44.7	
	comp=N,15nm,0.1s						
PMRV	Marv??o	3.16	36	P	Pn	06 20 09.4	+0.8
PMRV				S	Sn	06 20 43.8	-2.5
	comp=N,15nm,0.1s						
PMRV	Marv??o	3.16	36	P	Pn	06 20 09.4	+0.8
PMRV				S	Sn	06 20 43.8	-2.5
	comp=N,15nm,0.1s						
ESPR	Espera	3.17	89	⇑P	Pn	06 20 09.7	+1.1
	comp=N,19nm,0.1s,SNR=18						
ESPR				S	Sn	06 20 43.8	-2.6
	comp=N,122nm,0.3s,SNR=8.8						
ESPR	Espera	3.17	89	P	Pn	06 20 09.7	+1.1
	comp=N,19nm,0.1s,SNR=18						
ESPR				S	Sn	06 20 43.8	-2.6
	comp=N,122nm,0.3s,SNR=8.8						
PCAS	Casmilo, Conde	3.31	18	ePn	Pn	06 20 11.8	+1.2
PCAS				eSn	Sn	06 20 47.7	-2.3
PCAS				A	A	06 20 50.1	
	comp=N,8.4nm,0.6s						
PCAS	Casmilo, Conde	3.31	18	ePn	Pn	06 20 11.8	+1.2
PCAS				eSn	Sn	06 20 47.7	-2.3
	comp=N,8.4nm,0.6s						
PCBR	Castelo Branco	3.46	31	ePn	Pn	06 20 13.8	+1.2
PCBR				eSn	Sn	06 20 50.9	-2.8
PCBR				A	A	06 20 54.7	
	comp=N,4.2nm,0.2s						
PCBR	Castelo Branco	3.46	31	P	Pn	06 20 13.8	+1.2
PCBR				S	Sn	06 20 50.9	-2.8
	comp=N,2.1nm,0.2s						
PCBR	Castelo Branco	3.46	31	P	Pn	06 20 13.8	+1.2
PCBR				S	Sn	06 20 50.9	-2.8
	comp=N,2.1nm,0.2s						
ECAB	El Cabril	3.68	70	P	Pn	06 20 16.6	+0.9
	comp=N,5.8nm,0.2s,SNR=32						
ECAB				S	Sn	06 20 55.1	-4.1
	comp=N,87nm,0.2s						
ECAB	El Cabril	3.68	70	P	Pn	06 20 16.6	+0.9
	comp=N,5.8nm,0.2s,SNR=32						
ECAB				S	Sn	06 20 55.1	-4.1
	comp=N,87nm,0.2s						
MTE	Manteigas	3.92	26	ePn	Pn	06 20 19.9	+0.9
MTE				eSn	Sn	06 21 01.3	-3.8
MTE				A	A	06 21 04.8	
	comp=N,5.5nm,0.3s						
MTE	Manteigas	3.92	26	P	Pn	06 20 19.9	+0.9
MTE				S	Sn	06 21 01.3	-3.8
	comp=N,2.8nm,0.3s						
MTE	Manteigas	3.92	26	P	Pn	06 20 19.9	+0.9
MTE				S	Sn	06 21 01.3	-3.8
	comp=N,2.8nm,0.3s						
EMIJ	Mijas	4.06	93	P	Pn	06 20 21.5	+0.6
	comp=N,0.9nm,0.1s,SNR=5.9						
EMIJ				S	Sn	06 21 04.8	-3.7

	comp=N,3.6nm,0.3s						
EMIJ	**Mijas**	**4.06**	**93**	P	**Pn**	**06 20 21.5**	**+0.6**
	comp=N,0.9nm,0.1s,SNR=5.9						
EMIJ				S	**Sn**	**06 21 04.8**	**-3.7**
	comp=N,3.6nm,0.3s						
EPLA	**Plasencia**	**4.30**	**42**	⇑P	**Pn**	**06 20 24.9**	**+0.6**
	comp=N,7.2nm,0.2s,SNR=18						
EPLA				S	**Sn**	**06 21 10.7**	**-3.8**
	comp=N,7.9nm,0.1s,SNR=9.2						
EPLA	**Plasencia**	**4.30**	**42**	P	**Pn**	**06 20 24.9**	**+0.6**
	comp=N,7.2nm,0.2s,SNR=18						
EPLA				S	**Sn**	**06 21 10.7**	**-3.8**
	comp=N,7.9nm,0.1s,SNR=9.2						
ELUQ	**Luque**	**4.47**	**80**	S	**Sn**	**06 21 14.2**	**-4.5**
	comp=N,10nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**4.47**	**80**	S	**Sn**	**06 21 14.2**	**-4.5**
	comp=N,10nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.66**	**20**	*e*Pn	**Pn**	**06 20 29.9**	**+0.7**
PVRL				*e*Sn	**Sn**	**06 21 19.2**	**-4.2**
PVRL				A	A	06 21 22.5	
	comp=N,13nm,0.3s						
PVRL	**Vila Real**	**4.66**	**20**	P	**Pn**	**06 20 29.9**	**+0.7**
PVRL				S	**Sn**	**06 21 19.2**	**-4.2**
	comp=N,6.6nm,0.3s						
PVRL	**Vila Real**	**4.66**	**20**	P	**Pn**	**06 20 29.9**	**+0.7**
PVRL				S	**Sn**	**06 21 19.2**	**-4.2**
	comp=N,6.6nm,0.3s						
POLO	**Lamas de Olo**	**4.73**	**19**	*e*Pn	**Pn**	**06 20 30.7**	**+0.4**
POLO				*e*Sn	**Sn**	**06 21 21.2**	**-4.0**
POLO				A	A	06 21 24.7	
	comp=N,2.2nm,0.2s						
POLO	**Lamas de Olo**	**4.73**	**19**	*e*Pn	**Pn**	**06 20 30.7**	**+0.4**
POLO				*e*Sn	**Sn**	**06 21 21.2**	**-4.0**
	comp=N,2.2nm,0.2s						
MVO	**Moncorvo**	**4.77**	**26**	*e*Pn	**Pn**	**06 20 31.5**	**+0.7**
MVO				*e*Sn	**Sn**	**06 21 21.9**	**-4.3**
MVO				A	A	06 21 23.8	
	comp=N,5.4nm,0.5s						
MVO	**Moncorvo**	**4.77**	**26**	P	**Pn**	**06 20 31.5**	**+0.7**
	comp=N,14nm,0.1s,SNR=70						
MVO				S	**Sn**	**06 21 22.6**	**-3.6**
	comp=N,2.7nm,0.1s						
MVO	**Moncorvo**	**4.77**	**26**	P	**Pn**	**06 20 31.5**	**+0.7**
	comp=N,14nm,0.1s,SNR=70						
MVO				*e*Sn	**Sn**	**06 21 21.9**	**-4.3**
	comp=N,5.4nm,0.5s						
MVO				S	**Sn**	**06 21 22.6**	**-3.6**
	comp=N,2.7nm,0.1s						
EBAN	**Banos Encina**	**4.95**	**73**	P	**Pn**	**06 20 34.1**	**+0.9**
	comp=N,3.8nm,0.1s,SNR=7.9						
EBAN				S	Sn	06 21 25.0	-5.5
	comp=N,6.0nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**4.95**	**73**	P	**Pn**	**06 20 34.1**	**+0.9**
	comp=N,3.8nm,0.1s,SNR=7.9						
EBAN				S	Sn	06 21 25.0	-5.5
	comp=N,6.0nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**5.00**	**15**	*e*Pn	**Pn**	**06 20 34.5**	**+0.7**
PCAB				*e*Sn	**Sn**	**06 21 27.9**	**-3.8**
PCAB				A	A	06 21 32.4	
	comp=N,6.6nm,0.2s						
PCAB	**Cabril**	**5.00**	**15**	P	**Pn**	**06 20 34.5**	**+0.7**
PCAB				S	**Sn**	**06 21 27.9**	**-3.8**
	comp=N,3.3nm,0.2s						
PCAB	**Cabril**	**5.00**	**15**	P	**Pn**	**06 20 34.5**	**+0.7**
PCAB				S	**Sn**	**06 21 27.9**	**-3.8**
	comp=N,3.3nm,0.2s						
ELOB	**Lobios**	**5.14**	**15**	P	**Pn**	**06 20 36.5**	**+0.6**
	comp=N,4.8nm,0.2s,SNR=6.1						
ELOB				S	Sn	06 21 29.8	-5.5
	comp=N,4.2nm,0.1s						
ELOB	**Lobios**	**5.14**	**15**	P	**Pn**	**06 20 36.5**	**+0.6**
	comp=N,4.8nm,0.2s,SNR=6.1						
ELOB				S	Sn	06 21 29.8	-5.5
	comp=N,4.2nm,0.1s						
KIB	**El Ksiba**	**5.31**	**143**	P	**Pn**	**06 20 38.0**	**-0.2**
KIB				S	Sn	06 21 34.0	-5.6
KIB	**El Ksiba**	**5.31**	**143**	P	**Pn**	**06 20 38.0**	**-0.2**
ESDC	**Sonseca Array**	**5.36**	**57**	P	**Pn**	**06 20 39.2**	**+0.3**
	comp=N,22nm,0.2s,baz=243,slow=13,SNR=33						
ESDC				S	**Sn**	**06 21 36.7**	**-4.1**
	comp=N,4.5nm,0.3s,baz=243,slow=23,SNR=40						
ESDC	**Sonseca Array**	**5.36**	**57**	P	**Pn**	**06 20 39.2**	**+0.3**
	comp=N,22nm,0.2s,slow=13,SNR=33						
ESDC				S	**Sn**	**06 21 36.7**	**-4.1**
	comp=N,4.5nm,0.3s,slow=23,SNR=40						
CIA	**Chichaoua**	**5.39**	**170**	P	Pn	06 20 36.0	-3.3
CIA				S	Sn	06 21 31.0	-10
GORA	**Gorafe**	**5.43**	**82**	S	**Sn**	**06 21 38.4**	**-4.1**
	comp=N,6.3nm,0.1s,SNR=7.9						
GORA	**Gorafe**	**5.43**	**82**	S	**Sn**	**06 21 38.4**	**-4.1**
	comp=N,6.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.44**	**78**	P	**Pn**	**06 20 41.0**	**+1.0**
	comp=N,1.3nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**06 21 38.3**	**-4.4**
	comp=N,6.0nm,0.2s,SNR=20						
EQES	**Quesada**	**5.44**	**78**	P	**Pn**	**06 20 41.0**	**+1.0**
	comp=N,1.3nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**06 21 38.3**	**-4.4**
	comp=N,6.0nm,0.2s,SNR=20						
PBRG	**Braganca**	**5.44**	**25**	*e*Pn	**Pn**	**06 20 40.7**	**+0.7**
PBRG				*e*Sn	**Sn**	**06 21 38.5**	**-4.2**
PBRG				A	A	06 21 42.3	
	comp=N,3.7nm,0.3s						
PBRG	**Braganca**	**5.44**	**25**	P	**Pn**	**06 20 40.7**	**+0.7**
PBRG				S	**Sn**	**06 21 38.5**	**-4.2**
	comp=N,1.9nm,0.3s						
PBRG	**Braganca**	**5.44**	**25**	P	**Pn**	**06 20 40.7**	**+0.7**
PBRG				S	**Sn**	**06 21 38.5**	**-4.2**
	comp=N,1.9nm,0.3s						
TZC	**Tazercounte**	**5.47**	**149**	P	Pn	06 20 39.0	-1.5
TZC				S	Sn	06 21 36.0	-7.7
ECAL	**Calabor**	**5.56**	**24**	P	**Pn**	**06 20 42.5**	**+0.8**
	comp=N,5.5nm,0.1s,SNR=12						
ECAL				S	**Sn**	**06 21 41.6**	**-4.1**
	comp=N,7.1nm,0.2s						
ECAL	**Calabor**	**5.56**	**24**	P	**Pn**	**06 20 42.5**	**+0.8**
	comp=N,5.5nm,0.1s,SNR=12						
ECAL				S	**Sn**	**06 21 41.6**	**-4.1**
	comp=N,7.1nm,0.2s						
GUD	**Guadarrama**	**5.78**	**48**	P	**Pn**	**06 20 45.1**	**+0.4**
	comp=N,9.3nm,0.2s,SNR=26						
GUD				S	Sn	06 21 46.1	-5.1
	comp=N,2.7nm,0.2s,SNR=8.0						
GUD	**Guadarrama**	**5.78**	**48**	P	**Pn**	**06 20 45.1**	**+0.4**
	comp=N,9.3nm,0.2s,SNR=26						
GUD				S	Sn	06 21 46.1	-5.1
	comp=N,2.7nm,0.2s,SNR=8.0						
OUK	**Oukaimeden**	**5.90**	**164**	P	Pn	06 20 43.0	-3.5
OUK				S	Sn	06 21 46.0	-8.7
EVIA	**Vianos**	**6.04**	**71**	P	**Pn**	**06 20 48.3**	**+0.1**
	comp=N,2.5nm,0.1s,SNR=7.9						
EVIA				S	Sn	06 21 51.8	-5.7
	comp=N,14nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**6.04**	**71**	P	**Pn**	**06 20 48.3**	**+0.1**
	comp=N,2.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.07**	**6**	P	**Pn**	**06 20 49.0**	**+0.4**
	comp=N,4.4nm,0.1s,SNR=6.2						
EMAZ				S	Sn	06 21 51.8	-6.3
	comp=N,3.0nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.07**	**6**	P	**Pn**	**06 20 49.0**	**+0.4**
	comp=N,4.4nm,0.1s,SNR=6.2						
ZFT	**Errachidia**	**6.62**	**136**	P	**Pn**	**06 20 57.0**	**+0.7**
ZFT				S	Sn	06 22 06.0	-6.0
ZFT	**Errachidia**	**6.62**	**136**	P	**Pn**	**06 20 57.0**	**+0.7**
ETOB	**Tobarra**	**6.77**	**73**	P	**Pn**	**06 20 58.2**	**0.0**
	comp=N,0.9nm,0.2s,SNR=7.5						
ETOB				S	Sn	06 22 09.3	-6.0
	comp=N,1.0nm,0.1s,SNR=6.6						
ETOB	**Tobarra**	**6.77**	**73**	⇑P	**Pn**	**06 20 58.2**	**0.0**
	comp=N,0.9nm,0.2s,SNR=7.5						
ETOR	**Torete**	**7.20**	**55**	⇓P	**Pn**	**06 21 05.1**	**+0.9**
	comp=N,27nm,0.2s,SNR=18						
ETOR				S	Sn	06 22 19.1	-6.9
	comp=N,9.3nm,0.2s,SNR=6.1						
ETOR	**Torete**	**7.20**	**55**	P	**Pn**	**06 21 05.1**	**+0.9**
	comp=N,27nm,0.2s,SNR=18						
IELO	**Elcoad**	**8.86**	**45**	P	**Pn**	**06 21 27.8**	**+0.9**
	comp=N,1.7nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**8.86**	**45**	P	**Pn**	**06 21 27.8**	**+0.9**
	comp=N,1.7nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**9.04**	**44**	*e*Pn	Pn	06 21 26.7	-2.6
SJPF	**Ste Jean**	**9.04**	**44**	*e*P	**Pn**	**06 21 30.7**	**+1.4**
SJPF				*e*Sn	Sn	06 22 57.2	-14
	comp=N,0.8nm,0.2s						
SJPF	**Ste Jean**	**9.04**	**44**	P	**Pn**	**06 21 30.7**	**+1.4**
SJPF				S	Sn	06 22 57.2	-14
	comp=N,0.4nm,0.2s						
SJPF	**Ste Jean**	**9.04**	**44**	*e*P	**Pn**	**06 21 30.7**	**+1.4**
ETSF	**Etsaut**	**9.29**	**47**	*e*Pn	Pn	06 21 28.9	-3.9
ETSF	**Etsaut**	**9.29**	**47**	*e*P	**Pn**	**06 21 33.6**	**+0.8**
ETSF				*e*Sn	Sn	06 23 03.1	-14
	comp=N,0.7nm,0.3s						
ETSF	**Etsaut**	**9.29**	**47**	P	**Pn**	**06 21 33.6**	**+0.8**
ETSF				S	Sn	06 23 03.1	-14
	comp=N,0.3nm,0.2s						
ETSF	**Etsaut**	**9.29**	**47**	*e*P	**Pn**	**06 21 33.6**	**+0.8**
EPF	**Esparros**	**9.90**	**49**	*e*Pn	Pn	06 21 37.6	-3.5
EPF	**Esparros**	**9.90**	**49**	*e*P	**Pn**	**06 21 42.7**	**+1.6**
EPF				*e*Sn	Sn	06 23 17.6	-15
	comp=N,0.9nm,0.3s						
EPF	**Esparros**	**9.90**	**49**	P	**Pn**	**06 21 42.7**	**+1.6**
EPF				Sn	Sn	06 23 17.6	-15
	comp=N,0.4nm,0.3s						
EPF	**Esparros**	**9.90**	**49**	*e*P	**Pn**	**06 21 42.7**	**+1.6**

IDC 24 06:52:43.9±2.8,54°28N×86°05E,h0km,mb1 2.9/1, mb1mx2.7/32,mbtmp2.9/1,ML2.9/1,Error ellipse: s-maj=19.6km s-min=11.3km az=52.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.80**	**246**	*i*		06 58 24.9	
	baz=65,slow=344,SNR=2.3						
ZALV	**Zalesovo Beam**	**0.80**	**246**	Pg	Pg	06 52 57.7	-1.5
	0.8nm,0.3s,baz=64,slow=16,SNR=8.4						
ZALV				Lg	Lg	06 53 11.1	
	3.8nm,0.3s,baz=69,slow=30,SNR=27						
MKAR	**Makanchi Array**	**7.87**	**199**	Pn	Pn	06 54 41.0	+1.5
	0.2nm,0.3s,baz=15,slow=12,SNR=11						

CSEM 24 06:53:52.5±0.4,43°41N×17°70E,h2km,ML1.8,Error ellipse: s-maj=9.6km s-min=7.9km az=116.0
BEO 24 06:53:51.6±0.6,43°45N×17°43E,h4km±7km,ML1.8/7, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.61**	**161**	*e*Pg	Pg	06 54 02.0	-1.3
STON				Sg	Sg	06 54 11.8	+0.5
STON	**Ston**	**0.61**	**161**	*e*Pg	Pg	06 54 01.9	-1.4
STON	**Ston**	**0.61**	**161**	*e*Pg	Pg	06 54 01.9	-1.4
STON				Sg	Sg	06 54 11.7	+0.5
TREB	**Trebinje**	**1.00**	**137**	*e*Pg	Pg	06 54 08.4	-2.3
TREB				*e*Sg	Sg	06 54 24.0	+0.3
TREB	**Trebinje**	**1.00**	**137**	*e*Pg	Pg	06 54 08.4	-2.3
BLY	**Banja Luka**	**1.31**	**352**	*e*Pg	Pn	06 54 16.6	-0.1
BLY				*e*Sg	Sb	06 54 34.3	+0.3
BBLS	**Lazići**	**1.49**	**73**	*e*Pg	Pn	06 54 17.6	-1.7
BBLS	**Lazići**	**1.49**	**73**	*e*Pg	Pn	06 54 17.6	-1.7
TEKS	**Tekeris**	**1.87**	**53**	*e*Pg	Pn	06 54 25.2	+0.7
TEKS	**Tekeris**	**1.87**	**53**	*e*Pg	Pn	06 54 25.2	+0.7
DIVS	**Divibare**	**1.96**	**70**	*e*Pg	Pb	06 54 27.0	-1.1
DIVS	**Divibare**	**1.96**	**70**	*e*Pg	Pb	06 54 27.0	-1.1
IVAS	**Ivanjica**	**1.98**	**85**	*e*Pn	Pn	06 54 26.0	-0.1
IVAS	**Ivanjica**	**1.98**	**85**	*e*Pn	Pn	06 54 26.0	-0.1
NVLJ	**Novalja**	**2.16**	**302**	*e*Pn	Pb	06 54 32.0	+0.8
NVLJ				Sn	Sg	06 55 02.0	+1.1
NVLJ	**Novalja**	**2.16**	**302**	*e*Pn	Pb	06 54 32.0	+0.8
NVLJ				Sn	Sg	06 55 01.9	+1.1

IPEC 24 06:55:33.7±0.2,50°20N×19°15E,h0km±1km,ML1.9/3, Error ellipse: s-maj=2.9km s-min=1.1km az=168.0
CSEM 24 06:55:33.7±0.3,50°18N×19°10E,h2km,ML1.9,Error ellipse: s-maj=9.0km s-min=3.6km az=6.0
PRU 24 06:55:34.8,50°14N×19°08E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.16**	**340**	*e*Pg	Pg	06 55 39.4	+1.4
CHZP				*e*Sg	Sg	06 55 42.6	+2.5
OJC	**Ojcow**	**0.47**	**80**	*e*Pg	Pg	06 55 42.0	-1.8
OJC				*e*Sg	Sg	06 55 47.8	-2.1
OJC	**Ojcow**	**0.47**	**80**	*e*Pg	Pg	06 55 42.0	-1.8
OJC				*e*Sg	Sg	06 55 47.8	-2.1
OKC	**Ostrava-Krasne**	**0.67**	**244**	*e*PG	Pg	06 55 48.3	+0.6
OKC				*e*SG	Sg	06 55 57.2	+0.7
	26nm,0.5s						
OKC	**Ostrava-Krasne**	**0.67**	**244**	Pg	Pg	06 55 48.3	+0.6
OKC				Sg	Sg	06 55 57.2	+0.7
	26nm,0.5s						
MORC	**Moravsky Berou**	**1.06**	**250**	*e*Pg	Pg	06 55 55.2	0.0
MORC				*e*Sg	Sg	06 56 08.9	-0.1
	23nm,0.2s						
NIE	**Niedzica**	**1.08**	**132**	*e*Pg	Pg	06 55 53.3	-2.2
NIE				*e*Sg	Sg	06 56 09.5	0.0
NIE	**Niedzica**	**1.08**	**132**	*e*Pg	Pg	06 55 53.3	-2.2
NIE				*e*Sg	Sg	06 56 09.5	0.0
KRLC	**Kraliky**	**1.48**	**268**	*e*SG	Sg	06 56 21.7	-0.9
KRLC	**Kraliky**	**1.48**	**268**	Sg	Sg	06 56 21.7	-0.9
STHS	**Stebnicka Huta**	**1.58**	**116**	*e*PN	Pn	06 56 03.4	-0.7
STHS				*e*SN	Sg	06 56 25.9	+0.3
STHS	**Stebnicka Huta**	**1.58**	**116**	*e*Pn	Pn	06 56 03.4	-0.7
STHS				*e*Sn	Sg	06 56 25.9	+0.3
VYHS	**Vyhne**	**1.66**	**186**	*e*PN	Pn	06 56 03.3	-1.8
VYHS				*e*SN	Sn	06 56 24.8	-2.3
VYHS	**Vyhne**	**1.66**	**186**	*e*Pn	Pn	06 56 03.3	-1.8
VYHS				*e*Sn	Sn	06 56 24.8	-2.3
DPC	**Dobruska-Polom**	**1.78**	**278**	*e*PG	Pn	06 56 07.4	+0.5
DPC				*e*SG	Sn	06 56 30.3	-0.1
DPC	**Dobruska-Polom**	**1.78**	**278**	Pg	Pn	06 56 07.4	+0.5
DPC				Sg	Sn	06 56 30.3	-0.1
VRAC	**Vranov**	**1.82**	**244**	*e*Pn	Pn	06 56 07.1	-0.2
VRAC				*e*Sg	Sg	06 56 33.1	-0.1
	8.2nm,0.4s						
KSP	**Ksiaz**	**1.91**	**293**	*e*Pg	Pb	06 56 10.6	0.0
KSP				*e*		06 56 13.7	
KSP				*e*Sg	Sg	06 56 37.0	+0.6
KSP	**Ksiaz**	**1.91**	**293**	*e*Pg	Pb	06 56 10.6	0.0
KSP				*e*Sg	Sg	06 56 37.0	+0.6
CRVS	**Cervenica-Dubn**	**1.99**	**128**	*e*PN	Pn	06 56 10.5	+0.8
CRVS				*e*SN	Sn	06 56 34.8	-0.5
CRVS	**Cervenica-Dubn**	**1.99**	**128**	*e*Pn	Pn	06 56 10.5	+0.8
UPC	**Upice**	**2.00**	**282**	*e*SG	Sb	06 56 37.2	-0.4
UPC	**Upice**	**2.00**	**282**	Sg	Sb	06 56 37.2	-0.4
KRUC	**Moravsky**	**2.05**	**239**	*e*Pn	Pn	06 56 10.2	-0.4
KRUC				*e*Sn	Sb	06 56 38.7	-0.3
	5.8nm,0.4s						
KOLS	**Kolonicke sedl**	**2.41**	**119**	*e*	Pb	06 56 18.5	-0.5
KOLS	**Kolonicke sedl**	**2.41**	**119**	*e*SN	Sn	06 56 44.5	-1.1
TREC	**Trest**	**2.48**	**251**	*e*SG	Sg	06 56 54.6	0.0
	5.6nm,0.3s						
TREC	**Trest**	**2.48**	**251**	Sg	Sg	06 56 54.6	0.0
	5.6nm,0.3s						
PRU	**Pruhonice**	**2.93**	**269**	*e*SG	Sg	06 57 07.0	-1.9
	4.6nm,0.4s						
PRU	**Pruhonice**	**2.93**	**269**	Sg	Sg	06 57 07.0	-1.9
	4.6nm,0.4s						
BRG	**Berggiesshubel**	**3.36**	**285**	SG	Sg	06 57 25.0	+2.2
	9.6nm,1.0s						
KHC	**Kasperske Hory**	**3.72**	**256**	*e*PG	Pg	06 56 44.0	-2.1
KHC				*e*SG	Sg	06 57 32.7	-1.6
	5.2nm,0.6s						
KHC	**Kasperske Hory**	**3.72**	**256**	Pg	Pg	06 56 44.0	-2.1
KHC				Sg	Sg	06 57 32.7	-1.6
	5.2nm,0.6s						
CLL	**Collm**	**4.04**	**289**	*e*Sg	Sg	06 57 44.0	-0.4
	comp=Z,6.0nm,0.9s						

ISCJB 24 07:19:60.0±0.4,54°93N±0°03×160°55E±0°07, h139km±4km,mb3.4/5,Error ellipse: s-maj=7.3km s-min=3.1km az=25.5
KRSC 24 07:19:59.3±1.0,54°93N×160°52E,h138km±11km,ML3.7
IDC 24 07:20:01.8±1.6,54°95N×160°09E,h150km±17km,mb3.2/5, mb1 3.5/8,mb1mx3.1/33,mbtmp3.6/8,Error ellipse: s-maj=30.0km s-min=17.5km az=130.0
ISC 24 07:20:01.0±0.8,54°92N±0°04×160°50E±0°05,h134km±7km, n39,σ0°95/58,mb3.5/5,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.22**	**328**	*e*P	**Pn**	**07 20 19.5**	**-0.1**
KZV				*e*S	**Sn**	**07 20 34.0**	**+0.3**
TUMR	**Tumrok**	**0.41**	**331**	*i* P	**Pn**	**07 20 20.4**	**+0.2**
TUMR				*e*S	**Sn**	**07 20 34.4**	**-0.4**
KMNR	**Kamenistaya**	**0.85**	**350**	*i* P	**Pn**	**07 20 22.7**	**-0.3**
KMNR				*i* S	**Sn**	**07 20 40.5**	**+0.7**
KII	**Karymskiy**	**1.08**	**215**	*e*P	**Pn**	**07 20 25.1**	**0.0**
KOZ	**Kozyrevsk**	**1.19**	**343**	*e*P	**Pn**	**07 20 24.9**	**-1.2**
KOZ				*e*S	**Sn**	**07 20 43.9**	**-1.3**
ESO	**Esso**	**1.43**	**315**	*i* P	**Pn**	**07 20 26.8**	**-1.8**
ESO				*i* S	**Sn**	**07 20 48.5**	**-1.2**
SRDR	**Sredinnyy**	**1.47**	**343**	*e*P	**Pn**	**07 20 28.3**	**-0.7**
SRDR				*e*S	**Sn**	**07 20 50.0**	**-0.4**
BDR	**Baidarnaya**	**1.70**	**13**	*i* P	**Pn**	**07 20 32.5**	**+0.9**
BDR				*e*S	**Sn**	**07 20 56.4**	**+1.3**
SMKR	**Semkarok**	**1.75**	**18**	*e*P	**Pn**	**07 20 33.5**	**+1.3**
SMKR				*i* S	**Sn**	**07 20 56.9**	**+0.7**
SRKR	**Sorokina**	**1.77**	**12**	*e*P	**Pn**	**07 20 33.0**	**+0.5**
SRKR				*e*S	**Sn**	**07 20 58.5**	**+1.8**
KBTR	**Krutoberegovo**	**1.84**	**45**	*i* P	**Pn**	**07 20 34.0**	**+0.8**
KBTR				*e*S	**Sn**	**07 20 58.4**	**+0.5**
SPN	**Mys Shipunski**	**1.85**	**189**	*e*P	**Pn**	**07 20 32.1**	**-1.3**
SPN				*e*S	**Sn**	**07 20 56.7**	**-1.4**
NLC	**Nalytchevo**	**1.88**	**202**	*e*P	**Pn**	**07 20 33.3**	**-0.4**
NLC				*e*S	**Sn**	**07 20 59.0**	**+0.3**
SDLR	**Sedlovina**	**1.90**	**211**	*i* P	**Pn**	**07 20 34.5**	**+0.4**
SDLR				*e*S	**Sn**	**07 21 00.3**	**+0.9**
KRX	**Arik**	**1.91**	**216**	*e*P	**Pn**	**07 20 34.7**	**+0.5**
KRX				*e*S	**Sn**	**07 21 00.8**	**+1.2**
KRER	**Koryakskii**	**1.92**	**213**	*i* P	**Pn**	**07 20 34.9**	**+0.5**
GNL	**Ganaly**	**1.94**	**232**	*i* P	**Pn**	**07 20 34.2**	**-0.3**
GNL				*e*S	**Sn**	**07 21 01.3**	**+1.1**
SMAR	**Somma**	**1.94**	**212**	*e*P	**Pn**	**07 20 35.0**	**+0.3**
AVH	**Avacha**	**1.96**	**213**	*i* P	**Pn**	**07 20 35.4**	**+0.7**
AVH				*i* S	**Sn**	**07 21 02.5**	**+2.0**
KOK	**Koryaka**	**1.97**	**215**	*i* P	**Pn**	**07 20 35.4**	**+0.5**
UGLR	**Uglovaya**	**1.98**	**211**	*i* P	**Pn**	**07 20 35.5**	**+0.5**
UGLR				*i* S	**Sn**	**07 21 02.3**	**+1.2**
PET	**Petropavlovsk**	**2.19**	**211**	*e*P	**Pn**	**07 20 37.6**	**+0.1**
PET				*e*S	**Sn**	**07 21 06.4**	**+0.9**
PETK	**Petropavlovsk-**	**2.46**	**223**	P	**Pn**	**07 20 40.7**	**-0.1**
	2.5nm,0.3s,baz=68,slow=14,SNR=36						
RUS	**Russkaya**	**2.76**	**206**	*e*P	**Pn**	**07 20 44.0**	**-0.6**
RUS				*e*S	**Sn**	**07 21 16.8**	**-1.4**
MTVR	**Mutnovka**	**2.81**	**210**	*e*P	**Pn**	**07 20 45.5**	**+0.1**
MTVR				*e*S	**Sn**	**07 21 19.5**	**0.0**
ASAK	**Asacha**	**2.98**	**212**	*i* P	**Pn**	**07 20 47.4**	**-0.1**
ASAK				*e*S	**Sn**	**07 21 24.6**	**+1.2**
BKI	**Bering**	**3.16**	**83**	*i* P	**Pn**	**07 20 49.5**	**-0.2**
BKI				*i* S	**Sn**	**07 21 25.4**	**-2.0**
MIPR	**Malaya Ipel'ka**	**3.46**	**222**	*e*P	**Pn**	**07 20 53.9**	**+0.1**
TILK	**Tilichiki**	**6.31**	**26**	*e*S	**Sn**	**07 22 41.7**	**-0.5**
FX1	**Attu Island--F**	**7.76**	**100**	P	Pn	07 21 55.3	+4.2
	2.3nm,0.3s,baz=262,slow=1.4,SNR=6.4						
FX1				S	**Sn**	**07 23 15.8**	**-1.5**
	4.7nm,0.3s,baz=343,slow=20,SNR=7.9						
SEY	**Seymchan**	**9.05**	**336**	P	**Pn**	**07 22 08.3**	**-0.1**
	0.2nm,0.3s,baz=127,slow=9.5,SNR=5.2						
ILAR	**Eielson Array**	**27.38**	**48**	P	**P**	**07 25 32.9**	**-0.4**
	0.6nm,0.5s,baz=251,slow=6.3,SNR=10						
H11N2	**WAKE ISLAND Hy**	**35.47**	**170**	T	T	08 04 25.6	
	baz=355,slow=76,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**35.48**	**170**	T	T	08 04 21.9	
	baz=355,slow=76,SNR=6.3						
H11N1	**WAKE ISLAND Hy**	**35.49**	**170**	T	T	08 04 22.9	
	baz=355,slow=76,SNR=5.8						
YKA	**Yellowknife Ar**	**41.66**	**44**	P	**P**	**07 27 35.6**	**0.0**
	0.7nm,0.6s,baz=301,slow=8.2,SNR=12						
NVAR	**Mina Array Bea**	**54.91**	**72**	P	**P**	**07 29 18.7**	**+0.9**
	0.6nm,0.8s,baz=290,slow=6.3,SNR=3.9						
TXAR	**Lajitas Array**	**69.71**	**68**	P	**P**	**07 30 57.2**	**+0.9**
	0.5nm,0.5s,baz=290,slow=5.0,SNR=12						
WRA	**Warramunga Arr**	**77.84**	**205**	P	**P**	**07 31 41.9**	**-1.6**
	0.3nm,0.8s,baz=9.5,slow=5.7,SNR=3.5						

IDC 24 07:45:49.3±0.8,16°70S×173°67W,h0km,mb3.8/7, mb1 4.1/7,mb1mx3.9/20,mbtmp3.8/7,Error ellipse: s-maj=45.3km s-min=21.7km az=135.0
ISCJB 24 07:45:55.1±0.8,16°6S±0°2×173°9W±0°2,h52km,mb3.7/7, Error ellipse: s-maj=40.9km s-min=16.9km az=43.8
ISC 24 07:45:56.4±0.8,16°8S±0°2×173°7W±0°2,h52km,n15, σ0°90/9,mb3.7/7,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.88**	**199**	P	**P**	**07 50 55.9**	**+0.4**
	2.0nm,0.4s,baz=340,slow=11,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**39.99**	**330**	T	T	08 35 39.4	
	baz=153						
H11S3	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	08 35 39.6	
	baz=153						
H11S1	**WAKE ISLAND Hy**	**40.01**	**330**	T	T	08 35 38.4	
	baz=153						
H11N3	**WAKE ISLAND Hy**	**40.95**	**332**	T	T	08 37 11.3	
	baz=149						
H11N1	**WAKE ISLAND Hy**	**40.96**	**331**	T	T	08 37 10.8	
	baz=149						
H11N2	**WAKE ISLAND Hy**	**40.97**	**332**	T	T	08 37 09.1	
	baz=149						
STKA	**Stephens Creek**	**43.10**	**241**	P	**P**	**07 53 51.5**	**-0.2**
	1.3nm,0.6s,baz=85,slow=8.5,SNR=3.7						
WRA	**Warramunga Arr**	**49.25**	**258**	P	**P**	**07 54 39.8**	**-0.4**
	0.5nm,0.9s,baz=94,slow=7.1,SNR=3.1						
NVAR	**Mina Array Bea**	**75.55**	**42**	P	**P**	**07 57 36.1**	**+0.3**
	0.6nm,0.6s,baz=231,slow=6.3,SNR=6.3						
TXAR	**Lajitas Array**	**81.62**	**56**	P	**P**	**07 58 09.4**	**+0.1**
	0.9nm,1.1s,baz=241,slow=5.2,SNR=4.5						
PDAR	**Pinedale Array**	**83.48**	**42**	P	**P**	**07 58 18.9**	**0.0**
	1.4nm,0.8s,baz=251,slow=2.8,SNR=11						
ILAR	**Eielson Array**	**83.84**	**11**	P	**P**	**07 58 19.2**	**-0.7**
	0.3nm,0.7s,baz=223,slow=5.7,SNR=6.9						
BRTR	**Keskin Array B**	**147.01**	**319**	PKPbc	**PKPbc**	**08 05 35.7**	**+1.8**
	0.3nm,0.5s,baz=134,slow=4.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**174.29**	**128**	PKPab	**PKPab**	**08 07 32.7**	**-0.8**
	0.6nm,1.0s,baz=208,slow=2.8,SNR=2.4						

ISCJB 24 08:12:06.9±0.5,5°31S±0°08×153°54E±0°07,h56km, mb4.0/11,MS3.5/7,Error ellipse: s-maj=11.9km s-min=8.9km az=146.7
IDC 24 08:12:11.0±2.7,5°42S×153°50E,h81km±25km,mb3.7/12, mb1 3.9/15,mb1mx3.6/40,mbtmp4.1/15,MS3.5/10, Ms1 3.5/10,ms1mx3.2/32,Error ellipse: s-maj=18.2km s-min=15.8km az=44.0
ISC 24 08:12:08.3±0.7,5°16S±0°09×153°45E±0°08,h56km,n27, σ1°96/17,mb4.0/12,MS3.4/7,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.53**	**236**	P	**Pn**	**08 13 56.7**	**+1.1**
	1.3nm,0.3s,baz=30,slow=8.1,SNR=3.6						
PMG				S	**Sn**	**08 15 20.8**	**+1.2**
	2.8nm,0.3s,baz=140,slow=18,SNR=7.9						
PMG				LR	LR	08 16 58.3	
	comp=Z,327nm,20.7s,baz=40,slow=39						
HNR	**Honiara**	**7.72**	**124**	P	**Pn**	**08 13 57.5**	**-0.7**
	6.0nm,0.3s,baz=225,slow=10.0,SNR=2.0						
HNR				S	**Sn**	**08 15 29.6**	**+5.3**
	5.3nm,0.3s,baz=315,slow=19,SNR=3.8						
HNR				LR	LR	08 17 19.7	
	comp=Z,340nm,19.5s,baz=298,slow=41						
JAY	**Jayapura**	**12.98**	**281**	LR	LR	08 19 57.1	
	comp=Z,176nm,18.9s,baz=52,slow=36						
CTA	**Charters Tower**	**16.41**	**205**	P	**Pn**	**08 15 55.6**	**+0.5**
	0.1nm,0.3s,baz=21,slow=12,SNR=4.2						
DZM	**Mont Dzumac**	**21.00**	**144**	P	**P**	**08 16 44.3**	**-3.1**
	4.6nm,0.3s,baz=276,slow=7.2,SNR=28						
DZM				LR	LR	08 24 03.9	
	comp=Z,146nm,20.7s,baz=259,slow=34						
WRA	**Warramunga Arr**	**23.70**	**230**	P	**P**	**08 17 15.0**	**-0.3**
	6.4nm,1.1s,baz=56,slow=10.0,SNR=14						
H11S3	**WAKE ISLAND Hy**	**26.89**	**29**	T	T	08 45 58.8	
	baz=208,slow=76,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**26.89**	**29**	T	T	08 45 56.6	
	baz=208,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**26.90**	**29**	T	T	08 45 58.8	
	baz=208,slow=76,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**28.03**	**28**	T	T	08 47 33.4	
	baz=200						
H11N3	**WAKE ISLAND Hy**	**28.05**	**28**	T	T	08 47 35.1	
	baz=200						
H11N2	**WAKE ISLAND Hy**	**28.05**	**28**	T	T	08 47 36.2	
	baz=200						
BATI	**Baumata**	**29.93**	**259**	LR	LR	08 31 58.0	
	comp=Z,145nm,21.5s,baz=99,slow=40						
URZ	**Urewera**	**39.36**	**150**	P	**P**	**08 19 30.2**	**-2.1**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
	5.4nm,0.8s,baz=247,slow=3.3,SNR=6.8						
PETK	Petropavlovsk-	58.16	3	P	P	08 21 60.0	+3.7
	1.0nm,0.6s,baz=162,slow=6.1,SNR=3.0						
PETK				LR	LR	08 41 23.6	
	comp=Z,12nm,21.7s,baz=139,slow=30						
CMAR	Chiang Mai Arr	58.61	295	P	P	08 22 01.1	+1.0
	0.6nm,0.3s,baz=112,slow=4.8,SNR=8.8						
CMAR				LR	LR	08 46 10.9	
	comp=Z,28nm,19.9s,baz=158,slow=35						
TLY	Talaya	70.71	330	LR	LR	08 53 44.2	
	comp=Z,20nm,19.7s,baz=174,slow=35						
VNDA	Vanda	72.45	178	P	P	08 23 27.6	-0.8
	2.3nm,1.1s,baz=350,slow=8.8,SNR=5.5						
MKAR	Makanchi Array	81.02	319	P	P	08 24 18.4	+1.1
	0.4nm,0.5s,baz=91,slow=7.7,SNR=12						
ZALV	Zalesovo Beam	81.81	326	P	P	08 24 21.1	-0.2
	0.5nm,0.4s,baz=103,slow=5.4,SNR=3.1						
ILAR	Eielson Array	82.25	22	P	P	08 24 24.4	+1.1
	0.2nm,0.5s,baz=252,slow=4.8,SNR=11						
QSPA	South Pole Qui	84.81	180	P	P	08 24 35.6	-1.0
	5.3nm,0.8s,baz=104,slow=2.7,SNR=15						
YBH	Yreka Blue Hor	88.81	48	LR	LR	08 58 45.5	
	comp=Z,71nm,19.2s,baz=270,slow=31						
BVAR	Borovoye Array	89.91	323	P	P	08 25 00.5	-0.8
	0.4nm,0.5s,baz=101,slow=6.0,SNR=2.8						
NEW	Newport	93.43	42	LR	LR	09 00 32.3	
	comp=Z,41nm,19.3s,baz=246,slow=31						
YKA	Yellowknife Ar	95.44	28	P	P	08 25 27.5	+0.9
	0.1nm,0.6s,baz=263,slow=4.9,SNR=2.8						
TORD	Torodi Ar. Bea	151.03	288	PKPbc	PKPbc	08 31 55.1	-1.1
	0.5nm,0.3s,baz=48,slow=2.4,SNR=15						

IDC 24 08:16:54.8±1.1, 11.°64N×87.°16W, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.9/26, mbtmp3.9/12, ML2.6/3, MS2.9/3, Ms1 2.9/3, ms1mx2.5/38, Error ellipse: s-maj=41.3km s-min=13.6km az=49.0

CASC 24 08:16:59.2±0.9, 11.°40N×87.°33W, h36km±999km, MD4.3

ISC 24 08:16:56.6±1.8, 11.°49N±0.°07×87.°31W±0.°07, h15km±11km, n32, σ1.s33/34, mb4.0/12, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	0.98	46	⇓iP	Pn	08 17 17.4	+1.5
HUEN		1.39	53	eP	Pg	08 17 23.2	-0.3
CNCH	Conchagua	1.85	344	eP	Pb	08 17 29.8	-0.4
BUEV	Buena Vista	1.99	110	iP	Pn	08 17 30.6	+0.8
VSM	San Miguel	2.14	334	eP	Pb	08 17 34.5	-0.9
MESS	Mesas	2.21	110	iP	Pn	08 17 33.3	+0.5
MESS				iS	Sn	08 18 01.1	+1.2
HORNC	Hornillas	2.23	110	iP	Pn	08 17 33.7	+0.5
CUI	Cuipilapa	2.26	111	iP	Pn	08 17 34.2	+0.6
CUI				iS	Sn	08 18 01.9	+0.6
JTS	JuntasAbangare	2.60	117	Pn	Pn	08 17 38.3	+0.1
	3.8nm,0.3s,baz=303,slow=15,SNR=26						
JTS				Sn	Sn	08 18 08.7	-0.9
	21nm,0.3s,baz=262,slow=16,SNR=9.4						
JTS				LR	LR	08 18 42.8	
	comp=Z,55nm,20.1s,baz=294,slow=42						
JCR	Jicaral	2.71	127	eP	Pg	08 17 48.4	-0.1
LBRS	Las Brisas	2.80	323	eP	Pn	08 17 42.9	+1.9
LFU	La Fuente	2.85	322	eP	Pn	08 17 43.5	+1.8
CGA2	Cerro Gallo 2	3.15	117	eP	Pn	08 17 47.2	+1.3
CGA2				eS	Sn	08 18 22.8	-0.6
BUS	Buena Vista	3.99	119	eP	Pn	08 17 58.6	+0.9
BUS				eS	Sn	08 18 40.9	-3.5
APG	El Apazote	4.65	319	Pn	Pn	08 18 06.0	-0.6
	0.2nm,0.3s,baz=135,slow=17,SNR=4.4						
TEIG	Tepich	8.73	354	LR	LR	08 22 58.5	
	comp=Z,54nm,18.9s,baz=306,slow=42						
ROSC	El Rosal	14.43	116	Pn	Pn	08 20 22.1	+1.2
	0.4nm,0.3s,baz=287,slow=19,SNR=2.9						
TXAR	Lajitas Array	23.40	322	P	P	08 22 06.8	+1.6
	0.9nm,0.5s,baz=136,slow=9.1,SNR=19						
H06E1	SOCORRO T-PHAS	23.90	290	T	T	08 46 59.3	
	SNR=4.8						
TKL	Tuckaleechee C	24.27	7	P	P	08 22 14.2	+0.8
	4.2nm,0.7s,baz=189,slow=11,SNR=6.7						
SADO	Sadowa	33.90	10	P	P	08 23 37.6	-1.3
	2.1nm,0.5s,baz=250,slow=5.5,SNR=4.8						
PDAR	Pinedale Array	36.68	332	P	P	08 24 04.1	+0.9
	0.5nm,0.5s,baz=127,slow=10,SNR=8.1						
SIV	San Ignacio	37.68	136	P	P	08 24 12.5	+0.7
	2.5nm,0.5s,baz=319,slow=7.3,SNR=8.2						
NVAR	Mina Array Bea	38.51	319	P	P	08 24 18.4	-0.4
	0.2nm,0.5s,baz=99,slow=11,SNR=2.4						
ULM	Lac du Bonnet	39.28	351	P	P	08 24 23.1	-1.6
	2.0nm,0.6s,baz=161,slow=5.1,SNR=3.8						
SCHQ	Schefferville	46.15	16	P	P	08 25 18.9	-1.7
	1.3nm,0.6s,baz=223,slow=8.8,SNR=3.9						
BDFB	Brasilia	47.33	124	P	P	08 25 29.6	-0.7
	1.3nm,0.4s,baz=285,slow=8.6,SNR=5.4						
YKA	Yellowknife Ar	54.57	345	P	P	08 26 23.0	-1.0
	0.3nm,0.6s,baz=136,slow=7.7,SNR=13						
SFJD	Kangerlussuaq	60.60	16	P	P	08 27 08.7	+2.3
	3.7nm,0.6s,baz=286,slow=2.2,SNR=4.5						
ILAR	Eielson Array	66.95	336	P	P	08 27 47.7	-0.7
	0.3nm,0.6s,baz=139,slow=5.3,SNR=6.8						
VRAC	Vranov	90.26	39	LR	LR	09 06 48.6	
	comp=Z,32nm,20.2s,baz=342,slow=33						
WRA	Warramunga Arr	139.13	253	PKP	PKPdf	08 36 25.7	+1.8
	0.8nm,1.1s,baz=83,slow=2.2,SNR=4.5						

ISCJB 24 08:17:08.8±0.7, 53.°2S±0.°2×117.°8W±0.°3, h10km, mb4.2/9, MS3.9/13, Error ellipse: s-maj=28.1km s-min=16.9km az=37.1

IDC 24 08:17:08.5±0.6, 53.°10S×117.°91W, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.1/31, mbtmp4.2/9, MS3.9/13, Ms1 3.9/13, ms1mx3.8/20, Error ellipse: s-maj=27.7km s-min=18.9km az=141.0

ISC 24 08:17:10.1±0.7, 53.°1S±0.°2×117.°9W±0.°2, h10km, n46, σ0.s78/16, mb4.2/9, MS3.9/13, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	26.74	17	LR	LR	08 31 00.9	
	comp=Z,152nm,18.6s,baz=176,slow=31						
USHA	Ushuaia	28.66	114	LR	LR	08 31 22.8	
	comp=Z,108nm,18.0s,baz=230,slow=30						
PMSA	Palmer Station	29.15	135	LR	LR	08 33 21.3	
	comp=Z,185nm,18.4s,baz=248,slow=33						
RKT	Rikitea	32.65	330	eLR	LR	08 32 19.6	
	520nm,28.0s,baz=163						
RKT	Rikitea	32.65	330	eT	T	08 57 47.8	
	1.1nm,0.3s						
H03N3	Juan Fernandez	33.95	70	T	T	08 59 43.5	
	baz=222,slow=75,SNR=552						
H03N2	Juan Fernandez	33.95	70	T	T	08 59 44.7	
	baz=222,slow=75,SNR=708						
H03N1	Juan Fernandez	33.97	70	T	T	08 59 44.4	
	baz=222,slow=75,SNR=958						
PLCA	Paso Flores	34.01	88	LR	LR	08 34 37.8	
	comp=Z,200nm,19.1s,baz=250,slow=31						
VNDA	Vanda	36.77	201	LR	LR	08 36 45.6	
	comp=Z,184nm,18.6s,baz=88,slow=32						
QSPA	South Pole Qui	37.07	180	P	P	08 24 21.0	+0.8
	5.0nm,1.1s,baz=240,slow=2.9,SNR=7.5						
TBI	Tubuai	38.14	309	eT	T	09 04 44.8	
	9.6nm,0.4s						
CFAA	Coronel Fontan	41.50	79	LR	LR	08 37 50.0	
	comp=Z,46nm,21.1s,baz=227,slow=30						
MEH	Mehetia	42.30	315	eT	T	09 09 55.4	
	14nm,0.3s						
PPT2	Papeete2	43.20	313	eLR	LR	08 37 21.4	
	544nm,25.2s						
PPT	Papeete	43.22	313	LR	LR	08 38 13.9	
	comp=Z,229nm,21.3s,baz=126,slow=29						
VAH	Vaihoa	44.47	317	eT	T	09 12 38.1	
	7.2nm,0.3s						
PMOR	Pomariorio Ree	44.79	317	eT	T	09 13 02.0	
	4.6nm,0.2s						
SNAA	Sanae	47.45	157	P	P	08 25 44.4	0.0
	0.7nm,0.8s,baz=239,slow=18,SNR=2.8						
LPAZ	La Paz	53.40	66	P	P	08 26 30.5	-0.2
	4.1nm,1.1s,baz=201,slow=7.6,SNR=7.7						
LPAZ				LR	LR	08 43 53.1	
	comp=Z,124nm,18.9s,baz=196,slow=30						
SIV	San Ignacio	57.62	72	P	P	08 26 59.0	-1.3
	3.5nm,0.9s,baz=238,slow=10.0,SNR=6.1						
DZM	Mont Dzumac	64.11	267	eLR	LR	08 47 13.0	
	279nm,26.5s						
BDFB	Brasilia	65.58	84	LR	LR	08 53 13.6	
	comp=Z,218nm,21.6s,baz=217,slow=33						
ROSC	El Rosal	68.41	48	P	P	08 28 13.5	+1.0
	2.7nm,0.6s,baz=112,slow=5.8,SNR=4.9						
ROSC				LR	LR	08 53 00.8	
	comp=Z,71nm,18.9s,baz=198,slow=32						
STKA	Stephens Creek	70.98	242	P	P	08 28 28.4	+0.6
	0.9nm,0.6s,baz=114,slow=6.6,SNR=4.1						
STKA				LR	LR	08 53 00.0	
	comp=Z,171nm,21.8s,baz=202,slow=30						
LPIG	La Paz	77.18	7	LR	LR	08 55 39.0	
	comp=Z,74nm,19.8s,baz=12,slow=30						
PCRV	Puerto La Cruz	77.60	54	P	P	08 29 06.5	+0.1
	8.4nm,0.8s,baz=109,slow=3.2,SNR=4.4						
H01W1	Cape Leeuwin H	81.38	221	T	T	09 59 56.9	
	baz=152,slow=76,SNR=8.5						
H01W2	Cape Leeuwin H	81.39	221	T	T	09 59 57.1	
	baz=152,slow=76,SNR=8.9						
H01W3	Cape Leeuwin H	81.40	221	T	T	09 59 58.1	
	baz=152,slow=76,SNR=8.7						
TXAR	Lajitas Array	83.04	12	P	P	08 29 36.5	+1.1
	0.9nm,1.0s,baz=168,slow=6.4,SNR=4.6						
WRA	Warramunga Arr	84.40	244	P	P	08 29 41.8	-1.0
	0.9nm,0.5s,baz=143,slow=4.4,SNR=12						
BOSA	Boshof	92.52	148	LR	LR	09 04 21.8	
	comp=Z,66nm,21.3s,baz=178,slow=31						
H11S2	WAKE ISLAND Hy	96.16	293	T	T	10 17 26.5	
	baz=144,slow=76,SNR=293						
H11S3	WAKE ISLAND Hy	96.17	293	T	T	10 17 28.2	
	baz=144,slow=76,SNR=228						
H11S1	WAKE ISLAND Hy	96.18	293	T	T	10 17 27.9	
	baz=144,slow=76,SNR=172						
H11N3	WAKE ISLAND Hy	97.03	293	T	T	10 18 30.9	
	baz=144,slow=75,SNR=80						
H11N1	WAKE ISLAND Hy	97.04	293	T	T	10 18 33.3	
	baz=144,slow=75,SNR=82						
H11N2	WAKE ISLAND Hy	97.05	293	T	T	10 18 32.6	
	baz=144,slow=75,SNR=68						
ILAR	Eielson Array	119.67	346	PKP	PKPdf	08 35 58.3	-0.5
	0.3nm,0.9s,baz=172,slow=1.9,SNR=3.8						
GERES	GERESS Array B	149.70	78	PKPbc	PKPbc	08 36 58.4	-0.8
	0.8nm,0.7s,baz=253,slow=2.2,SNR=5.3						
SONM	Songino Array	151.68	277	PKPbc	PKPbc	08 37 03.4	-0.6
	0.8nm,0.7s,baz=94,slow=2.6,SNR=7.0						
NOA	NORSAR Array B	151.90	53	PKPbc	PKPbc	08 37 03.3	-0.6
	0.7nm,0.7s,baz=273,slow=3.7,SNR=2.8						
BRTR	Keskin Array B	156.44	113	PKPab	PKPab	08 37 33.4	+0.1
	0.8nm,0.8s,baz=207,slow=4.8,SNR=4.1						
MKAR	Makanchi Array	165.57	252	PKPab	PKPab	08 38 12.8	0.0
	1.8nm,1.0s,baz=123,slow=4.5,SNR=7.4						
ZALV	Zalesovo Beam	166.47	283	PKPab	PKPab	08 38 16.5	-0.1
	0.3nm,0.3s,baz=97,slow=5.8,SNR=3.4						

IDC 24 08:31:58.3±1.0, 19.°04N×119.°56E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/49, mbtmp3.7/6, Error ellipse: s-maj=79.3km s-min=19.0km az=66.0

MAN 24 08:32:00, 19.°12N×119.°84E, h14km, mb4.8, ML3.7, MS3.8

ISC 24 08:31:58.4±3.3, 19.°12N±0.°08×119.°8E±0.°1, h1km±20km, n15, σ1.s29/18, mb3.6/6, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
PIP	Pasuquin	1.10	136	⇓iP	Pn	08 32 28.4	+7.5
PIP				eS	Sn	08 32 45.3	+8.6
SIPP	Brgy, Tapao	1.34	153	⇑iP	Pn	08 32 23.5	-0.7
SIPP				iS	Sg	08 32 40.8	-0.5
ABRA	Dolores	1.69	150	eP	Pn	08 32 28.9	-0.1
APYP	Conner	1.84	132	eP	Pn	08 32 30.9	-0.3
APYP				eS	Sn	08 32 52.9	-2.2
SGCP	Mt. Cagua	2.29	112	eP	Pn	08 32 37.5	+0.3
SGCP				eS	Sn	08 32 53.5	-13
CVP	Callao Caves	2.37	126	⇑iP	Pn	08 32 38.8	+0.4
CVP				iS	Sn	08 33 08.5	+0.4
BCPH	Baguio City Da	2.82	165	⇑iP	Pn	08 32 45.1	+0.4
BCPH				iS	Sn	08 33 19.3	-0.2
CAUP	Cauayan	2.88	138	eP	Pn	08 32 48.4	+2.9
BALP	Baler	3.75	153	eP	Pn	08 32 59.5	+2.0
SONM	Songino Array	30.66	342	P	P	08 38 13.8	-0.7
	0.5nm,0.6s,baz=162,slow=11,SNR=2.3						
MKAR	Makanchi Array	41.26	321	P	P	08 39 45.1	0.0
	0.6nm,0.6s,baz=115,slow=9.7,SNR=7.1						
WRA	Warramunga Arr	41.35	159	P	P	08 39 45.4	-0.7
	1.6nm,0.6s,baz=341,slow=8.9,SNR=13						
ZALV	Zalesovo Beam	43.91	331	P	P	08 40 05.5	-1.1
	0.6nm,0.5s,baz=121,slow=7.2,SNR=4.1						
STKA	Stephens Creek	54.84	157	P	P	08 41 31.1	+0.8
	2.0nm,0.6s,baz=318,slow=8.4,SNR=7.7						
YKA	Yellowknife Ar	88.11	22	P	P	08 44 51.9	+1.3
	0.1nm,0.6s,baz=313,slow=4.8,SNR=3.7						

IDC 24 08:42:57.5±2.6, 53.°94N×86.°51E, h0km, mb1 2.8/1, mb1mx2.7/53, mbtmp2.8/1, ML2.9/1, Error ellipse: s-maj=21.0km s-min=12.3km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.00	271	i		08 50 07.7	
	baz=89,slow=352,SNR=5.3						
ZALV	Zalesovo Beam	1.00	271	Pg	Pg	08 43 15.5	-1.1
	0.9nm,0.3s,baz=91,slow=18,SNR=6.3						
ZALV				Lg	Lg	08 43 31.1	
	2.4nm,0.3s,baz=93,slow=28,SNR=14						
MKAR	Makanchi Array	7.65	202	Pn	Pn	08 44 51.6	+1.5
	0.2nm,0.3s,baz=23,slow=14,SNR=11						
MKAR				Lg	Lg	08 46 59.8	
	0.1nm,0.3s,baz=22,slow=31,SNR=3.9						

IDC 24 08:44:56.4±2.9, 53.°71N×86.°87E, h0km, mb1 2.5/1, mb1mx2.4/48, mbtmp2.5/1, ML2.4/1, Error ellipse: s-maj=26.5km s-min=15.1km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.24	282	i		08 53 25.1	
	baz=102,slow=349,SNR=6.5						
ZALV	Zalesovo Beam	1.24	282	Pg	Pg	08 45 19.2	-0.9
	0.5nm,0.3s,baz=100,slow=16,SNR=11						
ZALV				Lg	Lg	08 45 37.2	
	0.9nm,0.3s,baz=100,slow=32,SNR=3.6						
MKAR	Makanchi Array	7.52	205	Pn	Pn	08 46 48.8	+1.5
	0.1nm,0.3s,baz=23,slow=12,SNR=5.7						

FUNV 24 08:54:55.8, 6.°77N×73.°19W, h166km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.39	38	iP	Pn	08 55 25.2	-0.7
CAPV				eS	Sn	08 55 47.3	-1.8
VIGV	El Vigia	2.74	41	eP	Pn	08 55 39.4	-1.3
VIGV				eS	Sn	08 56 11.5	-4.0
SOCV	Socops	2.76	57	eP	Pn	08 55 39.2	-1.7
SOCV				eS	Sn	08 56 11.5	-4.4
ELOV	Elorza	3.68	86	eP	Pn	08 55 50.8	-1.6
ELOV				eS	Sn	08 56 32.6	-4.0
CURV	Curarigua	4.53	45	eP	Pn	08 56 02.0	-1.6
CURV				eS	Sn	08 56 51.5	-5.0
MONV	Montecano	6.05	31	eP	Pn	08 56 21.5	-1.9
MONV				eS	Sn	08 57 24.8	-7.4
BIRV	Birongo	7.77	61	eP	Pn	08 56 44.2	-1.9

IDC 24 08:56:27.5±2.0, 7.°31S×127.°87E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/21, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=210.1km s-min=41.0km az=65.0

ISCJB 24 08:56:39.5±0.8, 7.°17S±0.°04×129.°2E±0.°1, h131km, mb3.4/3, Error ellipse: s-maj=14.5km s-min=6.3km az=178.6

ISC 24 08:56:41.0±0.9, 7.°19S±0.°06×129.°2E±0.°1, h131km, n10, σ1.s92/12, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
FAKI	Fak Fak	5.25	36	P	Pn	08 57 58.5	+1.1
	baz=5.1,SNR=8.1						
FAKI				S	Sn	08 58 54.4	-2.6
	baz=5.1,SNR=8.7						
MTN	Manton Dam	5.95	161	P	Pn	08 58 10.1	+3.3
	baz=5.9,SNR=41						
MTN				S	Sn	08 59 13.2	-0.7
	baz=5.9,SNR=13						
KDU	Kakadu	6.37	149	P	Pn	08 58 15.2	+2.6
	baz=6.3,SNR=30						
KDU				S	Sn	08 59 21.9	-2.2
	baz=6.3,SNR=9.2						
KNRA	Kununurra	8.44	183	P	Pn	08 58 42.7	+2.2
	baz=8.5,SNR=14						
KNRA				S	Sn	09 00 11.4	-2.8
	baz=8.5,SNR=11						
WRA	Warramunga Arr	13.64	159	Pn	Pn	08 59 48.0	-1.2
	0.3nm,0.3s,baz=332,slow=13,SNR=22						
WRA				Sn	Sn	09 02 11.9	-8.0
	1.5nm,0.3s,baz=332,slow=24,SNR=8.0						
QIS	Mount Isa	16.71	144	P	P	09 00 28.6	+1.0
	baz=17,SNR=8.5						
WRKA	Warakurna	17.77	183	P	Pn	09 00 41.5	+1.3
	baz=18,SNR=18						
SONM	Songino Array	58.36	342	P	P	09 06 23.0	+0.5
	0.2nm,0.5s,baz=153,slow=5.8,SNR=3.1						
MKAR	Makanchi Array	67.92	327	P	P	09 07 25.1	-0.5
	0.5nm,0.6s,baz=143,slow=6.5,SNR=3.6						
ZALV	Zalesovo Beam	71.38	334	P	P	09 07 45.8	-0.8
	0.5nm,0.4s,baz=134,slow=6.2,SNR=2.9						

IDC 24 09:11:03.7±5.7, 1.°47S×99.°85E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/31, mbtmp3.6/3, Error ellipse: s-maj=280.6km s-min=30.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	27.94	256	T	T	09 44 57.5	
	baz=78,slow=76,SNR=3.1						
H08S3	Diego Garcia H	27.95	256	T	T	09 44 56.9	
	baz=78,slow=76,SNR=4.7						
H08S1	Diego Carcia H	27.96	256	T	T	09 44 59.7	
	baz=78,slow=76,SNR=3.4						
WRA	Warramunga Arr	38.39	121	P	P	09 18 27.2	0.0
	0.3nm,0.6s,baz=297,slow=9.0,SNR=4.9						
MKAR	Makanchi Array	50.48	344	P	P	09 20 03.9	+0.4
	0.5nm,0.7s,baz=153,slow=8.4,SNR=8.0						
ZALV	Zalesovo Beam	56.62	349	P	P	09 20 47.9	-0.5
	1.0nm,0.4s,baz=174,slow=7.4,SNR=4.0						
TXAR	Lajitas Array	144.37	37	PKP	PKPbc	09 30 41.6	+0.4
	0.3nm,0.6s,baz=228,slow=1.1,SNR=7.5						

HLW 24 09:18:20.4, 31.°02N×34.°95E, h7km±14km, Md2.6, Ml3.1, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
HNKL	Nakhl	1.37	218	P	Pn	09 18 43.6	-2.4
	baz=218						
HNKL	Nakhl	1.37	218	P	Pn	09 18 44.3	-1.7
	baz=218						
HBST	Basata	1.81	186	S	Sn	09 19 12.3	-2.7
	baz=187						
HBST				AMP		09 19 00.0	
	comp=E,200μm,0.3s,logA/T=5.8,baz=187						
HBST	Basata	1.81	186	AMP		09 19 00.0	
	comp=N,200μm,0.3s,logA/T=5.8,baz=186						
SUZ		2.17	238	P	Pn	09 18 55.2	-1.8
	baz=238						
SUZ		2.17	238	P	Pn	09 18 55.2	-1.8
	baz=239						
TR2		2.83	202	P	Pn	09 19 04.2	-1.8
	baz=203						
TR2		2.83	202	P	Pn	09 19 04.2	-1.8
	baz=203						

IDC 24 09:49:56.6±3.6, 54.°58N×86.°63E, h0km, mb1 3.0/1, mb1mx2.8/34, mbtmp3.0/1, ML2.8/1, Error ellipse: s-maj=27.8km s-min=15.7km az=52.0

NNC 24 09:49:59.3±3.9, 54.°57N×86.°28E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=28.7km s-min=26.2km az=52.0

ISC 24 09:49:58.6±4.4, 54.°8N±0.°2×86.°7E±0.°2, h35km, n7, σ1.s59/11, 6C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.35	234	i		09 57 51.1	
	baz=60,slow=349,SNR=7.2						
ZALV	Zalesovo Beam	1.35	234	Pg	Pn	09 50 19.4	-1.5
	0.9nm,0.3s,baz=57,slow=16,SNR=25						
ZALV				Lg	Lg	09 50 36.6	
	1.8nm,0.3s,baz=60,slow=29,SNR=10						
KURK	Kurchatov	6.34	234	⇑Pn	Pn	09 51 29.4	0.0
	2.1nm,0.8s						
KURK				⇓Sn	Sn	09 52 41.9	+1.3
	1.7nm,1.5s						
KURK				⇓Lg	Lg	09 53 12.9	
	5.5nm,1.1s						
KURBB	Kurchatov Arra	6.45	233	⇑Pn	Pn	09 51 32.7	+1.8
	5.8nm,0.9s						
KURBB				⇑Sn	Sn	09 52 44.0	+0.8
	5.9nm,0.8s						
KURBB				⇑Lg	Lg	09 53 16.5	
	9.3nm,0.8s						
MK31	Makanchi Array	8.43	201	⇓Pn	Pn	09 51 59.3	+1.1
	0.2nm,0.6s,baz=26,slow=14,SNR=7.9						
MK31				Sn	Sn	09 53 31.8	-0.3
	0.3nm,0.5s,baz=25,slow=26,SNR=5.4						
MK31				⇑Lg	Lg	09 54 18.5	
	2.5nm,1.0s,baz=29,slow=29,SNR=4.5						
MKAR	Makanchi Array	8.43	201	Pn	Pn	09 51 59.0	+0.8
	0.1nm,0.3s,baz=21,slow=15,SNR=8.4						
MKAR				Sn	Sn	09 53 31.0	-1.1
	0.1nm,0.3s,baz=22,slow=25,SNR=8.5						
MKAR				Lg	Lg	09 54 19.9	
	0.0nm,0.3s,baz=24,slow=29,SNR=4.5						
VOSK	Vostochnaya	9.52	264	⇓Pn	Pn	09 52 15.1	+2.0
	1.4nm,0.8s						
VOSK				⇑Sn	Sn	09 53 56.4	-2.2
	3.9nm,0.9s						

IDC 24 09:55:39.7±3.7, 53.°75N×88.°05E, h0km, mb1 2.8/1, mb1mx2.7/33, mbtmp2.8/1, ML2.5/1, Error ellipse: s-maj=29.7km s-min=16.3km az=59.0

NNC 24 09:55:43.7±3.8, 53.°58N×87.°80E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=30.0km s-min=24.7km az=10.0

ISC 24 09:55:43.6±4.1, 53.°8N±0.°1×88.°1E±0.°2, h35km, n6, σ1.s32/9, 2C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.96	275	i		10 08 27.6	
	baz=93,slow=351,SNR=2.3						
ZALV	Zalesovo Beam	1.96	275	Pg	Pn	09 56 14.2	-0.1
	0.9nm,0.3s,baz=96,slow=12,SNR=38						
ZALV				Lg	Lg	09 56 41.1	
	3.2nm,0.3s,baz=99,slow=34,SNR=26						
KURK	Kurchatov	6.60	246	⇓Pn	Pn	09 57 18.1	+0.1
	1.6nm,1.3s						
KURK				⇓Sn	Sn	09 58 31.6	-0.5
	0.4nm,0.5s						
KURK				⇓Lg	Lg	09 59 01.9	
	3.2nm,1.1s						
KURBB	Kurchatov Arra	6.70	245	⇑Pn	Pn	09 57 18.1	-1.3
	1.2nm,0.7s						
KURBB				⇓Sn	Sn	09 58 36.7	+2.2
	4.6nm,0.6s						
KURBB				⇓Lg	Lg	09 59 08.3	
	7.1nm,1.4s						
MK31	Makanchi Array	7.96	210	⇓Pn	Pn	09 57 37.9	+1.2
	0.1nm,0.5s,baz=30,slow=14,SNR=4.6						
MK31				⇓Sn	Sn	09 59 04.1	-1.2
	1.2nm,0.9s						
MK31				⇑Lg	Lg	09 59 47.0	
	0.8nm,0.7s,baz=31,slow=30,SNR=4.4						
MKAR	Makanchi Array	7.96	210	Pn	Pn	09 57 36.9	+0.3
	0.1nm,0.3s,baz=29,slow=15,SNR=6.0						
MKAR				Sn	Sn	09 59 04.6	-0.8
	0.0nm,0.3s,baz=28,slow=25,SNR=5.0						
MKAR				Lg	Lg	09 59 48.6	
	0.1nm,0.3s,baz=26,slow=34,SNR=3.0						

IDC 24 10:11:10.3±4.0, 16.°83S×178.°23W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/35, mbtmp3.7/3, MS4.4/1, Ms1 4.4/1, ms1mx2.8/28, Error ellipse: s-maj=179.4km s-min=33.7km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	12.37	179	LR	LR	10 18 12.2	
	comp=Z,2μm,21.4s,baz=143,slow=34						

STKA Stephens Creek 39.30 240 P P 10 18 41.7 +0.5
1.6nm,0.6s,baz=92,slow=11,SNR=8.0
WRA Warramunga Arr 45.00 258 P P 10 19 27.3 -0.7
0.7nm,0.6s,baz=96,slow=7.4,SNR=18
ILAR Eielson Array 84.80 13 P P 10 23 46.2 0.0
0.1nm,0.4s,baz=223,slow=6.1,SNR=3.8

VIE 24 10:59:59.3±0.3**,50°.23N×12°.73E,h0km,ML2.6**/3**,2C-1D, Error ellipse: s-maj=3.0km s-min=1.3km az=42.0 19 km E of Klingenthal Suspected Mining explosion., Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**2.35**	**74**	*e*Pg	Pg	11 00 45.5	+1.0
KSP				*e*Sg	Sg	11 01 17.5	+2.4
MOA	**Molln**	**2.59**	**156**	⇑*i*Sg	Sg	11 01 25.4	+2.7
	8.1nm,0.4s						
CONA	**Conrad Observa**	**3.09**	**137**	⇑*i*Sn	Sn	11 01 27.4	+0.2
CONA				⇓*i*Sg	Sg	11 01 41.8	+2.9
	9.1nm,0.5s						

IDC 24 11:00:29.7±8.3**,7°.00S×12°.34W,h0km,mb3.7**/4**, mb1 3.8**/4**,mb1mx3.6**/30**,mbtmp3.7**/4**,Error ellipse: s-maj=262.0km s-min=117.5km az=155.0,Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**2.28**	**248**	T	T	11 03 27.5	
	baz=62,slow=74,SNR=196						
H10N2	**ASCENSION HYDR**	**2.28**	**249**	T	T	11 03 25.8	
	baz=62,slow=74,SNR=222						
H10N3	**ASCENSION HYDR**	**2.30**	**249**	T	T	11 03 28.1	
	baz=62,slow=74,SNR=202						
H10S1	**ASCENSION HYDR**	**2.99**	**230**	T	T	11 04 22.0	
	baz=47,slow=74,SNR=110						
H10S2	**ASCENSION HYDR**	**3.00**	**229**	T	T	11 04 19.6	
	baz=47,slow=74,SNR=115						
H10S3	**ASCENSION HYDR**	**3.01**	**230**	T	T	11 04 25.4	
	baz=47,slow=74,SNR=103						
TORD	**Torodi Ar. Bea**	**24.39**	**35**	P	P	11 05 50.1	+0.1
	1.0nm,0.7s,baz=211,slow=8.6,SNR=7.4						
BRTR	**Keskin Array B**	**62.94**	**39**	P	P	11 10 58.7	+0.3
	0.1nm,0.3s,baz=216,slow=6.8,SNR=2.6						
AKASG	**Malin Array Be**	**67.74**	**27**	P	P	11 11 27.8	-1.2
	0.4nm,0.4s,baz=226,slow=6.1,SNR=4.4						
FINES	**FINESS Array B**	**74.48**	**18**	P	P	11 12 10.3	+0.6
	2.1nm,1.0s,baz=234,slow=12,SNR=2.3						

IDC ***24*** *11:03:25.9±3.5,54°.51N×86°.23E,h0km,mb1 2.7/1, mb1mx2.6/31,mbtmp2.7/1,ML2.7/1,Error ellipse: s-maj=25.1km s-min=15.3km az=43.0*
NNC ***24*** *11:03:28.8±6.5,54°.26N×86°.26E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=52.4km s-min=39.7km az=179.0*
ISC 24 11:03:27.7±4.7**,54°.7N**±0°.2**×86°.3E**±0°.2**,h35km,n6,σ1§52**/9**, 5C-3D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.14**	**231**	*i*		11 10 53.5	
	baz=57,slow=347,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.14**	**231**	Pg	**Pn**	**11 03 44.5**	**-2.6**
	0.9nm,0.3s,baz=56,slow=17,SNR=18						
ZALV				Lg	Lg	11 03 58.5	
	0.8nm,0.3s,baz=49,slow=22,SNR=6.6						
KURK	**Kurchatov**	**6.13**	**233**	⇓Pn	**Pn**	**11 04 56.7**	**+1.0**
	1.1nm,1.0s						
KURK				⇑Sn	**Sn**	**11 06 03.7**	**-0.8**
	0.7nm,0.9s						
KURK				⇑Lg	Lg	11 06 34.1	
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**6.23**	**233**	⇑Pn	**Pn**	**11 04 58.3**	**+1.2**
	1.6nm,0.7s						
KURBB				⇑Sn	**Sn**	**11 06 08.8**	**+1.8**
	1.5nm,0.6s						
KURBB				⇑Lg	Lg	11 06 40.2	
	6.3nm,0.9s						
MK31	**Makanchi Array**	**8.29**	**200**	Pn	**Pn**	**11 05 25.9**	**+0.5**
	0.2nm,0.5s,baz=27,slow=14,SNR=7.8						
MK31				⇓Sn	**Sn**	**11 06 57.0**	**-0.7**
	0.4nm,0.6s						
MK31				⇓Lg	Lg	11 07 41.7	
	1.9nm,1.0s,baz=20,slow=28						
MKAR	**Makanchi Array**	**8.29**	**200**	Pn	**Pn**	**11 05 25.9**	**+0.5**
	0.1nm,0.3s,baz=23,slow=15,SNR=9.4						
MKAR				Sn	**Sn**	**11 06 57.6**	**-0.1**
	0.1nm,0.3s,baz=22,slow=26,SNR=6.2						
MKAR				Lg	Lg	11 07 44.5	
	0.0nm,0.3s,baz=27,slow=29,SNR=3.5						

KRNET ***24*** *11:18:14.7±0.1,39°.54N×73°.75E,h3km,mb5.1*
IDC ***24*** *11:18:15.8±0.7,39°.44N×73°.75E,h0km,mb4.2/20, mb1 4.4/26,mb1mx4.3/45,mbtmp4.3/26,ML4.0/6,MS3.5/11, Ms1 3.5/11,ms1mx3.2/35,Error ellipse: s-maj=13.6km s-min=10.3km az=169.0*
BJI ***24*** *11:18:15.9,39°.44N×73°.57E,h7km,mB4.4/19,mb4.4/19, ML4.2/5,Ms4.0/4*
ISCJB ***24*** *11:18:18.8±1.1,39°.36N±0°.02×73°.73E±0°.04,h33km±8km, mb4.3/48,MS3.5/11,Error ellipse: s-maj=5.0km s-min=3.3km az=145.2*
MOS ***24*** *11:18:19.8±1.4,39°.47N×73°.73E,h34km,mb4.6/31,Error ellipse: s-maj=7.3km s-min=4.4km az=93.2*
NNC ***24*** *11:18:20.8±1.6,39°.77N×73°.52E,h0km,mb4.8,mpv4.6, Error ellipse: s-maj=14.4km s-min=8.0km az=10.0*
NEIC ***24*** *11:18:21.7±1.3,39°.55N×73°.71E,h39km±11km,mb4.4/7, Error ellipse: s-maj=12.6km s-min=6.5km az=186.0*
ISC 24 11:18:19.8±0.6**,39°.51N**±0°.03**×73°.61E**±0°.03**,h23km**±4km**, n212,σ1§77**/229**,mb4.4**/48**,MS3.5**/11**,38C-24D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.51**	**351**	*e*P	Pb	11 18 24.2	-6.1
	baz=339						
SFK				*e*S	Sb	11 18 30.8	-6.6
	baz=339						
OHH	**Osh**	**1.20**	**328**	*e*P	**Pn**	**11 18 40.5**	**-0.6**
	baz=323						
OHH				*e*S	**Sb**	**11 18 58.0**	**+1.1**
	baz=323						
DRK	**Karamyk**	**1.40**	**269**	⇓*i*P	**Pn**	**11 18 43.2**	**-0.9**
	baz=268						
DRK				⇓*e*S	**Sb**	**11 19 04.2**	**+1.2**
	baz=268						
KSH	**Kashi**	**1.83**	**89**	Pg	Pn	11 18 44.0	-5.9
KSH				Sg	Sn	11 19 03.6	-8.8
KSH				smax	smax		
	comp=N,4μm,0.6s						
KSH				smax	smax		
	comp=E,2μm,0.6s						
ARSB	**Arslanbob**	**1.88**	**345**	*i* P	**Pn**	**11 18 50.4**	**-0.1**
	baz=342						
ARSB				*e*S	**Sb**	**11 19 17.3**	**+0.8**
	baz=342						
BTK	**Batken**	**2.22**	**285**	*e*P	**Pb**	**11 18 59.1**	**-0.1**
	baz=284						
BTK				*e*S	**Sb**	**11 19 31.2**	**+4.9**
	baz=284						
ARLS	**Aral**	**2.41**	**13**	*i* P	**Pn**	**11 18 59.6**	**+1.7**
	baz=10.0						
ARLS				*e*S	**Sb**	**11 19 33.2**	**+1.3**
	baz=10.0						
ARK	**Arkit**	**2.61**	**332**	⇓*i*P	**Pn**	**11 19 03.4**	**+2.8**
	baz=330						
ARK				⇓*e*S	**Sb**	**11 19 37.4**	**-0.1**
	baz=330						
AML	**Almayashu**	**2.62**	**1**	P	**Pn**	**11 19 02.6**	**+1.6**
	SNR=471						
AML	**Almayashu**	**2.62**	**1**	*i* PN	**Pn**	**11 19 02.6**	**+1.6**
AML	**Almayashu**	**2.62**	**1**	⇑*i*P	**Pn**	**11 19 02.4**	**+1.4**
	baz=359						
AML				⇑*i*S	**Sb**	**11 19 38.9**	**+0.8**
	baz=359						
TRKS	**Terek-Say**	**2.76**	**318**	⇓*i*P	**Pn**	**11 19 04.0**	**+1.3**
	baz=315						
TRKS				⇓*e*S	**Sb**	**11 19 40.0**	**-1.9**
	baz=315						
UCH	**Uchtor**	**2.80**	**14**	P	**Pn**	**11 19 05.3**	**+1.7**
	SNR=543						
UCH	**Uchtor**	**2.80**	**14**	*i* PN	**Pn**	**11 19 05.3**	**+1.7**
UCH	**Uchtor**	**2.80**	**14**	⇑*i*P	**Pn**	**11 19 05.2**	**+1.7**
	baz=12						
UCH				⇑*i*S	**Sb**	**11 19 44.2**	**+0.8**
	baz=12						
KZA	**Kyzart**	**2.85**	**25**	P	**Pn**	**11 19 05.6**	**+1.4**
	SNR=80						
KZA	**Kyzart**	**2.85**	**25**	*i* PN	**Pn**	**11 19 05.6**	**+1.4**
KZA	**Kyzart**	**2.85**	**25**	⇑*i*P	**Pn**	**11 19 05.5**	**+1.3**
	baz=24						
KZA				⇑*i*S	**Sb**	**11 19 45.3**	**+0.5**
	baz=24						
EKS2	**Erkin-Say**	**3.15**	**2**	P	**Pn**	**11 19 10.3**	**+2.3**
	SNR=121						
EKS2	**Erkin-Say**	**3.15**	**2**	*i* PN	**Pn**	**11 19 10.3**	**+2.3**
EKS2	**Erkin-Say**	**3.15**	**2**	*e*Pn	**Pn**	**11 19 10.2**	**+2.2**
EKS2				*e*Sn	**Sb**	**11 19 51.7**	**-1.5**
EKS2	**Erkin-Say**	**3.15**	**2**	⇑*i*P	**Pn**	**11 19 10.1**	**+2.0**
	baz=0.0						
EKS2				⇑*i*S	**Sb**	**11 19 52.0**	**-1.2**
	baz=0.0						
EKS	**Erkin-Say**	**3.16**	**2**	*e*P	**Pn**	**11 19 10.6**	**+2.5**
	baz=1.0						
EKS				*e*S	**Sb**	**11 19 52.7**	**-0.6**
	baz=1.0						
AAK	**Ala-Archa**	**3.19**	**12**	⇑Pn	**Pn**	**11 19 10.5**	**+1.9**
	271nm,0.6s						
AAK				⇑Lg	Lg	11 19 56.4	
	693nm,0.8s						
AAK	**Ala-Archa**	**3.19**	**12**	P	**Pn**	**11 19 11.1**	**+2.4**
	SNR=132						
AAK	**Ala-Archa**	**3.19**	**12**	*d i* PN	**Pn**	**11 19 11.1**	**+2.4**
AAK	**Ala-Archa**	**3.19**	**12**	Pn	**Pn**	**11 19 10.8**	**+2.1**
	98nm,0.3s,baz=156,slow=6.9,SNR=405						
AAK				Lg	Lg	11 19 53.1	
	26nm,0.3s,baz=356,slow=20,SNR=4.4						
AAK	**Ala-Archa**	**3.19**	**12**	⇑*i*P	**Pn**	**11 19 10.9**	**+2.2**
	baz=10.0						
AAK				⇑*i*S	**Sb**	**11 19 54.7**	**+0.3**
	baz=10.0						
KBK	**Karagaybulak**	**3.30**	**17**	P	**Pn**	**11 19 12.6**	**+2.4**
	SNR=176						
KBK	**Karagaybulak**	**3.30**	**17**	⇑*i*P	**Pn**	**11 19 12.4**	**+2.2**
	baz=16						
KBK				⇑*i*S	**Sb**	**11 19 58.0**	**+0.4**
	baz=16						
ULHL	**Ulahol**	**3.38**	**35**	P	**Pn**	**11 19 13.1**	**+1.8**
	SNR=54						
ULHL	**Ulahol**	**3.38**	**35**	*i* PN	**Pn**	**11 19 13.1**	**+1.8**
ULHL	**Ulahol**	**3.38**	**35**	⇑*i*P	**Pn**	**11 19 13.2**	**+1.8**
	baz=34						
ULHL				⇑*i*S	**Sb**	**11 20 01.0**	**+1.1**
	baz=34						
FRU	**Bishkek**	**3.41**	**13**	*e*PN	Pn	11 19 14.5	+3.0
FRU				*i*		11 20 08.0	
FRU				pmax	pmax		
	comp=Z,340nm,0.7s						
FRU				smax	smax		
	comp=E,1μm,1.0s						
FRU	**Bishkek**	**3.41**	**13**	*e*P	Pn	11 19 14.5	+3.0
	baz=11						
FRU				*e*S	**Sb**	**11 20 02.3**	**+1.9**
	baz=11						
BOOM	**Boomskoye usch**	**3.46**	**30**	⇓*i*P	**Pn**	**11 19 14.6**	**+2.2**
	baz=29						
BOOM				⇓*e*S	**Sb**	**11 20 03.0**	**+0.9**
	baz=29						
CHMS	**Chumysh**	**3.59**	**13**	P	**Pn**	**11 19 16.2**	**+2.2**
	SNR=82						
CHMS	**Chumysh**	**3.59**	**13**	*i* PN	**Pn**	**11 19 16.2**	**+2.2**
TKM2	**Tokmak 2**	**3.72**	**23**	⇑Pn	**Pn**	**11 19 17.4**	**+1.4**
	comp=E,210nm,0.8s						
TKM2				⇓Lg	Lg	11 20 12.7	
	comp=E,394nm,0.9s						
TKM2	**Tokmak 2**	**3.72**	**23**	P	**Pn**	**11 19 18.1**	**+2.0**
	SNR=127						
TKM2	**Tokmak 2**	**3.72**	**23**	*i* PN	**Pn**	**11 19 18.0**	**+2.0**
TKM2	**Tokmak 2**	**3.72**	**23**	*e*Pn	**Pn**	**11 19 18.0**	**+2.0**
USP	**Ospenovka**	**3.81**	**10**	P	**Pn**	**11 19 19.4**	**+2.2**
	SNR=37						
USP	**Ospenovka**	**3.81**	**10**	*i* PN	**Pn**	**11 19 19.3**	**+2.2**
KK31	**Karatay Array**	**4.28**	**328**	⇓Pn	**Pn**	**11 19 25.5**	**+2.0**
	comp=E,17nm,0.3s,baz=127,slow=12,SNR=300						
KK31				⇓Sn	**Sn**	**11 20 12.5**	**-0.2**
	comp=E,51nm,0.3s						
KK31				⇑Lg	Lg	11 20 29.5	
	comp=E,339nm,0.7s,baz=138,slow=28,SNR=6.0						
KK31	**Karatay Array**	**4.28**	**328**	PN	**Pn**	**11 19 25.5**	**+2.0**
KK31						11 20 18.4	
KK31						11 20 34.1	
KK31				pmax	pmax		
	comp=Z,48nm,0.3s						
KK31				smax	smax		
	comp=N,105nm,0.3s						
KKAR	**Karatay Array**	**4.28**	**328**	*e*PN	**Pn**	**11 19 25.4**	**+1.9**
KKAR	**Karatay Array**	**4.28**	**328**	*e*Pn	**Pn**	**11 19 25.4**	**+1.9**
KNDC	**Almaty**	**4.48**	**33**	⇑Pn	**Pn**	**11 19 29.2**	**+2.9**
KNDC				⇑Pg	**Pb**	**11 19 37.9**	**+0.2**
KNDC				⇑Lg	Lg	11 20 37.1	
	comp=N,705nm,1.0s						
AAA	**Alma-Ata**	**4.52**	**33**	*i* PN	**Pb**	**11 19 37.1**	**-1.3**
AAA				*e*S	**Sb**	**11 20 35.9**	**+3.5**
AAA				pmax	pmax		
	comp=Z,333nm,0.7s						
AAA				smax	smax		
	comp=N,538nm,1.0s						
PDGK	**Podgornoye**	**5.83**	**47**	⇓Pn	**Pn**	**11 19 45.4**	**+0.7**
PDGK				⇑Pg	**Pb**	**11 20 02.8**	**+2.0**
PDGK				⇑Lg	Lg	11 21 21.0	
CEP	**Cherat**	**5.84**	**194**	P	Pn	11 19 50.4	+5.4
CEP				S	Sn	11 21 00.0	+8.8
CHCP	**Chirah Chowk**	**5.85**	**183**	P	Pn	11 19 49.9	+4.9
DLH	**Dalhousie**	**7.21**	**164**	*e*P	**Pn**	**11 20 05.0**	**+1.1**
DLH				*e*x	x	11 21 34.0	
DHRM	**DHARAMSHALA**	**7.56**	**162**	*e*P	**Pn**	**11 20 09.4**	**+0.6**
DHRM				*e*S	**Sn**	**11 21 35.5**	**+1.6**
DHRM				AML	AML	11 21 57.3	
	comp=N,158nm,0.5s						
DHRM				AML	AML	11 22 00.1	
	comp=E,228nm,0.0s						
PONG	**Pong**	**7.78**	**165**	*e*S	**Sn**	**11 21 40.5**	**+1.8**
OTUK	**Ortayu**	**8.78**	**354**	⇑Pn	**Pn**	**11 20 25.6**	**+0.3**
OTUK				⇓Lg	Lg	11 22 51.6	
SMLA	**Simla**	**8.85**	**160**	*e*P	**Pn**	**11 20 26.9**	**+0.7**
SMLA				*e*S	**Sn**	**11 22 03.4**	**-1.8**
MK31	**Makanchi Array**	**9.65**	**38**	⇑Pn	**Pn**	**11 20 37.9**	**+0.7**
	comp=E,7.1nm,0.7s,baz=216,slow=14,SNR=39						
MK31				⇑Lg	Lg	11 23 21.4	
	comp=E,42nm,1.4s						
MK31	**Makanchi Array**	**9.65**	**38**	*i* P	**Pn**	**11 20 37.8**	**+0.7**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**9.65**	**38**	Pn	**Pn**	**11 20 37.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=233,slow=12,SNR=26						
MKAR				Lg	Lg	11 23 17.2	
	comp=Z,0.4nm,0.3s,baz=225,slow=28,SNR=3.4						
DDI	**Dehra Dun**	**9.86**	**157**	*e*P	**Pn**	**11 20 39.4**	**-0.7**
DDI				*e*x	Sn	11 22 24.1	-6.1
DDI				AML	AML	11 22 38.8	
	comp=E,99nm,0.6s						
DDI				AML	AML	11 22 39.0	
	comp=N,170nm,0.4s						
KURBB	**Kurchatov Arra**	**11.64**	**16**	⇑Pn	**Pn**	**11 21 05.4**	**+1.1**
	comp=N,4.6nm,0.7s						
KURBB				⇑Lg	Lg	11 24 22.7	
	comp=N,106nm,1.4s						
KURK	**Kurchatov**	**11.75**	**16**	⇓Pn	**Pn**	**11 21 04.8**	**-1.0**
	comp=N,3.4nm,1.0s						
KURK				⇓Lg	Lg	11 24 26.5	
	comp=N,35nm,1.1s						
KURK	**Kurchatov**	**11.75**	**16**	*e*P	**Pn**	**11 21 04.5**	**-1.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KURK	**Kurchatov**	**11.75**	**16**	*e*Pn	**Pn**	**11 21 04.5**	**-1.3**
	comp=Z,5.4nm,1.0s						
GEYT	**Alibeck**	**12.21**	**267**	Pn	**Pn**	**11 21 12.0**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=93,slow=8.9,SNR=9.0						
GEYT				Sn	**Sn**	**11 23 27.2**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=76,slow=41,SNR=3.0						
GEYT				LR	LR	11 26 36.2	
	comp=Z,100nm,20.4s,baz=340,slow=41						
VOSK	**Vostochnaya**	**13.34**	**353**	⇑Pn	**Pn**	**11 21 26.0**	**-1.5**
	comp=Z,8.9nm,0.7s						
VOSK				⇑Sn	**Sn**	**11 23 55.0**	**-0.1**
	comp=Z,10.0nm,1.1s						
VOSK				⇑Lg	Lg	11 25 17.6	
	comp=Z,59nm,1.0s						
BVA0	**Borovoye Array**	**13.70**	**352**	⇓Pn	**Pn**	**11 21 31.0**	**-1.5**
	comp=Z,19nm,0.6s,baz=159,slow=15,SNR=97						
BVA0				⇑Lg	Lg	11 25 27.2	
	comp=Z,24nm,1.0s,baz=159,slow=27,SNR=3.6						
BVA0	**Borovoye Array**	**13.70**	**352**	*i* P	**Pn**	**11 21 30.3**	**-2.1**
BVA0				pmax	pmax		
	comp=Z,22nm,0.5s						
BVAR	**Borovoye Array**	**13.70**	**352**	P	**Pn**	**11 21 30.0**	**-2.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**13.70**	**352**	Pn	**Pn**	**11 21 30.0**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=159,slow=13,SNR=78						
BVAR				Lg	Lg	11 25 27.5	
	comp=Z,0.5nm,0.3s,baz=175,slow=25,SNR=2.8						
BVAR				LR	LR	11 26 56.9	
	comp=Z,210nm,20.2s,baz=174,slow=38						
BRVK	**Borovoye**	**13.74**	**352**	⇑Pn	**Pn**	**11 21 31.4**	**-1.6**
	comp=Z,54nm,0.7s						
BRVK				⇓Lg	Lg	11 25 30.1	
	comp=Z,96nm,1.5s						
BRVK	**Borovoye**	**13.74**	**352**	*de*P	**Pn**	**11 21 31.4**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,27nm,1.0s						
BRVK	**Borovoye**	**13.74**	**352**	*e*Pn	**Pn**	**11 21 31.5**	**-1.6**
	comp=Z,41nm,0.6s						
AB31	**Akbulak array**	**13.78**	**319**	⇑Pn	**Pn**	**11 21 32.9**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=127,slow=13,SNR=188						
AB31				Sn	**Sn**	**11 24 01.4**	**-4.3**
	comp=Z,9.1nm,0.8s,baz=129,slow=22,SNR=6.7						
AB31	**Akbulak array**	**13.78**	**319**	*e*P	**Pn**	**11 21 32.8**	**-0.7**
AB31				*i*		11 24 00.4	
AB31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AB31				smax	smax		
	comp=Z,9.0nm,0.8s						
ABKAR	**Akbulak array**	**13.78**	**319**	*e*Pn	**Pn**	**11 21 33.0**	**-0.5**
	comp=Z,7.3nm,0.5s						
ABKAR				*e*Sn	**Sn**	**11 24 00.4**	**-5.3**
PYUN	**Piuthan**	**13.78**	**143**	*e*P	Pn	11 21 29.4	-4.5
	comp=Z,87nm,0.4s						
DANN	**Dangsing**	**13.95**	**140**	*e*P	Pn	11 21 31.0	-5.2
	comp=Z,28nm,0.4s						
KOLN	**Koldanda**	**14.35**	**142**	*e*P	Pn	11 21 37.1	-4.6
	comp=Z,16nm,0.4s						
GKN	**Gorkha**	**14.68**	**138**	*e*P	Pn	11 21 41.1	-5.0
	comp=Z,28nm,0.4s						
KKN	**Kakani**	**15.18**	**137**	*e*P	Pn	11 21 48.2	-4.7
DMN	**Daman**	**15.24**	**138**	*e*P	Pn	11 21 48.3	-5.4
	comp=Z,12nm,0.4s						
GUN	**Gumba**	**15.41**	**135**	*e*P	**Pn**	**11 21 51.4**	**-4.6**
	comp=Z,21nm,0.5s						
PKIN	**Phulchoki**	**15.41**	**137**	*e*P	Pn	11 21 51.3	-4.7
	comp=Z,14nm,0.5s						
PKI	**Pulchoki**	**15.43**	**137**	*e*P	Pn	11 21 51.1	-5.1
	comp=Z,13nm,0.5s						
AKTO	**Aktyubinsk**	**15.49**	**320**	⇓Pn	**Pn**	**11 21 54.9**	**-1.7**
	comp=Z,30nm,0.7s						
AKTO				⇓Sn	**Sn**	**11 24 44.2**	**-3.2**
	comp=Z,13nm,1.1s						
AKTO	**Aktyubinsk**	**15.49**	**320**	P	**Pn**	**11 21 56.2**	**-0.4**
AKTO						11 24 43.4	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,155nm,21.4s						
AKTO	**Aktyubinsk**	**15.49**	**320**	Pn	**Pn**	**11 21 56.1**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=124,slow=13,SNR=43						
AKTO				Sn	**Sn**	**11 24 43.4**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=311,slow=20,SNR=1.5						
AKTO				LR	LR	11 28 28.2	
	comp=Z,155nm,21.4s,baz=139,slow=39						
JIRN	**Jiri**	**15.78**	**135**	*e*P	**Pn**	**11 21 56.2**	**-4.6**
	comp=Z,35nm,0.5s						
ZALV	**Zalesovo Beam**	**16.33**	**24**	Pn	**Pn**	**11 22 05.9**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=214,slow=9.9,SNR=25						
ZALV				Lg	Lg	11 26 51.8	
	comp=Z,0.1nm,0.3s,baz=219,slow=20,SNR=3.1						
ZALV				LR	LR	11 28 41.1	
	comp=Z,177nm,18.5s,baz=250,slow=38						
BHPL	**Bhopal**	**16.54**	**168**	*e*P	**Pn**	**11 22 10.3**	**+0.1**
BHPL				*e*x	x	11 25 03.4	
RAMN	**Ramite**	**16.56**	**135**	*e*P	**Pn**	**11 22 06.7**	**-4.0**
	comp=Z,24nm,0.7s						
NVS	**Novosibirsk**	**16.65**	**20**	*e*P	**Pn**	**11 22 10.2**	**-1.2**
NVS				*e*		11 25 06.9	
TAPN	**Taplejung**	**16.87**	**132**	*e*P	**Pn**	**11 22 10.6**	**-4.1**
	comp=Z,10nm,0.5s						
ODAN	**Odare**	**17.07**	**134**	*e*P	**Pn**	**11 22 13.4**	**-3.7**
	comp=Z,27nm,0.6s						
LSA	**Lhasa**	**17.42**	**119**	*e*P	**Pn**	**11 22 21.0**	**-0.7**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LSA	**Lhasa**	**17.42**	**119**	*e*Pn	**Pn**	**11 22 20.9**	**-0.7**
	comp=Z,9.4nm,0.9s						
HVS	**Khovu-Aksy**	**18.23**	**44**	*de*P	**P**	**11 22 32.1**	**+0.9**
HVS				pmax	pmax		
	comp=Z,90nm,1.2s						
SVE	**Sverdlovsk**	**19.31**	**338**	*e*P	**P**	**11 22 42.4**	**-0.5**
SVE				pmax	pmax		
	comp=Z,27nm,1.4s						
ARU	**Arti**	**19.62**	**335**	*d i*P	**P**	**11 22 46.5**	**+0.1**
ARU				S	**S**	**11 26 19.9**	**-6.4**
ARU				pmax	pmax		
	comp=Z,24nm,0.8s						
GTA	**Gaotai**	**20.21**	**82**	*e*P	**P**	**11 22 53.6**	**+0.5**
GTA				pP	**pP**	**11 22 58.1**	**-1.5**
GTA				sP	**sP**	**11 23 00.8**	**-1.8**
GTA				S	**S**	**11 26 37.9**	**-1.0**
GTA				sS	Sn	11 26 44.6	+2.5
GTA				SS	SnSn	11 27 07.6	+11
GTA				pmax	pmax		
	comp=Z,23nm,1.1s						
GTA				pmax	pmax		
	comp=Z,100nm,5.2s						
SHL	**Shillong**	**20.70**	**127**	*e*P	**P**	**11 22 59.0**	**+0.5**
DGRG	**David-gareji**	**21.53**	**284**	P	**P**	**11 23 11.8**	**+4.7**
GNI	**Garni**	**22.14**	**281**	*de*P	**P**	**11 23 17.3**	**+3.4**
GNI				pmax	pmax		
	comp=Z,43nm,1.2s						
GNI	**Garni**	**22.14**	**281**	P	**P**	**11 23 16.3**	**+2.4**
	comp=Z,2.9nm,0.3s,baz=102,slow=20,SNR=2.6						
HYB	**Hyderabad**	**22.43**	**168**	*i* P	**P**	**11 23 15.0**	**-2.0**
MOY	**Mondy**	**22.55**	**48**	*e*P	**P**	**11 23 19.7**	**+1.6**
ZEI	**Tsey**	**22.55**	**288**	*e*P	**P**	**11 23 21.5**	**+3.1**
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SOKR	**Solikamsk**	**22.75**	**338**	*e*P	**P**	**11 23 21.1**	**+1.2**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SOKR				MLR	MLR		
	comp=Z,200nm,17.0s						
ONI	**Oni**	**22.89**	**288**	P	**P**	**11 23 24.5**	**+2.7**
GOF	**Gofitskoye**	**23.20**	**294**	*e*P	**P**	**11 23 27.9**	**+3.1**
GOF				pmax	pmax		
	comp=Z,50nm,1.3s						
KBZ	**Khabaz**	**23.27**	**290**	P	**P**	**11 23 26.5**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**23.27**	**290**	P	**P**	**11 23 26.5**	**+1.0**
	comp=Z,3.7nm,0.9s,baz=124,slow=7.3,SNR=7.3						
KIV	**Kislovodsk**	**23.43**	**291**	*e*P	**P**	**11 23 29.0**	**+1.8**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
KIV				MLR	MLR		
	comp=Z,43nm,15.0s						
ZAK	**Zakamensk**	**23.49**	**53**	*e*P	**P**	**11 23 26.5**	**-1.3**
ZAK				*e*		11 28 25.9	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
LZH	**Lanzhou**	**24.08**	**89**	*e*P	**P**	**11 23 33.8**	**+0.2**
LZH				pP	**pP**	**11 23 37.0**	**-3.5**
LZH				sP	sP	11 23 38.5	-4.9
LZH				*e*PP	**PnPn**	**11 24 08.0**	**+5.2**
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
LZH				pmax	pmax		
	comp=Z,57nm,4.5s						
LZH				LR	LR		
	comp=Z,230nm,11.0s						
LZH				LR	LR		
	comp=Z,250nm,12.0s						
TLY	**Talaya**	**24.10**	**50**	*e*P	**P**	**11 23 31.0**	**-2.4**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TLY				MLR	MLR		

comp=Z,89nm,13.0s
TLY Talaya 24.10 50 P P 11 23 32.8 -0.6
comp=Z,2.2nm,0.6s,baz=238,slow=13,SNR=3.6
SONM Songino Array 24.98 60 eP P 11 23 42.0 +0.4
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 24.98 60 P P 11 23 41.4 -0.3
comp=Z,4.9nm,1.0s,baz=258,slow=6.9,SNR=25
SONM LR LR 11 34 36.7
comp=Z,133nm,20.1s,baz=226,slow=39
VRHR Novokhopersk 25.10 308 eP P 11 23 43.9 +1.4
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
ULN Ulaanbaatar 25.43 60ceP P 11 23 45.3 -0.4
ULN pmax pmax
comp=Z,7.0nm,1.1s
ULN Ulaanbaatar 25.43 60 eP P 11 23 45.5 -0.2
comp=Z,4.6nm,0.9s
VORD Divnogorie 26.50 307 eP P 11 23 55.0 -0.2
VORD pmax pmax
comp=N,3.0nm,0.6s
VORD pmax pmax
comp=E,4.0nm,0.6s
VORD pmax pmax
comp=Z,8.0nm,0.6s
VSR Storozhevoye 26.63 307 eP P 11 23 58.1 +1.7
VSR pmax pmax
comp=N,9.0nm,1.1s
VSR pmax pmax
comp=E,20nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
RAYN Ar Rayn 28.62 245 eP P 11 24 15.1 +0.6
comp=Z,4.5nm,0.4s
XAN Xi'an 28.68 90 P P 11 24 14.8 -0.2
XAN pmax pmax
comp=Z,2.0nm,0.7s
XAN pmax pmax
comp=Z,22nm,6.2s
OBN Obninsk 29.14 315⇑eP P 11 24 19.8 +1.1
OBN pmax pmax
comp=Z,30nm,1.9s
KLMR Klimovskoe 29.98 327 eP P 11 24 25.6 -0.5
KLMR pmax pmax
comp=Z,32nm,1.9s
BR131 Keskin Array S 30.61 283 eP P 11 24 33.6 +1.4
comp=Z,2.4nm,0.6s
BRTR Keskin Array B 30.62 283 eP P 11 24 36.0 +3.9
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 30.62 283 P P 11 24 33.8 +1.6
comp=Z,3.9nm,0.8s,baz=87,slow=6.7,SNR=12
BOD Bodaibo 31.72 41 eP P 11 24 40.3 -1.2
BOD pmax pmax
comp=Z,4.0nm,1.1s
AKASG Malin Array Be 32.80 305 eP P 11 24 52.1 +1.1
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 32.80 305 P P 11 24 51.1 +0.1
comp=Z,0.4nm,0.4s,baz=82,slow=7.3,SNR=7.1
AKASG LR LR 11 40 49.2
comp=Z,88nm,18.2s,baz=60,slow=41
KIEV Kiev 32.81 305⇑eP P 11 24 55.6 +4.5
JOF Joensuu 34.38 327 eP P 11 25 04.7 +0.1
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 34.38 327 ep P 11 25 04.7 +0.1
comp=Z,2.1nm,0.5s
BUR08 Bucovina Ar. S 35.50 299 eP P 11 25 15.7 +1.0
FINES FINESS Array B 36.23 323 eP P 11 25 21.4 +0.9
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 36.23 323 P P 11 25 21.1 +0.5
comp=Z,3.9nm,0.5s,baz=116,slow=9.7,SNR=22
FINES LR LR 11 40 57.3
comp=Z,90nm,19.0s,baz=188,slow=38
KAF Kangasniemi 36.30 324 eP P 11 25 22.5 +1.3
KAF pmax pmax
comp=Z,1.0nm,0.5s
KAF Kangasniemi 36.30 324 ep P 11 25 22.5 +1.3
comp=Z,1.2nm,0.5s
KEV Kevo 38.83 336 eP P 11 25 46.2 +3.8
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 38.83 336 ep P 11 25 46.2 +3.8
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 39.21 336 eP P 11 25 46.2 +0.6
ARCES pmax pmax
comp=Z,6.0nm,0.6s
ARCES ARCESS Array B 39.21 336 P P 11 25 45.7 +0.1
comp=Z,6.1nm,0.6s,baz=108,slow=8.1,SNR=32
ARCES LR LR 11 43 10.1
comp=Z,62nm,21.3s,baz=140,slow=38
KSAR Wonju Array Be 42.00 75 P P 11 26 08.4 -0.7
KSAR Wonju Array Be 42.00 75 P P 11 26 08.3 -0.7
KSRS Korea Array 42.02 75 P P 11 26 08.4 -0.9
KSRS pmax pmax
comp=Z,1.0nm,0.8s
KSRS Korea Array 42.02 75 P P 11 26 08.4 -0.9
comp=Z,0.7nm,0.8s,baz=311,slow=9.6,SNR=3.1
TIXI Tiksi 42.21 23ceP P 11 26 09.7 -0.6
TIXI pmax pmax
comp=Z,19nm,1.4s
GERES GERESS Array B 42.95 303 eP P 11 26 18.3 +1.5
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 42.95 303 P P 11 26 17.8 +1.0
comp=Z,0.9nm,0.6s,baz=66,slow=8.5,SNR=8.0
GERES LR LR 11 47 14.7
comp=Z,71nm,19.6s,baz=116,slow=40
CLL Collm 42.98 307 eP P 11 26 17.0 +0.1
CLL Collm 42.98 307 eP P 11 26 17.0 +0.1
CLL LmV 11 47 00.0
comp=Z,100nm,20.1s
NB2 NORSAR Subarra 43.28 321 P P 11 26 19.0 -0.2
comp=Z,2.8nm,0.6s,baz=90,slow=8.6
NOA NORSAR Array B 43.28 321 P P 11 26 19.3 +0.1
comp=Z,4.1nm,0.7s,baz=91,slow=8.0,SNR=16
NOA LR LR 11 45 07.5
comp=Z,79nm,18.5s,baz=90,slow=37
JNU Nakatsue 45.92 79 P P 11 26 40.3 -0.4
comp=Z,8.8nm,1.1s,baz=276,slow=9.2,SNR=4.0
CDF Champ du Feu 47.20 304 eP P 11 26 50.8 +0.2
LPG La Plagne 48.37 300 eP P 11 27 02.4 +2.4
comp=Z,8.5nm,0.8s
LPG La Plagne 48.37 300 eP P 11 27 02.4 +2.4
LPG pmax pmax
comp=Z,9.0nm,0.8s
LPG La Plagne 48.37 300 eP P 11 27 02.4 +2.4
comp=Z,8.5nm,0.8s
CABF La Chapelle 48.48 302 eP P 11 27 01.3 +0.8
MBDF Montbardon 48.60 299 eP P 11 27 00.4 -1.1
MBDF Montbardon 48.60 299 eP P 11 27 00.4 -1.1
MBDF Montbardon 48.60 299 eP P 11 27 00.4 -1.1
BAIF Baives 48.71 307 eP P 11 27 02.8 +0.7
BAIF Baives 48.71 307 eP P 11 27 02.8 +0.7
BAIF Baives 48.71 307 eP P 11 27 02.8 +0.7
ORIF Oris-en-Rattie 49.14 300 eP P 11 27 05.2 -0.4
ORIF Oris-en-Rattie 49.14 300 eP P 11 27 05.2 -0.4
ORIF Oris-en-Rattie 49.14 300 eP P 11 27 05.2 -0.4
VIVF Saint-Julien-l 49.97 300 eP P 11 27 12.2 +0.3
VIVF Saint-Julien-l 49.97 300 eP P 11 27 12.2 +0.3
VIVF Saint-Julien-l 49.97 300 eP P 11 27 12.2 +0.3
MAT Matsushiro 49.99 72 P P 11 27 10.7 -1.4
MJAR Matsushiro Arr 49.99 72 P P 11 27 11.2 -0.9
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR Matsushiro Arr 49.99 72 P P 11 27 11.2 -0.9
comp=Z,3.4nm,0.8s,baz=286,slow=9.6,SNR=14
MJA0 Matsu Arr-Jizo 50.02 72 eP P 11 27 11.2 -1.2
MJA0 pmax pmax
comp=Z,3.0nm,0.8s
AVF Avril sur Loir 50.21 303 eP P 11 27 13.9 +0.3
comp=Z,10nm,0.8s
BGF Bois d'Agland 50.62 303 eP P 11 27 18.0 +1.3
LDF La Druitiere 51.85 306 eP P 11 27 26.9 +1.0
LDF La Druitiere 51.85 306 eP P 11 27 26.9 +1.0
LDF La Druitiere 51.85 306 eP P 11 27 26.9 +1.0
DAG Danmarks Havn 52.44 343 iP P 11 27 30.0 +0.1
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 52.44 343 iP P 11 27 30.0 +0.1
comp=Z,3.0nm,0.8s
LFF La Frestale 52.56 301 eP P 11 27 31.8 +0.6
comp=Z,8.0nm,0.6s
LFF La Frestale 52.56 301 eP P 11 27 31.8 +0.6
LFF pmax pmax
comp=Z,8.0nm,0.6s
LFF La Frestale 52.56 301 eP P 11 27 31.8 +0.6
comp=Z,8.0nm,0.6s
PETK Petropavlovsk- 56.39 46 LR LR 11 53 04.2
comp=Z,24nm,20.6s,baz=130,slow=37
ESDC Sonseca Array 57.90 297 P P 11 28 10.4 +0.5
comp=Z,0.5nm,0.4s,baz=55,slow=7.5,SNR=3.9
SUMG Summit 58.89 341 iP P 11 28 17.9 +1.2
SUMG pmax pmax
comp=Z,3.0nm,0.8s
SUMG Summit 58.89 341 iP P 11 28 17.9 +1.2
comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 67.84 269 P P 11 29 15.5 -0.8
comp=Z,3.1nm,0.7s,baz=45,slow=5.5,SNR=30
ILAR Eielson Array 71.31 17 P P 11 29 35.7 -1.3
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 71.31 17 P P 11 29 35.7 -1.3
comp=Z,1.8nm,0.8s,baz=319,slow=5.6,SNR=12
DBIC Dimbokro 76.89 268 P P 11 30 10.3 0.0
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC Dimbokro 76.89 268 P P 11 30 10.3 0.0
comp=Z,2.5nm,0.7s,baz=32,slow=8.1,SNR=3.4
KIC Kosan Boka 77.00 268 ePKP1 P 11 30 10.9 -0.1
comp=Z,68nm,1.9s
TIC Toumodi 77.04 268 ePKP1 P 11 30 11.2 0.0
comp=Z,5.0nm,0.2s
LIC Lamto 77.30 268 ePKP1 P 11 30 11.6 -1.1
comp=Z,38nm,1.5s
YKA Yellowknife Ar 78.13 4 P P 11 30 15.9 -0.6
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 78.13 4 P P 11 30 15.9 -0.6
comp=Z,0.9nm,0.4s,baz=349,slow=5.7,SNR=14
BOSA Boshof 81.37 222 P P 11 30 34.8 +0.2
BOSA pmax pmax
comp=Z,4.0nm,1.0s
BOSA Boshof 81.37 222 P P 11 30 34.8 +0.2
comp=Z,4.4nm,1.0s,baz=353,slow=3.4,SNR=4.9
WRA Warramunga Arr 81.89 124 P P 11 30 36.5 -0.9
WRA pmax pmax
comp=Z,4.0nm,0.6s
WRA Warramunga Arr 81.89 124 P P 11 30 36.5 -0.9
comp=Z,3.6nm,0.6s,baz=324,slow=5.1,SNR=28
WRAB Tennant Creek 81.89 124 eP P 11 30 36.0 -1.4
WRAB pmax pmax
comp=Z,4.0nm,0.5s
WRAB Tennant Creek 81.89 124 eP P 11 30 36.0 -1.4
comp=Z,4.2nm,0.5s

IDC 24 11:21:15.1±1.2, 12.°83N×88.°03W, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.9/24, mbtmp3.8/9, ML2.7/1, MS2.6/3, Ms1 2.6/3, ms1mx2.5/24, Error ellipse: s-maj=42.9km s-min=14.7km az=44.0
ISCJB 24 11:21:21.1±0.6, 12.°67N±0.°08×88.°24W±0.°07, h65km±5km, mb3.7/9, Error ellipse: s-maj=16.7km s-min=4.4km az=37.8
CASC 24 11:21:21.3±2.4, 12.°62N×88.°30W, h41km±225km, MD4.6, ML3.9
ISC 24 11:21:21.9±1.2, 12.°67N±0.°08×88.°24W±0.°07, h57km±10km, n32, σ1§30/41, mb3.9/9, 5D, Off coast of central America

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CNCH Conchagua 0.72 34 iP Pn 11 21 36.4 0.0
VSM San Miguel 0.75 358⇓iP Pn 11 21 36.7 -0.2
BLLM Bellamira 0.77 0⇓iP Pn 11 21 36.7 -0.3
CAHU Cacacuatique 1.09 2 iP Pn 11 21 41.8 +0.5
SNVI San Vicente 1.10 328 iP Pn 11 21 40.5 -0.9
SNVI eS Sn 11 21 55.9 +0.1
LFRS El Faro 1.24 320⇓iP Pn 11 21 41.8 -1.3
LBRS Las Brisas 1.31 324⇓iP Pn 11 21 43.6 -0.6
LFU La Fuente 1.36 322⇓iP Pn 11 21 44.0 -0.8
LFU eS Sn 11 22 01.6 -0.4
SNET Serv Nac Est T 1.39 316 iP Pn 11 21 44.0 -1.2
SNET eS Sn 11 22 01.6 -1.1
SNET AML AML 11 22 04.5
comp=Z,2μm,0.3s
BOQS Boqueron 1.46 316 iP Pn 11 21 45.5 -0.8
BOQS eS Sn 11 22 05.8 +1.3
COPN Copaltepe 1.69 107 iP Pn 11 21 48.3 -0.8
COPN eS Sn 11 22 09.8 +0.1
SBLS San Blas 1.77 311 eP Pn 11 21 49.6 -0.9
SBLS eS Sn 11 22 12.6 +0.4
RTR El Retiro 1.83 312 iP Pn 11 21 51.0 -0.3
RBDL Robledal 2.01 316 iP Pn 11 21 53.4 -0.2
MRL Marmol 2.76 330 iP Pn 11 22 04.5 +0.6
APG El Apazote 3.17 317 Pn Pn 11 22 05.4 -4.1
comp=Z,0.8nm,0.3s,baz=119,slow=10,SNR=8.3
APG Sn Sn 11 22 48.4 +2.2
comp=Z,3.8nm,0.3s,baz=181,slow=22,SNR=2.6
APG LR LR 11 23 23.9
comp=Z,107nm,21.4s,baz=82,slow=40
JTS JuntasAbangare 4.00 126 Pg Pn 11 22 26.2 +5.4
comp=Z,6.7nm,0.3s,baz=294,slow=20,SNR=7.6
JTS Sn Sn 11 23 06.3 -0.2
comp=Z,3.8nm,0.3s,baz=289,slow=22,SNR=1.9
JTS Lg Lg 11 23 21.9
comp=Z,6.6nm,0.3s,baz=357,slow=23,SNR=11
JTS LR LR 11 23 34.6
comp=Z,31nm,20.0s,baz=332,slow=36
CGA2 Cerro Gallo 2 4.55 125 eP Pn 11 22 31.2 +2.8
QCR Quepos 5.14 128 eP Pn 11 22 38.0 +1.6
BUS Buena Vista 5.38 125 eP Pn 11 22 42.8 +2.6
BUS eS Sn 11 23 38.7 -2.4
TEIG Tepich 7.51 360 Pn Pn 11 23 10.6 +1.7
comp=Z,1.6nm,0.3s,baz=176,slow=14,SNR=5.6
TXAR Lajitas Array 21.92 322 P P 11 26 11.7 +1.0
comp=Z,2.1nm,0.6s,baz=139,slow=9.7,SNR=32
TXAR LR LR 11 35 43.1
comp=Z,38nm,20.6s,baz=0.0,slow=40
TKL Tuckaleechee C 23.24 9 P P 11 26 24.1 -0.3
comp=Z,4.1nm,0.8s,baz=177,slow=11,SNR=4.9
ANMO Albuquerque 27.64 326 P P 11 27 06.5 +2.0
comp=Z,0.6nm,0.7s,baz=139,slow=11,SNR=3.8
PDAR Pinedale Array 35.21 332 P P 11 28 11.2 +0.2
comp=Z,0.9nm,0.6s,baz=125,slow=7.8,SNR=9.9
NVAR Mina Array Bea 37.03 319 P P 11 28 28.7 +2.1
comp=Z,0.5nm,0.7s,baz=132,slow=7.6,SNR=4.5
NVAR PcP PcP 11 30 48.0 +1.4
comp=Z,0.5nm,0.6s,baz=120,slow=3.2,SNR=4.1
ULM Lac du Bonnet 37.99 352 P P 11 28 32.4 -1.9
comp=Z,2.6nm,0.5s,baz=161,slow=8.0,SNR=6.5
SCHQ Schefferville 45.29 17 P P 11 29 32.6 -1.3
comp=Z,1.5nm,0.8s,baz=205,slow=6.0,SNR=3.6
YKA Yellowknife Ar 53.20 345 P P 11 30 33.2 -0.9
comp=Z,0.8nm,0.7s,baz=140,slow=7.5,SNR=14
ILAR Eielson Array 65.51 336 P P 11 31 58.0 -1.0
comp=Z,0.5nm,0.8s,baz=163,slow=5.0,SNR=12
WRA Warramunga Arr 138.59 254 PKP PKPdf 11 40 43.4 +1.1
comp=Z,0.4nm,0.7s,baz=90,slow=2.2,SNR=6.0
CMAR Chiang Mai Arr 148.26 347 PKP PKPdf 11 41 00.2 +0.9
comp=Z,0.6nm,0.3s,baz=343,slow=2.8,SNR=4.5
CMAR PKPbc PKPbc 11 41 02.2 -0.4
comp=Z,0.7nm,0.3s,baz=357,slow=3.4,SNR=4.6

KRSC 24 11:21:18.7±2.4, 61.°28N×166.°52E, h15km±14km, ML4.8, FELT [II-III] at Tilichiki, Korf.
MOS 24 11:21:29.7±1.0, 60.°75N×165.°77E, h12km, mb4.6/27, Error ellipse: s-maj=13.2km s-min=6.5km az=91.2
MOS Felt (II-III) at Tilichiki, Korf.
ISCJB 24 11:21:30.1±0.8, 60.°78N±0.°03×165.°73E±0.°06, h12km±5km, mb4.5/57, MS3.5/12, Error ellipse: s-maj=5.8km s-min=3.3km az=42.5
IDC 24 11:21:30.2±0.5, 60.°88N×165.°69E, h0km, mb4.2/25, mb1 4.3/26, mb1mx4.3/33, mbtmp4.2/26, ML4.0/1, MS3.2/8, Ms1 3.2/8, ms1mx3.0/33, Error ellipse: s-maj=14.3km s-min=11.4km az=31.0
BJI 24 11:21:31.7, 60.°80N×165.°70E, h30km, mB4.9/20, mb4.6/32, Ms4.5/15, Ms7 4.3/6
NEIC 24 11:21:36.9±0.7, 60.°94N×165.°71E, h46km±6km, mb4.5/21, Error ellipse: s-maj=7.9km s-min=3.7km az=173.0
ISC 24 11:21:34.8±0.6, 60.°77N±0.°04×165.°84E±0.°04, h34km±1km, n147, σ1§40/192, mb4.5/58, MS3.3/12, 4C-4D, Eastern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TILK Tilichiki 0.36 155 iP Pb 11 21 37.6 -5.7
TILK eS Sb 11 21 45.4 -3.7
OSSR Ossora 2.06 224 iP Pn 11 22 04.3 -2.7
OSSR iS Sn 11 22 32.4 +0.9
PALN Palana 3.40 243 eP Pn 11 22 23.4 -2.0
PALN eS Sn 11 23 04.9 +0.4
SMKR Semkarok 4.78 210 eP Pn 11 22 43.0 -1.4
SRKR Sorokina 4.79 213 eP Pn 11 22 42.8 -1.8
KBTR Krutoberegovo 4.84 200 PN Pn 11 22 44.2 -1.0
KBTR Krutoberegovo 4.84 200 eP Pn 11 22 44.2 -1.0
KBTR eS Sn 11 23 39.8 -0.2
BDR Baidarnaya 4.85 212 eP Pn 11 22 45.1 -0.4
SRDR Sredinnyy 5.49 218 eP Pn 11 22 52.9 -1.3
BKI Bering 5.58 179 PN Pn 11 22 54.2 -1.1
BKI Bering 5.58 179 eP Pn 11 22 54.2 -1.1
ESO Esso 6.14 221 PN Pn 11 23 02.6 -0.4
ESO Esso 6.14 221 eP Pn 11 23 02.6 -0.4
TUMR Tumrok 6.27 211 eP Pn 11 23 04.6 -0.4
MKZ Mys Kozlova 6.61 201 PN Pn 11 23 08.7 -0.7
MKZ Mys Kozlova 6.61 201 eP Pn 11 23 08.7 -0.7
MKZ eS Sn 11 24 24.8 +1.4
SEY Seymchan 6.73 295 Pn Pn 11 23 10.1 -1.0
7.4nm,0.3s,baz=80,slow=23,SNR=97
SEY Lg Lg 11 25 00.5
4.6nm,0.3s,baz=9.1,slow=23,SNR=5.3
BILL Bilibino 7.30 1 ePN Pn 11 23 19.0 0.0
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 7.30 1 ePn Pn 11 23 18.5 -0.5
comp=Z,13nm,0.6s
BILL Sn Sn 11 24 39.3 -1.3
GNL Ganaly 8.28 215 eP Pn 11 23 33.2 +0.8
KRX Arik 8.39 211 eP Pn 11 23 34.8 +0.8
SDLR Sedlovina 8.41 210 eP Pn 11 23 34.5 +0.3
KRER Koryakskii 8.42 210 eP Pn 11 23 34.2 -0.2
SMAR Somma 8.44 210 eP Pn 11 23 34.5 -0.3
AVH Avacha 8.45 210 eP Pn 11 23 34.4 -0.4
KOK Koryaka 8.46 211 eP Pn 11 23 35.3 +0.4
UGLR Uglovaya 8.48 210 eP Pn 11 23 36.4 +1.1
PET Petropavlovsk 8.70 210 ePN Pn 11 23 35.8 -2.2
PET pmax pmax
comp=Z,9.0nm,0.8s
PET MLR MLR
comp=Z,300nm,14.0s
PET MLR MLR
comp=Z,500nm,11.0s
FX1 Attu Island--F 8.86 150 PN Pn 11 23 40.0 -0.3
FX1 pmax pmax
comp=Z,5.0nm,0.3s
FX1 Attu Island--F 8.86 150 Pn Pn 11 23 40.0 -0.3
comp=Z,5.0nm,0.3s,baz=345,slow=10.0,SNR=10.0
PETK Petropavlovsk- 8.87 214 Pn Pn 11 23 45.4 +5.0
comp=Z,0.1nm,0.3s,baz=61,slow=20,SNR=2.7
PETK LR LR 11 27 54.3
comp=Z,106nm,18.4s,baz=21,slow=43
GAMB Gambell 10.87 64 ePn Pn 11 24 08.0 +0.3
TNA Tin City 12.73 57 ePn Pn 11 24 33.2 +0.1
YAK Yakutsk 17.22 290 eP P 11 25 33.3 -0.3
YAK eS S 11 28 48.5 -2.3
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=Z,50nm,0.8s
YAK smax smax
comp=N,87nm,4.3s
YAK smax smax
comp=E,67nm,3.0s
YAK MLR MLR
comp=E,100nm,11.0s
YAK MLR MLR
comp=N,51nm,12.0s
YAK MLR MLR
comp=Z,147nm,13.0s
YAK Yakutsk 17.22 290 eP P 11 25 32.9 -0.7
comp=Z,76nm,0.8s
TIXI Tiksi 18.09 322⇑eP P 11 25 43.3 +0.2
TIXI pmax pmax
comp=Z,13nm,1.7s
TIXI Tiksi 18.09 322 eP P 11 25 42.7 -0.4
comp=Z,6.1nm,0.8s
IM04 Indian Mountai 18.57 56 eP Pn 11 25 49.3 +0.4
PPLA Purkeypile 19.68 65 eP Pn 11 26 02.9 +0.6
comp=Z,54nm,1.7s
PPLA eS S 11 29 34.4 -6.2
COLD Coldfoot 19.94 52 eP P 11 26 04.2 +0.7
comp=Z,9.0nm,0.7s
RSO Redoubt South 20.09 73 eP P 11 26 06.2 +1.0
KTH Kantishna Hill 20.09 63 eP P 11 26 05.3 +0.1
comp=Z,12nm,1.0s
TRF Thorofare Moun 20.39 63 eP Pn 11 26 10.3 -0.5
comp=Z,15nm,0.8s
MCK McKinley 20.92 62 eP P 11 26 15.3 +1.2
MCK pmax pmax
comp=Z,27nm,1.0s
MCK McKinley 20.92 62 eP P 11 26 15.3 +1.2
comp=Z,27nm,1.0s
COLA College 21.16 59⇑eP P 11 26 17.7 +1.1
COLA pmax pmax
comp=Z,105nm,2.5s
COLA College 21.16 59 eP P 11 26 17.6 +1.0
comp=Z,20nm,1.4s
HABR Khabarovsk 21.42 249 eP P 11 26 21.5 +2.0
HABR e 11 26 37.5
HABR pmax pmax
comp=Z,22nm,1.2s
HABR Khabarovsk 21.42 249 eP P 11 26 21.5 +2.0
HABR ePPP PPP 11 26 45.5
HABR S S 11 30 16.1 +1.0
HABR eSS SnSn 11 30 40.5 +1.7
HABR e 11 37 41.6
HABR pmax pmax
comp=Z,22nm,1.2s
HABR MLR MLR
comp=Z,145nm,18.0s
ILAR Eielson Array 21.58 59 P P 11 26 21.8 +0.6
comp=Z,6.0nm,0.6s,baz=276,slow=10.0,SNR=76
ILAR LR LR 11 34 43.9
comp=Z,56nm,18.9s,baz=262,slow=37
ASAJ Asahikawa 21.68 230 LR LR 11 34 45.6
comp=Z,62nm,19.6s,baz=24,slow=37
KLR Kul'dur 22.42 254 eP P 11 26 26.0 -4.3
DOT Dot Lake 23.05 61 eP P 11 26 37.0 +0.2
comp=Z,10nm,1.0s
MENT Mentasta 23.40 63 eP P 11 26 40.1 -0.2
EGAK Eagle 23.97 57 eP P 11 26 45.1 -0.5
comp=Z,19nm,0.7s
DAWY Dawson 24.91 59 eP P 11 26 55.2 +0.9
USRK Ussuriysk Arra 26.04 246 LR LR 11 38 49.0
comp=Z,77nm,19.3s,baz=318,slow=40
BOD Bodaibo 26.06 287 eP P 11 27 04.3 -0.4
BOD pmax pmax
comp=Z,13nm,0.9s
MDJ Mudanjiang 26.80 249 P P 11 27 10.8 -0.7
MDJ pP pP 11 27 18.0 -3.1
MDJ sP sP 11 27 23.3 -1.9
MDJ PcP PcP 11 30 35.6 +2.2
MDJ S S 11 31 45.3 +0.2
MDJ ScP ScP 11 34 10.8 +0.2
MDJ PcS PcS 11 34 14.8 +0.2
MDJ ScS ScS 11 38 02.0 +0.8
MDJ pmax pmax
comp=Z,10.0nm,1.8s
MDJ pmax pmax
comp=Z,57nm,4.5s
MDJ LR LR
comp=Z,65nm,6.3s
MDJ LR LR
comp=Z,140nm,6.7s
VLA Vladivostok 26.94 245beP P 11 27 11.3 -1.4
VLA i 11 27 53.4
VLA e 11 30 33.2
VLA iS S 11 31 49.3 +2.1
VLA pmax pmax
comp=Z,24nm,1.1s
CN2 Changchun 29.35 253 eP P 11 27 33.6 -0.6
CN2 pmax pmax
comp=Z,10.0nm,0.5s
MJAR Matsushiro Arr 29.92 228 LR LR 11 41 46.7
comp=Z,35nm,18.4s,baz=50,slow=41
KSRS Korea Array 33.30 243 P P 11 28 08.9 -0.2
comp=Z,1.1nm,0.8s,baz=22,slow=8.1,SNR=3.2

KSRS LR LR 11 42 59.4
comp=Z,16nm,18.1s,baz=298,slow=39
KSAR Wonju Array Be 33.33 243 P **P 11 28 08.9 -0.4**
KSAR Wonju Array Be 33.33 243 P **P 11 28 08.8 -0.4**
TLY Talaya 34.48 283 eP **P 11 28 18.7 -0.4**
TLY pmax pmax
comp=Z,2.0nm,0.7s
TLY Talaya 34.48 283 P **P 11 28 18.1 -1.0**
comp=Z,1.2nm,0.5s,baz=68,slow=11,SNR=3.4
ULN Ulaanbaatar 35.37 276 eP **P 11 28 27.5 +0.5**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 35.37 276 eP **P 11 28 27.5 +0.5**
comp=Z,5.5nm,1.0s
YKA Yellowknife Ar 35.62 52 P **P 11 28 28.9 +0.2**
YKA 11 30 56.7
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 35.62 52 P **P 11 28 28.9 +0.2**
comp=Z,0.8nm,0.4s,baz=303,slow=8.5,SNR=25
YKA PcP **PcP 11 30 56.7 +0.1**
comp=Z,0.8nm,0.7s,baz=314,slow=3.7,SNR=7.7
SONM Songino Array 35.71 276 P **P 11 28 30.3 +0.4**
SONM 11 30 57.8
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 35.71 276 P **P 11 28 30.3 +0.4**
comp=Z,2.2nm,0.8s,baz=62,slow=7.8,SNR=14
SONM PcP **PcP 11 30 57.8 +0.4**
comp=Z,0.7nm,0.6s,baz=83,slow=1.6,SNR=5.5
BJI Beijing 36.66 259 P **P 11 28 37.3 -0.6**
BJI S **S 11 34 18.0 -0.6**
BJI pmax pmax
comp=Z,17nm,0.9s
BJI pmax pmax
comp=Z,77nm,3.7s
BJI LR LR
comp=Z,160nm,18.4s
BJI LR LR
comp=Z,140nm,16.2s
HHC Hu-ho-hao-te 38.27 264 eP **P 11 28 51.8 +0.1**
HHC PcP **PcP 11 31 06.0 +0.8**
HHC S **S 11 34 44.9 +1.6**
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,110nm,5.0s
HHC LR LR
comp=Z,270nm,13.7s
HHC LR LR
comp=Z,650nm,16.2s
HHC LR LR
comp=Z,180nm,12.4s
SPITS Spitsbergen Ar 40.06 351 P **P 11 29 05.7 -0.4**
SPITS 11 31 10.5
SPITS pmax pmax
comp=Z,14nm,0.9s
SPITS Spitsbergen Ar 40.06 351 P **P 11 29 05.7 -0.4**
comp=Z,14nm,0.9s,baz=72,slow=8.1,SNR=10
SPITS PcP **PcP 11 31 10.5 +0.4**
comp=Z,8.5nm,1.0s,baz=98,slow=2.9,SNR=7.0
ZALV Zalesovo Beam 41.58 298 P **P 11 29 18.6 -0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 41.58 298 P **P 11 29 18.6 -0.3**
comp=Z,1.2nm,0.5s,baz=44,slow=8.6,SNR=4.8
GTA Gaotai 45.13 273 eP **P 11 29 48.1 +0.2**
GTA pP **pP 11 29 57.9 +0.1**
GTA S **S 11 36 24.3 -0.6**
GTA SS **ScS 11 39 38.5 -3.4**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,73nm,5.0s
GTA LR LR
comp=Z,70nm,15.0s
GTA LR LR
comp=Z,85nm,15.0s
FCC Fort Churchill 45.67 46 eP **P 11 29 52.3 +0.6**
FCC Fort Churchill 45.67 46 eP **P 11 29 52.2 +0.6**
LZH Lanzhou 45.76 267 eP **P 11 29 53.0 +0.1**
LZH pP **pP 11 30 03.5 +0.6**
LZH ePP **PP 11 31 40.1 -0.1**
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,62nm,6.4s
LZH LR LR
comp=Z,360nm,14.5s
LZH LR LR
comp=Z,330nm,15.2s
LZH LR LR
comp=Z,400nm,18.4s
SLMT Seeley Lake 46.22 69 eP **P 11 29 56.7 +0.3**
KURK Kurchatov 46.55 299 eP **P 11 29 58.5 -0.2**
KURK pmax pmax
comp=Z,13nm,0.6s
KURK Kurchatov 46.55 299 eP **P 11 29 58.5 -0.2**
comp=Z,13nm,0.6s
ARCES ARCESS Array B 46.95 342 P **P 11 30 00.2 -1.4**
ARCES 11 31 33.9
ARCES pmax pmax
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 46.95 342 P **P 11 30 00.2 -1.4**
comp=Z,6.8nm,1.0s,baz=27,slow=6.6,SNR=7.5
ARCES PcP **PcP 11 31 33.9 +0.4**
comp=Z,4.0nm,0.9s,baz=33,slow=4.2,SNR=7.7
WMQ Urumqi 47.61 286 P **P 11 30 08.6 +1.4**
WMQ PcP **PcP 11 31 38.4 +2.0**
WMQ PP **PP 11 31 59.5 +0.9**
WMQ PcS **PcS 11 35 32.5 +0.7**
WMQ S **S 11 37 00.8 +0.7**
WMQ ScS **ScS 11 39 56.9 -0.8**
WMQ SS **SS 11 40 22.9 -5.0**
WMQ pmax pmax
comp=Z,7.0nm,1.0s
MKAR Makanchi Array 47.86 293 P **P 11 30 08.1 -0.9**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR MLR MLR
comp=Z,28nm,18.3s
MKAR Makanchi Array 47.86 293 P **P 11 30 08.1 -0.9**
comp=Z,3.4nm,0.6s,baz=37,slow=6.2,SNR=25
MKAR LR LR 11 53 34.4
comp=Z,28nm,18.3s,baz=24,slow=40
MKAR Makanchi Array 47.86 293 eP **P 11 30 08.6 -0.4**
BVAR Borovoye Array 48.23 306 P **P 11 30 11.8 +0.1**
BVAR pmax pmax
comp=Z,17nm,0.6s
BVAR Borovoye Array 48.23 306 P **P 11 30 11.8 +0.1**
comp=Z,17nm,0.6s,baz=52,slow=7.3,SNR=57
BRVK Borovoye 48.24 306 eP **P 11 30 11.7 -0.1**
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 48.24 306 eP **P 11 30 12.0 +0.2**
comp=Z,16nm,0.7s
BOZ Bozeman (W) 48.27 69 ePcP **PcP 11 31 38.4 -0.4**
HLID Hailey 48.56 73 eP **P 11 30 15.6 +0.9**
comp=Z,8.4nm,1.7s
H17A Grant Village 49.70 69 eP **P 11 30 26.0 +2.5**
comp=Z,61nm,3.0s
ARU Arti 49.95 316 d iP **P 11 30 25.0 +0.2**
ARU 11 32 18.3
ARU S **S 11 37 35.8 +3.3**
ARU SS **SS 11 41 05.2 +0.4**
ARU pmax pmax
comp=Z,11nm,1.2s
CD2 Chengdu 49.99 263 P **P 11 30 26.4 +0.8**
CD2 PP **PP 11 32 21.9 +1.5**
CD2 PcS **PcS 11 35 42.4 +0.1**
CD2 S **S 11 37 32.3 -1.5**
CD2 ScS **ScS 11 40 11.9 -2.1**
CD2 SS **SS 11 41 01.3 -5.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.2s
TPAW Teton Pass 50.23 70 eP **P 11 30 29.4 +2.0**
comp=Z,6.3nm,1.3s
NVAR Mina Array Bea 50.69 80 P **P 11 30 32.0 +1.1**
comp=Z,0.5nm,0.7s,baz=303,slow=8.5,SNR=3.5
ULM Lac du Bonnet 51.50 54 P **P 11 30 37.6 +1.0**
ULM 11 31 50.3
ULM pmax pmax
comp=Z,1.0nm,0.6s
ULM Lac du Bonnet 51.50 54 P **P 11 30 37.6 +1.0**
comp=Z,1.2nm,0.6s,baz=347,slow=5.0,SNR=2.6
ULM PcP **PcP 11 31 50.3 -0.1**
comp=Z,2.5nm,0.7s,baz=12,slow=5.5,SNR=3.5
R11A Troy Canyon, C 52.07 78 eP **P 11 30 42.3 +1.1**
comp=Z,21nm,2.3s
R11A ePcP **PcP 11 31 54.4 +1.5**
GYA Guiyang 52.30 257 eP **P 11 30 43.3 +0.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
RSSD Black Hills 52.87 65 eP **P 11 30 47.8 +0.6**
RSSD e 11 31 56.0
RSSD pmax pmax
comp=Z,47nm,2.8s
RSSD Black Hills 52.87 65 eP **P 11 30 47.8 +0.6**
comp=Z,46nm,2.8s
RSSD ePcP **PcP 11 31 56.0 +0.1**
FINES FINESS Array B 54.27 338 P **P 11 30 55.3 -1.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 54.27 338 P **P 11 30 55.3 -1.5**
comp=Z,1.2nm,0.5s,baz=32,slow=7.6,SNR=6.8
AAK Ala-Archa 54.59 295 d iP **P 11 31 00.1 +0.4**
AAK pmax pmax
comp=Z,12nm,0.8s
AAK Ala-Archa 54.59 295 eP **P 11 30 59.6 0.0**
comp=Z,4.3nm,0.7s
EKS2 Erkin-Say 54.88 296 eP **P 11 31 01.9 +0.1**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 54.88 296 eP **P 11 31 01.9 +0.1**
comp=Z,5.4nm,0.8s
AKTO Aktyubinsk 54.99 312 P **P 11 31 02.5 +0.2**
AKTO pmax pmax
comp=Z,3.0nm,0.7s
AKTO Aktyubinsk 54.99 312 P **P 11 31 02.5 +0.2**
comp=Z,2.8nm,0.7s,baz=50,slow=7.4,SNR=6.1
PV04 Paradox Valley 55.20 72 eP **P 11 31 05.5 +1.4**
ABKAR Akbulak array 55.24 310 eP **P 11 31 04.0 -0.1**
KMI Kunming 55.30 259 P **P 11 31 07.8 +2.7**
KMI pmax pmax
comp=Z,12nm,1.3s
KSH Kashi 56.42 292 eP **P 11 31 15.8 +3.0**
KSH epP **pP 11 31 25.1 +2.1**
KSH esP **sP 11 31 28.8 +1.8**
KSH ePP **PP 11 33 22.4 +4.2**
KSH ePcS **PcS 11 36 08.8 -1.4**
KSH S **S 11 39 01.8 +0.6**
KSH pmax pmax
comp=Z,6.0nm,1.2s
KSH pmax pmax
comp=Z,62nm,3.2s
KSH LR LR
comp=Z,32nm,4.2s
KSH LR LR
comp=Z,41nm,4.1s
KSH LR LR
comp=Z,130nm,3.6s
NB2 NORSAR Subarra 56.96 346 P **P 11 31 15.6 -0.6**
comp=Z,2.5nm,0.5s,baz=14,slow=7.4
NOA NORSAR Array B 56.96 346 P **P 11 31 15.7 -0.5**
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 56.96 346 P **P 11 31 15.7 -0.5**
comp=Z,2.8nm,0.6s,baz=12,slow=6.6,SNR=7.0
SCHQ Schefferville 57.42 33 P **P 11 31 19.1 -0.4**
comp=Z,2.9nm,0.6s,baz=332,slow=7.0,SNR=7.1
VRHR Novokhopersk 59.86 323 eP **P 11 31 34.4 -2.1**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,30nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 60.46 325 eP **P 11 31 39.8 -0.8**
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.8s
VORD Divnogorie 60.65 324 eP **P 11 31 39.4 -2.5**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,4.0nm,0.6s
VORD pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 62.80 259 P **P 11 31 57.2 +0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 62.80 259 P **P 11 31 57.1 +0.3**
comp=Z,0.6nm,0.3s,baz=359,slow=5.2,SNR=5.4
AKASG Malin Array Be 63.54 331 P **P 11 31 59.2 -2.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 63.54 331 P **P 11 31 59.2 -2.1**
comp=Z,1.2nm,0.4s,baz=26,slow=6.4,SNR=7.6
KIEV Kiev 63.55 331 ⇓eP **P 11 32 00.9 -0.5**
TXAR Lajitas Array 65.11 74 P **P 11 32 13.2 +1.2**
comp=Z,1.1nm,1.1s,baz=305,slow=4.4,SNR=5.3
TXAR LR LR 12 00 59.4
comp=Z,52nm,18.1s,baz=0.0,slow=36
GEYT Alibeck 65.47 304 P **P 11 32 14.3 +0.2**
comp=Z,2.5nm,0.6s,baz=64,slow=3.4,SNR=6.2
KIV Kislovodsk 65.87 319 eP **P 11 32 17.5 +0.8**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 66.01 318 P **P 11 32 18.4 +0.9**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 66.01 318 P **P 11 32 18.4 +0.9**
comp=Z,4.4nm,0.9s,baz=358,slow=3.8,SNR=8.2
ZEI Tsey 66.51 317 eP **P 11 32 20.3 -0.7**
ZEI pmax pmax
comp=Z,7.0nm,0.8s
GERES GERESS Array B 68.44 341 P **P 11 32 32.7 -0.3**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 68.44 341 P **P 11 32 32.7 -0.3**
comp=Z,0.8nm,0.6s,baz=28,slow=6.0,SNR=7.2
BR131 Keskin Array S 72.52 323 eP **P 11 32 57.5 -0.5**
comp=Z,1.7nm,0.7s
BRTR Keskin Array B 72.52 323 P **P 11 32 58.7 +0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 72.52 323 P **P 11 32 58.7 +0.6**
comp=Z,1.6nm,0.7s,baz=43,slow=3.5,SNR=12
ESDC Sonseca Array 79.56 352 P **P 11 33 36.5 -1.5**
comp=Z,0.3nm,0.3s,baz=0.6,slow=6.6,SNR=4.4
WRA Warramunga Arr 84.36 210 P **P 11 34 02.8 -0.3**
comp=Z,0.1nm,0.3s,baz=13,slow=5.7,SNR=7.2
QSPA South Pole Qui 150.53 180 ePKPbc **PKPbc 11 41 20.8 -0.5**

IDC 24 11:37:30.0±1.0,16°27S×174°31W,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.8/19,mbtmp3.8/6,Error ellipse: s-maj=40.9km s-min=24.2km az=125.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.17**	**197**	P	P	11 42 39.5	+1.2
	1.4nm,0.3s,baz=35,slow=16,SNR=4.4						
STKA	**Stephens Creek**	**42.85**	**241**	P	P	11 45 30.4	+0.2
	1.0nm,0.6s,baz=69,slow=5.3,SNR=3.9						
WRA	**Warramunga Arr**	**48.80**	**258**	P	P	11 46 16.1	-1.3
	0.2nm,0.5s,baz=96,slow=6.6,SNR=7.4						
PETK	**Petropavlovsk-**	**73.19**	**343**	P	P	11 49 03.6	+1.0
	1.6nm,0.7s,baz=155,slow=14,SNR=3.0						
ILAR	**Eielson Array**	**83.47**	**11**	P	P	11 49 59.0	-0.2
	0.3nm,0.5s,baz=223,slow=5.5,SNR=11						
PDAR	**Pinedale Array**	**83.50**	**42**	P	P	11 50 00.3	+0.2
	0.5nm,0.8s,baz=223,slow=4.1,SNR=4.9						
BRTR	**Keskin Array B**	**146.26**	**319**	PKPbc	PKPdf	11 57 12.3	+0.3
	0.6nm,0.6s,baz=126,slow=2.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**175.04**	**128**	PKPab	PKPab	11 59 16.5	-1.6
	0.7nm,1.0s,baz=272,slow=4.9,SNR=3.5						

DDA 24 11:43:40.5,39°00N×27°84E,h7km,MD2.6
ISC 24 11:43:40.0±4.9,39°1N±0°1×27°7E±0°4,h11km,n3,σ0°18/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.18**	**162**	ePG	**Pg**	**11 43 43.9**	**-0.1**
AKS				eSG	**Sg**	**11 43 46.8**	**0.0**
AKHS	**Akhisar**	**0.19**	**162**	iP	**Pg**	**11 43 43.9**	**-0.1**
AKHS				iS	**Sg**	**11 43 47.0**	**+0.2**
DURS	**Dursunbey**	**0.79**	**46**	iP	**Pb**	**11 43 55.9**	**+0.1**
DURS				iS	**Sb**	**11 44 06.3**	**-0.1**

ISCJB 24 11:57:55.6±0.2,30°40S±0°03×166°07E±0°03,h10km, mb5.1/78,MS4.8/38,Error ellipse: s-maj=5.1km s-min=3.4km az=43.4
IDC 24 11:57:56.6±0.6,30°13S×165°96E,h0km,mb4.8/12, mb1 5.0/15,mb1mx4.9/25,mbtmp5.0/15,ML5.7/2,MS4.7/18, Ms1 4.7/18,ms1mx4.7/19,Error ellipse: s-maj=22.3km s-min=16.6km az=68.0
GCMT 24 11:57:58.1±0.1,30°27S×165°91E,h12km,MW5.4/115, Moment Tensor Solution. s97,c167; s115,c215; Duration: 1s2 Moment tensor: Scale 10[17]Nm; Mrr0.06±.02; Mθθ1.41±.02; Mφφ-1.46±.02; Mrθ0.27±.04; Mrφ0.48±.02; Mθφ-0.22±.04; Best double couple: Mo1.55300×10[17] NP1:φs306.00000°,δ90.00000°, λ-13.00000°. NP2:φs36.00000°,δ77.00000°, λ-180.00000°. Principal axes: T 1.5250, Plg9.0000°, Azm352.0000°; N 0.0630, Plg77.0000°, Azm126.0000°; P -1.5810, Plg9.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 24 11:57:58.1±0.2,30°23S×165°86E,h10km,mb5.3/35 Error ellipse: s-maj=6.3km s-min=4.8km az=49.0
NEIC Felt at Kingston, Norfolk Island.
BJI 24 11:58:00.6,30°30S×165°80E,h35km,mB5.2/39,mb5.1/55, Ms5.2/50,Ms7 4.8/49
MOS 24 11:58:01.2±1.5,30°08S×165°87E,h33km,mb5.3/26, MS4.8/10,Error ellipse: s-maj=11.8km s-min=9.6km az=126.4
ISC 24 11:57:59.5±0.8,30°25S±0°05×165°90E±0°05,h19km±3km, n342,σ1°66/354,mb5.2/76,MS4.8/41,62C-27D, Northwest of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NFK	**Norfolk Island**	**2.14**	**56**	⇑P	Pn	11 58 29.5	-4.8
	baz=2.1,SNR=308						
LHI	**Lord Howe Isla**	**6.01**	**256**	⇑P	**Pn**	**11 59 25.1**	**-2.4**
	baz=6.1,SNR=58						
NORM	**Noumea**	**8.00**	**4**	eP	Pn	11 59 51.4	-3.5
NOUC	**Port Laguerre**	**8.12**	**3**	eP	**Pn**	**11 59 54.7**	**-1.8**
NOUC				eS	Sn	12 01 19.9	-7.9
DZM	**Mont Dzumac**	**8.16**	**4**	ePn	**Pn**	**11 59 54.2**	**-2.9**
	210nm,0.3s						
DZM				eSn	Sn	12 01 16.9	-12
	365nm,0.3s						
DZM				eLR	LR	12 01 48.1	
	17μm,26.9s						
DZM				eT	T	12 07 14.5	
	41nm,0.3s						
DZM	**Mont Dzumac**	**8.16**	**4**	Pn	**Pn**	**11 59 54.2**	**-2.9**
	76nm,0.3s,baz=207,slow=11,SNR=285						
DZM				Sn	Sn	12 01 22.3	-6.5
	99nm,0.3s,baz=240,slow=23,SNR=2.2						
DZM				LR	LR	12 02 42.6	
	comp=Z,9μm,21.6s,baz=206,slow=36						
DZM	**Mont Dzumac**	**8.16**	**4**	ePn	**Pn**	**11 59 54.3**	**-2.9**
	348nm,0.6s						
DZM				eSn	Sn	12 01 21.2	-7.6
DZM				Sn	Sn	12 01 22.3	-6.5
OUZ	**Omahuta**	**8.16**	**129**	ePn	Pn	11 59 53.6	-3.4
OUZ	**Omahuta**	**8.16**	**129**	PN	Pn	11 59 53.2	-3.8
OUZ				SN	Sn	12 01 16.8	-12
WTAZ	**Waiatarua**	**9.84**	**135**	PN	Pn	12 00 16.3	-3.7
ETAZ	**East Tamaki Re**	**10.07**	**134**	PN	Pn	12 00 19.5	-3.6
ETAZ				SN	Sn	12 02 04.2	-11
MKAZ	**Moumakai**	**10.31**	**134**	PN	Pn	12 00 22.5	-4.0
MKAZ				SN	Sn	12 02 07.9	-14
KUZ	**Kuaotunu**	**10.45**	**131**	PN	**Pn**	**12 00 25.3**	**-3.1**
HIZ	**Hauiti**	**11.07**	**141**	PN	Pn	12 00 33.2	-3.7
QRZ	**Quartz Range**	**11.85**	**155**	PN	Pn	12 00 44.0	-3.5
URZ	**Urewera**	**12.23**	**134**	Pn	**Pn**	**12 00 54.9**	**+2.1**
	0.4nm,0.3s,baz=301,slow=6.1,SNR=11						
URZ				LR	LR	12 05 35.2	
	comp=Z,7μm,18.3s,baz=322,slow=37						
ARMA	**Armidale**	**12.33**	**266**	ePn	**Pn**	**12 00 52.7**	**-1.5**
ARMA	**Armidale**	**12.33**	**266**	⇓P	**Pn**	**12 00 53.0**	**-1.3**
	baz=12,SNR=177						
HAZ	**Te Kaha**	**12.37**	**130**	PN	Pn	12 00 51.0	-3.7
BKZ	**Black Stump Fm**	**12.45**	**138**	ePn	**Pn**	**12 00 57.5**	**+1.7**
NNZ	**Nelson**	**12.51**	**153**	PN	**Pn**	**12 00 53.8**	**-2.7**
MWZ	**Matawai**	**12.54**	**133**	PN	**Pn**	**12 00 54.1**	**-3.0**
THZ	**Tophouse**	**12.81**	**156**	PN	**Pn**	**12 00 57.7**	**-2.9**
RIGZ	**Rimuhau**	**12.91**	**134**	PN	Pn	12 00 57.2	-4.9
MGCD	**Mangrove Creek**	**12.93**	**253**	⇑P	**Pn**	**12 01 00.0**	**-2.3**
	baz=13,SNR=49						
SNZO	**South Karori**	**13.14**	**150**	ePn	**Pn**	**12 01 04.2**	**-0.9**
WVZ	**Waitaha Valley**	**13.38**	**165**	PN	Pn	12 01 04.9	-3.4
BFZ	**Birch Farm**	**13.39**	**144**	ePn	**Pn**	**12 01 10.3**	**+1.8**
LTZ	**Lake Taylor**	**13.51**	**160**	PN	Pn	12 01 06.7	-3.6
KHZ	**Kahutara**	**13.61**	**155**	ePn	**Pn**	**12 01 11.3**	**-0.2**
EIDS	**Eidsvold**	**13.98**	**287**	P	**Pn**	**12 01 15.4**	**-1.3**
	baz=14,SNR=16						
RPZ	**Rata Peaks**	**14.06**	**164**	ePn	**Pn**	**12 01 16.1**	**-1.6**
RAO	**Raoul Island**	**14.10**	**90**	P	**Pn**	**12 01 19.0**	**+0.8**
RAO				pmax	pmax		
	comp=Z,41nm,0.3s						
RAO				MLR	MLR		
	comp=Z,7μm,20.2s						
RAO	**Raoul Island**	**14.10**	**90**	Pn	**Pn**	**12 01 19.0**	**+0.8**
	comp=Z,41nm,0.3s,baz=270,slow=20,SNR=4.4						
RAO				LR	LR	12 05 28.9	
	comp=Z,7μm,20.2s,baz=246,slow=32						
MQZ	**McQueen's Vall**	**14.47**	**160**	PN	Pn	12 01 19.1	-4.2
CNB	**Canberra Magne**	**14.80**	**246**	⇑P	**Pn**	**12 01 26.0**	**-1.8**
	baz=15,SNR=96						
CAN	**Canberra**	**15.09**	**246**	eP	**Pn**	**12 01 29.9**	**-1.8**
CAN				pmax	pmax		
	comp=Z,45nm,0.6s						
CAN	**Canberra**	**15.09**	**246**	ePn	**Pn**	**12 01 29.9**	**-1.8**
	comp=Z,45nm,0.6s						
CAN				eSn	Sn	12 04 06.9	-12
ODZ	**Otahua Downs**	**15.24**	**167**	ePn	Pn	12 01 24.0	-10
	comp=Z,313nm,1.8s						
YNG	**Young**	**15.35**	**250**	P	**Pn**	**12 01 34.1**	**-1.0**
	baz=15,SNR=27						
MILA	**Mila**	**15.50**	**240**	P	**Pn**	**12 01 36.2**	**-1.0**
	baz=16,SNR=127						
RMQ	**Roma**	**15.55**	**280**	P	**Pn**	**12 01 36.6**	**-1.2**
	baz=16,SNR=38						
WHZ	**Wether Hill Ro**	**15.71**	**175**	ePn	**Pn**	**12 01 38.1**	**-1.7**
	comp=Z,89nm,0.9s						
MSVF	**Nonsavu**	**16.67**	**44**	Pn	**Pn**	**12 01 53.2**	**+0.9**
	comp=Z,895nm,1.0s,SNR=16						
MSVF	**Nonsavu**	**16.67**	**44**	eP	**Pn**	**12 01 52.9**	**+0.6**
MSVF				pmax	pmax		
	comp=Z,211nm,1.1s						
MSVF	**Nonsavu**	**16.67**	**44**	ePn	**Pn**	**12 01 52.9**	**+0.6**
	comp=Z,211nm,1.1s						
CMSA	**Cobar Meteorol**	**17.39**	**261**	⇓P	**P**	**12 02 02.6**	**+0.1**
	baz=18,SNR=71						
TOO	**Toolangi**	**18.43**	**241**	⇓P	**Pn**	**12 02 15.9**	**+1.9**
	baz=18,SNR=25						
MOO	**Moorlands**	**19.32**	**226**	⇑P	**Pn**	**12 02 25.4**	**+0.7**
	baz=19,SNR=7.3						
QLP	**Quilpie**	**19.40**	**276**	P	**Pn**	**12 02 25.5**	**-0.3**
	baz=20,SNR=66						
TAU	**Tasmania Unive**	**19.50**	**225**	eP	**Pn**	**12 02 28.2**	**+1.4**
TAU				pmax	pmax		
	comp=Z,329nm,2.0s						
TAU	**Tasmania Unive**	**19.50**	**225**	ePn	**Pn**	**12 02 28.2**	**+1.4**
	comp=Z,328nm,2.0s						
CTA	**Charters Tower**	**20.43**	**295**	P	Pn	12 02 37.4	-0.6
CTA				pmax	pmax		
	comp=Z,53nm,1.0s						
CTA				MLR	MLR		
	comp=Z,2μm,18.9s						
CTA	**Charters Tower**	**20.43**	**295**	P	Pn	12 02 37.4	-0.7
	comp=Z,53nm,0.9s,baz=119,slow=12,SNR=29						
CTA				LR	LR	12 09 21.0	
	comp=Z,2μm,18.9s,baz=124,slow=34						
CTAO	**Charters Tower**	**20.43**	**295**	eP	Pn	12 02 37.4	-0.6
CTAO				pmax	pmax		
	comp=Z,206nm,1.4s						
CTAO	**Charters Tower**	**20.43**	**295**	ePn	Pn	12 02 37.4	-0.6
	comp=Z,206nm,1.4s						
STKA	**Stephens Creek**	**20.88**	**259**	eP	Pn	12 02 41.5	-1.7

STKA pmax pmax
comp=Z,19nm,0.9s
STKA Stephens Creek 20.88 259 P Pn 12 02 41.4 -1.8
comp=Z,33nm,0.7s,baz=91,slow=12,SNR=61
STKA Stephens Creek 20.88 259 ePn Pn 12 02 41.5 -1.7
comp=Z,19nm,0.9s
STKA Stephens Creek 20.88 259 P Pn 12 02 41.4 -1.7
baz=21,SNR=42
ARPS Mount Arapiles 21.06 246 ⇑P P 12 02 43.8 +1.2
baz=21,SNR=46
HNR Honiara 21.44 344 LR LR 12 09 39.3
comp=Z,2µm,21.0s,baz=174,slow=33
HTT Hallett 23.11 255 ⇓P P 12 03 04.7 +0.1
baz=23,SNR=14
BBOO Buckleboo 25.53 257 eP P 12 03 27.1 0.0
comp=Z,1µm,0.8s
BBOO Buckleboo 25.53 257 ⇓P P 12 03 26.9 -0.1
baz=26,SNR=41
QIS Mount Isa 25.58 286 ⇑P P 12 03 29.0 +1.3
baz=26,SNR=11
COEN Coen 26.49 303 eP P 12 03 37.1 +1.2
comp=Z,248nm,1.0s
COEN Coen 26.49 303 ⇑P P 12 03 36.2 +0.4
baz=27,SNR=14
PMG Port Moresby 27.13 316 eP P 12 03 42.1 +0.5
PMG pmax pmax
comp=Z,111nm,1.3s
PMG Port Moresby 27.13 316 LR LR 12 12 51.8
comp=Z,3µm,19.9s,baz=156,slow=33
PMG Port Moresby 27.13 316 eP P 12 03 42.1 +0.5
comp=Z,112nm,1.3s
PMG Port Moresby 27.13 316 ⇑P P 12 03 42.2 +0.6
baz=27,SNR=7.4
RABL Rabaul 28.98 331 P P 12 03 58.3 +0.1
baz=29,SNR=4.6
AS31 Alice Springs 29.20 275 eP P 12 04 00.1 0.0
WRAB Tennant Creek 30.27 282 c iP P 12 04 09.4 -0.2
WRAB pmax pmax
comp=Z,68nm,1.7s
WRAB Tennant Creek 30.27 282 eP P 12 04 09.2 -0.4
WRA Warramunga Arr 30.28 282 P P 12 04 09.0 -0.7
WRA 12 10 53.0
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA MLR MLR
comp=Z,3µm,19.9s
WRA Warramunga Arr 30.28 282 P P 12 04 08.9 -0.7
comp=Z,4.7nm,0.8s,baz=115,slow=7.8,SNR=25
WRA ScP ScP 12 10 53.0 +1.5
comp=Z,2.8nm,1.1s,baz=107,slow=2.7,SNR=5.0
WRA LR LR 12 16 10.0
comp=Z,3µm,19.9s,baz=110,slow=36
RAR Rarotonga 32.10 82 LR LR 12 14 25.4
comp=Z,1µm,21.6s,baz=244,slow=31
FORT Forrest 32.51 259 eP P 12 04 28.5 -0.7
comp=Z,164nm,1.5s
FORT Forrest 32.51 259 ⇓P P 12 04 28.3 -0.9
baz=32,SNR=11
WRKA Warakurna 33.61 270 ⇓P P 12 04 38.2 -0.8
baz=34,SNR=33
KNRA Kununurra 36.96 285 ⇑P P 12 05 08.7 +1.0
baz=37,SNR=6.8
FITZ Fitzroy Crossi 38.48 279 ⇓P P 12 05 21.2 +0.6
baz=39,SNR=14
KLBR Kellerberrin 41.06 255 P P 12 05 41.2 -0.8
baz=41,SNR=14
MEEK Meekatharra 41.51 263 ⇑P P 12 05 44.6 -1.2
baz=42,SNR=32
BLDU Ballidu 42.14 257 ⇑P P 12 05 49.6 -1.2
baz=42,SNR=6.3
MBWA Marble Bar 42.34 271 eP P 12 05 52.1 -0.5
comp=Z,140nm,1.4s
PPT2 Papeete2 42.35 83 eS S 12 12 15.2 +1.8
comp=Z,629nm,24.2s
PPT2 eLQ LQ 12 15 44.3
comp=Z,2µm,25.0s
PPT2 eLR LR 12 17 36.5
comp=Z,6µm,29.8s
PPT Papeete 42.36 83 LR LR 12 19 19.4
comp=Z,707nm,20.0s,baz=246,slow=30
MORW Morawa 43.06 259 ⇑P P 12 05 57.3 -1.1
baz=43,SNR=6.2
SOEI Soe 43.79 289 eP P 12 06 04.6 +0.1
comp=Z,59nm,1.0s
BATI Baumata 44.04 288 P P 12 06 09.8 +3.4
comp=Z,46nm,1.1s
MMRI Maumere 46.07 289 eP P 12 06 22.7 +0.1
comp=Z,85nm,0.9s
LBMI Labuha 46.87 302 P P 12 06 31.6 +2.8
comp=Z,94nm,1.8s,comp=Z,2µm
SANI Sanana 47.07 299 P P 12 06 31.5 +1.1
comp=Z,30nm,0.9s,comp=Z,590nm
VNDA Vanda 47.39 181 P P 12 06 32.6 +0.5
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA Vanda 47.39 181 P P 12 06 32.6 +0.5
comp=Z,3.2nm,0.8s,baz=345,slow=8.3,SNR=6.8
SBA Scott Base 47.69 180 eP P 12 06 35.0 +0.6
SBA pmax pmax
comp=Z,145nm,1.9s
SBA Scott Base 47.69 180 eP P 12 06 35.0 +0.6
comp=Z,145nm,1.9s
TNTI Ternate 47.92 303 eP P 12 06 38.7 +1.7
comp=Z,68nm,1.0s
CASY Casey 48.90 206 eP P 12 06 43.4 -0.5
comp=Z,109nm,1.7s
APSI Ampana 51.12 296 P P 12 07 03.6 +2.2
comp=Z,60nm,1.1s,comp=Z,963nm
RKT Rikitea 52.81 97 eS S 12 14 41.4 -0.3
comp=Z,1µm,26.8s
RKT eLQ LQ 12 19 36.2
comp=Z,753nm,32.2s
RKT eLR LR 12 22 30.9
comp=Z,2µm,30.8s
JAGI Jajag, Banyuwa 52.89 283 eP P 12 07 12.6 -2.0
comp=Z,25nm,0.8s
MPSI Mapaga 53.26 296 P P 12 07 18.8 +1.5
comp=Z,23nm,0.9s
GMJI Gumukmas 53.59 283 P P 12 07 20.1 +0.3
PWJI Pagerwojo 55.11 282 P P 12 07 33.1 +2.3
comp=Z,58nm,1.1s,comp=Z,1µm
WOJI Wonogiri, Jawa 55.95 282 P P 12 07 38.8 +1.9
CISI Cisompet, Garu 58.73 280 eP P 12 07 56.7 +0.1
comp=Z,70nm,1.1s
QSPA South Pole Qui 59.85 180 P P 12 08 04.1 +0.4
comp=Z,15nm,0.8s,baz=3.8,slow=1.1,SNR=28
QSPA South Pole Qui 59.85 180 eP P 12 08 02.9 -0.9
comp=Z,20nm,0.7s
BTM Bintulu 60.37 294 ⇑P P 12 08 09.2 +1.3
SBUM Sibu 60.61 292 ⇑P P 12 08 11.0 +1.6
JCJ Chichijima 61.37 336 LR LR 12 33 09.6
comp=Z,197nm,19.7s,baz=88,slow=34
KIP Kipapa 61.99 38⇑eP P 12 08 17.5 -1.1
KIP pmax pmax
comp=Z,30nm,0.9s
MAW Mawson 67.16 204 LR LR 12 34 45.5
comp=Z,374nm,18.5s,baz=96,slow=33
IPM Ipoh 70.89 287 eP P 12 09 15.8 0.0
comp=Z,29nm,0.9s
PAF Port-aux-Franc 71.15 223 S S 12 18 25.0 -7.6
PAF L L 12 26 00.0
PAF R R 12 30 00.0
QZH Quanzhou 71.19 315⇑iP P 12 09 17.0 -0.3
QZH S S 12 18 35.6 +2.1
QZH LR LR
comp=Z,810nm,16.9s
QZH LR LR
comp=Z,390nm,13.1s
QZH LR LR
comp=Z,750nm,22.4s
JNU Nakatsue 71.21 329 eP P 12 09 16.9 -0.4
comp=Z,24nm,1.1s
MJAR Matsushiro Arr 71.34 337 P P 12 09 17.0 -1.0
comp=Z,11nm,0.9s,baz=176,slow=8.0,SNR=41
MJAR LR LR 12 37 51.1
comp=Z,225nm,21.8s,baz=150,slow=34
MAJO Matsushiro 71.34 337 eP P 12 09 17.3 -0.7
MAJO pmax pmax
comp=Z,49nm,1.5s
MAJO Matsushiro 71.34 337 eP P 12 09 17.3 -0.7
comp=Z,48nm,1.5s
KULM Kulim 71.65 288 eP P 12 09 20.8 +0.4
comp=Z,34nm,1.2s
PSI Prapat 71.72 285 ⇓P P 12 09 20.2 -0.7
baz=72,SNR=4.0
QIZ Qiongzhong 72.86 305 P P 12 09 27.8 +0.3
QIZ sP sP 12 09 42.0 +6.1
QIZ PP PP 12 12 12.5 +2.5
QIZ S S 12 18 54.3 +1.2
QIZ SS SS 12 23 27.9 -6.0
QIZ pmax pmax
comp=Z,24nm,1.1s
QIZ pmax pmax
comp=Z,55nm,2.9s
QIZ LR LR
comp=Z,330nm,22.9s
QIZ LR LR
comp=Z,320nm,17.8s
SYO Syowa Base 73.57 198⇓eP P 12 09 28.1 -2.8
SSE Sheshan 74.34 321 P P 12 09 35.3 -0.6
SSE S S 12 19 11.3 +2.1
SSE pmax pmax
comp=Z,19nm,0.8s
SSE pmax pmax
comp=Z,82nm,3.6s
SSE LR LR
comp=Z,390nm,26.5s
SSE LR LR
comp=Z,300nm,26.8s
SSE LR LR
comp=Z,490nm,26.5s
CHBT CHBT 74.58 295 P P 12 09 39.4 +1.7
comp=Z,22nm,1.0s
ERM Erimo 74.90 343⇑eP P 12 09 41.0 +2.1
ERM pmax pmax
comp=Z,22nm,1.2s
SURT Suratani 75.22 290 P P 12 09 43.7 +2.3
comp=Z,6.8nm,1.2s
KSRS Korea Array 76.15 330 P P 12 09 46.1 0.0
comp=Z,13nm,0.9s,baz=152,slow=6.7,SNR=28
KSRS LR LR 12 41 28.0
comp=Z,370nm,19.5s,baz=146,slow=34
KSAR Wonju Array Be 76.16 330 P P 12 09 46.1 -0.1
KSAR Wonju Array Be 76.16 330 P P 12 09 46.1 -0.1
YUK Yuzh-Kuril'sk 76.16 345 P PcP 12 10 03.8 +5.7
YUK i S ScS 12 20 02.5 +2.7
NAYO Nakonayok 76.30 296 P P 12 09 49.8 +2.3
comp=Z,25nm,0.8s
NJ2 Nanjing 76.35 320 eP P 12 09 48.4 +1.0
NJ2 pP PcP 12 09 55.9 -3.3
NJ2 sP sP 12 10 00.3 +4.4
NJ2 pmax pmax
comp=Z,30nm,0.8s
NJ2 pmax pmax
comp=Z,120nm,8.2s
NJ2 LR LR
comp=Z,2µm,26.7s
NJ2 LR LR
comp=Z,2µm,26.5s
NJ2 LR LR
comp=Z,2µm,27.5s
ASAJ Asahikawa 77.01 343 eP P 12 09 52.0 +1.1
comp=Z,17nm,1.0s
WHN Wuhan 77.83 316 P P 12 09 56.5 +0.7
WHN S S 12 19 48.5 +0.8
WHN LR LR
comp=Z,520nm,15.5s
PBKT Sadao Pong 77.90 297 P P 12 09 57.4 +0.9
comp=Z,22nm,1.3s
SRDT SRDT 78.04 294 P P 12 10 00.0 +2.7
comp=Z,52nm,1.7s,comp=Z,9µm
SNAA Sanae 78.06 184 P P 12 09 55.0 -1.7
KHLT Khaolaem Dam 78.72 294 P P 12 10 03.0 +2.0
comp=Z,7.8nm,1.8s
VNA3 Neumayer Olymp 78.75 181 P P 12 09 59.0 -1.4
UTTA Uttaradit 78.92 298 P P 12 10 04.2 +2.1
comp=Z,3.5nm,1.3s
VNA2 Neumayer--Watz 79.00 182 P P 12 09 59.3 -2.5
baz=179,slow=1.3
VNA1 Neumayer--Stat 79.30 182 P P 12 10 00.2 -3.2
VLA Vladivostok 79.41 335⇑eP P 12 10 03.2 -1.0
VLA pmax pmax
comp=Z,67nm,1.7s
YSS Yuzh-Sakhalins 79.63 344α iP P 12 10 06.2 +0.9
YSS eS S 12 20 06.0 -0.3
YSS e 12 20 25.0
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,400nm,4.0s
YSS MLR MLR
comp=Z,500nm,20.0s
YSS Yuzh-Sakhalins 79.63 344 eP P 12 10 06.7 +1.4
comp=Z,38nm,1.0s
GYA Guiyang 79.94 309⇑iP P 12 10 07.6 -0.1
GYA pP PcP 12 10 21.4 +6.3
GYA PP PP 12 13 13.3 +3.5
GYA S S 12 20 10.5 -0.2
GYA SKS SKSac 12 20 18.0 -6.2
GYA sS SKKSac 12 20 28.4 +2.4
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,6.2s
GYA LR LR
comp=Z,660nm,22.8s
GYA LR LR
comp=Z,570nm,23.0s
GYA LR LR
comp=Z,610nm,22.4s
LAMP Lampang 80.08 298 P P 12 10 10.5 +2.0
comp=Z,4.5nm,1.2s,comp=Z,61nm
DL2 Dalian 80.22 326 eP P 12 10 07.3 -1.4
DL2 eS S 12 20 09.3 -3.5
DL2 pmax pmax
comp=Z,86nm,3.9s
DL2 LR LR
comp=Z,640nm,18.6s
DL2 LR LR
comp=Z,300nm,20.1s
USRK Ussuriysk Arra 80.31 336 P P 12 10 09.0 0.0
comp=Z,14nm,0.9s,baz=153,slow=4.1,SNR=18
USRK LR LR 12 40 56.6
comp=Z,398nm,21.9s,baz=145,slow=32
TIA Tai'an 80.42 322 ⇑P P 12 10 10.3 +0.4
TIA S S 12 20 16.1 +1.0
TIA pmax pmax
comp=Z,50nm,0.8s
TIA LR LR
comp=Z,330nm,22.6s
TIA LR LR
comp=Z,510nm,17.7s
TIA LR LR
comp=Z,550nm,19.0s
CMAR Chiang Mai Arr 80.57 298 P P 12 10 11.9 +0.8
comp=Z,6.9nm,0.9s,baz=138,slow=4.0,SNR=33
CMAR LR LR 12 49 24.6
comp=Z,264nm,18.9s,baz=146,slow=38
ENH Enshi 80.63 313 eP P 12 10 11.1 -0.1
comp=Z,3.9nm,0.6s
CMMT Chiang Mai 80.78 298 P P 12 10 13.1 +0.9
comp=Z,25nm,1.4s,comp=Z,515nm
CHTO Chiang Mai 80.78 298 eP P 12 10 12.9 +0.7
CHTO pmax pmax
comp=Z,28nm,1.3s
CHTO Chiang Mai 80.78 298 P P 12 10 13.0 +0.7
comp=Z,86nm,1.4s,comp=Z,2µm
CHTO Chiang Mai 80.78 298 eP P 12 10 12.9 +0.7
comp=Z,28nm,1.3s
MHMT Maesarieng 81.19 297 P P 12 10 16.5 +2.1
comp=Z,11nm,1.0s,comp=Z,270nm
CMAI Chiengmai2 81.36 299 P P 12 10 16.3 +0.8
comp=Z,28nm,1.1s,comp=Z,2µm
MDJ Mudanjiang 81.54 335 P P 12 10 15.0 -0.6
MDJ pP PcP 12 10 23.8 +2.3
MDJ sP sP 12 10 27.6 +3.5
MDJ PP PP 12 13 25.9 +3.4
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ LR LR
comp=Z,160nm,15.8s
MDJ LR LR
comp=Z,340nm,13.3s
MDJ LR LR
comp=Z,56nm,4.9s
MDJ Mudanjiang 81.54 335 eP P 12 10 15.5 -0.1
comp=Z,11nm,0.9s
KMI Kunming 81.81 305 ⇑P P 12 10 19.3 +1.5
KMI pP PcP 12 10 30.4 +6.9
KMI sP sP 12 10 34.3 +8.0
KMI PP PP 12 13 27.9 +2.5
KMI S S 12 20 29.8 -0.6
KMI SKS SKSac 12 20 32.8 -4.5
KMI sS ScS 12 20 47.8 +0.6
KMI pmax pmax
comp=Z,42nm,1.2s
KMI pmax pmax
comp=Z,83nm,3.1s
KMI LR LR
comp=Z,390nm,11.0s
KMI LR LR
comp=Z,410nm,15.2s
KMI LR LR
comp=Z,380nm,15.6s
CN2 Changchun 82.47 332 eP P 12 10 20.3 -0.2
CN2 epP PcP 12 10 30.8 +5.2
CN2 esP sP 12 10 34.6 +5.6
CN2 eS S 12 20 34.9 -1.1
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,21.0s
CN2 LR LR
comp=Z,300nm,21.0s
CN2 LR LR
comp=Z,300nm,23.0s
HABR Khabarovsk 83.09 340ceP P 12 10 22.1 -1.5
HABR e*PP PcP 12 10 32.7 +4.5
HABR e*SP sP 12 10 36.6 +4.5
HABR 12 13 32.3
HABR PPP PPP 12 15 23.6
HABR eS S 12 20 38.8 -3.3
HABR eSS SS 12 26 02.6 -4.5
HABR eSSS SSS 12 29 31.6
HABR pmax pmax
comp=N,28nm,2.3s
HABR pmax pmax
comp=E,62nm,2.3s
HABR pmax pmax
comp=Z,31nm,2.3s
HABR MLR MLR
comp=Z,330nm,20.0s
PET Petropavlovsk 83.16 356 eP P 12 10 23.5 -0.3
PET e 12 13 41.7
PET eS S 12 20 41.4 -1.1
PET pmax pmax
comp=Z,35nm,1.0s
PET pmax pmax
comp=Z,100nm,10.9s
PET pmax pmax
comp=Z,100nm,24.3s
PET MLR MLR
comp=Z,400nm,14.0s
PET MLR MLR
comp=Z,400nm,17.0s
PEA0B Petropavlovsk- 83.31 355 eP P 12 10 24.7 0.0
PETK Petropavlovsk- 83.31 355 P P 12 10 24.5 -0.2
comp=Z,35nm,0.8s,baz=151,slow=6.4,SNR=28
PETK LR LR 12 40 40.9
comp=Z,209nm,21.8s,baz=173,slow=31
XAN Xi'an 83.55 316 P P 12 10 26.6 +0.2
XAN pP PcP 12 10 37.6 +6.9
XAN SKS S 12 20 44.4 -3.1
XAN S SKSac 12 20 50.1 +2.0
XAN pmax pmax
comp=Z,3.0nm,1.3s
XAN pmax pmax
comp=Z,11nm,4.3s
XAN LR LR
comp=Z,170nm,26.6s
XAN LR LR
comp=Z,84nm,25.1s
XAN LR LR
comp=Z,89nm,22.2s
BJI Beijing 83.78 324 P P 12 10 29.8 +2.4
BJI pmax pmax
comp=Z,4.0nm,0.4s
BJI pmax pmax
comp=Z,98nm,6.0s
BJI LR LR
comp=Z,340nm,19.1s
BJI LR LR
comp=Z,440nm,22.6s
BJI LR LR
comp=Z,500nm,33.2s
CD2 Chengdu 84.76 310 eP P 12 10 34.0 +1.3
CD2 pP PcP 12 10 45.0 +8.9
CD2 sP sP 12 10 49.1 +7.9
CD2 PP PP 12 13 52.8 +3.5
CD2 SKS SKSac 12 20 52.3 -3.8
CD2 S S 12 20 58.9 -0.9
CD2 sS ScS 12 21 17.3 +6.4
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,240nm,5.6s
CD2 LR LR
comp=Z,380nm,28.9s
CD2 LR LR
comp=Z,380nm,24.5s
CD2 LR LR
comp=Z,310nm,19.6s
KLR Kul'dur 84.78 338 eP P 12 10 28.8 -3.5
KLR pmax pmax
comp=Z,48nm,1.4s
HHC Hu-ho-hao-te 86.78 322 eP P 12 10 43.3 +0.8
HHC pP pP 12 10 52.8 +4.0
HHC S S 12 21 18.4 -0.9
HHC pmax pmax
comp=Z,24nm,1.1s
HHC pmax pmax
comp=Z,170nm,5.0s
HHC LR LR
comp=Z,540nm,14.9s
HHC LR LR
comp=Z,690nm,17.4s
HHC LR LR
comp=Z,720nm,23.6s
LZH Lanzhou 88.02 314 eP P 12 10 49.9 +1.2
LZH pP pP 12 11 01.0 +6.0
LZH sP sP 12 11 05.1 +7.9
LZH PP PP 12 14 19.0 +3.3
LZH SKS SKSac 12 21 15.0 -1.4
LZH S S 12 21 32.0 +0.4
LZH sS ScS 12 21 48.3 +10
LZH pmax pmax
comp=Z,39nm,1.5s
LZH pmax pmax
comp=Z,140nm,7.3s
LZH LR LR
comp=Z,360nm,15.8s
LZH LR LR
comp=Z,430nm,17.0s
LZH LR LR
comp=Z,890nm,18.6s
HIA Hailar 89.20 332deP P 12 10 53.7 -0.1
HIA pmax pmax
comp=Z,15nm,1.0s
HIA Hailar 89.20 332 eP P 12 10 53.6 -0.2
comp=Z,8.7nm,0.8s
PALK Pallekele 89.49 279 i P P 12 10 58.3 +2.3
PLCA Paso Flores 92.16 141 LR LR 12 46 56.7
comp=Z,832nm,18.2s,baz=244,slow=32
GTA Gaotai 92.59 315 ⇑P P 12 11 10.8 +0.9
GTA pP pP 12 11 21.5 +5.3
GTA sP sP 12 11 25.5 +7.0
GTA PP PP 12 14 57.1 +5.1
GTA SKS SKSac 12 21 40.3 -2.3
GTA S S 12 22 12.6 -0.9
GTA sS sS 12 22 30.5 +6.5
GTA pmax pmax
comp=Z,11nm,1.4s
GTA pmax pmax
comp=Z,67nm,4.7s
GTA LR LR
comp=Z,170nm,20.4s
GTA LR LR
comp=Z,200nm,18.5s
GTA LR LR
comp=Z,240nm,19.5s
LSA Lhasa 92.81 303 eP P 12 11 11.6 0.0
LSA pmax pmax
comp=Z,2.0nm,0.4s
LSA Lhasa 92.81 303 eP P 12 11 11.6 0.0
comp=Z,2.4nm,0.4s
ULN Ulaanbaatar 93.96 325 eP P 12 11 15.7 -0.4

ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 93.96 325 eP P 12 11 15.7 -0.4
comp=Z,10.0nm,1.0s
SONM Songino Array 94.27 324 P P 12 11 16.9 -0.6
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM MLR MLR
comp=Z,140nm,19.8s
SONM Songino Array 94.27 324 P P 12 11 16.9 -0.6
comp=Z,5.3nm,0.9s,baz=146,slow=5.3,SNR=43
SONM LR LR 12 53 23.8
comp=Z,140nm,19.8s,baz=151,slow=35
GAMB Gambell 95.37 10 eP P 12 11 22.8 +0.9
comp=Z,3.7nm,0.9s
ZAK Zakamensk 97.48 325 eP P 12 11 29.9 -2.1
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TNA Tin City 97.62 11 eP P 12 11 30.9 -1.2
comp=Z,12nm,1.4s
BILL Bilibino 97.98 0 eP P 12 11 33.3 -0.4
BILL i 12 11 42.8
BILL i 12 15 35.7
BILL i SS SS 12 29 39.7 -2.0
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL Bilibino 97.98 0 eP P 12 11 33.1 -0.5
comp=Z,13nm,1.4s
TLY Talaya 98.13 326 eP Pdif 12 11 35.5 +0.7
TLY eSS SS 12 29 36.2 -8.3
TLY pmax pmax
comp=Z,3.0nm,0.9s
NVAR Mina Array Bea 98.25 50 P P 12 11 35.5 -0.4
comp=Z,0.5nm,0.6s,baz=228,slow=8.0,SNR=4.0
KTH Kantishna Hill 99.53 18 ePdif Pdif 12 11 39.1 -1.7
comp=Z,6.7nm,0.9s
TRF Thorofare Moun 99.62 18 ePdif Pdif 12 11 39.9 -1.4
comp=Z,14nm,1.0s
COLA College 101.40 18 eP Pdif 12 11 47.7 -1.3
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA College 101.40 18 ePdif Pdif 12 11 47.6 -1.3
comp=Z,4.4nm,0.8s
ILAR Eielson Array 101.59 19 P Pdif 12 11 48.7 -1.2
ILAR 12 16 04.3
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 101.59 19 P Pdif 12 11 48.6 -1.2
comp=Z,2.5nm,0.8s,baz=236,slow=5.7,SNR=35
ILAR PP PP 12 16 04.3 +3.7
comp=Z,0.5nm,0.9s,baz=216,slow=7.0,SNR=3.6
WMQ Urumqi 102.58 313 eP Pdif 12 11 55.8 +0.9
WMQ pP 12 12 06.4
WMQ sP 12 12 10.3
WMQ PP PP 12 16 11.8 +3.2
WMQ SKS SKSac 12 22 31.4 -2.1
WMQ S Sdif 12 23 31.8 -6.8
WMQ pmax pmax
comp=Z,8.0nm,1.0s
WMQ pmax pmax
comp=Z,140nm,4.7s
WMQ LR LR
comp=Z,170nm,23.6s
WMQ LR LR
comp=Z,220nm,22.8s
WMQ LR LR
comp=Z,200nm,24.4s
MKAR Makanchi Array 107.34 314 P Pdif 12 12 16.8 +0.9
MKAR 12 16 41.5
MKAR pmax pmax
comp=Z,1.0nm,1.1s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 107.34 314 Pdiff Pdif 12 12 16.8 +0.9
comp=Z,0.6nm,1.1s,baz=120,slow=5.8,SNR=2.8
MKAR PP PP 12 16 41.5 -2.3
comp=Z,0.9nm,0.9s,baz=115,slow=9.7,SNR=3.7
AAK Ala-Archa 110.72 308⇑iPKIKP PKiKP 12 16 31.0 -0.2
YKA Yellowknife Ar 111.75 29 Pdiff Pdif 12 12 42.0 +6.9
comp=Z,0.1nm,0.4s,baz=256,slow=5.0,SNR=3.7
YKA PKiKP PKiKP 12 16 31.3 -1.0
comp=Z,0.4nm,0.8s,baz=246,slow=1.8,SNR=5.0
YKA PP PP 12 17 10.8 -4.6
comp=Z,0.9nm,0.9s,baz=247,slow=7.1,SNR=6.0
YKA PKKP PKKPdf 12 27 45.7 -1.1
comp=Z,0.4nm,1.0s,baz=48,slow=4.4,SNR=4.2
BRVK Borovoye 116.79 318⇑iPKIKP PKPdf 12 16 41.7 -0.6
GEYT Alibeck 121.05 298 PKP PKPdf 12 16 50.7 -0.3
comp=Z,2.1nm,0.9s,baz=169,slow=2.3,SNR=3.0
ARU Arti 124.06 320 iPKIKP PKPdf 12 16 55.5 -0.6
ARU 12 23 53.2
ARU Arti 124.06 320 ePKPdf PKPdf 12 16 55.3 -0.8
DAG Danmarks Havn 133.34 1 iPKIKP PKPdf 12 17 11.7 -1.6
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 133.34 1 iP PKPdf 12 17 11.7 -1.6
comp=Z,4.2nm,0.9s
KBZ Khabaz 133.39 303 PKIKP PKPdf 12 17 17.4 +3.1
KBZ pmax pmax
comp=Z,2.0nm,0.7s
KBZ Khabaz 133.39 303 PKP PKPdf 12 17 17.4 +3.1
comp=Z,1.5nm,0.7s,baz=177,slow=7.5,SNR=3.5
APA Apatity 133.41 337 iPKIKP PKPdf 12 17 25.0 +11
KLMR Klimovskoe 133.50 327 ePKIKP PKPdf 12 17 13.0 -0.9
KLMR pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 133.55 304 iPKIKP PKPdf 12 17 16.0 +1.3
KIV pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 134.72 342 PKIKP PKPdf 12 17 17.0 +0.9
ARCES ARCESS Array B 134.72 342 PKP PKPdf 12 17 16.9 +0.9
comp=Z,6.4nm,0.8s,baz=46,slow=3.5,SNR=9.5
ANN Anapa 137.32 305 iPKIKP PKPdf 12 17 19.2 -2.4
ANN pmax pmax
comp=Z,31nm,1.1s
ANN MLR MLR
comp=Z,449nm,27.0s
FINES FINESS Array B 139.22 332 PKHKP PKPpre 12 17 16.5
FINES 12 17 25.3
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 139.22 332 PKhKP PKPpre 12 17 16.5
comp=Z,1.4nm,0.8s,baz=112,slow=2.1,SNR=4.2
FINES PKP PKPdf 12 17 25.3 +0.7
comp=Z,2.3nm,0.8s,baz=96,slow=4.2,SNR=4.5
BR131 Keskin Array S 140.16 297 ePKPdf PKPdf 12 17 25.1 -2.0
BRTR Keskin Array B 140.16 297 PKHKP PKPpre 12 17 21.0
BRTR 12 17 29.0
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 140.16 297 PKhKP PKPpre 12 17 21.0
comp=Z,0.5nm,0.6s,baz=145,slow=4.5,SNR=4.4
BRTR PKP PKiKP 12 17 29.0 -0.7
comp=Z,1.1nm,0.8s,baz=110,slow=1.8,SNR=5.4
AKASG Malin Array Be 141.92 315 PKHKP PKPpre 12 17 25.0
AKASG 12 17 31.8
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 141.92 315 PKhKP PKPpre 12 17 25.0
comp=Z,0.6nm,0.5s,baz=59,slow=3.7,SNR=4.3
AKASG PKP PKiKP 12 17 31.8 -0.9
comp=Z,0.7nm,0.5s,baz=59,slow=3.3,SNR=5.9
TIRR Tirgusor 143.77 305 ⇓PKIKP PKPbc 12 17 31.2 +0.4
TIRR Tirgusor 143.77 305 ⇓iP PKPbc 12 17 31.2 +0.4
CFR Carcaliu 143.85 306 ⇓PKIKP PKPbc 12 17 34.6 +1.2
CFR Carcaliu 143.85 306 ⇓iP PKPbc 12 17 34.5 +1.2
TESR Tescani 144.61 309 ⇓iP PKPab 12 17 33.1 -0.2
PRD Provadia 144.67 303 ⇓PKIKP PKPbc 12 17 33.8 +0.1
VRI Vrincioaia 144.69 308 ⇑PKIKP PKPbc 12 17 34.1 +0.3
VRI Vrincioaia 144.69 308 ⇑iP PKPbc 12 17 34.1 +0.3
NEF NEVSHA 144.75 303 P PKPdf 12 17 35.0 0.0
PLOR Plostina 144.75 308 ⇓PKIKP PKPbc 12 17 33.9 -0.1
PLOR Plostina 144.75 308 ⇓iP PKPbc 12 17 33.9 -0.1
NB2 NORSAR Subarra 144.94 339 PKP PKPab 12 17 33.2 -0.8
comp=Z,52nm,1.1s,baz=44,slow=4.3
NB2 NORSAR Subarra 144.94 339 PKP PKPab 12 17 33.2 -0.8
baz=44,slow=4.3
NOA NORSAR Array B 144.94 339 PKP2 PKPab 12 17 33.3 -0.8
NOA pmax pmax
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 144.94 339 PKP PKPab 12 17 33.3 -0.7
comp=Z,5.2nm,1.0s,baz=41,slow=4.2,SNR=39
ISR Istrita 144.97 307 ⇑PKIKP PKPdf 12 17 35.4 0.0
ISR Istrita 144.97 307 ⇑iP PKPdf 12 17 35.4 0.0
BORG Borgarnes 145.18 5 iPKIKP PKPdf 12 17 36.3 +1.3
NAO01 NORSAR Array S 145.19 339 ePKPbc PKPbc 12 17 34.4 -0.5
BURAR Bucovina Array 145.29 311 ⇑PKIKP PKPdf 12 17 36.9 +1.0
BURAR Bucovina Array 145.29 311 ⇑iP PKPdf 12 17 36.9 +1.0
BUR08 Bucovina Ar. S 145.29 311 ePKPbc PKPdf 12 17 36.5 +0.6
MLR Muntele Rosu 145.31 307 ⇑PKIKP PKPdf 12 17 36.0 -0.1
MLR Muntele Rosu 145.31 307 ⇑iP PKPdf 12 17 36.0 -0.1
JMB Yambol 145.35 302 ⇑PKIKP PKPab 12 17 36.0 -0.1
JMB Yambol 145.35 302 ⇑iP PKPab 12 17 36.0 -0.1
LVV L'vov 145.36 315 ePKIKP PKPbc 12 17 35.0 -0.7
LVV MLR MLR
comp=Z,300nm,23.0s
SZH Strazhica 145.72 303 P PKPab 12 17 39.3 +1.8
VOIR 145.93 307 ⇑PKP2 PKPab 12 17 40.4 +2.1
VOIR 145.93 307 ⇑iP PKPab 12 17 40.4 +2.1
KWP Kalwaria Pacla 146.23 316 ⇑PKP2 PKPbc 12 17 38.7 +0.2
KWP Kalwaria Pacla 146.23 316 ePKP PKPbc 12 17 38.3 -0.2
KWP Kalwaria Pacla 146.23 316 ⇑iP PKPbc 12 17 38.7 +0.2
KWP Kalwaria Pacla 146.23 316 ePKPbc PKPbc 12 17 38.2 -0.2
ARR Arges 146.24 307 ⇓iP PKPab 12 17 39.7 +0.3
BEL Belsk 146.45 320 ePKP2 PKPab 12 17 39.4 -0.5
BEL Belsk 146.45 320 ePKP PKPbc 12 17 39.3 +0.3
KONO Kongsberg 146.53 338 ePKP2 PKPbc 12 17 38.7 -0.3
KONO Kongsberg 146.53 338 ePKPbc PKPbc 12 17 38.7 -0.3
KOLS Kolonicke sedl 146.75 315 ePKP2 PKPbc 12 17 40.4 +0.4
KOLS Kolonicke sedl 146.75 315 ePKP PKPbc 12 17 40.4 +0.4
LOT Lotru 146.81 308 ⇓iP PKPab 12 17 41.5 -0.2
RZN Rozhen 146.83 301 P PKPbc 12 17 41.0 +0.3
UZH Uzhgorod 146.84 314 ePKIKP PKPdf 12 17 38.2 -0.2
UZH e 12 17 42.0
UZH e 12 17 51.4
TRPA Tarpa 146.85 313 ⇑iP PKPbc 12 17 40.4 +0.1
STHS Stebnicka Huta 147.20 316 ePKP2 PKPbc 12 17 41.3 0.0
STHS Stebnicka Huta 147.20 316 ePKP PKPbc 12 17 41.3 0.0
CRVS Cervenica-Dubn 147.26 315 ePKP2 PKPbc 12 17 41.1 -0.3
CRVS Cervenica-Dubn 147.26 315 ePKP PKPbc 12 17 41.1 -0.3
MMB Musomiste 147.58 301 ⇓PKP2 PKPbc 12 17 41.6 -1.0
MMB Musomiste 147.58 301 P PKPdf 12 17 41.2 +1.3
MMB Musomiste 147.58 301 ⇓iP PKPbc 12 17 41.6 -1.0
OJC Ojcow 147.73 318 ePKP2 PKPbc 12 17 42.3 -0.4
OJC Ojcow 147.73 318 ePKPbc PKPbc 12 17 42.3 -0.4
NIE Niedzica 147.75 316 ePKP2 PKPbc 12 17 43.0 +0.2
NIE Niedzica 147.75 316 ePKPbc PKPbc 12 17 43.0 +0.2
KKB Krupnik 148.02 302 iP PKPab 12 17 45.7 -0.8
PSZ Piszkesteto 148.59 314 ⇓PKP2 PKPbc 12 17 45.3 +0.2
PSZ Piszkesteto 148.59 314 ⇓iP PKPbc 12 17 45.3 +0.2
PSZ Piszkesteto 148.59 314 ePKPbc PKPbc 12 17 45.1 0.0
PSZ ePKPab PKPab 12 17 48.4 -0.3
OKC Ostrava-Krasne 148.85 318 ePKP2 PKPbc 12 17 45.8 +0.2
OKC Ostrava-Krasne 148.85 318⇑ePKP PKPbc 12 17 45.8 +0.2
OKC ePKPAB PKPab 12 17 49.5 0.0
VYHS Vyhne 149.02 315 ePKP2 PKPbc 12 17 45.7 -0.4
VYHS Vyhne 149.02 315 ePKP PKPbc 12 17 45.7 -0.4
MORC Moravsky Berou 149.23 318 ePKP2 PKPbc 12 17 46.6 0.0
MORC Moravsky Berou 149.23 318 ⇓iP PKPbc 12 17 47.1 +0.5
MORC Moravsky Berou 149.23 318 ePKPbc PKPbc 12 17 46.6 0.0
MORC ePKPab PKPab 12 17 51.1 0.0
KSP Ksiaz 149.41 321 ePKP2 PKPbc 12 17 46.4 -0.6
KSP Ksiaz 149.41 321 ePKP PKPbc 12 17 47.5 +0.5
KRLC Kraliky 149.52 319 ePKP2 PKPbc 12 17 47.3 0.0
KRLC Kraliky 149.52 319⇑ePKP PKPbc 12 17 47.3 0.0
DPC Dobruska-Polom 149.64 320 ePKP2 PKPbc 12 17 48.2 +0.6
DPC Dobruska-Polom 149.64 320⇑ePKP PKPbc 12 17 48.2 +0.6
DPC ePKPAB PKPab 12 17 51.8 -1.0
UPC Upice 149.73 321 ePKP2 PKPbc 12 17 47.8 0.0
UPC Upice 149.73 321⇑ePKP PKPbc 12 17 47.8 0.0
UPC ePKPAB PKPab 12 17 51.8 -1.3
VRAC Vranov 149.99 318 ⇑PKP2 PKPbc 12 17 48.1 -0.4
VRAC Vranov 149.99 318 ⇑iP PKPbc 12 17 48.1 -0.4
PKSM Moragy 150.01 311 ⇑PKP2 PKPbc 12 17 48.3 -0.3
PKSM Moragy 150.01 311 ⇑iP PKPbc 12 17 48.3 -0.3
BSEG Bad Segeberg 150.47 330 ePKPbc PKPbc 12 17 49.5 +0.1
TREC Trest 150.63 319 ePKIKP PKPbc 12 17 50.3 +0.3
TREC e 12 17 54.2
TREC Trest 150.63 319⇑ePKP PKPbc 12 17 50.3 +0.3
TREC ePKPAB PKPab 12 17 54.2 -2.7
BRG Berggiesshubel 150.65 323 iPKP PKPbc 12 17 48.2 -1.8
comp=Z,26nm,1.1s
BRG e 12 17 53.9
comp=Z,39nm,1.4s
BRG i 12 18 21.1
comp=Z,26nm,1.0s
BRG Berggiesshubel 150.65 323 iPKIKP PKPbc 12 17 48.2 -1.8
BRG e 12 17 53.9
BRG pmax pmax
comp=Z,26nm,1.1s
BRG pmax pmax
comp=Z,39nm,1.4s
BRG Berggiesshubel 150.65 323 ePKPbc PKPbc 12 17 49.7 -0.3
PRU Pruhonice 150.81 321 ePKIKP PKPbc 12 17 50.4 0.0
PRU Pruhonice 150.81 321⇑ePKP PKPbc 12 17 50.4 0.0
PRA Prague 150.83 321 ⇑PKP PKPbc 12 17 51.0 +0.6
CLL Collm 150.89 324⇑iPKIKP PKPbc 12 17 50.2 -0.3
CLL i 12 17 56.4
CLL e 12 18 04.0
CLL pmax pmax
comp=Z,15nm,1.0s
CLL pmax pmax
comp=Z,15nm,1.0s
CLL MLR MLR
comp=Z,300nm,20.9s
CLL Collm 150.89 324 ePKPbc PKPbc 12 17 49.8 -0.7
CLL Collm 150.89 324⇑iPKPbc PKPbc 12 17 50.2 -0.3
comp=Z,15nm,1.0s
CLL ipPKPbc pPKPbc 12 17 54.0 -2.9
comp=Z,24nm,1.3s
CLL iPKPab PKPab 12 17 56.4 -1.4
comp=Z,15nm,1.0s
CLL esPKPab sPKPab 12 18 04.0 -2.4
CLL e 12 18 21.0
CLL eSS SS 12 40 46.0 -2.2
CLL eSSS SSS 12 46 18.0
CLL LmH 13 20 00.0
comp=N,200nm,21.1s
CLL LmH 13 20 00.0
comp=E,200nm,21.7s
CLL LmV 13 25 00.0
comp=Z,300nm,20.9s
CLL LmV 14 12 00.0
comp=Z,200nm,20.5s
CONA Conrad Observa 151.06 316⇑iPKPbc PKPbc 12 17 50.8 -0.3
comp=Z,25nm,1.8s
NRDL Niedersach Rie 151.54 328 ePKPbc PKPbc 12 17 51.9 0.0
TANN Tannenbergstha 151.69 323 ePKPbc PKPbc 12 17 51.9 -0.6
KHC Kasperske Hory 151.79 320 ePKIKP PKPbc 12 17 52.8 0.0
KHC e 12 17 56.6
KHC Kasperske Hory 151.79 320⇑ePKP PKPbc 12 17 52.8 0.0
KHC epPKP PKiKP 12 17 56.6 +3.5
KHC ex x 12 18 15.0
KHC Kasperske Hory 151.79 320 ePKPbc PKPbc 12 17 52.7 -0.1
CLZ Clausthal 151.85 327 ePKPbc PKPbc 12 17 52.6 -0.2
GEC2 GERESS Array S 151.88 319 ePKPbc PKPbc 12 17 52.3 -0.7
GERES GERESS Array B 151.88 319 PKPbc PKPbc 12 17 52.4 -0.6
comp=Z,3.2nm,0.6s,baz=85,slow=1.6,SNR=21
MOX Moxa 151.99 324 ePKPbc PKPbc 12 17 52.5 -0.6
MOX eL L 13 22 48.4
comp=Z,216nm,21.4s
SOKA Soboth 152.12 314⇑iPKPbc PKPbc 12 17 52.8 -0.8
comp=Z,11nm,1.2s
GRF Grafenberg Arr 152.76 323 ePKPbc PKPbc 12 17 54.8 -0.1
GRF eL L 13 36 19.4
comp=Z,261nm,21.3s
WTTA Wattenberg 153.88 318⇓isPKPdf PKPbc 12 17 53.1 -4.5
comp=Z,7.3nm,0.8s
FETA Feichten 154.53 318⇑iPKiKP PKiKP 12 18 00.0 +1.0
comp=Z,5.2nm,1.0s
FETA ⇑iPKPab PKPab 12 18 14.1 +0.6
comp=Z,11nm,1.1s
LIC Lamto 154.62 201 eP PKPab 12 18 24.4 +10
comp=Z,45nm,1.3s
KIC Kosan Boka 154.66 202 eP PKPab 12 18 21.4 +6.8
comp=Z,92nm,1.6s
DBIC Dimbokro 154.99 202 PKIKP PKPdf 12 17 50.9 -1.1
DBIC 12 18 16.9
DBIC pmax pmax
comp=Z,6.0nm,1.0s
DBIC pmax pmax
comp=Z,4.0nm,0.8s
DBIC Dimbokro 154.99 202 PKP PKPdf 12 17 50.9 -1.1
comp=Z,5.7nm,1.0s,baz=163,slow=3.6,SNR=3.3
DBIC PKPab PKPab 12 18 16.9 +0.9
comp=Z,4.3nm,0.8s,baz=178,slow=2.4,SNR=3.4
TIC Toumodi 155.02 202 eP PKPab 12 18 21.9 +5.7
comp=Z,4.6nm,0.2s
TORD Torodi Ar. Bea 157.58 224 PKP PKPdf 12 17 54.4 -0.9
comp=Z,3.1nm,1.1s,baz=169,slow=0.7,SNR=7.8
TORD PKPab PKPab 12 18 30.8 +3.6
comp=Z,1.3nm,0.8s,baz=120,slow=2.7,SNR=3.7
KEST Kesra 159.61 292 PKPab PKPab 12 18 36.4 +0.7
comp=Z,1.7nm,0.9s,baz=186,slow=10,SNR=2.3
TAM Tamanrasset 160.95 252 ePKIKP PKPdf 12 18 00.8 +1.5
TAM e 12 18 43.5
TAM Tamanrasset 160.95 252 ePKPdf PKPdf 12 18 00.8 +1.5
TAM ePKPab PKPab 12 18 43.5 +1.5

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*TIF **24** 11:59:25.6, 42.56N×43.50E, h11km*
*DDA **24** 11:59:26.9, 42.68N×42.80E, h2km, MD3.1*
*CSEM **24** 11:59:26.4±0.2, 42.56N×43.43E, h2km, mb4.0, Error ellipse: s-maj=4.1km s-min=2.9km az=111.0*
*MOS **24** 11:59:27.0±1.6, 42.59N×43.50E, h15km, mb4.0/1, Error ellipse: s-maj=11.8km s-min=6.4km az=80.6*
ISC 24 11:59:26.5±0.8, **42.55N**±0.02×**43.46E**±0.02, **h8**km±5km, **n57, σ0.68**/94, **5C-5D, Western Caucasus**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
ONI Oni 0.04 350 P Pg 11 59 28.2 0.0
ONI Oni 0.04 350 P Pg 11 59 28.2 0.0
ONI S Sg 11 59 29.8 +0.3
DIGR Digorskoe uzhe 0.36 14⇓iPG Pg 11 59 33.2 -0.4
DIGR iS Sg 11 59 38.7 +0.3
DIGR Digorskoe uzhe 0.36 14 iPg Pg 11 59 33.2 -0.4
DIGR iSg Sg 11 59 38.7 +0.3
ZEI Tsey 0.40 54⇓iPG Pg 11 59 34.0 -0.4
ZEI iS Sg 11 59 39.8 +0.1
ZEI Tsey 0.40 54 iPg Pg 11 59 34.0 -0.4
ZEI iSg Sg 11 59 39.8 +0.1
LACR Lac 0.67 66⇓iPG Pg 11 59 39.0 -0.5
LACR iS Sg 11 59 48.5 +0.1
LACR Lac 0.67 66 iPg Pg 11 59 39.0 -0.5
LACR iSg Sg 11 59 48.5 +0.1
KORR Kora 0.69 40⇑iPG Pg 11 59 40.0 +0.1
KORR eS Sb 11 59 49.9 -0.7
KORR Kora 0.69 40 iPg Pg 11 59 40.0 +0.1
KORR eSg Sb 11 59 49.9 -0.7
LSNR Lesken 0.77 20⇑ePG Pg 11 59 41.4 0.0
LSNR eS Sb 11 59 52.9 0.0
LSNR Lesken 0.77 20 ePg Pg 11 59 41.4 0.0
LSNR eSg Sb 11 59 52.9 0.0
ARNR Ardon 0.87 44 ePG Pb 11 59 43.7 -0.2
ARNR eS Sb 11 59 55.8 +0.1
ARNR Ardon 0.87 44 ePg Pb 11 59 43.7 -0.2
ARNR eSg Sb 11 59 55.8 +0.1
NEY Neytrino 0.88 322⇑ePG Pg 11 59 42.7 -0.8
NEY eS Sg 11 59 53.8 -1.2
NEY Neytrino 0.88 322 ePg Pg 11 59 42.7 -0.8
NEY eSg Sg 11 59 53.8 -1.2
STDR Stavd-Durt 0.93 28⇓iPG Pn 11 59 45.7 -0.1
STDR eS Sn 11 59 58.7 -0.6
STDR Stavd-Durt 0.93 28 iPg Pn 11 59 45.7 -0.1
VLKR Vladikavkaz 1.02 61 ePG Pb 11 59 46.3 -0.1
VLKR eS Sb 12 00 00.3 +0.3
VLKR Vladikavkaz 1.02 61 ePg Pb 11 59 46.3 -0.1
DUS Dusheti 1.03 116 P Pn 11 59 47.1 -0.2
DUS Dusheti 1.03 116 P Pn 11 59 47.1 -0.2
DUS S Sn 12 00 01.4 -0.5
AKH Akhalkalaki 1.14 179 ePN Pg 11 59 47.8 -0.6
AKH eSN Sg 12 00 03.3 +0.1
AKH Akhalkalaki 1.14 179 P Pg 11 59 47.3 -1.1
AKH Akhalkalaki 1.14 179 P Pg 11 59 47.3 -1.1
AKH S Sg 12 00 03.4 +0.1
KUBR Kubataba 1.25 358 iPG Pg 11 59 50.7 +0.2
KUBR eS Sn 12 00 08.2 +0.9
KUBR Kubataba 1.25 358 iPg Pg 11 59 50.7 +0.2
TBLG Delisi 1.25 130 ePN Pn 11 59 50.3 0.0
TBLG Delisi 1.25 130 ePG Pn 11 59 49.6 -0.7
TBLG Delisi 1.25 130 P Pn 11 59 49.6 -0.7
TBLG Delisi 1.25 130 P Pn 11 59 49.6 -0.7
TBLG S Sn 12 00 07.2 -0.2
SEAG Tbilisi Sea 1.27 128 P Sg 12 00 07.4 +0.1
PRTR Priterechnaya 1.34 26 ePG Pg 11 59 53.3 +1.1
PRTR eS Sg 12 00 11.5 +1.9
PRTR Priterechnaya 1.34 26 ePg Pg 11 59 53.3 +1.1
PYA Pyatigorsk 1.51 349⇑ePG Pb 11 59 54.9 +0.1
PYA eS Sg 12 00 14.9 -0.1
PYA Pyatigorsk 1.51 349 ePg Pb 11 59 54.9 +0.1
KIV Kislovodsk 1.51 338 ePN Pb 11 59 54.8 0.0
KIV Kislovodsk 1.51 338⇓ePG Pb 11 59 54.8 0.0
KIV eS Sb 12 00 14.3 +0.1
KIV Kislovodsk 1.51 338 ePn Pb 11 59 54.8 0.0
ARTV Artvin 1.78 220 iP Pn 11 59 57.9 +0.1
ARTV iS Sn 12 00 21.9 +1.2
ARTV Artvin 1.78 220 iP Pn 11 59 57.9 +0.1
ARTV iS Sn 12 00 21.9 +1.2
DGRG David-gareji 1.80 127 ePN Pb 11 59 59.8 +0.1
DGRG David-gareji 1.80 127 P Pb 11 59 59.8 +0.1
DGRG David-gareji 1.80 127 P Pb 11 59 59.8 +0.1
DGRG S Sg 12 00 24.6 +0.3
DBOC Borcka 1.80 229 iP Pn 11 59 58.1 +0.2
DBOC iS Sn 12 00 22.2 +1.3
DBOC Borcka 1.80 229 iP Pn 11 59 58.1 +0.2
DBOC iS Sn 12 00 22.2 +1.3
DAGI Agillar 1.87 219 iP Pn 12 00 00.1 +1.2
DAGI iS Sb 12 00 24.5 -0.1
KARS Kars 1.94 189 ePN Pn 12 00 00.8 +0.9
KARS Kars 1.94 189 ePn Pn 12 00 00.8 +0.9
DBAD Bademkaya 2.02 221 iP Pn 12 00 01.8 +0.9
DBAD iS Sb 12 00 28.7 -0.2
DBAD Bademkaya 2.02 221 iP Pn 12 00 01.8 +0.9
DBAD iS Sb 12 00 28.7 -0.2
DDEM Demirkent 2.10 218 iP Pb 12 00 03.8 -1.0
DDEM iS Sb 12 00 31.5 +0.5
DDEM Demirkent 2.10 218 iP Pb 12 00 03.8 -1.0
DDEM iS Sb 12 00 31.5 +0.5
GOF Gofitskoye 2.52 353 ePN Pn 12 00 05.8 -1.9
GOF eS Sg 12 00 48.3 +0.8
GOF pmax pmax
comp=Z,10.0nm,0.8s
GOF smax smax
comp=N,30nm,0.9s
GOF smax smax
comp=E,40nm,0.9s
GOF Gofitskoye 2.52 353 ePn Pn 12 00 05.8 -1.9
comp=E,10.0nm,0.8s
GOF eSb Sg 12 00 48.3 +0.8
BRVK Borovoye 20.73 50⇑eP P 12 04 06.8 -0.4
BRVK pmax pmax
comp=Z,2.0nm,1.2s
AAK Ala-Archa 22.79 79 iP P 12 04 30.1 +0.5
AAK pmax pmax
comp=Z,6.0nm,2.2s

MEX 24 11:59:38.4±0.4, **14.73N×93.00W, h16**km±37km, **MD3.7, Near coast of Chiapas**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
THIG 0.73 76 iP Pg 11 59 49.9 -2.9
THIG iS Sg 11 59 58.7 -3.9
PCIG 0.99 348 iP Pb 11 59 53.8 -3.4
PCIG eS Sb 12 00 05.8 -4.1
CCIG Comitan 1.75 28 iP Pn 12 00 05.2 -3.2
CCIG iS Sn 12 00 25.5 -5.0
CMIG Matias Romero 2.96 323 iP Pn 12 00 21.9 -2.9
CMIG iS Sn 12 00 56.6 -3.4

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*ISCJB **24** 12:52:47.9±0.8, 3.88S±0.07×141.2E±0.1, h33km, mb3.6/3, Error ellipse: s-maj=15.6km s-min=8.7km az=23.1*
*IDC **24** 12:52:55.9±10.0, 3.83S×140.21E, h60km±105km, mb3.4/3, mb1 3.7/4, mb1mx3.4/17, mbtmp3.8/4, ML4.4/1, Error ellipse: s-maj=155.3km s-min=40.0km az=100.0*
ISC 24 12:52:49.5±1.0, **3.95S**±0.09×**141.2E**±0.2, **h35**km, **n14, σ1.81**/14, **mb3.7**/3, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.51	341	P	Pn	12 53 22.9	+8.7
	baz=0.9,SNR=63						
KDU	Kakadu	12.24	224	P	Pn	12 55 46.4	+5.0
	baz=12,SNR=23						
KDU				S	Sn	12 57 58.9	+2.1
	baz=12,SNR=6.3						
MTN	Manton Dam	13.31	228	P	P	12 56 03.0	-2.2
	baz=13,SNR=12						
MTN				S	Sn	12 58 17.9	-5.0
	baz=13,SNR=4.3						
QIS	Mount Isa	16.58	185	P	P	12 56 42.5	+0.9
	baz=17,SNR=7.2						
KNRA	Kununurra	16.90	226	P	P	12 56 48.5	+3.3
	baz=17,SNR=11						
KNRA				S	Sn	12 59 47.3	-3.0
	baz=17,SNR=4.6						
WRA	Warramunga Arr	17.25	202	P	P	12 56 49.2	+0.3
	1.4nm,0.3s,baz=22,slow=12,SNR=63						
WRA				S	Sn	13 00 00.0	+1.3
	0.1nm,0.3s,baz=17,slow=23,SNR=2.4						
QLP	Quilpie	22.69	173	P	P	12 57 46.8	-1.3
	baz=23,SNR=7.0						
EIDS	Eidsvold	23.32	157	P	P	12 57 54.2	-0.4
	baz=24,SNR=5.9						
RMQ	Roma	23.55	163	P	P	12 57 55.7	-1.0
	baz=24,SNR=5.5						
NFK	Norfolk Island	35.58	137	S	S	13 05 25.7	+8.1
	baz=36,SNR=3.5						
KSRS	Korea Array	43.01	344	P	P	13 00 46.4	+0.9
	0.9nm,0.6s,baz=162,slow=9.3,SNR=3.4						
SONM	Songino Array	59.91	334	P	P	13 02 52.3	+0.1
	0.3nm,0.6s,baz=132,slow=6.5,SNR=2.7						
MKAR	Makanchi Array	72.29	322	P	P	13 04 11.1	-0.4
	0.7nm,0.6s,baz=104,slow=7.8,SNR=18						
TORD	Torodi Ar. Bea	138.99	285	PKP	PKPdf	13 12 13.0	-0.4
	0.2nm,0.6s,baz=108,slow=2.6,SNR=2.5						

BJI 24 13:01:08.7, 3°.18S×146°.13E, h8km, mB5.0/24, mb4.6/30, Ms4.6/24, Ms7 4.5/27
IDC 24 13:01:08.5±0.7, 3°.36S×146°.13E, h0km, mb4.3/14, mb1 4.3/16, mb1mx4.3/25, mbtmp4.3/16, ML3.7/2, MS4.1/18, Ms1 4.1/18, ms1mx4.0/25, Error ellipse: s-maj=24.4km s-min=13.9km az=83.0
GCMT 24 13:01:09.5±0.2, 3°.34S×146°.00E, h16km±1km, MW5.0/90, Moment Tensor Solution. s30,c37; s90,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.30±.12; $M_{\theta\theta}$-0.33±.10; $M_{\phi\phi}$0.63±.12; $M_{r\theta}$1.11±.33; $M_{r\phi}$4.01±.09; $M_{\theta\phi}$-0.36±.32; Best double couple: $M_0$4.21200×10^{16} NP1:ϕ_s266.00000°, δ83.00000°, λ-15.00000°. NP2: ϕ_s357.00000°, δ75.00000°, λ-173.00000°. Principal axes: T 4.2380, Plg6.0000°, Azm312.0000°; N -0.0530, Plg73.0000°, Azm63.0000°; P -4.1860, Plg16.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 24 13:01:09.5±0.3, 3°.38S×146°.03E, h10km, mb4.9/12 Error ellipse: s-maj=11.0km s-min=6.7km az=89.0
ISCJB 24 13:01:10.0±0.3, 3°.44S±0°.03×146°.11E±0°.05, h25km, mb4.5/31, MS4.2/28, Error ellipse: s-maj=7.9km s-min=4.8km az=172.3
ISC 24 13:01:11.8±0.4, 3°.43S±0°.05×146°.08E±0°.08, h25km, n94, σ1°62/109, mb4.6/31, MS4.2/29, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	1.88	43	P	Pn	13 01 37.7	-4.7
	baz=1.9,SNR=1000						
PMG	Port Moresby	6.04	170	Pn	Pn	13 02 39.6	0.0
	6.4nm,0.3s,baz=340,slow=11,SNR=32						
PMG				LR	LR	13 04 49.0	
	comp=Z,860nm,20.1s,baz=356,slow=36						
PMG	Port Moresby	6.04	170	ePn	Pn	13 02 38.8	-0.8
PMG	Port Moresby	6.04	170	P	Pn	13 02 39.7	+0.1
	baz=6.2,SNR=43						
COEN	Coen	10.85	195	ePn	Pn	13 03 47.7	+2.0
COEN	Coen	10.85	195	P	Pn	13 03 47.7	+2.0
	baz=11,SNR=25						
HNR	Honiara	15.01	114	ePn	Pn	13 04 42.2	-0.2
	252nm,0.8s						
KDU	Kakadu	16.31	235	P	Pn	13 04 58.1	-1.2
	baz=16,SNR=17						
CTA	Charters Tower	16.56	179	Pn	Pn	13 05 02.8	+0.2
	0.3nm,0.3s,baz=346,slow=14,SNR=4.8						
CTAO	Charters Tower	16.56	179	ePn	Pn	13 05 03.0	+0.5
	21nm,0.9s						
MTN	Manton Dam	17.50	237	P	Pn	13 05 13.8	-0.4
	baz=18,SNR=5.6						
QIS	Mount Isa	18.16	200	P	Pn	13 05 22.4	-0.1
	baz=18,SNR=4.3						
WRAB	Tennant Creek	20.01	214	eP	P	13 05 42.1	-0.7
	81nm,0.8s						
WRA	Warramunga Arr	20.02	214	P	P	13 05 42.8	-0.2
	62nm,0.9s,baz=39,slow=12,SNR=75						
WRA				PcP	PcP	13 10 00.2	+1.4
	0.6nm,0.6s,baz=28,slow=1.8,SNR=3.9						
WRA				LR	LR	13 13 36.0	
	comp=Z,689nm,19.7s,baz=50,slow=37						
KNRA	Kununurra	20.95	233	P	P	13 05 51.7	-1.3
	baz=21,SNR=45						
EIDS	Eidsvold	22.34	168	eP	P	13 06 08.2	+0.3
	25nm,0.9s						
EIDS	Eidsvold	22.34	168	P	P	13 06 13.5	+5.6
	baz=22,SNR=4.6						
SOEI	Soe	22.55	253	P	P	13 06 08.7	-1.8
	56nm,0.9s						
SOEI	Soe	22.55	253	P	P	13 06 15.6	+5.1
	baz=22,SNR=3.7						
RMQ	Roma	23.07	174	P	P	13 06 16.7	+1.0
	baz=23,SNR=7.9						
QLP	Quilpie	23.09	184	P	P	13 06 16.7	+0.9
	baz=23,SNR=12						
BATI	Baumata	23.25	252	P	P	13 06 18.4	+0.9
	43nm,0.7s,baz=115,slow=4.6,SNR=6.4						
AS01	Alice Springs	23.29	209	eP	P	13 06 16.8	-1.1
AS31	Alice Springs	23.31	209	eP	P	13 06 17.8	-0.3
FITZ	Fitzroy Crossi	24.77	232	eP	P	13 06 30.9	-0.9
	58nm,1.3s						
FITZ	Fitzroy Crossi	24.77	232	P	P	13 06 30.7	-1.1
	baz=25,SNR=23						
DZM	Mont Dzumac	27.09	135	P	P	13 06 53.6	+0.7
	24nm,1.0s,baz=324,slow=14,SNR=10						
ARMA	Armidale	27.36	170	P	P	13 07 00.8	+5.7
	baz=28,SNR=5.1						
WRKA	Warakurna	27.48	217	P	P	13 06 55.8	-0.5
	baz=28,SNR=6.0						
STKA	Stephens Creek	28.62	188	P	P	13 07 08.5	+2.2
	9.3nm,0.8s,baz=11,slow=11,SNR=13						
STKA				LR	LR	13 18 50.0	
	comp=Z,461nm,18.3s,baz=6.7,slow=37						
STKA	Stephens Creek	28.62	188	eP	P	13 07 09.0	+2.7
	2.1nm,0.8s						
STKA	Stephens Creek	28.62	188	P	P	13 07 11.3	+5.0
	baz=29,SNR=9.0						
QZH	Quanzhou	38.83	318	eP	P	13 08 32.8	-2.2
QZH				eS	S	13 14 30.3	-1.3
QZH				LR	LR		
	comp=Z,690nm,16.3s						
JNU	Nakatsue	39.09	340	P	P	13 08 38.4	+1.2
	4.3nm,1.0s,baz=180,slow=8.1						
NWAO	Narrogin (SRO)	39.87	219	LR	LR	13 26 29.0	
	comp=Z,765nm,18.9s,slow=38						
MJAR	Matsushiro Arr	40.43	350	P	P	13 08 48.7	+0.4
	1.1nm,0.7s,baz=174,slow=7.6,SNR=4.9						
MJAR				LR	LR	13 25 21.8	
	comp=Z,111nm,18.0s,baz=190,slow=36						
SSE	Sheshan	41.73	327	P	P	13 08 58.4	-0.6
SSE				S	S	13 15 14.9	+0.1
SSE				pmax	pmax		
	comp=Z,11nm,1.1s						
SSE				pmax	pmax		
	comp=Z,61nm,3.1s						
SSE				LR	LR		
	comp=N,210nm,21.3s						
SSE				LR	LR		
	comp=E,200nm,22.3s						
SSE				LR	LR		
	comp=Z,340nm,23.6s						
QIZ	Qiongzhong	42.06	303	P	P	13 09 00.3	-1.6
QIZ				S	S	13 15 18.9	-1.1
QIZ				LR	LR		
	comp=N,230nm,17.3s						
QIZ				LR	LR		
	comp=Z,280nm,31.3s						
KSRS	Korea Array	44.04	339	P	P	13 09 17.1	-0.4
	2.5nm,0.9s,baz=163,slow=8.2,SNR=7.0						
KSRS				LR	LR	13 24 36.9	
	comp=Z,223nm,21.7s,baz=170,slow=32						
KSAR	Wonju Array Be	44.04	339	P	P	13 09 17.1	-0.5
KS01	Wonju Array Si	44.07	339	eP	P	13 09 15.5	-2.3
URZ	Urewera	44.77	145	LR	LR	13 24 59.8	
	comp=Z,323nm,20.9s,baz=308,slow=32						
WHN	Wuhan	45.38	320	P	P	13 09 26.5	-1.9
WHN				S	S	13 16 10.0	+1.9
WHN				LR	LR		
	comp=Z,500nm,17.2s						
GYA	Guiyang	48.32	310	eP	P	13 09 51.8	+0.2
GYA				PP	PP	13 11 43.3	-1.1
GYA				ScP	ScP	13 15 11.8	+0.2
GYA				S	S	13 16 50.8	+0.2
GYA				SS	SS	13 20 14.8	-5.7
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,460nm,17.8s						
GYA				LR	LR		
	comp=E,370nm,18.0s						
GYA				LR	LR		
	comp=Z,480nm,17.4s						
USRK	Ussuriysk Arra	49.07	347	P	P	13 09 57.2	+0.3
	1.9nm,0.7s,baz=167,slow=7.1,SNR=2.7						
MDJ	Mudanjiang	50.05	345	P	P	13 10 03.4	-1.0
MDJ				PcP	PcP	13 11 22.9	-1.1
MDJ				PP	PP	13 11 58.5	-1.2
MDJ				S	S	13 17 16.9	+2.8
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,92nm,6.1s						
MDJ				LR	LR		
	comp=N,29nm,6.2s						
MDJ				LR	LR		
	comp=E,89nm,9.8s						
MDJ				LR	LR		
	comp=Z,180nm,7.8s						
CN2	Changchun	50.54	341	eP	P	13 10 04.6	-3.6
KMI	Kunming	50.73	307	P	P	13 10 12.0	+1.8
KMI				S	S	13 17 24.8	+0.2
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KMI				LR	LR		
	comp=N,170nm,14.5s						
KMI				LR	LR		
	comp=E,140nm,13.8s						
KMI				LR	LR		
	comp=Z,230nm,24.6s						
XAN	Xi'an	51.13	320	P	P	13 10 14.4	+1.6
BJI	Beijing	51.22	331	P	P	13 10 12.9	-0.4
BJI				S	S	13 17 32.3	+1.8
BJI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,73nm,4.4s						
BJI				LR	LR		
	comp=N,230nm,18.4s						
BJI				LR	LR		
	comp=E,260nm,21.6s						
BJI				LR	LR		
	comp=Z,250nm,24.4s						
CM01	Chiang Mai Arr	51.23	297	eP	P	13 10 10.6	-3.2
CMAR	Chiang Mai Arr	51.26	297	P	P	13 10 14.4	+0.4
	1.2nm,0.6s,baz=120,slow=5.7,SNR=5.7						
CMAR				LR	LR	13 31 46.9	
	comp=Z,64nm,19.9s,baz=116,slow=36						
CD2	Chengdu	52.84	313	eP	P	13 10 27.0	+1.3
CD2				pP	pP	13 10 31.5	-1.9
CD2				PcP	PcP	13 11 36.3	+1.5
CD2				PP	PP	13 12 27.9	+2.5
CD2				PcS	PcS	13 15 33.4	-0.2
CD2				S	S	13 17 54.1	+0.9
CD2				SS	SS	13 21 31.8	-0.6
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.6s						
CD2				LR	LR		
	comp=N,210nm,17.1s						
CD2				LR	LR		
	comp=E,210nm,14.7s						
CD2				LR	LR		
	comp=Z,330nm,15.7s						
HHC	Hu-ho-hao-te	54.18	328	eP	P	13 10 38.0	+2.6
HHC				sP	sP	13 10 44.3	-1.8
HHC				S	S	13 18 16.8	+5.7
HHC				sS	sS	13 18 23.1	-0.8
HHC				SS	SS	13 21 50.8	-2.5
HHC				pmax	pmax		
	comp=Z,21nm,1.1s						
HHC				pmax	pmax		
	comp=Z,240nm,6.2s						
HHC				LR	LR		
	comp=N,390nm,14.9s						
HHC				LR	LR		
	comp=E,500nm,14.9s						
HHC				LR	LR		
	comp=Z,450nm,19.9s						
LZH	Lanzhou	55.68	319	eP	P	13 10 47.0	+0.6
LZH				ePP	PP	13 12 53.1	+2.2
LZH				eS	S	13 18 31.3	-0.2
LZH				eSS	SS	13 22 17.3	+0.1
LZH				pmax	pmax		
	comp=Z,23nm,1.5s						
LZH				pmax	pmax		
	comp=Z,130nm,6.8s						
LZH				LR	LR		
	comp=N,280nm,14.8s						
LZH				LR	LR		
	comp=E,260nm,15.3s						
LZH				LR	LR		
	comp=Z,400nm,18.0s						
PETK	Petropavlovsk-	57.17	8	P	P	13 10 58.2	+1.8
	3.0nm,0.9s,baz=165,slow=8.2,SNR=5.1						
PETK				LR	LR	13 30 33.9	
	comp=Z,47nm,20.6s,baz=188,slow=31						
HIA	Hailar	57.24	340	P	P	13 10 56.8	-0.2
	9.1nm,0.9s						
GTA	Gaotai	60.19	320	eP	P	13 11 18.4	+0.4
GTA				S	S	13 19 31.0	+0.5
GTA				SS	SS	13 23 29.8	+1.7
GTA				pmax	pmax		
	comp=Z,72nm,5.7s						
GTA				LR	LR		
	comp=N,120nm,17.1s						
GTA				LR	LR		
	comp=E,140nm,16.2s						
GTA				LR	LR		
	comp=Z,150nm,17.3s						
ULN	Ulaanbaatar	61.43	331	eP	P	13 11 26.3	0.0
	6.6nm,1.2s						
SONM	Songino Array	61.72	331	P	P	13 11 28.8	+0.6
	1.0nm,0.8s,baz=148,slow=5.4,SNR=5.3						
SONM				LR	LR	13 37 30.8	
	comp=Z,315nm,19.6s,baz=152,slow=35						
SONA1	Songino Array	61.73	331	eP	P	13 11 27.6	-0.7
TAPN	Taplejung	63.99	303	eP	P	13 11 47.1	+3.2
	29nm,1.3s						
ODAN	Odare	64.11	302	eP	P	13 11 49.4	+4.8
PPT	Papeete	64.52	108	LR	LR	13 35 57.2	
	comp=Z,84nm,19.6s,baz=264,slow=32						
RAMN	Ramite	64.80	302	eP	P	13 11 53.8	+4.6
JIRN	Jiri	65.37	302	eP	P	13 11 55.4	+2.4
	4.4nm,0.6s						
TLY	Talaya	65.65	333	LR	LR	13 40 30.2	
	comp=Z,186nm,19.4s,baz=134,slow=36						
GUN	Gumba	65.71	303	eP	P	13 11 56.2	+1.0
	19nm,0.9s						
PKI	Pulchoki	66.00	302	eP	P	13 11 59.5	+2.5
DMN	Daman	66.27	302	eP	P	13 12 01.1	+2.4
	19nm,0.8s						
GKN	Gorkha	66.78	302	eP	P	13 12 03.9	+2.1
	25nm,1.1s						
KOLN	Koldanda	67.59	302	eP	P	13 12 09.0	+2.0
	15nm,0.9s						
DANN	Dangsing	67.63	302	eP	P	13 12 08.1	+0.8
	12nm,0.8s						
WMQ	Urumqi	70.26	319	eP	P	13 12 22.6	-0.5
WMQ				PcP	PcP	13 12 44.8	0.0
WMQ				S	S	13 21 31.8	-1.9
WMQ				SKS	SKSac	13 22 19.0	-4.2
WMQ				SS	SS	13 26 02.9	-1.5
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,180nm,5.6s						
WMQ				LR	LR		
	comp=N,83nm,20.0s						
WMQ				LR	LR		
	comp=E,87nm,24.8s						
WMQ				LR	LR		
	comp=Z,82nm,19.2s						
VNDA	Vanda	74.52	176	LR	LR	13 43 25.4	
	comp=Z,138nm,18.9s,baz=336,slow=34						
MK01	Makanchi Array	74.93	320	eP	P	13 12 50.2	-0.6
MK31	Makanchi Array	74.94	320	eP	P	13 12 50.6	-0.2
MKAR	Makanchi Array	74.94	320	P	P	13 12 51.3	+0.4
	1.8nm,0.7s,baz=110,slow=6.9,SNR=11						
MKAR				LR	LR	13 44 00.4	
	comp=Z,79nm,21.8s,baz=72,slow=34						
MKAR	Makanchi Array	74.94	320	eP	P	13 12 50.4	-0.5
ZAA0	Zalesovo Array	76.36	328	eP	P	13 12 56.8	-2.0
ZALV	Zalesovo Beam	76.36	328	P	P	13 12 59.2	+0.4
	1.1nm,0.7s,baz=100,slow=6.0,SNR=3.7						
ZALV				LR	LR	13 45 04.9	
	comp=Z,203nm,21.7s,baz=70,slow=34						
KURK	Kurchatov	78.61	323	eP	P	13 13 11.2	-0.3
	2.9nm,1.0s						
IM04	Indian Mountai	81.41	21	eP	P	13 13 26.2	-0.1
MCK	McKinley	82.26	24	eP	P	13 13 33.6	+2.8
	26nm,1.4s						
IL1	Eielson Array	83.49	23	eP	P	13 13 36.1	-1.1
ILAR	Eielson Array	83.49	23	P	P	13 13 35.6	-1.6
	1.5nm,0.6s,baz=254,slow=5.1,SNR=13						
ILAR				LR	LR	13 45 27.7	
	comp=Z,96nm,21.4s,baz=300,slow=32						
MAW	Mawson	84.26	202	LR	LR	13 48 08.1	
	comp=Z,90nm,20.8s,baz=46,slow=33						
GEYT	Alibeck	90.47	308	LR	LR	13 56 42.9	
	comp=Z,138nm,20.8s,baz=5.0,slow=37						
WVOR	Wild Horse Val	96.19	48	eP	P	13 14 38.7	+0.5
	6.9nm,0.8s						
YKA	Yellowknife Ar	97.33	28	P	P	13 14 42.5	-0.1
	0.2nm,0.7s,baz=275,slow=4.7,SNR=7.2						
FRK	Frink	98.79	57	eP	P	13 14 47.5	-2.4
KIS	Kishinev	110.87	319	e		13 19 36.0	
TORD	Torodi Ar. Bea	143.51	287	PKhKP	PKPpre	13 20 42.6	
	0.8nm,0.7s,baz=73,slow=3.4,SNR=4.6						
DBIC	Dimbokro	150.88	278	PKPbc	PKPbc	13 21 03.7	+0.3
	2.0nm,0.8s,baz=164,slow=2.1,SNR=3.2						

ISCJB 24 13:29:04.2±0.9, 18°.4N±0°.1×145°.3E±0°.2, h150km, mb3.5/9, Error ellipse: s-maj=26.8km s-min=18.2km az=166.3
IDC 24 13:29:04.8±7.7, 18°.37N×145°.34E, h142km±70km, mb3.4/9, mb1 3.6/10, mb1mx3.4/37, mbtmp3.8/10, MS3.4/1, Ms1 3.4/1, ms1mx2.8/16, Error ellipse: s-maj=29.8km s-min=21.9km az=88.0
ISC 24 13:29:05.7±1.0, 18°.4N±0°.2×145°.3E±0°.2, h150km, n15, σ0°59/11, mb3.5/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	19.14	342	P	P	13 33 16.7	-0.6
	0.4nm,0.3s,baz=166,slow=10,SNR=14						
MAT	Matsushiro	19.14	342	P	P	13 33 16.7	-0.6
H11S3	WAKE ISLAND Hy	20.30	86	T	T	13 52 03.2	
	baz=273,slow=74,SNR=24						
H11S1	WAKE ISLAND Hy	20.31	86	T	T	13 52 02.6	
	baz=273,slow=74,SNR=23						
H11S2	WAKE ISLAND Hy	20.32	86	T	T	13 52 03.2	
	baz=273,slow=74,SNR=19						
KSRS	Korea Array	24.35	325	P	P	13 34 10.2	+0.6
	1.4nm,0.7s,baz=148,slow=8.5,SNR=6.4						
PMG	Port Moresby	27.67	176	LR	LR	13 45 15.1	
	comp=Z,82nm,19.9s,baz=314,slow=35						
WRA	Warramunga Arr	39.57	196	P	P	13 36 22.1	-0.3
	0.5nm,0.5s,baz=22,slow=8.9,SNR=5.0						
SONM	Songino Array	43.15	322	P	P	13 36 51.8	+0.3
	0.3nm,0.5s,baz=136,slow=8.2,SNR=7.8						
ZALV	Zalesovo Beam	58.03	323	P	P	13 38 42.9	+0.2
	0.8nm,0.5s,baz=103,slow=6.5,SNR=5.3						
MKAR	Makanchi Array	58.41	314	P	P	13 38 46.0	+0.5
	1.8nm,0.3s,baz=117,slow=8.1,SNR=42						
ILAR	Eielson Array	64.10	26	P	P	13 39 23.3	-0.2
	0.7nm,1.1s,baz=243,slow=7.0,SNR=3.2						
YKA	Yellowknife Ar	78.45	28	P	P	13 40 49.7	+0.1
	0.2nm,0.6s,baz=287,slow=5.5,SNR=4.1						
NVAR	Mina Array Bea	83.64	52	P	P	13 41 18.5	+0.6
	0.2nm,0.3s,baz=266,slow=6.3,SNR=3.9						
FINES	FINESS Array B	87.01	335	P	P	13 41 33.0	-0.9
	1.7nm,0.8s,baz=69,slow=4.6,SNR=6.3						

NIED 24 13:31:00, 23°.40N×123°.70E, h32km, Mw3.9 Best double couple: $M_0$8.53000×10^{14} NP1:ϕ_s203.00000°, δ87.00000°, λ-178.00000°. NP2:ϕ_s113.00000°, δ88.00000°, λ-3.00000°.
JMA 24 13:31:37.6±0.2, 23°.43N×123°.69E, h47km±2km, M4.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.63	10	P	Pn	13 31 50.4	0.0
HATJ				S	Sn	13 31 59.5	0.0
JKRS	Kuro-shima	0.85	20	P	Pn	13 31 53.9	+0.6
JKRS				S	Sn	13 32 05.4	+0.6
IRIF	Iriomote-Funau	0.90	2	P	Pn	13 31 54.2	+0.3
IRIF				S	Sn	13 32 06.8	+0.9
JIJ	Ishigaki jima	1.02	24	P	Pn	13 31 55.7	+0.2
JIJ				S	Sn	13 32 08.4	-0.3
YOJ	Yonaguni jima	1.20	329	P	Pn	13 31 58.5	+0.5
YOJ				S	Sn	13 32 13.5	+0.4
JYNG	Yonagunijimaku	1.22	326	P	Pn	13 31 58.6	+0.3
JYNG				S	Sn	13 32 13.9	+0.2
JISG	Ishigakijimahi	1.28	26	P	Pn	13 31 59.4	+0.3
JISG				S	Sn	13 32 15.3	+0.1
JTJ	Tarama	1.52	37	P	Pn	13 32 03.1	+0.8
JTJ				S	Sn	13 32 21.8	+0.9
JIRB	Irabujima	1.94	44	P	Pn	13 32 08.7	+0.6
JIRB				S	Sn	13 32 32.1	+0.8
JMJ	Miyako jima 2	2.01	46	P	Pn	13 32 09.9	+0.8
JMJ				S	Sn	13 32 33.9	+0.9
JOGS	Gusukube	2.05	49	P	Pn	13 32 10.4	+0.8
JOGS				S	Sn	13 32 34.9	+0.8
JIKM	Ikemajima	2.06	43	P	Pn	13 32 10.4	+0.7
JIKM				S	Sn	13 32 35.2	+1.0
JKE	Kume jima 2	4.03	44	P	Pn	13 32 35.7	-1.1
JKE				eS	Sn	13 33 22.7	0.0
JAGN	Aguni-jima	4.50	45	P	Pn	13 32 42.4	-0.9
JAGN				eS	Sn	13 33 34.2	-0.2
JNTH	Nagotoyohara	4.99	51	P	Pn	13 32 49.3	-0.7
JNTH				eS	Sn	13 33 44.2	-2.2
JIH	Iheya	5.28	46	P	Pn	13 32 52.8	-1.1
JIH				eS	Sn	13 33 51.4	-2.1
JOW	Kunigami	5.36	50	P	Pn	13 32 54.5	-0.6
JOW				eS	Sn	13 33 53.5	-2.0
JTK	Tokunoshima	6.43	46	P	Pn	13 33 07.8	-2.0
JTK				eS	Sn	13 34 18.0	-3.9
JAMN	Amaminishikomi	6.88	45	P	Pn	13 33 13.8	-2.1
JAMN				eS	Sn	13 34 33.4	+0.5
JMZ	Minamidaito 2	7.25	69	P	Pn	13 33 18.7	-2.3
JAM	Amami Oshima	7.28	46	P	Pn	13 33 19.3	-2.0

MEX 24 13:37:39.1±0.7, 14°.67N×94°.42W, h19km±55km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.55	48	eP	Pn	13 38 02.4	-3.3
PCIG				iS	Sn	13 38 20.4	-4.9
HUIG	Huatulco	1.96	304	iP	Pn	13 38 08.2	-3.1
HUIG				eS	Sn	13 38 30.6	-4.8
CMIG	Matias Romero	2.45	350	iP	Pn	13 38 16.1	-2.0
CMIG				iS	Sn	13 38 43.5	-4.0
CCIG	Comitan	2.72	54	iP	Pn	13 38 18.9	-3.1
CCIG				iS	Sn	13 38 51.8	-2.8

MAN 24 13:53:17, 7°.88N×127°.28E, h9km, mb4.6, ML3.5, MS3.4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.96**	**289**	⇑*i*P	Pg	13 53 34.2	-1.4
BIPH				*i*S	Sg	13 53 45.3	-2.8
MATI	**Mati**	**1.38**	**228**	*e*P	Pb	13 53 43.0	0.0
MATI				*e*S	Sb	13 54 00.1	-0.6
BUTP	**Butuan**	**1.97**	**304**	*e*P	Pn	13 53 50.5	-0.1
BUKP	**Musuan**	**2.20**	**270**	*e*P	Pn	13 53 55.0	+1.2
BUKP				*e*S	Sb	13 54 23.4	-1.1

*NIED **24** 14:21:00, 36.80N×141.30E, h83km, Mw3.9 Best double couple: Mo7.77000×10^14 NP1:φs340.00000°, δ2.00000°, λ-175.00000°. NP2:φs245.00000°, δ90.00000°, λ-88.00000°.*

*ISCJB **24** 14:21:49.5±0.9, 36.73N±0.05×141.45E±0.08, h78km±6km, mb3.7/13, Error ellipse: s-maj=12.3km s-min=6.5km az=31.1*

*IDC **24** 14:21:52.0±0.8, 36.66N×141.27E, h86km±7km, mb3.6/13, mb1 3.8/16, mb1mx3.6/34, mbtmp3.9/16, Error ellipse: s-maj=17.1km s-min=15.0km az=142.0*

*JMA **24** 14:21:51.6±0.1, 36.77N×141.29E, h77km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs30.00000°, δ86.00000°, λ86.00000°. NP2:φs258.00000°, δ6.00000°, λ138.00000°. Principal axes: T Plg49.0000°, Azm295.0000°; N Plg4.0000°, Azm30.0000°; P Plg41.0000°, Azm124.0000°;*

JMA Felt I J1.

ISC 24 14:21:50.2±0.7, 36.68N±0.05×141.54E±0.06, h75km±6km, n38, σ1§92/50, mb3.9/13, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.72**	**305**	⇓P	**Pn**	**14 22 05.2**	**-0.6**
ONAJ				S	**Sn**	**14 22 14.9**	**-2.4**
JHO	**Hitachi**	**0.78**	**265**	⇑P	**Pn**	**14 22 06.0**	**-0.4**
JHO				S	**Sn**	**14 22 16.4**	**-2.0**
JFK	**Kawauchi**	**0.86**	**322**	⇓P	**Pn**	**14 22 06.8**	**-0.6**
JFK				S	**Sn**	**14 22 17.5**	**-2.6**
JFT	**Otama**	**1.27**	**311**	⇓P	**Pn**	**14 22 11.9**	**-0.5**
JFT				S	**Sn**	**14 22 26.8**	**-2.2**
JMM	**Marumori**	**1.32**	**334**	⇓P	**Pn**	**14 22 12.4**	**-0.6**
JMM				S	**Sn**	**14 22 27.9**	**-2.2**
JFY	**Yanaizu**	**1.63**	**297**	P	**Pn**	**14 22 16.3**	**-0.8**
JFY				S	**Sn**	**14 22 35.0**	**-2.5**
JAG	**Ashikaga**	**1.70**	**262**	⇓P	**Pn**	**14 22 17.5**	**-0.5**
JAG				S	**Sn**	**14 22 36.3**	**-2.7**
JIO	**Ouri**	**1.77**	**355**	⇓P	**Pn**	**14 22 18.6**	**-0.4**
JIO				S	**Sn**	**14 22 38.5**	**-2.2**
JOU	**Okura**	**1.82**	**338**	P	**Pn**	**14 22 18.8**	**-0.8**
JOU				S	**Sn**	**14 22 40.8**	**-1.0**
JKT	**Katashina**	**1.84**	**273**	P	**Pn**	**14 22 19.6**	**-0.3**
JKT				S	**Sn**	**14 22 41.0**	**-1.5**
JYS	**Shirataka**	**1.93**	**323**	P	**Pn**	**14 22 20.5**	**-0.6**
JYS				S	**Sn**	**14 22 42.5**	**-2.0**
MJAR	**Matsushiro Arr**	**2.68**	**268**	P	**Pn**	**14 22 30.8**	**-0.4**
	18nm,0.3s,baz=88,slow=15,SNR=126						
MJAR				S	**Sn**	**14 23 04.7**	**+2.1**
	17nm,0.3s,baz=90,slow=25,SNR=8.5						
MAT	**Matsushiro**	**2.68**	**268**	P	**Pn**	**14 22 31.3**	**+0.1**
MAT				S	**Sn**	**14 23 05.6**	**+2.9**
ASAJ	**Asahikawa**	**7.47**	**6**	P	**Pn**	**14 23 34.5**	**-2.0**
	1.1nm,0.3s,baz=231,slow=13,SNR=15						
ASAJ				S	**Sn**	**14 24 54.9**	**-4.6**
	1.9nm,0.3s,baz=114,slow=20,SNR=7.4						
JNU	**Nakatsue**	**9.45**	**251**	P	**Pn**	**14 24 03.6**	**+0.1**
	0.4nm,0.3s,baz=78,slow=10,SNR=5.2						
JCJ	**Chichijima**	**9.58**	**177**	P	**Pn**	**14 24 02.9**	**-2.4**
	4.0nm,0.3s,baz=290,slow=18,SNR=2.4						
JCJ				S	**Sn**	**14 25 46.1**	**-5.2**
	14nm,0.3s,baz=280,slow=22,SNR=7.5						
USRK	**Ussuriysk Arra**	**10.45**	**319**	P	**Pn**	**14 24 17.9**	**+0.8**
	0.5nm,0.3s,baz=124,slow=14,SNR=6.7						
SEY	**Seymchan**	**27.11**	**11**	P	**P**	**14 27 27.2**	**+1.4**
	2.5nm,0.9s,baz=191,slow=12,SNR=11						
H11N2	**WAKE ISLAND Hy**	**27.89**	**120**	T	T	14 57 50.8	
	baz=313,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**27.89**	**120**	T	T	14 57 52.1	
	baz=313,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**27.90**	**120**	T	T	14 57 52.2	
	baz=313,slow=75,SNR=23						
SONM	**Songino Array**	**28.06**	**304**	P	**P**	**14 27 33.4**	**-1.3**
	2.8nm,0.8s,baz=106,slow=8.9,SNR=34						
H11S1	**WAKE ISLAND Hy**	**28.59**	**123**	T	T	14 58 42.7	
	baz=314,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**28.59**	**123**	T	T	14 58 44.7	
	baz=314,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.60**	**123**	T	T	14 58 42.0	
	baz=314,slow=76,SNR=22						
ZALV	**Zalesovo Beam**	**42.22**	**313**	P	**P**	**14 29 35.1**	**-0.5**
	1.8nm,0.5s,baz=95,slow=6.3,SNR=8.2						
MKAR	**Makanchi Array**	**44.39**	**302**	P	**P**	**14 29 52.5**	**-0.7**
	1.1nm,0.6s,baz=92,slow=9.6,SNR=14						
ILAR	**Eielson Array**	**49.74**	**32**	P	**P**	**14 30 36.5**	**+1.9**
	0.9nm,0.7s,baz=268,slow=6.0,SNR=16						
ILAR				pP	**pP**	**14 30 56.9**	**+3.7**
	0.3nm,0.6s,baz=274,slow=5.8,SNR=2.7						
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**14 31 26.2**	**-0.1**
	0.6nm,0.5s,baz=6.3,slow=7.5,SNR=18						
WRA				pP	**pP**	**14 31 47.6**	**+2.3**
	0.7nm,0.5s,baz=6.0,slow=7.7,SNR=3.9						
YKA	**Yellowknife Ar**	**64.06**	**30**	P	**P**	**14 32 17.3**	**+1.5**
	0.2nm,0.6s,baz=304,slow=6.8,SNR=5.3						
YKA				pP	**pP**	**14 32 38.3**	**+3.1**
	0.2nm,0.7s,baz=302,slow=6.2,SNR=2.7						
ARCES	**ARCESS Array B**	**64.36**	**339**	P	**P**	**14 32 17.3**	**-0.4**
	5.1nm,1.0s,baz=49,slow=9.7,SNR=2.6						
FINES	**FINESS Array B**	**69.17**	**332**	P	**P**	**14 32 48.2**	**-0.2**
	1.3nm,0.7s,baz=40,slow=4.5,SNR=4.5						
NB2	**NORSAR Subarra**	**74.55**	**337**	P	**P**	**14 33 20.5**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.55**	**337**	P	**P**	**14 33 20.6**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=40,slow=5.9,SNR=5.2						
AKASG	**Malin Array Be**	**74.63**	**322**	P	**P**	**14 33 20.8**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=46,slow=6.3,SNR=7.6						
PDAR	**Pinedale Array**	**77.84**	**45**	P	**P**	**14 33 41.8**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=289,slow=2.8,SNR=2.9						
GERES	**GERESS Array B**	**83.06**	**328**	P	**P**	**14 34 07.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=52,slow=6.8,SNR=3.3						
LPAZ	**La Paz**	**146.78**	**60**	PKPbc	**PKPbc**	**14 41 25.3**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=312,slow=3.0,SNR=3.7						

IGQ 24 14:31:32±1.7, 2.42S×81.02W, h11km±164km, Mb4.3, 6C-4D, Error ellipse: s-maj=9.9km s-min=3.8km az=6.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	**Mancha de Ca P**	**1.90**	**31**	P	Pn	14 32 05.0	+0.6
PECV	**Mancha de Ca P**	**1.90**	**31**	S	Sn	14 32 28.6	+0.2
IGUA	**Igualata**	**2.55**	**69**	P	Pb	14 32 16.4	-2.2
MAG1	**Magdalena**	**2.64**	**28**	⇑P	Pb	14 32 17.5	-1.9
BMAS	**Trigal station**	**2.70**	**70**	P	Pn	14 32 18.1	+2.3
ARRY	**Arrayan**	**2.72**	**71**	P	Pn	14 32 18.4	+2.3
JUI6	**Juive**	**2.73**	**69**	P	Pb	14 32 19.0	-2.3
PAT1	**Patacocha**	**2.73**	**71**	P	Pb	14 32 19.9	-1.7
BPAT	**Tungurahua Vol**	**2.74**	**71**	⇓P	Pb	14 32 19.8	-1.9
RETU	**Refugio**	**2.75**	**70**	P	Pb	14 32 20.6	-1.2
RUN5	**Runtun**	**2.78**	**69**	P	Pn	14 32 19.2	+2.3
ULBA	**Ulba**	**2.78**	**70**	P	Pb	14 32 20.8	-1.4
BULB	**Ulba Tungurahu**	**2.78**	**70**	P	Pb	14 32 20.1	-2.2
BRUN	**Tungurahua Vol**	**2.79**	**69**	⇓P	Pb	14 32 20.6	-1.7
PAST	**Pastocalle**	**2.93**	**54**	P	Pb	14 32 24.3	-0.5
PISA	**Pisayambo**	**2.96**	**63**	P	Pb	14 32 23.9	-1.5
CAMI	**Rancho Maria**	**3.05**	**56**	P	Pb	14 32 24.5	-2.5
BMOR	**Cotopaxi Volca**	**3.06**	**57**	⇑P	Pb	14 32 24.2	-3.1
MOV1	**Cotopaxi Vol s**	**3.08**	**57**	P	Pn	14 32 24.5	+3.0
NAS2	**Nasa**	**3.10**	**55**	P	Pb	14 32 26.8	-1.2
BREF	**Cotopaxi Volca**	**3.11**	**56**	⇑P	Pb	14 32 25.4	-2.7
BVC2	**Cotopaxi Volca**	**3.14**	**56**	⇑P	Pb	14 32 26.6	-2.0
BTAM	**Cotopaxi Volca**	**3.14**	**57**	⇑P	Pb	14 32 26.5	-2.1
VC1	**Cotopaxi 1**	**3.15**	**56**	P	Pb	14 32 27.6	-1.2
TAMB	**Tambo**	**3.15**	**57**	P	Pb	14 32 26.7	-2.1
COV1	**Cotopaxi Volc**	**3.19**	**57**	P	Pn	14 32 26.2	+3.2
GOLV	**Golondrinas**	**3.22**	**36**	P	Pn	14 32 24.9	+2.4
JUA2	**San Juan 2**	**3.26**	**48**	P	Pn	14 32 26.3	+2.6
TERV	**Terraza Guagua**	**3.29**	**47**	⇑P	Pb	14 32 28.9	-2.1
GGP	**Refugio Guagua**	**3.29**	**47**	P	Pn	14 32 26.4	+2.1
PINO	**Pino**	**3.29**	**47**	P	Pn	14 32 26.3	+2.0
ANTI	**Antisana**	**3.46**	**56**	⇓P	Pb	14 32 31.6	-2.5
CAYA	**Cayambe**	**3.91**	**51**	P	Pb	14 32 37.7	-4.0
LITE	**Lita**	**4.16**	**40**	P	Pn	14 32 38.5	+2.9

MEX 24 14:34:45.3±0.7, 18.34N×100.28W, h48km±5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.09**	**229**	*e*P	Pn	14 34 51.0	-1.9
ARIG				*i*S	Sn	14 34 56.6	-1.7
PLIG	**Platanillo**	**0.74**	**86**	*e*P	Pn	14 34 57.9	-1.7
PLIG				*e*S	Sn	14 35 08.5	-1.5
MEIG	**Mezcala**	**0.75**	**123**	*e*P	Pn	14 34 57.9	-1.8
MEIG				*e*S	Sn	14 35 08.3	-1.8
CAIG	**El Cayaco**	**1.28**	**180**	*e*P	Pn	14 35 05.1	-1.7
CAIG				*i*S	Sn	14 35 20.7	-2.3
ZIIG	**Zihuatanejo**	**1.34**	**237**	*e*P	Pn	14 35 06.9	-0.8
ZIIG				*e*S	Sn	14 35 22.2	-2.2
ACX	**Acapulco**	**1.52**	**165**	*e*P	Pn	14 35 09.8	-0.2
ACX				*i*S	Sn	14 35 28.2	-0.5
TLIG	**Tlapa**	**1.80**	**115**	*i*P	Pn	14 35 12.9	-1.2
TLIG				*i*S	Sn	14 35 33.9	-2.0
PNIG	**Pinotepa**	**2.82**	**133**	*i*P	Pn	14 35 25.8	-2.2
PNIG				*i*S	Sn	14 35 58.8	-2.0

*IDC **24** 14:43:24.8±0.8, 26.16N×93.25E, h0km, mb4.0/13, mb1 4.1/14, mb1mx3.8/44, mbtmp3.9/14, ML2.6/1, Error ellipse: s-maj=27.9km s-min=17.7km az=60.0*

*ISCJB **24** 14:43:27.9±0.6, 26.09N±0.08×93.25E±0.05, h33km, mb4.0/18, Error ellipse: s-maj=11.2km s-min=5.9km az=7.6*

*NEIC **24** 14:43:31.9±1.4, 26.06N×93.16E, h53km±14km, mb4.0/6, Error ellipse: s-maj=17.5km s-min=9.8km az=60.0*

ISC 24 14:43:29.9±0.6, 26.16N±0.07×93.29E±0.06, h33km, n36, σ1§06/42, mb4.0/18, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.40**	**245**	*e*PN	**Pn**	**14 43 54.0**	**+0.8**
SHL				*e*SN	**Sb**	**14 44 15.0**	**+1.9**
LSA	**Lhasa**	**4.00**	**332**	*e*P	**Pn**	**14 44 31.6**	**+2.3**
TAPN	**Taplejung**	**5.12**	**285**	*e*Pn	**Pn**	**14 44 48.2**	**+0.2**
TAPN				*e*Sn	**Sn**	**14 45 43.7**	**+0.9**
	392nm,0.8s						
ODAN	**Odare**	**5.33**	**279**	*e*Pn	**Pn**	**14 44 48.8**	**+1.4**
ODAN				*e*Sn	**Sn**	**14 45 50.2**	**+2.4**
	477nm,0.5s						
RAMN	**Ramite**	**6.04**	**279**	*e*Pn	**Pn**	**14 44 57.8**	**+0.6**
JIRN	**Jiri**	**6.51**	**285**	*e*Pn	**Pn**	**14 45 04.4**	**+0.7**
GUN	**Gumba**	**6.83**	**286**	*e*Pn	**Pn**	**14 45 08.2**	**+0.1**
PKI	**Pulchoki**	**7.17**	**283**	*e*Pn	**Pn**	**14 45 12.4**	**-0.4**
PKIN	**Phulchoki**	**7.19**	**283**	*e*Pn	**Pn**	**14 45 13.2**	**+0.3**
KKN	**Kakani**	**7.33**	**285**	*e*Pn	**Pn**	**14 45 15.0**	**+0.2**
DMN	**Daman**	**7.45**	**283**	*e*Pn	**Pn**	**14 45 16.3**	**-0.2**
GKN	**Gorkha**	**7.92**	**285**	*e*Pn	**Pn**	**14 45 23.0**	**0.0**
GKN				*e*Sn	**Sn**	**14 46 50.6**	**-1.0**
	38nm,0.4s						
DANN	**Dangsing**	**8.75**	**287**	*e*Pn	**Pn**	**14 45 32.2**	**-2.3**
DANN				*e*Sn	**Sn**	**14 47 09.6**	**-2.6**
	26nm,0.5s						
KOLN	**Koldanda**	**8.79**	**283**	*e*Pn	**Pn**	**14 45 34.0**	**-0.9**
KOLN				*e*Sn	**Sn**	**14 47 12.0**	**-1.0**
	33nm,0.6s						
CMAR	**Chiang Mai Arr**	**9.28**	**145**	Pn	**Pn**	**14 45 41.3**	**-0.2**
	0.0nm,0.3s,baz=325,slow=15,SNR=3.0						
ENH	**Enshi**	**14.86**	**70**	*e*P	**P**	**14 47 03.5**	**+0.5**
	9.5nm,0.6s						
TKM2	**Tokmak 2**	**22.10**	**324**	*e*P	**P**	**14 48 23.8**	**+1.2**
	4.8nm,0.9s						
MK31	**Makanchi Array**	**22.37**	**340**	*e*P	**P**	**14 48 24.7**	**-0.5**
MKAR	**Makanchi Array**	**22.37**	**340**	P	**P**	**14 48 24.5**	**-0.7**
	7.4nm,0.8s,baz=149,slow=13,SNR=42						
AAK	**Ala-Archa**	**22.51**	**322**	P	**P**	**14 48 26.5**	**-0.5**
	3.8nm,0.9s,baz=133,slow=8.6,SNR=9.6						
AAK	**Ala-Archa**	**22.51**	**322**	*e*P	**P**	**14 48 29.1**	**+2.2**
	5.4nm,1.1s						
EKS2	**Erkin-Say**	**22.93**	**321**	*e*P	**P**	**14 48 31.4**	**0.0**
	6.2nm,0.8s						
SONM	**Songino Array**	**23.97**	**22**	P	**P**	**14 48 41.3**	**-0.1**
	0.2nm,0.4s,baz=208,slow=9.3,SNR=3.5						
KKAR	**Karatay Array**	**25.11**	**318**	*e*P	**P**	**14 48 52.3**	**+0.6**
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**28.46**	**349**	P	**P**	**14 49 22.0**	**+0.4**
	1.1nm,0.4s,baz=174,slow=8.3,SNR=5.6						
ABKAR	**Akbulak array**	**34.59**	**321**	*e*P	**P**	**14 50 15.9**	**+0.3**
	3.0nm,0.5s						
BRTR	**Keskin Array B**	**51.00**	**301**	P	**P**	**14 52 28.5**	**-0.3**
	0.5nm,0.6s,baz=125,slow=7.3,SNR=4.6						
AKASG	**Malin Array Be**	**53.96**	**315**	P	**P**	**14 52 49.5**	**-0.8**
	0.5nm,0.4s,baz=80,slow=7.3,SNR=5.7						
FINES	**FINESS Array B**	**56.51**	**328**	P	**P**	**14 53 08.2**	**-0.3**
	1.9nm,0.8s,baz=116,slow=6.3,SNR=4.2						
ARCES	**ARCESS Array B**	**57.99**	**337**	P	**P**	**14 53 18.7**	**-0.3**
	4.8nm,1.0s,baz=96,slow=8.3,SNR=4.5						
WRA	**Warramunga Arr**	**60.73**	**135**	P	**P**	**14 53 38.5**	**0.0**
	1.1nm,0.9s,baz=324,slow=7.1,SNR=9.6						
NOA	**NORSAR Array B**	**63.68**	**327**	P	**P**	**14 53 57.4**	**-0.4**
	1.4nm,0.9s,baz=91,slow=5.8,SNR=3.3						
GERES	**GERESS Array B**	**64.12**	**314**	P	**P**	**14 54 00.8**	**-0.2**
	1.5nm,0.6s,baz=72,slow=5.8,SNR=11						
ILAR	**Eielson Array**	**78.19**	**22**	P	**P**	**14 55 25.2**	**-0.5**
	0.4nm,1.0s,baz=299,slow=4.8,SNR=5.2						
LBTB	**Lobatse**	**82.81**	**238**	P	**P**	**14 55 51.4**	**+0.2**
	2.0nm,0.6s,baz=41,slow=5.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**85.71**	**282**	P	**P**	**14 56 05.9**	**-0.2**
	0.8nm,0.6s,baz=74,slow=4.2,SNR=8.3						

*ISCJB **24** 14:49:51.0±1.0, 21.96S±0.05×68.7W±0.1, h109km±8km, mb3.6/5, Error ellipse: s-maj=20.1km s-min=7.8km az=4.1*

*NEIC **24** 14:49:51.6, 21.96S×68.80W, h111km, MG4.1(GUC), After GUC.*

*GUC **24** 14:49:51.6±0.5, 21.96S×68.80W, h111km±4km, ML4.1*

*IDC **24** 14:49:53.4±1.5, 21.95S×68.26W, h117km±6km, mb3.5/5, mb1 3.6/7, mb1mx3.5/19, mbtmp3.7/7, Error ellipse: s-maj=42.1km s-min=26.6km az=19.0*

ISC 24 14:49:52.8±0.8, 21.96S±0.05×68.81W±0.10, h113km±5km, n28, σ1§26/42, mb3.7/5, 17C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.44**	**292**	⇑*e*P	**Pn**	**14 50 09.0**	**-0.9**
PB09				*e*S	**Sn**	**14 50 21.7**	**-1.0**
PB09				AML	AML	14 50 23.5	
	comp=N,23μm,0.3s						
PB09	**Plate Boundary**	**0.44**	**292**	⇑*e*P	**Pn**	**14 50 09.0**	**-0.9**
PB09				*e*S	**Sn**	**14 50 21.7**	**-1.0**
PB04	**Plate Boundary**	**0.70**	**244**	⇑*e*P	Pn	14 50 17.0	+5.5
PB04				*e*S	Sn	14 50 36.2	+11
PB04				AML	AML	14 50 37.5	
	comp=E,3μm,0.6s						
PB04	**Plate Boundary**	**0.70**	**244**	⇑*e*P	Pn	14 50 17.0	+5.5
PB04				*e*S	Sn	14 50 36.2	+11
PB06	**Plate Boundary**	**1.03**	**224**	⇑*e*P	**Pn**	**14 50 14.0**	**-0.7**
PB06				*e*S	**Sn**	**14 50 30.8**	**-0.5**
PB06				AML	AML	14 50 31.8	
	comp=E,4μm,0.4s						
PB06	**Plate Boundary**	**1.03**	**224**	⇑*e*P	**Pn**	**14 50 14.0**	**-0.7**
PB06				*e*S	**Sn**	**14 50 30.8**	**-0.5**
PB07	**Plate Boundary**	**1.03**	**283**	⇑*e*P	**Pn**	**14 50 14.2**	**-0.6**
PB07				*e*S	**Sn**	**14 50 31.2**	**-0.2**
PB07				AML	AML	14 50 31.9	
	comp=N,4μm,0.0s						
PB07	**Plate Boundary**	**1.03**	**283**	⇑*e*P	**Pn**	**14 50 14.2**	**-0.6**
PB07				*e*S	**Sn**	**14 50 31.2**	**-0.2**
PB01	**Plate Boundary**	**1.11**	**325**	⇑*e*P	**Pn**	**14 50 14.5**	**-1.0**
PB01				*e*S	**Sn**	**14 50 32.1**	**-0.6**
PB01				AML	AML	14 50 32.9	
	comp=N,3μm,0.4s						
PB01	**Plate Boundary**	**1.11**	**325**	⇑*e*P	**Pn**	**14 50 14.5**	**-1.0**
PB01				*e*S	**Sn**	**14 50 32.1**	**-0.6**
PATCX	**Punta Patache**	**1.69**	**312**	⇑*e*P	**Pn**	**14 50 21.3**	**-1.0**
PATCX				*e*S	**Sn**	**14 50 44.7**	**+0.1**
PATCX				AML	AML	14 50 50.4	
	comp=N,1μm,0.3s						
HMBC	**Humberstone**	**1.95**	**329**	⇑*e*P	**Pn**	**14 50 24.2**	**-1.3**
HMBC				*e*S	**Sn**	**14 50 49.5**	**-1.0**
HMBC				AML	AML	14 50 51.8	
	comp=E,2μm,0.5s						
HMBC	**Humberstone**	**1.95**	**329**	⇑*e*P	**Pn**	**14 50 24.2**	**-1.3**
HMBC				*e*S	**Sn**	**14 50 49.5**	**-1.0**
PB10	**Plate Boundary**	**2.24**	**226**	*e*P	**Pn**	**14 50 27.6**	**-1.4**
PB10				AML	AML	14 51 13.3	
	comp=E,1μm,0.5s						
PB11	**Plate Boundary**	**2.33**	**340**	⇑*e*P	**Pn**	**14 50 29.0**	**-1.3**
PB11				*e*S	**Sn**	**14 50 58.5**	**-0.5**
PB11				AML	AML	14 51 03.0	
	comp=E,3μm,0.3s						
PB11	**Plate Boundary**	**2.33**	**340**	⇑*e*P	**Pn**	**14 50 29.0**	**-1.3**
PB11				*e*S	**Sn**	**14 50 58.5**	**-0.5**
PSGC	**Pisagua**	**2.65**	**332**	⇑*e*P	**Pn**	**14 50 32.2**	**-2.3**
PSGC				AML	AML	14 51 10.5	
	comp=E,372nm,0.5s						
PSGC	**Pisagua**	**2.65**	**332**	P	**Pn**	**14 50 32.2**	**-2.3**
MNMC	**Minimini**	**2.91**	**345**	⇑*e*P	**Pn**	**14 50 36.8**	**-1.2**
MNMC	**Minimini**	**2.91**	**345**	P	**Pn**	**14 50 36.8**	**-1.2**
LPAZ	**La Paz**	**5.68**	**7**	P	**Pn**	**14 51 16.1**	**+0.6**
	comp=E,0.4nm,0.3s,baz=198,slow=9.2,SNR=6.1						
SIV	**San Ignacio**	**9.42**	**52**	P	Pn	14 51 59.2	-6.4
	comp=E,0.4nm,0.3s,baz=243,slow=14,SNR=7.6						
TKL	**Tuckaleechee C**	**59.03**	**346**	P	**P**	**14 59 43.3**	**+2.4**
	comp=E,2.7nm,0.8s,baz=180,slow=7.1,SNR=2.5						
PDAR	**Pinedale Array**	**74.55**	**330**	P	**P**	**15 01 20.0**	**+0.4**
	comp=E,0.3nm,0.6s,baz=134,slow=8.9,SNR=2.5						
NVAR	**Mina Array Bea**	**75.91**	**322**	P	**P**	**15 01 29.4**	**+2.0**
	comp=E,0.2nm,0.4s,baz=119,slow=7.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**77.42**	**70**	P	**P**	**15 01 33.8**	**-2.2**
	comp=E,0.5nm,0.3s,baz=252,slow=6.0,SNR=15						
TORD				pP	**pP**	**15 02 03.0**	**-1.7**
	comp=E,0.7nm,0.5s,baz=259,slow=5.5,SNR=4.0						
YKA	**Yellowknife Ar**	**91.65**	**341**	P	**P**	**15 02 46.8**	**+0.1**
	comp=E,0.5nm,0.6s,baz=136,slow=4.6,SNR=12						
YKA				pP	**pP**	**15 03 17.7**	**+1.5**
	comp=E,0.4nm,0.9s,baz=134,slow=4.3,SNR=2.1						
YKA				sP	**sP**	**15 03 30.0**	**+1.9**
	comp=E,0.1nm,0.5s,baz=141,slow=4.2,SNR=2.3						
MKAR	**Makanchi Array**	**145.94**	**36**	PKP	**PKPdf**	**15 09 17.1**	**-1.2**
	comp=E,0.3nm,0.7s,baz=333,slow=1.4,SNR=4.9						
MKAR				pPKP	**pPKPdf**	**15 09 49.8**	**+0.7**
	comp=E,0.5nm,0.7s,baz=347,slow=5.0,SNR=3.9						

IDC 24 14:52:03.3±1.3, 11.97N×85.72W, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/35, mbtmp3.2/3, Error ellipse: s-maj=126.5km s-min=19.5km az=64.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.83**	**156**	Pn	Pn	14 52 35.6	-0.4
	15nm,0.3s,baz=313,slow=15,SNR=50						
JTS				Sn	Sg	14 53 02.2	0.0
	40nm,0.3s,baz=48,slow=22,SNR=12						
TXAR	**Lajitas Array**	**24.04**	**319**	P	P	14 57 20.1	-0.2
	0.8nm,0.7s,baz=131,slow=9.7,SNR=10						
YKA	**Yellowknife Ar**	**54.53**	**344**	P	P	15 01 33.3	+0.5
	0.2nm,0.9s,baz=137,slow=7.6,SNR=3.3						
ILAR	**Eielson Array**	**67.15**	**336**	P	P	15 02 58.3	-0.4
	0.2nm,0.6s,baz=125,slow=4.7,SNR=6.0						

*IDC **24** 14:52:16.4±1.1, 8.15S×129.39E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.7/30, mbtmp3.9/6, ML3.9/2, Error ellipse: s-maj=36.9km s-min=25.0km az=76.0*

ISC 24 14:52:21.2±0.8, 8.34S±0.06×129.56E±0.10, h35km, n17, σ2§28/16, mb3.9/4, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**4.74**	**161**	P	Pn	14 53 35.8	+5.6
	baz=4.6,SNR=11						
MTN				S	Sn	14 54 32.9	+9.0
	baz=4.6,SNR=5.0						
KDU	**Kakadu**	**5.18**	**147**	P	Pn	14 53 41.9	+5.6
	baz=5.1,SNR=11						
SOEI	**Soe**	**5.42**	**255**	P	**Pn**	**14 53 42.2**	**+2.5**
	baz=5.4,SNR=3.2						
FAKI	**Fak Fak**	**6.01**	**27**	P	Pn	14 53 52.6	+4.9
	baz=6.2,SNR=20						
FAKI				S	Sn	14 55 03.4	+8.2
	baz=6.2,SNR=3.0						
BATI	**Baumata**	**6.11**	**252**	Pn	**Pn**	**14 53 48.1**	**-1.0**
	1.7nm,0.3s,baz=93,slow=14,SNR=3.3						
BATI				Sn	Sn	14 54 51.4	-6.5
	2.1nm,0.3s,baz=108,slow=20,SNR=2.5						
KNRA	**Kununurra**	**7.34**	**186**	P	**Pn**	**14 54 06.5**	**+0.6**
	baz=7.2,SNR=25						
KNRA				S	**Sn**	**14 55 26.1**	**-1.9**
	baz=7.2,SNR=24						
SWI	**Sorong**	**7.61**	**13**	S	**Sn**	**14 55 33.1**	**-1.7**
	baz=7.8,SNR=3.5						
WRA	**Warramunga Arr**	**12.43**	**159**	Pn	**Pn**	**14 55 16.0**	**+0.2**
	0.8nm,0.3s,baz=342,slow=13,SNR=24						
WRA				Sn	**Sn**	**14 57 29.6**	**-3.5**
	2.3nm,0.3s,baz=333,slow=23,SNR=11						
COEN	**Coen**	**14.47**	**114**	P	**P**	**14 55 49.3**	**-0.6**
	baz=14,SNR=5.3						
QIS	**Mount Isa**	**15.55**	**142**	P	**Pn**	**14 55 59.8**	**+1.9**
	baz=16,SNR=6.6						
QIS				S	**Sn**	**14 58 49.4**	**+0.2**
	baz=16,SNR=5.2						
WRKA	**Warakurna**	**16.65**	**184**	P	**Pn**	**14 56 09.8**	**-2.2**
	baz=17,SNR=6.4						
WRKA				S	Sn	14 59 05.4	-11
	baz=17,SNR=3.6						
QLP	**Quilpie**	**22.87**	**144**	P	P	14 57 29.2	+7.4
	baz=23,SNR=4.0						
STKA	**Stephens Creek**	**25.96**	**156**	P	**P**	**14 57 53.3**	**+2.8**
	2.2nm,0.7s,baz=321,slow=11,SNR=5.4						
STKA	**Stephens Creek**	**25.96**	**156**	P	**P**	**14 57 55.0**	**+4.5**
	baz=26,SNR=4.2						
PETK	**Petropavlovsk-**	**65.72**	**18**	P	**P**	**15 03 02.9**	**+0.7**
	1.9nm,0.8s,baz=213,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**69.11**	**327**	P	**P**	**15 03 21.8**	**-2.0**
	0.3nm,0.8s,baz=138,slow=5.4,SNR=3.6						
ILAR	**Eielson Array**	**94.73**	**25**	P	**P**	**15 05 39.2**	**+0.6**
	0.3nm,0.6s,baz=264,slow=5.0,SNR=5.2						

IDC 24 15:17:31.7±1.8, 6.34S×129.72E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.5/25, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=143.9km s-min=28.1km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.25**	**162**	Pn	Pn	15 20 54.4	-0.6
	0.4nm,0.3s,baz=345,slow=14,SNR=30						
WRA				Sn	Sn	15 23 28.9	-5.0
	0.6nm,0.3s,baz=357,slow=24,SNR=9.3						
STKA	**Stephens Creek**	**27.73**	**158**	P	P	15 23 22.1	+0.1
	1.7nm,0.9s,baz=333,slow=9.0,SNR=2.8						
MKAR	**Makanchi Array**	**67.53**	**327**	P	P	15 28 29.9	0.0
	0.2nm,0.5s,baz=129,slow=7.6,SNR=5.8						

IDC 24 15:39:01.6±2.1, 31.44N×40.74W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/30, mbtmp3.6/5, MS3.4/2, Ms1 3.4/2, ms1mx2.8/27, Error ellipse: s-maj=76.3km s-min=26.9km az=22.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**29.83**	**329**	LR	LR	15 56 11.2	
	comp=Z,72nm,19.4s,baz=96,slow=34						
TORD	**Torodi Ar. Bea**	**42.96**	**105**	P	P	15 47 02.6	-0.1
	1.4nm,1.1s,baz=297,slow=6.3,SNR=4.4						
H10N2	**ASCENSION HYDR**	**46.43**	**143**	T	T	16 37 10.0	
	baz=328						
H10N3	**ASCENSION HYDR**	**46.43**	**143**	T	T	16 37 10.6	
	baz=328						
H10N1	**ASCENSION HYDR**	**46.45**	**143**	T	T	16 37 09.4	
	baz=328						
H10S1	**ASCENSION HYDR**	**47.29**	**144**	T	T	16 38 16.3	
	baz=330						
H10S3	**ASCENSION HYDR**	**47.30**	**144**	T	T	16 38 18.0	
	baz=330						
H10S2	**ASCENSION HYDR**	**47.31**	**144**	T	T	16 38 16.8	
	baz=330						
AKASG	**Malin Array Be**	**54.07**	**48**	P	P	15 48 27.7	-0.2
	0.6nm,0.7s,baz=278,slow=6.9,SNR=3.6						
PDAR	**Pinedale Array**	**54.64**	**303**	P	P	15 48 32.0	-0.5
	1.3nm,0.8s,baz=80,slow=7.4,SNR=11						
PDAR				LR	LR	16 09 52.6	
	comp=Z,34nm,20.3s,baz=213,slow=34						
YKA	**Yellowknife Ar**	**55.25**	**327**	P	P	15 48 36.3	+0.1
	0.3nm,0.9s,baz=69,slow=7.3,SNR=4.1						
ILAR	**Eielson Array**	**68.46**	**334**	P	P	15 50 05.5	+0.3
	0.4nm,0.9s,baz=54,slow=4.6,SNR=5.6						

IDC 24 16:14:51.5±1.3, 1.71S×121.56E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.5/34, mbtmp3.8/5, ML3.7/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/32, Error ellipse: s-maj=111.5km s-min=19.5km az=57.0
DJA 24 16:14:55.5±0.3, 2°S±2°×12°1E±°, h10km, M4.1/8, MLv4.1/8
ISC 24 16:14:52.1±0.7, 2.01S±0.05×121.02E±0.05, h10km, n16, σ1.54/20, mb3.7/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.26	30	P	Pg	16 15 22.7	+6.4
APSI				S	Sg	16 15 43.3	+11
TTSI	Tana Toraja	1.58	229	P	Pn	16 15 18.5	-1.7
TTSI				S	Sn	16 15 39.9	-0.9
LUWI	Luwuk	1.99	61	P	Pg	16 15 35.1	+4.7
LUWI				S	Sg	16 16 02.2	+5.9
SPSI	Sidrap Palu	2.31	213	P	Pn	16 15 29.4	-0.9
SPSI				S	Sn	16 15 57.3	-1.5
BNSI	Bone	2.54	201	P	Pn	16 15 32.1	-1.4
BNSI				S	Sn	16 16 02.4	-2.2
MPSI	Mapaga	2.59	334	P	Pg	16 15 41.5	-0.3
MRSI	Marisa	2.63	20	P	Pb	16 15 40.5	+1.1
MRSI				S	Sg	16 16 15.4	-1.4
BKSI	Bulukumba	3.41	195	P	Pn	16 15 45.9	+0.5
BKSI				S	Sn	16 16 25.2	-0.7
KMSI	Cibinong	3.92	49	P	Pb	16 16 00.6	-0.7
KMSI				S	Sb	16 16 46.3	-2.5
SANI	Sanana	4.96	91	P	Pn	16 16 06.8	+0.1
SANI				S	Sn	16 17 02.9	-1.3
BATI	Baumata	8.55	162	Pn	Pn	16 16 57.6	+1.4
	0.8nm,0.3s,baz=282,slow=14,SNR=3.9						
BATI				LR	LR	16 21 00.8	
	comp=Z,188nm,18.5s,baz=294,slow=42						
WRA	Warramunga Arr	22.07	145	P	P	16 19 45.7	-1.7
	1.8nm,0.8s,baz=325,slow=11,SNR=5.4						
PSI	Prapat	22.60	282	LR	LR	16 29 39.0	
	comp=Z,87nm,18.4s,baz=174,slow=38						
CMAR	Chiang Mai Arr	29.76	314	P	P	16 21 01.1	+2.0
	0.1nm,0.3s,baz=142,slow=7.8,SNR=3.7						
STKA	Stephens Creek	35.48	149	P	P	16 21 51.1	+2.1
	6.2nm,0.7s,baz=325,slow=12,SNR=14						
MKAR	Makanchi Array	59.31	330	P	P	16 24 55.5	+1.3
	0.4nm,0.6s,baz=125,slow=6.6,SNR=6.0						

MEX 24 16:16:21.4±0.9, 16.85N×100.41W, h8km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.24	36	iP	Pg	16 16 26.0	-0.2
CAIG				iS	Sg	16 16 29.3	-0.1
ACX	Acapulco	0.53	88	iP	Pg	16 16 32.1	+0.4
ACX				iS	Sg	16 16 39.4	+0.6
ZIIG	Zihuatanejo	1.25	307	eP	Pn	16 16 42.0	-3.3
ZIIG				eS	Sb	16 16 57.6	-4.1
ARIG	Puente Sto Nin	1.42	3	iP	Pn	16 16 43.5	-4.2
ARIG				iS	Sb	16 17 00.8	-5.8
PLIG	Platanillo	1.76	29	eP	Pn	16 16 48.5	-3.9
PLIG				eS	Sn	16 17 11.0	-4.2
TLIG	Tlapa	1.90	68	eP	Pn	16 16 50.5	-3.9
TLIG				eS	Sn	16 17 14.3	-4.4
PNIG	Pinotepa	2.24	102	eP	Pn	16 16 55.3	-3.6
PNIG				eS	Sn	16 17 23.3	-3.5

IDC 24 16:35:40.6±0.8, 55.41S×28.04W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/18, mbtmp4.0/6, ML4.1/1, MS3.5/3, Ms1 3.4/3, ms1mx3.0/22, Error ellipse: s-maj=28.5km s-min=20.8km az=88.0
NEIC 24 16:35:43.9±5.5, 55.44S×28.13W, h22km±38km, mb4.1/3, Error ellipse: s-maj=22.7km s-min=10.5km az=56.0
ISCJB 24 16:35:44.9±0.9, 55.5S±0.1×28.3W±0.2, h45km, mb4.0/6, MS3.5/3, Error ellipse: s-maj=20.7km s-min=13.2km az=143.7
ISC 24 16:35:46.2±0.7, 55.5S±0.1×28.47W±0.10, h45km, n26, σ2.00/17, mb4.2/6, MS3.5/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.79	282	eP	Pn	16 36 57.1	+1.3
HOPE				S	Sn	16 37 47.5	-2.5
SNAA	Sanae	19.50	156	Pn	Pn	16 40 08.8	-2.0
	0.6nm,0.3s,baz=307,slow=11,SNR=32						
SNAA	Sanae	19.50	156	eP	Pn	16 40 09.3	-1.4
	6.4nm,0.6s						
PMSA	Palmer Station	19.70	228	P	Pn	16 40 12.9	-0.1
	35nm,0.3s,baz=18,slow=16,SNR=45						
PMSA	Palmer Station	19.70	228	eP	Pn	16 40 12.9	-0.1
	100nm,0.3s						
QSPA	South Pole Qui	34.71	180	P	P	16 42 33.7	+2.2
	2.2nm,0.7s,baz=192,slow=2.7,SNR=17						
QSPA	South Pole Qui	34.71	180	eP	P	16 42 33.4	+2.0
	2.2nm,0.6s						
CPUP	Villa Florida	35.93	312	LR	LR	16 59 15.4	
	comp=Z,31nm,18.2s,baz=156,slow=39						
CFAA	Coronel Fontan	36.69	294	P	P	16 42 50.4	+1.7
	0.2nm,0.6s,baz=139,slow=11,SNR=3.7						
VNDA	Vanda	47.05	183	P	P	16 44 14.2	+1.8
	1.5nm,0.6s,baz=202,slow=6.3,SNR=5.5						
H10S2	ASCENSION HYDR	47.73	19	T	T	17 35 44.0	
	baz=190,slow=75,SNR=6.7						
H10S3	ASCENSION HYDR	47.74	19	T	T	17 35 40.9	
	baz=190,slow=75,SNR=6.4						
H10S1	ASCENSION HYDR	47.75	19	T	T	17 35 42.7	
	baz=190,slow=75,SNR=6.3						
LPAZ	La Paz	49.49	306	P	P	16 44 34.6	+1.9
	2.0nm,0.6s,baz=140,slow=5.9,SNR=5.4						
LPAZ	La Paz	49.49	306	eP	P	16 44 34.9	+2.1
SAML	Samuel	53.93	316	eP	P	16 45 06.1	+1.0
	0.9nm,0.6s						
ROSC	El Rosal	71.02	311	LR	LR	17 22 04.1	
	comp=Z,22nm,18.0s,baz=27,slow=39						
TORD	Torodi Ar. Bea	72.98	31	P	P	16 47 10.2	-0.6
	2.1nm,0.6s,baz=202,slow=5.8,SNR=16						
RAO	Raoul Island	91.59	206	LR	LR	17 25 41.7	
	comp=Z,47nm,19.4s,baz=115,slow=33						
FINES	FINESS Array B	124.27	28	PKP	PKPdf	16 54 37.9	-0.5
	1.2nm,0.8s,baz=159,slow=1.2,SNR=3.5						
YKA	Yellowknife Ar	135.31	319	PKP	PKPdf	16 54 59.2	-0.1
	0.4nm,0.7s,baz=129,slow=2.2,SNR=6.6						
MKAR	Makanchi Array	137.41	72	PKP	PKPdf	16 55 06.0	+2.2
	0.2nm,0.6s,baz=186,slow=1.6,SNR=2.4						
ILAR	Eielson Array	149.24	313	PKPbc	PKPab	16 55 29.8	-3.2
	2.0nm,0.7s,baz=128,slow=2.3,SNR=31						
MCK	McKinley	149.89	310	ePKPbc	PKPab	16 55 31.4	-4.3
SONM	Songino Array	151.42	87	PKPbc	PKPbc	16 55 34.8	+0.7
	0.8nm,0.5s,baz=225,slow=3.6,SNR=13						
ULN	Ulaanbaatar	151.81	87	ePKPdf	PKPdf	16 55 28.6	0.0

TIF 24 16:53:10.9, 42.20N×45.52E, h14km
CSEM 24 16:53:11.4±0.2, 42.18N×45.56E, h2km, mb4.1, Error ellipse: s-maj=4.4km s-min=4.0km az=127.0
MOS 24 16:53:12.9±1.0, 42.17N×45.52E, h15km, mb4.1/1, Error ellipse: s-maj=11.3km s-min=6.5km az=127.7
DDA 24 16:53:19.9, 41.87N×45.03E, h11km, MD3.3
ISK 24 16:53:19.2, 41.55N×45.06E, h2km, MD3.0
ISC 24 16:53:11.9±1.1, 42.17N±0.02×45.51E±0.02, h9km±9km, n64, σ1.23/114, 5C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUS	Dusheti	0.61	262	P	Pg	16 53 24.0	+0.2
DUS	Dusheti	0.61	262	P	Pg	16 53 24.0	+0.2
DUS				S	Sb	16 53 33.8	+0.3
SEAG	Tbilisi Sea	0.67	233	P	Pn	16 53 34.8	+7.2
TBLG	Delisi	0.73	233	ePG	Pg	16 53 25.9	-0.1
TBLG				eSG	Sg	16 53 31.8	-3.7
TBLG	Delisi	0.73	233	P	Pg	16 53 26.1	+0.1
TBLG	Delisi	0.73	233	P	Pg	16 53 26.1	+0.1
TBLG				S	Sb	16 53 36.7	-0.1
DGRG	David-gareji	0.73	188	P	Pb	16 53 27.5	+0.7
DGRG	David-gareji	0.73	188	P	Pb	16 53 27.5	+0.7
DGRG				S	Sn	16 53 39.0	-0.7
GUDG	Gudauri	0.82	291	P	Pg	16 53 26.3	-1.5
GUDG	Gudauri	0.82	291	P	Pg	16 53 26.3	-1.5
GUDG				S	Sg	16 53 38.9	+0.3
VLKR	Vladikavkaz	1.07	325	ePG	Pb	16 53 32.6	0.0
VLKR				eS	Sn	16 53 47.6	-0.5
VLKR	Vladikavkaz	1.07	325	ePg	Pb	16 53 32.6	0.0
VLKR				eSg	Sn	16 53 47.6	-0.5
UNCR	Uncukul	1.09	60	ePG	Pb	16 53 31.2	-1.8
UNCR				iS	Sg	16 53 46.0	-1.1
UNCR				pmax	pmax		
	comp=Z,67nm,0.2s						
UNCR	Uncukul	1.09	60	ePg	Pb	16 53 31.2	-1.8
	comp=Z,67nm,0.2s						
UNCR				iSg	Sg	16 53 46.0	-1.1
LACR	Lac	1.11	306	⇑iPG	Pb	16 53 31.9	-1.5
LACR				iS	Sb	16 53 47.0	-1.0
LACR	Lac	1.11	306	iPg	Pb	16 53 31.9	-1.5
LACR				iSg	Sb	16 53 47.0	-1.0
KMKR	Kumukh	1.18	92	ePG	Pg	16 53 35.5	+0.9
KMKR				eS	Sn	16 53 51.0	0.0
KMKR				pmax	pmax		
	comp=Z,35nm,0.2s						
KRNR	Karanay	1.22	57	ePG	Pn	16 53 33.5	-1.7
KRNR				eS	Sb	16 53 50.0	-1.1
KRNR				pmax	pmax		
	comp=Z,34nm,0.2s						
KRNR	Karanay	1.22	57	ePg	Pn	16 53 33.5	-1.7
	comp=Z,34nm,0.2s						
KRNR				eSg	Sb	16 53 50.0	-1.1
DBC	Dubki	1.29	49	⇑iPG	Pn	16 53 35.0	-1.2
DBC				iS	Sb	16 53 52.0	-1.1
DBC	Dubki	1.29	49	iPg	Pn	16 53 35.0	-1.2
DBC				iSg	Sb	16 53 52.0	-1.1
ZEI	Tsey	1.34	298	⇑iPG	Pn	16 53 36.0	-1.0
ZEI				iS	Sb	16 53 53.7	-1.0
ZEI	Tsey	1.34	298	iPg	Pn	16 53 36.0	-1.0
ZEI				iSg	Sb	16 53 53.7	-1.0
BUJR	Buynaksk	1.35	61	ePG	Pg	16 53 40.5	+2.7
BUJR				S	Sg	16 54 00.0	+4.7
BUJR				pmax	pmax		
	comp=Z,54nm,0.2s						
ARNR	Ardon	1.35	318	⇑iPG	Pb	16 53 37.9	+0.4
ARNR				eS	Sg	16 53 56.5	+1.0
BTKR	Batakoyurt	1.40	329	⇓iPG	Pg	16 53 38.9	+0.2
BTKR				eS	Sg	16 53 58.3	+1.4
BTKR	Batakoyurt	1.40	329	iPg	Pg	16 53 38.9	+0.2
BTKR				eSg	Sg	16 53 58.3	+1.4
KORR	Kora	1.40	311	⇑iPG	Pn	16 53 38.2	+0.5
KORR				eS	Sg	16 53 57.2	+0.1
KORR	Kora	1.40	311	iPg	Pn	16 53 38.2	+0.5
KORR				eSg	Sg	16 53 57.2	+0.1
ONI	Oni	1.58	286	P	Pn	16 53 40.4	+0.2
ONI	Oni	1.58	286	P	Pn	16 53 40.4	+0.2
ONI				S	Sb	16 54 02.2	+0.7
DIGR	Digorskoe uzhe	1.60	298	⇓iPG	Pn	16 53 40.8	+0.2
DIGR				eS	Sn	16 54 01.6	+0.1
DIGR	Digorskoe uzhe	1.60	298	iPg	Pn	16 53 40.8	+0.2
STDR	Stavd-Durt	1.60	319	ePG	Pb	16 53 41.6	-0.1
STDR				eS	Sg	16 54 03.5	0.0
STDR	Stavd-Durt	1.60	319	ePg	Pb	16 53 41.6	-0.1
STDR				eSg	Sg	16 54 03.5	0.0
LSNR	Lesken	1.66	312	⇓iPN	Pb	16 53 42.4	-0.3
LSNR				eS	Sb	16 54 04.4	+0.6
LSNR	Lesken	1.66	312	iPn	Pb	16 53 42.4	-0.3
LSNR				eSg	Sb	16 54 04.4	+0.6
AKH	Akhalkalaki	1.69	244	ePN	Pn	16 53 41.9	+0.1
AKH				eSN	Sn	16 54 00.8	-2.8
AKH	Akhalkalaki	1.69	244	P	Pn	16 53 42.1	+0.3
AKH	Akhalkalaki	1.69	244	P	Pn	16 53 42.1	+0.3
AKH				S	Sn	16 54 04.3	+0.6
PRTR	Priterechnaya	1.82	331	ePN	Pb	16 53 45.6	+0.2
PRTR				eS	Sg	16 54 10.4	0.0
PRTR	Priterechnaya	1.82	331	ePn	Pb	16 53 45.6	+0.2
PRTR				eSg	Sg	16 54 10.4	0.0
EAK	Akyaka	2.06	225	iP	Pn	16 53 47.9	+1.0
EAK				iS	Sn	16 54 13.4	+0.6
EAK	Akyaka	2.06	225	iP	Pn	16 53 47.9	+1.0
EAK				iS	Sn	16 54 13.4	+0.6
EAK				iS	Sb	16 54 16.1	+0.6
GNI	Garni	2.10	196	ePN	Pn	16 53 47.2	-0.3
GNI	Garni	2.10	196	ePn	Pn	16 53 47.2	-0.3
KUBR	Kubataba	2.24	317	iPN	Pb	16 53 51.7	-0.9
KUBR				eS	Sb	16 54 20.3	-0.2
KUBR	Kubataba	2.24	317	iPn	Pb	16 53 51.7	-0.9
KUBR				eSn	Sb	16 54 20.3	-0.2
NEY	Neytrino	2.32	299	ePN	Pb	16 53 52.8	-1.2
NEY				eS	Sb	16 54 22.2	-0.7
NEY	Neytrino	2.32	299	ePn	Pb	16 53 52.8	-1.2
NEY				eSn	Sb	16 54 22.2	-0.7
DIGO	Kars	2.38	223	iP	Pn	16 53 53.1	+1.7
DIGO				iS	Sn	16 54 21.0	+0.1
DIGO	Kars	2.38	223	iP	Pn	16 53 53.1	+1.7
DIGO				iS	Sn	16 54 21.0	+0.1
PYA	Pyatigorsk	2.59	317	ePN	Pb	16 53 56.5	-2.0
PYA				eS	Sb	16 54 31.2	+0.8
PYA	Pyatigorsk	2.59	317	ePn	Pb	16 53 56.5	-2.0
KIV	Kislovodsk	2.73	312	ePN	Pn	16 53 57.5	+1.5
KIV				eS	Sb	16 54 33.2	-1.4
KIV	Kislovodsk	2.73	312	ePn	Pn	16 53 57.5	+1.5
KIV				eSn	Sb	16 54 33.2	-1.4
ARTV	Artvin	2.86	251	iP	Pn	16 53 59.4	+1.5
ARTV				iS	Sb	16 54 38.8	+0.3
ARTV	Artvin	2.86	251	iP	Pn	16 53 59.4	+1.5
ARTV				iS	Sb	16 54 38.8	+0.3
DAGI	Agillar	2.91	249	iP	Pn	16 53 59.6	+1.1
DAGI				iS	Sb	16 54 41.0	+1.2
DBAD	Bademkaya	3.09	249	iP	Pn	16 54 02.5	+1.6
DBAD	Bademkaya	3.09	249	iP	Pn	16 54 02.5	+1.6
DBAD				iS	Sg	16 54 49.3	-1.8
AGRB	Hanur-Agry	3.22	217	ePN	Pn	16 54 02.7	-0.2
AGRB	Hanur-Agry	3.22	217	ePn	Pn	16 54 02.7	-0.2
GOF	Gofitskoye	3.40	329	ePN	Pg	16 54 19.7	+2.7
GOF				eS	Sg	16 55 04.5	+3.5
GOF				pmax	pmax		
	comp=Z,14nm,1.0s						
GOF				smax	smax		
	comp=E,30nm,1.0s						
GOF				smax	smax		
	comp=N,30nm,0.8s						

IDC 24 17:02:37.6±1.3, 3.79N×126.76E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/34, mbtmp3.7/4, Error ellipse: s-maj=127.0km s-min=21.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.74	163	P	P	17 08 00.8	-0.2
	1.2nm,0.5s,baz=344,slow=10,SNR=24						
STKA	Stephens Creek	38.18	159	P	P	17 09 59.3	+0.2
	2.2nm,0.7s,baz=329,slow=9.2,SNR=4.8						
SONM	Songino Array	47.25	341	P	P	17 11 13.3	+0.6
	0.1nm,0.4s,baz=152,slow=9.4,SNR=3.0						
MKAR	Makanchi Array	57.52	325	P	P	17 12 28.2	-0.7
	0.3nm,0.5s,baz=120,slow=8.1,SNR=10						

SJA 24 17:11:00.7±0.3, 26.88S×71.67W, h11km±28km, MD4.2, ML4.2
ISCJB 24 17:11:04.3±0.7, 26.89S±0.04×71.35W±0.07, h15km, mb4.2/3, MS3.2/1, Error ellipse: s-maj=9.1km s-min=5.2km az=165.6
IDC 24 17:11:04.7±1.8, 26.82S×71.14W, h0km, mb4.4/3, mb1 4.0/6, mb1mx3.7/33, mbtmp4.0/6, ML3.5/3, MS2.8/4, Ms1 2.8/4, ms1mx2.7/20, Error ellipse: s-maj=47.6km s-min=28.8km az=74.0
NEIC 24 17:11:07.6±0.7, 27.14S×71.23W, h23km, ML4.2(GUC), After GUC.
GUC 24 17:11:07.6, 27.14S×71.23W, h23km±7km, ML4.2
ISC 24 17:11:04.9±0.9, 26.91S±0.05×71.26W±0.08, h15km, n37, σ1.97/31, mb4.6/3, 2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	Caldera	0.42	112	eP	Pn	17 11 15.5	-0.9
CDCH				eS	Sb	17 11 21.2	+1.0
CDCH				AML	AML	17 11 21.6	
	comp=N,5μm,0.2s						
CDCH	Caldera	0.42	112	eP	Pn	17 11 15.5	-0.9
CDCH				eS	Sb	17 11 21.2	+1.0
CPCH	Copiapo	0.92	119	⇓eP	Pg	17 11 21.8	-1.0
CPCH				iS	Sb	17 11 33.7	-1.0
CPCH				AML	AML	17 11 37.0	
	comp=E,41μm,0.1s						
CPCH	Copiapo	0.92	119	⇓eP	Pg	17 11 21.8	-1.0
CPCH				iS	Sb	17 11 33.7	-1.0
VACH	Vallenar	1.72	165	eP	Pn	17 11 33.3	-1.0
VACH				iS	Sn	17 11 52.6	-3.4
VACH				AML	AML	17 11 57.8	
	comp=N,18μm,0.4s						
VACH	Vallenar	1.72	165	eP	Pn	17 11 33.3	-1.0
VACH				iS	Sn	17 11 52.6	-3.4
ANCH	Antofagasta	3.31	14	eP	Pn	17 11 55.3	-0.8
ANCH				eS	Sg	17 12 48.1	-3.1
ANCH	Antofagasta	3.31	14	P	Pn	17 11 55.3	-0.8
ANCH				S	Sg	17 12 48.1	-3.1
CEN1	Los Morros	3.63	16	eP	Pn	17 11 59.5	-1.3
CEN1	Los Morros	3.63	16	P	Pn	17 11 59.5	-1.3
AMOG	MOGNA	4.69	150	eP	Pn	17 12 18.3	+3.0
AMOG				iS	Sb	17 13 15.6	-7.6
LVC	Limon Verde	4.78	27	eP	Pn	17 12 20.0	+3.2
AVFE	Valle Fertil	5.01	139	eP4	Pn	17 12 21.7	+2.1
AVFE				AML	AML	17 13 28.6	
	comp=Z,99nm,0.5s						
CYA	Choya	5.07	109	eP	Pn	17 12 25.3	+4.8
CYA				AML	AML	17 13 33.5	
	comp=Z,76nm,0.7s						
CFAA	Coronel Fontan	5.37	151	Pn	Pn	17 12 27.0	+2.4
	comp=Z,0.9nm,0.3s,baz=334,slow=10,SNR=29						
CFAA				Sn	Sn	17 13 30.9	+4.7
	comp=Z,1.0nm,0.3s,baz=102,slow=19,SNR=5.7						
CFAA				LR	LR	17 14 24.6	
	comp=Z,12nm,19.1s,baz=294,slow=37						
AUSP	Uspallata	5.54	163	eP	Pn	17 12 29.4	+2.2
AUSP				eP	Pn	17 12 29.4	+2.2
ASAL	Salagasta	6.04	160	eP	Pn	17 12 35.9	+2.1
ARCO	CERRO ARCO	6.25	162	eP	Pn	17 12 38.7	+1.9
ARCO				AML	AML	17 14 08.6	
	comp=Z,91nm,0.5s						
FCH	Farellones	6.45	173	eP	Pn	17 12 40.1	+0.4
FCH				eS	Sn	17 13 50.4	-2.8
FCH	Farellones	6.45	173	eP	Pn	17 12 40.1	+0.4
AAGR	Agrelo	6.50	162	eP	Pn	17 12 42.2	+1.9
H03N1	Juan Fernandez	9.28	224	T	T	17 22 49.1	
	baz=50,slow=74,SNR=1511						
H03N2	Juan Fernandez	9.30	224	T	T	17 22 49.1	
	baz=50,slow=74,SNR=1643						
H03N3	Juan Fernandez	9.30	224	T	T	17 22 48.8	
	baz=50,slow=74,SNR=523						
LPAZ	La Paz	10.96	16	Pn	Pn	17 13 43.3	+1.4
	comp=Z,0.1nm,0.3s,baz=229,slow=11,SNR=2.8						
LPAZ				LR	LR	17 17 52.2	
	comp=Z,37nm,18.1s,baz=146,slow=38						
CPUP	Villa Florida	12.47	90	Pn	Pn	17 14 02.0	0.0
	comp=Z,0.1nm,0.3s,baz=252,slow=19,SNR=1.7						
CPUP				LR	LR	17 19 45.7	
	comp=Z,62nm,18.7s,baz=190,slow=42						
SAML	Samuel	19.43	25	eP	Pn	17 15 35.0	+2.8
BDFB	Brasilia	24.34	67	P	P	17 16 22.8	+0.3
	comp=Z,1.1nm,0.4s,baz=233,slow=10,SNR=3.4						
BDFB				LR	LR	17 27 11.4	
	comp=Z,94nm,21.6s,baz=239,slow=40						
DBIC	Dimbokro	72.35	73	P	P	17 22 31.8	+1.1
	comp=Z,5.0nm,0.9s,baz=252,slow=6.4,SNR=3.2						
TOA0	Torodi Ar. Sit	81.18	70	eP	P	17 23 22.1	+1.5
TORD	Torodi Ar. Bea	81.18	70	P	P	17 23 22.5	+2.0
	comp=Z,5.0nm,0.7s,baz=250,slow=5.0,SNR=34						
H11S2	WAKE ISLAND Hy	126.26	274	T	T	19 49 33.5	
	baz=112						
H11S1	WAKE ISLAND Hy	126.27	274	T	T	19 49 32.9	
	baz=112						
H11S3	WAKE ISLAND Hy	126.28	274	T	T	19 49 34.7	
	baz=112						
ZAA0	Zalesovo Array	147.74	27	ePKPdf	PKPab	17 30 51.6	+0.6
ZALV	Zalesovo Beam	147.74	27	PKPbc	PKPab	17 30 49.2	-1.9
	comp=Z,2.5nm,0.6s,baz=308,slow=3.6,SNR=14						
MKAR	Makanchi Array	151.21	39	PKPbc	PKPbc	17 30 59.7	+2.0
	comp=Z,2.6nm,0.8s,baz=313,slow=2.1,SNR=28						

IDC 24 17:17:14.8±2.4, 25.31S×179.87E, h484km±25km, mb3.7/10, mb1 4.0/12, mb1mx3.8/20, mbtmp4.6/12, Error ellipse: s-maj=26.1km s-min=18.6km az=167.0
ISCJB 24 17:17:15.7±0.5, 25.32S±0.08×179.69E±0.08, h493km, mb4.0/10, Error ellipse: s-maj=11.4km s-min=8.0km az=145.8
ISC 24 17:17:15.9±0.6, 25.40S±0.10×179.78E±0.09, h493km, n38, σ0.98/38, mb4.0/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	11.42	59	S	S	17 21 54.8	+0.8
	baz=11,SNR=4.5						
DZM	Mont Dzumac	12.65	282	P	P	17 20 01.9	+0.4
	0.7nm,0.3s,baz=82,slow=18,SNR=13						
URZ	Urewera	13.02	189	P	P	17 20 04.3	-0.7
	1.2nm,0.3s,baz=256,slow=4.4,SNR=10						
URZ				S	S	17 22 24.6	0.0
	1.3nm,0.3s,baz=248,slow=19,SNR=9.2						
ARMA	Armidale	25.34	252	P	P	17 22 05.4	+2.5
	baz=25,SNR=8.6						
EIDS	Eidsvold	25.91	264	P	P	17 22 09.1	+1.2
	baz=26,SNR=7.6						
RMQ	Roma	27.88	261	P	P	17 22 27.5	+2.3
	baz=28,SNR=24						
CMSA	Cobar Meteorol	30.50	251	P	P	17 22 49.2	+1.3
	baz=30,SNR=11						
CTA	Charters Tower	31.31	273	P	P	17 22 55.3	+0.1
	42nm,0.6s,baz=93,slow=9.1,SNR=76						
QLP	Quilpie	31.91	260	P	P	17 23 01.0	+0.8
	baz=32,SNR=5.9						
STKA	Stephens Creek	34.00	250	P	P	17 23 18.6	+0.8
	3.9nm,0.7s,baz=103,slow=8.6,SNR=14						
STKA	Stephens Creek	34.00	250	P	P	17 23 18.9	+1.0
	baz=34,SNR=6.9						
PMG	Port Moresby	34.82	291	P	P	17 23 24.8	-0.1
	22nm,0.7s,baz=135,slow=8.6,SNR=22						
PMG	Port Moresby	34.82	291	P	P	17 23 24.8	-0.1
	baz=35,SNR=5.5						
COEN	Coen	36.18	281	P	P	17 23 37.1	+0.9
	baz=36,SNR=17						
HTT	Hallett	36.29	248	P	P	17 23 38.0	+1.0
	baz=36,SNR=5.7						
QIS	Mount Isa	37.20	269	P	P	17 23 45.0	+0.4
	baz=37,SNR=5.5						
BBOO	Buckleboo	38.69	249	P	P	17 23 56.7	0.0
	baz=39,SNR=5.8						
WRA	Warramunga Arr	42.12	268	P	P	17 24 24.0	-0.4
	21nm,0.9s,baz=99,slow=6.6,SNR=252						
WRA				ScP	ScP	17 29 12.2	+1.1
	1.8nm,1.0s,baz=98,slow=4.5,SNR=4.8						
WRA				S	S	17 30 06.3	-1.7
	1.2nm,0.8s,baz=100,slow=14,SNR=6.2						
KDU	Kakadu	46.24	277	P	P	17 24 55.6	-0.7
	baz=46,SNR=6.5						
WRKA	Warakurna	46.33	259	P	P	17 24 56.8	-0.2
	baz=46,SNR=29						
KNRA	Kununurra	48.50	271	P	P	17 25 13.5	+0.1
	baz=48,SNR=11						
SWI	Sorong	52.74	290	P	P	17 25 44.2	-0.3
	baz=53,SNR=5.5						
MJAR	Matsushiro Arr	73.02	326	P	P	17 27 53.3	-1.7
	2.6nm,0.9s,baz=161,slow=6.2,SNR=6.7						
KSRS	Korea Array	79.27	320	P	P	17 28 29.5	0.0
	1.5nm,0.7s,baz=145,slow=4.7,SNR=5.1						
NVAR	Mina Array Bea	85.97	44	P	P	17 29 03.1	-0.5
	1.3nm,0.7s,baz=222,slow=9.4,SNR=11						
CMAR	Chiang Mai Arr	89.86	290	P	P	17 29 23.0	+1.0
	1.6nm,0.9s,baz=133,slow=3.7,SNR=16						
CMAR				PP	PP	17 33 03.6	0.0
	0.3nm,0.3s,baz=127,slow=5.8,SNR=6.1						
TXAR	Lajitas Array	91.39	58	P	P	17 29 29.1	+0.1
	1.4nm,0.8s,baz=224,slow=7.0,SNR=13						
PDAR	Pinedale Array	93.91	44	P	P	17 29 40.1	-0.4
	0.3nm,0.6s,baz=197,slow=2.8,SNR=3.0						
MKAR	Makanchi Array	113.01	312	PKiKP	PKiKP	17 34 55.2	-1.2
	0.2nm,0.7s,baz=48,slow=2.1,SNR=3.0						
GEYT	Alibeck	129.53	299	SKPbc	SKPbc	17 38 06.3	+2.3
	1.9nm,0.8s,baz=276,slow=1.3,SNR=4.4						
ARCES	ARCESS Array B	133.31	348	SKPbc	SKPbc	17 38 17.5	+1.2
	2.6nm,0.9s,baz=349,slow=2.5,SNR=4.2						
FINES	FINESS Array B	139.79	341	SKPbc	SKPbc	17 38 35.4	-0.3
	2.3nm,0.8s,baz=90,slow=4.0,SNR=7.3						
NB2	NORSAR Subarra	143.53	351	PKP	PKPab	17 35 50.4	-1.4
	comp=Z,4.9nm,1.2s,baz=20,slow=4.6						
NOA	NORSAR Array B	143.53	351	PKP	PKPab	17 35 50.6	-1.1
	comp=Z,0.6nm,0.8s,baz=16,slow=4.9,SNR=3.9						
HFS	Hagfors	143.97	348	PKP	PKPbc	17 35 51.7	-1.6
	comp=Z,1.9nm,0.5s,baz=44,slow=3.6,SNR=14						
AKASG	Malin Array Be	146.11	326	PKPbc	PKPdf	17 35 58.8	+0.8
	comp=Z,0.5nm,0.3s,baz=44,slow=4.5,SNR=16						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMAI	Mount Meron Ar	148.10	292	PKPbc	PKPbc	17 36 05.7	-0.3
	baz=73,slow=5.0						
BRTR	Keskin Array B	148.30	305	PKPbc	PKPbc	17 36 05.6	-0.8
	comp=Z,0.8nm,0.7s,baz=131,slow=3.5,SNR=5.3						

*ISCJB **24** 17:21:20.3±0.4, 39°00N±0°06×15°2E±0°1, h300km, mb3.3/6, Error ellipse: s-maj=11.8km s-min=7.8km az=171.2*
*CSEM **24** 17:21:20.2, 38°90N×15°21E, h297km, ML3.1/9, After ROM*
*ROM **24** 17:21:20.2±0.6, 38°90N×15°21E, h297km±9km, Ml3.1/9, Error ellipse: s-maj=11.0km s-min=5.8km az=126.0*
*IDC **24** 17:21:24.7±6.7, 39°21N×14°78E, h330km±41km, mb3.0/7, mb1 2.9/10, mb1mx2.8/33, mbtmp3.6/10, Error ellipse: s-maj=80.9km s-min=28.1km az=19.0*
ISC 24 17:21:20.4±0.9, 38°94N±0°09×15°18E±0°10, h300km, n40, σ1§14/48, mb3.4/6, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEL	Celeste	0.88	140	Pg	Pn	17 22 00.1	-0.3
	612nm,2.5s						
CEL	Celeste	0.88	140	Pg	Pn	17 22 00.1	-0.3
	612nm,2.5s						
GRI	Girifalco	0.97	97	Pg	Pn	17 22 01.5	+0.8
GRI	Girifalco	0.97	97	Pg	Pn	17 22 01.5	+0.8
MMME	Mongiuffi-Meli	1.00	177	Pg	Pn	17 22 01.6	+0.6
	223nm,1.4s						
MMME	Mongiuffi-Meli	1.00	177	Pg	Pn	17 22 01.6	+0.6
	223nm,1.4s						
MTTG	Motta San Giov	1.02	157	Pg	Pn	17 22 01.3	+0.3
	130nm,1.0s						
MTTG	Motta San Giov	1.02	157	Pg	Pn	17 22 01.3	+0.3
	130nm,1.0s						
PLAC	Placanica	1.10	116	Pg	Pn	17 22 01.6	+0.2
PLAC				Sg	S	17 22 32.1	-1.8
	37nm,0.5s						
PLAC	Placanica	1.10	116	Pg	Pn	17 22 01.6	+0.2
PLAC				Sg	S	17 22 32.1	-1.8
	37nm,0.5s						
SOI	Samo	1.10	141	Pg	Pn	17 22 01.4	0.0
SOI				Sg	S	17 22 33.0	-1.0
	33nm,0.6s						
SOI	Samo	1.10	141	Pg	Pn	17 22 01.4	0.0
SOI				Sg	S	17 22 33.0	-1.0
	33nm,0.6s						
MPAZ	Palizzi	1.18	146	Pg	Pn	17 22 02.0	+0.2
MPAZ	Palizzi	1.18	146	Pg	Pn	17 22 02.0	+0.2
SERS	Sersale	1.18	85	Pg	Pn	17 22 02.2	+0.4
SERS				Sg	S	17 22 32.5	-2.2
	55nm,0.8s						
SERS	Sersale	1.18	85	Pg	Pn	17 22 02.2	+0.4
SERS				Sg	S	17 22 32.5	-2.2
	55nm,0.8s						
TIP	Timpagrande	1.25	79	Pg	Pn	17 22 02.6	+0.5
TIP				Sg	S	17 22 33.2	-2.1
	38nm,0.8s						
TIP	Timpagrande	1.25	79	Pg	Pn	17 22 02.6	+0.5
TIP				Sg	S	17 22 33.2	-2.1
	38nm,0.8s						
GIB	Gibilmanna	1.31	224	Pg	Pn	17 22 02.5	-0.1
	57nm,0.6s						
GIB	Gibilmanna	1.31	224	Pg	Pn	17 22 02.5	-0.1
	57nm,0.6s						
GALF	Gagliano Caste	1.32	202	Pg	Pn	17 22 04.0	+1.4
	65nm,0.7s						
GALF	Gagliano Caste	1.32	202	Pg	Pn	17 22 04.0	+1.4
	65nm,0.7s						
CSLB	Castelbuono	1.33	222	Pg	Pn	17 22 02.7	0.0
	30nm,0.5s						
CSLB	Castelbuono	1.33	222	Pg	Pn	17 22 02.7	0.0
	30nm,0.5s						
PIPA	Pietrapaola	1.38	66	Pg	Pn	17 22 03.5	+0.7
	121nm,0.2s						
PIPA	Pietrapaola	1.38	66	Pg	Pn	17 22 03.5	+0.7
	121nm,0.2s						
MCEL	Monticello	1.46	19	Pg	Pn	17 22 04.9	+1.5
MCEL	Monticello	1.46	19	Pg	Pn	17 22 04.9	+1.5
HVZN	Vizzini	1.80	192	Pg	Pn	17 22 06.6	+0.8
HVZN	Vizzini	1.80	192	Pg	Pn	17 22 06.6	+0.8
DAVOX	Davos/Dischmat	8.75	335	P	Pn	17 23 22.6	-0.5
	0.2nm,0.3s,baz=147,slow=17,SNR=2.6						
GERES	GERESS Array B	9.96	354	P	Pn	17 23 39.5	+1.5
	0.1nm,0.3s,baz=175,slow=13,SNR=5.1						
AKASG	Malin Array Be	15.38	36	P	Pn	17 24 42.8	-0.2
	0.7nm,0.3s,baz=228,slow=10,SNR=7.9						
EKA	Eskdalemuir Ar	20.50	329	P	P	17 25 34.4	-1.7
	0.3nm,0.3s,baz=140,slow=10,SNR=6.0						
HFS	Hagfors	21.24	358	P	P	17 25 41.8	-1.3
	2.2nm,0.9s,baz=179,slow=12,SNR=5.2						
NOA	NORSAR Array B	22.26	355	P	P	17 25 52.6	+0.2
	1.6nm,1.1s,baz=173,slow=7.6,SNR=2.3						
FINES	FINESS Array B	23.52	13	P	P	17 26 04.3	+0.5
	0.8nm,0.3s,baz=187,slow=11,SNR=13						
ARCES	ARCESS Array B	31.15	7	P	P	17 27 11.0	-0.4
	3.5nm,1.0s,baz=190,slow=9.1,SNR=5.6						
ZALV	Zalesovo Beam	48.30	48	P	P	17 29 33.7	+2.0
	0.3nm,0.3s,baz=280,slow=6.9,SNR=2.5						
MKAR	Makanchi Array	48.45	58	P	P	17 29 35.4	+2.3
	0.2nm,0.4s,baz=287,slow=7.2,SNR=5.4						

MEX 24 17:21:42.1±0.8, 16°25N×98°12W, h6km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.14	357	eP	Pg	17 21 44.4	-0.6
PNIG				eS	Sg	17 21 46.9	-0.1
VHO	Vista Hermosa	1.56	58	i P	Pn	17 22 06.4	-4.3
VHO				i S	Sn	17 22 26.6	-4.8
HUIG	Huatulco	1.99	104	eP	Pn	17 22 13.2	-3.2
HUIG				i S	Sn	17 22 36.4	-5.4
CMIG	Matias Romero	3.21	75	i P	Pn	17 22 30.8	-2.3
CMIG				i S	Sn	17 23 08.9	-2.9

*MAN **24** 17:32:49, 5°93N×126°50E, h55km, mb5.4, ML4.4, MS4.7*
*ISCJB **24** 17:32:54.0±0.4, 6°22N±0°02×126°40E±0°04, h64km±4km, mb4.3/29, Error ellipse: s-maj=7.2km s-min=4.0km az=173.2*
*NEIC **24** 17:32:56.1±1.1, 6°18N×126°32E, h70km±10km, mb4.3/13, Error ellipse: s-maj=13.2km s-min=7.9km az=74.0*
*IDC **24** 17:32:58.0±4.6, 6°10N×126°25E, h86km±41km, mb3.8/15, mb1 4.0/16, mb1mx3.4/30, mbtmp4.2/16, MS3.2/8, Ms1 3.3/8, ms1mx3.0/33, Error ellipse: s-maj=24.0km s-min=12.4km az=74.0*
*DJA **24** 17:33:00.4±0.8, 6°N±6°×12°6E±°, h44km±8km, M4.9/20, mB5.2/2, mb4.7/20, MLv5.1/3, Mw(mB)4.6/2*
ISC 24 17:32:56.2±0.8, 6°22N±0°04×126°36E±0°06, h70km±8km, n104, σ1§62/96, mb4.3/28, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.73	352	eP	Pn	17 33 07.7	-3.8
MATI				eS	Sn	17 33 22.8	+0.1
DAV	Davao City (W)	1.15	317	eP	Pn	17 33 13.9	-2.7
DMPH	Davao City--Mi	1.21	315	⇓eP	Pn	17 33 12.9	-4.5
DMPH				eS	Sn	17 33 29.6	-3.6
GSPH	General Santos	1.41	265	⇓eP	Pn	17 33 12.9	-7.2
GSPH				i S	Sn	17 33 29.7	-8.4
BIPH	Bislig	1.96	360	⇑i P	Pn	17 33 26.5	-0.8
BIPH				eS	Sn	17 33 51.0	+0.2
BUKP	Musuan	2.10	322	eP	Pn	17 33 26.8	-2.4
CTBH	Cotabato--PC H	2.33	296	⇑eP	Pn	17 33 29.4	-2.8
CTBH				i S	Sn	17 34 00.0	+0.1
SGSI	Sangihe	2.65	198	P	Pn	17 33 33.9	-2.7
SGSI				S	Sn	17 34 06.6	-1.1
CGP	Cagayan de Oro	2.77	323	⇓eP	Pn	17 33 36.0	-2.3
CGP				eS	Sn	17 34 13.9	+3.2
PAGZ	Pagadian	3.38	299	eP	Pn	17 33 44.0	-2.5
SCPH	Surigao	3.65	346	⇑eP	Pn	17 33 50.6	+0.4
MSLP	Maasin	4.17	339	eP	Pn	17 33 57.0	-0.3
PLP	Palo	5.10	345	⇓eP	Pn	17 34 09.7	-0.5
PLP				eS	Sn	17 35 18.1	+10
OCLP	Ormoc	5.11	340	eP	Pn	17 34 10.5	+0.3
TNTI	Ternate	5.50	169	P	Pn	17 34 08.7	-6.9
TNTI	Ternate	5.50	169	eP	Pn	17 34 15.0	-0.5
	133nm,0.5s						
KMSI	Cibinong	6.09	203	P	Pn	17 34 26.3	+2.7
LBMI	Labuha	6.90	170	P	Pn	17 34 49.2	+14
MRSI	Marisa	7.21	218	P	Pn	17 34 36.9	-2.1
	100nm,1.0s,3μm1.1nm						
LUWI	Luwuk	8.05	207	P	Pn	17 34 52.6	+2.1
	170nm,0.8s						
LUWI	Luwuk	8.05	207	eP	Pn	17 34 51.1	+0.7
	125nm,0.8s						
LUWI	Luwuk	8.05	207	P	Pn	17 34 51.5	+1.0
	baz=8.4,SNR=11						
LUWI				S	Sn	17 36 23.9	+3.8
	baz=8.4,SNR=6.0						
PALU	Palau	8.13	82	S	Sn	17 36 18.9	-3.1
	baz=7.8,SNR=3.0						
SANI	Sanana	8.22	183	P	Pn	17 34 50.5	-2.3
APSI	Ampana	8.50	214	P	Pn	17 35 01.2	+4.6
SWI	Sorong	8.56	145	P	Pn	17 34 59.5	+2.0
	baz=8.6,SNR=4.9						
TTSI	Tana Toraja	11.29	216	P	Pn	17 35 41.3	+6.6
	31nm,0.8s						
BNSI	Bone	12.26	211	P	Pn	17 35 51.3	+3.4
	21nm,1.4s						
KAPI	Kappang	12.96	211	eP	Pn	17 35 58.0	+0.5
	68nm,0.8s						
SMPI	Sarmi	14.78	123	P	P	17 36 24.7	-1.1
	22nm,1.3s						
SOEI	Soe	16.00	188	eP	P	17 36 40.3	+0.8
	42nm,1.0s						
SOEI	Soe	16.00	188	P	P	17 36 40.5	+1.0
	baz=16,SNR=7.5						
BATI	Baumata	16.54	189	P	P	17 36 45.8	+0.5
	36nm,0.9s						
BATI	Baumata	16.54	189	P	Pn	17 36 43.4	-0.4
	3.0nm,0.3s,baz=321,slow=2.9,SNR=11						
KSM	Kuching	16.69	254	eP	P	17 36 46.5	-0.5
	24nm,1.1s						
SRBI	Singaraja	18.04	218	P	Pn	17 37 05.3	+3.0
	43nm,1.0s						
KMMI	Kalianget	18.07	223	P	Pn	17 37 05.8	+3.1
	27nm,1.2s						
JAGI	Jajag, Banyuwa	19.00	220	P	Pn	17 37 17.5	+3.6
	22nm,1.4s						
JAGI	Jajag, Banyuwa	19.00	220	P	P	17 37 13.0	+0.6
	baz=19,SNR=7.1						
MTN	Manton Dam	19.52	166	P	P	17 37 18.1	0.0
	baz=20,SNR=7.0						
KDU	Kakadu	19.74	162	P	Pn	17 37 23.6	+1.1
	baz=20,SNR=9.5						
TPI	Tanjungpandan	20.70	245	P	Pn	17 37 36.5	+2.6
	43nm,1.0s						
KNRA	Kununurra	21.88	174	P	P	17 37 42.3	-1.2
	baz=22,SNR=18						
LEM	Lembang	22.75	236	P	P	17 37 54.7	+1.6
	32nm,0.9s						
KLI	Kotabumi	24.13	243	P	P	17 38 07.1	+1.3
	76nm,0.8s						
MDSI	Maura Dua	24.57	245	P	P	17 38 12.2	+2.4
	23nm,1.0s						
LWLI	Liwa	24.91	244	P	P	17 38 14.9	+1.8
IPM	Ipoh	25.29	267	eP	P	17 38 16.2	-0.2
	30nm,0.9s						
KULM	Kulim	25.60	269	eP	P	17 38 18.7	-0.5
	20nm,0.9s						
COEN	Coen	26.08	140	P	P	17 38 23.2	-0.3
	baz=26,SNR=6.1						
WRAB	Tennant Creek	27.15	163	eP	P	17 38 31.2	-1.9
	6.9nm,0.7s						
WRA	Warramunga Arr	27.15	163	P	P	17 38 31.8	-1.4
	1.9nm,0.8s,baz=337,slow=11,SNR=27						
PSI	Prapat	27.56	264	P	P	17 38 36.2	-0.8
	9.3nm,0.9s,baz=109,slow=5.5,SNR=5.2						
PSI	Prapat	27.56	264	P	P	17 38 37.0	-0.1
	baz=28,SNR=3.5						
GSI	Gunungsitoli	29.13	262	eP	P	17 38 48.3	-2.5
	35nm,0.8s						
CMAR	Chiang Mai Arr	29.37	297	P	P	17 38 53.0	+0.1
	1.3nm,0.8s,baz=114,slow=7.0,SNR=12						
CMAR				PcP	PcP	17 41 58.2	+0.4
	0.5nm,0.4s,baz=117,slow=1.3,SNR=6.8						
CMAR				LR	LR	17 50 09.5	
	comp=Z,32nm,20.7s,baz=120,slow=35						
CHTO	Chiang Mai	29.49	298	eP	P	17 38 54.4	+0.3
	1.1nm,0.8s						
QIS	Mount Isa	29.62	154	P	P	17 38 54.7	-0.3
	baz=30,SNR=14						
KSAR	Wonju Array Be	31.11	2	P	P	17 39 10.5	+2.5
WRKA	Warakurna	31.12	177	P	P	17 39 08.1	-0.2
	baz=32,SNR=14						
KSRS	Korea Array	31.13	2	P	P	17 39 10.5	+2.3
	0.6nm,0.7s,baz=185,slow=8.8,SNR=2.7						
KSRS				LR	LR	17 51 09.2	
	comp=Z,27nm,21.6s,baz=190,slow=35						
MJAR	Matsushiro Arr	32.07	18	LR	LR	17 50 23.2	
	comp=Z,18nm,21.2s,baz=125,slow=32						
MEEK	Meekatharra	33.51	193	P	P	17 39 27.6	-1.7
	baz=34,SNR=5.0						
MORW	Morawa	36.46	195	P	P	17 39 52.7	-1.9
	baz=37,SNR=3.2						
QLP	Quilpie	36.92	153	P	P	17 39 57.4	-1.1
	baz=37,SNR=10.0						
NWAO	Narrogin (SRO)	39.88	192	P	P	17 40 22.5	-0.8
	12nm,0.9s,baz=28,slow=8.8,SNR=8.9						
BBOO	Buckleboo	39.89	167	P	P	17 40 23.1	-0.3
	baz=40,SNR=20						
LSA	Lhasa	40.56	310	eP	P	17 40 29.9	+0.4
STKA	Stephens Creek	40.57	160	P	P	17 40 28.8	-0.2
	7.0nm,0.6s,baz=341,slow=8.1,SNR=24						
STKA				PcP	PcP	17 42 30.3	+0.2
	4.7nm,0.6s,baz=326,slow=6.1,SNR=5.5						
STKA				LR	LR	18 01 52.9	
	comp=Z,84nm,18.9s,baz=345,slow=43						
STKA	Stephens Creek	40.57	160	P	P	17 40 28.8	-0.2
	baz=41,SNR=23						
H11S3	WAKE ISLAND Hy	41.13	69	T	T	18 24 36.2	
	baz=258,slow=75,SNR=16						
H11S1	WAKE ISLAND Hy	41.14	69	T	T	18 24 32.8	
	baz=258,slow=75,SNR=16						
H11S2	WAKE ISLAND Hy	41.15	69	T	T	18 24 32.9	
	baz=258,slow=75,SNR=35						
HTT	Hallett	41.19	164	P	P	17 40 35.1	+1.0
	baz=42,SNR=6.0						
H11N1	WAKE ISLAND Hy	41.58	67	T	T	18 25 36.2	
	baz=265,slow=75,SNR=6.4						
H11N2	WAKE ISLAND Hy	41.59	67	T	T	18 25 13.7	
	baz=265,slow=75,SNR=4.7						
H11N3	WAKE ISLAND Hy	41.60	67	T	T	18 25 31.7	
	baz=265,slow=75,SNR=6.1						
TAPN	Taplejung	42.29	304	eP	P	17 40 45.1	+1.5
ODAN	Odare	42.37	304	eP	P	17 40 45.3	+1.2
	7.7nm,0.7s						
RAMN	Ramite	43.06	303	eP	P	17 40 49.8	+0.1
JIRN	Jiri	43.66	304	eP	P	17 40 54.5	-0.2
	5.4nm,0.6s						
SONM	Songino Array	44.84	341	P	P	17 41 04.4	+0.8
	0.4nm,0.6s,baz=150,slow=5.9,SNR=4.0						
SONM				PcP	PcP	17 42 45.2	+0.9
	0.7nm,0.7s,baz=121,slow=2.5,SNR=5.6						
GKN	Gorkha	45.06	304	eP	P	17 41 05.3	-0.4
KOLN	Koldanda	45.84	303	eP	P	17 41 09.8	-2.1
	3.4nm,0.3s						
DANN	Dangsing	45.91	304	eP	P	17 41 11.9	-0.6
	5.8nm,0.5s						
PETK	Petropavlovsk-	53.29	23	P	P	17 42 09.4	+1.6
	2.1nm,0.9s,baz=201,slow=5.7,SNR=2.9						
PETK				LR	LR	18 03 48.6	
	comp=Z,11nm,21.3s,baz=135,slow=35						
MKAR	Makanchi Array	55.33	324	P	P	17 42 23.0	+0.2
	1.1nm,0.7s,baz=122,slow=7.9,SNR=12						
MKAR				PcP	PcP	17 43 20.7	-2.0
	1.1nm,0.6s,baz=120,slow=2.7,SNR=4.9						
ZALV	Zalesovo Beam	58.23	333	P	P	17 42 42.8	-0.3
	0.6nm,0.4s,baz=109,slow=11,SNR=3.9						
ZALV				LR	LR	18 08 48.1	
	comp=Z,37nm,20.3s,baz=74,slow=37						
KURK	Kurchatov	59.47	327	eP	P	17 42 51.4	-0.5
	1.1nm,0.6s						
KKAR	Karatay Array	61.19	316	eP	P	17 43 00.8	-3.0
	0.6nm,0.7s						
BRVK	Borovoye	65.13	326	eP	P	17 43 31.0	+1.3
	2.9nm,0.8s						
TIXI	Tiksi	65.38	1	eP	P	17 43 31.5	+0.6
	2.1nm,0.6s						
ABKAR	Akbulak array	70.01	320	eP	P	17 44 02.0	+1.5
	1.4nm,0.8s						
AKTO	Aktyubinsk	71.50	321	LR	LR	18 17 13.6	
	comp=Z,39nm,19.1s,slow=37						
RAYN	Ar Rayn	79.19	293	eP	P	17 44 51.8	-2.4
	13nm,1.0s						
ILAR	Eielson Array	83.03	26	P	P	17 45 13.4	-0.4
	0.5nm,0.6s,baz=253,slow=6.3,SNR=7.6						
VNDA	Vanda	85.92	173	P	P	17 45 26.9	-1.1
	1.8nm,0.8s,baz=327,slow=7.1,SNR=4.0						
ARCES	ARCESS Array B	88.00	340	P	P	17 45 37.6	-0.8
	4.0nm,0.9s,baz=76,slow=7.5,SNR=3.8						
FINES	FINESS Array B	89.48	332	P	P	17 45 45.3	-0.1
	1.6nm,0.8s,baz=11,slow=3.9,SNR=7.3						
NOA	NORSAR Array B	96.41	334	LR	LR	18 32 26.4	
	comp=Z,24nm,19.8s,baz=305,slow=37						
YKA	Yellowknife Ar	97.40	24	P	Pdif	17 46 22.0	+0.2
	0.4nm,0.9s,baz=301,slow=4.4,SNR=5.8						
SCHQ	Schefferville	118.18	9	PKP	PKPdf	17 51 35.0	-0.3
	1.5nm,0.8s,baz=325,slow=5.0,SNR=3.3						
TORD	Torodi Ar. Bea	121.78	290	PKP	PKPdf	17 51 42.3	-1.0
	2.9nm,0.8s,baz=60,slow=1.7,SNR=17						
CFAA	Coronel Fontan	151.28	153	PKPbc	PKPbc	17 52 42.6	+0.1
	1.1nm,0.6s,baz=244,slow=2.5,SNR=19						

*CSEM **24** 17:51:53.4±0.3, 42°21N×20°15E, h10km, ML2.8, Error ellipse: s-maj=5.8km s-min=3.3km az=134.0*
*TIR **24** 17:51:53.6, 42°52N×20°37E, h31km, ML2.8*
*BEO **24** 17:51:54.8±1.1, 42°21N×20°12E, h0km, ML1.6/6*
ISC 24 17:51:53.8±1.2, 42°22N±0°04×20°13E±0°05, h11km±10km, n15, σ0§59/21, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCI	Bajram Curri	0.15	342	i PG	Pg	17 51 56.9	-0.4
BCI				i SG	Sg	17 52 16.0	+16
BCI	Bajram Curri	0.15	342	i Pg	Pg	17 51 56.9	-0.4
BCI				i Sg	Sg	17 52 16.0	+16
PUK	Puka	0.25	225	i PG	Pg	17 51 58.6	-0.4
PUK				i SG	Sg	17 52 02.9	+0.5
PUK	Puka	0.25	225	i Pg	Pg	17 51 58.6	-0.4
PUK				i Sg	Sg	17 52 02.9	+0.5
PDG	Podgorica	0.68	288	ePg	Pg	17 52 06.2	-0.8
PDG				eSg	Sg	17 52 15.6	-0.3
PDG	Podgorica	0.68	288	ePg	Pg	17 52 06.2	-0.8
PDG				eSg	Sg	17 52 15.6	-0.3
SJES	Sjenica	1.05	354	ePg	Pn	17 52 14.6	0.0
SELS	Selova	1.24	36	ePg	Pb	17 52 17.2	0.0
SELS	Selova	1.24	36	ePg	Pb	17 52 17.2	0.0
IVAS	Ivanjica	1.35	1	ePg	Pb	17 52 19.3	+0.1
IVAS				eSg	Sg	17 52 37.8	+0.4
IVAS	Ivanjica	1.35	1	ePg	Pb	17 52 19.3	+0.1
IVAS				eSg	Sg	17 52 37.8	+0.4
TREB	Trebinje	1.41	291	eSg	Sg	17 52 39.9	+0.9
TREB	Trebinje	1.41	291	eSg	Sg	17 52 39.9	+0.9
STON	Ston	1.91	291	eSg	Sg	17 52 56.1	+1.0
STON	Ston	1.91	291	eSg	Sg	17 52 56.1	+1.0

IDC 24 17:58:05.6±1.3, 52°37S×28°66E, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/24, mbtmp3.9/2, MS3.6/7, Ms1 3.6/7, ms1mx3.3/24, Error ellipse: s-maj=102.5km s-min=38.9km az=40.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUR	Sutherland	20.77	341	LR	LR	18 08 55.4	
	comp=Z,230nm,21.4s,baz=204,slow=31						
MAW	Mawson	22.49	146	LR	LR	18 12 16.6	
	comp=Z,128nm,18.0s,baz=82,slow=38						
BOSA	Boshof	23.86	353	LR	LR	18 11 04.6	
	comp=Z,133nm,21.0s,baz=2.0,slow=33						
LBTB	Lobatse	27.41	354	LR	LR	18 13 21.3	
	comp=Z,122nm,19.9s,baz=187,slow=33						
VNDA	Vanda	47.18	168	LR	LR	18 26 36.7	
	comp=Z,83nm,18.1s,baz=271,slow=36						
DBIC	Dimbokro	65.38	323	LR	LR	18 30 38.9	
	comp=Z,38nm,21.5s,baz=138,slow=30						
TORD	Torodi Ar. Bea	69.28	332	P	P	18 09 14.5	+0.1
	1.2nm,0.8s,baz=159,slow=6.2,SNR=5.5						
TORD				LR	LR	18 37 23.7	
	comp=Z,34nm,18.7s,baz=180,slow=34						
WRA	Warramunga Arr	83.57	114	P	P	18 10 35.9	+0.1
	0.8nm,1.1s,baz=213,slow=6.0,SNR=2.8						
PDAR	Pinedale Array	150.59	268	PKPbc	PKPbc	18 17 58.7	-0.3
	0.8nm,0.9s,baz=115,slow=4.1,SNR=3.6						
YKA	Yellowknife Ar	158.09	312	PKPab	PKPab	18 18 36.2	-0.6
	0.6nm,0.8s,baz=83,slow=5.1,SNR=8.9						

*IDC **24** 18:09:28.0±1.8, 43°08N×86°60E, h0km, mb3.4/1, mb1 3.2/5, mb1mx3.1/31, mbtmp3.1/5, ML2.7/3, Error ellipse: s-maj=45.2km s-min=17.6km az=53.0*
ISC 24 18:09:28.4±1.5, 43°1N±0°1×86°5E±0°1, h10km, n8, σ2§53/9, 2C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	4.79	323	Pn	Pn	18 10 42.2	+1.6
	0.4nm,0.3s,baz=146,slow=13,SNR=52						
MK31				⇓Pg	Pg	18 10 57.3	-2.8
	1.4nm,0.5s,baz=149,slow=16,SNR=4.6						
MK31				⇓Sn	Sn	18 11 38.4	+2.3
	1.1nm,0.3s						
MK31				⇓Lg	Lg	18 12 02.1	
	1.5nm,0.3s,baz=154,slow=29,SNR=4.5						
MKAR	Makanchi Array	4.79	323	Pn	Pn	18 10 41.6	+1.0
	0.6nm,0.3s,baz=146,slow=13,SNR=52						
MKAR				Sn	Sn	18 11 40.3	+4.1
	1.3nm,0.3s,baz=143,slow=27,SNR=5.7						
MKAR				Lg	Lg	18 11 60.0	
	1.7nm,0.3s,baz=132,slow=29,SNR=4.4						
PDGK	Podgornoye	5.14	275	⇓Pn	Pn	18 10 37.1	-8.2
PDGK				⇑Pg	Pb	18 10 51.5	-6.8
PDGK				⇓Sn	Sn	18 11 32.7	-12
PDGK				⇑Lg	Lg	18 11 55.5	
AAK	Ala-Archa	8.84	271	Pn	Pn	18 11 26.8	-10
	0.1nm,0.3s,baz=85,slow=12,SNR=3.4						
AAK				Lg	Lg	18 13 52.4	
	0.1nm,0.3s,baz=135,slow=19,SNR=2.4						
ZALV	Zalesovo Beam	10.96	355	Pn	Pn	18 12 05.7	+0.6
	0.1nm,0.3s,baz=178,slow=11,SNR=2.9						
BVAR	Borovoye Array	14.66	318	Pn	Pn	18 12 54.0	-1.6
	0.1nm,0.3s,baz=124,slow=14,SNR=2.4						
SONM	Songino Array	14.75	64	Pn	Pn	18 12 56.4	-0.6
	baz=252,slow=15,SNR=2.3						
CMAR	Chiang Mai Arr	26.68	153	P	P	18 15 08.9	+1.3
	0.3nm,0.4s,baz=332,slow=8.4,SNR=4.3						

*IDC **24** 18:33:27.5±2.3, 13°29N×93°35E, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.2/35, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=64.6km s-min=30.5km az=64.0*
*ISCJB **24** 18:33:29.0±1.4, 13°7N±0°1×93°33E±0°08, h33km, mb3.8/2, Error ellipse: s-maj=17.7km s-min=11.8km az=1.3*
ISC 24 18:33:30.4±1.7, 13°7N±0°1×93°3E±0°1, h35km, n8, σ0§93/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.25	48	Pn	Pn	18 35 16.1	+2.0
	0.1nm,0.3s,baz=239,slow=14,SNR=4.0						
CMAR				Sn	Sn	18 36 35.0	-0.2
	0.2nm,0.3s,baz=238,slow=27,SNR=6.9						
ODAN	Odare	14.22	338	eP	Pn	18 36 48.9	-0.7
	2.9nm,0.3s						
TAPN	Taplejung	14.56	340	eP	Pn	18 36 55.8	+1.6
RAMN	Ramite	14.60	336	eP	Pn	18 36 54.3	-0.5
	3.0nm,0.4s						
GKN	Gorkha	16.36	332	eP	Pn	18 37 18.1	+0.5
	4.7nm,0.5s						
KOLN	Koldanda	16.66	329	eP	P	18 37 23.3	-0.3
	4.0nm,0.6s						
MKAR	Makanchi Array	34.27	347	P	P	18 40 18.9	+5.7
	0.5nm,0.7s,baz=162,slow=9.0,SNR=8.7						
WRA	Warramunga Arr	52.45	129	P	P	18 42 40.0	0.0
	0.9nm,0.5s,baz=300,slow=9.7,SNR=8.6						

*ISCJB **24** 18:34:51.0±1.7, 19°3S±0°2×169°4E±0°3, h250km, mb3.6/8, Error ellipse: s-maj=40.2km s-min=18.4km az=34.5*
*IDC **24** 18:34:51.9±3.0, 19°34S×169°41E, h245km±27km, mb3.5/8, mb1 3.6/9, mb1mx3.4/26, mbtmp4.0/9, Error ellipse: s-maj=41.4km s-min=25.7km az=142.0*
ISC 24 18:34:51.9±1.7, 19°4S±0°2×169°5E±0°3, h250km, n10, σ0§71/10, mb3.7/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.89	226	P	Pn	18 35 54.5	0.0
	0.9nm,0.3s,baz=47,slow=19,SNR=14						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
DZM				S	S	18 36 56.5	+12
	2.1nm,0.3s,baz=142,slow=19,SNR=3.7						
CTA	Charters Tower	21.86	264	P	P	18 39 24.7	-0.1
	2.5nm,0.4s,baz=79,slow=10,SNR=4.5						
PMG	Port Moresby	23.75	292	P	P	18 39 41.2	-0.8
	6.8nm,0.6s,baz=117,slow=8.4,SNR=8.4						
STKA	Stephens Creek	27.94	238	P	P	18 40 19.7	+0.2
	1.7nm,0.7s,baz=65,slow=9.1,SNR=5.4						
WRA	Warramunga Arr	33.04	263	P	P	18 41 03.8	-0.6
	1.7nm,0.4s,baz=91,slow=8.2,SNR=70						
MJAR	Matsushiro Arr	62.98	332	P	P	18 44 52.4	+0.1
	0.4nm,0.5s,baz=123,slow=5.5,SNR=3.7						
CMAR	Chiang Mai Arr	78.76	294	P	P	18 46 28.6	+1.2
	0.2nm,0.5s,baz=116,slow=4.1,SNR=6.3						
SONM	Songino Array	87.47	323	P	P	18 47 12.0	+0.7
	0.7nm,0.8s,baz=148,slow=6.9,SNR=6.9						
ILAR	Eielson Array	90.31	17	P	P	18 47 23.4	-0.7
	0.1nm,0.5s,baz=201,slow=4.8,SNR=3.8						
GERES	GERESS Array B	144.72	332	PKP	PKPdf	18 53 58.5	-0.4
	0.9nm,0.6s,baz=32,slow=3.8,SNR=9.2						

MAN 24 18:50:21,7.82N×127.42E,h33km,mb5.1,ML4.1,MS4.2, 1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
BIPH	Bislig	1.11	289	⇑iP	Pn	18 50 37.7	-2.6
BIPH				iS	Sn	18 50 48.7	-5.8
MATI	Mati	1.44	233	eP	Pb	18 50 46.1	-1.2
MATI				eS	Sn	18 51 03.0	+0.4
BUTP	Butuan	2.12	303	eP	Pn	18 50 53.5	-0.6
BUKP	Musuan	2.34	272	eP	Pn	18 50 58.5	+1.2
BUKP				eS	Sn	18 51 26.1	+1.3

IDC 24 18:53:11.4±1.2,24.96N×96.46E,h0km,mb3.4/5, mb1 3.5/6,mb1mx3.3/29,mbtmp3.4/6,ML3.9/1,MS3.2/1, Ms1 3.2/1,ms1mx2.5/37,Error ellipse: s-maj=54.2km s-min=16.6km az=69.0
ISCJB 24 18:53:12.6±0.9,24.9N±0.1×96.37E±0.09,h21km,mb3.4/5, MS3.1/1,Error ellipse: s-maj=17.1km s-min=10.8km az=14.3
ISC 24 18:53:14.8±0.9,25.0N±0.1×96.4E±0.1,h21km,n8,σ0.94/9, mb3.5/5,Myanmar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
SHL	Shillong	4.11	279	ePN	Pn	18 54 17.0	+0.4
SHL				eSN	Sn	18 55 03.5	-0.7
CMAR	Chiang Mai Arr	6.92	159	Pn	Pn	18 54 53.5	-1.6
	0.6nm,0.3s,baz=332,slow=14,SNR=13						
CMAR				Pg	Pb	18 55 15.6	+1.2
	0.3nm,0.3s,baz=336,slow=12,SNR=5.4						
CMAR				Lg	Lg	18 56 48.5	
	0.2nm,0.3s,baz=339,slow=27,SNR=4.4						
SONM	Songino Array	24.14	17	P	P	18 58 28.8	-0.6
	0.3nm,0.9s,baz=202,slow=9.7,SNR=3.2						
MKAR	Makanchi Array	24.49	336	P	P	18 58 32.9	+0.4
	1.5nm,0.6s,baz=145,slow=9.1,SNR=18						
ZALV	Zalesovo Beam	30.18	346	P	P	18 59 23.3	-0.1
	0.5nm,0.5s,baz=147,slow=8.6,SNR=4.0						
BVAR	Borovoye Array	34.15	332	P	P	18 59 58.6	+0.4
	0.2nm,0.3s,baz=140,slow=8.2,SNR=3.6						
GEYT	Alibeck	34.85	301	LR	LR	19 14 44.8	
	comp=Z,38nm,19.2s,baz=245,slow=37						
WRA	Warramunga Arr	57.95	137	P	P	19 03 06.2	+0.3
	0.4nm,1.0s,baz=320,slow=7.7,SNR=3.2						

KRNET 24 18:54:36.1±0.1,41.04N×72.48E,h0km,mb3.3
NNC 24 18:54:46.2±4.4,41.65N×72.39E,h20km±29km,mb3.5, mpv3.0,Error ellipse: s-maj=41.6km s-min=14.7km az=172.0
ISC 24 18:54:37.1±1.6,41.13N±0.07×72.46E±0.04,h8km±13km, n27,σ1.37/34,19C-3D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
ARSB	Arslanbob	0.44	64	iP	Pg	18 54 45.2	-0.5
	baz=53						
ARSB				eS	Sb	18 54 51.9	-2.1
	baz=53						
OHH	Osh	0.65	158	eP	Pg	18 54 48.4	-1.3
	baz=156						
OHH				eS	Sg	18 54 57.1	-1.1
	baz=156						
TRKS	Terek-Say	1.07	292	iP	Pg	18 54 57.0	-0.6
	baz=294						
TRKS				eS	Sg	18 55 11.7	+0.2
	baz=294						
AML	Almayashu	1.36	42	P	Pg	18 55 03.6	+0.3
	SNR=28						
AML	Almayashu	1.36	42	⇑iP	Pg	18 55 03.7	+0.5
	baz=39						
AML				⇑iS	Sn	18 55 23.8	+2.5
	baz=39						
SFK	Sufi-Kurgan	1.37	144	eP	Pn	18 55 00.6	-2.1
	baz=142						
SFK				eS	Sn	18 55 17.6	-3.6
	baz=142						
ARLS	Aral	1.58	62	iP	Pg	18 55 08.0	+0.6
	baz=59						
ARLS				eS	Sg	18 55 30.4	+2.5
	baz=59						
BTK	Batken	1.65	230	eP	Pn	18 55 06.2	-0.2
	baz=233						
BTK				eS	Sn	18 55 28.2	+0.4
	baz=233						
DRK	Karamyk	1.72	197	⇓iP	Pn	18 55 06.8	-0.9
	baz=199						
DRK				⇓eS	Sn	18 55 28.8	-1.2
	baz=199						
EKS2	Erkin-Say	1.82	32	P	Pg	18 55 11.4	-0.6
	SNR=13						
EKS2	Erkin-Say	1.82	32	⇑iP	Pg	18 55 11.2	-0.8
	baz=30						
EKS2				⇑iS	Sg	18 55 37.2	+1.6
	baz=30						
EKS	Erkin-Say	1.83	32	iP	Pg	18 55 11.4	-0.7
	baz=30						
EKS				eS	Sg	18 55 37.4	+1.6
	baz=30						
UCH	Uchtor	1.89	54	P	Pg	18 55 13.1	-0.2
	SNR=32						
UCH	Uchtor	1.89	54	⇑iP	Pg	18 55 13.1	-0.2
	baz=51						
UCH				⇑iS	Sg	18 55 40.4	+2.6
	baz=51						
AAK	Ala-Archa	2.14	45	⇑Pn	Pg	18 55 17.3	-0.7
	7.9nm,0.4s						
AAK				⇓Lg	Lg	18 55 46.6	
	28nm,0.5s						
AAK	Ala-Archa	2.14	45	P	Pg	18 55 17.2	-0.9
	SNR=14						
AAK	Ala-Archa	2.14	45	⇑iP	Pg	18 55 16.8	-1.2
	baz=43						
AAK				⇑iS	Sg	18 55 47.2	+1.5
	baz=43						
KZA	Kyzart	2.30	65	P	Pb	18 55 19.2	+0.2
	SNR=30						
KZA	Kyzart	2.30	65	⇑iP	Pb	18 55 18.8	-0.2
	baz=63						
KZA				⇑iS	Sg	18 55 51.9	+1.0
	baz=63						
KBK	Karagaybulak	2.40	50	P	Pg	18 55 21.8	-1.4
	SNR=15						
KK31	Karatay Array	2.45	324	⇑Pg	Pb	18 55 22.1	+0.8
	4.2nm,0.4s,baz=136,slow=15,SNR=64						
KK31				⇑Lg	Lg	18 55 52.4	
	14nm,0.4s,baz=134,slow=27,SNR=12						
CHMS	Chumysh	2.53	42	P	Pg	18 55 26.7	+1.2
	SNR=8.0						
CHMS	Chumysh	2.53	42	⇑iP	Pb	18 55 22.6	-0.2
	baz=40						
CHMS				⇑iS	Sg	18 55 57.1	-1.2
	baz=40						
USP	Ospenovka	2.62	35	P	Pb	18 55 23.4	-0.9
	SNR=21						
USP	Ospenovka	2.62	35	⇑iP	Pb	18 55 23.3	-1.0
	baz=33						
USP				⇑iS	Sg	18 55 59.0	-2.2
	baz=33						
TKM2	Tokmak 2	2.94	52	⇑Pn	Pb	18 55 28.1	-1.9
	3.6nm,0.5s						
TKM2				⇑Lg	Lg	18 56 11.7	
	20nm,0.6s						
TKM2	Tokmak 2	2.94	52	P	Pb	18 55 28.2	-1.7
	SNR=7.0						

MAN 24 18:58:46,9.55N×123.05E,h36km,mb4.3,ML3.1,MS2.9, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
GUIM	Jordan	1.16	337	eP	Pn	18 59 06.8	+1.0
GUIM				eS	Sn	18 59 20.3	-0.1
PAGZ	Pagadian	1.72	169	eP	Pn	18 59 13.8	+0.4
MSLP	Maasin	1.88	72	eP	Pn	18 59 16.2	+0.6

NNC 24 19:13:28.5±1.6,44.04N×82.36E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=17.0km s-min=5.0km az=126.0
ISCJB 24 19:13:31.7±0.7,44.17N±0.05×81.92E±0.09,h10km, mb3.4/3,Error ellipse: s-maj=9.9km s-min=6.7km az=19.1
IDC 24 19:13:34.0±1.3,44.12N×82.25E,h0km,mb3.4/3, mb1 3.4/6,mb1mx3.2/28,mbtmp3.6/6,ML2.8/2,Error ellipse: s-maj=22.0km s-min=14.4km az=96.0
ISC 24 19:13:34.1±1.0,44.19N±0.06×82.18E±0.08,h10km,n16, σ1.60/19,mb3.4/3,10C-9D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
PDGK	Podgornoye	2.13	247	⇑Pn	Pn	19 14 05.6	-4.2
PDGK				⇑Pg	Pb	19 14 10.0	-2.8
PDGK				⇑Sn	Sn	19 14 34.4	-1.9
PDGK				⇑Lg	Lg	19 14 41.2	
MK31	Makanchi Array	2.60	2	Pn	Pn	19 14 13.5	-2.8
	0.8nm,0.3s,baz=181,slow=15,SNR=498						
MK31				⇑Pg	Pb	19 14 19.1	-1.8
	4.7nm,0.3s,baz=188,slow=14,SNR=35						
MK31				⇑Lg	Lg	19 14 58.0	
	20nm,0.4s,baz=187,slow=28,SNR=8.9						
MKAR	Makanchi Array	2.60	2	Pn	Pn	19 14 13.7	-2.6
	0.7nm,0.3s,baz=184,slow=15,SNR=48						
MKAR				Pg	Pg	19 14 24.1	+0.1
	5.3nm,0.3s,baz=182,slow=15,SNR=48						
MKAR				Lg	Lg	19 14 52.6	
	8.2nm,0.3s,baz=188,slow=29,SNR=11						
KNDC	Almaty	3.90	257	⇑Pg	Pb	19 14 42.8	-0.2
KNDC				⇑Lg	Lg	19 15 35.8	
TKM2	Tokmak 2	4.95	257	⇓Pg	Pb	19 15 00.0	-1.0
	2.0nm,0.4s						
TKM2				⇓Lg	Lg	19 16 07.1	
	16nm,0.7s						
AAK	Ala-Archa	5.81	257	⇑Pg	Pb	19 15 16.9	+1.3
	4.3nm,0.9s						
AAK				⇓Lg	Lg	19 16 36.0	
	13nm,0.7s						
AAK	Ala-Archa	5.81	257	Pg	Pg	19 15 21.5	-3.8
	0.3nm,0.3s,baz=101,slow=9.0,SNR=4.7						
AAK				Lg	Lg	19 16 30.9	
	0.4nm,0.3s,baz=37,slow=20,SNR=1.9						
KURBB	Kurchatov Arra	6.89	340	⇓Pn	Pn	19 15 14.2	-0.9
	2.5nm,0.7s						
KURBB				⇑Sn	Sn	19 16 34.8	+1.2
	10nm,0.8s						
KURBB				⇓Lg	Lg	19 17 15.0	
	27nm,0.6s						
KURK	Kurchatov	6.96	341	⇓Pn	Pn	19 15 15.2	-0.9
	2.1nm,1.3s						
KURK				⇓Sn	Sn	19 16 35.9	+0.8
	2.2nm,0.7s						
KURK				⇓Lg	Lg	19 17 16.4	
	9.6nm,0.8s						
OTUK	Ortayu	7.94	304	⇓Lg	Lg	19 17 48.2	
ZALV	Zalesovo Beam	9.92	9	Pn	Pn	19 15 56.6	0.0
	0.1nm,0.3s,baz=191,slow=14,SNR=2.5						
BVAR	Borovoye Array	11.78	323	Pn	Pn	19 16 23.7	+1.6
	baz=135,slow=14,SNR=2.8						
BVAR				Lg	Lg	19 19 42.2	
	0.1nm,0.3s,baz=140,slow=26,SNR=3.6						
SONM	Songino Array	17.19	69	Pn	P	19 17 36.1	+0.1
	0.1nm,0.3s,baz=263,slow=12,SNR=7.0						
CMAR	Chiang Mai Arr	29.26	146	P	P	19 19 37.6	+1.1
	0.2nm,0.4s,baz=324,slow=9.0,SNR=3.8						
NOA	NORSAR Array B	43.86	318	P	P	19 21 41.3	+1.0
	0.4nm,0.6s,baz=78,slow=8.1,SNR=2.4						
TORD	Torodi Ar. Bea	74.17	273	P	P	19 25 11.8	+0.7
	0.4nm,0.6s,baz=38,slow=5.4,SNR=3.4						

MAN 24 19:17:24,7.48N×125.60E,h30km,mb4.5,ML3.3,MS3.2, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
BUKP	Musuan	0.66	307	eP	Pn	19 17 38.2	+0.8
BUKP				eS	Sb	19 17 45.0	-1.1
MATI	Mati	0.84	129	eP	Pb	19 17 40.2	+0.1
BIPH	Bislig	1.03	47	⇓iP	Pn	19 17 42.2	-0.2
BIPH				eS	Sn	19 17 55.5	-0.4
CGP	Cagayan de Oro	1.32	317	⇑iP	Pn	19 17 46.3	-0.1
CGP				iS	Sn	19 18 03.8	+0.8
BUTP	Butuan	1.48	1	eP	Pb	19 17 49.9	-1.1
PAGZ	Pagadian	2.23	280	eP	Pn	19 18 00.4	+1.5

ISCJB 24 19:30:15.6±0.6,42.40N±0.06×139.32E±0.08,h200km, mb2.9/4,Error ellipse: s-maj=9.2km s-min=7.8km az=40.0
JMA 24 19:30:16.8±0.2,42.42N×139.35E,h196km±2km,M2.8
IDC 24 19:30:17.2±3.3,42.37N×139.19E,h208km±36km,mb2.8/4, mb1 3.0/5,mb1mx2.8/26,mbtmp3.4/5,Error ellipse: s-maj=26.2km s-min=23.0km az=72.0
ISC 24 19:30:16.3±0.9,42.38N±0.07×139.38E±0.08,h200km,n21, σ0.70/25,mb3.0/4,Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
JOSM	Okushiri--Mats	0.31	166	P	Pn	19 30 43.0	+0.1
JOSM				eS	Sn	19 31 03.5	+0.2
JSH	Shimam	0.56	62	P	Pn	19 30 43.8	+0.2
JYM2	Yakumo 2	0.78	110	P	Pn	19 30 45.3	+0.6
JSR	Shiriuchi	1.15	137	P	Pn	19 30 47.9	+0.7
JSR				eS	Sn	19 31 11.8	+0.8
JNB	Noboribetsu	1.23	85	P	Pn	19 30 48.0	+0.3
JSK	Shakotan	1.26	39	P	Pn	19 30 48.1	+0.2
JKB	Kayabe	1.33	111	P	Pn	19 30 48.8	+0.3
JEW	Eniwo	1.60	73	P	Pn	19 30 51.7	+0.9
JOT	Ohata	1.60	128	P	Pn	19 30 51.1	+0.2
JIW	Iwasaki	1.85	165	P	Pn	19 30 54.2	+0.8
JHR	Hokuryu	2.19	51	P	Pn	19 30 58.0	+1.2
JFR	Furan	2.49	71	P	Pn	19 31 00.4	+0.3
JNBK	Urakawa-nobuka	2.51	91	P	Pn	19 31 00.4	+0.2
JANG	Nango	2.57	141	eS	Sn	19 31 34.9	-1.0
JKK2	Kamakawa 2	2.88	58	P	Pn	19 31 05.3	+0.8
JKK2				eS	Sn	19 31 42.5	+0.3
JCH	Churui	2.96	84	P	Pn	19 31 05.5	+0.1
JCH				eS	Sn	19 31 42.6	-1.1
MJAR	Matsushiro Arr	5.90	189	P	Pn	19 31 43.2	+0.8
	0.3nm,0.3s,baz=359,slow=14,SNR=5.1						
ZALV	Zalesovo Beam	37.28	307	P	P	19 37 07.5	-1.2
	0.2nm,0.3s,baz=79,slow=7.5,SNR=2.6						
MKAR	Makanchi Array	40.13	297	P	P	19 37 31.9	-0.6
	0.2nm,0.5s,baz=83,slow=10,SNR=5.5						
ILAR	Eielson Array	45.91	35	P	P	19 38 19.2	+0.7
	0.3nm,0.8s,baz=289,slow=8.5,SNR=4.7						
WRA	Warramunga Arr	62.19	185	P	P	19 40 16.2	-0.2
	0.1nm,0.3s,baz=14,slow=7.2,SNR=4.6						

IDC 24 20:02:56.7±0.8,55.28N×161.67E,h0km,mb3.6/7, mb1 4.0/8,mb1mx3.6/29,mbtmp3.7/8,ML4.2/1,Error ellipse: s-maj=23.4km s-min=12.5km az=160.0
KRSC 24 20:03:02.6±0.7,55.12N×162.12E,h67km±17km,ML4.1
ISCJB 24 20:03:03.9±0.3,55.12N±0.02×162.13E±0.05,h65km±5km, mb3.6/7,Error ellipse: s-maj=4.6km s-min=2.9km az=19.5
MOS 24 20:03:03.3±0.8,55.12N×162.17E,h59km,mb4.4/1,Error ellipse: s-maj=16.1km s-min=7.6km az=73.0
ISC 24 20:03:04.5±0.8,55.13N±0.02×162.10E±0.03,h61km±8km, n74,σ1.27/107,mb3.5/7,1D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
MKZ	Mys Kozlova	0.61	200	PN	Pn	20 03 17.4	-0.3
MKZ				S	Sn	20 03 27.9	+0.6
MKZ	Mys Kozlova	0.61	200	eP	Pn	20 03 17.4	-0.3
MKZ				eS	Sn	20 03 27.9	+0.6
KZV	Kizimen	1.03	270	eP	Pn	20 03 22.6	-0.5
KZV				eS	Sn	20 03 36.2	-0.8
TUMR	Tumrok	1.13	279	eP	Pn	20 03 24.1	-0.2
TUMR				eS	Sn	20 03 38.9	-0.2
BZGR	Bezymyannyi-Gr	1.14	316	eP	Pn	20 03 24.4	-0.1
BZGR				eS	Sn	20 03 39.7	+0.4
ZLN	Zelenaya	1.16	321	eP	Pn	20 03 24.9	+0.2
ZLN				eS	Sn	20 03 40.6	+0.9
KBTR	Krutoberegovo	1.16	20	PN	Pn	20 03 24.6	0.0
KBTR				S	Sn	20 03 40.9	+1.3
KBTR	Krutoberegovo	1.16	20	eP	Pn	20 03 24.6	0.0
KBTR				eS	Sn	20 03 40.9	+1.3
KBG	Krutoberegovo	1.18	17	PN	Pn	20 03 24.7	-0.2
KBG				S	Sn	20 03 42.0	+1.9
KBG	Krutoberegovo	1.18	17	eP	Pn	20 03 24.7	-0.2
KBG				eS	Sn	20 03 42.0	+1.9
BZMR	Bezymyannaya	1.22	312	eP	Pn	20 03 25.2	-0.4
BZMR				eS	Sn	20 03 41.5	+0.2
KMNR	Kamenistaya	1.23	302	eP	Pn	20 03 25.3	-0.4
KMNR				eS	Sn	20 03 41.1	-0.4
BZWR	Bezymyannyi-We	1.24	313	eP	Pn	20 03 25.8	0.0
BZWR				eS	Sn	20 03 42.7	+1.0
KIRR	Kirishev	1.30	310	eP	Pn	20 03 27.0	+0.4
KIRR				eS	Sn	20 03 44.6	+1.5
KPT	Kopyto	1.36	309	eP	Pn	20 03 27.3	0.0
KPT				eS	Sn	20 03 47.4	+2.9
KRSR	Krestovskiy	1.40	322	eP	Pn	20 03 27.6	-0.2
KRSR				eS	Sn	20 03 45.1	-0.3
KLY	Klyuchi	1.44	326	PN	Pn	20 03 27.4	-1.0
KLY				S	Sn	20 03 44.9	-1.4
KLY	Klyuchi	1.44	326	eP	Pn	20 03 27.4	-1.0
KLY				eS	Sn	20 03 44.9	-1.4
SMKR	Semkarok	1.50	347	eP	Pn	20 03 29.3	+0.1
SMKR				eS	Sn	20 03 49.7	+1.8
BDR	Baidarnaya	1.53	341	eP	Pn	20 03 29.7	+0.1
BDR				eS	Sn	20 03 50.0	+1.4
KOZR	Kozyr	1.56	308	PN	Pn	20 03 30.2	+0.2
KOZR				S	Sn	20 03 51.2	+1.9
KOZ	Kozyrevsk	1.57	307	eP	Pn	20 03 30.2	+0.1
KOZ				eS	Sn	20 03 51.2	+1.8
SRKR	Sorokina	1.62	342	eP	Pn	20 03 30.9	+0.1
SRKR				eS	Sn	20 03 51.5	+0.8
SRDR	Sredinnyy	1.80	313	eP	Pn	20 03 32.8	-0.4
SRDR				eS	Sn	20 03 55.1	+0.1
KII	Karymskiy	1.89	236	eP	Pn	20 03 35.0	+0.5
ESO	Esso	2.09	294	PN	Pn	20 03 36.7	-0.4
ESO				S	Sn	20 04 00.6	-1.5
ESO	Esso	2.09	294	eP	Pn	20 03 36.7	-0.4
ESO				eS	Sn	20 04 00.6	-1.5
BKI	Bering	2.23	86	PN	Pn	20 03 39.2	+0.3
BKI				S	Sn	20 04 04.1	-1.2
BKI	Bering	2.23	86	eP	Pn	20 03 39.2	+0.3
BKI				eS	Sn	20 04 04.1	-1.2
SPN	Mys Shipunski	2.37	212	PN	Pn	20 03 40.9	0.0
SPN				S	Sn	20 04 08.2	-0.7
SPN	Mys Shipunski	2.37	212	eP	Pn	20 03 40.9	0.0
SPN				eS	Sn	20 04 08.2	-0.7
NLC	Nalytchevo	2.54	221	PN	Pn	20 03 43.8	+0.6
NLC				S	Sn	20 04 13.6	+0.6
NLC	Nalytchevo	2.54	221	eP	Pn	20 03 43.8	+0.6
NLC				eS	Sn	20 04 13.6	+0.6
SDLR	Sedlovina	2.64	227	eP	Pn	20 03 45.5	+0.7
SDLR				eS	Sn	20 04 18.5	+2.8
KRER	Koryakskii	2.68	228	eP	Pn	20 03 46.4	+1.0
SMAR	Somma	2.69	227	eP	Pn	20 03 46.3	+0.8
AVH	Avacha	2.71	228	eP	Pn	20 03 46.7	+1.0
UGLR	Uglovaya	2.72	226	eP	Pn	20 03 46.9	+1.1
KOK	Koryaka	2.74	229	eP	Pn	20 03 47.1	+1.0
GNL	Ganaly	2.82	241	eP	Pn	20 03 48.1	+0.9
PET	Petropavlovsk	2.92	225	⇓iPN	Pn	20 03 49.4	+0.9
PET				eS	Sn	20 04 22.8	+0.4
PET				pmax	pmax		
	comp=Z,244nm,0.5s						
PET				smax	smax		
	comp=N,472nm,0.7s						
PET				MLR	MLR		
	comp=Z,100nm,12.0s						
PET	Petropavlovsk	2.92	225	eP	Pn	20 03 49.6	+1.1
PET				eS	Sn	20 04 23.5	+1.1
PETK	Petropavlovsk-	3.28	234	Pg	Pn	20 03 54.6	+1.2
	comp=Z,8.8nm,0.3s,baz=70,slow=16,SNR=51						
PETK				Lg	Lg	20 04 37.2	
	comp=Z,3.1nm,0.3s,baz=93,slow=32,SNR=3.1						
RUS	Russkaya	3.44	220	PN	Pn	20 03 56.2	+0.7
RUS				S	Sn	20 04 35.9	+1.0
RUS	Russkaya	3.44	220	eP	Pn	20 03 56.2	+0.7
RUS				eS	Sn	20 04 35.9	+1.0
MTVR	Mutnovka	3.52	223	eP	Pn	20 03 58.3	+1.5
APC	Apacha	3.65	235	eP	Pn	20 04 00.1	+1.7
ASAK	Asacha	3.71	224	eP	Pn	20 04 01.4	+2.1
ASAK				eS	Sn	20 04 46.2	+4.5
PALN	Palana	4.14	345	eP	Pn	20 04 08.3	+3.3
MIPR	Malaya Ipel'ka	4.27	230	eP	Pn	20 04 08.7	+1.8
PAU	Pauzhetka	4.85	223	PN	Pn	20 04 19.0	+4.2
PAU	Pauzhetka	4.85	223	eP	Pn	20 04 19.0	+4.2
SKR	Severo-Kuril's	5.73	222	ePN	Pn	20 04 26.0	-0.9
SKR				S	Sn	20 05 32.5	+1.2
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR				smax	smax		
	comp=N,70nm,0.9s						
SKR				smax	smax		
	comp=E,80nm,0.9s						
SKR	Severo-Kuril's	5.73	222	eP	Pn	20 04 28.4	+1.5
TILK	Tilichiki	5.76	20	eP	Pn	20 04 28.0	+0.8
TILK				eS	Sn	20 05 33.2	+1.5
FX1	Attu Island--F	6.90	104	Pn	Pn	20 04 42.4	-0.5
	comp=E,15nm,0.3s,baz=342,slow=7.8,SNR=23						
FX1				Sn	Sn	20 05 55.2	-4.7
	comp=E,3.9nm,0.3s,baz=66,slow=20,SNR=3.8						
BILL	Bilibino	13.11	7	iPN	Pn	20 06 08.0	+0.6
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SHO	Shikotan	14.97	227	eP	Pn	20 06 29.4	-2.8
MJAR	Matsushiro Arr	24.74	231	P	P	20 08 20.2	+0.2
MJAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MJAR	Matsushiro Arr	24.74	231	P	P	20 08 20.2	+0.2
	comp=Z,8.5nm,1.0s,baz=27,slow=6.9,SNR=4.6						
ILAR	Eielson Array	26.56	48	P	P	20 08 36.3	+0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	26.56	48	P	P	20 08 36.3	+0.1
	comp=Z,0.5nm,0.9s,baz=270,slow=8.8,SNR=5.3						
SONM	Songino Array	34.62	282	PcP	PcP	20 12 19.5	-1.0
	comp=Z,0.3nm,0.6s,baz=47,slow=3.0,SNR=4.0						
H11N2	WAKE ISLAND Hy	35.52	172	T	T	20 47 15.4	
	baz=355,slow=76,SNR=45						
H11N3	WAKE ISLAND Hy	35.54	172	T	T	20 47 22.3	
	baz=355,slow=76,SNR=37						
H11N1	WAKE ISLAND Hy	35.54	172	T	T	20 47 21.9	
	baz=355,slow=76,SNR=61						
H11S1	WAKE ISLAND Hy	36.72	173	T	T	20 48 51.1	
	baz=352						
H11S3	WAKE ISLAND Hy	36.73	173	T	T	20 48 50.9	
	baz=352						
H11S2	WAKE ISLAND Hy	36.74	173	T	T	20 48 49.0	
	baz=352						
YKA	Yellowknife Ar	40.88	45	P	P	20 10 40.3	+0.4
	comp=Z,0.3nm,0.7s,baz=298,slow=8.0,SNR=4.0						
MKAR	Makanchi Array	48.34	295	P	P	20 11 37.0	-2.6
	comp=Z,0.2nm,0.6s,baz=59,slow=6.8,SNR=4.7						
MKAR				PcP	PcP	20 13 04.1	-1.3
	comp=Z,0.2nm,0.6s,baz=50,slow=4.8,SNR=3.1						
NVAR	Mina Array Bea	53.98	73	P	P	20 12 24.4	+2.3
	comp=Z,1.2nm,0.7s,baz=298,slow=7.9,SNR=11						
PDAR	Pinedale Array	55.53	63	P	P	20 12 34.8	+1.5
	comp=Z,0.8nm,0.7s,baz=298,slow=3.2,SNR=7.6						
TXAR	Lajitas Array	68.78	69	P	P	20 14 03.4	+1.4
	comp=Z,0.3nm,0.5s,baz=305,slow=4.1,SNR=4.5						

DDA 24 20:17:26.7,38.64N×30.32E,h19km,ML3.2
CSEM 24 20:17:26.9±0.1,38.61N×30.32E,h2km,MD3.0,Error ellipse: s-maj=3.1km s-min=2.7km az=38.0
ISK 24 20:17:26.6,38.60N×30.32E,h5km,MD3.0,Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
SHUT	Suhut-Afyon	0.19	105	PG	Pg	20 17 31.1	+0.6
SHUT				eSG	Sg	20 17 33.9	+0.8

SHUT	**Suhut-Afyon**	**0.19**	**105**	*i* Pg	Pg	20 17 31.2	+0.7
SHUT				*e*Sg	Sg	20 17 33.9	+0.8
ALT	**Altintas**	**0.48**	**340**	P	Pg	20 17 35.9	-0.2
ALT				S	Sg	20 17 42.7	+0.2
ALT	**Altintas**	**0.48**	**340**	PG	Pg	20 17 35.9	-0.1
ALT				*e*SG	Sg	20 17 42.8	+0.3
ALT	**Altintas**	**0.48**	**340**	P	Pg	20 17 35.9	-0.2
ALT				S	Sg	20 17 42.7	+0.2
KHL	**Karahalli**	**0.69**	**246**	*e*PG	Pb	20 17 40.8	-0.4
KHL	**Karahalli**	**0.69**	**246**	*e*Pg	Pb	20 17 40.8	-0.4
KHAL	**Karahalli**	**0.69**	**251**	*i* P	Pg	20 17 40.2	+0.2
KHAL				*i* S	Sg	20 17 49.5	+0.4
KHAL	**Karahalli**	**0.69**	**251**	*i* P	Pg	20 17 40.2	+0.1
KHAL				*i* S	Sg	20 17 49.5	+0.3
ISP	**Isparta**	**0.79**	**168**	P	Pg	20 17 41.1	-0.9
ISP				S	Sb	20 17 54.2	0.0
ISP	**Isparta**	**0.79**	**168**	*e*PG	Pg	20 17 41.5	-0.6
ISP				*e*SG	Sb	20 17 53.4	-0.9
ISP	**Isparta**	**0.79**	**168**	P	Pg	20 17 41.1	-0.9
ISP	**Isparta**	**0.79**	**168**	*e*Pg	Pg	20 17 41.5	-0.5
ISP				*e*Sg	Sb	20 17 53.4	-0.8
ISP				S	Sg	20 17 54.2	+1.8
GDZ	**Gediz**	**0.82**	**307**	*i* P	Pg	20 17 42.4	-0.1
GDZ				*i* S	Sg	20 17 53.3	+0.1
GDZ	**Gediz**	**0.82**	**307**	*i* P	Pg	20 17 42.4	-0.1
GDZ				*i* S	Sg	20 17 53.3	0.0
SEYT	**Eskypehyr**	**1.00**	**24**	*i* P	Pg	20 17 45.4	-0.7
SEYT				*i* S	Sg	20 17 59.4	+0.1
SEYT	**Eskypehyr**	**1.00**	**24**	*i* P	Pg	20 17 45.4	-0.7
SEYT				*i* S	Sg	20 17 59.4	+0.1
TVSB	**Tavsanli**	**1.08**	**322**	*e*PN	Pg	20 17 47.4	-0.1
TVSB	**Tavsanli**	**1.08**	**322**	*e*Pn	Pg	20 17 47.4	-0.1
BCK	**Bucak**	**1.16**	**169**	*e*PN	Pg	20 17 48.9	-0.1
BCK	**Bucak**	**1.16**	**169**	*e*Pn	Pg	20 17 48.9	-0.1
SVRH	**Sivrihisar-ESK**	**1.26**	**48**	*e*PN	Pb	20 17 51.0	0.0
SVRH	**Sivrihisar-ESK**	**1.26**	**48**	*e*Pn	Pb	20 17 51.0	0.0
BORA	**Eskisehir**	**1.28**	**5**	*i* P	Pn	20 17 50.4	-0.9
BORA				*i* S	Sg	20 18 06.3	-1.8
BORA	**Eskisehir**	**1.28**	**5**	*i* P	Pn	20 17 50.4	-0.9
BORA				*i* S	Sg	20 18 06.3	-1.8
KULA	**Kula-Manisa**	**1.30**	**267**	P	Pn	20 17 51.3	-0.3
KULA	**Kula-Manisa**	**1.30**	**267**	*e*PN	Pn	20 17 51.0	-0.6
KULA	**Kula-Manisa**	**1.30**	**267**	P	Pn	20 17 51.3	-0.3
MANT	**Manisa**	**1.39**	**266**	*i* P	Pn	20 17 52.8	-0.1
MANT	**Manisa**	**1.39**	**266**	*i* P	Pn	20 17 52.8	-0.2
KDHN	**Kadinhani**	**1.41**	**93**	*i* P	Pn	20 17 53.0	-0.1
KDHN				*i* S	Sg	20 18 13.0	+0.8
KDHN	**Kadinhani**	**1.41**	**93**	*i* P	Pn	20 17 53.0	-0.1
KDHN				*i* S	Sg	20 18 13.0	+0.7
GOLH	**Golhisar**	**1.49**	**204**	*i* P	Pg	20 17 55.4	+0.1
GOLH				*i* S	Sg	20 18 18.2	+3.5
GOLH	**Golhisar**	**1.49**	**204**	*i* P	Pg	20 17 55.4	+0.1
GOLH				*i* S	Sg	20 18 18.2	+3.4
CAVI	**Cavuskoy**	**1.64**	**347**	*e*PN	Pb	20 17 57.1	-0.3
CAVI	**Cavuskoy**	**1.64**	**347**	*e*Pn	Pb	20 17 57.1	-0.3
LADK	**Ladik-KONYA**	**1.66**	**103**	*e*PN	Pn	20 17 57.1	-0.6
LADK	**Ladik-KONYA**	**1.66**	**103**	*e*Pn	Pn	20 17 57.1	-0.6
GPA	**Golpazari**	**1.69**	**360**	*e*PN	Pn	20 17 57.1	+0.4
GPA	**Golpazari**	**1.69**	**360**	*e*Pn	Pn	20 17 57.1	+0.3
KONT	**Konya--Tatoy**	**1.73**	**112**	*e*PN	Pn	20 17 57.9	+0.4
KONT	**Konya--Tatoy**	**1.73**	**112**	*e*Pn	Pn	20 17 57.9	+0.4
DURS	**Dursunbey**	**1.75**	**305**	*i* P	Pn	20 17 58.4	+0.7
DURS				*i* S	Sb	20 18 21.3	-0.4
DURS	**Dursunbey**	**1.75**	**305**	*i* P	Pn	20 17 58.4	+0.6
DURS				*i* S	Sb	20 18 21.3	-0.4
ORLT	**Orhaneli**	**1.82**	**323**	*e*PN	Pb	20 17 59.8	-0.6
ORLT	**Orhaneli**	**1.82**	**323**	*e*Pn	Pb	20 17 59.8	-0.6
GULT	**Gulveren**	**1.83**	**5**	*e*PN	Pn	20 17 59.8	+0.9
GULT	**Gulveren**	**1.83**	**5**	*e*Pn	Pn	20 17 59.8	+0.9
ELL	**Elmali**	**1.88**	**190**	*e*PN	Pb	20 18 00.6	-1.0
ELL	**Elmali**	**1.88**	**190**	*e*Pn	Pb	20 18 00.6	-1.0
ADVT	**Abdulvahap**	**1.88**	**346**	*e*PN	Pb	20 18 00.6	-0.9
ADVT	**Abdulvahap**	**1.88**	**346**	*e*Pn	Pb	20 18 00.6	-0.9
AKS	**Akhisar**	**1.98**	**279**	*e*PN	Pb	20 18 02.1	-1.1
AKS	**Akhisar**	**1.98**	**279**	*e*Pn	Pb	20 18 02.1	-1.1
MDUB	**Mudurnu**	**1.99**	**20**	*e*PN	Pn	20 18 02.1	+1.0
MDUB	**Mudurnu**	**1.99**	**20**	*e*Pn	Pn	20 18 02.1	+1.1
AYDB	**Zeytinkoy-Aydi**	**2.02**	**252**	*e*PN	Pn	20 18 02.5	+1.0
AYDB	**Zeytinkoy-Aydi**	**2.02**	**252**	*e*Pn	Pn	20 18 02.5	+1.0
MDNY	**Mudanya-Bursa**	**2.08**	**328**	*e*PN	Pn	20 18 03.1	+0.9
MDNY	**Mudanya-Bursa**	**2.08**	**328**	*e*Pn	Pn	20 18 03.1	+0.9
BALB	**Balikesir**	**2.16**	**299**	*e*PN	Pb	20 18 04.9	-1.4
BALB	**Balikesir**	**2.16**	**299**	*e*Pn	Pb	20 18 04.9	-1.3
LOD	**Lodumlu**	**2.29**	**55**	*e*PN	Pn	20 18 05.9	+0.7
LOD	**Lodumlu**	**2.29**	**55**	*e*Pn	Pn	20 18 05.9	+0.7
AFSR	**Af¯ar-Bala (A**	**2.30**	**68**	*e*PN	Pn	20 18 06.8	+1.4
AFSR	**Af¯ar-Bala (A**	**2.30**	**68**	*e*Pn	Pn	20 18 06.8	+1.4
SULT	**Sultanhani-AKS**	**2.54**	**98**	*e*PN	Pn	20 18 09.5	+0.9
SULT	**Sultanhani-AKS**	**2.54**	**98**	*e*Pn	Pn	20 18 09.5	+0.8
KRBG	**Karabiga-Canak**	**2.94**	**308**	*e*PN	Pn	20 18 15.4	+1.4
KRBG	**Karabiga-Canak**	**2.94**	**308**	*e*Pn	Pn	20 18 15.4	+1.4
GELI	**Tayfur-Gelibol**	**3.47**	**302**	*e*PN	Pn	20 18 23.0	+1.7
GELI	**Tayfur-Gelibol**	**3.47**	**302**	*e*Pn	Pn	20 18 23.0	+1.7
CORM	**Corum**	**3.69**	**63**	*e*PN	Pn	20 18 26.1	+1.6
CORM	**Corum**	**3.69**	**63**	*e*Pn	Pn	20 18 26.1	+1.6
SMRK	**Smrekonice**	**8.30**	**304**	P	Pn	20 19 29.1	+1.4

*TIR **24** 20:19:09.4±3.3, 42.°21N×20.°16E, h2km±999km, ML2.6*
*THE **24** 20:19:10.4, 42.°26N×20.°09E, h2km±7km, Error ellipse: s-maj=7.3km s-min=1.3km az=196.0*
*BEO **24** 20:19:11.9±0.6, 42.°23N×20.°01E, h5km±2km, ML2.6/1*
*PDG **24** 20:19:11.2±0.2, 42.°25N×20.°04E, h11km, MD3.0/3, ML2.9/11, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
CSEM 24 20:19:11.0±0.1**, 42.°24N×20.°06E, h2km, ML2.6, 15C-15D, Error ellipse: s-maj=3.0km s-min=2.6km az=175.0, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.13**	**2**	*i* PG	Pg	20 19 13.7	+0.1
BCI				*i* SG	Sg	20 19 16.0	+0.6
BCI	**Bajram Curri**	**0.13**	**2**	*i* Pg	Pg	20 19 13.7	+0.1
	SNR=91						
BCI				*i* Sg	Sg	20 19 16.0	+0.6
	SNR=91						
PUK	**Puka**	**0.23**	**213**	*i* PG	Pg	20 19 15.5	-0.1
PUK				*i* SG	Sg	20 19 19.7	+1.0
PUK	**Puka**	**0.23**	**213**	*i* Pg	Pg	20 19 15.5	-0.1
	SNR=90						
PUK				*i* Sg	Sg	20 19 19.7	+1.0
	SNR=90						
PVY	**Plav**	**0.36**	**348**	⇑*i*Pg	Pg	20 19 17.9	-0.3
PVY				*e*Sg	Sg	20 19 23.6	+0.5
PVY	**Plav**	**0.36**	**348**	⇑*i*Pg	Pg	20 19 17.9	-0.3
PVY				*e*Sg	Sg	20 19 23.6	+0.5
PEJK	**Peje**	**0.43**	**22**	P	Pg	20 19 19.5	0.0
PEJK				S	Sg	20 19 26.8	+1.5
ZATK	**Zatriq**	**0.47**	**63**	P	Pg	20 19 20.4	+0.3
PRZK	**Prizren**	**0.52**	**93**	P	Pg	20 19 21.4	+0.3
PHP	**Peshkopia**	**0.62**	**153**	*i* PG	Pg	20 19 23.1	0.0
PHP				*i* SG	Sb	20 19 32.9	-1.0
PHP	**Peshkopia**	**0.62**	**153**	P	Pg	20 19 22.9	-0.1
PHP	**Peshkopia**	**0.62**	**153**	*i* Pg	Pg	20 19 23.0	0.0
	SNR=90						
PHP				*i* Sg	Sb	20 19 32.9	-1.0
	SNR=90						
PDG	**Podgorica**	**0.63**	**288**	P	Pg	20 19 22.0	-1.0
PDG				S	Sg	20 19 31.0	-0.2
PDG	**Podgorica**	**0.63**	**288**	⇓*i*Pg	Pg	20 19 22.1	-0.9
PDG	**Podgorica**	**0.63**	**288**	⇓*i*Pg	Pg	20 19 22.2	-0.8
PDG				S	Sg	20 19 31.0	-0.2
TTG	**Podgorica**	**0.63**	**288**	⇓*i*Pg	Pg	20 19 22.2	-0.8
TTG				*e*Sg	Sg	20 19 31.9	+0.7
BEY	**Berane**	**0.65**	**349**	P	Pg	20 19 23.1	-0.5
BEY				*e*Sg	Sg	20 19 33.0	+0.9
IVA	**Berane**	**0.65**	**349**	⇓*i*Pg	Pg	20 19 23.0	-0.6
IVA				*e*Sg	Sg	20 19 33.0	+0.9
DRME	**Dracevica, Mon**	**0.65**	**266**	⇑*i*Pg	Pg	20 19 22.5	-1.1
DRME				*e*Sg	Sg	20 19 33.3	+1.2
DRME	**Dracevica, Mon**	**0.65**	**266**	⇑*i*Pg	Pg	20 19 22.5	-1.1
DRME				*e*Sg	Sg	20 19 33.3	+1.2
ULC	**Ulcinj**	**0.67**	**246**	⇑*i*Pg	Pg	20 19 23.8	0.0
ULC				*e*Sg	Sg	20 19 33.7	+1.2
ULC	**Ulcinj**	**0.67**	**246**	⇑*i*Pg	Pg	20 19 23.8	0.0
ULC	**Ulcinj**	**0.67**	**246**	P	Pg	20 19 24.1	+0.3
ULC				*e*Sg	Sg	20 19 33.7	+1.2
BUM	**Brajici-Budva**	**0.87**	**275**	⇓*i*Pg	Pg	20 19 26.9	-0.9
BUM				*e*Sg	Sb	20 19 40.1	-1.0
BUM	**Brajici-Budva**	**0.87**	**275**	⇓*i*Pg	Pg	20 19 26.9	-0.9
BUM				*e*Sg	Sb	20 19 40.1	-1.0
NKME	**Niksic**	**0.97**	**303**	⇑*i*Pg	Pg	20 19 28.9	-0.9
NKME				*e*Sg	Sb	20 19 43.8	-0.3
NKME	**Niksic**	**0.97**	**303**	⇑*i*Pg	Pg	20 19 28.9	-0.9
NKME				*e*Sg	Sb	20 19 43.8	-0.3
NKY	**Niksic**	**0.98**	**306**	⇑*i*Pg	Pg	20 19 29.0	-0.9
NKY				*e*Sg	Sb	20 19 44.0	-0.3
NKY	**Niksic**	**0.98**	**306**	⇑*i*Pg	Pg	20 19 29.0	-0.9
NKY				*e*Sg	Sb	20 19 44.0	-0.3
SJES	**Sjenica**	**1.02**	**356**	⇓*i*Pg	Pg	20 19 29.9	-1.0
SJES				*e*Sg	Sg	20 19 44.2	-0.1
SJES	**Sjenica**	**1.02**	**356**	⇓*i*Pg	Pg	20 19 29.9	-1.0
SJES				*e*Sg	Sg	20 19 44.2	-0.1
SKO	**Skopje**	**1.06**	**104**	P	Pg	20 19 30.6	-0.8
SKO				S	Sb	20 19 47.0	+0.6
SKO	**Skopje**	**1.06**	**104**	*e*Pn	Pg	20 19 31.1	-0.3
SKO				*e*Sg	Sn	20 19 48.5	+0.2
SKO	**Skopje**	**1.06**	**104**	P	Pg	20 19 30.6	-0.8
SKO	**Skopje**	**1.06**	**104**	*e*Pn	Pg	20 19 31.0	-0.4
SKO				S	Sb	20 19 47.0	+0.6
SKO				*e*Sg	Sn	20 19 48.4	+0.1
HCY	**Herceg Novi**	**1.18**	**281**	⇓*i*Pg	Pg	20 19 32.6	-1.1
HCY				*e*Sg	Sb	20 19 50.4	+0.5
HCY	**Herceg Novi**	**1.18**	**281**	⇓*i*Pg	Pg	20 19 32.6	-1.1
HCY				*e*Sg	Sb	20 19 50.4	+0.5
PLE	**Pljevlja**	**1.20**	**336**	⇑*i*Pg	Pg	20 19 33.1	-1.1
PLE				*e*Sg	Sn	20 19 51.4	-0.5
PLE	**Pljevlja**	**1.20**	**336**	⇑*i*Pg	Pg	20 19 33.1	-1.1
PLE				*e*Sg	Sn	20 19 51.4	-0.5
SELS	**Selova**	**1.25**	**38**	*e*Pg	Pg	20 19 34.8	-0.3
SELS				*e*Sg	Sn	20 19 53.9	+0.8
UPM	**Unac-Piva**	**1.29**	**319**	⇓*i*Pg	Pg	20 19 34.7	-1.3
UPM				*e*Sg	Sn	20 19 54.4	+0.1
UPM	**Unac-Piva**	**1.29**	**319**	⇓*i*Pg	Pg	20 19 34.7	-1.3
UPM				*e*Sg	Sn	20 19 54.4	+0.1
UPM	**Unac-Piva**	**1.29**	**319**	P	Pg	20 19 35.1	-0.9
UPM				*e*Sg	Sn	20 19 54.4	+0.1
UPM				S	Sb	20 19 55.7	+2.3
IVAS	**Ivanjica**	**1.34**	**3**	*e*Pg	Pg	20 19 36.2	-0.6
IVAS				*e*Sg	Sg	20 19 54.0	-0.3
IVAS	**Ivanjica**	**1.34**	**3**	*e*Pg	Pg	20 19 36.2	-0.6
IVAS				*e*Sg	Sg	20 19 54.0	-0.3
TREB	**Trebinje**	**1.35**	**291**	*e*Pn	Pn	20 19 36.1	-0.8
TREB				*e*Sn	Sb	20 19 55.1	+0.2
TREB	**Trebinje**	**1.35**	**291**	*e*Pn	Pn	20 19 36.1	-0.8
TREB				*e*Sn	Sb	20 19 55.1	+0.2
BARS	**Barje**	**1.42**	**65**	*e*Pn	Pg	20 19 38.3	0.0
BARS				*e*Sn	Sn	20 19 59.0	+1.8
BARS	**Barje**	**1.42**	**65**	*e*Pn	Pg	20 19 38.3	0.0
BARS				*e*Sn	Sn	20 19 59.0	+1.8
BBLS	**Lazići**	**1.70**	**344**	*e*Pn	Pn	20 19 42.2	+0.4
BBLS				*e*Sn	Sb	20 20 04.9	0.0
BBLS	**Lazići**	**1.70**	**344**	*e*Pn	Pn	20 19 42.2	+0.4
BBLS				*e*Sn	Sb	20 20 04.9	0.0
KBN	**Korca**	**1.70**	**161**	*i* PG	Pg	20 19 44.1	+0.3
KBN				*i* SG	Sg	20 20 09.3	+3.4
KBN	**Korca**	**1.70**	**161**	*i* Pg	Pg	20 19 44.1	+0.3
	SNR=90						
GRUS	**Gruza**	**1.72**	**16**	*e*Pn	Pb	20 19 42.9	-0.4
GRUS				*e*Sg	Sg	20 20 07.5	+1.2
GRUS	**Gruza**	**1.72**	**16**	*e*Pn	Pb	20 19 42.9	-0.4
GRUS				*e*Sg	Sg	20 20 07.5	+1.2
STON	**Ston**	**1.86**	**291**	*e*Pn	Pb	20 19 44.9	-0.7
STON				Sn	Sg	20 20 12.1	+1.5
STON	**Ston**	**1.86**	**291**	⇓*i*Pn	Pn	20 19 44.4	+0.6
STON				*e*Sn	Sb	20 20 08.8	-0.4
STON	**Ston**	**1.86**	**291**	⇓*i*Pn	Pn	20 19 44.4	+0.6
STON				*e*Sn	Sb	20 20 08.8	-0.4
DIVS	**Divibare**	**1.86**	**358**	P	Pn	20 19 43.1	-0.9
DIVS	**Divibare**	**1.86**	**358**	*e*Pn	Pn	20 19 43.8	-0.2
DIVS				*e*Sn	Sn	20 20 07.9	-0.3
TRUS	**Trudelj**	**2.00**	**7**	*e*Pn	Pn	20 19 45.9	+0.1
TRUS	**Trudelj**	**2.00**	**7**	*e*Pn	Pn	20 19 45.9	+0.1
BOLS	**Boljevac**	**2.11**	**40**	*e*Pn	Pn	20 19 47.9	+0.6
BOLS	**Boljevac**	**2.11**	**40**	*e*Pn	Pn	20 19 47.9	+0.6
ZAPS	**Zavoj**	**2.16**	**60**	⇑*i*Pn	Pn	20 19 48.5	+0.4
ZAPS				*e*Sn	Sb	20 20 17.3	-0.9
ZAPS	**Zavoj**	**2.16**	**60**	⇑*i*Pn	Pn	20 19 48.5	+0.4
ZAPS				*e*Sn	Sb	20 20 17.3	-0.9
SVIS	**Svilajnac**	**2.19**	**22**	*e*Pg	Pb	20 19 51.9	+0.5
SVIS				*e*Sg	Sg	20 20 22.7	+1.1
TEKS	**Tekeris**	**2.34**	**351**	*e*Pn	Pn	20 19 50.6	0.0
UDBI	**Udbina**	**3.88**	**308**	*e*Pn	Pn	20 20 14.6	+2.9
UDBI				Sn	Sn	20 21 02.4	+4.5
UDBI	**Udbina**	**3.88**	**308**	*e*Pn	Pn	20 20 14.6	+2.9
UDBI				Sn	Sn	20 21 02.3	+4.4
NVLJ	**Novalja**	**4.44**	**303**	*e*Pn	Pn	20 20 20.2	+0.9
NVLJ				Sn	Sn	20 21 13.2	+1.7
NVLJ	**Novalja**	**4.44**	**303**	*e*Pn	Pn	20 20 20.2	+0.9
NVLJ				Sn	Sn	20 21 13.1	+1.6
SOKA	**Soboth**	**5.71**	**323**	⇑*i*Pn	Pn	20 20 39.9	+2.9
ABTA	**Abfaltersbach**	**7.03**	**312**	⇓*i*Pn	Pn	20 20 56.5	+1.4
ABTA	**Abfaltersbach**	**7.03**	**312**	Pn	Pn	20 20 56.5	+1.4

NNC 24 20:33:31.8±6.8**, 36.°65N×70.°05E, h71**km±144km**, mb3.5, mpv3.4, 3C-4D, Error ellipse: s-maj=49.8km s-min=41.5km az=171.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.46**	**3**	P	Pn	20 35 06.1	+1.8
	1.2nm,0.4s,baz=188,slow=12,SNR=22						
KK31				⇓S	Sn	20 36 18.4	+1.8
	2.6nm,0.4s,baz=190,slow=23,SNR=5.1						
AAK	**Ala-Archa**	**6.89**	**28**	⇓P	Pn	20 35 09.6	-0.8
	2.0nm,0.6s						
AAK				⇑S	Sn	20 36 27.8	+0.2
	9.6nm,0.7s						
TKM2	**Tokmak 2**	**7.58**	**33**	⇓P	Pn	20 35 18.8	-1.1
TKM2				⇑S	Sn	20 36 43.3	-1.3
	4.6nm,0.8s						
MK31	**Makanchi Array**	**13.64**	**38**	P	Pn	20 36 41.3	-0.7
	0.3nm,0.5s,baz=218,slow=12,SNR=5.5						
AB31	**Akbulak array**	**14.60**	**333**	P	Pn	20 36 54.8	+0.3
	3.7nm,0.7s,baz=158,slow=12,SNR=64						
AB31				⇑S	Sn	20 39 34.4	-0.4
	1.2nm,0.8s						
AKTO	**Aktyubinsk**	**16.28**	**332**	⇓P	P	20 37 17.4	-0.3
	2.4nm,0.8s						

*ISCJB **24** 20:39:40.9±0.7, 17.°6S±0.°2×178.°8W±0.°2, h547km, mb3.8/9, Error ellipse: s-maj=30.8km s-min=10.1km az=141.7*
*IDC **24** 20:39:41.8±5.1, 17.°61S×178.°78W, h545km±61km, mb3.5/8, mb1 3.8/9, mb1mx3.5/24, mbtmp4.4/9, Error ellipse: s-maj=42.1km s-min=24.3km az=153.0*
ISC 24 20:39:41.7±1.0**, 17.°7S**±0.°2×**178.°7W**±0.°2**, h547**km**, n26, σ0.s63**/25**, mb3.7**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.64**	**250**	P	**P**	**20 42 47.2**	**-0.3**
	1.9nm,0.3s,baz=82,slow=14,SNR=19						
ARMA	**Armidale**	**29.82**	**239**	P	**P**	**20 45 05.5**	**+0.7**
	baz=33,SNR=5.7						
RMQ	**Roma**	**31.33**	**248**	P	**P**	**20 45 18.6**	**+0.8**
	baz=35,SNR=5.9						
CNB	**Canberra Magne**	**33.35**	**232**	P	**P**	**20 45 35.2**	**+0.4**
	baz=37,SNR=7.6						
CMSA	**Cobar Meteorol**	**35.02**	**240**	P	**P**	**20 45 48.7**	**-0.1**
	baz=39,SNR=14						
QLP	**Quilpie**	**35.35**	**249**	P	**P**	**20 45 51.5**	**-0.2**
	baz=39,SNR=19						
COEN	**Coen**	**36.82**	**270**	P	**P**	**20 46 05.2**	**+1.2**
	baz=40,SNR=5.5						
TOO	**Toolangi**	**37.10**	**230**	P	**P**	**20 46 06.2**	**+0.2**
	baz=41,SNR=6.0						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**20 46 17.6**	**+0.2**
	4.4nm,0.4s,baz=94,slow=8.8,SNR=30						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**20 46 17.8**	**+0.4**
	baz=42,SNR=25						
HTT	**Hallett**	**41.02**	**239**	P	**P**	**20 46 37.7**	**0.0**
	baz=45,SNR=9.2						
BBOO	**Buckleboo**	**43.27**	**241**	P	**P**	**20 46 55.1**	**-0.2**
	baz=47,SNR=47						
WRA	**Warramunga Arr**	**44.40**	**259**	P	**P**	**20 47 03.4**	**-0.9**
	2.8nm,0.5s,baz=91,slow=7.2,SNR=89						
KDU	**Kakadu**	**47.28**	**269**	P	**P**	**20 47 26.4**	**+0.1**
	baz=50,SNR=5.3						
WRKA	**Warakurna**	**49.65**	**252**	P	**P**	**20 47 43.3**	**-0.4**
	baz=53,SNR=14						
FORT	**Forrest**	**49.85**	**244**	P	**P**	**20 47 44.2**	**-0.9**
	baz=53,SNR=11						
KNRA	**Kununurra**	**50.23**	**264**	P	**P**	**20 47 47.9**	**-0.1**
	baz=54,SNR=6.4						
MJAR	**Matsushiro Arr**	**67.56**	**323**	P	**P**	**20 49 44.3**	**+0.4**
	1.1nm,0.5s,baz=158,slow=6.7,SNR=5.8						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**20 50 52.5**	**+0.7**
	1.1nm,0.7s,baz=230,slow=7.9,SNR=6.4						
SEY	**Seymchan**	**83.49**	**347**	P	**P**	**20 51 11.8**	**+0.2**
	2.9nm,0.5s,baz=142,slow=7.5						
ILAR	**Eielson Array**	**85.73**	**13**	P	**P**	**20 51 21.5**	**-1.1**
	0.8nm,0.4s,baz=223,slow=5.1,SNR=26						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**20 51 26.4**	**+1.1**
	1.2nm,0.8s,baz=220,slow=6.7,SNR=10						
PDAR	**Pinedale Array**	**87.38**	**44**	P	**P**	**20 51 31.1**	**0.0**
	0.9nm,0.5s,baz=210,slow=3.8,SNR=10						
YKA	**Yellowknife Ar**	**94.24**	**25**	P	**P**	**20 52 01.0**	**-1.0**
	0.2nm,0.4s,baz=231,slow=4.6,SNR=5.7						
BRTR	**Keskin Array B**	**144.42**	**315**	PKP	PKPbc	20 58 15.5	-0.7
	0.6nm,0.4s,baz=87,slow=3.2,SNR=5.7						
GERES	**GERESS Array B**	**147.32**	**345**	PKPbc	**PKPbc**	**20 58 23.9**	**-0.2**
	1.0nm,0.5s,baz=31,slow=2.5,SNR=15						

IDC 24 20:50:15.2±3.9**, 22.°24S×178.°35W, h0**km**, mb4.0**/3**, mb1 4.3**/3**, mb1mx3.7**/40**, mbtmp4.0**/3**, Error ellipse: s-maj=164.0km s-min=51.3km az=144.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.76**	**246**	P	P	20 57 24.6	-0.1
	1.1nm,0.3s,baz=83,slow=9.7,SNR=5.7						
WRA	**Warramunga Arr**	**44.06**	**264**	P	P	20 58 25.1	-0.2
	0.9nm,0.4s,baz=100,slow=8.5,SNR=49						
CMAR	**Chiang Mai Arr**	**90.39**	**290**	P	P	21 03 18.8	-0.2
	0.6nm,0.9s,baz=129,slow=2.6,SNR=5.1						
AKASG	**Malin Array Be**	**144.36**	**330**	PKP	PKPab	21 09 50.8	-0.4
	0.8nm,0.6s,baz=41,slow=4.7,SNR=4.6						
BRTR	**Keskin Array B**	**147.73**	**310**	PKPbc	PKPbc	21 10 02.6	+0.3
	0.9nm,0.9s,baz=83,slow=3.3,SNR=4.7						

*CSEM **24** 20:54:16.0±0.3, 38.°64N×9.°26W, h10km, ML3.1/20, Error ellipse: s-maj=5.2km s-min=2.6km az=89.0*
*MDD **24** 20:54:17.2±0.4, 38.°65N×9.°26W, h8km±2km, mbLg2.7/28, Error ellipse: s-maj=4.3km s-min=2.1km az=72.0, PRXIMO*
*INMG **24** 20:54:17.3±1.6, 38.°63N×9.°29W, h5km±3km, ML2.5, Error ellipse: s-maj=4.6km s-min=1.9km az=90.0*
*IGIL **24** 20:54:17.8, 38.°63N×9.°31W, h9km, ML2.6*
ISC 24 20:54:16.5±0.9**, 38.°65N**±0.°02×**9.°30W**±0.°04**, h15**km±5km**, n103, σ1.s20**/161**, 2C-1D, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIS	**Lisbon**	**0.14**	**58**	*e*P	**Pg**	**20 54 20.6**	**+0.2**
LIS				*e*S	**Sg**	**20 54 23.7**	**+1.0**
LIS				AML	AML	20 54 24.7	
	comp=N,2μm,0.3s						
LIS	**Lisbon**	**0.14**	**58**	*i* Pg	**Pg**	**20 54 20.5**	**+0.2**
LIS				*e*Sg	**Sg**	**20 54 21.9**	**-0.8**
LIS				A	A	20 54 24.7	
	comp=N,846nm,0.2s						
LIS	**Lisbon**	**0.14**	**58**	⇑Pg	**Pg**	**20 54 20.5**	**+0.2**
LIS				Lg	Lg	20 54 21.9	
	comp=N,846nm,0.2s						
INMG	**Instituto de M**	**0.19**	**46**	*e*Sg	**Sg**	**20 54 21.7**	**-2.3**
INMG	**Instituto de M**	**0.19**	**46**	Lg	Lg	20 54 21.7	
INMG	**Instituto de M**	**0.19**	**46**	*e*Sg	**Sg**	**20 54 21.7**	**-2.3**
PMAFR	**Mafra**	**0.31**	**2**	*i* Pg	**Pg**	**20 54 23.0**	**-0.1**
PMAFR				*e*Sg	**Sg**	**20 54 27.6**	**+0.1**
PMAFR				A	A	20 54 30.0	
	comp=N,503nm,0.3s						
PMAFR	**Mafra**	**0.31**	**2**	⇓Pg	**Pg**	**20 54 22.9**	**-0.1**
	comp=N,64nm,0.2s,SNR=18						
PMAFR				Lg	Lg	20 54 27.4	
	comp=N,718nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**0.31**	**2**	Pg	**Pg**	**20 54 22.9**	**-0.1**
	comp=N,64nm,0.2s,SNR=18						
PMAFR				Lg	Lg	20 54 27.4	
	comp=N,718nm,0.2s,SNR=7.9						
PMAFR				*e*Sg	**Sg**	**20 54 27.6**	**+0.1**
	comp=N,503nm,0.3s						
PNCL	**Nicolau / Gran**	**0.81**	**131**	*e*P	**Pg**	**20 54 32.0**	**-0.2**
PNCL				*e*S	**Sb**	**20 54 43.2**	**+0.4**
PNCL				A	A	20 54 45.5	
	comp=N,81nm,0.1s						
PNCL	**Nicolau / Gran**	**0.81**	**131**	*e*P	**Pg**	**20 54 32.0**	**-0.2**
PNCL				*e*S	**Sb**	**20 54 43.2**	**+0.4**
	comp=N,81nm,0.1s						
PMTG	**Montargil**	**0.94**	**63**	*e*P	**Pg**	**20 54 34.5**	**-0.2**
PMTG				*e*S	**Sb**	**20 54 47.5**	**+0.8**
PMTG				A	A	20 54 48.5	
	comp=N,58nm,0.2s						
PMTG	**Montargil**	**0.94**	**63**	*e*P	**Pg**	**20 54 34.5**	**-0.2**
PMTG				*e*S	**Sb**	**20 54 47.5**	**+0.8**
	comp=N,58nm,0.2s						
EVO	**Evora**	**1.01**	**96**	*i* P	**Pg**	**20 54 35.8**	**-0.3**
EVO				*e*Sg	**Sb**	**20 54 49.6**	**+0.7**
EVO				A	A	20 54 52.0	
	comp=N,73nm,0.1s						
EVO	**Evora**	**1.01**	**96**	⇑Pg	**Pg**	**20 54 35.8**	**-0.3**
EVO				Lg	Lg	20 54 49.6	
	comp=N,73nm,0.1s						
EVO	**Evora**	**1.01**	**96**	Pg	**Pg**	**20 54 35.8**	**-0.3**
EVO				*e*Sg	**Sb**	**20 54 49.6**	**+0.7**
	comp=N,73nm,0.1s						
MESJ	**Messejana**	**1.17**	**133**	*e*P	**Pb**	**20 54 37.9**	**-0.5**
MESJ				*e*S	**Sg**	**20 54 53.6**	**-0.7**
MESJ				AML	AML	20 54 55.3	
	comp=N,76nm,0.2s						
MESJ	**Messejana**	**1.17**	**133**	*e*P	**Pb**	**20 54 38.0**	**-0.4**
MESJ				*e*S	**Sb**	**20 54 54.1**	**+0.8**
MESJ	**Messejana**	**1.17**	**133**	Pg	**Pb**	**20 54 37.9**	**-0.5**
MESJ				Lg	Lg	20 54 53.6	
	comp=N,76nm,0.2s						
MESJ	**Messejana**	**1.17**	**133**	*e*P	**Pb**	**20 54 38.0**	**-0.4**
MESJ				Lg	Lg	20 54 53.6	
	comp=N,76nm,0.2s						
MESJ				*e*S	**Sb**	**20 54 54.1**	**+0.8**
PTEO	**Sao Teotonio**	**1.19**	**157**	*e*P	**Pb**	**20 54 38.3**	**-0.4**
PTEO				*e*S	**Sb**	**20 54 54.2**	**+0.4**
PTEO				A	A	20 54 56.0	
	comp=N,84nm,0.3s						
PTEO	**Sao Teotonio**	**1.19**	**157**	Pg	**Pb**	**20 54 38.3**	**-0.4**
PTEO				Lg	Lg	20 54 54.2	
	comp=N,42nm,0.3s						
PTEO	**Sao Teotonio**	**1.19**	**157**	*e*P	**Pb**	**20 54 38.3**	**-0.4**
PTEO				*e*S	**Sb**	**20 54 54.2**	**+0.4**
	comp=N,84nm,0.3s						
PTOM	**Tomar**	**1.19**	**35**	*e*P	**Pb**	**20 54 38.8**	**0.0**
PTOM				*e*S	**Sg**	**20 54 55.5**	**+0.4**
PTOM				A	A	20 54 57.7	
	comp=N,81nm,0.1s						
PTOM	**Tomar**	**1.19**	**35**	Pg	**Pb**	**20 54 38.8**	**0.0**
PTOM				Lg	Lg	20 54 55.5	
	comp=N,40nm,0.1s						
PTOM	**Tomar**	**1.19**	**35**	*e*P	**Pb**	**20 54 38.8**	**0.0**
PTOM				*e*S	**Sg**	**20 54 55.5**	**+0.4**
	comp=N,81nm,0.1s						
PESTR	**Estremoz**	**1.35**	**80**	*e*P	**Pn**	**20 54 41.5**	**+0.6**
PESTR				*e*S	**Sn**	**20 54 59.7**	**+1.1**
PESTR				A	A	20 55 01.9	
	comp=N,44nm,0.2s						
PESTR	**Estremoz**	**1.35**	**80**	*e*P	**Pn**	**20 54 41.5**	**+0.6**
PESTR				*e*S	**Sn**	**20 54 59.7**	**+1.1**
	comp=N,44nm,0.2s						
PCVE	**Castro Verde**	**1.42**	**135**	*e*P	**Pn**	**20 54 41.9**	**+0.2**
PCVE				*e*S	**Sb**	**20 55 01.3**	**+0.8**
PCVE				A	A	20 55 03.3	
	comp=N,44nm,0.3s						
PCVE	**Castro Verde**	**1.42**	**135**	Pg	**Pn**	**20 54 41.9**	**+0.2**
PCVE				Lg	Lg	20 55 01.3	
	comp=N,44nm,0.3s						
PCVE	**Castro Verde**	**1.42**	**135**	*e*P	**Pn**	**20 54 41.9**	**+0.2**
PCVE				*e*S	**Sb**	**20 55 01.3**	**+0.8**
	comp=N,44nm,0.3s						
MORF	**Marmelete**	**1.43**	**159**	*e*P	**Pn**	**20 54 41.7**	**-0.2**
MORF				*e*S	**Sn**	**20 54 59.9**	**-0.6**
MORF				AML	AML	20 55 03.9	
	comp=N,75nm,0.1s						
MORF	**Marmelete**	**1.43**	**159**	*e*P	**Pn**	**20 54 41.9**	**0.0**
MORF				*e*S	**Sn**	**20 54 59.9**	**-0.6**
MORF				A	A	20 55 04.7	
	comp=N,50nm,0.1s						
MORF	**Marmelete**	**1.43**	**159**	Pn	**Pn**	**20 54 41.7**	**-0.2**

MORF Sn Sn 20 54 59.9 -0.6
comp=N,75nm,0.1s
MORF Marmelete 1.43 159 Pn Pn 20 54 41.7 -0.2
MORF eS Sn 20 54 59.9 -0.6
comp=N,50nm,0.1s
PCAS Casmilo, Conde 1.54 24 eP Pn 20 54 44.3 +0.9
PCAS eS Sn 20 55 04.7 +1.6
PCAS A A 20 55 07.7
comp=N,48nm,0.3s
PCAS Casmilo, Conde 1.54 24 eP Pn 20 54 44.3 +0.9
PCAS eS Sn 20 55 04.7 +1.6
comp=N,48nm,0.3s
PFVI Vila Bisbo 1.56 166 eP Pn 20 54 43.5 -0.1
PFVI eS Sn 20 55 03.6 +0.1
PFVI A A 20 55 07.2
comp=N,17nm,0.2s
PFVI Vila Bisbo 1.56 166 Pn Pn 20 54 43.2 -0.4
comp=N,1.5nm,0.1s,SNR=6.4
PFVI Pg Pn 20 54 45.5 +1.9
comp=N,8.4nm,0.2s,SNR=7.9
PFVI Sn Sn 20 55 03.8 +0.4
comp=N,9.8nm,0.2s,SNR=7.9
PFVI Lg Lg 20 55 06.0
comp=N,35nm,0.1s,SNR=7.9
PFVI Vila Bisbo 1.56 166 Pn Pn 20 54 43.2 -0.4
comp=N,1.5nm,0.1s,SNR=6.4
PFVI Vila Bisbo 1.56 166 eP Pn 20 54 43.5 -0.1
PFVI Vila Bisbo 1.56 166 Pg Pn 20 54 45.5 +1.9
comp=N,8.4nm,0.2s,SNR=7.9
PFVI eS Sn 20 55 03.6 +0.1
comp=N,17nm,0.2s
PFVI Lg Lg 20 55 06.0
comp=N,35nm,0.1s,SNR=7.9
PMRV Marv??o 1.68 62 ePg Pb 20 54 47.4 +0.3
PMRV eSn Sn 20 55 07.4 +0.8
PMRV A A 20 55 15.5
comp=N,36nm,0.4s
PMRV Marv??o 1.68 62 Pg Pb 20 54 47.4 +0.3
PMRV Sn Sn 20 55 07.4 +0.8
comp=N,36nm,0.4s
PMRV Marv??o 1.68 62 ePg Pb 20 54 47.4 +0.3
PMRV Sn Sn 20 55 07.4 +0.8
comp=N,36nm,0.4s
PVAQ Vaqueiros 1.76 134 ePn Pn 20 54 46.3 -0.1
PVAQ Vaqueiros 1.76 134 ePg Pb 20 54 49.2 +0.8
PVAQ eSn Sn 20 55 09.6 +1.1
PVAQ eSg Sb 20 55 11.8 +1.5
PVAQ A A 20 55 14.2
comp=N,29nm,0.4s
PVAQ Vaqueiros 1.76 134 Pn Pn 20 54 46.3 -0.1
PVAQ Pg Pb 20 54 49.2 +0.8
PVAQ Sn Sn 20 55 09.6 +1.1
PVAQ Lg Lg 20 55 11.8
comp=N,29nm,0.4s
PVAQ Vaqueiros 1.76 134 ePn Pn 20 54 46.3 -0.1
PVAQ Vaqueiros 1.76 134 ePg Pb 20 54 49.2 +0.8
PVAQ eSn Sn 20 55 09.6 +1.1
PVAQ eSg Sb 20 55 11.8 +1.5
comp=N,29nm,0.4s
PBDV Barranco-do-Ve 1.77 142 ePn Pn 20 54 46.7 +0.1
PBDV Barranco-do-Ve 1.77 142 ePg Pb 20 54 49.5 +0.9
PBDV eSg Sg 20 55 13.3 -0.1
PBDV A A 20 55 16.2
comp=N,28nm,0.4s
PBDV Barranco-do-Ve 1.77 142 Pn Pn 20 54 46.7 +0.1
PBDV Pg Pb 20 54 49.5 +0.9
PBDV Lg Lg 20 55 13.3
comp=N,28nm,0.4s
PBDV Barranco-do-Ve 1.77 142 ePn Pn 20 54 46.7 +0.1
PBDV Barranco-do-Ve 1.77 142 ePg Pb 20 54 49.5 +0.9
PBDV eSg Sg 20 55 13.3 -0.1
comp=N,28nm,0.4s
EBAD Badajoz 1.79 86 Pn Pn 20 54 46.4 -0.4
comp=N,1.4nm,0.1s,SNR=19
EBAD Pg Pb 20 54 48.8 -0.2
comp=N,5.8nm,0.1s,SNR=84
EBAD Sn Sn 20 55 07.4 -1.9
comp=N,13nm,0.2s,SNR=5.4
EBAD Lg Lg 20 55 12.1
comp=N,50nm,0.1s,SNR=28
EBAD Badajoz 1.79 86 Pn Pn 20 54 46.4 -0.4
comp=N,1.4nm,0.1s,SNR=19
EGRO El Granado 1.81 127 Pn Pn 20 54 46.9 -0.2
comp=N,1.0nm,0.1s,SNR=24
EGRO Pg Pb 20 54 50.1 +0.8
comp=N,11nm,0.3s,SNR=9.4
EGRO Sn Sn 20 55 09.2 -0.6
comp=N,4.1nm,0.1s,SNR=5.0
EGRO Lg Lg 20 55 13.2
comp=N,36nm,0.2s,SNR=20
EGRO El Granado 1.81 127 Pn Pn 20 54 46.9 -0.2
comp=N,1.0nm,0.1s,SNR=24
PBAR Barrancos 1.84 104 ePn Pn 20 54 48.2 +0.7
PBAR eSg Sg 20 55 15.4 -0.2
PBAR A A 20 55 21.0
comp=N,65nm,0.4s
PBAR Barrancos 1.84 104 Pn Pn 20 54 48.2 +0.7
PBAR Lg Lg 20 55 15.4
comp=N,65nm,0.4s
PBAR Barrancos 1.84 104 ePn Pn 20 54 48.2 +0.7
PBAR eSg Sg 20 55 15.4 -0.2
comp=N,65nm,0.4s
PCBR Castelo Branco 1.85 49 ePn Pn 20 54 49.2 +1.5
PCBR Castelo Branco 1.85 49 ePg Pb 20 54 51.1 +1.1
PCBR eSn Sn 20 55 12.9 +2.1
PCBR A A 20 55 19.0
comp=N,15nm,0.3s
PCBR Castelo Branco 1.85 49 Pn Pn 20 54 49.2 +1.5
PCBR Pg Pb 20 54 51.1 +1.1
PCBR Sn Sn 20 55 12.9 +2.1
comp=N,7.4nm,0.3s
PCBR Castelo Branco 1.85 49 ePn Pn 20 54 49.2 +1.5
MTE Manteigas 2.22 37 eSg Sg 20 55 28.0 +0.2
MTE A A 20 55 30.9
comp=N,18nm,0.3s
MTE Manteigas 2.22 37 Lg Lg 20 55 28.0
comp=N,9.1nm,0.3s
MTE Manteigas 2.22 37 eSg Sg 20 55 28.0 +0.2
comp=N,18nm,0.3s
EMIN Mina Concepcio 2.25 112 Pn Pn 20 54 52.6 -0.5
comp=N,0.2nm,0.1s,SNR=19
EMIN Pg Pb 20 54 57.8 +1.0
comp=N,1.9nm,0.1s,SNR=7.9
EMIN Sn Sn 20 55 18.6 -2.0
comp=N,2.7nm,0.2s,SNR=7.9
EMIN Lg Lg 20 55 26.5
comp=N,14nm,0.1s
EMIN Mina Concepcio 2.25 112 Pn Pn 20 54 52.6 -0.5
comp=N,0.2nm,0.1s,SNR=19
EPLA Plasencia 2.87 59 Pn Pn 20 55 02.2 +0.5
comp=N,0.4nm,0.2s,SNR=7.9
EPLA Pg Pb 20 55 09.7 +2.2
comp=N,1.1nm,0.2s,SNR=7.9
EPLA Sn Sn 20 55 35.2 -0.8
comp=N,2.6nm,0.2s,SNR=7.9
EPLA Lg Lg 20 55 46.6
comp=N,4.2nm,0.1s,SNR=6.7
EPLA Plasencia 2.87 59 Pn Pn 20 55 02.2 +0.5
comp=N,0.4nm,0.2s,SNR=7.9
POLO Lamas de Olo 2.96 22 eSn Sn 20 55 37.0 -1.3
POLO A A 20 55 50.9
comp=N,4.4nm,0.3s
POLO Lamas de Olo 2.96 22 eSn Sn 20 55 37.0 -1.3
comp=N,4.4nm,0.3s
MVO Moncorvo 3.06 34 Pn Pn 20 55 04.0 -0.4
comp=N,1.4nm,0.2s,SNR=7.9
MVO Sn Sn 20 55 38.2 -2.6
comp=N,3.2nm,0.2s,SNR=5.6
MVO Lg Lg 20 55 52.8
comp=N,15nm,0.4s,SNR=7.9
MVO Moncorvo 3.06 34 Pn Pn 20 55 04.0 -0.4
comp=N,1.4nm,0.2s,SNR=7.9
MVO Sn Sn 20 55 38.2 -2.6
comp=N,3.2nm,0.2s,SNR=5.6
MVO Lg Lg 20 55 52.8
comp=N,15nm,0.4s,SNR=7.9
ECAB El Cabril 3.10 99 Pn Pn 20 55 05.3 +0.4
comp=N,0.4nm,0.1s,SNR=7.8
ECAB Pg Pb 20 55 12.3 +0.9
comp=N,0.9nm,0.1s,SNR=7.9
ECAB Sn Sn 20 55 40.0 -1.7
comp=N,4.8nm,0.2s,SNR=6.2
ECAB Lg Lg 20 55 52.7
comp=N,15nm,0.3s,SNR=7.9
ECAB El Cabril 3.10 99 Pn Pn 20 55 05.3 +0.4
comp=N,0.4nm,0.1s,SNR=7.8
ESPR Espera 3.25 122 Pg Pb 20 55 15.4 +1.5
comp=N,3.3nm,0.2s,SNR=7.9
ESPR Sn Sn 20 55 44.6 -0.8
comp=N,11nm,0.2s,SNR=7.9
ESPR Lg Lg 20 55 59.9
comp=N,16nm,0.3s,SNR=7.9
ESPR Espera 3.25 122 Pg Pb 20 55 15.4 +1.5
comp=N,3.3nm,0.2s,SNR=7.9
ESPR Sn Sn 20 55 44.6 -0.8
comp=N,11nm,0.2s,SNR=7.9
ESPR Lg Lg 20 55 59.9
comp=N,16nm,0.3s,SNR=7.9
ELOB Lobios 3.35 16 Lg Lg 20 56 01.8
comp=N,21nm,0.4s,SNR=7.9
ELOB Lobios 3.35 16 Lg Lg 20 56 01.8
comp=N,21nm,0.4s,SNR=7.9
ECAL Calabor 3.83 30 Pn Pn 20 55 13.5 -1.5
comp=N,3.3nm,0.2s,SNR=7.9
ECAL Sn Sn 20 55 56.7 -3.0
comp=N,6.4nm,0.4s,SNR=7.9
ECAL Lg Lg 20 56 18.9
comp=N,53nm,0.7s,SNR=7.9
ECAL Calabor 3.83 30 Pn Pn 20 55 13.5 -1.5
comp=N,3.3nm,0.2s,SNR=7.9
ECAL Sn Sn 20 55 56.7 -3.0
comp=N,6.4nm,0.4s,SNR=7.9
ECAL Lg Lg 20 56 18.9
comp=N,53nm,0.7s,SNR=7.9
EMIJ Mijas 4.15 119 Pn Pn 20 55 19.8 +0.5
comp=N,0.8nm,0.3s,SNR=7.9
EMIJ Sn Sn 20 56 06.4 -1.2
comp=N,2.6nm,0.4s,SNR=7.9
EMIJ Lg Lg 20 56 28.6
comp=N,12nm,0.7s,SNR=7.9
EMIJ Mijas 4.15 119 Pn Pn 20 55 19.8 +0.5
comp=N,0.8nm,0.3s,SNR=7.9
EMIJ Sn Sn 20 56 06.4 -1.2
comp=N,2.6nm,0.4s,SNR=7.9
EMIJ Lg Lg 20 56 28.6
comp=N,12nm,0.7s,SNR=7.9
ESDC Sonseca Array 4.27 74 Pn Pn 20 55 20.0 -1.0
comp=N,0.5nm,0.1s,baz=258,slow=13,SNR=13
ESDC Sn Sn 20 56 07.7 -2.9
comp=N,0.9nm,0.1s,baz=262,slow=23,SNR=6.1
ESDC Lg Lg 20 56 27.7
comp=N,2.1nm,0.3s,baz=262,slow=28,SNR=9.1
ESDC Sonseca Array 4.27 74 Pn Pn 20 55 20.0 -1.0
comp=N,0.5nm,0.1s,SNR=13
ESDC Sn Sn 20 56 07.7 -2.9
comp=N,0.9nm,0.1s,SNR=6.1
ESDC Lg Lg 20 56 27.7
comp=N,2.1nm,0.3s,SNR=9.1
STS Santiago 4.28 7 Sn Sn 20 56 08.2 -2.4
comp=N,5.4nm,0.2s,SNR=7.9
STS Santiago 4.28 7 Sn Sn 20 56 08.2 -2.4
comp=N,5.4nm,0.2s,SNR=7.9
EBAN Banos Encina 4.36 95 Lg Lg 20 56 32.4
comp=N,9.8nm,0.5s,SNR=7.9
EBAN Banos Encina 4.36 95 Lg Lg 20 56 32.4
comp=N,9.8nm,0.5s,SNR=7.9
GUD Guadarrama 4.44 62 Pn Pn 20 55 23.1 -0.4
comp=N,0.6nm,0.3s,SNR=7.9
GUD Pg Pb 20 55 36.8 +2.5
comp=N,1.7nm,0.5s,SNR=7.9
GUD Sn Sn 20 56 10.8 -4.1
comp=N,0.9nm,0.3s,SNR=7.9
GUD Lg Lg 20 56 35.3
comp=N,4.2nm,0.3s,SNR=7.9
GUD Guadarrama 4.44 62 Pn Pn 20 55 23.1 -0.4
comp=N,0.6nm,0.3s,SNR=7.9
EQES Quesada 4.97 98 Sn Sn 20 56 24.3 -3.8
comp=N,0.5nm,0.2s,SNR=7.9
EQES Lg Lg 20 56 55.2
comp=N,5.6nm,0.5s,SNR=7.9
EQES Quesada 4.97 98 Sn Sn 20 56 24.3 -3.8
comp=N,0.5nm,0.2s,SNR=7.9
EQES Lg Lg 20 56 55.2
comp=N,5.6nm,0.5s,SNR=7.9
SESP Santiago Espad 5.33 94 Lg Lg 20 57 05.4
comp=N,4.9nm,0.2s,SNR=7.9
SESP Santiago Espad 5.33 94 Lg Lg 20 57 05.4
comp=N,4.9nm,0.2s,SNR=7.9
ETOR Torete 5.99 66 Lg Lg 20 57 26.2
comp=N,4.4nm,0.5s,SNR=5.7
ETOR Torete 5.99 66 Lg Lg 20 57 26.2
comp=N,4.4nm,0.5s,SNR=5.7
ETOB Tobarra 6.07 88 Lg Lg 20 57 30.3
comp=N,7.9nm,0.8s,SNR=7.9
ETOB Tobarra 6.07 88 Lg Lg 20 57 30.3
comp=N,7.9nm,0.8s,SNR=7.9

CSEM 24 20:56:53.0, 41.29N×0.43E, h0km, ML1.0, Mining explosion. After MDD,Spain

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
EMIR Miracle 1.03 52 Pg Pg 20 57 12.9 0.0
3.1nm,0.2s,SNR=7.1
EMOS Mosqueruela 1.15 217 Sn Pg 20 57 13.8 -1.5
0.4nm,0.1s,SNR=7.9
EMOS Mosqueruela 1.15 217 Pg Pg 20 57 14.3 -1.0
SNR=7.9
EMOS Lg Lg 20 57 29.6
0.3nm,0.1s,SNR=7.9
CSOR Sort 1.21 25 Pg Pg 20 57 15.2 -1.1
7.2nm,0.9s,SNR=18
CSOR Lg Lg 20 57 32.2
0.7nm,0.1s
CFON Fontmartina 1.58 72 Pg Pn 20 57 21.6 -0.8
SNR=7.9
CFON Lg Lg 20 57 43.8
0.7nm,0.1s,SNR=7.9
CLLI Llivia 1.66 43 Pg Pn 20 57 22.1 -1.4
6.9nm,0.9s,SNR=7.5
CLLI Lg Lg 20 57 45.1
0.4nm,0.1s

IDC 24 21:34:53.8±1.3, 55.77N×110.13E, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.5/30, mbtmp3.7/9, ML3.3/4, MS3.5/2, Ms1 3.5/2, ms1mx2.6/40, Error ellipse: s-maj=30.2km s-min=12.2km az=120.0
MOS 24 21:34:53.8±0.9, 55.78N×110.15E, h11km, mb4.1/3, Error ellipse: s-maj=12.6km s-min=7.3km az=66.6
MOS Felt (II-III) at Verkhnyaya Zaimka, Kichera; (II) at Severobaykal'sk.
BYKL 24 21:34:55.2±0.2, 55.73N×110.20E, h6km±2km, FELT I=II-III MSK at Verchnya Zaimka, Kichera, II at Severobaykalsk
ISC 24 21:34:54.5±0.5, 55.74N±0.02×110.08E±0.02, h10km, n70, σ1.97/112, mb3.6/5, 7C-4D, Lake Baykal region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NIZ Nizh Angarsk 0.30 277 ePG Pb 21 35 02.4 +0.4
NIZ e 21 35 07.9
NIZ pmax pmax
comp=Z,1μm,0.2s
NIZ smax smax
comp=E,7μm,0.5s
NIZ Nizh Angarsk 0.30 277 ⇑iPg Pb 21 35 02.4 +0.4
NIZ Pmax 21 35 02.7
comp=E,1μm,0.2s
NIZ iSg Sb 21 35 08.0 +0.9
NIZ Smax 21 35 08.6
comp=E,6μm,0.3s
KMO Kumora 0.65 76 ePG Pg 21 35 05.5 -1.6
KMO e 21 35 13.0
KMO pmax pmax
comp=Z,394nm,0.4s
KMO smax smax
comp=N,3μm,1.0s
KMO Kumora 0.65 76 ⇑iPg Pg 21 35 05.5 -1.6
KMO Pmax 21 35 06.1
comp=N,395nm,0.4s
KMO iSg Sg 21 35 13.4 -2.2
KMO Smax 21 35 15.8
comp=N,3μm,1.0s
YOA Uoyan 1.01 66 ePG Pg 21 35 12.7 -1.1
YOA i 21 35 25.8
YOA pmax pmax
comp=Z,244nm,0.2s
YOA smax smax
comp=N,3μm,0.4s
YOA Uoyan 1.01 66 ePg Pg 21 35 12.4 -1.4
YOA ePb Pn 21 35 15.3 +0.6
YOA max 21 35 15.9
comp=N,282nm,0.2s
YOA eSg Sg 21 35 25.7 -1.3
YOA eSb Sn 21 35 29.6 +0.7
YOA max 21 35 42.2
comp=N,2μm,1.0s
YLYR Ulyunkhan 1.06 144 ⇑iPG Pg 21 35 13.7 -1.2
YLYR e 21 35 26.8
YLYR pmax pmax
comp=Z,517nm,0.3s
YLYR smax smax
comp=N,1μm,0.3s
YLYR Ulyunkhan 1.06 144 ⇓iPg Pg 21 35 13.7 -1.2
comp=N,436nm,0.6s
YLYR ⇑iPg Pg 21 35 13.7 -1.2
comp=N,291nm,0.6s
YLYR ⇑iPg Pg 21 35 13.7 -1.2
comp=N,558nm,0.6s
YLYR Pmax 21 35 13.9
comp=N,503nm,0.5s
YLYR eSg Sg 21 35 27.3 -1.4
YLYR eSb Sn 21 35 32.4 +2.1
YLYR max 21 35 34.6
comp=N,1μm,0.3s
SVKR Severomuysk 2.00 78 ePN Pb 21 35 29.3 -1.6
SVKR e 21 35 55.1
SVKR pmax pmax
comp=Z,424nm,0.3s
SVKR smax smax
comp=N,4μm,1.0s
SVKR Severomuysk 2.00 78 ePn Pb 21 35 29.1 -1.8
SVKR ⇓iPg Pg 21 35 30.3 -2.4
SVKR Pmax 21 35 30.7
comp=N,366nm,0.4s
SVKR e 21 35 34.3
SVKR eSg Sb 21 35 55.1 -0.7
SVKR e 21 35 57.6
SVKR max 21 35 59.0
comp=N,4μm,0.5s
SYVR Suvo 2.08 181 ePN Pb 21 35 32.2 -0.1
SYVR e 21 36 00.7
SYVR pmax pmax
comp=Z,289nm,0.6s
SYVR smax smax
comp=E,3μm,0.7s
SYVR Suvo 2.08 181 ePn Pb 21 35 30.9 -1.4
SYVR ⇑iPg Pg 21 35 32.6 -1.8
SYVR Pmax 21 35 33.1
comp=E,285nm,0.6s
SYVR eSg Sg 21 36 00.5 -0.9
SYVR Smax 21 36 03.0
comp=E,3μm,0.7s
OGRR Ongureny 2.54 215 ePn Pb 21 35 38.4 -1.8
OGRR ePg Pg 21 35 41.5 -1.7
OGRR Pmax 21 35 43.5
comp=E,117nm,0.4s
OGRR eSn Sb 21 36 10.1 -1.4
OGRR eSg Sg 21 36 15.1 -1.0
OGRR Smax 21 36 18.1
comp=E,706nm,0.4s
MXMB Maximikha 2.60 198 ePn Pb 21 35 38.5 -2.6
MXMB ePg Pg 21 35 42.4 -1.8
MXMB Pmax 21 35 44.0
comp=E,92nm,0.9s
MXMB eSg Sg 21 36 16.5 -1.4
MXMB Smax 21 36 19.8
comp=E,2μm,0.4s
BOD Bodaibo 3.00 44 ePN Pn 21 35 42.8 +0.7
BOD e 21 35 48.5
BOD eS Sn 21 36 17.1 -1.0
BOD e 21 36 26.0
BOD pmax pmax
comp=Z,41nm,0.3s
BOD smax smax
comp=N,322nm,0.4s
BOD Bodaibo 3.00 44 ePn Pn 21 35 43.2 +1.1
BOD e 21 35 45.6
BOD ePg Pb 21 35 48.0 0.0
BOD ePgPg PbPb 21 35 50.6 -0.5
BOD max 21 35 50.8
comp=N,50nm,1.1s
BOD eSn Sn 21 36 17.9 -0.2
BOD i Sg Sb 21 36 26.4 +1.7
BOD Smax 21 36 29.9
comp=N,324nm,0.3s
NLYR Nelyaty 3.24 74 ePN Pn 21 35 45.9 +0.6
NLYR Nelyaty 3.24 74 ePn Pn 21 35 46.0 +0.6
NLYR ePg Pb 21 35 52.4 +0.4
NLYR Pmax 21 35 55.9
comp=N,76nm,0.7s
NLYR eSg Sb 21 36 33.7 +2.2
NLYR Smax 21 36 37.0
comp=N,455nm,1.0s
ZRHB Zarechye 3.62 210 ePn Pn 21 35 52.6 +2.0
ZRHB ePg Pg 21 36 00.8 -3.0
ZRHB Pmax 21 36 06.0
comp=N,102nm,0.6s
ZRHB eSg Sg 21 36 48.5 -2.2
ZRHB Smax 21 37 00.3
comp=N,776nm,0.6s
TRG Tyrgan 3.70 218 ⇓iPN Pn 21 35 54.2 +2.5
TRG e 21 36 02.9
TRG eS Sn 21 36 37.9 +2.6
TRG e 21 36 50.5
TRG pmax pmax
comp=Z,50nm,0.3s
TRG smax smax
comp=N,299nm,0.3s
TRG Tyrgan 3.70 218 ⇓iPn Pn 21 35 54.1 +2.4
TRG ePg Pb 21 36 02.0 +2.1
TRG Pmax 21 36 06.6
comp=N,52nm,0.7s
TRG eSn Sn 21 36 39.1 +3.8
TRG eSg Sg 21 36 50.6 -2.5
TRG Smax 21 36 52.1
comp=N,291nm,0.5s
VTMR Vitim 3.94 19 ePg Pb 21 36 04.3 +0.3
VTMR eSg Sg 21 36 56.8 -4.2
UUDB Ulan-Yde 4.13 201 ePn Pn 21 36 01.3 +3.7
UUDB ePg Pb 21 36 09.3 +2.0
UUDB Pmax 21 36 16.6
comp=N,49nm,1.0s
UUDB e 21 36 34.8
UUDB eSg Sg 21 37 04.2 -2.9
UUDB Smax 21 37 15.7
comp=N,236nm,0.8s
KAB Kabansk 4.21 210 ePN Pb 21 36 11.0 +2.4
KAB e 21 37 05.2
KAB pmax pmax
comp=Z,91nm,0.3s
KAB smax smax
comp=E,481nm,0.4s
KAB Kabansk 4.21 210 eSg Sg 21 37 06.5 -3.1
KAB Smax 21 37 25.2
comp=E,592nm,1.0s
CIT Chita 4.25 150 ePN Pb 21 36 10.7 +1.4
CIT e 21 37 04.2
CIT pmax pmax
comp=Z,159nm,1.2s
CIT smax smax
comp=N,292nm,0.3s
CIT Chita 4.25 150 ePn Pn 21 35 58.7 -0.6
CIT ePg Pb 21 36 10.4 +1.1
CIT Pmax 21 36 11.5
comp=N,123nm,0.6s
CIT eSg Sb 21 37 04.4 +3.7
CIT Smax 21 37 08.2
comp=N,285nm,0.2s
HRMR Khuramsha 4.52 206 ⇑iPn Pn 21 36 05.4 +2.5
HRMR ePg Pb 21 36 16.4 +2.6
HRMR e 21 36 19.3
HRMR max 21 36 21.1
comp=N,77nm,0.7s
HRMR eSn Sn 21 36 57.8 +2.4
HRMR eSg Sg 21 37 15.0 -4.3
HRMR Smax 21 37 25.4
comp=N,791nm,0.4s
CRS Chara 4.71 72 ePN Pb 21 36 18.8 +1.8
CRS e 21 37 18.6
CRS pmax pmax
comp=Z,69nm,1.1s
CRS smax smax
comp=N,196nm,1.6s

CRS Chara 4.71 72 ePn Pn 21 36 06.6 +1.1
CRS ePg Pb 21 36 18.2 +1.2
CRS Pmax 21 36 23.2
comp=N,69nm,1.0s
CRS eSg Sg 21 37 18.7 -6.8
CRS Smax 21 37 24.8
comp=N,196nm,1.4s
IRK Irkutsk 4.90 227 ePN Pn 21 36 10.3 +2.2
IRK e 21 36 23.3
IRK eS Sn 21 37 04.8 0.0
IRK e 21 37 27.7
IRK pmax pmax
comp=Z,33nm,0.3s
IRK smax smax
comp=E,390nm,0.6s
IRK Irkutsk 4.90 227 eSn Sn 21 37 06.3 +1.5
IRK eSg Sg 21 37 28.0 -3.5
IRK Smax 21 37 34.7
comp=E,375nm,0.5s
LSTR Listvyanka 4.97 221 ePN Pn 21 36 11.3 +2.2
LSTR eS Sg 21 37 30.2 -3.6
LSTR smax smax
comp=E,158nm,1.3s
LSTR Listvyanka 4.97 221 i Pn Pn 21 36 11.3 +2.2
LSTR ePg Pb 21 36 24.5 +3.0
LSTR Pmax 21 36 29.6
comp=E,21nm,0.5s
LSTR eSn Sn 21 37 07.5 +1.0
LSTR eSg Sg 21 37 30.0 -3.8
LSTR Smax 21 37 41.1
comp=E,158nm,1.0s
TLY Talaya 5.58 226 ePN Pn 21 36 18.2 +0.8
TLY e 21 36 34.4
TLY e 21 37 46.3
TLY pmax pmax
comp=Z,18nm,0.6s
TLY smax smax
comp=E,134nm,0.6s
TLY Talaya 5.58 226 ePn Pn 21 36 18.4 +1.0
TLY Pg Pg 21 36 36.1 -5.1
TLY Pmax 21 36 39.0
comp=E,13nm,0.5s
TLY eSn Sn 21 37 21.3 -0.2
TLY eSg Sg 21 37 48.9 -4.4
TLY Smax 21 37 56.5
comp=E,144nm,1.4s
TLY Talaya 5.58 226 Pn Pn 21 36 18.8 +1.3
comp=E,0.0nm,0.3s,baz=59,slow=9.8,SNR=14
TLY Sn Sn 21 37 21.5 0.0
comp=E,0.0nm,0.3s,baz=181,slow=18,SNR=3.2
TLY Lg Lg 21 37 46.5
comp=E,0.1nm,0.3s,baz=177,slow=18,SNR=4.2
KHNR Khani 5.64 74 ePn Pn 21 36 19.8 +1.5
KHNR ePg Pb 21 36 36.7 +3.8
KHNR eSg Sg 21 37 47.9 -7.4
TUP Tupik 5.83 99 ePN Pn 21 36 20.7 -0.1
TUP e 21 36 38.4
TUP eS Sn 21 37 26.1 -1.6
TUP e 21 37 54.3
TUP pmax pmax
comp=Z,17nm,0.6s
TUP smax smax
comp=N,324nm,0.9s
TUP Tupik 5.83 99 ePn Pn 21 36 20.8 -0.1
TUP ePg Pb 21 36 38.5 +2.4
TUP Pmax 21 36 41.5
comp=N,17nm,0.6s
TUP eSn Sn 21 37 26.7 -1.0
TUP eSg Sg 21 37 53.9 -7.4
TUP Smax 21 37 57.1
comp=N,322nm,1.0s
ARS Arshan 5.93 233 ePN Pn 21 36 24.4 +2.1
ARS eS Sg 21 37 58.6 -6.0
ARS smax smax
comp=E,519nm,0.6s
ARS Arshan 5.93 233 i Pn Pn 21 36 24.3 +2.0
ARS ePg Pg 21 36 42.9 -5.0
ARS Pmax 21 36 49.0
comp=E,44nm,0.4s
ARS eSn Sn 21 37 30.2 0.0
ARS eSg Sg 21 38 01.3 -3.3
ARS Smax 21 38 06.7
comp=E,518nm,0.6s
KPC Khapcheranga 6.20 166 ePN Pn 21 36 27.3 +1.2
KPC e 21 36 46.1
KPC e 21 38 06.2
KPC pmax pmax
comp=Z,31nm,0.6s
KPC smax smax
comp=E,181nm,1.2s
KPC Khapcheranga 6.20 166 ePn Pn 21 36 26.9 +0.8
KPC ePg Pb 21 36 46.1 +3.6
KPC Pmax 21 36 47.9
comp=E,31nm,0.5s
KPC eSn Sn 21 37 38.5 +1.4
KPC eSg Sg 21 38 06.1 -7.4
KPC Smax 21 38 16.1
comp=E,182nm,1.2s
YKLR Yuktali 6.53 78 ePg Pb 21 36 50.7 +2.7
YKLR eSg Sg 21 38 14.0 -10
ZAK Zakamensk 6.75 220 ePN Pn 21 36 35.8 +2.2
ZAK e 21 36 57.4
ZAK eS Sn 21 37 53.8 +3.3
ZAK e 21 38 24.9
ZAK pmax pmax
comp=Z,7.0nm,0.7s
ZAK pmax pmax
comp=E,66nm,1.2s
ZAK Zakamensk 6.75 220 ePn Pn 21 36 36.3 +2.7
ZAK max 21 36 42.1
comp=E,7.0nm,0.6s
ZAK eSn Sn 21 37 53.8 +3.3
ZAK eSg Sg 21 38 24.5 -6.4
ZAK Smax 21 38 30.4
comp=E,66nm,1.3s
MOY Mondy 6.76 237 ePG Pb 21 36 56.2 +4.2
MOY e 21 38 25.1
MOY pmax pmax
comp=Z,13nm,0.3s
MOY smax smax
comp=E,202nm,1.3s
MOY Mondy 6.76 237 i Pn Pn 21 36 37.4 +3.7
MOY max 21 36 38.3
comp=E,78nm,0.7s
MOY e 21 36 45.6
MOY eSn Sn 21 37 52.1 +1.3
MOY eSg Sg 21 38 26.6 -4.6
MOY Smax 21 38 30.4
comp=E,202nm,1.3s
ORL Orlik 6.83 246 ePN Pn 21 36 38.0 +3.3
ORL e 21 36 59.3
ORL eS Sn 21 37 52.9 +0.4
ORL e 21 38 26.5
ORL pmax pmax
comp=Z,30nm,0.7s
ORL smax smax
comp=N,95nm,1.4s
ORL Orlik 6.83 246 i Pn Pn 21 36 38.0 +3.3
ORL max 21 36 41.3
comp=N,21nm,0.6s
ORL i Sn Sn 21 37 53.1 +0.6
ORL eSg Sg 21 38 29.1 -4.4
ORL Smax 21 38 40.3
comp=N,101nm,1.4s
ULN Ulaanbaatar 8.10 195 ePn Pn 21 36 55.5 +3.3
ULN eSg Sg 21 39 07.3 -7.0
SONM Songino Array 8.24 198 PN Pn 21 36 56.5 +2.5
SONM 21 37 25.6
SONM pmax pmax
comp=Z,1.0nm,0.3s
SONM pmax pmax
comp=Z,1.0nm,0.3s
SONM Songino Array 8.24 198 Pn Pn 21 36 56.5 +2.5
comp=Z,0.6nm,0.3s,baz=4.4,slow=14,SNR=17
SONM Pg Pg 21 37 25.6 -6.4
comp=Z,1.0nm,0.3s,baz=17,slow=16,SNR=8.8
SONM Lg Lg 21 39 13.7
comp=Z,4.9nm,0.3s,baz=16,slow=28,SNR=12
CLNS Chul'man 8.32 76 e x 21 38 00.5
CLNS eSg Sg 21 39 09.4 -12
HIA Hailar 8.76 134 eSg Sg 21 39 24.8 -10
HVS Khovu-Aksy 10.79 252 e x 21 39 46.8
HVS eSg 21 40 30.0
YAK Yakutsk 11.91 50 eP Pn 21 37 32.4 -12
YAK pmax pmax
comp=Z,2.0nm,0.8s
YAK MLR MLR
comp=Z,11nm,6.0s
ZALV Zalesovo Beam 14.63 273 Pn Pn 21 38 22.4 +1.0
comp=Z,0.2nm,0.3s,baz=70,slow=12,SNR=5.9
ZALV Lg Lg 21 42 33.5
comp=Z,0.0nm,0.3s,baz=72,slow=24,SNR=3.2
MKAR Makanchi Array 19.44 254 P Pn 21 39 22.3 +0.3
comp=Z,0.4nm,0.3s,baz=64,slow=11,SNR=38
BVAR Borovoye Array 23.05 280 P P 21 40 00.9 +1.2
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Beam 23.05 280 P P 21 40 00.9 +1.2
comp=Z,1.0nm,0.6s,baz=64,slow=9.8,SNR=8.6
ARCES ARCESS Array B 37.74 325 P P 21 42 10.5 +0.7
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 37.74 325 P P 21 42 10.5 +0.7
comp=Z,3.7nm,0.9s,baz=66,slow=9.0,SNR=3.9
GEYT Alibeck 38.70 265 LR LR 21 58 23.3
comp=Z,27nm,18.1s,baz=135,slow=36
FINES FINESS Array B 41.26 314 P P 21 42 40.0 +0.7
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 41.26 314 P P 21 42 40.0 +0.7
comp=Z,0.6nm,0.4s,baz=81,slow=9.1,SNR=8.2
ILAR Eielson Array 46.34 35 P P 21 43 20.9 +0.9
comp=Z,0.3nm,0.7s,baz=299,slow=6.2,SNR=5.2
GERES GERESS Array B 54.71 306 LR LR 22 10 10.0
comp=Z,79nm,18.1s,baz=308,slow=39
YKA Yellowknife Ar 57.06 23 P P 21 44 39.4 -0.6
comp=Z,0.4nm,0.9s,baz=334,slow=7.4,SNR=3.1

IDC 24 21:47:27.6±9.4, 9.52S×108.86E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/35, mbtmp3.7/4, Error ellipse: s-maj=208.7km s-min=156.8km az=25.0, South of Jawa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 29.47 341 P P 21 53 33.4 -0.1
0.6nm,0.7s,baz=177,slow=9.1,SNR=8.9
SONM Songino Array 57.14 358 P P 21 57 16.2 0.0
0.2nm,0.4s,baz=168,slow=8.7,SNR=4.3
MKAR Makanchi Array 60.87 339 P P 21 57 42.4 +0.4
0.6nm,0.4s,baz=153,slow=7.5,SNR=21
ZALV Zalesovo Beam 66.42 345 P P 21 58 17.8 -0.7
0.4nm,0.3s,baz=149,slow=6.1,SNR=4.8

SZGRF 24 21:56:01.9, 21.57S×178.55W, h33km, Fiji Islands region
ISCJB 24 21:57:01.3±1.0, 21.17S±0.06×178.60W±0.04, h548km±13km, mb4.6/100, Error ellipse: s-maj=10.2km s-min=5.4km az=156.8
BJI 24 21:57:02.7, 21.10S×178.60W, h563km, mB4.9/12, mb4.5/29
MOS 24 21:57:03.8±0.8, 21.08S×178.69W, h578km, mb4.6/21, Error ellipse: s-maj=14.9km s-min=10.3km az=143.7
IDC 24 21:57:03.1±0.8, 21.22S×178.49W, h565km±6km, mb4.1/15, mb1 4.3/17, mb1mx4.2/23, mbtmp5.0/17, Error ellipse: s-maj=18.0km s-min=10.7km az=146.0
NEIC 24 21:57:05.4±1.1, 21.21S×178.64W, h589km±14km, mb4.7/74, Error ellipse: s-maj=9.5km s-min=6.1km az=162.0
ISC 24 21:57:02.9±0.4, 21.22S±0.06×178.50W±0.06, h563km±3km, h564km:pP-P, n267, σ1s22/283, mb4.7/99, 34C-39D, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NIUE Niue 8.33 77 ⇓P P 21 59 02.8 -1.5
baz=8.2,SNR=4.5
DZM Mont Dzumac 14.03 264 P P 22 00 02.1 -0.4
8.0nm,0.3s,baz=87,slow=17,SNR=60
OUZ Omahuta 15.58 205 eP P 22 00 20.2 +2.6
363nm,1.4s
URZ Urewera 17.40 192 P P 22 00 33.3 -1.2
2.9nm,0.3s,baz=7.0,slow=2.4,SNR=12
URZ S S 22 03 20.4 -6.4
0.8nm,0.3s,baz=143,slow=20,SNR=6.0
URZ Urewera 17.40 192 eP P 22 00 33.6 -0.8
URZ S S 22 03 20.4 -6.4
BKZ Black Stump Fm 18.40 192 eP P 22 00 41.5 -2.1
26nm,1.2s
BFZ Birch Farm 19.91 192 eP P 22 00 56.5 -0.8
68nm,1.4s
KHZ Kahutara 22.17 196 eP P 22 01 16.4 -1.1
46nm,1.0s
LHI Lord Howe Isla 22.53 238 ⇑P P 22 01 22.4 +1.5
baz=23,SNR=4.0
RPZ Rata Peaks 24.06 199 eP P 22 01 33.8 -0.6
WHZ Wether Hill Ro 27.00 201 eP P 22 02 02.1 +1.9
37nm,0.5s
EIDS Eidsvold 28.21 256 eP P 22 02 11.5 +0.3
63nm,0.5s
EIDS Eidsvold 28.21 256 ⇑P P 22 02 11.5 +0.3
baz=28,SNR=77
ARMA Armidale 28.34 245 eP P 22 02 13.9 +1.5
68nm,0.8s
ARMA Armidale 28.34 245 ⇓P P 22 02 13.6 +1.3
baz=28,SNR=3.8
MGCD Mangrove Creek 29.44 240 ⇓P P 22 02 23.0 +1.3
baz=30,SNR=5.4
RMQ Roma 30.35 254 ⇓P P 22 02 30.4 +0.7
baz=30,SNR=37
CNB Canberra Magne 31.44 237 ⇓P P 22 02 40.1 +1.1
baz=32,SNR=47
CAN Canberra 31.73 237 eP P 22 02 42.0 +0.6
CAN pmax pmax
comp=Z,75nm,1.1s
CAN Canberra 31.73 237 eP P 22 02 42.0 +0.6
comp=Z,75nm,1.1s
YNG Young 31.91 239 ⇑P P 22 02 44.0 +1.0
baz=32,SNR=7.7
MILA Mila 32.17 234 P P 22 02 46.3 +1.2
baz=32,SNR=7.2
CTA Charters Tower 32.97 266 P P 22 02 52.2 +0.2
comp=Z,72nm,0.4s,baz=91,slow=11,SNR=234
CTAO Charters Tower 32.97 266 eP P 22 02 52.5 +0.5
CTAO Charters Tower 32.97 266 eP P 22 02 52.5 +0.5
comp=Z,79nm,0.5s
CMSA Cobar Meteorol 33.56 245 ⇓P P 22 02 57.6 +0.7
baz=34,SNR=102
QLP Quilpie 34.41 254 ⇓P P 22 03 04.3 +0.3
baz=34,SNR=40
PMG Port Moresby 35.06 284 d iP P 22 03 09.4 -0.2
PMG Port Moresby 35.06 284 eP P 22 03 09.5 -0.1
comp=Z,124nm,0.7s
PMG Port Moresby 35.06 284 ⇑P P 22 03 09.4 -0.2
baz=35,SNR=13
TOO Toolangi 35.10 234 ⇑P P 22 03 10.4 +0.7
baz=35,SNR=20
MOO Moorlands 35.67 226 ⇓P P 22 03 15.4 +1.1
baz=36,SNR=4.7
TAU Tasmania Unive 35.79 225 eP P 22 03 16.3 +1.1
TAU pmax pmax
comp=Z,54nm,1.2s
TAU Tasmania Unive 35.79 225 eP P 22 03 16.3 +1.1
comp=Z,54nm,1.2s
STKA Stephens Creek 37.06 245 eP P 22 03 26.8 +0.9
STKA pmax pmax
comp=Z,22nm,1.1s
STKA Stephens Creek 37.06 245 P P 22 03 26.8 +0.9
comp=Z,42nm,0.5s,baz=92,slow=10.0,SNR=157
STKA Stephens Creek 37.06 245 eP P 22 03 26.8 +0.9
comp=Z,22nm,1.1s
STKA Stephens Creek 37.06 245 ⇑P P 22 03 26.6 +0.6
baz=37,SNR=127
COEN Coen 37.17 275 eP P 22 03 27.5 +0.4
comp=Z,297nm,0.8s
COEN Coen 37.17 275 ⇑P P 22 03 27.1 +0.1
baz=37,SNR=35
QIS Mount Isa 39.07 263 P P 22 03 41.9 -0.4
baz=39,SNR=22
HTT Hallett 39.48 243 ⇑P P 22 03 46.1 +0.5
baz=40,SNR=37
BBOO Buckleboo 41.81 244 eP P 22 04 04.3 +0.2
comp=Z,1μm,0.8s
BBOO Buckleboo 41.81 244 ⇑P P 22 04 04.2 +0.1
baz=42,SNR=152
JAY Jayapura 43.84 290 ⇓P P 22 04 19.9 -0.2
baz=44,SNR=21
WRAB Tennant Creek 44.04 263 d iP P 22 04 20.7 -0.9
WRAB pmax pmax
comp=Z,230nm,1.2s
WRAB Tennant Creek 44.04 263 eP P 22 04 20.9 -0.7
comp=Z,65nm,0.9s
WRA Warramunga Arr 44.05 263 P P 22 04 21.0 -0.7
WRA Warramunga Arr 44.05 263 P P 22 04 21.0 -0.7
comp=Z,42nm,0.6s,baz=94,slow=5.2,SNR=186
WRA ScP ScP 22 08 54.5 +1.4
comp=Z,2.7nm,0.9s,baz=93,slow=4.1,SNR=5.4
KIP Kipapa 46.87 27 ⇓eP P 22 04 43.8 +0.8
KIP pmax pmax
comp=Z,207nm,5.0s
KDU Kakadu 47.51 272 P P 22 04 47.5 -0.5
baz=48,SNR=14
FORT Forrest 48.59 247 eP P 22 04 55.4 -0.3
comp=Z,139nm,0.6s
FORT Forrest 48.59 247 ⇓P P 22 04 55.6 -0.2
baz=49,SNR=55
MTN Manton Dam 48.71 271 P P 22 04 56.0 -0.9
baz=49,SNR=26
WRKA Warakurna 48.83 255 ⇓P P 22 04 57.7 0.0
baz=49,SNR=171
KNRA Kununurra 50.15 267 ⇓P P 22 05 07.3 -0.2
baz=50,SNR=32
FAKI Fak Fak 51.22 284 ⇓P P 22 05 14.8 -0.5
baz=51,SNR=5.9
SWI Sorong 52.99 286 ⇑P P 22 05 27.9 -0.1
baz=53,SNR=4.8
SOEI Soe 56.06 272 eP P 22 05 49.7 0.0
comp=Z,122nm,0.6s
BATI Baumata 56.48 272 P P 22 05 53.7 +1.3
comp=Z,69nm,0.6s,baz=135,slow=10.0,SNR=14
VNDA Vanda 57.15 185 eP P 22 05 58.8 +2.9
VNDA pmax pmax
comp=Z,28nm,0.4s
VNDA Vanda 57.15 185 eP P 22 05 58.8 +2.9
comp=Z,28nm,0.4s
MBWA Marble Bar 57.25 258 eP P 22 05 56.8 -0.8
comp=Z,81nm,0.7s
MEEK Meekatharra 57.25 251 P P 22 05 56.9 -0.6
baz=57,SNR=48
KLBR Kellerberrin 57.33 245 P P 22 05 58.0 0.0
baz=57,SNR=83
NWAO Narrogin (SRO) 57.63 244 P P 22 06 00.0 0.0
comp=Z,24nm,0.6s,baz=100,slow=7.8,SNR=21
RKGY Rocky Gully 57.69 242 ⇑P P 22 06 00.9 +0.5
baz=58,SNR=9.7
BLDU Ballidu 58.34 246 ⇓P P 22 06 04.6 -0.2
baz=58,SNR=34
MORW Morawa 59.13 248 P P 22 06 10.1 -0.1
baz=59,SNR=39
LUWI Luwuk 60.62 281 ⇓P P 22 06 20.5 +0.4
baz=61,SNR=4.5
GIRL Giralia 61.91 255 ⇑P P 22 06 29.1 +0.5
baz=62,SNR=30
JAGI Jajag, Banyuwa 65.92 270 eP P 22 06 52.8 -1.3
comp=Z,50nm,0.9s
JAGI Jajag, Banyuwa 65.92 270 ⇓P P 22 06 52.8 -1.3
baz=66,SNR=5.8
SDKM Sandakan 68.45 285 ⇑P P 22 07 09.5 -0.1
QSPA South Pole Qui 68.85 180 eP P 22 07 12.1 +0.8
comp=Z,153nm,2.8s
UGM Wanagama 69.49 269 eP P 22 07 15.7 -0.2
comp=Z,52nm,0.6s
UGM Wanagama 69.49 269 P P 22 07 15.7 -0.2
baz=70,SNR=9.4
SMRI Semarang 69.86 270 ⇓P P 22 07 18.1 0.0
baz=70,SNR=3.6
MJAR Matsushiro Arr 70.52 324 P P 22 07 20.7 -0.8
comp=Z,3.5nm,0.7s,baz=162,slow=6.2,SNR=16
MAJO Matsushiro 70.52 324 ⇑iP P 22 07 21.4 -0.1
MAJO pmax pmax
comp=Z,113nm,2.5s
MAT Matsushiro 70.52 324 P P 22 07 20.9 -0.6
SBUM Sibu 71.67 280 eP P 22 07 28.9 +0.2
comp=Z,13nm,1.1s
SBUM Sibu 71.67 280 ⇓P P 22 07 28.2 -0.6
CISI Cisompet, Garu 72.14 269 eP P 22 07 30.3 -1.2
comp=Z,33nm,0.9s
KSM Kuching 73.06 278 eP P 22 07 36.0 -0.8
comp=Z,35nm,0.7s
KSM Kuching 73.06 278 ⇑P P 22 07 37.0 +0.2
baz=73,SNR=15
KSM Kuching 73.06 278 ⇓P P 22 07 37.0 +0.2
TPUB Ta-pu 73.98 303 eP P 22 07 40.1 -1.7
comp=Z,49nm,0.7s
SSLB Suanglung 73.99 304 eP P 22 07 39.0 -2.8
comp=Z,20nm,0.9s
QZH Quanzhou 76.42 304 ⇑iP P 22 07 55.4 +0.1
QZH pmax pmax
comp=Z,50nm,0.9s
KSRS Korea Array 77.12 319 P P 22 07 59.6 +0.8
comp=Z,1.3nm,0.7s,baz=125,slow=4.8,SNR=3.4
KSAR Wonju Array Be 77.14 319 P P 22 07 59.6 +0.7
KSAR Wonju Array Be 77.14 319 P P 22 07 59.6 +0.7
MYKOM Kota Tinggi 79.15 276 eP P 22 08 09.4 -0.9
comp=Z,20nm,0.7s
USRK Ussuriysk Arra 79.30 326 P P 22 08 11.3 +1.0
comp=Z,4.3nm,0.8s,baz=134,slow=4.2,SNR=10
ISA Isabella 80.17 46 eP P 22 08 16.5 +1.3
ISA pmax pmax
comp=Z,18nm,1.4s
ISA Isabella 80.17 46 eP P 22 08 16.5 +1.3
comp=Z,18nm,1.4s
CMB Columbia Colle 80.30 43 eP P 22 08 17.0 +1.1
CMB pmax pmax
comp=Z,11nm,1.3s
CMB Columbia Colle 80.30 43 eP P 22 08 17.0 +1.1
comp=Z,10nm,1.3s
WDC Whiskeytown Da 80.52 40 eP P 22 08 18.3 +1.5
WDC pmax pmax
comp=Z,11nm,1.1s
WDC Whiskeytown Da 80.52 40 eP P 22 08 18.3 +1.5
comp=Z,11nm,1.1s
QIZ Qiongzhong 80.73 295 P P 22 08 19.0 +0.6
QIZ pP pP 22 10 17.5 -0.7
QIZ sP sP 22 11 14.4 -1.2
QIZ S S 22 17 41.3 +0.7
QIZ sS sS 22 21 12.3 -1.9
QIZ pmax pmax
comp=Z,20nm,1.4s
QIZ pmax pmax
comp=Z,64nm,3.1s
GSC Goldstone 81.09 47 eP P 22 08 21.2 +1.2
GSC pmax pmax
comp=Z,7.0nm,1.0s
GSC Goldstone 81.09 47 eP P 22 08 21.2 +1.2
comp=Z,7.3nm,1.0s
KTGM Kuala Trenggan 81.14 279 ⇑P P 22 08 22.0 +1.3
YBH Yreka Blue Hor 81.14 39 eP P 22 08 21.9 +1.8
YBH pmax pmax
comp=Z,10.0nm,0.8s
YBH Yreka Blue Hor 81.14 39 eP P 22 08 21.9 +1.8
comp=Z,10.0nm,0.8s
WAKR Walker 81.18 43 eP P 22 08 22.0 +1.4
GLA Glamis 81.24 50 eP P 22 08 22.7 +1.9
GLA pmax pmax
comp=Z,16nm,0.9s
GLA Glamis 81.24 50 eP P 22 08 22.7 +1.9
comp=Z,16nm,0.9s
HUMO Hull Mountain 81.55 38 eP P 22 08 23.9 +1.8
comp=Z,126nm,2.3s
FRIM Kepong 81.75 277 ⇑P P 22 08 24.2 +0.4
NVAR Mina Array Bea 81.86 44 P P 22 08 24.6 +0.5
comp=Z,6.3nm,0.6s,baz=224,slow=8.2,SNR=39
NVAR pP pP 22 10 26.1 +1.7
comp=Z,0.3nm,0.6s,baz=230,slow=7.0,SNR=1.7
TPH Tonopah 82.36 44 eP P 22 08 27.4 +0.8
TPH pmax pmax
comp=Z,11nm,0.8s
TPH Tonopah 82.36 44 eP P 22 08 27.4 +0.8
comp=Z,11nm,0.8s
CN2 Changchun 82.59 323 eP P 22 08 27.1 -0.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
MOD Modoc 82.67 40 eP P 22 08 28.7 +0.7
comp=Z,7.3nm,0.8s
IPM Ipoh 82.77 278 eP P 22 08 29.1 +0.2
comp=Z,31nm,0.7s
IPM Ipoh 82.77 278 ⇑P P 22 08 30.0 +1.1
K05A Summer Lake 82.81 39 eP P 22 08 30.0 +1.2
comp=Z,22nm,0.9s
SHPR Sheep Range 82.87 47 eP P 22 08 30.5 +1.4
KULM Kulim 83.41 278 eP P 22 08 32.9 +0.7
comp=Z,17nm,0.9s
PINOR Pine Mountain 83.49 38 eP P 22 08 32.9 +1.1
comp=Z,26nm,1.2s
TUC Tucson 83.79 52 eP P 22 08 33.8 +0.1

TUC				pmax	pmax		
	comp=Z,13nm,1.2s						
TUC	**Tucson**	**83.79**	**52**	*e*P	**P**	**22 08 33.8**	**+0.1**
	comp=Z,13nm,1.2s						
WVOR	**Wild Horse Val**	**83.98**	**40**	*e*P	**P**	**22 08 35.6**	**+1.1**
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WVOR	**Wild Horse Val**	**83.98**	**40**	*e*P	**P**	**22 08 35.5**	**+1.1**
	comp=Z,9.0nm,1.2s						
PSI	**Prapat**	**84.10**	**275**	P	**P**	**22 08 34.9**	**-0.8**
	comp=Z,15nm,0.8s,baz=104,slow=3.3,SNR=17						
PSI	**Prapat**	**84.10**	**275**	⇑P	**P**	**22 08 34.9**	**-0.8**
	baz=84,SNR=8.3						
I07A	**Izee**	**84.44**	**38**	*e*P	**P**	**22 08 38.0**	**+1.3**
	comp=Z,6.9nm,1.0s						
CCUT	**Cedar City**	**84.64**	**46**	*e*P	**P**	**22 08 39.3**	**+1.4**
	comp=Z,30nm,2.0s						
GSI	**Gunungsitoli**	**84.81**	**273**	*e*P	**P**	**22 08 40.1**	**+1.1**
	comp=Z,56nm,0.6s						
G08A	**Pilot Rock**	**85.47**	**38**	*e*P	**P**	**22 08 42.5**	**+0.8**
	comp=Z,9.5nm,0.9s						
EBG	**Ellensburg**	**85.55**	**36**	P	**P**	**22 08 43.4**	**+1.6**
E07A	**Sunnyside**	**85.72**	**36**	*e*P	**P**	**22 08 43.9**	**+1.2**
	comp=Z,9.5nm,0.8s						
ETW	**Entiat**	**86.10**	**35**	P	**P**	**22 08 45.2**	**+0.6**
BMO	**Blue Mountains**	**86.17**	**39**	*e*P	**P**	**22 08 45.6**	**+0.7**
BMO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BMO	**Blue Mountains**	**86.17**	**39**	*e*P	**P**	**22 08 45.6**	**+0.7**
	comp=Z,4.8nm,0.8s						
MFID	**Camas Ranch**	**86.23**	**40**	*e*P	**P**	**22 08 46.3**	**+1.0**
	comp=Z,5.7nm,1.1s						
D08A	**Wollman Farm,**	**86.53**	**36**	*e*P	**P**	**22 08 47.3**	**+0.8**
	comp=Z,17nm,1.0s						
GYA	**Guiyang**	**86.61**	**300**	*e*P	**P**	**22 08 48.0**	**+0.6**
GYA				pP	**pP**	**22 10 50.5**	**+0.9**
GYA				sP	**sP**	**22 11 47.4**	**+1.1**
GYA				PP	**PP**	**22 12 23.3**	**+3.0**
GYA				SKS	**SKSac**	**22 18 19.0**	**-2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SAW	**Saint Andrews**	**86.66**	**35**	P	**P**	**22 08 47.8**	**+0.7**
OD2	**Odessa Site #2**	**86.85**	**36**	P	**P**	**22 08 48.6**	**+0.6**
F10A	**Beach Ranch, E**	**86.85**	**38**	*e*P	**P**	**22 08 48.5**	**+0.3**
	comp=Z,23nm,0.9s						
SEY	**Seymchan**	**86.97**	**347**	P	**P**	**22 08 47.9**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=137,slow=5.4,SNR=7.2						
TMUT	**Trail Mountain**	**86.99**	**46**	*e*P	**P**	**22 08 50.8**	**+1.6**
	comp=Z,10.0nm,1.0s						
B08A	**Colville Reser**	**87.08**	**35**	*e*P	**P**	**22 08 49.3**	**+0.2**
	comp=Z,8.6nm,0.7s						
HLID	**Hailey**	**87.17**	**41**	*e*P	**P**	**22 08 50.7**	**+0.9**
	comp=Z,5.9nm,0.9s						
KTH	**Kantishna Hill**	**87.22**	**12**	*e*P	**P**	**22 08 48.2**	**-1.1**
	comp=Z,52nm,2.3s						
KTH				*e*PP	**PP**	**22 12 19.8**	**-4.6**
HVU	**Hansel Valley**	**87.25**	**43**	*e*P	**P**	**22 08 51.0**	**+0.8**
HVU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HVU	**Hansel Valley**	**87.25**	**43**	*e*P	**P**	**22 08 51.0**	**+0.8**
	comp=Z,4.2nm,0.9s						
TRF	**Thorofare Moun**	**87.25**	**12**	*e*P	**P**	**22 08 48.9**	**-0.8**
	comp=Z,10nm,0.8s						
C09A	**Chrisman Ranch**	**87.33**	**36**	*e*P	**P**	**22 08 50.8**	**+0.6**
	comp=Z,11nm,0.9s						
PBKT	**Sadao Pong**	**87.41**	**289**	P	**P**	**22 08 52.7**	**+1.5**
	comp=Z,12nm,1.2s						
VNA3	**Neumayer Olymp**	**87.45**	**176**	P	**P**	**22 08 50.7**	**+0.2**
MNTX	**Cornudas Mount**	**87.54**	**55**	*e*P	**P**	**22 08 52.3**	**+0.7**
	comp=Z,8.3nm,1.1s						
MCK	**McKinley**	**87.78**	**13**	*e*P	**P**	**22 08 51.4**	**-0.5**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MCK	**McKinley**	**87.78**	**13**	*e*P	**P**	**22 08 51.4**	**-0.5**
	comp=Z,4.8nm,0.8s						
TXAR	**Lajitas Array**	**87.83**	**57**	P	**P**	**22 08 54.4**	**+1.3**
	comp=Z,5.6nm,0.9s,baz=217,slow=6.0,SNR=47						
VNA2	**Neumayer--Watz**	**87.89**	**177**	P	**P**	**22 08 53.2**	**+0.7**
XAN	**Xi'an**	**88.20**	**308**	P	**P**	**22 08 55.4**	**+0.7**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,22nm,6.3s						
ANMO	**Albuquerque**	**88.21**	**51**	*d i*P	**P**	**22 08 55.8**	**+0.9**
ANMO				*i* *PP	**pP**	**22 10 57.2**	**-0.4**
ANMO				pmax	pmax		
	comp=Z,29nm,1.2s						
ANMO	**Albuquerque**	**88.21**	**51**	*e*P	**P**	**22 08 54.7**	**-0.2**
	comp=Z,5.3nm,1.0s						
GDL2	**Guadalupe Moun**	**88.54**	**55**	*e*P	**P**	**22 08 55.4**	**-1.0**
MCMT	**McKenzie Canyo**	**88.80**	**40**	P	**P**	**22 08 58.6**	**+1.2**
COLA	**College**	**89.01**	**13**	*de*P	**P**	**22 08 56.9**	**-0.6**
COLA				pmax	pmax		
	comp=Z,36nm,1.0s						
COLA	**College**	**89.01**	**13**	*e*P	**P**	**22 08 57.0**	**-0.6**
	comp=Z,6.6nm,0.7s						
HIA	**Hailar**	**89.01**	**325**	⇓*e*P	**P**	**22 08 57.7**	**-0.3**
HIA				pmax	pmax		
	comp=Z,15nm,2.5s						
ILAR	**Eielson Array**	**89.12**	**13**	P	**P**	**22 08 57.0**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=217,slow=5.2,SNR=35						
ILAR				pP	**pP**	**22 11 02.3**	**+1.3**
	comp=Z,1.6nm,1.0s,baz=209,slow=5.2,SNR=5.9						
KMI	**Kunming**	**89.27**	**297**	⇓P	**P**	**22 09 01.4**	**+1.4**
KMI				pP	**pP**	**22 11 06.9**	**+3.9**
KMI				sP	**sP**	**22 12 03.3**	**+3.8**
KMI				S	**S**	**22 19 02.8**	**0.0**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
REDW	**Red Top Meadow**	**89.28**	**42**	*e*P	**P**	**22 09 00.4**	**+0.7**
	comp=Z,12nm,1.0s						
TPAW	**Teton Pass**	**89.28**	**42**	*e*P	**P**	**22 09 00.9**	**+1.1**
	comp=Z,4.9nm,0.8s						
BSMT	**Bassoo Peak**	**89.29**	**37**	P	**P**	**22 08 59.7**	**+0.1**
FXWY	**Fox Creek**	**89.31**	**42**	*e*P	**P**	**22 09 00.8**	**+1.0**
	comp=Z,16nm,1.8s						
LAMP	**Lampang**	**89.34**	**290**	P	**P**	**22 09 02.2**	**+2.0**
IMW	**Indian Meadow**	**89.49**	**42**	*e*P	**P**	**22 09 01.6**	**+0.8**
	comp=Z,8.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**89.53**	**315**	*e*P	P	22 09 09.9	+9.2
HHC				sP	sP	22 11 57.5	-2.7
HHC				SKS	**SKKSac**	**22 18 51.6**	**-1.1**
HHC	**Hu-ho-hao-te**	**89.53**	**315**	S	S	22 19 14.0	+10
HHC	**Hu-ho-hao-te**	**89.53**	**315**	sS	sS	22 22 45.4	+1.6
HHC	**Hu-ho-hao-te**	**89.53**	**315**	SS	SS	22 25 34.8	+17
HHC				pmax	pmax		
	comp=Z,38nm,1.4s						
HHC				pmax	pmax		
	comp=Z,130nm,6.2s						
LOHW	**Long Hollow**	**89.56**	**42**	*e*P	**P**	**22 09 01.7**	**+0.7**
	comp=Z,4.7nm,0.6s						
QLMT	**Earthquake Lak**	**89.67**	**41**	*e*P	**P**	**22 09 03.0**	**+1.6**
BILL	**Bilibino**	**89.70**	**354**	⇓*e*P	**P**	**22 09 01.6**	**+0.8**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.7s						
FLWY	**Flagg Ranch**	**89.74**	**42**	*e*P	**P**	**22 09 03.2**	**+1.4**
	comp=Z,9.2nm,0.9s						
BW06	**Boulder Array**	**89.80**	**43**	*e*P	**P**	**22 09 02.3**	**+0.1**
	comp=Z,10nm,1.0s						
PDAR	**Pinedale Array**	**89.80**	**43**	P	**P**	**22 09 02.4**	**+0.2**
	comp=Z,6.5nm,0.7s,baz=208,slow=3.7,SNR=57						
CM31	**Chiang Mai Arr**	**89.92**	**290**	*e*P	**P**	**22 09 03.2**	**+0.3**
	comp=Z,7.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.92**	**290**	P	**P**	**22 09 04.5**	**+1.6**
	comp=Z,8.9nm,0.9s,baz=128,slow=3.1,SNR=51						
CMAR				pP	**pP**	**22 11 05.3**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=101,slow=4.9,SNR=1.3						
CMAR				PP	**PP**	**22 12 47.0**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=128,slow=6.2,SNR=6.7						
BOZ	**Bozeman (W)**	**89.96**	**40**	*e*P	**P**	**22 09 02.8**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BOZ	**Bozeman (W)**	**89.96**	**40**	*e*P	**P**	**22 09 02.8**	**+0.1**
	comp=Z,6.1nm,0.9s						
H17A	**Grant Village**	**89.97**	**42**	*e*P	**P**	**22 09 03.4**	**+0.5**
	comp=Z,3.4nm,0.8s						
CHTO	**Chiang Mai**	**90.05**	**290**	*e*P	**P**	**22 09 04.9**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CHTO	**Chiang Mai**	**90.05**	**290**	*e*P	**P**	**22 09 04.8**	**+1.3**
	comp=Z,8.6nm,0.7s						
EGAK	**Eagle**	**90.42**	**15**	*e*P	**P**	**22 09 03.9**	**-0.2**
	comp=Z,66nm,2.6s						
CD2	**Chengdu**	**90.79**	**303**	P	**P**	**22 09 07.3**	**+0.6**
CD2				pP	**pP**	**22 11 11.1**	**+1.2**
CD2				sP	**sP**	**22 12 06.3**	**0.0**
CD2				PP	**PP**	**22 12 55.6**	**+2.6**
CD2				SKS	**SKSac**	**22 18 45.0**	**0.0**
CD2				S	**S**	**22 19 14.3**	**-1.5**
CD2				sS	**sS**	**22 22 53.8**	**-2.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,5.2s						
ISCO	**Idaho Springs**	**91.02**	**47**	*e*P	P	22 09 15.5	+7.6
ISCO				pmax	pmax		
	comp=Z,52nm,1.9s						
ISCO	**Idaho Springs**	**91.02**	**47**	*e*P	P	22 09 15.5	+7.6
	comp=Z,52nm,1.9s						
ULN	**Ulaanbaatar**	**95.61**	**319**	⇓*e*P	**P**	**22 09 27.7**	**-0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.7s						
GTA	**Gaotai**	**97.07**	**309**	*e*P	Pdif	22 09 38.6	+3.4
GTA				pP	pP	22 11 44.1	+5.1
GTA				sP	sP	22 12 32.3	-2.9
GTA				pmax	pmax		
	comp=Z,2.0nm,1.9s						
YKA	**Yellowknife Ar**	**97.36**	**25**	P	Pdif	22 09 35.0	-0.8
	comp=Z,0.3nm,0.6s,baz=245,slow=4.7,SNR=4.6						
YKA				pP	pP	22 11 39.8	+0.2
	comp=Z,0.1nm,0.6s,baz=245,slow=4.5,SNR=1.8						
BLO	**Bloomington**	**104.56**	**53**	*e*PP	PP	22 14 45.4	+8.9
SAML	**Samuel**	**109.78**	**108**	*e*Pdif	**Pdif**	**22 10 29.1**	**-3.0**
MKAR	**Makanchi Array**	**111.36**	**313**	PKiKP	**PKiKP**	**22 14 32.2**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=103,slow=0.5,SNR=12						
MKAR				SKP		22 17 15.5	
	comp=Z,0.3nm,0.7s,baz=86,slow=2.0,SNR=4.1						
MKAR				PKKPbc	**PKKPbc**	**22 25 30.6**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=273,slow=3.5,SNR=11						
SSPA	**Standing Stone**	**111.36**	**53**	*e*PP	PP	22 15 22.4	-2.8
MVL	**Millersville**	**112.41**	**54**	*e*PP	PP	22 15 40.9	+8.3
KSH	**Kashi**	**114.92**	**305**	*e*PKP	PKPdf	22 14 43.8	+3.4
BVAR	**Borovoye Array**	**119.33**	**320**	PKP	**PKPdf**	**22 14 47.4**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=71,slow=2.1,SNR=14						
BVAR				SKP		22 17 29.9	
	comp=Z,1.1nm,0.8s,baz=45,slow=2.2,SNR=5.6						
SPITS	**Spitsbergen Ar**	**122.55**	**356**	PKP	**PKPdf**	**22 14 52.8**	**-1.1**
	comp=Z,3.9nm,0.6s,baz=44,slow=4.4,SNR=9.0						
ARCES	**ARCESS Array B**	**129.54**	**349**	PKP	**PKPdf**	**22 15 06.8**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=33,slow=0.8,SNR=16						
FINES	**FINESS Array B**	**136.33**	**343**	PKhKP	PKPpre	22 15 10.9	
	comp=Z,0.5nm,0.5s,baz=25,slow=3.7,SNR=6.2						
FINES				PKP	**PKPdf**	**22 15 18.6**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=34,slow=0.5,SNR=9.8						
FINES				SKPbc	**SKPbc**	**22 18 00.9**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=66,slow=3.5,SNR=13						
NB2	**NORSAR Subarra**	**139.64**	**353**	PKP	PKPpre	22 15 19.9	
	comp=Z,0.6nm,0.5s,baz=12,slow=3.3						
NOA	**NORSAR Array B**	**139.64**	**353**	PKhKP	PKPpre	22 15 18.1	
	comp=Z,0.3nm,0.6s,baz=15,slow=1.8,SNR=5.3						
HFS	**Hagfors**	**140.17**	**351**	PKhKP	PKPpre	22 15 20.1	
	comp=Z,1.6nm,0.3s,baz=52,slow=2.4,SNR=23						
AKASG	**Malin Array Be**	**143.41**	**330**	PKIKP	PKPab	22 15 31.0	-0.9
AKASG	**Malin Array Be**	**143.41**	**330**	PKP	PKPab	22 15 30.9	-0.9
	comp=Z,1.5nm,0.5s,baz=43,slow=4.2,SNR=18						
AKASG				SKPbc	**SKPbc**	**22 18 19.1**	**0.0**
	comp=Z,3.0nm,0.9s,baz=41,slow=2.6,SNR=10						
KIEV	**Kiev**	**143.43**	**330**	⇓*e*PKIKP	PKPab	22 15 31.6	-0.3
MALT	**Malatya**	**143.99**	**307**	⇓PKIKP	**PKPdf**	**22 15 35.1**	**+0.1**
MALT	**Malatya**	**143.99**	**307**	⇓*i*P	**PKPdf**	**22 15 35.1**	**+0.1**
EKA	**Eskdalemuir Ar**	**145.76**	**5**	PKPbc	**PKPdf**	**22 15 38.1**	**+0.8**
	comp=Z,3.7nm,0.7s,baz=350,slow=2.4,SNR=9.9						
BSEG	**Bad Segeberg**	**146.66**	**351**	*e*PKPbc	**PKPbc**	**22 15 41.8**	**+0.3**
BRTR	**Keskin Array B**	**146.97**	**311**	PKPbc	**PKPbc**	**22 15 42.1**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=79,slow=3.1,SNR=8.7						
BRTR				SKPbc	**SKPbc**	**22 18 27.3**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=147,slow=3.4,SNR=3.5						
KWP	**Kalwaria Pacla**	**147.04**	**334**	⇑PKP2	**PKPbc**	**22 15 42.8**	**+0.1**
KWP	**Kalwaria Pacla**	**147.04**	**334**	⇑*i*P	**PKPbc**	**22 15 42.8**	**+0.1**
BURAR	**Bucovina Array**	**147.45**	**330**	⇑PKP2	**PKPbc**	**22 15 44.4**	**+0.4**
BURAR	**Bucovina Array**	**147.45**	**330**	⇑*i*P	**PKPbc**	**22 15 44.4**	**+0.4**
TESR	**Tescani**	**147.52**	**327**	⇑*i*P	**PKPbc**	**22 15 43.6**	**-0.5**
KOLS	**Kolonicke sedl**	**147.76**	**334**	*e*PKIKP	**PKPbc**	**22 15 43.6**	**-1.1**
KOLS	**Kolonicke sedl**	**147.76**	**334**	*e*PKP	**PKPbc**	**22 15 43.5**	**-1.1**
STHS	**Stebnicka Huta**	**147.78**	**336**	*e*PKP2	**PKPbc**	**22 15 45.5**	**+0.8**
STHS	**Stebnicka Huta**	**147.78**	**336**	*e*PKP	**PKPbc**	**22 15 45.5**	**+0.8**
PLOR	**Plostina**	**147.96**	**326**	⇓PKP2	**PKPab**	**22 15 49.9**	**-0.1**
PLOR	**Plostina**	**147.96**	**326**	⇓*i*P	**PKPab**	**22 15 49.9**	**-0.1**
CRVS	**Cervenica-Dubn**	**148.11**	**335**	*e*PKP2	**PKPbc**	**22 15 47.1**	**+1.6**
CRVS	**Cervenica-Dubn**	**148.11**	**335**	*e*PKP	**PKPbc**	**22 15 47.1**	**+1.6**
CRVS				*e*		22 18 01.8	
MLR	**Muntele Rosu**	**148.57**	**326**	⇓PKP2	**PKPbc**	**22 15 46.6**	**-0.3**
MLR	**Muntele Rosu**	**148.57**	**326**	⇓*i*P	**PKPbc**	**22 15 46.6**	**-0.3**
MLR	**Muntele Rosu**	**148.57**	**326**	PKPbc	**PKPbc**	**22 15 46.3**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=0.0,slow=4.0,SNR=11						
CLL	**Collm**	**148.65**	**346**	*e*PKPbc	**PKPbc**	**22 15 46.6**	**-0.2**
CLL	**Collm**	**148.65**	**346**	⇑*i*PKPbc	**PKPbc**	**22 15 46.5**	**-0.2**
	comp=Z,7.0nm,0.7s						
CLL				*i* PKPab	**PKPab**	**22 15 53.1**	**+0.5**
	comp=Z,5.0nm,0.9s						
BRG	**Berggiesshubel**	**148.84**	**345**	*e*(P)	**PKPbc**	**22 15 47.4**	**+0.2**
	comp=Z,2.8nm,0.8s						
BRG	**Berggiesshubel**	**148.84**	**345**	*e*PKP2	**PKPbc**	**22 15 47.4**	**+0.2**
BRG	**Berggiesshubel**	**148.84**	**345**	*e*PKPbc	**PKPbc**	**22 15 47.4**	**+0.2**
VOIR		**149.07**	**327**	⇑PKP2	**PKPbc**	**22 15 48.8**	**+0.7**
VOIR		**149.07**	**327**	⇑*i*P	**PKPbc**	**22 15 48.8**	**+0.7**
ARR	**Arges**	**149.33**	**327**	⇑*i*P	**PKPbc**	**22 15 49.8**	**+1.1**
VYHS	**Vyhne**	**149.45**	**337**	*e*PKP	**PKPbc**	**22 15 48.0**	**-0.8**
VYHS				*e*		22 18 02.0	
MOX	**Moxa**	**149.58**	**347**	*e*PKPbc	**PKPbc**	**22 15 49.1**	**+0.1**
TANN	**Tannenbergstha**	**149.61**	**346**	*e*PKPbc	**PKPbc**	**22 15 49.2**	**0.0**
GZR	**Gura Zlata**	**150.23**	**329**	⇓PKIKP	**PKPab**	**22 15 58.0**	**-1.5**
GZR	**Gura Zlata**	**150.23**	**329**	⇓*i*P	**PKPab**	**22 15 58.0**	**-1.5**
ROTZ	**Rotzenmuhle**	**150.28**	**346**	*e*PKPbc	**PKPbc**	**22 15 50.7**	**0.0**
KHC	**Kasperske Hory**	**150.53**	**344**	*e*PKIKP	**PKPbc**	**22 15 49.5**	**-1.9**
KHC	**Kasperske Hory**	**150.53**	**344**	*e*PKP	**PKPbc**	**22 15 49.5**	**-1.9**
TNS	**Taunus Mts**	**150.54**	**351**	*e*PKPbc	**PKPbc**	**22 15 51.6**	**+0.2**
GRF	**Grafenberg Arr**	**150.56**	**347**	*e*PKPbc	**PKPbc**	**22 15 51.1**	**-0.3**
BZS	**Buzias**	**150.60**	**331**	⇑PKIKP	**PKPbc**	**22 15 51.4**	**-0.2**
BZS	**Buzias**	**150.60**	**331**	⇑*i*P	**PKPbc**	**22 15 51.4**	**-0.2**
GEC2	**GERESS Array S**	**150.76**	**343**	*e*PKPbc	**PKPbc**	**22 15 51.9**	**-0.1**
GERES	**GERESS Array B**	**150.76**	**343**	PKPbc	**PKPbc**	**22 15 51.7**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=38,slow=1.7,SNR=16						
CONA	**Conrad Observa**	**150.95**	**340**	⇑*i*PKPbc	**PKPbc**	**22 15 52.2**	**-0.2**
	comp=Z,3.8nm,0.6s						
PKSM	**Moragy**	**151.41**	**335**	⇑PKIKP	**PKPbc**	**22 15 53.0**	**-0.4**
PKSM	**Moragy**	**151.41**	**335**	⇑*i*P	**PKPbc**	**22 15 53.0**	**-0.4**
ABTA	**Abfaltersbach**	**153.01**	**343**	⇓*i*PKPbc	**PKPbc**	**22 15 56.2**	**-0.8**
	comp=Z,2.2nm,0.6s						
FETA	**Feichten**	**153.19**	**346**	⇓*i*PKiKP	**PKPbc**	**22 15 57.3**	**-0.2**
	comp=Z,2.3nm,0.8s						
DAVOX	**Davos/Dischmat**	**153.61**	**347**	PKPbc	**PKPbc**	**22 15 58.1**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=135,slow=4.3,SNR=5.2						
DBIC	**Dimbokro**	**164.28**	**156**	PKP	**PKPdf**	**22 16 02.2**	**-0.9**
	comp=Z,4.7nm,0.9s,baz=225,slow=4.3,SNR=3.4						
DBIC				PKPab	**PKPab**	**22 17 01.6**	**+0.7**
	comp=Z,4.6nm,0.9s,baz=156,slow=2.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**171.97**	**181**	PKP	**PKPdf**	**22 16 07.1**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=207,slow=1.6,SNR=8.1						
TORD				PKPab	**PKPab**	**22 17 34.9**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=177,slow=3.9,SNR=4.4						

ISK ***24*** *22:01:47.6, 39°.39N×24°.89E, h5km, MD3.1*
DDA ***24*** *22:01:48.5, 39°.46N×24°.94E, h6km, MD2.9*
ATH ***24*** *22:01:48.1, 39°.29N×24°.77E, h28km±1km, MD3.3/29, ML2.7*
THE ***24*** *22:01:48.9, 39°.29N×24°.78E, h12km±1km, ML2.8/11, Error ellipse: s-maj=1.1km s-min=0.5km az=38.0*
SOF ***24*** *22:01:49.3, 39°.46N×24°.74E, h2km, MD2.6*
CSEM 24 22:01:47.8±0.1**, 39°.27N×24°.78E, h10km, ML2.8, Error ellipse: s-maj=3.4km s-min=2.4km az=159.0, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.70**	**26**	P	Pb	22 02 02.1	0.0
LIA				S	Sb	22 02 11.7	-0.1
LIA	**Limnos Island**	**0.70**	**26**	*e*PN	Pb	22 02 02.2	+0.1
LIA				*e*SN	Sb	22 02 11.7	-0.1
LIA	**Limnos Island**	**0.70**	**26**	P	Pb	22 02 02.1	0.0
LIA				S	Sb	22 02 11.7	-0.1
AOS	**Alonnisos**	**0.71**	**262**	P	Pb	22 02 02.5	+0.3
AOS				S	Sb	22 02 12.9	+0.9
AOS	**Alonnisos**	**0.71**	**262**	*e*PG	Pn	22 02 03.7	-0.2
AOS	**Alonnisos**	**0.71**	**262**	*e*PN	Pb	22 02 02.3	+0.1
AOS				*e*SN	Sb	22 02 12.8	+0.8
AOS	**Alonnisos**	**0.71**	**262**	P	Pb	22 02 02.5	+0.3
AOS	**Alonnisos**	**0.71**	**262**	*e*Pg	Pn	22 02 03.7	-0.2
AOS				S	Sb	22 02 12.9	+0.9
SIGR	**SIGRI**	**0.84**	**94**	P	Pb	22 02 04.5	+0.1
SIGR				S	Sb	22 02 16.5	+0.8
SIGR	**SIGRI**	**0.84**	**94**	P	Pb	22 02 04.5	+0.1
SIGR				S	Sb	22 02 16.5	+0.8
SKIA	**Skiathos**	**1.03**	**265**	P	Pn	22 02 08.5	+0.2
SKIA				S	Sn	22 02 23.3	+0.5
SKIA	**Skiathos**	**1.03**	**265**	*e*PN	Pn	22 02 08.2	-0.1
SKIA				*e*SN	Sn	22 02 22.4	-0.4
SKIA	**Skiathos**	**1.03**	**265**	*e*Pn	Pn	22 02 08.2	-0.1
SKIA	**Skiathos**	**1.03**	**265**	P	Pn	22 02 08.5	+0.2
SKIA				*e*Sn	Sn	22 02 22.4	-0.4
SKIA				S	Sn	22 02 23.3	+2.0
PAIG	**Paliouri**	**1.07**	**308**	P	Pb	22 02 08.6	+0.1
PAIG				S	Sb	22 02 24.1	+0.2
PAIG	**Paliouri**	**1.07**	**308**	*e*PN	Pb	22 02 08.5	0.0
PAIG				*e*SN	Sb	22 02 23.7	-0.2
PAIG	**Paliouri**	**1.07**	**308**	P	Pb	22 02 08.6	+0.1
PAIG				*e*Sn	Sb	22 02 23.7	-0.2
PAIG				S	Sb	22 02 24.1	+1.5
MRKA	**Markates**	**1.09**	**239**	P	Pg	22 02 08.9	+0.1
MRKA				S	Sn	22 02 24.4	+0.1
MRKA	**Markates**	**1.09**	**239**	*e*PN	Pn	22 02 09.1	-0.1
MRKA				*e*SN	Sn	22 02 24.3	0.0
MRKA	**Markates**	**1.09**	**239**	*e*Pn	Pn	22 02 09.1	-0.1
MRKA				S	Sn	22 02 24.4	+0.1
BOZC	**Bozcaada**	**1.14**	**60**	*i* P	Pn	22 02 09.9	+0.1
BOZC				*i* S	Sb	22 02 23.4	-1.0
PRK	**Paraskevi**	**1.16**	**91**	P	Pg	22 02 10.3	+0.2
PRK				S	Sn	22 02 25.8	-0.1
PRK	**Paraskevi**	**1.16**	**91**	*e*PN	Pn	22 02 10.0	-0.1
PRK				*e*SN	Sn	22 02 26.7	+0.8
PRK	**Paraskevi**	**1.16**	**91**	*e*Pn	Pn	22 02 10.0	-0.1
PRK	**Paraskevi**	**1.16**	**91**	P	Pg	22 02 10.3	+0.2
PRK				S	Sn	22 02 25.8	-0.1
PRK				*e*Sn	Sg	22 02 26.7	+1.6
NEO	**Neokhori**	**1.21**	**272**	P	Pn	22 02 10.6	-0.2
NEO				S	Sg	22 02 26.8	-0.1
NEO	**Neokhori**	**1.21**	**272**	*e*PN	Pn	22 02 10.7	-0.1
NEO				*e*SN	Sn	22 02 27.1	-0.2
NEO	**Neokhori**	**1.21**	**272**	*e*Pn	Pn	22 02 10.7	-0.1
NEO				S	Sg	22 02 26.8	-0.1
NEO				*e*Sn	Sn	22 02 27.1	-0.2
OUR	**Ouranopolis**	**1.23**	**330**	P	Pn	22 02 10.9	-0.1
OUR				S	Sb	22 02 26.9	-0.1
OUR	**Ouranopolis**	**1.23**	**330**	*e*PN	Pn	22 02 11.0	0.0
OUR				*e*SN	Sb	22 02 26.9	-0.1
OUR	**Ouranopolis**	**1.23**	**330**	*e*PN	Pn	22 02 11.0	0.0
OUR				*e*SN	Sb	22 02 26.8	-0.2
OUR	**Ouranopolis**	**1.23**	**330**	*e*Pn	Pn	22 02 11.0	0.0
OUR				*e*Sn	Sb	22 02 26.8	-0.2
XOR	**Xorichti**	**1.24**	**275**	P	Pn	22 02 10.9	-0.3
XOR				S	Sn	22 02 27.9	-0.1
XOR	**Xorichti**	**1.24**	**275**	*e*PN	Pn	22 02 10.7	-0.5
XOR				*e*SN	Sn	22 02 27.2	-0.1
XOR	**Xorichti**	**1.24**	**275**	P	Pn	22 02 10.9	-0.3
XOR				*e*Sn	Sn	22 02 27.2	-0.1
SMIA	**Simia**	**1.28**	**253**	P	Pb	22 02 12.3	+0.2
SMIA				S	Sg	22 02 29.3	0.0
SMIA	**Simia**	**1.28**	**253**	*e*PN	Pb	22 02 12.1	0.0
SMIA				*e*SN	Sn	22 02 30.1	+0.8
SMIA	**Simia**	**1.28**	**253**	P	Pb	22 02 12.3	+0.2
SMIA				S	Sg	22 02 29.3	0.0
SMIA				*e*Sn	Sn	22 02 30.1	+0.9
EZN	**Ezine**	**1.32**	**65**	*e*PN	Pn	22 02 10.6	-1.6
EZN	**Ezine**	**1.32**	**65**	*e*Pn	Pn	22 02 10.6	-1.6
SMTH	**Samothraki Isl**	**1.33**	**25**	P	Pn	22 02 11.6	-0.9
SMTH	**Samothraki Isl**	**1.33**	**25**	*e*PN	Pn	22 02 12.1	-0.4
SMTH				*e*SN	Sg	22 02 30.8	+0.1
SMTH	**Samothraki Isl**	**1.33**	**25**	P	Pn	22 02 11.6	-0.9
SMTH	**Samothraki Isl**	**1.33**	**25**	*e*Pn	Pn	22 02 12.1	-0.4
SMTH				*e*Sn	Sg	22 02 30.8	+0.1
CHOS	**Chios island**	**1.33**	**131**	P	Pb	22 02 12.9	-0.1
CHOS				S	Sg	22 02 31.4	+0.5
CHOS	**Chios island**	**1.33**	**131**	*e*PN	Pg	22 02 13.7	+0.2
CHOS				*e*SN	Sg	22 02 32.7	+1.8
CHOS	**Chios island**	**1.33**	**131**	*e*PN	Pb	22 02 12.9	-0.1
CHOS				*e*SN	Sg	22 02 30.9	0.0
CHOS	**Chios island**	**1.33**	**131**	P	Pb	22 02 12.9	-0.1
CHOS				*e*Sn	Sg	22 02 30.9	0.0
CHOS				S	Sn	22 02 31.4	+1.0
PTL	**Penteli**	**1.42**	**211**	P	Pn	22 02 13.4	-0.3
PTL				S	Sn	22 02 33.5	0.0
PTL	**Penteli**	**1.42**	**211**	*e*PB	Pn	22 02 13.3	-0.4
PTL				*e*SN	Sg	22 02 33.1	-0.4
PTL	**Penteli**	**1.42**	**211**	P	Pn	22 02 13.4	-0.3
PTL				*e*Sn	Sg	22 02 33.1	-0.4
AYVA	**Ayvalik**	**1.48**	**88**	*i* P	Pn	22 02 14.9	+0.4
AYVA				*i* S	Sn	22 02 33.3	-0.6
AYVA	**Ayvalik**	**1.48**	**88**	*i* P	Pn	22 02 14.9	+0.4
AYVA				*i* S	Sn	22 02 33.3	-0.7
PLG	**Polygyros**	**1.51**	**317**	P	Pn	22 02 15.3	+0.4
PLG				S	Sn	22 02 34.8	+0.1
PLG	**Polygyros**	**1.51**	**317**	*e*PN	Pn	22 02 15.3	+0.4
PLG				*e*SN	Sn	22 02 34.6	-0.1
PLG	**Polygyros**	**1.51**	**317**	P	Pn	22 02 15.3	+0.4
PLG				*e*Sn	Sn	22 02 34.6	-0.1
LKR	**Lokris**	**1.52**	**246**	*e*PN	Pb	22 02 16.0	-0.1
LKR				*e*SN	Sn	22 02 35.0	+0.1
LKR	**Lokris**	**1.52**	**246**	*e*Pn	Pb	22 02 16.0	-0.1
LKR				*e*Sn	Sn	22 02 35.0	+0.1
ATH	**Athens Observa**	**1.54**	**213**	*e*PB	Pn	22 02 14.7	-0.6
ATH				*e*SN	Sb	22 02 36.5	+0.5
ATH	**Athens Observa**	**1.54**	**213**	*e*Pb	Pn	22 02 14.7	-0.6
ATH				*e*Sn	Sb	22 02 36.5	+0.5
URLA	**Izmir**	**1.69**	**122**	*i* P	Pg	22 02 20.2	0.0
URLA	**Izmir**	**1.69**	**122**	*i* P	Pg	22 02 20.2	0.0
URLA				*i* S	Sg	22 02 44.7	+2.6
ZEY	**˜zmir**	**1.70**	**127**	*i* P	Pg	22 02 20.9	+0.5
ZEY				*i* S	Sg	22 02 43.5	+1.1
GELI	**Tayfur-Gelibol**	**1.72**	**49**	*e*PN	Pn	22 02 17.6	-0.2
GELI	**Tayfur-Gelibol**	**1.72**	**49**	*e*Pn	Pn	22 02 17.6	-0.2
KAVA	**Kavala**	**1.73**	**353**	P	Pn	22 02 17.7	-0.3
KAVA	**Kavala**	**1.73**	**353**	*e*PB	Pn	22 02 17.7	-0.3
KAVA				*e*SN	Sn	22 02 40.1	-0.1
KAVA	**Kavala**	**1.73**	**353**	P	Pn	22 02 17.7	-0.3
KAVA				*e*Sn	Sn	22 02 40.1	-0.1
ENEZ	**Enez**	**1.80**	**35**	*e*PN	Pn	22 02 18.4	-0.6
ENEZ	**Enez**	**1.80**	**35**	*e*Pn	Pn	22 02 18.4	-0.5
NAIG	**Nisos Aigina**	**1.82**	**214**	*e*PB	Pn	22 02 18.8	-0.4
NAIG	**Nisos Aigina**	**1.82**	**214**	*e*Pb	Pn	22 02 18.8	-0.4
HORT	**Hortiatis**	**1.85**	**316**	*e*PN	Pn	22 02 20.3	+0.6
HORT	**Hortiatis**	**1.85**	**316**	*e*Pn	Pn	22 02 20.3	+0.6
LPK	**Lapseki**	**1.88**	**54**	*e*PN	Pn	22 02 19.1	-0.9
LPK	**Lapseki**	**1.88**	**54**	*e*Pn	Pn	22 02 19.1	-0.9
LTK	**Loutraki**	**1.89**	**229**	*e*PB	Pn	22 02 20.5	+0.3
LTK				*e*SN	Sn	22 02 43.7	-0.4
LTK	**Loutraki**	**1.89**	**229**	*e*Pb	Pn	22 02 20.5	+0.3
LTK				*e*Sn	Sn	22 02 43.7	-0.4
ALN	**Alexandroupoli**	**1.89**	**30**	P	Pn	22 02 19.6	-0.5
ALN	**Alexandroupoli**	**1.89**	**30**	*e*PN	Pn	22 02 18.9	-1.2
ALN	**Alexandroupoli**	**1.89**	**30**	*e*PN	Pn	22 02 20.9	+0.8
ALN	**Alexandroupoli**	**1.89**	**30**	*e*Pn	Pn	22 02 19.0	-1.1
ALN	**Alexandroupoli**	**1.89**	**30**	P	Pn	22 02 19.6	-0.5
SOH	**Sokhos**	**1.90**	**325**	*e*PN	Pb	22 02 21.6	-1.0
SOH				*e*SN	Sn	22 02 44.2	-0.1
SOH	**Sokhos**	**1.90**	**325**	*e*Pn	Pb	22 02 21.6	-1.0
SOH				*e*Sn	Sn	22 02 44.2	-0.1
AGG	**Agios Georgios**	**1.92**	**263**	*e*PB	Pn	22 02 21.7	+1.1
AGG	**Agios Georgios**	**1.92**	**263**	*e*Pb	Pn	22 02 21.7	+1.1
LIT	**Litokhoron**	**1.95**	**296**	*e*PB	Pn	22 02 21.9	+0.9
LIT	**Litokhoron**	**1.95**	**296**	*e*Pb	Pn	22 02 21.9	+0.9
DSF	**Desfina**	**1.96**	**245**	*e*PB	Pn	22 02 22.4	+1.2
DSF				*e*SN	Sn	22 02 46.1	+0.2
DSF	**Desfina**	**1.96**	**245**	*e*Pb	Pn	22 02 22.4	+1.2
DSF				*e*Sn	Sn	22 02 46.1	+0.2
SRS	**Serrai**	**2.06**	**334**	P	Pn	22 02 22.5	0.0
SRS	**Serrai**	**2.06**	**334**	*e*PN	Pn	22 02 22.6	+0.1
SRS	**Serrai**	**2.06**	**334**	P	Pn	22 02 22.5	0.0
MAKR	**Makrakomi, Fth**	**2.08**	**264**	*e*PB	Pb	22 02 24.2	-1.4
MAKR	**Makrakomi, Fth**	**2.08**	**264**	*e*Pb	Pb	22 02 24.2	-1.4
DID	**Didima**	**2.14**	**215**	P	Pn	22 02 23.3	-0.3
DID	**Didima**	**2.14**	**215**	*e*PN	Pn	22 02 23.3	-0.3
DID	**Didima**	**2.14**	**215**	P	Pn	22 02 23.3	-0.3
THL	**Klokotos Trika**	**2.16**	**279**	*e*PN	Pn	22 02 23.8	-0.1
THL	**Klokotos Trika**	**2.16**	**279**	*e*Pn	Pn	22 02 23.8	-0.1
NVR	**Nevrokopi**	**2.19**	**342**	*e*PN	Pn	22 02 24.1	-0.3
NVR	**Nevrokopi**	**2.19**	**342**	*e*PN	Pn	22 02 24.1	-0.3
KRBG	**Karabiga-Canak**	**2.24**	**59**	*e*PN	Pn	22 02 24.6	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBG	Karabiga-Canak	2.24	59	ePn	Pn	22 02 24.6	-0.3
KALE	Kalithea	2.24	248	ePN	Pn	22 02 26.0	+0.9
KALE	Kalithea	2.24	248	ePn	Pn	22 02 26.0	+0.9
BALY	Balya	2.25	77	iP	Pb	22 02 28.6	+0.1
BALY				iS	Sb	22 02 57.0	+0.5
SMG	Samos	2.25	133	ePB	Pb	22 02 27.6	-0.9
SMG	Samos	2.25	133	ePb	Pb	22 02 27.6	-0.9
APE	Apeiranthos	2.28	165	ePN	Pb	22 02 28.6	-0.5
APE	Apeiranthos	2.28	165	ePN	Pn	22 02 26.6	+1.1
APE	Apeiranthos	2.28	165	ePn	Pn	22 02 26.6	+1.1
RKY	Sarkoy-Tekirda	2.32	52	ePN	Pn	22 02 25.3	-0.8
RKY	Sarkoy-Tekirda	2.32	52	ePn	Pn	22 02 25.3	-0.9
SART	Tekirdag	2.32	52	iP	Pn	22 02 27.3	+1.1
SART				iS	Sn	22 02 56.5	+1.6
SART	Tekirdag	2.32	52	iP	Pn	22 02 27.3	+1.1
SART				iS	Sn	22 02 56.5	+1.6
GUR	Goura	2.33	236	ePN	Pn	22 02 26.6	+0.3
GUR				eSN	Sn	22 02 55.5	+0.4
GUR	Goura	2.33	236	ePn	Pn	22 02 26.6	+0.3
GUR				eSn	Sn	22 02 55.5	+0.4
EVR	Evrytania	2.34	262	ePN	Pn	22 02 26.1	-0.4
EVR	Evrytania	2.34	262	ePn	Pn	22 02 26.1	-0.4
KNT	Kendrikon	2.38	323	P	Pn	22 02 27.1	+0.3
KNT	Kendrikon	2.38	323	ePN	Pn	22 02 27.0	+0.2
KNT	Kendrikon	2.38	323	ePn	Pn	22 02 27.0	+0.2
KLV	Kalavryta, Ach	2.40	240	ePB	Pb	22 02 28.5	+1.3
KLV	Kalavryta, Ach	2.40	240	ePb	Pb	22 02 28.5	+1.3
EFP	Efpalio	2.40	250	ePB	Pb	22 02 28.8	+1.7
EFP	Efpalio	2.40	250	ePb	Pb	22 02 28.8	+1.7
RZN	Rozhen	2.41	359	P	Pn	22 02 28.0	+0.4
RZN				S	Sn	22 02 56.4	-1.0
RZN	Rozhen	2.41	359	P	Pn	22 02 28.0	+0.4
RZN				S	Sn	22 02 56.4	-1.0
LAKA	Lakka	2.42	246	ePN	Pn	22 02 28.5	+1.0
LAKA	Lakka	2.42	246	ePn	Pn	22 02 28.5	+1.0
BALB	Balikesir	2.43	80	ePN	Pn	22 02 26.9	-0.6
BALB	Balikesir	2.43	80	ePn	Pn	22 02 26.9	-0.6
MMB	Musomiste	2.45	341	P	Pn	22 02 27.4	-0.5
MMB				S	Sn	22 02 55.9	-2.1
MMB	Musomiste	2.45	341	P	Pn	22 02 27.4	-0.5
MMB				S	Sn	22 02 55.9	-2.1
MRMT	Marmara Adasi	2.54	58	ePN	Pn	22 02 28.1	-1.1
MRMT	Marmara Adasi	2.54	58	ePn	Pn	22 02 28.1	-1.1
EDC	Edincik	2.61	65	ePN	Pn	22 02 29.6	-0.4
EDC	Edincik	2.61	65	ePn	Pn	22 02 29.6	-0.4
DRO	Drossia	2.74	242	ePN	Pn	22 02 33.5	+1.6
DRO	Drossia	2.74	242	ePn	Pn	22 02 33.5	+1.6
AYDB	Zeytinkoy-Aydi	2.77	118	ePN	Pn	22 02 33.5	+1.0
AYDB	Zeytinkoy-Aydi	2.77	118	ePn	Pn	22 02 33.5	+1.0
PDO	Prodromos	2.88	258	ePB	Pn	22 02 36.1	+2.3
PDO	Prodromos	2.88	258	ePb	Pn	22 02 36.1	+2.3
KKB	Krupnik	2.90	334	P	Pn	22 02 34.8	+0.8
KKB	Krupnik	2.90	334	P	Pn	22 02 34.8	+0.8
CRLT	Corlu	2.93	50	ePN	Pn	22 02 33.9	-0.5
CRLT	Corlu	2.93	50	ePn	Pn	22 02 33.9	-0.5
ITM	Ithomi	3.07	228	ePN	Pn	22 02 37.0	+0.6
ITM	Ithomi	3.07	228	ePn	Pn	22 02 37.0	+0.6
IGT	Igoumenitsa	3.46	276	ePN	Pn	22 02 43.7	+2.0
IGT	Igoumenitsa	3.46	276	ePn	Pn	22 02 43.7	+2.0
CTKS	Kestanelik-??a	3.46	54	ePN	Pn	22 02 41.6	-0.1
CTKS	Kestanelik-??a	3.46	54	ePn	Pn	22 02 41.6	-0.1
MPEP	Malo Peshtene	4.16	349	P	Pn	22 02 53.1	+1.8
MPEP	Malo Peshtene	4.16	349	P	Pn	22 02 53.1	+1.8

CSEM 24 22:01:50.8±0.8, 37.50N×28.69E, h18km±6km, MD2.3, Error ellipse: s-maj=16.0km s-min=8.3km az=71.0
DDA 24 22:01:57.5, 37.61N×29.50E, h7km, MD2.7
ISK 24 22:01:56.5, 37.63N×29.45E, h12km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOLH	Golhisar	0.40	168	iP	Pg	22 02 05.1	+0.4
GOLH				iS	Sg	22 02 11.0	+0.8
GOLH	Golhisar	0.40	168	iP	Pg	22 02 05.1	+0.4
GOLH				iS	Sg	22 02 11.0	+0.8
GLHS	Glhisar (BURDU	0.48	176	ePG	Pg	22 02 05.7	-0.3
GLHS				eSG	Sb	22 02 13.9	-0.2
GLHS	Glhisar (BURDU	0.48	176	ePg	Pg	22 02 05.7	-0.3
GLHS				eSg	Sb	22 02 13.9	-0.2
KHL	Karahalli	0.69	5	ePG	Pb	22 02 10.7	+0.1
KHL	Karahalli	0.69	5	ePG	Pn	22 02 13.3	+1.1
KHL	Karahalli	0.69	5	ePg	Pb	22 02 10.7	0.0
KHAL	Karahalli	0.74	2	iS	Sn	22 02 23.2	-1.0
KHAL	Karahalli	0.74	2	iP	Pb	22 02 11.6	+0.2
KHAL				iS	Sn	22 02 23.2	-1.0
ELL	Elmali	0.95	157	ePG	Pg	22 02 15.1	0.0
ELL				eSG	Sn	22 02 29.2	-0.4
ELL	Elmali	0.95	157	ePg	Pg	22 02 15.1	0.0
ELL				eSg	Sn	22 02 29.2	-0.4
AYDB	Zeytinkoy-Aydi	1.28	285	ePG	Pg	22 02 27.7	+6.4
ALT	Altintas	1.51	20	ePN	Pn	22 02 24.0	+0.4
ALT	Altintas	1.51	20	ePG	Pg	22 02 28.8	+3.1
ALT	Altintas	1.51	20	ePn	Pn	22 02 24.0	+0.4
ALT	Altintas	1.51	20	ePg	Pg	22 02 28.8	+3.1

IDC 24 22:10:04.9±1.5, 23.08S×114.60W, h0km, mb3.6/3, mb1 4.1/3, mb1mx3.8/24, mbtmp3.6/3, MS3.9/10, Ms1 3.9/10, ms1mx3.7/17, Error ellipse: s-maj=92.0km s-min=48.2km az=102.0
ISC 24 22:10:06.0±1.8, 23.2S±0.4×114.6W±0.8, h10km, n22, σ1.01/9, mb3.7/3, MS3.9/10, Easter Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	6.17	131	LR	LR	22 13 35.0	
	comp=Z,2μm,18.1s,baz=290,slow=34						
RKT	Rikitea	18.78	266	eLQ	LQ	22 17 45.4	
	2μm,27.8s						
RKT				eLR	LR	22 18 32.1	
	305nm,27.0s						
RKT	Rikitea	18.78	266	eT	T	22 33 15.0	
	2.4nm,0.2s						
PPT2	Papeete2	33.24	273	eLR	LR	22 25 12.5	
	232nm,26.5s						
PLCA	Paso Flores	40.79	126	LR	LR	22 30 24.9	
	comp=Z,279nm,21.2s,baz=284,slow=30						
LPAZ	La Paz	44.09	90	LR	LR	22 32 42.7	
	comp=Z,84nm,21.3s,baz=252,slow=31						
ROSC	El Rosal	48.13	60	LR	LR	22 34 25.8	
	comp=Z,85nm,21.2s,baz=168,slow=30						
SIV	San Ignacio	50.67	92	LR	LR	22 37 38.3	
	comp=Z,76nm,19.4s,baz=280,slow=33						
CPUP	Villa Florida	51.72	106	LR	LR	22 37 24.0	
	comp=Z,84nm,18.5s,baz=235,slow=32						
NVAR	Mina Array Bea	61.35	357	P	P	22 20 23.1	+0.9
	0.5nm,0.7s,baz=173,slow=8.2,SNR=3.8						
PDAR	Pinedale Array	65.74	4	P	P	22 20 50.9	-0.3
	0.4nm,0.9s,baz=194,slow=7.2,SNR=3.6						
VNDA	Vanda	66.18	194	LR	LR	22 41 46.7	
	comp=Z,136nm,20.7s,baz=282,slow=29						
YKA	Yellowknife Ar	85.34	360	P	P	22 22 41.7	-1.1
	0.5nm,1.0s,baz=174,slow=5.4,SNR=6.2						
SCHQ	Schefferville	87.74	25	LR	LR	22 59 33.0	
	comp=Z,54nm,20.5s,baz=144,slow=34						
STKA	Stephens Creek	88.97	236	LR	LR	22 58 34.0	
	comp=Z,60nm,18.3s,baz=201,slow=33						
ILAR	Eielson Array	91.13	347	LR	LR	22 56 33.7	
	comp=Z,43nm,20.1s,baz=110,slow=31						
ZALV	Zalesovo Beam	145.95	339	PKPbc	PKPab	22 29 46.9	+0.9
	0.8nm,0.6s,baz=65,slow=4.4,SNR=7.5						
CMAR	Chiang Mai Arr	148.38	268	PKPbc	PKPbc	22 29 53.4	-0.1
	0.3nm,0.3s,baz=72,slow=2.9,SNR=7.5						
BRTR	Keskin Array B	148.44	51	PKPbc	PKPbc	22 29 53.7	+0.4
	0.9nm,0.9s,baz=117,slow=0.3,SNR=4.4						
BVAR	Borovoye Array	149.93	354	PKPbc	PKPbc	22 29 57.4	+1.0
	0.4nm,0.5s,baz=10,slow=1.6,SNR=4.5						
KBZ	Khabaz	152.31	37	PKPbc	PKPbc	22 30 02.6	+0.5
	2.3nm,1.1s,baz=356,slow=2.5,SNR=3.9						
MKAR	Makanchi Array	152.78	334	PKPbc	PKPbc	22 30 01.8	-1.4
	0.3nm,0.6s,baz=47,slow=0.8,SNR=6.7						

KRSC 24 22:22:43.2±1.2, 56.07N×163.40E, h20km±9km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.35	294	P	Pb	22 22 51.3	+0.5
KBTR				S	Sg	22 22 55.3	-0.6
KBG	Krutoberegovo	0.43	296	P	Pg	22 22 52.4	+0.3
KBG				S	Sg	22 22 57.7	-0.4
SMKR	Semkarok	1.19	297	P	Pn	22 23 05.0	+0.2
SMKR				S	Sg	22 23 21.4	-0.7
BDR	Baidarnaya	1.32	293	eP	Pb	22 23 07.2	-0.2
BDR				eS	Sg	22 23 25.4	-0.8
SRKR	Sorokina	1.37	296	P	Pb	22 23 07.9	-0.4
SRKR				S	Sb	22 23 25.9	+0.5
KLY	Klyuchi	1.55	280	P	Pn	22 23 09.2	-0.4
KLY				S	Sn	22 23 27.4	-1.8
BKI	Bering	1.70	120	P	Pg	22 23 15.5	-0.3
BKI				S	Sb	22 23 36.0	+1.5
MKZ	Mys Kozlova	1.79	213	P	Pb	22 23 14.4	-0.8
MKZ				S	Sn	22 23 36.0	+1.1
KMNR	Kamenistaya	1.81	261	P	Pb	22 23 15.9	+0.2
KMNR				S	Sb	22 23 39.2	+1.3
KOZ	Kozyrevsk	1.98	271	S	Sb	22 23 42.3	-0.4
TUMR	Tumrok	2.00	248	P	Pb	22 23 18.5	-0.5
TUMR				S	Sb	22 23 43.4	-0.2
SRDR	Sredinnyy	2.07	279	P	Pb	22 23 19.2	-1.0
SRDR				S	Sb	22 23 46.5	+1.0
ESO	Esso	2.64	269	P	Pb	22 23 28.8	-1.0
OSSR	Ossora	3.20	357	P	Pn	22 23 35.2	+3.0
OSSR				S	Sn	22 24 11.5	+1.8
SPN	Mys Shipunski	3.56	215	S	Sn	22 24 18.3	-0.5
NLC	Nalytchevo	3.74	221	S	Sn	22 24 26.7	+3.7
SDLR	Sedlovina	3.83	225	P	Pn	22 23 43.8	+2.7
KRER	Koryakskii	3.86	226	P	Pn	22 23 46.0	+4.3
KRER				S	Sn	22 24 30.0	+3.4
KRX	Arik	3.86	227	P	Pn	22 23 45.6	+4.0
SMAR	Somma	3.87	225	P	Pn	22 23 44.1	+2.3
AVH	Avacha	3.90	226	eP	Pn	22 23 46.0	+4.0
AVH				S	Sn	22 24 32.1	+4.9
UGLR	Uglovaya	3.91	225	P	Pn	22 23 44.9	+2.8
KOK	Koryaka	3.92	227	P	Pn	22 23 46.2	+3.9
GNL	Ganaly	3.94	235	P	Pn	22 23 45.6	+2.9
TILK	Tilichiki	4.63	17	P	Pn	22 23 55.2	+3.4
MTVR	Mutnovka	4.71	223	P	Pn	22 23 58.5	+5.2

IDC 24 22:28:14.5±1.6, 1.12N×126.68E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.5/3, Error ellipse: s-maj=151.0km s-min=27.1km az=68.0
ISCJB 24 22:28:23.6±0.8, 1.13N±0.06×126.89E±0.08, h100km, mb3.5/3, Error ellipse: s-maj=11.1km s-min=8.7km az=165.5
DJA 24 22:28:23.3±0.4, 1°N±3°×12°7E±°, h23km, M3.6/4, MLv3.6/4
ISC 24 22:28:26.1±1.1, 1.20N±0.06×126.74E±0.10, h100km, n8, σ2.07/9, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.76	124	P	Pn	22 28 37.9	-6.2
LBMI	Labuha	1.98	157	P	Pn	22 28 54.9	-3.5
LBMI				S	Sn	22 29 24.5	+1.4
SGSI	Sangihe	2.75	334	P	Pn	22 29 09.8	+1.2
SGSI				S	Sn	22 29 38.2	-3.1
KMSI	Cibinong	2.83	257	P	Pn	22 29 09.7	+0.1
KMSI				S	Sn	22 29 44.3	+1.3
SANI	Sanana	3.31	193	P	Pn	22 29 21.3	+5.2
SANI				S	Sn	22 29 52.6	-2.1
WRA	Warramunga Arr	22.29	161	P	P	22 33 13.1	-2.4
	0.6nm,0.3s,baz=339,slow=11,SNR=7.4						
SONM	Songino Array	49.69	342	P	P	22 37 08.7	+0.6
	0.2nm,0.6s,baz=154,slow=9.5,SNR=3.2						
MKAR	Makanchi Array	59.64	326	P	P	22 38 20.7	+0.9
	0.4nm,0.3s,baz=121,slow=8.5,SNR=16						

SKHL 24 23:02:35.4±0.7, 55.41N×130.19E, h8km±1km, mb3.8/4, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BMKR	Bomnak	1.04	228	⇓iPg	Pg	23 02 54.5	-1.0
BMKR				AMB	AMB	23 02 54.8	
	28nm,0.4s						
BMKR				pPg	Pn	23 02 56.4	0.0
BMKR				eSg	Sg	23 03 07.9	-1.2
BMKR				A	A	23 03 09.0	
	320nm,0.4s						
BMKR				A	A	23 03 09.0	
	297nm,0.4s						
KROS	Kirovskiy	2.10	244	ePn	Pn	23 03 10.9	0.0
KROS				ePg	Pb	23 03 13.3	-0.4
KROS				AMB	AMB	23 03 14.2	
	30nm,0.5s						
KROS				AMB	AMB	23 03 14.2	
	53nm,0.5s						
KROS				AMB	AMB	23 03 14.2	
	66nm,0.5s						
KROS				eSn	Sn	23 03 37.7	+0.5
KROS				eSg	Sg	23 03 41.5	-1.4
KROS				A	A	23 03 42.8	
	110nm,0.5s						
KROS				A	A	23 03 42.8	
	88nm,0.5s						
ZEA	Zeya	2.40	227	ePg	Pb	23 03 18.0	-0.7
ZEA				eSg	Sb	23 03 49.0	+0.6
ZEA				A	A	23 03 49.7	
	120nm,0.5s						
ZEA				A	A	23 03 49.7	
	160nm,0.5s						
ZEA				A	A	23 03 49.7	
	39nm,0.5s						
EKMR	Ekimchan	2.85	144	ePg	Pb	23 03 26.5	0.0
EKMR				AMB	AMB	23 03 31.0	
	12nm,0.4s						
EKMR				eSg	Sg	23 04 04.4	-2.6
EKMR				A	A	23 04 16.4	
	50nm,0.5s						
EKMR				A	A	23 04 16.4	
	34nm,0.5s						
EKMR				A	A	23 04 16.4	
	30nm,0.5s						
CLNS	Chul'man	3.29	298	ePn	Pn	23 03 28.8	+1.5
CLNS				ePg	Pb	23 03 34.9	+0.8
CLNS				AMB	AMB	23 03 35.5	
	4.0nm,0.2s						
CLNS				AMB	AMB	23 03 35.5	
	2.0nm,0.2s						
CLNS				AMB	AMB	23 03 35.5	
	5.0nm,0.2s						
CLNS				eSn	Sn	23 04 08.9	+2.3
CLNS				eSg	Sb	23 04 15.6	+1.3
CLNS				A	A	23 04 17.6	
	72nm,0.3s						
CLNS				A	A	23 04 17.6	
	95nm,0.4s						
KLR	Kul'dur	6.26	171	eSg	Sg	23 05 50.2	-6.2
NKL	Nikolayevsk	6.55	106	eSg	Sg	23 06 00.0	-5.4

DDA 24 23:24:59.5, 39.47N×33.12E, h30km, MD2.6
ISCJB 24 23:25:01.4±0.8, 39.38N±0.05×33.21E±0.05, h9km, Error ellipse: s-maj=7.1km s-min=5.8km az=162.0
CSEM 24 23:25:01.1±0.2, 39.38N×33.22E, h5km, MD2.6, Error ellipse: s-maj=7.0km s-min=4.3km az=162.0
ISC 24 23:25:01.2±1.2, 39.38N±0.05×33.21E±0.03, h9km, n9, σ0.63/16, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFSR	Af¯ar-Bala (A	0.13	302	ePG	Pg	23 25 03.7	-0.5
AFSR				eSG	Sg	23 25 06.4	0.0
AFSR	Af¯ar-Bala (A	0.13	302	PG		23 41 57.0	
AFSR	Af¯ar-Bala (A	0.13	302	ePg	Pg	23 25 03.7	-0.5
AFSR				eSg	Sg	23 25 06.4	0.0
BBAL	Bala	0.18	337	iP	Pg	23 25 05.3	+0.3
BBAL				iS	Sg	23 25 08.4	+0.7
BBAL	Bala	0.18	337	iP	Pg	23 25 05.3	+0.3
BBAL				iS	Sg	23 25 08.4	+0.7
CDAG	Cicekdag	0.93	74	iP	Pg	23 25 18.6	-0.5
CDAG				iS	Sg	23 25 31.9	+0.7
CDAG	Cicekdag	0.93	74	iP	Pg	23 25 18.6	-0.5
CDAG				iS	Sg	23 25 31.9	+0.7
KDHN	Kadinhani	1.21	225	iP	Pg	23 25 25.0	+0.6
KDHN				iS	Sb	23 25 39.3	-0.8
KDHN	Kadinhani	1.21	225	iP	Pg	23 25 25.0	+0.6
KDHN				iS	Sb	23 25 39.3	-0.8

ISCJB 24 23:25:46.3±0.5, 17.08N±0.08×95.38W±0.04, h137km±8km, mb3.7/4, Error ellipse: s-maj=13.5km s-min=5.8km az=19.3
MEX 24 23:25:49.2±0.6, 17.01N×95.46W, h144km±7km, MD4.2
IDC 24 23:25:49.9±2.6, 17.12N×94.87W, h140km±34km, mb3.5/5, mb1 3.6/8, mb1mx3.3/36, mbtmp3.9/8, MS2.7/2, Ms1 2.7/2, ms1mx2.4/24, Error ellipse: s-maj=28.2km s-min=24.2km az=25.0
ISC 24 23:25:47.0±0.8, 17.12N±0.07×95.29W±0.04, h112km±10km, n18, σ2.25/26, mb3.8/4, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.39	95	eP	Pn	23 26 05.3	+1.8
VHO	Vista Hermosa	1.38	268	eP	Pn	23 26 14.3	+1.6
VHO				iS	Sn	23 26 33.9	+1.8
HUIG	Huatulco	1.56	210	eP	Pn	23 26 15.6	+0.9
HUIG				iS	Sn	23 26 36.5	+0.9
TPIG	Tehuac#an	2.35	303	eP	Pn	23 26 26.6	+1.8
TPIG				iS	Sn	23 26 54.8	+1.1
PCIG		2.44	125	eP	Pn	23 26 28.6	+2.9
PCIG				iS	Sn	23 26 59.3	+3.9
PNIG	Pinotepa	2.81	255	eP	Pn	23 26 30.0	-0.6
PNIG				iS	Sn	23 27 03.0	-1.1
TLIG	Tlapa	3.16	278	iP	Pn	23 26 35.5	+0.3
TLIG				iS	Sn	23 27 10.9	-1.5
PLIG	Platanillo	4.20	288	eP	Pn	23 26 50.1	+0.9
PLIG				iS	Sn	23 27 36.3	-1.2
ARIG	Puente Sto Nin	4.95	284	iP	Pn	23 26 59.6	+0.4
ARIG				iS	Sn	23 27 53.5	-2.0
APG	El Apazote	5.10	114	P	Pn	23 26 59.2	-2.2
	3.0nm,0.3s,baz=284,slow=17,SNR=18						
APG				S	Sn	23 27 54.9	-4.4
	26nm,0.3s,baz=169,slow=22,SNR=13						
APG				LR	LR	23 29 09.3	
	comp=Z,52nm,20.9s,baz=30,slow=42						
TEIG	Tepich	7.33	64	P	Pn	23 27 30.1	-1.3
	4.4nm,0.3s,baz=243,slow=14,SNR=13						
TEIG				S	Sn	23 28 48.1	-5.0
	18nm,0.3s,baz=168,slow=23,SNR=18						
TXAR	Lajitas Array	14.38	329	P	P	23 29 08.1	-0.9
	0.1nm,0.3s,baz=143,slow=14,SNR=3.2						
LPIG	La Paz	15.67	299	LR	LR	23 36 09.9	
	comp=Z,56nm,21.9s,baz=31,slow=39						
ANMO	Albuquerque	20.36	333	P	Pn	23 30 18.6	+0.7
	2.3nm,0.5s,baz=138,slow=11,SNR=11						
TKL	Tuckaleechee C	21.11	27	P	P	23 30 20.8	-2.0
	4.5nm,0.6s,baz=192,slow=13,SNR=9.0						
NVAR	Mina Array Bea	29.26	321	P	P	23 31 41.4	+2.6
	0.9nm,0.7s,baz=126,slow=9.1,SNR=7.2						
SCHQ	Schefferville	43.53	24	P	P	23 33 38.7	-0.7
	2.3nm,0.7s,baz=232,slow=7.2,SNR=6.2						
YKA	Yellowknife Ar	47.30	348	P	P	23 34 08.7	-0.2
	0.5nm,0.4s,baz=152,slow=7.3,SNR=9.7						

CSEM 24 23:28:07.1, 38.64N×29.25W, h1km, ML3.3, After PDA
PDA 24 23:28:07.1±0.8, 38.64N×29.25W, h1km±6km, MD3.5, ML3.3, Error ellipse: s-maj=8.7km s-min=6.2km az=40.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.43	91	eP	Pg	23 28 14.8	-0.6
PCED				eS	Sg	23 28 20.9	-0.1
PCED				A	A	23 28 22.0	
	935nm,0.4s						
PCED	Cedros	0.43	91	eP	Pg	23 28 14.8	-0.6
PCED				eS	Sg	23 28 20.9	-0.1
CALA	Caldeira	0.43	97	eP	Pg	23 28 15.1	-0.5
CALA				eS	Sg	23 28 21.2	-0.1
CALA	Caldeira	0.43	97	eP	Pg	23 28 15.1	-0.5
CALA				eS	Sg	23 28 21.2	-0.1
HOR	Horta	0.50	102	eP	Pg	23 28 16.1	-0.6
HOR				eS	Sg	23 28 22.8	-0.4
HOR	Horta	0.50	102	eP	Pg	23 28 16.1	-0.6
HOR				eS	Sg	23 28 22.8	-0.4
PCAN	Candelaria	0.62	106	eP	Pg	23 28 18.0	-1.1
PCAN				eS	Sg	23 28 26.0	-1.3
PCAN				A	A	23 28 30.4	
	832nm,0.5s						
PCAN	Candelaria	0.62	106	eP	Pg	23 28 18.0	-1.1
PCAN				eS	Sg	23 28 26.0	-1.3
PICO	Pico	0.66	102	eP	Pg	23 28 19.2	-0.7
PICO				eS	Sg	23 28 27.2	-1.4
PICO	Pico	0.66	102	eP	Pg	23 28 19.2	-0.7
PICO				eS	Sg	23 28 27.2	-1.4
ROSA	Rosais	0.80	84	eP	Pg	23 28 20.2	-2.2
ROSA				eS	Sg	23 28 30.4	-2.3
ROSA				A	A	23 28 36.9	
	763nm,0.4s						
ROSA	Rosais	0.80	84	eP	Pg	23 28 20.2	-2.2
ROSA				eS	Sg	23 28 30.4	-2.3
PMAN	Manadas	0.91	90	eP	Pg	23 28 21.8	-2.8
PMAN				eS	Sg	23 28 33.5	-2.9
PMAN				A	A	23 28 34.0	
	296nm,0.3s						
PMAN	Manadas	0.91	90	eP	Pg	23 28 21.8	-2.8
PMAN				eS	Sg	23 28 33.5	-2.9
TOPO	Topo	1.04	92	eP	Pg	23 28 24.2	-3.0
TOPO	Topo	1.04	92	eP	Pg	23 28 24.2	-3.0

KRSC 24 23:35:40.2±1.5, 48.91N×156.80E, h42km±19km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.83	346	iP	Pn	23 36 10.1	+1.0
SKR				iS	Sn	23 36 33.3	+2.2
PAU	Pauzhetka	2.56	0	eP	Pn	23 36 22.2	+3.0
PAU				eS	Sn	23 36 53.3	+4.2
MIPR	Malaya Ipel'ka	3.37	360	eP	Pn	23 36 33.4	+3.1
MIPR				eS	Sn	23 37 12.3	+3.2
ASAK	Asacha	3.55	11	eP	Pn	23 36 37.5	+4.7
MTVR	Mutnovka	3.69	13	eP	Pn	23 36 39.3	+4.5
MTVR				eS	Sn	23 37 22.5	+5.4
RUS	Russkaya	3.70	17	eP	Pn	23 36 37.4	+2.7
RUS				eS	Sn	23 37 21.8	+4.9
APC	Apacha	4.03	3	eP	Pn	23 36 43.5	+4.2
PET	Petropavlovsk	4.29	15	eS	Sn	23 37 37.1	+5.6
UGLR	Uglovaya	4.49	16	eP	Pn	23 36 50.5	+4.7
AVH	Avacha	4.53	15	eP	Pn	23 36 51.4	+5.1
KOK	Koryaka	4.54	14	eP	Pn	23 36 51.6	+5.2
SMAR	Somma	4.54	15	eP	Pn	23 36 50.5	+3.9
SDLR	Sedlovina	4.57	16	eP	Pn	23 36 50.3	+3.4
KRER	Koryakskii	4.57	15	eP	Pn	23 36 51.7	+4.7
KRX	Arik	4.61	14	eP	Pn	23 36 51.7	+4.3
GNL	Ganaly	4.85	8	eP	Pn	23 36 54.8	+4.1
KBTR	Krutoberegovo	8.18	24	eP	Pn	23 37 40.3	+4.1
BKI	Bering	8.46	38	eS	Sn	23 39 17.2	+3.1

IDC 25 00:01:02.7±9.2, 10.86N×125.10E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.6/3, Error ellipse: s-maj=278.1km s-min=128.2km az=94.0
ISCJB 25 00:01:05.7±1.1, 11.17N±0.04×124.68E±0.08, h7km±6km, mb3.6/3, Error ellipse: s-maj=13.7km s-min=6.9km az=174.8
MAN 25 00:01:05, 11.06N×124.66E, h3km, mb4.5, ML3.4, MS3.3
MAN INTENSITY II - ORMOC CITY & KANANGA LEYTE.
ISC 25 00:01:06.0±1.2, 11.11N±0.05×124.69E±0.07, h8km±8km, n14, σ1.19/16, mb3.5/3, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.10	233	eP	Pg	00 01 08.2	-0.3
OCLP				eS	Sg	00 01 11.4	+1.3
MSLP	Maasin	0.99	170	eP	Pn	00 01 25.2	-1.0
MSLP				eS	Sn	00 01 39.8	-0.5
CNP	Catarman	1.39	359	eP	Pn	00 01 31.5	-0.3
SCPH	Surigao	1.54	149	⇓eP	Pn	00 01 34.5	-1.0
SCPH				eS	Sg	00 01 59.9	+4.4
TBP	Tagbilaran	1.63	210	eP	Pn	00 01 35.0	-2.3
TBP				eS	Sg	00 01 59.1	+0.6
RCP	Roxas	1.96	283	⇑eP	Pn	00 01 39.3	-0.3
GUIM	Jordan	2.12	257	eP	Pn	00 01 41.6	-0.2
SNPH	Sibulan	2.27	219	⇓iP	Pn	00 01 37.5	-6.3
SNPH				iS	Sn	00 02 04.4	-7.7
PVCP	Virac	2.52	348	eP	Pb	00 01 50.3	-1.3
BUKP	Musuan	3.23	173	eP	Pn	00 01 59.0	+1.8
PAGZ	Pagadian	3.49	202	eP	Pn	00 02 00.8	+0.2
SONM	Songino Array	39.70	341	P	P	00 08 39.9	+0.9
	0.7nm,1.0s,baz=154,slow=8.9,SNR=4.6						

MKAR Makanchi Array 50.42 323 P P 00 10 05.3 +1.2
0.6nm,0.9s,baz=114,slow=8.0,SNR=5.1
AKASG Malin Array Be 84.93 321 P P 00 13 42.0 +0.3
0.3nm,0.4s,baz=64,slow=5.3,SNR=4.6

ISCJB 25 00:25:26.5±0.5,20.79S±0.04×67.77W±0.07,h167km±7km, mb4.1/3,Error ellipse: s-maj=11.3km s-min=6.0km az=2.7
IDC 25 00:25:27.4±1.8,20.82S×67.58W,h155km±15km,mb3.8/4, mb1 3.7/7,mb1mx3.5/28,mbtmp4.1/7,Error ellipse: s-maj=18.8km s-min=15.4km az=81.0
NEIC 25 00:25:28.4,20.80S×68.12W,h180km,mb4.1/2,After GUC.
GUC 25 00:25:28.4±0.6,20.80S×68.12W,h180km±9km,ML4.2
ISC 25 00:25:27.6±0.8,20.76S±0.05×67.80W±0.08,h161km±9km, n33,σ1.09/51,mb4.3/3,13C-2D,Southern Bolivia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PB01 Plate Boundary 1.60 259 eP Pn 00 25 59.4 +0.3
PB01 eS Sn 00 26 23.2 -0.1
PB01 AML AML 00 26 25.4
comp=N,720nm,0.1s
PB01 Plate Boundary 1.60 259 eP Pn 00 25 59.4 +0.3
PB01 eS Sn 00 26 23.2 -0.1
PB09 Plate Boundary 1.70 232⇑eP Pn 00 26 01.4 +1.2
PB09 eS Sn 00 26 26.2 +0.9
PB09 AML AML 00 26 29.5
comp=E,2μm,0.3s
PB09 Plate Boundary 1.70 232⇑eP Pn 00 26 01.4 +1.2
PB09 S Sn 00 26 26.2 +0.9
PB11 Plate Boundary 2.00 299⇑eP Pn 00 26 04.3 +0.8
PB11 eS Sn 00 26 31.5 +0.2
PB11 AML AML 00 26 34.6
comp=N,7μm,0.6s
PB11 Plate Boundary 2.00 299⇑eP Pn 00 26 04.3 +0.8
PB11 eS Sn 00 26 31.5 +0.2
HMBC Humberstone 2.02 283⇑eP Pn 00 26 03.8 +0.1
HMBC eS Sn 00 26 30.7 -0.8
HMBC AML AML 00 26 32.1
comp=N,1μm,0.4s
HMBC Humberstone 2.02 283⇑eP Pn 00 26 03.8 +0.1
HMBC eS Sn 00 26 30.7 -0.8
LVC Limon Verde 2.12 209 ePn Pn 00 26 05.7 +0.8
LVC eSn Sn 00 26 33.9 0.0
PB07 Plate Boundary 2.17 243⇑eP Pn 00 26 05.7 +0.2
PB07 eS Sn 00 26 33.8 -1.1
PB07 AML AML 00 26 35.1
comp=N,2μm,0.3s
PB07 Plate Boundary 2.17 243⇑eP Pn 00 26 05.7 +0.2
PB07 eS Sn 00 26 33.8 -1.1
PB04 Plate Boundary 2.17 226⇓eP Pn 00 26 11.8 +6.4
PB04 eS Sn 00 26 43.7 +9.2
PB04 AML AML 00 26 49.2
comp=N,724nm,0.2s
PB04 Plate Boundary 2.17 226⇓eP Pn 00 26 11.8 +6.4
PB04 S Sn 00 26 43.7 +9.2
PATCX Punta Patache 2.20 268⇑eP Pn 00 26 05.9 +0.1
PATCX eS Sn 00 26 34.2 -1.0
PATCX AML AML 00 26 36.1
comp=N,1μm,0.3s
MNMC Minimini 2.34 313⇑eP Pn 00 26 09.0 +1.3
MNMC eS Sn 00 26 39.6 +1.1
MNMC AML AML 00 26 42.9
comp=E,742nm,0.3s
MNMC Minimini 2.34 313⇑eP Pn 00 26 09.0 +1.3
MNMC eS Sn 00 26 39.6 +1.1
PSGC Pisagua 2.47 297 eP Pn 00 26 08.8 -0.1
PSGC eS Sn 00 26 39.5 -1.4
PSGC AML AML 00 26 41.8
comp=E,629nm,0.7s
PSGC Pisagua 2.47 297 eP Pn 00 26 08.8 -0.1
PSGC eS Sn 00 26 39.5 -1.4
PB06 Plate Boundary 2.55 220⇑eP Pn 00 26 10.4 +0.4
PB06 eS Sn 00 26 41.9 -0.8
PB06 AML AML 00 26 42.6
comp=E,1μm,0.4s
PB06 Plate Boundary 2.55 220⇑eP Pn 00 26 10.4 +0.4
PB06 S Sn 00 26 41.9 -0.8
LPAZ La Paz 4.46 356 P Pn 00 26 37.4 +2.7
comp=E,0.9nm,0.3s,baz=171,slow=6.5,SNR=20
LPAZ S Sn 00 27 28.1 +1.2
comp=E,0.3nm,0.3s,baz=338,slow=16,SNR=4.6
SIV San Ignacio 7.95 55 P Pn 00 27 18.8 -1.6
comp=E,2.7nm,0.3s,baz=251,slow=12,SNR=20
SIV S Sn 00 28 46.0 -3.3
comp=E,0.1nm,0.3s,baz=171,slow=19,SNR=4.8
CFAA Coronel Fontan 10.81 182 P Pn 00 27 56.3 -1.8
comp=E,0.0nm,0.3s,baz=349,slow=8.2,SNR=3.4
CFAA S Sn 00 29 49.8 -8.1
comp=E,0.1nm,0.3s,baz=299,slow=19,SNR=6.2
TRQA Tornquist 17.96 165 eP P 00 29 25.7 +0.1
comp=E,4.5nm,0.7s
BDFB Brasilia 19.47 78 P P 00 29 40.4 -1.9
comp=E,0.6nm,0.3s,baz=218,slow=9.4,SNR=4.4
PLCA Paso Flores 20.05 186 P P 00 29 48.3 0.0
comp=E,1.6nm,0.4s,baz=22,slow=12,SNR=4.7
DBIC Dimbokro 67.53 73 P P 00 36 06.5 -0.4
comp=E,2.5nm,0.5s,baz=224,slow=4.8,SNR=7.1
DBIC Dimbokro 67.53 73 eP P 00 36 06.2 -0.7
comp=E,4.1nm,0.7s
PDAR Pinedale Array 73.99 329 P P 00 36 47.1 +1.4
baz=116,slow=4.2
TORD Torodi Ar. Bea 76.13 70 P P 00 36 57.8 -0.4
comp=E,5.3nm,0.6s,baz=254,slow=5.4,SNR=137
YKA Yellowknife Ar 90.84 340 P P 00 38 12.8 +0.7
comp=E,0.3nm,0.4s,baz=132,slow=4.6,SNR=10
MKAR Makanchi Array 144.43 36 PKP PKPdf 00 44 44.6 -0.1
comp=E,2.3nm,1.1s,baz=318,slow=3.4,SNR=11
SONM Songino Array 152.58 9 PKPbc PKPbc 00 45 06.0 +0.9
comp=E,0.2nm,0.5s,baz=288,slow=0.5,SNR=2.9

ATH 25 00:27:57.9,37.10N×28.50E,h17km±1km,MD3.5/9
ISCJB 25 00:27:59.0±0.4,37.06N±0.02×28.51E±0.03,h15km±3km, Error ellipse: s-maj=4.0km s-min=3.7km az=7.6
DDA 25 00:27:58.9,37.15N×28.51E,h7km,MD3.1
ISK 25 00:27:58.4,37.08N×28.57E,h9km,MD3.3
CSEM 25 00:27:59.2±0.1,37.08N×28.53E,h10km,MD3.3,Error ellipse: s-maj=3.3km s-min=2.7km az=177.0
ISC 25 00:27:59.6±0.9,37.07N±0.02×28.53E±0.02,h11km±7km, n84,σ0.88/104,Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
YER Yerkesik 0.21 287 PG Pg 00 28 03.9 -0.1
YER eSG Sg 00 28 08.1 +1.0
YER Yerkesik 0.21 287 i Pg Pg 00 28 03.9 -0.1
YER eSg Sg 00 28 08.1 +1.0
DALY Dalyan (Mu˘la 0.27 159 PG Pg 00 28 03.6 -1.6
DALY eSG Sg 00 28 09.6 +0.7
GOLH Golhisar 0.84 78 i P Pg 00 28 14.5 -1.3
GOLH i S Sg 00 28 26.5 -0.2
GOLH Golhisar 0.84 78 i P Pg 00 28 14.5 -1.3
GOLH i S Sg 00 28 26.5 -0.2
BDRM Kayabasi 0.87 270 i P Pg 00 28 15.6 -0.8
BDRM i S Sn 00 28 30.1 -0.4
BDRM Kayabasi 0.87 270 i P Pg 00 28 15.6 -0.8
BDRM i S Sn 00 28 30.1 -0.4
ARG Arkhangelos 0.92 201 ePG Pg 00 28 15.8 -1.4
ARG eSG Sb 00 28 30.6 +0.9
ARG Arkhangelos 0.92 201 ePN Pg 00 28 15.6 -1.6
ARG eSN Sg 00 28 28.8 -0.3
ARG Arkhangelos 0.92 201 ePg Pg 00 28 15.8 -1.4
ARG eSn Sg 00 28 28.8 -0.3
ARG eSg Sb 00 28 30.6 +0.9
BODT Bodrum 0.98 270 ePG Pg 00 28 18.0 -0.4
BODT Bodrum 0.98 270 ePg Pg 00 28 18.0 -0.4
AYDB Zeytinkoy-Aydi 1.01 330 ePG Pg 00 28 18.3 -0.8
AYDB Zeytinkoy-Aydi 1.01 330 ePg Pg 00 28 18.3 -0.8
ELL Elmali 1.15 106 ePN Pb 00 28 20.3 -1.3
ELL Elmali 1.15 106 ePn Pb 00 28 20.3 -1.3
AKAS Kas 1.20 134 i P Pn 00 28 21.3 -1.2
AKAS i S Sn 00 28 41.4 +2.5
AKAS Kas 1.20 134 i P Pn 00 28 21.3 -1.2
AKAS i S Sn 00 28 41.4 +2.5
KSL Kastellorizon 1.25 137 ePN Pn 00 28 22.3 -0.7
MANT Manisa 1.42 1 i P Pn 00 28 24.7 -0.8
MANT Manisa 1.42 1 i P Pn 00 28 24.7 -0.8
KULA Kula-Manisa 1.44 4 ePN Pn 00 28 25.4 -0.4
KULA Kula-Manisa 1.44 4 ePn Pn 00 28 25.4 -0.4
KORT Korkueli 1.46 92 i P Pb 00 28 26.8 0.0
KORT i S Sg 00 28 48.7 +2.2
KORT Korkueli 1.46 92 i P Pb 00 28 26.8 0.0
KORT i S Sg 00 28 48.7 +2.2
KHL Karahalli 1.48 32 ePN Pn 00 28 25.6 -0.6
KHL Karahalli 1.48 32 ePn Pn 00 28 25.6 -0.6
SMG Samos 1.49 296 ePN Pn 00 28 25.5 -0.9
SMG eSN Sn 00 28 45.5 -0.4
SMG Samos 1.49 296 ePn Pn 00 28 25.5 -0.9
SMG eSn Sn 00 28 45.5 -0.4
KHAL Karahalli 1.50 30 i P Pn 00 28 26.0 -0.6
KHAL i S Sn 00 28 45.5 -0.8
KHAL Karahalli 1.50 30 i P Pn 00 28 26.0 -0.6
KHAL i S Sn 00 28 45.5 -0.8
BCK Bucak 1.69 76 ePN Pn 00 28 29.1 0.0
BCK Bucak 1.69 76 ePn Pn 00 28 29.1 0.0
ANTB Antalya 1.71 95 ePN Pn 00 28 29.5 +0.2
ANTB Antalya 1.71 95 ePn Pn 00 28 29.5 +0.2
ISP Isparta 1.75 64 ePN Pn 00 28 29.5 -0.6
ISP Isparta 1.75 64 ePn Pn 00 28 29.5 -0.6
BLCB Balcova 1.76 318 ePN Pn 00 28 29.9 -0.2
BLCB Balcova 1.76 318 ePn Pn 00 28 29.9 -0.2
KARP Karpathos 1.88 216 ePN Pn 00 28 31.7 -0.1
KARP Karpathos 1.88 216 ePn Pn 00 28 31.7 -0.1
AKHS Akhisar 1.89 343 i P Pn 00 28 31.0 -0.8
AKHS Akhisar 1.89 343 i P Pn 00 28 31.0 -0.8
AKHS i S Sg 00 29 02.2 +1.9
AKS Akhisar 1.89 343 ePN Pn 00 28 31.1 -0.8
AKS Akhisar 1.89 343 ePn Pn 00 28 31.1 -0.8
SHUT Suhut-Afyon 2.18 47 ePN Pn 00 28 35.0 -0.9
SHUT Suhut-Afyon 2.18 47 ePn Pn 00 28 35.0 -0.9
ALT Altintas 2.34 32 ePN Pn 00 28 37.4 -0.7
ALT Altintas 2.34 32 ePn Pn 00 28 37.4 -0.7
CHOS Chios island 2.36 304 ePN Pn 00 28 38.7 +0.3
CHOS Chios island 2.36 304 ePn Pn 00 28 38.7 +0.3
APE Apeiranthos 2.40 271 ePN Pn 00 28 38.5 -0.4
APE Apeiranthos 2.40 271 ePB Pn 00 28 38.3 -0.6
APE Apeiranthos 2.40 271 ePn Pn 00 28 38.5 -0.4
TVSB Tavsanli 2.48 17 ePN Pn 00 28 40.2 +0.1
TVSB Tavsanli 2.48 17 ePn Pn 00 28 40.2 +0.1
ZKR Zakros 2.71 224 ePN Pn 00 28 43.0 -0.1
ZKR Zakros 2.71 224 ePB Pn 00 28 44.0 +0.9
ZKR Zakros 2.71 224 ePn Pn 00 28 43.0 -0.1
ZKR Zakros 2.71 224 ePb Pn 00 28 44.0 +0.9
PRK Paraskevi 2.81 321 ePB Pn 00 28 44.8 +0.4
PRK Paraskevi 2.81 321 ePb Pn 00 28 44.8 +0.4
NPS Neapolis 2.97 233 ePN Pn 00 28 46.8 +0.1
NPS Neapolis 2.97 233 ePn Pn 00 28 46.8 +0.1
LAST Lasithi 3.12 233 ePN Pn 00 28 48.5 -0.4
LAST Lasithi 3.12 233 ePn Pn 00 28 48.5 -0.4
KONT Konya--Tatoy 3.17 73 ePN Pn 00 28 49.7 +0.3
KONT Konya--Tatoy 3.17 73 ePn Pn 00 28 49.7 +0.3
LADK Ladik-KONYA 3.24 69 ePN Pn 00 28 51.3 +0.7
LADK Ladik-KONYA 3.24 69 ePn Pn 00 28 51.3 +0.7
SVRH Sivrihisar-ESK 3.34 44 ePN Pn 00 28 51.3 -0.6
SVRH Sivrihisar-ESK 3.34 44 ePn Pn 00 28 51.3 -0.6
LEF Lefka 4.03 118 ePN Pn 00 29 00.8 -0.5
LEF Lefka 4.03 118 ePn Pn 00 29 00.8 -0.5
SMTH Samothraki Isl 4.12 326 ePN Pn 00 29 02.1 -0.5
SMTH Samothraki Isl 4.12 326 ePn Pn 00 29 02.1 -0.5
AFSR Af˘ar-Bala (A 4.29 55 ePN Pn 00 29 05.5 +0.6
AFSR Af˘ar-Bala (A 4.29 55 ePn Pn 00 29 05.5 +0.6
CSS Prodhromos 4.42 117 ePN Pn 00 29 08.1 +1.4
CSS Prodhromos 4.42 117 ePn Pn 00 29 08.1 +1.4
LFK Lefkose 4.42 112 ePN Pn 00 29 07.9 +1.2
LFK Lefkose 4.42 112 ePn Pn 00 29 07.9 +1.2
SKIA Skiathos 4.51 299 ePN Pn 00 29 08.3 +0.5
SKIA Skiathos 4.51 299 ePn Pn 00 29 08.3 +0.5

DDA 25 00:32:39.5,38.05N×38.16E,h5km,MD2.6,Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AKCD Akcadag 0.30 323 i P Pg 00 32 46.1 +0.3
AKCD i S Sg 00 32 50.6 +0.8
MALT Malatya 0.34 39 ePG Pg 00 32 46.5 +0.3
MALT eSG Sg 00 32 51.5 +0.7
URFA Urfa 0.81 139 ePG Pn 00 32 59.7 +2.1

IDC 25 00:33:02.5±3.0,15.80N×99.05E,h0km,mb3.5/3, mb1 3.5/3,mb1mx3.2/41,mbtmp3.5/3,Error ellipse: s-maj=67.9km s-min=57.9km az=13.0,Thailand

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SONM Songino Array 32.52 9 P P 00 39 35.3 +0.1
0.3nm,0.5s,baz=184,slow=10,SNR=5.0
MKAR Makanchi Array 33.91 339 P P 00 39 46.9 -0.3
0.1nm,0.4s,baz=158,slow=8.9,SNR=5.2
GEYT Alibeck 42.20 310 P P 00 40 57.4 0.0
0.5nm,0.3s,baz=94,slow=9.5,SNR=5.9
TXAR Lajitas Array 130.06 26 PKP PKPdf 00 52 14.8 -0.4
0.7nm,1.1s,baz=316,slow=2.5,SNR=3.2

DJA 25 00:53:46.2±1.9,9°N±19°×13°8E±1°1,h10km,M4.9/10, mB5.5/8,mb4.8/10,Mw(mB)5.0/8
IDC 25 00:53:46.8±0.5,8.44N×137.66E,h0km,mb4.5/22, mb1 4.6/22,mb1mx4.5/28,mbtmp4.4/22,MS4.1/26, Ms1 4.1/26,ms1mx4.0/38,Error ellipse: s-maj=21.0km s-min=10.0km az=70.0
MOS 25 00:53:49.7±0.9,8.32N×137.66E,h33km,mb5.0/27,Error ellipse: s-maj=15.6km s-min=6.7km az=113.5
ISCJB 25 00:53:50.5±0.2,8.40N±0.03×137.73E±0.05,h35km, mb4.7/79,MS4.1/34,Error ellipse: s-maj=6.6km s-min=4.5km az=171.6
NEIC 25 00:53:52.2±0.2,8.32N×137.70E,h35km,mb4.8/24,Error ellipse: s-maj=7.5km s-min=5.5km az=86.0
GCMT 25 00:53:52.2±0.3,8.40N×137.54E,h20km,MW5.0/73, Moment Tensor Solution. s36,c51; s73,c108; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.88±.17; Mθθ-1.52±.10; Mφφ-2.36±.12; Mrθ0.34±.21; Mrφ-1.75±.08; Mθφ-0.75±.22; Best double couple: Mo3.89300×10^16 NP1:φs208.00000°,δ49.00000°,λ77.00000°. NP2: φs48.00000°,δ43.00000°,λ105.00000°. Principal axes: T 4.0280, Plg80.0000°, Azm54.0000°; N -0.2690, Plg10.0000°, Azm217.0000°; P -3.7590, Plg3.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI 25 00:53:57.9,7.99N×138.04E,h145km,mB5.0/31,mb4.7/37
ISC 25 00:53:52.0±0.3,8.38N±0.05×137.78E±0.07,h35km,n179, σ1.72/174,mb4.8/79,MS4.2/33,7C-5D,Western Caroline Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SMPI Sarmi 10.34 175 P Pn 00 56 18.4 +0.4
531nm,0.6s,21μm
GENI Genyem 11.16 168 P Pn 00 56 30.4 +1.2
256nm,0.8s,7μm
JAY Jayapura 11.21 165 P Pn 00 56 30.6 +0.7
baz=11,SNR=13
JAY S Sn 00 58 30.6 -3.5
baz=11,SNR=5.7
FAKI Fak Fak 12.51 206 P Pn 00 56 52.1 +4.4
baz=12,SNR=5.8
LBMI Labuha 13.61 229 P P 00 57 21.1 +10
MANU Manus Island 14.09 137 P P 00 57 14.1 -2.4
baz=14,SNR=5.6
MRSI Marisa 17.62 244 P P 00 57 57.2 +1.5
64nm,1.4s,1μm
JCJ Chichijima 19.08 12 LR LR 01 03 38.6
comp=Z,506nm,21.2s,baz=121,slow=31
MPSI Mapaga 19.52 247 P P 00 58 16.4 -0.2
18nm,1.3s,400nm
PMG Port Moresby 19.99 152⇓eP Pn 00 58 22.7 -0.9
PMG pmax pmax
comp=Z,34nm,1.2s
PMG Port Moresby 19.99 152 P P 00 58 22.4 +0.8
comp=Z,14nm,0.6s,baz=334,slow=12,SNR=8.8
PMG S Sn 01 02 08.8 +1.3
comp=Z,2.6nm,0.3s,baz=330,slow=20,SNR=1.8
PMG LR LR 01 05 57.4
comp=Z,990nm,18.3s,baz=348,slow=36
PMG Port Moresby 19.99 152 eP Pn 00 58 22.6 -0.9
comp=Z,20nm,0.8s
PMG S Sn 01 02 08.8 +1.3
JOW Kunigami 20.45 335 P P 00 58 23.1 -3.5
comp=Z,2.9nm,0.9s,baz=162,slow=10,SNR=3.5
JOW LR LR 01 04 43.4
comp=Z,83nm,21.9s,baz=176,slow=32
JOW Kunigami 20.45 335 eP Pn 00 58 31.7 +2.9
comp=Z,37nm,1.0s
TTSI Tana Toraja 21.20 238 P P 00 58 36.6 +1.8
comp=Z,42nm,1.0s,comp=Z,3μm
KKM Kota Kinabalu 21.52 265 eP P 00 58 39.1 +0.8
comp=Z,47nm,1.0s
TWG Pinlang 21.53 314 eP P 00 58 42.7 +4.4
comp=Z,421nm,1.4s
BNSI Bone 21.72 235 P P 00 58 44.2 +3.8
comp=Z,56nm,1.1s,comp=Z,3μm
YULB Yu-li 21.74 315 eP P 00 58 43.0 +2.5
comp=Z,106nm,1.6s
SPSI Sidrap Palu 21.75 236 P P 00 58 42.2 +1.5
comp=Z,27nm,1.2s,comp=Z,1μm
BKSI Bulukumba 22.26 233 P P 00 58 48.5 +2.4
BKSI Bulukumba 22.26 233 P P 00 58 48.9 +2.8
KAPI Kappang 22.37 234 eP P 00 58 47.3 0.0
comp=Z,19nm,1.0s
YHNB Yeheng 22.53 318 eP P 00 58 50.2 +1.1
comp=Z,29nm,0.8s
COEN Coen 22.83 166 eP P 00 58 52.2 0.0
comp=Z,311nm,1.4s
COEN Coen 22.83 166 P P 00 58 52.1 0.0
baz=23,SNR=5.4
BATI Baumata 23.20 218 P P 00 58 54.9 -1.1
comp=Z,26nm,0.5s,baz=0.0,slow=6.1,SNR=3.2
BATI LR LR 01 07 16.9
comp=Z,499nm,21.2s,baz=62,slow=35
QZH Quanzhou 24.62 314⇓iP P 00 59 09.3 0.0
QZH S S 01 03 22.3 -6.1
QZH LR LR
comp=Z,740nm,14.8s
KNRA Kununurra 25.52 201 P P 00 59 18.1 +0.7
baz=26,SNR=3.5
SBUM Sibu 26.11 258 eP P 00 59 19.9 -3.0
comp=Z,13nm,1.1s
MJAR Matsushiro Arr 28.04 1 P P 00 59 37.5 -2.5
comp=Z,2.0nm,0.7s,baz=181,slow=11,SNR=5.8
MJAR PcP PcP 01 02 54.0 -0.3
comp=Z,0.7nm,0.4s,baz=159,slow=2.6,SNR=4.3
MJAR LR LR 01 09 14.1
comp=Z,358nm,18.8s,baz=195,slow=33
WRAB Tennant Creek 28.34 187 eP P 00 59 41.2 -1.6
WRAB pmax pmax
comp=Z,5.0nm,0.7s
WRAB Tennant Creek 28.34 187 eP P 00 59 41.2 -1.6
comp=Z,5.4nm,0.7s
WRA Warramunga Arr 28.35 187 P P 00 59 43.4 +0.5
comp=Z,1.8nm,0.7s,baz=4.5,slow=10.0,SNR=7.7
WRA LR LR 01 12 21.1
comp=Z,259nm,19.4s,baz=330,slow=39
NJ2 Nanjing 29.39 326 eP P 00 59 56.3 +4.2
NJ2 pmax pmax
comp=Z,20nm,0.7s
CTA Charters Tower 29.49 164 P P 00 59 54.2 +1.2
comp=Z,3.2nm,0.3s,baz=305,slow=9.5,SNR=4.0
CTAO Charters Tower 29.49 164 eP P 00 59 51.8 -1.3
CTAO pmax pmax
comp=Z,24nm,1.3s
CTAO Charters Tower 29.49 164 eP P 00 59 51.8 -1.3
comp=Z,24nm,1.3s
H11S3 WAKE ISLAND Hy 29.82 67 T T 01 31 28.5
baz=254,slow=75,SNR=89
H11S1 WAKE ISLAND Hy 29.83 67 T T 01 31 30.1
baz=254,slow=75,SNR=74
H11S2 WAKE ISLAND Hy 29.83 67 T T 01 31 31.7
baz=254,slow=75,SNR=72
KSRS Korea Array 30.29 344 LR LR 01 10 22.4
comp=Z,268nm,21.1s,baz=164,slow=33
H11N1 WAKE ISLAND Hy 30.35 65 T T 01 32 13.0
baz=241,slow=78,SNR=13
H11N2 WAKE ISLAND Hy 30.36 65 T T 01 32 12.5
baz=241,slow=78,SNR=8.9
H11N3 WAKE ISLAND Hy 30.37 65 T T 01 32 12.9
baz=241,slow=78,SNR=17
WRKA Warakurna 34.48 195 P P 01 00 38.0 +1.2
baz=35,SNR=14
GYA Guiyang 34.56 305 eP P 01 00 40.3 +2.6
GYA pP pP 01 01 11.4 +24
GYA sP sP 01 01 29.8 +38
GYA PP PP 01 02 01.5 +5.1
GYA S S 01 05 57.0 -7.7
GYA pmax pmax
comp=Z,10.0nm,0.8s
QLP Quilpie 35.31 170 P P 01 00 46.6 +2.7
baz=36,SNR=4.0
ASAJ Asahikawa 35.85 6 P P 01 00 48.5 +0.1
comp=Z,4.1nm,0.4s,baz=234,slow=15,SNR=4.0
USRK Ussuriysk Arra 36.04 353 P P 01 00 50.4 +0.4
comp=Z,2.7nm,0.6s,baz=173,slow=7.5,SNR=11
USRK LR LR 01 13 37.5
comp=Z,504nm,18.6s,baz=158,slow=33
NAYO Nakonayok 36.20 283 P P 01 00 56.6 +4.8
comp=Z,20nm,1.6s
PBKT Sadao Pong 36.80 286 P P 01 01 01.2 +4.3
comp=Z,6.3nm,1.0s
XAN Xi'an 36.84 318 P P 01 00 56.5 -0.6
XAN pmax pmax
comp=Z,33nm,5.5s
XAN LR LR
comp=Z,170nm,16.6s
XAN LR LR
comp=Z,70nm,18.1s
XAN LR LR
comp=Z,91nm,18.1s
CN2 Changchun 36.89 345 eP P 01 01 04.0 +6.7
BJI Beijing 36.96 332 P P 01 00 58.1 +0.2
BJI pP pP 01 01 31.8 +24
BJI sP sP 01 01 47.6 +35
BJI S S 01 06 31.6 -9.3
BJI sS sS 01 07 30.8 +33
BJI SS SnSn 01 09 17.1 +1.5
BJI ScS ScS 01 10 53.4 -17
BJI pmax pmax
comp=Z,18nm,1.4s
BJI pmax pmax
comp=Z,170nm,4.1s
BJI LR LR
comp=Z,400nm,18.4s
BJI LR LR
comp=Z,300nm,17.8s
BJI LR LR
comp=Z,280nm,16.4s
KMI Kunming 37.30 301 P P 01 01 03.6 +2.3
KMI pP pP 01 01 36.8 +25
KMI S S 01 06 39.8 -7.1
KMI SS SnSn 01 09 21.0 -3.5
KMI pmax pmax
comp=Z,49nm,4.3s
KMI LR LR
comp=Z,180nm,12.9s
KMI LR LR
comp=Z,500nm,15.4s
KMI LR LR
comp=Z,610nm,13.4s
CRAI Chiangrai 38.01 292 P P 01 01 10.2 +3.0
comp=Z,225nm,1.1s
YSS Yuzh-Sakhalins 38.67 5 eP P 01 01 12.4 +0.1
CD2 Chengdu 38.84 310 eP P 01 01 16.1 +2.0
CD2 pP pP 01 01 48.4 +24
CD2 sP sP 01 02 05.3 +37
CD2 PP PnPn 01 02 52.8 +6.9
CD2 S S 01 07 03.3 -6.5
CD2 sS sS 01 07 59.6 +33
CD2 SS SnSn 01 09 54.3 -7.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
CM31 Chiang Mai Arr 39.00 289 eP P 01 01 12.8 -2.7
CMAR Chiang Mai Arr 39.00 289 P P 01 01 15.1 -0.4
comp=Z,1.6nm,0.7s,baz=94,slow=6.5,SNR=10
CMAR LR LR 01 19 20.5
comp=Z,129nm,18.0s,baz=112,slow=40
CMMT Chiang Mai 39.06 290 P P 01 01 22.4 +6.4
comp=Z,7.0nm,1.4s
CHTO Chiang Mai 39.06 290 P P 01 01 22.4 +6.4
comp=Z,25nm,1.4s
CMAI Chiengmai2 39.17 291 P P 01 01 17.1 0.0
comp=Z,11nm,1.4s
HHC Hu-ho-hao-te 39.85 328 eP P 01 01 27.8 +5.4
HHC PP PnPn 01 03 06.1 +8.3
HHC S S 01 07 23.3 -1.5
HHC sS sS 01 08 17.8 +36

HHC SS SS 01 10 20.5 -1.4
HHC pmax pmax
comp=Z,20nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.3s
HABR Khabarovsk 40.02 357 *e*P **P 01 01 23.4 -0.1**
HABR *e* 01 02 58.9
HABR *e*PPP PPP 01 03 30.5
HABR *e*S S 01 07 20.3 -6.6
HABR *e*SS **SS 01 10 25.0 +0.1**
HABR pmax pmax
comp=Z,38nm,0.8s
HABR MLR MLR
comp=Z,197nm,15.0s
FORT Forrest 40.04 193 *e*P **P 01 01 23.7 -0.1**
comp=Z,40nm,0.9s
STKA Stephens Creek 40.20 175 P **P 01 01 26.4 +1.3**
comp=Z,6.1nm,0.8s,baz=338,slow=8.8,SNR=9.1
STKA LR LR 01 18 12.4
comp=Z,302nm,19.2s,baz=19,slow=36
STKA Stephens Creek 40.20 175 P P 01 01 28.7 +3.5
baz=40,SNR=4.4
CMSA Cobar Meteorol 40.41 170 P **P 01 01 28.0 +1.1**
baz=41,SNR=5.9
KLR Kul'dur 41.03 354 *e*P P 01 01 28.8 -3.0
KLR pmax pmax
comp=Z,57nm,1.6s
DZM Mont Dzumac 41.30 138 *e*LR LR 01 13 09.8
comp=Z,832nm,26.0s
DZM Mont Dzumac 41.30 138 P **P 01 01 36.3 +1.7**
comp=Z,7.9nm,1.0s,baz=297,slow=14,SNR=3.8
DZM Mont Dzumac 41.30 138 *e*P **P 01 01 33.8 -0.7**
LZH Lanzhou 41.42 317 *e*P **P 01 01 36.6 +1.1**
LZH pP pP 01 02 07.3 +22
LZH sP sP 01 02 28.1 +38
LZH PP **PnPn 01 03 17.0 +0.6**
LZH S S 01 07 39.1 -9.4
LZH sS sS 01 08 42.0 +37
LZH SS SS 01 10 45.0 -8.4
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,120nm,4.0s
LZH LR LR
comp=Z,350nm,16.2s
LZH LR LR
comp=Z,360nm,16.7s
LZH LR LR
comp=Z,480nm,14.4s
HIA Hailar 43.47 343⇑*i*P **P 01 01 53.1 +1.3**
HIA pmax pmax
comp=Z,6.0nm,0.8s
NWAO Narrogin (SRO) 45.50 204 LR LR 01 22 10.1
comp=Z,134nm,19.2s,baz=15,slow=37
GTA Gaotai 45.90 318 P **P 01 02 11.6 +0.1**
GTA pP pP 01 02 43.4 +22
GTA sP sP 01 02 59.4 +33
GTA PcP **PcP 01 03 49.3 +1.1**
GTA S S 01 08 44.8 -9.0
GTA sS sS 01 09 41.3 +30
GTA SS **ScS 01 12 05.8 +0.8**
GTA pmax pmax
comp=Z,9.0nm,1.5s
GTA pmax pmax
comp=Z,140nm,6.9s
GTA LR LR
comp=Z,190nm,17.6s
GTA LR LR
comp=Z,220nm,15.7s
GTA LR LR
comp=Z,270nm,15.7s
ULN Ulaanbaatar 47.17 332⇓*e*P **P 01 02 22.5 +1.1**
ULN pmax pmax
comp=Z,9.0nm,1.3s
ULN Ulaanbaatar 47.17 332 *e*P **P 01 02 22.1 +0.7**
comp=Z,6.4nm,1.0s
PETK Petropavlovsk- 47.44 16 P **P 01 02 23.6 +0.5**
comp=Z,2.6nm,0.8s,baz=159,slow=4.6,SNR=3.6
PETK LR LR 01 20 24.1
comp=Z,80nm,20.3s,baz=208,slow=34
SONM Songino Array 47.46 332 P **P 01 02 24.0 +0.5**
comp=Z,4.7nm,1.0s,baz=147,slow=9.9,SNR=29
SONM PcP **PcP 01 03 53.7 +0.1**
comp=Z,2.0nm,0.6s,baz=153,slow=3.3,SNR=10
SONM LR LR 01 23 25.6
comp=Z,495nm,18.5s,baz=145,slow=38
ZAK Zakamensk 50.71 332⇑*i*P **P 01 02 48.8 +0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.5s
TAPN Taplejung 50.87 298 *e*P **P 01 02 49.3 -0.9**
ODAN Odare 51.05 298 *e*P **P 01 02 50.2 -1.3**
comp=Z,12nm,0.8s
TLY Talaya 51.45 333 *e*P **P 01 02 53.9 +0.1**
TLY *e* 01 04 48.9
TLY *e*S S 01 10 05.7 -5.6
TLY pmax pmax
comp=Z,6.0nm,1.3s
TLY MLR MLR
comp=Z,341nm,19.0s
TLY Talaya 51.45 333 *e*P **P 01 02 55.2 +1.4**
comp=Z,26nm,1.9s
JIRN Jiri 52.26 298 *e*P **P 01 02 59.8 -0.8**
comp=Z,9.5nm,0.6s
GUN Gumba 52.58 299 *e*P **P 01 03 02.3 -0.7**
comp=Z,43nm,0.9s
BOD Bodaibo 52.64 344 *e*P **P 01 03 02.2 -0.2**
BOD pmax pmax
comp=Z,5.0nm,1.1s
FX1 Attu Island--F 52.84 26 LR LR 01 21 59.0
comp=Z,55nm,21.8s,baz=242,slow=32
GKN Gorkha 53.67 299 *e*P **P 01 03 09.6 -1.2**
DANN Dangsing 54.50 299 *e*P **P 01 03 16.0 -1.0**
comp=Z,26nm,1.1s
KOLN Koldanda 54.53 298 *e*P **P 01 03 16.3 -0.9**
HVS Khovu-Aksy 55.92 328*d i*P **P 01 03 27.8 +1.2**
WMQ Urumqi 55.98 318 P **P 01 03 27.8 +0.6**
WMQ pP pP 01 04 00.8 +23
WMQ sP sP 01 04 16.5 +35
WMQ PcP **PcP 01 04 23.9 -1.5**
WMQ PP **PP 01 05 36.1 +3.9**
WMQ ScP ScP 01 08 08.3 -14
WMQ PcS **PcS 01 08 22.9 -2.8**
WMQ S S 01 11 05.6 -7.5
WMQ sS sS 01 12 01.3 +31
WMQ ScS ScS 01 12 59.1 -15
WMQ SS SS 01 14 52.3 -7.2
WMQ pmax pmax
comp=Z,16nm,1.6s
WMQ pmax pmax
comp=Z,180nm,4.4s
WMQ LR LR
comp=Z,130nm,17.6s
WMQ LR LR
comp=Z,91nm,18.0s
WMQ LR LR
comp=Z,790nm,19.0s
MK31 Makanchi Array 60.64 319 *e*P **P 01 03 59.6 0.0**
MK31 Makanchi Array 60.64 319 *e*P **P 01 03 59.6 0.0**
MKAR Makanchi Array 60.64 319 P **P 01 03 59.6 0.0**
comp=Z,7.7nm,0.8s,baz=107,slow=8.8,SNR=94
MKAR PcP **PcP 01 04 42.6 -1.0**
comp=Z,1.4nm,0.6s,baz=99,slow=6.3,SNR=4.6
MKAR LR LR 01 32 16.2
comp=Z,194nm,18.0s,baz=88,slow=38
ZALV Zalesovo Beam 62.02 328 P **P 01 04 07.8 -0.9**
comp=Z,2.8nm,0.8s,baz=106,slow=5.3,SNR=15
ZALV PcP **PcP 01 04 47.6 -1.4**
comp=Z,1.8nm,0.6s,baz=114,slow=4.1,SNR=4.9
ZALV LR LR 01 31 13.9
comp=Z,162nm,20.0s,baz=70,slow=36
BILL Bilibino 62.53 12*c i*P **P 01 04 11.9 0.0**
BILL *i* 01 04 52.6
BILL pmax pmax
comp=Z,26nm,2.5s
BILL Bilibino 62.53 12 *e*P **P 01 04 12.3 +0.4**
comp=Z,7.6nm,1.0s
KSH Kashi 63.04 310 *e*P **P 01 04 17.9 +1.9**
KSH *e*pP **PcP 01 04 50.0 -3.7**
KSH *e*sP sP 01 05 05.9 +35
KSH *e*PP **PP 01 06 38.3 +3.4**
KSH *e*PcS 01 08 49.5
KSH S S 01 12 31.8 -13
KSH pmax pmax
comp=Z,16nm,1.5s
KSH LR LR
comp=Z,43nm,4.2s
KSH LR LR
comp=Z,32nm,3.5s
KSH LR LR
comp=Z,110nm,5.4s
NVS Novosibirsk 63.25 328⇑*i*P **P 01 04 16.2 -0.7**
NVS pmax pmax
comp=N,8.0nm,1.7s
NVS pmax pmax
comp=Z,21nm,1.7s
NVS pmax pmax
comp=E,12nm,1.6s
TKM2 Tokmak 2 64.06 314 *e*P **P 01 04 23.1 +0.3**
TKM2 pmax pmax
comp=Z,16nm,1.8s
TKM2 Tokmak 2 64.06 314 *e*P **P 01 04 23.1 +0.3**
comp=Z,16nm,1.8s
KZA Kyzart 64.12 313 P **P 01 04 24.8 +1.3**
SNR=12
KZA Kyzart 64.12 313 *i* P **P 01 04 24.8 +1.3**
KURK Kurchatov 64.26 323 P **P 01 04 23.3 -0.4**
KURK pmax pmax
comp=Z,19nm,1.1s
KURK Kurchatov 64.26 323 *e*P **P 01 04 23.0 -0.7**
comp=Z,21nm,1.1s
CHMS Chumysh 64.68 314 P **P 01 04 26.8 +0.1**
SNR=5.6
CHMS Chumysh 64.68 314 *i* P **P 01 04 26.7 +0.1**
UCH Uchtor 64.69 313 P **P 01 04 28.4 +1.1**
SNR=13
UCH Uchtor 64.69 313 *i* P **P 01 04 28.3 +1.1**
AAK Ala-Archa 64.79 313*c e*P **P 01 04 27.4 -0.1**
AAK *i* *PP **PcP 01 05 01.3 +0.5**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 64.79 313 *e*P **P 01 04 27.5 -0.1**
USP Ospenovka 64.92 314 P **P 01 04 28.2 -0.2**
SNR=7.2
USP Ospenovka 64.92 314 *i* P **P 01 04 28.0 -0.2**
AML Almayashu 65.27 313 P **P 01 04 31.8 +0.9**
SNR=7.4
EKS2 Erkin-Say 65.31 313 P **P 01 04 31.0 +0.1**
SNR=5.6
EKS2 Erkin-Say 65.31 313 *i* P **P 01 04 30.9 +0.1**
EKS2 Erkin-Say 65.31 313 *e*P **P 01 04 31.4 +0.5**
comp=Z,8.7nm,1.3s
KKAR Karatay Array 67.75 313 *e*P **P 01 04 46.1 -0.2**
KKAR Karatay Array 67.75 313 *e*P **P 01 04 46.1 -0.2**
TNA Tin City 68.17 21 *e*P **P 01 04 49.9 +1.5**
comp=Z,8.3nm,1.0s
BVA0 Borovoye Array 69.81 324 *i* P **P 01 04 58.5 -0.4**
BVA0 pmax pmax
comp=Z,27nm,1.1s
BRVK Borovoye 69.88 324*c e*P **P 01 04 59.2 -0.1**
BRVK pmax pmax
comp=Z,18nm,0.9s
BRVK Borovoye 69.88 324 *e*P **P 01 04 59.2 -0.1**
SVW2 Sparrevohn 71.51 28 *e*P **P 01 05 10.5 +1.4**
comp=Z,12nm,1.2s
KDAK Kodiak Island 72.14 32 *i* P **P 01 05 14.7 +1.8**
RSO Redoubt South 72.68 29 *e*P **P 01 05 17.0 +0.6**
IM04 Indian Mountai 73.68 23 *e*P **P 01 05 22.4 +0.4**
KTH Kantishna Hill 74.25 26 *e*P **P 01 05 26.8 +1.4**
comp=Z,18nm,1.2s
TRF Thorofare Moun 74.50 26 *e*P **P 01 05 27.6 +0.6**
PMR Palmer 74.65 28 *e*P **P 01 05 28.2 +0.6**
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 74.65 28 *e*P **P 01 05 28.2 +0.6**
comp=Z,8.2nm,0.8s
MCK McKinley 75.15 26 *e*P **P 01 05 31.2 +0.7**
MCK McKinley 75.15 26 *e*P **P 01 05 31.2 +0.7**
COLD Coldfoot 75.39 22 *e*P **P 01 05 33.7 +1.9**
comp=Z,6.8nm,0.9s
AB31 Akbulak array 75.76 319 P **P 01 05 33.2 -1.1**
AB31 pmax pmax
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 75.76 319 *e*P **P 01 05 33.9 -0.4**
COLA College 75.83 25⇑*i*P **P 01 05 34.6 +0.2**
COLA pmax pmax
comp=Z,14nm,0.9s
SVE Sverdlovsk 76.00 326 *e*P **P 01 05 35.7 +0.2**
SVE pmax pmax
comp=Z,14nm,1.7s
DIV Divide 76.17 29 *e*P **P 01 05 38.4 +1.9**
ILAR Eielson Array 76.22 25 P **P 01 05 36.1 -0.5**
comp=Z,1.8nm,0.7s,baz=246,slow=5.7,SNR=34
ILAR LR LR 01 35 14.2
comp=Z,66nm,19.8s,baz=277,slow=33
PPT Papeete 76.22 110 LR LR 01 35 41.1
comp=Z,116nm,18.2s,baz=242,slow=33
PPT2 Papeete2 76.23 110 *e*LR LR 01 29 22.5
comp=Z,131nm,22.8s
PAX Paxson 76.56 27 *e*P **P 01 05 39.6 +0.9**
PAX Paxson 76.56 27 *e*P **P 01 05 39.6 +0.9**
GEYT Alibeck 76.76 307 P **P 01 05 39.9 -0.4**
comp=Z,2.2nm,0.8s,baz=93,slow=7.4,SNR=8.7
AKTO Aktyubinsk 77.07 320 P **P 01 05 40.2 -1.5**
AKTO pmax pmax
comp=Z,15nm,2.2s
ARU Arti 77.10 326*d i*P **P 01 05 41.3 -0.4**
ARU *e* 01 08 36.9
ARU S S 01 15 20.8 -7.4
ARU SS **SS 01 20 25.8 +0.1**
ARU pmax pmax
comp=Z,24nm,2.5s
ARU Arti 77.10 326 *e*P **P 01 05 41.0 -0.7**
comp=Z,83nm,2.4s
DOT Dot Lake 77.28 27 *e*P **P 01 05 43.7 +1.0**
DAWY Dawson 79.38 26 *e*P **P 01 05 54.2 0.0**
HYT Haines Junctio 80.16 30 *e*P **P 01 05 58.9 +0.2**
PRGR Permogore 83.72 331 *e*P **P 01 06 15.8 -1.3**
PRGR pmax pmax
comp=Z,141nm,1.9s
KLMR Klimovskoe 86.75 331 *e*P P 01 06 28.3 -4.1
KLMR pmax pmax
comp=Z,22nm,1.2s
VNDA Vanda 86.83 175 LR LR 01 43 18.5
comp=Z,152nm,20.9s,baz=320,slow=34
ZEI Tsey 87.21 313 *e*P **P 01 06 33.0 -2.3**
ZEI pmax pmax
comp=Z,9.0nm,1.4s
KBZ Khabaz 87.78 314 P **P 01 06 37.1 -0.6**
comp=Z,1.7nm,0.9s,baz=104,slow=3.9,SNR=4.2
KBZ LR LR 01 52 04.5
comp=Z,85nm,18.1s,baz=60,slow=40
KIV Kislovodsk 87.90 314 *e*P **P 01 06 37.1 -1.3**
KIV *e*SSS SSS 01 26 38.6
KIV pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 89.54 326 *i* P **P 01 06 43.7 -2.0**
OBN *e* 01 10 25.4
OBN pmax pmax
comp=Z,7.0nm,1.4s
ARCES ARCESS Array B 89.79 341 P **P 01 06 45.9 -0.7**
comp=Z,2.4nm,0.7s,baz=76,slow=5.1,SNR=6.3
ARCES LR LR 01 51 53.0
comp=Z,164nm,18.9s,baz=56,slow=39
JOF Joensuu 89.98 334 *e*P **P 01 06 45.4 -2.2**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 89.98 334 *e*p **P 01 06 45.4 -2.2**
comp=Z,2.4nm,0.5s
YKA Yellowknife Ar 90.62 26 P **P 01 06 51.1 +0.5**
comp=Z,1.2nm,0.8s,baz=293,slow=4.9,SNR=17
MAW Mawson 92.01 202 LR LR 01 48 51.5
comp=Z,100nm,18.0s,baz=58,slow=36
KAF Kangasniemi 92.44 334 *e*P P 01 06 56.0 -3.1
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 92.44 334 *e*p P 01 06 56.0 -3.1
comp=Z,1.7nm,0.6s
FINES FINESS Array B 92.80 333 P **P 01 06 58.8 -1.9**
comp=Z,2.5nm,0.6s,baz=77,slow=5.1,SNR=25
FINES LR LR 01 51 26.8
comp=Z,162nm,19.3s,baz=90,slow=37
AKASG Malin Array Be 95.08 323 LR LR 01 51 19.4
comp=Z,106nm,21.4s,baz=65,slow=36
BRTR Keskin Array B 95.41 311 P **P 01 07 11.4 -2.1**
comp=Z,0.5nm,0.7s,baz=85,slow=2.8,SNR=4.2
BRTR LR LR 01 56 53.1
comp=Z,21nm,18.1s,baz=76,slow=40
NVAR Mina Array Bea 95.58 50 P **P 01 07 15.9 +1.6**
comp=Z,1.1nm,0.8s,baz=262,slow=6.0,SNR=8.5
NOA NORSAR Array B 99.23 337 LR LR 01 55 33.3
comp=Z,117nm,19.9s,baz=50,slow=37
TORD Torodi Ar. Bea 131.42 296 PKP **PKPdf 01 13 01.1 -0.7**
comp=Z,1.1nm,0.9s,baz=88,slow=1.9,SNR=5.1
LPAZ La Paz 153.52 110 *e*PKIKP **PKPdf 01 13 38.6 -2.4**
LPAZ 01 13 41.0
LPAZ 01 13 50.2
LPAZ La Paz 153.52 110 PKP **PKPdf 01 13 41.0 0.0**
comp=Z,1.1nm,0.8s,baz=250,slow=5.1,SNR=3.8
LPAZ PKPbc **PKiKP 01 13 50.2 +1.4**
comp=Z,1.2nm,0.6s,baz=304,slow=2.2,SNR=6.1
LPAZ La Paz 153.52 110 *e*PKPdf **PKPdf 01 13 38.6 -2.4**
LPAZ PKP **PKPdf 01 13 41.0 0.0**
LPAZ PKPbc **PKiKP 01 13 50.2 +1.4**

DJA 25 00:57:44.5±0.5,**9°S**±6°×**11°7E**±°,**h51**km±14km,**M4.0**/13,
MLv4.0/13,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.06**	**111**	P	Pn	00 58 17.2	+0.5
DNP	**Denpasar**	**2.22**	**276**	S	Sn	00 58 45.6	+0.6
IGBI	**Denpasar**	**2.27**	**272**	P	Pn	00 58 17.4	-2.1
IGBI				S	Sn	00 58 46.1	-0.2
SRBI	**Singaraja**	**2.35**	**290**	P	Pn	00 58 20.1	-0.6
SRBI				S	Sn	00 58 35.9	-12
JAGI	**Jajag, Banyuwa**	**3.28**	**277**	P	Pn	00 58 34.3	+0.9
ABJI	**Asem Bagus**	**3.36**	**289**	P	Pn	00 58 34.5	0.0
KMMI	**Kalianget**	**3.91**	**298**	P	Pn	00 58 45.4	+3.4
BLJI	**Banyuglugur**	**3.98**	**287**	P	Pn	00 58 43.9	+0.9
GMJI	**Gumukmas**	**4.00**	**279**	P	Pn	00 58 42.7	-0.6
PWJI	**Pagerwojo**	**5.64**	**279**	P	Pn	00 59 06.4	+0.5

JMA ***25*** *01:14:50.2±0.5, 47°01N×148°27E, h418km, M4.0*
SKHL ***25*** *01:14:50.7±0.8, 47°42N×147°66E, h389km±5km, mb4.9/11, mbh5.1/7, msh4.3/1*
MOS ***25*** *01:14:50.4±1.1, 47°68N×147°60E, h385km, mb4.0/36, Error ellipse: s-maj=8.6km s-min=6.2km az=79.0*
ISCJB ***25*** *01:14:50.1±0.2, 47°61N±0°03×147°62E±0°03, h380km±3km, mb4.1/101, Error ellipse: s-maj=5.3km s-min=3.1km az=162.7*
NEIC ***25*** *01:14:52.7±1.5, 47°61N×147°59E, h396km±9km, mb4.3/71, Error ellipse: s-maj=20.6km s-min=14.2km az=145.0*
IDC ***25*** *01:14:52.2±0.9, 47°68N×147°59E, h391km±9km, mb3.6/20, mb1 3.8/28, mb1mx3.6/43, mbtmp4.4/28, Error ellipse: s-maj=12.8km s-min=7.8km az=153.0*
BJI ***25*** *01:14:54.6, 47°84N×147°02E, h393km, mB4.6/18, mb4.5/34*
ISC 25 01:14:50.7±0.4,**47°54N**±0°04×**147°81E**±0°04,**h383**km±3km,
n498,σ**1°43**/534,**mb4.2**/102,**122C-120D**,**Northwest of Kuril Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 2.31 179⇑*i*PN **Pn 01 15 48.0 +0.8**
KUR *i* 01 16 34.0
KUR pmax pmax
comp=Z,21µm,0.4s
KUR pmax pmax
comp=N,60nm,0.3s
KUR pmax pmax
comp=Z,264nm,0.6s
KUR pmax pmax
comp=E,42nm,0.6s
KUR Kuril'sk 2.31 179 *e*P **Pn 01 15 48.0 +0.8**
KUR AMB AMB 01 15 48.9
comp=E,60nm,0.4s
KUR AMB AMB 01 15 48.9
comp=E,264nm,0.4s
KUR *e*S **S 01 16 33.0 +0.3**
KUR A A 01 16 35.3
comp=E,220nm,0.9s
KUR A A 01 16 35.3
comp=E,410nm,0.9s
YSS Yuzh-Sakhalins 3.49 262⇑*i*PN **Pn 01 15 59.0 +2.2**
YSS *i* S **S 01 16 51.0 +0.6**
YSS pmax pmax
comp=Z,180nm,0.7s
YSS smax smax
comp=E,110nm,1.0s
YSS smax smax
comp=E,600nm,4.0s
YSS Yuzh-Sakhalins 3.49 262 *e*Pn **Pn 01 15 58.9 +2.1**
YSS Yuzh-Sakhalins 3.49 262 *e*P **Pn 01 15 58.0 +1.2**
YSS AMB AMB 01 15 59.5
comp=E,180nm,0.7s
YSS *e*S **S 01 16 50.0 -0.4**
YSS A A 01 16 53.0
comp=E,110nm,1.0s
YSS A A 01 16 56.0
comp=E,600nm,4.0s
SHO Shikotan 3.74 191 *e*P **Pn 01 15 57.5 -1.7**
SHO AMB AMB 01 15 58.0
comp=E,323nm,0.5s
SHO *e*S **S 01 16 50.5 -4.1**
SHO A A 01 16 52.2
comp=E,1µm,0.5s
YUK Yuzh-Kuril'sk 3.76 202*c i*PN **Pn 01 15 59.8 +0.4**
YUK *i* S **S 01 16 52.8 -2.2**
YUK pmax pmax
comp=N,22nm,0.3s
YUK pmax pmax
comp=E,19nm,0.3s
YUK pmax pmax
comp=Z,134nm,0.3s
YUK smax smax
comp=N,94nm,0.6s
YUK smax smax
comp=E,187nm,0.6s
YUK Yuzh-Kuril'sk 3.76 202 *e*P **Pn 01 15 59.8 +0.4**
YUK AMB AMB 01 16 01.5
comp=E,22nm,0.3s
YUK AMB AMB 01 16 01.5
comp=E,200nm,0.3s
YUK AMB AMB 01 16 01.5
comp=E,134nm,0.3s
YUK *e*S **S 01 16 52.8 -2.2**
YUK A A 01 17 01.8
comp=E,94nm,0.6s
YUK A A 01 17 01.8
comp=E,187nm,0.6s
JRA Rausu 4.07 209 P **Pn 01 16 02.2 -0.1**
NEM2 Nemuro 2 4.42 200 P **Pn 01 16 03.6 -2.3**
NEM2 *e*S **S 01 17 01.9 -4.9**
JSE Soyaes 4.45 236 P **Pn 01 16 07.7 +1.6**
JSE *e*S **S 01 17 08.9 +1.6**
JTKR Abashiri--Toko 4.50 219 P **Pn 01 16 07.0 +0.4**
JTKR *e*S **S 01 17 07.4 -0.8**
JWK2 Keihoku 4.66 244 P **Pn 01 16 10.9 +2.7**
TYV Tymovskoe 4.74 316 *e*P **Pn 01 16 10.5 +1.6**
TYV AMB AMB 01 16 12.2
comp=E,9.0nm,1.0s
TYV AMB AMB 01 16 12.2
comp=E,35nm,1.0s
TYV *e*S **S 01 17 13.0 +0.5**
TYV A A 01 17 14.2
comp=E,29nm,0.8s
ASAJ Asahikawa 5.00 229 PN **Pn 01 16 12.9 +1.1**
ASAJ S **S 01 17 18.6 +0.9**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ smax smax
comp=N,2.0nm,0.3s
ASAJ Asahikawa 5.00 229 P **Pn 01 16 12.9 +1.1**
comp=N,3.8nm,0.3s,baz=76,slow=7.6,SNR=18
ASAJ S **S 01 17 18.6 +0.9**
comp=N,1.7nm,0.3s,baz=350,slow=32,SNR=5.7
JAK Akkeshi 5.05 207 P **Pn 01 16 10.6 -1.8**
JAK *e*S **S 01 17 13.6 -5.1**
JKK2 Kamakawa 2 5.10 226 P **Pn 01 16 14.0 +1.0**
JAR Ashorobuto 5.11 215 P **Pn 01 16 12.8 -0.2**
JCH Churui 5.85 214 P **Pn 01 16 19.3 -1.7**
JCH *e*S S 01 17 27.8 -6.6
MYR Moyori 6.15 213 *e*P **Pn 01 16 22.2 -2.2**
SKR Severo-Kuril's 6.29 57 *e*PN **Pn 01 16 24.4 -1.3**
SKR *e*S **S 01 17 40.0 -3.2**
SKR pmax pmax
comp=N,20nm,0.5s
SKR pmax pmax
comp=Z,90nm,0.5s
SKR pmax pmax
comp=E,90nm,1.0s
SKR smax smax

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              comp=N,70nm,0.5s
SKR                                smax    smax
              comp=E,90nm,1.0s
SKR   Severo-Kuril's   6.29  57 eP    Pn      01 16 26.9 +1.2
SKR                               AMB     AMB     01 16 28.5
              comp=E,171nm,0.7s
SKR                                eS      S       01 17 41.8 -1.4
SKR                                A       A       01 17 46.3
              comp=E,70nm,0.7s
SKR                                A       A       01 17 46.3
              comp=E,90nm,0.7s
SKR                                A       A       01 17 46.3
              comp=E,30nm,0.7s
JNBK  Urakawa-nobuka   6.37 216  P     Pn      01 16 24.5 -2.3
JNBK                               eS      S       01 17 36.6 -8.4
ERM   Erimo            6.44 213 dePN  Pn      01 16 26.8 -0.8
ERM   Erimo            6.44 213 ePn   Pn      01 16 26.9 -0.6
ERM                                eS      S       01 17 37.6 -8.9
ERM   Erimo            6.44 213 eP    Pn      01 16 26.8 -0.8
NKL   Nikolayevsk      7.23 324 eP    P       01 16 37.4 +0.3
NKL                               AMB     AMB     01 16 37.5
              comp=E,16nm,0.8s
JKB   Kayabe           7.43 223  P     Pn      01 16 37.1 -1.7
JKB                                eS      S       01 17 58.8 -8.3
JOT   Ohata            7.83 221  P     Pn      01 16 40.7 -2.7
JOT                                eS      S       01 18 06.4 -9.1
GRNR  Gornyy           8.13 298 eP    P       01 16 48.0 +0.2
GRNR                              AMB     AMB     01 16 49.0
              comp=E,42nm,0.8s
TEY   Ternei           8.16 256 eP    P       01 16 48.0 -0.2
TEY                               AMB     AMB     01 16 48.8
              comp=E,52nm,0.8s
TEY                               AMB     AMB     01 16 48.8
              comp=E,67nm,0.8s
PEA0  Petropavlovsk-   8.43  45 ePn   P       01 16 51.0 -0.1
PETK  Petropavlovsk-   8.43  45  PN    P       01 16 51.3 +0.3
PETK                              pmax    pmax
              comp=Z,1.0nm,0.3s
PETK  Petropavlovsk-   8.43  45  P     P       01 16 51.3 +0.3
              comp=Z,0.8nm,0.3s,baz=218,slow=12,SNR=9.5
JANG  Nango            8.48 215  P     Pn      01 16 49.2 -1.7
JANG                               eS      S       01 18 20.1 -9.4
HABR  Khabarovsk       8.61 281 dePN  Pn      01 16 52.3  0.0
HABR                               eS      S       01 18 31.2 -0.8
HABR                              pmax    pmax
              comp=N,27nm,1.6s
HABR                              pmax    pmax
              comp=E,90nm,0.9s
HABR                              pmax    pmax
              comp=Z,133nm,0.9s
HABR                              MLR     MLR
              comp=Z,192nm,15.0s
PET   Petropavlovsk    8.85  48⇓ePN   Pn      01 16 54.4 -0.5
PET                                eS      S       01 18 32.4 -4.5
PET                               pmax    pmax
              comp=Z,21nm,1.1s
PET                               smax    smax
              comp=E,41nm,0.8s
PET                               smax    smax
              comp=N,49nm,0.7s
PET                               MLR     MLR
              comp=Z,200nm,11.0s
PET   Petropavlovsk    8.85  48 eP    P       01 16 55.5 -0.1
PET                               AMB     AMB     01 16 57.5
              comp=Z,147nm,0.8s
PET                                eS      S       01 18 32.4 -4.5
PET                                A       A       01 18 35.4
              comp=Z,50nm,0.7s
PET                                A       A       01 18 35.4
              comp=Z,40nm,0.7s
JOM   Ohasama          9.35 213 eS    S       01 18 39.8 -8.3
KLR   Kul'dur         10.82 285 ePN   P       01 17 14.2 -3.5
KLR   Kul'dur         10.82 285 erx   rx      01 17 14.2
EKMR  Ekimchan        10.99 306 eP    P       01 17 17.5 -2.0
EKMR                              AMB     AMB     01 17 18.5
              comp=Z,56nm,0.9s
USRK  Ussuriysk Arra  11.53 259  P     P       01 17 25.2 -0.3
              comp=Z,1.9nm,0.3s,baz=68,slow=11,SNR=32
MDJ   Mudanjiang      12.98 264  P     P       01 17 41.6  0.0
MDJ                                S       S       01 20 02.0 -1.2
MDJ                               pmax    pmax
              comp=Z,22nm,1.1s
MDJ                               pmax    pmax
              comp=Z,120nm,13.4s
MDJ                               LR      LR
              comp=Z,150nm,12.3s
MDJ                               LR      LR
              comp=Z,230nm,13.1s
MDJ                               LR      LR
              comp=Z,170nm,7.8s
MDJ   Mudanjiang      12.98 264 eP    P       01 17 41.6  0.0
MJA0  Matsu Arr-Jizo  13.07 216 ePN   P       01 17 43.7 +0.9
MJA0                              pmax    pmax
              comp=Z,2.0nm,0.3s
MAJO  Matsushiro      13.09 216⇑ePN   Pn      01 17 44.1 -0.7
MAJO  Matsushiro      13.09 216 eP    Pn      01 17 44.0 -0.8
MAT   Matsushiro      13.09 216  P     Pn      01 17 45.6 +0.8
MAT                                eS      S       01 20 06.1 +0.5
MJAR  Matsushiro Arr  13.09 216  PN    Pn      01 17 44.5 -0.3
MJAR                              pmax    pmax
              comp=Z,2.0nm,0.3s
MJAR  Matsushiro Arr  13.09 216  P     Pn      01 17 44.5 -0.3
              comp=Z,1.8nm,0.3s,baz=14,slow=11,SNR=30
MJAR  Matsushiro Arr  13.09 216 eP    P       01 17 43.6 +0.6
BMKR  Bomnak          13.88 308 eP    P       01 17 48.2 -3.1
BMKR                              AMB     AMB     01 17 48.6
              comp=Z,23nm,0.9s
ZEA   Zeya            14.42 303 eP    P       01 17 56.7 -0.5
ZEA                               AMB     AMB     01 17 58.1
              comp=Z,11nm,0.9s
KROS  Kirovskiy       14.79 306 eP    P       01 18 02.0 +0.7
KROS                              AMB     AMB     01 18 02.6
              comp=Z,27nm,0.9s
KROS                              AMB     AMB     01 18 02.6
              comp=Z,45nm,0.9s
KROS                              AMB     AMB     01 18 02.6
              comp=Z,66nm,0.9s
SEY   Seymchan        15.64   8  P     P       01 18 11.5 +1.2
SEY                               pmax    pmax
              comp=Z,1.0nm,0.3s
SEY   Seymchan        15.64   8  P     P       01 18 11.5 +1.2
              comp=Z,1.1nm,0.3s,baz=186,slow=9.3,SNR=20
SEY   Seymchan        15.64   8 eP    P       01 18 11.7 +1.4
CN2   Changchun       16.06 265⇑iP    P       01 18 14.5 -0.6
CN2                               esP     sP      01 19 52.3 -4.8
CN2                                eS      S       01 20 59.5 -5.0
CN2                               pmax    pmax
              comp=Z,50nm,0.7s
CLNS  Chul'man        16.78 312 eP    P       01 18 22.8 +0.1
CLNS                              pmax    pmax
              comp=Z,31nm,0.9s
CLNS                              pmax    pmax
              comp=N,10.0nm,0.8s
CLNS                              pmax    pmax
              comp=E,18nm,1.0s
FX1   Attu Island--F  17.04  62  P     Pn      01 18 29.4 +0.1
FX1                               pmax    pmax
              comp=Z,4.0nm,0.3s
FX1                               pmax    pmax
              comp=Z,5.0nm,0.3s
FX1   Attu Island--F  17.04  62  P     Pn      01 18 29.4 +0.1
              comp=Z,4.4nm,0.3s,baz=278,slow=7.0,SNR=7.7
FX1                               PP      PP      01 19 19.4
              comp=Z,4.5nm,0.3s,baz=268,slow=12,SNR=6.0
KSRS  Korea Array     17.75 243 eP    P       01 18 34.8 +1.7
KSRS                              pmax    pmax
              comp=Z,1.0nm,0.3s
KSRS  Korea Array     17.75 243  P     P       01 18 34.9 +1.7
              comp=Z,1.1nm,0.3s,baz=50,slow=10,SNR=16
YAK   Yakutsk         17.79 331 eP    P       01 18 31.6 -1.7
YAK                                eS      S       01 21 33.3 -4.4
YAK                               pmax    pmax
              comp=E,4.0nm,1.0s
YAK                               pmax    pmax
              comp=Z,21nm,1.0s
YAK                               pmax    pmax
              comp=N,5.0nm,1.1s
YAK                               smax    smax
              comp=E,39nm,1.0s
YAK                               smax    smax
              comp=N,22nm,1.1s
YAK   Yakutsk         17.79 331 eP    P       01 18 32.3 -1.0
SNY   Shenyang        18.12 261 ⇓P    P       01 18 36.8 -0.3
SNY                               pmax    pmax
              comp=N,23nm,0.7s

HIA   Hailar          18.68 286⇑iP    P       01 18 41.1 -1.9
HIA                               pmax    pmax
              comp=Z,12nm,1.2s
HIA   Hailar          18.68 286 eP    P       01 18 41.1 -1.9
JNU   Nakatsue        19.28 228  P     P       01 18 50.0 +0.7
              comp=Z,0.6nm,0.3s,baz=55,slow=4.4,SNR=4.1
BILL  Bilibino        22.60  18⇑iP    P       01 19 20.6 +1.2
BILL                              pmax    pmax
              comp=Z,3.0nm,1.0s
BILL  Bilibino        22.60  18 eP    P       01 19 20.6 +1.2
BOD   Bodaibo         22.69 309 eP    P       01 19 17.5 -2.9
TIK   Tiksi           25.75 346 eP    P       01 19 46.3 -1.3
TIXI  Tiksi           25.76 346⇑iP    P       01 19 46.3 -1.4
TIXI                              pmax    pmax
              comp=Z,7.0nm,2.5s
HHC   Hu-ho-hao-te    26.66 269 eP    P       01 19 58.0 +1.8
HHC                                S       S       01 24 02.9 +0.2
HHC                               PcS     PcS     01 26 52.8 +2.8
HHC                               pmax    pmax
              comp=Z,44nm,1.1s
HHC                               pmax    pmax
              comp=Z,310nm,5.4s
ULN   Ulaanbaatar     27.21 286⇑eP    P       01 20 00.7 -0.4
ULN                               pmax    pmax
              comp=Z,4.0nm,1.5s
ULN   Ulaanbaatar     27.21 286 eP    P       01 20 00.4 -0.7
              comp=Z,8.2nm,1.0s
ULN   Ulaanbaatar     27.21 286 eP    P       01 20 00.7 -0.4
SONA1 Songino Array   27.64 286 eP    P       01 20 04.5 -0.3
SONM  Songino Array   27.65 286  P     P       01 20 04.7 -0.2
              comp=Z,0.8nm,0.5s,baz=107,slow=9.0,SNR=5.8
SONM                              PcP     PcP     01 23 10.9 +0.3
              comp=Z,0.5nm,0.7s,baz=97,slow=3.3,SNR=3.7
SONM                              ScP     ScP     01 26 11.9 -2.0
              comp=Z,0.9nm,0.8s,baz=104,slow=3.0,SNR=5.9
TLY   Talaya          28.58 295⇑eP    P       01 20 13.0  0.0
TLY   Talaya          28.58 295  P     P       01 20 11.0 -1.9
              comp=Z,1.7nm,0.5s,baz=97,slow=4.6,SNR=3.9
TLY   Talaya          28.58 295 eP    P       01 20 12.9  0.0
ZAK   Zakamensk       29.05 292⇓iP    P       01 20 16.9 -0.2
ZAK                               pmax    pmax
              comp=Z,3.0nm,1.3s
SVW2  Sparrevohn      34.51  46 eP    P       01 21 06.1 +2.1
              comp=Z,7.9nm,0.7s
HVS   Khovu-Aksy      34.77 296deP    P       01 21 06.5  0.0
HVS                               pmax    pmax
              comp=Z,29nm,1.0s
GTA   Gaotai          35.28 275  P     P       01 21 11.9 +0.9
GTA                               pmax    pmax
              comp=Z,9.0nm,1.3s
RSO   Redoubt South   35.95  47 eP    P       01 21 18.9 +2.6
PPLA  Purkeypile      36.01  42 eP    P       01 21 18.8 +2.0
              comp=Z,8.1nm,0.8s
KDAK  Kodiak Island   36.42  51  iP    P       01 21 21.1 +1.1
KTH   Kantishna Hill  36.53  41 eP    P       01 21 22.7 +1.6
              comp=Z,12nm,0.9s
COLD  Coldfoot        36.74  35 eP    P       01 21 23.3 +0.7
              comp=Z,15nm,1.8s
TRF   Thorofare Moun  36.83  41 eP    P       01 21 24.6 +1.0
              comp=Z,46nm,2.1s
RC01  Rabbit Creek A  37.34  45 eP    P       01 21 29.0 +1.4
              comp=Z,8.0nm,0.8s
CD2   Chengdu         37.40 260 eP    P       01 21 28.6  0.0
CD2                                pP      pP      01 22 44.0 +2.7
CD2                                PP      PP      01 23 06.8 +3.1
CD2                                sP      sP      01 23 28.0 +2.8
CD2                               PcP     PcP     01 23 39.6 +1.6
CD2                                S       S       01 26 46.6 -1.3
CD2                                sS      sS      01 29 00.1 -0.1
CD2                               pmax    pmax
              comp=Z,10.0nm,0.5s
MCK   McKinley        37.41  41 eP    P       01 21 29.2 +1.0
MCK                               pmax    pmax
              comp=Z,7.0nm,0.8s
MCK   McKinley        37.41  41 eP    P       01 21 29.2 +1.0
              comp=Z,6.8nm,0.8s
COLA  College         37.78  39c iP   P       01 21 32.0 +0.8
COLA                              pmax    pmax
              comp=Z,73nm,1.0s
IL1   Eielson Array   38.20  39 eP    P       01 21 35.2 +0.5
ILAR  Eielson Array   38.20  39  P     P       01 21 35.0 +0.2
ILAR                                                  01 23 39.1
ILAR                              pmax    pmax
              comp=Z,6.0nm,0.7s
ILAR  Eielson Array   38.20  39  P     P       01 21 35.0 +0.2
              comp=Z,6.3nm,0.7s,baz=269,slow=7.5,SNR=85
ILAR                              PcP     PcP     01 23 39.1 -0.8
              comp=Z,0.5nm,0.7s,baz=282,slow=3.3,SNR=4.1
GYA   Guiyang         38.44 252 eP    P       01 21 37.8 +0.5
GYA                               pmax    pmax
              comp=Z,10.0nm,0.9s
ZALV  Zalesovo Beam   39.18 304 eP    P       01 21 43.9 +1.0
ZALV                              pmax    pmax
              comp=Z,1.0nm,0.5s
ZALV  Zalesovo Beam   39.18 304  P     P       01 21 41.6 -1.3
              comp=Z,0.7nm,0.5s,baz=74,slow=6.7,SNR=4.0
ZALV                              PcP     PcP     01 23 43.4 +0.2
              comp=Z,1.3nm,0.6s,baz=79,slow=3.2,SNR=8.0
ZALV                              ScP     ScP     01 26 52.6 -1.7
              comp=Z,0.2nm,0.4s,baz=74,slow=6.3,SNR=4.4
DIV   Divide          39.23  45 eP    P       01 21 44.6 +1.3
              comp=Z,10nm,0.7s
DOT   Dot Lake        39.57  41 eP    P       01 21 46.0 -0.1
              comp=Z,6.0nm,0.8s
BMRM  Bremner River   39.82  45 eP    P       01 21 49.3 +1.2
              comp=Z,13nm,1.0s
EGAK  Eagle           40.63  38 eP    P       01 21 54.6 +0.1
              comp=Z,12nm,0.8s
WMQ   Urumqi          41.25 288 eP    P       01 22 01.4 +1.5
WMQ                                pP      pP      01 23 16.3 +2.1
WMQ                                sP      sP      01 23 58.6 +0.9
WMQ                               pmax    pmax
              comp=Z,6.0nm,0.8s
WMQ                               pmax    pmax
              comp=Z,230nm,4.8s
WMQ                               LR      LR
              comp=Z,83nm,21.6s
WMQ                               LR      LR
              comp=Z,110nm,20.6s
WMQ                               LR      LR
              comp=Z,75nm,19.0s
HYT   Haines Junctio  43.21  44 eP    P       01 22 20.7 +5.3
MKAR  Makanchi Array  43.34 294 eP    P       01 22 16.2 -0.3
MKAR  Makanchi Array  43.34 294  P     P       01 22 16.1 -0.4
              comp=Z,3.4nm,0.7s,baz=68,slow=7.9,SNR=47
MKAR                              PcP     PcP     01 23 57.4 +0.3
              comp=Z,0.5nm,0.7s,baz=29,slow=1.3,SNR=3.9
MKAR                              ScP     ScP     01 27 09.0 -2.0
              comp=Z,0.3nm,0.6s,baz=55,slow=2.8,SNR=3.9
MKAR  Makanchi Array  43.34 294 eP    P       01 22 16.2 -0.3
MK01  Makanchi Array  43.34 294 eP    P       01 22 16.0 -0.5
KURK  Kurchatov       43.88 301 eP    P       01 22 19.8 -0.8
KURK                              pmax    pmax
              comp=Z,2.0nm,0.6s
KURK  Kurchatov       43.88 301 eP    P       01 22 19.8 -0.8
              comp=Z,1.6nm,0.6s
KURK  Kurchatov       43.88 301 eP    P       01 22 19.5 -1.1
LSA   Lhasa           46.64 269 eP    P       01 22 44.6 +1.7
LSA                               pmax    pmax
              comp=Z,3.0nm,0.7s
LSA   Lhasa           46.64 269 eP    P       01 22 44.6 +1.7
              comp=Z,3.1nm,0.7s
VOSK  Vostochnaya     47.34 306 eP    P       01 22 46.2 -1.1
VOSK                              pmax    pmax
              comp=Z,2.0nm,0.5s
VOSK  Vostochnaya     47.34 306 eP    P       01 22 46.2 -1.1
              comp=Z,1.9nm,0.5s
BRVK  Borovoye        47.57 307⇓eP    P       01 22 48.7 -0.3
BRVK                              pmax    pmax
              comp=Z,6.0nm,2.5s
BRVK  Borovoye        47.57 307 eP    P       01 22 48.7 -0.3
CMAR  Chiang Mai Arr  49.12 251  P     P       01 23 02.3 +1.1
CMAR                              pmax    pmax
              comp=Z,1.0nm,0.4s
CMAR  Chiang Mai Arr  49.12 251  P     P       01 23 02.3 +1.1
              comp=Z,1.0nm,0.4s,baz=29,slow=6.4,SNR=3.6
TKM2  Tokmak 2        49.38 293 eP    P       01 23 03.3 +0.2
TKM2                              pmax    pmax
              comp=Z,12nm,1.8s
TKM2  Tokmak 2        49.38 293 eP    P       01 23 03.3 +0.2
              comp=Z,12nm,1.8s
AAK   Ala-Archa       50.22 293ceP    P       01 23 09.4 +0.1
AAK                               pmax    pmax
              comp=Z,8.0nm,0.8s
AAK   Ala-Archa       50.22 293  P     P       01 23 09.5 +0.2
              comp=Z,2.6nm,0.7s,baz=130,slow=4.2,SNR=14

AAK   Ala-Archa       50.22 293 eP    P       01 23 09.4 +0.1
              comp=Z,3.0nm,0.8s
AAK   Ala-Archa       50.22 293 eP    P       01 23 09.4 +0.1
TAPN  Taplejung       50.47 269 eP    P       01 23 12.2 +0.7
JIRN  Jiri            51.30 270 eP    P       01 23 18.1 +0.4
              comp=Z,8.6nm,0.4s
RAMN  Ramite          51.48 269 eP    P       01 23 19.0 +0.1
              comp=Z,10nm,0.6s
ARU   Arti            51.94 315d iP   P       01 23 20.5 -1.0
ARU                                                   01 25 23.7
ARU                                SS      SS      01 33 50.3 -5.9
ARU                               pmax    pmax
              comp=Z,8.0nm,1.7s
ARU   Arti            51.94 315 eP    P       01 23 20.3 -1.2
DMN   Daman           52.06 271 eP    P       01 23 24.1 +0.9
YKA   Yellowknife Ar  52.42  36  P     P       01 23 25.1 +0.3
YKA                                                   01 24 30.2
YKA                               pmax    pmax
              comp=Z,3.0nm,0.5s
YKA   Yellowknife Ar  52.42  36  P     P       01 23 25.1 +0.3
              comp=Z,3.3nm,0.5s,baz=302,slow=7.0,SNR=68
YKA                               PcP     PcP     01 24 30.2 +0.6
              comp=Z,0.7nm,0.6s,baz=306,slow=3.5,SNR=10.0
YKB5  Yellowknife Ar  52.42  36 eP    P       01 23 24.6 -0.2
KKAR  Karatay Array   52.42 296 eP    P       01 23 25.0 -0.2
KKAR  Karatay Array   52.42 296 eP    P       01 23 25.0 -0.2
DANN  Dangsing        52.50 273 eP    P       01 23 27.0 +0.6
              comp=Z,11nm,0.6s
KOLN  Koldanda        52.98 272 eP    P       01 23 30.3 +0.6
              comp=Z,9.9nm,0.8s
ABKAR Akbulak array   55.10 307 eP    P       01 23 43.7 -0.6
KEV   Kevo            55.34 339 eP    P       01 23 43.6 -2.0
KEV                               pmax    pmax
              comp=Z,1.0nm,0.3s
KEV   Kevo            55.34 339 ep    P       01 23 43.6 -2.0
              comp=Z,1.4nm,0.3s
ARCES ARCESS Array B  55.86 339  P     P       01 23 48.6 -0.8
ARCES                             pmax    pmax
              comp=Z,5.0nm,1.0s
ARCES ARCESS Array B  55.86 339  P     P       01 23 48.5 -0.8
              comp=Z,4.7nm,0.9s,baz=44,slow=8.4,SNR=12
LTY   Liberty         58.25  53 eP    P       01 24 07.7 +1.4
              comp=Z,6.0nm,0.5s
B08A  Colville Reser  58.30  52 eP    P       01 24 08.0 +1.4
              comp=Z,6.9nm,1.0s
EDM   Edmonton        58.33  44 eP    P       01 24 07.7 +1.0
EDM                               pmax    pmax
              comp=Z,11nm,1.0s
EDM   Edmonton        58.33  44 eP    P       01 24 07.7 +1.0
              comp=Z,11nm,1.0s
KBL   Kabul           58.40 288 eP    P       01 24 07.1 -0.6
KBL                               pmax    pmax
              comp=Z,4.0nm,0.6s
KBL   Kabul           58.40 288 eP    P       01 24 07.0 -0.6
              comp=Z,4.3nm,0.6s
JOF   Joensuu         58.96 331 eP    P       01 24 09.7 -1.0
JOF                               pmax    pmax
              comp=Z,2.0nm,0.3s
JOF   Joensuu         58.96 331 ep    P       01 24 09.7 -1.0
              comp=Z,2.0nm,0.3s
H04A  Detroit Lake    58.98  56 eP    P       01 24 13.3 +2.1
              comp=Z,24nm,1.3s
E07A  Sunnyside       59.12  53 eP    P       01 24 14.1 +2.0
              comp=Z,11nm,1.0s
G05D  Wamic, OR       59.12  55 ⇓P    P       01 24 14.2 +2.0
              baz=59
D08A  Wollman Farm,   59.31  53 eP    P       01 24 14.9 +1.4
              comp=Z,4.4nm,0.6s
I04A  Tendick Farm,   59.39  57 ⇓P    P       01 24 16.0 +1.9
              baz=59
NEW   Newport         59.52  51 eP    P       01 24 16.4 +1.5
NEW                               pmax    pmax
              comp=Z,165nm,3.0s
NEW   Newport         59.52  51 eP    P       01 24 16.4 +1.5
              comp=Z,164nm,3.0s
NEW   Newport         59.52  51 ⇓P    P       01 24 16.6 +1.7
              baz=59
I05D  Terrebonne, OR  59.66  56 ⇓P    P       01 24 17.9 +2.0
              baz=60
J04D  Umpqua Nationa  59.91  58 ⇑P    P       01 24 20.2 +2.5
              baz=60
SUMG  Summit          60.10   2 eP    P       01 24 18.6 -0.2
SUMG                              pmax    pmax
              comp=Z,9.0nm,1.1s
SUMG  Summit          60.10   2 eP    P       01 24 18.6 -0.2
              comp=Z,8.8nm,1.1s
J05D  Fort Rock, OR   60.38  57 ⇑P    P       01 24 23.4 +2.5
              baz=60
M02C  Callahan        60.63  60 ⇑P    P       01 24 24.5 +2.0
              baz=60
WALA  Waterton Lakes  60.67  48 eP    P       01 24 23.8 +1.1
              comp=Z,6.5nm,0.8s
K05A  Summer Lake     60.93  57 eP    P       01 24 27.0 +2.5
              comp=Z,68nm,1.9s
M04C  Macdoel         60.98  59 ⇓P    P       01 24 27.0 +2.2
              baz=61
N02D  Trinity Center  60.98  60 ⇓P    P       01 24 27.1 +2.3
              baz=61
BSMT  Bassoo Peak     61.00  50 eP    P       01 24 26.3 +1.4
BLMT  Blacktail Moun  61.11  49 eP    P       01 24 27.6 +1.9
KAF   Kangasniemi     61.14 333 eP    P       01 24 23.4 -2.0
KAF                               pmax    pmax
              comp=Z,2.0nm,0.6s
KAF   Kangasniemi     61.14 333 ep    P       01 24 23.4 -2.0
              comp=Z,2.2nm,0.6s
JTMT  Jette           61.32  50 eP    P       01 24 28.9 +1.8
BMO   Blue Mountains  61.58  54 eP    P       01 24 30.4 +1.7
              comp=Z,3.3nm,0.8s
SWMT  Swartz Lake     61.62  50 eP    P       01 24 30.8 +1.8
FINES FINESS Array B  61.72 332  P     P       01 24 28.3 -0.9
FINES                             pmax    pmax
              comp=Z,6.0nm,0.6s
FINES FINESS Array B  61.72 332  P     P       01 24 28.3 -0.9
              comp=Z,5.9nm,0.6s,baz=42,slow=7.7,SNR=39
MOD   Modoc           61.79  58 eP    P       01 24 31.6 +1.4
              comp=Z,4.9nm,0.6s
SLMT  Seeley Lake     62.06  50 eP    P       01 24 33.5 +1.5
MSO   Missoula        62.10  50 eP    P       01 24 33.5 +1.5
              comp=Z,10.0nm,1.0s
MSO   Missoula        62.10  50 ⇑P    P       01 24 33.6 +1.5
              baz=62
WVOR  Wild Horse Val  62.40  56 eP    P       01 24 35.8 +1.7
WVOR                              pmax    pmax
              comp=Z,5.0nm,0.9s
WVOR  Wild Horse Val  62.40  56 eP    P       01 24 35.8 +1.7
              comp=Z,4.8nm,0.9s
CHMT  Chamberlain Mo  62.40  50 eP    P       01 24 35.5 +1.3
FFC   Flin Flon       62.40  38 eP    P       01 24 34.6 +0.8
FFC                               pmax    pmax
              comp=Z,8.0nm,0.8s
FFC   Flin Flon       62.40  38 eP    P       01 24 34.5 +0.8
              comp=Z,8.2nm,0.8s
FFC   Flin Flon       62.40  38 eP    P       01 24 34.7 +0.9
FCC   Fort Churchill  62.52  31 eP    P       01 24 34.3 -0.2
FCC                               pmax    pmax
              comp=Z,71nm,2.5s
FCC   Fort Churchill  62.52  31 eP    P       01 24 34.3 -0.2
              comp=Z,71nm,2.5s
GEYT  Alibeck         63.06 297  P     P       01 24 38.9 +0.4
              comp=Z,3.4nm,0.6s,baz=29,slow=3.4,SNR=7.2
HRY   Holter Researc  63.27  49 eP    P       01 24 41.2 +1.4
MFID  Camas Ranch     63.32  54 eP    P       01 24 41.8 +1.6
              comp=Z,23nm,1.8s
A19A  Klindworth Far  63.32  46 ⇑P    P       01 24 41.3 +1.3
              baz=63,SNR=6.3
EGMT  Eagleton        63.44  47 eP    P       01 24 41.7 +1.0
              comp=Z,18nm,1.3s
EGMT  Eagleton        63.44  47 ⇓P    P       01 24 41.8 +1.0
              baz=63,SNR=5.2
LRM   Limekiln Ridge  63.54  50 eP    P       01 24 43.3 +1.6
B19A  Brinkman Farms  63.54  46 ⇑P    P       01 24 42.9 +1.5
              baz=63
A20A  Cobblestone Ra  63.75  46 ⇓P    P       01 24 44.1 +1.3
              baz=64,SNR=5.2
DLMT  Dillon          63.77  51 eP    P       01 24 45.0 +2.0
              comp=Z,7.5nm,0.8s
C19A  Slack Wire Ran  63.98  47 ⇑P    P       01 24 45.8 +1.4
              baz=64,SNR=7.7
MCMT  McKenzie Canyo  63.99  51 eP    P       01 24 46.0 +1.3
HLID  Hailey          63.99  53 eP    P       01 24 45.9 +1.3
              comp=Z,2.7nm,0.9s
HLID  Hailey          63.99  53 ⇑P    P       01 24 46.3 +1.7
              baz=64,SNR=6.0
B20A  Solberg Farm,   64.01  46 ⇑P    P       01 24 46.0 +1.6
              baz=64
BOZ   Bozeman (W)     64.08  50 eP    P       01 24 47.0 +1.9
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BOZ pmax pmax
comp=Z,9.0nm,0.8s
BOZ Bozeman (W) 64.08 50 eP P 01 24 47.0 +1.9
comp=Z,8.6nm,0.8s
A21A Bergtoll Ranch 64.16 45 ⇑P P 01 24 46.8 +1.5
baz=64,SNR=11
CMB Columbia Colle 64.25 61 eP P 01 24 47.7 +1.5
CMB pmax pmax
comp=Z,5.0nm,0.9s
CMB Columbia Colle 64.25 61 eP P 01 24 47.7 +1.5
comp=Z,4.7nm,0.9s
D19A Cripps Ranch, 64.45 47 ⇓P P 01 24 48.7 +1.3
baz=64
B21A Ellsworth Farm 64.50 45 ⇓P P 01 24 49.9 +2.3
baz=64
C20A Veseth Ranch, 64.51 46 ⇑P P 01 24 49.5 +1.8
baz=64
A22A Carney Farms, 64.64 44 ⇑P P 01 24 49.5 +1.0
baz=64,SNR=12
D20A Manuel Ranch, 64.87 47 ⇓P P 01 24 51.7 +1.7
baz=65,SNR=6.6
C21A Desert Coulee 64.88 46 ⇑P P 01 24 51.5 +1.4
baz=65
E19A Rath Farm, Rou 64.98 48 ⇑P P 01 24 52.6 +1.8
baz=65
YMR Madison River 65.09 51 eP P 01 24 53.1 +1.5
comp=Z,4.7nm,0.8s
NV01 Mina Array Sit 65.22 60 eP P 01 24 54.1 +1.6
NVAR Mina Array Bea 65.22 60 P P 01 24 54.5 +2.0
comp=Z,3.6nm,0.7s,baz=294,slow=6.7,SNR=31
E20A Meyer Farm, Mu 65.28 48 ⇑P P 01 24 54.2 +1.6
baz=65
YFT Old Faithful 65.31 51 eP P 01 24 56.3 +3.3
comp=Z,10nm,0.9s
F19A Roth Farm, Mol 65.32 48 ⇑P P 01 24 54.4 +1.4
baz=65,SNR=7.2
B23A Brockton 65.44 44 ⇓P P 01 24 54.8 +1.2
baz=65,SNR=5.7
D21A La Casta Ranch 65.45 46 ⇑P P 01 24 55.1 +1.4
baz=65
H17A Grant Village 65.48 51 eP P 01 24 57.5 +3.3
comp=Z,12nm,1.1s
H17A Grant Village 65.48 51 ⇑P P 01 24 57.3 +3.2
baz=65,SNR=7.0
A24A Westby 65.58 43 ⇑P P 01 24 55.4 +0.9
baz=65
IMW Indian Meadow 65.63 51 eP P 01 24 57.4 +2.2
comp=Z,7.1nm,1.3s
RLMT Red Lodge 65.66 49 eP P 01 24 57.0 +1.8
comp=Z,22nm,1.8s
FXWY Fox Creek 65.76 51 eP P 01 24 57.5 +1.6
comp=Z,5.0nm,1.1s
H18A Shoshone NF, C 65.76 50 ⇓P P 01 24 57.2 +1.3
baz=66
I17A Pilgrim Ck. 65.81 51 ⇑P P 01 24 59.0 +2.8
baz=66,SNR=6.3
DGMT Dagmar 65.81 44 eP P 01 24 57.0 +1.0
comp=Z,18nm,1.1s
DGMT Dagmar 65.81 44 ⇓P P 01 24 57.0 +1.0
baz=66
C23A Lambert 65.82 45 ⇓P P 01 24 57.1 +1.2
baz=66
TPAW Teton Pass 65.90 51 eP P 01 24 58.7 +1.9
comp=Z,10nm,1.1s
A25A Svangstu Ranch 65.99 43 ⇑P P 01 24 58.3 +1.3
baz=66
LOHW Long Hollow 66.00 51 eP P 01 24 59.7 +2.3
comp=Z,9.2nm,1.3s
REDW Red Top Meadow 66.04 51 eP P 01 25 00.0 +2.3
comp=Z,83nm,2.9s
TPH Tonopah 66.08 59 eP P 01 24 59.6 +1.6
TPH pmax pmax
comp=Z,5.0nm,0.8s
TPH Tonopah 66.08 59 eP P 01 24 59.6 +1.6
comp=Z,4.6nm,0.8s
HVU Hansel Valley 66.09 54 eP P 01 24 59.9 +2.0
HVU pmax pmax
comp=Z,3.0nm,0.8s
HVU Hansel Valley 66.09 54 eP P 01 24 59.9 +2.0
comp=Z,3.0nm,0.8s
H19A Powell 66.11 49 ⇓P P 01 24 59.4 +1.4
baz=66
G20A Bridger 66.13 49 ⇑P P 01 24 59.3 +1.3
baz=66
NB2 NORSAR Subarra 66.24 339 P P 01 24 57.3 -1.1
comp=Z,2.7nm,0.6s,baz=29,slow=6.5
NOA NORSAR Array B 66.24 339 P P 01 24 57.5 -0.8
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 66.24 339 P P 01 24 57.5 -0.8
comp=Z,3.3nm,0.6s,baz=31,slow=6.6,SNR=22
D23A Lindsay 66.25 45 ⇓P P 01 25 00.1 +1.4
baz=66
F21A Absaloka Mine, 66.26 48 ⇓P P 01 25 00.2 +1.4
baz=66
C24A Savage 66.37 45 ⇓P P 01 25 00.4 +0.9
baz=66
E22A Miles City 66.41 46 ⇑P P 01 25 00.9 +1.2
baz=66
A26A Wade Farm, Ken 66.51 42 ⇓P P 01 25 01.4 +1.1
baz=66
I19A Meeteetse 66.55 50 ⇑P P 01 25 02.3 +1.5
baz=66
G21A Lodge Grass 66.63 48 ⇑P P 01 25 02.0 +0.8
baz=66
E23A Ismay 66.68 46 ⇑P P 01 25 02.7 +1.3
baz=66
D24A Glendive 66.72 45 ⇑P P 01 25 03.0 +1.4
baz=66
H20A Greybull 66.75 49 ⇓P P 01 25 03.3 +1.3
baz=67
B26A Jensen Ranch, 66.80 43 ⇑P P 01 25 03.6 +1.5
baz=67
R11A Troy Canyon, C 66.85 58 ⇑P P 01 25 04.2 +1.4
baz=67,SNR=5.1
HWUT Hardware Ranch 66.87 53 eP P 01 25 03.6 +0.7
comp=Z,5.1nm,0.9s
MARC Maricopa 66.90 63 eP P 01 25 04.3 +1.4
J19A Crowheart 67.06 51 ⇑P P 01 25 05.7 +1.7
baz=67
I20A Worland 67.06 50 ⇑P P 01 25 05.6 +1.7
baz=67
G22A Birney 67.10 48 ⇑P P 01 25 05.5 +1.4
baz=67
H21A Big Horn, Sher 67.14 48 ⇓P P 01 25 05.7 +1.3
baz=67
BW06 Boulder Array 67.14 51 eP P 01 25 05.4 +0.9
comp=Z,11nm,1.2s
PDAR Pinedale Array 67.14 51 P P 01 25 05.7 +1.1
comp=Z,5.7nm,0.7s,baz=299,slow=1.9,SNR=80
DUG Dugway 67.15 55 eP P 01 25 06.1 +1.5
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway 67.15 55 eP P 01 25 06.1 +1.5
comp=Z,4.9nm,0.8s
DUG Dugway 67.15 55 ⇓P P 01 25 06.3 +1.7
baz=67,SNR=6.5
F23A Volborg 67.18 47 ⇑P P 01 25 06.0 +1.4
baz=67
C26A Wahner Farm, P 67.26 43 ⇑P P 01 25 06.6 +1.6
baz=67
J20A Shoshoni 67.50 50 ⇑P P 01 25 08.0 +1.3
baz=67,SNR=6.6
F24A Ekalaka 67.56 46 ⇓P P 01 25 08.5 +1.5
baz=67
I21A Big Trails, Te 67.58 49 ⇑P P 01 25 08.6 +1.4
baz=67,SNR=17
B28A Dugan Ranch, T 67.60 42 ⇓P P 01 25 08.3 +1.3
baz=67
E25A Miller Ranch, 67.60 45 ⇓P P 01 25 08.6 +1.5
baz=67
A29A Manning Farm, 67.76 41 ⇓P P 01 25 09.0 +1.0
baz=68
EDW2 Edwards Air Fo 67.80 62 ⇓P P 01 25 10.1 +1.6
baz=68
J21A Lysite 67.83 50 ⇑P P 01 25 10.1 +1.3
baz=68
I22A 9 Mile Ranch, 67.94 49 ⇓P P 01 25 10.3 +0.9
baz=68
G24A Alzada 67.95 46 ⇓P P 01 25 10.2 +0.9
baz=68
F25A Bowman 67.99 45 ⇓P P 01 25 10.8 +1.3
baz=68
C28A Hausauer Farms 68.13 43 ⇓P P 01 25 11.8 +1.5
baz=68
ULM Lac du Bonnet 68.22 38 eP P 01 25 11.2 +0.4
ULM pmax pmax
comp=Z,3.0nm,0.6s
ULM Lac du Bonnet 68.22 38 P P 01 25 10.9 +0.1
comp=Z,3.1nm,0.6s,baz=314,slow=7.4,SNR=6.5
ULM Lac du Bonnet 68.22 38 eP P 01 25 10.9 +0.1
comp=Z,8.2nm,1.1s
WRAB Tennant Creek 68.24 194 eP P 01 25 11.7 +0.5
WRAB pmax pmax
comp=Z,23nm,0.9s
WRAB Tennant Creek 68.24 194 eP P 01 25 11.7 +0.5
comp=Z,23nm,0.9s
WRA Warramunga Arr 68.25 194 eP P 01 25 11.8 +0.5
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 68.25 194 P P 01 25 11.8 +0.5
comp=Z,2.2nm,0.6s,baz=12,slow=6.5,SNR=8.9
J22A Midwest 68.28 49 ⇑P P 01 25 12.4 +0.9
baz=68
H24A Dirks Ranch, A 68.30 47 ⇑P P 01 25 12.2 +0.6
baz=68
F26A Lodgepole 68.42 45 ⇓P P 01 25 13.2 +1.0
baz=68
BFSC Mount Baldy Ra 68.43 63 ⇓P P 01 25 13.8 +1.3
baz=68
K21A Alcova 68.44 50 ⇑P P 01 25 13.4 +0.8
baz=68
B30A Myrvik Farm, E 68.51 41 ⇑P P 01 25 13.6 +1.0
baz=68
E27A Carson 68.52 44 ⇑P P 01 25 13.9 +1.1
baz=68
TUQ Turquoise Moun 68.64 61 ⇑P P 01 25 15.3 +1.5
baz=68
TMUT Trail Mountain 68.67 55 eP P 01 25 15.7 +1.6
comp=Z,12nm,0.4s
CCUT Cedar City 68.67 57 eP P 01 25 15.3 +1.2
comp=Z,51nm,2.9s
K22A Casper 68.81 50 ⇓P P 01 25 15.6 +0.9
baz=69
AKASG Malin Array Be 68.81 323 eP P 01 25 13.3 -1.1
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 68.81 323 P P 01 25 12.8 -1.6
comp=Z,1.4nm,0.5s,baz=36,slow=6.3,SNR=9.1
HEC Hector,Ludlow 68.82 61 ⇓P P 01 25 16.1 +1.3
baz=69
G26A Maurine 68.86 45 ⇓P P 01 25 15.8 +0.9
baz=69
I24A Kuemmerle Ranc 68.90 48 ⇓P P 01 25 15.9 +0.6
baz=69
RSSD Black Hills 69.01 47 eP P 01 25 16.9 +0.9
RSSD pmax pmax
comp=Z,6.0nm,0.7s
RSSD Black Hills 69.01 47 eP P 01 25 16.9 +0.9
comp=Z,5.8nm,0.7s
SRU San Rafael 69.17 55 eP P 01 25 18.3 +1.2
SRU pmax pmax
comp=Z,9.0nm,0.7s
SRU San Rafael 69.17 55 eP P 01 25 18.3 +1.2
comp=Z,8.6nm,0.7s
N20A Spence Gulch, 69.19 52 ⇑P P 01 25 18.8 +1.6
baz=69,SNR=6.5
GMRC Granite Mounta 69.25 61 ⇓P P 01 25 19.1 +1.6
baz=69
F28A McLaughlin 69.31 44 ⇓P P 01 25 18.3 +0.8
baz=69
D30A Buchanan 69.32 42 ⇑P P 01 25 18.5 +0.9
baz=69
KNB Kanab 69.35 58 eP P 01 25 19.6 +1.4
KNB pmax pmax
comp=Z,5.0nm,1.0s
KNB Kanab 69.35 58 eP P 01 25 19.6 +1.4
comp=Z,5.1nm,1.0s
LDFC Landfair 69.37 60 eP P 01 25 19.6 +1.3
comp=Z,8.6nm,0.9s
H27A Howes 69.60 46 ⇓P P 01 25 20.0 +0.7
baz=69
M22A Cedar Creek Ra 69.66 51 ⇑P P 01 25 21.3 +1.3
baz=70
O20A White River Ci 69.69 53 ⇓P P 01 25 21.0 +0.8
baz=70
AGMN Agassiz Nation 69.70 40 ⇓P P 01 25 20.2 +0.3
baz=70
IRM Iron Mountain 69.99 61 ⇑P P 01 25 23.6 +1.7
baz=70
I27A Quinn 70.02 46 ⇑P P 01 25 22.8 +0.9
baz=70
U15A North Rim 70.07 58 ⇓P P 01 25 24.7 +2.0
baz=70
M23A Laramie 70.07 50 ⇓P P 01 25 23.3 +0.8
baz=70
H28A Mission Ridge 70.07 45 ⇓P P 01 25 23.2 +1.0
baz=70
J26A Sides Ranch, S 70.07 47 ⇑P P 01 25 23.2 +0.9
baz=70
W13A Hualapai Mount 70.08 60 ⇑P P 01 25 24.2 +1.6
baz=70
BC3 Big Chuckawall 70.16 62 ⇑P P 01 25 24.8 +1.8
baz=70
N22A Wattenberg Ran 70.17 51 ⇓P P 01 25 24.8 +1.6
baz=70
N23A Red Feather La 70.37 51 ⇓P P 01 25 25.7 +1.4
baz=70
PV09 Paradox Valley 70.38 54 eP P 01 25 26.2 +1.8
PDMCI Parker Dam,Lak 70.49 60 ⇓P P 01 25 26.2 +1.4
baz=70
H29A Onida 70.50 45 ⇑P P 01 25 25.9 +1.2
baz=70
PV10 Paradox Valley 70.51 54 eP P 01 25 27.0 +1.8
M24A Cheyenne 70.53 50 ⇑P P 01 25 26.9 +1.7
baz=70
PV04 Paradox Valley 70.58 54 eP P 01 25 26.9 +1.4
O22A Kremmling 70.58 51 ⇑P P 01 25 27.1 +1.5
baz=70
G30A Faulkton 70.62 44 ⇑P P 01 25 26.4 +0.9
baz=70
PV05 Paradox Valley 70.69 55 eP P 01 25 28.0 +1.7
P22A Eagle 70.88 52 ⇓P P 01 25 29.0 +1.7
baz=71
O23A Lake Granby, G 70.88 51 ⇑P P 01 25 29.0 +1.6
baz=71
SMCO Snowmass 71.06 52 eP P 01 25 29.2 +0.5
comp=Z,3.3nm,0.8s
BRSD Miller 71.23 44 ⇓P P 01 25 29.7 +0.6
baz=71
ISCO Idaho Springs 71.33 51 ⇑P P 01 25 31.6 +1.5
baz=71
J29A Okreek 71.35 46 ⇑P P 01 25 31.0 +1.2
baz=71
P23A Jefferson 71.53 52 ⇓P P 01 25 32.6 +1.3
baz=71
MVCO Mesa Verde 71.65 55 eP P 01 25 33.3 +1.4
comp=Z,5.1nm,0.7s
MVCO Mesa Verde 71.65 55 ⇓P P 01 25 33.1 +1.1
baz=72
J30A Dallas 71.82 45 ⇓P P 01 25 33.1 +0.5
baz=72
K29A Lazy Trails An 71.84 46 ⇑P P 01 25 33.9 +1.1
baz=72
AS01 Alice Springs 71.97 193 eP P 01 25 33.8 +0.2
X16A Lo Mia Camp, P 71.98 59 ⇓P P 01 25 35.5 +1.6
baz=72
S22A 4UR Ranch, Cre 72.18 53 ⇓P P 01 25 37.0 +1.9
baz=72
N27A Anderson Farm, 72.19 49 ⇓P P 01 25 36.1 +1.1
baz=72
O26A Horse Wrangler 72.21 50 ⇓P P 01 25 36.0 +0.9
baz=72
K30A Basset 72.25 46 ⇑P P 01 25 36.2 +1.0
baz=72
P25A Willow Gulch B 72.31 51 ⇓P P 01 25 37.2 +1.5
baz=72
R23A Moffat 72.39 52 ⇑P P 01 25 38.3 +1.9
baz=72
Q25A Bedland, Calha 72.70 51 ⇓P P 01 25 39.2 +1.1
baz=72
R24A Sanders Place, 72.75 52 ⇓P P 01 25 39.8 +1.5
baz=73
X18A Snowflake 72.76 58 ⇑P P 01 25 40.2 +1.8
baz=73
ECSD EROS Data Cent 72.86 43 eP P 01 25 38.8 +0.2
comp=Z,7.7nm,0.9s
ECSD EROS Data Cent 72.86 43 ⇓P P 01 25 39.3 +0.6
baz=73
SDCO Great Sand Dun 72.89 53 eP P 01 25 40.1 +0.8
comp=Z,38nm,2.8s
214A Organ Pipe Nat 72.93 61 ⇓P P 01 25 40.6 +1.3
baz=73
L31A Butterfield Fa 73.00 46 ⇓P P 01 25 40.5 +1.0
baz=73
Q26A Hugo 73.08 51 ⇓P P 01 25 41.4 +1.3
baz=73
T23A Casias Ranch, 73.12 53 ⇑P P 01 25 42.1 +1.4
baz=73
U22A Llaves 73.16 54 ⇓P P 01 25 42.2 +1.4
baz=73
R25A Fountain Ranch 73.25 52 ⇑P P 01 25 42.2 +1.0
baz=73
V22A San Miguel Ran 73.47 55 ⇓P P 01 25 43.7 +1.1
baz=73
S25A Robets Cordova 73.53 52 ⇑P P 01 25 44.1 +1.2
baz=73
U23A El Rito 73.56 54 ⇑P P 01 25 45.0 +1.9
baz=73
M31A Lambtecht Ranc 73.56 46 ⇓P P 01 25 44.2 +1.4
baz=73
R26A Arlington 73.58 51 ⇑P P 01 25 44.0 +0.9
baz=73
O29A 4D Ranch, Culb 73.58 48 ⇓P P 01 25 43.8 +0.8
baz=73
SCHQ Schefferville 73.89 20 P P 01 25 44.2 -0.2
comp=Z,1.3nm,0.7s,baz=308,slow=12,SNR=4.3
DPC Dobruska-Polom 73.91 330 eP P 01 25 43.4 -1.2
DPC e 01 25 52.7
DPC Dobruska-Polom 73.91 330 eP P 01 25 43.4 -1.2
DPC ex x 01 25 52.7
T25A Trinidad 73.93 52 ⇓P P 01 25 46.4 +1.2
baz=74
R27A Eads 73.93 51 ⇑P P 01 25 45.9 +0.8
baz=74
V23A Ortiz Mt. (NFS 73.99 54 ⇑P P 01 25 47.7 +2.1
baz=74
S26A Kim 74.07 51 ⇑P P 01 25 46.7 +0.8
baz=74
CLL Collm 74.17 332 iP P 01 25 45.1 -0.9
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 74.17 332 iP P 01 25 45.1 -0.9
comp=Z,7.0nm,0.9s
T26A Comanche Natio 74.34 52 ⇑P P 01 25 48.1 +0.6
baz=74
R28A Tribune 74.40 50 ⇓P P 01 25 48.4 +0.7
baz=74
Q29A Oakley 74.42 49 ⇑P P 01 25 48.5 +0.7
baz=74
Q30A Quinter 74.74 49 ⇓P P 01 25 50.0 +0.4
baz=74
P31A Stockton 74.75 48 ⇓P P 01 25 49.9 +0.3
baz=74
W24A Lazy 6 Ranch, 74.81 54 ⇓P P 01 25 52.0 +1.8
baz=75
U26A Atchley Ranch, 74.84 52 ⇓P P 01 25 51.0 +0.6
baz=75
S28A Manter 74.92 51 ⇓P P 01 25 51.4 +0.7
baz=75
P32A Huiting Farm, 75.06 47 ⇑P P 01 25 51.4 +0.1
baz=75
R30A Dighton 75.24 49 ⇑P P 01 25 52.7 +0.3
baz=75
U27A Thompson Grove 75.31 52 ⇑P P 01 25 53.5 +0.6
baz=75
W25A X Bar L Ranch, 75.33 54 ⇓P P 01 25 54.4 +1.3
baz=75
Z22A Elephant Butte 75.38 57 ⇑P P 01 25 54.6 +1.2
baz=75
Y23A Lovelace Mesa, 75.40 56 ⇓P P 01 25 55.3 +1.7
baz=75
319A Douglas 75.43 59 ⇓P P 01 25 55.6 +1.9
baz=75
121A Cookes Peak, D 75.45 58 ⇑P P 01 25 55.9 +2.0
baz=75
Q32A Meitler Ranch, 75.57 47 ⇓P P 01 25 54.3 +0.1
baz=75
X25A Clemmons Ranch 75.73 54 ⇑P P 01 25 57.3 +2.0
baz=76
Y24A Capitan 75.75 55 ⇓P P 01 25 57.0 +1.4
baz=76
V27A Dan Oppiter Fa 75.80 52 ⇓P P 01 25 56.5 +0.8
baz=76
KHC Kasperske Hory 75.87 331 eP P 01 25 55.6 -0.1
KHC e 01 26 03.4
KHC Kasperske Hory 75.87 331 eP P 01 25 55.6 -0.1
KHC ex x 01 26 03.4
Q33A Connelly Farm, 75.92 47 ⇑P P 01 25 56.0 -0.2
baz=76
GERES GERESS Array B 76.08 331 P P 01 25 56.5 -0.5
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 76.08 331 P P 01 25 56.5 -0.5
comp=Z,1.2nm,0.7s,baz=35,slow=4.9,SNR=9.7
Y25A Mesa, Roswell 76.16 55 ⇓P P 01 25 58.8 +1.0
baz=76
Z24A Sheeppen Canyo 76.23 56 ⇓P P 01 25 59.3 +1.1
baz=76
R33A Olander Ranch, 76.38 48 ⇓P P 01 25 58.7 0.0
baz=76
W28A Vega 76.52 52 ⇑P P 01 26 00.9 +1.2
baz=76
Z25A Roswell 76.63 55 ⇑P P 01 26 01.6 +1.3
baz=76
Y26A Elida 76.64 54 ⇑P P 01 26 01.5 +1.1
baz=76
T32A Huddler Ranch, 76.77 49 ⇓P P 01 26 01.4 +0.5
baz=77
Y27A Causey 77.03 54 ⇑P P 01 26 03.6 +1.0
baz=77
Z26A Caprock 77.04 55 ⇓P P 01 26 04.0 +1.4
baz=77
AMTX Amarillo 77.08 52 ⇓P P 01 26 04.1 +1.4
baz=77
MSTX Muleshoe 77.18 53 ⇓P P 01 26 04.1 +0.8
baz=77
T33A Patterson Ranc 77.19 49 ⇑P P 01 26 03.6 +0.4
baz=77
V31A Spring Creek L 77.37 50 ⇓P P 01 26 05.3 +1.0
baz=77
X29A Tulia 77.40 52 ⇑P P 01 26 05.8 +1.2
baz=77
Z27A Tatum 77.43 54 ⇑P P 01 26 05.9 +1.1
baz=77
MNTX Cornudas Mount 77.43 57 eP P 01 26 06.0 +1.3
comp=Z,2.8nm,0.9s
U33A Lingo Farm, Me 77.76 49 ⇓P P 01 26 07.1 +0.8
baz=78
W31A Holland Ranch, 77.77 51 ⇓P P 01 26 07.4 +0.9
baz=78
U34A Anderson Ranch 78.05 49 ⇑P P 01 26 08.7 +0.7
baz=78
V33A Lossen Ranch, 78.14 49 ⇑P P 01 26 09.1 +0.6
baz=78
X31A McDonald Ranch 78.18 51 ⇓P P 01 26 09.6 +0.9
baz=78
W32A Sentinel 78.18 50 ⇑P P 01 26 09.9 +1.1
baz=78
Z29A Hungry Hill Ra 78.30 53 ⇓P P 01 26 10.5 +1.0
baz=78
128A Castleberry Fa 78.36 54 ⇑P P 01 26 10.8 +1.0
baz=78
V34A Guthrie 78.53 49 ⇑P P 01 26 11.5 +1.0
baz=78
Z30A Sanderson Ranc 78.59 53 ⇑P P 01 26 11.8 +0.8
baz=78
228A UT Block 9, Go 78.68 55 ⇓P P 01 26 12.7 +1.2
baz=78
X32A Elmer 78.70 51 ⇑P P 01 26 12.2 +0.7
baz=78
W34A Bridge Creek, 78.86 49 ⇑P P 01 26 12.7 +0.4
baz=79
Y32A R-V Farms, Ver 78.94 51 ⇓P P 01 26 13.3 +0.4
baz=79
Z31A Sharp Cattle R 79.09 52 ⇑P P 01 26 14.2 +0.6
baz=79
TUL1 Tulsa 79.34 48 ⇑P P 01 26 15.9 +1.0
baz=79
Y33A Hilltop Ranch, 79.37 51 ⇑P P 01 26 16.3 +1.2
baz=79
Z32A Haskell 79.46 52 ⇑P P 01 26 16.8 +1.2
baz=79
329A Wagon Wheel Ra 79.49 55 ⇑P P 01 26 18.0 +2.1
baz=79
Y34A Reagan Ranch, 79.86 50 ⇓P P 01 26 18.5 +0.8
baz=80
TX31 Lajitas Ar. Si 80.18 57 eP P 01 26 20.8 +1.2
TXAR Lajitas Array 80.18 57 P P 01 26 20.8 +1.2
TXAR pmax pmax
comp=Z,3.0nm,0.8s
TXAR Lajitas Array 80.18 57 P P 01 26 20.8 +1.2
comp=Z,3.2nm,0.8s,baz=289,slow=3.6,SNR=34
429A Davenport Ranc 80.20 55 ⇑P P 01 26 20.5 +0.8

	baz=80						
133A	Hamilton Ranch	80.30	52	⇓P	P	01 26 20.9	+0.8
	baz=80						
529A	Stev Forest Ra	80.40	56	⇑P	P	01 26 21.8	+1.1
	baz=80						
430A	Baggett Ranch,	80.44	55	⇑P	P	01 26 22.0	+1.1
	baz=80						
232A	Coleman	80.46	53	⇓P	P	01 26 21.9	+0.9
	baz=80						
332A	Millersview	80.80	53	⇓P	P	01 26 23.7	+1.0
	baz=81						
431A	Sonora	80.86	54	⇓P	P	01 26 24.1	+0.9
	baz=81						
530A	J-C Ranch, Com	80.87	55	⇑P	P	01 26 23.9	+0.7
	baz=81						
432A	Menard	81.16	54	⇓P	P	01 26 25.5	+0.8
	baz=81						
234A	Clairette	81.18	52	⇓P	P	01 26 25.5	+0.8
	baz=81						
333A	Richland Sprin	81.25	53	⇑P	P	01 26 26.0	+0.9
	baz=81						
531A	Rocksprings	81.30	55	⇓P	P	01 26 26.3	+1.0
	baz=81						
JCT	Junction City	81.46	54	⇓P	P	01 26 27.2	+1.0
	baz=81						
WHTX	Lake Whitney	81.55	51	⇑P	P	01 26 27.5	+0.9
	baz=81						
334A	Lometa	81.65	52	⇑P	P	01 26 28.1	+0.9
	baz=82						
532A	Rocksprings	81.68	54	⇑P	P	01 26 28.2	+0.8
	baz=82						
631A	Perdido Creek	81.86	55	⇓P	P	01 26 29.5	+1.3
	baz=82						
533A	Kerrville	82.20	54	⇓P	P	01 26 31.7	+1.7
	baz=82						
632A	Uvalde	82.22	54	⇓P	P	01 26 31.5	+1.4
	baz=82						
534A	Blanco	82.53	53	⇓P	P	01 26 33.2	+1.4
	baz=82						
633A	Saathoff Ranch	82.59	54	⇓P	P	01 26 33.5	+1.5
	baz=82						
732A	Laxson Ranch,	82.72	55	⇑P	P	01 26 33.9	+1.3
	baz=83						
832A	Faith Ranch, C	83.06	55	⇓P	P	01 26 35.8	+1.4
	baz=83						
733A	Divot King Ran	83.10	55	⇓P	P	01 26 36.1	+1.5
	baz=83						
636A	Smothers Creek	83.73	53	⇑P	P	01 26 39.5	+1.9
	baz=84						
933A	Laredo	83.97	55	⇑P	P	01 26 41.1	+2.2
	baz=84						
TORD	Torodi Ar. Bea	112.44	324	PKiKP	PKiKP	01 32 41.0	-1.0
	comp=Z,0.1nm,0.3s,baz=40,slow=1.1,SNR=5.1						
DBIC	Dimbokro	120.86	328	PKIKP	PKPdf	01 32 57.6	-0.7
DBIC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DBIC	Dimbokro	120.86	328	PKP	PKPdf	01 32 57.5	-0.7
	comp=Z,5.9nm,1.0s,baz=251,slow=1.9,SNR=3.0						
LPAZ	La Paz	137.04	56	PKIKP	PKPdf	01 33 31.2	+1.7
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	La Paz	137.04	56	PKP	PKPdf	01 33 31.2	+1.7
	comp=Z,0.9nm,0.6s,baz=338,slow=5.4,SNR=4.1						
BDFB	Brasilia	145.60	28	PKP2	PKPab	01 33 45.8	-0.4
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BDFB	Brasilia	145.60	28	PKPbc	PKPab	01 33 45.8	-0.4
	comp=Z,3.5nm,0.6s,baz=319,slow=5.6,SNR=5.5						
CPUP	Villa Florida	151.03	52	PKIKP	PKPbc	01 33 58.8	+0.1
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CPUP	Villa Florida	151.03	52	PKPbc	PKPbc	01 33 58.8	+0.1
	comp=Z,1.4nm,0.5s,baz=177,slow=0.3,SNR=5.3						
PLCA	Paso Flores	151.86	90	PKIKP	PKPbc	01 34 01.0	+0.7
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PLCA	Paso Flores	151.86	90	PKPbc	PKPbc	01 34 01.0	+0.7
	comp=Z,2.1nm,0.5s,baz=270,slow=3.1,SNR=5.3						

MEX 25 01:37:03.9±0.5, 17.93N×101.89W, h2km±4km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.52	129	iP	Pg	01 37 13.7	-0.2
ZIIG				iS	Sg	01 37 20.9	+0.3
MMIG	Aquila	1.43	285	iP	Pn	01 37 26.3	-4.5
MMIG				iS	Sg	01 37 45.3	-4.5
ARIG	Puente Sto Nin	1.51	77	iP	Pn	01 37 27.6	-4.3
ARIG				iS	Sn	01 37 47.0	-5.2
MEIG	Mezcala	2.16	90	eP	Pn	01 37 38.5	-2.6
MEIG				iS	Sn	01 38 04.6	-3.9
TLIG	Tlapa	3.19	96	eP	Pn	01 37 52.6	-2.6
TLIG				iS	Sn	01 38 30.7	-3.3
PNIG	Pinotepa	3.91	113	iP	Pn	01 38 01.7	-3.3
PNIG				iS	Sn	01 38 48.7	-2.8

IDC 25 02:45:53.9±1.0, 24.16S×175.92W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.0/26, mbtmp4.1/7, MS3.3/2, Ms1 3.3/2, ms1mx3.0/29, Error ellipse: s-maj=45.1km s-min=27.1km az=171.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	16.36	274	LR	LR	02 54 44.3	
	comp=Z,99nm,18.6s,baz=227,slow=32						
PPT	Papeete	25.45	80	LR	LR	02 58 49.3	
	comp=Z,72nm,21.3s,baz=206,slow=30						
PMG	Port Moresby	38.13	286	P	P	02 53 15.3	+0.2
	4.0nm,0.3s,baz=143,slow=5.1,SNR=5.4						
WRA	Warramunga Arr	46.10	265	P	P	02 54 19.3	-1.0
	1.0nm,0.5s,baz=102,slow=7.9,SNR=6.2						
NVAR	Mina Array Bea	82.40	42	P	P	02 58 18.2	-0.1
	1.5nm,1.0s,baz=225,slow=8.1,SNR=5.4						
USRK	Ussuriysk Arra	83.06	325	P	P	02 58 22.8	+1.5
	0.7nm,0.6s,baz=68,slow=10.1,SNR=4.7						
TXAR	Lajitas Array	87.44	56	P	P	02 58 43.7	0.0
	0.5nm,1.0s,baz=228,slow=6.6,SNR=4.0						
TXAR				LR	LR	03 34 22.9	
	comp=Z,1μm,18.4s,baz=0.0,slow=33						
ILAR	Eielson Array	91.46	12	P	P	02 59 01.3	-0.3
	0.3nm,0.9s,baz=224,slow=5.0,SNR=2.8						
CMAR	Chiang Mai Arr	93.13	289	P	P	02 59 11.8	+1.3
	1.0nm,0.3s,baz=123,slow=3.3,SNR=7.4						
MKAR	Makanchi Array	115.08	312	PKP	PKPdf	03 04 35.7	-1.4
	0.2nm,0.7s,baz=90,slow=0.3,SNR=2.5						
AKASG	Malin Array Be	147.13	330	PKPbc	PKPbc	03 05 38.0	-0.7
	0.6nm,0.5s,baz=43,slow=3.6,SNR=7.1						
BRTR	Keskin Array B	150.68	309	PKPbc	PKPbc	03 05 47.5	-0.8
	1.0nm,0.7s,baz=141,slow=5.0,SNR=7.2						
BRTR				PKPab	PKPab	03 05 53.6	-1.7
	0.7nm,0.9s,baz=48,slow=2.1,SNR=3.2						
TORD	Torodi Ar. Bea	168.81	168	PKPab	PKPab	03 07 14.3	+0.4
	0.4nm,0.7s,baz=184,slow=3.5,SNR=3.2						

IDC 25 03:03:28.5±1.5, 12.11N×92.41E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/27, mbtmp3.5/5, MS2.5/1, Ms1 2.7/1, ms1mx2.4/41, Error ellipse: s-maj=47.2km s-min=28.7km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.92	44	Pn	Pn	03 05 39.6	+0.8
	baz=238,slow=15,SNR=5.4						
CMAR				LR	LR	03 09 28.0	
	comp=Z,30nm,18.3s,baz=192,slow=40						
H08S3	Diego Garcia H	27.87	226	T	T	03 38 37.0	
	baz=45						
H08S2	Diego Garcia H	27.88	226	T	T	03 38 37.7	
	baz=45						
H08S1	Diego Carcia H	27.89	226	T	T	03 38 37.3	
	baz=45						
MKAR	Makanchi Array	35.62	348	P	P	03 10 27.5	-0.5
	0.4nm,0.6s,baz=165,slow=9.7,SNR=6.2						
SONM	Songino Array	37.50	16	P	P	03 10 43.5	-0.7
	0.2nm,0.4s,baz=195,slow=8.8,SNR=3.0						
WRA	Warramunga Arr	52.13	127	P	P	03 12 40.5	-0.5
	0.4nm,0.3s,baz=300,slow=9.8,SNR=3.2						
WRA				PcP	PcP	03 13 53.4	+0.3
	0.5nm,0.5s,baz=324,slow=3.0,SNR=3.0						
GERES	GERESS Array B	73.56	318	P	P	03 15 04.2	+0.5
	0.1nm,0.4s,baz=67,slow=5.4,SNR=3.6						

*IDC **25** 03:14:58.8±0.5, 11.38N×85.75W, h0km, mb4.7/27, mb1 4.8/29, mb1mx4.7/32, mbtmp4.7/29, ML3.9/2, MS5.2/16, Ms1 5.2/16, ms1mx5.0/29, Error ellipse: s-maj=24.5km s-min=11.0km az=48.0*

*MOS **25** 03:15:02.7±1.1, 11.16N×86.12W, h33km, mb5.5/44, MS5.2/49, Error ellipse: s-maj=16.6km s-min=5.3km az=116.9*

*BJI **25** 03:15:02.0, 11.00N×86.30W, h24km, mB5.5/20, Ms5.7/25, Ms7 5.5/26*

*GCMT **25** 03:15:03.1±0.1, 10.63N×86.60W, h34km, MW5.7/112, Moment Tensor Solution. s110,c215; s112,c273; Duration: 1s6 Moment tensor: Scale 10^{17}Nm; Mrr2.67±.04; Mθθ-1.96±.03; Mφφ-0.71±.04; Mrθ1.81±.06; Mrφ1.96±.03; Mθφ-1.29±.06; Best double couple: M0 3.75900×10^{17} NP1:φs126.00000°, δ63.00000°, λ89.00000°. NP2:φs307.00000°, δ27.00000°, λ91.00000°. Principal axes: T 3.3980, Plg72.0000°, Azm34.0000°; N 0.7220, Plg0.0000°, Azm126.0000°; P -4.1200, Plg18.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **25** 03:15:03.1±2.1, 11.18N×86.13W, h25km±2km, mb5.4/205, MS5.3/311, MW5.6, MW5.6 Error ellipse: s-maj=15.7km s-min=8.2km az=47.0, Moment Tensor Solution. s52 Moment tensor: Scale 10^{17}Nm; Mrr2.26; Mθθ-0.32; Mφφ-1.95; Mrθ0.98; Mrφ1.52; Mθφ-0.98; Best double couple: M0 3.00000×10^{17} NP1:φs141.00000°, δ59.00000°, λ80.00000°. NP2:φs339.00000°, δ32.00000°, λ106.00000°. Principal axes: T 2.6400, Plg73.0000°, Azm25.0000°; N 0.5400, Plg8.0000°, Azm145.0000°; P -3.1900, Plg13.0000°, Azm237.0000°;*

NEIC Felt [III] at Granada, Managua and San Juan del Sur. Also felt at Bluefields, Boaco, Ciudad Sandino, Corinto, Diriamba, El Crucero, Esteli, Leon, Masaya, Ocotal, Rivas, San Carlos, San Rafael del Sur and Siuna. Felt [III] at Liberia, Santa Cruz and Sardinal and [II] at Heredia, Costa Rica. Also felt at Belen, Filadelfia, Grecia, Samara, San Jose and Tilaran. Felt [IV] at Ciudad Choluteca and [III] at Tegucigalpa, Honduras. Also felt at Comayagua and El Triunfo.

*CASC **25** 03:15:04.0±2.4, 11.03N×86.34W, h66km±35km, MD4.7, ML4.6*

*ISCJB **25** 03:15:04.9±0.2, 11.17N±0.03×86.23W±0.02, h58km±2km, mb5.3/207, MS5.3/307, Error ellipse: s-maj=5.7km s-min=2.4km az=36.5*

*NEIC **25** 03:15:17.7±0.0, 10.64N×86.48W, h41km, Moment Tensor Solution. s152 Moment tensor: Scale 10^{17}Nm; Mrr2.77; Mθθ-1.64; Mφφ-1.13; Mrθ1.82; Mrφ0.99; Mθφ-1.68; Best double couple: M0 3.60000×10^{17} NP1:φs306.00000°, δ23.00000°, λ85.00000°. NP2:φs131.00000°, δ67.00000°, λ92.00000°. Principal axes: T 3.7700, Plg68.0000°, Azm45.0000°; N -0.3700, Plg1.0000°, Azm310.0000°; P -3.4000, Plg21.0000°, Azm219.0000°;*

ISC 25 03:15:05.4±0.7, 11.07N±0.04×86.30W±0.04, h50km±5km, n1129, σ1s28/1079, mb5.3/209, MS5.3/307, 261C-207D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	Finca Las Imˆ¡	0.88	109	iP	Pn	03 15 20.2	-1.2
LAPC	Finca la Perla	0.90	109	iP	Pn	03 15 20.5	-1.3
LAPC				iS	Sn	03 15 34.7	+0.8
BUEV	Buena Vista	0.92	107	iP	Pn	03 15 21.1	-1.0
BUEV				iS	Sn	03 15 36.1	+1.8
GB1A	Borinquen Arri	0.92	105	iP	Pn	03 15 21.1	-1.0
GB1A				iS	Sn	03 15 36.1	+1.7
GPS3	Bodega del ICE	0.97	108	iP	Pn	03 15 21.9	-0.9
GPS3				iS	Sn	03 15 38.3	+2.7
GPS1	Guardaparques	0.98	107	iP	Pn	03 15 21.9	-1.0
GPS2	Hotel Rincˆ‡n	0.98	108	iP	Pn	03 15 22.1	-0.8
LIM1	Limonal	1.09	109	iP	Pn	03 15 23.4	-1.0
LIM1				iS	Sn	03 15 39.6	+1.1
GUAB	Guayabo de Bag	1.11	109	⇑iP	Pn	03 15 23.8	-0.9
GUAB				iS	Sn	03 15 39.9	+1.0
MESS	Mesas	1.13	106	iP	Pn	03 15 24.6	-0.4
COPN	Copaltepe	1.15	346	⇓eP	Pn	03 15 25.8	+0.7
COLC	Colonia	1.15	110	iP	Pn	03 15 24.1	-1.0
COLC				iS	Sn	03 15 41.8	+1.9
HORNC	Hornillas	1.16	108	iP	Pn	03 15 24.4	-0.9
HORNC				iS	Sn	03 15 41.7	+1.6
CUI	Cuipilapa	1.19	110	iP	Pn	03 15 24.8	-0.8
CUI				iS	Sn	03 15 42.5	+1.7
PTEN	Parque Tenorio	1.33	105	iP	Pn	03 15 27.6	-0.1
AMAS	Alto Masis	1.36	109	iP	Pn	03 15 27.5	-0.6
CNGN	Cerro Negro	1.48	345	eP	Pn	03 15 30.2	+0.6
CNGN				eS	Sn	03 15 45.4	-2.5
JTS	JuntasAbangare	1.53	120	ciP	Pn	03 15 28.6	-1.8
JTS	JuntasAbangare	1.53	120	Pg	Pn	03 15 28.8	-1.6
	544nm,0.3s,baz=312,slow=19,SNR=770						
JTS				Lg	Lg	03 15 55.2	
	2μm,0.3s,baz=188,slow=20,SNR=15						
JTS	JuntasAbangare	1.53	120	ePn	Pn	03 15 30.0	-0.4
JTS				eSn	Sn	03 15 43.8	-5.3
BANL	Banca Lucia	1.54	110	iP	Pn	03 15 30.2	-0.3
CASO	Castillo	1.66	112	iP	Pn	03 15 31.6	-0.5
CEDE	Laguna Cedeˆ–o	1.67	110	iP	Pn	03 15 32.0	-0.3
JCR	Jicaral	1.68	136	⇓eP	Pn	03 15 29.4	-3.0
CGA2	Cerro Gallo 2	2.08	120	⇓eP	Pn	03 15 37.0	-1.0
QCR	Quepos	2.66	128	⇑eP	Pn	03 15 44.9	-0.9
CNCH	Conchagua	2.66	326	eP	Pn	03 15 45.8	-0.1
CNCH				eS	Sn	03 16 12.1	-5.0
URSC	Urasca	2.77	116	eP	Pn	03 15 47.4	0.0
BUS	Buena Vista	2.92	121	⇑eP	Pn	03 15 48.9	-0.8
BLLM	Bellamira	3.03	321	eP	Pn	03 15 50.6	-0.3
VSM	San Miguel	3.04	321	eP	Pn	03 15 51.0	-0.3
SNVI	San Vicente	3.54	316	eP	Pn	03 15 57.5	-0.5
SNVI				eS	Sn	03 16 32.7	-6.2
LFRS	El Faro	3.71	314	eP	Pn	03 15 59.0	-1.3
LBRS	Las Brisas	3.77	315	eP	Pn	03 16 01.0	-0.2
LFU	La Fuente	3.83	314	eP	Pn	03 16 01.4	-0.5
SNET	Serv Nac Est T	3.87	313	eP	Pn	03 16 01.2	-1.3
SNET				eS	Sn	03 16 40.1	-6.7
SNET				AML	AML	03 17 13.0	
	comp=Z,2μm,0.6s						
ACR	Cerro Adams	3.91	128	⇑eP	Pn	03 16 02.6	-0.4
BOQS	Boqueron	3.94	313	eP	Pn	03 16 03.3	-0.3
BOQS				eS	Sn	03 16 43.7	-4.9
SBLS	San Blas	4.26	311	eP	Pn	03 16 07.8	-0.2
SNJE	San Jose	4.26	311	eP	Pn	03 16 06.7	-1.3
RTR	El Retiro	4.31	311	eP	Pn	03 16 08.2	-0.4
APG	El Apazote	5.64	314	Pn	Pn	03 16 26.0	-0.9
	comp=Z,6.8nm,0.3s,baz=150,slow=14,SNR=12						
BCIP	Isla Barro Col	6.64	106	ePn	Pn	03 16 42.3	+1.9
TEIG	Tepich	9.31	348	Pn	Pn	03 17 21.8	+4.9
	comp=Z,1.1nm,0.3s,baz=153,slow=7.9,SNR=6.4						
TEIG				LR	LR	03 21 21.6	
	comp=Z,37μm,20.7s,baz=166,slow=42						
TEIG	Tepich	9.31	348	ePn	Pn	03 17 21.5	+4.6
TEIG				eSn	Sn	03 19 06.8	+6.5
MCJ	Malvern	10.77	50	iP	Pn	03 17 44.2	+7.1
PCJ	Portland Cotta	11.06	52	iP	Pn	03 17 45.9	+4.8
CVJ	Coleyville	11.07	49	iP	Pn	03 17 47.0	+5.7
MTDJ	Mount Denham	11.07	49	ePn	Pn	03 17 46.1	+4.9
STH	Stony Hill	11.53	52	iP	Pn	03 17 51.9	+4.5
HOJ	Hope	11.53	52	iP	Pn	03 17 52.1	+4.7
GWJ	Greenwich	11.59	52	iP	Pn	03 17 53.0	+4.7
YHJ	Yallahs	11.67	53	iP	Pn	03 17 56.4	+7.1
OTAV	Otavalo	13.29	144	ePn	Pn	03 18 14.5	+2.7
ROSC	El Rosal	13.36	117	ePn	Pn	03 18 13.0	+0.2
	comp=Z,0.5nm,0.3s,baz=287,slow=19,SNR=2.9						
ROSC				LR	LR	03 23 03.8	
	comp=Z,8μm,20.5s,baz=337,slow=37						
ROSC	El Rosal	13.36	117	ePn	P	03 18 19.9	-1.1
GTBY	Guantanamo Bay	13.92	49	ePn	Pn	03 18 20.4	+0.4
SDV	Santo Domingo	15.58	97	ePn	P	03 18 43.9	-1.7
	comp=Z,59nm,0.8s						
SDDR	Presa de Saban	16.49	60	ePn	Pn	03 18 53.9	+0.5
	comp=Z,190nm,1.6s						
035Z	Hargill	18.92	326	⇓P	Pn	03 19 23.1	0.0
	baz=19,SNR=24						
035Z				⇓S	Sn	03 22 54.1	-0.1
	baz=19						
936A	North Padre Is	19.29	329	⇑P	P	03 19 26.3	+0.2
	baz=19						
035A	Encino	19.31	326	⇓P	P	03 19 26.9	+0.6
	baz=19,SNR=15						
KVTX	Kingsville	19.69	328	eP	Pn	03 19 32.0	-0.2
	comp=Z,1μm,2.0s						
ATAH	Atahualpa	19.72	156	P	Pn	03 19 32.5	-0.6
	comp=Z,0.2nm,0.3s,baz=323,slow=4.2,SNR=4.6						
ATAH				LR	LR	03 26 16.4	
	comp=Z,16μm,18.7s,baz=333,slow=34						
034A	Hebbronville	19.73	325	⇓P	P	03 19 31.8	+0.9
	baz=20,SNR=62						
CRPR	Cabo Rojo, PR	19.81	67	eP	Pn	03 19 33.2	-0.5
	comp=Z,1μm,2.5s						
MPR	Mayaguez	19.84	67	eP	Pn	03 19 34.1	-0.1
	comp=Z,865nm,2.7s						
BRAL	Brewton	19.86	358	eP	Pn	03 19 36.7	+2.4
	comp=Z,535nm,1.5s						
LSP	Las Mesas	19.88	67	eP	Pn	03 19 35.0	+0.4
AGP	Aguadilla	19.90	66	eP	P	03 19 29.2	-3.7
	comp=Z,159nm,0.8s						
934A	Benavides	20.06	327	⇑P	P	03 19 35.4	+0.8
	baz=20,SNR=55						
LRS	Lares	20.13	67	eP	P	03 19 36.0	+0.5
AOPR	Arecibo Observ	20.23	67	eP	P	03 19 36.7	+0.2
	comp=Z,1μm,2.9s						
835A	Beeville	20.26	329	⇑P	P	03 19 37.4	+0.8
	baz=20,SNR=25						
OBIP	Obispado Ponce	20.27	68	eP	Pn	03 19 38.9	-0.4
	comp=Z,186nm,1.2s						
CELP	Cerrillos	20.31	68	eP	P	03 19 38.3	+0.9
TIGA	Tifton	20.43	7	eP	Pn	03 19 41.2	+0.2
	comp=Z,1μm,1.5s						
TIGA				LR	LR		
	comp=Z,9μm,19.4s						
TIGA	Tifton	20.43	7	⇓P	Pn	03 19 40.0	-1.0
	baz=20,SNR=12						
933A	Laredo	20.48	325	⇑P	P	03 19 39.3	+0.2
	baz=21,SNR=27						
834A	Tilden	20.50	328	⇑P	P	03 19 39.6	+0.4
	baz=21,SNR=45						
735A	Kenedy	20.72	330	⇓P	P	03 19 41.8	+0.2
	baz=21,SNR=28						
HKT	Hockley	20.78	336	eP	P	03 19 43.4	+1.1
HKT				pmax	pmax		
	comp=Z,3μm,2.1s						
HKT				MLR	MLR		
	comp=Z,2μm,18.0s						
HKT	Hockley	20.78	336	eP	P	03 19 43.4	+1.1
	comp=Z,3μm,2.1s						
HKT				LR	LR		
	comp=Z,2μm,18.0s						
538A	Harpers Horsep	20.89	337	⇑P	Pn	03 19 45.4	-1.1
	baz=21,SNR=14						
636A	Smothers Creek	20.89	333	⇑P	P	03 19 44.4	+0.9
	baz=21,SNR=71						
CPD	Cerro la Pandu	20.90	68	eP	Pn	03 19 46.6	-0.2
CPD				pmax	pmax		
	comp=Z,90nm,1.0s						
CPD	Cerro la Pandu	20.90	68	eP	Pn	03 19 46.6	-0.2
	comp=Z,90nm,1.0s						
HUMP	Col San Antoni	20.99	68	eP	P	03 19 42.6	-2.1
HUMP				LR	LR		
	comp=Z,6μm,22.0s						
CBYP	Canovanas	21.02	68	eP	P	03 19 44.7	-0.4
	comp=Z,42nm,0.8s						
CBYP				LR	LR		
	comp=Z,4μm,19.1s						
734A	La Parita Cree	21.08	329	⇓P	P	03 19 45.0	-0.6
	baz=21,SNR=13						
537A	Green Hill Far	21.09	335	⇑P	P	03 19 46.7	+1.1
	baz=21,SNR=10						
833A	Chaparral WMA,	21.10	326	⇑P	P	03 19 45.7	-0.1
	baz=21,SNR=57						
833A				⇓S	S	03 23 38.4	+0.3
	baz=21						
635A	Leesville	21.14	331	⇑P	P	03 19 45.7	-0.5
	baz=21,SNR=18						
PCRV	Puerto La Cruz	21.31	90	P	P	03 19 49.0	+0.7
	comp=Z,79nm,0.7s,baz=251,slow=7.0,SNR=26						
733A	Divot King Ran	21.36	327	⇑P	P	03 19 48.1	-0.5
	baz=21,SNR=29						
832A	Faith Ranch, C	21.39	325	⇑P	P	03 19 48.3	-0.7
	baz=22,SNR=41						
536A	Bastrop	21.41	334	⇑P	P	03 19 49.0	-0.1
	baz=22,SNR=23						
VBMS	Vicksburg	21.41	350	eP	P	03 19 52.0	+3.0
	comp=Z,275nm,0.9s						
VBMS				LR	LR		
	comp=Z,7μm,22.0s						
634A	China Grove, S	21.42	330	⇓P	P	03 19 48.6	-0.5
	baz=22						
340A	Bronson	21.44	342	⇑P	P	03 19 49.8	+0.5
	baz=22,SNR=26						
339A	Huntington	21.57	340	⇓P	P	03 19 51.9	+1.1
	baz=22,SNR=20						
535A	Dale	21.59	333	⇓P	P	03 19 50.6	-0.5
	baz=22,SNR=17						
732A	Laxson Ranch,	21.74	326	⇑P	P	03 19 51.6	-1.0
	baz=22,SNR=35						
338A	Crockett	21.85	339	⇑P	P	03 19 54.7	+0.9
	baz=22,SNR=30						
STVI	Saint Thomas	21.87	68	eP	P	03 19 49.7	-4.4
	comp=Z,117nm,1.0s						
STVI				LR	LR		
	comp=Z,4μm,19.0s						
LRAL	Lakeview Retre	21.88	358	eP	P	03 19 56.3	+2.2
	comp=Z,683nm,1.8s						
CDVI	St. Croix	21.88	70	PFAKE		03 20 00.0	+5.8
CDVI				LR	LR		
	comp=Z,3μm,18.2s						
633A	Saathoff Ranch	21.89	329	⇓P	P	03 19 53.2	-1.1
	baz=22,SNR=27						
436A	Wall Ranch, Ga	21.89	335	⇑P	P	03 19 54.4	+0.1
	baz=22,SNR=34						
NATX	Nacogdoches	22.00	341	eP	P	03 19 56.6	+1.3
	comp=Z,282nm,0.8s						
534A	Blanco	22.01	331	⇓P	P	03 19 54.7	-0.9
	baz=22,SNR=82						
337A	Centerville	22.02	338	⇓P	P	03 19 56.8	+1.1
	baz=22,SNR=11						
435B	Jarrell	22.24	334	⇑P	P	03 19 57.7	-0.3
	baz=22,SNR=24						
632A	Uvalde	22.25	328	⇓P	P	03 19 57.2	-0.9
	baz=22,SNR=26						
533A	Kerrville	22.32	330	⇑P	P	03 19 57.7	-1.2
	baz=22,SNR=19						
GOGA	Godfrey	22.39	6	eP	P	03 20 00.8	+1.2
GOGA				pmax	pmax		
	comp=Z,547nm,1.8s						
GOGA				MLR	MLR		
	comp=Z,8μm,20.0s						
GOGA	Godfrey	22.39	6	eP	P	03 20 00.8	+1.2
	comp=Z,547nm,1.8s						
GOGA				LR	LR		
	comp=Z,8μm,20.0s						
336A	Riesel	22.46	336	⇓P	P	03 20 00.5	+0.2
	baz=22,SNR=45						
434A	Burnet	22.57	332	⇓P	P	03 20 00.3	-1.3
	baz=23,SNR=46						
631A	Perdido Creek	22.60	326	⇓P	P	03 20 00.5	-1.3
	baz=23,SNR=53						
335A	Moody	22.61	335	⇑P	P	03 20 01.7	-0.2
	baz=23,SNR=5.6						
NHSC	New Hope	22.65	13	eP	P	03 20 04.0	+1.8
	comp=Z,1μm,2.4s						
NHSC				LR	LR		
	comp=Z,11μm,20.0s						
532A	Rocksprings	22.80	328	⇓P	P	03 20 03.0	-1.0
	baz=23,SNR=30						
433A	Art	22.91	331	⇓P	P	03 20 03.8	-1.3
	baz=23,SNR=69						
334A	Lometa	23.00	333	⇓P	P	03 20 05.2	-0.8
	baz=23,SNR=56						
JCT	Junction City	23.04	329	eP	P	03 20 06.5	+0.1
JCT				pmax	pmax		
	comp=Z,210nm,1.2s						
JCT				MLR	MLR		
	comp=Z,1μm,20.0s						
JCT	Junction City	23.04	329	eP	P	03 20 06.5	+0.1
	comp=Z,210nm,1.2s						
JCT				LR	LR		
	comp=Z,1μm,20.0s						
JCT	Junction City	23.04	329	⇑P	P	03 20 05.4	-1.0
	baz=23,SNR=24						
531A	Rocksprings	23.17	327	⇑P	P	03 20 07.1	-0.6
	baz=23,SNR=20						
WHTX	Lake Whitney	23.23	335	eP	P	03 20 08.4	+0.1
	comp=Z,277nm,1.0s						
WHTX	Lake Whitney	23.23	335	⇓P	P	03 20 08.3	+0.1
	baz=23,SNR=55						

SABA Saba 23.26 71 PFAKE 03 20 20.0 +11
SABA LR LR
comp=Z,6μm,18.3s
333A Richland Sprin 23.33 332 ⇓P P 03 20 08.9 -0.4
baz=23,SNR=92
432A Menard 23.35 330 ⇓P P 03 20 08.8 -0.7
baz=23,SNR=22
SEUS St. Eustatius 23.47 72 PFAKE 03 20 20.0 +9.3
SEUS LR LR
comp=Z,5μm,19.5s
OXF Oxford 23.51 354 eP P 03 20 10.6 -0.3
OXF pmax pmax
comp=Z,363nm,1.0s
OXF MLR MLR
comp=Z,4μm,21.0s
OXF Oxford 23.51 354 eP P 03 20 10.6 -0.3
comp=Z,363nm,1.0s
OXF LR LR
comp=Z,4μm,21.0s
234A Clairette 23.53 334 ⇑P P 03 20 10.7 -0.4
baz=24,SNR=53
530A J-C Ranch, Com 23.59 326 ⇓P P 03 20 11.3 -0.4
baz=24,SNR=58
431A Sonora 23.61 328 ⇓P P 03 20 11.7 -0.3
baz=24,SNR=57
135A Vickery Place, 23.71 336 ⇓P P 03 20 12.7 -0.2
baz=24,SNR=16
332A Millersview 23.74 330 ⇓P P 03 20 12.9 -0.2
baz=24,SNR=96
233A Rising Star 23.88 333 ⇑P P 03 20 14.2 -0.2
baz=24,SNR=81
134A White-Moore Ra 24.00 335 ⇑P P 03 20 15.0 -0.5
baz=24,SNR=21
331A San Angelo 24.02 329 ⇑P P 03 20 15.6 -0.1
baz=24,SNR=115
430A Baggett Ranch, 24.02 327 ⇑P P 03 20 15.8 0.0
baz=24,SNR=37
529A Stev Forest Ra 24.06 324 ⇑P P 03 20 15.9 -0.3
baz=24,SNR=16
232A Coleman 24.11 331 ⇓P P 03 20 16.2 -0.3
baz=24,SNR=54
GRGR Grenville 24.16 85 eP P 03 20 17.7 +0.5
comp=Z,245nm,0.7s
UALR University of 24.24 348 eP P 03 20 17.9 +0.3
comp=Z,155nm,0.8s
UALR LR LR
comp=Z,1μm,21.9s
429A Davenport Ranc 24.26 326 ⇑P P 03 20 17.9 0.0
baz=24,SNR=123
MIAR Mount Ida 24.30 345 eP P 03 20 18.2 0.0
MIAR e 03 23 58.4
MIAR pmax pmax
comp=Z,2μm,2.6s
MIAR MLR MLR
comp=Z,9μm,22.0s
MIAR Mount Ida 24.30 345 eP P 03 20 18.2 0.0
comp=Z,2μm,2.6s
MIAR ePcP PcP 03 23 58.4 +1.2
MIAR LR LR
comp=Z,9μm,22.0s
Z35A Perchaven, San 24.34 337 ⇓P P 03 20 18.3 -0.3
baz=24,SNR=33
LTX Lajitas 24.35 321 eP P 03 20 20.2 +1.3
LTX e 03 23 59.7
LTX Lajitas 24.35 321 eP P 03 20 20.2 +1.3
LTX ePcP PcP 03 23 59.7 +2.2
TX31 Lajitas Ar. Si 24.35 321 eP P 03 20 19.3 +0.5
TX31 ePcP PcP 03 24 00.2 +2.7
TXAR Lajitas Array 24.35 321 P P 03 20 20.2 +1.3
comp=Z,45nm,0.8s,baz=138,slow=9.3,SNR=220
TXAR PcP PcP 03 23 59.7 +2.2
comp=Z,4.0nm,0.8s,baz=155,slow=4.7,SNR=5.9
133A Hamilton Ranch 24.39 333 ⇓P P 03 20 18.8 -0.2
baz=24,SNR=80
KMSC Kings Mountain 24.39 10 eP P 03 20 19.5 +0.5
comp=Z,373nm,1.8s
KMSC LR LR
comp=Z,10μm,20.7s
KMSC Kings Mountain 24.39 10 ⇑P P 03 20 20.1 +1.1
baz=24,SNR=9.0
MLG Mont-d'or 24.40 76 eP P 03 20 18.7 -0.7
SSG Sans Toucher 24.44 75 eP P 03 20 19.9 +0.1
ECG Echelle 24.45 76 eP P 03 20 19.4 -0.6
PHG Guadaloupe-2 24.46 76 eP P 03 20 20.1 +0.2
PHG Guadaloupe-2 24.46 76 eP P 03 20 20.2 +0.2
231A Bronte 24.47 330 ⇑P P 03 20 19.5 -0.3
baz=24,SNR=36
330A Mertzon 24.48 328 ⇑P P 03 20 19.8 -0.2
baz=25,SNR=38
DOG Dongo Capester 24.49 76 eP P 03 20 22.9 +2.8
BBL Barber's Block 24.56 77 eP P 03 20 20.0 -0.8
SVB Belmont 24.58 82 eP P 03 20 20.5 -0.4
TKL Tuckaleechee C 24.59 5 P P 03 20 21.9 +1.1
comp=Z,34nm,0.6s,baz=180,slow=12,SNR=47
TKL LR LR 03 30 20.2
comp=Z,7μm,19.7s,baz=224,slow=38
ANWB Willy Bob 24.62 72 PFAKE 03 20 30.0 +8.7
ANWB LR LR
comp=Z,3μm,18.0s
Z34A Collier Ranch, 24.63 336 ⇓P P 03 20 21.0 -0.2
baz=25,SNR=40
HBAR Harrisburg 24.70 351 eP P 03 20 22.0 +0.2
ABTX Abilene, Hawle 24.72 332 eP P 03 20 22.2 +0.1
comp=Z,470nm,1.6s
ABTX Abilene, Hawle 24.72 332 ⇓P P 03 20 21.7 -0.4
baz=25,SNR=26
NNA Nana 24.75 157 eP P 03 20 29.9 +7.3
NNA MLR MLR
comp=Z,4μm,18.0s
NNA Nana 24.75 157 P P 03 20 29.9 +7.3
comp=Z,19nm,0.9s,baz=329,slow=8.2,SNR=7.7
NNA LR LR 03 29 06.2
comp=Z,4μm,19.3s,baz=346,slow=34
NNA Nana 24.75 157 eP P 03 20 29.9 +7.3
NNA LR LR
comp=Z,4μm,18.0s
FDF Fort de France 24.78 79 eP P 03 20 22.0 -0.8
230A Sterling City 24.83 329 ⇑P P 03 20 23.1 0.0
baz=25,SNR=20
Z33A Whitaker Ranch 24.90 335 ⇓P P 03 20 23.6 -0.1
baz=25,SNR=69
329A Wagon Wheel Ra 24.97 327 ⇓P P 03 20 24.5 0.0
baz=25,SNR=79
H06E1 SOCORRO T-PHAS 24.98 291 T T 03 46 10.9
SNR=266
WVT Waverly 24.99 357 eP P 03 20 23.2 -1.3
WVT e 03 23 59.0
WVT pmax pmax
comp=Z,79nm,1.2s
WVT Waverly 24.99 357 eP P 03 20 23.1 -1.3
comp=Z,80nm,1.2s
WVT ePcP PcP 03 23 59.0 +0.4
H06S1 SOCORRO T 25.00 291 T T 03 46 24.3
SNR=48
Y34A Reagan Ranch, 25.08 337 ⇑P P 03 20 24.8 -0.5
baz=25,SNR=48
131A Roby 25.11 331 ⇓P P 03 20 25.1 -0.6
baz=25,SNR=44
Z32A Haskell 25.23 333 ⇑P P 03 20 26.3 -0.3
baz=25,SNR=135
CNNC Cliffs of the 25.25 16 PFAKE 03 20 40.0 +13
CNNC LR LR
comp=Z,10μm,19.0s
229A Bryant Ranch, 25.25 328 ⇓P P 03 20 26.8 -0.2
baz=25,SNR=34
130A Snyder 25.33 330 ⇑P P 03 20 27.2 -0.5
baz=25,SNR=27
Y33A Hilltop Ranch, 25.47 336 ⇓P P 03 20 28.4 -0.4
baz=26,SNR=51
TZTN Tazewell 25.49 5 eP P 03 20 29.4 +0.4
comp=Z,60nm,0.9s
Z31A Sharp Cattle R 25.53 332 ⇓P P 03 20 29.3 -0.1
baz=26,SNR=96
X34A Smith Ranch, M 25.68 338 ⇓P P 03 20 31.0 +0.3
baz=26,SNR=49
228A UT Block 9, Go 25.79 327 ⇓P P 03 20 31.4 -0.5
baz=26,SNR=30
Y32A R-V Farms, Ver 25.80 334 ⇑P P 03 20 31.8 -0.1
baz=26,SNR=42
129A Stewart Farms, 25.81 329 ⇓P P 03 20 31.7 -0.3
baz=26,SNR=15
PBMO Poplar Bluff 25.87 352 eP P 03 20 32.4 0.0
comp=Z,138nm,1.4s
PBMO LR LR
comp=Z,2μm,18.1s
X33A Lawton 25.89 336 ⇓P P 03 20 31.7 -0.9
baz=26,SNR=137

Z30A Sanderson Ranc 25.97 331 ⇓P P 03 20 33.0 -0.4
baz=26,SNR=48
X32A Elmer 26.10 335 ⇑P P 03 20 34.2 -0.3
baz=26,SNR=60
128A Castleberry Fa 26.12 328 ⇑P P 03 20 34.3 -0.6
baz=26,SNR=46
Y31A Rekieta Farm, 26.13 333 ⇑P P 03 20 34.6 -0.2
baz=26,SNR=56
TUL1 Tulsa 26.19 342 eP P 03 20 34.7 -0.6
comp=Z,95nm,0.9s
TUL1 ePcP PcP 03 24 02.6 +1.2
TUL1 LR LR
comp=Z,1μm,19.8s
TUL1 Tulsa 26.19 342 ⇑P P 03 20 34.3 -1.0
baz=26,SNR=39
W34A Bridge Creek, 26.23 338 eP P 03 20 35.5 -0.2
comp=Z,192nm,0.8s
W34A Bridge Creek, 26.23 338 ⇑P P 03 20 34.7 -1.0
baz=26,SNR=34
Z29A Hungry Hill Ra 26.23 330 ⇓P P 03 20 35.1 -0.7
baz=26,SNR=36
LPIG La Paz 26.25 303 P P 03 20 42.4 +6.5
comp=Z,17nm,0.3s,baz=325,slow=7.6,SNR=4.0
LPIG LR LR 03 31 53.1
comp=Z,4μm,19.0s,baz=117,slow=38
Y30A Stafford Cattl 26.35 332 ⇓P P 03 20 36.4 -0.4
baz=26,SNR=40
W33A Caddo, Fort Co 26.41 337 ⇓P P 03 20 37.1 -0.2
baz=26,SNR=27
BLA Blacksburg 26.57 11 eP P 03 20 39.4 +0.7
BLA pmax pmax
comp=Z,61nm,0.9s
BLA MLR MLR
comp=Z,9μm,20.0s
BLA Blacksburg 26.57 11 eP P 03 20 39.4 +0.7
comp=Z,61nm,0.9s
BLA LR LR
comp=Z,9μm,20.0s
X31A McDonald Ranch 26.57 334 ⇑P P 03 20 38.2 -0.6
baz=27,SNR=44
Z28A Tucker Farm, M 26.59 329 ⇑P P 03 20 38.6 -0.5
baz=27,SNR=33
SIUC Southern Illin 26.67 355 eP P 03 20 39.8 +0.3
comp=Z,98nm,0.8s
SIUC LR LR
comp=Z,3μm,19.5s
V34A Guthrie 26.68 339 eP P 03 20 39.4 -0.3
comp=Z,114nm,0.8s
V34A LR LR
comp=Z,800nm,18.0s
V34A Guthrie 26.68 339 ⇑P P 03 20 38.5 -1.2
baz=27,SNR=7.1
VWCC Virginia Weste 26.68 11 eP P 03 20 41.3 +1.5
W32A Sentinel 26.69 336 ⇓P P 03 20 38.9 -1.0
baz=27,SNR=48
Y29A Porterfield Fa 26.70 331 ⇓P P 03 20 39.7 -0.4
baz=27,SNR=44
X30A Coker Ranch, T 26.81 333 ⇓P P 03 20 40.6 -0.4
baz=27,SNR=66
USIN University of 26.81 358 eP P 03 20 41.8 +0.8
comp=Z,95nm,0.7s
V33A Lossen Ranch, 26.94 338 ⇓P P 03 20 41.4 -0.7
baz=27,SNR=12
Y28A McKinney Farm, 27.02 330 ⇑P P 03 20 42.3 -0.6
baz=27,SNR=23
W31A Holland Ranch, 27.03 335 ⇓P P 03 20 42.3 -0.7
baz=27,SNR=9.3
Z27A Tatum 27.04 328 ⇓P P 03 20 42.2 -1.0
baz=27,SNR=34
WCI Wyandotte Cave 27.05 0 eP P 03 20 43.8 +0.7
WCI e 03 24 03.9
WCI pmax pmax
comp=Z,101nm,0.8s
WCI Wyandotte Cave 27.05 0 eP P 03 20 43.8 +0.7
comp=Z,100nm,0.8s
WCI ePcP PcP 03 24 03.9 +0.5
MNTX Cornudas Mount 27.07 322 eP P 03 20 43.2 -0.1
comp=Z,138nm,1.5s
MNTX ePcP PcP 03 24 05.9 +2.4
MNTX LR LR
comp=Z,2μm,22.0s
V32A Arapaho 27.13 337 ⇑P P 03 20 43.2 -0.6
baz=27,SNR=26
X29A Tulia 27.19 331 ⇑P P 03 20 44.0 -0.5
baz=27,SNR=65
U34A Anderson Ranch 27.23 340 eP P 03 20 44.0 -0.7
comp=Z,198nm,1.4s
U34A LR LR
comp=Z,1μm,21.0s
U34A Anderson Ranch 27.23 340 ⇑P P 03 20 43.3 -1.4
baz=27,SNR=9.8
W30A Crocket Farms 27.30 334 ⇑P P 03 20 45.0 -0.4
baz=27
MSTX Muleshoe 27.33 329 eP P 03 20 45.7 0.0
comp=Z,222nm,1.4s
MSTX Muleshoe 27.33 329 ⇑P P 03 20 45.0 -0.8
baz=27,SNR=21
Z26A Caprock 27.42 326 ⇑P P 03 20 46.0 -0.6
baz=28
U33A Lingo Farm, Me 27.42 339 ⇓P P 03 20 44.9 -1.5
baz=28
Y27A Causey 27.46 328 ⇓P P 03 20 46.3 -0.7
baz=28,SNR=49
X28A Dimmitt 27.49 331 ⇓P P 03 20 46.2 -1.0
baz=28,SNR=14
V31A Spring Creek L 27.50 336 ⇑P P 03 20 46.8 -0.3
baz=28,SNR=25
AMTX Amarillo 27.54 332 eP P 03 20 47.4 -0.3
comp=Z,156nm,1.0s
AMTX ePcP PcP 03 24 06.9 +2.2
AMTX Amarillo 27.54 332 ⇑P P 03 20 47.1 -0.6
baz=28
JSRW J. Sargeant Re 27.57 15 eP P 03 20 48.2 +0.5
OLIL Olney 27.60 357 eP P 03 20 48.6 +0.6
comp=Z,114nm,0.8s
SLM Saint Louis 27.68 353 eP P 03 20 48.4 -0.3
SLM pmax pmax
comp=Z,140nm,1.5s
SLM MLR MLR
comp=Z,3μm,19.6s
SLM Saint Louis 27.68 353 eP P 03 20 48.4 -0.3
comp=Z,140nm,1.5s
SLM LR LR
comp=Z,3μm,19.6s
U32A Winter Ranch, 27.70 338 ⇑P P 03 20 47.9 -1.0
baz=28
W29A Amraillo 27.72 332 ⇓P P 03 20 48.3 -0.9
baz=28
Z25A Roswell 27.83 325 ⇑P P 03 20 50.5 +0.2
baz=28,SNR=48
Y26A Elida 27.84 328 ⇑P P 03 20 49.8 -0.5
baz=28,SNR=13
V30A Spur Ranch, Mi 27.84 334 ⇑P P 03 20 50.0 -0.2
baz=28
BLO Bloomington 27.99 360 eP P 03 20 51.4 0.0
BLO pmax pmax
comp=Z,79nm,0.7s
BLO Bloomington 27.99 360 eP P 03 20 51.4 0.0
comp=Z,79nm,0.7s
U31A Nine Bar Ranch 28.02 336 ⇓P P 03 20 51.3 -0.5
baz=28
X27A F and S Farms, 28.03 330 ⇑P P 03 20 51.5 -0.5
baz=28,SNR=11
T33A Patterson Ranc 28.05 339 ⇓P P 03 20 50.6 -1.4
baz=28
W28A Vega 28.09 332 ⇓P P 03 20 51.7 -0.8
baz=28
Z24A Sheeppen Canyo 28.23 325 ⇓P P 03 20 54.4 +0.5
baz=28,SNR=28
V29A Stinnett 28.29 333 ⇓P P 03 20 54.0 -0.3
baz=28
Y25A Mesa, Roswell 28.30 326 ⇓P P 03 20 54.6 +0.1
baz=28,SNR=24
X26A CR and CF Fran 28.32 328 ⇓P P 03 20 54.1 -0.4
baz=28
W27A Bowe Ranch, En 28.34 330 ⇓P P 03 20 54.3 -0.5
baz=28,SNR=44
T32A Huddler Ranch, 28.38 338 ⇑P P 03 20 53.8 -1.2
baz=28
S33A Kaszmaul Farm, 28.43 340 ⇑P P 03 20 53.9 -1.5
baz=28
U30A WK&E Inc. Balk 28.48 335 ⇑P P 03 20 55.6 -0.3
baz=28,SNR=14
V28A Channing 28.51 332 ⇑P P 03 20 55.3 -0.9
baz=29,SNR=9.8
T31A Randall Ranch, 28.59 337 ⇑P P 03 20 56.0 -0.8
baz=29,SNR=6.8
U29A Oasis Ranch, S 28.67 334 ⇑P P 03 20 57.2 -0.5

baz=29
Y24A Capitan 28.71 325 ⇓P P 03 20 58.1 -0.1
baz=29,SNR=55
W26A Owens Ranch, T 28.71 329 ⇑P P 03 20 58.1 0.0
baz=29
X25A Clemmons Ranch 28.74 327 ⇑P P 03 20 58.3 -0.1
baz=29,SNR=8.9
V27A Dan Oppiter Fa 28.80 331 ⇓P P 03 20 58.5 -0.3
baz=29
S32A Newby Ranch, P 28.85 339 ⇑P P 03 20 58.1 -1.1
baz=29
T30A Plains 28.88 336 ⇓P P 03 20 58.9 -0.5
baz=29
S31A Mullinville 28.97 338 ⇑P P 03 20 59.2 -1.1
baz=29
U28A Mallet 29.03 333 ⇓P P 03 20 59.9 -0.9
baz=29
Y23A Lovelace Mesa, 29.06 325 ⇑P P 03 21 02.1 +0.8
baz=29,SNR=46
R33A Olander Ranch, 29.07 341 ⇑P P 03 21 00.2 -1.0
baz=29,SNR=17
BBSR BB Station 29.08 40 PFAKE 03 21 10.0 +8.8
BBSR LR LR
comp=Z,7μm,19.0s
Z22A Elephant Butte 29.11 323 ⇑P P 03 21 02.3 +0.6
baz=29
121A Cookes Peak, D 29.11 321 ⇑P P 03 21 02.7 +0.9
baz=29,SNR=22
W25A X Bar L Ranch, 29.17 328 ⇑P P 03 21 01.9 -0.3
baz=29,SNR=23
ACSO Alum Creek Sta 29.20 5 eP P 03 21 02.6 +0.4
comp=Z,91nm,0.8s
ACSO LR LR
comp=Z,7μm,19.0s
SFIN Scholer Farm 29.20 359 eP P 03 21 02.1 -0.1
comp=Z,106nm,0.8s
SFIN LR LR
comp=Z,3μm,18.4s
SFIN Scholer Farm 29.20 359 ⇓P P 03 21 01.5 -0.7
baz=29,SNR=18
T29A Hugoton 29.28 335 ⇑P P 03 21 02.5 -0.6
baz=29,SNR=5.8
V26A Tequesquite Ra 29.29 330 ⇑P P 03 21 03.0 -0.1
baz=29,SNR=27
U27A Thompson Grove 29.33 332 ⇑P P 03 21 03.0 -0.6
baz=29,SNR=10
319A Douglas 29.33 317 ⇓P P 03 21 04.9 +1.3
baz=29
S30A Montezuma 29.36 337 ⇑P P 03 21 03.2 -0.5
baz=29,SNR=6.1
KSU1 Kansas State U 29.39 344 eP P 03 21 03.2 -0.8
comp=Z,104nm,1.1s
KSU1 LR LR
comp=Z,4μm,22.0s
KSU1 Kansas State U 29.39 344 ⇓P P 03 21 03.1 -0.8
baz=29,SNR=16
R32A Long Quarter, 29.42 340 ⇑P P 03 21 03.3 -0.9
baz=30,SNR=12
SDMD Soldier's Deli 29.46 15 eP P 03 21 05.3 +0.9
comp=Z,71nm,1.0s
SDMD LR LR
comp=Z,8μm,18.0s
BNM Barren Site 29.55 324 eP P 03 21 06.7 +1.1
R31A Burdett 29.58 339 ⇑P P 03 21 05.0 -0.7
baz=30,SNR=8.3
T28A Walsh 29.60 334 ⇓P P 03 21 04.9 -1.0
baz=30,SNR=15
S29A Ulysses 29.60 336 ⇑P P 03 21 05.7 -0.2
baz=30,SNR=10
X23A Hourglass Bar 29.61 325 ⇑P P 03 21 06.1 -0.1
baz=30,SNR=7.6
Q33A Connelly Farm, 29.66 342 ⇑P P 03 21 05.6 -0.7
baz=30,SNR=15
W24A Lazy 6 Ranch, 29.66 327 ⇑P P 03 21 07.7 +1.1
baz=30,SNR=16
Y22D IRIS PASSCAL I 29.66 324 ⇓P P 03 21 07.1 +0.6
baz=30
LPM Los Pinos Moun 29.67 324 eP P 03 21 06.9 +0.3
V25A Rancho No Teng 29.73 329 ⇓P P 03 21 07.2 0.0
baz=30,SNR=27
U26A Atchley Ranch, 29.74 331 ⇓P P 03 21 07.0 -0.3
baz=30,SNR=12
LENM Lemitar 29.76 324 eP P 03 21 09.5 +2.0
LENM ePcP PcP 03 24 12.9 +2.5
T27A Campo 29.81 333 ⇑P P 03 21 07.4 -0.4
baz=30
R30A Dighton 29.85 338 ⇑P P 03 21 07.9 -0.2
baz=30,SNR=21
Q32A Meitler Ranch, 29.88 341 ⇑P P 03 21 07.5 -0.7
baz=30,SNR=7.0
S28A Manter 29.90 335 ⇑P P 03 21 07.3 -1.2
baz=30,SNR=14
V24A Rampart Ranch, 29.98 328 ⇓P P 03 21 09.9 +0.4
baz=30,SNR=10
P33A Williams Farm, 30.02 342 ⇑P P 03 21 09.0 -0.5
baz=30,SNR=7.3
W23A Werner Place, 30.02 326 ⇑P P 03 21 10.5 +0.7
baz=30,SNR=31
LAZ Ladron 30.02 324 eP P 03 21 11.9 +2.1
LAZ ePcP PcP 03 24 13.3 +2.2
ANMO Albuquerque 30.03 326 ⇓eP P 03 21 11.2 +1.4
ANMO pmax pmax
comp=Z,318nm,2.5s
ANMO Albuquerque 30.03 326 P P 03 21 11.3 +1.4
comp=Z,12nm,0.7s,baz=134,slow=4.7,SNR=51
ANMO LR LR 03 36 05.5
comp=Z,2μm,19.0s,baz=132,slow=42
ANMO Albuquerque 30.03 326 eP P 03 21 11.5 +1.6
comp=Z,39nm,1.3s
ANMO LR LR
comp=Z,2μm,19.0s
U25A Circle Dot Ran 30.07 330 ⇓P P 03 21 10.4 +0.2
baz=30,SNR=20
MVL Millersville 30.14 15 eP P 03 21 12.1 +1.6
comp=Z,53nm,0.8s
MVL LR LR
comp=Z,8μm,20.0s
Q31A Ellis 30.18 339 ⇓P P 03 21 10.0 -0.9
baz=30,SNR=6.7
T26A Comanche Natio 30.30 332 ⇑P P 03 21 12.2 0.0
baz=30
R29A Marienthal 30.31 337 ⇓P P 03 21 12.0 -0.2
baz=30
SSPA Standing Stone 30.38 13 eP P 03 21 13.5 +0.9
comp=Z,84nm,0.8s
SSPA LR LR
comp=Z,8μm,20.0s
SAML Samuel 30.40 130 eP P 03 21 12.3 -0.8
comp=Z,62nm,0.8s
SAML ePcP PcP 03 24 12.3 +0.2
SAML LR LR
comp=Z,2μm,19.0s
S27A Las Animas 30.41 333 ⇑P P 03 21 12.7 -0.4
baz=30
Q30A Quinter 30.44 338 ⇓P P 03 21 12.7 -0.6
baz=30,SNR=9.3
P32A Huiting Farm, 30.47 341 ⇓P P 03 21 13.1 -0.4
baz=30,SNR=28
V23A Ortiz Mt. (NFS 30.48 327 ⇑P P 03 21 14.3 +0.4
baz=31,SNR=9.9
R28A Tribune 30.50 336 ⇓P P 03 21 13.6 -0.3
baz=31,SNR=9.3
U24A Moreno Valley 30.51 329 ⇑P P 03 21 15.4 +1.1
baz=31,SNR=6.0
S26A Kim 30.61 333 ⇑P P 03 21 14.6 -0.3
baz=31,SNR=12
P31A Stockton 30.63 340 ⇑P P 03 21 14.5 -0.4
baz=31,SNR=8.5
Q29A Oakley 30.65 337 ⇓P P 03 21 14.5 -0.6
baz=31,SNR=14
T25A Trinidad 30.66 331 ⇓P P 03 21 16.0 +0.5
baz=31,SNR=22
R27A Eads 30.87 334 ⇓P P 03 21 16.4 -0.7
baz=31,SNR=7.9
TUC Tucson 30.92 317 eP P 03 21 18.5 +0.9
TUC e 03 24 15.0
TUC pmax pmax
comp=Z,32nm,1.4s
TUC MLR MLR
comp=Z,6μm,20.0s
TUC Tucson 30.92 317 eP P 03 21 18.5 +0.9
comp=Z,32nm,1.4s
TUC ePcP PcP 03 24 15.0 +1.7
TUC LR LR
comp=Z,6μm,20.0s
U23A El Rito 30.92 328 ⇑P P 03 21 18.2 +0.4
baz=31,SNR=52
ALLY Alegheny Colle 30.94 9 eP P 03 21 17.7 +0.1

comp=Z,92nm,1.0s
O32A Brockman Farm, 30.95 342 ⇑P P 03 21 16.9 -0.8
baz=31,SNR=8.4
P30A Selden 30.95 339 ⇓P P 03 21 17.2 -0.6
baz=31,SNR=8.4
LUPA Lehigh Univers 30.96 16 eP P 03 21 19.5 +1.8
comp=Z,6.5nm,0.8s
LUPA LR LR
comp=Z,800nm,20.0s
V22A San Miguel Ran 30.99 326 ⇑P P 03 21 18.8 +0.4
baz=31,SNR=16
T24B San Luis 31.07 330 ⇑P P 03 21 19.9 +0.8
baz=31,SNR=10.0
S25A Robets Cordova 31.09 331 ⇑P P 03 21 19.6 +0.5
baz=31,SNR=14
Q28A Sharon Springs 31.13 336 ⇓P P 03 21 19.2 -0.2
baz=31,SNR=9.6
R26A Arlington 31.16 333 ⇑P P 03 21 19.7 0.0
baz=31,SNR=9.8
O31A Woolen Ranch, 31.18 341 ⇑P P 03 21 19.3 -0.5
baz=31,SNR=9.1
AAM Ann Arbor 31.20 4 eP P 03 21 20.6 +0.7
AAM pmax pmax
comp=Z,607nm,2.3s
AAM MLR MLR
comp=Z,7µm,20.2s
AAM Ann Arbor 31.20 4 eP P 03 21 20.6 +0.7
comp=Z,607nm,2.3s
AAM LR LR
comp=Z,7µm,20.2s
P29A Atwood 31.25 338 ⇑P P 03 21 20.1 -0.4
baz=31,SNR=14
BRNJ Basking Ridge 31.27 17 PFAKE 03 21 30.0 +10
BRNJ LR LR
comp=Z,13µm,20.4s
U22A Llaves 31.31 327 ⇑P P 03 21 22.3 +1.2
baz=31,SNR=32
SCIA State Center 31.32 350 eP P 03 21 20.4 -0.4
comp=Z,71nm,0.8s
SCIA LR LR
comp=Z,3µm,20.0s
T23A Casias Ranch, 31.38 329 ⇑P P 03 21 22.6 +0.8
baz=32,SNR=9.1
KSCO Kaye Shedlock' 31.41 335 eP P 03 21 21.9 +0.1
comp=Z,35nm,0.9s
KSCO Kaye Shedlock' 31.41 335 ⇑P P 03 21 21.8 -0.1
baz=32,SNR=9.6
R25A Fountain Ranch 31.41 332 ⇓P P 03 21 22.1 +0.2
baz=32,SNR=12
N32A Stulken Farm, 31.42 342 ⇑P P 03 21 21.4 -0.5
baz=32
ERPA Erie 31.42 9 eP P 03 21 22.3 +0.5
comp=Z,146nm,0.8s
ERPA LR LR
comp=Z,7µm,18.0s
S24A Houchin Ranch, 31.44 330 ⇓P P 03 21 22.9 +0.4
baz=32,SNR=18
O30A MW Ranch, Wils 31.45 340 ⇓P P 03 21 21.8 -0.4
baz=32,SNR=11
P28A Saint Francis 31.54 337 ⇑P P 03 21 22.7 -0.3
baz=32,SNR=17
CPNY Central Park 31.55 18 PFAKE 03 21 30.0 +7.1
CPNY LR LR
comp=Z,12µm,19.9s
ODNJ Ogdensburg 31.62 17 eP P 03 21 25.2 +1.6
comp=Z,124nm,1.7s
ODNJ LR LR
comp=Z,10µm,20.8s
O29A 4D Ranch, Culb 31.66 339 ⇓P P 03 21 23.8 -0.2
baz=32,SNR=9.3
SDCO Great Sand Dun 31.67 330 eP P 03 21 25.4 +1.1
comp=Z,27nm,0.8s
SDCO ePcP PcP 03 24 18.1 +2.6
SDCO LR LR
comp=Z,1µm,18.0s
N31A Bailey Ranch, 31.67 342 ⇑P P 03 21 23.5 -0.6
baz=32
Q26A Hugo 31.71 334 ⇓P P 03 21 24.8 +0.2
baz=32,SNR=13
KSPA Keystone Colle 31.75 15 eP P 03 21 25.7 +1.0
comp=Z,51nm,0.8s
KSPA LR LR
comp=Z,8µm,19.3s
PAL Palisades 31.76 18 PFAKE 03 21 40.0 +15
PAL LR LR
comp=Z,13µm,21.0s
X18A Snowflake 31.79 321 ⇓P P 03 21 26.6 +1.2
baz=32,SNR=13
P27A Ficken Ranch, 31.85 336 ⇑P P 03 21 25.8 0.0
baz=32,SNR=17
R24A Sanders Place, 31.86 331 ⇓P P 03 21 26.7 +0.7
baz=32,SNR=9.5
S23A Nye Farm, Mont 31.88 330 ⇓P P 03 21 26.9 +0.7
baz=32
JFWS Jewell Farm 31.92 355 eP P 03 21 25.9 -0.3
JFWS e 03 24 16.4
JFWS pmax pmax
comp=Z,105nm,0.8s
JFWS MLR MLR
comp=Z,3µm,18.0s
JFWS Jewell Farm 31.92 355 eP P 03 21 25.9 -0.3
comp=Z,105nm,0.8s
JFWS ePcP PcP 03 24 16.4 +0.7
JFWS LR LR
comp=Z,3µm,18.0s
BGNE Belgrade 31.97 343 eP P 03 21 26.3 -0.4
comp=Z,97nm,0.6s
BGNE LR LR
comp=Z,800nm,21.5s
BGNE Belgrade 31.97 343 ⇑P P 03 21 26.1 -0.6
baz=32,SNR=12
N30A Hueftle Ranch, 32.02 340 ⇓P P 03 21 27.1 -0.1
baz=32,SNR=9.4
Q25A Bedland, Calha 32.02 333 ⇓P P 03 21 27.6 +0.2
baz=32,SNR=14
O28A Krutsinger Ran 32.03 337 ⇓P P 03 21 27.1 -0.1
baz=32,SNR=10
W18A Petrified Fore 32.05 322 eP P 03 21 29.2 +1.5
comp=Z,115nm,1.3s
W18A LR LR
comp=Z,4µm,20.1s
W18A Petrified Fore 32.05 322 ⇓P P 03 21 29.0 +1.3
baz=32,SNR=14
214A Organ Pipe Nat 32.10 314 ⇓P P 03 21 29.7 +1.8
baz=32,SNR=7.5
M31A Lambtecht Ranc 32.16 342 ⇓P P 03 21 28.1 -0.2
baz=32,SNR=17
P26A Davis Ranch, A 32.17 335 ⇑P P 03 21 28.7 +0.1
baz=32,SNR=5.3
R23A Moffat 32.17 330 ⇑P P 03 21 29.9 +1.1
baz=32,SNR=24
N29A Votaw Ranch, W 32.22 339 ⇑P P 03 21 28.6 -0.3
baz=32,SNR=6.5
BINY Binghamton 32.30 14 eP P 03 21 30.4 +0.8
comp=Z,115nm,0.8s
BINY LR LR
comp=Z,8µm,19.0s
S22A 4UR Ranch, Cre 32.33 329 ⇓P P 03 21 30.7 +0.5
baz=32,SNR=25
YLE Yale 32.34 19 PFAKE 03 21 40.0 +10
YLE LR LR
comp=Z,9µm,20.8s
O27A Beecher Island 32.35 336 ⇓P P 03 21 30.0 -0.2
baz=32,SNR=10
MMNY Mt. Morris Dam 32.39 12 eP P 03 21 30.6 +0.3
comp=Z,144nm,0.8s
N28A Pribbeno Ranch 32.43 338 ⇑P P 03 21 30.7 -0.1
baz=32,SNR=18
Q24A Divide 32.47 332 ⇑P P 03 21 31.9 +0.4
baz=32
P25A Willow Gulch B 32.48 334 ⇑P P 03 21 31.5 +0.2
baz=32,SNR=11
LPAZ La Paz 32.59 146 eP P 03 21 33.3 +0.4
LPAZ pmax pmax
comp=Z,16nm,1.1s
LPAZ MLR MLR
comp=Z,6µm,20.0s
LPAZ La Paz 32.59 146 P P 03 21 33.4 +0.5
comp=Z,2.7nm,0.9s,baz=327,slow=9.2,SNR=6.6
LPAZ LR LR 03 35 26.0
comp=Z,5µm,19.5s,baz=315,slow=38
LPAZ La Paz 32.59 146 eP P 03 21 33.3 +0.4
comp=Z,16nm,1.1s
LPAZ e 03 35 26.0
LPAZ LR LR
comp=Z,6µm,20.0s
M30A Dale-Ortello V 32.61 341 ⇓P P 03 21 31.9 -0.4
baz=33

X16A Lo Mia Camp, P 32.66 319 ⇑P P 03 21 34.1 +1.1
baz=33,SNR=34
O26A Horse Wrangler 32.73 336 ⇑P P 03 21 33.7 +0.2
baz=33,SNR=10.0
Q23A Hartsel 32.74 331 ⇓P P 03 21 34.4 +0.5
baz=33
M29A Burnside Ranch 32.80 340 ⇑P P 03 21 33.8 -0.2
baz=33,SNR=6.4
P24A Kohler Place, 32.81 333 ⇑P P 03 21 35.1 +0.9
baz=33
MVCO Mesa Verde 32.81 326 eP P 03 21 35.0 +0.6
comp=Z,346nm,2.3s
MVCO ePcP PcP 03 24 20.5 +1.9
MVCO LR LR
comp=Z,701nm,18.0s
MVCO Mesa Verde 32.81 326 ⇑P P 03 21 35.0 +0.6
baz=33,SNR=21
OGNE Ogallala 32.84 338 ⇓P P 03 21 34.6 +0.2
baz=33
L31A Butterfield Fa 32.88 343 ⇓P P 03 21 34.1 -0.5
baz=33,SNR=15
N27A Anderson Farm, 32.91 337 ⇓P P 03 21 34.4 -0.6
baz=33,SNR=11
L30A Spencer Herefo 32.94 341 ⇑P P 03 21 35.0 -0.2
baz=33,SNR=6.8
O25A Wiggins 32.96 334 ⇑P P 03 21 35.7 +0.2
baz=33,SNR=5.5
M28A Bar X Bar Ranc 32.99 339 ⇑P P 03 21 35.7 0.0
baz=33
Z14A Wintersburg 33.00 316 ⇑P P 03 21 36.8 +1.0
baz=33
P23A Jefferson 33.12 332 ⇓P P 03 21 38.2 +1.0
baz=33,SNR=18
N26A Koester Ranch, 33.19 336 ⇓P P 03 21 37.8 +0.3
baz=33,SNR=7.1
113A Mohawk Valley, 33.22 315 ⇑P P 03 21 39.3 +1.6
baz=33
L29A Maesberg Ranch 33.28 341 ⇓P P 03 21 38.0 -0.2
baz=33,SNR=9.5
WUAZ Wupatki 33.32 321 eP P 03 21 40.9 +2.2
comp=Z,54nm,1.1s
WUAZ ePcP PcP 03 24 22.1 +2.2
WUAZ LR LR
comp=Z,4µm,19.3s
WUAZ Wupatki 33.32 321 ⇓P P 03 21 39.8 +1.0
baz=33,SNR=17
ISCO Idaho Springs 33.36 332 eP P 03 21 39.5 +0.3
ISCO e 03 24 22.2
ISCO pmax pmax
comp=Z,58nm,1.7s
ISCO MLR MLR
comp=Z,2µm,21.9s
ISCO Idaho Springs 33.36 332 eP P 03 21 39.5 +0.3
comp=Z,58nm,1.7s
ISCO ePcP PcP 03 24 22.2 +2.0
ISCO LR LR
comp=Z,2µm,21.9s
ISCO Idaho Springs 33.36 332 ⇓P P 03 21 39.4 +0.2
baz=33,SNR=19
O24A Longmont 33.38 333 ⇑P P 03 21 39.3 +0.2
baz=33,SNR=5.8
Y14A Wickenburg 33.38 317 ⇑P P 03 21 40.0 +0.8
baz=34
QUA2 Belchertown 33.40 19 PFAKE 03 21 50.0 +11
QUA2 LR LR
comp=Z,8µm,19.9s
TRY Troy 33.41 17 eP P 03 21 40.7 +1.4
comp=Z,81nm,0.9s
TRY LR LR
comp=Z,12µm,21.8s
M27A Reverse DX Ran 33.47 338 ⇑P P 03 21 39.9 0.0
baz=34
SMCO Snowmass 33.51 330 eP P 03 21 41.4 +0.8
comp=Z,68nm,1.4s
SMCO ePcP PcP 03 24 23.3 +2.6
SMCO LR LR
comp=Z,800nm,19.5s
N25A Grover 33.53 335 ⇑P P 03 21 41.2 +0.7
baz=34
PV01 Paradox Valley 33.53 327 eP P 03 21 42.1 +1.5
PV01 ePcP PcP 03 24 22.4 +1.8
K30A Basset 33.56 342 ⇓P P 03 21 40.1 -0.5
baz=34,SNR=29
L28A Connealy Angus 33.58 339 ⇑P P 03 21 41.1 +0.2
baz=34
M26A McRoberts Ranc 33.71 337 ⇑P P 03 21 42.4 +0.4
baz=34
P22A Eagle 33.73 331 ⇑P P 03 21 42.7 +0.4
baz=34,SNR=13
ECSD EROS Data Cent 33.75 346 eP P 03 21 40.8 -1.4
comp=Z,188nm,1.6s
ECSD ePcP PcP 03 24 21.5 +0.7
ECSD LR LR
comp=Z,6µm,21.0s
ECSD EROS Data Cent 33.75 346 ⇑P P 03 21 40.8 -1.4
baz=34,SNR=36
PV05 Paradox Valley 33.77 327 eP P 03 21 43.4 +0.7
O23A Lake Granby, G 33.83 332 ⇑P P 03 21 43.6 +0.3
baz=34,SNR=22
WES Weston 33.84 20 PFAKE 03 21 50.0 +7.1
WES LR LR
comp=Z,11µm,20.0s
K29A Lazy Trails An 33.86 341 ⇓P P 03 21 43.3 +0.1
baz=34,SNR=38
HRV Adam Dziewonsk 33.86 20 PFAKE 03 21 50.0 +6.8
HRV LR LR
comp=Z,10µm,20.0s
N24A Carr 33.87 334 ⇓P P 03 21 44.1 +0.7
baz=34,SNR=14
PV04 Paradox Valley 33.90 327 eP P 03 21 44.8 +1.1
PV04 ePcP PcP 03 24 23.4 +1.8
L27A T5 Ranch, Ells 33.93 338 ⇑P P 03 21 43.9 0.0
baz=34,SNR=10
PV10 Paradox Valley 33.96 327 eP P 03 21 44.5 +0.1
PV10 ePcP PcP 03 24 23.1 +1.3
ACCN Adirondack Com 34.02 17 PFAKE 03 22 00.0 +16
ACCN LR LR
comp=Z,8µm,20.1s
M25A Palm-Egli Farm 34.04 336 ⇑P P 03 21 45.1 +0.2
baz=34
O22A Kremmling 34.08 332 ⇑P P 03 21 45.5 +0.1
baz=34,SNR=19
PV09 Paradox Valley 34.09 327 eP P 03 21 46.7 +1.1
PV09 ePcP PcP 03 24 24.4 +2.1
GLA Glamis 34.12 314 eP P 03 21 48.3 +2.7
GLA pmax pmax
comp=Z,304nm,2.2s
GLA MLR MLR
comp=Z,3µm,20.2s
GLA Glamis 34.12 314 eP P 03 21 48.3 +2.7
comp=Z,304nm,2.2s
GLA LR LR
comp=Z,3µm,20.2s
GLA Glamis 34.12 314 ⇑P P 03 21 47.1 +1.5
baz=34,SNR=7.4
J30A Dallas 34.12 343 ⇑P P 03 21 45.0 -0.5
baz=34,SNR=7.5
K28A Ten Mile Ranch 34.16 340 ⇓P P 03 21 45.7 -0.1
baz=34,SNR=17
L26A Underwood Farm 34.17 337 ⇓P P 03 21 45.9 -0.1
baz=34
MNMC Minimini 34.23 151 eP P 03 21 47.2 +0.3
PDMCI Parker Dam,Lak 34.35 317 ⇑P P 03 21 48.3 +0.8
baz=34,SNR=15
M24A Cheyenne 34.38 335 ⇑P P 03 21 48.5 +0.6
baz=34,SNR=10.0
PSGC Pisagua 34.38 152 eP P 03 21 47.7 -0.3
N23A Red Feather La 34.39 333 ⇓P P 03 21 48.3 +0.3
baz=34,SNR=11
NCB Newcomb 34.41 16 PFAKE 03 22 00.0 +12
NCB LR LR
comp=Z,4µm,21.0s
J29A Okreek 34.45 342 ⇑P P 03 21 48.0 -0.3
baz=34,SNR=61
K27A Flueckinger Fa 34.45 339 ⇑P P 03 21 48.6 +0.2
baz=34,SNR=7.5
U15A North Rim 34.48 321 ⇑P P 03 21 50.6 +1.6
baz=35,SNR=13
SPMN St. Paul 34.49 352 eP P 03 21 47.1 -1.5
comp=Z,99nm,0.6s
SPMN LR LR
comp=Z,2µm,20.2s
SPMN St. Paul 34.49 352 ⇓P P 03 21 47.3 -1.3
baz=34,SNR=42
PHWY Pilot Hill 34.51 334 eP P 03 21 49.6 +0.5
comp=Z,112nm,1.8s
PHWY ePcP PcP 03 24 25.2 +1.8

PHWY LR LR
comp=Z,1µm,21.4s
N22A Wattenberg Ran 34.54 333 ⇑P P 03 21 49.9 +0.5
baz=35,SNR=10.0
L25A Engebretsen Ra 34.61 337 ⇓P P 03 21 50.0 +0.1
baz=35
W13A Hualapai Mount 34.66 318 ⇓P P 03 21 51.8 +1.4
baz=35
FFD Franklin Falls 34.70 19 PFAKE 03 22 00.0 +10
FFD LR LR
comp=Z,10µm,20.6s
SWSC Sam W. Stewart 34.75 313 ⇓P P 03 21 52.5 +1.5
baz=35,SNR=7.7
J28A Allard Ranch, 34.75 341 ⇓P P 03 21 50.7 -0.2
baz=35
M23A Laramie 34.76 334 ⇑P P 03 21 51.2 -0.1
baz=35,SNR=10
K26A Motz Farm, Whi 34.78 338 ⇑P P 03 21 51.7 +0.5
baz=35
J27A Elkhorn Farm, 34.85 340 ⇑P P 03 21 52.2 +0.4
baz=35,SNR=21
O20A White River Ci 34.87 330 eP P 03 21 53.3 +1.2
comp=Z,404nm,2.0s
O20A ePcP PcP 03 24 25.7 +1.4
O20A LR LR
comp=Z,4µm,21.0s
O20A White River Ci 34.87 330 ⇓P P 03 21 52.7 +0.6
baz=35,SNR=33
BC3 Big Chuckawall 34.89 315 ⇓P P 03 21 54.2 +1.9
baz=35,SNR=15
L24A Wheatland 34.91 335 ⇑P P 03 21 52.8 +0.5
baz=35
LONY Lake Ozonia 34.92 15 eP P 03 21 52.3 0.0
comp=Z,326nm,1.8s
LONY LR LR
comp=Z,7µm,18.0s
NEE2 Needles Airpor 34.95 317 ⇑P P 03 21 54.1 +1.5
baz=35
IRM Iron Mountain 34.96 316 ⇑P P 03 21 54.7 +1.8
baz=35,SNR=6.3
K25A Mack Ranch, Ha 34.97 337 ⇑P P 03 21 53.1 +0.3
baz=35
I29A Vivian Onida 35.00 342 ⇑P P 03 21 52.0 -1.0
baz=35,SNR=18
BRSD Miller 35.00 344 eP P 03 21 51.9 -1.1
comp=Z,139nm,1.1s
BRSD LR LR
comp=Z,5µm,19.8s
BRSD Miller 35.00 344 ⇑P P 03 21 51.6 -1.4
baz=35
EKU East Kanab 35.02 322 eP P 03 21 53.1 -0.4
MMU Miners Mountai 35.07 325 eP P 03 21 54.9 +0.9
MMU ePcP PcP 03 24 26.8 +1.8
M22A Cedar Creek Ra 35.09 333 ⇑P P 03 21 54.5 +0.4
baz=35,SNR=11
MONP Monument Peak 35.17 313 ⇓P P 03 21 54.6 -0.3
baz=35,SNR=5.3
KNB Kanab 35.18 322 eP P 03 21 56.6 +1.7
KNB e 03 24 28.9
KNB pmax pmax
comp=Z,59nm,1.3s
KNB MLR MLR
comp=Z,4µm,20.5s
KNB Kanab 35.18 322 eP P 03 21 56.6 +1.7
comp=Z,59nm,1.3s
KNB ePcP PcP 03 24 28.9 +3.6
KNB LR LR
comp=Z,4µm,20.5s
BAR Barrett 35.24 312 eP P 03 21 57.4 +2.1
comp=Z,90nm,1.8s
BAR LR LR
comp=Z,4µm,19.4s
I28A Midland 35.24 341 ⇓P P 03 21 54.6 -0.5
baz=35,SNR=20
J26A Sides Ranch, S 35.28 339 ⇑P P 03 21 56.3 +0.9
baz=35
L23A Garrett 35.28 335 ⇓P P 03 21 55.8 +0.1
baz=35,SNR=18
SRU San Rafael 35.29 326 eP P 03 21 57.0 +1.2
SRU e 03 24 27.4
SRU pmax pmax
comp=Z,37nm,0.8s
SRU MLR MLR
comp=Z,900nm,21.8s
SRU San Rafael 35.29 326 eP P 03 21 57.0 +1.2
comp=Z,37nm,0.8s
SRU ePcP PcP 03 24 27.4 +1.8
SRU LR LR
comp=Z,900nm,21.8s
LBNH Lisbon 35.31 18 PFAKE 03 22 10.0 +14
LBNH LR LR
comp=Z,9µm,20.0s
FRNY Flat Rock 35.38 16 PFAKE 03 22 10.0 +14
FRNY LR LR
comp=Z,1µm,18.5s
N20A Spence Gulch, 35.41 331 ⇑P P 03 21 57.6 +0.7
baz=36,SNR=31
K24A Anderson Ranch 35.43 336 ⇑P P 03 21 57.1 +0.2
baz=36
LDFC Landfair 35.46 317 eP P 03 22 00.6 +3.4
comp=Z,30nm,1.0s
LDFC ePcP PcP 03 24 28.2 +2.2
LDFC LR LR
comp=Z,7µm,20.0s
BELC Belle Mtn. Jos 35.46 315 ⇓P P 03 21 59.0 +1.7
baz=36,SNR=16
H29A Onida 35.52 343 ⇑P P 03 21 56.4 -1.1
baz=36
L22A Ellis Ranch, M 35.53 334 ⇓P P 03 21 58.5 +0.7
baz=36,SNR=14
PFO Pinyon Flat Ob 35.57 314 eP P 03 22 00.7 +2.5
PFO e 03 24 28.8
PFO pmax pmax
comp=Z,407nm,2.7s
PFO MLR MLR
comp=Z,3µm,20.0s
PFO Pinyon Flat Ob 35.57 314 P P 03 21 59.5 +1.3
comp=Z,12nm,0.9s,baz=112,slow=7.3,SNR=17
PFO LR LR 03 37 37.2
comp=Z,3µm,20.7s,baz=140,slow=38
PFO Pinyon Flat Ob 35.57 314 eP P 03 22 00.7 +2.5
comp=Z,407nm,2.7s
PFO ePcP PcP 03 24 28.8 +2.3
PFO LR LR
comp=Z,3µm,20.0s
PFO Pinyon Flat Ob 35.57 314 ⇑P P 03 21 59.9 +1.7
baz=36,SNR=9.2
I27A Quinn 35.59 340 ⇑P P 03 21 58.1 -0.1
baz=36,SNR=26
RWWY Rawlins 35.59 333 PFAKE 03 22 10.0 +12
RWWY LR LR
comp=Z,500nm,18.6s
ROA Roan Cliffs 35.60 327 eP P 03 21 59.7 +1.1
J25A Sunshine Ranch 35.61 338 ⇑P P 03 21 58.4 +0.1
baz=36
GMRC Granite Mounta 35.66 316 ⇑P P 03 22 01.0 +2.0
baz=36,SNR=7.5
109C Camp Elliot, M 35.66 312 ⇓P P 03 22 00.2 +1.3
baz=36
G30A Faulkton 35.69 344 ⇑P P 03 21 57.4 -1.6
baz=36,SNR=6.5
K23A Bowen Ranch, D 35.78 335 ⇓P P 03 21 60.0 +0.1
baz=36
TMUT Trail Mountain 35.79 326 eP P 03 22 00.9 +0.7
comp=Z,37nm,1.1s
TMUT ePP PP 03 23 26.5 +4.2
TMUT ePcP PcP 03 24 29.4 +2.2
H28A Mission Ridge 35.81 342 ⇓P P 03 21 59.1 -0.9
baz=36,SNR=12
I26A New Underwood 35.83 339 ⇑P P 03 22 00.1 -0.1
baz=36,SNR=6.5
CCUT Cedar City 35.85 322 eP P 03 22 02.9 +2.2
comp=Z,28nm,1.3s
CCUT ePcP PcP 03 24 30.1 +2.8
CCUT LR LR
comp=Z,4µm,19.4s
J24A Dixon Ranch, L 35.88 337 ⇓P P 03 22 01.4 +0.6
baz=36
PB01 Plate Boundary 35.93 153 eP P 03 22 01.3 0.0
G29A Hoven 35.96 344 ⇑P P 03 21 59.3 -2.0
baz=36,SNR=7.6
ARUT Antelope Range 36.06 322 eP P 03 22 04.1 +1.8
ARUT Antelope Range 36.06 322 eP P 03 22 04.1 +1.8
K22A Casper 36.07 334 eP P 03 22 02.0 -0.4
comp=Z,40nm,1.1s
K22A LR LR
comp=Z,2µm,21.6s

K22A Casper 36.07 334 ⇓P P 03 22 02.4 0.0
baz=36,SNR=10.0
MURC Murrieta 36.09 313 ⇑P P 03 22 04.2 +1.6
baz=36,SNR=8.0
H27A Howes 36.10 341 ⇑P P 03 22 02.3 -0.2
baz=36,SNR=68
G28A Parade 36.14 342 ⇓P P 03 22 01.8 -1.0
baz=36
HEC Hector,Ludlow 36.14 316 ⇓P P 03 22 04.2 +1.2
baz=36,SNR=9.6
TUQ Turquoise Moun 36.21 317 ⇑P P 03 22 05.4 +1.8
baz=36
BBRC Big Bear Solar 36.24 314 ⇑P P 03 22 06.7 +2.6
baz=36
J23A Dilts Ranch, B 36.29 336 ⇓P P 03 22 05.0 +0.7
baz=36
F30A Leola 36.31 345 ⇑P P 03 22 02.2 -2.1
baz=36
H26A Fairpoint 36.32 340 ⇑P P 03 22 04.4 0.0
baz=36,SNR=23
I24A Kuemmerle Ranc 36.32 337 ⇓P P 03 22 04.6 +0.2
baz=36,SNR=11
RSSD Black Hills 36.33 338 eP P 03 22 05.0 +0.4
RSSD e 03 24 30.1
RSSD pmax pmax
comp=Z,20nm,0.8s
RSSD MLR MLR
comp=Z,2μm,21.0s
RSSD Black Hills 36.33 338 eP P 03 22 05.0 +0.4
comp=Z,20nm,0.8s
RSSD e 03 24 29.3
RSSD ePcP PcP 03 24 30.1 +1.6
RSSD LR LR
comp=Z,2μm,21.0s
SHPR Sheep Range 36.33 319 eP P 03 22 06.1 +1.4
SHPR ePcP PcP 03 24 31.1 +2.4
PB07 Plate Boundary 36.35 154 eP P 03 22 06.1 +1.1
K21A Alcova 36.37 334 ⇑P P 03 22 05.0 0.0
baz=36,SNR=16
F29A Eureka 36.52 344 ⇑P P 03 22 04.6 -1.5
baz=37
MPU Maple Canyon 36.53 326 eP P 03 22 07.2 +0.8
comp=Z,71nm,1.3s
MPU ePcP PcP 03 24 32.6 +3.4
H25A Fruitdale 36.60 339 ⇓P P 03 22 07.0 +0.3
baz=37,SNR=15
DAU Daniels Canyon 36.61 327 eP P 03 22 07.2 -0.1
DAU e 03 24 31.9
DAU Daniels Canyon 36.61 327 eP P 03 22 07.2 -0.1
DAU ePcP PcP 03 24 31.9 +2.2
RRX Edison Barstow 36.63 315 ⇑P P 03 22 09.3 +2.2
baz=37
J22A Midwest 36.68 335 ⇓P P 03 22 07.8 +0.3
baz=37,SNR=24
PB09 Plate Boundary 36.70 153 eP P 03 22 08.0 0.0
SHOC Shoshone 36.71 317 ⇑P P 03 22 09.1 +1.3
baz=37
G27A Dupree 36.72 341 ⇓P P 03 22 06.9 -0.9
baz=37,SNR=15
I23A Meade Ranch, G 36.73 337 ⇑P P 03 22 07.7 -0.3
baz=37
GSC Goldstone 36.73 316 eP P 03 22 10.5 +2.5
GSC e 03 24 31.8
GSC pmax pmax
comp=Z,313nm,3.0s
GSC MLR MLR
comp=Z,5μm,19.2s
GSC Goldstone 36.73 316 eP P 03 22 10.5 +2.5
comp=Z,313nm,3.0s
GSC ePcP PcP 03 24 31.8 +2.0
GSC LR LR
comp=Z,5μm,19.2s
GSC Goldstone 36.73 316 ⇑P P 03 22 09.6 +1.6
baz=37
NLU North Lily Min 36.73 326 eP P 03 22 09.2 +1.1
comp=Z,125nm,2.0s
NLU ePcP PcP 03 24 31.6 +1.7
NLU LR LR
comp=Z,3μm,18.0s
BFSC Mount Baldy Ra 36.75 314 ⇑P P 03 22 09.6 +1.3
baz=37,SNR=5.9
SCI San Clemente I 36.76 311 ⇓P P 03 22 10.4 +2.2
baz=37
F28A McLaughlin 36.81 343 ⇓P P 03 22 07.5 -1.0
baz=37,SNR=21
JLU Jordanelle 36.85 327 eP P 03 22 09.7 +0.5
comp=Z,90nm,1.7s
JLU LR LR
comp=Z,4μm,21.8s
G26A Maurine 36.86 341 ⇑P P 03 22 08.2 -0.7
baz=37,SNR=35
CIS Catalina Islan 36.86 312 ⇑P P 03 22 11.1 +1.9
baz=37
E30A Jud 36.91 345 ⇓P P 03 22 08.1 -1.2
baz=37,SNR=5.7
FMP Fort Macarthur 36.94 313 ⇓P P 03 22 11.4 +1.7
baz=37
EYMN Ely 37.02 354 eP P 03 22 08.3 -2.0
comp=Z,27nm,0.8s
EYMN LR LR
comp=Z,2μm,21.0s
MWC Mount Wilson 37.03 314 eP P 03 22 13.3 +2.6
MWC pmax pmax
comp=Z,356nm,2.5s
MWC MLR MLR
comp=Z,3μm,20.1s
MWC Mount Wilson 37.03 314 eP P 03 22 13.3 +2.6
comp=Z,356nm,2.5s
MWC LR LR
comp=Z,3μm,20.1s
J21A Lysite 37.03 334 ⇑P P 03 22 11.1 +0.5
baz=37,SNR=48
G25A Newell 37.04 340 ⇑P P 03 22 10.5 0.0
baz=37,SNR=22
H24A Dirks Ranch, A 37.05 338 ⇑P P 03 22 10.5 -0.2
baz=37,SNR=23
I22A 9 Mile Ranch, 37.07 336 ⇓P P 03 22 10.9 0.0
baz=37,SNR=16
CTU Camp Tracy 37.08 327 eP P 03 22 11.9 +0.9
comp=Z,30nm,1.0s
CTU ePcP PcP 03 24 33.6 +2.7
CTU LR LR
comp=Z,2μm,18.8s
PASC Pasadena Art C 37.09 313 eP P 03 22 13.3 +2.3
comp=Z,359nm,2.5s
PASC LR LR
comp=Z,2μm,22.0s
E29A Napoleon 37.15 345 ⇑P P 03 22 09.8 -1.6
baz=37,SNR=9.0
F27A Lemmon 37.19 342 ⇓P P 03 22 11.2 -0.5
baz=37,SNR=14
TCUT Toone Canyon 37.20 328 esP sP 03 22 24.4 -6.8
TCUT LR LR
comp=Z,2μm,21.1s
H23A Clabaugh Cattl 37.21 337 ⇑P P 03 22 11.5 -0.5
baz=37
DECC Green Verdugo 37.23 313 ⇓P P 03 22 14.5 +2.2
baz=37
EMMW East Machias 37.24 22 PFAKE 03 22 20.0 +8.0
EMMW LR LR
comp=Z,8μm,19.8s
DUG Dugway 37.30 326 eP P 03 22 14.4 +1.5
DUG e 03 24 33.0
DUG pmax pmax
comp=Z,216nm,2.5s
DUG MLR MLR
comp=Z,5μm,19.0s
DUG Dugway 37.30 326 eP P 03 22 14.4 +1.5
comp=Z,216nm,2.5s
DUG ePcP PcP 03 24 33.0 +1.5
DUG LR LR
comp=Z,5μm,19.0s
DUG Dugway 37.30 326 ⇑P P 03 22 14.0 +1.0
baz=37,SNR=20
J20A Shoshoni 37.31 333 ⇓P P 03 22 13.2 +0.3
baz=37,SNR=17
EDW2 Edwards Air Fo 37.32 315 ⇓P P 03 22 14.6 +1.6
baz=37,SNR=11
I21A Big Trails, Te 37.34 335 ⇑P P 03 22 13.2 0.0
baz=37,SNR=15
FPU Francis Peak 37.36 327 esP sP 03 22 25.2 -7.5
F26A Lodgepole 37.38 341 ⇑P P 03 22 12.6 -0.7
baz=37,SNR=37
FURC Furnace Creek, 37.42 318 ⇓P P 03 22 15.9 +2.1
baz=38
SAIU Southern Antel 37.42 327 eP P 03 22 14.0 +0.1
LRMC Laurel Mountai 37.43 316 ⇑P P 03 22 15.4 +1.3
baz=38,SNR=11
D30A Buchanan 37.44 346 ⇑P P 03 22 12.5 -1.3
baz=38,SNR=54
E28A Huff 37.44 344 ⇑P P 03 22 12.6 -1.2
baz=38
MCU Monte Cristo P 37.50 328 ePP PP 03 23 44.8 +3.7
G24A Alzada 37.50 339 ⇓P P 03 22 14.1 -0.4
baz=38,SNR=15
BW06 Boulder Array 37.52 331 eP P 03 22 14.5 -0.3
BW06 ePcP PcP 03 24 34.1 +1.9
BW06 LR LR
comp=Z,5μm,22.0s
PD31 Pinedale Array 37.52 331 eP P 03 22 14.3 -0.5
PD31 ePcP PcP 03 24 32.9 +0.7
PDAR Pinedale Array 37.52 331 P P 03 22 14.3 -0.5
comp=Z,13nm,0.7s,baz=131,slow=9.6,SNR=124
PDAR PcP PcP 03 24 32.9 +0.7
comp=Z,5.8nm,0.6s,baz=126,slow=4.6,SNR=8.2
E27A Carson 37.56 343 ⇑P P 03 22 14.3 -0.5
baz=38,SNR=16
LVC Limon Verde 37.56 153 eP P 03 22 16.2 +0.9
comp=Z,40nm,1.1s
LVC LR LR
comp=Z,3μm,20.0s
RSUT Red Spur Mount 37.58 329 eP P 03 22 16.5 +1.0
RSUT epP P 03 22 16.5 +1.0
D29A Pettibone, Tap 37.60 345 ⇓P P 03 22 13.7 -1.4
baz=38,SNR=8.5
H22A Clearmont 37.60 336 ⇑P P 03 22 15.0 -0.4
baz=38,SNR=10
HWUT Hardware Ranch 37.64 328 eP P 03 22 15.7 0.0
comp=Z,47nm,0.8s
HWUT ePcP PcP 03 24 33.1 +0.6
HWUT LR LR
comp=Z,2μm,18.0s
J19A Crowheart 37.67 332 ⇑P P 03 22 15.6 -0.4
baz=38,SNR=32
F25A Bowman 37.70 340 ⇑P P 03 22 15.7 -0.3
baz=38,SNR=11
OSI Osito Adit 37.70 314 PFAKE 03 22 30.0 +14
OSI LR LR
comp=Z,2μm,21.5s
OSI Osito Adit 37.70 314 ⇓P P 03 22 17.7 +1.5
baz=38
R11A Troy Canyon, C 37.72 321 eP P 03 22 18.4 +1.8
comp=Z,34nm,1.4s
R11A ePcP PcP 03 24 34.2 +1.4
R11A LR LR
comp=Z,4μm,19.4s
R11A Troy Canyon, C 37.72 321 ⇑P P 03 22 18.4 +1.8
baz=38,SNR=13
BMUT Black Mountain 37.73 329 eP P 03 22 16.6 0.0
G23A Biddle 37.75 338 ⇓P P 03 22 16.2 -0.3
baz=38,SNR=14
DAC Darwin (Calif) 37.80 317 PFAKE 03 22 30.0 +13
DAC LR LR
comp=Z,6μm,20.0s
I20A Worland 37.81 334 ⇑P P 03 22 17.2 +0.1
baz=38,SNR=25
E26A Carlson Angus 37.87 342 ⇑P P 03 22 17.2 -0.3
baz=38,SNR=8.7
SPUT South Promonto 37.89 327 PFAKE 03 22 30.0 +12
SPUT LR LR
comp=Z,2μm,18.5s
H21A Big Horn, Sher 37.91 336 ⇓P P 03 22 17.4 -0.5
baz=38,SNR=19
BGU Big Grassy Mou 37.93 326 eP P 03 22 18.1 -0.1
comp=Z,24nm,1.3s
BGU ePcP PcP 03 24 35.7 +2.3
BGU LR LR
comp=Z,3μm,18.8s
C30A Mose, Pekin 37.93 347 ⇓P P 03 22 16.8 -1.1
baz=38,SNR=20
F24A Ekalaka 37.96 339 ⇑P P 03 22 18.2 -0.1
baz=38,SNR=39
AGMN Agassiz Nation 37.97 350 eP P 03 22 16.4 -1.8
comp=Z,76nm,1.0s
AGMN ePcP PcP 03 24 33.6 +0.4
AGMN LR LR
comp=Z,3μm,21.0s
AGMN Agassiz Nation 37.97 350 ⇓P P 03 22 16.8 -1.5
baz=38,SNR=43
D28A Regan 37.98 344 ⇑P P 03 22 17.6 -0.7
baz=38,SNR=5.2
ARVC Arvin 38.03 314 ⇑P P 03 22 21.0 +2.0
baz=38,SNR=8.7
BSC Santa Cruz Isl 38.05 312 ⇑P P 03 22 21.3 +2.1
baz=38
GRAC Grapevine Rang 38.06 318 ⇓P P 03 22 21.1 +1.9
baz=38,SNR=9.8
ISA Isabella 38.07 315 eP P 03 22 21.0 +1.7
ISA e 03 24 33.1
ISA pmax pmax
comp=Z,369nm,2.9s
ISA MLR MLR
comp=Z,4μm,21.8s
ISA Isabella 38.07 315 eP P 03 22 21.0 +1.7
comp=Z,369nm,2.9s
ISA ePcP PcP 03 24 33.0 -0.8
ISA LR LR
comp=Z,4μm,21.8s
ISA Isabella 38.07 315 ⇓P P 03 22 21.3 +1.9
baz=38,SNR=7.7
G22A Birney 38.10 337 ⇑P P 03 22 19.0 -0.6
baz=38,SNR=16
D27A Center 38.16 343 ⇓P P 03 22 18.9 -1.0
baz=38,SNR=11
MTUT Morton Thiokol 38.17 328 eP P 03 22 20.3 +0.1
H20A Greybull 38.19 335 ⇓P P 03 22 19.7 -0.5
baz=38,SNR=19
E25A Miller Ranch, 38.19 341 ⇓P P 03 22 19.7 -0.4
baz=38,SNR=14
F23A Volborg 38.20 338 ⇓P P 03 22 19.9 -0.4
baz=38,SNR=16
I19A Meeteetse 38.26 333 ⇓P P 03 22 21.1 +0.2
baz=38,SNR=14
AHID Auburn Hatcher 38.26 330 PFAKE 03 22 30.0 +9.0
AHID LR LR
comp=Z,703nm,20.0s
SBC Santa Barbara 38.32 313 ⇓P P 03 22 23.7 +2.3
baz=38
D26A Manning 38.36 342 ⇑P P 03 22 20.6 -1.0
baz=38,SNR=12
HVU Hansel Valley 38.39 328 eP P 03 22 22.3 +0.2
HVU e 03 24 36.0
HVU pmax pmax
comp=Z,170nm,1.7s
HVU MLR MLR
comp=Z,5μm,19.1s
HVU Hansel Valley 38.39 328 eP P 03 22 22.3 +0.2
comp=Z,170nm,1.7s
HVU ePcP PcP 03 24 36.0 +1.2
HVU LR LR
comp=Z,5μm,19.1s
C28A Hausauer Farms 38.41 345 ⇑P P 03 22 20.9 -1.1
baz=38
G21A Lodge Grass 38.47 336 ⇑P P 03 22 22.1 -0.5
baz=38,SNR=6.4
E24A Baker 38.54 340 ⇓P P 03 22 22.7 -0.5
baz=39,SNR=19
F22A Rosebud 38.56 337 ⇓P P 03 22 22.7 -0.7
baz=39,SNR=23
TPH Tonopah 38.58 319 eP P 03 22 25.6 +1.8
TPH pmax pmax
comp=Z,37nm,1.5s
TPH MLR MLR
comp=Z,4μm,20.0s
TPH Tonopah 38.58 319 eP P 03 22 25.6 +1.8
comp=Z,37nm,1.5s
TPH LR LR
comp=Z,4μm,20.0s
VES Vestal, Richgr 38.58 315 ⇓P P 03 22 25.7 +2.1
baz=39,SNR=11
REDW Red Top Meadow 38.59 331 eP P 03 22 23.9 +0.2
comp=Z,192nm,1.5s
REDW LR LR
comp=Z,3μm,21.8s
B30A Myrvik Farm, E 38.60 347 ⇓P P 03 22 22.4 -1.1
baz=39,SNR=28
SNOW Snow King Moun 38.62 331 eP P 03 22 24.5 +0.4
comp=Z,97nm,1.3s
SNOW LR LR
comp=Z,4μm,21.4s
TIN Tinemaha 38.66 317 ⇓P P 03 22 26.5 +2.2
baz=39
LOHW Long Hollow 38.66 331 eP P 03 22 24.6 +0.2
comp=Z,157nm,1.8s
LOHW LR LR
comp=Z,4μm,21.9s
C27A Sayler Ranch, 38.71 344 ⇓P P 03 22 23.5 -1.0
baz=39,SNR=13
CRGC Crocker Grade 38.73 314 epP pP 03 22 33.9 -4.2
TPAW Teton Pass 38.73 331 eP P 03 22 24.9 -0.1
comp=Z,145nm,1.7s
TPAW ePcP PcP 03 24 38.9 +2.8
TPAW LR LR
comp=Z,3μm,21.3s
D25A Fairfield 38.74 341 ⇑P P 03 22 24.5 -0.3
baz=39,SNR=9.7
H19A Powell 38.76 334 ⇓P P 03 22 24.7 -0.3
baz=39,SNR=14
E23A Ismay 38.83 339 ⇑P P 03 22 24.9 -0.6
baz=39,SNR=12
B29A Wagenman Farm, 38.85 346 ⇑P P 03 22 24.7 -0.9
baz=39,SNR=15
G20A Bridger 38.87 335 ⇑P P 03 22 25.1 -0.9
baz=39,SNR=20
FXWY Fox Creek 38.88 331 eP P 03 22 25.4 -0.8
comp=Z,78nm,1.9s
FXWY ePcP PcP 03 24 37.9 +1.5
FXWY LR LR
comp=Z,3μm,21.4s
I17A Pilgrim Ck. 38.88 332 ⇓P P 03 22 26.5 +0.2
baz=39,SNR=46
F21A Absaloka Mine, 38.93 337 ⇓P P 03 22 25.4 -1.1
baz=39
RCTC Rector, Farmer 38.94 316 ⇑P P 03 22 27.7 +1.2
baz=39
SMMC Simmler 38.95 314 ⇓P P 03 22 29.1 +2.4
baz=39,SNR=5.5
C26A Wahner Farm, P 38.98 343 ⇑P P 03 22 26.1 -0.6
baz=39,SNR=26
E22A Miles City 39.01 338 ⇓P P 03 22 26.4 -0.6
baz=39,SNR=22
D24A Glendive 39.03 340 ⇓P P 03 22 26.9 -0.3
baz=39,SNR=24
IMW Indian Meadow 39.03 331 eP P 03 22 27.6 0.0
comp=Z,16nm,0.6s
IMW ePcP PcP 03 24 38.0 +1.0
IMW LR LR
comp=Z,4μm,21.8s
ELK Elko 39.04 324 eP P 03 22 28.9 +1.3
ELK e 03 24 39.4
ELK pmax pmax
comp=Z,254nm,2.5s
ELK MLR MLR
comp=Z,2μm,20.6s
ELK Elko 39.04 324 P P 03 22 28.4 +0.8
comp=Z,11nm,0.8s,baz=178,slow=4.1,SNR=58
ELK PcP PcP 03 24 38.8 +1.8
comp=Z,7.9nm,0.8s,baz=155,slow=3.3,SNR=6.8
ELK Elko 39.04 324 eP P 03 22 28.9 +1.3
comp=Z,254nm,2.5s
ELK ePcP PcP 03 24 39.4 +2.4
ELK LR LR
comp=Z,2μm,20.6s
H18A Shoshone NF, C 39.06 333 ⇑P P 03 22 27.1 -0.6
baz=39,SNR=42
A30A Hoffart Farm, 39.06 347 ⇑P P 03 22 25.9 -1.5
baz=39,SNR=19
FLWY Flagg Ranch 39.06 332 eP P 03 22 27.7 -0.1
comp=Z,93nm,1.5s
FLWY ePcP PcP 03 24 39.2 +2.2
FLWY LR LR
comp=Z,6μm,20.9s
B28A Dugan Ranch, T 39.08 345 ⇑P P 03 22 26.6 -0.9
baz=39,SNR=41
C25A Freed Ranch, W 39.22 342 ⇑P P 03 22 28.5 -0.3
baz=39,SNR=18
RLMT Red Lodge 39.23 334 eP P 03 22 28.4 -0.7
comp=Z,91nm,1.6s
RLMT ePcP PcP 03 24 39.2 +1.7
RLMT LR LR
comp=Z,3μm,21.0s
H17A Grant Village 39.25 332 eP P 03 22 31.3 +2.0
comp=Z,64nm,1.6s
H17A LR LR
comp=Z,5μm,21.3s
H17A Grant Village 39.25 332 ⇑P P 03 22 30.3 +1.0
baz=39,SNR=9.6
A29A Manning Farm, 39.25 347 ⇑P P 03 22 27.6 -1.4
baz=39,SNR=45
B27A Peters Farms, 39.27 344 ⇓P P 03 22 28.2 -0.9
baz=39,SNR=5.9
F20A Billings 39.32 336 ⇓P P 03 22 29.2 -0.5
baz=39,SNR=19
LAO LASA Array 39.32 338 eP P 03 22 28.6 -1.1
comp=Z,136nm,1.7s
LAO LR LR
comp=Z,3μm,21.0s
MCID Moose Creek 39.37 331 eP P 03 22 30.7 +0.4
D23A Lindsay 39.38 340 ⇓P P 03 22 30.3 +0.1
baz=39,SNR=17
MLAC Mammoth Lakes 39.38 318 ⇓P P 03 22 32.3 +1.8
baz=40
YFT Old Faithful 39.41 332 eP P 03 22 32.0 +1.4
comp=Z,37nm,1.0s
YFT LR LR
comp=Z,6μm,21.4s
C24A Savage 39.43 341 ⇓P P 03 22 30.3 -0.2
baz=40,SNR=8.0
NV01 Mina Array Sit 39.48 319 eP P 03 22 33.2 +1.9
NV01 ePcP PcP 03 24 40.5 +2.1
NVAR Mina Array Bea 39.48 319 P P 03 22 33.2 +1.9
comp=Z,13nm,0.7s,baz=134,slow=7.5,SNR=81
NVAR PcP PcP 03 24 40.8 +2.4
comp=Z,20nm,0.6s,baz=133,slow=4.3,SNR=22
NVAR ScP S 03 28 29.8 -0.4
comp=Z,0.5nm,0.7s,baz=101,slow=4.1,SNR=2.9
A28A Rude Farm, Bot 39.48 345 ⇓P P 03 22 29.5 -1.4
baz=40,SNR=7.4
E21A Keefer Ranch, 39.51 337 ⇓P P 03 22 31.1 -0.1
baz=40,SNR=22
B26A Jensen Ranch, 39.52 343 ⇑P P 03 22 30.6 -0.6
baz=40,SNR=7.5
YNR Norris Junctio 39.54 332 eP P 03 22 32.6 +0.8
comp=Z,24nm,1.4s
YMR Madison River 39.63 332 eP P 03 22 33.3 +0.8
comp=Z,178nm,1.8s
YMR LR LR
comp=Z,5μm,21.1s
F19A Roth Farm, Mol 39.69 335 ⇑P P 03 22 32.5 -0.3
baz=40,SNR=24
B25A Knox Farm, Ray 39.69 342 ⇓P P 03 22 32.9 +0.2
baz=40
D22A Cohagen 39.70 339 ⇓P P 03 22 32.7 -0.1
baz=40,SNR=44
ULM Lac du Bonnet 39.86 350 eP P 03 22 31.7 -2.3
ULM pmax pmax
comp=Z,38nm,0.8s
ULM MLR MLR
comp=Z,2μm,20.6s
ULM Lac du Bonnet 39.86 350 P P 03 22 32.0 -2.0
comp=Z,35nm,0.6s,baz=166,slow=9.1,SNR=76
ULM LR LR 03 39 53.0
comp=Z,2μm,20.9s,baz=162,slow=38
ULM Lac du Bonnet 39.86 350 eP P 03 22 31.7 -2.3
comp=Z,38nm,0.8s
ULM LR LR
comp=Z,2μm,20.6s
E20A Meyer Farm, Mu 39.89 336 ⇑P P 03 22 34.7 +0.3
baz=40,SNR=69
C23A Lambert 39.91 340 ⇓P P 03 22 34.4 -0.2
baz=40,SNR=40
D21A La Casta Ranch 39.92 338 ⇑P P 03 22 34.6 0.0
baz=40,SNR=21
A26A Wade Farm, Ken 39.93 344 ⇑P P 03 22 34.0 -0.7
baz=40,SNR=16
QLMT Earthquake Lak 39.97 332 eP P 03 22 36.5 +1.2
QLMT ePcP PcP 03 24 41.0 +1.2
BMN Battle Mountai 40.00 322 eP P 03 22 37.1 +1.5
BMN pmax pmax
comp=Z,40nm,1.0s
BMN MLR MLR
comp=Z,3μm,18.0s
BMN Battle Mountai 40.00 322 eP P 03 22 37.1 +1.5
comp=Z,40nm,1.0s
BMN LR LR
comp=Z,3μm,18.0s
C22A Vida 40.10 339 ⇑P P 03 22 36.3 +0.2
baz=40,SNR=45
E19A Rath Farm, Rou 40.11 336 ⇓P P 03 22 36.2 -0.1
baz=40,SNR=23
DGMT Dagmar 40.18 342 eP P 03 22 36.0 -0.7
comp=Z,98nm,0.8s

DGMT ePP PnPn 03 24 14.8 +0.9
DGMT LR LR
comp=Z,4μm,21.0s
DGMT Dagmar 40.18 342 ⥣P P 03 22 36.6 -0.2
baz=40,SNR=32
WAKR Walker 40.26 318 eP P 03 22 41.0 +3.2
WAKR ePcP **PcP 03 24 44.6 +3.7**
A25A Svangstu Ranch 40.27 343 ⥣P P 03 22 37.0 -0.5
baz=40,SNR=5.7
D20A Manuel Ranch, 40.37 337 ⥥P P 03 22 38.1 -0.3
baz=40,SNR=58
B23A Brockton 40.43 341 ⥣P P 03 22 39.1 +0.3
baz=40,SNR=58
HLID Hailey 40.51 328 eP P 03 22 40.3 +0.6
comp=Z,132nm,1.8s
HLID LR LR
comp=Z,4μm,19.0s
HLID Hailey 40.51 328 ⥥P P 03 22 39.9 +0.2
baz=41,SNR=59
A24A Westby 40.52 342 ⥥P P 03 22 39.6 0.0
baz=41,SNR=22
C21A Desert Coulee 40.60 338 ⥥P P 03 22 40.0 -0.2
baz=41,SNR=28
B22A Reddig Ranch S 40.62 340 ⥥P P 03 22 40.4 0.0
baz=41
CMB Columbia Colle 40.63 317 eP P 03 22 42.7 +2.1
CMB e 03 24 43.5
CMB pmax pmax
comp=Z,263nm,2.6s
CMB MLR MLR
comp=Z,3μm,19.0s
CMB Columbia Colle 40.63 317 eP P 03 22 42.7 +2.1
comp=Z,263nm,2.6s
CMB ePcP **PcP 03 24 43.5 +1.6**
CMB LR LR
comp=Z,3μm,19.0s
MCMT McKenzie Canyo 40.64 331 eP P 03 22 41.9 +1.0
BOZ Bozeman (W) 40.69 333 eP P 03 22 40.7 -0.4
BOZ pmax pmax
comp=Z,99nm,1.7s
BOZ MLR MLR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 40.69 333 eP P 03 22 40.7 -0.4
comp=Z,99nm,1.7s
BOZ LR LR
comp=Z,2μm,20.0s
SAO San Andreas Ge 40.69 315 PFAKE 03 22 50.0 +8.8
SAO LR LR
comp=Z,4μm,22.0s
D19A Cripps Ranch, 40.72 336 ⥣P P 03 22 41.0 -0.3
baz=41,SNR=33
A23A Redstone 40.83 341 ⥥P P 03 22 41.9 -0.2
baz=41,SNR=8.1
C20A Veseth Ranch, 40.84 338 ⥥P P 03 22 42.0 -0.3
baz=41,SNR=11
DLMT Dillon 40.91 332 eP P 03 22 43.4 +0.3
comp=Z,71nm,1.4s
DLMT ePcP **PcP 03 24 44.1 +1.3**
DLMT LR LR
comp=Z,4μm,21.6s
B21A Ellsworth Farm 41.08 339 ⥣P P 03 22 44.2 0.0
baz=41
MFID Camas Ranch 41.15 327 eP P 03 22 44.5 -0.4
comp=Z,273nm,2.5s
MFID ePcP **PcP 03 24 45.2 +1.7**
MFID LR LR
comp=Z,3μm,18.0s
A22A Carney Farms, 41.19 340 ⥣P P 03 22 45.1 0.0
baz=41,SNR=30
LRM Limekiln Ridge 41.19 332 eP P 03 22 46.0 +0.6
LRM ePcP **PcP 03 24 44.9 +1.0**
C19A Slack Wire Ran 41.26 337 ⥣P P 03 22 45.6 -0.1
baz=41,SNR=38
B20A Solberg Farm, 41.45 338 ⥥P P 03 22 47.1 -0.1
baz=42,SNR=26
A21A Bergtoll Ranch 41.53 340 ⥣P P 03 22 47.8 -0.1
baz=42,SNR=26
HRY Holter Researc 41.59 333 eP P 03 22 48.8 +0.3
HRY ePcP **PcP 03 24 48.0 +3.1**
EGMT Eagleton 41.77 336 eP P 03 22 49.3 -0.6
comp=Z,176nm,1.7s
EGMT LR LR
comp=Z,2μm,22.0s
EGMT Eagleton 41.77 336 ⥣P P 03 22 49.7 -0.2
baz=42,SNR=22
A20A Cobblestone Ra 41.79 339 ⥣P P 03 22 49.8 -0.1
baz=42,SNR=71
B19A Brinkman Farms 41.81 337 ⥣P P 03 22 50.2 +0.1
baz=42
WVOR Wild Horse Val 42.08 324 eP P 03 22 53.0 +0.4
WVOR e 03 24 49.7
WVOR pmax pmax
comp=Z,37nm,0.8s
WVOR MLR MLR
comp=Z,4μm,18.0s
WVOR Wild Horse Val 42.08 324 eP P 03 22 53.0 +0.4
comp=Z,37nm,0.8s
WVOR ePcP **PcP 03 24 49.7 +3.0**
WVOR LR LR
comp=Z,4μm,18.0s
A19A Klindworth Far 42.12 338 ⥥P P 03 22 52.5 -0.3
baz=42,SNR=16
MCCM Marconi Confer 42.37 316 PFAKE 03 23 10.0 +15
MCCM LR LR
comp=Z,3μm,18.0s
CHMT Chamberlain Mo 42.38 333 eP P 03 22 55.0 0.0
MSO Missoula 42.63 332 eP P 03 22 56.6 -0.3
comp=Z,57nm,1.4s
MSO LR LR
comp=Z,3μm,20.0s
MSO Missoula 42.63 332 ⥣P P 03 22 56.5 -0.5
baz=43,SNR=9.6
SLMT Seeley Lake 42.74 333 eP P 03 22 57.7 -0.2
SLMT ePcP **PcP 03 24 50.1 +1.3**
MOD Modoc 42.74 322 eP P 03 22 58.0 0.0
comp=Z,32nm,1.5s
MOD ePcP **PcP 03 24 50.7 +1.8**
MOD LR LR
comp=Z,3μm,19.0s
BMO Blue Mountains 42.90 327 eP P 03 22 57.8 -1.4
comp=Z,15nm,0.8s
BMO ePcP **PcP 03 24 52.0 +2.6**
BMO LR LR
comp=Z,4μm,20.0s
SWMT Swartz Lake 43.16 333 eP P 03 23 01.0 -0.2
WDC Whiskeytown Da 43.40 319 PFAKE 03 23 20.0 +17
WDC LR LR
comp=Z,3μm,22.0s
YBMT Yellow Bay 43.43 333 eP P 03 23 03.9 +0.5
JTMT Jette 43.47 333 eP P 03 23 04.2 +0.4
K05A Summer Lake 43.58 323 eP P 03 23 06.4 +1.6
comp=Z,180nm,2.5s
K05A LR LR
comp=Z,4μm,20.1s
I07A Izee 43.60 325 eP P 03 23 05.2 +0.3
comp=Z,14nm,1.0s
I07A LR LR
comp=Z,3μm,20.0s
KIPM Iron Peak 43.61 318 eP P 03 23 07.2 +2.2
KCPM Cahto Peak 43.62 317 eP P 03 23 07.6 +2.6
comp=Z,742nm,2.9s
M04C Macdoel 43.62 321 ⥣P P 03 23 05.4 +0.4
baz=44
F10A Beach Ranch, E 43.62 329 eP P 03 23 05.3 +0.3
comp=Z,28nm,0.8s
F10A LR LR
comp=Z,6μm,20.8s
BLMT Blacktail Moun 43.70 333 eP P 03 23 05.1 -0.6
N02D Trinity Center 43.72 319 ⥣P P 03 23 06.4 +0.7
baz=44
BSMT Bassoo Peak 43.77 332 eP P 03 23 06.2 -0.1
KMRM Mail Ridge 43.97 318 eP P 03 23 07.3 -0.6
comp=Z,49nm,1.0s
M02C Callahan 44.03 320 ⥣P P 03 23 07.9 -0.5
baz=44
K04D Chiloquin, OR 44.04 322 ⥣P P 03 23 08.6 +0.2
baz=44
RPN Rapa Nui 44.06 210 LR LR 03 36 40.2
comp=Z,4μm,20.4s,baz=36,slow=29
G08A Pilot Rock 44.07 327 eP P 03 23 08.6 0.0
comp=Z,17nm,1.3s
G08A LR LR
comp=Z,600nm,19.4s
J05D Fort Rock, OR 44.12 323 ⥣P P 03 23 08.8 -0.2
baz=44
YBH Yreka Blue Hor 44.13 320 eP P 03 23 09.6 +0.5
YBH pmax pmax
comp=Z,131nm,2.8s
YBH MLR MLR
comp=Z,4μm,22.0s
YBH Yreka Blue Hor 44.13 320 P **P 03 23 09.6 +0.5**
comp=Z,3.8nm,0.7s,baz=96,slow=10,SNR=5.7
YBH Yreka Blue Hor 44.13 320 eP P 03 23 09.6 +0.5
comp=Z,131nm,2.8s
YBH LR LR
comp=Z,4μm,22.0s
PINOR Pine Mountain 44.22 324 eP P 03 23 10.8 +1.2
comp=Z,30nm,1.0s
WALA Waterton Lakes 44.29 334 eP P 03 23 10.1 -0.2
comp=Z,35nm,1.1s
WALA LR LR
comp=Z,3μm,21.6s
KHMM Horse Mountain 44.32 319 PFAKE 03 23 20.0 +9.2
KHMM LR LR
comp=Z,4μm,20.0s
E09A Wood Farm, Sta 44.46 329 eP P 03 23 11.5 0.0
comp=Z,201nm,1.8s
E09A LR LR
comp=Z,5μm,20.4s
J04D Umpqua Nationa 44.61 322 ⥣P P 03 23 13.4 +0.3
baz=45
HUMO Hull Mountain 44.77 321 PFAKE 03 23 30.0 +16
HUMO LR LR
comp=Z,4μm,18.0s
I05D Terrebonne, OR 44.80 324 ⥥P P 03 23 15.1 +0.7
baz=45
H03N2 Juan Fernandez 44.81 171 T T 04 10 59.9
baz=349,slow=76,SNR=36
H03N1 Juan Fernandez 44.81 171 T T 04 10 59.7
baz=349,slow=76,SNR=31
H03N3 Juan Fernandez 44.83 171 T T 04 11 00.5
baz=349,slow=76,SNR=41
DRLN Deer Lake 44.95 27 PFAKE 03 23 30.0 +15
DRLN LR LR
comp=Z,2μm,20.1s
G06A Carlson Farm, 44.95 326 eP P 03 23 16.8 +1.2
comp=Z,176nm,2.0s
HAWA Hanford 45.09 328 eP P 03 23 16.2 -0.4
comp=Z,30nm,0.7s
HAWA LR LR
comp=Z,4μm,20.0s
I04A Tendick Farm, 45.11 323 ⥣P P 03 23 16.5 -0.3
baz=45
NEW Newport 45.16 331 eP P 03 23 16.8 -0.4
NEW pmax pmax
comp=Z,37nm,1.5s
NEW MLR MLR
comp=Z,3μm,18.0s
NEW Newport 45.16 331 P **P 03 23 16.2 -0.9**
comp=Z,3.8nm,0.6s,baz=134,slow=7.0,SNR=11
NEW Newport 45.16 331 eP P 03 23 16.8 -0.4
comp=Z,37nm,1.5s
NEW LR LR
comp=Z,3μm,18.0s
NEW Newport 45.16 331 ⥥P P 03 23 17.1 -0.1
baz=45,SNR=7.6
D08A Wollman Farm, 45.22 329 eP P 03 23 17.0 -0.5
comp=Z,258nm,2.1s
D08A LR LR
comp=Z,3μm,20.1s
FFC Flin Flon 45.29 347 P **P 03 23 17.0 -1.0**
comp=Z,148nm,0.8s,SNR=8.9
FFC Flin Flon 45.29 347 eP P 03 23 17.0 -1.0
FFC pmax pmax
comp=Z,18nm,0.8s
FFC MLR MLR
comp=Z,4μm,21.0s
FFC Flin Flon 45.29 347 eP P 03 23 17.0 -1.0
comp=Z,18nm,0.8s
FFC LR LR
comp=Z,4μm,21.0s
G05D Wamic, OR 45.34 325 ⥣P P 03 23 19.1 +0.5
baz=45
E07A Sunnyside 45.37 328 eP P 03 23 19.2 +0.4
comp=Z,60nm,0.7s
E07A LR LR
comp=Z,3μm,20.9s
C09A Chrisman Ranch 45.39 330 eP P 03 23 18.7 -0.3
comp=Z,89nm,1.6s
C09A ePcP **PcP 03 24 58.5 +0.9**
C09A LR LR
comp=Z,4μm,19.7s
H04A Detroit Lake 45.49 324 eP P 03 23 20.3 +0.4
comp=Z,92nm,1.4s
H04A LR LR
comp=Z,3μm,20.6s
I03D Drain, OR 45.61 322 ⥣P P 03 23 21.2 +0.5
baz=46
COR Corvallis 46.09 323 PFAKE 03 23 40.0 +16
COR LR LR
comp=Z,3μm,21.0s
ROCH El Roble 46.16 162 eP P 03 23 18.0 -7.4
LTY Liberty 46.25 328 eP P 03 23 25.5 -0.3
comp=Z,123nm,1.7s
LTY ePcP **PcP 03 25 02.3 +1.6**
LTY LR LR
comp=Z,2μm,20.0s
BDFB Brasilia 46.27 124 eP P 03 23 25.8 -0.6
BDFB Brasilia 46.27 124 P **P 03 23 25.5 -0.9**
comp=Z,11nm,0.6s,baz=294,slow=12,SNR=21
BDFB Brasilia 46.27 124 eP P 03 23 25.8 -0.6
SCHQ Schefferville 46.29 15 P **P 03 23 24.4 -1.5**
comp=Z,14nm,0.5s,baz=219,slow=6.5,SNR=35
SCHQ Schefferville 46.29 15 eP P 03 23 23.8 -2.1
comp=Z,43nm,0.8s
SCHQ ePcP **PcP 03 25 01.0 +0.4**
SCHQ LR LR
comp=Z,7μm,20.5s
B08A Colville Reser 46.29 330 eP P 03 23 25.1 -1.0
comp=Z,47nm,1.5s
B08A ePcP **PcP 03 25 01.3 +0.6**
B08A LR LR
comp=Z,3μm,20.3s
F04A Amboy 46.37 325 eP P 03 23 27.3 +0.6
comp=Z,401nm,2.5s
F04A ePcP **PcP 03 25 03.4 +2.4**
F04A LR LR
comp=Z,4μm,19.9s
G03D McMinnville, O 46.42 324 ⥣P P 03 23 27.9 +0.8
baz=46
LON Longmire 46.53 327 eP P 03 23 27.3 -0.8
LON pmax pmax
comp=Z,79nm,1.9s
LON MLR MLR
comp=Z,3μm,20.8s
LON Longmire 46.53 327 eP P 03 23 27.3 -0.8
comp=Z,79nm,1.9s
LON LR LR
comp=Z,3μm,20.8s
CPUP Villa Florida 46.64 143 eP P 03 23 28.4 -0.5
CPUP Villa Florida 46.64 143 P **P 03 23 27.9 -1.1**
comp=Z,8.3nm,0.8s,baz=317,slow=9.8,SNR=11
CPUP LR LR 03 44 30.9
comp=Z,1μm,18.0s,baz=308,slow=38
CPUP Villa Florida 46.64 143 eP P 03 23 28.4 -0.5
F04D Rainier, OR 46.79 325 ⥣P P 03 23 30.0 +0.1
baz=47
D05A Enumclaw 46.90 327 eP P 03 23 30.8 -0.1
comp=Z,73nm,1.4s
D05A LR LR
comp=Z,4μm,21.9s
F03A Seaside 47.01 325 eP P 03 23 33.5 +1.8
comp=Z,93nm,0.9s
F03A ePcP **PcP 03 25 06.6 +3.3**
F03A LR LR
comp=Z,3μm,19.2s
EDM Edmonton 47.31 338 eP P 03 23 33.1 -0.8
EDM Edmonton 47.31 338 eP P 03 23 33.1 -0.8
E03A Lebam 47.37 325 eP P 03 23 35.1 +0.7
comp=Z,137nm,1.6s
E03A ePcP **PcP 03 25 06.4 +1.9**
E03A LR LR
comp=Z,4μm,18.9s
B06A Marblemount 47.48 329 eP P 03 23 34.3 -0.9
comp=Z,35nm,0.7s
B06A ePcP **PcP 03 25 06.7 +1.8**
B06A LR LR
comp=Z,2μm,20.4s
FCC Fort Churchill 47.96 355 eP P 03 23 37.1 -1.7
FCC pmax pmax
comp=Z,16nm,0.8s
FCC MLR MLR
comp=Z,2μm,20.6s
FCC Fort Churchill 47.96 355 eP P 03 23 37.1 -1.7
comp=Z,16nm,0.8s
FCC LR LR
comp=Z,2μm,20.6s
NLWA Neilton Lookou 48.04 326 eP P 03 23 40.0 +0.3
comp=Z,125nm,1.6s
NLWA ePcP **PcP 03 25 09.4 +2.4**
NLWA LR LR
comp=Z,8μm,21.0s
A05A Maple Falls 48.09 329 PFAKE 03 23 50.0 +10
A05A LR LR
comp=Z,2μm,21.4s
PGC Sidney 48.58 328 PFAKE 03 24 00.0 +16
PGC LR LR
comp=Z,2μm,20.4s
RCBR Riachuelo 52.89 106 PFAKE 03 24 30.0 +13
RCBR LR LR
comp=Z,6μm,20.0s
PLCA Paso Flores 53.56 165 eP P 03 24 21.6 +0.4
PLCA pmax pmax
comp=Z,31nm,0.9s
PLCA Paso Flores 53.56 165 P **P 03 24 20.2 -1.0**
comp=Z,3.6nm,0.7s,baz=331,slow=7.8,SNR=5.2
PLCA LR LR 03 42 46.6
comp=Z,1μm,19.1s,baz=348,slow=31
PLCA Paso Flores 53.56 165 eP P 03 24 21.6 +0.4
comp=Z,30nm,0.9s
TRQA Tornquist 53.91 156 PFAKE 03 24 40.0 +16
TRQA LR LR
comp=Z,2μm,20.4s
YKA Yellowknife Ar 55.24 344 P **P 03 24 31.6 -1.5**
comp=Z,9.3nm,0.6s,baz=142,slow=6.9,SNR=144
YKA PcP **PcP 03 25 33.4 0.0**
comp=Z,3.0nm,0.7s,baz=144,slow=4.1,SNR=7.5
PTCN Pitcairn Islan 55.79 229 PFAKE 03 24 50.0 +12
PTCN LR LR
comp=Z,6μm,21.0s
TAOE Nuku Hiva Isla 57.10 252 eT T 04 26 05.9
comp=Z,475nm,0.3s
CRAG Craig 57.37 330 PFAKE 03 25 00.0 +12
CRAG LR LR
comp=Z,2μm,20.4s
DLBC Dease Lake 57.64 335 eP P 03 24 49.6 -0.7
DLBC LR LR
comp=Z,3μm,20.0s
RKT Rikitea 58.51 234 eS S 03 32 58.2 +1.0
comp=Z,1μm,29.0s
RKT eSS **SS 03 36 52.2 +1.6**
comp=Z,554nm,29.0s
RKT eLQ LQ 03 40 01.7
comp=Z,2μm,31.8s
RKT eLR LR 03 42 09.9
comp=Z,2μm,24.2s,baz=50
RKT Rikitea 58.51 234 eT T 04 27 49.2
comp=Z,21nm,0.2s
SIT Sitka 59.24 331 PFAKE 03 25 10.0 +8.6
SIT LR LR
comp=Z,2μm,20.1s
SFJD Kangerlussuaq 60.74 15 LR LR 03 51 20.4
comp=Z,6μm,21.3s,baz=218,slow=36
SFJD Kangerlussuaq 60.74 15 PFAKE 03 25 20.0 +8.4
SFJD LR LR
comp=Z,6μm,20.0s
HYT Haines Junctio 62.12 334 eP P 03 25 23.8 +2.6
RES Resolute Bay 63.78 357 eP P 03 25 31.4 -0.4
RES pmax pmax
comp=Z,13nm,0.6s
RES Resolute Bay 63.78 357 eP P 03 25 31.4 -0.4
comp=Z,13nm,0.6s
DAWY Dawson 64.50 337 eP P 03 25 35.4 -1.4
RAGM Ragged Mountai 65.09 332 eP P 03 25 39.5 -1.2
comp=Z,122nm,1.6s
RAGM LR LR
comp=Z,5μm,18.1s
BMRM Bremner River 65.29 333 eP P 03 25 42.2 +0.2
comp=Z,114nm,1.8s
BMRM LR LR
comp=Z,3μm,21.5s
EGAK Eagle 65.52 337 eP P 03 25 42.6 -0.7
comp=Z,16nm,0.9s
EGAK LR LR
comp=Z,3μm,22.0s
DIV Divide 65.88 333 eP P 03 25 44.6 -1.2
comp=Z,23nm,1.0s
VAH Vaihoa 66.12 248 eT T 04 37 21.6
comp=Z,10.0nm,0.3s
DOT Dot Lake 66.15 336 eP P 03 25 47.3 -0.2
comp=Z,31nm,0.7s
DOT LR LR
comp=Z,2μm,19.4s
PMOR Pomariorio Ree 66.28 248 eT T 04 37 33.7
comp=Z,19nm,0.2s
PAX Paxson 66.45 335 eP P 03 25 49.0 -0.5
PAX pmax pmax
comp=Z,18nm,0.7s
PAX MLR MLR
comp=Z,2μm,20.0s
PAX Paxson 66.45 335 eP P 03 25 49.0 -0.5
comp=Z,18nm,0.7s
PAX LR LR
comp=Z,2μm,20.0s
SEW Seward 67.22 331 eP P 03 25 54.1 -0.1
comp=Z,20nm,1.0s
SEW LR LR
comp=Z,2μm,20.7s
SML Sawmill 67.27 333 PFAKE 03 26 10.0 +15
SML LR LR
comp=Z,500nm,18.6s
PMR Palmer 67.55 333 eP P 03 25 56.3 0.0
PMR pmax pmax
comp=Z,14nm,0.9s
PMR MLR MLR
comp=Z,4μm,20.7s
PMR Palmer 67.55 333 eP P 03 25 56.2 0.0
comp=Z,14nm,0.9s
PMR LR LR
comp=Z,4μm,20.7s
SUMG Summit 67.65 14 eP P 03 25 55.9 -1.3
SUMG pmax pmax
comp=Z,22nm,1.1s
SUMG MLR MLR
comp=Z,5μm,20.0s
SUMG Summit 67.65 14 iP P 03 25 54.8 -2.4
SUMG Summit 67.65 14 eP P 03 25 55.9 -1.3
comp=Z,22nm,1.1s
SUMG LR LR
comp=Z,5μm,20.0s
RC01 Rabbit Creek A 67.67 332 eP P 03 25 56.7 -0.3
comp=Z,23nm,0.9s
RC01 LR LR
comp=Z,3μm,21.6s
IL1 Eielson Array 67.73 336 eP P 03 25 56.1 -1.3
ILAR Eielson Array 67.73 336 P **P 03 25 56.6 -0.8**
comp=Z,12nm,0.6s,baz=130,slow=4.2,SNR=83
ILB Eielson Array 67.73 336 eP P 03 25 56.6 -0.8
KDAK Kodiak Island 68.13 328 iP P 03 26 00.4 +0.4
KDAK Kodiak Island 68.13 328 PFAKE 03 26 10.0 +10
KDAK LR LR
comp=Z,22.0s
COLA College 68.16 336c iP P 03 25 59.4 -0.6
COLA pmax pmax
comp=Z,66nm,0.6s
COLA College 68.16 336 eP P 03 25 58.9 -1.2
comp=Z,23nm,0.8s
COLA LR LR
comp=Z,3μm,21.0s
MCK McKinley 68.19 335 eP P 03 25 59.5 -0.8
MCK pmax pmax
comp=Z,33nm,0.9s
MCK MLR MLR
comp=Z,3μm,20.7s
MCK McKinley 68.19 335 eP P 03 25 59.5 -0.8
comp=Z,33nm,0.9s
MCK LR LR
comp=Z,3μm,20.7s
OHAK Old Harbor 68.36 327 eP P 03 26 00.8 -0.7
comp=Z,26nm,0.9s
OHAK LR LR
comp=Z,2μm,21.2s
PPT Papeete 68.66 246 LR LR 03 49 01.7
comp=Z,1μm,18.1s,baz=66,slow=30
TRF Thorofare Moun 68.67 334 eP P 03 26 02.5 -1.0
comp=Z,134nm,1.7s
TRF LR LR
comp=Z,3μm,18.1s
PPT2 Papeete2 68.67 246 eS S 03 35 03.7 -0.2
comp=Z,3μm,27.2s
PPT2 Papeete2 68.67 246 eLR LR 03 46 55.3

comp=Z,3μm,24.8s,baz=51
RSO Redoubt South 68.90 331 eP P 03 26 05.0 -0.1
KTH Kantishna Hill 68.97 334 eP P 03 26 04.4 -0.8
comp=Z,24nm,1.0s
KTH LR LR
comp=Z,2μm,20.0s
PPLA Purkeypile 69.32 333 eP P 03 26 06.8 -0.7
comp=Z,27nm,0.7s
PPLA LR LR
comp=Z,4μm,21.8s
CAST Castle Rocks 69.42 334 eP P 03 26 06.5 -1.5
comp=Z,14nm,0.7s
CAST LR LR
comp=Z,2μm,21.7s
COLD Coldfoot 69.89 338 eP P 03 26 11.3 +0.5
comp=Z,23nm,1.1s
COLD LR LR
comp=Z,2μm,19.1s
SVW2 Sparrevohn 70.40 331 eP P 03 26 13.0 -1.0
comp=Z,15nm,0.7s
SVW2 LR LR
comp=Z,3μm,21.7s
TBI Tubuai 70.60 240 eT T 04 42 57.5
comp=Z,12nm,0.3s
CHGN Chignik 70.95 326 eP P 03 26 17.2 -0.2
FALS False Pass 73.61 324 eP P 03 26 33.4 0.0
comp=Z,42nm,0.6s
MTE Manteigas 74.38 51 PFAKE 03 26 50.0 +12
MTE LR LR
comp=Z,4μm,19.0s
UNV Unalaska Valle 75.37 323 eP P 03 26 44.3 +0.8
comp=Z,72nm,0.6s
TNA Tin City 76.53 335 eP P 03 26 50.2 +0.3
comp=Z,25nm,1.4s
TNA LR LR
comp=Z,2μm,19.6s
PAB San Pablo 76.87 52 PFAKE 03 27 00.0 +7.5
PAB LR LR
comp=Z,3μm,18.0s
ESDC Sonseca Array 77.16 52 P P 03 26 51.3 -2.8
comp=Z,0.6nm,0.5s,baz=286,slow=6.6,SNR=5.3
ROSF Rostrenen 77.20 43 eP P 03 26 52.8 -1.3
GAMB Gambell 78.12 333 eP P 03 26 57.6 -1.2
comp=Z,64nm,2.0s
GAMB LR LR
comp=Z,2μm,21.8s
GRR Gorron 78.81 43 eP P 03 26 58.9 -4.1
comp=Z,153nm,1.6s
FLN La Foliniere 79.03 42 eP P 03 27 01.5 -2.7
LDF La Druitiere 79.28 42 eP P 03 27 03.1 -2.5
comp=Z,86nm,1.5s
TIC Toumodi 80.23 85 eP P 03 27 10.1 -1.3
comp=Z,3.0nm,0.2s
LIC Lamto 80.29 86 eP P 03 27 09.0 -2.7
comp=Z,27nm,0.7s,baz=275
LIC Lamto 80.29 86 eP P 03 27 09.4 -2.3
comp=Z,44nm,0.7s
DBIC Dimbokro 80.38 85 eP P 03 27 09.8 -2.4
DBIC pmax pmax
comp=Z,31nm,1.5s
DBIC MLR MLR
comp=Z,1μm,20.3s
DBIC Dimbokro 80.38 85 P P 03 27 09.7 -2.5
comp=Z,3.2nm,0.6s,baz=260,slow=4.1,SNR=7.9
DBIC Dimbokro 80.38 85 eP P 03 27 09.8 -2.4
comp=Z,31nm,1.5s
DBIC LR LR
comp=Z,1μm,20.3s
KIC Kosan Boka 80.55 85 eP P 03 27 11.4 -1.7
comp=Z,15nm,0.7s
KBS Kingsbay 80.80 11 PFAKE 03 27 20.0 +6.8
KBS LR LR
comp=Z,4μm,20.0s
BGF Bois d'Agland 81.48 44 eP P 03 27 15.3 -2.2
comp=Z,49nm,1.3s
ADK Adak 81.63 321 eP P 03 27 19.3 +1.2
ADK Adak 81.63 321 eP P 03 27 19.3 +1.2
comp=Z,171nm,0.6s
SPA0 Spitsbergen Ar 81.83 12 eP P 03 27 17.9 -0.8
SPITS Spitsbergen Ar 81.83 12 P P 03 27 17.9 -0.8
comp=Z,6.8nm,0.9s,baz=348,slow=6.5,SNR=4.4
MEM Membach 83.00 40 PFAKE 03 27 40.0 +15
MEM LR LR
comp=Z,3μm,20.0s
WLF Walferdange 83.24 41 PFAKE 03 27 40.0 +13
WLF LR LR
comp=Z,3μm,19.0s
NB2 NORSAR Subarra 84.03 29 P P 03 27 32.9 +2.5
comp=Z,7.4nm,1.2s,baz=281,slow=4.8
NB200 NORSAR Array S 84.03 29 eP P 03 27 28.6 -1.8
NOA NORSAR Array B 84.03 29 P P 03 27 28.6 -1.8
comp=Z,1.9nm,1.1s,baz=220,slow=20,SNR=2.8
AMKA Amchitka 84.18 321 eP P 03 27 32.2 +0.9
BNI Bardonecchia 84.36 45 PFAKE 03 27 40.0 +7.4
BNI LR LR
comp=Z,3μm,21.0s
BFO Black Forest 84.89 42 PFAKE 03 27 50.0 +15
BFO LR LR
comp=Z,2μm,20.0s
STU Stuttgart 85.36 41 PFAKE 03 27 50.0 +13
STU LR LR
comp=Z,2μm,19.0s
HFS Hagfors 85.42 30 P P 03 27 34.9 -2.5
comp=Z,1.8nm,0.7s,baz=236,slow=1.6,SNR=5.0
TOA0 Torodi Ar. Sit 85.61 78 eP P 03 27 35.6 -3.6
TOA0 ePKKPbc PKKPbc 03 45 44.3 +2.7
TORD Torodi Ar. Bea 85.61 78 P P 03 27 35.6 -3.6
comp=Z,0.4nm,0.4s,baz=288,slow=3.6,SNR=11
TORD PKKPbc PKKPbc 03 45 44.3 +2.7
comp=Z,0.4nm,0.7s,baz=48,slow=1.7,SNR=4.0
TUE Stuetta 85.93 44 PFAKE 03 27 50.0 +10
TUE LR LR
comp=Z,3μm,21.0s
BILL Bilibino 86.21 339 c iP P 03 27 40.2 -1.0
BILL eS S 03 38 04.9 -7.2
BILL pmax pmax
comp=Z,63nm,2.5s
BILL MLR MLR
comp=Z,2μm,23.0s
BILL Bilibino 86.21 339 eP P 03 27 41.0 -0.2
comp=Z,258nm,2.6s
BILL LR LR
comp=Z,1μm,21.0s
FUORN Ofenpass-Fuorn 86.51 43 PFAKE 03 27 50.0 +6.5
FUORN LR LR
comp=Z,3μm,20.9s
RGN Rugen 86.59 35 PFAKE 03 27 50.0 +6.7
RGN LR LR
comp=Z,2μm,20.0s
FETA Feichten 86.74 43⇑iP P 03 27 44.1 -0.4
comp=Z,3.8nm,1.2s
ARA0 ARCESS Array S 87.12 19 eP P 03 27 43.6 -2.0
ARCES ARCESS Array B 87.12 19 P P 03 27 43.6 -2.0
comp=Z,2.3nm,0.7s,baz=262,slow=3.7,SNR=5.0
VLC Villacollemand 87.13 46 PFAKE 03 28 00.0 +14
VLC LR LR
comp=Z,1μm,21.0s
CLL Collm 87.20 38 eP P 03 27 45.0 -1.3
CLL eS S 03 38 16.0 -6.2
CLL MLR MLR
comp=Z,2μm,20.7s
CLL Collm 87.20 38 eP P 03 27 45.0 -1.3
CLL ePP PP 03 31 10.0 -0.4
CLL eSKSac S 03 38 16.0 -6.2
CLL ePS PS 03 39 32.0 +2.2
CLL ePPS PPS 03 39 51.0
CLL eSS SS 03 44 24.0 +18
CLL e 03 49 00.0
CLL eSSSS 03 50 48.0
CLL LmV 04 02 00.0
comp=Z,2μm,20.7s
CLL Collm 87.20 38 PFAKE 03 28 00.0 +14
CLL LR LR
comp=Z,2μm,20.0s
RUE Ruedersdorf 87.38 37 PFAKE 03 28 00.0 +13
RUE LR LR
comp=Z,2μm,20.0s
VSL Villasalto 87.38 50 PFAKE 03 28 00.0 +12
VSL LR LR
comp=Z,1μm,19.0s
FX1 Attu Island--F 87.54 323 eP P 03 27 49.2 +1.3
FX1 Attu Island--F 87.54 323 P P 03 27 48.9 +0.9
comp=Z,20nm,0.6s,baz=140,slow=16,SNR=4.6
FX1 LR LR 04 04 53.3
comp=Z,274nm,20.7s,baz=84,slow=34
FX1 Attu Island--F 87.54 323 eP P 03 27 49.2 +1.3
BRG Berggiesshubel 87.88 39 eP P 03 27 53.1 +3.5
comp=Z,5.9nm,1.3s
BRG Berggiesshubel 87.88 39 S S 03 38 30.0 +1.2
BRG Berggiesshubel 87.88 39 eP P 03 27 53.1 +3.5
BRG S S 03 38 30.0 +1.2
BRG pmax pmax
comp=Z,6.0nm,1.3s
BRG MLR MLR
comp=Z,2μm,18.6s
BRG MLR MLR
comp=N,980nm,18.8s
BRG MLR MLR
comp=E,2μm,18.8s
KHC Kasperske Hory 88.10 40 eS S 03 38 37.9 +6.8
KHC ex x 03 39 45.9
KHC AMS AMS 04 08 30.0
comp=E,2μm,18.6s
KHC Kasperske Hory 88.10 40 PFAKE 03 28 00.0 +9.2
KHC LR LR
comp=Z,2μm,18.1s
GEC2 GERESS Array S 88.25 41 eP P 03 27 49.1 -2.5
GEC2 GERESS Array S 88.25 41 eP P 03 27 49.1 -2.5
GERES GERESS Array B 88.25 41 P P 03 27 49.1 -2.5
comp=Z,0.3nm,0.6s,baz=313,slow=4.9,SNR=3.4
PRU Pruhonice 88.48 39 eS S 03 38 34.9 +0.3
PRU ePS PnS 03 39 42.3 -0.7
PRU AMS AMS 04 06 30.0
comp=Z,3μm,19.3s
TREC Trest 89.26 40 eS S 03 38 44.7 +2.7
TREC ex x 03 39 57.0
TREC AMS AMS 04 06 50.0
comp=Z,3μm,18.1s
DPC Dobruska-Polom 89.48 39 PFAKE 03 28 10.0 +13
DPC LR LR
comp=Z,15μm,20.0s
MORC Moravsky Berou 90.41 39 PFAKE 03 28 10.0 +8.4
MORC LR LR
comp=Z,4μm,19.0s
FIA0 FINESS Array S 90.71 26 eP P 03 28 01.3 -1.3
FIA0 FINESS Array S 90.71 26 eP P 03 28 01.3 -1.3
FINES FINESS Array B 90.71 26 P P 03 28 01.3 -1.3
comp=Z,1.5nm,0.9s,baz=267,slow=8.2,SNR=3.0
OKC Ostrava-Krasne 90.76 39 eS S 03 38 51.4 -4.3
OKC ePS PS 03 40 05.8 -3.6
OKC AMS AMS 04 06 50.0
comp=Z,3μm,18.6s
OJC Ojcow 91.65 38 PFAKE 03 28 20.0 +13
OJC LR LR
comp=Z,3μm,20.9s
CUC Castrocucco 92.08 49 PFAKE 03 28 20.0 +10
CUC LR LR
comp=Z,1μm,19.0s
WDD Wield Dalam 92.21 53 PFAKE 03 28 20.0 +10
WDD LR LR
comp=Z,1μm,22.0s
SUW Suwalki 92.25 34 PFAKE 03 28 20.0 +10
SUW LR LR
comp=Z,1μm,19.0s
PSZ Piszkesteto 92.47 40 PFAKE 03 28 20.0 +8.8
PSZ LR LR
comp=Z,1μm,22.0s
CEL Celeste 92.62 50 PFAKE 03 28 20.0 +7.9
CEL LR LR
comp=Z,1μm,19.0s
TIP Timpagrande 93.00 49 PFAKE 03 28 30.0 +16
TIP LR LR
comp=Z,2μm,20.0s
KWP Kalwaria Pacla 93.61 38 PFAKE 03 28 30.0 +14
KWP LR LR
comp=Z,2μm,20.0s
SEY Seymchan 93.66 337 P P 03 28 16.9 +0.7
comp=Z,1.0nm,0.3s,baz=67,slow=5.1,SNR=8.1
TIXI Tiksi 94.20 349⇓eP P 03 28 19.5 +0.9
TIXI pmax pmax
comp=Z,16nm,2.5s
TIXI Tiksi 94.20 349 eP P 03 28 16.9 -1.7
comp=Z,101nm,3.0s
TIXI LR LR
comp=Z,2μm,21.0s
PET Petropavlovsk 95.69 327 eP P 03 28 32.3 +6.6
PET e 03 32 26.5
PET ePPP PPP 03 34 21.2
PET eS S 03 39 46.9 +7.8
PET ePS PS 03 41 10.0 +6.5
PET ePPS PPS 03 41 49.7
PET eSS SS 03 46 22.9 +15
PET pmax pmax
comp=Z,300nm,19.9s
PET MLR MLR
comp=Z,900nm,17.0s
PET Petropavlovsk 95.69 327 PFAKE 03 28 40.0 +14
PET LR LR
comp=Z,900nm,20.0s
PEA2 Petropavlovsk- 96.16 327 eP P 03 28 28.9 +1.0
PETK Petropavlovsk- 96.16 327 P P 03 28 28.9 +1.0
comp=Z,3.2nm,0.9s,baz=100,slow=14,SNR=4.3
RAO Raoul Island 96.72 242 PFAKE 03 28 40.0 +9.1
RAO LR LR
comp=Z,3μm,22.0s
KIEV Kiev 96.99 35 PFAKE 03 28 40.0 +8.3
KIEV LR LR
comp=Z,2μm,19.0s
KIS Kishinev 98.41 39 eP P 03 28 32.0 -6.2
KIS e 03 32 40.0
KIS Kishinev 98.41 39 eP P 03 28 32.0 -6.2
KIS Kishinev 98.41 39 ePP PP 03 32 40.0 +1.7
OBN Obninsk 98.63 29 PFAKE 03 28 50.0 +11
OBN LR LR
comp=Z,2μm,18.0s
TIRR Tirgusor 99.25 41 PFAKE 03 28 50.0 +8.0
TIRR LR LR
comp=Z,2μm,22.0s
SANT Santorini 100.44 50 PFAKE 03 29 00.0 +12
SANT LR LR
comp=Z,898nm,20.0s
H11N3 WAKE ISLAND Hy101.72 293 T T 05 22 21.4
baz=78,slow=74,SNR=6.3
H11N2 WAKE ISLAND Hy101.73 293 T T 05 22 23.1
baz=78,slow=74,SNR=6.3
H11N1 WAKE ISLAND Hy101.74 293 T T 05 22 22.4
baz=78,slow=74,SNR=4.4
URZ Urewera 101.90 233 PFAKE 03 29 10.0 +16
URZ LR LR
comp=Z,1μm,19.0s
YAK Yakutsk 101.91 344 PFAKE 03 29 10.0 +17
YAK LR LR
comp=Z,1μm,21.0s
H11S1 WAKE ISLAND Hy102.25 292 T T 05 22 54.9
baz=77,slow=74,SNR=13
H11S2 WAKE ISLAND Hy102.25 292 T T 05 22 56.2
baz=77,slow=74,SNR=14
H11S3 WAKE ISLAND Hy102.27 292 T T 05 22 57.0
baz=77,slow=74,SNR=9.4
BKZ Black Stump Fm 102.46 232 PFAKE 03 29 10.0 +14
BKZ LR LR
comp=Z,2μm,22.0s
BFZ Birch Farm 102.75 231 PFAKE 03 29 10.0 +12
BFZ LR LR
comp=Z,2μm,18.0s
ISP Isparta 103.55 47 PFAKE 03 29 10.0 +8.5
ISP LR LR
comp=Z,702nm,20.0s
ANTO Ankara 104.22 44 PFAKE 03 29 20.0 +16
ANTO LR LR
comp=Z,800nm,20.0s
OUZ Omahuta 104.51 236 PFAKE 03 29 20.0 +15
OUZ LR LR
comp=Z,6μm,19.0s
KHZ Kahutara 104.86 229 PFAKE 03 33 30.0
KHZ LR LR
comp=Z,1μm,20.0s
BR101 Keskin Array S 104.86 44 ePKKPbc PKKPbc 03 44 51.8 +0.5
BRTR Keskin Array B 104.86 44 PKKPbc PKKPbc 03 44 51.8 +0.5
comp=Z,0.4nm,0.7s,baz=132,slow=4.4,SNR=2.9
TSUM Tsumeb 106.56 107 PFAKE 03 33 40.0
TSUM LR LR
comp=Z,2μm,21.0s
ARU Arti 106.70 20 PFAKE 03 33 40.0
ARU LR LR
comp=Z,2μm,21.0s
SOC Sochi 106.77 38 eP Pdif 03 29 11.5 -4.0
SOC e 03 33 36.6
SOC eSS SS 03 48 47.0 +4.7
CSS Prodhromos 106.85 48 PFAKE 03 33 40.0
CSS LR LR
comp=Z,200nm,22.0s
YSS Yuzh-Sakhalins 107.56 327 PFAKE 03 33 40.0
YSS LR LR
comp=Z,300nm,19.0s
KIV Kislovodsk 108.31 36 PFAKE 03 33 40.0
KIV LR LR
comp=Z,1μm,19.0s
KBZ Khabaz 108.57 36 PKiKP PKiKP 03 33 29.0 +0.2
comp=Z,1.2nm,0.8s,baz=191,slow=5.2,SNR=4.1
ASAJ Asahikawa 109.42 325 PFAKE 03 33 40.0
ASAJ LR LR
comp=Z,800nm,19.9s
DZM Mont Dzumac 109.96 250 ePP PP 03 34 02.0 -3.6
comp=Z,109nm,26.5s
DZM Mont Dzumac 109.96 250 eSS SS 03 49 30.2 +2.3
comp=Z,499nm,24.5s
DZM Mont Dzumac 109.96 250 eLR LR 04 05 56.6
comp=Z,1μm,22.0s
SUR Sutherland 110.24 120 PFAKE 03 33 50.0
SUR LR LR
comp=Z,3μm,19.5s
GNI Garni 111.81 39 PFAKE 03 33 50.0
GNI LR LR
comp=Z,900nm,21.0s
ABKAR Akbulak array 113.00 23 ePKiKP PKiKP 03 33 37.2 +0.2
BRVK Borovoye 113.06 15 PFAKE 03 33 50.0
BRVK LR LR
comp=Z,2μm,22.0s
BVAR Borovoye Array 113.12 15 PKiKP PKiKP 03 33 37.1 -0.1
comp=Z,1.0nm,0.6s,baz=66,slow=1.7,SNR=6.1
VOSK Vostochnaya 113.54 15 PFAKE 03 33 50.0
VOSK LR LR
comp=Z,1μm,20.8s
BOSA Boshof 114.08 116 PKiKP PKiKP 03 33 39.9 0.0
comp=Z,6.5nm,0.6s,baz=256,slow=2.3,SNR=19
BOSA Boshof 114.08 116 PFAKE 03 33 50.0 +10
BOSA LR LR
comp=Z,2μm,20.8s
LBTB Lobatse 114.35 112 PFAKE 03 33 50.0 +10
LBTB LR LR
comp=Z,1μm,19.1s
ZAA1 Zalesovo Array 114.80 6 ePKiKP PKiKP 03 33 39.3 -1.1
ZAA0 Zalesovo Array 114.80 6 ePKiKP PKiKP 03 33 38.8 -1.6
ZALV Zalesovo Beam 114.80 6 PKP PKPdf 03 33 39.3 -1.1
comp=Z,2.1nm,0.6s,baz=277,slow=1.6,SNR=13
HNR Honiara 114.91 265 PFAKE 03 33 50.0 +8.3
HNR LR LR
comp=Z,1μm,18.0s
HIA Hailar 115.70 341 PFAKE 03 33 50.0 +7.7
HIA LR LR
comp=Z,1μm,20.0s
MDJ Mudanjiang 115.75 332 PFAKE 03 34 00.0 +17
MDJ LR LR
comp=Z,800nm,22.0s
LSZ Lusaka 116.27 102 PFAKE 03 34 00.0 +16
LSZ LR LR
comp=Z,900nm,19.0s
MJAR Matsushiro Arr 116.79 321 PKP PKPdf 03 33 43.8 -1.0
comp=Z,0.8nm,0.6s,baz=115,slow=1.2,SNR=4.8
MJAR PKKPbc PKKPbc 03 44 10.6 -1.5
comp=Z,0.4nm,0.3s,baz=222,slow=7.8,SNR=3.3
MAJO Matsushiro 116.79 321 ePKiKP PKPdf 03 33 43.8 -1.0
MAJO MLR MLR
comp=Z,600nm,21.0s
MAJO Matsushiro 116.79 321 ePKPdf PKPdf 03 33 43.8 -1.0
MAJO ePKKPbc PKKPbc 03 44 10.6 -1.5
MAJO LR LR
comp=Z,600nm,21.0s
TLY Talaya 116.92 353 PFAKE 03 34 00.0 +15
TLY LR LR
comp=Z,800nm,21.0s
KURK Kurchatov 117.09 11 ePKiKP PKPdf 03 33 44.6 -0.3
KURK MLR MLR
comp=Z,1μm,21.0s
KURK Kurchatov 117.09 11 ePKPdf PKPdf 03 33 44.6 -0.3
KURK LR LR
comp=Z,1μm,21.0s
CN2 Changchun 118.22 334 ePKP PKPdf 03 33 46.5 -0.8
ULN Ulaanbaatar 120.14 350 ePKiKP PKPdf 03 33 51.2 +0.1
ULN MLR MLR
comp=Z,1μm,21.0s
ULN Ulaanbaatar 120.14 350 ePKPdf PKPdf 03 33 51.2 +0.1
ULN LR LR
comp=Z,1μm,21.0s
SONA1 Songino Array 120.27 350 ePKPdf PKPdf 03 33 51.2 -0.1
SONA1 ePP PP 03 35 13.8 -2.4
SONA0 Songino Array 120.29 350 ePKPdf PKPdf 03 33 51.2 -0.1
SONA0 ePKKPbc PKKPbc 03 43 59.5 -0.6
SONM Songino Array 120.29 350 PKP PKPdf 03 33 51.2 -0.1
comp=Z,2.3nm,0.6s,baz=340,slow=1.7,SNR=26
SONM PKKPbc PKKPbc 03 43 59.5 -0.6
comp=Z,0.3nm,0.7s,baz=159,slow=1.2,SNR=3.6
GEYT Alibeck 120.97 32 PKP PKPdf 03 33 52.3 -0.5
comp=Z,5.2nm,0.6s,baz=272,slow=4.3,SNR=12
MK32 Makanchi Array 121.51 9 ePKPdf PKPdf 03 33 52.5 -1.1
MKAR Makanchi Array 121.51 9 ePKiKP PKPdf 03 33 52.3 -1.3
MKAR Makanchi Array 121.51 9 PKP PKPdf 03 33 52.5 -1.1
comp=Z,1.2nm,0.6s,baz=348,slow=2.1,SNR=17
MKAR Makanchi Array 121.51 9 ePKPdf PKPdf 03 33 52.3 -1.3
MK01 Makanchi Array 121.53 9 ePKPdf PKPdf 03 33 51.0 -2.6
RAYN Ar Rayn 121.66 54 PFAKE 03 34 10.0 +15
RAYN LR LR
comp=Z,1μm,19.0s
FURI Furi 121.79 72 PFAKE 03 34 10.0 +15
FURI LR LR
comp=Z,800nm,18.0s
KS01 Wonju Array Si 122.04 328 ePKPdf PKPdf 03 33 54.9 +0.1
KSRS Korea Array 122.04 328 PKP PKPdf 03 33 55.2 +0.5
comp=Z,8.7nm,0.8s,baz=4.8,slow=1.9,SNR=17
KS15 Wonju Array Si 122.07 328 ePKPdf PKPdf 03 33 55.2 +0.4
KKAR Karatay Array 122.08 20 ePKiKP PKPdf 03 33 54.4 -0.4
KKAR Karatay Array 122.08 20 ePKPdf PKPdf 03 33 54.4 -0.4
INCN Inchon 122.68 329 PFAKE 03 34 10.0 +14
INCN LR LR
comp=Z,800nm,19.4s
KMBO Kilima Mbogo 123.11 84 PFAKE 03 34 10.0 +12
KMBO LR LR
comp=Z,1μm,19.0s
ARMA Armidale 123.11 241 PFAKE 03 34 10.0 +13
ARMA LR LR
comp=Z,1μm,20.1s
EKS2 Erkin-Say 123.51 18 ePKiKP PKPdf 03 33 57.7 0.0
EKS2 MLR MLR
comp=Z,2μm,21.0s
EKS2 Erkin-Say 123.51 18 ePKPdf PKPdf 03 33 57.7 0.0
EKS2 LR LR
comp=Z,2μm,21.0s
JNU Nakatsue 123.55 323 PFAKE 03 34 10.0 +12
JNU LR LR
comp=Z,600nm,18.9s
CASY Casey 123.67 188 PFAKE 03 34 10.0 +13
CASY LR LR
comp=Z,2μm,18.0s
AAK Ala-Archa 123.74 17 ePKiKP PKPdf 03 33 58.5 +0.3
AAK MLR MLR
comp=Z,2μm,21.0s
AAK Ala-Archa 123.74 17 PKP PKPdf 03 33 58.4 +0.2
comp=Z,2.6nm,0.7s,baz=118,slow=0.8,SNR=11
AAK Ala-Archa 123.74 17 ePKPdf PKPdf 03 33 58.5 +0.3
AAK LR LR
comp=Z,2μm,21.0s
TKM2 Tokmak 2 123.78 16 ePKiKP PKPdf 03 33 58.1 -0.2
TKM2 MLR MLR
comp=Z,2μm,22.0s
TKM2 Tokmak 2 123.78 16 ePKPdf PKPdf 03 33 58.1 -0.2
TKM2 LR LR
comp=Z,2μm,22.0s
BJI Beijing 125.04 339 PKP PKPdf 03 34 01.1 +0.6
BJI PP PP 03 35 56.3 +7.8
BJI SKS SKSdf 03 41 07.0 -1.4
BJI SS SS 03 52 51.4 +11
BJI LR LR
comp=Z,750nm,29.2s
BJI LR LR
comp=Z,480nm,31.7s
BJI LR LR
comp=Z,1μm,29.2s
WMQ Urumqi 125.11 5 ePKP PKPdf 03 34 02.0 +1.4
WMQ PKS PKSdf 03 37 37.3 0.0
WMQ SKS SKSdf 03 41 08.8 +0.2
WMQ SKKS SKKSac 03 42 43.0 -1.3
WMQ SS SS 03 52 46.0 +5.2
WMQ AMB AMB
comp=Z,120nm,10.8s
WMQ LR LR

comp=Z,2μm,24.0s
WMQ LR LR
comp=Z,630nm,21.0s
WMQ LR LR
comp=Z,2μm,20.4s
KSH Kashi 127.05 17 ePKP PKPdf 03 34 05.5 +0.9
KSH esPKP 03 34 20.0
KSH ePKS PKSdf 03 37 41.5 +0.2
KSH eSKKS 03 42 55.3
KSH eSS SS 03 53 10.6 +5.1
KSH AMB AMB
comp=Z,67nm,4.0s
KSH LR LR
comp=Z,180nm,7.1s
KSH LR LR
comp=Z,430nm,12.2s
CTAO Charters Tower 128.76 253 PFAKE 03 34 20.0 +12
CTAO LR LR
comp=Z,800nm,18.8s
KBL Kabul 128.97 26 PFAKE 03 34 20.0 +12
KBL LR LR
comp=Z,900nm,19.8s
GTA Gaotai 129.46 354 PKP PKPdf 03 34 11.0 +1.8
GTA PP PP 03 36 26.3 +8.7
GTA SKS SKSdf 03 41 17.4 +0.4
GTA SKKS SKKSac 03 43 14.5 +2.5
GTA SS SS 03 53 45.8 +11
GTA AMB AMB
comp=Z,210nm,7.6s
GTA LR LR
comp=Z,1μm,21.4s
GTA LR LR
comp=Z,730nm,20.9s
GTA LR LR
comp=Z,1μm,21.8s
JOW Kunigami 129.54 319 PFAKE 03 34 20.0 +11
JOW LR LR
comp=Z,600nm,19.9s
CRZF Crozet Islands 130.06 143 PP PP 03 37 04.0 +42
CRZF R 04 17 00.0
STKA Stephens Creek 131.31 237 ePKIKP PKPdf 03 34 13.8 +1.1
STKA MLR MLR
comp=Z,200nm,18.8s
STKA Stephens Creek 131.31 237 PKP PKPdf 03 34 13.5 +0.8
comp=Z,4.6nm,0.6s,baz=14,slow=1.1,SNR=11
STKA Stephens Creek 131.31 237 ePKPdf PKPdf 03 34 13.8 +1.1
STKA LR LR
comp=Z,200nm,18.8s
LZH Lanzhou 132.14 349 ePKP PKPdf 03 34 12.8 -1.6
LZH sPKP 03 34 21.8
LZH ePP PP 03 36 38.3 +3.3
LZH PKS PKSdf 03 37 44.0 -7.0
LZH SKKS 03 43 24.3
LZH AMB AMB
comp=Z,89nm,4.6s
LZH LR LR
comp=Z,820nm,16.2s
LZH LR LR
comp=Z,750nm,15.7s
LZH LR LR
comp=Z,2μm,20.0s
XAN Xi’an 132.87 343 PKP PKPdf 03 34 16.8 +1.1
WHN Wuhan 134.11 335 SS SS 03 54 08.0 -24
ABPO Ambohimpanom 134.54 106 PFAKE 03 34 30.0 +11
ABPO LR LR
comp=Z,2μm,21.0s
YHNB Yeheng 135.38 323 PFAKE 03 34 30.0 +9.4
YHNB LR LR
comp=Z,599nm,21.0s
NACB Ninganchiao 135.62 322 PFAKE 03 34 30.0 +9.0
NACB LR LR
comp=Z,600nm,20.4s
ENH Enshi 136.18 340 ePKPdf PKPdf 03 34 22.7 +0.7
ENH LR LR
comp=Z,1μm,21.0s
SSLB Suanglung 136.30 323 PFAKE 03 34 40.0 +18
SSLB LR LR
comp=Z,400nm,21.4s
QZH Quanzhou 136.75 326 PKP PKPdf 03 34 20.8 -2.3
QZH PP PP 03 37 04.4 -0.3
QZH LR LR
comp=Z,3μm,23.7s
QZH LR LR
comp=Z,2μm,22.8s
QZH LR LR
comp=Z,1μm,23.0s
TPUB Ta-pu 136.86 322 PFAKE 03 34 40.0 +17
TPUB LR LR
comp=Z,400nm,18.1s
PAF Port-aux-Franc 137.14 157 PP PP 03 36 58.0 -8.8
PAF SS SS 03 55 02.0 -6.5
CD2 Chengdu 137.16 347 PKP PKPdf 03 34 23.1 -0.7
CD2 PP PP 03 37 09.8 +3.0
CD2 PKS PKSdf 03 37 57.8 -2.3
CD2 SKS SKSdf 03 41 27.5 -3.3
CD2 SKKS SKKSac 03 43 55.8 -3.1
CD2 AMB AMB
comp=Z,370nm,11.2s
CD2 LR LR
comp=Z,1μm,20.2s
CD2 LR LR
comp=Z,1μm,19.6s
CD2 LR LR
comp=Z,1μm,17.8s
LSA Lhasa 139.40 3 ePKIKP PKPdf 03 34 28.8 +0.3
LSA MLR MLR
comp=Z,1μm,22.0s
LSA Lhasa 139.40 3 ePKPdf PKPdf 03 34 28.8 +0.3
LSA LR LR
comp=Z,1μm,22.0s
DANN Dangsing 139.66 14 eP PKPdf 03 34 25.6 -3.1
comp=Z,32nm,0.7s
AS01 Alice Springs 139.74 246 ePKPdf PKPdf 03 34 29.4 +0.8
WRAB Tennant Creek 139.94 252⇑ePKIKP PKPdf 03 34 30.2 +1.2
WRA Warramunga Arr 139.95 252 PKhKP PKPpre 03 34 20.4
comp=Z,1.2nm,0.6s,baz=97,slow=3.0,SNR=8.3
WRA PKP PKPdf 03 34 28.5 -0.6
comp=Z,5.4nm,0.7s,baz=90,slow=2.3,SNR=19
KOLN Koldanda 140.17 14 eP PKPdf 03 34 30.8 +1.2
GKN Gorkha 140.18 13 eP PKPdf 03 34 26.9 -2.6
comp=Z,22nm,0.6s
GUN Gumba 140.52 11 eP PKPdf 03 34 26.2 -4.2
comp=Z,29nm,0.6s
KKN Kakani 140.52 12 eP PKPdf 03 34 27.4 -2.8
comp=Z,18nm,0.6s
GYA Guiyang 140.63 342 PKP PKPdf 03 34 29.9 -0.4
GYA PP PP 03 37 31.8 +3.4
GYA PKS PKSdf 03 38 04.3 -2.3
GYA SKKS 03 44 20.5
GYA SS SS 03 55 52.0 +2.4
GYA AMB AMB
comp=Z,150nm,8.2s
GYA LR LR
comp=Z,210nm,22.0s
GYA LR LR
comp=Z,170nm,23.0s
GYA LR LR
comp=Z,240nm,21.4s
PKI Pulchoki 140.76 12 eP PKPdf 03 34 29.1 -1.7
comp=Z,20nm,0.7s
FAKI Fak Fak 140.93 279 PFAKE 03 34 40.0 +9.0
FAKI LR LR
comp=Z,1μm,20.0s
RAMN Ramite 141.59 10 eP PKPdf 03 34 31.6 -0.6
comp=Z,27nm,0.6s
MSEY Mahe Island 141.64 84 PFAKE 03 34 40.0 +7.7
MSEY LR LR
comp=Z,700nm,20.0s
KMI Kunming 142.97 346 PKP PKPdf 03 34 29.0 -5.7
KMI pPKP PKiKP 03 34 38.5 +0.6
KMI SS SS 03 56 20.6 +3.8
KMI AMB AMB
comp=Z,79nm,5.6s
KMI LR LR
comp=Z,610nm,19.6s
KMI LR LR
comp=Z,800nm,19.6s
KMI LR LR
comp=Z,800nm,22.4s
TNTI Ternate 144.53 287 PFAKE 03 34 50.0 +13
TNTI LR LR
comp=Z,700nm,21.0s
QIZ Qiongzhong 146.12 332 PKPbc PKPdf 03 34 39.8 -0.2
QIZ PP PP 03 38 01.6 0.0
QIZ SS SS 03 56 57.3 +4.0
QIZ LR LR
comp=Z,800nm,20.9s
QIZ LR LR
comp=Z,1μm,20.5s
QIZ Qiongzhong 146.12 332 ePKPdf PKPab 03 34 42.3 +0.8
QIZ LR LR
comp=Z,1μm,21.0s
HYB Hyderabad 147.99 28 iPKP PKPbc 03 34 45.0 -1.2
FITZ Fitzroy Crossi 148.34 253 ePKPbc PKPbc 03 34 47.8 +0.7
CHTO Chiang Mai 149.86 350 ePKPdf PKPdf 03 34 48.0 +1.8
CHTO LR LR
comp=Z,700nm,22.0s
CM31 Chiang Mai Arr 150.21 350 ePKPdf PKPdf 03 34 47.1 +0.4
CM31 ePKPbc PKPbc 03 34 52.1 +0.3
CMAR Chiang Mai Arr 150.21 350 PKP PKPdf 03 34 47.1 +0.4
comp=Z,5.9nm,0.6s,baz=314,slow=1.9,SNR=20
CMAR PKPbc PKPbc 03 34 52.1 +0.3
comp=Z,12nm,0.7s,baz=333,slow=2.1,SNR=26
CM01 Chiang Mai Arr 150.25 350 ePKPdf PKPdf 03 34 49.3 +2.5
TOLI Toli-Toli 150.47 293 PFAKE 03 35 00.0 +0.8
TOLI LR LR
comp=Z,300nm,22.0s
MMRI Maumere 151.78 272 PFAKE 03 35 00.0 +4.4
MMRI LR LR
comp=Z,500nm,18.0s
KKM Kota Kinabalu 151.87 306 PFAKE 03 35 00.0 +4.0
KKM LR LR
comp=Z,200nm,22.0s
MBWA Marble Bar 153.09 245 ePKPbc PKPbc 03 34 56.2 -2.1
MBWA ePKPab PKPab 03 35 13.4 +3.5
MBWA LR LR
comp=Z,800nm,18.0s
SBUM Sibu 157.20 305 ePKPdf PKPdf 03 34 58.0 +1.3
SBUM LR LR
comp=Z,800nm,22.0s
PALK Pallekele 157.66 36 PFAKE 03 35 10.0 +13
PALK LR LR
comp=Z,1μm,22.0s
KSM Kuching 159.31 306 ePKPdf PKPdf 03 35 01.2 +1.8
KSM ePKPab PKPab 03 35 38.9 +2.1
KSM LR LR
comp=Z,898nm,21.0s
KULM Kulim 162.34 337 ePKPdf PKPdf 03 35 03.0 +0.4

IDC 25 03:16:38.0±1.5, 11.56N×85.28W, h0km, mb4.5/11, mb1 4.7/11, mb1mx4.3/26, mbtmp4.5/11, MS5.2/2, Ms1 5.2/2, ms1mx4.2/22, Error ellipse: s-maj=55.1km s-min=33.8km az=51.0

ISC 25 03:16:43.4±1.6, 11.6N±0.3×85.3W±0.3, h35km, n16, σ0.80/19, mb4.5/11, Nicaragua

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JTS JuntasAbangare 1.35 165 Pg Pn 03 17 10.0 +4.2
baz=118,slow=23,SNR=2.1
JTS Lg Lg 03 17 34.5
628nm,0.3s,baz=255,slow=19,SNR=4.4
PCRV Puerto La Cruz 20.35 92 LR LR 03 29 57.9
comp=Z,5μm,19.8s,baz=284,slow=39
TXAR Lajitas Array 24.58 319 P P 03 21 59.4 -1.0
11nm,0.8s,baz=133,slow=11,SNR=2.7
TXAR PcP PcP 03 25 39.0 +1.1
1.3nm,0.8s,baz=95,slow=2.1,SNR=2.4
ANMO Albuquerque 30.16 324 P P 03 22 51.0 +0.4
5.0nm,0.8s,baz=126,slow=17,SNR=2.7
PDAR Pinedale Array 37.53 330 P P 03 23 54.0 -0.4
3.6nm,0.8s,baz=116,slow=8.1,SNR=2.6
PDAR PcP PcP 03 26 12.4 +0.2
1.3nm,0.7s,baz=134,slow=5.2,SNR=5.0
ELK Elko 39.19 323 P P 03 24 08.2 -0.2
2.5nm,0.8s,baz=177,slow=11,SNR=2.6
ELK PcP PcP 03 26 18.5 +1.1
3.1nm,0.9s,baz=154,slow=2.5,SNR=3.6
ELK LR LR 03 43 58.2
comp=Z,3μm,18.7s,baz=178,slow=42
ULM Lac du Bonnet 39.51 349 P P 03 24 10.5 -0.2
12nm,0.6s,baz=172,slow=7.4,SNR=3.0
NVAR Mina Array Bea 39.73 318 P P 03 24 12.9 -0.1
4.2nm,0.7s,baz=129,slow=7.1,SNR=4.0
NVAR PcP PcP 03 26 20.2 +1.1
4.0nm,0.7s,baz=137,slow=4.3,SNR=3.7
YBH Yreka Blue Hor 44.35 319 P P 03 24 51.0 +0.6
4.7nm,0.7s,baz=77,slow=8.0,SNR=3.7
NEW Newport 45.17 330 P P 03 24 57.5 +0.6
4.8nm,0.6s,baz=211,slow=3.6,SNR=6.3
NEW PcP PcP 03 26 35.8 -1.0
1.7nm,0.6s,baz=84,slow=2.3,SNR=3.6
SCHQ Schefferville 45.52 15 P P 03 24 59.6 +0.1
3.8nm,0.5s,baz=221,slow=8.1,SNR=1.8
YKA Yellowknife Ar 54.99 344 P P 03 26 11.5 +0.5
2.6nm,0.7s,baz=138,slow=7.3,SNR=4.3
ILAR Eielson Array 67.64 336 P P 03 27 36.0 -0.6
2.6nm,0.6s,baz=128,slow=4.2,SNR=6.1
MKAR Makanchi Array 120.82 10 PKP PKPdf 03 35 31.5 -0.7
0.2nm,0.4s,baz=349,slow=3.9,SNR=2.4
KSRS Korea Array 122.09 329 PKP PKPdf 03 35 33.3 -1.5
2.1nm,0.8s,baz=3.1,slow=2.5,SNR=3.0
CMAR Chiang Mai Arr 149.84 352 PKPbc PKPbc 03 36 31.4 +0.5
3.4nm,0.7s,baz=326,slow=3.9,SNR=3.7

WEL 25 03:18:10.0±0.1, 38.84S×177.22E, h38km±1km, ML3.6/8, 15C-12D, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0, North Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SNGZ Shannon Statio 0.11 58 ⇑PN Pn 03 18 15.9 -6.0
SNGZ SN Sn 03 18 21.1 -12
RAHZ Arahi 0.13 233 ⇓PN Pn 03 18 15.8 -5.2
RAHZ SN Sn 03 18 20.8 -11
WHHZ Waihua 0.24 177 ⇑PN Pn 03 18 17.1 -1.4
WHHZ SN Sn 03 18 23.0 -3.1
RAGZ Rawiri 0.38 24 ⇓PN Pn 03 18 18.7 -0.2
KNZ Kokohu 0.40 117 ⇑PN Pn 03 18 19.1 +0.1
NMHZ Naumai 0.41 231 ⇓PN Pn 03 18 19.2 -0.1
RIGZ Rimuhau 0.44 73 ⇓PN Pn 03 18 20.3 +0.5
PRGZ Paritu Road 0.52 99 ⇑PN Pn 03 18 20.9 -0.2
MWZ Matawai 0.56 26 PN Pn 03 18 21.3 -0.3
MWZ AML AML 03 18 34.5
MWZ AML AML 03 18 34.6
MWZ AML AML 03 18 34.8
MWZ AML AML 03 18 34.8
MHGZ Mahia Peninsul 0.62 121 ⇑PN Pn 03 18 22.1 -0.3
BKZ Black Stump Fm 0.66 240 ⇓PN Pn 03 18 22.6 -0.3
BKZ AML AML 03 18 34.4
BKZ AML AML 03 18 34.6
MCHZ McNeill Hill 0.73 214 ⇓PN Pn 03 18 24.0 +0.2
PRRZ Plateau Road 0.73 297 PN Pn 03 18 23.4 -0.5
ALRZ Allen Road 0.74 292 ⇑PN Pn 03 18 23.6 -0.4
RRRZ Republican Roa 0.74 312 PN Pn 03 18 23.6 -0.4
EDRZ Edgecumbe 0.82 332 PN Pn 03 18 24.7 -0.4
TARZ Mount Tarawera 0.82 317 PN Pn 03 18 25.0 -0.2
CKHZ Cape Kidnapper 0.83 188 PN Pn 03 18 24.6 -0.5
CNGZ Carnagh Statio 0.85 66 PN Pn 03 18 25.5 +0.1
HRRZ Handcock Road 0.86 301 ⇑PN Pn 03 18 25.0 -0.6
HATZ Hinemaiaia 0.88 266 PN Pn 03 18 25.4 -0.5
TWGZ Tauwhareparae 0.89 42 PN Pn 03 18 26.3 +0.3
OMRZ Omania 0.99 317 PN Pn 03 18 26.7 -0.6
KAHZ Kahuranaki 0.99 196 ⇓PN Pn 03 18 26.9 -0.6
GRRZ Galatos Road 1.00 299 ⇑PN Pn 03 18 27.4 -0.1
WHTZ Whakaora 1.00 279 PN Pn 03 18 27.4 -0.2
KRHZ Kereru 1.04 219 ⇓PN Pn 03 18 27.5 -0.6
RITZ Rihia Road 1.07 262 ⇑PN Pn 03 18 28.5 +0.1
BHHZ Black Hill Sta 1.11 234 ⇓PN Pn 03 18 28.9 -0.1
PUZ Puketiti 1.12 47 PN Pn 03 18 28.8 -0.4
PUZ AML AML 03 18 56.6
PUZ AML AML 03 19 01.0
KARZ Kaharoa 1.12 317 ⇑PN Pn 03 18 28.4 -0.8
OPRZ Ohinepanea 1.12 332 ⇑PN Pn 03 18 28.3 -0.8
RATZ Rangitukua 1.13 268 ⇓PN Pn 03 18 29.3 0.0
HAZ Te Kaha 1.17 22 PN Pn 03 18 29.7 -0.1
WATZ Wairara 1.17 276 PN Pn 03 18 29.4 -0.4
KATZ Kakaramea 1.20 263 PN Pn 03 18 30.1 -0.2
PXZ Pawanui 1.22 193 ⇓PN Pn 03 18 29.1 -1.4
PXZ AML AML 03 19 04.5
PXZ AML AML 03 19 04.5
PXZ AML AML 03 19 13.1
PXZ AML AML 03 19 16.2
OTVZ Oturere 1.25 255 PN Pn 03 18 31.1 -0.1
KRVZ Karewarewa 1.26 258 ⇑PN Pn 03 18 31.0 -0.1
MOVZ Moawhango 1.27 243 PN Pn 03 18 31.3 -0.1
TUVZ Tukino 1.29 250 ePN Pn 03 18 31.9 +0.2
WTVZ West Tongariro 1.30 257 ⇑PN Pn 03 18 31.7 -0.1
NGZ Ngauruhoe 1.31 255 PN Pn 03 18 31.8 0.0
WIZ White Island 1.31 359 PN Pn 03 18 31.4 -0.3
PNHZ Pukenui 1.33 216 ⇓PN Pn 03 18 31.0 -1.1
WHVZ Whangaehu Hut 1.34 250 PN Pn 03 18 32.3 -0.2
WNVZ Wahianoa 1.35 248 PN Pn 03 18 32.6 0.0
WPVZ Whakapapa 1.35 254 PN Pn 03 18 32.5 0.0
COVZ Chateau Observ 1.35 254 PN Pn 03 18 32.4 -0.1
FWVZ Far West T-bar 1.36 252 PN Pn 03 18 32.6 -0.2
WPHZ Waipukurau 1.36 206 PN Pn 03 18 31.5 -1.0
TRVZ Turoa 1.38 250 PN Pn 03 18 32.8 -0.2
TWVZ Taurewa 1.41 260 PN Pn 03 18 32.8 -0.5
TLZ Tolley Road 1.41 291 ⇑PN Pn 03 18 32.4 -0.8
MTVZ Mangateitei 1.47 248 PN Pn 03 18 34.1 +0.1
PRHZ Porangahau 1.50 197 PN Pn 03 18 33.0 -1.3
PKVZ Pokaka 1.53 252 PN Pn 03 18 35.0 +0.2
MXZ Matakaoa Point 1.54 34 PN Pn 03 18 34.6 -0.2
MXZ AML AML 03 19 10.1
TSZ Takapari Road 1.56 218 PN Pn 03 18 33.6 -1.6
TSZ AML AML 03 18 56.2
TSZ AML AML 03 19 09.3
HIZ Hauiti 1.88 279 PN Pn 03 18 39.6 0.0
POWZ Post Office Ro 1.91 215 PN Pn 03 18 38.8 -1.2
VRZ Vera Road 1.94 261 PN Pn 03 18 40.6 +0.3
WAZ Wanganui 1.96 241 ePN Pn 03 18 41.4 +0.7
MRZ Mangatainoka R 2.22 214 ⇑PN Pn 03 18 41.8 -2.4
MRZ AML AML 03 19 08.5
MRZ AML AML 03 19 09.2
HOWZ Holdsworth Sta 2.44 212 PN Pn 03 18 44.3 -2.9
TMWZ Te Maipa 2.48 204 PN Pn 03 18 44.9 -3.0
OGWZ Otaki Gorge 2.53 218 PN Pn 03 18 45.9 -2.5
KHEZ Kahui Hut 2.54 259 PN Pn 03 18 50.3 +1.6
KIW Kapiti Island 2.69 221 PN Pn 03 18 48.2 -2.5
CAW Cannon Point 2.81 215 PN Pn 03 18 49.1 -3.2
TRWZ Traveller 2.81 204 PN Pn 03 18 49.0 -3.4
MSWZ Moikau Station 2.98 210 ePN Pn 03 18 50.1 -4.7
PLWZ Palliser 3.12 208 PN Pn 03 18 53.0 -3.6
TCW Tory Channel 3.27 223 ePN Pn 03 18 55.3 -3.4
TCW AML AML 03 19 34.3
TCW AML AML 03 19 34.5

IDC 25 03:31:24.2±0.9, 20.38S×174.21W, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.2/22, mbtmp4.3/10, ML4.3/1, MS4.3/2, Ms1 4.3/2, ms1mx3.4/30, Error ellipse: s-maj=33.5km s-min=23.8km az=131.0

ISCJB 25 03:31:25.6±0.9, 20.65S±0.09×174.1W±0.2, h27km, mb4.1/9, MS5.1/1, Error ellipse: s-maj=27.9km s-min=9.9km az=18.4

ISC 25 03:31:27.8±0.8, 20.6S±0.1×174.1W±0.2, h27km, n22, σ1.36/19, mb4.2/9, Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 9.32 201 Sn Sn 03 35 22.9 -1.5
54nm,0.3s,baz=108,slow=20,SNR=2.5
RAR Rarotonga 13.41 95 LR LR 03 39 01.3
comp=Z,239nm,18.4s,baz=268,slow=34
DZM Mont Dzumac 18.19 262 P P 03 35 41.9 +3.1
0.6nm,0.3s,baz=70,slow=18,SNR=8.4
URZ Urewera 19.21 201 P Pn 03 35 51.2 +0.4
0.9nm,0.3s,baz=80,slow=12,SNR=5.8
PMG Port Moresby 38.93 281 P P 03 38 49.4 -2.3
2.8nm,0.3s,baz=45,slow=8.6,SNR=3.3
STKA Stephens Creek 41.06 245 P P 03 39 09.1 -0.1
1.6nm,0.6s,baz=84,slow=12,SNR=4.6
WRA Warramunga Arr 48.21 261 P P 03 40 05.4 -1.0
1.8nm,0.7s,baz=97,slow=8.1,SNR=5.4
MJAR Matsushiro Arr 72.48 321 P P 03 42 52.1 0.0
1.7nm,0.7s,baz=163,slow=6.4,SNR=7.7
H06S1 SOCORRO T 73.16 62 T T 05 03 26.9
SNR=6.0
PETK Petropavlovsk- 77.33 343 P P 03 43 19.2 -0.5
1.2nm,0.5s,baz=180,slow=4.3,SNR=4.0
NVAR Mina Array Bea 78.60 42 P P 03 43 26.8 -0.7
0.5nm,0.9s,baz=236,slow=9.6,SNR=3.3
MAW Mawson 82.72 199 LR LR 04 21 59.9
comp=Z,692nm,18.1s,baz=234,slow=37
H03N1 Juan Fernandez 83.07 123 T T 05 14 12.2
SNR=16
SEY Seymchan 87.31 345 P P 03 44 11.6 0.0
0.9nm,0.3s,baz=167,slow=7.5,SNR=4.3
ILAR Eielson Array 87.61 11 P P 03 44 12.3 -0.8
0.4nm,0.8s,baz=214,slow=6.0,SNR=4.1
CMAR Chiang Mai Arr 93.59 288 P P 03 44 43.9 +1.8
0.9nm,0.3s,baz=140,slow=3.4,SNR=5.7
AKASG Malin Array Be 144.75 334 PKP PKPab 03 51 00.5 -0.3
0.2nm,0.2s,baz=41,slow=4.3,SNR=16
BRTR Keskin Array B 149.53 315 PKPbc PKPbc 03 51 15.7 +0.6
0.8nm,0.6s,baz=133,slow=4.9,SNR=6.9
ASF Jabal al Asfar 150.02 299 PKPbc PKPbc 03 51 16.4 0.0
0.5nm,0.3s,baz=78,slow=2.2,SNR=3.9
MMAI Mount Meron Ar 150.99 301 PKPbc PKPbc 03 51 20.2 +1.5
0.5nm,0.2s,baz=81,slow=9.5,SNR=4.6
GERES GERESS Array B 151.09 349 PKPbc PKPbc 03 51 19.0 +0.6
1.0nm,0.8s,baz=321,slow=1.7,SNR=8.7
TORD Torodi Ar. Bea 171.60 151 PKP PKPdf 03 51 34.4 -0.4
0.5nm,0.9s,baz=354,slow=4.5,SNR=2.3
TORD PKPab PKPab 03 52 57.7 +1.8
0.4nm,0.9s,baz=255,slow=0.9,SNR=2.6

DJA 25 03:32:52.1±0.6, 1N±5×122E±, h10km, M4.2/8, mb4.4/2, mB4.8/1, MLv4.1/8, Mw(mB)4.0/1, Minahassa Peninsula, Sulawesi

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MRSI Marisa 0.91 199 P Pg 03 33 07.0 -2.6
MRSI S Sg 03 33 21.3 -0.2
KMSI Cibinong 1.90 114 P Pn 03 33 22.8 -1.8
APSI Ampana 2.31 195 P Pn 03 33 32.0 +1.7
LUWI Luwuk 2.42 167 P Pn 03 33 31.8 0.0
MPSI Mapaga 2.54 247 P Pn 03 33 34.3 +0.8
TTSI Tana Toraja 4.98 209 P Pn 03 34 07.4 +0.4
42nm,0.8s,0.2nm
LBMI Labuha 5.62 110 P Pg 03 34 38.7 -1.1
SPSI Sidrap Palu 5.82 205 P Pn 03 34 18.3 -0.2
BNSI Bone 6.09 200 P Pn 03 34 15.7 -6.5

IGQ 25 03:34:23±0.7, 2.60S×80.65W, h12km±139km, Mb4.5, 9C-4D, Error ellipse: s-maj=12.3km s-min=3.1km az=10.0, Near coast of Ecuador

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PECV Mancha de Ca P 1.90 18 P Pn 03 34 55.3 0.0
PECV Mancha de Ca P 1.90 18 S Sn 03 35 19.5 +0.2
RIOE Riobamba 2.18 68 P Pn 03 35 00.6 +1.0
IGUA Igualata 2.29 61 ⇑P Pn 03 35 02.3 +0.9
IGUA Igualata 2.29 61 ⇑S Sb 03 35 32.7 -1.1
JAMA Jama 2.36 11 S Sn 03 35 32.1 +1.4
JAMA Jama 2.36 11 P Pn 03 35 03.2 +1.5
BMAS Trigal station 2.42 63 P Pn 03 35 04.2 +1.2
BBIL Ulba Tungurahu 2.44 62 ⇑P Pb 03 35 05.5 -1.8
BBIL Ulba Tungurahu 2.44 62 ⇑S Sb 03 35 35.2 +2.0
ARRY Arrayan 2.45 64 P Pb 03 35 06.0 -1.5
PAT1 Patacocha 2.46 64 P Pb 03 35 05.6 +2.0
BPAT Tungurahua Vol 2.47 64 P Pb 03 35 05.8 +2.1
JUI6 Juive 2.47 62 P Pb 03 35 05.0 +1.5
JUI6 Juive 2.47 62 S Sb 03 35 36.5 -1.9
MACE Macas 2.47 82 P Pn 03 35 05.1 +1.7
RETU Refugio 2.48 63 P Pb 03 35 06.9 -1.3
ULBA Ulba 2.51 63 P Pb 03 35 06.1 +1.9
RUN5 Runtun 2.51 62 P Pb 03 35 06.7 -1.8
BULB Ulba Tungurahu 2.52 63 ⇓S Sb 03 35 39.0 -1.0
BULB Ulba Tungurahu 2.52 63 ⇓P Pb 03 35 06.2 +1.9
BRUN Tungurahua Vol 2.52 63 P Pb 03 35 06.8 -2.0
BRUN Tungurahua Vol 2.52 63 S Sb 03 35 38.1 -1.9
MAG1 Magdalena 2.66 19 ⇑P Pb 03 35 08.7 -1.8
PISA Pisayambo 2.73 56 S Sb 03 35 45.7 -0.6
PISA Pisayambo 2.73 56 P Pb 03 35 10.9 -1.5
PAST Pastocalle 2.76 47 P Pb 03 35 11.9 -0.9
BMOR Cotopaxi Volca 2.87 50 P Pb 03 35 12.3 -2.5
BMOR Cotopaxi Volca 2.87 50 S Sb 03 35 49.5 -0.9
CAMI Rancho Maria 2.87 48 P Pb 03 35 13.6 -1.2
MOV1 Cotopaxi Vol s 2.89 50 P Pb 03 35 13.6 -1.8
NAS2 Nasa 2.92 48 P Pb 03 35 14.6 -1.0
BREF Cotopaxi Volca 2.92 49 P Pb 03 35 13.3 -2.6
BTAM Cotopaxi Volca 2.95 50 ⇑P Pb 03 35 14.8 -1.5
BVC2 Cotopaxi Volca 2.95 49 ⇑P Pb 03 35 14.9 -1.4

BVC2 Cotopaxi Volca 2.95 49 ⇑S Sb 03 35 54.7 +1.8
VC1 Cotopaxi 1 2.97 49 P Pb 03 35 14.1 -2.5
COV1 Cotopaxi Volc 3.00 50 P Pn 03 35 13.9 +2.7
JUA2 San Juan 2 3.13 41 ⇑P Pn 03 35 15.4 +2.7
TERV Terraza Guagua 3.16 40 P Pn 03 35 15.3 +2.1
GGP Refugio Guagua 3.16 41 P Pn 03 35 15.0 +1.6
PINO Pino 3.17 40 ⇓S Sn 03 35 54.0 +2.3
PINO Pino 3.17 40 ⇓P Pn 03 35 15.3 +1.8
ANTI Antisana 3.28 49 P Pb 03 35 18.3 +3.4
CAYR Refugio Cayamb 3.70 46 P Pb 03 35 25.1 -4.2
CAYA Cayambe 3.75 45 P Pb 03 35 25.9 -4.1
LITE Lita 4.08 34 P Pn 03 35 27.1 +1.7

IDC 25 03:34:33.0±3.3, 13°17N×114°75E, h0km, mb3.5/2, mb1 3.5/2, mb1mx3.1/52, mbtmp3.5/2, Error ellipse: s-maj=151.4km s-min=57.8km az=54.0, South China Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SONM Songino Array 35.26 350 P P 03 41 29.4 -0.1
0.5nm,0.9s,baz=156,slow=10,SNR=4.6
MKAR Makanchi Array 43.19 327 P P 03 42 35.5 -0.2
0.5nm,0.6s,baz=124,slow=8.9,SNR=8.3
TXAR Lajitas Array 123.78 41 PKP PKPdf 03 53 33.5 -0.3
0.5nm,0.7s,baz=306,slow=3.1,SNR=5.9

MOS 25 03:44:59.5±0.8, 56°25N×113°28E, h13km, mb4.2/1, Error ellipse: s-maj=30.0km s-min=20.9km az=68.4
BYKL 25 03:45:00.0±0.3, 56°32N×113°20E, h16km±5km
ISC 25 03:44:58.5±0.7, 56°27N±0°03×113°20E±0°02, h10km, n30, σ2§20/49, 1C-1D, East of Lake Baykal

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SVKR Severomuysk 0.25 127 ePG Pb 03 45 05.1 0.0
SVKR e 03 45 08.7
SVKR pmax pmax
comp=Z,971nm,0.2s
SVKR smax smax
comp=N,1μm,0.3s
SVKR Severomuysk 0.25 127 ⇑iPg Pb 03 45 05.2 +0.1
SVKR eSg Sb 03 45 09.1 -0.5
SVKR Pmax
comp=N,546nm,0.2s
SVKR Smax
comp=N,11μm,0.2s
YOA Uoyan 0.84 261 ePG Pn 03 45 16.1 -0.2
YOA i 03 45 29.2
YOA pmax pmax
comp=Z,224nm,0.2s
YOA smax smax
comp=N,996nm,0.4s
YOA Uoyan 0.84 261 ePg Pn 03 45 15.9 -0.4
YOA eSg Sn 03 45 27.8 -0.9
YOA Pmax
comp=N,221nm,0.2s
YOA Smax
comp=N,1μm,0.5s
KMO Kumora 1.18 252 i Sg Sn 03 45 38.7 +1.4
KMO Smax
comp=N,347nm,1.0s
NLYR Nelyaty 1.41 80 ePG Pg 03 45 25.1 -0.4
NLYR e 03 45 42.0
NLYR pmax pmax
comp=Z,48nm,0.6s
NLYR smax smax
comp=N,427nm,0.9s
NLYR Nelyaty 1.41 80 ePn Pg 03 45 24.9 -0.6
NLYR ePg Pg 03 45 25.0 -0.4
NLYR e 03 45 29.5
NLYR eSg Sg 03 45 43.6 -0.2
NLYR max
comp=N,50nm,0.3s
NLYR Smax
comp=N,427nm,0.9s
BOD Bodaibo 1.61 15 ePN Pg 03 45 27.9 -1.5
BOD e 03 45 48.4
BOD pmax pmax
comp=Z,61nm,0.2s
BOD smax smax
comp=E,388nm,0.1s
BOD Bodaibo 1.61 15 ePn Pg 03 45 28.1 -1.3
BOD ePg Pb 03 45 28.5 +0.2
BOD e 03 45 31.7
BOD i Sg Sg 03 45 49.2 -1.2
BOD Pmax
comp=E,60nm,0.2s
BOD Smax
comp=E,365nm,0.3s
YLYR Ulyunkhan 1.81 221 ePN Pb 03 45 32.0 +0.3
YLYR e 03 45 57.9
YLYR pmax pmax
comp=Z,25nm,0.3s
YLYR smax smax
comp=E,190nm,0.3s
YLYR Ulyunkhan 1.81 221 i Pn Pb 03 45 32.0 +0.3
YLYR ⇓iPg Pg 03 45 32.8 -0.4
YLYR e 03 45 38.4
YLYR i Sg Sg 03 45 57.9 +1.2
YLYR max
comp=E,22nm,0.3s
YLYR Smax
comp=E,193nm,0.3s
NIZ Nizh Angarsk 2.11 258 ePN Pb 03 45 36.5 -0.3
NIZ e 03 45 38.3
NIZ e 03 46 06.8
NIZ pmax pmax
comp=Z,12nm,0.4s
NIZ smax smax
comp=N,155nm,0.5s
NIZ Nizh Angarsk 2.11 258 ePn Pb 03 45 36.6 -0.3
NIZ ePg Pg 03 45 38.3 -0.6
NIZ e 03 45 43.1
NIZ eSg Sg 03 46 06.5 +0.2
NIZ max
comp=N,17nm,0.3s
NIZ Smax
comp=N,170nm,0.7s
CRS Chara 2.87 75 ePg Pg 03 45 51.7 -1.8
CRS ePgPg PbPb 03 45 58.9 +6.0
CRS eSg Sg 03 46 29.0 -1.7
CRS max
comp=N,20nm,0.7s
CRS Smax
comp=N,98nm,1.0s
SYVR Suvo 3.20 217 ePn Pn 03 45 50.4 +1.6
SYVR ePg Pg 03 45 57.7 -2.0
SYVR eSg Sg 03 46 40.0 -1.2
SYVR eSgSg SbSb 03 46 46.4 +6.9
SYVR Pmax
comp=N,7.0nm,0.9s
SYVR max
comp=N,86nm,1.6s
KHNR Khani 3.81 77 ePg Pg 03 46 07.9 -3.4
KHNR eSn Sn 03 46 44.2 +2.3
KHNR eSg Sg 03 46 57.4 -3.1
MXMB Maximikha 3.97 222 eSg Sg 03 47 02.8 -2.9
MXMB Smax
comp=N,74nm,1.0s
OGRR Ongureny 4.17 233 ePn Pn 03 46 04.0 +1.9
OGRR ePg Pg 03 46 16.1 -2.1
OGRR e 03 46 22.1
OGRR e 03 47 03.2
OGRR i Sg Sg 03 47 10.7 -1.4
OGRR max
comp=N,7.0nm,0.6s
OGRR Smax
comp=N,21nm,0.7s
CIT Chita 4.26 177 eSg Sg 03 47 14.8 -0.4
CIT Smax
comp=N,66nm,0.5s
TUP Tupik 4.28 113 ePn Pn 03 46 04.4 +0.8
TUP ePg Pb 03 46 15.5 +1.8
TUP e 03 46 21.0
TUP eSn Sn 03 46 54.3 +0.8
TUP i Sg Sg 03 47 12.6 -3.0
TUP max
comp=N,6.0nm,0.6s
TUP Smax
comp=N,46nm,0.7s
YKLR Yuktali 4.71 83 eSn Sn 03 47 05.8 +1.8
YKLR eSg Sg 03 47 23.2 -6.2
ZRHB Zarechye 5.13 226 eSg Sg 03 47 39.6 -3.4
ZRHB Smax
comp=N,62nm,1.2s
TRG Tyrgan 5.32 231 ePg Pb 03 46 34.0 +2.6
TRG e 03 47 02.9
TRG eSg Sg 03 47 43.0 -6.0
TRG Pmax
comp=N,2.0nm,0.6s
TRG Smax
comp=N,9.0nm,0.5s
UUDB Ulan-Yde 5.48 219 eSg Sg 03 47 52.2 -2.1
UUDB Smax
comp=N,31nm,1.4s
HRMR Khuramsha 5.93 221 ePg Pg 03 46 49.0 -3.0
HRMR eSg Sg 03 48 06.7 -2.0
HRMR Pmax
comp=N,5.0nm,0.6s
HRMR Smax
comp=N,38nm,0.5s
KPC Khapcheranga 6.59 185 ePn Pn 03 46 40.4 +4.9
KPC ePg Pg 03 46 59.7 -5.0
KPC eSg Sg 03 48 26.3 -3.7
KPC Pmax
comp=N,1.0nm,1.1s
KPC Smax
comp=N,17nm,1.2s
TLY Talaya 7.27 235 e Sn 03 48 11.5 +4.3
TLY eSg Sg 03 48 43.0 -8.6
TLY Smax
comp=N,5.0nm,1.0s
ARS Arshan 7.69 240 eSg Sg 03 48 58.5 -6.4
ARS Smax
comp=N,27nm,1.0s
MOY Mondy 8.54 242 e x 03 48 54.6
MOY eSg Sg 03 49 22.1 -11
MOY Smax
comp=N,6.0nm,0.9s
ORL Orlik 8.66 250 ePn Pn 03 47 05.8 +2.0
ORL e 03 48 43.0
ORL eSg Sg 03 49 26.5 -9.5
ORL Smax
comp=N,5.0nm,0.7s

ISCJB 25 03:51:46.8±0.8, 14°27N±0°02×93°09E±0°02, h26km±6km, mb4.8/143, MS4.3/5, Error ellipse: s-maj=3.7km s-min=3.4km az=25.9
MOS 25 03:51:46.7±0.8, 14°22N×93°19E, h30km, mb5.1/34, Error ellipse: s-maj=9.3km s-min=4.2km az=122.1
BJI 25 03:51:48.0, 14°22N×93°05E, h39km, mB4.7/28, mb4.6/45, Ms4.2/29, Ms7 3.9/25
NEIC 25 03:51:49.0±2.6, 14°20N×93°16E, h35km±3km, mb4.9/36, Error ellipse: s-maj=12.9km s-min=12.2km az=80.0
BKK 25 03:51:49.0±0.3, 14°N±3°×9°3E±°, h10km, M4.7/25, mB5.2/15, mb4.8/25, MLv4.8/13, Mw(mB)4.6/15
IDC 25 03:51:49.1±0.4, 14°22N×93°18E, h32km±2km, mb4.4/39, mb1 4.5/41, mb1mx4.5/51, mbtmp4.6/41, ML4.5/2, MS3.8/2, Ms1 3.8/2, ms1mx3.5/49, Error ellipse: s-maj=11.8km s-min=9.5km az=42.0
DJA 25 03:51:52.6±1.9, 14°N±8°×9°3E±1°9, h103km±28km, M5.2/10, MB5.5/8, mb5.2/10, MLv5.4/2, Mw(mB)5.0/8
KLM 25 03:51:52.9, 14°35N×93°41E, h36km, mb4.8, MS5.4
SZGRF 25 03:51:58.0, 15°57N×92°32E, h33km, mb5.1, Bay of Bengal
ISC 25 03:51:48.9±0.3, 14°14N±0°03×93°13E±0°03, h33km±1km, h33km:pP-P, n490, σ1§30/562, mb4.8/144, MS4.2/5, 50C-17D, Andaman Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DGPR DIGLIPUR 0.97 191 eP3 Pn 03 52 09.9 +3.7
DGPR eS Sb 03 52 19.8 0.0
PBA Port Blair 2.50 189 eP Pn 03 52 29.9 +2.7
PBA eS Sn 03 53 00.0 +3.4
KHLT Khaolaem Dam 5.33 82 P Pn 03 53 07.2 +0.9
172nm,0.7s,1μm0.5nm
SRDT SRDT 5.82 87 P Pn 03 53 14.7 +1.8
323nm,0.6s,12μm1.5nm
MHMT Maesarieng 6.12 48 P Pn 03 53 16.3 -0.8
74nm,0.7s,890nm0.4nm
CM01 Chiang Mai Arr 7.03 52 ePn Pn 03 53 29.2 -0.5
CM01 eSn Sn 03 54 42.0 -6.6
CM31 Chiang Mai Arr 7.04 52 ePn Pn 03 53 29.3 -0.5
CM31 eSn Sn 03 54 44.2 -4.6
CMAR Chiang Mai Arr 7.04 52 Pn Pn 03 53 29.3 -0.5
0.9nm,0.3s,baz=241,slow=15,SNR=20
CMAR Sn Sn 03 54 44.2 -4.6
2.4nm,0.3s,baz=253,slow=15,SNR=5.0
CMAR LR LR 03 56 16.4
comp=Z,105nm,19.6s,baz=250,slow=38
CMBY CAMPBELL BAY 7.13 174 eP Pn 03 53 30.5 -0.4
CMBY eS Sn 03 54 50.6 -0.2
CHTO Chiang Mai 7.26 49 eP Pn 03 53 32.2 -0.6
CHTO e 03 54 47.3
CHTO Chiang Mai 7.26 49 P Pn 03 53 32.8 0.0
112nm,0.7s,2μm1.2nm
CHTO Chiang Mai 7.26 49 ePn Pn 03 53 32.2 -0.6
CHTO eSn Sn 03 54 47.3 -6.9
SURT Suratani 7.57 132 P Pn 03 53 42.5 +5.4
18nm,0.8s,252nm0.1nm
LAMP Lampang 7.62 54 P Pn 03 53 42.6 +5.0
23nm,0.8s,213nm0.1nm
PBKT Sadao Pong 7.94 71 P Pn 03 53 43.0 +0.9
62nm,0.9s,1μm0.2nm
NAYO Nakonayok 7.95 88 P Pn 03 53 45.0 +2.8
24nm,1.0s,0.2nm
UTTA Uttaradit 7.99 62 P Pn 03 53 46.7 +3.9
11nm,0.8s,152nm0.1nm
PKDT Phuket 8.04 140 P Pn 03 53 50.1 +6.6
61nm,0.7s,3μm0.3nm
CMAI Chiengmai2 8.08 44 P Pn 03 53 45.6 +1.5
28nm,0.6s,0.3nm
CHBT CHBT 9.06 98 P Pn 03 54 01.3 +3.8
47nm,0.7s,5μm
CRAI Chiangrai 9.20 48 P Pn 03 54 04.7 +5.4
13nm,1.1s
LHMI Lhok Sumawe 9.62 157 P Pn 03 54 11.1 +5.9
325nm,0.6s,3μm
LHMI Lhok Sumawe 9.62 157 ePn Pn 03 54 10.9 +5.8
VIS Vishakhapatnam 10.07 292 i P Pn 03 54 10.7 -0.7
VIS i x x 03 55 53.8
SHL Shillong 11.43 354 eP Pn 03 54 26.0 -4.1
SHL AMB AMB 03 54 34.2
comp=Z,43nm,0.4s
SHL ex x 03 56 24.5
KULM Kulim 11.50 139 ePn Pn 03 54 34.4 +3.5
KULM Kulim 11.50 139 ⇓P Pn 03 54 34.9 +4.0
KCSI Kotacane, Aceh 11.50 156 P Pn 03 54 34.8 +3.8
comp=Z,144nm,0.9s,comp=Z,1μm
BOK Bokaro 11.79 326 eP Pn 03 54 33.8 -1.1
BOK AMB AMB 03 54 42.8
comp=Z,39nm,0.9s
UBPT Khong Chiam 12.00 83 P 03 54 47.8
IPM Ipoh 12.36 140 ePn Pn 03 54 43.6 +0.9
IPM Ipoh 12.36 140 ⇓P Pn 03 54 46.8 +4.1
PSI Prapat 12.64 153 P Pn 03 54 53.0 -4.6
comp=Z,4.2nm,0.3s,baz=332,slow=12,SNR=72
KTGM Kuala Trenggan 13.18 131 ⇑P Pn 03 54 56.7 +2.8
GSI Gunungsitoli 13.49 161 P P 03 55 04.1 -2.8
comp=Z,69nm,0.7s,comp=Z,4μm
GSI Gunungsitoli 13.49 161 ePn Pn 03 54 58.1 -0.1
FRIM Kepong 13.70 141 ⇓P P 03 55 05.5 -3.8
ODAN Odare 13.75 338 eP Pn 03 55 00.0 -1.8
comp=Z,130nm,0.7s
PALK Pallekele 13.98 242 i P Pn 03 55 06.6 +1.7
PALK Pallekele 13.98 242 Pn Pn 03 55 05.3 +0.5
comp=Z,9.1nm,0.3s,baz=56,slow=13,SNR=19
PALK Sn Sn 03 57 30.0 -9.1
comp=Z,8.5nm,0.3s,baz=17,slow=12,SNR=8.2
PALK Pallekele 13.98 242 ePn Pn 03 55 05.1 +0.2
PALK Pallekele 13.98 242 ⇑iPn Pn 03 55 04.7 -0.2
SNR=10
TAPN Taplejung 14.08 340 eP Pn 03 55 04.1 -2.4
comp=Z,193nm,0.8s
RAMN Ramite 14.13 335 eP Pn 03 55 04.1 -3.0
comp=Z,65nm,0.5s
KMI Kunming 14.18 38 P Pn 03 55 09.6 +1.8
KMI S Sn 03 57 44.4 +0.2
KMI pmax pmax
comp=Z,7.0nm,0.6s
KMI LR LR
comp=Z,360nm,13.8s
KMI LR LR
comp=Z,510nm,13.2s
KMI LR LR
comp=Z,440nm,14.5s
HYB Hyderabad 14.40 285 i P Pn 03 55 09.0 -1.6
HYB e 03 55 18.5
HYB eS Sn 03 57 50.0 +0.8
HYB Hyderabad 14.40 285 eP Pn 03 55 10.0 -0.6
HYB AMB AMB 03 55 20.1
comp=Z,37nm,1.4s
MNSI Mandailing Nat 14.71 154 P Pn 03 55 15.5 +0.7
comp=Z,67nm,0.7s,comp=Z,3μm
JIRN Jiri 14.93 335 eP Pn 03 55 15.5 -2.5
comp=Z,88nm,0.6s
NGP Nagpur 15.11 299 eP Pn 03 55 19.9 -0.3
NGP eS Sn 03 58 08.7 +2.1
PKI Pulchoki 15.18 333 eP Pn 03 55 18.9 -2.4
PKIN Phulchoki 15.19 333 eP Pn 03 55 18.8 -2.6
comp=Z,91nm,0.5s
GUN Gumba 15.28 335 eP Pn 03 55 19.5 -3.1
DMN Daman 15.35 332 eP Pn 03 55 20.6 -2.8
comp=Z,153nm,0.9s
LSA Lhasa 15.59 354 eP P 03 55 29.0 -1.8
LSA pmax pmax
comp=Z,27nm,0.8s
LSA Lhasa 15.59 354 ePn P 03 55 29.0 -1.8
comp=Z,27nm,0.8s
KGM Kluang 15.70 139 ⇓P P 03 55 31.5 0.0
BKNI Bangkinang 15.80 150 P P 03 55 31.2 -1.4
BKNI Bangkinang 15.80 150 ePn Pn 03 55 30.2 +1.1
comp=Z,130nm,0.8s
GKN Gorkha 15.90 332 eP Pn 03 55 27.6 -2.8
comp=Z,37nm,0.3s
KOLN Koldanda 16.21 328 eP Pn 03 55 32.6 -1.9
comp=Z,146nm,0.7s
MYKOM Kota Tinggi 16.21 138 ePn P 03 55 37.4 +0.2
comp=Z,75nm,1.2s
MYKOM eSn Sn 03 58 18.3 -15
MYKOM Kota Tinggi 16.21 138 ⇓P P 03 55 38.4 +1.2
DANN Dangsing 16.61 330 eP Pn 03 55 37.4 -2.2
QIZ Qiongzhong 16.74 71 P Pn 03 55 39.9 -1.2
QIZ S Sn 03 58 44.3 -1.8
QIZ pmax pmax
comp=Z,16nm,1.3s
QIZ LR LR
comp=Z,450nm,17.3s
PYUN Piuthan 16.79 327 eP Pn 03 55 39.9 -1.9
comp=Z,180nm,0.5s
BHPL Bhopal 17.40 304 eP P 03 55 49.8 -0.6
BHPL AMB AMB 03 55 52.8
comp=Z,41nm,1.6s
GYA Guiyang 17.63 44 P Pn 03 55 52.8 +0.6
GYA pP pP 03 56 00.8 -0.8
GYA PP PnPn 03 56 09.3 +6.3
GYA S Sn 03 59 04.3 -3.4
GYA sS S 03 59 18.0 +3.5
GYA SS SnSn 03 59 26.8 +5.3
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.6s
GYA LR LR
comp=Z,510nm,15.6s
GYA LR LR
comp=Z,470nm,16.0s
GYA LR LR
comp=Z,540nm,15.4s
KAD Karad 18.50 282 eP Pn 03 56 04.9 +2.0
GOA Goa 18.71 277 eP Pn 03 56 06.5 +1.1
POO Poona 19.00 286 eP P 03 56 07.6 -0.5
POO AMB AMB 03 56 11.8
comp=Z,37nm,0.6s
POO i S S 03 59 44.0 +1.8
CD2 Chengdu 19.34 29 eP Pn 03 56 13.5 +0.5
CD2 pP pP 03 56 22.1 +1.7
CD2 sP sP 03 56 27.1 +2.5
CD2 PP PnPn 03 56 31.3 +4.8
CD2 S S 03 59 43.6 -5.3
CD2 sS sS 03 59 57.0 -5.8
CD2 SS SnSn 04 00 10.4 +6.8
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,460nm,5.4s
NDI New Delhi 20.67 317 ex Pn 03 56 29.0 +0.4
NDI ex S 04 00 07.0 -8.5
AJM Ajmer 21.21 308 ex P 03 56 33.0 +1.0
DDI Dehra Dun 21.27 322 eP P 03 56 32.4 -0.2
DDI AMB AMB 03 56 34.4
comp=Z,83nm,1.5s
ENH Enshi 22.03 41 eP P 03 56 42.0 +1.2
comp=Z,16nm,0.7s
SBUM Sibu 22.15 120 eP P 03 56 42.0 -0.2
comp=Z,20nm,1.4s
SBUM Sibu 22.15 120 ⇓P P 03 56 44.6 +2.4
SMLA Simla 22.38 322 eP P 03 56 44.4 -0.1
SMLA AMB AMB 03 56 47.3
comp=Z,44nm,0.9s
DHRM DHARAMSHALA 23.69 322 eP P 03 56 56.8 -1.3
DHRM AMB AMB 03 56 59.2
comp=Z,82nm,1.1s
LZH Lanzhou 23.88 22 ⇑P P 03 56 59.4 -0.3
LZH pP pP 03 57 09.3 +0.3
LZH sP sP 03 57 13.9 +0.8
LZH PP PnPn 03 57 33.5 +4.9
LZH eS S 04 01 11.5 -2.4
LZH sS sS 04 01 29.0 -0.4
LZH eSS SnSn 04 02 03.1 +8.3
LZH pmax pmax
comp=Z,39nm,1.2s
LZH pmax pmax
comp=Z,170nm,4.0s
LZH LR LR
comp=Z,550nm,16.4s
LZH LR LR
comp=Z,420nm,17.0s
LZH LR LR
comp=Z,660nm,17.9s
XAN Xi'an 24.44 33 P P 03 57 04.3 -0.5
XAN pP pP 03 57 12.3 -1.9
XAN pmax pmax
comp=Z,5.0nm,0.8s
XAN pmax pmax
comp=Z,17nm,5.7s
GTA Gaotai 25.85 12 ⇑P P 03 57 17.9 +0.2
GTA pP pP 03 57 27.0 -0.1
GTA sP sP 03 57 31.3 +0.2
GTA PcP PcP 04 00 48.0 +1.6
GTA S S 04 01 44.8 -0.6
GTA sS sS 04 01 59.8 -1.2
GTA SS SnSn 04 02 51.5 +8.4
GTA pmax pmax
comp=Z,8.0nm,1.3s
GTA pmax pmax
comp=Z,66nm,5.0s
GTA LR LR
comp=Z,160nm,19.8s
GTA LR LR
comp=Z,230nm,17.8s
SSLB Suanglung 27.96 66 eP P 03 57 37.3 +0.6
comp=Z,40nm,1.1s
KSH Kashi 29.44 332 eP P 03 57 48.5 -1.3
KSH epP pP 03 57 56.3 -3.0
KSH esP sP 03 58 03.3 +0.1
KSH ePP PnPn 03 58 44.4 -0.1
KSH eS S 04 02 35.0 -7.0
KSH eSS SnSn 04 04 07.4 -3.1
KSH pmax pmax
comp=Z,18nm,0.9s
KSH pmax pmax
comp=Z,110nm,3.7s
KSH LR LR
comp=Z,110nm,5.2s
KSH LR LR
comp=Z,170nm,5.7s
NJ2 Nanjing 29.51 48 eP P 03 57 51.9 +1.6
NJ2 pmax pmax
comp=Z,20nm,0.7s
H08S3 Diego Garcia H 29.79 225 T T 04 29 11.2
baz=42,slow=75,SNR=24
H08S2 Diego Garcia H 29.79 225 T T 04 29 12.9
baz=42,slow=75,SNR=22
H08S1 Diego Carcia H 29.81 225 T T 04 29 09.1
baz=42,slow=75,SNR=9.0

H08N2 Diego Garcia H 29.92 229 T T 04 30 09.1
baz=12
H08N1 Diego Carcia H 29.93 229 T T 04 29 52.7
baz=12
H08N3 Diego Garcia H 29.94 229 T T 04 30 09.1
baz=12
WMQ Urumqi 29.95 352 P P 03 57 55.8 +1.7
WMQ pP pP 03 58 05.4 +1.8
WMQ sP sP 03 58 09.4 +1.8
WMQ PP PnPn 03 58 53.8 +2.6
WMQ PcP PcP 04 00 58.4 +2.2
WMQ S S 04 02 49.6 0.0
WMQ sS sS 04 03 05.5 +0.2
WMQ ScP ScP 04 04 36.5 +0.4
WMQ PcS PcS 04 04 40.4 +0.9
WMQ ScS ScS 04 08 30.4 -1.0
WMQ pmax pmax
comp=Z,13nm,0.8s
WMQ pmax pmax
comp=Z,180nm,6.0s
WMQ LR LR
comp=Z,320nm,21.8s
WMQ LR LR
comp=Z,660nm,24.8s
WMQ LR LR
comp=Z,230nm,21.2s
KZA Kyzart 31.85 334 P P 03 58 11.9 +0.5
SNR=7.0
KZA Kyzart 31.85 334 *i* P P 03 58 11.9 +0.5
UCH Uchtor 32.29 334 P P 03 58 15.8 +0.6
SNR=7.9
UCH Uchtor 32.29 334 *i* P P 03 58 15.8 +0.6
TKM2 Tokmak 2 32.41 336 P P 03 58 16.7 +0.6
SNR=6.2
TKM2 Tokmak 2 32.41 336 *e*P P 03 58 16.0 0.0
TKM2 pmax pmax
comp=Z,29nm,2.0s
TKM2 Tokmak 2 32.41 336 *e*P P 03 58 16.0 0.0
comp=Z,29nm,2.0s
AML Almayashu 32.57 333 P P 03 58 18.1 +0.4
SNR=14
AAK Ala-Archa 32.63 334 P P 03 58 18.9 +1.0
SNR=11
AAK Ala-Archa 32.63 334 *de*P P 03 58 18.6 +0.7
AAK pmax pmax
comp=Z,31nm,1.1s
AAK Ala-Archa 32.63 334 P P 03 58 18.9 +1.0
comp=Z,7.3nm,1.0s,baz=161,slow=6.8
AAK Ala-Archa 32.63 334 *e*P P 03 58 18.9 +1.0
comp=Z,15nm,1.2s
CHMS Chumysh 32.82 335 P P 03 58 20.1 +0.7
SNR=6.0
CHMS Chumysh 32.82 335 *i* P P 03 58 20.1 +0.7
EKS2 Erkin-Say 32.96 333 P P 03 58 21.9 +1.2
SNR=8.9
EKS2 Erkin-Say 32.96 333 *i* P P 03 58 21.9 +1.2
EKS2 Erkin-Say 32.96 333 *e*P P 03 58 21.6 +0.9
comp=Z,8.7nm,0.8s
USP Ospenovka 33.15 335 P P 03 58 22.6 +0.3
SNR=17
USP Ospenovka 33.15 335 *i* P P 03 58 22.6 +0.3
MK01 Makanchi Array 33.77 347 *e*P P 03 58 27.4 -0.2
MK31 Makanchi Array 33.80 347 *i* P P 03 58 27.4 -0.5
MK31 pmax pmax
comp=Z,13nm,0.8s
MK32 Makanchi Array 33.80 347 *e*P P 03 58 27.8 -0.1
MK32 *e*pP pP 03 58 38.4 +1.0
MKAR Makanchi Array 33.80 347 P P 03 58 27.8 -0.1
comp=Z,6.5nm,0.8s,baz=160,slow=8.7,SNR=53
MKAR pP pP 03 58 38.4 +1.0
comp=Z,7.5nm,0.7s,baz=144,slow=10,SNR=17
MKAR Makanchi Array 33.80 347 *e*P P 03 58 27.7 -0.2
KK31 Karatay Array 34.80 330 P P 03 58 36.5 -0.1
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 34.80 330 *e*P P 03 58 36.2 -0.4
KKAR Karatay Array 34.80 330 *e*P P 03 58 36.2 -0.4
SONA0 Songino Array 35.36 15 *e*P P 03 58 41.3 -0.2
SONA0 *e*pP pP 03 58 50.5 -0.5
SONA0 *e*PcP PcP 04 01 11.5 +0.3
SONA0 *e*ScP ScP 04 04 56.6 +1.9
SONM Songino Array 35.36 15 P P 03 58 41.3 -0.2
comp=Z,6.9nm,1.0s,baz=197,slow=6.3,SNR=42
SONM pP pP 03 58 50.5 -0.5
comp=Z,5.5nm,1.1s,baz=204,slow=8.2,SNR=10
SONM PcP PcP 04 01 11.5 +0.3
comp=Z,1.0nm,0.7s,baz=211,slow=3.9,SNR=4.4
SONM ScP ScP 04 04 56.6 +1.9
comp=Z,0.6nm,0.9s,baz=262,slow=4.5,SNR=4.3
SONA1 Songino Array 35.38 15 *e*P P 03 58 41.3 -0.3
ULN Ulaanbaatar 35.56 16 *ce*P P 03 58 43.0 -0.3
ULN pmax pmax
comp=Z,12nm,1.2s
ULN Ulaanbaatar 35.56 16 *e*P P 03 58 42.8 -0.4
comp=Z,12nm,1.2s
HATD Hatta, Dubai 36.35 293 *i* P P 03 58 53.1 +3.0
SNR=6.4
HVS Khovu-Aksy 36.90 1 *di* P P 03 58 54.1 -0.5
ZAK Zakamensk 37.08 11 *e*P P 03 58 55.4 -0.7
ZAK *e* 03 59 07.4
ZAK pmax pmax
comp=Z,2.0nm,1.3s
IAKL Akhelmad 37.96 312 *e*P P 03 59 04.2 +0.3
KURK Kurchatov 38.33 345 *e*P P 03 59 06.2 -0.3
KURK pmax pmax
comp=Z,13nm,1.1s
KURK Kurchatov 38.33 345 *e*P P 03 59 06.2 -0.3
comp=Z,13nm,1.1s
TLY Talaya 38.39 11 *e*P P 03 59 08.4 +1.3
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY Talaya 38.39 11 P P 03 59 08.2 +1.1
comp=Z,1.5nm,0.6s,baz=208,slow=6.3,SNR=3.8
KS15 Wonju Array Si 38.62 47 *e*P P 03 59 09.6 +0.5
KS15 *e*pP pP 03 59 19.2 +0.4
KSRS Korea Array 38.65 47 P P 03 59 09.6 +0.2
comp=Z,1.2nm,0.6s,baz=242,slow=8.8,SNR=3.5
KSRS pP pP 03 59 19.2 +0.2
comp=Z,4.5nm,0.9s,baz=246,slow=9.4,SNR=7.5
GEYT Alibeck 39.02 314 P P 03 59 13.8 +1.2
comp=Z,12nm,0.8s,baz=134,slow=8.5,SNR=17
GEYT PcP PcP 04 01 21.6 -0.8
comp=Z,2.0nm,0.5s,baz=151,slow=3.3,SNR=2.5
ISHV Shirvan 39.13 313 *e*P P 03 59 14.1 +0.3
ZAA0 Zalesovo Array 40.25 352 *e*P P 03 59 21.8 -0.8
ZALV Zalesovo Beam 40.25 352 P P 03 59 21.9 -0.7
comp=Z,6.3nm,0.8s,baz=175,slow=8.6,SNR=34
ZALV pP pP 03 59 32.5 +0.3
comp=Z,9.5nm,0.8s,baz=181,slow=8.4,SNR=16
ZAA1 Zalesovo Array 40.26 352 *e*P P 03 59 21.9 -0.7
ZAA1 *e*pP pP 03 59 32.5 +0.2
CN2 Changchun 40.45 37 *e*P P 03 59 26.5 +2.2
HIA Hailar 41.28 26 ⇑*i*P P 03 59 30.8 -0.3
HIA pmax pmax
comp=Z,12nm,1.7s
NVS Novosibirsk 41.34 351 *e*P P 03 59 29.0 -2.5
NVS *e* 04 01 25.1
IGLO Ghaloghah 41.53 310 *e*P P 03 59 34.3 +0.7
IKIA Kiasar 41.53 309 *e*P P 03 59 35.1 +1.5
VOSK Vostochnaya 42.34 340 *e*P P 03 59 39.1 -0.6
VOSK pmax pmax
comp=Z,13nm,1.0s
VOSK Vostochnaya 42.34 340 *e*P P 03 59 39.1 -0.6
comp=Z,13nm,1.0s
IPRN Peran 42.55 309 *e*P P 03 59 43.0 +1.1
IPIR Pirpir 42.59 303 *e*P P 03 59 42.4 -0.1
BVA0 Borovoye Array 42.79 340 *i* P P 03 59 42.3 -1.1
BVA0 pmax pmax
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 42.79 340 P P 03 59 42.7 -0.6
comp=Z,5.0nm,1.0s,baz=140,slow=9.5,SNR=16
BVAR pP pP 03 59 51.8 -1.3
comp=Z,1.8nm,0.8s,baz=133,slow=13,SNR=5.0
BRVK Borovoye 42.85 340 *ci* P P 03 59 43.4 -0.4
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 42.85 340 *e*P P 03 59 42.7 -1.1
comp=Z,8.6nm,1.1s
IRAZ Razeghan 44.13 307 *e*P P 03 59 55.9 +1.1
IGZV Ghazvin 44.22 308 *e*P P 03 59 56.1 +0.7
AB31 Akbulak array 44.33 329 P P 03 59 56.0 +0.2
AB31 pmax pmax
comp=Z,17nm,0.7s
ABKAR Akbulak array 44.33 329 *e*P P 03 59 56.3 +0.5
USRK Ussuriysk Arra 44.61 40 P P 03 59 57.0 -1.2

comp=Z,1.1nm,0.5s,baz=256,slow=12,SNR=3.9
FITZ Fitzroy Crossi 45.32 134 *e*P P 04 00 03.6 -0.5
RAYN Ar Rayn 45.85 289 *e*P P 04 00 09.0 +0.6
comp=Z,10nm,1.1s
MAJO Matsushiro 45.93 53 *e*P P 04 00 08.2 -0.6
MAJO *e**PP pP 04 00 18.8 +0.2
MAJO *e* 04 01 56.3
MAJO Matsushiro 45.93 53 *e*P P 04 00 08.2 -0.6
MAJO *e*pP pP 04 00 18.8 +0.2
MAJO *e*PP PP 04 01 56.3 -0.5
MAT Matsushiro 45.93 53 P P 04 00 17.6 +8.8
MAT *e*S S 04 06 34.4 -17
MJAR Matsushiro Arr 45.93 53 P P 04 00 08.2 -0.6
comp=Z,9.0nm,1.0s,baz=31,slow=29,SNR=3.9
MJAR pP pP 04 00 18.8 +0.2
comp=Z,3.9nm,0.8s,baz=259,slow=11,SNR=8.3
MJAR PP PP 04 01 56.3 -0.5
comp=Z,3.0nm,0.7s,baz=235,slow=4.3,SNR=7.6
AKTO Aktyubinsk 46.04 329 P P 04 00 09.2 -0.3
comp=Z,8.9nm,0.8s,baz=127,slow=15,SNR=28
BOD Bodaibo 46.36 15 *e*P P 04 00 10.6 -1.2
BOD pmax pmax
comp=Z,8.0nm,1.3s
IHRS Heris 47.22 309 *e*P P 04 00 19.2 0.0
IMRD Marand 48.34 310 *e*P P 04 00 28.6 +0.8
MAK Makhachkala 48.48 316 *e*P P 04 00 34.4 +5.9
MAK MLR MLR
comp=Z,1μm,19.0s
SVE Sverdlovsk 49.26 337 *e*P P 04 00 34.4 +0.1
SVE pmax pmax
comp=Z,49nm,1.1s
GNI Garni 49.48 311 *ci* P P 04 00 38.7 +2.2
GNI pmax pmax
comp=Z,56nm,1.2s
GNI Garni 49.48 311 P P 04 00 38.3 +1.8
comp=Z,15nm,0.7s,baz=158,slow=3.3,SNR=23
GNI Garni 49.48 311 *e*P P 04 00 38.1 +1.6
comp=Z,38nm,1.0s
GNI Garni 49.48 311 ⇓*i*P P 04 00 38.2 +1.8
SNR=12
ARU Arti 49.79 336 *di* P P 04 00 37.9 -0.3
ARU 04 02 31.4
ARU S S 04 07 46.7 +1.3
ARU SS SS 04 11 15.1 -3.0
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 49.79 336 *e*P P 04 00 38.0 -0.3
comp=Z,22nm,1.1s
ZEI Tsey 50.90 314 *e*P P 04 00 44.3 -2.9
ZEI pmax pmax
comp=Z,28nm,1.3s
KBZ Khabaz 51.90 315 *e*P P 04 00 55.0 +0.6
KBZ Khabaz 51.90 315 P P 04 00 55.0 +0.6
comp=Z,5.7nm,0.8s,baz=113,slow=7.5,SNR=18
KIV Kislovodsk 52.11 315 *e*P P 04 00 56.5 +0.4
KIV pmax pmax
comp=Z,52nm,1.0s
KIV Kislovodsk 52.11 315 *e*P P 04 00 56.0 -0.1
comp=Z,38nm,0.8s
NWAO Narrogin (SRO) 52.16 154 *e*P P 04 00 54.2 -2.2
NWAO Narrogin (SRO) 52.16 154 P P 04 00 56.2 -0.2
comp=Z,26nm,0.9s,baz=324,slow=9.5,SNR=7.9
NWAO PcP PcP 04 02 08.1 +0.2
comp=Z,2.6nm,0.3s,baz=259,slow=5.2,SNR=4.3
NWAO Narrogin (SRO) 52.16 154 *e*P P 04 00 54.2 -2.2
comp=Z,0.1nm,1.0s
YSS Yuzh-Sakhalins 52.61 41 *e*P pP 04 01 09.8 +0.3
WRA Warramunga Arr 52.83 129 P P 04 01 01.2 -0.4
comp=Z,12nm,0.8s,baz=311,slow=8.0,SNR=33
WRA pP pP 04 01 12.1 +0.6
comp=Z,5.2nm,0.8s,baz=312,slow=7.6,SNR=6.8
WRA PcP PcP 04 02 11.1 +0.4
comp=Z,4.0nm,0.5s,baz=318,slow=3.2,SNR=17
WRA LR LR 04 25 53.8
comp=Z,548nm,20.7s,baz=100,slow=39
WRAB Tennant Creek 52.83 129 *ci* P P 04 01 00.9 -0.7
WRAB pmax pmax
comp=Z,48nm,1.2s
ASF Jabal al Asfar 54.13 300 P P 04 01 12.2 +1.0
comp=Z,5.0nm,0.8s,baz=84,slow=3.7,SNR=9.5
AS01 Alice Springs 54.82 133 *e*P P 04 01 15.2 -0.9
AS01 *e*PcP PcP 04 02 18.4 +0.1
VRHR Novokhopersk 55.31 323 *e*P P 04 01 18.0 -1.2
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.9s
MMAI Mount Meron Ar 55.47 300 P P 04 01 21.6 +0.8
comp=E,2.3nm,0.8s,baz=86,slow=7.4,SNR=6.3
EIL Elat 55.62 296 P P 04 01 22.1 +0.3
comp=E,4.5nm,0.8s,baz=25,slow=22,SNR=4.7
ANN Anapa 55.96 315 *e*P P 04 01 14.7 -9.4
ANN pmax pmax
comp=Z,89nm,1.5s
VORD Divnogorie 56.63 322 *e*P P 04 01 26.6 -2.1
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.6s
VSR Storozhevoye 56.79 323 *e*P P 04 01 28.0 -1.9
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,7.0nm,1.5s
VSR pmax pmax
comp=E,10.0nm,1.0s
BR101 Keskin Array S 57.70 308 *e*P P 04 01 36.3 -0.4
BRTR Keskin Array B 57.70 308 P P 04 01 36.3 -0.4
comp=E,14nm,0.8s,baz=120,slow=7.2,SNR=90
PRGR Permogore 58.25 336 ⇑*i*P P 04 01 39.4 -0.5
PRGR *PP pP 04 01 49.4 -0.5
PRGR pmax pmax
comp=Z,53nm,0.9s
ANTO Ankara 58.36 308 *e*P P 04 01 40.9 -0.4
ANTO pmax pmax
comp=Z,15nm,1.0s
ANTO Ankara 58.36 308 *e*P P 04 01 40.9 -0.4
comp=Z,15nm,1.0s
BR231 Keskin MP Arra 58.37 308 *e*P P 04 01 37.1 -4.3
PMG Port Moresby 58.48 110 ⇓*e*P P 04 01 43.3 +1.0
PMG pmax pmax
comp=Z,11nm,1.0s
OBN Obninsk 59.61 326 *i* P P 04 01 49.2 -0.3
OBN *i* 04 01 59.5
OBN *i* 04 02 38.4
OBN pmax pmax
comp=Z,37nm,1.7s
OBN Obninsk 59.61 326 P P 04 01 48.3 -1.2
comp=Z,8.0nm,0.4s,baz=15,slow=7.7,SNR=4.3
KLMR Klimovskoe 60.44 333 *e*P P 04 01 53.5 -1.6
KLMR pmax pmax
comp=Z,27nm,1.4s
TIXI Tiksi 61.34 12 *de*P P 04 01 59.5 -1.5
TIXI pmax pmax
comp=Z,14nm,1.0s
TIRR Tirgusor 62.22 313 ⇑P P 04 02 07.5 +0.1
TIRR Tirgusor 62.22 313 ⇑*i*P P 04 02 07.5 +0.2
CFR Carcaliu 62.51 314 ⇑P P 04 02 09.5 +0.2
CFR Carcaliu 62.51 314 ⇑*i*P P 04 02 09.5 +0.2
MSAB Monastry St. A 62.59 312 ⇓*i*P P 04 02 10.5 +0.6
AKASG Malin Array Be 62.70 320 P P 04 02 09.4 -1.1
comp=Z,2.7nm,0.8s,baz=86,slow=5.0,SNR=26
AKBB Malin Array Si 62.70 320 *e*P P 04 02 09.4 -1.1
AKBB Malin Array Si 62.70 320 *e*P P 04 02 09.4 -1.1
KIEV Kiev 62.70 320 ⇑*i*P P 04 02 09.8 -0.8
KIEV Kiev 62.70 320 *e*P P 04 02 09.5 -1.0
comp=Z,18nm,1.4s
AK11 Malin Array Si 62.73 320 *e*P P 04 02 09.0 -1.7
VRI Vrincioaia 63.58 314 ⇑P P 04 02 17.4 +0.9
VRI Vrincioaia 63.58 314 ⇑*i*P P 04 02 17.4 +0.9
ISR Istrita 63.62 314 ⇑P P 04 02 18.5 +1.7
ISR Istrita 63.62 314 ⇑*i*P P 04 02 18.5 +1.7
PLOR Plostina 63.63 314 ⇑P P 04 02 17.9 +1.0
PLOR Plostina 63.63 314 ⇑*i*P P 04 02 17.9 +1.0
TESR Tescani 63.71 315 ⇑*i*P P 04 02 17.3 0.0
MLR Muntele Rosu 64.08 314 ⇑*i*P P 04 02 20.8 +0.9
MLR Muntele Rosu 64.08 314 P P 04 02 20.9 +0.9
comp=Z,4.7nm,0.9s,baz=96,slow=2.0,SNR=29
RZN Rozhen 64.65 310 *i* P P 04 02 23.6 -0.2
BURAR Bucovina Array 64.81 316 ⇑P P 04 02 25.2 +0.5
BURAR Bucovina Array 64.81 316 ⇑*i*P P 04 02 25.2 +0.5

JOF Joensuu 64.82 334 *e*P P 04 02 23.2 -1.0
JOF pmax pmax
comp=Z,9.0nm,0.8s
JOF Joensuu 64.82 334 *e*p P 04 02 23.2 -1.0
comp=Z,9.2nm,0.8s
BUR04 Bucovina Ar. S 64.82 316 *e*P P 04 02 24.6 -0.2
NACGM Naroch 64.98 324 *e* P 04 02 23.0 -2.5
ARR Arges 64.98 314 ⇑*i*P P 04 02 25.8 0.0
STKA Stephens Creek 65.19 135 *e*P P 04 02 27.5 +0.3
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 65.19 135 P P 04 02 27.5 +0.3
comp=Z,7.7nm,0.6s,baz=321,slow=5.4,SNR=12
STKA Stephens Creek 65.19 135 *e*P P 04 02 27.5 +0.3
comp=Z,1.5nm,0.6s
IIGN Ignalina 65.38 325 *e*P P 04 02 27.2 -0.9
IIGN AMB AMB 04 02 28.6
comp=Z,12nm,1.2s
MMB Musomiste 65.38 309 ⇑P P 04 02 28.0 -0.4
MMB Musomiste 65.38 309 *i* P P 04 02 26.5 -1.9
MMB Musomiste 65.38 309 ⇑*i*P P 04 02 28.0 -0.4
MPEP Malo Peshtene 65.47 311 *i* P P 04 02 29.3 +0.4
ISAL Salakas 65.48 325 *e*P P 04 02 29.2 +0.6
ISAL AMB AMB 04 02 30.9
comp=Z,11nm,1.2s
VSU Vasula 65.75 328 ⇑*e*P P 04 02 30.2 -0.2
VSU pmax pmax
comp=Z,124nm,2.5s
LVV L'vov 65.85 318 *e*P P 04 02 30.7 -0.5
KKB Krupnik 65.88 310 *i* P P 04 02 31.1 -0.5
VAY Valandovo 66.24 309 *i* P P 04 02 32.6 -1.3
VAY Valandovo 66.24 309 *e*P P 04 02 32.5 -1.3
VAY Valandovo 66.24 309 *e*P P 04 02 32.3 -1.6
DRGR 66.44 315 ⇑P P 04 02 35.8 +0.7
DRGR 66.44 315 ⇑*i*P P 04 02 35.8 +0.7
TRPA Tarpa 66.66 317 ⇑*i*P P 04 02 36.8 +0.4
KWP Kalwaria Pacla 66.68 318 ⇑P P 04 02 37.1 +0.5
KWP Kalwaria Pacla 66.68 318 *e*P P 04 02 36.6 0.0
KWP Kalwaria Pacla 66.68 318 ⇑*i*P P 04 02 37.1 +0.5
FIA0 FINESS Array S 66.76 331 *e*P P 04 02 36.2 -0.6
FIA0 *e**PP pP 04 02 46.8 -0.1
FIA0 FINESS Array S 66.76 331 *e*P P 04 02 36.2 -0.6
FIA0 *e*pP pP 04 02 46.8 -0.1
FINES FINESS Array B 66.76 331 P P 04 02 36.2 -0.6
comp=Z,9.3nm,0.8s,baz=115,slow=9.0,SNR=30
FINES pP pP 04 02 46.8 -0.1
comp=Z,4.9nm,0.6s,baz=119,slow=6.7,SNR=7.1
KAF Kangasniemi 66.81 332 *e*P P 04 02 35.3 -1.8
KAF pmax pmax
comp=Z,4.0nm,0.8s
KAF Kangasniemi 66.81 332 *e*p P 04 02 35.3 -1.8
comp=Z,3.7nm,0.8s
UZH Uzhgorod 66.86 317 *e*P P 04 02 36.7 -1.0
UZH *i* 04 02 41.7
UZH *e* 04 02 59.1
KOLS Kolonicke sedl 66.90 317 *e*P P 04 02 37.2 -0.8
KOLS Kolonicke sedl 66.90 317 *e*P P 04 02 37.2 -0.8
SUW Suwalki 66.90 323 *e*P P 04 02 37.5 -0.4
SUW Suwalki 66.90 323 *e*P P 04 02 37.5 -0.4
SUW Suwalki 66.90 323 *e*P P 04 02 36.6 -1.2
comp=Z,64nm,1.1s
BZS Buzias 67.12 314 ⇑P P 04 02 39.5 +0.1
BZS Buzias 67.12 314 ⇑*i*P P 04 02 39.5 +0.1
CRVS Cervenica-Dubn 67.43 317 *e*P P 04 02 41.9 +0.5
CRVS pmax pmax
comp=Z,21nm,1.1s
CRVS Cervenica-Dubn 67.43 317 *e*P P 04 02 41.9 +0.5
STHS Stebnicka Huta 67.61 318 *e*P P 04 02 43.0 +0.4
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 67.61 318 *e*P P 04 02 42.9 +0.4
NIE Niedzica 68.22 318 *e*P P 04 02 46.4 0.0
NIE Niedzica 68.22 318 *e*P P 04 02 46.4 0.0
PSZ Piszkesteto 68.42 316 ⇑P P 04 02 47.7 +0.1
PSZ Piszkesteto 68.42 316 ⇑*i*P P 04 02 47.7 +0.1
PSZ Piszkesteto 68.42 316 *e*P P 04 02 47.0 -0.7
comp=Z,13nm,1.0s
PSZ Piszkesteto 68.42 316 ⇑*e*P P 04 02 47.9 +0.3
OJC Ojcow 68.60 319 *e*P P 04 02 48.8 +0.1
OJC Ojcow 68.60 319 *e*P P 04 02 48.7 +0.1
comp=Z,20nm,1.1s
OJC Ojcow 68.60 319 *e*P P 04 02 48.8 +0.1
ARA0 ARCESS Array S 69.08 340 *e*P P 04 02 50.9 -0.3
ARCES ARCESS Array B 69.08 340 P P 04 02 50.9 -0.3
comp=Z,5.1nm,0.7s,baz=79,slow=6.5,SNR=11
PKSM Moragy 69.22 314 ⇑P P 04 02 52.6 0.0
PKSM Moragy 69.22 314 ⇑*i*P P 04 02 52.5 0.0
PKSM Moragy 69.22 314 ⇑*e*P P 04 02 52.6 0.0
OKC Ostrava-Krasne 69.65 318 *e*P P 04 02 55.0 -0.2
OKC Ostrava-Krasne 69.65 318 *e*P P 04 02 55.6 +0.4
comp=Z,22nm,1.1s
OKC Ostrava-Krasne 69.65 318 *e*P P 04 02 55.0 -0.2
MORC Moravsky Berou 70.04 318 ⇑P P 04 02 58.2 +0.6
MORC Moravsky Berou 70.04 318 *e*P P 04 02 58.0 +0.4
comp=Z,21nm,1.1s
MORC Moravsky Berou 70.04 318 ⇑*i*P P 04 02 58.2 +0.6
MORC Moravsky Berou 70.04 318 *e*P P 04 02 57.8 +0.2
comp=Z,16nm,1.0s
LSZ Lusaka 70.55 248 *e*P P 04 03 00.9 -0.5
LSZ pmax pmax
comp=Z,20nm,1.1s
LSZ Lusaka 70.55 248 *e*P P 04 03 00.9 -0.5
comp=Z,20nm,1.1s
VRAC Vranov 70.65 318 P P 04 03 01.9 +0.6
comp=Z,1.9nm,0.6s,baz=146,slow=7.3,SNR=3.1
BILL Bilibino 70.69 22 *i* P P 04 03 00.1 -1.1
BILL *i* 04 03 09.2
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 70.69 22 *e*P P 04 03 00.0 -1.1
comp=Z,3.9nm,0.8s
DPC Dobruska-Polom 70.84 319 *e*P P 04 03 02.9 +0.4
DPC pmax pmax
comp=Z,59nm,1.1s
DPC Dobruska-Polom 70.84 319 *e*P P 04 03 03.1 +0.6
comp=Z,43nm,1.2s
DPC Dobruska-Polom 70.84 319 *e*P P 04 03 00.8 -1.7
DPC *e*pP pP 04 03 10.4 -2.3
DPC Dobruska-Polom 70.84 319 *e*P P 04 03 02.9 +0.4
comp=Z,59nm,1.1s
KSP Ksiaz 70.86 319 *e*P P 04 03 02.9 +0.4
KSP Ksiaz 70.86 319 *e*P P 04 03 03.1 +0.5
comp=Z,14nm,0.9s
KSP Ksiaz 70.86 319 *e*P P 04 03 03.0 +0.4
KOGS Kog 70.87 315 *i* P P 04 03 02.9 +0.2
UPC Upice 71.04 319 *e*P P 04 03 04.1 +0.4
UPC *e* 04 03 13.7
UPC Upice 71.04 319 *e*P P 04 03 04.1 +0.4
UPC *e*pP pP 04 03 13.7 -0.2
CONA Conrad Observa 71.13 316 ⇑*i*P P 04 03 04.1 -0.3
comp=Z,5.8nm,1.1s
TREC Trest 71.37 318 *e*P P 04 03 04.9 -0.8
TREC Trest 71.37 318 *e*P P 04 03 04.9 -0.8
BOJS Bojanci 71.59 314 *i* P P 04 03 07.0 -0.1
SOKA Soboth 71.71 315 ⇓*i*P P 04 03 08.2 +0.3
comp=Z,12nm,1.4s
PRU Pruhonice 71.98 318 *e*P P 04 03 09.4 +0.1
PRU *e* 04 03 20.0
PRU Pruhonice 71.98 318 *e*P P 04 03 09.4 +0.1
PRU *e*pP pP 04 03 20.0 +0.4
LJU Ljubljana 72.08 314 *i* P P 04 03 10.4 +0.4
MOA Molln 72.20 316 ⇓*i*P P 04 03 10.6 -0.1
comp=Z,7.2nm,0.8s
BRG Berggiesshubel 72.35 319 *i* P P 04 03 11.6 0.0
comp=Z,11nm,1.0s
BRG *e* 04 03 22.5
comp=Z,3.7nm,0.7s
BRG Berggiesshubel 72.35 319 *i* P P 04 03 11.6 0.0
BRG *e* 04 03 22.5
BRG pmax pmax
comp=Z,11nm,1.0s
BRG Berggiesshubel 72.35 319 *e*P P 04 03 11.8 +0.3
comp=Z,11nm,1.0s
RUE Ruedersdorf 72.44 321 *e*P P 04 03 12.3 +0.3
comp=Z,33nm,1.1s
RUE Ruedersdorf 72.44 321 *e*P P 04 03 12.1 +0.1
comp=Z,26nm,0.9s
GEC2 GERESS Array S 72.55 317 *e*P P 04 03 13.0 +0.1
GEC2 *e**PP pP 04 03 23.4 +0.2
GEC2 GERESS Array S 72.55 317 *e*P P 04 03 13.2 +0.3
comp=Z,17nm,1.0s
GEC2 GERESS Array S 72.55 317 *e*P P 04 03 12.9 +0.1
GEC2 *e*pP pP 04 03 23.4 +0.2
GERES GERESS Array B 72.55 317 P P 04 03 12.9 +0.1

comp=Z,9.9nm,0.8s,baz=90,slow=5.3,SNR=32
GERES pP pP 04 03 23.4 +0.2
comp=Z,3.1nm,0.7s,baz=86,slow=6.4,SNR=5.2
HFS Hagfors 72.59 329 P **P 04 03 12.1 -0.6**
comp=Z,9.3nm,0.7s,baz=109,slow=8.0,SNR=21
HFS pP pP 04 03 21.6 -1.4
comp=Z,4.1nm,0.8s,baz=101,slow=7.7,SNR=7.0
KHC Kasperske Hory 72.62 317 eP **P 04 03 12.4 -0.9**
KHC e 04 03 22.5
KHC Kasperske Hory 72.62 317 eP **P 04 03 12.4 -0.9**
KHC epP **pP 04 03 22.5 -1.0**
CLL Collm 72.94 320 i P **P 04 03 15.1 +0.1**
CLL e 04 03 26.0
CLL pmax pmax
comp=Z,12nm,1.2s
CLL Collm 72.94 320 eP **P 04 03 14.9 -0.1**
comp=Z,12nm,1.2s
CLL Collm 72.94 320 i P **P 04 03 15.1 +0.1**
comp=Z,12nm,1.2s
CLL epP **pP 04 03 26.0 +0.8**
WET Wettzell 73.08 317 eP **P 04 03 16.2 +0.2**
comp=Z,12nm,1.1s
TANN Tannenbergstha 73.31 319 eP **P 04 03 17.4 +0.1**
comp=Z,14nm,1.3s
WERN Wernitzgruen 73.37 319 eP **P 04 03 17.9 +0.3**
comp=Z,5.0nm,0.9s
GUNZ Gunzen 73.39 319 eP **P 04 03 17.8 0.0**
comp=Z,16nm,1.1s
ROTZ Rotzenmuhle 73.50 318 eP **P 04 03 19.2 +0.8**
comp=Z,20nm,1.1s
PLN Plauen 73.50 319 eP **P 04 03 18.6 +0.2**
SPA0 Spitsbergen Ar 73.54 348 eP **P 04 03 17.3 -0.8**
SPA0 epP **pP 04 03 28.6 +0.2**
SPITS Spitsbergen Ar 73.54 348 P **P 04 03 17.3 -0.8**
comp=Z,15nm,1.0s,baz=145,slow=10,SNR=2.0
SPITS pP **pP 04 03 28.6 +0.2**
comp=Z,26nm,1.1s,baz=76,slow=14,SNR=2.7
MANZ Manzenberg 73.55 318 eP **P 04 03 19.3 +0.6**
comp=Z,13nm,1.1s
NEUB Neuenburg 73.71 320 eP **P 04 03 19.5 -0.1**
comp=Z,18nm,1.1s
NB2 NORSAR Subarra 73.83 330 P **P 04 03 19.1 -1.0**
comp=Z,3.1nm,0.6s,baz=88,slow=5.9
NB200 NORSAR Array S 73.83 330 eP **P 04 03 19.1 -1.0**
NB200 epP **pP 04 03 29.8 -0.6**
NOA NORSAR Array B 73.83 330 P **P 04 03 19.1 -1.0**
comp=Z,5.4nm,0.8s,baz=90,slow=5.8,SNR=17
NOA pP **pP 04 03 29.8 -0.6**
comp=Z,2.6nm,0.7s,baz=89,slow=5.8,SNR=5.6
MOX Moxa 73.84 319 eP **P 04 03 20.5 +0.1**
comp=Z,116nm,3.0s
WTTA Wattenberg 74.01 316⇑i P **P 04 03 20.6 -1.1**
comp=Z,12nm,1.2s
MOTA Moosalm 74.36 316⇓i P **P 04 03 22.6 -1.1**
comp=Z,22nm,1.2s
BSEG Bad Segeberg 74.48 322 eP **P 04 03 24.4 +0.4**
comp=Z,18nm,0.9s
CLZ Clausthal 74.56 320 eP **P 04 03 24.8 +0.2**
comp=Z,18nm,1.2s
RETA Reutte 74.59 316⇑i P **P 04 03 24.6 -0.3**
comp=Z,20nm,1.3s
FETA Feichten 74.64 315⇑i P **P 04 03 24.6 -0.7**
comp=Z,10nm,1.1s
NRDL Niedersach Rie 74.68 321 eP **P 04 03 25.7 +0.6**
comp=Z,27nm,1.4s
DAVA Damuels 75.20 316⇑i P **P 04 03 28.5 0.0**
comp=Z,24nm,1.1s
DAVOX Davos/Dischmat 75.24 315 P **P 04 03 28.7 -0.1**
comp=Z,5.1nm,0.9s,baz=112,slow=11
TUE Stuetta 75.64 315 eP **P 04 03 31.2 +0.1**
comp=Z,9.1nm,1.1s
PGF Pioggiola 76.30 311 eP **P 04 03 34.1 -0.7**
PGF Pioggiola 76.30 311 eP **P 04 03 34.1 -0.7**
PGF Pioggiola 76.30 311 eP **P 04 03 34.1 -0.7**
BUG Bochum--Univer 76.52 320 eP **P 04 03 36.0 +0.3**
comp=Z,23nm,1.1s
CDF Champ du Feu 76.83 317 eP **P 04 03 37.0 -0.7**
CDF Champ du Feu 76.83 317 eP **P 04 03 37.0 -0.7**
CDF Champ du Feu 76.83 317 eP **P 04 03 37.0 -0.7**
KEST Kesra 76.90 304 P **P 04 03 38.8 +0.4**
comp=Z,3.3nm,0.9s,baz=10,slow=12,SNR=4.6
KEST Kesra 76.90 304 eP **P 04 03 38.2 -0.1**
HINF Hinteralfeld 77.18 316 eP **P 04 03 38.9 -0.8**
HINF Hinteralfeld 77.18 316 eP **P 04 03 38.9 -0.8**
HINF Hinteralfeld 77.18 316 eP **P 04 03 38.9 -0.8**
SBF Sospel 77.27 312 eP **P 04 03 39.6 -0.7**
SBF Sospel 77.27 312 eP **P 04 03 39.6 -0.7**
SBF Sospel 77.27 312 eP **P 04 03 39.6 -0.7**
HAU Haudompre 77.50 317 eP **P 04 03 40.5 -0.9**
comp=Z,16nm,1.0s
HAU Haudompre 77.50 317 eP **P 04 03 40.5 -0.9**
HAU Haudompre 77.50 317 eP **P 04 03 40.5 -0.9**
LPG La Plagne 77.54 314 eP **P 04 03 41.7 -0.3**
comp=Z,34nm,0.8s
LPG La Plagne 77.54 314 eP **P 04 03 41.7 -0.3**
LPG La Plagne 77.54 314 eP **P 04 03 41.7 -0.3**
LPL La Plagne 77.56 314 eP **P 04 03 41.8 -0.2**
comp=Z,37nm,0.8s
LPL La Plagne 77.56 314 eP **P 04 03 41.8 -0.2**
LPL La Plagne 77.56 314 eP **P 04 03 41.8 -0.2**
MBDF Montbardon 77.63 313 eP **P 04 03 41.3 -1.1**
comp=Z,14nm,0.8s
MBDF Montbardon 77.63 313 eP **P 04 03 41.3 -1.1**
MBDF Montbardon 77.63 313 eP **P 04 03 41.3 -1.1**
CABF La Chapelle 77.86 315 eP **P 04 03 43.2 -0.3**
comp=Z,19nm,0.9s
CABF La Chapelle 77.86 315 eP **P 04 03 43.2 -0.3**
CABF La Chapelle 77.86 315 eP **P 04 03 43.2 -0.3**
FRF La Foret Royal 77.88 312 eP **P 04 03 43.2 -0.4**
comp=Z,25nm,0.8s
FRF La Foret Royal 77.88 312 eP **P 04 03 43.2 -0.4**
FRF La Foret Royal 77.88 312 eP **P 04 03 43.2 -0.4**
LMR La Mourre 78.01 312 eP **P 04 03 43.9 -0.4**
comp=Z,18nm,0.9s
LMR La Mourre 78.01 312 eP **P 04 03 43.9 -0.4**
LMR La Mourre 78.01 312 eP **P 04 03 43.9 -0.4**
BOSA Boshof 78.13 236 P **P 04 03 47.1 +1.8**
comp=Z,5.1nm,0.7s,baz=86,slow=2.7,SNR=12
BOSA pP **pP 04 03 57.5 +1.8**
comp=Z,4.9nm,0.7s,baz=83,slow=5.2,SNR=3.4
GIVF Givet 78.22 319 eP **P 04 03 44.9 -0.4**
GIVF Givet 78.22 319 eP **P 04 03 44.9 -0.4**
GIVF Givet 78.22 319 eP **P 04 03 44.9 -0.4**
ORIF Oris-en-Rattie 78.23 314 eP **P 04 03 44.7 -0.9**
ORIF Oris-en-Rattie 78.23 314 eP **P 04 03 44.7 -0.9**
ORIF Oris-en-Rattie 78.23 314 eP **P 04 03 44.7 -0.9**
SFTF Sexfontaines 78.34 317 eP **P 04 03 45.4 -0.6**
comp=Z,19nm,0.8s
SFTF Sexfontaines 78.34 317 eP **P 04 03 45.4 -0.6**
SMRF Simiane la Rot 78.59 313 eP **P 04 03 47.0 -0.5**
comp=Z,20nm,1.0s
SMRF Simiane la Rot 78.59 313 eP **P 04 03 47.0 -0.5**
BAIF Baives 78.62 319 eP **P 04 03 47.2 -0.3**
comp=Z,55nm,1.2s
BAIF Baives 78.62 319 eP **P 04 03 47.2 -0.3**
BAIF Baives 78.62 319 eP **P 04 03 47.2 -0.3**
VIVF Saint-Julien-l 79.09 314 eP **P 04 03 49.8 -0.5**
comp=Z,14nm,1.0s
VIVF Saint-Julien-l 79.09 314 eP **P 04 03 49.8 -0.5**
VIVF Saint-Julien-l 79.09 314 eP **P 04 03 49.8 -0.5**
LOR Lormes 79.27 316 eP **P 04 03 50.3 -0.9**
comp=Z,19nm,1.0s
LOR Lormes 79.27 316 eP **P 04 03 50.3 -0.9**
LOR Lormes 79.27 316 eP **P 04 03 50.3 -0.9**
SMF Signal de Mont 79.38 316 eP **P 04 03 50.9 -0.9**
comp=Z,20nm,0.9s
SMF Signal de Mont 79.38 316 eP **P 04 03 50.9 -0.9**
SMF Signal de Mont 79.38 316 eP **P 04 03 50.9 -0.9**
SSF Saint Saulge 79.54 316 eP **P 04 03 52.0 -0.6**
comp=Z,18nm,1.1s
SSF Saint Saulge 79.54 316 eP **P 04 03 52.0 -0.6**
SSF Saint Saulge 79.54 316 eP **P 04 03 52.0 -0.6**
AVF Avril sur Loir 79.69 316 eP **P 04 03 52.6 -0.8**
comp=Z,13nm,0.8s
AVF Avril sur Loir 79.69 316 eP **P 04 03 52.6 -0.8**
AVF Avril sur Loir 79.69 316 eP **P 04 03 52.6 -0.8**
LASF Ste Croix 79.80 313 eP **P 04 03 54.2 +0.1**
comp=Z,19nm,1.1s
LASF Ste Croix 79.80 313 eP **P 04 03 54.2 +0.1**
TCF Toulx Ste Croi 80.55 315 eP **P 04 03 57.9 -0.3**
comp=Z,21nm,1.1s
TCF Toulx Ste Croi 80.55 315 eP **P 04 03 57.9 -0.3**
TCF Toulx Ste Croi 80.55 315 eP **P 04 03 57.9 -0.3**
CAF Calviac 80.91 314 eP **P 04 04 00.6 +0.5**
comp=Z,48nm,1.4s
CAF Calviac 80.91 314 eP **P 04 04 00.6 +0.5**
CAF Calviac 80.91 314 eP **P 04 04 00.6 +0.5**
MTLF Montolieu 81.10 312 eP **P 04 04 00.9 -0.2**
comp=Z,12nm,0.9s
MTLF Montolieu 81.10 312 eP **P 04 04 00.9 -0.2**
MTLF Montolieu 81.10 312 eP **P 04 04 00.9 -0.2**
RJF Les Rejaudoux 81.22 314 eP **P 04 04 01.6 -0.1**
comp=Z,19nm,0.9s
RJF Les Rejaudoux 81.22 314 eP **P 04 04 01.6 -0.1**
RJF Les Rejaudoux 81.22 314 eP **P 04 04 01.6 -0.1**
LDF La Druitiere 81.66 318 eP **P 04 04 03.3 -0.7**
LDF La Druitiere 81.66 318 eP **P 04 04 03.3 -0.7**
LDF La Druitiere 81.66 318 eP **P 04 04 03.3 -0.7**
LFF La Frestale 81.83 314 eP **P 04 04 04.6 -0.3**
LFF La Frestale 81.83 314 eP **P 04 04 04.6 -0.3**
LFF La Frestale 81.83 314 eP **P 04 04 04.6 -0.3**
FLN La Foliniere 81.86 318 eP **P 04 04 05.0 0.0**
comp=Z,84nm,1.3s
FLN La Foliniere 81.86 318 eP **P 04 04 05.0 0.0**
FLN La Foliniere 81.86 318 eP **P 04 04 05.0 0.0**
EKA Eskdalemuir Ar 82.04 325 P **P 04 04 05.7 -0.1**
comp=Z,3.5nm,0.7s,baz=89,slow=5.6,SNR=10
EKA pP **pP 04 04 15.0 -1.1**
comp=Z,4.0nm,0.9s,baz=83,slow=7.6,SNR=3.9
MFF Saint Martin d 82.09 316 eP **P 04 04 05.6 -0.7**
comp=Z,44nm,1.1s
MFF Saint Martin d 82.09 316 eP **P 04 04 05.6 -0.7**
MFF Saint Martin d 82.09 316 eP **P 04 04 05.6 -0.7**
SGMF Saint Gilles 83.32 318 eP **P 04 04 12.0 -0.6**
SGMF Saint Gilles 83.32 318 eP **P 04 04 12.0 -0.6**
SGMF Saint Gilles 83.32 318 eP **P 04 04 12.0 -0.6**
ROSF Rostrenen 83.76 318 eP **P 04 04 14.4 -0.5**
ROSF Rostrenen 83.76 318 eP **P 04 04 14.4 -0.5**
ROSF Rostrenen 83.76 318 eP **P 04 04 14.4 -0.5**
ESDC Sonseca Array 86.45 310 P **P 04 04 27.6 -1.1**
comp=Z,1.9nm,0.7s,baz=53,slow=4.9,SNR=9.9
ESDC pP **pP 04 04 38.2 -0.9**
comp=Z,1.2nm,0.6s,baz=55,slow=4.1,SNR=5.9
SUMG Summit 87.85 347 eP **P 04 04 35.0 -0.2**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 87.85 347 i P **P 04 04 34.9 -0.2**
comp=Z,7.9nm,0.9s
SUMG Summit 87.85 347 eP **P 04 04 35.0 -0.2**
comp=Z,11nm,1.0s
TOA0 Torodi Ar. Sit 88.21 283 eP **P 04 04 38.3 +0.8**
TORD Torodi Ar. Bea 88.21 283 P **P 04 04 38.2 +0.7**
comp=Z,7.6nm,0.8s,baz=78,slow=3.9,SNR=52
TORD pP **pP 04 04 48.2 +0.3**
comp=Z,4.4nm,0.7s,baz=88,slow=3.5,SNR=12
TORD PP **PP 04 08 05.5 +0.6**
comp=Z,1.3nm,0.9s,baz=72,slow=7.6,SNR=5.6
MDT Midelt 88.80 303 P **P 04 04 41.5 +1.4**
comp=Z,1.4nm,0.8s,baz=34,slow=7.3,SNR=3.2
COLA College 88.94 22⇑eP **P 04 04 39.7 -0.2**
COLA pmax pmax
comp=Z,25nm,2.5s
MCK McKinley 89.13 23 eP **P 04 04 41.0 +0.1**
MCK pmax pmax
comp=Z,16nm,1.3s
MCK McKinley 89.13 23 eP **P 04 04 41.0 +0.1**
comp=Z,16nm,1.3s
IL1 Eielson Array 89.34 22 eP **P 04 04 40.4 -1.4**
ILAR Eielson Array 89.34 22 P **P 04 04 40.8 -1.0**
comp=Z,1.6nm,0.8s,baz=298,slow=4.4,SNR=24
ILAR pP **pP 04 04 50.9 -1.4**
comp=Z,1.5nm,0.9s,baz=304,slow=5.0,SNR=8.0
ILAR PP **PP 04 08 13.5 +1.1**
comp=Z,0.3nm,0.8s,baz=281,slow=6.2,SNR=3.5
ILB Eielson Array 89.34 22 eP **P 04 04 40.8 -1.0**
ILB epP **pP 04 04 50.9 -1.4**
ILB ePP **PP 04 08 13.5 +1.1**
KULLO Kullorsuaq 89.52 352 i P **P 04 04 42.3 -0.2**
KULLO pmax pmax
comp=Z,21nm,1.0s
KULLO Kullorsuaq 89.52 352 i P **P 04 04 42.3 -0.2**
comp=Z,21nm,0.9s
PMR Palmer 90.16 25 eP P 04 04 55.1 +9.4
PMR Palmer 90.16 25 epP P 04 04 55.1 +9.4
RC01 Rabbit Creek A 90.16 26 eP **P 04 04 46.0 +0.3**
RC01 epP **pP 04 04 55.2 -1.0**
DAWY Dawson 92.38 20 eP **P 04 04 56.5 +0.4**
DAWY epP **pP 04 05 06.2 -0.3**
DBIC Dimbokro 96.07 278 P **P 04 05 15.2 +1.3**
comp=Z,2.0nm,0.7s,baz=98,slow=7.1,SNR=3.2
DBIC Dimbokro 96.07 278 eP **P 04 05 15.2 +1.3**
comp=Z,42nm,1.5s
YKA Yellowknife Ar 100.58 13 P **Pdif 04 05 32.6 -0.5**
comp=Z,0.3nm,0.8s,baz=334,slow=3.9,SNR=6.1
YKA pP pP 04 05 42.6 -1.1
comp=Z,0.4nm,0.8s,baz=328,slow=4.6,SNR=4.1
YKA PP **PP 04 09 36.4 -3.1**
comp=Z,0.2nm,0.8s,baz=335,slow=7.6,SNR=4.3
YKB5 Yellowknife Ar 100.58 13 ePdif **Pdif 04 05 32.6 -0.5**
YKB5 e 04 05 42.6
YKB5 ePP **PP 04 09 36.4 -3.1**
MCCM Marconi Confer 118.00 32 ePKPdf **PKPdf 04 10 31.8 -0.9**
PD31 Pinedale Array 119.66 19 ePKPdf **PKPdf 04 10 35.7 -0.5**
PD31 epPKPdf **pPKPdf 04 10 46.5 -0.4**
PDAR Pinedale Array 119.66 19 PKP **PKPdf 04 10 35.7 -0.5**
comp=Z,0.4nm,0.6s,baz=157,slow=4.2,SNR=3.9
PDAR pPKP **pPKPdf 04 10 46.5 -0.4**
comp=Z,0.3nm,0.4s,baz=92,slow=3.4,SNR=5.8
NV01 Mina Array Sit 119.99 28 ePKPdf **PKPdf 04 10 37.1 +0.2**
NV01 epPKPdf **pPKPdf 04 10 48.2 +0.5**
NVAR Mina Array Bea 119.99 28 PKP **PKPdf 04 10 37.1 +0.2**
comp=Z,0.7nm,0.6s,baz=320,slow=1.8,SNR=4.8
NVAR pPKP **pPKPdf 04 10 48.2 +0.5**
comp=Z,1.5nm,0.6s,baz=270,slow=2.8,SNR=5.1
ANMO Albuquerque 127.76 20⇓i PKIKP **PKPdf 04 10 52.4 +0.5**
ANMO pmax pmax
comp=Z,27nm,2.5s
LTX Lajitas 133.84 20 ePKIKP **PKPdf 04 11 04.8 +1.4**
LTX Lajitas 133.84 20 ePKPdf **PKPdf 04 11 04.8 +1.4**
TXAR Lajitas Array 133.84 20 PKP **PKPdf 04 11 04.8 +1.4**
comp=Z,0.3nm,0.5s,baz=36,slow=0.9,SNR=6.1
JCT Junction City 133.93 16 ePKIKP **PKPdf 04 11 00.9 -2.6**
JCT Junction City 133.93 16 ePKPdf **PKPdf 04 11 00.9 -2.6**
PLCA Paso Flores 149.91 205 PKPbc **PKPbc 04 11 37.8 +1.5**
comp=Z,1.5nm,0.4s,baz=303,slow=1.9,SNR=3.7
LPAZ La Paz 161.79 261 PKPab **PKPab 04 12 33.9 -0.1**
comp=Z,1.0nm,0.8s,baz=337,slow=7.6,SNR=3.6

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*IDC **25** 03:58:22.2±6.9, 34°.65N×70°.64E, h0km, mb3.9/4, mb1 3.9/8, mb1mx3.5/46, mbtmp3.8/8, ML3.8/3, MS4.1/1, Ms1 4.1/1, ms1mx3.1/43, Error ellipse: s-maj=118.8km s-min=34.1km az=154.0*
*NNC **25** 03:58:51.8±10.0, 36°.58N×70°.12E, h97km±217km, mb3.4, mpv3.6, Error ellipse: s-maj=85.6km s-min=71.3km az=160.0*
ISC 25 03:58:44.9±2.2, 36°.1N±0°.2×70°.5E±0°.1, h98km, n15, σ1§61/17, mb4.0/3, 3C-2D, Hindu Kush region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KK31 Karatay Array 6.98 0⇓P **Pn 04 00 25.8 +1.4**
2.8nm,0.4s,baz=187,slow=13,SNR=5.1
KK31 ⇓S **Sn 04 01 41.1 -1.2**
1.8nm,0.3s,baz=191,slow=24,SNR=4.1
AAK Ala-Archa 7.22 24 P Pn 04 00 32.0 +4.1
2.0nm,0.5s
AAK ⇑S **Sn 04 01 48.2 -0.3**
9.7nm,0.6s
AAK Ala-Archa 7.22 24 Pn **Pn 04 00 30.1 +2.2**
1.6nm,0.3s,baz=132,slow=2.8,SNR=17
AAK Sn **Sn 04 01 49.1 +0.7**
0.6nm,0.3s,baz=342,slow=21,SNR=10
TKM2 Tokmak 2 7.87 29 P **Pn 04 00 38.6 +1.8**
2.7nm,0.9s
TKM2 ⇑S **Sn 04 02 01.5 -2.8**
1.2nm,0.4s
GEYT Alibeck 10.03 284 Sn **Sn 04 02 56.3 -0.3**
0.8nm,0.3s,baz=94,slow=16,SNR=3.1
MKAR Makanchi Array 13.86 36 Pn **Pn 04 01 55.3 -1.7**
baz=210,slow=7.4,SNR=2.0
AB31 Akbulak array 15.21 333 P **Pn 04 02 15.1 +0.8**
2.6nm,0.6s,baz=173,slow=11,SNR=55
AKTO Aktyubinsk 16.90 332 ⇑P **P 04 02 36.2 +0.6**
4.7nm,0.8s
AKTO Aktyubinsk 16.90 332 P **P 04 02 36.9 +1.3**
0.2nm,0.3s,baz=144,slow=15,SNR=5.1
BVAR Borovoye Array 16.91 360 P **P 04 02 38.1 +2.4**
0.3nm,0.3s,baz=167,slow=9.7,SNR=4.7

ZALV Zalesovo Beam 20.45 25 P **P 04 03 15.2 +0.8**
1.7nm,0.3s,baz=214,slow=9.7,SNR=9.7
MMAI Mount Meron Ar 28.93 274 LR LR 04 16 29.2
comp=Z,356nm,21.5s,baz=300,slow=37
ARCES ARCESS Array B 41.33 338 P **P 04 06 20.7 +0.1**
2.2nm,0.8s,baz=109,slow=4.9,SNR=3.6
HFS Hagfors 43.10 322 P **P 04 06 35.1 +0.1**
1.3nm,0.5s,baz=98,slow=9.1,SNR=5.4
NOA NORSAR Array B 44.42 323 P **P 04 06 43.5 -2.1**
0.6nm,0.8s,baz=124,slow=10,SNR=2.9

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*PRU **25** 04:00:13.4, 51°.46N×16°.06E, h0km*
*VIE **25** 04:00:14.9±0.3, 51°.28N×16°.10E, h0km, mb2.1/2, ML2.8/4, Error ellipse: s-maj=2.1km s-min=1.6km az=4.0 66 km WNW of Wroclaw Suspected Mining induced.*
*UPP **25** 04:00:30.4, 52°.89N×15°.36E, h0km, ML1.5, Suspected Mining explosion.*
CSEM 25 04:00:11.1±0.2, 51°.53N×16°.06E, h2km, ML3.2/7, 2C-2D, Error ellipse: s-maj=5.8km s-min=3.8km az=86.0, Poland

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KSP Ksiaz 0.70 168 ePg Pb 04 00 25.6 -0.5
KSP eSg Sb 04 00 35.0 -1.2
UPC Upice 1.02 182 ePG Pb 04 00 31.2 -0.3
UPC eSG Sg 04 00 44.1 +0.1
47nm,0.2s
UPC Upice 1.02 182 Pg Pb 04 00 31.2 -0.3
UPC Sg Sg 04 00 44.1 +0.1
47nm,0.2s
DPC Dobruska-Polom 1.19 172 ePG Pg 04 00 34.2 +0.2
DPC eSG Sg 04 00 49.2 -0.3
DPC Dobruska-Polom 1.19 172 Pg Pg 04 00 34.2 +0.2
DPC Sg Sg 04 00 49.2 -0.3
BRG Berggiesshubel 1.49 245 PG Pg 04 00 40.0 +0.4
BRG SG Sg 04 01 00.4 +1.5
44nm,0.4s
PRA Prague 1.79 216 PN Pn 04 00 43.0 0.0
PRA PG Pg 04 00 45.0 -0.4
PRA SG Sg 04 01 08.0 -0.6
PRU Pruhonice 1.82 213 ePN Pn 04 00 44.1 +0.7
PRU ePG Pg 04 00 45.9 -0.1
PRU eSG Sg 04 01 09.7 +0.1
14nm,0.2s
PRU Pruhonice 1.82 213 Pn Pn 04 00 44.1 +0.7
CLL Collm 1.93 265 ePg Pg 04 00 49.0 +0.9
CLL i Sg Sg 04 01 14.4 +1.3
comp=Z,25nm,0.6s
MORC Moravsky Berou 1.99 151 ePn Pn 04 00 46.5 +0.7
MORC eSg Sg 04 01 15.0 -0.2
OKC Ostrava-Krasne 2.15 141 ePG Pb 04 00 51.5 +0.8
OKC eSG Sg 04 01 19.2 -1.0
comp=Z,15nm,0.4s
OKC Ostrava-Krasne 2.15 141 Pg Pb 04 00 51.5 +0.8
OKC Sg Sg 04 01 19.2 -1.0
comp=Z,15nm,0.4s
VRAC Vranov 2.25 171 ePn Pn 04 00 50.5 +1.2
VRAC eSg Sg 04 01 23.0 -0.4
TREC Trest 2.27 190 ePN Pn 04 00 50.9 +1.3
TREC ePG Pg 04 00 53.7 -0.9
TREC eSG Sg 04 01 23.4 -0.6
comp=Z,13nm,0.2s
TREC Trest 2.27 190 Pn Pn 04 00 50.9 +1.3
OJC Ojcow 2.71 118 ePg Pg 04 01 03.8 +0.8
OJC eSg Sg 04 01 38.4 +0.3
OJC Ojcow 2.71 118 ePg Pg 04 01 03.8 +0.8
OJC eSg Sg 04 01 38.4 +0.3
KHC Kasperske Hory 2.88 215 ePN Pn 04 00 59.2 +1.1
KHC ePG Pb 04 01 04.7 +1.5
KHC eSN Sn 04 01 33.5 +0.2
KHC eSG Sg 04 01 43.1 -0.6
comp=Z,12nm,0.3s
KHC Kasperske Hory 2.88 215 Pn Pn 04 00 59.2 +1.1
CONA Conrad Observa 3.61 182⇑i Pn Pn 04 01 08.7 +0.6
CONA ⇓i Sg Sg 04 02 05.6 -1.6
comp=Z,8.7nm,0.4s
CONA Conrad Observa 3.61 182 Pn Pn 04 01 08.7 +0.6
CONA Sg Sg 04 02 05.6 -1.6
comp=Z,8.7nm,0.4s
BSD Bornholm Skovb 3.66 350 i P Pn 04 01 08.8 +0.2
BSD eS Sn 04 01 46.9 -5.4
BSD Bornholm Skovb 3.66 350 i P Pn 04 01 08.8 +0.2
MOA Molln 3.86 198⇓i Pn Pn 04 01 12.6 +1.0
MOA ⇑i Sg Sg 04 02 15.2 0.0
comp=Z,4.5nm,0.5s
MOA Molln 3.86 198 Pn Pn 04 01 12.6 +1.1
MOA Sg Sg 04 02 15.2 -0.1
comp=Z,4.5nm,0.5s
BLEU Blekinge 4.79 358 P Pn 04 01 24.6 +0.4
BJUU Bjuv 4.90 340 P Pn 04 01 25.0 -0.7
DEL Delary 5.12 346 P Pn 04 01 28.3 -0.4

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*IDC **25** 04:19:59.6±1.6, 35°.88N×70°.06E, h0km, mb3.6/8, mb1 3.8/13, mb1mx3.6/49, mbtmp3.7/13, ML3.8/5, Error ellipse: s-maj=33.6km s-min=16.4km az=152.0*
*ISCJB **25** 04:20:06.2±0.5, 36°.20N±0°.04×69°.74E±0°.06, h48km, mb3.4/7, Error ellipse: s-maj=7.8km s-min=5.3km az=147.4*
*NNC **25** 04:20:12.3±3.8, 36°.81N×69°.56E, h14km±24km, mb4.0, mpv3.8, Error ellipse: s-maj=28.6km s-min=20.7km az=170.0*
ISC 25 04:20:07.6±0.7, 36°.27N±0°.07×69°.69E±0°.05, h48km, n43, σ1§67/45, mb3.4/7, 9C-5D, Hindu Kush region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AML Almayashu 6.63 27 P **Pn 04 21 44.1 +1.4**
SNR=29
KK31 Karatay Array 6.86 5 Pn **Pn 04 21 47.2 +1.7**
1.4nm,0.3s,baz=198,slow=14,SNR=100
KK31 ⇓Sn **Sn 04 23 00.2 -2.0**
3.5nm,0.4s
KK31 ⇑Lg Lg 04 23 35.0
9.4nm,0.6s,baz=186,slow=28,SNR=3.8
UCH Uchtor 7.03 31 P **Pn 04 21 50.0 +1.6**
SNR=19
EKS2 Erkin-Say 7.12 25 P Pn 04 21 52.7 +3.4
SNR=11
KZA Kyzart 7.23 35 P **Pn 04 21 52.7 +1.6**
SNR=8.4
AAK Ala-Archa 7.36 29 ⇑Pn **Pn 04 21 54.3 +1.7**
6.2nm,0.5s
AAK ⇑Sn **Sn 04 23 13.2 -1.7**
6.8nm,0.3s
AAK ⇑Lg Lg 04 23 49.3
9.1nm,0.7s
AAK Ala-Archa 7.36 29 P **Pn 04 21 54.5 +1.9**
SNR=11
AAK Ala-Archa 7.36 29 Pn **Pn 04 21 54.5 +1.9**
1.9nm,0.3s,baz=169,slow=6.6,SNR=21
AAK Sn **Sn 04 23 13.8 -1.1**
2.6nm,0.3s,baz=281,slow=21,SNR=6.9
AAK Lg Lg 04 23 59.4
0.8nm,0.3s,baz=91,slow=23,SNR=4.3
KBK Karagaybulak 7.56 31 P Pn 04 21 58.6 +3.2
SNR=7.0
SDNR Sundarnagar 7.70 126 eP Pn 04 22 15.5 +18
CHMS Chumysh 7.77 29 P **Pn 04 21 59.8 +1.7**
SNR=7.7
ULHL Ulahol 7.84 38 P **Pn 04 22 00.5 +1.3**
SNR=11
USP Ospenovka 7.91 26 P **Pn 04 22 01.6 +1.6**
SNR=6.9
TKM2 Tokmak 2 8.06 33 ⇑Pn **Pn 04 22 03.1 +0.9**
7.1nm,0.9s
TKM2 ⇑Sn **Sn 04 23 30.9 -1.1**
4.8nm,0.7s
TKM2 ⇑Lg Lg 04 24 13.8
3.8nm,0.6s
TKM2 Tokmak 2 8.06 33 P **Pn 04 22 03.7 +1.5**
SNR=13
GEYT Alibeck 9.39 284 Pn **Pn 04 22 20.7 +0.4**
2.5nm,0.3s,baz=119,slow=9.7,SNR=16
GEYT Sn **Sn 04 24 03.2 -1.4**
0.4nm,0.3s,baz=116,slow=13,SNR=3.4
PYUN Piuthan 13.89 122 eP **Pn 04 23 20.4 -1.6**
22nm,0.3s
MK31 Makanchi Array 14.11 38 ⇓P **Pn 04 23 23.1 -1.6**
1.9nm,0.8s,baz=220,slow=16,SNR=9.6
MKAR Makanchi Array 14.11 38 Pn **Pn 04 23 23.1 -1.6**

0.2nm,0.3s,baz=221,slow=15,SNR=12
DANN Dangsing 14.27 120 *e*P **Pn** **04 23 26.2 -1.0**
14nm,0.5s
KOLN Koldanda 14.52 122 *e*P **Pn** **04 23 29.3 -1.1**
5.9nm,0.3s
AB31 Akbulak array 14.80 334 ⇑P **Pn** **04 23 32.2 -1.6**
0.6nm,0.2s,baz=167,slow=12,SNR=107
AB31 ⇓S Sn 04 26 08.4 -8.0
1.8nm,0.6s,baz=59,slow=29,SNR=3.7
GKN Gorkha 15.10 119 *e*P **Pn** **04 23 36.6 -1.3**
9.7nm,0.3s
KURBB Kurchatov Arra 15.70 21 P **P** **04 23 48.6 -0.1**
KURK Kurchatov 15.81 21 P **P** **04 23 49.7 -0.2**
PKIN Phulchoki 15.89 119 *e*P **Pn** **04 23 47.2 -1.1**
9.9nm,0.4s
PKI Pulchoki 15.90 119 *e*P **Pn** **04 23 47.3 -1.2**
JIRN Jiri 16.41 117 *e*P **Pn** **04 23 54.1 -0.8**
10nm,0.3s
AKTO Aktyubinsk 16.48 333 ⇑P **Pn** **04 23 55.6 +0.3**
8.0nm,1.1s
AKTO ⇓S **Sn** **04 26 51.2 -5.9**
2.2nm,0.7s
AKTO Aktyubinsk 16.48 333 Pn **Pn** **04 23 55.5 +0.1**
0.3nm,0.3s,baz=148,slow=17,SNR=9.2
AKTO Sn Sn 04 26 45.8 -11
0.1nm,0.3s,baz=330,slow=20,SNR=3.0
BVA0 Borovoye Array 16.76 1 ⇓P **P** **04 24 00.9 +0.4**
1.8nm,0.7s,baz=163,slow=9.7,SNR=4.2
BVAR Borovoye Array 16.76 1 Pn **Pn** **04 23 58.3 -0.5**
0.1nm,0.3s,baz=169,slow=12,SNR=2.8
RAMN Ramite 17.12 118 *e*P **Pn** **04 24 02.1 -1.6**
8.2nm,0.3s
TAPN Taplejung 17.69 115 *e*P **Pn** **04 24 10.6 -0.2**
17nm,0.4s
ODAN Odare 17.74 117 *e*P **Pn** **04 24 10.2 -1.2**
6.6nm,0.4s
ZALV Zalesovo Beam 20.58 26 P **P** **04 24 41.9 -0.3**
2.4nm,0.3s,baz=211,slow=11,SNR=22
KBZ Khabaz 21.77 298 P **P** **04 24 58.0 +2.9**
1.6nm,0.9s,baz=86,slow=13,SNR=2.8
BRTR Keskin Array B 28.50 288 P **P** **04 25 59.7 +1.2**
0.4nm,0.9s,baz=37,slow=3.6,SNR=2.7
SONM Songino Array 29.34 55 P P 04 26 02.3 -3.5
0.1nm,0.4s,baz=234,slow=9.2,SNR=2.6
NOA NORSAR Array B 43.93 323 P **P** **04 28 10.6 +1.1**
1.1nm,0.9s,baz=97,slow=8.1,SNR=3.3
TORD Torodi Ar. Bea 64.65 268 P **P** **04 30 42.2 +1.5**
1.4nm,1.3s,baz=37,slow=5.1,SNR=4.6
ILAR Eielson Array 75.29 15 P **P** **04 31 47.2 +2.0**
0.3nm,0.9s,baz=204,slow=11,SNR=3.8
YKA Yellowknife Ar 81.52 2 P **P** **04 32 20.5 +0.9**
0.3nm,0.6s,baz=350,slow=5.2,SNR=7.7

MOS ***25*** *04:27:14.9±1.1, 52°.19N×105°.93E, h15km, mb4.2/19, Error ellipse: s-maj=7.6km s-min=6.9km az=68.3*
MOS Felt (IV-V) at Bugul'deika, Elantsy, Shigaevo, Tvorogovo, Istomino, Maloye Goloustnoye, Posol'skoye, Ranzhurovo; (IV) at Irkutsk, Barky; (III-IV) at Shelekhov, Ulan-Ude, Angarsk; (III) at Tugutuy, Verkholensk, Bayanday; (II) at Baykal'sk, Slyudyanka.
NEIC ***25*** *04:27:15.5±0.3, 52°.22N×105°.93E, h10km, mb4.1/4, Error ellipse: s-maj=7.1km s-min=6.5km az=163.0*
NEIC Felt at Irkutsk, Listvyanka and Ulan-Ude.
BJI ***25*** *04:27:15.0, 52°.25N×106°.32E, h13km, mB4.4/1, mb4.0/7*
BYKL ***25*** *04:27:16.7±0.2, 52°.19N×105°.84E, FELT I=IV-V MSK at Shigaevo,Tvorogovo,Posolskoe,Yelantsy,Buguldeyka,Maloye Goloystnoe;IV at Irkutsk,Tyrgan;III-IV at Shelekhov,Ulan-Ude,Angarsk; III at Listvynka, II-III at Selenginsk, II at Slyudyanka,Baykalsk.*
ISCJB ***25*** *04:27:17.2±0.4, 52°.20N±0°.03×105°.92E±0°.03, h33km±3km, mb4.0/27, MS4.0/3, Error ellipse: s-maj=4.7km s-min=3.0km az=169.4*
IDC ***25*** *04:27:18.1±0.8, 52°.07N×105°.78E, h30km±5km, mb3.8/19, mb1 3.9/23, mb1mx3.8/36, mbtmp3.9/23, ML2.9/4, Error ellipse: s-maj=13.5km s-min=9.3km az=162.0*
ISC 25 04:27:18.4±0.5, 52°.18N±0°.02×105°.89E±0°.02, h28km±4km, n107, σ1°43/156, mb4.0/27, MS3.8/3, 21C-11D, Lake Baykal region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KAB Kabansk 0.49 105⇑*i*PG **Pb** **04 27 26.9 -1.8**
KAB *e* 04 27 34.4
KAB pmax pmax
comp=Z,26µm,0.6s
KAB smax smax
comp=N,105µm,1.3s
KAB Kabansk 0.49 105⇑*i*Pg **Pb** **04 27 26.9 -1.8**
KAB Pmax 04 27 27.3
comp=N,26µm,0.8s
KAB *i* Sg **Sb** **04 27 34.4 -1.2**
KAB Smax 04 27 35.2
comp=N,106µm,0.6s
TRG Tyrgan 0.65 26 *e*PG **Pb** **04 27 29.3 -2.0**
TRG *e* 04 27 38.0
TRG pmax pmax
comp=Z,2µm,0.1s
TRG smax smax
comp=N,16µm,0.1s
TRG Tyrgan 0.65 26 *e*Pg **Pb** **04 27 29.2 -2.0**
TRG *e*Pb **Pn** **04 27 31.9 +0.1**
TRG max 04 27 33.8
comp=N,2µm,0.2s
TRG *i* Sg **Sb** **04 27 38.6 -1.4**
TRG Smax 04 27 39.9
comp=N,19µm,0.2s
LSTR Listvyanka 0.72 245⇑*i*PG **Pb** **04 27 30.4 -2.1**
LSTR *e* 04 27 39.7
LSTR pmax pmax
comp=Z,1µm,0.2s
LSTR smax smax
comp=N,2µm,0.3s
LSTR Listvyanka 0.72 245⇓*i*Pg **Pb** **04 27 30.3 -2.2**
comp=N,1µm,0.5s
LSTR ⇓*i*Pg **Pb** **04 27 30.3 -2.2**
comp=N,2µm,0.5s
LSTR ⇑*i*Pg **Pb** **04 27 30.3 -2.2**
comp=N,2µm,0.5s
LSTR Pmax 04 27 30.5
comp=N,1µm,0.2s
LSTR *e*Sg **Sb** **04 27 39.7 -2.3**
LSTR Smax 04 27 40.4
comp=N,13µm,1.0s
HRMR Khuramsha 0.86 129⇓*i*Pg **Pb** **04 27 32.9 -2.0**
comp=N,10µm,0.5s
HRMR ⇑*i*Pg **Pb** **04 27 32.9 -2.0**
comp=N,7µm,0.5s
HRMR ⇑*i*Pg **Pb** **04 27 32.9 -2.0**
comp=N,16µm,0.5s
HRMR *e*Sg **Sb** **04 27 44.8 -1.3**
IRK Irkutsk 0.99 274⇑*i*PG **Pn** **04 27 35.6 -1.0**
IRK *e* 04 27 48.7
IRK *e* 04 27 50.7
IRK pmax pmax
comp=Z,10µm,0.2s
IRK smax smax
comp=N,131µm,0.3s
IRK Irkutsk 0.99 274⇑*i*Pg **Pn** **04 27 35.5 -1.0**
IRK *e*Sg **Sb** **04 27 48.4 -1.4**
IRK *e*Sb **Sn** **04 27 50.8 +1.2**
UUDB Ulan-Yde 1.14 105⇓*i*Pg **Pn** **04 27 37.7 -0.9**
comp=N,2µm,0.6s
UUDB ⇑*i*Pg **Pn** **04 27 37.7 -0.9**
comp=N,3µm,0.6s
UUDB ⇑*i*Pg **Pn** **04 27 37.7 -0.9**
comp=N,4µm,0.6s
UUDB Pmax 04 27 38.7
comp=N,5µm,1.2s
UUDB *e*Sg **Sb** **04 27 53.2 -0.8**
UUDB Smax 04 27 54.9
comp=N,18µm,0.8s
TLY Talaya 1.48 251*c i*PN **Pn** **04 27 43.2 +0.1**
TLY *e* 04 28 02.0
TLY pmax pmax
comp=Z,452nm,0.2s
TLY Talaya 1.48 251 *e*Pn **Pn** **04 27 42.9 -0.2**
TLY ⇑*i*Pg **Pn** **04 27 43.2 +0.1**
TLY Pmax 04 27 44.1
comp=Z,1µm,0.3s
TLY *e*Sg **Sn** **04 28 02.3 +0.8**
TLY *e*Sb **Sb** **04 28 04.1 +0.6**
TLY max 04 28 04.3
comp=Z,8µm,0.3s
TLY Talaya 1.48 251 Pg **Pn** **04 27 43.3 +0.2**
comp=Z,4.0nm,0.3s,baz=78,slow=9.3,SNR=1077
TLY Lg Lg 04 28 02.2
comp=Z,10nm,0.3s,baz=219,slow=20,SNR=53
TLY Talaya 1.48 251 *e*Pn **Pn** **04 27 42.9 -0.2**
TLY *e*Sn **Sn** **04 28 02.1 +0.6**
TLY Lg Lg 04 28 02.2
OGRR Ongureny 1.79 35 *e*PN **Pn** **04 27 47.7 +0.2**
OGRR Ongureny 1.79 35⇓*i*Pn **Pn** **04 27 47.7 +0.2**
OGRR *e*Pg **Pb** **04 27 48.5 -2.1**
OGRR *e* 04 27 50.7
OGRR max 04 27 56.1
comp=Z,1µm,0.8s
OGRR *e*Sn **Sn** **04 28 09.9 +0.5**
OGRR *e*Sg **Sb** **04 28 11.6 -1.1**
OGRR Smax 04 28 27.5
comp=Z,6µm,1.1s
MXMB Maximikha 2.05 57⇓*i*Pn **Pn** **04 27 50.5 -0.5**
MXMB *e* 04 27 53.6
MXMB *e*Pg **Pb** **04 27 54.9 -0.1**
MXMB *e* 04 27 58.3
MXMB *i* Sn **Sn** **04 28 16.2 +0.5**
MXMB *e*Sg **Sb** **04 28 21.3 +1.3**
MXMB Smax 04 28 25.8
comp=Z,5µm,0.4s
MXMB *e*SgSg **SnSn** **04 28 31.4 +4.9**
MXMB max 05 27 59.2
comp=Z,966nm,0.6s
ARS Arshan 2.15 264 *e*PN **Pn** **04 27 53.9 +1.4**
ARS *e* 04 28 22.0
ARS pmax pmax
comp=Z,2µm,0.4s
ARS smax smax
comp=N,10µm,0.4s
ARS Arshan 2.15 264 *e*Pn **Pn** **04 27 52.2 -0.3**
ARS *e*Pg **Pn** **04 27 53.9 +1.4**
ARS Pmax 04 27 57.1
comp=N,2µm,0.5s
ARS *i* Sg **Sb** **04 28 21.9 -1.1**
ARS Smax 04 28 23.8
comp=N,10µm,0.4s
ZAK Zakamensk 2.43 223 *e*PN **Pn** **04 27 56.1 -0.3**
ZAK *e* 04 28 00.6
ZAK *e*S **Sb** **04 28 31.5 +0.4**
ZAK pmax pmax
comp=Z,188nm,0.4s
ZAK smax smax
comp=N,1µm,0.6s
ZAK Zakamensk 2.43 223 *e*Pn **Pn** **04 27 56.2 -0.2**
ZAK *e*Pg **Pb** **04 28 00.6 -0.9**
ZAK Pmax 04 28 11.3
comp=N,197nm,0.5s
ZAK *e*Sg **Sb** **04 28 32.2 +1.1**
ZAK *e* 04 28 33.9
ZAK max 04 28 35.2
comp=N,1µm,0.5s
SYVR Suvo 2.90 58 *e*PN **Pb** **04 28 08.4 -1.0**
SYVR *e* 04 28 46.1
SYVR pmax pmax
comp=Z,220nm,0.5s
SYVR smax smax
comp=E,1µm,0.3s
SYVR Suvo 2.90 58 *e*Pg **Pb** **04 28 08.7 -0.7**
SYVR Pmax 04 28 21.1
comp=E,208nm,0.7s
SYVR *e*Sn **Sn** **04 28 35.7 -0.9**
SYVR *e*Sg **Sb** **04 28 48.2 +3.8**
SYVR *e*SgSg **SnSn** **04 28 51.9 +4.5**
SYVR max 04 28 53.0
comp=E,1µm,0.3s
MOY Mondy 3.07 262 *e*PN Pn 04 28 08.5 +3.3
MOY *e* 04 28 46.5
MOY pmax pmax
comp=Z,684nm,0.4s
MOY smax smax
comp=N,5µm,0.8s
ORL Orlik 3.74 278 *e*PN **Pn** **04 28 15.3 +0.9**
ORL *e* 04 28 24.1
ORL *e* 04 29 12.8
ORL pmax pmax
comp=Z,712nm,0.8s
ORL smax smax
comp=N,2µm,0.8s
ORL Orlik 3.74 278⇓*i*Pn **Pn** **04 28 15.3 +0.9**
ORL *e*Pg **Pb** **04 28 22.7 -1.1**
ORL Pmax 04 28 26.7
comp=N,754nm,0.7s
ORL *e*Sn **Sn** **04 28 59.9 +2.4**
ORL *e*Sg **Sb** **04 29 11.5 +2.8**
ORL Smax 04 29 17.8
comp=N,2µm,1.3s
YLYR Ulyunkhan 4.15 47 *e*PN **Pn** **04 28 19.9 0.0**
YLYR *e* 04 28 30.4
YLYR *e*S **Sn** **04 29 07.4 0.0**
YLYR *e* 04 29 23.0
YLYR pmax pmax
comp=Z,60nm,0.4s
YLYR smax smax
comp=E,417nm,1.1s
YLYR Ulyunkhan 4.15 47 *e*Pn **Pn** **04 28 19.6 -0.3**
YLYR *e*Pg **Pb** **04 28 30.3 -0.4**
YLYR Pmax 04 28 51.8
comp=E,79nm,0.8s
YLYR *e*Sn **Sn** **04 29 05.4 -2.0**
YLYR *e*Sg **Sb** **04 29 23.7 +3.4**
YLYR Smax 04 29 45.5
comp=E,466nm,1.6s
NIZ Nizh Angarsk 4.20 29 *e*PN Pb 04 28 33.1 +1.6
NIZ *e* 04 29 25.3
NIZ pmax pmax
comp=Z,99nm,0.3s
NIZ smax smax
comp=N,712nm,0.4s
NIZ Nizh Angarsk 4.20 29 *e*Pn **Pn** **04 28 20.3 -0.2**
NIZ *e* 04 28 27.9
NIZ *e* 04 28 33.3
NIZ max 04 28 39.3
comp=N,127nm,0.6s
NIZ *e*Sn **Sn** **04 29 07.5 -1.1**
NIZ *e*Sg **Sb** **04 29 26.4 +4.7**
NIZ *e* 04 29 39.9
NIZ max 04 29 43.0
comp=N,886nm,1.1s
SONM Songino Array 4.36 175 PN **Pn** **04 28 22.8 -0.1**
SONM 04 28 35.8
SONM 04 29 14.3
SONM pmax pmax
comp=Z,4.0nm,0.3s
SONM pmax pmax
comp=Z,20nm,0.3s
SONM smax smax
comp=N,17nm,0.3s
SONM Songino Array 4.36 175 Pn **Pn** **04 28 22.8 -0.1**
comp=N,3.6nm,0.3s,baz=347,slow=13,SNR=142
SONM Pg **Pb** **04 28 35.8 +1.4**
comp=N,20nm,0.3s,baz=342,slow=17,SNR=46
SONM Sn **Sn** **04 29 14.3 +1.4**
comp=N,17nm,0.3s,baz=356,slow=20,SNR=5.7
SONM Lg Lg 04 29 32.0
comp=N,103nm,0.3s,baz=356,slow=28,SNR=26
ULN Ulaanbaatar 4.38 170*de*PN **Pn** **04 28 22.8 -0.5**
ULN Ulaanbaatar 4.38 170 *e*Pn **Pn** **04 28 23.0 -0.2**
ULN ⇑*i*Pg **Pb** **04 28 35.2 +0.4**
ULN *e*Sg **Sb** **04 29 33.0 +5.7**
ULN Ulaanbaatar 4.38 170 *e*Pn **Pn** **04 28 23.1 -0.2**
CIT Chita 4.73 89 *e*PN **Pn** **04 28 26.7 -1.2**
CIT *e* 04 28 40.5
CIT *e*S **Sn** **04 29 19.7 -2.1**
CIT *e* 04 29 41.7
CIT pmax pmax
comp=Z,201nm,0.4s
CIT smax smax
comp=E,1µm,0.9s
CIT Chita 4.73 89 *e*Pn **Pn** **04 28 28.7 +0.8**
CIT *e*Pg **Pb** **04 28 40.9 +0.3**
CIT Pmax 04 28 46.0
comp=E,224nm,0.6s
CIT *e*Sn **Sn** **04 29 18.4 -3.4**
CIT *e*Sg Sb 04 29 43.3 +6.2
CIT Smax 04 29 51.4
comp=E,1µm,0.9s
KPC Khapcheranga 4.80 119⇓*i*Pn **Pn** **04 28 27.1 -1.7**
KPC ⇓*i*Pg **Pb** **04 28 42.8 +1.1**
KPC Pmax 04 28 46.3
comp=E,159nm,0.8s
KPC *e* 04 29 33.9
KPC *e*Sg Sb 04 29 45.8 +6.8
KPC Smax 04 29 48.4
comp=E,1µm,1.2s
KMO Kumora 4.86 38 *e*Pn **Pn** **04 28 29.5 -0.1**
KMO *e* 04 28 38.4
KMO *e*Pg Pb 04 28 44.2 +1.5
KMO Pmax 04 28 59.8
comp=E,122nm,0.5s
KMO *e*Sg Sb 04 29 47.4 +6.7
KMO Smax 04 30 17.5
comp=E,807nm,1.2s
YOA Uoyan 5.24 39 *e*Sg Sb 04 29 58.8 +7.2
YOA Smax 04 30 29.4
comp=E,2µm,1.4s
NLYR Nelyaty 7.18 49 *e*Pn **Pn** **04 29 01.3 -0.2**
NLYR *e*Pg Pb 04 29 26.3 +4.1
NLYR Pmax 04 29 49.0
comp=E,29nm,0.7s
NLYR *e*Sg Sb 04 30 59.8 +12
NLYR Smax 04 31 18.1
comp=E,540nm,1.3s
BOD Bodaibo 7.33 36 *e*Pn **Pn** **04 29 04.5 +1.1**
BOD *e* 04 29 13.2
BOD max 04 29 15.3
comp=E,8.0nm,0.3s
BOD *e*Sg Sb 04 31 04.1 +13
BOD Smax 04 31 20.6
comp=E,244nm,1.6s
HVS Khovu-Aksy 7.65 267⇑*e*PN **Pn** **04 29 09.7 +1.7**
HVS Khovu-Aksy 7.65 267 *e*Pg **Pb** **04 29 32.2 +1.9**
HVS *e* 04 31 01.9
HVS *e*Sg Sb 04 31 10.7 +10
KRAR Krasnoyarsk 8.55 302*ce*PN **Pn** **04 29 22.1 +1.9**
CRS Chara 8.61 52 *e*Sg Sn 04 31 44.9 +48
CRS Smax 04 32 02.7
comp=E,341nm,1.6s
TUP Tupik 8.72 70 *e*PN **Pn** **04 29 21.8 -0.8**
TUP *e* 04 29 51.3
TUP *e*S **Sn** **04 30 58.6 -1.3**
TUP *e* 04 31 44.6
TUP pmax pmax
comp=Z,13nm,0.5s
TUP smax smax
comp=N,425nm,0.8s
TUP Tupik 8.72 70 *e*Pn **Pn** **04 29 22.2 -0.4**
TUP *e*Pg 04 29 53.1
TUP Pmax 04 29 58.8
comp=N,9.0nm,0.5s
TUP *e* 04 31 21.9
TUP *i* Sg Sn 04 31 45.5 +46
TUP Smax 04 32 12.6
comp=N,599nm,2.3s
HIA Hailar 9.26 103⇑*i*P Pn 04 29 32.8 +2.8
HIA Hailar 9.26 103 *e*Sg Sn 04 32 05.7 +52
YKLR Yuktali 10.20 58 *e*Sg Sn 04 32 34.4 +58
ZALV Zalesovo Beam 12.79 286 Pn **Pn** **04 30 19.0 +0.8**
comp=N,0.2nm,0.3s,baz=95,slow=10,SNR=27
ZALV Lg Lg 04 33 54.7
comp=N,0.6nm,0.3s,baz=80,slow=26,SNR=8.0
NVS Novosibirsk 13.72 290 *e*P **Pn** **04 30 32.0 +1.1**
NVS *e* 04 33 00.0
YAK Yakutsk 16.16 43⇑*e*P **Pn** **04 31 02.7 -0.5**
MKAR Makanchi Array 16.22 260 Pn **Pn** **04 31 04.2 +0.1**
comp=N,0.0nm,0.3s,baz=69,slow=8.4,SNR=6.1
MKAR Lg Lg 04 35 47.3
comp=N,0.0nm,0.3s,baz=58,slow=23,SNR=5.4
KURK Kurchatov 17.02 276 *e*P **Pn** **04 31 13.8 -0.4**
KURK Kurchatov 17.02 276 *e*Pn **Pn** **04 31 13.8 -0.4**
HABR Khabarovsk 18.92 90 *e*P **P** **04 31 36.0 -0.8**
HABR pmax pmax
comp=Z,12nm,1.0s
USRK Ussuriysk Arra 19.07 104 P **Pn** **04 31 40.0 +0.6**
comp=Z,0.2nm,0.3s,baz=316,slow=8.2,SNR=2.9
VLA Vladivostok 19.63 107⇑*i*P **P** **04 31 44.6 +0.1**
VLA *e*S **Sn** **04 35 25.8 +0.3**
VLA pmax pmax
comp=Z,22nm,1.4s
BVAR Borovoye Array 21.45 286 P **P** **04 32 03.0 -1.1**
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BVAR Borovoye Array 21.45 286 P **P** **04 32 03.0 -1.1**
comp=Z,3.5nm,0.7s,baz=82,slow=12,SNR=14
BRVK Borovoye 21.50 287*ce*P **P** **04 32 05.2 +0.5**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 21.50 287 *e*P **P** **04 32 04.5 -0.3**
comp=Z,9.0nm,0.8s
TIXI Tiksi 22.04 19⇑*i*P **P** **04 32 08.9 -1.4**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI MLR MLR
comp=Z,155nm,15.0s
TIXI Tiksi 22.04 19 *e*P **P** **04 32 08.9 -1.4**
comp=Z,5.8nm,0.5s
TKM2 Tokmak 2 22.30 258 *e*P **P** **04 32 13.0 -0.6**
TKM2 pmax pmax
comp=Z,7.0nm,1.3s
TKM2 Tokmak 2 22.30 258 *e*P **P** **04 32 13.0 -0.6**
comp=Z,7.3nm,1.3s
AAK Ala-Archa 23.13 258⇓*e*P **P** **04 32 24.4 +2.1**
AAK pmax pmax
comp=Z,12nm,1.7s
ARU Arti 27.50 298 P P 04 33 10.1 +8.1
ARU 04 33 57.6
ARU SS SS 04 39 15.0 -22
ABKAR Akbulak array 28.86 283 *e*P **P** **04 33 14.0 -0.2**
comp=Z,0.7nm,0.7s
AKTO Aktyubinsk 29.55 286 P **P** **04 33 20.4 0.0**
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 29.55 286 P **P** **04 33 20.4 0.0**
comp=Z,2.1nm,0.6s,baz=76,slow=9.1,SNR=9.4
PETK Petropavlovsk- 30.89 67 P **P** **04 33 33.3 +1.1**
PETK pmax pmax
comp=Z,1.0nm,0.6s
PETK Petropavlovsk- 30.89 67 P **P** **04 33 33.3 +1.1**
comp=Z,1.3nm,0.6s,baz=292,slow=7.6,SNR=3.0
BILL Bilibino 32.38 38 *i* P **P** **04 33 44.4 -0.7**
BILL *i* 04 33 54.2
BILL pmax pmax
comp=Z,4.0nm,1.7s
BILL MLR MLR
comp=Z,174nm,19.0s
JOF Joensuu 39.15 316 *e*P **P** **04 34 43.0 -0.1**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 39.15 316 *e*p **P** **04 34 43.0 -0.1**
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 39.30 327 P **P** **04 34 44.0 -0.4**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 39.30 327 P **P** **04 34 44.0 -0.4**
comp=Z,6.1nm,1.0s,baz=64,slow=12,SNR=2.6
SPITS Spitsbergen Ar 39.46 341 P **P** **04 34 46.6 +1.1**
SPITS pmax pmax
comp=Z,4.0nm,0.8s
SPITS Spitsbergen Ar 39.46 341 P **P** **04 34 46.6 +1.1**
comp=Z,4.4nm,0.8s,baz=116,slow=13,SNR=2.2
FINES FINESS Array B 41.98 315 P **P** **04 35 05.3 -1.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 41.98 315 P **P** **04 35 05.3 -1.2**
comp=Z,1.6nm,0.6s,baz=85,slow=8.2,SNR=9.9
AKASG Malin Array Be 45.70 300 P **P** **04 35 35.9 -0.5**
AKASG *PP **pP** **04 35 46.1 +1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 45.70 300 P **P** **04 35 35.9 -0.5**
comp=Z,0.5nm,0.5s,baz=53,slow=8.6,SNR=3.6
AKASG pP **pP** **04 35 46.1 +1.2**
comp=Z,1.2nm,0.6s,baz=50,slow=8.8,SNR=3.3
HFS Hagfors 47.90 318 P **P** **04 35 52.8 -0.8**
HFS *PP **pP** **04 36 02.9 +0.8**
HFS pmax pmax
comp=Z,4.0nm,1.0s
HFS Hagfors 47.90 318 P **P** **04 35 52.8 -0.8**
comp=Z,4.2nm,1.0s,baz=96,slow=14,SNR=5.8
HFS pP **pP** **04 36 02.9 +0.8**
comp=Z,1.1nm,0.5s,baz=79,slow=7.5,SNR=2.1
NOA NORSAR Array B 48.40 320 P **P** **04 35 56.7 -0.8**
NOA pmax pmax
comp=Z,1.0nm,0.9s

NOA NORSAR Array B 48.40 320 P P 04 35 56.7 -0.8
comp=Z,1.1nm,0.9s,baz=52,slow=6.2,SNR=2.2
BRTR Keskin Array B 49.73 286 P P 04 36 08.4 +0.3
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 49.73 286 P P 04 36 08.4 +0.3
comp=Z,0.9nm,0.9s,baz=49,slow=8.5,SNR=4.2
COLA College 50.29 32⇑eP P 04 36 13.2 +1.4
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA MLR MLR
comp=Z,410nm,14.0s
STHS Stebnicka Huta 50.63 303 ePKP 04 58 58.1
ILAR Eielson Array 50.67 32 P P 04 36 15.2 +0.5
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR Eielson Array 50.67 32 P P 04 36 15.2 +0.5
comp=Z,1.5nm,0.7s,baz=306,slow=5.6,SNR=22
EKA Eskdalemuir Ar 57.87 320 P P 04 37 07.4 +0.2
EKA pmax pmax
comp=Z,1.0nm,0.9s
EKA Eskdalemuir Ar 57.87 320 P P 04 37 07.4 +0.2
comp=Z,1.4nm,0.9s,baz=40,slow=7.8,SNR=3.3
YKA Yellowknife Ar 61.29 20 P P 04 37 29.8 -0.8
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 61.29 20 P P 04 37 29.8 -0.8
comp=Z,0.8nm,0.8s,baz=330,slow=6.8,SNR=14
SCHQ Schefferville 73.18 356 P P 04 38 44.9 -1.3
comp=Z,1.9nm,0.8s,baz=337,slow=7.7,SNR=3.5
MDT Midelt 75.91 306 P P 04 39 02.2 -0.3
comp=Z,0.9nm,0.7s,baz=24,slow=10.0,SNR=3.1
WRA Warramunga Arr 75.99 152 P P 04 39 01.4 -1.3
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 75.99 152 P P 04 39 01.4 -1.3
comp=Z,1.4nm,0.9s,baz=344,slow=6.1,SNR=4.9
PDAR Pinedale Array 80.58 26 P P 04 39 27.2 -1.1
comp=Z,0.5nm,0.9s,baz=18,slow=1.4,SNR=3.1
NVAR Mina Array Bea 81.90 34 P P 04 39 34.5 -0.9
comp=Z,0.9nm,0.7s,baz=340,slow=3.9,SNR=9.2
NVAR pP pP 04 39 45.1 +0.8
comp=Z,0.6nm,0.8s,baz=284,slow=4.4,SNR=3.9
TORD Torodi Ar. Bea 88.22 289 P P 04 40 06.9 -0.1
comp=Z,0.7nm,0.7s,baz=25,slow=4.7,SNR=12
TORD pP pP 04 40 15.5 -0.6
comp=Z,0.4nm,0.7s,baz=24,slow=4.9,SNR=2.5

IDC 25 04:38:34.6±0.6, 46.16S×166.27E, h0km, mb4.7/12, mb1 4.7/13, mb1mx4.5/33, mbtmp4.6/13, ML4.3/1, MS4.4/9, Ms1 4.4/9, ms1mx4.1/21, Error ellipse: s-maj=26.5km s-min=16.7km az=73.0
ISCJB 25 04:38:36.0±0.3, 46.02S±0.05×166.15E±0.04, h12km, mb4.8/21, MS4.3/9, Error ellipse: s-maj=7.1km s-min=2.9km az=171.7
WEL 25 04:38:38.0±0.5, 46.08S×166.20E, h12km, ML5.4/23, Error ellipse: s-maj=5.5km s-min=2.0km az=90.0
WEL Felt from Otago to Fiordland, maximum reported intensity MM 4.
NEIC 25 04:38:37.8, 46.07S×166.18E, h12km, mb5.0/8, ML5.4(WEL), After WEL.
GCMT 25 04:38:37.8±0.4, 46.04S×165.84E, h26km±1km, MW5.1/69, Moment Tensor Solution. s26,c33; s69,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr2.84±.28; Mθθ0.21±.17; Mφφ-3.05±.17; Mrθ-1.82±.48; Mrφ-1.07±.13; Mθr-4.01±.36; Best double couple: Mo5.39200×10^{16} NP1:φs203.00000°, δ73.00000°, λ95.00000°. NP2: φs8.00000°, δ18.00000°, λ75.00000°. Principal axes: T 5.1510, Plg62.0000°, Azm121.0000°; N 0.4800, Plg5.0000°, Azm22.0000°; P -5.6320, Plg27.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI 25 04:38:39.4, 46.72S×165.41E, h36km, mb5.0/5
ISC 25 04:38:37.0±0.4, 46.11S±0.05×166.25E±0.04, h12km, n166, σ1§27/166, mb4.8/20, MS4.3/9, 6C-11D, Off west coast of South Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DCZ Deep Cove 0.90 45 ⇑P* Pg 04 38 54.2 -0.1
DCZ S* Sb 04 39 06.4 +0.1
DCZ AML AML 04 39 09.4
DCZ AML AML 04 39 14.2
DCZ AML AML 04 39 14.2
DCZ Deep Cove 0.90 45 ePg Pg 04 38 54.2 -0.1
DCZ S* Sb 04 39 06.4 +0.1
WHZ Wether Hill Ro 1.20 80 ⇑P* Pn 04 39 00.2 +0.6
WHZ S* Sn 04 39 16.6 +0.7
WHZ AML AML 04 39 21.5
WHZ Wether Hill Ro 1.20 80 ePn Pn 04 39 00.3 +0.6
WHZ eS Sb 04 39 15.9 +0.7
APZ The Paps 1.40 122 PN Pn 04 39 02.9 +0.4
APZ AML AML 04 39 32.3
APZ AML AML 04 39 32.9
APZ The Paps 1.40 122 Pn Pn 04 39 02.9 +0.4
MLZ Mavora Lakes 1.55 61 PN Pn 04 39 05.2 +0.8
MLZ AML AML 04 39 34.4
MLZ Mavora Lakes 1.55 61 Pn Pn 04 39 05.1 +0.7
MSZ Milford Sound 1.86 40 PN Pn 04 39 08.5 -0.2
MSZ SN Sn 04 39 31.7 -0.4
MSZ AML AML 04 39 42.8
MSZ AML AML 04 39 42.8
MSZ AML AML 04 39 48.7
MSZ Milford Sound 1.86 40 Pn Pn 04 39 08.5 -0.2
SYZ Scrubby Hill 2.05 103 PN Pn 04 39 12.5 +1.3
SYZ AML AML 04 39 44.7
SYZ AML AML 04 39 44.8
SYZ AML AML 04 39 45.8
SYZ AML AML 04 39 45.8
SYZ Scrubby Hill 2.05 103 Pn Pn 04 39 12.2 +1.0
EAZ Earnscleugh 2.32 69 PN Pn 04 39 17.0 +2.0
EAZ AML AML 04 39 52.5
EAZ AML AML 04 39 52.6
EAZ AML AML 04 39 55.2
EAZ AML AML 04 39 55.2
EAZ Earnscleugh 2.32 69 Pn Pn 04 39 17.0 +2.0
WKZ Wanaka 2.33 58 PN Pb 04 39 17.9 -1.1
WKZ AML AML 04 39 55.9
WKZ AML AML 04 39 55.9
WKZ AML AML 04 39 58.2
WKZ AML AML 04 39 58.2
WKZ Wanaka 2.33 58 Pn Pn 04 39 17.2 +2.0
TUZ Tuapeka 2.36 87 PN Pn 04 39 17.5 +1.9
TUZ Tuapeka 2.36 87 Pn Pn 04 39 17.2 +1.6
JCZ Jackson Bay 2.71 42 PN Pn 04 39 21.3 +0.9
JCZ AML AML 04 40 08.6
JCZ AML AML 04 40 15.5
HHSZ Highcliff Hill 3.04 87 PN Pn 04 39 26.6 +1.7
ODZ Otahua Downs 3.27 72 PN Pn 04 39 28.2 +0.3
ODZ Otahua Downs 3.27 72 ePn Pn 04 39 28.7 +0.7
ODZ eS Sg 04 40 20.6 -1.2
LBZ Lake Benmore 3.27 60 PN Pn 04 39 28.9 +0.8
LBZ AML AML 04 40 13.5
LBZ AML AML 04 40 13.5
LBZ AML AML 04 40 26.9
LBZ AML AML 04 40 27.0
LBZ Lake Benmore 3.27 60 Pn Pn 04 39 28.9 +0.8
FOZ Fox Glacier 3.53 45 PN Pn 04 39 33.4 +1.7
FOZ AML AML 04 40 42.4
FOZ AML AML 04 40 42.5
FOZ AML AML 04 40 44.8
FOZ AML AML 04 40 44.8
FOZ Fox Glacier 3.53 45 Pn Pn 04 39 33.3 +1.7
RPZ Rata Peaks 4.17 57 PN Pn 04 39 40.3 -0.1
RPZ AML AML 04 40 33.0
RPZ AML AML 04 40 35.3
RPZ Rata Peaks 4.17 57 ePn Pn 04 39 40.5 0.0
RPZ eS Sn 04 40 30.3 +1.2
WVZ Waitaha Valley 4.42 48 ePN Pn 04 39 44.0 +0.2
WVZ AML AML 04 41 06.7
WVZ Waitaha Valley 4.42 48 ePn Pn 04 39 44.0 +0.2
OXZ Oxford 4.98 58 PN Pn 04 39 51.0 -0.6
MQZ McQueen's Vall 5.14 64 PN Pn 04 39 53.6 -0.2
MQZ McQueen's Vall 5.14 64 Pn Pn 04 39 53.4 -0.4
LTZ Lake Taylor 5.45 54 PN Pn 04 39 57.3 -0.8
LTZ AML AML 04 41 06.9
LTZ AML AML 04 41 22.1
LTZ Lake Taylor 5.45 54 Pn Pn 04 39 57.2 -0.8
DSZ Denniston Nort 5.93 45 PN Pn 04 40 04.4 -0.2
DSZ Denniston Nort 5.93 45 Pn Pn 04 40 04.2 -0.4
KHZ Kahutara 6.41 57 PN Pn 04 40 11.0 -0.1
KHZ AML AML 04 41 30.4
KHZ AML AML 04 41 33.0
KHZ Kahutara 6.41 57 ePn Pn 04 40 10.3 -0.8
KHZ eS Sn 04 41 22.6 -1.5
THZ Tophouse 6.48 50 PN Pn 04 40 11.4 -0.8
THZ AML AML 04 41 30.9
THZ AML AML 04 41 36.7
THZ Tophouse 6.48 50 Pn Pn 04 40 10.8 -1.4
QRZ Quartz Range 6.98 43 ePN Pn 04 40 19.6 +0.6
QRZ Quartz Range 6.98 43 ePn Pn 04 40 18.9 -0.2
NNZ Nelson 7.12 49 ePN Pn 04 40 22.3 +1.4
NNZ AML AML 04 42 01.0
NNZ AML AML 04 42 26.1
NNZ Nelson 7.12 49 ePn Pn 04 40 22.3 +1.4
TCW Tory Channel 7.61 53 AML AML 04 42 11.8
TCW AML AML 04 42 15.1
TCW Tory Channel 7.61 53 Pn Pn 04 40 29.0 +1.4
DUWZ D'Urville Isla 7.70 49 AML AML 04 42 07.6
DUWZ AML AML 04 42 12.2
DUWZ D'Urville Isla 7.70 49 Pn Pn 04 40 31.0 +2.1
SNZO South Karori 7.78 55 ePn Pn 04 40 30.4 +0.4
SNZO eS Sn 04 41 56.9 -1.1
MSWZ Moikau Station 8.03 57 AML AML 04 42 02.9
MSWZ AML AML 04 42 12.2
MSWZ Moikau Station 8.03 57 Pn Pn 04 40 33.7 +0.3
CAW Cannon Point 8.12 55 AML AML 04 42 14.0
CAW AML AML 04 42 34.0
CAW Cannon Point 8.12 55 Pn Pn 04 40 34.7 0.0
HIZ Hauiti 9.91 43 AML AML 04 43 20.7
HIZ AML AML 04 43 38.7
HIZ Hauiti 9.91 43 Pn Pn 04 40 59.4 +0.3
BKZ Black Stump Fm 10.25 51 ePn Pn 04 41 12.0 +8.1
MKAZ Moumakai 11.19 40 AML AML 04 43 30.3
MKAZ AML AML 04 43 31.1
MKAZ Moumakai 11.19 40 Pn Pn 04 41 17.4 +0.7
URZ Urewera 11.24 50 Pn Pn 04 41 16.2 -1.2
2.2nm,0.3s,baz=240,slow=8.6,SNR=14
URZ Sn Sn 04 43 13.2 -10
2.8nm,0.3s,baz=319,slow=20,SNR=3.8
URZ Urewera 11.24 50 ePn Pn 04 41 16.7 -0.7
URZ eS Sn 04 43 14.4 -8.4
OUZ Omahuta 12.22 30 ePn Pn 04 41 30.1 -0.7
OUZ eS Sn 04 43 40.6 -6.3
TAU Tasmania Unive 13.88 277 ePn Pn 04 41 47.1 -6.3
TAU eS Sn 04 44 11.6 -16
MOO Moorlands 14.13 278 P Pn 04 41 55.1 -1.8
baz=14,SNR=13
CAN Canberra 16.91 304 ePn Pn 04 42 31.6 -1.9
107nm,1.5s
MGCD Mangrove Creek 17.34 313 ⇓P Pn 04 42 39.8 +1.0
baz=17,SNR=7.8
TOO Toolangi 17.63 292 ⇑P Pn 04 42 41.5 -0.9
baz=18,SNR=28
YNG Young 17.99 305 ⇓P Pn 04 42 47.0 +0.2
baz=18,SNR=7.6
ARMA Armidale 19.37 319 eP P 04 43 03.3 +0.6
39nm,1.3s
ARPS Mount Arapiles 20.48 288 ⇓P P 04 43 15.1 +0.6
baz=20,SNR=9.7
RAO Raoul Island 20.92 42 LR LR 04 51 54.4
comp=Z,1μm,19.6s,baz=209,slow=38
CMSA Cobar Meteorol 21.55 305 ⇓P P 04 43 26.0 -0.1
baz=22,SNR=30
STKA Stephens Creek 23.73 298 P P 04 43 49.2 +0.3
8.8nm,0.9s,baz=126,slow=11,SNR=15
STKA LR LR 04 52 06.1
comp=Z,1μm,19.0s,baz=131,slow=34
STKA Stephens Creek 23.73 298 eP P 04 43 49.7 +0.7
STKA Stephens Creek 23.73 298 ⇑P P 04 43 49.5 +0.5
baz=24,SNR=11
DZM Mont Dzumac 23.98 0 P P 04 43 53.1 +1.7
11nm,0.7s,baz=208,slow=8.7,SNR=13
DZM LR LR 04 51 51.6
comp=Z,358nm,18.1s,baz=204,slow=33
DZM Mont Dzumac 23.98 0 eP P 04 43 52.2 +0.8
71nm,1.2s
EIDS Eidsvold 24.00 324 eP P 04 43 51.5 0.0
360nm,2.0s
EIDS Eidsvold 24.00 324 ⇓P P 04 43 52.2 +0.6
baz=24,SNR=5.0
RMQ Roma 24.04 319 ⇑P P 04 43 52.4 +0.5
baz=24,SNR=9.4
HTT Hallett 24.39 292 ⇓P P 04 43 55.2 0.0
baz=24,SNR=5.1
QLP Quilpie 26.20 311 ⇓P P 04 44 11.8 +0.3
baz=26,SNR=8.8
BBOO Buckleboo 26.65 289 eP P 04 44 15.2 -0.4
488nm,1.1s
BBOO Buckleboo 26.65 289 ⇑P P 04 44 15.4 -0.1
baz=27
CTA Charters Tower 30.72 321 P P 04 44 51.0 -0.8
5.3nm,0.9s,baz=157,slow=12,SNR=4.4
VNDA Vanda 31.56 182 LR LR 04 55 12.2
comp=Z,689nm,20.3s,baz=16,slow=32
QIS Mount Isa 33.55 310 ⇓P P 04 45 16.6 -0.1
baz=34,SNR=9.4
AS31 Alice Springs 34.35 300 eP P 04 45 22.7 -0.9
AS16 Alice Springs 34.36 300 ⇓P P 04 45 22.7 -1.1
baz=34
WRKA Warakurna 36.88 292 ⇓P P 04 45 44.6 -0.8
baz=37,SNR=9.6
WRA Warramunga Arr 36.95 304 P P 04 45 44.5 -1.6
12nm,0.9s,baz=141,slow=8.1,SNR=49
WRA LR LR 05 00 28.8
comp=Z,802nm,18.8s,baz=130,slow=36
WRAB Tennant Creek 36.95 304 eP P 04 45 44.4 -1.7
21nm,1.0s
COEN Coen 37.48 321 eP P 04 45 50.5 0.0
100nm,0.9s
COEN Coen 37.48 321 ⇓P P 04 45 50.5 0.0
baz=38,SNR=7.9
KLBR Kellerberrin 39.83 274 P P 04 46 09.5 -0.7
baz=40,SNR=6.9
PMG Port Moresby 40.07 330 P P 04 46 13.6 +1.5
33nm,0.8s,baz=169,slow=5.3,SNR=14
PMG Port Moresby 40.07 330 eP P 04 46 12.9 +0.7
27nm,0.8s
H01W1 Cape Leeuwin H 40.50 267 T T 05 29 34.9
baz=121,slow=75,SNR=355
H01W2 Cape Leeuwin H 40.51 267 T T 05 29 38.3
baz=121,slow=75,SNR=299
H01W3 Cape Leeuwin H 40.52 267 T T 05 29 36.6
baz=121,slow=75,SNR=273
MEEK Meekatharra 42.27 281 P P 04 46 29.4 -1.0
baz=42,SNR=3.0
KNRA Kununurra 43.56 302 P P 04 46 40.0 -0.8
baz=44,SNR=5.7
QSPA South Pole Qui 44.01 180 P P 04 46 45.0 +0.9
7.1nm,0.8s,baz=355,slow=1.3,SNR=26
QSPA South Pole Qui 44.01 180 eP P 04 46 45.0 +0.9
23nm,1.4s
MBWA Marble Bar 45.20 287 eP P 04 46 53.1 -0.8
24nm,1.0s
PPT2 Papeete2 46.24 67 eS S 04 53 50.6 +1.9
199nm,26.5s
PPT2 eLR LR 05 00 11.2
653nm,26.2s,baz=215
PPT Papeete 46.25 67 LR LR 05 03 56.9
comp=Z,237nm,19.3s,baz=241,slow=33
RKT Rikitea 52.23 85 eS S 04 55 11.9 -0.7
268nm,36.0s
RKT eLR LR 05 02 55.5
939nm,23.8s,baz=230
KAPI Kappang 57.35 301 eP P 04 48 25.9 +0.7
28nm,1.1s
SNAA Sanae 62.27 184 P P 04 48 57.8 -0.5
2.2nm,0.9s,baz=195,slow=12,SNR=7.7
SNAA Sanae 62.27 184 eP P 04 48 58.1 -0.2
PLCA Paso Flores 79.78 140 LR LR 05 21 33.9
comp=Z,243nm,18.0s,baz=186,slow=32
JOW Kunigami 80.36 326 P P 04 50 47.2 -0.7
1.6nm,0.5s,baz=53,slow=15
MJAR Matsushiro Arr 86.07 338 P P 04 51 16.8 -0.4
1.4nm,0.6s,baz=185,slow=8.5,SNR=4.9
H08S2 Diego Garcia H 87.15 262 T T 06 27 42.8
baz=136,slow=76,SNR=379
H08S1 Diego Garcia H 87.16 262 T T 06 27 54.3
baz=136,slow=76,SNR=133
H08S3 Diego Garcia H 87.17 262 T T 06 27 47.6
baz=136,slow=76,SNR=270
CMAR Chiang Mai Arr 88.36 299 P P 04 51 29.1 +0.5
3.5nm,0.9s,baz=154,slow=3.6,SNR=11
CMAR LR LR 05 32 45.8
comp=Z,102nm,19.5s,baz=145,slow=37
NJ2 Nanjing 88.83 321 eP P 04 51 31.3 +0.8
KSRS Korea Array 90.04 330 P P 04 51 37.4 +1.3
1.0nm,0.6s,baz=146,slow=6.9,SNR=3.5
KSAR Wonju Array Be 90.04 330 P P 04 51 37.4 +1.3
GYA Guiyang 90.15 309 eP P 04 51 38.0 +0.9
GYA pmax pmax
comp=Z,10.0nm,1.0s
KMI Kunming 91.26 306 P P 04 51 43.6 +1.2
KMI pmax pmax
comp=Z,5.0nm,1.6s
CD2 Chengdu 95.22 310 eP P 04 52 02.3 +2.0
CD2 pP pP 04 52 13.4 +9.1
CD2 sP sP 04 52 17.5 +12
CD2 PP PP 04 55 55.6 +4.8
CD2 SKS SKSac 05 02 34.1 -1.7
CD2 S S 05 03 12.9 -2.5
CD2 sS sS 05 03 31.6 +10
CD2 SS SS 05 09 45.3 +2.5
CN2 Changchun 96.56 332 eP P 04 52 09.0 +3.0
CPUP Villa Florida 97.78 141 LR LR 05 30 32.1
comp=Z,161nm,18.6s,baz=182,slow=32
PETK Petropavlovsk- 99.11 355 P Pdif 04 52 17.2 -0.1
3.7nm,0.5s,baz=69,slow=4.8,SNR=5.6
LZH Lanzhou 99.22 313 eP Pdif 04 52 21.3 +2.9
LZH pP pP 04 52 31.1 +8.7
LZH sP sP 04 52 35.6 +12
LZH pmax pmax
comp=Z,11nm,1.2s
HHC Hu-ho-hao-te 99.38 321 eP Pdif 04 52 21.8 +2.9
HHC PP PP 04 56 28.8 +6.0
HHC S S 05 03 49.1 -1.6
WMQ Urumqi 113.31 309 PKP PKiKP 04 57 14.3 +0.2
WMQ PP PP 04 58 10.1 +4.7
WMQ PKS PKSdf 05 00 49.8 -0.9
WMQ SKS SKSdf 05 04 21.6 -4.1
WMQ SKKS SKKSac 05 04 58.6 -7.7
WMQ SS SS 05 13 49.9 -1.1
ILAR Eielson Array 116.44 20 PKP PKPdf 04 57 16.9 -2.4
0.8nm,1.1s,baz=238,slow=5.0,SNR=4.5
MKAR Makanchi Array 118.14 309 PKP PKPdf 04 57 21.9 -1.3
0.3nm,0.6s,baz=130,slow=1.9,SNR=3.9
YKA Yellowknife Ar 125.13 34 PKP PKPdf 04 57 34.5 -1.5
0.3nm,0.8s,baz=256,slow=1.8,SNR=5.2
GEYT Alibeck 127.66 288 PKP PKPdf 04 57 41.2 -0.6
0.8nm,0.3s,baz=60,slow=8.5,SNR=2.4
BVAR Borovoye Array 127.98 310 PKP PKPdf 04 57 41.4 -0.4
0.3nm,0.3s,baz=351,slow=38,SNR=3.0
AKTO Aktyubinsk 133.75 303 PKP PKPdf 04 57 51.6 -1.3
0.6nm,0.6s,baz=90,slow=4.0,SNR=3.5
KBZ Khabaz 140.54 288 PKP PKPdf 04 58 07.1 +1.6
1.2nm,0.9s,baz=63,slow=6.8,SNR=2.7
HAVZ Havza 144.29 280 iP PKPab 04 58 11.1 +0.7
TORD Torodi Ar. Bea 144.64 207 PKP PKPab 04 58 11.4 -0.9
4.3nm,0.8s,baz=160,slow=1.5,SNR=44
TORD SKPbc SKPbc 05 01 51.7 -1.0
1.7nm,1.1s,baz=184,slow=1.8,SNR=3.5
CTKT Corum 144.74 279 iP PKPab 04 58 10.6 -1.7
BOYT Boyabat 144.99 280 iP PKPbc 04 58 10.9 -2.1
BR131 Keskin Array S 145.14 277 ePKPbc PKPbc 04 58 13.3 -0.4
BRTR Keskin Array B 145.14 277 PKPbc PKPbc 04 58 13.2 -0.4
7.0nm,0.8s,baz=146,slow=4.9,SNR=42
BRTR SKPbc SKPbc 05 01 52.2 -1.0
0.4nm,0.6s,baz=72,slow=4.7,SNR=3.0
BBAL Bala 145.41 276 iP PKPbc 04 58 14.8 +0.2
SPITS Spitsbergen Ar 145.79 349 PKPbc PKPdf 04 58 13.8 -0.2
8.1nm,0.7s,baz=108,slow=5.5,SNR=15
KULLO Kullorsuaq 145.82 19 iP PKPdf 04 58 13.9 -0.1
13nm,1.0s
SCHQ Schefferville 145.86 56 PKPbc PKPdf 04 58 14.0 -0.7
8.5nm,0.6s,baz=289,slow=3.7,SNR=28
KORT Korkueli 146.14 270 iP PKPdf 04 58 16.5 +0.6
AKAS Kas 146.27 269 iP PKPdf 04 58 13.6 -2.5
GOLH Golhisar 146.81 270 iP PKPdf 04 58 17.8 +0.8
DURS Dursunbey 148.66 273 iP PKPdf 04 58 21.2 +1.3
KEV Kevo 148.97 334 epkp PKPdf 04 58 21.7 +2.4
DAG Danmarks Havn 149.17 2 iP PKPab 04 58 29.7 +1.5
3.2nm,0.9s
BALY Balya 149.31 273 iP PKPdf 04 58 21.7 +0.8
ARCES ARCESS Array B 149.53 334 PKPbc PKPbc 04 58 24.8 0.0
8.6nm,0.6s,baz=68,slow=3.0,SNR=34
JOF Joensuu 149.72 320 epkp PKPbc 04 58 24.2 -1.2
SUMG Summit 151.09 15 iP PKPbc 04 58 28.9 -0.1
4.9nm,1.1s
SUMG Summit 151.09 15 ePKPbc PKPbc 04 58 28.6 -0.3
AKASG Malin Array Be 151.41 295 PKPbc PKPbc 04 58 28.8 -1.1
1.9nm,0.5s,baz=79,slow=2.4,SNR=19
AK01 Malin Array Si 151.42 295 ePKPbc PKPbc 04 58 29.3 -0.5
AK02 Malin Array Si 151.42 295 ePKPbc PKPbc 04 58 29.3 -0.5
KAF Kangasniemi 152.17 320 epkp PKPbc 04 58 29.4 -1.8
FINES FINESS Array B 152.46 318 PKPbc PKPbc 04 58 31.5 -0.4
2.6nm,0.6s,baz=114,slow=3.5,SNR=17
MLR Muntele Rosu 152.51 283 PKPbc PKPbc 04 58 32.2 -0.5
1.0nm,0.8s,baz=4.1,slow=1.9,SNR=4.7
NOA NORSAR Array B 159.15 325 PKPab PKPab 04 59 10.0 -1.0
1.0nm,0.9s,baz=63,slow=4.2,SNR=2.7
GERES GERESS Array B 161.28 288 PKPab PKPab 04 59 20.1 -0.7
1.2nm,0.9s,baz=90,slow=2.7,SNR=6.1

NEIC 25 04:56:51.9±0.1, 25.52N×101.90E, h10km, mb5.2/85, Error ellipse: s-maj=3.6km s-min=3.1km az=55.0
NEIC Eleven people injured and houses damaged in Yunnan. Felt [II] at Kunming.
BJI 25 04:56:51.6, 25.42N×101.94E, h20km, mB5.1/34, mb5.0/59, ML5.6/12, Ms5.2/76, Ms7 4.8/66
IDC 25 04:56:52.6±2.0, 25.55N×101.97E, h14km±12km, mb4.4/36, mb1 4.5/37, mb1mx4.4/46, mbtmp4.5/37, ML4.3/1, MS4.4/29, Ms1 4.4/29, ms1mx4.2/45, Error ellipse: s-maj=10.5km s-min=8.2km az=95.0
ISCJB 25 04:56:53.1±0.8, 25.54N±0.02×101.90E±0.02, h30km±5km, mb4.9/177, MS4.5/49, Error ellipse: s-maj=3.4km s-min=2.9km az=172.2
MOS 25 04:56:53.5±0.9, 25.54N×101.93E, h33km, mb5.3/74, MS4.5/13, Error ellipse: s-maj=6.8km s-min=3.9km az=119.8
BKK 25 04:56:55.6±0.3, 26°N±3°×102°E±°, h10km, M5.2/30, mB5.4/18, mb5.4/9/30, MLv6.1/8, Mw(mB)4.9/18
GCMT 25 04:56:55.8±0.2, 25.40N×102.04E, h25km, MW5.2/95, Moment Tensor Solution. s55,c75; s95,c162; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-0.75±.17; Mθθ-2.98±.16; Mφφ3.73±.16; Mrθ-1.80±.34; Mrφ-5.88±.14; Mθr-0.52±.31; Best double couple: Mo7.05100×10^{16} NP1:φs106.00000°, δ81.00000°, λ-166.00000°. NP2: φs14.00000°, δ76.00000°, λ-9.00000°. Principal axes: T 7.1720, Plg3.0000°, Azm239.0000°; N -0.2440, Plg73.0000°, Azm138.0000°; P -6.9300, Plg16.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
SZGRF 25 04:57:08.5, 27.08N×100.64E, h33km, mb5.2, Yunnan, China
ISC 25 04:56:53.2±0.5, 25.48N±0.03×101.99E±0.03, h18km±2km, n532, σ1§49/561, mb5.0/177, MS4.5/49, 40C-23D, Yunnan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KMI Kunming 0.77 117 ⇓Pg Pg 04 57 06.6 -1.7
KMI Sg Sg 04 57 17.6 -0.9
KMI smax smax
comp=N,68μm,0.9s
KMI smax smax
comp=E,31μm,1.2s
KMI Kunming 0.77 117 ⇓P Pg 04 57 06.6 -1.7
KMI 04 57 17.6
KMI Kunming 0.77 117 ⇓Pg Pg 04 57 06.6 -1.7
KMI Sg Sg 04 57 17.6 -0.9
GYA Guiyang 4.32 76⇑iPn Pn 04 57 59.4 +1.3
GYA Sn Sn 04 58 48.7 +0.7
GYA Sg Sg 04 59 07.6 -4.4
GYA smax smax
comp=N,2μm,0.8s
GYA smax smax
comp=E,1μm,0.7s
GYA LR LR
comp=N,35μm,10.0s
GYA LR LR
comp=E,15μm,6.0s
GYA LR LR
comp=Z,15μm,6.0s
GYA Guiyang 4.32 76⇑iPn Pn 04 57 59.4 +1.3

GYA Sn Sn 04 58 48.8 +0.7
GYA Sg Sg 04 59 07.6 -4.4
CRAI Chiangrai 5.43 196 P Pn 04 58 19.1 +5.8
153nm,0.7s,3µm5.3nm
CD2 Chengdu 5.63 16 ⇑Pn Pn 04 58 19.0 +2.9
CD2 Sn Sn 04 59 24.1 +3.8
CD2 Sg Sg 04 59 57.3 +3.3
CD2 smax smax
comp=N,4µm,0.9s
CD2 smax smax
comp=E,2µm,0.8s
CD2 Chengdu 5.63 16 ⇑Pn Pn 04 58 19.0 +2.9
CD2 Sn Sn 04 59 24.1 +3.8
CD2 Sg Sg 04 59 57.3 +3.3
CMAI Chiengmai2 6.15 207 P Pn 04 58 27.5 +4.1
364nm,1.2s,5µm9.1nm
CMMT Chiang Mai 7.21 204 P Pn 04 58 42.3 +4.6
380nm,1.1s,3µm11nm
CHTO Chiang Mai 7.21 204 eP Pn 04 58 39.9 +2.2
CHTO Chiang Mai 7.21 204 P Pn 04 58 42.4 +4.7
92nm,0.9s,11µm39nm
CHTO Chiang Mai 7.21 204 ePn Pn 04 58 39.9 +2.2
CHTO ePg Pg 04 59 06.2 -5.1
LAMP Lampang 7.26 198 P Pn 04 58 42.4 +4.0
24nm,0.7s,1µm0.9nm
CM31 Chiang Mai Arr 7.54 203 ePn Pn 04 58 44.0 +1.8
CMAR Chiang Mai Arr 7.54 203 Pn Pn 04 58 44.0 +1.8
1.2nm,0.3s,baz=17,slow=12,SNR=29
CMAR Pg 04 59 12.3
7.6nm,0.3s,baz=9.8,slow=16,SNR=43
CMAR Lg Lg 05 00 49.8
7.4nm,0.3s,baz=9.8,slow=26,SNR=7.6
CMAR LR LR 05 02 12.8
comp=Z,2µm,19.5s,baz=17,slow=42
CM01 Chiang Mai Arr 7.56 202 ePn Pn 04 58 46.8 +4.1
UTTA Uttaradit 7.81 190 P Pn 04 58 52.1 +6.1
9.8nm,0.9s,356nm0.5nm
ENH Enshi 8.17 53 ePn Pn 04 58 52.9 +1.9
ENH eSn Sn 05 00 17.0 -5.9
MHMT Maesarieng 8.19 208 P Pn 04 58 56.5 +5.4
26nm,0.8s,2µm3.0nm
PBKT Sadao Pong 8.91 186 P Pn 04 59 05.5 +4.4
52nm,0.8s,1µm
SHL Shillong 9.13 273 eP Pn 04 59 04.2 -0.1
SHL AMB AMB 04 59 07.6
comp=Z,63nm,0.8s
SHL ex x 05 01 44.5
QIZ Qiongzhong 9.70 130 P Pn 04 59 10.9 -1.0
QIZ S Sn 05 01 03.3 +3.0
QIZ pmax pmax
comp=Z,20nm,0.8s
QIZ LR LR
comp=Z,11µm,12.6s
QIZ LR LR
comp=Z,10µm,9.2s
QIZ Qiongzhong 9.70 130 ePn Pn 04 59 10.8 -1.0
XAN Xi'an 10.44 34 P Pn 04 59 21.8 -0.2
XAN S Sn 05 01 16.3 -2.3
XAN pmax pmax
comp=Z,38nm,0.7s
XAN pmax pmax
comp=Z,48nm,4.7s
XAN LR LR
comp=Z,12µm,11.8s
XAN LR LR
comp=Z,6µm,11.8s
XAN LR LR
comp=Z,2µm,7.4s
LSA Lhasa 10.49 296 P Pn 04 59 23.8 +0.6
LSA pP 04 59 31.4
LSA pmax pmax
comp=Z,40nm,1.0s
LSA LR LR
comp=Z,3µm,11.0s
LSA LR LR
comp=Z,2µm,11.0s
LSA LR LR
comp=Z,2µm,11.0s
LSA Lhasa 10.49 296 eP Pn 04 59 24.7 +1.5
LSA e 05 01 20.3
LSA Lhasa 10.49 296 ePn Pn 04 59 24.7 +1.5
LSA eSn Sn 05 01 20.3 -0.2
GZH Guangzhou 10.63 101 P Pn 04 59 26.3 +1.7
GZH S Sn 05 01 24.8 +1.7
GZH LR LR
comp=Z,5µm,8.4s
GZH LR LR
comp=Z,10µm,9.7s
UBPT Khong Chiam 10.66 162 P Pn 04 59 27.0 +2.0
comp=Z,118nm,1.2s,comp=Z,2µm
LZH Lanzhou 10.69 8 ⇑P Pn 04 59 28.8 +3.2
LZH pP 04 59 37.5
LZH sP 04 59 41.1
LZH eS Sn 05 01 29.0 +4.0
LZH sS 05 01 40.8
LZH SS SnSn 05 01 43.1 +5.9
LZH pmax pmax
comp=Z,34nm,1.0s
LZH pmax pmax
comp=Z,91nm,5.5s
LZH LR LR
comp=Z,5µm,7.2s
LZH LR LR
comp=Z,14µm,12.4s
LZH LR LR
comp=Z,5µm,10.4s
KHLT Khaolaem Dam 11.10 197 P Pn 04 59 38.0 +7.0
comp=Z,12nm,1.6s
NAYO Nakonayok 11.12 183 P Pn 04 59 35.3 +3.9
comp=Z,38nm,1.2s
SRDT SRDT 11.39 194 P Pn 04 59 39.6 +4.5
comp=Z,69nm,1.1s,comp=Z,1µm
WHN Wuhan 12.03 62 ⇑P Pn 04 59 44.0 +0.3
WHN S Sn 05 01 53.1 -4.3
WHN LR LR
comp=Z,14µm,6.0s
WHN LR LR
comp=Z,7µm,5.9s
WHN LR LR
comp=Z,8µm,15.1s
CHBT CHBT 12.66 178 P P 05 00 02.2 -1.5
TAPN Taplejung 12.93 281 eP Pn 04 59 55.7 -0.7
comp=Z,142nm,0.8s
ODAN Odare 13.19 279 eP Pn 04 59 58.8 -1.0
comp=Z,307nm,1.0s
RAMN Ramite 13.89 279 eP Pn 05 00 07.8 -1.7
comp=Z,261nm,1.1s
GTA Gaotai 14.01 353 ⇓P Pn 05 00 13.3 +2.4
GTA pP P 05 00 16.8 -2.0
GTA sP 05 00 20.3
GTA S Sn 05 02 50.8 +4.7
GTA pmax pmax
comp=Z,12nm,1.6s
GTA pmax pmax
comp=Z,190nm,5.7s
GTA LR LR
comp=Z,3µm,13.3s
GTA LR LR
comp=Z,7µm,11.9s
GTA LR LR
comp=Z,1µm,12.4s
JIRN Jiri 14.31 282 eP Pn 05 00 13.7 -1.6
comp=Z,162nm,0.9s
GUN Gumba 14.60 283 eP Pn 05 00 17.2 -2.1
comp=Z,270nm,1.2s
BOK Bokaro 14.74 267 eP Pn 05 00 20.9 0.0
BOK AMB AMB 05 00 26.2
comp=Z,29nm,0.3s
PKI Pulchoki 14.99 282 eP Pn 05 00 22.0 -2.5
comp=Z,105nm,0.6s
PKIN Phulchoki 15.00 282 eP Pn 05 00 22.6 -2.0
comp=Z,55nm,0.5s
QZH Quanzhou 15.04 88⇑iP P 05 00 32.8 +2.7
QZH S S 05 03 22.8 -5.5
QZH LR LR
comp=N,32µm,9.2s
QZH LR LR
comp=E,6µm,9.3s
QZH LR LR
comp=Z,8µm,12.6s
TIY Taiyuan 15.08 34 eP Pn 05 00 25.6 +0.1
TIY S Sn 05 03 13.3 +1.2
TIY LR LR
comp=Z,7µm,8.1s
TIY LR LR
comp=Z,4µm,7.8s
TIY LR LR
comp=Z,3µm,9.5s
KKN Kakani 15.12 282 eP Pn 05 00 23.4 -2.8
comp=Z,272nm,1.1s
DMN Daman 15.26 282 eP Pn 05 00 25.3 -2.7
comp=Z,97nm,0.7s
GKN Gorkha 15.71 283 eP Pn 05 00 30.9 -2.9
comp=Z,201nm,1.2s
NJ2 Nanjing 16.16 62 eP P 05 00 41.0 -1.6
NJ2 pP pP 05 00 51.3 +3.5
NJ2 sP sP 05 00 54.6 +4.5
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,350nm,3.8s
NJ2 LR LR
comp=Z,5µm,17.0s
NJ2 LR LR
comp=Z,3µm,17.6s
NJ2 LR LR
comp=Z,2µm,14.0s
PBA Port Blair 16.29 214 eP Pn 05 00 40.4 -0.7
PBA AMB AMB 05 00 57.7
comp=Z,82nm,0.8s
BTO Baotou 16.51 22 eP Pn 05 00 42.6 -1.3
DANN Dangsing 16.51 284 eP Pn 05 00 41.5 -2.7
comp=Z,201nm,1.0s
KOLN Koldanda 16.60 282 eP Pn 05 00 43.1 -2.2
comp=Z,80nm,0.8s
TIA Tai'an 16.81 47 ⇑P Pn 05 00 47.8 +0.1
TIA S Sn 05 03 52.8 -1.2
TIA pmax pmax
comp=Z,110nm,0.8s
TIA pmax pmax
comp=Z,810nm,3.5s
TIA LR LR
comp=Z,6µm,18.3s
TIA LR LR
comp=Z,5µm,13.7s
TIA LR LR
comp=Z,1µm,20.4s
PYUN Piuthan 17.17 283 eP Pn 05 00 50.1 -2.3
comp=Z,146nm,0.7s
HHC Hu-ho-hao-te 17.28 25 eP Pn 05 00 52.8 -0.8
HHC PP PnPn 05 01 07.6 +3.8
HHC S Sn 05 04 02.4 -3.0
HHC sS S 05 04 14.8 +0.6
HHC SS SnSn 05 04 24.3 +5.3
HHC pmax pmax
comp=Z,69nm,1.3s
HHC pmax pmax
comp=Z,460nm,5.4s
HHC LR LR
comp=Z,12µm,17.2s
HHC LR LR
comp=Z,27µm,15.7s
HHC LR LR
comp=Z,4µm,15.5s
YHNB Yeheng 17.58 88 ePn P 05 00 59.7 +1.3
comp=Z,88nm,1.4s
SSE Sheshan 17.80 67 P P 05 01 02.3 +1.6
SSE S Sn 05 04 19.9 +1.9
SSE pmax pmax
comp=Z,52nm,0.9s
SSE pmax pmax
comp=Z,190nm,11.0s
SSE LR LR
comp=Z,7µm,12.4s
SSE LR LR
comp=Z,2µm,12.4s
SSE LR LR
comp=Z,2µm,10.2s
BJI Beijing 18.76 36 P Pn 05 01 12.3 +0.7
BJI pP pP 05 01 21.4 +5.1
BJI sP sP 05 01 25.5 +6.8
BJI S Sn 05 04 41.5 +0.5
BJI pmax pmax
comp=Z,52nm,1.1s
BJI pmax pmax
comp=Z,620nm,5.0s
BJI LR LR
comp=Z,6µm,15.8s
BJI LR LR
comp=Z,7µm,16.4s
BJI LR LR
comp=Z,740nm,16.8s
VIS Vishakhapatnam 18.98 250 eP P 05 01 14.1 +0.3
KULM Kulim 20.11 184 eP Pn 05 01 28.0 0.0
comp=Z,29nm,1.0s
IPM Ipoh 20.90 183 eP P 05 01 35.0 +0.3
comp=Z,226nm,2.2s
IPM Ipoh 20.90 183 ⇑P P 05 01 36.1 +1.4
DL2 Dalian 21.28 46 P P 05 01 42.8 +4.2
DL2 pmax pmax
comp=Z,98nm,0.8s
DL2 LR LR
comp=Z,2µm,15.0s
DL2 LR LR
comp=Z,2µm,15.7s
DL2 LR LR
comp=Z,1µm,13.3s
WMQ Urumqi 21.70 331 P P 05 01 44.8 +1.7
WMQ pP pP 05 01 53.8 +5.4
WMQ sP sP 05 01 58.0 +7.2
WMQ PP PnPn 05 02 09.9 +5.7
WMQ S S 05 05 37.8 -4.8
WMQ PcP PcP 05 05 47.4 +3.6
WMQ sS Sn 05 05 52.6 +0.7
WMQ ScP ScP 05 09 18.8 -1.4
WMQ PcS PcS 05 09 22.6 +0.4
WMQ ScS ScS 05 13 01.8 -2.7
WMQ pmax pmax
comp=Z,69nm,0.8s
WMQ pmax pmax
comp=Z,370nm,4.0s
WMQ LR LR
comp=Z,2µm,12.6s
WMQ LR LR
comp=Z,2µm,12.0s
WMQ LR LR
comp=Z,650nm,15.8s
TSI Tuntungan 22.10 189 P P 05 01 50.7 +3.1
comp=Z,237nm,1.4s
FRIM Kepong 22.12 181 ⇓P P 05 01 51.9 +4.1
KCSI Kotacane, Aceh 22.20 191 P P 05 01 49.0 +0.3
comp=Z,79nm,1.2s
NDI New Delhi 22.28 284 eP P 05 01 49.0 -0.5
BHPL Bhopal 22.48 270 eP P 05 01 52.6 +0.9
BHPL AMB AMB 05 01 58.0
comp=Z,38nm,0.8s
SMLA Simla 22.55 290 eP P 05 01 53.9 +1.6
SMLA AMB AMB 05 02 07.6
comp=Z,55nm,0.8s
SONA0 Songino Array 22.58 8 eP P 05 01 53.1 +0.4
SONA0 eS S 05 06 00.0 +0.6
SONM Songino Array 22.58 8 P P 05 01 53.1 +0.4
comp=Z,8.0nm,0.6s,baz=188,slow=9.1,SNR=43
SONM S S 05 06 00.0 +0.6
comp=Z,2.6nm,1.2s,baz=182,slow=36,SNR=4.6
SONM LR LR 05 11 25.8
comp=Z,1µm,20.2s,baz=194,slow=39
SONA1 Songino Array 22.60 8 eP P 05 01 53.0 +0.2
ULN Ulaanbaatar 22.70 9 deP P 05 01 54.1 +0.1
ULN pmax pmax
comp=Z,56nm,1.7s
ULN Ulaanbaatar 22.70 9 eP P 05 01 55.3 +1.3
comp=Z,44nm,0.9s
ULN eS S 05 06 03.7 +2.1
PSI Prapat 22.74 188 P P 05 01 56.6 +2.0
comp=Z,35nm,0.9s,baz=335,slow=6.7,SNR=22
PSI S S 05 06 08.7 +6.1
comp=Z,1.1nm,0.4s,baz=104,slow=19,SNR=2.2
SDNR Sundarnagar 22.77 291 eP P 05 01 55.5 +0.8
HYB Hyderabad 23.22 254 eP P 05 01 58.0 -1.4
HYB eS S 05 06 10.0 -0.7
HYB Hyderabad 23.22 254 iP P 05 01 58.0 -1.4
HYB eS S 05 06 10.0 -0.7
HYB Hyderabad 23.22 254 eP P 05 01 57.2 -2.2
HYB Hyderabad 23.22 254 eP P 05 01 58.0 -1.4
HYB eS S 05 06 10.0 -0.7
KDM Kudat 23.28 140 ⇑P P 05 02 05.3 +5.4
KGM Kluang 23.36 177 ⇑P P 05 02 04.0 +3.2
DHRM DHARAMSHALA 23.46 293 AMB AMB 05 02 02.1
comp=Z,48nm,1.2s
DHRM eP P 05 02 03.0 +1.1
MYKOM Kota Tinggi 23.62 175 eP P 05 02 04.5 +1.2
comp=Z,270nm,2.3s
MYKOM Kota Tinggi 23.62 175 ⇑P P 05 02 05.8 +2.5
KKM Kota Kinabalu 23.64 142 eP P 05 02 05.2 +1.5
comp=Z,157nm,1.7s
SNY Shenyang 24.16 42 ⇓P P 05 02 09.1 +0.8
SNY S S 05 06 26.3 +0.9
SNY pmax pmax
comp=Z,63nm,1.1s
SNY LR LR
comp=Z,4µm,17.7s
SNY LR LR
comp=Z,2µm,17.4s
SNY LR LR
comp=Z,1µm,16.5s
GSI Gunungsitoli 24.41 191 P P 05 02 09.8 -0.9
comp=Z,47nm,1.4s,comp=Z,5µm
GSI Gunungsitoli 24.41 191 eP P 05 02 09.5 -1.3
comp=Z,176nm,1.9s
SDKM Sandakan 24.52 141 ⇑P P 05 02 19.6 +7.8
BTM Bintulu 24.59 153 ⇑P P 05 02 17.4 +5.0
ZAK Zakamensk 24.88 2 eP P 05 02 15.5 +0.6
ZAK pmax pmax
comp=Z,19nm,1.1s
SBUM Sibu 24.93 155 eP P 05 02 16.7 +1.3
comp=Z,62nm,1.1s
KS15 Wonju Array Si 25.02 55 eP P 05 02 15.5 -0.6
KSAR Wonju Array Be 25.02 55 P P 05 02 15.5 -0.6
KSAR Wonju Array Be 25.02 55 P P 05 02 15.5 -0.6
BKNI Bangkinang 25.02 182 eP P 05 02 16.1 -0.2
comp=Z,68nm,1.0s
KS01 Wonju Array Si 25.04 55 eP P 05 02 15.4 -0.9
KSRS Korea Array 25.05 55 P P 05 02 15.5 -0.9
KSRS pmax pmax
comp=Z,9.0nm,0.8s
KSRS MLR MLR
comp=Z,915nm,20.0s
KSRS Korea Array 25.05 55 P P 05 02 15.5 -0.9
comp=Z,9.0nm,0.8s,baz=243,slow=8.8,SNR=17
KSRS LR LR 05 12 14.2
comp=Z,915nm,20.0s,baz=237,slow=37
KSM Kuching 25.18 160 eP P 05 02 19.1 +1.4
comp=Z,56nm,1.2s
KSM Kuching 25.18 160 ⇑P P 05 02 20.7 +3.0
KSH Kashi 25.91 309 eP P 05 02 25.8 +1.4
KSH epP pP 05 02 36.1 +6.1
KSH ePP PnPn 05 03 08.0 +6.1
KSH S S 05 06 49.1 -4.7
KSH ePcS PcS 05 09 33.3 -0.6
KSH pmax pmax
comp=Z,12nm,1.2s
KSH LR LR
comp=Z,2µm,16.7s
KSH LR LR
comp=Z,1µm,15.3s
MOY Mondy 26.16 359 eP P 05 02 30.0 +3.5
TLY Talaya 26.20 2 eP P 05 02 30.1 +3.4
TLY e 05 03 25.3
TLY eSS 05 08 14.9
TLY pmax pmax
comp=Z,29nm,1.8s
TLY MLR MLR
comp=Z,1µm,12.0s
TLY Talaya 26.20 2 P P 05 02 27.2 +0.6
comp=Z,3.7nm,0.6s,baz=180,slow=6.1,SNR=11
TLY Talaya 26.20 2 eP P 05 02 27.1 +0.4
comp=Z,12nm,0.9s
JNU Nakatsue 26.26 66 P P 05 02 28.4 +0.8
comp=Z,26nm,0.8s,baz=293,slow=2.4,SNR=9.4
JNU LR LR 05 12 06.2
comp=Z,974nm,20.1s,baz=252,slow=35
JNU Nakatsue 26.26 66 eP P 05 02 28.3 +0.8
comp=Z,37nm,0.9s
PDSI Padang 26.28 183 P P 05 02 25.9 -1.8
comp=Z,14nm,1.1s,comp=Z,6µm
HVS Khovu-Aksy 26.40 348deP P 05 02 29.0 +0.4
HVS pmax pmax
comp=Z,144nm,1.7s
MK01 Makanchi Array 26.40 329 eP P 05 02 29.1 +0.5
MK31 Makanchi Array 26.43 329 iP P 05 02 29.2 +0.4
MK31 pmax pmax
comp=Z,13nm,0.7s
MK32 Makanchi Array 26.43 329 eP P 05 02 29.5 +0.7
MK32 eScP ScP 05 09 30.6 -2.4
MKAR Makanchi Array 26.43 329 P P 05 02 29.5 +0.7
comp=Z,3.3nm,0.8s,baz=130,slow=11,SNR=37
MKAR ScP ScP 05 09 30.6 -2.4
comp=Z,1.8nm,0.9s,baz=114,slow=5.2,SNR=6.2
MKAR LR LR 05 14 02.4
comp=Z,440nm,20.1s,baz=195,slow=39
CN2 Changchun 26.43 40 eP P 05 02 28.0 -0.9
CN2 epP pP 05 02 36.0 +1.5
CN2 eS S 05 06 57.8 -3.9
CN2 pmax pmax
comp=Z,60nm,0.8s
CN2 LR LR
comp=Z,3µm,15.0s
CN2 LR LR
comp=Z,1µm,15.0s
CN2 LR LR
comp=Z,1µm,14.0s
POO Poona 26.96 261 eP P 05 02 32.6 -1.3
POO AMB AMB 05 02 41.1
comp=Z,23nm,0.9s
ULHL Ulahol 26.99 315 P P 05 02 35.3 +1.0
SNR=12
ULHL Ulahol 26.99 315 iP P 05 02 35.2 +1.0
PALK Pallekele 27.21 232 iP P 05 02 38.1 +1.9
PALK Pallekele 27.21 232 P P 05 02 37.1 +0.9
comp=Z,30nm,0.9s,baz=57,slow=8.1,SNR=8.4
PALK LR LR 05 15 07.3
comp=Z,1µm,18.6s,baz=34,slow=40
PALK Pallekele 27.21 232 eP P 05 02 37.3 +1.0
comp=Z,30nm,1.0s
HIA Hailar 27.48 26ceP P 05 02 38.9 +0.6
HIA pmax pmax
comp=Z,34nm,0.8s
HIA Hailar 27.48 26 eP P 05 02 39.6 +1.2
comp=Z,93nm,1.0s
KZA Kyzart 27.55 314 P P 05 02 40.8 +1.2
SNR=7.0
KZA Kyzart 27.55 314 iP P 05 02 40.7 +1.2
TKM2 Tokmak 2 27.75 315 P P 05 02 41.5 +0.6
SNR=5.3
TKM2 Tokmak 2 27.75 315 P P 05 02 40.3 -0.7
TKM2 pmax pmax
comp=Z,14nm,0.9s
TKM2 Tokmak 2 27.75 315 eP P 05 02 41.4 +0.5
comp=Z,10nm,0.8s
KBK Karagaybulak 28.03 314 P P 05 02 44.7 +1.2
SNR=10
AAK Ala-Archa 28.31 314 P P 05 02 47.0 +1.1
comp=Z,89nm,0.7s,SNR=10.0
AAK Ala-Archa 28.31 314 P P 05 02 47.1 +1.1
SNR=12
AAK Ala-Archa 28.31 314diP P 05 02 46.8 +0.9
AAK pmax pmax
comp=Z,60nm,1.9s
AAK Ala-Archa 28.31 314 P P 05 02 46.9 +0.9
comp=Z,5.4nm,0.5s,baz=124,slow=6.7,SNR=26
AAK LR LR 05 15 44.0
comp=Z,944nm,18.2s,baz=128,slow=40
AAK Ala-Archa 28.31 314 eP P 05 02 47.0 +1.1
comp=Z,15nm,0.8s
FRU Bishkek 28.33 315 eP P 05 02 46.0 0.0
FRU pmax pmax
comp=Z,40nm,2.0s
AML Almayashu 28.61 313 P P 05 02 49.8 +0.9
SNR=11
USP Ospenovka 28.61 315 P P 05 02 49.2 +0.6
SNR=20
USP Ospenovka 28.61 315 iP P 05 02 49.1 +0.6
EKS2 Erkin-Say 28.79 314 P P 05 02 51.3 +1.1
SNR=20
EKS2 Erkin-Say 28.79 314 eP P 05 02 51.3 +1.1
EKS2 pmax pmax
comp=Z,14nm,0.8s
EKS2 Erkin-Say 28.79 314 eP P 05 02 51.3 +1.1
comp=Z,14nm,0.8s
MDJ Mudanjiang 29.36 42 P P 05 02 56.9 +1.8
MDJ pP pP 05 03 05.6 +4.9
MDJ sP sP 05 03 09.3 +6.3
MDJ S S 05 07 48.4 +0.6
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax

comp=Z,110nm,3.1s
MDJ LR LR
comp=Z,2µm,19.3s
MDJ LR LR
comp=Z,2µm,17.5s
MDJ LR LR
comp=Z,1µm,11.5s
KBL Kabul 29.82 295 eP P 05 02 59.2 -0.3
KBL pmax pmax
comp=Z,18nm,0.8s
KBL Kabul 29.82 295 eP P 05 02 59.2 -0.3
comp=Z,18nm,0.8s
MDSI Maura Dua 29.86 176 P P 05 02 56.2 -3.5
USRK Ussuriysk Arra 30.66 45 P P 05 03 06.6 +0.1
comp=Z,16nm,0.8s,baz=241,slow=8.5,SNR=28
USRK LR LR 05 15 46.8
comp=Z,752nm,19.0s,baz=230,slow=37
KURK Kurchatov 30.94 331 P P 05 03 09.1 +0.1
comp=Z,57nm,0.8s,SNR=5.8
KURK Kurchatov 30.94 331 eP P 05 03 09.0 +0.1
KURK pmax pmax
comp=Z,14nm,1.2s
KURK Kurchatov 30.94 331 eP P 05 03 09.0 0.0
comp=Z,14nm,1.2s
KK31 Karatay Array 31.14 312 i P P 05 03 10.6 -0.3
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 31.14 312 eP P 05 03 10.3 -0.6
KKAR Karatay Array 31.14 312 eP P 05 03 10.3 -0.6
ZAA0 Zalesovo Array 31.18 340 eP P 05 03 10.4 -0.6
ZALV Zalesovo Beam 31.18 340 P P 05 03 10.4 -0.6
comp=Z,1.4nm,0.3s,baz=146,slow=10,SNR=16
ZALV LR LR 05 16 42.8
comp=Z,813nm,21.5s,baz=156,slow=38
ZAA1 Zalesovo Array 31.18 340 eP P 05 03 10.4 -0.6
BBKI Banjar Baru 31.35 155 P P 05 03 23.1 +10
NVS Novosibirsk 32.43 340 eP P 05 03 21.0 -1.0
NVS eS S 05 08 34.8 -0.7
NVS pmax pmax
comp=Z,12nm,1.3s
NVS pmax pmax
comp=E,10.0nm,1.5s
NVS smax smax
comp=E,40nm,1.6s
MAJO Matsushiro 32.77 62⇑eP P 05 03 25.0 -0.2
MAJO pmax pmax
comp=Z,156nm,2.5s
MAJO Matsushiro 32.77 62 eP P 05 03 25.2 0.0
comp=Z,13nm,1.2s
MAJO eScP ScP 05 09 53.6 +0.1
MAT Matsushiro 32.77 62 P P 05 03 24.3 -0.9
MAT S S 05 08 38.2 -3.1
MJAR Matsushiro Arr 32.77 62 P P 05 03 25.2 0.0
comp=Z,4.4nm,0.7s,baz=265,slow=12,SNR=10
MJAR ScP ScP 05 09 53.6 +0.1
comp=Z,0.7nm,0.4s,baz=250,slow=1.8,SNR=4.1
MJAR LR LR 05 17 33.5
comp=Z,903nm,20.1s,baz=270,slow=38
KLR Kul'dur 33.13 37 eP P 05 03 24.0 -4.2
KLR MLR MLR
comp=Z,4µm,11.0s
TTSI Tana Toraja 33.21 146 P P 05 03 32.4 +3.2
comp=Z,26nm,1.6s,comp=Z,2µm
KPJI Karang Pucung 33.30 167 P P 05 03 32.0 +2.0
comp=Z,44nm,1.1s
BOD Bodaibo 33.44 12 eP P 05 03 30.5 -0.2
BOD pmax pmax
comp=Z,18nm,1.2s
NGJI Ngawi 33.92 163 P P 05 03 45.6 +10
SPSI Sidrap Palu 33.97 147 P P 05 03 37.4 +1.6
comp=Z,29nm,1.5s
KMMI Kalianget 34.37 159 P P 05 03 48.7 +9.5
HABR Khabarovsk 34.57 40 eP P 05 03 40.2 -0.5
HABR e*PP pP 05 03 52.8 +6.4
HABR e 05 04 55.6
HABR eS S 05 09 04.8 -4.0
HABR eSS SnSn 05 11 18.8 -2.0
HABR pmax pmax
comp=Z,45nm,2.0s
HABR MLR MLR
comp=Z,865nm,19.0s
CLNS Chul'man 35.41 22 eP P 05 03 52.0 +4.1
CLNS e*PP pP 05 04 01.2 +7.6
CLNS e 05 05 11.7
CLNS ePPP PPP 05 05 23.8
CLNS e 05 06 19.6
CLNS eS S 05 09 25.6 +3.9
CLNS eSSS SSS 05 12 12.3
CLNS pmax pmax
comp=Z,9.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=Z,2.0nm,0.7s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=N,4.0nm,1.0s
CLNS smax smax
comp=E,581nm,13.3s
CLNS smax smax
comp=N,75nm,16.9s
CLNS MLR MLR
comp=Z,536nm,10.0s
CLNS MLR MLR
comp=N,659nm,11.0s
CLNS MLR MLR
comp=E,282nm,11.0s
JAGI Jajag, Banyuwa 35.76 159 P P 05 03 59.7 +8.4
VOSK Vostochnaya 35.83 328 eP P 05 03 51.6 0.0
VOSK pmax pmax
comp=Z,7.0nm,0.7s
VOSK Vostochnaya 35.83 328 eP P 05 03 51.6 0.0
comp=Z,7.2nm,0.7s
JCJ Chichijima 35.97 78 LR LR 05 18 01.4
comp=Z,305nm,18.5s,baz=68,slow=35
BVA0 Borovoye Array 36.30 328 i P P 05 03 53.7 -1.8
BVA0 pmax pmax
comp=Z,17nm,1.3s
BVAR Borovoye Array 36.30 328 P P 05 03 55.1 -0.5
comp=Z,1.8nm,0.5s,baz=123,slow=9.5,SNR=11
BVAR LR LR 05 20 41.5
comp=Z,514nm,20.4s,baz=134,slow=39
BRVK Borovoye 36.37 328⇑eP P 05 03 55.9 -0.2
BRVK pmax pmax
comp=Z,12nm,1.2s
BRVK Borovoye 36.37 328 eP P 05 03 55.8 -0.3
comp=Z,12nm,0.8s
IMYA Miami 37.28 297 eP P 05 04 02.6 -1.8
ERM Erimo 37.59 54 P P 05 04 07.9 +1.2
comp=Z,310nm,0.7s,SNR=7.7
ERM Erimo 37.59 54deP P 05 04 07.1 +0.4
ERM pmax pmax
comp=Z,40nm,1.0s
ERM Erimo 37.59 54 eP P 05 04 07.2 +0.5
comp=Z,52nm,1.0s
ASAJ Asahikawa 37.72 50 P P 05 04 08.8 +1.1
ASAJ pmax pmax
comp=Z,55nm,0.9s
ASAJ Asahikawa 37.72 50 P P 05 04 08.8 +1.1
comp=Z,55nm,0.9s,baz=247,slow=19,SNR=8.3
ASAJ Asahikawa 37.72 50 eP P 05 04 08.8 +1.1
comp=Z,94nm,1.0s
ISRO Mashad 37.78 297 eP P 05 04 04.2 -4.3
ITEG Tejag 38.26 291 eP P 05 04 10.3 -2.4
IKRD Kardeh 38.59 298 eP P 05 04 06.8 -8.6
YSS Yuzh-Sakhalins 38.68 46 eP P 05 04 16.5 +0.7
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=N,1µm,12.0s
YSS MLR MLR
comp=E,600nm,12.0s
YSS MLR MLR
comp=Z,600nm,12.0s
YSS Yuzh-Sakhalins 38.68 46 eP P 05 04 15.9 +0.1
comp=Z,54nm,1.2s
GEYT Alibeck 39.00 299 P P 05 04 18.8 +0.1
comp=Z,4.9nm,0.6s,baz=119,slow=5.4,SNR=8.2
GEYT LR LR 05 21 41.1
comp=Z,563nm,18.9s,baz=100,slow=38
ISFR Sfrayin 39.02 298 eP P 05 04 19.0 -0.1
YUK Yuzh-Kuril'sk 39.98 51 P P 05 04 28.0 +1.4
YUK i 05 05 58.0
YUK i S S 05 10 26.8 -4.4
YUK MLR MLR
comp=E,892nm,19.0s
YUK MLR MLR
comp=Z,645nm,19.0s
AB31 Akbulak array 40.27 317 P P 05 04 28.8 -0.2
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 40.27 317 eP P 05 04 29.2 +0.2
YAK Yakutsk 41.01 20 eP P 05 04 38.4 +3.5
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK MLR MLR
comp=N,399nm,12.0s
YAK MLR MLR
comp=Z,1µm,13.0s
YAK MLR MLR
comp=E,606nm,12.0s
YAK Yakutsk 41.01 20 eP P 05 04 34.9 0.0
comp=E,41nm,0.8s
BATI Baumata 41.28 147 P P 05 04 37.2 -0.4
comp=E,18nm,0.4s,baz=169,slow=12,SNR=2.1
AKTO Aktyubinsk 41.85 318 P P 05 04 41.7 -0.3
comp=E,3.5nm,0.7s,baz=110,slow=6.7,SNR=14
AKTO LR LR 05 23 26.7
comp=E,639nm,21.1s,baz=129,slow=38
IANJ Anjilo 42.26 295 eP P 05 04 45.1 -0.7
SVE Sverdlovsk 43.08 328⇓i P P 05 04 53.0 +1.1
SVE pmax pmax
comp=Z,30nm,1.1s
SVE MLR MLR
comp=Z,563nm,17.0s
IZEF Zefreh 43.66 292 eP P 05 04 57.0 -0.2
ARU Arti 43.91 327d i P P 05 04 58.3 -0.4
ARU 05 06 40.6
ARU S S 05 11 26.0 -3.1
ARU SS SS 05 14 29.3 -16
ARU pmax pmax
comp=Z,22nm,1.2s
ARU Arti 43.91 327 eP P 05 04 58.2 -0.4
comp=Z,17nm,0.7s
IPIR Pirpir 44.88 292 eP P 05 05 04.7 -2.5
IRAZ Razeghan 45.52 295 eP P 05 05 09.2 -2.8
TIXI Tiksi 48.61 11⇑eP P 05 05 35.1 -0.2
TIXI pmax pmax
comp=Z,25nm,2.5s
TIXI Tiksi 48.61 11 eP P 05 05 34.6 -0.8
comp=Z,131nm,2.7s
MBWA Marble Bar 49.46 158 eP P 05 05 42.8 +0.4
comp=Z,37nm,0.9s
GNI Garni 49.49 302 P P 05 05 41.8 -1.0
comp=Z,3.4nm,0.5s,baz=103,slow=18,SNR=4.3
PETK Petropavlovsk- 49.58 41 P P 05 05 42.9 -0.2
comp=Z,2.4nm,0.8s,baz=278,slow=4.2,SNR=4.5
PETK LR LR 05 26 24.6
comp=Z,335nm,20.8s,baz=254,slow=36
PEA2 Petropavlovsk- 49.59 41 eP P 05 05 42.9 -0.2
SEY Seymchan 49.91 27 P P 05 05 44.0 -1.4
SEY Seymchan 49.91 27 P P 05 05 44.0 -1.4
comp=Z,5.8nm,0.6s,baz=241,slow=7.2,SNR=14
ZEI Tsey 50.11 305 eP P 05 05 45.5 -2.0
ZEI pmax pmax
comp=Z,17nm,1.3s
PET Petropavlovsk 50.13 41 eP P 05 05 51.2 +4.0
PET eS S 05 12 58.7 +0.8
PET MLR MLR
comp=Z,700nm,16.0s
GOF Gofitskoye 50.78 308 eP P 05 05 52.0 -0.3
GOF pmax pmax
comp=Z,30nm,1.2s
KBZ Khabaz 50.86 307 LR LR 05 29 35.1
comp=Z,352nm,21.2s,baz=95,slow=39
KIV Kislovodsk 51.01 307 eP P 05 05 53.7 -0.5
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,205nm,16.0s
KIV Kislovodsk 51.01 307 eP P 05 05 53.8 -0.5
comp=Z,49nm,1.4s
RAYN Ar Rayn 51.11 281 eP P 05 05 53.5 -1.7
comp=Z,9.1nm,1.0s
PRGR Permogore 52.05 330 eP P 05 05 59.9 -1.6
PRGR pmax pmax
comp=Z,24nm,0.6s
VRHR Novokhopersk 52.13 316 eP P 05 06 00.5 -1.8
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
SOC Sochi 53.17 307 eP P 05 06 11.3 +1.2
SOC e 05 08 09.4
SOC ePPP PPP 05 09 19.5
SOC eS S 05 13 38.8 -1.2
SOC pmax pmax
comp=Z,30nm,0.9s
SOC MLR MLR
comp=Z,306nm,17.0s
VORD Divnogorie 53.59 316 eP P 05 06 10.4 -2.6
VORD pmax pmax
comp=Z,5.0nm,0.7s
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 53.68 316 eP P 05 06 11.3 -2.4
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.6s
MALT Malatya 54.50 300⇑i P P 05 06 20.5 +0.4
KLMR Klimovskoe 54.72 328 eP P 05 06 19.6 -1.5
KLMR pmax pmax
comp=Z,70nm,1.3s
ANN Anapa 54.77 308 eP P 05 06 25.6 +3.9
ANN e*PP pP 05 06 40.5 +13
ANN eS S 05 14 04.6 +3.1
ANN pmax pmax
comp=Z,76nm,1.4s
ANN MLR MLR
comp=Z,840nm,22.0s
WRAB Tennant Creek 55.02 142 P P 05 06 24.0 +0.2
comp=Z,132nm,0.7s,SNR=15
WRAB Tennant Creek 55.02 142 eP P 05 06 24.8 +1.0
WRAB pmax pmax
comp=Z,39nm,1.4s
WRAB Tennant Creek 55.02 142 eP P 05 06 24.8 +1.0
comp=Z,39nm,1.4s
WRA Warramunga Arr 55.02 142 P P 05 06 23.9 +0.1
comp=Z,14nm,0.8s,baz=331,slow=8.2,SNR=21
OBN Obninsk 55.52 321 eP P 05 06 26.6 -0.4
OBN pmax pmax
comp=Z,41nm,2.5s
OBN MLR MLR
comp=Z,432nm,22.0s
OBN Obninsk 55.52 321 LR LR 05 30 51.8
comp=Z,429nm,21.3s,baz=94,slow=37
PMG Port Moresby 55.99 122deP P 05 06 35.3 +4.4
PMG i *PP pP 05 06 46.3 +9.5
PMG pmax pmax
comp=Z,35nm,1.2s
PMG Port Moresby 55.99 122 eP P 05 06 33.5 +2.6
comp=Z,22nm,0.9s
TMCR Tamitsa 56.05 332 eP P 05 06 30.6 0.0
TMCR e 05 08 35.6
TMCR pmax pmax
comp=Z,69nm,1.2s
ASF Jabal al Asfar 56.67 293 P P 05 06 35.8 +0.1
comp=Z,1.5nm,0.5s,baz=222,slow=4.0,SNR=4.8
BILL Bilibino 57.05 24d i P P 05 06 37.3 -0.4
BILL i 05 07 33.6
BILL i 05 08 46.3
BILL pmax pmax
comp=Z,29nm,1.7s
BILL MLR MLR
comp=Z,1µm,18.0s
BILL Bilibino 57.05 24 eP P 05 06 37.0 -0.7
comp=Z,28nm,0.7s
MMAI Mount Meron Ar 57.74 294 P P 05 06 43.1 -0.2
comp=Z,0.6nm,0.3s,baz=30,slow=15,SNR=2.7
AS31 Alice Springs 57.81 145 eP P 05 06 43.8 +0.1
AS01 Alice Springs 57.83 145 eP P 05 06 44.1 +0.2
BR101 Keskin Array S 58.03 302 eP P 05 06 44.1 -1.2
BR131 Keskin Array S 58.03 302 eP P 05 06 44.5 -0.8
comp=Z,1.8nm,0.6s
BRTR Keskin Array B 58.03 302 P P 05 06 44.1 -1.2
comp=Z,2.2nm,0.7s,baz=117,slow=8.7,SNR=18
BRTR LR LR 05 35 26.6
comp=Z,196nm,21.1s,baz=84,slow=40
ANTO Ankara 58.65 303 eP P 05 06 48.8 -0.8
ANTO pmax pmax
comp=Z,11nm,0.7s
ANTO Ankara 58.65 303 eP P 05 06 48.8 -0.8
comp=Z,11nm,0.7s
BR231 Keskin MP Arra 58.67 303 eP P 05 06 45.2 -4.5
EIL Elat 58.83 291 P P 05 06 49.8 -1.1
comp=Z,5.8nm,0.9s,baz=69,slow=8.6,SNR=3.0
JOF Joensuu 58.85 330 eP P 05 06 49.6 -0.8
JOF pmax pmax
comp=Z,10.0nm,0.6s
JOF Joensuu 58.85 330 ep P 05 06 49.6 -0.8
comp=Z,10.0nm,0.6s
AKASG Malin Array Be 59.97 315 P P 05 06 57.1 -1.3
comp=Z,3.6nm,0.6s,baz=73,slow=6.7,SNR=18
AKASG LR LR 05 37 07.6
comp=Z,400nm,19.1s,baz=100,slow=40
AKBB Malin Array Si 59.97 315 eP P 05 06 57.1 -1.3
AKBB Malin Array Si 59.97 315 eP P 05 06 57.1 -1.3
AK01 Malin Array Si 59.98 315 eP P 05 06 57.1 -1.3
KIEV Kiev 59.98 315 eP P 05 06 57.1 -1.3
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 59.98 315 eP P 05 06 57.1 -1.3
comp=Z,8.0nm,0.9s
AK02 Malin Array Si 59.98 315 eP P 05 06 56.8 -1.7
AK11 Malin Array Si 60.01 315 eP P 05 06 57.1 -1.5
VSU Vasula 61.00 324⇑i P P 05 07 04.9 -0.3
VSU pmax pmax
comp=Z,23nm,0.6s
KAF Kangasniemi 61.14 329 eP P 05 07 04.6 -1.6
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 61.14 329 ep P 05 07 04.6 -1.6
comp=Z,4.7nm,0.7s
KEV Kevo 61.15 337 eP P 05 07 04.6 -1.5
KEV pmax pmax
comp=Z,9.0nm,0.5s
KEV Kevo 61.15 337 ep P 05 07 04.6 -1.5
comp=Z,8.8nm,0.5s
NACGM Naroch 61.15 320 e P 05 07 04.0 -2.4
TIRR Tirgusor 61.21 308⇑i P P 05 07 14.8 +7.9
FIA0 FINESS Array S 61.26 328 eP P 05 07 06.5 -0.5
FIA0 FINESS Array S 61.26 328 eP P 05 07 06.5 -0.5
FINES FINESS Array B 61.26 328 P P 05 07 06.5 -0.5
comp=Z,10nm,0.7s,baz=98,slow=7.7,SNR=38
FINES LR LR 05 34 25.3
comp=Z,440nm,20.7s,baz=90,slow=37
CFR Carcaliu 61.30 309⇓i P P 05 07 06.8 -0.7
ARA0 ARCESS Array S 61.66 337 eP P 05 07 09.1 -0.5
ARCES ARCESS Array B 61.66 337 P P 05 07 09.1 -0.5
comp=Z,2.6nm,0.4s,baz=90,slow=7.8,SNR=43
MSAB Monastry St. A 61.68 308⇑i P P 05 07 09.8 -0.3
TESR Tescani 62.14 311⇑i P P 05 07 12.4 -0.8
VRI Vrincioaia 62.18 310⇑i P P 05 07 13.9 +0.4
PLOR Plostina 62.23 310⇑i P P 05 07 14.3 +0.4
CTAO Charters Tower 62.46 132 eP P 05 07 16.7 +1.1
CTAO pmax pmax
comp=Z,20nm,0.6s
CTAO Charters Tower 62.46 132 eP P 05 07 16.7 +1.1
comp=Z,20nm,0.6s
MLR Muntele Rosu 62.78 310⇓i P P 05 07 18.4 +0.7
JMB Yambol 62.85 306⇓i P P 05 07 16.2 -1.8
BURAR Bucovina Array 62.94 312⇑i P P 05 07 18.4 -0.3
BUR04 Bucovina Ar. S 62.94 312 eP P 05 07 17.9 -0.8
SUW Suwalki 63.33 320 eP P 05 07 19.9 -1.1
SUW Suwalki 63.33 320 eP P 05 07 19.8 -1.2
LVV L'vov 63.38 315 eP P 05 07 20.7 -0.7
VOIR 63.41 310⇑i P P 05 07 20.4 -1.4
KWP Kalwaria Pacla 64.26 315 eP P 05 07 26.6 -0.6
KWP pmax pmax
comp=Z,21nm,0.6s
KWP Kalwaria Pacla 64.26 315 eP P 05 07 27.0 -0.2
KWP Kalwaria Pacla 64.26 315⇑i P P 05 07 27.5 +0.3
KWP Kalwaria Pacla 64.26 315 eP P 05 07 26.6 -0.6
comp=Z,21nm,0.6s
SPA0 Spitsbergen Ar 64.35 347 eP P 05 07 26.2 -1.1
SPITS Spitsbergen Ar 64.35 347 P P 05 07 26.2 -1.1
comp=Z,2.2nm,0.7s,baz=100,slow=15,SNR=12
TRPA Tarpa 64.63 313⇑i P P 05 07 29.6 0.0
KOLS Kolonicke sedl 64.66 314 eP P 05 07 29.1 -0.8
KOLS Kolonicke sedl 64.66 314 eP P 05 07 29.1 -0.8
UZH Uzhgorod 64.70 314 eP P 05 07 32.7 +2.6
UZH e 05 07 38.5
DRGR 64.76 312⇓i P P 05 07 30.5 -0.1
GZR Gura Zlata 64.99 310⇑i P P 05 07 31.0 -1.2
CRVS Cervenica-Dubn 65.19 314 eP P 05 07 34.1 +0.8
CRVS pmax pmax
comp=Z,13nm,1.6s
CRVS Cervenica-Dubn 65.19 314 eP P 05 07 34.1 +0.8
STHS Stebnicka Huta 65.23 315 eP P 05 07 33.2 -0.4
STHS Stebnicka Huta 65.23 315 eP P 05 07 33.2 -0.4
OJC Ojcow 66.00 316 eP P 05 07 37.6 -0.9
OJC pmax pmax
comp=Z,43nm,1.8s
OJC Ojcow 66.00 316 eP P 05 07 38.4 -0.1
OJC Ojcow 66.00 316 eP P 05 07 37.6 -0.9
comp=Z,43nm,1.8s
BBOO Buckleboo 66.43 149 eP P 05 07 42.5 +1.2
comp=Z,166nm,1.1s
OKC Ostrava-Krasne 67.12 316 eP P 05 07 44.5 -1.2
OKC e 05 07 51.0
OKC Ostrava-Krasne 67.12 316 eP P 05 07 44.5 -1.2
OKC epP pP 05 07 49.0 -2.7
OKC esP sP 05 07 51.0 -2.9
TNA Tin City 67.14 27 eP P 05 07 45.7 +0.2
comp=Z,5.8nm,1.0s
HFS Hagfors 67.43 327 LR LR 05 39 02.1
comp=Z,482nm,20.6s,baz=76,slow=38
MORC Moravsky Berou 67.52 316 eP P 05 07 47.7 -0.6
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 67.52 316⇓i P P 05 07 48.3 +0.1
MORC Moravsky Berou 67.52 316 eP P 05 07 47.7 -0.6
comp=Z,8.2nm,1.0s
PKSM Moragy 67.63 312⇑i P P 05 07 48.6 -0.4
PKSM Moragy 67.63 312⇑e P 05 07 48.5 -0.4
KMBO Kilima Mbogo 67.83 258 eP P 05 07 50.7 -0.3
KMBO pmax pmax
comp=Z,5.0nm,1.2s
KMBO Kilima Mbogo 67.83 258 P P 05 07 50.7 -0.3
comp=Z,1.3nm,0.6s,baz=44,slow=8.6,SNR=6.2
KMBO Kilima Mbogo 67.83 258 eP P 05 07 50.7 -0.3
comp=Z,5.4nm,1.2s
KSP Ksiaz 68.05 317 eP P 05 07 51.9 +0.4
DPC Dobruska-Polom 68.15 317 eP P 05 07 51.9 -0.3
DPC Dobruska-Polom 68.15 317 eP P 05 07 50.8 -1.4
DPC epP pP 05 07 56.8 -1.4
DPC Dobruska-Polom 68.15 317 eP P 05 07 51.9 -0.3
comp=Z,305nm,2.0s
VRAC Vranov 68.23 315⇓i P P 05 07 53.3 +0.6
UPC Upice 68.30 317 eP P 05 07 51.3 -1.8
UPC e 05 07 58.9
UPC Upice 68.30 317 eP P 05 07 51.3 -1.8
UPC epP pP 05 07 58.9 -0.2
NB2 NORSAR Subarra 68.42 328 P P 05 07 52.4 -1.3
comp=Z,12nm,0.8s,baz=78,slow=6.5
NB200 NORSAR Array S 68.42 328 eP P 05 07 52.5 -1.3
NOA NORSAR Array B 68.42 328 P P 05 07 52.5 -1.3
comp=Z,5.1nm,0.8s,baz=77,slow=6.4,SNR=17
NOA LR LR 05 39 34.8
comp=Z,366nm,18.2s,baz=60,slow=38
STKA Stephens Creek 68.43 144 P P 05 07 54.2 +0.2
STKA pmax pmax
comp=Z,11nm,1.0s
STKA Stephens Creek 68.43 144 P P 05 07 54.2 +0.2
comp=Z,11nm,1.0s,baz=337,slow=6.5,SNR=10
STKA Stephens Creek 68.43 144 eP P 05 07 54.5 +0.4
comp=Z,4.1nm,1.3s
TREC Trest 68.93 316 eP P 05 07 57.5 +0.4
TREC e 05 08 06.6
TREC Trest 68.93 316 eP P 05 07 57.5 +0.4
TREC ex x 05 08 03.2
TREC ex x 05 08 06.6

CONA Conrad Observa 69.04 314⇑iP P 05 07 57.6 -0.3
comp=Z,17nm,1.0s
PRU Pruhonice 69.35 316 eP P 05 07 59.8 +0.2
PRU e 05 08 08.1
PRU MLR MLR
comp=Z,400nm,12.5s
PRU Pruhonice 69.35 316 eP P 05 07 59.8 +0.2
PRU epP pP 05 08 04.2 -1.4
PRU ex x 05 08 08.1
PRU AMS AMS 05 41 30.0
comp=Z,400nm,12.5s
PRA Prague 69.39 317 P P 05 08 00.0 +0.1
BRG Berggiesshubel 69.48 317 i P P 05 08 00.3 -0.1
comp=Z,5.1nm,0.7s
BRG e 05 08 05.1
comp=Z,13nm,1.0s
BRG Berggiesshubel 69.48 317 i P P 05 08 00.3 -0.1
BRG pmax pmax
comp=Z,5.0nm,0.7s
SOKA Soboth 69.92 313⇑iP P 05 08 02.5 -0.9
comp=Z,10nm,1.0s
CLL Collm 69.94 318 eP P 05 08 03.0 -0.2
CLL i 05 08 11.9
CLL pmax pmax
comp=Z,11nm,1.3s
CLL MLR MLR
comp=Z,500nm,18.4s
CLL Collm 69.94 318 eP P 05 08 03.0 -0.2
comp=Z,11nm,1.3s
CLL epP pP 05 08 08.0 -1.2
CLL i (sP) sP 05 08 11.9 +0.4
CLL LmV 05 43 00.0
comp=N,200nm,20.7s
CLL LmV 05 43 00.0
comp=E,300nm,20.9s
CLL LmV 05 43 00.0
comp=Z,500nm,18.4s
CLL Collm 69.94 318 eP P 05 08 02.2 -1.1
comp=Z,18nm,1.2s
MOA Molln 70.10 314⇑iP P 05 08 03.9 -0.4
comp=Z,7.3nm,0.9s
KHC Kasperske Hory 70.18 316 eP P 05 08 04.3 -0.5
KHC e 05 08 10.7
KHC e 05 08 19.0
KHC Kasperske Hory 70.18 316 eP P 05 08 04.3 -0.5
KHC epP pP 05 08 10.7 -0.2
KHC ex x 05 08 19.0
GEC2 GERESS Array S 70.18 315 eP P 05 08 04.7 -0.2
GEC2 GERESS Array S 70.18 315 eP P 05 08 04.7 -0.2
GERES GERESS Array B 70.18 315 P P 05 08 04.7 -0.2
comp=Z,2.6nm,0.7s,baz=67,slow=5.2,SNR=26
GERES LR LR 05 42 35.9
comp=Z,312nm,21.6s,baz=78,slow=39
CEY Cerknica 70.59 312 eP P 05 08 06.8 -0.6
CADS Cadrg 70.91 313 i P P 05 08 08.1 -1.3
KBA Koelnbreinsper 70.92 314⇑iP P 05 08 08.1 -1.4
comp=Z,5.6nm,0.6s
GRF Grafenberg Arr 71.49 317 eP P 05 08 13.1 +0.3
comp=Z,18nm,0.9s
ABTA Abfaltersbach 71.56 314⇑iP P 05 08 12.3 -1.0
comp=Z,4.8nm,0.6s
DAG Danmarks Havn 71.93 348 i P P 05 08 14.2 -0.7
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG Danmarks Havn 71.93 348 i P P 05 08 14.2 -0.7
comp=Z,3.0nm,0.9s
WTTA Wattenberg 71.97 314⇓iP P 05 08 15.2 -0.7
comp=Z,20nm,1.0s
MOTA Moosalm 72.29 314⇓iP P 05 08 16.9 -0.9
comp=Z,26nm,0.9s
RETA Reutte 72.47 315⇑iP P 05 08 17.8 -0.9
comp=Z,18nm,1.0s
IM04 Indian Mountai 72.58 25 eP P 05 08 18.9 -0.1
FETA Feichten 72.64 314⇓iP P 05 08 19.1 -0.8
comp=Z,25nm,0.9s
FUORN Ofenpass-Fuorn 73.07 314 eP P 05 08 21.9 -0.6
comp=Z,11nm,0.8s
DAVA Damuels 73.10 315⇑iP P 05 08 21.6 -1.0
comp=Z,14nm,1.4s
COLD Coldfoot 73.35 23 eP P 05 08 23.8 +0.3
comp=Z,59nm,2.4s
TUE Stuetta 73.72 314 eP P 05 08 25.9 -0.4
comp=Z,16nm,0.9s
BFO Black Forest 73.73 316 i P P 05 08 27.2 +1.0
SVW2 Sparrevohn 73.77 30 eP P 05 08 26.7 +0.6
comp=Z,12nm,0.8s
MEM Membach 74.35 319 P P 05 08 30.9 +1.2
CDF Champ du Feu 74.36 316 eP P 05 08 28.8 -1.1
comp=Z,39nm,1.2s
CDF Champ du Feu 74.36 316 eP P 05 08 28.8 -1.1
CDF pmax pmax
comp=Z,39nm,1.2s
CDF Champ du Feu 74.36 316 eP P 05 08 28.8 -1.1
comp=Z,39nm,1.2s
PPLA Purkeypile 74.49 27 eP P 05 08 31.1 +0.7
comp=Z,14nm,0.7s
WLF Walferdange 74.61 318 P P 05 08 32.0 +0.9
comp=Z,18nm,1.5s
WLF Walferdange 74.61 318 eP P 05 08 31.4 +0.2
WLF pmax pmax
comp=Z,45nm,1.2s
WLF Walferdange 74.61 318 eP P 05 08 31.4 +0.2
comp=Z,45nm,1.2s
KTH Kantishna Hill 74.72 26 eP P 05 08 32.3 +0.7
comp=Z,8.9nm,1.0s
HINF Hinteralfeld 74.84 316 eP P 05 08 31.2 -1.4
comp=Z,18nm,1.0s
HINF Hinteralfeld 74.84 316 eP P 05 08 31.2 -1.4
HINF pmax pmax
comp=Z,18nm,1.0s
HINF Hinteralfeld 74.84 316 eP P 05 08 31.2 -1.4
comp=Z,18nm,1.0s
TRF Thorofare Moun 75.02 26 eP P 05 08 34.1 +0.6
comp=Z,7.6nm,0.8s
SENIN Lac Senin/Sane 75.08 314 eP P 05 08 33.8 -0.5
HAU Haudompre 75.09 316 eP P 05 08 33.9 -0.1
comp=Z,43nm,1.3s
HAU eR
comp=Z,440nm,20.8s
HAU Haudompre 75.09 316 eP P 05 08 33.9 -0.1
HAU pmax pmax
comp=Z,43nm,1.3s
HAU Haudompre 75.09 316 eP P 05 08 33.9 -0.1
comp=Z,43nm,1.3s
GIVF Givet 75.25 319 eP P 05 08 34.0 -0.9
GIVF Givet 75.25 319 eP P 05 08 34.0 -0.9
GIVF Givet 75.25 319 eP P 05 08 34.0 -0.9
PAGF Fort de Pagny 75.27 317 eP P 05 08 34.5 -0.6
comp=Z,14nm,0.9s
PAGF Fort de Pagny 75.27 317 eP P 05 08 34.5 -0.6
comp=Z,14nm,0.9s
COLA College 75.29 24 eP P 05 08 35.7 +0.9
COLA pmax pmax
comp=Z,13nm,0.6s
COLA College 75.29 24 eP P 05 08 35.7 +0.9
comp=Z,14nm,0.6s
RSO Redoubt South 75.30 30 eP P 05 08 35.3 0.0
PGF Pioggiola 75.32 310 eP P 05 08 34.5 -1.1
comp=Z,128nm,1.4s
PGF Pioggiola 75.32 310 eP P 05 08 34.5 -1.1
PGF pmax pmax
comp=Z,128nm,1.4s
PGF Pioggiola 75.32 310 eP P 05 08 34.5 -1.1
comp=Z,128nm,1.4s
MCK McKinley 75.42 26 eP P 05 08 36.0 +0.3
MCK pmax pmax
comp=Z,9.0nm,0.7s
MCK McKinley 75.42 26 eP P 05 08 36.0 +0.3
comp=Z,8.8nm,0.7s
BAIF Baives 75.63 319 eP P 05 08 36.5 -0.5
comp=Z,78nm,1.4s
BAIF Baives 75.63 319 eP P 05 08 36.5 -0.5
BAIF pmax pmax
comp=Z,78nm,1.4s
BAIF Baives 75.63 319 eP P 05 08 36.5 -0.5
comp=Z,78nm,1.4s
IL1 Eielson Array 75.70 24 eP P 05 08 37.4 +0.2
ILAR Eielson Array 75.70 24 P P 05 08 36.2 -1.0
comp=Z,0.6nm,0.3s,baz=281,slow=4.0,SNR=18
ILAR PP PP 05 11 26.6 +0.1
comp=Z,1.4nm,0.9s,baz=293,slow=9.7,SNR=5.8
ILAR LR LR 05 44 17.5
comp=Z,354nm,18.5s,baz=304,slow=38
ILB Eielson Array 75.70 24 eP P 05 08 36.2 -1.0
MEZF Maizieres J'vi 75.71 317 eP P 05 08 36.7 -0.8
MEZF Maizieres J'vi 75.71 317 eP P 05 08 36.7 -0.8

LPG La Plagne 75.75 314 eP P 05 08 37.6 -0.6
comp=Z,56nm,0.8s
LPG La Plagne 75.75 314 eP P 05 08 37.6 -0.6
LPG La Plagne 75.75 314 eP P 05 08 37.6 -0.6
LPL La Plagne 75.76 314 eP P 05 08 37.6 -0.6
comp=Z,64nm,0.8s
LPL La Plagne 75.76 314 eP P 05 08 37.6 -0.6
LPL La Plagne 75.76 314 eP P 05 08 37.6 -0.6
CABF La Chapelle 75.77 315 eP P 05 08 37.0 -1.1
comp=Z,37nm,1.1s
CABF La Chapelle 75.77 315 eP P 05 08 37.0 -1.1
CABF pmax pmax
comp=Z,37nm,1.1s
CABF La Chapelle 75.77 315 eP P 05 08 37.0 -1.1
comp=Z,37nm,1.1s
SFTF Sexfontaines 75.83 317 eP P 05 08 37.1 -1.2
comp=Z,90nm,1.3s
SFTF Sexfontaines 75.83 317 eP P 05 08 37.1 -1.2
SBF Sospel 75.91 312 eP P 05 08 37.7 -1.2
comp=Z,76nm,1.0s
SBF Sospel 75.91 312 eP P 05 08 37.7 -1.2
SBF pmax pmax
comp=Z,76nm,1.0s
SBF Sospel 75.91 312 eP P 05 08 37.7 -1.2
comp=Z,76nm,1.0s
BNI Bardonecchia 75.97 313 eP P 05 08 38.6 -0.7
BNI pmax pmax
comp=Z,16nm,1.0s
BNI Bardonecchia 75.97 313 eP P 05 08 38.6 -0.7
comp=Z,16nm,1.0s
MBDF Montbardon 76.03 313 eP P 05 08 37.8 -1.9
comp=Z,26nm,0.9s
MBDF Montbardon 76.03 313 eP P 05 08 37.8 -1.9
MBDF Montbardon 76.03 313 eP P 05 08 37.8 -1.9
RC01 Rabbit Creek A 76.34 28 eP P 05 08 40.7 -0.2
comp=Z,13nm,1.0s
PMR Palmer 76.36 28 eP P 05 08 40.8 -0.1
PMR pmax pmax
comp=Z,11nm,0.7s
PMR Palmer 76.36 28 eP P 05 08 40.8 -0.1
comp=Z,11nm,0.7s
OHAK Old Harbor 76.47 33 eP P 05 08 41.9 +0.2
comp=Z,126nm,1.8s
ORIF Oris-en-Rattie 76.54 313 eP P 05 08 41.2 -1.3
comp=Z,38nm,1.1s
ORIF eR
comp=Z,380nm,21.0s
ORIF Oris-en-Rattie 76.54 313 eP P 05 08 41.2 -1.3
ORIF pmax pmax
comp=Z,38nm,1.1s
ORIF Oris-en-Rattie 76.54 313 eP P 05 08 41.2 -1.3
comp=Z,38nm,1.1s
FRF La Foret Royal 76.55 312 eP P 05 08 41.5 -0.9
comp=Z,37nm,1.1s
FRF La Foret Royal 76.55 312 eP P 05 08 41.5 -0.9
FRF pmax pmax
comp=Z,37nm,1.0s
FRF La Foret Royal 76.55 312 eP P 05 08 41.5 -0.9
comp=Z,37nm,1.0s
KDAK Kodiak Island 76.56 32 i P P 05 08 42.7 +0.5
LMR La Mourre 76.73 312 eP P 05 08 42.4 -1.0
comp=Z,59nm,1.1s
LMR La Mourre 76.73 312 eP P 05 08 42.4 -1.0
LMR pmax pmax
comp=Z,59nm,1.1s
LMR La Mourre 76.73 312 eP P 05 08 42.4 -1.0
comp=Z,59nm,1.1s
LOR Lormes 76.93 316 eP P 05 08 43.1 -1.4
comp=Z,40nm,1.3s
LOR eR
comp=Z,397nm,21.5s
LOR Lormes 76.93 316 eP P 05 08 43.1 -1.4
LOR Lormes 76.93 316 eP P 05 08 43.1 -1.4
SMRF Simiane la Rot 77.11 313 eP P 05 08 44.8 -0.8
SMRF Simiane la Rot 77.11 313 eP P 05 08 44.8 -0.8
PAX Paxson 77.16 26 eP P 05 08 46.0 +0.4
PAX pmax pmax
comp=Z,5.0nm,1.0s
PAX Paxson 77.16 26 eP P 05 08 46.0 +0.4
comp=Z,5.3nm,1.0s
SMF Signal de Mont 77.19 316 eP P 05 08 44.7 -1.3
comp=Z,69nm,1.4s
SMF Signal de Mont 77.19 316 eP P 05 08 44.7 -1.3
SMF pmax pmax
comp=Z,69nm,1.4s
SMF Signal de Mont 77.19 316 eP P 05 08 44.7 -1.3
comp=Z,69nm,1.4s
SSF Saint Saulge 77.23 316 eP P 05 08 45.1 -1.1
comp=Z,27nm,0.9s
SSF Saint Saulge 77.23 316 eP P 05 08 45.1 -1.1
SSF Saint Saulge 77.23 316 eP P 05 08 45.1 -1.1
VIVF Saint-Julien-l 77.36 314 eP P 05 08 45.9 -1.1
comp=Z,43nm,1.2s
VIVF Saint-Julien-l 77.36 314 eP P 05 08 45.9 -1.1
VIVF pmax pmax
comp=Z,43nm,1.2s
VIVF Saint-Julien-l 77.36 314 eP P 05 08 45.9 -1.1
comp=Z,43nm,1.2s
AVF Avril sur Loir 77.43 316 eP P 05 08 46.2 -1.1
comp=Z,42nm,1.1s
AVF Avril sur Loir 77.43 316 eP P 05 08 46.2 -1.1
AVF pmax pmax
comp=Z,42nm,1.1s
AVF Avril sur Loir 77.43 316 eP P 05 08 46.2 -1.1
comp=Z,42nm,1.1s
KEST Kesra 77.60 304 LR LR 05 49 25.4
comp=Z,62nm,19.3s,baz=348,slow=41
HYF Humbligny 77.69 317 eP P 05 08 48.1 -0.7
HYF Humbligny 77.69 317 eP P 05 08 48.1 -0.7
EGAK Eagle 77.78 23 eP P 05 08 49.3 +0.4
comp=Z,88nm,2.9s
BGF Bois d'Agland 77.85 316 eP P 05 08 48.8 -0.9
BGF Bois d'Agland 77.85 316 eP P 05 08 48.8 -0.9
BGF Bois d'Agland 77.85 316 eP P 05 08 48.8 -0.9
LASF Ste Croix 78.21 313 eP P 05 08 51.1 -0.6
comp=Z,44nm,1.1s
LASF Ste Croix 78.21 313 eP P 05 08 51.1 -0.6
TCF Toulx Ste Croi 78.36 316 eP P 05 08 51.9 -0.7
comp=Z,153nm,1.6s
TCF Toulx Ste Croi 78.36 316 eP P 05 08 51.9 -0.7
TCF pmax pmax
comp=Z,153nm,1.6s
TCF Toulx Ste Croi 78.36 316 eP P 05 08 51.9 -0.7
comp=Z,153nm,1.6s
BMRM Bremner River 78.56 27 eP P 05 08 54.4 +1.0
comp=Z,36nm,0.8s
SUMG Summit 78.58 349 eP P 05 08 53.2 -0.6
SUMG pmax pmax
comp=Z,24nm,1.1s
SUMG Summit 78.58 349 i P P 05 08 52.5 -1.2
comp=Z,18nm,1.0s
SUMG Summit 78.58 349 eP P 05 08 53.2 -0.6
comp=Z,24nm,1.1s
LDF La Druitiere 78.81 319 eP P 05 08 53.8 -1.2
LDF La Druitiere 78.81 319 eP P 05 08 53.8 -1.2
LDF La Druitiere 78.81 319 eP P 05 08 53.8 -1.2
DAWY Dawson 78.82 23 eP P 05 08 55.3 +0.5
CAF Calviac 79.02 315 eP P 05 08 55.7 -0.5
comp=Z,77nm,1.4s
CAF Calviac 79.02 315 eP P 05 08 55.7 -0.5
CAF pmax pmax
comp=Z,77nm,1.4s
CAF Calviac 79.02 315 eP P 05 08 55.7 -0.5
comp=Z,77nm,1.4s
RJF Les Rejaudoux 79.21 315 eP P 05 08 56.9 -0.3
comp=Z,56nm,1.1s
RJF eR
comp=Z,226nm,21.8s
RJF Les Rejaudoux 79.21 315 eP P 05 08 56.9 -0.3
RJF pmax pmax
comp=Z,56nm,1.1s
RJF Les Rejaudoux 79.21 315 eP P 05 08 56.9 -0.3
comp=Z,56nm,1.1s
KULLO Kullorsuaq 79.27 354 i P P 05 08 56.4 -0.6
KULLO pmax pmax
comp=Z,18nm,0.9s
KULLO Kullorsuaq 79.27 354 i P P 05 08 56.4 -0.6
comp=Z,18nm,0.8s
GRR Gorron 79.34 319 eP P 05 08 57.0 -0.9
GRR Gorron 79.34 319 eP P 05 08 57.0 -0.9
GRR Gorron 79.34 319 eP P 05 08 57.0 -0.9
MTLF Montolieu 79.59 313 eP P 05 08 58.5 -0.8
comp=Z,57nm,1.3s
MTLF Montolieu 79.59 313 eP P 05 08 58.5 -0.8
MTLF pmax pmax
comp=Z,57nm,1.3s

MTLF Montolieu 79.59 313 eP P 05 08 58.5 -0.8
comp=Z,57nm,1.3s
SGMF Saint Gilles 80.42 319 eP P 05 09 03.0 -0.7
SGMF Saint Gilles 80.42 319 eP P 05 09 03.0 -0.7
SGMF Saint Gilles 80.42 319 eP P 05 09 03.0 -0.7
ROSF Rostrenen 80.80 319 eP P 05 09 05.1 -0.6
ROSF Rostrenen 80.80 319 eP P 05 09 05.1 -0.6
ROSF Rostrenen 80.80 319 eP P 05 09 05.1 -0.6
ETSF Etsaut 81.61 314 eP P 05 09 09.7 -0.6
comp=Z,9.5nm,0.6s
ETSF Etsaut 81.61 314 eP P 05 09 09.7 -0.6
ETSF pmax pmax
comp=Z,10.0nm,0.6s
ETSF Etsaut 81.61 314 eP P 05 09 09.7 -0.6
comp=Z,9.5nm,0.6s
SJPF Ste Jean 81.95 314 eP P 05 09 11.8 -0.2
SJPF Ste Jean 81.95 314 eP P 05 09 11.8 -0.2
SJPF Ste Jean 81.95 314 eP P 05 09 11.8 -0.2
LSZ Lusaka 82.45 249 eP P 05 09 14.3 -0.8
LSZ pmax pmax
comp=Z,11nm,0.9s
LSZ Lusaka 82.45 249 eP P 05 09 14.3 -0.8
comp=Z,11nm,0.9s
ESDC Sonseca Array 85.39 312 P P 05 09 29.5 -0.3
comp=Z,1.7nm,0.7s,baz=42,slow=5.8,SNR=6.0
ESDC LR LR 05 50 37.9
comp=Z,106nm,19.9s,baz=110,slow=38
SFJD Kangerlussuaq 85.53 350 i P P 05 09 28.6 -1.2
SFJD pmax pmax
comp=Z,11nm,0.9s
SFJD Kangerlussuaq 85.53 350 i P P 05 09 28.6 -1.2
comp=Z,11nm,0.9s
YKA Yellowknife Ar 87.59 16 P P 05 09 39.8 -0.2
comp=Z,0.8nm,0.7s,baz=331,slow=5.0,SNR=14
YKB5 Yellowknife Ar 87.59 16 eP P 05 09 39.7 -0.3
BOSA Boshof 91.23 239 P P 05 10 00.9 +3.1
comp=Z,5.9nm,1.1s,baz=63,slow=6.8,SNR=3.4
BOSA LR LR 05 47 40.2
comp=Z,191nm,18.9s,baz=72,slow=33
TOA0 Torodi Ar. Sit 93.48 286 eP P 05 10 07.3 -1.1
TORD Torodi Ar. Bea 93.48 286 P P 05 10 07.3 -1.1
comp=Z,0.5nm,0.8s,baz=72,slow=5.5,SNR=4.0
TORD LR LR 05 57 43.4
comp=Z,158nm,19.2s,baz=85,slow=39
SCHQ Schefferville 99.44 353 LR LR 06 01 07.1
comp=Z,249nm,18.4s,baz=360,slow=39
VNDA Vanda 108.59 169 Pdiff Pdif 05 11 16.1 +1.5
comp=Z,0.8nm,0.7s,baz=275,slow=12,SNR=2.6
LTX Lajitas 120.19 26 ePKIKP PKPdf 05 15 43.1 -0.6
LTX Lajitas 120.19 26 ePKPdf PKPdf 05 15 43.0 -0.6
TXAR Lajitas Array 120.19 26 PKP PKPdf 05 15 43.0 -0.7
comp=Z,0.3nm,0.6s,baz=189,slow=1.0,SNR=6.4
SDV Santo Domingo 145.10 347 ePKPdf PKPab 05 16 27.4 -2.6
ROSC El Rosal 149.64 353 ePKPab PKPab 05 16 47.4 -0.6
comp=Z,11nm,0.8s,baz=129,slow=6.5,SNR=5.5
ROSC El Rosal 149.64 353 ePKPbc PKPbc 05 16 43.6 +0.6
BDFB Brasilia 150.32 283 ePKIKP PKPbc 05 16 42.3 -2.0
BDFB 05 16 50.7
BDFB Brasilia 150.32 283 PKPab PKPab 05 16 50.7 +0.2
comp=Z,6.1nm,1.0s,baz=84,slow=10,SNR=5.0
BDFB Brasilia 150.32 283 ePKPbc PKPbc 05 16 42.3 -2.0
BDFB PKPab PKPab 05 16 50.7 +0.2
LPAZ La Paz 167.01 313 PKP PKPdf 05 16 58.6 -0.7
comp=Z,0.9nm,0.8s,baz=76,slow=4.2,SNR=2.9

CSEM **25** *05:05:22.3, 38.56N×29.29W, h2km, ML3.1, After PDA*
PDA 25 05:05:22.3±0.9, 38.56N×29.29W, h2km±11km, MD3.5, ML3.1, Error ellipse: s-maj=12.5km s-min=8.3km az=92.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	0.46	88	eP	Pg	05 05 30.5	-0.8
CALA				eS	Sg	05 05 36.9	-0.5
CALA	Caldeira	0.46	88	eP	Pg	05 05 30.5	-0.8
CALA				eS	Sg	05 05 36.9	-0.5
PCED	Cedros	0.47	82	eP	Pg	05 05 30.5	-0.8
PCED				eS	Sg	05 05 36.4	-1.0
PCED				A	A	05 05 39.3	
	557nm,0.4s						
PCED	Cedros	0.47	82	eP	Pg	05 05 30.5	-0.8
PCED				eS	Sg	05 05 36.4	-1.0
HOR	Horta	0.52	94	eP	Pg	05 05 31.9	-0.4
HOR				eS	Sg	05 05 38.7	-0.3
HOR	Horta	0.52	94	eP	Pg	05 05 31.9	-0.4
HOR				eS	Sg	05 05 38.7	-0.3
PCAN	Candelaria	0.64	99	eP	Pg	05 05 33.1	-1.5
PCAN				eS	Sg	05 05 41.6	-1.4
PCAN				A	A	05 05 46.1	
	437nm,0.5s						
PCAN	Candelaria	0.64	99	eP	Pg	05 05 33.1	-1.5
PCAN				eS	Sg	05 05 41.6	-1.4
PICO	Pico	0.68	95	eP	Pg	05 05 34.2	-1.3
PICO				eS	Sg	05 05 42.8	-1.6
PICO	Pico	0.68	95	eP	Pg	05 05 34.2	-1.3
PICO				eS	Sg	05 05 42.8	-1.6
ROSA	Rosais	0.84	79	eP	Pg	05 05 36.1	-2.3
ROSA				eS	Sg	05 05 46.1	-3.2
ROSA				A	A	05 05 52.9	
	435nm,0.6s						
ROSA	Rosais	0.84	79	eP	Pg	05 05 36.1	-2.3
ROSA				eS	Sg	05 05 46.1	-3.2
PMAN	Manadas	0.94	85	eP	Pg	05 05 37.9	-2.5
PMAN				eS	Sg	05 05 49.4	-3.3
PMAN				A	A	05 05 50.7	
	147nm,0.5s						
PMAN	Manadas	0.94	85	eP	Pg	05 05 37.9	-2.5
PMAN				eS	Sg	05 05 49.4	-3.3
TOPO	Topo	1.08	88	eP	Pg	05 05 39.5	-3.5
TOPO				eS	Sg	05 05 52.3	-4.7
TOPO	Topo	1.08	88	eP	Pg	05 05 39.5	-3.5
TOPO				eS	Sg	05 05 52.3	-4.7
ADH	Angra Heroismo	1.61	86	eP	Pn	05 05 47.0	-4.7
ADH				eS	Sn	05 06 05.3	-7.8
ADH				A	A	05 06 07.2	
	47nm,0.2s						
ADH	Angra Heroismo	1.61	86	eP	Pn	05 05 47.0	-4.7
ADH				eS	Sn	05 06 05.3	-7.8
PSET	Sete Cidades	2.91	104	eP	Pn	05 06 04.9	-4.7
PSET	Sete Cidades	2.91	104	eP	Pn	05 06 04.9	-4.7
PDA	Ponta Delgada	2.97	105	eP	Pn	05 06 06.1	-4.3
PDA	Ponta Delgada	2.97	105	eP	Pn	05 06 06.1	-4.3
PSMA	Santa Maria	3.65	114	eP	Pn	05 06 14.9	-4.9
PSMN	Pico do Norte,	3.69	114	eP	Pn	05 06 15.3	-5.1
PSMN	Pico do Norte,	3.69	114	eP	Pn	05 06 15.3	-5.1

DJA 25 05:16:24.3±0.5, 9°S±19°×11°8E±°, h54km±17km, M4.3/14, mb4.5/2, mB4.8/1, MLv4.2/14, Mw(mB)4.0/1, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.82	115	P	Pn	05 16 58.0	+4.6
DNP	Denpasar	2.48	274	P	Pn	05 17 03.4	+1.2
IGBI	Denpasar	2.54	271	P	Pn	05 17 01.2	-1.8
SRBI	Singaraja	2.59	288	P	Pn	05 17 04.1	+0.3
WSI	Waingapu	2.67	107	P	Pn	05 16 59.5	-5.4
BASI	Baing, Sumba	3.13	115	P	Pn	05 17 15.2	+4.1
JAGI	Jajag, Banyuwa	3.54	276	P	Pn	05 17 16.6	-0.2
ABJI	Asem Bagus	3.60	287	P	Pn	05 17 18.9	+1.2
KMMI	Kalianget	4.13	296	P	Pn	05 17 25.8	+0.9
BLJI	Banyuglugur	4.23	285	P	Pn	05 17 23.8	-2.4
GMJI	Gumukmas	4.26	278	P	Pn	05 17 26.3	-0.4
GRJI	Gresik	5.54	290	P	Pn	05 17 45.3	+1.1
	55nm,0.8s,832nm0.3nm						
PWJI	Pagerwojo	5.91	278	P	Pn	05 17 48.8	-0.4

DJA 25 05:31:43.2±0.5, 1°S±4°×12°0E±°, h15km, M3.5/6, MLv3.5/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.47	75	P	Pn	05 32 07.6	-1.6
APSI				S	Sn	05 32 27.8	-0.4
MPSI	Mapaga	1.66	348	P	Pn	05 32 11.3	-0.5
TTSI	Tana Toraja	1.78	193	P	Pn	05 32 11.2	-2.3
TTSI				S	Sn	05 32 36.0	+0.1
LUWI	Luwuk	2.55	84	P	Pn	05 32 23.9	-0.2
SPSI	Sidrap Palu	2.69	190	P	Pn	05 32 26.6	+0.7
BNSI	Bone	3.08	182	P	Pn	05 32 32.1	+0.7

NIED **25** *05:32:00, 37.30N×141.60E, h44km, Mw3.9 Best double couple: Mo7.42000×10^14 NP1:φs232.00000°, δ17.00000°, λ118.00000°. NP2:φs23.00000°, δ75.00000°, λ82.00000°.*
IDC **25** *05:32:42.8±0.9, 37.22N×141.71E, h0km, mb3.6/11, mb1 3.8/14, mb1mx3.7/36, mbtmp3.6/14, ML3.5/2, Error ellipse: s-maj=21.7km s-min=19.8km az=89.0*
ISCJB **25** *05:32:47.3±1.1, 37.27N±0.04×141.71E±0.09, h44km±9km, mb3.7/12, Error ellipse: s-maj=12.2km s-min=6.5km az=20.3*
JMA **25** *05:32:48.9±0.1, 37.30N×141.59E, h45km±2km, M3.7*
JMA Felt I J1.
ISC 25 05:32:47.0±2.7, 37.27N±0.05×141.74E±0.07, h27km±18km, n31, σ1.12/35, mb3.8/12, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.69**	**278**	⇓P	**Pn**	**05 33 00.8**	**-0.2**
JFK				S	**Sb**	**05 33 09.0**	**-0.7**
ONAJ	**Iwakimizuishiy**	**0.77**	**258**	P	**Pn**	**05 33 01.9**	**-0.2**
ONAJ				S	**Sn**	**05 33 11.0**	**-1.8**
JMM	**Marumori**	**0.96**	**309**	P	**Pn**	**05 33 04.4**	**-0.2**
JMM				eS	**Sn**	**05 33 15.5**	**-1.9**
JFT	**Otama**	**1.14**	**283**	P	**Pn**	**05 33 07.8**	**+0.6**
JFT				S	**Sn**	**05 33 21.2**	**-0.8**
JHO	**Hitachi**	**1.14**	**235**	P	**Pn**	**05 33 06.9**	**-0.3**
JHO				S	**Sn**	**05 33 20.0**	**-2.0**
JIO	**Ouri**	**1.22**	**346**	P	**Pn**	**05 33 08.7**	**+0.5**
JIO				S	**Sn**	**05 33 22.6**	**-1.3**
JOU	**Okura**	**1.38**	**322**	P	**Pn**	**05 33 11.1**	**+0.6**
JOU				S	**Sn**	**05 33 28.2**	**+0.2**
JYS	**Shirataka**	**1.63**	**306**	P	**Pn**	**05 33 14.7**	**+0.8**
JYS				eS	**Sn**	**05 33 34.3**	**+0.3**
MJAR	**Matsushiro Arr**	**2.92**	**257**	Pn	**Pn**	**05 33 32.7**	**+1.1**
	4.6nm,0.3s,baz=85,slow=15,SNR=18						
MJAR				Lg	Lg	05 34 14.9	
	5.1nm,0.3s,baz=212,slow=41,SNR=5.7						
MAT	**Matsushiro**	**2.92**	**257**	P	**Pn**	**05 33 33.4**	**+1.7**
MAT				eS	**Sn**	**05 34 08.3**	**+2.4**
ASAJ	**Asahikawa**	**6.87**	**5**	Pn	**Pn**	**05 34 26.7**	**+0.9**
	1.3nm,0.3s,baz=126,slow=19,SNR=2.0						
ASAJ				Sn	**Sn**	**05 35 40.3**	**-2.8**
	1.7nm,0.3s,baz=139,slow=18,SNR=2.9						
USRK	**Ussuriysk Arra**	**10.12**	**316**	Pn	**Pn**	**05 35 11.4**	**+1.0**
	0.1nm,0.3s,baz=132,slow=13,SNR=2.1						
KSRS	**Korea Array**	**11.00**	**275**	Pn	**Pn**	**05 35 22.4**	**-0.1**
	0.1nm,0.3s,baz=82,slow=12,SNR=2.6						
SONM	**Songino Array**	**27.87**	**304**	P	**P**	**05 38 34.8**	**+0.4**
	0.5nm,0.5s,baz=102,slow=9.0,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**28.05**	**122**	T	T	06 08 13.4	
	baz=314,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**28.06**	**122**	T	T	06 08 11.3	
	baz=314,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**28.07**	**122**	T	T	06 08 13.7	
	baz=314,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	06 09 02.8	
	baz=316,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	06 09 05.9	
	baz=316,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	06 09 07.9	
	baz=316,slow=76,SNR=11						
TLY	**Talaya**	**30.37**	**311**	P	**P**	**05 38 56.0**	**-0.5**
	0.9nm,0.5s,baz=76,slow=12,SNR=2.3						
ZALV	**Zalesovo Beam**	**41.95**	**312**	P	**P**	**05 40 35.2**	**+0.1**
	0.8nm,0.4s,baz=91,slow=7.6,SNR=4.4						
MKAR	**Makanchi Array**	**44.21**	**302**	P	**P**	**05 40 53.6**	**0.0**
	1.0nm,0.6s,baz=88,slow=9.7,SNR=16						
ILAR	**Eielson Array**	**49.16**	**32**	P	**P**	**05 41 32.7**	**+0.7**
	0.4nm,0.8s,baz=266,slow=5.5,SNR=6.1						
BATI	**Baumata**	**50.18**	**203**	P	**P**	**05 41 40.3**	**-0.1**
	19nm,0.7s,baz=18,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**57.33**	**188**	P	**P**	**05 42 32.3**	**-0.3**
	0.5nm,0.4s,baz=5.3,slow=7.5,SNR=4.8						
YKA	**Yellowknife Ar**	**63.47**	**30**	P	**P**	**05 43 15.5**	**+1.4**
	0.1nm,0.6s,baz=268,slow=15,SNR=2.9						
FINES	**FINESS Array B**	**68.72**	**332**	P	**P**	**05 43 48.0**	**+0.2**
	0.6nm,0.7s,baz=20,slow=9.6,SNR=2.5						
AKASG	**Malin Array Be**	**74.27**	**322**	P	**P**	**05 44 21.1**	**-0.3**
	0.3nm,0.4s,baz=48,slow=6.0,SNR=3.9						
GERES	**GERESS Array B**	**82.64**	**328**	P	**P**	**05 45 07.3**	**-0.6**
	0.3nm,0.4s,baz=11,slow=11,SNR=3.1						
TXAR	**Lajitas Array**	**89.77**	**53**	P	**P**	**05 45 42.8**	**-0.6**
	0.1nm,0.4s,baz=267,slow=1.8,SNR=2.7						

NIED **25** *05:43:00, 42.90N×145.70E, h23km, Mw3.7 Best double couple: Mo4.31000×10^14 NP1:φs280.00000°, δ26.00000°, λ144.00000°. NP2:φs43.00000°, δ75.00000°, λ69.00000°.*
IDC **25** *05:43:42.5±3.3, 42.65N×145.94E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.7/26, mbtmp3.7/10, ML3.9/1, Error ellipse: s-maj=86.3km s-min=24.9km az=177.0*
SKHL **25** *05:43:48.0±0.7, 41.99N×145.77E, h49km±5km, mb4.9/2*
ISCJB **25** *05:43:48.2±1.1, 42.83N±0.08×145.74E±0.07, h44km±8km, mb3.8/9, Error ellipse: s-maj=13.8km s-min=6.2km az=152.6*
JMA **25** *05:43:49.1±0.1, 42.86N×145.67E, h42km±1km, M3.9*
JMA Felt I J1.
MOS **25** *05:43:50.7±0.8, 43.04N×145.75E, h61km, mb4.1/5, Error ellipse: s-maj=23.0km s-min=15.6km az=101.4*
ISC 25 05:43:48.6±1.9, 42.83N±0.10×145.71E±0.05, h30km±10km, n37, σ0.90/39, mb3.8/9, 1C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.53**	**3**	⇓P	**Pb**	**05 43 59.8**	**+0.2**
NEM2				eS	**Sb**	**05 44 07.1**	**0.0**
JAK	**Akkeshi**	**0.76**	**283**	⇓P	**Pn**	**05 44 03.0**	**-0.3**
JAK				eS	**Sb**	**05 44 13.4**	**0.0**
JNK	**Nakash**	**1.05**	**316**	⇓P	**Pn**	**05 44 06.6**	**-0.6**
JNK				eS	**Sn**	**05 44 19.3**	**-1.4**
JRA	**Rausu**	**1.19**	**339**	P	**Pn**	**05 44 09.0**	**-0.1**
JRA				eS	**Sn**	**05 44 24.1**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.21**	**5**	c iPN	**Pn**	**05 44 09.3**	**-0.1**
YUK				i		05 44 23.2	
YUK				pmax	pmax		
	comp=Z,407nm,0.2s						
YUK				pmax	pmax		
	comp=N,53nm,0.1s						
YUK				pmax	pmax		
	comp=E,76nm,0.1s						
YUK				smax	smax		
	comp=N,685nm,0.4s						
YUK				smax	smax		
	comp=E,988nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.21**	**5**	eP	**Pn**	**05 44 09.3**	**-0.1**
YUK				AMB	AMB	05 44 10.3	
	comp=E,54nm,0.2s						
YUK				AMB	AMB	05 44 10.3	
	comp=E,76nm,0.2s						
YUK				AMB	AMB	05 44 10.3	
	comp=E,407nm,0.2s						
YUK				eS	**Sn**	**05 44 25.7**	**+1.0**
YUK				A	A	05 44 28.1	
	comp=E,685nm,0.4s						
YUK				A	A	05 44 28.1	
	comp=E,988nm,0.4s						
SHO	**Shikotan**	**1.32**	**38**	eP	**Pn**	**05 44 10.4**	**-0.5**
SHO				eS	**Sn**	**05 44 26.6**	**-0.6**
SHO				A	A	05 44 36.5	
	comp=E,674nm,0.5s						
JOB	**Onbets**	**1.38**	**274**	P	**Pn**	**05 44 11.5**	**-0.3**
JAR	**Ashorobuto**	**1.50**	**289**	⇓P	**Pn**	**05 44 13.2**	**-0.2**
JKA	**Kamikawa-asahi**	**2.60**	**301**	eP	**Pn**	**05 44 30.7**	**+2.1**
ASAJ	**Asahikawa**	**2.60**	**301**	PN	**Pn**	**05 44 30.7**	**+2.1**
ASAJ						05 45 04.3	
ASAJ				pmax	pmax		
	comp=Z,14nm,0.3s						
ASAJ				smax	smax		
	comp=N,8.0nm,0.3s						
ASAJ	**Asahikawa**	**2.60**	**301**	Pn	**Pn**	**05 44 30.7**	**+2.1**
	comp=N,14nm,0.3s,baz=122,slow=16,SNR=20						
ASAJ				Sn	**Sb**	**05 45 04.3**	**-1.8**
	comp=N,7.8nm,0.3s,baz=130,slow=31,SNR=23						
KUR	**Kuril'sk**	**2.86**	**32**	eP	**Pn**	**05 44 32.7**	**+0.6**
KUR				eS	**Sn**	**05 45 06.4**	**+0.9**
KUR				pmax	pmax		
	comp=E,25nm,0.1s						
KUR				pmax	pmax		
	comp=N,16nm,0.3s						
KUR				pmax	pmax		
	comp=Z,53nm,0.3s						
KUR				smax	smax		
	comp=N,99nm,0.2s						
KUR				smax	smax		
	comp=E,54nm,0.2s						
KUR	**Kuril'sk**	**2.86**	**32**	eP	**Pn**	**05 44 32.7**	**+0.6**
KUR				AMB	AMB	05 44 35.7	
	comp=E,16nm,0.2s						
KUR				AMB	AMB	05 44 35.7	
	comp=E,25nm,0.2s						
KUR				AMB	AMB	05 44 35.7	
	comp=E,53nm,0.2s						
KUR				eS	**Sn**	**05 45 06.4**	**+0.9**
KUR				A	A	05 45 09.7	
	comp=E,99nm,0.2s						
KUR				A	A	05 45 09.7	
	comp=E,53nm,0.2s						
SONM	**Songino Array**	**27.87**	**294**	P	**P**	**05 49 36.0**	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**27.87**	**294**	P	**P**	**05 49 36.0**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=88,slow=8.5,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**29.14**	**136**	T	T	06 20 38.7	
	baz=328,slow=75,SNR=345						
H11N1	**WAKE ISLAND Hy**	**29.15**	**136**	T	T	06 20 39.5	
	baz=328,slow=75,SNR=204						
H11N3	**WAKE ISLAND Hy**	**29.16**	**136**	T	T	06 20 41.1	
	baz=328,slow=75,SNR=205						
H11S1	**WAKE ISLAND Hy**	**30.06**	**137**	T	T	06 21 46.1	
	baz=329,slow=76,SNR=417						
H11S3	**WAKE ISLAND Hy**	**30.07**	**137**	T	T	06 21 44.5	
	baz=329,slow=76,SNR=272						
H11S2	**WAKE ISLAND Hy**	**30.08**	**137**	T	T	06 21 44.5	
	baz=329,slow=76,SNR=217						
ILAR	**Eielson Array**	**42.85**	**36**	P	**P**	**05 51 42.6**	**-0.9**
	comp=Z,0.3nm,0.9s,baz=235,slow=8.7,SNR=3.3						
MKAR	**Makanchi Array**	**44.08**	**298**	P	**P**	**05 51 53.9**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**44.08**	**298**	P	**P**	**05 51 53.9**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=82,slow=10.0,SNR=23						
BVAR	**Borovoye Array**	**49.27**	**310**	P	**P**	**05 52 34.5**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**49.27**	**310**	P	**P**	**05 52 34.5**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=79,slow=10.0,SNR=3.0						
YKA	**Yellowknife Ar**	**57.15**	**33**	P	**P**	**05 53 31.4**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=300,slow=6.9,SNR=3.1						
FINES	**FINESS Array B**	**65.21**	**333**	P	**P**	**05 54 26.2**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**65.21**	**333**	P	**P**	**05 54 26.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=54,slow=6.8,SNR=12						
KIV	**Kislovodsk**	**69.59**	**311**	eP	P	05 54 50.1	-4.6
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBZ	**Khabaz**	**69.61**	**311**	P	**P**	**05 54 55.7**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KBZ	**Khabaz**	**69.61**	**311**	P	**P**	**05 54 55.7**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=51,slow=6.5,SNR=3.2						
NOA	**NORSAR Array B**	**70.07**	**338**	P	**P**	**05 54 57.0**	**-0.3**
NOA	**NORSAR Array B**	**70.07**	**338**	P	**P**	**05 54 57.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=34,slow=6.4,SNR=3.9						
NOA	**NORSAR Array B**	**70.07**	**338**	eP	**P**	**05 54 57.0**	**-0.3**
AKASG	**Malin Array Be**	**71.69**	**323**	P	**P**	**05 55 06.9**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=42,slow=5.8,SNR=2.5						

IDC **25** *06:12:59.1±0.9, 16.97S×172.86W, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.9/21, mbtmp3.7/9, MS3.5/5, Ms1 3.5/5, ms1mx3.2/29, Error ellipse: s-maj=44.6km s-min=20.9km az=132.0*
ISCJB **25** *06:13:03.2±0.7, 16.9S±0.2×173.0W±0.2, h41km, mb3.7/9, MS3.4/4, Error ellipse: s-maj=36.0km s-min=16.0km az=40.9*
ISC 25 06:13:04.8±0.9, 17.0S±0.2×172.9W±0.2, h41km, n19, σ1.07/12, mb3.7/9, MS3.4/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.12**	**111**	LR	LR	06 20 18.0	
	comp=Z,170nm,18.9s,baz=262,slow=34						
DZM	**Mont Dzumac**	**20.08**	**252**	eLR	LR	06 22 50.2	
	200nm,23.9s						
DZM	**Mont Dzumac**	**20.08**	**252**	LR	LR	06 24 02.5	
	comp=Z,179nm,18.5s,baz=34,slow=33						
PPT2	**Papeete2**	**22.30**	**95**	eLR	LR	06 23 03.8	
	164nm,25.2s						
PPT	**Papeete**	**22.30**	**95**	LR	LR	06 25 26.0	
	comp=Z,89nm,18.2s,baz=264,slow=34						
URZ	**Urewera**	**22.91**	**200**	P	**P**	**06 18 05.5**	**+0.4**
	6.2nm,0.6s,baz=139,slow=9.3,SNR=6.7						
HNR	**Honiara**	**27.44**	**282**	LR	LR	06 27 59.3	
	comp=Z,145nm,20.9s,baz=110,slow=33						
STKA	**Stephens Creek**	**43.65**	**241**	P	**P**	**06 21 05.2**	**-0.5**
	0.8nm,0.4s,baz=95,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**49.94**	**258**	P	**P**	**06 21 54.0**	**-1.0**
	1.3nm,0.8s,baz=97,slow=7.6,SNR=7.9						
TGY	**Tagaytay City**	**72.23**	**291**	LR	LR	06 51 41.2	
	comp=Z,18nm,21.3s,baz=118,slow=32						
PETK	**Petropavlovsk-**	**74.29**	**342**	P	**P**	**06 24 38.8**	**+1.2**
	1.9nm,0.8s,baz=152,slow=9.6,SNR=4.3						
NVAR	**Mina Array Bea**	**75.22**	**41**	P	**P**	**06 24 43.9**	**+0.3**
	0.2nm,0.6s,baz=234,slow=5.5,SNR=2.8						
TXAR	**Lajitas Array**	**81.13**	**56**	P	**P**	**06 25 16.0**	**-0.4**
	0.3nm,0.9s,baz=239,slow=5.6,SNR=3.0						
PDAR	**Pinedale Array**	**83.16**	**42**	P	**P**	**06 25 25.8**	**-1.1**
	0.3nm,0.7s,baz=226,slow=6.1,SNR=2.8						
ILAR	**Eielson Array**	**83.93**	**11**	P	**P**	**06 25 29.5**	**-0.5**
	0.4nm,0.7s,baz=229,slow=6.1,SNR=9.6						
YKA	**Yellowknife Ar**	**91.39**	**23**	P	**P**	**06 26 05.8**	**-0.1**
	0.1nm,0.6s,baz=255,slow=4.5,SNR=2.8						
KMBO	**Kilima Mbogo**	**145.21**	**242**	PKPbc	**PKPdf**	**06 32 41.4**	**+2.1**
	1.0nm,0.7s,baz=98,slow=5.6,SNR=4.2						
BRTR	**Keskin Array B**	**147.68**	**320**	PKPbc	**PKPab**	**06 32 47.2**	**-0.5**
	1.2nm,0.8s,baz=113,slow=3.1,SNR=5.1						
MMAI	**Mount Meron Ar**	**149.91**	**307**	PKPab	**PKPab**	**06 32 58.0**	**+1.2**
	0.4nm,0.2s,baz=340,slow=1.7,SNR=3.7						

ISCJB **25** *06:17:33.1±0.5, 21.09S±0.06×178.67W±0.09, h579km, mb3.9/15, Error ellipse: s-maj=11.6km s-min=8.0km az=9.0*
IDC **25** *06:17:33.4±2.1, 21.05S×178.64W, h569km±23km, mb3.5/15, mb1 3.7/16, mb1mx3.6/22, mbtmp4.4/16, Error ellipse: s-maj=18.1km s-min=13.7km az=109.0*
ISC 25 06:17:33.8±0.6, 21.14S±0.08×178.5W±0.1, h579km, n46, σ1.03/47, mb4.0/15, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.10**	**176**	S	**S**	**06 21 10.7**	**-0.4**
	111nm,0.3s,baz=261,slow=23,SNR=4.0						
DZM	**Mont Dzumac**	**14.02**	**263**	P	**P**	**06 20 35.1**	**+2.0**
	0.7nm,0.3s,baz=86,slow=19,SNR=9.1						
URZ	**Urewera**	**17.47**	**192**	P	**P**	**06 21 04.8**	**-0.5**
	1.1nm,0.3s,baz=271,slow=2.5,SNR=6.6						
URZ				S	S	06 23 54.7	-2.7
	0.2nm,0.3s,baz=150,slow=16,SNR=3.2						
EIDS	**Eidsvold**	**28.21**	**256**	P	**P**	**06 22 41.2**	**0.0**
	baz=34,SNR=4.2						
CMSA	**Cobar Meteorol**	**33.57**	**245**	P	**P**	**06 23 27.7**	**+0.8**
	baz=39,SNR=5.6						
QLP	**Quilpie**	**34.41**	**254**	P	**P**	**06 23 34.0**	**0.0**
	baz=40,SNR=5.8						
PMG	**Port Moresby**	**35.02**	**284**	P	**P**	**06 23 38.2**	**-1.0**
	29nm,0.7s,baz=102,slow=7.1,SNR=14						
STKA	**Stephens Creek**	**37.07**	**245**	P	**P**	**06 23 56.6**	**+0.7**
	3.5nm,0.5s,baz=92,slow=11,SNR=12						
STKA	**Stephens Creek**	**37.07**	**245**	P	**P**	**06 23 56.7**	**+0.7**
	baz=43,SNR=8.3						
COEN	**Coen**	**37.14**	**275**	P	**P**	**06 23 56.8**	**+0.1**
	baz=43,SNR=10						
MMPI	**Merauke**	**41.55**	**281**	P	**P**	**06 24 34.8**	**+2.8**
	baz=47,SNR=4.7						
BBOO	**Buckleboo**	**41.83**	**244**	P	**P**	**06 24 34.1**	**+0.1**
	baz=48,SNR=7.8						
JAY	**Jayapura**	**43.79**	**289**	P	**P**	**06 24 49.2**	**-0.4**
	baz=49,SNR=8.6						
WRA	**Warramunga Arr**	**44.03**	**263**	P	**P**	**06 24 50.5**	**-0.9**
	2.7nm,0.3s,baz=96,slow=7.3,SNR=44						
KDU	**Kakadu**	**47.48**	**272**	P	**P**	**06 25 16.6**	**-0.9**
	baz=54,SNR=3.2						
MTN	**Manton Dam**	**48.68**	**271**	P	**P**	**06 25 25.7**	**-0.8**
	baz=55,SNR=4.2						
WRKA	**Warakurna**	**48.82**	**255**	P	**P**	**06 25 27.2**	**-0.3**
	baz=55,SNR=8.0						
KNRA	**Kununurra**	**50.13**	**267**	P	**P**	**06 25 36.7**	**-0.4**
	baz=56,SNR=4.8						
VNDA	**Vanda**	**57.23**	**185**	P	**P**	**06 26 28.3**	**+2.1**
	1.2nm,0.6s,baz=280,slow=12,SNR=7.9						
MEEK	**Meekatharra**	**57.25**	**251**	P	**P**	**06 26 26.6**	**-0.6**
	baz=63,SNR=3.3						
MJAR	**Matsushiro Arr**	**70.44**	**324**	P	**P**	**06 27 49.7**	**-0.9**
	1.3nm,0.5s,baz=154,slow=7.0,SNR=5.5						
FX1	**Attu Island--F**	**74.06**	**355**	P	**P**	**06 28 09.7**	**-1.5**
	13nm,0.7s,baz=186,slow=19,SNR=2.8						
PETK	**Petropavlovsk-**	**76.77**	**346**	P	**P**	**06 28 25.6**	**-0.5**
	4.3nm,0.6s,baz=134,slow=7.8,SNR=10						
USRK	**Ussuriysk Arra**	**79.22**	**326**	P	**P**	**06 28 40.1**	**+0.6**
	1.2nm,0.5s,baz=144,slow=3.5,SNR=7.1						
YBH	**Yreka Blue Hor**	**81.09**	**39**	P	**P**	**06 28 51.5**	**+2.1**
	0.9nm,0.5s,baz=200,slow=12						
NVAR	**Mina Array Bea**	**81.82**	**44**	P	**P**	**06 28 54.5**	**+1.1**
	0.5nm,0.6s,baz=225,slow=8.9,SNR=4.4						
SEY	**Seymchan**	**86.89**	**347**	P	**P**	**06 29 16.9**	**-0.3**
	2.2nm,0.5s,baz=147,slow=6.0,SNR=16						
ILAR	**Eielson Array**	**89.05**	**13**	P	**P**	**06 29 26.6**	**-0.7**
	1.0nm,0.4s,baz=218,slow=5.2,SNR=25						
ILAR				PP	**PP**	**06 33 09.2**	**+0.8**
	0.4nm,1.1s,baz=234,slow=7.3,SNR=4.2						
PDAR	**Pinedale Array**	**89.76**	**43**	P	**P**	**06 29 31.6**	**+0.1**
	0.6nm,0.6s,baz=182,slow=2.2,SNR=6.0						
CMAR	**Chiang Mai Arr**	**89.87**	**290**	P	**P**	**06 29 32.0**	**-0.2**
	1.3nm,0.6s,baz=115,slow=2.6,SNR=9.4						
YKA	**Yellowknife Ar**	**97.30**	**25**	P	**P**	**06 30 05.4**	**+0.5**
	0.2nm,0.7s,baz=257,slow=4.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**110.68**	**321**	PKiKP	**PKiKP**	**06 34 59.7**	**-1.3**
	0.6nm,0.5s,baz=46,slow=4.2,SNR=2.9						
MKAR	**Makanchi Array**	**111.28**	**313**	PKiKP	**PKiKP**	**06 35 01.5**	**-0.9**
	0.2nm,0.4s,baz=150,slow=1.2,SNR=8.7						
SPITS	**Spitsbergen Ar**	**122.47**	**356**	PKP	**PKPdf**	**06 35 22.7**	**-0.4**
	12nm,0.9s,baz=324,slow=8.9,SNR=2.9						
AKTO	**Aktyubinsk**	**127.22**	**318**	PKP	**PKPdf**	**06 35 33.5**	**+0.6**
	0.9nm,0.5s,baz=62,slow=4.7,SNR=3.0						
ARCES	**ARCESS Array B**	**129.46**	**349**	PKP	**PKPdf**	**06 35 36.1**	**-0.5**
	4.7nm,0.9s,baz=7.6,slow=3.7,SNR=8.0						
FINES	**FINESS Array B**	**136.24**	**343**	PKP	**PKPdf**	**06 35 49.9**	**+0.4**
	1.9nm,0.9s,baz=111,slow=3.6,SNR=6.5						
FINES				SKPbc	**SKPbc**	**06 38 29.1**	**+1.3**
	1.9nm,0.8s,baz=50,slow=4.3,SNR=5.2						
HFS	**Hagfors**	**140.09**	**350**	PKhKP	PKPpre	06 35 49.4	
	1.4nm,0.3s,baz=88,slow=3.6,SNR=19						
AKASG	**Malin Array Be**	**143.33**	**330**	PKP	PKPab	06 36 00.0	-1.0
	11nm,0.5s,baz=43,slow=4.3,SNR=35						
EKA	**Eskdalemuir Ar**	**145.68**	**5**	PKPbc	**PKPbc**	**06 36 07.7**	**-0.5**
	1.5nm,0.7s,baz=26,slow=6.0,SNR=4.7						
ASF	**Jabal al Asfar**	**146.63**	**297**	PKPbc	**PKPbc**	**06 36 11.5**	**-0.2**
	0.8nm,0.3s,baz=68,slow=5.4,SNR=4.0						
BRTR	**Keskin Array B**	**146.90**	**311**	PKPbc	**PKPbc**	**06 36 11.6**	**-0.7**
	2.2nm,0.6s,baz=132,slow=4.4,SNR=12						
MMAI	**Mount Meron Ar**	**147.70**	**299**	PKPbc	**PKPbc**	**06 36 15.0**	**+0.6**
	5.4nm,0.6s,baz=57,slow=5.1,SNR=7.9						
CLL	**Collm**	**148.57**	**346**	⇓iP	**PKPbc**	**06 36 15.9**	**0.0**
	comp=Z,8.0nm,0.8s						
EIL	**Elat**	**148.68**	**293**	PKPbc	**PKPbc**	**06 36 17.1**	**+0.2**
	comp=Z,2.1nm,0.4s,baz=90,slow=4.0,SNR=2.5						
GERES	**GERESS Array B**	**150.68**	**343**	PKPbc	**PKPbc**	**06 36 20.9**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=35,slow=3.3,SNR=9.7						

TIR **25** *06:21:59.4±4.6, 41.41N×19.96E, h12km±16km, ML4.1*
IDC **25** *06:21:59.4±0.9, 41.23N×19.85E, h0km, mb3.5/11, mb1 3.7/19, mb1mx3.7/36, mbtmp3.6/19, ML3.3/7, MS3.1/6, Ms1 3.1/6, ms1mx2.8/47, Error ellipse: s-maj=14.1km s-min=12.6km az=177.0*
ATH **25** *06:22:01.6, 41.56N×19.90E, h21km±1km, MD3.9/42*
BEO **25** *06:22:01.5±0.7, 41.23N×19.93E, h6km±5km, ML3.5/1*
PRU **25** *06:22:02.8, 41.30N×19.87E, h0km*
PDG **25** *06:22:02.9±0.2, 41.33N×19.95E, h18km, MD3.8/6, ML3.8/11, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
CSEM **25** *06:22:03.9±0.1, 41.41N×19.90E, h10km, ML3.6, Ms3.8, Error ellipse: s-maj=2.1km s-min=1.6km az=49.0*
VIE **25** *06:22:03.9±0.2, 41.37N×19.82E, h10km, mb3.1/6, Ms3.8/3, Error ellipse: s-maj=2.6km s-min=2.3km az=17.0 5 km NNW of Tirana*
ROM **25** *06:22:04.2±0.2, 41.31N×19.78E, h10km, Ml3.8/23, Error ellipse: s-maj=4.5km s-min=1.8km az=90.0*
ISCJB **25** *06:22:04.1±0.3, 41.42N±0.01×19.88E±0.02, h24km±3km, mb3.5/8, MS3.1/2, Error ellipse: s-maj=2.2km s-min=1.7km az=135.7*
THE **25** *06:22:05.3, 41.43N×20.03E, h12km±1km, ML3.6/11, Error ellipse: s-maj=1.7km s-min=0.8km az=312.0*
SKO **25** *06:22:05.2, 41.45N×20.06E, h23km, M3.2, ML3.8*
SOF **25** *06:22:08.3, 41.39N×20.45E, h9km, MD3.5*
ISC 25 06:22:03.7±1.0, 41.40N±0.01×19.92E±0.02, h13km±6km, n342, σ1.25/490, mb3.6/8, 29C-21D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.48**	**54**	i PG	**Pg**	**06 22 12.6**	**-0.6**
PHP				i SG	**Sg**	**06 22 20.0**	**+0.3**
PHP	**Peshkopia**	**0.48**	**54**	P	**Pg**	**06 22 12.7**	**-0.5**
PHP				S	**Sg**	**06 22 20.1**	**+0.4**
PHP	**Peshkopia**	**0.48**	**54**	i Pg	**Pg**	**06 22 12.6**	**-0.6**
	SNR=91						
PHP				i Sg	**Sg**	**06 22 20.0**	**+0.3**
	SNR=91						
PUK	**Puka**	**0.64**	**358**	i PG	**Pg**	**06 22 16.4**	**+0.1**
PUK				i SG	**Sb**	**06 22 27.0**	**+1.2**
PUK	**Puka**	**0.64**	**358**	i Pg	**Pg**	**06 22 16.4**	**+0.1**
	SNR=91						
PUK				i Sg	**Sb**	**06 22 27.0**	**+1.2**
	SNR=91						
ULC	**Ulcinj**	**0.76**	**318**	⇑iPg	**Pg**	**06 22 18.4**	**0.0**
ULC				eSg	**Sn**	**06 22 31.4**	**-0.1**
ULC	**Ulcinj**	**0.76**	**318**	⇑iPg	**Pg**	**06 22 18.4**	**0.0**
ULC	**Ulcinj**	**0.76**	**318**	P	**Pg**	**06 22 18.8**	**+0.4**
ULC				eSg	**Sn**	**06 22 31.4**	**-0.1**
DRME	**Dracevica, Mon**	**0.96**	**325**	⇓iPg	**Pg**	**06 22 22.3**	**+0.1**
DRME				eSg	**Sn**	**06 22 38.4**	**+1.9**
DRME	**Dracevica, Mon**	**0.96**	**325**	⇓iPg	**Pg**	**06 22 22.3**	**+0.1**
DRME				eSg	**Sn**	**06 22 38.4**	**+1.9**
BCI	**Bajram Curri**	**0.97**	**6**	i PG	**Pg**	**06 22 22.9**	**+0.4**
BCI	**Bajram Curri**	**0.97**	**6**	i Pg	**Pg**	**06 22 22.9**	**+0.4**
	SNR=90						
VLO	**Vlora**	**0.99**	**199**	i PG	**Pn**	**06 22 25.1**	**+1.8**
VLO				i SG	**Sn**	**06 22 40.4**	**+3.3**
VLO	**Vlora**	**0.99**	**199**	P	**Pn**	**06 22 24.7**	**+1.4**
VLO				S	**Sn**	**06 22 39.1**	**+2.0**
VLO	**Vlora**	**0.99**	**199**	P	**Pn**	**06 22 24.7**	**+1.4**
VLO	**Vlora**	**0.99**	**199**	i Pg	**Pn**	**06 22 25.1**	**+1.8**
	SNR=90						
KBN	**Korca**	**1.02**	**140**	i PG	**Pg**	**06 22 23.2**	**-0.2**
KBN				i SG	**Sn**	**06 22 39.8**	**+1.8**
KBN	**Korca**	**1.02**	**140**	P	**Pb**	**06 22 23.7**	**+0.4**
KBN				S	**Sn**	**06 22 39.3**	**+1.3**
KBN	**Korca**	**1.02**	**140**	i Pg	**Pg**	**06 22 23.2**	**-0.2**
	SNR=90						
KBN	**Korca**	**1.02**	**140**	P	**Pb**	**06 22 23.7**	**+0.4**
KBN				S	**Sn**	**06 22 39.3**	**+1.3**
PRZK	**Prizren**	**1.02**	**37**	P	**Pg**	**06 22 22.5**	**-0.9**
PDG	**Podgorica**	**1.14**	**334**	P	**Pb**	**06 22 25.8**	**+0.5**
PDG				S	**Sn**	**06 22 43.3**	**+2.4**
PDG	**Podgorica**	**1.14**	**334**	⇑iPg	**Pb**	**06 22 25.8**	**+0.5**
PDG				eSg	**Sn**	**06 22 43.0**	**+2.0**
PDG	**Podgorica**	**1.14**	**334**	Pn	**Pb**	**06 22 25.5**	**+0.2**
PDG				Sn	**Sn**	**06 22 42.9**	**+2.0**
	1μm,0.4s						
PDG	**Podgorica**	**1.14**	**334**	Pn	**Pb**	**06 22 25.5**	**+0.2**
PDG	**Podgorica**	**1.14**	**334**	P	**Pb**	**06 22 25.8**	**+0.5**
PDG				Sn	**Sn**	**06 22 42.9**	**+2.0**
	1μm,0.4s						
TTG	**Podgorica**	**1.14**	**334**	⇓iPg	**Pb**	**06 22 25.8**	**+0.5**
TTG				eSg	**Sn**	**06 22 43.9**	**+3.0**
ZATK	**Zatriq**	**1.17**	**26**	P	**Pg**	**06 22 24.8**	**-1.1**
ZATK				S	**Sn**	**06 22 44.4**	**+2.6**
BUM	**Brajici-Budva**	**1.18**	**320**	⇑iPg	**Pb**	**06 22 26.4**	**+0.3**
BUM				eSg	**Sn**	**06 22 45.1**	**+3.0**
BUM	**Brajici-Budva**	**1.18**	**320**	⇑iPg	**Pb**	**06 22 26.4**	**+0.3**
BUM				eSg	**Sn**	**06 22 45.1**	**+3.0**
PVY	**Plav**	**1.19**	**1**	⇑iPg	**Pb**	**06 22 25.6**	**-0.7**
PVY				eSg	**Sn**	**06 22 45.9**	**+3.5**
PVY	**Plav**	**1.19**	**1**	⇑iPg	**Pb**	**06 22 25.6**	**-0.7**
PVY				eSg	**Sn**	**06 22 45.9**	**+3.5**
FNA	**Florina**	**1.26**	**119**	P	**Pn**	**06 22 27.4**	**+0.3**
FNA				S	**Sn**	**06 22 44.5**	**+0.5**
FNA	**Florina**	**1.26**	**119**	ePN	**Pn**	**06 22 26.9**	**-0.2**

FNA eSN Sn 06 22 46.1 +2.1
FNA Florina 1.26 119 ePn Pn 06 22 26.9 -0.2
FNA Florina 1.26 119 P Pn 06 22 27.4 +0.3
FNA S Sn 06 22 44.5 +0.5
FNA eSn Sn 06 22 46.1 +2.1
PEJK Peje 1.27 12 P Pb 06 22 28.2 +0.7
PEJK S Sg 06 22 48.2 +3.6
SKO Skopje 1.27 63 P Pn 06 22 26.9 -0.3
SKO S Sn 06 22 44.8 +0.6
SKO Skopje 1.27 63 iPg Pn 06 22 27.0 -0.2
SKO iSg Sb 06 22 42.4 -1.4
SKO eLg Lg 06 22 44.8
comp=N,2µm,0.6s
SKO eLg Lg 06 22 45.0
comp=E,2µm,0.8s
SKO Skopje 1.27 63 P Pn 06 22 26.9 -0.3
SKO iSg Sb 06 22 42.4 -1.4
SKO S Sn 06 22 44.8 +0.6
SKO eLg Lg 06 22 45.0
comp=E,2µm,0.8s
BEY Berane 1.47 359⇑iPg Pn 06 22 30.7 +0.7
BEY Berane 1.47 359 P Pn 06 22 31.2 +1.2
BEY eSg Sg 06 22 52.6 +1.6
IVA Berane 1.47 359⇑iPg Pn 06 22 30.7 +0.7
IVA eSg Sg 06 22 52.6 +1.6
HCY Herceg Novi 1.49 315⇓iPg Pn 06 22 31.1 +0.8
HCY eSg Sg 06 22 52.6 +0.8
HCY Herceg Novi 1.49 315⇓iPg Pn 06 22 31.1 +0.8
HCY eSg Sg 06 22 52.6 +0.8
SRN Sarande 1.52 178 iPN Pb 06 22 32.3 +0.5
SRN iSN Sg 06 22 54.1 +1.4
SRN Sarande 1.52 178 P Pb 06 22 31.6 -0.2
SRN S Sg 06 22 52.9 +0.2
SRN Sarande 1.52 178 P Pb 06 22 31.6 -0.2
SRN Sarande 1.52 178 iPn Pb 06 22 32.3 +0.5
SNR=40
SRN iSn Sg 06 22 54.2 +1.4
SNR=40
NKME Niksic 1.54 332⇓iPn Pn 06 22 31.4 +0.4
NKME eSn Sg 06 22 54.0 +0.6
NKME Niksic 1.54 332⇓iPn Pn 06 22 31.4 +0.4
NKME eSn Sg 06 22 54.0 +0.6
NKY Niksic 1.57 334⇓iPn Pn 06 22 32.7 +1.3
NKY eSn Sb 06 22 54.3 +1.8
NKY Niksic 1.57 334⇓iPn Pn 06 22 32.7 +1.3
NKY eSn Sb 06 22 54.3 +1.8
SMRK Smrekonice 1.65 27 P Pn 06 22 33.7 +1.2
KEK Kerkira 1.69 183 ePB Pn 06 22 33.6 +0.6
KEK eSN Sg 06 22 58.7 +0.6
KEK Kerkira 1.69 183 Pn Pn 06 22 33.4 +0.4
comp=E,628nm,0.6s
KEK Kerkira 1.69 183 Pn Pn 06 22 33.4 +0.4
comp=E,628nm,0.6s
KEK eSn Sg 06 22 58.7 +0.6
SCTE Santa Cesarea 1.73 220 Pn Pn 06 22 32.9 -0.6
SCTE Santa Cesarea 1.73 220 Pn Pn 06 22 32.9 -0.6
TREB Trebinje 1.76 319 ePn Pn 06 22 34.8 +0.8
TREB eSg Sg 06 23 00.6 +0.3
TREB Trebinje 1.76 319 ePn Pn 06 22 34.8 +0.8
TREB eSg Sg 06 23 00.6 +0.3
MESG Mesagne 1.77 243 Pn Pn 06 22 33.6 -0.4
comp=E,3µm,1.4s
MESG Mesagne 1.77 243 Pn Pn 06 22 33.6 -0.4
comp=E,3µm,1.4s
KZN Kozani 1.78 127 ePN Pb 06 22 35.8 -0.5
KZN Kozani 1.78 127 ePn Pb 06 22 35.8 -0.5
SJES Sjenica 1.86 1⇑iPn Pb 06 22 37.4 -0.2
SJES eSn Sb 06 23 02.7 +1.9
SJES Sjenica 1.86 1⇑iPn Pb 06 22 37.4 -0.2
SJES eSn Sb 06 23 02.7 +1.9
JAN Janina 1.88 158 ePN Pb 06 22 37.2 -0.8
JAN Janina 1.88 158 ePn Pb 06 22 37.2 -0.8
IGT Igoumenitsa 1.89 170 P Pb 06 22 36.8 +1.0
IGT S Sb 06 23 01.9 +0.2
IGT Igoumenitsa 1.89 170 ePB Pb 06 22 36.7 +1.0
IGT eSN Sb 06 23 02.0 +0.2
IGT Igoumenitsa 1.89 170 P Pb 06 22 36.8 +1.0
IGT eSn Sb 06 23 02.0 +0.2
GRG Griva 1.92 103 P Pn 06 22 36.4 +0.2
GRG S Sn 06 23 00.6 +0.3
GRG Griva 1.92 103 P Pn 06 22 36.4 +0.2
GRG S Sn 06 23 00.6 +0.3
UPM Unac-Piva 1.95 338⇓iPn Pn 06 22 38.0 +1.2
UPM eSn Sb 06 23 04.2 +0.6
UPM Unac-Piva 1.95 338⇓iPn Pn 06 22 38.0 +1.2
UPM Unac-Piva 1.95 338 P Pb 06 22 39.1 -0.2
UPM eSn Sb 06 23 04.2 +0.6
PLE Pljevlja 1.97 349⇓iPn Pn 06 22 38.5 +1.6
PLE eSn Sb 06 23 04.7 +0.7
PLE Pljevlja 1.97 349⇓iPn Pn 06 22 38.5 +1.6
PLE eSn Sb 06 23 04.7 +0.7
PE1 Pezze di Greco 1.98 253 ePn Pn 06 22 36.5 -0.5
BARS Barje 2.00 44⇓iPn Pn 06 22 37.7 +0.5
BARS eSn Sb 06 23 05.6 +0.9
BARS Barje 2.00 44⇓iPn Pn 06 22 37.7 +0.5
BARS eSn Sb 06 23 05.6 +0.9
VAY Valandovo 2.00 91 P Pn 06 22 36.3 -0.9
VAY S Sn 06 23 01.4 -0.6
VAY Valandovo 2.00 91 eP Pn 06 22 36.3 -0.9
VAY iSg Sb 06 23 03.8 -0.8
VAY Valandovo 2.00 91 iPn Pn 06 22 36.8 -0.4
VAY iSg Sb 06 23 05.7 +1.0
VAY eLg Lg 06 23 05.8
comp=Z,416nm,1.1s
VAY eLg Lg 06 23 06.0
comp=N,1µm,1.6s
VAY Valandovo 2.00 91 P Pn 06 22 36.3 -0.9
VAY Valandovo 2.00 91 iPn Pn 06 22 36.8 -0.4
VAY S Sn 06 23 01.4 -0.6
VAY iSg Sb 06 23 03.8 -0.8
VAY eLg Lg 06 23 05.9
comp=N,1µm,1.6s
SELS Selova 2.02 26⇑iPn Pn 06 22 37.6 0.0
SELS eSn Sn 06 23 04.3 +1.6
IVAS Ivanjica 2.18 4 iPn Pn 06 22 40.8 +1.0
IVAS eSn Sb 06 23 11.3 +1.3
IVAS Ivanjica 2.18 4 iPn Pn 06 22 40.8 +1.0
IVAS eSn Sb 06 23 11.3 +1.3
TAR1 Taranto 2.18 247 ePn Pn 06 22 38.8 -0.9
STON Ston 2.21 312 iPn Pn 06 22 40.6 +0.4
STON Sn Sn 06 23 07.5 +0.2
STON Ston 2.21 312 iPn Pn 06 22 40.5 +0.4
STON Sn Sn 06 23 07.5 +0.2
NOCI Noci 2.25 255 Pn Pn 06 22 40.0 -0.6
comp=N,849nm,0.8s
NOCI Noci 2.25 255 Pn Pn 06 22 40.0 -0.6
comp=N,849nm,0.8s
KNT Kendrikon 2.25 95 P Pn 06 22 40.7 -0.1
KNT S Sn 06 23 09.4 +0.9
KNT Kendrikon 2.25 95 ePB Pn 06 22 40.7 -0.1
KNT Kendrikon 2.25 95 P Pn 06 22 40.7 -0.1
KNT S Sn 06 23 09.4 +0.9
LIT Litokhoron 2.34 123 P Pn 06 22 43.3 +1.3
LIT S Sn 06 23 12.3 +1.6
LIT Litokhoron 2.34 123 ePB Pn 06 22 43.6 +1.6
LIT Litokhoron 2.34 123 P Pn 06 22 43.3 +1.3
LIT Litokhoron 2.34 123 ePb Pn 06 22 43.6 +1.6
LIT S Sn 06 23 12.3 +1.6
KKB Krupnik 2.41 78 iP Pn 06 22 43.5 +0.5
KKB Krupnik 2.41 78 iP Pn 06 22 43.5 +0.5
THE Thessaloniki 2.43 107 P Pn 06 22 43.2 +0.1
THE S Sn 06 23 13.4 +0.7
THE Thessaloniki 2.43 107 ePN Pn 06 22 42.5 -0.6
THE eSN Sn 06 23 13.6 +0.9
THE Thessaloniki 2.43 107 ePn Pn 06 22 42.5 -0.6
THE Thessaloniki 2.43 107 P Pn 06 22 43.2 +0.1
THE eSn Sn 06 23 13.6 +0.9
THL Klokotos Trika 2.43 138 ePB Pb 06 22 45.8 -1.5
THL eSN Sb 06 23 15.7 -1.5
THL Klokotos Trika 2.43 138 ePb Pb 06 22 45.8 -1.5
THL eSn Sb 06 23 15.7 -1.5
LTRZ Laterza 2.48 252 Pn Pn 06 22 43.3 -0.6
comp=N,2µm,2.2s
LTRZ Laterza 2.48 252 Pn Pn 06 22 43.3 -0.6
comp=N,2µm,2.2s
BBLS Lazići 2.49 351 ePn Pn 06 22 45.6 +1.5
BBLS eSn Sb 06 23 18.5 -0.5
BBLS Lazići 2.49 351 ePn Pn 06 22 45.6 +1.5
BBLS eSn Sb 06 23 18.5 -0.5
SG1 Sgolgore (BA) 2.51 258 ePn Pn 06 22 44.4 +0.1
HORT Hortiatis 2.54 107 P Pn 06 22 44.8 +0.1

HORT Hortiatis 2.54 107 ePN Pn 06 22 44.7 +0.1
HORT eSN Sn 06 23 17.0 +1.5
HORT Hortiatis 2.54 107 P Pn 06 22 44.8 +0.1
HORT eSn Sn 06 23 17.0 +1.5
MATE Matera 2.55 254 Pn Pn 06 22 44.3 -0.5
comp=N,321nm,0.5s
MATE Matera 2.55 254 Pn Pn 06 22 44.3 -0.5
comp=N,321nm,0.5s
GRUS Gruza 2.55 13 ePn Pn 06 22 45.6 +0.8
GRUS eSn Sn 06 23 18.3 +2.5
GRUS eSn Sb 06 23 18.8 -1.9
GRUS Gruza 2.55 13 ePn Pn 06 22 45.6 +0.8
GRUS eSn Sn 06 23 18.3 +2.5
AMUR Altamura 2.55 260 Pn Pn 06 22 44.3 -0.6
comp=N,350nm,0.7s
AMUR Altamura 2.55 260 Pn Pn 06 22 44.3 -0.6
comp=N,350nm,0.7s
SOH Sokhos 2.66 101 P Pn 06 22 46.9 +0.6
SOH S Sn 06 23 17.8 -0.6
SOH Sokhos 2.66 101 ePN Pn 06 22 46.8 +0.5
SOH eSN Sn 06 23 18.2 -0.2
SOH Sokhos 2.66 101 P Pn 06 22 46.9 +0.6
SOH S Sn 06 23 17.8 -0.6
SOH eSn Sn 06 23 18.2 -0.2
DIVS Divibare 2.69 1 P Pn 06 22 47.5 +0.5
DIVS S Sn 06 23 22.2 +2.8
DIVS Divibare 2.69 1⇑iPn Pn 06 22 47.4 +0.5
DIVS eSn Sn 06 23 20.5 +1.1
DIVS Divibare 2.69 1⇑iPn Pn 06 22 47.4 +0.5
DIVS eSn Sn 06 23 20.5 +1.1
DIVS S Sn 06 23 22.2 +2.8
ZAPS Zavoj 2.75 46 eSn Sn 06 23 21.2 +0.6
ZAPS Zavoj 2.75 46 eSn Sn 06 23 21.2 +0.6
CDT Castel del Mon 2.77 265 ePn Pn 06 22 47.6 -0.3
SRS Serrai 2.78 95 P Pn 06 22 48.0 +0.1
SRS S Sn 06 23 22.3 +0.8
SRS Serrai 2.78 95 ePN Pn 06 22 48.1 +0.1
SRS eSN Sn 06 23 21.9 +0.5
SRS Serrai 2.78 95 ePn Pn 06 22 48.1 +0.1
SRS eSn Sn 06 23 21.9 +0.5
SRS S Sn 06 23 22.3 +0.8
MRVN Minervino Murg 2.83 264 Pn Pn 06 22 48.5 -0.2
comp=N,267nm,0.8s
MRVN Minervino Murg 2.83 264 Pn Pn 06 22 48.5 -0.2
comp=N,267nm,0.8s
CRAC Craco 2.84 250 Pn Pn 06 22 48.6 -0.2
comp=N,1µm,0.9s
CRAC Craco 2.84 250 Pn Pn 06 22 48.6 -0.2
comp=N,1µm,0.9s
TRUS Trudelj 2.84 7⇑iPn Pn 06 22 48.5 -0.3
TRUS Trudelj 2.84 7⇑iPn Pn 06 22 48.5 -0.3
BOLS Boljevac 2.85 31 ePn Pn 06 22 48.1 -0.8
BOLS Boljevac 2.85 31 ePn Pn 06 22 48.1 -0.8
PLG Polygyros 2.86 110 ePB Pn 06 22 50.2 +1.1
PLG eSN Sn 06 23 23.8 +0.3
PLG Polygyros 2.86 110 ePb Pn 06 22 50.2 +1.1
PLG eSn Sn 06 23 23.8 +0.3
MMB Musomiste 2.86 85 iP Pn 06 22 50.2 +1.0
MMB iS Sn 06 23 24.9 +1.4
MMB Musomiste 2.86 85⇑iP Pn 06 22 49.7 +0.5
MMB Musomiste 2.86 85 iP Pn 06 22 50.2 +1.0
MMB iS Sn 06 23 24.9 +1.4
EVR Evrytania 2.87 149 ePB Pn 06 22 51.8 +2.5
EVR eSN Sn 06 23 27.2 +3.4
EVR Evrytania 2.87 149 ePb Pn 06 22 51.8 +2.5
EVR eSn Sn 06 23 27.2 +3.4
MAKR Makrakomi, Fth 2.92 144 P Pn 06 22 52.0 +2.0
MAKR S Sn 06 23 27.7 +2.7
MAKR Makrakomi, Fth 2.92 144 ePN Pn 06 22 52.0 +2.0
MAKR eSN Sn 06 23 28.4 +3.4
MAKR Makrakomi, Fth 2.92 144 P Pn 06 22 52.0 +2.0
MAKR S Sn 06 23 27.7 +2.7
MAKR eSn Sn 06 23 28.4 +3.4
PDO Prodromos 2.96 161 P Pn 06 22 51.2 +0.7
PDO S Sn 06 23 27.0 +1.1
PDO Prodromos 2.96 161 ePN Pn 06 22 51.3 +0.7
PDO Prodromos 2.96 161 P Pn 06 22 51.2 +0.7
PDO S Sn 06 23 27.0 +1.1
NVR Nevrokopi 2.96 90 ePN Pn 06 22 50.7 +0.1
NVR eSB Sn 06 23 26.5 +0.5
NVR Nevrokopi 2.96 90 ePn Pn 06 22 50.7 +0.1
NVR eSb Sn 06 23 26.5 +0.5
MS1 Monte Sant'Ang 3.00 277 ePn Pn 06 22 50.6 -0.5
AGG Agios Georgios 3.01 141 P Pn 06 22 52.9 +1.7
AGG S Sn 06 23 28.5 +1.4
AGG Agios Georgios 3.01 141 ePN Pn 06 22 52.6 +1.4
AGG eSN Sn 06 23 29.7 +2.6
AGG Agios Georgios 3.01 141 ePn Pn 06 22 52.6 +1.4
AGG Agios Georgios 3.01 141 P Pn 06 22 52.9 +1.7
AGG S Sn 06 23 28.5 +1.4
AGG eSn Sn 06 23 29.7 +2.6
SVIS Svilajnac 3.02 18 ePn Pn 06 22 52.9 +1.7
SVIS eSn Sn 06 23 30.0 +2.8
PALZ Palazzo San Ge 3.03 263 Pn Pn 06 22 51.3 -0.1
PALZ Palazzo San Ge 3.03 263 Pn Pn 06 22 51.3 -0.1
MSAG Monte S. Angel 3.03 277 Pn Pn 06 22 50.9 -0.5
MSAG Monte S. Angel 3.03 277 Pn Pn 06 22 50.9 -0.5
PIPA Pietrapaola 3.05 232 Pn Pn 06 22 51.2 -0.5
comp=N,413nm,0.4s
PIPA Pietrapaola 3.05 232 Pn Pn 06 22 51.2 -0.5
comp=N,413nm,0.4s
SALB San Lorenzo Be 3.12 242 Pn Pn 06 22 51.8 -0.9
comp=N,263nm,0.7s
SALB San Lorenzo Be 3.12 242 Pn Pn 06 22 51.8 -0.9
comp=N,263nm,0.7s
SGRT San Giovanni R 3.15 278 Pn Pn 06 22 52.5 -0.7
comp=N,249nm,0.8s
SGRT San Giovanni R 3.15 278 Pn Pn 06 22 52.5 -0.7
comp=N,249nm,0.8s
SCHR S. Chirico Rap 3.16 249 Pn Pn 06 22 53.2 0.0
comp=N,220nm,0.7s
TEKS Tekeris 3.16 355 iPn Pn 06 22 53.8 +0.6
TEKS Tekeris 3.16 355 iPn Pn 06 22 53.8 +0.6
PAIG Paliouri 3.21 116 P Pn 06 22 54.4 +0.5
PAIG S Sn 06 23 32.2 +0.1
PAIG Paliouri 3.21 116 ePN Pn 06 22 54.2 +0.3
PAIG Paliouri 3.21 116 P Pn 06 22 54.4 +0.5
PAIG S Sn 06 23 32.2 +0.1
XOR Xorichti 3.22 128 P Pn 06 22 54.6 +0.5
XOR S Sn 06 23 33.2 +0.9
XOR Xorichti 3.22 128 ePN Pn 06 22 54.7 +0.6
XOR eSN Sn 06 23 33.3 +0.9
XOR Xorichti 3.22 128 P Pn 06 22 54.6 +0.5
XOR S Sn 06 23 33.2 +0.9
OUR Ouranopolis 3.26 108 P Pn 06 22 54.9 +0.4
OUR S Sn 06 23 33.1 -0.1
OUR Ouranopolis 3.26 108 ePN Pn 06 22 54.9 +0.4
OUR eSN Sn 06 23 33.5 +0.3
OUR Ouranopolis 3.26 108 P Pn 06 22 54.9 +0.4
OUR S Sn 06 23 33.1 -0.1
TIP Timpagrande 3.29 228 P Pn 06 22 54.4 -0.5
TIP S Sn 06 23 31.9 -2.1
TIP Timpagrande 3.29 228 Pn Pn 06 22 54.5 -0.5
comp=N,164nm,1.3s
TIP Timpagrande 3.29 228 Pn Pn 06 22 54.5 -0.5
comp=N,164nm,1.3s
TIP S Sn 06 23 31.9 -2.1
SIRI Monte Sirino - 3.31 250 Pn Pn 06 22 54.8 -0.6
comp=N,263nm,0.8s
SIRI Monte Sirino - 3.31 250 Pn Pn 06 22 54.8 -0.6
comp=N,263nm,0.8s
EFP Efpalio 3.34 152 ePN Pn 06 22 58.5 +2.8
EFP eSN Sn 06 23 38.9 +3.7
EFP Efpalio 3.34 152 ePn Pn 06 22 58.5 +2.8
EFP eSn Sn 06 23 38.9 +3.7
PGB Panagyurishte 3.37 69 eP Pn 06 22 57.0 +0.9
PGB Panagyurishte 3.37 69 eP Pn 06 22 57.0 +0.9
AXAR Agios Charalam 3.37 141 P Pn 06 22 58.2 +2.1
AXAR S Sn 06 23 38.3 +2.4
AXAR Agios Charalam 3.37 141 ePN Pn 06 22 58.1 +2.0
AXAR Agios Charalam 3.37 141 ePn Pn 06 22 58.1 +2.0
AXAR S Sn 06 23 38.3 +2.4
MRLC Muro Lucano 3.41 261 Pn Pn 06 22 57.0 +0.3
comp=N,386nm,1.2s
MRLC Muro Lucano 3.41 261 Pn Pn 06 22 57.0 +0.3
comp=N,386nm,1.2s
SERS Sersale 3.42 227 Pn Pn 06 22 55.9 -1.0
comp=N,133nm,0.6s
SERS Sersale 3.42 227 Pn Pn 06 22 55.9 -1.0
comp=N,133nm,0.6s
MPEP Malo Peshtene 3.44 54 eP Pn 06 22 59.0 +2.0
MPEP iS Sn 06 23 36.2 -1.4

MPEP Malo Peshtene 3.44 54 eP Pn 06 22 59.0 +2.0
MPEP iS Sn 06 23 36.2 -1.4
KALE Kalithea 3.46 150 P Pn 06 22 58.8 +1.4
KALE Kalithea 3.46 150 ePN Pn 06 22 58.8 +1.4
KALE Kalithea 3.46 150 P Pn 06 22 58.8 +1.4
KAVA Kavala 3.49 95 P Pn 06 22 57.8 +0.1
KAVA S Sn 06 23 38.6 -0.2
KAVA Kavala 3.49 95 ePN Pn 06 22 57.8 +0.1
KAVA Kavala 3.49 95 P Pn 06 22 57.8 +0.1
KAVA S Sn 06 23 38.6 -0.2
SKIA Skiathos 3.51 128 ePB Pn 06 23 00.8 +2.8
SKIA eSN Sn 06 23 40.1 +0.6
SKIA Skiathos 3.51 128 ePb Pn 06 23 00.8 +2.8
SKIA eSn Sn 06 23 40.1 +0.6
LAKA Lakka 3.53 153 ePN Pn 06 22 59.8 +1.4
LAKA Lakka 3.53 153 ePn Pn 06 22 59.8 +1.4
SMIA Simia 3.56 134 P Pn 06 23 00.1 +1.3
SMIA Simia 3.56 134 ePN Pn 06 23 00.4 +1.6
SMIA Simia 3.56 134 P Pn 06 23 00.1 +1.3
SMIA Simia 3.56 134 ePn Pn 06 23 00.4 +1.6
DSF Desfina 3.60 145 ePN Pn 06 23 00.1 +0.8
DSF Desfina 3.60 145 ePn Pn 06 23 00.1 +0.8
RZN Rozhen 3.61 84 iP Pn 06 23 00.6 +1.1
RZN Rozhen 3.61 84 iP Pn 06 23 00.6 +1.1
MELA Melanico ??? S 3.61 276 Pn Pn 06 22 59.2 -0.2
comp=N,659nm,1.0s
MELA Melanico ??? S 3.61 276 Pn Pn 06 22 59.2 -0.2
comp=N,659nm,1.0s
LKR Lokris 3.62 138 ePN Pn 06 23 01.0 +1.4
LKR eSN Sn 06 23 45.5 +3.3
LKR Lokris 3.62 138 ePn Pn 06 23 01.0 +1.4
LKR eSn Sn 06 23 45.5 +3.3
PLD Plovdiv 3.65 77 P Pn 06 22 59.4 -0.4
PLD Plovdiv 3.65 77 eP Pn 06 23 00.7 +0.9
PLD Plovdiv 3.65 77 eP Pn 06 23 00.7 +0.9
MCRV Calabrutti - M 3.65 262 Pn Pn 06 22 59.5 -0.5
comp=N,130nm,0.5s
MCRV Calabrutti - M 3.65 262 Pn Pn 06 22 59.5 -0.5
comp=N,130nm,0.5s
BULG Bulgheria - Ca 3.70 251 Pn Pn 06 23 00.8 +0.1
comp=N,480nm,0.8s
BULG Bulgheria - Ca 3.70 251 Pn Pn 06 23 00.8 +0.1
comp=N,480nm,0.8s
DRO Drossia 3.71 158 ePN Pn 06 23 02.0 +1.2
DRO Drossia 3.71 158 ePn Pn 06 23 02.0 +1.2
FGSL Fruska Gora 3.75 359⇑iPn Pn 06 23 01.5 +0.1
FRGS Fruska Gora 3.75 359⇑iPn Pn 06 23 01.5 +0.1
GATE Gambatesa 3.77 273 Pn Pn 06 23 02.5 +0.9
comp=N,96nm,1.0s
GATE Gambatesa 3.77 273 Pn Pn 06 23 02.5 +0.9
comp=N,96nm,1.0s
KLV Kalavryta, Ach 3.77 152 ePN Pn 06 23 03.2 +1.6
KLV Kalavryta, Ach 3.77 152 ePn Pn 06 23 03.2 +1.6
MRKA Markates 3.89 133 ePN Pn 06 23 04.5 +1.2
MRKA eSN Sn 06 23 49.9 +1.0
MRKA Markates 3.89 133 ePn Pn 06 23 04.5 +1.2
MRKA eSn Sn 06 23 49.9 +1.0
GUR Goura 3.93 151 ePN Pn 06 23 04.6 +0.7
GUR eSN Sn 06 23 51.3 +1.3
GUR Goura 3.93 151 ePn Pn 06 23 04.6 +0.7
GUR eSn Sn 06 23 51.3 +1.3
PTRJ Pietraroja 4.06 271 Pn Pn 06 23 05.8 +0.2
comp=N,376nm,0.7s
PTRJ Pietraroja 4.06 271 Pn Pn 06 23 05.8 +0.2
comp=N,376nm,0.7s
AMT Artemida-Makis 4.11 160 ePN Pn 06 23 07.1 +0.9
AMT Artemida-Makis 4.11 160 ePn Pn 06 23 07.1 +0.9
KDZ Kurdzhali 4.13 85 eP Pn 06 23 11.1 +4.5
KDZ Kurdzhali 4.13 85 eP Pn 06 23 11.1 +4.5
DIM Dimitrovgrad 4.25 79 eP Pb 06 23 18.2 -0.1
LIA Limnos Island 4.28 109 ePN Pn 06 23 08.2 -0.3
LIA Limnos Island 4.28 109 ePn Pn 06 23 08.2 -0.3
VAGA Valle Agricola 4.28 272 Pn Pn 06 23 09.4 +0.8
comp=N,119nm,0.4s
VAGA Valle Agricola 4.28 272 Pn Pn 06 23 09.4 +0.8
comp=N,119nm,0.4s
SMTH Samothraki Isl 4.35 101 ePN Pn 06 23 08.8 -0.7
SMTH eSN Sn 06 23 59.3 -0.8
SMTH Samothraki Isl 4.35 101 ePn Pn 06 23 08.8 -0.7
SMTH eSn Sn 06 23 59.3 -0.8
UDBI Udbina 4.37 317 ePn Pn 06 23 11.4 +1.6
UDBI Udbina 4.37 317 ePn Pn 06 23 11.4 +1.6
BZS Buzias 4.39 16⇑iP Pn 06 23 11.0 +0.9
BZS Buzias 4.39 16 S Sn 06 24 00.7 -0.4
PVL Pavlikeni 4.40 64 eP Pb 06 23 20.8 -0.1
GZR Gura Zlata 4.50 27⇑iP Pn 06 23 12.4 +0.8
NAIG Nisos Aigina 4.56 142 ePN Pn 06 23 14.7 +2.2
NAIG Nisos Aigina 4.56 142 ePn Pn 06 23 14.7 +2.2
ALN Alexandroupoli 4.65 94 ePN Pn 06 23 13.4 -0.3
ALN Alexandroupoli 4.65 94 ePn Pn 06 23 13.4 -0.3
DID Didima 4.66 146 ePN Pn 06 23 14.2 +0.3
DID Didima 4.66 146 ePn Pn 06 23 14.2 +0.3
SZH Strazhica 4.83 65 eP Pg 06 23 33.1 -3.1
NVLJ Novalja 4.87 312 ePn Pn 06 23 16.6 -0.1
NVLJ Sn Sn 06 24 11.4 -1.4
NVLJ Novalja 4.87 312 ePn Pn 06 23 16.5 -0.1
NVLJ Sn Sn 06 24 11.4 -1.4
PKSM Moragy 4.90 350⇓iP Pn 06 23 17.8 +0.8
PKSM Moragy 4.90 350 epn Pn 06 23 17.6 +0.6
PKSM esn Sn 06 24 08.2 -5.3
PKSM Moragy 4.90 350 ePn Pn 06 23 17.6 +0.6
LOT Lotru 4.92 33⇓iP Pn 06 23 18.0 +0.5
ARR Arges 5.24 39⇑iP Pn 06 23 23.0 +1.1
BOJS Bojanci 5.33 322 iPn Pn 06 23 23.6 +0.7
BOJS iSn Sn 06 24 21.5 -2.6
BOJS Bojanci 5.33 322 iPn Pn 06 23 23.6 +0.7
BOJS iSn Sn 06 24 21.5 -2.6
CRES Cresnjev 5.48 325 iPn Pn 06 23 25.8 +0.7
CRES iSn Sn 06 24 27.2 -0.8
CRES Cresnjev 5.48 325 iPn Pn 06 23 25.8 +0.7
CRES iSn Sn 06 24 27.2 -0.8
VOIR 5.50 41⇓iP Pn 06 23 26.5 +1.1
GBRS Gornja Briga 5.55 320 Pn Pn 06 23 27.2 +1.1
KYTH Kithira 5.66 154 ePN Pn 06 23 28.9 +1.3
KYTH Kithira 5.66 154 ePn Pn 06 23 28.9 +1.3
VISS Visnje 5.74 322 iPn Pn 06 23 29.5 +0.8
VISS Visnje 5.74 322 iPn Pn 06 23 29.5 +0.8
KNDS Knezji Dol 5.77 317 iPn Pn 06 23 29.2 +0.1
KNDS Knezji Dol 5.77 317 iPn Pn 06 23 29.2 +0.1
PRD Provadia 5.83 70 eP Pb 06 23 44.8 -0.4
MLR Muntele Rosu 5.99 45⇑iP Pn 06 23 34.0 +1.8
MLR Muntele Rosu 5.99 45 Pn Pn 06 23 32.9 +0.7
comp=N,0.7nm,0.3s,baz=226,slow=5.4,SNR=22
MLR Sn Sn 06 24 43.4 +2.7
comp=N,0.1nm,0.3s,baz=246,slow=20,SNR=3.5
MLR LR LR 06 26 36.0
comp=N,58nm,19.0s,baz=232,slow=45
PKSG 6.09 350 e Pn 06 23 37.8 +4.4
PKSG e 06 24 45.5
PKSG 6.09 350 eSn Sn 06 24 45.5 +2.6
ISR Istrita 6.09 50⇓iP Pn 06 23 35.4 +1.8
APE Apeiranthos 6.14 133 ePN Pn 06 23 35.3 +1.1
APE Apeiranthos 6.14 133 ePn Pn 06 23 35.3 +1.1
SOKA Soboth 6.34 328⇑iPn Pn 06 23 37.3 +0.3
SOKA Soboth 6.34 328 Pn Pn 06 23 37.3 +0.3
MSAB Monastry St. A 6.41 63⇓iP Pn 06 23 39.1 +1.3
OBKA Obir 6.41 325⇑iPn Pn 06 23 38.6 +0.7
OBKA Obir 6.41 325 Pn Pn 06 23 38.6 +0.7
PSZ Piszkesteto 6.51 360⇑iP Pn 06 23 39.9 +0.6
PSZ Piszkesteto 6.51 360 e Pn 06 23 40.4 +1.1
PSZ e 06 24 52.5
PSZ Piszkesteto 6.51 360 ePn Pn 06 23 40.4 +1.1
PSZ eSn Sn 06 24 52.5 -1.0
TRPA Tarpa 6.98 15⇑iP Pn 06 23 47.4 +1.8
IDI Anoyia 7.25 146 Pn Pn 06 23 45.1 -4.3
comp=N,0.3nm,0.3s,baz=284,slow=17,SNR=1.7
IDI Sn Sn 06 25 04.7 -6.9
comp=N,1.4nm,0.3s,baz=131,slow=23,SNR=6.6
KBA Koelnbreinsper 7.38 322⇓iPn Pn 06 23 51.2 -0.1
KBA ⇑iSn Sn 06 25 14.9 -0.1
KBA Koelnbreinsper 7.38 322 Pn Pn 06 23 51.2 -0.1
KBA Sn Sn 06 25 14.9 -0.1
CRVS Cervenica-Dubn 7.58 8 ePN Pn 06 23 55.4 +1.5
CRVS Cervenica-Dubn 7.58 8 ePn Pn 06 23 55.4 +1.5
MOA Molln 7.60 330⇑iPn Pn 06 23 55.1 +0.9
MOA Molln 7.60 330 Pn Pn 06 23 55.1 +0.9
KOLS Kolonicke sedl 7.71 12 ePN Pn 06 23 57.3 +1.6
KOLS Kolonicke sedl 7.71 12 ePn Pn 06 23 57.3 +1.6
STHS Stebnicka Huta 8.07 6 ePN Pn 06 24 01.6 +1.0
STHS eSN Sn 06 25 30.4 -1.3
STHS Stebnicka Huta 8.07 6 ePn Pn 06 24 01.6 +1.0

STHS				eSn	Sn	06 25 30.4	-1.3
VRAC	Vranov	8.24	345	Sn	Sn	06 25 35.5	-0.4
	comp=N,0.9nm,0.3s,baz=198,slow=6.4,SNR=3.2						
VRAC				LR	LR	06 28 10.9	
	comp=N,150nm,18.5s,baz=205,slow=44						
GERES	GERESS Array B	8.64	332	Pn	Pn	06 24 09.3	+0.8
	comp=N,0.3nm,0.3s,baz=156,slow=13,SNR=5.9						
GERES				LR	LR	06 28 08.4	
	comp=N,94nm,20.6s,baz=351,slow=42						
KHC	Kasperske Hory	8.93	332	ePN	Pn	06 24 12.6	+0.2
KHC				ex	x	06 24 32.1	
DAVOX	Davos/Dischmat	9.00	310	Pn	Pn	06 24 13.1	-0.5
	comp=N,0.9nm,0.3s,baz=133,slow=19,SNR=6.7						
DAVOX				Sn	Sn	06 25 52.6	-2.3
	comp=N,0.2nm,0.3s,baz=330,slow=20,SNR=3.2						
BRTR	Keskin Array B	10.57	95	Pn	Pn	06 24 35.1	+0.1
	comp=N,0.1nm,0.3s,baz=283,slow=13,SNR=2.5						
AKASG	Malin Array Be	11.31	32	Pn	Pn	06 24 45.6	+0.6
	baz=223,slow=10,SNR=5.9						
MMAI	Mount Meron Ar	14.89	119	LR	LR	06 32 17.1	
	comp=N,53nm,18.3s,baz=170,slow=42						
KBZ	Khabaz	17.08	75	Pn	Pn	06 26 02.9	+0.8
	comp=N,0.1nm,0.3s,baz=304,slow=7.4,SNR=4.2						
HFS	Hagfors	19.15	350	P	P	06 26 25.0	-1.5
	comp=N,0.3nm,0.3s,baz=165,slow=12,SNR=9.4						
NB2	NORSAR Subarra	20.37	348	P	P	06 26 38.0	-1.9
	comp=Z,0.8nm,0.7s,baz=161,slow=11						
NB2	NORSAR Subarra	20.37	348	P	P	06 26 38.0	-1.9
	comp=Z,0.8nm,0.7s,SNR=3.7						
NOA	NORSAR Array B	20.37	348	P	P	06 26 37.5	-2.4
	comp=Z,0.5nm,0.5s,baz=153,slow=10,SNR=3.3						
NOA				LR	LR	06 35 45.9	
	comp=Z,38nm,18.1s,baz=185,slow=40						
FINES	FINESS Array B	20.41	8	P	P	06 26 38.4	-1.9
	comp=Z,3.0nm,1.0s,baz=180,slow=12,SNR=5.1						
EKA	Eskdalemuir Ar	20.59	320	P	P	06 26 40.3	-2.0
	comp=Z,2.2nm,1.0s,baz=102,slow=10,SNR=3.0						
ARCES	ARCESS Array B	28.35	4	LR	LR	06 40 29.6	
	comp=Z,103nm,19.2s,baz=187,slow=39						
TORD	Torodi Ar. Bea	32.33	215	P	P	06 28 29.4	-3.3
	comp=Z,0.3nm,0.8s,baz=17,slow=13,SNR=2.3						
ZALV	Zalesovo Beam	43.94	50	P	P	06 30 08.7	-1.4
	comp=Z,0.5nm,0.5s,baz=316,slow=8.1,SNR=2.9						
MKAR	Makanchi Array	44.08	61	P	P	06 30 09.8	-1.6
	comp=Z,0.6nm,0.7s,baz=286,slow=7.3,SNR=6.9						
KMBO	Kilima Mbogo	45.16	155	P	P	06 30 16.3	-4.3
	comp=Z,0.6nm,0.6s,baz=52,slow=12,SNR=2.5						
SONM	Songino Array	58.80	52	P	P	06 32 00.0	-1.7
	comp=Z,0.5nm,0.6s,baz=284,slow=5.8,SNR=7.0						
YKA	Yellowknife Ar	70.21	339	P	P	06 33 13.5	-2.4
	comp=Z,0.6nm,0.9s,baz=40,slow=6.1,SNR=8.9						
ILAR	Eielson Array	73.66	354	P	P	06 33 36.0	-0.5
	comp=Z,0.2nm,0.7s,baz=18,slow=3.8,SNR=4.7						
TXAR	Lajitas Array	92.42	313	P	P	06 35 13.6	-0.9
	comp=Z,0.4nm,0.9s,baz=64,slow=4.1,SNR=3.9						

DDA 25 06:24:00.4, 38.75N×40.25E, h7km, MD2.6
CSEM 25 06:24:01.6, 38.83N×40.36E, h13km, MD2.4, After ISK
ISK 25 06:24:01.6, 38.83N×40.36E, h13km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.12	66	ePg	Pb	06 24 08.5	+2.6
BINT				eSg	Sb	06 24 14.0	+5.3
BNGB	Bing¨¶l	0.30	57	PG	Pg	06 24 08.1	+0.1
BNGB	Bing¨¶l	0.30	57	ePG	Pb	06 24 08.5	-0.5
BNGB				eSG	Sg	06 24 13.1	+0.8
BNGL	BINGOL	0.63	79	iP	Pb	06 24 15.3	+0.4
BNGL				iS	Sb	06 24 24.8	+1.0
BEST	Besiri	1.18	142	iP	Pg	06 24 24.6	+0.1
BEST				iS	Sg	06 24 39.9	-0.1
EZC	Erzincan	1.21	320	ePg	Pn	06 24 19.5	-4.9
EZC				eSg	Sb	06 24 33.5	-6.7
MARD	Mardin	1.55	167	iP	Pn	06 24 28.2	-0.9
MARD				iS	Sb	06 24 49.9	-0.1

CSEM 25 06:55:08.2, 38.81N×29.39W, h0km, ML3.4, After PDA
PDA 25 06:55:08.2±0.9, 38.81N×29.39W, h0km±12km, MD3.8, ML3.4, Error ellipse: s-maj=16.4km s-min=5.3km az=85.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.57	109	eP	Pg	06 55 18.1	-1.0
PCED				eS	Sg	06 55 25.8	-0.6
PCED				A	A	06 55 27.6	
	699nm,0.4s						
PCED	Cedros	0.57	109	eP	Pg	06 55 18.1	-1.0
PCED				eS	Sg	06 55 25.8	-0.6
CALA	Caldeira	0.58	113	eP	Pg	06 55 18.8	-0.7
CALA				eS	Sg	06 55 26.4	-0.8
CALA	Caldeira	0.58	113	eP	Pg	06 55 18.8	-0.7
CALA				eS	Sg	06 55 26.4	-0.8
HOR	Horta	0.66	115	eP	Pg	06 55 19.8	-1.0
HOR				eS	Sg	06 55 28.7	-0.6
HOR	Horta	0.66	115	eP	Pg	06 55 19.8	-1.0
HOR				eS	Sg	06 55 28.7	-0.6
PCAN	Candelaria	0.79	116	eP	Pg	06 55 21.4	-1.9
PCAN				eS	Sg	06 55 31.6	-2.0
PCAN				A	A	06 55 35.7	
	478nm,0.3s						
PCAN	Candelaria	0.79	116	eP	Pg	06 55 21.4	-1.9
PCAN				eS	Sg	06 55 31.6	-2.0
PICO	Pico	0.81	112	eP	Pg	06 55 21.9	-2.0
PICO				eS	Sg	06 55 32.2	-2.4
PICO	Pico	0.81	112	eP	Pg	06 55 21.9	-2.0
PICO				eS	Sg	06 55 32.2	-2.4
ROSA	Rosais	0.90	96	eP	Pg	06 55 23.0	-2.5
ROSA				eS	Sg	06 55 34.5	-2.7
ROSA				A	A	06 55 35.8	
	569nm,0.7s						
ROSA	Rosais	0.90	96	eP	Pg	06 55 23.0	-2.5
ROSA				eS	Sg	06 55 34.5	-2.7
PMAN	Manadas	1.03	100	eP	Pg	06 55 24.8	-3.2
PMAN				eS	Sg	06 55 37.2	-4.2
PMAN				A	A	06 55 40.0	
	216nm,0.4s						
PMAN	Manadas	1.03	100	eP	Pg	06 55 24.8	-3.2
PMAN				eS	Sg	06 55 37.2	-4.2
PGRA	Graciosa	1.12	78	eP	Pg	06 55 26.2	-3.5
PGRA				eS	Sg	06 55 39.7	-4.5
PGRA				A	A	06 55 43.7	
	388nm,0.4s						
PGRA	Graciosa	1.12	78	eP	Pg	06 55 26.2	-3.5
PGRA				eS	Sg	06 55 39.7	-4.5
TOPO	Topo	1.17	100	eP	Pg	06 55 26.7	-4.0
TOPO				eS	Sg	06 55 41.1	-4.9
TOPO	Topo	1.17	100	eP	Pg	06 55 26.7	-4.0
TOPO				eS	Sg	06 55 41.1	-4.9
ADH	Angra Heroismo	1.69	95	eP	Pn	06 55 34.1	-4.9
ADH				eS	Sn	06 55 54.2	-7.1
ADH				A	A	06 55 54.5	
	153nm,0.3s						
ADH	Angra Heroismo	1.69	95	eP	Pn	06 55 34.1	-4.9
ADH				eS	Sn	06 55 54.2	-7.1
PSET	Sete Cidades	3.05	108	eP	Pn	06 55 53.7	-4.0
PSET	Sete Cidades	3.05	108	eP	Pn	06 55 53.7	-4.0
PDA	Ponta Delgada	3.12	109	eP	Pn	06 55 54.3	-4.3
PDA	Ponta Delgada	3.12	109	eP	Pn	06 55 54.3	-4.3
PSMA	Santa Maria	3.83	117	eP	Pn	06 56 03.9	-4.4
PSMN	Pico do Norte,	3.87	117	eP	Pn	06 56 04.5	-4.4
PSMN	Pico do Norte,	3.87	117	eP	Pn	06 56 04.5	-4.4

NIED 25 06:55:00, 36.40N×141.10E, h50km, Mw3.5 Best double couple: Mo2.29000×10^14 NP1:φs275.00000°, δ50.00000°, λ-123.00000°. NP2:φs140.00000°, δ50.00000°, λ-57.00000°.
JMA 25 06:55:32.4±0.1, 36.43N×141.08E, h45km±2km, M3.5, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.45	294	⇓P	Pn	06 55 42.6	-0.2
JHO				S	Sn	06 55 49.5	-0.6
ONAJ	Iwakimizuishiy	0.71	341	P	Pn	06 55 45.9	-0.3
ONAJ				S	Sn	06 55 54.8	-1.3
JYT	Yasato	0.74	255	P	Pn	06 55 46.6	+0.1
JYT				S	Sn	06 55 56.4	-0.3
JFK	Kawauchi	0.95	350	P	Pn	06 55 48.8	-0.6
JFK				S	Sn	06 56 01.0	-0.9
JFT	Otama	1.24	331	P	Pn	06 55 54.3	+1.0
JFT				S	Sn	06 56 09.8	+0.9
JAG	Ashikaga	1.31	270	P	Pn	06 55 54.9	+0.6
JAG				S	Sn	06 56 11.1	+0.5
JMM	Marumori	1.45	351	P	Pn	06 55 56.5	+0.3
JMM				S	Sn	06 56 13.4	-0.6
MAT	Matsushiro	2.32	274	P	Pn	06 56 10.3	+2.2
MAT				S	Sn	06 56 36.3	+0.9

IDC 25 07:11:33.8±0.4, 29.22S×178.95W, h332km±5km, mb3.9/5, mb1 4.0/5, mb1mx3.5/24, mbtmp4.6/5, Error ellipse: s-maj=21.4km s-min=15.4km az=34.0
ISC 25 07:11:36.0±0.9, 29.90S±0.07×179.0W±0.1, h350km, n88, σ1.64/88, mb4.1/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.12	55	P	Pn	07 12 19.1	-3.2
	1μm,0.3s,baz=126,slow=8.6,SNR=82						
RAO				S	S	07 12 52.0	-7.3
	461nm,0.3s,baz=261,slow=22,SNR=20						
MXZ	Matakaoa Point	7.97	196	PN	Pn	07 13 28.9	-0.7
MXZ				SN	S	07 15 02.8	+0.5
HAZ	Te Kaha	8.29	198	PN	Pn	07 13 33.0	-0.3
PUZ	Puketiti	8.47	195	PN	Pn	07 13 35.1	-0.5
PUZ				SN	S	07 15 12.5	-0.7
TWGZ	Tauwhareparae	8.63	196	ePN	Pn	07 13 37.8	+0.3
CNGZ	Carnagh Station	8.87	195	PN	Pn	07 13 40.0	-0.3
MWZ	Matawai	8.90	198	PN	Pn	07 13 39.9	-0.7
MWZ				SN	S	07 15 22.1	-0.6
URZ	Urewera	8.95	200	P	P	07 13 42.9	-0.7
	10nm,0.3s,baz=270,slow=5.4,SNR=34						
URZ				S	S	07 15 23.2	-0.4
	17nm,0.3s,baz=320,slow=21,SNR=14						
URZ	Urewera	8.95	200	SN	S	07 15 23.4	-0.2
RIGZ	Rimuhau	9.19	196	PN	Pn	07 13 43.2	-0.9
SNGZ	Shannon Statio	9.37	198	PN	Pn	07 13 45.4	-0.8
KNZ	Kokohu	9.51	196	PN	Pn	07 13 46.3	-1.6
RAHZ	Arahi	9.56	199	PN	Pn	07 13 47.0	-1.6
MHGZ	Mahia Peninsul	9.58	195	PN	Pn	07 13 47.0	-1.8
BKZ	Black Stump Fm	9.97	201	PN	Pn	07 13 51.8	-1.6
MCHZ	McNeill Hill	10.16	199	PN	Pn	07 13 53.9	-1.8
TUVZ	Tukino	10.34	204	PN	Pn	07 13 57.3	-0.6
BHHZ	Black Hill Sta	10.40	202	ePN	Pn	07 13 57.2	-1.4
TRVZ	Turoa	10.40	204	PN	Pn	07 13 59.1	+0.3
WNVZ	Wahianoa	10.41	204	PN	Pn	07 13 56.6	-2.2
MOVZ	Moawhango	10.43	203	PN	Pn	07 13 58.9	-0.1
KAHZ	Kahuranaki	10.44	198	PN	Pn	07 13 56.8	-2.2
KRHZ	Kereru	10.44	200	PN	Pn	07 13 56.8	-2.3
PXZ	Pawanui	10.67	198	PN	Pn	07 14 01.4	-0.3
PNHZ	Pukenui	10.74	200	PN	Pn	07 13 58.9	-3.7
WPHZ	Waipukurau	10.81	199	ePN	P	07 14 03.7	-0.6
TSZ	Takapari Road	10.95	201	PN	Pn	07 14 03.0	-2.2
DVHZ	Dannevirke	11.11	200	ePN	Pn	07 14 06.6	-0.4
ANWZ	Angora Road	11.17	198	PN	P	07 14 08.6	+0.4
PRWZ	Pori Road	11.40	200	ePN	Pn	07 14 10.0	-0.4
MRZ	Mangatainoka R	11.62	201	PN	Pn	07 14 11.0	-2.0
TIWZ	Tintock	11.63	200	PN	Pn	07 14 12.0	-1.2
HOWZ	Holdsworth Sta	11.85	201	PN	Pn	07 14 13.9	-1.9
OGWZ	Otaki Gorge	11.89	202	PN	Pn	07 14 13.4	-2.8
TMWZ	Te Maipa	11.94	199	PN	P	07 14 14.8	-2.0
KIW	Kapiti Island	12.02	203	PN	P	07 14 15.9	-1.7
MTW	Mount Morrison	12.10	200	ePN	P	07 14 17.1	-1.4
CAW	Cannon Point	12.19	202	ePN	P	07 14 17.5	-2.0
TRWZ	Traveller	12.26	199	ePN	P	07 14 19.4	-0.9
DUWZ	D'Urville Isla	12.32	206	PN	P	07 14 19.6	-1.4
MSWZ	Moikau Station	12.41	201	PN	P	07 14 20.5	-1.5
BHW	Baring Head	12.52	202	ePN	P	07 14 21.7	-1.5
PLWZ	Palliser	12.55	200	ePN	P	07 14 23.0	-0.5
TCW	Tory Channel	12.55	204	ePN	P	07 14 21.2	-2.2
TUWZ	Tuamarina	12.86	205	PN	P	07 14 24.6	-2.3
NNZ	Nelson	12.89	207	PN	P	07 14 23.9	-3.3
QRZ	Quartz Range	12.91	210	PN	P	07 14 26.4	-1.1
BSWZ	Blackbirch Sta	13.13	204	ePN	P	07 14 29.5	-0.5
THZ	Tophouse	13.54	207	PN	P	07 14 32.2	-2.3
KHZ	Kahutara	13.87	204	PN	P	07 14 35.6	-2.3
DSZ	Denniston Nort	13.98	210	PN	P	07 14 38.7	-0.6
DZM	Mont Dzumac	15.25	297	P	Pn	07 14 56.2	+0.3
	5.0nm,0.3s,baz=125,slow=13,SNR=53						
MQZ	McQueen's Vall	15.31	204	PN	P	07 14 53.9	+0.2
RPZ	Rata Peaks	15.91	207	PN	Pn	07 15 02.2	-1.1
FOZ	Fox Glacier	16.36	210	PN	P	07 15 06.0	+0.8
ARMA	Armidale	25.40	261	P	P	07 16 36.8	+3.8
	baz=26,SNR=8.4						
EIDS	Eidsvold	26.88	272	P	P	07 16 47.5	+1.5
	baz=28,SNR=3.4						
CNB	Canberra Magne	27.15	250	P	P	07 16 51.9	+3.5
	baz=28,SNR=11						
CMSA	Cobar Meteorol	30.35	258	P	P	07 17 19.0	+2.5
	baz=31,SNR=7.0						
TOO	Toolangi	30.39	246	P	P	07 17 19.9	+3.0
	baz=31,SNR=6.9						
QLP	Quilpie	32.50	267	P	P	07 17 36.3	+1.1
	baz=33,SNR=7.1						
QLP				S	S	07 22 25.6	+1.5
	baz=33,SNR=6.7						
CTA	Charters Tower	32.89	279	P	P	07 17 38.7	0.0
	4.5nm,0.8s,baz=101,slow=10,SNR=7.2						
ARPS	Mount Arapiles	33.28	248	P	P	07 17 44.9	+3.1
	baz=34,SNR=5.4						
STKA	Stephens Creek	33.77	256	P	P	07 17 48.0	+1.8
	6.6nm,0.6s,baz=99,slow=11,SNR=23						
STKA	Stephens Creek	33.77	256	P	P	07 17 48.1	+2.0
	baz=35,SNR=12						
HTT	Hallett	35.84	253	P	P	07 18 05.3	+1.6
	baz=37,SNR=7.8						
BBOO	Buckleboo	38.30	254	P	P	07 18 24.9	+0.7
	baz=39,SNR=17						
WRA	Warramunga Arr	43.24	272	P	P	07 19 04.0	-0.3
	8.2nm,0.5s,baz=109,slow=7.6,SNR=78						
WRA				S	S	07 25 01.2	-3.4
	2.2nm,0.8s,baz=107,slow=14,SNR=5.8						
FORT	Forrest	45.36	255	P	P	07 19 20.9	+0.2
	baz=46,SNR=17						
WRKA	Warakurna	46.71	263	P	P	07 19 30.8	-0.5
	baz=48,SNR=11						
VNDA	Vanda	48.51	185	P	P	07 19 48.7	+4.6
	1.6nm,0.6s,baz=5.5,slow=9.0,SNR=12						
KNRA	Kununurra	49.83	274	P	P	07 19 54.9	0.0
	baz=51,SNR=5.3						
MEEK	Meekatharra	54.48	257	P	P	07 20 28.2	-0.6
	baz=55,SNR=5.9						
MORW	Morawa	55.87	253	P	P	07 20 38.5	0.0
	baz=57,SNR=6.7						
QSPA	South Pole Qui	60.20	180	P	P	07 21 11.7	+3.9
	12nm,0.7s,baz=350,slow=0.6,SNR=75						
SNAA	Sanae	78.67	179	P	P	07 23 01.8	+2.2
VNA3	Neumayer Olymp	78.85	176	P	P	07 23 02.9	+2.4
VNA2	Neumayer--Watz	79.28	177	P	P	07 23 05.1	+2.3
	baz=151,slow=2.5						
VNA1	Neumayer--Stat	79.51	177	P	P	07 23 06.7	+2.7
MKAR	Makanchi Array	116.81	310	PKP	PKPdf	07 29 36.4	-2.6
	0.1nm,0.5s,baz=191,slow=1.2,SNR=4.1						
BVAR	Borovoye Array	125.47	316	PKP	PKPdf	07 29 54.1	-1.2
	0.7nm,0.5s,baz=72,slow=4.7,SNR=4.6						
JOF	Joensuu	141.65	338	epkp	PKPpre	07 30 15.1	
FINES	FINESS Array B	144.39	340	PKP	PKPab	07 30 27.6	-1.8
	2.8nm,0.4s,baz=60,slow=3.0,SNR=29						
NB2	NORSAR Subarra	148.13	351	PKP	PKPbc	07 30 39.2	-1.0
	comp=Z,0.7nm,0.5s,baz=13,slow=2.8						
NOA	NORSAR Array B	148.13	351	PKPbc	PKPdf	07 30 38.0	+1.5
	comp=Z,1.3nm,0.7s,baz=14,slow=4.4,SNR=3.9						
AKASG	Malin Array Be	150.40	323	PKPbc	PKPbc	07 30 45.1	-0.9
	comp=Z,1.5nm,0.5s,baz=52,slow=2.6,SNR=4.5						
BRTR	Keskin Array B	151.63	299	PKPbc	PKPbc	07 30 47.6	-1.8
	comp=Z,0.4nm,0.3s,baz=162,slow=3.8,SNR=4.1						
TORD	Torodi Ar. Bea	163.31	182	PKPab	PKPab	07 31 52.1	+1.9
	comp=Z,2.7nm,0.8s,baz=175,slow=3.9,SNR=13						

CSEM 25 07:14:54.8, 38.59N×29.30W, h4km, ML3.7, After PDA
PDA 25 07:14:54.8±1.1, 38.59N×29.30W, h4km±12km, MD3.5, ML3.7, Error ellipse: s-maj=9.6km s-min=7.6km az=84.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	0.47	91	eP	Pg	07 15 03.2	-0.7
CALA				eS	Sg	07 15 09.2	-0.8
CALA	Caldeira	0.47	91	eP	Pg	07 15 03.2	-0.7
CALA				eS	Sg	07 15 09.2	-0.8
PCED	Cedros	0.47	85	eP	Pg	07 15 02.9	-0.9
PCED				eS	Sg	07 15 09.3	-0.6
PCED				A	A	07 15 11.8	
	3μm,0.3s						
PCED	Cedros	0.47	85	eP	Pg	07 15 02.9	-0.9
PCED				eS	Sg	07 15 09.3	-0.6
HOR	Horta	0.53	97	eP	Pg	07 15 04.3	-0.6
HOR				eS	Sg	07 15 10.4	-1.3
HOR	Horta	0.53	97	eP	Pg	07 15 04.3	-0.6
HOR				eS	Sg	07 15 10.4	-1.3
PCAN	Candelaria	0.65	101	eP	Pg	07 15 05.4	-1.9
PCAN				eS	Sg	07 15 14.3	-1.5
PCAN				A	A	07 15 18.5	
	2μm,0.5s						
PCAN	Candelaria	0.65	101	eP	Pg	07 15 05.4	-1.9
PCAN				eS	Sg	07 15 14.3	-1.5
PICO	Pico	0.69	97	eP	Pg	07 15 06.7	-1.4
PICO				eS	Sg	07 15 15.1	-2.1
PICO	Pico	0.69	97	eP	Pg	07 15 06.7	-1.4
PICO				eS	Sg	07 15 15.1	-2.1
ROSA	Rosais	0.84	81	eP	Pg	07 15 08.4	-2.5
ROSA				eS	Sg	07 15 18.6	-3.1
ROSA				A	A	07 15 25.3	
	2μm,0.7s						
ROSA	Rosais	0.84	81	eP	Pg	07 15 08.4	-2.5
ROSA				eS	Sg	07 15 18.6	-3.1
PMAN	Manadas	0.95	87	eP	Pg	07 15 09.9	-3.1
PMAN				eS	Sg	07 15 21.1	-4.2
PMAN				A	A	07 15 35.3	
	681nm,0.4s						
PMAN	Manadas	0.95	87	eP	Pg	07 15 09.9	-3.1
PMAN				eS	Sg	07 15 21.1	-4.2
TOPO	Topo	1.08	90	eP	Pg	07 15 11.8	-3.8
TOPO	Topo	1.08	90	eP	Pg	07 15 11.8	-3.8
PGRA	Graciosa	1.12	67	eP	Pg	07 15 12.2	-4.0
PGRA				eS	Sg	07 15 25.2	-5.6
PGRA				A	A	07 15 37.8	
	270nm,0.4s						
PGRA	Graciosa	1.12	67	eP	Pg	07 15 12.2	-4.0
PGRA				eS	Sg	07 15 25.2	-5.6
ADH	Angra Heroismo	1.62	87	eP	Pn	07 15 19.4	-4.7
ADH				eS	Sn	07 15 38.4	-7.0
ADH				A	A	07 15 39.4	
	235nm,0.3s						
ADH	Angra Heroismo	1.62	87	eP	Pn	07 15 19.4	-4.7
ADH				eS	Sn	07 15 38.4	-7.0
PSET	Sete Cidades	2.92	104	eP	Pn	07 15 37.9	-4.2
PSET	Sete Cidades	2.92	104	eP	Pn	07 15 37.9	-4.2
PDA	Ponta Delgada	2.98	105	eP	Pn	07 15 38.7	-4.2
PDA	Ponta Delgada	2.98	105	eP	Pn	07 15 38.7	-4.2
PSMA	Santa Maria	3.67	114	eP	Pn	07 15 47.3	-5.0
PSMN	Pico do Norte,	3.71	114	eP	Pn	07 15 47.7	-5.2
PSMN	Pico do Norte,	3.71	114	eP	Pn	07 15 47.7	-5.2

DJA 25 07:48:44.0±0.5, 1°S±3°×12°0E±°, h10km, M3.5/4, MLv3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.92	7	P	Pg	07 48 58.0	-3.7
MPSI				S	Sg	07 49 13.6	-0.1
APSI	Ampana	1.89	100	P	Pn	07 49 13.4	-2.9
MRSI	Marisa	2.39	64	P	Pn	07 49 23.9	+0.6
TTSI	Tana Toraja	2.45	179	P	Pn	07 49 24.3	+0.2
SPSI	Sidrap Palu	3.36	180	P	Pn	07 49 37.1	+0.5
BNSI	Bone	3.81	175	P	Pn	07 49 43.3	+0.5

BJI 25 08:03:36.9, 52.07N×175.51W, h51km, mB5.1/32, mb5.0/52, Ms4.7/21, Ms7 4.5/16
MOS 25 08:03:39.9±1.0, 51.99N×176.00W, h51km, mb5.2/40, Error ellipse: s-maj=7.9km s-min=6.4km az=74.5
ISCJB 25 08:03:41.8±0.2, 51.85N±0.04×175.99W±0.02, h72km±2km, mb5.0/205, Error ellipse: s-maj=6.2km s-min=2.0km az=175.1
IDC 25 08:03:41.9±0.4, 51.85N×175.89W, h58km±2km, mb4.2/29, mb1 4.3/31, mb1mx4.2/42, mbtmp4.5/31, MS3.9/31, Ms1 3.9/31, ms1mx3.8/38, Error ellipse: s-maj=12.4km s-min=7.1km az=170.0
GCMT 25 08:03:41.3±0.3, 51.71N×175.89W, h58km±1km, MW4.9/76, Moment Tensor Solution. s51,c60; s76,c104; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.33±.12; Mθθ-2.05±.09; Mφφ-0.28±.09; Mrθ0.74±.08; Mθφ-0.93±.07; Mφr0.93±.06; Best double couple: Mo2.67100×10^16 NP1:φs55.00000°, δ58.00000°, λ77.00000°. NP2: φs259.00000°, δ34.00000°, λ110.00000°. Principal axes: T 2.6660, Plg73.0000°, Azm290.0000°; N 0.0080, Plg11.0000°, Azm62.0000°; P -2.6770, Plg12.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 25 08:03:41.3±0.2, 51.70N×175.98W, mb5.1/156, ML4.9(AEIC) Error ellipse: s-maj=6.2km s-min=2.5km az=176.0
ISC 25 08:03:40.9±0.3, 51.70N±0.05×175.97W±0.03, h50km±1km, h49km:pP-P, n877, σ1.21/1017, mb5.1/205, MS4.1/40, 208C-192D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	Kagalaska Isla	0.32	301	P	Pn	08 03 51.6	+1.4
GSCK	Great Sitkin C	0.34	339	P	Pn	08 03 51.7	+1.3
GSMY	Great Sitkin M	0.35	351	P	Pn	08 03 51.6	+1.1
GSTD	Great Sitkin T	0.38	343	P	Pn	08 03 52.0	+1.2
ADK	Adak	0.48	293	P	Pn	08 03 53.1	+1.2
ADK				e		08 04 01.8	
ADK	Adak	0.48	293	P	Pn	08 03 53.1	+1.2
ADK				eSn	Sn	08 04 01.8	+2.0
ADAG	Mount Adagdak	0.48	306	P	Pn	08 03 53.9	+2.0
KIRH	Kanaga Island	0.73	286	P	Pn	08 03 56.6	+1.6
KIKV	Kanaga Island	0.77	284	P	Pn	08 03 57.0	+1.4
TAFL	Tanaga Flats	1.20	274	P	Pn	08 04 03.0	+1.7
KOKL	Mount Kliuchef	1.26	59	P	Pn	08 04 03.7	+1.6
TAFP	Tanaga Falls P	1.27	280	P	Pn	08 04 04.1	+1.9
TASE	Tanaga Southea	1.29	277	P	Pn	08 04 04.6	+2.0
TANO	Tanaga North	1.36	280	P	Pn	08 04 05.5	+2.1
CERAA	Semis' Rag'd T	2.71	276	P	Pn	08 04 23.7	+1.8
CEAP	Semis' Anvil P	2.78	278	P	Pn	08 04 25.0	+2.2
CESW	Semis' Southwe	2.78	276	P	Pn	08 04 24.6	+1.7
CETU	Semis' Tuman	2.83	277	P	Pn	08 04 26.0	+2.4
AMKA	Amchitka	2.97	266	ePn	Pn	08 04 27.1	+1.6
AMKA				eSn	Sn	08 05 01.2	+1.4
LSPA	Little Sitkin	3.40	277	P	Pn	08 04 33.8	+2.5
LSNW	Little Sitkin	3.43	277	P	Pn	08 04 33.9	+2.1
LSSA	Little Sitkin	3.44	276	P	Pn	08 04 34.2	+2.3
NIKH	Nikolski High	4.54	71	P	Pn	08 04 49.5	+2.5
NIKH				S	Sn	08 05 43.3	+4.8
OKSP	Okmok Steeple	4.94	69	P	Pn	08 04 55.6	+3.0
OKTU	Okmok Mt. Tuli	5.12	68	P	Pn	08 04 58.2	+3.2
OKFG	Magazine Ridge	5.20	68	P	Pn	08 04 58.8	+2.7
OKFG				S	Sn	08 05 57.4	+2.6
MREP	Makushin Rep't	5.98	66	P	Pn	08 05 09.9	+3.0
MSW	Makushin Switc	6.00	65	P	Pn	08 05 09.7	+2.7
UNV	Unalaska Valle	6.13	66	P	Pn	08 05 10.9	+2.1
UNV				eSn	Sn	08 06 19.7	+2.2
SMY	Shemya	6.19	283	P	Pn	08 05 13.7	+4.1
SMY	Shemya	6.19	283	P	Pn	08 05 13.7	+4.1
SPIA	Saint Paul Isl	6.42	29	P	Pn	08 05 16.1	+3.4
AKRB	Akutan Reef Bi	6.46	64	P	Pn	08 05 16.0	+2.7
ZRO	Akutan Zero	6.50	64	P	Pn	08 05 17.1	+3.2
AKGG	Akutan Green G	6.53	64	P	Pn	08 05 16.8	+2.5
AKUT	Akutan	6.63	64	ePn	Pn	08 05 20.1	+4.5
FX1	Attu Island--F	6.77	284	eP	Pn	08 05 20.7	+3.1
FX1				e		08 06 35.3	
FX1	Attu Island--F	6.77	284	P	Pn	08 05 20.2	+2.6
	74nm,0.3s,baz=178,slow=5.4,SNR=93						
FX1				S	Sn	08 06 38.5	+5.2
	9.6nm,0.3s,baz=60,slow=21,SNR=6.1						
FX1	Attu Island--F	6.77	284	ePn	Pn	08 05 20.6	+3.1
FX1				eSn	Sn	08 06 35.3	+2.0
WESE	West Dahl East	7.39	63	P	Pn	08 05 28.7	+2.5
FALS	False Pass	8.16	62	ePn	Pn	08 05 36.1	-0.4
	54nm,0.6s						
FALS				eSn	Sn	08 07 07.4	+0.2
DRIA	Deer Island	8.83	63	P	Pn	08 05 47.2	+1.5
DT1	Dutton Round H	8.86	62	P	Pn	08 05 47.5	+1.4
DTNA	Dutton South F	8.89	62	P	Pn	08 05 48.6	+2.1
DOL	Dolgoi Island	9.10	62	P	Pn	08 05 51.5	+2.0
SDPT	Sand Point	9.92	62	P	Pn	08 06 01.7	+1.1
GAMB	Gambell	12.32	9	ePn	Pn	08 06 34.4	+1.1
OHAK	Old Harbor	14.27	58	ePn	Pn	08 06 57.8	-2.0

OHAK eSn Sn 08 09 34.3 -2.0
TNA Tin City 14.50 13 ePn Pn 08 07 04.1 +1.3
TNA ePcP PcP 08 12 14.8 +0.7
SVW2 Sparrevohn 14.63 42 ePn P 08 07 08.3 -1.6
KDAK Kodiak Island 14.77 57 Pn Pn 08 07 04.0 -2.4
320nm,0.5s,SNR=14
KDAK Kodiak Island 14.77 57 eP P 08 07 09.0 -2.4
KDAK Kodiak Island 14.77 57 eP P 08 07 09.0 -2.4
PET Petropavlovsk 15.54 285 eP P 08 07 19.8 -0.2
PET eS Sn 08 10 03.4 -3.9
PET pmax pmax
comp=Z,24nm,1.1s
PET MLR MLR
comp=Z,500nm,15.0s
PET Petropavlovsk 15.54 285 ePn P 08 07 18.9 -1.1
comp=Z,179nm,2.2s
RSO Redoubt South 15.57 47 ePn Pn 08 07 18.3 +1.3
PETK Petropavlovsk- 16.11 285 P Pn 08 07 23.5 -0.2
comp=Z,0.3nm,0.3s,baz=100,slow=15,SNR=25
PETK LR LR 08 13 13.6
comp=Z,204nm,21.7s,baz=88,slow=36
PPLA Purkeypile 16.93 39 eP P 08 07 38.0 +2.5
comp=Z,160nm,1.4s
SEW Seward 16.98 50 ePn Pn 08 07 32.9 -1.6
comp=Z,43nm,0.7s
SEW eSn Sn 08 10 43.1 +1.0
RC01 Rabbit Creek A 17.18 47 eP P 08 07 39.0 +1.0
comp=Z,34nm,1.3s
RC01 eS S 08 10 51.9 -2.2
CAST Castle Rocks 17.24 38 ePn P 08 07 40.7 +1.9
comp=Z,26nm,0.7s
SKR Severo-Kuril's 17.49 278 eP Pn 08 07 34.2 -6.7
SKR pmax pmax
comp=Z,70nm,1.0s
PMR Palmer 17.64 45 eP P 08 07 43.6 +0.5
PMR pmax pmax
comp=Z,88nm,2.0s
PMR Palmer 17.64 45 eP P 08 07 43.6 +0.5
comp=Z,88nm,2.0s
KTH Kantishna Hill 17.76 38 eP P 08 07 45.6 +1.1
comp=Z,133nm,1.0s
TRF Thorofare Moun 17.95 39 eP P 08 07 47.1 +0.3
comp=Z,48nm,0.8s
IM04 Indian Mountai 18.18 30 eP Pn 08 07 50.1 +0.8
IM04 ePcP PcP 08 12 20.1 +0.3
IM04 eScP ScP 08 15 51.1 +0.4
BILL Bilibino 18.52 339 c iP Pn 08 07 54.4 +1.0
BILL pmax pmax
comp=Z,72nm,1.1s
BILL MLR MLR
comp=Z,509nm,21.0s
BILL Bilibino 18.52 339 eP Pn 08 07 54.4 +1.0
comp=Z,77nm,1.1s
BILL eS S 08 11 25.2 +3.9
MCK McKinley 18.62 39 eP P 08 07 52.4 -1.6
MCK pmax pmax
comp=Z,65nm,1.0s
MCK McKinley 18.62 39 eP P 08 07 52.4 -1.6
comp=Z,65nm,1.0s
MCK ePcP PcP 08 12 20.9 +0.3
DIV Divide 19.01 49 eP Pn 08 07 59.6 +0.1
comp=Z,26nm,0.6s
RAGM Ragged Mountai 19.35 51 ePn Pn 08 08 04.9 +1.4
comp=Z,26nm,0.8s
BMRM Bremner River 19.52 49 eP P 08 08 04.5 +0.6
comp=Z,22nm,0.7s
BMRM ePcP PcP 08 12 23.4 +1.1
COLA College 19.58 37 ⇑iP P 08 08 04.0 -0.4
COLA pmax pmax
comp=Z,112nm,0.9s
COLA College 19.58 37 eP P 08 08 03.6 -0.8
comp=Z,37nm,0.9s
COLA ePcP PcP 08 12 21.7 -0.5
PAX Paxson 19.73 43 eP P 08 08 05.3 -0.9
PAX pmax pmax
comp=Z,64nm,1.2s
PAX Paxson 19.73 43 eP P 08 08 05.3 -0.9
comp=Z,64nm,1.2s
ILAR Eielson Array 19.90 38 P P 08 08 06.0 -1.8
comp=Z,0.6nm,0.3s,baz=241,slow=9.8,SNR=48
ILAR pP pP 08 08 20.6 +1.3
comp=Z,5.5nm,0.3s,baz=229,slow=9.9,SNR=23
ILAR S S 08 11 48.7 -0.1
baz=228,slow=14,SNR=4.6
ILAR PcP PcP 08 12 21.6 -1.2
comp=Z,0.0nm,0.3s,baz=290,slow=3.7,SNR=6.5
ILAR ScP ScP 08 15 51.7 -2.9
comp=Z,0.0nm,0.3s,baz=271,slow=3.4,SNR=5.8
ILAR LR LR 08 16 55.7
comp=Z,249nm,18.5s,baz=228,slow=40
COLD Coldfoot 20.09 30 eP P 08 08 10.0 +0.2
comp=Z,43nm,0.9s
COLD eScP ScP 08 15 55.9 +0.9
SEY Seymchan 20.22 316 P P 08 08 12.2 +0.9
comp=Z,22nm,1.0s,baz=103,slow=8.8,SNR=13
SEY pP pP 08 08 25.0 +2.3
comp=Z,33nm,0.9s,baz=116,slow=13,SNR=15
SEY PcP PcP 08 12 23.2 -0.2
comp=Z,3.1nm,0.8s,baz=129,slow=4.0,SNR=3.8
SEY ScP ScP 08 15 53.2 -2.1
comp=Z,1.8nm,0.8s,baz=116,slow=3.2,SNR=6.5
DOT Dot Lake 20.57 42 eP P 08 08 14.5 -0.6
comp=Z,58nm,0.8s
DOT eScP ScP 08 15 56.3 +0.1
EGAK Eagle 22.15 40 eP P 08 08 31.5 -0.6
DAWY Dawson 22.66 43 eP P 08 08 36.9 -0.8
DAWY eS S 08 12 43.6 +1.6
HYT Haines Junctio 22.91 52 eP P 08 08 42.9 +2.6
WRAK Wrangell Islan 25.69 62 eP P 08 09 08.2 +2.2
comp=Z,23nm,0.6s
DLBC Dease Lake 26.70 57 eP P 08 09 16.6 +1.5
YSS Yuzh-Sakhalins 27.05 276 ⇑eP P 08 09 19.0 +0.8
YSS pmax pmax
comp=E,60nm,1.2s
YSS pmax pmax
comp=Z,60nm,1.2s
YSS MLR MLR
comp=Z,300nm,20.0s
YSS Yuzh-Sakhalins 27.05 276 eP P 08 09 19.6 +1.3
comp=Z,69nm,1.3s
ASAJ Asahikawa 28.47 271 P P 08 09 32.3 +1.3
ASAJ pmax pmax
comp=Z,30nm,0.8s
ASAJ MLR MLR
comp=Z,78nm,20.0s
ASAJ Asahikawa 28.47 271 P P 08 09 32.3 +1.3
comp=Z,30nm,0.8s,baz=326,slow=5.9,SNR=14
ASAJ LR LR 08 21 43.6
comp=Z,78nm,20.0s,baz=6.0,slow=38
ASAJ Asahikawa 28.47 271 eP P 08 09 32.1 +1.1
comp=Z,20nm,1.0s
TIXI Tiksi 31.24 330 ⇓iP P 08 09 54.8 -0.3
TIXI pmax pmax
comp=Z,5.0nm,2.5s
TIXI Tiksi 31.24 330 eP P 08 09 55.4 +0.2
comp=Z,2.7nm,0.6s
TIXI ePcP PcP 08 12 47.1 -1.3
TIXI eScP ScP 08 16 24.3 -2.6
KLR Kul'dur 32.79 287 eP P 08 10 04.8 -4.2
NLWA Neilton Lookou 33.48 76 eP P 08 10 16.7 +1.6
comp=Z,39nm,0.9s
YKA Yellowknife Ar 33.72 47 P P 08 10 16.2 -0.8
comp=Z,4.2nm,0.8s,baz=284,slow=8.1,SNR=54
YKA PcP PcP 08 12 55.7 +0.4
comp=Z,11nm,0.8s,baz=287,slow=2.8,SNR=38
YKA ScP ScP 08 16 34.1 -1.4
comp=Z,0.6nm,0.9s,baz=282,slow=3.0,SNR=5.0
YKA PKiKP PKiKP 08 20 18.1 -1.3
comp=Z,0.1nm,0.8s,baz=283,slow=1.7,SNR=3.9
A05A Maple Falls 33.84 73 eP P 08 10 19.8 +1.7
comp=Z,38nm,0.6s
E03A Lebam 34.06 78 eP P 08 10 19.7 -0.4
comp=Z,72nm,0.9s
B06A Marblemount 34.41 73 eP P 08 10 24.7 +1.6
comp=Z,13nm,0.6s
H11N2 WAKE ISLAND Hy 34.62 209 T T 08 47 10.0
baz=18,slow=76,SNR=9182
H11N3 WAKE ISLAND Hy 34.63 209 T T 08 47 10.6
baz=18,slow=76,SNR=7967
H11N1 WAKE ISLAND Hy 34.64 209 T T 08 47 10.6
baz=18,slow=76,SNR=7505
D05A Enumclaw 34.71 76 eP P 08 10 28.3 +2.6
comp=Z,69nm,0.8s
USRK Ussuriysk Arra 35.00 279 P P 08 10 28.7 +0.4
comp=Z,14nm,1.0s,baz=53,slow=7.8,SNR=14
USRK PcP PcP 08 13 00.0 +0.7
comp=Z,11nm,0.9s,baz=92,slow=1.5,SNR=11
USRK LR LR 08 24 29.5
comp=Z,138nm,21.5s,baz=45,slow=36
LON Longmire 35.02 76 eP P 08 10 30.9 +2.4
LON pmax pmax
comp=Z,21nm,0.7s
LON Longmire 35.02 76 eP P 08 10 30.9 +2.4
comp=Z,21nm,0.7s
F04A Amboy 35.05 78 eP P 08 10 29.4 +0.8
comp=Z,75nm,0.6s
PNT Penticton 35.16 71 P P 08 10 30.5 +0.9
PNT Penticton 35.16 71 P P 08 10 30.4 +0.9
COR Corvallis 35.18 80 eP P 08 10 28.9 -0.9
COR e*PP pP 08 10 45.4 +2.7
COR pmax pmax
comp=Z,52nm,0.8s
COR Corvallis 35.18 80 eP P 08 10 28.9 -0.9
comp=Z,52nm,0.8s
COR epP pP 08 10 45.4 +2.7
NLW Nelson Butte 35.29 73 P P 08 10 32.5 +1.6
LTY Liberty 35.47 75 eP P 08 10 33.6 +1.3
comp=Z,19nm,0.6s
ETW Entiat 35.51 74 P P 08 10 33.9 +1.1
TBM Table Mountain 35.55 75 P P 08 10 35.0 +1.9
MAJO Matsushiro 35.58 263 ⇓iP P 08 10 34.5 +1.1
MAJO Matsushiro 35.58 263 eP P 08 10 34.2 +0.9
comp=Z,39nm,1.1s
MJAR Matsushiro Arr 35.58 263 P P 08 10 33.8 +0.5
comp=Z,8.0nm,0.9s,baz=50,slow=8.1,SNR=22
MJAR pP pP 08 10 50.2 +3.9
comp=Z,6.6nm,0.7s,baz=44,slow=6.3,SNR=7.9
MJAR PcP PcP 08 13 01.3 0.0
comp=Z,4.0nm,0.9s,baz=94,slow=1.8,SNR=7.8
MJAR LR LR 08 23 07.2
comp=Z,108nm,21.6s,baz=60,slow=33
WTV Waterville 35.69 74 P P 08 10 35.5 +1.2
B08A Colville Reser 35.76 72 P P 08 10 35.7 +1.0
H04A Detroit Lake 35.82 80 eP P 08 10 37.1 +1.8
comp=Z,66nm,0.8s
H11S1 WAKE ISLAND Hy 35.83 209 T T 08 48 41.9
baz=18,slow=76,SNR=7041
H11S2 WAKE ISLAND Hy 35.85 209 T T 08 48 47.3
baz=18,slow=76,SNR=3329
H11S3 WAKE ISLAND Hy 35.85 209 T T 08 48 32.2
baz=18,slow=76,SNR=2176
SAW Saint Andrews 36.02 73 P P 08 10 37.8 +0.8
I04A Tendick Farm, 36.14 81 ⇓P P 08 10 39.6 +1.4
baz=36
E07A Sunnyside 36.30 75 eP P 08 10 40.9 +1.6
comp=Z,25nm,0.6s
HUMO Hull Mountain 36.45 83 P P 08 10 42.2 +1.5
comp=Z,28nm,0.9s
HUMO epP pP 08 10 55.1 +1.4
I05D Terrebonne, OR 36.52 80 ⇓P P 08 10 41.7 +0.4
baz=36
HAWA Hanford 36.57 75 eP P 08 10 43.0 +1.4
comp=Z,57nm,0.6s
D08A Wollman Farm, 36.61 74 eP P 08 10 43.2 +1.2
comp=Z,26nm,0.6s
J04D Umpqua Nationa 36.62 82 ⇓P P 08 10 42.2 -0.2
baz=36
C09A Chrisman Ranch 36.64 73 eP P 08 10 43.3 +1.0
comp=Z,37nm,0.6s
PINOR Pine Mountain 37.08 80 eP P 08 10 48.3 +2.4
comp=Z,3.1nm,0.6s
PINOR epP pP 08 11 01.0 +2.0
YBH Yreka Blue Hor 37.08 84 eP P 08 10 49.6 +3.4
YBH pmax pmax
comp=Z,13nm,0.8s
YBH Yreka Blue Hor 37.08 84 eP P 08 10 49.6 +3.4
comp=Z,13nm,0.8s
EDM Edmonton 37.10 62 eP P 08 10 45.8 -0.4
EDM Edmonton 37.10 62 eP P 08 10 45.8 -0.4
NEW Newport 37.11 71 P P 08 10 47.1 +0.8
NEW *PP pP 08 11 00.2 +0.9
NEW pmax pmax
comp=Z,26nm,1.0s
NEW pmax pmax
comp=Z,41nm,0.5s
NEW Newport 37.11 71 P P 08 10 47.0 +0.8
comp=Z,26nm,0.9s,baz=301,slow=6.5,SNR=53
NEW pP pP 08 11 00.1 +0.9
comp=Z,41nm,0.5s,baz=300,slow=7.6,SNR=28
NEW Newport 37.11 71 eP P 08 10 47.0 +0.8
comp=Z,46nm,0.6s
NEW pP pP 08 11 00.1 +0.9
NEW Newport 37.11 71 ⇓P P 08 10 46.7 +0.4
baz=37,SNR=35
J05D Fort Rock, OR 37.14 81 ⇑P P 08 10 46.9 +0.2
baz=37
E09A Wood Farm, Sta 37.34 74 eP P 08 10 49.4 +1.1
comp=Z,27nm,0.8s
G08A Pilot Rock 37.47 77 eP P 08 10 50.6 +1.2
comp=Z,34nm,1.3s
N02D Trinity Center 37.52 85 ⇑P P 08 10 50.5 +0.6
baz=37
M04C Macdoel 37.59 83 ⇓P P 08 10 50.7 +0.1
baz=38
K05A Summer Lake 37.65 81 eP P 08 10 53.5 +2.4
comp=Z,60nm,0.9s
I07A Izee 37.77 79 eP P 08 10 53.4 +1.3
comp=Z,39nm,0.8s
WDC Whiskeytown Da 37.85 86 eP P 08 10 58.8 +6.2
WDC pmax pmax
comp=Z,10.0nm,0.8s
WDC Whiskeytown Da 37.85 86 eP P 08 10 58.8 +6.2
comp=Z,9.8nm,0.8s
F10A Beach Ranch, E 38.17 75 eP P 08 10 56.2 +0.9
comp=Z,17nm,0.6s
MOD Modoc 38.48 82 eP P 08 10 59.7 +1.7
comp=Z,25nm,0.8s
WALA Waterton Lakes 38.61 69 eP P 08 10 59.5 +0.5
BSMT Bassoo Peak 38.68 71 eP P 08 11 00.5 +0.8
BSMT eScP ScP 08 16 53.9 -0.6
BMO Blue Mountains 38.70 76 eP P 08 11 00.0 +0.2
comp=Z,44nm,1.3s
BLMT Blacktail Moun 38.85 70 eP P 08 11 01.9 +0.8
JTMT Jette 39.03 71 eP P 08 11 02.5 -0.1
YBMT Yellow Bay 39.13 70 eP P 08 11 04.0 +0.6
BOD Bodaibo 39.20 307 eP P 08 10 59.9 -3.8
BOD pmax pmax
comp=Z,5.0nm,0.8s
WVOR Wild Horse Val 39.20 80 eP P 08 11 05.3 +1.2
WVOR pmax pmax
comp=Z,69nm,0.8s
WVOR Wild Horse Val 39.20 80 eP P 08 11 05.3 +1.2
comp=Z,69nm,0.8s
CN2 Changchun 39.22 282 eP P 08 11 04.8 +0.8
SWMT Swartz Lake 39.31 71 eP P 08 11 05.2 +0.3
MSO Missoula 39.69 72 eP P 08 11 08.8 +0.7
comp=Z,52nm,1.3s
MSO Missoula 39.69 72 ⇓P P 08 11 08.2 +0.2
baz=40,SNR=14
SLMT Seeley Lake 39.74 71 eP P 08 11 08.7 +0.1
CHMT Chamberlain Mo 40.05 71 eP P 08 11 11.2 0.0
CHMT ePcP PcP 08 13 10.2 -4.9
MFID Camas Ranch 40.37 77 eP P 08 11 14.8 +1.0
comp=Z,31nm,1.2s
CMB Columbia Colle 40.71 87 eP P 08 11 19.1 +2.6
CMB pmax pmax
comp=Z,5.0nm,0.8s
CMB Columbia Colle 40.71 87 eP P 08 11 19.1 +2.6
comp=Z,4.8nm,0.8s
HRY Holter Researc 40.99 71 eP P 08 11 19.1 +0.3
WAKR Walker 41.01 86 eP P 08 11 21.4 +2.2
LRM Limekiln Ridge 41.09 72 eP P 08 11 20.3 +0.4
HLID Hailey 41.15 76 eP P 08 11 21.0 +0.8
comp=Z,53nm,1.3s
HLID Hailey 41.15 76 ⇑P P 08 11 20.7 +0.5
baz=41,SNR=14
DLMT Dillon 41.25 73 eP P 08 11 21.5 +0.5
comp=Z,7.2nm,0.6s
DLMT ePcP PcP 08 13 20.5 +1.6
MCMT McKenzie Canyo 41.39 74 eP P 08 11 22.7 +0.4
comp=Z,23nm,0.6s
MCMT epP pP 08 11 35.9 +0.4
KSRS Korea Array 41.40 273 P P 08 11 23.4 +1.3
KSRS *PP pP 08 11 38.6 +3.4
KSRS pmax pmax
comp=Z,33nm,0.9s
KSRS pmax pmax
comp=Z,27nm,0.8s
KSRS Korea Array 41.40 273 P P 08 11 23.4 +1.3
comp=Z,33nm,0.9s,baz=56,slow=8.0,SNR=54
KSRS pP pP 08 11 38.6 +3.4
comp=Z,27nm,0.8s,baz=56,slow=7.8,SNR=16
KSRS LR LR 08 28 01.7
comp=Z,48nm,20.8s,baz=62,slow=35
KSAR Wonju Array Be 41.43 273 P P 08 11 23.4 +1.0
KSAR *PP pP 08 11 38.6 +3.1
KSAR Wonju Array Be 41.43 273 P P 08 11 23.4 +1.0
KSAR pP pP 08 11 38.6 +3.1
SNY Shenyang 41.46 281 ⇓iP P 08 11 23.5 +1.0
SNY S S 08 17 32.0 -2.1
SNY pmax pmax
comp=Z,42nm,1.4s
SNY LR LR
comp=Z,250nm,21.0s
SNY LR LR
comp=Z,330nm,20.7s
EGMT Eagleton 41.52 68 eP P 08 11 23.1 -0.1
comp=Z,28nm,1.0s
EGMT Eagleton 41.52 68 ⇓P P 08 11 22.7 -0.4
baz=41,SNR=12
A19A Klindworth Far 41.64 66 ⇓P P 08 11 23.6 -0.5
baz=42,SNR=23
BOZ Bozeman (W) 41.67 72 eP P 08 11 24.9 +0.4
BOZ pmax pmax
comp=Z,43nm,1.2s
BOZ Bozeman (W) 41.67 72 eP P 08 11 24.9 +0.4
comp=Z,43nm,1.2s
NVAR Mina Array Bea 41.76 85 P P 08 11 26.6 +1.3
comp=Z,4.5nm,0.9s,baz=291,slow=7.5,SNR=30
NVAR pP pP 08 11 39.4 +0.8
comp=Z,11nm,0.8s,baz=287,slow=8.9,SNR=24
NVAR PcP PcP 08 13 21.9 +1.1
comp=Z,3.9nm,0.9s,baz=260,slow=2.7,SNR=4.6
NVAR ScP ScP 08 17 05.0 -1.7
comp=Z,1.3nm,1.0s,baz=290,slow=2.5,SNR=5.3
B19A Brinkman Farms 41.77 67 ⇓P P 08 11 25.1 0.0
baz=42,SNR=22
C19A Slack Wire Ran 42.08 68 ⇑P P 08 11 28.3 +0.7
baz=42,SNR=92
A20A Cobblestone Ra 42.13 66 ⇓P P 08 11 27.8 -0.2
baz=42,SNR=20
INCN Inchon 42.18 274 eP P 08 11 29.1 +0.6
comp=Z,95nm,1.0s
QLMT Earthquake Lak 42.24 73 eP P 08 11 29.9 +0.8
ELK Elko 42.26 80 eP P 08 11 30.5 +1.1
ELK pmax pmax
comp=Z,48nm,0.8s
ELK Elko 42.26 80 eP P 08 11 30.5 +1.1
comp=Z,48nm,0.8s
B20A Solberg Farm, 42.31 66 ⇓P P 08 11 29.1 -0.3
baz=42
JNU Nakatsue 42.37 265 P P 08 11 31.4 +1.3
comp=Z,27nm,1.1s,baz=41,slow=3.8,SNR=4.3
JNU pP pP 08 11 46.4 +3.1
comp=Z,35nm,0.8s,baz=38,slow=7.0,SNR=8.2
JNU Nakatsue 42.37 265 P P 08 11 31.4 +1.3
JNU pP pP 08 11 46.4 +3.1
JNU epP pP 08 11 49.7 +6.4
D19A Cripps Ranch, 42.48 69 ⇓P P 08 11 31.2 +0.3
baz=42,SNR=22
FFC Flin Flon 42.51 56 eP P 08 11 29.8 -1.2
FFC e*PP pP 08 11 38.9 -5.3
FFC e 08 13 23.0
FFC pmax pmax
comp=Z,5.0nm,0.9s
FFC Flin Flon 42.51 56 eP P 08 11 29.8 -1.2
comp=Z,4.6nm,0.9s
FFC epP pP 08 11 38.9 -5.3
FFC ePcP PcP 08 13 23.0 +0.3
YMR Madison River 42.60 73 eP P 08 11 33.5 +1.4
comp=Z,28nm,0.8s
A21A Bergtoll Ranch 42.64 65 ⇑P P 08 11 32.0 -0.2
baz=42,SNR=19
TPH Tonopah 42.65 85 eP P 08 11 31.6 -1.0
TPH pmax pmax
comp=Z,11nm,0.6s
TPH Tonopah 42.65 85 eP P 08 11 31.6 -1.0
comp=Z,11nm,0.6s
C20A Veseth Ranch, 42.69 67 ⇑P P 08 11 32.8 +0.2
baz=42,SNR=16
YNR Norris Junctio 42.75 73 eP P 08 11 34.9 +1.6
comp=Z,38nm,1.0s
YFT Old Faithful 42.80 73 eP P 08 11 35.9 +2.1
comp=Z,24nm,0.8s
YFT ePcP PcP 08 13 28.1 +3.9
B21A Ellsworth Farm 42.88 66 ⇓P P 08 11 33.9 -0.2
baz=43,SNR=24
E19A Rath Farm, Rou 42.91 69 ⇓P P 08 11 34.7 +0.3
baz=43,SNR=25
D20A Manuel Ranch, 42.95 68 ⇑P P 08 11 35.0 +0.4
baz=43,SNR=18
H17A Grant Village 42.99 73 eP P 08 11 37.2 +2.0
comp=Z,62nm,1.2s
H17A Grant Village 42.99 73 ⇓P P 08 11 37.0 +1.7
baz=43,SNR=21
IMW Indian Meadow 43.05 74 eP P 08 11 37.1 +1.3
comp=Z,24nm,0.9s
FLWY Flagg Ranch 43.09 73 eP P 08 11 37.6 +1.5
comp=Z,35nm,1.0s
FXWY Fox Creek 43.14 74 eP P 08 11 37.3 +0.8
comp=Z,5.1nm,0.8s
F19A Roth Farm, Mol 43.15 70 ⇓P P 08 11 36.6 +0.3
baz=43,SNR=5.3
C21A Desert Coulee 43.15 67 ⇓P P 08 11 36.6 +0.2
baz=43,SNR=16
HVU Hansel Valley 43.16 77 eP P 08 11 37.6 +1.0
HVU pmax pmax
comp=Z,41nm,0.6s
HVU Hansel Valley 43.16 77 eP P 08 11 37.6 +1.0
comp=Z,41nm,0.6s
A22A Carney Farms, 43.21 65 ⇓P P 08 11 36.4 -0.4
baz=43,SNR=21
I17A Pilgrim Ck. 43.25 73 ⇑P P 08 11 37.3 -0.1
baz=43
E20A Meyer Farm, Mu 43.27 69 ⇓P P 08 11 37.6 +0.3
baz=43,SNR=9.2
TPAW Teton Pass 43.27 74 eP P 08 11 38.9 +1.3
comp=Z,9.9nm,0.7s
RLMT Red Lodge 43.36 71 eP P 08 11 37.7 -0.5
comp=Z,48nm,1.0s
RLMT epP pP 08 11 51.7 +0.3
H18A Shoshone NF, C 43.37 72 ⇑P P 08 11 38.7 +0.3
baz=43,SNR=6.7
ISA Isabella 43.39 88 ⇓P P 08 11 38.3 -0.1
baz=43
REDW Red Top Meadow 43.40 74 eP P 08 11 39.9 +1.3
comp=Z,16nm,0.9s
LOHW Long Hollow 43.41 74 eP P 08 11 39.4 +0.7
comp=Z,6.8nm,0.8s
R11A Troy Canyon, C 43.49 83 eP P 08 11 40.2 +0.9
comp=Z,14nm,0.7s
R11A Troy Canyon, C 43.49 83 ⇑P P 08 11 39.8 +0.5
baz=43,SNR=9.8
BGU Big Grassy Mou 43.50 79 eP P 08 11 40.6 +1.2
comp=Z,9.3nm,0.8s
B22A Reddig Ranch S 43.53 66 ⇑P P 08 11 39.2 -0.2
baz=43,SNR=7.7
D21A La Casta Ranch 43.62 68 ⇓P P 08 11 40.2 +0.1
baz=43,SNR=19
SPUT South Promonto 43.63 78 eP P 08 11 41.2 +0.8
comp=Z,42nm,1.1s
SPUT epP pP 08 11 53.9 +0.3
F20A Billings 43.64 70 ⇓P P 08 11 40.6 +0.3
baz=44,SNR=5.8
H19A Powell 43.77 72 ⇑P P 08 11 42.3 +0.8
baz=44,SNR=22
A23A Redstone 43.81 64 ⇑P P 08 11 41.1 -0.5
baz=44,SNR=11
E21A Keefer Ranch, 43.86 68 ⇑P P 08 11 41.4 -0.6
baz=44
FURC Furnace Creek, 43.88 86 ⇑P P 08 11 42.2 0.0
baz=44
C22A Vida 43.89 66 ⇑P P 08 11 42.1 -0.2
baz=44,SNR=30
G20A Bridger 43.92 71 ⇑P P 08 11 42.6 0.0
baz=44,SNR=41
HWUT Hardware Ranch 43.99 77 eP P 08 11 44.2 +0.9
comp=Z,15nm,0.6s
HWUT epP pP 08 11 56.7 +0.2
B23A Brockton 44.01 65 ⇑P P 08 11 43.0 -0.2
baz=44,SNR=30
D22A Cohagen 44.04 67 ⇑P P 08 11 43.8 +0.3
baz=44,SNR=42
DUG Dugway 44.07 79 eP P 08 11 44.9 +1.0
DUG pmax pmax
comp=Z,62nm,0.8s
DUG Dugway 44.07 79 eP P 08 11 44.9 +1.0
comp=Z,62nm,0.8s
DUG Dugway 44.07 79 ⇓P P 08 11 44.5 +0.6

baz=44,SNR=20
I19A Meeteetse 44.13 72 ⇓P P 08 11 44.7 +0.3
baz=44,SNR=6.6
F21A Absaloka Mine, 44.22 69 ⇓P P 08 11 45.1 +0.1
baz=44,SNR=8.3
C23A Lambert 44.26 66 ⇓P P 08 11 45.4 +0.2
baz=44,SNR=29
LAO LASA Array 44.27 68 eP P 08 11 45.8 +0.5
comp=Z,48nm,1.1s
A24A Westby 44.32 64 ⇑P P 08 11 45.3 -0.4
baz=44,SNR=21
TCUT Toone Canyon 44.38 77 eP P 08 11 47.5 +1.0
comp=Z,36nm,0.7s
TCUT epP pP 08 12 00.3 +0.5
CTU Camp Tracy 44.42 78 eP P 08 11 47.8 +1.0
comp=Z,27nm,0.7s
FCC Fort Churchill 44.45 47 eP P 08 11 45.9 -0.6
FCC e*PP pP 08 11 59.1 -0.7
FCC Fort Churchill 44.45 47 eP P 08 11 45.9 -0.6
FCC epP pP 08 11 59.1 -0.7
DGMT Dagmar 44.45 64 eP P 08 11 46.8 0.0
comp=Z,28nm,1.0s
DGMT Dagmar 44.45 64 ⇓P P 08 11 46.4 -0.3
baz=44,SNR=7.4
H20A Greybull 44.46 71 ⇓P P 08 11 46.8 -0.1
baz=44,SNR=6.9
G21A Lodge Grass 44.51 70 ⇑P P 08 11 47.1 -0.3
baz=44,SNR=7.5
BW06 Boulder Array 44.52 74 eP P 08 11 47.9 +0.3
comp=Z,66nm,0.9s
BW06 epP pP 08 12 00.8 -0.1
PDAR Pinedale Array 44.52 74 LR LR 08 28 38.0
comp=Z,77nm,20.3s,baz=294,slow=34
J19A Crowheart 44.53 73 ⇓P P 08 11 48.2 +0.5
baz=44,SNR=12
E22A Miles City 44.56 68 ⇑P P 08 11 48.0 +0.3
baz=44,SNR=36
D23A Lindsay 44.59 67 ⇓P P 08 11 48.2 +0.3
baz=44,SNR=19
SHOC Shoshone 44.60 87 ⇓P P 08 11 48.0 -0.1
baz=44
JLU Jordanelle 44.66 78 eP P 08 11 49.8 +1.1
comp=Z,31nm,0.8s
GSC Goldstone 44.66 88 eP P 08 11 49.7 +1.1
GSC pmax pmax
comp=Z,15nm,0.8s
GSC Goldstone 44.66 88 eP P 08 11 49.7 +1.1
comp=Z,14nm,0.8s
GSC Goldstone 44.66 88 ⇓P P 08 11 49.5 +0.9
baz=44,SNR=5.4
NLU North Lily Min 44.67 79 eP P 08 11 49.8 +1.0
comp=Z,43nm,0.7s
I20A Worland 44.69 72 ⇓P P 08 11 49.3 +0.5
baz=44,SNR=12
F22A Rosebud 44.75 69 ⇑P P 08 11 49.1 -0.1
baz=45,SNR=17
A25A Svangstu Ranch 44.81 63 ⇑P P 08 11 49.0 -0.5
baz=45,SNR=11
BFSC Mount Baldy Ra 44.83 89 ⇓P P 08 11 50.3 +0.3
baz=45
C24A Savage 44.84 66 ⇑P P 08 11 50.0 +0.2
baz=45,SNR=29
DAU Daniels Canyon 44.89 78 eP P 08 11 51.9 +1.3
DAU Daniels Canyon 44.89 78 eP P 08 11 51.9 +1.3
MPU Maple Canyon 44.90 79 eP P 08 11 52.0 +1.4
comp=Z,47nm,0.7s
MPU epP pP 08 12 02.5 -1.3
E23A Ismay 44.90 67 ⇑P P 08 11 50.8 +0.4
baz=45,SNR=24
SHPR Sheep Range 44.91 85 eP P 08 11 51.6 +0.9
H21A Big Horn, Sher 44.94 71 ⇑P P 08 11 50.7 -0.1
baz=45,SNR=9.0
G22A Birney 45.05 69 ⇑P P 08 11 51.3 -0.3
baz=45,SNR=10.0
J20A Shoshoni 45.06 73 ⇑P P 08 11 52.3 +0.6
baz=45,SNR=15
D24A Glendive 45.12 66 ⇓P P 08 11 52.7 +0.7
baz=45,SNR=28
TUQ Turquoise Moun 45.12 87 ⇑P P 08 11 52.5 +0.1
baz=45
B25A Knox Farm, Ray 45.14 64 ⇑P P 08 11 52.0 -0.3
baz=45
ARUT Antelope Range 45.16 82 eP P 08 11 53.7 +1.0
ARUT e*PP pP 08 12 07.1 +1.1
ARUT Antelope Range 45.16 82 eP P 08 11 53.7 +1.0
comp=Z,308nm,0.9s
ARUT epP pP 08 12 07.1 +1.1
HEC Hector,Ludlow 45.26 88 ⇑P P 08 11 53.7 +0.3
baz=45
I21A Big Trails, Te 45.26 72 ⇑P P 08 11 53.1 -0.3
baz=45,SNR=17
BBRC Big Bear Solar 45.27 89 ⇓P P 08 11 53.1 -0.5
baz=45
F23A Volborg 45.28 68 ⇓P P 08 11 53.3 -0.1
baz=45,SNR=48
CCUT Cedar City 45.36 83 eP P 08 11 55.4 +1.0
comp=Z,24nm,1.3s
H22A Clearmont 45.37 70 ⇓P P 08 11 54.0 -0.1
baz=45,SNR=5.6
C25A Freed Ranch, W 45.40 65 ⇑P P 08 11 53.9 -0.3
baz=45,SNR=16
A26A Wade Farm, Ken 45.43 63 ⇑P P 08 11 53.7 -0.8
baz=45,SNR=7.4
E24A Baker 45.44 67 ⇑P P 08 11 54.8 +0.2
baz=45,SNR=16
J21A Lysite 45.44 72 ⇓P P 08 11 54.9 0.0
baz=45,SNR=10
G23A Biddle 45.58 69 ⇓P P 08 11 55.4 -0.4
baz=45,SNR=14
B26A Jensen Ranch, 45.60 64 ⇓P P 08 11 55.1 -0.7
baz=45
D25A Fairfield 45.67 66 ⇓P P 08 11 56.4 -0.1
baz=46,SNR=7.0
I22A 9 Mile Ranch, 45.69 71 ⇓P P 08 11 57.1 +0.4
baz=46,SNR=11
GMRC Granite Mounta 45.71 87 ⇑P P 08 11 56.8 -0.2
baz=46
F24A Ekalaka 45.76 68 ⇓P P 08 11 57.4 +0.2
baz=46,SNR=5.6
LDFC Landfair 45.86 87 eP P 08 11 58.5 +0.4
comp=Z,20nm,1.1s
J22A Midwest 45.98 72 ⇑P P 08 11 59.2 +0.2
baz=46,SNR=25
K21A Alcova 45.98 73 ⇑P P 08 11 58.7 -0.3
baz=46,SNR=16
C26A Wahner Farm, P 45.98 64 ⇓P P 08 11 58.6 -0.3
baz=46,SNR=18
E25A Miller Ranch, 45.99 66 ⇓P P 08 11 59.1 +0.2
baz=46,SNR=17
G24A Alzada 46.07 68 ⇓P P 08 11 59.2 -0.5
baz=46,SNR=13
B27A Peters Farms, 46.13 63 ⇑P P 08 11 59.5 -0.4
baz=46
SRU San Rafael 46.13 79 eP P 08 12 01.4 +1.1
SRU pmax pmax
comp=Z,79nm,0.7s
SRU San Rafael 46.13 79 eP P 08 12 01.4 +1.1
comp=Z,79nm,0.7s
D26A Manning 46.24 65 ⇑P P 08 12 00.5 -0.4
baz=46,SNR=6.3
F25A Bowman 46.28 67 ⇓P P 08 12 01.2 -0.1
baz=46,SNR=14
H24A Dirks Ranch, A 46.33 69 ⇓P P 08 12 01.0 -0.7
baz=46,SNR=16
C27A Sayler Ranch, 46.38 64 ⇓P P 08 12 01.7 -0.3
baz=46,SNR=7.0
A28A Rude Farm, Bot 46.40 62 ⇓P P 08 12 01.7 -0.4
baz=46
K22A Casper 46.40 73 eP P 08 12 02.2 -0.2
comp=Z,24nm,0.8s
K22A Casper 46.40 73 ⇓P P 08 12 02.1 -0.3
baz=46,SNR=7.8
IRM Iron Mountain 46.44 88 ⇓P P 08 12 02.5 -0.1
baz=46
N20A Spence Gulch, 46.45 76 ⇑P P 08 12 03.5 +0.6
baz=46,SNR=9.8
J23A Dilts Ranch, B 46.53 71 ⇑P P 08 12 02.8 -0.5
baz=46
E26A Carlson Angus 46.54 66 ⇓P P 08 12 03.0 -0.3
baz=46,SNR=30
RWWY Rawlins 46.56 74 eP P 08 11 56.1 -7.7
comp=Z,31nm,0.9s
B28A Dugan Ranch, T 46.60 63 ⇑P P 08 12 03.0 -0.7
baz=46,SNR=9.5
W13A Hualapai Mount 46.61 86 ⇓P P 08 12 03.7 -0.4
baz=46
D27A Center 46.71 65 ⇓P P 08 12 04.2 -0.4
baz=46

G25A Newell 46.73 68 ⇑P P 08 12 04.5 -0.2
baz=47,SNR=9.5
U15A North Rim 46.73 83 ⇑P P 08 12 05.8 +0.6
baz=47,SNR=14
F26A Lodgepole 46.78 67 ⇓P P 08 12 05.0 -0.2
baz=47,SNR=13
I24A Kuemmerle Ranc 46.80 70 ⇑P P 08 12 04.7 -0.8
baz=47
L22A Ellis Ranch, M 46.82 73 ⇓P P 08 12 05.0 -0.7
baz=47
K23A Bowen Ranch, D 46.87 72 ⇑P P 08 12 05.5 -0.5
baz=47
O20A White River Ci 46.89 76 eP P 08 12 06.5 +0.3
comp=Z,95nm,0.6s
O20A White River Ci 46.89 76 ⇑P P 08 12 06.0 -0.2
baz=47,SNR=16
H25A Fruitdale 46.96 69 ⇓P P 08 12 06.2 -0.4
baz=47,SNR=26
A29A Manning Farm, 46.96 61 ⇓P P 08 12 05.7 -0.7
baz=47
PDMCI Parker Dam,Lak 46.97 87 ⇑P P 08 12 07.0 +0.3
baz=47
RSSD Black Hills 46.99 69 eP P 08 12 06.0 -1.1
RSSD pmax pmax
comp=Z,14nm,0.7s
RSSD Black Hills 46.99 69 eP P 08 12 06.0 -1.1
comp=Z,14nm,0.7s
C28A Hausauer Farms 47.00 63 ⇓P P 08 12 06.6 -0.3
baz=47
BJI Beijing 47.03 284 P P 08 12 06.5 -0.6
BJI PcP PcP 08 13 38.5 0.0
BJI S S 08 18 49.8 -5.2
BJI pmax pmax
comp=Z,11nm,1.3s
BJI pmax pmax
comp=Z,170nm,4.0s
BJI LR LR
comp=Z,190nm,19.9s
BJI LR LR
comp=Z,320nm,19.9s
E27A Carson 47.07 65 ⇓P P 08 12 07.2 -0.3
baz=47,SNR=16
J24A Dixon Ranch, L 47.10 71 ⇑P P 08 12 07.5 -0.2
baz=47,SNR=7.9
M22A Cedar Creek Ra 47.10 74 ⇓P P 08 12 07.7 -0.3
baz=47,SNR=9.9
F27A Lemmon 47.14 66 ⇑P P 08 12 07.6 -0.3
baz=47,SNR=15
G26A Maurine 47.14 67 ⇑P P 08 12 07.8 -0.2
baz=47,SNR=29
B29A Wagenman Farm, 47.15 62 ⇓P P 08 12 07.3 -0.6
baz=47
D28A Regan 47.20 64 ⇑P P 08 12 07.7 -0.6
baz=47
L23A Garrett 47.21 73 ⇓P P 08 12 08.5 -0.3
baz=47,SNR=16
TLY Talaya 47.38 303 eP P 08 12 09.3 -0.4
TLY pmax pmax
comp=Z,4.0nm,1.4s
TLY Talaya 47.38 303 P P 08 12 08.7 -1.0
comp=Z,0.6nm,0.4s,baz=26,slow=5.9,SNR=4.3
TLY PcP PcP 08 13 39.4 -0.2
comp=Z,1.9nm,0.6s,baz=130,slow=2.7,SNR=3.8
TLY Talaya 47.38 303 eP P 08 12 10.4 +0.7
TLY PcP PcP 08 13 39.4 -0.2
GLA Glamis 47.38 88 ⇑P P 08 12 09.9 -0.1
baz=47
H26A Fairpoint 47.44 68 ⇑P P 08 12 09.9 -0.4
baz=47
G27A Dupree 47.47 67 ⇓P P 08 12 10.2 -0.4
baz=47,SNR=32
E28A Huff 47.48 65 ⇑P P 08 12 10.1 -0.4
baz=47
N22A Wattenberg Ran 47.55 75 ⇓P P 08 12 11.6 +0.1
baz=47,SNR=8.8
J25A Sunshine Ranch 47.56 70 ⇓P P 08 12 10.6 -0.8
baz=47,SNR=8.9
PV04 Paradox Valley 47.57 79 eP P 08 12 12.2 +0.6
M23A Laramie 47.59 73 ⇑P P 08 12 11.7 0.0
baz=47,SNR=5.8
ULN Ulaanbaatar 47.69 297 ceP P 08 12 12.2 -0.2
ULN pmax pmax
comp=Z,8.0nm,2.5s
L24A Wheatland 47.71 72 ⇓P P 08 12 12.2 -0.3
baz=48
B30A Myrvik Farm, E 47.72 62 ⇑P P 08 12 11.9 -0.5
baz=48
I26A New Underwood 47.73 69 ⇓P P 08 12 12.4 -0.3
baz=48,SNR=9.2
N23A Red Feather La 47.80 74 ⇑P P 08 12 13.5 +0.1
baz=48,SNR=6.3
H27A Howes 47.83 68 ⇓P P 08 12 12.7 -0.7
baz=48,SNR=5.9
F28A McLaughlin 47.84 66 ⇓P P 08 12 13.0 -0.4
baz=48,SNR=22
PHWY Pilot Hill 47.85 73 eP P 08 12 13.4 -0.4
comp=Z,7.5nm,0.8s
PHWY epP pP 08 12 25.0 -2.2
WUAZ Wupatki 47.89 83 eP P 08 12 15.3 +1.2
comp=Z,19nm,0.8s
WUAZ Wupatki 47.89 83 ⇑P P 08 12 14.8 +0.7
baz=48,SNR=7.9
O22A Kremmling 47.89 75 ⇑P P 08 12 14.4 +0.2
baz=48,SNR=6.7
Y14A Wickenburg 47.92 86 ⇑P P 08 12 14.4 +0.2
baz=48,SNR=7.9
PV01 Paradox Valley 47.94 79 eP P 08 12 14.6 +0.1
comp=Z,8μm,0.7s
PV01 epP pP 08 12 28.1 +0.2
K25A Mack Ranch, Ha 47.99 71 ⇓P P 08 12 14.4 -0.3
baz=48
ULM Lac du Bonnet 48.02 58 P P 08 12 13.9 -0.8
comp=Z,2.1nm,0.6s,baz=301,slow=5.6,SNR=5.3
ULM PcP PcP 08 13 41.4 -0.5
comp=Z,8.2nm,0.9s,baz=346,slow=6.2,SNR=4.5
ULM LR LR 08 34 02.4
comp=Z,77nm,18.1s,baz=319,slow=38
J26A Sides Ranch, S 48.03 70 ⇑P P 08 12 14.6 -0.4
baz=48
C30A Mose, Pekin 48.07 62 ⇓P P 08 12 14.9 -0.2
baz=48
SONM Songino Array 48.07 298 P P 08 12 14.9 -0.4
comp=Z,1.4nm,0.8s,baz=48,slow=7.3,SNR=12
SONM pP pP 08 12 31.1 +2.5
comp=Z,1.0nm,0.7s,baz=59,slow=6.8,SNR=5.6
SONM PcP PcP 08 13 42.1 -0.2
comp=Z,5.7nm,0.9s,baz=74,slow=2.9,SNR=11
SONM ScP ScP 08 17 30.2 -2.2
comp=Z,1.1nm,0.9s,baz=25,slow=2.7,SNR=5.2
SONM LR LR 08 34 19.9
comp=Z,103nm,18.8s,baz=44,slow=38
E29A Napoleon 48.08 64 ⇓P P 08 12 15.1 -0.1
baz=48
P22A Eagle 48.12 76 ⇓P P 08 12 16.0 +0.1
baz=48
M24A Cheyenne 48.12 73 ⇑P P 08 12 15.9 +0.1
baz=48
I27A Quinn 48.18 68 ⇑P P 08 12 15.9 -0.1
baz=48,SNR=18
L25A Engebretsen Ra 48.21 72 ⇓P P 08 12 16.2 -0.2
baz=48
113A Mohawk Valley, 48.23 88 ⇑P P 08 12 17.1 +0.7
baz=48
G28A Parade 48.23 67 ⇑P P 08 12 16.0 -0.5
baz=48,SNR=16
O23A Lake Granby, G 48.24 75 ⇑P P 08 12 17.5 +0.7
baz=48,SNR=17
SMCO Snowmass 48.25 77 eP P 08 12 15.5 -1.5
comp=Z,22nm,0.6s
D30A Buchanan 48.26 63 ⇓P P 08 12 15.6 -0.9
baz=48,SNR=15
ZAK Zakamensk 48.29 302 ⇓iP P 08 12 16.0 -0.9
ZAK e 08 12 37.6
ZAK e 08 13 42.6
ZAK pmax pmax
comp=Z,4.0nm,1.2s
Z14A Wintersburg 48.34 87 ⇓P P 08 12 17.4 0.0
baz=48
K26A Motz Farm, Whi 48.34 70 ⇑P P 08 12 16.9 -0.5
baz=48
H28A Mission Ridge 48.41 67 ⇑P P 08 12 17.5 -0.3
baz=48,SNR=47
MVCO Mesa Verde 48.57 80 eP P 08 12 19.9 +0.6
comp=Z,29nm,0.9s
MVCO Mesa Verde 48.57 80 ⇓P P 08 12 19.5 +0.2
baz=48,SNR=8.7
X16A Lo Mia Camp, P 48.57 85 ⇑P P 08 12 20.0 +0.6
baz=48,SNR=7.8

M25A Palm-Egli Farm 48.60 72 ⇑P P 08 12 18.8 -0.6
baz=48
ISCO Idaho Springs 48.68 75 eP P 08 12 20.8 +0.5
ISCO pmax pmax
comp=Z,24nm,1.2s
ISCO Idaho Springs 48.68 75 eP P 08 12 20.8 +0.5
comp=Z,24nm,1.2s
ISCO Idaho Springs 48.68 75 ⇑P P 08 12 20.8 +0.5
baz=48,SNR=6.9
J27A Elkhorn Farm, 48.69 69 ⇑P P 08 12 20.1 0.0
baz=48,SNR=16
G29A Hoven 48.73 66 ⇑P P 08 12 19.6 -0.6
baz=48
I28A Midland 48.73 68 ⇓P P 08 12 20.2 -0.1
baz=48,SNR=41
O24A Longmont 48.80 74 ⇓P P 08 12 20.9 -0.1
baz=49
P23A Jefferson 48.81 76 ⇑P P 08 12 21.8 +0.5
baz=49,SNR=6.1
TIA Tai'an 48.87 279 ⇓P P 08 12 22.0 +0.6
TIA pmax pmax
comp=Z,60nm,1.2s
K27A Flueckinger Fa 48.89 70 ⇓P P 08 12 21.0 -0.6
baz=49,SNR=7.9
H29A Onida 48.90 67 ⇑P P 08 12 21.1 -0.5
baz=49,SNR=12
J28A Allard Ranch, 49.04 69 ⇓P P 08 12 22.6 -0.1
baz=49,SNR=25
Q23A Hartsel 49.11 76 ⇑P P 08 12 25.2 +1.6
baz=49,SNR=6.1
AGMN Agassiz Nation 49.15 60 eP P 08 12 22.3 -1.1
comp=Z,10nm,0.8s
AGMN epP pP 08 12 31.9 -4.9
AGMN Agassiz Nation 49.15 60 ⇑P P 08 12 21.8 -1.5
baz=49,SNR=6.3
W18A Petrified Fore 49.16 83 eP P 08 12 25.1 +1.2
comp=Z,70nm,1.5s
W18A epP pP 08 12 38.6 +1.3
W18A Petrified Fore 49.16 83 ⇑P P 08 12 23.9 0.0
baz=49
G30A Faulkton 49.21 66 ⇑P P 08 12 22.9 -1.0
baz=49,SNR=7.1
I29A Vivian Onida 49.21 67 ⇓P P 08 12 23.4 -0.6
baz=49,SNR=16
S22A 4UR Ranch, Cre 49.24 78 ⇓P P 08 12 25.2 +0.6
baz=49,SNR=8.6
P24A Kohler Place, 49.28 75 ⇓P P 08 12 25.6 +0.9
baz=49
214A Organ Pipe Nat 49.37 88 eP P 08 12 26.0 +0.7
comp=Z,4.5nm,0.9s
214A Organ Pipe Nat 49.37 88 ⇑P P 08 12 25.7 +0.4
baz=49
K28A Ten Mile Ranch 49.40 69 ⇑P P 08 12 25.1 -0.3
baz=49,SNR=10
X18A Snowflake 49.42 83 ⇑P P 08 12 26.5 +0.7
baz=49,SNR=5.1
Q24A Divide 49.48 76 ⇓P P 08 12 26.4 -0.1
baz=49
M27A Reverse DX Ran 49.53 71 ⇑P P 08 12 26.4 -0.1
baz=49
R23A Moffat 49.57 77 ⇓P P 08 12 27.7 +0.7
baz=49,SNR=7.2
J29A Okreek 49.58 68 ⇓P P 08 12 26.6 -0.1
baz=49,SNR=35
P25A Willow Gulch B 49.73 74 ⇓P P 08 12 29.2 +1.1
baz=50,SNR=12
BRSD Miller 49.73 66 eP P 08 12 27.6 -0.3
comp=Z,122nm,1.0s
BRSD Miller 49.73 66 ⇑P P 08 12 26.9 -1.0
baz=50,SNR=6.5
L28A Connealy Angus 49.74 70 ⇑P P 08 12 28.0 -0.1
baz=50
S23A Nye Farm, Mont 49.77 77 ⇓P P 08 12 29.4 +0.8
baz=50,SNR=10
O26A Horse Wrangler 49.78 73 ⇓P P 08 12 28.3 -0.2
baz=50
N27A Anderson Farm, 49.89 72 ⇑P P 08 12 28.7 -0.5
baz=50
K29A Lazy Trails An 49.98 69 ⇑P P 08 12 29.9 +0.1
baz=50,SNR=12
R24A Sanders Place, 49.98 76 ⇑P P 08 12 30.7 +0.6
baz=50,SNR=6.0
SDCO Great Sand Dun 50.05 77 eP P 08 12 30.8 0.0
comp=Z,32nm,0.9s
SDCO epP pP 08 12 44.6 +0.4
Q25A Bedland, Calha 50.06 75 ⇑P P 08 12 31.1 +0.4
baz=50,SNR=7.5
OGNE Ogallala 50.10 72 eP P 08 12 31.6 +0.8
comp=Z,40nm,1.2s
OGNE epP pP 08 12 44.4 +0.1
OGNE Ogallala 50.10 72 ⇑P P 08 12 31.0 +0.2
baz=50
J30A Dallas 50.10 68 ⇑P P 08 12 30.2 -0.5
baz=50,SNR=17
U22A Llaves 50.11 79 ⇑P P 08 12 31.8 +0.6
baz=50,SNR=6.9
SPITS Spitsbergen Ar 50.17 357 P P 08 12 29.4 -1.3
comp=Z,19nm,1.1s,baz=61,slow=6.8,SNR=10
SPITS pP pP 08 12 43.8 -0.4
comp=Z,5.2nm,0.6s,baz=54,slow=8.4,SNR=2.2
SPITS LR LR 08 33 59.8
comp=Z,197nm,20.3s,baz=65,slow=36
T23A Casias Ranch, 50.18 78 ⇓P P 08 12 32.2 +0.5
baz=50,SNR=5.3
P26A Davis Ranch, A 50.19 74 ⇓P P 08 12 32.2 +0.6
baz=50,SNR=8.6
M28A Bar X Bar Ranc 50.21 71 ⇓P P 08 12 31.7 +0.1
baz=50
S24A Houchin Ranch, 50.29 77 ⇑P P 08 12 33.2 +0.6
baz=50,SNR=6.6
V22A San Miguel Ran 50.38 80 ⇓P P 08 12 33.3 +0.1
baz=50,SNR=6.0
TUC Tucson 50.39 86 eP P 08 12 33.6 +0.5
TUC Tucson 50.39 86 eP P 08 12 33.6 +0.5
K30A Basset 50.44 68 ⇓P P 08 12 33.3 0.0
baz=50,SNR=15
Q26A Hugo 50.49 75 ⇑P P 08 12 33.6 -0.3
baz=50
R25A Fountain Ranch 50.53 76 ⇓P P 08 12 34.6 +0.5
baz=50,SNR=6.5
U23A El Rito 50.55 79 ⇑P P 08 12 35.1 +0.6
baz=50,SNR=28
N28A Pribbeno Ranch 50.55 72 ⇑P P 08 12 34.0 -0.2
baz=50
NJ2 Nanjing 50.56 274 eP P 08 12 34.5 +0.2
NJ2 pmax pmax
comp=Z,30nm,0.6s
T24B San Luis 50.56 78 ⇑P P 08 12 35.5 +0.9
baz=50,SNR=8.9
M29A Burnside Ranch 50.58 70 ⇑P P 08 12 34.3 -0.1
baz=50,SNR=10
P27A Ficken Ranch, 50.65 73 ⇓P P 08 12 35.1 +0.1
baz=50
S25A Robets Cordova 50.75 76 ⇑P P 08 12 36.2 +0.4
baz=51,SNR=7.2
O28A Krutsinger Ran 50.77 72 ⇑P P 08 12 35.7 -0.1
baz=51
L30A Spencer Herefo 50.83 69 ⇓P P 08 12 36.3 0.0
baz=51
R26A Arlington 50.93 75 ⇑P P 08 12 37.4 +0.2
baz=51,SNR=5.2
V23A Ortiz Mt. (NFS 50.94 79 ⇑P P 08 12 38.2 +0.8
baz=51,SNR=13
KSCO Kaye Shedlock' 50.97 74 eP P 08 12 38.5 +1.1
comp=Z,56nm,0.8s
KSCO Kaye Shedlock' 50.97 74 ⇑P P 08 12 38.0 +0.6
baz=51,SNR=9.9
DAG Danmarks Havn 50.99 7 iP P 08 12 35.0 -1.9
DAG pmax pmax
comp=Z,4.0nm,1.2s
DAG Danmarks Havn 50.99 7 iP P 08 12 35.0 -1.9
comp=Z,2.8nm,1.2s
M30A Dale-Ortello V 51.00 70 ⇑P P 08 12 37.7 +0.2
baz=51
N29A Votaw Ranch, W 51.01 71 ⇑P P 08 12 37.6 0.0
baz=51
U24A Moreno Valley 51.05 78 ⇓P P 08 12 39.1 +0.8
baz=51,SNR=8.0
T25A Trinidad 51.10 77 ⇑P P 08 12 39.4 +0.8
baz=51,SNR=20
P28A Saint Francis 51.13 73 ⇓P P 08 12 38.5 -0.1
baz=51
L31A Butterfield Fa 51.20 68 ⇑P P 08 12 38.7 -0.2
baz=51,SNR=20
LAZ Ladron 51.24 81 eP P 08 12 40.6 +1.0
comp=Z,18nm,0.9s
LAZ epP pP 08 12 53.5 +0.4
ANMO Albuquerque 51.30 80 eP P 08 12 40.8 +0.8

ANMO e*PP pP 08 12 53.9 +0.4
ANMO pmax pmax
comp=Z,20nm,1.1s
ANMO Albuquerque 51.30 80 eP P 08 12 40.8 +0.8
comp=Z,20nm,1.1s
ANMO epP pP 08 12 53.9 +0.4
R27A Eads 51.33 75 ⇓P P 08 12 40.6 +0.4
baz=51,SNR=8.1
W23A Werner Place, 51.34 80 ⇓P P 08 12 41.1 +0.7
baz=51,SNR=12
O29A 4D Ranch, Culb 51.35 72 ⇑P P 08 12 40.4 +0.3
baz=51,SNR=11
S26A Kim 51.36 76 ⇓P P 08 12 40.4 0.0
baz=51,SNR=9.4
Q28A Sharon Springs 51.41 73 ⇑P P 08 12 40.2 -0.5
baz=51
ECSD EROS Data Cent 51.50 66 eP P 08 12 40.1 -1.1
comp=Z,21nm,1.0s
ECSD EROS Data Cent 51.50 66 ⇑P P 08 12 39.7 -1.4
baz=51,SNR=16
LENM Lemitar 51.50 82 eP P 08 12 42.6 +1.1
V24A Rampart Ranch, 51.51 79 ⇓P P 08 12 42.2 +0.5
baz=51,SNR=11
T26A Comanche Natio 51.58 76 ⇑P P 08 12 42.0 -0.1
baz=51,SNR=9.1
U25A Circle Dot Ran 51.59 78 ⇓P P 08 12 42.5 +0.3
baz=51,SNR=15
P29A Atwood 51.60 72 ⇑P P 08 12 42.5 +0.4
baz=51,SNR=8.1
LPM Los Pinos Moun 51.61 81 eP P 08 12 43.6 +1.2
M31A Lambtecht Ranc 51.64 69 ⇑P P 08 12 41.8 -0.5
baz=52,SNR=5.5
X23A Hourglass Bar 51.70 81 ⇓P P 08 12 43.8 +0.7
baz=52,SNR=10.0
O30A MW Ranch, Wils 51.75 71 ⇑P P 08 12 43.5 +0.3
baz=52,SNR=14
W24A Lazy 6 Ranch, 51.76 79 ⇑P P 08 12 44.4 +0.9
baz=52,SNR=14
V25A Rancho No Teng 51.83 78 ⇑P P 08 12 44.9 +0.9
baz=52,SNR=10
R28A Tribune 51.89 74 ⇓P P 08 12 44.7 +0.4
baz=52,SNR=5.9
N31A Bailey Ranch, 51.98 70 ⇑P P 08 12 44.9 0.0
baz=52
U26A Atchley Ranch, 51.99 77 ⇓P P 08 12 45.7 +0.5
baz=52,SNR=13
Q29A Oakley 52.03 73 ⇑P P 08 12 45.0 -0.3
baz=52
P30A Selden 52.04 72 ⇑P P 08 12 45.4 +0.1
baz=52,SNR=9.4
BGNE Belgrade 52.08 69 eP P 08 12 45.3 -0.2
comp=Z,90nm,0.6s
BGNE Belgrade 52.08 69 ⇓P P 08 12 45.4 -0.2
baz=52,SNR=8.4
121A Cookes Peak, D 52.10 84 eP P 08 12 47.2 +1.2
comp=Z,6.2nm,1.0s
121A epP pP 08 13 00.4 +0.9
121A Cookes Peak, D 52.10 84 ⇓P P 08 12 45.7 -0.3
baz=52
Z22A Elephant Butte 52.11 82 ⇑P P 08 12 46.0 -0.1
baz=52
T27A Campo 52.18 76 ⇓P P 08 12 46.4 0.0
baz=52,SNR=7.3
O31A Woolen Ranch, 52.20 71 ⇓P P 08 12 46.3 -0.2
baz=52,SNR=11
Y23A Lovelace Mesa, 52.22 81 ⇓P P 08 12 47.7 +0.8
baz=52,SNR=11
R29A Marienthal 52.24 74 ⇑P P 08 12 46.9 +0.1
baz=52
S28A Manter 52.33 75 ⇓P P 08 12 47.8 +0.3
baz=52,SNR=16
W25A X Bar L Ranch, 52.34 79 ⇑P P 08 12 47.9 +0.2
baz=52,SNR=15
V26A Tequesquite Ra 52.36 78 ⇓P P 08 12 48.1 +0.2
baz=52,SNR=15
N32A Stulken Farm, 52.41 69 ⇑P P 08 12 47.7 -0.3
baz=52,SNR=5.6
Q30A Quinter 52.42 72 ⇑P P 08 12 48.2 0.0
baz=52
T28A Walsh 52.50 75 ⇓P P 08 12 48.8 -0.1
baz=52,SNR=6.6
U27A Thompson Grove 52.53 77 ⇑P P 08 12 49.2 +0.1
baz=52,SNR=6.6
SUMG Summit 52.55 15 iP P 08 12 48.6 -0.4
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 52.55 15 iP P 08 12 48.6 -0.4
comp=Z,11nm,1.0s
SUMG Summit 52.55 15 eP P 08 12 48.1 -0.9
SUMG epP pP 08 13 01.8 -0.8
P31A Stockton 52.57 71 ⇓P P 08 12 49.3 0.0
baz=52,SNR=10
Y24A Capitan 52.60 81 ⇓P P 08 12 50.3 +0.5
baz=52,SNR=19
X25A Clemmons Ranch 52.67 80 ⇓P P 08 12 50.9 +0.7
baz=52,SNR=6.0
SPMN St. Paul 52.69 62 ⇑P P 08 12 49.6 -0.4
baz=52
O32A Brockman Farm, 52.74 70 ⇓P P 08 12 49.8 -0.7
baz=53
S29A Ulysses 52.77 74 ⇑P P 08 12 50.3 -0.5
baz=53
R30A Dighton 52.84 73 ⇑P P 08 12 51.5 +0.2
baz=53,SNR=12
W26A Owens Ranch, T 52.85 78 ⇑P P 08 12 51.9 +0.5
baz=53,SNR=7.7
Q31A Ellis 52.90 72 ⇓P P 08 12 51.6 -0.1
baz=53,SNR=5.3
U28A Mallet 52.92 76 ⇑P P 08 12 51.7 -0.3
baz=53,SNR=8.3
P32A Huiting Farm, 52.96 71 ⇑P P 08 12 51.4 -0.7
baz=53,SNR=5.9
V27A Dan Oppiter Fa 52.97 77 ⇓P P 08 12 52.2 -0.2
baz=53,SNR=10.0
T29A Hugoton 52.97 75 ⇑P P 08 12 52.4 +0.1
baz=53,SNR=5.9
Z24A Sheeppen Canyo 53.05 81 ⇑P P 08 12 53.0 -0.1
baz=53
Y25A Mesa, Roswell 53.06 80 ⇓P P 08 12 53.3 +0.2
baz=53,SNR=9.2
S30A Montezuma 53.15 74 ⇑P P 08 12 53.5 -0.1
baz=53,SNR=5.2
X26A CR and CF Fran 53.18 79 ⇓P P 08 12 53.9 -0.1
baz=53,SNR=9.3
R31A Burdett 53.28 73 ⇓P P 08 12 54.3 -0.3
baz=53,SNR=6.9
W27A Bowe Ranch, En 53.29 78 ⇑P P 08 12 54.7 -0.1
baz=53,SNR=8.4
V28A Channing 53.34 77 ⇓P P 08 12 54.9 -0.2
baz=53,SNR=10
Q32A Meitler Ranch, 53.40 71 ⇑P P 08 12 55.2 -0.2
baz=53,SNR=10
U29A Oasis Ranch, S 53.45 75 ⇑P P 08 12 55.6 -0.2
baz=53,SNR=9.9
Z25A Roswell 53.48 81 ⇓P P 08 12 56.1 0.0
baz=53
T30A Plains 53.50 74 ⇓P P 08 12 56.0 -0.1
baz=53
X27A F and S Farms, 53.55 78 ⇑P P 08 12 56.7 0.0
baz=53
Y26A Elida 53.59 80 ⇑P P 08 12 57.1 +0.1
baz=53,SNR=8.2
P33A Williams Farm, 53.62 70 ⇓P P 08 12 56.9 0.0
baz=53
R32A Long Quarter, 53.68 72 ⇓P P 08 12 57.2 -0.2
baz=54,SNR=6.3
V29A Stinnett 53.69 76 ⇓P P 08 12 57.1 -0.4
baz=54
S31A Mullinville 53.75 73 ⇓P P 08 12 57.3 -0.6
baz=54,SNR=6.1
U30A WK&E Inc. Balk 53.77 75 ⇑P P 08 12 57.8 -0.3
baz=54,SNR=6.3
Q33A Connelly Farm, 53.82 71 ⇑P P 08 12 58.1 -0.3
baz=54,SNR=13
Z26A Caprock 53.94 80 ⇓P P 08 12 59.5 0.0
baz=54
T31A Randall Ranch, 53.98 74 ⇓P P 08 12 59.5 -0.1
baz=54
S32A Newby Ranch, P 54.02 73 ⇑P P 08 12 59.8 -0.1
baz=54
Y27A Causey 54.02 79 ⇑P P 08 13 00.5 +0.4
baz=54
MNTX Cornudas Mount 54.15 83 eP P 08 13 01.8 +0.9
comp=Z,10nm,0.8s
MNTX epP pP 08 13 15.4 +0.9
X28A Dimmitt 54.19 78 ⇓P P 08 13 01.0 -0.2
baz=54,SNR=9.7
R33A Olander Ranch, 54.19 72 ⇑P P 08 13 01.1 0.0
baz=54
MSTX Muleshoe 54.20 79 eP P 08 13 01.5 +0.1
comp=Z,58nm,0.8s
MSTX Muleshoe 54.20 79 ⇑P P 08 13 01.4 0.0
baz=54,SNR=10
AMTX Amarillo 54.25 77 eP P 08 13 02.3 +0.6
comp=Z,39nm,0.8s
AMTX Amarillo 54.25 77 ⇓P P 08 13 01.8 +0.1
baz=54
T32A Huddler Ranch, 54.38 73 ⇑P P 08 13 02.1 -0.4
baz=54
Z27A Tatum 54.38 80 ⇓P P 08 13 02.5 -0.2
baz=54,SNR=10
WHN Wuhan 54.39 276 ⇑iP P 08 13 01.5 -1.1
WHN pmax pmax
comp=Z,150nm,1.2s
GDL2 Guadalupe Moun 54.43 81 eP P 08 13 04.2 +1.1
KSU1 Kansas State U 54.47 70 eP P 08 13 02.6 -0.5
comp=Z,35nm,0.7s
KSU1 Kansas State U 54.47 70 ⇑P P 08 13 02.2 -0.9
baz=54,SNR=8.6
X29A Tulia 54.54 78 ⇑P P 08 13 03.7 -0.1
baz=54,SNR=8.8
Y28A McKinney Farm, 54.57 78 ⇓P P 08 13 03.9 -0.1
baz=54,SNR=9.0
SCIA State Center 54.59 65 eP P 08 13 03.6 -0.3
comp=Z,33nm,0.9s
S33A Kaszmaul Farm, 54.65 72 ⇓P P 08 13 04.4 0.0
baz=54
SFJD Kangerlussuaq 54.67 23 iP P 08 13 03.1 -1.0
SFJD pmax pmax
comp=Z,8.0nm,1.1s
SFJD Kangerlussuaq 54.67 23 iP P 08 13 03.1 -1.0
comp=Z,7.8nm,1.0s
V31A Spring Creek L 54.77 75 ⇓P P 08 13 05.3 -0.1
baz=55
U32A Winter Ranch, 54.86 74 ⇑P P 08 13 05.2 -0.8
baz=55
Z28A Tucker Farm, M 54.90 79 ⇑P P 08 13 06.2 -0.3
baz=55,SNR=6.3
Y29A Porterfield Fa 54.95 78 ⇑P P 08 13 07.0 +0.2
baz=55,SNR=9.4
X30A Coker Ranch, T 55.04 77 ⇑P P 08 13 07.3 -0.1
baz=55,SNR=12
ZALV Zalesovo Beam 55.08 315 P P 08 13 06.5 -0.8
comp=Z,0.5nm,0.5s,baz=19,slow=9.4,SNR=4.1
ZALV pP pP 08 13 23.0 +2.0
comp=Z,0.8nm,0.6s,baz=350,slow=6.0,SNR=2.4
ZALV PcP PcP 08 14 07.7 -0.4
comp=Z,2.6nm,0.8s,baz=44,slow=4.7,SNR=6.2
ZALV LR LR 08 38 21.8
comp=Z,246nm,19.8s,baz=70,slow=38
W31A Holland Ranch, 55.10 76 ⇑P P 08 13 08.0 +0.2
baz=55,SNR=7.5
SSLB Suanglung 55.11 265 eP P 08 13 08.2 +0.3
NVS Novosibirsk 55.18 316 eP P 08 13 01.1 -6.9
128A Castleberry Fa 55.30 80 ⇓P P 08 13 09.1 -0.2
baz=55,SNR=10
XAN Xi'an 55.33 283 P P 08 13 09.5 +0.1
XAN pP pP 08 13 22.0 -1.1
XAN pmax pmax
comp=Z,4.0nm,1.2s
XAN pmax pmax
comp=Z,19nm,4.5s
Z29A Hungry Hill Ra 55.34 79 ⇑P P 08 13 09.6 0.0
baz=55,SNR=12
U33A Lingo Farm, Me 55.36 73 ⇓P P 08 13 08.9 -0.6
baz=55
Y30A Stafford Cattl 55.41 78 ⇑P P 08 13 10.2 +0.1
baz=55,SNR=11
X31A McDonald Ranch 55.45 76 ⇑P P 08 13 10.5 +0.2
baz=55,SNR=11
W32A Sentinel 55.56 75 ⇓P P 08 13 10.9 -0.2
baz=55
228A UT Block 9, Go 55.58 80 ⇓P P 08 13 11.2 -0.1
baz=55,SNR=7.3
JFWS Jewell Farm 55.59 63 eP P 08 13 10.1 -1.0
JFWS e*PP pP 08 13 22.5 -2.3
JFWS pmax pmax
comp=Z,20nm,0.7s
JFWS Jewell Farm 55.59 63 eP P 08 13 10.1 -1.0
comp=Z,20nm,0.7s
JFWS epP pP 08 13 22.5 -2.3
V33A Lossen Ranch, 55.67 74 ⇓P P 08 13 11.7 -0.1
baz=56
129A Stewart Farms, 55.67 79 ⇑P P 08 13 11.6 -0.3
baz=56,SNR=7.8
Z30A Sanderson Ranc 55.67 78 ⇓P P 08 13 11.8 -0.1
baz=56,SNR=7.8
U34A Anderson Ranch 55.70 73 eP P 08 13 12.0 0.0
comp=Z,57nm,0.8s
U34A Anderson Ranch 55.70 73 ⇓P P 08 13 11.7 -0.4
baz=56,SNR=5.3
Y31A Rekieta Farm, 55.74 77 ⇓P P 08 13 11.7 -0.7
baz=56
W33A Caddo, Fort Co 56.01 75 ⇑P P 08 13 13.9 -0.3
baz=56
X32A Elmer 56.02 76 ⇓P P 08 13 14.3 0.0
baz=56,SNR=8.9
V34A Guthrie 56.12 74 eP P 08 13 15.0 0.0
comp=Z,34nm,0.8s
V34A Guthrie 56.12 74 ⇓P P 08 13 14.7 -0.3
baz=56
229A Bryant Ranch, 56.16 80 ⇑P P 08 13 15.2 -0.3
baz=56,SNR=6.1
Y32A R-V Farms, Ver 56.21 76 ⇓P P 08 13 15.7 0.0
baz=56,SNR=11
130A Snyder 56.25 79 ⇓P P 08 13 15.6 -0.5
baz=56,SNR=9.7
Z31A Sharp Cattle R 56.25 78 ⇑P P 08 13 15.8 -0.2
baz=56,SNR=11
W34A Bridge Creek, 56.37 74 ⇓P P 08 13 16.8 -0.1
baz=56
329A Wagon Wheel Ra 56.39 80 ⇓P P 08 13 16.9 -0.2
baz=56,SNR=6.9
X33A Lawton 56.41 75 ⇑P P 08 13 16.7 -0.4
baz=56
131A Roby 56.54 78 ⇑P P 08 13 18.0 -0.1
baz=56,SNR=12
230A Sterling City 56.65 79 ⇓P P 08 13 18.7 -0.2
baz=56,SNR=13
Z32A Haskell 56.66 77 ⇑P P 08 13 18.8 -0.1
baz=56,SNR=10
Y33A Hilltop Ranch, 56.70 76 ⇓P P 08 13 19.0 -0.2
baz=56,SNR=7.7
X34A Smith Ranch, M 56.77 75 ⇓P P 08 13 19.4 -0.3
baz=57
TXAR Lajitas Array 56.86 83 P P 08 13 20.8 +0.3
comp=Z,8.6nm,0.9s,baz=304,slow=4.7,SNR=56
TXAR pP pP 08 13 34.8 +0.6
comp=Z,13nm,0.5s,baz=305,slow=5.2,SNR=32
TXAR LR LR 08 35 24.9
comp=Z,59nm,19.9s,baz=0.0,slow=34
330A Mertzon 56.94 80 ⇓P P 08 13 20.6 -0.4
baz=57,SNR=5.3
LZH Lanzhou 56.98 288 eP P 08 13 22.0 +0.6
LZH pP pP 08 13 34.0 -1.1
LZH sP sP 08 13 40.8 +0.1
LZH PP PP 08 15 31.0 +3.0
LZH S S 08 21 09.0 -3.0
LZH sS sS 08 21 31.0 -3.9
LZH SS SS 08 24 59.0 -1.5
LZH pmax pmax
comp=Z,28nm,1.1s
LZH pmax pmax
comp=Z,160nm,4.0s
LZH LR LR
comp=Z,160nm,11.1s
LZH LR LR
comp=Z,180nm,12.8s
LZH LR LR
comp=Z,260nm,14.0s
ABTX Abilene, Hawle 57.03 78 eP P 08 13 22.1 +0.5
comp=Z,81nm,1.0s
ABTX epP pP 08 13 32.8 -2.5
ABTX Abilene, Hawle 57.03 78 ⇑P P 08 13 21.7 +0.1
baz=57,SNR=8.7
429A Davenport Ranc 57.05 81 ⇓P P 08 13 21.2 -0.5
baz=57,SNR=6.3
GTA Gaotai 57.08 293 eP P 08 13 23.0 +1.0
GTA pP pP 08 13 35.8 +0.1
GTA sP sP 08 13 41.0 -0.3
GTA S S 08 21 13.5 +0.4
GTA sS sS 08 21 34.5 -1.6
GTA SS SS 08 25 04.3 +2.5
GTA pmax pmax
comp=Z,3.0nm,1.4s
GTA pmax pmax
comp=Z,120nm,5.2s
GTA LR LR
comp=Z,190nm,17.8s
GTA LR LR
comp=Z,150nm,17.6s
GTA LR LR
comp=Z,220nm,21.9s
TUL1 Tulsa 57.09 72 eP P 08 13 21.4 -0.5
comp=Z,28nm,0.8s
TUL1 Tulsa 57.09 72 ⇑P P 08 13 21.4 -0.5
baz=57,SNR=6.0
231A Bronte 57.10 79 ⇓P P 08 13 22.9 +0.8
baz=57,SNR=8.1
Z33A Whitaker Ranch 57.11 77 ⇑P P 08 13 22.0 -0.1
baz=57,SNR=10
529A Stev Forest Ra 57.19 82 ⇓P P 08 13 22.9 +0.1
baz=57,SNR=5.6
Y34A Reagan Ranch, 57.25 75 ⇓P P 08 13 22.9 -0.2
baz=57,SNR=7.0
JMIC Jan Mayen 57.29 5 LR LR 08 36 20.3
comp=Z,181nm,21.7s,baz=266,slow=34
430A Baggett Ranch, 57.34 80 ⇑P P 08 13 23.5 -0.3
baz=57,SNR=16
331A San Angelo 57.47 79 ⇑P P 08 13 24.2 -0.5
baz=57,SNR=9.8
133A Hamilton Ranch 57.48 77 ⇑P P 08 13 24.9 +0.1
baz=57,SNR=12
232A Coleman 57.54 78 ⇑P P 08 13 24.9 -0.3
baz=57,SNR=8.6
Z34A Collier Ranch, 57.56 76 ⇓P P 08 13 25.2 -0.1
baz=57,SNR=11
530A J-C Ranch, Com 57.72 81 ⇑P P 08 13 26.3 -0.2
baz=58,SNR=25
431A Sonora 57.79 80 ⇓P P 08 13 26.3 -0.7
baz=58,SNR=21
332A Millersview 57.83 79 ⇑P P 08 13 26.8 -0.4
baz=58,SNR=7.8
233A Rising Star 57.91 78 ⇓P P 08 13 27.6 -0.2
baz=58,SNR=5.6
Z35A Perchaven, San 57.99 76 ⇓P P 08 13 27.6 -0.6
baz=58,SNR=5.6
134A White-Moore Ra 58.02 77 ⇑P P 08 13 28.3 -0.2
baz=58,SNR=7.7
ARCES ARCESS Array B 58.06 351 P P 08 13 26.1 -2.2
comp=Z,5.3nm,1.0s,baz=348,slow=13,SNR=3.3
ARCES LR LR 08 39 09.7
comp=Z,77nm,20.5s,baz=356,slow=37
432A Menard 58.16 79 ⇓P P 08 13 28.8 -0.7
baz=58,SNR=9.6
531A Rocksprings 58.20 80 ⇓P P 08 13 29.1 -0.7
baz=58,SNR=7.3
333A Richland Sprin 58.34 78 ⇑P P 08 13 30.4 -0.3
baz=58,SNR=6.9
234A Clairette 58.38 77 ⇑P P 08 13 30.9 -0.2
baz=58,SNR=11
JCT Junction City 58.43 80 eP P 08 13 30.7 -0.7
JCT e*PP pP 08 13 44.5 -0.7
JCT pmax pmax
comp=Z,25nm,0.8s
JCT Junction City 58.43 80 eP P 08 13 30.7 -0.7
comp=Z,25nm,0.8s
JCT epP pP 08 13 44.5 -0.7
JCT Junction City 58.43 80 ⇑P P 08 13 30.8 -0.7
baz=58,SNR=6.4
135A Vickery Place, 58.43 76 ⇓P P 08 13 31.4 0.0
baz=58,SNR=8.9
SLM Saint Louis 58.47 66 eP P 08 13 30.9 -0.6
SLM pmax pmax
comp=Z,34nm,0.7s
SLM Saint Louis 58.47 66 eP P 08 13 30.9 -0.6
comp=Z,34nm,0.7s
532A Rocksprings 58.61 80 ⇑P P 08 13 31.8 -1.0
baz=58,SNR=9.2
SCHQ Schefferville 58.64 40 P P 08 13 31.1 -1.5
comp=Z,5.1nm,0.9s,baz=294,slow=8.9,SNR=5.5
SCHQ LR LR 08 40 01.1
comp=Z,180nm,19.4s,baz=335,slow=37
433A Art 58.67 79 ⇑P P 08 13 32.3 -0.8
baz=58,SNR=5.9
631A Perdido Creek 58.71 81 ⇓P P 08 13 32.3 -1.1
baz=59,SNR=8.5
334A Lometa 58.79 78 ⇓P P 08 13 33.9 0.0
baz=59,SNR=16
WHTX Lake Whitney 58.80 77 eP P 08 13 34.5 +0.6
comp=Z,63nm,0.6s
WHTX epP pP 08 13 44.8 -2.8
WHTX Lake Whitney 58.80 77 ⇑P P 08 13 34.0 +0.1
baz=59,SNR=9.2
SFIN Scholer Farm 59.04 63 eP P 08 13 35.0 -0.4
comp=Z,40nm,1.0s
SFIN epP pP 08 13 48.2 -1.0
SFIN Scholer Farm 59.04 63 ⇑P P 08 13 34.9 -0.6
baz=59
632A Uvalde 59.12 80 ⇓P P 08 13 35.6 -0.6
baz=59,SNR=5.3
434A Burnet 59.13 78 ⇓P P 08 13 36.2 0.0
baz=59,SNR=13
533A Kerrville 59.19 79 ⇓P P 08 13 36.2 -0.5
baz=59,SNR=5.8
335A Moody 59.31 77 ⇓P P 08 13 37.3 -0.2
baz=59
MIAR Mount Ida 59.35 72 eP P 08 13 37.9 +0.2
MIAR pmax pmax
comp=Z,53nm,0.8s
MIAR Mount Ida 59.35 72 eP P 08 13 37.9 +0.2
comp=Z,53nm,0.8s
633A Saathoff Ranch 59.53 80 ⇑P P 08 13 39.2 +0.1
baz=59,SNR=6.8
534A Blanco 59.56 79 ⇑P P 08 13 38.7 -0.6
baz=59,SNR=5.8
732A Laxson Ranch, 59.56 81 ⇑P P 08 13 39.0 -0.3
baz=59,SNR=6.1
435B Jarrell 59.57 78 ⇑P P 08 13 39.3 0.0
baz=59,SNR=6.4
336A Riesel 59.59 77 ⇑P P 08 13 39.5 +0.1
baz=59,SNR=12
OLIL Olney 59.61 65 eP P 08 13 39.0 -0.4
comp=Z,72nm,1.0s
PBMO Poplar Bluff 59.63 68 eP P 08 13 38.7 -1.0
comp=Z,44nm,1.0s
PBMO epP pP 08 13 51.7 -1.7
SIUC Southern Illin 59.68 67 eP P 08 13 38.8 -1.1
comp=Z,60nm,0.6s
SIUC epP pP 08 13 50.2 -3.6
832A Faith Ranch, C 59.88 82 ⇑P P 08 13 41.3 -0.1
baz=60,SNR=16
UALR University of 59.91 71 eP P 08 13 41.3 -0.3
comp=Z,22nm,0.6s
UALR epP pP 08 13 54.3 -1.0
733A Divot King Ran 59.99 81 ⇓P P 08 13 42.2 +0.1
baz=60,SNR=7.9
436A Wall Ranch, Ga 60.06 77 ⇑P P 08 13 42.0 -0.6
baz=60
KURK Kurchatov 60.06 315 P P 08 13 41.8 -0.5
comp=Z,40nm,0.7s,SNR=9.2
KURK Kurchatov 60.06 315 eP P 08 13 41.1 -1.2
KURK Kurchatov 60.06 315 eP P 08 13 41.1 -1.2
PARMO Parma 60.10 68 eP P 08 13 41.8 -1.1
PARMO epP pP 08 13 55.9 -0.8
535A Dale 60.11 78 ⇑P P 08 13 42.5 -0.5
baz=60
BLO Bloomington 60.19 64 eP P 08 13 42.8 -0.6
BLO pmax pmax
comp=Z,25nm,0.6s
BLO Bloomington 60.19 64 eP P 08 13 42.8 -0.6
comp=Z,25nm,0.6s
833A Chaparral WMA, 60.21 81 ⇓P P 08 13 43.9 +0.2
baz=60,SNR=5.2
734A La Parita Cree 60.35 80 ⇓P P 08 13 44.9 +0.3
baz=60,SNR=5.7
536A Bastrop 60.39 78 ⇑P P 08 13 44.4 -0.4
baz=60
USIN University of 60.39 65 eP P 08 13 44.4 -0.4
comp=Z,112nm,0.6s
USIN epP pP 08 13 57.8 -0.8
635A Leesville 60.44 79 ⇑P P 08 13 45.2 0.0
baz=60,SNR=10
CD2 Chengdu 60.63 284 eP P 08 13 47.5 +0.9
CD2 pP pP 08 13 59.8 -0.6
CD2 sP sP 08 14 04.8 -1.3
CD2 PcP PcP 08 14 32.0 +1.5
CD2 PP PP 08 16 03.0 +2.7
CD2 PcS PcS 08 18 33.0 -0.2
CD2 S S 08 21 58.0 -1.2
CD2 sS sS 08 22 18.3 -4.0
CD2 SS SS 08 25 57.3 -0.4

CD2
comp=Z,20nm,0.5s pmax pmax
CD2
comp=Z,140nm,5.6s pmax pmax
CD2
comp=Z,220nm,20.6s LR LR
CD2
comp=Z,220nm,23.7s LR LR
WMQ Urumqi 60.64 304 P **P** **08 13 48.5 +2.0**
WMQ pP **pP** **08 14 01.3 +1.0**
WMQ sP **sP** **08 14 06.5 +0.5**
WMQ PcP **PcP** **08 14 32.3 +2.0**
WMQ PP **PP** **08 16 04.3 +4.2**
WMQ PcS **PcS** **08 18 33.5 +0.6**
WMQ S **S** **08 21 59.5 +0.5**
WMQ sS **sS** **08 22 21.5 -0.6**
WMQ ScS SKKSac 08 23 31.8 -1.0
WMQ SS **SS** **08 25 59.5 +2.2**
WMQ pmax pmax
comp=Z,20nm,0.8s
WMQ pmax pmax
comp=Z,130nm,5.8s
WMQ LR LR
comp=Z,130nm,19.8s
WMQ LR LR
comp=Z,140nm,24.0s
933A Laredo 60.79 82 ⇑P **P** **08 13 47.7 0.0**
baz=61
735A Kenedy 60.80 80 ⇑P **P** **08 13 47.4 -0.3**
baz=61
636A Smothers Creek 60.81 79 ⇑P **P** **08 13 48.6 +0.8**
baz=61,SNR=7.4
834A Tilden 60.87 81 ⇓P **P** **08 13 48.0 -0.2**
baz=61
WCI Wyandotte Cave 60.98 64 eP **P** **08 13 47.7 -1.1**
WCI e*PP **pP** **08 13 58.1 -4.6**
WCI pmax pmax
comp=Z,22nm,0.7s
WCI Wyandotte Cave 60.98 64 eP **P** **08 13 47.7 -1.1**
comp=Z,22nm,0.7s
WCI epP **pP** **08 13 58.1 -4.6**
835A Beeville 61.19 80 ⇑P **P** **08 13 51.2 +0.8**
baz=61,SNR=8.9
MK31 Makanchi Array 61.20 310 i P **P** **08 13 47.8 -2.4**
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 61.20 310 P **P** **08 13 48.8 -1.5**
MKAR *PP **pP** **08 14 03.9 -0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR MLR MLR
comp=Z,92nm,18.8s
MKAR Makanchi Array 61.20 310 P **P** **08 13 48.8 -1.5**
comp=Z,3.4nm,0.7s,baz=55,slow=7.2,SNR=27
MKAR pP **pP** **08 14 03.9 -0.2**
comp=Z,1.7nm,0.5s,baz=45,slow=5.4,SNR=5.9
MKAR LR LR 08 42 27.9
comp=Z,92nm,18.8s,baz=32,slow=38
HKT Hockley 61.23 77 eP **P** **08 13 51.0 +0.5**
HKT e*PP **pP** **08 14 04.5 +0.2**
HKT pmax pmax
comp=Z,14nm,0.9s
HKT Hockley 61.23 77 eP **P** **08 13 51.0 +0.5**
comp=Z,14nm,0.9s
HKT epP **pP** **08 14 04.5 +0.2**
934A Benavides 61.26 81 ⇓P **P** **08 13 52.0 +1.1**
baz=61,SNR=7.6
340A Bronson 61.36 75 ⇓P **P** **08 13 51.4 0.0**
baz=61,SNR=7.0
TMCR Tamitsa 61.48 344 eP **P** **08 13 48.8 -2.9**
TMCR e 08 16 02.2
034A Hebbronville 61.55 82 ⇑P **P** **08 13 52.8 0.0**
baz=61
WVT Waverly 61.58 67 eP **P** **08 13 52.3 -0.6**
WVT Waverly 61.58 67 eP **P** **08 13 52.3 -0.6**
BVA0 Borovoye Array 61.77 321 i P **P** **08 13 54.3 +0.4**
BVA0 pmax pmax
comp=Z,8.0nm,1.0s
BVAR Borovoye Array 61.77 321 P **P** **08 13 53.7 -0.3**
comp=Z,3.3nm,0.6s,baz=57,slow=5.7,SNR=16
BVAR pP **pP** **08 14 09.5 +1.8**
comp=Z,4.0nm,0.5s,baz=52,slow=5.8,SNR=8.6
BVAR LR LR 08 43 12.5
comp=Z,440nm,19.4s,baz=50,slow=38
BRVK Borovoye 61.79 321 eP **P** **08 13 54.9 +0.9**
BRVK Borovoye 61.79 321 eP **P** **08 13 54.9 +0.9**
ALLY Alegheny Colle 61.91 58 eP **P** **08 13 54.8 -0.3**
comp=Z,57nm,0.6s
ALLY epP **pP** **08 14 08.4 -0.5**
035A Encino 62.00 81 ⇑P **P** **08 13 56.6 +0.8**
baz=62,SNR=7.9
GYA Guiyang 62.04 278 P **P** **08 13 56.0 -0.3**
GYA pP **pP** **08 14 10.5 +0.4**
GYA sP **sP** **08 14 16.3 +0.5**
GYA PP **PP** **08 16 16.0 +3.1**
GYA ScP **ScP** **08 18 34.5 +0.7**
GYA S **S** **08 22 17.0 -0.3**
GYA sS **sS** **08 22 37.3 -3.2**
GYA SS **SS** **08 26 21.5 +1.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.6s
GYA LR LR
comp=Z,580nm,19.2s
GYA LR LR
comp=Z,490nm,20.0s
GYA LR LR
comp=Z,560nm,18.6s
PRGR Permogore 62.26 339 P **P** **08 13 54.0 -3.0**
PRGR e 08 14 33.8
PRGR pmax pmax
comp=Z,25nm,1.1s
035Z Hargill 62.36 82 ⇑P **P** **08 13 58.8 +0.5**
baz=62,SNR=6.9
VBMS Vicksburg 62.80 72 eP **P** **08 14 01.6 +0.6**
comp=Z,74nm,0.9s
VBMS epP **pP** **08 14 14.8 -0.2**
ARU Arti 63.24 330 d i P **P** **08 14 03.8 +0.1**
ARU 08 16 21.9
ARU S **S** **08 22 35.2 +3.9**
ARU SS SS 08 26 29.3 -7.9
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 63.24 330 eP **P** **08 14 04.2 +0.6**
comp=Z,9.8nm,1.0s
SWET Sewanee 63.32 66 eP **P** **08 14 03.2 -1.3**
comp=Z,12nm,0.9s
SWET esP **sP** **08 14 23.1 -1.0**
TZTN Tazewell 63.71 64 eP **P** **08 14 06.9 -0.2**
comp=Z,33nm,1.1s
TZTN epP pP 08 14 14.8 -6.2
CPCT Cooper Cave 63.95 65 eP **P** **08 14 10.0 +1.3**
CPCT epP **pP** **08 14 23.4 +0.8**
TKL Tuckaleechee C 64.22 65 eP **P** **08 14 10.1 -0.4**
TKL Tuckaleechee C 64.22 65 eP **P** **08 14 10.1 -0.4**
KLMR Klimovskoe 64.25 342 eP **P** **08 14 07.5 -2.7**
KLMR pmax pmax
comp=Z,20nm,1.5s
LRAL Lakeview Retre 64.27 69 eP **P** **08 14 09.9 -0.9**
comp=Z,12nm,1.0s
BLA Blacksburg 64.95 61 eP **P** **08 14 15.4 +0.1**
BLA e*PP **pP** **08 14 28.2 -1.0**
BLA pmax pmax
comp=Z,42nm,0.9s
BLA Blacksburg 64.95 61 eP **P** **08 14 15.4 +0.1**
comp=Z,42nm,0.9s
BLA epP **pP** **08 14 28.2 -1.0**
KMI Kunming 65.42 280 P **P** **08 14 18.0 -0.7**
KMI pP **pP** **08 14 32.3 -0.3**
KMI sP **sP** **08 14 35.5 -2.8**
KMI PcP **PcP** **08 14 51.0 +0.6**
KMI PP **PP** **08 16 45.8 +3.0**
KMI S **S** **08 22 58.5 -1.1**
KMI sS **sS** **08 23 19.0 -4.0**
KMI SS **SS** **08 27 13.8 +0.7**
KMI pmax pmax
comp=Z,32nm,1.4s
KMI pmax pmax
comp=Z,130nm,3.5s
KMI LR LR
comp=Z,150nm,12.2s
KMI LR LR
comp=Z,130nm,14.8s
QIZ Qiongzhong 65.54 270 P **P** **08 14 19.5 +0.3**
QIZ S **S** **08 22 55.3 -5.4**
QIZ pmax pmax
comp=Z,27nm,1.5s
QIZ pmax pmax
comp=Z,61nm,3.0s
FINES FINESS Array B 65.84 349 P **P** **08 14 19.9 -0.6**
comp=Z,0.9nm,0.5s,baz=346,slow=6.3,SNR=3.8
FINES pP **pP** **08 14 36.2 +1.7**
comp=Z,1.3nm,0.6s,baz=41,slow=6.1,SNR=2.4
FINES LR LR 08 44 52.1
comp=Z,102nm,20.4s,baz=82,slow=38
KMSC Kings Mountain 65.96 63 eP **P** **08 14 21.5 -0.2**
comp=Z,58nm,1.0s
KMSC Kings Mountain 65.96 63 ⇑P **P** **08 14 21.4 -0.4**
baz=66
GOGA Godfrey 66.03 66 eP **P** **08 14 21.5 -0.7**
GOGA Godfrey 66.03 66 eP **P** **08 14 21.5 -0.7**
TKM2 Tokmak 2 67.26 311 P **P** **08 14 30.7 +0.5**
SNR=7.4
TKM2 Tokmak 2 67.26 311 eP **P** **08 14 29.6 -0.6**
TKM2 pmax pmax
comp=Z,6.0nm,0.9s
TKM2 Tokmak 2 67.26 311 eP **P** **08 14 29.6 -0.6**
comp=Z,5.9nm,0.9s
TIGA Tifton 67.41 68 ⇑P **P** **08 14 30.4 -0.5**
baz=67
NOA NORSAR Array B 67.47 356 LR LR 08 41 47.8
comp=Z,55nm,21.9s,baz=5.0,slow=34
USP Ospenovka 67.51 312 P **P** **08 14 30.8 -0.7**
SNR=11
USP Ospenovka 67.51 312 i P **P** **08 14 30.8 -0.7**
TAOE Nuku Hiva Isla 67.73 141 eT T 09 28 23.9
comp=Z,312nm,0.3s
AAK Ala-Archa 68.00 311 P **P** **08 14 34.6 -0.2**
comp=Z,47nm,0.7s,SNR=7.0
AAK Ala-Archa 68.00 311 P **P** **08 14 34.3 -0.5**
SNR=8.8
AAK Ala-Archa 68.00 311 P **P** **08 14 34.3 -0.5**
AAK pmax pmax
comp=Z,5.0nm,0.7s
AAK MLR MLR
comp=Z,96nm,18.7s
AAK Ala-Archa 68.00 311 P **P** **08 14 34.3 -0.5**
comp=Z,5.1nm,0.7s,baz=128,slow=2.8,SNR=20
AAK LR LR 08 46 44.5
comp=Z,96nm,18.7s,baz=20,slow=38
AAK Ala-Archa 68.00 311 eP **P** **08 14 33.8 -1.0**
comp=Z,6.2nm,0.8s
RGRS Roger Stewart 68.25 64 eP **P** **08 14 36.8 +0.5**
HFS Hagfors 68.25 355 P **P** **08 14 33.4 -2.4**
comp=Z,2.0nm,0.6s,baz=305,slow=5.2,SNR=5.5
HFS pP **pP** **08 14 49.9 +0.1**
comp=Z,1.7nm,0.4s,baz=29,slow=3.4,SNR=3.4
EKS2 Erkin-Say 68.31 312 P **P** **08 14 36.4 -0.4**
SNR=8.4
EKS2 Erkin-Say 68.31 312 eP **P** **08 14 36.3 -0.4**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 68.31 312 eP **P** **08 14 36.3 -0.4**
comp=Z,6.7nm,0.8s
AKTO Aktyubinsk 68.42 326 P **P** **08 14 37.5 +0.4**
comp=Z,2.2nm,0.5s,baz=72,slow=9.6,SNR=5.5
AKTO pP **pP** **08 14 51.4 +0.3**
comp=Z,2.7nm,0.6s,baz=48,slow=4.2,SNR=4.4
AKTO LR LR 08 48 35.3
comp=Z,113nm,19.0s,baz=35,slow=39
PMG Port Moresby 68.64 219 ceP **P** **08 14 39.6 +0.8**
PMG pmax pmax
comp=Z,15nm,1.2s
PMG Port Moresby 68.64 219 eP **P** **08 14 39.7 +0.8**
AML Almayashu 68.76 312 P **P** **08 14 39.4 -0.5**
SNR=6.1
KK31 Karatay Array 69.45 314 i P **P** **08 14 42.4 -1.2**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 69.45 314 eP **P** **08 14 42.3 -1.3**
KKAR Karatay Array 69.45 314 eP **P** **08 14 42.3 -1.3**
OBN Obninsk 70.17 341 eP **P** **08 14 48.5 +0.7**
OBN i 08 15 11.5
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,141nm,25.0s
CRAI Chiangrai 70.51 278 P **P** **08 14 49.7 -0.7**
comp=Z,33nm,1.0s
PMOR Pomariorio Ree 70.77 151 eT T 09 32 10.8
comp=Z,29nm,0.2s
UBPT Khong Chiam 71.09 271 P **P** **08 14 54.2 +0.3**
comp=Z,26nm,0.9s
CMAI Chiengmai2 71.55 279 P **P** **08 14 57.6 +0.7**
comp=Z,29nm,0.7s,comp=Z,7μm
LAMP Lampang 72.26 277 P **P** **08 15 01.7 +0.7**
comp=Z,6.9nm,1.0s,comp=Z,213nm
UTTA Uttaradit 72.28 276 P **P** **08 15 01.3 +0.3**
comp=Z,22nm,0.9s,comp=Z,193nm
CMMT Chiang Mai 72.46 278 P **P** **08 15 02.0 -0.2**
comp=Z,26nm,1.3s
CHTO Chiang Mai 72.46 278 eP **P** **08 15 01.9 -0.3**
CHTO pmax pmax
comp=Z,31nm,1.3s
CHTO Chiang Mai 72.46 278 P **P** **08 15 02.1 -0.1**
comp=Z,91nm,1.2s
CHTO Chiang Mai 72.46 278 eP **P** **08 15 01.9 -0.3**
comp=Z,31nm,1.3s
PPT Papeete 72.72 154 LR LR 08 39 28.2
comp=Z,152nm,20.8s,baz=326,slow=30
CMAR Chiang Mai Arr 72.73 278 P **P** **08 15 04.0 +0.3**
comp=Z,16nm,0.9s,baz=25,slow=7.3,SNR=65
CMAR pP **PcP** **08 15 21.6 +0.7**
comp=Z,7.6nm,0.8s,baz=16,slow=5.2,SNR=4.2
CMAR LR LR 08 47 36.0
comp=Z,35nm,21.7s,baz=48,slow=36
TAPN Taplejung 72.74 292 eP **P** **08 15 03.5 -0.6**
comp=Z,51nm,1.1s
PPT2 Papeete2 72.74 154 eLR LR 08 37 18.6
comp=Z,184nm,23.0s
PPT2 Papeete2 72.74 154 eT T 09 34 39.0
comp=Z,33nm,0.3s
TIAR Tiarei 72.78 153 eT T 09 34 41.3
comp=Z,8.2nm,0.3s
PAE Paea 72.81 154 eT T 09 34 43.8
comp=Z,5.7nm,0.3s
PBKT Sadao Pong 72.91 275 P **P** **08 15 04.8 0.0**
comp=Z,31nm,1.1s,comp=Z,1μm
TVO Taravao 73.02 153 eT T 09 34 59.2
comp=Z,2.8nm,0.3s
GUN Gumba 73.36 294 eP **P** **08 15 07.2 -0.6**
comp=Z,45nm,0.7s
JIRN Jiri 73.38 294 eP **P** **08 15 07.5 -0.5**
comp=Z,32nm,0.7s
MHMT Maesariang 73.57 279 P **P** **08 15 09.0 +0.3**
comp=Z,25nm,0.9s,comp=Z,8μm
RAMN Ramite 73.68 293 ePn **P** **08 15 08.9 -0.7**
comp=Z,27nm,0.8s
KKN Kakani 73.79 294 eP **P** **08 15 09.6 -0.6**
PKI Pulchoki 73.89 294 eP **P** **08 15 10.0 -0.9**
GKN Gorkha 74.00 295 eP **P** **08 15 10.8 -0.5**
DANN Dangsing 74.22 296 eP **P** **08 15 12.3 -0.5**
comp=Z,47nm,1.0s
KOLN Koldanda 74.76 295 eP **P** **08 15 15.0 -0.8**
comp=Z,16nm,0.7s
PYUN Piuthan 74.85 296 eP **P** **08 15 15.5 -0.8**
comp=Z,65nm,0.9s
CHBT CHBT 74.97 272 P **P** **08 15 18.2 +1.3**
comp=Z,31nm,1.3s
DZM Mont Dzumac 75.06 197 eS **S** **08 24 55.1 +3.7**
comp=Z,75nm,26.3s
DZM Mont Dzumac 75.06 197 eLR LR 08 38 29.9
comp=Z,208nm,27.1s
KHLT Khaolaem Dam 75.73 276 P **P** **08 15 22.0 +0.7**
comp=Z,14nm,1.2s
SRDT SRDT 75.74 275 P **P** **08 15 22.2 +0.9**
comp=Z,102nm,1.0s,comp=Z,8μm
AKASG Malin Array Be 75.76 344 P **P** **08 15 18.8 -2.2**
comp=Z,0.7nm,0.5s,baz=21,slow=6.8,SNR=3.7
AKASG LR LR 08 52 22.0
comp=Z,97nm,19.7s,baz=320,slow=39
KBL Kabul 77.01 310 eP **P** **08 15 27.8 -0.8**
KBL Kabul 77.01 310 eP **P** **08 15 27.8 -0.8**
DPC Dobruska-Polom 77.79 352 eP **P** **08 15 29.7 -2.8**
DPC e 08 15 43.0
DPC Dobruska-Polom 77.79 352 eP **P** **08 15 29.7 -2.8**
DPC ex x 08 15 43.0
OKC Ostrava-Krasne 78.13 351 eP **P** **08 15 32.4 -1.9**
OKC Ostrava-Krasne 78.13 351 eP **P** **08 15 32.4 -1.9**
TBI Tubuai 78.26 155 eT T 09 41 32.9
comp=Z,8.8nm,0.3s
CTAO Charters Tower 78.75 216 eP **P** **08 15 38.4 +0.5**
CTAO pmax pmax
comp=Z,18nm,1.0s
CTAO Charters Tower 78.75 216 eP **P** **08 15 38.4 +0.5**
comp=Z,18nm,1.0s
GEYT Alibeck 79.02 319 LR LR 08 53 22.4
comp=Z,220nm,21.8s,baz=15,slow=38
KIV Kislovodsk 79.03 333 eP **P** **08 15 40.1 +0.7**
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,79nm,19.0s
KBZ Khabaz 79.17 332 LR LR 08 55 04.6
comp=Z,63nm,21.6s,baz=24,slow=39
KHC Kasperske Hory 79.22 354 eP **P** **08 15 39.5 -0.8**
KHC e 08 15 51.3
KHC Kasperske Hory 79.22 354 eP **P** **08 15 39.5 -0.8**
KHC ePCP **PcP** **08 15 51.3 +2.8**
GERES GERESS Array B 79.49 354 LR LR 08 53 27.5
comp=Z,39nm,19.2s,baz=4.5,slow=38
SURT Suratani 80.09 272 P **P** **08 15 47.4 +1.9**
comp=Z,11nm,1.4s,comp=Z,533nm
PAGF Fort de Pagny 80.11 359 eP **P** **08 15 44.9 -0.2**
comp=Z,5.2nm,0.8s
PAGF Fort de Pagny 80.11 359 eP **P** **08 15 44.9 -0.2**
comp=Z,5.2nm,0.8s
BATI Baumata 80.50 240 LR LR 08 46 55.2
comp=Z,49nm,20.2s,slow=32
KBA Koelnbreinsper 81.28 354 ⇑i P **P** **08 15 51.1 -0.5**
comp=Z,7.0nm,1.0s
LOR Lormes 81.41 0 eP **P** **08 15 51.5 -0.6**
comp=Z,23nm,1.2s
LOR Lormes 81.41 0 eP **P** **08 15 51.5 -0.6**
LOR pmax pmax
comp=Z,23nm,1.2s
LOR Lormes 81.41 0 eP **P** **08 15 51.5 -0.6**
comp=Z,23nm,1.2s
SSF Saint Saulge 81.62 0 eP **P** **08 15 52.6 -0.6**
SSF Saint Saulge 81.62 0 eP **P** **08 15 52.6 -0.6**
SSF Saint Saulge 81.62 0 eP **P** **08 15 52.6 -0.6**
AVF Avril sur Loir 81.89 0 eP **P** **08 15 53.7 -0.9**
comp=Z,25nm,1.1s
AVF Avril sur Loir 81.89 0 eP **P** **08 15 53.7 -0.9**
AVF pmax pmax
comp=Z,25nm,1.1s
AVF Avril sur Loir 81.89 0 eP **P** **08 15 53.7 -0.9**
comp=Z,25nm,1.1s
GNI Garni 81.89 330 LR LR 08 58 16.5
comp=Z,96nm,18.4s,baz=28,slow=40
SMF Signal de Mont 82.03 0 eP **P** **08 15 54.2 -1.2**
comp=Z,23nm,1.1s
SMF Signal de Mont 82.03 0 eP **P** **08 15 54.2 -1.2**
SMF pmax pmax
comp=Z,23nm,1.1s
SMF Signal de Mont 82.03 0 eP **P** **08 15 54.2 -1.2**
comp=Z,23nm,1.1s
IPM Ipoh 82.17 267 eP **P** **08 15 56.2 -0.4**
comp=Z,16nm,0.9s
RKT Rikitea 82.71 142 eT T 09 47 07.0
comp=Z,12nm,0.3s
LPG La Plagne 83.16 358 eP **P** **08 16 00.5 -1.1**
LPG La Plagne 83.16 358 eP **P** **08 16 00.5 -1.1**
LPG La Plagne 83.16 358 eP **P** **08 16 00.5 -1.1**
WRAB Tennant Creek 83.48 226 eP **P** **08 16 03.0 -0.1**
WRAB pmax pmax
comp=Z,22nm,1.2s
WRAB Tennant Creek 83.48 226 eP **P** **08 16 03.0 -0.1**
comp=Z,22nm,1.2s
WRA Warramunga Arr 83.49 226 P **P** **08 16 03.0 -0.2**
WRA Warramunga Arr 83.49 226 P **P** **08 16 03.0 -0.2**
comp=Z,10.0nm,1.0s,baz=37,slow=6.3,SNR=40
BR131 Keskin Array S 85.36 338 eP **P** **08 16 11.1 -1.6**
comp=Z,2.1nm,0.8s
BRTR Keskin Array B 85.36 338 P **P** **08 16 11.3 -1.4**
comp=Z,1.6nm,0.8s,baz=28,slow=3.2,SNR=7.7
BRTR LR LR 09 00 43.2
comp=Z,41nm,19.1s,baz=44,slow=40
HYB Hyderabad 85.74 293 i P **P** **08 16 12.5 -2.3**
AS31 Alice Springs 86.94 225 eP **P** **08 16 21.0 +0.6**
AS31 epP **pP** **08 16 34.4 -0.4**
LRS Lares 87.11 64 eP **P** **08 16 22.0 +0.5**
LRS epP **pP** **08 16 35.6 -0.3**
STKA Stephens Creek 91.18 215 eP **P** **08 16 41.4 +1.3**
STKA *PP **pP** **08 16 55.3 +0.7**
STKA Stephens Creek 91.18 215 P **P** **08 16 40.9 +0.9**
comp=Z,8.6nm,0.9s,baz=341,slow=7.6,SNR=15
STKA pP **pP** **08 16 55.2 +0.7**
comp=Z,4.6nm,0.6s,baz=8.7,slow=5.0,SNR=6.1
STKA LR LR 08 53 27.8
comp=Z,91nm,20.8s,baz=27,slow=33
STKA Stephens Creek 91.18 215 eP **P** **08 16 41.4 +1.3**
STKA pP **pP** **08 16 55.2 +0.7**
SDV Santo Domingo 92.44 73 eP **P** **08 16 46.4 -0.3**
comp=Z,8.3nm,0.8s
PALK Pallekele 92.52 285 i P **P** **08 16 47.6 +0.7**
PALK Pallekele 92.52 285 P **P** **08 16 46.6 -0.2**
comp=Z,4.5nm,0.6s,baz=80,slow=4.0,SNR=5.1
PALK Pallekele 92.52 285 eP **P** **08 16 47.0 +0.1**
OTAV Otavalo 94.48 84 eP **P** **08 16 57.0 +0.6**
comp=Z,3.7nm,0.9s
TORD Torodi Ar. Bea 115.39 3 PKP **PKPdf** **08 22 16.2 -1.0**
comp=Z,1.8nm,0.8s,baz=346,slow=2.4,SNR=9.1
TORD PKKPab **PKKPab** **08 32 56.0 -3.2**
comp=Z,2.1nm,0.9s,baz=174,slow=3.5,SNR=7.7
TORD PKKP **PKKPdf** **08 33 10.2 -1.8**
comp=Z,2.2nm,0.6s,baz=179,slow=3.7,SNR=11
H03N2 Juan Fernandez 119.54 107 T T 10 33 44.5
baz=315,slow=75,SNR=3151
H03N1 Juan Fernandez 119.55 107 T T 10 33 53.3
baz=315,slow=75,SNR=2841
H03N3 Juan Fernandez 119.56 107 T T 10 33 50.8
baz=315,slow=75,SNR=3078
DBIC Dimbokro 121.36 10 PKP **PKPdf** **08 22 27.6 -1.1**
comp=Z,0.9nm,0.3s,baz=336,slow=3.2,SNR=5.4
KMBO Kilima Mbogo 122.40 320 PKIKP **PKPdf** **08 22 31.0 0.0**
KMBO e 08 22 45.8
KMBO Kilima Mbogo 122.40 320 PKP **PKPdf** **08 22 31.0 0.0**
comp=Z,3.5nm,0.8s,baz=334,slow=2.2,SNR=11
KMBO Kilima Mbogo 122.40 320 PKP **PKPdf** **08 22 31.0 0.0**
KMBO ePKPdf **PKiKP** **08 22 31.3 +0.1**
KMBO epPKPdf **pPKPdf** **08 22 45.8 -0.2**
BDFB Brasilia 125.34 69 PKP **PKPdf** **08 22 35.8 -0.5**
comp=Z,1.8nm,0.6s,baz=179,slow=25,SNR=4.1
PLCA Paso Flores 129.38 109 PKP **PKPdf** **08 22 42.7 -0.6**
comp=Z,5.8nm,0.9s,baz=248,slow=1.9,SNR=7.2
QSPA South Pole Qui 141.46 180 PKhKP PKPpre 08 22 59.7
comp=Z,3.1nm,0.7s,baz=35,slow=0.6,SNR=20
TSUM Tsumeb 145.86 337 PKPbc **PKPbc** **08 23 13.2 -1.0**
comp=Z,5.8nm,0.9s,baz=348,slow=6.6,SNR=8.7
TSUM pPKPbc pPKPbc 08 23 29.3 -0.3
comp=Z,2.9nm,0.6s,baz=17,slow=4.8,SNR=2.9
TSUM Tsumeb 145.86 337 PKPbc **PKPbc** **08 23 13.2 -1.0**
TSUM ePKPdf **PKPdf** **08 23 13.8 -1.0**
TSUM pPKPbc pPKPbc 08 23 29.3 -0.3
MAW Mawson 147.82 218 PKPbc **PKPbc** **08 23 17.8 -0.9**
comp=Z,14nm,0.8s,baz=286,slow=7.0,SNR=3.6
LBTB Lobatse 148.68 320 PKPbc **PKPbc** **08 23 22.4 0.0**
comp=Z,21nm,0.9s,baz=2.2,slow=3.9,SNR=17
LBTB pPKPbc **pPKPbc** **08 23 36.6 -0.8**
comp=Z,13nm,0.6s,baz=318,slow=0.7,SNR=6.8
BOSA Boshof 152.01 317 PKIKP **PKPdf** **08 23 23.4 -0.4**
BOSA e 08 23 24.7
BOSA e 08 23 43.3
BOSA Boshof 152.01 317 PKP **PKPdf** **08 23 23.4 -0.4**
comp=Z,4.6nm,0.9s,baz=120,slow=8.0,SNR=3.8
BOSA PKPbc **PKPbc** **08 23 29.1 -1.2**
comp=Z,17nm,0.7s,baz=43,slow=1.9,SNR=26
BOSA Boshof 152.01 317 PKP **PKPdf** **08 23 23.4 -0.4**
BOSA ePKPdf **PKPdf** **08 23 24.6 +0.9**
BOSA PKPbc **PKPbc** **08 23 29.1 -1.2**
BOSA ePKPbc **PKPbc** **08 23 29.9 -0.4**
BOSA ePKPab **PKPab** **08 23 43.3 +3.5**
SYO Syowa Base 155.87 211 ⇑eX PKPdf 08 23 35.4 +7.7

MAN 25 08:34:31, 8.11N×126.50E, h48km, mb4.2, ML3.0, MS2.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	0.15	298	⇓i P	Pn	08 34 41.8	+3.0
BIPH				i S	Sn	08 34 49.8	+5.4
MATI	**Mati**	1.18	192	eP	Pn	08 34 53.0	+1.8
BUTP	**Butuan**	1.22	315	eP	Pn	08 34 53.1	+1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP				eS	Sn	08 35 09.8	+2.8
BUKP	Musuan	1.44	261	eP	Pn	08 34 57.0	+2.3
BUKP				eS	Sn	08 35 17.8	+5.2
CGP	Cagayan de Oro	1.82	281	⇑iP	Pn	08 35 00.3	+0.5
CGP				iS	Sn	08 35 23.7	+2.0
PAGZ	Pagadian	3.10	265	eP	Pn	08 35 19.5	+2.0

ISCJB 25 08:42:56.6±0.5,37°.00N±0°.04×71°.55E±0°.07,h106km, mb3.8/4,Error ellipse: s-maj=8.9km s-min=4.6km az=156.1
IDC 25 08:42:57.0±4.6,37°.12N×71°.45E,h79km±27km,mb3.6/4, mb1 3.7/10,mb1mx3.3/41,mbtmp3.9/10,MS3.3/1, Ms1 3.3/1,ms1mx2.5/36,Error ellipse: s-maj=49.0km s-min=18.6km az=153.0
NNC 25 08:43:03.0±7.3,37°.47N×71°.05E,h100km±128km,mb3.4, mpv3.9,Error ellipse: s-maj=57.4km s-min=37.7km az=13.0
ISC 25 08:42:57.4±0.8,37°.01N±0°.06×71°.44E±0°.07,h106km,n34, σ1s.66/38,mb3.8/4,4C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.40	18	P	Pn	08 44 16.5	+0.7
	SNR=87						
UCH	Uchtor	5.72	24	P	Pn	08 44 20.9	+0.7
	SNR=13						
KZA	Kyzart	5.85	29	P	Pn	08 44 22.5	+0.5
	SNR=8.7						
EKS2	Erkin-Say	5.92	17	P	Pn	08 44 23.7	+1.0
	SNR=23						
AAK	Ala-Archa	6.08	22	P	Pn	08 44 26.1	+1.2
	SNR=29						
AAK	Ala-Archa	6.08	22	P	Pn	08 44 24.7	-0.2
	5.7nm,0.3s,baz=174,slow=5.8,SNR=79						
AAK				S	Sn	08 45 29.9	-3.3
	2.7nm,0.3s,baz=336,slow=23,SNR=26						
KK31	Karatay Array	6.13	354	⇑P	Pn	08 44 26.1	+0.7
	1.8nm,0.3s,baz=179,slow=13,SNR=30						
KK31				S	Sn	08 45 29.5	-4.5
	9.9nm,0.5s,baz=178,slow=25,SNR=18						
DHRM	DHARAMSHALA	6.21	138	eP	Pn	08 44 35.3	+8.5
DHRM				eS	Sn	08 45 34.5	-2.0
DHRM				AML	AML	08 45 40.9	
	comp=E,236nm,0.8s						
DHRM				AML	AML	08 45 42.4	
	comp=N,161nm,0.5s						
KBK	Karagaybulak	6.25	24	P	Pn	08 44 28.4	+1.3
	SNR=6.4						
CHMS	Chumysh	6.50	22	P	Pn	08 44 31.2	+0.8
	SNR=6.1						
USP	Ospenovka	6.67	20	P	Pn	08 44 33.2	+0.4
	SNR=8.2						
TKM2	Tokmak 2	6.71	27	⇓P	Pn	08 44 33.9	+0.5
	comp=N,9.4nm,0.5s						
TKM2				⇑S	Sn	08 45 47.8	-0.6
	comp=N,3.6nm,0.6s						
TKM2	Tokmak 2	6.71	27	P	Pn	08 44 34.1	+0.7
	SNR=26						
SMLA	Simla	7.55	139	eP	Pn	08 44 47.2	+2.5
SMLA				eS	Sn	08 46 04.4	-4.2
SMLA				AML	AML	08 46 10.4	
	comp=N,76nm,0.5s						
SMLA				AML	AML	08 46 12.3	
	comp=E,58nm,0.2s						
GEYT	Alibeck	10.63	279	P	Pn	08 45 27.2	+0.6
	comp=E,0.4nm,0.3s,baz=98,slow=8.9,SNR=3.7						
GEYT				S	Sn	08 47 19.1	-4.6
	comp=E,1.0nm,0.3s,baz=99,slow=16,SNR=3.4						
MKAR	Makanchi Array	12.67	36	P	Pn	08 45 52.8	-0.8
	comp=E,0.2nm,0.3s,baz=225,slow=14,SNR=22						
PYUN	Piuthan	13.17	129	eP	Pn	08 45 59.4	-1.1
	comp=E,35nm,0.4s						
DANN	Dangsing	13.49	126	eP	Pn	08 46 04.1	-0.6
	comp=E,15nm,0.4s						
KOLN	Koldanda	13.79	128	eP	Pn	08 46 07.0	-1.5
	comp=E,6.6nm,0.4s						
GKN	Gorkha	14.29	125	eP	Pn	08 46 14.1	-0.9
	comp=E,18nm,0.5s						
AB31	Akbulak array	14.82	329	⇑P	Pn	08 46 20.7	-0.6
	comp=E,0.8nm,0.4s,baz=159,slow=11,SNR=38						
AB31				⇓S	Sn	08 48 54.4	-10
	comp=E,2.1nm,0.7s,baz=154,slow=22,SNR=6.9						
DMN	Daman	14.86	125	eP	Pn	08 46 21.7	-0.6
	comp=E,14nm,0.7s						
JIRN	Jiri	15.55	123	eP	Pn	08 46 29.8	-1.3
	comp=E,18nm,0.4s						
BVAR	Borovoye Array	16.03	358	P	Pn	08 46 35.5	-0.9
	comp=E,0.4nm,0.3s,baz=158,slow=11,SNR=8.2						
BVAR				S	Sn	08 49 34.9	+1.0
	comp=E,0.3nm,0.3s,baz=172,slow=12,SNR=3.2						
RAMN	Ramite	16.29	124	eP	Pn	08 46 39.0	-1.2
	comp=E,17nm,0.6s						
AKTO	Aktyubinsk	16.52	329	⇓P	P	08 46 44.2	+0.9
	comp=E,3.0nm,0.8s						
AKTO				⇑S	Sn	08 49 37.0	-8.8
	comp=E,3.3nm,1.1s						
AKTO	Aktyubinsk	16.52	329	P	P	08 46 43.4	0.0
	comp=E,0.2nm,0.3s,baz=132,slow=17,SNR=5.7						
TAPN	Taplejung	16.79	120	eP	Pn	08 46 45.3	-1.0
	comp=E,7.2nm,0.4s						
ZALV	Zalesovo Beam	19.30	24	P	P	08 47 13.2	-0.5
	comp=E,0.4nm,0.3s,baz=220,slow=12,SNR=12						
FINES	FINESS Array B	37.26	326	P	P	08 50 00.5	+2.0
	comp=E,2.3nm,1.0s,baz=125,slow=12,SNR=2.9						
ARCES	ARCESS Array B	40.81	337	P	P	08 50 29.9	+2.0
	comp=E,6.8nm,1.1s,baz=104,slow=7.6,SNR=5.1						
NOA	NORSAR Array B	44.19	323	P	P	08 50 57.3	+1.8
	comp=E,0.5nm,0.7s,baz=96,slow=8.4,SNR=2.9						
TGY	Tagaytay City	49.49	104	LR	LR	09 15 09.4	
	comp=E,34nm,20.0s,slow=39						
YKA	Yellowknife Ar	80.72	3	P	P	08 54 59.8	+1.5
	comp=E,0.3nm,0.6s,baz=350,slow=5.3,SNR=11						

ISCJB 25 09:13:19.4±2.0,50°.90N±0°.08×179°.85W±0°.05, h11km±15km,mb3.1/3,Error ellipse: s-maj=13.7km s-min=5.3km az=11.0
IDC 25 09:13:19.9±3.3,51°.13N×179°.27W,h0km,mb3.2/3, mb1 3.7/4,mb1mx3.3/43,mbtmp3.4/3,ML3.0/1,Error ellipse: s-maj=81.2km s-min=14.0km az=6.0
NEIC 25 09:13:21.6,50°.96N×179°.91W,h26km,ML3.0(AEIC),After AEIC.
ISC 25 09:13:19.9±2.0,51°.0N±0°.1×179°.76W±0°.03,h10km±10km, n20,σ1s.34/26,mb3.4/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.71	304	P	Pg	09 13 33.5	-0.1
AMKA				S	Sg	09 13 42.4	-0.5
CERAA	Semis' Rag'd T	0.98	340	P	Pb	09 13 39.2	+0.1
GALAA	Gareloi Lava P	1.00	38	P	Pn	09 13 40.5	+0.5
CESW	Semis' Southwe	1.01	336	P	Pb	09 13 39.5	0.0
CERB	Semis' Cerberu	1.02	338	P	Pb	09 13 39.7	0.0
CERB				S	Sb	09 13 53.4	+0.3
GAEA	Gareloi East	1.02	38	P	Pb	09 13 40.7	+0.7
CETU	Semis' Tuman	1.09	335	P	Pb	09 13 40.7	+0.1
TASE	Tanaga Southea	1.38	51	P	Pb	09 13 45.8	0.0
TAFL	Tanaga Flats	1.40	56	P	Pg	09 13 47.2	+0.3
LSSE	Little Sitkin	1.41	313	P	Pn	09 13 45.1	-0.6
LSPA	Little Sitkin	1.42	314	P	Pn	09 13 45.0	-0.9
LSPA				S	Sn	09 14 04.3	-0.3
TAFP	Tanaga Falls P	1.44	50	P	Pb	09 13 46.6	-0.2
TAFP				S	Sb	09 14 06.6	+1.3
LSNW	Little Sitkin	1.46	313	P	Pn	09 13 46.2	-0.1
KIKV	Kanaga Island	1.85	60	P	Pb	09 13 54.0	+0.1
ADK	Adak	2.13	64	P	Pn	09 13 56.6	+1.1
ADK				S	Sb	09 14 24.7	-0.2
GSMY	Great Sitkin M	2.55	64	P	Pn	09 14 02.3	+1.0
FX1	Attu Island--F	4.77	296	Pn	Pn	09 14 34.0	+2.2
	2.1nm,0.3s,baz=170,slow=3.3,SNR=5.8						
FX1				Sn	Sn	09 15 31.6	+4.6
	1.6nm,0.3s,baz=252,slow=20,SNR=2.4						
ILAR	Eielson Array	21.93	39	P	P	09 18 11.0	-2.1
	0.1nm,0.7s,baz=264,slow=12,SNR=4.8						
YKA	Yellowknife Ar	35.94	46	P	P	09 20 18.4	-1.7
	0.3nm,0.5s,baz=281,slow=7.4,SNR=9.5						
PDAR	Pinedale Array	47.01	71	P	P	09 21 50.8	-0.6
	0.4nm,0.5s,baz=340,slow=2.9,SNR=5.7						

IDC 25 09:17:50.7±2.6,54°.05N×87°.48E,h0km,mb1 2.7/2, mb1mx2.6/30,mbtmp2.7/2,ML2.6/2,Error ellipse: s-maj=21.2km s-min=15.3km az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.57	268	i		09 27 50.0	
	baz=86,slow=346,SNR=2.5						
ZALV	Zalesovo Beam	1.57	268	Pg	Pn	09 18 18.5	-1.3
	2.1nm,0.3s,baz=87,slow=15,SNR=17						
ZALV				Lg	Lg	09 18 40.8	
	5.7nm,0.3s,baz=86,slow=26,SNR=18						
MKAR	Makanchi Array	7.98	207	Pn	Pn	09 19 49.2	+1.4
	0.1nm,0.3s,baz=28,slow=16,SNR=6.8						
MKAR				Sn	Sn	09 21 18.5	-0.3
	0.1nm,0.3s,baz=28,slow=22,SNR=7.3						
MKAR				Lg	Lg	09 22 04.2	
	0.1nm,0.3s,baz=25,slow=28,SNR=7.8						
SONM	Songino Array	13.43	110	Pn	Pn	09 21 02.5	0.0
	0.0nm,0.3s,baz=299,slow=13,SNR=2.5						

IDC 25 09:18:57.6±0.9,4°.60N×127°.19E,h0km,mb3.9/6, mb1 4.0/6,mb1mx3.7/24,mbtmp3.9/6,MS2.7/2,Ms1 2.8/2, ms1mx2.4/43,Error ellipse: s-maj=56.0km s-min=18.6km az=71.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.39	164	P	P	09 24 25.5	-1.3
	0.9nm,0.5s,baz=347,slow=9.9,SNR=9.2						
CMAR	Chiang Mai Arr	30.84	299	LR	LR	09 38 00.9	
	comp=Z,8.5nm,19.1s,baz=190,slow=37						
MJAR	Matsushiro Arr	33.36	16	LR	LR	09 42 08.0	
	comp=Z,15nm,18.3s,baz=95,slow=42						
STKA	Stephens Creek	38.79	160	P	P	09 26 25.1	+1.0
	5.2nm,0.7s,baz=336,slow=9.9,SNR=13						
SONM	Songino Array	46.62	341	P	P	09 27 28.6	+0.8
	0.8nm,0.8s,baz=154,slow=9.5,SNR=6.4						
PETK	Petropavlovsk-	54.45	22	P	P	09 28 26.6	-0.1
	0.8nm,0.5s,baz=216,slow=4.6,SNR=3.4						
MKAR	Makanchi Array	57.11	325	P	P	09 28 45.0	-1.0
	0.7nm,0.5s,baz=117,slow=7.9,SNR=14						
BVAR	Borovoye Array	66.84	327	P	P	09 29 51.6	+0.3
	0.4nm,0.4s,baz=130,slow=6.3,SNR=4.5						

DJA 25 09:42:54.0±0.6,9°S±6°×11°1E±°,h57km±12km,M3.5/8, MLv3.5/8,Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PWJI	Pagerwojo	1.06	27	P	Pn	09 43 11.4	-1.4
PWJI				S	Sn	09 43 25.2	-1.5
WOJI	Wonogiri, Jawa	1.20	341	P	Pn	09 43 13.5	-1.1
WOJI				S	Sn	09 43 29.6	-0.4
UGM	Wanagama	1.32	323	P	Pn	09 43 16.7	+0.4
UGM				S	Sn	09 43 32.9	-0.1
NGJI	Ngawi	1.61	5	P	Pn	09 43 23.4	+3.3
NGJI				S	Sn	09 43 42.9	+3.1
SMRI	Semarang	2.11	336	P	Pn	09 43 27.7	+0.8
GMJI	Gumukmas	2.21	72	P	Pn	09 43 28.9	+0.5
GMJI				S	Sn	09 43 52.3	-2.3
JAGI	Jajag, Banyuwa	2.84	80	S	Sn	09 44 11.8	+1.7
CMJI	Cimerak	3.08	292	S	Sn	09 44 15.1	-0.7

IDC 25 10:05:36.4±3.6,53°.60N×87°.92E,h0km,mb1 2.7/1, mb1mx2.6/47,mbtmp2.7/1,ML2.8/1,Error ellipse: s-maj=41.3km s-min=18.4km az=88.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.88	282	i		10 17 45.0	
	baz=100,slow=346,SNR=5.6						
ZALV	Zalesovo Beam	1.88	282	Pn	Pn	10 06 09.5	-0.2
	2.6nm,0.3s,baz=99,slow=15,SNR=22						
ZALV				Sn	Sn	10 06 33.9	-0.1
	3.1nm,0.3s,baz=98,slow=24,SNR=9.2						
MKAR	Makanchi Array	7.71	210	Pn	Pn	10 07 31.2	+1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=6.9						
MKAR				Sn	Sn	10 08 57.4	-0.4
	0.1nm,0.3s,baz=31,slow=24,SNR=4.4						
MKAR				Lg	Lg	10 09 40.2	
	0.1nm,0.3s,baz=31,slow=28,SNR=6.9						

DDA 25 10:06:24.7,39°.90N×39°.19E,h17km,MD3.7
ISK 25 10:06:24.8,39°.94N×39°.27E,h8km,ML3.7
CSEM 25 10:06:25.3±0.1,39°.92N×39°.21E,h2km,ML3.7,Error ellipse: s-maj=3.6km s-min=2.9km az=154.0
ISC 25 10:06:24.2±1.0,39°.91N±0°.02×39°.17E±0°.01,h13km±9km, n104,σ1s.27/134,Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KELT	Kelkit	0.25	16	iP	Pb	10 06 30.8	+0.1
KELT				iS	Sb	10 06 34.8	-0.3
KELT	Kelkit	0.25	16	iP	Pb	10 06 30.8	+0.1
KELT				iS	Sb	10 06 34.8	-0.3
EUZM	Uzumlu	0.46	116	iP	Pb	10 06 33.3	-0.9
EUZM				iS	Sb	10 06 40.3	-0.6
EUZM	Uzumlu	0.46	116	iP	Pb	10 06 33.3	-0.9
EUZM				iS	Sb	10 06 40.3	-0.6
ERZN	Erzincan	0.54	127	PG	Pg	10 06 34.2	-0.5
ERZN				eSG	Sb	10 06 41.9	-1.3
GUMT	Gumushane	0.60	23	PG	Pg	10 06 36.2	+0.2
GUMT	Gumushane	0.60	23	iPg	Pg	10 06 36.2	+0.2
ILIC	ilic-Erzincan	0.65	226	ePG	Pn	10 06 40.0	+0.8
ILIC				eSG	Sn	10 06 50.9	+1.4
ILIC	ilic-Erzincan	0.65	226	ePg	Pn	10 06 40.0	+0.8
SUSE	Susehri	0.80	292	iP	Pn	10 06 40.9	-0.4
SUSE				iS	Sn	10 06 53.5	+0.3
SUSE	Susehri	0.80	292	iP	Pn	10 06 40.9	-0.4
SUSE				iS	Sn	10 06 53.5	+0.3
KEMA	Kemaliye	0.82	219	iP	Pg	10 06 40.5	+0.4
KEMA				iS	Sn	10 06 52.5	-1.2
KEMA	Kemaliye	0.82	219	iP	Pg	10 06 40.5	+0.4
KEMA				iS	Sn	10 06 52.5	-1.2
BAYT	Ayd˜–ntepe-Bay	0.89	57	ePG	Pb	10 06 41.1	-0.5
BAYT				eSG	Sb	10 06 52.0	-1.5
BAYT	Ayd˜–ntepe-Bay	0.89	57	ePg	Pb	10 06 41.1	-0.5
BAYT				eSg	Sb	10 06 52.0	-1.5
KOPT	Kop Dagi	1.03	83	iP	Pg	10 06 44.3	+0.2
KOPT				iS	Sn	10 07 01.3	+2.2
KOPT	Kop Dagi	1.03	83	iP	Pg	10 06 44.3	+0.2
KOPT				iS	Sn	10 07 01.3	+2.2
ESPY	Espiye-Giresun	1.06	342	ePG	Pg	10 06 44.8	+0.1
ESPY	Espiye-Giresun	1.06	342	ePg	Pg	10 06 44.8	+0.1
MACK	Trabzon	1.13	24	iP	Pg	10 06 45.7	-0.3
MACK				iS	Sn	10 07 00.5	-0.8
MACK	Trabzon	1.13	24	iP	Pg	10 06 45.7	-0.3
MACK				iS	Sn	10 07 00.5	-0.8
KTUT	Trabzon	1.17	23	ePN	Pg	10 06 46.4	-0.3
KTUT	Trabzon	1.17	23	ePn	Pg	10 06 46.4	-0.3
GRSN	GIRESUNGRSN	1.23	326	iP	Pg	10 06 47.9	+0.1
GRSN				iS	Sn	10 07 03.4	-0.2
GRSN	GIRESUNGRSN	1.23	326	iP	Pg	10 06 47.9	+0.1
GRSN				iS	Sn	10 07 03.4	-0.2
ELZG	Elazig	1.41	186	iP	Pg	10 06 51.2	-0.1
ELZG				iS	Sg	10 07 09.8	0.0
ELZG	Elazig	1.41	186	iP	Pg	10 06 51.2	-0.1
ELZG				iS	Sg	10 07 09.8	0.0
BINT	Bingol	1.45	135	ePn	Pg	10 06 52.1	0.0
BNGB	Bingˆ¶l	1.49	127	ePN	Pg	10 06 52.1	-0.6
RSDY	Resadiye-TOKAT	1.49	290	ePN	Pg	10 06 52.8	0.0
RSDY	Resadiye-TOKAT	1.49	290	ePn	Pg	10 06 52.8	0.0
SCER	sogukcermik	1.57	269	iP	Pg	10 06 54.5	+0.2
SCER				iS	Sg	10 07 16.5	+1.8
SCER	sogukcermik	1.57	269	iP	Pg	10 06 54.5	+0.2
SCER				iS	Sg	10 07 16.5	+1.8
SVSK	Karacayir	1.67	271	ePN	Pg	10 06 55.9	-0.3
SVSK	Karacayir	1.67	271	ePn	Pg	10 06 55.9	-0.3
EZM	Erzurum	1.69	89	ePN	Pb	10 06 54.3	-1.0
ERZM	Erzurum	1.69	89	iP	Pg	10 06 56.3	-0.4
ERZM	Erzurum	1.69	89	iP	Pg	10 06 56.3	-0.4
MALT	Malatya	1.69	200	ePN	Pb	10 06 55.5	+0.3
MALT	Malatya	1.69	200	ePn	Pb	10 06 55.5	+0.3
BNGL	BINGOL	1.81	121	iP	Pb	10 06 57.6	+0.3
BNGL				iS	Sg	10 07 26.0	+3.6
PZAR	Pazar-Rize	1.83	46	ePN	Pb	10 06 57.0	-0.5
PZAR	Pazar-Rize	1.83	46	ePn	Pb	10 06 57.1	-0.5
DARE	Darende-Malaty	1.87	225	ePN	Pb	10 06 58.6	+0.4
DARE	Darende-Malaty	1.87	225	ePn	Pb	10 06 58.6	+0.4
AKCD	Akcadag	1.88	211	iP	Pb	10 06 59.1	+0.7
AKCD				iS	Sg	10 07 25.7	+1.1
AKCD	Akcadag	1.88	211	iP	Pb	10 06 59.1	+0.7
AKCD				iS	Sg	10 07 25.7	+1.1
DYBB	Diyarbakir	2.09	158	ePN	Pb	10 07 00.9	-1.1
TOKA	Tokat	2.10	282	iP	Pb	10 07 02.4	+0.2
TOKA				iS	Sg	10 07 32.6	+0.8
TOKA	Tokat	2.10	282	iP	Pb	10 07 02.4	+0.2
TOKA				iS	Sg	10 07 32.6	+0.8
HOMI	Horasan	2.11	85	iP	Pb	10 07 02.6	+0.2
DIY	Diyarbakir	2.17	157	ePn	Pn	10 07 00.9	+0.8
DDEM	Demirkent	2.21	63	iP	Pb	10 07 04.2	+0.2
DDEM				iS	Sg	10 07 32.9	-2.2
DDEM	Demirkent	2.21	63	iP	Pb	10 07 04.2	+0.2
DDEM				iS	Sg	10 07 32.9	-2.2
DBAD	Bademkaya	2.23	59	iP	Pb	10 07 04.3	-0.1
DBAD				iS	Sb	10 07 32.5	+0.6
DBAD	Bademkaya	2.23	59	iP	Pb	10 07 04.3	-0.1
DBAD				iS	Sb	10 07 32.5	+0.6
EKAR	Karacoban	2.33	105	iP	Pg	10 07 07.9	-1.0
EKAR	Karacoban	2.33	105	iP	Pg	10 07 07.9	-1.0
EKAR				iS	Sg	10 07 47.2	+8.1
SVAN	Silvan-Diyarba	2.36	137	ePN	Pb	10 07 04.8	-1.8
DBOC	Borcka	2.38	52	iP	Pb	10 07 06.6	-0.4
DBOC				iS	Sb	10 07 36.2	-0.1
DBOC	Borcka	2.38	52	iP	Pb	10 07 06.6	-0.4
DBOC				iS	Sb	10 07 36.2	-0.1
DAGI	Agillar	2.40	60	iP	Pb	10 07 07.9	+0.6
DAGI				iS	Sb	10 07 38.1	+1.3
ARTV	Artvin	2.46	58	iP	Pb	10 07 06.3	-2.1
ARTV				iS	Sb	10 07 39.8	+1.0
ARTV	Artvin	2.46	58	iP	Pb	10 07 06.3	-2.1
ARTV				iS	Sb	10 07 39.8	+1.0
URFA	Urfa	2.48	186	ePN	Pb	10 07 07.5	-1.1
URFA	Urfa	2.48	186	ePn	Pb	10 07 07.5	-1.1
BTMT	Batman	2.49	133	ePN	Pb	10 07 07.1	-1.7
BTMT	Batman	2.49	133	ePn	Pb	10 07 07.1	-1.7
EATA	Eleskirt	2.56	90	iP	Pg	10 07 11.8	-1.4
EATA	Eleskirt	2.56	90	iP	Pg	10 07 11.8	-1.4
EATA				iS	Sg	10 07 53.7	+7.2
BEST	Besiri	2.60	140	iP	Pg	10 07 11.9	-2.0
BEST				iS	Sg	10 07 46.5	-1.1
HCB	Kahramanmara¯	2.62	167	iP	Pg	10 07 15.3	+0.8
KVT	Kavak	2.65	297	ePN	Pb	10 07 10.6	-1.0
KVT	Kavak	2.65	297	ePn	Pb	10 07 10.6	-1.0
BNN	Bunyan	2.78	249	ePN	Pb	10 07 12.2	-1.6
BNN	Bunyan	2.78	249	ePn	Pb	10 07 12.2	-1.6
GZT	Gaziantep	2.84	207	iP	Pn	10 07 11.3	+2.0
HAVZ	Havza	2.88	295	iP	Pb	10 07 16.6	+1.2
HAVZ	Havza	2.88	295	iP	Pb	10 07 16.6	+1.2
HAVZ				iS	Sg	10 07 57.0	+0.4
MARD	Mardin	2.88	153	iP	Pb	10 07 16.5	+1.0
MARD				iS	Sg	10 07 55.3	-1.4
AGRB	Hanur-Agry	2.97	95	ePN	Pn	10 07 13.3	+2.1
AGRB	Hanur-Agry	2.97	95	ePn	Pn	10 07 13.3	+2.1
YOZ	Yozgat	2.98	266	ePN	Pb	10 07 14.1	-3.0
YOZ	Yozgat	2.98	266	ePn	Pb	10 07 14.1	-3.0
KMRS	Kahramanmaras	2.98	217	ePN	Pb	10 07 14.5	-2.7
KMRS	Kahramanmaras	2.98	217	ePn	Pb	10 07 14.5	-2.7
KARS	Kars	3.08	75	ePN	Pn	10 07 14.5	+1.8
KARS	Kars	3.08	75	ePn	Pn	10 07 14.5	+1.8
DIKM	Dikmen	3.44	302	ePN	Pn	10 07 20.7	+3.2
DIKM	Dikmen	3.44	302	ePn	Pn	10 07 20.7	+3.2
CORM	Corum	3.49	276	ePN	Pn	10 07 21.5	+3.1
CORM	Corum	3.49	276	ePn	Pn	10 07 21.5	+3.1
SIRT	Sirnak	3.51	132	ePN	Pn	10 07 21.5	+2.9
SIRT	Sirnak	3.51	132	ePn	Pn	10 07 21.5	+2.9
KUZU	Kuzuini	3.53	208	iP	Pn	10 07 20.5	+1.7
KUZU	Kuzuini	3.53	208	iP	Pn	10 07 20.5	+1.7
KOZT	Kozan	3.56	228	ePN	Pb	10 07 24.2	-2.9
KOZT	Kozan	3.56	228	ePn	Pb	10 07 24.2	-2.9
BOYT	Boyabat	3.58	296	iP	Pb	10 07 25.5	-1.8
BOYT	Boyabat	3.58	296	iP	Pb	10 07 25.5	-1.8
BOYT				iS	Sg	10 08 16.2	-2.9
BYBT	Boyabat	3.69	296	ePN	Pn	10 07 24.2	+3.3
BYBT	Boyabat	3.69	296	ePn	Pn	10 07 24.2	+3.3
CLDR	Caldiran	3.75	100	ePN	Pn	10 07 24.6	+2.6
CLDR	Caldiran	3.75	100	ePn	Pn	10 07 24.6	+2.6

IDC 25 10:13:17.7±1.4,9°.79S×161°.30E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.6/35,mbtmp3.7/4,ML3.8/1,Error ellipse: s-maj=50.7km s-min=32.2km az=130.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.17	159	Pn	Pn	10 16 27.0	+0.7
	0.5nm,0.3s,baz=330,slow=20,SNR=8.9						
WRA	Warramunga Arr	27.90	246	P	P	10 19 09.6	-0.1
	0.6nm,0.6s,baz=76,slow=9.2,SNR=9.7						
ILAR	Eielson Array	83.77	20	P	P	10 25 48.9	+0.4
	0.6nm,1.1s,baz=213,slow=6.5,SNR=3.9						
YKA	Yellowknife Ar	95.89	28	P	P	10 26 45.1	-0.9
	0.1nm,0.5s,baz=258,slow=4.7,SNR=4.6						

MAN 25 10:20:57,9°.38N×126°.11E,h24km,mb4.2,ML3.1,MS2.9, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.63	230	eP	Pn	10 21 09.9	-0.5
BUTP				eS	Sn	10 21 20.0	+0.3
SCPH	Surigao	0.73	304	⇓eP	Pn	10 21 11.7	-0.1
MSLP	Maasin	1.44	302	eP	Pb	10 21 22.5	-0.7
MSLP				eS	Sn	10 21 40.4	+0.5
CGP	Cagayan de Oro	1.67	237	⇑eP	Pn	10 21 24.0	-0.7
CGP				eS	Sn	10 21 43.6	-1.8
BUKP	Musuan	1.81	215	eP	Pn	10 21 27.8	+1.0
BUKP				eS	Sb	10 21 50.5	-1.4
TBP	Tagbilaran	2.24	278	eP	Pn	10 21 33.3	+0.7
TBP				eS	Sn	10 22 00.2	+0.7
PAGZ	Pagadian	3.09	241	eP	Pn	10 21 45.0	+0.6
CNP	Catarman	3.42	336	eP	Pn	10 21 49.3	+0.4

CSEM 25 10:37:49.9,45°.98N×15°.48E,h0km,Mining explosion. After LJU,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CESS	Cesta pri Krsk	0.01	241	iPg	Pg	10 37 49.8	-0.4
CESS				iSg	Sg	10 37 50.5	+0.1
CESS							
	comp=Z,290nm,0.2s						
CESS	Cesta pri Krsk	0.01	241	iPg	Pg	10 37 49.8	-0.4
CESS				iSg	Sg	10 37 50.5	+0.1
	comp=Z,290nm,0.2s						
GOLS	Golise	0.10	73	iPg	Pg	10 37 51.6	-0.4
GOLS				iSg	Sg	10 37 54.3	+0.9
GOLS							
	comp=Z,8.0nm,0.2s						
GOLS	Golise	0.10	73	iPg	Pg	10 37 51.6	-0.4
GOLS				iSg	Sg	10 37 54.3	+0.9
	comp=Z,8.0nm,0.2s						
LEGS	Legarje	0.12	255	iPg	Pg	10 37 52.3	+0.1
LEGS				iSg	Sg	10 37 54.6	+0.8
LEGS	Legarje	0.12	255	iPg	Pg	10 37 52.3	+0.1
LEGS				iSg	Sg	10 37 54.6	+0.8
CRES	Cresnjev	0.15	186	iPg	Pg	10 37 52.7	-0.2
CRES				iSg	Sg	10 37 54.9	0.0
CRES	Cresnjev	0.15	186	iPg	Pg	10 37 52.7	-0.2
CRES				iSg	Sg	10 37 54.9	-0.1

MOS 25 11:03:53.9±1.5,49°.40N×156°.50E,h55km,mb4.3/1,Error ellipse: s-maj=22.8km s-min=7.9km az=73.8
IDC 25 11:03:54.1±5.5,49°.22N×156°.36E,h51km±43km,mb3.1/5, mb1 3.5/7,mb1mx3.2/27,mbtmp3.4/7,ML3.3/3,MS3.5/1, Ms1 3.5/1,ms1mx2.5/11,Error ellipse: s-maj=39.6km s-min=25.7km az=2.0
ISCJB 25 11:03:56.0±0.8,49°.48N±0°.04×157°.0E±0°.1,h33km, mb3.5/5,MS3.3/1,Error ellipse: s-maj=10.1km s-min=6.4km az=179.0
KRSC 25 11:03:56.5±2.2,49°.58N×157°.31E,h48km±41km,ML4.1
ISC 25 11:03:54.7±0.9,49°.31N±0°.08×156°.98E±0°.07,h35km,n47, σ2s.00/58,mb3.5/5,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.48	338⇑	iPN	Pn	11 04 15.5	-3.3
SKR				pmax	pmax		
	comp=Z,270nm,0.5s						
SKR	Severo-Kuril's	1.48	338	P	Pn	11 04 18.3	-0.5
SKR				S	Sn	11 04 34.0	-3.0
PAU	Pauzhetka	2.16	357	PN	Pn	11 04 28.8	+0.6
PAU				S	Sn	11 04 52.0	-1.8
PAU	Pauzhetka	2.16	357	P	Pn	11 04 28.8	+0.6
PAU				S	Sn	11 04 52.0	-1.8
MIPR	Malaya Ipel'ka	2.98	357	P	Pn	11 04 40.1	+0.7
MIPR				S	Sn	11 05 12.1	-1.7
ASAK	Asacha	3.13	10	P	Pn	11 04 43.1	+1.5
ASAK				S	Sn	11 05 17.2	-0.6
MTVR	Mutnovka	3.27	13	P	Pn	11 04 44.7	+1.2
MTVR				S	Sn	11 05 20.0	-1.2
RUS	Russkaya	3.28	17	PN	Pn	11 04 44.1	+0.6
RUS				S	Sn	11 05 18.8	-2.4
RUS	Russkaya	3.28	17	P	Pn	11 04 44.1	+0.6
RUS				S	Sn	11 05 18.8	-2.4
APC	Apacha	3.62	2	P	Pn	11 04 49.2	+1.0
APC				S	Sn	11 05 29.9	+0.2
PETK	Petropavlovsk-	3.83	7	PN	Pn	11 04 52.9	+1.7
PETK				S	Sn	11 05 38.7	+3.8
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax	smax		
	comp=N,2.0nm,0.3s						
PETK	Petropavlovsk-	3.83	7	P	Pn	11 04 52.9	+1.7
	comp=N,3.1nm,0.3s,baz=200,slow=13,SNR=24						
PETK				S	Sn	11 05 38.7	+3.8
	comp=N,1.5nm,0.3s,baz=169,slow=16,SNR=4.0						
PET	Petropavlovsk	3.87	15	ePN	Pn	11 04 53.4	+1.8
PET				eS	Sn	11 05 34.7	-1.0
PET				smax	smax		
	comp=E,87nm,0.5s						
PET				smax	smax		
	comp=N,75nm,0.4s						
PET	Petropavlovsk	3.87	15	P	Pn	11 04 53.3	+1.7
PET				S	Sn	11 05 34.4	-1.3
UGLR	Uglovaya	4.07	16	P	Pn	11 04 56.6	+2.1
UGLR				S	Sn	11 05 40.5	-0.5
AVH	Avacha	4.11	15	P	Pn	11 04 57.3	+2.2
AVH				S	Sn	11 05 40.6	-1.3
SMAR	Somma	4.12	15	P	Pn	11 04 56.9	+1.6
KOK	Koryaka	4.12	14	P	Pn	11 04 57.8	+2.6
KOK				S	Sn	11 05 41.1	-1.1
SDLR	Sedlovina	4.15	16	P	Pn	11 04 57.3	+1.7
SDLR				S	Sn	11 05 41.0	-1.9
KRER	Koryakskii	4.15	15	P	Pn	11 04 58.0	+2.3
KRER				S	Sn	11 05 42.2	-0.9
KRX	Arik	4.19	14	P	Pn	11 04 58.5	+2.3
KRX				S	Sn	11 05 43.4	-0.5
SPN	Mys Shipunski	4.25	26	S	Sn	11 05 44.1	-1.1
GNL	Ganaly	4.43	7	P	Pn	11 05 01.4	+1.9
MKZ	Mys Kozlova	6.02	27	PN	Pn	11 05 21.8	+0.7
MKZ	Mys Kozlova	6.02	27	P	Pn	11 05 21.8	+0.7
MKZ				S	Sn	11 06 24.6	-4.1
KUR	Kuril'sk	7.42	240	PN	Pn	11 05 37.8	-2.5
KUR				pmax	pmax		
	comp=N,12nm,0.1s						
KUR				pmax	pmax		
	comp=E,21nm,0.1s						
KUR				pmax	pmax		
	comp=Z,31nm,0.1s						
KBTR	Krutoberegovo	7.76	25	PN	Pn	11 05 45.7	+0.7
KBTR	Krutoberegovo	7.76	25	P	Pn	11 05 45.7	+0.7
KBTR				S	Sn	11 07 06.3	-5.3
KBG	Krutoberegovo	7.77	24	S	Sn	11 07 09.1	-2.7
BKI	Bering	8.08	40	S	Sn	11 07 14.2	-5.1
FX1	Attu Island--F	10.79	64	P	Pn	11 06 30.9	+4.2
	comp=Z,1.5nm,0.3s,baz=279,slow=4.3,SNR=4.1						
FX1				S	Sn	11 08 23.9	-1.9
	comp=Z,2.9nm,0.3s,baz=105,slow=16,SNR=5.3						
ERM	Erimo	12.10	238	ePN	Pn	11 06 44.6	+0.2
SEY	Seymchan	13.89	351	P	Pn	11 07 08.9	+0.1
	comp=Z,0.1nm,0.3s,baz=163,slow=20,SNR=2.3						
MAJO	Matsushiro	18.69	234	eP	P	11 08 08.0	-1.8
MAJO				pmax	pmax		
	comp=Z,33nm,1.3s						
JNU	Nakatsue	25.25	240	LR	LR	11 18 36.9	
	comp=Z,101nm,19.5s,baz=110,slow=36						
H11N2	WAKE ISLAND Hy	30.56	161	T	T	11 43 11.2	
	baz=352						
H11N3	WAKE ISLAND Hy	30.58	161	T	T	11 43 24.2	
	baz=352,slow=74						
H11N1	WAKE ISLAND Hy	30.58	161	T	T	11 43 20.1	
	baz=352,slow=74						
H11S1	WAKE ISLAND Hy	31.71	162	T	T	11 44 34.2	
	baz=347,slow=76,SNR=42						
H11S3	WAKE ISLAND Hy	31.72	162	T	T	11 44 43.5	
	baz=347,slow=76,SNR=50						
H11S2	WAKE ISLAND Hy	31.73	162	T	T	11 44 37.2	
	baz=347,slow=76,SNR=32						
ILAR	Eielson Array	32.92	41	eP	P	11 10 27.5	+2.2
ILAR	Eielson Array	32.92	41	P	P	11 10 25.6	+0.3
	comp=Z,0.2nm,0.8s,baz=278,slow=6.9,SNR=4.2						
YKA	Yellowknife Ar	47.31	39	P	P	11 12 24.7	+0.4
	comp=Z,0.3nm,0.9s,baz=299,slow=7.5,SNR=3.6						
MKAR	Makanchi Array	48.08	297	P	P	11 12 25.7	-4.8
	comp=Z,0.3nm,0.3s,baz=51,slow=5.1,SNR=8.9						
NVAR	Mina Array Bea	58.98	66	P	P	11 13 51.8	+1.0
	comp=Z,0.5nm,0.5s,baz=296,slow=7.4,SNR=4.8						
TXAR	Lajitas Array	74.00	64	P	P	11 15 26.7	-0.1
	comp=Z,0.4nm,0.7s,baz=298,slow=5.1,SNR=7.3						

AWI ***25*** *11:17:25.1, 56.24S×27.08W*

ISCJB ***25*** *11:17:34.0±0.5, 56.56S±0.07×27.0W±0.2, h101km, mb4.5/9, Error ellipse: s-maj=13.5km s-min=8.7km az=146.4*

NEIC ***25*** *11:17:36.2±1.3, 56.53S×26.94W, h109km±12km, mb4.7/3, Error ellipse: s-maj=10.5km s-min=8.3km az=66.0*

IDC ***25*** *11:17:36.9±5.8, 56.56S×26.98W, h112km±52km, mb4.3/9, mb1 4.4/10, mb1mx4.2/18, mbtmp4.6/10, MS3.1/1, Ms1 3.1/1, ms1mx2.5/21, Error ellipse: s-maj=22.7km s-min=15.6km az=68.0*

ISC 25 11:17:35.5±0.6, 56.54S±0.09×26.9W±0.1, h101km, n31, σ0.66/27, mb4.5/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.91	289	ePn	Pn	11 19 01.3	+0.9
	47nm,0.8s						
VNA1	Neumayer--Stat	16.28	158	P	Pn	11 21 16.7	-1.0
VNA3	Neumayer Olymp	16.47	160	P	Pn	11 21 19.7	-0.4
VNA2	Neumayer--Watz	16.68	158	P	Pn	11 21 22.2	-0.4
	baz=318,slow=14						
SNAA	Sanae	18.23	156	P	P	11 21 40.7	+0.3
SNAA	Sanae	18.23	156	P	P	11 21 40.5	+0.2
	2.2nm,0.3s,baz=306,slow=10,SNR=153						
SNAA				S	S	11 24 52.5	-11
	0.1nm,0.3s,baz=18,slow=20,SNR=2.2						
PMSA	Palmer Station	19.70	230	P	P	11 21 56.1	-0.2
TRIS	Tristan da Cun	21.80	33	eP	P	11 22 18.4	-0.7
TRQA	Tornquist	29.66	294	eP	P	11 23 30.6	-0.7
PLCA	Paso Flores	32.24	281	LR	LR	11 36 29.5	
	comp=Z,34nm,18.9s,baz=120,slow=35						
QSPA	South Pole Qui	33.71	180	P	P	11 24 07.2	+0.5
	13nm,0.6s,baz=18,slow=2.8,SNR=169						
QSPA				PcP	PcP	11 26 43.3	-0.4
	2.2nm,0.5s,baz=201,slow=1.1,SNR=5.7						
QSPA	South Pole Qui	33.71	180	eP	P	11 24 07.0	+0.3
	9.9nm,0.5s						
QSPA				PcP	PcP	11 26 43.4	-0.4
CPUP	Villa Florida	37.26	311	P	P	11 24 36.2	-0.9
	0.4nm,0.3s,baz=133,slow=4.3,SNR=3.9						
MAW	Mawson	39.66	143	P	P	11 24 57.1	+0.3
	14nm,0.8s,baz=265,slow=7.4,SNR=3.7						
BOSA	Boshof	45.94	75	P	P	11 25 48.5	+0.3
	4.3nm,0.8s,baz=216,slow=5.1,SNR=6.7						
VNDA	Vanda	46.09	183	P	P	11 25 49.2	+0.7
	4.8nm,0.5s,baz=187,slow=6.9,SNR=35						
VNDA	Vanda	46.09	183	eP	P	11 25 48.6	0.0
	4.3nm,0.6s						
H10S2	ASCENSION HYDR	48.43	16	T	T	12 18 55.7	
	baz=189,slow=75,SNR=4.9						
H10S3	ASCENSION HYDR	48.43	16	T	T	12 18 55.0	
	baz=189,slow=75,SNR=4.1						
H10S1	ASCENSION HYDR	48.44	16	T	T	12 19 02.1	
	baz=189,slow=75,SNR=5.0						
H10N1	ASCENSION HYDR	49.55	16	T	T	12 20 21.0	
	baz=187						
H10N3	ASCENSION HYDR	49.55	16	T	T	12 20 19.9	
	baz=187						
H10N2	ASCENSION HYDR	49.56	16	T	T	12 20 21.4	
	baz=187						
LPAZ	La Paz	50.79	305	P	P	11 26 26.5	+0.5
	10nm,0.5s,baz=110,slow=5.3,SNR=51						
TORD	Torodi Ar. Bea	73.41	29	P	P	11 28 57.5	+1.2
	3.4nm,0.5s,baz=200,slow=6.3,SNR=44						
STKA	Stephens Creek	91.39	170	P	P	11 30 30.2	+0.3
	1.5nm,0.5s,baz=130,slow=6.4,SNR=6.2						
ASAR	Alice Springs	98.47	162	P	P	11 31 01.5	-0.8
	0.8nm,0.7s,baz=178,slow=4.4,SNR=10						
WRA	Warramunga Arr	102.19	162	P	Pdif	11 31 17.8	-1.1
	0.4nm,0.6s,baz=192,slow=4.4,SNR=3.8						
YKA	Yellowknife Ar	136.64	317	PKP	PKPdf	11 36 43.8	-0.4
	0.3nm,0.5s,baz=126,slow=2.3,SNR=11						
ILAR	Eielson Array	150.56	311	PKPbc	PKPbc	11 37 13.3	-0.5
	1.5nm,0.7s,baz=118,slow=0.4,SNR=9.1						
SONM	Songino Array	150.60	87	PKPbc	PKPbc	11 37 14.4	-0.2
	0.9nm,0.6s,baz=220,slow=3.4,SNR=8.8						
SONM				pPKPbc	pPKPbc	11 37 43.0	+0.9
	0.6nm,0.6s,baz=215,slow=3.4,SNR=3.1						

IDC ***25*** *11:26:22.3±0.5, 23.76S×175.62W, h0km, mb4.9/21, mb1 5.0/23, mb1mx4.9/37, mbtmp4.9/23, ML4.7/2, MS4.3/16, Ms1 4.3/16, ms1mx4.2/23, Error ellipse: s-maj=18.1km s-min=14.7km az=124.0*

ISCJB ***25*** *11:26:25.2±0.1, 23.91S±0.04×175.58W±0.03, h28km, mb5.2/140, MS4.4/25, Error ellipse: s-maj=6.5km s-min=3.4km az=153.1*

MOS ***25*** *11:26:27.6±1.2, 23.84S×175.68W, h44km, mb5.3/31, MS4.6/6, Error ellipse: s-maj=10.9km s-min=9.1km az=79.6*

NEIC ***25*** *11:26:28.5±1.0, 23.90S×175.61W, h43km±9km, mb5.2/94, Error ellipse: s-maj=7.7km s-min=4.8km az=153.0*

GCMT ***25*** *11:26:28.5±0.2, 23.85S×174.94W, h17km, MW5.0/82, Moment Tensor Solution. s41,c49; s82,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr3.29±.16; Mθθ-0.55±.10; Mφφ-2.74±.10; Mrθ0.86±.29; Mrφ-0.85±.07; Mθφ2.39±.25; Best double couple: Mo4.05300×10^{16} NP1:φs19.00000°, δ64.00000°, λ90.00000°. NP2: φs198.00000°, δ26.00000°, λ89.00000°. Principal axes: T 4.1840, Plg71.0000°, Azm290.0000°; N -0.2580, Plg0.0000°, Azm199.0000°; P -3.9230, Plg19.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***25*** *11:26:35.9, 23.30S×175.47W, h100km, mB5.5/27, mb5.2/42*

ISC 25 11:26:26.8±0.3, 23.83S±0.05×175.62W±0.06, h28km, n559, σ1.17/574, mb5.2/139, MS4.4/25, 17C-8D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.78	200	Pn	Pn	11 27 49.5	-1.1
	64nm,0.3s,baz=72,slow=19,SNR=3.7						
RAO				Sn	Sn	11 28 56.0	0.0
	74nm,0.3s,baz=87,slow=22,SNR=11						
MSVF	Nonsavu	8.48	315	Pn	Pn	11 28 32.3	+4.4
	1μm,0.9s,SNR=22						
MSVF	Nonsavu	8.48	315	P	Pn	11 28 31.0	+3.1
MSVF	Nonsavu	8.48	315	Pn	Pn	11 28 31.0	+3.1
RAR	Rarotonga	14.87	83	LR	LR	11 34 46.9	
	comp=Z,2μm,21.0s,baz=245,slow=34						
URZ	Urewera	15.66	202	Pn	Pn	11 30 03.5	-2.0
	0.9nm,0.3s,baz=192,slow=2.8,SNR=7.0						
URZ				Sn	Sn	11 32 45.8	-12
	2.6nm,0.3s,baz=189,slow=19,SNR=8.8						
URZ	Urewera	15.66	202	ePn	Pn	11 30 04.1	-1.4
	50nm,1.3s						
URZ				Sn	Sn	11 32 45.8	-12
DZM	Mont Dzumac	16.62	273	eP	P	11 30 21.9	+1.7
	171nm,1.1s						
DZM				eLR	LR	11 34 11.8	
	1μm,24.5s						
DZM	Mont Dzumac	16.62	273	Pn	P	11 30 21.7	+1.5
	0.9nm,0.3s,baz=75,slow=19,SNR=10						
DZM				LR	LR	11 35 37.2	
	comp=Z,744nm,19.5s,baz=108,slow=33						
DZM	Mont Dzumac	16.62	273	ePn	P	11 30 20.2	+0.1
	67nm,1.0s						
PPT2	Papeete2	25.11	81	eS	S	11 36 09.7	-3.1
	898nm,23.8s						
PPT2				eLR	LR	11 38 19.7	
	2μm,21.8s						
PPT	Papeete	25.12	81	LR	LR	11 39 30.0	
	comp=Z,1μm,20.4s,baz=266,slow=31						
HNR	Honiara	27.38	297	LR	LR	11 42 40.8	
	comp=Z,503nm,18.7s,baz=127,slow=36						
ARMA	Armidale	29.81	250	eP	P	11 32 32.8	+1.2
	55nm,1.5s						
EIDS	Eidsvold	30.28	260	eP	P	11 32 35.7	0.0
	43nm,1.1s						
EIDS	Eidsvold	30.28	260	P	P	11 32 36.7	+1.0
	baz=31,SNR=4.8						
RMQ	Roma	32.29	258	P	P	11 32 55.1	+1.7
	baz=33,SNR=11						
CMSA	Cobar Meteorol	34.97	249	P	P	11 33 17.3	+0.6
	baz=35,SNR=12						
CTA	Charters Tower	35.49	268	P	P	11 33 20.9	-0.4
	16nm,0.8s,baz=94,slow=11,SNR=22						
CTA				LR	LR	11 47 19.4	
	comp=Z,558nm,19.9s,baz=125,slow=35						
CTAO	Charters Tower	35.49	268	eP	P	11 33 21.3	0.0
CTAO				pmax	pmax		
	comp=Z,46nm,1.3s						
CTAO	Charters Tower	35.49	268	eP	P	11 33 21.3	0.0
	comp=Z,46nm,1.3s						
QLP	Quilpie	36.33	257	P	P	11 33 28.0	-0.4
	baz=37,SNR=15						
RKT	Rikitea	37.20	97	eLR	LR	11 43 59.1	
	comp=Z,940nm,22.2s						
PMG	Port Moresby	38.30	286	ciP	P	11 33 44.7	-0.6
PMG				pmax	pmax		
	comp=Z,54nm,1.0s						
PMG	Port Moresby	38.30	286	P	P	11 33 43.5	-1.8
	comp=Z,45nm,1.0s,baz=128,slow=2.0,SNR=14						
PMG	Port Moresby	38.30	286	eP	P	11 33 45.1	-0.2
	comp=Z,64nm,1.0s						
PMG	Port Moresby	38.30	286	P	P	11 33 45.1	-0.2
	baz=39,SNR=7.2						
STKA	Stephens Creek	38.47	248	P	P	11 33 45.9	-0.7
	comp=Z,9.2nm,0.9s,baz=100,slow=9.1,SNR=12						
STKA	Stephens Creek	38.47	248	P	P	11 33 47.3	+0.8
	baz=39,SNR=6.7						
COEN	Coen	40.08	277	eP	P	11 34 00.4	+0.3
	comp=Z,109nm,1.0s						
COEN	Coen	40.08	277	P	P	11 33 59.8	-0.3
	baz=40,SNR=4.8						
HTT	Hallett	40.76	246	P	P	11 34 05.6	-0.1
	baz=41,SNR=7.4						
BBOO	Buckleboo	43.16	247	eP	P	11 34 22.6	-2.6
	comp=Z,575nm,1.3s						
BBOO	Buckleboo	43.16	247	P	P	11 34 25.0	-0.2
	baz=44,SNR=5.8						
AS31	Alice Springs	46.00	260	eP	P	11 34 46.9	-1.1
ASAR	Alice Springs	46.00	260	P	P	11 34 47.0	-1.0
	comp=Z,9.8nm,0.9s,baz=89,slow=8.2,SNR=37						
ASAR				PcP	PcP	11 36 24.9	+0.5
	comp=Z,2.9nm,0.9s,baz=112,slow=3.9,SNR=3.3						
ASAR				LR	LR	11 54 11.5	
	comp=Z,560nm,18.2s,baz=112,slow=36						
WRAB	Tennant Creek	46.40	265	P	P	11 34 50.2	-1.0
	comp=Z,247nm,1.0s,SNR=15						
WRAB	Tennant Creek	46.40	265	eP	P	11 34 50.2	-1.0
WRAB				pmax	pmax		
	comp=Z,38nm,0.9s						
WRAB	Tennant Creek	46.40	265	eP	P	11 34 50.1	-1.0
	comp=Z,38nm,0.9s						
WRA	Warramunga Arr	46.41	265	P	P	11 34 49.7	-1.6
	comp=Z,35nm,0.9s,baz=100,slow=8.2,SNR=89						
WRA				PcP	PcP	11 36 26.5	+0.5
	comp=Z,6.4nm,1.0s,baz=102,slow=4.7,SNR=4.6						
WRA				LR	LR	11 54 29.7	
	comp=Z,657nm,18.1s,baz=130,slow=36						
JAY	Jayapura	47.22	290	P	P	11 34 57.5	-0.2
	baz=48,SNR=3.9						
KIP	Kipapa	48.14	22	eP	P	11 35 04.1	-0.4
KIP				pmax	pmax		
	comp=Z,37nm,1.1s						
FORT	Forrest	50.09	249	eP	P	11 35 18.5	-1.0
	comp=Z,29nm,0.9s						
KDU	Kakadu	50.28	273	P	P	11 35 20.6	-0.6
	baz=51,SNR=3.7						
WRKA	Warakurna	50.76	256	P	P	11 35 23.6	-1.1
	baz=51,SNR=23						
KNRA	Kununurra	52.70	268	P	P	11 35 38.6	-0.6
	baz=53,SNR=5.8						
VNDA	Vanda	54.82	186	P	P	11 35 55.2	+1.4
	comp=Z,5.5nm,1.1s,baz=24,slow=6.8,SNR=4.4						
VNDA				LR	LR	11 55 05.5	
	comp=Z,170nm,20.8s,baz=16,slow=31						
SWI	Sorong	56.26	286	P	P	11 36 05.2	+0.1
	comp=Z,59nm,0.9s						
SOEI	Soe	58.84	273	eP	P	11 36 23.5	0.0
	comp=Z,67nm,0.9s						
SOEI	Soe	58.84	273	P	P	11 36 24.6	+1.1
	baz=59,SNR=4.6						
MBWA	Marble Bar	59.33	259	eP	P	11 36 25.1	-1.6
	comp=Z,25nm,0.9s						
BLDU	Ballidu	59.77	247	P	P	11 36 29.2	-0.3
	baz=60,SNR=6.7						
SANI	Sanana	60.41	282	P	P	11 36 32.5	-1.6
	comp=Z,19nm,1.0s						
MORW	Morawa	60.66	249	P	P	11 36 35.2	-0.5
	baz=61,SNR=6.9						
CASY	Casey	61.93	206	eP	P	11 36 45.3	+1.7
	comp=Z,51nm,1.3s						
JCJ	Chichijima	64.99	319	LR	LR	12 02 52.0	
	comp=Z,230nm,19.3s,baz=121,slow=34						
QSPA	South Pole Qui	66.25	180	P	P	11 37 12.8	+0.6
	comp=Z,13nm,1.0s,baz=46,slow=1.8,SNR=22						
QSPA	South Pole Qui	66.25	180	eP	P	11 37 13.8	+1.5
	comp=Z,34nm,1.3s						
MJAR	Matsushiro Arr	74.19	323	P	P	11 38 00.1	-0.9
	comp=Z,5.1nm,0.9s,baz=163,slow=6.1,SNR=8.1						
MJAR				LR	LR	12 10 24.6	
	comp=Z,92nm,18.5s,baz=125,slow=36						
MAJO	Matsushiro	74.19	323	eP	P	11 37 59.8	-1.2
MAJO				pmax	pmax		
	comp=Z,45nm,1.3s						
SBUM	Sibu	74.74	280	eP	P	11 38 05.2	+0.5
	comp=Z,11nm,1.3s						
KSM	Kuching	76.06	278	eP	P	11 38 12.3	+0.1
	comp=Z,19nm,1.0s						
JNU	Nakatsue	76.20	316	P	P	11 38 12.1	-0.6
	comp=Z,14nm,0.9s,baz=151,slow=7.2,SNR=4.1						
YUK	Yuzh-Kuril'sk	76.21	332	P	P	11 38 14.4	+2.0
YUK				S	S	11 47 52.9	-1.8
YUK				MLR	MLR		
	comp=Z,303nm,22.0s						
TPUB	Ta-pu	77.63	302	eP	P	11 38 19.5	-1.4
ASAJ	Asahikawa	77.70	331	P	P	11 38 21.6	+0.9
	comp=Z,47nm,0.9s,baz=227,slow=9.7,SNR=16						
ASAJ	Asahikawa	77.70	331	eP	P	11 38 21.9	+1.1
	comp=Z,22nm,0.9s						
PET	Petropavlovsk	79.74	345	eP	P	11 38 31.9	+0.1
PET				pmax	pmax		
	comp=Z,19nm,1.5s						
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
BFSC	Mount Baldy Ra	79.78	46	P	P	11 38 32.2	-0.5
	baz=80						
MONP	Monument Peak	79.78	47	P	P	11 38 32.5	-0.3
	baz=80						
YSS	Yuzh-Sakhalins	79.85	332⇑	eP	P	11 38 33.4	+0.9
YSS				e		11 48 42.0	
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS	Yuzh-Sakhalins	79.85	332	eP	P	11 38 34.1	+1.6
	comp=Z,81nm,1.0s						
VES	Vestal, Richgr	79.86	44	P	P	11 38 32.7	-0.2
	baz=80						
EDW2	Edwards Air Fo	79.96	45	P	P	11 38 33.3	-0.2
	baz=80						
KMRM	Mail Ridge	79.97	38	eP	P	11 38 34.2	+0.7
	comp=Z,45nm,1.1s						
KMRM				epP	pP	11 39 02.4	+20
PETK	Petropavlovsk-	80.06	344	P	P	11 38 33.5	0.0
	comp=Z,32nm,1.0s,baz=119,slow=5.8,SNR=23						
ISA	Isabella	80.13	44	eP	P	11 38 35.0	+0.5
ISA				pmax	pmax		
	comp=Z,28nm,1.3s						
ISA	Isabella	80.13	44	eP	P	11 38 35.0	+0.5
	comp=Z,28nm,1.3s						
ISA				epP	pP	11 39 02.3	+19
ISA	Isabella	80.13	44	P	P	11 38 35.0	+0.5
	baz=80						
PFO	Pinyon Flat Ob	80.19	47	P	P	11 38 35.4	+0.5
	baz=80						
SWSC	Sam W. Stewart	80.23	48	P	P	11 38 34.8	-0.1
	baz=80						
CMB	Columbia Colle	80.45	41	eP	P	11 38 35.7	-0.4
CMB				pmax	pmax		
	comp=Z,21nm,1.4s						
CMB	Columbia Colle	80.45	41	eP	P	11 38 35.6	-0.4
	comp=Z,22nm,1.4s						
CMB				epP	pP	11 39 03.8	+19
LRMC	Laurel Mountai	80.52	45	P	P	11 38 36.6	0.0
	baz=81						
OHCM	Honcut	80.65	40	eP	P	11 38 36.8	-0.2
BELC	Belle Mtn. Jos	80.73	47	P	P	11 38 38.1	+0.3
	baz=81						
KSRS	Korea Array	80.83	318	P	P	11 38 38.1	+0.1
	comp=Z,9.8nm,1.1s,baz=136,slow=5.8,SNR=15						
KSRS				LR	LR	12 11 39.1	
	comp=Z,99nm,19.6s,baz=135,slow=34						
KSAR	Wonju Array Be	80.85	318	P	P	11 38 38.1	0.0
KSAR	Wonju Array Be	80.85	318	P	P	11 38 38.1	0.0
WDC	Whiskeytown Da	80.87	38	eP	P	11 38 38.3	+0.1
WDC				pmax	pmax		
	comp=Z,15nm,1.1s						
WDC	Whiskeytown Da	80.87	38	eP	P	11 38 38.3	+0.1
	comp=Z,15nm,1.1s						
WDC				epP	pP	11 39 06.2	+19
BC3	Big Chuckawall	80.89	47	P	P	11 38 39.2	+0.6
	baz=81						
GLA	Glamis	80.96	48	P	P	11 38 40.2	+1.3
	baz=81						
GSC	Goldstone	80.98	45	eP	P	11 38 39.1	+0.1
GSC				pmax	pmax		
	comp=Z,11nm,1.1s						
GSC	Goldstone	80.98	45	eP	P	11 38 39.1	+0.1
	comp=Z,11nm,1.1s						
GSC				epP	pP	11 39 06.4	+18
GSC	Goldstone	80.98	45	P	P	11 38 40.0	+1.0
	baz=81						
HEC	Hector,Ludlow	81.01	46	P	P	11 38 39.9	+0.7
	baz=81						
N02D	Trinity Center	81.05	38	P	P	11 38 39.2	-0.1
	baz=81						
MTUM	Tungsten Hills	81.14	43	eP	P	11 38 40.1	+0.1
MTUM				epP	pP	11 39 08.1	+19
MLAC	Mammoth Lakes	81.14	42	P	P	11 38 39.1	-1.0
	baz=81						
TIN	Tinemaha	81.16	43	P	P	11 38 39.2	-0.7
	baz=81						
M02C	Callahan	81.24	37	P	P	11 38 40.3	+0.1
	baz=82						
WAKR	Walker	81.33	41	eP	P	11 38 41.2	+0.2
IRM	Iron Mountain	81.39	47	P	P	11 38 41.0	-0.2
	baz=82						
GMRC	Granite Mounta	81.42	46	P	P	11 38 40.3	-1.1
	baz=82						
YBH	Yreka Blue Hor	81.55	37	eP	P	11 38 42.3	+0.4
YBH				pmax	pmax		
	comp=Z,15nm,1.1s						
YBH	Yreka Blue Hor	81.55	37	eP	P	11 38 42.3	+0.4
	comp=Z,15nm,1.1s						
YBH				epP	pP	11 39 10.1	+19
TUQ	Turquoise Moun	81.64	45	P	P	11 38 41.5	-1.1
	baz=82						
FURC	Furnace Creek,	81.66	44	P	P	11 38 42.1	-0.4
	baz=82						
SHOC	Shoshone	81.69	45	P	P	11 38 42.2	-0.4
	baz=82						
214A	Organ Pipe Nat	81.72	50	P	P	11 38 42.5	-0.5
	baz=82						
LDFC	Landfair	81.96	46	eP	P	11 38 45.2	+0.9
	comp=Z,24nm,1.2s						
LDFC				epP	pP	11 39 12.7	+19
NVAR	Mina Array Bea	81.97	42	P	P	11 38 44.2	-0.2
	comp=Z,14nm,1.1s,baz=223,slow=7.0,SNR=32						
HUMO	Hull Mountain	82.01	36	eP	P	11 38 45.8	+1.6
	comp=Z,13nm,1.3s						
MYKOM	Kota Tinggi	82.06	275	eP	P	11 38 46.1	+0.9
	comp=Z,26nm,1.1s						

M04C Macdoel 82.07 38 P P 11 38 43.5 -1.2
baz=82
PDMCI Parker Dam,Lak 82.15 47 P P 11 38 45.2 +0.1
baz=82
TPH Tonopah 82.42 43 eP P 11 38 46.6 -0.1
TPH pmax pmax
comp=Z,24nm,1.3s
TPH Tonopah 82.42 43 eP P 11 38 46.6 -0.1
comp=Z,24nm,1.3s
Z14A Wintersburg 82.42 49 P P 11 38 45.0 -1.6
baz=83
Y14A Wickenburg 82.71 48 P P 11 38 48.2 +0.1
baz=83
SHPR Sheep Range 82.77 45 eP P 11 38 48.8 +0.2
W13A Hualapai Mount 82.78 47 P P 11 38 48.4 -0.3
baz=83
J04D Umpqua Nationa 82.89 36 P P 11 38 49.2 +0.1
baz=83
USRK Ussuriysk Arra 82.95 325 P P 11 38 50.6 +1.6
comp=Z,39nm,0.9s,baz=136,slow=3.7,SNR=44
USRK LR LR 12 13 55.6
comp=Z,144nm,18.5s,baz=131,slow=34
MOD Modoc 83.01 38 eP P 11 38 49.5 -0.1
comp=Z,18nm,1.1s
I04A Tendick Farm, 83.10 36 P P 11 38 49.8 -0.1
baz=83
K05A Summer Lake 83.22 37 eP P 11 38 51.0 +0.3
comp=Z,32nm,1.1s
K05A epP pP 11 39 19.0 +19
TUC Tucson 83.34 50 eP P 11 38 53.7 +2.2
TUC pmax pmax
comp=Z,15nm,1.2s
TUC Tucson 83.34 50 eP P 11 38 53.6 +2.2
comp=Z,15nm,1.2s
J05D Fort Rock, OR 83.40 37 P P 11 38 51.4 -0.2
baz=84
R11A Troy Canyon, C 83.61 43 eP P 11 38 52.5 -0.4
comp=Z,6.4nm,1.1s
R11A Troy Canyon, C 83.61 43 P P 11 38 51.9 -0.9
baz=84
NJ2 Nanjing 83.69 309 eP P 11 38 52.8 -0.3
NJ2 pmax pmax
comp=Z,20nm,0.6s
H04A Detroit Lake 83.82 35 eP P 11 38 53.3 -0.3
comp=Z,30nm,1.5s
SYO Syowa Base 83.96 192⇓eP P 11 38 51.0 -3.0
I05D Terrebonne, OR 84.04 36 P P 11 38 54.6 -0.2
baz=84
X16A Lo Mia Camp, P 84.05 48 P P 11 38 54.9 -0.3
baz=84
QIZ Qiongzhong 84.22 294 P P 11 38 56.8 +0.6
QIZ sP sP 11 39 32.8 +24
QIZ S SKSac 11 49 10.8 -7.4
QIZ pmax pmax
comp=Z,18nm,1.8s
QIZ pmax pmax
comp=Z,97nm,4.9s
QIZ LR LR
comp=Z,140nm,24.3s
WVOR Wild Horse Val 84.30 39 eP P 11 38 50.8 -5.4
WVOR pmax pmax
comp=Z,21nm,1.1s
WVOR Wild Horse Val 84.30 39 eP P 11 38 50.8 -5.4
comp=Z,21nm,1.1s
HABR Khabarovsk 84.42 330ceP P 11 38 54.7 -1.8
HABR e 11 44 08.1
HABR eS S 11 49 07.3 -13
HABR e 11 49 22.6
HABR eSS SS 11 54 44.6 -7.5
HABR eSSS SSS 11 58 15.4
HABR pmax pmax
comp=E,45nm,2.0s
HABR pmax pmax
comp=N,7.0nm,0.7s
HABR pmax pmax
comp=Z,134nm,2.0s
HABR MLR MLR
comp=Z,130nm,16.0s
MDJ Mudanjiang 84.50 324 P P 11 38 58.3 +1.3
MDJ pP pP 11 39 24.3 +18
MDJ sP sP 11 39 34.5 +25
MDJ PP PP 11 42 13.3 +0.4
MDJ S SKSac 11 49 17.3 -1.5
MDJ pmax pmax
comp=Z,40nm,1.0s
MDJ pmax pmax
comp=Z,130nm,5.0s
MDJ LR LR
comp=Z,51nm,17.4s
MDJ LR LR
comp=Z,92nm,19.4s
MDJ LR LR
comp=Z,130nm,18.9s
MDJ Mudanjiang 84.50 324 eP P 11 38 58.1 +1.1
comp=Z,49nm,1.0s
CCUT Cedar City 84.55 45 eP P 11 38 58.4 +0.6
comp=Z,26nm,1.2s
U15A North Rim 84.61 46 P P 11 38 58.0 -0.1
baz=85
SNAA Sanae 84.62 178 P P 11 38 57.7 +0.3
SNAA Sanae 84.62 178 eP P 11 38 57.5 +0.1
SNAA pmax pmax
comp=Z,14nm,1.0s
SNAA Sanae 84.62 178 eP P 11 38 57.5 +0.1
comp=Z,14nm,1.0s
VNA3 Neumayer Olymp 84.67 175 P P 11 38 57.2 -0.4
WUAZ Wupatki 84.71 48 eP P 11 38 59.4 +0.9
comp=Z,32nm,1.4s
WUAZ Wupatki 84.71 48 P P 11 38 58.3 -0.2
baz=85
I07A Izee 84.87 37 eP P 11 38 59.1 +0.1
comp=Z,11nm,0.9s
G06A Carlson Farm, 85.01 36 eP P 11 38 59.5 -0.2
comp=Z,23nm,1.5s
X18A Snowflake 85.14 49 P P 11 39 00.5 -0.2
baz=85
VNA2 Neumayer--Watz 85.14 176 P P 11 39 00.3 +0.3
baz=184,slow=3.1
ELK Elko 85.26 42 eP P 11 39 00.9 -0.3
ELK pmax pmax
comp=Z,12nm,1.3s
ELK Elko 85.26 42 eP P 11 39 00.9 -0.3
comp=Z,12nm,1.3s
ELK epP pP 11 39 28.8 +19
VNA1 Neumayer--Stat 85.35 176 P P 11 39 01.4 +0.4
PLCA Paso Flores 85.39 133 LR LR 12 08 22.4
comp=Z,113nm,21.4s,baz=272,slow=30
121A Cookes Peak, D 85.59 52 eP P 11 39 04.5 +1.4
comp=Z,25nm,1.6s
121A Cookes Peak, D 85.59 52 P P 11 39 02.7 -0.3
baz=86
W18A Petrified Fore 85.60 49 eP P 11 39 04.0 +0.9
comp=Z,54nm,1.8s
IPM Ipoh 85.73 277 eP P 11 39 04.7 +0.8
comp=Z,36nm,1.2s
G08A Pilot Rock 85.95 36 eP P 11 39 03.6 -0.8
comp=Z,9.7nm,0.9s
WHN Wuhan 86.18 306 P P 11 39 06.5 +0.8
WHN pmax pmax
comp=Z,92nm,1.3s
CN2 Changchun 86.27 322 eP P 11 39 07.0 +1.1
UBPT Khong Chiam 86.29 288 P P 11 39 08.7 +2.1
comp=Z,26nm,1.4s
E07A Sunnyside 86.29 35 eP P 11 39 06.0 +0.1
comp=Z,9.1nm,1.0s
HAWA Hanford 86.35 35 eP P 11 39 06.2 +0.1
comp=Z,21nm,1.4s
DUG Dugway 86.43 43 eP P 11 39 07.7 +0.7
DUG pmax pmax
comp=Z,6.0nm,1.3s
DUG Dugway 86.43 43 eP P 11 39 07.7 +0.7
comp=Z,6.2nm,1.3s
DUG Dugway 86.43 43 P P 11 39 06.6 -0.3
baz=87
KLR Kul'dur 86.51 329 eP P 11 39 03.9 -3.0
KLR eS S 11 49 45.5 +4.2
Z22A Elephant Butte 86.56 51 P P 11 39 07.4 -0.3
baz=87
BMO Blue Mountains 86.58 37 eP P 11 39 06.9 -0.6
BMO pmax pmax
comp=Z,10.0nm,1.4s
BMO Blue Mountains 86.58 37 eP P 11 39 06.9 -0.6
comp=Z,9.5nm,1.4s
BMO epP pP 11 39 35.4 +19
MNTX Cornudas Mount 86.91 53 eP P 11 39 08.8 -0.6
comp=Z,18nm,1.1s
TMUT Trail Mountain 86.94 44 eP P 11 39 10.1 +0.5
comp=Z,20nm,1.1s
PSI Prapat 86.97 274 P P 11 39 09.8 -0.3
comp=Z,21nm,0.9s,baz=150,slow=4.7,SNR=17
PSI Prapat 86.97 274 P P 11 39 10.5 +0.4
baz=87,SNR=12
LENM Lemitar 87.03 51 eP P 11 39 10.7 +0.7
LENM epP pP 11 39 38.5 +19
TXAR Lajitas Array 87.03 56 P P 11 39 09.3 -0.7
comp=Z,3.6nm,1.0s,baz=211,slow=7.0,SNR=16
TXAR LR LR 12 11 52.7
comp=Z,293nm,19.4s,baz=0.0,slow=31
LAZ Ladron 87.03 50 eP P 11 39 10.2 +0.2
comp=Z,11nm,1.4s
D08A Wollman Farm, 87.10 35 eP P 11 39 09.8 -0.1
comp=Z,31nm,1.8s
TIA Tai'an 87.14 312 ⇑P P 11 39 11.5 +1.2
TIA pmax pmax
comp=Z,60nm,1.1s
SRU San Rafael 87.27 45 eP P 11 39 11.0 -0.1
SRU pmax pmax
comp=Z,17nm,1.2s
SRU San Rafael 87.27 45 eP P 11 39 11.0 -0.1
comp=Z,17nm,1.2s
F10A Beach Ranch, E 87.32 36 eP P 11 39 10.2 -0.9
comp=Z,60nm,2.1s
LPM Los Pinos Moun 87.34 51 eP P 11 39 11.1 -0.5
HVU Hansel Valley 87.37 42 eP P 11 39 11.2 -0.3
HVU pmax pmax
comp=Z,30nm,1.7s
HVU Hansel Valley 87.37 42 eP P 11 39 11.2 -0.3
comp=Z,30nm,1.7s
HVU epP pP 11 39 39.1 +19
GAMB Gambell 87.37 2 eP P 11 39 11.5 +0.8
comp=Z,20nm,1.1s
HLID Hailey 87.44 40 eP P 11 39 11.6 -0.2
comp=Z,65nm,2.6s
HLID epP pP 11 39 40.1 +19
HLID Hailey 87.44 40 P P 11 39 10.8 -1.0
baz=88
JLU Jordanelle 87.52 43 eP P 11 39 12.5 +0.2
comp=Z,21nm,1.7s
Y23A Lovelace Mesa, 87.56 51 P P 11 39 12.4 -0.3
baz=88
MVCO Mesa Verde 87.58 47 P P 11 39 12.4 -0.3
baz=88
GSI Gunungsitoli 87.60 272 eP P 11 39 14.8 +1.8
comp=Z,122nm,1.0s
B08A Colville Reser 87.73 34 eP P 11 39 12.2 -0.7
comp=Z,6.8nm,1.0s
Z24A Sheeppen Canyo 87.75 52 P P 11 39 12.9 -0.7
baz=88
PMR Palmer 87.76 12 eP P 11 39 12.2 -0.4
PMR pmax pmax
comp=Z,14nm,1.1s
PMR Palmer 87.76 12 eP P 11 39 12.2 -0.4
comp=Z,14nm,1.1s
ANMO Albuquerque 87.79 50diP P 11 39 12.8 -0.9
ANMO pmax pmax
comp=Z,34nm,1.0s
ANMO Albuquerque 87.79 50 eP P 11 39 13.8 0.0
comp=Z,22nm,1.4s
X23A Hourglass Bar 87.80 51 P P 11 39 13.5 -0.3
baz=88
GDL2 Guadalupe Moun 87.91 53 eP P 11 39 15.0 +0.7
C09A Chrisman Ranch 87.92 35 eP P 11 39 13.5 -0.3
comp=Z,7.3nm,0.9s
CHBT CHBT 87.97 285 P P 11 39 17.1 +2.4
comp=Z,38nm,0.8s,comp=Z,4μm
V22A San Miguel Ran 87.98 49 P P 11 39 14.1 -0.5
baz=88
Y24A Capitan 88.00 52 P P 11 39 14.4 -0.3
baz=88
PV01 Paradox Valley 88.02 47 eP P 11 39 13.9 -0.9
comp=Z,481nm,1.1s
DIV Divide 88.04 14 eP P 11 39 14.5 +0.4
comp=Z,15nm,1.0s
BMRM Bremner River 88.16 15 eP P 11 39 14.6 0.0
comp=Z,20nm,1.2s
Z25A Roswell 88.19 52 P P 11 39 15.3 -0.2
baz=88
U22A Llaves 88.26 49 P P 11 39 15.8 -0.1
baz=88
V23A Ortiz Mt. (NFS 88.40 50 P P 11 39 16.4 -0.3
baz=89
529A Stev Forest Ra 88.51 56 P P 11 39 16.6 -0.5
baz=89
Y25A Mesa, Roswell 88.53 52 P P 11 39 16.8 -0.4
baz=89
U23A El Rito 88.69 49 P P 11 39 17.4 -0.6
baz=89
Z26A Caprock 88.72 53 P P 11 39 17.6 -0.5
baz=89
S22A 4UR Ranch, Cre 88.98 48 P P 11 39 19.0 -0.4
baz=89
429A Davenport Ranc 88.99 56 P P 11 39 19.3 -0.1
baz=89
V24A Rampart Ranch, 89.02 50 P P 11 39 19.2 -0.4
baz=89
MCMT McKenzie Canyo 89.09 39 eP P 11 39 18.4 -1.3
comp=Z,2.7nm,1.4s
T23A Casias Ranch, 89.16 49 P P 11 39 19.9 -0.3
baz=89
530A J-C Ranch, Com 89.19 56 P P 11 39 19.5 -0.7
baz=89
KTH Kantishna Hill 89.24 11 eP P 11 39 14.9 -4.8
comp=Z,95nm,2.5s
TRF Thorofare Moun 89.26 11 eP P 11 39 19.2 -0.7
comp=Z,114nm,2.1s
Z27A Tatum 89.30 53 P P 11 39 20.0 -0.8
baz=90
TNA Tin City 89.30 3 eP P 11 39 20.1 +0.2
comp=Z,13nm,1.1s
O20A White River Ci 89.31 45 eP P 11 39 19.9 -0.8
comp=Z,4.5nm,0.9s
O20A White River Ci 89.31 45 P P 11 39 20.2 -0.5
baz=90
W25A X Bar L Ranch, 89.34 51 P P 11 39 20.5 -0.5
baz=90
631A Perdido Creek 89.43 57 P P 11 39 20.9 -0.5
baz=90
REDW Red Top Meadow 89.44 41 eP P 11 39 21.5 +0.2
comp=Z,13nm,1.4s
TPAW Teton Pass 89.45 41 eP P 11 39 21.3 -0.2
comp=Z,36nm,2.1s
FXWY Fox Creek 89.49 41 eP P 11 39 21.9 +0.3
comp=Z,16nm,1.8s
V25A Rancho No Teng 89.54 50 P P 11 39 21.1 -0.9
baz=90
DLMT Dillon 89.55 39 eP P 11 39 22.0 +0.4
comp=Z,13nm,1.4s
DLMT epP pP 11 39 49.4 +19
SURT Suratani 89.57 280 P P 11 39 25.1 +2.8
comp=Z,24nm,1.2s,comp=Z,286nm
732A Laxson Ranch, 89.58 58 P P 11 39 21.0 -1.1
baz=90
Y27A Causey 89.62 52 P P 11 39 21.7 -0.5
baz=90
T24B San Luis 89.62 49 P P 11 39 22.0 -0.5
baz=90
SMCO Snowmass 89.63 46 eP P 11 39 22.1 -0.5
comp=Z,55nm,2.5s
N20A Spence Gulch, 89.67 44 P P 11 39 21.7 -0.8
baz=90
IMW Indian Meadow 89.69 41 eP P 11 39 22.4 -0.1
comp=Z,54nm,2.8s
IMW epP pP 11 39 49.3 +18
ENH Enshi 89.72 303 eP P 11 39 23.7 +1.0
comp=Z,31nm,1.2s
PAX Paxson 89.75 13 eP P 11 39 21.7 -0.5
PAX pmax pmax
comp=Z,16nm,1.4s
PAX Paxson 89.75 13 eP P 11 39 21.6 -0.5
comp=Z,16nm,1.4s
PAX epP pP 11 39 45.2 +14
MCK McKinley 89.76 12 eP P 11 39 21.7 -0.4
MCK pmax pmax
comp=Z,41nm,1.6s
MCK McKinley 89.76 12 eP P 11 39 21.7 -0.4
comp=Z,41nm,1.6s
W26A Owens Ranch, T 89.77 51 ⇑P P 11 39 22.0 -1.0
baz=90
BJI Beijing 89.80 315 P P 11 39 24.0 +1.2
BJI S S 11 50 07.8 -5.2
BJI SS SS 11 56 07.0 -4.1
BJI pmax pmax
comp=Z,15nm,1.8s
BJI pmax pmax
comp=Z,240nm,3.8s
BJI LR LR
comp=Z,110nm,23.8s
BJI LR LR
comp=Z,120nm,23.2s
BJI LR LR
comp=Z,110nm,23.2s
531A Rocksprings 89.80 57 P P 11 39 23.3 +0.1
baz=90
034A Hebbronville 89.84 60 P P 11 39 23.2 -0.1
baz=90
HYT Haines Junctio 89.84 18 eP P 11 39 26.1 +3.4
833A Chaparral WMA, 89.85 59 P P 11 39 23.2 -0.1
baz=90
SDCO Great Sand Dun 89.89 48 eP P 11 39 23.1 -0.6
comp=Z,7.0nm,1.2s
R23A Moffat 89.89 48 P P 11 39 23.3 -0.4
baz=90
PDAR Pinedale Array 89.90 42 P P 11 39 22.4 -1.1
comp=Z,2.2nm,0.9s,baz=220,slow=4.1,SNR=14
I17A Pilgrim Ck. 89.92 41 P P 11 39 24.1 +0.6
baz=90
FLWY Flagg Ranch 89.93 41 eP P 11 39 24.4 +0.8
comp=Z,32nm,1.5s
FLWY epP pP 11 39 51.5 +19
MSTX Muleshoe 89.94 53 eP P 11 39 23.3 -0.5
comp=Z,132nm,2.4s
U25A Circle Dot Ran 89.97 50 P P 11 39 23.9 0.0
baz=90
P22A Eagle 89.99 46 P P 11 39 24.1 +0.1
baz=90
S24A Houchin Ranch, 90.03 48 P P 11 39 24.4 0.0
baz=90
X27A F and S Farms, 90.04 52 P P 11 39 24.0 -0.3
baz=90
CHMT Chamberlain Mo 90.08 37 eP P 11 39 23.6 -0.6
CHMT epP pP 11 39 51.3 +18
632A Uvalde 90.09 58 P P 11 39 24.6 +0.1
baz=90
MENT Mentasta 90.10 14 eP P 11 39 23.5 -0.2
V26A Tequesquite Ra 90.11 51 P P 11 39 23.9 -0.6
baz=90
SEY Seymchan 90.12 346 P P 11 39 23.2 -0.5
comp=Z,8.2nm,1.0s,baz=149,slow=5.2,SNR=24
GYA Guiyang 90.20 299 eP P 11 39 26.5 +1.4
GYA pP pP 11 39 54.3 +20
GYA sP sP 11 40 05.8 +28
GYA PP PP 11 43 02.0 +2.7
GYA SKS SKSac 11 49 44.8 -10
GYA S SKKSac 11 50 07.3 -1.0
GYA pmax pmax
comp=Z,20nm,1.1s
GYA pmax pmax
comp=Z,120nm,6.2s
W27A Bowe Ranch, En 90.26 51 P P 11 39 24.9 -0.4
baz=90
BOZ Bozeman (W) 90.27 39 eP P 11 39 25.0 -0.1
BOZ pmax pmax
comp=Z,13nm,1.1s
BOZ Bozeman (W) 90.27 39 eP P 11 39 25.0 -0.1
comp=Z,13nm,1.1s
DLBC Dease Lake 90.27 22 eP P 11 39 25.8 +1.1
DLBC epP pP 11 39 52.7 +19
532A Rocksprings 90.28 57 P P 11 39 25.1 -0.3
baz=90
T25A Trinidad 90.33 49 P P 11 39 25.1 -0.5
baz=91
Z29A Hungry Hill Ra 90.38 54 P P 11 39 26.8 +1.0
baz=91
R24A Sanders Place, 90.40 48 P P 11 39 25.6 -0.3
baz=91
O22A Kremmling 90.43 46 P P 11 39 25.5 -0.6
baz=91
U26A Atchley Ranch, 90.43 50 P P 11 39 25.5 -0.7
baz=91
J19A Crowheart 90.48 42 P P 11 39 25.2 -0.9
baz=91
JCT Junction City 90.52 57 P P 11 39 27.1 +0.6
baz=91
S25A Robets Cordova 90.58 49 P P 11 39 25.5 -1.2
baz=91
X28A Dimmitt 90.62 52 P P 11 39 26.2 -0.8
baz=91
DOT Dot Lake 90.65 14 eP P 11 39 26.3 0.0
comp=Z,11nm,1.0s
DOT epP pP 11 39 53.6 +18
Y29A Porterfield Fa 90.69 53 P P 11 39 26.4 -0.9
baz=91
432A Menard 90.71 56 P P 11 39 26.6 -0.7
baz=91
Q24A Divide 90.74 47 P P 11 39 27.2 -0.4
baz=91
PBKT Sadao Pong 90.75 288 P P 11 39 32.5 +4.8
comp=Z,34nm,1.1s
HRY Holter Researc 90.76 38 eP P 11 39 27.1 -0.2
V27A Dan Oppiter Fa 90.76 51 P P 11 39 27.2 -0.3
baz=91
231A Bronte 90.80 55 P P 11 39 28.4 +0.7
baz=91
N22A Wattenberg Ran 90.82 45 P P 11 39 27.7 -0.2
baz=91
Z30A Sanderson Ranc 90.82 54 P P 11 39 28.7 +0.9
baz=91
O23A Lake Granby, G 90.86 46 P P 11 39 28.2 0.0
baz=91
533A Kerrville 90.92 57 P P 11 39 28.2 -0.1
baz=91
I19A Meeteetse 90.93 41 P P 11 39 28.1 -0.2
baz=91
X29A Tulia 90.95 53 P P 11 39 28.4 0.0
baz=91
332A Millersview 90.98 56 P P 11 39 29.0 +0.4
baz=91
WALA Waterton Lakes 90.98 35 eP P 11 39 27.7 -0.6
COLA College 91.00 11 eP P 11 39 27.4 -0.3
COLA pmax pmax
comp=Z,49nm,1.3s
M22A Cedar Creek Ra 91.04 45 P P 11 39 29.9 +1.0
baz=91
IM04 Indian Mountai 91.06 9 eP P 11 39 27.5 -0.6
ILAR Eielson Array 91.08 12 P P 11 39 26.4 -1.8
comp=Z,4.6nm,1.1s,baz=221,slow=5.0,SNR=15
J20A Shoshoni 91.12 42 P P 11 39 29.1 0.0
baz=91
AMTX Amarillo 91.17 52 P P 11 39 29.1 -0.4
baz=91
433A Art 91.19 57 P P 11 39 28.7 -0.9
baz=91
S26A Kim 91.22 49 P P 11 39 29.5 -0.2
baz=91
K21A Alcova 91.26 43 P P 11 39 29.3 -0.5
baz=92
Y30A Stafford Cattl 91.27 53 P P 11 39 29.4 -0.5
baz=92
H19A Powell 91.28 41 P P 11 39 29.6 -0.2
baz=92
232A Coleman 91.28 56 P P 11 39 29.4 -0.6
baz=92
Q25A Bedland, Calha 91.33 48 P P 11 39 29.9 -0.3
baz=92
534A Blanco 91.34 58 P P 11 39 29.6 -0.7
baz=92
RLMT Red Lodge 91.36 40 eP P 11 39 30.1 -0.1
comp=Z,4.2nm,1.0s
I20A Worland 91.41 42 P P 11 39 30.4 0.0
baz=92
L22A Ellis Ranch, M 91.47 44 P P 11 39 30.5 -0.3
baz=92
T27A Campo 91.47 50 P P 11 39 30.3 -0.6
baz=92
U28A Mallet 91.49 51 P P 11 39 30.5 -0.5
baz=92
J21A Lysite 91.51 43 P P 11 39 30.7 -0.2
baz=92
333A Richland Sprin 91.53 56 P P 11 39 30.1 -1.0
baz=92
Z31A Sharp Cattle R 91.57 54 P P 11 39 30.7 -0.5
baz=92
R26A Arlington 91.57 49 P P 11 39 30.5 -0.8
baz=92
UTTA Uttaradit 91.60 289 P P 11 39 34.1 +2.4
comp=Z,6.7nm,1.0s,comp=Z,66nm
ABTX Abilene, Hawle 91.62 55 P P 11 39 30.5 -1.0
baz=92
M23A Laramie 91.63 45 P P 11 39 31.8 +0.1
baz=92

P25A Willow Gulch B 91.68 47 P P 11 39 31.9 +0.1
baz=92
Y31A Rekieta Farm, 91.78 54 P P 11 39 32.0 -0.2
baz=92
H20A Greybull 91.78 41 P P 11 39 31.4 -0.7
baz=92
Q26A Hugo 91.83 48 P P 11 39 31.4 -1.0
baz=92
434A Burnet 91.85 57 P P 11 39 32.0 -0.6
baz=92
I21A Big Trails, Te 91.85 42 P P 11 39 31.8 -0.7
baz=92
XAN Xi'an 91.89 306 P P 11 39 34.3 +1.6
XAN pmax pmax
comp=Z,9.0nm,1.0s
XAN pmax pmax
comp=Z,36nm,4.0s
233A Rising Star 91.91 56 P P 11 39 33.2 +0.3
baz=92
T28A Walsh 91.93 50 P P 11 39 32.0 -0.9
baz=92
F19A Roth Farm, Mol 91.95 40 P P 11 39 32.3 -0.5
baz=92
R27A Eads 92.01 49 P P 11 39 32.4 -0.9
baz=92
G20A Bridger 92.04 41 P P 11 39 33.2 -0.1
baz=92
Z32A Haskell 92.06 54 P P 11 39 32.9 -0.6
baz=92
334A Lometa 92.10 57 P P 11 39 33.0 -0.7
baz=92
KHLT Khaolaem Dam 92.12 285 P P 11 39 37.4 +3.3
comp=Z,6.8nm,1.0s
J22A Midwest 92.15 43 P P 11 39 32.8 -1.1
baz=92
133A Hamilton Ranch 92.16 55 P P 11 39 33.5 -0.5
baz=92
636A Smothers Creek 92.20 59 P P 11 39 32.7 -1.5
baz=92
EGAK Eagle 92.27 14 eP P 11 39 33.8 +0.1
comp=Z,9.3nm,1.0s
V30A Spur Ranch, Mi 92.30 52 P P 11 39 34.5 -0.1
baz=92
K23A Bowen Ranch, D 92.35 44 P P 11 39 35.7 +0.9
baz=93
E19A Rath Farm, Rou 92.37 39 P P 11 39 35.0 +0.3
baz=93
F20A Billings 92.39 40 P P 11 39 34.8 0.0
baz=93
I22A 9 Mile Ranch, 92.39 43 P P 11 39 34.9 0.0
baz=93
Y32A R-V Farms, Ver 92.40 54 P P 11 39 35.1 0.0
baz=93
H21A Big Horn, Sher 92.43 42 P P 11 39 34.9 -0.2
baz=93
KSCO Kaye Shedlock' 92.48 48 eP P 11 39 35.0 -0.5
comp=Z,24nm,1.3s
KSCO epP pP 11 40 03.2 +19
KSCO Kaye Shedlock' 92.48 48 P P 11 39 35.3 -0.1
baz=93
234A Clairette 92.48 56 P P 11 39 34.9 -0.6
baz=93
W31A Holland Ranch, 92.57 53 P P 11 39 35.5 -0.3
baz=93
BILL Bilibino 92.58 353c iP P 11 39 34.9 -0.1
BILL iS SKSac 11 50 04.6 -1.5
BILL pmax pmax
comp=Z,13nm,1.2s
BILL MLR MLR
comp=Z,323nm,20.0s
BILL Bilibino 92.58 353 eP P 11 39 34.9 -0.1
comp=Z,13nm,1.1s
Z33A Whitaker Ranch 92.58 55 P P 11 39 35.0 -0.9
baz=93
EGMT Eagleton 92.66 38 P P 11 39 35.1 -0.9
baz=93
D19A Cripps Ranch, 92.69 39 P P 11 39 36.2 +0.1
baz=93
X32A Elmer 92.71 54 P P 11 39 35.9 -0.6
baz=93
LAMP Lampang 92.72 289 P P 11 39 39.4 +2.6
comp=Z,17nm,1.0s,comp=Z,142nm
R28A Tribune 92.72 49 P P 11 39 36.5 0.0
baz=93
P27A Ficken Ranch, 92.77 48 P P 11 39 36.4 -0.4
baz=93
E20A Meyer Farm, Mu 92.77 40 P P 11 39 36.6 0.0
baz=93
CRAI Chiangrai 92.77 291 P P 11 39 38.3 +1.2
comp=Z,8.2nm,1.2s,comp=Z,2µm
134A White-Moore Ra 92.78 56 P P 11 39 37.0 +0.2
baz=93
KMI Kunming 92.81 296 ⇑P P 11 39 39.5 +2.1
KMI sP sP 11 40 19.8 +30
KMI PP PP 11 43 23.5 +4.2
KMI S SKKSac 11 50 31.5 +3.4
KMI SS SS 11 56 50.3 -5.3
KMI pmax pmax
comp=Z,30nm,1.5s
KMI pmax pmax
comp=Z,240nm,3.1s
KMI LR LR
comp=Z,96nm,14.1s
KMI LR LR
comp=Z,130nm,17.6s
KMI LR LR
comp=Z,170nm,19.3s
C19A Slack Wire Ran 92.90 38 P P 11 39 37.3 +0.2
baz=93
V31A Spring Creek L 92.92 52 P P 11 39 37.7 +0.3
baz=93
D20A Manuel Ranch, 93.08 39 P P 11 39 38.0 +0.1
baz=93
G22A Birney 93.20 41 P P 11 39 38.2 -0.3
baz=93
R29A Marienthal 93.22 49 P P 11 39 38.5 -0.4
baz=93
HHC Hu-ho-hao-te 93.25 313 eP P 11 39 39.5 +0.6
HHC PP PP 11 43 27.3 +4.2
HHC S S 11 50 34.5 -10
HHC sS sS 11 51 25.3 +26
HHC SS SS 11 56 57.0 -4.0
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,260nm,5.9s
CMAR Chiang Mai Arr 93.29 289 P P 11 39 41.6 +2.1
comp=Z,25nm,1.1s,baz=127,slow=2.9,SNR=88
CMAR LR LR 12 21 15.3
comp=Z,34nm,19.7s,baz=315,slow=35
P28A Saint Francis 93.34 48 P P 11 39 39.6 +0.3
baz=94
B19A Brinkman Farms 93.35 38 P P 11 39 39.3 +0.1
baz=94
HKT Hockley 93.36 59 eP P 11 39 38.4 -1.1
HKT pmax pmax
comp=Z,33nm,1.7s
HKT Hockley 93.36 59 eP P 11 39 38.4 -1.1
comp=Z,33nm,1.7s
HKT epP pP 11 40 03.8 +15
H23A Clabaugh Cattl 93.41 42 P P 11 39 39.8 +0.2
baz=94
E21A Keefer Ranch, 93.41 40 P P 11 39 39.6 +0.1
baz=94
CMMT Chiang Mai 93.43 289 P P 11 39 42.1 +2.0
comp=Z,35nm,1.1s,comp=Z,409nm
CHTO Chiang Mai 93.43 289 eP P 11 39 42.2 +2.1
CHTO pmax pmax
comp=Z,30nm,1.1s
CHTO Chiang Mai 93.43 289 P P 11 39 42.1 +2.0
comp=Z,121nm,1.1s,comp=Z,1µm
CHTO Chiang Mai 93.43 289 eP P 11 39 42.2 +2.1
comp=Z,30nm,1.1s
C20A Veseth Ranch, 93.49 39 P P 11 39 39.9 +0.1
baz=94
F22A Rosebud 93.50 41 P P 11 39 39.7 -0.3
baz=94
T31A Randall Ranch, 93.64 51 P P 11 39 40.4 -0.3
baz=94
EDM Edmonton 93.72 32 eP P 11 39 39.9 -0.8
EDM Edmonton 93.72 32 eP P 11 39 39.9 -0.8
EDM epP pP 11 40 07.0 +17
A19A Klindworth Far 93.72 37 P P 11 39 40.8 0.0
baz=94
D21A La Casta Ranch 93.73 40 P P 11 39 41.0 0.0
baz=94
Z35A Perchaven, San 93.73 55 P P 11 39 41.7 +0.5
baz=94
G23A Biddle 93.73 42 P P 11 39 40.4 -0.6
baz=94
R30A Dighton 93.76 50 P P 11 39 41.0 -0.3
baz=94
CMAI Chiengmai2 93.79 290 P P 11 39 43.9 +1.9
comp=Z,22nm,0.9s
J25A Sunshine Ranch 93.83 44 P P 11 39 41.1 -0.5
baz=94
X34A Smith Ranch, M 93.86 54 P P 11 39 42.0 +0.2
baz=94
B20A Solberg Farm, 93.86 38 P P 11 39 41.6 +0.1
baz=94
K26A Motz Farm, Whi 93.89 45 P P 11 39 42.0 +0.1
baz=94
P29A Atwood 93.91 48 P P 11 39 42.1 +0.1
baz=94
F23A Volborg 93.99 41 P P 11 39 41.7 -0.4
baz=94
LAO LASA Array 93.99 40 eP P 11 39 42.7 +0.5
comp=Z,17nm,1.1s
N28A Pribbeno Ranch 94.01 47 P P 11 39 42.5 +0.1
baz=94
S31A Mullinville 94.01 51 P P 11 39 42.2 -0.3
baz=94
H24A Dirks Ranch, A 94.02 43 P P 11 39 42.0 -0.4
baz=94
RSSD Black Hills 94.04 43 eP P 11 39 41.8 -0.8
RSSD pmax pmax
comp=Z,13nm,1.1s
RSSD Black Hills 94.04 43 eP P 11 39 41.8 -0.8
comp=Z,13nm,1.1s
RSSD epP pP 11 40 09.2 +17
MHMT Maesarieng 94.06 288 P P 11 39 46.1 +3.1
V33A Lossen Ranch, 94.07 53 P P 11 39 42.4 -0.3
baz=94
C21A Desert Coulee 94.07 39 P P 11 39 42.4 -0.1
baz=94
Q30A Quinter 94.11 49 P P 11 39 42.7 -0.2
baz=94
A20A Cobblestone Ra 94.15 38 P P 11 39 42.9 +0.1
baz=94
I25A Rochford 94.18 43 P P 11 39 42.8 -0.4
baz=94
W34A Bridge Creek, 94.18 53 P P 11 39 42.9 -0.4
baz=94
J26A Sides Ranch, S 94.25 44 P P 11 39 42.9 -0.6
baz=94
D22A Cohagen 94.25 40 P P 11 39 42.8 -0.5
baz=94
R31A Burdett 94.28 50 P P 11 39 42.4 -1.3
baz=94
P30A Selden 94.36 49 P P 11 39 44.5 +0.5
baz=95
G24A Alzada 94.39 42 P P 11 39 43.9 -0.1
baz=95
B21A Ellsworth Farm 94.43 38 P P 11 39 44.1 +0.1
baz=95
CD2 Chengdu 94.43 302 eP P 11 39 45.0 +0.5
CD2 pP pP 11 40 13.5 +20
CD2 sP sP 11 40 25.0 +28
CD2 PP PP 11 43 36.3 +3.8
CD2 SKS SKSac 11 50 08.8 -9.3
CD2 S SKKSac 11 50 45.0 +5.5
CD2 sS sS 11 51 34.5 +24
CD2 SS SS 11 57 13.5 -4.7
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.6s
E23A Ismay 94.44 41 P P 11 39 44.2 0.0
baz=95
K27A Flueckinger Fa 94.50 45 P P 11 39 44.9 +0.2
baz=95
H25A Fruitdale 94.56 43 P P 11 39 44.5 -0.3
baz=95
F24A Ekalaka 94.63 42 P P 11 39 45.0 -0.1
baz=95
A21A Bergtoll Ranch 94.77 38 P P 11 39 44.7 -0.9
baz=95
D23A Lindsay 94.84 40 P P 11 39 46.7 +0.7
baz=95
J27A Elkhorn Farm, 94.91 45 P P 11 39 46.5 0.0
baz=95
R32A Long Quarter, 94.92 50 P P 11 39 46.4 -0.2
baz=95
G25A Newell 94.94 43 P P 11 39 45.9 -0.6
baz=95
H26A Fairpoint 95.07 43 P P 11 39 47.0 -0.2
baz=95
E24A Baker 95.07 41 P P 11 39 46.8 -0.3
baz=95
K28A Ten Mile Ranch 95.07 45 P P 11 39 47.5 +0.2
baz=95
C23A Lambert 95.17 40 P P 11 39 47.8 +0.4
baz=95
F25A Bowman 95.27 42 P P 11 39 48.3 +0.2
baz=96
D24A Glendive 95.33 41 P P 11 39 48.1 -0.2
baz=96
C24A Savage 95.47 40 P P 11 39 49.0 +0.1
baz=96
J28A Allard Ranch, 95.48 45 P P 11 39 49.1 0.0
baz=96
G26A Maurine 95.50 43 P P 11 39 48.4 -0.7
baz=96
H27A Howes 95.51 43 P P 11 39 48.6 -0.6
baz=96
E25A Miller Ranch, 95.59 41 P P 11 39 49.1 -0.4
baz=96
B23A Brockton 95.61 39 P P 11 39 49.7 +0.3
baz=96
F26A Lodgepole 95.72 42 P P 11 39 49.6 -0.5
baz=96
K29A Lazy Trails An 95.78 46 P P 11 39 50.1 -0.3
baz=96
I28A Midland 95.80 44 P P 11 39 50.0 -0.5
baz=96
G27A Dupree 95.96 43 P P 11 39 50.5 -0.7
baz=96
J29A Okreek 96.07 45 P P 11 39 50.9 -0.8
baz=96
DGMT Dagmar 96.07 39 eP P 11 39 52.0 +0.4
comp=Z,130nm,2.5s
DGMT Dagmar 96.07 39 P P 11 39 51.3 -0.3
baz=96
F27A Lemmon 96.13 42 P P 11 39 50.8 -1.2
baz=96
E26A Carlson Angus 96.14 42 P P 11 39 51.1 -0.9
baz=96
H28A Mission Ridge 96.20 44 P P 11 39 52.1 -0.2
baz=96
K30A Basset 96.20 46 P P 11 39 51.7 -0.7
baz=96
I29A Vivian Onida 96.36 45 P P 11 39 52.1 -0.9
baz=97
A24A Westby 96.40 39 P P 11 39 53.2 +0.1
baz=97
D26A Manning 96.42 41 P P 11 39 53.2 0.0
baz=97
LZH Lanzhou 96.53 306 eP P 11 39 56.0 +1.9
LZH eSKS SKSac 11 50 21.5 -7.7
LZH eS S 11 51 04.0 -9.4
LZH sS sS 11 51 55.0 +27
LZH SS SS 11 57 43.0 -5.1
LZH pmax pmax
comp=Z,34nm,1.4s
LZH pmax pmax
comp=Z,100nm,4.0s
J30A Dallas 96.57 45 P P 11 39 53.6 -0.4
baz=97
E27A Carson 96.67 42 P P 11 39 53.8 -0.5
baz=97
H29A Onida 96.69 44 P P 11 39 54.1 -0.3
baz=97
F28A McLaughlin 96.88 43 P P 11 39 54.7 -0.6
baz=97
C26A Wahner Farm, P 97.00 41 P P 11 39 56.2 +0.4
baz=97
YKA Yellowknife Ar 98.62 24 P P 11 40 01.6 -1.1
comp=Z,0.4nm,0.6s,baz=131,slow=3.8,SNR=14
ECSD EROS Data Cent 98.64 46 P P 11 40 03.1 -0.1
baz=99
LPAZ La Paz 98.76 112 LR LR 12 19 07.7
comp=Z,148nm,18.1s,baz=210,slow=32
ULN Ulaanbaatar 99.31 318 eP Pdif 11 40 05.5 -0.9
ULN pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 99.70 318 P Pdif 11 40 09.0 +0.9
SONM Songino Array 99.70 318 P Pdif 11 40 09.0 +0.9
comp=Z,0.5nm,0.8s,baz=114,slow=2.2,SNR=3.2
GTA Gaotai 100.77 308 eP Pdif 11 40 17.3 +4.3
GTA pmax pmax
comp=Z,4.0nm,1.4s
TIXI Tiksi 102.53 344 eP Pdif 11 40 20.5 +0.6
TIXI pmax pmax
comp=Z,1.0nm,1.1s
JAKH Jacmel 108.80 78 ePdif Pdif 11 40 52.6 +3.6
PAPH Port-au-Prince 109.09 78 ePdif Pdif 11 40 54.0 +3.7
WMQ Urumqi 110.76 310 ePKP PKiKP 11 44 57.0 -0.1
WMQ sPKP 11 45 34.5
WMQ PP PP 11 45 39.3 +4.5
WMQ PKS PKSdf 11 48 32.5 -1.2
WMQ SKS SKSdf 11 51 58.3 -9.0
WMQ SKKS SKKSac 11 52 22.5 -13
WMQ SS SS 12 00 57.8 -5.6
WMQ AMB AMB
comp=Z,35nm,10.0s
WMQ LR LR
comp=Z,80nm,20.2s
WMQ LR LR
comp=Z,62nm,20.0s
WMQ LR LR
comp=Z,57nm,19.6s
ZALV Zalesovo Beam 114.46 320 PKP PKPdf 11 45 02.8 -1.0
comp=Z,0.9nm,0.6s,baz=111,slow=1.8,SNR=4.8
MKAR Makanchi Array 115.07 312 PKP PKPdf 11 45 03.8 -1.5
comp=Z,1.1nm,0.8s,baz=66,slow=2.9,SNR=8.7
KURK Kurchatov 117.92 316 ePKIKP PKPdf 11 45 08.8 -1.7
KURK Kurchatov 117.92 316 ePKPdf PKPdf 11 45 08.8 -1.7
KSH Kashi 118.58 303 ePKP PKPdf 11 45 13.8 +1.5
KSH esPKP 11 45 50.3
AAK Ala-Archa 120.07 307 ⇑iPKIKP PKPdf 11 45 13.9 -1.3
AAK pmax pmax
comp=Z,18nm,2.5s
BVAR Borovoye Array 123.04 319 PKP PKPdf 11 45 18.9 -1.4
comp=Z,2.5nm,0.8s,baz=104,slow=3.1,SNR=12
BRVK Borovoye 123.10 319 ePKIKP PKPdf 11 45 20.1 -0.3
BRVK Borovoye 123.10 319 ePKPdf PKPdf 11 45 20.1 -0.3
BOSA Boshof 124.11 202 PKP PKPdf 11 45 23.4 0.0
comp=Z,7.2nm,1.1s,baz=258,slow=9.2,SNR=4.1
ARU Arti 129.19 324 iPKIKP PKPdf 11 45 32.1 +0.2
ARU 11 47 41.8
ARU SS SS 12 04 55.0 -4.1
ARU Arti 129.19 324 ePKPdf PKPdf 11 45 30.8 -1.1
ABKAR Akbulak array 130.01 315 ePKPdf PKPdf 11 45 32.8 -0.9
AKTO Aktyubinsk 131.01 317 PKP PKPdf 11 45 35.9 +0.3
comp=Z,1.2nm,0.7s,baz=81,slow=2.7,SNR=5.9
KMBO Kilima Mbogo 139.56 237 PKP PKPdf 11 45 53.8 +0.8
comp=Z,0.8nm,0.4s,baz=86,slow=18,SNR=3.5
OBN Obninsk 140.73 331 iPKIKP PKPdf 11 45 52.4 -1.0
OBN i 11 48 52.1
OBN pmax pmax
comp=Z,12nm,1.2s
VSU Vasula 141.91 341 iPKIKP PKPdf 11 45 53.8 -1.7
RAYN Ar Rayn 142.44 278 ePKPdf PKPdf 11 45 56.0 -1.6
NOA NORSAR Array B 142.52 355 PKP PKPdf 11 45 56.6 0.0
comp=Z,0.8nm,0.6s,baz=113,slow=6.3,SNR=3.4
KIV Kislovodsk 142.84 312 iPKIKP PKPdf 11 45 55.2 -2.6
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,183nm,22.0s
NACGM Naroch 144.79 338 e PKPab 11 45 57.0 -2.6
SOC Sochi 144.97 313 ePKIKP PKPab 11 45 59.8 -0.9
SOC e 11 49 18.7
SOC ePPP PPP 11 52 31.1
SOC pmax pmax
comp=Z,4.0nm,0.4s
ANN Anapa 145.96 316 iPKP2 PKPbc 11 46 03.4 -0.3
ANN pmax pmax
comp=Z,67nm,1.3s
KBSD Kabsdagh 146.37 301 eP PKPdf 11 45 57.6 -6.5
KBSD Kabsdagh 146.37 301 eP PKPdf 11 45 57.6 -6.5
SNR=46
SUW Suwalki 146.72 340 ePKP2 PKPbc 11 46 05.5 -0.3
SUW Suwalki 146.72 340 ePKP PKPbc 11 46 05.4 -0.3
SFNV Sufian 146.84 301 eP PKPbc 11 46 07.1 +0.4
SFNV Sufian 146.84 301 eP PKPbc 11 46 07.1 +0.4
SNR=46
AKASG Malin Array Be 146.99 331 PKPbc PKPbc 11 46 05.8 -0.8
comp=Z,16nm,0.8s,baz=40,slow=3.7,SNR=52
KIEV Kiev 147.00 331 ePKP2 PKPdf 11 46 05.4 +0.8
KIEV Kiev 147.00 331 ePKPbc PKPbc 11 46 05.4 +0.8
MALT Malatya 147.67 305 ⇓PKP2 PKPab 11 46 10.4 -1.0
MALT Malatya 147.67 305 ⇓iP PKPab 11 46 10.4 -1.0
SIM Simferopol' 147.95 318 ePKP2 PKPdf 11 46 07.7 +1.3
SIM pmax pmax
comp=Z,10.0nm,0.6s
EKA Eskdalemuir Ar 148.05 8 PKPbc PKPdf 11 46 07.3 +1.1
comp=Z,3.4nm,0.7s,baz=358,slow=2.5,SNR=4.6
BTCH Batrach 149.80 301 eP PKPdf 11 46 12.1 +2.3
BTCH Batrach 149.80 301 eP PKPdf 11 46 12.1 +2.3
SNR=46
LVV L'vov 149.85 334 ePKP2 PKPbc 11 46 13.5 -0.6
LVV MLR MLR
comp=N,700nm,20.0s
LVV MLR MLR
comp=E,1µm,20.0s
LVV MLR MLR
comp=Z,100nm,20.0s
MARH Ras Al Marh 150.24 297 eP PKPbc 11 46 14.2 -1.8
MARH Ras Al Marh 150.24 297 eP PKPbc 11 46 14.1 -1.8
SNR=46
KWP Kalwaria Pacla 150.52 335 ePKIKP PKPbc 11 46 15.6 -0.1
KWP Kalwaria Pacla 150.52 335 ePKP PKPbc 11 46 16.0 +0.3
KWP Kalwaria Pacla 150.52 335 ePKPbc PKPbc 11 46 15.6 -0.1
BR131 Keskin Array S 150.68 310 ePKPdf PKPdf 11 46 10.8 -0.3
BR131 ePKPbc PKPbc 11 46 15.4 -1.2
BR131 ePKPab PKPab 11 46 23.2 -0.4
BRTR Keskin Array B 150.68 310 PKPbc PKPbc 11 46 16.4 -0.2
comp=Z,5.7nm,0.9s,baz=126,slow=3.2,SNR=24
BUR08 Bucovina Ar. S 151.02 330 ePKPbc PKPbc 11 46 16.5 -0.6
BURAR Bucovina Array 151.04 330 ⇑PKIKP PKPbc 11 46 18.2 +1.0
BURAR Bucovina Array 151.04 330 ⇑iP PKPbc 11 46 18.2 +1.0
TESR Tescani 151.15 327 ⇑iP PKPbc 11 46 15.4 -1.9
STHS Stebnicka Huta 151.24 337 ePKIKP PKPbc 11 46 18.0 +0.6
STHS Stebnicka Huta 151.24 337 ePKP PKPbc 11 46 18.0 +0.6
KOLS Kolonicke sedl 151.25 335 ePKIKP PKPbc 11 46 17.5 0.0
KOLS pmax pmax
comp=N,104nm,1.3s
KOLS Kolonicke sedl 151.25 335 ePKIKP PKPbc 11 46 18.1 +0.6
KOLS Kolonicke sedl 151.25 335 ePKP PKPbc 11 46 18.1 +0.6
KOLS Kolonicke sedl 151.25 335 ePN PKPbc 11 46 17.5 0.0
CFR Carcaliu 151.27 324 ⇓PKIKP PKPbc 11 46 17.6 0.0
CFR Carcaliu 151.27 324 ⇓iP PKPbc 11 46 17.6 0.0
MMAI Mount Meron Ar 151.31 296 PKPbc PKPbc 11 46 19.4 +1.1
comp=N,8.9nm,0.7s,baz=59,slow=5.6,SNR=12
UZH Uzhgorod 151.49 335 ePKIKP PKPbc 11 46 18.3 +0.3
UZH e 11 46 22.5
UZH i 11 46 32.5
CRVS Cervenica-Dubn 151.59 336 ePKIKP PKPbc 11 46 17.9 -0.4
CRVS Cervenica-Dubn 151.59 336 ePKP PKPbc 11 46 17.9 -0.4
CLL Collm 151.78 349 ⇑iPKIKP PKPbc 11 46 18.4 -0.2
CLL e 11 46 27.0
CLL pmax pmax
comp=Z,26nm,1.1s
CLL Collm 151.78 349 ⇑iPKPbc PKPbc 11 46 18.4 -0.2
comp=Z,26nm,1.1s
CLL i 11 46 22.4
CLL ePKPab PKPab 11 46 27.0 -0.5
CLL e 11 46 43.0
TRPA Tarpa 151.79 334 ⇓iP PKPbc 11 46 19.0 +0.3
OKC Ostrava-Krasne 151.90 341 ePKIKP PKPbc 11 46 18.9 0.0
OKC Ostrava-Krasne 151.90 341 ⇑ePKP PKPbc 11 46 18.9 0.0
EIL Elat 152.14 289 PKPab PKPab 11 46 31.6 +1.7
comp=Z,12nm,1.0s,baz=251,slow=11,SNR=3.5
MLR Muntele Rosu 152.21 326 ⇑iP PKPbc 11 46 20.4 +0.5
MLR Muntele Rosu 152.21 326 PKPbc PKPbc 11 46 19.7 -0.3
comp=Z,2.1nm,1.0s,baz=23,slow=4.8,SNR=6.3
MLR PKPab PKPab 11 46 30.0 +0.3
comp=Z,2.2nm,0.9s,baz=108,slow=4.8,SNR=3.4
PRU Pruhonice 152.71 346 ePKIKP PKPbc 11 46 20.6 -0.1
PRU Pruhonice 152.71 346 ⇑ePKP PKPbc 11 46 20.6 -0.1
ARR Arges 152.95 328 ⇓iP PKPbc 11 46 22.8 +1.3
PSZ Piszkesteto 152.98 337 ePKIKP PKPbc 11 46 20.9 -0.6
PSZ Piszkesteto 152.98 337 ePKPbc PKPbc 11 46 20.9 -0.6
TREC Trest 153.13 344 ⇑ePKP PKPbc 11 46 24.2 +2.5
KHC Kasperske Hory 153.73 346 ePKIKP PKPdf 11 46 15.3 +0.1
KHC Kasperske Hory 153.73 346 ePKPDF PKPdf 11 46 15.5 +0.3
KHC ⇑ePKP PKiKP 11 46 23.4 +0.2

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KHC				ePKPAB	PKPab	11 46 36.5	+0.6
KHC	Kasperske Hory	153.73	346	ePKPdf	PKPdf	11 46 15.3	+0.1
KHC				ePKPbc	PKPbc	11 46 22.2	-0.8
TORD	Torodi Ar. Bea	169.07	166	PKP	PKPdf	11 46 30.9	-1.2
	comp=Z,3.2nm,1.2s,baz=51,slow=0.7,SNR=6.8						
TORD				PKPab	PKPab	11 47 44.7	+1.3
	comp=Z,1.5nm,0.9s,baz=186,slow=4.3,SNR=4.0						

IDC 25 11:29:07.5±1.2, 7°.59S×123°.72E, h0km, mb3.9/4, mb1 4.0/7, mb1mx3.6/42, mbtmp3.8/7, ML3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/26, Error ellipse: s-maj=63.8km s-min=18.2km az=70.0

DJA 25 11:29:11.8±0.4, 8°S±3°×12°3E±°, h11km, M3.8/5, MLv3.8/5

ISC 25 11:29:10.9±0.9, 8°.03S±0°.06×122°.66E±0°.07, h10km, n12, σ1°.77/15, mb4.0/4, Flores region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SOEI	Soe	2.33	137	P	Pn	11 29 49.6	+0.1
SOEI				S	Sn	11 30 20.7	+2.4
BATI	Baumata	2.38	155	P	Pn	11 29 51.7	+1.7
BATI	Baumata	2.38	155	Pn	Pn	11 29 50.4	+0.4
	15nm,0.3s,baz=360,slow=18,SNR=17						
BATI				Sn	Sb	11 30 24.1	+0.8
	18nm,0.3s,baz=18,slow=20,SNR=4.7						
BATI				LR	LR	11 30 57.1	
	comp=Z,451nm,19.1s,baz=120,slow=42						
WSI	Waingapu	2.85	235	P	Pb	11 30 01.6	-0.2
WSI				S	Sg	11 30 41.7	-0.7
BSSI	Bau Bau, Buton	2.86	311	P	Pn	11 29 57.9	+1.4
BKSI	Bulukumba	3.06	298	P	Pn	11 30 07.2	-0.8
BKSI				S	Sn	11 30 54.4	+2.9
WRA	Warramunga Arr	16.38	138	Pn	Pn	11 32 54.5	-6.5
	0.2nm,0.3s,baz=321,slow=12,SNR=9.9						
ASAR	Alice Springs	18.92	147	P	P	11 33 28.6	-3.4
	0.2nm,0.3s,baz=320,slow=12,SNR=19						
CMAR	Chiang Mai Arr	35.22	319	P	P	11 36 06.6	+0.9
	0.7nm,0.5s,baz=134,slow=8.7,SNR=4.5						
MKAR	Makanchi Array	65.32	331	P	P	11 39 52.9	-0.4
	0.9nm,0.8s,baz=139,slow=7.8,SNR=9.6						
AAK	Ala-Archa	66.81	323	P	P	11 40 03.5	+0.4
	1.3nm,0.8s,baz=145,slow=6.1,SNR=5.2						
ZALV	Zalesovo Beam	69.49	337	P	P	11 40 17.4	-2.0
	0.5nm,0.4s,baz=140,slow=5.6,SNR=2.5						

NEIC 25 11:32:04.0, 59°.49N×152°.99W, h100km, MG2.6(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
OPT	Oil Point	0.21	324	P	Pn	11 32 17.8	-0.5
HOM	Homer	0.71	75	P	Pn	11 32 21.3	-0.2
HOM				S	Sn	11 32 35.3	+0.7
MCNL	McNeil River	0.75	247	P	Pn	11 32 21.2	-0.7
RSO	Redoubt South	0.99	7	eP	Pn	11 32 23.5	-1.1
RSO				eSn	Sn	11 32 39.7	-0.3
RDWB	Redoubt West	1.01	4	P	Pn	11 32 23.6	-1.2
RDWB				S	Sn	11 32 39.9	-0.4
NCT	North Crescent	1.08	2	P	Pn	11 32 24.5	-1.0
BRLK	Bradley Lake	1.11	74	P	Pn	11 32 24.6	-1.1
BRLK				S	Sn	11 32 40.8	-1.2
DFR	Drift River	1.12	8	P	Pn	11 32 25.0	-0.9
KAPH	Katmai Pasha	1.13	219	P	Pn	11 32 25.5	-0.6
KAPH				S	Sn	11 32 42.1	-0.5
KAHC	Katmai Hardscr	1.34	232	P	Pn	11 32 27.7	-0.8
KAKN	Katmai Knife C	1.60	223	P	Pn	11 32 31.0	-0.7
KAKN				S	Sn	11 32 51.6	-1.1
KVTA	Katmai Vly 10	1.63	228	P	Pn	11 32 31.3	-0.6
KCE	Katmai Mt Cerb	1.69	223	P	Pn	11 32 32.6	0.0
KABR	Katmai Barrier	1.70	218	P	Pn	11 32 32.1	-0.8
KDAK	Kodiak Island	1.72	173	P	Pn	11 32 31.5	-1.5
KDAK				S	Sn	11 32 53.9	-1.1
SLKM	Skilak Lake	1.73	52	P	Pn	11 32 32.9	-0.3
CKL	Chakachamna La	1.75	10	P	Pn	11 32 32.7	-0.8
SPBG	Spurr Blockage	1.81	10	P	Pn	11 32 33.5	-0.7
SPBG				S	Sn	11 32 58.3	+1.0
SEW	Seward	1.90	69	P	Pn	11 32 34.3	-0.9
SEW				eSn	Sn	11 32 56.3	-2.6
SVW2	Sparrevohn	2.07	323	P	Pn	11 32 36.3	-1.2
STLK	Strandline Lak	2.10	15	P	Pn	11 32 37.4	-0.6
FIB	Fire Island	2.19	39	P	Pn	11 32 38.4	-0.6
OHAK	Old Harbor	2.28	184	P	Pn	11 32 38.3	-1.9
SUA	Susitna One	2.28	28	P	Pn	11 32 39.6	-0.7
RC01	Rabbit Creek A	2.28	44	P	Pn	11 32 39.7	-0.5
SKT	Skwentna	2.60	15	P	Pn	11 32 43.5	-1.0
PWL	Port Wells	2.70	57	P	Pn	11 32 44.2	-1.6
PMR	Palmer	2.85	40	P	Pn	11 32 46.5	-1.1
PMR				S	Sn	11 33 19.7	-1.5
SII	Sitkinak Islan	3.00	193	P	Pn	11 32 47.8	-2.0
CUT	Chulitna	3.22	23	P	Pn	11 32 52.6	+0.1
GLI	Glacier Island	3.26	62	P	Pn	11 32 51.3	-1.9
HIN	Hinchinbrook I	3.39	72	P	Pn	11 32 53.4	-1.6
PPLA	Purkeypile	3.44	6	P	Pn	11 32 55.5	-0.4
SCM	Sheep Creek Mo	3.65	47	P	Pn	11 32 57.4	-1.1
VLZ	Valdez	3.70	61	P	Pn	11 32 58.0	-1.0
TT01	Tatalina	3.73	338	P	Pn	11 32 58.4	-1.2
EYAK	Cordova Ski Ar	3.79	71	P	Pn	11 32 58.5	-1.7
KLU	Klutina	4.04	57	P	Pn	11 33 02.1	-1.7
TRF	Thorofare Moun	4.18	17	P	Pn	11 33 05.4	-0.5
KTH	Kantishna Hill	4.20	13	P	Pn	11 33 05.8	-0.2
RND	Reindeer	4.41	25	P	Pn	11 33 07.6	-1.1
BMRM	Bremner River	4.44	67	P	Pn	11 33 08.0	-1.1
MCK	McKinley	4.68	23	P	Pn	11 33 11.4	-0.9
HARP	HAARP	4.81	49	P	Pn	11 33 13.2	-1.0
BWN	Browne	4.99	18	P	Pn	11 33 15.6	-0.9
PAX	Paxson	5.04	43	P	Pn	11 33 16.3	-1.1
DDM	Donnelly Dome	5.49	35	P	Pn	11 33 22.7	-0.7
WRH	Wood River Hil	5.51	23	P	Pn	11 33 21.8	-1.7
MENT	Mentasta	5.66	48	eP	Pn	11 33 24.5	-1.2
MLY	Manley	5.66	10	P	Pn	11 33 24.6	-1.1
CCB	Clear Creek Bu	5.72	23	P	Pn	11 33 24.5	-1.9
PS08	TAPS Pump Stn8	5.84	27	P	Pn	11 33 26.4	-1.7
MDM	Murphy Dome	5.92	20	P	Pn	11 33 27.5	-1.7
ILB	Eielson Array	6.03	26	P	Pn	11 33 28.6	-1.9
IL1	Eielson Array	6.03	26	P	Pn	11 33 28.6	-1.9
SCRK	Sand Creek	6.21	40	P	Pn	11 33 32.3	-0.9
BCA3	Beaver Creek A	6.48	52	P	Pn	11 33 36.4	-0.5
IM04	Indian Mountai	6.52	357	eP	Pn	11 33 36.7	-0.6
IM3	Indian Mountai	6.53	357	P	Pn	11 33 36.9	-0.5
DAWY	Dawson	7.91	49	P	Pn	11 33 55.1	-1.0
TIXI	Tiksi	31.90	324	eP	P	11 38 18.7	-0.6

ISCJB 25 11:41:51.8±0.7, 59°.31N±0°.03×27°.21E±0°.08, h0km, Error ellipse: s-maj=6.6km s-min=4.1km az=27.8

HEL 25 11:41:52.1±0.2, 59°.34N×27°.32E, h0km, ML1.6, Explosion

CSEM 25 11:41:53.2±0.5, 59°.36N×27°.13E, h2km, ML2.7, Error ellipse: s-maj=11.2km s-min=6.0km az=109.0, Mining explosion.

NAO 25 11:41:53.1±1.0, 59°.29N×26°.87E, ML2.7

BER 25 11:41:55.1±2.4, 59°.27N×26°.98E, h0km, ML2.7(NAO), Suspected explosion

IDC 25 11:41:55.5±1.3, 59°.48N×27°.03E, h0km, mb1 3.2/4, mb1mx3.0/29, mbtmp3.2/4, ML2.3/2, Error ellipse: s-maj=14.2km s-min=8.9km az=89.0

ISC 25 11:41:52.3±0.8, 59°.32N±0°.03×27°.08E±0°.04, h0km, n43, σ1°.49/67, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
VSU	Vasula	0.88	192	Pg	Pg	11 42 09.4	+0.2
VSU				Lg	Lg	11 42 20.6	
VSU	Vasula	0.88	192	Pg	Pg	11 42 09.4	+0.2
VSU				Lg	Lg	11 42 20.6	
VSU	Vasula	0.88	192	Pg	Pg	11 42 09.4	+0.2
	SNR=90						
VSU				Lg	Lg	11 42 20.6	
	SNR=91						
VJF	Virojoki	1.24	11	eP	Pg	11 42 15.9	-0.3
VJF				eSB	Sg	11 42 32.7	+0.5
VJF				MSN		11 42 33.3	
	comp=Z,9.8nm,0.1s						
VJF	Virojoki	1.24	11	P	Pg	11 42 15.8	-0.3
VJF				Sb	Sg	11 42 32.7	+0.5
PVF	Pernaja	1.37	334	eP	Pn	11 42 18.7	+0.1
PVF				eS	Sg	11 42 36.7	+0.3
PVF				MSG		11 42 37.1	
	comp=Z,6.6nm,0.2s						
PVF	Pernaja	1.37	334	P	Pn	11 42 18.7	+0.1
PVF				S	Sg	11 42 36.6	+0.3
SRPE	Suurupi	1.39	277	eP	Pn	11 42 19.5	+0.5
SRPE				eSN	Sn	11 42 41.4	+3.5
SRPE	Suurupi	1.39	277	P	Pn	11 42 19.4	+0.5
SRPE				Sn	Sn	11 42 41.4	+3.5
MEF	Metsahovi	1.63	305	eP	Pb	11 42 23.6	+0.5
MEF				MSG	Sn	11 42 45.0	+1.2
	comp=Z,9.0nm,0.2s						
MEF				eS	Sn	11 42 45.0	+1.2
MEF	Metsahovi	1.63	305	P	Pb	11 42 23.6	+0.5
MEF				S	Sn	11 42 45.0	+1.2
FIA0	FINESS Array S	2.19	347	Pn	Pn	11 42 31.1	+1.2
	baz=165,slow=18						
FIA0				Pg	Pb	11 42 32.5	-0.2
	baz=165,slow=18						
FIA0				Sn	Sn	11 42 59.6	+2.0
	baz=168,slow=37						
FIA0				Lg	Lg	11 43 02.5	
	baz=169,slow=37						
FIA0	FINESS Array S	2.19	347	Pn	Pn	11 42 31.1	+1.2
	baz=165,slow=18						
FIA0				Pg	Pb	11 42 32.5	-0.2
	baz=165,slow=18						
FIA0				Sn	Sn	11 42 59.6	+2.0
	baz=168,slow=37						
FIA0				Lg	Lg	11 43 02.5	
	baz=169,slow=37						
FIA0	FINESS Array S	2.19	347	eP	Pn	11 42 31.0	+1.2
FIA0				ePB	Pb	11 42 32.2	-0.5
FIA0				eSB	Sb	11 43 00.2	-0.1
FIA0				eSG	Sg	11 43 02.0	-0.5
FIA0				MSG		11 43 02.8	
	comp=Z,10nm,0.3s						
FIA0	FINESS Array S	2.19	347	P	Pn	11 42 31.0	+1.2
FIA0	FINESS Array S	2.19	347	Pg	Pb	11 42 32.5	-0.2
FIA0				Sn	Sn	11 42 59.6	+2.0
	SNR=50						
FIA0				Sb	Sb	11 43 00.2	-0.1
FIA0				Sg	Sg	11 43 01.9	-0.5
FIA0				Lg	Lg	11 43 02.5	
FINES	FINESS Array B	2.19	347	Pn	Pn	11 42 31.6	+1.7
	comp=Z,1.2nm,0.3s,baz=166,slow=17,SNR=34						
FINES				Lg	Lg	11 42 59.0	
	comp=Z,4.8nm,0.3s,baz=170,slow=28,SNR=6.9						
KAF	Kangasniemi	2.83	353	eP	Pn	11 42 40.6	+2.0
KAF				ePB	Pb	11 42 43.1	-0.5
KAF				MSG	S	11 43 15.0	+1.6
	comp=Z,1.2nm,0.2s						
KAF				eS	S	11 43 15.0	+1.6
KAF	Kangasniemi	2.83	353	P	Pn	11 42 40.6	+2.0
SLIT	Slitere, Latvi	3.04	238	eSB	Sb	11 43 26.1	+1.4
SLIT	Slitere, Latvi	3.04	238	Sb	Sb	11 43 26.0	+1.4
KEF	Keuruu	3.05	340	eP	Pn	11 42 44.5	+2.7
KEF				ePB	Pb	11 42 46.5	-0.9
KEF				eSG	Sb	11 43 28.0	+2.8
KEF				MSG		11 43 28.5	
	comp=Z,4.7nm,0.3s						
KEF	Keuruu	3.05	340	P	Pn	11 42 44.4	+2.7
RAF	Rauma	3.16	305	eP	Pn	11 42 45.9	+2.7
SUF	Sumiainen	3.44	353	eP	Pn	11 42 49.0	+1.9
SUF				ePB	Pb	11 42 53.1	-0.9
SUF	Sumiainen	3.44	353	P	Pn	11 42 48.9	+1.9
AAL	Aland	3.69	286	eS	Sn	11 43 35.9	+1.4
AAL				eSG	Sg	11 43 49.3	-1.3
AAL	Aland	3.69	286	S	Sn	11 43 35.9	+1.4
AAL				Sg	Sg	11 43 49.3	-1.3
JOF	Joensuu	4.15	28	eP	Pn	11 42 58.8	+2.0
JOF				eS	Sn	11 43 45.7	-0.4
JOF	Joensuu	4.15	28	P	Pn	11 42 58.8	+2.0
JOF				S	Sn	11 43 45.6	-0.4
VAF	Ylistaro	4.30	332	eSG	Sg	11 44 07.4	-2.9
VAF				MSG		11 44 07.4	
	comp=Z,0.6nm,0.2s						
I43RU	DUBNA INFRASON	5.98	111	*i*		12 15 30.0	
	baz=295,slow=315,SNR=3.1						
HFS	Hagfors	6.82	283	Lg	Lg	11 45 24.0	
	baz=90,slow=37						
HFS	Hagfors	6.82	283	Lg	Lg	11 45 24.0	
	baz=90,slow=37						
HFS	Hagfors	6.82	283	Pn	Pn	11 43 34.5	+1.0
	baz=90,slow=5.8,SNR=1.8						
HFS				Sn	Sn	11 44 49.7	-2.0
	comp=Z,0.3nm,0.3s,baz=102,slow=29,SNR=5.3						
HFS				Lg	Lg	11 45 24.2	
	comp=Z,0.8nm,0.3s,baz=92,slow=28,SNR=7.6						
HFS	Hagfors	6.82	283	Lg	Lg	11 45 24.0	
	SNR=5.0						
NB2	NORSAR Subarra	8.09	289	Lg	Lg	11 46 04.1	
NB2	NORSAR Subarra	8.09	289	Lg	Lg	11 46 04.1	
AKASG	Malin Array Be	8.73	171	Pn	Pn	11 43 59.5	-0.2
	comp=Z,0.8nm,0.3s,baz=353,slow=13,SNR=3.7						
ARA0	ARCESS Array S	10.28	357	Pn	Pn	11 44 20.1	-0.8
	baz=179,slow=12						
ARA0				Sn	Sn	11 46 08.4	-8.1
	baz=173,slow=28						
ARA0	ARCESS Array S	10.28	357	P	Pn	11 44 20.1	-0.8
	baz=179,slow=12						
ARA0				S	Sn	11 46 08.4	-8.1
	baz=173,slow=28						
ARA0	ARCESS Array S	10.28	357	P	Pn	11 44 20.0	-0.8
	SNR=47						
ARCES	ARCESS Array B	10.28	357	Pn	Pn	11 44 18.9	-1.9
	comp=Z,0.1nm,0.3s,baz=172,slow=15,SNR=3.6						
ARCES				Sn	Sn	11 46 09.9	-6.7
	comp=Z,0.1nm,0.3s,baz=175,slow=24,SNR=2.7						
ARCES				Lg	Lg	11 47 09.4	
	comp=Z,0.6nm,0.3s,baz=170,slow=21,SNR=6.3						

CSEM 25 11:44:07.4, 39°.70N×29°.45E, h7km, MD2.6, Mining explosion. After DDA

DDA 25 11:44:07.4, 39°.70N×29°.45E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GDZ	Gediz	0.61	177	*i* P	Pg	11 44 17.7	-1.7
GDZ				*i* S	Sg	11 44 28.1	+0.6
GDZ	Gediz	0.61	177	*i* P	Pg	11 44 17.7	-1.7
GDZ				*i* S	Sg	11 44 28.1	+0.6
BORA	Eskisehir	0.80	77	*i* P	Pg	11 44 22.2	-0.7
BORA				*i* S	Sb	11 44 34.9	+0.1
BORA	Eskisehir	0.80	77	*i* P	Pg	11 44 22.2	-0.7
BORA				*i* S	Sb	11 44 34.9	+0.1
SEYT	Eskypehyr	1.10	99	*i* P	Pg	11 44 28.4	-0.3
SEYT				*i* S	Sn	11 44 44.8	-0.2
SEYT	Eskypehyr	1.10	99	*i* P	Pg	11 44 28.4	-0.3
SEYT				*i* S	Sn	11 44 44.8	-0.2
KHAL	Karahalli	1.33	178	*i* P	Pn	11 44 32.0	-0.6
KHAL	Karahalli	1.33	178	*i* P	Pn	11 44 32.0	-0.5
MANT	Manisa	1.39	210	*i* P	Pn	11 44 33.5	-0.1
MANT				*i* S	Sg	11 44 54.3	+1.6
MANT	Manisa	1.39	210	*i* P	Pn	11 44 33.5	-0.1
MANT				*i* S	Sg	11 44 54.3	+1.6

ISCJB 25 11:45:49.4±0.2, 51°.53N±0°.01×16°.06E±0°.02, h0km, mb3.5/6, Error ellipse: s-maj=2.1km s-min=2.0km az=28.4

CSEM 25 11:45:51.4±0.1, 51°.52N×16°.10E, h1km, ML4.2/8, Error ellipse: s-maj=2.7km s-min=2.4km az=39.0

IPEC 25 11:45:51.3±0.3, 51°.57N×16°.21E, h0km, ML3.5/3, Error ellipse: s-maj=3.8km s-min=2.0km az=80.0

IDC 25 11:45:52.5±0.5, 51°.55N×15°.93E, h0km, mb3.6/6, mb1 3.7/14, mb1mx3.6/31, mbtmp3.6/14, ML3.6/8, Error ellipse: s-maj=9.6km s-min=5.5km az=107.0

BGR 25 11:45:53.1±0.3, 51°.50N×16°.14E, h1km, ML3.7/13, Error ellipse: s-maj=4.4km s-min=2.2km az=17.0

LDG 25 11:45:53.6±0.1, 51°.47N×16°.12E, h1km, Ml4.0/19, Error ellipse: s-maj=3.2km s-min=1.7km az=4.0, Suspected Mining induced.

VIE 25 11:45:54.7±0.5, 51°.29N×16°.02E, h0km, mb3.3/6, ML3.7/7, Error ellipse: s-maj=3.0km s-min=2.1km az=26.0 72 km WNW of Wroclaw Suspected Mining induced.

UPP 25 11:45:58.5, 51°.96N×15°.58E, h0km, ML2.8, Suspected Mining explosion.

ISC 25 11:45:50.7±0.5, 51°.55N±0°.02×16°.12E±0°.02, h0km, n165, σ1°.44/250, mb3.5/6, 7C-17D, Poland

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	171	ePg	Pb	11 46 05.9	-0.1
KSP				eSg	Sg	11 46 15.2	+1.6
KSP	Ksiaz	0.71	171	⇓iPKIKP	Pg	11 46 05.8	+1.4
KSP				*e*		11 46 14.9	
KSP				*e*		11 46 18.2	
KSP	Ksiaz	0.71	171	ePg	Pb	11 46 05.8	-0.2
KSP				eSg	Sg	11 46 15.3	+1.7
KSP	Ksiaz	0.71	171	Pg	Pb	11 46 05.9	-0.1
KSP				Sg	Sg	11 46 15.2	+1.6
UPC	Upice	1.04	184	⇓iPG	Pb	11 46 11.9	+0.2
UPC				eSG	Sg	11 46 24.0	-0.2
	300nm,0.2s						
UPC	Upice	1.04	184	Pg	Pb	11 46 11.9	+0.2
UPC				Sg	Sg	11 46 24.0	-0.2
	300nm,0.2s						
DPC	Dobruska-Polom	1.21	174	ePg	Pb	11 46 14.7	+0.3
DPC				eSg	Sb	11 46 30.5	-0.1
DPC	Dobruska-Polom	1.21	174	ePG	Pb	11 46 14.6	+0.2
DPC				eSG	Sg	11 46 29.2	-0.2
DPC				AMS	AMS	11 46 40.0	
DPC	Dobruska-Polom	1.21	174	Pg	Pb	11 46 14.6	+0.2
DPC				Sg	Sg	11 46 29.2	-0.2
BRG	Berggiesshubel	1.53	245	PN	Pn	11 46 19.4	+0.2
BRG				PG	Pg	11 46 21.1	+1.2
BRG				SG	Sn	11 46 41.6	+1.9
	699nm,0.4s						
BRG	Berggiesshubel	1.53	245	ePn	Pn	11 46 19.7	-0.2
BRG				ePg	Pg	11 46 21.2	+1.2
BRG				eSg	Sn	11 46 41.7	+1.9
BRG	Berggiesshubel	1.53	245	Pn	Pb	11 46 19.7	-0.2
PRA	Prague	1.83	217	⇓PN	Pn	11 46 24.0	+0.7
PRA				PG	Pg	11 46 26.0	+0.3
PRA				SG	Sg	11 46 49.0	-0.3
PRU	Pruhonice	1.85	213	⇓ePN	Pn	11 46 24.3	+0.5
PRU				ePG	Pg	11 46 26.4	+0.1
PRU				eSG	Sg	11 46 50.4	+0.1
	283nm,0.4s						
PRU				AMS	AMS	11 47 00.0	
	1μm,4.8s						
PRU	Pruhonice	1.85	213	Pn	Pn	11 46 24.3	+0.5
CLL	Collm	1.97	264	ePn	Pn	11 46 26.0	+0.7
CLL				ePg	Pg	11 46 29.4	+1.0
CLL				eSg	Sg	11 46 55.0	+1.2
CLL	Collm	1.97	264	⇓iPn	Pn	11 46 25.8	+0.5
CLL				ePg	Pg	11 46 29.0	+0.6
CLL				*i*		11 46 32.3	
CLL				*i*		11 46 33.4	
CLL				*i* Sg	Sg	11 46 54.8	+1.0
	comp=Z,324nm,0.5s						
CLL	Collm	1.97	264	Pn	Pn	11 46 26.0	+0.7
CLL	Collm	1.97	264	Pg	Pg	11 46 29.4	+1.0
CLL				Sg	Sg	11 46 55.0	+1.2
RAC	Raciborz	1.97	137	ePg	Pg	11 46 28.6	+0.1
RAC				eSg	Sg	11 46 54.7	+0.7
MORC	Moravsky Berou	1.99	152	ePn	Pn	11 46 26.2	+0.6
MORC				eSg	Sb	11 46 53.9	+0.7
MORC	Moravsky Berou	1.99	152	⇑iP	Pn	11 46 26.6	+0.9
MORC	Moravsky Berou	1.99	152	ePn	Pn	11 46 26.1	+0.4
	baz=335						
MORC				Sg	Sb	11 46 53.9	+0.7
OKC	Ostrava-Krasne	2.14	142	ePn	Pn	11 46 27.7	0.0
OKC				ePg	Pg	11 46 32.5	+0.7
OKC				eSg	Sb	11 46 58.8	+1.3
OKC	Ostrava-Krasne	2.14	142	⇓ePN	Pn	11 46 27.7	0.0
OKC				ePG	Pb	11 46 31.3	+0.9
OKC				eSG	Sb	11 46 58.5	+1.0
	comp=Z,296nm,0.5s						
OKC	Ostrava-Krasne	2.14	142	Pn	Pn	11 46 27.7	0.0
CHZP	Chorzow	2.21	124	ePg	Pg	11 46 33.8	+0.7
CHZP				eSg	Sg	11 47 02.9	+1.2
VRAC	Vranov	2.26	172	⇑iP	Pn	11 46 30.5	+1.1
VRAC	Vranov	2.26	172	Pn	Pn	11 46 30.5	+1.1
	comp=Z,12nm,0.3s,baz=341,slow=14,SNR=27						
VRAC				Sn	Sb	11 47 02.0	+1.0
	comp=Z,59nm,0.3s,baz=84,slow=20,SNR=11						
VRAC	Vranov	2.26	172	ePn	Pn	11 46 30.1	+0.7
	baz=354						
VRAC				eSg	Sg	11 47 02.7	-0.7
	comp=Z,212nm,0.4s,baz=354						
TREC	Trest	2.29	190	⇓ePN	Pn	11 46 30.6	+0.8
TREC				ePG	Pb	11 46 33.4	+0.5
TREC				eSG	Sb	11 47 03.3	+1.5
	comp=Z,263nm,0.3s						
TREC				AMS	AMS	11 47 20.0	
	comp=Z,600nm,4.2s						
TREC	Trest	2.29	190	Pn	Pn	11 46 30.6	+0.8
TREC	Trest	2.29	190	Sg	Sb	11 47 03.3	+1.5
	comp=Z,263nm,0.3s						
KRUC	Moravsky	2.50	176	ePn	Pn	11 46 33.5	+0.9
	baz=357						
KRUC				eSg	Sg	11 47 09.9	-0.9
	comp=Z,198nm,0.7s,baz=357						
TANN	Tannenbergstha	2.58	245	ePn	Pn	11 46 35.0	+1.3
TANN				ePg	Pg	11 46 41.8	+1.7
TANN				eSg	Sg	11 47 13.9	+0.5
TANN	Tannenbergstha	2.58	245	Pn	Pn	11 46 35.0	+1.3
WERD	Werda	2.65	247	ePn	Pn	11 46 35.9	+1.2
WERD				ePg	Pg	11 46 43.3	+1.9
WERD				eSg	Sg	11 47 17.1	+1.4
WERD	Werda	2.65	247	Pn	Pn	11 46 35.9	+1.2
OJC	Ojcow	2.68	118	ePn	Pn	11 46 35.3	+0.2
OJC				ePg	Pg	11 46 43.0	+0.9
OJC				eSg	Sg	11 47 17.5	+0.6
OJC	Ojcow	2.68	118	ePn	Pn	11 46 35.7	+0.6
OJC				*i* Pg	Pg	11 46 42.9	+0.9
OJC				*i* Sg	Sg	11 47 17.9	+1.0
OJC	Ojcow	2.68	118	Pn	Pn	11 46 35.3	+0.2
OJC	Ojcow	2.68	118	Pg	Pg	11 46 43.0	+0.9
OJC				Sg	Sg	11 47 17.5	+0.6
KHC	Kasperske Hory	2.92	215	ePN	Pn	11 46 39.4	+1.0
KHC				ePG	Pg	11 46 45.7	-0.9
KHC				eSN	Sn	11 47 13.7	-0.4
KHC				eSG	Sg	11 47 23.0	-1.4
	comp=Z,161nm,0.5s						
KHC				AMS	AMS	11 47 40.0	
	comp=Z,700nm,5.0s						
KHC	Kasperske Hory	2.92	215	Pn	Pn	11 46 39.4	+1.0
KHC	Kasperske Hory	2.92	215	Sg	Sg	11 47 23.0	-1.4
	comp=Z,161nm,0.5s						
MOX	Moxa	2.98	254	ePn	Pn	11 46 40.2	+0.9
MOX				ePg	Pg	11 46 48.6	+0.8
MOX				eSg	Sg	11 47 27.0	+0.6
MOX	Moxa	2.98	254	Pn	Pn	11 46 40.2	+0.9
MANZ	Manzenberg	2.99	240	ePn	Pn	11 46 40.8	+1.4
MANZ				ePg	Pg	11 46 49.6	+1.6
MANZ				eSg	Sg	11 47 28.4	+1.8
MANZ	Manzenberg	2.99	240	Pn	Pn	11 46 40.8	+1.4
ROTZ	Rotzenmuhle	3.06	236	ePn	Pn	11 46 41.8	+1.5
ROTZ				eSg	Sg	11 47 29.1	+0.1
ROTZ	Rotzenmuhle	3.06	236	Pn	Pn	11 46 41.8	+1.5
ROTZ				Sg	Sg	11 47 29.1	+0.1
GEC2	GERESS Array S	3.12	211	ePn	Pn	11 46 42.6	+1.4
GEC2				eSg	Sg	11 47 30.1	-0.8
GEC2	GERESS Array S	3.12	211	Pn	Pn	11 46 42.6	+1.4
GEC2				Sg	Sg	11 47 30.1	-0.8
GERES	GERESS Array B	3.12	211	Pn	Pn	11 46 41.5	+0.3
	comp=Z,13nm,0.3s,baz=32,slow=15,SNR=211						
GERES				Pg	Pb	11 46 49.0	+1.9
	comp=Z,15nm,0.3s,baz=31,slow=17,SNR=44						
GERES				Sn	Sn	11 47 19.0	-0.3
	comp=Z,14nm,0.3s,baz=26,slow=28,SNR=6.2						
GERES				Lg	Lg	11 47 30.0	
	comp=Z,38nm,0.3s,baz=28,slow=32,SNR=8.8						
WET	Wettzell	3.18	222	ePn	Pn	11 46 43.1	+1.1
WET	Wettzell	3.18	222	Pn	Pn	11 46 43.1	+1.1
NIE	Niedzica	3.42	127	ePn	Pn	11 46 46.9	+1.6
NIE				ePg	Pg	11 46 56.2	-0.1
NIE				eSg	Sg	11 47 40.2	-0.4
NIE	Niedzica	3.42	127	ePn	Pn	11 46 46.9	+1.6
CLZ	Clausthal	3.59	277	ePn	Pn	11 46 49.6	+2.0
CLZ				eSg	Sg	11 47 47.8	+1.9
CLZ	Clausthal	3.59	277	Pn	Pn	11 46 49.6	+2.0
CLZ				Sg	Sg	11 47 47.8	+1.9
CONA	Conrad Observa	3.63	183	⇑iPn	Pn	11 46 48.8	+0.6
CONA				⇑iSg	Sg	11 47 45.9	-1.3
	comp=Z,119nm,0.5s						
CONA	Conrad Observa	3.63	183	Pn	Pn	11 46 48.8	+0.6
CONA				Sg	Sg	11 47 45.9	-1.3
	comp=Z,119nm,0.5s						
BSD	Bornholm Skovb	3.65	349	*i* P	Pn	11 46 49.0	+0.7
BSD				*i* S	Sn	11 47 30.2	-1.8
BSD	Bornholm Skovb	3.65	349	*i* P	Pn	11 46 49.1	+0.7
	SNR=49						
BSD				*i* S	Sn	11 47 30.2	-1.8
SOP	Sopron	3.88	176	⇓ePKPbc	Pn	11 46 50.0	-1.6

SOP				e		11 47 51.8	
SOP	Sopron	3.88	176	⇓ePn	Pn	11 46 50.0	-1.6
MOA	Molln	3.89	199	⇓iPn	Pn	11 46 52.8	+1.0
	SNR=11						
MOA				⇑iSg	Sg	11 47 55.5	-0.2
	comp=Z,94nm,0.5s						
STHS	Stebnicka Huta	3.91	121	ePN	Pn	11 46 53.6	+1.6
STHS				eSN	Sg	11 47 56.2	+0.1
STHS	Stebnicka Huta	3.91	121	ePn	Pn	11 46 53.6	+1.6
ARSA	Arzberg	4.32	185	⇑iPn	Pn	11 46 58.3	+0.7
	SNR=5.7						
ARSA				⇓iSg	Sg	11 48 08.4	-1.0
	comp=Z,87nm,0.5s						
ARSA	Arzberg	4.32	185	Pn	Pn	11 46 58.3	+0.7
	SNR=5.7						
ARSA				Sg	Sg	11 48 08.4	-1.0
	comp=Z,87nm,0.5s						
CRVS	Cervenica-Dubn	4.33	126	ePN	Pn	11 46 59.6	+1.8
CRVS				eSN	Sg	11 48 11.9	+2.1
CRVS	Cervenica-Dubn	4.33	126	ePn	Pn	11 46 59.6	+1.8
PSZ	Piszkesteto	4.38	145	⇓e	Pn	11 47 00.3	+1.8
PSZ				e		11 48 13.1	
PSZ	Piszkesteto	4.38	145	⇓ePn	Pn	11 47 00.3	+1.8
PKSG		4.42	160	e	Pn	11 46 59.9	+1.0
PKSG		4.42	160	ePn	Pn	11 46 59.9	+1.0
BLEU	Blekinge	4.77	358	P	Pn	11 47 04.5	+0.7
BLEU				S	Sn	11 47 56.3	-3.4
BLEU	Blekinge	4.77	358	P	Pn	11 47 04.5	+0.7
BLEU				S	Sn	11 47 56.3	-3.4
KBA	Koelnbreinsper	4.83	203	⇓iPn	Pn	11 47 05.0	+0.2
KBA				⇓iSg	Sg	11 48 24.9	-0.8
	comp=Z,37nm,0.5s						
KBA	Koelnbreinsper	4.83	203	Pn	Pn	11 47 05.0	+0.2
KBA				Sg	Sg	11 48 24.9	-0.8
	comp=Z,37nm,0.5s						
BJUU	Bjuv	4.89	339	P	Pn	11 47 05.5	+0.1
BJUU	Bjuv	4.89	339	P	Pn	11 47 05.5	+0.1
PERS	Pernice	4.96	188	ePn	Pn	11 47 08.2	+1.7
PERS	Pernice	4.96	188	ePn	Pn	11 47 08.2	+1.7
DEL	Delary	5.11	346	P	Pn	11 47 08.6	+0.2
DEL	Delary	5.11	346	P	Pn	11 47 08.6	+0.2
MOTA	Moosalm	5.33	220	⇑iPn	Pn	11 47 12.4	+0.7
	SNR=6.0						
VXJU	Vaexsjoe	5.43	353	P	Pn	11 47 13.8	+0.9
	baz=176						
VXJU	Vaexsjoe	5.43	353	P	Pn	11 47 13.8	+0.9
	baz=176						
VNDS	Vrh nad Dolski	5.53	190	ePn	Pn	11 47 16.2	+2.0
PDKS	Podkum	5.54	188	ePn	Pn	11 47 16.5	+2.0
PKSM	Moragy	5.59	162	⇓e	Pn	11 47 16.0	+0.9
PKSM	Moragy	5.59	162	⇓ePn	Pn	11 47 16.0	+0.9
OSKU	Oskarshamn	5.66	360	P	Pn	11 47 16.9	+0.9
OSKU	Oskarshamn	5.66	360	P	Pn	11 47 16.9	+0.9
BYXU	Byxelkrok	5.78	5	P	Pn	11 47 18.9	+1.3
BYXU	Byxelkrok	5.78	5	P	Pn	11 47 18.9	+1.3
FABU	Falkenberg	5.82	341	P	Pn	11 47 18.1	0.0
FABU	Falkenberg	5.82	341	P	Pn	11 47 18.1	0.0
ASPU	Aespoe	5.89	3	P	Pn	11 47 20.8	+1.7
ASPU	Aespoe	5.89	3	P	Pn	11 47 20.8	+1.7
GNOU	Gnosjoe	5.92	347	P	Pn	11 47 20.0	+0.5
GNOU	Gnosjoe	5.92	347	P	Pn	11 47 20.0	+0.4
VSTU	Vaestervik	6.13	2	P	Pn	11 47 23.8	+1.4
VSTU	Vaestervik	6.13	2	P	Pn	11 47 23.8	+1.4
DAVOX	Davos/Dischmat	6.28	223	Pn	Pn	11 47 26.5	+1.7
	comp=Z,2.3nm,0.3s,baz=47,slow=6.1,SNR=16						
DAVOX				Sn	Sn	11 48 37.0	-0.3
	comp=Z,0.5nm,0.3s,baz=342,slow=20,SNR=2.1						
DAVOX				Lg	Lg	11 49 09.7	
	comp=Z,2.5nm,0.3s,baz=311,slow=7.7,SNR=3.5						
CDF	Champ du Feu	6.51	245	ePn	Pn	11 47 28.7	+0.9
CDF				eSg	Sg	11 49 16.0	-3.7
	comp=Z,53nm,0.7s						
CDF	Champ du Feu	6.51	245	ePn	Pn	11 47 28.7	+0.9
HINF	Hinteralfeld	7.08	242	ePn	Pn	11 47 35.5	0.0
HINF				eSg	Sg	11 49 33.4	-4.4
	comp=Z,31nm,0.6s						
HINF	Hinteralfeld	7.08	242	ePn	Pn	11 47 35.5	0.0
HAU	Haudompre	7.25	245	ePn	Pn	11 47 37.3	-0.6
HAU				eSg	Sg	11 49 38.9	-4.6
	comp=Z,29nm,0.5s						
HAU	Haudompre	7.25	245	ePn	Pn	11 47 37.3	-0.6
GIVF	Givet	7.30	263	ePn	Pn	11 47 38.4	-0.1
GIVF				eSg	Sg	11 49 42.4	-2.6
	comp=Z,38nm,0.9s						
GIVF	Givet	7.30	263	ePn	Pn	11 47 38.4	-0.1
PAGF	Fort de Pagny	7.33	250	ePn	Pn	11 47 39.0	0.0
	baz=63						
PAGF				eSg	Sg	11 49 42.0	-4.0
	comp=Z,26nm,1.1s						
PAGF	Fort de Pagny	7.33	250	ePn	Pn	11 47 39.0	0.0
	baz=63						
BAIF	Baives	7.70	263	ePn	Pn	11 47 44.5	+0.6
BAIF				eSg	Sg	11 49 55.2	-2.5
	comp=Z,89nm,1.3s						
BAIF	Baives	7.70	263	ePn	Pn	11 47 44.5	+0.6
MEZF	Maizieres J'vi	7.75	251	ePn	Pn	11 47 44.7	0.0
	baz=65						
MEZF				eSg	Sg	11 49 55.3	-4.2
	comp=Z,9.3nm,0.4s						
MEZF	Maizieres J'vi	7.75	251	ePn	Pn	11 47 44.7	0.0
	baz=65						
SFTF	Sexfontaines	7.90	249	ePn	Pn	11 47 45.8	-1.0
SFTF				eSg	Sg	11 49 59.9	-4.4
	comp=Z,18nm,0.6s						
SFTF	Sexfontaines	7.90	249	ePn	Pn	11 47 45.8	-1.0
CABF	La Chapelle	8.23	237	ePn	Pn	11 47 50.7	-0.7
CABF				eSg	Sg	11 50 09.1	-5.7
	comp=Z,53nm,0.9s						
CABF	La Chapelle	8.23	237	ePn	Pn	11 47 50.7	-0.7
AKASG	Malin Array Be	8.29	91	Pn	Pn	11 47 52.1	0.0
	comp=Z,4.0nm,0.3s,baz=280,slow=12,SNR=9.8						
AKASG				Sn	Sn	11 49 22.4	-3.9
	comp=Z,2.7nm,0.3s,baz=283,slow=22,SNR=5.9						
AKASG				Lg	Lg	11 50 20.4	
	comp=Z,1.8nm,0.3s,baz=281,slow=27,SNR=4.9						
LPL	La Plagne	8.67	230	ePn	Pn	11 47 56.3	-1.2
LPL	La Plagne	8.67	230	ePn	Pn	11 47 56.3	-1.2
LPG	La Plagne	8.67	229	ePn	Pn	11 47 56.7	-1.0
LPG				eSg	Sg	11 50 22.1	-7.0
	comp=Z,49nm,1.2s						
LPG	La Plagne	8.67	229	ePn	Pn	11 47 56.7	-1.0
HFS	Hagfors	8.71	352	Pn	Pn	11 47 57.7	-0.2
	comp=Z,0.3nm,0.3s,baz=166,slow=15,SNR=7.1						
HFS				Sn	Sn	11 49 31.3	-5.4
	comp=Z,0.4nm,0.3s,baz=162,slow=24,SNR=3.1						
LOR	Lormes	9.07	247	ePn	Pn	11 48 02.0	-0.8
	baz=72						
LOR				eSg	Sn	11 50 35.8	+50
	comp=Z,6.3nm,0.5s						
MBDF	Montbardon	9.25	226	ePn	Pn	11 48 04.3	-1.1
MBDF				eSg	Sn	11 50 39.6	+49
	comp=Z,6.5nm,0.7s						
MBDF	Montbardon	9.25	226	ePn	Pn	11 48 04.3	-1.1
SSF	Saint Saulge	9.38	246	ePn	Pn	11 48 06.3	-0.8
SSF				eSg	Sn	11 50 45.6	+52
	comp=Z,18nm,0.9s						
SMF	Signal de Mont	9.43	243	ePn	Pn	11 48 07.3	-0.4
SMF				eSg	Sn	11 50 46.8	+52
	comp=Z,18nm,0.8s						
SMF	Signal de Mont	9.43	243	ePn	Pn	11 48 07.3	-0.4
AVF	Avril sur Loir	9.62	245	ePn	Pn	11 48 09.6	-0.7
AVF				eSg	Sn	11 50 53.0	+54
	comp=Z,10nm,0.9s						
AVF	Avril sur Loir	9.62	245	ePn	Pn	11 48 09.6	-0.7
SBF	Sospel	9.66	221	ePn	Pn	11 48 09.6	-1.3
SBF	Sospel	9.66	221	ePn	Pn	11 48 09.6	-1.3
HYF	Humbligny	9.77	249	ePn	Pn	11 48 12.0	-0.4
HYF				eSg	Sn	11 50 58.1	+55
NOA	NORSAR Array B	9.89	346	Pn	Pn	11 48 13.1	-1.0
	comp=Z,0.3nm,0.3s,baz=173,slow=13,SNR=3.8						
NOA				Sn	Sn	11 49 59.2	-6.6
	comp=Z,0.3nm,0.3s,baz=148,slow=12,SNR=2.9						
BGF	Bois d'Agland	10.04	245	ePn	Pn	11 48 15.6	-0.5
BGF				eSg	Sn	11 51 06.1	+57
	comp=Z,26nm,0.9s						
BGF	Bois d'Agland	10.04	245	ePn	Pn	11 48 15.6	-0.5
FRF	La Foret Royal	10.23	222	ePn	Pn	11 48 17.4	-1.3
FRF	La Foret Royal	10.23	222	ePn	Pn	11 48 17.4	-1.3
SMRF	Simiane la Rot	10.37	227	ePn	Pn	11 48 19.6	-1.1
SMRF	Simiane la Rot	10.37	227	ePn	Pn	11 48 19.6	-1.1
LMR	La Mourre	10.47	222	ePn	Pn	11 48 20.4	-1.6
LMR	La Mourre	10.47	222	ePn	Pn	11 48 20.4	-1.6
FLN	La Foliniere	11.01	262	ePn	Pn	11 48 29.6	+0.2
FLN	La Foliniere	11.01	262	ePn	Pn	11 48 29.6	+0.2
FINES	FINESS Array B	11.33	25	Pn	Pn	11 48 32.9	-0.7
	comp=Z,0.5nm,0.3s,baz=201,slow=12,SNR=9.4						
FINES				Sn	Sn	11 50 31.8	-9.0
	comp=Z,0.5nm,0.3s,baz=250,slow=16,SNR=4.7						
RJF	Les Rejaudoux	11.53	243	ePn	Pn	11 48 35.4	-1.1
RJF	Les Rejaudoux	11.53	243	ePn	Pn	11 48 35.4	-1.1
KAF	Kangasniemi	11.95	24	ep	Pn	11 48 40.3	-1.8
	comp=Z,0.9nm,0.4s						
EKA	Eskdalemuir Ar	12.10	296	Pn	Pn	11 48 41.4	-2.8
	baz=107,slow=14,SNR=6.8						
ARCES	ARCESS Array B	18.59	10	Pn	P	11 50 05.6	-3.4
	comp=Z,0.4nm,0.3s,baz=191,slow=11,SNR=10						
TORD	Torodi Ar. Bea	40.04	202	P	P	11 53 28.0	+0.5
	comp=Z,1.1nm,0.9s,baz=356,slow=7.6,SNR=4.7						
ZALV	Zalesovo Beam	40.17	59	P	P	11 53 30.9	+2.7
	comp=Z,0.3nm,0.3s,baz=225,slow=18,SNR=3.1						
MKAR	Makanchi Array	42.20	69	P	P	11 53 46.7	+1.7
	comp=Z,0.1nm,0.3s,baz=307,slow=8.4,SNR=2.5						
SONM	Songino Array	54.89	55	P	P	11 55 25.2	+2.3
	comp=Z,0.5nm,0.9s,baz=293,slow=7.4,SNR=6.2						
YKA	Yellowknife Ar	59.83	336	P	P	11 55 58.8	+1.6
	comp=Z,0.5nm,0.7s,baz=28,slow=6.4,SNR=9.0						
CMAR	Chiang Mai Arr	71.35	84	P	P	11 57 15.2	+2.8
	comp=Z,0.4nm,0.3s,baz=310,slow=7.0,SNR=3.9						

IDC 25 11:47:41.0±7.5, 19°48S×177°70W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/20, mbtmp3.2/2, Error ellipse: s-maj=319.9km s-min=116.7km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.03	261	P	P	11 55 59.4	+0.5
	0.1nm,0.3s,baz=95,slow=8.3,SNR=19						
ASAR	Alice Springs	45.03	256	P	P	11 55 58.0	-0.9
	0.3nm,0.9s,baz=102,slow=8.6,SNR=3.3						
AKASG	Malin Array Be	142.26	332	PKP	PKPdf	12 07 14.7	-0.7
	0.1nm,0.3s,baz=42,slow=4.0,SNR=4.1						

IDC 25 11:48:31.7±2.8, 16°28S×173°51W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.6/5, Error ellipse: s-maj=165.1km s-min=25.2km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.55	257	P	P	11 57 24.9	+0.1
	0.2nm,0.4s,baz=96,slow=7.7,SNR=3.8						
ASAR	Alice Springs	49.74	253	P	P	11 57 26.2	-0.1
	1.9nm,0.6s,baz=89,slow=8.4,SNR=32						
NVAR	Mina Array Bea	75.05	42	P	P	12 00 17.3	+1.5
	0.6nm,0.8s,baz=216,slow=7.3,SNR=4.3						
PDAR	Pinedale Array	82.99	42	P	P	12 00 57.8	-1.4
	0.4nm,0.8s,baz=204,slow=5.9,SNR=3.5						
ILAR	Eielson Array	83.33	11	P	P	12 00 59.6	-0.5
	0.2nm,0.6s,baz=224,slow=6.0,SNR=4.8						

CSEM 25 11:51:38.9, 38°67N×29°33W, h8km, ML3.3, After PDA
PDA 25 11:51:38.9±1.0, 38°67N×29°33W, h8km±12km, MD3.5, ML3.3, Error ellipse: s-maj=11.5km s-min=11.2km az=66.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.49	95	eP	Pg	11 51 47.3	-1.1
PCED				eS	Sg	11 51 53.1	-1.8
PCED				A	A	11 51 56.2	
	810nm,0.5s						
PCED	Cedros	0.49	95	eP	Pg	11 51 47.3	-1.1
PCED				eS	Sg	11 51 53.1	-1.8
CALA	Caldeira	0.50	100	eS	Sg	11 51 53.6	-1.7
CALA	Caldeira	0.50	100	eS	Sg	11 51 53.6	-1.7
HOR	Horta	0.56	105	eP	Pg	11 51 48.1	-1.7
HOR				eS	Sg	11 51 56.0	-1.2
HOR	Horta	0.56	105	eP	Pg	11 51 48.1	-1.7
HOR				eS	Sg	11 51 56.0	-1.2
PCAN	Candelaria	0.69	107	eP	Pg	11 51 49.8	-2.5
PCAN				eS	Sg	11 51 58.4	-2.9
PCAN				A	A	11 52 02.7	
	782nm,0.6s						
PCAN	Candelaria	0.69	107	eP	Pg	11 51 49.8	-2.5
PCAN				eS	Sg	11 51 58.4	-2.9
PICO	Pico	0.73	103	eP	Pg	11 51 51.1	-1.9
PICO				eS	Sg	11 51 59.5	-3.1
PICO	Pico	0.73	103	eP	Pg	11 51 51.1	-1.9
PICO				eS	Sg	11 51 59.5	-3.1
ROSA	Rosais	0.85	87	eP	Pg	11 51 52.6	-2.7
ROSA				eS	Sg	11 52 02.4	-4.0
ROSA				A	A	11 52 09.3	
	781nm,0.6s						
ROSA	Rosais	0.85	87	eP	Pg	11 51 52.6	-2.7
ROSA				eS	Sg	11 52 02.4	-4.0
PMAN	Manadas	0.97	92	eP	Pg	11 51 54.0	-3.5
PMAN				A	A	11 52 13.8	
	213nm,0.5s						
PMAN	Manadas	0.97	92	eP	Pg	11 51 54.0	-3.5
TOPO	Topo	1.10	94	eP	Pg	11 51 55.6	-4.6
TOPO				eS	Sg	11 52 08.5	-6.1
TOPO	Topo	1.10	94	eP	Pg	11 51 55.6	-4.6
TOPO				eS	Sg	11 52 08.5	-6.1

SKO 25 12:10:38.5, 41°60N×22°34E, h29km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.33	148	iPg	Pb	12 10 46.3	+0.1
VAY				eSg	Sb	12 10 52.0	+0.5
VAY				eLg	Lg	12 10 52.2	
	comp=E,35nm,0.4s						
VAY				eLg	Lg	12 10 52.4	
	comp=N,18nm,0.2s						

IDC 25 12:11:50.4±1.2, 1°18N×126°51E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/39, mbtmp3.8/6, Error ellipse: s-maj=149.9km s-min=18.1km az=66.0
DJA 25 12:11:53.9±1.4, 1°N±20°×12°6E±°, h10km, M4.2/5, mb4.6/2, mB5.1/2, MLv4.0/5, Mw(mB)4.4/2
ISCJB 25 12:11:55.7±0.8, 1°1N±0°1×126°28E±0°07, h47km, mb3.8/6, Error ellipse: s-maj=15.5km s-min=9.5km az=16.4
ISC 25 12:11:57.1±0.9, 1°1N±0°1×126°30E±0°07, h47km, n12, σ1§09/13, mb3.8/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.12	108	P	Pn	12 12 16.8	+0.5
LBMI	Labuha	2.12	146	P	Pn	12 12 31.1	+1.1
KMSI	Cibinong	2.38	257	P	Pn	12 12 33.6	-0.1
MRSI	Marisa	4.41	262	P	Pn	12 13 01.2	-0.3
APSI	Ampana	5.07	247	P	Pn	12 13 12.1	+1.5
	81nm,0.6s,1μm0.3nm						
TTSI	Tana Toraja	7.69	237	P	Pn	12 13 47.4	+0.8
WRA	Warramunga Arr	22.37	160	P	P	12 16 50.3	-1.1
	2.2nm,0.7s,baz=338,slow=11,SNR=24						
ASAR	Alice Springs	25.72	164	P	P	12 17 23.1	-0.1
	0.7nm,0.4s,baz=344,slow=11,SNR=19						
ASAR				PcP	PcP	12 20 53.2	+0.6
	0.3nm,0.6s,baz=334,slow=2.6,SNR=6.1						
STKA	Stephens Creek	35.88	157	P	P	12 18 51.0	-1.6
	1.6nm,0.6s,baz=333,slow=6.8,SNR=4.8						
ZALV	Zalesovo Beam	62.72	334	P	P	12 22 17.0	-0.1
	0.4nm,0.5s,baz=114,slow=8.0,SNR=2.4						
BVAR	Borovoye Array	69.27	328	P	P	12 22 59.0	-0.3
	0.4nm,0.5s,baz=103,slow=4.6,SNR=4.0						
AKTO	Aktyubinsk	75.44	322	P	P	12 23 37.9	+1.8
	0.8nm,0.5s,baz=87,slow=4.7,SNR=5.2						

NDI 25 12:18:41.8±2.0, 34°50N×83°25E, h33km, ML4.2, mb4.4(NEIC)
IDC 25 12:18:41.3±0.7, 34°01N×82°75E, h0km, mb4.1/20, mb1 4.3/23, mb1mx4.2/34, mbtmp4.2/23, ML3.2/3, MS3.9/20, Ms1 3.9/20, ms1mx3.7/38, Error ellipse: s-maj=18.9km s-min=12.7km az=30.0
ISCJB 25 12:18:44.8±0.2, 34°13N±0°02×82°85E±0°03, h33km, mb4.2/37, MS3.8/20, Error ellipse: s-maj=3.7km s-min=2.2km az=156.0
MOS 25 12:18:44.7±1.1, 34°09N×82°77E, h34km, mb4.4/12, Error ellipse: s-maj=10.8km s-min=5.1km az=113.8
NEIC 25 12:18:46.6±0.4, 34°07N×82°74E, h35km, mb4.4/11, Error ellipse: s-maj=9.7km s-min=6.1km az=217.0
BJI 25 12:18:46.9, 34°33N×82°71E, h45km, mB4.6/8, mb4.3/25, Ms4.3/19, Ms7 3.9/16
ISC 25 12:18:47.1±0.4, 34°07N±0°04×82°77E±0°04, h35km, n143, σ1§81/144, mb4.3/37, MS3.9/20, 3D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	Dehra Dun	5.47	228	ex	Pn	12 20 04.9	-1.2
DDI				eS	Sn	12 21 12.6	+4.7
DDI				AML	AML	12 21 46.0	
	comp=N,346nm,0.9s						
DDI				AML	AML	12 21 51.3	
	comp=E,340nm,0.6s						
SDNR	Sundarnagar	5.51	244	eP	Pn	12 20 08.5	+1.7
SDNR				ex	x	12 21 18.5	
SMLA	Simla	5.56	240	eP	Pn	12 20 08.5	+1.1
SMLA				eS	Sn	12 21 13.0	+2.9
DHRM	DHARAMSHALA	5.72	253	eP	Pn	12 20 10.5	+0.8
DHRM				eS	Sn	12 21 18.6	+4.3
DANN	Dangsing	5.76	171	ePn	Pn	12 20 10.4	-0.1
DANN				eSn	Sn	12 21 17.7	+2.1
	comp=E,172nm,0.6s						
DLH	Dalhousie	5.89	257	eP	Pn	12 20 14.0	+1.8
DLH				ex	x	12 21 28.0	
BHK	Bhakra	5.97	245	eP	Pn	12 20 15.2	+2.2
GKN	Gorkha	6.26	165	ePn	Pn	12 20 17.6	+0.5
GKN				eSn	Sn	12 21 30.1	+2.6
	comp=E,137nm,0.8s						
KOLN	Koldanda	6.32	173	ePn	Pn	12 20 18.0	0.0
KOLN				eSn	Sn	12 21 31.6	+2.5
	comp=E,296nm,0.9s						
KKN	Kakani	6.62	160	ePn	Pn	12 20 22.5	+0.3
KKN				eSn	Sn	12 21 38.9	+2.4
	comp=E,218nm,1.0s						
GUN	Gumba	6.70	156	ePn	Pn	12 20 23.5	+0.2
GUN				eSn	Sn	12 21 41.0	+2.5
	comp=E,108nm,0.7s						
DMN	Daman	6.75	162	ePn	Pn	12 20 24.2	+0.3
DMN				eSn	Sn	12 21 41.8	+2.1
	comp=E,434nm,1.0s						
PKIN	Phulchoki	6.86	160	ePn	Pn	12 20 26.4	+1.0
PKIN				eSn	Sn	12 21 43.6	+1.2
	comp=E,223nm,1.0s						
PKI	Pulchoki	6.86	160	ePn	Pn	12 20 25.8	+0.2
PKI				eSn	Sn	12 21 43.9	+1.2
	comp=E,265nm,0.9s						
JIRN	Jiri	7.03	154	ePn	Pn	12 20 28.6	+0.6
JIRN				eSn	Sn	12 21 49.1	+2.2
	comp=E,111nm,0.6s						
NDI	New Delhi	7.17	223	eP	Pn	12 20 32.0	+2.6
NDI				ex	Sn	12 21 56.5	+6.9
KSH	Kashi	7.70	317	eP	Pn	12 20 37.3	+0.5
KSH				epP		12 20 40.0	
KSH				pmax	pmax		
	comp=E,6.0nm,0.8s						
KSH				LR	LR		
	comp=E,920nm,9.7s						
RAMN	Ramite	7.83	154	ePn	Pn	12 20 38.1	-0.7
RAMN				eSn	Sn	12 22 07.3	+1.0
	comp=E,215nm,0.8s						
CHCP	Chirah Chowk	7.92	270	P	Pn	12 20 38.9	-0.9
TAPN	Taplejung	7.93	146	ePn	Pn	12 20 40.5	+0.3
TAPN				eSn	Sn	12 22 10.4	+1.5
	comp=E,276nm,1.2s						
ODAN	Odare	8.22	150	ePn	Pn	12 20 43.5	-0.6
ODAN				eSn	Sn	12 22 16.1	+0.3
	comp=E,191nm,0.7s						
LSA	Lhasa	8.35	119	P	Pn	12 20 48.5	+2.4
LSA	Lhasa	8.35	119	eP	Pn	12 20 46.7	+0.6
LSA				pmax	pmax		
	comp=Z,11nm,0.8s						
LSA	Lhasa	8.35	119	ePn	Pn	12 20 46.7	+0.6
	comp=Z,12nm,0.8s						
SARP	Sargodha	8.75	259	P	Pn	12 20 50.3	-0.8
CEP	Cherat	9.03	271	P	Pn	12 20 52.4	-2.7
ULHL	Ulahol	9.64	330	P	Pn	12 21 05.2	+1.6
	SNR=5.6						
ULHL	Ulahol	9.64	330	iP	Pn	12 21 05.1	+1.6
AJM	Ajmer	10.32	225	ex	Pn	12 21 03.0	-10
AJM				ex	Sn	12 23 09.0	+1.8
UCH	Uchtor	10.41	324	P	Pn	12 21 15.2	+0.8
	SNR=32						
UCH	Uchtor	10.41	324	iP	Pn	12 21 15.1	+0.8
WMQ	Urumqi	10.46	20	eP	Pn	12 21 16.0	+1.4
WMQ				pP		12 21 21.5	
WMQ				PP	PnPn	12 21 24.5	+2.1
WMQ				sP		12 21 25.5	
WMQ				S	Sn	12 23 08.8	-1.8
WMQ				sS		12 23 17.0	
WMQ				SS	SnSn	12 23 22.0	-0.7
WMQ				pmax	pmax		
	comp=Z,12nm,0.8s						
WMQ				LR	LR		
	comp=Z,890nm,9.6s						
WMQ				LR	LR		
	comp=Z,1μm,8.0s						
WMQ				LR	LR		
	comp=Z,300nm,16.6s						
TKM2	Tokmak 2	10.47	330	P	Pn	12 21 15.8	+0.9
	SNR=12						
TKM2	Tokmak 2	10.47	330	eP	Pn	12 21 15.7	+0.9
TKM2				pmax	pmax		
	comp=Z,12nm,0.9s						
TKM2	Tokmak 2	10.47	330	ePn	Pn	12 21 15.7	+0.9
	comp=Z,12nm,0.9s						
KBK	Karagaybulak	10.54	327	P	Pn	12 21 17.7	+1.9
	SNR=10						
BOK	Bokaro	10.60	164	eP	Pn	12 21 14.1	-2.4
BOK				ex	Sn	12 23 10.8	-3.1
AAK	Ala-Archa	10.73	325	P	Pn	12 21 20.0	+1.6
	SNR=9.0						
AAK	Ala-Archa	10.73	325	Pn	Pn	12 21 19.5	+1.1
	comp=Z,0.1nm,0.3s,baz=133,slow=15,SNR=15						
AAK				LR	LR	12 26 17.1	
	comp=Z,334nm,19.5s,baz=128,slow=42						
AAK	Ala-Archa	10.73	325	ePn	Pn	12 21 18.8	+0.4
	comp=Z,14nm,0.8s						
AML	Almayashu	10.76	321	P	Pn	12 21 20.4	+1.4
	SNR=22						
FRU	Bishkek	10.83	326	eP	Pn	12 21 20.0	+0.4
FRU				pmax	pmax		
	comp=Z,70nm,1.6s						
CHMS	Chumysh	10.90	327	P	Pn	12 21 22.2	+1.6
	SNR=7.7						
CHMS	Chumysh	10.90	327	iP	Pn	12 21 22.1	+1.6
EKS2	Erkin-Say	11.10	323	P	Pn	12 21 25.1	+1.7
	SNR=7.0						
EKS2	Erkin-Say	11.10	323	iP	Pn	12 21 25.1	+1.7
EKS2	Erkin-Say	11.10	323	eP	Pn	12 21 24.4	+1.0
	comp=Z,41nm,1.6s						
USP	Ospenovka	11.22	327	P	Pn	12 21 25.8	+0.7
	SNR=5.7						
USP	Ospenovka	11.22	327	iP	Pn	12 21 25.7	+0.7
KBL	Kabul	11.36	276	eP	Pn	12 21 25.6	-1.5
KBL				pmax	pmax		
	comp=Z,32nm,0.8s						
KBL	Kabul	11.36	276	ePn	Pn	12 21 25.6	-1.5
	comp=Z,32nm,0.8s						
SHL	Shillong	11.59	135	eP	Pn	12 21 25.2	-5.0
BHPL	Bhopal	11.76	205	eP3	Pn	12 21 30.7	-1.8
BHPL				ex	x	12 23 31.5	
MK31	Makanchi Array	12.71	359	iP	Pn	12 21 43.5	-1.9
MK31				pmax	pmax		
	comp=Z,36nm,1.0s						
MKAR	Makanchi Array	12.71	359	Pn	Pn	12 21 43.3	-2.1
	comp=Z,0.7nm,0.3s,baz=182,slow=14,SNR=226						
MKAR				LR	LR	12 27 41.5	
	comp=Z,588nm,18.1s,baz=160,slow=42						
KK31	Karatay Array	13.15	317	iP	Pn	12 21 51.5	+0.2
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GTA	Gaotai	14.66	64	⇓iP	Pn	12 22 10.5	-1.6
GTA				pP	P	12 22 14.3	-3.6
GTA				sP		12 22 17.3	
GTA				S	Sn	12 24 57.8	+4.4
GTA				sS	S	12 25 03.0	-8.5
GTA				SS	SnSn	12 25 14.8	+8.9
GTA				pmax	pmax		
	comp=Z,10.0nm,1.9s						
GTA				LR	LR		
	comp=Z,2μm,13.8s						
GTA				LR	LR		
	comp=Z,1μm,14.5s						

GTA LR LR
comp=Z,1µm,15.2s
KURK Kurchatov 16.91 351 P Pn 12 22 37.7 -3.2
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 16.91 351 Pn Pn 12 22 37.6 -3.2
comp=Z,7.0nm,1.0s
HYB Hyderabad 17.01 194 eP Pn 12 22 36.5 -5.9
HYB eS Sn 12 25 40.0 -10
HYB Hyderabad 17.01 194 iP Pn 12 22 36.5 -5.9
HYB eS Sn 12 25 40.0 -10
HYB Hyderabad 17.01 194 eP Pn 12 22 36.5 -5.9
HYB eS Sn 12 25 40.0 -10
ZALV Zalesovo Beam 19.93 4 P P 12 23 15.1 -0.5
comp=Z,0.1nm,0.3s,baz=182,slow=10,SNR=30
ZALV LR LR 12 32 03.9
comp=Z,396nm,18.1s,baz=240,slow=40
CMAI Chiengmai2 20.18 130 P P 12 23 18.2 -0.6
comp=Z,12nm,1.0s
GEYT Alibeck 20.30 288 P P 12 23 19.1 -0.8
comp=Z,7.9nm,1.0s,baz=98,slow=9.1,SNR=12
GEYT LR LR 12 32 50.4
comp=Z,586nm,18.4s,baz=85,slow=42
NVS Novosibirsk 20.77 1 eP P 12 23 24.8 0.0
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS pmax pmax
comp=Z,8.0nm,1.0s
NVS pmax pmax
comp=N,7.0nm,1.3s
CRAI Chiangrai 20.82 127 P P 12 23 25.8 +0.1
comp=N,13nm,1.2s
MHMT Maesarieng 20.84 136 P Pn 12 23 28.3 -0.1
comp=N,14nm,1.0s
BVA0 Borovoye Array 20.91 339 iP P 12 23 24.9 -1.4
BVA0 pmax pmax
comp=Z,11nm,1.0s
BVAR Borovoye Array 20.91 339 P P 12 23 25.6 -0.7
comp=Z,5.8nm,0.8s,baz=148,slow=12,SNR=28
BVAR LR LR 12 32 49.7
comp=Z,90nm,21.9s,baz=146,slow=40
CHTO Chiang Mai 20.95 132 eP P 12 23 25.4 -1.6
CHTO pmax pmax
comp=Z,15nm,1.1s
CHTO Chiang Mai 20.95 132 P P 12 23 26.8 -0.2
comp=Z,68nm,1.1s
CHTO Chiang Mai 20.95 132 eP P 12 23 25.4 -1.6
comp=Z,15nm,1.1s
CMMT Chiang Mai 20.95 132 P P 12 23 26.7 -0.4
comp=Z,20nm,1.1s
BRVK Borovoye 20.97 339 eP P 12 23 26.4 -0.6
BRVK pmax pmax
comp=Z,26nm,1.0s
BRVK Borovoye 20.97 339 eP P 12 23 26.4 -0.6
comp=Z,26nm,1.0s
CM31 Chiang Mai Arr 21.22 133 eP P 12 23 30.4 +0.5
comp=Z,8.5nm,0.6s
CMAR Chiang Mai Arr 21.22 133 P P 12 23 29.6 -0.3
comp=Z,14nm,0.8s,baz=309,slow=11,SNR=73
CMAR LR LR 12 32 02.8
comp=Z,168nm,20.0s,baz=336,slow=38
LAMP Lampang 21.59 132 P P 12 23 36.3 +2.4
comp=Z,4.7nm,0.9s
XAN Xi'an 21.65 83 P P 12 23 32.5 -2.1
XAN pmax pmax
comp=Z,2.0nm,0.9s
MOY Mondy 21.98 31 eP P 12 23 42.7 +4.7
ZAK Zakamensk 22.16 36 eP P 12 23 40.8 +0.8
ZAK pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 22.41 45 P P 12 23 42.8 +0.1
comp=Z,11nm,1.2s,baz=231,slow=8.2,SNR=30
SONM LR LR 12 32 30.0
comp=Z,299nm,19.7s,baz=230,slow=37
AB31 Akbulak array 22.70 319 iP P 12 23 44.1 -1.5
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 22.70 319 eP P 12 23 44.4 -1.1
comp=Z,5.0nm,0.7s
UTTA Uttaradit 22.75 131 P P 12 23 48.4 +2.1
comp=Z,7.1nm,1.0s
ULN Ulaanbaatar 22.82 46⇓eP P 12 23 46.9 -0.1
ULN pmax pmax
comp=Z,12nm,1.2s
ULN Ulaanbaatar 22.82 46 eP P 12 23 46.0 -1.0
comp=Z,9.2nm,1.0s
UMPA Umpang Tak 22.94 137 P P 12 23 53.3 +5.0
comp=Z,54nm,0.6s
TLY Talaya 23.18 34 eP P 12 23 52.6 +2.1
TLY pmax pmax
comp=Z,2.0nm,1.1s
TLY MLR MLR
comp=Z,280nm,18.0s
TLY Talaya 23.18 34 P P 12 23 51.3 +0.7
comp=Z,0.6nm,0.5s,baz=197,slow=17,SNR=2.4
TLY LR LR 12 33 01.8
comp=Z,295nm,18.1s,baz=50,slow=37
PBKT Sadao Pong 23.90 132 P P 12 23 59.2 +1.6
comp=Z,11nm,0.9s
KHLT Khaolaem Dam 23.93 139 P P 12 24 01.2 +3.2
comp=Z,13nm,1.0s
AKTO Aktyubinsk 24.39 320 P P 12 24 01.4 -0.5
comp=Z,5.4nm,0.7s,baz=114,slow=9.9,SNR=18
AKTO LR LR 12 34 26.9
comp=Z,349nm,18.8s,baz=134,slow=39
SRDT SRDT 24.59 139 P P 12 24 07.7 +3.7
QIZ Qiongzhong 28.36 115 P P 12 24 36.5 -1.5
QIZ S S 12 29 20.8 -1.8
QIZ LR LR
comp=Z,270nm,14.0s
QIZ LR LR
comp=Z,230nm,11.5s
MAK Makhachkala 28.81 298 eP P 12 24 52.2 +10
MAK MLR MLR
comp=Z,305nm,14.0s
GNI Garni 30.76 293 diP P 12 25 03.4 +4.1
ZEI Tsey 31.44 298 eP P 12 25 08.7 +3.4
ZEI pmax pmax
comp=Z,4.0nm,1.4s
KIV Kislovodsk 32.39 300 eP P 12 25 14.0 +0.4
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,75nm,15.0s
RAYN Ar Rayn 34.14 262 eP P 12 25 28.1 -0.8
comp=Z,8.4nm,1.0s
KSAR Wonju Array Be 36.50 71 P P 12 25 48.4 -0.6
KSAR Wonju Array Be 36.50 71 P P 12 25 48.4 -0.6
KSRS Korea Array 36.53 71 P P 12 25 48.4 -0.9
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS MLR MLR
comp=Z,316nm,18.4s
KSRS Korea Array 36.53 71 P P 12 25 48.4 -0.9
comp=Z,1.4nm,0.7s,baz=288,slow=9.4,SNR=5.2
KSRS LR LR 12 42 22.4
comp=Z,316nm,18.4s,baz=238,slow=39
BR131 Keskin Array S 39.30 293 eP P 12 26 13.6 +0.8
BRTR Keskin Array B 39.30 293 P P 12 26 12.8 0.0
comp=Z,1.4nm,0.8s,baz=82,slow=8.9,SNR=7.4
JOW Kunigami 39.63 88 LR LR 12 43 18.2
comp=Z,46nm,20.9s,baz=132,slow=37
AKASG Malin Array Be 41.93 310 P P 12 26 34.6 +0.5
comp=Z,0.9nm,0.7s,baz=78,slow=6.7,SNR=5.1
AKASG LR LR 12 44 28.3
comp=Z,112nm,20.5s,baz=70,slow=37
MJAR Matsushiro Arr 44.78 70 P P 12 26 57.0 -0.4
comp=Z,2.3nm,0.8s,baz=285,slow=8.4,SNR=6.4
MJAR LR LR 12 46 42.0
comp=Z,157nm,19.9s,baz=190,slow=38
FINES FINESS Array B 44.92 325 P P 12 26 57.5 -0.7
comp=Z,2.9nm,0.7s,baz=131,slow=6.3,SNR=14
FINES LR LR 12 48 35.0
comp=Z,226nm,18.1s,baz=88,slow=40
ARCES ARCESS Array B 47.16 336 P P 12 27 16.6 +0.8
comp=Z,4.5nm,0.9s,baz=68,slow=11,SNR=4.0
ARCES LR LR 12 48 25.4
comp=Z,206nm,20.4s,baz=20,slow=38
SEY Seymchan 51.09 33 P P 12 27 46.2 +0.5
comp=Z,1.2nm,0.7s,baz=276,slow=7.7,SNR=4.4
BRG Berggiesshubel 51.58 311 e(P) P 12 27 50.7 +1.0
comp=Z,3.6nm,0.8s
BRG Berggiesshubel 51.58 311 eP P 12 27 50.7 +1.0
BRG pmax pmax
comp=Z,4.0nm,0.8s
NB2 NORSAR Subarra 52.05 324 P P 12 27 51.9 -1.2
comp=Z,8.0nm,1.2s,baz=88,slow=7.4
NOA NORSAR Array B 52.05 324 P P 12 27 52.3 -0.8
comp=Z,3.8nm,1.0s,baz=88,slow=7.5,SNR=4.3
NOA LR LR 12 52 02.1
comp=Z,66nm,18.0s,baz=95,slow=38
GERES GERESS Array B 52.08 309 P P 12 27 53.5 0.0
comp=Z,0.8nm,0.7s,baz=60,slow=3.2,SNR=5.6
WSI Waingapu 56.22 134 S S 12 36 16.6 +5.3
baz=46,SNR=4.1
LPG La Plagne 57.49 306 eP P 12 28 29.4 -3.6
comp=Z,21nm,1.1s
LPG La Plagne 57.49 306 eP P 12 28 29.4 -3.6
LPG pmax pmax
comp=Z,21nm,1.1s
LPG La Plagne 57.49 306 eP P 12 28 29.4 -3.6
comp=Z,21nm,1.1s
LPL La Plagne 57.50 306 eP P 12 28 29.6 -3.4
LPL La Plagne 57.50 306 eP P 12 28 29.6 -3.4
LPL La Plagne 57.50 306 eP P 12 28 29.6 -3.4
MBDF Montbardon 57.71 305 eP P 12 28 30.5 -3.9
comp=Z,21nm,1.3s
MBDF Montbardon 57.71 305 eP P 12 28 30.5 -3.9
MBDF pmax pmax
comp=Z,21nm,1.3s
MBDF Montbardon 57.71 305 eP P 12 28 30.5 -3.9
comp=Z,21nm,1.3s
SUMG Summit 66.29 344 iP P 12 29 31.8 -0.1
SUMG pmax pmax
comp=Z,5.0nm,1.0s
SUMG Summit 66.29 344 iP P 12 29 31.8 -0.1
comp=Z,5.0nm,1.0s
SUMG Summit 66.29 344 eP P 12 29 31.3 -0.6
comp=Z,7.0nm,1.0s
WRA Warramunga Arr 72.76 130 P P 12 30 11.6 -0.4
comp=Z,6.3nm,0.8s,baz=328,slow=5.8,SNR=14
COLA College 73.78 20 eP P 12 30 17.2 -0.1
COLA pmax pmax
comp=Z,5.0nm,0.9s
COLA College 73.78 20 eP P 12 30 17.2 -0.1
comp=Z,4.7nm,0.9s
ILAR Eielson Array 74.13 20 P P 12 30 18.6 -0.8
comp=Z,1.7nm,0.8s,baz=305,slow=4.8,SNR=20
ILAR LR LR 13 05 39.7
comp=Z,97nm,18.9s,baz=314,slow=38
ASAR Alice Springs 75.23 132 P P 12 30 26.0 -0.4
ASAR Alice Springs 75.23 132 P P 12 30 25.9 -0.4
comp=Z,2.5nm,0.7s,baz=320,slow=6.2,SNR=7.8
TORD Torodi Ar. Bea 75.43 276 P P 12 30 26.6 -1.2
comp=Z,3.0nm,0.7s,baz=47,slow=4.9,SNR=19
TORD LR LR 13 05 38.2
comp=Z,242nm,19.4s,baz=75,slow=37
PMR Palmer 75.83 23 eP P 12 30 29.1 -0.2
PMR Palmer 75.83 23 eP P 12 30 29.1 -0.2
YKA Yellowknife Ar 82.76 8 P P 12 31 06.2 -0.8
comp=Z,2.3nm,0.7s,baz=339,slow=5.3,SNR=47
SCHQ Schefferville 87.67 343 LR LR 13 16 44.4
comp=Z,42nm,18.1s,baz=48,slow=40
ULM Lac du Bonnet 96.04 359 LR LR 13 17 32.1
comp=Z,46nm,21.6s,baz=2.0,slow=37

IDC 25 12:21:39.7±1.3, 14°.86S×167°.46E, h117km±10km, mb4.3/22, mb1 4.5/24, mb1mx4.4/34, mbtmp4.7/24, MS3.1/3, Ms1 3.1/3, ms1mx2.9/27, Error ellipse: s-maj=14.5km s-min=10.5km az=82.0
ISCJB 25 12:21:40.1±0.2, 14°.87S±0°.03×167°.33E±0°.04, h129km, mb4.6/45, Error ellipse: s-maj=5.4km s-min=4.9km az=15.2
MOS 25 12:21:42.9±1.2, 14°.86S×167°.27E, h155km, mb4.9/7, Error ellipse: s-maj=12.3km s-min=9.8km az=21.6
NEIC 25 12:21:43.1±1.0, 14°.85S×167°.33E, h147km±9km, mb5.1/14, Error ellipse: s-maj=7.8km s-min=6.7km az=52.0
BJI 25 12:21:50.5, 14°.82S×167°.02E, h208km, mB4.9/22, mb4.5/30
ISC 25 12:21:41.3±0.3, 14°.86S±0°.05×167°.36E±0°.06, h129km, n156, σ1.38/168, mb4.8/44, 2C-4D, Vanuatu Islands

Code Station Name ∆° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 7.23 187 ePn Pn 12 23 24.3 -0.1
193nm,0.3s
DZM eSn Sn 12 24 36.7 -8.5
268nm,0.3s
DZM Mont Dzumac 7.23 187 P Pn 12 23 24.4 -0.1
38nm,0.3s,baz=20,slow=13,SNR=155
DZM S Sn 12 24 46.1 +0.9
62nm,0.3s,baz=291,slow=22,SNR=12
NOUC Port Laguerre 7.28 188 eP Pn 12 23 30.6 +5.6
NOUC eS Sn 12 24 53.3 +7.1
HNR Honiara 9.03 306 P Pn 12 23 50.2 +1.5
28nm,0.3s,baz=114,slow=4.6,SNR=16
HNR S Sn 12 25 28.6 -0.2
32nm,0.3s,baz=5.7,slow=21,SNR=9.7
HNR LR LR 12 27 15.1
comp=Z,117nm,19.2s,baz=136,slow=37
MSVF Nonsavu 10.65 107 eP Pn 12 24 13.1 +2.5
MSVF Nonsavu 10.65 107 ePn Pn 12 24 13.1 +2.5
EIDS Eidsvold 18.50 233 ePn Pn 12 25 49.4 0.0
92nm,0.7s
EIDS Eidsvold 18.50 233 P Pn 12 25 49.7 +0.3
baz=18,SNR=34
RAO Raoul Island 19.75 139 LR LR 12 32 33.2
comp=Z,75nm,19.1s,baz=132,slow=33
PMG Port Moresby 20.47 283 eP P 12 26 09.7 +0.6
PMG pmax pmax
comp=Z,40nm,1.0s
PMG Port Moresby 20.47 283 P P 12 26 09.6 +0.6
comp=Z,28nm,0.8s,baz=79,slow=5.2,SNR=14
PMG Port Moresby 20.47 283 eP P 12 26 09.7 +0.6
comp=Z,40nm,1.0s
PMG Port Moresby 20.47 283 P P 12 26 09.7 +0.6
baz=20,SNR=6.4
CTA Charters Tower 20.79 252 P P 12 26 13.3 +0.9
comp=Z,43nm,0.7s,baz=80,slow=12,SNR=50
CTAO Charters Tower 20.79 252 eP P 12 26 13.3 +0.9
CTAO pmax pmax
comp=Z,51nm,0.7s
CTAO Charters Tower 20.79 252 eP P 12 26 13.3 +0.9
comp=Z,52nm,0.7s
RMQ Roma 20.87 233 P P 12 26 14.7 +1.5
baz=21,SNR=29
OUZ Omahuta 21.04 166 eP P 12 26 16.6 +1.6
comp=Z,312nm,0.8s
ARMA Armidale 21.19 220 eP P 12 26 18.9 +2.2
ARMA Armidale 21.19 220 P P 12 26 18.9 +2.2
baz=21,SNR=6.4
PATS Pohnpei 23.34 337 P P 12 26 39.9 +1.6
baz=24,SNR=3.3
COEN Coen 23.44 269 P P 12 26 39.5 +0.3
baz=23,SNR=14
MGCD Mangrove Creek 23.48 216 P P 12 26 41.0 +1.6
baz=23,SNR=7.0
QLP Quilpie 24.53 238 P P 12 26 49.7 +0.7
baz=24,SNR=26
URZ Urewera 24.86 162 P P 12 26 51.3 -0.5
comp=Z,22nm,0.7s,baz=280,slow=3.8,SNR=16
URZ Urewera 24.86 162 eP P 12 26 52.2 +0.4
comp=Z,31nm,0.8s
BKZ Black Stump Fm 25.52 163 eP P 12 26 58.0 +0.1
comp=Z,43nm,0.6s
CMSA Cobar Meteorol 25.85 226 P P 12 27 01.4 +0.5
baz=26,SNR=21
CNB Canberra Magne 26.01 215 P P 12 27 03.4 +1.0
baz=26,SNR=13
QIS Mount Isa 27.02 254 P P 12 27 11.4 -0.2
baz=27,SNR=4.3
RPZ Rata Peaks 28.94 174 eP P 12 27 28.8 +0.5
comp=Z,51nm,0.7s
STKA Stephens Creek 28.98 230 P P 12 27 29.6 +0.8
comp=Z,24nm,0.5s,baz=52,slow=8.5,SNR=110
STKA PcP PcP 12 30 33.8 -0.7
comp=Z,5.2nm,0.6s,baz=74,slow=3.8,SNR=5.7
STKA ScP ScP 12 34 04.8 +0.6
comp=Z,7.8nm,0.8s,baz=44,slow=3.7,SNR=12
STKA Stephens Creek 28.98 230 P P 12 27 29.7 +0.8
baz=29,SNR=99
TOO Toolangi 29.80 217 P P 12 27 36.9 +0.8
baz=30,SNR=4.7
DCZ Deep Cove 30.53 180 eP P 12 27 42.9 +0.6
comp=Z,80nm,1.0s
HTT Hallett 31.70 229 P P 12 27 52.8 +0.9
baz=32,SNR=11
WRAB Tennant Creek 31.87 256 eP P 12 27 52.4 -2.1
WRAB Tennant Creek 31.87 256 eP P 12 27 52.4 -2.1
WRA Warramunga Arr 31.88 256 P P 12 27 53.0 -1.5
comp=Z,3.9nm,0.6s,baz=85,slow=9.2,SNR=66
WRA ScP ScP 12 34 15.4 +1.5
comp=Z,1.3nm,0.8s,baz=90,slow=3.8,SNR=5.5
WRA PKiKP PKiKP 12 38 08.8 -2.1
comp=Z,0.7nm,0.6s,baz=358,slow=0.3,SNR=14
AS31 Alice Springs 32.71 249 eP P 12 28 00.6 -1.2
ASAR Alice Springs 32.71 249 P P 12 28 00.6 -1.3
comp=Z,16nm,0.8s,baz=81,slow=8.9,SNR=216
ASAR PcP PcP 12 30 43.9 -0.7
comp=Z,1.9nm,0.6s,baz=69,slow=3.0,SNR=6.1
ASAR ScP ScP 12 34 17.8 +1.0
comp=Z,2.5nm,0.8s,baz=98,slow=3.3,SNR=12
ASAR PKiKP PKiKP 12 38 09.1 -2.4
comp=Z,0.4nm,0.5s,baz=94,slow=1.6,SNR=8.5
BBOO Buckleboo 33.57 232 eP P 12 28 09.5 +0.3
comp=Z,154nm,0.5s
BBOO Buckleboo 33.57 232 P P 12 28 09.8 +0.7
baz=33,SNR=31
KDU Kakadu 33.93 269 P P 12 28 11.7 -0.8
baz=34,SNR=3.3
KNRA Kununurra 37.21 264 P P 12 28 39.5 -1.0
baz=37,SNR=7.1
WRKA Warakurna 37.97 248 P P 12 28 46.0 -0.9
baz=38,SNR=24
WRKA S S 12 34 25.4 -4.1
baz=38,SNR=4.5
FORT Forrest 39.31 239 P P 12 28 57.9 0.0
baz=39,SNR=13
PPT2 Papeete2 41.38 100 eLR LR 12 40 32.9
comp=Z,165nm,28.5s
PPT Papeete 41.38 100 LR LR 12 45 31.2
comp=Z,17nm,18.9s,baz=169,slow=35
BATI Baumata 42.85 271 P P 12 29 27.4 +0.2
comp=Z,26nm,0.6s,baz=81,slow=3.2,SNR=3.2
MEEK Meekatharra 46.82 247 P P 12 29 57.9 -0.5
baz=47,SNR=20
KLBR Kellerberrin 48.12 241 P P 12 30 07.9 -0.5
baz=48,SNR=5.0
MORW Morawa 49.29 244 P P 12 30 19.6 +2.2
baz=49,SNR=4.1
MJAR Matsushiro Arr 58.06 332 P P 12 31 20.1 -0.9
comp=Z,1.3nm,0.5s,baz=163,slow=9.0,SNR=6.9
MAT Matsushiro 58.06 332 P P 12 31 20.1 -0.9
MAT eS S 12 39 09.4 -2.5
KSM Kuching 58.72 281 P P 12 31 26.2 +0.1
baz=59,SNR=6.1
VNDA Vanda 62.74 181 eP P 12 31 51.9 -0.3
VNDA pmax pmax
comp=Z,14nm,0.7s
VNDA Vanda 62.74 181 P P 12 31 51.9 -0.3
comp=Z,12nm,0.7s,baz=356,slow=7.7,SNR=62
VNDA Vanda 62.74 181 eP P 12 31 51.9 -0.3
comp=Z,14nm,0.7s
SBA Scott Base 63.01 180 eP P 12 31 54.4 +0.4
SBA pmax pmax
comp=Z,30nm,0.8s
SBA Scott Base 63.01 180 eP P 12 31 54.4 +0.4
comp=Z,30nm,0.8s
CASY Casey 63.44 202 eP P 12 31 56.6 -0.4
comp=Z,12nm,0.6s
KSRS Korea Array 63.89 326 P P 12 32 00.8 +0.4
comp=Z,1.1nm,0.8s,baz=134,slow=6.9,SNR=3.0
KSAR Wonju Array Be 63.91 326 P P 12 32 00.8 +0.3
KSAR Wonju Array Be 63.91 326 P P 12 32 00.8 +0.3
YSS Yuzh-Sakhalins 65.38 342 eP P 12 32 10.7 +0.9
YSS pmax pmax
comp=Z,20nm,1.0s
NJ2 Nanjing 65.83 316 eP P 12 32 13.5 +0.5
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
QIZ Qiongzhong 65.88 299 P P 12 32 12.5 -1.1
QIZ pP pP 12 33 01.8 +17
QIZ sP sP 12 33 25.3 +26
QIZ S S 12 40 31.3 -20
QIZ sS SKiKP 12 42 06.0 -1.2
QIZ pmax pmax
comp=Z,12nm,1.2s
QIZ pmax pmax
comp=Z,140nm,9.4s
USRK Ussuriysk Arra 67.04 333 P P 12 32 22.4 +2.0
comp=Z,3.6nm,0.7s,baz=132,slow=4.8,SNR=8.7
PETK Petropavlovsk- 68.19 354 P P 12 32 28.1 +0.6
comp=Z,7.9nm,0.9s,baz=156,slow=9.0,SNR=9.5
MDJ Mudanjiang 68.43 332 P P 12 32 31.3 +2.1
MDJ pmax pmax
comp=Z,11nm,1.3s
MDJ pmax pmax
comp=Z,150nm,3.6s
CN2 Changchun 69.80 329 eP P 12 32 42.0 +4.3
GYA Guiyang 71.86 305 P P 12 32 52.0 +1.3
GYA pP pP 12 33 43.5 +21
GYA sP sP 12 34 06.0 +30
GYA PP PP 12 35 36.3 +4.2
GYA S S 12 41 52.8 -8.6
GYA SKS SKSac 12 42 30.5 -12
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.4s
KMI Kunming 74.45 302 P P 12 33 07.0 +0.9
KMI pP pP 12 33 59.3 +21
KMI S SKiKP 12 42 18.5 -1.4
KMI pmax pmax
comp=Z,5.0nm,0.7s
KMI LR LR
comp=Z,110nm,11.4s
KMI LR LR
comp=Z,120nm,12.4s
KMI LR LR
comp=Z,110nm,13.1s
CRAI Chiangrai 74.49 296 P P 12 33 07.8 +1.7
comp=Z,42nm,0.8s
CMAR Chiang Mai Arr 75.08 294 P P 12 33 11.2 +1.6
comp=Z,0.7nm,0.3s,baz=108,slow=4.2,SNR=6.1
CMAI Chiengmai2 75.53 295 P P 12 33 15.5 +3.2
comp=Z,4.2nm,1.0s
HHC Hu-ho-hao-te 75.74 320 eP P 12 33 14.5 +1.5
HHC PP PP 12 36 09.5 +4.7
HHC S S 12 42 37.0 -7.4
HHC pmax pmax
comp=Z,20nm,1.2s
HHC pmax pmax
comp=Z,330nm,5.6s
CD2 Chengdu 76.16 308 P P 12 33 17.0 +1.5
CD2 pP pP 12 34 08.8 +21
CD2 sP sP 12 34 31.5 +30
CD2 PP PP 12 36 12.8 +4.3
CD2 S S 12 42 41.8 -7.4
CD2 SKS SKSac 12 43 02.0 -13
CD2 sS sS 12 44 12.0 +27
CD2 SS SS 12 47 43.5 -2.3
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.4s
LZH Lanzhou 78.47 312 eP P 12 33 32.3 +3.9
LZH pP pP 12 34 22.0 +21
LZH sP sP 12 34 42.0 +27
LZH pmax pmax
comp=Z,12nm,4.2s
MAW Mawson 81.80 202 P P 12 33 46.0 +0.4
MAW Mawson 81.80 202 P P 12 33 46.0 +0.4
comp=Z,24nm,1.0s,baz=90,slow=9.1,SNR=4.1
YAK Yakutsk 82.18 343 eP P 12 33 46.4 -1.0
YAK pmax pmax
comp=Z,14nm,0.9s
ULN Ulaanbaatar 82.29 324⇓iP P 12 33 48.5 -0.1
ULN Ulaanbaatar 82.29 324 eP P 12 33 47.9 -0.7
comp=Z,4.5nm,0.8s
SONM Songino Array 82.65 324 P P 12 33 51.6 +1.2
comp=Z,2.0nm,0.6s,baz=136,slow=5.7,SNR=23
BILL Bilibino 82.67 360⇓iP P 12 33 49.8 -0.1
BILL pmax pmax
comp=Z,2.0nm,0.5s
BILL Bilibino 82.67 360 eP P 12 33 49.7 -0.2
comp=Z,2.8nm,0.5s
GTA Gaotai 82.82 314 eP P 12 34 24.0 +32
GTA pP pP 12 34 32.5 +8.3
GTA sP sP 12 34 36.8 -1.1
GTA Gaotai 82.82 314 eP P 12 33 53.8 +2.3
GTA pP pP 12 34 46.3 +22
GTA sP sP 12 35 08.3 +30
GTA S S 12 43 54.0 -5.3
GTA sS sS 12 45 24.3 +29
GTA pmax pmax
comp=Z,3.0nm,1.5s

GTA				pmax	pmax		
	comp=Z,64nm,6.2s						
N02D	Trinity Center	85.14	46	P	P	12 34 03.8	+0.7
	baz=85						
M02C	Callahan	85.21	45	P	P	12 34 03.3	-0.2
	baz=85						
ZAK	Zakamensk	85.71	325	eP	P	12 34 05.1	-0.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TLY	Talaya	86.15	326	eP	P	12 34 08.9	+1.1
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TLY	Talaya	86.15	326	P	P	12 34 07.1	-0.8
	comp=Z,2.1nm,0.6s,baz=34,slow=3.6,SNR=5.4						
COLA	College	86.41	18	⇓iP	P	12 34 07.2	-1.5
COLA				pmax	pmax		
	comp=Z,11nm,0.9s						
ILAR	Eielson Array	86.62	18	P	P	12 34 07.7	-2.1
	comp=Z,1.7nm,0.6s,baz=240,slow=4.8,SNR=37						
LRMC	Laurel Mountai	86.69	52	P	P	12 34 11.0	0.0
	baz=87						
MONP	Monument Peak	86.78	55	P	P	12 34 11.8	+0.1
	baz=87						
J05D	Fort Rock, OR	87.07	44	P	P	12 34 12.9	+0.2
	baz=87						
NVAR	Mina Array Bea	87.29	49	P	P	12 34 14.0	+0.1
	comp=Z,1.0nm,0.8s,baz=228,slow=7.7,SNR=7.6						
BELC	Belle Mtn. Jos	87.49	54	P	P	12 34 15.0	0.0
	baz=88						
HEC	Hector,Ludlow	87.51	53	P	P	12 34 14.5	-0.4
	baz=88						
FURC	Furnace Creek,	87.67	51	P	P	12 34 15.3	-0.2
	baz=88						
TAPN	Taplejung	87.82	299	eP	P	12 34 16.7	-0.1
	comp=Z,6.5nm,0.4s						
ODAN	Odare	87.94	298	eP	P	12 34 17.0	-0.3
	comp=Z,16nm,0.6s						
IRM	Iron Mountain	88.21	54	P	P	12 34 18.7	+0.5
	baz=88						
SYO	Syowa Base	88.81	197	⇓eP	P	12 34 18.0	-1.4
RAMN	Ramite	88.64	298	eP	P	12 34 20.7	0.0
	comp=Z,12nm,0.6s						
113A	Mohawk Valley,	88.86	56	P	P	12 34 21.7	+0.6
	baz=89						
PDMCI	Parker Dam,Lak	89.04	54	P	P	12 34 22.0	0.0
	baz=89						
JIRN	Jiri	89.20	299	eP	P	12 34 23.1	-0.3
	comp=Z,7.5nm,0.4s						
R11A	Troy Canyon, C	89.26	50	P	P	12 34 22.6	-0.6
	baz=89						
214A	Organ Pipe Nat	89.37	57	P	P	12 34 23.9	+0.2
	baz=90						
W13A	Hualapai Mount	89.50	54	P	P	12 34 24.5	+0.1
	baz=90						
GUN	Gumba	89.53	299	eP	P	12 34 24.4	-0.6
Y14A	Wickenburg	89.83	55	P	P	12 34 25.7	-0.1
	baz=90						
GKN	Gorkha	90.61	299	eP	P	12 34 29.6	-0.1
	comp=Z,5.3nm,0.4s						
U15A	North Rim	91.14	53	P	P	12 34 32.2	0.0
	baz=91						
X16A	Lo Mia Camp, P	91.20	55	P	P	12 34 33.1	+0.7
	baz=91						
DANN	Dangsing	91.45	299	eP	P	12 34 32.9	-0.9
	comp=Z,6.0nm,0.5s						
HVS	Khovu-Aksy	91.52	323	⇑eP	P	12 34 33.0	-0.3
HVS				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WUAZ	Wupatki	91.58	54	P	P	12 34 34.9	+0.8
	baz=92						
319A	Douglas	92.08	58	P	P	12 34 37.1	+0.7
	baz=92						
X18A	Snowflake	92.42	55	P	P	12 34 38.0	0.0
	baz=92						
WMQ	Urumqi	92.88	315	eP	P	12 34 39.3	-0.4
WMQ				pP	pP	12 35 34.0	+21
WMQ				sP	sP	12 35 57.3	+31
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.2s						
WMQ				LR	LR		
	comp=Z,100nm,20.4s						
WMQ				LR	LR		
	comp=Z,61nm,20.0s						
WMQ				LR	LR		
	comp=Z,71nm,23.4s						
SNAA	Sanae	93.43	183	P	P	12 34 40.0	-1.8
VNA3	Neumayer Olymp	94.09	181	P	P	12 34 43.1	-1.7
VNA2	Neumayer--Watz	94.36	182	P	P	12 34 44.7	-1.4
	baz=181,slow=4.0						
VNA1	Neumayer--Stat	94.66	181	P	P	12 34 45.9	-1.4
TXAR	Lajitas Array	96.26	61	P	P	12 34 55.4	-0.2
	comp=Z,0.4nm,0.7s,baz=235,slow=4.4,SNR=4.8						
MK31	Makanchi Array	97.36	316	eP	P	12 34 59.9	-0.1
MK31	Makanchi Array	97.36	316	eP	P	12 34 59.9	-0.1
MKAR	Makanchi Array	97.36	316	P	Pdif	12 35 00.1	0.0
	comp=Z,1.6nm,0.6s,baz=78,slow=6.3,SNR=28						
ZALV	Zalesovo Beam	97.55	324	P	P	12 34 59.8	-0.9
	comp=Z,2.7nm,0.8s,baz=122,slow=4.5,SNR=6.9						
YKA	Yellowknife Ar	97.62	27	P	P	12 34 59.7	-1.0
	comp=Z,0.3nm,0.6s,baz=255,slow=4.7,SNR=8.0						
YKA				PKKPbc	PKKPbc	12 51 35.6	-3.8
	comp=Z,0.3nm,0.6s,baz=71,slow=2.7,SNR=8.9						
KSH	Kashi	100.35	308	eP	Pdif	12 35 15.0	+1.3
ARCES	ARCESS Array B	120.40	345	PKP	PKPdf	12 40 15.9	-0.9
	comp=Z,3.0nm,0.5s,baz=78,slow=2.2,SNR=37						
BOSA	Boshof	123.33	220	PKP	PKPdf	12 40 23.2	-0.8
	comp=Z,2.8nm,0.7s,baz=107,slow=3.5,SNR=3.4						
FINES	FINESS Array B	125.87	338	PKP	PKPdf	12 40 26.9	-0.6
	comp=Z,1.3nm,0.5s,baz=33,slow=2.5,SNR=12						
KMBO	Kilima Mbogo	128.16	257	PKP	PKPdf	12 40 34.2	+0.5
	comp=Z,0.5nm,0.4s,baz=69,slow=3.4,SNR=3.1						
NB2	NORSAR Subarra	130.77	345	PKPdf	PKPdf	12 40 36.8	-0.1
	comp=Z,0.7nm,0.6s,baz=34,slow=1.8						
NOA	NORSAR Array B	130.77	345	PKIKP	PKPdf	12 40 37.0	0.0
NOA	NORSAR Array B	130.77	345	PKP	PKPdf	12 40 37.0	0.0
	comp=Z,1.1nm,1.0s,baz=37,slow=2.1,SNR=3.3						
NOA				SKPbc	SKPab	12 43 50.7	+1.3
	comp=Z,2.6nm,0.9s,baz=32,slow=3.0,SNR=7.2						
AKASG	Malin Array Be	130.89	326	PKP	PKPdf	12 40 35.8	-1.6
	comp=Z,0.7nm,0.5s,baz=33,slow=2.0,SNR=4.4						
AKASG				SKPbc	SKPab	12 43 51.1	+1.0
	comp=Z,2.7nm,0.7s,baz=47,slow=4.5,SNR=15						
BRTR	Keskin Array B	132.66	311	PKP	PKPdf	12 40 40.6	-0.7
	comp=Z,0.5nm,0.6s,baz=48,slow=1.6,SNR=3.8						
BRTR				SKPbc	SKPbc	12 43 57.2	+0.4
	comp=Z,0.6nm,0.7s,baz=101,slow=2.5,SNR=4.4						
GERES	GERESS Array B	139.80	333	PKhKP	PKPpre	12 40 47.9	
	comp=Z,0.7nm,0.7s,baz=39,slow=5.4,SNR=2.7						
FETA	Feichten	142.48	334	⇑/PKPdf	PKPdf	12 40 55.8	-3.4
	comp=Z,7.7nm,1.1s						
TUE	Stuetta	143.50	334	ePKPdf	PKPbc	12 40 58.9	+0.2
TIP	Timpagrande	144.60	319	ePKPdf	PKPbc	12 41 02.3	+0.3
BNI	Bardonecchia	145.75	335	ePKP2	PKPdf	12 41 04.7	-0.2
BNI	Bardonecchia	145.75	335	ePKPdf	PKPdf	12 41 04.7	-0.2
KEST	Kesra	151.36	321	PKPbc	PKPbc	12 41 20.2	-0.1
	comp=Z,1.7nm,0.4s,baz=349,slow=0.1,SNR=13						
KEST	Kesra	151.36	321	ePKPbc	PKPbc	12 41 19.9	-0.5
TORD	Torodi Ar. Bea	165.99	265	PKP	PKPdf	12 41 30.6	-1.3
	comp=Z,1.3nm,0.6s,baz=93,slow=1.0,SNR=11						
TORD				PKPab	PKPab	12 42 31.9	-0.8
	comp=Z,1.4nm,0.8s,baz=107,slow=3.5,SNR=5.3						
DBIC	Dimbokro	168.84	224	PKP	PKPdf	12 41 33.2	-0.8
	comp=Z,6.3nm,1.1s,baz=132,slow=7.4,SNR=3.1						

IDC 25 12:34:53.9±8.5, 18.51S×173.83W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.6/3, Error ellipse: s-maj=370.3km s-min=42.0km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.81	259	P	P	12 43 40.4	-0.9
	0.2nm,0.4s,baz=98,slow=6.6,SNR=7.4						
ASAR	Alice Springs	48.83	254	P	P	12 43 41.9	+0.5
	0.8nm,0.5s,baz=90,slow=9.1,SNR=27						
ILAR	Eielson Array	85.56	11	P	P	12 47 33.5	0.0
	0.5nm,1.0s,baz=201,slow=6.5,SNR=3.0						

MOS 25 12:49:53.8±1.1, 51.67N×177.36W, h63km, mb4.3/8, Error ellipse: s-maj=13.0km s-min=12.0km az=74.3
ISCJB 25 12:49:55.0±0.5, 51.60N±0.08×177.34W±0.04, h72km±2km, mb4.1/20, Error ellipse: s-maj=12.8km s-min=3.6km az=169.8
BJI 25 12:49:54.0, 51.60N×177.40W, h59km, mb4.5/2, Ms4.2/2
NEIC 25 12:49:55.5, 51.64N×177.33W, h68km, mb4.1/12, ML4.3(AEIC), After AEIC.
IDC 25 12:49:57.3±1.9, 51.76N×177.51W, h83km±16km, mb3.5/13, mb1 3.8/15, mb1mx3.6/32, mbtmp3.9/15, Error ellipse: s-maj=21.6km s-min=12.0km az=177.0

ISC 25 12:49:55.5±0.6, 51.64N±0.09×177.37W±0.03, h67km±3km, n93, σ1§38/103, mb4.0/20, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKV	Kanaga Island	0.27	27	P	Pn	12 50 06.6	+0.5
KICM	Kanaga Island	0.30	21	P	Pn	12 50 06.8	+0.5
KIRH	Kanaga Island	0.31	33	P	Pn	12 50 06.9	+0.5
TAFL	Tanaga Flats	0.35	290	P	Pn	12 50 07.4	+0.8
TASE	Tanaga Southea	0.46	296	P	Pn	12 50 08.5	+0.8
TAFP	Tanaga Falls P	0.46	305	P	Pn	12 50 08.2	+0.5
ADK	Adak	0.49	60	P	Pn	12 50 07.8	-0.1
ADK				S	Sn	12 50 17.2	+0.2
ADK	Adak	0.49	60	P	Pn	12 50 07.8	-0.1
ADK				S	Sn	12 50 17.2	+0.2
TANO	Tanaga North	0.54	301	P	Pn	12 50 09.3	+0.9
ADAG	Mount Adagdak	0.59	54	P	Pn	12 50 09.6	+0.7
GSCK	Great Sitkin C	0.84	63	P	Pn	12 50 12.1	+0.3
GSTD	Great Sitkin T	0.87	61	P	Pn	12 50 12.4	+0.2
GSTD				S	Sn	12 50 24.7	+0.2
GAEA	Gareloi East	0.87	280	P	Pn	12 50 13.2	+1.0
GSMY	Great Sitkin M	0.91	63	P	Pn	12 50 12.9	+0.2
CERAA	Semis' Rag'd T	1.85	279	P	Pn	12 50 25.8	+0.9
CEAP	Semis' Anvil P	1.93	282	P	Pn	12 50 27.0	+1.0
CEAP				S	Sn	12 50 50.0	+0.7
AMKA	Amchitka	2.10	264	P	Pn	12 50 28.9	+0.7
AMKA				S	Sn	12 50 53.7	+0.4
KOFP	Korovin Flat P	2.12	71	P	Pn	12 50 30.2	+1.5
LSPA	Little Sitkin	2.54	279	P	Pn	12 50 35.7	+1.4
LSPA				S	Sn	12 51 04.9	+0.8
LSNW	Little Sitkin	2.58	279	P	Pn	12 50 35.9	+1.1
LSSA	Little Sitkin	2.58	279	P	Pn	12 50 36.0	+1.2
SMY	Shemya	5.36	285	P	Pn	12 51 12.6	-0.2
SMY	Shemya	5.36	285	P	Pn	12 51 12.6	-0.2
NIKH	Nikolski High	5.39	72	P	Pn	12 51 13.4	+0.1
NIKH				S	Sn	12 52 11.3	-2.6
FX1	Attu Island--F	5.95	286	P	Pn	12 51 20.6	-0.2
FX1				S	Sn	12 52 24.8	-2.6
FX1				pmax	pmax		
	comp=Z,9.0nm,0.3s						
FX1				smax	smax		
	comp=N,10.0nm,0.3s						
FX1	Attu Island--F	5.95	286	P	Pn	12 51 20.6	-0.2
	comp=N,9.3nm,0.3s,baz=90,slow=1.4,SNR=30						
FX1				S	Sn	12 52 24.8	-2.6
	comp=N,10.0nm,0.3s,baz=57,slow=23,SNR=7.2						
FX1	Attu Island--F	5.95	286	P	Pn	12 51 20.3	-0.5
OKFG	Magazine Ridge	6.04	69	P	Pn	12 51 21.4	-0.7
MREP	Makushin Rep't	6.81	67	P	Pn	12 51 32.9	+0.3
SPIA	Saint Paul Isl	6.93	34	P	Pn	12 51 34.7	+0.5
UNV	Unalaska Valle	6.96	67	P	Pn	12 51 34.7	+0.1
AKGG	Akutan Green G	7.34	65	P	Pn	12 51 40.0	+0.1
OHAK	Old Harbor	15.04	59	ePn	P	12 53 26.2	-1.5
PETK	Petropavlovsk-	15.28	285	P	P	12 53 28.9	-1.5
	comp=N,0.3nm,0.3s,baz=102,slow=15,SNR=9.9						
KDAK	Kodiak Island	15.53	57	iP	Pn	12 53 27.3	-2.8
PPLA	Purkeypile	17.54	40	ePn	P	12 53 57.7	+2.2
	comp=N,54nm,1.9s						
SEW	Seward	17.69	51	ePn	P	12 53 57.3	+0.3
	comp=N,38nm,1.5s						
BILL	Bilibino	18.27	340	iP	Pn	12 54 04.8	+0.8
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BILL	Bilibino	18.27	340	eP	Pn	12 54 04.9	+0.9
	comp=Z,5.6nm,1.0s						
KTH	Kantishna Hill	18.35	39	ePn	Pn	12 54 05.9	+0.9
	comp=Z,7.6nm,1.0s						
TRF	Thorofare Moun	18.56	40	eP	Pn	12 54 10.3	+2.6
	comp=Z,8.0nm,0.8s						
IM04	Indian Mountai	18.67	31	eP	Pn	12 54 09.5	+0.6
MCK	McKinley	19.23	40	eP	Pn	12 54 17.9	+2.5
MCK				pmax	pmax		
	comp=Z,36nm,2.0s						
MCK	McKinley	19.23	40	ePn	Pn	12 54 17.9	+2.5
	comp=Z,36nm,2.0s						
SEY	Seymchan	19.66	317	P	P	12 54 18.6	+0.1
	comp=Z,0.2nm,0.3s,baz=109,slow=10,SNR=17						
COLA	College	20.16	38	eP	Pn	12 54 25.6	-0.7
COLA				pmax	pmax		
	comp=Z,91nm,2.9s						
COLA	College	20.16	38	eP	Pn	12 54 25.6	-0.7
	comp=Z,92nm,2.9s						
BMRM	Bremner River	20.23	50	ePn	Pn	12 54 28.5	+1.2
	comp=Z,8.0nm,0.9s						
PAX	Paxson	20.38	44	eP	Pn	12 54 28.8	-0.3
PAX				pmax	pmax		
	comp=Z,7.0nm,1.3s						
PAX	Paxson	20.38	44	eP	Pn	12 54 28.8	-0.4
	comp=Z,7.4nm,1.3s						
ILAR	Eielson Array	20.48	38	P	P	12 54 26.8	-0.7
	comp=Z,0.6nm,0.6s,baz=232,slow=8.9,SNR=20						
ILAR				ScP	ScP	13 02 04.0	-2.8
	comp=Z,0.8nm,0.7s,baz=286,slow=3.5,SNR=4.3						
COLD	Coldfoot	20.57	30	ePn	Pn	12 54 31.8	+0.5
	comp=Z,4.8nm,0.5s						
COLD				LR	LR		
	comp=Z,99nm,19.3s						
MENT	Mentasta	21.13	45	eP	P	12 54 38.0	+3.5
DOT	Dot Lake	21.20	43	P	P	12 54 34.9	-0.3
	comp=Z,3.8nm,0.6s						
EGAK	Eagle	22.77	41	eP	P	12 54 52.1	+0.2
	comp=Z,57nm,2.7s						
DAWY	Dawson	23.30	43	eP	P	12 54 56.6	-0.7
ERM	Erimo	28.36	266	eP	P	12 55 44.0	+1.1
ERM				pmax	pmax		
	comp=Z,22nm,1.4s						
H11N2	WAKE ISLAND Hy	34.16	207	T	T	13 33 03.2	
	baz=18,slow=76,SNR=1207						
H11N3	WAKE ISLAND Hy	34.16	207	T	T	13 33 02.6	
	baz=18,slow=76,SNR=1710						
H11N1	WAKE ISLAND Hy	34.17	207	T	T	13 33 02.8	
	baz=18,slow=76,SNR=1372						
YKA	Yellowknife Ar	34.40	47	P	P	12 56 36.2	+0.4
	comp=Z,0.8nm,0.6s,baz=283,slow=8.5,SNR=14						
YKA				PcP	PcP	12 59 09.5	-0.3
	comp=Z,0.1nm,0.4s,baz=288,slow=3.0,SNR=5.3						
YKA				ScP	ScP	13 02 46.6	-2.2
	comp=Z,0.5nm,0.9s,baz=283,slow=3.5,SNR=6.1						
MAJO	Matsushiro	34.71	262	eP	P	12 56 38.6	-0.2
MAJO				pmax	pmax		
	comp=Z,39nm,1.2s						
VLA	Vladivostok	34.77	276	eP	P	12 56 40.2	+1.0
VLA				pmax	pmax		
	comp=Z,27nm,0.9s						
H11S1	WAKE ISLAND Hy	35.37	207	T	T	13 34 31.4	
	baz=18,slow=76,SNR=1003						
H11S2	WAKE ISLAND Hy	35.39	207	T	T	13 34 32.7	
	baz=18,slow=76,SNR=544						
H11S3	WAKE ISLAND Hy	35.39	207	T	T	13 34 30.8	
	baz=18,slow=76,SNR=533						
YBH	Yreka Blue Hor	37.96	83	P	P	12 57 08.6	+2.1
YBH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
YBH	Yreka Blue Hor	37.96	83	P	P	12 57 08.6	+2.1
	comp=Z,3.2nm,1.0s,baz=257,slow=6.2,SNR=5.4						
CN2	Changchun	38.37	281	eP	P	12 57 11.5	+1.7
NVAR	Mina Array Bea	42.63	84	P	P	12 57 45.9	+0.6
	comp=Z,1.2nm,0.9s,baz=293,slow=8.2,SNR=7.4						
ELK	Elko	43.13	79	P	P	12 57 49.7	+0.4
ELK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ELK	Elko	43.13	79	P	P	12 57 49.7	+0.4
	comp=Z,1.4nm,0.7s,baz=24,slow=4.0,SNR=7.7						
PDAR	Pinedale Array	45.38	73	P	P	12 58 07.5	+0.2
	comp=Z,1.7nm,0.5s,baz=330,slow=2.6,SNR=20						
ULN	Ulaanbaatar	46.94	297	eP	P	12 58 19.8	+0.4
ULN				pmax	pmax		
	comp=Z,1.0nm,1.2s						
SONM	Songino Array	47.33	297	P	P	12 58 21.4	-0.9
	comp=Z,0.3nm,0.3s,baz=54,slow=7.3,SNR=4.0						
SONM				ScP	ScP	13 03 37.2	-2.8
	comp=Z,0.4nm,0.6s,baz=70,slow=3.0,SNR=5.0						
HHC	Hu-ho-hao-te	48.47	287	eP	P	12 58 33.3	+2.1
HHC				PP	PP	13 00 26.0	+1.8
HHC				S	S	13 05 27.5	+0.3
HHC				sS	sS	13 05 54.3	-1.6
HHC				SS	SS	13 08 52.8	-4.5
HHC				LR	LR		
	comp=Z,150nm,17.8s						
HHC				LR	LR		
	comp=Z,270nm,18.0s						
ZALV	Zalesovo Beam	54.49	314	PcP	PcP	13 00 17.3	-1.1
	comp=Z,0.4nm,0.3s,baz=43,slow=2.8,SNR=3.2						
TXAR	Lajitas Array	57.73	82	P	P	12 59 39.5	+0.1
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	Lajitas Array	57.73	82	P	P	12 59 39.5	+0.1
	comp=Z,0.6nm,0.5s,baz=303,slow=5.5,SNR=24						
ARCES	ARCESS Array B	57.98	351	P	P	12 59 40.0	-0.5
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ARCES	ARCESS Array B	57.98	351	P	P	12 59 40.0	-0.5
	comp=Z,5.5nm,0.9s,baz=32,slow=8.8,SNR=4.4						
CD2	Chengdu	59.79	283	eP	P	12 59 55.0	+1.4
CD2				pP	pP	13 00 11.0	-0.1
CD2				sP	sP	13 00 18.0	-0.5
CD2				PcS	PcS	13 04 42.3	+0.2
CD2				S	S	13 07 59.0	-0.8
CD2				sS	sS	13 08 26.0	-3.3
CD2				SS	SS	13 11 56.5	+0.3
WMQ	Urumqi	59.95	304	eP	P	12 59 57.0	+2.5
WMQ				pP	pP	13 00 13.0	+1.0
WMQ				sP	sP	13 00 20.0	+0.6
WMQ				LR	LR		
	comp=Z,33nm,17.4s						
WMQ				LR	LR		
	comp=Z,51nm,15.4s						
MKAR	Makanchi Array	60.57	309	P	P	12 59 55.9	-2.8
	comp=Z,0.1nm,0.3s,baz=52,slow=6.1,SNR=7.0						
BRVK	Borovoye	61.28	320	eP	P	13 00 04.3	+1.0
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	Chiang Mai Arr	71.87	277	P	P	13 01 11.6	+0.2
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR	Chiang Mai Arr	71.87	277	P	P	13 01 11.6	+0.2
	comp=Z,2.1nm,0.7s,baz=29,slow=6.6,SNR=14						
RAO	Raoul Island	80.54	180	P	P	13 01 59.8	-0.3
	comp=Z,268nm,0.3s,baz=273,slow=23,SNR=5.3						
WRA	Warramunga Arr	82.83	225	P	P	13 02 12.4	0.0
	comp=Z,0.3nm,0.7s,baz=33,slow=6.0,SNR=4.1						
ASAR	Alice Springs	86.29	224	P	P	13 02 30.5	+0.8
	comp=Z,0.2nm,0.4s,baz=23,slow=5.7,SNR=7.2						
H03N2	Juan Fernandez	120.36	107	T	T	15 20 26.2	
	baz=315,slow=75,SNR=42						
H03N1	Juan Fernandez	120.37	107	T	T	15 20 28.4	
	baz=315,slow=75,SNR=68						
H03N3	Juan Fernandez	120.38	107	T	T	15 20 27.5	
	baz=315,slow=75,SNR=77						

ISCJB 25 13:05:20.9±0.5, 37.19N±0.04×71.82E±0.06, h100km, mb3.2/3, Error ellipse: s-maj=7.3km s-min=5.1km az=145.8
IDC 25 13:05:25.1±4.6, 37.30N×71.70E, h124km±34km, mb3.0/3, mb1 3.1/9, mb1mx3.0/51, mbtmp3.5/9, MS3.1/1, Ms1 3.1/1, ms1mx2.4/22, Error ellipse: s-maj=56.5km s-min=17.1km az=159.0
NNC 25 13:05:31.6±4.2, 37.74N×71.65E, h116km±76km, mb3.1, mpv3.8, Error ellipse: s-maj=35.5km s-min=23.9km az=12.0

ISC 25 13:05:22.3±0.8, 37.17N±0.08×71.83E±0.07, h100km, n25, σ1§44/30, mb3.3/3, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.83	20	⇑P	Pn	13 06 48.6	+2.3
	5.0nm,0.5s						
AAK				⇑S	Sn	13 07 49.8	-2.1
	12nm,0.6s						
AAK	Ala-Archa	5.83	20	P	Pn	13 06 48.9	+2.5
	3.3nm,0.3s,baz=182,slow=9.5,SNR=60						
AAK				S	Sn	13 07 49.8	-2.1
	0.9nm,0.3s,baz=114,slow=20,SNR=12						
KK31	Karatay Array	6.01	351	P	Pn	13 06 50.6	+1.9
	11nm,0.3s,baz=170,slow=12,SNR=220						
KK31				⇓S	Sn	13 07 53.3	-2.7
	2.7nm,0.2s,baz=189,slow=28,SNR=11						
TKM2	Tokmak 2	6.43	26	⇓P	Pn	13 06 57.5	+3.0
	2.9nm,0.9s						
TKM2				⇑S	Sn	13 08 05.6	-1.0
	2.3nm,0.6s						
GEYT	Alibeck	10.91	278	P	Pn	13 07 56.4	+1.0
	2.0nm,0.3s,baz=82,slow=7.2,SNR=6.6						
GEYT				S	Sn	13 09 53.8	-1.7
	1.4nm,0.3s,baz=123,slow=16,SNR=4.4						
MK31	Makanchi Array	12.36	36	P	P	13 08 21.8	-0.8
	0.3nm,0.5s,baz=202,slow=9.8,SNR=13						
MKAR	Makanchi Array	12.36	36	P	Pn	13 08 15.4	+0.7
	0.0nm,0.3s,baz=209,slow=14,SNR=2.7						
DANN	Dangsing	13.34	128	eP	Pn	13 08 27.1	-0.8
	14nm,0.3s						
KOLN	Koldanda	13.65	130	eP	Pn	13 08 31.1	-0.8
	4.6nm,0.2s						
GKN	Gorkha	14.14	127	eP	Pn	13 08 37.4	-0.8
	15nm,0.3s						
AB31	Akbulak array	14.84	328	⇑P	Pn	13 08 46.8	0.0
	0.6nm,0.3s,baz=138,slow=14,SNR=58						
AB31				⇑S	Sn	13 11 21.8	-8.6
	2.1nm,0.9s,baz=161,slow=21,SNR=4.4						
PKIN	Phulchoki	14.92	126	eP	Pn	13 08 48.3	0.0
	6.8nm,0.3s						
PKI	Pulchoki	14.93	126	eP	Pn	13 08 48.0	-0.5
	7.8nm,0.3s						
GUN	Gumba	15.01	124	eP	Pn	13 08 48.3	-1.2
	8.1nm,0.4s						
JIRN	Jiri	15.38	124	eP	Pn	13 08 53.9	-0.3
	18nm,0.3s						
BVAR	Borovoye Array	15.88	357	P	Pn	13 08 59.4	-0.6
	0.1nm,0.3s,baz=158,slow=7.2,SNR=3.5						
RAMN	Ramite	16.13	125	eP	Pn	13 09 02.3	-1.1
	12nm,0.4s						
AKTO	Aktyubinsk	16.55	328	⇑P	P	13 09 10.6	+1.6
	2.4nm,0.8s						
AKTO	Aktyubinsk	16.55	328	P	P	13 09 09.2	+0.2
	0.3nm,0.3s,baz=128,slow=18,SNR=9.5						
AKTO				LR	LR	13 16 42.7	
	comp=Z,65nm,18.3s,baz=353,slow=41						
TAPN	Taplejung	16.61	122	eP	Pn	13 09 09.3	-0.1
	5.5nm,0.3s						
ODAN	Odare	16.71	124	eP	Pn	13 09 10.1	-0.5
	8.9nm,0.6s						
ZALV	Zalesovo Beam	19.03	24	P	P	13 09 36.0	-0.2
	0.4nm,0.3s,baz=224,slow=12,SNR=7.1						
SONM	Songino Array	27.41	56	P	P	13 10 59.3	+0.8
	0.2nm,0.4s,baz=243,slow=9.4,SNR=2.7						
TORD	Torodi Ar. Bea	66.40	269	P	P	13 16 00.5	-0.4
	0.3nm,0.7s,baz=55,slow=5.8,SNR=2.7						
YKA	Yellowknife Ar	80.54	3	P	P	13 17 22.5	-0.6
	0.2nm,0.4s,baz=351,slow=5.3,SNR=7.3						

KLM 25 13:13:51.1, 4.01N×95.96E, h180km, mb3.9, ML4.2, MS5.9
ISCJB 25 13:13:54.9±0.5, 3.87N±0.07×96.29E±0.05, h63km, mb4.0/10, Error ellipse: s-maj=10.6km s-min=5.0km az=29.6
IDC 25 13:13:59.6±2.5, 4.07N×96.72E, h91km±22km, mb3.6/10, mb1 3.7/11, mb1mx3.5/40, mbtmp4.0/11, Error ellipse: s-maj=36.1km s-min=15.1km az=53.0
DJA 25 13:14:01.5±0.7, 4°N±4°×9°7E±°, h71km±12km, M4.1/4, mb4.6/1, mB4.9/1, MLv3.8/4, Mw(mB)4.1/1

ISC 25 13:13:56.2±0.7, 3.91N±0.07×96.34E±0.07, h63km, n29, σ1§56/28, mb3.9/10, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	1.45	25	P	Pn	13 14 24.3	+4.0
LHMI				S	Sn	13 14 41.3	+3.0
KCSI	Kotacane, Aceh	1.48	105	P	Pn	13 14 22.9	+2.2
KCSI				S	Sn	13 14 38.7	-0.5
SNSI	Sinabang, Aceh	1.49	181	P	Pn	13 14 27.9	+7.1
PSI	Prapat	2.80	113	P	Pn	13 14 41.1	+2.3
	22nm,0.3s,baz=304,slow=10,SNR=66						
PSI				S	Sn	13 15 10.9	-0.7
	22nm,0.3s,baz=9.1,slow=17,SNR=6.5						
MNSI	Mandailing Nat	4.47	134	P	Pn	13 15 03.5	+1.9
KULM	Kulim	4.51	72	⇑P	Pn	13 15 03.2	+1.2
IPM	Ipoh	4.71	83	⇑P	Pn	13 15 05.6	+0.8
PDSI	Padang	6.32	139	P	Pn	13 15 29.0	+2.2
KTGM	Kuala Trenggan	6.92	78	⇓P	Pn	13 15 34.9	-0.1
CMAR	Chiang Mai Arr	14.68	10	P	P	13 17 25.6	+0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.1nm,0.3s,baz=200,slow=12,SNR=5.8						
PALK	Pallekele	15.92	283	S	Sn	13 20 29.3	-2.9
	1.8nm,0.3s,baz=168,slow=7.5,SNR=5.4						
ODAN	Odare	24.38	340	ePn	P	13 19 09.2	+0.3
	9.4nm,0.6s						
TAPN	Taplejung	24.73	341	ePn	P	13 19 12.6	+0.5
	9.1nm,0.7s						
RAMN	Ramite	24.73	339	ePn	P	13 19 13.6	+1.5
	5.7nm,0.5s						
JIRN	Jiri	25.53	339	ePn	P	13 19 20.2	+0.7
	9.7nm,0.6s						
GUN	Gumba	25.87	338	ePn	P	13 19 23.0	+0.4
	6.3nm,0.4s						
H08S2	Diego Garcia H	26.42	244	T	T	13 46 58.2	
	baz=70,slow=80,SNR=19						
H08S3	Diego Garcia H	26.42	244	T	T	13 46 58.2	
	baz=70,slow=80,SNR=15						
H08S1	Diego Garcia H	26.43	244	T	T	13 46 58.2	
	baz=70,slow=80,SNR=17						
AAK	Ala-Archa	43.19	336	P	P	13 21 51.9	+0.8
	1.0nm,0.6s,baz=69,slow=4.0,SNR=4.4						
KSRS	Korea Array	44.16	37	P	P	13 21 56.6	-2.2
	0.8nm,0.6s,baz=224,slow=9.0,SNR=4.3						
WRA	Warramunga Arr	44.22	124	P	P	13 21 58.4	-1.2
	6.7nm,0.5s,baz=302,slow=9.1,SNR=89						
MKAR	Makanchi Array	44.42	346	P	P	13 22 00.2	-0.6
	0.7nm,0.4s,baz=153,slow=8.9,SNR=25						
SONM	Songino Array	44.61	10	P	P	13 22 01.6	-0.9
	0.6nm,0.4s,baz=187,slow=9.0,SNR=5.8						
SONM				PcP	PcP	13 23 43.7	-0.6
	0.8nm,0.6s,baz=194,slow=2.8,SNR=4.8						
ASAR	Alice Springs	45.73	129	P	P	13 22 10.3	-1.2
	0.5nm,0.4s,baz=301,slow=7.6,SNR=19						
TLY	Talaya	48.00	6	P	P	13 22 26.8	-2.0
	0.8nm,0.3s,baz=283,slow=5.3,SNR=4.5						
GEYT	Alibeck	48.61	319	P	P	13 22 35.6	+1.9
	1.6nm,0.5s,baz=184,slow=7.0,SNR=4.4						
ZALV	Zalesovo Beam	50.77	351	P	P	13 22 49.4	-0.5
	0.5nm,0.4s,baz=150,slow=6.1,SNR=3.7						
BRTR	Keskin Array B	66.67	312	P	P	13 24 41.9	+1.1
	1.0nm,0.7s,baz=134,slow=8.0,SNR=6.5						

IDC 25 13:25:04.4±8.5,18.67S×176.07W,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.5/22,mbtmp3.5/3,Error ellipse: s-maj=371.3km s-min=39.6km az=143.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.68	260	P	P	13 33 35.0	-0.3
	0.2nm,0.5s,baz=98,slow=7.4,SNR=5.6						
ASAR	Alice Springs	46.73	255	P	P	13 33 35.6	0.0
	0.6nm,0.5s,baz=83,slow=8.4,SNR=5.6						
ILAR	Eielson Array	86.14	12	P	P	13 37 46.9	0.0
	0.1nm,0.4s,baz=198,slow=5.7,SNR=5.1						

KRSC 25 13:28:51.9±2.0,50.32N×157.21E,h10km±4km,ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.79	298	P	Pg	13 29 07.0	-0.1
SKR				S	Sg	13 29 15.9	-1.4
PAU	Pauzhetka	1.18	348	P	Pg	13 29 14.9	+0.4
PAU				S	Sg	13 29 29.7	0.0
MIPR	Malaya Ipel'ka	1.98	352	P	Pn	13 29 25.8	+0.4
MIPR				S	Sn	13 29 49.6	-0.7
ASAK	Asacha	2.11	12	P	Pb	13 29 29.4	-0.9
ASAK				S	Sb	13 29 55.7	-1.0
MTVR	Mutnovka	2.25	15	P	Pb	13 29 31.5	-1.3
MTVR				S	Sb	13 29 59.2	-1.6
RUS	Russkaya	2.27	21	P	Pn	13 29 31.1	+1.7
RUS				S	Sn	13 29 58.6	+1.3
APC	Apacha	2.61	359	P	Pn	13 29 35.7	+1.7
APC				S	Sb	13 30 08.5	-2.3
PET	Petropavlovsk	2.85	18	P	Pn	13 29 40.0	+2.6
PET				S	Sn	13 30 14.5	+2.8
UGLR	Uglovaya	3.06	18	P	Pn	13 29 43.5	+3.1
UGLR				S	Sn	13 30 20.2	+3.0
AVH	Avacha	3.10	17	P	Pb	13 29 44.3	-2.8
AVH				S	Sn	13 30 21.4	+3.4
KOK	Koryaka	3.10	16	P	Pb	13 29 44.7	-2.6
KOK				S	Sb	13 30 23.1	-2.2
SMAR	Somma	3.11	18	P	Pb	13 29 44.6	-2.9
KRER	Koryakskii	3.14	17	P	Pn	13 29 44.7	+3.1
KRER				S	Sb	13 30 23.1	-3.3
SDLR	Sedlovina	3.14	19	P	Pn	13 29 43.9	+2.4
SDLR				S	Sn	13 30 20.8	+1.7
KRX	Arik	3.17	16	P	Pn	13 29 45.1	+3.1
KRX				S	Sb	13 30 23.9	-3.4
GNL	Ganaly	3.41	7	P	Pn	13 29 47.8	+2.6
MKZ	Mys Kozlova	5.06	31	P	Pn	13 30 10.5	+2.8
TUMR	Tumrok	5.28	19	eP	Pn	13 30 15.8	+4.9
KBTR	Krutoberegovo	6.79	28	P	Pn	13 30 33.9	+2.5

IDC 25 13:31:21.4±2.6,22.02S×69.46W,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.5/17,mbtmp3.4/3,ML3.8/1,Error ellipse: s-maj=76.9km s-min=56.2km az=64.0
ISCJB 25 13:31:39.2±0.7,20.85S±0.04×69.2W±0.1,h118km±7km, mb3.2/2,Error ellipse: s-maj=19.0km s-min=6.4km az=172.8
GUC 25 13:31:39.1±0.7,20.82S×69.17W,h112km±4km,ML3.5
ISC 25 13:31:39.8±0.9,20.85S±0.04×69.3W±0.1,h113km±8km, n15,σ0.66/20,3C-5D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB01	Plate Boundary	0.30	229	⇓eP	Pn	13 31 55.6	-0.5
PB01				eS	Sn	13 32 08.2	-0.2
PB01				AML	AML	13 32 08.6	
	comp=N,3μm,0.2s						
HMBC	Humberstone	0.83	313	⇓eP	Pn	13 31 59.7	-0.1
HMBC				eS	Sn	13 32 14.8	-0.1
HMBC				AML	AML	13 32 15.7	
	comp=N,2μm,0.5s						
PATCX	Punta Patache	0.85	272	⇓eP	Pn	13 32 00.4	+0.5
PATCX				eS	Sn	13 32 16.2	+1.1
PATCX				AML	AML	13 32 17.4	
	comp=N,945nm,0.5s						
PB09	Plate Boundary	0.94	180	⇓eP	Pn	13 32 01.1	+0.1
PB09				eS	Sn	13 32 17.6	+0.7
PB09				AML	AML	13 32 18.6	
	comp=N,4μm,0.4s						
PB07	Plate Boundary	1.06	214	⇓eP	Pn	13 32 02.5	+0.4
PB07				eS	Sn	13 32 19.2	+0.3
PB07				AML	AML	13 32 20.6	
	comp=E,969nm,0.2s						
PSGC	Pisagua	1.49	326	⇑eP	Pn	13 32 06.4	-0.5
PSGC				eS	Sn	13 32 26.8	-0.6
PSGC				AML	AML	13 32 28.5	
	comp=E,371nm,0.2s						
MNMC	Minimini	1.74	349	⇑eP	Pn	13 32 09.8	-0.2
MNMC				eS	Sn	13 32 33.1	+0.1
MNMC				AML	AML	13 32 35.8	
	comp=E,1μm,0.2s						
PB06	Plate Boundary	1.87	189	⇑eP	Pn	13 32 11.7	+0.1
PB06				eS	Sn	13 32 35.2	-0.6
PB06				AML	AML	13 32 37.6	
	comp=E,320nm,0.4s						
LPAZ	La Paz	4.66	13	Pn	Pn	13 32 50.1	+1.4
	comp=E,1.3nm,0.3s,baz=209,slow=5.6,SNR=28						
H03N1	Juan Fernandez	15.20	212	T	T	13 50 19.2	
	baz=34						
H03N2	Juan Fernandez	15.21	212	T	T	13 50 23.3	
	baz=34						
H03N3	Juan Fernandez	15.21	212	T	T	13 50 26.0	
	baz=34						
TORD	Torodi Ar. Bea	77.44	71	P	P	13 43 22.0	-1.1
	comp=E,0.2nm,0.5s,baz=258,slow=6.3,SNR=4.0						
YKA	Yellowknife Ar	90.47	341	P	P	13 44 28.7	+0.5
	comp=E,0.1nm,0.4s,baz=131,slow=4.0,SNR=3.7						
MKAR	Makanchi Array	145.29	35	PKPbc	PKPab	13 51 04.6	+0.2
	comp=E,0.3nm,0.6s,baz=339,slow=4.4,SNR=3.2						

IDC 25 13:34:34.6±56.0,17.05S×174.17W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/23,mbtmp3.8/3,Error ellipse: s-maj=1058.0km s-min=181.7km az=80.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.59	241	P	P	13 42 32.5	0.0
	1.4nm,0.8s,baz=80,slow=8.6,SNR=4.5						
WRA	Warramunga Arr	48.77	258	P	P	13 43 21.2	-0.4
	0.5nm,0.8s,baz=96,slow=7.1,SNR=6.9						
ASAR	Alice Springs	48.91	253	P	P	13 43 22.9	0.0
	1.4nm,0.7s,baz=87,slow=8.3,SNR=14						

IDC 25 13:58:27.4±1.6,1.44N×125.53E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/49,mbtmp3.6/4,Error ellipse: s-maj=175.9km s-min=23.0km az=64.0
ISCJB 25 13:58:38.6±1.0,1.01N±0.09×125.81E±0.06,h50km, mb3.5/4,Error ellipse: s-maj=13.6km s-min=7.5km az=15.6
DJA 25 13:58:39.8±0.4,1°N±4°×12°6E±°,h44km±30km,M4.0/10, mb4.2/7,MB4.7/2,MLv3.9/10,Mw(mB)3.9/2
ISC 25 13:58:39.5±1.3,1.1N±0.1×125.79E±0.05,h50km,n15, σ2.34/19,mb3.5/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	1.60	100	P	Pn	13 59 06.0	+0.6
TNTI				S	Sn	13 59 29.1	+4.2
KMSI	Cibinong	1.87	255	P	Pn	13 59 10.0	+1.0
KMSI				S	Sn	13 59 34.8	+3.4
LBMI	Labuha	2.40	134	P	Pn	13 59 18.2	+1.9
LBMI				S	Sn	13 59 48.0	+3.5
SANI	Sanana	3.09	176	P	Pn	13 59 26.1	+0.4
SANI				S	Sn	14 00 01.2	-0.2
LUWI	Luwuk	3.66	235	P	Pn	13 59 36.6	+3.0
MRSI	Marisa	3.89	262	P	Pn	13 59 37.4	+0.7
MSAI	Masohi	5.38	144	P	Pn	13 59 56.4	-0.8
	14nm,0.9s,354nm0.1nm						
MPSI	Mapaga	5.93	263	P	Pn	14 00 05.5	+0.7
	9.9nm,0.7s,0.0nm						
TTSI	Tana Toraja	7.22	236	P	Pn	14 00 23.3	+0.8
	20nm,1.1s,900nm						
SPSI	Sidrap Palu	7.81	230	P	Pn	14 00 32.3	+1.7
	24nm,0.7s						
BKSI	Bulukumba	8.49	222	P	Pn	14 00 41.8	+1.9
WRA	Warramunga Arr	22.48	159	P	P	14 03 32.5	-2.3
	1.8nm,0.6s,baz=337,slow=11,SNR=18						
ASAR	Alice Springs	25.80	163	P	P	14 04 04.5	-1.6
	0.7nm,0.6s,baz=342,slow=10.0,SNR=10						
ASAR				PcP	PcP	14 07 31.1	-3.8
	0.2nm,0.5s,baz=348,slow=2.4,SNR=4.2						
STKA	Stephens Creek	36.01	157	P	P	14 05 35.0	-0.9
	0.4nm,0.3s,baz=333,slow=9.0,SNR=3.7						
MKAR	Makanchi Array	59.23	327	P	P	14 08 27.3	-8.4
	0.1nm,0.4s,baz=120,slow=7.7,SNR=3.1						

NEIC 25 14:01:18.8,61.92N×141.47W,h8km,mb4.1/3, ML4.0(AEIC),MW4.0(OTT),After AEIC.
IDC 25 14:01:19.6±0.8,61.99N×141.50W,h0km,mb3.9/10, mb1 4.1/12,mb1mx3.8/47,mbtmp3.8/12,ML3.4/2,MS3.1/4, Ms1 3.1/4,ms1mx2.7/42,Error ellipse: s-maj=22.1km s-min=10.5km az=39.0
PGC 25 14:01:25.1±8.4,62.07N×140.86W,h30km,ML4.3/3, Mw4.0,230km Wnw of Haines Jct., Yt Southern Yukon Territory, Canada
ISC 25 14:01:19.6±1.3,61.95N±0.03×141.46W±0.03,h1km±9km, n96,σ1.25/107,mb4.0/12,MS3.1/3,6D,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTGM	Chitina Glacie	0.99	176	P	Pg	14 01 37.2	-1.2
BALM	Baldy	1.01	205	P	Pg	14 01 37.9	-1.0
BCA3	Beaver Creek A	1.13	352	P	Pb	14 01 41.0	-1.1
BCA3				S	Sg	14 01 57.4	+1.4
GLB	Gilahina Butte	1.23	247	P	Pn	14 01 42.3	-1.6
WASW	Wrangell South	1.28	270	P	Pn	14 01 44.1	-0.8
MENT	Mentasta	1.45	314	P	Pn	14 01 47.2	+0.2
HARP	HAARP	1.79	287	P	Pn	14 01 51.9	+0.1
BMRM	Bremner River	1.80	238	P	Pn	14 01 51.3	-0.5
BMRM				S	Sb	14 02 17.6	+1.2
PS12	TAPS Pump St12	1.82	257	P	Pn	14 01 52.9	+0.8
PS12				S	Sb	14 02 16.6	-0.3
CHX	Chaix Hills	1.90	175	P	Pb	14 01 54.5	-0.5
PS11	TAPS Pump St11	1.90	276	P	Pn	14 01 54.1	+1.0
DOT	Dot Lake	2.09	326	P	Pn	14 01 55.5	-0.2
DOT				S	Sb	14 02 23.2	-1.4
GOAT	Goat Mountain	2.09	231	P	Pn	14 01 56.1	+0.3
GOAT				S	Sb	14 02 24.2	-0.6
PAX	Paxson	2.13	301	P	Pn	14 01 56.3	-0.1
PAX				S	Sn	14 02 24.3	+0.8
KLU	Klutina	2.17	260	P	Pn	14 01 57.7	+0.8
KLU				S	Sb	14 02 27.1	-0.1
RAGM	Ragged Mountai	2.21	226	P	Pb	14 01 59.2	-1.1
HYT	Haines Junctio	2.21	119	⇓Pn	Pb	14 01 59.1	-1.3
HYT				⇑Pg	Pg	14 02 01.9	-0.1
HYT				⇑Sg	Sg	14 02 31.9	+1.4
HYT	Haines Junctio	2.21	119	P	Pn	14 01 58.8	+1.3
DIV	Divide	2.22	250	P	Pn	14 01 59.1	+1.5
SGAM	Sherman Glacie	2.32	233	P	Pn	14 02 00.6	+1.6
DAWY	Dawson	2.33	23	⇑Pn	Pn	14 01 59.1	+0.1
DAWY				⇑Pg	Pb	14 02 02.8	+0.5
DAWY				⇓Sg	Sb	14 02 32.8	+1.1
DAWY	Dawson	2.33	23	P	Pn	14 01 59.0	-0.1
SCRK	Sand Creek	2.34	332	P	Pn	14 01 59.2	-0.2
VLZ	Valdez	2.47	253	P	Pn	14 02 02.3	+1.4
PS10	TAPS Pump St10	2.48	309	P	Pn	14 02 02.0	+0.9
KAIM	Kayak Island	2.49	217	P	Pb	14 02 03.4	-1.6
EYAK	Cordova Ski Ar	2.50	238	P	Pn	14 02 03.2	+1.8
JPK	Jack Peak	2.62	252	P	Pn	14 02 04.3	+1.2
DDM	Donnelly Dome	2.74	314	P	Pn	14 02 05.4	+0.7
SCM	Sheep Creek Mo	2.78	270	P	Pn	14 02 06.2	+0.9
EGAK	Eagle	2.85	3	P	Pn	14 02 06.5	+0.4
GLI	Glacier Island	2.91	251	P	Pn	14 02 08.0	+1.0
DHY	Denali Highway	2.97	295	P	Pn	14 02 09.0	+1.1
WHY	Whitehorse	3.43	109	⇓Pn	Pn	14 02 12.4	-1.8
WHY				⇓Pg	Pb	14 02 20.8	-0.3
WHY				⇑Sg	Sb	14 03 06.2	+3.0
WHY	Whitehorse	3.43	109	P	Pn	14 02 12.4	-1.8
PWL	Port Wells	3.48	255	P	Pn	14 02 16.0	+1.1
PS08	TAPS Pump Stn8	3.56	319	P	Pn	14 02 15.0	-0.9
PMR	Palmer	3.66	268	P	Pn	14 02 19.0	+1.7
RND	Reindeer	3.71	297	P	Pn	14 02 20.3	+2.3
IL1	Eielson Array	3.74	322	P	Pn	14 02 17.3	-1.2
ILAR	Eielson Array	3.74	322	Pn	Pn	14 02 17.2	-1.3
	4.8nm,0.3s,baz=146,slow=12,SNR=192						
ILAR				Lg	Lg	14 03 17.5	
	72nm,0.3s,baz=130,slow=29,SNR=19						
PTE	Portage	3.79	257	P	Pn	14 02 20.5	+1.3
MCK	McKinley	3.87	301	P	Pn	14 02 21.7	+1.5
MCK				ePg	Pg	14 02 38.3	+4.7
MCK				eSg	Sg	14 03 27.1	+3.4
WRH	Wood River Hil	3.93	313	P	Pn	14 02 20.9	-0.1
CCB	Clear Creek Bu	3.94	316	P	Pn	14 02 20.4	-0.8
RC01	Rabbit Creek A	4.06	261	P	Pn	14 02 24.3	+1.6
COLA	College	4.11	318	P	Pn	14 02 22.8	-0.6
CUT	Chulitna	4.16	280	P	Pn	14 02 26.4	+2.3
BWN	Browne	4.27	305	P	Pn	14 02 27.7	+2.0
MDM	Murphy Dome	4.29	318	P	Pn	14 02 25.3	-0.7
SEW	Seward	4.30	248	P	Pn	14 02 26.5	+0.4
TRF	Thorofare Moun	4.34	294	P	Pn	14 02 28.8	+2.0
SUA	Susitna One	4.45	268	P	Pn	14 02 29.9	+1.7
SLKM	Skilak Lake	4.47	255	P	Pn	14 02 29.8	+1.3
KTH	Kantishna Hill	4.64	294	P	Pn	14 02 32.7	+1.8
BESE	Bessie Mountai	4.71	133	P	Pn	14 02 31.3	-0.6
SKT	Skwentna	4.75	275	P	Pn	14 02 34.5	+2.1
FYU	Fort Yukon	4.92	342	P	Pn	14 02 35.7	+1.1
STLK	Strandline Lak	4.96	269	P	Pn	14 02 36.9	+1.7
PPLA	Purkeypile	5.08	286	P	Pn	14 02 39.0	+2.1
MLY	Manley	5.18	311	P	Pn	14 02 37.0	-0.4
PS06	TAPS Pump Stn6	5.36	321	P	Pn	14 02 40.9	+0.3
BM3	Burnt Mountain	5.66	348	P	Pn	14 02 45.6	+0.8
RSO	Redoubt South	5.66	260	ePn	Pn	14 02 45.4	+0.5
	53nm,0.5s						
RDWB	Redoubt West	5.69	260	P	Pn	14 02 46.0	+0.6
SIT	Sitka	5.81	145	P	Pn	14 02 48.4	+1.6
COLD	Coldfoot	6.50	328	P	Pn	14 02 56.9	+0.6
DLBC	Dease Lake	6.70	117	⇑Pn	Pn	14 02 58.0	-1.0
DLBC				⇑Sg	Sg	14 04 47.6	-6.8
DLBC	Dease Lake	6.70	117	P	Pn	14 02 58.4	-0.7
IM3	Indian Mountai	6.75	312	P	Pn	14 02 59.5	-0.2
IM04	Indian Mountai	6.76	312	ePn	Pn	14 02 59.9	+0.1
TT01	Tatalina	6.83	285	P	Pn	14 03 01.2	+0.5
KDAK	Kodiak Island	6.98	238	P	Pn	14 03 04.1	+1.2
WRAK	Wrangell Islan	7.25	136	P	Pn	14 03 06.0	-0.5
OHAK	Old Harbor	7.64	237	P	Pn	14 03 12.0	+0.1
FNBB	Fort Nelson	9.62	100	⇓Pn	Pn	14 03 37.5	-1.5
GALN	Gameti Lake	11.15	68	⇑Pn	Pn	14 03 58.2	-1.7
YKW3	Yellowknife Ar	12.49	75	⇓Pn	Pn	14 04 15.7	-2.5
YKA	Yellowknife Ar	12.50	76	Pn	Pn	14 04 16.6	-1.8
	0.2nm,0.3s,baz=271,slow=13,SNR=17						
YKA				Lg	Lg	14 07 50.7	
	0.1nm,0.3s,baz=278,slow=28,SNR=4.3						
NEW	Newport	19.36	124	LR	LR	14 12 42.8	
	comp=Z,47nm,19.6s,baz=329,slow=35						
RES	Resolute Bay	20.63	33	eP	P	14 05 58.7	-1.3
	5.1nm,0.8s						
FFC	Flin Flon	21.65	91	eP	P	14 06 13.0	+1.9
	6.2nm,0.8s						
PINOR	Pine Mountain	21.83	137	eP	P	14 06 12.0	-1.0
	15nm,1.1s						
FX1	Attu Island--F	25.55	270	LR	LR	14 16 53.4	
	comp=Z,16nm,19.9s,baz=55,slow=37						
ELK	Elko	26.47	131	P	P	14 06 58.8	+0.5
	1.5nm,0.9s,baz=355,slow=1.0,SNR=4.3						
ELK				LR	LR	14 18 28.4	
	comp=Z,51nm,18.4s,baz=350,slow=39						
PDAR	Pinedale Array	26.91	121	P	P	14 07 03.2	+1.0
	1.3nm,0.8s,baz=334,slow=6.0,SNR=14						
NVAR	Mina Array Bea	27.52	138	P	P	14 07 08.4	+0.7
	0.7nm,0.7s,baz=324,slow=7.0,SNR=7.3						
SEY	Seymchan	29.43	302	P	P	14 07 24.2	+0.1
	1.9nm,0.5s,baz=67,slow=5.4,SNR=9.8						
TXAR	Lajitas Array	40.91	125	P	P	14 09 04.2	+0.8
	0.5nm,0.6s,baz=334,slow=6.9,SNR=7.1						
NOA	NORSAR Array B	55.57	16	P	P	14 10 56.3	+0.2
	1.3nm,0.9s,baz=344,slow=7.2,SNR=3.2						
FINES	FINESS Array B	56.57	7	P	P	14 11 02.4	-0.7
	1.7nm,0.8s,baz=27,slow=9.4,SNR=5.0						
SONM	Songino Array	57.92	313	P	P	14 11 13.9	+0.8
	0.5nm,0.9s,baz=36,slow=5.4,SNR=4.6						
MKAR	Makanchi Array	66.07	329	LR	LR	14 46 01.4	
	comp=Z,19nm,18.5s,baz=88,slow=41						
AKASG	Malin Array Be	67.46	6	P	P	14 12 15.8	-0.6
	1.7nm,0.5s,baz=357,slow=6.4,SNR=13						
BRTR	Keskin Array B	78.60	4	P	P	14 13 22.8	0.0
	1.1nm,0.8s,baz=0.0,slow=2.5,SNR=4.9						
QSPA	South Pole Qui	151.76	180	PKPbc	PKPbc	14 21 13.0	-1.2
	3.9nm,0.9s,baz=38,slow=19,SNR=21						

BJI 25 14:06:13.1,29.38N×81.29E,h32km,mB4.5/12,mb4.3/31, Ms3.8/6,Ms7 3.6/7
IDC 25 14:06:14.2±0.6,29.58N×81.70E,h0km,mb4.2/24, mb1 4.4/27,mb1mx4.2/49,mbtmp4.2/27,ML4.0/3,MS3.3/8, Ms1 3.3/8,ms1mx3.1/39,Error ellipse: s-maj=17.0km s-min=12.6km az=34.0
MOS 25 14:06:17.7±1.0,29.66N×81.66E,h33km,mb4.6/20,Error ellipse: s-maj=9.4km s-min=4.8km az=109.5
ISCJB 25 14:06:17.4±0.2,29.75N±0.03×81.67E±0.03,h27km, mb4.3/51,MS3.3/7,Error ellipse: s-maj=5.1km s-min=2.0km az=31.4
DMN 25 14:06:17.8±0.3,29.78N×81.52E,h10km,Ml4.7/11,Error ellipse: s-maj=11.9km s-min=4.9km az=30.0
NEIC 25 14:06:19.8±1.1,29.70N×81.68E,h35km±9km,mb4.3/5, Error ellipse: s-maj=9.0km s-min=5.9km az=217.0
NDI 25 14:06:20.1±2.9,29.57N×81.75E,h33km,ML4.2, mb4.3(NEIC)
ISC 25 14:06:19.2±0.4,29.76N±0.05×81.71E±0.03,h27km,n192, σ1.24/205,mb4.4/51,MS3.3/7,10C-5D,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LGTI	Lohaghat	1.32	257	eP	Pb	14 06 43.5	+0.3
LGTI				eS	Sb	14 07 03.1	+3.4
PTH	Pithoragarh	1.32	261	eP	Pn	14 06 41.1	-0.9
DANN	Dangsing	2.28	128	ePn	Pn	14 06 55.9	+0.6
DANN				eSn	Sn	14 07 24.1	+1.4
	2μm,0.8s						
KOLN	Koldanda	2.59	140	ePn	Pn	14 06 59.7	+0.2
KOLN				eSn	Sn	14 07 31.5	+1.4
	2μm,0.9s						
GKN	Gorkha	3.11	124	ePn	Pn	14 07 07.4	+0.8
GKN				eSn	Sn	14 07 43.8	+0.9
	490nm,0.2s						
DDI	Dehra Dun	3.22	281	eP	Pn	14 07 10.2	+2.2
DDI				eS	Sn	14 07 44.1	-1.4
DDI				AML	AML	14 08 02.6	
	comp=E,1μm,0.3s						
DDI				AML	AML	14 08 07.4	
	comp=N,2μm,0.1s						
DMN	Daman	3.67	125	ePn	Pn	14 07 15.0	+0.5
DMN				eSn	Sn	14 07 57.9	+0.9
KKN	Kakani	3.70	121	ePn	Pn	14 07 15.3	+0.6
KKN				eSn	Sn	14 07 57.7	+0.1
	comp=N,182nm,0.2s						
PKIN	Phulchoki	3.90	123	ePn	Pn	14 07 18.1	+0.5
PKIN				eSn	Sn	14 08 03.1	+0.4
	comp=N,280nm,0.3s						
PKI	Pulchoki	3.91	123	ePn	Pn	14 07 17.9	+0.1
PKI				eSn	Sn	14 08 02.8	-0.3
	comp=N,166nm,0.2s						
NDI	New Delhi	4.08	256	eP	Pn	14 07 21.0	+1.3
NDI				eS	Sn	14 08 05.0	-1.6
GUN	Gumba	4.09	116	ePn	Pn	14 07 20.9	+0.6
GUN				eSn	Sn	14 08 08.2	+0.7
	comp=N,236nm,0.3s						
SMLA	Simla	4.16	290	eP	Pn	14 07 22.9	+2.1
SMLA				eS	Sn	14 08 07.8	-0.7
SMLA				AML	AML	14 08 32.3	
	comp=E,512nm,0.5s						
SMLA				AML	AML	14 08 33.6	
	comp=N,507nm,0.2s						
SDNR	Sundarnagar	4.44	294	eP	Pn	14 07 27.5	+2.7
SDNR				ex	x	14 08 41.5	
JIRN	Jiri	4.46	117	ePn	Pn	14 07 26.5	+1.2
JIRN				eSn	Sn	14 08 16.0	-0.5
	comp=N,270nm,0.2s						
BHK	Bhakra	4.86	291	ex	Pn	14 07 35.6	+5.1
RAMN	Ramite	5.14	122	ePn	Pn	14 07 34.8	+0.2
RAMN				eSn	Sn	14 08 31.7	-1.4
	comp=N,445nm,0.3s						
DHRM	DHARAMSHALA	5.27	299	eP	Pn	14 07 37.0	+0.7
DHRM				eS	Sn	14 08 35.1	-1.1
PONG	Pong	5.42	295	ex	Pn	14 07 45.5	+7.4
PONG				ex	Sb	14 08 50.5	-7.0
DLH	Dalhousie	5.65	301	eP	Pn	14 07 43.0	+1.4
DLH				eS	Sn	14 08 46.0	+0.3
ODAN	Odare	5.78	119	ePn	Pn	14 07 44.0	+0.6
ODAN				eSn	Sn	14 08 47.1	-1.9
	comp=N,124nm,0.2s						
TAPN	Taplejung	5.80	113	ePn	Pn	14 07 44.5	+0.8
TAPN				eSn	Sn	14 08 48.0	-1.4
	comp=N,182nm,0.6s						
BOK	Bokaro	7.02	147	eP	Pn	14 07 57.7	-2.5
BOK				eS	Sn	14 09 10.3	-8.8
BHPL	Bhopal	7.55	212	eP	Pn	14 08 03.7	-3.8
BHPL				ex	x	14 09 20.1	
SARP	Sargodha	8.07	288	P	Pn	14 08 12.8	-1.7
CHCP	Chirah Chowk	8.18	300	P	Pn	14 08 15.9	-0.2
LSA	Lhasa	8.21	88	eP	Pn	14 08 19.1	+2.2
LSA				pmax	pmax		
	comp=Z,11nm,0.4s						
LSA	Lhasa	8.21	88	ePn	Pn	14 08 19.1	+2.2
	comp=Z,11nm,0.4s						
NGP	Nagpur	8.91	196	eP	Pn	14 08 22.8	-3.4
NGP				eS	Sn	14 09 54.5	-11
CEP	Cherat	9.27	298	P	Pn	14 08 31.1	-0.1
CEP				S	Sn	14 10 12.0	-2.7
SHL	Shillong	9.94	112	eP	Pn	14 08 39.2	-1.2
SHL				ex	x	14 10 24.1	
KBL	Kabul	11.74	297	eP	Pn	14 09 01.1	-4.0
KBL				e		14 11 09.0	
KBL	Kabul	11.74	297	ePn	Pn	14 09 01.1	-4.0
KBL				eSn	Sn	14 11 09.0	-6.5
VIS	Vishakhapatnam	12.08	173	ex	Pn	14 09 04.1	-5.5
VIS				i x	x	14 11 06.2	
HYB	Hyderabad	12.63	194	eP	Pn	14 09 09.5	-7.6
HYB	Hyderabad	12.63	194	i P	Pn	14 09 09.5	-7.6
HYB				eS	Sn	14 11 21.5	-15
HYB	Hyderabad	12.63	194	eP	Pn	14 09 09.5	-7.6
HYB				eS	Sn	14 11 21.5	-15
ULHL	Ulahol	13.21	342	P	Pn	14 09 24.9	-0.3
	SNR=7.6						
ULHL	Ulahol	13.21	342	i P	Pn	14 09 24.9	-0.3

UCH Uchtor 13.73 337 P Pn 14 09 31.2 -1.2
SNR=23
UCH Uchtor 13.73 337 iP Pn 14 09 31.2 -1.2
AML Almayashu 13.94 334 P Pn 14 09 33.5 -1.7
SNR=30
KBK Karagaybulak 13.97 339 P Pn 14 09 37.4 +1.9
SNR=9.8
TKM2 Tokmak 2 14.02 341 P Pn 14 09 38.1 +2.0
SNR=6.5
TKM2 Tokmak 2 14.02 341 P Pn 14 09 37.7 +1.5
TKM2 pmax pmax
comp=Z,11nm,1.5s
TKM2 Tokmak 2 14.02 341 eP Pn 14 09 35.9 -0.2
comp=Z,3.9nm,0.8s
AAK Ala-Archa 14.09 338 P Pn 14 09 37.6 +0.5
SNR=8.2
AAK Ala-Archa 14.09 338 iP Pn 14 09 37.6 +0.5
AAK Ala-Archa 14.09 338 Pn Pn 14 09 36.7 -0.4
comp=Z,0.6nm,0.3s,baz=168,slow=15,SNR=15
AAK LR LR 14 15 05.3
comp=Z,35nm,18.8s,baz=136,slow=37
AAK Ala-Archa 14.09 338 eP Pn 14 09 37.7 +0.5
comp=Z,20nm,0.9s
KAD Karad 14.19 211 ex Pn 14 09 31.3 -7.1
KAD ex x 14 11 57.5
FRU Bishkek 14.23 338 eP Pn 14 09 41.9 +3.0
FRU pmax pmax
comp=Z,10.0nm,1.1s
EKS2 Erkin-Say 14.37 336 P P 14 09 51.1 +3.6
SNR=11
EKS2 Erkin-Say 14.37 336 eP Pn 14 09 38.4 -2.4
EKS2 pmax pmax
comp=Z,30nm,0.9s
EKS2 Erkin-Say 14.37 336 eP Pn 14 09 38.4 -2.4
comp=Z,30nm,0.9s
WMQ Urumqi 14.82 17 eP Pn 14 09 46.5 -0.4
WMQ pP P 14 09 59.8 +7.3
WMQ sP 14 10 05.0
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,170nm,5.6s
WMQ Urumqi 14.82 17 eP Pn 14 09 46.5 -0.4
WMQ Urumqi 14.82 17 eP Pn 14 09 46.5 -0.4
KK31 Karatay Array 16.06 329 eP Pn 14 10 00.3 -2.7
KK31 pmax pmax
comp=Z,1.0nm,0.2s
MK31 Makanchi Array 17.01 1 eP Pn 14 10 14.1 -1.0
MK31 Makanchi Array 17.01 1 ePn Pn 14 10 14.1 -1.0
MKAR Makanchi Array 17.01 1 P Pn 14 10 14.2 -0.9
comp=Z,0.4nm,0.3s,baz=181,slow=12,SNR=35
MKAR S Sn 14 13 18.2 -5.1
baz=180,slow=23,SNR=3.2
MKAR LR LR 14 18 00.6
comp=Z,121nm,20.1s,baz=180,slow=41
GTA Gaotai 17.71 52 P Pn 14 10 25.0 +1.0
GTA pP pP 14 10 34.8 +2.8
GTA sP sP 14 10 39.0 +3.5
GTA pmax pmax
comp=Z,17nm,1.5s
GTA pmax pmax
comp=Z,130nm,6.2s
GTA LR LR
comp=Z,130nm,15.2s
GTA LR LR
comp=Z,65nm,15.7s
GTA LR LR
comp=Z,110nm,16.6s
KMI Kunming 19.22 99 P P 14 10 41.5 0.0
KMI pmax pmax
comp=Z,10.0nm,1.2s
CMAR Chiang Mai Arr 19.31 122 P P 14 10 41.9 -0.4
comp=Z,0.2nm,0.3s,baz=311,slow=10,SNR=30
CMAR LR LR 14 19 54.5
comp=Z,48nm,19.9s,baz=292,slow=43
KURK Kurchatov 21.06 355 P P 14 11 01.1 +0.1
KURK pmax pmax
comp=Z,12nm,1.0s
KURK Kurchatov 21.06 355 eP P 14 11 00.7 -0.3
comp=Z,14nm,1.0s
GEYT Alibeck 21.18 299 P P 14 11 02.7 +0.1
comp=Z,2.6nm,0.8s,baz=110,slow=12,SNR=6.9
GEYT LR LR 14 20 25.4
comp=Z,33nm,19.6s,baz=290,slow=40
PALK Pallekele 22.39 183 iP P 14 11 19.8 +4.2
PALK Pallekele 22.39 183 P P 14 11 14.3 -1.3
comp=Z,7.1nm,0.7s,baz=357,slow=9.1,SNR=4.3
PALK LR LR 14 20 07.6
comp=Z,203nm,20.7s,baz=219,slow=38
HVS Khovu-Aksy 23.16 19c iP P 14 11 24.2 +0.8
ENH Enshi 24.03 82 P P 14 11 31.5 -0.5
comp=Z,6.5nm,0.7s
ZALV Zalesovo Beam 24.27 4 P P 14 11 35.0 +1.1
ZALV Zalesovo Beam 24.27 4 P P 14 11 35.0 +1.1
comp=Z,14nm,0.6s,baz=190,slow=10.0,SNR=66
BVA0 Borovoye Array 24.68 343 iP P 14 11 38.0 +0.3
BVA0 pmax pmax
comp=Z,11nm,1.3s
BVAR Borovoye Array 24.68 343 P P 14 11 38.4 +0.7
comp=Z,4.2nm,0.6s,baz=148,slow=8.7,SNR=25
BRVK Borovoye 24.74 343d iP P 14 11 39.3 +1.1
BRVK pmax pmax
comp=Z,6.0nm,0.8s
NVS Novosibirsk 25.08 2⇑iP P 14 11 41.4 +0.1
NVS e 14 12 32.6
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,3.0nm,0.6s
AB31 Akbulak array 25.55 326 P P 14 11 46.9 +1.3
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 25.55 326 P P 14 11 44.8 -0.8
SONM Songino Array 26.20 40 P P 14 11 53.8 +2.2
comp=Z,8.4nm,0.9s,baz=225,slow=9.4,SNR=63
SONM PcP PcP 14 15 17.7 -0.4
comp=Z,0.6nm,0.8s,baz=222,slow=4.2,SNR=4.0
SONM LR LR 14 23 40.6
comp=Z,61nm,19.5s,baz=222,slow=40
ZAK Zakamensk 26.22 32 eP P 14 11 52.6 +0.8
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 26.58 40c iP P 14 11 57.0 +1.9
ULN pmax pmax
comp=Z,12nm,1.2s
ULN Ulaanbaatar 26.58 40 eP P 14 11 55.9 +0.8
comp=Z,11nm,1.1s
AKTO Aktyubinsk 27.27 326 P P 14 12 02.0 +0.9
comp=Z,4.2nm,0.7s,baz=125,slow=9.0,SNR=20
TLY Talaya 27.29 30 LR LR 14 23 50.8
comp=Z,84nm,19.8s,baz=187,slow=38
ARU Arti 31.26 335d iP P 14 12 37.5 +1.1
ARU i 14 13 36.4
ARU S S 14 17 43.6 +2.4
ARU SS SnSn 14 19 25.8 +0.9
ARU pmax pmax
comp=Z,8.0nm,1.0s
ZEI Tsey 32.86 304 eP P 14 12 49.8 -1.1
ZEI pmax pmax
comp=Z,13nm,1.4s
KBZ Khabaz 33.76 305 P P 14 12 59.0 +0.6
comp=Z,2.3nm,0.7s,baz=91,slow=6.9,SNR=7.4
KIV Kislovodsk 33.96 305 eP P 14 13 02.2 +1.9
KIV pmax pmax
comp=Z,10.0nm,0.9s
KIV MLR MLR
comp=Z,36nm,16.0s
HIA Hailar 34.73 45 eP P 14 13 07.9 +1.0
HIA pmax pmax
comp=Z,6.0nm,1.0s
BOD Bodaibo 35.84 29 eP P 14 13 17.1 +0.8
BOD pmax pmax
comp=Z,5.0nm,1.2s
MALT Malatya 36.60 295⇑iP P 14 13 24.9 +1.8
BR131 Keskin Array S 40.32 298 eP P 14 13 53.0 -1.5
comp=Z,2.6nm,0.7s
BRTR Keskin Array B 40.32 298 P P 14 13 54.9 +0.4
comp=Z,3.5nm,0.8s,baz=108,slow=9.6,SNR=18
OBN Obninsk 40.83 321 iP P 14 13 58.5 +0.2
OBN i 14 15 34.8
OBN pmax pmax
comp=Z,4.0nm,0.5s
USRK Ussuriysk Arra 42.03 56 P P 14 14 09.0 +0.8
comp=Z,2.5nm,0.8s,baz=231,slow=5.5,SNR=5.9

AKASG Malin Array Be 44.12 314 P P 14 14 24.9 -0.2
comp=Z,3.6nm,0.7s,baz=80,slow=7.6,SNR=19
MSAB Monastry St. A 44.62 304⇑iP P 14 14 30.7 +1.5
YAK Yakutsk 44.76 30 eP P 14 14 29.2 -0.8
YAK pmax pmax
comp=Z,10.0nm,0.9s
VRI Vrincioaia 45.42 307⇑iP P 14 14 36.5 +1.0
PLOR Plostina 45.47 307⇑iP P 14 14 37.9 +1.9
MLR Muntele Rosu 45.96 306⇑iP P 14 14 41.4 +1.4
MLR Muntele Rosu 45.96 306 P P 14 14 41.3 +1.4
comp=Z,3.5nm,0.8s,baz=92,slow=0.8,SNR=19
JOF Joensuu 46.15 331 eP P 14 14 40.9 -0.1
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 46.15 331 ep P 14 14 40.9 -0.1
comp=Z,4.3nm,0.7s
BURAR Bucovina Array 46.49 309⇓iP P 14 14 45.0 +0.9
VOIR 46.59 306⇑iP P 14 14 45.7 +0.8
ARR Arges 46.89 306⇑iP P 14 14 48.4 +1.2
FINES FINESS Array B 48.01 328 P P 14 14 55.9 +0.4
comp=Z,9.5nm,0.7s,baz=111,slow=10,SNR=30
KAF Kangasniemi 48.09 329 eP P 14 14 56.0 -0.1
KAF pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 48.09 329 ep P 14 14 56.0 -0.1
comp=Z,4.7nm,0.8s
KWP Kalwaria Pacla 48.21 312⇓iP P 14 14 58.5 +1.2
TIXI Tiksi 49.02 18⇓iP P 14 15 04.1 +0.9
TIXI pmax pmax
comp=Z,8.0nm,1.2s
TIXI Tiksi 49.02 18 eP P 14 15 03.6 +0.4
comp=Z,3.7nm,0.6s
STHS Stebnicka Huta 49.16 311 eP P 14 15 04.4 -0.2
STHS Stebnicka Huta 49.16 311 eP P 14 15 04.4 -0.2
ARCES ARCESS Array B 50.77 338 P P 14 15 16.4 -0.1
comp=Z,2.7nm,0.7s,baz=100,slow=7.6,SNR=9.8
ARCES LR LR 14 37 55.3
comp=Z,92nm,18.1s,baz=68,slow=37
KRLC Kraliky 52.04 312 eP P 14 15 26.0 -0.4
KRLC e 14 15 33.3
KRLC Kraliky 52.04 312 eP P 14 15 26.0 -0.4
KRLC epP pP 14 15 33.3 -1.4
DPC Dobruska-Polom 52.32 313 eP P 14 15 28.9 +0.4
DPC Dobruska-Polom 52.32 313 eP P 14 15 28.9 +0.4
PRU Pruhonice 53.49 312 eP P 14 15 37.8 +0.8
PRU Pruhonice 53.49 312 eP P 14 15 37.8 +0.8
GERES GERESS Array B 54.14 311 P P 14 15 41.8 -0.1
comp=Z,0.3nm,0.4s,baz=61,slow=10,SNR=3.5
KHC Kasperske Hory 54.19 311 eP P 14 15 42.7 +0.5
KHC Kasperske Hory 54.19 311 eP P 14 15 42.7 +0.5
NB2 NORSAR Subarra 55.06 326 P P 14 15 47.7 -0.6
comp=Z,2.8nm,0.7s,baz=91,slow=7.4
NOA NORSAR Array B 55.06 326 P P 14 15 48.0 -0.3
comp=Z,4.3nm,0.7s,baz=92,slow=7.0,SNR=16
SEY Seymchan 55.19 32 P P 14 15 49.9 +0.7
comp=Z,1.0nm,0.5s,baz=266,slow=9.1,SNR=9.3
PGF Pioggiola 58.42 304 eP P 14 16 11.9 -0.7
PGF Pioggiola 58.42 304 eP P 14 16 11.9 -0.7
PGF Pioggiola 58.42 304 eP P 14 16 11.9 -0.7
SBF Sospel 59.24 306 eP P 14 16 18.0 -0.2
comp=Z,34nm,0.9s
SBF Sospel 59.24 306 eP P 14 16 18.0 -0.2
SBF Sospel 59.24 306 eP P 14 16 18.0 -0.2
comp=Z,34nm,0.9s
LPG La Plagne 59.35 308 eP P 14 16 19.3 +0.1
comp=Z,16nm,0.8s
LPG La Plagne 59.35 308 eP P 14 16 19.3 +0.1
LPG pmax pmax
comp=Z,16nm,0.8s
LPG La Plagne 59.35 308 eP P 14 16 19.3 +0.1
comp=Z,16nm,0.8s
LPL La Plagne 59.36 308 eP P 14 16 19.3 +0.1
LPL La Plagne 59.36 308 eP P 14 16 19.3 +0.1
LPL La Plagne 59.36 308 eP P 14 16 19.3 +0.1
MBDF Montbardon 59.51 307 eP P 14 16 19.3 -0.9
comp=Z,12nm,1.0s
MBDF Montbardon 59.51 307 eP P 14 16 19.3 -0.9
MBDF pmax pmax
comp=Z,12nm,1.0s
MBDF Montbardon 59.51 307 eP P 14 16 19.3 -0.9
comp=Z,12nm,1.0s
KEST Kesra 59.90 296 P P 14 16 22.8 -0.2
comp=Z,1.1nm,0.7s,baz=101,slow=5.2,SNR=3.0
BILL Bilibino 60.75 25 iP P 14 16 29.0 +0.9
BILL i 14 16 35.1
BILL i 14 17 11.2
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL MLR MLR
comp=Z,42nm,19.0s
SMF Signal de Mont 61.06 310 eP P 14 16 29.9 -0.7
comp=Z,15nm,0.9s
SMF Signal de Mont 61.06 310 eP P 14 16 29.9 -0.7
SMF pmax pmax
comp=Z,15nm,0.9s
SMF Signal de Mont 61.06 310 eP P 14 16 29.9 -0.7
comp=Z,15nm,0.9s
SSF Saint Saulge 61.19 310 eP P 14 16 30.8 -0.6
comp=Z,24nm,1.1s
SSF Saint Saulge 61.19 310 eP P 14 16 30.8 -0.6
SSF pmax pmax
comp=Z,24nm,1.1s
SSF Saint Saulge 61.19 310 eP P 14 16 30.8 -0.6
comp=Z,24nm,1.1s
AVF Avril sur Loir 61.35 310 eP P 14 16 31.9 -0.6
AVF Avril sur Loir 61.35 310 eP P 14 16 31.9 -0.6
AVF Avril sur Loir 61.35 310 eP P 14 16 31.9 -0.6
TCF Toulx Ste Croi 62.24 310 eP P 14 16 38.5 -0.1
TCF Toulx Ste Croi 62.24 310 eP P 14 16 38.5 -0.1
TCF Toulx Ste Croi 62.24 310 eP P 14 16 38.5 -0.1
CAF Calviac 62.70 308 eP P 14 16 41.6 -0.1
comp=Z,17nm,1.0s
CAF Calviac 62.70 308 eP P 14 16 41.6 -0.1
CAF pmax pmax
comp=Z,17nm,1.0s
CAF Calviac 62.70 308 eP P 14 16 41.6 -0.1
comp=Z,17nm,1.0s
RJF Les Rejaudoux 62.97 309 eP P 14 16 43.5 +0.1
RJF Les Rejaudoux 62.97 309 eP P 14 16 43.5 +0.1
RJF Les Rejaudoux 62.97 309 eP P 14 16 43.5 +0.1
MTLF Montolieu 63.04 306 eP P 14 16 43.7 -0.2
MTLF Montolieu 63.04 306 eP P 14 16 43.7 -0.2
MTLF Montolieu 63.04 306 eP P 14 16 43.7 -0.2
LDF La Druitiere 63.17 313 eP P 14 16 44.0 -0.7
LDF La Druitiere 63.17 313 eP P 14 16 44.0 -0.7
LDF La Druitiere 63.17 313 eP P 14 16 44.0 -0.7
DAG Danmarks Havn 63.60 345 iP P 14 16 46.3 -0.8
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 63.60 345 iP P 14 16 46.3 -0.8
comp=Z,2.8nm,0.8s
GRR Gorron 63.70 312 eP P 14 16 42.0 -6.1
SGMF Saint Gilles 64.82 313 eP P 14 16 55.1 -0.4
SGMF Saint Gilles 64.82 313 eP P 14 16 55.1 -0.4
SGMF Saint Gilles 64.82 313 eP P 14 16 55.1 -0.4
ESDC Sonseca Array 68.61 304 P P 14 17 19.5 -0.5
comp=Z,2.0nm,0.7s,baz=61,slow=7.3,SNR=6.8
SUMG Summit 70.16 344 iP P 14 17 29.4 0.0
SUMG pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 70.16 344 iP P 14 17 29.4 0.0
comp=Z,3.8nm,1.0s
WRA Warramunga Arr 70.79 128 P P 14 17 32.0 -1.5
WRA Warramunga Arr 70.79 128 P P 14 17 32.0 -1.5
comp=Z,1.3nm,0.8s,baz=321,slow=6.1,SNR=5.9
ASAR Alice Springs 73.05 131 P P 14 17 44.8 -2.2
comp=Z,0.5nm,0.8s,baz=313,slow=6.2,SNR=4.2
TORD Torodi Ar. Bea 75.02 277 P P 14 17 57.7 -1.1
comp=Z,2.7nm,0.9s,baz=53,slow=4.6,SNR=15
COLA College 78.12 19 eP P 14 18 16.4 +1.0
COLA pmax pmax
comp=Z,17nm,1.0s
ILAR Eielson Array 78.47 19 P P 14 18 16.9 -0.4
comp=Z,1.9nm,0.9s,baz=299,slow=4.6,SNR=25
ILAR PP PP 14 21 11.3 -3.0
comp=Z,1.1nm,1.1s,baz=314,slow=5.8,SNR=4.2
DBIC Dimbokro 83.76 274 P P 14 18 46.0 -0.4
DBIC Dimbokro 83.76 274 P P 14 18 46.0 -0.4
comp=Z,4.3nm,0.8s,baz=71,slow=4.8,SNR=3.2
YKA Yellowknife Ar 87.13 8 P P 14 19 01.0 -1.3
YKA Yellowknife Ar 87.13 8 P P 14 19 01.0 -1.3
comp=Z,0.7nm,0.8s,baz=342,slow=5.0,SNR=12
TXAR Lajitas Array 121.01 5 PKP PKPdf 14 25 07.6 -2.1
comp=Z,0.2nm,0.6s,baz=279,slow=1.7,SNR=2.4
LPAZ La Paz 149.28 289 PKPbc PKPdf 14 26 04.8 +2.3

comp=Z,1.3nm,0.7s,baz=51,slow=3.2,SNR=5.0

IDC 25 14:08:00.3±0.9, 29.39N×81.57E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.6/49, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=32.1km s-min=21.2km az=60.0
ISCJB 25 14:08:02.6±0.9, 29.4N±0.1×81.5E±0.2, h27km, mb3.8/8, Error ellipse: s-maj=27.0km s-min=17.8km az=161.3
ISC 25 14:08:04.6±1.2, 29.5N±0.2×81.6E±0.2, h27km, n9, σ0.66/9, mb3.7/8, Nepal

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MKAR Makanchi Array 17.33 2 P P 14 12 05.4 -0.4
0.4nm,0.3s,baz=181,slow=11,SNR=5.2
ZALV Zalesovo Beam 24.60 5 P P 14 13 22.3 -0.1
2.5nm,0.5s,baz=184,slow=8.8,SNR=3.9
SONM Songino Array 26.51 39 P P 14 13 41.2 +1.2
1.3nm,0.8s,baz=228,slow=9.1,SNR=4.1
FINES FINESS Array B 48.22 328 P P 14 16 42.6 0.0
1.6nm,0.6s,baz=118,slow=9.2,SNR=3.4
ARCES ARCESS Array B 51.02 338 P P 14 17 03.7 -0.2
4.3nm,0.9s,baz=100,slow=9.2,SNR=3.3
WRA Warramunga Arr 70.69 127 P P 14 19 17.8 -0.5
0.5nm,0.6s,baz=325,slow=5.9,SNR=2.6
ASAR Alice Springs 72.93 131 P P 14 19 31.9 +0.1
0.2nm,0.3s,baz=323,slow=6.0,SNR=3.2
TORD Torodi Ar. Bea 74.94 277 P P 14 19 44.2 +0.4
0.6nm,0.8s,baz=74,slow=5.2,SNR=3.8
ILAR Eielson Array 78.81 19 P P 14 20 04.0 -0.7
0.3nm,0.8s,baz=295,slow=4.9,SNR=3.1

ISCJB 25 14:10:08.9±0.6, 38.49N±0.05×29.65E±0.04, h7km±11km, Error ellipse: s-maj=8.8km s-min=4.8km az=159.7
ISK 25 14:10:08.5, 38.48N×29.64E, h8km, MD2.5
CSEM 25 14:10:09.0±0.2, 38.47N×29.65E, h8km, MD2.5, Error ellipse: s-maj=4.6km s-min=2.8km az=156.0
DDA 25 14:10:11.1, 38.43N×29.51E, h5km, MD2.8
ISC 25 14:10:09.2±0.9, 38.49N±0.06×29.62E±0.04, h9km±10km, n16, σ0.28/26, Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KHAL Karahalli 0.16 220 iP Pg 14 10 12.5 -0.2
KHAL iS Sg 14 10 15.2 +0.2
KHAL Karahalli 0.16 220 iP Pg 14 10 12.5 -0.2
KHAL iS Sg 14 10 15.2 +0.2
KHL Karahalli 0.18 205 ePG Pg 14 10 12.9 -0.2
KHL eSG Sg 14 10 15.7 0.0
KHL Karahalli 0.18 205 ePg Pg 14 10 12.9 -0.2
KHL eSg Sg 14 10 15.7 0.0
ALT Altintas 0.68 34 ePG Pg 14 10 22.4 0.0
ALT Altintas 0.68 34 ePg Pg 14 10 22.4 0.0
SHUT Suhut-Afyon 0.73 85 ePG Pg 14 10 23.2 -0.1
SHUT eSG Sg 14 10 32.5 -0.4
SHUT Suhut-Afyon 0.73 85 ePg Pg 14 10 23.2 -0.1
SHUT eSg Sg 14 10 32.5 -0.4
KULA Kula-Manisa 0.75 272 ePG Pg 14 10 23.2 -0.5
KULA eSG Sb 14 10 34.8 -0.1
KULA Kula-Manisa 0.75 272 ePg Pg 14 10 23.2 -0.5
KULA eSg Sb 14 10 34.8 -0.1
MANT Manisa 0.83 270 iP Pb 14 10 26.2 +0.2
MANT iS Sb 14 10 37.8 +0.4
MANT Manisa 0.83 270 iP Pb 14 10 26.2 +0.2
MANT iS Sb 14 10 37.8 +0.4
TVSB Tavsanli 0.97 353 ePG Pb 14 10 28.4 +0.2
TVSB Tavsanli 0.97 353 ePg Pb 14 10 28.4 +0.2
AYDB Zeytinkoy-Aydi 1.47 249 ePN Pn 14 10 35.9 0.0
AYDB Zeytinkoy-Aydi 1.47 249 ePn Pn 14 10 35.9 0.0

ISCJB 25 14:17:20.0±0.7, 45.8S±0.1×34.8E±0.2, h10km, mb4.1/11, MS3.5/3, Error ellipse: s-maj=24.8km s-min=10.4km az=152.0
IDC 25 14:17:20.2±0.7, 45.99S×35.22E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.0/21, mbtmp4.1/9, MS3.5/5, Ms1 3.5/5, ms1mx3.2/29, Error ellipse: s-maj=27.6km s-min=21.8km az=70.0
ISC 25 14:17:21.9±0.6, 45.8S±0.1×34.9E±0.2, h10km, n22, σ1.85/21, mb4.1/11, MS3.4/3, Prince Edward Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SUR Sutherland 17.23 316 P Pn 14 21 22.4 -0.4
2.8nm,0.3s,baz=144,slow=14,SNR=25
SUR S Sn 14 24 24.2 -11
0.7nm,0.3s,baz=243,slow=20,SNR=3.5
SUR LR LR 14 26 42.5
comp=Z,102nm,19.8s,baz=169,slow=32
BOSA Boshof 18.75 333 P P 14 21 40.3 -0.7
1.3nm,0.3s,baz=170,slow=11,SNR=17
BOSA S Sn 14 24 54.1 -17
0.5nm,0.3s,baz=196,slow=7.4,SNR=3.8
BOSA LR LR 14 27 26.4
comp=Z,132nm,21.5s,baz=149,slow=32
LBTB Lobatse 22.03 337 P P 14 22 15.8 -0.8
2.3nm,0.6s,baz=193,slow=9.3,SNR=3.4
LBTB S S 14 26 14.7 -4.9
1.7nm,0.4s,baz=124,slow=15,SNR=5.5
LBTB LR LR 14 29 54.3
comp=Z,121nm,18.2s,baz=164,slow=34
MAW Mawson 26.28 156 P P 14 22 58.3 +1.2
17nm,0.8s,baz=27,slow=2.3,SNR=3.5
MAW LR LR 14 32 10.4
comp=Z,78nm,18.9s,baz=356,slow=34
OPO Ambohitratompo 29.01 25 P P 14 23 23.5 +1.4
4.0nm,0.9s,baz=131,slow=5.5,SNR=3.7
QSPA South Pole Qui 44.43 180 P P 14 25 30.9 -1.7
1.6nm,0.9s,baz=271,slow=4.5,SNR=5.1
KMBO Kilima Mbogo 44.53 3 P P 14 25 36.5 +2.5
0.7nm,0.3s,baz=184,slow=4.2,SNR=4.4
VNDA Vanda 52.72 167 LR LR 14 48 05.4
comp=Z,99nm,18.2s,baz=224,slow=35
H10S2 ASCENSION HYDR 55.98 295 T T 15 28 02.3
baz=140,slow=75,SNR=56
H10S1 ASCENSION HYDR 56.00 295 T T 15 28 00.6
baz=140,slow=75,SNR=53
H10S3 ASCENSION HYDR 56.00 295 T T 15 28 00.8
baz=140,slow=75,SNR=50
TORD Torodi Ar. Bea 65.85 324 P P 14 28 09.4 +1.8
3.4nm,0.5s,baz=160,slow=6.9,SNR=50
ASAR Alice Springs 79.38 113 P P 14 29 27.0 -1.2
0.7nm,0.7s,baz=223,slow=5.5,SNR=12
WRA Warramunga Arr 82.31 111 P P 14 29 42.7 -1.2
1.1nm,0.9s,baz=217,slow=4.7,SNR=4.8
BRTR Keskin Array B 85.14 359 P P 14 29 58.4 +0.5
1.2nm,0.8s,baz=174,slow=10,SNR=7.6
GEYT Alibeck 85.93 18 P P 14 30 00.9 -0.8
0.7nm,0.5s,baz=189,slow=8.6,SNR=3.3
CMAR Chiang Mai Arr 86.25 59 P P 14 30 01.7 -2.0
0.4nm,0.3s,baz=234,slow=6.3,SNR=4.9
TXAR Lajitas Array 143.70 258 PKP PKPbc 14 36 55.4 +0.8
1.1nm,0.7s,baz=141,slow=6.3,SNR=12
ULM Lac du Bonnet 147.23 296 PKPbc PKPbc 14 37 04.6 0.0
3.3nm,0.7s,baz=154,slow=3.3,SNR=6.1
PDAR Pinedale Array 154.47 276 PKP PKPdf 14 37 12.8 -1.2
0.3nm,0.9s,baz=111,slow=4.9,SNR=2.9
PDAR PKPbc PKiKP 14 37 25.4 +2.9
0.5nm,0.9s,baz=130,slow=4.4,SNR=3.8
PDAR PKPab PKPab 14 37 37.0 0.0
0.9nm,0.7s,baz=112,slow=7.0,SNR=6.6
YKA Yellowknife Ar 155.86 325 PKP PKPdf 14 37 14.6 -0.3
0.2nm,0.7s,baz=52,slow=1.4,SNR=4.6
YKA PKPbc PKPbc 14 37 24.5
0.5nm,1.0s,baz=70,slow=1.8,SNR=4.6
YKA PKPab PKPab 14 37 43.2 +1.3
1.0nm,0.8s,baz=58,slow=5.0,SNR=15
NVAR Mina Array Bea 158.84 259 PKPab PKPab 14 37 56.6 +0.7
0.5nm,0.7s,baz=131,slow=4.1,SNR=5.2

IDC 25 14:21:24.6±1.7, 21.54S×134.26E, h0km, mb1 3.5/1, mb1mx3.1/19, mbtmp3.5/1, ML3.5/1, Error ellipse: s-maj=14.5km s-min=10.3km az=95.0, Northern Territory

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 1.59 3 Pg Pg 14 21 55.0 -0.1
0.8nm,0.3s,baz=184,slow=16,SNR=15
WRA Lg Lg 14 22 13.5
0.9nm,0.3s,baz=180,slow=28,SNR=11

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
ASAR	Alice Springs	2.14	189	Pg	Pb	14 22 04.5	+0.1
	0.1nm,0.3s,baz=7.6,slow=17,SNR=6.5						
ASAR				Lg	Lg	14 22 31.9	
	0.3nm,0.3s,baz=4.7,slow=27,SNR=14						
STKA	Stephens Creek	12.20	149	Pn	Pn	14 24 18.2	-1.5
	0.2nm,0.3s,baz=328,slow=7.9,SNR=3.3						

ISCJB **25** *14:41:29.6±0.8, 39.°43N±0.°04×28.°94E±0.°05, h3km±7km, Error ellipse: s-maj=8.0km s-min=5.4km az=40.6*
CSEM **25** *14:41:29.8±0.4, 39.°44N×28.°93E, h10km, MD2.7, Error ellipse: s-maj=8.6km s-min=4.4km az=114.0*
ISK **25** *14:41:29.6, 39.°42N×28.°99E, h16km, MD2.5*
DDA **25** *14:41:35.4, 39.°13N×29.°07E, h7km, MD2.7*
ISC 25 14:41:29.8±1.2,**39.°43N**±0.°04×**28.°96E**±0.°04,**h11**km±10km, **n20**,σ0.°72/30,**Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
TVSB	Tavsanli	0.39	87	ePG	Pb	14 41 38.3	-0.5
TVSB				eSG	Sg	14 41 42.9	+0.1
TVSB	Tavsanli	0.39	87	ePg	Pb	14 41 38.3	-0.5
TVSB				eSg	Sg	14 41 42.9	+0.1
GDZ	Gediz	0.53	130	iP	Pb	14 41 40.6	-0.7
GDZ				iS	Sg	14 41 47.5	+0.2
GDZ	Gediz	0.53	130	iP	Pb	14 41 40.6	-0.7
GDZ				iS	Sg	14 41 47.5	+0.2
KULA	Kula-Manisa	0.95	194	ePG	Pg	14 41 47.7	-0.4
KULA	Kula-Manisa	0.95	194	ePg	Pg	14 41 47.7	-0.4
ALT	Altintas	0.97	113	ePG	Pn	14 41 49.2	-0.3
IZI	Iznik	0.98	23	ePG	Pn	14 41 48.9	0.0
IZI	Iznik	0.98	23	ePg	Pg	14 41 48.9	+0.1
MANT	Manisa	0.99	199	iP	Pb	14 41 49.6	+0.4
MANT				iS	Sg	14 42 01.8	-0.1
MANT	Manisa	0.99	199	iP	Pb	14 41 49.6	+0.4
MANT				iS	Sg	14 42 01.8	-0.1
CAVI	Cavuskoy	1.02	41	ePG	Pn	14 41 50.0	-0.2
CAVI	Cavuskoy	1.02	41	ePg	Pn	14 41 50.0	-0.2
AKS	Akhisar	1.05	239	ePG	Pn	14 41 50.9	+0.4
KHAL	Karahalli	1.14	159	iP	Pn	14 41 52.6	+0.8
KHAL				iS	Sb	14 42 05.3	-1.2
KHAL	Karahalli	1.14	159	iP	Pn	14 41 52.6	+0.8
KHAL				iS	Sb	14 42 05.3	-1.2
BORA	Eskisehir	1.23	68	iP	Pg	14 41 54.8	+1.2
BORA				iS	Sn	14 42 10.9	+1.1
BORA	Eskisehir	1.23	68	iP	Pg	14 41 54.8	+1.2
BORA				iS	Sn	14 42 10.9	+1.1
GULT	Gulveren	1.56	50	ePN	Pn	14 41 56.6	-1.0
GULT	Gulveren	1.56	50	ePn	Pn	14 41 56.6	-1.0

IDC **25** *14:43:20.7±0.9, 14.°36S×174.°65W, h0km, mb3.9/8, mb1 4.2/8, mb1mx4.0/26, mbtmp3.9/8, ML6.6/1, MS3.5/11, Ms1 3.6/11, ms1mx3.4/28, Error ellipse: s-maj=43.3km s-min=18.6km az=145.0*
NEIC **25** *14:43:22.5±0.6, 14.°35S×174.°71W, h10km, mb4.7/3, Error ellipse: s-maj=25.0km s-min=13.0km az=128.0*
ISCJB **25** *14:43:24.0±0.6, 14.°4S±0.°1×174.°8W±0.°1, h33km, mb4.2/12, MS3.6/10, Error ellipse: s-maj=21.8km s-min=12.4km az=36.8*
ISC 25 14:43:26.2±0.8,**14.°4S**±0.°2×**174.°7W**±0.°2,**h35**km,**n45**, σ1.°26/17,**mb4.2**/12,**MS3.6**/10,**Samoa Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
RAO	Raoul Island	15.07	191	Pn	Pn	14 46 56.3	-0.3
	229nm,0.3s,baz=147,slow=21,SNR=8.1						
RAR	Rarotonga	15.73	118	LR	LR	14 51 21.2	
	comp=Z,206nm,21.8s,baz=243,slow=31						
DZM	Mont Dzumac	19.45	244	eP	Pn	14 47 57.3	+5.8
	48nm,1.4s						
DZM				eLR	LR	14 52 54.6	
	173nm,27.4s						
PPT	Papeete	24.35	101	LR	LR	14 56 11.0	
	comp=Z,60nm,18.1s,baz=280,slow=32						
PPT2	Papeete2	24.35	101	eLQ	LQ	14 53 05.8	
	458nm,24.8s						
PPT2				eLR	LR	14 54 06.0	
	379nm,26.8s						
PPT2	Papeete2	24.35	101	eT	T	15 12 15.2	
	6.8nm,0.3s						
PAE	Paea	24.35	101	eT	T	15 12 14.3	
	4.7nm,0.3s						
TIAR	Tiarei	24.57	101	eT	T	15 12 30.8	
	5.1nm,0.4s						
TVO	Taravao	24.67	101	eT	T	15 12 38.5	
	3.2nm,0.4s						
TBI	Tubuai	25.45	114	eT	T	15 13 36.1	
	30nm,0.2s						
VAH	Vaihoa	26.18	95	eT	T	15 14 33.2	
	7.1nm,0.3s						
H11S2	WAKE ISLAND Hy	37.48	330	T	T	15 31 20.8	
	baz=149,slow=76,SNR=117						
H11S3	WAKE ISLAND Hy	37.49	330	T	T	15 31 22.4	
	baz=149,slow=76,SNR=109						
H11S1	WAKE ISLAND Hy	37.49	330	T	T	15 31 17.9	
	baz=149,slow=76,SNR=92						
H11N3	WAKE ISLAND Hy	38.44	331	T	T	15 32 30.0	
	baz=150,slow=76,SNR=97						
H11N1	WAKE ISLAND Hy	38.44	331	T	T	15 32 30.4	
	baz=150,slow=76,SNR=117						
H11N2	WAKE ISLAND Hy	38.45	331	T	T	15 32 30.6	
	baz=150,slow=76,SNR=126						
RKT	Rikitea	38.50	109	eLR	LR	15 00 48.2	
	303nm,25.8s						
RKT	Rikitea	38.50	109	eT	T	15 29 53.7	
	11nm,0.4s						
STKA	Stephens Creek	43.46	239	P	P	14 51 25.6	-0.6
	3.5nm,0.9s,baz=96,slow=5.9,SNR=6.0						
STKA				LR	LR	15 09 27.1	
	comp=Z,93nm,18.1s,baz=63,slow=36						
WRA	Warramunga Arr	48.86	256	P	P	14 52 09.0	+0.2
	3.7nm,1.1s,baz=90,slow=7.7,SNR=8.9						
AS31	Alice Springs	49.23	251	eP	P	14 52 10.5	-1.2
ASAR	Alice Springs	49.23	251	P	P	14 52 11.3	-0.3
	3.2nm,0.7s,baz=87,slow=7.8,SNR=66						
ASAR				LR	LR	15 11 31.2	
	comp=Z,138nm,19.5s,baz=98,slow=34						
JCJ	Chichijima	58.77	315	P	P	14 53 21.1	0.0
	65nm,0.7s,baz=202,slow=16,SNR=2.5						
CBIJ	Chichi jima	58.77	315	P	P	14 53 21.1	0.0
RPN	Rapa Nui	61.83	113	LR	LR	15 12 14.8	
	comp=Z,36nm,21.9s,baz=80,slow=28						
MJAR	Matsushiro Arr	67.38	320	LR	LR	15 18 30.4	
	comp=Z,21nm,21.9s,baz=190,slow=31						
NVAR	Mina Array Bea	74.44	43	P	P	14 54 59.8	-1.4
	0.8nm,0.8s,baz=238,slow=8.4,SNR=5.5						
QSPA	South Pole Qui	75.63	180	eP	P	14 55 00.8	-6.8
	9.2nm,1.2s						
MCK	McKinley	80.39	11	eP	P	14 55 34.8	+1.1
	8.2nm,1.0s						
TXAR	Lajitas Array	81.11	57	P	P	14 55 39.6	+1.1
	0.5nm,0.9s,baz=273,slow=5.3,SNR=3.1						
COLA	College	81.63	11	eP	P	14 55 38.7	-1.5
	7.2nm,0.9s						
ILAR	Eielson Array	81.72	12	P	P	14 55 41.0	+0.2
	0.7nm,0.8s,baz=201,slow=6.0,SNR=3.8						
PDAR	Pinedale Array	82.37	42	P	P	14 55 43.4	-1.6
	0.5nm,0.8s,baz=205,slow=4.4,SNR=3.4						
PDAR				LR	LR	15 25 25.7	
	comp=Z,37nm,19.9s,baz=256,slow=31						
H03N2	Juan Fernandez	86.89	124	T	T	16 32 40.0	
	baz=257						
H03N3	Juan Fernandez	86.89	124	T	T	16 32 43.4	
	baz=257						
H03N1	Juan Fernandez	86.91	124	T	T	16 32 41.7	
	baz=257						
YKA	Yellowknife Ar	89.69	24	P	P	14 56 19.5	-0.8
	0.1nm,0.4s,baz=238,slow=5.0,SNR=3.8						
PLCA	Paso Flores	91.10	133	LR	LR	15 27 14.7	
	comp=Z,35nm,19.4s,baz=311,slow=29						
CMAR	Chiang Mai Arr	91.11	289	LR	LR	15 33 19.6	
	comp=Z,20nm,20.7s,baz=75,slow=33						
ULM	Lac du Bonnet	93.95	39	LR	LR	15 32 07.9	
	comp=Z,53nm,18.6s,baz=331,slow=31						
CFAA	Coronel Fontan	96.05	125	LR	LR	15 29 32.0	
	comp=Z,7.3nm,18.4s,baz=238,slow=29						
BRTR	Keskin Array B	144.60	321	PKP	PKPdf	15 03 01.3	+1.6
	0.5nm,0.4s,baz=98,slow=2.5,SNR=5.4						
KMBO	Kilima Mbogo	144.80	247	PKP	PKPdf	15 03 03.5	+2.7
	0.6nm,0.3s,baz=86,slow=3.6,SNR=3.3						
GERES	GERESS Array B	144.97	350	PKP	PKPdf	15 03 00.5	+0.6
	0.6nm,0.7s,baz=33,slow=2.3,SNR=5.1						

DDA **25** *14:50:30, 37.°06N×28.°48E, h7km, MD3.5*
ISK **25** *14:50:30.9, 37.°08N×28.°57E, h9km, MD3.7*
CSEM **25** *14:50:31.7±0.1, 37.°04N×28.°57E, h10km, MD3.7, Error ellipse: s-maj=3.6km s-min=3.1km az=136.0*
ISCJB **25** *14:50:31.7±0.4, 37.°06N±0.°02×28.°54E±0.°02, h13km±3km, Error ellipse: s-maj=3.5km s-min=2.9km az=36.9*
THE **25** *14:50:31.8, 37.°02N×28.°51E, h2km±2km, ML3.1/2, Error ellipse: s-maj=2.1km s-min=0.9km az=153.0*
ATH **25** *14:50:36.7, 36.°62N×28.°56E, h27km±1km, MD3.5/8*
ISC 25 14:50:31.6±0.8,**37.°05N**±0.°02×**28.°54E**±0.°02,**h12**km±6km, **n98**,σ1.°12/131,**Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
YER	Yerkesik	0.22	293	PG	Pg	14 50 36.3	-0.1
YER				eSG	Sg	14 50 40.5	+0.8
YER	Yerkesik	0.22	293	iPg	Pg	14 50 36.3	-0.1
YER				eSg	Sg	14 50 40.5	+0.8
DALY	Dalyan (Mu¯la	0.25	158	PG	Pg	14 50 36.1	-0.6
DALY				eSG	Sb	14 50 41.9	+1.8
DALY	Dalyan (Mu¯la	0.25	158	iPg	Pg	14 50 36.1	-0.6
GOLH	Golhisar	0.84	77	iP	Pg	14 50 46.7	-1.1
GOLH				iS	Sg	14 50 59.0	+0.2
GOLH	Golhisar	0.84	77	iP	Pg	14 50 46.7	-1.1
GOLH				iS	Sg	14 50 59.0	+0.2
BDRM	Kayabasi	0.88	272	iP	Pg	14 50 48.5	0.0
BDRM				iS	Sn	14 51 02.8	+0.4
BDRM	Kayabasi	0.88	272	iP	Pg	14 50 48.5	0.0
BDRM				iS	Sn	14 51 02.8	+0.4
ARG	Arkhangelos	0.89	202	iP	Pg	14 50 48.0	-0.8
ARG				S	Sb	14 51 01.2	+0.4
ARG	Arkhangelos	0.89	202	PG	Pg	14 50 48.3	-0.5
ARG				eSG	Sn	14 51 03.1	+0.4
ARG	Arkhangelos	0.89	202	ePN	Pg	14 50 47.8	-1.0
ARG				eSN	Sg	14 50 56.2	-4.2
ARG	Arkhangelos	0.89	202	ePn	Pg	14 50 47.8	-1.0
ARG	Arkhangelos	0.89	202	P	Pg	14 50 48.0	-0.8
ARG	Arkhangelos	0.89	202	iPg	Pg	14 50 48.3	-0.5
ARG				S	Sb	14 51 01.2	+0.4
BODT	Bodrum	0.98	271	PG	Pb	14 50 50.6	+0.1
BODT				eSG	Sn	14 51 05.5	+0.5
BODT	Bodrum	0.98	271	iPg	Pb	14 50 50.6	+0.1
BODT				eSg	Sn	14 51 05.5	+0.5
AYDB	Zeytinkoy-Aydi	1.04	330	PG	Pb	14 50 50.9	-0.6
AYDB	Zeytinkoy-Aydi	1.04	330	iPg	Pb	14 50 50.9	-0.6
ELL	Elmali	1.14	105	ePN	Pb	14 50 53.0	-0.2
ELL	Elmali	1.14	105	ePn	Pb	14 50 53.0	-0.2
AKAS	Kas	1.18	133	iP	Pn	14 50 53.8	-0.2
AKAS				iS	Sn	14 51 13.4	+3.4
AKAS	Kas	1.18	133	iP	Pn	14 50 53.8	-0.2
AKAS				iS	Sn	14 51 13.4	+3.4
KSL	Kastellorizon	1.23	136	ePN	Pb	14 50 55.1	+0.5
MANT	Manisa	1.44	1	iP	Pn	14 50 56.6	-1.1
MANT				iS	Sn	14 51 15.1	-1.6
MANT	Manisa	1.44	1	iP	Pn	14 50 56.6	-1.1
MANT				iS	Sn	14 51 15.1	-1.6
KULA	Kula-Manisa	1.47	4	P	Pn	14 50 57.9	0.0
KULA				S	Sb	14 51 17.8	+0.3
KULA	Kula-Manisa	1.47	4	ePN	Pn	14 50 57.9	0.0
KULA	Kula-Manisa	1.47	4	P	Pn	14 50 57.9	0.0
KULA				S	Sb	14 51 17.8	+0.3
KHL	Karahalli	1.50	31	ePN	Pn	14 50 57.7	-0.6
KHL	Karahalli	1.50	31	ePn	Pn	14 50 57.7	-0.6
SMG	Samos	1.51	297	P	Pn	14 50 58.0	-0.4
SMG				S	Sn	14 51 18.4	+0.4
SMG	Samos	1.51	297	P	Pn	14 50 58.0	-0.4
SMG				S	Sn	14 51 18.4	+0.4
KHAL	Karahalli	1.52	29	iP	Pn	14 50 58.5	-0.2
KHAL				iS	Sn	14 51 18.6	+0.1
KHAL	Karahalli	1.52	29	iP	Pn	14 50 58.5	-0.2
KHAL				iS	Sn	14 51 18.6	+0.1
BCK	Bucak	1.69	75	ePN	Pn	14 51 01.4	+0.5
BCK	Bucak	1.69	75	ePn	Pn	14 51 01.4	+0.5
ANTB	Antalya	1.70	94	ePN	Pn	14 51 01.1	+0.1
ANTB	Antalya	1.70	94	ePn	Pn	14 51 01.1	+0.1
ISP	Isparta	1.76	63	P	Pn	14 51 02.6	+0.7
ISP				S	Sb	14 51 25.9	0.0
ISP	Isparta	1.76	63	ePN	Pn	14 51 02.4	+0.4
ISP	Isparta	1.76	63	P	Pn	14 51 02.6	+0.7
ISP				S	Sb	14 51 25.9	0.0
BLCB	Balcova	1.79	319	ePN	Pn	14 51 02.1	-0.1
BLCB	Balcova	1.79	319	ePn	Pn	14 51 02.1	-0.1
KARP	Karpathos	1.86	217	P	Pn	14 51 03.0	-0.3
KARP				S	Sn	14 51 27.2	+0.4
KARP	Karpathos	1.86	217	ePN	Pn	14 51 04.4	+1.1
KARP				eSN	Sn	14 51 25.1	-1.7
KARP	Karpathos	1.86	217	P	Pn	14 51 03.0	-0.3
KARP	Karpathos	1.86	217	ePn	Pn	14 51 04.4	+1.1
KARP				eSn	Sn	14 51 25.1	-1.7
KARP				S	Sn	14 51 27.2	+0.4
AKHS	Akhisar	1.92	343	iP	Pn	14 51 03.6	-0.5
AKHS	Akhisar	1.92	343	iP	Pn	14 51 03.6	-0.5
AKS	Akhisar	1.92	343	ePN	Pn	14 51 03.6	-0.4
AKS	Akhisar	1.92	343	ePn	Pn	14 51 03.6	-0.4
SHUT	Suhut-Afyon	2.19	46	ePN	Pn	14 51 08.5	+0.6
SHUT	Suhut-Afyon	2.19	46	ePn	Pn	14 51 08.5	+0.6
ALT	Altintas	2.36	31	ePN	Pn	14 51 11.2	+1.0
ALT	Altintas	2.36	31	ePn	Pn	14 51 11.2	+1.0
CHOS	Chios island	2.38	305	P	Pn	14 51 10.8	+0.3
CHOS	Chios island	2.38	305	ePN	Pn	14 51 11.2	+0.7
CHOS	Chios island	2.38	305	P	Pn	14 51 10.8	+0.3
CHOS	Chios island	2.38	305	ePn	Pn	14 51 11.2	+0.7
APE	Apeiranthos	2.41	271	ePN	Pn	14 51 11.7	+0.9
APE	Apeiranthos	2.41	271	ePn	Pn	14 51 11.7	+0.9
TVSB	Tavsanli	2.51	17	ePN	Pn	14 51 12.2	0.0
TVSB	Tavsanli	2.51	17	ePn	Pn	14 51 12.2	0.0
SANT	Santorini	2.57	256	ePN	Pn	14 51 14.1	+1.2
SANT	Santorini	2.57	256	ePN	Pb	14 51 17.9	+0.4
SANT	Santorini	2.57	256	ePn	Pn	14 51 14.1	+1.2
BALB	Balikesir	2.64	349	ePN	Pn	14 51 14.9	+1.0
BALB	Balikesir	2.64	349	ePn	Pn	14 51 14.9	+1.0
ZKR	Zakros	2.69	225	ePN	Pn	14 51 17.3	+2.6
ZKR				eSN	Sn	14 51 46.2	-1.0
ZKR	Zakros	2.69	225	ePn	Pn	14 51 17.3	+2.6
ZKR				eSn	Sn	14 51 46.2	-1.0
NPS	Neapolis	2.96	234	ePN	Pb	14 51 21.7	-2.6
NPS				eSN	Sn	14 51 53.8	-0.1
NPS	Neapolis	2.96	234	ePn	Pb	14 51 21.7	-2.6
NPS				eSn	Sn	14 51 53.8	-0.1
SIGR	SIGRI	3.03	316	ePN	Pn	14 51 20.0	+0.8
SIGR	SIGRI	3.03	316	ePn	Pn	14 51 20.0	+0.8
LAST	Lasithi	3.11	234	ePN	Pn	14 51 23.3	+2.8
LAST				eSN	Sn	14 51 58.5	+0.9
LAST	Lasithi	3.11	234	ePn	Pn	14 51 23.3	+2.8
LAST				eSn	Sn	14 51 58.5	+0.9
KONT	Konya--Tatoy	3.17	72	ePN	Pn	14 51 22.0	+0.8
KONT	Konya--Tatoy	3.17	72	ePn	Pn	14 51 22.0	+0.8
LADK	Ladik-KONYA	3.25	68	ePN	Pn	14 51 23.0	+0.6
LADK	Ladik-KONYA	3.25	68	ePn	Pn	14 51 23.0	+0.6
EZN	Ezine	3.27	329	ePN	Pn	14 51 23.3	+0.7
EZN	Ezine	3.27	329	ePn	Pn	14 51 23.3	+0.7
CAVI	Cavuskoy	3.31	18	ePN	Pn	14 51 24.7	+1.5
CAVI	Cavuskoy	3.31	18	ePn	Pn	14 51 24.7	+1.5
KRBG	Karabiga-Canak	3.48	344	ePN	Pn	14 51 26.7	+1.2
KRBG	Karabiga-Canak	3.48	344	ePn	Pn	14 51 26.7	+1.2
LPK	Lapseki	3.60	338	ePN	Pn	14 51 28.1	+0.9
LPK	Lapseki	3.60	338	ePn	Pn	14 51 28.1	+0.9
SIVA	Sivas	3.64	237	ePN	Pb	14 51 32.2	-3.6
SIVA	Sivas	3.64	237	ePn	Pb	14 51 32.2	-3.6
GELI	Tayfur-Gelibol	3.72	335	ePN	Pn	14 51 29.8	+1.1
GELI	Tayfur-Gelibol	3.72	335	ePn	Pn	14 51 29.8	+1.1
GULT	Gulveren	3.72	24	ePN	Pn	14 51 30.1	+1.3
GULT	Gulveren	3.72	24	ePn	Pn	14 51 30.1	+1.3
RKY	Sarkoy-Tekirda	3.79	344	ePN	Pn	14 51 31.1	+1.3
RKY	Sarkoy-Tekirda	3.79	344	ePn	Pn	14 51 31.1	+1.3
ALN	Alexandroupoli	4.31	334	ePN	Pn	14 51 38.5	+1.6
ALN	Alexandroupoli	4.31	334	ePn	Pn	14 51 38.5	+1.6

IDC **25** *15:03:18.1±2.3, 35.°87S×176.°32E, h0km, mb4.2/3, mb1 4.4/4, mb1mx4.0/23, mbtmp4.3/4, ML4.8/1, Error ellipse: s-maj=59.6km s-min=30.4km az=47.0*
ISCJB **25** *15:03:31.8±0.5, 37.°71S±0.°04×176.°48E±0.°06, h205km±4km, mb3.9/4, Error ellipse: s-maj=7.7km s-min=5.6km az=166.5*
NEIC **25** *15:03:33.7, 37.°55S×176.°60E, h179km, mb4.7/2, After WEL.*
WEL **25** *15:03:33.7±0.2, 37.°56S×176.°62E, h180km±1km, ML4.6/20, Error ellipse: s-maj=1.4km s-min=1.3km az=90.0*
ISC 25 15:03:34.2±0.9,**37.°70S**±0.°05×**176.°46E**±0.°06,**h186**km±5km, **n221**,σ1.°27/205,**mb4.0**/4,**10C-19D**,**North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
TGRZ	Tauranga	0.16	258	⇑PN	Pn	15 03 57.8	-0.9
TGRZ				SN	Sn	15 04 16.8	-0.8
TGRZ	Tauranga	0.16	258	Pn	Pn	15 03 57.8	-0.9
TGRZ				Sn	Sn	15 04 16.8	-0.8
OPRZ	Ohinepanea	0.17	154	PN	Pn	15 03 57.2	-1.5
OPRZ				SN	Sn	15 04 16.1	-1.6
OPRZ	Ohinepanea	0.17	154	Pn	Pn	15 03 57.2	-1.5
MARZ	Manawahe	0.34	150	⇑PN	Pn	15 03 58.2	-0.9
MARZ	Manawahe	0.34	150	Pn	Pn	15 03 58.2	-0.9
KARZ	Kaharoa	0.37	208	⇑PN	Pn	15 03 58.6	-0.6
KARZ	Kaharoa	0.37	208	Pn	Pn	15 03 58.6	-0.6
OMRZ	Omania	0.42	190	PN	Pn	15 03 58.8	-0.6
OMRZ	Omania	0.42	190	Pn	Pn	15 03 58.7	-0.6
UTU	Utuhina	0.53	204	PN	Pn	15 03 59.7	0.0
UTU	Utuhina	0.53	204	Pn	Pn	15 03 59.9	+0.1
TARZ	Mount Tarawera	0.54	176	PN	Pn	15 04 00.1	+0.2
TARZ	Mount Tarawera	0.54	176	Pn	Pn	15 03 59.8	-0.1
RRRZ	Republican Roa	0.64	176	PN	Pn	15 03 59.5	-0.8
RRRZ	Republican Roa	0.64	176	Pn	Pn	15 04 00.0	-0.3
GRRZ	Galatos Road	0.71	203	PN	Pn	15 04 00.7	0.0
HRRZ	Handcock Road	0.71	191	PN	Pn	15 04 00.6	-0.1
HRRZ	Handcock Road	0.71	191	Pn	Pn	15 04 00.8	+0.1
URZ	Urewera	0.76	138	PN	Pn	15 03 59.4	-1.4
URZ				SN	Sn	15 04 19.7	-1.9
URZ				AML	AML	15 04 24.8	
URZ	Urewera	0.76	138	Pn	Pn	15 03 59.7	-1.1
	193nm,0.3s,baz=310,slow=6.2,SNR=714						
URZ				Sn	Sn	15 04 19.3	-2.3
	94nm,0.3s,baz=199,slow=22,SNR=22						
URZ	Urewera	0.76	138	Pn	Pn	15 03 59.4	-1.4
URZ				Sn	Sn	15 04 19.0	-2.5
TOZ	Tahuroa Road	0.76	267	PN	Pn	15 04 00.7	-0.2
TOZ	Tahuroa Road	0.76	267	Pn	Pn	15 04 00.4	-0.5
PRRZ	Plateau Road	0.80	184	PN	Pn	15 04 01.2	0.0
PRRZ	Plateau Road	0.80	184	Pn	Pn	15 04 01.2	0.0
ALRZ	Allen Road	0.87	186	PN	Pn	15 04 01.7	+0.2
ALRZ	Allen Road	0.87	186	Pn	Pn	15 04 01.8	+0.2
TLZ	Tolley Road	0.96	229	PN	Pn	15 04 02.7	+0.5
HAZ	Te Kaha	1.05	94	PN	Pn	15 04 00.5	-2.2
MWZ	Matawai	1.06	127	PN	Pn	15 04 01.4	-1.4
MWZ				AML	AML	15 04 28.2	
MWZ				AML	AML	15 04 28.3	
MWZ				AML	AML	15 04 28.5	
MWZ				AML	AML	15 04 28.5	
RAGZ	Rawiri	1.10	137	PN	Pn	15 04 02.3	-0.9
KUZ	Kuaotunu	1.12	328	PN	Pn	15 04 01.7	-1.6
KUZ	Kuaotunu	1.12	328	Pn	Pn	15 04 01.3	-2.0
WATZ	Wairara	1.16	209	PN	Pn	15 04 04.3	+0.6
WATZ	Wairara	1.16	209	Pn	Pn	15 04 04.4	+0.7
MKAZ	Moumakai	1.19	299	PN	Pn	15 04 03.2	-0.6
MKAZ	Moumakai	1.19	299	Pn	Pn	15 04 02.6	-1.2
HATZ	Hinemaiaia	1.23	194	⇑PN	Pn	15 04 04.7	+0.5
HATZ	Hinemaiaia	1.23	194	Pn	Pn	15 04 04.7	+0.5
SNGZ	Shannon Statio	1.28	148	PN	Pn	15 04 04.4	-0.3
RATZ	Rangitukua	1.29	205	⇓PN	Pn	15 04 05.5	+0.7
RATZ	Rangitukua	1.29	205	Pn	Pn	15 04 05.5	+0.7
TWGZ	Tauwhareparae	1.29	112	PN	Pn	15 04 03.6	-1.1
RAHZ	Arahi	1.31	158	PN	Pn	15 04 05.1	+0.1
RAHZ	Arahi	1.31	158	Pn	Pn	15 04 05.1	+0.1
RITZ	Rihia Road	1.36	200	⇑PN	Pn	15 04 06.4	+1.1
RITZ	Rihia Road	1.36	200	Pn	Pn	15 04 06.4	+1.1
KBAZ	Karaka Road Bo	1.39	295	⇑PN	Pn	15 04 05.3	-0.2
NMHZ	Naumai	1.43	169	PN	Pn	15 04 06.5	+0.5
NMHZ	Naumai	1.43	169	Pn	Pn	15 04 06.7	+0.7
ETAZ	East Tamaki Re	1.43	301	⇓PN	Pn	15 04 05.4	-0.5
RIGZ	Rimuhau	1.44	135	⇑PN	Pn	15 04 05.7	-0.3
BKZ	Black Stump Fm	1.47	179	⇓PN	Pn	15 04 06.2	-0.2
BKZ				AML	AML	15 04 40.6	
BKZ				AML	AML	15 04 42.1	
BKZ	Black Stump Fm	1.47	179	Pn	Pn	15 04 06.2	-0.2
BKZ				Sn	Sn	15 04 30.2	-1.3
PUZ	Puketiti	1.47	105	PN	Pn	15 04 04.4	-1.9
PUZ				AML	AML	15 04 39.3	
PUZ				AML	AML	15 04 39.5	
PUZ	Puketiti	1.47	105	Pn	Pn	15 04 04.6	-1.8
MXZ	Matakaoa Point	1.47	85	⇓PN	Pn	15 04 04.5	-1.8
MXZ				AML	AML	15 04 34.7	
MXZ				AML	AML	15 04 35.6	
MXZ				AML	AML	15 04 36.2	
MXZ				AML	AML	15 04 36.2	
MXZ	Matakaoa Point	1.47	85	Pn	Pn	15 04 04.5	-1.8
WHHZ	Waihua	1.51	156	PN	Pn	15 04 06.7	+0.1
HIZ	Hauiti	1.51	237	⇓PN	Pn	15 04 07.6	+1.0
HIZ	Hauiti	1.51	237	Pn	Pn	15 04 07.6	+1.0
MTAZ	Motutapu	1.54	306	⇓PN	Pn	15 04 06.4	-0.5
MTAZ	Motutapu	1.54	306	Pn	Pn	15 04 06.5	-0.5
KRVZ	Karewarewa	1.54	205	PN	Pn	15 04 07.8	+0.8
KRVZ	Karewarewa	1.54	205	Pn	Pn	15 04 07.8	+0.8
WTVZ	West Tongariro	1.57	206	PN	Pn	15 04 08.2	+0.8
WTVZ	West Tongariro	1.57	206	Pn	Pn	15 04 08.4	+1.0
CNGZ	Carnagh Statio	1.59	120	PN	Pn	15 04 07.0	-0.4
CNGZ	Carnagh Statio	1.59	120	Pn	Pn	15 04 07.2	-0.2
TWVZ	Taurewa	1.59	210	⇑PN	Pn	15 04 08.5	+1.0
TWVZ	Taurewa	1.59	210	Pn	Pn	15 04 08.5	+1.0
OTVZ	Oturere	1.59	203	PN	Pn	15 04 08.6	+0.9
OTVZ	Oturere	1.59	203	Pn	Pn	15 04 08.6	+0.9
NGZ	Ngauruhoe	1.62	204	PN	Pn	15 04 08.8	+0.8
NGZ	Ngauruhoe	1.62	204	Pn	Pn	15 04 08.7	+0.8
KNZ	Kokohu	1.63	145	PN	Pn	15 04 07.4	-0.4
KNZ	Kokohu	1.63	145	Pn	Pn	15 04 07.4	-0.4
PRGZ	Paritu Road	1.66	138	PN	Pn	15 04 07.7	-0.4
PRGZ	Paritu Road	1.66	138	Pn	Pn	15 04 07.8	-0.4
COVZ	Chateau Observ	1.67	205	PN	Pn	15 04 08.9	+0.6
WPVZ	Whakapapa	1.67	205	PN	Pn	15 04 09.2	+0.8
WPVZ	Whakapapa	1.67	205	Pn	Pn	15 04 09.1	+0.7
TUVZ	Tukino	1.69	202	⇓PN	Pn	15 04 09.3	+0.7
TUVZ	Tukino	1.69	202	Pn	Pn	15 04 09.3	+0.7
FWVZ	Far West T-bar	1.71	204	PN	Pn	15 04 09.3	+0.5
FWVZ	Far West T-bar	1.71	204	Pn	Pn	15 04 09.3	+0.5
WHVZ	Whangaehu Hut	1.73	203	PN	Pn	15 04 09.6	+0.6
DRZ	Dome Shelter	1.73	204	PN	Pn	15 04 09.7	+0.6
DRZ	Dome Shelter	1.73	204	Pn	Pn	15 04 09.9	+0.8
MCHZ	McNeill Hill	1.75	174	⇑PN	Pn	15 04 09.6	+0.6
MCHZ	McNeill Hill	1.75	174	Pn	Pn	15 04 09.6	+0.6
TRVZ	Turoa	1.75	204	PN	Pn	15 04 09.8	+0.5
TRVZ	Turoa	1.75	204	Pn	Pn	15 04 10.0	+0.7
RVAZ	Riverhead Bore	1.76	301	⇓PN	Pn	15 04 08.4	-0.8
WNVZ	Wahianoa	1.76	202	PN	Pn	15 04 09.9	+0.6
WNVZ	Wahianoa	1.76	202	Pn	Pn	15 04 09.9	+0.6
MOVZ	Moawhango	1.80	198	PN	Pn	15 04 09.6	0.0
MOVZ	Moawhango	1.80	198	Pn	Pn	15 04 09.6	0.0
PKVZ	Pokaka	1.82	208	⇓PN	Pn	15 04 10.5	+0.8
PKVZ	Pokaka	1.82	208	Pn	Pn	15 04 10.5	+0.8
BHHZ	Black Hill Sta	1.82	190	⇓PN	Pn	15 04 09.8	0.0
BHHZ	Black Hill Sta	1.82	190	Pn	Pn	15 04 09.8	0.0
MHGZ	Mahia Peninsul	1.85	142	PN	Pn	15 04 10.0	0.0
MHGZ	Mahia Peninsul	1.85	142	Pn	Pn	15 04 10.0	0.0
MTVZ	Mangateitei	1.86	204	PN	Pn	15 04 10.8	+0.7
MTVZ	Mangateitei	1.86	204	Pn	Pn	15 04 10.8	+0.7
KRHZ	Kereru	1.95	182	PN	Pn	15 04 11.1	0.0
VRZ	Vera Road	1.96	223	PN	Pn	15 04 12.6	+1.6
VRZ	Vera Road	1.96	223	Pn	Pn	15 04 12.7	+1.6
CKHZ	Cape Kidnapper	2.02	166	PN	Pn	15 04 12.1	+0.3
CKHZ	Cape Kidnapper	2.02	166	Pn	Pn	15 04 12.1	+0.3
KAHZ	Kahuranaki	2.12	171	PN	Pn	15 04 13.2	+0.3
KAHZ	Kahuranaki	2.12	171	Pn	Pn	15 04 13.2	+0.3
PNHZ	Pukenui	2.22	185	PN	Pn	15 04 13.8	-0.3
PNHZ	Pukenui	2.22	185	Pn	Pn	15 04 13.8	-0.3
DREZ	Durham Road	2.32	229	PN	Pn	15 04 13.9	-1.1
PXZ	Pawanui	2.35	172	⇓PN	Pn	15 04 15.2	-0.2
PXZ				AML	AML	15 04 49.1	
PXZ				AML	AML	15 04 49.1	
PXZ				AML	AML	15 04 50.2	
PXZ				AML	AML	15 04 50.3	
PXZ	Pawanui	2.35	172	Pn	Pn	15 04 15.2	-0.2
WAZ	Wanganui	2.36	209	PN	Pn	15 04 16.1	+0.6
WAZ	Wanganui	2.36	209	Pn	Pn	15 04 16.1	+0.6
WPHZ	Waipukurau	2.37	180	PN	Pn	15 04 15.3	-0.3
WPHZ	Waipukurau	2.37	180	Pn	Pn	15 04 15.4	-0.2
LREZ	Lake Rotokare	2.39	222	PN	Pn	15 04 17.6	+1.8
TSZ	Takapari Road	2.39	189	PN	Pn	15 04 15.5	-0.4
TSZ				AML	AML	15 04 54.4	
TSZ				AML	AML	15 04 59.7	

TSZ	Takapari Road	2.39	189	Pn	Pn	15 04 15.6	-0.4
NEZ	North Egmont	2.43	229	PN	Pn	15 04 18.6	+2.1
NEZ	North Egmont	2.43	229	PN	Pn	15 04 18.9	+2.4
WCZ	Waipu Caves	2.44	315	PN	Pn	15 04 15.5	-1.0
WCZ	Waipu Caves	2.44	315	Pn	Pn	15 04 14.9	-1.6
KHEZ	Kahui Hut	2.50	230	PN	Pn	15 04 19.2	+2.1
PRHZ	Porangahau	2.57	177	⇓PN	Pn	15 04 17.6	-0.3
PRHZ	Porangahau	2.57	177	Pn	Pn	15 04 17.6	-0.3
DVHZ	Dannevirke	2.61	185	PN	Pn	15 04 17.8	-0.6
DVHZ	Dannevirke	2.61	185	Pn	Pn	15 04 17.8	-0.6
POWZ	Post Office Ro	2.75	191	PN	Pn	15 04 19.6	-0.4
POWZ	Post Office Ro	2.75	191	Pn	Pn	15 04 19.6	-0.4
ANWZ	Angora Road	2.76	180	⇓PN	Pn	15 04 19.8	-0.3
PRWZ	Pori Road	2.88	187	⇓PN	Pn	15 04 21.2	-0.4
BFZ	Birch Farm	2.98	183	PN	Pn	15 04 22.0	-0.8
BFZ	Birch Farm	2.98	183	Pn	Pn	15 04 22.0	-0.8
MRZ	Mangatainoka R	3.04	193	PN	Pn	15 04 22.5	-1.0
MRZ				AML	AML	15 05 01.7	
MRZ				AML	AML	15 05 02.0	
MRZ	Mangatainoka R	3.04	193	Pn	Pn	15 04 22.5	-1.0
TIWZ	Tintock	3.11	188	⇓PN	Pn	15 04 23.5	-0.8
TIWZ				AML	AML	15 05 04.9	
TIWZ				AML	AML	15 05 06.2	
TIWZ	Tintock	3.11	188	Pn	Pn	15 04 23.5	-0.8
CPWZ	Castlepoint	3.21	184	PN	Pn	15 04 25.4	-0.2
OGWZ	Otaki Gorge	3.27	197	⇓PN	Pn	15 04 25.3	-1.0
OGWZ	Otaki Gorge	3.27	197	Pn	Pn	15 04 25.3	-1.0
HOWZ	Holdsworth Sta	3.28	193	⇓PN	Pn	15 04 25.2	-1.3
HOWZ	Holdsworth Sta	3.28	193	Pn	Pn	15 04 25.2	-1.3
OUZ	Omahuta	3.38	316	PN	Pn	15 04 26.9	-0.9
OUZ	Omahuta	3.38	316	Pn	Pn	15 04 26.6	-1.2
KIW	Kapiti Island	3.38	200	PN	Pn	15 04 26.2	-1.4
KIW				AML	AML	15 05 09.7	
KIW				AML	AML	15 05 10.0	
KIW	Kapiti Island	3.38	200	Pn	Pn	15 04 26.4	-1.3
TMWZ	Te Maipa	3.44	187	PN	Pn	15 04 27.1	-1.2
TMWZ	Te Maipa	3.44	187	Pn	Pn	15 04 27.1	-1.2
MTW	Mount Morrison	3.54	192	⇓PN	Pn	15 04 27.9	-1.6
MTW				AML	AML	15 05 11.8	
MTW				AML	AML	15 05 12.7	
MTW	Mount Morrison	3.54	192	Pn	Pn	15 04 27.9	-1.6
CAW	Cannon Point	3.57	197	⇑PN	Pn	15 04 28.6	-1.4
CAW				AML	AML	15 05 15.0	
CAW				AML	AML	15 05 15.2	
CAW	Cannon Point	3.57	197	Pn	Pn	15 04 28.6	-1.4
DUWZ	D'Urville Isla	3.68	212	PN	Pn	15 04 30.1	-1.2
DUWZ	D'Urville Isla	3.68	212	Pn	Pn	15 04 30.1	-1.2
TRWZ	Traveller	3.75	189	PN	Pn	15 04 30.6	-1.5
TRWZ				AML	AML	15 05 16.9	
TRWZ				AML	AML	15 05 17.9	
TRWZ	Traveller	3.75	189	Pn	Pn	15 04 30.6	-1.5
PAWZ	Paruwai Farm	3.77	192	PN	Pn	15 04 30.6	-1.8
PAWZ				AML	AML	15 05 16.5	
PAWZ				AML	AML	15 05 17.3	
PAWZ	Paruwai Farm	3.77	192	Pn	Pn	15 04 30.6	-1.8
WEL	Wellington	3.82	200	PN	Pn	15 04 31.2	-1.9
WEL	Wellington	3.82	200	Pn	Pn	15 04 31.3	-1.7
MSWZ	Moikau Station	3.83	194	⇓PN	Pn	15 04 31.4	-1.9
MSWZ				AML	AML	15 05 18.3	
MSWZ				AML	AML	15 05 19.9	
MSWZ	Moikau Station	3.83	194	Pn	Pn	15 04 31.4	-1.9
SNZO	South Karori	3.86	200	ePn	Pn	15 04 31.5	-2.0
SNZO				eSn	Sn	15 05 17.4	-2.7
TCW	Tory Channel	3.90	205	PN	Pn	15 04 32.6	-1.5
TCW				AML	AML	15 05 21.7	
TCW				AML	AML	15 05 26.0	
BHW	Baring Head	3.91	198	PN	Pn	15 04 32.3	-1.9
BHW				AML	AML	15 05 19.8	
BHW				AML	AML	15 05 20.5	
BHW	Baring Head	3.91	198	Pn	Pn	15 04 32.2	-1.9
PLWZ	Palliser	3.98	193	PN	Pn	15 04 33.2	-2.0
PLWZ	Palliser	3.98	193	Pn	Pn	15 04 33.2	-2.0
TUWZ	Tuamarina	4.21	207	PN	Pn	15 04 36.1	-1.9
TUWZ				AML	AML	15 05 27.9	
TUWZ				AML	AML	15 05 29.8	
NNZ	Nelson	4.25	213	PN	Pn	15 04 36.5	-2.1
QRZ	Quartz Range	4.37	223	ePN	Pn	15 04 38.4	-1.7
BSWZ	Blackbirch Sta	4.48	206	PN	Pn	15 04 39.9	-1.6
BSWZ				AML	AML	15 05 38.1	
BSWZ				AML	AML	15 05 40.2	
BSWZ	Blackbirch Sta	4.48	206	Pn	Pn	15 04 39.7	-1.8
THZ	Tophouse	4.90	213	PN	Pn	15 04 44.4	-2.5
KHZ	Kahutara	5.22	205	PN	Pn	15 04 48.5	-2.5
KHZ				AML	AML	15 05 51.7	
KHZ				AML	AML	15 05 51.8	
KHZ	Kahutara	5.22	205	ePn	Pn	15 04 49.0	-2.0
	106nm,0.4s						
KHZ				eSn	Sn	15 05 42.5	-9.0
DSZ	Denniston Nort	5.41	220	PN	Pn	15 04 51.0	-2.5
DSZ	Denniston Nort	5.41	220	Pn	Pn	15 04 51.0	-2.5
LTZ	Lake Taylor	6.01	211	PN	Pn	15 04 58.3	-3.0
LTZ	Lake Taylor	6.01	211	Pn	Pn	15 04 55.0	-6.2
OXZ	Oxford	6.55	210	PN	Pn	15 05 04.7	-3.7
CRLZ	Canterbury Las	6.56	205	PN	Pn	15 05 05.0	-3.3
CRLZ	Canterbury Las	6.56	205	Pn	Pn	15 05 05.0	-3.3
MQZ	McQueen's Vall	6.67	205	PN	Pn	15 05 05.8	-3.9
MQZ	McQueen's Vall	6.67	205	Pn	Pn	15 05 05.8	-3.9
WVZ	Waitaha Valley	6.92	217	PN	Pn	15 05 10.4	-2.8
WVZ	Waitaha Valley	6.92	217	Pn	Pn	15 05 10.3	-2.9
RPZ	Rata Peaks	7.28	213	PN	Pn	15 05 14.8	-3.0
RPZ	Rata Peaks	7.28	213	Pn	Pn	15 05 14.8	-3.0
FOZ	Fox Glacier	7.80	219	PN	Pn	15 05 20.9	-3.7
FOZ	Fox Glacier	7.80	219	Pn	Pn	15 05 20.9	-3.7
LBZ	Lake Benmore	8.19	213	PN	Pn	15 05 26.4	-3.4
LBZ	Lake Benmore	8.19	213	Pn	Pn	15 05 26.5	-3.3
ODZ	Otahua Downs	8.54	209	PN	Pn	15 05 31.4	-3.0
ODZ	Otahua Downs	8.54	209	Pn	Pn	15 05 31.5	-2.9
ODZ				eSn	Sn	15 06 59.4	-11
JCZ	Jackson Bay	8.64	220	PN	Pn	15 05 32.3	-3.4
JCZ	Jackson Bay	8.64	220	Pn	Pn	15 05 32.8	-3.0
WKZ	Wanaka	9.06	216	PN	Pn	15 05 37.3	-3.9
WKZ	Wanaka	9.06	216	Pn	Pn	15 05 37.4	-3.9
EAZ	Earnscleugh	9.24	213	PN	Pn	15 05 39.6	-4.0
EAZ	Earnscleugh	9.24	213	Pn	Pn	15 05 40.1	-3.5
MSZ	Milford Sound	9.48	220	ePN	Pn	15 05 44.0	-2.7
MSZ	Milford Sound	9.48	220	Pn	Pn	15 05 44.5	-2.1
TUZ	Tuapeka	9.70	210	PN	Pn	15 05 47.3	-2.2
TUZ	Tuapeka	9.70	210	Pn	Pn	15 05 46.8	-2.7
WHZ	Wether Hill Ro	10.36	215	Pn	Pn	15 05 54.6	-3.6
SYZ	Scrubby Hill	10.37	209	Pn	Pn	15 05 56.3	-1.9
STKA	Stephens Creek	29.11	271	P	P	15 09 19.6	+2.1
	2.9nm,0.8s,baz=106,slow=11,SNR=7.5						
ASAR	Alice Springs	38.85	279	P	P	15 10 41.9	+0.5
	1.9nm,0.7s,baz=127,slow=8.4,SNR=32						
WRAB	Tennant Creek	40.54	284	eP	P	15 10 54.7	-0.6
WRA	Warramunga Arr	40.54	284	P	P	15 10 55.3	-0.1
	2.0nm,0.5s,baz=124,slow=8.3,SNR=28						
QSPA	South Pole Qui	52.43	180	eP	P	15 12 29.4	+2.1
	2.3nm,0.6s						
FINES	FINESS Array B	149.93	332	PKPbc	PKPbc	15 23 04.5	+3.1
	1.9nm,0.8s,baz=48,slow=2.1,SNR=5.7						

IDC 25 15:19:22.2±1.9,2.26S×127.12E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.2/38,mbtmp3.3/3,ML3.4/1,Error ellipse: s-maj=152.2km s-min=25.2km az=66.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.94	159	P	Pn	15 23 45.6	+0.1
	0.1nm,0.3s,baz=337,slow=11,SNR=5.1						
ASAR	Alice Springs	22.27	163	P	P	15 24 20.4	-0.8
	0.4nm,0.3s,baz=345,slow=12,SNR=14						
MKAR	Makanchi Array	62.71	327	P	P	15 29 49.3	+0.2
	0.3nm,0.7s,baz=111,slow=6.3,SNR=2.5						

IDC 25 15:31:33.2±1.2,8.54N×39.56W,h0km,mb3.7/6,mb1 4.0/6, mb1mx3.7/26,mbtmp3.7/6,MS3.3/10,Ms1 3.4/10, ms1mx3.1/38,Error ellipse: s-maj=45.2km s-min=26.8km az=167.0
ISCJB 25 15:31:34.1±0.9,8.6N±0.2×39.6W±0.2,h15km,mb3.6/6, MS3.3/10,Error ellipse: s-maj=34.7km s-min=20.9km az=162.5
ISC 25 15:31:35.5±1.1,8.5N±0.3×39.5W±0.2,h15km,n20,σ0§89/6, mb3.7/6,MS3.3/10,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	Brasilia	25.40	199	LR	LR	15 46 07.5	
	comp=Z,57nm,20.3s,baz=50,slow=34						
H10N3	ASCENSION HYDR	29.77	122	T	T	16 08 40.0	
	baz=302,slow=75,SNR=7.4						
H10N2	ASCENSION HYDR	29.77	122	T	T	16 08 40.2	
	baz=302,slow=75,SNR=8.2						
H10N1	ASCENSION HYDR	29.79	122	T	T	16 08 41.4	
	baz=302,slow=75,SNR=7.3						
H10S3	ASCENSION HYDR	30.24	124	T	T	16 09 17.2	
	baz=305						
H10S1	ASCENSION HYDR	30.25	124	T	T	16 09 18.4	
	baz=305,SNR=3.7						
H10S2	ASCENSION HYDR	30.26	124	T	T	16 09 21.1	
	baz=305						
SIV	San Ignacio	32.34	221	LR	LR	15 50 32.6	
	comp=Z,79nm,20.7s,baz=348,slow=35						
DBIC	Dimbokro	34.42	91	LR	LR	15 49 49.5	
	comp=Z,35nm,18.2s,baz=218,slow=32						
ROSC	El Rosal	34.73	266	LR	LR	15 52 35.7	
	comp=Z,50nm,21.0s,baz=48,slow=36						
LPAZ	La Paz	37.50	229	P	P	15 38 49.6	-0.2
	1.3nm,0.7s,baz=60,slow=6.5,SNR=3.5						
LPAZ				LR	LR	15 53 31.8	
	comp=Z,36nm,19.9s,baz=49,slow=35						
CPUP	Villa Florida	38.68	206	LR	LR	15 55 03.8	
	comp=Z,97nm,18.1s,baz=30,slow=36						
TORD	Torodi Ar. Bea	40.74	80	P	P	15 39 16.4	+0.1
	1.2nm,0.8s,baz=274,slow=8.5,SNR=6.3						
TORD				LR	LR	15 54 05.0	
	comp=Z,51nm,20.5s,baz=260,slow=33						
TXAR	Lajitas Array	63.36	298	P	P	15 42 05.1	+0.4
	0.3nm,0.6s,baz=100,slow=7.8,SNR=4.2						
NOA	NORSAR Array B	64.37	25	LR	LR	16 05 48.5	
	comp=Z,13nm,20.2s,baz=290,slow=32						
PDAR	Pinedale Array	69.63	312	LR	LR	16 11 32.5	
	comp=Z,24nm,18.9s,baz=126,slow=34						
FINES	FINESS Array B	71.05	28	LR	LR	16 08 37.0	
	comp=Z,30nm,20.2s,baz=70,slow=31						
BRTR	Keskin Array B	71.70	51	P	P	15 42 57.1	-0.2
	0.6nm,0.8s,baz=226,slow=3.8,SNR=3.2						
YKA	Yellowknife Ar	75.63	332	P	P	15 43 18.6	-1.1
	0.2nm,0.6s,baz=106,slow=5.3,SNR=4.5						
ILAR	Eielson Array	89.65	336	P	P	15 44 33.6	+1.0
	0.5nm,1.0s,baz=71,slow=3.9,SNR=3.3						

PRU 25 15:36:53.1,50.28N×19.00E,h0km
CSEM 25 15:36:50.1±0.5,50.36N×19.15E,h1km,Error ellipse: s-maj=12.9km s-min=4.5km az=9.0,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.12	235	ePg	Pg	15 36 56.2	+3.7
CHZP				eSg	Sg	15 36 58.3	+4.1
OJC	Ojcow	0.44	109	ePg	Pn	15 37 02.9	-0.7
OJC				eSg	Sb	15 37 09.6	+1.8
OKC	Ostrava-Krasne	0.83	231	ePG	Pg	15 37 06.2	+0.1
OKC				eSG	Sg	15 37 16.0	-0.9
	5.5nm,0.4s						
OKC	Ostrava-Krasne	0.83	231	Pg	Pg	15 37 06.2	+0.1
OKC				Sg	Sg	15 37 16.0	-0.9
	5.5nm,0.4s						
MORC	Moravsky Berou	1.19	241	ePg	Pn	15 37 13.8	-0.2
MORC				eSg	Sg	15 37 27.5	-1.0
DPC	Dobruska-Polom	1.81	271	ePG	Pg	15 37 24.7	-0.2
DPC				eSG	Sg	15 37 48.3	-0.2
DPC	Dobruska-Polom	1.81	271	Pg	Pg	15 37 24.7	-0.2
DPC				Sg	Sg	15 37 48.3	-0.2
CRVS	Cervenica-Dubn	2.10	133	ePG	Sn	15 37 46.0	-7.1
CRVS				eSG	Sg	15 37 58.0	+0.5
CRVS	Cervenica-Dubn	2.10	133	eSg	Sg	15 37 58.0	+0.5
KOLS	Kolonicke sedl	2.48	124	ePG	Pg	15 37 37.4	-0.3
KOLS				eSG	Pg	15 37 42.9	+5.2
KOLS	Kolonicke sedl	2.48	124	ePg	Pg	15 37 37.4	-0.3

BJI 25 15:48:04.1,25.41N×101.95E,h14km,ML3.0/8,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	0.77	112	Pg	Pg	15 48 17.0	-2.4
KMI				Sg	Sg	15 48 27.0	-2.8
KMI				smax	smax		
	comp=N,520nm,0.3s						
KMI				smax	smax		
	comp=E,420nm,0.6s						

THE 25 15:51:23.6,45.89N×26.72E,h27km±44km,ML3.5/1,Error ellipse: s-maj=44.7km s-min=3.7km az=25.0
SOF 25 15:51:25.6,45.65N×26.45E,h7km,MD3.6
SIGU 25 15:51:26.6,45.65N×26.61E,h121km,mb3.6
MOS 25 15:51:27.3±0.8,45.61N×26.61E,h96km,mb4.1/3,Error ellipse: s-maj=10.7km s-min=8.0km az=110.4
ISCJB 25 15:51:27.4±0.1,45.60N±0.01×26.52E±0.02,h111km±1km, mb3.7/8,Error ellipse: s-maj=2.3km s-min=1.8km az=151.8
IDC 25 15:51:28.8±0.5,45.60N×26.41E,h100km±6km,mb3.5/8, mb1 3.4/13,mb1mx3.2/36,mbtmp3.7/13,Error ellipse: s-maj=18.0km s-min=16.8km az=152.0
CSEM 25 15:51:28.5±0.1,45.59N×26.53E,h107km±1km,MD4.7, Error ellipse: s-maj=2.3km s-min=2.0km az=50.0
BUC 25 15:51:28.5±0.4,45.59N×26.55E,h111km±5km,MD4.7/2, Error ellipse: s-maj=3.4km s-min=2.6km az=24.0
SKO 25 15:51:46.7,44.56N×24.50E,h0km,M2.3,ML3.1
ISC 25 15:51:29.2±0.5,45.61N±0.02×26.57E±0.02,h112km±3km, n358,σ1§58/479,mb3.7/8,79C-70D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.25	12	⇑iP	Pn	15 51 43.9	-1.2
PLOR	Plostina	0.25	12	⇑iP	Pn	15 51 43.9	-1.2
PLOR				iS	Sn	15 51 55.7	-1.3
PLOR	Plostina	0.25	12	⇑iP	Pn	15 51 43.9	-1.2
PLOR				iS	Sn	15 51 55.7	-1.3
VRI	Vrincioaia	0.28	23	⇑iP	Pn	15 51 44.3	-0.9
VRI	Vrincioaia	0.28	23	⇑iP	Pn	15 51 44.3	-0.9
VRI				iS	Sn	15 51 55.5	-1.6
VRI	Vrincioaia	0.28	23	⇑iP	Pn	15 51 44.3	-0.9
VRI				iS	Sn	15 51 55.5	-1.6
GRER		0.36	129	⇓iP	Pn	15 51 45.5	0.0
GRER		0.36	129	⇓iP	Pn	15 51 45.5	0.0
GRER				iS	Sn	15 51 57.2	-0.5
GRER		0.36	129	⇓iP	Pn	15 51 45.5	0.0
GRER				iS	Sn	15 51 57.2	-0.5
ODBI	Odobesti	0.37	65	⇑iP	Pn	15 51 45.6	+0.1
ODBI	Odobesti	0.37	65	⇑iP	Pn	15 51 45.6	+0.1
ODBI				iS	Sn	15 51 57.6	-0.2
ODBI	Odobesti	0.37	65	⇑iP	Pn	15 51 45.6	+0.1
ODBI				iS	Sn	15 51 57.6	-0.2
MLR	Muntele Rosu	0.46	255	P	Pn	15 51 45.0	-1.1
MLR				S	Sn	15 51 56.9	-1.9
MLR				pmax	pmax		
	comp=Z,131nm,0.3s						
MLR				smax	smax		
	comp=N,203nm,0.3s						
MLR	Muntele Rosu	0.46	255	⇑iP	Pn	15 51 45.1	-1.1
MLR	Muntele Rosu	0.46	255	⇑iP	Pn	15 51 45.1	-1.1
MLR				iS	Sn	15 51 57.0	-1.9
MLR	Muntele Rosu	0.46	255	P	Pn	15 51 45.0	-1.1
	comp=N,131nm,0.3s,baz=138,slow=3.8,SNR=4748						
MLR				LR	LR	15 51 53.4	
	comp=N,8.5nm,18.1s,baz=345,slow=71						
MLR				S	Sn	15 51 56.9	-1.9
	comp=N,203nm,0.3s,baz=89,slow=19,SNR=44						
MLR	Muntele Rosu	0.46	255	P	Pn	15 51 45.0	-1.1
	comp=N,203nm,0.3s						
MLR				iS	Sn	15 51 57.0	-1.9
PETR	Petresti	0.47	76	⇓iP	Pn	15 51 45.7	-0.4
PETR	Petresti	0.47	76	⇓iP	Pn	15 51 45.7	-0.4
PETR				iS	Sn	15 51 58.0	-0.7
PETR	Petresti	0.47	76	⇓iP	Pn	15 51 45.7	-0.4
PETR				iS	Sn	15 51 58.0	-0.7
ISR	Istrita	0.49	183	⇑iP	Pn	15 51 45.6	-0.7
ISR	Istrita	0.49	183	⇑iP	Pn	15 51 45.6	-0.7
ISR				iS	Sn	15 51 58.0	-1.1
ISR	Istrita	0.49	183	⇑iP	Pn	15 51 45.6	-0.7
ISR				iS	Sn	15 51 58.0	-1.1
SECR		0.67	212	⇑iP	Pn	15 51 47.0	-0.6
SECR		0.67	212	⇑iP	Pn	15 51 47.0	-0.6
SECR				iS	Sn	15 52 00.6	-0.8
SECR		0.67	212	⇑iP	Pn	15 51 47.0	-0.6
SECR				iS	Sn	15 52 00.6	-0.8
PGOR	Pogoanele	0.76	157	⇓iP	Pn	15 51 47.5	-0.7
PGOR	Pogoanele	0.76	157	⇓iP	Pn	15 51 47.5	-0.7
PGOR				iS	Sn	15 52 02.0	-0.5
PGOR	Pogoanele	0.76	157	⇓iP	Pn	15 51 47.5	-0.7
PGOR				iS	Sn	15 52 02.0	-0.5
PLAR	PLOIESTI	0.79	209	⇑iP	Pn	15 51 47.9	-0.7
PLAR	PLOIESTI	0.79	209	⇑iP	Pn	15 51 47.9	-0.7
PLAR				iS	Sn	15 52 02.7	-0.4
PLAR	PLOIESTI	0.79	209	⇑iP	Pn	15 51 47.9	-0.7
PLAR				iS	Sn	15 52 02.7	-0.4
DOPR	Dopca	0.90	294	⇑iP	Pn	15 51 48.4	-1.2
DOPR	Dopca	0.90	294	⇑iP	Pn	15 51 48.4	-1.2
DOPR				iS	Sn	15 52 03.1	-1.9
DOPR	Dopca	0.90	294	⇑iP	Pn	15 51 48.4	-1.2
DOPR				iS	Sn	15 52 03.1	-1.9
TESR	Tescani	0.91	3	⇑iP	Pn	15 51 48.4	-1.2
TESR	Tescani	0.91	3	⇑iP	Pn	15 51 48.4	-1.2
TESR				iS	Sn	15 52 03.0	-2.0
TESR	Tescani	0.91	3	⇑iP	Pn	15 51 48.4	-1.2
TESR				iS	Sn	15 52 03.0	-2.0
SULR		0.96	194	⇓iP	Pn	15 51 49.5	-0.6
SULR		0.96	194	⇓iP	Pn	15 51 49.5	-0.6
SULR				iS	Sn	15 52 05.2	-0.6
SULR		0.96	194	⇓iP	Pn	15 51 49.5	-0.6
SULR				iS	Sn	15 52 05.2	-0.6
VOIR		1.08	261	⇑iP	Pn	15 51 50.2	-1.3
VOIR		1.08	261	⇑iP	Pn	15 51 50.2	-1.3
VOIR				iS	Sn	15 52 05.8	-2.6
VOIR		1.08	261	⇑iP	Pn	15 51 50.1	-1.3
VOIR				iS	Sn	15 52 05.8	-2.6
MTUR	Matau	1.13	251	⇑iP	Pn	15 51 51.3	-0.7
MTUR	Matau	1.13	251	⇑iP	Pn	15 51 51.3	-0.7
MTUR	Matau	1.13	251	⇑iP	Pn	15 51 51.3	-0.7
AMRR	Amara	1.13	151	⇓iP	Pn	15 51 51.3	-0.6
AMRR	Amara	1.13	151	⇓iP	Pn	15 51 51.3	-0.6
AMRR				iS	Sn	15 52 07.9	-1.2
AMRR	Amara	1.13	151	⇓iP	Pn	15 51 51.3	-0.6
AMRR				iS	Sn	15 52 07.9	-1.2
GIUM	Giurgiulesti	1.16	96	⇓iP	Pn	15 51 51.9	-0.3
GIUM	Giurgiulesti	1.16	96	⇓iP	Pn	15 51 51.9	-0.3
GIUM				iS	Sn	15 52 08.9	-0.6
GIUM	Giurgiulesti	1.16	96	⇓iP	Pn	15 51 51.9	-0.3
GIUM				iS	Sn	15 52 08.9	-0.6
CFR	Carcaliu	1.18	111	⇓iP	Pn	15 51 51.4	-1.0
CFR	Carcaliu	1.18	111	⇓iP	Pn	15 51 51.4	-1.0
CFR				iS	Sn	15 52 07.6	-2.4
CFR	Carcaliu	1.18	111	⇓iP	Pn	15 51 51.4	-1.0
CFR				iS	Sn	15 52 07.6	-2.4
BAPR	Bucharest-Chil	1.24	195	⇑iP	Pn	15 51 52.4	-0.8
BAPR	Bucharest-Chil	1.24	195	⇑iP	Pn	15 51 52.4	-0.8
BAPR				iS	Sn	15 52 09.7	-1.6
BAPR	Bucharest-Chil	1.24	195	⇑iP	Pn	15 51 52.4	-0.8
BAPR				iS	Sn	15 52 09.7	-1.6
CIOR	Ciorogarla	1.26	203	⇑iP	Pn	15 51 52.4	-0.9
CIOR	Ciorogarla	1.26	203	⇑iP	Pn	15 51 52.4	-0.9
CIOR				iS	Sn	15 52 09.9	-1.7
CIOR	Ciorogarla	1.26	203	⇑iP	Pn	15 51 52.4	-0.9
CIOR				iS	Sn	15 52 09.9	-1.7
BUC1	Bucharest	1.32	197	⇑iP	Pn	15 51 53.3	-0.7
BUC1	Bucharest	1.32	197	⇑iP	Pn	15 51 53.3	-0.7
BUC1				iS	Sn	15 52 09.8	-2.9
BUC1	Bucharest	1.32	197	⇑iP	Pn	15 51 53.3	-0.7
BUC1				iS	Sn	15 52 09.8	-2.9
HARR	Harsova	1.33	133	⇓iP	Pn	15 51 53.2	-0.9
HARR	Harsova	1.33	133	⇓iP	Pn	15 51 53.2	-0.9
HARR	Harsova	1.33	133	⇓iP	Pn	15 51 53.2	-0.9
GOLR		1.37	237	⇓iP	Pn	15 51 54.0	-0.6
GOLR		1.37	237	⇓iP	Pn	15 51 54.0	-0.6
GOLR				iS	Sn	15 52 12.9	-1.0
GOLR		1.37	237	⇓iP	Pn	15 51 54.0	-0.6
GOLR				iS	Sn	15 52 12.9	-1.0
ARR	Arges	1.39	261	⇑iP	Pn	15 51 54.0	-0.9
ARR	Arges	1.39	261	⇑iP	Pn	15 51 54.0	-0.9
ARR				iS	Sn	15 52 12.2	-2.1
ARR	Arges	1.39	261	⇑iP	Pn	15 51 54.0	-0.9
ARR				iS	Sn	15 52 12.2	-2.1
LEOM	Leova	1.45	53	ePN	Pn	15 51 55.2	-0.3
LEOM				eSN	Sn	15 52 15.1	-0.4
LEOM	Leova	1.45	53	⇓iP	Pn	15 51 55.2	-0.3
LEOM	Leova	1.45	53	⇓iP	Pn	15 51 55.2	-0.3
LEOM				iS	Sn	15 52 14.7	-0.8
LEOM	Leova	1.45	53	⇓iP	Pn	15 51 55.2	-0.3
LEOM				iS	Sn	15 52 14.7	-0.8
LEOM				eSn	Sn	15 52 15.1	-0.4
MDB	Medias	1.62	290	⇑iP	Pn	15 51 57.4	-0.2
MDB	Medias	1.62	290	⇑iP	Pn	15 51 57.4	-0.2
MDB				iS	Sn	15 52 18.0	-1.2
MDB	Medias	1.62	290	⇑iP	Pn	15 51 57.4	-0.2
MDB				iS	Sn	15 52 18.0	-1.2
TLCR		1.64	104	⇓iP	Pn	15 51 57.1	-0.6
TLCR		1.64	104	⇓iP	Pn	15 51 57.1	-0.6
TLCR				iS	Sn	15 52 18.3	-1.1
TLCR		1.64	104	⇓iP	Pn	15 51 57.1	-0.6
TLCR				iS	Sn	15 52 18.3	-1.1
CVD	Cernavoda	1.66	141	⇓iP	Pn	15 51 57.1	-0.9
CVD	Cernavoda	1.66	141	⇓iP	Pn	15 51 57.1	-0.9
CVD				iS	Sn	15 52 18.6	-1.3
CVD	Cernavoda	1.66	141	⇓iP	Pn	15 51 57.1	-0.9
CVD				iS	Sn	15 52 18.6	-1.3
RMVG	GOVORA	1.71	251	S	Sn	15 52 21.1	0.0
RMVG	GOVORA	1.71	251	iS	Sn	15 52 21.1	0.0
RMVG	GOVORA	1.71	251	iS	Sn	15 52 21.1	0.0
IAS	Iasi	1.73	23	⇑iP	Pn	15 51 58.5	-0.3
IAS	Iasi	1.73	23	⇑iP	Pn	15 51 58.5	-0.3
IAS				iS	Sn	15 52 19.4	-2.0
IAS	Iasi	1.73	23	⇑iP	Pn	15 51 58.5	-0.3
IAS				iS	Sn	15 52 19.4	-2.0
TIRR	Tirgusor	1.74	131	iP	Pn	15 51 58.2	-0.8
TIRR				iS	Sn	15 52 18.8	-2.9
TIRR	Tirgusor	1.74	131	⇓iP	Pn	15 51 58.2	-0.8
TIRR	Tirgusor	1.74	131	⇓iP	Pn	15 51 58.2	-0.8
TIRR				iS	Sn	15 52 19.3	-2.4
TIRR	Tirgusor	1.74	131	⇓iP	Pn	15 51 58.2	-0.8
TIRR				iS	Sn	15 52 19.3	-2.4
MSAB	Monastry St. A	1.76	149	⇓iP	Pn	15 51 58.6	-0.7
MSAB	Monastry St. A	1.76	149	⇓iP	Pn	15 51 58.6	-0.7
MSAB				iS	Sn	15 52 20.6	-1.5
MSAB	Monastry St. A	1.76	149	⇓iP	Pn	15 51 58.6	-0.7
MSAB				iS	Sn	15 52 20.6	-1.5
PRAR	RASCA	1.77	352	⇓iP	Pn	15 51 59.4	0.0
PRAR	RASCA	1.77	352	⇓iP	Pn	15 51 59.4	0.0
PRAR	RASCA	1.77	352	⇓iP	Pn	15 51 59.4	0.0
LOT	Lotru	1.98	266	ePN	Pn	15 52 00.8	-1.3
LOT	Lotru	1.98	266	⇑iP	Pn	15 52 00.7	-1.4
LOT	Lotru	1.98	266	⇑iP	Pn	15 52 00.7	-1.4
LOT				iS	Sn	15 52 25.5	-1.7
LOT	Lotru	1.98	266	⇑iP	Pn	15 52 00.7	-1.4
LOT				iS	Sn	15 52 25.5	-1.7
KIS	Kishinev	2.09	47	eP	Pn	15 52 00.5	-2.8
KIS				pmax	pmax		
	comp=E,1µm,0.6s						
KIS				pmax	pmax		
	comp=N,800nm,0.6s						
KIS				pmax	pmax		
	comp=E,1µm,0.6s						
KIS	Kishinev	2.09	47	⇑iP	Pn	15 52 03.8	+0.5
KIS	Kishinev	2.09	47	⇑iP	Pn	15 52 03.8	+0.5
KIS				iS	Sn	15 52 27.8	-1.7
KIS	Kishinev	2.09	47	eP	Pn	15 52 00.5	-2.8
KIS				iS	Sn	15 52 28.0	-1.5
	comp=E,800nm,0.6s						
KIS	Kishinev	2.09	47	⇑iP	Pn	15 52 03.8	+0.5
KIS				iS	Sn	15 52 27.8	-1.7
KIS	Kishinev	2.09	47	eP	Pn	15 52 00.5	-2.8
KIS				iS	Sn	15 52 28.0	-1.5
KIS					Sm	15 52 28.5	
EFOR	EFORIE	2.12	135	⇑iP	Pn	15 52 03.4	-0.3
EFOR	EFORIE	2.12	135	⇑iP	Pn	15 52 03.4	-0.3
EFOR				iS	Sn	15 52 28.8	-1.3
EFOR	EFORIE	2.12	135	⇑iP	Pn	15 52 03.4	-0.3
EFOR				iS	Sn	15 52 28.8	-1.3
ZIMR		2.13	204	⇑iP	Pn	15 52 02.8	-1.1
ZIMR		2.13	204	⇑iP	Pn	15 52 02.8	-1.1
ZIMR				iS	Sn	15 52 27.8	-2.7
BURAR	Bucovina Array	2.21	336	⇓iP	Pn	15 52 05.7	+0.6
BURAR	Bucovina Array	2.21	336	⇓iP	Pn	15 52 05.7	+0.6
BURAR				iS	Sn	15 52 30.6	-2.0
BURAR	Bucovina Array	2.21	336	⇓iP	Pn	15 52 05.7	+0.6
BURAR				iS	Sn	15 52 30.6	-2.0

PSN Preselentsi 2.24 149 i P Pn 15 52 05.3 -0.1
PSN i S Sn 15 52 38.8 +5.8
PSN Preselentsi 2.24 149⇓iP Pn 15 52 05.2 -0.1
PSN Preselentsi 2.24 149⇓iP Pn 15 52 05.2 -0.1
PSN i S Sn 15 52 31.6 -1.4
PSN Preselentsi 2.24 149⇓iP Pn 15 52 05.2 -0.1
PSN i S Sn 15 52 31.6 -1.4
MANR Mangalia 2.29 141⇓iP Pn 15 52 05.5 -0.5
MANR Mangalia 2.29 141⇓iP Pn 15 52 05.5 -0.5
MANR i S Sn 15 52 30.7 -3.5
MANR Mangalia 2.29 141⇓iP Pn 15 52 05.5 -0.5
CJR Cluj-Napoca 2.34 299⇓iP Pn 15 52 06.2 -0.5
CJR Cluj-Napoca 2.34 299⇓iP Pn 15 52 06.2 -0.5
CJR Cluj-Napoca 2.34 299⇓iP Pn 15 52 06.2 -0.5
CJR Cluj-Napoca 2.34 299⇓iP Pn 15 52 06.2 -0.5
CRAR CRAIOVA 2.35 238⇑iP Pn 15 52 05.2 -1.5
CRAR CRAIOVA 2.35 238⇑iP Pn 15 52 05.2 -1.5
CRAR i S Sn 15 52 32.7 -2.8
CRAR CRAIOVA 2.35 238⇑iP Pn 15 52 05.2 -1.5
CRAR i S Sn 15 52 32.7 -2.8
SZH Strazhica 2.38 191 i P Pn 15 52 06.0 -1.2
SZH i S Sn 15 52 27.0 -9.3
SZH Strazhica 2.38 191 i P Pn 15 52 06.0 -1.2
NEF NEVSHA 2.40 168 i P Pn 15 52 06.8 -0.6
NEF NEVSHA 2.40 168 i P Pn 15 52 06.8 -0.6
PRD Provadia 2.48 166 i P Pn 15 52 08.5 +0.1
PRD i S Sn 15 52 36.2 -2.3
PRD Provadia 2.48 166 i P Pn 15 52 08.5 +0.1
PRD i S Sn 15 52 36.2 -2.3
PVL Pavlikeni 2.55 201 i P Pn 15 52 10.1 +0.8
PVL Pavlikeni 2.55 201 i P Pn 15 52 10.1 +0.8
SRE Strehaia 2.56 250⇑iP Pn 15 52 08.2 -1.3
SRE Strehaia 2.56 250⇑iP Pn 15 52 08.2 -1.3
SRE i S Sn 15 52 37.3 -3.2
SRE Strehaia 2.56 250⇑iP Pn 15 52 08.2 -1.3
SRE i S Sn 15 52 37.3 -3.2
ROIA ROIAK 2.58 167 i P Pn 15 52 09.5 -0.3
ROIA ROIAK 2.58 167 i P Pn 15 52 09.5 -0.3
DEV Deva 2.58 277⇓iP Pn 15 52 09.6 -0.2
DEV Deva 2.58 277⇓iP Pn 15 52 09.6 -0.2
DEV i S Sn 15 52 38.0 -2.9
DEV Deva 2.58 277⇓iP Pn 15 52 09.6 -0.2
DEV i S Sn 15 52 38.0 -2.9
AVR AVREN 2.61 162 i P Pn 15 52 10.0 -0.1
AVR AVREN 2.61 162 i P Pn 15 52 10.0 -0.1
GZR Gura Zlata 2.68 267⇑iP Pn 15 52 10.1 -1.0
GZR Gura Zlata 2.68 267⇑iP Pn 15 52 10.1 -1.0
GZR i S Sn 15 52 41.1 -2.2
GZR Gura Zlata 2.68 267⇑iP Pn 15 52 10.1 -1.0
GZR i S Sn 15 52 41.1 -2.2
CHRU Chernivtsi 2.73 351 i P Pn 15 52 09.4 -2.2
CHRU i S Sn 15 52 41.8 -2.5
KSV Kosov 2.90 340 eP Pn 15 52 11.9 -2.0
KSV Pm 15 52 15.1
KSV i S Sn 15 52 46.5 -1.8
KSV Sm 15 52 50.9
RMGR Halanga-Turnu 2.91 252⇑iP Pn 15 52 12.4 -1.6
RMGR Halanga-Turnu 2.91 252⇑iP Pn 15 52 12.4 -1.6
RMGR i S Sn 15 52 44.4 -4.0
RMGR Halanga-Turnu 2.91 252⇑iP Pn 15 52 12.4 -1.6
DRGR 2.93 295⇓iP Pn 15 52 13.1 -1.3
DRGR 2.93 295⇓iP Pn 15 52 13.1 -1.3
DRGR i S Sn 15 52 47.4 -1.8
DRGR 2.93 295⇓iP Pn 15 52 13.1 -1.3
DRGR i S Sn 15 52 47.4 -1.8
KMPD K-Podol'skiy 2.96 359 eP Pn 15 52 12.6 -2.0
KMPD i S Sn 15 52 46.8 -2.9
NSLU Nyzhne Selyshc 2.97 332 i P Pn 15 52 18.5 +3.7
NSLU i S Sn 15 52 57.9 +7.9
MPEP Malo Peshtene 3.03 223 i P Pn 15 52 14.5 -1.2
MPEP i S Sn 15 52 43.4 -8.0
MPEP Malo Peshtene 3.03 223 i P Pn 15 52 14.5 -1.2
JMB Yambol 3.14 180 i P Pn 15 52 13.7 -3.4
JMB Yambol 3.14 180 i P Pn 15 52 13.7 -3.4
KORU Korolevo 3.47 318 i P Pn 15 52 19.9 -1.6
KORU i S Sn 15 53 00.5 -1.4
BZS Buzias 3.48 272⇓iP Pn 15 52 20.3 -1.3
BZS Buzias 3.48 272⇓iP Pn 15 52 20.3 -1.3
BZS Buzias 3.48 272⇓iP Pn 15 52 20.3 -1.3
PGB Panagyurishte 3.51 210 i P Pn 15 52 22.5 +0.3
PGB Panagyurishte 3.51 210 i P Pn 15 52 22.5 +0.3
TRSU Trosnyk 3.51 316 i P Pn 15 52 20.8 -1.2
TRSU i S Sn 15 53 01.6 -1.3
MEZ Mezhgor'ye 3.58 325 i P Pn 15 52 21.4 -1.6
MEZ i S Sn 15 53 03.4 -1.1
HORU Horodok 3.61 358 eP Pn 15 52 21.6 -1.7
HORU i S Sn 15 53 03.3 -1.9
ZAPS Zavoj 3.66 232⇑iPn Pn 15 52 22.6 -1.5
BOLS Boljevac 3.74 243 i Pn Pn 15 52 21.5 -3.6
TRPA Tarpa 3.75 314⇑iP Pn 15 52 24.6 -0.5
TRPA Tarpa 3.75 314⇑iP Pn 15 52 24.6 -0.5
TRPA Tarpa 3.75 314⇑iP Pn 15 52 24.6 -0.5
TRPA Tarpa 3.75 314⇑iP Pn 15 52 24.6 -0.5
PLD Plovdiv 3.75 202 i P Pn 15 52 26.5 +1.2
PLD Plovdiv 3.75 202 i P Pn 15 52 26.5 +1.2
BERU Beregovo 3.76 316 i P Pn 15 52 23.8 -1.5
BERU i S Sn 15 53 07.0 -1.8
EDRB Edirne 3.76 178 P Pn 15 52 24.7 -0.7
EDRB Edirne 3.76 178 ePN Pn 15 52 23.7 -1.7
EDRB Edirne 3.76 178 ePn Pn 15 52 23.7 -1.7
EDRB Edirne 3.76 178 P Pn 15 52 24.7 -0.7
MUKU Mukachevo 3.89 318 i P Pn 15 52 25.4 -1.7
MUKU i S Sn 15 53 11.0 -1.0
PHSR Pinarhisar 4.04 170 ePN Pn 15 52 27.7 -1.4
PHSR Pinarhisar 4.04 170 ePn Pn 15 52 27.7 -1.4
KDZ Kurdzhali 4.04 192 i P Pn 15 52 27.9 -1.3
KDZ Kurdzhali 4.04 192⇓iP Pn 15 52 28.8 -0.4
KDZ Kurdzhali 4.04 192⇓iP Pn 15 52 28.8 -0.4
KDZ i S Sn 15 53 12.0 -3.7
KDZ Kurdzhali 4.04 192 i P Pn 15 52 27.9 -1.3
KDZ i S Sn 15 53 12.0 -3.7
RZN Rozhen 4.14 200 i P Pn 15 52 29.7 -1.0
RZN i S Sn 15 53 13.6 -4.7
RZN Rozhen 4.14 200 i P Pn 15 52 29.7 -1.0
RZN i S Sn 15 53 13.6 -4.7
UZH Uzhgorod 4.21 318 eP Pn 15 52 30.7 -0.6
UZH eS Sn 15 53 19.7 +0.3
UZH smax smax
comp=N,20nm,1.0s
UZH smax smax
comp=E,30nm,1.0s
UZH Uzhgorod 4.21 318 eP Pn 15 52 30.7 -0.6
UZH eS Sn 15 53 19.7 +0.3
UZH Uzhgorod 4.21 318 i P Pn 15 52 29.7 -1.6
UZH Pm 15 52 33.7
UZH i S Sn 15 53 18.3 -1.1
UZH Sm 15 53 22.3
ONO Onokovtsy 4.21 318 i P Pn 15 52 29.9 -1.4
ONO eS Sn 15 53 18.3 -1.2
SHIU Shidnytsya 4.22 330 i P Pn 15 52 30.2 -1.4
SHIU eS Sn 15 53 18.6 -1.3
CTYL Yal??k??y-??at 4.32 163 ePN Pn 15 52 31.4 -1.4
CTYL Yal??k??y-??at 4.32 163 ePn Pn 15 52 31.4 -1.4
KOLS Kolonicke sedl 4.43 320 eP Pn 15 52 34.5 +0.2
KOLS Kolonicke sedl 4.43 320 eP Pn 15 52 34.5 +0.2
KOLS Kolonicke sedl 4.43 320 eP Pn 15 52 34.5 +0.2
GRUS Gruza 4.51 250 i Pn Pn 15 52 34.6 -0.9
KKB Krupnik 4.51 215 i P Pn 15 52 35.1 -0.4
KKB Krupnik 4.51 215 i P Pn 15 52 35.1 -0.4
MMB Musomiste 4.52 208 i P Pn 15 52 35.9 +0.3
MMB Musomiste 4.52 208 i P Pn 15 52 35.9 +0.3
SLVT Silivri 4.54 164 ePN Pn 15 52 34.4 -1.4
SLVT Silivri 4.54 164 ePn Pn 15 52 34.4 -1.4
LVV L'vov 4.55 339 eP Pn 15 52 35.6 -0.3
LVV eS Sn 15 53 26.2 -1.5
LVV L'vov 4.55 339 eP Pn 15 52 35.6 -0.3
LVV eS Sn 15 53 26.2 -1.5
LVV L'vov 4.55 339 i P Pn 15 52 34.4 -1.5
LVV Pm 15 52 37.2
LVV i S Sn 15 53 26.4 -1.3
LVV Sm 15 53 30.4
LVV Sm 15 53 30.4
CRLT Corlu 4.56 169 ePN Pn 15 52 35.0 -1.1
CRLT Corlu 4.56 169 ePn Pn 15 52 35.0 -1.1
SELS Selova 4.58 241⇓iPn Pn 15 52 34.5 -1.9
CTKS Kestanelik-??a 4.59 161 ePN Pn 15 52 34.4 -2.1
CTKS Kestanelik-??a 4.59 161 ePn Pn 15 52 34.4 -2.1
TRUS Trudelj 4.59 255⇑iPn Pn 15 52 33.6 -3.0
NVR Nevrokopi 4.69 206 P Pn 15 52 36.9 -1.0
NVR Nevrokopi 4.69 206 eP Pn 15 52 36.9 -1.0
NVR Nevrokopi 4.69 206 P Pn 15 52 36.9 -1.0
BGKT Bogazkoy 4.71 159 ePN Pn 15 52 36.7 -1.4
BGKT Bogazkoy 4.71 159 ePn Pn 15 52 36.7 -1.4
KLYT Kilyos 4.71 157 ePN Pn 15 52 36.7 -1.4
KLYT Kilyos 4.71 157 ePn Pn 15 52 36.7 -1.4
ALN Alexandroupoli 4.72 185 P Pn 15 52 37.0 -1.3
ALN Alexandroupoli 4.72 185 ePN Pn 15 52 37.9 -0.4
ALN Alexandroupoli 4.72 185 eP Pn 15 52 37.3 -1.0
ALN Alexandroupoli 4.72 185 P Pn 15 52 37.0 -1.3
ALN Alexandroupoli 4.72 185 ePn Pn 15 52 37.9 -0.4
CRVS Cervenica-Dubn 4.79 315 eP Pn 15 52 39.0 -0.2
CRVS Cervenica-Dubn 4.79 315 eP Pn 15 52 39.0 -0.2
CRVS Cervenica-Dubn 4.79 315 eP Pn 15 52 39.0 -0.2
KAVA Kavala 4.85 199 P Pn 15 52 39.4 -0.6
KAVA Kavala 4.85 199 eP Pn 15 52 39.2 -0.8
KAVA Kavala 4.85 199 P Pn 15 52 39.4 -0.6
ENEZ Enez 4.88 184 ePN Pn 15 52 39.1 -1.3
ENEZ Enez 4.88 184 ePn Pn 15 52 39.1 -1.3
ISK Istanbul-Kandi 4.89 157 P Pn 15 52 39.0 -1.5
ISK Istanbul-Kandi 4.89 157 ePN Pn 15 52 39.4 -1.1
ISK Istanbul-Kandi 4.89 157 P Pn 15 52 39.0 -1.5
ISK Istanbul-Kandi 4.89 157 ePn Pn 15 52 39.4 -1.1
DIVS Divibare 4.92 254 P Pn 15 52 38.7 -2.3
DIVS Divibare 4.92 254 P Pn 15 52 38.7 -2.3
DIVS Divibare 4.92 254⇑iPn Pn 15 52 39.0 -2.0
SART Tekirdag 4.94 175 i P Pn 15 52 38.9 -2.4
SART i S Sn 15 53 31.7 -5.6
SART Tekirdag 4.94 175 i P Pn 15 52 38.9 -2.4
SART i S Sn 15 53 31.7 -5.6
RKY Sarkoy-Tekirda 4.94 175 ePN Pn 15 52 40.3 -1.0
RKY Sarkoy-Tekirda 4.94 175 ePn Pn 15 52 40.3 -1.0
SILT Sile 4.98 152 ePN Pn 15 52 40.6 -1.2
SILT Sile 4.98 152 ePn Pn 15 52 40.6 -1.2
SRS Serrai 4.99 207 eP Pn 15 52 41.7 -0.2
MRMT Marmara Adasi 5.06 171 ePN Pn 15 52 41.2 -1.7
MRMT Marmara Adasi 5.06 171 ePn Pn 15 52 41.2 -1.7
TEKS Tekeris 5.10 261 i Pn Pn 15 52 42.3 -1.1
SEV Sevastopol' 5.14 99 eP Pn 15 52 42.1 -1.7
SEV eS Sn 15 53 37.8 -4.1
SEV Sevastopol' 5.14 99 eP Pn 15 52 42.1 -1.7
SEV eS Sn 15 53 37.8 -4.1
SEV Sevastopol' 5.14 99 eP Pn 15 52 42.1 -1.7
SEV Pm 15 52 43.5
SEV eS Sn 15 53 37.8 -4.1
SEV Sm 15 53 40.2
VAY Valandovo 5.18 216 i Pn Pn 15 52 42.8 -1.7
VAY i Sg Sn 15 53 40.3 -2.7
VAY eLg Lg 15 53 40.9
comp=E,19nm,0.5s
VAY eLg Lg 15 53 41.7
comp=N,30nm,0.9s
VAY Valandovo 5.18 216 i Pn Pn 15 52 42.7 -1.7
VAY i Sg Sn 15 53 40.3 -2.7
VAY eLg Lg 15 53 41.7
comp=N,30nm,0.9s
KNT Kendrikon 5.19 212 P Pn 15 52 45.0 +0.4
KNT Kendrikon 5.19 212 eP Pn 15 52 43.3 -1.3
KNT Kendrikon 5.19 212 P Pn 15 52 45.0 +0.4
SMTH Samothraki Isl 5.19 189 eP Pn 15 52 43.5 -1.1
SKO Skopje 5.20 227 i Pn Pn 15 52 42.3 -2.5
SKO eSg Sn 15 53 33.6 -10
SKO eLg Lg 15 53 35.1
comp=E,47nm,1.5s
SKO eLg Lg 15 53 38.0
comp=N,17nm,0.6s
SKO Skopje 5.20 227 i Pn Pn 15 52 42.2 -2.5
SKO eLg Lg 15 53 37.9
comp=N,17nm,0.6s
GELI Tayfur-Gelibol 5.21 181 ePN Pn 15 52 43.9 -1.0
GELI Tayfur-Gelibol 5.21 181 ePn Pn 15 52 43.9 -1.0
LPK Lapseki 5.23 178 ePN Pn 15 52 43.9 -1.3
LPK Lapseki 5.23 178 ePn Pn 15 52 43.9 -1.3
KRBG Karabiga-Canak 5.24 174 ePN Pn 15 52 44.1 -1.1
KRBG Karabiga-Canak 5.24 174 ePn Pn 15 52 44.2 -1.1
STHS Stebnicka Huta 5.25 318 eP Pn 15 52 45.8 +0.4
STHS Stebnicka Huta 5.25 318 eP Pn 15 52 45.8 +0.4
STHS Stebnicka Huta 5.25 318 eP Pn 15 52 45.8 +0.4
HRT Hereke 5.29 154 ePN Pn 15 52 45.3 -0.7
HRT Hereke 5.29 154 ePn Pn 15 52 45.3 -0.7
ARMT Armutlu 5.31 161 ePN Pn 15 52 45.1 -1.1
ARMT Armutlu 5.31 161 ePn Pn 15 52 45.1 -1.1
SOH Sokhos 5.33 207 eP Pn 15 52 43.2 -3.4
EDC Edincik 5.34 169 ePN Pn 15 52 45.0 -1.6
EDC Edincik 5.34 169 ePn Pn 15 52 45.1 -1.6
SIM Simferopol' 5.36 94 eP Pn 15 52 46.4 -0.5
SIM eS Sn 15 53 43.9 -3.5
SIM Simferopol' 5.36 94 eP Pn 15 52 46.4 -0.5
SIM eS Sn 15 53 43.9 -3.5
SIM Simferopol' 5.36 94 eP Pn 15 52 46.4 -0.5
SIM Pm 15 52 47.3
SIM eS Sn 15 53 43.9 -3.5
SIM Sm 15 53 46.9
KIEV Kiev 5.39 18 eP Pn 15 52 45.8 -1.4
KIEV Kiev 5.39 18 eP Pn 15 52 45.8 -1.4
BBLS Lazići 5.39 254 i Pn Pn 15 52 44.7 -2.7
AKASG Malin Array Be 5.40 18 P Pn 15 52 46.1 -1.2
comp=N,2.6nm,0.3s,baz=205,slow=11,SNR=16
AKASG S Sn 15 53 43.4 -4.7
comp=N,14nm,0.3s,baz=205,slow=22,SNR=10
YAL Yalta 5.49 99 eP Pn 15 52 48.0 -0.6
YAL eS Sn 15 53 47.7 -2.7
YAL Yalta 5.49 99 eP Pn 15 52 48.0 -0.6
YAL Yalta 5.49 99 eP Pn 15 52 48.0 -0.6
YAL Pm 15 52 48.6
YAL eS Sn 15 53 47.7 -2.7
YAL Sm 15 53 52.3
KDZE Karadeniz Ereo 5.57 139 ePN Pn 15 52 49.5 -0.2
KDZE Karadeniz Ereo 5.57 139 ePn Pn 15 52 49.5 -0.2
OUR Ouranopolis 5.60 201 ePN Pn 15 52 49.8 -0.4
OUR Ouranopolis 5.60 201 eP Pn 15 52 49.1 -1.1
OUR Ouranopolis 5.60 201 ePn Pn 15 52 49.8 -0.4
ALU Alushta 5.62 97 eP Pn 15 52 48.4 -1.9
ALU eS Sn 15 53 47.7 -5.8
ALU Alushta 5.62 97 eP Pn 15 52 48.4 -1.9
ALU Alushta 5.62 97 eP Pn 15 52 48.4 -1.9
ALU Pm 15 52 48.6
ALU eS Sn 15 53 47.7 -5.8
ALU Sm 15 53 52.3
HORT Hortiatis 5.62 208 eP Pn 15 52 50.7 +0.3
PLG Polygyros 5.71 205 eP Pn 15 52 50.5 -1.2
LIA Limnos Island 5.80 191 eP Pn 15 52 51.4 -1.4
GULT Gulveren 5.92 149 ePN Pn 15 52 55.0 +0.4
GULT Gulveren 5.92 149 ePn Pn 15 52 55.0 +0.4
SUDU Sudak 5.99 94⇓iP Pn 15 52 53.0 -2.4
SUDU eS Sn 15 53 58.8 -3.8
SUDU Sudak 5.99 94 i P Pn 15 52 53.0 -2.4
SUDU Sudak 5.99 94 i P Pn 15 52 53.0 -2.4
SUDU Pm 15 52 56.2
SUDU eS Sn 15 53 58.8 -3.8
SUDU Sm 15 54 02.0
BALB Balikesir 6.04 170 ePN Pn 15 52 55.6 -0.5
BALB Balikesir 6.04 170 ePn Pn 15 52 55.6 -0.5
PAIG Paliouri 6.06 202 eP Pn 15 52 55.4 -1.0
SIGR SIGRI 6.41 185 eP Pn 15 53 00.9 -0.3
XOR Xorichti 6.72 203 eP Pn 15 53 04.7 -0.6
ILGA Ilgaz 6.92 129 i P Pn 15 53 06.8 -1.4
ILGA i S Sn 15 54 25.0 -0.4
ILGA Ilgaz 6.92 129 i P Pn 15 53 06.8 -1.4
ILGA i S Sn 15 54 25.1 -0.4
CHOS Chios island 7.23 183 eP Pn 15 53 11.8 -0.5
BRTR Keskin Array B 7.85 136 eP Pn 15 53 29.8 +9.0
BRTR pmax pmax
comp=Z,1.0nm,0.3s
BRTR Keskin Array B 7.85 136 P Pn 15 53 19.4 -1.3
comp=Z,0.3nm,0.3s,baz=318,slow=12,SNR=14
GERES GERESS Array B 9.34 295 P Pn 15 53 38.5 -2.3
comp=Z,0.1nm,0.3s,baz=100,slow=11,SNR=3.6
VSR Storozhevoye 10.07 52 eP Pn 15 53 50.5 -0.1
VSR Storozhevoye 10.07 52 eP Pn 15 53 50.5 -0.1
FINES FINESS Array B 15.87 359 eP Pn 15 55 00.9 -5.0
FINES FINESS Array B 15.87 359 P Pn 15 55 00.4 -5.5
comp=Z,0.2nm,0.3s,baz=178,slow=14,SNR=6.0
HFS Hagfors 16.45 337 P Pn 15 55 12.7 -0.4
comp=Z,0.2nm,0.3s,baz=141,slow=17,SNR=5.2
NB2 NORSAR Subarra 17.90 335 P P 15 55 29.6 -0.2
comp=Z,1.5nm,0.7s,baz=143,slow=11
NB2 NORSAR Subarra 17.90 335 P P 15 55 29.6 -0.2
comp=Z,1.5nm,0.7s,SNR=3.8
NOA NORSAR Array B 17.90 335 eP Pn 15 55 30.6 -0.1
NOA NORSAR Array B 17.90 335 P P 15 55 29.6 -0.2
comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=4.5
AKTO Aktyubinsk 21.48 66 P P 15 56 10.0 +1.3
AKTO pmax pmax
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 21.48 66 P P 15 56 10.0 +1.3
comp=Z,1.4nm,0.4s,baz=269,slow=10,SNR=7.8
ARCES ARCESS Array B 24.00 359 P P 15 56 33.9 +0.8
comp=Z,1.7nm,0.8s,baz=175,slow=11,SNR=2.6
GEYT Alibeck 24.63 97 P P 15 56 42.1 +3.0
comp=Z,2.9nm,0.7s,baz=292,slow=7.8,SNR=7.5
ZALV Zalesovo Beam 37.55 56 P P 15 58 33.7 +1.5
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 37.55 56 P P 15 58 33.7 +1.5
comp=Z,0.9nm,0.3s,baz=268,slow=10,SNR=4.2
MKAR Makanchi Array 37.89 68 P P 15 58 37.1 +1.8
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 37.89 68 P P 15 58 37.1 +1.8
comp=Z,0.7nm,0.4s,baz=272,slow=7.9,SNR=18
TORD Torodi Ar. Bea 38.62 221 P P 15 58 41.4 -0.2
comp=Z,0.7nm,0.6s,baz=35,slow=9.0,SNR=10
DANN Dangsing 47.80 91 eP P 15 59 57.9 +2.2
KOLN Koldanda 48.04 91 eP P 15 59 59.6 +2.2
GKN Gorkha 48.62 90 eP P 16 00 03.5 +1.6
comp=Z,6.5nm,0.5s
DMN Daman 49.19 90 eP P 16 00 07.7 +1.4
KKN Kakani 49.21 90 eP P 16 00 08.0 +1.6
GUN Gumba 49.55 90 eP P 16 00 10.6 +1.4
comp=Z,9.6nm,0.8s
JIRN Jiri 49.92 90 eP P 16 00 13.5 +1.5
comp=Z,7.5nm,0.6s
RAMN Ramite 50.65 90 eP P 16 00 18.7 +1.4
comp=Z,6.5nm,0.6s
TAPN Taplejung 51.18 89 eP P 16 00 23.2 +1.9
comp=Z,3.1nm,0.4s
SONM Songino Array 52.42 57 eP P 16 00 32.3 +2.2
SONM Songino Array 52.42 57 P P 16 00 31.6 +1.5
comp=Z,0.4nm,0.6s,baz=287,slow=7.1,SNR=5.5
SONM Songino Array 52.42 57 eP P 16 00 32.3 +2.2
CMAR Chiang Mai Arr 64.79 89 P P 16 01 56.8 +0.7
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 64.79 89 P P 16 01 56.8 +0.7
comp=Z,0.8nm,0.6s,baz=303,slow=7.8,SNR=10.0

NNC ***25*** *15:55:31.9±8.8, 39°.54N×77°.22E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=64.1km s-min=39.4km az=167.0*
KRNET ***25*** *15:55:32.5±0.1, 39°.22N×77°.76E, h37km, mb3.7*
ISC 25 15:55:33.5±3.2, **39°.3N**±0°.2×**77°.6E**±0°.1, **h10**km, **n7**, σ**1s47**/9, **2C-5D, Southern Xinjiang**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SFK Sufi-Kurgan 3.27 284 eP Pn 15 56 25.0 0.0
baz=285
SFK eS Sn 15 57 02.7 -1.3
baz=285
BOOM Boomskoye usch 3.42 338 eP Pn 15 56 27.0 -0.1
baz=338
BOOM eS Sn 15 57 06.7 -1.1
baz=338
ARLS Aral 3.58 316 i P Pn 15 56 29.3 +0.1
baz=316
ARLS i S Sn 15 57 10.3 -1.4
baz=316
TKM2 Tokmak 2 3.92 337 ⇓Pg Pn 15 56 36.5 +2.6
0.9nm,0.3s
TKM2 ⇓Lg Lg 15 57 24.7
3.0nm,0.5s
AAK Ala-Archa 4.08 325 ⇓Pg Pn 15 56 40.3 +4.2
1.6nm,0.6s
AAK ⇓Lg Lg 15 57 29.5
3.3nm,0.5s
PDGK Podgornoye 4.24 19 ⇑Pg Pb 15 56 47.6 -0.6
PDGK ⇓Lg Lg 15 57 41.9
KK31 Karatay Array 6.57 307 Pg Pb 15 57 28.8 +1.0
0.3nm,0.5s,baz=313,slow=7.9,SNR=6.0
KK31 ⇑Lg Lg 15 58 46.9
0.3nm,0.4s,baz=128,slow=27

IDC ***25*** *16:14:52.8±1.9, 3°.84N×127°.72E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/42, mbtmp3.7/4, Error ellipse: s-maj=142.6km s-min=23.8km az=66.0*
ISCJB ***25*** *16:14:58.3±1.1, 4°.26N±0°.07×128°.20E±0°.07, h71km, mb3.6/4, Error ellipse: s-maj=11.4km s-min=8.9km az=34.2*
DJA ***25*** *16:15:03.1±2.5, 4°N±7°×12°8E±°, h32km±37km, M4.5/9, mB5.0/4, mb4.7/9, MLv4.4/7, Mw(mB)4.3/4*
ISC 25 16:15:01.1±1.4, **4°.17N**±0°.10×**128°.09E**±0°.09, **h71**km, **n14**, σ**1s97**/17, **mb3.6**/4, **North of Halmahera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SGSI Sangihe 2.60 259 P Pn 16 15 43.3 +2.4
SGSI S Sn 16 16 12.7 +1.3
TNTI Ternate 3.45 192 P Pn 16 15 54.8 +2.3
TNTI S Sn 16 16 33.9 +1.7
LBMI Labuha 4.81 187 P Pn 16 16 13.2 +2.1
LBMI S Sn 16 17 09.1 +3.6
KMSI Cibinong 5.44 229 P Pn 16 16 20.0 +0.3
222nm,0.9s,2μm1.1nm
KMSI S Sn 16 17 18.5 -2.4
222nm,0.9s,2μm1.1nm
SWI Sorong 5.92 148 P Pn 16 16 30.4 +4.2
48nm,0.9s,862nm0.2nm
SANI Sanana 6.52 199 P Pn 16 16 32.6 -1.9
41nm,0.7s,1μm0.2nm
SANI S Sn 16 17 36.3 -11
41nm,0.7s,1μm0.2nm
MRSI Marisa 7.15 239 P Pn 16 16 43.9 +0.8
44nm,0.7s,822nm
LUWI Luwuk 7.42 226 P Pn 16 16 46.8 +0.1
75nm,1.1s
FAKI Fak Fak 8.18 149 P Pn 16 16 57.7 +0.6
APSI Ampana 8.18 232 P Pn 16 16 57.1 0.0
25nm,0.5s
WRA Warramunga Arr 24.73 166 P P 16 20 14.1 -2.0
1.4nm,0.8s,baz=345,slow=10,SNR=7.0
ASAR Alice Springs 28.24 169 P P 16 20 45.7 -2.0
0.3nm,0.5s,baz=353,slow=7.6,SNR=16
STKA Stephens Creek 38.08 161 P P 16 22 11.7 -1.3
1.4nm,0.6s,baz=356,slow=9.1,SNR=6.5
MKAR Makanchi Array 57.98 324 P P 16 24 47.6 +1.2
0.3nm,0.4s,baz=114,slow=8.2,SNR=12

IDC ***25*** *16:35:25.3±4.3, 17°.61S×178°.73W, h522km±51km, mb3.4/10, mb1 3.6/11, mb1mx3.3/29, mbtmp4.2/11, Error ellipse: s-maj=29.0km s-min=19.3km az=164.0*
ISCJB ***25*** *16:35:26.0±0.7, 17°.5S±0°.2×178°.8W±0°.2, h539km, mb3.7/9, Error ellipse: s-maj=28.0km s-min=10.4km az=142.4*
ISC 25 16:35:26.7±0.8, **17°.6S**±0°.2×**178°.8W**±0°.2, **h539**km, **n26**, σ**0s83**/26, **mb3.6**/9, **Fiji Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
DZM Mont Dzumac 14.59 250 P P 16 38 31.5 -0.6
0.6nm,0.3s,baz=67,slow=21,SNR=5.9
URZ Urewera 20.91 189 P P 16 39 29.8 -1.5
2.7nm,0.3s,baz=257,slow=3.0,SNR=14
RMQ Roma 31.28 248 P P 16 41 04.2 +1.3
baz=33,SNR=9.4
CNB Canberra Magne 33.34 232 P P 16 41 21.5 +1.3
baz=35,SNR=11
CMSA Cobar Meteorol 34.99 240 P P 16 41 34.8 +0.7
baz=37,SNR=11
QLP Quilpie 35.31 249 P P 16 41 37.2 +0.4
baz=37,SNR=7.4
TOO Toolangi 37.09 230 P P 16 41 52.5 +1.1
baz=39,SNR=4.1
STKA Stephens Creek 38.47 241 P P 16 42 03.6 +1.0
3.6nm,0.5s,baz=87,slow=9.5,SNR=28
STKA Stephens Creek 38.47 241 P P 16 42 03.8 +1.1
baz=40,SNR=20
HTT Hallett 40.99 239 P P 16 42 23.9 +0.9
baz=43,SNR=6.5
BBOO Buckleboo 43.24 241 P P 16 42 41.1 +0.5
baz=45,SNR=15
WRA Warramunga Arr 44.33 259 P P 16 42 49.0 -0.3
1.5nm,0.5s,baz=96,slow=7.3,SNR=21
ASAR Alice Springs 44.53 254 P P 16 42 51.0 +0.2
16nm,0.6s,baz=89,slow=7.9,SNR=340
ASAR PcP PcP 16 44 22.4 -0.1
0.6nm,0.4s,baz=105,slow=4.0,SNR=5.6

KDU Kakadu 47.20 269 P P 16 43 11.6 +0.4
baz=48,SNR=4.5
KDU S S 16 50 07.7 +43
baz=48,SNR=6.1
WRKA Warakurna 49.59 252 P P 16 43 29.2 +0.2
baz=51,SNR=27
KNRA Kununurra 50.16 264 P P 16 43 33.2 +0.2
baz=51,SNR=3.7
MEEK Meekatharra 58.20 249 P P 16 44 29.3 -0.4
baz=60,SNR=4.1
NVAR Mina Array Bea 79.45 44 P P 16 46 37.8 +0.3
0.8nm,0.6s,baz=219,slow=7.9,SNR=7.8
SEY Seymchan 83.38 347 P P 16 46 56.5 -0.3
2.2nm,0.5s,baz=163,slow=5.1,SNR=28
ILAR Eielson Array 85.66 13 P P 16 47 06.9 -1.0
0.4nm,0.4s,baz=225,slow=5.1,SNR=15
TXAR Lajitas Array 86.13 58 P P 16 47 12.8 +1.6
0.7nm,0.7s,baz=224,slow=5.7,SNR=8.6
PDAR Pinedale Array 87.37 44 P P 16 47 17.1 +0.2
0.6nm,0.5s,baz=209,slow=3.7,SNR=7.5
YKA Yellowknife Ar 94.19 25 P P 16 47 47.1 -0.5
0.1nm,0.3s,baz=255,slow=4.3,SNR=4.2
ARCES ARCESS Array B 125.93 350 PKP PKPdf 16 53 26.3 -0.6
4.3nm,1.0s,baz=17,slow=0.9,SNR=4.0
BRTR Keskin Array B 144.30 315 PKP PKPbc 16 54 01.4 -0.2
0.7nm,0.5s,baz=77,slow=3.3,SNR=4.2
GERES GERESS Array B 147.21 345 PKPbc PKPbc 16 54 09.6 0.0
0.8nm,0.4s,baz=28,slow=3.3,SNR=9.8

ISCJB 25 16:46:51.3±1.0, 14°.8N±0°.1×120°.4E±0°.2, h43km, mb3.4/4, MS3.3/1, Error ellipse: s-maj=28.3km s-min=9.4km az=145.0
IDC 25 16:46:51.3±1.6, 14°.96N×119°.60E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.2/45, mbtmp3.4/4, MS3.4/1, Ms1 3.4/1, ms1mx2.4/27, Error ellipse: s-maj=154.7km s-min=26.6km az=66.0
ISC 25 16:46:52.7±1.0, 14°.82N±0°.10×120°.6E±0°.1, h43km, n8, σ1°.04/6, mb3.5/4, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NZB	Bigte	0.54	85	⇓eP	Pn	16 47 03.9	-0.2
TGY	Tagaytay City	0.81	152	⇑eP	Pn	16 47 07.7	-0.1
TGY				eS	Sn	16 47 18.8	+0.2
PGP	Puerto Galera	1.37	163	⇓iP	Pn	16 47 07.4	-7.9
PGP				iS	Sn	16 47 18.7	-14
SONM	Songino Array	34.95	343	P	P	16 53 42.0	+1.4
	0.5nm,0.5s,baz=164,slow=9.9,SNR=6.3						
PMG	Port Moresby	35.71	131	LR	LR	17 11 07.5	
	comp=Z,50nm,18.3s,baz=186,slow=40						
ASAR	Alice Springs	40.42	161	P	P	16 54 35.1	+8.2
	0.5nm,1.0s,baz=346,slow=7.8,SNR=4.2						
MKAR	Makanchi Array	45.05	323	P	P	16 55 04.2	-0.1
	0.1nm,0.5s,baz=121,slow=8.1,SNR=5.4						
BVAR	Borovoye Array	54.77	325	P	P	16 56 16.9	-1.1
	0.4nm,0.4s,baz=109,slow=8.2,SNR=5.2						

ISCJB 25 16:48:17.8±0.7, 19°.5S±0°.2×178°.0W±0°.1, h569km, mb3.9/6, Error ellipse: s-maj=20.9km s-min=12.1km az=158.6
IDC 25 16:48:24.6±5.4, 19°.85S×177°.92W, h650km±68km, mb3.3/6, mb1 3.6/8, mb1mx3.2/34, mbtmp4.5/8, Error ellipse: s-maj=49.8km s-min=27.2km az=7.0
ISC 25 16:48:18.4±0.7, 19°.5S±0°.2×177°.9W±0°.1, h569km, n30, σ1°.19/30, mb4.0/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.51	88	P	Pn	16 50 13.4	+1.4
	baz=7.5,SNR=3.2						
DZM	Mont Dzumac	14.90	257	P	P	16 51 29.4	+2.8
	2.1nm,0.3s,baz=110,slow=21,SNR=23						
URZ	Urewera	19.24	192	P	P	16 52 05.3	-1.2
	8.8nm,0.3s,baz=265,slow=4.6,SNR=32						
RMQ	Roma	31.45	251	P	P	16 53 55.4	+1.1
	baz=31,SNR=7.0						
CNB	Canberra Magne	32.92	235	P	P	16 54 07.4	+0.7
	baz=33,SNR=10.0						
CMSA	Cobar Meteorol	34.86	243	P	P	16 54 23.1	+0.1
	baz=35,SNR=12						
QLP	Quilpie	35.50	251	P	P	16 54 28.5	+0.2
	baz=36,SNR=16						
TOO	Toolangi	36.62	233	P	P	16 54 37.7	+0.2
	baz=36,SNR=18						
STKA	Stephens Creek	38.36	243	P	P	16 54 52.1	+0.5
	3.0nm,0.3s,baz=94,slow=10.0,SNR=25						
STKA	Stephens Creek	38.36	243	P	P	16 54 52.2	+0.5
	baz=38,SNR=20						
ARPS	Mount Arapiles	39.17	235	P	P	16 54 58.1	0.0
	baz=39,SNR=7.3						
HTT	Hallett	40.83	241	P	P	16 55 11.6	+0.2
	baz=41,SNR=12						
BBOO	Buckleboo	43.13	243	P	P	16 55 29.5	0.0
	baz=43,SNR=59						
WRA	Warramunga Arr	44.88	261	P	P	16 55 42.5	-0.7
	4.1nm,0.3s,baz=97,slow=7.7,SNR=134						
ASAR	Alice Springs	44.89	256	P	P	16 55 43.1	-0.2
	7.3nm,0.6s,baz=86,slow=8.1,SNR=194						
KDU	Kakadu	48.06	270	P	P	16 56 07.1	-0.1
	baz=48,SNR=4.8						
MTN	Manton Dam	49.28	270	P	P	16 56 16.1	-0.2
	baz=49,SNR=5.6						
WRKA	Warakurna	49.88	253	P	P	16 56 20.2	-0.4
	baz=50,SNR=71						
KNRA	Kununurra	50.86	265	P	P	16 56 27.6	-0.2
	baz=51,SNR=8.0						
MEEK	Meekatharra	58.38	250	P	P	16 57 19.2	-1.1
	baz=58,SNR=4.7						
KLBR	Kellerberrin	58.61	244	P	P	16 57 21.3	-0.5
	baz=58,SNR=8.3						
MORW	Morawa	60.34	247	P	P	16 57 32.7	-0.6
	baz=60,SNR=4.4						
UGM	Wanagama	70.11	268	P	P	16 58 34.6	-0.1
	baz=70,SNR=4.3						
SEY	Seymchan	85.39	347	P	P	16 59 55.9	+0.2
	0.3nm,0.4s,baz=246,slow=20,SNR=3.0						
TXAR	Lajitas Array	86.39	57	P	P	17 00 02.5	+1.0
	0.7nm,0.8s,baz=193,slow=5.0,SNR=5.3						
CMAR	Chiang Mai Arr	89.89	290	P	P	17 00 18.2	+0.4
	0.9nm,0.8s,baz=110,slow=2.0,SNR=9.5						
BVAR	Borovoye Array	118.36	320	PKP	PKPdf	17 05 59.7	-1.8
	0.2nm,0.3s,baz=179,slow=0.8,SNR=4.0						
AKASG	Malin Array Be	142.16	332	PKP	PKPdf	17 06 42.0	-4.2
	0.3nm,0.3s,baz=42,slow=4.1,SNR=5.7						
BRTR	Keskin Array B	146.22	314	PKPbc	PKPdf	17 06 54.4	+0.5
	0.4nm,0.5s,baz=144,slow=2.7,SNR=3.3						
GERES	GERESS Array B	149.23	345	PKPbc	PKPbc	17 07 02.9	-0.6
	0.3nm,0.6s,baz=300,slow=1.9,SNR=3.2						

ISCJB 25 16:56:31.2±0.5, 36°.21N±0°.04×69°.75E±0°.05, h100km, mb3.3/1, Error ellipse: s-maj=7.1km s-min=3.8km az=145.8
IDC 25 16:56:33.2±3.6, 36°.29N×69°.74E, h113km±47km, mb3.4/2, mb1 3.4/7, mb1mx3.0/32, mbtmp3.8/7, Error ellipse: s-maj=32.1km s-min=19.5km az=156.0
NNC 25 16:56:38.5±2.6, 36°.70N×69°.56E, h94km±39km, mb3.6, mpv4.0, Error ellipse: s-maj=26.9km s-min=16.4km az=150.0
ISC 25 16:56:32.8±0.7, 36°.27N±0°.06×69°.78E±0°.06, h100km, n40, σ1°.52/48, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	6.33	124	eS	Sn	16 59 14.0	-0.6
AML	Almayashu	6.59	26	P	Pn	16 58 09.0	+1.6
	SNR=47						
DHRM	DHARAMSHALA	6.73	125	eP	Pn	16 58 11.2	+2.1
DHRM				eS	Sn	16 59 22.7	-1.7
DHRM				AML	AML	16 59 30.0	
	comp=E,119nm,0.4s						
DHRM				AML	AML	16 59 31.1	
	comp=N,107nm,0.6s						
KK31	Karatay Array	6.84	5	P	Pn	16 58 11.4	+0.9
	comp=N,6.3nm,0.5s,baz=196,slow=16,SNR=120						
KK31				⇑S	Sn	16 59 23.9	-3.0
	comp=N,3.0nm,0.4s,baz=189,slow=25,SNR=4.0						
UCH	Uchtor	6.99	30	P	Pn	16 58 14.9	+2.0
	SNR=29						
EKS2	Erkin-Say	7.09	25	P	Pn	16 58 16.1	+2.2
	SNR=9.9						
KZA	Kyzart	7.19	35	P	Pn	16 58 17.1	+1.6
	SNR=12						
AAK	Ala-Archa	7.32	28	⇑P	Pn	16 58 19.1	+2.1
	comp=N,6.6nm,0.8s						
AAK				⇓S	Sn	16 59 38.7	-0.1
	comp=N,38nm,0.8s						
AAK	Ala-Archa	7.32	28	P	Pn	16 58 19.3	+2.1
	SNR=17						
AAK	Ala-Archa	7.32	28	P	Pn	16 58 19.2	+2.1
	comp=N,3.2nm,0.3s,baz=175,slow=5.4,SNR=56						
AAK				S	Sn	16 59 38.6	-0.1
	comp=N,2.2nm,0.3s,baz=124,slow=20,SNR=6.9						
KBK	Karagaybulak	7.52	31	P	Pn	16 58 22.5	+2.6
	SNR=11						
SDNR	Sundarnagar	7.64	126	eP	Pn	16 58 24.5	+3.1
SDNR				eS	Sn	16 59 45.1	-1.3
CHMS	Chumysh	7.73	28	P	Pn	16 58 24.3	+1.7
	SNR=17						
USP	Ospenovka	7.87	26	P	Pn	16 58 25.7	+1.2
	SNR=7.4						
SMLA	Simla	8.01	128	eP	Pn	16 58 28.2	+1.8
SMLA				eS	Sn	16 59 53.0	-2.4
SMLA				AML	AML	16 59 57.4	
	comp=N,56nm,0.2s						
SMLA				AML	AML	16 59 57.7	
	comp=E,39nm,0.3s						
TKM2	Tokmak 2	8.01	32	⇓P	Pn	16 58 28.0	+1.5
	comp=E,5.9nm,0.8s						
TKM2				⇑S	Sn	16 59 54.9	-0.6
	comp=E,9.5nm,0.7s						
TKM2	Tokmak 2	8.01	32	P	Pn	16 58 28.2	+1.6
	SNR=15						
GEYT	Alibeck	9.46	284	P	Pn	16 58 46.1	0.0
	comp=E,0.8nm,0.3s,baz=117,slow=12,SNR=9.6						
GEYT				S	Sn	17 00 29.5	-1.1
	comp=E,0.9nm,0.3s,baz=144,slow=22,SNR=5.3						
MK31	Makanchi Array	14.06	38	⇑P	P	16 59 52.0	0.0
	comp=E,1.9nm,0.7s,baz=214,slow=11,SNR=15						
MKAR	Makanchi Array	14.06	38	P	P	16 59 46.1	-1.2
	comp=E,0.1nm,0.3s,baz=224,slow=10,SNR=9.8						
DANN	Dangsing	14.21	120	eP	Pn	16 59 48.0	-1.7
	comp=E,11nm,0.5s						
KOLN	Koldanda	14.46	122	eP	Pn	16 59 50.6	-2.2
	comp=E,9.1nm,0.7s						
BHPL	Bhopal	14.58	151	eP	P	16 59 59.6	+1.8
AB31	Akbulak array	14.83	334	⇓P	Pn	16 59 55.8	-1.3
	comp=E,2.1nm,0.5s,baz=150,slow=13,SNR=87						
GKN	Gorkha	15.04	119	eP	Pn	16 59 58.8	-1.3
	comp=E,14nm,0.4s						
DMN	Daman	15.60	119	eP	Pn	17 00 06.0	-1.3
	comp=E,11nm,0.5s						
KKN	Kakani	15.62	118	eP	Pn	17 00 06.9	-0.6
	comp=E,15nm,0.5s						
PKIN	Phulchoki	15.83	119	eP	Pn	17 00 10.2	+0.1
	comp=E,14nm,0.6s						
PKI	Pulchoki	15.84	119	eP	Pn	17 00 10.2	-0.2
	comp=E,13nm,0.6s						
GUN	Gumba	15.98	117	eP	Pn	17 00 11.9	-0.2
	comp=E,14nm,0.5s						
JIRN	Jiri	16.34	117	eP	Pn	17 00 16.0	-0.7
	comp=E,17nm,0.4s						
AKTO	Aktyubinsk	16.51	333	⇑P	Pn	17 00 18.8	+0.6
	comp=E,5.3nm,0.9s						
AKTO	Aktyubinsk	16.51	333	P	Pn	17 00 18.7	+0.6
	comp=E,0.3nm,0.3s,baz=136,slow=10,SNR=7.1						
AKTO				S	Sn	17 03 12.0	-9.0
	comp=E,0.1nm,0.3s,baz=199,slow=19,SNR=6.1						
BVA0	Borovoye Array	16.75	1	P	P	17 00 22.2	+0.5
	comp=E,0.5nm,0.4s,baz=167,slow=9.9,SNR=11						
BVAR	Borovoye Array	16.75	1	P	Pn	17 00 20.1	-1.0
	comp=E,0.4nm,0.3s,baz=173,slow=10.0,SNR=12						
RAMN	Ramite	17.06	118	eP	Pn	17 00 24.4	-0.9
	comp=E,13nm,0.6s						
TAPN	Taplejung	17.63	115	eP	Pn	17 00 32.7	+0.4
	comp=E,7.4nm,0.6s						
ODAN	Odare	17.68	117	eP	P	17 00 32.7	+0.4
	comp=E,5.2nm,0.4s						
ZALV	Zalesovo Beam	20.54	26	P	P	17 01 02.8	-0.2
	comp=E,4.1nm,0.4s,baz=219,slow=10.0,SNR=29						
CMAR	Chiang Mai Arr	31.22	117	P	P	17 02 42.3	-0.5
	comp=E,0.3nm,0.5s,baz=289,slow=8.5,SNR=3.0						

IDC 25 17:02:18.3±1.6, 8°.73S×127°.18E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.4/21, mbtmp3.5/5, ML3.6/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=46.9km s-min=29.8km az=70.0
ISCJB 25 17:02:21.9±0.9, 8°.78S±0°.08×127°.03E±0°.05, h33km, mb3.5/2, MS3.3/1, Error ellipse: s-maj=12.0km s-min=6.4km az=25.6
ISC 25 17:02:24.0±1.3, 8°.9S±0°.1×126°.98E±0°.07, h35km, n11, σ2°.55/13, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	2.82	252	P	Pn	17 03 07.2	+0.6
	baz=2.8,SNR=3.0						
BATI	Baumata	3.53	248	Pn	Pn	17 03 18.2	+1.9
	3.5nm,0.3s,baz=56,slow=7.3,SNR=8.3						
BATI				Sn	Sn	17 03 58.3	+1.3
	12nm,0.3s,baz=26,slow=18,SNR=12						
MTN	Manton Dam	5.68	134	P	Pn	17 03 50.3	+4.4
	baz=5.6,SNR=8.6						
MTN				S	Sn	17 04 52.4	+2.5
	baz=5.6,SNR=5.8						
KDU	Kakadu	6.60	126	P	Pn	17 04 05.0	+6.4
	baz=6.5,SNR=3.6						
KDU				S	Sn	17 05 15.0	+2.4
	baz=6.5,SNR=3.3						
KNRA	Kununurra	6.99	166	P	Pn	17 04 05.8	+1.9
	baz=6.9,SNR=11						
KNRA				S	Sn	17 05 24.9	+2.7
	baz=6.9,SNR=4.1						
WRA	Warramunga Arr	13.11	148	Pn	Pn	17 05 26.3	-1.5
	0.5nm,0.3s,baz=320,slow=13,SNR=9.8						
WRA				Sn	Sn	17 07 46.9	-5.6
	0.2nm,0.3s,baz=319,slow=27,SNR=5.5						
WRKA	Warakurna	16.13	176	P	P	17 06 10.7	-0.4
	baz=16,SNR=4.3						
ASAR	Alice Springs	16.14	157	Pn	Pn	17 06 07.0	-1.3
	0.2nm,0.3s,baz=329,slow=12,SNR=13						
ASAR				Sn	Sn	17 08 55.8	-11
	0.0nm,0.3s,baz=5.1,slow=32,SNR=4.2						
NWAO	Narrogin (SRO)	25.58	199	LR	LR	17 18 25.5	
	comp=Z,99nm,21.1s,baz=112,slow=38						
MKAR	Makanchi Array	68.20	329	P	P	17 13 20.3	-0.6
	0.3nm,0.6s,baz=124,slow=7.7,SNR=6.6						
ZALV	Zalesovo Beam	71.97	335	P	P	17 13 43.5	-0.3
	0.2nm,0.3s,baz=123,slow=5.3,SNR=3.1						

KRSC 25 17:48:43.4±0.7, 55°.17N×160°.35E, h-2km±5km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	Kizimen	0.07	211	eP	Pg	17 48 46.4	+1.5
KZV				eS	Sg	17 48 48.2	+2.3
TUMR	Tumrok	0.16	313	eP	Pg	17 48 47.6	+0.8
TUMR				eS	Sg	17 48 50.6	+1.6
KMNR	Kamenistaya	0.59	354	eP	Pg	17 48 55.8	+0.9
KMNR				eS	Sb	17 49 06.5	+0.7
BZMR	Bezymyannaya	0.77	6	P	Pb	17 48 59.3	-0.6
BZMR				S	Sb	17 49 11.5	+0.4
KIRR	Kirishev	0.79	359	P	Pb	17 48 59.5	-0.7
KIRR				S	Sb	17 49 11.6	+0.1
BZGR	Bezymyannyi-Gr	0.80	14	P	Pb	17 49 01.1	+0.8
BZGR				S	Sb	17 49 13.0	+1.3
BZWR	Bezymyannyi-We	0.80	6	P	Pb	17 49 00.3	-0.1
BZWR				S	Sb	17 49 13.9	-1.1
KPT	Kopyto	0.80	355	P	Pb	17 49 00.6	+0.2
KPT				S	Sb	17 49 12.8	+1.0
ZLN	Zelenaya	0.89	17	P	Pb	17 49 03.0	-0.3
KOZ	Kozyrevsk	0.93	343	P	Pb	17 49 02.1	-0.4
KOZ				S	Sb	17 49 16.6	+1.2
MKZ	Mys Kozlova	1.01	127	eP	Pb	17 49 03.5	-0.1
MKZ				eS	Sb	17 49 18.3	+0.9
KRSR	Krestovskiy	1.06	6	P	Pn	17 49 05.2	-0.4
KRSR				S	Sn	17 49 20.3	-0.8
KLY	Klyuchi	1.16	8	P	Pb	17 49 06.3	0.0
KLY				S	Sn	17 49 24.4	+1.0
SRDR	Sredinnyy	1.21	343	P	Pb	17 49 07.3	+0.1
SRDR				S	Sn	17 49 24.6	-0.1
ESO	Esso	1.21	309	P	Pg	17 49 06.2	-0.4
ESO				S	Sg	17 49 22.8	+0.5
KII	Karymskiy	1.25	205	P	Pb	17 49 08.1	+0.1
KII				S	Sn	17 49 25.5	-0.4
BDR	Baidarnaya	1.48	19	P	Pg	17 49 12.4	+0.5
BDR				S	Sn	17 49 34.5	+2.9
SMKR	Semkarok	1.55	23	P	Pg	17 49 14.1	+0.9
SMKR				S	Sg	17 49 36.3	+2.9
SRKR	Sorokina	1.56	17	P	Pb	17 49 13.1	-0.1
SRKR				S	Sg	17 49 35.4	+1.8
KBTR	Krutoberegovo	1.74	52	P	Pn	17 49 14.9	0.0
KBTR				S	Sn	17 49 38.5	-0.1
GNL	Ganaly	2.04	225	eP	Pb	17 49 19.4	+0.2
GNL				eS	Sb	17 49 47.7	+0.1
KRX	Arik	2.07	210	P	Pn	17 49 20.6	+1.0
KRX				S	Sb	17 49 48.9	+0.4
SDLR	Sedlovina	2.08	205	P	Pn	17 49 20.7	+1.0
SDLR				S	Sg	17 49 50.6	0.0
KRER	Koryakskii	2.09	207	P	Pb	17 49 22.3	-0.2
SMAR	Somma	2.12	206	P	Pn	17 49 21.6	+1.3
SMAR				S	Sg	17 49 51.7	-0.2
AVH	Avacha	2.13	207	P	Pb	17 49 22.1	-0.9
AVH				S	Sg	17 49 51.9	-0.2
KOK	Koryaka	2.13	209	P	Pb	17 49 22.2	-0.9
KOK				S	Sg	17 49 52.2	0.0
UGLR	Uglovaya	2.16	205	P	Pb	17 49 22.7	-0.8
APC	Apacha	2.94	221	P	Pn	17 49 32.6	+1.4
APC				S	Sn	17 50 09.7	+2.6
MTVR	Mutnovka	2.98	206	P	Pb	17 49 35.4	-2.2
ASAK	Asacha	3.15	209	P	Pb	17 49 37.9	-2.4
BKI	Bering	3.22	87	P	Pn	17 49 35.8	+0.6
BKI				S	Sn	17 50 14.6	+0.4
MIPR	Malaya Ipel'ka	3.60	218	P	Pn	17 49 42.5	+2.1

IDC 25 17:56:17.3±2.0, 5°.61N×126°.09E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/32, mbtmp3.8/4, Error ellipse: s-maj=211.2km s-min=23.7km az=65.0
ISCJB 25 17:56:26.2±0.8, 5°.55N±0°.07×126°.8E±0°.1, h66km, mb3.7/4, Error ellipse: s-maj=21.9km s-min=7.0km az=159.5
MAN 25 17:56:29, 5°.81N×126°.59E, h96km, mb4.9, ML3.9, MS3.9
ISC 25 17:56:27.2±1.0, 5°.55N±0°.08×126°.7E±0°.1, h66km, n10, σ1°.26/13, mb3.6/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.46	342	eP	Pn	17 56 53.1	+1.5
MATI				eS	Sn	17 57 09.5	-0.3
DMPH	Davao City--Mi	1.93	322	⇑eP	Pn	17 56 58.5	+0.7
DMPH				eS	Sn	17 57 19.9	-1.2
BIPH	Bislig	2.64	353	⇓eP	Pn	17 57 07.4	-0.1
BIPH				eS	Sn	17 57 37.0	-1.5
BUKP	Musuan	2.83	325	eP	Pn	17 57 11.4	+1.3
BUTP	Butuan	3.56	343	eP	Pn	17 57 22.1	+2.0
PAGZ	Pagadian	4.01	305	eP	Pn	17 57 26.7	+0.5
WRA	Warramunga Arr	26.42	164	P	P	18 01 58.8	+0.8
	0.4nm,0.3s,baz=342,slow=10,SNR=18						
ASAR	Alice Springs	29.88	167	P	P	18 02 29.6	+0.9
	0.8nm,0.4s,baz=341,slow=7.2,SNR=30						
ASAR				PcP	PcP	18 05 29.6	-1.0
	0.3nm,0.5s,baz=340,slow=2.7,SNR=4.2						
STKA	Stephens Creek	39.83	160	P	P	18 03 53.3	-1.0
	2.1nm,0.6s,baz=338,slow=8.4,SNR=7.1						
MKAR	Makanchi Array	56.06	325	P	P	18 05 55.5	-4.0
	0.2nm,0.4s,baz=116,slow=8.2,SNR=7.5						

ISCJB 25 18:07:15.6±0.4, 67°.09N±0°.03×20°.98E±0°.09, h0km, Error ellipse: s-maj=5.3km s-min=3.6km az=2.5
UPP 25 18:07:15.9, 67°.08N×20°.89E, h0km, ML2.0, Mining explosion.
CSEM 25 18:07:16.2±0.2, 67°.08N×20°.80E, h2km, ML2.0, Error ellipse: s-maj=7.2km s-min=4.7km az=78.0, Mining explosion.
HEL 25 18:07:17.7, 67°.09N×21°.07E, h0km, ML1.8, Explosion
IDC 25 18:07:17.5±1.1, 67°.14N×21°.17E, h0km, mb1 3.0/3, mb1mx2.9/33, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=18.0km s-min=7.8km az=106.0
ISC 25 18:07:16.5±0.8, 67°.07N±0°.02×20°.86E±0°.03, h0km, n55, σ1°.51/68, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	Ertsjaerv	0.74	134	eP	Pg	18 07 30.3	-0.4
ERTU				eS	Sg	18 07 35.2	-4.9
ERTU	Ertsjaerv	0.74	134	P	Pg	18 07 30.2	-0.4
ERTU	Ertsjaerv	0.74	134	P	Pg	18 07 29.9	-0.7
HARU	Harads	0.91	177	eP	Pg	18 07 32.8	-1.1
HARU	Harads	0.91	177	P	Pg	18 07 32.8	-1.1
HARU	Harads	0.91	177	P	Pg	18 07 32.8	-1.1
KUA	Kurravaara	0.91	347	eP	Pg	18 07 32.8	-1.2
KUA	Kurravaara	0.91	347	P	Pg	18 07 32.8	-1.2
KUA	Kurravaara	0.91	347	P	Pg	18 07 32.8	-1.2
SALU	Saltoluokta	0.97	290	eP	Pg	18 07 34.3	-0.8
SALU	Saltoluokta	0.97	290	P	Pg	18 07 34.3	-0.8
SALU	Saltoluokta	0.97	290	P	Pg	18 07 34.3	-0.8
NIKU	Nikkaluokta	1.07	320	eP	Pg	18 07 35.6	-1.3
NIKU	Nikkaluokta	1.07	320	P	Pg	18 07 35.6	-1.3
NIKU	Nikkaluokta	1.07	320	P	Pg	18 07 35.6	-1.3
LANU	Lannavaara	1.08	23	eP	Pg	18 07 36.1	-1.1
LANU	Lannavaara	1.08	23	P	Pg	18 07 36.0	-1.1
LANU	Lannavaara	1.08	23	P	Pg	18 07 35.3	-1.9
KALU	Kalix	1.57	139	ePG	Pn	18 07 45.3	-0.3
KALU	Kalix	1.57	139	Pg	Pn	18 07 45.3	-0.3
KALU	Kalix	1.57	139	P	Pn	18 07 45.6	0.0
KALU	Kalix	1.57	139	P	Pn	18 07 45.6	0.0
SJUU	Sjulsmark	1.60	169	eP	Pn	18 07 45.9	-0.1
SJUU	Sjulsmark	1.60	169	P	Pn	18 07 45.9	-0.1
SJUU	Sjulsmark	1.60	169	P	Pn	18 07 45.9	-0.1
HEF	Hetta	1.72	37	eP	Pn	18 07 47.0	-0.6
	baz=221						
HEF				MSG	Sg	18 08 11.5	-0.1
	comp=Z,6.4nm,0.2s						
HEF				eSN	Sg	18 08 11.5	-0.1
HEF	Hetta	1.72	37	P	Pn	18 07 47.0	-0.6
HEF				Sn	Sg	18 08 11.5	-0.1
LILU	Lilltraesk	1.84	193	eP	Pn	18 07 49.8	+0.5
LILU	Lilltraesk	1.84	193	P	Pn	18 07 49.7	+0.5
LILU	Lilltraesk	1.84	193	P	Pn	18 07 49.8	+0.5
KIF	Kilpisjarvi	1.94	359	ePB	Pn	18 07 51.5	+0.7
KIF				eSG	Sg	18 08 20.1	+1.2
KIF				MSG		18 08 20.1	
	comp=Z,3.1nm,0.2s						
KIF	Kilpisjarvi	1.94	359	Pb	Pn	18 07 51.4	+0.7
KIF				Sg	Sg	18 08 20.1	+1.2
	comp=Z,3.1nm,0.2s						
SGF	Sodankyl	2.23	78	eP	Pn	18 07 55.0	+0.3
SGF				eSG	Sb	18 08 26.9	+1.1
SGF	Sodankyl	2.23	78	P	Pn	18 07 55.0	+0.3
SGF				Sg	Sb	18 08 26.9	+1.1
OUL	Oulu	2.86	132	ePG	Pb	18 08 07.8	-0.5
	baz=312						
OUL	Oulu	2.86	132	Pg	Pb	18 08 07.8	-0.5
ARA0	ARCESS Array S	3.02	33	eP	Pn	18 08 05.2	-0.3
	baz=208						
ARA0				eS	Sn	18 08 40.8	-1.5
ARA0	ARCESS Array S	3.02	33	P	Pn	18 08 05.2	-0.3
ARA0				S	Sn	18 08 40.8	-1.5
ARCES	ARCESS Array B	3.02	33	Pn	Pn	18 08 06.3	+0.8
	comp=Z,0.5nm,0.3s,baz=211,slow=14,SNR=40						
ARCES				Lg	Lg	18 08 46.6	
	comp=Z,0.7nm,0.3s,baz=218,slow=28,SNR=8.2						
UMAU	Umeaa	3.20	181	eP	Pn	18 08 09.3	+1.3
UMAU	Umeaa	3.20	181	P	Pn	18 08 09.2	+1.3
VRF	Varrio	3.44	75	ePB	Pn	18 08 13.8	+2.5
	baz=270						
VRF				eSG	Sb	18 09 03.1	+2.5
VRF				MSG		18 09 03.1	
	comp=Z,4.1nm,0.2s						
VRF	Varrio	3.44	75	Pb	Pn	18 08 13.8	+2.5
VRF				Sg	Sb	18 09 03.1	+2.5
	comp=Z,4.1nm,0.2s						
MSF	Maaselka	3.48	106	ePB	Pn	18 08 14.6	+2.7
MSF	Maaselka	3.48	106	Pb	Pn	18 08 14.5	+2.7
KEV	Kevo	3.53	37	eP	Pn	18 08 13.5	+1.1
KEV	Kevo	3.53	37	P	Pn	18 08 13.5	+1.1
KU6	Riekki	3.76	102	eP	Pn	18 08 17.1	+1.4
KU6	Riekki	3.76	102	P	Pn	18 08 17.0	+1.4
HUSU	Husum	3.81	191	eP	Pn	18 08 19.2	+2.8
	baz=10.0						
HUSU				e		18 09 04.8	
HUSU	Husum	3.81	191	P	Pn	18 08 19.1	+2.8
VAF	Ylistaro	4.12	168	eP	Pn	18 08 23.4	+2.9
	baz=351						
VAF	Ylistaro	4.12	168	P	Pn	18 08 23.4	+2.9

FINES FINESS Array B 6.08 156 Pn Pn 18 08 50.0 +2.4
comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=7.7
FINES Sn Sn 18 09 56.8 -1.0
comp=Z,0.2nm,0.3s,baz=349,slow=21,SNR=4.0
FINES Lg Lg 18 10 30.6
comp=Z,0.2nm,0.3s,baz=345,slow=29,SNR=3.5
NOA NORSAR Array B 7.38 219 Pn Pn 18 09 05.8 +0.5
comp=Z,0.1nm,0.3s,baz=64,slow=11,SNR=3.3

IDC 25 18:15:55.0±2.1, 5.82S×130.82E, h0km, mb3.2/1, mb1 4.0/4, mb1mx3.6/24, mbtmp3.8/4, ML4.1/3, Error ellipse: s-maj=57.7km s-min=30.2km az=78.0
ISC 25 18:15:59.9±1.6, 6.1S±0.1×131.0E±0.1, h35km, n9, σ2s90/11, Banda Sea

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

MTN Manton Dam 6.71 179 P Pn 18 17 42.5 +6.6
baz=6.4,SNR=51
MTN S Sn 18 18 52.2 +1.0
baz=6.4,SNR=3.8
KDU Kakadu 6.71 167 P Pn 18 17 44.0 +8.0
baz=6.5,SNR=70
SOEI Soe 7.57 241 P Pn 18 17 50.8 +2.8
baz=7.0,SNR=3.8
SOEI S Sn 18 19 10.5 -2.2
baz=7.0,SNR=3.2
BATI Baumata 8.31 240 Pn Pn 18 17 58.4 +0.4
3.7nm,0.3s,baz=90,slow=20,SNR=7.9
BATI Sn Sn 18 19 21.7 -9.1
2.4nm,0.3s,baz=323,slow=20,SNR=4.6
KNRA Kununurra 9.77 193 P Pn 18 18 20.4 +2.5
baz=9.4,SNR=8.2
KNRA S Sn 18 19 57.0 -9.4
baz=9.4,SNR=7.4
WRA Warramunga Arr 14.15 167 Pn Pn 18 19 19.2 +1.3
0.8nm,0.3s,baz=345,slow=13,SNR=13
WRA Sn Sn 18 21 47.9 -5.8
0.4nm,0.3s,baz=350,slow=20,SNR=4.7
ASAR Alice Springs 17.70 171 P P 18 20 06.8 +2.4
0.3nm,0.3s,baz=351,slow=10,SNR=27
ASAR S Sn 18 23 18.2 -1.7
0.2nm,0.3s,baz=352,slow=24,SNR=5.2
WRKA Warakurna 19.01 187 P Pn 18 20 19.7 -0.1
baz=19,SNR=11
MKAR Makanchi Array 68.01 326 P P 18 26 54.1 -1.6
0.1nm,0.4s,baz=112,slow=8.2,SNR=6.8

ISCJB 25 18:41:22.8±0.4, 45.44S±0.07×96.1E±0.1, h8km, mb4.5/17, MS4.1/17, Error ellipse: s-maj=12.3km s-min=10.4km az=20.6
IDC 25 18:41:23.5±0.6, 45.42S×96.12E, h0km, mb4.4/13, mb1 4.5/13, mb1mx4.4/20, mbtmp4.4/13, MS4.1/17, Ms1 4.1/17, ms1mx3.8/39, Error ellipse: s-maj=19.7km s-min=17.3km az=123.0
GCMT 25 18:41:24.9±0.3, 45.44S×96.03E, h12km, MW4.8/64, Moment Tensor Solution. s20,c23; s64,c86; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.05±.10; Mθθ-0.63±.09; Mφφ0.67±.08; Mrθ-0.56±.23; Mrφ-2.05±.06; Mθφ0.86±.23; Best double couple: Mo2.35200×10^16 NP1:φs11.00000°, δ76.00000°, λ17.00000°. NP2: φs277.00000°, δ74.00000°, λ166.00000°. Principal axes: T 2.5760, Plg21.0000°, Azm234.0000°; N -0.4490, Plg69.0000°, Azm49.0000°; P -2.1280, Plg2.0000°, Azm143.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 25 18:41:24.9±0.3, 45.43S×96.12E, h10km, mb4.8/7 Error ellipse: s-maj=10.0km s-min=8.7km az=149.0
ISC 25 18:41:24.6±0.5, 45.4S±0.1×96.1E±0.1, h8km, n62, σ0s53/40, mb4.5/16, MS4.0/17, Southeast Indian Ridge

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H01W2 Cape Leeuwin H 17.30 59 T T 19 03 02.1
baz=226,slow=74,SNR=76
H01W3 Cape Leeuwin H 17.31 59 T T 19 02 58.5
baz=226,slow=74,SNR=74
H01W1 Cape Leeuwin H 17.31 59 T T 19 03 02.6
baz=226,slow=74,SNR=80
NWAO Narrogin (SRO) 20.52 60 P P 18 46 04.1 +0.9
16nm,1.0s,baz=195,slow=7.4,SNR=2.7
NWAO LR LR 18 52 05.1
comp=Z,1μm,20.1s,baz=234,slow=31
MAW Mawson 28.17 206 LR LR 18 56 10.8
comp=Z,353nm,19.4s,baz=57,slow=32
ASAR Alice Springs 37.48 67 P P 18 48 38.3 -0.5
4.0nm,1.1s,baz=224,slow=7.3,SNR=18
ASAR PcP PcP 18 50 56.8 -0.3
1.2nm,1.0s,baz=220,slow=1.3,SNR=4.8
AS31 Alice Springs 37.48 67 eP P 18 48 38.1 -0.7
STKA Stephens Creek 37.52 85 P P 18 48 38.8 -0.2
7.0nm,0.7s,baz=253,slow=5.5,SNR=21
STKA Stephens Creek 37.52 85 eP P 18 48 39.0 0.0
1.7nm,0.8s
WRA Warramunga Arr 40.44 64 P P 18 49 02.8 -0.7
4.5nm,0.7s,baz=222,slow=8.7,SNR=21
WRAB Tennant Creek 40.45 64 eP P 18 49 03.0 -0.7
20nm,1.3s
VNDA Vanda 40.89 162 P P 18 49 07.2 +0.6
3.5nm,0.8s,baz=270,slow=3.1,SNR=4.9
VNDA LR LR 19 04 01.3
comp=Z,386nm,21.5s,baz=292,slow=33
BATI Baumata 42.31 43 LR LR 19 05 38.7
comp=Z,444nm,19.7s,baz=231,slow=34
H08S2 Diego Garcia H 42.83 324 T T 19 35 07.9
baz=156,slow=76,SNR=44
H08S1 Diego Garcia H 42.84 324 T T 19 34 58.0
baz=156,slow=76,SNR=50
H08S3 Diego Garcia H 42.85 324 T T 19 35 09.4
baz=156,slow=76,SNR=45
H08N1 Diego Garcia H 44.62 323 T T 19 37 24.2
baz=202,slow=76
H08N3 Diego Garcia H 44.63 323 T T 19 37 25.5
baz=202,slow=76
H08N2 Diego Garcia H 44.64 323 T T 19 37 28.0
baz=202,slow=76
QSPA South Pole Qui 44.71 180 P P 18 49 37.5 -0.5
5.1nm,0.8s,baz=303,slow=3.8,SNR=12
QSPA LR LR 19 06 54.2
comp=Z,338nm,18.5s,baz=310,slow=34
OPO Ambohidratompo 48.42 287 LR LR 19 06 27.3
comp=Z,118nm,18.9s,baz=170,slow=31
SNAA Sanae 50.29 204 P P 18 50 21.1 -0.1
SNAA Sanae 50.29 204 P P 18 50 21.0 -0.1
6.4nm,0.9s,baz=126,slow=7.4,SNR=16
SNAA Sanae 50.29 204 eP P 18 50 20.6 -0.5
18nm,0.9s
VNA2 Neumayer--Watz 51.94 204 P P 18 50 33.4 0.0
baz=110,slow=7.4
VNA3 Neumayer Olymp 52.41 203 P P 18 50 36.9 -0.1
BOSA Boshof 57.22 261 LR LR 19 10 09.7
comp=Z,109nm,21.2s,baz=136,slow=30
LBTB Lobatse 59.22 265 LR LR 19 11 18.8
comp=Z,173nm,21.6s,baz=150,slow=30
DZM Mont Dzumac 60.99 93 eLR LR 19 09 29.5
178nm,25.4s
CMAR Chiang Mai Arr 63.63 3 P P 18 51 56.9 +0.8
2.3nm,1.1s,baz=198,slow=5.9,SNR=13
CMAR LR LR 19 16 17.8
comp=Z,74nm,20.3s,baz=172,slow=33
LSZ Lusaka 63.80 275 LR LR 19 15 30.9
comp=Z,82nm,18.5s,baz=110,slow=32
LSZ Lusaka 63.80 275 eP P 18 51 57.7 0.0
8.7nm,0.9s
HNR Honiara 65.05 78 LR LR 19 19 18.6
comp=Z,226nm,18.0s,baz=254,slow=35
KMBO Kilima Mbogo 67.79 292 P P 18 52 23.9 +0.5
6.8nm,1.0s,baz=98,slow=2.9,SNR=16
KMBO LR LR 19 18 04.6
comp=Z,79nm,18.6s,baz=95,slow=32
TSUM Tsumeb 68.62 264 LR LR 19 17 51.7
comp=Z,107nm,18.9s,baz=138,slow=32
ODAN Odare 72.38 352 eP P 18 52 51.0 -0.2
RAMN Ramite 72.55 351 eP P 18 52 52.2 -0.1
21nm,1.1s
TAPN Taplejung 72.83 352 eP P 18 52 53.8 -0.2
22nm,1.2s
JIRN Jiri 73.30 351 eP P 18 52 57.0 +0.2
33nm,1.4s
PKI Pulchoki 73.30 350 eP P 18 52 56.2 -0.6
DMN Daman 73.38 350 eP P 18 52 57.1 -0.1
23nm,1.2s
GUN Gumba 73.58 351 eP P 18 52 58.7 +0.2
44nm,1.1s
KOLN Koldanda 73.73 348 eP P 18 52 58.8 -0.4
21nm,1.2s
GKN Gorkha 73.83 349 eP P 18 52 59.4 -0.3
18nm,0.9s
DANN Dangsing 74.28 349 eP P 18 53 02.1 -0.4
19nm,0.9s
LSA Lhasa 74.91 356 eP P 18 53 06.5 +0.2
6.4nm,1.0s
KBL Kabul 83.29 338 eP P 18 53 51.6 -0.2
18nm,1.2s
GEYT Alibeck 89.76 331 P P 18 54 22.4 -0.7
2.7nm,1.0s,baz=217,slow=7.2,SNR=5.6
GEYT LR LR 19 31 04.4
comp=Z,44nm,18.0s,baz=140,slow=33
AAK Ala-Archa 89.77 344 eP P 18 54 23.4 +0.1
4.8nm,1.0s
MKAR Makanchi Array 92.64 351 P P 18 54 36.0 -0.3
2.2nm,1.0s,baz=154,slow=3.4,SNR=11
MKAR LR LR 19 34 22.7
comp=Z,55nm,18.4s,baz=180,slow=34
SONM Songino Array 93.32 7 P P 18 54 39.4 -0.2
1.9nm,1.2s,baz=177,slow=5.0,SNR=7.4
PLCA Paso Flores 93.39 190 LR LR 19 34 19.5
comp=Z,99nm,21.6s,baz=202,slow=34
PPT2 Papeete2 93.63 119 eLR LR 19 24 46.4
208nm,27.0s
PPT Papeete 93.65 119 LR LR 19 30 54.2
comp=Z,44nm,18.2s,baz=228,slow=32
RKT Rikitea 97.47 134 eT T 20 43 29.5
9.4nm,0.2s
ZALV Zalesovo Beam 99.47 353 P Pdif 18 55 05.5 -1.6
0.2nm,0.3s,baz=33,slow=3.5,SNR=3.9
SUMG Summit 145.68 338 iP PKPab 19 01 04.0 +0.6
6.7nm,1.0s
SUMG Summit 145.68 338 eP PKPdf 19 01 02.8 +0.1
NVAR Mina Array Bea 153.61 93 PKPbc PKPbc 19 01 24.9 +1.1
1.5nm,0.8s,baz=222,slow=4.1,SNR=7.8
YKA Yellowknife Ar 155.50 35 PKPbc PKPdf 19 01 26.3 +8.7
0.3nm,0.7s,baz=299,slow=2.2,SNR=5.1
TXAR Lajitas Array 157.62 129 PKPab PKPab 19 01 53.8 +0.1
0.9nm,0.9s,baz=251,slow=4.7,SNR=4.6
PDAR Pinedale Array 161.40 89 PKPab PKPab 19 02 10.4 +0.3
0.3nm,0.7s,baz=270,slow=7.2,SNR=2.4

ISCJB 25 18:54:40.3±1.4, 49.6S±0.2×125.0E±0.7, h10km, mb4.2/5, MS4.0/2, Error ellipse: s-maj=66.7km s-min=15.9km az=16.6
IDC 25 18:54:41.0±1.5, 49.57S×124.99E, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.3/11, mbtmp4.3/5, MS4.0/2, Ms1 3.9/2, ms1mx3.2/23, Error ellipse: s-maj=79.3km s-min=19.6km az=106.0
ISC 25 18:54:42.2±1.6, 49.6S±0.2×124.9E±0.5, h10km, n11, σ0s35/6, mb4.2/5, Western Indian-Antarctic Ridge

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H01W1 Cape Leeuwin H 16.65 328 T T 19 15 54.2
baz=153,slow=74,SNR=12
H01W2 Cape Leeuwin H 16.65 328 T T 19 15 58.4
baz=153,slow=74,SNR=15
H01W3 Cape Leeuwin H 16.67 328 T T 19 15 46.1
baz=153,slow=74,SNR=12
STKA Stephens Creek 21.62 41 P P 18 59 32.7 +0.3
20nm,0.8s,baz=203,slow=11,SNR=44
ASAR Alice Springs 26.78 19 P P 19 00 21.9 -0.4
4.0nm,0.8s,baz=189,slow=9.5,SNR=34
VNDA Vanda 31.36 165 P P 19 01 02.1 -0.3
3.1nm,0.8s,baz=305,slow=12,SNR=5.1
MAW Mawson 35.13 216 LR LR 19 12 28.6
comp=Z,183nm,21.5s,baz=62,slow=30
QSPA South Pole Qui 40.57 180 P P 19 02 21.7 +0.2
3.9nm,1.0s,baz=325,slow=4.2,SNR=5.3
SNAA Sanae 53.59 198 P P 19 04 03.0 +0.1
1.5nm,0.8s,baz=162,slow=6.4,SNR=4.6
LBTB Lobatse 77.10 247 LR LR 19 32 48.5
comp=Z,121nm,21.3s,baz=168,slow=30
YKA Yellowknife Ar 145.63 45 PKPbc PKPab 19 14 20.1 +0.1
1.1nm,0.9s,baz=268,slow=3.0,SNR=11

MOS 25 18:55:08.6±0.8, 10.23S×161.24E, h37km, mb5.1/18, Error ellipse: s-maj=12.6km s-min=9.9km az=88.9
ISCJB 25 18:55:10.9±0.2, 10.23S±0.04×161.23E±0.05, h54km, mb4.8/68, MS3.7/7, Error ellipse: s-maj=7.9km s-min=4.6km az=31.7
BJI 25 18:55:10.4, 10.30S×161.20E, h62km, mB5.0/3, mb4.9/17
NEIC 25 18:55:12.2±0.2, 10.27S×161.32E, mb5.0/48, Error ellipse: s-maj=8.4km s-min=5.7km az=129.0
IDC 25 18:55:12.3±0.6, 10.33S×161.40E, h57km±4km, mb4.4/19, mb1 4.5/21, mb1mx4.5/33, mbtmp4.7/21, MS3.7/9, Ms1 3.7/9, ms1mx3.3/27, Error ellipse: s-maj=17.4km s-min=12.3km az=100.0
ISC 25 18:55:11.9±0.4, 10.27S±0.05×161.52E±0.06, h56km±3km, h56km:pP-P, n171, σ1s28/173, mb4.8/68, MS3.9/7, 6C-1D, Bougainville - Solomon Islands region

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HNR Honiara 1.75 298 eP Pn 18 55 41.1 +1.1
HNR Honiara 1.75 298 LR LR 18 56 36.2
comp=Z,1μm,19.1s,baz=120,slow=50
HNR Honiara 1.75 298 ePn Pn 18 55 41.1 +1.1
HNR eSn Sn 18 56 04.0 +2.7
DZM Mont Dzumac 12.65 159 ePn Pn 18 58 11.0 +1.7
19nm,0.3s
DZM eSn Sn 19 00 26.9 -1.8
8.9nm,0.3s
DZM eLR LR 19 01 03.7
400nm,24.8s
DZM Mont Dzumac 12.65 159 P Pn 18 58 11.0 +1.7
5.2nm,0.3s,baz=41,slow=9.1,SNR=46
DZM S Sn 19 00 28.3 -0.4
0.8nm,0.3s,baz=287,slow=19,SNR=4.7
DZM LR LR 19 02 39.8
comp=Z,230nm,20.0s,baz=27,slow=35
PMG Port Moresby 14.17 272 eP P 18 58 37.5 +1.8
PMG pmax pmax
comp=Z,37nm,1.0s
PMG Port Moresby 14.17 272 P P 18 58 35.5 -0.2
comp=Z,0.3nm,0.3s,baz=100,slow=11,SNR=5.3
PMG LR LR 19 03 46.1
comp=Z,338nm,20.2s,baz=114,slow=36
PMG Port Moresby 14.17 272 ePn P 18 58 34.9 -0.9
comp=Z,45nm,1.1s
PMG Port Moresby 14.17 272 P P 18 58 38.8 +3.1
baz=15,SNR=5.6
TARA Tarawa 16.19 45 Pn P 18 58 57.9 -0.3
TARA eSn Sn 19 01 51.5 -3.2
CTA Charters Tower 17.66 235 P P 18 59 14.8 +0.4
comp=Z,1.3nm,0.3s,baz=69,slow=12,SNR=18
CTAO Charters Tower 17.66 235 eP P 18 59 15.3 +0.9
CTAO pmax pmax
comp=Z,47nm,0.9s
CTAO Charters Tower 17.66 235 ePn P 18 59 15.3 +0.9
comp=Z,46nm,0.9s
EIDS Eidsvold 17.99 212 eP Pn 18 59 19.5 +1.4
comp=Z,33nm,0.8s
EIDS Eidsvold 17.99 212 P Pn 18 59 19.6 +1.4
baz=18,SNR=8.4
COEN Coen 18.30 257 eP Pn 18 59 24.4 +2.4
comp=Z,1μm,2.1s
COEN Coen 18.30 257 P Pn 18 59 24.4 +2.4
baz=19,SNR=11
RMQ Roma 20.14 215 P Pn 18 59 43.1 -0.8
baz=20,SNR=19
ARMA Armidale 22.07 203 eP P 19 00 01.4 -0.9
comp=Z,23nm,0.9s
ARMA Armidale 22.07 203 P P 19 00 02.1 -0.2
baz=22,SNR=12
QLP Quilpie 23.02 223 P P 19 00 11.8 -0.6
baz=23,SNR=16
QIS Mount Isa 23.44 242 P P 19 00 16.2 -0.3
baz=24,SNR=8.6
MGCD Mangrove Creek 24.76 201 P P 19 00 29.6 +1.2
baz=25,SNR=4.1
CMSA Cobar Meteorol 25.75 212 P P 19 00 36.9 -0.5
baz=26,SNR=12
YNG Young 26.77 205 P P 19 00 47.0 +0.5
baz=27,SNR=4.6
WRAB Tennant Creek 27.89 247 d iP P 19 00 55.7 -1.1
WRAB pmax pmax
comp=Z,42nm,0.8s
WRAB Tennant Creek 27.89 247 eP P 19 00 55.2 -1.6
comp=Z,15nm,0.8s
WRA Warramunga Arr 27.91 247 P P 19 00 56.1 -0.9
comp=Z,14nm,0.7s,baz=74,slow=9.3,SNR=64
STKA Stephens Creek 28.32 218 eP P 19 00 59.4 -1.1
STKA Stephens Creek 28.32 218 P P 19 00 59.7 -0.8
comp=Z,3.1nm,0.7s,baz=63,slow=18,SNR=6.0
STKA LR LR 19 12 06.6
comp=Z,356nm,18.4s,baz=71,slow=36
STKA Stephens Creek 28.32 218 eP P 19 00 59.4 -1.1
comp=Z,1.4nm,0.8s
STKA Stephens Creek 28.32 218 P P 19 01 00.7 +0.2
baz=29,SNR=6.8
KDU Kakadu 28.56 262 P P 19 01 02.0 -0.7
baz=29,SNR=3.9
GUMO Guam 28.89 325 P P 19 01 07.7 +2.0
GUMO Guam 28.89 325 P P 19 01 07.7 +2.0
comp=Z,138nm,1.1s
H11S2 WAKE ISLAND Hy 29.03 10 T T 19 32 06.8
baz=189,slow=76,SNR=187
H11S3 WAKE ISLAND Hy 29.03 10 T T 19 31 59.7
baz=189,slow=76,SNR=99
H11S1 WAKE ISLAND Hy 29.05 10 T T 19 32 03.9
baz=189,slow=76,SNR=92
ASAR Alice Springs 29.51 240 P P 19 01 09.3 -1.9
comp=Z,5.7nm,0.8s,baz=72,slow=9.4,SNR=28
H11N1 WAKE ISLAND Hy 30.26 10 T T 19 33 33.4
baz=188,slow=76,SNR=51
H11N3 WAKE ISLAND Hy 30.27 10 T T 19 33 37.1
baz=188,slow=76,SNR=7.2
H11N2 WAKE ISLAND Hy 30.28 10 T T 19 33 33.0
baz=188,slow=76,SNR=46
TOO Toolangi 30.78 205 P P 19 01 22.5 +0.3
baz=31,SNR=13
HTT Hallett 31.02 219 P P 19 01 23.8 -0.7
baz=31,SNR=7.0
ARPS Mount Arapiles 31.82 211 P P 19 01 31.5 +0.1
baz=32,SNR=5.1
KNRA Kununurra 32.34 257 P P 19 01 35.8 -0.3
baz=33,SNR=22
BBOO Buckleboo 32.45 222 eP P 19 01 35.0 -2.0
comp=Z,108nm,0.6s
BBOO Buckleboo 32.45 222 P P 19 01 36.3 -0.7
baz=33,SNR=25
MOO Moorlands 34.42 199 P P 19 01 55.1 +1.1
baz=35,SNR=4.0
WRKA Warakurna 34.77 241 P P 19 01 55.6 -1.7
baz=35,SNR=18
TAU Tasmania Unive 34.80 198 P P 19 01 58.0 +0.8
TAU pmax pmax
comp=Z,62nm,1.4s
TAU Tasmania Unive 34.80 198 P P 19 01 58.0 +0.8
comp=Z,62nm,1.4s
FORT Forrest 37.17 232 P P 19 02 17.9 +0.2
baz=38,SNR=8.2
BATI Baumata 37.24 267 P P 19 02 18.6 +0.1
comp=Z,17nm,0.5s,baz=107,slow=3.4,SNR=5.4
LUWI Luwuk 39.58 281 S S 19 08 44.2 +6.9
baz=40,SNR=5.4
MBWA Marble Bar 41.54 250 eP P 19 02 52.7 -1.5
comp=Z,41nm,1.3s
JCJ Chichijima 41.61 334 LR LR 19 16 13.7
comp=Z,75nm,21.7s,baz=116,slow=30
MEEK Meekatharra 43.59 242 P P 19 03 10.7 -0.2
baz=44,SNR=16
BLDU Ballidu 46.23 237 P P 19 03 31.0 -0.8
baz=47,SNR=8.2
MORW Morawa 46.39 240 P P 19 03 32.5 -0.6
baz=47,SNR=6.2
NWAO Narrogin (SRO) 46.50 234 P P 19 03 32.2 -1.6
comp=Z,13nm,0.9s,baz=82,slow=5.5,SNR=5.1
JAGI Jajag, Banyuwa 46.73 268 eP P 19 03 32.4 -3.6
comp=Z,38nm,0.9s
JAGI Jajag, Banyuwa 46.73 268 P P 19 03 33.8 -2.2
baz=47,SNR=8.2
PPT2 Papeete2 47.92 104 eLR LR 19 17 37.5
comp=Z,166nm,27.0s
KKM Kota Kinabalu 47.94 288 eP P 19 03 43.9 -1.5
UGM Wanagama 50.37 268 P P 19 04 03.1 -0.8
baz=51,SNR=3.9
SBUM Sibu 50.67 282 eP P 19 04 01.9 -4.3
comp=Z,4.4nm,0.9s
MJAR Matsushiro Arr 51.47 336 P P 19 04 11.4 -0.4
comp=Z,2.4nm,0.7s,baz=171,slow=8.9,SNR=7.5
MJAR pP pP 19 04 26.1 -0.6
comp=Z,2.6nm,0.6s,baz=167,slow=8.3,SNR=4.9
MAJO Matsushiro 51.47 336 eP P 19 04 10.8 -0.9
MAJO pmax pmax
comp=Z,5.0nm,0.6s
MAJO Matsushiro 51.47 336 eP P 19 04 10.8 -0.9
comp=Z,5.3nm,0.6s
SSLB Suanglung 52.13 311 eP P 19 04 15.9 -1.0
comp=Z,7.0nm,0.7s
KSM Kuching 52.27 280 eP P 19 04 15.2 -3.0
comp=Z,7.1nm,0.9s
KSM epP pP 19 04 32.5 -0.6
YHNB Yeheng 52.34 312 P P 19 04 17.6 -0.9
ASAJ Asahikawa 56.79 344 LR LR 19 26 26.7
comp=Z,100nm,22.0s,baz=28,slow=33
ASAJ Asahikawa 56.79 344 eP P 19 04 52.1 +1.8
comp=Z,37nm,1.0s
KSRS Korea Array 56.96 328 P P 19 04 52.4 +0.7
comp=Z,4.8nm,1.0s,baz=141,slow=8.4,SNR=8.8
KSAR Wonju Array Be 56.97 328 P P 19 04 52.4 +0.6
KSAR Wonju Array Be 56.97 328 P P 19 04 52.4 +0.6
YSS Yuzh-Sakhalins 59.38 345 eP P 19 05 08.7 +0.4
YSS Yuzh-Sakhalins 59.38 345 P P 19 05 08.5 +0.1
USRK Ussuriysk Arra 60.47 336 P P 19 05 17.1 +1.2
comp=Z,17nm,0.9s,baz=150,slow=7.2,SNR=18
USRK pP pP 19 05 32.3 +1.2
comp=Z,12nm,0.8s,baz=139,slow=9.1,SNR=11
KULM Kulim 62.55 281 P P 19 05 29.4 -1.2
comp=Z,5.6nm,0.8s
PETK Petropavlovsk- 63.21 357 P P 19 05 35.5 +1.3
comp=Z,6.5nm,1.1s,baz=174,slow=8.6,SNR=3.8
PETK pP pP 19 05 50.2 +0.7
comp=Z,3.7nm,0.9s,baz=166,slow=9.0,SNR=3.0
PETK LR LR 19 30 07.8
comp=Z,24nm,20.6s,baz=173,slow=33
GSI Gunungsitoli 64.64 276 eP P 19 05 43.4 -1.1
comp=Z,13nm,0.7s
KLR Kul'dur 64.77 339 eP P 19 05 41.3 -3.1
CASY Casey 65.63 200 eP P 19 05 49.1 -0.7
comp=Z,10nm,0.9s
VNDA Vanda 67.24 180 P P 19 06 00.3 +0.3
comp=Z,4.5nm,0.8s,baz=338,slow=6.1,SNR=7.1
VNDA LR LR 19 34 41.9
comp=Z,30nm,18.0s,baz=328,slow=35
CM01 Chiang Mai Arr 67.97 295 eP P 19 06 05.2 -0.4
CMAR Chiang Mai Arr 68.00 295 P P 19 06 05.8 0.0
comp=Z,1.2nm,0.6s,baz=132,slow=4.8,SNR=18
CHTO Chiang Mai 68.12 295 eP P 19 06 04.9 -1.6
CHTO pmax pmax
comp=Z,5.0nm,1.3s
CHTO Chiang Mai 68.12 295 eP P 19 06 04.9 -1.6
comp=Z,5.1nm,1.3s
HIA Hailar 69.70 332 eP P 19 06 16.3 +0.5
HIA e*PP pP 19 06 31.5 +0.2
HIA pmax pmax
comp=Z,8.0nm,0.8s
HIA Hailar 69.70 332 eP P 19 06 16.2 +0.5
comp=Z,8.1nm,0.8s
HIA epP pP 19 06 31.5 +0.2
ULN Ulaanbaatar 75.27 325 c iP P 19 06 49.8 +0.7
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 75.27 325 eP P 19 06 49.6 +0.5
comp=Z,8.6nm,0.8s
ULN epP pP 19 07 04.7 -0.1
GTA Gaotai 75.55 315 eP P 19 06 52.0 +1.1
GTA pP pP 19 07 06.5 -0.1
GTA sP sP 19 07 14.5 +1.7
GTA pmax pmax
comp=Z,4.0nm,1.4s
SONM Songino Array 75.62 325 P P 19 06 51.8 +0.7
comp=Z,8.1nm,0.6s,baz=141,slow=5.6,SNR=95
SONM pP pP 19 07 07.2 +0.4
comp=Z,5.1nm,0.6s,baz=136,slow=5.6,SNR=13
SONA1 Songino Array 75.62 325 eP P 19 06 51.5 +0.4
YAK Yakutsk 76.23 345 eP P 19 06 52.4 -1.6
YAK e 19 07 09.0
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK Yakutsk 76.23 345 eP P 19 06 53.8 -0.2
comp=N,33nm,0.7s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAK				epP	pP	19 07 09.5	-0.2
GAMB	Gambell	76.60	12	eP	P	19 06 57.0	+0.9
	comp=N,4.9nm,1.0s						
BOD	Bodaibo	78.10	336	eP	P	19 07 03.8	-0.8
BOD				e		19 07 17.7	
BOD				pmax	pmax		
	comp=Z,29nm,0.8s						
BILL	Bilibino	78.18	2	c iP	P	19 07 05.3	+0.4
BILL				i		19 07 14.0	
BILL				pmax	pmax		
	comp=Z,15nm,1.0s						
BILL	Bilibino	78.18	2	eP	P	19 07 05.0	+0.1
	comp=Z,19nm,1.1s						
BILL				epP	pP	19 07 19.3	-1.4
LSA	Lhasa	78.44	303	P	P	19 07 07.7	0.0
LSA				pmax	pmax		
	comp=Z,12nm,1.5s						
LSA	Lhasa	78.44	303	P	P	19 07 07.7	0.0
	comp=Z,12nm,1.5s						
ZAK	Zakamensk	78.72	326	⇑iP	P	19 07 08.1	-0.3
ZAK				e		19 07 23.0	
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SVW2	Sparrevohn	78.73	20	eP	P	19 07 10.3	+2.2
	comp=Z,36nm,0.8s						
TLY	Talaya	79.20	328	eP	P	19 07 10.5	-0.4
TLY				e*PP	pP	19 07 26.0	-0.7
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TLY	Talaya	79.20	328	eP	P	19 07 10.5	-0.4
	comp=Z,4.2nm,0.8s						
TLY				epP	pP	19 07 26.0	-0.7
RSO	Redoubt South	79.25	21	P	P	19 07 12.5	+1.4
QSPA	South Pole Qui	79.73	180	P	P	19 07 13.5	-0.2
	comp=Z,7.7nm,0.8s,baz=314,slow=0.7,SNR=16						
MOY	Mondy	80.61	327	eP	P	19 07 19.2	+0.6
PMR	Palmer	81.31	22	eP	P	19 07 23.2	+1.3
PMR	Palmer	81.31	22	eP	P	19 07 23.2	+1.3
	comp=Z,127nm,2.6s						
CAST	Castle Rocks	81.54	19	eP	P	19 07 23.9	+0.7
	comp=Z,17nm,0.8s						
KTH	Kantishna Hill	82.01	19	eP	P	19 07 25.6	-0.1
	comp=Z,18nm,0.8s						
TRF	Thorofare Moun	82.15	20	eP	P	19 07 26.3	-0.3
	comp=Z,9.4nm,0.8s						
DIV	Divide	82.27	23	eP	P	19 07 30.5	+3.4
	comp=Z,10nm,0.8s						
PALK	Pallekele	82.32	279	P	P	19 07 28.3	-0.1
	comp=Z,3.7nm,0.6s,baz=76,slow=3.0,SNR=4.6						
BMRM	Bremner River	82.62	23	eP	P	19 07 30.4	+1.5
	comp=Z,8.9nm,0.8s						
MCK	McKinley	82.79	20	eP	P	19 07 29.9	+0.2
MCK				e*PP	pP	19 07 43.4	-2.2
MCK	McKinley	82.79	20	eP	P	19 07 29.9	+0.2
	comp=Z,38nm,0.9s						
MCK				epP	pP	19 07 43.4	-2.2
IM04	Indian Mountai	82.83	17	eP	P	19 07 30.7	+0.8
MAW	Mawson	83.86	202	LR	LR	19 40 51.6	
	comp=Z,53nm,18.6s,baz=59,slow=33						
COLA	College	83.89	19	c iP	P	19 07 35.3	0.0
COLA	College	83.89	19	eP	P	19 07 35.4	+0.2
	comp=Z,21nm,0.6s						
COLA				epP	pP	19 07 50.9	-0.3
MENT	Mentasta	84.13	22	eP	P	19 07 37.5	+0.9
IL1	Eielson Array	84.14	20	eP	P	19 07 36.2	-0.4
ILAR	Eielson Array	84.14	20	P	P	19 07 36.5	-0.1
	comp=Z,5.9nm,0.9s,baz=259,slow=4.0,SNR=42						
ILAR				pP	pP	19 07 52.1	-0.5
	comp=Z,1.3nm,0.7s,baz=243,slow=5.0,SNR=3.9						
DOT	Dot Lake	84.43	21	eP	P	19 07 38.9	+0.8
	comp=Z,12nm,0.8s						
TIXI	Tiksi	84.58	350	⇑iP	P	19 07 38.3	-0.3
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
TIXI	Tiksi	84.58	350	eP	P	19 07 37.8	-0.9
	comp=Z,4.6nm,0.9s						
TIXI				epP	pP	19 07 53.4	-1.1
HYT	Haines Junctio	85.44	25	eP	P	19 07 47.6	+4.3
EGAK	Eagle	86.12	21	eP	P	19 07 47.9	+1.4
	comp=Z,15nm,0.9s						
DAWY	Dawson	86.37	22	eP	P	19 07 49.6	+1.7
DAWY				epP	pP	19 08 09.7	+5.8
MOD	Modoc	88.13	47	eP	P	19 07 58.8	+1.8
	comp=Z,45nm,2.3s						
LON	Longmire	88.43	42	eP	P	19 07 58.1	-0.1
LON				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LON	Longmire	88.43	42	eP	P	19 07 58.0	-0.2
	comp=Z,7.4nm,0.7s						
NV01	Mina Array Sit	88.73	51	eP	P	19 08 01.3	+1.3
NVAR	Mina Array Bea	88.73	51	P	P	19 08 01.6	+1.6
	comp=Z,3.1nm,0.8s,baz=234,slow=7.0,SNR=16						
NVAR				pP	pP	19 08 18.4	+2.4
	comp=Z,1.5nm,0.7s,baz=236,slow=7.3,SNR=5.4						
I07A	Izee	89.27	45	eP	P	19 08 04.2	+2.0
	comp=Z,38nm,2.0s						
WVOR	Wild Horse Val	89.46	47	eP	P	19 08 05.1	+1.9
WVOR				pmax	pmax		
	comp=Z,12nm,1.3s						
WVOR	Wild Horse Val	89.46	47	eP	P	19 08 05.1	+1.9
	comp=Z,12nm,1.3s						
TPH	Tonopah	89.47	51	eP	P	19 08 05.9	+2.5
TPH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TPH	Tonopah	89.47	51	eP	P	19 08 05.9	+2.5
	comp=Z,4.4nm,0.9s						
HAWA	Hanford	89.84	43	P	P	19 08 06.7	+2.0
BMN	Battle Mountai	90.02	49	eP	P	19 08 08.1	+2.3
BMN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BMN	Battle Mountai	90.02	49	eP	P	19 08 08.1	+2.3
	comp=Z,6.6nm,1.1s						
MKAR	Makanchi Array	90.13	318	P	P	19 08 05.5	-0.5
	comp=Z,7.3nm,0.4s,baz=108,slow=4.9,SNR=6.5						
ZALV	Zalesovo Beam	90.51	325	P	P	19 08 06.0	-1.6
	comp=Z,1.0nm,0.5s,baz=125,slow=6.8,SNR=3.9						
OD2	Odessa Site #2	90.64	42	eP	P	19 08 10.8	+2.3
SHPR	Sheep Range	90.73	53	eP	P	19 08 11.2	+1.9
H06S1	SOCORRO T	90.93	71	T	T	20 48 38.7	
	SNR=11						
H06E1	SOCORRO T-PHAS	90.97	71	T	T	20 48 42.7	
	SNR=11						
BMO	Blue Mountains	90.98	45	eP	P	19 08 12.2	+2.1
BMO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BMO	Blue Mountains	90.98	45	eP	P	19 08 12.2	+2.1
	comp=Z,6.1nm,1.2s						
SYO	Syowa Base	91.28	198	⇑ePcP	PcP	19 08 13.5	+1.6
F10A	Beach Ranch, E	91.29	44	eP	P	19 08 13.2	+1.6
	comp=Z,81nm,2.3s						
NEW	Newport	91.89	41	eP	P	19 08 15.5	+1.2
NEW				pmax	pmax		
	comp=Z,17nm,1.5s						
NEW	Newport	91.89	41	eP	P	19 08 15.4	+1.2
	comp=Z,17nm,1.5s						
KURK	Kurchatov	93.40	321	eP	P	19 08 19.6	-1.5
KURK				e*PP	pP	19 08 34.5	-2.6
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	Kurchatov	93.40	321	eP	P	19 08 19.6	-1.5
	comp=Z,1.6nm,0.9s						
KURK				epP	pP	19 08 34.5	-2.6
YKA	Yellowknife Ar	96.21	28	P	P	19 08 34.0	+0.4
YKA	Yellowknife Ar	96.21	28	P	P	19 08 34.0	+0.4
	comp=Z,2.2nm,0.7s,baz=261,slow=4.7,SNR=42						
BRVK	Borovoye	98.86	322	eP	P	19 08 45.6	-0.2
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRVK	Borovoye	98.86	322	eP	P	19 08 42.2	-3.6
TXAR	Lajitas Array	99.12	62	LR	LR	19 45 28.6	
	comp=Z,40nm,21.3s,baz=0.0,slow=30						
ARCES	ARCESS Array B	114.51	344	PKP	PKPdf	19 13 44.4	-0.8
	comp=Z,4.7nm,1.0s,baz=60,slow=2.2,SNR=5.2						
TORD	Torodi Ar. Bea	160.04	280	PKPab	PKPab	19 15 45.0	-0.8
	comp=Z,0.5nm,0.7s,baz=101,slow=4.5,SNR=4.3						
DBIC	Dimbokro	166.06	256	PKPab	PKPab	19 16 11.5	-0.8
	comp=Z,1.7nm,0.6s,baz=141,slow=6.5,SNR=2.7						

IDC 25 19:03:22.6±2.1, 43.56N×105.36W, h0km, mb1 3.6/3, mb1mx3.3/36, mbtmp3.4/3, ML3.4/3, Error ellipse: s-maj=46.2km s-min=9.0km az=151.0
ISCJB 25 19:03:23.6±0.2, 43.66N±0.02×105.31W±0.02, h0km, Error ellipse: s-maj=2.3km s-min=2.2km az=155.7
NEIC 25 19:03:23.7±0.5, 43.66N×105.16W, h0km, ML3.3, Error ellipse: s-maj=6.4km s-min=5.1km az=116.0, Suspected Mining explosion.
NEIC 75 km [45 miles] SSE of Gillette.

ISC 25 19:03:23.9±0.7, 43.66N±0.02×105.29W±0.02, h0km, n99, σ0.83/111, 27C-43D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	Dilts Ranch, B	0.32	217	P	Pg	19 03 30.6	+0.6
	baz=0.4,SNR=866						
I23A	Meade Ranch, G	0.33	338	P	Pg	19 03 31.1	+0.9
	baz=0.4,SNR=137						
I24A	Kuemmerle Ranc	0.52	67	⇓P	Pg	19 03 34.3	+0.4
	baz=0.4,SNR=423						
J24A	Dixon Ranch, L	0.56	125	P	Pg	19 03 34.8	+0.1
	baz=0.5,SNR=195						
J24A				⇓S	Sb	19 03 43.9	-1.5
	baz=0.5						
I22A	9 Mile Ranch,	0.90	286	P	Pg	19 03 41.0	-0.1
	baz=1.0,SNR=363						
J22A	Midwest	0.90	255	P	Pg	19 03 40.7	-0.4
	baz=1.0,SNR=568						
J22A				⇓S	Sg	19 03 53.4	+0.6
	baz=1.0						
H23A	Clabaugh Cattl	0.91	355	⇓P	Pg	19 03 40.9	-0.4
	baz=0.9,SNR=18						
K23A	Bowen Ranch, D	0.94	195	⇑P	Pg	19 03 41.6	-0.2
	baz=1.0,SNR=14						
K24A	Anderson Ranch	1.00	159	⇑P	Pg	19 03 42.6	-0.5
	baz=1.0						
K24A				⇓S	Sb	19 03 56.9	-1.1
	baz=1.0						
RSSD	Black Hills	1.02	63	ePn	Pg	19 03 42.8	-0.6
J25A	Sunshine Ranch	1.11	103	⇓P	Pg	19 03 44.7	-0.6
	baz=1.0						
J25A				⇓S	Sb	19 04 01.2	0.0
	baz=1.0						
I25A	Rochford	1.18	72	⇓P	Pg	19 03 45.9	-0.7
	baz=1.1,SNR=112						
H22A	Clearmont	1.21	321	⇓P	Pg	19 03 46.8	-0.3
	baz=1.3,SNR=65						
H24A	Dirks Ranch, A	1.21	26	⇑P	Pg	19 03 46.2	-1.0
	baz=1.2,SNR=177						
K22A	Casper	1.35	222	ePn	Pg	19 03 48.5	-1.3
K22A	Casper	1.35	222	⇓P	Pg	19 03 48.7	-1.1
	baz=1.4						
K22A				⇑S	Sn	19 04 08.9	0.0
	baz=1.4						
I21A	Big Trails, Te	1.46	277	⇓P	Pn	19 03 50.1	-1.6
	baz=1.5						
K25A	Mack Ranch, Ha	1.47	135	⇑P	Pg	19 03 51.9	-0.3
	baz=1.4,SNR=99						
G23A	Biddle	1.54	357	⇑P	Pn	19 03 52.2	-0.6
	baz=1.6,SNR=154						
H25A	Fruitdale	1.55	51	⇑P	Pn	19 03 52.7	-0.2
	baz=1.5,SNR=89						
L23A	Garrett	1.57	191	⇑P	Pn	19 03 52.4	-0.9
	baz=1.6						
L23A				⇑S	Sg	19 04 15.8	+1.4
	baz=1.6						
H21A	Big Horn, Sher	1.59	308	⇑P	Pn	19 03 53.4	-0.1
	baz=1.7,SNR=60						
J21A	Lysite	1.60	260	P	Pn	19 03 52.8	-0.8
	baz=1.7,SNR=122						
L24A	Wheatland	1.64	171	⇓P	Pn	19 03 53.8	-0.3
	baz=1.6						
J26A	Sides Ranch, S	1.65	101	⇑P	Pn	19 03 54.3	+0.1
	baz=1.6,SNR=25						
J26A				⇓S	Sg	19 04 17.7	+0.8
	baz=1.6						
G22A	Birney	1.72	336	⇑P	Pn	19 03 55.2	0.0
	baz=1.8,SNR=144						
K21A	Alcova	1.76	235	P	Pn	19 03 56.0	+0.1
	baz=1.8,SNR=330						
K21A				⇓S	Sn	19 04 19.4	+0.3
	baz=1.8						
G24A	Alzada	1.78	20	⇓P	Pn	19 03 56.5	+0.4
	baz=1.8,SNR=30						
L25A	Engebretsen Ra	1.79	147	⇓P	Pb	19 03 57.0	-0.6
	baz=1.7,SNR=29						
L25A				⇑Sb	Sg	19 04 23.0	+1.6
	baz=1.7						
I26A	New Underwood	1.80	77	⇑P	Pb	19 03 56.8	-1.0
	baz=1.7,SNR=39						
L22A	Ellis Ranch, M	1.83	208	P	Pn	19 03 57.0	+0.1
	baz=1.9,SNR=140						
L22A				⇓S	Sb	19 04 22.2	+0.3
	baz=1.9						
G25A	Newell	2.04	41	⇓P	Pn	19 04 00.6	+1.0
	baz=2.0,SNR=38						
G25A				⇑Sb	Sg	19 04 29.8	+0.3
	baz=2.0						
H26A	Fairpoint	2.05	61	⇓P	Pn	19 04 00.3	+0.6
	baz=2.0,SNR=55						
J20A	Shoshoni	2.06	262	⇑Pb	Pb	19 04 01.7	-0.5
	baz=2.1						
J20A				⇓Sb	Sg	19 04 29.9	0.0
	baz=2.1						
F23A	Volborg	2.06	358	P	Pn	19 04 00.1	+0.2
	baz=2.1,SNR=111						
I20A	Worland	2.08	279	⇓P	Pn	19 04 00.4	+0.3
	baz=2.2,SNR=112						
G21A	Lodge Grass	2.08	319	⇓P	Pn	19 04 00.4	+0.1
	baz=2.1,SNR=49						
G21A				⇓Sb	Sg	19 04 30.9	+0.1
	baz=2.1						
H20A	Greybull	2.12	294	⇓P	Pn	19 04 00.8	+0.1
	baz=2.2,SNR=59						
M23A	Laramie	2.21	188	⇓P	Pn	19 04 02.5	+0.4
	baz=2.2						
M24A	Cheyenne	2.22	171	⇓P	Pn	19 04 02.7	+0.6
	baz=2.2,SNR=136						
F22A	Rosebud	2.23	342	⇑P	Pn	19 04 02.2	0.0
	baz=2.3,SNR=51						
F22A				⇑Sb	Sg	19 04 34.9	+1.5
	baz=2.3						
F24A	Ekalaka	2.27	15	⇓P	Pn	19 04 03.4	+0.6
	baz=2.2						
M25A	Palm-Egli Farm	2.40	157	⇓P	Pn	19 04 05.7	+1.0
	baz=2.4,SNR=8.4						
M22A	Cedar Creek Ra	2.45	204	⇓P	Pn	19 04 06.6	+1.2
	baz=2.5,SNR=507						
G26A	Maurine	2.53	49	⇑P	Pn	19 04 07.1	+0.8
	baz=2.5,SNR=88						
F21A	Absaloka Mine,	2.53	330	⇑P	Pn	19 04 06.4	+0.1
	baz=2.6,SNR=17						
G20A	Bridger	2.61	308	P	Pn	19 04 07.2	-0.3
	baz=2.7,SNR=153						
F25A	Bowman	2.62	29	⇓P	Pn	19 04 08.7	+1.2
	baz=2.6,SNR=31						
I19A	Meeteetse	2.71	279	⇑P	Pn	19 04 09.8	+0.9
	baz=2.8						
N23A	Red Feather La	2.80	190	⇓P	Pn	19 04 11.3	+1.0
	baz=2.8,SNR=73						
E22A	Miles City	2.82	351	⇑P	Pn	19 04 09.7	-0.6
	baz=2.8,SNR=9.9						
H19A	Powell	2.84	292	⇓P	Pn	19 04 11.5	+0.8
	baz=2.9,SNR=65						
F20A	Billings	2.96	317	⇓P	Pn	19 04 11.8	-0.4
	baz=3.0,SNR=39						
G27A	Dupree	2.96	53	⇓P	Pn	19 04 12.7	+0.5
	baz=2.9,SNR=37						
LAO	LASA Array	3.10	348	ePn	Pn	19 04 14.7	+0.6
RLMT	Red Lodge	3.20	299	ePn	Pn	19 04 15.7	0.0
BW06	Boulder Array	3.24	256	ePn	Pn	19 04 17.9	+1.6
PDAR	Pinedale Array	3.24	256	Pn	Pn	19 04 16.8	+0.5
	3.8nm,0.3s,baz=77,slow=17,SNR=72						
PDAR				Lg	Lg	19 05 02.4	
	28nm,0.3s,baz=74,slow=31,SNR=16						
H18A	Shoshone NF, C	3.31	289	⇑P	Pn	19 04 17.1	-0.1
	baz=3.4,SNR=21						
F19A	Roth Farm, Mol	3.41	311	⇑P	Pn	19 04 18.6	+0.2
	baz=3.5,SNR=140						
D24A	Glendive	3.52	11	⇓P	Pn	19 04 20.9	+1.0
	baz=3.5,SNR=23						
O22A	Kremmling	3.62	195	⇑P	Pn	19 04 22.6	+1.1
	baz=3.6,SNR=12						
OGNE	Ogallala	3.63	137	ePn	Pn	19 04 22.4	+0.9
ISCO	Idaho Springs	3.86	184	ePn	Pn	19 04 24.3	-0.5
H17A	Grant Village	3.88	283	ePn	Pn	19 04 27.2	+2.1
D26A	Manning	3.93	30	⇓P	Pn	19 04 25.8	+0.3
	baz=3.9,SNR=25						
D20A	Manuel Ranch,	3.98	331	⇓P	Pn	19 04 26.1	-0.1
	baz=4.0,SNR=18						
YNR	Norris Junctio	4.02	287	ePn	Pn	19 04 28.5	+1.6
YFT	Old Faithful	4.08	283	ePn	Pb	19 04 35.1	-1.6
O20A	White River Ci	4.15	213	ePn	Pn	19 04 29.4	+0.7
YMR	Madison River	4.21	286	ePn	Pn	19 04 30.3	+0.8
P26A	Davis Ranch, A	4.35	160	⇓P	Pn	19 04 32.0	+0.6
	baz=4.3,SNR=48						
QLMT	Quake Lake	4.56	287	ePn	Pn	19 04 35.7	+1.3
P27A	Ficken Ranch,	4.58	153	⇑P	Pn	19 04 34.7	+0.2
	baz=4.5,SNR=14						
B25A	Knox Farm, Ray	4.85	17	⇓P	Pn	19 04 38.8	+0.7
	baz=4.8,SNR=20						
DGMT	Dagmar	4.87	9	ePn	Pn	19 04 39.0	+0.5
Q26A	Hugo	4.91	164	⇑P	Pn	19 04 39.0	-0.2
	baz=4.9,SNR=6.9						
BOZ	Bozeman (W)	4.94	296	ePn	Pn	19 04 39.1	-0.4
	8.3nm,0.3s						
HWUT	Hardware Ranch	5.06	248	ePn	Pn	19 04 42.3	+1.1
	11nm,0.7s						
TCUT	Toone Canyon	5.19	243	ePn	Pn	19 04 44.4	+1.3
	21nm,0.6s						
EGMT	Eagleton	5.37	326	ePn	Pn	19 04 45.4	+0.1
	12nm,0.6s						
DAU	Daniels Canyon	5.50	236	ePn	Pn	19 04 49.1	+1.8
R26A	Arlington	5.53	165	⇑P	Pn	19 04 47.8	+0.1
	baz=5.5,SNR=12						
MCMT	McKenzie Canyo	5.55	285	ePn	Pn	19 04 53.3	+5.2
	1.7nm,0.4s						
R27A	Eads	5.69	160	⇓P	Pn	19 04 50.2	+0.5
	baz=5.7,SNR=6.1						
SPUT	South Promonto	5.79	249	ePn	Pn	19 04 51.8	+0.6
	6.6nm,0.6s						
HVU	Hansel Valley	5.82	254	ePn	Pn	19 04 52.7	+1.0
	7.7nm,0.6s						
SRU	San Rafael	6.01	223	ePn	Pn	19 04 54.3	0.0
	13nm,0.5s						
S26A	Kim	6.19	166	⇓P	Pn	19 04 56.9	+0.3
	baz=6.2,SNR=8.9						
BGU	Big Grassy Mou	6.36	247	ePn	Pn	19 04 57.9	-1.0
	2.5nm,1.0s						
CHMT	Chamberlain Mo	6.49	303	ePn	Pn	19 05 01.4	+0.5
	1.9nm,0.6s						
DUG	Dugway	6.59	241	ePn	Pn	19 05 03.0	+0.8
	2.2nm,0.4s						
DUG	Dugway	6.59	241	⇓P	Pn	19 05 02.3	+0.1
	baz=6.7,SNR=5.4						
SWMT	Swartz Lake	7.22	305	ePn	Pn	19 05 11.7	+0.9
	2.0nm,0.3s						
YBMT	Yellow Bay	7.41	308	ePn	Pn	19 05 14.8	+1.5
	5.6nm,0.3s						
ULM	Lac du Bonnet	9.21	41	Pn	Pn	19 05 35.8	-2.2
	1.9nm,0.3s,baz=238,slow=12,SNR=12						
ULM				Lg	Lg	19 08 10.7	
	0.4nm,0.3s,baz=150,slow=20,SNR=2.3						
WUAZ	Wupatki	9.38	212	P	Pn	19 05 41.6	+1.1
	3.8nm,0.6s						
TXAR	Lajitas Array	14.36	174	Pg	P	19 07 55.2	+59
	0.1nm,0.3s,baz=7.6,slow=16,SNR=4.5						
TXAR				Lg	Lg	19 10 53.9	
	0.0nm,0.3s,baz=13,slow=25,SNR=2.5						
YKA	Yellowknife Ar	19.64	347	P	P	19 07 53.6	-0.2
	0.1nm,0.3s,baz=156,slow=11,SNR=3.8						

ISCJB 25 19:09:29.3±1.1, 21.0S±0.4×179.4W±0.2, h650km, mb3.5/5, Error ellipse: s-maj=55.7km s-min=13.9km az=150.9
IDC 25 19:09:30.8±5.1, 20.85S×179.41W, h652km±62km, mb3.0/5, mb1 3.3/6, mb1mx3.1/18, mbtmp4.0/6, Error ellipse: s-maj=82.2km s-min=31.5km az=152.0

ISC 25 19:09:30.5±1.3, 20.9S±0.5×179.4W±0.3, h650km, n18, σ0.81/18, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.27	262	P	P	19 12 20.9	-0.2
	0.4nm,0.3s,baz=86,slow=18,SNR=5.7						
ARMA	Armidale	27.75	244	P	P	19 14 31.1	+0.6
	baz=33,SNR=4.5						
CMSA	Cobar Meteorol	32.97	244	P	P	19 15 14.6	-0.1
	baz=38,SNR=13						
QLP	Quilpie	33.73	253	P	P	19 15 21.3	+0.1
	baz=39,SNR=11						
STKA	Stephens Creek	36.47	244	P	P	19 15 43.7	+0.1
	2.0nm,0.5s,baz=87,slow=12,SNR=16						
STKA	Stephens Creek	36.47	244	P	P	19 15 43.8	+0.1
	baz=42,SNR=11						
BBOO	Buckleboo	41.23	244	P	P	19 16 21.3	-0.4
	baz=47,SNR=6.5						
WRA	Warramunga Arr	43.29	263	P	P	19 16 37.8	-0.1
	1.6nm,0.3s,baz=97,slow=7.7,SNR=70						
KDU	Kakadu	46.70	272	P	P	19 17 04.3	+0.6
	baz=52,SNR=3.8						
WRKA	Warakurna	48.13	255	P	P	19 17 14.4	0.0
	baz=54,SNR=7.5						
NVAR	Mina Array Bea	82.20	44	P	P	19 20 45.9	-0.1
	0.5nm,0.6s,baz=219,slow=7.0,SNR=4.0						
TXAR	Lajitas Array	88.35	58	P	P	19 21 16.1	+0.6
	0.5nm,0.8s,baz=249,slow=4.7,SNR=2.5						
ILAR	Eielson Array	89.00	13	P	P	19 21 17.4	-0.1
	0.3nm,0.4s,baz=213,slow=5.3,SNR=7.8						
BVAR	Borovoye Array	118.58	320	PKP	PKPdf	19 27 05.6	-0.5
	0.4nm,0.4s,baz=74,slow=3.3,SNR=4.2						
ARCES	ARCESS Array B	129.09	349	PKP	PKPdf	19 27 25.1	-0.6
	3.3nm,0.8s,baz=44,slow=3.0,SNR=3.8						
FINES	FINESS Array B	135.80	343	PKP	PKPdf	19 27 40.2	+1.7
	1.2nm,0.8s,baz=144,slow=4.2,SNR=3.5						
AKASG	Malin Array Be	142.75	330	PKP	PKPdf	19 27 49.2	-2.2
	1.0nm,0.4s,baz=44,slow=4.2,SNR=10						
GERES	GERESS Array B	150.24	343	PKPbc	PKPbc	19 28 10.5	+0.5
	0.5nm,0.5s,baz=38,slow=5.0,SNR=4.0						

IDC 25 19:21:05.2±7.0, 15.96S×71.21W, h164km±30km, mb3.1/2, mb1 3.3/3, mb1mx3.1/21, mbtmp3.6/3, Error ellipse: s-maj=218.3km s-min=41.2km az=19.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.98	97	P	Pn	19 21 53.4	-0.3
	8.0nm,0.3s,baz=291,slow=10.0,SNR=127						
LPAZ				S	Sn	19 22 31.4	+0.1
	0.5nm,0.3s,baz=17,slow=25,SNR=6.3						
H03N1	Juan Fernandez	18.75	200	T	T	19 43 40.5	
	baz=22,slow=75						
H03N2	Juan Fernandez	18.75	200	T	T	19 43 47.1	
	baz=22,slow=75						
H03N3	Juan Fernandez	18.76	200	T	T	19 43 52.8	
	baz=22,slow=75						
TORD	Torodi Ar. Bea	77.66	72	P	P	19 32 44.1	0.0
	0.6nm,0.5s,baz=253,slow=5.1,SNR=14						
YKA	Yellowknife Ar	85.27	341	P	P	19 33 23.0	0.0
	0.1nm,0.5s,baz=133,slow=5.2,SNR=4.2						

BJI 25 19:23:14.0, 5.60N×125.00E, h17km, mB4.8/7, mb4.4/11, Ms4.3/1
MAN 25 19:23:14, 5.17N×124.94E, h43km, mb5.0, ML3.9, MS4.0
ISCJB 25 19:23:19.1±0.4, 5.55N±0.02×125.02E±0.04, h62km±4km, mb4.2/27, Error ellipse: s-maj=6.2km s-min=3.6km az=177.6
NEIC 25 19:23:21.1±0.8, 5.58N×125.03E, h68km±8km, mb4.4/10, Error ellipse: s-maj=9.8km s-min=6.2km az=87.0
DJA 25 19:23:22.4±0.9, 5°N6'×12°5E±°, h57km±18km, M4.6/9, mB5.2/6, mb4.8/9, MLv4.5/2, Mw(mB)4.6/6
IDC 25 19:23:22.2±5.5, 5.60N×125.09E, h77km±51km, mb3.9/17, mb1 4.0/17, mb1mx3.8/38, mbtmp4.2/17, MS3.3/4, Ms1 3.4/4, ms1mx2.9/37, Error ellipse: s-maj=21.6km s-min=14.6km az=70.0
KLM 25 19:24:51.5, 5.28N×118.24E, h46km, mb3.1, ML1.9, MS4.3

ISC 25 19:23:19.4±0.6, 5.58N±0.03×124.90E±0.05, h45km±6km, n93, σ1.60/100, mb4.2/27, MS3.2/4, 5C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	Davao City--Mi	1.61	22	⇑eP	Pn	19 23 46.8	+1.3
DMPH				eS	Sn	19 24 07.6	+2.7
DAV	Davao City (W)	1.62	24	eP	Pn	19 23 47.1	+1.4
CTBH	Cotabato--PC H	1.75	338	⇑iP	Pn	19 23 48.4	+1.0
CTBH				iS	Sn	19 24 10.9	+2.3
MATI	Mati	1.91	45	eP	Pn	19 23 49.2	-0.3
MATI				eS	Sn	19 24 10.6	-1.8
SGSI	Sangihe	1.98	162	P	Pn	19 23 50.5	-0.1
SGSI				S	Sn	19 24 13.9	-0.3
BUKP	Musuan	2.29	4	eP	Pn	19 23 55.7	+0.9
PAGZ	Pagadian	2.71	326	eP	Pn	19 24 01.9	+1.4
CGP	Cagayan de Oro	2.86	356	⇑eP	Pn	19 24 04.5	+1.9
CGP				eS	Sn	19 24 35.1	+2.9
BIPH	Bislig	2.96	29	⇑iP	Pn	19 24 05.0	+1.0

BIPH i S Sn 19 24 36.8 -1.6
ZMPH Zamboanga City 3.13 296⇓i P Pn 19 24 05.9 -0.5
ZMPH i S Sn 19 24 39.7 -2.9
BUTP Butuan 3.44 12 eP Pn 19 24 12.8 +2.3
SNPH Sibulan 4.09 336 eS Sn 19 25 03.0 -3.1
SCPH Surigao 4.21 8⇓eP Pn 19 24 26.1 +4.9
MSLP Maasin 4.52 359 eP Pn 19 24 30.5 +5.0
KMSI Cibinong 5.06 191 P Pn 19 24 32.5 -0.3
KMSI S Sn 19 25 26.9 -3.1
TNTI Ternate 5.37 153 P Pn 19 24 35.0 -2.1
112nm,0.7s
GUIM Jordan 5.51 336 eP Pn 19 24 41.6 +2.6
MRSI Marisa 5.87 210 P Pn 19 24 43.9 -0.1
154nm,0.5s,5µm
MRSI S Sn 19 25 48.1 -1.9
154nm,0.5s,5µm
TOLI Toli-Toli 6.04 223 ePn Pn 19 24 43.5 -2.7
301nm,0.3s
TOLI eSn Sn 19 25 44.7 -9.4
LBMI Labuha 6.70 157 P Pn 19 24 55.7 +0.3
52nm,0.5s
LUWI Luwuk 6.92 198 P Pn 19 25 00.2 +1.9
LUWI Luwuk 6.92 198 eP Pn 19 25 00.5 +2.2
64nm,0.5s
LUWI Luwuk 6.92 198 P Pn 19 25 02.7 +4.4
baz=7.1,SNR=7.1
LUWI S Sn 19 26 19.4 +3.7
baz=7.1,SNR=6.3
MPSI Mapaga 7.22 224 P Pn 19 24 59.6 -2.9
14nm,0.7s,1µm0.2nm
APSI Ampana 7.22 207 P Pn 19 25 03.8 +1.3
SANI Sanana 7.66 172 P Pn 19 25 07.7 -0.8
50nm,0.8s,626nm
SDKM Sandakan 7.67 271 ⇓P Pn 19 25 10.3 +1.6
KKM Kota Kinabalu 8.66 273 ⇑P Pn 19 25 25.1 +2.8
SWI Sorong 9.02 135 P Pn 19 25 28.8 +1.7
baz=8.9,SNR=3.3
TTSI Tana Toraja 9.96 211 P Pn 19 25 37.9 -2.2
FAKI Fak Fak 11.19 139 P Pn 19 25 58.3 +1.5
baz=11,SNR=3.7
SBUM Sibu 13.03 257 ⇓P Pn 19 26 25.7 +3.7
KSM Kuching 15.12 255 P Pn 19 26 51.5 +1.2
5.7nm,1.5s
KSM Kuching 15.12 255 P P 19 26 54.1 -0.5
baz=15,SNR=4.4
WSI Waingapu 15.83 197 P P 19 27 06.4 +3.9
baz=16,SNR=4.2
TPUB Ta-pu 18.09 347 eP Pn 19 27 27.6 0.0
28nm,0.7s
SSLB Suanglung 18.50 349 eP Pn 19 27 32.4 0.0
29nm,0.7s
YHNB Yeheng 19.28 350 eP Pn 19 27 41.9 0.0
17nm,0.6s
MTN Manton Dam 19.32 161 P Pn 19 27 42.3 -0.1
baz=19,SNR=3.8
KDU Kakadu 19.65 158 P P 19 27 44.9 +0.3
baz=20,SNR=6.0
KNRA Kununurra 21.46 170 P P 19 28 03.8 -0.4
baz=22,SNR=6.9
CBIJ Chichi jima 27.00 36 P P 19 28 55.0 -2.2
JCJ Chichijima 27.00 36 P P 19 28 55.0 -2.3
43nm,0.4s,baz=266,slow=18,SNR=5.6
WRAB Tennant Creek 27.00 160 eP P 19 28 56.1 -1.3
WRA Warramunga Arr 27.01 160 P P 19 28 56.4 -1.0
2.5nm,0.8s,baz=332,slow=11,SNR=11
CMAR Chiang Mai Arr 28.38 299 P P 19 29 11.1 +1.4
0.8nm,0.7s,baz=120,slow=7.5,SNR=7.9
CMAR LR LR 19 41 02.0
comp=Z,50nm,18.8s,baz=146,slow=37
AS31 Alice Springs 30.37 164 eP P 19 29 27.4 +0.1
WRKA Warakurna 30.61 174 P P 19 29 30.1 +0.7
baz=31,SNR=4.9
KSAR Wonju Array Be 31.83 5 P P 19 29 40.0 0.0
KSRS Korea Array 31.84 5 P P 19 29 40.0 -0.1
1.2nm,0.7s,baz=179,slow=9.9,SNR=5.6
XAN Xi'an 31.96 334 P P 19 29 41.8 +0.5
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,10.0nm,4.5s
MJAR Matsushiro Arr 33.14 20 P P 19 29 49.1 -2.4
2.2nm,0.8s,baz=200,slow=10,SNR=5.4
MJAR LR LR 19 43 42.7
comp=Z,32nm,19.9s,baz=195,slow=37
LZH Lanzhou 36.00 330 eP P 19 30 19.0 +2.6
LZH pP pP 19 30 27.5 -1.1
LZH sP sP 19 30 32.0 -2.0
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,170nm,4.0s
USRK Ussuriysk Arra 38.96 8 P P 19 30 41.1 -0.1
2.1nm,0.7s,baz=165,slow=6.0,SNR=6.7
BBOO Buckleboo 39.62 165 P P 19 30 47.2 +0.3
baz=40,SNR=7.5
LSA Lhasa 39.86 311 eP P 19 30 51.6 +2.2
2.0nm,0.6s
STKA Stephens Creek 40.51 158 P P 19 30 53.9 -0.2
3.8nm,0.8s,baz=328,slow=8.1,SNR=8.2
STKA Stephens Creek 40.51 158 P P 19 30 54.8 +0.6
baz=41,SNR=5.1
GTA Gaotai 40.59 330 eP P 19 30 57.0 +2.1
GTA pP pP 19 31 01.5 -5.7
GTA sP sP 19 31 04.0 -8.6
GTA pmax pmax
comp=Z,6.0nm,1.5s
TAPN Taplejung 41.46 306 eP P 19 31 04.4 +1.9
7.0nm,0.9s
ODAN Odare 41.52 305 eP P 19 31 04.8 +1.9
15nm,0.8s
RAMN Ramite 42.20 305 eP P 19 31 09.9 +1.4
8.1nm,0.7s
JIRN Jiri 42.82 305 eP P 19 31 14.8 +1.1
12nm,0.7s
GUN Gumba 43.17 305 eP P 19 31 17.6 +1.1
13nm,0.6s
PKI Pulchoki 43.42 305 eP P 19 31 20.4 +1.9
KKN Kakani 43.61 305 eP P 19 31 21.4 +1.5
7.8nm,0.8s
DMN Daman 43.68 305 eP P 19 31 22.1 +1.6
7.5nm,0.8s
GKN Gorkha 44.22 305 eP P 19 31 25.3 +0.6
6.8nm,0.9s
ULN Ulaanbaatar 44.82 343 eP P 19 31 27.8 -1.3
3.4nm,1.0s
KOLN Koldanda 44.98 304 eP P 19 31 31.9 +1.1
SONM Songino Array 44.98 342 P P 19 31 30.5 +0.1
1.7nm,0.7s,baz=153,slow=8.7,SNR=20
SONM LR LR 19 50 58.6
comp=Z,38nm,20.0s,baz=126,slow=37
DANN Dangsing 45.07 305 eP P 19 31 32.3 +0.7
18nm,0.7s
PETK Petropavlovsk- 54.44 24 P P 19 32 41.9 -0.3
4.8nm,0.7s,baz=205,slow=3.3,SNR=6.9
MK31 Makanchi Array 55.01 325 eP P 19 32 46.0 -0.3
MKAR Makanchi Array 55.01 325 P P 19 32 46.4 0.0
2.7nm,0.7s,baz=124,slow=8.0,SNR=36
MKAR PcP PcP 19 33 46.0 -1.6
1.0nm,0.8s,baz=118,slow=5.2,SNR=4.1
AAK Ala-Archa 57.77 318 P P 19 33 07.3 +1.0
1.3nm,0.9s,baz=146,slow=10,SNR=7.4
ZALV Zalesovo Beam 58.12 333 P P 19 33 06.9 -1.4
1.4nm,0.7s,baz=150,slow=6.6,SNR=6.2
KBL Kabul 58.96 307 eP P 19 33 14.3 -0.5
3.3nm,0.6s
KBL Kabul 58.96 307 P P 19 33 14.9 +0.1
baz=59,SNR=4.7
KURK Kurchatov 59.21 328 eP P 19 33 14.8 -1.1
3.5nm,0.7s
KKAR Karatay Array 60.64 317 eP P 19 33 25.9 -0.1
2.6nm,0.8s
BRVK Borovoye 64.86 327 eP P 19 33 53.5 -0.3
GEYT Alibeck 68.32 309 P P 19 34 17.2 +0.9
2.1nm,0.8s,baz=96,slow=7.7,SNR=5.9
ABKAR Akbulak array 69.57 321 eP P 19 34 23.6 -0.2
2.4nm,0.7s
AKTO Aktyubinsk 71.09 322 P P 19 34 33.0 0.0
3.5nm,0.7s,baz=104,slow=7.3,SNR=19
KBZ Khabaz 80.39 313 LR LR 20 15 05.6
comp=Z,32nm,18.4s,baz=118,slow=38
IM04 Indian Mountai 81.39 24 eP P 19 35 30.5 -0.7
ILAR Eielson Array 84.22 26 P P 19 35 45.0 -0.9
1.0nm,0.8s,baz=241,slow=5.1,SNR=11
ARCES ARCESS Array B 88.09 340 P P 19 36 03.2 -1.7
2.5nm,0.7s,baz=82,slow=6.5,SNR=3.4
FINES FINESS Array B 89.35 332 P P 19 36 08.6 -2.3
2.8nm,1.1s,baz=126,slow=2.6,SNR=3.4
YKA Yellowknife Ar 98.56 24 P P 19 36 52.5 -0.7
0.2nm,0.7s,baz=303,slow=4.8,SNR=4.0
TORD Torodi Ar. Bea 120.61 289 PKP PKPdf 19 42 05.2 -2.2
0.4nm,0.9s,baz=29,slow=2.9,SNR=3.1
TXAR Lajitas Array 121.87 50 PKP PKPdf 19 42 08.6 -1.0
0.3nm,0.8s,baz=130,slow=1.4,SNR=3.2

IDC 25 19:28:07.1±3.2, 23°.21N×144°.52E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/36, mbtmp3.5/4, Error ellipse: s-maj=128.4km s-min=30.1km az=78.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	38.99	319	P	P	19 35 34.4	-0.9
	0.2nm,0.5s,baz=120,slow=8.4,SNR=4.3						
WRA	Warramunga Arr	44.03	194	P	P	19 36 16.5	-0.2
	0.2nm,0.4s,baz=16,slow=9.0,SNR=6.3						
MKAR	Makanchi Array	54.60	312	P	P	19 37 37.6	+0.2
	0.1nm,0.5s,baz=98,slow=8.5,SNR=3.3						
FINES	FINESS Array B	82.35	335	P	P	19 40 30.9	+0.4
	1.7nm,0.8s,baz=57,slow=7.0,SNR=4.3						

ISCJB 25 19:30:52.2±2.0, 15°.4S±0°.3×66°.7E±0°.3, h14km, mb3.7/7, MS3.6/4, Error ellipse: s-maj=55.2km s-min=28.0km az=33.7

IDC 25 19:30:52.6±1.5, 15°.28S×66°.80E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/34, mbtmp3.6/7, MS3.6/4, Ms1 3.6/4, ms1mx3.1/35, Error ellipse: s-maj=48.6km s-min=30.7km az=37.0

ISC 25 19:30:54.7±1.7, 15°.3S±0°.3×66°.8E±0°.3, h14km, n22, σ0§40/10, mb3.8/7, MS3.6/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	9.42	37	T	T	19 42 32.3	
	baz=216,slow=75,SNR=146						
H08S2	Diego Garcia H	9.43	37	T	T	19 42 33.0	
	baz=216,slow=75,SNR=230						
H08S3	Diego Garcia H	9.44	37	T	T	19 42 32.7	
	baz=216,slow=75,SNR=197						
H08N3	Diego Garcia H	9.80	25	T	T	19 43 12.3	
	baz=204,slow=76,SNR=854						
H08N1	Diego Garcia H	9.82	25	T	T	19 43 05.5	
	baz=204,slow=76,SNR=527						
H08N2	Diego Garcia H	9.82	25	T	T	19 43 13.9	
	baz=204,slow=76,SNR=769						
CMAR	Chiang Mai Arr	46.13	44	P	P	19 39 19.1	+0.1
	0.5nm,0.7s,baz=244,slow=10,SNR=8.2						
CMAR				LR	LR	19 57 06.3	
	comp=Z,68nm,18.4s,baz=186,slow=34						
H01W3	Cape Leeuwin H	46.62	124	T	T	20 29 18.1	
	baz=284,slow=75,SNR=4.9						
H01W2	Cape Leeuwin H	46.62	124	T	T	20 29 12.7	
	baz=284,slow=75,SNR=4.8						
H01W1	Cape Leeuwin H	46.63	124	T	T	20 29 14.5	
	baz=284,slow=75,SNR=5.2						
AAK	Ala-Archa	58.08	7	LR	LR	20 04 13.6	
	comp=Z,42nm,19.2s,baz=151,slow=34						
BRTR	Keskin Array B	62.86	332	P	P	19 41 20.3	-0.2
	0.6nm,0.7s,baz=150,slow=6.1,SNR=3.9						
MKAR	Makanchi Array	63.36	12	P	P	19 41 23.1	-0.4
	0.2nm,0.7s,baz=206,slow=7.6,SNR=2.3						
WRA	Warramunga Arr	64.17	105	P	P	19 41 29.2	-0.2
	0.7nm,0.7s,baz=272,slow=6.0,SNR=6.8						
STKA	Stephens Creek	69.33	119	LR	LR	20 07 56.0	
	comp=Z,66nm,18.6s,baz=204,slow=32						
ZALV	Zalesovo Beam	70.67	11	P	P	19 42 09.6	-0.2
	0.2nm,0.3s,baz=192,slow=5.5,SNR=3.1						
SONM	Songino Array	72.11	27	P	P	19 42 19.2	+0.4
	0.7nm,0.8s,baz=213,slow=6.9,SNR=8.8						
AKASG	Malin Array Be	73.50	336	P	P	19 42 26.7	-0.1
	0.9nm,0.6s,baz=135,slow=5.1,SNR=10.0						
KSRS	Korea Array	77.76	45	LR	LR	20 16 28.0	
	comp=Z,14nm,19.1s,baz=205,slow=35						
ILAR	Eielson Array	125.52	17	PKP	PKPdf	19 49 54.8	-0.3
	0.4nm,0.9s,baz=316,slow=2.5,SNR=3.9						
YKA	Yellowknife Ar	132.85	1	PKP	PKPdf	19 50 09.2	+0.1
	0.1nm,0.5s,baz=21,slow=2.5,SNR=3.1						
PDAR	Pinedale Array	152.45	354	PKPbc	PKPbc	19 50 51.9	+0.8
	1.0nm,0.7s,baz=68,slow=2.4,SNR=8.1						

DJA 25 19:42:34.2±0.4, 0°N±5°×12°5E±°, h79km±12km, M3.4/7, mb3.6/2, MLv3.3/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.21	289	P	Pn	19 42 55.8	+0.1
KMSI				S	Sn	19 43 13.2	+1.3
TNTI	Ternate	2.32	75	P	Pn	19 43 10.9	+0.5
SANI	Sanana	2.38	159	P	Pn	19 43 10.9	-0.3
SANI				S	Sn	19 43 40.8	+1.3
LBMI	Labuha	2.52	109	P	Pn	19 43 13.8	+0.8
LBMI				S	Sn	19 43 43.6	+0.8
LUWI	Luwuk	2.64	243	P	Pn	19 43 16.6	+1.9
LUWI				S	Sn	19 43 45.4	-0.5
MRSI	Marisa	3.19	275	P	Pn	19 43 21.0	-1.2
APSI	Ampana	3.64	253	P	Pn	19 43 28.2	0.0
MPSI	Mapaga	5.22	272	P	Pn	19 43 49.5	-0.3
	6.8nm,1.0s						
TTSI	Tana Toraja	6.19	239	P	Pn	19 44 03.2	+0.1

HEL 25 19:54:56.3±1.3, 63°.70N×26°.08E, h0km, ML0.8, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAF	Kangasniemi	1.60	176	PG	Pn	19 55 25.3	-0.5
	baz=2.0						
KEF	Keuruu	1.64	200	PG	Pn	19 55 25.7	-0.6
	baz=19						
FIA0	FINESS Array S	2.27	180	PG	Pb	19 55 36.6	-1.5
	baz=356						
FIA0				SG	Sb	19 56 05.9	-0.7
FIA0				MSG		19 56 05.9	
	comp=Z,0.3nm,0.1s						

IDC 25 19:57:42.0±0.9, 2°.48N×93°.21E, h0km, mb3.9/10, mb1 4.1/13, mb1mx3.9/42, mbtmp4.0/13, ML4.1/3, MS3.2/3, Ms1 3.3/3, ms1mx2.7/35, Error ellipse: s-maj=31.8km s-min=14.9km az=43.0

ISCJB 25 19:57:43.3±0.5, 2°.70N±0°.06×93°.29E±0°.04, h21km, mb4.0/16, MS3.5/1, Error ellipse: s-maj=8.7km s-min=4.8km az=27.3

NEIC 25 19:57:48.8±2.5, 2°.64N×93°.42E, h46km±21km, mb4.1/6, Error ellipse: s-maj=27.3km s-min=8.3km az=60.0

DJA 25 19:57:51.3±1.0, 3°N±6°×9°4E±°, h10km, M4.5/8, mb4.5/5, mB5.0/2, MLv4.4/8, Mw(mB)4.4/2

ISC 25 19:57:45.1±0.6, 2°.62N±0°.07×93°.23E±0°.07, h21km, n45, σ1§53/38, mb4.1/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	3.10	94	P	Pn	19 58 33.4	+0.6
SNSI				S	Sn	19 59 05.6	-3.7
CMBY	CAMPBELL BAY	4.42	9	eP	Pn	19 58 48.8	-2.3
CMBY				eS	Sn	19 59 36.9	-5.0
CMBY				AML	AML	19 59 51.4	
	comp=N,782nm,0.3s						
CMBY				AML	AML	19 59 53.6	
	comp=E,500nm,0.8s						
LHMI	Lhok Sumawe	4.53	55	P	Pn	19 58 54.0	+1.5
LHMI				S	Sn	19 59 46.1	+1.6
LHMI	Lhok Sumawe	4.53	55	ePn	Pn	19 58 53.8	+1.3
GSI	Gunungsitoli	4.53	107	ePn	Pn	19 58 51.9	-0.7
KCSI	Kotacane, Aceh	4.62	79	P	Pn	19 58 55.4	+1.6
KCSI				S	Sn	19 59 45.6	-1.3
PSI	Prapat	5.69	88	Pn	Pn	19 59 08.6	0.0
	comp=E,3.8nm,0.3s,baz=258,slow=8.8,SNR=11						
PSI				Sn	Sn	20 00 13.2	-0.2
	comp=E,3.3nm,0.3s,baz=186,slow=4.8,SNR=4.7						
MNSI	Mandailing Nat	6.60	106	P	Pn	19 59 21.4	+0.4
	comp=E,81nm,0.6s,comp=E,3µmcomp=E,0.6nm						
KULM	Kulim	7.86	70	ePn	Pn	19 59 38.7	+0.4
	comp=E,18nm,0.5s						
IPM	Ipoh	8.00	76	ePn	Pn	19 59 39.1	-1.1
	comp=E,19nm,0.7s						
PDSI	Padang	8.03	116	P	Pn	19 59 40.9	+0.2
PBA	Port Blair	8.99	357	eP	Pn	19 59 52.6	-1.2
PBA				eS	Sn	20 01 28.7	-5.9
PBA				AML	AML	20 01 36.7	
	comp=N,144nm,0.0s						
PBA				AML	AML	20 01 40.8	
	comp=E,131nm,0.2s						
DGPR	DIGLIPUR	10.50	358	eP	Pn	20 00 12.0	-2.5
DGPR				eS	Sn	20 02 05.2	-6.4
DGPR				AML	AML	20 02 12.2	
	comp=E,33nm,0.3s						
DGPR				AML	AML	20 02 12.3	
	comp=N,44nm,1.0s						
PALK	Pallekele	13.31	291	Pn	Pn	20 00 51.5	-1.5
	comp=N,1.6nm,0.3s,baz=122,slow=15,SNR=12						
PALK				Sn	Sn	20 03 07.2	-13
	comp=N,7.0nm,0.3s,baz=194,slow=18,SNR=8.6						
PALK				LR	LR	20 05 40.8	
	comp=N,167nm,18.0s,baz=98,slow=36						
PALK	Pallekele	13.31	291	ePn	Pn	20 00 50.8	-2.2
	comp=N,18nm,0.6s						
PALK				Sn	Sn	20 03 07.2	-13
CMAR	Chiang Mai Arr	16.71	19	Pn	Pn	20 01 37.5	-0.6
	comp=N,0.2nm,0.3s,baz=216,slow=14,SNR=33						
CMAR				LR	LR	20 07 21.1	
	comp=N,39nm,21.3s,baz=206,slow=34						
CHTO	Chiang Mai	17.04	19	eP	Pn	20 01 40.8	-1.5
	comp=N,7.7nm,1.1s						
VIS	Vishakhapatnam	17.88	328	eP	P	20 01 54.1	+0.8
H08S2	Diego Garcia H	23.06	244	T	T	20 26 31.0	
	baz=63,slow=75,SNR=4.4						
H08S3	Diego Garcia H	23.06	244	T	T	20 26 40.2	
	baz=63,slow=75,SNR=1.3						
H08S1	Diego Garcia H	23.08	244	T	T	20 26 37.9	
	baz=63,slow=75,SNR=3.3						
LSA	Lhasa	27.01	356	eP	P	20 03 28.3	+2.0
	comp=N,6.9nm,0.6s						
SMLA	Simla	32.16	334	eP	P	20 04 10.0	-1.5
DHRM	DHARAMSHALA	33.50	333	eP	P	20 04 19.7	-3.8
MBWA	Marble Bar	35.10	134	eP	P	20 04 36.5	-0.7
	comp=N,6.9nm,0.9s						
H01W3	Cape Leeuwin H	42.15	154	T	T	20 52 15.2	
	baz=329						
H01W2	Cape Leeuwin H	42.16	154	T	T	20 52 21.9	
	baz=329						
H01W1	Cape Leeuwin H	42.17	154	T	T	20 52 16.4	
	baz=329						
AAK	Ala-Archa	43.22	340	P	P	20 05 47.2	+2.2
	comp=N,0.2nm,0.3s,baz=215,slow=12,SNR=2.5						
MK31	Makanchi Array	45.02	349	eP	P	20 06 00.0	+0.8
MKAR	Makanchi Array	45.02	349	P	P	20 06 00.4	+1.2
	comp=N,1.8nm,0.7s,baz=165,slow=8.8,SNR=28						
KKAR	Karatay Array	45.11	336	eP	P	20 06 00.8	+0.8
	comp=N,1.7nm,0.8s						
WRA	Warramunga Arr	46.15	121	P	P	20 06 08.5	-0.1
	comp=N,3.1nm,0.8s,baz=301,slow=8.8,SNR=27						
WRAB	Tennant Creek	46.16	121	eP	P	20 06 08.3	-0.4
SONM	Songino Array	46.46	12	P	P	20 06 11.9	+1.2
	comp=N,1.2nm,0.7s,baz=193,slow=8.5,SNR=14						
KSAR	Wonju Array Be	47.04	38	P	P	20 06 13.0	-2.2
KSRS	Korea Array	47.07	38	P	P	20 06 13.0	-2.5
	comp=N,1.9nm,0.9s,baz=221,slow=8.9,SNR=3.7						
ASAR	Alice Springs	47.42	126	P	P	20 06 18.1	-0.4
	comp=N,0.5nm,0.6s,baz=299,slow=7.8,SNR=12						
GEYT	Alibeck	47.63	322	P	P	20 06 20.4	+0.5
	comp=N,1.5nm,0.7s,baz=182,slow=9.8,SNR=6.1						
KURK	Kurchatov	49.49	348	eP	P	20 06 34.6	+0.7
	comp=N,1.2nm,1.1s						
ZALV	Zalesovo Beam	51.63	354	P	P	20 06 51.1	+1.0
	comp=N,1.8nm,0.4s,baz=180,slow=8.3,SNR=14						
ABKAR	Akbulak array	54.45	334	eP	P	20 07 10.9	0.0
	comp=N,2.4nm,0.9s						
STKA	Stephens Creek	57.26	131	P	P	20 07 30.9	-0.5
	comp=N,1.2nm,0.6s,baz=311,slow=11,SNR=3.7						
BRTR	Keskin Array B	65.24	313	P	P	20 08 25.9	+0.3
	comp=N,0.5nm,0.7s,baz=186,slow=1.4,SNR=3.3						
GERES	GERESS Array B	81.14	319	P	P	20 10 00.4	+1.1
	comp=N,0.5nm,0.7s,baz=126,slow=2.3,SNR=3.4						
GERES				LR	LR	20 50 59.2	
	comp=N,21nm,18.2s,baz=266,slow=39						

MEX 25 20:00:00.0±0.4, 17°.02N×101°.59W, h20km±18km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.59	11	eP	Pb	20 00 09.7	-2.0
ZIIG				eS	Sb	20 00 17.1	-2.5
CAIG	El Cayaco	1.26	89	eP	Pn	20 00 19.1	-3.4
CAIG				eS	Sn	20 00 34.2	-4.7
ARIG	Puente Sto Nin	1.72	43	eP	Pn	20 00 26.0	-2.8
ARIG				i S	Sn	20 00 46.9	-3.4
MEIG	Mezcala	2.08	64	i P	Pn	20 00 31.4	-2.5
MEIG				i S	Sn	20 00 55.8	-3.5

IDC 25 20:16:10.8±14.0, 27°.55S×66°.47E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.2/33, mbtmp3.5/2, Error ellipse: s-maj=789.4km s-min=55.9km az=34.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	60.26	103	P	P	20 26 21.2	-0.2
	0.3nm,0.7s,baz=250,slow=6.7,SNR=6.5						
WRA	Warramunga Arr	61.92	99	P	P	20 26 32.9	+0.1
	0.4nm,0.8s,baz=249,slow=9.8,SNR=3.6						
YKA	Yellowknife Ar	145.05	1	PKPbc	PKPbc	20 35 47.9	-0.9
	0.2nm,0.8s,baz=343,slow=3.5,SNR=4.5						

IDC 25 20:16:32.1±0.8, 46°.39N×155°.14E, h0km, mb3.7/14, mb1 3.9/18, mb1mx3.8/45, mbtmp3.7/18, ML3.1/4, MS3.2/3, Ms1 3.2/3, ms1mx2.6/34, Error ellipse: s-maj=22.1km s-min=17.8km az=147.0

ISCJB 25 20:16:33.5±0.6, 46°.41N±0°.07×154°.84E±0°.08, h18km, mb3.8/18, MS3.7/2, Error ellipse: s-maj=12.6km s-min=5.0km az=144.5

MOS 25 20:16:36.9±1.7, 46°.47N×154°.82E, h46km, mb4.1/12, Error ellipse: s-maj=12.9km s-min=8.8km az=85.6

SKHL 25 20:16:37.2±0.4, 46°.20N×154°.99E, h77km±1km, mb4.6/4

BJI 25 20:16:38.9, 46°.50N×154°.60E, h50km, mB4.7/5, mb4.3/7

ISC 25 20:16:34.7±0.8, 46°.36N±0°.10×154°.95E±0°.08, h18km, n77, σ1§89/78, mb3.9/18, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.39	10	PN	Pn	20 17 43.9	+3.5
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR	Severo-Kuril's	4.39	10	eP	Pn	20 17 43.9	+3.5
SKR				AMB	AMB	20 17 44.9	
	comp=Z,40nm,0.5s						
SKR				eS	Sn	20 18 18.2	-13
SKR				A	A	20 18 27.0	
	comp=Z,50nm,0.5s						
KUR	Kuril'sk	5.08	260	d i PN	Pn	20 17 52.5	+2.6
KUR				i		20 18 48.9	
KUR				pmax	pmax		
	comp=N,64nm,0.6s						
KUR				pmax	pmax		
	comp=Z,12µm,0.1s						
KUR				pmax	pmax		
	comp=Z,140nm,0.7s						
KUR				pmax	pmax		
	comp=E,56nm,0.6s						
KUR	Kuril'sk	5.08	260	eP	Pn	20 17 52.5	+2.6
KUR				AMB	AMB	20 17 52.9	
	comp=E,64nm,0.6s						
KUR				AMB	AMB	20 17 52.9	
	comp=E,56nm,0.6s						
KUR				AMB	AMB	20 17 52.9	
	comp=E,140nm,0.6s						
KUR				eS	Sn	20 18 48.7	+0.6
KUR				A	A	20 18 50.7	
	comp=E,122nm,0.6s						
KUR				A	A	20 18 50.7	
	comp=E,59nm,0.6s						
SHO	Shikotan	6.26	249	eP	Pn	20 18 06.1	0.0
YUK	Yuzh-Kuril'sk	6.83	253	c i PN	Pn	20 18 15.8	+1.9
YUK				pmax	pmax		
	comp=N,33nm,0.3s						
YUK				pmax	pmax		
	comp=E,29nm,0.3s						
YUK				pmax	pmax		

comp=Z,58nm,0.3s
YUK Yuzh-Kuril'sk 6.83 253 eP Pn 20 18 15.8 +1.9
YUK AMB AMB 20 18 16.3
comp=Z,33nm,0.3s
YUK AMB AMB 20 18 16.3
comp=Z,58nm,0.3s
YUK AMB AMB 20 18 16.3
comp=Z,29nm,0.3s
YUK eS Sn 20 19 30.0 -1.1
PETK Petropavlovsk- 6.99 14 Pn Pn 20 18 13.1 -2.9
comp=Z,0.4nm,0.3s,baz=184,slow=16,SNR=1.9
PETK LR LR 20 21 18.8
comp=Z,28nm,19.8s,baz=223,slow=41
NEM2 Nemuro 2 7.20 249 P Pn 20 18 18.8 -0.1
NEM2 eS Sn 20 19 35.1 -5.0
JRA Rausu 7.36 254 P Pn 20 18 23.4 +2.3
JNK Nakash 7.77 253 P Pn 20 18 28.0 +1.2
JNK eS Sn 20 19 52.0 -2.2
JAK Akkeshi 8.04 249 P Pn 20 18 30.6 +0.1
JAK eS Sn 20 19 55.4 -5.6
JTKR Abashiri--Toko 8.16 257 P Pn 20 18 34.0 +1.8
JAR Ashorobuto 8.52 253 P Pn 20 18 38.3 +1.3
JAR eS Sn 20 20 11.3 -1.3
JKK2 Kamakawa 2 8.98 258 P Pn 20 18 45.8 +2.4
ASAJ Asahikawa 9.00 260 PN Pn 20 18 45.1 +1.4
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 9.00 260 P Pn 20 18 46.5 +2.8
ASAJ Asahikawa 9.00 260 Pn Pn 20 18 45.1 +1.4
comp=Z,0.5nm,0.3s,baz=93,slow=12,SNR=2.3
JCH Churui 9.09 250 P Pn 20 18 45.6 +0.7
JCH eS Sn 20 20 22.2 -4.5
JFR Furan 9.36 254 P Pn 20 18 51.4 +2.9
ERM Erimo 9.52 247 ePN Pn 20 18 51.3 +0.5
ERM Erimo 9.52 247 eP Pn 20 18 51.3 +0.5
JBT2 Biratori 2 9.67 253 P Pn 20 18 53.5 +0.7
JNB Noboribetsu 10.69 254 P Pn 20 19 07.3 +0.6
JKB Kayabe 10.96 251 P Pn 20 19 09.9 -0.5
JANG Nango 11.46 243 P Pn 20 19 15.5 -1.8
EKMR Ekimchan 15.70 303 eP Pn 20 20 11.7 -3.1
EKMR AMB AMB 20 20 21.5
comp=Z,3.0nm,0.5s
USRK Ussuriysk Arra 16.30 271 Pn Pn 20 20 22.6 +0.2
comp=Z,0.5nm,0.3s,baz=71,slow=13,SNR=5.1
SEY Seymchan 16.67 356 Pn Pn 20 20 27.8 +0.7
comp=Z,0.1nm,0.3s,baz=129,slow=9.8,SNR=2.8
KROS Kirovskiy 19.48 305 eP P 20 20 59.4 -1.0
KROS AMB AMB 20 21 02.5
comp=Z,2.0nm,0.5s
YAK Yakutsk 21.34 326 eP P 20 21 17.8 -2.6
KSRS Korea Array 21.91 256 P P 20 21 29.0 +2.2
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS Korea Array 21.91 256 eP P 20 21 32.7 +5.9
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KSRS Korea Array 21.91 256 P P 20 21 29.0 +2.2
comp=Z,0.8nm,0.6s,baz=51,slow=11,SNR=1.9
BILL Bilibino 22.51 11 eP P 20 21 32.6 -0.3
BILL pmax pmax
comp=Z,4.0nm,0.8s
BILL Bilibino 22.51 11 eP P 20 21 32.6 -0.3
HIA Hailar 23.69 290 eP P 20 21 43.3 -1.9
HIA pmax pmax
comp=Z,2.0nm,0.9s
HIA Hailar 23.69 290 eP P 20 21 43.3 -1.9
TIXI Tiksi 28.21 343 eP P 20 22 24.3 -1.5
TIXI pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 32.66 291 P P 20 23 05.5 -0.2
comp=Z,0.2nm,0.7s,baz=73,slow=8.6,SNR=3.2
ZALV Zalesovo Beam 43.87 307 P P 20 24 38.7 -0.9
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 43.87 307 P P 20 24 38.7 -0.9
comp=Z,0.6nm,0.5s,baz=58,slow=8.7,SNR=2.4
MKAR Makanchi Array 48.25 298 P P 20 25 14.1 -0.1
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 48.25 298 P P 20 25 14.1 -0.1
comp=Z,0.6nm,0.5s,baz=74,slow=9.0,SNR=3.9
YKA Yellowknife Ar 50.47 37 P P 20 25 30.3 -0.7
comp=Z,0.2nm,0.6s,baz=189,slow=26,SNR=1.3
ARU Arti 56.15 318 P P 20 26 12.6 -0.2
ARU Arti 56.15 318 eP P 20 26 12.6 -0.2
JIRN Jiri 56.25 276 eP P 20 26 16.8 +2.5
KKN Kakani 56.79 277 eP P 20 26 20.6 +2.6
YBH Yreka Blue Hor 56.80 62 LR LR 20 46 49.6
comp=Z,30nm,18.2s,baz=344,slow=32
DMN Daman 57.02 277 eP P 20 26 22.2 +2.5
comp=Z,4.7nm,0.7s
GKN Gorkha 57.10 277 eP P 20 26 22.0 +1.9
comp=Z,3.1nm,0.5s
DANN Dangsing 57.48 278 eP P 20 26 25.0 +2.0
KOLN Koldanda 57.96 278 eP P 20 26 28.5 +2.3
NVAR Mina Array Bea 61.48 63 P P 20 26 49.6 -0.8
comp=Z,0.5nm,0.7s,baz=282,slow=6.3,SNR=4.4
JOF Joensuu 62.24 334 eP P 20 26 53.9 -0.9
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 62.24 334 ep P 20 26 53.9 -0.9
comp=Z,2.3nm,0.7s
JOF Joensuu 62.24 334 eP P 20 26 53.9 -0.9
KAF Kangasniemi 64.32 336 eP P 20 27 07.7 -0.9
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 64.32 336 ep P 20 27 07.7 -0.9
comp=Z,1.6nm,0.7s
KAF Kangasniemi 64.32 336 eP P 20 27 07.7 -0.9
FINES FINESS Array B 64.93 336 P P 20 27 13.7 +1.1
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 64.93 336 P P 20 27 13.7 +1.1
comp=Z,1.8nm,0.4s,baz=42,slow=6.9,SNR=5.6
WRA Warramunga Arr 68.58 201 P P 20 27 36.5 +0.3
comp=Z,0.4nm,0.8s,baz=26,slow=6.9,SNR=1.8
NOA NORSAR Array B 69.00 342 eP P 20 27 42.3 +3.8
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 69.00 342 P P 20 27 39.0 +0.5
comp=Z,0.4nm,0.5s,baz=28,slow=6.5,SNR=2.3
KBZ Khabaz 72.04 315 P P 20 27 59.5 +2.2
KBZ pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 72.04 315 P P 20 27 59.5 +2.2
comp=Z,1.2nm,0.8s,baz=49,slow=8.6,SNR=3.6
ASAR Alice Springs 72.26 200 P P 20 27 59.9 +1.2
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 72.26 200 P P 20 27 59.9 +1.2
comp=Z,0.6nm,0.7s,baz=14,slow=5.3,SNR=5.5
ASAR Alice Springs 72.26 200 eP P 20 27 59.8 +1.1
AKASG Malin Array Be 72.57 327 P P 20 28 02.5 +2.2
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 72.57 327 P P 20 28 02.5 +2.2
comp=Z,0.5nm,0.4s,baz=26,slow=6.4,SNR=2.9
LPIG La Paz 76.08 70 LR LR 20 55 30.6
comp=Z,60nm,19.5s,baz=236,slow=31
TXAR Lajitas Array 76.57 62 P P 20 28 23.2 -0.9
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 76.57 62 P P 20 28 23.2 -0.9
comp=Z,0.9nm,0.6s,baz=297,slow=4.2,SNR=11
GERES GERESS Array B 79.35 335 P P 20 28 41.5 +2.3
comp=Z,0.3nm,0.5s,baz=50,slow=6.5,SNR=2.2

IDC 25 20:27:24.4±3.7, 23°.56S×175°.47W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/37, mbtmp4.0/5, Error ellipse: s-maj=156.7km s-min=43.9km az=148.0, Tonga Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CTA Charters Tower 35.63 268 P P 20 34 24.7 +0.5
3.4nm,0.4s,baz=90,slow=11,SNR=8.2
STKA Stephens Creek 38.70 248 P P 20 34 50.6 +0.4
1.0nm,0.5s,baz=95,slow=6.7,SNR=6.4
ASAR Alice Springs 46.18 259 P P 20 35 50.9 -0.3
0.3nm,0.3s,baz=96,slow=7.3,SNR=5.1
WRA Warramunga Arr 46.57 264 P P 20 35 53.0 -1.3
2.3nm,0.5s,baz=102,slow=8.2,SNR=10
CMAR Chiang Mai Arr 93.33 289 P P 20 40 42.9 +1.1
0.2nm,0.3s,baz=45,slow=0.8,SNR=4.1

AKASG Malin Array Be 146.82 331 PKPbc PKPdf 20 47 07.4 +0.9
0.3nm,0.3s,baz=41,slow=4.1,SNR=1.9
BRTR Keskin Array B 150.61 310 PKPbc PKPbc 20 47 17.8 -0.9
0.7nm,0.8s,baz=117,slow=1.6,SNR=2.5

IDC 25 20:29:41.3±8.0, 7°.15S×129°.73E, h118km±84km, mb3.4/2, mb1 3.6/5, mb1mx3.2/28, mbtmp3.9/5, ML4.0/3, Error ellipse: s-maj=71.7km s-min=26.6km az=33.0, Banda Sea

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
BATI Baumata 6.72 243 P Pn 20 31 19.1 +1.6
18nm,0.3s,baz=90,slow=2.8,SNR=38
BATI S Sn 20 32 32.4 -0.3
6.8nm,0.3s,baz=225,slow=23,SNR=6.9
WRA Warramunga Arr 13.48 161 P Pn 20 32 46.6 -1.3
0.5nm,0.3s,baz=344,slow=13,SNR=31
WRA S Sn 20 35 10.3 -6.3
0.6nm,0.3s,baz=330,slow=23,SNR=7.2
ASAR Alice Springs 16.90 167 P P 20 33 31.4 +0.5
0.3nm,0.3s,baz=335,slow=9.2,SNR=21
ASAR S Sn 20 36 34.4 -4.8
0.1nm,0.3s,baz=358,slow=28,SNR=4.9
CMAR Chiang Mai Arr 39.62 310 P P 20 37 00.7 -1.0
0.3nm,0.3s,baz=138,slow=7.9,SNR=5.0
MKAR Makanchi Array 68.21 327 P P 20 40 29.4 +0.3
0.5nm,0.4s,baz=117,slow=8.1,SNR=16

IDC 25 20:40:24.3±5.2, 5°.45S×103°.28E, h0km, mb3.1/4, mb1 3.3/4, mb1mx3.2/34, mbtmp3.1/4, Error ellipse: s-maj=215.4km s-min=28.0km az=54.0
DJA 25 20:40:26.2±1.1, 6°S±5°×10°4E±°, h18km±12km, M3.5/7, MLv3.5/7
ISC 25 20:40:27.5±2.5, 6°.01S±0°.09×103°.69E±0°.09, h5km±13km, n15, σ1§19/13, mb3.2/4, Southwest of Sumatera

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KASI Kota Agung 0.94 59 P Pb 20 40 46.4 +0.2
KASI S Sn 20 41 03.1 +1.9
LWLI Liwa 1.05 20 P Pg 20 40 47.6 -0.1
LWLI S Sn 20 41 05.2 +1.0
MDSI Maura Dua 1.59 18 P Pn 20 40 54.9 -1.5
MDSI S Sg 20 41 19.4 +0.8
KLI Kotabumi 1.63 46 P Pn 20 40 54.9 -2.0
BLSI Bandar Lampung 1.67 68 P Pn 20 40 50.0 -7.5
BLSI S Sn 20 41 19.6 +0.2
MNAI Manna 1.79 336 P Pn 20 40 59.2 0.0
MNAI S Sb 20 41 23.3 -0.5
CGJI Cibinong 2.08 107 P Pn 20 41 02.5 -0.6
CGJI S Sg 20 41 35.0 +0.7
LHSI Lahat 2.17 356 P Pn 20 41 03.8 -0.6
H08S2 Diego Garcia H 31.02 265 T T 21 18 38.7
baz=89,slow=75,SNR=2.6
H08S3 Diego Garcia H 31.02 265 T T 21 18 43.9
baz=89,slow=75,SNR=3.0
H08S1 Diego Garcia H 31.03 265 T T 21 18 43.8
baz=89,slow=75,SNR=2.5
WRA Warramunga Arr 32.84 118 P P 20 47 05.1 +2.7
0.1nm,0.3s,baz=306,slow=8.7,SNR=1.4
ASAR Alice Springs 33.95 124 P P 20 47 15.5 +3.3
0.1nm,0.5s,baz=305,slow=8.1,SNR=1.5
SONM Songino Array 53.67 2 P P 20 49 44.3 -6.1
0.3nm,0.7s,baz=179,slow=8.9,SNR=3.1
MKAR Makanchi Array 55.90 342 P P 20 49 58.8 -7.6
0.1nm,0.5s,baz=144,slow=8.7,SNR=1.3

BJI 25 20:42:08.6, 51°.81N×175°.98W, h76km, mB4.8/3, mb4.8/9
MOS 25 20:42:11.3±0.8, 51°.77N×176°.64W, h65km, mb4.7/14, Error ellipse: s-maj=10.9km s-min=9.2km az=59.6
ISCJB 25 20:42:12.6±0.3, 51°.79N±0°.05×176°.63W±0°.03, h76km±2km, mb4.2/46, Error ellipse: s-maj=8.9km s-min=2.8km az=174.7
NEIC 25 20:42:12.4, 51°.34N×176°.52W, h20km, mb4.3/34, ML4.3(AEIC), After AEIC.
IDC 25 20:42:13.4±1.6, 51°.83N×176°.70W, h69km±13km, mb3.8/18, mb1 4.0/20, mb1mx3.8/42, mbtmp4.1/20, MS2.9/7, Ms1 2.9/7, ms1mx2.7/29, Error ellipse: s-maj=17.2km s-min=8.7km az=168.0
ISC 25 20:42:13.2±0.8, 51°.71N±0°.09×176°.64W±0°.04, h69km±5km, n373, σ0§76/374, mb4.4/46, 116C-95D, Andreanof Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
ADK Adak 0.18 351 P Pn 20 42 22.5 -1.1
ADK S Sn 20 42 30.9 -0.3
ADK Adak 0.18 351 P Pn 20 42 22.5 -1.1
ADK S Sn 20 42 30.9 -0.3
ADAG Mount Adagdak 0.27 5 P Pn 20 42 24.4 +0.3
KIRH Kanaga Island 0.34 304 P Pn 20 42 24.5 -0.1
KIKV Kanaga Island 0.37 297 P Pn 20 42 24.6 -0.2
GSCK Great Sitkin C 0.42 44 P Pn 20 42 24.9 -0.3
GSTD Great Sitkin T 0.46 41 P Pn 20 42 25.4 -0.3
GSMY Great Sitkin M 0.49 47 P Pn 20 42 25.5 -0.4
TAFL Tanaga Flats 0.79 274 P Pn 20 42 28.9 0.0
TAFP Tanaga Falls P 0.86 283 P Pn 20 42 30.1 +0.3
TASE Tanaga Southea 0.88 279 P Pn 20 42 30.5 +0.4
TANO Tanaga North 0.94 283 P Pn 20 42 31.6 +0.8
GAEA Gareloi East 1.31 274 P Pn 20 42 36.2 +0.6
KOKL Mount Kliuchef 1.63 67 P Pn 20 42 40.7 +0.9
KOFP Korovin Flat P 1.67 69 P Pn 20 42 41.0 +0.6
CERAA Semis' Rag'd T 2.29 276 P Pn 20 42 49.1 +0.4
CERB Semis' Cerberu 2.33 277 P Pn 20 42 49.6 +0.5
CERB S Sn 20 43 18.3 +1.6
CEAP Semis' Anvil P 2.37 279 P Pn 20 42 50.3 +0.6
LSPA Little Sitkin 2.98 277 P Pn 20 42 58.9 +0.8
LSPA S Sn 20 43 34.7 +2.0
LSSA Little Sitkin 3.02 276 P Pn 20 42 59.5 +0.9
NIKH Nikolski High 4.94 72 P Pn 20 43 25.2 +0.5
NIKH S Sn 20 44 19.7 -0.8
OKSP Okmok Steeple 5.33 70 P Pn 20 43 30.8 +0.7
OKFG Magazine Ridge 5.59 69 P Pn 20 43 34.5 +0.9
MSOM Makushin Julie 6.25 66 P Pn 20 43 43.2 +0.6
MSOM Makushin Julie 6.25 66 P Pn 20 43 43.2 +0.6
MCIR Makushin Cirqu 6.32 65 P Pn 20 43 43.7 0.0
FX1 Attu Island--F 6.37 285 P Pn 20 43 44.0 -0.2
14nm,0.3s,baz=235,slow=1.9,SNR=21
FX1 S Sn 20 44 53.7 -1.7
3.0nm,0.3s,baz=104,slow=22,SNR=4.2
FX1 LR LR 20 45 21.2
comp=Z,48nm,20.8s,baz=114,slow=30
FX1 Attu Island--F 6.37 285 ePn Pn 20 43 44.3 +0.1
FX1 S Sn 20 44 53.7 -1.7
MSW Makushin Switc 6.37 66 P Pn 20 43 45.3 +1.0
UNV Unalaska Valle 6.51 67 ePn Pn 20 43 46.2 0.0
SPIA Saint Paul Isl 6.62 32 P Pn 20 43 51.0 +3.3
AKRB Akutan Reef Bi 6.84 65 P Pn 20 43 51.0 +0.4
ZRO Akutan Zero 6.88 66 P Pn 20 43 52.0 +0.7
AKGG Akutan Green G 6.90 65 P Pn 20 43 51.8 +0.3
AKUT Akutan 7.00 65 ePn Pn 20 43 54.4 +1.4
AKSA Akutan Strait 7.05 66 P Pn 20 43 54.4 +0.8
WESE West Dahl East 7.77 64 P Pn 20 44 04.5 +1.1
SSLW Shishaldin Wes 8.11 63 P Pn 20 44 08.0 -0.1
FALS False Pass 8.53 63 P Pn 20 44 14.2 +0.5
DRIA Deer Island 9.20 64 P Pn 20 44 22.3 -0.6
DT1 Dutton Round H 9.22 63 P Pn 20 44 23.2 0.0
DTNA Dutton South F 9.25 63 P Pn 20 44 23.5 -0.2
DOL Dolgoi Island 9.47 63 P Pn 20 44 26.3 -0.2
HAG Hague Volcano 9.49 62 P Pn 20 44 27.2 +0.3
HAG Hague Volcano 9.49 62 P Pn 20 44 27.2 +0.3
PS4A Pavlof South-4 9.52 62 P Pn 20 44 27.4 0.0
SDPT Sand Point 10.29 63 ePn Pn 20 44 36.3 -1.4
GAMB Gambell 12.38 10 ePn Pn 20 45 08.4 +2.3
35nm,0.9s
TNA Tin City 14.59 14 eP P 20 45 37.8 -2.3
3.9nm,0.7s
KDAK Kodiak Island 15.11 57 i P Pn 20 45 39.7 -2.6
PETK Petropavlovsk- 15.70 285 LR LR 20 52 05.5
comp=Z,14nm,19.5s,baz=84,slow=38
PPLA Purkeypile 17.19 40 ePn P 20 46 11.8 +2.7
16nm,1.0s
RC01 Rabbit Creek A 17.48 47 eP P 20 46 12.2 0.0
KTH Kantishna Hill 18.01 39 ePn Pn 20 46 19.3 +0.8
15nm,1.0s
TRF Thorofare Moun 18.21 40 ePn Pn 20 46 21.1 +0.1
4.7nm,0.6s
BILL Bilibino 18.37 339 d iP Pn 20 46 23.3 +0.6
BILL pmax pmax

comp=Z,8.0nm,0.9s
BILL Bilibino 18.37 339 eP Pn 20 46 24.3 +1.6
comp=Z,3.9nm,0.6s
IM04 Indian Mountai 18.38 30 eP Pn 20 46 24.9 +2.0
MCK McKinley 18.88 40 eP Pn 20 46 28.3 -0.6
MCK pmax pmax
comp=Z,5.0nm,0.5s
MCK McKinley 18.88 40 ePn Pn 20 46 28.3 -0.6
comp=Z,4.9nm,0.5s
BMRM Bremner River 19.83 50 eP P 20 46 38.5 +0.5
comp=Z,14nm,1.0s
SEY Seymchan 19.92 316 P P 20 46 39.9 +1.0
comp=Z,0.1nm,0.3s,baz=108,slow=11,SNR=8.4
SEY ScP ScP 20 54 23.3 +0.7
comp=Z,0.1nm,0.3s,baz=47,slow=23,SNR=6.6
PAX Paxson 20.02 44 eP P 20 46 40.9 +0.9
PAX pmax pmax
comp=Z,4.0nm,0.5s
PAX Paxson 20.02 44 ePn P 20 46 40.9 +0.9
comp=Z,4.1nm,0.5s
ILAR Eielson Array 20.14 38 P P 20 46 40.6 -0.7
comp=Z,1.3nm,0.5s,baz=236,slow=10.0,SNR=29
ILAR S S 20 50 22.0 -1.4
comp=Z,0.3nm,0.7s,baz=230,slow=15,SNR=4.0
ILAR ScP ScP 20 54 22.3 -0.8
comp=Z,1.4nm,0.9s,baz=287,slow=3.0,SNR=8.7
COLD Coldfoot 20.29 30 eP Pn 20 46 47.0 +1.7
comp=Z,6.2nm,1.2s
MENT Mentasta 20.76 45 ePn P 20 46 45.5 -2.5
DOT Dot Lake 20.84 42 ePn P 20 46 48.3 -0.6
comp=Z,5.6nm,0.6s
EGAK Eagle 22.41 41 eP P 20 47 02.6 -3.0
comp=Z,3.3nm,0.6s
YSS Yuzh-Sakhalins 26.63 276 eP P 20 47 46.0 +1.1
ASAJ Asahikawa 28.06 271 LR LR 20 57 07.3
comp=Z,19nm,21.4s,baz=7.0,slow=32
TIXI Tiksi 31.02 330 i P P 20 48 24.2 +0.6
TIXI pmax pmax
comp=Z,3.0nm,1.9s
YKA Yellowknife Ar 34.02 47 P P 20 48 49.1 -0.9
comp=Z,0.2nm,0.4s,baz=278,slow=9.1,SNR=4.9
YKA PcP PcP 20 51 26.7 +0.6
comp=Z,0.6nm,0.6s,baz=284,slow=3.4,SNR=9.5
YKA ScP ScP 20 55 05.2 +0.6
comp=Z,0.7nm,0.6s,baz=293,slow=3.2,SNR=13
H11N2 WAKE ISLAND Hy 34.43 208 T T 21 25 25.5
baz=18,slow=76,SNR=1882
H11N3 WAKE ISLAND Hy 34.44 208 T T 21 25 15.6
baz=18,slow=76,SNR=2084
H11N1 WAKE ISLAND Hy 34.45 208 T T 21 25 16.3
baz=18,slow=76,SNR=1891
USRK Ussuriysk Arra 34.59 278 P P 20 48 54.3 -0.7
comp=Z,1.8nm,0.5s,baz=57,slow=9.9,SNR=14
MJAR Matsushiro Arr 35.17 262 P P 20 49 00.1 0.0
comp=Z,1.4nm,0.6s,baz=46,slow=9.1,SNR=4.8
MJAR LR LR 21 03 36.3
comp=Z,11nm,20.2s,baz=140,slow=36
G03D McMinnville, O 35.30 79 ⇓P P 20 49 02.6 +1.4
baz=35
LON Longmire 35.43 76 eP P 20 49 03.2 +0.8
LON pmax pmax
comp=Z,3.0nm,0.7s
LON Longmire 35.43 76 eP P 20 49 03.2 +0.8
comp=Z,3.3nm,0.7s
H11S1 WAKE ISLAND Hy 35.64 208 T T 21 26 49.5
baz=17,slow=76,SNR=969
H11S2 WAKE ISLAND Hy 35.66 208 T T 21 26 50.5
baz=17,slow=76,SNR=590
H11S3 WAKE ISLAND Hy 35.66 208 T T 21 26 44.2
baz=17,slow=76,SNR=526
I03D Drain, OR 36.03 81 ⇓P P 20 49 09.1 +1.7
baz=36
G05D Wamic, OR 36.47 78 ⇓P P 20 49 12.5 +1.3
baz=36
I04A Tendick Farm, 36.55 81 ⇓P P 20 49 13.5 +1.5
baz=36
I05D Terrebonne, OR 36.92 79 ⇑P P 20 49 16.2 +1.0
baz=37
J04D Umpqua Nationa 37.04 81 ⇑P P 20 49 17.8 +1.5
baz=37
NEW Newport 37.50 71 P P 20 49 20.5 +0.6
NEW pmax pmax
comp=Z,6.0nm,0.5s
NEW Newport 37.50 71 P P 20 49 20.5 +0.6
comp=Z,5.5nm,0.5s,baz=298,slow=9.2,SNR=16
NEW Newport 37.50 71 eP P 20 49 19.5 -0.5
NEW Newport 37.50 71 ⇑P P 20 49 20.5 +0.6
baz=37,SNR=8.8
J05D Fort Rock, OR 37.55 81 ⇑P P 20 49 22.0 +1.5
baz=37
N02D Trinity Center 37.93 85 ⇑P P 20 49 25.5 +1.8
baz=38
M04C Macdoel 38.01 83 ⇑P P 20 49 26.0 +1.6
baz=38
MOD Modoc 38.89 82 eP P 20 49 32.9 +1.0
comp=Z,5.4nm,0.6s
BSMT Bassoo Peak 39.07 70 eP P 20 49 33.7 +0.3
comp=Z,10nm,0.9s
BLMT Blacktail Moun 39.24 70 eP P 20 49 35.3 +0.5
comp=Z,4.1nm,0.3s
WVOR Wild Horse Val 39.61 80 eP P 20 49 38.6 +0.8
WVOR pmax pmax
comp=Z,11nm,0.9s
WVOR Wild Horse Val 39.61 80 eP P 20 49 38.6 +0.8
comp=Z,11nm,0.9s
MSO Missoula 40.08 71 ⇑P P 20 49 42.1 +0.5
baz=40
KSRS Korea Array 40.98 272 P P 20 49 50.1 +1.1
KSRS pmax pmax
comp=Z,3.0nm,0.7s
KSRS MLR MLR
comp=Z,24nm,19.9s
KSRS Korea Array 40.98 272 P P 20 49 50.0 +1.1
comp=Z,2.8nm,0.7s,baz=53,slow=7.7,SNR=9.8
KSRS LR LR 21 06 44.6
comp=Z,24nm,19.9s,baz=122,slow=36
KSAR Wonju Array Be 41.01 272 P P 20 49 50.1 +0.8
KSAR Wonju Array Be 41.01 272 P P 20 49 50.0 +0.8
HLID Hailey 41.55 76 eP P 20 49 54.3 +0.5
comp=Z,6.4nm,1.1s
HLID Hailey 41.55 76 ⇑P P 20 49 54.6 +0.8
baz=41,SNR=7.8
MCMT McKenzie Canyo 41.79 73 eP P 20 49 55.9 +0.1
comp=Z,2.6nm,0.4s
EGMT Eagleton 41.91 68 ⇓P P 20 49 56.9 +0.3
baz=42
A19A Klindworth Far 42.02 66 ⇑P P 20 49 57.6 +0.1
baz=42
BOZ Bozeman (W) 42.07 72 eP P 20 49 57.9 -0.1
BOZ pmax pmax
comp=Z,3.0nm,0.6s
BOZ Bozeman (W) 42.07 72 eP P 20 49 57.9 -0.1
comp=Z,3.3nm,0.6s
B19A Brinkman Farms 42.15 67 ⇑P P 20 49 58.7 +0.2
baz=42,SNR=6.7
NVAR Mina Array Bea 42.17 85 P P 20 50 00.0 +1.0
comp=Z,3.7nm,0.7s,baz=293,slow=7.9,SNR=27
NVAR PcP PcP 20 51 52.9 +0.8
comp=Z,0.5nm,0.5s,baz=281,slow=2.8,SNR=4.1
C19A Slack Wire Ran 42.46 68 ⇑P P 20 50 01.6 +0.5
baz=42,SNR=14
A20A Cobblestone Ra 42.51 66 ⇑P P 20 50 01.2 -0.3
baz=42,SNR=6.0
ELK Elko 42.67 80 P P 20 50 03.9 +0.8
comp=Z,4.2nm,0.7s,baz=354,slow=4.3,SNR=24
B20A Solberg Farm, 42.69 66 ⇑P P 20 50 02.9 0.0
baz=43
D19A Cripps Ranch, 42.86 68 P P 20 50 04.5 +0.2
baz=43
A21A Bergtoll Ranch 43.02 65 ⇓P P 20 50 05.8 +0.3
baz=43
TPH Tonopah 43.06 84 eP P 20 50 07.1 +0.9
TPH pmax pmax
comp=Z,3.0nm,0.7s
TPH Tonopah 43.06 84 eP P 20 50 07.1 +0.9
comp=Z,2.6nm,0.7s
C20A Veseth Ranch, 43.08 67 ⇓P P 20 50 06.4 +0.4
baz=43
E19A Rath Farm, Rou 43.30 69 ⇓P P 20 50 08.6 +0.7
baz=43
VES Vestal, Richgr 43.31 88 ⇓P P 20 50 08.5 +0.5
baz=43
D20A Manuel Ranch, 43.33 68 ⇓P P 20 50 09.0 +0.9
baz=43
H17A Grant Village 43.38 73 eP P 20 50 10.3 +1.5
comp=Z,6.0nm,0.8s
H17A Grant Village 43.38 73 ⇓P P 20 50 10.3 +1.5
baz=43,SNR=6.9

C21A Desert Coulee 43.53 66 ⇑P P 20 50 10.1 +0.4
baz=43
F19A Roth Farm, Mol 43.53 70 ⇓P P 20 50 10.2 +0.4
baz=43
A22A Carney Farms, 43.59 64 ⇓P P 20 50 10.4 +0.3
baz=44
E20A Meyer Farm, Mu 43.65 69 ⇑P P 20 50 10.9 +0.2
baz=44
RLMT Red Lodge 43.75 71 eP P 20 50 11.9 +0.2
comp=Z,15nm,1.0s
H18A Shoshone NF, C 43.76 72 ⇑P P 20 50 12.1 +0.3
baz=44
ISA Isabella 43.81 88 ⇑P P 20 50 12.2 +0.2
baz=44
SBC Santa Barbara 43.83 90 ⇓P P 20 50 14.4 +2.2
baz=44
R11A Troy Canyon, C 43.90 83 ⇑P P 20 50 13.5 +0.6
baz=44,SNR=9.8
D21A La Casta Ranch 44.00 67 ⇑P P 20 50 14.0 +0.6
baz=44
F20A Billings 44.03 69 ⇑P P 20 50 14.1 +0.4
baz=44
H19A Powell 44.17 71 ⇓P P 20 50 15.8 +0.9
baz=44
C22A Vida 44.27 66 ⇑P P 20 50 16.3 +0.7
baz=44
FURC Furnace Creek, 44.29 86 ⇑P P 20 50 16.8 +1.0
baz=44,SNR=5.6
G20A Bridger 44.31 70 ⇑P P 20 50 16.2 +0.2
baz=44,SNR=6.9
OSI Osito Adit 44.33 89 ⇓P P 20 50 17.8 +1.5
baz=44
B23A Brockton 44.38 65 ⇑P P 20 50 16.8 +0.3
baz=44
HWUT Hardware Ranch 44.40 76 eP P 20 50 17.0 +0.1
comp=Z,4.0nm,1.1s
LRMC Laurel Mountai 44.42 88 ⇑P P 20 50 17.6 +0.6
baz=44
D22A Cohagen 44.42 67 ⇑P P 20 50 17.3 +0.5
baz=44,SNR=5.7
DUG Dugway 44.48 79 ⇓P P 20 50 18.0 +0.6
baz=44,SNR=7.5
I19A Meeteetse 44.52 72 ⇓P P 20 50 17.9 0.0
baz=44
F21A Absaloka Mine, 44.61 69 ⇓P P 20 50 18.7 +0.3
baz=44
C23A Lambert 44.63 65 ⇑P P 20 50 18.9 +0.5
baz=44
A24A Westby 44.69 64 ⇑P P 20 50 19.6 +0.7
baz=45
G21A Lodge Grass 44.90 70 ⇑P P 20 50 20.8 +0.1
baz=45
BW06 Boulder Array 44.92 74 eP P 20 50 21.1 0.0
comp=Z,3.6nm,0.4s
PDAR Pinedale Array 44.92 74 P P 20 50 21.2 +0.2
comp=Z,7.5nm,0.7s,baz=323,slow=3.1,SNR=73
J19A Crowheart 44.93 73 ⇓P P 20 50 21.4 +0.3
baz=45
E22A Miles City 44.95 67 ⇑P P 20 50 21.0 0.0
baz=45,SNR=5.7
GSC Goldstone 45.08 87 eP P 20 50 22.5 +0.3
GSC pmax pmax
comp=Z,13nm,0.9s
GSC Goldstone 45.08 87 eP P 20 50 22.5 +0.3
comp=Z,13nm,0.9s
GSC Goldstone 45.08 87 ⇓P P 20 50 22.8 +0.5
baz=45,SNR=8.4
I20A Worland 45.09 72 ⇑P P 20 50 22.3 +0.1
baz=45
F22A Rosebud 45.14 68 ⇓P P 20 50 23.0 +0.4
baz=45
BFSC Mount Baldy Ra 45.24 89 ⇓P P 20 50 24.4 +0.8
baz=45
H21A Big Horn, Sher 45.33 70 ⇑P P 20 50 24.3 +0.1
baz=45
G22A Birney 45.43 69 ⇓P P 20 50 24.9 -0.1
baz=45
J20A Shoshoni 45.46 72 ⇓P P 20 50 25.6 +0.4
baz=45
D24A Glendive 45.50 66 ⇑P P 20 50 26.5 +1.1
baz=45
I21A Big Trails, Te 45.66 71 ⇑P P 20 50 26.8 0.0
baz=46
F23A Volborg 45.66 68 ⇓P P 20 50 26.6 -0.1
baz=46,SNR=8.1
HEC Hector,Ludlow 45.68 87 ⇑P P 20 50 27.6 +0.6
baz=46
H22A Clearmont 45.76 70 ⇓P P 20 50 28.1 +0.6
baz=46
E24A Baker 45.82 66 ⇑P P 20 50 28.4 +0.5
baz=46
G23A Biddle 45.97 69 ⇑P P 20 50 29.0 -0.2
baz=46
I22A 9 Mile Ranch, 46.09 71 ⇑P P 20 50 30.9 +0.8
baz=46
GMRC Granite Mounta 46.13 87 ⇑P P 20 50 31.3 +0.7
baz=46
F24A Ekalaka 46.15 67 ⇑P P 20 50 30.9 +0.4
baz=46
C26A Wahner Farm, P 46.36 64 ⇑P P 20 50 32.6 +0.6
baz=46
J22A Midwest 46.37 71 ⇓P P 20 50 32.0 -0.4
baz=46,SNR=6.5
K21A Alcova 46.37 73 ⇑P P 20 50 33.0 +0.6
baz=46
BELC Belle Mtn. Jos 46.43 88 ⇑P P 20 50 33.0 0.0
baz=46
G24A Alzada 46.46 68 ⇓P P 20 50 33.0 0.0
baz=46
SRU San Rafael 46.54 79 eP P 20 50 34.1 +0.3
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael 46.54 79 eP P 20 50 34.1 +0.3
comp=Z,8.0nm,0.9s
F25A Bowman 46.66 67 ⇑P P 20 50 34.8 +0.2
baz=47
H24A Dirks Ranch, A 46.72 69 ⇑P P 20 50 34.7 -0.3
baz=47
K22A Casper 46.80 72 ⇑P P 20 50 35.8 +0.1
baz=47
IRM Iron Mountain 46.85 87 ⇑P P 20 50 36.7 +0.5
baz=47
E26A Carlson Angus 46.92 66 ⇑P P 20 50 36.8 +0.3
baz=47
BC3 Big Chuckawall 47.00 88 ⇑P P 20 50 37.4 0.0
baz=47
U15A North Rim 47.15 83 ⇑P P 20 50 39.7 +1.0
baz=47,SNR=15
I24A Kuemmerle Ranc 47.19 70 ⇓P P 20 50 38.7 0.0
baz=47
K23A Bowen Ranch, D 47.26 71 ⇑P P 20 50 39.6 +0.2
baz=47
O20A White River Ci 47.29 76 eP P 20 50 39.8 +0.1
comp=Z,12nm,0.9s
O20A White River Ci 47.29 76 ⇓P P 20 50 39.6 0.0
baz=47,SNR=6.5
ULN Ulaanbaatar 47.32 297 ⇓iP P 20 50 39.4 -0.3
ULN pmax pmax
comp=Z,2.0nm,1.1s
H25A Fruitdale 47.34 68 ⇓P P 20 50 40.3 +0.5
baz=47
RSSD Black Hills 47.38 69 eP P 20 50 39.5 -0.8
RSSD pmax pmax
comp=Z,3.0nm,0.6s
RSSD Black Hills 47.38 69 eP P 20 50 39.5 -0.8
comp=Z,3.2nm,0.6s
PDMCI Parker Dam,Lak 47.39 86 ⇓P P 20 50 40.6 +0.4
baz=47
J24A Dixon Ranch, L 47.49 70 ⇓P P 20 50 41.0 -0.1
baz=47
M22A Cedar Creek Ra 47.50 74 ⇓P P 20 50 41.3 0.0
baz=47
F27A Lemmon 47.52 66 ⇓P P 20 50 41.2 0.0
baz=47
G26A Maurine 47.52 67 ⇑P P 20 50 41.2 -0.1
baz=47,SNR=6.5
L23A Garrett 47.60 72 ⇓P P 20 50 42.1 0.0
baz=48,SNR=7.0
I25A Rochford 47.62 69 ⇑P P 20 50 41.5 -0.6
baz=48
SONM Songino Array 47.70 297 P P 20 50 42.3 -0.3
comp=Z,0.6nm,0.6s,baz=58,slow=8.4,SNR=8.8
SONM PcP PcP 20 52 10.8 -0.1
comp=Z,1.0nm,0.6s,baz=85,slow=2.3,SNR=7.6
SONM ScP ScP 20 55 57.9 -0.9
comp=Z,0.9nm,0.8s,baz=43,slow=3.0,SNR=8.4
G27A Dupree 47.85 66 ⇑P P 20 50 43.5 -0.3
baz=48

J25A Sunshine Ranch 47.95 70 ⇑P P 20 50 44.2 -0.4
baz=48
N22A Wattenberg Ran 47.95 74 ⇓P P 20 50 44.9 +0.1
baz=48
PV04 Paradox Valley 47.98 78 eP P 20 50 45.0 0.0
N23A Red Feather La 48.20 74 ⇑P P 20 50 47.1 +0.3
baz=48
O22A Kremmling 48.30 75 ⇑P P 20 50 47.8 +0.3
baz=48
WUAZ Wupatki 48.30 83 ⇑P P 20 50 48.4 +0.9
baz=48,SNR=7.9
M24A Cheyenne 48.52 72 ⇑P P 20 50 49.5 +0.4
baz=48
I27A Quinn 48.56 68 ⇑P P 20 50 50.0 +0.7
baz=48
O23A Lake Granby, G 48.64 74 ⇓P P 20 50 50.6 +0.4
baz=48,SNR=5.0
Z14A Wintersburg 48.75 86 ⇓P P 20 50 51.9 +1.1
baz=49
H28A Mission Ridge 48.79 67 ⇓P P 20 50 51.2 +0.2
baz=49,SNR=8.2
MVCO Mesa Verde 48.98 79 ⇑P P 20 50 53.3 +0.6
baz=49
X16A Lo Mia Camp, P 48.99 84 ⇓P P 20 50 53.6 +0.8
baz=49
M25A Palm-Egli Farm 48.99 72 ⇑P P 20 50 53.1 +0.4
baz=49
ISCO Idaho Springs 49.08 75 ⇓P P 20 50 54.3 +0.7
baz=49
J27A Elkhorn Farm, 49.08 69 ⇓P P 20 50 53.5 +0.2
baz=49
I28A Midland 49.11 68 ⇑P P 20 50 53.8 +0.4
baz=49,SNR=6.9
J28A Allard Ranch, 49.42 68 ⇓P P 20 50 56.3 +0.4
baz=49
W18A Petrified Fore 49.58 82 ⇑P P 20 50 57.9 +0.7
baz=49
214A Organ Pipe Nat 49.79 87 ⇓P P 20 50 59.5 +0.8
baz=50
X18A Snowflake 49.83 83 ⇑P P 20 51 00.1 +0.9
baz=50
M27A Reverse DX Ran 49.92 71 ⇓P P 20 50 59.9 +0.3
baz=50
R23A Moffat 49.97 76 ⇑P P 20 51 00.6 +0.2
baz=50
P25A Willow Gulch B 50.13 74 ⇓P P 20 51 02.6 +1.3
baz=50
SPITS Spitsbergen Ar 50.13 357 P P 20 51 00.7 0.0
comp=Z,2.2nm,0.7s,baz=46,slow=4.8,SNR=11
K29A Lazy Trails An 50.36 68 ⇓P P 20 51 03.2 +0.3
baz=50
R24A Sanders Place, 50.38 76 ⇓P P 20 51 04.1 +0.8
baz=50
Q25A Bedland, Calha 50.46 75 ⇓P P 20 51 04.3 +0.4
baz=50
J30A Dallas 50.49 67 ⇑P P 20 51 04.5 +0.6
baz=50
OGNE Ogallala 50.49 71 ⇑P P 20 51 03.6 -0.4
baz=50
P26A Davis Ranch, A 50.59 73 ⇓P P 20 51 05.6 +0.8
baz=50
M28A Bar X Bar Ranc 50.60 70 ⇓P P 20 51 04.8 0.0
baz=50
S24A Houchin Ranch, 50.70 77 ⇑P P 20 51 06.7 +0.8
baz=50
TUC Tucson 50.80 86 eP P 20 51 06.7 +0.2
TUC pmax pmax
comp=Z,4.0nm,0.8s
TUC Tucson 50.80 86 eP P 20 51 06.7 +0.2
comp=Z,4.0nm,0.8s
R25A Fountain Ranch 50.93 75 ⇑P P 20 51 08.0 +0.6
baz=51
U23A El Rito 50.96 78 ⇑P P 20 51 08.5 +0.8
baz=51,SNR=10
T24B San Luis 50.97 77 ⇑P P 20 51 08.8 +0.8
baz=51
S25A Robets Cordova 51.16 76 ⇑P P 20 51 09.6 +0.4
baz=51
O28A Krutsinger Ran 51.16 72 ⇑P P 20 51 09.4 +0.4
baz=51
V23A Ortiz Mt. (NFS 51.34 79 ⇓P P 20 51 11.6 +0.9
baz=51
T25A Trinidad 51.51 76 ⇓P P 20 51 12.4 +0.5
baz=51
P28A Saint Francis 51.53 72 ⇑P P 20 51 12.4 +0.6
baz=51
L31A Butterfield Fa 51.58 68 ⇓P P 20 51 12.8 +0.7
baz=52
R27A Eads 51.73 74 ⇓P P 20 51 14.0 +0.6
baz=52
S26A Kim 51.76 75 ⇑P P 20 51 13.7 +0.1
baz=52
ECSD EROS Data Cent 51.87 65 ⇑P P 20 51 14.1 -0.1
baz=52
V24A Rampart Ranch, 51.91 78 ⇓P P 20 51 15.9 +1.0
baz=52,SNR=6.1
T26A Comanche Natio 51.98 76 ⇓P P 20 51 16.0 +0.7
baz=52
U25A Circle Dot Ran 51.99 77 ⇓P P 20 51 15.9 +0.5
baz=52,SNR=5.6
P29A Atwood 52.00 72 ⇑P P 20 51 16.0 +0.8
baz=52
X23A Hourglass Bar 52.11 80 ⇓P P 20 51 17.4 +1.0
baz=52
W24A Lazy 6 Ranch, 52.17 79 ⇑P P 20 51 17.6 +0.8
baz=52
V25A Rancho No Teng 52.24 78 ⇓P P 20 51 17.8 +0.5
baz=52,SNR=5.5
R28A Tribune 52.29 74 ⇓P P 20 51 17.9 +0.5
baz=52
U26A Atchley Ranch, 52.40 77 ⇓P P 20 51 18.9 +0.4
baz=52
P30A Selden 52.44 71 ⇓P P 20 51 19.0 +0.5
baz=52
BGNE Belgrade 52.47 68 ⇑P P 20 51 18.6 -0.1
baz=52
121A Cookes Peak, D 52.51 83 ⇑P P 20 51 20.2 +0.9
baz=52
Y23A Lovelace Mesa, 52.63 81 ⇑P P 20 51 21.0 +0.9
baz=52,SNR=8.2
R29A Marienthal 52.63 73 ⇓P P 20 51 20.5 +0.5
baz=52
S28A Manter 52.73 74 ⇑P P 20 51 21.6 +0.9
baz=53
W25A X Bar L Ranch, 52.74 78 ⇑P P 20 51 21.3 +0.4
baz=53,SNR=5.7
V26A Tequesquite Ra 52.77 77 ⇓P P 20 51 21.5 +0.4
baz=53,SNR=5.3
T28A Walsh 52.91 75 ⇑P P 20 51 22.8 +0.7
baz=53
U27A Thompson Grove 52.94 76 ⇓P P 20 51 22.8 +0.5
baz=53
P31A Stockton 52.96 71 ⇑P P 20 51 22.4 +0.1
baz=53
Y24A Capitan 53.01 80 ⇓P P 20 51 23.6 +0.6
baz=53,SNR=13
X25A Clemmons Ranch 53.08 79 ⇑P P 20 51 24.5 +1.0
baz=53
R30A Dighton 53.24 73 ⇓P P 20 51 24.8 +0.4
baz=53
W26A Owens Ranch, T 53.25 78 ⇑P P 20 51 25.5 +0.9
baz=53
U28A Mallet 53.33 76 ⇓P P 20 51 25.3 +0.2
baz=53
Z24A Sheeppen Canyo 53.46 81 ⇓P P 20 51 27.0 +0.7
baz=53
X26A CR and CF Fran 53.59 78 ⇑P P 20 51 27.4 +0.3
baz=53
R31A Burdett 53.68 72 ⇑P P 20 51 27.6 -0.1
baz=54
Q32A Meitler Ranch, 53.79 71 ⇓P P 20 51 28.5 +0.1
baz=54
Z25A Roswell 53.89 80 ⇑P P 20 51 30.3 +0.9
baz=54
Y26A Elida 54.00 79 ⇑P P 20 51 30.7 +0.6
baz=54
Q33A Connelly Farm, 54.21 70 ⇑P P 20 51 31.6 +0.1
baz=54
Z26A Caprock 54.35 80 ⇑P P 20 51 33.0 +0.3
baz=54
Y27A Causey 54.43 79 ⇓P P 20 51 34.0 +0.7
baz=54
MSTX Muleshoe 54.61 78 ⇓P P 20 51 34.5 -0.1
baz=54
ZALV Zalesovo Beam 54.77 314 PcP PcP 20 52 36.5 -0.4
comp=Z,1.2nm,0.7s,baz=5.0,slow=5.1,SNR=6.4
ZALV LR LR 21 17 03.0
comp=Z,22nm,18.1s,baz=72,slow=38

KSU1 Kansas State U 54.86 70 ⇓P P 20 51 36.3 +0.2
baz=55
XAN Xi'an 54.92 282 P P 20 51 36.8 +0.1
XAN pmax pmax
comp=Z,3.0nm,0.8s
Y29A Porterfield Fa 55.36 78 ⇑P P 20 51 40.3 +0.4
baz=55
128A Castleberry Fa 55.71 79 ⇑P P 20 51 42.6 +0.2
baz=56
Y30A Stafford Cattl 55.82 77 ⇓P P 20 51 43.7 +0.6
baz=56
228A UT Block 9, Go 55.99 80 ⇑P P 20 51 45.2 +0.7
baz=56
Z30A Sanderson Ranc 56.08 78 ⇓P P 20 51 45.1 0.0
baz=56
X32A Elmer 56.42 76 ⇑P P 20 51 47.6 +0.2
baz=56
V34A Guthrie 56.52 73 ⇑P P 20 51 48.5 +0.4
baz=56
Y32A R-V Farms, Ver 56.61 76 ⇓P P 20 51 48.9 +0.1
baz=56
Z31A Sharp Cattle R 56.66 77 ⇓P P 20 51 49.1 0.0
baz=56
131A Roby 56.95 78 ⇓P P 20 51 51.4 +0.2
baz=57
230A Sterling City 57.05 79 ⇑P P 20 51 51.9 -0.1
baz=57,SNR=9.2
Z32A Haskell 57.07 77 ⇑P P 20 51 52.3 +0.3
baz=57
X34A Smith Ranch, M 57.17 74 ⇓P P 20 51 52.3 -0.4
baz=57
TXAR Lajitas Array 57.27 83 P P 20 51 53.5 -0.1
comp=Z,3.3nm,0.5s,baz=306,slow=5.7,SNR=58
330A Mertzon 57.35 79 ⇑P P 20 51 54.2 +0.2
baz=57
ABTX Abilene, Hawle 57.44 77 ⇑P P 20 51 55.0 +0.3
baz=57
429A Davenport Ranc 57.46 81 ⇑P P 20 51 54.5 -0.4
baz=57
Z33A Whitaker Ranch 57.51 76 ⇑P P 20 51 55.0 -0.1
baz=57
529A Stev Forest Ra 57.61 81 ⇑P P 20 51 55.9 0.0
baz=57
Y34A Reagan Ranch, 57.66 75 ⇓P P 20 51 56.7 +0.6
baz=58
430A Baggett Ranch, 57.75 80 ⇓P P 20 51 56.7 -0.1
baz=58,SNR=5.9
331A San Angelo 57.88 79 ⇑P P 20 51 57.6 -0.2
baz=58
133A Hamilton Ranch 57.89 77 ⇑P P 20 51 58.1 +0.3
baz=58
232A Coleman 57.95 78 ⇑P P 20 51 57.9 -0.4
baz=58
530A J-C Ranch, Com 58.13 81 ⇓P P 20 51 59.6 +0.1
baz=58,SNR=11
431A Sonora 58.20 80 ⇑P P 20 51 59.2 -0.9
baz=58,SNR=5.7
332A Millersview 58.24 78 ⇓P P 20 51 60.0 -0.3
baz=58
233A Rising Star 58.31 77 ⇓P P 20 52 01.5 +0.7
baz=58
134A White-Moore Ra 58.42 76 ⇓P P 20 52 01.9 +0.5
baz=58
432A Menard 58.57 79 ⇑P P 20 52 02.1 -0.4
baz=58
531A Rocksprings 58.61 80 ⇑P P 20 52 02.5 -0.3
baz=58
333A Richland Sprin 58.74 78 ⇓P P 20 52 03.8 +0.1
baz=59
234A Clairette 58.78 77 ⇑P P 20 52 04.5 +0.5
baz=59
532A Rocksprings 59.02 80 ⇓P P 20 52 05.0 -0.7
baz=59
631A Perdido Creek 59.12 81 ⇑P P 20 52 05.9 -0.4
baz=59
334A Lometa 59.19 77 ⇑P P 20 52 07.0 +0.2
baz=59
632A Uvalde 59.54 80 ⇑P P 20 52 09.0 -0.2
baz=59
434A Burnet 59.54 78 ⇑P P 20 52 09.0 -0.3
baz=59
KURK Kurchatov 59.76 315 eP P 20 52 09.8 -0.6
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 59.76 315 eP P 20 52 09.8 -0.6
comp=Z,1.6nm,0.6s
732A Laxson Ranch, 59.98 81 ⇓P P 20 52 12.5 +0.3
baz=60
832A Faith Ranch, C 60.29 81 ⇓P P 20 52 14.1 -0.3
baz=60,SNR=6.8
MK31 Makanchi Array 60.88 309 eP P 20 52 16.7 -1.5
MK31 Makanchi Array 60.88 309 eP P 20 52 16.7 -1.5
MKAR Makanchi Array 60.88 309 P P 20 52 16.9 -1.3
comp=Z,0.6nm,0.5s,baz=46,slow=5.8,SNR=27
KMI Kunming 65.01 279 P P 20 52 44.8 -1.3
KMI pmax pmax
comp=Z,14nm,0.9s
AAK Ala-Archa 67.68 311 eP P 20 53 02.5 -0.4
AAK pmax pmax
comp=Z,2.0nm,0.5s
AAK Ala-Archa 67.68 311 eP P 20 53 02.5 -0.4
comp=Z,2.4nm,0.5s
ABKAR Akbulak array 68.48 324 eP P 20 53 07.5 0.0
comp=Z,1.0nm,0.6s
KKAR Karatay Array 69.14 314 eP P 20 53 11.1 -0.7
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 69.14 314 eP P 20 53 11.1 -0.7
comp=Z,2.7nm,0.5s
CM31 Chiang Mai Arr 72.31 277 eP P 20 53 32.1 +0.7
comp=Z,1.4nm,0.5s
CMAR Chiang Mai Arr 72.31 277 P P 20 53 31.9 +0.5
comp=Z,2.4nm,0.8s,baz=25,slow=7.4,SNR=26
TAPN Taplejung 72.35 292 eP P 20 53 31.4 -0.5
comp=Z,4.9nm,0.5s
ODAN Odare 72.90 292 eP P 20 53 34.3 -0.8
GUN Gumba 72.97 293 eP P 20 53 35.4 -0.2
comp=Z,12nm,0.4s
JIRN Jiri 72.99 293 eP P 20 53 35.6 -0.1
comp=Z,11nm,0.5s
RAMN Ramite 73.29 292 eP P 20 53 37.1 -0.3
comp=Z,13nm,0.6s
KKN Kakani 73.41 294 eP P 20 53 38.2 +0.2
PKI Pulchoki 73.50 294 eP P 20 53 38.1 -0.6
PKIN Phulchoki 73.50 294 eP P 20 53 38.0 -0.7
GKN Gorkha 73.61 294 eP P 20 53 38.6 -0.5
comp=Z,3.9nm,0.4s
DMN Daman 73.64 294 eP P 20 53 39.4 -0.1
comp=Z,2.2nm,0.3s
DANN Dangsing 73.84 295 eP P 20 53 40.5 -0.1
KOLN Koldanda 74.38 295 eP P 20 53 42.9 -0.8
comp=Z,5.4nm,0.8s
KBL Kabul 76.68 309 eP P 20 53 55.3 -1.5
KBL pmax pmax
comp=Z,6.0nm,1.0s
KBL Kabul 76.68 309 eP P 20 53 55.3 -1.5
comp=Z,5.8nm,1.0s
GEYT Alibeck 78.74 319 LR LR 21 32 50.2
comp=Z,25nm,18.3s,baz=0.0,slow=39
WRA Warramunga Arr 83.20 226 P P 20 54 31.0 -0.7
WRA Warramunga Arr 83.20 226 P P 20 54 31.0 -0.7
comp=Z,0.3nm,0.5s,baz=34,slow=6.0,SNR=4.1
BRTR Keskin Array B 85.19 337 P P 20 54 40.4 -1.4
comp=Z,0.9nm,0.8s,baz=59,slow=3.5,SNR=4.5
ASAR Alice Springs 86.66 224 P P 20 54 49.0 +0.1
comp=Z,0.1nm,0.3s,baz=28,slow=5.7,SNR=4.9
STKA Stephens Creek 90.95 215 P P 20 55 08.4 -0.5
comp=Z,1.5nm,0.7s,baz=253,slow=3.5,SNR=3.7
TORD Torodi Ar. Bea 115.40 2 PKP PKPdf 21 00 45.9 -1.1
comp=Z,0.2nm,0.5s,baz=351,slow=1.9,SNR=5.9
H03N2 Juan Fernandez 119.94 107 T T 23 12 21.6
baz=315,slow=75,SNR=255
H03N1 Juan Fernandez 119.96 107 T T 23 12 19.6
baz=315,slow=75,SNR=286
H03N3 Juan Fernandez 119.96 107 T T 23 12 19.9
baz=315,slow=75,SNR=434
LBTB Lobatse 148.40 319 PKPbc PKPbc 21 01 51.1 -0.5
comp=Z,5.2nm,0.8s,baz=329,slow=2.4,SNR=8.7
BOSA Boshof 151.71 316 PKPbc PKPbc 21 01 59.5 -0.1
comp=Z,3.2nm,0.5s,baz=13,slow=2.2,SNR=13

*IDC **25** 21:35:14.2±7.2, 7.18S×129.02E, h106km±72km, mb3.5/4, mb1 3.6/6, mb1mx3.4/30, mbtmp3.9/6, ML4.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/17, Error ellipse: s-maj=79.6km s-min=25.1km az=52.0*

ISCJB 25 21:35:17.9±0.5, 7.49S±0.04×128.83E±0.07, h156km, mb3.6/4, Error ellipse: s-maj=10.0km s-min=5.6km az=0.3
ISC 25 21:35:18.8±0.7, 7.55S±0.06×128.77E±0.07, h156km, n17, σ2.58/21, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.70	242	P	Pn	21 36 42.0	+0.4
	20nm,0.3s,baz=212,slow=3.1,SNR=13						
BATI				S	Sn	21 37 43.7	-2.7
	30nm,0.3s,baz=80,slow=4.6,SNR=14						
MTN	Manton Dam	5.75	156	P	Pn	21 36 44.7	+2.4
	baz=5.9,SNR=29						
MTN				S	Sn	21 37 47.2	-0.6
	baz=5.9,SNR=8.4						
FAKI	Fak Fak	5.76	37	P	Pn	21 36 41.6	-0.8
	baz=5.9,SNR=8.8						
FAKI				S	Sn	21 37 44.2	-3.6
	baz=5.9,SNR=6.2						
KDU	Kakadu	6.28	145	P	Pn	21 36 51.3	+2.0
	baz=6.5,SNR=55						
KDU				S	Sn	21 37 59.5	-0.6
	baz=6.5,SNR=11						
SWI	Sorong	7.09	21	P	Pn	21 37 01.1	+0.9
	baz=7.2,SNR=3.2						
KNRA	Kununurra	8.08	180	P	Pn	21 37 13.9	+0.6
	baz=8.2,SNR=52						
KNRA				S	Sn	21 38 38.9	-4.6
	baz=8.2,SNR=12						
WRA	Warramunga Arr	13.45	157	P	Pn	21 38 22.4	-1.3
	0.5nm,0.3s,baz=338,slow=12,SNR=9.2						
WRA				S	Sn	21 40 44.3	-8.6
	2.8nm,0.3s,baz=326,slow=23,SNR=11						
WRKA	Warakurna	17.40	181	P	Pn	21 39 14.0	+1.7
	baz=18,SNR=37						
WRKA				S	S	21 42 18.8	-5.7
	baz=18,SNR=4.0						
CISI	Cisompet, Garu	20.77	269	P	Pn	21 40 01.2	+8.8
	baz=20,SNR=4.3						
MEEK	Meekatharra	21.30	206	P	P	21 39 54.7	+1.3
	baz=21,SNR=6.7						
MEEK				S	S	21 43 50.7	+10
	baz=21,SNR=4.3						
QLP	Quilpie	23.97	144	P	P	21 40 24.4	+5.5
	baz=24,SNR=4.2						
MORW	Morawa	24.54	208	P	P	21 40 27.4	+3.3
	baz=25,SNR=8.5						
BBOO	Buckleboo	26.03	166	P	P	21 40 40.3	+2.8
	baz=26,SNR=7.7						
STKA	Stephens Creek	27.00	155	P	P	21 40 49.0	+2.8
	0.7nm,0.5s,baz=320,slow=10,SNR=2.9						
SONM	Songino Array	58.58	343	P	P	21 44 59.3	0.0
	0.3nm,0.6s,baz=156,slow=6.4,SNR=4.1						
SONM				LR	LR	22 12 05.7	
	comp=Z,20nm,20.4s,baz=141,slow=38						
MKAR	Makanchi Array	68.02	328	P	P	21 46 00.9	-0.4
	0.7nm,0.5s,baz=114,slow=8.0,SNR=28						
MKAR				pP	PcP	21 46 19.7	-6.7
	0.3nm,0.5s,baz=118,slow=7.8,SNR=2.5						
ZALV	Zalesovo Beam	71.54	334	P	P	21 46 21.5	-1.1
	0.8nm,0.4s,baz=132,slow=5.4,SNR=6.6						

MOS 25 21:40:34.1±1.5, 46.35N×150.99E, h33km, mb4.1/2, Error ellipse: s-maj=43.4km s-min=20.8km az=148.8
JMA 25 21:40:38.9±0.4, 45.64N×150.71E, h30km, M4.8
SKHL 25 21:40:38.7±0.1, 44.95N×151.08E, h37km±4km, mb5.4/2
IDC 25 21:40:46.6±3.4, 45.53N×150.14E, h183km±48km, mb3.0/5, mb1 3.3/6, mb1mx3.0/29, mbtmp3.5/6, Error ellipse: s-maj=78.3km s-min=24.5km az=2.0
ISC 25 21:40:37.3±4.2, 45.3N±0.1×151.0E±0.2, h61km, n34, σ2.53/33, mb3.5/6, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.21	269	d iPN	Pn	21 41 13.7	+2.2
KUR				i		21 41 40.0	
KUR				pmax	pmax		
	comp=E,47nm,0.1s						
KUR				pmax	pmax		
	comp=N,142nm,0.3s						
KUR				pmax	pmax		
	comp=Z,547nm,0.3s						
KUR				pmax	pmax		
	comp=Z,52μm,0.1s						
KUR	Kuril'sk	2.21	269	eP	Pn	21 41 13.7	+2.2
KUR				AMB	AMB	21 41 14.1	
	comp=Z,140nm,0.3s						
KUR				AMB	AMB	21 41 14.1	
	comp=Z,550nm,0.3s						
KUR				eS	Sn	21 41 39.9	+2.3
KUR				A	A	21 41 40.6	
	comp=Z,900nm,0.8s						
KUR				A	A	21 41 40.6	
	comp=Z,110nm,0.8s						
SHO	Shikotan	3.30	246	eP	Pn	21 41 28.2	+1.8
SHO				eS	Sn	21 42 03.6	-0.9
SHO				A	A	21 42 08.5	
	comp=Z,339nm,0.5s						
YUK	Yuzh-Kuril'sk	3.87	253	c iPN	Pn	21 41 37.3	+3.0
YUK				pmax	pmax		
	comp=N,54nm,0.2s						
YUK				pmax	pmax		
	comp=E,32nm,0.2s						
YUK				pmax	pmax		
	comp=Z,259nm,0.2s						
YUK	Yuzh-Kuril'sk	3.87	253	eP	Pn	21 41 37.3	+3.0
YUK				AMB	AMB	21 41 37.6	
	comp=Z,55nm,0.2s						
YUK				AMB	AMB	21 41 37.6	
	comp=Z,33nm,0.2s						
YUK				AMB	AMB	21 41 37.6	
	comp=Z,260nm,0.2s						
YUK				eS	Sn	21 42 21.3	+2.8
YUK				A	A	21 42 24.4	
	comp=Z,394nm,0.5s						
YUK				A	A	21 42 24.4	
	comp=Z,511nm,0.5s						
NEM2	Nemuro 2	4.24	244	P	Pn	21 41 40.4	+1.2
NEM2				eS	Sn	21 42 25.3	-2.1
JRA	Rausu	4.41	254	P	Pn	21 41 44.6	+3.0
JRA				eS	Sn	21 42 34.0	+2.4
JNK	Nakash	4.81	251	eS	Sn	21 42 42.1	+0.6
JAK	Akkeshi	5.08	245	P	Pn	21 41 51.9	+1.1
JAK				eS	Sn	21 42 46.7	-1.5
JTKR	Abashiri--Toko	5.23	258	P	Pn	21 41 55.6	+2.8
JAR	Ashorobuto	5.56	251	P	Pn	21 41 59.7	+2.4
JAR				eS	Sn	21 43 00.7	+0.9
JOB	Onbets	5.69	247	P	Pn	21 42 00.8	+1.7
YSS	Yuzh-Sakhalins	5.95	289	ePN	Pn	21 41 59.6	-3.1
YSS	Yuzh-Sakhalins	5.95	289	erx	rx	21 41 59.6	
JKA	Kamikawa-asahi	6.10	262	eP	Pn	21 42 07.4	+2.7
ASAJ	Asahikawa	6.10	262	P	Pn	21 42 07.3	+2.6
	comp=Z,0.7nm,0.3s,baz=326,slow=31,SNR=5.0						
ASAJ				S	Sn	21 43 12.4	-0.7
	comp=Z,0.6nm,0.3s,baz=38,slow=16,SNR=2.3						
JCH	Churui	6.13	247	P	Pn	21 42 06.1	+1.0
JCH				eS	Sn	21 43 11.6	-2.2
MYR	Moyori	6.34	244	eP	Pn	21 42 09.6	+1.6
MYR				eS	Sn	21 43 15.4	-3.6
JBT2	Biratori 2	6.71	251	P	Pn	21 42 14.4	+1.3
JNB	Noboribetsu	7.73	252	P	Pn	21 42 28.8	+1.8
JNB				eS	Sn	21 43 50.3	-2.8
JKB	Kayabe	8.00	248	P	Pn	21 42 31.1	+0.4
JKB				eS	Sn	21 43 54.1	-5.5
JANG	Nango	8.53	238	P	Pn	21 42 36.9	-1.1
JTM	Tenmabayashi	8.55	242	P	Pn	21 42 38.5	+0.2
JTM				eS	Sn	21 44 06.4	-6.9
OFUJ	Ofunato	9.30	231	P	Pn	21 42 48.2	-0.4
JRG	Rokugo	9.68	236	eS	Sn	21 44 36.1	-4.7
JIO	Ouri	9.93	230	eS	Sn	21 44 40.1	-6.8
MKAR	Makanchi Array	46.29	298	P	P	21 48 48.1	-8.5
	comp=Z,0.2nm,0.8s,baz=64,slow=9.8,SNR=2.6						
YKA	Yellowknife Ar	52.96	35	P	P	21 49 44.6	-2.4
	comp=Z,0.1nm,0.4s,baz=298,slow=6.9,SNR=3.5						
KK31	Karatay Array	55.39	299	⇑P	P	21 50 04.5	-0.5
	comp=Z,0.3nm,0.7s,baz=105,slow=15,SNR=4.0						
KK31				S	Px	21 50 24.1	
	comp=Z,0.5nm,0.3s,baz=99,slow=29,SNR=18						
NVAR	Mina Array Bea	64.42	61	P	P	21 51 05.8	-1.5
	comp=Z,0.5nm,0.7s,baz=306,slow=7.7,SNR=3.9						
FINES	FINESS Array B	64.70	334	P	P	21 51 02.0	-6.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	64.70	334	P	P	21 51 02.0	-6.3
	comp=Z,0.8nm,0.7s,baz=46,slow=6.0,SNR=4.8						
TXAR	Lajitas Array	79.50	59	P	P	21 52 35.5	-2.0
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	Lajitas Array	79.50	59	P	P	21 52 35.5	-2.0
	comp=Z,0.5nm,0.5s,baz=297,slow=4.1,SNR=6.3						

IDC 25 21:44:19.7±19.0, 37.14S×102.11W, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.8/31, mbtmp4.0/4, MS3.3/4, Ms1 3.3/4, ms1mx3.1/23, Error ellipse: s-maj=555.8km s-min=46.0km az=11.0, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	11.71	326	LR	LR	21 49 54.6	
	comp=Z,109nm,20.0s,baz=248,slow=29						
H03N2	Juan Fernandez	19.27	86	T	T	22 08 11.8	
	baz=244,slow=74,SNR=8.8						
H03N3	Juan Fernandez	19.27	86	T	T	22 08 12.8	
	baz=244,slow=74,SNR=9.3						
H03N1	Juan Fernandez	19.28	86	T	T	22 08 18.5	
	baz=244,slow=74,SNR=9.4						
PLCA	Paso Flores	24.74	108	LR	LR	21 56 50.3	
	comp=Z,48nm,18.7s,baz=237,slow=30						
LPAZ	La Paz	36.49	64	P	P	21 51 27.4	-0.2
	2.9nm,0.9s,baz=229,slow=8.4,SNR=6.7						
LPAZ				LR	LR	22 02 33.9	
	comp=Z,30nm,19.0s,baz=240,slow=30						
VNDA	Vanda	55.35	195	LR	LR	22 11 41.5	
	comp=Z,74nm,21.8s,baz=248,slow=30						
NVAR	Mina Array Bea	76.67	347	P	P	21 56 12.8	+0.4
	0.9nm,0.8s,baz=182,slow=7.1,SNR=5.5						
PDAR	Pinedale Array	79.82	354	P	P	21 56 29.5	-0.3
	1.2nm,0.7s,baz=159,slow=5.2,SNR=8.8						
YKA	Yellowknife Ar	99.80	354	P	Pdif	21 58 04.8	-0.1
	0.2nm,0.8s,baz=160,slow=3.9,SNR=4.3						
H01W1	Cape Leeuwin H	100.80	210	T	T	23 52 52.2	
	baz=151,slow=76,SNR=6.1						
H01W2	Cape Leeuwin H	100.80	210	T	T	23 52 52.2	
	baz=151,slow=76,SNR=7.2						
H01W3	Cape Leeuwin H	100.81	210	T	T	23 52 58.4	
	baz=151,slow=76,SNR=6.8						

JMA 25 22:04:04.6±0.4, 33.27N×137.89E, h379km±5km, M3.7
ISCJB 25 22:04:07.4±0.6, 33.42N±0.07×138.02E±0.09, h361km±6km, mb3.4/4, Error ellipse: s-maj=11.7km s-min=11.3km az=141.8
IDC 25 22:04:07.3±1.3, 33.28N×137.93E, h337km±16km, mb3.2/4, mb1 3.3/8, mb1mx2.9/38, mbtmp3.9/8, Error ellipse: s-maj=34.9km s-min=16.6km az=68.0
ISC 25 22:04:08.8±0.9, 33.46N±0.09×137.99E±0.09, h354km±8km, n32, σ1.12/43, mb3.5/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	Tokai 2	0.52	339	P	Pn	22 04 53.0	-0.2
TK04	Tokai 4	0.93	354	P	Pn	22 04 54.9	+0.4
JHMK	Hamakita	1.37	352	P	Pn	22 04 56.0	-0.4
HMMJ	Hamamatsu 2	1.41	351	P	Pn	22 04 56.4	-0.4
JHJ2	Mitsune	1.57	102	P	Pn	22 04 57.4	-0.4
SHZ3	Shizuoka 3	1.61	7	P	Pn	22 04 58.2	+0.2
JKN2	Miekihoku	1.62	299	P	Pn	22 04 56.4	-1.6
JNY	Yasuok	1.90	357	P	Pn	22 05 00.0	+0.2
JAO	Obara	1.90	342	P	Pn	22 04 59.5	-0.3
JOD2	Odawara 2	2.02	27	P	Pn	22 05 00.7	+0.1
JOD2				eS	S	22 05 44.2	+2.0
JYN	Shimob	2.09	13	P	Pn	22 05 01.7	+0.6
TATJ	Tateyama 2	2.22	45	P	Pn	22 05 01.8	-0.2
TATJ				eS	S	22 05 44.0	-0.8
BSO4	Boso 4	2.48	51	P	Pn	22 05 03.9	+0.1
BSO4				eS	S	22 05 49.6	+1.4
BSO3	Boso 3	2.48	57	P	Pn	22 05 03.2	-0.5
BSO3				eS	S	22 05 48.4	+0.4
JHU	Hanno	2.62	24	P	Pn	22 05 05.1	0.0
JHU				eS	S	22 05 50.4	0.0
BSO2	Boso 2	2.63	60	eS	S	22 05 50.6	+0.5
JRY	Ryogami san	2.66	16	P	Pn	22 05 06.0	+0.5
JRY				eS	S	22 05 52.3	+1.1
BSO1	Boso 1	2.75	64	P	Pn	22 05 04.6	-1.0
BSO1				eS	S	22 05 51.3	-0.2
MJAR	Matsushiro Arr	3.08	3	P	Pn	22 05 09.0	-0.1
	5.3nm,0.3s,baz=184,slow=10,SNR=92						
MJAR				S	S	22 05 56.5	-1.3
	baz=176,slow=18,SNR=2.6						
MAT	Matsushiro	3.08	3	P	Pn	22 05 09.1	0.0
MAT				S	S	22 05 57.0	-0.8
JAG	Ashikaga	3.19	22	P	Pn	22 05 09.3	-0.9
JYT	Yasato	3.31	33	P	Pn	22 05 10.4	-0.7
JYT				eS	S	22 05 58.4	-3.0
JHO	Hitachi	3.79	33	P	Pn	22 05 15.2	-0.7
JHO				eS	S	22 06 07.1	-2.9
JFK	Kawauchi	4.56	30	P	Pn	22 05 23.4	-0.4
JFK				eS	S	22 06 21.6	-2.8
JCJ	Chichijima	7.31	149	S	S	22 07 09.9	-11
	18nm,0.3s,baz=264,slow=23,SNR=11						
KSRS	Korea Array	9.12	299	P	Pn	22 06 15.8	-0.5
	0.6nm,0.3s,baz=110,slow=12,SNR=10						
ASAJ	Asahikawa	11.23	17	P	P	22 06 42.6	+1.1
	1.5nm,0.3s,baz=202,slow=15,SNR=4.8						
USRK	Ussuriysk Arra	11.70	338	P	Pn	22 06 47.1	+0.4
	0.2nm,0.3s,baz=140,slow=7.9,SNR=5.6						
SONM	Songino Array	27.71	311	P	P	22 09 26.9	+1.1
	1.2nm,0.7s,baz=120,slow=9.6,SNR=12						
MKAR	Makanchi Array	43.74	305	P	P	22 11 40.2	-0.1
	0.3nm,0.3s,baz=86,slow=9.7,SNR=21						
WRA	Warramunga Arr	53.22	184	P	P	22 12 50.6	-1.3
	1.2nm,0.4s,baz=0.0,slow=7.7,SNR=25						
FINES	FINESS Array B	70.65	332	P	P	22 14 47.2	+0.8
	2.0nm,1.0s,baz=58,slow=4.7,SNR=6.2						

CASC 25 22:13:47.3±1.5, 13.43N×90.78W, h15km±6km, MD3.5, ML3.5, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.81	23	eP	Pg	22 14 02.4	-0.9
PCG	Pacaya	0.98	10	⇑eP	Pb	22 14 05.7	-0.6
PCG				eS	Sb	22 14 17.9	-1.4
RTR	El Retiro	1.20	67	eP	Pn	22 14 08.8	-1.0
SBLS	San Blas	1.20	70	eP	Pn	22 14 08.5	-1.4
JAT	Jato	1.22	317	eP	Pn	22 14 08.8	-1.0
SNJE	San Jose	1.23	69	eP	Pn	22 14 08.9	-1.3
NBG	Las Nubes	1.23	20	eP	Pn	22 14 10.2	-0.1
NBG				eS	Sn	22 14 27.0	0.0
RBDL	Robledal	1.26	57	eP	Pn	22 14 09.7	-0.9
BOQS	Boqueron	1.49	78	eP	Pn	22 14 13.0	-0.9
BOQS				eS	Sb	22 14 33.7	-0.3
SNET	Serv Nac Est T	1.53	80	AML	AML	22 14 15.1	
	comp=Z,685nm,0.4s						
LFU	La Fuente	1.65	79	eP	Pn	22 14 16.0	+0.2
LFRS	El Faro	1.68	83	eP	Pn	22 14 16.0	-0.3
LFRS				eS	Sn	22 14 38.3	+0.5
LBRS	Las Brisas	1.72	79	eP	Pn	22 14 16.6	-0.2
SNVI	San Vicente	1.90	84	eS	Sn	22 14 44.1	+1.0
MRL	Marmol	1.94	33	eP	Pn	22 14 19.5	-0.5
MRL				⇑eP	Pb	22 14 20.5	-2.2
MRL				eS	Sb	22 14 47.6	+0.7
VSM	San Miguel	2.44	90	eP	Pn	22 14 26.5	-0.5
CNCH	Conchagua	2.87	93	eP	Pn	22 14 33.3	+0.5

KRNET 25 22:21:52.4±0.1, 39.40N×77.53E, h0km, mb3.5
NNC 25 22:21:57.2±2.4, 39.74N×76.86E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=19.9km s-min=14.2km az=154.0
ISC 25 22:21:53.4±3.0, 39.3N±0.2×77.20E±0.10, h25km, n13, σ2.17/13, 10C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.95	285	eP	Pb	22 22 45.0	-0.3
	baz=283						
BOOM	Boomskoye usch	3.34	344	eP	Pb	22 22 49.0	-3.0
	baz=339						
BOOM				eS	Sb	22 23 34.2	+2.0
	baz=339						
ARLS	Aral	3.38	320	⇓iP	Pb	22 22 47.7	-4.9
	baz=316						
ANVS	Anan'yevo	3.51	6	⇓iP	Pb	22 22 53.8	-1.1
	baz=2.0						
OHH	Osh	3.62	291	eP	Pb	22 22 54.0	-2.6
	baz=289						
OHH				eS	Sb	22 23 43.6	+3.5
	baz=289						
KBK	Karagaybulak	3.77	334	eP	Pn	22 22 46.0	-4.1
	baz=12						
KBK				eS	Sn	22 23 26.0	-7.8
	baz=12						
TKM2	Tokmak 2	3.83	342	⇑Pn	Pn	22 22 52.4	+1.5
	3.8nm,0.5s						
TKM2				⇑Lg	Lg	22 23 41.2	
	26nm,0.7s						
AAK	Ala-Archa	3.92	329	⇓Pn	Pn	22 22 51.8	-0.4
	1.5nm,0.9s						
AAK				⇑Pg	Pb	22 23 00.3	-1.6
	5.7nm,0.6s						
AAK				⇓Lg	Lg	22 23 45.3	
	85nm,0.9s						
KNDC	Almaty	3.93	357	⇑Pg	Pb	22 22 59.4	-2.6
KNDC				⇑Lg	Lg	22 23 49.6	
	91nm,0.8s						
PDGK	Podgornoye	4.38	22	⇑Pg	Pb	22 23 09.7	0.0
PDGK				⇑Lg	Lg	22 24 09.3	
KK31	Karatay Array	6.32	309	Pn	Pn	22 23 24.5	-0.5
	0.1nm,0.3s,baz=130,slow=12,SNR=8.4						
KK31				⇑Pg	Pb	22 23 41.4	-1.3
	2.0nm,0.8s,baz=129,slow=16,SNR=14						
KK31				⇓Lg	Lg	22 24 58.9	
	2.7nm,0.5s,baz=124,slow=28,SNR=5.0						
MK31	Makanchi Array	8.37	25	⇑Pg	Pb	22 24 23.5	+5.9
	0.8nm,0.8s,baz=209,slow=14,SNR=3.7						
MK31				⇓Lg	Lg	22 26 16.4	
	1.0nm,0.7s,baz=192,slow=13,SNR=4.9						
OTUK	Ortayu	9.62	340	⇑Lg	Lg	22 26 45.9	

TRN 25 22:43:24.9, 17.98N×62.20W, h73km, MD4.4, M4.8(FDF), M4.4(FDF)
ISCJB 25 22:43:25.6±0.3, 17.94N±0.03×62.21W±0.02, h64km±3km, mb4.7/79, Error ellipse: s-maj=5.4km s-min=2.2km az=34.5
IDC 25 22:43:25.0±1.8, 17.97N×62.16W, h44km±19km, mb4.0/20, mb1 4.2/20, mb1mx4.1/35, mbtmp4.3/20, MS3.2/17, Ms1 3.2/17, ms1mx3.1/30, Error ellipse: s-maj=15.1km s-min=11.2km az=40.0
NEIC 25 22:43:26.6±0.4, 17.96N×62.22W, h60km±4km, mb4.9/54, Error ellipse: s-maj=6.4km s-min=3.8km az=216.0
NEIC Felt [II] at Saint John's. Also felt at Bolands, Carlisle, Cedar Grove and Potters Village. Felt [II] at Basseterre and Charlestown, Saint Kitts and Nevis. Also felt at Monkey Hill. Felt [II] at Simpson Bay, Netherlands Antilles. Also felt at Cole Bay and Oranjestad. Felt at Point-a-Pitre and Saint-Barthelemy, Guadeloupe.
ISC 25 22:43:25.8±0.8, 17.99N±0.05×62.16W±0.04, h51km±7km, n460, σ0.90/490, mb4.8/81, MS3.3/18, 134C-141D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.48	132	eP	Pn	22 43 36.6	-0.3
ANWB	Willy Bob	0.48	132	ePn	Pn	22 43 36.6	-0.3
ANWB				eSn	Sn	22 43 44.8	-0.1
SMRT	St. Maarten	0.87	274	⇑eP	Pn	22 43 42.9	+1.1
SMRT				eS	Sn	22 43 55.4	+1.9
SMRT	St. Maarten	0.87	274	ePn	Pn	22 43 42.7	+0.9
SMRT				eSn	Sn	22 43 54.6	+1.0
SEUS	St. Eustatius	0.93	238	⇓iP	Pn	22 43 44.1	+1.6
SEUS				eS	Sn	22 43 57.1	+2.3
SEUS	St. Eustatius	0.93	238	ePn	Pn	22 43 44.0	+1.5
SEUS				eSn	Sn	22 43 57.6	+2.8
SABA	Saba	1.09	250	⇓iP	Pn	22 43 46.2	+1.4
SABA				eS	Sn	22 44 00.6	+1.8
SABA	Saba	1.09	250	ePn	Pn	22 43 46.1	+1.3
SABA				eSn	Sn	22 44 00.7	+1.8
SEG	Port Louis	1.70	158	eP	Pn	22 43 53.7	+0.6
LZG	Guadalupe-1	1.88	169	eP	Pn	22 43 56.3	+0.8
SSG	Sans Toucher	1.95	166	eP	Pn	22 43 57.5	+0.9
H05N1	Guadeloupe/Mar	1.97	147	P	Pn	22 43 56.8	0.0
H05N1				S	Sn	22 44 19.4	-1.0
CRG	Carmichael	1.99	166	⇑iP	Pn	22 43 58.0	+0.9
LKG	Breislack	2.00	166	eP	Pn	22 43 58.2	+0.9
LKG				eS	Sn	22 44 21.5	+0.4
DOG	Dongo Capester	2.02	165	⇑iP	Pn	22 43 58.3	+0.9
PHG	Guadaloupe-2	2.03	166	eP	Pn	22 43 58.7	+1.0
TBG	Guadaloupe-3	2.19	167	eP	Pn	22 44 00.8	+1.1
MGG	Marie-Galante	2.22	158	eP	Pn	22 44 01.2	+1.1
CDVI	St. Croix	2.49	265	ePn	Pn	22 44 04.7	+0.8
CDVI				eSn	Sn	22 44 34.1	+1.0
BBL	Barber's Block	2.54	165	⇑eP	Pn	22 44 05.4	+0.8
STVI	Saint Thomas	2.68	278	ePn	Pn	22 44 06.2	-0.2
STVI				eSn	Sn	22 44 36.6	-1.0
DLPL	La Plaine	2.79	162	eP	Pn	22 44 08.8	+0.9
DLPL				eS	Sn	22 44 41.5	+1.1
DBCT	Belle View Cho	2.82	164	eP	Pn	22 44 10.1	+1.7
DBCT				eS	Sn	22 44 42.4	+1.2
DPMT	Pointe Michel	2.82	164	eP	Pn	22 44 10.2	+1.8
DPMT				eS	Sn	22 44 41.9	+0.7
DSTT	Stowe	2.85	163	eP	Pn	22 44 10.8	+2.0
DSHT	Scott's Head	2.87	165	eP	Pn	22 44 10.8	+1.8
DSHT				eS	Sn	22 44 43.6	+1.3
MTP	Monte Pirata	3.23	272	ePn	Pn	22 44 16.3	+2.4
MTP				eSn	Sn	22 44 50.7	-0.5
SVN	Savane Anatole	3.27	163	eP	Pn	22 44 15.6	+0.9
FDF	Fort de France	3.38	163	eP	Pn	22 44 16.4	+0.2
FDF				eS	Sn	22 44 53.5	-1.6
BVM	Bellevue	3.41	162	eP	Pn	22 44 16.7	+0.2
HUMP	Col San Antoni	3.51	273	ePn	Pn	22 44 18.3	+0.5
HUMP				eSn	Sn	22 44 57.6	-0.5
CBYP	Canovanas	3.52	275	ePn	Pn	22 44 18.2	+0.1
CBYP				eSn	Sn	22 44 57.5	-1.1
ZAM	Aeronautique	3.57	162	eP	Pn	22 44 19.1	+0.4
CPD	Cerro la Pandu	3.57	271	ePn	Pn	22 44 19.1	+0.4
CPD				eSn	Sn	22 44 58.1	-1.6
LPMF	Morne Lapointe	3.59	161	⇓eP	Pn	22 44 19.0	+0.1
TRMF	Trois Ilets	3.60	163	eP	Pn	22 44 19.9	+0.8
MVM	Montagne Vaucl	3.63	160	eP	Pn	22 44 19.9	+0.4
H05S1	Guadeloupe/Mar	3.77	160	P	Pn	22 44 21.7	+0.3
H05S1				S	Sn	22 45 02.5	-2.0
CELP	Cerrillos	4.20	272	ePn	Pn	22 44 27.8	+0.4
CELP				eSn	Sn	22 45 14.6	-0.6
OBIP	Obispado Ponce	4.23	271	ePn	Pn	22 44 27.9	+0.2
OBIP				eSn	Sn	22 45 17.4	+1.6
AOPR	Arecibo Observ	4.38	275	eP	Pn	22 44 29.5	-0.3
AOPR				eS	Sn	22 45 17.9	-1.6
AOPR	Arecibo Observ	4.38	275	ePn	Pn	22 44 30.1	+0.3
AOPR				eSn	Sn	22 45 23.3	+3.7
MCLT	Moule a Chique	4.42	164	eP	Pn	22 44 31.1	+0.8
MCLT				eS	Sn	22 45 20.3	-0.2
LRS	Lares	4.46	275	ePn	Pn	22 44 30.4	-0.5
LRS				eSn	Sn	22 45 18.1	-3.5
LSP	Las Mesas	4.69	273	ePn	Pn	22 44 34.4	+0.4
LSP				eSn	Sn	22 45 27.2	0.0
CRPR	Cabo Rojo, PR	4.71	271	ePn	Pn	22 44 34.1	-0.2
CRPR				eSn	Sn	22 45 26.0	-1.6
SSV	Crater Summit	4.73	168	eP	Pn	22 44 35.5	+0.8
SSV				eS	Sn	22 45 26.3	-2.1
SVV	Soufriere Volc	4.74	169	eP	Pn	22 44 36.1	+1.4
SVV				eS	Sn	22 45 27.1	-1.3
MPR	Mayaguez	4.74	273	ePn	Pn	22 44 34.4	-0.3
MPR				eSn	Sn	22 45 25.7	-2.7
AGP	Aguadilla	4.75	276	ePn	Pn	22 44 33.7	-1.2
AGP				eSn	Sn	22 45 29.2	+0.5
SVB	Belmont	4.77	169	eP	Pn	22 44 36.4	+1.1
SVB				eS	Sn	22 45 28.2	-1.1
FCV	Fort Charlotte	4.89	169	eP	Pn	22 44 38.1	+1.3
FCV				eS	Sn	22 45 30.8	-1.3
BBGH	Gun Hill	5.43	152	eP	Pn	22 44 47.2	+3.0
GRW	Mount Saint Ca	5.82	175	eP	Pn	22 44 50.5	+0.8
GRGR	Grenville	5.85	175	ePn	Pn	22 44 51.1	+1.1
TOSP	Speyside	6.84	166	eP	Pn	22 45 05.9	+2.4
TOSP				eS	Sn	22 46 18.1	-2.0
BOT	Bacolet	6.93	168	eP	Pn	22 45 05.5	+0.8
TRN	Trinidad (W)	7.34	174	eP	Pn	22 45 11.0	+0.6
TBH	Brigand Hill	7.54	172	eP	Pn	22 45 14.6	+1.4
TPP	Pointe-a-Pierr	7.66	175	eP	Pn	22 45 15.4	+0.5
PCRV	Puerto La Cruz	8.13	197	P	Pn	22 45 23.2	+1.9
	2.3nm,0.3s,baz=89,slow=1.8,SNR=7.2						
PCRV				LR	LR	22 48 55.8	
	comp=Z,110nm,19.9s,baz=6.0,slow=41						
SDDR	Presa de Saban	8.71	278	ePn	Pn	22 45 27.7	-1.6
SDDR				eSn	Sn	22 47 04.7	-1.6

GRTK Grand Turk 9.14 294 ePn Pn 22 45 31.2 -3.8
GRTK eSn Sn 22 47 04.9 -12
GTBY Guantanamo Bay 12.40 281 ePn Pn 22 46 15.1 -4.6
BBSR BB Station 14.50 351 ePn Pn 22 46 43.4 -4.6
MTDJ Mount Denham 14.62 273 ePn Pn 22 46 47.1 -2.7
ROSC El Rosal 17.66 224 LR LR 22 55 17.4
comp=Z,71nm,18.5s,baz=21,slow=40
ROSC El Rosal 17.66 224 ePn Pn 22 47 28.8 +0.1
BCIP Isla Barro Col 19.28 245 eP P 22 47 44.8 -1.6
18nm,0.8s
OTAV Otavalo 23.83 224 eP P 22 48 32.0 -2.9
34nm,2.1s
GOGA Godfrey 24.51 313 eP P 22 48 40.9 +0.5
31nm,0.9s
TEIG Tepich 24.77 279 P P 22 48 42.7 -0.2
15nm,0.5s,baz=11,slow=1.4,SNR=10
TEIG Tepich 24.77 279 eP P 22 48 43.1 +0.2
56nm,1.3s
SAML Samuel 26.79 182 eP P 22 49 00.0 -1.2
6.6nm,1.1s
APG El Apazote 27.29 268 P P 22 49 02.5 -3.5
10.0nm,0.6s,baz=100,slow=5.7,SNR=15
WVT Waverly 28.99 314 eP P 22 49 21.0 +0.2
45nm,1.5s
WCI Wyandotte Cave 29.16 319 eP P 22 49 21.7 -0.5
41nm,1.2s
SIV San Ignacio 33.79 178 P P 22 50 01.5 -1.6
4.9nm,0.7s,baz=22,slow=10,SNR=11
SIV LR LR 23 04 18.1
comp=Z,39nm,19.4s,baz=112,slow=37
636A Smothers Creek 33.80 296 ⇓P P 22 50 03.7 +0.6
baz=34
436A Wall Ranch, Ga 33.87 299 ⇑P P 22 50 04.3 +0.6
baz=34
536A Bastrop 33.94 297 ⇑P P 22 50 04.6 +0.3
baz=34
835A Beeville 34.25 294 ⇑P P 22 50 08.0 +1.0
baz=34
035A Encino 34.29 292 ⇓P P 22 50 07.8 +0.5
baz=34
735A Kenedy 34.33 295 ⇑P P 22 50 08.1 +0.5
baz=34
535A Dale 34.35 297 ⇓P P 22 50 08.3 +0.4
baz=34
635A Leesville 34.40 296 ⇓P P 22 50 08.5 +0.3
baz=34
335A Moody 34.52 299 ⇓P P 22 50 09.5 +0.2
baz=34,SNR=6.6
LPAZ La Paz 34.57 190 P P 22 50 10.8 +0.3
1.9nm,0.8s,baz=127,slow=3.8,SNR=7.0
LPAZ LR LR 23 04 25.6
comp=Z,52nm,19.6s,baz=6.0,slow=36
LPAZ La Paz 34.57 190 eP P 22 50 08.9 -1.6
3.0nm,1.0s
TUL1 Tulsa 34.66 308 eP P 22 50 08.7 -1.8
12nm,0.8s
TUL1 Tulsa 34.66 308 ⇑P P 22 50 10.6 +0.2
baz=35
WHTX Lake Whitney 34.72 300 ⇓P P 22 50 11.8 +0.8
baz=35
934A Benavides 34.75 293 ⇑P P 22 50 12.5 +1.1
baz=35
034A Hebbronville 34.82 292 ⇓P P 22 50 12.7 +0.7
baz=35
834A Tilden 34.85 294 ⇑P P 22 50 12.7 +0.5
baz=35
Z35A Perchaven, San 34.93 303 ⇓P P 22 50 13.5 +0.7
baz=35
734A La Parita Cree 34.97 295 ⇑P P 22 50 13.5 +0.2
baz=35
RCBR Riachuelo 35.10 130 LR LR 23 05 59.1
comp=Z,45nm,18.5s,baz=312,slow=39
434A Burnet 35.11 298 ⇓P P 22 50 14.2 -0.3
baz=35
534A Blanco 35.12 297 ⇓P P 22 50 14.5 -0.1
baz=35
334A Lometa 35.21 299 ⇑P P 22 50 14.9 -0.4
baz=35,SNR=8.1
234A Clairette 35.28 300 ⇓P P 22 50 16.2 +0.3
baz=35
933A Laredo 35.41 292 ⇑P P 22 50 17.1 +0.1
baz=35,SNR=7.1
Z34A Collier Ranch, 35.47 303 ⇓P P 22 50 18.4 +0.8
baz=35
Y34A Reagan Ranch, 35.52 304 ⇓P P 22 50 18.3 +0.4
baz=36
733A Divot King Ran 35.59 294 ⇓P P 22 50 17.6 -0.9
baz=36
533A Kerrville 35.61 297 ⇓P P 22 50 18.6 -0.2
baz=36,SNR=5.4
633A Saathoff Ranch 35.61 296 ⇓P P 22 50 18.7 -0.1
baz=36,SNR=8.4
833A Chaparral WMA, 35.62 294 ⇓P P 22 50 19.0 +0.2
baz=36
X34A Smith Ranch, M 35.77 305 ⇑P P 22 50 20.1 0.0
baz=36
433A Art 35.79 298 ⇓P P 22 50 20.0 -0.3
baz=36,SNR=13
333A Richland Sprin 35.83 299 ⇓P P 22 50 20.1 -0.5
baz=36,SNR=12
233A Rising Star 35.92 300 ⇓P P 22 50 21.1 -0.3
baz=36,SNR=10
W34A Bridge Creek, 35.93 306 ⇑P P 22 50 21.2 -0.2
baz=36
V34A Guthrie 35.94 307 eP P 22 50 20.8 -0.7
21nm,1.0s
V34A Guthrie 35.94 307 ⇑P P 22 50 21.6 +0.1
baz=36
133A Hamilton Ranch 36.08 301 ⇑P P 22 50 22.9 +0.2
baz=36
832A Faith Ranch, C 36.12 293 ⇑P P 22 50 22.4 -0.7
baz=36,SNR=5.3
Z33A Whitaker Ranch 36.13 302 ⇓P P 22 50 23.7 +0.5
baz=36
632A Uvalde 36.15 296 ⇓P P 22 50 23.2 -0.2
baz=36,SNR=9.0
U34A Anderson Ranch 36.16 308 ⇑P P 22 50 23.8 +0.4
baz=36
732A Laxson Ranch, 36.18 294 ⇓P P 22 50 22.8 -0.8
baz=36,SNR=6.1
BDFB Brasilia 36.21 157 P P 22 50 25.0 +0.9
2.9nm,0.7s,baz=344,slow=12,SNR=4.1
BDFB LR LR 23 05 46.1
comp=Z,33nm,21.4s,baz=318,slow=37
Y33A Hilltop Ranch, 36.22 303 ⇑P P 22 50 23.8 -0.1
baz=36
JCT Junction City 36.34 297 eP P 22 50 25.1 +0.1
29nm,0.6s
JCT Junction City 36.34 297 ⇑P P 22 50 24.9 -0.1
baz=36,SNR=11
532A Rocksprings 36.36 297 ⇓P P 22 50 25.6 +0.4
baz=36,SNR=26
432A Menard 36.41 298 ⇑P P 22 50 25.4 -0.2
baz=36,SNR=8.9
332A Millersview 36.47 299 ⇓P P 22 50 25.9 -0.2
baz=36,SNR=10
232A Coleman 36.50 300 ⇑P P 22 50 26.2 -0.3
baz=36
V33A Lossen Ranch, 36.52 306 ⇑P P 22 50 26.4 -0.1
baz=36
KSU1 Kansas State U 36.53 312 ⇓P P 22 50 26.3 -0.3
baz=36
U33A Lingo Farm, Me 36.60 307 ⇑P P 22 50 27.4 +0.3
baz=37
ABTX Abilene, Hawle 36.67 301 eP P 22 50 28.1 +0.2
24nm,0.7s
ABTX Abilene, Hawle 36.67 301 ⇓P P 22 50 27.8 0.0
baz=37,SNR=12
Z32A Haskell 36.71 302 ⇑P P 22 50 28.0 -0.2
baz=37
631A Perdido Creek 36.81 295 ⇓P P 22 50 28.7 -0.3
baz=37,SNR=18
Y32A R-V Farms, Ver 36.87 303 ⇓P P 22 50 29.4 -0.1
baz=37
SCHQ Schefferville 36.95 356 P P 22 50 30.6 +0.8
3.5nm,1.0s,baz=201,slow=7.4,SNR=4.5
SCHQ LR LR 23 03 55.5
comp=Z,26nm,19.7s,baz=96,slow=33
331A San Angelo 37.03 298 ⇓P P 22 50 30.6 -0.3
baz=37
W32A Sentinel 37.04 305 ⇓P P 22 50 30.5 -0.4
baz=37
431A Sonora 37.06 297 ⇓P P 22 50 31.3 +0.1
baz=37,SNR=25
231A Bronte 37.07 299 ⇑P P 22 50 30.5 -0.7
baz=37,SNR=7.5
V32A Arapaho 37.07 306 ⇑P P 22 50 31.0 -0.2
baz=37
R33A Olander Ranch, 37.19 310 ⇑P P 22 50 32.3 +0.1
baz=37
U32A Winter Ranch, 37.25 307 ⇓P P 22 50 32.9 +0.2
baz=37
Z31A Sharp Cattle R 37.25 302 ⇓P P 22 50 32.8 +0.1
baz=37
SPMN St. Paul 37.26 323 ⇓P P 22 50 32.7 +0.1
baz=37
131A Roby 37.30 301 ⇓P P 22 50 33.3 +0.1
baz=37
Q33A Connelly Farm, 37.36 312 ⇑P P 22 50 33.4 -0.1
baz=37
T32A Huddler Ranch, 37.47 308 ⇓P P 22 50 34.4 -0.1
baz=37
X31A McDonald Ranch 37.47 304 ⇑P P 22 50 34.4 -0.2
baz=37,SNR=6.4
Y31A Rekieta Farm, 37.52 303 ⇓P P 22 50 35.3 +0.3
baz=38
530A J-C Ranch, Com 37.58 296 ⇑P P 22 50 35.5 -0.1
baz=38,SNR=19
W31A Holland Ranch, 37.60 305 ⇑P P 22 50 35.3 -0.4
baz=38
430A Baggett Ranch, 37.61 297 ⇑P P 22 50 35.6 -0.2
baz=38,SNR=10
330A Mertzon 37.67 298 ⇑P P 22 50 36.1 -0.3
baz=38,SNR=9.5
V31A Spring Creek L 37.70 306 ⇓P P 22 50 36.6 +0.1
baz=38
230A Sterling City 37.72 299 ⇓P P 22 50 36.2 -0.5
baz=38,SNR=5.6
130A Snyder 37.75 300 ⇑P P 22 50 36.8 -0.2
baz=38
R32A Long Quarter, 37.76 310 ⇓P P 22 50 36.8 -0.2
baz=38
Q32A Meitler Ranch, 37.87 311 ⇑P P 22 50 37.7 -0.2
baz=38
T31A Randall Ranch, 38.00 308 ⇓P P 22 50 39.1 +0.1
baz=38
Z30A Sanderson Ranc 38.05 301 ⇑P P 22 50 39.4 -0.1
baz=38,SNR=7.2
X30A Coker Ranch, T 38.13 303 ⇓P P 22 50 39.9 -0.3
baz=38
429A Davenport Ranc 38.14 297 ⇑P P 22 50 39.7 -0.7
baz=38,SNR=21
R31A Burdett 38.31 310 ⇓P P 22 50 41.0 -0.7
baz=38
229A Bryant Ranch, 38.32 299 ⇑P P 22 50 41.7 -0.1
baz=38
529A Stev Forest Ra 38.33 296 ⇓P P 22 50 41.5 -0.5
baz=38,SNR=18
V30A Spur Ranch, Mi 38.36 305 ⇓P P 22 50 42.0 -0.1
baz=38
329A Wagon Wheel Ra 38.37 298 ⇑P P 22 50 42.0 -0.2
baz=38,SNR=12
Q31A Ellis 38.48 311 ⇑P P 22 50 42.6 -0.4
baz=38
129A Stewart Farms, 38.50 300 ⇑P P 22 50 43.3 -0.1
baz=38
Z29A Hungry Hill Ra 38.51 301 ⇑P P 22 50 43.4 0.0
baz=38
U30A WK&E Inc. Balk 38.56 306 ⇓P P 22 50 44.0 +0.2
baz=38
BGNE Belgrade 38.60 315 ⇓P P 22 50 44.0 0.0
baz=39
Y29A Porterfield Fa 38.62 302 ⇓P P 22 50 44.5 +0.1
baz=39,SNR=6.6
P31A Stockton 38.66 312 ⇓P P 22 50 44.3 -0.3
baz=39
ECSD EROS Data Cent 38.71 319 ⇑P P 22 50 44.6 -0.2
baz=39
S30A Montezuma 38.78 308 ⇑P P 22 50 45.6 0.0
baz=39
X29A Tulia 38.79 303 ⇓P P 22 50 45.5 -0.3
baz=39
R30A Dighton 38.86 309 ⇓P P 22 50 46.1 -0.1
baz=39
AMTX Amarillo 38.89 304 eP P 22 50 44.5 -2.1
18nm,1.1s
AMTX Amarillo 38.89 304 ⇑P P 22 50 47.0 +0.4
baz=39
W29A Amraillo 38.93 304 ⇑P P 22 50 47.3 +0.4
baz=39,SNR=7.4
228A UT Block 9, Go 39.00 299 ⇑P P 22 50 47.0 -0.5
baz=39,SNR=6.9
128A Castleberry Fa 39.01 300 ⇓P P 22 50 47.6 0.0
baz=39
U29A Oasis Ranch, S 39.01 306 ⇑P P 22 50 47.5 -0.1
baz=39
Q30A Quinter 39.07 310 ⇓P P 22 50 47.6 -0.4
baz=39
Y28A McKinney Farm, 39.10 302 ⇓P P 22 50 48.3 -0.1
baz=39
M31A Lambtecht Ranc 39.13 314 ⇓P P 22 50 48.4 -0.1
baz=39
T29A Hugoton 39.24 307 ⇑P P 22 50 49.4 -0.1
baz=39
S29A Ulysses 39.26 308 ⇓P P 22 50 49.5 -0.1
baz=39
L31A Butterfield Fa 39.40 316 ⇑P P 22 50 50.8 +0.1
baz=39
O30A MW Ranch, Wils 39.40 312 ⇑P P 22 50 50.7 -0.1
baz=39
TX31 Lajitas Ar. Si 39.47 294 eP P 22 50 51.0 -0.5
TXAR Lajitas Array 39.47 294 P P 22 50 51.5 -0.1
2.5nm,0.5s,baz=119,slow=6.7,SNR=42
TXAR PcP PcP 22 52 59.8 +1.1
0.8nm,0.6s,baz=116,slow=5.1,SNR=4.1
TXAR LR LR 23 12 52.2
comp=Z,20nm,18.3s,baz=0.0,slow=45
MSTX Muleshoe 39.54 302 eP P 22 50 51.3 -0.7
56nm,1.7s
MSTX Muleshoe 39.54 302 ⇑P P 22 50 52.0 -0.1
baz=40
R29A Marienthal 39.54 309 ⇑P P 22 50 52.1 +0.1
baz=40
V28A Channing 39.55 305 ⇓P P 22 50 52.2 +0.1
baz=40
Q29A Oakley 39.59 310 ⇓P P 22 50 52.1 -0.2
baz=40
U28A Mallet 39.73 306 ⇓P P 22 50 54.0 +0.4
baz=40
Z27A Tatum 39.75 301 ⇓P P 22 50 53.8 0.0
baz=40
Y27A Causey 39.84 302 ⇑P P 22 50 54.0 -0.6
baz=40,SNR=7.5
S28A Manter 39.84 308 ⇓P P 22 50 53.8 -0.7
baz=40
T28A Walsh 39.86 307 ⇓P P 22 50 54.1 -0.6
baz=40
L30A Spencer Herefo 39.89 315 ⇑P P 22 50 54.5 -0.3
baz=40
O29A 4D Ranch, Culb 39.91 312 ⇑P P 22 50 55.0 +0.1
baz=40
X27A F and S Farms, 39.96 303 ⇓P P 22 50 55.6 0.0
baz=40
R28A Tribune 40.01 309 ⇓P P 22 50 55.7 -0.2
baz=40
V27A Dan Oppiter Fa 40.03 304 ⇑P P 22 50 56.1 0.0
baz=40
W27A Bowe Ranch, En 40.03 303 ⇑P P 22 50 56.0 -0.1
baz=40
N29A Votaw Ranch, W 40.05 313 ⇓P P 22 50 55.9 -0.3
baz=40
U27A Thompson Grove 40.20 305 ⇓P P 22 50 57.6 +0.1
baz=40
Q28A Sharon Springs 40.27 310 ⇑P P 22 50 57.6 -0.4
baz=40
T27A Campo 40.30 306 ⇑P P 22 50 58.3 -0.1
baz=40
J30A Dallas 40.34 317 ⇑P P 22 50 58.6 +0.1
baz=40
L29A Maesberg Ranch 40.45 315 ⇑P P 22 50 59.6 +0.1
baz=40
X26A CR and CF Fran 40.51 302 ⇑P P 22 51 00.1 -0.1
baz=40
W26A Owens Ranch, T 40.60 303 ⇑P P 22 51 00.9 0.0
baz=41
O28A Krutsinger Ran 40.60 311 ⇑P P 22 51 00.5 -0.3
baz=41
N28A Pribbeno Ranch 40.64 312 ⇑P P 22 51 00.9 -0.2
baz=41
R27A Eads 40.73 308 ⇑P P 22 51 01.7 -0.2
baz=41
V26A Tequesquite Ra 40.79 304 ⇓P P 22 51 02.1 -0.3
baz=41,SNR=8.5
M28A Bar X Bar Ranc 40.80 313 ⇓P P 22 51 02.3 0.0
baz=41
U26A Atchley Ranch, 40.91 305 ⇑P P 22 51 03.2 -0.3
baz=41,SNR=5.9
T26A Comanche Natio 41.00 306 ⇓P P 22 51 04.2 -0.1
baz=41
S26A Kim 41.04 307 ⇑P P 22 51 04.4 0.0
baz=41
OGNE Ogallala 41.09 312 ⇓P P 22 51 04.9 +0.1
baz=41
Y25A Mesa, Roswell 41.09 301 ⇑P P 22 51 05.3 +0.4
baz=41,SNR=5.1
W25A X Bar L Ranch, 41.18 303 ⇑P P 22 51 06.0 +0.3
baz=41
R26A Arlington 41.22 308 ⇑P P 22 51 06.0 +0.1
baz=41
MNTX Cornudas Mount 41.26 298 eP P 22 51 05.4 -0.8
9.4nm,0.8s
U25A Circle Dot Ran 41.43 305 ⇓P P 22 51 08.0 +0.2
baz=41,SNR=6.1
V25A Rancho No Teng 41.45 304 ⇓P P 22 51 07.9 0.0
baz=41,SNR=7.9
Z24A Sheeppen Canyo 41.52 300 ⇑P P 22 51 09.1 +0.5
baz=42,SNR=8.1
J28A Allard Ranch, 41.53 316 ⇓P P 22 51 08.5 +0.2
baz=42
P26A Davis Ranch, A 41.54 310 ⇓P P 22 51 08.7 +0.1
baz=42
M27A Reverse DX Ran 41.55 313 ⇓P P 22 51 08.7 +0.2
baz=42
T25A Trinidad 41.62 306 ⇑P P 22 51 09.3 0.0
baz=42
Y24A Capitan 41.69 301 ⇑P P 22 51 10.9 +1.0
baz=42,SNR=15
I28A Midland 41.73 317 ⇑P P 22 51 10.2 +0.3
baz=42
D30A Buchanan 41.74 322 ⇓P P 22 51 09.5 -0.4
baz=42
O26A Horse Wrangler 41.75 311 ⇓P P 22 51 10.2 0.0
baz=42
S25A Robets Cordova 41.78 307 ⇓P P 22 51 10.7 +0.1
baz=42,SNR=8.2
R25A Fountain Ranch 41.80 308 ⇓P P 22 51 10.9 +0.2
baz=42
X24A Lazy VL Ranch, 41.82 302 ⇑P P 22 51 11.3 +0.3
baz=42
C30A Mose, Pekin 41.90 323 ⇑P P 22 51 12.0 +0.8
baz=42
W24A Lazy 6 Ranch, 41.94 303 ⇓P P 22 51 12.5 +0.6
baz=42,SNR=9.0
V24A Rampart Ranch, 41.94 304 ⇑P P 22 51 12.8 +0.8
baz=42,SNR=5.2
ULM Lac du Bonnet 41.96 328 P P 22 51 11.0 -0.6
6.6nm,0.7s,baz=129,slow=9.0,SNR=14
ULM LR LR 23 07 58.9
comp=Z,29nm,18.7s,baz=18,slow=35
ULM Lac du Bonnet 41.96 328 eP P 22 51 11.2 -0.4
5.8nm,0.6s
J27A Elkhorn Farm, 41.97 316 ⇑P P 22 51 11.9 0.0
baz=42
E29A Napoleon 41.99 321 ⇑P P 22 51 12.2 +0.2
baz=42
P25A Willow Gulch B 42.13 309 ⇓P P 22 51 13.5 +0.1
baz=42
Y23A Lovelace Mesa, 42.20 301 ⇓P P 22 51 14.6 +0.6
baz=42,SNR=8.7
I27A Quinn 42.34 317 ⇑P P 22 51 14.5 -0.4
baz=42
T24B San Luis 42.35 306 ⇓P P 22 51 16.1 +0.7
baz=42
S24A Houchin Ranch, 42.37 306 ⇓P P 22 51 15.8 +0.3
baz=42
X23A Hourglass Bar 42.43 302 ⇑P P 22 51 16.5 +0.5
baz=42
R24A Sanders Place, 42.45 307 ⇓P P 22 51 16.6 +0.5
baz=42
W23A Werner Place, 42.52 303 ⇑P P 22 51 16.9 +0.2
baz=42
H27A Howes 42.60 317 ⇑P P 22 51 17.3 +0.4
baz=43
SDCO Great Sand Dun 42.62 307 eP P 22 51 17.8 +0.2
18nm,1.6s
V23A Ortiz Mt. (NFS 42.67 303 ⇓P P 22 51 18.0 +0.1
baz=43
Q24A Divide 42.69 308 ⇑P P 22 51 17.7 -0.5
baz=43
BNM Barren Site 42.71 301 eP P 22 51 18.9 +0.6
J26A Sides Ranch, S 42.71 315 ⇑P P 22 51 18.1 +0.2
baz=43
ANMO Albuquerque 42.72 302 LR LR 23 14 00.8
comp=Z,38nm,18.9s,baz=132,slow=43
ANMO Albuquerque 42.72 302 eP P 22 51 18.2 -0.1
5.4nm,1.1s
LPM Los Pinos Moun 42.74 301 eP P 22 51 18.2 -0.2
I26A New Underwood 42.85 316 ⇓P P 22 51 19.3 +0.2
baz=43
K25A Mack Ranch, Ha 42.98 314 ⇑P P 22 51 20.2 0.0
baz=43
G26A Maurine 43.22 318 ⇓P P 22 51 22.2 +0.2
baz=43
M24A Cheyenne 43.24 312 ⇓P P 22 51 22.7 +0.3
baz=43
ISCO Idaho Springs 43.28 309 ⇓P P 22 51 23.1 +0.2
baz=43
V22A San Miguel Ran 43.28 304 ⇑P P 22 51 23.4 +0.5
baz=43
P23A Jefferson 43.32 309 ⇑P P 22 51 23.4 +0.2
baz=43
U22A Llaves 43.34 304 ⇓P P 22 51 23.8 +0.5
baz=43
121A Cookes Peak, D 43.40 299 ⇓P P 22 51 25.0 +1.2
baz=43,SNR=9.3
H25A Fruitdale 43.58 317 ⇑P P 22 51 25.2 +0.3
baz=44
O23A Lake Granby, G 43.63 310 ⇓P P 22 51 25.6 0.0
baz=44
S22A 4UR Ranch, Cre 43.64 306 ⇓P P 22 51 25.9 +0.2
baz=44
RSSD Black Hills 43.67 316 eP P 22 51 24.9 -0.9
36nm,2.3s
G25A Newell 43.70 318 ⇑P P 22 51 26.0 +0.1
baz=44
N23A Red Feather La 43.85 311 ⇑P P 22 51 27.1 -0.3
baz=44
M23A Laramie 43.88 312 ⇓P P 22 51 27.9 +0.3
baz=44
C26A Wahner Farm, P 44.06 322 ⇓P P 22 51 29.2 +0.5
baz=44
O22A Kremmling 44.07 310 ⇓P P 22 51 29.0 -0.2
baz=44
L23A Garrett 44.07 313 ⇓P P 22 51 28.9 -0.3
baz=44
N22A Wattenberg Ran 44.19 310 ⇓P P 22 51 31.0 +0.8
baz=44
K23A Bowen Ranch, D 44.24 313 ⇑P P 22 51 30.3 0.0
baz=44
H24A Dirks Ranch, A 44.25 316 ⇓P P 22 51 30.2 -0.2
baz=44,SNR=5.7
CPUP Villa Florida 44.31 174 P P 22 51 29.3 -1.4
1.8nm,0.6s,baz=344,slow=5.2,SNR=4.4
CPUP LR LR 23 10 37.6
comp=Z,33nm,20.5s,baz=24,slow=37
CPUP Villa Florida 44.31 174 eP P 22 51 29.6 -1.2
M22A Cedar Creek Ra 44.48 311 ⇓P P 22 51 32.5 +0.1
baz=44
319A Douglas 44.52 297 ⇓P P 22 51 33.8 +1.1
baz=44,SNR=11
I23A Meade Ranch, G 44.56 315 ⇓P P 22 51 32.8 -0.1
baz=44
MVCO Mesa Verde 44.81 305 ⇑P P 22 51 35.5 +0.4
baz=45
K22A Casper 44.83 313 ⇑P P 22 51 35.2 +0.1
baz=45
G23A Biddle 44.98 317 ⇑P P 22 51 36.3 +0.2
baz=45
J22A Midwest 45.05 314 ⇓P P 22 51 36.8 -0.1
baz=45
D24A Glendive 45.09 320 ⇓P P 22 51 37.3 +0.4
baz=45
LPIG La Paz 45.17 286 LR LR 23 14 52.6
comp=Z,17nm,18.1s,baz=210,slow=42
F23A Volborg 45.19 317 ⇑P P 22 51 37.8 0.0
baz=45
I22A 9 Mile Ranch, 45.22 315 ⇓P P 22 51 38.5 +0.3
baz=45
K21A Alcova 45.33 313 ⇓P P 22 51 40.0 +0.9
baz=45,SNR=8.3
W18A Petrified Fore 45.40 302 eP P 22 51 39.3 -0.4
10nm,0.8s
W18A Petrified Fore 45.40 302 ⇓P P 22 51 40.7 +0.9
baz=45

PV05 Paradox Valley 45.46 306 eP P 22 51 39.8 -0.4
X18A Snowflake 45.48 301 ⇑P P 22 51 41.1 +0.7
baz=45
PV10 Paradox Valley 45.48 306 eP P 22 51 40.0 -0.4
N20A Spence Gulch, 45.52 310 ⇓P P 22 51 41.1 +0.5
baz=46
G22A Birney 45.57 316 ⇑P P 22 51 41.3 +0.4
baz=46,SNR=5.3
J21A Lysite 45.69 314 ⇑P P 22 51 42.0 +0.1
baz=46
E22A Miles City 45.82 318 ⇑P P 22 51 43.1 +0.3
baz=46
H21A Big Horn, Sher 45.86 315 ⇑P P 22 51 43.3 +0.2
baz=46
TUC Tucson 45.89 298 eP P 22 51 43.3 -0.2
15nm,1.0s
C23A Lambert 45.91 320 ⇑P P 22 51 44.2 +0.8
baz=46
J20A Shoshoni 46.14 313 ⇓P P 22 51 45.7 +0.3
baz=46,SNR=6.6
G21A Lodge Grass 46.18 316 ⇑P P 22 51 45.6 0.0
baz=46
D22A Cohagen 46.25 319 ⇑P P 22 51 47.0 +0.9
baz=46
I20A Worland 46.36 314 ⇑P P 22 51 46.9 -0.2
baz=46
X16A Lo Mia Camp, P 46.68 301 ⇑P P 22 51 51.4 +1.5
baz=47,SNR=5.3
D21A La Casta Ranch 46.73 319 ⇑P P 22 51 51.0 +1.1
baz=47,SNR=10.0
SRU San Rafael 46.78 307 eP P 22 51 50.9 +0.4
68nm,2.9s
J19A Crowheart 46.78 313 ⇑P P 22 51 50.9 +0.4
baz=47,SNR=16
WUAZ Wupatki 46.78 302 eP P 22 51 50.9 +0.3
7.2nm,0.9s
WUAZ Wupatki 46.78 302 ⇓P P 22 51 51.1 +0.5
baz=47
G20A Bridger 46.84 316 ⇓P P 22 51 50.4 -0.5
baz=47,SNR=8.9
FCC Fort Churchill 46.92 338 eP P 22 51 50.6 -0.4
I19A Meeteetse 46.98 314 ⇑P P 22 51 52.4 +0.3
baz=47
BW06 Boulder Array 46.99 312 eP P 22 51 52.2 +0.1
17nm,1.5s
BW06 ePcP PcP 22 53 24.4 +0.5
PD31 Pinedale Array 46.99 312 eP P 22 51 52.2 0.0
PDAR Pinedale Array 46.99 312 P P 22 51 52.1 -0.1
3.9nm,0.7s,baz=119,slow=8.7,SNR=40
PDAR LR LR 23 11 20.7
comp=Z,40nm,21.6s,baz=130,slow=36
F20A Billings 47.00 317 ⇓P P 22 51 52.4 +0.3
baz=47,SNR=6.5
C21A Desert Coulee 47.09 319 ⇑P P 22 51 53.3 +0.6
baz=47
H19A Powell 47.18 315 ⇓P P 22 51 53.7 +0.2
baz=47
E20A Meyer Farm, Mu 47.24 317 ⇑P P 22 51 54.3 +0.4
baz=47,SNR=5.3
A21A Bergtoll Ranch 47.46 321 ⇑P P 22 51 56.2 +0.7
baz=47
D20A Manuel Ranch, 47.46 318 ⇑P P 22 51 56.3 +0.7
baz=47
RLMT Red Lodge 47.51 315 eP P 22 51 56.6 +0.4
11nm,0.8s
F19A Roth Farm, Mol 47.54 316 ⇓P P 22 51 56.7 +0.4
baz=48
214A Organ Pipe Nat 47.57 297 ⇓P P 22 51 58.1 +1.4
baz=48
H18A Shoshone NF, C 47.64 315 ⇓P P 22 51 57.0 -0.2
baz=48
E19A Rath Farm, Rou 47.65 317 ⇑P P 22 51 57.9 +0.8
baz=48,SNR=6.6
U15A North Rim 47.66 303 ⇑P P 22 51 58.4 +0.9
baz=48
JLU Jordanelle 47.80 309 eP P 22 51 59.1 +0.5
5.5nm,0.7s
Z14A Wintersburg 47.81 299 ⇓P P 22 51 59.9 +1.5
baz=48
MPU Maple Canyon 47.81 308 eP P 22 51 59.0 +0.4
74nm,2.8s
B20A Solberg Farm, 47.90 320 ⇓P P 22 52 00.1 +1.2
baz=48
Y14A Wickenburg 47.91 300 ⇓P P 22 52 00.6 +1.3
baz=48
LOHW Long Hollow 47.96 313 eP P 22 51 59.8 0.0
62nm,2.8s
A20A Cobblestone Ra 48.02 320 ⇓P P 22 52 01.1 +1.2
baz=48
I17A Pilgrim Ck. 48.03 313 ⇑P P 22 52 00.8 +0.5
baz=48
CTU Camp Tracy 48.05 309 eP P 22 52 00.8 +0.4
8.1nm,0.9s
HWUT Hardware Ranch 48.12 310 eP P 22 52 00.5 -0.5
117nm,3.0s
FXWY Fox Creek 48.27 313 eP P 22 52 01.6 -0.5
10nm,1.8s
IMW Indian Meadow 48.28 313 eP P 22 52 02.0 -0.2
85nm,3.0s
113A Mohawk Valley, 48.44 298 ⇓P P 22 52 04.1 +0.8
baz=48
B19A Brinkman Farms 48.48 320 ⇓P P 22 52 04.1 +0.7
baz=48
DUG Dugway 48.73 308 ⇑P P 22 52 06.2 +0.6
baz=49
QLMT Earthquake Lak 48.88 314 eP P 22 52 07.7 +0.9
HVU Hansel Valley 49.04 310 eP P 22 52 07.9 -0.1
3.9nm,0.8s
BGU Big Grassy Mou 49.05 309 eP P 22 52 08.4 +0.4
3.2nm,0.8s
BOZ Bozeman (W) 49.26 315 eP P 22 52 09.2 -0.4
56nm,2.8s
GLA Glamis 49.35 298 eP P 22 52 08.6 -1.7
28nm,1.6s
GLA Glamis 49.35 298 ⇑P P 22 52 11.7 +1.4
baz=49
IRM Iron Mountain 49.71 300 ⇑P P 22 52 14.4 +1.4
baz=50
BC3 Big Chuckawall 49.92 299 ⇓P P 22 52 15.8 +1.1
baz=50
SWSC Sam W. Stewart 50.16 298 ⇓P P 22 52 17.6 +1.2
baz=50
GMRC Granite Mounta 50.18 301 ⇓P P 22 52 17.8 +1.0
baz=50
BELC Belle Mtn. Jos 50.40 299 ⇑P P 22 52 19.3 +1.0
baz=50
R11A Troy Canyon, C 50.53 305 eP P 22 52 19.6 +0.2
45nm,2.7s
R11A Troy Canyon, C 50.53 305 ⇑P P 22 52 20.5 +1.1
baz=50
HLID Hailey 50.63 312 eP P 22 52 20.2 +0.2
2.2nm,0.8s
HLID Hailey 50.63 312 ⇑P P 22 52 20.9 +0.9
baz=51
MONP Monument Peak 50.68 298 ⇓P P 22 52 22.1 +1.5
baz=51
HEC Hector,Ludlow 50.74 301 ⇑P P 22 52 22.0 +1.2
baz=51
PFO Pinyon Flat Ob 50.75 299 ⇓P P 22 52 22.3 +1.3
baz=51
GSC Goldstone 51.16 301 ⇓P P 22 52 25.1 +1.0
baz=51
109C Camp Elliot, M 51.25 298 ⇑P P 22 52 25.8 +1.2
baz=51
SWMT Swartz Lake 51.36 317 eP P 22 52 24.4 -1.0
MURC Murrieta 51.37 299 ⇑P P 22 52 26.6 +1.1
baz=51
YBMT Yellow Bay 51.48 317 eP P 22 52 24.7 -1.6
BFSC Mount Baldy Ra 51.79 300 ⇓P P 22 52 29.7 +0.9
baz=52
DAC Darwin (Calif) 51.89 302 eP P 22 52 30.6 +1.0
136nm,2.8s
LRMC Laurel Mountai 51.90 301 ⇑P P 22 52 30.4 +0.8
baz=52
BMN Battle Mountai 52.09 308 eP P 22 52 31.4 +0.4
15nm,1.4s
EDW2 Edwards Air Fo 52.10 300 ⇑P P 22 52 32.3 +1.2
baz=52
ISA Isabella 52.55 301 ⇑P P 22 52 35.7 +1.3
baz=52
NV01 Mina Array Sit 52.66 305 eP P 22 52 35.1 -0.2
NVAR Mina Array Bea 52.66 305 P P 22 52 35.8 +0.4
2.3nm,0.6s,baz=91,slow=6.8,SNR=20
NVAR LR LR 23 16 58.6
comp=Z,314nm,19.6s,baz=46,slow=38
EDM Edmonton 52.84 324 eP P 22 52 35.9 -0.3
BMO Blue Mountains 52.94 313 eP P 22 52 36.6 -0.5
34nm,2.6s

VES Vestal, Richgr 53.06 302 ⇑P P 22 52 38.8 +0.8
baz=53
WAKR Walker 53.56 305 eP P 22 52 42.4 +0.5
NEW Newport 53.59 317 LR LR 23 14 42.2
comp=Z,22nm,20.6s,baz=128,slow=35
NEW Newport 53.59 317 eP P 22 52 41.4 -0.4
6.9nm,0.8s
NEW Newport 53.59 317 ⇓P P 22 52 42.0 +0.2
baz=54
H10N3 ASCENSION HYDR 53.60 115 T T 23 50 00.5
baz=299,slow=75,SNR=49
H10N2 ASCENSION HYDR 53.60 114 T T 23 50 01.0
baz=299,slow=75,SNR=49
H10N1 ASCENSION HYDR 53.62 114 T T 23 50 02.1
baz=299,slow=75,SNR=52
H10S3 ASCENSION HYDR 54.00 116 T T 23 50 33.5
baz=300,slow=75,SNR=64
H10S1 ASCENSION HYDR 54.01 116 T T 23 50 30.8
baz=300,slow=75,SNR=67
H10S2 ASCENSION HYDR 54.02 116 T T 23 50 31.6
baz=300,slow=75,SNR=76
ESDC Sonseca Array 54.39 54 P P 22 52 48.1 +0.3
0.5nm,0.4s,baz=270,slow=6.7,SNR=4.7
K05A Summer Lake 55.14 310 eP P 22 52 54.0 +0.7
146nm,2.8s
J05D Fort Rock, OR 55.46 310 ⇓P P 22 52 56.0 +0.5
baz=55
M04C Macdoel 55.73 309 ⇓P P 22 52 57.6 +0.1
baz=56
M02C Callahan 56.44 308 ⇓P P 22 53 02.2 -0.3
baz=56
TIC Toumodi 56.76 94 eP P 22 53 04.4 -0.7
2.8nm,0.8s
SJPF Ste Jean 56.80 50 eP P 22 53 05.4 +0.5
10nm,0.7s
LIC Lamto 56.87 94⇑iP P 22 53 05.7 -0.2
13nm,0.6s,baz=293
LIC Lamto 56.87 94 eP P 22 53 05.6 -0.3
22nm,0.6s
DBIC Dimbokro 56.90 94 P P 22 53 06.1 0.0
9.0nm,0.7s,baz=275,slow=8.1,SNR=18
DBIC LR LR 23 12 51.5
comp=Z,34nm,21.0s,baz=267,slow=31
DBIC Dimbokro 56.90 94 eP P 22 53 06.0 -0.1
13nm,0.9s
KMRM Mail Ridge 57.00 307 eP P 22 53 05.5 -1.0
291nm,2.7s
KIC Kosan Boka 57.10 94 eP P 22 53 07.0 -0.5
63nm,1.2s
YKA Yellowknife Ar 57.23 334 P P 22 53 06.9 -0.7
4.5nm,0.5s,baz=108,slow=7.5,SNR=77
YKB5 Yellowknife Ar 57.23 334 eP P 22 53 07.0 -0.6
EPF Esparros 57.93 50 eP P 22 53 13.4 +0.4
13nm,0.8s
PLCA Paso Flores 58.94 187 P P 22 53 20.5 +0.6
1.0nm,0.7s,baz=20,slow=9.3,SNR=3.5
BGF Bois d'Agland 60.02 46 eP P 22 53 28.6 +1.2
6.1nm,0.6s
AVF Avril sur Loir 60.39 46 eP P 22 53 29.8 0.0
LOR Lormes 60.78 45 eP P 22 53 32.5 0.0
TOA0 Torodi Ar. Sit 61.45 85 eP P 22 53 36.6 -0.9
TORD Torodi Ar. Bea 61.45 85 P P 22 53 37.3 -0.3
4.8nm,0.6s,baz=289,slow=7.4,SNR=52
TORD LR LR 23 15 30.0
comp=Z,34nm,21.5s,baz=15,slow=31
MEZF Maizieres J'vi 61.68 44 eP P 22 53 38.8 +0.2
19nm,0.7s
LPL La Plagne 62.66 48 eP P 22 53 46.4 +0.9
5.2nm,0.6s
LPG La Plagne 62.67 48 eP P 22 53 46.5 +0.9
5.1nm,0.7s
DAVA Damuels 64.87 46⇑iP P 22 54 00.3 +0.4
6.9nm,0.9s
KEST Kesra 64.91 58 P P 22 54 00.2 -0.1
1.5nm,0.8s,baz=110,slow=5.1,SNR=6.9
ABTA Abfaltersbach 66.68 46⇓eP P 22 54 12.2 +0.7
2.8nm,1.1s
GEC2 GERESS Array S 67.42 44 eP P 22 54 15.7 -0.4
GERES GERESS Array B 67.42 44 P P 22 54 15.9 -0.2
0.7nm,0.5s,baz=275,slow=5.4,SNR=9.8
DAWY Dawson 68.39 333 eP P 22 54 21.9 0.0
EGAK Eagle 69.19 333 eP P 22 54 27.0 +0.2
34nm,1.9s
MENT Mentasta 70.31 331 eP P 22 54 34.4 +0.7
DOT Dot Lake 70.45 332 eP P 22 54 34.6 0.0
17nm,1.5s
BMRM Bremner River 70.79 329 eP P 22 54 37.1 +0.4
7.8nm,0.6s
RAGM Ragged Mountai 70.85 329 eP P 22 54 36.6 -0.5
81nm,1.5s
PAX Paxson 71.11 331 eP P 22 54 39.0 +0.3
81nm,2.8s
ILAR Eielson Array 71.65 333 P P 22 54 41.2 -0.6
3.2nm,0.9s,baz=104,slow=3.7,SNR=24
TRF Thorofare Moun 73.25 332 eP P 22 54 51.5 -0.1
12nm,0.8s
KTH Kantishna Hill 73.52 332 eP P 22 54 52.9 -0.1
8.8nm,1.0s
FINES FINESS Array B 73.54 30 P P 22 54 53.2 +0.1
1.2nm,0.8s,baz=259,slow=9.1,SNR=4.1
PPLA Purkeypile 74.17 332 eP P 22 54 56.4 -0.5
32nm,1.6s
BUR04 Bucovina Ar. S 75.19 44 eP P 22 55 03.8 +0.7
SVW2 Sparrevohn 76.07 330 eP P 22 55 06.4 -1.3
46nm,1.8s
BR231 Keskin MP Arra 82.37 51 eP P 22 55 45.2 +2.5
BRTR Keskin Array B 83.04 51 P P 22 55 46.2 0.0
1.6nm,0.9s,baz=264,slow=4.4,SNR=7.1
KMBO Kilima Mbogo 99.30 88 LR LR 23 39 21.4
comp=Z,37nm,19.8s,baz=90,slow=34
KSH Kashi 110.71 33 ePKP PKiKP 23 01 56.0 +2.5
WMQ Urumqi 112.57 23 ePKP PKiKP 23 01 57.8 +1.0
WMQ PP PP 23 02 49.0 +6.2
WMQ PKS PKSdf 23 05 33.3 -0.2
WMQ SKS SKSdf 23 09 05.0 +0.1
WMQ SKKS SKKSac 23 09 38.5 -3.5
WMQ AMB AMB
comp=Z,20nm,7.2s
WMQ LR LR
comp=N,41nm,18.0s
WMQ LR LR
comp=E,43nm,18.8s
WMQ LR LR
comp=Z,28nm,18.2s
GTA Gaotai 120.46 16 ePKP PKPdf 23 02 13.0 +0.8
GTA sPKP 23 02 27.3
HHC Hu-ho-hao-te 121.17 6 ePKP PKPdf 23 02 15.0 +1.5
HHC PP PP 23 03 48.3 +5.7
HHC SKS SKSdf 23 09 22.0 +0.5
HHC SKKS SKKSac 23 10 36.5 -2.8
HHC SS SS 23 20 14.8 +3.6
HHC AMB AMB
comp=Z,140nm,5.6s
HHC LR LR
comp=N,210nm,17.5s
HHC LR LR
comp=E,200nm,17.8s
HHC LR LR
comp=Z,140nm,17.5s
LZH Lanzhou 124.61 14 ePKP PKPdf 23 02 22.5 +2.2
LZH sPKP 23 02 44.5
KMI Kunming 134.69 19 PKP PKPdf 23 02 41.3 +1.5

NIED 25 22:54:00,20.°80N×121.°30E,h11km,Mw4.3 Best double couple: Mo3.68000×10^15 NP1:ϕs353.00000°,δ30.00000°,λ102.00000°. NP2:ϕs159.00000°,δ61.00000°,λ83.00000°.
ISCJB 25 22:54:11.7±0.5,20.°73N±0.°02×121.°41E±0.°03,h37km±4km, mb4.6/72,MS3.7/26,Error ellipse: s-maj=4.9km s-min=3.1km az=18.8
MOS 25 22:54:11.1±1.1,20.°69N×121.°30E,h33km,mb4.6/12,Error ellipse: s-maj=11.9km s-min=6.9km az=111.9
NEIC 25 22:54:12.9±1.5,20.°73N×121.°33E,h34km±11km,mb4.8/34, Error ellipse: s-maj=6.4km s-min=4.1km az=92.0
IDC 25 22:54:13.1±3.5,20.°73N×121.°44E,h33km±26km,mb3.9/22, mb1 4.1/23,mb1mx4.0/39,mbtmp4.1/23,ML3.9/1,MS3.7/19, Ms1 3.7/19,ms1mx3.5/32,Error ellipse: s-maj=19.1km s-min=12.7km az=64.0
JMA 25 22:54:13.8±0.3,20.°85N×121.°34E,h105km,M4.3
BJI 25 22:54:14.0,20.°94N×121.°02E,h47km,mB4.6/20,mb4.5/26, ML4.2/2,Ms4.2/31,Ms7 4.1/31
DJA 25 22:54:20.7±1.7,20.°7N±19°×12.°1E±1.°2,h10km,M4.9/13, mB5.5/3,mb4.8/13,Mw(mB)5.0/3

BKK 25 22:54:53.1±1.0,21.°N±8°×11.°9E±°,h173km±24km,M5.3/10, mb4.5/10,MLv5.6/1
ISC 25 22:54:13.6±0.3,20.°74N±0.°03×121.°33E±0.°04,h39km±3km, n167,σ1.°57/202,mb4.6/72,MS3.7/26,5D,Philippine Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
TWG Pinlang 2.08 353 ePn Pn 22 54 44.3 -1.7
PIP Pasuquin 2.50 196⇓iP Pn 22 54 50.7 -1.0
PIP eS Sn 22 55 19.0 -1.9
TPUB Ta-pu 2.63 346 ePn Pn 22 54 51.1 -2.4
YULB Yu-li 2.64 359 ePn Pn 22 54 54.2 +0.5
SIPP Brgy, Tapao 2.92 197⇓iP Pn 22 55 01.6 +4.0
SIPP iS Sn 22 55 33.1 +1.7
SSLB Suanglung 3.05 353 ePn Pn 22 54 58.1 -1.2
SSLB eSn Sn 22 55 33.1 -1.5
NACB Ninganchiao 3.42 4 ePn Pn 22 55 05.0 +0.6
NACB eSn Sn 22 55 43.5 -0.3
YHNB Yeheng 3.91 1 ePn Pn 22 55 11.6 +0.4
YHNB eSn Sn 22 55 54.9 -1.0
JYNG Yonagunijimaku 3.98 22 P Pn 22 55 12.2 +0.1
JYNG eS Sn 22 55 58.2 +0.7
HATJ Hateruma jima 4.01 34 P Pn 22 55 13.2 +0.7
HATJ eS Sn 22 55 58.6 +0.3
YOJ Yonaguni jima 4.01 22 eP Pn 22 55 12.4 -0.1
YOJ Yonaguni jima 4.01 22 P Pn 22 55 12.9 +0.4
YOJ eS Sn 22 55 58.5 +0.2
YOJ Yonaguni jima 4.01 22 ePn Pn 22 55 12.4 -0.1
IRIF Iriomote-Funau 4.21 31 P Pn 22 55 16.2 +1.0
IRIF eS Sn 22 56 04.6 +1.5
TATO Taipei 4.22 2 ePn Pn 22 55 17.9 +2.6
TATO eSn Sn 22 56 06.5 +3.2
JKRS Kuro-shima 4.27 35 P Pn 22 55 16.9 +0.9
JKRS eS Sn 22 56 05.6 +1.0
JIJ Ishigaki jima 4.44 35 P Pn 22 55 18.5 +0.1
JIJ eS Sn 22 56 07.5 -1.4
JISG Ishigakijimahi 4.71 35 P Pn 22 55 22.2 +0.1
JISG eS Sn 22 56 14.7 -0.8
JTJ Tarama 4.97 38 P Pn 22 55 26.4 +0.7
JTJ eS Sn 22 56 21.6 -0.4
JIRB Irabujima 5.39 40 eS Sn 22 56 30.7 -1.6
JMJ Miyako jima 2 5.46 41 eS Sn 22 56 33.4 -0.5
JOGS Gusukube 5.49 42 eS Sn 22 56 34.3 -0.4
JIKM Ikemajima 5.51 40 eS Sn 22 56 34.8 -0.4
QIZ Qiongzhong 10.94 263 P Pn 22 56 46.3 -1.4
QIZ S Sn 22 58 48.3 -0.6
QIZ pmax pmax
comp=Z,25nm,1.5s
QIZ pmax pmax
comp=Z,57nm,2.7s
QIZ LR LR
comp=N,500nm,18.8s
QIZ LR LR
comp=Z,580nm,17.1s
GYA Guiyang 14.60 296 eP Pn 22 57 34.0 -3.6
GYA pP P 22 57 46.3 +2.9
GYA PP PnPn 22 57 51.3 +5.5
GYA S Sn 23 00 20.3 +2.0
GYA sS S 23 00 32.0 -4.3
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.6s
GYA LR LR
comp=N,360nm,15.6s
GYA LR LR
comp=E,430nm,13.7s
GYA LR LR
comp=Z,610nm,14.0s
JNU Nakatsue 14.97 33 ePn Pn 22 57 41.4 -1.1
KKM Kota Kinabalu 15.43 199 ePn Pn 22 57 47.3 -1.3
17nm,0.9s
KSAR Wonju Array Be 17.59 17 P P 22 58 16.2 -0.2
KSAR Wonju Array Be 17.59 17 P P 22 58 16.1 -0.2
KSRS Korea Array 17.61 18 P Pn 22 58 16.1 +0.2
0.4nm,0.3s,baz=198,slow=11,SNR=11
KS01 Wonju Array Si 17.62 17 ePn Pn 22 58 16.4 +0.3
KMI Kunming 17.67 288 P P 22 58 18.8 +1.2
TOLI Toli-Toli 19.51 182 eP P 22 58 38.2 +0.6
50nm,0.5s
CRAI Chiangrai 19.64 272 P Pn 22 58 41.3 +0.6
168nm,1.5s
BJT Baijiatuau 19.72 348 eP P 22 58 39.6 -0.1
BJT pmax pmax
comp=Z,28nm,0.6s
BJT Baijiatuau 19.72 348 eP P 22 58 39.6 -0.1
comp=Z,28nm,0.6s
PBKT Sadao Pong 19.73 261 P Pn 22 58 42.3 +0.6
comp=Z,7.9nm,1.2s
BJI Beijing 19.74 348 P P 22 58 40.0 +0.1
BJI pP pP 22 58 48.0 -1.8
BJI sP sP 22 58 52.5 -2.2
BJI ScS ScS 23 10 12.5 -0.2
BJI pmax pmax
comp=Z,21nm,0.8s
BJI LR LR
comp=Z,260nm,18.9s
BJI LR LR
comp=Z,330nm,18.9s
BJI LR LR
comp=Z,130nm,18.6s
CHBT CHBT 19.84 249 P Pn 22 58 46.4 +3.4
comp=Z,15nm,1.0s
JCJ Chichijima 20.07 68 LR LR 23 04 51.4
comp=Z,172nm,20.6s,baz=120,slow=32
SBUM Sibu 20.24 207 eP P 22 58 45.8 +0.3
comp=Z,39nm,1.6s
MPSI Mapaga 20.33 184 P Pn 22 59 02.0 +13
JHJ2 Mitsune 20.54 49 eP P 22 58 47.7 -1.0
comp=Z,2μm,1.7s
CMAI Chiengmai2 20.91 272 P P 22 58 53.6 +0.5
comp=Z,113nm,1.1s
CHTO Chiang Mai 21.16 269 eP P 22 58 54.7 -0.8
CHTO pmax pmax
comp=Z,11nm,1.0s
CHTO Chiang Mai 21.16 269 P P 22 58 55.2 -0.3
comp=Z,46nm,1.1s
CHTO Chiang Mai 21.16 269 eP P 22 58 54.7 -0.8
comp=Z,11nm,1.0s
CM01 Chiang Mai Arr 21.21 268 eP P 22 58 55.2 -0.8
CMAR Chiang Mai Arr 21.21 268 P P 22 58 56.1 0.0
comp=Z,5.9nm,0.9s,baz=73,slow=9.3,SNR=41
CMAR PcP PcP 23 03 01.5 +0.9
comp=Z,0.4nm,0.3s,baz=90,slow=0.9,SNR=4.2
CMAR LR LR 23 08 29.8
comp=Z,272nm,18.2s,baz=89,slow=40
APSI Ampana 21.52 179 P P 22 59 01.3 +1.9
comp=Z,120nm,1.3s,comp=Z,1μm
MJAR Matsushiro Arr 21.56 40 P P 22 59 00.8 +1.1
comp=Z,2.0nm,0.8s,baz=224,slow=7.4,SNR=6.8
LZH Lanzhou 21.63 319 eP P 22 59 04.0 +3.4
LZH pP pP 22 59 14.8 +4.2
LZH sP sP 22 59 21.0 +5.4
LZH eS S 23 02 55.0 -3.3
LZH pmax pmax
comp=Z,38nm,1.3s
LZH pmax pmax
comp=Z,180nm,4.1s
LZH LR LR
comp=Z,470nm,14.5s
LZH LR LR
comp=Z,460nm,16.4s
LZH LR LR
comp=Z,650nm,16.0s
LUWI Luwuk 21.70 176 P P 22 59 02.6 +1.4
comp=Z,183nm,1.0s
LUWI Luwuk 21.70 176 eP P 22 59 01.8 +0.6
comp=Z,140nm,0.9s
HHC Hu-ho-hao-te 21.70 340 eP P 22 59 04.0 +2.8
HHC PP PnPn 22 59 29.5 +6.4
HHC S S 23 02 58.0 -1.4
HHC sS sS 23 03 12.8 -2.5
HHC pmax pmax
comp=Z,29nm,1.3s
HHC pmax pmax
comp=Z,180nm,5.7s
HHC LR LR
comp=Z,940nm,13.7s
HHC LR LR
comp=Z,780nm,15.9s
HHC LR LR
comp=Z,710nm,14.1s
KSM Kuching 21.97 211 eP P 22 59 03.0 -1.2
comp=Z,12nm,0.9s

MHMT Maesarieng 22.21 267 P P 22 59 09.0 +2.2
comp=Z,5.2nm,0.9s
BKB Balikpapan 22.29 192 P P 22 59 08.9 +1.2
comp=Z,118nm,0.9s
STKI Sintang 22.70 206 P P 22 59 24.8 +13
SANI Sanana 23.11 168 P P 22 59 13.4 -2.8
comp=Z,51nm,1.1s
TTSI Tana Toraja 23.69 184 P P 22 59 22.7 +0.9
comp=Z,38nm,0.8s
NLAI Namlea 24.49 166 P P 22 59 31.9 +2.6
comp=Z,100nm,1.0s
SPSI Sidrap Palu 24.60 184 P P 22 59 28.9 -1.3
comp=Z,30nm,1.1s,comp=Z,818nm
BBKI Banjar Baru 24.88 196 P P 22 59 35.5 +2.7
comp=Z,36nm,1.0s
BNSI Bone 25.01 183 P P 22 59 37.8 +3.8
USRK Ussuriysk Arra 25.02 18 P P 22 59 33.8 0.0
comp=Z,1.7nm,0.8s,baz=175,slow=6.5,SNR=4.7
USRK LR LR 23 10 11.1
comp=Z,90nm,19.4s,baz=195,slow=38
KAPI Kappang 25.64 184 eP P 22 59 40.5 +0.8
comp=Z,41nm,0.8s
FAKI Fak Fak 25.84 154 eP P 22 59 41.9 +0.4
comp=Z,107nm,1.5s
GTA Gaotai 26.21 320 eP P 22 59 44.5 -0.3
GTA pP pP 22 59 53.8 -1.8
GTA sP sP 22 59 57.8 -2.6
GTA S S 23 04 14.5 0.0
GTA sS sS 23 04 31.0 -1.5
GTA pmax pmax
comp=Z,63nm,5.7s
GTA LR LR
comp=Z,280nm,13.8s
GTA LR LR
comp=Z,190nm,14.0s
GTA LR LR
comp=Z,350nm,14.0s
PSI Prapat 28.19 234 LR LR 23 10 52.6
comp=Z,134nm,18.2s,baz=64,slow=35
LSA Lhasa 28.66 294 eP P 23 00 07.6 +0.3
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 28.66 294 eP P 23 00 07.6 +0.3
comp=Z,3.8nm,0.8s
ASAJ Asahikawa 29.25 32 LR LR 23 11 48.3
comp=Z,128nm,19.9s,baz=92,slow=36
ULN Ulaanbaatar 29.42 340 i P P 23 00 14.6 +1.1
ULN Ulaanbaatar 29.42 340 eP P 23 00 13.8 +0.3
comp=Z,5.0nm,0.7s
SONM Songino Array 29.60 339 P P 23 00 15.0 -0.1
comp=Z,3.2nm,0.7s,baz=157,slow=9.8,SNR=20
SONM PcP PcP 23 03 18.7 -0.4
comp=Z,0.5nm,0.9s,baz=155,slow=3.0,SNR=2.9
SONM ScP ScP 23 06 57.6 -0.4
comp=Z,0.8nm,0.8s,baz=150,slow=3.7,SNR=5.2
SONM LR LR 23 13 08.8
comp=Z,123nm,20.9s,baz=125,slow=38
SONA1 Songino Array 29.61 339 eP P 23 00 14.3 -0.9
ZAK Zakamensk 32.84 339 eP P 23 00 44.8 +1.3
ZAK pmax pmax
comp=Z,2.0nm,1.1s
TLY Talaya 33.83 340 eP P 23 00 52.5 +0.5
TLY eS S 23 06 03.9 -9.5
TLY pmax pmax
comp=Z,4.0nm,1.0s
TLY MLR MLR
comp=Z,119nm,14.0s
MOY Mondy 34.71 338 eP P 23 01 09.7 +10
WMQ Urumqi 36.20 317 eP P 23 01 14.5 +1.9
WMQ pP pP 23 01 24.3 +0.7
WMQ sP sP 23 01 28.0 -0.3
WMQ S S 23 06 51.8 +1.7
WMQ sS sS 23 07 07.8 -0.6
WMQ PcS PcS 23 07 26.3 +1.2
WMQ ScS ScS 23 11 26.8 0.0
WMQ pmax pmax
comp=Z,9.0nm,0.8s
WMQ pmax pmax
comp=Z,140nm,5.0s
WMQ LR LR
comp=Z,130nm,16.6s
WMQ LR LR
comp=Z,79nm,16.0s
WMQ LR LR
comp=Z,93nm,18.6s
COEN Coen 40.62 146 eP P 23 01 48.8 -1.1
comp=Z,688nm,2.1s
MK01 Makanchi Array 40.93 319 eP P 23 01 52.3 0.0
MKAR Makanchi Array 40.95 319 eP P 23 01 51.8 -0.6
MKAR Makanchi Array 40.95 319 P P 23 01 52.3 -0.1
comp=Z,2.3nm,0.7s,baz=116,slow=9.6,SNR=14
MKAR LR LR 23 21 16.2
comp=Z,87nm,18.6s,baz=107,slow=40
MKAR Makanchi Array 40.95 319 eP P 23 01 51.8 -0.6
MBWA Marble Bar 41.67 182 eP P 23 01 57.9 -0.5
comp=Z,13nm,1.1s
WRAB Tennant Creek 42.38 162 i P P 23 02 03.1 -1.2
WRAB Tennant Creek 42.38 162 eP P 23 02 03.9 -0.5
comp=Z,24nm,0.8s
WRA Warramunga Arr 42.39 162 P P 23 02 03.6 -0.8
comp=Z,14nm,0.7s,baz=343,slow=8.9,SNR=46
WRA PcP PcP 23 03 56.6 -0.6
comp=Z,1.0nm,0.5s,baz=347,slow=3.7,SNR=4.7
PETK Petropavlovsk- 42.67 32 LR LR 23 21 27.0
comp=Z,39nm,18.6s,baz=230,slow=38
H11S3 WAKE ISLAND Hy 42.68 85 T T 23 47 35.3
baz=281,slow=74,SNR=13
H11S1 WAKE ISLAND Hy 42.69 85 T T 23 47 20.1
baz=281,slow=74,SNR=11
H11S2 WAKE ISLAND Hy 42.69 85 T T 23 47 24.6
baz=281,slow=74,SNR=11
KSH Kashi 42.96 306 eP P 23 02 11.8 +2.8
KSH epP pP 23 02 20.5 +0.3
KSH esP sP 23 02 24.8 -0.1
KSH ePP PP 23 03 53.8 +4.7
KSH ePcS PcS 23 07 51.0 -0.5
KSH eS S 23 08 34.3 +2.6
KSH SS SS 23 11 41.0 -3.3
KSH pmax pmax
comp=Z,21nm,1.7s
KSH LR LR
comp=Z,74nm,4.4s
KSH LR LR
comp=Z,91nm,7.6s
ZAA0 Zalesovo Array 43.23 329 eP P 23 02 10.7 -0.1
ZALV Zalesovo Beam 43.23 329 P P 23 02 10.0 -0.8
comp=Z,2.2nm,0.6s,baz=122,slow=7.5,SNR=9.0
ZALV LR LR 23 21 07.5
comp=Z,66nm,19.0s,baz=70,slow=37
TKM2 Tokmak 2 44.05 311 eP P 23 02 18.9 +1.0
TKM2 Tokmak 2 44.05 311 eP P 23 02 17.4 -0.4
comp=Z,2.7nm,0.9s
AAK Ala-Archa 44.76 310 P P 23 02 23.9 +0.4
comp=Z,0.7nm,0.7s,baz=150,slow=14,SNR=2.9
KURK Kurchatov 44.85 322 eP P 23 02 22.3 -1.5
KURK pmax pmax
comp=Z,8.0nm,1.5s
KURK Kurchatov 44.85 322 eP P 23 02 22.3 -1.5
comp=Z,7.7nm,1.5s
AS01 Alice Springs 45.82 164 eP P 23 02 31.0 -0.8
AS01 ePcP PcP 23 04 08.4 -0.4
CTA Charters Tower 47.34 147 P P 23 02 44.5 +0.7
comp=Z,13nm,0.8s,baz=330,slow=9.5,SNR=7.3
CTAO Charters Tower 47.34 147 eP P 23 02 43.5 -0.3
CTAO pmax pmax
comp=Z,16nm,0.8s
CTAO Charters Tower 47.34 147 eP P 23 02 43.5 -0.3
comp=Z,16nm,0.8s
KKAR Karatay Array 47.72 310 eP P 23 02 44.8 -1.8
KKAR Karatay Array 47.72 310 eP P 23 02 44.8 -1.8
KBL Kabul 47.83 298 eP P 23 02 46.2 -1.6
KBL pmax pmax
comp=Z,7.0nm,1.4s
KBL Kabul 47.83 298 eP P 23 02 46.2 -1.6
comp=Z,6.6nm,1.4s
HNR Honiara 48.37 125 LR LR 23 23 39.6
comp=Z,83nm,18.8s,baz=278,slow=37
BVAR Borovoye Array 50.45 323 P P 23 03 09.2 +2.0
comp=Z,0.9nm,0.7s,baz=108,slow=9.9,SNR=7.7
BVAR PcP PcP 23 04 24.7 -0.4
comp=Z,1.6nm,0.7s,baz=131,slow=1.8,SNR=5.9
BRVK Borovoye 50.52 323⇓eP P 23 03 09.8 +2.0
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BRVK Borovoye 50.52 323 eP P 23 03 07.3 -0.5
comp=Z,3.0nm,0.8s

TIXI Tiksi 51.11 3⇓i P P 23 03 08.9 -3.0
TIXI pmax pmax
comp=Z,3.0nm,0.5s
TIXI Tiksi 51.11 3 eP P 23 03 10.9 -1.0
comp=Z,3.9nm,0.6s
FORT Forrest 51.63 173 eP P 23 03 16.5 +0.2
comp=Z,31nm,0.9s
FORT ePcP PcP 23 04 29.8 +0.1
BILL Bilibino 54.87 19 i P P 23 03 37.8 -1.9
BILL i 23 04 43.4
BILL i 23 05 40.8
BILL pmax pmax
comp=Z,7.0nm,1.2s
BILL MLR MLR
comp=Z,66nm,20.0s
BILL Bilibino 54.87 19 eP P 23 03 38.4 -1.3
comp=Z,7.4nm,1.2s
BBOO Buckleboo 55.08 165 eP P 23 03 42.0 +0.3
comp=Z,199nm,0.9s
STKA Stephens Creek 55.81 159 eP P 23 03 47.4 +0.5
STKA Stephens Creek 55.81 159 P P 23 03 46.7 -0.2
comp=Z,8.5nm,0.7s,baz=340,slow=6.4,SNR=17
STKA LR LR 23 29 23.0
comp=Z,53nm,18.5s,baz=212,slow=38
STKA Stephens Creek 55.81 159 eP P 23 03 46.7 -0.2
comp=Z,1.9nm,0.8s
ABKAR Akbulak array 55.97 316 eP P 23 03 47.0 -1.0
GEYT Alibeck 56.70 302 P P 23 03 54.5 +1.1
comp=Z,0.6nm,0.4s,baz=297,slow=4.3,SNR=3.8
GEYT LR LR 23 30 57.1
comp=Z,77nm,19.0s,baz=80,slow=39
SVE Sverdlovsk 56.91 325 eP P 23 03 59.3 +4.8
ARU Arti 57.95 324 d iP P 23 04 04.1 +2.3
ARU 23 06 10.9
ARU S S 23 12 06.6 +7.5
ARU SS SS 23 15 44.3 -6.0
ARU pmax pmax
comp=Z,5.0nm,1.2s
ZEI Tsey 67.16 309 eP P 23 05 03.1 -0.7
ZEI pmax pmax
comp=Z,7.0nm,1.3s
KBZ Khabaz 67.76 310 P P 23 05 08.2 +0.9
comp=Z,1.9nm,1.0s,baz=142,slow=7.1,SNR=3.6
KBZ LR LR 23 40 33.6
comp=Z,53nm,18.0s,baz=60,slow=41
KIV Kislovodsk 67.88 310 eP P 23 05 08.3 +0.1
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,53nm,17.0s
SVW2 Sparrevohn 68.75 31 eP P 23 05 14.0 +0.8
comp=Z,24nm,1.5s
RAYN Ar Rayn 69.51 288 eP P 23 05 18.9 +0.2
comp=Z,5.8nm,1.0s
PPLA Purkeypile 70.17 29 eP P 23 05 21.9 -0.2
comp=Z,96nm,2.4s
OHAK Old Harbor 70.34 35 eP P 23 05 22.6 -0.4
comp=Z,536nm,2.8s
KDAK Kodiak Island 70.64 35 i P P 23 05 25.7 +0.9
KDAK Kodiak Island 70.64 35 eP P 23 05 25.1 +0.2
comp=Z,237nm,2.1s
KTH Kantishna Hill 70.65 28 eP P 23 05 25.7 +0.7
comp=Z,64nm,2.3s
TRF Thorofare Moun 70.95 28 eP P 23 05 27.3 +0.4
comp=Z,66nm,2.2s
MCK McKinley 71.50 28 eP P 23 05 30.1 0.0
MCK pmax pmax
comp=Z,11nm,1.0s
MCK McKinley 71.50 28 eP P 23 05 30.1 0.0
comp=Z,11nm,1.0s
JOF Joensuu 71.77 331 eP P 23 05 32.2 +0.6
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 71.77 331 ep P 23 05 32.2 +0.6
comp=Z,1.3nm,0.3s
IL1 Eielson Array 72.20 27 eP P 23 05 32.5 -1.7
ILAR Eielson Array 72.20 27 P P 23 05 33.0 -1.2
comp=Z,0.8nm,0.5s,baz=271,slow=5.0,SNR=14
KEV Kevo 72.21 339 eP P 23 05 34.1 -0.1
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 72.21 339 ep P 23 05 34.1 -0.1
comp=Z,0.5nm,0.4s
ARCES ARCESS Array B 72.77 339 P P 23 05 39.0 +1.5
comp=Z,3.5nm,0.9s,baz=62,slow=4.2,SNR=3.3
ARCES LR LR 23 42 54.6
comp=Z,23nm,19.9s,baz=75,slow=40
PAX Paxson 73.18 28 eP P 23 05 40.4 +0.2
PAX pmax pmax
comp=Z,60nm,2.4s
PAX Paxson 73.18 28 eP P 23 05 40.4 +0.2
comp=Z,60nm,2.4s
DOT Dot Lake 73.65 28 eP P 23 05 42.9 +0.1
comp=Z,64nm,2.7s
MENT Mentasta 73.97 28 eP P 23 05 45.1 +0.4
BMRM Bremner River 74.04 30 eP P 23 05 44.2 -1.0
comp=Z,125nm,2.3s
FINES FINESS Array B 74.48 330 P P 23 05 49.8 +2.2
comp=Z,1.1nm,0.5s,baz=64,slow=5.6,SNR=17
FINES LR LR 23 41 41.4
comp=Z,108nm,18.3s,baz=87,slow=38
EGAK Eagle 74.59 26 eP P 23 05 48.5 +0.2
comp=Z,75nm,2.9s
BRTR Keskin Array B 75.34 307 P P 23 05 56.0 +2.8
comp=Z,0.4nm,0.7s,baz=97,slow=8.1,SNR=3.4
BRTR LR LR 23 42 22.5
comp=Z,29nm,18.0s,baz=76,slow=38
DAWY Dawson 75.53 27 eP P 23 05 53.6 -0.2
AKASG Malin Array Be 75.53 319 P P 23 05 53.1 -0.8
comp=Z,0.2nm,0.4s,baz=61,slow=6.1,SNR=3.7
HYT Haines Junctio 77.40 30 eP P 23 06 03.9 -0.6
BUR04 Bucovina Ar. S 78.94 317 eP P 23 06 14.0 +0.7
NB2 NORSAR Subarra 81.32 332 P P 23 06 27.9 +2.1
comp=Z,5.6nm,1.1s,baz=54,slow=5.3
NOA NORSAR Array B 81.32 332 P P 23 06 27.3 +1.5
comp=Z,1.6nm,0.9s,baz=63,slow=5.5,SNR=3.7
NOA LR LR 23 46 26.7
comp=Z,75nm,19.3s,baz=50,slow=38
RES Resolute Bay 82.02 9 eP P 23 06 28.9 -0.2
RES Resolute Bay 82.02 9 eP P 23 06 28.9 -0.2
comp=Z,73nm,2.9s
KMBO Kilima Mbogo 84.86 267 P P 23 06 46.1 +0.9
comp=Z,0.3nm,0.5s,baz=15,slow=11,SNR=3.6
GERES GERESS Array B 85.58 321 P P 23 06 49.4 +1.4
comp=Z,0.7nm,0.7s,baz=103,slow=2.9,SNR=3.6
GERES LR LR 23 46 47.9
comp=Z,49nm,19.4s,baz=114,slow=37
YKA Yellowknife Ar 86.08 23 P P 23 06 49.4 -0.5
comp=Z,2.7nm,0.6s,baz=310,slow=4.8,SNR=27
PPT Papeete 95.25 107 LR LR 23 41 55.7
comp=Z,33nm,19.9s,baz=184,slow=30

SKHL 25 23:06:32.7±0.6, 55.37N×130.59E, h8km±1km, mb4.3/5, Southeastern Siberia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KROS Kirovskiy 2.29 247 ePn Pn 23 07 09.8 -1.0
KROS pPn pPn 23 07 13.0 +0.4
KROS ePg Pb 23 07 13.8 -0.5
KROS AMB AMB 23 07 15.2
10.0nm,0.4s
KROS AMB AMB 23 07 15.2
13nm,0.4s
KROS AMB AMB 23 07 15.2
38nm,0.4s
KROS eSn Sn 23 07 39.0 -0.2
KROS eSg Sb 23 07 44.5 +1.7
KROS A A 23 07 46.3
610nm,0.4s
KROS A A 23 07 46.3
220nm,0.4s
KROS A A 23 07 46.3
250nm,0.4s
ZEA Zeya 2.54 231 ePn Pn 23 07 14.3 +0.1
ZEA pPn pPn 23 07 16.8 +0.8
ZEA ePg Pb 23 07 19.0 +0.5
ZEA AMB AMB 23 07 20.3
58nm,0.2s
ZEA AMB AMB 23 07 20.3
53nm,0.2s
ZEA eSn Sn 23 07 46.3 +1.0
ZEA i Sg Sb 23 07 51.8 +1.9
ZEA A A 23 07 52.7
210nm,0.3s
EKMR Ekimchan 2.69 148 ePn Pn 23 07 17.3 +1.0
EKMR ePg Pb 23 07 21.6 +0.5
EKMR AMB AMB 23 07 36.5
16nm,0.3s
EKMR AMB AMB 23 07 36.5
21nm,0.3s
EKMR AMB AMB 23 07 36.5
27nm,0.3s
EKMR eSn Sn 23 07 49.2 +0.2
EKMR eSg Sb 23 07 56.6 +2.3
EKMR A A 23 08 01.2
110nm,0.5s
CLNS Chul'man 3.51 297 ePn Pn 23 07 27.6 0.0
CLNS ePg Pb 23 07 34.8 -0.4
CLNS AMB AMB 23 07 36.8
28nm,0.2s
CLNS eSg Sb 23 08 20.3 +2.3
CLNS A A 23 08 23.4
204nm,0.5s
GRNR Gornyy 5.79 140 eSg Sg 23 09 33.6 -5.1
GRNR A A 23 09 41.2
28nm,0.8s
KLR Kul'dur 6.19 173 eSg Sg 23 09 47.2 -4.2
TUP Tupik 6.21 266 ePn Pn 23 08 06.4 +1.8
TUP ePg Pb 23 08 25.3 +4.2
TUP eSn Sn 23 09 16.0 +0.2
TUP eSg Sg 23 09 45.8 -6.3
NKL Nikolayevsk 6.32 106 eSg Sg 23 09 48.2 -7.1
NKL A A 23 09 55.5
12nm,0.5s
CRS Chara 7.06 288 ePn Pn 23 08 15.9 -0.3
CRS eSg Sg 23 10 12.3 -6.9

IDC 25 23:17:10.9±4.7, 20.34S×178.66W, h580km±53km, mb3.1/6, mb1 3.4/7, mb1mx3.2/23, mbtmp4.0/7, Error ellipse: s-maj=58.7km s-min=29.1km az=155.0
ISCJB 25 23:17:11.7±1.2, 20.35S±0.4×178.7W±0.2, h600km, mb3.5/6, Error ellipse: s-maj=54.4km s-min=17.6km az=153.4
ISC 25 23:17:12.3±1.3, 20.3S±0.4×178.8W±0.2, h600km, n12, σ0.78/12, mb3.6/6, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 13.92 260 P P 23 20 11.1 +0.5
0.7nm,0.3s,baz=88,slow=18,SNR=2.4
STKA Stephens Creek 37.23 244 P P 23 23 34.4 -0.2
1.2nm,0.5s,baz=59,slow=11,SNR=3.2
MJAR Matsushiro Arr 69.65 324 P P 23 27 22.8 -0.1
0.8nm,0.4s,baz=133,slow=7.1,SNR=2.1
NVAR Mina Array Bea 81.38 44 P P 23 28 27.1 -0.8
0.4nm,0.3s,baz=197,slow=2.8,SNR=3.0
TXAR Lajitas Array 87.55 58 P P 23 28 58.7 +0.7
0.5nm,0.8s,baz=224,slow=3.8,SNR=2.9
ILAR Eielson Array 88.30 13 P P 23 29 01.2 +0.7
0.4nm,0.5s,baz=221,slow=5.2,SNR=4.6
PDAR Pinedale Array 89.31 44 P P 23 29 06.0 0.0
0.9nm,0.8s,baz=215,slow=3.4,SNR=6.4
MKAR Makanchi Array 110.56 314 PKiKP PKiKP 23 34 37.8 +0.1
0.2nm,0.4s,baz=175,slow=0.8,SNR=6.0
ARCES ARCESS Array B 128.61 349 PKP PKPdf 23 35 11.8 +0.3
2.8nm,0.8s,baz=349,slow=5.2,SNR=3.9
AKASG Malin Array Be 142.51 331 PKP PKPdf 23 35 36.1 -1.6
3.1nm,0.5s,baz=43,slow=4.3,SNR=35
BRTR Keskin Array B 146.20 312 PKPbc PKPab 23 35 48.5 -0.9
0.8nm,0.5s,baz=132,slow=4.6,SNR=5.3
GERES GERESS Array B 149.83 344 PKPbc PKPbc 23 35 56.2 +0.5
0.2nm,0.4s,baz=60,slow=3.2,SNR=4.6

ISCJB 26 00:11:48.3±0.3, 55.77S±0.05×4.67W±0.10, h10km, mb5.0/37, MS5.3/128, Error ellipse: s-maj=8.3km s-min=7.0km az=155.0
IDC 26 00:11:48.0±0.5, 55.79S×4.87W, h0km, mb4.5/19, mb1 4.5/20, mb1mx4.5/29, mbtmp4.4/20, ML4.0/1, MS4.9/23, Ms1 4.8/23, ms1mx4.8/28, Error ellipse: s-maj=15.2km s-min=14.9km az=12.0
AWI 26 00:11:49.6, 55.72S×5.55W
GCMT 26 00:11:50.6±0.1, 55.96S×4.28W, h15km, MW5.6/119, Moment Tensor Solution. s92,c152; s119,c295; Duration: 1.5 Moment tensor: Scale 10^17 Nm; Mrr-0.28±.03; Mθθ-0.95±.04; Mφφ1.24±.03; Mrθ0.82±.12; Mrφ2.70±.03; Mθφ-0.42±.10; Best double couple: M0 3.06800×10^17 NP1:φs257.00000°, δ79.00000°, λ-14.00000°. NP2:φs350.00000°, δ76.00000°, λ-168.00000°. Principal axes: T 3.0610, Plg2.0000°, Azm304.0000°; N 0.0180, Plg72.0000°, Azm40.0000°; P -3.0740, Plg18.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
NEIC 26 00:11:50.0±0.3, 55.76S×4.76W, h6km, mb5.4/23, MS5.3/96, MW5.5 Error ellipse: s-maj=11.2km s-min=10.7km az=76.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^17 Nm; Mrr0.33; Mθθ-1.55; Mφφ1.23; Mrθ-0.09; Mθφ1.53; Mrφ0.40; Best double couple: M0 2.10000×10^17 NP1:φs338.00000°, δ86.00000°, λ168.00000°. NP2:φs69.00000°, δ78.00000°, λ4.00000°. Principal axes: T 1.9700, Plg11.0000°, Azm293.0000°; N 0.2900, Plg77.0000°, Azm139.0000°; P -2.2500, Plg5.0000°, Azm24.0000°;
ISC 26 00:11:51.5±0.3, 55.76S±0.05×5.25W±0.07, h10km, n230, σ1.92/133, mb5.1/37, MS5.2/129, 1D, Southern Mid-Atlantic Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VNA1 Neumayer--Stat 15.01 184 P Pn 00 15 22.2 -1.1
VNA1 Neumayer--Stat 15.01 184 S S 00 18 32.1 +5.0
VNA2 Neumayer--Watz 15.26 183 P Pn 00 15 24.0 -2.6
baz=6.4,slow=15
VNA2 Neumayer--Watz 15.26 183 S Sn 00 18 21.2 +5.8
baz=1.3,slow=15
VNA3 Neumayer Olymp 15.66 185 P Pn 00 15 30.0 -1.9
VNA3 Neumayer Olymp 15.66 185 S S 00 18 42.0 +1.5
SNAA Sanae 16.01 177 P Pn 00 15 34.5 -1.9
SNAA Sanae 16.01 177 S Sn 00 18 35.9 +2.1
SNAA Sanae 16.01 177 Pn Pn 00 15 33.4 -3.0
0.6nm,0.3s,baz=36,slow=12,SNR=57
SNAA Sn Sn 00 18 15.2 -19
0.4nm,0.3s,baz=270,slow=20,SNR=3.5
SNAA LR LR 00 20 10.3
comp=Z,2µm,19.9s,baz=357,slow=32
SNAA Sanae 16.01 177 ePn Pn 00 15 33.5 -3.0
269nm,1.2s
SNAA Sn Sn 00 18 15.2 -19
HOPE Hope Point 17.90 262 P P 00 16 07.9 +7.1
1µm,0.6s,SNR=17
SYO Syowa Base 23.95 141⇓i P P 00 17 01.2 -4.1
PMSA Palmer Station 29.45 228 LR LR 00 27 08.4
comp=Z,2µm,18.4s,baz=117,slow=31
SUR Sutherland 29.62 49 LR LR 00 26 42.0
comp=Z,3µm,20.7s,baz=204,slow=30
MAW Mawson 32.58 139 P P 00 18 17.4 -5.0
124nm,1.3s,baz=266,slow=5.9,SNR=2.0
MAW LR LR 00 29 35.9
comp=Z,1µm,19.5s,baz=260,slow=33
QSPA South Pole Qui 34.49 180 P P 00 18 35.3 -4.0
9.5nm,0.8s,baz=220,slow=5.5,SNR=18
QSPA South Pole Qui 34.49 180 eP P 00 18 39.1 -0.2
252nm,2.1s
BOSA Boshof 34.79 51 P P 00 18 38.4 -3.8
5.7nm,1.1s,baz=187,slow=12,SNR=4.2
BOSA LR LR 00 30 34.0
comp=Z,2µm,18.1s,baz=209,slow=32
BOSA Boshof 34.79 51 eP P 00 18 35.2 -7.0
282nm,2.7s
USHA Ushuaia 34.88 245 P P 00 18 41.0 -1.5
16nm,1.0s,baz=60,slow=7.9,SNR=4.6
LBTB Lobatse 38.07 49 P P 00 19 03.8 -6.5
2.1nm,0.8s,baz=191,slow=6.9,SNR=3.9
LBTB Lobatse 38.07 49 eP P 00 19 03.9 -6.3
61nm,1.6s
LBTB LR LR
comp=Z,3µm,19.5s
TSUM Tsumeb 40.35 34 P P 00 19 24.0 -5.3
comp=Z,3.4nm,0.8s,baz=104,slow=2.4,SNR=3.7
TSUM Tsumeb 40.35 34 eP P 00 19 24.2 -5.1
comp=Z,17nm,1.0s
TSUM LR LR
comp=Z,2µm,20.0s
TRQA Tornquist 41.31 271 eP P 00 19 37.3 +0.4
comp=Z,67nm,1.1s

TRQA LR LR
comp=Z,2µm,21.0s
PLCA Paso Flores 44.30 261 P P 00 20 01.6 +0.3
comp=Z,4.9nm,0.7s,baz=143,slow=9.5,SNR=12
PLCA LR LR 00 37 57.6
comp=Z,973nm,18.6s,baz=138,slow=35
PLCA Paso Flores 44.30 261 eP P 00 20 03.1 +1.8
comp=Z,23nm,0.8s
VNDA Vanda 46.74 176 P P 00 20 18.8 -1.3
comp=Z,7.3nm,1.0s,baz=211,slow=8.8,SNR=4.9
VNDA LR LR 00 39 38.2
comp=Z,2µm,18.9s,baz=192,slow=36
VNDA Vanda 46.74 176 eP P 00 20 19.4 -0.6
comp=Z,68nm,1.3s
H10S2 ASCENSION HYDR47.27 347 T T 01 11 35.4
baz=172,slow=75,SNR=23
H10S3 ASCENSION HYDR47.27 347 T T 01 11 34.3
baz=172,slow=75,SNR=23
H10S1 ASCENSION HYDR47.28 347 T T 01 11 33.2
baz=172,slow=75,SNR=25
CPUP Villa Florida 47.49 286 P P 00 20 25.8 -0.7
comp=Z,11nm,0.6s,baz=109,slow=6.1,SNR=17
CPUP LR LR 00 37 28.2
comp=Z,2µm,21.8s,baz=133,slow=32
CPUP Villa Florida 47.49 286 eP P 00 20 27.7 +1.2
LSZ Lusaka 47.83 46 P P 00 20 26.7 -2.7
comp=Z,13nm,1.3s
LSZ LR LR
comp=Z,3µm,19.0s
CASY Casey 49.09 151 eP P 00 20 37.2 -1.1
comp=Z,70nm,1.1s
CASY LR LR
comp=Z,2µm,18.0s
CFAA Coronel Fontan 49.52 272 P P 00 20 41.7 -0.4
comp=Z,3.5nm,0.9s,baz=143,slow=7.3,SNR=36
BDFB Brasilia 51.62 303 P P 00 20 56.7 -1.5
comp=Z,30nm,1.0s,baz=123,slow=6.4,SNR=20
BDFB LR LR 00 38 36.7
comp=Z,2µm,21.8s,baz=150,slow=31
BDFB Brasilia 51.62 303 eP P 00 20 58.1 -0.1
ABPO Ambohimpanom 53.63 69 PFAKE 00 21 20.0 +6.8
ABPO LR LR
comp=Z,1µm,20.0s
DRV Dumont d'Urvil 55.14 164 P P 00 21 16.0 -7.3
DRV S S 00 28 53.0 -13
DRV SS **SS** 00 32 46.0 -2.6
DRV L L 00 35 00.0
DRV R 00 38 00.0
RCBR Riachuelo 55.46 322 PFAKE 00 21 40.0 +14
RCBR LR LR
comp=Z,1µm,21.0s
AIS Amsterdam Isla 55.98 109 S S 00 29 09.0 -8.6
AIS R 00 37 00.0
MSKU Masuku 56.05 23 PFAKE 00 21 40.0 +10
MSKU LR LR
comp=Z,300nm,18.6s
LVC Limon Verde 56.83 278 eP P 00 21 37.1 +0.8
comp=Z,74nm,0.8s
PB10 Plate Boundary 57.04 276 eP P 00 21 38.8 +1.3
PB06 Plate Boundary 57.13 278 eP P 00 21 34.3 -4.0
PB04 Plate Boundary 57.43 278 eP P 00 21 39.0 -1.2
PB09 Plate Boundary 57.67 279 eP P 00 21 44.2 +2.1
PB07 Plate Boundary 58.08 278 eP P 00 21 47.3 +2.2
PB01 Plate Boundary 58.40 279 eP P 00 21 48.3 +1.2
PATCX Punta Patache 58.95 279 eP P 00 21 52.7 +1.7
HMBC Humberstone 59.24 279 eP P 00 21 54.0 +0.9
PB11 Plate Boundary 59.52 280 eP P 00 21 57.0 +2.0
PSGC Pisagua 59.91 279 eP P 00 22 02.9 +5.2
MNMC Minimini 59.99 280 eP P 00 22 00.0 +1.6
LPAZ La Paz 61.49 283 P P 00 22 07.5 -1.5
comp=Z,14nm,0.9s,baz=138,slow=4.7,SNR=40
LPAZ LR LR 00 48 39.1
comp=Z,717nm,19.2s,baz=128,slow=36
LPAZ La Paz 61.49 283 eP P 00 22 11.1 +2.1
comp=Z,81nm,1.2s
LIC Lamto 61.76 0 eP P 00 22 14.3 +4.3
comp=Z,89nm,1.0s
KIC Kosan Boka 61.90 1 eP P 00 22 14.7 +3.7
comp=Z,59nm,1.2s
TIC Toumodi 62.18 0 eP P 00 22 16.8 +3.9
comp=Z,18nm,0.7s
DBIC Dimbokro 62.20 0 P P 00 22 11.2 -1.8
comp=Z,3.4nm,1.0s,baz=93,slow=17,SNR=1.9
DBIC LR LR 00 44 00.1
comp=Z,458nm,18.7s,baz=162,slow=31
DBIC Dimbokro 62.20 0 eP P 00 22 13.1 +0.1
comp=Z,49nm,1.4s
ARE Arequipa 63.20 280 eP P 00 22 23.0 +2.9
KMBO Kilima Mbogo 64.35 49 P P 00 22 24.1 -3.5
comp=Z,0.3nm,0.4s,baz=41,slow=20,SNR=2.2
KMBO LR LR 00 48 11.6
comp=Z,2µm,19.0s,baz=186,slow=34
KMBO Kilima Mbogo 64.35 49 eP P 00 22 24.9 -2.7
comp=Z,12nm,1.3s
SAML Samuel 64.92 292 eP P 00 22 32.0 +1.0
comp=Z,124nm,1.6s
SAML LR LR
comp=Z,800nm,18.0s
TOA0 Torodi Ar. Sit 68.89 7 eP P 00 22 56.6 +0.4
TORD Torodi Ar. Bea 68.89 7 P P 00 22 52.7 -3.5
comp=Z,4.2nm,1.0s,baz=179,slow=6.0,SNR=10.0
TORD LR LR 00 46 49.8
comp=Z,561nm,21.3s,baz=170,slow=30
NNA Nana 69.83 278 PFAKE 00 23 20.0 +18
NNA LR LR
comp=Z,1µm,22.0s
MSEY Mahe Island 69.98 68 PFAKE 00 23 10.0 +6.8
MSEY LR LR
comp=Z,500nm,20.0s
BBTS Babate 70.79 348 LR LR 00 47 27.1
comp=Z,1µm,19.9s,slow=30
FURI Furi 74.00 45 eP P 00 23 28.8 +1.2
comp=Z,34nm,1.5s
FURI LR LR
comp=Z,1µm,18.0s
H01W2 Cape Leeuwin H 76.00 132 T T 01 47 41.6
baz=211,slow=75,SNR=111
H01W1 Cape Leeuwin H 76.02 132 T T 01 47 38.6
baz=211,slow=75,SNR=122
H01W3 Cape Leeuwin H 76.02 132 T T 01 47 37.7
baz=211,slow=75,SNR=115
H08N3 Diego Garcia H 77.04 82 T T 01 48 36.3
baz=217,slow=76,SNR=15
H08N1 Diego Garcia H 77.06 82 T T 01 48 37.5
baz=217,slow=76,SNR=21
H08N2 Diego Garcia H 77.06 82 T T 01 48 39.4
baz=217,slow=76,SNR=18
TAU Tasmania Unive 78.99 160 eP P 00 23 53.1 -2.0
comp=Z,44nm,1.0s
NWAO Narrogin (SRO) 78.99 134 LR LR 00 51 08.9
comp=Z,646nm,21.9s,baz=206,slow=30
OTAV Otavalo 80.80 284 eP P 00 24 06.5 +0.7
comp=Z,77nm,1.5s
OTAV LR LR
comp=Z,700nm,20.0s
RPZ Rata Peaks 80.85 177 eP P 00 24 07.7 +2.5
comp=Z,602nm,2.7s
PCRV Puerto La Cruz 82.03 301 LR LR 00 58 35.3
comp=Z,2µm,18.3s,baz=127,slow=34
KHZ Kahutara 82.19 179 PFAKE 00 24 20.0 +7.7
KHZ LR LR
comp=Z,1µm,18.0s
GRGR Grenville 82.32 305 PFAKE 00 24 20.0 +6.8
GRGR LR LR
comp=Z,1µm,22.0s
ROSC El Rosal 82.43 290 P P 00 24 14.6 +0.2
comp=Z,5.4nm,0.3s,baz=90,slow=20,SNR=2.8
ROSC LR LR 01 00 23.4
comp=Z,678nm,20.0s,baz=176,slow=35
ROSC El Rosal 82.43 290 eP P 00 24 14.8 +0.4
FORT Forrest 85.05 141 eP P 00 24 27.6 +0.4
comp=Z,31nm,0.8s
BKZ Black Stump Fm 85.43 181 PFAKE 00 24 40.0 +11
BKZ LR LR
comp=Z,900nm,20.0s
BBOO Buckleboo 85.80 148 eP P 00 24 31.2 +0.4
comp=Z,344nm,1.4s
SEUS St. Eustatius 87.62 306 PFAKE 00 24 50.0 +10
SEUS LR LR
comp=Z,1µm,20.5s
SABA Saba 87.85 306 PFAKE 00 24 50.0 +9.1
SABA LR LR
comp=Z,900nm,20.2s
SMRT St. Maarten 88.15 306 PFAKE 00 24 50.0 +7.7
SMRT LR LR
comp=Z,800nm,19.6s

MDT Midelt 88.22 1 P P 00 24 41.4 -1.0
comp=Z,1.2nm,0.9s,baz=232,slow=6.2,SNR=1.8
MDT LR LR 00 59 25.2
comp=Z,1µm,19.4s,baz=184,slow=32
STKA Stephens Creek 88.23 152 P P 00 24 40.8 -1.9
comp=Z,1.9nm,0.7s,baz=133,slow=16,SNR=2.9
STKA LR LR 01 01 22.3
comp=Z,299nm,20.7s,baz=192,slow=34
STKA Stephens Creek 88.23 152 eP P 00 24 41.0 -1.7
comp=Z,8.4nm,1.4s
BCIP Isla Barro Col 88.98 288 PFAKE 00 25 00.0 +14
BCIP LR LR
comp=Z,600nm,22.0s
CPD Cerro la Pandu 89.45 304 PFAKE 00 25 00.0 +12
CPD LR LR
comp=Z,3µm,18.9s
HUMP Col San Antoni 89.51 304 PFAKE 00 25 00.0 +11
HUMP LR LR
comp=Z,1µm,19.2s
CBYP Canovanas 89.63 304 PFAKE 00 25 00.0 +11
CBYP LR LR
comp=Z,1µm,19.0s
RAYN Ar Rayn 89.95 45 eP P 00 24 48.3 -2.4
comp=Z,36nm,1.8s
RAYN LR LR
comp=Z,12µm,20.0s
RKT Rikitea 90.61 225 eLR LR 00 53 49.9
comp=Z,1µm,33.5s
ARMA Armidale 91.92 160 PFAKE 00 25 10.0 +10
ARMA LR LR
comp=Z,2µm,20.3s
KEST Kesra 91.98 12 P P 00 24 57.5 -2.4
comp=Z,1.1nm,1.2s,baz=11,slow=19,SNR=2.1
KEST LR LR 01 02 36.4
comp=Z,128nm,19.9s,baz=207,slow=33
JTS JuntasAbangare 92.69 284 LR LR 01 07 12.6
comp=Z,433nm,18.9s,baz=152,slow=36
WDD Wield Dalam 92.81 16 PFAKE 00 25 10.0 +6.4
WDD LR LR
comp=Z,400nm,19.0s
SDDR Presa de Saban 92.84 300 PFAKE 00 25 20.0 +16
SDDR LR LR
comp=Z,800nm,21.5s
AS01 Alice Springs 93.62 143 eP P 00 25 04.6 -3.3
PALK Pallekele 93.67 83 PFAKE 00 25 20.0 +12
PALK LR LR
comp=Z,600nm,22.0s
MMAI Mount Meron Ar 94.99 33 P P 00 25 12.2 -1.5
comp=Z,2.7nm,0.8s,baz=298,slow=13,SNR=3.2
ESDC Sonseca Array 95.07 1 P P 00 25 12.8 -1.1
comp=Z,0.1nm,0.4s,baz=194,slow=3.4,SNR=2.7
ESDC LR LR 01 03 18.3
comp=Z,360nm,21.3s,baz=140,slow=32
CEL Celeste 95.37 17 PFAKE 00 25 30.0 +15
CEL LR LR
comp=Z,700nm,20.0s
CSS Prodhromos 96.18 31 PFAKE 00 25 30.0 +11
CSS LR LR
comp=Z,100nm,18.5s
EIDS Eidsvold 96.71 159 PFAKE 00 25 30.0 +8.0
EIDS LR LR
comp=Z,1µm,18.0s
WRA Warramunga Arr 97.19 142 P P 00 25 22.6 -1.7
comp=Z,0.4nm,0.7s,baz=204,slow=3.7,SNR=3.3
WRA LR LR 01 04 26.6
comp=Z,439nm,20.4s,baz=85,slow=33
ISP Isparta 98.08 28 PFAKE 00 25 40.0 +12
ISP LR LR
comp=Z,400nm,19.0s
PMBI Palembang 98.71 108 PFAKE 00 25 40.0 +8.9
PMBI LR LR
comp=Z,500nm,18.0s
JAGI Jajag, Banyuwa 98.85 119 PFAKE 00 25 40.0 +8.2
JAGI LR LR
comp=Z,800nm,21.0s
BKNI Bangkinang 99.39 103 PFAKE 00 25 40.0 +5.9
BKNI LR LR
comp=Z,700nm,22.0s
ANTO Ankara 100.61 29 PFAKE 00 25 50.0 +11
ANTO LR LR
comp=Z,300nm,20.0s
CTAO Charters Tower 100.68 153 PFAKE 00 25 50.0 +10
CTAO LR LR
comp=Z,1µm,18.0s
PPT2 Papeete2 100.97 215 eSP SP 00 38 46.3 -3.1
comp=Z,220nm,25.8s
PPT2 eSS **SS 00 44 15.3 -1.2**
comp=Z,371nm,25.5s
PPT2 Papeete2 100.97 215 eLR LR 00 58 38.5
comp=Z,454nm,21.8s
MYKOM Kota Tinggi 102.15 105 PFAKE 00 26 00.0 +14
MYKOM LR LR
comp=Z,500nm,18.0s
DZM Mont Dzumac 102.16 172 eSS SS 00 44 27.8 -4.8
comp=Z,114nm,23.2s
DZM Mont Dzumac 102.16 172 eLR LR 00 59 16.7
comp=Z,2µm,24.4s
SOEI Soe 102.45 129 PFAKE 00 26 00.0 +12
SOEI LR LR
comp=Z,2µm,21.0s
MMRI Maumere 102.54 127 PFAKE 00 26 00.0 +12
MMRI LR LR
comp=Z,600nm,21.0s
IPM Ipoh 102.82 101 PFAKE 00 26 00.0 +11
IPM LR LR
comp=Z,500nm,18.0s
GNI Garni 104.55 37 PFAKE 00 26 10.0 +13
GNI LR LR
comp=Z,700nm,19.0s
KAPI Kappang 104.56 123 PFAKE 00 26 10.0 +13
KAPI LR LR
comp=Z,500nm,19.0s
KSM Kuching 105.36 111 PFAKE 00 30 20.0
KSM LR LR
comp=Z,700nm,20.0s
COEN Coen 105.66 148 PFAKE 00 30 30.0
COEN LR LR
comp=Z,5µm,18.8s
SBUM Sibu 107.19 112 PFAKE 00 30 30.0
SBUM LR LR
comp=Z,1µm,20.0s
KIV Kislovodsk 107.28 34 PFAKE 00 30 30.0
KIV LR LR
comp=Z,600nm,18.0s
CLL Collm 107.77 12 ePS PS 00 40 06.0 +4.7
CLL ePPS PPS 00 40 54.0
CLL eSS SS 00 45 58.0 +7.1
CLL eSSS SSS 00 49 54.0
CLL Lm MLR 01 14 00.0
comp=Z,100nm,18.6s
LUWI Luwuk 109.46 123 PFAKE 00 30 30.0
LUWI LR LR
comp=Z,1µm,22.0s
KBL Kabul 109.83 58 PFAKE 00 30 30.0
KBL LR LR
comp=Z,300nm,18.3s
AKASG Malin Array Be 109.89 23 PP PP 00 30 55.7 +0.6
comp=Z,0.1nm,0.3s,baz=202,slow=7.3,SNR=5.0
TOLI Toli-Toli 110.40 120 PFAKE 00 30 30.0
TOLI LR LR
comp=Z,900nm,22.0s
PMG Port Moresby 111.12 151 PFAKE 00 30 40.0
PMG LR LR
comp=Z,600nm,20.0s
FAKI Fak Fak 111.99 133 PFAKE 00 30 40.0
FAKI LR LR
comp=Z,1µm,20.0s
BRYW Bryant College 112.30 312 PFAKE 00 30 40.0
BRYW LR LR
comp=Z,2µm,19.8s
KKM Kota Kinabalu 112.31 114 PFAKE 00 30 40.0
KKM LR LR
comp=Z,2µm,19.0s
EMMW East Machias 112.98 317 PFAKE 00 30 40.0
EMMW LR LR
comp=Z,1µm,19.1s
TNTI Ternate 113.19 127 PFAKE 00 30 40.0
TNTI LR LR
comp=Z,600nm,18.0s
CHTO Chiang Mai 113.31 91 PFAKE 00 30 40.0
CHTO LR LR
comp=Z,2µm,19.0s
TRY Troy 113.86 311 PFAKE 00 30 40.0
TRY LR LR
comp=Z,2µm,18.4s
MIAR Mount Ida 116.87 292 ePKPdf PKPdf 00 30 35.4 -0.2

MIAR LR LR
comp=Z,600nm,19.6s
SIUC Southern Illin 117.09 298 PFAKE 00 30 50.0 +14
SIUC LR LR
comp=Z,800nm,19.5s
KSH Kashi 117.13 59 ePKP PKPdf 00 30 37.0 +0.9
KSH ePP **PP 00 31 47.0 0.0**
KSH ePKS **PKSdf 00 34 13.0 +0.2**
KSH eSKS **SKSdf 00 37 48.3 +0.4**
KSH eSKKS **SKKSac 00 38 45.8 -1.1**
KSH AMB AMB
comp=Z,55nm,3.6s
KSH LR LR
comp=Z,140nm,4.7s
KSH LR LR
comp=Z,150nm,5.9s
LSA Lhasa 117.48 77 PFAKE 00 30 50.0 +12
LSA LR LR
comp=Z,6µm,19.0s
DAV Davao City (W) 117.88 122 PFAKE 00 30 50.0 +12
DAV LR LR
comp=Z,3µm,22.0s
EKS2 Erkin-Say 118.53 56 ePKPdf PKPdf 00 30 40.0 +1.3
EKS2 LR LR
comp=Z,398nm,19.0s
AAK Ala-Archa 118.84 56 ePKPdf PKPdf 00 30 39.7 +0.4
AAK LR LR
comp=Z,500nm,18.0s
FINES FINESS Array B 119.43 17 PKP PKPdf 00 30 37.0 -2.6
comp=Z,2.2nm,1.1s,baz=210,slow=4.8,SNR=3.0
TKM2 Tokmak 2 119.58 56 ePKPdf PKPdf 00 30 39.3 -1.5
TKM2 LR LR
comp=Z,502nm,19.0s
QIZ Qiongzhong 119.61 100 PFAKE 00 30 50.0 +8.7
QIZ LR LR
comp=Z,9µm,18.0s
KAF Kangasniemi 120.10 17 ep PKPdf 00 30 48.5 +7.6
comp=Z,2.6nm,0.9s
JOF Joensuu 121.71 19 ep PKPdf 00 30 51.5 +7.6
comp=Z,2.7nm,0.8s
COWI Conover 123.41 304 PFAKE 00 31 00.0 +12
COWI LR LR
comp=Z,900nm,21.0s
GYA Guiyang 123.69 92 ePdif **Pdif 00 27 22.0 0.0**
GYA PKP **PKPdf 00 30 48.8 -0.3**
GYA PP **PP 00 32 35.5 +3.6**
GYA PKS **PKSdf 00 34 25.0 -1.0**
GYA SKKS 00 39 27.3
GYA SS **SS 00 49 22.8 +2.7**
GYA AMB AMB
comp=Z,150nm,7.8s
GYA LR LR
comp=Z,160nm,22.4s
GYA LR LR
comp=Z,130nm,23.8s
GYA LR LR
comp=Z,170nm,22.9s
BRVK Borovoye 124.92 45 ePKPdf PKPdf 00 30 51.2 +0.8
BRVK LR LR
comp=Z,700nm,20.0s
VOSK Vostochnaya 124.95 46 ePKPdf PKPdf 00 30 51.2 +0.7
VOSK LR LR
comp=Z,500nm,20.9s
CD2 Chengdu 125.44 86 PKP **PKPdf 00 30 53.3 +1.1**
CD2 PP PP 00 32 48.5 +4.9
CD2 PKS **PKSdf 00 34 28.5 -0.4**
CD2 SKS **SKSdf 00 38 03.3 -0.6**
CD2 SKKS **SKKSac 00 39 39.8 -1.4**
CD2 SS **SS 00 49 44.3 +2.2**
CD2 AMB AMB
comp=Z,180nm,6.6s
MK01 Makanchi Array 125.62 58 ePKPdf PKPdf 00 30 51.0 -1.0
MKAR Makanchi Array 125.64 58 PKP PKPdf 00 30 49.7 -2.4
comp=Z,1.5nm,1.0s,baz=232,slow=1.4,SNR=8.6
MKAR Makanchi Array 125.64 58 ePKPdf PKPdf 00 30 52.5 +0.5
WMQ Urumqi 126.17 64 PKP PKPdf 00 30 54.5 +1.3
WMQ PP **PP 00 32 52.8 +4.4**
WMQ PKS **PKSdf 00 34 30.0 +0.2**
WMQ SKS **SKSdf 00 38 05.0 +0.3**
WMQ SKKS **SKKSac 00 39 45.0 -0.3**
WMQ SS **SS 00 49 53.5 +2.3**
WMQ AMB AMB
comp=Z,68nm,9.2s
WMQ LR LR
comp=Z,700nm,20.8s
KURK Kurchatov 126.75 52 ePKPdf PKPdf 00 30 55.0 +1.0
KURK LR LR
comp=Z,700nm,18.0s
ARCES ARCESS Array B 126.97 13 PKP PKPdf 00 30 53.2 -0.7
comp=Z,7.4nm,0.9s,baz=283,slow=1.6,SNR=4.7
SFJD Kangerlussuaq 127.05 339 PFAKE 00 31 10.0 +16
SFJD LR LR
comp=Z,700nm,20.0s
ISCO Idaho Springs 127.18 288 PFAKE 00 31 10.0 +14
ISCO LR LR
comp=Z,701nm,21.0s
PV10 Paradox Valley 128.02 284 ePKPdf PKPdf 00 30 57.8 +0.6
ENH Enshi 128.20 91 PFAKE 00 31 10.0 +12
ENH LR LR
comp=Z,9µm,19.0s
TWG Pinlang 128.83 107 PFAKE 00 31 10.0 +11
TWG LR LR
comp=Z,3µm,18.1s
TPUB Ta-pu 128.98 107 PFAKE 00 31 10.0 +11
TPUB LR LR
comp=Z,34µm,20.6s
LZH Lanzhou 129.31 82 ePKP PKPdf 00 30 56.8 -2.8
LZH sPKP 00 31 01.0
LZH PP **PP 00 33 12.0 +2.8**
LZH AMB AMB
comp=Z,81nm,4.3s
RSSD Black Hills 129.38 293 PFAKE 00 31 10.0 +10
RSSD LR LR
comp=Z,800nm,19.0s
GTA Gaotai 129.45 76 ePKP PKPdf 00 31 02.0 +2.3
GTA sPKP 00 31 09.0
GTA PP PP 00 33 17.3 +7.2
GTA SKS **SKSdf 00 38 12.0 +0.9**
GTA SKKS **SKKSac 00 40 09.3 +3.0**
GTA AMB AMB
comp=Z,67nm,5.2s
GTA LR LR
comp=Z,560nm,21.8s
GTA LR LR
comp=Z,510nm,21.4s
GTA LR LR
comp=Z,460nm,21.4s
ULM Lac du Bonnet 129.53 304 PFAKE 00 31 10.0 +11
ULM LR LR
comp=Z,600nm,20.4s
SUMG Summit 130.10 348 iP PKPdf 00 31 02.3 +2.0
comp=Z,7.4nm,1.1s
NLU North Lily Min 130.80 284 PFAKE 00 31 10.0 +7.6
NLU LR LR
comp=Z,700nm,19.9s
CTU Camp Tracy 131.14 285 PFAKE 00 31 10.0 +7.0
CTU LR LR
comp=Z,300nm,18.0s
DAC Darwin (Calif) 131.27 276 PFAKE 00 31 10.0 +6.6
DAC LR LR
comp=Z,600nm,19.0s
PDAR Pinedale Array 131.38 288 PKP PKPdf 00 31 03.9 +0.5
comp=Z,0.4nm,0.7s,baz=234,slow=3.0,SNR=2.9
HWUT Hardware Ranch 131.67 286 PFAKE 00 31 20.0 +16
HWUT LR LR
comp=Z,502nm,19.0s
ZAA0 Zalesovo Array 131.74 52 ePKPdf PKPdf 00 31 02.1 -1.2
ZALV Zalesovo Beam 131.74 52 PKP PKPdf 00 31 02.0 -1.4
comp=Z,0.5nm,0.3s,baz=297,slow=6.3,SNR=3.7
GUMO Guam 132.00 139 PFAKE 00 31 20.0 +15
GUMO LR LR
comp=Z,3µm,18.4s
AHID Auburn Hatcher 132.21 287 PFAKE 00 31 20.0 +15
AHID LR LR
comp=Z,500nm,20.0s
DAG Danmarks Havn 132.54 356 iP PKPdf 00 31 09.2 +4.9
comp=Z,1.9nm,0.9s
FXWY Fox Creek 132.76 288 ePKPdf PKPdf 00 31 04.6 -1.4
H17A Grant Village 133.02 289 PFAKE 00 31 20.0 +13
H17A LR LR
comp=Z,900nm,19.5s
LKWY Lake 133.04 289 PFAKE 00 31 20.0 +13
LKWY LR LR
comp=Z,1µm,20.0s
NV01 Mina Array Sit 133.20 278 ePKPdf PKPdf 00 31 06.8 -0.2

NVAR	Mina Array Bea	133.20	278	PKP	PKPdf	00 31 06.0	-1.0
	comp=Z,0.2nm,0.3s,baz=197,slow=2.8,SNR=3.6						
NJ2	Nanjing	134.81	98	ePKP	PKPdf	00 31 08.5	-1.4
EGMT	Eagleton	134.95	293	PFAKE		00 31 20.0	+10
EGMT				LR	LR		
	comp=Z,602nm,20.0s						
HHC	Hu-ho-hao-te	136.96	83	ePKP	PKPdf	00 31 18.5	+4.7
HHC				PKS	PKSdf	00 34 53.5	+3.5
HHC				SKS	SKSdf	00 38 27.8	+3.4
HHC				LR	LR		
	comp=Z,2μm,18.0s						
HHC				LR	LR		
	comp=Z,960nm,21.0s						
G08A	Pilot Rock	138.14	284	ePKPdf	PKPdf	00 31 16.1	+0.3
SONM	Songino Array	138.59	71	PKP	PKPdf	00 31 15.4	-1.2
	comp=Z,0.6nm,0.6s,baz=190,slow=4.2,SNR=4.2						
SONM				PKKPbc		00 39 30.8	
	comp=Z,0.5nm,1.0s,baz=116,slow=3.4,SNR=3.7						
SONA1	Songino Array	138.60	71	ePKPdf	PKPdf	00 31 16.2	-0.5
ULN	Ulaanbaatar	138.96	72	PFAKE		00 31 30.0	+13
ULN				LR	LR		
	comp=Z,4μm,18.0s						
BJT	Baijiatuau	138.99	87	PFAKE		00 31 30.0	+13
BJT				LR	LR		
	comp=Z,3μm,19.0s						
TLY	Talaya	139.41	65	PFAKE		00 31 30.0	+12
TLY				LR	LR		
	comp=Z,3μm,19.0s						
KS01	Wonju Array Si	143.83	100	ePKPdf	PKPdf	00 31 26.5	+0.3
YKA	Yellowknife Ar	144.84	310	PKPbc	PKPab	00 31 26.0	-0.2
	comp=Z,13nm,0.8s,baz=106,slow=3.6,SNR=42						
HIA	Hailar	146.68	78	ePKPdf	PKPbc	00 31 31.6	-0.8
HIA				LR	LR		
	comp=Z,3μm,19.0s						
CN2	Changchun	146.70	90	ePKPbc	PKPdf	00 31 31.5	+0.6
CN2				PP	PP	00 34 58.3	+1.2
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
CN2				LR	LR		
	comp=Z,500nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
MAJO	Matsushiro	148.73	112	ePKPdf	PKPdf	00 31 34.7	+0.2
MAJO				LR	LR		
	comp=Z,3μm,20.0s						
MAT	Matsushiro	148.73	112	PKP	PKPdf	00 31 36.1	+1.6
MJAR	Matsushiro Arr	148.73	112	PKPbc	PKPdf	00 31 35.6	+1.1
	comp=Z,1.4nm,0.7s,baz=138,slow=1.6,SNR=4.8						
MDJ	Mudanjiang	149.55	92	PFAKE		00 31 50.0	+4.8
MDJ				LR	LR		
	comp=Z,4μm,18.0s						
DLBC	Dease Lake	150.60	298	ePKPdf	PKPdf	00 31 37.1	+0.3
USRK	Ussuriysk Arra	150.64	95	PKPbc	PKPbc	00 31 40.9	-1.9
	comp=Z,2.3nm,1.0s,baz=245,slow=3.0,SNR=3.3						
TIXI	Tiksi	155.10	33	ePKPdf	PKPdf	00 31 41.9	-1.1
TIXI				ePKPab	PKPab	00 32 08.5	+0.8
TIXI				LR	LR		
	comp=Z,3μm,19.0s						
ERM	Erimo	155.35	111	PFAKE		00 31 50.0	+5.8
ERM				LR	LR		
	comp=Z,5μm,22.0s						
YAK	Yakutsk	156.30	56	PFAKE		00 31 50.0	+5.2
YAK				LR	LR		
	comp=Z,1μm,18.0s						
ASAJ	Asahikawa	156.48	106	PFAKE		00 32 00.0	+14
ASAJ				LR	LR		
	comp=Z,2μm,20.5s						
EGAK	Eagle	156.82	311	PFAKE		00 32 00.0	+15
EGAK				LR	LR		
	comp=Z,701nm,22.0s						
BMRM	Bremner River	158.33	301	PFAKE		00 32 00.0	+13
BMRM				LR	LR		
	comp=Z,800nm,20.6s						
PAX	Paxson	158.79	306	PFAKE		00 32 00.0	+12
PAX				LR	LR		
	comp=Z,900nm,20.9s						
DIV	Divide	158.91	301	PFAKE		00 32 00.0	+12
DIV				LR	LR		
	comp=Z,1μm,21.4s						
IL1	Eielson Array	159.27	311	ePKPdf	PKPdf	00 31 51.1	+2.7
IL1				ePKPab	PKPab	00 32 28.5	+2.6
ILAR	Eielson Array	159.27	311	PKPbc	PKPdf	00 31 56.8	+8.3
	comp=Z,0.8nm,1.0s,baz=248,slow=0.6,SNR=6.3						
ILAR				PKPab	PKPab	00 32 25.4	-0.6
	comp=Z,1.0nm,0.8s,baz=104,slow=2.1,SNR=6.4						
ILB	Eielson Array	159.27	311	ePKPab	PKPab	00 32 26.7	+0.8
COLA	College	159.66	312	PFAKE		00 32 00.0	+11
COLA				LR	LR		
	comp=Z,900nm,21.0s						
TNA	Tin City	167.07	326	ePKPdf	PKPdf	00 31 59.1	+3.3
TNA				ePKPab	PKPab	00 33 03.5	+3.4

IDC 26 00:17:55.4±3.1, 28°.21N×56°.65E, h0km, mb3.4/4, mb1 3.4/4, mb1mx3.2/41, mbtmp3.4/4, Error ellipse: s-maj=68.2km s-min=33.1km az=151.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	22.21	307	P	P	00 22 52.3	-1.3
	0.3nm,0.7s,baz=120,slow=8.5,SNR=2.8						
ZALV	Zalesovo Beam	32.95	31	P	P	00 24 31.0	-0.6
	0.2nm,0.3s,baz=241,slow=4.8,SNR=2.1						
FINES	FINESS Array B	38.97	337	P	P	00 25 24.1	+1.1
	1.0nm,0.7s,baz=141,slow=9.0,SNR=7.1						
TORD	Torodi Ar. Bea	53.13	265	P	P	00 27 15.3	+0.1
	0.3nm,0.4s,baz=65,slow=7.2,SNR=5.2						

ATH 26 00:23:31.7, 40°.22N×25°.22E, h25km±1km, MD3.1/8
ISK 26 00:23:31.3, 40°.00N×25°.46E, h27km, MD2.8
ISCJB 26 00:23:32.2±0.5, 40°.25N±0°.02×25°.26E±0°.03, h11km±4km, Error ellipse: s-maj=3.9km s-min=3.0km az=153.7
CSEM 26 00:23:32.3±0.2, 40°.24N×25°.27E, h15km, ML2.0, Error ellipse: s-maj=4.0km s-min=3.7km az=23.0
THE 26 00:23:32.5, 40°.23N×25°.26E, h10km±1km, ML2.0/6, Error ellipse: s-maj=1.4km s-min=0.6km az=349.0
SKO 26 00:23:33.1, 40°.17N×25°.28E, h0km, M1.6, ML2.1
DDA 26 00:23:35.8, 40°.20N×25°.55E, h7km, MD3.2
SOF 26 00:23:38.0, 40°.44N×25°.07E, h16km, MD2.7
ISC 26 00:23:32.4±0.9, 40°.23N±0°.02×25°.28E±0°.02, h17km±6km, n68, σ0s.66/84, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	Samothraki Isl	0.31	38	P	Pg	00 23 38.8	-0.2
SMTH				S	Sg	00 23 43.2	-0.2
SMTH	Samothraki Isl	0.31	38	ePB	Pg	00 23 38.7	-0.2
SMTH	Samothraki Isl	0.31	38	ePb	Pg	00 23 38.7	-0.2
SMTH				S	Sg	00 23 43.2	-0.2
LIA	Limnos Island	0.34	193	P	Pg	00 23 39.6	+0.2
LIA				S	Sg	00 23 44.0	-0.3
LIA	Limnos Island	0.34	193	ePB	Pg	00 23 39.6	+0.2
LIA				eSB	Sg	00 23 44.5	+0.2
LIA	Limnos Island	0.34	193	P	Pg	00 23 39.6	+0.2
LIA				S	Sg	00 23 44.0	-0.3
BOZC	Bozcaada	0.71	123	i P	Pb	00 23 46.6	+0.3
BOZC				i S	Sb	00 23 56.4	+0.7
ENEZ	Enez	0.84	53	ePG	Pb	00 23 48.8	+0.3
ENEZ	Enez	0.84	53	ePg	Pb	00 23 48.8	+0.3
ALN	Alexandroupoli	0.89	41	P	Pb	00 23 49.2	-0.1
ALN				S	Sg	00 24 01.9	+0.7
ALN	Alexandroupoli	0.89	41	ePG	Pn	00 23 50.5	+0.4
ALN	Alexandroupoli	0.89	41	ePN	Pb	00 23 49.3	-0.1
ALN				eSN	Sn	00 24 02.8	+0.2
ALN	Alexandroupoli	0.89	41	P	Pb	00 23 49.2	-0.1
ALN	Alexandroupoli	0.89	41	ePg	Pn	00 23 50.5	+0.4
ALN				S	Sg	00 24 01.9	+0.7
ALN				eSn	Sn	00 24 02.8	+0.2
EZN	Ezine	0.90	116	ePG	Pb	00 23 45.8	-3.7
EZN	Ezine	0.90	116	ePg	Pb	00 23 45.8	-3.7
GELI	Tayfur-Gelibol	0.93	79	ePG	Pb	00 23 48.1	-1.9
GELI	Tayfur-Gelibol	0.93	79	ePg	Pb	00 23 48.1	-1.9
KAVA	Kavala	0.96	323	P	Pb	00 23 50.4	-0.2
KAVA				S	Sg	00 24 04.1	+0.4
KAVA	Kavala	0.96	323	P	Pb	00 23 50.4	-0.2
KAVA				S	Sg	00 24 04.1	+0.4
OUR	Ouranopolis	1.00	276	P	Pb	00 23 51.0	-0.2
OUR				S	Sg	00 24 05.1	+0.3
OUR	Ouranopolis	1.00	276	ePN	Pn	00 23 51.9	+0.3
OUR	Ouranopolis	1.00	276	P	Pb	00 23 51.0	-0.2
OUR	Ouranopolis	1.00	276	ePn	Pn	00 23 51.9	+0.3
OUR				S	Sg	00 24 05.1	+0.3
SIGR	SIGRI	1.11	156	P	Pg	00 23 53.6	-0.2
SIGR				S	Sn	00 24 08.6	+0.5
SIGR	SIGRI	1.11	156	ePG	Pb	00 23 48.2	-4.9
SIGR	SIGRI	1.11	156	P	Pg	00 23 53.6	-0.2
SIGR				S	Sn	00 24 08.6	+0.5
LPK	Lapseki	1.14	82	ePG	Pn	00 23 50.5	-3.1
LPK	Lapseki	1.14	82	ePg	Pn	00 23 50.5	-3.1
PRK	Paraskevi	1.25	142	P	Pb	00 23 55.9	+0.5
PRK				S	Sg	00 24 12.6	0.0
PRK	Paraskevi	1.25	142	ePN	Pb	00 23 55.7	+0.3
PRK				eSN	Sg	00 24 13.1	+0.5
PRK	Paraskevi	1.25	142	ePn	Pb	00 23 55.7	+0.3
PRK				eSn	Sg	00 24 13.1	+0.5
PAIG	Paliouri	1.26	257	P	Pn	00 23 54.7	-0.6
PAIG	Paliouri	1.26	257	P	Pn	00 23 54.7	-0.6
PLG	Polygyros	1.41	276	P	Pn	00 23 57.0	-0.3
PLG	Polygyros	1.41	276	ePN	Pn	00 23 57.0	-0.3
PLG	Polygyros	1.41	276	P	Pn	00 23 57.0	-0.3
KDZ	Kurdzhali	1.42	4	i S	Sn	00 24 15.9	0.0
KDZ	Kurdzhali	1.42	4	i S	Sn	00 24 15.9	0.0
AYVA	Ayvalik	1.43	130	i P	Pg	00 23 59.5	-0.3
AYVA				i S	Sn	00 24 16.4	+0.6
AYVA	Ayvalik	1.43	130	i P	Pg	00 23 59.5	-0.3
AYVA				i S	Sn	00 24 16.4	+0.6
RZN	Rozhen	1.52	344	i P	Pb	00 24 01.1	+0.9
RZN				i S	Sn	00 24 18.4	-0.1
RZN	Rozhen	1.52	344	i P	Pb	00 24 01.1	+0.9
RZN				i S	Sn	00 24 18.4	-0.1
RKY	Sarkoy-Tekirda	1.52	72	ePN	Pn	00 23 57.4	-1.4
RKY	Sarkoy-Tekirda	1.52	72	ePn	Pn	00 23 57.4	-1.4
KRBG	Karabiga-Canak	1.55	83	ePN	Pn	00 23 56.3	-2.9
KRBG	Karabiga-Canak	1.55	83	ePn	Pn	00 23 56.3	-2.9
NVR	Nevrokopi	1.55	317	P	Pn	00 23 59.3	0.0
NVR				S	Sn	00 24 18.0	-1.1
NVR	Nevrokopi	1.55	317	ePN	Pn	00 23 59.3	0.0
NVR	Nevrokopi	1.55	317	P	Pn	00 23 59.3	0.0
NVR				S	Sn	00 24 18.0	-1.1
SRS	Serrai	1.56	305	ePN	Pn	00 23 59.0	-0.4
SRS	Serrai	1.56	305	ePn	Pn	00 23 59.0	-0.4
SOH	Sokhos	1.58	293	ePN	Pn	00 23 59.8	+0.1
SOH	Sokhos	1.58	293	ePn	Pn	00 23 59.8	+0.1
MMB	Musomiste	1.80	320	eS	Sn	00 24 23.5	-1.6
MMB	Musomiste	1.80	320	eS	Sn	00 24 23.5	-1.6
DIM	Dimitrovgrad	1.83	6	i P	Pb	00 24 06.6	+1.2
DIM				i S	Sg	00 24 30.8	-0.4
DIM	Dimitrovgrad	1.83	6	i P	Pb	00 24 06.6	+1.2
PLD	Plovdiv	1.92	347	eP	Pg	00 24 09.4	+0.1
EDC	Edincik	1.98	86	ePN	Pn	00 24 01.7	-3.4
EDC	Edincik	1.98	86	ePn	Pn	00 24 01.7	-3.4
BALB	Balikesir	2.08	106	ePN	Pn	00 24 02.5	-4.1
BALB	Balikesir	2.08	106	ePn	Pn	00 24 02.5	-4.1
VAY	Valandovo	2.33	299	ePn	Pb	00 24 13.6	-0.3
VAY				eSn	Sb	00 24 43.3	+0.9
VAY				eLg	Lg	00 24 44.6	
	comp=N,12nm,0.7s						
VAY				eLg	Lg	00 24 44.7	
	comp=E,2.3nm,0.4s						
VAY	Valandovo	2.33	299	ePn	Pb	00 24 13.6	-0.3
VAY				eLg	Lg	00 24 44.6	
	comp=E,2.3nm,0.4s						
KKB	Krupnik	2.33	315	eS	Sn	00 24 37.2	-1.1
KKB	Krupnik	2.33	315	eS	Sn	00 24 37.2	-1.1
JMB	Yambol	2.44	23	eS	Sg	00 24 51.5	+0.7

DDA 26 00:23:50.0, 38°.93N×29°.96E, h7km, MD2.8
ISCJB 26 00:23:50.7±0.5, 38°.93N±0°.03×29°.94E±0°.03, h7km±5km, Error ellipse: s-maj=4.9km s-min=3.8km az=135.2
CSEM 26 00:23:50.7±0.2, 38°.94N×29°.93E, h8km, MD2.6, Error ellipse: s-maj=4.1km s-min=3.0km az=135.0
ISK 26 00:23:50.4, 38°.93N×29°.93E, h8km, MD2.6
ISC 26 00:23:50.7±0.9, 38°.93N±0°.02×29°.95E±0°.02, h12km±7km, n28, σ0s.57/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALT	Altintas	0.18	46	P	Pg	00 23 54.6	-0.2
ALT				S	Sg	00 23 57.1	-0.5
ALT	Altintas	0.18	46	ePG	Pg	00 23 54.7	-0.1
ALT				eSG	Sg	00 23 58.2	+0.6
ALT	Altintas	0.18	46	ePg	Pg	00 23 54.7	-0.1
ALT				S	Sg	00 23 57.1	-0.5
ALT				eSg	Sg	00 23 58.2	+0.4
GDZ	Gediz	0.40	294	i P	Pg	00 23 58.2	-0.4
GDZ				i S	Sg	00 24 04.4	+0.5
GDZ	Gediz	0.40	294	i P	Pg	00 23 58.2	-0.4
GDZ				i S	Sg	00 24 04.4	+0.5
SHUT	Suhut-Afyon	0.60	128	ePG	Pb	00 24 03.7	+0.4
SHUT				eSG	Sg	00 24 11.4	+0.9
SHUT	Suhut-Afyon	0.60	128	ePg	Pb	00 24 03.7	+0.4
SHUT				eSg	Sg	00 24 11.4	+0.9
TVSB	Tavsanli	0.64	324	ePG	Pg	00 24 03.0	-0.2
TVSB				eSG	Sb	00 24 12.6	-0.3
TVSB	Tavsanli	0.64	324	ePg	Pg	00 24 03.0	-0.2
TVSB				eSg	Sb	00 24 12.6	-0.3
KHAL	Karahalli	0.66	213	i P	Pg	00 24 03.2	-0.3
KHAL				i S	Sg	00 24 12.5	+0.2
KHAL	Karahalli	0.66	213	i P	Pg	00 24 03.2	-0.3
KHAL				i S	Sg	00 24 12.5	+0.2
KHL	Karahalli	0.69	209	ePG	Pb	00 24 04.4	-0.4
KHL				eSG	Sg	00 24 13.4	+0.2
KHL	Karahalli	0.69	209	ePg	Pb	00 24 04.4	-0.4
KHL				eSg	Sg	00 24 13.4	+0.2
SEYT	Eskypehyr	0.92	50	i P	Pg	00 24 06.5	-1.9
SEYT				i S	Sg	00 24 20.9	+0.5
SEYT	Eskypehyr	0.92	50	i P	Pg	00 24 06.5	-1.9
SEYT				i S	Sg	00 24 20.9	+0.5
BORA	Eskisehir	1.03	22	i P	Pg	00 24 10.5	0.0
BORA				i S	Sg	00 24 24.2	+0.3
BORA	Eskisehir	1.03	22	i P	Pg	00 24 10.5	0.0
BORA				i S	Sg	00 24 24.2	+0.3
KULA	Kula-Manisa	1.09	248	ePG	Pb	00 24 11.4	-0.1
KULA	Kula-Manisa	1.09	248	ePN	Pn	00 24 16.4	+4.6
KULA	Kula-Manisa	1.09	248	ePg	Pb	00 24 11.4	-0.1
MANT	Manisa	1.17	248	i P	Pn	00 24 13.3	+0.2
MANT				i S	Sb	00 24 28.4	+0.1
MANT	Manisa	1.17	248	i P	Pn	00 24 13.3	+0.2
MANT				i S	Sb	00 24 28.4	+0.1
SVRH	Sivrihisar-ESK	1.33	67	ePN	Pb	00 24 16.0	+0.3
SVRH	Sivrihisar-ESK	1.33	67	ePn	Pb	00 24 16.0	+0.3
IZI	Iznik	1.45	346	ePN	Pn	00 24 16.9	0.0
IZI	Iznik	1.45	346	ePn	Pn	00 24 16.9	0.0
GULT	Gulveren	1.56	16	ePN	Pb	00 24 20.1	+0.5
GULT	Gulveren	1.56	16	ePn	Pb	00 24 20.1	+0.5

NIED 26 00:23:00, 37°.50N×141°.90E, h47km, Mw3.5 Best double couple: $M_0$2.09000×10^14 NP1:ϕ_s276.00000°, δ42.00000°, λ-76.00000°. NP2:ϕ_s77.00000°, δ50.00000°, λ-102.00000°.
JMA 26 00:23:57.0±0.2, 37°.46N×141°.90E, h37km±4km, M3.7, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.82	264	P	Pn	00 24 12.2	+0.1
JFK				S	Sn	00 24 22.6	-0.5
ONAJ	Iwakimizuishiy	0.95	248	P	Pn	00 24 13.8	-0.1
ONAJ				S	Sn	00 24 25.8	-0.4
JMM	Marumori	0.97	295	⇓P	Pn	00 24 14.5	+0.5
JMM				S	Sn	00 24 26.9	+0.4
JIO	Ouri	1.08	336	P	Pn	00 24 16.0	+0.4
JIO				S	Sn	00 24 29.1	-0.3
JFT	Otama	1.25	273	P	Pn	00 24 19.3	+1.4
JFT				S	Sn	00 24 34.9	+1.5
JOU	Okura	1.33	313	P	Pn	00 24 20.3	+1.2
JOU				S	Sn	00 24 37.3	+1.7
JMK	Ichinoseki	1.58	340	P	Pn	00 24 23.6	+1.1
JMK				eS	Sn	00 24 42.7	+1.0
JYS	Shirataka	1.64	298	S	Sn	00 24 46.4	+3.3
JFY	Yanaizu	1.75	269	P	Pn	00 24 27.4	+2.6
JFY				eS	Sn	00 24 48.1	+2.3
MAT	Matsushiro	3.10	254	P	Pn	00 24 46.6	+3.3
MAT				S	Sn	00 25 25.3	+6.2

ISCJB 26 00:26:04.2±0.8, 14°.54N±0°.07×92°.45W±0°.05, h68km±7km, mb3.9/4, Error ellipse: s-maj=12.9km s-min=6.4km az=24.8
IDC 26 00:26:06.9±1.1, 14°.78N×92°.06W, h67km±8km, mb3.7/5, mb1 3.8/7, mb1mx3.5/34, mbtmp3.8/7, MS4.1/1, Ms1 4.2/1, ms1mx2.9/33, Error ellipse: s-maj=31.7km s-min=14.7km az=40.0
MEX 26 00:26:08.1±1.1, 14°.54N×92°.54W, h46km±17km, MD4.1
ISC 26 00:26:06.0±0.9, 14°.57N±0°.08×92°.40W±0°.05, h68km±7km, n19, σ1s.38/25, mb4.0/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.36	21	eP	Pn	00 26 16.5	-0.9
THIG				i S	Sn	00 26 24.7	-1.0
PCIG		1.38	325	eP	Pn	00 26 28.5	-0.9
PCIG				i S	Sn	00 26 45.0	-1.9
CCIG	Comitan	1.73	8	eP	Pn	00 26 35.9	+1.8
CCIG				i S	Sn	00 26 55.1	-0.2
APG	El Apazote	1.92	77	P	Pn	00 26 32.4	-4.3
	33nm,0.3s,baz=252,slow=9.6,SNR=355						
APG				S	Sn	00 26 59.6	-0.5
	98nm,0.3s,baz=142,slow=19,SNR=25						
APG				LR	LR	00 27 27.2	
	comp=Z,241nm,20.0s,baz=275,slow=51						
CMIG	Matias Romero	3.47	317	eP	Pn	00 26 57.5	-0.1
CMIG				i S	Sn	00 27 36.0	-1.5
HUIG	Huatulco	3.78	289	eP	Pn	00 27 01.9	+0.1
HUIG				i S	Sn	00 27 42.6	-2.5
TUIG	Tuzandepetl	3.96	331	i S	Sn	00 27 48.5	-1.1
TEIG	Tepich	6.87	34	eP	Pn	00 27 43.2	-0.9
TEIG	Tepich	6.87	34	P	Pn	00 27 41.5	-2.6
	20nm,0.3s,baz=304,slow=1.7,SNR=57						
JTS	JuntasAbangare	8.42	119	P	Pn	00 28 04.3	-1.1
	0.8nm,0.3s,baz=38,slow=19,SNR=3.0						
TXAR	Lajitas Array	18.02	327	P	Pn	00 30 12.5	+0.6
	0.1nm,0.3s,baz=156,slow=18,SNR=2.2						
TXAR				pP	pP	00 30 26.4	+0.8
	0.0nm,0.3s,baz=152,slow=14,SNR=6.3						
ANMO	Albuquerque	23.92	331	pP	pP	00 31 30.2	+0.4
	1.9nm,0.9s,baz=157,slow=12,SNR=3.6						
ATAH	Atahualpa	25.65	146	P	P	00 31 31.8	+1.7
	8.0nm,0.8s,baz=346,slow=9.1,SNR=4.4						
NVAR	Mina Array Bea	32.99	321	P	P	00 32 36.6	+1.8
	0.6nm,0.6s,baz=123,slow=9.8,SNR=4.8						
NVAR				pP	pP	00 32 52.8	+1.5
	1.4nm,0.7s,baz=131,slow=8.3,SNR=7.7						
YKA	Yellowknife Ar	50.39	347	P	P	00 34 55.0	-1.2
	0.5nm,0.5s,baz=136,slow=9.1,SNR=5.1						
BDFB	Brasilia	53.15	123	P	P	00 35 16.9	-0.6
	1.4nm,0.4s,baz=185,slow=2.0,SNR=3.1						
ILAR	Eielson Array	62.17	337	P	P	00 36 20.7	+0.7
	baz=133,slow=2.9,SNR=4.7						
ILAR				pP	pP	00 36 38.1	+0.3
	0.6nm,0.9s,baz=138,slow=5.9,SNR=2.2						
NOA	NORSAR Array B	83.83	28	LR	LR	01 16 57.4	
	comp=Z,98nm,19.0s,baz=185,slow=36						
CMAR	Chiang Mai Arr	145.34	341	PKPbc	PKPbc	00 45 36.4	-0.5
	0.9nm,0.5s,baz=353,slow=3.4,SNR=5.9						
CMAR				pPKPbc	pPKPbc	00 45 55.0	-1.3
	0.7nm,0.4s,baz=338,slow=4.5,SNR=1.6						

CASC 26 00:27:17.5±1.2, 4°.76N×82°.59W, h35km±999km, MD4.3, 2C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	3.91	352	⇑eP	Pn	00 28 15.2	0.0
QCR	Quepos	4.89	341	⇑eP	Pn	00 28 28.7	+0.1
QCR				eS	Sn	00 29 25.9	+1.9
BUS	Buena Vista	4.90	346	⇓eP	Pn	00 28 30.3	+0.9
BUS				eS	Sn	00 29 26.7	+1.4
CGA2	Cerro Gallo 2	5.54	340	eP	Pn	00 28 38.7	+0.9
CGA2				eS	Sn	00 29 40.7	+0.2
JCR	Jicaral	5.64	334	eP	Pn	00 28 39.5	+0.4

ISCJB 26 00:49:55.7±0.7, 30°.58S±0°.05×177°.8W±0°.1, h46km, mb4.3/7, Error ellipse: s-maj=14.7km s-min=6.3km az=11.4
NEIC 26 00:49:55.0±0.6, 30°.32S×177°.84W, h35km, mb4.7/3, Error ellipse: s-maj=21.2km s-min=14.4km az=120.0
IDC 26 00:49:58.8±0.9, 29°.93S×177°.96W, h56km±6km, mb4.1/4, mb1 4.5/4, mb1mx3.9/31, mbtmp4.4/4, Error ellipse: s-maj=22.3km s-min=14.7km az=98.0
ISC 26 00:49:57.1±0.6, 30°.47S±0°.08×177°.9W±0°.1, h46km, n54, σ2s.18/53, mb4.4/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.21	357	P	Pn	00 50 12.7	-4.8
	496nm,0.3s,baz=238,slow=21,SNR=40						
RAO				S	Sn	00 50 24.0	-8.8
	8μm,0.3s,baz=127,slow=20,SNR=49						
RAO	Raoul Island	1.21	357	ePn	Pn	00 50 12.7	-4.8
RAO				eSn	Sn	00 50 22.9	-10
HAZ	Te Kaha	8.12	205	ePN	Pn	00 51 51.4	-1.0
HAZ				SN	Sn	00 53 27.8	+5.0
TWGZ	Tauwhareparae	8.43	203	ePN	Pn	00 51 55.7	-0.9
CNGZ	Carnagh Statio	8.64	201	ePN	Pn	00 51 58.5	-0.9
CNGZ				SN	Sn	00 53 38.9	+3.5
MWZ	Matawai	8.73	205	ePN	Pn	00 52 00.1	-0.6
MWZ				SN	Sn	00 53 39.4	+1.6
URZ	Urewera	8.82	207	P	Pn	00 52 00.5	-1.5
	0.3nm,0.3s,baz=114,slow=1.5,SNR=3.0						
URZ				S	Sn	00 53 42.0	+2.1
	5.6nm,0.3s,baz=228,slow=21,SNR=16						
URZ	Urewera	8.82	207	ePN	Pn	00 52 00.2	-1.7
URZ				SN	Sn	00 53 41.4	+1.5
RIGZ	Rimuhau	8.98	203	ePN	Pn	00 52 02.9	-1.2
RIGZ				SN	Sn	00 53 45.5	+1.6
BFZ	Birch Farm	11.27	204	SN	Sn	00 54 35.0	-4.8
TIWZ	Tintock	11.48	205	SN	Sn	00 54 41.9	-3.2
MRZ	Mangatainoka R	11.49	206	SN	Sn	00 54 40.7	-4.7
TCW	Tory Channel	12.47	209	SN	Sn	00 55 02.6	-6.8
OXZ	Oxford	15.15	209	SN	Sn	00 56 03.2	-12
RMQ	Roma	29.55	269	P	P	00 56 00.6	+3.1
	baz=29,SNR=5.9						
CMSA	Cobar Meteorol	31.18	259	P	P	00 56 14.9	+3.0
	baz=30,SNR=9.0						
QLP	Quilpie	33.43	267	P	P	00 56 33.5	+1.9
	baz=32,SNR=4.9						
STKA	Stephens Creek	34.59	257	P	P	00 56 43.4	+1.8
	8.2nm,0.7s,baz=102,slow=8.9,SNR=16						
STKA	Stephens Creek	34.59	257	eP	P	00 56 43.7	+2.1
	1.7nm,0.8s						
STKA	Stephens Creek	34.59	257	P	P	00 56 43.8	+2.1
	baz=34,SNR=7.1						
HTT	Hallett	36.61	254	P	P	00 57 01.1	+2.1
	baz=36,SNR=16						
BBOO	Buckleboo	39.07	254	P	P	00 57 21.2	+1.5
	baz=38,SNR=6.3						
PATS	Pohnpei	43.57	324	S	S	01 04 24.1	+1.3
	baz=44,SNR=3.1						
WRAB	Tennant Creek	44.22	272	eP	P	00 58 01.0	-1.1
	12nm,0.8s						
WRA	Warramunga Arr	44.23	272	P	P	00 58 02.0	-0.1
	13nm,0.8s,baz=111,slow=7.9,SNR=33						
WRKA	Warakurna	47.60	263	P	P	00 58 28.1	-0.5
	baz=47,SNR=7.9						
WRKA				S	S	01 05 00.2	-21
	baz=47,SNR=6.1						
JAY	Jayapura	48.04	297	P	P	00 58 41.0	+8.9
	baz=48,SNR=4.0						
KNRA	Kununurra	50.84	274	P	P	00 58 54.5	+1.1
	baz=50,SNR=4.5						
FITZ	Fitzroy Crossi	52.49	270	eP	P	00 59 05.2	-0.5
QSPA	South Pole Qui	59.65	180	eP	P	01 00 00.3	+3.9
	13nm,0.9s						
H03N3	Juan Fernandez	80.51	123	T	T	02 31 30.1	
	baz=245,slow=79,SNR=42						
H03N2	Juan Fernandez	80.52	123	T	T	02 31 30.2	
	baz=245,slow=79,SNR=19						
H03N1	Juan Fernandez	80.53	123	T	T	02 31 30.2	
	baz=245,slow=79,SNR=26						
NVAR	Mina Array Bea	88.20	43	P	P	01 02 43.9	+0.4
	1.5nm,0.8s,baz=227,slow=7.9,SNR=8.7						
NVAR				pP	pP	01 02 59.8	+2.7
	1.4nm,0.8s,baz=224,slow=8.4,SNR=5.7						
CFAA	Coronel Fontan	89.09	127	P	P	01 02 48.3	+0.5
	0.1nm,0.4s,baz=268,slow=4.3,SNR=4.3						
TXAR	Lajitas Array	92.32	57	P	P	01 03 03.1	+0.4
	0.4nm,0.9s,baz=251,slow=5.6,SNR=3.3						
TXAR				pP	pP	01 03 19.5	+3.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.5nm,1.1s,baz=212,slow=4.4,SNR=4.4						
MK31	**Makanchi Array**	**117.91**	**310**	ePKPdf	**PKPdf**	**01 08 36.5**	**-1.9**
KURK	**Kurchatov**	**121.19**	**314**	ePKPdf	**PKPdf**	**01 08 42.1**	**-2.3**
AAK	**Ala-Archa**	**122.25**	**304**	ePKPdf	**PKPdf**	**01 08 45.6**	**-1.4**
KKAR	**Karatay Array**	**125.22**	**304**	ePKPdf	**PKPdf**	**01 08 50.8**	**-1.6**
ARCES	**ARCESS Array B**	**138.68**	**348**	PKP	**PKPdf**	**01 09 14.0**	**-3.0**
	9.7nm,1.1s,baz=46,slow=5.2,SNR=5.4						
H10N3	**ASCENSION HYDR**	**138.70**	**155**	T	T	03 45 53.7	
	baz=204,slow=75,SNR=38						
H10N1	**ASCENSION HYDR**	**138.70**	**155**	T	T	03 45 54.0	
	baz=204,slow=75,SNR=34						
H10N2	**ASCENSION HYDR**	**138.71**	**155**	T	T	03 45 55.0	
	baz=204,slow=75,SNR=29						
JOF	**Joensuu**	**142.53**	**338**	ep	PKPdf	01 09 17.5	-6.6
KAF	**Kangasniemi**	**144.65**	**341**	ep	**PKPab**	**01 09 24.2**	**-2.4**
FINES	**FINESS Array B**	**145.25**	**340**	PKP	**PKPbc**	**01 09 26.7**	**-2.0**
	12nm,0.7s,baz=75,slow=3.4,SNR=65						
KBZ	**Khabaz**	**145.25**	**304**	PKP	**PKPbc**	**01 09 28.1**	**-1.1**
	1.9nm,0.8s,baz=103,slow=4.4,SNR=5.8						
NB2	**NORSAR Subarra**	**148.83**	**351**	PKP	**PKPbc**	**01 09 37.3**	**-1.7**
	comp=Z,2.1nm,0.6s,baz=15,slow=2.8						
NOA	**NORSAR Array B**	**148.83**	**351**	PKP	**PKPdf**	**01 09 35.0**	**0.0**
	comp=Z,0.7nm,0.7s,baz=16,slow=4.3,SNR=12						
NOA				PKPbc	**PKPbc**	**01 09 37.9**	**-1.1**
	comp=Z,5.0nm,0.9s,baz=15,slow=4.3,SNR=12						
AKASG	**Malin Array Be**	**151.43**	**323**	PKPbc	**PKPbc**	**01 09 43.1**	**-2.3**
	comp=Z,3.0nm,0.4s,baz=47,slow=2.4,SNR=18						
AKASG				pPKPbc	**pPKPbc**	**01 10 00.2**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=45,slow=2.0,SNR=3.2						
BRTR	**Keskin Array B**	**152.74**	**298**	PKPbc	**PKPbc**	**01 09 47.9**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=99,slow=1.1,SNR=7.8						
GERES	**GERESS Array B**	**159.65**	**338**	PKPab	**PKPab**	**01 10 29.3**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=49,slow=6.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**162.76**	**179**	PKP	**PKPdf**	**01 09 54.5**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=113,slow=1.8,SNR=2.1						
TORD				PKPab	**PKPab**	**01 10 44.8**	**+1.4**
	comp=Z,1.9nm,0.8s,baz=183,slow=3.5,SNR=5.0						
TORD				pPKPab	**pPKPab**	**01 11 00.8**	**+3.6**
	comp=Z,3.6nm,0.9s,baz=182,slow=4.2,SNR=9.0						

*IDC **26** 00:50:19.2±14.0, 35.60N×70.02E, h246km±129km, mb2.7/1, mb1 2.6/3, mb1mx2.4/38, mbtmp3.3/3, Error ellipse: s-maj=262.3km s-min=61.1km az=162.0*
*NNC **26** 00:50:22.7±13.0, 36.70N×69.98E, h127km±328km, mb2.5, mpv3.1, Error ellipse: s-maj=113.2km s-min=85.1km az=2.0*

ISC 26 00:50:17.5±2.3, **36.3N**±0.2×**70.3E**±0.1, **h100km, n7, σ2§17**/10, **1C-6D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.77**	**1**	⇓P	**Pn**	**00 51 56.3**	**+2.1**
	0.6nm,0.2s,baz=186,slow=13						
KK31				⇓S	**Sn**	**00 53 07.9**	**-1.9**
	1.6nm,0.5s,baz=190,slow=24,SNR=9.0						
AAK	**Ala-Archa**	**7.09**	**26**	⇑P	**Pn**	**00 52 01.7**	**+2.9**
	0.5nm,0.5s						
AAK				⇓S	**Sn**	**00 53 20.0**	**+2.2**
	1.4nm,0.7s						
TKM2	**Tokmak 2**	**7.76**	**30**	⇓P	**Pn**	**00 52 07.9**	**0.0**
	0.7nm,0.6s						
TKM2				⇓S	**Sn**	**00 53 31.0**	**-3.1**
	1.0nm,0.8s						
GEYT	**Alibeck**	**9.84**	**283**	P	**Pn**	**00 52 35.6**	**-0.4**
	0.2nm,0.3s,baz=99,slow=8.9,SNR=4.1						
MKAR	**Makanchi Array**	**13.78**	**37**	P	**P**	**00 53 32.8**	**-0.7**
	0.1nm,0.3s,baz=215,slow=10,SNR=7.4						
AB31	**Akbulak array**	**14.96**	**333**	⇓P	**Pn**	**00 53 43.4**	**-0.1**
	0.1nm,0.2s,baz=166,slow=12,SNR=7.8						
ZALV	**Zalesovo Beam**	**20.32**	**25**	P	**P**	**00 54 44.4**	**-0.9**
	0.4nm,0.3s,baz=220,slow=11,SNR=3.1						

WEL 26 00:56:39.6±0.3, **37.61S×176.42E, h142km**±3km, **ML3.5**/10, **2C-2D, Error ellipse: s-maj=4.2km s-min=3.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.84**	**140**	PN	Pn	00 57 02.4	+0.1
URZ				SN	Sn	00 57 19.9	+0.4
HAZ	**Te Kaha**	**1.09**	**98**	PN	Pn	00 57 04.1	-0.3
HAZ				SN	Sn	00 57 23.1	-0.1
MWZ	**Matawai**	**1.13**	**130**	PN	Pn	00 57 05.0	+0.1
MWZ				SN	Sn	00 57 24.2	+0.1
MWZ				AML	AML	00 57 32.0	
TWGZ	**Tauwhareparae**	**1.35**	**115**	PN	Pn	00 57 07.2	+0.1
TWGZ				SN	Sn	00 57 28.7	+0.7
SNGZ	**Shannon Statio**	**1.37**	**149**	PN	Pn	00 57 07.2	0.0
RAHZ	**Arahi**	**1.40**	**158**	PN	Pn	00 57 07.7	+0.2
MXZ	**Matakaoa Point**	**1.50**	**89**	ePN	Pn	00 57 08.6	+0.1
NMHZ	**Naumai**	**1.51**	**169**	ePN	Pn	00 57 09.2	+0.4
RIGZ	**Rimuhau**	**1.52**	**136**	PN	Pn	00 57 08.5	-0.3
BKZ	**Black Stump Fm**	**1.55**	**178**	⇓PN	Pn	00 57 08.8	-0.4
BKZ				SN	Sn	00 57 30.7	-1.2
CNGZ	**Carnagh Statio**	**1.66**	**122**	PN	Pn	00 57 10.2	0.0
PRGZ	**Paritu Road**	**1.74**	**139**	SN	Sn	00 57 34.0	-1.6
TUVZ	**Tukino**	**1.76**	**200**	PN	Pn	00 57 12.1	+0.5
FWVZ	**Far West T-bar**	**1.78**	**202**	⇓PN	Pn	00 57 12.6	+0.7
TRVZ	**Turoa**	**1.82**	**202**	PN	Pn	00 57 12.9	+0.5
WNVZ	**Wahianoa**	**1.83**	**200**	PN	Pn	00 57 12.8	+0.3
MCHZ	**McNeill Hill**	**1.84**	**173**	ePN	Pn	00 57 11.5	-0.8
MOVZ	**Moawhango**	**1.87**	**196**	PN	Pn	00 57 12.4	-0.4
BHHZ	**Black Hill Sta**	**1.89**	**188**	⇑PN	Pn	00 57 12.5	-0.5
MHGZ	**Mahia Peninsul**	**1.93**	**143**	PN	Pn	00 57 12.9	-0.5
KRHZ	**Kereru**	**2.03**	**181**	PN	Pn	00 57 14.0	-0.6
CKHZ	**Cape Kidnapper**	**2.11**	**166**	PN	Pn	00 57 14.8	-0.7
KAHZ	**Kahuranaki**	**2.21**	**171**	PN	Pn	00 57 15.9	-0.8
PNHZ	**Pukenui**	**2.31**	**184**	PN	Pn	00 57 16.7	-1.2
PXZ	**Pawanui**	**2.44**	**172**	PN	Pn	00 57 18.1	-1.5
WPHZ	**Waipukurau**	**2.45**	**180**	PN	Pn	00 57 18.1	-1.6
TSZ	**Takapari Road**	**2.47**	**188**	PN	Pn	00 57 18.5	-1.5
DVHZ	**Dannevirke**	**2.69**	**184**	PN	Pn	00 57 20.6	-2.1
POWZ	**Post Office Ro**	**2.82**	**190**	PN	Pn	00 57 22.3	-2.1
ANWZ	**Angora Road**	**2.84**	**179**	PN	Pn	00 57 22.7	-1.9
PRWZ	**Pori Road**	**2.96**	**187**	PN	Pn	00 57 24.4	-1.7
BFZ	**Birch Farm**	**3.07**	**183**	⇑PN	Pn	00 57 25.1	-2.4
MRZ	**Mangatainoka R**	**3.12**	**192**	PN	Pn	00 57 25.6	-2.5
MRZ				SN	Sn	00 58 01.5	-4.2
TIWZ	**Tintock**	**3.19**	**187**	PN	Pn	00 57 26.6	-2.5
OGWZ	**Otaki Gorge**	**3.34**	**197**	PN	Pn	00 57 28.4	-2.6
HOWZ	**Holdsworth Sta**	**3.36**	**192**	PN	Pn	00 57 27.7	-3.6
KIW	**Kapiti Island**	**3.45**	**199**	PN	Pn	00 57 29.5	-3.0
TMWZ	**Te Maipa**	**3.51**	**187**	PN	Pn	00 57 30.3	-3.0
MTW	**Mount Morrison**	**3.61**	**191**	PN	Pn	00 57 31.2	-3.3
CAW	**Cannon Point**	**3.65**	**196**	PN	Pn	00 57 31.9	-3.1
MSWZ	**Moikau Station**	**3.90**	**193**	PN	Pn	00 57 34.5	-3.8
TCW	**Tory Channel**	**3.96**	**204**	PN	Pn	00 57 36.1	-3.0
PLWZ	**Palliser**	**4.05**	**193**	PN	Pn	00 57 36.2	-4.2
TUWZ	**Tuamarina**	**4.27**	**206**	PN	Pn	00 57 39.8	-3.3

IDC 26 01:01:20.4±8.2, **9.70N×86.44W, h0km, mb3.3**/3, **mb1 3.7**/3, **mb1mx3.3**/36, **mbtmp3.2**/3, **Error ellipse: s-maj=167.8km s-min=14.6km az=175.0, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.57**	**68**	Pg	Pn	01 01 48.5	-1.1
	17nm,0.3s,baz=297,slow=22,SNR=28						
JTS				Lg	Lg	01 02 10.8	
	22nm,0.3s,baz=150,slow=18,SNR=6.5						
TXAR	**Lajitas Array**	**25.34**	**323**	P	P	01 06 48.2	-1.1
	0.4nm,0.7s,baz=130,slow=9.6,SNR=4.3						
NVAR	**Mina Array Bea**	**40.43**	**320**	P	P	01 09 01.8	+0.9
	0.5nm,0.7s,baz=147,slow=8.4,SNR=3.8						
YKA	**Yellowknife Ar**	**56.51**	**345**	P	P	01 11 04.1	-0.1
	0.2nm,0.9s,baz=133,slow=6.3,SNR=3.9						

DJA 26 01:06:31.2±0.8, **9°S**±5°×**11°1E**±°, **h26km**±8km, **M3.8**/13, **MLv3.8**/13, **Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.98**	**341**	P	Pn	01 06 48.9	-0.5
UGM				S	Sb	01 07 01.8	-0.5
WOJI	**Wonogiri, Jawa**	**1.01**	**5**	P	Pn	01 06 48.8	-0.9
PWJI	**Pagerwojo**	**1.26**	**49**	P	Pn	01 06 51.6	-1.5
PWJI				S	Sn	01 07 06.5	-2.7
NGJI	**Ngawi**	**1.60**	**23**	P	Pb	01 06 59.2	-0.8
KPJI	**Karang Pucung**	**2.42**	**308**	P	Pn	01 07 10.1	+1.0
KPJI				S	Sn	01 07 39.4	+1.6
GRJI	**Gresik**	**2.52**	**40**	P	Pn	01 07 10.0	-0.4
CMJI	**Cimerak**	**2.59**	**294**	P	Pn	01 07 11.6	+0.1
GMJI	**Gumukmas**	**2.64**	**78**	P	Pn	01 07 12.6	+0.5
BLJI	**Banyuglugur**	**2.94**	**68**	P	Pn	01 07 15.6	-0.7
CISI	**Cisompet, Garu**	**3.26**	**293**	P	Pn	01 07 20.8	+0.1
JAGI	**Jajag, Banyuwa**	**3.30**	**84**	P	Pn	01 07 21.4	+0.2

MEX 26 01:07:38.1±0.8, **16.71N×99.77W, h10km**±11km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.18**	**330**	eP	Pg	01 07 39.5	-2.5
ACX				iS	Sg	01 07 42.7	-2.0
CAIG	**El Cayaco**	**0.58**	**305**	iP	Pg	01 07 48.0	-1.5
CAIG				iS	Sg	01 07 56.8	-0.4
MEIG	**Mezcala**	**1.21**	**7**	eP	Pn	01 07 56.8	-4.5
MEIG				iS	Sb	01 08 12.6	-4.6
TLIG	**Tlapa**	**1.43**	**53**	eP	Pn	01 08 01.2	-3.1
TLIG				iS	Sn	01 08 17.8	-5.3
PNIG	**Pinotepa**	**1.60**	**101**	eP	Pn	01 08 02.5	-4.1
PNIG				eS	Sn	01 08 22.3	-5.1
ARIG	**Puente Sto Nin**	**1.66**	**340**	eP	Pn	01 08 04.5	-2.8
ARIG				iS	Sn	01 08 23.0	-5.6

*NIED **26** 01:07:00, 23.70N×122.80E, h29km, Mw5.4 Best double couple: $M_0$1.33000×10^17 NP1:ϕ_s176.00000°, δ39.00000°, λ81.00000°. NP2:ϕ_s8.00000°, δ52.00000°, λ97.00000°.*
*BJI **26** 01:07:55.4, 23.84N×122.73E, h12km, mB5.3/55, mb5.1/75, ML5.2/10, Ms5.2/92, Ms7 5.1/84*
*BKK **26** 01:07:55.3±0.3, 24°N±4°×12°3E±°, h10km, M5.5/46, mb5.4/46, mB5.8/33, MLv6.2/1, Mw(mB)5.4/33*
*ISCJB **26** 01:07:57.7±0.2, 23.73N±0.01×122.86E±0.01, h45km±1km, mb5.6/340, MS5.0/172, Error ellipse: s-maj=2.1km s-min=1.5km az=155.6*
*TAP **26** 01:07:57.7, 23.69N×122.87E, h52km, ML5.8, C*
*JMA **26** 01:07:57.3±0.1, 23.67N×122.81E, h50km, M5.7*
JMA Felt II J1.
*NEIC **26** 01:07:58.2±0.4, 23.78N×122.82E, h37km±3km, mb5.7/167, MS5.0/118, MW5.5, ML5.7(TAP), Error ellipse: s-maj=3.0km s-min=2.6km az=129.0*
NEIC Felt [II] at Taipei. Also felt at Hsin-tien, P'ing-tung and T'ai-chung. Felt at Fuzhou, Fujian. Recorded [3 TAP] in T'ai-tung; [2 TAP] in Hua-lien, I-lan, T'ai-chung and Yun-lin; [1 TAP] in Hsin-chu, Miao-li, P'eng-hu and P'ing-tung. Recorded [2 JMA] on Hateruma-jima, Iriomote-jima and Yonaguni-jima and [1 JMA] on Ishigaki-jima, Ryukyu Islands.
*SZGRF **26** 01:07:58.4, 23.43N×122.54E, h33km, mb6.2, MS5.2, Taiwan region*
*GCMT **26** 01:07:58.2±0.1, 23.69N×122.81E, h32km, MW5.4/98, Moment Tensor Solution. s85,c147; s98,c205; Duration: 1s2 Moment tensor: Scale 10^17Nm; M_{rr}1.43±.03; $M_{\theta\theta}$0.21±.02; $M_{\phi\phi}$-1.65±.02; $M_{r\theta}$0.20±.03; $M_{\theta\phi}$-0.14±.02; $M_{r\phi}$0.42±.03; Best double couple: $M_0$1.61600×10^17 NP1:ϕ_s11.00000°, δ53.00000°, λ99.00000°. NP2:ϕ_s177.00000°, δ38.00000°, λ78.00000°. Principal axes: T 1.5110, Plg79.0000°, Azm317.0000°; N 0.2060, Plg7.0000°, Azm186.0000°; P -1.7220, Plg8.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **26** 01:08:00.0±0.6, 23.84N×122.90E, h52km±4km, mb5.0/31, mb1 5.0/36, mb1mx5.0/39, mbtmp5.2/36, MS4.8/31, Ms1 4.8/31, ms1mx4.6/42 Error ellipse: s-maj=10.5km s-min=9.2km az=81.0*
*MOS **26** 01:08:02.1±0.8, 24.20N×122.68E, h67km, mb5.8/121, MS4.9/48, Error ellipse: s-maj=11.3km s-min=4.8km az=122.5*
*NEIC **26** 01:08:16.8±0.0, 23.81N×122.94E, h45km, Moment Tensor Solution. s130 Moment tensor: Scale 10^17Nm; M_{rr}2.04; $M_{\theta\theta}$0.00; $M_{\phi\phi}$-2.04; $M_{r\theta}$0.64; $M_{\theta\phi}$-0.02; $M_{r\phi}$0.19; Best double couple: $M_0$2.10000×10^17 NP1:ϕ_s165.00000°, δ44.00000°, λ67.00000°. NP2:ϕ_s16.00000°, δ51.00000°, λ111.00000°. Principal axes: T 2.2300, Plg73.0000°, Azm351.0000°; N -0.1800, Plg15.0000°, Azm182.0000°; P -2.0500, Plg2.0000°, Azm91.0000°;*

ISC 26 01:07:58.2±0.2, **23.73N**±0.02×**122.85E**±0.02, **h37km, h38km:pP-P, n1364, σ1§41**/1549, **mb5.7**/344, **MS5.0**/173, **321C-93D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.72**	**7**	P	**Pn**	**01 08 12.1**	**+0.2**
JYNG				S	**Sn**	**01 08 23.3**	**+1.6**
YOJ	**Yonaguni jima**	**0.74**	**11**	eP	**Pn**	**01 08 12.7**	**+0.6**
YOJ				e		01 08 22.6	
YOJ	**Yonaguni jima**	**0.74**	**11**	P	**Pn**	**01 08 12.7**	**+0.6**
YOJ				S	**Sn**	**01 08 24.1**	**+2.0**
YOJ	**Yonaguni jima**	**0.74**	**11**	ePn	**Pn**	**01 08 12.7**	**+0.6**
YOJ				eSn	**Sn**	**01 08 22.6**	**+0.5**
YOJ	**Yonaguni jima**	**0.74**	**11**	⇑iP	**Pn**	**01 08 12.9**	**+0.8**
	baz=9.0						
YOJ				iS	**Sn**	**01 08 24.2**	**+2.1**
	baz=9.0						
HATJ	**Hateruma jima**	**0.93**	**69**	P	**Pn**	**01 08 15.2**	**+0.5**
HATJ				S	**Sn**	**01 08 28.0**	**+1.1**
IRIF	**Iriomote-Funau**	**1.00**	**53**	P	**Pn**	**01 08 16.2**	**+0.5**
IRIF				S	**Sn**	**01 08 30.4**	**+1.8**
EHP	**Heping Village**	**1.17**	**300**	eP	**Pn**	**01 08 18.9**	**+1.0**
	baz=300						
EHP				eS	**Sn**	**01 08 34.4**	**+1.8**
	baz=300						
HWA	**Hwalien**	**1.17**	**282**	eP	**Pn**	**01 08 17.3**	**-0.6**
	baz=276						
JKRS	**Kuro-shima**	**1.17**	**64**	P	**Pn**	**01 08 19.0**	**+1.0**
JKRS				S	**Sn**	**01 08 34.6**	**+1.8**
TWD	**Chiawan**	**1.20**	**287**	⇑P	**Pn**	**01 08 17.7**	**-0.7**
	baz=288						
TWD				eS	**Sn**	**01 08 31.9**	**-1.6**
	baz=288						
TEGC	**Jichi Village**	**1.20**	**269**	eP	**Pn**	**01 08 18.5**	**+0.1**
	baz=270						
TEGC				eS	**Sn**	**01 08 33.5**	**+0.1**
	baz=270						
ENA	**Nanau**	**1.23**	**305**	⇑P	**Pn**	**01 08 19.1**	**+0.3**
	baz=305						
NACB	**Ninganchiao**	**1.23**	**291**	ePn	**Pn**	**01 08 17.8**	**-1.1**
NACB				eSn	**Sn**	**01 08 29.0**	**-5.1**
ESF	**Shoufeng Towns**	**1.24**	**277**	eP	**Pn**	**01 08 18.6**	**-0.3**
	baz=278						
ESF				eS	**Sn**	**01 08 33.3**	**-1.1**
	baz=278						
TWC	**Suao**	**1.27**	**314**	⇑iP	**Pn**	**01 08 19.5**	**+0.2**
	baz=305						
ESL	**Shilin**	**1.30**	**274**	⇑iP	**Pn**	**01 08 18.7**	**-1.1**
	baz=267						
ESL				eS	**Sn**	**01 08 33.3**	**-2.6**
	baz=267						
JIJ	**Ishigaki jima**	**1.34**	**62**	P	**Pn**	**01 08 20.5**	**+0.2**
JIJ				S	**Sn**	**01 08 37.6**	**+0.7**
EGS		**1.39**	**323**	⇑iP	**Pn**	**01 08 22.0**	**+1.0**
	baz=311						
EGS				S	**Sn**	**01 08 39.2**	**+1.1**
	baz=311						
EHY	**Hungye**	**1.42**	**261**	⇑iP	**Pn**	**01 08 20.8**	**-0.7**
	baz=262						
EHY				eS	**Sn**	**01 08 37.9**	**-0.9**
	baz=262						
ILA	**Ilan**	**1.44**	**316**	⇑P	**Pn**	**01 08 22.9**	**+1.2**
	baz=306						
ILA				eS	**Sn**	**01 08 40.5**	**+1.2**
	baz=306						
TWE	**Neicheng**	**1.46**	**313**	⇑iP	**Pn**	**01 08 23.1**	**+1.1**
	baz=303						
TWE				eS	**Sn**	**01 08 39.7**	**-0.1**
	baz=303						
YULB	**Yu-li**	**1.46**	**257**	ePn	**Pn**	**01 08 20.7**	**-1.4**
YULB				eSn	**Sn**	**01 08 38.3**	**-1.7**
TWF1	**Yuli**	**1.48**	**255**	⇑iP	**Pn**	**01 08 21.4**	**-0.7**
	baz=250						
ENTT	**Nioudou**	**1.48**	**308**	⇑eP	**Pn**	**01 08 23.0**	**+0.7**
	baz=297						
TWB1	**Santiao Chiao**	**1.50**	**328**	⇑iP	**Pn**	**01 08 23.3**	**+0.9**
	baz=327						
TWB1				eS	**Sn**	**01 08 39.5**	**-1.1**
	baz=327						
CHKT	**Chengkung**	**1.50**	**246**	⇑iP	**Pn**	**01 08 21.2**	**-1.4**
	baz=239						
CHKT				eS	**Sn**	**01 08 37.8**	**-3.1**
	baz=239						
WHF	**Hehuan Shan**	**1.51**	**286**	⇑iP	**Pn**	**01 08 22.6**	**-0.5**
	baz=287						
NNS	**Nan Shan**	**1.52**	**298**	⇑P	**Pn**	**01 08 23.4**	**+0.4**
	baz=298						
NNS				eS	**Sn**	**01 08 42.2**	**+0.6**
	baz=298						
JISG	**Ishigakijimahi**	**1.58**	**57**	P	**Pn**	**01 08 23.7**	**+0.1**
JISG				S	**Sn**	**01 08 43.4**	**+0.5**
TWT	**Tachien**	**1.62**	**289**	⇑P	**Pn**	**01 08 24.9**	**+0.6**
	baz=290						
YHNB	**Yeheng**	**1.64**	**305**	ePn	**Pn**	**01 08 24.7**	**+0.2**
YHNB				eSn	**Sn**	**01 08 42.3**	**-2.1**
NWF	**Wu-fen Shan**	**1.65**	**324**	⇓P	**Pn**	**01 08 25.5**	**+0.8**
	baz=323						
NSK	**Sanguang**	**1.66**	**305**	⇑P	**Pn**	**01 08 25.5**	**+0.7**
	baz=305						
NSK				eS	**Sn**	**01 08 44.7**	**0.0**
	baz=305						
TWA	**Mucha**	**1.70**	**317**	⇑P	**Pn**	**01 08 26.3**	**+1.1**
	baz=330						
TWA				eS	**Sn**	**01 08 46.1**	**+0.4**
	baz=330						
SSLB	**Suanglung**	**1.74**	**272**	ePn	**Pn**	**01 08 25.4**	**-0.4**
SSLB				eSn	**Sn**	**01 08 45.2**	**-1.5**
TATO	**Taipei**	**1.75**	**315**	ePn	**Pn**	**01 08 26.8**	**+0.8**
TATO				eSn	**Sn**	**01 08 46.5**	**-0.6**
YUS	**Yu-Shan**	**1.76**	**262**	⇑iP	**Pn**	**01 08 26.6**	**+0.1**
	baz=264						
ELDTW	**Lidau**	**1.77**	**253**	⇑iP	**Pn**	**01 08 25.4**	**-0.9**
	baz=254						
TAP1	**Taipei**	**1.78**	**317**	eP	**Pn**	**01 08 27.3**	**+1.0**
	baz=329						
TAP	**Taipei**	**1.79**	**317**	eP	**Pn**	**01 08 27.1**	**+0.6**
	baz=328						
TAP				eS	**Sn**	**01 08 49.9**	**+2.0**
	baz=328						
SMLT	**Sun Moon Lake**	**1.79**	**275**	⇑iP	**Pn**	**01 08 27.0**	**+0.4**
	baz=269						
TYC	**Yuchr**	**1.83**	**276**	⇑iP	**Pn**	**01 08 27.5**	**+0.4**
	baz=270						
TTN	**Taitung**	**1.84**	**238**	P	**Pn**	**01 08 26.4**	**-0.9**
	baz=239						
TTN				S	**Sn**	**01 08 47.7**	**-1.6**
	baz=239						
TWG	**Pinlang**	**1.87**	**241**	ePn	**Pn**	**01 08 25.9**	**-1.8**
TWG				eSn	**Sn**	**01 08 44.3**	**-5.7**
TWG	**Pinlang**	**1.87**	**241**	⇑eP	**Pn**	**01 08 26.6**	**-1.0**
	baz=236						
TWG				eS	**Sn**	**01 08 48.3**	**-1.7**
	baz=236						
TWS1	**Kuangyinshan**	**1.89**	**317**	eP	**Pn**	**01 08 28.8**	**+1.0**
	baz=328						
TWS1				eS	**Sn**	**01 08 51.8**	**+1.4**
	baz=328						
ALS	**Alishan**	**1.89**	**264**	⇑P	**Pn**	**01 08 28.7**	**+0.6**
	baz=265						
NSTT	**Nanjuang**	**1.91**	**298**	⇑iP	**Pn**	**01 08 30.0**	**+1.8**
	baz=298						
NSTT				eS	**Sn**	**01 08 52.1**	**+1.1**
	baz=298						
TWY	**Chenhua**	**1.91**	**324**	⇑iP	**Pn**	**01 08 29.0**	**+0.8**
	baz=322						
TWY				eS	**Sn**	**01 08 51.6**	**+0.6**
	baz=322						
JTJ	**Tarama**	**1.92**	**61**	P	**Pn**	**01 08 28.8**	**+0.5**
JTJ				S	**Sn**	**01 08 53.1**	**+2.0**
NCU	**National Centr**	**1.96**	**309**	⇑eP	**Pn**	**01 08 30.2**	**+1.4**
	baz=297						
NCU				eS	**Sn**	**01 08 54.2**	**+2.2**
	baz=297						
WNT	**Mingjian**	**1.99**	**275**	⇑P	**Pn**	**01 08 30.9**	**+1.7**
	baz=275						
WNT				eS	**Sn**	**01 08 55.3**	**+2.4**
	baz=275						
CHN5	**Tsauling**	**2.00**	**267**	⇑iP	**Pn**	**01 08 30.6**	**+1.1**
	baz=268						
TWQ1	**Liyutan**	**2.00**	**288**	⇑iP	**Pn**	**01 08 31.3**	**+1.9**
	baz=288						
TWQ1				eS	**Sn**	**01 08 55.0**	**+1.9**
	baz=288						
STYT	**Tauyuan**	**2.00**	**254**	⇑P	**Pn**	**01 08 29.8**	**+0.3**
	baz=249						
STYT				S	**Sn**	**01 08 52.4**	**-1.0**
	baz=249						
HSN	**Hsinchu**	**2.02**	**302**	eP	**Pn**	**01 08 31.1**	**+1.4**
	baz=303						
NSY	**Sanyi**	**2.03**	**290**	⇑P	**Pn**	**01 08 31.9**	**+2.1**
	baz=290						
NSY				eS	**Sn**	**01 08 56.6**	**+2.7**
	baz=290						
TCU	**Taichung**	**2.03**	**282**	⇑iP	**Pn**	**01 08 31.9**	**+2.1**
	baz=282						
TCU				eS	**Sn**	**01 08 56.3**	**+2.3**
	baz=282						
ECL	**Taimali**	**2.08**	**237**	⇑eP	**Pn**	**01 08 29.3**	**-1.2**
	baz=249						
TPUB	**Ta-pu**	**2.08**	**259**	ePn	**Pn**	**01 08 31.0**	**+0.5**
TPUB				eSn	**Sn**	**01 08 54.3**	**-1.0**
WGK	**Gukeng**	**2.10**	**269**	eP	**Pn**	**01 08 32.5**	**+1.7**
	baz=269						
WGK				eS	**Sn**	**01 08 58.1**	**+2.6**
	baz=269						
CHN4	**Tsaushan**	**2.11**	**260**	⇑iP	**Pn**	**01 08 32.5**	**+1.6**
	baz=254						
WTP	**Ta-pu**	**2.11**	**257**	⇑iP	**Pn**	**01 08 32.1**	**+1.1**
	baz=258						
SGST	**Jiashian**	**2.18**	**253**	⇑iP	**Pn**	**01 08 33.4**	**+1.5**
	baz=254						
SGST				eS	**Sn**	**01 08 59.0**	**+1.3**
	baz=254						
CHN2	**Minshiung**	**2.19**	**265**	P	**Pn**	**01 08 34.3**	**+2.4**
	baz=266						
CHN2				eS	**Sn**	**01 08 59.9**	**+2.1**
	baz=266						
CHN1	**Nanshi**	**2.20**	**256**	⇑iP	**Pn**	**01 08 33.7**	**+1.5**
	baz=257						
CHN1				eS	**Sn**	**01 09 00.4**	**+2.2**
	baz=257						
TWK	**Hsinying**	**2.22**	**258**	⇑P	**Pn**	**01 08 34.0**	**+1.6**
	baz=259						
TWK				eS	**Sn**	**01 09 00.1**	**+1.4**
	baz=259						
CHY	**Chiayi**	**2.24**	**265**	⇑iP	**Pn**	**01 08 34.5**	**+1.8**
	baz=265						
CHY				eS	**Sn**	**01 08 59.9**	**+0.9**
	baz=265						
TAW	**Tawu**	**2.26**	**233**	⇑P	**Pn**	**01 08 32.1**	**-0.9**
	baz=234						
TAW				eS	**Sn**	**01 08 56.8**	**-2.8**
	baz=234						
SSD	**Sandimen**	**2.26**	**245**	eP	**Pn**	**01 08 33.0**	**-0.1**
	baz=242						
EAST	**Anshuo**	**2.28**	**234**	⇑iP	**Pn**	**01 08 32.5**	**-0.8**
	baz=235						
WTCT	**Ta-ch'eng**	**2.36**	**274**	⇑eP	**Pn**	**01 08 36.2**	**+1.9**
	baz=288						
WTCT				eS	**Sn**	**01 09 05.0**	**+3.0**
	baz=288						
CHN3	**Shinhua**	**2.37**	**255**	⇑iP	**Pn**	**01 08 37.5**	**+2.9**
	baz=265						
CHN3				S	**Sn**	**01 09 06.7**	**+4.3**
	baz=265						
JIRB	**Irabujima**	**2.38**	**62**	P	**Pn**	**01 08 35.1**	**+0.4**
JIRB				S	**Sn**	**01 09 03.1**	**+0.5**
SGLT	**Jiouru**	**2.39**	**246**	eP	**Pn**	**01 08 36.4**	**+1.6**
	baz=244						
TWM1	**Shoushan**	**2.41**	**248**	⇑P	**Pn**	**01 08 37.8**	**+2.8**
	baz=249						
WSF	**Szhu**	**2.41**	**268**	eP	**Pn**	**01 08 36.5**	**+1.5**
	baz=268						
WSF				eS	**Sn**	**01 09 05.0**	**+1.7**
	baz=268						
CHN8	**Yiju**	**2.45**	**262**	⇑P	**Pn**	**01 08 37.1**	**+1.5**
	baz=262						
CHN8				S	**Sn**	**01 09 06.5**	**+2.2**
	baz=262						
SCZT	**Fangliau**	**2.46**	**237**	eP	**Pn**	**01 08 35.6**	**-0.1**
	baz=241						
SCZT				eS	**Sn**	**01 09 04.0**	**-0.6**
	baz=241						
JMJ	**Miyako jima 2**	**2.48**	**64**	P	**Pn**	**01 08 36.5**	**+0.5**

JMJ S Sn 01 09 06.3 +1.4
JMJ Miyako jima 2 2.48 64⇓eP Pn 01 08 36.5 +0.5
baz=64
JMJ eS Sn 01 09 05.5 +0.5
baz=64
JIKM Ikemajima 2.49 61 P Pn 01 08 36.5 +0.4
JIKM S Sn 01 09 06.0 +0.8
SCLT Jiali 2.50 258 eP Pn 01 08 38.0 +1.8
baz=258
SCLT eS Sn 01 09 08.7 +3.2
baz=258
TAI1 Yung-k'ang 2.51 255⇑iP Pn 01 08 38.6 +2.3
baz=255
TAI1 eS Sn 01 09 07.8 +2.2
baz=255
JOGS Gusukube 2.55 66 P Pn 01 08 37.8 +0.9
JOGS S Sn 01 09 08.6 +1.9
TSEB Hengchuen, Pin 2.56 225 eP Pn 01 08 37.6 +0.5
baz=227
TSEB eS Sn 01 09 05.9 -1.1
baz=227
TWK1 Hengchun 2.59 227⇑iP Pn 01 08 37.6 0.0
baz=220
TWK1 S Sn 01 09 06.9 -1.0
baz=220
HEN Hengchun 2.60 229⇑iP Pn 01 08 38.0 +0.3
baz=230
HEN S Sn 01 09 06.9 -1.0
baz=230
KAU Kaohsiung 2.61 244⇑eP Pn 01 08 40.4 +2.6
baz=259
KAU eS Sn 01 09 12.3 +4.0
baz=259
TWP Hsiaoliuchiu 2.67 239⇑eP Pn 01 08 42.0 +3.4
baz=237
WDGT Dungji 2.97 262 ⇑P Pn 01 08 43.3 +0.7
baz=261
WDGT eS Sn 01 09 16.1 -0.9
baz=261
PNG Penghu 3.03 268⇑eP Pn 01 08 44.4 +0.9
baz=280
PNG eS Sn 01 09 18.7 +0.2
baz=280
QZH Quanzhou 4.07 288⇓iPn Pn 01 08 57.8 0.0
QZH Sn Sn 01 09 41.8 -2.4
QZH smax smax
comp=N,8μm,0.3s
QZH smax smax
comp=E,4μm,0.3s
QZH LR LR
comp=N,23μm,6.7s
QZH LR LR
comp=E,21μm,6.0s
QZH LR LR
comp=Z,28μm,11.4s
KNM Kinmen 4.09 280 eP Pn 01 08 60.0 +1.8
baz=279
JKE Kume jima 2 4.41 53 P Pn 01 09 02.1 -0.4
JKE eS Sn 01 09 52.5 -0.1
JAGN Aguni-jima 4.89 54 P Pn 01 09 08.4 -0.8
JAGN eS Sn 01 10 03.1 -1.4
JJT2 Tamagusuku 2 5.05 61 P Pn 01 09 10.4 -0.9
JJT2 eS Sn 01 10 07.7 -0.7
JNTH Nagotoyohara 5.45 58 P Pn 01 09 15.7 -1.1
JNTH eS Sn 01 10 16.5 -1.7
SGCP Mt. Cagua 5.51 188 eP Pn 01 09 17.1 -0.7
JIH Iheya 5.68 54 P Pn 01 09 18.6 -1.3
JIH eS Sn 01 10 20.3 -3.6
PIP Pasuquin 5.77 202⇓iP Pn 01 09 22.1 +0.8
PIP eS Sn 01 10 25.1 -1.1
JOW Kunigami 5.80 57 P Pn 01 09 20.0 -1.7
JOW eS Sn 01 10 26.9 0.0
JOW Kunigami 5.80 57 P Pn 01 09 20.3 -1.3
24nm,0.3s,baz=164,slow=16,SNR=111
JOW S Sn 01 10 23.5 -3.4
6.0nm,0.3s,baz=128,slow=19,SNR=2.7
JOW Kunigami 5.80 57 ePn Pn 01 09 20.1 -1.5
JOW eSn Sn 01 10 24.0 -2.9
JOW Kunigami 5.80 57 eP Pn 01 09 20.5 -1.2
APYP Conner 6.03 195 eP Pn 01 09 25.1 +0.2
baz=58
APYP eS Sn 01 10 25.1 -7.5
CVP Callao Caves 6.08 189⇓eP Pn 01 09 24.9 -0.5
CVP eS Sn 01 10 33.2 -0.6
SIPP Brgy, Tapao 6.20 202⇓iP Pn 01 09 20.2 -6.9
SIPP eS Sn 01 10 22.3 -14
JOKE Okinoerabujima 6.30 54 P Pn 01 09 26.7 -1.9
JOKE eS Sn 01 10 37.3 -2.1
ABRA Dolores 6.37 199 eP Pn 01 09 32.1 +2.6
CAUP Cauayan 6.82 188 eP Pn 01 09 38.2 +2.5
JTK Tokunoshima 6.82 52 P Pn 01 09 33.6 -2.1
JTK eS Sn 01 10 47.1 -5.0
JAMN Amaminishikomi 7.25 50 P Pn 01 09 37.2 -4.3
JAMN eS Sn 01 10 58.4 -4.2
SSE Sheshan 7.48 349 P Pn 01 09 44.8 +0.1
SSE S Sn 01 11 09.0 +0.7
SSE smax smax
comp=N,200nm,1.1s
SSE smax smax
comp=E,300nm,1.2s
SSE LR LR
comp=N,6μm,18.1s
SSE LR LR
comp=E,6μm,18.2s
SSE LR LR
comp=Z,8μm,17.3s
JAM Amami Oshima 7.65 51 P Pn 01 09 44.2 -2.9
JAM eS Sn 01 11 07.3 -5.2
BOLP Bolinao 7.82 201 eP Pn 01 09 52.2 +2.9
JTAJ Takarajima 7.84 45 P Pn 01 09 48.1 -1.6
JTAJ eS Sn 01 11 15.3 -1.9
JZK Kikaishima 7.86 53 P Pn 01 09 47.6 -2.4
JZK eS Sn 01 11 14.1 -3.6
JMZ Minamidaito 2 7.89 73 P Pn 01 09 46.5 -3.8
JMZ eS Sn 01 11 08.5 -10
BALP Baler 8.04 189 eP Pn 01 09 53.0 +0.6
HKC Hong Kong Obse 8.12 262 P Pn 01 09 54.0 +0.5
GZH Guangzhou 8.76 268 P Pn 01 09 57.8 -4.4
GZH S Sn 01 11 26.8 -13
GZH smax smax
comp=N,900nm,1.4s
GZH smax smax
comp=E,970nm,1.1s
NJ2 Nanjing 9.01 338 eP Pn 01 10 05.0 -0.7
NJ2 S Sn 01 11 42.8 -3.0
NJ2 pmax pmax
comp=E,90nm,1.2s
NJ2 smax smax
comp=E,620nm,1.1s
NJ2 smax smax
comp=E,600nm,1.1s
NJ2 LR LR
comp=E,8μm,15.0s
NJ2 LR LR
comp=E,8μm,11.4s
NJ2 LR LR
comp=E,11μm,16.4s
PVCP Virac 10.16 173⇑eP Pn 01 10 21.8 +0.3
WHN Wuhan 10.16 314 ⇑P Pn 01 10 20.8 -0.7
WHN S Sn 01 12 08.5 -5.7
WHN LR LR
comp=E,11μm,9.2s
WHN LR LR
comp=E,9μm,10.4s
WHN LR LR
comp=E,8μm,10.5s
JNU Nakatsue 11.72 35 P Pn 01 10 43.7 +0.9
comp=E,2.8nm,0.3s,baz=207,slow=9.3,SNR=13
JNU Nakatsue 11.72 35 ePn Pn 01 10 43.0 +0.2
QIZ Qiongzhong 12.99 251 P Pn 01 11 00.5 +0.3
QIZ S Sn 01 13 24.8 +1.4
QIZ pmax pmax
comp=E,130nm,1.2s
QIZ LR LR
comp=E,3μm,19.5s
QIZ LR LR
comp=E,3μm,18.4s
QIZ LR LR
comp=E,9μm,18.7s
QIZ Qiongzhong 12.99 251 ePn Pn 01 11 01.1 +0.9
comp=E,309nm,1.1s
QIZ eSn Sn 01 13 17.5 -5.9
TIA Tai'an 13.39 340 ⇑P Pn 01 11 08.5 +2.9
TIA S Sn 01 13 38.8 +5.8
TIA pmax pmax
comp=E,50nm,1.3s
TIA pmax pmax
comp=E,840nm,6.5s
TIA LR LR
comp=E,5μm,19.8s
TIA LR LR
comp=E,6μm,14.0s
TIA LR LR
comp=E,6μm,18.1s
ENH Enshi 13.57 302 ePn Pn 01 11 07.9 -0.3
comp=E,136nm,1.4s
INCN Inchon 14.09 12 ePn Pn 01 11 14.3 -0.8
INCN eP P 01 11 21.5 -0.8
KSAR Wonju Array Be 14.33 16 P Pn 01 11 18.6 +0.2
KSAR Wonju Array Be 14.33 16 P Pn 01 11 18.6 +0.2
KSAR PcP PcP 01 16 33.8 +0.1
KSRS Korea Array 14.35 16 P Pn 01 11 18.6 -0.1
comp=E,1.4nm,0.3s,baz=198,slow=13,SNR=38
KSRS PcP PcP 01 16 33.8 +0.1
comp=E,0.3nm,0.3s,baz=216,slow=1.6,SNR=4.1
KSRS LR LR 01 17 31.2
comp=E,5μm,18.4s,baz=198,slow=40
GYA Guiyang 14.91 284⇑iP Pn 01 11 26.5 0.0
GYA pP P 01 11 34.3 +2.7
GYA S Sn 01 14 06.5 -4.1
GYA sS S 01 14 23.0 -4.5
GYA SS SnSn 01 14 28.8 +5.5
GYA pmax pmax
comp=E,90nm,1.0s
GYA pmax pmax
comp=E,540nm,7.8s
GYA LR LR
comp=E,7μm,14.3s
GYA LR LR
comp=E,5μm,14.3s
GYA LR LR
comp=E,6μm,15.0s
DL2 Dalian 15.16 356⇑iP P 01 11 35.0 +0.8
DL2 pmax pmax
comp=E,66nm,0.9s
DL2 pmax pmax
comp=E,770nm,3.9s
DL2 LR LR
comp=E,3μm,12.6s
DL2 LR LR
comp=E,2μm,17.4s
DL2 LR LR
comp=E,3μm,13.2s
XAN Xi'an 15.93 313 P Pn 01 11 39.5 -0.1
XAN PP pP 01 11 53.8 +1.5
XAN S Sn 01 14 37.3 +2.2
XAN SS SnSn 01 14 56.0 +7.7
XAN LR LR
comp=E,4μm,21.6s
XAN LR LR
comp=E,2μm,23.1s
XAN LR LR
comp=E,1μm,17.6s
TIY Taiyuan 16.55 330 eP Pn 01 11 52.5 +2.9
TIY S S 01 14 56.8 -3.9
TIY pmax pmax
comp=E,75nm,0.6s
TIY pmax pmax
comp=E,980nm,6.3s
TIY LR LR
comp=E,5μm,11.0s
TIY LR LR
comp=E,870nm,5.6s
TIY LR LR
comp=E,6μm,16.4s
BJT Baijiatuau 17.19 342 eP Pn 01 11 55.7 +0.3
BJT pmax pmax
comp=Z,59nm,0.7s
BJT Baijiatuau 17.19 342 ePn Pn 01 11 55.7 +0.3
comp=Z,59nm,0.7s
BJI Beijing 17.21 342 P P 01 11 56.3 -0.5
BJI sP sP 01 12 09.5 -1.7
BJI S Sn 01 15 08.0 +2.1
BJI PcP PcP 01 16 39.3 +1.4
BJI pmax pmax
comp=Z,78nm,0.7s
BJI pmax pmax
comp=Z,940nm,4.2s
BJI LR LR
comp=Z,3μm,21.7s
BJI LR LR
comp=Z,4μm,17.0s
BJI LR LR
comp=Z,3μm,23.6s
JHJ2 Mitsune 17.59 54 ePn Pn 01 11 59.9 -0.4
comp=Z,245nm,0.9s
KDM Kudat 17.69 200 ⇓P P 01 12 05.7 +3.4
CBIJ Chichi jima 17.78 75 ePn P 01 12 03.9 +0.6
comp=Z,556nm,1.5s
JCJ Chichijima 17.78 75 P Pn 01 12 02.8 -0.1
comp=Z,7.6nm,0.3s,baz=157,slow=8.1,SNR=6.9
JCJ LR LR 01 18 16.5
comp=Z,3μm,19.5s,baz=274,slow=35
SNY Shenyang 18.06 2 ⇑P P 01 12 07.0 +0.8
SNY S Sn 01 15 28.0 +1.6
SNY pmax pmax
comp=Z,45nm,1.8s
SNY pmax pmax
comp=Z,1μm,4.9s
SNY LR LR
comp=Z,3μm,24.5s
SNY LR LR
comp=Z,6μm,19.2s
SNY LR LR
comp=Z,4μm,17.2s
KMI Kunming 18.37 278 P Pn 01 12 12.0 +1.8
KMI PP PnPn 01 12 29.3 +7.2
KMI S S 01 15 38.0 -0.1
KMI pmax pmax
comp=Z,38nm,1.3s
KMI pmax pmax
comp=Z,1μm,7.1s
KMI LR LR
comp=Z,2μm,10.6s
KMI LR LR
comp=Z,5μm,13.0s
KMI LR LR
comp=Z,5μm,11.8s
MAJO Matsushiro 18.39 43⇑eP P 01 12 10.0 0.0
MAJO Matsushiro 18.39 43 ePn P 01 12 09.5 -0.5
comp=Z,35nm,1.0s
MAT Matsushiro 18.39 43 P P 01 12 09.0 -1.0
MAT S Sn 01 15 33.8 -0.9
MJAR Matsushiro Arr 18.39 43 P P 01 12 09.6 -0.4
MJAR pmax pmax
comp=Z,2.0nm,0.3s
MJAR MLR MLR
comp=Z,3μm,20.0s
MJAR Matsushiro Arr 18.39 43 P P 01 12 09.6 -0.4
comp=Z,1.7nm,0.3s,baz=230,slow=10,SNR=33
MJAR LR LR 01 20 15.2
comp=Z,3μm,20.0s,baz=220,slow=40
CD2 Chengdu 18.40 297⇓iP Pn 01 12 11.0 +0.6
CD2 pP pP 01 12 19.5 -0.2
CD2 PP PnPn 01 12 26.8 +4.5
CD2 S Sn 01 15 30.3 -4.6
CD2 sS sS 01 15 45.0 +6.6
CD2 SS SnSn 01 15 55.5 +6.7
CD2 pmax pmax
comp=Z,170nm,1.1s
CD2 pmax pmax
comp=Z,1μm,6.8s
CD2 LR LR
comp=Z,8μm,15.2s
CD2 LR LR
comp=Z,10μm,15.7s
CD2 LR LR
comp=Z,10μm,16.0s
UBPT Khong Chiam 18.40 246 P Pn 01 12 13.5 +3.1
comp=Z,121nm,1.4s,comp=Z,4μm
KKM Kota Kinabalu 18.71 201 eP Pn 01 12 14.6 +0.4
comp=Z,184nm,1.1s
KKM Kota Kinabalu 18.71 201 ⇑P Pn 01 12 16.2 +1.9
SDKM Sandakan 18.79 198 ⇑P Pn 01 12 16.9 +1.7
HHC Hu-ho-hao-te 19.52 334 eP Pn 01 12 24.0 +0.1
HHC PP PnPn 01 12 42.0 +4.2
HHC S S 01 15 56.5 -4.5
HHC sS Sn 01 16 07.0 +5.0
HHC SS SnSn 01 16 20.8 +4.2
HHC pmax pmax
comp=Z,130nm,1.3s
HHC pmax pmax
comp=Z,1μm,5.1s
HHC LR LR
comp=Z,9μm,15.3s
HHC LR LR
comp=Z,5μm,15.7s
HHC LR LR
comp=Z,9μm,16.1s
BTO Baotou 19.99 330 eP Pn 01 12 28.3 -1.1
CN2 Changchun 20.13 5 eP P 01 12 28.8 -0.1
CN2 epP pP 01 12 37.5 -1.1
CN2 esP sP 01 12 41.8 -1.5
CN2 eS S 01 16 12.8 -0.1
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,4μm,19.0s
CN2 LR LR
comp=Z,4μm,19.0s
CN2 LR LR
comp=Z,3μm,20.0s
LZH Lanzhou 20.52 311 ⇑P Pn 01 12 35.5 -0.3
LZH pP pP 01 12 46.0 +2.9
LZH S S 01 16 17.0 -4.1
LZH sS Sn 01 16 28.3 +2.0
LZH PcP PcP 01 16 45.5 +1.6
LZH SS SnSn 01 16 51.0 +10
LZH pmax pmax
comp=Z,540nm,1.6s
LZH pmax pmax
comp=Z,970nm,4.0s
LZH LR LR
comp=Z,2μm,10.2s
LZH LR LR
comp=Z,4μm,11.1s
LZH LR LR
comp=Z,7μm,14.9s
CRAI Chiangrai 21.13 265 P P 01 12 41.6 +1.7
comp=Z,156nm,0.8s,comp=Z,17μm
MDJ Mudanjiang 21.55 13 P P 01 12 42.5 -1.7
MDJ pP pP 01 12 50.8 -3.1
MDJ sP sP 01 12 54.8 -3.9
MDJ S S 01 16 42.8 +1.8
MDJ pmax pmax
comp=Z,22nm,1.6s
MDJ pmax pmax
comp=Z,120nm,4.8s
MDJ LR LR
comp=Z,4μm,15.0s
MDJ LR LR
comp=Z,1μm,15.0s
MDJ LR LR
comp=Z,4μm,17.1s
MDJ Mudanjiang 21.55 13 eP P 01 12 42.1 -2.1
comp=Z,42nm,1.0s
MDJ LR LR
comp=Z,3μm,19.0s
UTTA Uttaradit 21.67 258 P P 01 12 48.3 +2.6
comp=Z,8.0nm,0.9s,comp=Z,112nm
PBKT Sadao Pong 21.73 255 P P 01 12 48.8 +2.5
comp=Z,105nm,1.2s,comp=Z,2μm
USRK Ussuriysk Arra 21.75 18 P P 01 12 44.1 -2.2
comp=Z,9.0nm,0.6s,baz=204,slow=10.0,SNR=22
USRK LR LR 01 21 52.3
comp=Z,4μm,19.7s,baz=182,slow=38
LAMP Lampang 22.26 261 P P 01 12 54.6 +2.6
comp=Z,44nm,0.9s,comp=Z,376nm
CHBT CHBT 22.31 244 P P 01 12 56.1 +3.6
comp=Z,124nm,1.3s,comp=Z,4μm
CMAI Chiengmai2 22.41 265 P P 01 12 56.2 +2.3
comp=Z,47nm,2.0s
CMMT Chiang Mai 22.79 262 P P 01 12 59.3 +1.5
comp=Z,148nm,0.7s,comp=Z,3μm
CHTO Chiang Mai 22.80 262 eP P 01 12 59.6 +1.8
CHTO e 01 16 49.1
CHTO pmax pmax
comp=Z,62nm,0.7s
CHTO MLR MLR
comp=Z,2μm,19.0s
CHTO Chiang Mai 22.80 262 P P 01 12 59.3 +1.5
comp=Z,510nm,0.7s,comp=Z,9μm
CHTO Chiang Mai 22.80 262 eP P 01 12 59.6 +1.8
comp=Z,62nm,0.7s
CHTO ePcP PcP 01 16 49.0 +0.6
CHTO eScP ScP 01 20 23.1 -0.3
CHTO LR LR
comp=Z,2μm,19.0s
CM31 Chiang Mai Arr 22.90 261 eP P 01 12 59.9 +1.1
comp=Z,32nm,0.7s
CM31 ePcP PcP 01 16 49.7 +1.0
CMAR Chiang Mai Arr 22.90 261 P P 01 12 59.6 +0.7
CMAR 01 16 49.9
CMAR pmax pmax
comp=Z,29nm,0.7s
CMAR MLR MLR
comp=Z,3μm,18.0s
CMAR Chiang Mai Arr 22.90 261 P P 01 12 59.6 +0.7
comp=Z,29nm,0.7s,baz=66,slow=7.8,SNR=108
CMAR PcP PcP 01 16 49.9 +1.2
comp=Z,23nm,0.7s,baz=34,slow=0.7,SNR=43
CMAR LR LR 01 23 00.8
comp=Z,3μm,18.0s,baz=65,slow=39
KMSI Cibinong 23.05 177 P P 01 13 01.8 +1.5
comp=Z,588nm,1.1s
MRSI Marisa 23.13 182 P P 01 13 03.9 +2.7
comp=Z,201nm,0.7s,comp=Z,2μm
GUMO Guam 23.14 112 PFAKE 01 13 10.0 +8.7
GUMO LR LR
comp=Z,3μm,19.0s
TNTI Ternate 23.24 168 P P 01 13 04.0 +1.8
comp=Z,824nm,1.0s,comp=Z,8μm
TNTI Ternate 23.24 168 eP P 01 13 03.1 +0.9
comp=Z,958nm,1.0s
MPSI Mapaga 23.43 187 P P 01 13 04.6 +0.5
comp=Z,46nm,1.3s,comp=Z,3μm
MHMT Maesarieng 23.90 261 P P 01 13 10.4 +1.8
comp=Z,52nm,0.8s,comp=Z,853nm
SRDT SRDT 24.26 252 P P 01 13 13.5 +1.6
comp=Z,137nm,1.6s,comp=Z,8μm
APSI Ampana 24.52 183 P P 01 13 15.6 +1.3
comp=Z,185nm,1.2s,comp=Z,2μm
KHLT Khaolaem Dam 24.54 253 P P 01 13 16.7 +2.3
comp=Z,21nm,1.3s,comp=Z,547nm
LUWI Luwuk 24.62 180 P P 01 13 19.3 +4.1
comp=Z,235nm,1.1s
LUWI Luwuk 24.62 180 eP P 01 13 16.9 +1.7
comp=Z,400nm,1.3s
LBMI Labuha 24.64 169 P P 01 13 16.4 +1.0
comp=Z,707nm,1.1s,comp=Z,7μm
ERM Erimo 24.86 38 iP P 01 13 15.6 -1.5
ERM Erimo 24.86 38 PFAKE 01 13 30.0 +13
ERM LR LR
comp=Z,3μm,21.0s
GTA Gaotai 24.99 314 ⇑P P 01 13 18.3 -0.2
GTA pP pP 01 13 27.8 -1.2
GTA sP sP 01 13 31.5 -2.0
GTA PcP PcP 01 16 54.0 +1.0
GTA S S 01 17 38.3 -1.7
GTA sS sS 01 17 52.8 -4.6
GTA SS SnSn 01 18 36.5 +6.1
GTA PcS PcS 01 20 33.0 -0.3
GTA pmax pmax
comp=Z,81nm,1.4s
GTA pmax pmax
comp=Z,500nm,5.7s
GTA LR LR
comp=Z,3μm,19.5s
GTA LR LR
comp=Z,2μm,18.5s
GTA LR LR
comp=Z,2μm,17.6s
KSM Kuching 25.25 211 eP P 01 13 21.1 +0.3
comp=Z,50nm,0.5s
KSM LR LR
comp=Z,639nm,19.0s
HIA Hailar 25.60 355 eP P 01 13 21.2 -2.6
HIA pmax pmax
comp=Z,13nm,0.6s
HIA MLR MLR
comp=Z,3μm,19.0s
HIA Hailar 25.60 355 eP P 01 13 21.2 -2.6
comp=Z,13nm,0.6s
HIA LR LR
comp=Z,3μm,19.0s

MTKI Muara Teweh, K 25.71 199 P P 01 13 25.7 +0.6
comp=Z,217nm,0.6s,comp=Z,8µm
SWI Sorong 25.78 160 P P 01 13 28.0 +2.4
comp=Z,54nm,1.2s
SANI Sanana 25.81 173 P P 01 13 25.2 -0.7
comp=Z,180nm,1.1s,comp=Z,2µm
STKI Sintang 25.99 207 P P 01 13 28.8 +1.2
comp=Z,69nm,0.9s,comp=Z,14µm
ASAJ Asahikawa 25.99 34 P P 01 13 26.0 -1.4
ASAJ pmax pmax
comp=Z,10.0nm,0.3s
ASAJ Asahikawa 25.99 34 P P 01 13 26.0 -1.4
comp=Z,10nm,0.3s,baz=196,slow=4.1,SNR=5.8
KTGM Kuala Trenggan 26.37 229 ⇓P P 01 13 32.4 +1.3
KLR Kul'dur 26.40 13 eP P 01 13 24.9 -6.1
KLR e 01 13 39.8
KLR e 01 16 52.2
KLR pmax pmax
comp=E,56nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s
HABR Khabarovsk 26.52 18 P P 01 13 29.2 -2.9
HABR e*SP sP 01 13 45.0 -2.1
HABR ePPP PPP 01 14 17.3
HABR e 01 16 54.6
HABR eS S 01 17 59.0 -4.6
HABR eSS SnSn 01 19 02.4 -5.1
HABR e 01 24 21.1
HABR pmax pmax
comp=Z,18nm,0.9s
HABR pmax pmax
comp=E,20nm,0.9s
HABR MLR MLR
comp=Z,3µm,19.0s
TTSI Tana Toraja 26.78 187 P P 01 13 40.4 +5.7
comp=Z,35nm,1.2s,comp=Z,722nm
NLAI Namlea 27.12 171 P P 01 13 40.8 +3.0
comp=Z,1µm,0.8s,comp=Z,11µm
ULN Ulaanbaatar 27.17 336c iP P 01 13 36.8 -1.4
ULN pmax pmax
comp=Z,86nm,1.2s
ULN Ulaanbaatar 27.17 336 eP P 01 13 36.9 -1.2
comp=Z,237nm,1.9s
ULN ePcP PcP 01 16 58.1 +0.2
ULN LR LR
comp=Z,3µm,20.0s
SURT Suratani 27.29 241 P P 01 13 40.7 +1.3
comp=Z,13nm,1.4s,comp=Z,276nm
SONM Songino Array 27.39 335 P P 01 13 39.0 -1.1
comp=Z,55nm,0.7s,baz=150,slow=8.4,SNR=187
SONM PcP PcP 01 16 58.8 +0.4
comp=Z,7.5nm,0.6s,baz=160,slow=3.8,SNR=14
SONM PKiKP PKiKP 01 24 33.4 -2.0
comp=Z,0.4nm,0.5s,baz=169,slow=1.1,SNR=5.4
SONM LR LR 01 26 00.1
comp=Z,5µm,18.1s,baz=148,slow=40
MSAI Masohi 27.56 167 P P 01 13 46.2 +4.5
comp=Z,18nm,1.0s,comp=Z,390nm
YUK Yuzh-Kuril'sk 27.68 37c iP P 01 13 34.4 -8.1
YUK iPPP PPP 01 14 46.5
YUK iS S 01 18 17.8 -4.2
YUK iSS SnSn 01 19 31.2 -4.6
YUK iSSS SSS 01 19 52.9
YUK MLR MLR
comp=N,2µm,19.0s
YUK MLR MLR
comp=E,971nm,19.0s
YUK MLR MLR
comp=Z,1µm,19.0s
SPSI Sidrap Palu 27.69 187 P P 01 13 57.1 +14
BBKI Banjar Baru 28.13 197 P P 01 13 47.4 +0.6
comp=Z,88nm,1.3s,comp=Z,5µm
YSS Yuzh-Sakhalins 28.14 30 eP P 01 13 45.0 -1.6
YSS e 01 14 05.0
YSS MLR MLR
comp=N,2µm,16.0s
YSS MLR MLR
comp=Z,2µm,16.0s
YSS MLR MLR
comp=E,2µm,14.0s
YSS Yuzh-Sakhalins 28.14 30 eP P 01 13 45.8 -0.8
comp=E,87nm,1.0s
YSS LR LR
comp=Z,980nm,20.0s
KULM Kulim 28.17 233 eP P 01 13 47.7 +0.6
comp=Z,110nm,1.5s
SHL Shillong 28.18 280 eP P 01 13 49.5 +2.1
PKDT Phuket 28.28 240 P P 01 13 54.8 +6.6
comp=Z,42nm,1.2s
IPM Ipoh 28.45 231 eP P 01 13 50.0 +0.3
comp=Z,33nm,0.7s
IPM ePcP PcP 01 17 01.3 -0.1
IPM Ipoh 28.45 231 ⇓P P 01 13 50.2 +0.4
MYKOM Kota Tinggi 28.54 223 eP P 01 13 51.6 +1.1
comp=Z,37nm,0.9s
KGM Kluang 28.70 224 ⇑P P 01 13 52.9 +1.0
KAPI Kappang 28.73 186 eP P 01 13 53.0 +0.8
KAPI ePcP PcP 01 17 01.9 -0.1
KAPI LR LR
comp=Z,765nm,20.0s
TPRI Tanjung Pinang 28.81 221 P P 01 13 53.8 +0.9
comp=Z,100nm,0.9s,comp=Z,16µm
LSA Lhasa 28.88 289 P P 01 13 55.8 +1.8
LSA S S 01 18 42.8 +0.6
LSA pmax pmax
comp=Z,50nm,1.1s
LSA LR LR
comp=Z,2µm,18.6s
LSA LR LR
comp=Z,3µm,20.3s
LSA LR LR
comp=Z,6µm,20.3s
LSA Lhasa 28.88 289 eP P 01 13 55.4 +1.4
LSA e 01 17 03.3
LSA pmax pmax
comp=Z,47nm,0.6s
LSA MLR MLR
comp=Z,6µm,19.0s
LSA Lhasa 28.88 289 eP P 01 13 55.4 +1.4
comp=Z,47nm,0.6s
LSA ePcP PcP 01 17 03.3 +0.4
LSA LR LR
comp=Z,6µm,19.0s
FRIM Kepong 28.91 228 ⇓P P 01 13 55.2 +1.3
KUR Kuril'sk 29.54 37⇓iP P 01 14 11.8 +13
KUR pmax pmax
comp=Z,1µm,2.2s
KUR pmax pmax
comp=Z,227nm,1.2s
TPI Tanjungpandan 30.20 211 P P 01 14 06.0 +0.8
comp=Z,95nm,1.1s,comp=Z,1µm
ZAK Zakamensk 30.66 335 eP P 01 14 06.3 -2.8
ZAK e 01 17 06.2
ZAK e 01 20 43.9
ZAK pmax pmax
comp=Z,14nm,1.3s
PSI Prapat 31.12 232 P P 01 14 14.3 +0.8
PSI *PP pP 01 14 29.1 +5.0
PSI 01 17 08.4
PSI pmax pmax
comp=Z,30nm,0.9s
PSI pmax pmax
comp=Z,36nm,1.0s
PSI MLR MLR
comp=Z,859nm,20.4s
PSI Prapat 31.12 232 P P 01 14 14.2 +0.8
comp=Z,30nm,0.9s,baz=13,slow=5.2,SNR=20
PSI pP pP 01 14 29.1 +5.0
comp=Z,36nm,1.0s,baz=27,slow=7.5,SNR=6.3
PSI PcP PcP 01 17 08.3 0.0
comp=Z,8.6nm,0.6s,baz=136,slow=0.4,SNR=4.7
PSI LR LR 01 26 12.2
comp=Z,859nm,20.4s,baz=40,slow=35
BKNI Bangkinang 31.45 225 P P 01 14 17.9 +1.6
comp=Z,83nm,1.0s,comp=Z,1µm
BKNI Bangkinang 31.45 225 eP P 01 14 17.2 +0.9
comp=Z,60nm,0.8s
KCSI Kotacane, Aceh 31.47 234 P P 01 14 33.2 +17
TLY Talaya 31.57 337⇑iP P 01 14 15.9 -1.1
TLY e 01 15 15.5
TLY eS S 01 19 05.4 -18
TLY pmax pmax
comp=Z,48nm,0.8s
TLY MLR MLR
comp=Z,2µm,15.0s
TLY Talaya 31.57 337 P P 01 14 16.0 -1.0
comp=Z,32nm,0.6s,baz=171,slow=5.3,SNR=37
TLY PcP PcP 01 17 09.7 +0.9
comp=Z,6.5nm,0.6s,baz=219,slow=6.5,SNR=5.5
TLY Talaya 31.57 337 eP P 01 14 15.6 -1.4
comp=Z,44nm,0.7s
TLY ePcP PcP 01 17 09.1 +0.2
TLY LR LR
comp=Z,3µm,20.0s
KMMI Kalianget 31.80 197 P P 01 14 21.4 +2.1
comp=Z,40nm,1.3s
PMBI Palembang 31.81 216 P P 01 14 18.4 -1.0
comp=Z,417nm,0.6s,comp=Z,16µm
IRK Irkutsk 31.82 338 eP P 01 14 15.3 -3.8
IRK pmax pmax
comp=Z,100nm,1.5s
TAPN Taplejung 31.85 284 eP P 01 14 21.6 +1.5
comp=Z,130nm,0.7s
MNSI Mandailing Nat 32.08 228 P P 01 14 22.0 +0.2
comp=Z,74nm,1.1s,comp=Z,883nm
ODAN Odare 32.15 283 eP P 01 14 23.7 +1.1
comp=Z,111nm,0.7s
MMRI Maumere 32.17 181 P P 01 14 23.8 +1.2
comp=Z,337nm,1.4s,comp=Z,6µm
MMRI Maumere 32.17 181 eP P 01 14 22.9 +0.4
comp=Z,723nm,1.4s
TBJI Tambak Boyo 32.21 201 P P 01 14 25.2 +2.3
comp=Z,184nm,1.6s
MOY Mondy 32.56 334 eP P 01 14 24.5 -1.3
MOY pmax pmax
comp=Z,70nm,2.3s
BLJI Banyuglugur 32.56 197 P P 01 14 26.2 +0.2
comp=Z,82nm,0.8s,comp=Z,3µm
PDSI Padang 32.76 225 P P 01 14 29.0 +1.2
comp=Z,34nm,0.6s,comp=Z,3µm
RAMN Ramite 32.85 283 eP P 01 14 30.0 +1.2
comp=Z,96nm,0.8s
SMRI Semarang 32.91 203 P P 01 14 30.9 +1.9
comp=Z,124nm,1.2s,comp=Z,4µm
JIRN Jiri 33.19 285 eP P 01 14 33.0 +1.1
comp=Z,93nm,0.7s
SNSI Sinabang, Aceh 33.28 234 P P 01 14 34.1 +1.8
comp=Z,102nm,1.1s,comp=Z,4µm
SOEI Soe 33.31 177 P P 01 14 31.3 -1.3
comp=Z,112nm,0.9s,comp=Z,1µm
SOEI Soe 33.31 177 eP P 01 14 30.9 -1.8
PWJI Pagerwojo 33.35 200 P P 01 14 32.8 -0.1
comp=Z,64nm,1.0s
KLI Kotabumi 33.40 214 P P 01 14 34.9 +1.6
comp=Z,110nm,1.0s
MDSI Maura Dua 33.44 215 P P 01 14 34.2 +0.6
comp=Z,60nm,0.9s,comp=Z,867nm
GUN Gumba 33.46 285 eP P 01 14 35.3 +1.1
comp=Z,99nm,0.6s
WOJI Wonogiri, Jawa 33.47 202 P P 01 14 34.5 +0.6
comp=Z,256nm,1.0s,comp=Z,6µm
UGM Wanagama 33.68 202 P P 01 14 36.7 +0.9
comp=Z,180nm,1.1s
UGM Wanagama 33.68 202 eP P 01 14 36.0 +0.2
comp=Z,134nm,0.9s
KPJI Karang Pucung 33.74 205 P P 01 14 37.5 +1.3
comp=Z,95nm,1.7s
BATI Baumata 33.74 179 P P 01 14 34.8 -1.5
comp=Z,121nm,0.9s,comp=Z,932nm
BATI Baumata 33.74 179 P P 01 14 34.5 -1.7
comp=Z,160nm,0.8s,baz=214,slow=0.8,SNR=14
BATI PcP PcP 01 17 16.6 +1.3
comp=Z,36nm,0.6s,baz=193,slow=13,SNR=3.8
BATI LR LR 01 29 41.8
comp=Z,550nm,19.7s,baz=334,slow=38
LEM Lembang 33.82 208 P P 01 14 39.3 +2.2
comp=Z,102nm,0.8s
SBJI Serang 33.86 211 P P 01 14 40.3 +3.0
comp=Z,144nm,1.3s
PKI Pulchoki 33.88 285 eP P 01 14 38.4 +0.5
comp=Z,117nm,1.1s
PKIN Phulchoki 33.90 285 eP P 01 14 38.5 +0.6
comp=Z,67nm,0.9s
LWLI Liwa 33.95 215 P P 01 14 39.8 +1.6
comp=Z,136nm,0.9s,comp=Z,6µm
KKN Kakani 33.99 285 eP P 01 14 39.5 +0.8
comp=Z,89nm,0.7s
DMN Daman 34.15 285 eP P 01 14 40.9 +0.8
comp=Z,83nm,0.7s
KASI Kota Agung 34.15 214 P P 01 14 40.3 +0.5
comp=Z,92nm,1.3s
CISI Cisompet, Garu 34.39 207 P P 01 14 42.5 +0.5
comp=Z,90nm,1.4s,comp=Z,15µm
CISI Cisompet, Garu 34.39 207 eP P 01 14 41.5 -0.5
comp=Z,146nm,1.3s
CNJI Cibinong 34.46 208 P P 01 14 43.9 +1.4
comp=Z,61nm,0.7s,comp=Z,5µm
CGJI Cibinong 34.50 211 P P 01 14 43.9 +1.0
GKN Gorkha 34.55 285 eP P 01 14 44.0 +0.5
comp=Z,92nm,0.7s
BOD Bodaibo 34.65 352 eP P 01 14 40.2 -3.5
BOD pmax pmax
comp=Z,70nm,1.3s
WMQ Urumqi 35.07 313 P P 01 14 48.5 +0.9
WMQ pP pP 01 14 58.0 -0.3
WMQ sP sP 01 15 02.0 -0.8
WMQ PP PP 01 16 07.0 -0.5
WMQ PcP PcP 01 17 20.5 +1.6
WMQ S S 01 20 17.3 -0.3
WMQ sS sS 01 20 33.3 -2.0
WMQ PcS PcS 01 21 06.0 +0.3
WMQ SS SnSn 01 22 33.0 -2.6
WMQ ScS ScS 01 25 04.5 -1.0
WMQ pmax pmax
comp=Z,54nm,1.4s
WMQ pmax pmax
comp=Z,460nm,4.6s
WMQ LR LR
comp=Z,2µm,11.4s
WMQ LR LR
comp=Z,1µm,10.8s
WMQ LR LR
comp=Z,700nm,20.8s
DANN Dangsing 35.32 286 eP P 01 14 51.2 +1.0
comp=Z,90nm,0.7s
HVS Khovu-Aksy 35.41 328d iP P 01 14 50.0 -0.5
HVS pmax pmax
comp=Z,177nm,1.4s
KOLN Koldanda 35.48 285 eP P 01 14 52.4 +0.9
comp=Z,100nm,0.8s
YAK Yakutsk 38.56 5 eP P 01 15 14.3 -2.7
YAK e 01 16 41.0
YAK ePPP PPP 01 17 09.4
YAK e 01 17 27.7
YAK eS S 01 21 13.0 +2.8
YAK e 01 25 20.9
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,18nm,0.8s
YAK smax smax
comp=E,27nm,1.5s
YAK smax smax
comp=N,98nm,1.5s
YAK MLR MLR
comp=Z,2µm,17.0s
YAK MLR MLR
comp=N,1µm,17.0s
YAK MLR MLR
comp=E,555nm,15.0s
YAK Yakutsk 38.56 5 eP P 01 15 14.7 -2.2
comp=E,42nm,0.8s
YAK ePcP PcP 01 17 28.8 -0.1
YAK LR LR
comp=Z,1µm,22.0s
PETK Petropavlovsk- 39.40 33 P P 01 15 22.3 -1.9
comp=Z,5.7nm,0.8s,baz=200,slow=7.9,SNR=3.9
PETK LR LR 01 33 04.8
comp=Z,1µm,20.1s,baz=229,slow=38
MK31 Makanchi Array 39.72 316 eP P 01 15 26.7 -0.3
MK31 e 01 17 33.2
MK31 Makanchi Array 39.72 316 eP P 01 15 26.7 -0.3
MK31 ePcP PcP 01 17 33.2 +0.2
MKAR Makanchi Array 39.72 316 P P 01 15 26.8 -0.2
comp=Z,34nm,0.7s,baz=99,slow=11,SNR=391
MKAR PcP PcP 01 17 33.0 0.0
comp=Z,35nm,0.6s,baz=91,slow=5.3,SNR=21
MKAR LR LR 01 33 31.5
comp=Z,1µm,19.1s,baz=107,slow=39
PET Petropavlovsk 39.83 33 eP P 01 15 25.3 -2.4
PET pmax pmax
comp=Z,25nm,0.8s
PET Petropavlovsk 39.83 33 eP P 01 15 25.4 -2.3
comp=Z,49nm,1.0s
PET LR LR
comp=Z,1µm,19.0s
PMG Port Moresby 40.61 141c iP P 01 15 35.4 +0.8
PMG pmax pmax
comp=Z,48nm,1.7s
PMG Port Moresby 40.61 141 LR LR 01 32 12.6
comp=Z,992nm,18.4s,baz=310,slow=36
PMG Port Moresby 40.61 141 eP P 01 15 35.5 +0.9
comp=Z,40nm,1.0s
PMG ePcP PcP 01 17 37.2 +1.0
SDNR Sundarnagar 41.15 291 ex P 01 15 40.5 +1.5
ZALV Zalesovo Beam 41.45 327 P P 01 15 39.5 -1.6
comp=Z,68nm,0.7s,baz=111,slow=7.9,SNR=342
ZALV PcP PcP 01 17 37.5 -0.8
comp=Z,16nm,0.6s,baz=106,slow=4.1,SNR=11
ZALV LR LR 01 34 19.6
comp=Z,2µm,19.1s,baz=116,slow=38
HYB Hyderabad 41.82 270 iP P 01 15 45.0 +0.4
AAA Alma-Ata 42.34 309 eP P 01 15 50.3 +1.7
AAA pmax pmax
comp=Z,400nm,3.5s
AAA MLR MLR
comp=Z,2µm,17.0s
COEN Coen 42.40 150 eP P 01 15 49.4 +0.1
COEN ePcP PcP 01 17 42.9 +0.8
KSH Kashi 42.42 303 P P 01 15 53.3 +3.9
KSH epP pP 01 16 02.8 +2.5
KSH esP sP 01 16 06.8 +2.1
KSH ePP PcP 01 17 36.8 -5.3
KSH PcS PcS 01 21 36.0 +1.9
KSH S S 01 22 12.0 +3.3
KSH eSS SS 01 25 17.5 -1.0
KSH pmax pmax
comp=Z,160nm,1.2s
KSH LR LR
comp=Z,2µm,13.5s
KSH LR LR
comp=Z,2µm,16.3s
ULHL Ulahol 42.65 307 P P 01 15 53.0 +1.7
SNR=18
ULHL Ulahol 42.65 307 iP P 01 15 53.0 +1.7
NVS Novosibirsk 42.71 327⇑iP P 01 15 49.6 -1.7
NVS i 01 17 41.7
NVS iS S 01 22 10.3 -1.9
NVS pmax pmax
comp=N,17nm,1.0s
NVS pmax pmax
comp=E,31nm,1.0s
NVS pmax pmax
comp=Z,49nm,1.0s
NVS smax smax
comp=N,13nm,1.8s
NVS smax smax
comp=E,38nm,2.3s
TKM2 Tokmak 2 43.24 308 P P 01 15 57.5 +1.4
SNR=285
TKM2 Tokmak 2 43.24 308 iP P 01 15 57.5 +1.4
TKM2 Tokmak 2 43.24 308 eP P 01 15 57.5 +1.4
comp=E,185nm,0.8s
TKM2 ePcP PcP 01 17 44.8 -0.1
TKM2 LR LR
comp=Z,1µm,19.0s
KZA Kyzart 43.34 307 P P 01 15 59.2 +1.9
SNR=121
KZA Kyzart 43.34 307 iP P 01 15 59.1 +1.9
KURK Kurchatov 43.42 320 eP P 01 15 56.2 -0.9
KURK e 01 17 44.4
KURK pmax pmax
comp=Z,34nm,0.9s
KURK MLR MLR
comp=Z,496nm,20.0s
KURK Kurchatov 43.42 320 eP P 01 15 56.2 -0.9
comp=Z,34nm,0.9s
KURK ePcP PcP 01 17 44.4 -0.6
KURK LR LR
comp=Z,496nm,20.0s
PALK Pallekele 43.58 255 iP P 01 16 01.2 +2.2
PALK Pallekele 43.58 255 P P 01 15 59.2 +0.2
comp=Z,36nm,0.9s,baz=66,slow=8.3,SNR=19
PALK PcP PcP 01 17 46.1 -0.1
comp=Z,24nm,0.6s,baz=21,slow=3.2,SNR=10
PALK Pallekele 43.58 255 eP P 01 16 00.8 +1.8
comp=Z,21nm,0.9s
PALK ePcP PcP 01 17 47.3 +1.0
PALK Pallekele 43.58 255⇓iP P 01 16 00.8 +1.8
SNR=12
KBK Karagaybulak 43.66 308 P P 01 16 01.0 +1.6
SNR=80
COCO West Island 43.84 218 iP P 01 16 02.9 +2.1
CHMS Chumysh 43.87 308 P P 01 16 01.9 +1.0
SNR=91
CHMS Chumysh 43.87 308 iP P 01 16 01.9 +1.0
UCH Uchtor 43.91 307 P P 01 16 03.8 +1.9
SNR=260
UCH Uchtor 43.91 307 iP P 01 16 03.7 +1.9
FRU Bishkek 43.94 308 iP P 01 16 02.0 +0.5
FRU e 01 16 16.0
FRU e 01 17 44.0
FRU pmax pmax
comp=Z,180nm,1.8s
AAK Ala-Archa 43.99 307 P P 01 16 03.4 +1.3
SNR=64
AAK Ala-Archa 43.99 307 iP P 01 16 03.3 +1.3
AAK pmax pmax
comp=Z,163nm,1.1s
AAK Ala-Archa 43.99 307 LR LR 01 37 21.5
comp=Z,2µm,18.2s,baz=77,slow=40
AAK Ala-Archa 43.99 307 eP P 01 16 02.9 +0.8
comp=Z,55nm,0.8s
AAK ePcP PcP 01 17 47.5 +0.2
USP Ospenovka 44.09 308 P P 01 16 03.6 +0.8
SNR=65
USP Ospenovka 44.09 308 iP P 01 16 03.5 +0.8
AML Almayashu 44.50 307 P P 01 16 08.2 +1.7
SNR=183
EKS2 Erkin-Say 44.52 307 P P 01 16 07.5 +1.3
SNR=84
EKS2 Erkin-Say 44.52 307 iP P 01 16 07.5 +1.3
EKS2 Erkin-Say 44.52 307 eP P 01 16 07.4 +1.1
comp=Z,52nm,0.8s
EKS2 ePcP PcP 01 17 49.5 +0.4
EKS2 LR LR
comp=Z,2µm,19.0s
MBWA Marble Bar 44.72 184 eP P 01 16 06.2 -1.6
comp=Z,147nm,1.8s
MBWA ePcP PcP 01 17 49.5 -0.3
MBWA LR LR
comp=Z,507nm,21.0s
WRAB Tennant Creek 44.83 165 eP P 01 16 08.2 -0.5
WRAB e 01 17 50.0
WRAB pmax pmax
comp=Z,83nm,1.3s
WRAB MLR MLR
comp=Z,702nm,21.0s
WRAB Tennant Creek 44.83 165 eP P 01 16 08.2 -0.5
comp=Z,83nm,1.3s
WRAB ePcP PcP 01 17 50.0 -0.2
WRAB LR LR
comp=Z,702nm,21.0s
WRA Warramunga Arr 44.83 165 P P 01 16 08.6 -0.1
WRA 01 17 50.4
WRA pmax pmax
comp=Z,19nm,0.6s
WRA Warramunga Arr 44.83 165 P P 01 16 08.6 -0.1
comp=Z,19nm,0.6s,baz=345,slow=8.7,SNR=43
WRA PcP PcP 01 17 50.4 +0.1
comp=Z,17nm,0.6s,baz=345,slow=3.6,SNR=15
KK31 Karatay Array 46.95 307 P P 01 16 25.8 +0.4
KK31 pmax pmax
comp=Z,31nm,0.7s
KKAR Karatay Array 46.95 307 eP P 01 16 26.0 +0.6
KKAR e 01 17 57.4
KKAR pmax pmax
comp=Z,31nm,0.6s
KKAR Karatay Array 46.95 307 eP P 01 16 26.0 +0.6
comp=Z,31nm,0.6s
KKAR ePcP PcP 01 17 57.4 -0.1
FX1 Attu Island--F 47.70 39 eP P 01 16 31.2 +0.2
FX1 Attu Island--F 47.70 39 eP P 01 16 31.2 +0.2
KBL Kabul 47.73 296 eP P 01 16 32.8 +1.0

KBL e 01 18 00.4
KBL pmax pmax
comp=Z,64nm,0.8s
KBL Kabul 47.73 296 eP P 01 16 32.8 +1.0
comp=Z,64nm,0.8s
KBL **ePcP PcP 01 18 00.4 -0.2**
TIXI Tiksi 48.07 3c iP P 01 16 30.9 -2.6
TIXI pmax pmax
comp=Z,54nm,1.7s
TIXI Tiksi 48.07 3 eP P 01 16 31.0 -2.6
comp=Z,70nm,1.4s
TIXI **ePcP PcP 01 17 60.0 -0.8**
TIXI LR LR
comp=Z,3μm,19.0s
AS31 Alice Springs 48.32 166 eP P 01 16 36.3 +0.2
AS31 **ePcP PcP 01 18 02.6 +0.1**
BVA0 Borovoye Array 48.99 321 iP P 01 16 39.7 -1.2
BVA0 pmax pmax
comp=Z,18nm,0.9s
BVAR Borovoye Array 48.99 321 LR LR 01 39 48.7
comp=Z,566nm,18.0s,baz=106,slow=39
BRVK Borovoye 49.06 321c iP P 01 16 40.9 -0.5
BRVK pmax pmax
comp=Z,33nm,0.8s
BRVK Borovoye 49.06 321 eP P 01 16 41.1 -0.4
comp=Z,34nm,0.9s
BRVK **ePcP PcP 01 18 04.2 -0.5**
BRVK LR LR
comp=Z,861nm,21.0s
CTA Charters Tower 49.17 150 P P 01 16 43.5 +0.9
CTA 01 18 05.9
CTA pmax pmax
comp=Z,17nm,1.0s
CTA Charters Tower 49.17 150 P P 01 16 43.5 +0.9
comp=Z,17nm,1.0s,baz=331,slow=8.3,SNR=6.7
CTA **PcP PcP 01 18 05.8 +0.3**
comp=Z,24nm,0.9s,baz=327,slow=3.6,SNR=6.3
CTAO Charters Tower 49.17 150 eP P 01 16 43.7 +1.1
CTAO e 01 18 06.6
CTAO pmax pmax
comp=Z,59nm,1.3s
CTAO MLR MLR
comp=Z,1μm,19.0s
CTAO Charters Tower 49.17 150 eP P 01 16 43.7 +1.1
comp=Z,59nm,1.3s
CTAO **ePcP PcP 01 18 06.6 +1.0**
CTAO LR LR
comp=Z,1μm,19.0s
BILL Bilibino 51.60 19⇓iP P 01 16 58.5 -1.9
BILL i 01 18 14.6
BILL e 01 19 03.1
BILL i 01 24 10.8
BILL pmax pmax
comp=Z,14nm,1.5s
BILL MLR MLR
comp=Z,2μm,19.0s
BILL Bilibino 51.60 19 eP P 01 16 59.0 -1.4
comp=Z,9.8nm,0.7s
BILL **ePcP PcP 01 18 14.0 +0.2**
BILL LR LR
comp=Z,2μm,22.0s
ADK Adak 53.55 42 PFAKE 01 17 30.0 +15
ADK LR LR
comp=Z,956nm,22.0s
FORT Forrest 54.43 174 eP P 01 17 22.1 +0.5
comp=Z,338nm,1.1s
FORT **ePcP PcP 01 18 24.8 -0.2**
AB31 Akbulak array 54.84 314 iP P 01 17 24.7 +0.1
AB31 pmax pmax
comp=Z,39nm,0.6s
ABKAR Akbulak array 54.84 314 eP P 01 17 24.6 0.0
comp=Z,32nm,0.6s
ABKAR **ePcP PcP 01 18 25.7 -0.8**
IMYA Miami 54.91 299 eP P 01 17 27.4 +1.9
SVE Sverdlovsk 55.31 324⇓iP P 01 17 26.9 -0.9
SVE pmax pmax
comp=Z,34nm,0.8s
SVE MLR MLR
comp=Z,1μm,18.0s
ISRO Mashad 55.42 299 eP P 01 17 30.4 +1.3
IPAY Payeh 55.78 299 eP P 01 17 33.1 +1.2
IKRD Kardeh 56.13 299 eP P 01 17 31.1 -3.3
AKTO Aktyubinsk 56.16 316 P P 01 17 33.4 -0.6
AKTO pmax pmax
comp=Z,38nm,1.2s
AKTO Aktyubinsk 56.16 316 LR LR 01 43 23.8
comp=Z,798nm,19.0s,baz=95,slow=38
IKOO Kooshah 56.28 294 eP P 01 17 36.7 +1.2
ABKT Ailbek 56.34 301 P P 01 17 37.0 +1.4
comp=Z,838nm,1.0s,SNR=67
GEYT Alibeck 56.34 301 P P 01 17 37.2 +1.7
comp=Z,93nm,0.9s,baz=47,slow=2.6,SNR=184
GEYT LR LR 01 45 31.6
comp=Z,2μm,18.9s,baz=80,slow=40
ARU Arti 56.38 323 P P 01 17 34.3 -1.2
comp=Z,310nm,0.7s,SNR=20
ARU Arti 56.38 323c iP P 01 17 34.4 -1.1
ARU e 01 18 31.0
ARU 01 19 37.2
ARU PPP PPP 01 20 51.6
ARU S **S 01 25 22.4 -1.0**
ARU SS **SS 01 29 08.4 -2.0**
ARU pmax pmax
comp=Z,70nm,1.7s
ARU Arti 56.38 323 eP P 01 17 34.1 -1.4
comp=Z,28nm,0.6s
ARU **ePcP PcP 01 18 31.2 -1.1**
ARU LR LR
comp=Z,867nm,19.0s
ITEG Tejag 56.42 295 eP P 01 17 37.8 +1.4
ISFR Sfrayin 56.52 300 eP P 01 17 39.1 +1.9
NWAO Narrogin (SRO) 56.60 186 P P 01 17 36.5 -0.7
NWAO pmax pmax
comp=Z,31nm,1.0s
NWAO Narrogin (SRO) 56.60 186 P P 01 17 36.5 -0.7
comp=Z,31nm,1.0s,baz=15,slow=10.0,SNR=6.5
ISHV Shirvan 56.70 300 eP P 01 17 40.3 +1.9
BBOO Buckleboo 57.62 167 eP P 01 17 44.9 +0.5
BBOO e 01 18 04.5
BBOO **ePcP PcP 01 18 37.0 -0.3**
SOKR Solikamsk 57.74 327 eP P 01 17 44.8 -0.2
SOKR pmax pmax
comp=Z,10.0nm,0.6s
SOKR MLR MLR
comp=Z,2μm,20.0s
DGAR Diego Garcia 58.12 244 PFAKE 01 18 00.0 +12
DGAR LR LR
comp=Z,1μm,19.0s
STKA Stephens Creek 58.13 161 P P 01 17 48.8 +0.7
comp=Z,61nm,0.6s,baz=339,slow=6.8,SNR=129
STKA LR LR 01 43 09.5
comp=Z,455nm,20.7s,baz=351,slow=36
STKA Stephens Creek 58.13 161 eP P 01 17 48.6 +0.5
comp=Z,18nm,0.8s
STKA **ePcP PcP 01 18 39.3 -0.1**
GAMB Gambell 58.15 28 eP P 01 17 47.8 0.0
comp=Z,38nm,1.4s
IBAF Bafgh 59.29 294 eP P 01 17 57.6 +1.0
IGLO Ghaloghah 59.91 300 eP P 01 18 02.2 +1.4
IANJ Anjilo 60.00 298 eP P 01 18 02.7 +1.2
TNA Tin City 60.06 27 eP P 01 18 00.8 -0.2
comp=Z,36nm,1.3s
ICHK Chekchek 60.14 295 eP P 01 18 03.1 +0.6
FAQ Al Faqa, Dubai 60.74 286⇓iP P 01 18 07.1 +0.7
SNR=7.2
ILAS Lasjerd 60.78 298 eP P 01 18 07.9 +1.1
IALA Alasht 60.79 299 eP P 01 18 08.6 +1.6
ISAD Sadrabad 60.81 294 eP P 01 18 07.7 +0.6
IFIR Firoozkooh 60.90 299 eP P 01 18 09.1 +1.4
IPRN Peran 61.14 300 eP P 01 18 09.9 +0.8
IDMV Damavand 61.49 299 eP P 01 18 12.8 +1.1
IZEF Zefreh 61.74 296 eP P 01 18 14.0 +0.6
IVRN Varamin 61.84 298 eP P 01 18 14.6 +0.8
DZM Mont Dzumac 62.22 134 eP P 01 18 17.2 +0.9
comp=Z,58nm,1.4s
DZM Mont Dzumac 62.22 134 eLR LR 01 36 53.2
comp=Z,2μm,23.9s
DZM Mont Dzumac 62.22 134 P P 01 18 17.4 +1.0
comp=Z,11nm,0.8s,baz=257,slow=14,SNR=5.4
IKLH Kolahrood 62.28 296 eP P 01 18 18.3 +1.3
IMHD Mahdasht 62.57 299 eP P 01 18 19.9 +1.2
IGZV Ghazvin 62.80 300 eP P 01 18 21.8 +1.4
IPIR Pirpir 62.97 296 eP P 01 18 21.7 0.0
IRAZ Razeghan 63.21 299 eP P 01 18 24.3 +1.2
PRGR Permogore 63.36 329⇓iP P 01 18 22.7 -0.6

PRGR ***PP pP 01 18 36.2 +1.6**
PRGR e 01 18 58.6
PRGR pmax pmax
comp=Z,112nm,0.7s
CAN Canberra 63.74 156 eP P 01 18 27.8 +1.6
CAN e 01 19 03.3
CAN pmax pmax
comp=Z,29nm,0.9s
CAN MLR MLR
comp=Z,527nm,19.0s
CAN Canberra 63.74 156 eP P 01 18 27.8 +1.6
comp=Z,29nm,0.9s
CAN **ePcP PcP 01 19 03.3 +1.3**
CAN LR LR
comp=Z,527nm,19.0s
ISRB Sarab 64.53 302 eP P 01 18 33.0 +1.2
IHRS Heris 64.92 303 eP P 01 18 35.0 +0.7
DGRG David-gareji 65.59 306 P P 01 18 39.6 +1.3
ITBZ Tabriz 65.63 303 eP P 01 18 39.7 +0.8
ILIN Lien 65.69 299 eP P 01 18 40.0 +0.7
IMRD Marand 65.87 303 eP P 01 18 41.2 +0.8
IM04 Indian Mountai 65.89 26 eP P 01 18 39.9 0.0
DUS Dusheti 65.96 307 P P 01 18 42.3 +1.6
TBLG Delisi 66.00 307 P P 01 18 41.6 +0.6
GUDG Gudauri 66.06 308 P P 01 18 42.8 +1.2
IGHG Ghaleghazi 66.14 298 eP P 01 18 42.5 +0.3
IDHR Dehrash 66.20 299 eP P 01 18 42.5 -0.1
KZR Kazreti 66.31 306 P P 01 18 44.1 +1.1
GNI Garni 66.31 305c iP P 01 18 44.5 +1.3
GNI pmax pmax
comp=Z,186nm,1.7s
GNI Garni 66.31 305 eP P 01 18 44.1 +0.9
comp=Z,193nm,1.4s
GNI LR LR
comp=Z,386nm,20.0s
GNI Garni 66.31 305 iP P 01 18 44.7 +1.5
SNR=34
KLMR Klimovskoe 66.36 328 eP P 01 18 39.6 -3.2
KLMR pmax pmax
comp=Z,106nm,0.9s
KLMR MLR MLR
comp=Z,1μm,14.0s
ZEI Tsey 66.41 308⇑iP P 01 18 43.7 -0.1
ZEI pmax pmax
comp=Z,91nm,1.0s
VRHR Novokhopersk 66.50 317 eP P 01 18 42.1 -1.8
VRHR pmax pmax
comp=Z,240nm,1.7s
VRHR pmax pmax
comp=N,40nm,1.1s
VRHR pmax pmax
comp=E,100nm,1.4s
GOF Gofitskoye 66.59 311 eP P 01 18 45.1 +0.4
GOF pmax pmax
comp=Z,160nm,1.2s
TMCR Tamitsa 66.67 332 eP P 01 18 44.2 -0.6
TMCR e 01 21 13.4
TMCR pmax pmax
comp=Z,122nm,1.0s
ONI Oni 66.77 308 P P 01 18 47.4 +1.5
PPLA Purkeypile 66.88 30 eP P 01 18 46.1 -0.3
comp=Z,55nm,1.0s
RSO Redoubt South 66.92 32 eP P 01 18 47.0 +0.3
comp=Z,129nm,1.1s
KBZ Khabaz 66.95 309 P P 01 18 47.5 +0.5
comp=Z,70nm,0.9s,baz=89,slow=6.2,SNR=137
KBZ PKPPKP P'P'df 01 47 10.1 -8.9
comp=Z,1.5nm,1.0s,baz=190,slow=5.0,SNR=3.5
KBZ LR LR 01 49 54.4
comp=Z,657nm,19.7s,baz=67,slow=38
AKH Akhalkalaki 66.98 307 P P 01 18 49.2 +1.7
KIV Kislovodsk 67.05 309 P P 01 18 48.7 +1.0
comp=Z,1μm,1.0s,SNR=65
KIV Kislovodsk 67.05 309c iP P 01 18 48.5 +0.8
KIV eS **S 01 27 40.5 +1.4**
KIV eSS **SS 01 31 59.1 +1.2**
KIV pmax pmax
comp=Z,244nm,1.1s
KIV pmax pmax
comp=Z,110nm,4.1s
KIV MLR MLR
comp=Z,708nm,17.0s
KIV Kislovodsk 67.05 309 eP P 01 18 48.4 +0.6
comp=Z,207nm,1.0s
KIV LR LR
comp=Z,866nm,20.0s
KIV Kislovodsk 67.05 309⇑iP P 01 18 48.6 +0.8
SNR=97
OHAK Old Harbor 67.10 36 eP P 01 18 46.7 -0.9
comp=Z,149nm,1.5s
COLD Coldfoot 67.19 25 eP P 01 18 48.3 +0.2
comp=Z,70nm,1.6s
KTH Kantishna Hill 67.37 29 eP P 01 18 49.7 +0.4
comp=Z,20nm,0.5s
KDAK Kodiak Island 67.39 35 iP P 01 18 49.3 -0.2
KDAK Kodiak Island 67.39 35 eP P 01 18 49.1 -0.4
comp=Z,247nm,1.4s
KDAK LR LR
comp=Z,878nm,21.0s
TRF Thorofare Moun 67.66 29 eP P 01 18 51.3 0.0
comp=Z,21nm,0.7s
VORD Divnogorie 67.97 317 eP P 01 18 50.9 -2.4
VORD pmax pmax
comp=Z,80nm,1.1s
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,90nm,1.0s
VSR Storozhevoye 68.00 318 eP P 01 18 51.6 -1.9
VSR pmax pmax
comp=Z,170nm,1.3s
VSR pmax pmax
comp=N,40nm,1.1s
VSR pmax pmax
comp=E,150nm,1.1s
MOS Moscow 68.09 323 eP P 01 18 51.9 -2.0
MOS e 01 19 10.4
MOS eS **S 01 27 47.7 -3.1**
MOS pmax pmax
comp=Z,300nm,0.9s
MOS pmax pmax
comp=Z,184nm,0.8s
MOS MLR MLR
comp=Z,900nm,20.0s
MOS MLR MLR
comp=E,600nm,16.0s
MCK McKinley 68.22 29 eP P 01 18 54.1 -0.5
MCK pmax pmax
comp=Z,122nm,1.3s
MCK McKinley 68.22 29 eP P 01 18 54.1 -0.5
comp=Z,122nm,1.3s
RC01 Rabbit Creek A 68.29 32 eP P 01 18 54.5 -0.7
comp=Z,141nm,1.5s
COLA College 68.49 27c iP P 01 18 56.5 +0.3
COLA pmax pmax
comp=Z,325nm,2.2s
COLA College 68.49 27 eP P 01 18 56.2 -0.1
comp=Z,21nm,0.9s
COLA LR LR
comp=Z,798nm,21.0s
PMR Palmer 68.49 31 eP P 01 18 55.3 -1.0
PMR pmax pmax
comp=Z,90nm,1.3s
PMR Palmer 68.49 31 eP P 01 18 55.3 -1.0
comp=Z,90nm,1.3s
SEW Seward 68.61 33 eP P 01 18 56.1 -1.0
comp=Z,108nm,1.1s
OBN Obninsk 68.80 322c iP P 01 18 57.9 -0.4
OBN i 01 19 22.2
OBN i 01 23 04.4
OBN pmax pmax
comp=Z,254nm,1.7s
OBN MLR MLR
comp=Z,919nm,20.0s
OBN Obninsk 68.80 322 eP P 01 18 57.6 -0.7
comp=Z,94nm,0.7s
OBN LR LR
comp=Z,1μm,19.0s
ILAR Eielson Array 68.91 27 P P 01 18 58.0 -1.0
ILAR pmax pmax
comp=Z,4.0nm,0.5s
ILAR MLR MLR
comp=Z,536nm,18.4s
ILAR Eielson Array 68.91 27 P P 01 18 58.0 -1.0
comp=Z,4.4nm,0.5s,baz=259,slow=5.3,SNR=64
ILAR PKP2bc 01 47 08.7

comp=Z,0.9nm,1.0s,baz=134,slow=1.8,SNR=4.9
ILAR LR LR 01 51 38.8
comp=Z,536nm,18.4s,baz=325,slow=38
SOC Sochi 69.23 310c iP P 01 19 01.3 0.0
SOC i *SP **sP 01 19 16.5 -0.6**
SOC e 01 19 24.5
SOC eS **S 01 28 05.3 +0.5**
SOC e*SS **sS 01 28 21.7 -2.0**
SOC pmax pmax
comp=Z,79nm,0.7s
SOC MLR MLR
comp=Z,761nm,21.0s
JOF Joensuu 69.84 331 eP P 01 19 02.6 -2.1
JOF pmax pmax
comp=Z,65nm,0.7s
JOF Joensuu 69.84 331 ep P 01 19 02.6 -2.1
comp=Z,65nm,0.7s
PAX Paxson 69.90 29 eP P 01 19 05.1 0.0
PAX pmax pmax
comp=Z,85nm,1.3s
PAX Paxson 69.90 29 eP P 01 19 05.1 0.0
comp=Z,85nm,1.3s
RAYN Ar Rayn 69.94 288 eP P 01 19 06.2 +0.2
comp=Z,133nm,1.2s
KEV Kevo 69.96 338 eP P 01 19 04.6 -0.7
KEV pmax pmax
comp=Z,52nm,0.6s
KEV MLR MLR
comp=Z,1μm,19.0s
KEV Kevo 69.96 338 ep P 01 19 03.7 -1.6
comp=Z,59nm,0.6s
KEV Kevo 69.96 338 eP P 01 19 04.6 -0.7
comp=Z,52nm,0.6s
KEV LR LR
comp=Z,1μm,19.0s
TAU Tasmania Unive 70.04 161 eP P 01 19 06.7 +0.7
TAU pmax pmax
comp=Z,103nm,1.4s
TAU Tasmania Unive 70.04 161 eP P 01 19 06.7 +0.7
comp=Z,103nm,1.4s
DIV Divide 70.17 31 eP P 01 19 07.2 +0.3
comp=Z,154nm,1.3s
KBSD Kabsdagh 70.24 303 eP P 01 19 08.4 +0.8
SPA0 Spitsbergen Ar 70.25 348 eP P 01 19 06.6 -0.4
DOT Dot Lake 70.36 28 eP P 01 19 07.3 -0.6
comp=Z,80nm,1.2s
ARCES ARCESS Array B 70.52 338 P P 01 19 08.4 -0.3
comp=Z,19nm,0.6s,baz=73,slow=9.1,SNR=75
ARCES LR LR 01 53 30.9
comp=Z,710nm,20.6s,baz=78,slow=39
ARE0 ARCESS Array S 70.52 338 eP P 01 19 08.6 -0.2
ANN Anapa 70.54 311c iP P 01 19 07.7 -1.6
ANN e 01 19 31.8
ANN e 01 21 43.6
ANN eS **S 01 28 18.0 -2.1**
ANN eSS **SS 01 32 46.1 -5.3**
ANN pmax pmax
comp=Z,371nm,1.2s
ANN pmax pmax
comp=N,115nm,1.3s
ANN pmax pmax
comp=E,82nm,1.3s
MENT Mentasta 70.68 29 eP P 01 19 10.1 +0.2
SFNV Sufian 70.73 302 eP P 01 19 11.6 +0.9
BMRM Bremner River 70.76 31 eP P 01 19 10.4 0.0
comp=E,166nm,1.5s
KBS Kingsbay 70.77 349 PFAKE 01 19 20.0 +10
KBS LR LR
comp=Z,1μm,20.0s
HSPB Hornsund (broa 70.85 347 eP P 01 19 10.2 -0.4
HSPB IAMs_20 IAMs_20 01 56 02.4
comp=Z,3μm,20.5s
PUL Pulkovo 71.06 328c eP P 01 19 11.5 -0.6
PUL pmax pmax
comp=Z,90nm,0.5s
EGAK Eagle 71.30 27 eP P 01 19 13.6 0.0
comp=Z,75nm,1.1s
EGAK LR LR
comp=Z,712nm,21.0s
MSEY Mahe Island 71.39 256 iP P 01 19 16.6 +1.6
MSEY Mahe Island 71.39 256 PFAKE 01 19 30.0 +15
MSEY LR LR
comp=Z,605nm,20.0s
KTK1 Kautokeino 71.45 338 eP P 01 19 14.6 +0.3
MALT Malatya 71.51 304⇑iP P 01 19 16.6 +1.1
MNKR ALMNKUR 71.52 302 eP P 01 19 16.0 +0.6
KSRV Kasrt alli 71.75 302 eP P 01 19 19.2 +2.4
DAWY Dawson 72.24 27 eP P 01 19 19.5 +0.2
KAF Kangasniemi 72.30 331 eP P 01 19 17.7 -1.9
KAF pmax pmax
comp=Z,40nm,0.6s
KAF Kangasniemi 72.30 331 ep P 01 19 17.7 -1.9
comp=Z,40nm,0.6s
FINES FINESS Array B 72.60 330 P P 01 19 21.1 -0.2
comp=Z,55nm,0.5s,baz=74,slow=5.5,SNR=417
FINES LR LR 01 54 51.3
comp=Z,2μm,19.6s,baz=90,slow=39
TRO Tromso 72.68 339 eP P 01 19 22.2 +0.5
SIM Simferopol' 72.77 312c eP P 01 19 22.7 0.0
SIM e*PP **pP 01 19 35.0 +0.8**
SIM eS **S 01 28 42.0 -3.9**
SIM pmax pmax
comp=Z,96nm,0.7s
VSU Vasula 73.19 327c iP P 01 19 24.9 0.0
VSU pmax pmax
comp=Z,814nm,1.5s
LBOS 73.36 278 eP P 01 19 27.9 +0.9
RABH Abou Rabah 73.57 301 eP P 01 19 27.9 +0.2
MICGM Minsk 73.81 323 eP P 01 19 28.0 -0.7
MNK Minsk 73.84 323 eP P 01 19 28.0 -0.8
MNK pmax pmax
comp=E,570nm,1.0s
MNK pmax pmax
comp=Z,850nm,1.2s
HYT Haines Junctio 74.12 30 eP P 01 19 34.3 +3.7
IDID Didziasalis 74.18 324 eP P 01 19 30.9 +0.1
IDID AMB AMB 01 19 33.0
comp=Z,106nm,0.9s
AKASG Malin Array Be 74.22 319 P P 01 19 30.4 -0.7
AKASG pmax pmax
comp=Z,92nm,0.6s
AKASG MLR MLR
comp=Z,479nm,19.3s
AKASG Malin Array Be 74.22 319 P P 01 19 30.4 -0.7
comp=Z,92nm,0.6s,baz=74,slow=6.1,SNR=264
AKASG LR LR 01 55 27.7
comp=Z,479nm,19.3s,baz=55,slow=38
AKBB Malin Array Si 74.22 319 eP P 01 19 30.0 -1.1
AKBB Malin Array Si 74.22 319 eP P 01 19 30.0 -1.1
AK01 Malin Array Si 74.23 319 eP P 01 19 30.2 -1.0
KIEV Kiev 74.23 319c iP P 01 19 30.6 -0.6
KIEV Kiev 74.23 319 eP P 01 19 30.1 -1.0
comp=Z,111nm,0.7s
KIEV LR LR
comp=Z,672nm,19.0s
AK02 Malin Array Si 74.24 319 eP P 01 19 30.3 -0.9
FKH Fakeheh 74.26 301 eP P 01 19 32.6 +0.8
MARH Ras Al Marh 74.27 301 eP P 01 19 31.7 -0.4
NACGM Naroch 74.29 323 eP P 01 19 29.0 -2.5
ISAL Salakas 74.43 324 eP P 01 19 32.3 +0.1
ISAL AMB AMB 01 19 34.5
comp=Z,65nm,1.1s
IIGN Ignalina 74.45 324 eP P 01 19 31.9 -0.5
IIGN AMB AMB 01 19 34.0
comp=Z,65nm,0.9s
STEI Steigen 74.59 338 eP P 01 19 32.4 -0.5
STEI IAmb IAmb 01 19 34.1
comp=Z,57nm,0.6s
TRBA At Turbah 74.61 278 eP P 01 19 35.3 +1.0
BR131 Keskin Array S 74.66 307 eP P 01 19 34.1 0.0
comp=Z,111nm,1.0s
BR131 **ePP PP 01 22 24.2 +3.2**
BRTR Keskin Array B 74.66 307 P P 01 19 34.2 +0.1
comp=Z,63nm,0.9s,baz=98,slow=5.6,SNR=276
BRTR LR LR 01 58 53.0
comp=Z,210nm,18.2s,baz=64,slow=41
BRBR Barbar 74.88 300 eP P 01 19 35.4 -0.2
LOF Lofoten 75.08 339 eP P 01 19 35.3 -0.4
TCHB Talchebab 75.11 299 eP P 01 19 37.4 +0.7
ANTO Ankara 75.24 307 eP P 01 19 37.5 +0.2
ANTO pmax pmax
comp=Z,94nm,0.8s
ANTO MLR MLR
comp=Z,250nm,19.0s
ANTO Ankara 75.24 307⇑iP P 01 19 37.8 +0.5

ANTO Ankara 75.24 307 eP P 01 19 37.5 +0.2
comp=Z,94nm,0.8s
ANTO LR LR
comp=Z,250nm,19.0s
KIS Kishinev 75.66 315 eP P 01 19 38.0 -1.5
KIS e 01 19 55.0
KIS MLR MLR
comp=Z,500nm,18.0s
KIS MLR MLR
comp=Z,600nm,20.0s
KIS Kishinev 75.66 315 eP P 01 19 38.0 -1.5
KIS LRM MLR 01 56 40.0
comp=Z,600nm,20.0s
FLOS Flostrand 75.95 337 eP P 01 19 40.4 -0.4
KONS Konsvik 75.96 337 eP P 01 19 40.3 -0.5
STOK Stokkvaagen 76.08 337 eP P 01 19 41.5 0.0
LEOM Leova 76.21 315⇑iP P 01 19 42.5 -0.1
TLCR 76.27 313⇓iP P 01 19 43.2 +0.2
CSS Prodhromos 76.43 302 P P 01 19 44.4 +0.2
CSS Prodhromos 76.43 302 eP P 01 19 43.8 -0.4
comp=Z,27nm,0.8s
CSS LR LR
comp=Z,150nm,22.0s
SIT Sitka 76.55 33 eP P 01 19 44.9 +0.6
SIT pmax pmax
comp=Z,154nm,1.2s
SIT Sitka 76.55 33 eP P 01 19 44.9 +0.6
comp=Z,154nm,1.2s
GIUM Giurgiulesti 76.57 314⇓iP P 01 19 45.1 +0.4
SUW Suwalki 76.57 323 eP P 01 19 44.5 -0.1
SUW MLR MLR
comp=Z,800nm,20.1s
SUW Suwalki 76.57 323 eP P 01 19 44.4 -0.1
SUW LMZ LR 01 57 11.8
SUW Suwalki 76.57 323 eP P 01 19 44.0 -0.5
comp=Z,638nm,1.0s
CFR Carcaliu 76.72 314⇑iP P 01 19 45.2 -0.4
TIRR Tirgusor 76.79 313⇑iP P 01 19 46.0 +0.1
HARR Harsova 77.03 313⇑iP P 01 19 47.9 +0.6
DAG Danmarks Havn 77.04 352⇑iP P 01 19 45.5 -1.3
DAG pmax pmax
comp=Z,17nm,1.0s
DAG Danmarks Havn 77.04 352⇑iP P 01 19 45.5 -1.3
comp=Z,17nm,1.0s
PETR Petresti 77.13 314⇑iP P 01 19 48.9 +1.0
PSN Preselentsi 77.21 312 iP P 01 19 49.9 +1.5
PSN Preselentsi 77.21 312⇑iP P 01 19 49.1 +0.7
TESR Tescani 77.23 315⇑iP P 01 19 48.2 -0.2
NSS Namsos 77.31 336 eP P 01 19 48.0 -0.5
VRI Vrincioaia 77.41 315⇓iP P 01 19 49.9 +0.4
GRER 77.42 314⇓iP P 01 19 51.4 +1.9
AMRR Amara 77.46 313⇑iP P 01 19 50.5 +0.8
PLOR Plostina 77.47 315⇓iP P 01 19 50.3 +0.5
ALT Altintas 77.47 307 P P 01 19 50.2 +0.2
ALT Altintas 77.47 307 P P 01 19 50.2 +0.2
PGOR Pogoanele 77.58 314⇓iP P 01 19 50.7 +0.3
ISP Isparta 77.59 306 P P 01 19 50.2 -0.6
ISP Isparta 77.59 306 eP P 01 19 49.7 -1.1
ISP pmax pmax
comp=Z,131nm,1.1s
ISP MLR MLR
comp=Z,317nm,20.0s
ISP Isparta 77.59 306⇓iP P 01 19 50.1 -0.7
ISP Isparta 77.59 306 eP P 01 19 49.7 -1.1
comp=Z,131nm,1.1s
ISP LR LR
comp=Z,317nm,20.0s
LVV L'vov 77.65 319 eP P 01 19 48.9 -1.8
LVV eS S 01 29 30.9 -8.9
BUR08 Bucovina Ar. S 77.74 317 eP P 01 19 51.2 -0.2
BURAR Bucovina Array 77.74 317⇑iP P 01 19 51.5 +0.1
ISR Istrita 77.80 314⇓iP P 01 19 52.6 +0.9
PRD Provadia 77.92 312 iP P 01 19 53.5 +1.2
MLR Muntele Rosu 78.06 314⇑iP P 01 19 53.4 +0.2
SECR 78.14 314⇑iP P 01 19 55.0 +1.4
SULR 78.15 314⇑iP P 01 19 54.4 +0.8
DOPR Dopca 78.24 315⇑iP P 01 19 54.8 +0.7
WRAK Wrangell Islan 78.31 33 eP P 01 19 55.3 +1.1
comp=Z,86nm,1.3s
WRAK LR LR
comp=Z,668nm,22.0s
KWP Kalwaria Pacla 78.52 319 eP P 01 19 56.0 +0.5
KWP Kalwaria Pacla 78.52 319 eP P 01 19 56.0 +0.5
KWP LMZ LR 01 57 48.8
KWP Kalwaria Pacla 78.52 319⇑iP P 01 19 56.1 +0.5
KWP Kalwaria Pacla 78.52 319 eP P 01 19 55.9 +0.5
comp=Z,295nm,0.7s
KWP LR LR
comp=Z,600nm,20.0s
DLBC Dease Lake 78.55 31 eP P 01 19 56.7 +1.1
VOIR 78.66 315⇑iP P 01 19 56.3 -0.2
KULA Kula-Manisa 78.72 307 P P 01 19 56.7 -0.3
KULA Kula-Manisa 78.72 307 P P 01 19 56.7 -0.3
JMB Yambol 78.75 311⇑iP P 01 19 57.0 +0.1
BEL Belsk 78.75 322 eP P 01 19 57.2 +0.5
BEL MLR MLR
comp=Z,800nm,21.0s
BEL Belsk 78.75 322 eP P 01 19 57.2 +0.5
BEL LMZ LR 01 58 46.2
BMR Baia Mare 78.80 317⇑iP P 01 19 57.8 +0.7
RES Resolute Bay 78.86 10 eP P 01 19 56.2 -0.7
RES pmax pmax
comp=Z,57nm,1.0s
RES Resolute Bay 78.86 10 eP P 01 19 56.2 -0.7
comp=Z,57nm,1.0s
ARR Arges 78.96 315⇑iP P 01 19 58.3 +0.2
KOLS Kolonicke sedl 79.05 319 eP P 01 19 58.6 +0.1
KOLS pmax pmax
comp=Z,31nm,0.8s
KOLS Kolonicke sedl 79.05 319 eP P 01 19 58.6 +0.1
CJR Cluj-Napoca 79.11 316⇑iP P 01 19 59.8 +0.9
UZH Uzhgorod 79.16 318⇓iP P 01 19 58.3 -0.7
UZH e 01 20 03.7
UZH e 01 20 15.7
UZH e 01 22 56.3
UZH e 01 24 46.9
UZH eS S 01 29 52.3 -3.7
UZH e 01 30 42.5
UZH e 01 34 57.5
TRPA Tarpa 79.21 318⇓iP P 01 20 00.1 +0.8
TRPA Tarpa 79.21 318⇑eP P 01 19 59.9 +0.6
NB2 NORSAR Subarra 79.33 333 P P 01 19 59.3 -0.5
comp=Z,113nm,0.8s,baz=58,slow=5.6
NB2 NORSAR Subarra 79.33 333 P P 01 19 59.3 -0.5
baz=58,slow=5.6
NOA NORSAR Array B 79.33 333 P P 01 19 59.1 -0.7
comp=Z,90nm,0.8s,baz=58,slow=5.6,SNR=315
NOA PKP2bc 01 46 28.9
comp=Z,0.6nm,0.7s,baz=329,slow=5.7,SNR=3.3
NOA LR LR 01 58 47.0
comp=Z,1μm,18.4s,baz=65,slow=38
NC602 NORSAR Array S 79.34 332 eP P 01 19 59.3 -0.5
STHS Stebnicka Huta 79.48 319 eP P 01 20 01.4 +0.6
STHS pmax pmax
comp=Z,49nm,1.1s
STHS Stebnicka Huta 79.48 319 eP P 01 20 01.3 +0.5
LOT Lotru 79.49 315⇓iP P 01 20 01.5 +0.4
CRVS Cervenica-Dubn 79.56 319 eP P 01 20 01.7 +0.5
CRVS pmax pmax
comp=Z,39nm,1.1s
CRVS Cervenica-Dubn 79.56 319 eP P 01 20 01.7 +0.5
NAO01 NORSAR Array S 79.57 332 eP P 01 19 59.8 -1.2
comp=Z,85nm,0.9s
DRGR 79.64 317⇑iP P 01 20 01.9 +0.1
ALN Alexandroupoli 79.71 310 P P 01 20 01.9 -0.3
ALN Alexandroupoli 79.71 310 P P 01 20 01.9 -0.3
ALN Alexandroupoli 79.71 310 eP P 01 20 02.2 0.0
ALN Alexandroupoli 79.71 310 P P 01 20 01.9 -0.3
KDZ Kurdzhali 79.86 311 iP P 01 20 04.1 +1.1
DEV Deva 79.88 316⇓iP P 01 20 03.4 +0.4
URZ Urewera 79.94 140 P P 01 20 03.6 +0.3
comp=Z,7.7nm,0.6s,baz=41,slow=1.0,SNR=6.8
ARG Arkhangelos 79.96 305 eP P 01 20 03.7 +0.1
OJC Ojcow 79.99 321⇑iP P 01 20 03.7 +0.1
OJC Ojcow 79.99 321 iP P 01 20 03.7 +0.1
MOL Molde 80.02 335 eP P 01 20 14.9 +11
NIE Niedzica 80.03 320⇑iP P 01 20 03.6 -0.2
NIE Niedzica 80.03 320 iP P 01 20 03.6 -0.2
OSL Oslo 80.10 332 eP P 01 20 03.9 0.0
OSL IAmb IAmb 01 20 04.6
comp=Z,176nm,0.7s
GKP Gorka Klasztor 80.11 324 eP P 01 20 04.1 0.0
GKP MLR MLR
comp=Z,2μm,18.1s
GKP Gorka Klasztor 80.11 324 eP P 01 20 04.1 0.0
GKP LMZ LR 01 59 39.4
GZR Gura Zlata 80.15 315⇑iP P 01 20 05.0 +0.4
SRE Strehaia 80.17 314⇑iP P 01 20 04.3 -0.3
PLD Plovdiv 80.17 312 P P 01 20 04.8 +0.1
PLD Plovdiv 80.17 312 P P 01 20 04.8 +0.1
PLD Plovdiv 80.17 312 P P 01 20 04.8 +0.1
PRK Paraskevi 80.17 308 P P 01 20 04.6 -0.1
PRK Paraskevi 80.17 308 P P 01 20 04.6 -0.1
PRK Paraskevi 80.17 308 eP P 01 20 04.7 0.0
PRK Paraskevi 80.17 308 P P 01 20 04.6 -0.1
RZN Rozhen 80.33 311 iP P 01 20 06.5 +0.7
SMG Samos 80.35 307 eP P 01 20 05.8 0.0
PGB Panagyurishte 80.36 312 iP P 01 20 06.4 +0.6
BSD Bornholm Skovb 80.48 326⇑iP P 01 20 05.7 -0.3
BSD pmax pmax
comp=Z,120nm,1.1s
BSD MLR MLR
comp=Z,1μm,19.0s
BSD Bornholm Skovb 80.48 326⇑iP P 01 20 05.7 -0.3
comp=Z,118nm,1.1s
BSD
comp=Z,1μm,18.0s
SIGR SIGRI 80.49 309 eP P 01 20 06.2 -0.2
CHOS Chios island 80.66 308 eP P 01 20 07.0 -0.5
KONO Kongsberg 80.73 332 eP P 01 20 06.2 -1.1
KONO pmax pmax
comp=Z,27nm,0.8s
KONO MLR MLR
comp=Z,3μm,19.0s
KONO Kongsberg 80.73 332 eP P 01 20 07.4 0.0
KONO Kongsberg 80.73 332 eP P 01 20 06.2 -1.1
comp=Z,27nm,0.8s
KONO LR LR
comp=Z,3μm,19.0s
KAVA Kavala 80.74 311 eP P 01 20 07.7 0.0
BZS Buzias 80.81 316⇑iP P 01 20 07.8 -0.2
PSZ Piszkesteto 80.91 318 eP P 01 20 08.6 0.0
PSZ pmax pmax
comp=Z,122nm,1.0s
PSZ MLR MLR
comp=Z,563nm,19.0s
PSZ Piszkesteto 80.91 318⇑iP P 01 20 08.7 0.0
PSZ Piszkesteto 80.91 318 eP P 01 20 08.6 0.0
comp=Z,122nm,1.0s
PSZ LR LR
comp=Z,563nm,19.0s
PSZ Piszkesteto 80.91 318⇑eP P 01 20 09.0 +0.3
KARP Karpathos 80.94 305 eP P 01 20 09.2 +0.2
RAC Raciborz 80.98 321 eP P 01 20 09.7 +0.8
MMB Musomiste 81.05 311 iP P 01 20 09.5 +0.1
MMB Musomiste 81.05 311⇓iP P 01 20 09.1 -0.3
NVR Nevrokopi 81.05 311 P P 01 20 08.6 -0.9
NVR Nevrokopi 81.05 311 eP P 01 20 09.2 -0.3
NVR Nevrokopi 81.05 311 P P 01 20 08.6 -0.9
OKC Ostrava-Krasne 81.12 321⇑iP P 01 20 10.0 +0.4
OKC Ostrava-Krasne 81.12 321⇑iP P 01 20 10.0 +0.4
OKC epP pP 01 20 20.2 -1.0
BANR Banloc 81.21 316⇑iP P 01 20 10.7 +0.5
VYHS Vyhne 81.30 319 eP P 01 20 11.6 +0.9
VYHS pmax pmax
comp=Z,128nm,1.0s
VYHS Vyhne 81.30 319 eP P 01 20 11.6 +0.9
SRS Serrai 81.33 311 P P 01 20 10.0 -0.9
SRS Serrai 81.33 311 P P 01 20 10.0 -0.9
SRS Serrai 81.33 311 eP P 01 20 10.3 -0.6
SRS Serrai 81.33 311 P P 01 20 10.0 -0.9
HYA Hoyanger 81.33 334 eP P 01 20 10.8 +0.3
OUR Ouranopolis 81.37 310 eP P 01 20 10.9 -0.2
KKB Krupnik 81.38 312 iP P 01 20 11.1 -0.1
COP Copenhagen 81.44 328⇑iP P 01 20 11.4 +0.2
COP pmax pmax
comp=Z,98nm,0.9s
COP MLR MLR
comp=Z,680nm,22.0s
COP Copenhagen 81.44 328⇑iP P 01 20 11.4 +0.2
comp=Z,98nm,0.8s
COP
comp=Z,680nm,22.0s
MORC Moravsky Berou 81.50 321 eP P 01 20 11.7 0.0
MORC pmax pmax
comp=Z,85nm,1.0s
MORC Moravsky Berou 81.50 321⇑iP P 01 20 12.1 +0.4
MORC Moravsky Berou 81.50 321 eP P 01 20 11.7 0.0
comp=Z,85nm,1.0s
FOO Floro 81.54 335 eP P 01 20 11.6 0.0
APE Apeiranthos 81.56 307 eP P 01 20 10.6 -1.7
RGN Rugen 81.56 326 eP P 01 20 12.2 +0.4
comp=Z,266nm,1.3s
BUD Budapest 81.63 318⇑eP P 01 20 12.8 +0.4
PKS6 Bocsa 81.68 317⇑eP P 01 20 12.9 +0.3
KSP Ksiaz 81.73 322⇑eP P 01 20 13.1 +0.3
KSP e*PP pP 01 20 28.4 +4.0
KSP MLR MLR
comp=Z,5μm,21.5s
KSP Ksiaz 81.73 322 eP P 01 20 13.4 +0.6
KSP LMZ LR 02 00 17.9
LLD Lille Linde 81.73 327 iP P 01 20 13.1 +0.4
LLD pmax pmax
comp=Z,12nm,0.7s
LLD Lille Linde 81.73 327 iP P 01 20 13.1 +0.4
comp=Z,12nm,0.6s
PLG Polygyros 81.73 310 P P 01 20 12.5 -0.6
PLG Polygyros 81.73 310 P P 01 20 12.5 -0.6
PLG Polygyros 81.73 310 eP P 01 20 12.7 -0.4
PLG Polygyros 81.73 310 P P 01 20 12.5 -0.6
PAIG Paliouri 81.75 310 eP P 01 20 12.6 -0.5
KNT Kendrikon 81.79 311 P P 01 20 12.7 -0.6
KNT Kendrikon 81.79 311 P P 01 20 12.7 -0.6
KNT Kendrikon 81.79 311 eP P 01 20 12.8 -0.6
KNT Kendrikon 81.79 311 P P 01 20 12.7 -0.6
ZKR Zakros 81.81 305 eP P 01 20 13.5 -0.1
ODD1 Odda 81.86 333 eP P 01 20 13.2 -0.2
HORT Hortiatis 81.88 311 eP P 01 20 13.2 -0.7
KULLO Kullorsuaq 81.93 0⇑iP P 01 20 13.0 -0.4
KULLO i 01 20 28.2
KULLO pmax pmax
comp=Z,77nm,1.0s
KULLO MLR MLR
comp=Z,570nm,18.0s
KULLO Kullorsuaq 81.93 0⇑iP P 01 20 13.0 -0.4
comp=Z,77nm,0.9s
KULLO i 01 20 28.2
KULLO
comp=Z,570nm,17.0s
DPC Dobruska-Polom 81.94 322⇑iP P 01 20 14.6 +0.6
DPC Dobruska-Polom 81.94 322⇑iP P 01 20 14.6 +0.6
DPC epP pP 01 20 25.3 -0.3
DPC AMS AMS 02 00 30.0
HOMB Homborsund 81.95 331 eP P 01 20 13.9 +0.1
VAY Valandovo 81.95 312 P P 01 20 13.1 -1.1
VAY Valandovo 81.95 312 P P 01 20 13.1 -1.1
VAY Valandovo 81.95 312 iP P 01 20 13.8 -0.4
VAY Valandovo 81.95 312 P P 01 20 13.1 -1.1
THE Thessaloniki 81.96 311 eP P 01 20 13.4 -0.8
SUE Sulen 81.97 334 eP P 01 20 14.5 +0.7
UPC Upice 82.04 322⇑iP P 01 20 15.1 +0.6
UPC Upice 82.04 322⇑iP P 01 20 15.1 +0.6
UPC ePCP PcP 01 20 21.3 +1.4
UPC epP pP 01 20 27.6 +1.5
PKSG 82.06 318⇑eP P 01 20 14.9 +0.3
ASK Askoy 82.12 334 eP P 01 20 14.3 -0.3
CSKK Cs˘‡kako 82.15 318⇑eP P 01 20 15.5 +0.4
BLS5 Blasjo 82.20 332 eP P 01 20 15.6 +0.4
BLS5 IAmb IAmb 01 20 16.1
comp=Z,94nm,0.7s
NPS Neapolis 82.21 305 eP P 01 20 15.2 -0.5
VRAC Vranov 82.26 321⇑iP P 01 20 16.5 +0.8
MRKA Markates 82.31 309 eP P 01 20 15.3 -0.8
XOR Xorichti 82.32 310 eP P 01 20 15.1 -1.1
RUE Ruedersdorf 82.33 324 eP P 01 20 16.2 +0.4
comp=Z,210nm,1.0s
RUE Ruedersdorf 82.33 324 eP P 01 20 16.3 +0.4
comp=Z,113nm,0.8s
PKST T˘s 82.33 318⇑eP P 01 20 16.1 0.0
LAST Lasithi 82.35 305 eP P 01 20 16.3 -0.2
PKSM Moragy 82.43 317⇑iP P 01 20 16.7 +0.1
PKSM Moragy 82.43 317⇑eP P 01 20 16.5 -0.1
SNART Snartemo 82.48 331 eP P 01 20 17.0 +0.4
SNART IAmb IAmb 01 20 17.4
comp=Z,89nm,0.7s
PKS9 Tamasi 82.49 318⇑eP P 01 20 17.1 +0.2
DIVS Divibare 82.50 315 P P 01 20 16.4 -0.7
LIT Litokhoron 82.51 310 P P 01 20 15.9 -1.3
LIT Litokhoron 82.51 310 P P 01 20 15.9 -1.3
LIT Litokhoron 82.51 310 eP P 01 20 16.4 -0.8
LIT Litokhoron 82.51 310 P P 01 20 15.9 -1.3
MUD Monsted U'grnd 82.61 329⇑iP P 01 20 17.6 +0.3
MUD pmax pmax
comp=Z,120nm,0.9s
MUD Monsted U'grnd 82.61 329⇑iP P 01 20 17.6 +0.3
comp=Z,121nm,0.9s
IDI Anoyia 82.74 305 P P 01 20 18.0 -0.5
baz=27,slow=14
YKA Yellowknife Ar 82.79 23 P P 01 20 18.0 -0.1
comp=Z,37nm,0.8s,baz=309,slow=5.0,SNR=540
YKA pP pP 01 20 32.7 +2.9
comp=Z,46nm,1.0s,baz=310,slow=5.0,SNR=14
YKA PKKP PKKPdf 01 38 31.5 -0.9
comp=Z,0.2nm,0.6s,baz=117,slow=2.6,SNR=4.3
YKA PKKPbc PKKPbc 01 38 39.5 -3.5
comp=Z,2.1nm,0.6s,baz=129,slow=2.5,SNR=42
YKA PKPPKP P'P'df 01 46 40.2 -10
comp=Z,0.3nm,0.7s,baz=147,slow=2.5,SNR=5.7
KMY Karmoy 82.83 333 eP P 01 20 18.8 +0.5
KMY IAmb IAmb 01 20 19.4
comp=Z,183nm,1.2s
TREC Trest 82.91 321⇑iP P 01 20 19.6 +0.5
TREC MLR MLR
comp=Z,700nm,21.5s
TREC Trest 82.91 321⇑iP P 01 20 19.6 +0.5
TREC AMS AMS 02 00 10.0
comp=Z,700nm,21.5s
KZN Kozani 82.92 311 P P 01 20 18.3 -1.1
KZN Kozani 82.92 311 P P 01 20 18.3 -1.1
KZN Kozani 82.92 311 eP P 01 20 18.4 -1.0
KZN Kozani 82.92 311 P P 01 20 18.3 -1.1
AXAR Agios Charalam 82.95 309 eP P 01 20 18.4 -1.1
FNA Florina 82.99 311 P P 01 20 18.6 -1.1
FNA Florina 82.99 311 P P 01 20 18.6 -1.1
FNA Florina 82.99 311 eP P 01 20 18.8 -0.9
FNA Florina 82.99 311 P P 01 20 18.6 -1.1
BRG Berggiesshubel 83.02 323 iP P 01 20 19.6 0.0
comp=Z,71nm,0.9s
BRG i 01 20 36.1
comp=Z,45nm,1.1s
BRG
comp=N,663nm,16.6s
BRG
comp=E,1μm,18.7s
BRG
comp=Z,1μm,18.6s
BRG Berggiesshubel 83.02 323 iP P 01 20 19.6 0.0
BRG i 01 20 36.1
BRG pmax pmax
comp=Z,71nm,0.9s
BRG pmax pmax
comp=Z,45nm,1.1s
BRG MLR MLR
comp=N,663nm,16.6s
BRG MLR MLR
comp=E,1μm,18.7s
BRG MLR MLR
comp=Z,1μm,18.6s
BRG Berggiesshubel 83.02 323 eP P 01 20 19.6 0.0
comp=Z,313nm,1.9s
SOP Sopron 83.03 319⇑eP P 01 20 20.2 +0.5
DID Didima 83.06 308 eP P 01 20 17.5 -2.6
THL Klokotos Trika 83.07 310 P P 01 20 17.4 -2.6
THL Klokotos Trika 83.07 310 eP P 01 20 18.2 -1.8
AGG Agios Georgios 83.07 310 P P 01 20 18.4 -1.7
AGG Agios Georgios 83.07 310 P P 01 20 18.4 -1.7
AGG Agios Georgios 83.07 310 eP P 01 20 18.6 -1.5
AGG Agios Georgios 83.07 310 P P 01 20 18.4 -1.7
IVA Berane 83.09 314⇑iP P 01 20 20.1 -0.1
SUMG Summit 83.10 354⇑iP P 01 20 20.1 0.0
SUMG pmax pmax
comp=Z,93nm,0.9s
SUMG Summit 83.10 354⇑iP P 01 20 20.1 0.0
comp=Z,93nm,0.9s
SUMG Summit 83.10 354 eP P 01 20 19.7 -0.4
comp=Z,138nm,0.9s
PRU Pruhonice 83.12 322⇑iP P 01 20 20.5 +0.4
PRU e 01 20 36.3
PRU MLR MLR
comp=Z,700nm,17.2s
PRU Pruhonice 83.12 322⇑iP P 01 20 20.5 +0.4
PRU epP pP 01 20 30.4 -1.3
PRU esP sP 01 20 36.3 +0.3
PRU AMS AMS 02 01 20.0
comp=Z,700nm,17.2s
PRA Prague 83.14 322⇑iP P 01 20 20.8 +0.6
PRA Prague 83.14 322⇑iP P 01 20 20.8 +0.6
PRA epP pP 01 20 33.8 +2.0
PVY Plav 83.17 314⇑iP P 01 20 20.3 -0.4
DSF Desfina 83.19 309 eP P 01 20 19.1 -1.7
VAM Vamos 83.21 306 eP P 01 20 19.4 -1.5
MAKR Makrakomi, Fth 83.22 310 P P 01 20 19.5 -1.4
MAKR Makrakomi, Fth 83.22 310 eP P 01 20 19.7 -1.2
MAKR Makrakomi, Fth 83.22 310 P P 01 20 19.5 -1.4
PLE Pljevlja 83.23 314⇑iP P 01 20 21.6 +0.7
PHP Peshkopia 83.25 313 P P 01 20 20.6 -0.4
PHP Peshkopia 83.25 313 P P 01 20 20.6 -0.4
PHP Peshkopia 83.25 313 P P 01 20 20.6 -0.4
CLL Collm 83.33 324⇑iP P 01 20 21.1 0.0
CLL e 01 20 35.0
CLL pmax pmax
comp=Z,286nm,1.5s
CLL MLR MLR
comp=Z,1μm,19.5s
CLL Collm 83.33 324 eP P 01 20 20.9 -0.2
comp=Z,289nm,1.5s
CLL Collm 83.33 324⇑iP P 01 20 21.1 0.0
comp=Z,286nm,1.5s
CLL esP sP 01 20 35.0 -2.1
CLL esPcP 01 20 41.0
CLL eS ScS 01 30 54.0 +1.2
CLL eSS SS 01 36 36.0 +32
CLL Lm MLR 02 01 00.0
comp=N,800nm,19.2s
CLL Lm MLR 02 01 00.0
comp=E,600nm,19.6s
CLL Lm MLR 02 01 00.0
comp=Z,1μm,19.5s
CONA Conrad Observa 83.33 320 iP P 01 20 22.0 +0.6
comp=Z,187nm,1.3s,SNR=70
BSEG Bad Segeberg 83.39 327 eP P 01 20 22.6 +1.2
comp=Z,101nm,0.9s
BEHE Becsehely 83.46 318⇑eP P 01 20 22.5 +0.6
KBN Korca 83.47 311 P P 01 20 21.2 -1.0
KBN Korca 83.47 311 P P 01 20 21.2 -1.0
KBN Korca 83.47 311 P P 01 20 21.2 -1.0
KALE Kalithea 83.47 309 eP P 01 20 20.9 -1.3
EVR Evrytania 83.49 310 eP P 01 20 21.2 -1.1
GUR Goura 83.52 309 eP P 01 20 21.1 -1.4
UPM Unac-Piva 83.60 314 eP P 01 20 21.7 -1.3
VLI Veliai 83.60 307 eP P 01 20 20.4 -2.4
KLV Kalavryta, Ach 83.61 309 eP P 01 20 21.7 -1.3
EFP Efpalio 83.62 309 eP P 01 20 22.0 -0.9
LAKA Lakka 83.65 309 P P 01 20 21.9 -1.2
LAKA Lakka 83.65 309 eP P 01 20 22.0 -1.2
LAKA Lakka 83.65 309 P P 01 20 21.9 -1.2
PDG Podgorica 83.71 314 P P 01 20 23.2 -0.1
TTG Podgorica 83.71 314⇑iP P 01 20 21.9 -1.4
TTG Podgorica 83.71 314 P P 01 20 23.2 -0.1
TTG Podgorica 83.71 314 P P 01 20 23.2 -0.1
NKY Niksic 83.72 314⇑iP P 01 20 22.2 -1.3
ARSA Arzberg 83.86 319 iP P 01 20 24.3 +0.3
comp=Z,67nm,1.1s,SNR=44
DSL Palaion Diasel 83.89 310 P P 01 20 23.4 -0.9
DSL Palaion Diasel 83.89 310 P P 01 20 23.4 -0.9
ULC Ulcinj 83.93 313 eP P 01 20 23.5 -0.9
DRO Drossia 83.97 309 eP P 01 20 24.4 -0.3
BUM Brajici-Budva 84.01 314⇑iP P 01 20 23.7 -1.2
NEUB Neuenburg 84.04 324 eP P 01 20 24.9 +0.1
comp=Z,216nm,1.0s
PDO Prodromos 84.06 310 P P 01 20 23.6 -1.6
PDO Prodromos 84.06 310 eP P 01 20 24.3 -0.9
TANN Tannenbergstha 84.07 323 eP P 01 20 25.1 +0.1
comp=Z,92nm,1.1s
KHC Kasperske Hory 84.08 321⇑iP P 01 20 25.6 +0.5
KHC e 01 20 41.7
KHC e 01 20 51.5
KHC MLR MLR
comp=Z,700nm,17.0s
KHC Kasperske Hory 84.08 321⇑iP P 01 20 25.6 +0.5

KHC eSP sP 01 20 41.7 +0.6
KHC ex x 01 20 51.5
KHC AMS AMS 02 01 30.0
comp=Z,700nm,17.0s
KHC Kasperske Hory 84.08 321 eP P 01 20 25.1 0.0
comp=Z,105nm,0.9s
RLS Riolos of Patr 84.09 309 eP P 01 20 25.1 -0.2
ITM Ithomi 84.14 308 eP P 01 20 24.5 -1.1
WERD Werda 84.14 323 eP P 01 20 25.4 0.0
comp=Z,136nm,1.3s
AMT Artemida-Makis 84.15 308 eP P 01 20 25.1 -0.6
GEC2 GERESS Array S 84.15 321 eP P 01 20 25.6 0.0
comp=Z,189nm,1.0s
GERES GERESS Array B 84.15 321 P P 01 20 25.8 +0.2
comp=Z,114nm,0.8s,baz=57,slow=4.9,SNR=897
GERES pP pP 01 20 40.8 +3.5
comp=Z,25nm,0.8s,baz=66,slow=4.5,SNR=6.1
GERES PKKPbc PKKPbc 01 38 40.6 +1.1
comp=Z,0.1nm,0.3s,baz=111,slow=2.2,SNR=4.7
GERES LR LR 02 02 12.4
comp=Z,597nm,19.9s,baz=48,slow=39
GUNZ Gunzen 84.17 323 eP P 01 20 25.7 +0.2
comp=Z,162nm,1.0s
SISC Sisak 84.18 317 P P 01 20 26.5 +0.9
WERN Wernitzgruen 84.18 323 eP P 01 20 25.8 +0.2
comp=Z,166nm,1.1s
PLN Plauen 84.20 323 eP P 01 20 25.8 +0.1
comp=Z,134nm,1.0s
HCY Herceg Novi 84.21 314⇑iP P 01 20 25.3 -0.5
IGT Igoumenitsa 84.25 311 P P 01 20 24.9 -1.2
IGT Igoumenitsa 84.25 311 P P 01 20 24.9 -1.2
IGT Igoumenitsa 84.25 311 eP P 01 20 25.1 -1.0
IGT Igoumenitsa 84.25 311 P P 01 20 24.9 -1.2
NRDL Niedersach Rie 84.26 325 eP P 01 20 26.4 +0.6
comp=Z,197nm,1.3s
MOA Molln 84.31 320 i PcP P 01 20 26.9 +0.6
comp=Z,102nm,0.7s,SNR=48
PYL PYLOS 84.39 308 eP P 01 20 25.5 -1.4
PERS Pernice 84.39 319 eP P 01 20 26.7 -0.1
PERS i 01 20 42.2
MOX Moxa 84.42 323 eP P 01 20 26.8 +0.1
comp=Z,240nm,1.7s
MOX eL L 02 02 29.7
comp=Z,978nm,19.8s
SOKA Soboth 84.42 319 i P P 01 20 26.9 0.0
comp=Z,96nm,0.7s,SNR=74
CLZ Clausthal 84.46 325 eP P 01 20 27.6 +0.6
comp=Z,361nm,1.3s
HLG Helgoland 84.47 328 eP P 01 20 27.4 +0.5
comp=Z,221nm,0.9s
WET Wettzell 84.48 322 eP P 01 20 27.4 +0.3
comp=Z,142nm,1.4s
STON Ston 84.54 315 P P 01 20 26.7 -0.8
ROTZ Rotzenmuhle 84.54 322 eP P 01 20 27.9 +0.5
comp=Z,163nm,1.1s
KEK Kerkira 84.55 311 eP P 01 20 26.7 -0.9
VLS Valsamata 84.67 309 P P 01 20 27.2 -1.1
VLS Valsamata 84.67 309 P P 01 20 27.2 -1.1
VLS Valsamata 84.67 309 eP P 01 20 27.4 -0.9
VLS Valsamata 84.67 309 P P 01 20 27.2 -1.1
OBKA Obir 84.80 319 i P P 01 20 28.8 -0.1
comp=Z,81nm,0.8s,SNR=44
BOJS Bojanci 84.86 318 i P P 01 20 29.4 +0.3
UDBI Udbina 85.00 317 P P 01 20 29.5 -0.4
LJU Ljubljana 85.04 318 i P P 01 20 29.8 -0.1
LJU i 01 20 45.5
ABPO Ambohimpanom 85.09 247 eP P 01 20 30.9 +0.1
ABPO pmax pmax
comp=Z,100nm,0.9s
ABPO MLR MLR
comp=Z,396nm,20.0s
ABPO Ambohimpanom 85.09 247 eP P 01 20 30.9 +0.1
comp=Z,100nm,0.9s
ABPO LR LR
comp=Z,396nm,20.0s
GRF Grafenberg Arr 85.13 323 eP P 01 20 30.8 +0.5
comp=Z,415nm,1.6s
GRF eL L 02 03 26.0
comp=Z,823nm,18.5s
UBBA Unterbreizbach 85.20 324 eP P 01 20 30.8 +0.3
comp=Z,132nm,1.3s
KBA Koelnbreinsper 85.24 320 i P P 01 20 30.8 -0.3
comp=Z,62nm,0.8s,SNR=32
MYKA Terra Mystica 85.28 319 i P P 01 20 30.7 -0.5
comp=Z,35nm,0.8s,SNR=14
JAVS Javornik 85.39 318 eP P 01 20 31.3 -0.6
JAVS i 01 20 47.0
IBBN Ibbenburen 85.57 326 eP P 01 20 32.7 +0.3
comp=Z,354nm,0.8s
FUR Furstenfeldbru 85.89 321 eP P 01 20 34.7 +0.5
comp=Z,305nm,0.9s
ABTA Abfaltersbach 85.90 320⇑iP P 01 20 33.0 -1.3
comp=Z,74nm,0.8s,SNR=35
WATA Walderalm 86.15 321⇑iP P 01 20 35.1 -0.6
comp=Z,30nm,0.7s,SNR=22
WTTA Wattenberg 86.15 320 i PcP P 01 20 35.5 -0.2
comp=Z,110nm,1.0s,SNR=30
WTSB Winterswijk 86.25 326 eP P 01 20 36.0 +0.2
comp=Z,179nm,0.8s
BUG Bochum--Univer 86.31 326 eP P 01 20 36.1 0.0
comp=Z,396nm,1.3s
TNS Taunus Mts 86.36 324 eP P 01 20 36.7 +0.2
comp=Z,126nm,1.1s
KMBO Kilima Mbogo 86.42 267 P P 01 20 38.9 +1.3
KMBO *PP pP 01 20 53.9 +4.5
KMBO pmax pmax
comp=Z,40nm,0.9s
KMBO pmax pmax
comp=Z,15nm,1.0s
KMBO Kilima Mbogo 86.42 267 P P 01 20 38.9 +1.3
comp=Z,40nm,0.9s,baz=51,slow=6.4,SNR=120
KMBO pP pP 01 20 53.9 +4.5
comp=Z,14nm,1.0s,baz=35,slow=8.5,SNR=5.8
KMBO Kilima Mbogo 86.42 267 eP P 01 20 38.8 +1.1
comp=Z,56nm,1.0s
KMBO LR LR
comp=Z,279nm,21.0s
MOTA Moosalm 86.42 321⇓iP P 01 20 36.1 -0.8
comp=Z,50nm,1.1s,SNR=28
RETA Reutte 86.54 321⇑iP P 01 20 37.1 -0.4
comp=Z,25nm,1.2s,SNR=6.3
STU Stuttgart 86.74 323 eP P 01 20 38.1 -0.3
STU pmax pmax
comp=Z,120nm,1.0s
STU Stuttgart 86.74 323 eP P 01 20 38.3 0.0
comp=Z,142nm,1.1s
STU Stuttgart 86.74 323 eP P 01 20 38.1 -0.3
comp=Z,120nm,1.0s
FETA Feichten 86.80 321 i PcP P 01 20 38.6 -0.3
comp=Z,56nm,1.1s,SNR=17
TIP Timpagrande 86.88 312 eP P 01 20 39.3 0.0
comp=Z,49nm,1.4s
TIP LR LR
comp=Z,301nm,20.0s
CUC Castrocucco 87.14 313 PFAKE 01 20 50.0 +9.5
CUC LR LR
comp=Z,368nm,20.0s
DAVA Damuels 87.15 321⇑iPcP P 01 20 40.5 -0.1
comp=Z,64nm,1.2s,SNR=10
ILULI Ilulissat 87.22 358 i P P 01 20 40.4 +0.2
ILULI pmax pmax
comp=Z,28nm,0.9s
ILULI Ilulissat 87.22 358 i P P 01 20 40.4 +0.2
comp=Z,28nm,0.8s
NLWA Neilton Lookou 87.28 39 PFAKE 01 20 50.0 +9.0
NLWA LR LR
comp=Z,255nm,19.0s
HGN Heimansgroeve 87.38 325 eP P 01 20 41.3 -0.1
comp=Z,128nm,1.0s
LANF Langenberg 87.39 323⇑eP P 01 20 41.7 +0.2
MEM Membach 87.43 325 P P 01 20 41.5 -0.1
comp=Z,68nm,1.7s
MEM XP sP 01 20 57.2 -0.5
BFO Black Forest 87.47 323 P P 01 20 41.0 -0.9
comp=Z,268nm,1.7s,SNR=13
BFO Black Forest 87.47 323 i P P 01 20 41.8 -0.1
BFO Black Forest 87.47 323 eP P 01 20 41.6 -0.3
comp=Z,124nm,1.5s
BFO Black Forest 87.47 323 eP P 01 20 40.8 -1.1
comp=Z,84nm,1.3s
BFO LR LR
comp=Z,995nm,19.0s
BEBN Eben Emael 87.50 326 P P 01 20 41.9 0.0
comp=Z,32nm,1.5s
TUE Stuetta 87.90 321 PFAKE 01 21 00.0 +16
TUE LR LR

comp=Z,886nm,19.0s
WLF Walferdange 87.90 324 P P 01 20 44.3 +0.4
comp=Z,172nm,1.4s
WLF AP pP 01 20 55.6 0.0
WLF XP sP 01 21 00.2 +0.3
WLF Walferdange 87.90 324 eP P 01 20 44.2 +0.3
WLF MLR MLR
comp=Z,1µm,20.0s
WLF Walferdange 87.90 324 eP P 01 20 44.3 +0.4
comp=Z,300nm,1.2s
WLF Walferdange 87.90 324 eP P 01 20 44.2 +0.3
comp=Z,280nm,1.2s
WLF LR LR
comp=Z,1µm,20.0s
BCLA Clavier 87.91 325 P P 01 20 43.6 -0.4
comp=Z,51nm,1.5s
BCLA XP sP 01 20 59.4 -0.5
CEL Celeste 87.92 311 eP P 01 20 44.5 +0.2
comp=Z,90nm,0.8s
CEL LR LR
comp=Z,449nm,22.0s
JCW Jim Creek 87.93 37 P P 01 20 45.4 +1.3
CDF Champ du Feu 88.00 323⇑iP P 01 20 44.4 -0.1
comp=Z,422nm,1.3s
CDF epP pP 01 20 59.4 +3.1
CDF Champ du Feu 88.00 323⇑iP P 01 20 44.4 -0.1
CDF e*PP pP 01 20 59.4 +3.1
CDF Champ du Feu 88.00 323⇑iP P 01 20 44.4 -0.1
comp=Z,422nm,1.3s
CDF epP pP 01 20 59.4 +3.1
UCC Uccle 88.17 326 P P 01 20 45.3 +0.2
comp=Z,125nm,1.7s
UCC XP sP 01 21 00.8 -0.3
ECH Echery 88.18 323 eP P 01 20 44.5 -0.8
ECH pmax pmax
comp=Z,89nm,1.3s
ECH MLR MLR
comp=Z,874nm,20.0s
ECH Echery 88.18 323⇑eP P 01 20 44.9 -0.4
ECH Echery 88.18 323 eP P 01 20 44.5 -0.8
comp=Z,89nm,1.3s
ECH LR LR
comp=Z,874nm,20.0s
GIVF Givet 88.35 325⇑iP P 01 20 45.9 -0.1
comp=Z,206nm,1.2s
GIVF epP pP 01 21 00.9 +3.2
GIVF Givet 88.35 325⇑iP P 01 20 45.9 -0.1
GIVF e*PP pP 01 21 00.9 +3.2
GIVF pmax pmax
comp=Z,206nm,1.2s
GIVF Givet 88.35 325⇑iP P 01 20 45.9 -0.1
comp=Z,206nm,1.2s
GIVF epP pP 01 21 00.9 +3.2
SNF Seneffe 88.39 326 P P 01 20 46.5 +0.4
SNF XP sP 01 21 01.7 -0.4
MOF Molkenrain 88.40 323⇑eP P 01 20 46.0 -0.4
DOU Dourbes 88.47 325 P P 01 20 46.3 -0.2
comp=Z,47nm,1.3s
DOU AP pP 01 20 54.8 -3.5
DOU XP sP 01 21 02.1 -0.5
EBL Broad Law 88.48 333⇑eP P 01 20 45.6 -0.9
VLC Villacollemand 88.52 318 PFAKE 01 21 00.0 +13
VLC LR LR
comp=Z,535nm,19.0s
HINF Hinteralfeld 88.57 323⇑iP P 01 20 46.6 -0.6
comp=Z,109nm,1.1s
HINF Hinteralfeld 88.57 323⇑iP P 01 20 46.6 -0.6
HINF pmax pmax
comp=Z,109nm,1.1s
HINF Hinteralfeld 88.57 323⇑iP P 01 20 46.6 -0.6
comp=Z,109nm,1.1s
BAIF Baives 88.69 326⇑iP P 01 20 47.6 0.0
comp=Z,129nm,1.2s
BAIF Baives 88.69 326⇑iP P 01 20 47.6 0.0
BAIF pmax pmax
comp=Z,129nm,1.2s
BAIF Baives 88.69 326⇑iP P 01 20 47.6 0.0
comp=Z,129nm,1.2s
HAU Haudompre 88.75 323⇑iP P 01 20 47.5 -0.5
comp=Z,171nm,1.1s
HAU epP pP 01 21 02.4 +2.7
HAU eR
comp=Z,943nm,20.5s
HAU Haudompre 88.75 323⇑iP P 01 20 47.5 -0.5
HAU e*PP pP 01 21 02.4 +2.7
HAU pmax pmax
comp=Z,171nm,1.1s
HAU Haudompre 88.75 323⇑iP P 01 20 47.5 -0.5
comp=Z,171nm,1.1s
HAU epP pP 01 21 02.4 +2.7
PAGF Fort de Pagny 88.77 324⇑iP P 01 20 48.1 +0.1
comp=Z,53nm,0.9s
PAGF epP pP 01 21 03.1 +3.3
PAGF Fort de Pagny 88.77 324⇑iP P 01 20 48.1 +0.1
comp=Z,53nm,0.9s
PAGF epP pP 01 21 03.1 +3.3
LON Longmire 88.80 38 eP P 01 20 49.0 +0.7
LON pmax pmax
comp=Z,55nm,1.3s
LON Longmire 88.80 38 eP P 01 20 49.0 +0.7
comp=Z,55nm,1.3s
LMK Market Rasen 88.81 330⇑eP P 01 20 47.1 -1.0
LMK AMB AMB 01 20 48.5
comp=Z,390nm,0.9s
G03D McMinnville, O 88.81 40 ⇓P P 01 20 49.6 +1.3
baz=89
THEF They Montfort 88.82 323⇑eP P 01 20 48.0 -0.3
LOMF Lomont 88.85 322⇑eP P 01 20 48.4 -0.2
ESK Eskdalemuir 88.85 332⇑eP P 01 20 47.6 -0.6
ESK AMB AMB 01 20 48.5
comp=Z,50nm,1.3s
ECK Cauldkaine Hil 88.91 332⇑iP P 01 20 47.7 -0.8
HPK Haverah Park 89.07 331⇑eP P 01 20 47.8 -1.5
HPK AMB AMB 01 20 50.1
comp=Z,115nm,1.0s
COR Corvallis 89.13 41 eP P 01 20 51.0 +1.2
COR pmax pmax
comp=Z,83nm,1.3s
COR Corvallis 89.13 41 eP P 01 20 51.0 +1.2
comp=Z,83nm,1.3s
ETW Entiat 89.15 37 P P 01 20 50.9 +0.9
MEZF Maizieres J'vi 89.16 324⇑iP P 01 20 50.0 +0.1
comp=Z,174nm,1.0s
MEZF Maizieres J'vi 89.16 324⇑iP P 01 20 50.0 +0.1
comp=Z,174nm,1.0s
EDM Edmonton 89.24 30 eP P 01 20 50.9 +0.7
EDM Edmonton 89.24 30 eP P 01 20 50.9 +0.7
TBM Table Mountain 89.25 38 P P 01 20 51.6 +1.1
WTV Waterville 89.30 37 P P 01 20 51.2 +0.6
SFTF Sexfontaines 89.34 324⇑iP P 01 20 50.6 -0.2
comp=Z,332nm,1.0s
SFTF epP pP 01 21 05.4 +2.9
SFTF Sexfontaines 89.34 324⇑iP P 01 20 50.6 -0.2
comp=Z,332nm,1.0s
SFTF epP pP 01 21 05.4 +2.9
SFJD Kangerlussuaq 89.42 357 i P P 01 20 50.1 -0.6
SFJD pmax pmax
comp=Z,14nm,0.9s
SFJD Kangerlussuaq 89.42 357 i P P 01 20 50.1 -0.6
comp=Z,14nm,0.8s
SFJD Kangerlussuaq 89.42 357 PFAKE 01 21 00.0 +9.3
SFJD LR LR
comp=Z,587nm,20.0s
LHO Holmfirth 89.44 331⇑iP P 01 20 50.4 -0.7
KBI1 Birley Grange 89.48 330⇑iP P 01 20 50.6 -0.7
I03D Drain, OR 89.58 42 ⇑P P 01 20 53.4 +1.5
baz=89
VLL Laurance Lake 89.60 39 P P 01 20 53.6 +1.4
SAW Saint Andrews 89.61 37 P P 01 20 53.0 +0.9
CABF La Chapelle 89.69 322⇑iP P 01 20 52.2 -0.3
comp=Z,178nm,1.5s
CABF epP pP 01 21 07.3 +3.0
CABF La Chapelle 89.69 322⇑iP P 01 20 52.2 -0.3
CABF e*PP pP 01 21 07.3 +3.0
CABF pmax pmax
comp=Z,178nm,1.5s
CABF La Chapelle 89.69 322⇑iP P 01 20 52.2 -0.3
comp=Z,178nm,1.5s
CABF epP pP 01 21 07.3 +3.0
GAL1 Galloway 89.79 333⇑eP P 01 20 52.1 -0.6
STNC Stoke 89.90 330⇑eP P 01 20 52.6 -0.6
G05D Wamic, OR 89.94 39 ⇑P P 01 20 55.2 +1.6
baz=90
LPG La Plagne 89.95 321⇑iP P 01 20 54.1 +0.1
comp=Z,180nm,1.0s

LPG epP pP 01 21 09.1 +3.3
LPG La Plagne 89.95 321⇑iP P 01 20 54.1 +0.1
LPG e*PP pP 01 21 09.1 +3.3
LPG pmax pmax
comp=Z,180nm,1.0s
LPG La Plagne 89.95 321⇑iP P 01 20 54.1 +0.1
comp=Z,180nm,1.0s
LPG epP pP 01 21 09.1 +3.3
LPL La Plagne 89.95 321⇑iP P 01 20 54.0 +0.1
comp=Z,134nm,0.9s
LPL La Plagne 89.95 321⇑iP P 01 20 54.0 +0.1
LPL pmax pmax
comp=Z,134nm,0.9s
LPL La Plagne 89.95 321⇑iP P 01 20 54.0 +0.1
comp=Z,134nm,0.9s
E07A Sunnyside 90.02 38 P P 01 20 55.2 +1.2
WDD Wield Dalam 90.04 310 PFAKE 01 21 10.0 +16
WDD LR LR
comp=Z,224nm,20.0s
I04A Tendick Farm, 90.10 41 ⇓P P 01 20 55.4 +1.0
baz=90
GBB Gable Butte 90.12 38 P P 01 20 55.8 +1.4
CASY Casey 90.22 185 eP P 01 20 54.3 +0.2
comp=Z,70nm,1.3s
CASY LR LR
comp=Z,277nm,20.0s
PGF Pioggiola 90.24 317⇑iP P 01 20 55.2 0.0
comp=Z,196nm,1.3s
PGF epP pP 01 21 09.9 +2.9
PGF Pioggiola 90.24 317⇑iP P 01 20 55.2 0.0
PGF e*PP pP 01 21 09.9 +2.9
PGF pmax pmax
comp=Z,196nm,1.3s
PGF Pioggiola 90.24 317⇑iP P 01 20 55.2 0.0
comp=Z,196nm,1.3s
PGF epP pP 01 21 09.9 +2.9
BNI Bardonecchia 90.24 320 eP P 01 20 54.2 -1.0
BNI pmax pmax
comp=Z,107nm,1.3s
BNI MLR MLR
comp=Z,1µm,20.0s
BNI Bardonecchia 90.24 320 eP P 01 20 54.2 -1.0
comp=Z,107nm,1.3s
BNI LR LR
comp=Z,1µm,20.0s
L02D Cave Junction, 90.26 43 ⇓P P 01 20 56.5 +1.3
baz=90
HAWA Hanford 90.30 38 eP P 01 20 56.4 +1.1
comp=Z,93nm,1.4s
HAWA LR LR
comp=Z,178nm,19.0s
SAOF Saorge 90.33 319⇑eP P 01 20 55.1 -0.4
MBDF Montbardon 90.37 320 eP P 01 20 55.1 -0.7
comp=Z,35nm,0.6s
MBDF epP pP 01 21 12.0 +4.4
MBDF Montbardon 90.37 320 eP P 01 20 55.1 -0.7
MBDF e*PP pP 01 21 12.0 +4.4
MBDF pmax pmax
comp=Z,35nm,0.6s
MBDF Montbardon 90.37 320 eP P 01 20 55.1 -0.7
comp=Z,35nm,0.6s
MBDF epP pP 01 21 12.0 +4.4
AUTN L'Aution 90.40 319 eP P 01 20 54.9 -1.1
HUMO Hull Mountain 90.42 42 eP P 01 20 56.6 +0.7
comp=Z,28nm,1.3s
I05D Terrebonne, OR 90.44 40 ⇓P P 01 20 57.2 +1.2
baz=90
SBF Sospel 90.47 319 eP P 01 20 55.6 -0.6
comp=Z,152nm,1.0s
SBF Sospel 90.47 319 eP P 01 20 55.6 -0.6
SBF pmax pmax
comp=Z,152nm,1.0s
SBF Sospel 90.47 319 eP P 01 20 55.6 -0.6
comp=Z,152nm,1.0s
FOEL Foel Wylfa 90.48 331⇑eP P 01 20 55.2 -0.8
FOEL AMB AMB 01 20 56.5
comp=Z,119nm,1.0s
TOUF Mont Tourneral 90.49 319⇑eP P 01 20 55.4 -1.1
NEW Newport 90.50 35 eP P 01 20 57.1 +0.9
NEW pmax pmax
comp=Z,80nm,1.1s
NEW MLR MLR
comp=Z,399nm,19.0s
NEW Newport 90.50 35 eP P 01 20 57.1 +0.9
comp=Z,80nm,1.1s
NEW LR LR
comp=Z,399nm,19.0s
NEW Newport 90.50 35 ⇑P P 01 20 57.4 +1.2
baz=90
LOR Lormes 90.54 323 eP P 01 20 55.9 -0.5
comp=Z,210nm,1.2s,baz=54
LOR epP pP 01 21 10.8 +2.7
LOR eR
comp=Z,848nm,19.0s
LOR Lormes 90.54 323 eP P 01 20 55.9 -0.5
LOR e*PP pP 01 21 10.8 +2.7
LOR pmax pmax
comp=Z,210nm,1.2s
LOR Lormes 90.54 323 eP P 01 20 55.9 -0.5
comp=Z,210nm,1.2s
LOR epP pP 01 21 10.8 +2.7
WPM1 Penmaenmawr 90.55 331⇑iP P 01 20 55.8 -0.4
REVF Revere 90.58 319 eP P 01 20 56.2 -0.5
J04D Umpqua Nationa 90.59 41 ⇑P P 01 20 58.1 +1.1
baz=90
MVIF Mont Vial 90.62 319 eP P 01 20 56.6 -0.4
WME Myndd Eilian 90.63 331⇑iP P 01 20 56.1 -0.5
WLF1 Llynfaes 90.74 331⇑eP P 01 20 56.8 -0.3
WLF1 AMB AMB 01 20 58.1
comp=Z,96nm,1.2s
STRD Stroud 90.75 329⇑eP P 01 20 56.1 -1.1
STRD AMB AMB 01 20 57.8
comp=Z,182nm,1.2s
ORIF Oris-en-Rattie 90.78 321⇑iP P 01 20 57.6 -0.1
comp=Z,74nm,1.0s
ORIF eR
comp=Z,1µm,20.5s
ORIF Oris-en-Rattie 90.78 321⇑iP P 01 20 57.6 -0.1
ORIF pmax pmax
comp=Z,74nm,1.0s
ORIF Oris-en-Rattie 90.78 321⇑iP P 01 20 57.6 -0.1
comp=Z,74nm,1.0s
YRC Rhoscolyn 90.85 331⇑eP P 01 20 57.2 -0.4
SSF Saint Saulge 90.86 323⇑iP P 01 20 57.5 -0.3
comp=Z,105nm,1.1s
SSF Saint Saulge 90.86 323⇑iP P 01 20 57.5 -0.3
SSF pmax pmax
comp=Z,105nm,1.1s
SSF Saint Saulge 90.86 323⇑iP P 01 20 57.5 -0.3
comp=Z,105nm,1.1s
SMF Signal de Mont 90.92 323⇑iP P 01 20 57.9 -0.3
comp=Z,428nm,1.1s
SMF epP pP 01 21 12.7 +2.8
SMF Signal de Mont 90.92 323⇑iP P 01 20 57.9 -0.3
SMF e*PP pP 01 21 12.7 +2.8
SMF Signal de Mont 90.92 323⇑iP P 01 20 57.9 -0.3
comp=Z,428nm,1.1s
SMF epP pP 01 21 12.7 +2.8
MCH1 Michaelchurch 90.99 330⇑eP P 01 20 57.6 -0.7
MCH1 AMB AMB 01 20 58.5
comp=Z,133nm,0.9s
MONM Monmouth 91.01 330⇑eP P 01 20 57.5 -0.9
MONM AMB AMB 01 21 02.2
comp=Z,84nm,3.2s
PINOR Pine Mountain 91.01 40 eP P 01 21 00.2 +1.7
comp=Z,93nm,1.3s
BATH Bath 91.05 329⇑eP P 01 20 57.7 -0.9
BATH AMB AMB 01 20 58.9
comp=Z,107nm,1.4s
YBH Yreka Blue Hor 91.06 43 eP P 01 21 00.2 +1.2
YBH pmax pmax
comp=Z,32nm,1.3s
YBH Yreka Blue Hor 91.06 43 eP P 01 21 00.2 +1.2
comp=Z,32nm,1.3s
J05D Fort Rock, OR 91.09 41 ⇑P P 01 21 00.6 +1.4
baz=91
AVF Avril sur Loir 91.11 323⇑iP P 01 20 58.7 -0.3
comp=Z,285nm,1.2s
AVF Avril sur Loir 91.11 323⇑iP P 01 20 58.7 -0.3
AVF Avril sur Loir 91.11 323⇑iP P 01 20 58.7 -0.3
comp=Z,285nm,1.2s
FRF La Foret Royal 91.11 319⇑iP P 01 20 58.6 -0.5
comp=Z,138nm,1.2s
FRF La Foret Royal 91.11 319⇑iP P 01 20 58.6 -0.5
FRF pmax pmax
comp=Z,138nm,1.2s

FRF La Foret Royal 91.11 319⇑iP P 01 20 58.6 -0.5
comp=Z,138nm,1.2s
K04D Chiloquin, OR 91.15 42 ⇓P P 01 21 00.7 +1.2
baz=91
M02C Callahan 91.15 43 ⇓P P 01 21 01.1 +1.7
baz=91
HYF Humbligny 91.20 324 eP P 01 20 59.8 +0.4
HYF Humbligny 91.20 324 eP P 01 20 59.8 +0.4
LMR La Mourre 91.32 319⇑iP P 01 20 59.8 -0.2
comp=Z,226nm,1.3s
LMR epP pP 01 21 15.0 +3.2
LMR La Mourre 91.32 319⇑iP P 01 20 59.8 -0.2
LMR e*PP pP 01 21 15.0 +3.2
LMR pmax pmax
comp=Z,226nm,1.3s
LMR La Mourre 91.32 319⇑iP P 01 20 59.8 -0.2
comp=Z,226nm,1.3s
LMR epP pP 01 21 15.0 +3.2
SSB Saint Sauveur 91.34 322 eP P 01 20 59.6 -0.6
SSB pmax pmax
comp=Z,130nm,1.3s
SSB Saint Sauveur 91.34 322 eP P 01 20 59.7 -0.5
SSB Saint Sauveur 91.34 322 eP P 01 20 59.6 -0.6
comp=Z,130nm,1.3s
LPW Lampeter 91.40 330⇑eP P 01 20 59.5 -0.7
LPW AMB AMB 01 21 01.0
comp=Z,80nm,1.4s
PLDF La Plantade 91.45 322⇑eP P 01 21 01.0 +0.3
N02D Trinity Center 91.47 44 ⇓P P 01 21 02.2 +1.3
baz=91
SMRF Simiane la Rot 91.51 320 eP P 01 21 01.0 0.0
SMRF Simiane la Rot 91.51 320 eP P 01 21 01.0 0.0
VIVF Saint-Julien-l 91.52 321⇑iP P 01 21 00.8 -0.2
comp=Z,173nm,1.2s
VIVF epP pP 01 21 15.8 +3.1
VIVF Saint-Julien-l 91.52 321⇑iP P 01 21 00.8 -0.2
VIVF e*PP pP 01 21 15.8 +3.1
VIVF pmax pmax
comp=Z,173nm,1.2s
VIVF Saint-Julien-l 91.52 321⇑iP P 01 21 00.8 -0.2
comp=Z,173nm,1.2s
VIVF epP pP 01 21 15.8 +3.1
BGF Bois d'Agland 91.52 323 eP P 01 21 00.6 -0.3
comp=Z,118nm,1.3s
BGF Bois d'Agland 91.52 323 eP P 01 21 00.6 -0.3
BGF pmax pmax
comp=Z,118nm,1.3s
BGF Bois d'Agland 91.52 323 eP P 01 21 00.6 -0.3
comp=Z,118nm,1.3s
M04C Macdoel 91.57 43 ⇑P P 01 21 02.5 +1.1
baz=91
VSL Villasalto 91.66 315 PFAKE 01 21 10.0 +8.3
VSL LR LR
comp=Z,262nm,20.0s
WALA Waterton Lakes 91.66 33 eP P 01 21 02.7 +1.0
comp=Z,3.5nm,1.4s
AGO Saint Agoulin 91.67 323⇑eP P 01 21 01.9 +0.2
WDC Whiskeytown Da 91.80 44 eP P 01 21 02.9 +0.6
WDC pmax pmax
comp=Z,25nm,1.2s
WDC Whiskeytown Da 91.80 44 eP P 01 21 02.9 +0.6
comp=Z,25nm,1.2s
LDF La Druitiere 91.83 326⇑iP P 01 21 01.4 -0.9
comp=Z,29nm,0.8s
LDF La Druitiere 91.83 326⇑iP P 01 21 01.4 -0.9
LDF pmax pmax
comp=Z,29nm,0.8s
LDF La Druitiere 91.83 326⇑iP P 01 21 01.4 -0.9
comp=Z,29nm,0.8s
FLN La Foliniere 91.90 326 eP P 01 21 01.7 -0.9
comp=Z,48nm,1.0s,baz=41
FLN eR
comp=Z,1μm,22.8s
FLN La Foliniere 91.90 326 eP P 01 21 01.7 -0.9
FLN pmax pmax
comp=Z,48nm,1.0s
FLN La Foliniere 91.90 326 eP P 01 21 01.7 -0.9
comp=Z,48nm,1.0s
PYM Petit Puy Mans 91.92 323⇑eP P 01 21 03.1 +0.2
BSMT Bassoo Peak 91.98 35 eP P 01 21 04.3 +1.0
comp=Z,36nm,1.1s
TCF Toulx Ste Croi 92.04 323 eP P 01 21 03.4 0.0
comp=Z,266nm,1.4s
TCF Toulx Ste Croi 92.04 323 eP P 01 21 03.4 0.0
TCF Toulx Ste Croi 92.04 323 eP P 01 21 03.4 0.0
comp=Z,266nm,1.4s
BLMT Blacktail Moun 92.10 34 eP P 01 21 05.5 +1.6
comp=Z,7.1nm,0.5s
LBL Lubilhac 92.10 322⇑eP P 01 21 04.2 +0.5
FCC Fort Churchill 92.30 18 eP P 01 21 03.6 -0.6
FCC Fort Churchill 92.30 18 eP P 01 21 03.6 -0.6
comp=Z,0.8nm,0.9s
JTMT Jette 92.31 35 eP P 01 21 05.4 +0.6
comp=Z,23nm,1.0s
GRR Gorron 92.33 326 eP P 01 21 03.9 -0.7
comp=Z,37nm,0.8s
GRR Gorron 92.33 326 eP P 01 21 03.9 -0.7
GRR pmax pmax
comp=Z,37nm,0.8s
GRR Gorron 92.33 326 eP P 01 21 03.9 -0.7
comp=Z,37nm,0.8s
HTL Hartland 92.36 330⇑eP P 01 21 03.7 -1.0
YBMT Yellow Bay 92.38 34 eP P 01 21 06.0 +1.0
comp=Z,32nm,1.2s
FRNF Fournols 92.39 322 eP P 01 21 05.5 +0.5
MOD Modoc 92.45 42 eP P 01 21 06.4 +0.9
comp=Z,47nm,1.0s
LASF Ste Croix 92.45 321 eP P 01 21 05.7 +0.4
comp=Z,136nm,1.4s
LASF Ste Croix 92.45 321 eP P 01 21 05.7 +0.4
comp=Z,136nm,1.4s
BMO Blue Mountains 92.47 38 eP P 01 21 06.2 +0.8
comp=Z,42nm,1.3s
BMO LR LR
comp=Z,327nm,20.0s
SWMT Swartz Lake 92.61 35 eP P 01 21 06.6 +0.5
comp=Z,24nm,1.2s
FFC Flin Flon 92.93 24 eP P 01 21 06.8 -0.4
FFC pmax pmax
comp=Z,46nm,1.0s
FFC MLR MLR
comp=Z,544nm,20.0s
FFC Flin Flon 92.93 24 eP P 01 21 06.8 -0.4
comp=Z,46nm,1.0s
FFC LR LR
comp=Z,544nm,20.0s
CAF Calviac 92.95 322⇑iP P 01 21 08.1 +0.5
comp=Z,171nm,1.0s
CAF epP pP 01 21 23.0 +3.6
CAF Calviac 92.95 322⇑iP P 01 21 08.1 +0.5
CAF e*PP pP 01 21 23.0 +3.6
CAF pmax pmax
comp=Z,171nm,1.0s
CAF Calviac 92.95 322⇑iP P 01 21 08.1 +0.5
comp=Z,171nm,1.0s
CAF epP pP 01 21 23.0 +3.6
RJF Les Rejaudoux 93.03 323 eP P 01 21 08.4 +0.5
comp=Z,159nm,0.9s
RJF epP pP 01 21 23.3 +3.6
RJF eR
comp=Z,642nm,21.0s
RJF Les Rejaudoux 93.03 323 eP P 01 21 08.4 +0.5
RJF e*PP pP 01 21 23.3 +3.6
RJF Les Rejaudoux 93.03 323 eP P 01 21 08.4 +0.5
comp=Z,159nm,0.9s
RJF epP pP 01 21 23.3 +3.6
SLMT Seeley Lake 93.05 35 eP P 01 21 08.7 +0.5
comp=Z,70nm,1.3s
MSO Missoula 93.08 35 ⇑P P 01 21 08.8 +0.5
baz=93
MFF Saint Martin d 93.11 325 eP P 01 21 08.5 +0.3
MFF Saint Martin d 93.11 325 eP P 01 21 08.5 +0.3
MFF Saint Martin d 93.11 325 eP P 01 21 08.5 +0.3
WVOR Wild Horse Val 93.14 41 eP P 01 21 09.5 +0.8
WVOR pmax pmax
comp=Z,37nm,1.2s
WVOR MLR MLR
comp=Z,476nm,20.0s
WVOR Wild Horse Val 93.14 41 eP P 01 21 09.4 +0.8
comp=Z,37nm,1.2s
WVOR LR LR
comp=Z,476nm,20.0s
SGMF Saint Gilles 93.28 327⇑iP P 01 21 08.2 -0.8
comp=Z,50nm,0.7s
SGMF Saint Gilles 93.28 327⇑iP P 01 21 08.2 -0.8
SGMF pmax pmax
comp=Z,50nm,0.7s
SGMF Saint Gilles 93.28 327⇑iP P 01 21 08.2 -0.8
comp=Z,50nm,0.7s
CHMT Chamberlain Mo 93.38 35 eP P 01 21 09.9 +0.1
comp=Z,14nm,1.3s
ROSF Rostrenen 93.58 327 eP P 01 21 09.7 -0.7
comp=Z,95nm,0.8s
ROSF Rostrenen 93.58 327 eP P 01 21 09.7 -0.7
ROSF pmax pmax
comp=Z,95nm,0.8s
ROSF Rostrenen 93.58 327 eP P 01 21 09.7 -0.7
comp=Z,95nm,0.8s
LFF La Frestale 93.68 323 eP P 01 21 10.3 -0.6
comp=Z,80nm,1.1s
LFF La Frestale 93.68 323 eP P 01 21 10.3 -0.6
LFF pmax pmax
comp=Z,80nm,1.1s
LFF La Frestale 93.68 323 eP P 01 21 10.3 -0.6
comp=Z,80nm,1.1s
KEST Kesra 93.71 312 P P 01 21 11.7 +0.3
comp=Z,10.0nm,0.8s,baz=319,slow=2.1,SNR=39
KEST LR LR 02 10 43.1
comp=Z,177nm,18.3s,baz=328,slow=40
KEST Kesra 93.71 312 eP P 01 21 11.4 0.0
QUIF Quistinic 93.81 327 eP P 01 21 10.4 -1.0
comp=Z,61nm,0.9s
QUIF Quistinic 93.81 327 eP P 01 21 10.4 -1.0
QUIF pmax pmax
comp=Z,61nm,0.9s
QUIF Quistinic 93.81 327 eP P 01 21 10.4 -1.0
comp=Z,61nm,0.9s
MTLF Montolieu 93.84 321 eP P 01 21 12.0 +0.3
MTLF Montolieu 93.84 321 eP P 01 21 12.0 +0.3
MTLF Montolieu 93.84 321 eP P 01 21 12.0 +0.3
MFID Camas Ranch 94.19 39 eP P 01 21 14.2 +0.7
comp=Z,40nm,1.2s
HRY Holter Researc 94.25 34 eP P 01 21 14.4 +0.7
comp=Z,18nm,1.0s
A19A Klindworth Far 94.28 31 ⇑P P 01 21 13.7 0.0
baz=94,SNR=8.1
EGMT Eagleton 94.42 32 eP P 01 21 14.5 +0.1
comp=Z,75nm,1.6s
EGMT LR LR
comp=Z,546nm,20.0s
EGMT Eagleton 94.42 32 ⇑P P 01 21 14.5 +0.1
baz=94,SNR=9.1
B19A Brinkman Farms 94.51 32 ⇑P P 01 21 15.1 +0.3
baz=94
LRM Limekiln Ridge 94.52 35 eP P 01 21 15.5 +0.4
comp=Z,125nm,1.2s
CMB Columbia Colle 94.61 45 eP P 01 21 15.7 +0.3
CMB pmax pmax
comp=Z,34nm,1.2s
CMB Columbia Colle 94.61 45 eP P 01 21 15.7 +0.3
comp=Z,34nm,1.2s
A20A Cobblestone Ra 94.70 31 ⇓P P 01 21 15.9 +0.3
baz=94
PPT Papeete 94.76 107 LR LR 01 55 05.8
comp=Z,484nm,21.5s,baz=271,slow=30
PPT2 Papeete2 94.77 107 eLR LR 01 51 51.4
comp=Z,1μm,23.0s
HLID Hailey 94.90 38 eP P 01 21 17.8 +1.0
comp=Z,27nm,1.3s
HLID LR LR
comp=Z,410nm,20.0s
HLID Hailey 94.90 38 ⇓P P 01 21 17.7 +0.9
baz=95,SNR=15
WAKR Walker 94.95 44 eP P 01 21 17.5 +0.3
comp=Z,16nm,1.1s
MCMT McKenzie Canyo 94.95 36 eP P 01 21 17.5 +0.4
comp=Z,1.2nm,0.6s
C19A Slack Wire Ran 94.96 32 ⇑P P 01 21 17.1 +0.3
baz=95,SNR=9.9
BOZ Bozeman (W) 95.06 35 PFAKE 01 21 30.0 +13
BOZ LR LR
comp=Z,486nm,22.0s
A21A Bergtoll Ranch 95.09 30 ⇓P P 01 21 17.5 +0.1
baz=95,SNR=11
EPF Esparros 95.11 322 eP P 01 21 17.0 -0.6
EPF Esparros 95.11 322 eP P 01 21 17.0 -0.6
EPF Esparros 95.11 322 eP P 01 21 17.0 -0.6
BMN Battle Mountai 95.19 42 eP P 01 21 19.3 +1.1
BMN pmax pmax
comp=Z,26nm,1.2s
BMN Battle Mountai 95.19 42 eP P 01 21 19.3 +1.1
comp=Z,26nm,1.2s
BMN epP pP 01 21 29.7 -0.2
D19A Cripps Ranch, 95.44 33 ⇓P P 01 21 19.4 +0.4
baz=95,SNR=9.7
B21A Ellsworth Farm 95.45 31 ⇑P P 01 21 19.5 +0.6
baz=95
C20A Veseth Ranch, 95.48 32 ⇑P P 01 21 20.0 +0.8
baz=95
A22A Carney Farms, 95.55 30 ⇑P P 01 21 19.3 -0.2
baz=95,SNR=7.5
ETSF Etsaut 95.70 322 eP P 01 21 20.8 +0.5
comp=Z,20nm,0.8s
ETSF Etsaut 95.70 322 eP P 01 21 20.8 +0.5
ETSF pmax pmax
comp=Z,20nm,0.8s
ETSF Etsaut 95.70 322 eP P 01 21 20.8 +0.5
comp=Z,20nm,0.8s
QLMT Earthquake Lak 95.71 35 eP P 01 21 21.7 +1.2
comp=Z,1.5nm,1.1s
NVAR Mina Array Bea 95.71 44 P P 01 21 21.6 +0.9
comp=Z,10nm,0.7s,baz=304,slow=5.4,SNR=86
NVAR pP pP 01 21 36.0 +3.5
comp=Z,8.9nm,0.8s,baz=284,slow=4.9,SNR=10
C21A Desert Coulee 95.84 31 ⇑P P 01 21 21.2 +0.4
baz=96
D20A Manuel Ranch, 95.85 32 ⇓P P 01 21 21.1 +0.2
baz=96,SNR=6.3
SJPF Ste Jean 95.94 322 eP P 01 21 20.5 -0.8
comp=Z,43nm,1.0s
SJPF Ste Jean 95.94 322 eP P 01 21 20.5 -0.8
SJPF pmax pmax
comp=Z,43nm,1.0s
SJPF Ste Jean 95.94 322 eP P 01 21 20.5 -0.8
comp=Z,43nm,1.0s
E19A Rath Farm, Rou 95.97 33 ⇓P P 01 21 21.7 +0.2
baz=96,SNR=5.5
A23A Redstone 96.05 29 ⇑P P 01 21 21.7 0.0
baz=96
ELK Elko 96.19 40 LR LR 02 09 58.2
comp=Z,185nm,18.0s,baz=360,slow=39
E20A Meyer Farm, Mu 96.27 33 ⇑P P 01 21 23.3 +0.5
baz=96
F19A Roth Farm, Mol 96.31 34 ⇑P P 01 21 23.1 0.0
baz=96
RCTC Rector, Farmer 96.35 46 ⇑P P 01 21 23.5 +0.3
baz=96
B23A Brockton 96.36 30 ⇑P P 01 21 23.4 +0.3
baz=96
D21A La Casta Ranch 96.43 32 ⇓P P 01 21 23.5 0.0
baz=96
H17A Grant Village 96.46 35 eP P 01 21 26.1 +2.2
comp=Z,14nm,1.1s
H17A Grant Village 96.46 35 ⇓P P 01 21 26.4 +2.4
baz=96,SNR=6.3
A24A Westby 96.46 29 ⇓P P 01 21 24.1 +0.5
baz=96
C22A Vida 96.47 31 ⇓P P 01 21 23.8 +0.1
baz=96
TPH Tonopah 96.61 44 eP P 01 21 25.1 +0.4
TPH pmax pmax
comp=Z,26nm,1.2s
TPH Tonopah 96.61 44 eP P 01 21 25.1 +0.4
comp=Z,26nm,1.2s
TPH epP pP 01 21 36.0 -0.5
RLMT Red Lodge 96.65 34 PFAKE 01 21 40.0 +15
RLMT LR LR
comp=Z,601nm,20.0s
DGMT Dagmar 96.71 29 eP P 01 21 25.0 +0.3
comp=Z,8.6nm,0.9s
DGMT epP pP 01 21 36.5 0.0
DGMT LR LR
comp=Z,692nm,19.0s
DGMT Dagmar 96.71 29 ⇑P P 01 21 25.4 +0.6
baz=96
VES Vestal, Richgr 96.72 46 ⇑P P 01 21 25.0 0.0
baz=96
H18A Shoshone NF, C 96.75 35 ⇑P P 01 21 25.2 0.0
baz=96
F20A Billings 96.75 33 ⇓P P 01 21 25.3 +0.3
baz=96
C23A Lambert 96.75 30 ⇓P P 01 21 25.5 +0.6
baz=96
D22A Cohagen 96.76 31 ⇓P P 01 21 25.3 +0.3
baz=96
I17A Pilgrim Ck. 96.78 36 ⇓P P 01 21 25.8 +0.4
baz=96
LAO LASA Array 97.07 32 PFAKE 01 21 40.0 +13
LAO LR LR
comp=Z,699nm,19.0s
H19A Powell 97.10 34 ⇓P Pdif 01 21 27.2 +0.4
baz=97
G20A Bridger 97.12 34 ⇓P P 01 21 26.8 0.0
baz=97
D23A Lindsay 97.20 31 ⇑P Pdif 01 21 27.2 +0.1
baz=97
ISA Isabella 97.23 46 eP P 01 21 27.1 -0.3
ISA pmax pmax
comp=Z,11nm,1.4s
ISA Isabella 97.23 46 eP P 01 21 27.1 -0.3
comp=Z,11nm,1.4s
ISA Isabella 97.23 46 ⇑P P 01 21 27.4 0.0
baz=97
AHID Auburn Hatcher 97.26 37 PFAKE 01 21 40.0 +12
AHID LR LR
comp=Z,326nm,19.0s
C24A Savage 97.30 30 ⇓P Pdif 01 21 27.6 +0.1
baz=97
B25A Knox Farm, Ray 97.32 29 ⇓P Pdif 01 21 28.1 +0.5
baz=97
A26A Wade Farm, Ken 97.34 28 ⇓P P 01 21 27.4 -0.1
baz=97
DAC Darwin (Calif) 97.44 45 eP Pdif 01 21 28.8 +0.2
DAC e*SP sP 01 21 43.9 -0.7
DAC pmax pmax
comp=Z,9.0nm,1.0s
DAC Darwin (Calif) 97.44 45 eP Pdif 01 21 28.8 +0.2
comp=Z,9.4nm,1.0s
DAC esP sP 01 21 43.9 -0.7
R11A Troy Canyon, C 97.47 43 eP Pdif 01 21 28.9 +0.3
comp=Z,6.7nm,1.0s
R11A ePP PP 01 25 24.2 -1.1
R11A Troy Canyon, C 97.47 43 ⇓P Pdif 01 21 29.3 +0.7
baz=97
F22A Rosebud 97.70 32 ⇓P Pdif 01 21 29.5 +0.1
baz=97
H20A Greybull 97.74 34 ⇑P Pdif 01 21 30.2 +0.5
baz=98
HWUT Hardware Ranch 97.77 38 eP Pdif 01 21 30.1 +0.2
comp=Z,12nm,1.3s
HWUT LR LR
comp=Z,442nm,20.0s
FURC Furnace Creek, 97.80 45 ⇓P Pdif 01 21 30.8 +0.9
baz=98
LRMC Laurel Mountai 97.85 46 ⇑P Pdif 01 21 30.9 +0.6
baz=98
DUG Dugway 97.97 40 PFAKE 01 21 40.0 +9.2
DUG LR LR
comp=Z,447nm,19.0s
DUG Dugway 97.97 40 ⇓P Pdif 01 21 31.6 +0.8
baz=98
EDW2 Edwards Air Fo 98.01 46 ⇓P Pdif 01 21 31.6 +0.6
baz=98
J19A Crowheart 98.03 35 ⇑P Pdif 01 21 31.2 +0.2
baz=98
G22A Birney 98.08 33 ⇑P Pdif 01 21 31.2 0.0
baz=98
D25A Fairfield 98.09 30 ⇑P Pdif 01 21 31.5 +0.5
baz=98
BW06 Boulder Array 98.10 36 PFAKE 01 21 40.0 +8.6
BW06 LR LR
comp=Z,507nm,22.0s
PDAR Pinedale Array 98.10 36 P Pdif 01 21 31.4 0.0
comp=Z,1.1nm,0.7s,baz=140,slow=0.9,SNR=8.9
PDAR PP PP 01 25 33.7 +3.6
comp=Z,0.5nm,0.9s,baz=328,slow=5.3,SNR=3.9
PDAR PKKPbc PKKPbc 01 38 03.9 -0.6
comp=Z,0.3nm,0.6s,baz=123,slow=5.5,SNR=3.7
PDAR LR LR 02 11 21.1
comp=Z,121nm,18.0s,baz=351,slow=39
C26A Wahner Farm, P 98.13 29 ⇑P P 01 21 31.1 -0.1
baz=98
F23A Volborg 98.16 32 ⇑P Pdif 01 21 31.7 +0.3
baz=98
B28A Dugan Ranch, T 98.40 27 ⇓P Pdif 01 21 32.7 +0.4
baz=98
C27A Sayler Ranch, 98.47 29 ⇓P Pdif 01 21 32.7 0.0
baz=98
J20A Shoshoni 98.48 35 ⇓P P 01 21 32.9 -0.1
baz=98
A29A Manning Farm, 98.50 27 ⇑P P 01 21 32.4 -0.3
baz=98
I21A Big Trails, Te 98.58 34 ⇓P P 01 21 33.1 -0.3
baz=98
D26A Manning 98.58 29 ⇑P Pdif 01 21 33.3 +0.1
baz=98
ULM Lac du Bonnet 98.75 24 P P 01 21 32.8 -1.1
comp=Z,2.9nm,0.7s,baz=313,slow=9.1,SNR=5.6
ULM LR LR 02 10 41.4
comp=Z,563nm,19.7s,baz=1.5,slow=38
ULM Lac du Bonnet 98.75 24 eP P 01 21 32.7 -1.1
comp=Z,3.8nm,0.8s
J21A Lysite 98.82 35 ⇓Pdiff P 01 21 34.1 -0.4
baz=98
SHPR Sheep Range 98.87 44 eP Pdif 01 21 35.7 +0.8
comp=Z,4.2nm,1.0s
E26A Carlson Angus 98.99 30 ⇑Pdiff Pdif 01 21 35.1 +0.1
baz=99
HEC Hector,Ludlow 99.13 46 ⇓Pdiff Pdif 01 21 35.8 -0.1
baz=99
J22A Midwest 99.28 34 ⇓Pdiff Pdif 01 21 36.4 -0.2
baz=99
H24A Dirks Ranch, A 99.28 32 ⇑Pdiff Pdif 01 21 36.5 0.0
baz=99
GMRC Granite Mounta 99.60 45 ⇑Pdiff Pdif 01 21 38.3 +0.1
baz=99
F27A Lemmon 99.64 30 ⇑Pdiff Pdif 01 21 38.0 +0.1
baz=99
ESDC Sonseca Array 99.75 321 P Pdif 01 21 37.5 -1.0
comp=Z,1.3nm,0.8s,baz=38,slow=5.4,SNR=5.8
ESDC LR LR 02 12 15.6
comp=Z,433nm,18.8s,baz=25,slow=39
PFO Pinyon Flat Ob 99.78 47 PFAKE 01 21 50.0 +11
PFO LR LR
comp=Z,442nm,20.0s
PFO Pinyon Flat Ob 99.78 47 ⇓Pdiff Pdif 01 21 39.2 +0.3
baz=100
PAB San Pablo 100.06 321 PFAKE 01 21 50.0 +10
PAB LR LR
comp=Z,684nm,20.0s
N20A Spence Gulch, 100.13 37 ⇑Pdiff Pdif 01 21 40.9 +0.5
baz=100
LSZ Lusaka 100.18 258 eP Pdif 01 21 39.4 -1.5
LSZ pmax pmax
comp=Z,25nm,1.4s
LSZ Lusaka 100.18 258 eP Pdif 01 21 39.4 -1.5
comp=Z,25nm,1.4s
I25A Rochford 100.21 32 ⇑Pdiff Pdif 01 21 40.4 -0.4
baz=100
IRM Iron Mountain 100.31 46 ⇓Pdiff Pdif 01 21 41.7 +0.5
baz=100
AGMN Agassiz Nation 100.35 25 PFAKE 01 21 50.0 +9.0
AGMN LR LR
comp=Z,924nm,22.0s
BC3 Big Chuckawall 100.42 46 ⇓Pdiff Pdif 01 21 42.4 +0.7
baz=100
W13A Hualapai Mount 100.55 44 ⇓Pdiff Pdif 01 21 42.6 +0.1
baz=100
L23A Garrett 100.60 35 ⇓Pdiff Pdif 01 21 42.6 +0.1
baz=100
U15A North Rim 100.71 42 ⇓Pdiff Pdif 01 21 43.6 +0.4
baz=100
G28A Parade 100.75 30 ⇑Pdiff Pdif 01 21 43.1 +0.2
baz=100
MTE Manteigas 101.26 324 PFAKE 01 22 00.0 +15
MTE LR LR
comp=Z,906nm,22.0s
N23A Red Feather La 101.34 36 ⇑Pdiff Pdif 01 21 44.9 -1.0
baz=101
G30A Faulkton 101.51 29 ⇑Pdiff Pdif 01 21 46.0 -0.2
baz=101
WUAZ Wupatki 101.86 43 PFAKE 01 22 00.0 +12
WUAZ LR LR
comp=Z,481nm,19.0s
EYMN Ely 102.27 23 PFAKE 01 22 00.0 +10
EYMN LR LR
comp=Z,663nm,19.0s
ISCO Idaho Springs 102.30 36 PFAKE 01 22 00.0 +10
ISCO LR LR
comp=Z,531nm,20.0s

MVCO Mesa Verde 102.47 40 PFAKE 01 22 00.0 +9.0
MVCO LR LR
comp=Z,476nm,19.0s
OGNE Ogallala 103.33 33 PFAKE 01 22 10.0 +15
OGNE LR LR
comp=Z,447nm,19.0s
VNDA Vanda 103.63 172 PKiKP PKiKP 01 26 11.2 -1.5
comp=Z,10.0nm,1.1s,baz=114,slow=4.0,SNR=4.1
ECSD EROS Data Cent 103.72 28 PFAKE 01 22 10.0 +14
ECSD LR LR
comp=Z,566nm,19.0s
SDCO Great Sand Dun 103.82 38 PFAKE 01 22 10.0 +13
SDCO LR LR
comp=Z,546nm,19.0s
TUC Tucson 104.31 45 PFAKE 01 22 10.0 +11
TUC LR LR
comp=Z,458nm,20.0s
COWI Conover 104.68 22 PFAKE 01 22 10.0 +10
COWI LR LR
comp=Z,664nm,21.0s
ANMO Albuquerque 105.23 40 PFAKE 01 26 30.0
ANMO LR LR
comp=Z,539nm,19.0s
LBTB Lobatse 105.86 249 PKiKP PKiKP 01 26 17.6 -0.9
comp=Z,4.4nm,0.7s,baz=5.4,slow=1.5,SNR=8.4
LBTB Lobatse 105.86 249 ePKP PKiKP 01 26 18.4 -0.2
SCIA State Center 106.66 27 PFAKE 01 26 30.0
SCIA LR LR
comp=Z,476nm,20.0s
JFWS Jewell Farm 107.01 25 PFAKE 01 26 30.0
JFWS LR LR
comp=Z,663nm,20.0s
BOSA Boshof 107.29 246 PKiKP PKiKP 01 26 20.1 -1.0
comp=Z,2.7nm,0.7s,baz=55,slow=3.0,SNR=6.1
BOSA Boshof 107.29 246 ePKP PKiKP 01 26 20.4 -0.7
KSU1 Kansas State U 107.41 31 PFAKE 01 26 30.0
KSU1 LR LR
comp=Z,473nm,21.0s
AMTX Amarillo 108.01 37 ePKP PKiKP 01 26 22.7 +0.3
MNTX Cornudas Mount 108.12 42 ePKP PKiKP 01 26 22.6 0.0
MNTX LR LR
comp=Z,296nm,20.0s
RKT Rikitea 109.52 107 eLR LR 01 58 42.7
comp=Z,612nm,26.2s
AAM Ann Arbor 109.88 21 PFAKE 01 26 40.0
AAM LR LR
comp=Z,789nm,20.0s
LONY Lake Ozonia 110.14 13 PFAKE 01 26 40.0
LONY LR LR
comp=Z,935nm,22.0s
Z32A Haskell 110.41 37 ⇑PKiKP PKiKP 01 26 26.8 0.0
baz=110
TXAR Lajitas Array 110.83 43 *i* PKiKP PKiKP 01 26 27.9 +0.1
TXAR 01 27 11.1
TXAR 01 37 32.6
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 110.83 43 Pdiff Pdif 01 22 29.1 +1.0
comp=Z,0.5nm,1.0s,baz=242,slow=3.8,SNR=3.1
TXAR PKiKP PKiKP 01 26 27.9 +0.1
comp=Z,1.0nm,0.6s,baz=299,slow=0.9,SNR=11
TXAR PP PP 01 27 11.1 +6.4
comp=Z,1.1nm,0.9s,baz=319,slow=3.6,SNR=4.2
TXAR PKKPbc PKKPab 01 37 32.6 -5.5
comp=Z,0.4nm,0.7s,baz=126,slow=6.5,SNR=4.0
231A Bronte 110.96 39 ⇑PKiKP PKiKP 01 26 27.7 -0.2
baz=111
429A Davenport Ranc 110.99 41 ⇑PKiKP PKiKP 01 26 27.7 -0.4
baz=111
TSUM Tsumeb 111.03 258 PKiKP PKiKP 01 26 27.8 -0.6
comp=Z,2.7nm,0.6s,baz=112,slow=3.9,SNR=11
TSUM Tsumeb 111.03 258 ePKP PKiKP 01 26 28.5 +0.1
TSUM LR LR
comp=Z,585nm,20.0s
529A Stev Forest Ra 111.16 41 ⇓PKiKP PKiKP 01 26 28.0 -0.4
baz=111
ERPA Erie 111.16 18 PFAKE 01 26 40.0
ERPA LR LR
comp=Z,978nm,20.0s
430A Baggett Ranch, 111.27 40 ⇓PKiKP PKiKP 01 26 28.1 -0.5
baz=111
331A San Angelo 111.36 39 ⇑PKiKP PKiKP 01 26 28.2 -0.5
baz=111
530A J-C Ranch, Com 111.67 41 ⇓PKiKP PKiKP 01 26 29.2 -0.1
baz=111
332A Millersview 111.69 39 ⇑PKiKP PKiKP 01 26 29.4 0.0
baz=111
233A Rising Star 111.69 38 ⇓PKiKP PKiKP 01 26 29.4 0.0
baz=111
431A Sonora 111.71 40 ⇓PKiKP PKiKP 01 26 29.0 -0.4
baz=112
TOA0 Torodi Ar. Sit 111.80 296 ePKP PKiKP 01 26 28.9 -0.9
TORD Torodi Ar. Bea 111.80 296 PKiKP PKiKP 01 26 29.1 -0.8
comp=Z,4.3nm,0.7s,baz=43,slow=2.3,SNR=29
TORD PP PP 01 27 10.1 -2.3
comp=Z,4.5nm,0.9s,baz=50,slow=4.6,SNR=3.5
TORD PKKPbc PKKPbc 01 37 23.8 +1.7
comp=Z,1.4nm,0.8s,baz=245,slow=3.2,SNR=9.1
ACSO Alum Creek Sta 111.96 21 PFAKE 01 26 40.0
ACSO LR LR
comp=Z,592nm,20.0s
531A Rocksprings 112.12 40 ⇑PKiKP PKiKP 01 26 30.5 +0.2
baz=112
BINY Binghamton 112.13 15 PFAKE 01 26 40.0
BINY LR LR
comp=Z,1μm,20.0s
333A Richland Sprin 112.17 38 ⇓PKiKP PKiKP 01 26 30.0 -0.2
baz=112
JCT Junction City 112.33 39 ePKiKP PKiKP 01 26 30.3 -0.3
JCT MLR MLR
comp=Z,374nm,20.0s
JCT Junction City 112.33 39 ePKP PKiKP 01 26 30.3 -0.3
JCT LR LR
comp=Z,374nm,20.0s
JCT Junction City 112.33 39 ⇑PKiKP PKiKP 01 26 30.3 -0.3
baz=112
MIAR Mount Ida 112.51 32 PFAKE 01 26 40.0
MIAR LR LR
comp=Z,567nm,20.0s
532A Rocksprings 112.53 40 ⇑PKiKP PKiKP 01 26 30.6 -0.4
baz=112
433A Art 112.53 39 ⇑PKiKP PKiKP 01 26 30.9 -0.1
baz=112
WCI Wyandotte Cave 112.57 25 ePKiKP PKiKP 01 26 30.5 -0.3
WCI Wyandotte Cave 112.57 25 ePKP PKiKP 01 26 30.5 -0.3
334A Lometa 112.58 38 ⇓PKiKP PKiKP 01 26 30.6 -0.5
baz=112
631A Perdido Creek 112.66 41 ⇓PKiKP PKiKP 01 26 30.6 -0.6
baz=112
434A Burnet 112.95 38 ⇑PKiKP PKiKP 01 26 31.5 -0.2
baz=113
632A Uvalde 113.05 40 ⇓PKiKP PKiKP 01 26 32.0 0.0
baz=113
533A Kerrville 113.07 39 ⇓PKiKP PKiKP 01 26 32.1 +0.1
baz=113
534A Blanco 113.43 39 ⇓PKiKP PKiKP 01 26 32.7 0.0
baz=113
633A Saathoff Ranch 113.45 40 ⇓PKiKP PKiKP 01 26 32.9 +0.2
baz=113
WVT Waverly 113.78 27 ePKiKP PKiKP 01 26 33.5 +0.4
WVT Waverly 113.78 27 ePKP PKiKP 01 26 33.5 +0.4
832A Faith Ranch, C 113.84 41 ⇓PKiKP PKiKP 01 26 33.9 +0.4
baz=114
635A Leesville 114.31 39 ⇑PKiKP PKPdf 01 26 34.8 +0.4
baz=114
PTCN Pitcairn Islan 114.36 108 PFAKE 01 26 50.0 +16
PTCN LR LR
comp=Z,2μm,20.0s
537A Green Hill Far 114.60 37 ⇑PKiKP PKPdf 01 26 35.2 +0.3
baz=114
636A Smothers Creek 114.65 38 ⇑PKiKP PKPdf 01 26 35.1 +0.2
baz=114
933A Laredo 114.75 41 ⇓PKiKP PKPdf 01 26 35.9 +0.6
baz=114
834A Tilden 114.80 40 ⇓PKiKP PKPdf 01 26 35.7 +0.4
baz=115
340A Bronson 114.85 34 ⇓PKiKP PKPdf 01 26 35.3 -0.1
baz=115
HKT Hockley 114.97 37 ePKiKP PKPdf 01 26 34.1 -1.4
HKT Hockley 114.97 37 ePKP PKPdf 01 26 34.1 -1.4
CBN Corbin 115.53 18 PFAKE 01 26 50.0 +14
CBN LR LR
comp=Z,620nm,19.0s
BLA Blacksburg 115.54 20 PFAKE 01 26 50.0 +13
BLA LR LR
comp=Z,744nm,20.0s
KVTX Kingsville 115.62 40 PFAKE 01 26 50.0 +13
KVTX LR LR
comp=Z,654nm,19.0s
KMSC Kings Mountain 117.12 22 ⇓PKiKP PKPdf 01 26 39.2 -0.3
baz=117
CNNC Cliffs of the 118.14 19 PFAKE 01 26 50.0 +8.5
CNNC LR LR
comp=Z,658nm,20.0s
BRAL Brewton 118.48 29 ePKPdf PKPdf 01 26 42.2 -0.1
NVL N'lazarevskaya 119.11 201 ePKIKP PKPdf 01 26 42.6 +0.4
NVL pmax pmax
comp=Z,19nm,0.6s
NHSC New Hope 119.36 22 PFAKE 01 27 00.0 +16
NHSC LR LR
comp=Z,1μm,22.0s
TIGA Tifton 119.58 26 ⇑PKiKP PKPdf 01 26 44.4 0.0
baz=119
DBIC Dimbokro 120.70 294 PKIKP PKPdf 01 26 46.8 -0.2
DBIC pmax pmax
comp=Z,14nm,0.7s
DBIC Dimbokro 120.70 294 PKP PKPdf 01 26 46.8 -0.2
comp=Z,14nm,0.7s,baz=61,slow=2.2,SNR=19
KIC Kosan Boka 120.77 294 ePKIKP PKPdf 01 26 46.4 -0.7
comp=Z,60nm,0.9s
TIC Toumodi 120.85 294 ePKIKP PKPdf 01 26 46.6 -0.7
comp=Z,24nm,0.6s
LIC Lamto 121.08 294 ⇑*i*PKIKP PKPdf 01 26 47.2 -0.5
comp=Z,61nm,0.9s
LIC eR
comp=Z,250nm,21.0s
LIC Lamto 121.08 294 ePKIKP PKPdf 01 26 46.8 -0.9
comp=Z,86nm,0.9s
LIC Lamto 121.08 294 ⇑*i*PKPdf PKPdf 01 26 47.2 -0.5
SNAA Sanae 123.28 198 P PKPdf 01 26 50.0 -0.3
SNAA Sanae 123.28 198 ePKIKP PKPdf 01 26 49.5 -0.8
SNAA Sanae 123.28 198 ePKPdf PKPdf 01 26 49.5 -0.8
VNA2 Neumayer--Watz 124.93 198 P PKPdf 01 26 53.7 +0.3
baz=67,slow=2.0
BBTS Babate 124.93 310 PKP PKPdf 01 26 55.1 0.0
comp=Z,96nm,1.2s,baz=158,slow=2.5,SNR=6.0
VNA1 Neumayer--Stat 125.32 198 P PKPdf 01 26 54.4 +0.3
VNA3 Neumayer Olymp 125.38 197 P PKPdf 01 26 54.2 -0.1
TEIG Tepich 126.81 37 PFAKE 01 27 10.0 +11
TEIG LR LR
comp=Z,499nm,20.0s
SACV Santiago Islan 129.46 316 PFAKE 01 27 20.0 +16
SACV LR LR
comp=Z,387nm,19.0s
SDDR Presa de Saban 135.36 19 PFAKE 01 27 30.0 +15
SDDR LR LR
comp=Z,754nm,20.0s
ASCN Ascension 136.14 284 PFAKE 01 27 30.0 +14
ASCN LR LR
comp=Z,1μm,22.0s
JTS JuntasAbangare 136.61 42 PFAKE 01 27 30.0 +13
JTS LR LR
comp=Z,464nm,20.0s
ANWB Willy Bob 138.60 7 PFAKE 01 27 30.0 +9.2
ANWB LR LR
comp=Z,478nm,21.0s
BCIP Isla Barro Col 140.49 37 PFAKE 01 27 40.0 +16
BCIP LR LR
comp=Z,260nm,21.0s
PAYG Puerto Ayora 140.54 59 PFAKE 01 27 40.0 +16
PAYG LR LR
comp=Z,377nm,21.0s
FDF Fort de France 141.57 6 ePKHKP PKPpre 01 27 19.3
FDF e 01 27 25.6
FDF Fort de France 141.57 6 ePKPpre PKPpre 01 27 19.3
FDF ePKPdf PKPdf 01 27 25.6 -0.7
GRGR Grenville 144.09 8 ePKPdf PKPab 01 27 27.6 -0.6
GRGR LR LR
comp=Z,467nm,20.0s
SDV Santo Domingo 145.00 24 ePKPdf PKPab 01 27 31.4 -0.4
TPR Prospect 145.12 6 e PKPdf 01 27 32.3 -0.2
BOT Bacolet 145.14 6 e PKPdf 01 27 32.6 +0.1
TRN Trinidad (W) 145.58 7 e PKPdf 01 27 32.8 -0.5
TBH Brigand Hill 145.78 7 e PKPab 01 27 34.6 +0.2
TPP Pointe-a-Pierr 145.90 8 e PKPab 01 27 34.8 0.0
ROSC El Rosal 147.01 33 PKPbc PKPbc 01 27 37.8 -0.5
comp=Z,21nm,0.8s,baz=56,slow=2.7,SNR=18
OTAV Otavalo 148.45 44 ePKPdf PKPdf 01 27 39.6 +0.8
OTAV ePKPbc PKPbc 01 27 42.6 +0.3
OTAV LR LR
comp=Z,349nm,20.0s
RCBR Riachuelo 152.89 308 PKP PKPdf 01 27 45.3 +0.2
comp=Z,8.5nm,0.8s,baz=320,slow=1.7,SNR=4.4
RCBR PKPbc PKiKP 01 27 52.7 +0.2
comp=Z,31nm,0.7s,baz=10,slow=3.2,SNR=30
RCBR PKPab PKPab 01 28 03.4 +0.1
comp=Z,21nm,0.9s,baz=45,slow=11,SNR=3.7
RCBR Riachuelo 152.89 308 ePKPdf PKPdf 01 27 45.2 +0.2
RCBR ePKPbc PKiKP 01 27 52.4 -0.1
RCBR PKPbc PKiKP 01 27 52.7 +0.2
RCBR ePKPab PKPab 01 28 03.3 -0.1
RCBR PKPab PKPab 01 28 03.4 +0.1
RCBR LR LR
comp=Z,417nm,21.0s
NNA Nana 157.95 61 ePKIKP PKPdf 01 27 52.0 +0.2
NNA MLR MLR
comp=Z,400nm,20.0s
NNA Nana 157.95 61 ePKPdf PKPdf 01 27 52.0 +0.2
NNA LR LR
comp=Z,400nm,20.0s
PLCA Paso Flores 159.65 150 ePKIKP PKPdf 01 27 53.6 +0.5
PLCA e 01 28 32.3
PLCA Paso Flores 159.65 150 PKP PKPdf 01 27 54.0 +0.9
comp=Z,3.0nm,1.0s,baz=274,slow=7.4,SNR=3.4
PLCA PKPab PKPab 01 28 32.2 +0.6
comp=Z,6.0nm,0.7s,baz=233,slow=4.1,SNR=9.4
PLCA Paso Flores 159.65 150 ePKPdf PKPdf 01 27 53.6 +0.5
PLCA ePKPab PKPab 01 28 32.3 +0.6
SAML Samuel 164.21 22 ePKPdf PKPdf 01 27 58.0 -0.4
SAML ePKPab PKPab 01 28 50.5 -1.6
SAML LR LR
comp=Z,389nm,22.0s
TRQA Tornquist 165.13 165 ePKPdf PKPdf 01 27 58.4 -0.2
TRQA ePKPab PKPab 01 28 55.5 0.0
TRQA LR LR
comp=Z,478nm,22.0s
LPAZ La Paz 167.30 56 ePKIKP PKPdf 01 28 02.0 +0.4
LPAZ e 01 29 05.9
LPAZ La Paz 167.30 56 PKP PKPdf 01 28 02.8 +1.1
comp=Z,9.2nm,1.0s,baz=2.8,slow=1.7,SNR=24
LPAZ PKPab PKPab 01 29 06.1 -0.5
comp=Z,6.2nm,0.9s,baz=331,slow=8.7,SNR=5.8
LPAZ La Paz 167.30 56 ePKPdf PKPdf 01 28 02.0 +0.4
LPAZ ePKPab PKPab 01 29 05.9 -0.7
BDFB Brasilia 168.22 311 PKIKP PKPdf 01 28 01.7 0.0
BDFB 01 29 09.8
BDFB pmax pmax
comp=Z,5.0nm,0.8s
BDFB pmax pmax
comp=Z,16nm,0.8s
BDFB Brasilia 168.22 311 PKP PKPdf 01 28 01.7 0.0
comp=Z,5.2nm,0.8s,baz=159,slow=2.6,SNR=5.8
BDFB PKPab PKPab 01 29 09.8 -0.2
comp=Z,16nm,0.8s,baz=73,slow=3.9,SNR=17
LVC Limon Verde 169.12 86 ePKPdf PKPdf 01 28 03.3 +1.0
LVC LR LR
comp=Z,426nm,19.0s
SIV San Ignacio 171.46 26 PKP PKPdf 01 28 03.7 +0.3
comp=Z,5.9nm,0.7s,baz=157,slow=1.1,SNR=11
SIV PKPab PKPab 01 29 23.1 -1.0
comp=Z,4.5nm,0.8s,baz=337,slow=1.9,SNR=6.8
CPUP Villa Florida 177.41 176 PKIKP PKPdf 01 28 05.0 -0.1
CPUP 01 29 50.1
CPUP pmax pmax
comp=Z,3.0nm,0.7s
CPUP pmax pmax
comp=Z,10.0nm,0.9s
CPUP Villa Florida 177.41 176 PKP PKPdf 01 28 05.0 -0.1
comp=Z,2.9nm,0.7s,baz=131,slow=0.9,SNR=3.9
CPUP PKPab PKPab 01 29 50.0 -0.1
comp=Z,9.9nm,0.9s,baz=163,slow=4.0,SNR=9.9
CPUP Villa Florida 177.41 176 ePKPdf PKPdf 01 28 03.7 -1.3
CPUP PKP 01 28 05.0
CPUP PKPab PKPab 01 29 50.0 -0.1

JMA 26 01:09:59.4, 35.°83N×137.°60E, h6km±1km, M0.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	Kuroka	0.30	221	P	Pg	01 10 05.4	0.0
JNT	Takato	0.44	84	P	Pg	01 10 08.0	-0.1
JNT				S	Sg	01 10 14.1	+0.1
JGN	Niukaw	0.46	330	P	Pg	01 10 08.5	+0.2
JGN				S	Sg	01 10 14.4	0.0
JNY	Yasuok	0.52	156	P	Pg	01 10 09.5	0.0
JYN	Shimob	0.84	113	P	Pg	01 10 15.9	+0.3

ISCJB 26 01:34:44.5±0.3, 34.°80N±0.°04×77.°54E±0.°07, h10km, mb3.7/14, Error ellipse: s-maj=8.7km s-min=4.1km az=149.0
IDC 26 01:34:44.2±0.7, 34.°73N×77.°56E, h0km, mb3.8/14, mb1 3.9/19, mb1mx3.8/39, mbtmp3.8/19, ML3.4/5, Error ellipse: s-maj=17.3km s-min=14.8km az=46.0
NNC 26 01:34:47.2±4.2, 34.°66N×77.°03E, h0km, mb3.7, mpv3.7, Error ellipse: s-maj=49.7km s-min=33.5km az=127.0
BJI 26 01:34:52.6, 34.°73N×77.°70E, h195km, mb4.2/3
ISC 26 01:34:46.3±0.5, 34.°70N±0.°04×77.°41E±0.°07, h10km, n51, σ1§36/51, mb3.8/14, 7C-7D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	2.46	210	eP	Pg	01 35 33.0	-0.5
DLH				eS	Sg	01 36 11.0	+5.5
DHRM	DHARAMSHALA	2.61	201	eP	Pg	01 35 37.1	+0.8
DHRM				eS	Sg	01 36 11.9	+1.7
DHRM				AML	AML	01 36 16.3	
	comp=N,274nm,0.1s						
DHRM				AML	AML	01 36 22.4	
	comp=E,635nm,0.5s						
PONG	Pong	3.00	204	eP	Pb	01 35 40.0	+0.2
SDNR	Sundarnagar	3.21	187	eP	Pb	01 35 43.5	+0.1
SDNR				ex	Sg	01 36 29.5	+0.1
BHK	Bhakra	3.38	195	eP	Pb	01 35 45.4	-0.8
SMLA	Simla	3.56	183	eP	Pb	01 35 47.4	-2.1
SMLA				eS	Sb	01 36 31.4	-1.3
SMLA				AML	AML	01 36 47.9	
	comp=E,302nm,0.0s						
SMLA				AML	AML	01 36 50.9	
	comp=N,170nm,0.4s						
DDI	Dehra Dun	4.40	173	ex	Sn	01 36 52.0	+7.6
NDI	New Delhi	6.00	182	eP3	Pn	01 36 22.0	+6.9
AAK	Ala-Archa	8.24	345	⇑Pn	Pn	01 36 53.1	+7.0
	comp=N,5.8nm,1.0s						
AAK				⇓Lg	Lg	01 39 02.3	
	comp=N,13nm,1.2s						
AAK	Ala-Archa	8.24	345	Pn	Pn	01 36 49.9	+3.8
	comp=N,0.2nm,0.3s,baz=140,slow=16,SNR=4.1						
AAK				Lg	Lg	01 39 03.6	
	comp=N,0.3nm,0.3s,baz=260,slow=12,SNR=4.7						
DANN	Dangsing	8.33	138	eP	Pn	01 36 49.2	+1.8
	comp=N,15nm,0.4s						
TKM2	Tokmak 2	8.33	351	Pn	Pn	01 36 51.3	+3.9
	comp=N,1.3nm,0.5s						
TKM2				Lg	Lg	01 39 10.3	
	comp=N,10nm,0.9s						
KOLN	Koldanda	8.70	141	eP	Pn	01 36 55.6	+3.1
	comp=N,16nm,0.5s						
PDGK	Podgornoye	8.77	10	⇑Pn	Pn	01 36 57.8	+4.7
PDGK				⇓Sn	Sn	01 38 41.7	+10
GKN	Gorkha	9.09	135	eP	Pn	01 36 59.3	+1.5
	comp=N,20nm,0.4s						
KKN	Kakani	9.63	134	eP	Pn	01 37 06.5	+1.3
	comp=N,24nm,0.5s						
DMN	Daman	9.66	135	eP	Pn	01 37 06.4	+0.7
	comp=N,15nm,0.6s						
PKIN	Phulchoki	9.86	134	eP	Pn	01 37 08.7	+0.4
	comp=N,9.7nm,0.4s						
PKI	Pulchoki	9.87	134	eP	Pn	01 37 09.4	+0.8
	comp=N,7.5nm,0.3s						
GUN	Gumba	9.91	131	eP	Pn	01 37 09.3	+0.2
	comp=N,16nm,0.4s						
KK31	Karatay Array	9.96	329	⇓Pn	Pn	01 37 10.0	+0.5
	comp=N,0.3nm,0.3s,baz=136,slow=12,SNR=5.9						
KK31				⇓Sn	Sn	01 39 00.7	-0.7
	comp=N,4.1nm,0.8s,baz=150,slow=21,SNR=4.3						
JIRN	Jiri	10.28	131	eP	Pn	01 37 13.3	-0.9
	comp=N,32nm,0.4s						
RAMN	Ramite	11.04	132	eP	Pn	01 37 24.8	+0.2
	comp=N,14nm,0.4s						
TAPN	Taplejung	11.47	127	eP	Pn	01 37 29.2	-1.3
	comp=N,10nm,0.6s						
MK31	Makanchi Array	12.63	16	⇑Pn	Pn	01 37 47.4	+1.3
	comp=N,3.2nm,0.8s,baz=194,slow=13,SNR=6.1						
MK31				⇓Sn	Sn	01 40 08.9	+2.2
	comp=N,3.8nm,0.8s,baz=162,slow=38,SNR=2.8						
MKAR	Makanchi Array	12.63	16	Pn	Pn	01 37 45.7	-0.4
	comp=N,0.2nm,0.3s,baz=191,slow=12,SNR=23						
MKAR				Sn	Sn	01 40 06.2	-0.6
	comp=N,0.2nm,0.3s,baz=192,slow=24,SNR=5.5						
GEYT	Alibeck	15.88	287	Pn	Pn	01 38 29.5	-0.4
	comp=N,0.1nm,0.3s,baz=98,slow=8.9,SNR=2.8						
KUR17	Kurchatov Arra	15.95	2	⇑P	Pn	01 38 33.4	-0.8
	comp=N,0.6nm,0.6s						
GTA	Gaotai	18.48	69	eP	Pn	01 39 07.3	+4.7
GTA				pP	pP	01 39 12.3	+7.0
GTA				sP	sP	01 39 15.5	+8.9
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
VOSK	Vostochnaya	18.60	348	⇓P	P	01 39 02.9	-0.7
	comp=Z,1.3nm,0.5s						
BVA0	Borovoye Array	18.99	347	⇓P	P	01 39 07.9	0.0
	comp=Z,2.2nm,0.6s,baz=159,slow=11,SNR=5.6						
BVAR	Borovoye Array	18.99	347	P	P	01 39 06.8	-1.0
	comp=Z,1.0nm,0.3s,baz=158,slow=12,SNR=25						
BRVK	Borovoye	19.04	347	⇑P	Pn	01 39 08.8	-0.4
	comp=Z,4.0nm,0.6s						
AB31	Akbulak array	19.43	324	⇑P	P	01 39 12.7	0.0
	comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	19.94	13	P	P	01 39 16.7	-1.6
	comp=Z,0.4nm,0.3s,baz=200,slow=9.6,SNR=9.2						
AKTO	Aktyubinsk	21.15	324	⇑P	P	01 39 32.7	+1.4
	comp=Z,2.2nm,0.6s						
AKTO	Aktyubinsk	21.15	324	P	P	01 39 30.2	-1.1
	comp=Z,1.6nm,0.5s,baz=134,slow=9.7,SNR=12						
CMAR	Chiang Mai Arr	25.07	125	P	P	01 40 09.6	-1.4
	comp=Z,1.9nm,0.6s,baz=316,slow=9.3,SNR=10						
SONM	Songino Array	25.27	50	P	P	01 40 12.8	0.0
	comp=Z,0.7nm,0.6s,baz=247,slow=9.5,SNR=11						
GNI	Garni	26.42	292	P	P	01 40 24.7	+1.5
	comp=Z,1.6nm,0.4s,baz=28,slow=15,SNR=2.0						
BRTR	Keskin Array B	34.96	291	P	P	01 41 40.3	+1.6
	comp=Z,1.6nm,0.7s,baz=104,slow=10.0,SNR=13						
AKASG	Malin Array Be	38.12	310	P	P	01 42 06.5	+1.2
	comp=Z,0.3nm,0.3s,baz=78,slow=7.2,SNR=3.9						
JOF	Joensuu	40.06	329	ep	P	01 42 21.1	-0.3
FINES	FINESS Array B	41.90	326	P	P	01 42 34.9	-1.7
	comp=Z,0.7nm,0.4s,baz=119,slow=11,SNR=8.9						
ARCES	ARCESS Array B	44.83	337	P	P	01 42 59.4	-0.7
	comp=Z,2.8nm,0.7s,baz=94,slow=5.1,SNR=6.4						
NOA	NORSAR Array B	48.94	324	P	P	01 43 32.5	+0.1
	comp=Z,0.6nm,0.6s,baz=91,slow=7.6,SNR=3.3						
KMBO	Kilima Mbogo	51.79	235	P	P	01 43 55.5	+0.7
	comp=Z,1.7nm,1.0s,baz=31,slow=11,SNR=4.3						
TORD	Torodi Ar. Bea	70.97	273	P	P	01 46 03.4	-1.1
	comp=Z,0.5nm,0.5s,baz=50,slow=5.6,SNR=14						
ILAR	Eielson Array	74.98	18	P	P	01 46 25.1	-2.3
	comp=Z,0.2nm,0.6s,baz=330,slow=10,SNR=3.9						
WRA	Warramunga Arr	76.65	126	P	P	01 46 36.6	-1.0
	comp=Z,0.2nm,0.6s,baz=308,slow=8.5,SNR=2.4						
YKA	Yellowknife Arr	82.66	6	P	P	01 47 09.2	-0.4
	comp=Z,0.3nm,0.5s,baz=341,slow=5.0,SNR=8.0						

ISCJB 26 01:51:57.9±0.7, 42.°7S±0.°2×15.°4W±0.°1, h10km, mb4.5/22, MS4.2/9, Error ellipse: s-maj=24.8km s-min=10.3km az=162.5
IDC 26 01:51:58.1±1.0, 42.°80S×15.°44W, h0km, mb4.4/9, mb1 4.4/9, mb1mx4.2/17, mbtmp4.4/9, MS4.3/9, Ms1 4.2/9, ms1mx4.0/21, Error ellipse: s-maj=39.4km s-min=18.9km az=162.0
NEIC 26 01:51:59.3±0.5, 42.°75S×15.°49W, h10km, mb4.4/11, Error ellipse: s-maj=20.2km s-min=8.4km az=167.0
ISC 26 01:51:59.2±0.8, 42.°8S±0.°2×15.°5W±0.°1, h10km, n52, σ0§91/39, mb4.4/22, MS4.2/9, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	30.36	82	P	P	01 58 11.3	-0.1
	17nm,1.2s,baz=129,slow=4.5,SNR=3.1						
H10S2	ASCENSION HYDR	33.73	1	T	T	02 34 05.9	

baz=182,slow=75,SNR=28
H10S3 ASCENSION HYDR33.74 1 T T 02 34 06.4
baz=182,slow=75,SNR=35
H10S1 ASCENSION HYDR33.75 1 T T 02 34 07.3
baz=182,slow=75,SNR=36
H10N1 ASCENSION HYDR34.84 2 T T 02 35 27.1
baz=180,slow=73,SNR=4.6
H10N3 ASCENSION HYDR34.84 2 T T 02 35 29.0
baz=180,slow=73,SNR=29
H10N2 ASCENSION HYDR34.86 2 T T 02 35 34.7
baz=180,slow=73,SNR=10
TRQA Tornquist 35.38 262 eP P 01 58 56.1 +1.1
6.7nm,1.1s
BOSA Boshof 35.61 80 LR LR 02 11 36.8
comp=Z,371nm,18.1s,baz=94,slow=33
TSUM Tsumeb 36.45 60 eP P 01 59 03.8 -0.7
3.8nm,1.0s
CPUP Villa Florida 37.77 282 P P 01 59 15.5 0.0
5.3nm,0.8s,baz=90,slow=4.1,SNR=6.7
CPUP LR LR 02 13 27.8
comp=Z,358nm,18.1s,baz=122,slow=34
CPUP Villa Florida 37.77 282 eP P 01 59 14.6 -0.9
2.1nm,1.2s
LBTB Lobatse 37.98 76 eP P 01 59 17.6 +0.2
62nm,2.0s
BDFB Brasilia 38.84 304 LR LR 02 12 17.8
comp=Z,275nm,18.7s,baz=138,slow=31
PLCA Paso Flores 40.52 254 P P 01 59 37.4 -1.1
2.5nm,1.0s,baz=111,slow=5.3,SNR=3.5
PLCA LR LR 02 13 00.4
comp=Z,230nm,20.5s,baz=108,slow=31
CFAA Coronel Fontan 42.87 267 P P 01 59 58.9 +1.1
0.2nm,0.4s,baz=109,slow=8.4,SNR=4.8
LSZ Lusaka 46.27 67 eP P 02 00 24.9 -0.3
3.7nm,0.9s
MAW Mawson 46.96 149 LR LR 02 16 34.6
comp=Z,133nm,21.4s,baz=240,slow=31
SIV San Ignacio 47.12 290 P P 02 00 33.5 +1.8
1.7nm,0.6s,baz=139,slow=7.6,SNR=4.1
LIC Lamto 49.72 14 eP P 02 00 51.6 0.0
86nm,2.0s
KIC Kosan Boka 49.90 14 eP P 02 00 53.3 +0.3
26nm,1.0s
TIC Toumodi 50.13 14 eP P 02 00 54.1 -0.7
17nm,0.9s
DBIC Dimbokro 50.18 14 P P 02 00 54.3 -0.8
11nm,1.1s,baz=289,slow=8.9,SNR=4.0
LPAZ La Paz 51.89 284 LR LR 02 22 09.4
comp=Z,539nm,20.1s,baz=112,slow=35
SAML Samuel 53.58 295 eP P 02 01 18.0 -2.6
7.3nm,1.0s
TOA0 Torodi Ar. Sit 57.87 20 eP P 02 01 51.0 -0.2
TORD Torodi Ar. Bea 57.87 20 P P 02 01 51.0 -0.2
4.4nm,1.0s,baz=195,slow=6.7,SNR=18
VNDA Vanda 59.93 179 LR LR 02 24 46.6
comp=Z,153nm,20.3s,baz=210,slow=33
KMBO Kilima Mbogo 62.68 64 LR LR 02 27 13.1
comp=Z,413nm,20.1s,baz=191,slow=34
TAM Tamanrasset 68.08 21 eP P 02 03 00.4 +1.1
2.1nm,0.9s
OTAV Otavalo 70.65 289 eP P 02 03 16.1 +0.3
1.1nm,0.4s
ROSC El Rosal 71.21 296 LR LR 02 33 11.8
comp=Z,309nm,19.0s,baz=132,slow=35
KEST Kesra 81.39 20 P P 02 04 17.6 +1.7
2.6nm,1.0s,baz=252,slow=4.9,SNR=5.9
ESDC Sonseca Array 82.77 9 P P 02 04 23.8 +0.7
2.0nm,1.0s,baz=174,slow=6.5,SNR=4.7
BNI Bardonecchia 89.69 15 eP P 02 04 56.8 -0.3
15nm,1.2s
BR131 Keskin Array S 93.41 36 eP P 02 05 14.5 -0.1
0.7nm,0.6s
BRTR Keskin Array B 93.41 36 P P 02 05 14.7 +0.1
1.1nm,0.9s,baz=183,slow=10.0,SNR=7.2
WLF Walferdange 94.03 14 eP P 02 05 15.9 -1.0
9.6nm,0.9s
ELK Elko 122.36 298 PKP PKPdf 02 10 55.1 +0.6
1.2nm,0.8s,baz=268,slow=1.2,SNR=7.0
MK31 Makanchi Array 124.07 55 ePKPdf PKPdf 02 10 57.6 +0.3
MKAR Makanchi Array 124.07 55 PKP PKPdf 02 10 58.2 +0.9
0.6nm,0.9s,baz=224,slow=4.0,SNR=3.9
NEW Newport 127.10 305 ePKPdf PKPdf 02 11 02.9 -0.2
RES Resolute Bay 128.10 341 ePKPdf PKPdf 02 11 04.1 0.0
YKA Yellowknife Ar 130.85 323 PKP PKPdf 02 11 08.8 -0.9
0.8nm,0.9s,baz=106,slow=2.0,SNR=12
YKW3 Yellowknife Ar 130.87 323 ePKPdf PKPdf 02 11 09.5 -0.2
SONM Songino Array 139.64 62 PKP PKPdf 02 11 26.3 -0.4
0.3nm,0.8s,baz=242,slow=4.6,SNR=3.3
ILAR Eielson Array 145.14 326 PKPbc PKPbc 02 11 34.3 -1.1
7.7nm,0.9s,baz=96,slow=2.0,SNR=73
COLA College 145.50 326 ePKPbc PKPdf 02 11 35.4 -0.9
MCK McKinley 146.28 324 ePKPbc PKPbc 02 11 38.8 -0.2
TRF Thorofare Moun 146.94 324 ePKPbc PKPbc 02 11 40.0 -1.1
KTH Kantishna Hill 147.18 325 ePKPbc PKPbc 02 11 40.5 -1.1
MJAR Matsushiro Arr 158.83 98 PKPab PKPab 02 12 34.1 +1.0
1.2nm,0.7s,baz=252,slow=2.3,SNR=4.1

ISCJB ***26*** *01:52:12.4±0.7, 16.22N±0.04×96.68W±0.03, h7km±6km, mb4.5/25, MS4.6/1, Error ellipse: s-maj=6.8km s-min=4.3km az=39.1*
MEX ***26*** *01:52:14.8±1.0, 15.82N×96.91W, h10km±10km, MD4.4*
IDC ***26*** *01:52:17.9±3.1, 16.58N×96.23W, h29km±6km, mb3.7/6, mb1 3.9/8, mb1mx3.6/33, mbtmp3.8/8, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/31, Error ellipse: s-maj=80.0km s-min=23.5km az=27.0*
NEIC ***26*** *01:52:20.7±2.2, 16.41N×96.54W, h50km±16km, mb4.3/29, Error ellipse: s-maj=20.1km s-min=9.0km az=206.0*
NEIC Felt [III] at Oaxaca and Puerto Escondido.
BJI ***26*** *01:52:21.0, 16.40N×96.50W, h48km, Ms7 4.6/1*
ISC 26 01:52:14.8±0.6, 16.09N±0.04×96.69W±0.04, h21km±3km, n308, σ0.87/321, mb4.4/26, 128C-114D, Oaxaca

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

PANG Puerto Angel 0.47 154 eP Pb 01 52 23.5 -0.9
PANG iS Sb 01 52 30.4 -0.5
HUIG Huatulco 0.65 120 eP Pb 01 52 27.6 +0.1
HUIG iS Sn 01 52 37.8 -0.6
PNIG Pinotepa 1.41 282 eP Pn 01 52 34.8 -4.5
PNIG iS Sn 01 52 51.9 -5.4
CMIG Matias Romero 2.00 60 eP Pb 01 52 50.5 +0.1
CMIG iS Sb 01 53 16.8 +1.9
TLIG Tlapa 2.31 309 eP Pn 01 52 51.4 -0.5
TLIG iS Sn 01 53 18.7 -1.0
TPIG Tehuac#an 2.40 345 eP Pn 01 52 55.3 +2.2
TPIG iS Sb 01 53 25.6 -1.0
TUIG Tuzandepetl 2.91 48 iP Pb 01 53 03.9 -2.0
TUIG iS Sb 01 53 40.6 -0.4
ACX Acapulco 3.13 285 eP Pn 01 52 57.1 -5.9
ACX eS Sn 01 53 33.7 -6.1
MEIG Mezcala 3.34 303 eP Pn 01 53 05.1 -0.8
MEIG iS Sn 01 53 43.5 -1.5
PCIG 3.37 96 eP Pn 01 53 06.4 +0.2
PCIG iS Sn 01 53 48.5 +3.0
PPM Popocatepetl 3.48 328 eP Pb 01 53 13.3 -2.8
CAIG El Cayaco 3.56 286 eP Pn 01 53 05.2 -3.6
CAIG iS Sn 01 53 45.4 -4.9
UNM Universidad Na 4.00 324 eP Pn 01 53 15.8 +0.6
UNM iS Sn 01 54 03.5 +2.0
APG El Apazote 6.10 99 Pn Pn 01 53 41.5 -2.5
0.6nm,0.3s,baz=239,slow=12,SNR=7.0
APG Sn Sn 01 54 49.2 -4.1
2.1nm,0.3s,baz=108,slow=20,SNR=2.7
TEIG Tepich 8.99 62 Pn Pn 01 54 23.1 -0.4
4.5nm,0.3s,baz=343,slow=2.0,SNR=19
TEIG Sn Sn 01 56 05.9 +1.6
12nm,0.3s,baz=27,slow=22,SNR=7.6
TEIG LR LR 01 58 26.8
comp=Z,189nm,19.6s,baz=102,slow=44
TEIG Tepich 8.99 62 ePn Pn 01 54 24.0 +0.4
TEIG eSn Sn 01 56 04.1 -0.1
936A North Padre Is 11.29 357 ⇓P Pn 01 54 55.3 +0.4
baz=11
933A Laredo 11.71 349 ⇓P Pn 01 55 02.0 +1.2
baz=12
834A Tilden 12.10 352 ⇑P Pn 01 55 07.1 +1.1
baz=12
833A Chaparral WMA, 12.43 349 ⇓P Pn 01 55 11.4 +0.9
baz=12
832A Faith Ranch, C 12.51 347 ⇓P Pn 01 55 13.0 +1.3
baz=12
733A Divot King Ran 12.79 350 ⇑P Pn 01 55 16.5 +1.0
baz=13
734A La Parita Cree 12.81 353 ⇑P Pn 01 55 16.0 +0.2
baz=13
732A Laxson Ranch, 12.93 347 ⇑P Pn 01 55 17.8 +0.3
baz=13
632A Uvalde 13.65 349 ⇑P Pn 01 55 27.3 0.0
baz=13
631A Perdido Creek 13.73 346 ⇑P Pn 01 55 28.3 -0.1
baz=14
534A Blanco 13.97 354 ⇑P Pn 01 55 31.0 -0.6
baz=14
531A Rocksprings 14.45 347 ⇑P Pn 01 55 39.5 +1.3
baz=14,SNR=10
JCT Junction City 14.60 349 ePn Pn 01 55 41.9 +1.6
JCT Junction City 14.60 349 ⇓P Pn 01 55 41.4 +1.1
baz=14,SNR=5.8
530A J-C Ranch, Com 14.62 344 ⇑P Pn 01 55 41.5 +0.8
baz=14
435B Jarrell 14.64 357 ⇓P Pn 01 55 41.5 +0.6
baz=14
TXAR Lajitas Array 14.66 335 Pn Pn 01 55 41.8 +0.7
0.0nm,0.3s,baz=154,slow=12,SNR=5.6
434A Burnet 14.72 355 ⇑P Pn 01 55 41.8 -0.1
baz=14
433A Art 14.76 352 ⇑P Pn 01 55 42.8 +0.4
baz=14,SNR=6.4
529A Stev Forest Ra 14.86 341 ⇓P Pn 01 55 44.5 +0.7
baz=15
431A Sonora 14.96 347 ⇑P Pn 01 55 45.5 +0.3
baz=15
432A Menard 14.98 350 ⇑P Pn 01 55 46.0 +0.5
baz=15,SNR=7.8
335A Moody 15.13 358 ⇑P Pn 01 55 47.0 -0.4
baz=15
430A Baggett Ranch, 15.21 345 ⇓P Pn 01 55 49.3 +0.9
baz=15,SNR=7.8
336A Riesel 15.22 360 ⇑P Pn 01 55 48.9 +0.2
baz=15
429A Davenport Ranc 15.23 343 ⇑P Pn 01 55 48.7 -0.1
baz=15
334A Lometa 15.24 355 ⇓P Pn 01 55 47.9 -0.9
baz=15,SNR=5.5
338A Crockett 15.25 4 ⇑P Pn 01 55 49.2 +0.3
baz=15
333A Richland Sprin 15.31 353 ⇓P Pn 01 55 49.2 -0.5
baz=15,SNR=9.8
340A Bronson 15.47 9 ⇑P Pn 01 55 49.5 -2.3
baz=15
332A Millersview 15.47 350 P Pn 01 55 51.6 -0.3
baz=15,SNR=6.3
331A San Angelo 15.53 348 ⇓P Pn 01 55 52.4 -0.1
baz=15,SNR=10
330A Mertzon 15.78 346 ⇓P Pn 01 55 56.4 +0.4
baz=16,SNR=12
WHTX Lake Whitney 15.84 358 ePn Pn 01 55 55.8 -0.8
21nm,0.9s
WHTX Lake Whitney 15.84 358 ⇑P Pn 01 55 56.1 -0.6
baz=16
234A Clairette 15.89 356 ⇑P Pn 01 55 56.4 -0.9
baz=16,SNR=5.9
232A Coleman 15.95 351 ⇑P Pn 01 55 57.6 -0.5
baz=16
233A Rising Star 15.98 353 ⇑P Pn 01 55 58.6 +0.1
baz=16,SNR=12
329A Wagon Wheel Ra 16.07 343 ⇓P Pn 01 55 59.4 -0.1
baz=16
231A Bronte 16.11 349 ⇑P Pn 01 55 59.5 -0.7
baz=16,SNR=13
230A Sterling City 16.23 346 ⇑P Pn 01 56 01.1 -0.6
baz=16
135A Vickery Place, 16.40 358 ⇓P Pn 01 56 03.1 -0.7
baz=16
134A White-Moore Ra 16.45 356 ⇓P Pn 01 56 03.9 -0.6
baz=16
229A Bryant Ranch, 16.48 344 ⇑P Pn 01 56 04.2 -0.6
baz=16
133A Hamilton Ranch 16.57 353 ⇑P Pn 01 56 04.7 -1.2
baz=16,SNR=8.7
ABTX Abilene, Hawle 16.67 351 ePn Pn 01 56 06.5 -0.8
33nm,1.1s
ABTX Abilene, Hawle 16.67 351 ⇓P Pn 01 56 06.5 -0.8
baz=16,SNR=6.5
228A UT Block 9, Go 16.83 342 ⇓P Pn 01 56 09.0 -0.3
baz=17,SNR=11
131A Roby 16.84 349 ⇑P Pn 01 56 08.7 -0.7
baz=17
130A Snyder 16.88 347 ⇑P Pn 01 56 09.0 -0.9
baz=17
129A Stewart Farms, 17.12 345 ⇑P Pn 01 56 12.7 -0.3
baz=17,SNR=8.9
Z35A Perchaven, San 17.17 358 ⇓P Pn 01 56 12.2 -1.3
baz=17
Z33A Whitaker Ranch 17.22 354 ⇑P Pn 01 56 13.9 -0.3
baz=17,SNR=10.0
Z34A Collier Ranch, 17.24 357 ⇓P Pn 01 56 13.5 -0.9
baz=17
128A Castleberry Fa 17.27 343 ⇓P Pn 01 56 14.2 -0.7
baz=17,SNR=10
Z32A Haskell 17.32 352 ⇑P Pn 01 56 14.2 -1.2
baz=17
Z31A Sharp Cattle R 17.43 350 ⇑P Pn 01 56 15.5 -1.3
baz=17,SNR=6.3
Z30A Sanderson Ranc 17.58 348 ⇑P Pn 01 56 17.5 -1.2
baz=17
Z29A Hungry Hill Ra 17.68 346 ⇓P Pn 01 56 19.3 -0.7
baz=18,SNR=20
Y34A Reagan Ranch, 17.81 357 ⇓P Pn 01 56 20.1 -1.4
baz=18
Y33A Hilltop Ranch, 17.92 355 ⇑P Pn 01 56 23.0 +0.2
baz=18
Y32A R-V Farms, Ver 18.00 353 ⇓P Pn 01 56 23.5 -0.4
baz=18
Y31A Rekieta Farm, 18.08 350 ⇑P Pn 01 56 24.1 -0.7
baz=18
Y30A Stafford Cattl 18.11 349 ⇓P Pn 01 56 25.0 -0.2
baz=18
Z27A Tatum 18.13 342 ⇑P Pn 01 56 24.9 -0.6
baz=18,SNR=16
Y29A Porterfield Fa 18.25 347 ⇓P Pn 01 56 26.2 -0.7
baz=18,SNR=6.2
Z26A Caprock 18.33 340 ⇓P P 01 56 26.9 -1.0
baz=18,SNR=6.1
X32A Elmer 18.40 353 ⇓P P 01 56 27.7 -0.9
baz=18
Y28A McKinney Farm, 18.43 345 ⇑P P 01 56 27.7 -1.4
baz=18
X33A Lawton 18.44 355 ⇑P P 01 56 27.6 -1.5
baz=18,SNR=6.2
X34A Smith Ranch, M 18.46 357 ⇑P P 01 56 27.7 -1.5
baz=18
Z25A Roswell 18.59 338 ⇓P P 01 56 30.0 -0.8
baz=18,SNR=6.6
MIAR Mount Ida 18.59 8 ePn P 01 56 30.2 -0.5
44nm,0.8s
MSTX Muleshoe 18.62 344 ePn P 01 56 31.2 0.0
31nm,0.9s
MSTX Muleshoe 18.62 344 ⇑P P 01 56 30.6 -0.6
baz=18,SNR=11
Y27A Causey 18.65 343 ⇑P P 01 56 30.9 -0.6
baz=18,SNR=8.0
X30A Coker Ranch, T 18.66 349 ⇑P P 01 56 30.5 -1.0
baz=18,SNR=7.6
X31A McDonald Ranch 18.69 352 ⇑P P 01 56 31.1 -0.8
baz=18
X29A Tulia 18.82 347 ⇓P P 01 56 32.7 -0.6
baz=19
Z24A Sheeppen Canyo 18.87 337 ⇓P Pn 01 56 34.7 +0.2
baz=19,SNR=11
Y26A Elida 18.88 341 ⇑P P 01 56 34.0 -0.1
baz=19
X28A Dimmitt 19.00 346 ⇓P P 01 56 35.0 -0.3
baz=19
UALR University of 19.01 11 eP P 01 56 35.0 -0.3
25nm,0.8s
W33A Caddo, Fort Co 19.05 356 ⇑P P 01 56 35.7 0.0
baz=19
319A Douglas 19.06 325 ⇓P P 01 56 36.8 +0.8
baz=19
W34A Bridge Creek, 19.09 357 ⇓P P 01 56 35.6 -0.5
baz=19
W32A Sentinel 19.09 354 ⇑P P 01 56 35.9 -0.3
baz=19
Y25A Mesa, Roswell 19.16 339 ⇑P P 01 56 37.7 +0.6
baz=19,SNR=10
121A Cookes Peak, D 19.21 330 eP P 01 56 39.2 +0.5
7.3nm,0.8s
121A Cookes Peak, D 19.21 330 ⇑P P 01 56 37.6 -0.1
baz=19
W31A Holland Ranch, 19.24 352 ⇓P P 01 56 37.5 -0.3
baz=19
AMTX Amarillo 19.24 347 eP P 01 56 36.6 -1.2
12nm,0.8s
AMTX Amarillo 19.24 347 ⇑P P 01 56 37.3 -0.6
baz=19
X27A F and S Farms, 19.35 344 ⇑P P 01 56 38.9 -0.2
baz=19
Y24A Capitan 19.43 338 ⇓P P 01 56 40.4 +0.4
baz=19,SNR=10
Z22A Elephant Butte 19.45 333 ⇓P P 01 56 40.6 +0.3
baz=19
X26A CR and CF Fran 19.46 342 ⇑P P 01 56 40.1 -0.3
baz=19,SNR=10
W29A Amarillo 19.46 348 ⇓P P 01 56 40.6 +0.3
baz=19
V32A Arapaho 19.66 354 ⇓P P 01 56 42.5 0.0
baz=19
T23A Lovelace Mesa, 19.66 336 ⇑P P 01 56 42.6 -0.1
baz=20,SNR=17
V34A Guthrie 19.67 358 ⇑P P 01 56 42.1 -0.4
baz=19
V33A Lossen Ranch, 19.70 356 ⇑P P 01 56 42.6 -0.2
baz=20
W27A Bowe Ranch, En 19.73 344 ⇓P P 01 56 42.1 -1.2
baz=20,SNR=12
TUL1 Tulsa 19.75 2 ePn Pn 01 56 45.1 +0.1
18nm,0.8s
TUL1 Tulsa 19.75 2 ⇑P P 01 56 42.4 -1.0
baz=20
V30A Spur Ranch, Mi 19.91 350 ⇓P P 01 56 45.1 -0.1
baz=20
W26A Owens Ranch, T 19.95 343 ⇓P P 01 56 45.1 -0.6
baz=20
X24A Lazy VL Ranch, 20.00 338 ⇑P P 01 56 45.9 -0.4
baz=20,SNR=8.1
V29A Stinnett 20.16 349 ⇑P P 01 56 47.4 -0.6
baz=20
V28A Channing 20.19 347 ⇑P P 01 56 47.7 -0.6
baz=20,SNR=7.3
LPM Los Pinos Moun 20.22 336 eP P 01 56 49.4 +0.6
U34A Anderson Ranch 20.27 358 eP P 01 56 49.8 +0.7
38nm,1.1s
U34A Anderson Ranch 20.27 358 ⇑P P 01 56 47.8 -1.3
baz=20
W25A X Bar L Ranch, 20.27 341 ⇑P P 01 56 49.2 0.0
baz=20,SNR=7.0
X23A Hourglass Bar 20.29 337 ⇑P P 01 56 50.3 +0.8
baz=20,SNR=14
U33A Lingo Farm, Me 20.30 357 ⇑P P 01 56 48.8 -0.5
baz=20,SNR=8.8
U32A Winter Ranch, 20.31 355 ⇓P P 01 56 49.0 -0.4
baz=20
V27A Dan Oppiter Fa 20.34 345 ⇑P P 01 56 49.8 -0.1
baz=20
LAZ Ladron 20.51 335 eP P 01 56 53.1 +1.3
8.4nm,0.9s
W24A Lazy 6 Ranch, 20.57 339 ⇓P P 01 56 53.0 +0.5
baz=20,SNR=9.0
V26A Tequesquite Ra 20.62 343 ⇓P P 01 56 53.4 +0.4
baz=20,SNR=8.2
U30A WK&E Inc. Balk 20.66 351 ⇓P P 01 56 53.5 +0.2
baz=20
ANMO Albuquerque 20.71 337 P P 01 56 53.8 -0.3
4.0nm,0.7s,baz=146,slow=12,SNR=19
ANMO Albuquerque 20.71 337 eP P 01 56 54.5 +0.4
8.6nm,1.1s
W23A Werner Place, 20.79 338 ⇓P P 01 56 55.3 +0.4
baz=21,SNR=9.9
V25A Rancho No Teng 20.90 342 ⇑P P 01 56 56.2 +0.1
baz=21,SNR=6.4
T33A Patterson Ranc 20.95 357 ⇓P P 01 56 56.6 +0.1
baz=21
U27A Thompson Grove 20.97 346 ⇑P P 01 56 56.8 +0.1
baz=21,SNR=5.3
V24A Rampart Ranch, 21.00 340 ⇑P P 01 56 57.5 +0.3
baz=21,SNR=9.8
T31A Randall Ranch, 21.09 353 ⇓P P 01 56 57.8 -0.1
baz=21
T32A Huddler Ranch, 21.10 355 ⇑P P 01 56 57.7 -0.3
baz=21
T30A Plains 21.15 351 ⇓P P 01 56 58.6 0.0
baz=21
U26A Atchley Ranch, 21.17 344 ⇓P P 01 56 58.9 0.0
baz=21
V23A Ortiz Mt. (NFS 21.33 338 ⇑P P 01 57 01.7 +1.0
baz=21,SNR=10
U25A Circle Dot Ran 21.36 343 ⇑P P 01 57 01.1 +0.1
baz=21,SNR=11
T29A Hugoton 21.37 350 ⇓P P 01 57 00.8 -0.2
baz=21
PARMO Parma 21.40 15 eP P 01 57 01.0 -0.1
WVT Waverly 21.46 20 eP P 01 57 00.0 -1.9
14nm,0.8s
T28A Walsh 21.49 348 ⇓P P 01 57 02.4 +0.1
baz=21
214A Organ Pipe Nat 21.55 320 ⇓P P 01 57 03.6 +0.7
baz=21
T27A Campo 21.56 347 ⇓P P 01 57 03.2 +0.1
baz=21,SNR=5.5
S31A Mullinville 21.58 354 ⇓P P 01 57 02.7 -0.5
baz=21
S32A Newby Ranch, P 21.61 355 ⇓P P 01 57 03.4 -0.2
baz=21
S30A Montezuma 21.72 352 ⇓P P 01 57 04.4 -0.4
baz=22
V22A San Miguel Ran 21.74 337 ⇑P P 01 57 05.4 +0.3
baz=22,SNR=8.4
S29A Ulysses 21.80 351 ⇓P P 01 57 05.5 -0.1
baz=22,SNR=5.3
U23A El Rito 21.86 339 ⇑P P 01 57 07.3 +1.0
baz=22,SNR=12
T26A Comanche Natio 21.87 345 ⇑P P 01 57 06.9 +0.4
baz=22,SNR=5.3
X18A Snowflake 21.88 329 ⇓P P 01 57 07.7 +1.0
baz=22
S28A Manter 21.90 349 ⇑P P 01 57 06.5 -0.2
baz=22
T25A Trinidad 22.05 343 ⇑P P 01 57 09.1 +0.7
baz=22,SNR=6.0
U22A Llaves 22.13 338 ⇑P P 01 57 09.6 +0.2
baz=22,SNR=7.4
R33A Olander Ranch, 22.16 357 ⇓P P 01 57 09.0 -0.4
baz=22
R31A Burdett 22.25 354 ⇑P P 01 57 10.0 -0.4
baz=22
W18A Petrified Fore 22.26 331 ⇑P P 01 57 11.6 +1.0
baz=22
T24B San Luis 22.26 341 ⇓P P 01 57 11.0 +0.2
baz=22
S26A Kim 22.27 346 ⇑P P 01 57 10.8 +0.1
baz=22
R32A Long Quarter, 22.32 356 ⇑P P 01 57 11.6 +0.5
baz=22
R30A Dighton 22.33 353 ⇓P P 01 57 11.5 +0.2
baz=22,SNR=7.2
T23A Casias Ranch, 22.45 340 ⇑P P 01 57 13.0 +0.2
baz=22
S25A Robets Cordova 22.55 344 ⇓P P 01 57 14.0 +0.3
baz=22
X16A Lo Mia Camp, P 22.55 327 ⇓P P 01 57 15.0 +1.2
baz=22
R29A Marienthal 22.59 351 ⇓P P 01 57 13.8 -0.3
baz=22
R28A Tribune 22.62 349 ⇑P P 01 57 14.1 -0.3
baz=22
S24A Houchin Ranch, 22.75 342 ⇓P P 01 57 15.8 -0.1
baz=23
R27A Eads 22.75 348 ⇑P P 01 57 15.4 -0.5
baz=23
Q33A Connelly Farm, 22.84 358 ⇓P P 01 57 16.7 +0.1
baz=23
Q32A Meitler Ranch, 22.87 356 ⇓P P 01 57 17.1 +0.1
baz=23
R26A Arlington 22.91 346 ⇓P P 01 57 17.8 +0.3
baz=23,SNR=18
KSU1 Kansas State U 22.92 0 eP P 01 57 17.4 -0.1
16nm,0.9s
KSU1 Kansas State U 22.92 0 ⇑P P 01 57 17.4 -0.1
baz=23
Q31A Ellis 22.95 355 ⇑P P 01 57 17.6 -0.2
baz=23
R25A Fountain Ranch 22.96 345 ⇓P P 01 57 18.2 +0.1
baz=23,SNR=9.4
Q30A Quinter 23.01 353 ⇑P P 01 57 18.3 -0.1
baz=23
Q29A Oakley 23.02 351 ⇑P P 01 57 18.7 +0.1
baz=23
S23A Nye Farm, Mont 23.05 341 ⇓P P 01 57 19.7 +0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
	baz=23						
R24A	Sanders Place,	23.27	343	⇑P	P	01 57 21.2	-0.1
	baz=23						
Q28A	Sharon Springs	23.32	350	⇑P	P	01 57 21.3	-0.3
	baz=23						
S22A	4UR Ranch, Cre	23.35	339	⇓P	P	01 57 22.4	+0.3
	baz=23						
WUAZ	Wupatki	23.37	329	eP	P	01 57 23.4	+1.1
	11nm,0.8s						
KSCO	Kaye Shedlock'	23.42	348	⇓P	P	01 57 22.5	-0.2
	baz=23						
KMSC	Kings Mountain	23.43	33	⇓P	P	01 57 21.8	-0.9
	baz=23						
R23A	Moffat	23.44	342	⇓P	P	01 57 23.5	+0.5
	baz=23						
P31A	Stockton	23.46	355	⇑P	P	01 57 23.2	+0.3
	baz=23,SNR=5.4						
MVCO	Mesa Verde	23.49	336	eP	P	01 57 23.8	+0.3
	9.6nm,0.9s						
MVCO	Mesa Verde	23.49	336	⇓P	P	01 57 23.7	+0.3
	baz=23						
P32A	Huiting Farm,	23.50	356	⇑P	P	01 57 23.6	+0.2
	baz=23						
Q26A	Hugo	23.52	347	⇓P	P	01 57 24.1	+0.4
	baz=23						
GLA	Glamis	23.54	319	eP	P	01 57 25.0	+1.2
	9.7nm,1.1s						
GLA	Glamis	23.54	319	⇑P	P	01 57 24.7	+0.9
	baz=23						
P30A	Selden	23.57	353	⇑P	P	01 57 23.8	-0.3
	baz=23						
Q25A	Bedland, Calha	23.68	345	⇓P	P	01 57 25.1	-0.2
	baz=24						
P29A	Atwood	23.71	352	⇓P	P	01 57 25.2	-0.2
	baz=24						
P28A	Saint Francis	23.81	350	⇑P	P	01 57 26.4	0.0
	baz=24						
WCI	Wyandotte Cave	23.88	21	eP	P	01 57 27.2	+0.2
	29nm,1.0s						
P27A	Ficken Ranch,	23.93	349	⇓P	P	01 57 27.7	+0.1
	baz=24						
Q24A	Divide	23.96	344	⇓P	P	01 57 28.2	+0.1
	baz=24						
O31A	Woolen Ranch,	24.08	355	⇓P	P	01 57 28.9	0.0
	baz=24						
P26A	Davis Ranch, A	24.09	347	⇓P	P	01 57 28.9	-0.2
	baz=24						
O32A	Brockman Farm,	24.12	357	⇓P	P	01 57 29.3	+0.1
	baz=24						
O30A	MW Ranch, Wils	24.18	354	⇓P	P	01 57 29.2	-0.6
	baz=24						
P25A	Willow Gulch B	24.23	346	⇑P	P	01 57 30.7	+0.3
	baz=24,SNR=5.3						
PV01	Paradox Valley	24.32	337	eP	P	01 57 31.7	+0.3
	2μm,1.3s						
BC3	Big Chuckawall	24.33	319	⇑P	P	01 57 32.3	+0.9
	baz=24						
W13A	Hualapai Mount	24.40	324	⇓P	P	01 57 32.7	+0.7
	baz=24						
IRM	Iron Mountain	24.48	321	⇑P	P	01 57 33.2	+0.6
	baz=24						
O27A	Beecher Island	24.53	349	⇓P	P	01 57 32.9	-0.2
	baz=24						
P23A	Jefferson	24.54	343	⇓P	P	01 57 33.2	-0.2
	baz=24						
U15A	North Rim	24.55	329	⇑P	P	01 57 35.2	+1.7
	baz=24,SNR=8.2						
N32A	Stulken Farm,	24.62	357	⇑P	P	01 57 33.3	-0.5
	baz=24						
PV04	Paradox Valley	24.68	337	eP	P	01 57 35.4	+0.8
SMCO	Snowmass	24.70	341	eP	P	01 57 37.0	+2.1
	12nm,1.3s						
N31A	Bailey Ranch,	24.72	356	⇓P	P	01 57 35.1	+0.4
	baz=24						
O26A	Horse Wrangler	24.74	348	⇑P	P	01 57 35.5	+0.5
	baz=24						
O25A	Wiggins	24.79	346	⇑P	P	01 57 36.0	+0.5
	baz=25						
N28A	Pribbeno Ranch	24.86	351	⇑P	P	01 57 36.5	+0.4
	baz=25						
ISCO	Idaho Springs	24.87	343	eP	P	01 57 36.7	+0.3
	21nm,1.6s						
ISCO	Idaho Springs	24.87	343	⇓P	P	01 57 36.6	+0.3
	baz=25,SNR=8.3						
BELC	Belle Mtn. Jos	24.90	319	⇑P	P	01 57 37.7	+1.2
	baz=25						
P22A	Eagle	25.01	341	⇓P	P	01 57 37.9	+0.3
	baz=25						
O24A	Longmont	25.03	345	⇑P	P	01 57 38.4	+0.8
	baz=25						
N27A	Anderson Farm,	25.14	350	⇑P	P	01 57 38.8	+0.2
	baz=25						
OGNE	Ogallala	25.19	350	⇑P	P	01 57 39.4	+0.4
	baz=25						
M31A	Lambtecht Ranc	25.24	356	⇓P	P	01 57 39.8	+0.4
	baz=25						
O23A	Lake Granby, G	25.34	343	⇑P	P	01 57 42.1	+1.5
	baz=25,SNR=12						
O22A	Kremmling	25.47	342	⇓P	P	01 57 42.3	+0.4
	baz=25						
M29A	Burnside Ranch	25.50	353	⇓P	P	01 57 42.7	+0.9
	baz=25						
L30A	Spencer Herefo	25.90	355	⇓P	P	01 57 47.1	+1.7
	baz=26						
SCIA	State Center	25.90	6	eP	P	01 57 44.7	-0.6
	370nm,2.9s						
SRU	San Rafael	25.93	335	eP	P	01 57 48.5	+2.6
	7.0nm,1.0s						
O20A	White River Ci	25.98	339	eP	P	01 57 47.5	+1.2
	195nm,3.0s						
O20A	White River Ci	25.98	339	⇑P	P	01 57 47.3	+1.0
	baz=26						
N23A	Red Feather La	25.98	344	⇓P	P	01 57 47.5	+1.0
	baz=26						
L31A	Butterfield Fa	26.06	356	⇑P	P	01 57 48.0	+1.1
	baz=26						
ARUT	Antelope Range	26.18	329	eP	P	01 57 47.9	-0.3
	113nm,0.9s						
SDV	Santo Domingo	26.41	103	eP	P	01 57 52.7	+2.2
	7.0nm,0.8s						
SDV				e		01 57 59.5	
M22A	Cedar Creek Ra	26.63	343	⇓P	P	01 57 52.5	+0.2
	baz=26						
L23A	Garrett	27.06	345	⇑P	P	01 57 56.5	+0.3
	baz=27						
J21A	Lysite	28.67	344	⇓P	P	01 58 10.8	+0.4
	baz=28						
PDAR	Pinedale Array	28.78	340	P	P	01 58 11.2	-0.3
	0.5nm,0.8s,baz=127,slow=9.8,SNR=4.9						
I21A	Big Trails, Te	29.06	344	⇑P	P	01 58 14.1	+0.2
	baz=29						
J19A	Crowheart	29.06	341	⇓P	P	01 58 13.9	0.0
	baz=29						
SPMN	St. Paul	29.23	6	eP	P	01 58 13.9	-1.1
	70nm,2.0s						
SPMN	St. Paul	29.23	6	⇓P	P	01 58 14.3	-0.8
	baz=29						
NVAR	Mina Array Bea	29.25	324	P	P	01 58 17.0	+1.3
	1.0nm,0.7s,baz=146,slow=9.6,SNR=8.8						
NVAR				pP	pP	01 58 26.0	+4.0
	1.6nm,0.9s,baz=144,slow=9.6,SNR=5.8						
H24A	Dirks Ranch, A	29.32	349	⇓P	P	01 58 16.2	0.0
	baz=29						
I20A	Worland	29.42	343	⇓P	P	01 58 17.0	0.0
	baz=29						
LOHW	Long Hollow	29.88	339	eP	P	01 58 21.6	+0.4
	3.5nm,0.8s						
G22A	Birney	30.14	346	⇑P	P	01 58 23.1	-0.3
	baz=30						
I17A	Pilgrim Ck.	30.14	340	⇓P	P	01 58 23.8	+0.3
	baz=30						
H19A	Powell	30.32	342	⇓P	P	01 58 25.3	+0.3
	baz=30						
E27A	Carson	30.52	353	⇑P	P	01 58 27.0	+0.4
	baz=30						
H18A	Shoshone NF, C	30.53	342	⇓P	P	01 58 27.1	+0.2
	baz=30						
YMR	Madison River	30.93	340	eP	P	01 58 31.5	+1.0
	7.6nm,1.0s						
F20A	Billings	31.14	344	⇑P	P	01 58 31.9	-0.2
	baz=31						
D28A	Regan	31.18	355	⇑P	P	01 58 32.5	+0.1
	baz=31						
D26A	Manning	31.21	352	⇑P	P	01 58 32.9	+0.2
	baz=31						
E22A	Miles City	31.23	348	⇑P	P	01 58 32.7	-0.1
	baz=31						
HLID	Hailey	31.26	335	⇑P	P	01 58 33.6	+0.2
	baz=31						
F19A	Roth Farm, Mol	31.40	343	⇑P	P	01 58 34.8	+0.4
	baz=31						
E20A	Meyer Farm, Mu	31.79	345	⇑P	P	01 58 38.1	+0.3
	baz=32						
E19A	Rath Farm, Rou	31.91	344	⇓P	P	01 58 39.1	+0.1
	baz=32						
D22A	Cohagen	31.95	348	⇑P	P	01 58 39.3	+0.1
	baz=32						
DLMT	Dillon	32.10	339	eP	P	01 58 41.8	+1.1
	5.3nm,0.8s						
D20A	Manuel Ranch,	32.34	345	⇑P	P	01 58 42.8	+0.1
	baz=32						
C23A	Lambert	32.39	349	⇓P	P	01 58 43.2	+0.2
	baz=32						
B28A	Dugan Ranch, T	32.41	355	⇑P	P	01 58 43.6	+0.5
	baz=32						
LRM	Limekiln Ridge	32.45	339	eP	P	01 58 44.0	+0.2
C22A	Vida	32.46	348	⇓P	P	01 58 44.2	+0.5
	baz=32						
B25A	Knox Farm, Ray	32.53	352	⇑P	P	01 58 44.1	-0.1
	baz=32						
D19A	Cripps Ranch,	32.59	344	⇓P	P	01 58 44.7	-0.1
	baz=32						
C21A	Desert Coulee	32.79	347	⇑P	P	01 58 46.5	0.0
	baz=33						
B23A	Brockton	32.99	350	⇑P	P	01 58 48.8	+0.4
	baz=33						
A26A	Wade Farm, Ken	33.01	354	⇑P	P	01 58 48.7	+0.3
	baz=33						
HRY	Holter Researc	33.02	341	eP	P	01 58 49.1	+0.3
C19A	Slack Wire Ran	33.16	345	⇓P	P	01 58 50.5	+0.6
	baz=33						
A24A	Westby	33.28	351	⇑P	P	01 58 51.4	+0.5
	baz=33						
CHMT	Chamberlain Mo	33.67	339	eP	P	01 58 53.9	-0.6
	5.0nm,1.4s						
B19A	Brinkman Farms	33.80	345	⇓P	P	01 58 55.8	+0.4
	baz=34						
MSO	Missoula	33.83	339	⇑P	P	01 58 55.6	-0.2
	baz=34						
A21A	Bergtoll Ranch	33.86	348	⇑P	P	01 58 56.0	+0.1
	baz=34						
A20A	Cobblestone Ra	33.97	347	⇓P	P	01 58 56.9	+0.1
	baz=34						
A19A	Klindworth Far	34.20	346	⇓P	P	01 58 59.1	+0.2
	baz=34						
F10A	Beach Ranch, E	34.39	334	eP	P	01 59 00.4	-0.1
	88nm,2.8s						
SWMT	Swartz Lake	34.44	339	eP	P	01 59 00.4	-0.7
	2.9nm,0.8s						
YBMT	Yellow Bay	34.75	339	eP	P	01 59 03.8	+0.1
SCHQ	Schefferville	45.01	24	P	P	02 00 25.7	-3.0
	2.1nm,0.9s,baz=266,slow=15,SNR=2.7						
YKA	Yellowknife Ar	48.03	349	P	P	02 00 50.8	-1.5
	1.1nm,0.7s,baz=154,slow=7.3,SNR=16						
YKA				pP	pP	02 00 59.6	+0.8
	0.6nm,0.7s,baz=155,slow=7.4,SNR=6.3						
ILAR	Eielson Array	59.16	337	P	P	02 02 13.1	-0.8
	1.3nm,0.9s,baz=142,slow=5.7,SNR=13						
ILAR				pP	pP	02 02 22.6	+2.1
	1.5nm,0.7s,baz=142,slow=5.3,SNR=10						
HHC	Hu-ho-hao-te	117.57	336	ePKP	PKPdf	02 11 01.8	+2.1
HHC				PP	PP	02 12 16.8	+5.9
HHC				PKS	PKSdf	02 14 37.0	+0.5
HHC				SKKS		02 19 05.5	
HHC				SS	SS	02 28 19.3	-1.5
HHC				LR	LR		
	comp=Z,130nm,17.7s						
WMQ	Urumqi	120.24	356	ePKP	PKPdf	02 11 07.5	+2.8
CD2	Chengdu	129.30	337	PKP	PKPdf	02 11 22.5	+0.1

ISCJB 26 01:53:13.3±1.3, 17°.3S±0°.6×178°.9W±0°.4, h539km, mb3.4/6, Error ellipse: s-maj=90.5km s-min=19.1km az=149.0
IDC 26 01:53:16.2±5.4, 17°.45S×178°.85W, h564km±67km, mb3.0/6, mb1 3.3/7, mb1mx3.0/36, mbtmp3.9/7, Error ellipse: s-maj=84.1km s-min=27.0km az=152.0
ISC 26 01:53:14.3±1.5, 17°.3S±0°.6×178°.8W±0°.4, h539km, n9, σ1s06/9, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.71	249	P	P	01 56 22.9	+1.9
	0.8nm,0.3s,baz=143,slow=21,SNR=7.8						
STKA	Stephens Creek	38.62	240	P	P	01 59 50.3	-1.3
	1.8nm,0.4s,baz=97,slow=9.9,SNR=8.5						
WRA	Warramunga Arr	44.41	259	P	P	02 00 36.7	-0.8
	1.2nm,0.3s,baz=94,slow=6.9,SNR=7.5						
NVAR	Mina Array Bea	79.24	44	P	P	02 04 24.7	+0.7
	0.4nm,0.7s,baz=226,slow=7.4,SNR=3.5						
ILAR	Eielson Array	85.39	13	P	P	02 04 54.0	-0.2
	0.3nm,0.4s,baz=224,slow=5.0,SNR=9.4						
TXAR	Lajitas Array	85.97	58	P	P	02 04 58.3	+0.3
	1.0nm,1.1s,baz=232,slow=6.2,SNR=5.2						
PDAR	Pinedale Array	87.16	44	P	P	02 05 03.5	0.0
	0.4nm,0.6s,baz=229,slow=3.9,SNR=4.1						
BRTR	Keskin Array B	144.12	315	PKP	PKPdf	02 11 49.3	+0.1
	0.6nm,0.9s,baz=28,slow=5.6,SNR=3.6						
GERES	GERESS Array B	146.95	345	PKPbc	PKPbc	02 11 56.0	-0.6
	0.4nm,0.5s,baz=20,slow=4.3,SNR=6.4						

IDC 26 01:58:22.4±1.2, 3°.79N×126°.66E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/33, mbtmp4.1/4, MS3.7/2, Ms1 3.7/2, ms1mx2.9/37, Error ellipse: s-maj=123.2km s-min=20.2km az=67.0
ISCJB 26 01:58:27.5±0.9, 3°.6N±0°.1×126°.4E±0°.1, h53km, mb4.0/4, MS3.7/2, Error ellipse: s-maj=22.8km s-min=12.2km az=152.1
ISC 26 01:58:29.5±1.0, 3°.6N±0°.1×126°.3E±0°.2, h53km, n13, σ0s95/11, mb4.2/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SWI	Sorong	6.64	132	P	Pn	02 00 03.8	-0.7
	baz=6.4,SNR=3.9						
FAKI	Fak Fak	8.78	138	P	Pn	02 00 33.7	-0.2
	baz=8.5,SNR=8.8						
WSI	Waingapu	14.50	204	P	Pn	02 01 50.5	-1.2
	baz=15,SNR=3.5						
WSI				S	Sn	02 04 06.8	-24
	baz=15,SNR=6.1						
KDU	Kakadu	17.30	159	P	Pn	02 02 26.8	-0.7
	baz=17,SNR=6.4						
KNRA	Kununurra	19.32	173	P	Pn	02 02 52.9	+1.0
	baz=19,SNR=7.2						
PMG	Port Moresby	24.46	122	LR	LR	02 14 26.8	
	comp=Z,136nm,19.4s,baz=42,slow=40						
WRA	Warramunga Arr	24.70	162	P	P	02 03 45.2	-0.6
	5.8nm,0.8s,baz=343,slow=11,SNR=21						
WRKA	Warakurna	28.54	176	P	P	02 04 21.8	+1.5
	baz=29,SNR=8.7						
STKA	Stephens Creek	38.16	159	P	P	02 05 44.8	+0.9
	1.7nm,0.3s,baz=338,slow=8.6,SNR=8.5						
STKA	Stephens Creek	38.16	159	P	P	02 05 44.5	+0.6
	baz=38,SNR=6.3						
SONM	Songino Array	47.28	342	P	P	02 06 57.5	-0.3
	0.5nm,0.6s,baz=158,slow=8.0,SNR=8.0						
MKAR	Makanchi Array	57.42	325	P	P	02 08 12.9	+0.1
	1.1nm,0.5s,baz=119,slow=7.9,SNR=23						
FINES	FINESS Array B	91.75	332	LR	LR	02 53 58.4	
	comp=Z,48nm,21.6s,baz=267,slow=36						

NNC 26 02:00:17.2±10.0, 37°.51N×71°.35E, h0km, mb3.5, mpv3.1, 4C-2D, Error ellipse: s-maj=76.9km s-min=63.1km az=171.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.63	354	⇑Pn	Pn	02 01 44.4	+2.2
	0.3nm,0.2s,baz=176,slow=13,SNR=37						
KK31				⇑Sn	Sn	02 02 49.1	+1.6
	7.3nm,0.5s,baz=179,slow=23,SNR=6.1						
AAK	Ala-Archa	5.66	24	⇑Pn	Pn	02 01 42.5	-0.3
	1.9nm,0.4s						
AAK				⇓Sn	Sn	02 02 46.9	-1.8
	1.5nm,0.6s						
TKM2	Tokmak 2	6.31	30	⇓Pn	Pn	02 01 49.8	-2.0
	0.8nm,0.5s						
TKM2				⇑Sn	Sn	02 03 08.1	+3.4
	0.4nm,0.6s						

DJA 26 02:11:50.6±1.7, 1°S±7°×10°0E±°, h50km±16km, M3.5/3, MLv3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDSI	Padang	0.67	97	P	Pn	02 12 04.9	+0.9
PDSI				S	Sn	02 12 15.7	+2.1
MNSI	Mandailing Nat	1.63	352	P	Pn	02 12 16.6	-0.3
MNSI				S	Sn	02 12 37.5	+0.8
BKNI	Bangkinang	1.69	47	P	Pn	02 12 17.6	-0.1
BKNI				S	Sn	02 12 38.9	+0.7

AUST 26 02:40:01.3±15.0, 32°.64S×151°.04E, h0km, Error ellipse: s-maj=6.2km s-min=1.2km az=295.0, Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MGCD	Mangrove Creek	0.57	174	P	Pg	02 40 11.4	-0.9
	baz=0.6,SNR=11						
MGCD				S	Sg	02 40 19.7	-0.1
	baz=0.6,SNR=15						
ARMA	Armidale	2.27	13	P	Pn	02 40 40.6	+0.4
	baz=2.3,SNR=5.7						
ARMA				S	Sb	02 41 13.0	+0.9
	baz=2.3,SNR=4.3						
YNG	Young	2.76	232	P	Pn	02 40 46.4	-0.5
	baz=2.8,SNR=17						
YNG				S	Sb	02 41 27.9	+1.9
	baz=2.8,SNR=10						
CNB	Canberra Magne	3.01	207	P	Pb	02 40 53.2	-2.7
	baz=3.0,SNR=4.5						

ISCJB 26 03:33:12.7±0.7, 34°.85N±0°.03×46°.02E±0°.03, h4km±5km, mb3.4/3, Error ellipse: s-maj=5.1km s-min=3.6km az=17.7
NSSC 26 03:33:12.1±1.2, 35°.70N×45°.26E, h390km±37km, ML3.0
ISN 26 03:33:13.2±2.4, 34°.90N×46°.04E, h0km±7km, ML3.7
CSEM 26 03:33:13.9±0.2, 34°.84N×46°.05E, h2km, ML3.7, Error ellipse: s-maj=5.8km s-min=3.8km az=15.0
TEH 26 03:33:14.5, 34°.82N×46°.10E, h3km, ML3.7
IDC 26 03:33:14.7±2.6, 35°.18N×46°.03E, h0km, mb3.6/3, mb1 3.5/8, mb1mx3.3/39, mbtmp3.5/8, ML1.6/2, Error ellipse: s-maj=40.2km s-min=27.5km az=3.0
THR 26 03:33:15.7±0.6, 34°.91N×46°.19E, h14km, ML3.5
ISC 26 03:33:14.0±1.1, 34°.88N±0°.03×46°.10E±0°.03, h10km±8km, n82, σ1s86/103, mb3.6/3, Western Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.30	127	ePg	Pg	03 33 19.2	-0.8
IDHR				e		03 33 26.0	
	comp=Z,88μm,0.1s						
IDHR	Dehrash	0.30	127	ePg	Pg	03 33 19.2	-0.8
IGHG	Ghaleghazi	0.67	145	ePg	Pg	03 33 26.2	-0.8
IGHG				eSg	Sg	03 33 34.7	-1.1
IGHG				e		03 33 43.3	
	comp=Z,52μm,0.2s						
IGHG	Ghaleghazi	0.67	145	ePg	Pg	03 33 26.2	-0.8
IGHG				eSg	Sg	03 33 34.7	-1.1
ILIN	Lien	0.71	87	ePg	Pg	03 33 26.6	-1.2
ILIN				eSg	Sg	03 33 37.5	+0.4
ILIN				e		03 33 39.1	
	comp=Z,72μm,0.1s						
ILIN	Lien	0.71	87	ePg	Pg	03 33 26.6	-1.2
ILIN				eSg	Sg	03 33 37.5	+0.4
IKOM	Komasi	1.36	121	ePn	Pn	03 33 39.5	+0.3
IKOM				e		03 33 43.3	
	comp=Z,25μm,0.1s						
IKOM				eSn	Sb	03 33 58.1	+0.9
IKOM	Komasi	1.36	121	ePn	Pn	03 33 39.5	+0.3
IKOM				eSn	Sb	03 33 58.1	+0.9
IBZA	Bozab	1.51	105	ePn	Pn	03 33 41.4	+0.1
IBZA				e		03 33 45.1	
	comp=Z,21μm,0.1s						
IBZA				eSn	Sb	03 34 02.4	+0.9
IBZA	Bozab	1.51	105	ePn	Pn	03 33 41.4	+0.1
IBZA				eSn	Sb	03 34 02.4	+0.9
IKRK	Kirkuk	1.53	290	ePG	Pg	03 33 43.9	+0.5
IKRK				eSG	Sg	03 34 08.2	+4.9
IBDR	Badra	1.77	185	ePG	Pg	03 33 52.6	+4.6
IBDR				eSG	Sg	03 34 18.6	+7.8
IKFM	Kafar-mosalman	1.98	133	ePn	Pb	03 33 49.6	-0.5
IKFM	Kafar-mosalman	1.98	133	ePn	Pb	03 33 49.6	-0.5
IDOB	Doab	2.04	122	ePn	Pb	03 33 50.5	-0.7
IDOB	Doab	2.04	122	ePn	Pb	03 33 50.5	-0.7
BHD	Baghdad	2.15	222	ePn	Pn	03 33 49.0	-0.8
	SNR=3.0						
BHD				eSn	Sn	03 34 15.0	-1.5
	SNR=3.0						
BHD	Baghdad	2.15	222	ePn	Pn	03 33 49.0	-0.8
BHD				eSn	Sn	03 34 15.0	-1.5
IKMR	Kamar-syah	2.33	125	ePn	Pn	03 33 54.2	+1.9
IKMR	Kamar-syah	2.33	125	ePn	Pn	03 33 54.2	+1.9
ZNJK	Zanjan	2.76	49	ePn	Pn	03 34 00.7	+2.2
ZNJK	Zanjan	2.76	49	ePn	Pn	03 34 00.7	+2.2
IFTB	Fath-abad	3.14	4	ePn	Pn	03 34 04.8	+1.1
IFTB	Fath-abad	3.14	4	ePn	Pn	03 34 04.8	+1.1
IRAZ	Razeghan	3.18	79	ePn	Pn	03 34 06.1	+1.8
IRAZ				e		03 35 06.5	
	comp=Z,2μm,0.4s						
IRAZ	Razeghan	3.18	79	ePn	Pn	03 34 06.1	+1.8
ASAO	Ashtian	3.25	95	ePn	Pn	03 34 07.9	+2.6
ASAO	Ashtian	3.25	95	ePn	Pn	03 34 07.9	+2.6
ITBZ	Tabriz	3.35	1	e	Pg	03 34 16.0	-2.1
	comp=Z,1μm,0.2s						
ITBZ				ePn	Pn	03 34 07.8	+1.3
KHMZ	Khomeyn	3.39	109	ePn	Pn	03 34 09.4	+2.2
	comp=Z,100nm,0.6s						
KHMZ	Khomeyn	3.39	109	ePn	Pn	03 34 09.4	+2.2
KHMZ				AML	AML	03 35 12.4	
	comp=N,91nm,0.6s						
KHMZ				AML	AML	03 35 15.6	
	comp=E,100nm,0.6s						
IHRS	Heris	3.52	12	ePn	Pn	03 34 10.7	+1.8
IHRS				e		03 34 27.1	
	comp=Z,921nm,0.2s						
IHRS	Heris	3.52	12	ePn	Pn	03 34 10.7	+1.8
SHGR	Shooshtar-Gavs	3.57	140	ePn	Pn	03 34 12.3	+2.9
	comp=Z,76nm,0.7s						
SHGR	Shooshtar-Gavs	3.57	140	ePn	Pn	03 34 12.3	+2.9
SHGR				AML	AML	03 35 25.7	
	comp=E,106nm,0.5s						
SHGR				AML	AML	03 35 33.4	
	comp=N,76nm,0.7s						
IGZV	Ghazvin	3.68	65	ePn	Pn	03 34 12.3	+1.2
IGZV				e		03 35 23.3	
	comp=Z,753nm,0.4s						
IGZV	Ghazvin	3.68	65	ePn	Pn	03 34 12.3	+1.2
IMRD	Marand	3.84	355	ePn	Pn	03 34 15.2	+1.9
IMRD				e		03 34 33.4	
	comp=Z,1μm,0.2s						
IMRD	Marand	3.84	355	ePn	Pn	03 34 15.2	+1.9
NSR	Nassriya	3.86	179	ePn	Pn	03 34 14.5	+1.1
	SNR=39						
NSR				eSn	Sn	03 34 57.5	-1.3
	SNR=39						
NSR	Nassriya	3.86	179	ePN	Pn	03 34 14.5	+1.1
NSR				eSN	Sn	03 34 57.5	-1.3
GHVR	GHOM	4.30	94	ePn	Pn	03 34 21.3	+1.7
	comp=Z,50nm,0.6s						
GHVR	GHOM	4.30	94	ePn	Pn	03 34 21.3	+1.7
GHVR				AML	AML	03 35 37.4	
	comp=E,50nm,0.6s						
MZRK	Al-Mazaregh	4.55	284	eP	Pn	03 34 25.3	+2.4
MZRK				eS	Sn	03 35 18.6	+2.7
MZRK				AML	AML	03 35 58.9	
	comp=Z,93nm,0.6s						
MZRK	Al-Mazaregh	4.55	284	eP	Pn	03 34 25.3	+2.4
	SNR=132						
MZRK				eS	Sn	03 35 18.5	+2.7
	comp=Z,93nm,0.6s,SNR=132						
IPIR	Pirpir	4.55	117	ePn	Pn	03 34 23.1	-0.1
IPIR				e		03 34 42.5	
	comp=Z,1μm,0.4s						
IPIR	Pirpir	4.55	117	ePn	Pn	03 34 23.1	-0.1
IVRN	Varamin	4.63	87	ePn	Pn	03 34 26.0	+2.0
IVRN				e		03 34 49.6	
	comp=Z,498nm,0.3s						
IVRN	Varamin	4.63	87	ePn	Pn	03 34 26.0	+2.0
IKLH	Kolahrood	4.81	107	ePn	Pn	03 34 29.7	+3.0
IKLH				e		03 34 43.6	
	comp=Z,477nm,0.2s						
IKLH	Kolahrood	4.81	107	ePn	Pn	03 34 29.7	+3.0

DAMV	Damavand	4.86	79	ePn	Pn	03 34 29.5	+2.0
DAMV	Damavand	4.86	79	ePn	Pn	03 34 29.4	+2.0
IDMV	Damavand	4.91	80	ePn	Pn	03 34 29.6	+1.5
IDMV				e		03 34 50.6	
	comp=Z,256nm,0.3s						
IDMV	Damavand	4.91	80	ePn	Pn	03 34 29.6	+1.5
KBSD	Kabsdagh	4.98	297	eP	Pn	03 34 28.2	-0.6
KBSD				eS	Sn	03 35 23.2	-3.3
KBSD				AML	AML	03 36 04.2	
	comp=Z,40nm,0.8s						
KBSD	Kabsdagh	4.98	297	eP	Pn	03 34 28.2	-0.6
	SNR=130						
KBSD				eS	Sn	03 35 23.2	-3.3
	comp=Z,40nm,0.8s,SNR=130						
SFNV	Sufian	5.11	289	eP	Pn	03 34 30.4	-0.3
SFNV				eS	Sn	03 35 26.7	-3.1
SFNV				AML	AML	03 36 07.0	
	comp=Z,35nm,0.7s						
SFNV	Sufian	5.11	289	eP	Pn	03 34 30.4	-0.3
	SNR=129						
SFNV				eS	Sn	03 35 26.7	-3.1
	comp=Z,35nm,0.7s,SNR=129						
RTB	Rutbah	5.15	251	ePn	Pn	03 34 32.0	+0.8
	SNR=39						
RTB				eSn	Sn	03 35 28.9	-1.9
	SNR=39						
RTB	Rutbah	5.15	251	ePn	Pn	03 34 32.0	+0.8
RTB				eSN	Sn	03 35 28.9	-1.9
IPRN	Peran	5.26	73	ePn	Pn	03 34 34.5	+1.7
IPRN				e		03 35 30.3	
	comp=Z,298nm,0.2s						
GNI	Garni	5.37	349	Pn	Pn	03 34 35.0	+0.7
	comp=Z,0.8nm,0.3s,baz=25,slow=14,SNR=3.5						
IFIR	Firoozkooh	5.50	80	ePn	Pn	03 34 38.0	+1.8
IFIR				e		03 34 39.4	
	comp=Z,495nm,0.1s						
IFIR	Firoozkooh	5.50	80	ePn	Pn	03 34 38.0	+1.8
IZEF	Zefreh	5.55	109	ePn	Pn	03 34 38.1	+1.3
IZEF				e		03 35 05.5	
	comp=Z,192nm,0.2s						
IZEF	Zefreh	5.55	109	ePn	Pn	03 34 38.1	+1.3
MNKR	ALMNKUR	5.68	283	eP	Pn	03 34 37.8	-0.6
MNKR				eS	Sn	03 35 40.3	-3.3
MNKR				AML	AML	03 35 53.4	
	comp=Z,36nm,0.5s						
MNKR	ALMNKUR	5.68	283	eP	Pn	03 34 37.8	-0.6
	SNR=125						
MNKR				eS	Sn	03 35 40.3	-3.3
	comp=Z,36nm,0.5s,SNR=125						
KSRV	Kasrt alli	5.88	282	eP	Pn	03 34 40.5	-0.7
KSRV				eS	Sn	03 35 43.8	-4.9
KSRV				AML	AML	03 36 32.5	
	comp=Z,30nm,0.5s						
ASF	Jabal al Asfar	8.14	253	Lg	Lg	03 37 34.0	
	comp=Z,0.8nm,0.3s,baz=202,slow=19,SNR=4.1						
MMAI	Mount Meron Ar	9.08	261	Pn	Pn	03 35 28.2	+3.1
	comp=Z,0.6nm,0.3s,baz=73,slow=18,SNR=4.8						
KBZ	Khabaz	9.18	345	Pn	Pn	03 35 28.1	+1.7
	comp=Z,0.0nm,0.3s,baz=144,slow=14,SNR=1.9						
EIL	Elat	10.77	244	Lg	Lg	03 39 02.4	
	comp=Z,0.3nm,0.3s,baz=62,slow=18,SNR=3.8						
AKTO	Aktyubinsk	17.81	26	P	Pn	03 37 21.0	-0.8
	comp=Z,0.2nm,0.3s,baz=205,slow=14,SNR=5.0						
AKASG	Malin Array Be	20.01	327	P	P	03 37 45.4	-1.2
	comp=Z,0.7nm,0.3s,baz=136,slow=9.7,SNR=6.7						
KOLS	Kolonicke sedl	22.50	316	eP	P	03 38 14.1	+0.6
CRVS	Cervenica-Dubn	22.95	315	eP	P	03 38 18.0	-0.3
VYHS	Vyhne	24.33	312	eP	P	03 38 35.2	+3.4
BVAR	Borovoye Array	25.00	36	P	P	03 38 48.4	+0.6
	comp=Z,0.8nm,0.5s,baz=224,slow=8.1,SNR=6.2						
FINES	FINESS Array B	29.49	340	P	P	03 39 15.7	-2.3
	comp=Z,0.4nm,0.4s,baz=148,slow=11,SNR=4.6						
MKAR	Makanchi Array	29.60	55	P	P	03 39 20.5	+1.3
	comp=Z,0.3nm,0.5s,baz=250,slow=8.1,SNR=5.4						

*CASC **26** 03:46:35.2±2.5, 15°.62N×92°.59W, h35km±145km, MD3.8*
*MEX **26** 03:46:39.6±0.7, 15°.24N×91°.79W, h47km±12km, MD4.1*
ISC 26 03:46:38.5±1.2, **15°.38N**±0°.05×**91°.85W**±0°.04, **h17km**±10km, **n14**, σ1°.53/19, **Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.61	220	iP	Pg	03 46 49.2	-1.5
THIG				eS	Sb	03 46 58.6	-0.6
CCIG	Comitan	0.94	343	eP	Pb	03 46 57.5	+1.1
CCIG				iS	Sg	03 47 10.5	+1.4
JAT	Jato	1.08	169	eP	Pn	03 47 01.1	+2.3
PCIG		1.36	284	eP	Pn	03 47 01.9	-0.7
PCIG				eS	Sn	03 47 19.2	-1.0
NBG	Las Nubes	1.66	118	eP	Pg	03 47 11.7	+1.4
MRL	Marmol	2.11	98	eP	Pg	03 47 18.4	-0.7
MRL				eS	Sg	03 47 48.4	+1.9
RBDL	Robledal	2.44	121	eP	Pg	03 47 24.1	-1.4
RBDL				eS	Sg	03 48 01.7	+4.5
RTR	El Retiro	2.59	124	eP	Pg	03 47 26.8	-1.6
SNJE	San Jose	2.64	124	eP	Pg	03 47 27.4	-1.9
SBLS	San Blas	2.65	125	eP	Pg	03 47 26.9	-2.4
CMIG	Matias Romero	3.37	301	eP	Pn	03 47 31.4	+1.0
CMIG				iS	Sn	03 48 10.3	+0.3
HUIG	Huatulco	4.12	276	eP	Pn	03 47 41.0	+0.3
HUIG				iS	Sn	03 48 27.2	-1.3
VHO	Vista Hermosa	4.98	290	iP	Pn	03 47 52.2	-0.5
VHO				iS	Sn	03 48 49.8	-0.2
TEIG	Tepich	5.90	35	iP	Pn	03 48 04.6	-0.6
TEIG				iS	Sn	03 49 11.1	-1.4

*ISCJB **26** 03:53:19.5±0.5, 37°.20N±0°.04×71°.76E±0°.08, h130km, mb3.8/8, Error ellipse: s-maj=9.3km s-min=4.4km az=155.4*
*IDC **26** 03:53:23.7±4.0, 37°.33N×72°.32E, h178km±29km, mb3.5/8, mb1 3.5/12, mb1mx3.2/57, mbtmp4.0/12, MS3.1/1, Ms1 3.1/1, ms1mx2.3/28, Error ellipse: s-maj=38.8km s-min=22.1km az=154.0*
*NNC **26** 03:53:28.9±3.5, 37°.73N×72°.06E, h179km±46km, mb3.2, mpv4.1, Error ellipse: s-maj=34.0km s-min=19.0km az=5.0*
ISC 26 03:53:21.4±0.8, **37°.32N**±0°.06×**71°.91E**±0°.09, **h130km**, **n47**, σ1°.76/43, **mb3.8**/8, **8C-4D**, **Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.49	180	⇑P	Pn	03 54 24.1	+10
CEP				S	Sn	03 55 08.0	+12
CHCP	Chirah Chowk	3.82	163	⇑P	Pn	03 54 27.9	+9.1
AML	Almayashu	5.00	15	P	Pn	03 54 37.8	+3.1
	SNR=253						
UCH	Uchtor	5.29	21	P	Pn	03 54 41.5	+2.8
	SNR=52						
KZA	Kyzart	5.40	27	P	Pn	03 54 42.1	+1.9
	SNR=10						
SARP	Sargodha	5.42	173	⇑P	Pn	03 54 46.8	+6.7
EKS2	Erkin-Say	5.52	14	P	Pn	03 54 44.5	+3.0
	SNR=91						
AAK	Ala-Archa	5.66	20	⇓P	Pn	03 54 46.4	+2.9
	20nm,0.5s						
AAK				⇓S	Sn	03 55 47.6	+0.2
	15nm,0.5s						
AAK	Ala-Archa	5.66	20	P	Pn	03 54 46.4	+3.0
	SNR=55						
AAK	Ala-Archa	5.66	20	P	Pn	03 54 46.5	+3.0
	9.2nm,0.3s,baz=162,slow=5.9,SNR=123						
AAK				S	Sn	03 55 47.3	-0.2
	5.0nm,0.3s,baz=131,slow=23,SNR=13						
KBK	Karagaybulak	5.81	23	P	Pn	03 54 48.8	+3.3
	SNR=11						
DLH	Dalhousie	5.82	144	eP	Pn	03 54 52.0	+6.4
DLH				eS	Sn	03 55 55.0	+3.7
KK31	Karatay Array	5.87	350	⇓P	Pn	03 54 49.9	+3.8
	5.0nm,0.3s,baz=164,slow=12,SNR=130						
KK31				⇑S	Sn	03 55 53.1	+0.8
	5.3nm,0.3s,baz=170,slow=22,SNR=7.6						
ULHL	Ulahol	5.94	33	P	Pn	03 54 48.9	+1.7
	SNR=8.7						
CHMS	Chumysh	6.07	20	P	Pn	03 54 51.1	+2.3
	SNR=10						
USP	Ospenovka	6.26	18	P	Pn	03 54 53.2	+1.9
	SNR=16						
TKM2	Tokmak 2	6.26	26	⇓P	Pn	03 54 53.5	+1.9
	13nm,0.8s						
TKM2				⇑S	Sn	03 56 00.6	-1.4
	3.6nm,0.5s						
TKM2	Tokmak 2	6.26	26	P	Pn	03 54 53.6	+2.1
	SNR=23						
MKAR	Makanchi Array	12.20	36	P	Pn	03 56 09.8	-0.9
	0.0nm,0.3s,baz=226,slow=12,SNR=2.1						
DANN	Dangsing	13.38	129	eP	Pn	03 56 25.2	-1.2
	14nm,0.3s						
KOLN	Koldanda	13.70	131	eP	Pn	03 56 30.2	-0.2
	13nm,0.3s						
GKN	Gorkha	14.17	127	eP	Pn	03 56 36.0	-0.5
	77nm,0.4s						
KKN	Kakani	14.73	126	eP	Pn	03 56 43.0	-0.5
	22nm,0.5s						
DMN	Daman	14.75	127	eP	Pn	03 56 43.3	-0.5
	34nm,0.6s						
AB31	Akbulak array	14.75	328	⇑P	Pn	03 56 44.7	+1.3
	2.1nm,0.5s,baz=158,slow=11,SNR=11						
PKIN	Phulchoki	14.95	127	eP	Pn	03 56 45.5	-0.9
	14nm,0.4s						
PKI	Pulchoki	14.96	127	eP	Pn	03 56 45.7	-0.9
	9.3nm,0.3s						
GUN	Gumba	15.04	125	eP	Pn	03 56 46.3	-1.2
	13nm,0.3s						
JIRN	Jiri	15.41	125	eP	Pn	03 56 51.3	-0.9
	36nm,0.4s						
BVA0	Borovoye Array	15.74	357	⇑P	Pn	03 56 55.7	0.0
	3.1nm,0.8s,baz=158,slow=13,SNR=11						
BVAR	Borovoye Array	15.74	357	P	Pn	03 56 54.7	-1.0
	0.3nm,0.3s,baz=161,slow=14,SNR=10						
RAMN	Ramite	16.16	126	eP	Pn	03 56 59.6	-1.7
	31nm,0.5s						
AKTO	Aktyubinsk	16.46	327	⇑P	P	03 57 06.8	+1.9
	2.9nm,0.7s						
AKTO	Aktyubinsk	16.46	327	P	P	03 57 05.9	+1.0
	0.3nm,0.3s,baz=125,slow=12,SNR=12						
TAPN	Taplejung	16.63	122	eP	Pn	03 57 05.8	-1.3
	7.1nm,0.3s						
ODAN	Odare	16.74	124	eP	Pn	03 57 07.1	-1.3
	25nm,0.7s						
ZALV	Zalesovo Beam	18.87	24	P	P	03 57 29.2	-2.0
	0.5nm,0.3s,baz=221,slow=8.5,SNR=8.2						
OBN	Obninsk	29.80	318	LR	LR	04 11 58.2	
	comp=Z,38nm,19.6s,baz=91,slow=37						
FINES	FINESS Array B	37.22	325	P	P	04 00 19.2	-0.6
	0.6nm,0.3s,baz=121,slow=10,SNR=9.1						
ARCES	ARCESS Array B	40.67	337	P	P	04 00 47.4	-1.0
	4.3nm,0.8s,baz=112,slow=8.9,SNR=9.1						
HFS	Hagfors	42.88	321	P	P	04 01 05.6	-0.8
	2.1nm,0.4s,baz=107,slow=9.9,SNR=22						
NB2	NORSAR Subarra	44.17	322	P	P	04 01 15.5	-1.3
	comp=Z,1.0nm,0.5s,baz=92,slow=7.9						
NOA	NORSAR Array B	44.17	322	P	P	04 01 15.8	-1.0
	comp=Z,1.2nm,0.5s,baz=93,slow=7.6,SNR=6.6						
ESDC	Sonseca Array	57.72	298	P	P	04 02 57.7	-0.8
	comp=Z,0.3nm,0.4s,baz=48,slow=7.3,SNR=3.8						
TORD	Torodi Ar. Bea	66.47	269	P	P	04 03 55.9	-1.2
	comp=Z,1.3nm,0.4s,baz=47,slow=5.7,SNR=77						
ILAR	Eielson Array	73.79	16	P	P	04 04 36.9	-4.1
	comp=Z,0.6nm,1.1s,baz=308,slow=4.4,SNR=4.3						
YKA	Yellowknife Ar	80.39	3	P	P	04 05 14.6	-3.2
	comp=Z,0.6nm,0.4s,baz=350,slow=5.5,SNR=21						

ZUR 26 03:53:58.5, 47°.58N×7°.61E, h5km±1km, ML0.6, 1C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	Balsthal	0.25	167	⇓iPg	Pg	03 54 03.8	+0.3
	27nm,0.3s						
BALST				eSg	Sg	03 54 07.5	+0.6
	27nm,0.3s						
BOURR	Bourrignon	0.32	234	⇑iPg	Pg	03 54 04.9	+0.1
	8.9nm,1.0s						

*ISCJB **26** 03:59:32.3±1.2, 17°.4S±0°.1×69°.5W±0°.2, h152km, mb3.7/4, Error ellipse: s-maj=26.0km s-min=11.9km az=33.0*
*IDC **26** 03:59:34.4±1.8, 17°.33S×69°.36W, h159km±11km, mb3.5/5, mb1 3.5/7, mb1mx3.3/36, mbtmp4.0/7, Error ellipse: s-maj=32.7km s-min=20.5km az=115.0*
ISC 26 03:59:33.6±1.2, **17°.4S**±0°.1×**69°.4W**±0°.2, **h152km**, **n8**, σ0°.96/9, **mb3.9**/4, **Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.65	48	P	Pn	04 00 07.1	+1.4
	8.8nm,0.3s,baz=270,slow=3.0,SNR=249						
LPAZ				S	Sn	04 00 30.1	+0.1
	16nm,0.3s,baz=66,slow=12,SNR=27						
SIV	San Ignacio	8.10	81	P	Pn	04 01 28.7	+0.1
	12nm,0.3s,baz=282,slow=11,SNR=102						
CFAA	Coronel Fontan	14.17	176	P	Pn	04 02 47.6	0.0
	0.1nm,0.3s,baz=354,slow=14,SNR=5.9						
BDFB	Brasilia	20.58	88	P	P	04 03 59.9	-1.0
	2.3nm,0.5s,baz=250,slow=10,SNR=6.1						
PLCA	Paso Flores	23.26	182	P	P	04 04 28.7	+1.1
	2.9nm,0.8s,baz=360,slow=12,SNR=7.4						
DBIC	Dimbokro	68.08	75	P	P	04 10 17.5	+0.1
	1.8nm,0.5s,baz=229,slow=6.6,SNR=7.0						
TORD	Torodi Ar. Bea	76.46	71	P	P	04 11 07.0	-0.1
	2.0nm,0.7s,baz=256,slow=5.3,SNR=19						
YKA	Yellowknife Ar	87.19	341	P	P	04 12 01.1	-1.1
	0.1nm,0.4s,baz=134,slow=5.0,SNR=5.0						

*IDC **26** 03:59:36.9±0.5, 41°.06S×44°.50E, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.1/37, mbtmp4.2/16, MS3.7/13, Ms1 3.8/13, ms1mx3.5/32, Error ellipse: s-maj=18.9km s-min=16.8km az=83.0*
*ISCJB **26** 03:59:37.5±0.3, 41°.06S±0°.07×44°.40E±0°.09, h12km, mb4.4/34, MS3.7/12, Error ellipse: s-maj=10.8km s-min=9.6km az=27.9*
*NEIC **26** 03:59:38.6±0.2, 41°.05S×44°.46E, h10km, mb4.6/26, Error ellipse: s-maj=7.5km s-min=7.0km az=20.0*
ISC 26 03:59:38.9±0.4, **41°.04S**±0°.09×**44°.43E**±0°.09, **h12km**, **n174**, σ0°.76/170, **mb4.4**/34, **MS3.8**/12, **48C-41D**, **Crozet Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	19.99	302	P	P	04 04 11.4	+0.1
	4.8nm,1.0s,baz=170,slow=8.7,SNR=3.4						
BOSA				LR	LR	04 10 28.5	
	comp=Z,308nm,21.0s,baz=143,slow=32						
SUR	Sutherland	20.77	287	LR	LR	04 10 36.0	
	comp=Z,173nm,18.6s,baz=103,slow=32						
SUR	Sutherland	20.77	287	eP	Pn	04 04 21.9	-0.5
	50nm,1.4s						
LBTB	Lobatse	22.39	310	P	P	04 04 37.5	+0.2
	6.7nm,0.8s,baz=154,slow=14,SNR=4.9						
LBTB				LR	LR	04 12 04.1	
	comp=Z,259nm,20.1s,baz=142,slow=33						
LBTB	Lobatse	22.39	310	eP	P	04 04 37.2	-0.2
	74nm,1.7s						
OPO	Ambohidratompo	22.52	7	P	P	04 04 38.7	-0.1
	4.2nm,0.9s,baz=186,slow=5.7,SNR=4.9						
OPO				LR	LR	04 10 21.2	
	comp=Z,70nm,18.6s,baz=180,slow=29						
MAW	Mawson	28.46	165	LR	LR	04 14 51.3	
	comp=Z,209nm,18.7s,baz=29,slow=32						
LSZ	Lusaka	29.29	327	LR	LR	04 16 14.6	
	comp=Z,315nm,20.2s,baz=100,slow=34						
LSZ	Lusaka	29.29	327	eP	P	04 05 40.9	-0.5
	2.9nm,0.7s						
TSUM	Tsumeb	31.61	305	eP	P	04 06 00.6	-1.3
	5.0nm,0.9s						
SNAA	Sanae	38.48	202	P	P	04 06 59.4	-1.0
	1.5nm,0.8s,baz=83,slow=9.8,SNR=6.3						
SNAA	Sanae	38.48	202	eP	P	04 07 01.4	+1.0
	6.3nm,0.9s						
KMBO	Kilima Mbogo	40.26	349	LR	LR	04 21 23.6	
	comp=Z,84nm,21.5s,baz=104,slow=32						
KMBO	Kilima Mbogo	40.26	349	eP	P	04 07 16.2	+0.2
	1.0nm,0.7s						
QSPA	South Pole Qui	49.16	180	P	P	04 08 25.2	-1.2
	2.8nm,0.7s,baz=257,slow=2.7,SNR=16						
H01W2	Cape Leeuwin H	53.97	108	T	T	05 07 04.1	
	baz=242,slow=75,SNR=69						
H01W3	Cape Leeuwin H	53.98	108	T	T	05 07 04.9	
	baz=242,slow=75,SNR=78						
H01W1	Cape Leeuwin H	53.99	108	T	T	05 07 05.4	
	baz=242,slow=75,SNR=80						
VNDA	Vanda	55.76	166	LR	LR	04 31 18.0	
	comp=Z,90nm,19.5s,baz=272,slow=34						
DBIC	Dimbokro	65.50	304	LR	LR	04 35 27.2	
	comp=Z,68nm,21.9s,baz=118,slow=33						
DBIC	Dimbokro	65.50	304	eP	P	04 10 23.2	+1.0
	51nm,1.9s						
MBWA	Marble Bar	65.55	97	eP	P	04 10 22.2	-0.4
	8.5nm,1.0s						
TOA0	Torodi Ar. Sit	66.84	314	eP	P	04 10 31.2	+0.5
TORD	Torodi Ar. Bea	66.84	314	P	P	04 10 29.8	-0.9
	1.4nm,0.9s,baz=144,slow=5.5,SNR=6.6						
TORD				LR	LR	04 39 49.1	
	comp=Z,85nm,18.1s,baz=140,slow=36						
IPM	Ipoh	68.62	63	eP	P	04 10 42.2	+0.1
	15nm,1.2s						
KULM	Kulim	68.97	62	eP	P	04 10 44.6	+0.4
	19nm,1.3s						
TAM	Tamanrasset	73.07	323	eP	P	04 11 08.3	-0.7
	4.7nm,1.3s						
STKA	Stephens Creek	74.72	119	P	P	04 11 18.9	+0.2
	6.6nm,0.8s,baz=237,slow=4.9,SNR=12						
STKA	Stephens Creek	74.72	119	eP	P	04 11 19.2	+0.5
	3.3nm,1.2s						
TRQA	Tornquist	76.54	231	eP	P	04 11 29.0	0.0
	5.4nm,0.8s						
WRA	Warramunga Arr	77.12	105	P	P	04 11 31.4	-1.1
	3.5nm,0.8s,baz=230,slow=4.8,SNR=14						
WRAB	Tennant Creek	77.13	105	eP	P	04 11 33.2	+0.6
	4.7nm,0.8s						
CMAR	Chiang Mai Arr	77.82	52	P	P	04 11 36.8	+0.5
	1.5nm,0.8s,baz=232,slow=7.0,SNR=9.1						
KBL	Kabul	78.55	21	eP	P	04 11 40.7	+0.5
	2.0nm,0.6s						
PLCA	Paso Flores	79.49	224	P	P	04 11 45.6	+0.2
	3.0nm,1.0s,baz=122,slow=8.1,SNR=4.7						
BR131	Keskin Array S	80.98	352	eP	P	04 11 53.0	-0.3
	0.6nm,0.6s						
BRTR	Keskin Array B	80.98	352	P	P	04 11 53.5	+0.3
	0.6nm,0.7s,baz=165,slow=5.1,SNR=4.1						
CPUP	Villa Florida	81.36	243	P	P	04 11 55.4	-0.2
	5.3nm,0.9s,baz=93,slow=5.6,SNR=7.3						
CPUP	Villa Florida	81.36	243	eP	P	04 11 55.9	+0.3
	0.7nm,0.9s						
BDFB	Brasilia	81.71	257	P	P	04 11 58.0	+0.2
	6.0nm,0.8s,baz=117,slow=5.6,SNR=9.3						
LSA	Lhasa	82.60	40	eP	P	04 12 03.2	+0.8
	13nm,1.3s						
KEST	Kesra	82.92	332	LR	LR	04 48 53.0	
	comp=Z,41nm,21.0s,baz=266,slow=36						
KKAR	Karatay Array	87.00	19	eP	P	04 12 25.2	+1.5
	2.3nm,0.9s						
EKS2	Erkin-Say	87.44	21	eP	P	04 12 26.4	+0.5
	1.1nm,0.7s						
AAK	Ala-Archa	87.61	22	eP	P	04 12 27.0	+0.2
MLR	Muntele Rosu	87.72	347	P	P	04 12 27.6	+0.4
	0.5nm,1.0s,baz=71,slow=3.9,SNR=3.6						
TKM2	Tokmak 2	88.19	22	eP	P	04 12 29.4	-0.3
	1.8nm,0.9s						
BUR08	Bucovina Ar. S	89.94	347	eP	P	04 12 39.2	+1.6
LVC	Limon Verde	91.54	238	eP	P	04 12 45.8	-0.3
	2.3nm,0.7s						
ESDC	Sonseca Array	91.62	325	LR	LR	04 54 36.7	
	comp=Z,63nm,20.3s,baz=325,slow=36						
BNI	Bardonecchia	92.14	334	eP	P	04 12 47.8	-0.2
	33nm,1.7s						
PMG	Port Moresby	93.34	105	eP	P	04 12 53.9	-0.2
	13nm,0.8s						
MKAR	Makanchi Array	93.72	25	P	P	04 12 55.0	0.0
	0.5nm,0.9s,baz=211,slow=3.8,SNR=3.8						
LPAZ	La Paz	95.53	243	P	P	04 13 06.5	+1.5
	0.9nm,0.8s,baz=107,slow=7.4,SNR=3.9						
LPAZ				LR	LR	04 50 51.3	
	comp=Z,20nm,18.4s,baz=359,slow=32						
SAML	Samuel	97.19	252	eP	P	04 13 08.3	-3.4
	1.0nm,0.5s						
ZALV	Zalesovo Beam	100.78	23	P	Pdif	04 13 25.9	-0.8
	0.7nm,0.6s,baz=225,slow=4.0,SNR=4.7						
RES	Resolute Bay	141.54	344	ePKPdf	PKPdf	04 19 08.2	-0.4
WCI	Wyandotte Cave	142.35	282	ePKPdf	PKPdf	04 19 09.2	-2.0
WVT	Waverly	142.73	278	ePKPdf	PKPdf	04 19 12.6	+0.7
340A	Bronson	145.31	267	⇓P	PKPdf	04 19 17.5	+1.0
	baz=145						
035Z	Hargill	145.88	257	⇑P	PKPab	04 19 19.3	+0.6
	baz=146						
HKT	Hockley	146.07	264	ePKPbc	PKPbc	04 19 18.5	-0.2
MIAR	Mount Ida	146.44	273	ePKPbc	PKPbc	04 19 19.9	+0.2
034A	Hebbronville	146.67	257	⇓P	PKPab	04 19 22.8	+1.0
	baz=147						
636A	Smothers Creek	146.76	262	⇓P	PKPab	04 19 21.6	-0.5
	baz=147						
934A	Benavides	146.85	258	⇓P	PKPbc	04 19 21.8	+0.7
	baz=147						
834A	Tilden	147.16	259	⇑P	PKPab	04 19 23.7	0.0
	baz=147						
635A	Leesville	147.25	261	⇓P	PKPbc	04 19 22.7	+0.5
	baz=147						
933A	Laredo	147.41	257	⇓P	PKPbc	04 19 22.7	0.0
	baz=148						
336A	Riesel	147.53	265	⇑P	PKPbc	04 19 23.3	+0.4
	baz=148						
734A	La Parita Cree	147.55	260	⇓P	PKPbc	04 19 24.1	+1.0
	baz=148						
435B	Jarrell	147.80	264	⇓P	PKPbc	04 19 24.3	+0.6
	baz=148						
833A	Chaparral WMA,	147.89	258	⇑P	PKPbc	04 19 25.3	+1.3
	baz=148						
733A	Divot King Ran	148.03	259	⇑P	PKPbc	04 19 25.1	+0.7
	baz=148						
534A	Blanco	148.10	262	⇓P	PKPbc	04 19 24.9	+0.3
	baz=148						
WHTX	Lake Whitney	148.27	266	⇓P	PKPbc	04 19 25.3	+0.4
	baz=148						
832A	Faith Ranch, C	148.30	258	⇑P	PKPbc	04 19 25.7	+0.6
	baz=148						
434A	Burnet	148.33	263	⇑P	PKPbc	04 19 25.1	-0.1
	baz=148						
633A	Saathoff Ranch	148.33	260	⇓P	PKPbc	04 19 26.1	+1.0
	baz=148						
135A	Vickery Place,	148.50	267	⇑P	PKPbc	04 19 25.6	+0.1
	baz=149						
732A	Laxson Ranch,	148.54	258	⇑P	PKPbc	04 19 25.8	+0.1
	baz=149						
533A	Kerrville	148.54	261	⇓P	PKPbc	04 19 25.8	+0.1
	baz=149						
334A	Lometa	148.56	264	⇓P	PKPbc	04 19 26.0	+0.3
	baz=149						
FCC	Fort Churchill	148.60	319	ePKPbc	PKPbc	04 19 24.8	-0.1
TUL1	Tulsa	148.64	274	⇑P	PKPbc	04 19 25.7	0.0
	baz=149						
Z35A	Perchaven, San	148.72	268	⇓P	PKPbc	04 19 26.9	+0.9
	baz=149						
234A	Clairette	148.79	265	⇓P	PKPbc	04 19 27.0	+0.7
	baz=149						
632A	Uvalde	148.81	260	⇑P	PKPbc	04 19 27.1	+0.7
	baz=149						
433A	Art	148.92	262	⇑P	PKPbc	04 19 26.9	+0.2
	baz=149						
333A	Richland Sprin	149.11	263	⇑P	PKPbc	04 19 27.1	-0.1
	baz=149						
532A	Rocksprings	149.22	261	⇑P	PKPbc	04 19 27.5	0.0
	baz=149,SNR=5.5						
Z34A	Collier Ranch,	149.23	268	⇑P	PKPbc	04 19 28.1	+0.7
	baz=149						
JCT	Junction City	149.31	261	ePKPbc	PKPbc	04 19 27.8	+0.1
JCT				ePKPab	PKPab	04 19 32.6	+0.2
JCT	Junction City	149.31	261	⇑P	PKPbc	04 19 28.1	+0.4
	baz=149						
631A	Perdido Creek	149.35	259	⇓P	PKPbc	04 19 28.0	+0.3
	baz=149						
Y34A	Reagan Ranch,	149.36	269	⇓P	PKPbc	04 19 27.7	+0.1
	baz=149						
233A	Rising Star	149.38	265	⇑P	PKPbc	04 19 27.8	+0.1
	baz=150						
133A	Hamilton Ranch	149.66	266	⇑P	PKPbc	04 19 28.9	+0.5
	baz=150						
X34A	Smith Ranch, M	149.68	270	⇓P	PKPbc	04 19 29.1	+0.7
	baz=150						
332A	Millersview	149.71	263	⇓P	PKPbc	04 19 28.8	+0.2
	baz=150						
531A	Rocksprings	149.71	260	⇑P	PKPbc	04 19 28.3	-0.4
	baz=150,SNR=6.6						
Z33A	Whitaker Ranch	149.84	267	⇓P	PKPbc	04 19 29.2	+0.4
	baz=150,SNR=6.1						
232A	Coleman	149.88	264	⇓P	PKPbc	04 19 29.4	+0.4
	baz=150,SNR=7.7						
W34A	Bridge Creek,	149.88	271	ePKPbc	PKPbc	04 19 29.7	+0.9
W34A	Bridge Creek,	149.88	271	⇑P	PKPbc	04 19 29.8	+0.9
	baz=150,SNR=7.9						
431A	Sonora	150.02	261	⇓P	PKPbc	04 19 29.4	0.0
	baz=150						
U34A	Anderson Ranch	150.14	274	⇑P	PKPbc	04 19 30.2	+0.8
	baz=150						
X33A	Lawton	150.16	270	⇑P	PKPbc	04 19 29.8	+0.2

baz=150
331A San Angelo 150.19 262 ⇑P PKPbc 04 19 30.2 +0.4
baz=150,SNR=5.8
ABTX Abilene, Hawle 150.21 265 ePKPbc PKPbc 04 19 30.2 +0.5
ABTX ePKPab PKPab 04 19 37.1 +1.1
ABTX Abilene, Hawle 150.21 265 ⇓P PKPbc 04 19 30.0 +0.3
baz=150
530A J-C Ranch, Com 150.29 259 ⇑P PKPbc 04 19 30.4 +0.4
baz=150,SNR=7.2
W33A Caddo, Fort Co 150.38 271 ⇓P PKPbc 04 19 31.6 +1.5
baz=150,SNR=5.1
Z32A Haskell 150.39 267 ⇓P PKPbc 04 19 30.5 +0.3
baz=150
231A Bronte 150.40 263 ⇓P PKPbc 04 19 30.2 0.0
baz=150,SNR=5.7
V33A Lossen Ranch, 150.49 272 ⇓P PKPbc 04 19 31.1 +0.8
baz=151
430A Baggett Ranch, 150.54 261 ⇑P PKPbc 04 19 31.2 +0.5
baz=151,SNR=6.8
U33A Lingo Farm, Me 150.58 273 ⇑P PKPbc 04 19 31.3 +0.8
baz=151
Y32A R-V Farms, Ver 150.65 268 ⇓P PKPbc 04 19 31.6 +0.9
baz=151,SNR=5.0
X32A Elmer 150.71 269 ⇓P PKPbc 04 19 31.4 +0.5
baz=151
131A Roby 150.79 265 ⇑P PKPbc 04 19 31.5 +0.3
baz=151
330A Mertzon 150.80 262 ⇓P PKPbc 04 19 32.1 +0.8
baz=151,SNR=14
Z31A Sharp Cattle R 150.89 266 ⇓P PKPbc 04 19 32.2 +0.8
baz=151,SNR=6.8
T33A Patterson Ranc 150.90 275 ⇑P PKPbc 04 19 31.8 +0.6
baz=151
529A Stev Forest Ra 150.94 259 ⇑P PKPbc 04 19 32.3 +0.7
baz=151,SNR=10
429A Davenport Ranc 150.95 260 ⇓P PKPbc 04 19 32.6 +0.9
baz=151,SNR=16
W32A Sentinel 150.95 270 ⇑P PKPbc 04 19 32.5 +1.1
baz=151
230A Sterling City 150.98 263 ⇑P PKPbc 04 19 32.7 +1.1
baz=151
V32A Arapaho 151.02 271 ⇑P PKPbc 04 19 32.5 +0.8
baz=151
ULM Lac du Bonnet 151.06 302 PKPbc PKPbc 04 19 31.1 -0.1
7.3nm,0.7s,baz=58,slow=3.2,SNR=13
ULM Lac du Bonnet 151.06 302 ePKPbc PKPbc 04 19 30.8 -0.4
R33A Olander Ranch, 151.09 277 ⇑P PKPbc 04 19 32.2 +0.5
baz=151
Q33A Connelly Farm, 151.17 278 ⇓P PKPbc 04 19 32.7 +0.9
baz=151
Y31A Rekieta Farm, 151.25 267 ⇑P PKPbc 04 19 33.2 +1.0
baz=151
ECSD EROS Data Cent 151.28 288 ⇑P PKPbc 04 19 32.2 +0.3
baz=151
X31A McDonald Ranch 151.31 269 ⇑P PKPbc 04 19 32.5 +0.2
baz=151
329A Wagon Wheel Ra 151.44 261 ⇓P PKPbc 04 19 32.1 -0.7
baz=152
T32A Huddler Ranch, 151.44 274 ⇓P PKPbc 04 19 33.3 +0.8
baz=152
W31A Holland Ranch, 151.50 270 ⇑P PKPbc 04 19 33.2 +0.4
baz=152
TXAR Lajitas Array 151.59 256 PKP PKPdf 04 19 28.2 +1.3
1.0nm,0.9s,baz=168,slow=7.7,SNR=6.1
TXAR PKPbc PKiKP 04 19 34.2 +0.5
6.8nm,0.8s,baz=131,slow=5.1,SNR=57
S32A Newby Ranch, P 151.62 275 ⇑P PKPbc 04 19 34.0 +1.0
baz=152
Z30A Sanderson Ranc 151.62 265 ⇑P PKPbc 04 19 33.1 0.0
baz=152
R32A Long Quarter, 151.67 277 ⇑P PKPbc 04 19 34.1 +1.1
baz=152
P32A Huiting Farm, 151.92 279 ⇓P PKPbc 04 19 34.7 +1.1
baz=152
X30A Coker Ranch, T 151.92 268 ⇑P PKPbc 04 19 33.8 +0.1
baz=152
S31A Mullinville 152.01 275 ⇓P PKPbc 04 19 34.5 +0.6
baz=152
R31A Burdett 152.24 276 ⇑P PKPbc 04 19 35.0 +0.6
baz=152
Q31A Ellis 152.35 278 ⇑P PKPbc 04 19 35.9 +1.3
baz=152
U30A WK&E Inc. Balk 152.53 272 ⇑P PKPbc 04 19 36.2 +1.2
baz=153
X29A Tulia 152.54 267 ⇓P PKPbc 04 19 36.1 +0.9
baz=153
AMTX Amarillo 152.70 268 ePKPbc PKPbc 04 19 35.4 -0.2
AMTX Amarillo 152.70 268 ⇑P PKPbc 04 19 36.3 +0.8
baz=153
R30A Dighton 152.80 276 ⇑P PKPbc 04 19 36.6 +1.0
baz=153
X28A Dimmitt 152.95 267 ⇑P PKPbc 04 19 38.4 +2.3
baz=153
Q30A Quinter 152.96 277 ⇓P PKPbc 04 19 36.8 +0.9
baz=153
IM04 Indian Mountai 152.99 16 ePKPbc PKPbc 04 19 35.2 +0.1
MSTX Muleshoe 153.15 265 ePKPbc PKPbc 04 19 36.0 -0.6
MSTX ePKPab PKPab 04 19 49.2 +0.9
Y27A Causey 153.41 265 ⇑P PKPbc 04 19 37.8 +0.6
baz=154
U28A Mallet 153.66 271 ⇑P PKPbc 04 19 38.0 +0.3
baz=154
S28A Manter 153.82 274 ⇑P PKPbc 04 19 38.6 +0.7
baz=154
MNTX Cornudas Mount 154.07 259 ePKPbc PKPbc 04 19 37.6 -0.9
MNTX ePKPab PKPab 04 19 52.5 +0.3
COLA College 155.10 12 ePKPbc PKPbc 04 19 39.0
YKA Yellowknife Ar 155.13 337 PKP PKPdf 04 19 29.6 -1.2
0.4nm,0.8s,baz=40,slow=1.6,SNR=6.5
YKA PKPbc PKPbc 04 19 37.4
0.8nm,0.7s,baz=23,slow=2.0,SNR=12
YKA PKPab PKPab 04 19 54.0 -1.6
0.4nm,0.6s,baz=35,slow=4.8,SNR=7.3
ILAR Eielson Array 155.35 12 PKP PKPdf 04 19 30.6 -0.6
0.4nm,1.0s,baz=226,slow=4.9,SNR=3.2
ILAR PKPbc PKPbc 04 19 39.2
0.4nm,0.7s,baz=316,slow=3.3,SNR=6.5
ILAR PKPab PKPab 04 19 55.4 -1.1
0.5nm,0.9s,baz=324,slow=4.8,SNR=4.1
ANMO Albuquerque 156.33 265 ePKPdf PKPdf 04 19 33.8 +0.1
SDCO Great Sand Dun 156.59 272 ePKPab PKPab 04 20 04.4 +1.3
RSSD Black Hills 156.65 288 ePKPdf PKPdf 04 19 34.4 +0.6
RSSD ePKPab PKPab 04 20 03.6 +0.5
TUC Tucson 158.35 254 ePKPdf PKPdf 04 19 35.0 -1.1
TUC ePKPab PKPab 04 20 11.5 +0.9
BW06 Boulder Array 160.58 284 ePKPdf PKPdf 04 19 38.2 -0.3
PDAR Pinedale Array 160.58 284 PKP PKPdf 04 19 36.8 -1.8
0.9nm,0.9s,baz=137,slow=3.3,SNR=5.1
DUG Dugway 162.71 275 ePKPab PKPab 04 20 29.1 -0.4
HLID Hailey 164.15 286 ePKPdf PKPdf 04 19 40.9 -1.1
HLID ePKPab PKPab 04 20 36.7 +0.9
NEW Newport 165.04 305 ePKPab PKPab 04 20 38.3 -1.0
NVAR Mina Array Bea 166.46 265 PKPab PKPab 04 20 47.5 +1.3
0.8nm,0.7s,baz=127,slow=4.4,SNR=4.3

PRU 26 04:20:20.4, 50°19N×19°27E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.34	85	ePg	Pg	04 20 26.9	-0.1
OJC				eSg	Sg	04 20 31.6	+0.2
OKC	Ostrava-Krasne	0.81	244	ePG	Pg	04 20 36.2	+0.3
OKC				eSG	Sg	04 20 46.0	-0.3
	4.3nm,0.7s						
DPC	Dobruska-Polom	1.90	276	ePG	Pb	04 20 55.8	-0.2
DPC				eSG	Sb	04 21 20.6	+0.3

MOS 26 04:41:23.5±0.9, 0°.96N×123°.17E, h35km, mb5.2/16, Error ellipse: s-maj=17.4km s-min=8.9km az=116.3
BJI 26 04:41:25.5, 0°.47N×123°.30E, h67km, mB5.1/9, mb5.0/18, Ms4.5/14, Ms7 4.3/9
IDC 26 04:41:25.6±0.8, 0°.95N×123°.18E, h36km±6km, mb4.6/11, mb1 4.7/12, mb1mx4.4/27, mbtmp4.8/12, ML4.4/1, MS3.7/8, Ms1 3.7/8, ms1mx3.4/27, Error ellipse: s-maj=21.7km s-min=13.5km az=70.0
ISCJB 26 04:41:27.1±0.4, 0°.92N±0°.02×123°.23E±0°.02, h65km±4km, mb4.8/55, Error ellipse: s-maj=4.5km s-min=3.8km az=137.0
KLM 26 04:41:27.8, 0°.89N×123°.30E, h72km, mb5.0, MS6.0
NEIC 26 04:41:29.0±0.6, 0°.89N×123°.18E, h70km±5km, mb5.0/24, Error ellipse: s-maj=6.7km s-min=4.8km az=60.0
NEIC Felt [IV] at Gorontalo.

DJA 26 04:41:29.3±0.2, 1°N±3°×12°3E±°, h51km±3km, M5.1/46, mB5.5/26, mb5.2/46, MLv5.4/26, Mw(mB)5.0/26
ISC 26 04:41:29.3±0.3, 0°.87N±0°.03×123°.22E±0°.05, h69km±2km, n182, σ1°.46/204, mb4.9/55, 10C-5D, Minahassa Peninsula, Sulawesi

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KMSI Cibinong 0.81 111 P Pn 04 41 43.7 -1.7
KMSI S Pn 04 41 43.7 -1.7
MRSI Marisa 1.34 253 P Pn 04 41 49.0 -3.1
LUWI Luwuk 1.95 193 P Pn 04 41 59.4 -0.9
LUWI Luwuk 1.95 193 ePn Pn 04 41 59.4 -0.9
LUWI eSn Sn 04 42 23.0 -0.9
LUWI Luwuk 1.95 193 ⇑P Pn 04 41 59.3 -0.9
baz=1.9,SNR=832
APSI Ampana 2.37 222 P Pn 04 42 05.0 -0.9
TOLI Toli-Toli 2.44 276 ePn Pn 04 42 06.8 0.0
TOLI eSn Sn 04 42 34.3 -1.4
MPSI Mapaga 3.37 261 P Pn 04 42 20.0 +0.5
SGSI Sangihe 3.62 39 P Pn 04 42 19.3 -3.7
PCI Palu 3.82 242 P Pn 04 42 27.5 +1.9
SANI Sanana 4.01 136 P Pn 04 42 27.6 -0.6
TNTI Ternate 4.15 91 P Pn 04 42 33.2 +3.1
TNTI Ternate 4.15 91 ePn Pn 04 42 29.8 -0.3
LBMI Labuha 4.53 109 P Pn 04 42 34.6 -0.8
TTSI Tana Toraja 5.17 221 P Pn 04 42 44.7 +0.6
2μm,0.8s,13μm5.0nm
GSPH General Santos 5.46 18 eP Pn 04 42 46.0 -2.2
NLAI Namlea 5.63 136 P Pn 04 42 50.8 +0.4
462nm,0.4s,7μm4.1nm
SGKI Sangatta, Kali 5.79 256 P Pn 04 42 50.9 -1.7
197nm,0.9s,2μm1.3nm
SPSI Sidrap Palu 5.91 216 P Pn 04 42 54.2 -0.1
519nm,0.8s,4μm1.7nm
BNSI Bone 6.09 211 P Pn 04 42 57.6 +0.8
1μm,0.9s,7μm3.1nm
BNSI S Pn 04 42 57.6 +0.8
1μm,0.9s,7μm3.1nm
BBSI Bau Bau 6.35 186 P Pn 04 43 02.6 +2.3
622nm,0.8s,5μm2.8nm
DAV Davao City (W) 6.59 21 ePn Pn 04 43 04.2 +0.6
BKB Balikpapan 6.67 252 P Pn 04 43 05.3 +0.6
262nm,0.7s,3μm1.0nm
KAPI Kappang 6.80 211 Pn Pn 04 43 07.0 +0.6
2μm,1.0s,SNR=34
KAPI Kappang 6.80 211 ePn Pn 04 43 06.5 +0.1
KAPI eSn Sn 04 44 22.8 +0.4
BKSI Bulukumba 6.89 207 P Pn 04 43 08.5 +0.9
192nm,0.8s,2μm1.5nm
MSAI Masohi 7.08 126 P Pn 04 43 12.1 +1.9
152nm,0.8s,2μm0.5nm
BSSI Bau Bau, Buton 7.48 201 P Pn 04 43 17.5 +1.7
410nm,1.0s,5μm1.9nm
SDKM Sandakan 7.66 308 ⇓P Pn 04 43 15.1 -3.2
SWI Sorong 8.22 102 P Pn 04 43 25.7 -0.2
74nm,0.7s
SWI Sorong 8.22 102 ⇓P Pn 04 43 26.1 +0.2
baz=8.3,SNR=3.6
KKM Kota Kinabalu 8.68 306 ePn Pn 04 43 29.6 -2.6
KKM Kota Kinabalu 8.68 306 ⇑P Pn 04 43 29.6 -2.6
baz=8.7,SNR=31
KKM Kota Kinabalu 8.68 306 ⇑P Pn 04 43 29.9 -2.3
KDM Kudat 8.76 313 ⇑P Pn 04 43 32.3 -0.9
BBKI Banjar Baru 9.42 243 P Pn 04 43 44.1 +1.8
85nm,0.7s,2μm
MMRI Maumere 9.49 186 P Pn 04 43 45.9 +2.6
133nm,1.1s
MMRI Maumere 9.49 186 ePn Pn 04 43 44.6 +1.3
FAKI Fak Fak 9.78 113 P Pn 04 43 45.6 -1.6
68nm,1.0s
FAKI Fak Fak 9.78 113 ⇑P Pn 04 43 45.3 -1.9
baz=9.9,SNR=8.8
BTM Bintulu 10.39 283 ⇑P Pn 04 43 54.7 -0.9
SOEI Soe 10.61 174 ePn Pn 04 43 59.9 +1.2
127nm,0.8s
BATI Baumata 11.01 178 Pn Pn 04 44 03.1 -1.0
2.9nm,0.3s,baz=336,slow=20,SNR=2.1
BATI LR LR 04 48 23.5
comp=Z,1μm,21.4s,baz=306,slow=38
SBUM Sibu 11.11 278 ePn Pn 04 44 03.8 -1.6
SBUM Sibu 11.11 278 ⇓P Pn 04 44 04.3 -1.0
STKI Sintang 11.77 266 P Pn 04 44 23.3 +8.9
SRBI Singaraja 11.95 222 P Pn 04 44 29.5 +13
KMMI Kalianget 12.13 229 P P 04 44 30.9 +1.4
IGBI Denpasar 12.55 220 P P 04 44 35.4 +1.3
KSM Kuching 12.92 273 ePn Pn 04 44 30.3 +0.1
19nm,0.7s
JAGI Jajag, Banyuwa 12.96 224 P P 04 44 36.4 -2.2
169nm,0.7s,2μm
I39PW PALAU INFRASON13.09 59 i 06 10 50.0
baz=240,slow=301,SNR=0.3
GRJI Gresik 13.22 234 P P 04 44 49.3 +7.8
GMJI Gumukmas 13.32 227 P P 04 44 44.3 +1.6
PWJI Pagerwojo 14.41 232 P P 04 44 54.4 -0.4
42nm,1.1s
MTN Manton Dam 15.72 150 P P 04 45 07.1 +0.4
baz=16,SNR=32
TPI Tanjungpandan 15.97 257 P P 04 45 24.0 +12
KDU Kakadu 16.30 146 P Pn 04 45 13.5 -0.5
baz=16,SNR=17
KPJI Karang Pucung 16.42 240 P P 04 45 16.4 -0.7
109nm,0.9s,2μm
KNRA Kununurra 17.33 162 P P 04 45 28.0 +0.8
baz=17,SNR=22
CISI Cisompet, Garu 17.50 241 ePn Pn 04 45 27.0 -1.9
97nm,0.9s
CBJI Citeko 17.88 246 P P 04 45 32.9 -0.3
579nm,0.3s,27μm
CNJI Cibinong 17.99 243 P P 04 45 46.9 +12
CGJI Cibinong 19.01 247 P Pn 04 45 50.8 +3.7
51nm,0.7s,1μm
MYKOM Kota Tinggi 19.39 273 ⇑P P 04 45 50.2 +0.4
KASI Kota Agung 19.75 251 P Pn 04 45 56.7 +0.9
47nm,0.8s
MDSI Maura Dua 19.76 254 P P 04 45 53.1 -0.8
32nm,0.9s
KGM Kluang 19.93 273 ⇓P P 04 45 56.0 +0.2
KTGM Kuala Trenggan 20.54 283 ⇓P P 04 46 02.6 +0.3
MASI Maura Aman, Be 21.35 259 P P 04 46 16.8 +5.7
175nm,1.2s,5μm
MBWA Marble Bar 22.16 189 eP P 04 46 18.2 -1.5
23nm,0.8s
MBWA eSn Sn 04 50 30.1 -4.9
QIZ Qiongzhong 22.31 325 P P 04 46 20.3 -1.0
QIZ S S 04 50 24.3 +1.8
QIZ sS sS 04 50 48.8 +1.5
QIZ pmax pmax
comp=Z,17nm,1.2s
TPUB Ta-pu 22.44 354 eP P 04 46 21.9 -0.7
40nm,0.8s
IPM Ipoh 22.46 280 eP P 04 46 24.6 +1.6
44nm,0.8s
PDSI Padang 22.83 266 P P 04 46 26.1 -0.8
41nm,1.0s,4μm
SSLB Suanglung 22.89 355 eP P 04 46 27.4 0.0
41nm,0.9s
KULM Kulim 22.96 281 eP P 04 46 27.8 -0.3
70nm,1.4s
WRAB Tennant Creek 23.38 153 P P 04 46 31.0 -1.1
445nm,0.8s
WRAB Tennant Creek 23.38 153c iP P 04 46 31.2 -0.9
WRAB pmax pmax
comp=Z,120nm,0.9s
WRAB Tennant Creek 23.38 153 eP P 04 46 31.2 -0.9
comp=Z,48nm,0.7s
WRA Warramunga Arr 23.38 153 P P 04 46 31.2 -1.0
comp=Z,41nm,0.6s,baz=334,slow=9.9,SNR=122
MNSI Mandailing Nat 23.64 270 P P 04 46 34.7 +0.1
comp=Z,37nm,0.7s
PSI Prapat 24.36 275 P P 04 46 40.4 -0.9
comp=Z,24nm,0.7s,baz=97,slow=4.5,SNR=9.5
PSI Prapat 24.36 275 P P 04 46 40.9 -0.3
baz=24,SNR=4.9
COEN Coen 24.65 127 eP P 04 46 43.7 -0.1
COEN Coen 24.65 127 P P 04 46 43.6 -0.1
baz=25,SNR=32
TSI Tuntungan 24.77 276 P pP 04 46 58.1 -3.1
GIRL Giralia 24.96 200 P P 04 46 46.5 +0.1
baz=25,SNR=6.6
KCSI Kotacane, Aceh 25.57 276 P P 04 46 51.2 -0.9
comp=Z,78nm,1.2s,comp=Z,689nm
GSI Gunungsitoli 25.64 271 P P 04 46 51.6 -1.2
comp=Z,88nm,0.7s,comp=Z,2μm
GSI Gunungsitoli 25.64 271 eP P 04 46 51.0 -1.8
comp=Z,64nm,0.6s
PMG Port Moresby 25.93 114c iP P 04 46 55.6 +0.2
PMG pmax pmax
comp=Z,45nm,0.9s
PMG Port Moresby 25.93 114 P P 04 46 56.1 +0.7
comp=Z,51nm,0.7s,baz=268,slow=15,SNR=13
PMG Port Moresby 25.93 114 eP P 04 46 55.5 +0.1
comp=Z,41nm,0.8s
WRKA Warakurna 26.22 170 P P 04 46 57.3 -0.6
baz=26,SNR=40
QIS Mount Isa 26.66 144 P P 04 47 02.3 +0.4
baz=27,SNR=43
MEEK Meekatharra 27.71 189 P P 04 47 09.7 -1.5
baz=28,SNR=13
GYA Guiyang 30.02 329 P P 04 47 34.3 +2.4
GYA pP pP 04 47 50.3 +1.9
GYA sP sP 04 47 58.5 +2.0
GYA PP PnPn 04 48 34.0 +2.6
GYA S S 04 52 26.5 +1.2
GYA sS sS 04 52 54.8 +1.2
GYA ScS ScS 04 58 02.5 -2.4
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,610nm,16.4s
GYA LR LR
comp=Z,540nm,17.2s
GYA LR LR
comp=Z,510nm,16.0s
MORW Morawa 30.55 192 P P 04 47 35.2 -1.2
baz=31,SNR=6.4
KMI Kunming 31.19 322 P P 04 47 48.8 +6.5
KMI pmax pmax
comp=Z,18nm,1.1s
NJ2 Nanjing 31.29 353 eP P 04 47 43.0 +0.2
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
JCJ Chichijima 31.80 33 LR LR 05 02 02.9
comp=Z,63nm,19.8s,baz=126,slow=39
FORT Forrest 31.81 172 eP P 04 47 46.7 -0.7
comp=Z,76nm,0.6s
FORT Forrest 31.81 172 P P 04 47 46.9 -0.5
baz=32,SNR=31
BLDU Ballidu 31.92 191 P P 04 47 47.2 -1.2
baz=32,SNR=12
KLBR Kellerberrin 32.70 189 P P 04 47 54.0 -1.2
baz=33,SNR=10
QLP Quilpie 33.99 145 P P 04 48 07.2 +0.6
baz=34,SNR=10
NWAO Narrogin (SRO) 34.09 189 P P 04 48 06.0 -1.3
comp=Z,5.8nm,0.5s,baz=15,slow=4.7,SNR=6.1
CD2 Chengdu 35.12 330 eP P 04 48 17.8 +1.5
CD2 pP pP 04 48 34.3 +1.3
CD2 sP sP 04 48 42.3 +1.3
CD2 PP PP 04 49 38.5 +1.3
CD2 PcP PcP 04 50 47.8 +1.2
CD2 S S 04 53 45.5 +1.2
CD2 sS sS 04 54 13.8 +0.9
CD2 pmax pmax
comp=Z,180nm,5.4s
CD2 LR LR
comp=Z,200nm,21.5s
CD2 LR LR
comp=Z,260nm,20.1s
BBOO Buckleboo 35.63 161 eP P 04 48 20.0 -0.6
comp=Z,442nm,1.0s
BBOO Buckleboo 35.63 161 P P 04 48 20.4 -0.2
baz=36,SNR=14
STKA Stephens Creek 36.93 153 P P 04 48 32.1 +0.4
comp=Z,35nm,0.5s,baz=328,slow=8.1,SNR=68
STKA PcP PcP 04 50 52.1 +0.2
comp=Z,11nm,0.8s,baz=330,slow=4.4,SNR=3.2
STKA LR LR 05 05 41.4
comp=Z,126nm,18.5s,baz=10,slow=39
STKA Stephens Creek 36.93 153 P P 04 48 32.2 +0.4
baz=37,SNR=46
HTT Hallett 37.19 158 P P 04 48 34.5 +0.6
baz=37,SNR=64
MAJO Matsushiro 38.11 20 eP P 04 48 40.7 -1.0
MAJO pmax pmax
comp=Z,47nm,0.8s
MAT Matsushiro 38.11 20 P P 04 48 40.7 -1.0
MAT S S 04 54 26.2 -3.6
MJAR Matsushiro Arr 38.11 20 P P 04 48 40.1 -1.6
comp=Z,4.9nm,0.8s,baz=194,slow=9.4,SNR=13
CMSA Cobar Meteorol 38.64 148 P P 04 48 47.2 +1.1
baz=39,SNR=51
LZH Lanzhou 39.39 335 eP P 04 48 56.0 +3.5
LZH pP pP 04 49 09.0 -0.5
LZH sP sP 04 49 16.5 -0.9
LZH pmax pmax
comp=Z,25nm,1.0s
HHC Hu-ho-hao-te 41.17 347 eP P 04 49 10.3 +3.1
HHC PP PnPn 04 50 49.8 +1.4
HHC S S 04 55 19.8 +4.1
HHC SS SS 04 58 20.5 -0.6
HHC pmax pmax
comp=Z,47nm,1.2s
HHC pmax pmax
comp=Z,190nm,5.7s
HHC LR LR
comp=Z,220nm,15.5s
HHC LR LR
comp=Z,220nm,16.1s
ARMA Armidale 41.23 141 eP P 04 49 09.1 +1.4
comp=Z,16nm,0.6s
ARPS Mount Arapiles 41.25 157 P P 04 49 08.4 +0.7
baz=41,SNR=22
YNG Young 42.21 148 P P 04 49 17.1 +1.5
baz=42,SNR=15
CN2 Changchun 42.79 2 eP P 04 49 24.0 +3.9
CN2 eS S 04 55 44.0 +4.8
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,700nm,25.0s
CN2 LR LR
comp=Z,400nm,25.0s
CN2 LR LR
comp=Z,400nm,20.0s
CAN Canberra 43.31 149 eP P 04 49 25.7 +1.1
CAN pmax pmax
comp=Z,42nm,1.0s
CAN Canberra 43.31 149 eP P 04 49 25.7 +1.1
comp=Z,42nm,1.0s
TOO Toolangi 43.44 154 P P 04 49 27.1 +1.5
baz=44,SNR=5.4
CNB Canberra Magne 43.50 148 P P 04 49 27.5 +1.4
baz=44,SNR=5.6
USRK Ussuriysk Arra 43.84 9 P P 04 49 28.2 -0.4
comp=Z,3.0nm,0.9s,baz=184,slow=7.3,SNR=4.5
GTA Gaotai 43.91 334 eP P 04 49 32.3 +2.9
GTA pP pP 04 49 47.8 +1.2
GTA sP sP 04 49 55.0 +0.5
GTA S S 04 55 59.5 +3.5
GTA sS sS 04 56 25.8 +0.6
GTA SS SS 04 59 10.0 -4.9
GTA pmax pmax
comp=Z,6.0nm,1.9s
GTA pmax pmax
comp=Z,210nm,4.8s
GTA LR LR
comp=Z,130nm,16.9s
GTA LR LR
comp=Z,120nm,17.1s
MDJ Mudanjiang 43.92 7 P P 04 49 30.3 +1.0
MDJ pP pP 04 49 45.5 -0.9
MDJ sP sP 04 49 53.0 -1.3
MDJ PP PP 04 51 11.3 -1.5
MDJ S S 04 55 55.3 -0.5
MDJ pmax pmax
comp=Z,6.0nm,0.9s
MDJ pmax pmax
comp=Z,55nm,3.1s
MDJ LR LR
comp=Z,200nm,26.1s
MDJ LR LR
comp=Z,94nm,27.9s
ULN Ulaanbaatar 48.87 346 eP P 04 50 07.1 -1.0
ULN pmax pmax
comp=Z,11nm,0.9s
ULN Ulaanbaatar 48.87 346 eP P 04 50 07.1 -1.0
comp=Z,11nm,0.9s

WMQ Urumqi 53.17 328 eP P 04 50 42.5 +2.1
WMQ pP pP 04 50 58.3 +0.2
WMQ sP sP 04 51 05.3 -0.6
WMQ PcP PcP 04 51 50.0 +2.3
WMQ PP PP 04 52 44.5 +3.4
WMQ ScP ScP 04 55 41.0 +1.5
WMQ PcS PcS 04 55 47.5 +0.9
WMQ S S 04 58 06.5 +0.3
WMQ sS sS 04 58 33.8 -2.3
WMQ SS SS 05 01 45.8 -0.9
WMQ pmax pmax
comp=Z,17nm,0.8s
WMQ pmax pmax
comp=Z,160nm,5.8s
WMQ LR LR
comp=Z,97nm,19.2s
TLY Talaya 53.25 345 eP P 04 50 40.8 0.0
KSH Kashi 57.68 318 eP P 04 51 12.5 -0.5
KSH epP pP 04 51 27.5 -3.4
KSH eS S 04 59 00.5 -6.2
KSH pmax pmax
comp=Z,19nm,1.0s
KSH LR LR
comp=Z,150nm,5.8s
KSH LR LR
comp=Z,100nm,5.6s
MK31 Makanchi Array 58.00 328 eP P 04 51 14.9 0.0
MK31 Makanchi Array 58.00 328 eP P 04 51 14.9 0.0
MKAR Makanchi Array 58.00 328 P P 04 51 15.3 +0.4
comp=Z,7.6nm,0.6s,baz=122,slow=9.1,SNR=4.4
MKAR pP pP 04 51 25.8 -7.0
comp=Z,6.5nm,0.5s,baz=126,slow=8.4,SNR=4.5
MKAR LR LR 05 17 10.1
comp=Z,69nm,20.3s,baz=106,slow=37
TKM2 Tokmak 2 59.65 321 eP P 04 51 27.1 +0.4
TKM2 pmax pmax
comp=Z,8.0nm,0.6s
TKM2 Tokmak 2 59.65 321 eP P 04 51 27.1 +0.4
comp=Z,8.0nm,0.6s
KRAR Krasnoyarsk 60.19 341 eP P 04 51 29.9 +0.1
KRAR pmax pmax
comp=Z,27nm,0.9s
AAK Ala-Archa 60.20 320 eP P 04 51 29.3 -1.2
AAK pmax pmax
comp=Z,21nm,1.1s
AAK Ala-Archa 60.20 320 eP P 04 51 29.2 -1.2
comp=Z,20nm,1.1s
KBL Kabul 60.55 310 eP P 04 51 32.7 -0.4
KBL pmax pmax
comp=Z,67nm,1.0s
KBL Kabul 60.55 310 eP P 04 51 32.7 -0.4
comp=Z,67nm,1.0s
EKS2 Erkin-Say 60.68 320 eP P 04 51 31.7 -1.9
EKS2 pmax pmax
comp=Z,13nm,1.0s
EKS2 Erkin-Say 60.68 320 eP P 04 51 31.7 -1.9
comp=Z,13nm,1.0s
ZALV Zalesovo Beam 61.62 335 LR LR 05 19 28.3
comp=Z,74nm,20.6s,baz=68,slow=37
KURK Kurchatov 62.34 330 eP P 04 51 44.0 -0.5
KURK pmax pmax
comp=Z,15nm,0.6s
KURK Kurchatov 62.34 330 eP P 04 51 44.0 -0.5
comp=Z,16nm,0.6s
SEY Seymchan 65.61 14 eP P 04 52 04.8 -0.9
FX1 Attu Island--F 66.30 30 LR LR 05 21 30.4
comp=Z,19nm,18.9s,baz=259,slow=36
BRVK Borovoye 67.93 329 eP P 04 52 20.9 +0.2
BRVK pmax pmax
comp=Z,6.0nm,0.9s
BRVK Borovoye 67.93 329 eP P 04 52 20.6 -0.1
comp=Z,24nm,1.1s
GEYT Alibeck 70.00 310 P P 04 52 33.3 -0.6
comp=Z,3.4nm,0.5s,baz=76,slow=6.1,SNR=2.6
GEYT pP pP 04 52 44.5 -7.8
comp=Z,28nm,1.0s,baz=132,slow=4.4,SNR=7.9
GEYT LR LR 05 27 18.4
comp=Z,39nm,21.5s,baz=100,slow=39
TIXI Tiksi 70.76 2 eP P 04 52 38.0 +0.2
TIXI pmax pmax
comp=Z,15nm,1.2s
ABKAR Akbulak array 72.18 322 eP P 04 52 46.6 -0.1
AKTO Aktyubinsk 73.75 323 pP pP 04 53 05.7 -9.0
comp=Z,10nm,0.9s,baz=122,slow=8.9,SNR=4.3
GAMB Gambell 78.42 24 eP P 04 53 22.3 +0.1
comp=Z,2.2nm,1.1s
VNDA Vanda 81.07 172 P P 04 53 36.5 0.0
comp=Z,4.0nm,0.6s,baz=330,slow=6.1,SNR=7.2
VNDA LR LR 05 28 09.4
comp=Z,85nm,20.6s,baz=327,slow=34
PRGR Permogore 83.35 332 P P 04 53 47.3 -1.3
PRGR pmax pmax
comp=Z,50nm,0.9s
VSR Storozhevoye 85.59 321 eP P 04 53 58.4 -1.7
VSR pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 85.99 269 eP P 04 54 00.9 -2.3
KMBO pmax pmax
comp=Z,12nm,1.5s
KMBO Kilima Mbogo 85.99 269 eP P 04 54 00.9 -2.3
comp=Z,12nm,1.5s
ASF Jabal al Asfar 86.42 302 P P 04 54 04.0 -0.8
comp=Z,4.6nm,0.8s,baz=250,slow=2.4,SNR=3.6
MCK McKinley 88.27 26 eP P 04 54 11.6 -1.3
MCK pmax pmax
comp=Z,4.0nm,0.9s
MCK McKinley 88.27 26 eP P 04 54 11.6 -1.3
comp=Z,3.6nm,0.9s
SYO Syowa Base 88.52 201 ⇑eP P 04 54 23.4 +10
APA Apatity 89.13 337 eP P 04 54 22.4 +5.6
APA MLR MLR
comp=Z,700nm,24.0s
ILAR Eielson Array 89.17 25 P P 04 54 15.6 -1.6
comp=Z,0.3nm,0.5s,baz=242,slow=4.7,SNR=9.0
CSS Prodhromos 89.42 305 eP P 04 54 17.8 -1.2
comp=Z,5.5nm,1.0s
BUR08 Bucovina Ar. S 94.77 318 eP P 04 54 41.9 -1.7
LBTB Lobatse 97.28 245 eP Pdif 04 54 56.5 +1.0
LBTB pmax pmax
comp=Z,11nm,0.7s
LBTB Lobatse 97.28 245 eP Pdif 04 54 56.5 +1.0
comp=Z,11nm,0.7s
CLL Collm 101.84 323 eP Pdif 04 55 12.0 -3.1
CLL pmax pmax
comp=Z,15nm,1.6s
TORD Torodi Ar. Bea 120.39 286 PKP PKPdf 05 00 12.8 -1.0
comp=Z,2.1nm,0.7s,baz=60,slow=2.3,SNR=7.7
TORD pPKP pPKPdf 05 00 24.4 -9.3
comp=Z,2.9nm,0.7s,baz=57,slow=1.8,SNR=9.2
TXAR Lajitas Array 126.11 52 PKP PKPdf 05 00 24.2 -0.4
comp=Z,0.3nm,0.7s,baz=318,slow=1.7,SNR=4.1
CFAA Coronel Fontan 147.57 162 PKPbc PKPbc 05 01 06.8 +0.3
comp=Z,3.6nm,0.7s,baz=144,slow=5.9,SNR=62
CPUP Villa Florida 154.68 179 PKPbc PKPbc 05 01 23.8 +0.6
comp=Z,1.5nm,0.6s,baz=111,slow=1.9,SNR=7.3
CPUP PKPab PKPab 05 01 38.8 +0.7
comp=Z,3.3nm,0.7s,baz=212,slow=0.8,SNR=7.6
LPAZ La Paz 161.03 144 PKPab PKPab 05 02 08.6 +2.0
comp=Z,3.8nm,0.8s,baz=188,slow=3.7,SNR=9.5
BDFB Brasilia 162.96 210 PKPab PKPab 05 02 14.8 +0.5
comp=Z,7.0nm,0.8s,baz=154,slow=6.7,SNR=9.5

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*BJI **26** 04:42:28.0, 28°.40N×86°.80E, h10km, mB5.2/40, mb5.3/63, ML4.9/1, Ms4.5/59, Ms7 4.0/51*
*GCMT **26** 04:42:29.6±0.2, 28°.41N×86°.77E, h84km±2km, MW5.1/94, Moment Tensor Solution. s38,c45; s94,c158; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.88±.16; $M_{\theta\theta}$-2.26±.16; $M_{\phi\phi}$3.14±.15; $M_{r\theta}$-2.42±.10; $M_{\theta\phi}$-4.73±.15; $M_{\phi r}$-0.89±.10; Best double couple: $M_0$6.06800×10^{16} NP1:ϕ_s108.00000°,δ75.00000°,λ-158.00000°. NP2: ϕ_s12.00000°,δ69.00000°,λ-16.00000°. Principal axes: T 5.9190, Plg4.0000°, Azm239.0000°; N 0.3020, Plg64.0000°, Azm140.0000°; P -6.2160, Plg25.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*LDG **26** 04:42:30.3±0.3, 28°.85N×86°.37E, h10km, Mb5.6/44, Ms3.8/7 Error ellipse: s-maj=12.0km s-min=7.4km az=135.0*
*MOS **26** 04:42:32.3±0.8, 28°.44N×86°.66E, h40km, mb5.7/105, Error ellipse: s-maj=6.6km s-min=3.2km az=120.4*
*SZGRF **26** 04:42:33.4, 28°.29N×86°.83E, h33km, mb5.6, Xizang*
*ISCJB **26** 04:42:37.4±0.3, 28°.57N±0°.02×86°.77E±0°.02, h83km±2km, mb5.3/261, Error ellipse: s-maj=3.9km s-min=2.6km az=4.4*
*NDI **26** 04:42:37.4±2.7, 28°.41N×86°.73E, h33km, ML5.4, mb5.5(NEIC)*
*DMN **26** 04:42:37.6±0.0, 28°.63N×86°.78E, h60km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **26** 04:42:39.9±0.6, 28°.54N×86°.81E, h89km±4km, mb4.9/40, mb1 5.0/42, mb1mx4.9/52, mbtmp5.3/42, MS3.8/15, Ms1 3.8/15, ms1mx3.6/32, Error ellipse: s-maj=10.5km s-min=8.3km az=12.0*
*NEIC **26** 04:42:39.4±0.1, 28°.47N×86°.75E, mb5.4/129, Error ellipse: s-maj=3.2km s-min=2.8km az=221.0*
NEIC Felt [III] at Thimphu, Bhutan. Felt [II] at Damak and Kathmandu, Nepal. Also felt at Biratnagar, Itahari, Lalitpur and Pokhara. Felt at Ahmadpur, Gangtok, Guwahati, Madhipura, Patna and Shiliguri, India and at Dhaka, Bangladesh.
*BKK **26** 04:42:44.9±0.3, 29°N±11°×8°5E±1°0, h10km, M5.4/18, mB5.8/9, mb5.5/18, Mw(mB)5.4/9, Mwp5.9/1*
ISC 26 04:42:38.1±0.3, **28°.51N**±0°.03×**86°.78E**±0°.02, **h79**km±3km, **n806**, σ1§**32**/892, **mb5.5**/266, **44C-183D, Xizang**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
GUN Gumba 0.99 233 ePg Pn 04 42 58.4 +1.1
GUN eSg Sn 04 43 12.7 +1.1
103µm,0.5s
GUN Gumba 0.99 233 Pg Pn 04 42 58.4 +1.1
GUN Sg Sn 04 43 12.7 +1.1
JIRN Jiri 0.99 212 ePg Pn 04 42 58.7 +1.3
JIRN eSg Sn 04 43 13.1 +1.4
61µm,0.2s
JIRN Jiri 0.99 212 Pg Pn 04 42 58.7 +1.3
JIRN Sg Sn 04 43 13.1 +1.4
TAPN Taplejung 1.42 144 ePg Pn 04 43 03.7 +1.1
TAPN eSg Sn 04 43 22.8 +1.8
53µm,0.4s
TAPN Taplejung 1.42 144 Pg Pn 04 43 03.7 +1.1
TAPN Sg Sn 04 43 22.8 +1.8
KKN Kakani 1.50 242 ePg Pn 04 43 04.5 +0.9
KKN eSg Sn 04 43 24.0 +1.1
KKN Kakani 1.50 242 Pg Pn 04 43 04.5 +0.9
KKN Sg Sn 04 43 24.0 +1.1
PKI Pulchoki 1.53 233 ePg Pn 04 43 05.2 +1.2
PKI eSg Sn 04 43 25.1 +1.5
38µm,0.6s
PKI Pulchoki 1.53 233 Pg Pn 04 43 05.2 +1.2
PKI Sg Sn 04 43 25.1 +1.5
RAMN Ramite 1.56 186 ePg Pn 04 43 05.1 +0.7
RAMN eSg Sn 04 43 24.9 +0.7
85µm,0.3s
RAMN Ramite 1.56 186 Pg Pn 04 43 05.1 +0.7
RAMN Sg Sn 04 43 24.9 +0.7
DMN Daman 1.73 239 ePg Pn 04 43 07.6 +1.0
DMN eSg Sn 04 43 28.8 +0.6
26µm,0.7s
DMN Daman 1.73 239 Pg Pn 04 43 07.6 +1.0
DMN Sg Sn 04 43 28.8 +0.6
ODAN Odare 1.73 162 ePg Pn 04 43 07.9 +1.3
ODAN eSg Sn 04 43 29.1 +0.9
81µm,0.3s
ODAN Odare 1.73 162 Pg Pn 04 43 07.9 +1.3
ODAN Sg Sn 04 43 29.1 +0.9
GKN Gorkha 1.95 256 ePg Pn 04 43 09.3 -0.2
GKN eSg Sn 04 43 33.0 -0.4
GKN Gorkha 1.95 256 Pg Pn 04 43 09.3 -0.2
GKN Sg Sn 04 43 33.0 -0.4
DANN Dangsing 2.66 267 ePg Pn 04 43 18.1 -1.0
DANN eSg Sn 04 43 49.3 -1.3
18µm,0.5s
DANN Dangsing 2.66 267 Pg Pn 04 43 18.1 -1.0
DANN Sg Sn 04 43 49.3 -1.3
KOLN Koldanda 2.90 256 ePn Pn 04 43 21.3 -1.0
KOLN eSn Sn 04 43 54.3 -1.9
27µm,0.6s
PYUN Piuthan 3.36 264 eSn Sn 04 44 05.7 -1.8
LSA Lhasa 4.01 72 Pg Pn 04 43 39.0 +1.5
LSA Sn Sn 04 44 24.0 +0.4
LSA smax smax
comp=N,2µm,0.7s
LSA smax smax
comp=E,2µm,0.6s
LSA Lhasa 4.01 72 eP Pn 04 43 38.6 +1.0
LSA e 04 44 19.5
LSA Lhasa 4.01 72 ePn Pn 04 43 38.6 +1.0
LSA eSn Sn 04 44 19.5 -4.1
BOK Bokaro 4.76 190 eP Pn 04 43 47.1 -0.3
BOK eS Sn 04 44 34.2 -7.2
BOK AML AML 04 44 39.7
comp=E,10µm,0.8s
BOK AML AML 04 44 40.1
comp=N,9µm,0.9s
BOK Bokaro 4.76 190 P Pn 04 43 47.1 -0.3
BOK S Sn 04 44 34.2 -7.2
SHL Shillong 5.41 122 eP Pn 04 43 55.3 -1.1
SHL eS Sn 04 44 52.8 -4.8
SHL AML AML 04 44 56.8
comp=E,11µm,0.5s
SHL AML AML 04 44 57.2
comp=N,10µm,0.4s
LGTI Lohaghat 5.80 281 eP Pn 04 44 02.8 +1.3
LGTI ex Sn 04 45 07.1 +0.5
PTH Pithoragarh 5.84 282 eP Pn 04 44 01.2 -1.0
PTH ex Sn 04 45 06.1 -1.8
DDI Dehra Dun 7.82 285 eP Pn 04 44 28.5 -0.7
DDI eP Pn 04 44 28.8 -0.4
DDI eS Sn 04 45 49.4 -6.7
DDI AML AML 04 45 54.8
comp=N,16µm,0.8s
SMLA Simla 8.75 290 eP Pn 04 44 40.4 -1.4
SMLA eS Sn 04 46 11.2 -7.5
SMLA AML AML 04 46 16.7
comp=E,3µm,0.7s
SMLA AML AML 04 46 17.3
comp=N,2µm,0.7s
SDNR Sundarnagar 9.01 292 eP Pn 04 44 45.0 -0.4
SDNR ex Sn 04 46 20.0 -5.2
BHK Bhakra 9.44 290 eP Pn 04 44 51.0 -0.3
BHK ex Sn 04 46 30.8 -5.0
DHRM DHARAMSHALA 9.79 295 eP Pn 04 44 54.8 -1.4
DHRM ex x 04 46 35.4
DHRM AML AML 04 46 41.4
comp=E,2µm,0.6s
DHRM AML AML 04 46 43.2
comp=N,1µm,0.7s
BHPL Bhopal 9.92 240 eP Pn 04 44 54.4 -3.5
BHPL eS Sn 04 46 38.1 -9.4
PONG Pong 9.97 293 eP Pn 04 44 58.5 0.0
PONG ex Sn 04 46 45.5 -3.2
NGP Nagpur 10.14 225 eP Pn 04 44 57.7 -3.1
NGP eS Sn 04 46 43.3 -10
DLH Dalhousie 10.15 296 eP Pn 04 44 59.0 -2.1
DLH ex Sn 04 46 48.0 -5.4
AJM Ajmer 10.96 262 ex Pn 04 45 08.0 -4.1
AJM eS Sn 04 47 19.0 +6.1
VIS Vishakhapatnam 11.19 197 eP4 Pn 04 45 12.1 -3.1
VIS i x x 04 47 01.4
AKL Akola 11.79 231 eP9 x 04 47 43.7
AKL eS x 04 49 44.6
AKL AML AML 04 51 10.7
comp=E,331nm,0.0s
AKL AML AML 04 51 14.6
comp=N,317nm,0.0s
CHCP Chirah Chowk 12.67 297 ⇑P Pn 04 45 32.4 -2.8
HYB Hyderabad 13.38 216 eP Pn 04 45 39.5 -5.3
HYB Hyderabad 13.38 216 ⇑iP Pn 04 45 39.5 -5.3
HYB e 04 47 51.0
HYB eS Sn 04 48 06.0 -5.8
HYB Hyderabad 13.38 216 ex Pn 04 45 40.0 -4.8
HYB eS Sn 04 47 56.1 -16
HYB Hyderabad 13.38 216 eP Pn 04 45 39.5 -5.3
HYB eS Sn 04 47 51.0 -21
CEP Cherat 13.79 296 ⇓P Pn 04 45 45.2 -4.9
KSH Kashi 14.16 324 i P Pn 04 45 49.3 -5.6
KSH epP P 04 45 56.0 -4.1
KSH esP 04 45 59.8
KSH S Sn 04 48 24.0 -6.7
KSH sS S 04 48 35.5 -11
KSH SS 04 48 47.5
KSH pmax pmax
comp=N,340nm,0.8s
KSH LR LR
comp=N,740nm,7.3s
KSH LR LR
comp=N,300nm,6.8s
KMI Kunming 14.65 100 P Pn 04 45 58.8 -2.7
KMI pP P 04 46 03.0 -2.7
KMI PP 04 46 08.0
KMI S Sn 04 48 35.0 -7.8
KMI pmax pmax
comp=N,43nm,0.9s
KMI LR LR
comp=N,560nm,13.9s
KMI LR LR
comp=N,490nm,10.0s
KMI LR LR
comp=N,490nm,16.1s
CHTO Chiang Mai 14.73 128 eP Pn 04 45 56.8 -5.6
CHTO e 04 48 39.6
CHTO Chiang Mai 14.73 128 ePn Pn 04 45 56.8 -5.6
CHTO eSn Sn 04 48 39.6 -5.1
CD2 Chengdu 14.95 77 ⇑P Pn 04 46 02.3 -2.9
CD2 pP P 04 46 05.8 -3.1
CD2 sP 04 46 09.3
CD2 PP 04 46 14.5
CD2 S Sn 04 48 47.3 -2.6
CD2 sS S 04 48 59.0 -3.9
CD2 SS 04 49 04.8
CD2 pmax pmax
comp=N,200nm,1.2s
CD2 pmax pmax
comp=N,430nm,4.5s
CD2 LR LR
comp=N,3µm,13.2s
CD2 LR LR
comp=N,690nm,13.7s
CD2 LR LR
comp=N,760nm,11.2s
CMAR Chiang Mai Arr 14.98 129 P Pn 04 46 02.0 -3.5
comp=N,2.2nm,0.3s,baz=308,slow=13,SNR=51
CMAR ScP ScP 04 54 34.7 -1.9
comp=N,0.7nm,0.3s,baz=291,slow=2.6,SNR=13
WMQ Urumqi 15.30 3 P Pn 04 46 07.5 -2.1
WMQ pP P 04 46 11.0 -1.7
WMQ sP sP 04 46 14.5 -24
WMQ PP 04 46 20.0
WMQ S Sn 04 48 59.5 +1.3
WMQ sS S 04 49 04.0 -5.9
WMQ SS 04 49 16.5
WMQ PcP PcP 04 51 12.0 +2.2
WMQ PcS PcS 04 54 46.0 +0.9
WMQ pmax pmax
comp=N,130nm,0.7s
WMQ pmax pmax
comp=N,340nm,4.0s
WMQ LR LR
comp=N,350nm,7.6s
WMQ LR LR
comp=N,50nm,6.4s
GTA Gaotai 15.32 41 ⇑P Pn 04 46 07.0 -2.9
GTA pP P 04 46 10.5 -2.5
GTA sP sP 04 46 14.0 -25
GTA S Sn 04 48 58.8 0.0
GTA sS S 04 49 03.3 -7.2
GTA SS 04 49 16.3
GTA pmax pmax
comp=N,56nm,1.4s
GTA pmax pmax
comp=N,300nm,5.0s
GTA LR LR
comp=N,380nm,11.2s
GTA LR LR
comp=N,510nm,11.2s
GTA LR LR
comp=N,410nm,10.5s
POO Poona 15.45 233 ex Pn 04 46 07.1 -4.5
KAD Karad 16.07 229 ex Pn 04 46 14.8 -4.7
KAD ex x 04 49 03.9
ULHL Ulahol 16.16 331 P Pn 04 46 19.2 -1.4
SNR=18
ULHL Ulahol 16.16 331 i P Pn 04 46 19.1 -1.4
KBL Kabul 16.27 296 eP Pn 04 46 18.1 -3.8
KBL pmax pmax
comp=Z,256nm,0.9s
KBL Kabul 16.27 296 ePn Pn 04 46 18.1 -3.8
comp=Z,256nm,0.9s
KBL eSn Sn 04 48 57.5 -25
BHJ Bhuj 16.27 255 ex Pn 04 46 18.3 -3.5
BHJ ex x 04 49 01.1
LZH Lanzhou 16.28 58 ⇑P Pn 04 46 19.5 -2.5
LZH pP P 04 46 23.0 -0.7
LZH sP sP 04 46 24.3 -25
LZH PP 04 46 33.0
LZH S Sn 04 49 22.0 -0.1
LZH sS S 04 49 27.5 -2.7
LZH SS 04 49 38.3
LZH pmax pmax
comp=Z,300nm,1.1s
LZH pmax pmax
comp=Z,710nm,4.0s
LZH LR LR
comp=Z,1µm,10.4s
LZH LR LR
comp=Z,610nm,11.0s
LZH LR LR
comp=Z,2µm,10.8s
KZA Kyzart 16.47 328 P Pn 04 46 21.8 -2.7
SNR=14
KZA Kyzart 16.47 328 i P Pn 04 46 21.8 -2.7
UMPA Umpang Tak 16.56 135 P sP 04 46 52.4 +0.1
comp=Z,12µmcomp=Z,148nm,1.0s
UCH Uchtor 16.93 327 P Pn 04 46 27.9 -2.4
SNR=115
UCH Uchtor 16.93 327 i P Pn 04 46 27.9 -2.4
TKM2 Tokmak 2 16.98 331 P Pn 04 46 29.7 -1.1
SNR=110
TKM2 Tokmak 2 16.98 331 i P Pn 04 46 29.7 -1.1
TKM2 Tokmak 2 16.98 331 ePn Pn 04 46 29.6 -1.2
comp=Z,174nm,0.7s
KBK Karagaybulak 17.06 329 P Pn 04 46 30.4 -1.3
SNR=161
AAK Ala-Archa 17.25 328 Pn Pn 04 46 32.5 -1.5
comp=Z,1µm,1.0s,SNR=29
AAK Ala-Archa 17.25 328 P Pn 04 46 32.2 -1.8
SNR=127
AAK Ala-Archa 17.25 328 i P Pn 04 46 32.1 -1.8
AAK Ala-Archa 17.25 328 P P 04 46 34.4 0.0
comp=Z,3.2nm,0.3s,baz=116,slow=7.3,SNR=30
AAK LR LR 04 54 27.2
comp=Z,336nm,19.8s,baz=143,slow=41
AAK Ala-Archa 17.25 328 ePn Pn 04 46 32.2 -1.8
comp=Z,299nm,1.1s
AML Almayashu 17.25 325 P Pn 04 46 32.8 -1.5
SNR=9.1
FRU Bishkek 17.35 329 eP P 04 46 36.0 +0.7
FRU e 04 49 48.0
FRU pmax pmax
comp=Z,330nm,1.6s
CHMS Chumysh 17.42 329 P P 04 46 37.1 +1.0
SNR=22
CHMS Chumysh 17.42 329 i P P 04 46 37.0 +1.0
EKS2 Erkin-Say 17.61 327 P P 04 46 38.9 +0.6
SNR=255
EKS2 Erkin-Say 17.61 327 i P P 04 46 38.9 +0.6
EKS2 Erkin-Say 17.61 327 ePn Pn 04 46 37.2 -1.2
comp=Z,197nm,0.9s
GOA Goa 17.64 225 eP Pn 04 46 37.4 -1.3
GOA ex x 04 49 36.6
USP Ospenovka 17.74 329 P P 04 46 38.3 -1.4
SNR=93
USP Ospenovka 17.74 329 i P P 04 46 38.2 -1.4
GYA Guiyang 17.77 92 ⇑iP P 04 46 37.5 -2.6
GYA PP 04 46 53.3
GYA S Sn 04 49 45.0 -13
GYA SS SnSn 04 50 17.5 +4.7
GYA pmax pmax
comp=Z,210nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.6s
GYA LR LR
comp=Z,410nm,9.4s
GYA LR LR
comp=Z,270nm,10.4s
GYA LR LR
comp=Z,270nm,10.4s

MK31 Makanchi Array 18.59 350 eP P 04 46 48.9 0.0
MK31 pmax pmax
comp=Z,84nm,0.4s
MKAR Makanchi Array 18.59 350 P P 04 46 49.0 +0.1
MKAR pmax pmax
comp=Z,37nm,0.3s
MKAR Makanchi Array 18.59 350 P P 04 46 49.0 +0.1
comp=Z,37nm,0.3s,baz=176,slow=10,SNR=1115
KKAR Karatay Array 19.60 322 eP P 04 46 59.8 -0.1
KKAR Karatay Array 19.60 322 eP P 04 46 59.8 -0.1
XAN Xi'an 19.70 68 P P 04 47 00.5 -0.7
XAN PP PnPn 04 47 19.8 -0.1
XAN S S 04 50 36.0 -3.2
XAN SS SnSn 04 51 03.5 +3.4
XAN pmax pmax
comp=Z,23nm,1.3s
XAN pmax pmax
comp=Z,95nm,8.4s
XAN LR LR
comp=Z,920nm,22.1s
XAN LR LR
comp=Z,190nm,17.2s
ENH Enshi 19.86 79 eP P 04 47 02.5 -0.4
comp=Z,184nm,0.9s
ENH eS S 04 50 42.6 +0.2
CHBT CHBT 21.35 134 P sP 04 47 40.2 -4.7
comp=Z,62nm,1.3s
PALK Pallekele 21.89 196 P P 04 47 26.0 +1.3
comp=Z,520nm,1.4s,SNR=18
PALK Pallekele 21.89 196 P P 04 47 26.5 +1.7
PALK pmax pmax
comp=Z,125nm,0.9s
PALK Pallekele 21.89 196 P P 04 47 26.5 +1.7
comp=Z,124nm,0.9s,baz=14,slow=11,SNR=29
PALK Pallekele 21.89 196 eP P 04 47 26.2 +1.4
comp=Z,46nm,0.9s
PALK eSn S 04 51 16.3 -6.0
PALK Pallekele 21.89 196⇓iP P 04 47 26.4 +1.7
SNR=19
BTO Baotou 22.56 52 eP P 04 47 32.0 +0.2
KURK Kurchatov 23.02 347 P P 04 47 36.1 -0.3
comp=Z,996nm,0.7s,SNR=80
KURK Kurchatov 23.02 347 P P 04 47 35.8 -0.6
KURK pmax pmax
comp=Z,187nm,1.1s
KURK Kurchatov 23.02 347 eP P 04 47 36.0 -0.3
comp=Z,256nm,0.8s
QIZ Qiongzhong 23.09 109 P P 04 47 34.3 -3.0
QIZ S S 04 51 46.5 +4.2
QIZ sS sS 04 51 51.8 -21
QIZ Qiongzhong 23.09 109 eP P 04 47 37.2 -0.1
comp=Z,25nm,0.8s
HVS Khovu-Aksy 23.20 11 d iP P 04 47 38.1 0.0
HVS pmax pmax
comp=Z,620nm,1.2s
TIY Taiyuan 23.31 60 eP P 04 47 39.8 +0.5
TIY S S 04 51 47.3 +1.5
TIY LR LR
comp=Z,1µm,11.4s
TIY LR LR
comp=Z,340nm,8.7s
IDAH Dahanechah 23.51 287 eP P 04 47 42.8 +1.4
HHC Hu-ho-hao-te 23.73 52 eP P 04 47 44.5 +1.4
HHC PP PnPn 04 48 17.5 +2.7
HHC S S 04 51 52.3 -0.2
HHC sS sS 04 52 02.5 -21
HHC SS SnSn 04 52 42.0 +3.5
HHC pmax pmax
comp=Z,37nm,1.2s
HHC pmax pmax
comp=Z,410nm,5.1s
HHC LR LR
comp=Z,730nm,12.2s
HHC LR LR
comp=Z,960nm,12.0s
HHC LR LR
comp=Z,960nm,13.7s
IMYA Miami 23.78 296 eP P 04 47 43.3 -0.5
WHN Wuhan 24.06 78 P P 04 47 46.8 +0.8
WHN S S 04 52 05.8 +8.0
WHN LR LR
comp=Z,960nm,12.3s
IKOO Kooshah 24.23 286 eP P 04 47 49.8 +2.0
ISRO Mashad 24.27 296 eP P 04 47 48.5 +0.4
ITEG Tejag 24.46 287 eP P 04 47 51.5 +1.7
SONM Songino Array 24.58 33 P P 04 47 52.4 +1.7
comp=Z,24nm,0.6s,baz=222,slow=10,SNR=153
SONM PcP PcP 04 51 27.6 +0.9
comp=Z,2.3nm,0.5s,baz=211,slow=3.0,SNR=5.4
SONM ScP ScP 04 54 56.8 -1.7
comp=Z,1.9nm,0.8s,baz=229,slow=1.9,SNR=5.2
SONM LR LR 04 58 58.5
comp=Z,390nm,21.0s,baz=245,slow=40
IPAY Payeh 24.68 296 eP P 04 47 51.5 -0.4
IAKL Akhelmad 24.89 296 eP P 04 47 55.1 +1.2
ULN Ulaanbaatar 24.92 34 d iP P 04 47 55.1 +1.2
ULN pmax pmax
comp=Z,31nm,1.0s
ULN Ulaanbaatar 24.92 34 eP P 04 47 55.3 +1.5
comp=Z,50nm,1.0s
IKRD Kardeh 25.12 296 eP P 04 47 49.9 -6.1
IEMG Emamgholi 25.14 298 eP P 04 47 57.8 +1.6
ZAK Zakamensk 25.18 25 eP P 04 47 57.4 +1.2
ZAK pmax pmax
comp=Z,39nm,0.8s
ZALV Zalesovo Beam 25.46 357 P P 04 47 59.2 +0.7
ZALV pmax pmax
comp=Z,48nm,0.4s
ZALV MLR MLR
comp=Z,198nm,21.6s
ZALV Zalesovo Beam 25.46 357 P P 04 47 59.1 +0.7
comp=Z,48nm,0.4s,baz=183,slow=10,SNR=363
ZALV LR LR 04 59 34.5
comp=Z,198nm,21.6s,baz=246,slow=40
MOY Mondy 25.47 21 eP P 04 48 00.7 +1.9
MOY pmax pmax
comp=Z,60nm,1.9s
ISFR Sfrayin 25.58 297 eP P 04 48 01.8 +1.7
ABKT Ailbek 25.67 299 P P 04 48 02.9 +2.3
comp=Z,679nm,1.4s,SNR=17
GEYT Alibeck 25.67 299 P P 04 48 02.4 +1.8
comp=Z,71nm,0.8s,baz=120,slow=5.3,SNR=61
GEYT ScP ScP 04 55 00.6 -1.1
comp=Z,5.7nm,0.9s,baz=286,slow=5.4,SNR=4.3
GEYT LR LR 05 00 00.3
comp=Z,308nm,19.4s,baz=100,slow=40
ISHV Shirvan 25.91 298 eP P 04 48 05.0 +2.0
TLY Talaya 26.37 24 P P 04 48 09.1 +2.3
comp=Z,68nm,0.7s,SNR=5.4
TLY Talaya 26.37 24 eP P 04 48 09.4 +2.6
TLY e 04 48 26.5
TLY pmax pmax
comp=Z,13nm,1.2s
TLY MLR MLR
comp=Z,225nm,16.0s
TLY Talaya 26.37 24 P P 04 48 08.0 +1.2
comp=Z,4.9nm,0.6s,baz=228,slow=11,SNR=9.0
TLY LR LR 04 59 56.0
comp=Z,261nm,20.2s,baz=214,slow=39
TLY Talaya 26.37 24 eP P 04 48 08.8 +2.0
comp=Z,12nm,1.0s
NVS Novosibirsk 26.44 355⇓iP P 04 48 07.2 -0.1
NVS pmax pmax
comp=N,97nm,1.0s
NVS pmax pmax
comp=Z,124nm,1.0s
NVS pmax pmax
comp=E,22nm,0.6s
KULM Kulim 26.58 148 eP P 04 48 06.8 -2.1
comp=E,11nm,0.6s
TIA Tai'an 26.68 65 eP P 04 48 10.8 +1.0
TIA pmax pmax
comp=E,20nm,1.0s
TIA LR LR
comp=E,850nm,18.4s
BJT Baijiatuau 26.75 57 eP P 04 48 11.0 +0.7
BJT pmax pmax
comp=Z,86nm,1.2s
BJT Baijiatuau 26.75 57 eP P 04 48 11.0 +0.7
comp=Z,86nm,1.2s
BJI Beijing 26.76 57 P P 04 48 10.8 +0.4
BJI S S 04 52 45.8 +5.3
BJI pmax pmax
comp=Z,15nm,0.8s
BJI pmax pmax
comp=Z,120nm,3.8s
BJI LR LR
comp=Z,400nm,16.2s
BJI LR LR
comp=Z,520nm,14.0s
BJI LR LR
comp=Z,250nm,23.2s
VOSK Vostochnaya 26.88 339 P P 04 48 12.0 +0.7
VOSK pmax pmax
comp=Z,92nm,0.8s
IBAF Bafgh 27.14 284 eP P 04 48 15.7 +1.5
BVA0 Borovoye Array 27.33 338 iP P 04 48 15.9 +0.6
BVA0 pmax pmax
comp=Z,54nm,1.1s
BVAR Borovoye Array 27.33 338 P P 04 48 16.1 +0.8
comp=Z,30nm,0.5s,baz=152,slow=11,SNR=185
BVAR PcP PcP 04 51 33.9 +1.1
comp=Z,7.2nm,0.6s,baz=144,slow=1.8,SNR=5.5
BVAR LR LR 05 00 35.2
comp=Z,253nm,19.4s,baz=148,slow=39
BRVK Borovoye 27.39 338 P P 04 48 16.0 +0.1
comp=Z,432nm,0.5s,SNR=41
BRVK Borovoye 27.39 338 d iP P 04 48 16.6 +0.7
BRVK pmax pmax
comp=Z,52nm,0.8s
BRVK Borovoye 27.39 338 eP P 04 48 16.8 +0.9
comp=Z,56nm,0.8s
IPM Ipoh 27.47 148 eP P 04 48 15.1 -1.9
comp=Z,12nm,0.8s
KRAR Krasnoyarsk 27.83 7 c iP P 04 48 21.7 +1.9
NJ2 Nanjing 27.87 75 eP P 04 48 19.5 -0.9
NJ2 S S 04 53 04.0 +5.8
NJ2 LR LR
comp=Z,4µm,25.5s
NJ2 LR LR
comp=Z,2µm,23.7s
NJ2 LR LR
comp=Z,2µm,23.5s
IMEH Mehriz 27.96 284 eP P 04 48 23.0 +1.4
ICHK Chekchek 28.11 286 eP P 04 48 24.6 +1.7
IANJ Anjilo 28.63 292 eP P 04 48 28.0 +0.5
ISAD Sadrabad 28.74 285 eP P 04 48 29.9 +1.4
IGLO Ghaloghah 28.80 295 eP P 04 48 30.8 +1.9
IKIA Kiasar 28.89 294 eP P 04 48 31.5 +1.7
GSI Gunungsitoli 28.95 157 eP P 04 48 31.9 +1.8
comp=Z,231nm,1.0s
AB31 Akbulak array 29.16 323 P P 04 48 32.5 +0.8
AB31 pmax pmax
comp=Z,88nm,0.5s
ABKAR Akbulak array 29.16 323 eP P 04 48 32.8 +1.1
comp=Z,141nm,0.6s
IPAR Pars 29.42 281 eP P 04 48 36.8 +2.2
IALA Alasht 29.58 294 eP P 04 48 37.9 +2.0
IFIR Firoozkooh 29.59 293 eP P 04 48 37.7 +1.7
IZEF Zefreh 29.86 287 eP P 04 48 39.8 +1.4
IPRN Peran 29.97 294 eP P 04 48 40.5 +1.3
IDMV Damavand 30.17 292 eP P 04 48 42.2 +1.1
IVRN Varamin 30.39 291 eP P 04 48 44.1 +1.3
IKLH Kolahrood 30.48 288 eP P 04 48 45.6 +1.7
AKTO Aktyubinsk 30.86 323 P P 04 48 47.4 +0.7
comp=Z,82nm,0.7s,baz=124,slow=8.6,SNR=327
AKTO LR LR 05 02 28.6
comp=Z,191nm,19.5s,baz=137,slow=38
IPIR Pirpir 31.07 287 eP P 04 48 49.8 +0.6
IGZV Ghazvin 31.69 294 eP P 04 48 55.9 +1.4
IRAZ Razeghan 31.88 292 eP P 04 48 57.3 +1.2
HIA Hailar 32.60 41 eP P 04 49 02.6 +0.6
HIA pmax pmax
comp=Z,16nm,1.3s
HIA Hailar 32.60 41 eP P 04 49 02.0 0.0
comp=Z,11nm,0.6s
SNY Shenyang 32.63 56 ⇑P P 04 49 03.0 +0.7
SNY S S 04 54 11.0 -1.5
SNY pmax pmax
comp=Z,32nm,1.7s
SNY pmax pmax
comp=Z,450nm,3.7s
SNY LR LR
comp=Z,430nm,18.9s
SNY LR LR
comp=Z,290nm,24.0s
IBZA Bozab 33.57 290 eP P 04 49 11.9 +1.0
SVE Sverdlovsk 33.80 334 c iP P 04 49 13.8 +1.5
SVE pmax pmax
comp=Z,285nm,0.8s
ISRB Sarab 33.83 296 eP P 04 49 14.9 +1.8
IKOM Komasi 33.86 290 eP P 04 49 14.5 +1.1
ILIN Lien 34.30 291 eP P 04 49 18.5 +1.2
ARU Arti 34.35 332 P P 04 49 18.0 +0.9
comp=Z,2µm,0.6s,SNR=18
ARU Arti 34.35 332 d iP P 04 49 18.1 +0.9
ARU 04 50 33.3
ARU S S 04 54 50.4 +12
ARU SS SnSn 04 56 51.6 -4.4
ARU pmax pmax
comp=Z,206nm,0.8s
ARU Arti 34.35 332 eP P 04 49 17.9 +0.9
comp=Z,182nm,0.6s
IHRS Heris 34.36 297 eP P 04 49 18.8 +1.1
CN2 Changchun 34.41 53 eP P 04 49 18.5 +0.7
CN2 epP pP 04 49 22.8 -14
CN2 esP sP 04 49 25.5 -20
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,700nm,25.0s
CN2 LR LR
comp=Z,400nm,25.0s
CN2 LR LR
comp=Z,400nm,22.0s
IBST Bostanabad 34.43 296 eP P 04 49 19.3 +1.0
MAK Makhachkala 34.66 305 eP P 04 49 20.6 +0.7
MAK MLR MLR
comp=Z,252nm,15.0s
IDHR Dehrash 34.78 291 eP P 04 49 22.3 +0.9
KSM Kuching 35.04 136 eP P 04 49 22.7 -0.7
KSAR Wonju Array Be 35.39 65 P P 04 49 26.5 +0.2
KSAR 04 51 55.4
KSAR Wonju Array Be 35.39 65 P P 04 49 26.5 +0.2
KSAR PcP PcP 04 51 55.4 +0.7
KSRS Korea Array 35.42 65 P P 04 49 26.5 0.0
KSRS 04 51 55.4
KSRS pmax pmax
comp=Z,9.0nm,0.6s
KSRS MLR MLR
comp=Z,215nm,21.3s
KSRS Korea Array 35.42 65 P P 04 49 26.5 0.0
comp=Z,8.6nm,0.6s,baz=266,slow=8.6,SNR=22
KSRS PcP PcP 04 51 55.4 +0.7
comp=Z,0.7nm,0.3s,baz=349,slow=1.3,SNR=4.8
KSRS LR LR 05 04 55.8
comp=Z,215nm,21.3s,baz=250,slow=38
IMRD Marand 35.43 298 eP P 04 49 28.5 +1.7
KKM Kota Kinabalu 35.72 123 eP P 04 49 29.4 0.0
comp=Z,26nm,1.1s
DGRG David-gareji 35.97 302 P P 04 49 33.8 +2.6
GNI Garni 36.30 300 ⇑P P 04 49 33.3 -0.9
GNI pmax pmax
comp=Z,87nm,1.4s
GNI Garni 36.30 300 P P 04 49 37.0 +2.8
comp=Z,15nm,0.6s,baz=158,slow=4.5,SNR=34
GNI Garni 36.30 300 eP P 04 49 36.8 +2.6
comp=Z,114nm,1.3s
GNI Garni 36.30 300⇑iP P 04 49 35.4 +1.2
SNR=23
TBLG Delisi 36.48 303 P P 04 49 37.1 +1.5
DUS Dusheti 36.55 303 P P 04 49 39.8 +3.5
GUDG Gudauri 36.77 304 P P 04 49 40.9 +2.7
ZEI Tsey 37.24 304 eP P 04 49 40.6 -1.6
ZEI pmax pmax
comp=Z,127nm,1.3s
RAYN Ar Rayn 37.29 272 eP P 04 49 42.2 -0.5
comp=Z,6.8nm,0.9s
AKH Akhalkalaki 37.37 302 P P 04 49 46.1 +2.8
MDJ Mudanjiang 37.49 53 P P 04 49 43.5 -0.6
MDJ pP pP 04 49 46.8 -16
MDJ sP sP 04 49 48.0 -24
MDJ PP PP 04 51 09.3 -1.7
MDJ S S 04 55 31.5 +4.3
MDJ pmax pmax
comp=Z,12nm,1.1s
MDJ pmax pmax
comp=Z,85nm,3.4s
MDJ LR LR
comp=Z,110nm,20.2s
MDJ LR LR
comp=Z,76nm,19.6s
MDJ LR LR
comp=Z,110nm,26.1s
ONI Oni 37.54 304 P P 04 49 47.0 +2.4
KBZ Khabaz 38.10 305 P P 04 49 50.0 +0.8
KBZ 04 55 43.1
KBZ pmax pmax
comp=Z,27nm,0.9s
KBZ Khabaz 38.10 305 P P 04 49 50.0 +0.8
comp=Z,27nm,0.9s,baz=149,slow=6.5,SNR=69
KBZ ScP ScP 04 55 43.1 -0.3
comp=Z,6.2nm,0.8s,baz=105,slow=2.4,SNR=5.4
GOF Gofitskoye 38.22 308 eP P 04 49 51.2 +1.0
GOF pmax pmax
comp=Z,150nm,1.3s
KIV Kislovodsk 38.29 306 P P 04 49 51.1 +0.2
comp=Z,392nm,1.2s,SNR=9.8
KIV Kislovodsk 38.29 306 eP P 04 49 50.1 -0.8
KIV e 04 52 04.1
KIV eS S 04 55 43.3 +4.0
KIV pmax pmax
comp=Z,80nm,1.1s
KIV MLR MLR
comp=Z,68nm,15.0s
KIV Kislovodsk 38.29 306 eP P 04 49 50.5 -0.4
comp=Z,47nm,0.8s
KIV Kislovodsk 38.29 306⇓iP P 04 49 52.0 +1.1
SNR=11
USRK Ussuriysk Arra 39.12 54 P P 04 49 58.8 +1.0
comp=Z,7.7nm,0.8s,baz=277,slow=7.5,SNR=12
KBSD Kabsdagh 39.48 295 eP P 04 50 02.0 +1.1
SFNV Sufian 39.84 294 eP P 04 50 05.3 +1.4
KLR Kul'dur 39.94 46 eP P 04 50 00.0 -4.5
KLR MLR MLR
comp=Z,700nm,11.0s
SOC Sochi 40.37 305 d iP P 04 50 08.7 +0.6
SOC e 04 51 43.2
SOC eS S 04 56 20.5 +10
SOC pmax pmax
comp=Z,52nm,1.2s
SOC MLR MLR
comp=Z,131nm,15.0s
MNKR ALMNKUR 40.54 293 eP P 04 50 07.5 -2.2
VRHR Novokhopersk 40.55 317 eP P 04 50 09.0 -0.5
VRHR eS S 04 56 10.8 -2.0
VRHR pmax pmax
comp=E,200nm,0.9s
VRHR pmax pmax
comp=Z,170nm,0.9s
VRHR pmax pmax
comp=N,60nm,0.7s
VRHR smax smax
comp=E,70nm,1.6s
VRHR smax smax
comp=Z,4.0nm,0.6s
VRHR smax smax
comp=N,50nm,1.0s
MALT Malatya 41.13 297⇑iP P 04 50 16.2 +1.6
HABR Khabarovsk 41.91 48 eP P 04 50 19.3 -1.4
HABR e 04 51 57.1
HABR e 04 52 13.7
HABR eS S 04 56 40.3 +7.3
HABR pmax pmax
comp=Z,36nm,0.8s
HABR MLR MLR
comp=Z,287nm,16.0s
VORD Divnogorie 41.93 316 eP P 04 50 19.4 -1.4
VORD eS S 04 56 30.3 -3.0
VORD pmax pmax
comp=Z,70nm,1.0s
VORD pmax pmax
comp=N,100nm,0.6s
VORD pmax pmax
comp=E,220nm,0.7s
VORD smax smax
comp=N,60nm,0.9s
VORD smax smax
comp=E,50nm,0.9s
VORD smax smax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 42.07 316 eP P 04 50 20.2 -1.8
VSR eS S 04 56 32.5 -2.9
VSR pmax pmax
comp=E,110nm,0.9s
VSR pmax pmax
comp=Z,60nm,0.9s
VSR pmax pmax
comp=N,20nm,0.7s
VSR smax smax
comp=N,110nm,1.1s
VSR smax smax
comp=Z,5.0nm,0.7s
VSR smax smax
comp=E,10.0nm,0.9s
ANN Anapa 42.13 306 eP P 04 50 20.7 -1.8
ANN e 04 52 01.5
ANN eS S 04 56 41.9 +5.6
ANN eSS SS 04 59 44.1 -2.5
ANN pmax pmax
comp=Z,56nm,1.0s
RABH Abou Rabah 42.35 291 eP P 04 50 19.3 -5.3
PRGR Permogore 42.81 332⇓iP P 04 50 28.3 +0.5
PRGR pmax pmax
comp=Z,247nm,0.6s
BTCH Batrach 42.81 293 eP P 04 50 22.8 -5.5
ASF Jabal al Asfar 42.90 288 P P 04 50 31.8 +2.8
ASF pmax pmax
comp=Z,14nm,0.9s
ASF Jabal al Asfar 42.90 288 P P 04 50 31.8 +2.8
comp=Z,14nm,0.9s,baz=50,slow=5.9,SNR=13
MARH Ras Al Marh 43.00 290 eP P 04 50 31.7 +1.6
BRBR Barbar 43.51 290 eP P 04 50 36.1 +1.9
TCHB Talchebab 43.60 289 eP P 04 50 36.2 +1.5
MAJO Matsushiro 43.67 66 eP P 04 50 34.6 -0.5
MAJO pmax pmax
comp=Z,15nm,0.9s
MAJO Matsushiro 43.67 66 eP P 04 50 34.6 -0.5
comp=Z,15nm,0.9s
MAT Matsushiro 43.67 66 P P 04 50 34.6 -0.5
MAT S S 04 56 51.6 -7.6
MJAR Matsushiro Arr 43.67 66 P P 04 50 36.1 +0.9
comp=Z,5.4nm,0.7s,baz=275,slow=9.7,SNR=11
MJAR pP pP 04 50 57.9 +3.6
comp=Z,8.8nm,0.9s,baz=275,slow=9.9,SNR=4.6
YAK Yakutsk 43.73 28 d iP P 04 50 35.7 +0.6
YAK e*PP pP 04 50 45.3 -9.0
YAK e 04 52 19.3
YAK eS S 04 56 58.0 -1.3
YAK e*SS sS 04 57 17.6 -14
YAK e 05 00 34.8
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=Z,37nm,1.1s
YAK pmax pmax
comp=N,11nm,1.4s
YAK pmax pmax
comp=E,34nm,1.7s
YAK smax smax
comp=N,101nm,2.2s
YAK smax smax
comp=E,93nm,2.3s
YAK MLR MLR
comp=Z,127nm,16.0s
YAK MLR MLR
comp=E,142nm,20.0s
YAK Yakutsk 43.73 28 eP P 04 50 35.9 +0.8
comp=E,42nm,0.7s
MMAI Mount Meron Ar 44.02 289 P P 04 50 40.4 +2.3
comp=E,17nm,0.7s,baz=64,slow=10,SNR=14
MMAI PcP PcP 04 52 23.8 +1.4
comp=E,11nm,0.6s,baz=87,slow=5.1,SNR=7.1
MOS Moscow 44.18 322 eP P 04 50 37.6 -1.3
MOS e 04 52 23.5
MOS pmax pmax
comp=Z,500nm,1.9s
MOS pmax pmax
comp=Z,179nm,1.5s
SIM Simferopol' 44.49 306 eP P 04 50 42.4 +0.9
SIM eS S 04 57 13.0 +2.1

SIM pmax pmax
comp=Z,66nm,0.9s
OBN Obninsk 44.58 321 P P 04 50 42.8 +0.7
comp=Z,700nm,0.5s,SNR=8.4
OBN Obninsk 44.58 321 d iP P 04 50 42.3 +0.2
OBN e 04 52 24.3
OBN i 04 52 29.1
OBN eSS SS 05 00 35.8 +1.9
OBN pmax pmax
comp=Z,276nm,1.7s
OBN MLR MLR
comp=Z,131nm,17.0s
OBN Obninsk 44.58 321 P P 04 50 42.5 +0.4
comp=Z,39nm,0.4s,baz=92,slow=3.1,SNR=31
OBN Obninsk 44.58 321 eP P 04 50 42.1 +0.1
comp=Z,169nm,1.1s
BR131 Keskin Array S 44.81 299 eP P 04 50 44.7 +0.3
comp=Z,12nm,0.7s
BRTR Keskin Array B 44.81 299 P P 04 50 44.8 +0.3
comp=Z,11nm,0.7s,baz=107,slow=7.3,SNR=65
BRTR pP pP 04 51 06.5 +2.9
comp=Z,4.0nm,0.6s,baz=100,slow=9.6,SNR=3.7
BRTR PcP PcP 04 52 25.7 +0.6
comp=Z,5.2nm,0.7s,baz=129,slow=4.8,SNR=4.9
BRTR ScP ScP 04 56 09.8 -0.7
comp=Z,3.0nm,1.0s,baz=113,slow=3.2,SNR=5.2
BRTR LR LR 05 11 03.3
comp=Z,62nm,20.6s,baz=72,slow=38
EIL Elat 44.99 285 P P 04 50 47.3 +1.6
comp=Z,19nm,0.8s,baz=49,slow=4.3,SNR=10.0
KLMR Klimovskoe 45.06 329 eP P 04 50 43.8 -2.0
KLMR e 04 52 31.9
KLMR pmax pmax
comp=Z,196nm,1.1s
JAGI Jajag, Banyuwa 45.28 140 eP P 04 50 46.6 -1.5
ANTO Ankara 45.46 299 eP P 04 50 50.4 +1.0
ANTO pmax pmax
comp=Z,39nm,1.2s
ANTO Ankara 45.46 299 ⇓iP P 04 50 50.0 +0.6
ANTO Ankara 45.46 299 eP P 04 50 50.4 +1.0
comp=Z,38nm,1.2s
CSS Prodhromos 45.46 292 eP P 04 50 49.7 +0.3
comp=Z,6.8nm,0.8s
YSS Yuzh-Sakhalins 46.91 51 eP pP 04 51 19.0 -0.9
YSS e 04 51 27.5
YSS e 04 51 34.0
TMCR Tamitsa 47.07 333 eP P 04 51 01.8 +0.3
TMCR e 04 52 53.7
TMCR eS S 04 57 58.6 +11
TMCR pmax pmax
comp=Z,263nm,0.9s
AKASG Malin Array Be 48.19 314 P P 04 51 10.1 -0.3
comp=Z,60nm,0.7s,baz=79,slow=7.3,SNR=242
AKASG ScP ScP 04 56 24.1 0.0
comp=Z,3.2nm,0.8s,baz=80,slow=4.1,SNR=5.8
AKASG LR LR 05 14 11.8
comp=Z,70nm,20.1s,baz=90,slow=39
KIEV Kiev 48.20 314 d iP P 04 51 09.9 -0.6
KIEV Kiev 48.20 314 eP P 04 51 09.8 -0.7
comp=Z,65nm,0.8s
KIS Kishinev 48.26 309 ⇑iP P 04 51 12.0 +1.0
KIS pmax pmax
comp=Z,200nm,1.0s
KIS Kishinev 48.26 309 ⇑iP P 04 51 12.0 +1.0
comp=Z,200nm,1.0s
CFR Carcaliu 48.73 307 ⇑iP P 04 51 15.4 +0.8
PSN Preselentsi 48.74 305 P P 04 51 16.7 +2.0
PSN Preselentsi 48.74 305 ⇑iP P 04 51 16.1 +1.4
TIXI Tiksi 48.91 16 d iP P 04 51 15.8 +0.1
TIXI pmax pmax
comp=Z,37nm,0.7s
TIXI Tiksi 48.91 16 eP P 04 51 15.7 +0.1
comp=Z,39nm,0.6s
TIXI ePcP PcP 04 52 38.8 0.0
PUL Pulkovo 49.04 326 d iP P 04 51 17.7 +1.0
PUL pmax pmax
comp=Z,110nm,0.6s
YUK Yuzh-Kuril'sk 49.08 55 eP P 04 51 17.9 +0.6
PRD Provadia 49.33 304 P P 04 51 20.0 +0.7
MICGM Minsk 49.40 319 e P 04 51 18.0 -1.6
NEF NEVSHA 49.42 304 P P 04 51 21.1 +1.1
JOF Joensuu 49.42 330 eP P 04 51 18.3 -1.3
JOF pmax pmax
comp=Z,137nm,0.5s
JOF Joensuu 49.42 330 ep P 04 51 18.3 -1.3
comp=Z,137nm,0.5s
MNK Minsk 49.42 319 eP P 04 51 18.0 -1.8
VRI Vrincioaia 49.71 307 P P 04 51 23.3 +1.1
VRI Vrincioaia 49.71 307 ⇑iP P 04 51 23.9 +1.7
TESR Tescani 49.75 308 ⇑iP P 04 51 23.1 +0.7
PLOR Plostina 49.76 307 ⇑iP P 04 51 24.4 +1.8
ISR Istrita 49.86 306 ⇑iP P 04 51 25.1 +1.7
LVZ Lovozero 49.91 337 P P 04 51 23.5 +0.1
comp=Z,565nm,1.0s,SNR=6.1
LVZ Lovozero 49.91 337 d iP P 04 51 23.4 +0.1
LVZ pmax pmax
comp=Z,123nm,1.2s
LVZ Lovozero 49.91 337 eP P 04 51 23.8 +0.4
comp=Z,97nm,1.0s
JMB Yambol 49.98 303 P P 04 51 25.4 +1.2
JMB Yambol 49.98 303 ⇑iP P 04 51 25.6 +1.4
NACGM Naroch 50.08 319 eP P 04 51 23.0 -1.7
IDID Didziasalis 50.15 320 eP P 04 51 25.8 +0.6
IDID AMB AMB 04 51 27.1
comp=Z,38nm,0.8s
APA Apatity 50.21 336 ⇓iP P 04 51 27.0 +1.4
APA i 04 53 28.6
APA i S S 04 58 39.0 +7.5
APA i 05 01 08.0
APA pmax pmax
comp=Z,52nm,0.8s
APA MLR MLR
comp=Z,1μm,13.0s
MLR Muntele Rosu 50.27 307 P P 04 51 28.0 +1.4
MLR pmax pmax
comp=Z,27nm,0.9s
MLR Muntele Rosu 50.27 307 ⇓iP P 04 51 27.9 +1.4
MLR Muntele Rosu 50.27 307 P P 04 51 28.0 +1.4
comp=Z,27nm,0.9s,baz=60,slow=2.1,SNR=154
SZH Strazhica 50.40 304 P P 04 51 27.7 +0.3
IIGN Ignalina 50.44 320 eP P 04 51 27.7 +0.1
IIGN AMB AMB 04 51 29.0
comp=Z,76nm,0.8s
ISAL Salakas 50.52 320 eP P 04 51 28.8 +0.7
ISAL AMB AMB 04 51 30.1
comp=Z,56nm,0.8s
VSU Vasula 50.59 324 d iP P 04 51 28.7 +0.2
VSU pmax pmax
comp=Z,258nm,1.0s
DOPR Dopca 50.64 308 ⇑iP P 04 51 30.5 +1.3
BURAR Bucovina Array 50.71 310 ⇓iP P 04 51 30.8 +1.0
BUR08 Bucovina Ar. S 50.72 310 eP P 04 51 30.3 +0.4
PVL Pavlikeni 50.84 304 P P 04 51 32.4 +1.7
VOIR 50.90 307 ⇑iP P 04 51 31.9 +0.7
ARR Arges 51.20 307 ⇓iP P 04 51 34.2 +0.8
FINES FINESS Array B 51.44 328 P P 04 51 35.3 +0.4
FINES pmax pmax
comp=Z,75nm,0.5s
FINES MLR MLR
comp=Z,176nm,19.4s
FINES FINESS Array B 51.44 328 P P 04 51 35.2 +0.4
comp=Z,75nm,0.5s,baz=112,slow=8.5,SNR=692
FINES LR LR 05 14 38.8
comp=Z,176nm,19.4s,baz=90,slow=37
KAF Kangasniemi 51.47 328 eP P 04 51 34.2 -0.9
KAF pmax pmax
comp=Z,29nm,0.6s
KAF Kangasniemi 51.47 328 ep P 04 51 34.2 -0.9
comp=Z,29nm,0.6s
LVV L'vov 51.48 313 eP P 04 51 34.7 -0.7
PGB Panagyurishte 51.75 303 P P 04 51 39.3 +1.7
LOT Lotru 51.80 307 ⇑iP P 04 51 38.8 +0.8
CJR Cluj-Napoca 51.85 309 ⇑iP P 04 51 39.9 +1.7
BMR Baia Mare 51.88 310 ⇑iP P 04 51 39.8 +1.4
SUW Suwalki 52.10 318 eP P 04 51 39.8 -0.1
SUW pmax pmax
comp=Z,187nm,1.0s
SUW Suwalki 52.10 318 eP P 04 51 39.6 -0.3
SUW ePP PP 04 53 38.6 0.0
SUW Suwalki 52.10 318 eP P 04 51 39.8 -0.1
comp=Z,186nm,1.0s
MMB Musomiste 52.18 302 P P 04 51 40.9 +0.1
MMB Musomiste 52.18 302 ⇑iP P 04 51 41.3 +0.5
IDI Anoyia 52.24 294 P P 04 51 41.3 -0.1
comp=Z,27nm,0.6s,baz=37,slow=11,SNR=21

KWP Kalwaria Pacla 52.34 312 eP P 04 51 42.4 +0.6
KWP Kalwaria Pacla 52.34 312 eP P 04 51 42.4 +0.6
KWP Kalwaria Pacla 52.34 312 ⇑iP P 04 51 42.8 +1.0
KWP Kalwaria Pacla 52.34 312 eP P 04 51 42.1 +0.3
comp=Z,188nm,1.0s
DRGR 52.45 309 ⇓iP P 04 51 44.0 +1.2
GZR Gura Zlata 52.50 307 ⇑iP P 04 51 43.7 +0.6
TRPA Tarpa 52.50 310 ⇓iP P 04 51 44.0 +1.0
TRPA Tarpa 52.50 310 ⇑eP P 04 51 43.9 +1.0
SOEI Soe 52.52 131 eP P 04 51 42.3 -1.4
KKB Krupnik 52.62 303 P P 04 51 44.1 +0.1
UZH Uzhgorod 52.64 311 ⇑iP P 04 51 43.5 -0.5
UZH e 04 52 02.1
KOLS Kolonicke sedl 52.65 312 eP P 04 51 44.2 +0.1
KOLS pmax pmax
comp=Z,31nm,1.6s
KOLS Kolonicke sedl 52.65 312 eP P 04 51 44.2 +0.1
VAY Valandovo 53.08 302 P P 04 51 46.7 -0.6
VAY Valandovo 53.08 302 i P P 04 51 47.4 +0.1
KEV Kevo 53.18 338 eP P 04 51 48.6 +1.0
KEV pmax pmax
comp=Z,63nm,0.9s
KEV Kevo 53.18 338 ep P 04 51 46.4 -1.2
comp=Z,28nm,0.7s
KEV Kevo 53.18 338 eP P 04 51 48.6 +1.0
comp=Z,63nm,0.9s
CRVS Cervenica-Dubn 53.18 312 eP P 04 51 48.4 +0.4
CRVS pmax pmax
comp=Z,54nm,2.1s
CRVS Cervenica-Dubn 53.18 312 eP P 04 51 48.4 +0.4
BZS Buzias 53.30 307 ⇓iP P 04 51 49.5 +0.6
STHS Stebnicka Huta 53.30 312 eP P 04 51 49.3 +0.4
STHS pmax pmax
comp=Z,18nm,0.7s
STHS Stebnicka Huta 53.30 312 eP P 04 51 49.3 +0.4
BEL Belsk 53.52 315 eP P 04 51 50.9 +0.5
BEL Belsk 53.52 315 eP P 04 51 50.9 +0.5
ARCES ARCESS Array B 53.61 337 P P 04 51 51.5 +0.6
ARCES 04 52 56.7
ARCES pmax pmax
comp=Z,51nm,0.7s
ARCES ARCESS Array B 53.61 337 P P 04 51 51.5 +0.6
comp=Z,51nm,0.7s,baz=107,slow=7.8,SNR=239
ARCES PcP PcP 04 52 56.6 +0.3
comp=Z,13nm,0.8s,baz=108,slow=7.8,SNR=4.5
ARE0 ARCESS Array S 53.61 337 eP P 04 51 51.9 +1.0
SKO Skopje 53.83 303 i P P 04 51 53.0 +0.1
NIE Niedzica 53.91 312 eP P 04 51 53.2 -0.2
NIE Niedzica 53.91 312 eP P 04 51 53.2 -0.2
SEY Seymchan 53.95 31 P P 04 51 54.0 +0.6
SEY pmax pmax
comp=Z,9.0nm,0.7s
SEY Seymchan 53.95 31 P P 04 51 54.0 +0.6
comp=Z,9.1nm,0.7s,baz=239,slow=8.2,SNR=26
OJC Ojcow 54.20 313 eP P 04 51 55.3 -0.1
OJC Ojcow 54.20 313 eP P 04 51 55.3 -0.1
KTK1 Kautokeino 54.25 337 eP P 04 51 56.3 +0.8
PSZ Piszkesteto 54.28 310 eP P 04 51 56.6 +0.4
PSZ pmax pmax
comp=Z,22nm,0.8s
PSZ Piszkesteto 54.28 310 ⇑iP P 04 51 57.0 +0.8
PSZ Piszkesteto 54.28 310 eP P 04 51 56.6 +0.4
comp=Z,22nm,0.8s
PSZ Piszkesteto 54.28 310 ⇓eP P 04 51 56.5 +0.4
PKS6 Bocsa 54.62 309 ⇓eP P 04 51 59.0 +0.5
PVY Plav 54.83 304 ⇑iP P 04 52 00.4 +0.1
IVA Berane 54.84 304 ⇑iP P 04 52 01.1 +0.8
VYHS Vyhne 54.94 311 eP P 04 52 01.1 +0.2
VYHS pmax pmax
comp=Z,13nm,1.2s
VYHS Vyhne 54.94 311 eP P 04 52 01.1 +0.2
PLE Pljevlja 55.14 305 ⇑iP P 04 52 03.7 +1.2
OKC Ostrava-Krasne 55.29 313 ⇓iP P 04 52 03.8 +0.5
OKC Ostrava-Krasne 55.29 313 ⇓iP P 04 52 03.8 +0.5
PKSM Moragy 55.30 308 ⇓iP P 04 52 04.0 +0.6
PKSM Moragy 55.30 308 ⇓eP P 04 52 03.5 +0.1
PKSG 55.34 310 ⇑eP P 04 52 04.1 +0.4
TTG Podgorica 55.37 304 ⇑iP P 04 52 03.7 -0.3
ULC Ulcinj 55.45 303 ⇑iP P 04 52 04.0 -0.6
NKY Niksic 55.50 304 ⇑iP P 04 52 03.4 -1.7
PKS9 Tamasi 55.51 309 ⇓eP P 04 52 05.3 +0.4
UPM Unac-Piva 55.51 305 ⇑iP P 04 52 04.1 -1.1
GKP Gorka Klasztor 55.64 317 eP P 04 52 05.9 +0.2
GKP e 04 54 11.0
GKP Gorka Klasztor 55.64 317 eP P 04 52 05.8 +0.1
GKP ePP PP 04 54 10.9 +0.5
BUM Brajici-Budva 55.65 304 ⇑iP P 04 52 06.0 -0.1
MORC Moravsky Berou 55.68 313 eP P 04 52 06.7 +0.5
MORC pmax pmax
comp=Z,38nm,0.8s
MORC Moravsky Berou 55.68 313 ⇓iP P 04 52 07.1 +0.9
MORC Moravsky Berou 55.68 313 eP P 04 52 06.7 +0.5
comp=Z,38nm,0.8s
KMBO Kilima Mbogo 55.81 247 P P 04 52 08.3 +0.5
comp=Z,2.2nm,0.8s,baz=41,slow=12,SNR=6.2
KMBO pP pP 04 52 31.3 +3.6
comp=Z,5.7nm,0.9s,baz=43,slow=14,SNR=5.9
TRO Tromso 55.88 337 eP P 04 52 08.2 +1.0
HCY Herceg Novi 55.92 304 ⇑iP P 04 52 07.7 -0.3
VRAC Vranov 56.34 312 P P 04 52 11.7 +0.8
VRAC pmax pmax
comp=Z,54nm,0.8s
VRAC Vranov 56.34 312 ⇑iP P 04 52 12.1 +1.3
VRAC Vranov 56.34 312 P P 04 52 11.7 +0.8
comp=Z,54nm,0.8s,baz=91,slow=7.2,SNR=43
KSP Ksiaz 56.39 314 ⇓eP P 04 52 11.7 +0.6
KSP Ksiaz 56.39 314 eP P 04 52 11.6 +0.5
DPC Dobruska-Polom 56.41 314 ⇓iP P 04 52 12.2 +0.8
DPC Dobruska-Polom 56.41 314 ⇓iP P 04 52 12.2 +0.8
DPC ex x 04 52 16.5
DPC Dobruska-Polom 56.41 314 eP P 04 52 12.2 +0.8
UPC Upice 56.60 314 ⇓iP P 04 52 13.4 +0.8
UPC Upice 56.60 314 ⇓iP P 04 52 13.4 +0.8
BSD Bornholm Skovb 56.91 319 ⇓iP P 04 52 14.0 -0.7
BSD pmax pmax
comp=Z,52nm,0.7s
BSD Bornholm Skovb 56.91 319 ⇓iP P 04 52 14.0 -0.7
comp=Z,52nm,0.7s
CONA Conrad Observa 56.98 311 i P P 04 52 16.0 +0.5
comp=Z,61nm,1.0s,SNR=29
STEI Steigen 56.98 335 eP P 04 52 16.0 +1.0
TREC Trest 57.06 312 ⇓iP P 04 52 13.5 -2.5
TREC Trest 57.06 312 ⇓iP P 04 52 13.5 -2.5
TREC ex x 04 52 16.7
ARSA Arzberg 57.30 310 i P P 04 52 17.8 +0.1
comp=Z,17nm,0.8s,SNR=11
HFS Hagfors 57.37 325 P P 04 52 18.1 +0.2
comp=Z,159nm,0.7s,baz=98,slow=7.6,SNR=376
PRU Pruhonice 57.59 313 ⇓iP P 04 52 20.4 +0.8
PRU Pruhonice 57.59 313 ⇓iP P 04 52 20.4 +0.8
FLOS Flostrand 57.60 333 eP P 04 52 19.9 +0.5
FLOS IAmb IAmb 04 52 20.5
comp=Z,189nm,0.6s
LOF Lofoten 57.63 335 eP P 04 52 19.4 -0.2
PRA Prague 57.65 313 eP P 04 52 21.0 +1.0
PRA Prague 57.65 313 ⇓eP P 04 52 21.0 +1.0
PERS Pernice 57.66 309 i P P 04 52 20.6 +0.4
KONS Konsvik 57.71 333 eP P 04 52 20.6 +0.5
KONS IAmb IAmb 04 52 21.3
comp=Z,98nm,0.6s
SOKA Soboth 57.71 309 i P P 04 52 21.1 +0.5
comp=Z,43nm,1.0s,SNR=25
STOK Stokkvaagen 57.74 333 eP P 04 52 20.7 +0.4
BOJS Bojanci 57.74 308 i P P 04 52 21.3 +0.5
BOJS i 04 52 29.7
RUE Ruedersdorf 57.79 316 eP P 04 52 21.2 +0.3
comp=Z,75nm,0.7s
RUE Ruedersdorf 57.79 316 eP P 04 52 21.4 +0.4
comp=Z,45nm,0.8s
TIP Timpagrande 57.83 300 eP P 04 52 21.5 -0.1
comp=Z,28nm,1.0s
BRG Berggiesshubel 57.87 314 ⇓iP P 04 52 22.1 +0.6
comp=Z,44nm,0.7s
BRG Berggiesshubel 57.87 314 ⇓iP P 04 52 22.1 +0.6
BRG pmax pmax
comp=Z,44nm,0.7s
BRG Berggiesshubel 57.87 314 eP P 04 52 22.0 +0.5
comp=Z,44nm,0.7s
VISS Visnje 57.98 308 eP P 04 52 22.4 -0.1
MOA Molln 58.06 311 i P P 04 52 23.0 0.0
comp=Z,38nm,0.8s,SNR=17
OBKA Obir 58.07 309 i P P 04 52 23.7 +0.5
comp=Z,27nm,0.9s,SNR=9.5

NSS Namsos 58.14 331 eP P 04 52 23.1 -0.1
LJU Ljubljana 58.16 309 eP P 04 52 24.2 +0.5
HSPB Hornsund (broa 58.23 345 eP P 04 52 24.7 +1.0
COP Copenhagen 58.28 320 i P P 04 52 25.0 +0.7
COP pmax pmax
comp=Z,26nm,0.9s
COP Copenhagen 58.28 320 i P P 04 52 25.0 +0.7
comp=Z,26nm,0.8s
GEC2 GERESS Array S 58.28 312 eP P 04 52 25.1 +0.4
comp=Z,55nm,1.0s
GERES GERESS Array B 58.28 312 P P 04 52 25.0 +0.4
GERES pmax pmax
comp=Z,29nm,0.8s
GERES MLR MLR
comp=Z,83nm,20.7s
GERES GERESS Array B 58.28 312 P P 04 52 25.0 +0.4
comp=Z,29nm,0.8s,baz=75,slow=5.8,SNR=201
GERES LR LR 05 19 38.2
comp=Z,83nm,20.7s,baz=94,slow=38
SPA0 Spitsbergen Ar 58.30 347 eP P 04 52 25.1 +1.0
SPITS Spitsbergen Ar 58.30 347 P P 04 52 25.2 +1.0
SPITS pmax pmax
comp=Z,8.0nm,0.4s
SPITS Spitsbergen Ar 58.30 347 P P 04 52 25.2 +1.0
comp=Z,7.9nm,0.4s,baz=115,slow=12,SNR=76
KHC Kasperske Hory 58.33 312 eP P 04 52 25.7 +0.9
KHC Kasperske Hory 58.33 312 ⇓iP P 04 52 25.6 +0.8
KHC ex x 04 52 29.4
KHC Kasperske Hory 58.33 312 eP P 04 52 25.7 +0.9
CUC Castrocucco 58.37 301 eP P 04 52 25.2 -0.1
comp=Z,49nm,1.0s
CLL Collm 58.40 315 eP P 04 52 25.2 0.0
CLL pmax pmax
comp=Z,16nm,0.8s
CLL Collm 58.40 315 eP P 04 52 25.3 0.0
comp=Z,18nm,0.9s
CLL Collm 58.40 315 ⇓iP P 04 52 25.1 -0.2
comp=Z,18nm,0.9s
CLL i PcP PcP 04 53 15.8 +0.5
CLL eS S 05 00 18.0 -4.1
CLL Collm 58.40 315 eP P 04 52 25.2 0.0
comp=Z,16nm,0.8s
NC602 NORSAR Array S 58.42 326 eP P 04 52 25.2 0.0
LLD Lille Linde 58.43 320 i P P 04 52 26.0 +0.6
LLD Lille Linde 58.43 320 i P P 04 52 26.0 +0.6
JAVS Javornik 58.50 309 i P P 04 52 26.1 -0.1
NB2 NORSAR Subarra 58.56 326 P P 04 52 26.0 -0.3
comp=Z,114nm,0.8s,baz=86,slow=6.9
NB2 NORSAR Subarra 58.56 326 P P 04 52 26.0 -0.3
baz=86,slow=6.9
NOA NORSAR Array B 58.56 326 P P 04 52 25.9 -0.3
comp=Z,89nm,0.7s,baz=87,slow=7.0,SNR=377
NOA LR LR 05 18 52.2
comp=Z,102nm,20.8s,baz=100,slow=37
CEL Celeste 58.69 299 eP P 04 52 27.8 +0.2
comp=Z,163nm,1.0s
NAO01 NORSAR Array S 58.73 326 eP P 04 52 26.8 -0.7
comp=Z,99nm,0.8s
MBWA Marble Bar 58.74 144 eP P 04 52 28.6 +0.7
comp=Z,14nm,1.1s
WET Wettzell 58.78 312 eP P 04 52 28.4 +0.4
comp=Z,40nm,0.7s
KBA Koelnbreinsper 58.79 310 ⇓iP P 04 52 28.2 -0.1
comp=Z,16nm,0.9s
TANN Tannenbergstha 58.86 314 eP P 04 52 28.9 +0.3
comp=Z,26nm,0.8s
OSL Oslo 58.87 325 eP P 04 52 28.7 +0.4
OSL IAmb IAmb 04 52 29.7
comp=Z,110nm,0.9s
TBLU Trondheim 58.92 329 eP P 04 52 28.4 -0.2
WERN Wernitzgruen 58.93 314 eP P 04 52 29.6 +0.6
comp=Z,22nm,0.9s
GUNZ Gunzen 58.95 314 eP P 04 52 29.6 +0.4
comp=Z,46nm,1.0s
WERD Werda 58.95 314 eP P 04 52 29.5 +0.3
comp=Z,32nm,0.7s
PLN Plauen 59.04 314 eP P 04 52 30.2 +0.4
comp=Z,36nm,0.8s
ROTZ Rotzenmuhle 59.12 313 eP P 04 52 31.3 +1.0
comp=Z,53nm,0.9s
NEUB Neuenburg 59.18 315 eP P 04 52 30.9 +0.2
comp=Z,49nm,0.8s
KBS Kingsbay 59.31 347 eP P 04 52 32.2 +1.0
KBS Kingsbay 59.31 347 eP P 04 52 31.6 +0.4
KBS Kingsbay 59.31 347 eP P 04 52 32.2 +1.0
MOX Moxa 59.36 314 eP P 04 52 32.4 +0.4
comp=Z,30nm,0.9s
ABTA Abfaltersbach 59.41 310 ⇓iP P 04 52 31.4 -1.0
comp=Z,19nm,1.0s,SNR=8.6
KONO Kongsberg 59.46 325 eP P 04 52 32.4 0.0
KONO pmax pmax
comp=Z,109nm,1.2s
KONO Kongsberg 59.46 325 eP P 04 52 32.6 +0.1
KONO Kongsberg 59.46 325 eP P 04 52 32.4 0.0
comp=Z,109nm,1.2s
BSEG Bad Segeberg 59.69 318 eP P 04 52 34.9 +0.8
comp=Z,110nm,0.8s
GRF Grafenberg Arr 59.76 313 eP P 04 52 35.7 +1.0
comp=Z,116nm,1.5s
WTTA Wattenberg 59.91 310 ⇓iP P 04 52 35.4 -0.6
comp=Z,68nm,1.1s,SNR=20
WATA Walderalm 59.94 311 ⇓iP P 04 52 35.4 -0.8
comp=Z,48nm,1.0s,SNR=9.9
CLZ Clausthal 59.95 316 eP P 04 52 36.6 +0.6
comp=Z,87nm,0.9s
BILL Bilibino 59.98 25 d iP P 04 52 37.2 +1.3
BILL e 04 54 48.2
BILL eS S 05 00 45.9 +3.9
BILL pmax pmax
comp=Z,34nm,1.3s
BILL MLR MLR
comp=Z,99nm,16.0s
BILL Bilibino 59.98 25 eP P 04 52 37.4 +1.5
comp=Z,31nm,0.9s
FUR Furstenfeldbru 59.99 312 eP P 04 52 36.9 +0.6
comp=Z,120nm,1.3s
MUD Monsted U'grnd 60.01 321 ⇓iP P 04 52 37.1 +0.8
MUD pmax pmax
comp=Z,29nm,1.1s
MUD Monsted U'grnd 60.01 321 ⇓iP P 04 52 37.1 +0.8
comp=Z,29nm,1.1s
NRDL Niedersach Rie 60.02 317 eP P 04 52 37.2 +0.9
comp=Z,107nm,1.0s
HOMB Homborsund 60.16 323 eP P 04 52 37.7 +0.5
MOL Molde 60.20 328 eP P 04 52 46.0 +8.6
MOTA Moosalm 60.25 311 ⇓iP P 04 52 37.5 -0.8
comp=Z,42nm,0.7s,SNR=32
UBBA Unterbreizbach 60.35 315 eP P 04 52 38.9 +0.4
comp=Z,18nm,1.0s
RETA Reutte 60.45 311 ⇓iP P 04 52 39.2 -0.4
comp=Z,26nm,0.5s,SNR=9.2
FETA Feichten 60.56 310 i P P 04 52 39.8 -0.7
comp=Z,46nm,1.0s,SNR=12
ABPO Ambohimpanom 60.77 224 eP P 04 52 42.4 +0.2
ABPO pmax pmax
comp=Z,7.0nm,0.6s
ABPO Ambohimpanom 60.77 224 eP P 04 52 42.4 +0.2
comp=Z,7.2nm,0.6s
SNART Snartemo 60.83 324 eP P 04 52 42.4 +0.6
ODD1 Odda 60.92 325 eP P 04 52 42.9 +0.4
HYA Hoyanger 60.99 327 eP P 04 52 43.0 +0.2
HYA IAmb IAmb 04 52 46.2
comp=Z,30nm,0.8s
BLS5 Blasjo 61.07 325 eP P 04 52 43.6 +0.1
BLS5 IAmb IAmb 04 52 44.9
comp=Z,22nm,0.6s
DAVA Damuels 61.08 311 i P P 04 52 43.8 -0.2
comp=Z,90nm,0.8s,SNR=24
DAVOX Davos/Dischmat 61.18 310 P P 04 52 44.3 -0.4
DAVOX pmax pmax
comp=Z,23nm,0.8s
DAVOX Davos/Dischmat 61.18 310 P P 04 52 44.3 -0.4
comp=Z,23nm,0.8s,baz=108,slow=3.3,SNR=28
STU Stuttgart 61.23 313 eP P 04 52 45.1 +0.4
STU pmax pmax
comp=Z,75nm,0.9s
STU Stuttgart 61.23 313 eP P 04 52 45.1 +0.4
comp=Z,76nm,0.9s
STU Stuttgart 61.23 313 eP P 04 52 45.1 +0.4
comp=Z,74nm,0.9s
VLC Villacollemand 61.40 307 eP P 04 52 46.3 +0.3
comp=Z,103nm,1.3s
TNS Taunus Mts 61.43 314 eP P 04 52 46.5 +0.4
comp=Z,52nm,0.9s
IBBN Ibbenburen 61.47 317 eP P 04 52 46.7 +0.5
comp=Z,60nm,0.8s

FOO Floro 61.48 327 eP P 04 52 50.3 +4.2
RUND Rundenannen 61.48 326 eP P 04 52 45.9 -0.3
BER Bergen 61.50 326 eP P 04 52 46.7 +0.4
ASK Askoy 61.56 326 eP P 04 52 46.1 -0.5
TUE Stuetta 61.61 310 eP P 04 52 47.4 -0.2
comp=Z,31nm,0.9s
SUE Sulen 61.69 327 eP P 04 52 48.0 +0.5
KMY Karmoy 61.72 325 eP P 04 52 48.5 +0.7
BFO Black Forest 61.89 312 iP P 04 52 49.6 +0.4
BFO Black Forest 61.89 312 eP P 04 52 48.6 -0.5
comp=Z,12nm,0.9s
BUG Bochum--Univer 61.93 316 eP P 04 52 49.8 +0.5
comp=Z,59nm,1.0s
LANF Langenberg 62.09 313⇓eP P 04 52 51.0 +0.5
CDF Champ du Feu 62.55 312⇓iP P 04 52 53.5 -0.2
comp=Z,86nm,1.0s
CDF Champ du Feu 62.55 312⇓iP P 04 52 53.5 -0.2
CDF pmax pmax
comp=Z,86nm,1.0s
CDF Champ du Feu 62.55 312⇓iP P 04 52 53.5 -0.2
comp=Z,86nm,1.0s
ECH Echery 62.67 312 eP P 04 52 54.0 -0.5
ECH pmax pmax
comp=Z,24nm,0.9s
ECH Echery 62.67 312⇓eP P 04 52 54.5 0.0
ECH Echery 62.67 312 eP P 04 52 54.0 -0.5
comp=Z,24nm,0.9s
PGF Pioggiola 62.77 306⇓iP P 04 52 54.8 -0.5
comp=Z,50nm,0.7s
PGF Pioggiola 62.77 306⇓iP P 04 52 54.8 -0.5
PGF pmax pmax
comp=Z,51nm,0.7s
PGF Pioggiola 62.77 306⇓iP P 04 52 54.8 -0.5
comp=Z,50nm,0.7s
MOF Molkenrain 62.77 312⇓eP P 04 52 55.4 +0.2
MEM Membach 62.88 315 P P 04 52 56.2 +0.5
HINF Hinteralfeld 62.97 312⇓iP P 04 52 56.1 -0.3
comp=Z,134nm,1.2s
HINF Hinteralfeld 62.97 312⇓iP P 04 52 56.1 -0.3
HINF pmax pmax
comp=Z,135nm,1.2s
HINF Hinteralfeld 62.97 312⇓iP P 04 52 56.1 -0.3
comp=Z,134nm,1.2s
WLF Walferdange 62.99 314 P P 04 52 57.8 +1.3
comp=Z,50nm,1.5s
WLF Walferdange 62.99 314 eP P 04 52 57.6 +1.1
WLF pmax pmax
comp=Z,78nm,1.1s
WLF Walferdange 62.99 314 eP P 04 52 57.4 +0.9
comp=Z,76nm,1.0s
WLF Walferdange 62.99 314 eP P 04 52 57.6 +1.1
comp=Z,78nm,1.1s
LOMF Lomont 63.09 311⇓eP P 04 52 57.0 -0.3
HAU Haudompre 63.25 312⇓iP P 04 52 58.0 -0.3
comp=Z,92nm,0.8s
HAU eR
comp=Z,86nm,18.0s
HAU Haudompre 63.25 312⇓iP P 04 52 58.0 -0.3
HAU pmax pmax
comp=Z,92nm,0.8s
HAU Haudompre 63.25 312⇓iP P 04 52 58.0 -0.3
comp=Z,92nm,0.8s
BCLA Clavier 63.36 315 P P 04 52 59.1 +0.2
comp=Z,27nm,2.1s
SAOF Saorge 63.42 308⇓eP P 04 53 00.9 +1.4
THEF They Montfort 63.43 312⇓eP P 04 52 59.4 -0.1
AUTN L'Aution 63.51 308⇓eP P 04 53 02.7 +2.4
PAGF Fort de Pagny 63.52 313⇓iP P 04 53 00.2 +0.2
comp=Z,24nm,0.9s
PAGF Fort de Pagny 63.52 313⇓iP P 04 53 00.2 +0.2
comp=Z,24nm,0.9s
SBF Sospel 63.54 307 eP P 04 53 00.3 0.0
comp=Z,182nm,0.9s
SBF Sospel 63.54 307 eP P 04 53 00.3 0.0
SBF pmax pmax
comp=Z,182nm,0.9s
SBF Sospel 63.54 307 eP P 04 53 00.3 0.0
comp=Z,182nm,0.9s
LPG La Plagne 63.59 309⇓iP P 04 53 01.1 +0.2
comp=Z,146nm,0.8s
LPG La Plagne 63.59 309⇓iP P 04 53 01.1 +0.2
LPG pmax pmax
comp=Z,146nm,0.8s
LPG La Plagne 63.59 309⇓iP P 04 53 01.1 +0.2
comp=Z,146nm,0.8s
LPL La Plagne 63.60 309⇓iP P 04 53 01.1 +0.2
comp=Z,141nm,0.9s
LPL La Plagne 63.60 309⇓iP P 04 53 01.1 +0.2
LPL pmax pmax
comp=Z,141nm,0.9s
LPL La Plagne 63.60 309⇓iP P 04 53 01.1 +0.2
comp=Z,141nm,0.9s
TOUF Mont Tournerai 63.63 308⇓eP P 04 53 02.3 +1.2
MVIF Mont Vial 63.73 308 eP P 04 53 02.7 +1.1
GIVF Givet 63.73 315⇓iP P 04 53 01.6 +0.2
comp=Z,45nm,0.8s
GIVF Givet 63.73 315⇓iP P 04 53 01.6 +0.2
GIVF pmax pmax
comp=Z,45nm,0.8s
GIVF Givet 63.73 315⇓iP P 04 53 01.6 +0.2
comp=Z,45nm,0.8s
BNI Bardonecchia 63.76 309 eP P 04 53 01.1 -0.7
BNI pmax pmax
comp=Z,35nm,0.9s
BNI Bardonecchia 63.76 309 eP P 04 53 01.1 -0.7
comp=Z,35nm,0.9s
CABF La Chapelle 63.76 311⇓iP P 04 53 01.6 -0.2
comp=Z,52nm,0.9s
CABF La Chapelle 63.76 311⇓iP P 04 53 01.6 -0.2
CABF pmax pmax
comp=Z,53nm,0.9s
CABF La Chapelle 63.76 311⇓iP P 04 53 01.6 -0.2
comp=Z,52nm,0.9s
MBDF Montbardon 63.78 309⇓iP P 04 53 01.2 -0.8
comp=Z,50nm,0.6s
MBDF Montbardon 63.78 309⇓iP P 04 53 01.2 -0.8
MBDF pmax pmax
comp=Z,50nm,0.6s
MBDF Montbardon 63.78 309⇓iP P 04 53 01.2 -0.8
comp=Z,50nm,0.6s
DOU Dourbes 63.88 315 P P 04 53 02.5 +0.2
SNF Seneffe 63.97 315 P P 04 53 03.2 +0.3
MEZF Maizieres J'vi 63.97 313⇓iP P 04 53 03.1 +0.1
comp=Z,142nm,0.9s
MEZF Maizieres J'vi 63.97 313⇓iP P 04 53 03.1 +0.1
comp=Z,142nm,0.9s
SFTF Sexfontaines 64.06 313⇓iP P 04 53 03.3 -0.2
comp=Z,139nm,1.0s
SFTF Sexfontaines 64.06 313⇓iP P 04 53 03.3 -0.2
comp=Z,139nm,1.0s
BAIF Baives 64.13 315⇓iP P 04 53 04.2 +0.3
comp=Z,68nm,1.0s
BAIF Baives 64.13 315⇓iP P 04 53 04.2 +0.3
BAIF pmax pmax
comp=Z,68nm,1.0s
BAIF Baives 64.13 315⇓iP P 04 53 04.2 +0.3
comp=Z,68nm,1.0s
FRF La Foret Royal 64.17 307⇓iP P 04 53 04.2 -0.2
comp=Z,96nm,0.9s
FRF La Foret Royal 64.17 307⇓iP P 04 53 04.2 -0.2
FRF pmax pmax
comp=Z,96nm,0.9s
FRF La Foret Royal 64.17 307⇓iP P 04 53 04.2 -0.2
comp=Z,96nm,0.9s
LMR La Mourre 64.33 307⇓iP P 04 53 05.3 -0.1
comp=Z,134nm,1.1s
LMR La Mourre 64.33 307⇓iP P 04 53 05.3 -0.1
LMR pmax pmax
comp=Z,134nm,1.1s
LMR La Mourre 64.33 307⇓iP P 04 53 05.3 -0.1
comp=Z,134nm,1.1s
ORIF Oris-en-Rattie 64.34 309⇓iP P 04 53 04.9 -0.7
comp=Z,25nm,0.6s
ORIF eR
comp=Z,78nm,19.4s
ORIF Oris-en-Rattie 64.34 309⇓iP P 04 53 04.9 -0.7
ORIF pmax pmax
comp=Z,25nm,0.6s
ORIF Oris-en-Rattie 64.34 309⇓iP P 04 53 04.9 -0.7
comp=Z,25nm,0.6s
KEST Kesra 64.41 298 P P 04 53 06.8 +0.7
comp=Z,25nm,1.0s,baz=355,slow=1.5,SNR=57
SMRF Simiane la Rot 64.80 308 eP P 04 53 08.9 +0.4
comp=Z,51nm,0.7s
SMRF Simiane la Rot 64.80 308 eP P 04 53 08.9 +0.4
comp=Z,51nm,0.7s

LOR Lormes 65.07 312⇓iP P 04 53 09.5 -0.7
comp=Z,78nm,1.0s
LOR eR
comp=Z,135nm,18.0s
LOR Lormes 65.07 312⇓iP P 04 53 09.5 -0.7
LOR pmax pmax
comp=Z,78nm,1.0s
LOR Lormes 65.07 312⇓iP P 04 53 09.5 -0.7
comp=Z,78nm,1.0s
SSB Saint Sauveur 65.15 310 eP P 04 53 10.5 -0.3
SSB pmax pmax
comp=Z,35nm,0.9s
SSB Saint Sauveur 65.15 310 eP P 04 53 10.5 -0.3
comp=Z,35nm,0.9s
VIVF Saint-Julien-l 65.18 309⇓iP P 04 53 10.8 -0.2
comp=Z,106nm,1.1s
VIVF Saint-Julien-l 65.18 309⇓iP P 04 53 10.8 -0.2
VIVF pmax pmax
comp=Z,106nm,1.1s
VIVF Saint-Julien-l 65.18 309⇓iP P 04 53 10.8 -0.2
comp=Z,106nm,1.1s
SMF Signal de Mont 65.25 311⇓iP P 04 53 10.9 -0.4
comp=Z,172nm,1.0s
SMF Signal de Mont 65.25 311⇓iP P 04 53 10.9 -0.4
SMF pmax pmax
comp=Z,172nm,1.0s
SMF Signal de Mont 65.25 311⇓iP P 04 53 10.9 -0.4
comp=Z,172nm,1.0s
SSF Saint Saulge 65.35 312⇓iP P 04 53 11.7 -0.3
comp=Z,146nm,0.8s
SSF Saint Saulge 65.35 312⇓iP P 04 53 11.7 -0.3
SSF pmax pmax
comp=Z,146nm,0.8s
SSF Saint Saulge 65.35 312⇓iP P 04 53 11.7 -0.3
comp=Z,146nm,0.8s
AVF Avril sur Loir 65.53 311⇓iP P 04 53 12.8 -0.3
comp=Z,110nm,0.8s
AVF Avril sur Loir 65.53 311⇓iP P 04 53 12.8 -0.3
AVF pmax pmax
comp=Z,110nm,0.8s
AVF Avril sur Loir 65.53 311⇓iP P 04 53 12.8 -0.3
comp=Z,110nm,0.8s
PLDF La Plantade 65.58 310⇓eP P 04 53 14.7 +1.1
HYF Humbligny 65.86 312 eP P 04 53 15.7 +0.4
HYF Humbligny 65.86 312 eP P 04 53 15.7 +0.4
AGO Saint Agoulin 65.89 311⇓eP P 04 53 16.8 +1.3
DAG Danmarks Havn 65.92 346⇓iP P 04 53 15.2 +0.1
DAG pmax pmax
comp=Z,26nm,0.9s
DAG Danmarks Havn 65.92 346⇓iP P 04 53 15.2 +0.1
comp=Z,31nm,0.9s
BGF Bois d'Agland 65.93 311⇓iP P 04 53 15.3 -0.4
comp=Z,45nm,0.7s
BGF Bois d'Agland 65.93 311⇓iP P 04 53 15.3 -0.4
BGF pmax pmax
comp=Z,45nm,0.7s
BGF Bois d'Agland 65.93 311⇓iP P 04 53 15.3 -0.4
comp=Z,45nm,0.7s
LASF Ste Croix 65.96 308⇓iP P 04 53 16.2 +0.2
comp=Z,148nm,1.0s
LASF Ste Croix 65.96 308⇓iP P 04 53 16.2 +0.2
comp=Z,148nm,1.0s
LBL Lubilhac 66.04 310⇓eP P 04 53 18.0 +1.4
PYM Petit Puy Mans 66.05 310⇓eP P 04 53 17.8 +1.2
TCF Toulx Ste Croi 66.43 311⇓iP P 04 53 19.2 +0.2
comp=Z,180nm,0.9s
TCF Toulx Ste Croi 66.43 311⇓iP P 04 53 19.2 +0.2
TCF pmax pmax
comp=Z,180nm,0.9s
TCF Toulx Ste Croi 66.43 311⇓iP P 04 53 19.2 +0.2
comp=Z,180nm,0.9s
WRA Warramunga Arr 66.56 131 P P 04 53 21.1 +1.1
comp=Z,11nm,0.5s,baz=325,slow=6.6,SNR=43
WRA pP pP 04 53 43.1 +2.6
comp=Z,33nm,0.9s,baz=321,slow=6.6,SNR=12
WRA PKP2bc 05 21 53.0
comp=Z,1.5nm,0.7s,baz=130,slow=3.2,SNR=8.7
WRAB Tennant Creek 66.56 131 P P 04 53 21.9 +1.8
comp=Z,158nm,0.5s,SNR=27
WRAB Tennant Creek 66.56 131 eP P 04 53 21.1 +1.0
WRAB e*SP sP 04 53 42.6 -6.7
WRAB pmax pmax
comp=Z,20nm,0.7s
WRAB Tennant Creek 66.56 131 eP P 04 53 21.1 +1.0
comp=Z,20nm,0.7s
WRAB esP sP 04 53 42.6 -6.7
CAF Calviac 66.94 310⇓iP P 04 53 22.4 +0.2
comp=Z,137nm,0.8s
CAF Calviac 66.94 310⇓iP P 04 53 22.4 +0.2
CAF pmax pmax
comp=Z,137nm,0.8s
CAF Calviac 66.94 310⇓iP P 04 53 22.4 +0.2
comp=Z,137nm,0.8s
EKA Eskdalemuir Ar 67.03 322 P P 04 53 22.7 +0.1
EKA pmax pmax
comp=Z,55nm,0.8s
EKA Eskdalemuir Ar 67.03 322 P P 04 53 22.7 +0.1
comp=Z,55nm,0.8s,baz=65,slow=6.6,SNR=88
RJF Les Rejaudoux 67.19 310⇓iP P 04 53 24.2 +0.4
comp=Z,150nm,0.9s
RJF eR
comp=Z,120nm,22.2s
RJF Les Rejaudoux 67.19 310⇓iP P 04 53 24.2 +0.4
RJF pmax pmax
comp=Z,150nm,0.9s
RJF Les Rejaudoux 67.19 310⇓iP P 04 53 24.2 +0.4
comp=Z,150nm,0.9s
LDF La Druitiere 67.25 314⇓iP P 04 53 23.8 -0.3
comp=Z,139nm,0.9s
LDF La Druitiere 67.25 314⇓iP P 04 53 23.8 -0.3
LDF pmax pmax
comp=Z,139nm,0.9s
LDF La Druitiere 67.25 314⇓iP P 04 53 23.8 -0.3
comp=Z,139nm,0.9s
MTLF Montolieu 67.32 308⇓iP P 04 53 24.7 +0.1
comp=Z,60nm,0.8s
MTLF Montolieu 67.32 308⇓iP P 04 53 24.7 +0.1
MTLF pmax pmax
comp=Z,60nm,0.8s
MTLF Montolieu 67.32 308⇓iP P 04 53 24.7 +0.1
comp=Z,60nm,0.8s
GRR Gorron 67.78 314⇓iP P 04 53 27.1 -0.3
comp=Z,115nm,0.9s
GRR Gorron 67.78 314⇓iP P 04 53 27.1 -0.3
GRR pmax pmax
comp=Z,115nm,0.9s
GRR Gorron 67.78 314⇓iP P 04 53 27.1 -0.3
comp=Z,115nm,0.9s
LFF La Frestale 67.82 310⇓iP P 04 53 28.1 +0.3
comp=Z,114nm,0.7s
LFF La Frestale 67.82 310⇓iP P 04 53 28.1 +0.3
LFF pmax pmax
comp=Z,114nm,0.7s
LFF La Frestale 67.82 310⇓iP P 04 53 28.1 +0.3
comp=Z,114nm,0.7s
MFF Saint Martin d 67.89 312⇓iP P 04 53 27.7 -0.4
comp=Z,77nm,0.8s
MFF Saint Martin d 67.89 312⇓iP P 04 53 27.7 -0.4
MFF pmax pmax
comp=Z,77nm,0.8s
MFF Saint Martin d 67.89 312⇓iP P 04 53 27.7 -0.4
comp=Z,77nm,0.8s
MLS Moulis 68.22 308 eP P 04 53 30.1 -0.2
AKET Djebel Ketaf 68.51 300 P pP 04 53 59.9 +0.9
EPF Esparros 68.72 308⇓iP P 04 53 32.5 -1.0
comp=Z,20nm,0.7s
EPF Esparros 68.72 308⇓iP P 04 53 32.5 -1.0
EPF pmax pmax
comp=Z,20nm,0.7s
EPF Esparros 68.72 308⇓iP P 04 53 32.5 -1.0
comp=Z,20nm,0.7s
RESF Ens 68.80 308 eP P 04 53 34.6 +0.6
ADJB Djebel Djouab 68.81 300 P pP 04 53 55.4 +0.6
ABA Alger-Bouzarea 68.89 301 P pP 04 53 54.7 -0.4
SGMF Saint Gilles 68.90 314⇓iP P 04 53 34.4 0.0
comp=Z,188nm,1.1s
SGMF Saint Gilles 68.90 314⇓iP P 04 53 34.4 0.0
SGMF pmax pmax
comp=Z,188nm,1.1s
SGMF Saint Gilles 68.90 314⇓iP P 04 53 34.4 0.0
comp=Z,188nm,1.1s
AS31 Alice Springs 68.93 134 eP P 04 53 35.4 +0.5
COEN Coen 68.96 120 eP P 04 53 35.4 +0.2
VIEF Viey 68.99 308 eP P 04 53 35.7 +0.5
EMHD Djebel Mahouad 69.16 301 P P 04 53 37.8 +1.4
ROSF Rostrenen 69.32 315⇓iP P 04 53 37.1 +0.1

comp=Z,62nm,0.8s
ROSF Rostrenen 69.32 315⇓iP P 04 53 37.1 +0.1
ROSF pmax pmax
comp=Z,62nm,0.8s
ROSF Rostrenen 69.32 315⇓iP P 04 53 37.1 +0.1
comp=Z,62nm,0.8s
ETSF Etsaut 69.39 308⇓iP P 04 53 38.0 +0.4
comp=Z,118nm,0.6s
ETSF Etsaut 69.39 308⇓iP P 04 53 38.0 +0.4
ETSF pmax pmax
comp=Z,118nm,0.6s
ETSF Etsaut 69.39 308⇓iP P 04 53 38.0 +0.4
comp=Z,118nm,0.6s
PMG Port Moresby 69.39 114 eP P 04 53 37.3 -0.6
PMG pmax pmax
comp=Z,34nm,1.0s
PMG Port Moresby 69.39 114 eP P 04 53 37.3 -0.6
comp=Z,8.8nm,1.0s
QUIF Quistinic 69.40 314 eP P 04 53 37.6 +0.1
QUIF Quistinic 69.40 314 eP P 04 53 37.6 +0.1
QUIF Quistinic 69.40 314 eP P 04 53 37.6 +0.1
GAMB Gambell 69.68 28 eP P 04 53 38.6 -0.3
comp=Z,21nm,1.2s
SJPF Ste Jean 69.77 309⇓iP P 04 53 40.4 +0.5
comp=Z,56nm,0.6s
SJPF Ste Jean 69.77 309⇓iP P 04 53 40.4 +0.5
SJPF pmax pmax
comp=Z,56nm,0.6s
SJPF Ste Jean 69.77 309⇓iP P 04 53 40.4 +0.5
comp=Z,56nm,0.6s
EBNR Beni Rached 70.20 301 P P 04 53 43.9 +1.2
ECHA Ech Chlef 70.38 301 P P 04 53 44.7 +1.0
TNA Tin City 70.42 25 eP P 04 53 44.1 +0.7
comp=Z,22nm,1.5s
EANR 'Ain N'Sour 70.65 301 P P 04 53 46.3 +0.8
ETRT Tiaret 70.70 300 P P 04 53 47.9 +2.0
FORT Forrest 70.89 143 eP P 04 53 46.7 0.0
comp=Z,36nm,1.2s
LSZ Lusaka 71.44 240 eP P 04 53 50.6 +0.1
LSZ pmax pmax
comp=Z,5.0nm,0.6s
LSZ Lusaka 71.44 240 eP P 04 53 50.5 +0.1
comp=Z,5.1nm,0.6s
TAM Tamanrasset 72.16 287 eP P 04 53 55.5 +0.6
TAM e 04 56 35.1
TAM pmax pmax
comp=Z,21nm,1.0s
TAM Tamanrasset 72.16 287 eP P 04 53 55.5 +0.6
comp=Z,21nm,1.0s
TAM ePP PP 04 56 35.1 -0.9
SUMG Summit 72.56 345⇓iP P 04 53 57.4 +0.7
SUMG pmax pmax
comp=Z,64nm,0.9s
SUMG Summit 72.56 345⇓iP P 04 53 57.4 +0.7
comp=Z,64nm,0.9s
SUMG Summit 72.56 345 eP P 04 53 57.1 +0.4
comp=Z,87nm,0.9s
ESDC Sonseca Array 72.95 306 P P 04 53 59.6 +0.4
comp=Z,31nm,0.8s,baz=58,slow=6.0,SNR=129
ESLA Sonseca Array 72.95 306 eP P 04 53 59.2 0.0
comp=Z,8.6nm,0.9s
PAB San Pablo 73.28 306 eP P 04 54 01.3 +0.1
PAB pmax pmax
comp=Z,82nm,1.3s
PAB San Pablo 73.28 306 eP P 04 54 01.2 +0.1
comp=Z,82nm,1.3s
PBRG Braganca 74.04 309 eP P 04 54 06.0 +0.4
comp=Z,36nm,1.3s
MVO Moncorvo 74.50 309 eP P 04 54 08.7 +0.4
comp=Z,84nm,1.0s
KULLO Kullorsuaq 74.52 351⇓iP P 04 54 07.9 +0.3
KULLO pmax pmax
comp=Z,74nm,0.9s
KULLO Kullorsuaq 74.52 351⇓iP P 04 54 07.9 +0.3
comp=Z,74nm,0.9s
POLO Lamas de Olo 74.94 309 eP P 04 54 11.5 +0.7
comp=Z,22nm,1.4s
CTAO Charters Tower 75.05 123 eP P 04 54 12.5 +1.0
CTAO pmax pmax
comp=Z,29nm,1.1s
CTAO Charters Tower 75.05 123 eP P 04 54 12.5 +1.0
comp=Z,29nm,1.1s
IM04 Indian Mountai 75.16 22 eP P 04 54 11.6 +0.1
IM04 ePP PP 04 56 59.8 -0.4
MTE Manteigas 75.17 308 eP P 04 54 13.3 +1.1
comp=Z,80nm,1.7s
MTE Manteigas 75.17 308 eP P 04 54 12.6 +0.4
comp=Z,60nm,0.8s
PCBR Castelo Branco 75.36 307 eP P 04 54 14.2 +1.1
comp=Z,31nm,2.2s
PMRV Marv??o 75.48 307 eP P 04 54 14.4 +0.6
comp=Z,52nm,1.5s
COLD Coldfoot 75.49 20 eP P 04 54 14.1 +0.8
comp=Z,42nm,1.0s
COLD ePP PP 04 57 01.5 -1.3
PTO Porto 75.59 309 eP P 04 54 15.4 +1.0
comp=Z,132nm,1.6s
PBAR Barrancos 75.75 306 eP P 04 54 16.3 +0.9
comp=Z,207nm,0.8s
PESTR Estremoz 75.85 307 eP P 04 54 16.8 +0.8
comp=Z,33nm,1.9s
PCAS Casmilo, Conde 75.98 308 eP P 04 54 17.7 +1.0
comp=Z,75nm,1.7s
PTOM Tomar 76.11 308 eP P 04 54 18.4 +1.0
comp=Z,71nm,1.4s
EVO Evora 76.30 306 eP P 04 54 19.4 +0.9
comp=Z,106nm,1.5s
PVAQ Vaqueiros 76.57 305 eP P 04 54 20.9 +0.8
comp=Z,97nm,1.0s
PCVE Castro Verde 76.70 306 eP P 04 54 21.6 +0.8
comp=Z,53nm,1.3s
MESJ Messejana 76.74 306 eP P 04 54 21.7 +0.7
MESJ AMb AMB 04 54 23.5
comp=Z,90nm,1.2s
MESJ Messejana 76.74 306 eP P 04 54 21.7 +0.7
MESJ Messejana 76.74 306 eP P 04 54 21.7 +0.7
MESJ pmax pmax
comp=Z,90nm,1.2s
PBDV Barranco-do-Ve 76.79 305 eP P 04 54 22.6 +1.2
comp=Z,117nm,1.1s
PNCL Nicolau / Gran 76.84 306 eP P 04 54 22.5 +0.9
comp=Z,61nm,1.5s
PMAFR Mafra 77.00 307 eP P 04 54 23.6 +1.1
comp=Z,143nm,0.9s
RES Resolute Bay 77.06 0 eP P 04 54 22.4 +0.3
RES pmax pmax
comp=Z,27nm,1.3s
RES Resolute Bay 77.06 0 eP P 04 54 22.4 +0.3
comp=Z,27nm,1.3s
MORF Marmelete 77.28 306 eP P 04 54 26.1 +2.0
comp=Z,106nm,1.8s
PFVI Vila Bisbo 77.48 305 eP P 04 54 26.6 +1.4
comp=Z,161nm,1.3s
PPLA Purkeypile 77.63 24 eP P 04 54 26.9 +1.2
comp=Z,19nm,0.6s
KTH Kantishna Hill 77.65 23 eP P 04 54 26.7 +1.0
comp=Z,46nm,1.1s
COLA College 77.77 21 d iP P 04 54 27.0 +0.8
COLA pmax pmax
comp=Z,224nm,1.0s
COLA College 77.77 21 eP P 04 54 26.6 +0.4
comp=Z,64nm,0.9s
COLA ePP PP 04 57 20.3 -1.7
ILULI Ilulissat 77.85 346 iP P 04 54 26.7 +0.1
ILULI pmax pmax
comp=Z,35nm,0.9s
ILULI Ilulissat 77.85 346 iP P 04 54 26.7 +0.1
comp=Z,35nm,0.9s
TRF Thorofare Moun 77.93 23 eP P 04 54 27.8 +0.4
comp=Z,7.8nm,0.7s
TRF ePP PP 04 57 21.4 -2.2
ILAR Eielson Array 78.14 21 P P 04 54 28.2 -0.2
ILAR 04 57 25.2
ILAR pmax pmax
comp=Z,23nm,0.7s
ILAR pmax pmax
comp=Z,5.0nm,1.0s
ILAR Eielson Array 78.14 21 P P 04 54 28.1 -0.2
comp=Z,23nm,0.7s,baz=309,slow=4.7,SNR=284
ILAR PP PP 04 57 25.1 0.0
comp=Z,5.0nm,1.0s,baz=301,slow=7.2,SNR=7.3
MCK McKinley 78.19 22 eP P 04 54 29.0 +0.3
MCK pmax pmax
comp=Z,26nm,0.6s
MCK McKinley 78.19 22 eP P 04 54 29.0 +0.3
comp=Z,26nm,0.6s
LBTB Lobatse 79.32 234 eP P 04 54 35.3 -0.2

LBTB pmax pmax
comp=Z,10.0nm,0.8s
LBTB Lobatse 79.32 234 *e*P **P 04 54 35.3 -0.2**
comp=Z,10nm,0.8s
SFJD Kangerlussuaq 79.52 344 *i* P **P 04 54 35.6 -0.2**
SFJD pmax pmax
comp=Z,32nm,0.8s
SFJD Kangerlussuaq 79.52 344 *i* P **P 04 54 35.6 -0.2**
comp=Z,32nm,0.7s
STKA Stephens Creek 79.52 135 P **P 04 54 36.9 +0.6**
comp=Z,5.5nm,0.6s,baz=319,slow=4.5,SNR=7.1
STKA pP **pP 04 54 59.3 +1.9**
comp=Z,8.7nm,0.9s,baz=19,slow=3.6,SNR=5.5
STKA LR LR 05 37 57.9
comp=Z,66nm,19.0s,baz=300,slow=42
PMR Palmer 79.57 24 *e*P **P 04 54 36.9 +0.8**
PMR *e* 04 54 44.2
PMR pmax pmax
comp=Z,65nm,1.0s
PMR Palmer 79.57 24 *e*P **P 04 54 36.9 +0.8**
comp=Z,65nm,1.0s
PMR *e* 04 54 44.2
TOA0 Torodi Ar. Sit 79.58 279 *e*P **P 04 54 37.2 +0.1**
TORD Torodi Ar. Bea 79.58 279 P **P 04 54 37.4 +0.3**
comp=Z,51nm,0.8s,baz=56,slow=4.3,SNR=462
TORD LR LR 05 35 34.3
comp=Z,40nm,18.2s,baz=30,slow=40
RC01 Rabbit Creek A 79.69 24 *e*P **P 04 54 37.4 +0.5**
comp=Z,63nm,1.0s
DOT Dot Lake 79.81 21 *e*P **P 04 54 38.0 +0.4**
comp=Z,13nm,0.5s
EGAK Eagle 79.84 19 *e*P **P 04 54 38.2 +0.6**
comp=Z,31nm,0.8s
PAX Paxson 79.86 22 *e*P **P 04 54 38.0 +0.2**
PAX pmax pmax
comp=Z,51nm,1.4s
PAX Paxson 79.86 22 *e*P **P 04 54 38.0 +0.2**
comp=Z,51nm,1.4s
SEW Seward 80.45 25 *e*P **P 04 54 41.1 +0.2**
comp=Z,50nm,1.1s
KDAK Kodiak Island 80.76 28 *i* P **P 04 54 43.5 +0.9**
DAWY Dawson 80.89 19 *e*P **P 04 54 43.7 +0.4**
comp=Z,32nm,0.8s
DIV Divide 81.06 23 *e*P **P 04 54 45.4 +1.1**
comp=Z,66nm,1.1s
BMRM Bremner River 81.58 23 *e*P **P 04 54 48.0 +1.0**
comp=Z,64nm,1.0s
BOSA Boshof 81.79 231 P **P 04 54 48.5 -0.2**
comp=Z,4.0nm,0.8s,baz=26,slow=2.6,SNR=8.1
BOSA Boshof 81.79 231 *e*P **P 04 54 49.5 +0.9**
comp=Z,9.4nm,0.9s
TSUM Tsumeb 81.94 243 *e*P **P 04 54 50.1 +0.4**
comp=Z,4.7nm,1.0s
YKA Yellowknife Ar 87.71 10 P **P 04 55 17.8 +0.1**
comp=Z,14nm,0.7s,baz=334,slow=5.0,SNR=232
YKA PP **PP 04 58 39.3 -3.9**
comp=Z,1.7nm,0.7s,baz=340,slow=7.8,SNR=6.2
YKA PKKPbc **PKKPbc 05 13 03.4 -2.4**
comp=Z,0.2nm,0.6s,baz=152,slow=2.4,SNR=4.2
DLBC Dease Lake 88.10 18 *e*P **P 04 55 20.8 +1.0**
comp=Z,19nm,1.0s
DBIC Dimbokro 88.29 277 P **P 04 55 22.1 +0.7**
DBIC pmax pmax
comp=Z,30nm,0.7s
DBIC Dimbokro 88.29 277 P **P 04 55 22.1 +0.7**
comp=Z,30nm,0.7s,baz=47,slow=6.0,SNR=22
DBIC Dimbokro 88.29 277 *e*P **P 04 55 22.0 +0.7**
comp=Z,81nm,1.3s
KIC Kosan Boka 88.33 276 *e*P **P 04 55 22.3 +0.7**
comp=Z,90nm,0.9s
TIC Toumodi 88.44 277 *e*P **P 04 55 22.6 +0.4**
comp=Z,55nm,0.9s
LIC Lamto 88.65 276⇓*i*P **P 04 55 23.7 +0.6**
comp=Z,50nm,0.9s,baz=52
LIC Lamto 88.65 276 *e*P **P 04 55 23.7 +0.6**
comp=Z,71nm,0.9s
LIC Lamto 88.65 276⇓*i*P **P 04 55 23.7 +0.6**
comp=Z,50nm,0.9s
WRAK Wrangell Islan 89.12 21 *e*P **P 04 55 25.9 +1.4**
comp=Z,20nm,1.0s
FCC Fort Churchill 93.06 0 *e*P **P 04 55 42.7 0.0**
FCC Fort Churchill 93.06 0 *e*P **P 04 55 42.7 0.0**
comp=Z,32nm,1.3s
SCHQ Schefferville 93.95 345 P **P 04 55 46.3 -0.7**
comp=Z,8.1nm,0.7s,baz=28,slow=5.1,SNR=19
SCHQ PP **PP 04 59 31.9 -0.8**
comp=Z,5.9nm,0.8s,baz=40,slow=7.6,SNR=6.4
EDM Edmonton 96.75 12 *e*P **P 04 56 00.3 +0.5**
EDM Edmonton 96.75 12 *e*P **P 04 56 00.3 +0.5**
comp=Z,11nm,0.9s
FFC Flin Flon 96.77 5 *e*P **P 04 55 59.7 -0.1**
FFC pmax pmax
comp=Z,16nm,1.2s
FFC Flin Flon 96.77 5 *e*P **P 04 55 59.7 -0.1**
comp=Z,14nm,1.2s
NEW Newport 100.63 16 *e*P **Pdif 04 56 17.9 +0.6**
NEW pmax pmax
comp=Z,2.0nm,0.8s
NEW Newport 100.63 16 *e*Pdif **Pdif 04 56 17.9 +0.6**
comp=Z,2.1nm,0.8s
SYO Syowa Base 103.14 196⇑*i*Pdiff **Pdif 04 56 28.5 +0.9**
PDAR Pinedale Array 107.50 13 PKiKP **PKiKP 05 00 54.5 -1.6**
comp=Z,0.5nm,0.5s,baz=38,slow=3.4,SNR=7.1
NVAR Mina Array Bea 109.40 21 PKiKP **PKiKP 05 01 00.2 +0.4**
comp=Z,0.8nm,0.5s,baz=318,slow=2.0,SNR=4.7
SNAA Sanae 116.65 201 P **PKPdf 05 01 12.3 0.0**
SNAA Sanae 116.65 201 *e*PKIKP **PKPdf 05 01 13.4 +1.2**
SNAA Sanae 116.65 201 *e*PKPdf **PKPdf 05 01 13.4 +1.2**
TUC Tucson 117.26 17 *e*PKIKP **PKPdf 05 01 15.6 +0.8**
TUC Tucson 117.26 17 *e*PKPdf **PKPdf 05 01 15.6 +0.8**
MNTX Cornudas Mount 119.02 12 *e*PKPdf **PKPdf 05 01 18.6 +0.5**
JCT Junction City 121.01 7 *e*PKIKP **PKPdf 05 01 21.8 -0.2**
JCT Junction City 121.01 7 *e*PKPdf **PKPdf 05 01 21.8 -0.2**
TXAR Lajitas Array 121.62 11 PKIKP **PKPdf 05 01 23.5 +0.2**
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 121.62 11 PKP **PKPdf 05 01 23.5 +0.2**
comp=Z,1.6nm,0.6s,baz=74,slow=0.6,SNR=30
HKT Hockley 121.82 3 *e*PKIKP **PKPdf 05 01 24.8 +1.4**
HKT Hockley 121.82 3 *e*PKPdf **PKPdf 05 01 24.8 +1.4**
CELP Cerrillos 127.00 328 *e*PKPdf **PKPdf 05 01 34.4 +0.7**
BDFB Brasilia 136.43 277 PKIKP **PKPdf 05 01 52.4 +0.8**
BDFB pmax pmax
comp=Z,2.0nm,0.7s
BDFB Brasilia 136.43 277 PKP **PKPdf 05 01 52.4 +0.8**
comp=Z,1.6nm,0.7s,baz=38,slow=12,SNR=3.9
BCIP Isla Barro Col 140.38 339 *e*PKPdf **PKPdf 05 02 00.8 +2.0**
ROSC El Rosal 142.17 328 PKP **PKPdf 05 02 00.2 -2.4**
comp=Z,10nm,0.8s,baz=265,slow=13,SNR=5.9
SAML Samuel 145.70 299 *e*PKPbc **PKPab 05 02 09.1 0.0**
SIV San Ignacio 147.85 286 PKP **PKPdf 05 02 12.2 +0.5**
comp=Z,39nm,0.8s,baz=102,slow=4.6,SNR=50
SIV PKPbc **PKPbc 05 02 15.0 +0.2**
comp=Z,39nm,0.8s,baz=100,slow=5.1,SNR=65
OTAV Otavalo 148.11 331 *e*PKPdf **PKPdf 05 02 14.4 +1.6**
OTAV *e*PKPbc **PKiKP 05 02 17.6 -0.2**
OTAV *e*PKPab **PKPab 05 02 19.9 +0.9**
CPUP Villa Florida 148.13 265 *e*PKIKP **PKPdf 05 02 11.7 -0.2**
CPUP *e* 05 02 14.8
CPUP Villa Florida 148.13 265 PKP **PKPdf 05 02 12.4 +0.6**
comp=Z,10nm,0.6s,baz=88,slow=5.3,SNR=14
CPUP PKPbc **PKPbc 05 02 15.1 -0.2**
comp=Z,10nm,0.6s,baz=68,slow=4.1,SNR=16
CPUP Villa Florida 148.13 265 *e*PKPdf **PKPdf 05 02 11.7 -0.2**
CPUP *e*PKPbc **PKPbc 05 02 14.8 -0.4**
TRQA Tornquist 152.31 242 *e*PKPbc **PKPbc 05 02 25.1 +0.1**
LPAZ La Paz 153.87 292 PKIKP **PKPdf 05 02 22.2 +0.4**
LPAZ 05 02 30.2
LPAZ pmax pmax
comp=Z,8.0nm,0.8s
LPAZ La Paz 153.87 292 PKP **PKPdf 05 02 22.1 +0.4**
comp=Z,8.2nm,0.8s,baz=41,slow=6.3,SNR=5.3
LPAZ PKPbc **PKiKP 05 02 30.2 +0.4**
comp=Z,8.6nm,0.8s,baz=52,slow=5.0,SNR=12
ATAH Atahualpa 154.54 324 PKPbc **PKPbc 05 02 32.4 +1.4**
comp=Z,6.3nm,0.7s,baz=334,slow=9.7,SNR=3.9
LVC Limon Verde 157.31 279 *e*PKPdf **PKPdf 05 02 25.1 -0.7**
LVC *e*PKPab **PKPab 05 02 58.0 +0.7**

WEL 26 04:46:47.0±0.5**,37°.07S×177°.31E,h136**km±4km**,ML3.7**/16, **5C,Error ellipse: s-maj=5.5km s-min=5.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
HAZ	**Te Kaha**	**0.78**	**151**	⇑PN	Pn	04 47 08.5	0.0
HAZ				SN	Sn	04 47 24.3	-0.6
MXZ	**Matakaoa Point**	**0.93**	**122**	⇑PN	Pn	04 47 09.7	0.0
MXZ				AML	AML	04 47 13.5	
MXZ				SN	Sn	04 47 26.7	-0.4
URZ	**Urewera**	**1.20**	**188**	⇑PN	Pn	04 47 12.6	+0.4
URZ				SN	Sn	04 47 31.4	-0.2
URZ				SN		04 47 31.7	
TWGZ	**Tauwhareparae**	**1.22**	**154**	PN	Pn	04 47 13.0	+0.4
TWGZ				SN	Sn	04 47 32.3	+0.2
PUZ	**Puketiti**	**1.25**	**143**	⇑PN	Pn	04 47 12.5	-0.3
MWZ	**Matawai**	**1.27**	**172**	PN	Pn	04 47 13.1	0.0
MWZ				AML	AML	04 47 33.9	
MWZ				AML	AML	04 47 34.0	
CNGZ	**Carnagh Statio**	**1.58**	**154**	PN	Pn	04 47 16.3	0.0
RIGZ	**Rimuhau**	**1.67**	**168**	PN	Pn	04 47 17.0	-0.4
SNGZ	**Shannon Statio**	**1.71**	**179**	PN	Pn	04 47 16.2	-1.7
RAHZ	**Arahi**	**1.85**	**185**	PN	Pn	04 47 17.7	-1.8
KNZ	**Kokohu**	**1.97**	**172**	PN	Pn	04 47 19.9	-0.9
WHHZ	**Waihua**	**2.00**	**182**	SN	Sn	04 47 46.6	-1.0
NMHZ	**Naumai**	**2.06**	**191**	PN	Pn	04 47 22.0	-0.1
MHGZ	**Mahia Peninsul**	**2.13**	**167**	PN	Pn	04 47 22.1	-0.7
BKZ	**Black Stump Fm**	**2.19**	**197**	PN	Pn	04 47 23.0	-0.6
MCHZ	**McNeill Hill**	**2.42**	**191**	PN	Pn	04 47 26.0	-0.3
TUVZ	**Tukino**	**2.55**	**210**	PN	Pn	04 47 28.0	-0.3
CKHZ	**Cape Kidnapper**	**2.59**	**184**	PN	Pn	04 47 27.4	-1.1
BHHZ	**Black Hill Sta**	**2.60**	**202**	⇑PN	Pn	04 47 27.8	-1.0
TRVZ	**Turoa**	**2.62**	**211**	PN	Pn	04 47 29.0	-0.2
WNVZ	**Wahianoa**	**2.62**	**210**	PN	Pn	04 47 28.9	-0.3
MOVZ	**Moawhango**	**2.63**	**207**	PN	Pn	04 47 28.2	-1.0
KRHZ	**Kereru**	**2.67**	**196**	PN	Pn	04 47 28.1	-1.5
KAHZ	**Kahuranaki**	**2.74**	**187**	PN	Pn	04 47 29.2	-1.3
PNHZ	**Pukenui**	**2.97**	**197**	PN	Pn	04 47 31.4	-1.9
PXZ	**Pawanui**	**2.98**	**187**	PN	Pn	04 47 31.5	-1.9
WPHZ	**Waipukurau**	**3.06**	**193**	SN	Sn	04 48 09.2	-2.2
TSZ	**Takapari Road**	**3.16**	**199**	PN	Pn	04 47 33.7	-2.2
PRHZ	**Porangahau**	**3.23**	**189**	PN	Pn	04 47 34.7	-2.1
DVHZ	**Dannevirke**	**3.34**	**195**	PN	Pn	04 47 36.5	-2.7
ANWZ	**Angora Road**	**3.45**	**191**	PN	Pn	04 47 37.2	-2.3
POWZ	**Post Office Ro**	**3.53**	**200**	PN	Pn	04 47 38.2	-2.4
PRWZ	**Pori Road**	**3.63**	**196**	PN	Pn	04 47 39.8	-2.2
BFZ	**Birch Farm**	**3.70**	**193**	PN	Pn	04 47 40.1	-2.7
MRZ	**Mangatainoka R**	**3.83**	**200**	PN	Pn	04 47 41.5	-3.0
MRZ				SN	Sn	04 48 24.3	-5.0
TIWZ	**Tintock**	**3.86**	**196**	PN	Pn	04 47 42.1	-2.9
CPWZ	**Castlepoint**	**3.93**	**192**	PN	Pn	04 47 43.6	-2.2
HOWZ	**Holdsworth Sta**	**4.07**	**200**	PN	Pn	04 47 44.2	-3.5
OGWZ	**Otaki Gorge**	**4.09**	**203**	PN	Pn	04 47 45.0	-3.0
TMWZ	**Te Maipa**	**4.18**	**195**	PN	Pn	04 47 45.7	-3.5
KIW	**Kapiti Island**	**4.22**	**206**	PN	Pn	04 47 46.5	-3.2
MTW	**Mount Morrison**	**4.32**	**198**	PN	Pn	04 47 46.9	-4.0
CAW	**Cannon Point**	**4.39**	**203**	PN	Pn	04 47 48.2	-3.8
MSWZ	**Moikau Station**	**4.62**	**200**	PN	Pn	04 47 50.9	-4.2
TCW	**Tory Channel**	**4.76**	**209**	PN	Pn	04 47 53.0	-3.8
PLWZ	**Palliser**	**4.77**	**199**	PN	Pn	04 47 52.5	-4.6
TUWZ	**Tuamarina**	**5.08**	**210**	PN	Pn	04 47 57.0	-4.0
QRZ	**Quartz Range**	**5.29**	**223**	PN	Pn	04 48 00.6	-3.3
THZ	**Tophouse**	**5.79**	**215**	PN	Pn	04 48 07.3	-3.5
KHZ	**Kahutara**	**6.08**	**207**	PN	Pn	04 48 09.8	-4.6
LTZ	**Lake Taylor**	**6.89**	**213**	PN	Pn	04 48 20.3	-5.2
OXZ	**Oxford**	**7.43**	**211**	PN	Pn	04 48 26.8	-5.9
MQZ	**McQueen's Vall**	**7.52**	**207**	PN	Pn	04 48 27.2	-6.6
MQZ				SN	Sn	04 49 47.2	-10

ISCJB **26** *05:33:47.6±1.7,20°.2N±0°.1×121°.9E±0°.2,h27km,mb3.3/3, Error ellipse: s-maj=33.9km s-min=15.3km az=22.2*
IDC **26** *05:33:47.5±1.4,19°.64N×120°.89E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.4/34,mbtmp3.6/3,Error ellipse: s-maj=80.8km s-min=29.8km az=67.0*
ISC 26 05:33:49.3±1.7**,20°.2N**±0°.1**×121°.8E**±0°.2**,h27**km**,n4, σ1§48/4,mb3.5/3,1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
PIP	**Pasuquin**	**2.17**	**212**	⇓*i*P	**Pn**	**05 34 22.6**	**-1.0**
PIP				*e*S	**Sn**	**05 34 50.6**	**+1.0**
MKAR	**Makanchi Array**	**41.69**	**319**	P	**P**	**05 41 36.0**	**+0.2**
0.4nm,0.8s,baz=109,slow=10,SNR=4.4							
WRA	**Warramunga Arr**	**41.70**	**162**	P	**P**	**05 41 36.3**	**+0.3**
0.3nm,0.3s,baz=344,slow=8.9,SNR=7.8							
YKA	**Yellowknife Ar**	**86.42**	**23**	P	P	05 46 36.1	+7.0
0.2nm,0.7s,baz=310,slow=4.8,SNR=5.5							

NIED **26** *05:38:00,23°.70N×122°.80E,h32km,Mw4.5 Best double couple: Mo5.59000×10^15 NP1:φs123.00000°,δ57.00000°, λ40.00000°. NP2:φs8.00000°,δ58.00000°,λ140.00000°.*
ISCJB **26** *05:38:16.9±0.2,23°.72N±0°.02×122°.88E±0°.01,h45km±1km, mb4.8/94,MS3.8/20,Error ellipse: s-maj=3.3km s-min=1.7km az=159.1*
JMA **26** *05:38:16.5±0.1,23°.68N×122°.81E,h54km±5km,M4.6*
NEIC **26** *05:38:17.4±0.6,23°.76N×122°.90E,h37km±4km,mb4.7/31, Error ellipse: s-maj=8.1km s-min=5.0km az=144.0*
NEIC Recorded [2 TAP] in I-lan and [1 TAP] in Chia-i, Hua-lien, Nan-t'ou, T'ai-chung and T'ai-tung.
TAP **26** *05:38:17.6,23°.72N×122°.84E,h43km,ML5.0,C*
SZGRF **26** *05:38:17.9,23°.67N×122°.88E,h33km,mb5.3,Taiwan region*
MOS **26** *05:38:18.3±0.9,24°.18N×122°.91E,h43km,mb5.0/40,Error ellipse: s-maj=11.9km s-min=5.0km az=124.9*
BJI **26** *05:38:18.7,23°.89N×122°.63E,h30km,mB4.6/24,mb4.6/45, ML4.3/7,Ms4.1/33,Ms7 3.8/32*
IDC **26** *05:38:18.7±0.6,23°.88N×122°.95E,h44km±6km,mb4.3/20, mb1 4.5/23,mb1mx4.3/42,mbtmp4.5/23,ML3.6/3,MS3.6/18, Ms1 3.6/18,ms1mx3.4/37,Error ellipse: s-maj=15.8km s-min=12.5km az=152.0*
ISC 26 05:38:17.8±0.4**,23°.73N**±0°.03**×122°.88E**±0°.02**,h40**km±3km**, h40**km**:pP-P,n422,σ1§48/539,mb4.8/95,MS3.7/20, 51C-14D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
JYNG	**Yonagunijimaku**	**0.72**	**5**	P	**Pn**	**05 38 31.7**	**+0.1**
JYNG				S	**Sn**	**05 38 42.1**	**+0.6**
YOJ	**Yonaguni jima**	**0.74**	**9**	*e*P	**Pn**	**05 38 32.0**	**+0.1**
YOJ				*e*		05 38 43.2	
YOJ	**Yonaguni jima**	**0.74**	**9**	P	**Pn**	**05 38 31.9**	**+0.1**
YOJ				S	**Sn**	**05 38 42.6**	**+0.6**
YOJ	**Yonaguni jima**	**0.74**	**9**	*e*Pn	**Pn**	**05 38 32.0**	**+0.1**
YOJ				*e*Sn	**Sn**	**05 38 43.2**	**+1.2**
YOJ	**Yonaguni jima**	**0.74**	**9**	⇑*i*P	**Pn**	**05 38 32.2**	**+0.3**
baz=10.0							
YOJ				*i* S	**Sn**	**05 38 42.9**	**+0.9**
baz=10.0							
HATJ	**Hateruma jima**	**0.91**	**69**	P	**Pn**	**05 38 34.5**	**+0.4**
HATJ				S	**Sn**	**05 38 47.1**	**+1.1**
IRIF	**Iriomote-Funau**	**0.98**	**52**	P	**Pn**	**05 38 35.5**	**+0.3**
IRIF				S	**Sn**	**05 38 49.0**	**+1.1**
JKRS	**Kuro-shima**	**1.15**	**64**	P	**Pn**	**05 38 38.0**	**+0.5**
JKRS				*e*S	**Sn**	**05 38 53.3**	**+1.3**
EHP	**Heping Village**	**1.19**	**299**	*e*P	**Pn**	**05 38 37.1**	**-1.0**
baz=299							
EHP				*e*S	**Sn**	**05 38 53.4**	**+0.3**
baz=299							
HWA	**Hwalien**	**1.20**	**282**	P	**Pn**	**05 38 36.3**	**-1.8**
baz=272							
HWA				*e*S	**Sn**	**05 38 50.9**	**-2.2**
baz=272							
TWD	**Chiawan**	**1.23**	**287**	*i* P	**Pn**	**05 38 37.1**	**-1.4**
baz=286							
TWD				*e*S	**Sn**	**05 38 50.9**	**-3.0**
baz=286							
TEGC	**Jichi Village**	**1.23**	**269**	P	**Pn**	**05 38 38.0**	**-0.6**
baz=269							
TEGC				S	**Sn**	**05 38 52.6**	**-1.4**
baz=269							
ENA	**Nanau**	**1.25**	**304**	*e*P	**Pn**	**05 38 38.4**	**-0.5**
baz=305							
NACB	**Ninganchiao**	**1.26**	**291**	*e*Pn	**Pn**	**05 38 37.3**	**-1.6**
NACB				*e*Sn	**Sn**	**05 38 50.5**	**-4.2**
ESF	**Shoufeng Towns**	**1.27**	**277**	*e*P	**Pn**	**05 38 38.3**	**-0.8**
baz=276							
TWC	**Suao**	**1.29**	**313**	P	**Pn**	**05 38 38.7**	**-0.7**
baz=303							
TWC				*e*S	**Sn**	**05 38 53.4**	**-2.0**
baz=303							
JIJ	**Ishigaki jima**	**1.32**	**61**	P	**Pn**	**05 38 39.8**	**+0.1**
JIJ				*e*S	**Sn**	**05 38 57.2**	**+1.1**
ESL	**Shilin**	**1.33**	**274**	⇑*i*P	**Pn**	**05 38 38.2**	**-1.7**
baz=264							
ESL				*e*S	**Sn**	**05 38 52.4**	**-4.1**
baz=264							
EGS		**1.41**	**322**	⇓*i*P	**Pn**	**05 38 41.2**	**+0.2**
baz=309							
EGS				*e*S	**Sn**	**05 38 57.8**	**-0.6**
baz=309							
EHY	**Hungye**	**1.45**	**262**	⇑*i*P	**Pn**	**05 38 40.5**	**-1.1**
baz=260							
EHY				S	**Sn**	**05 38 57.1**	**-2.2**
baz=260							
ILA	**Ilan**	**1.46**	**315**	*e*P	**Pn**	**05 38 41.7**	**-0.1**
baz=315							
TWE	**Neicheng**	**1.49**	**312**	⇓*i*P	**Pn**	**05 38 42.2**	**+0.1**
baz=312							
YULB	**Yu-li**	**1.49**	**257**	*e*Pn	**Pn**	**05 38 40.6**	**-1.6**
YULB				*e*Sn	**Sn**	**05 38 58.5**	**-1.9**
TWF1	**Yuli**	**1.50**	**256**	⇑*i*P	**Pn**	**05 38 41.0**	**-1.3**
baz=255							
TWF1				*e*S	**Sn**	**05 38 58.5**	**-2.1**
baz=255							
ENTT	**Nioudou**	**1.51**	**307**	⇓P	**Pn**	**05 38 42.5**	**+0.1**
baz=295							
TWB1	**Santiao Chiao**	**1.51**	**328**	⇓*i*P	**Pn**	**05 38 42.3**	**-0.1**
baz=327							
TWB1				*e*S	**Sn**	**05 38 59.6**	**-1.3**
baz=327							
CHKT	**Chengkung**	**1.53**	**246**	⇑*i*P	**Pn**	**05 38 40.7**	**-1.9**
baz=236							
CHKT				S	**Sn**	**05 38 57.3**	**-3.9**
baz=236							
WHF	**Hehuan Shan**	**1.54**	**286**	⇑*i*P	**Pn**	**05 38 42.1**	**-1.1**
baz=276							
NNS	**Nan Shan**	**1.55**	**298**	*e*P	**Pn**	**05 38 42.9**	**-0.2**
baz=288							
NNS				*e*S	**Sn**	**05 39 00.6**	**-1.5**
baz=288							
JISG	**Ishigakijimahi**	**1.56**	**56**	P	**Pn**	**05 38 43.0**	**-0.1**
JISG				*e*S	**Sn**	**05 39 02.9**	**+0.8**
TWT	**Tachien**	**1.65**	**289**	*e*P	**Pn**	**05 38 44.3**	**-0.1**
baz=280							
YHNB	**Yeheng**	**1.67**	**305**	*e*Pn	**Pn**	**05 38 44.8**	**+0.1**
YHNB				*e*Sn	Sn	05 38 57.4	-7.5
NWF	**Wu-fen Shan**	**1.67**	**323**	⇓*i*P	**Pn**	**05 38 44.9**	**+0.1**
baz=323							
NSK	**Sanguang**	**1.68**	**305**	*e*P	**Pn**	**05 38 44.9**	**0.0**
baz=304							
TWA	**Mucha**	**1.72**	**317**	*e*P	**Pn**	**05 38 45.6**	**+0.3**
baz=330							
TWA				*e*S	**Sn**	**05 39 06.8**	**+0.7**
baz=330							
SSLB	**Suanglung**	**1.77**	**272**	*e*Pn	**Pn**	**05 38 44.9**	**-1.1**
SSLB				*e*Sn	**Sn**	**05 39 05.8**	**-1.5**
TATO	**Taipei**	**1.78**	**315**	*e*Pn	**Pn**	**05 38 46.2**	**+0.1**
TATO				*e*Sn	**Sn**	**05 39 08.0**	**+0.5**
YUS	**Yu-Shan**	**1.79**	**263**	⇑*i*P	**Pn**	**05 38 46.3**	**-0.3**
baz=262							
YUS				*e*S	**Sn**	**05 39 06.0**	**-2.3**
baz=262							
ELDTW	**Lidau**	**1.79**	**253**	⇑*i*P	**Pn**	**05 38 45.0**	**-1.4**
baz=252							
TAP1	**Taipei**	**1.80**	**317**	*e*P	**Pn**	**05 38 46.4**	**0.0**
baz=328							
TAP1				*e*S	**Sn**	**05 39 08.4**	**+0.4**
baz=328							
TAP	**Taipei**	**1.81**	**316**	*e*P	**Pn**	**05 38 44.3**	**-2.3**
baz=328							
SMLT	**Sun Moon Lake**	**1.82**	**275**	⇑*i*P	**Pn**	**05 38 46.6**	**-0.2**
baz=274							
SMLT				*e*S	**Sn**	**05 39 06.3**	**-2.5**
baz=274							
TYC	**Yuchr**	**1.86**	**276**	⇑*i*P	**Pn**	**05 38 47.0**	**-0.2**
baz=275							
TYC				*e*S	**Sn**	**05 39 08.4**	**-1.2**
baz=275							
TTN	**Taitung**	**1.87**	**239**	*e*P	**Pn**	**05 38 45.4**	**-1.9**
baz=238							
TWG	**Pinlang**	**1.89**	**242**	*e*Pn	**Pn**	**05 38 46.1**	**-1.6**
TWG				*e*Sn	**Sn**	**05 39 07.9**	**-2.4**
TWG	**Pinlang**	**1.89**	**242**	⇑*i*P	**Pn**	**05 38 46.4**	**-1.2**
baz=234							
TWG				S	**Sn**	**05 39 07.1**	**-3.2**
baz=234							
JTJ	**Tarama**	**1.90**	**61**	P	**Pn**	**05 38 47.9**	**+0.2**
JTJ				*e*S	**Sn**	**05 39 11.0**	**+0.6**
TWS1	**Kuangyinshan**	**1.91**	**316**	P	**Pn**	**05 38 48.1**	**+0.2**
baz=327							
TWS1				*e*S	**Sn**	**05 39 10.9**	**+0.2**
baz=327							
ALS	**Alishan**	**1.92**	**264**	⇑*i*P	**Pn**	**05 38 48.4**	**+0.1**
baz=263							
ALS				*e*S	**Sn**	**05 39 11.2**	**-0.2**
baz=263							
TWY	**Chenhua**	**1.94**	**323**	*e*P	**Pn**	**05 38 47.7**	**-0.6**
baz=321							
TWY				*e*S	**Sn**	**05 39 11.6**	**+0.3**
baz=321							
NSTT	**Nanjuang**	**1.94**	**298**	⇓*i*P	**Pn**	**05 38 49.4**	**+1.1**
baz=288							
NSTT				S	**Sn**	**05 39 11.4**	**-0.1**
baz=288							
NCU	**National Centr**	**1.98**	**309**	*e*P	**Pn**	**05 38 49.4**	**+0.5**
baz=296							
WNT	**Mingjian**	**2.02**	**275**	⇑*i*P	**Pn**	**05 38 50.4**	**+1.0**
baz=273							
WNT				S	**Sn**	**05 39 13.8**	**+0.4**
baz=273							
CHN5	**Tsauling**	**2.02**	**267**	⇑*i*P	**Pn**	**05 38 50.2**	**+0.6**
baz=266							
CHN5				S	**Sn**	**05 39 13.6**	**-0.1**
baz=266							
TWQ1	**Liyutan**	**2.02**	**288**	⇑*i*P	**Pn**	**05 38 50.8**	**+1.3**
baz=287							
TWQ1				*i* S	**Sn**	**05 39 14.4**	**+0.8**
baz=287							
STYT	**Tauyuan**	**2.03**	**254**	⇑*i*P	**Pn**	**05 38 49.3**	**-0.3**
baz=246							
STYT				*e*S	**Sn**	**05 39 12.9**	**-0.9**
baz=246							
HSN	**Hsinchu**	**2.05**	**302**	*e*P	**Pn**	**05 38 50.5**	**+0.7**
baz=301							
HSN				*e*S	**Sn**	**05 39 14.2**	**+0.1**
baz=301							
NSY	**Sanyi**	**2.06**	**290**	⇑*i*P	**Pn**	**05 38 51.4**	**+1.4**
baz=289							
NSY				S	**Sn**	**05 39 15.6**	**+1.2**
baz=289							
TCU	**Taichung**	**2.06**	**282**	⇑P	**Pn**	**05 38 51.4**	**+1.5**
baz=281							
TCU				S	**Sn**	**05 39 15.8**	**+1.4**
baz=281							
LAY	**Lan-yu**	**2.08**	**216**	P	**Pn**	**05 38 48.1**	**-2.2**
baz=225							
ECL	**Taimali**	**2.10**	**238**	*i* P	**Pn**	**05 38 49.0**	**-1.6**
baz=248							
TPUB	**Ta-pu**	**2.11**	**259**	*e*Pn	**Pn**	**05 38 51.1**	**+0.5**
TPUB				*e*Sn	**Sn**	**05 39 15.8**	**+0.1**
WGK	**Gukeng**	**2.13**	**269**	*e*P	**Pn**	**05 38 51.6**	**+0.7**
baz=268							
WGK				*e*S	**Sn**	**05 39 16.7**	**+0.6**
baz=268							
CHN4	**Tsaushan**	**2.13**	**260**	⇑*i*P	**Pn**	**05 38 51.9**	**+0.9**
baz=254							
CHN4				*e*S	**Sn**	**05 39 18.4**	**+2.1**
baz=254							
WTP	**Ta-pu**	**2.14**	**258**	⇑*i*P	**Pn**	**05 38 51.7**	**+0.6**
baz=256							
WTP				*e*S	**Sn**	**05 39 17.1**	**+0.7**
baz=256							
SGST	**Jiashian**	**2.21**	**254**	*i* P	**Pn**	**05 38 52.8**	**+0.7**
baz=252							
SGST				*e*S	**Sn**	**05 39 19.4**	**+1.3**
baz=252							
CHN2	**Minshiung**	**2.22**	**265**	⇑P	**Pn**	**05 38 53.6**	**+1.5**
baz=264							
CHN2				S	**Sn**	**05 39 19.9**	**+1.6**
baz=264							
CHN1	**Nanshi**	**2.23**	**256**	⇑*i*P	**Pn**	**05 38 53.2**	**+0.9**
baz=255							
CHN1				*e*S	**Sn**	**05 39 20.3**	**+1.7**
baz=255							
TWK	**Hsinying**	**2.25**	**259**	⇑*i*P	**Pn**	**05 38 53.4**	**+0.8**
baz=257							
TWK				*e*S	**Sn**	**05 39 19.8**	**+0.7**
baz=257							
CHY	**Chiayi**	**2.27**	**265**	*i* P	**Pn**	**05 38 53.7**	**+0.9**
baz=263							

CHY S Sn 05 39 19.4 -0.1
baz=263
TAW Tawu 2.28 234⇑iP Pn 05 38 51.8 -1.2
baz=233
SSD Sandimen 2.29 245 eP Pn 05 38 52.6 -0.5
baz=244
EAST Anshuo 2.30 235⇑iP Pn 05 38 52.2 -1.2
baz=243
JIRB Irabujima 2.36 62 P Pn 05 38 54.3 +0.2
JIRB eS Sn 05 39 22.8 +0.9
WTCT Ta-ch'eng 2.39 274 eP Pn 05 38 55.5 +1.1
baz=288
WTCT eS Sn 05 39 24.2 +1.7
baz=288
CHN3 Shinhua 2.40 255 eP Pn 05 38 56.7 +2.1
baz=254
CHN3 eS Sn 05 39 25.8 +2.9
baz=254
SGLT Jiouru 2.41 246 eP Pn 05 38 56.3 +1.5
baz=242
TWM1 Shoushan 2.43 249⇑iP Pn 05 38 57.2 +2.1
baz=248
TWM1 eS Sn 05 39 28.0 +4.3
baz=248
WSF Szhu 2.44 268 eP Pn 05 38 55.8 +0.6
baz=267
WSF eS Sn 05 39 24.6 +0.8
baz=267
JMJ Miyako jima 2 2.45 63 P Pn 05 38 56.1 +0.7
JMJ S Sn 05 39 25.6 +1.5
JMJ Miyako jima 2 2.45 63 eP Pn 05 38 56.1 +0.7
baz=64
JIKM Ikemajima 2.47 61 P Pn 05 38 55.6 +0.1
JIKM S Sn 05 39 25.1 +0.7
CHN8 Yiju 2.48 262 eP Pn 05 38 56.4 +0.6
baz=260
CHN8 eS Sn 05 39 26.0 +1.2
baz=260
SCZT Fangliau 2.48 238 eP Pn 05 38 55.2 -0.6
baz=242
JOGS Gusukube 2.52 65 P Pn 05 38 56.9 +0.6
SCLT Jiali 2.53 258 eP Pn 05 38 57.5 +1.1
baz=257
SCLT eS Sn 05 39 27.7 +1.7
baz=257
TAI1 Yung-k'ang 2.53 255 P Pn 05 38 57.8 +1.4
baz=265
TSEB Hengchuen, Pin 2.58 226 eP Pn 05 38 56.5 -0.6
baz=233
TSEB S Sn 05 39 28.1 +0.8
baz=233
TWK1 Hengchun 2.61 228 P Pn 05 38 57.0 -0.6
baz=227
TWK1 eS Sn 05 39 27.4 -0.6
baz=227
HEN Hengchun 2.62 230 eP Pn 05 38 57.0 -0.6
baz=229
HEN S Sn 05 39 26.7 -1.4
baz=229
KAU Kaohsiung 2.63 245 eP Pn 05 38 59.8 +2.0
baz=257
TWP Hsiaoliuchiu 2.70 240 ⇑P Pn 05 39 01.4 +2.7
baz=227
TWP eS Sn 05 39 35.3 +5.2
baz=227
WDGT Dungji 2.99 262⇑iP Pn 05 39 03.0 +0.2
baz=260
WDGT eS Sn 05 39 35.5 -2.0
baz=260
PNG Penghu 3.06 268 P Pn 05 39 04.0 +0.3
baz=258
PNG eS Sn 05 39 37.9 -1.1
baz=258
QZH Quanzhou 4.10 288⇓iPn Pn 05 39 17.3 -0.7
QZH Sn Sn 05 40 00.0 -4.6
QZH smax smax
comp=N,2μm,0.3s
QZH smax smax
comp=E,920nm,0.5s
QZH LR LR
comp=N,2μm,13.0s
QZH LR LR
comp=Z,1μm,12.4s
KNM Kinmen 4.12 280 P Pn 05 39 19.2 +0.9
baz=278
KNM eS Sn 05 40 03.9 -1.4
baz=278
JKE Kume jima 2 4.39 53 P Pn 05 39 21.3 -0.6
JKE eS Sn 05 40 11.5 -0.3
JAGN Aguni-jima 4.87 53 P Pn 05 39 27.9 -0.7
JAGN eS Sn 05 40 23.3 -0.5
JJT2 Tamagusuku 2 5.03 60 P Pn 05 39 30.6 -0.2
JNTH Nagotoyohara 5.42 58 P Pn 05 39 34.9 -1.3
JIH Iheya 5.66 53 P Pn 05 39 38.1 -1.3
JIH eS Sn 05 40 41.2 -1.9
JOW Kunigami 5.78 57 P Pn 05 39 39.5 -1.6
JOW eS Sn 05 40 44.7 -1.4
JOW Kunigami 5.78 57 P Pn 05 39 39.6 -1.6
3.1nm,0.3s,baz=172,slow=28,SNR=12
JOW S Sn 05 40 44.6 -1.6
baz=311,slow=20,SNR=2.0
JOW Kunigami 5.78 57 ePn Pn 05 39 40.0 -1.0
JOW S Sn 05 40 44.6 -1.6
JOW Kunigami 5.78 57 eP Pn 05 39 39.4 -1.6
baz=57
JOKE Okinoerabujima 6.29 54 P Pn 05 39 45.8 -2.2
JTK Tokunoshima 6.80 52 P Pn 05 39 52.9 -2.2
JTK eS Sn 05 41 06.1 -5.2
JAMN Amaminishikomi 7.23 50 P Pn 05 39 58.0 -3.0
JAMN eS Sn 05 41 18.2 -3.6
JAM Amami Oshima 7.63 51 P Pn 05 40 03.8 -2.7
JAM eS Sn 05 41 26.7 -5.1
JTAJ Takarajima 7.83 45 P Pn 05 40 07.9 -1.3
JMZ Minamidaito 2 7.86 73 P Pn 05 40 05.8 -3.8
NJ2 Nanjing 9.03 338 eP Pn 05 40 24.0 -1.6
NJ2 S Sn 05 42 04.8 -1.1
NJ2 pmax pmax
comp=Z,30nm,0.6s
NJ2 smax smax
comp=N,70nm,0.9s
NJ2 smax smax
comp=E,50nm,1.0s
JNU Nakatsue 11.71 35 LR LR 05 45 53.7
comp=Z,207nm,18.9s,baz=222,slow=39
QIZ Qiongzhong 13.01 251 P Pn 05 41 19.8 -0.4
QIZ S Sn 05 43 43.5 -0.2
QIZ pmax pmax
comp=Z,13nm,1.2s
QIZ LR LR
comp=N,230nm,17.0s
QIZ LR LR
comp=E,140nm,15.3s
QIZ LR LR
comp=Z,330nm,18.1s
QIZ Qiongzhong 13.01 251 ePn Pn 05 41 21.8 +1.6
KSAR Wonju Array Be 14.33 16 P Pn 05 41 37.1 -1.0
KSAR Wonju Array Be 14.33 16 P Pn 05 41 37.0 -1.0
KSRS Korea Array 14.35 16 P Pn 05 41 37.0 -1.3
0.2nm,0.3s,baz=209,slow=12,SNR=6.0
KSRS LR LR 05 47 42.3
comp=Z,193nm,18.1s,baz=199,slow=40
GYA Guiyang 14.94 284 P Pn 05 41 45.8 -0.7
GYA pP P 05 41 53.3 +1.9
GYA sP 05 42 00.8
GYA S Sn 05 44 30.0 -0.9
GYA sS S 05 44 42.5 -5.0
GYA SS SnSn 05 44 48.0 +4.3
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.9s
GYA LR LR
comp=N,1μm,14.5s
GYA LR LR
comp=E,850nm,14.8s
GYA LR LR
comp=Z,1μm,15.0s
XAN Xi'an 15.95 313 P P 05 42 03.0 +0.4
XAN pP pP 05 42 09.8 -2.7
XAN pmax pmax
comp=Z,7.0nm,1.3s
BJT Baijiatuau 17.20 342 eP P 05 42 16.8 +0.5
BJT pmax pmax
comp=Z,12nm,0.7s
BJT Baijiatuau 17.20 342 eP P 05 42 16.8 +0.5
comp=Z,12nm,0.7s

BJI Beijing 17.22 342 P P 05 42 17.0 +0.5
BJI pP pP 05 42 25.5 -0.9
BJI sP sP 05 42 29.5 -2.1
BJI S Sn 05 45 26.5 +0.6
BJI pmax pmax
comp=Z,18nm,0.6s
BJI pmax pmax
comp=Z,180nm,3.8s
BJI LR LR
comp=Z,75nm,31.8s
BJI LR LR
comp=Z,170nm,25.3s
BJI LR LR
comp=Z,130nm,23.9s
MJAR Matsushiro Arr 18.38 42 P P 05 42 28.1 -1.2
comp=Z,0.6nm,0.3s,baz=229,slow=9.6,SNR=6.2
MJAR LR LR 05 50 09.5
comp=Z,90nm,21.8s,baz=220,slow=39
CD2 Chengdu 18.42 297 eP Pn 05 42 31.0 +0.8
CD2 pP pP 05 42 39.5 -0.4
CD2 sP sP 05 42 44.8 -0.2
CD2 PP PnPn 05 42 46.8 +4.4
CD2 S Sn 05 45 50.8 -4.4
CD2 sS S 05 46 04.3 +6.0
CD2 SS SnSn 05 46 15.0 +5.8
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,260nm,5.8s
CD2 LR LR
comp=Z,370nm,24.5s
CD2 LR LR
comp=Z,410nm,18.6s
CD2 LR LR
comp=Z,420nm,19.1s
HHC Hu-ho-hao-te 19.54 334 eP Pn 05 42 45.0 +1.4
HHC PP PnPn 05 43 03.0 +5.2
HHC S S 05 46 17.5 -3.2
HHC SS SnSn 05 46 44.5 +7.8
HHC PcS PcS 05 50 40.5 +1.9
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,170nm,5.1s
HHC LR LR
comp=Z,370nm,15.1s
HHC LR LR
comp=Z,410nm,13.9s
HHC LR LR
comp=Z,350nm,15.9s
LZH Lanzhou 20.55 311 ⇑P Pn 05 42 54.8 -0.9
LZH pP pP 05 43 04.5 +1.3
LZH sP sP 05 43 10.3 +1.9
LZH PP PnPn 05 43 16.0 +4.4
LZH S S 05 46 36.0 -4.9
LZH sS Sn 05 46 48.0 +1.5
LZH SS SnSn 05 47 08.3 +6.8
LZH pmax pmax
comp=Z,81nm,1.0s
LZH pmax pmax
comp=Z,240nm,4.0s
LZH LR LR
comp=Z,360nm,12.8s
LZH LR LR
comp=Z,310nm,10.9s
LZH LR LR
comp=Z,590nm,13.2s
USRK Ussuriysk Arra 21.75 18 P P 05 43 03.5 -2.2
comp=Z,2.3nm,0.7s,baz=215,slow=8.4,SNR=5.3
USRK LR LR 05 51 25.0
comp=Z,148nm,19.7s,baz=156,slow=36
CHTO Chiang Mai 22.82 262 eP P 05 43 19.0 +1.4
CHTO pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 22.82 262 eP P 05 43 19.0 +1.4
comp=Z,9.8nm,0.9s
CMAR Chiang Mai Arr 22.93 261 P P 05 43 20.0 +1.4
comp=Z,3.3nm,0.6s,baz=60,slow=8.4,SNR=19
CMAR PcP PcP 05 47 09.6 +1.4
comp=Z,1.3nm,0.5s,baz=49,slow=0.6,SNR=9.1
SBUM Sibu 23.53 208 eP P 05 43 24.2 -0.4
comp=Z,8.3nm,0.9s
GTA Gaotai 25.01 314 ⇑P P 05 43 37.8 -0.4
GTA pP pP 05 43 47.5 -1.6
GTA sP sP 05 43 51.5 -2.5
GTA S S 05 47 57.0 -2.6
GTA sS sS 05 48 11.8 -6.1
GTA SS SnSn 05 48 56.0 +5.3
GTA pmax pmax
comp=Z,16nm,1.5s
GTA pmax pmax
comp=Z,110nm,5.7s
GTA LR LR
comp=Z,220nm,17.6s
GTA LR LR
comp=Z,250nm,16.4s
GTA LR LR
comp=Z,210nm,17.3s
ULN Ulaanbaatar 27.19 336c iP P 05 43 56.2 -1.5
ULN pmax pmax
comp=Z,12nm,1.2s
ULN Ulaanbaatar 27.19 336 eP P 05 43 56.3 -1.5
comp=Z,18nm,1.4s
SONM Songino Array 27.41 335 P P 05 43 58.4 -1.3
comp=Z,8.8nm,0.7s,baz=148,slow=9.0,SNR=57
SONM PcP PcP 05 47 18.7 +1.0
comp=Z,0.5nm,0.5s,baz=138,slow=9.4,SNR=4.9
SONM LR LR 05 56 21.9
comp=Z,236nm,18.1s,baz=180,slow=40
LSA Lhasa 28.91 289 eP P 05 44 14.9 +1.2
LSA pmax pmax
comp=Z,14nm,0.7s
LSA Lhasa 28.91 289 eP P 05 44 14.9 +1.2
comp=Z,14nm,0.7s
ZAK Zakamensk 30.67 335 eP P 05 44 23.6 -5.0
ZAK pmax pmax
comp=Z,2.0nm,1.3s
PSI Prapat 31.14 232 LR LR 05 56 58.5
comp=Z,111nm,18.4s,baz=180,slow=36
TLY Talaya 31.59 337 eP P 05 44 35.0 -1.6
TLY pmax pmax
comp=Z,8.0nm,0.7s
TLY Talaya 31.59 337 LR LR 05 58 48.9
comp=Z,112nm,19.4s,baz=149,slow=39
TLY Talaya 31.59 337 eP P 05 44 35.0 -1.6
comp=Z,7.7nm,0.7s
TAPN Taplejung 31.88 284 eP P 05 44 41.0 +1.3
comp=Z,30nm,0.8s
ODAN Odare 32.18 283 eP P 05 44 43.4 +1.1
comp=Z,31nm,0.9s
RAMN Ramite 32.88 283 eP P 05 44 49.5 +1.0
comp=Z,30nm,0.9s
JIRN Jiri 33.22 285 eP P 05 44 52.5 +0.9
comp=Z,25nm,0.7s
GUN Gumba 33.49 285 eP P 05 44 54.7 +0.8
comp=Z,21nm,0.7s
PKI Pulchoki 33.91 285 eP P 05 44 57.8 +0.2
PKIN Phulchoki 33.92 285 eP P 05 44 58.0 +0.4
comp=Z,8.4nm,0.5s
KKN Kakani 34.02 285 eP P 05 44 58.9 +0.5
DMN Daman 34.18 285 eP P 05 45 00.2 +0.4
comp=Z,26nm,0.9s
GKN Gorkha 34.58 285 eP P 05 45 03.4 +0.2
comp=Z,17nm,0.7s
WMQ Urumqi 35.09 313 eP P 05 45 09.3 +2.0
WMQ pP pP 05 45 16.5 -2.0
WMQ sP sP 05 45 20.0 -3.3
WMQ PcP PcP 05 47 41.5 +3.2
WMQ S S 05 50 39.0 +1.8
WMQ sS sS 05 50 51.0 -4.8
WMQ PcS PcS 05 51 27.0 +1.9
WMQ SS SnSn 05 52 54.3 -1.5
WMQ ScS ScS 05 55 26.3 +1.6
WMQ pmax pmax
comp=Z,8.0nm,0.6s
WMQ LR LR
comp=Z,81nm,15.8s
WMQ LR LR
comp=Z,50nm,16.4s
WMQ LR LR
comp=Z,40nm,18.0s
DANN Dangsing 35.35 286 eP P 05 45 10.6 +0.7
comp=Z,27nm,0.9s
HVS Khovu-Aksy 35.43 328 iP P 05 45 08.9 -1.2
KOLN Koldanda 35.51 285 eP P 05 45 11.8 +0.6
comp=Z,23nm,0.9s

PYUN Piuthan 36.03 286 eP P 05 45 16.5 +0.8
comp=Z,44nm,0.7s
YAK Yakutsk 38.57 5 eP P 05 45 34.5 -1.9
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,11nm,1.0s
MKAR Makanchi Array 39.75 316 P P 05 45 46.2 -0.4
comp=Z,9.0nm,0.9s,baz=102,slow=10,SNR=17
MKAR PcP PcP 05 47 52.6 +0.1
comp=Z,3.2nm,0.7s,baz=92,slow=4.8,SNR=8.1
MKAR pPcP 05 48 07.5
comp=Z,1.6nm,0.6s,baz=78,slow=5.4,SNR=4.1
MKAR LR LR 06 03 54.4
comp=Z,80nm,18.6s,baz=106,slow=39
PMG Port Moresby 40.59 141 LR LR 06 01 23.2
comp=Z,41nm,20.2s,baz=324,slow=34
ZAA0 Zalesovo Array 41.48 327 eP P 05 45 59.1 -1.6
ZALV Zalesovo Beam 41.48 327 P P 05 45 59.2 -1.5
comp=Z,11nm,0.6s,baz=114,slow=7.8,SNR=58
ZALV PcP PcP 05 47 57.1 -0.7
comp=Z,1.7nm,0.6s,baz=108,slow=4.7,SNR=4.5
ZALV LR LR 06 04 32.8
comp=Z,92nm,21.9s,baz=70,slow=38
KSH Kashi 42.45 303 eP P 05 46 12.0 +3.0
KSH epP pP 05 46 19.0 -1.4
KSH esP sP 05 46 24.3 -0.9
KSH ePP PcP 05 47 54.5 -7.0
KSH ePcS PcS 05 51 55.0 +1.4
KSH eS S 05 52 31.0 +2.7
KSH eSS SS 05 55 36.0 -2.4
KSH pmax pmax
comp=Z,25nm,1.1s
KSH LR LR
comp=Z,170nm,7.8s
KSH LR LR
comp=Z,220nm,5.1s
ULHL Ulahol 42.67 307 P P 05 46 12.2 +1.2
SNR=7.0
ULHL Ulahol 42.67 307 iP P 05 46 12.1 +1.2
TKM2 Tokmak 2 43.27 308 P P 05 46 17.0 +1.2
SNR=36
TKM2 Tokmak 2 43.27 308 eP P 05 46 16.9 +1.2
TKM2 pmax pmax
comp=Z,39nm,0.8s
TKM2 Tokmak 2 43.27 308 eP P 05 46 16.9 +1.2
comp=Z,39nm,0.8s
KZA Kyzart 43.37 307 P P 05 46 18.6 +1.8
SNR=7.8
KZA Kyzart 43.37 307 iP P 05 46 18.6 +1.8
KURK Kurchatov 43.44 320 eP P 05 46 15.8 -0.9
KURK pmax pmax
comp=Z,7.0nm,1.1s
KURK Kurchatov 43.44 320 eP P 05 46 15.8 -0.9
comp=Z,7.2nm,1.1s
KBK Karagaybulak 43.69 308 P P 05 46 20.4 +1.3
SNR=15
CHMS Chumysh 43.89 308 P P 05 46 21.4 +0.9
SNR=12
CHMS Chumysh 43.89 308 iP P 05 46 21.4 +0.9
UCH Uchtor 43.94 307 P P 05 46 23.2 +1.7
SNR=24
UCH Uchtor 43.94 307 iP P 05 46 23.1 +1.7
AAK Ala-Archa 44.02 307 P P 05 46 22.8 +1.1
SNR=8.1
AAK Ala-Archa 44.02 307 iP P 05 46 20.9 -0.8
AAK pmax pmax
comp=Z,19nm,0.8s
AAK Ala-Archa 44.02 307 LR LR 06 07 34.0
comp=Z,127nm,18.1s,baz=84,slow=40
AAK Ala-Archa 44.02 307 eP P 05 46 22.3 +0.6
comp=Z,19nm,1.0s
USP Ospenovka 44.12 308 P P 05 46 23.4 +1.0
SNR=7.1
USP Ospenovka 44.12 308 iP P 05 46 23.4 +1.0
AML Almayashu 44.52 307 P P 05 46 27.6 +1.6
SNR=17
EKS2 Erkin-Say 44.54 307 P P 05 46 26.9 +1.0
SNR=8.2
EKS2 Erkin-Say 44.54 307 eP P 05 46 26.9 +1.0
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 44.54 307 eP P 05 46 26.9 +1.0
comp=Z,9.5nm,0.8s
WRAB Tennant Creek 44.81 165 eP P 05 46 32.7 +4.7
WRAB pmax pmax
comp=Z,16nm,1.3s
WRAB Tennant Creek 44.81 165 eP P 05 46 32.7 +4.7
comp=Z,16nm,1.3s
WRA Warramunga Arr 44.82 165 P P 05 46 28.1 +0.1
comp=Z,0.9nm,0.9s,baz=345,slow=8.1,SNR=7.4
WRA pP pP 05 46 40.6 +1.1
comp=Z,1.2nm,0.7s,baz=347,slow=8.6,SNR=4.8
WRA sP sP 05 46 47.1 +2.9
comp=Z,1.7nm,0.6s,baz=345,slow=8.4,SNR=4.7
KKAR Karatay Array 46.98 307 eP P 05 46 45.7 +0.7
KKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 46.98 307 eP P 05 46 45.7 +0.7
comp=Z,4.3nm,0.5s
KBL Kabul 47.76 296 eP P 05 46 52.6 +1.2
KBL pmax pmax
comp=Z,11nm,0.9s
KBL Kabul 47.76 296 eP P 05 46 52.6 +1.2
comp=Z,11nm,0.9s
TIXI Tiksi 48.07 3 eP P 05 46 50.7 -2.2
TIXI pmax pmax
comp=Z,5.0nm,1.2s
BRVK Borovoye 49.08 321 eP P 05 47 00.1 -0.9
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 49.08 321 eP P 05 47 00.1 -0.9
comp=Z,4.8nm,0.8s
BILL Bilibino 51.59 19 eP P 05 47 25.6 +5.8
BILL pmax pmax
comp=Z,6.0nm,1.9s
AB31 Akbulak array 54.87 314 iP P 05 47 44.1 -0.1
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 54.87 314 eP P 05 47 44.4 +0.2
comp=Z,5.1nm,0.5s
IMYA Miami 54.93 299 eP P 05 47 45.9 +0.9
GEYT Alibeck 56.37 301 P P 05 47 56.6 +1.4
comp=Z,21nm,0.8s,baz=79,slow=3.2,SNR=30
GEYT LR LR 06 15 42.1
comp=Z,63nm,19.1s,baz=20,slow=40
ARU Arti 56.41 323c iP P 05 47 53.9 -1.1
ARU 05 49 55.7
ARU S S 05 55 43.3 +0.5
ARU pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 56.41 323 eP P 05 47 53.6 -1.5
comp=Z,5.2nm,0.5s
ITEG Tejag 56.45 295 eP P 05 47 57.0 +1.0
IGLO Ghaloghah 59.94 300 eP P 05 48 21.8 +1.4
IANJ Anjilo 60.02 298 eP P 05 48 22.0 +0.9
IKIA Kiasar 60.10 299 eP P 05 48 22.8 +1.3
IZEF Zefreh 61.77 296 eP P 05 48 33.9 +1.0
IKLH Kolahrood 62.31 296 eP P 05 48 37.5 +1.0
IPIR Pirpir 63.00 296 eP P 05 48 40.4 -0.8
IRAZ Razeghan 63.24 299 eP P 05 48 43.4 +0.7
PRGR Permogore 63.38 329 eP P 05 48 41.1 -1.7
PRGR e 05 49 17.5
PRGR pmax pmax
comp=Z,31nm,0.6s
GNI Garni 66.34 305d iP P 05 49 02.8 +0.1
GNI pmax pmax
comp=Z,20nm,1.2s
KLMR Klimovskoe 66.38 328 eP P 05 49 00.2 -2.1
KLMR pmax pmax
comp=Z,11nm,1.0s
ZEI Tsey 66.44 308 eP P 05 49 02.4 -1.0
ZEI pmax pmax
comp=Z,11nm,0.8s
VRHR Novokhopersk 66.52 317 eP P 05 49 01.7 -1.8
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.7s
VRHR pmax pmax
comp=E,10.0nm,0.9s
TMCR Tamitsa 66.69 332 eP P 05 49 03.3 -1.0
TMCR e 05 51 29.7
TMCR pmax pmax
comp=Z,21nm,1.1s
KBZ Khabaz 66.97 309 P P 05 49 06.5 0.0

comp=Z,9.0nm,0.9s,baz=116,slow=3.9,SNR=22
KBZ pP pP 05 49 19.0 +0.6
comp=Z,3.1nm,0.8s,baz=163,slow=14,SNR=3.5
KBZ LR LR 06 21 23.7
comp=Z,34nm,20.0s,baz=119,slow=39
KIV Kislovodsk 67.08 309 eP P 05 49 05.4 -1.9
KIV pmax pmax
comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,40nm,17.0s
KIV Kislovodsk 67.08 309 eP P 05 49 08.4 +1.1
comp=Z,31nm,1.1s
VSR Storozhevoye 68.03 318 eP P 05 49 10.9 -2.1
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,20nm,1.4s
APA Apatity 68.12 336⥣iP P 05 49 13.4 +0.1
APA MLR MLR
comp=Z,2μm,12.0s
MCK McKinley 68.21 29 eP P 05 49 14.6 +0.7
MCK pmax pmax
comp=Z,4.0nm,1.0s
MCK McKinley 68.21 29 eP P 05 49 14.6 +0.7
comp=Z,3.5nm,1.0s
COLA College 68.48 27 eP P 05 49 15.3 -0.3
COLA pmax pmax
comp=Z,9.0nm,1.1s
OBN Obninsk 68.82 322 eP P 05 49 17.3 -0.5
OBN pmax pmax
comp=Z,8.0nm,0.6s
ILAR Eielson Array 68.91 27 P P 05 49 17.2 -1.1
comp=Z,0.6nm,0.6s,baz=274,slow=5.3,SNR=17
ILAR LR LR 06 24 47.4
comp=Z,30nm,18.3s,baz=250,slow=41
JOF Joensuu 69.86 331 eP P 05 49 22.8 -1.4
JOF pmax pmax
comp=Z,8.0nm,0.6s
JOF Joensuu 69.86 331 ep P 05 49 22.8 -1.4
comp=Z,7.9nm,0.6s
KEV Kevo 69.97 338 eP P 05 49 23.2 -1.5
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 69.97 338 ep P 05 49 23.2 -1.5
comp=Z,1.8nm,0.4s
ARCES ARCESS Array B 70.54 338 P P 05 49 27.5 -0.7
comp=Z,3.9nm,0.8s,baz=72,slow=7.9,SNR=11
ANN Anapa 70.56 311 eP P 05 49 23.7 -5.1
ANN e*PP pP 05 49 36.4 -4.4
ANN e 05 49 47.5
ANN e 05 52 01.6
ANN eS S 05 58 32.7 -6.8
ANN pmax pmax
comp=Z,60nm,0.9s
EGAK Eagle 71.29 27 eP P 05 49 33.1 +0.2
comp=Z,3.3nm,0.6s
MALT Malatya 71.54 304⥥iP P 05 49 36.2 +1.2
DAWY Dawson 72.23 27 eP P 05 49 39.1 +0.5
KAF Kangasniemi 72.31 331 eP P 05 49 37.5 -1.5
KAF pmax pmax
comp=Z,8.0nm,0.6s
KAF Kangasniemi 72.31 331 ep P 05 49 37.5 -1.5
comp=Z,7.9nm,0.6s
FINES FINESS Array B 72.62 330 P P 05 49 40.6 -0.2
comp=Z,11nm,0.5s,baz=70,slow=5.3,SNR=89
FINES LR LR 06 24 52.7
comp=Z,130nm,19.4s,baz=89,slow=38
VSU Vasula 73.21 327 eP P 05 49 43.1 -1.3
VSU pmax pmax
comp=Z,45nm,1.2s
AKASG Malin Array Be 74.24 319 P P 05 49 50.1 -0.5
comp=Z,16nm,0.7s,baz=59,slow=6.4,SNR=34
AKASG LR LR 06 24 59.7
comp=Z,37nm,19.2s,baz=80,slow=38
KIEV Kiev 74.25 319c iP P 05 49 49.9 -0.8
KIEV Kiev 74.25 319 eP P 05 49 50.1 -0.5
comp=Z,14nm,0.7s
BRTR Keskin Array B 74.69 307 P P 05 49 53.9 +0.2
comp=Z,7.4nm,0.8s,baz=103,slow=4.9,SNR=43
ANTO Ankara 75.26 307⥣iP P 05 49 57.1 +0.2
SUW Suwalki 76.59 323 eP P 05 50 04.1 0.0
SUW pmax pmax
comp=Z,97nm,1.1s
SUW Suwalki 76.59 323 eP P 05 50 04.0 0.0
SUW Suwalki 76.59 323 eP P 05 50 04.1 0.0
comp=Z,97nm,1.1s
CFR Carcaliu 76.75 314⥣iP P 05 50 05.5 +0.4
DAG Danmarks Havn 77.05 352 eP P 05 50 05.0 -1.2
DAG pmax pmax
comp=Z,1.0nm,0.8s
DAG Danmarks Havn 77.05 352 iP P 05 50 05.0 -1.2
comp=Z,1.4nm,0.8s
VRI Vrincioaia 77.43 315⥣iP P 05 50 09.9 +0.9
BUR08 Bucovina Ar. S 77.76 317 eP P 05 50 11.2 +0.3
BURAR Bucovina Array 77.77 317⥥iP P 05 50 11.3 +0.4
MLR Muntele Rosu 78.08 314⥥iP P 05 50 13.5 +0.8
KWP Kalwaria Pacla 78.54 319 eP P 05 50 15.4 +0.4
KWP Kalwaria Pacla 78.54 319 eP P 05 50 15.3 +0.3
KWP Kalwaria Pacla 78.54 319⥣iP P 05 50 15.5 +0.4
KWP Kalwaria Pacla 78.54 319 eP P 05 50 15.2 +0.1
comp=Z,25nm,0.4s
VOIR 78.69 315⥣iP P 05 50 16.3 +0.3
BEL Belsk 78.77 322 eP P 05 50 16.8 +0.6
BEL Belsk 78.77 322 eP P 05 50 16.8 +0.6
RES Resolute Bay 78.86 10 eP P 05 50 15.5 -0.8
RES pmax pmax
comp=Z,4.0nm,0.9s
RES Resolute Bay 78.86 10 eP P 05 50 15.5 -0.8
comp=Z,4.0nm,0.9s
ARR Arges 78.98 315⥣iP P 05 50 18.0 +0.4
KOLS Kolonicke sedl 79.08 319 eP P 05 50 17.8 -0.2
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 79.08 319 eP P 05 50 17.8 -0.2
TRPA Tarpa 79.23 318⥣iP P 05 50 19.2 +0.4
NB2 NORSAR Subarra 79.35 333 P P 05 50 18.4 -0.9
comp=Z,19nm,0.9s,baz=61,slow=5.3
NB2 NORSAR Subarra 79.35 333 P P 05 50 18.4 -0.9
baz=61,slow=5.3
NOA NORSAR Array B 79.35 333 P P 05 50 18.5 -0.9
comp=Z,13nm,0.8s,baz=58,slow=5.6,SNR=49
NOA LR LR 06 28 47.8
comp=Z,54nm,19.9s,baz=65,slow=38
STHS Stebnicka Huta 79.50 319 eP P 05 50 20.7 +0.4
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 79.50 319 eP P 05 50 20.7 +0.4
CRVS Cervenica-Dubn 79.58 319 eP P 05 50 20.8 +0.1
CRVS pmax pmax
comp=Z,3.0nm,0.8s
CRVS Cervenica-Dubn 79.58 319 eP P 05 50 20.8 +0.1
DRGR 79.66 317⥣iP P 05 50 21.8 +0.5
OJC Ojcow 80.02 321 eP P 05 50 23.4 +0.3
OJC Ojcow 80.02 321 eP P 05 50 23.4 +0.3
NIE Niedzica 80.05 320 eP P 05 50 24.1 +0.8
NIE Niedzica 80.05 320 eP P 05 50 24.1 +0.8
GZR Gura Zlata 80.18 315⥥iP P 05 50 24.5 +0.4
BZS Buzias 80.83 316⥣iP P 05 50 27.5 0.0
PSZ Piszkesteto 80.94 318 eP P 05 50 28.7 +0.5
PSZ pmax pmax
comp=Z,11nm,1.1s
PSZ Piszkesteto 80.94 318⥣iP P 05 50 28.3 +0.1
PSZ Piszkesteto 80.94 318 eP P 05 50 28.7 +0.5
comp=Z,11nm,1.1s
PSZ Piszkesteto 80.94 318⥥eP P 05 50 28.6 +0.4
OKC Ostrava-Krasne 81.14 321 eP P 05 50 29.0 -0.1
OKC Ostrava-Krasne 81.14 321 eP P 05 50 29.0 -0.1
VYHS Vyhne 81.33 319 eP P 05 50 30.8 +0.7
VYHS pmax pmax
comp=Z,16nm,0.9s
VYHS Vyhne 81.33 319 eP P 05 50 30.8 +0.7
MORC Moravsky Berou 81.52 321 eP P 05 50 31.4 +0.3
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 81.52 321⥣iP P 05 50 31.5 +0.3
MORC Moravsky Berou 81.52 321 eP P 05 50 31.4 +0.3
comp=Z,7.4nm,0.9s
KSP Ksiaz 81.75 322⥣eP P 05 50 32.6 +0.3
KSP Ksiaz 81.75 322 eP P 05 50 32.8 +0.5
DPC Dobruska-Polom 81.96 322 eP P 05 50 34.0 +0.5
DPC Dobruska-Polom 81.96 322 eP P 05 50 34.0 +0.5
DPC Dobruska-Polom 81.96 322 eP P 05 50 33.5 0.0
UPC Upice 82.06 322 eP P 05 50 34.6 +0.6
UPC Upice 82.06 322 eP P 05 50 34.6 +0.6
VRAC Vranov 82.28 321⥣iP P 05 50 35.3 +0.1
PKSM Moragy 82.45 317⥥iP P 05 50 36.3 +0.2
PKSM Moragy 82.45 317 eP P 05 50 36.1 0.0
MUD Monsted U'grnd 82.63 329 iP P 05 50 36.7 -0.1
MUD pmax pmax
comp=Z,13nm,0.7s
MUD Monsted U'grnd 82.63 329 iP P 05 50 36.7 -0.1
comp=Z,13nm,0.7s
YKA Yellowknife Ar 82.78 23 P P 05 50 37.3 -0.1
comp=Z,3.5nm,0.8s,baz=308,slow=5.1,SNR=72
TREC Trest 82.93 321 eP P 05 50 39.3 +0.8
TREC Trest 82.93 321 eP P 05 50 39.3 +0.8
BRG Berggiesshubel 83.05 323 eP P 05 50 39.2 +0.1
comp=Z,7.9nm,0.8s
BRG Berggiesshubel 83.05 323 eP P 05 50 39.2 +0.1
BRG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 83.11 354 iP P 05 50 39.0 -0.5
SUMG pmax pmax
comp=Z,11nm,0.8s
SUMG Summit 83.11 354 iP P 05 50 39.0 -0.5
comp=Z,11nm,0.8s
SUMG Summit 83.11 354 eP P 05 50 38.3 -1.2
comp=Z,16nm,0.9s
PRU Pruhonice 83.14 322 eP P 05 50 39.5 -0.1
PRU Pruhonice 83.14 322 eP P 05 50 39.5 -0.1
PRA Prague 83.16 322 eP P 05 50 40.1 +0.4
PRA Prague 83.16 322 eP P 05 50 40.1 +0.4
CLL Collm 83.35 324 iP P 05 50 40.1 -0.5
CLL pmax pmax
comp=Z,22nm,1.2s
CLL Collm 83.35 324 iP P 05 50 40.1 -0.5
comp=Z,22nm,1.2s
CLL Collm 83.35 324 eP P 05 50 39.8 -0.8
comp=Z,17nm,0.6s
CONA Conrad Observa 83.36 320⥣iP P 05 50 41.4 +0.6
comp=Z,14nm,0.9s,SNR=6.4
KHC Kasperske Hory 84.11 321 eP P 05 50 45.0 +0.4
KHC pmax pmax
comp=Z,10.0nm,0.7s
KHC Kasperske Hory 84.11 321 eP P 05 50 44.9 +0.4
KHC Kasperske Hory 84.11 321 eP P 05 50 45.0 +0.4
comp=Z,10.0nm,0.7s
GEC2 GERESS Array S 84.18 321 eP P 05 50 45.1 +0.1
GEC2 GERESS Array S 84.18 321 eP P 05 50 45.1 +0.1
GERES GERESS Array B 84.18 321 P P 05 50 45.1 +0.1
comp=Z,16nm,0.7s,baz=59,slow=4.8,SNR=122
GERES pP pP 05 51 00.0 +2.7
comp=Z,3.5nm,0.7s,baz=72,slow=4.3,SNR=6.1
GERES LR LR 06 32 44.4
comp=Z,54nm,19.3s,baz=56,slow=39
MOA Molln 84.34 320 iP P 05 50 46.2 +0.4
comp=Z,16nm,0.7s,SNR=7.4
SOKA Soboth 84.45 319⥣iP P 05 50 46.6 +0.2
comp=Z,12nm,0.7s,SNR=7.7
GRF Grafenberg Arr 85.15 323 eP P 05 50 50.3 +0.5
comp=Z,18nm,0.9s
KBA Koelnbreinsper 85.26 320⥣iP P 05 50 49.9 -0.7
comp=Z,6.2nm,0.6s
KMBO Kilima Mbogo 86.44 267 eP P 05 50 58.8 +1.6
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 86.44 267 P P 05 50 58.4 +1.3
comp=Z,3.2nm,0.9s,baz=43,slow=5.7,SNR=8.4
KMBO Kilima Mbogo 86.44 267 eP P 05 50 58.8 +1.6
comp=Z,3.6nm,0.9s
FETA Feichten 86.83 321⥣iPcP P 05 50 58.1 -0.3
comp=Z,9.0nm,1.2s
FUORN Ofenpass-Fuorn 87.31 320 eP P 05 51 01.1 +0.3
comp=Z,188nm,2.7s
BFO Black Forest 87.49 323 iP P 05 51 02.6 +1.2
WLF Walferdange 87.92 324 P P 05 51 03.9 +0.5
CDF Champ du Feu 88.02 323 eP P 05 51 03.9 -0.1
comp=Z,32nm,1.0s
CDF epP pP 05 51 19.2 +2.8
CDF Champ du Feu 88.02 323 eP P 05 51 03.9 -0.1
CDF e*PP pP 05 51 19.2 +2.8
CDF pmax pmax
comp=Z,32nm,1.0s
CDF Champ du Feu 88.02 323 eP P 05 51 03.9 -0.1
comp=Z,32nm,1.0s
CDF epP pP 05 51 19.2 +2.8
GIVF Givet 88.37 325 eP P 05 51 05.2 -0.3
GIVF Givet 88.37 325 eP P 05 51 05.2 -0.3
GIVF Givet 88.37 325 eP P 05 51 05.2 -0.3
SNF Seneffe 88.41 326 P P 05 51 04.5 -1.1
DOU Dourbes 88.49 325 P P 05 51 05.5 -0.5
comp=Z,27nm,4.0s
HINF Hinteralfeld 88.59 323 eP P 05 51 05.8 -0.9
comp=Z,9.9nm,0.8s
HINF Hinteralfeld 88.59 323 eP P 05 51 05.8 -0.9
HINF pmax pmax
comp=Z,10.0nm,0.8s
HINF Hinterafeld 88.59 323 eP P 05 51 05.8 -0.9
comp=Z,9.9nm,0.8s
BAIF Baives 88.71 326 eP P 05 51 06.8 -0.3
BAIF Baives 88.71 326 eP P 05 51 06.8 -0.3
BAIF Baives 88.71 326 eP P 05 51 06.8 -0.3
PAGF Fort de Pagny 88.79 324 eP P 05 51 07.4 -0.1
comp=Z,5.1nm,0.5s
PAGF Fort de Pagny 88.79 324 eP P 05 51 07.4 -0.1
comp=Z,5.1nm,0.5s
MEZF Maizieres J'vi 89.19 324 eP P 05 51 09.3 0.0
MEZF Maizieres J'vi 89.19 324 eP P 05 51 09.3 0.0
B08A Colville Reser 89.25 36 eP P 05 51 11.1 +1.4
comp=Z,4.1nm,0.8s
SFTF Sexfontaines 89.37 324 eP P 05 51 09.8 -0.4
comp=Z,35nm,0.8s
SFTF epP pP 05 51 25.4 +2.8
SFTF Sexfontaines 89.37 324 eP P 05 51 09.8 -0.4
comp=Z,35nm,0.8s
SFTF epP pP 05 51 25.4 +2.8
LPG La Plagne 89.97 321 eP P 05 51 13.4 -0.1
LPG epP pP 05 51 29.0 +3.1
LPG La Plagne 89.97 321 eP P 05 51 13.4 -0.1
LPG e*PP pP 05 51 29.0 +3.1
LPG La Plagne 89.97 321 eP P 05 51 13.4 -0.1
LPG epP pP 05 51 29.0 +3.1
LPL La Plagne 89.97 321 eP P 05 51 13.3 -0.1
comp=Z,29nm,1.0s
LPL epP pP 05 51 28.9 +3.1
LPL La Plagne 89.97 321 eP P 05 51 13.3 -0.1
LPL e*PP pP 05 51 28.9 +3.1
LPL pmax pmax
comp=Z,29nm,1.0s
LPL La Plagne 89.97 321 eP P 05 51 13.3 -0.1
comp=Z,29nm,1.0s
LPL epP pP 05 51 28.9 +3.1
PGF Pioggiola 90.26 317 eP P 05 51 14.5 -0.2
PGF Pioggiola 90.26 317 eP P 05 51 14.5 -0.2
PGF Pioggiola 90.26 317 eP P 05 51 14.5 -0.2
MBDF Montbardon 90.39 320 eP P 05 51 14.7 -0.6
MBDF Montbardon 90.39 320 eP P 05 51 14.7 -0.6
MBDF Montbardon 90.39 320 eP P 05 51 14.7 -0.6
NEW Newport 90.48 35 eP P 05 51 16.5 +1.0
NEW pmax pmax
comp=Z,4.0nm,1.2s
NEW Newport 90.48 35 P P 05 51 16.3 +0.8
comp=Z,3.5nm,0.9s,baz=267,slow=2.3,SNR=6.4
NEW Newport 90.48 35 eP P 05 51 16.4 +1.0
comp=Z,3.7nm,1.2s
SBF Sospel 90.49 319 eP P 05 51 14.8 -0.8
SBF Sospel 90.49 319 eP P 05 51 14.8 -0.8
SBF Sospel 90.49 319 eP P 05 51 14.8 -0.8
LOR Lormes 90.56 323 eP P 05 51 15.2 -0.6
comp=Z,11nm,0.9s
LOR Lormes 90.56 323 eP P 05 51 15.2 -0.6
LOR pmax pmax
comp=Z,11nm,0.9s
LOR Lormes 90.56 323 eP P 05 51 15.2 -0.6
comp=Z,11nm,0.9s
SSF Saint Saulge 90.88 323 eP P 05 51 16.8 -0.5
comp=Z,24nm,1.1s
SSF Saint Saulge 90.88 323 eP P 05 51 16.8 -0.5
SSF pmax pmax
comp=Z,24nm,1.1s
SSF Saint Saulge 90.88 323 eP P 05 51 16.8 -0.5
comp=Z,24nm,1.1s
SMF Signal de Mont 90.94 323 eP P 05 51 17.2 -0.4
comp=Z,30nm,0.9s
SMF epP pP 05 51 32.7 +2.7
SMF Signal de Mont 90.94 323 eP P 05 51 17.2 -0.4
SMF e*PP pP 05 51 32.7 +2.7
SMF pmax pmax
comp=Z,30nm,0.9s
SMF Signal de Mont 90.94 323 eP P 05 51 17.2 -0.4
comp=Z,30nm,0.9s
SMF epP pP 05 51 32.7 +2.7
AVF Avril sur Loir 91.13 323 eP P 05 51 18.0 -0.4
comp=Z,32nm,1.0s
AVF epP pP 05 51 33.5 +2.7
AVF Avril sur Loir 91.13 323 eP P 05 51 18.0 -0.4
AVF e*PP pP 05 51 33.5 +2.7
AVF pmax pmax
comp=Z,33nm,1.0s
AVF Avril sur Loir 91.13 323 eP P 05 51 18.0 -0.4
comp=Z,32nm,1.0s
AVF epP pP 05 51 33.5 +2.7
LDF La Druitiere 91.84 326 eP P 05 51 20.8 -0.9
LDF La Druitiere 91.84 326 eP P 05 51 20.8 -0.9
LDF La Druitiere 91.84 326 eP P 05 51 20.8 -0.9
FLN La Foliniere 91.92 326 eP P 05 51 20.7 -1.4
FLN La Foliniere 91.92 326 eP P 05 51 20.7 -1.4
FLN La Foliniere 91.92 326 eP P 05 51 20.7 -1.4
GRR Gorron 92.35 326 eP P 05 51 23.1 -1.0
GRR Gorron 92.35 326 eP P 05 51 23.1 -1.0
GRR Gorron 92.35 326 eP P 05 51 23.1 -1.0
LASF Ste Croix 92.47 321 eP P 05 51 25.0 +0.2
comp=Z,31nm,1.1s
LASF Ste Croix 92.47 321 eP P 05 51 25.0 +0.2
comp=Z,31nm,1.1s
CAF Calviac 92.98 322 eP P 05 51 27.4 +0.3
comp=Z,21nm,0.9s
CAF Calviac 92.98 322 eP P 05 51 27.4 +0.3
CAF pmax pmax
comp=Z,21nm,0.9s
CAF Calviac 92.98 322 eP P 05 51 27.4 +0.3
comp=Z,21nm,0.9s
RJF Les Rejaudoux 93.05 323 eP P 05 51 27.8 +0.4
comp=Z,11nm,0.7s
RJF Les Rejaudoux 93.05 323 eP P 05 51 27.8 +0.4
RJF pmax pmax
comp=Z,11nm,0.7s
RJF Les Rejaudoux 93.05 323 eP P 05 51 27.8 +0.4
comp=Z,11nm,0.7s
SGMF Saint Gilles 93.30 327 eP P 05 51 27.6 -0.8
SGMF Saint Gilles 93.30 327 eP P 05 51 27.6 -0.8
SGMF Saint Gilles 93.30 327 eP P 05 51 27.6 -0.8
ROSF Rostrenen 93.60 327 eP P 05 51 28.9 -0.9
ROSF Rostrenen 93.60 327 eP P 05 51 28.9 -0.9
ROSF Rostrenen 93.60 327 eP P 05 51 28.9 -0.9
KEST Kesra 93.73 312 P P 05 51 30.8 0.0
comp=Z,1.2nm,0.8s,baz=3.5,slow=17,SNR=5.4
MTLF Montolieu 93.86 321 eP P 05 51 31.0 -0.2
MTLF Montolieu 93.86 321 eP P 05 51 31.0 -0.2
MTLF Montolieu 93.86 321 eP P 05 51 31.0 -0.2
EPF Esparros 95.13 322 eP P 05 51 36.2 -0.8
EPF Esparros 95.13 322 eP P 05 51 36.2 -0.8
EPF Esparros 95.13 322 eP P 05 51 36.2 -0.8
NVAR Mina Array Bea 95.70 44 P P 05 51 41.1 +1.2
comp=Z,0.9nm,0.6s,baz=299,slow=5.9,SNR=7.9

IDC 26 05:40:44.6±7.0, 36.48N×80.16E, h0km, mb3.9/4, mb1 3.8/6, mb1mx3.5/40, mbtmp3.7/6, ML2.9/2, Error ellipse: s-maj=160.2km s-min=34.6km az=120.0
BJI 26 05:40:51.2, 36.76N×80.12E, h15km, ML3.4/6
NNC 26 05:40:59.8±3.5, 37.45N×80.92E, h0km, mb3.7, mpv3.7, Error ellipse: s-maj=30.0km s-min=24.6km az=129.0
ISC 26 05:40:48.1±1.7, 36.8N±0.1×80.1E±0.1, h10km, n12, σ2§01/12, mb3.8/4, 6C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	4.26	311	Pg	Pb	05 42 03.3	+0.1
KSH				Sn	Sb	05 42 54.5	-0.2
KSH				smax	smax		
	comp=E,110nm,0.6s						
PDGK	Podgornoye	6.54	356	⥥Pn	Pn	05 42 30.2	+5.9
PDGK				⥥Sn	Sn	05 43 40.4	+1.5
TKM2	Tokmak 2	7.04	332	⥣Pn	Pn	05 42 41.0	+10
	4.7nm,1.1s						
TKM2				⥣Lg	Lg	05 44 37.2	
	3.8nm,0.9s						
AAK	Ala-Archa	7.27	325	⥣Pn	Pb	05 42 47.1	-7.3
	3.1nm,0.6s						
AAK				⥥Lg	Lg	05 44 46.1	
	11nm,0.9s						
KK31	Karatay Array	9.70	313	⥥Pn	Pn	05 43 20.5	+13
	0.2nm,0.2s,baz=131,slow=18,SNR=4.8						
KK31				⥣Lg	Lg	05 46 10.5	
	1.4nm,0.8s						
MK31	Makanchi Array	10.11	8	⥣Pn	Pn	05 43 14.4	+1.0
	0.4nm,0.3s,baz=193,slow=13,SNR=20						
MK31				⥣Sn	Sn	05 45 03.8	-3.0
	2.0nm,0.6s,baz=188,slow=25,SNR=10						
MKAR	Makanchi Array	10.11	8	Pn	Pn	05 43 15.7	+2.3
	0.3nm,0.3s,baz=198,slow=13,SNR=16						
MKAR				Sn	Sn	05 45 03.1	-3.7
	0.8nm,0.3s,baz=190,slow=23,SNR=12						
ZALV	Zalesovo Beam	17.45	9	P	P	05 44 54.0	+1.2
	0.1nm,0.3s,baz=200,slow=15,SNR=2.9						
FINES	FINESS Array B	41.46	324	P	P	05 48 34.9	+0.2
	1.7nm,0.8s,baz=126,slow=9.7,SNR=4.0						
ARCES	ARCESS Array B	43.80	336	P	P	05 48 54.4	+0.6
	3.4nm,0.9s,baz=95,slow=10.0,SNR=3.9						
NOA	NORSAR Array B	48.58	323	P	P	05 49 31.3	-0.2
	0.7nm,0.9s,baz=87,slow=8.9,SNR=2.9						
TORD	Torodi Ar. Bea	73.06	274	P	P	05 52 17.1	-1.7
	0.2nm,0.4s,baz=47,slow=5.3,SNR=7.9						

TIF 26 05:54:18.0, 42.21N×45.51E, h11km±1km
MOS 26 05:54:19.3±1.6, 42.15N×45.47E, h13km, mb4.1/1, Error ellipse: s-maj=7.9km s-min=5.5km az=114.3
AZER 26 05:54:19.6±1.4, 41.97N×45.58E, h15km, Error ellipse: s-maj=2.7km s-min=1.7km az=345.0
CSEM 26 05:54:21.0±0.2, 42.11N×45.41E, h20km, mb4.1, Error ellipse: s-maj=4.5km s-min=3.1km az=46.0
ISC 26 05:54:19.0±1.1, 42.15N±0.02×45.50E±0.01, h8km±9km, n80, σ1§03/134, 18C-17D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUS	Dusheti	0.60	265	ePG	Pg	05 54 31.0	+0.4
DUS				eS	Sb	05 54 40.8	+0.5
DUS	Dusheti	0.60	265	P	Pg	05 54 31.0	+0.4
DUS	Dusheti	0.60	265	P	Pg	05 54 31.0	+0.4
DUS				S	Sb	05 54 40.8	+0.5
SEAG	Tbilisi Sea	0.65	234	P	Pg	05 54 31.3	-0.2
SEAG	Tbilisi Sea	0.65	234	P	Pg	05 54 31.3	-0.2
SEAG				S	Sb	05 54 42.0	+0.3
DGRG	David-gareji	0.70	188	ePG	Pn	05 54 34.6	-0.6
DGRG	David-gareji	0.70	188	P	Pn	05 54 34.6	-0.6
DGRG	David-gareji	0.70	188	P	Pn	05 54 34.6	-0.6
DGRG				S	Sb	05 54 46.0	-0.2
TBLG	Delisi	0.70	234	ePG	Pg	05 54 33.1	+0.5
TBLG	Delisi	0.70	234	P	Pg	05 54 33.1	+0.5
TBLG	Delisi	0.70	234	ePg	Pg	05 54 33.1	+0.5
TBLG				S	Sb	05 54 43.5	+0.1
GUDG	Gudauri	0.82	293	P	Pg	05 54 32.8	-2.1
ZKTA	Zakatala	0.98	121	⥥P	Pg	05 54 37.4	-0.4
	SNR=20						
ZKTA				⥥S	Sn	05 54 52.4	-0.6
VLKR	Vladikavkaz	1.09	326	ePG	Pg	05 54 40.2	+0.3
VLKR				eS	Sn	05 54 55.2	-0.6
VLKR	Vladikavkaz	1.09	326	ePg	Pg	05 54 40.2	+0.3
VLKR				eSg	Sn	05 54 55.2	-0.6
QZX	Qazax, Azerbai	1.09	185	⥣P	Pb	05 54 39.9	-0.2
QZX				⥣S	Sb	05 54 52.0	-2.4
UNCR	Uncukul	1.11	59	ePG	Pb	05 54 38.8	-1.7
UNCR				iS	Sb	05 54 53.0	-2.1
UNCR				pmax	pmax		
	comp=Z,67nm,0.2s						
KZR	Kazreti	1.11	227	P	Pb	05 54 39.7	-0.8
KZR	Kazreti	1.11	227	P	Pb	05 54 39.7	-0.8
KZR				S	Sg	05 54 55.1	+0.2
LACR	Lac	1.12	308	⥣iPG	Pb	05 54 38.9	-1.8
LACR				iS	Sb	05 54 54.0	-1.5
LACR	Lac	1.12	308	iSg	Sb	05 54 54.0	-1.5
GRO	Groznyy	1.19	9	ePG	Pn	05 54 37.6	-4.3
GRO				iS	Sb	05 54 54.2	-3.0
KMKR	Kumukh	1.19	90	ePG	Pg	05 54 42.5	+0.7
KMKR				eS	Sn	05 54 59.0	+0.5
KMKR				pmax	pmax		
	comp=Z,42nm,0.2s						
KMKR	Kumukh	1.19	90	ePg	Pg	05 54 42.5	+0.7

	comp=Z,42nm,0.2s						
KMKR				eSg	Sn	05 54 59.0	+0.5
DBC	**Dubki**	**1.31**	**48**	⇑iPG	**Pn**	**05 54 42.0**	**-1.7**
DBC				iS	Sb	05 54 59.1	-1.9
ZEI	**Tsey**	**1.35**	**299**	⇑iPG	**Pn**	**05 54 42.9**	**-1.4**
ZEI				eS	Sb	05 55 00.7	-1.3
ZEI	**Tsey**	**1.35**	**299**	iPg	**Pn**	**05 54 42.9**	**-1.4**
ZEI				eSg	Sb	05 55 00.7	-1.3
ARNR	**Ardon**	**1.37**	**319**	⇑iPG	**Pb**	**05 54 44.8**	**-0.1**
ARNR				eS	Sg	05 55 03.7	+0.6
ARNR	**Ardon**	**1.37**	**319**	iPg	**Pb**	**05 54 44.8**	**-0.1**
ARNR				eSg	Sg	05 55 03.7	+0.6
BTKR	**Batakoyurt**	**1.42**	**330**	⇓iPG	**Pb**	**05 54 46.0**	**+0.3**
BTKR				eS	Sg	05 55 05.5	+1.0
BTKR	**Batakoyurt**	**1.42**	**330**	iPg	**Pb**	**05 54 46.0**	**+0.3**
BTKR				eSg	Sg	05 55 05.5	+1.0
KORR	**Kora**	**1.42**	**312**	c iPG	**Pn**	**05 54 45.2**	**+0.1**
KORR	**Kora**	**1.42**	**312**	iPg	**Pn**	**05 54 45.2**	**+0.1**
SEKA	**Sheki**	**1.58**	**126**	⇑P	**Pn**	**05 54 47.4**	**+0.1**
	SNR=44						
SEKA				⇓S	Sg	05 55 09.2	-0.5
SEKA	**Sheki**	**1.58**	**126**	P	**Pn**	**05 54 47.4**	**+0.1**
	SNR=44						
SEKA				S	Sg	05 55 09.2	-0.5
ONI	**Oni**	**1.58**	**287**	ePG	**Pn**	**05 54 47.7**	**+0.3**
ONI				eS	Sg	05 55 09.6	-0.3
ONI	**Oni**	**1.58**	**287**	P	**Pn**	**05 54 47.7**	**+0.3**
ONI	**Oni**	**1.58**	**287**	P	**Pn**	**05 54 47.7**	**+0.3**
ONI				eSg	Sg	05 55 09.6	-0.3
DIGR	**Digorskoe uzhe**	**1.61**	**299**	⇓iPG	**Pn**	**05 54 47.8**	**0.0**
DIGR				eS	Sn	05 55 08.8	0.0
DIGR	**Digorskoe uzhe**	**1.61**	**299**	iPg	**Pn**	**05 54 47.8**	**0.0**
DIGR				eSg	Sn	05 55 08.8	0.0
STDR	**Stavd-Durt**	**1.62**	**320**	⇑iPG	**Pb**	**05 54 48.9**	**-0.2**
STDR				eS	Sg	05 55 10.3	+0.7
STDR	**Stavd-Durt**	**1.62**	**320**	iPg	**Pb**	**05 54 48.9**	**-0.2**
STDR				eSg	Sg	05 55 10.3	+0.7
GANJ	**Ganja**	**1.62**	**157**	⇓P	**Pn**	**05 54 47.8**	**-0.1**
	SNR=55						
GANJ				⇑S	Sb	05 55 10.3	+0.6
AKH	**Akhalkalaki**	**1.67**	**245**	ePN	**Pn**	**05 54 48.6**	**-0.1**
AKH				eS	Sb	05 55 11.6	+0.2
AKH	**Akhalkalaki**	**1.67**	**245**	P	**Pn**	**05 54 48.6**	**-0.1**
AKH	**Akhalkalaki**	**1.67**	**245**	P	**Pn**	**05 54 48.6**	**-0.1**
AKH				S	Sb	05 55 11.6	+0.2
LSNR	**Lesken**	**1.68**	**313**	⇓iPN	**Pb**	**05 54 49.4**	**-0.7**
LSNR				eS	Sb	05 55 11.9	+0.6
LSNR	**Lesken**	**1.68**	**313**	iPn	**Pb**	**05 54 49.4**	**-0.7**
LSNR				eSg	Sb	05 55 11.9	+0.6
TRKR	**Terskaya**	**1.68**	**341**	ePN	**Pb**	**05 54 50.2**	**+0.2**
TRKR				iS	Sg	05 55 13.2	+0.3
TRKR	**Terskaya**	**1.68**	**341**	ePn	**Pb**	**05 54 50.2**	**+0.2**
TRKR				iSg	Sg	05 55 13.2	+0.3
MAK	**Makhachkala**	**1.69**	**60**	ePN	**Pg**	**05 54 52.7**	**+1.3**
MAK				e		05 55 15.2	
MAK				pmax	pmax		
	comp=Z,117nm,0.4s						
MAK				smax	smax		
	comp=E,397nm,0.7s						
MAK				smax	smax		
	comp=N,350nm,0.4s						
MAK	**Makhachkala**	**1.69**	**60**	ePn	**Pg**	**05 54 52.7**	**+1.3**
	comp=N,117nm,0.4s						
MAK				eSg	Sg	05 55 15.2	+1.9
	comp=N,350nm,0.4s						
MNGR	**Mingechevir, A**	**1.82**	**139**	⇑P	**Pb**	**05 54 52.4**	**-0.1**
MNGR				⇑S	Sg	05 55 16.4	-0.9
PRTR	**Priterechnaya**	**1.84**	**331**	ePN	**Pb**	**05 54 52.3**	**-0.5**
PRTR	**Priterechnaya**	**1.84**	**331**	ePn	**Pb**	**05 54 52.3**	**-0.5**
NCK	**Nalchik**	**1.95**	**315**	ePN	**Pb**	**05 54 53.9**	**-0.8**
NCK	**Nalchik**	**1.95**	**315**	ePn	**Pb**	**05 54 53.9**	**-0.8**
GNI	**Garni**	**2.08**	**196**	ePN	**Pb**	**05 54 55.8**	**-1.2**
GNI	**Garni**	**2.08**	**196**	ePn	**Pb**	**05 54 55.8**	**-1.2**
BRDA	**Brd**	**2.27**	**146**	⇓Pg	**Pn**	**05 54 57.8**	**+1.1**
	SNR=3.6						
BRDA				⇑Sg	Sb	05 55 26.3	-2.0
BRDA	**Brd**	**2.27**	**146**	Pg	**Pn**	**05 54 57.8**	**+1.1**
	SNR=3.6						
BRDA				Sg	Sb	05 55 26.3	-2.0
QUBA	**Quba, Azerbaij**	**2.37**	**108**	⇓Pg	**Pb**	**05 55 00.3**	**-1.6**
QUBA				⇓Sg	Sb	05 55 32.5	+1.1
IML	**Ismayilli**	**2.42**	**123**	⇓Pg	**Pb**	**05 55 01.7**	**-1.2**
IML				⇑Sg	Sb	05 55 34.1	+1.2
IML	**Ismayilli**	**2.42**	**123**	Pg	**Pb**	**05 55 01.7**	**-1.2**
IML				Sg	Sb	05 55 34.1	+1.2
PQL	**Pirkuli**	**2.69**	**119**	⇑Pg	**Pb**	**05 55 05.0**	**-2.4**
	SNR=8.7						
PQL				⇓Sg	Sb	05 55 41.9	+1.3
PQL	**Pirkuli**	**2.69**	**119**	Pg	**Pb**	**05 55 05.0**	**-2.4**
	SNR=8.7						
PQL				Sg	Sb	05 55 41.9	+1.3
KIV	**Kislovodsk**	**2.74**	**312**	ePN	**Pb**	**05 55 04.1**	**+0.7**
KIV	**Kislovodsk**	**2.74**	**312**	ePn	**Pb**	**05 55 04.1**	**+0.7**
SIZA	**Siyzn**	**2.76**	**112**	⇑Pg	**Pb**	**05 55 07.2**	**-1.4**
SIZA				⇓Sg	Sb	05 55 43.2	+0.5
SIZA	**Siyzn**	**2.76**	**112**	Pg	**Pb**	**05 55 07.2**	**-1.4**
SIZA				Sg	Sb	05 55 43.2	+0.5
NAX	**Nakhchivan**	**2.97**	**180**	⇓Pg	**Pn**	**05 55 09.0**	**+2.6**
	SNR=5.2						
NAX				⇓Sg	Sb	05 55 47.4	-1.2
NAX	**Nakhchivan**	**2.97**	**180**	Pg	**Pn**	**05 55 09.0**	**+2.6**
	SNR=5.2						
NAX				Sg	Sb	05 55 47.4	-1.2
GLBA	**Clilabad**	**3.64**	**142**	⇑P	**Pn**	**05 55 16.1**	**+0.5**
	SNR=6.6						
GLBA				⇓Sn	Sn	05 55 58.6	-0.1
GLBA	**Clilabad**	**3.64**	**142**	P	**Pn**	**05 55 16.1**	**+0.5**
	SNR=6.6						
GLBA				Sn	Sn	05 55 58.6	-0.1
LRK	**Lerik**	**4.12**	**147**	⇑P	**Pn**	**05 55 23.1**	**+0.8**
LRK				⇓Sn	Sn	05 56 11.9	+1.2
LRK	**Lerik**	**4.12**	**147**	P	**Pn**	**05 55 23.1**	**+0.8**
LRK				Sn	Sn	05 56 11.9	+1.2
ANN	**Anapa**	**6.44**	**297**	eP	**Pn**	**05 55 54.0**	**0.0**
ANN				e		05 57 09.0	
ANN				pmax	pmax		
	comp=Z,19nm,0.4s						
ANN				smax	smax		
	comp=N,23nm,0.5s						
ANN	**Anapa**	**6.44**	**297**	eP	**Pn**	**05 55 54.0**	**0.0**
	comp=N,19nm,0.4s						
ANN				eS	Sn	05 57 09.0	+1.3
	comp=N,23nm,0.5s						
BRVK	**Borovoye**	**19.85**	**48**	iP	**Pn**	**05 58 52.1**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BRVK	**Borovoye**	**19.85**	**48**	iP	**Pn**	**05 58 52.1**	**+0.4**
	comp=Z,3.0nm,1.3s						

CASC ***26*** *05:55:27.6±3.7, 15.°54N×92.°64W, h29km±576km, MD3.7*
MEX ***26*** *05:55:31.7±0.3, 15.°22N×91.°79W, h51km±6km, MD4.0*
ISC 26 05:55:29.8±2.3, 15.°46N±0.°07×92.°5W±0.°2, h10km, n14, σ1.°89/16, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.58**	**159**	iP	**Pb**	**05 55 42.2**	**0.0**
THIG				iS	**Sg**	**05 55 50.4**	**+1.6**
PCIG		**0.75**	**289**	eP	Pn	05 55 54.3	+7.8
PCIG				iS	Sn	05 56 11.5	+14
CCIG	**Comitan**	**0.89**	**22**	eP	Pn	05 55 49.5	+0.9
CCIG				iS	**Sn**	**05 56 03.6**	**+2.1**
JAT	**Jato**	**1.40**	**144**	eP	**Pn**	**05 55 53.2**	**-2.2**
PCG	**Pacaya**	**2.10**	**120**	eP	**Pn**	**05 56 02.1**	**-3.1**
NBG	**Las Nubes**	**2.23**	**112**	eP	**Pn**	**05 56 04.2**	**-3.0**
NBG				eS	Sn	05 56 27.7	-7.3
MRL	**Marmol**	**2.72**	**98**	eP	**Pn**	**05 56 11.0**	**-2.7**
MRL				eS	Sn	05 56 41.1	-5.7
RBDL	**Robledal**	**3.01**	**116**	eP	**Pn**	**05 56 16.8**	**-1.0**
RBDL				eS	**Sn**	**05 56 54.6**	**+0.5**
RTR	**El Retiro**	**3.15**	**119**	eP	**Pn**	**05 56 18.5**	**-1.2**
SBLS	**San Blas**	**3.20**	**120**	eP	**Pn**	**05 56 19.7**	**-0.8**
SNJE	**San Jose**	**3.20**	**119**	eP	**Pn**	**05 56 19.4**	**-1.0**
BOQS	**Boqueron**	**3.54**	**118**	eP	**Pn**	**05 56 25.5**	**+0.4**
LBRS	**Las Brisas**	**3.74**	**117**	eP	**Pn**	**05 56 28.6**	**+0.9**
LBRS				eS	**Sn**	**05 57 13.1**	**+2.1**
LFRS	**El Faro**	**3.78**	**118**	eP	**Pn**	**05 56 29.6**	**+1.3**

SKHL 26 06:25:07.0±0.8, 43.°72N×149.°81E, h30km±1km, mb4.7/1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.06**	**318**	eP	Pn	06 25 39.0	-0.5
KUR				AMB	AMB	06 25 39.6	
	31nm,0.3s						
KUR				AMB	AMB	06 25 39.6	
	26nm,0.3s						
KUR				AMB	AMB	06 25 39.6	
	91nm,0.3s						
KUR				eS	Sn	06 26 03.6	-0.5
KUR				A	A	06 26 06.0	
	190nm,0.6s						
KUR				A	A	06 26 06.0	
	150nm,0.6s						
SHO	**Shikotan**	**2.16**	**275**	eP	Pn	06 25 41.0	+0.1
SHO				eS	Sn	06 26 05.9	-0.8
YUK	**Yuzh-Kuril'sk**	**2.87**	**278**	eP	Pn	06 25 50.3	-0.4
YUK				eS	Sn	06 26 24.3	+0.1
YUK				A	A	06 26 26.5	
	31nm,0.3s						
YUK				A	A	06 26 26.5	
	37nm,0.3s						

ISCJB ***26*** *06:31:22.3±0.9, 13.°55N±0.°08×91.°04W±0.°04, h29km, Error ellipse: s-maj=11.9km s-min=3.7km az=24.8*
CASC ***26*** *06:31:24.3±1.1, 13.°59N×90.°88W, h21km±5km, MD3.6*
MEX ***26*** *06:31:27.9±0.3, 13.°60N×91.°21W, h58km±23km, MD4.0*
ISC 26 06:31:23.4±1.4, 13.°55N±0.°10×91.°01W±0.°05, h29km, n19, σ0.°87/28, 3C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.92**	**25**	⇑eP	**Pn**	**06 31 40.3**	**-0.4**
JAT	**Jato**	**0.98**	**321**	eP	**Pb**	**06 31 42.6**	**+0.8**
NBG	**Las Nubes**	**1.21**	**32**	⇑eP	**Pn**	**06 31 45.1**	**+0.4**
NBG				eS	**Sn**	**06 32 00.1**	**-0.2**
RTR	**El Retiro**	**1.36**	**75**	eP	**Pn**	**06 31 46.3**	**-0.4**
SBLS	**San Blas**	**1.37**	**78**	eP	**Pn**	**06 31 46.0**	**-0.8**
SNJE	**San Jose**	**1.40**	**77**	eP	**Pn**	**06 31 46.4**	**-0.7**
RBDL	**Robledal**	**1.40**	**66**	eP	**Pn**	**06 31 46.9**	**-0.2**
BOQS	**Boqueron**	**1.69**	**84**	eP	**Pn**	**06 31 50.7**	**-0.5**
BOQS				eS	**Sn**	**06 32 11.4**	**-0.6**
THIG		**1.82**	**318**	eP	**Pn**	**06 31 53.4**	**+0.6**
THIG				iS	**Sn**	**06 32 12.9**	**-2.0**
LFU	**La Fuente**	**1.85**	**84**	eP	**Pn**	**06 31 53.0**	**-0.3**
LFU				eS	**Sn**	**06 32 16.3**	**+0.5**
LFRS	**El Faro**	**1.89**	**88**	eP	**Pn**	**06 31 53.6**	**-0.3**
LFRS				eS	**Sn**	**06 32 15.8**	**-1.1**
LBRS	**Las Brisas**	**1.92**	**84**	eP	**Pn**	**06 31 54.1**	**-0.1**
MRL	**Marmol**	**1.97**	**40**	⇑eP	**Pn**	**06 31 55.4**	**+0.3**
SNVI	**San Vicente**	**2.11**	**88**	eP	**Pn**	**06 31 57.2**	**+0.2**
VSM	**San Miguel**	**2.66**	**92**	eP	**Pn**	**06 32 04.5**	**-0.1**
CCIG	**Comitan**	**2.93**	**338**	eP	**Pn**	**06 32 09.6**	**+1.4**
CCIG				iS	**Sn**	**06 32 41.8**	**-0.8**
PCIG		**3.03**	**315**	iP	**Pn**	**06 32 09.8**	**+0.3**
PCIG				iS	**Sn**	**06 32 42.9**	**-1.9**
CNCH	**Conchagua**	**3.10**	**95**	eP	**Pn**	**06 32 10.9**	**+0.3**
CNCH				eS	**Sn**	**06 32 47.4**	**+0.7**
CMIG	**Matias Romero**	**5.14**	**314**	eP	**Pn**	**06 32 39.1**	**+0.7**
CMIG				iS	**Sn**	**06 33 35.2**	**-1.6**

JMA ***26*** *06:31:24.4±0.2, 24.°48N×121.°57E, h66km±2km, M3.1*
ISCJB ***26*** *06:31:25.1±0.4, 24.°54N±0.°02×121.°62E±0.°02, h66km±4km, Error ellipse: s-maj=4.3km s-min=2.5km az=152.0*
TAP ***26*** *06:31:25.5, 24.°56N×121.°61E, h61km±1km, ML3.7, A*
ISC 26 06:31:25.8±1.2, 24.°53N±0.°03×121.°62E±0.°02, h61km±6km, n55, σ0.°82/97, 4C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENTT	**Nioudou**	**0.12**	**337**	iP	**Pn**	**06 31 35.2**	**+0.1**
	baz=338						
ENTT				S	**Sn**	**06 31 41.6**	**-0.2**
	baz=338						
ENA	**Nanau**	**0.15**	**132**	P	**Pn**	**06 31 34.9**	**-0.3**
	baz=135						
TWE	**Neicheng**	**0.20**	**13**	⇑iP	**Pn**	**06 31 35.6**	**+0.2**
	baz=23						
TWE				S	**Sn**	**06 31 42.9**	**+0.5**
	baz=23						
TWC	**Suao**	**0.23**	**69**	⇑iP	**Pn**	**06 31 35.6**	**+0.1**
	baz=77						
TWC				eS	**Sn**	**06 31 42.8**	**+0.2**
	baz=77						
NNS	**Nan Shan**	**0.24**	**248**	⇓iP	**Pn**	**06 31 35.9**	**+0.1**
	baz=239						
NNS				S	**Sn**	**06 31 43.4**	**+0.3**
	baz=239						
ILA	**Ilan**	**0.26**	**27**	eP	**Pn**	**06 31 36.1**	**+0.3**
	baz=33						
ILA				S	**Sn**	**06 31 43.8**	**+0.8**
	baz=33						
NSK	**Sanguang**	**0.28**	**302**	⇑iP	**Pn**	**06 31 35.6**	**-0.4**
	baz=297						
NSK				S	**Sn**	**06 31 42.8**	**-0.5**
	baz=297						
TWD	**Chiawan**	**0.45**	**183**	iP	**Pn**	**06 31 36.4**	**-0.9**
	baz=180						
TWD				S	**Sn**	**06 31 44.6**	**-1.1**
	baz=180						
TWA	**Mucha**	**0.45**	**356**	eP	**Pn**	**06 31 37.3**	**-0.1**
	baz=358						
TWA				eS	**Sn**	**06 31 45.0**	**-0.8**
	baz=358						
TWT	**Tachien**	**0.49**	**236**	⇓iP	**Pn**	**06 31 38.6**	**+0.7**
	baz=232						
TWT				eS	**Sn**	**06 31 47.4**	**+0.6**
	baz=232						
WHF	**Hehuan Shan**	**0.50**	**220**	⇓iP	**Pn**	**06 31 38.6**	**+0.2**
	baz=216						
WHF				S	**Sn**	**06 31 47.8**	**+0.4**
	baz=216						
TAP1	**Taipei**	**0.52**	**350**	eP	**Pn**	**06 31 38.7**	**+0.7**
	baz=349						
TAP1				eS	**Sn**	**06 31 46.0**	**-0.9**
	baz=349						
TAP	**Taipei**	**0.52**	**349**	eP	**Pn**	**06 31 38.9**	**+0.8**
	baz=349						
TAP				S	**Sn**	**06 31 46.5**	**-0.5**
	baz=349						
HWA	**Hwalien**	**0.55**	**181**	eP	**Pn**	**06 31 37.6**	**-0.8**
	baz=179						
HWA				eS	**Sn**	**06 31 47.3**	**-0.3**
	baz=179						
NWF	**Wu-fen Shan**	**0.56**	**15**	⇓iP	**Pn**	**06 31 38.6**	**-0.1**
	baz=17						
NWF				iS	**Sn**	**06 31 47.3**	**-0.7**
	baz=17						
NSTT	**Nanjuang**	**0.57**	**280**	P	**Pn**	**06 31 38.4**	**-0.2**
	baz=277						
NSTT				eS	**Sn**	**06 31 47.9**	**-0.1**
	baz=277						
TWB1	**Santiao Chiao**	**0.58**	**35**	P	**Pn**	**06 31 38.9**	**+0.1**
	baz=38						
TWB1				eS	**Sn**	**06 31 48.3**	**+0.1**
	baz=38						
NCU	**National Centr**	**0.59**	**318**	⇑iP	**Pn**	**06 31 38.7**	**-0.1**
	baz=317						
NCU				iS	**Sn**	**06 31 48.4**	**0.0**
	baz=317						
TWS1	**Kuangyinshan**	**0.60**	**342**	P	**Pn**	**06 31 38.8**	**-0.1**
	baz=342						
TWS1				S	**Sn**	**06 31 48.6**	**+0.1**
	baz=342						
HSN	**Hsinchu**	**0.65**	**295**	eP	**Pn**	**06 31 39.1**	**-0.4**
	baz=296						
HSN				eS	**Sn**	**06 31 49.0**	**-0.5**
	baz=296						
ESL	**Shilin**	**0.73**	**193**	eP	**Pn**	**06 31 39.2**	**-1.4**
	baz=191						
TWY	**Chenhua**	**0.74**	**359**	P	**Pn**	**06 31 40.5**	**-0.2**
	baz=359						
TWY				eS	**Sn**	**06 31 51.3**	**-0.2**
	baz=359						
NSY	**Sanyi**	**0.79**	**262**	P	**Pn**	**06 31 41.5**	**+0.3**
	baz=259						
NSY				S	**Sn**	**06 31 53.2**	**+0.6**
	baz=259						
TWQ1	**Liyutan**	**0.79**	**257**	P	**Pn**	**06 31 41.4**	**+0.1**
	baz=254						
TWQ1				S	**Sn**	**06 31 52.6**	**0.0**
	baz=254						
SMLT	**Sun Moon Lake**	**0.92**	**226**	P	**Pn**	**06 31 43.5**	**+0.5**
	baz=223						
SMLT				eS	**Sn**	**06 31 57.7**	**+2.1**
	baz=223						
TYC	**Yuchr**	**0.93**	**228**	P	**Pn**	**06 31 43.4**	**+0.4**
	baz=226						
TYC				eS	**Sn**	**06 31 56.5**	**+0.8**
	baz=226						
TCU	**Taichung**	**0.94**	**246**	eP	**Pn**	**06 31 43.3**	**+0.2**
	baz=244						
TCU				eS	**Sn**	**06 31 56.4**	**+0.5**
	baz=244						
EHY	**Hungye**	**1.05**	**195**	eP	**Pn**	**06 31 42.7**	**-1.9**
	baz=193						
WNT	**Mingjian**	**1.07**	**233**	eP	**Pn**	**06 31 46.1**	**+1.3**
	baz=230						
WNT				eS	**Sn**	**06 31 59.8**	**+0.8**
	baz=230						
YUS	**Yu-Shan**	**1.20**	**211**	iP	**Pn**	**06 31 47.7**	**+0.7**
	baz=209						
TWF1	**Yuli**	**1.21**	**194**	P	**Pn**	**06 31 44.7**	**-2.0**
	baz=192						
JYNG	**Yonagunijimaku**	**1.21**	**93**	P	**Pn**	**06 31 46.6**	**0.0**
JYNG				eS	**Sn**	**06 32 02.7**	**+0.5**
ALS	**Alishan**	**1.26**	**216**	P	**Pn**	**06 31 48.3**	**+0.8**
	baz=214						
ALS				eS	**Sn**	**06 32 05.3**	**+1.5**
	baz=214						
CHN5	**Tsauling**	**1.27**	**223**	P	**Pn**	**06 31 48.0**	**+0.5**
	baz=221						
CHN5				eS	**Sn**	**06 32 04.7**	**+1.1**
	baz=221						
YOJ	**Yonaguni jima**	**1.27**	**93**	P	**Pn**	**06 31 47.3**	**-0.1**
WGK	**Gukeng**	**1.28**	**229**	eP	**Pn**	**06 31 48.1**	**+0.5**
	baz=227						
WGK				eS	**Sn**	**06 32 04.9**	**+1.1**
	baz=227						
WTCT	**Ta-ch'eng**	**1.39**	**242**	eP	**Pn**	**06 31 48.9**	**-0.1**
	baz=240						
WTCT				eS	**Sn**	**06 32 06.2**	**-0.3**
	baz=240						
CHKT	**Chengkung**	**1.44**	**189**	eP	**Pn**	**06 31 49.2**	**-0.5**
	baz=188						
CHKT				eS	**Sn**	**06 32 07.1**	**-0.6**
	baz=188						
ELDTW	**Lidau**	**1.44**	**203**	eP	**Pn**	**06 31 49.3**	**-0.6**
	baz=201						
CHY	**Chiayi**	**1.50**	**227**	eP	**Pn**	**06 31 50.9**	**+0.4**
	baz=225						
CHY				eS	**Sn**	**06 32 10.0**	**+0.9**
	baz=225						
CHN4	**Tsaushan**	**1.50**	**219**	P	**Pn**	**06 31 51.0**	**+0.5**
	baz=217						
WSF	**Szhu**	**1.55**	**235**	eP	**Pn**	**06 31 51.2**	**0.0**
	baz=233						
WSF				eS	**Sn**	**06 32 10.6**	**+0.2**
	baz=233						
STYT	**Tauyuan**	**1.57**	**210**	eP	**Pn**	**06 31 52.6**	**+1.1**
	baz=208						
WTP	**Ta-pu**	**1.57**	**216**	eP	**Pn**	**06 31 52.2**	**+0.6**
	baz=214						
TWK	**Hsinying**	**1.63**	**220**	eP	**Pn**	**06 31 52.6**	**+0.3**
	baz=218						
IRIF	**Iriomote-Funau**	**1.94**	**95**	P	**Pn**	**06 31 55.9**	**-0.5**
IRIF				eS	**Sn**	**06 32 19.3**	**-0.3**
SSD	**Sandimen**	**1.99**	**207**	eP	**Pn**	**06 31 59.0**	**+1.8**
	baz=206						
PNG	**Penghu**	**2.12**	**243**	eP	**Pn**	**06 31 57.8**	**-1.0**
	baz=242						
PNG				eS	**Sn**	**06 32 21.2**	**-2.9**
	baz=242						
WDGT	**Dungji**	**2.19**	**235**	eP	**Pn**	**06 31 59.0**	**-0.9**
	baz=233						
WDGT				eS	**Sn**	**06 32 23.8**	**-2.2**
	baz=233						
JKRS	**Kuro-shima**	**2.20**	**97**	P	**Pn**	**06 32 00.2**	**+0.2**
JKRS				eS	**Sn**	**06 32 26.6**	**+0.5**
JIJ	**Ishigaki jima**	**2.31**	**94**	P	**Pn**	**06 32 01.2**	**-0.2**
JIJ				eS	**Sn**	**06 32 28.2**	**-0.5**
JISG	**Ishigakijimahi**	**2.45**	**88**	P	**Pn**	**06 32 03.1**	**-0.3**
JISG				eS	**Sn**	**06 32 31.7**	**-0.6**
JTJ	**Tarama**	**2.81**	**87**	P	**Pn**	**06 32 09.0**	**+0.7**
JTJ				eS	**Sn**	**06 32 41.5**	**+0.5**
KNM	**Kinmen**	**2.90**	**268**	eP	**Pn**	**06 32 10.1**	**+0.5**
	baz=267						
KNM				eS	**Sn**	**06 32 42.1**	**-1.2**
	baz=267						
JIRB	**Irabujima**	**3.25**	**84**	eS	**Sn**	**06 32 53.6**	**+1.9**

IDC ***26*** *07:24:47.6±1.2, 26.°42N×128.°48E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/36, mbtmp3.7/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/32, Error ellipse: s-maj=51.1km s-min=25.4km az=66.0*
ISCJB ***26*** *07:24:50.1±0.8, 26.°37N±0.°04×128.°62E±0.°04, h30km±6km, mb3.6/6, MS2.7/1, Error ellipse: s-maj=6.9km s-min=4.7km az=138.3*
JMA ***26*** *07:24:52.5±0.2, 26.°46N×128.°54E, h32km±2km, M3.8*
JMA Felt I J1.
ISC 26 07:24:50.8±1.6, 26.°39N±0.°05×128.°57E±0.°04, h25km±12km, n24, σ1.°02/34, mb3.6/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.50**	**285**	P	**Pn**	**07 25 02.1**	**-0.4**
JNTH				S	**Sn**	**07 25 08.8**	**-1.6**
JOW	**Kunigami**	**0.51**	**329**	P	**Pn**	**07 25 01.9**	**-0.7**
JOW				eS	**Sn**	**07 25 08.5**	**-2.1**
JJT2	**Tamagusuku 2**	**0.78**	**251**	P	**Pn**	**07 25 07.2**	**+1.0**
JIH	**Iheya**	**0.83**	**320**	P	**Pb**	**07 25 07.1**	**+0.4**
JIH				eS	**Sn**	**07 25 17.6**	**-0.9**
JOKE	**Okinoerabujima**	**0.96**	**0**	P	**Pn**	**07 25 08.8**	**-0.1**
JOKE				eS	**Sn**	**07 25 20.4**	**-1.4**
JAGN	**Aguni-jima**	**1.20**	**280**	P	**Pb**	**07 25 13.1**	**+0.2**
JAGN				eS	**Sb**	**07 25 28.1**	**0.0**
JTK	**Tokunoshima**	**1.43**	**14**	P	**Pn**	**07 25 15.2**	**0.0**
JTK				eS	**Sn**	**07 25 32.1**	**-1.1**
JKE	**Kume jima 2**	**1.60**	**268**	P	**Pn**	**07 25 17.7**	**+0.2**
JKE				eS	**Sb**	**07 25 38.6**	**-0.9**
JAMN	**Amaminishikomi**	**1.92**	**16**	P	**Pn**	**07 25 22.0**	**0.0**
JAMN				eS	**Sn**	**07 25 44.8**	**-0.6**
JAM	**Amami Oshima**	**2.21**	**24**	P	**Pn**	**07 25 25.9**	**-0.1**
JAM				eS	**Sn**	**07 25 51.6**	**-1.0**
JZK	**Kikaishima**	**2.29**	**33**	P	**Pn**	**07 25 28.0**	**+1.0**
JZK				S	**Sn**	**07 25 54.2**	**-0.2**
JMZ	**Minamidaito 2**	**2.45**	**103**	P	**Pn**	**07 25 28.8**	**-0.5**
JMZ				eS	**Sn**	**07 25 55.6**	**-2.9**
JTAJ	**Takarajima**	**2.81**	**11**	P	**Pn**	**07 25 34.2**	**0.0**
JIKM	**Ikemajima**	**3.33**	**245**	P	**Pn**	**07 25 42.0**	**+0.6**
JTJ	**Tarama**	**3.90**	**244**	P	**Pn**	**07 25 49.2**	**0.0**
JISG	**Ishigakijimahi**	**4.25**	**246**	P	**Pn**	**07 25 53.5**	**-0.4**
JIJ	**Ishigaki jima**	**4.48**	**244**	P	**Pn**	**07 25 56.3**	**-0.9**
SONM	**Songino Array**	**27.58**	**327**	P	**P**	**07 30 37.9**	**+1.8**
	0.6nm,0.5s,baz=140,slow=11,SNR=8.1						
PETK	**Petropavlovsk-**	**34.40**	**31**	LR	LR	07 48 12.9	
	comp=Z,14nm,18.8s,baz=287,slow=41						
MKAR	**Makanchi Array**	**41.65**	**312**	P	**P**	**07 32 36.5**	**-0.6**
	0.3nm,0.3s,baz=86,slow=9.8,SNR=20						
WRA	**Warramunga Arr**	**46.40**	**172**	P	**P**	**07 33 16.5**	**+1.0**
	0.3nm,0.3s,baz=353,slow=8.5,SNR=2.6						
FINES	**FINESS Array B**	**72.87**	**331**	P	**P**	**07 36 17.2**	**-0.2**
	0.6nm,0.4s,baz=86,slow=5.7,SNR=11						
AKASG	**Malin Array Be**	**75.60**	**320**	P	**P**	**07 36 33.2**	**-0.3**
	0.7nm,0.3s,baz=63,slow=6.4,SNR=5.3						
YKA	**Yellowknife Ar**	**78.25**	**25**	P	**P**	**07 36 49.1**	**+0.9**
	0.1nm,0.5s,baz=307,slow=5.6,SNR=2.4						

IDC ***26*** *07:31:30.0±2.7, 16.°48S×173.°30W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/25, mbtmp3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=154.0km s-min=28.0km az=142.0*
ISCJB ***26*** *07:31:37.7±2.3, 16.°3S±0.°8×173.°6W±0.°6, h66km, mb3.5/5, Error ellipse: s-maj=133.5km s-min=23.2km az=142.8*
ISC 26 07:31:38.7±2.3, 16.°5S±0.°7×173.°4W±0.°5, h66km, n7, σ0.°28/6, mb3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.81**	**251**	LR	LR	07 42 28.8	
	comp=Z,90nm,20.5s,baz=131,slow=33						
STKA	**Stephens Creek**	**43.50**	**241**	P	**P**	**07 39 35.8**	**0.0**
	1.4nm,0.7s,baz=72,slow=9.8,SNR=3.9						
WRA	**Warramunga Arr**	**49.60**	**258**	P	**P**	**07 40 23.7**	**0.0**
	0.3nm,0.4s,baz=93,slow=7.2,SNR=4.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PDAR	Pinedale Array	83.07	42	P	P	07 43 57.5	+0.1
	0.4nm,0.6s,baz=224,slow=4.1,SNR=3.5						
ILAR	Eielson Array	83.50	11	P	P	07 43 58.6	-0.3
	0.3nm,0.6s,baz=213,slow=6.5,SNR=7.4						
YKA	Yellowknife Ar	91.08	23	P	P	07 44 35.7	+0.1
	0.4nm,1.0s,baz=231,slow=4.7,SNR=3.8						
BRTR	Keskin Array B	146.98	320	PKPbc	PKPab	07 51 16.3	+0.4
	0.9nm,0.5s,baz=85,slow=3.0,SNR=5.0						

*ISCJB **26** 07:58:32.8±0.4, 63°.92N±0°.02×28°.09E±0°.07, h0km, Error ellipse: s-maj=4.4km s-min=3.0km az=4.9*
*CSEM **26** 07:58:34.1±0.2, 63°.91N×28°.11E, h2km, ML1.7, Error ellipse: s-maj=6.4km s-min=4.5km az=85.0, Mining explosion.*
*HEL **26** 07:58:35.2±0.1, 63°.98N×28°.01E, h0km, ML1.7, ML1.5(UPP), Explosion*
*IDC **26** 07:58:35.0±1.5, 63°.90N×28°.22E, h0km, mb1 3.0/3, mb1mx2.8/37, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=20.8km s-min=8.0km az=100.0*
*UPP **26** 07:58:37.9, 63°.94N×27°.43E, h0km, ML1.5, Suspected Mining explosion.*
ISC 26 07:58:34.2±0.8, 63°.93N±0°.03×27°.98E±0°.03, h0km, n58, σ1s.10/81, Finland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OUL	Oulu	1.47	323	ePG	Pn	07 59 01.6	-0.3
OUL				eSB	Sg	07 59 20.6	-0.7
OUL				MSG		07 59 20.6	
	comp=Z,3.9nm,0.2s						
OUL	Oulu	1.47	323	Pg	Pn	07 59 01.6	-0.3
OUL				Sb	Sg	07 59 20.6	-0.7
	comp=Z,3.9nm,0.2s						
SUF	Sumiainen	1.47	215	eP	Pn	07 59 02.1	+0.2
SUF	Sumiainen	1.47	215	P	Pn	07 59 02.1	+0.2
JOF	Joensuu	1.81	123	ePG	Pb	07 59 07.9	-0.3
	baz=308						
JOF				eSG	Sb	07 59 31.1	-0.3
JOF				MSG		07 59 31.1	
	comp=Z,5.6nm,0.2s						
JOF	Joensuu	1.81	123	Pg	Pb	07 59 07.8	-0.3
JOF				Sg	Sb	07 59 31.1	-0.3
	comp=Z,5.6nm,0.2s						
KAF	Kangasniemi	1.98	203	ePB	Pb	07 59 10.8	-0.2
KAF				MSG	Sg	07 59 38.2	+0.5
	comp=Z,6.8nm,0.2s						
KAF				eSG	Sg	07 59 38.2	+0.5
KAF	Kangasniemi	1.98	203	Pb	Pb	07 59 10.8	-0.2
MSF	Maaselka	2.04	12	eP	Pn	07 59 09.8	0.0
MSF				eS	Sn	07 59 35.2	-0.6
MSF				MSG		07 59 35.2	
	comp=Z,3.4nm,0.3s						
MSF	Maaselka	2.04	12	P	Pn	07 59 09.7	0.0
MSF				S	Sn	07 59 35.2	-0.6
	comp=Z,3.4nm,0.3s						
KU6	Riekki	2.25	20	ePB	Pn	07 59 13.4	+0.7
	baz=203						
KU6				eSB	Sn	07 59 41.6	+0.4
KU6	Riekki	2.25	20	Pb	Pn	07 59 13.4	+0.7
KU6				Sb	Sn	07 59 41.5	+0.4
KEF	Keuruu	2.27	220	ePB	Pb	07 59 15.4	-0.5
KEF				eSG	Sg	07 59 46.4	-0.5
KEF				MSG		07 59 46.4	
	comp=Z,7.4nm,0.2s						
KEF	Keuruu	2.27	220	Pb	Pb	07 59 15.4	-0.5
VAF	Ylistaro	2.54	252	ePB	Pb	07 59 19.9	-0.7
VAF				eSB	Sb	07 59 53.3	+0.9
VAF				MSG		07 59 53.3	
	comp=Z,2.4nm,0.2s						
VAF	Ylistaro	2.54	252	Pb	Pb	07 59 19.9	-0.7
FIA0	FINESS Array S	2.65	200	ePB	Pb	07 59 21.7	-0.7
FIA0				MSG	Sg	07 59 59.5	+0.3
	comp=Z,3.5nm,0.1s						
FIA0				eSG	Sg	07 59 59.5	+0.3
FIA0	FINESS Array S	2.65	200	Pb	Pb	07 59 21.7	-0.7
FINES	FINESS Array B	2.65	200	Pn	Pb	07 59 21.8	-0.7
	comp=Z,0.5nm,0.3s,baz=18,slow=15,SNR=19						
FINES				Lg	Lg	07 59 56.9	
	comp=Z,0.9nm,0.3s,baz=19,slow=24,SNR=12						
KALU	Kalix	2.76	317	eP	Pn	07 59 20.9	+1.3
KALU				eSB	Sn	07 59 55.3	+1.7
KALU	Kalix	2.76	317	P	Pn	07 59 20.8	+1.2
KALU				S	Sn	07 59 55.0	+1.4
KALU	Kalix	2.76	317	P	Pn	07 59 20.8	+1.2
KALU				S	Sn	07 59 55.0	+1.4
BURU	Burvik	2.96	286	eP	Pn	07 59 23.1	+0.8
BURU	Burvik	2.96	286	P	Pn	07 59 23.1	+0.8
BURU	Burvik	2.96	286	P	Pn	07 59 23.1	+0.8
SJUU	Sjulsmark	3.16	303	eP	Pn	07 59 26.3	+1.2
SJUU	Sjulsmark	3.16	303	P	Pn	07 59 26.2	+1.2
SJUU	Sjulsmark	3.16	303	P	Pn	07 59 26.3	+1.2
UMAU	Umeaa	3.23	272	eP	Pn	07 59 26.6	+0.5
	baz=81						
UMAU	Umeaa	3.23	272	P	Pn	07 59 26.5	+0.5
UMAU	Umeaa	3.23	272	P	Pn	07 59 26.5	+0.5
SGF	Sodankyl	3.58	351	eP	Pn	07 59 32.1	+1.3
SGF	Sodankyl	3.58	351	P	Pn	07 59 32.1	+1.3
ERTU	Ertsjaerv	3.59	320	eP	Pn	07 59 32.1	+1.1
ERTU				eS	Sn	08 00 14.9	+1.0
ERTU	Ertsjaerv	3.59	320	P	Pn	07 59 32.1	+1.1
ERTU				S	Sn	08 00 14.9	+1.0
ERTU	Ertsjaerv	3.59	320	P	Pn	07 59 32.0	+1.0
HARU	Harads	3.72	310	eP	Pn	07 59 33.9	+1.1
HARU	Harads	3.72	310	P	Pn	07 59 33.9	+1.1
HARU	Harads	3.72	310	P	Pn	07 59 33.9	+1.2
LILU	Lilltraesk	3.76	295	eP	Pn	07 59 33.7	+0.4
LILU	Lilltraesk	3.76	295	P	Pn	07 59 33.7	+0.4
LILU	Lilltraesk	3.76	295	P	Pn	07 59 33.7	+0.4
MASU	Masugnsbyn	4.32	328	eP	Pn	07 59 42.5	+1.4
MASU	Masugnsbyn	4.32	328	P	Pn	07 59 42.4	+1.4
MASU	Masugnsbyn	4.32	328	P	Pn	07 59 42.5	+1.4
DUNU	Dundret	4.44	319	eP	Pn	07 59 44.0	+1.2
DUNU	Dundret	4.44	319	P	Pn	07 59 44.0	+1.2
DUNU	Dundret	4.44	319	P	Pn	07 59 44.0	+1.2
LANU	Lannavaara	4.80	332	eP	Pn	07 59 48.9	+1.2
LANU	Lannavaara	4.80	332	P	Pn	07 59 48.9	+1.2
LANU	Lannavaara	4.80	332	P	Pn	07 59 50.2	+2.5
HEF	Hetta	4.82	341	eP	Pn	07 59 49.4	+1.5
HEF				eS	Sn	08 00 42.7	-1.7
HEF				MSG		08 00 42.7	
	comp=Z,0.2nm,0.2s						
HEF	Hetta	4.82	341	P	Pn	07 59 49.4	+1.5
HEF				S	Sn	08 00 42.7	-1.7
	comp=Z,0.2nm,0.2s						
NIKU	Nikkaluokta	5.39	321	eP	Pn	07 59 56.8	+1.1
NIKU	Nikkaluokta	5.39	321	P	Pn	07 59 56.8	+1.1
	baz=140						
NIKU	Nikkaluokta	5.39	321	P	Pn	07 59 56.8	+1.1
	baz=140						
ARCES	ARCESS Array B	5.71	351	Pn	Pn	08 00 00.1	-0.1
	comp=Z,0.1nm,0.3s,baz=166,slow=14,SNR=7.3						
ARCES				Sn	Sn	08 01 03.7	-2.6
	comp=Z,0.2nm,0.3s,baz=168,slow=23,SNR=5.4						
NOA	NORSAR Array B	8.28	257	Pn	Pn	08 00 35.5	+0.1
	comp=Z,0.1nm,0.3s,baz=86,slow=14,SNR=2.5						
NOA				Sn	Sn	08 02 05.9	-3.6
	comp=Z,0.1nm,0.3s,baz=49,slow=24,SNR=2.7						

*NNC **26** 08:04:19.1±3.6, 37°.70N×71°.54E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=30.0km s-min=20.8km az=157.0*
*IDC **26** 08:04:22.7±5.3, 37°.48N×72°.21E, h168km±40km, mb3.0/3, mb1 3.0/7, mb1mx2.9/35, mbtmp3.5/7, Error ellipse: s-maj=55.0km s-min=22.6km az=162.0*
ISC 26 08:04:20.1±2.0, 37°.4N±0°.2×71°.7E±0°.1, h109km, n17, σ1s.01/18, mb2.9/3, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.93	18	P	Pn	08 05 32.8	+0.5
	SNR=33						
UCH	Uchtor	5.25	24	P	Pn	08 05 37.0	+0.3
	SNR=13						
EKS2	Erkin-Say	5.46	16	P	Pn	08 05 40.0	+0.9
	SNR=11						
AAK	Ala-Archa	5.62	22	⇑Pn	Pn	08 05 41.9	+0.6
	4.3nm,0.4s						
AAK				⇓Sn	Sn	08 06 45.4	+0.7
	9.7nm,0.6s						
AAK	Ala-Archa	5.62	22	P	Pn	08 05 41.9	+0.6
	SNR=13						
AAK	Ala-Archa	5.62	22	P	Pn	08 05 42.1	+0.8
	2.6nm,0.3s,baz=177,slow=5.5,SNR=35						
AAK				S	Sn	08 06 45.4	+0.7
	1.4nm,0.3s,baz=292,slow=20,SNR=10.5						
KK31	Karatay Array	5.73	351	⇓Pn	Pn	08 05 43.5	+0.7
	7.3nm,0.5s,baz=174,slow=16,SNR=53						
KK31				⇑Sn	Sn	08 06 46.8	-0.4
	1.5nm,0.2s,baz=173,slow=22,SNR=4.5						
TKM2	Tokmak 2	6.24	27	⇓Pn	Pn	08 05 50.0	+0.2
	3.7nm,0.6s						
TKM2				⇑Sn	Sn	08 07 01.1	+1.3
	4.0nm,0.8s						
TKM2				⇑Lg	Lg	08 07 29.1	
	3.2nm,0.7s						
TKM2	Tokmak 2	6.24	27	P	Pn	08 05 49.9	+0.1
	SNR=12						
MKAR	Makanchi Array	12.21	37	P	Pn	08 07 06.3	-3.8
	0.0nm,0.3s,baz=219,slow=11,SNR=3.7						
AB31	Akbulak array	14.56	328	⇓P	Pn	08 07 39.7	-0.9
	0.2nm,0.3s						
AKTO	Aktyubinsk	16.27	327	⇓P	Pn	08 08 01.5	-0.6
	1.7nm,0.9s						
AKTO	Aktyubinsk	16.27	327	P	Pn	08 08 02.3	+0.3
	0.1nm,0.3s,baz=68,slow=3.9,SNR=4.4						
ZALV	Zalesovo Beam	18.83	25	P	P	08 08 28.5	-2.6
	0.4nm,0.3s,baz=210,slow=10,SNR=7.7						
SONM	Songino Array	27.35	57	P	P	08 09 48.8	-6.1
	0.1nm,0.6s,baz=272,slow=8.5,SNR=2.4						
MMAI	Mount Meron Ar	29.85	273	P	P	08 10 18.2	+1.0
	1.0nm,0.2s,baz=66,slow=11,SNR=4.7						
YKA	Yellowknife Ar	80.28	3	P	P	08 16 13.6	-4.8
	0.1nm,0.5s,baz=350,slow=5.4,SNR=4.8						

*NNC **26** 08:05:58.2±1.1, 51°.36N×75°.43E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=42.5km s-min=6.8km az=24.0*
*IDC **26** 08:05:59.2±1.3, 51°.58N×75°.74E, h0km, mb1 2.7/3, mb1mx2.6/30, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=36.8km s-min=9.6km az=35.0*
ISC 26 08:06:03.3±1.2, 51°.6N±0°.1×75°.65E±0°.09, h35km, n9, σ2s.09/13, 7C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.06	117	⇑Pn	Pn	08 06 34.7	-0.6
	3.2nm,0.5s,baz=298,slow=14						
KURBB				⇓Sn	Sn	08 07 03.8	+3.9
	14nm,0.5s						
KURK	Kurchatov	2.07	114	⇑Pn	Pn	08 06 33.6	-1.9
	0.7nm,0.5s						
KURK				⇑Sn	Sn	08 07 02.3	+2.3
	5.0nm,0.6s						
VOSK	Vostochnaya	3.09	293	⇓Sn	Sn	08 07 27.0	+1.8
	15nm,0.7s						
BVA0	Borovoye Array	3.53	296	Pn	Pn	08 06 54.7	-0.9
	0.6nm,0.5s,baz=120,slow=16,SNR=6.9						
BVA0				⇑Sn	Sn	08 07 37.3	+1.2
	5.4nm,0.6s,baz=116,slow=28,SNR=10						
BVAR	Borovoye Array	3.53	296	Pn	Pn	08 06 55.3	-0.3
	0.5nm,0.3s,baz=115,slow=16,SNR=8.0						
BVAR				Sn	Sn	08 07 39.0	+2.9
	2.2nm,0.3s,baz=116,slow=27,SNR=14						
ZALV	Zalesovo Beam	6.05	63	Pn	Pn	08 07 28.4	-1.7
	0.3nm,0.3s,baz=254,slow=14,SNR=4.9						
I46RU	ZALESOVO INFRA	6.05	63	*i*		08 41 30.0	
	baz=252,slow=348,SNR=0.8						
MK31	Makanchi Array	6.48	135	⇑Pn	Pn	08 07 29.0	-7.2
	0.2nm,0.6s,baz=311,slow=13,SNR=5.2						
MK31				⇑Sn	Sn	08 08 49.1	+0.2
	0.5nm,0.5s						
MK31				⇑Lg	Lg	08 09 19.4	
	1.5nm,0.6s,baz=322,slow=27,SNR=5.3						
MKAR	Makanchi Array	6.48	135	Pn	Pn	08 07 34.9	-1.3
	0.1nm,0.3s,baz=315,slow=14,SNR=3.4						
MKAR				Sn	Sn	08 08 48.2	-0.6
	0.2nm,0.3s,baz=321,slow=24,SNR=4.7						
MKAR				Lg	Lg	08 09 22.7	
	0.3nm,0.3s,baz=321,slow=27,SNR=9.8						

GUC 26 08:07:51.2±0.7, 33°.22S×70°.08W, h25km±9km, MD3.5, ML2.7, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLCH	Cerro Calan	0.42	245	⇓*i*P	Pb	08 08 00.1	-0.1
CLCH				eS	Sb	08 08 06.6	+0.2
CLCH				AML	AML	08 08 10.1	
	comp=E,575nm,0.6s						
PEL	Peldehue	0.51	278	⇑eP	Pb	08 08 01.7	0.0
PEL				eS	Sb	08 08 08.8	-0.1
PEL				AML	AML	08 08 09.4	
	comp=N,886nm,0.2s						
ANTU	Antumapu	0.58	233	eP	Pb	08 08 02.2	-0.6
ANTU				eS	Sb	08 08 10.7	-0.1
LMEL	Las Melosas	0.64	189	eP	Pb	08 08 03.3	-0.7
LMEL				eS	Sb	08 08 12.6	-0.1
ROCH	El Roble	0.82	287	eP	Pb	08 08 07.1	+0.1
ROCH				eS	Sn	08 08 18.6	-0.3
ROCH				AML	AML	08 08 19.8	
	comp=N,453nm,0.6s						
CHCH	Chadas Angostu	0.86	213	eP	Pb	08 08 07.1	-0.5
CHCH				*i* S	Sn	08 08 19.4	-0.2
CACH	El Canelo	1.00	206	eP	Pb	08 08 10.4	+0.4
CACH				*i* S	Sn	08 08 24.4	+1.3
LNV	Longovilo	1.33	236	eP	Pb	08 08 15.1	-0.4
LNV				eS	Sb	08 08 32.9	+0.7
CMCH	Combarbala	2.18	339	eP	Pb	08 08 29.4	-0.7
CMCH				eS	Sb	08 08 58.2	+1.4
CMCH				AML	AML	08 09 05.7	
	comp=E,192nm,0.6s						

*DDA **26** 08:08:20.6, 42°.62N×43°.77E, h5km, MD3.1*
*TIF **26** 08:08:23.0, 42°.56N×43°.47E, h13km±1km*
*CSEM **26** 08:08:23.5±0.2, 42°.55N×43°.43E, h2km, mb4.0, Error ellipse: s-maj=4.7km s-min=3.2km az=83.0*
*MOS **26** 08:08:24.1±1.8, 42°.60N×43°.43E, h12km, mb4.0/1, Error ellipse: s-maj=3.3km s-min=0.0km az=119.0*
ISC 26 08:08:23.8±0.8, 42°.57N±0°.02×43°.45E±0°.02, h9km±5km, n51, σ0s.89/78, 3C-3D, Western Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONI	Oni	0.02	6	ePG	Pg	08 08 25.6	+0.1
ONI	Oni	0.02	6	P	Pg	08 08 25.5	+0.1
ONI	Oni	0.02	6	ePG	Pg	08 08 25.6	+0.1
DIGR	Digorskoe uzhe	0.35	16	*d* iPG	Pg	08 08 30.2	-0.5
DIGR	Digorskoe uzhe	0.35	16	*i* Pg	Pg	08 08 30.2	-0.5
KORR	Kora	0.69	41	ePG	Pb	08 08 37.2	-0.9
KORR				*i* S	Sb	08 08 48.2	+0.5
KORR	Kora	0.69	41	ePg	Pb	08 08 37.2	-0.9
KORR				*i* Sg	Sb	08 08 48.2	+0.5
LSNR	Lesken	0.76	21	*d* iPG	Pb	08 08 38.7	-0.6
LSNR	Lesken	0.76	21	*i* Pg	Pb	08 08 38.7	-0.6
GUDG	Gudauri	0.77	97	P	Pg	08 08 37.6	-1.0
GUDG	Gudauri	0.77	97	P	Pg	08 08 37.6	-1.0
NEY	Neytrino	0.87	322	⇑ePG	Pg	08 08 39.8	-0.7
NEY				eS	Sg	08 08 51.0	-0.8
NEY	Neytrino	0.87	322	ePg	Pg	08 08 39.8	-0.7
NEY				eSg	Sg	08 08 51.0	-0.8
NCK	Nalchik	0.94	7	⇓ePG	Pn	08 08 42.4	-0.8
NCK	Nalchik	0.94	7	ePg	Pn	08 08 42.4	-0.8
DUS	Dusheti	1.04	117	P	Pn	08 08 44.7	0.0
DUS	Dusheti	1.04	117	P	Pn	08 08 44.7	0.0
DUS				S	Sn	08 09 01.4	+1.9
AKH	Akhalkalaki	1.16	178	ePG	Pb	08 08 44.7	-1.4
AKH	Akhalkalaki	1.16	178	P	Pb	08 08 44.9	-1.2
AKH	Akhalkalaki	1.16	178	P	Pb	08 08 44.9	-1.2
AKH				S	Sb	08 09 01.1	-0.2
KUBR	Kubataba	1.23	359	ePG	Pg	08 08 45.9	-1.1
KUBR				*i* S	Sn	08 09 05.8	+1.7
KUBR	Kubataba	1.23	359	ePg	Pg	08 08 45.9	+1.0
TBLG	Delisi	1.27	131	ePG	Pn	08 08 46.9	-0.9
TBLG	Delisi	1.27	131	ePG	Pn	08 08 47.1	-0.7
TBLG	Delisi	1.27	131	P	Pn	08 08 47.3	-0.5
TBLG	Delisi	1.27	131	P	Pn	08 08 47.3	-0.5
TBLG				S	Sg	08 09 04.5	-0.2
KZR	Kazreti	1.39	148	P	Pn	08 08 47.8	-1.6
KZR	Kazreti	1.39	148	P	Pn	08 08 47.8	-1.6
KZR				S	Sn	08 09 06.6	-1.3
PYA	Pyatigorsk	1.49	349	⇑ePG	Pb	08 08 51.5	-0.3
PYA				eS	Sg	08 09 11.8	0.0
PYA	Pyatigorsk	1.49	349	ePg	Pb	08 08 51.5	-0.3
PYA				eSg	Sg	08 09 11.8	0.0
KIV	Kislovodsk	1.50	338	⇑ePG	Pg	08 08 52.0	-0.5
KIV				eS	Sb	08 09 11.1	+0.1
KIV	Kislovodsk	1.50	338	ePg	Pg	08 08 52.0	-0.5
KIV				eSg	Sb	08 09 11.1	+0.1
ARTV	Artvin	1.79	220	*i* P	Pn	08 08 55.2	+0.1
ARTV				*i* S	Sn	08 09 19.0	+1.0
ARTV	Artvin	1.79	220	*i* P	Pn	08 08 55.2	+0.1
ARTV				*i* S	Sn	08 09 19.0	+1.0
DBOC	Borcka	1.81	228	*i* P	Pn	08 08 55.0	-0.1
DBOC				*i* S	Sn	08 09 19.2	+1.0
DBOC	Borcka	1.81	228	*i* P	Pn	08 08 55.0	-0.1
DBOC				*i* S	Sn	08 09 19.2	+1.0
DGRG	David-gareji	1.82	127	ePN	Pb	08 08 57.3	0.0
DGRG	David-gareji	1.82	127	P	Pb	08 08 57.3	0.0
DGRG	David-gareji	1.82	127	P	Pb	08 08 57.3	0.0
DGRG				S	Sg	08 09 24.0	+1.8
DAGI	Agillar	1.88	218	*i* P	Pn	08 08 56.5	+0.3
DAGI				*i* S	Sb	08 09 21.9	-0.1
EAK	Akyaka	1.88	176	*i* P	Pn	08 08 54.6	-1.7
EAK				*i* S	Sb	08 09 22.2	+0.1
EAK	Akyaka	1.88	176	*i* P	Pn	08 08 54.6	-1.7
EAK				*i* S	Sb	08 09 22.2	+0.1
DBAD	Bademkaya	2.03	221	*i* P	Pn	08 08 59.1	+0.8
DBAD				*i* S	Sb	08 09 26.0	-0.3
DBAD	Bademkaya	2.03	221	*i* P	Pn	08 08 59.1	+0.8
DBAD				*i* S	Sb	08 09 26.0	-0.3
DDEM	Demirkent	2.10	218	*i* P	Pn	08 09 00.7	+1.4
DDEM				*i* S	Sb	08 09 28.3	-0.1
DDEM	Demirkent	2.10	218	*i* P	Pn	08 09 00.7	+1.4
DDEM				*i* S	Sb	08 09 28.3	-0.1
GNI	Garni	2.60	158	ePN	Pn	08 09 07.8	+1.5
GNI	Garni	2.60	158	PN	Pb	08 09 11.8	+1.1
GNI	Garni	2.60	158	ePn	Pn	08 09 07.8	+1.5
ANN	Anapa	4.90	299	ePN	Pn	08 09 37.5	-0.1
ANN				e		08 09 53.2	
ANN				e		08 10 35.9	
ANN				e		08 11 00.2	
ANN				pmax	pmax		
	comp=Z,17nm,0.7s						
ANN				pmax	pmax		
	comp=Z,14nm,0.6s						
ANN				smax	smax		
	comp=N,19nm,0.9s						
ANN	Anapa	4.90	299	ePn	Pn	08 09 37.5	-0.1
	comp=N,17nm,0.7s						
ANN				eSn	Sn	08 10 35.9	+1.5
	comp=N,19nm,0.9s						
ANN				eSb	Sg	08 11 00.2	-0.9

GUC 26 08:22:17.7±0.5, 20°.58S×68°.18W, h170km, ML3.5, 6C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB01	Plate Boundary	1.30	249	eP	Pn	08 22 47.8	+0.7
PB01				eS	Sn	08 23 10.9	+1.2
PB01				AML	AML	08 23 12.5	
	comp=N,309nm,0.2s						
PB09	Plate Boundary	1.56	219	⇑eP	Pn	08 22 50.6	+1.0
PB09				eS	Sn	08 23 15.7	+1.3
PB09				AML	AML	08 23 16.8	
	comp=N,472nm,0.5s						
PB11	Plate Boundary	1.61	300	eP	Pn	08 22 51.2	+1.0
PB11				eS	Sn	08 23 16.8	+1.6
PB11				AML	AML	08 23 17.9	
	comp=N,2μm,0.4s						
HMBC	Humberstone	1.63	280	⇑eP	Pn	08 22 51.1	+0.8
HMBC				eS	Sn	08 23 16.6	+1.1
HMBC				AML	AML	08 23 19.1	
	comp=N,368nm,0.4s						
PATCX	Punta Patache	1.86	262	⇑eP	Pn	08 22 53.5	+0.8
PATCX				eS	Sn	08 23 20.8	+1.1
PATCX				AML	AML	08 23 22.8	
	comp=N,238nm,0.3s						
PB07	Plate Boundary	1.96	234	⇑eP	Pn	08 22 54.4	+0.6
PB07				eS	Sn	08 23 22.6	+0.7
PSGC	Pisagua	2.07	298	⇑eP	Pn	08 22 55.7	+0.6
PSGC				eS	Sn	08 23 24.5	+0.6
PSGC				AML	AML	08 23 26.2	
	comp=E,133nm,0.5s						
PB06	Plate Boundary	2.48	211	⇑eP	Pn	08 23 00.1	+0.4

*BJI **26** 08:36:56.9, 6°.11N×127°.08E, h112km, mB5.8/69, mb5.5/78*
*IDC **26** 08:37:00.7±0.6, 6°.50N×126°.82E, h97km±4km, mb5.3/46, mb1 5.4/47, mb1mx5.4/49, mbtmp5.6/47, MS4.5/33, Ms1 4.5/33, ms1mx4.4/44, Error ellipse: s-maj=10.5km s-min=7.7km az=82.0*
*NEIC **26** 08:37:00.2±0.1, 6°.48N×126°.80E, h92km, mb5.7/92, MW5.7, MW5.7, MW5.7, Error ellipse: s-maj=4.2km s-min=3.5km az=98.0, Moment Tensor Solution. s38 Moment tensor: Scale 10[17]Nm; M_{rr}3.96; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-4.23; $M_{r\theta}$0.27; $M_{r\phi}$1.40; $M_{\theta\phi}$2.77; Best double couple: $M_0$5.10000×10[17] NP1:ϕ_s150.00000°, δ31.00000°, λ66.00000°. NP2:ϕ_s357.00000°, δ62.00000°, λ104.00000°. Principal axes: T 4.9100, Plg70.0000°, Azm295.0000°; N 0.4500, Plg11.0000°, Azm170.0000°; P -5.3600, Plg15.0000°, Azm76.0000°;*
NEIC Felt [III PIVS] at Bislig, Caraga, Davao, Malita, Mati, Padada and Tarragona; [II PIVS] at Cagayan de Oro, Cateel, Digos, General Santos, Koronadal, Santa Cruz and Tagum; [I PIVS] at Kabacan and La Paz and on Samal Island. Also felt at Maco.
*GCMT **26** 08:37:00.2±0.1, 6°.42N×126°.86E, h111km, MW5.7/127, Moment Tensor Solution. s123,c251; s127,c321; Duration: 1s.8 Moment tensor: Scale 10[17]Nm; M_{rr}2.80±.04; $M_{\theta\theta}$0.39±.05; $M_{\phi\phi}$-3.19±.05; $M_{r\theta}$0.97±.03; $M_{r\phi}$1.09±.05; $M_{\theta\phi}$3.79±.04; Best double couple: $M_0$5.05700×10[17] NP1:ϕ_s7.00000°, δ72.00000°, λ108.00000°. NP2:ϕ_s141.00000°, δ25.00000°, λ46.00000°. Principal axes: T 5.0290, Plg59.0000°, Azm303.0000°; N 0.0530, Plg17.0000°, Azm182.0000°; P -5.0850, Plg25.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **26** 08:37:01.4±0.3, 6°.43N±0°.01×126°.85E±0°.02, h119km±2km, mb5.7/234 Error ellipse: s-maj=3.3km s-min=2.3km az=168.6*
*MOS **26** 08:37:01.0±1.1, 6°.59N×126°.81E, h108km, mb5.8/81, MS4.5/8, Error ellipse: s-maj=8.1km s-min=4.1km az=118.2*
*NEIC **26** 08:37:02.0±0.0, 6°.38N×126°.77E, h111km Best double couple: NP1:ϕ_s6.00000°, δ75.00000°, λ103.00000°. NP2:ϕ_s141.00000°, δ19.00000°, λ47.00000°. Principal axes: T 4.7900, Plg57.0000°, Azm293.0000°; N -0.0200, Plg13.0000°, Azm182.0000°; P -4.7800, Plg29.0000°, Azm85.0000°;*
*KLM **26** 08:37:03.8, 6°.02N×126°.73E, h90km, mb5.8, ML5.6, MS6.5*
*DJA **26** 08:37:05.5±0.5, 6°N±4°×12°7E±°, h123km±4km, M5.7/120, mb5.8/120, mB6.0/107, MLv6.4/10, Mw(mB)5.7/107, Mwp5.8/10*
*MAN **26** 08:37:07, 6°.65N×126°.57E, h50km, mb6.0, ML5.0, MS5.6*
MAN INTENSITY III - BISLIG CITY SURIGAO DEL SUR; DAVAO CITY; MATI TARAGONA & CARAGA DAVAO ORIENTAL; PADADA & MALITA DAVAO DEL SUR.
*NEIC **26** 08:37:20.2±0.0, 6°.26N×127°.09E, h108km, Moment Tensor Solution. s116 Moment tensor: Scale 10[17]Nm; M_{rr}3.00; $M_{\theta\theta}$0.35; $M_{\phi\phi}$-3.35; $M_{r\theta}$0.44; $M_{r\phi}$1.43; $M_{\theta\phi}$3.01; Best double couple: $M_0$4.60000×10[17] NP1:ϕ_s139.00000°, δ29.00000°, λ53.00000°. NP2:ϕ_s0.00000°, δ67.00000°, λ109.00000°. Principal axes: T 4.4200, Plg63.0000°, Azm300.0000°; N 0.3900, Plg17.0000°, Azm172.0000°; P -4.8200, Plg19.0000°, Azm76.0000°;*
ISC 26 08:37:01.7±0.2, 6°.44N±0°.02×126°.89E±0°.03, h110km±1km, h110km:pP-P, n1039, σ1s.42/1210, mb5.7/231, 117C-43D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	0.80	308	eP	Pn	08 37 20.4	-0.5
MATI				eS	Sn	08 37 27.4	-8.0
DAV	Davao City (W)	1.44	296	⇓eP	Pn	08 37 29.2	+1.4

DAV Davao City (W) 1.44 296 ePn Pn 08 37 29.2 +1.4
DAV eSn Sn 08 37 49.7 +2.0
DMPH Davao City--Mi 1.51 295⇓eP Pn 08 37 27.0 -1.6
DMPH eS Sn 08 37 51.2 +2.1
GSPH General Santos 1.96 260 eP Pn 08 37 32.4 -2.0
GSPH eS Sn 08 37 57.4 -1.9
BUKP Musuan 2.31 308 eP Pn 08 37 39.7 +1.0
BUKP eS Sn 08 38 01.9 -5.1
BUTP Butuan 2.81 333 eP Pn 08 37 47.5 +2.3
SGSI Sangihe 3.06 206 P Pn 08 37 49.5 +1.0
SGSI S Sn 08 38 24.8 +0.2
SCPH Surigao 3.59 337⇑eP Pn 08 37 57.2 +1.5
PAGZ Pagadian 3.75 292 eP Pn 08 37 59.1 +1.4
MSLP Maasin 4.18 331 eP Pn 08 38 04.5 +1.0
MSLP eS Sn 08 38 52.2 +0.7
TBP Tagbilaran 4.40 317 eP Pn 08 38 07.9 +1.4
IPIL Ipil 4.49 288 eP Pn 08 38 10.2 +2.5
LLP Lapu-Lapu 4.81 323 eP Pn 08 38 13.8 +1.7
LLP eS Sn 08 39 07.6 +0.8
PLP Palo 5.06 338⇓eP Pn 08 38 15.4 +0.1
OCLP Ormoc 5.10 334 eP Pn 08 38 16.9 +0.9
TNTI Ternate 5.66 175 P Pn 08 38 22.1 -1.3
TNTI Ternate 5.66 175 ePn Pn 08 38 23.4 -0.1
TNTI eSn Sn 08 39 27.8 +0.6
GUIM Jordan 5.95 315 eP Pn 08 38 28.6 +1.2
RCP Roxas 6.53 321⇑eP Pn 08 38 36.9 +1.6
LBMI Labuha 7.06 175 P Pn 08 38 40.3 -2.2
1µm,1.0s,20µm9.0nm
PALU Palau 7.58 83 ⇓P Pn 08 38 48.6 -1.0
baz=7.6,SNR=13
I39PW PALAU INFRASON 7.68 81 i 09 28 00.0
baz=268,slow=306,SNR=0.8
MRSI Marisa 7.72 220 P Pn 08 38 51.6 +0.2
3µm,0.9s,32µm17nm
TOLI Toli-Toli 8.06 229 ePn Pn 08 38 54.8 -1.2
TOLI eSn Sn 08 40 24.6 -1.0
SWI Sorong 8.47 149 P Pn 08 39 01.7 +0.1
566nm,0.8s,6µm3.6nm
SWI Sorong 8.47 149 P Pn 08 39 01.9 +0.3
baz=8.4,SNR=6.1
SANI Sanana 8.48 186 P Pn 08 38 58.2 -3.6
802nm,0.6s,15µm4.8nm
LUWI Luwuk 8.50 209 P Pn 08 39 04.4 +2.4
4µm,1.1s,38µm13nm
LUWI S Px 08 39 30.4
13nm38µm4µm,1.1s
LUWI Luwuk 8.50 209 ePn Pn 08 39 03.2 +1.2
LUWI eSn Sn 08 40 46.3 +10
LUWI Luwuk 8.50 209 ⇑P Pn 08 39 02.9 +0.9
baz=8.5,SNR=27
APSI Ampana 8.99 216 P Pn 08 39 11.2 +2.6
2µm,1.4s,26µm23µm8.9nm
APSI S Px 08 39 29.7
8.9nm23µm26µm2µm,1.4s
MPSI Mapaga 9.25 229 P Pn 08 39 10.3 -1.9
427nm,1.1s,6µm
TGY Tagaytay City 9.60 323 P Pn 08 39 20.3 +3.3
46nm,0.3s,baz=260,slow=5.8,SNR=7.0
TGY LR LR 08 43 54.6
comp=Z,46nm,19.2s,baz=122,slow=44
NLAI Namlea 9.62 179 P Pn 08 39 14.9 -2.3
854nm,0.5s,16µm
SDKM Sandakan 9.68 266 ⇓P Pn 08 39 19.3 +1.3
MSAI Masohi 9.94 168 P Pn 08 39 28.4 +6.9
69nm,0.8s,2µm
KKM Kota Kinabalu 10.62 268 ePn Pn 08 39 32.4 +1.5
KKM Kota Kinabalu 10.62 268 ⇑P Pn 08 39 31.1 +0.2
baz=11,SNR=28
KKM Kota Kinabalu 10.62 268 ⇑P Pn 08 39 33.1 +2.2
FAKI Fak Fak 10.73 150 P Pn 08 39 33.7 +1.4
254nm,1.0s,3µm
FAKI Fak Fak 10.73 150 ePn Pn 08 39 34.1 +1.8
FAKI eSn Sn 08 41 25.5 -5.0
FAKI Fak Fak 10.73 150 ⇑P Pn 08 39 31.6 -0.7
baz=11,SNR=62
SGKI Sangatta, Kali 11.57 234 P Pn 08 39 41.4 -2.2
866nm,1.4s,9µm
TTSI Tana Toraja 11.78 217 P Pn 08 39 47.3 +1.0
1µm,1.4s,13µm
BAKI Biak 11.92 129 P Pn 08 39 50.7 +2.4
2µm,1.4s,27µm
SRPI Serui, Papua 12.46 131 P P 08 39 59.3 -3.4
1µm,0.8s,15µm
SPSI Sidrap Palu 12.55 215 P Pn 08 39 56.4 -0.1
277nm,1.1s,5µm
BKB Balikpapan 12.57 233 P Pn 08 39 59.6 +2.8
1µm,1.7s,14µm
BBSI Bau Bau 12.61 200 P P 08 40 07.4 +3.1
BNSI Bone 12.72 212 P Pn 08 39 57.9 -0.9
462nm,1.4s,5µm
KAPI Kappang 13.43 212 Pn Pn 08 40 07.0 -1.0
2µm,0.9s,SNR=23
KAPI Kappang 13.43 212 ePn Pn 08 40 07.0 -1.0
BKSI Bulukumba 13.50 210 P Pn 08 40 07.9 -1.0
149nm,1.9s,3µm
BSSI Bau Bau, Buton 14.04 207 P P 08 40 20.8 +0.6
284nm,1.6s,4µm
MTKI Muara Teweh, K 14.04 239 P P 08 40 21.0 +0.8
874nm,1.1s
BTM Bintulu 14.13 257 ⇑P P 08 40 19.7 -1.5
SMPI Sarmi 14.47 125 P P 08 40 23.8 -1.2
2µm,1.2s,22µm
SBUM Sibu 15.15 255 eP P 08 40 31.5 -1.1
3µm,0.9s
BBKI Banjar Baru 15.54 231 P Pn 08 40 32.0 -2.9
771nm,0.9s,15µm
MMRI Maumere 15.68 197 P Pn 08 40 30.7 -6.0
619nm,0.9s,9µm10µm
MMRI Maumere 15.68 197 eP P 08 40 38.3 -0.2
414nm,0.8s
GENI Genyem 16.01 124 P P 08 40 43.3 +1.2
858nm,1.6s,15µm
JAY Jayapura 16.41 122 P P 08 40 48.4 +1.8
182nm,1.2s,4µm
JAY Jayapura 16.41 122 ⇑P Pn 08 40 46.2 +0.4
baz=16,SNR=15
STKI Sintang 16.64 248 P P 08 40 50.1 +1.1
731nm,0.9s,15µm
BATI Baumata 16.85 191 P P 08 40 53.0 +1.6
608nm,0.8s,5µm
BATI Baumata 16.85 191 P P 08 40 53.0 +1.6
52nm,0.3s,baz=338,slow=1.8,SNR=25
BATI S S 08 44 02.6 +0.9
4.8nm,0.3s,baz=73,slow=19,SNR=3.4
BATI LR LR 08 48 24.4
comp=Z,3µm,21.8s,baz=44,slow=40
KSM Kuching 17.26 254 eP Pn 08 40 56.7 +0.6
961nm,1.1s
KSM Kuching 17.26 254 ⇓P Pn 08 40 56.2 +0.2
baz=17,SNR=262
KSM Kuching 17.26 254 ⇑P Pn 08 40 57.2 +1.1
WBSI Waikabubak, Su 17.64 205 P P 08 40 59.6 -0.5
563nm,0.9s,14µm
YULB Yu-li 17.69 343 eP Pn 08 41 02.4 +1.2
44nm,0.7s
BASI Baing, Sumba 17.71 201 P P 08 41 00.0 -0.8
811nm,1.9s,15µm
PBKI Pangkalan Bun 17.71 240 P Pn 08 41 01.6 +0.1
2µm,1.0s,14µm
TPUB Ta-pu 17.81 341 eP P 08 41 01.7 -0.2
83nm,0.8s
SSLB Suanglung 18.16 342 eP Pn 08 41 09.0 +2.1
151nm,0.9s
NACB Ninganchiao 18.35 344 eP Pn 08 41 10.9 +1.9
44nm,0.9s
SRBI Singaraja 18.55 219 P P 08 41 05.8 -4.2
279nm,0.8s,4µm
KMMI Kalianget 18.60 224 P Pn 08 41 11.5 -0.6
1µm,0.9s,8µm
BWJI Bawean 18.73 230 P Pn 08 41 16.1 +2.3
525nm,1.5s,7µm
YHNB Yeheng 18.88 344 eP Pn 08 41 17.2 +1.8
88nm,0.9s
ABJI Asem Bagus 18.96 222 P Pn 08 41 17.7 +1.3
289nm,1.6s,3µm
DNP Denpasar 19.01 218 P Pn 08 41 17.9 +1.0
1µm,1.3s,25µm
GUMO Guam 19.06 67 eP Pn 08 41 18.3 +0.7
GUMO pmax pmax
comp=Z,583nm,1.1s
GUMO Guam 19.06 67 eP Pn 08 41 18.3 +0.7
comp=Z,583nm,1.1s
IGBI Denpasar 19.16 218 P P 08 41 10.6 -6.1
comp=Z,499nm,0.8s,comp=Z,6µmcomp=Z,6µm
BLJI Banyuglugur 19.35 223 P P 08 41 19.3 +0.5
comp=Z,332nm,1.0s,comp=Z,3µm
JAGI Jajag, Banyuwa 19.52 221 P P 08 41 21.6 +1.0
comp=Z,573nm,1.2s,comp=Z,6µm
JAGI Jajag, Banyuwa 19.52 221 eP P 08 41 19.5 -1.1
comp=Z,687nm,1.0s
JAGI Jajag, Banyuwa 19.52 221 P P 08 41 20.3 -0.3
baz=20,SNR=18
GRJI Gresik 19.57 228 P P 08 41 19.3 -1.8
comp=Z,760nm,0.9s,comp=Z,5µm
MTN Manton Dam 19.62 168 ⇓P P 08 41 21.9 +0.3
baz=20,SNR=39
KDU Kakadu 19.80 164 ⇑P P 08 41 24.3 +0.6
baz=20,SNR=111
GMJI Gumukmas 19.84 223 P Pn 08 41 25.7 -1.0
comp=Z,339nm,1.8s,comp=Z,4µm
TBJI Tambak Boyo 19.97 229 P Pn 08 41 33.1 +4.9
comp=Z,930nm,1.2s,comp=Z,9µm
HKC Hong Kong Obse 19.98 323⇑iP Pn 08 41 27.0 -1.2
MMPI Merauke 20.01 138 P Pn 08 41 32.6 +3.9
comp=Z,814nm,0.8s,comp=Z,15µm
QZH Quanzhou 20.04 338⇓iP Pn 08 41 28.3 -0.6
QZH sP sP 08 42 03.5 +3.1
QZH S S 08 45 03.5 -2.0
QZH pmax pmax
comp=Z,590nm,1.2s
QZH pmax pmax
comp=Z,3µm,5.6s
QZH LR LR
comp=Z,2µm,11.6s
QZH LR LR
comp=Z,2µm,6.1s
QZH LR LR
comp=Z,5µm,24.0s
JOW Kunigami 20.32 4 P P 08 41 29.9 +0.8
comp=Z,20nm,0.7s,baz=156,slow=12,SNR=49
JOW Kunigami 20.32 4 eP Pn 08 41 31.1 -1.1
comp=Z,80nm,0.7s
UWJI Ujung Watu 20.41 232 P P 08 41 31.0 +0.8
comp=Z,1µm,0.8s,comp=Z,11µm
QIZ Qiongzhong 20.78 309 P P 08 41 34.0 -0.2
QIZ pP pP 08 41 55.8 +1.0
QIZ sP sP 08 42 09.5 +0.9
QIZ S S 08 45 21.3 +1.1
QIZ sS sS 08 45 57.0 +2.5
QIZ pmax pmax
comp=Z,170nm,1.0s
QIZ pmax pmax
comp=Z,2µm,11.8s
QIZ Qiongzhong 20.78 309 eP P 08 41 34.5 +0.3
comp=Z,268nm,1.0s
PWJI Pagerwojo 20.81 227 P P 08 41 34.4 -0.1
comp=Z,281nm,1.2s,comp=Z,4µm
GZH Guangzhou 21.07 323 P P 08 41 40.0 +2.7
GZH S Sn 08 45 32.8 -6.8
GZH pmax pmax
comp=Z,5µm,4.3s
SMRI Semarang 21.19 231 P P 08 41 39.8 +1.2
comp=Z,614nm,1.1s,comp=Z,9µm
SMRI Semarang 21.19 231 eP P 08 41 38.5 -0.2
comp=Z,695nm,1.1s
SMRI Semarang 21.19 231 ⇓P P 08 41 38.9 +0.2
baz=21,SNR=6.9
TPI Tanjungpandan 21.27 245 P P 08 41 38.9 -0.6
comp=Z,358nm,1.5s,comp=Z,5µm
WOJI Wonogiri, Jawa 21.33 229 P P 08 41 39.6 -0.5
comp=Z,424nm,1.3s,comp=Z,7µm
UGM Wanagama 21.68 229 P P 08 41 43.5 -0.4
comp=Z,616nm,1.7s,comp=Z,9µm
UGM Wanagama 21.68 229 eP P 08 41 42.5 -1.3
comp=Z,3µm,2.1s
UGM Wanagama 21.68 229 P P 08 41 43.1 -0.8
baz=22,SNR=11
KNRA Kununurra 22.06 175 ⇓P P 08 41 47.7 0.0
baz=22,SNR=138
KPJI Karang Pucung 22.55 233 P P 08 41 52.5 -0.3
comp=Z,441nm,1.2s,comp=Z,5µm
UBPT Khong Chiam 22.78 294 P P 08 41 54.0 -1.1
comp=Z,360nm,1.2s,comp=Z,6µm
TPRI Tanjung Pinang 22.98 257 P P 08 41 56.5 -0.6
comp=Z,592nm,1.3s,comp=Z,9µm
CMJI Cimerak 23.20 233 P P 08 41 57.2 -2.0
comp=Z,203nm,1.4s,comp=Z,6µm
DSRI Dabo 23.31 254 P P 08 41 59.7 -0.5
comp=Z,1µm,1.5s,comp=Z,19µm
LEM Lembang 23.32 236 P P 08 42 01.2 +0.8
comp=Z,1µm,1.9s,comp=Z,13µm
LEM Lembang 23.32 236 ⇑P P 08 42 01.3 +0.8
baz=23,SNR=13
MYKOM Kota Tinggi 23.44 260 eP P 08 42 00.7 -0.7
comp=Z,1µm,1.8s
CISI Cisompet, Garu 23.57 234 P P 08 42 01.2 -1.4
comp=Z,382nm,1.2s
CISI Cisompet, Garu 23.57 234 eP P 08 42 01.3 -1.4
comp=Z,612nm,1.1s
BTDF Bukit Timah Da 23.60 259 ⇑P P 08 42 03.5 +0.6
baz=24,SNR=9.5
KTGM Kuala Trenggan 23.66 269 ⇑P P 08 42 03.6 +0.2
CBJI Citeko 23.73 238 P P 08 42 05.5 +1.4
comp=Z,1µm,1.2s,comp=Z,46µm
KGM Kluang 23.91 260 ⇑P P 08 42 06.4 +0.7
PMBI Palembang 23.97 248 P P 08 42 07.9 +1.7
comp=Z,2µm,1.1s,comp=Z,19µm
PMBI Palembang 23.97 248 eP P 08 42 07.2 +1.1
comp=Z,2µm,1.0s
CNJI Cibinong 23.98 236 P P 08 42 05.1 -1.2
comp=Z,465nm,0.9s,comp=Z,6µm
SBJI Serang 24.19 239 P P 08 42 09.0 +0.8
comp=Z,1µm,0.9s,comp=Z,20µm
BLSI Bandar Lampung 24.59 242 P P 08 42 13.4 +1.6
comp=Z,374nm,1.4s,comp=Z,5µm
KLI Kotabumi 24.70 243 P P 08 42 13.0 +0.2
comp=Z,490nm,0.8s,comp=Z,7µm
CGJI Cibinong 24.81 239 P P 08 42 12.8 -1.1
comp=Z,356nm,1.3s,comp=Z,5µm
CHBT CHBT 25.00 286 P P 08 42 16.4 +0.8
comp=Z,80nm,1.1s
SSE Sheshan 25.10 348 P P 08 42 17.3 +1.0
SSE pP pP 08 42 41.0 +0.8
SSE S S 08 46 36.0 +3.1
SSE pmax pmax
comp=Z,71nm,1.1s
SSE pmax pmax
comp=Z,2µm,8.4s
SSE LR LR
comp=Z,620nm,14.5s
SSE LR LR
comp=Z,970nm,14.5s
SSE LR LR
comp=Z,680nm,17.0s
MDSI Maura Dua 25.14 245 P P 08 42 16.1 -0.7
comp=Z,292nm,1.4s,comp=Z,5µm
CBIJ Chichi jima 25.17 34 eP P 08 42 15.6 -1.3
comp=Z,597nm,0.6s
JCJ Chichijima 25.17 34 P P 08 42 16.1 -0.9
comp=Z,1µm,0.6s,baz=223,slow=3.9,SNR=47
JCJ S S 08 46 29.4 -4.7
comp=Z,71nm,0.7s,baz=311,slow=20,SNR=3.0
JCJ LR LR 08 52 00.9
comp=Z,854nm,20.5s,baz=218,slow=36
KASI Kota Agung 25.32 242 P P 08 42 18.2 -0.2
comp=Z,303nm,0.8s,comp=Z,4µm
FRIM Kepong 25.37 264 ⇑P P 08 42 19.5 +0.5
LHSI Lahat 25.46 247 P P 08 42 20.3 +0.5
comp=Z,791nm,0.9s,comp=Z,7µm
LWLI Liwa 25.48 244 P P 08 42 20.0 0.0
comp=Z,581nm,1.1s,comp=Z,9µm
PMG Port Moresby 25.61 128 P P 08 42 22.0 +0.9
PMG pmax pmax
comp=Z,34nm,0.9s
PMG Port Moresby 25.61 128 P P 08 42 19.7 -1.3
comp=Z,34nm,0.9s,baz=346,slow=5.9,SNR=5.3
PMG S S 08 46 40.3 -1.0
comp=Z,19nm,0.9s,baz=17,slow=19,SNR=5.3
PMG LR LR 08 53 20.4
comp=Z,2µm,20.7s,baz=304,slow=38
PMG Port Moresby 25.61 128 eP P 08 42 20.5 -0.6
comp=Z,188nm,1.0s
IPM Ipoh 25.82 267 eP P 08 42 22.4 -0.7
comp=Z,245nm,1.1s
IPM Ipoh 25.82 267 ⇓P P 08 42 22.4 -0.7
COEN Coen 25.92 141 eP P 08 42 24.0 +0.1
comp=Z,701nm,1.0s
COEN Coen 25.92 141 ⇓P P 08 42 23.6 -0.3
baz=26,SNR=9.1
COEN S S 08 46 45.8 -0.5
baz=26,SNR=5.6
KULM Kulim 26.13 269 eP P 08 42 24.8 -1.0
MNAI Manna 26.20 246 P P 08 42 31.4 +5.0
comp=Z,805nm,0.9s,comp=Z,10µm
MNAI Manna 26.20 246 eP P 08 42 25.8 -0.6
comp=Z,2µm,1.3s
MNAI Manna 26.20 246 P P 08 42 26.3 -0.1
baz=26,SNR=6.8
MASI Maura Aman, Be 26.39 250 P P 08 42 32.0 +3.8
comp=Z,903nm,0.8s,comp=Z,11µm
SDSI Sungai Dareh 26.45 255 P P 08 42 28.4 -0.3
comp=Z,320nm,1.6s,comp=Z,10µm
BKNI Bangkinang 26.50 258 P P 08 42 29.2 0.0
comp=Z,368nm,0.9s,comp=Z,4µm
BKNI Bangkinang 26.50 258 eP P 08 42 28.6 -0.5
comp=Z,312nm,0.9s
NJ2 Nanjing 26.56 345 eP P 08 42 30.3 +0.9
NJ2 pmax pmax
comp=Z,40nm,0.8s
WHN Wuhan 26.71 335 P P 08 42 32.0 +1.2
WHN S S 08 47 01.0 +2.6
WHN LR LR
comp=Z,7µm,20.1s
WHN LR LR
comp=Z,2µm,10.4s
WHN LR LR
comp=Z,3µm,17.7s
JNU Nakatsue 26.80 7 P P 08 42 30.7 -0.9
comp=Z,77nm,0.7s,baz=347,slow=0.7,SNR=20
JNU Nakatsue 26.80 7 eP P 08 42 30.9 -0.7
comp=Z,42nm,0.9s
XMIS Christmas Isla 27.02 232 eP P 08 42 30.4 -3.4
comp=Z,1µm,1.5s
XMIS Christmas Isla 27.02 232 P P 08 42 33.0 -0.7
baz=27,SNR=3.8
WRAB Tennant Creek 27.22 165 P P 08 42 35.6 +0.1
comp=Z,344nm,0.8s,SNR=37
WRAB Tennant Creek 27.22 165⇑eP P 08 42 35.2 -0.3
WRAB pmax pmax
comp=Z,74nm,1.1s
WRAB Tennant Creek 27.22 165 eP P 08 42 35.0 -0.5
comp=Z,6µm,0.6s
WRA Warramunga Arr 27.23 165 P P 08 42 35.5 -0.1
WRA S S 08 47 03.3 -3.4
WRA pmax pmax
comp=Z,34nm,0.8s
WRA smax smax
comp=N,15nm,1.2s
WRA MLR MLR
comp=Z,914nm,19.2s
WRA Warramunga Arr 27.23 165 P P 08 42 35.5 -0.1
comp=Z,34nm,0.8s,baz=344,slow=9.9,SNR=94
WRA S S 08 47 03.3 -3.4
comp=Z,15nm,1.1s,baz=334,slow=15,SNR=6.3
WRA ScP ScP 08 49 24.3 +0.6
comp=Z,14nm,0.7s,baz=345,slow=3.1,SNR=8.1
WRA LR LR 08 55 53.8
comp=Z,914nm,19.2s,baz=335,slow=42
PBKT Sadao Pong 27.29 294 P P 08 42 36.7 +0.6
comp=Z,427nm,1.0s,comp=Z,4µm
PDSI Padang 27.37 255 P P 08 42 35.6 -1.4
comp=Z,301nm,1.2s,comp=Z,8µm
GYA Guiyang 27.71 318⇑iP P 08 42 40.0 0.0
GYA pP pP 08 43 08.0 +4.0
GYA sP sP 08 43 22.8 +6.0
GYA PP PnPn 08 43 36.3 +4.1
GYA PcP PcP 08 45 56.0 +1.6
GYA S S 08 47 15.5 +1.0
GYA sS sS 08 48 00.8 +4.2
GYA ScP ScP 08 49 24.5 -0.7
GYA PcS PcS 08 49 37.0 +0.4
GYA ScS ScS 08 53 15.5 -2.2
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,180nm,5.2s
GYA LR LR
comp=Z,860nm,16.5s
GYA LR LR
comp=Z,750nm,17.8s
GYA LR LR
comp=Z,890nm,16.0s
MNSI Mandailing Nat 27.82 259 P P 08 42 39.7 -1.2
comp=Z,140nm,1.0s,comp=Z,2µm
UTTA Uttaradit 28.05 296 P P 08 42 44.0 +1.1
comp=Z,49nm,1.1s,comp=Z,406nm
PSI Prapat 28.11 264 P P 08 42 42.7 -1.0
comp=Z,51nm,1.0s,baz=64,slow=5.0,SNR=36
PSI PcP PcP 08 45 55.9 +0.3
comp=Z,58nm,1.0s,baz=220,slow=3.3,SNR=6.1
PSI ScP ScP 08 49 26.2 -0.5
comp=Z,14nm,0.8s,baz=327,slow=1.7,SNR=6.5
PSI Prapat 28.11 264 P P 08 42 42.6 -1.0
baz=28,SNR=35
MBWA Marble Bar 28.32 194 eP P 08 42 44.4 -0.8
comp=Z,104nm,0.8s
MBWA eScP ScP 08 49 26.2 -0.8
TSI Tuntungan 28.37 265 P P 08 42 49.0 +3.2
comp=Z,169nm,1.2s,comp=Z,7µm
ENH Enshi 28.80 328 eP P 08 42 50.3 +0.8
comp=Z,65nm,0.9s
KHLT Khaolaem Dam 29.00 289 P P 08 42 52.7 +1.3
comp=Z,32nm,1.0s
UMPA Umpang Tak 29.11 292 P P 08 42 53.3 +0.9
comp=Z,45nm,0.8s,comp=Z,4µm
LAMP Lampang 29.14 297 P P 08 42 53.9 +1.2
comp=Z,33nm,1.1s,comp=Z,279nm
CRAI Chiangrai 29.15 301 P P 08 42 52.0 -0.7
comp=Z,87nm,0.9s,comp=Z,5µm
KCSI Kotacane, Aceh 29.15 266 P P 08 42 51.2 -1.6
comp=Z,339nm,1.1s,comp=Z,3µm
QIS Mount Isa 29.60 155 P P 08 42 56.9 +0.3
baz=30,SNR=66
QIS S S 08 47 42.1 -1.9
baz=30,SNR=5.3
KMI Kunming 29.65 311 P P 08 42 58.3 +1.0
KMI pP pP 08 43 26.8 +5.2
KMI PcP PcP 08 46 01.0 +1.6
KMI S S 08 47 43.0 -2.3
KMI pmax pmax
comp=Z,170nm,1.2s
KMI pmax pmax
comp=Z,1µm,7.8s
KMI LR LR
comp=Z,2µm,19.6s
KMI LR LR
comp=Z,1µm,20.5s
KMI LR LR
comp=Z,4µm,34.7s
GSI Gunungsitoli 29.68 261 P P 08 42 55.9 -1.6
comp=Z,184nm,1.1s,comp=Z,4µm
GSI Gunungsitoli 29.68 261 eP P 08 42 55.5 -2.0
comp=Z,154nm,0.8s
CM31 Chiang Mai Arr 29.73 296 eP P 08 42 59.1 +1.2
comp=Z,43nm,0.7s
CMAR Chiang Mai Arr 29.73 296 P P 08 42 58.5 +0.6
CMAR 08 46 01.5
CMAR 08 49 32.3
CMAR pmax pmax
comp=Z,55nm,1.0s
CMAR MLR MLR
comp=Z,2µm,18.3s
CMAR Chiang Mai Arr 29.73 296 P P 08 42 58.5 +0.6
comp=Z,55nm,1.0s,baz=123,slow=7.3,SNR=146
CMAR PcP PcP 08 46 01.4 +2.0
comp=Z,23nm,0.9s,baz=114,slow=0.8,SNR=12
CMAR ScP ScP 08 49 32.3 +0.7
comp=Z,6.0nm,0.6s,baz=112,slow=1.2,SNR=7.3
CMAR LR LR 08 56 55.6
comp=Z,2µm,18.3s,baz=110,slow=40
LHMI Lhok Sumawe 29.81 269 P P 08 43 02.3 +3.7
comp=Z,326nm,1.1s,comp=Z,5µm
LHMI Lhok Sumawe 29.81 269 eP P 08 43 00.4 +1.8
comp=Z,266nm,1.0s
CHTO Chiang Mai 29.86 297 eP P 08 42 59.5 +0.5
CHTO e 08 49 32.8
CHTO pmax pmax
comp=Z,98nm,1.0s
CHTO Chiang Mai 29.86 297 P P 08 42 59.3 +0.3
comp=Z,488nm,1.2s,comp=Z,6µm
CHTO Chiang Mai 29.86 297 eP P 08 42 59.5 +0.5
comp=Z,98nm,1.0s
CHTO eScP ScP 08 49 32.8 +0.8
CMAI Chiengmai2 30.18 299 P P 08 43 02.4 +0.4
comp=Z,133nm,0.9s
MHMT Maesarieng 30.55 295 P P 08 43 06.2 +1.1
comp=Z,119nm,1.3s,comp=Z,1µm
SNSI Sinabang, Aceh 30.73 264 P P 08 43 07.0 +0.3
comp=Z,167nm,1.1s,comp=Z,9µm
KSAR Wonju Array Be 30.87 2 P P 08 43 07.3 -0.4

KSAR *PP pP 08 43 29.5 -2.4
KSAR 08 46 03.9
KSAR Wonju Array Be 30.87 2 P P 08 43 07.2 -0.4
KSAR pP pP 08 43 29.4 -2.4
KSAR PcP PcP 08 46 03.9 +1.8
KSAR ScP ScP 08 49 36.0 +1.1
KSRS Korea Array 30.88 2 P P 08 43 07.2 -0.5
comp=Z,8.3nm,0.6s,baz=186,slow=9.8,SNR=20
KSRS pP pP 08 43 29.4 -2.6
comp=Z,12nm,0.8s,baz=191,slow=9.1,SNR=6.0
KSRS PcP PcP 08 46 03.9 +1.8
comp=Z,7.9nm,0.9s,baz=198,slow=3.0,SNR=5.7
KSRS ScP ScP 08 49 36.0 +1.1
comp=Z,5.9nm,0.8s,baz=194,slow=3.4,SNR=7.3
KSRS LR LR 08 55 51.5
comp=Z,500nm,21.4s,baz=182,slow=37
TIA Tai'an 30.95 345 eP P 08 43 07.5 -0.9
TIA S S 08 48 05.0 +0.1
TIA pmax pmax
comp=Z,50nm,1.1s
TIA pmax pmax
comp=Z,900nm,9.8s
TIA LR LR
comp=Z,720nm,10.7s
TIA LR LR
comp=Z,2µm,12.8s
TIA LR LR
comp=Z,1µm,23.0s
PATS Pohnpei 31.21 87 ⇑P P 08 43 09.0 -1.9
baz=31,SNR=6.3
WRKA Warakurna 31.32 178 P P 08 43 11.6 -0.2
baz=31,SNR=42
WRKA ⇑S S 08 48 08.5 -2.4
baz=31,SNR=8.4
GIRL Giralia 31.45 203 P P 08 43 13.6 +0.7
baz=32,SNR=12
MAJO Matsushiro 31.70 18 eP P 08 43 14.4 -0.6
MAJO pmax pmax
comp=Z,55nm,1.0s
MAJO Matsushiro 31.70 18 eP P 08 43 14.4 -0.6
comp=Z,55nm,1.0s
MJAR Matsushiro Arr 31.70 18 P P 08 43 13.6 -1.4
comp=Z,22nm,0.9s,baz=192,slow=9.2,SNR=36
MJAR ScP ScP 08 49 38.5 +0.8
comp=Z,2.5nm,0.8s,baz=181,slow=3.9,SNR=4.8
XAN Xi'an 32.10 331 P P 08 43 18.0 -0.6
XAN S S 08 48 19.0 -4.1
XAN pmax pmax
comp=Z,35nm,0.8s
XAN pmax pmax
comp=Z,220nm,10.1s
XAN LR LR
comp=Z,1µm,45.1s
XAN LR LR
comp=Z,600nm,45.1s
XAN LR LR
comp=Z,520nm,39.9s
CTA Charters Tower 32.53 145 P P 08 43 23.2 +0.8
comp=Z,26nm,0.8s,baz=332,slow=11,SNR=18
CTA ScP ScP 08 49 41.9 +1.0
comp=Z,9.2nm,0.9s,baz=21,slow=9.3,SNR=4.0
CTAO Charters Tower 32.53 145 eP P 08 43 23.7 +1.3
CTAO pmax pmax
comp=Z,102nm,1.1s
CTAO Charters Tower 32.53 145 eP P 08 43 23.7 +1.3
comp=Z,102nm,1.1s
CD2 Chengdu 32.60 321⇑eP P 08 43 23.3 +0.3
CD2 pP pP 08 43 48.0 +0.6
CD2 sP sP 08 44 01.5 +1.4
CD2 PP PnPn 08 44 36.3 +1.3
CD2 S S 08 48 30.0 -0.9
CD2 sS sS 08 49 13.5 +0.2
CD2 SS SnSn 08 50 35.0 -2.5
CD2 pmax pmax
comp=Z,140nm,0.8s
CD2 pmax pmax
comp=Z,1µm,5.1s
CD2 LR LR
comp=Z,3µm,11.2s
CD2 LR LR
comp=Z,3µm,12.5s
CD2 LR LR
comp=Z,3µm,27.5s
DL2 Dalian 32.66 352⇑iP P 08 43 24.3 +0.9
DL2 pP pP 08 43 48.5 +0.8
DL2 S S 08 48 31.3 -0.2
DL2 pmax pmax
comp=Z,130nm,0.9s
DL2 pmax pmax
comp=Z,440nm,9.7s
DL2 LR LR
comp=Z,1µm,15.5s
DL2 LR LR
comp=Z,610nm,19.5s
CMBY CAMPBELL BAY 32.74 273 eP P 08 43 22.0 -2.4
CMBY AMB AMB 08 43 26.9
comp=Z,343nm,1.0s
TIY Taiyuan 33.79 339 eP P 08 43 35.0 +1.7
TIY S S 08 48 47.8 -1.4
TIY sS sS 08 49 30.5 -1.2
TIY pmax pmax
comp=Z,830nm,5.2s
TIY LR LR
comp=Z,360nm,5.5s
TIY LR LR
comp=Z,1µm,5.1s
MEEK Meekatharra 33.85 193 P P 08 43 33.4 -0.4
baz=34,SNR=97
DGPR DIGLIPUR 34.10 284 eP P 08 43 35.1 -1.0
DGPR AMB AMB 08 43 43.1
comp=Z,55nm,1.0s
PBA Port Blair 34.10 281 eP P 08 43 32.9 -3.2
PBA AMB AMB 08 43 44.7
comp=Z,45nm,1.4s
BJT Baijiatuau 34.79 345 eP P 08 43 42.0 +0.2
BJT pmax pmax
comp=Z,269nm,1.1s
BJT Baijiatuau 34.79 345 eP P 08 43 42.0 +0.2
comp=Z,269nm,1.1s
BJI Beijing 34.81 346 P P 08 43 41.0 -0.9
BJI pP pP 08 44 08.3 +1.8
BJI sP sP 08 44 20.5 +1.4
BJI PcP PcP 08 46 13.8 +0.9
BJI S S 08 49 02.3 -2.3
BJI sS ScP 08 49 50.8 +2.3
BJI ScS ScS 08 53 52.8 +0.8
BJI pmax pmax
comp=Z,98nm,1.1s
BJI pmax pmax
comp=Z,870nm,6.0s
BJI LR LR
comp=Z,430nm,9.9s
BJI LR LR
comp=Z,960nm,16.4s
BJI LR LR
comp=Z,610nm,22.9s
SNY Shenyang 35.36 356 ⇑P P 08 43 46.5 -0.1
SNY pP pP 08 44 12.0 +0.8
SNY sP sP 08 44 23.8 0.0
SNY PP PnPn 08 45 06.3 -2.5
SNY S S 08 49 13.8 +0.8
SNY pmax pmax
comp=Z,76nm,1.3s
SNY pmax pmax
comp=Z,780nm,6.9s
SNY LR LR
comp=Z,1µm,12.9s
SNY LR LR
comp=Z,980nm,17.6s
SNY LR LR
comp=Z,1µm,21.6s
LZH Lanzhou 36.28 328 ⇑P P 08 43 56.3 +1.4
LZH pP pP 08 44 21.8 +2.3
LZH sP sP 08 44 34.5 +2.4
LZH PcP PcP 08 46 19.8 +2.2
LZH S S 08 49 28.0 +0.3
LZH ScP ScP 08 49 55.5 +1.3
LZH PcS PcS 08 50 07.3 +1.7
LZH sS sS 08 50 12.0 +1.5
LZH pmax pmax
comp=Z,170nm,1.1s
LZH pmax pmax
comp=Z,540nm,4.5s
HNR Honiara 36.52 115 LR LR 08 59 23.5
comp=Z,267nm,18.3s,baz=282,slow=37
VLA Vladivostok 36.79 6⇑iP P 08 43 56.8 -2.0
VLA 08 45 24.0
VLA S S 08 49 32.9 -1.9
VLA pmax pmax
comp=Z,75nm,1.1s
MORW Morawa 36.82 196 P P 08 43 59.2 0.0
baz=37,SNR=44
QLP Quilpie 36.89 154 P P 08 43 59.7 -0.2
baz=37,SNR=7.8
HHC Hu-ho-hao-te 36.90 340 eP P 08 44 00.3 +0.4
HHC PP PnPn 08 45 30.0 +2.3
HHC S S 08 49 40.0 +3.2
HHC sS sS 08 50 20.5 +0.9
HHC SS SnSn 08 52 12.8 -8.3
HHC ScS ScS 08 54 01.0 -2.8
HHC pmax pmax
comp=Z,87nm,1.1s
HHC pmax pmax
comp=Z,2µm,5.4s
HHC LR LR
comp=Z,1µm,15.1s
HHC LR LR
comp=Z,1µm,14.3s
HHC LR LR
comp=Z,2µm,15.9s
FORT Forrest 37.03 178 eP P 08 44 01.4 +0.4
comp=Z,206nm,0.7s
FORT Forrest 37.03 178 ⇓P P 08 44 01.4 +0.4
baz=37,SNR=132
BTO Baotou 37.22 339 eP P 08 44 02.0 -0.6
CN2 Changchun 37.23 358 eP P 08 44 02.8 +0.3
CN2 epP pP 08 44 28.0 +0.7
CN2 esP sP 08 44 41.0 +1.1
CN2 eS S 08 49 46.3 +4.8
CN2 SS SS 08 52 27.0 -1.8
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,700nm,18.0s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
USRK Ussuriysk Arra 37.87 6 P P 08 44 08.1 +0.2
comp=Z,35nm,0.7s,baz=177,slow=7.4,SNR=57
USRK pP pP 08 44 30.3 -2.4
comp=Z,62nm,0.9s,baz=190,slow=8.2,SNR=10
USRK S S 08 49 52.8 +1.7
comp=Z,9.8nm,1.1s,baz=183,slow=14,SNR=5.3
USRK LR LR 09 02 13.6
comp=Z,280nm,18.7s,baz=179,slow=40
MDJ Mudanjiang 38.10 3 P P 08 44 09.8 0.0
MDJ pP pP 08 44 34.5 -0.2
MDJ sP sP 08 44 47.5 +0.3
MDJ PP PP 08 45 38.3 -0.8
MDJ PcP PcP 08 46 23.0 +0.3
MDJ S S 08 49 51.5 -3.1
MDJ sS sS 08 50 35.3 -2.3
MDJ ScS ScS 08 54 08.8 -1.3
MDJ pmax pmax
comp=Z,40nm,1.0s
MDJ pmax pmax
comp=Z,490nm,6.2s
MDJ LR LR
comp=Z,640nm,23.2s
MDJ LR LR
comp=Z,540nm,14.7s
MDJ LR LR
comp=Z,680nm,22.7s
MDJ Mudanjiang 38.10 3 eP P 08 44 10.5 +0.6
comp=Z,138nm,1.0s
BLDU Ballidu 38.12 194 P P 08 44 10.1 0.0
baz=38,SNR=233
SHL Shillong 38.46 304 eP P 08 44 13.4 0.0
SHL ex x 08 50 01.0
KLBR Kellerberrin 38.82 192 P P 08 44 16.2 +0.2
baz=39,SNR=55
KLBR S S 08 50 04.7 -1.0
baz=39,SNR=5.9
RMQ Roma 39.00 148 P P 08 44 18.0 +0.3
baz=39,SNR=5.7
RMQ S S 08 50 06.9 -1.8
baz=39,SNR=5.6
EIDS Eidsvold 39.41 144 eP P 08 44 21.2 +0.1
comp=Z,91nm,1.1s
EIDS Eidsvold 39.41 144 P P 08 44 20.9 -0.1
baz=40,SNR=5.1
ASAJ Asahikawa 39.97 18 P P 08 44 26.5 +1.0
comp=Z,51nm,0.7s,baz=236,slow=8.2,SNR=37
ASAJ LR LR 09 00 58.4
comp=Z,1µm,21.2s,baz=196,slow=36
ASAJ Asahikawa 39.97 18 eP P 08 44 26.6 +1.1
comp=Z,50nm,1.0s
BBOO Buckleboo 40.00 168 eP P 08 44 26.1 +0.2
comp=Z,2µm,0.7s
BBOO eScP ScP 08 50 09.5 +1.4
BBOO Buckleboo 40.00 168 P P 08 44 26.0 +0.2
baz=40,SNR=153
NWAO Narrogin (SRO) 40.22 193 P P 08 44 28.0 +0.4
NWAO pmax pmax
comp=Z,256nm,0.9s
NWAO Narrogin (SRO) 40.22 193 P P 08 44 27.9 +0.4
comp=Z,256nm,0.9s,baz=17,slow=8.3,SNR=51
H11S3 WAKE ISLAND Hy 40.56 69 T T 09 29 03.6
baz=258,slow=75,SNR=54
H11S1 WAKE ISLAND Hy 40.57 69 T T 09 29 03.6
baz=258,slow=75,SNR=41
H11S2 WAKE ISLAND Hy 40.58 69 T T 09 28 58.2
baz=258,slow=75,SNR=40
STKA Stephens Creek 40.61 161 P P 08 44 31.4 +0.4
comp=Z,53nm,0.9s,baz=337,slow=7.7,SNR=82
STKA LR LR 09 06 05.1
comp=Z,482nm,19.0s,baz=343,slow=43
STKA Stephens Creek 40.61 161 eP P 08 44 31.2 +0.4
comp=Z,45nm,0.8s
STKA Stephens Creek 40.61 161 P P 08 44 31.0 +0.1
baz=41,SNR=69
LSA Lhasa 40.82 309 P P 08 44 33.8 +0.5
LSA sS sS 08 51 21.5 +1.4
LSA pmax pmax
comp=Z,140nm,2.0s
LSA LR LR
comp=Z,840nm,36.8s
LSA LR LR
comp=Z,1µm,22.1s
LSA LR LR
comp=Z,1µm,29.4s
LSA Lhasa 40.82 309 eP P 08 44 33.6 +0.4
LSA e 08 46 33.9
LSA pmax pmax
comp=Z,368nm,1.3s
LSA Lhasa 40.82 309 eP P 08 44 33.6 +0.4
comp=Z,368nm,1.3s
LSA ePcP PcP 08 46 33.9 +1.6
GTA Gaotai 40.89 327 ⇑P P 08 44 34.0 +0.7
GTA pP pP 08 44 59.3 +0.9
GTA sP sP 08 45 12.0 +1.2
GTA PcP PcP 08 46 33.5 +1.6
GTA ScP ScP 08 50 12.8 +1.1
GTA PcS PcS 08 50 22.8 -0.2
GTA S S 08 50 37.5 +0.7
GTA sS sS 08 51 21.3 +1.1
GTA SS SS 08 53 39.8 -2.8
GTA ScS ScS 08 54 26.3 -0.8
GTA pmax pmax
comp=Z,100nm,0.9s
GTA pmax pmax
comp=Z,1µm,6.2s
GTA LR LR
comp=Z,2µm,21.4s
GTA LR LR
comp=Z,2µm,23.3s
GTA LR LR
comp=Z,3µm,23.8s
YUK Yuzh-Kuril'sk 40.97 21c iP P 08 44 26.4 -7.3
YUK i PPP PPP 08 46 48.8
YUK i SS SS 08 53 44.3 +0.5
YUK i 08 54 24.2
YUK MLR MLR
comp=N,213nm,19.0s
YUK MLR MLR
comp=E,279nm,19.0s
YUK MLR MLR
comp=Z,349nm,19.0s
HTT Hallett 41.27 165 P P 08 44 37.3 +1.0
baz=41,SNR=20
CMSA Cobar Meteorol 41.82 156 P P 08 44 41.5 +0.7
baz=42,SNR=24
RKGY Rocky Gully 41.89 192 ⇓P P 08 44 43.1 +1.8
baz=42,SNR=63
HABR Khabarovsk 42.45 8 P P 08 44 44.0 -1.7
HABR *PP pP 08 45 10.7 -0.2
HABR *SP sP 08 45 24.9 +1.6
HABR eS S 08 50 57.8 -1.5
HABR e 08 54 32.2
HABR pmax pmax
comp=N,162nm,2.7s
HABR MLR MLR
comp=Z,591nm,16.0s
TAPN Taplejung 42.60 304 eP P 08 44 47.5 -0.1
comp=Z,984nm,1.1s
YSS Yuzh-Sakhalins 42.60 16αeP P 08 44 47.0 +0.1
YSS eS S 08 50 58.0 -3.5
YSS pmax pmax
comp=Z,80nm,1.0s
YSS smax smax
comp=E,900nm,12.0s
YSS MLR MLR
comp=E,900nm,16.0s
YSS MLR MLR
comp=Z,900nm,16.0s
YSS Yuzh-Sakhalins 42.60 16 eP P 08 44 47.7 +0.8
comp=Z,335nm,1.8s
ODAN Odare 42.68 303 eP P 08 44 48.1 -0.1
comp=Z,1µm,0.9s
KUR Kuril'sk 42.73 22c iP P 08 44 49.1 +1.1
KUR i 08 47 11.7
KUR i S S 08 50 59.3 -4.1
KUR pmax pmax
comp=N,50nm,1.0s
KUR pmax pmax
comp=Z,137nm,1.0s
KUR pmax pmax
comp=E,85nm,1.0s
KUR pmax pmax
comp=Z,48nm,0.1s
KUR smax smax
comp=N,2µm,3.9s
KUR MLR MLR
comp=E,146nm,5.0s
KUR MLR MLR
comp=Z,212nm,5.0s
KUR MLR MLR
comp=N,19nm,2.0s
H01W3 Cape Leeuwin H 42.83 195 P P 08 44 50.2 +1.5
baz=30,slow=12,SNR=4.4
H01W1 Cape Leeuwin H 42.84 195 P P 08 44 52.0 +3.3
baz=30,slow=12,SNR=5.8
KLR Kul'dur 42.84 5 eP P 08 44 44.6 -4.2
KLR eS S 08 50 54.5 -10
KLR eSSS SSS 08 54 07.5
KLR MLR MLR
comp=E,500nm,11.0s
KLR MLR MLR
comp=Z,2µm,11.0s
H01W2 Cape Leeuwin H 42.85 195 P P 08 44 51.6 +2.9
baz=30,slow=12,SNR=3.1
BOK Bokaro 42.97 298 eP P 08 44 51.5 +1.2
BOK AMB AMB 08 44 54.3
comp=Z,166nm,1.8s
HIA Hailar 43.10 353c iP P 08 44 50.6 -0.4
HIA pmax pmax
comp=Z,21nm,1.1s
HIA Hailar 43.10 353 eP P 08 44 51.4 +0.4
comp=Z,60nm,1.1s
RAMN Ramite 43.37 303 eP P 08 44 53.9 +0.1
comp=Z,2µm,1.0s
ARMA Armidale 43.66 148 eP P 08 44 56.6 +0.8
comp=Z,90nm,0.8s
ARMA Armidale 43.66 148 P P 08 44 56.4 +0.6
baz=44,SNR=12
VIS Vishakhapatnam 43.94 289 eP P 08 44 58.7 +0.6
VIS AMB AMB 08 45 00.5
comp=Z,137nm,0.5s
JIRN Jiri 43.97 304 eP P 08 44 58.6 -0.1
comp=Z,1µm,1.0s
GUN Gumba 44.31 304 eP P 08 45 01.2 -0.2
comp=Z,1µm,0.9s
PKI Pulchoki 44.58 303 eP P 08 45 02.9 -0.7
comp=Z,709nm,1.0s
PKIN Phulchoki 44.60 303 eP P 08 45 03.6 0.0
comp=Z,355nm,1.0s
ULN Ulaanbaatar 44.61 341c iP P 08 45 03.2 -0.1
ULN Ulaanbaatar 44.61 341 eP P 08 45 03.2 -0.1
comp=Z,124nm,1.2s
KKN Kakani 44.77 303 eP P 08 45 04.4 -0.5
comp=Z,810nm,1.0s
SONM Songino Array 44.80 340 P P 08 45 04.7 0.0
comp=Z,13nm,0.6s,baz=159,slow=8.7,SNR=93
SONM ScP ScP 08 50 28.9 +1.5
comp=Z,1.8nm,0.9s,baz=140,slow=4.0,SNR=3.5
SONM LR LR 09 04 53.0
comp=Z,596nm,19.6s,baz=164,slow=37
DMN Daman 44.85 303 eP P 08 45 05.1 -0.5
comp=Z,1µm,1.0s
ARPS Mount Arapiles 45.21 163 P P 08 45 08.7 +0.8
baz=45,SNR=53
YNG Young 45.34 155 P P 08 45 10.4 +1.4
baz=46,SNR=9.6
GKN Gorkha 45.37 303 eP P 08 45 09.0 -0.6
comp=Z,669nm,1.0s
PALK Pallekele 45.85 274 P P 08 45 13.0 -0.4
comp=Z,305nm,1.2s,SNR=19
PALK Pallekele 45.85 274 iP P 08 45 13.3 -0.1
PALK Pallekele 45.85 274 eP P 08 45 12.6 -0.8
comp=Z,78nm,0.9s,baz=88,slow=7.8,SNR=34
PALK LR LR 09 05 23.4
comp=Z,1µm,19.4s,baz=65,slow=37
PALK Pallekele 45.85 274⇓iP P 08 45 12.9 -0.5
SNR=26
KOLN Koldanda 46.16 303 eP P 08 45 15.6 -0.3
comp=Z,1µm,0.9s
DANN Dangsing 46.22 303 eP P 08 45 16.0 -0.4
comp=Z,1µm,0.9s
MDRS Chennai 46.38 282 eP P 08 45 15.7 -1.8
MDRS AMB AMB 08 45 18.3
comp=Z,173nm,1.4s
CAN Canberra 46.47 155 eP P 08 45 19.0 +1.1
CAN pmax pmax
comp=Z,140nm,1.1s
CAN Canberra 46.47 155 eP P 08 45 19.0 +1.1
comp=Z,140nm,1.1s
CNB Canberra Magne 46.62 155 ⇑P P 08 45 20.2 +1.1
baz=47,SNR=14
CIT Chita 46.75 349 eP P 08 45 21.1 +1.2
CIT e 08 45 44.2
CIT e 08 45 57.6
PYUN Piuthan 46.78 303 eP P 08 45 20.6 -0.1
TOO Toolangi 47.10 160 ⇓P P 08 45 24.1 +1.3
baz=47,SNR=16
DZM Mont Dzumac 48.00 127 eP P 08 45 31.1 +1.0
comp=Z,90nm,1.1s
DZM epP pP 08 46 01.9 +6.1
comp=Z,168nm,1.1s
DZM eS S 08 52 16.5 -3.7
comp=Z,3µm,30.2s
DZM eLR LR 08 59 59.8
comp=Z,6µm,34.4s
DZM Mont Dzumac 48.00 127 P P 08 45 30.6 +0.6
comp=Z,20nm,0.9s,baz=239,slow=11,SNR=10
ZAK Zakamensk 48.04 340 eP P 08 45 29.4 -0.6
ZAK e 08 45 56.8
ZAK e 08 46 51.7
ZAK e 08 47 20.0
ZAK pmax pmax
comp=Z,20nm,1.4s
HYB Hyderabad 48.41 288⇑iP P 08 45 32.0 -1.2
comp=Z,350nm,1.0s
HYB epP pP 08 45 57.0 -2.0
HYB esP sP 08 46 07.0 -4.3
HYB ePcP PcP 08 46 58.0 -0.1
HYB ePP PP 08 47 28.0 +1.1
HYB e 08 48 00.0
HYB eScP ScP 08 50 47.0 +4.0
HYB ePcS PcS 08 50 53.0 -1.5
HYB eS S 08 52 25.0 -0.9
HYB eScS ScS 08 55 14.5 -1.2
HYB eSS SS 08 55 22.0 -35
HYB Hyderabad 48.41 288 eP P 08 45 33.2 0.0
HYB AMB AMB 08 45 34.5
comp=Z,293nm,1.4s

NGP Nagpur 48.50 292 eP P 08 45 33.8 -0.1
NGP ex x 08 45 36.2
comp=Z,540nm,1.3s
NGP ex x 08 52 28.2
TLY Talaya 49.02 341 P P 08 45 37.6 +0.2
comp=Z,230nm,0.9s,SNR=23
TLY Talaya 49.02 341c iP P 08 45 37.4 0.0
TLY e 08 46 14.4
TLY e 08 47 34.6
TLY eS S 08 52 31.6 -2.0
TLY e 08 55 17.4
TLY eSS SS 08 56 04.5 -1.5
TLY pmax pmax
comp=Z,68nm,1.1s
TLY MLR MLR
comp=Z,458nm,19.0s
TLY Talaya 49.02 341 P P 08 45 36.7 -0.6
comp=Z,25nm,0.8s,baz=155,slow=5.8,SNR=59
TLY LR LR 09 07 20.0
comp=Z,582nm,21.7s,baz=142,slow=37
IRK Irkutsk 49.31 342 eP P 08 45 39.8 +0.3
IRK e 08 46 14.0
IRK eS S 08 52 40.1 +2.6
IRK pmax pmax
comp=Z,74nm,2.9s
LGTI Lohaghat 49.49 303 eP P 08 45 41.5 +0.3
TRD Trivandrum 49.52 276 eP P 08 45 41.4 -0.4
TRD AMB AMB 08 45 42.2
comp=Z,167nm,1.6s
MOY Mondy 49.91 339 eP P 08 45 44.6 +0.4
MOY pmax pmax
comp=Z,133nm,2.9s
CLNS Chul'man 50.28 359 eP P 08 45 46.8 0.0
CLNS e*PP sP 08 46 26.5 +1.4
CLNS e 08 47 03.4
CLNS e 08 47 40.7
CLNS ePPP PPP 08 48 43.9
CLNS eS S 08 52 42.2 -8.8
CLNS e 08 55 22.9
CLNS pmax pmax
comp=Z,39nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.7s
CLNS pmax pmax
comp=N,19nm,0.8s
CLNS pmax pmax
comp=Z,20nm,1.0s
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS smax smax
comp=E,239nm,11.6s
CLNS smax smax
comp=N,250nm,11.6s
BHPL Bhopal 50.37 295 eP P 08 45 47.7 -0.4
BHPL AMB AMB 08 45 49.5
comp=Z,370nm,1.0s
WMQ Urumqi 50.62 324 P P 08 45 50.0 +0.3
WMQ pP pP 08 46 13.3 -2.4
WMQ sP sP 08 46 24.5 -3.4
WMQ PcP PcP 08 47 06.5 +0.7
WMQ PP PP 08 47 48.5 +1.8
WMQ ScP ScP 08 50 52.0 0.0
WMQ PcS PcS 08 51 02.5 -0.7
WMQ S S 08 52 55.5 -0.7
WMQ ScS ScS 08 55 28.0 -1.9
WMQ SS SS 08 56 28.3 -3.6
WMQ pmax pmax
comp=Z,120nm,1.4s
WMQ pmax pmax
comp=Z,2μm,4.4s
WMQ LR LR
comp=Z,1μm,19.4s
WMQ LR LR
comp=Z,1μm,20.8s
WMQ LR LR
comp=Z,2μm,23.4s
DDI Dehra Dun 51.57 304 eP P 08 45 57.3 +0.3
DDI eP P 08 45 57.5 +0.5
DDI AMB AMB 08 45 58.4
comp=Z,990nm,2.5s
NDI New Delhi 51.81 302 iP P 08 45 59.0 +0.3
NDI ex x 08 55 38.0
BOD Bodaibo 52.22 351⇑iP P 08 46 00.9 -0.3
BOD pmax pmax
comp=Z,38nm,1.2s
HVS Khovu-Aksy 52.37 334c iP P 08 46 03.1 +0.5
SMLA Simla 52.53 304 eP P 08 46 03.9 -0.1
SMLA AMB AMB 08 46 06.0
comp=Z,635nm,1.2s
KAD Karad 52.54 287 eP P 08 46 02.8 -1.6
GOA Goa 52.75 284 eP P 08 46 04.8 -1.0
GOA AMB AMB 08 46 06.9
comp=Z,154nm,1.0s
SDNR Sundarnagar 52.81 305 ex P 08 46 09.0 +2.9
PETK Petropavlovsk- 52.88 23 P P 08 46 06.4 +0.2
PETK *PP pP 08 46 29.6 -2.8
PETK pmax pmax
comp=Z,48nm,0.8s
PETK pmax pmax
comp=Z,20nm,0.8s
PETK MLR MLR
comp=Z,190nm,18.1s
PETK Petropavlovsk- 52.88 23 P P 08 46 06.3 +0.2
comp=Z,48nm,0.8s,baz=188,slow=3.6,SNR=40
PETK pP pP 08 46 29.6 -2.8
comp=Z,20nm,0.8s,baz=229,slow=5.7,SNR=2.9
PETK LR LR 09 13 04.2
comp=Z,190nm,18.1s,baz=222,slow=41
POO Poona 52.98 288⇑iP P 08 46 06.0 -1.6
POO ⇑eP P 08 46 06.8 -0.8
PET Petropavlovsk 53.18 23 eP P 08 46 09.0 +0.7
PET e*PP pP 08 46 42.2 +7.6
PET eS S 08 53 33.0 +2.3
PET e*SS sS 08 54 14.0 -1.8
PET e 08 55 37.3
PET pmax pmax
comp=Z,77nm,0.9s
PET pmax pmax
comp=Z,200nm,12.9s
PET MLR MLR
comp=Z,600nm,19.0s
PET Petropavlovsk 53.18 23 eP P 08 46 09.1 +0.7
comp=Z,151nm,1.2s
BHK Bhakra 53.23 305 eP P 08 46 09.6 +0.4
AJM Ajmer 53.50 298 ex P 08 46 10.0 -1.3
DHRM DHARAMSHALA 53.57 306 eP P 08 46 11.6 -0.4
DHRM AMB AMB 08 46 22.4
comp=Z,344nm,2.0s
DLH Dalhousie 53.93 306 eP P 08 46 14.0 -0.5
MK31 Makanchi Array 55.45 324 eP P 08 46 25.1 +0.1
MK31 pmax pmax
comp=Z,97nm,0.7s
MKAR Makanchi Array 55.45 324 P P 08 46 25.2 +0.2
comp=Z,87nm,0.6s,baz=121,slow=7.8,SNR=450
MKAR ScP ScP 08 51 11.4 -1.4
comp=Z,3.4nm,0.7s,baz=108,slow=5.0,SNR=3.5
MKAR S S 08 54 03.8 +2.3
comp=Z,1.4nm,0.9s,baz=92,slow=12,SNR=2.9
MKAR LR LR 09 12 44.2
comp=Z,471nm,19.7s,baz=122,slow=39
MKAR PKPPKP P'P'df 09 16 23.4 -5.5
comp=Z,1.5nm,1.1s,baz=261,slow=2.3,SNR=5.7
MKAR P4KPbc 09 23 42.1
comp=Z,1.2nm,0.8s,baz=111,slow=4.6,SNR=9.4
YAK Yakutsk 55.51 2c iP P 08 46 24.4 -0.7
YAK e*PP pP 08 46 49.9 -1.5
YAK e 08 47 22.8
YAK e 08 48 30.4
YAK eS S 08 53 59.3 -2.3
YAK e 08 55 59.6
YAK eSSS SSS 08 59 54.2
YAK pmax pmax
comp=Z,118nm,0.9s
YAK pmax pmax
comp=N,35nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=E,41nm,1.1s
YAK pmax pmax
comp=N,24nm,1.4s
YAK smax smax
comp=E,197nm,3.1s
YAK smax smax
comp=N,56nm,1.5s
YAK Yakutsk 55.51 2 eP P 08 46 25.8 +0.8
comp=N,122nm,0.8s
MSVF Nonsavu 55.93 116 P P 08 46 31.3 +2.4
comp=N,303nm,1.0s,SNR=5.6
MSVF Nonsavu 55.93 116 eP P 08 46 30.8 +1.9
MSVF pmax pmax
comp=Z,53nm,0.9s
MSVF Nonsavu 55.93 116 eP P 08 46 30.8 +1.9
comp=Z,52nm,0.9s
KSH Kashi 56.27 314 eP P 08 46 32.5 +1.4
KSH epP pP 08 46 59.3 +1.7
KSH esP sP 08 47 08.5 -1.2
KSH ePP PP 08 48 42.0 +4.4
KSH eS S 08 54 08.5 -4.4
KSH pmax pmax
comp=Z,140nm,1.0s
KSH LR LR
comp=Z,430nm,13.2s
KSH LR LR
comp=Z,960nm,22.6s
KRAR Krasnoyarsk 56.30 338⇑iP P 08 46 32.0 +1.2
KRAR pmax pmax
comp=Z,60nm,1.0s
ULHL Ulahol 57.14 317 P P 08 46 38.4 +1.0
SNR=7.6
ULHL Ulahol 57.14 317 iP P 08 46 38.3 +1.0
BHJ Bhuj 57.43 293 eP P 08 46 39.0 -0.4
KZA Kyzart 57.75 316 P P 08 46 42.8 +0.9
SNR=118
KZA Kyzart 57.75 316 iP P 08 46 42.7 +0.9
TKM2 Tokmak 2 57.85 317 P P 08 46 42.5 +0.2
SNR=78
TKM2 Tokmak 2 57.85 317 iP P 08 46 42.5 +0.2
TKM2 Tokmak 2 57.85 317 eP P 08 46 42.5 +0.2
comp=Z,102nm,1.0s
KBK Karagaybulak 58.19 317 P P 08 46 45.2 +0.6
SNR=56
ZAA0 Zalesovo Array 58.27 332 eP P 08 46 43.9 -0.8
ZALV Zalesovo Beam 58.27 332 P P 08 46 44.0 -0.7
comp=Z,123nm,0.8s,baz=125,slow=6.4,SNR=265
ZALV S S 08 54 38.0 -0.2
comp=Z,1.6nm,0.7s,baz=121,slow=14,SNR=5.2
ZALV LR LR 09 12 41.1
comp=Z,374nm,21.6s,baz=100,slow=37
ZALV PKP2bc 09 16 32.5
comp=Z,0.8nm,0.4s,baz=298,slow=3.2,SNR=8.0
UCH Uchtor 58.32 316 P P 08 46 46.7 +0.8
SNR=181
UCH Uchtor 58.32 316 iP P 08 46 46.6 +0.8
CHMS Chumysh 58.45 317 P P 08 46 46.3 0.0
SNR=36
CHMS Chumysh 58.45 317 iP P 08 46 46.3 0.0
AAK Ala-Archa 58.48 317 P P 08 46 47.0 +0.3
comp=Z,245nm,0.6s,SNR=31
AAK Ala-Archa 58.48 317 P P 08 46 47.1 +0.3
SNR=39
AAK Ala-Archa 58.48 317c iP P 08 46 47.2 +0.5
AAK pmax pmax
comp=Z,257nm,1.6s
AAK Ala-Archa 58.48 317 P P 08 46 47.0 +0.3
comp=Z,23nm,0.6s,baz=95,slow=6.2,SNR=45
AAK LR LR 09 14 06.7
comp=Z,879nm,21.4s,baz=90,slow=38
AAK PKP2bc 09 16 36.3
comp=Z,0.5nm,0.4s,baz=89,slow=1.7,SNR=5.4
AAK Ala-Archa 58.48 317 eP P 08 46 48.3 +1.6
AAK ⇑e 09 16 36.3
USP Ospenovka 58.73 317 P P 08 46 48.3 +0.1
SNR=134
USP Ospenovka 58.73 317 iP P 08 46 48.3 +0.1
AML Almayashu 58.84 316 P P 08 46 50.0 +0.6
SNR=133
EKS2 Erkin-Say 58.98 316 P P 08 46 50.7 +0.5
SNR=130
EKS2 Erkin-Say 58.98 316 iP P 08 46 50.6 +0.5
EKS2 Erkin-Say 58.98 316 eP P 08 46 50.6 +0.5
comp=Z,126nm,0.8s
SEY Seymchan 59.37 13 P P 08 46 52.9 +0.7
comp=Z,55nm,1.1s,baz=223,slow=6.4,SNR=61
SEY PKP2bc 09 16 34.7
comp=Z,8.8nm,1.1s,baz=7.3,slow=8.2,SNR=3.7
NVS Novosibirsk 59.55 332⇑iP P 08 46 52.8 -0.7
NVS i*PP pP 08 47 15.6 -4.6
NVS iS S 08 54 55.1 +0.4
NVS pmax pmax
comp=N,48nm,1.0s
NVS pmax pmax
comp=Z,136nm,1.0s
NVS pmax pmax
comp=E,82nm,1.3s
NVS smax smax
comp=N,199nm,2.3s
NVS smax smax
comp=E,133nm,2.1s
KURK Kurchatov 59.56 327 P P 08 46 53.8 +0.1
KURK pmax pmax
comp=Z,292nm,1.2s
FX1 Attu Island--F 59.67 30 P P 08 46 55.6 +1.2
FX1 *PP pP 08 47 18.7 -2.4
FX1 pmax pmax
comp=Z,138nm,0.9s
FX1 pmax pmax
comp=Z,34nm,0.7s
FX1 Attu Island--F 59.67 30 P P 08 46 55.6 +1.2
comp=Z,138nm,0.9s,baz=60,slow=4.6,SNR=14
FX1 pP pP 08 47 18.7 -2.4
comp=Z,34nm,0.7s,baz=100,slow=24,SNR=2.4
FX1 LR LR 09 10 44.5
comp=Z,161nm,19.8s,baz=252,slow=34
FX1 Attu Island--F 59.67 30 eP P 08 46 56.9 +2.4
FX1 pP pP 08 47 18.7 -2.4
KBL Kabul 60.03 306 eP P 08 46 57.0 -0.6
KBL pmax pmax
comp=Z,274nm,0.9s
KBL Kabul 60.03 306 eP P 08 46 57.0 -0.6
comp=Z,274nm,0.9s
KBL Kabul 60.03 306 ⇑P P 08 46 56.9 -0.6
baz=60,SNR=33
KK31 Karatay Array 61.39 316 iP P 08 47 06.1 -0.2
KK31 pmax pmax
comp=Z,124nm,0.8s
KKAR Karatay Array 61.39 316 eP P 08 47 06.7 +0.4
KKAR Karatay Array 61.39 316 eP P 08 47 06.7 +0.4
RPZ Rata Peaks 63.89 146 eP P 08 47 23.5 +0.7
comp=Z,48nm,0.8s
URZ Urewera 64.42 138 eP P 08 47 27.1 +0.7
comp=Z,31nm,1.2s
BKZ Black Stump Fm 64.50 139 eP P 08 47 26.7 -0.3
comp=Z,48nm,0.8s
ADK Adak 64.65 35 eP P 08 47 28.9 +1.2
ADK pmax pmax
comp=Z,113nm,1.1s
ADK Adak 64.65 35 eP P 08 47 28.9 +1.2
comp=Z,113nm,1.1s
VOSK Vostochnaya 64.70 326 P P 08 47 27.4 -0.7
VOSK pmax pmax
comp=Z,171nm,1.1s
TIXI Tiksi 65.14 1c iP P 08 47 29.5 -1.0
TIXI pmax pmax
comp=Z,48nm,0.8s
TIXI Tiksi 65.14 1 eP P 08 47 29.8 -0.7
comp=Z,165nm,1.6s
BVA0 Borovoye Array 65.16 326 iP P 08 47 30.7 -0.3
BVA0 pmax pmax
comp=Z,362nm,1.2s
BVAR Borovoye Array 65.16 326 P P 08 47 30.8 -0.1
comp=Z,221nm,0.9s,baz=127,slow=8.5,SNR=306
BVAR PKP2bc 09 16 18.1
comp=Z,0.6nm,0.8s,baz=236,slow=8.0,SNR=4.2
BVAR LR LR 09 17 23.6
comp=Z,481nm,21.6s,baz=120,slow=37
BRVK Borovoye 65.23 326c iP P 08 47 31.5 +0.1
BRVK pmax pmax
comp=Z,483nm,1.2s
BILL Bilibino 66.91 15c iP P 08 47 41.7 -0.2
BILL i 08 48 11.3
BILL i 08 50 10.0
BILL iS S 08 56 27.4 +1.5
BILL iSS SS 09 00 48.5 +2.3
BILL pmax pmax
comp=Z,29nm,1.0s
BILL Bilibino 66.91 15 eP P 08 47 41.2 -0.7
comp=Z,125nm,1.7s
IDAH Dahanechah 67.23 303 eP P 08 47 45.6 +0.6
IMYA Miami 67.54 307 eP P 08 47 47.1 +0.3
IKOO Kooshah 67.92 302 eP P 08 47 49.2 -0.2
ISRO Mashad 68.04 306 eP P 08 47 50.1 +0.3
IMOG Moghan 68.12 306 eP P 08 47 49.8 -0.7
ITEG Tejag 68.19 303 eP P 08 47 51.0 0.0
IPAY Payeh 68.44 307 eP P 08 47 53.3 +0.8
IAKL Akhelmad 68.65 307 eP P 08 47 54.7 +0.9
IEMG Emamgholi 68.85 308 eP P 08 47 55.7 +0.6
IKRD Kardeh 68.87 307 eP P 08 47 50.8 -4.4
ISFR Sfrayin 69.32 307 eP P 08 47 58.7 +0.8
ABKT Ailbek 69.34 308 P P 08 47 58.0 +0.2
comp=Z,2μm,1.0s,SNR=73
GEYT Alibeck 69.34 308 P P 08 47 58.2 +0.4
comp=Z,248nm,0.9s,baz=116,slow=3.4,SNR=293
GEYT pP PcP 08 48 21.5 +0.9
comp=Z,75nm,1.0s,baz=209,slow=2.7,SNR=3.8
GEYT LR LR 09 21 57.7
comp=Z,365nm,21.3s,baz=110,slow=39
ISHV Shirvan 69.61 308 eP P 08 48 00.4 +0.7
UOSS Wadi Hilu 69.81 294 P P 08 47 59.1 -1.7
comp=Z,408nm,1.2s,SNR=5.5
HATD Hatta, Dubai 69.87 294⇑iP P 08 48 00.7 -0.5
SNR=22
AB31 Akbulak array 70.17 320 P P 08 48 02.2 -0.4
AB31 pmax pmax
comp=Z,109nm,0.7s
ABKAR Akbulak array 70.17 320 eP P 08 48 02.3 -0.3
NAZ Nazwa, Dubai 70.30 294⇓iP P 08 48 03.3 -0.5
SNR=15
FAQ Al Faqa, Dubai 70.36 294⇑iP P 08 48 03.5 -0.7
SNR=11
ASUD Al Ashush, Dub 70.59 294⇓iP P 08 48 05.6 0.0
SNR=13
IBAF Bafgh 70.75 301 eP P 08 48 06.0 -0.6
UNV Unalaska Valle 71.12 35 eP P 08 48 09.2 +1.0
comp=Z,95nm,0.8s
AKUT Akutan 71.61 35 eP P 08 48 09.9 -1.2
AKTO Aktyubinsk 71.65 321 P P 08 48 11.3 -0.2
comp=Z,149nm,0.6s,baz=96,slow=7.3,SNR=422
AKTO LR LR 09 21 24.9
comp=Z,611nm,21.8s,baz=107,slow=37
SVE Sverdlovsk 71.75 328d iP P 08 48 12.1 +0.2
SVE eS S 08 57 22.6 -0.6
SVE e 08 57 59.4
SVE pmax pmax
comp=Z,204nm,0.8s
SVE pmax pmax
comp=Z,399nm,8.1s
ICHK Chekchek 71.78 302 eP P 08 48 12.3 -0.6
GAMB Gambell 71.87 24 eP P 08 48 13.6 +1.1
comp=Z,83nm,1.1s
MSEY Mahe Island 72.14 263 iP P 08 48 14.7 -0.5
ISAD Sadrabad 72.37 301 eP P 08 48 16.0 -0.6
IANJ Anjilo 72.43 305 eP P 08 48 16.4 -0.3
IGLO Ghaloghah 72.58 306 eP P 08 48 17.6 0.0
IKIA Kiasar 72.68 306 eP P 08 48 18.1 -0.1
ISRV Sarvestan 72.74 299 eP P 08 48 19.0 +0.2
ARU Arti 72.75 327 P P 08 48 17.3 -0.6
comp=Z,2μm,0.6s,SNR=22
ARU Arti 72.75 327c iP P 08 48 17.1 -0.8
ARU *PP pP 08 48 48.2 +2.7
ARU 08 50 56.7
ARU PPP PPP 08 52 43.9
ARU S S 08 57 33.3 -1.3
ARU SS SS 09 02 11.5 -4.9
ARU SSS SSS 09 05 31.0
ARU pmax pmax
comp=Z,264nm,1.2s
IPAR Pars 72.81 299 eP P 08 48 19.5 +0.3
MRIV Mauritius Mete 73.15 247 eP P 08 48 20.6 -0.4
ILAS Lasjerd 73.20 305 eP P 08 48 21.6 +0.3
IALA Alasht 73.37 306 eP P 08 48 23.2 +0.8
IFIR Firoozkooh 73.39 305 eP P 08 48 22.6 +0.1
CASY Casey 73.51 187 eP P 08 48 21.9 -0.2
comp=Z,60nm,0.9s
IZEF Zefreh 73.57 302 eP P 08 48 23.0 -0.6
IPRN Peran 73.76 306 eP P 08 48 24.6 +0.2
KIP Kipapa 73.82 70 eP P 08 48 27.3 +2.4
KIP pmax pmax
comp=Z,178nm,1.1s
KIP Kipapa 73.82 70 eP P 08 48 27.3 +2.4
comp=Z,178nm,1.1s
IDMV Damavand 73.97 305 eP P 08 48 25.8 -0.1
TNA Tin City 74.04 23 eP P 08 48 25.8 +0.5
PAF Port-aux-Franc 74.18 215 P P 08 48 07.0 -19
PAF S SKiKP 08 57 17.0 -26
PAF R 09 12 00.0
IVRN Varamin 74.18 304 eP P 08 48 26.8 -0.1
IKLH Kolahrood 74.22 303 eP P 08 48 27.1 -0.2
SOKR Solikamsk 74.45 330c iP P 08 48 27.4 -0.3
SOKR S S 08 57 51.8 -1.8
SOKR pmax pmax
comp=Z,150nm,1.0s
SOKR MLR MLR
comp=Z,730nm,24.0s
IPIR Pirpir 74.77 302 eP P 08 48 29.1 -1.5
IR3 Iran Long-Peri 74.78 305 eP P 08 48 30.4 0.0
SDPT Sand Point 74.87 34 eP P 08 48 31.0 +0.7
comp=Z,80nm,0.8s
RER Riviere de l'E 74.94 246 eP P 08 48 32.8 +1.3
comp=Z,67nm,1.0s
IGZV Ghazvin 75.48 306 eP P 08 48 35.1 +0.6
IRAZ Razeghan 75.67 305 eP P 08 48 35.4 -0.2
POHA Pohakuloa 76.18 71 eP P 08 48 41.3 +2.5
comp=Z,197nm,1.2s
CHGN Chignik 76.19 34 eP P 08 48 37.8 +0.1
PUH Pauahi 76.50 72 eP P 08 48 43.5 +3.1
MIR Mirnyy 76.82 193⇓iP P 08 48 44.0 +3.0
MIR i 08 48 55.0
MIR pmax pmax
comp=Z,210nm,1.0s
IBZA Bozab 77.35 304 eP P 08 48 44.2 -0.9
ISRB Sarab 77.57 307 eP P 08 48 46.9 +0.6
IKOM Komasi 77.63 303 eP P 08 48 45.8 -0.8
MAK Makhachkala 77.87 312c iP P 08 48 48.0 +0.5
MAK e 08 48 57.3
MAK e*PP pP 08 49 14.4 -1.0
MAK e*SP sP 08 49 24.1 -3.1
MAK ePPP PPP 08 53 35.1
MAK eS S 08 58 31.6 -0.1
MAK e*SS sS 08 59 17.5 -2.3
MAK eSSS SSS 09 06 57.5
MAK pmax pmax
comp=Z,193nm,1.1s
MAK MLR MLR
comp=Z,750nm,28.0s
IHRS Heris 78.08 308 eP P 08 48 49.2 +0.1
ILIN Lien 78.09 304 eP P 08 48 47.6 -1.6
IBST Bostanabad 78.18 307 eP P 08 48 49.4 -0.2
SVW2 Sparrevohn 78.36 29 eP P 08 48 51.4 +1.5
comp=Z,68nm,1.2s
IGHG Ghaleghazi 78.41 304 eP P 08 48 50.0 -1.0
IDHR Dehrash 78.56 304 eP P 08 48 50.5 -1.3
ITBZ Tabriz 78.78 308 eP P 08 48 53.2 +0.3
OHAK Old Harbor 79.10 33 eP P 08 48 54.5 +0.6
comp=Z,77nm,1.1s
IMRD Marand 79.13 308 eP P 08 48 55.0 +0.2
DGRG David-gareji 79.41 311 P P 08 48 57.1 +1.0
KDAK Kodiak Island 79.53 33 P P 08 48 57.0 +0.8
comp=Z,357nm,0.8s,SNR=11
KDAK Kodiak Island 79.53 33 iP P 08 48 56.6 +0.4
RAYN Ar Rayn 79.58 293 P P 08 48 56.0 -1.4
comp=Z,1.0nm,1.0s
IM04 Indian Mountai 79.80 24 eP P 08 48 58.7 +1.0
GNI Garni 79.88 310 eP P 08 48 59.8 +1.0
GNI Garni 79.88 310 P P 08 48 59.9 +1.1
GNI pmax pmax
comp=Z,35nm,0.6s
GNI Garni 79.88 310 P P 08 48 59.9 +1.1
comp=Z,35nm,0.6s,baz=143,slow=0.5,SNR=48
GNI Garni 79.88 310 eP P 08 49 00.1 +1.3
comp=Z,295nm,1.0s
GNI Garni 79.88 310⇑iP P 08 48 59.3 +0.5
SNR=47
TBLG Delisi 79.89 311 eP P 08 49 00.4
TBLG Delisi 79.89 311 P P 08 49 00.0 +0.4
DUS Dusheti 79.92 311 P P 08 49 00.0 +1.2
GUDG Gudauri 80.09 312 P P 08 49 00.0 +0.1
KZR Kazreti 80.13 311 P P 08 49 00.3 +0.3
PPLA Purkeypile 80.16 27 eP P 08 49 01.3 +1.6
comp=Z,69nm,1.0s

PRGR	**Permogore**	**80.21 331**	⇓*i*P	**P**	**08 48 59.7 -0.1**
PRGR			pmax	pmax	
	comp=Z,101nm,0.6s				
CAST	**Castle Rocks**	**80.25 27**	*e*P	**P**	**08 49 01.7 +1.6**
ZEI	**Tsey**	**80.52 312**	*e*P	**P**	**08 48 59.1 -3.1**
ZEI			*e*S	**S**	**08 58 57.8 -2.5**
ZEI			pmax	pmax	
	comp=Z,244nm,5.6s				
ZEI			pmax	pmax	
	comp=Z,409nm,1.4s				
CLDR	**Caldiran**	**80.52 309**	*e*P	**P**	**08 49 03.1 +0.8**
HKR	**Hakkari**	**80.68 307**	*e*P	**P**	**08 49 03.4 +0.2**
DYDN	**Diyadin**	**80.70 309**	*i* P	**P**	**08 49 00.8 -2.5**
HAKT	**HAKKARI**	**80.71 307**	*i* P	**P**	**08 49 00.8 -2.6**
NCK	**Nalchik**	**80.74 313**⇓*e*P		**P**	**08 49 04.0 +0.8**
EAK	**Akyaka**	**80.75 310**	*i* P	**P**	**08 49 01.9 -1.6**
KTH	**Kantishna Hill**	**80.78 27**	*e*P	**P**	**08 49 04.1 +1.1**
CUKT	**Cukurca**	**80.80 307**	*e*P	P	08 49 11.6 +7.9
AKH	**Akhalkalaki**	**80.83 311**	*e*P	**P**	**08 49 04.8 +1.0**
AKH	**Akhalkalaki**	**80.83 311**	P	**P**	**08 49 04.7 +0.8**
ONI	**Oni**	**80.85 312**	P	**P**	**08 49 04.5 +0.6**
VANB	**Van**	**80.94 308**	*e*P	**P**	**08 49 04.8 +0.3**
TRF	**Thorofare Moun**	**81.06 27**	*e*P	**P**	**08 49 04.9 +0.3**
KARS	**Kars**	**81.15 310**	*e*P	**P**	**08 49 06.6 +1.1**
RC01	**Rabbit Creek A**	**81.19 29**	*e*P	**P**	**08 49 05.4 +0.2**
	comp=Z,53nm,0.8s				
AGRB	**Hanur-Agry**	**81.23 309**	*e*P	**P**	**08 49 07.0 +0.9**
KBZ	**Khabaz**	**81.25 313**	P	**P**	**08 49 05.5 -0.2**
	comp=Z,96nm,1.1s,baz=93,slow=4.8,SNR=95				
KBZ			LR	LR	09 30 38.8
	comp=Z,330nm,18.8s,baz=78,slow=40				
SEW	**Seward**	**81.29 30**	*e*P	**P**	**08 49 06.8 +1.2**
COLD	**Coldfoot**	**81.35 23**	*e*P	**P**	**08 49 07.2 +1.3**
KIV	**Kislovodsk**	**81.40 313**	P	**P**	**08 49 07.8 +1.1**
	comp=Z,1µm,0.8s,SNR=18				
KIV	**Kislovodsk**	**81.40 313**	*e*P	**P**	**08 49 06.7 0.0**
KIV	**Kislovodsk**	**81.40 313**	*e*P	**P**	**08 49 05.8 -0.9**
KIV			*e**PP	**pP**	**08 49 36.4 +1.5**
KIV			*e*		08 52 12.8
KIV			*e*S	**S**	**08 59 07.3 -1.8**
KIV			pmax	pmax	
	comp=Z,453nm,4.3s				
KIV			pmax	pmax	
	comp=Z,218nm,1.0s				
KIV			MLR	MLR	
	comp=Z,372nm,19.0s				
KIV	**Kislovodsk**	**81.40 313**	*e*P	**P**	**08 49 07.4 +0.7**
	comp=Z,178nm,0.9s				
KIV	**Kislovodsk**	**81.40 313**⇓*i*P		**P**	**08 49 06.7 0.0**
	SNR=27				
PMR	**Palmer**	**81.50 29**	*e*P	**P**	**08 49 06.8 +0.1**
PMR	**Palmer**	**81.50 29**	*e*P	**P**	**08 49 06.8 +0.1**
EATA	**Eleskirt**	**81.61 309**	*i* P	**P**	**08 49 06.1 -2.1**
MCK	**McKinley**	**81.68 27**	*e*P	**P**	**08 49 08.0 +0.3**
MCK			pmax	pmax	
	comp=Z,203nm,1.1s				
MCK	**McKinley**	**81.68 27**	*e*P	**P**	**08 49 08.0 +0.3**
	comp=Z,203nm,1.1s				
SIRT	**Sirnak**	**81.72 307**	*e*P	**P**	**08 49 09.0 +0.4**
EKAR	**Karacoban**	**81.96 309**	*i* P	**P**	**08 49 08.3 -1.7**
ARTV	**Artvin**	**82.01 311**	*i* P	**P**	**08 49 09.3 -0.8**
DAGI	**Agillar**	**82.02 310**	*i* P	**P**	**08 49 07.2 -2.9**
VRHR	**Novokhopersk**	**82.05 321**	*e*P	**P**	**08 49 09.1 -0.7**
VRHR			*e*S	**S**	**08 59 11.4 -3.9**
VRHR			pmax	pmax	
	comp=N,90nm,1.0s				
VRHR			pmax	pmax	
	comp=E,320nm,1.0s				
VRHR			pmax	pmax	
	comp=Z,310nm,1.0s				
VRHR			smax	smax	
	comp=N,100nm,1.3s				
VRHR			smax	smax	
	comp=Z,10.0nm,1.7s				
VRHR			smax	smax	
	comp=E,40nm,0.9s				
HOMI	**Horasan**	**82.06 309**	*i* P	**P**	**08 49 08.3 -2.2**
COLA	**College**	**82.19 25***d i*P		**P**	**08 49 10.5 +0.2**
COLA			pmax	pmax	
	comp=Z,128nm,1.0s				
COLA	**College**	**82.19 25**	*e*P	**P**	**08 49 10.1 -0.2**
	comp=Z,53nm,1.0s				
DBAD	**Bademkaya**	**82.19 310**	*i* P	**P**	**08 49 10.4 -0.5**
OPO	**Ambohidratompo**	**82.34 250**	P	**P**	**08 49 12.1 -0.2**
	comp=Z,100nm,1.2s,baz=80,slow=6.4				
VRTB	**Varto-Mus**	**82.44 309**	*e*P	**P**	**08 49 13.6 +1.3**
EZM	**Erzurum**	**82.48 309**	*e*P	**P**	**08 49 14.0 +1.3**
ILAR	**Eielson Array**	**82.60 26**	P	**P**	**08 49 11.9 -0.5**
	comp=Z,15nm,0.8s,baz=251,slow=4.6,SNR=100				
ILAR			PKKPbc	**PKKPbc**	**09 07 36.6 -3.2**
	comp=Z,3.2nm,1.1s,baz=18,slow=1.6,SNR=9.3				
ILAR			PKPPKP	**P'P'df**	**09 15 40.7 -1.6**
	comp=Z,2.4nm,1.2s,baz=86,slow=1.5,SNR=6.5				
ILAR			LR	LR	09 28 21.6
	comp=Z,117nm,19.7s,baz=254,slow=37				
SVAN	**Silvan-Diyarba**	**82.68 308**	*e*P	**P**	**08 49 13.9 +0.5**
BNGB	**Bing¨¶l**	**83.05 308**	*e*P	**P**	**08 49 16.4 +0.9**
DIV	**Divide**	**83.11 29**	*e*P	**P**	**08 49 17.1 +1.9**
	comp=Z,237nm,1.2s				
KLMR	**Klimovskoe**	**83.14 330***c i*P		**P**	**08 49 14.6 -0.6**
KLMR			S	S	08 59 14.8 -11
KLMR			S	S	08 59 14.8 -11
KLMR			pmax	pmax	
	comp=Z,335nm,1.1s				
KOPT	**Kop Dagi**	**83.14 309**	*i* P	P	08 49 11.5 -4.7
PAX	**Paxson**	**83.23 27**	*e*P	**P**	**08 49 16.7 +0.9**
PAX	**Paxson**	**83.23 27**	*e*P	**P**	**08 49 16.7 +0.9**
KBSD	**Kabsdagh**	**83.25 306**	*e*P	**P**	**08 49 17.4 +1.0**
KBSD	**Kabsdagh**	**83.25 306**	*e*P	**P**	**08 49 17.4 +1.0**
	SNR=45				
MAZI	**Mazidag**	**83.31 307**	*e*P	**P**	**08 49 17.0 +0.2**
BAYT	**Ayd¯-ntepe-Bay**	**83.40 310**	*e*P	**P**	**08 49 18.1 +0.8**
DYBB	**Diyarbakir**	**83.52 307**	*e*P	**P**	**08 49 18.6 +0.7**
VORD	**Divnogorie**	**83.53 321**	*e*P	**P**	**08 49 16.2 -1.3**
VORD			*e*S	**S**	**08 59 25.8 -4.5**
VORD			pmax	pmax	
	comp=Z,100nm,0.8s				
VORD			pmax	pmax	
	comp=N,100nm,0.7s				
VORD			pmax	pmax	
	comp=E,260nm,1.5s				
VORD			smax	smax	
	comp=N,40nm,1.6s				
VORD			smax	smax	
	comp=Z,4.0nm,0.6s				
VORD			smax	smax	
	comp=E,20nm,0.7s				
SOC	**Sochi**	**83.56 313***c i*P		**P**	**08 49 17.1 -0.7**
SOC			*e**PP	**pP**	**08 49 45.3 -0.8**
SOC			*e**SP	**sP**	**08 49 59.5 +1.7**
SOC			*e*S	**SKSac**	**08 59 27.5 -3.0**
SOC			*e**SS	sS	09 00 31.5 +12
SOC			*e*SS	**SS**	**09 04 59.2 -0.1**
SOC			pmax	pmax	
	comp=Z,81nm,0.6s				
VSR	**Storozhevoye**	**83.60 321**	*e*P	**P**	**08 49 17.1 -0.7**
VSR			*e*S	**S**	**08 59 26.7 -4.3**
VSR			pmax	pmax	
	comp=Z,130nm,0.9s				
VSR			pmax	pmax	
	comp=N,7.0nm,0.6s				
VSR			pmax	pmax	
	comp=E,90nm,0.8s				
VSR			smax	smax	
	comp=N,30nm,1.5s				
VSR			smax	smax	
	comp=Z,3.0nm,0.6s				
VSR			smax	smax	
	comp=E,10.0nm,1.0s				
VSR	**Storozhevoye**	**83.60 321***ce*P		**P**	**08 49 17.2 -0.6**
SFNV	**Sufian**	**83.63 306**	*e*P	**P**	**08 49 19.2 +0.8**
SFNV	**Sufian**	**83.63 306**	*e*P	**P**	**08 49 19.2 +0.8**
	SNR=45				
KTUT	**Trabzon**	**83.65 310**	*e*P	**P**	**08 49 18.2 -0.2**
RAGM	**Ragged Mountai**	**83.67 30**	*e*P	**P**	**08 49 20.0 +2.0**
	comp=E,205nm,1.4s				
BMRM	**Bremner River**	**83.69 29**	*e*P	**P**	**08 49 19.4 +1.2**
TMCR	**Tamitsa**	**83.75 334**	*e*P	**P**	**08 49 18.8 +0.5**
TMCR			*e*		08 52 32.9
TMCR			*e*S	**S**	**08 59 29.0 -3.0**
TMCR			pmax	pmax	
	comp=Z,179nm,0.8s				
ERZN	**Erzincan**	**83.76 309**	*e*P	**P**	**08 49 20.1 +1.0**
DOT	**Dot Lake**	**83.85 27**	*e*P	**P**	**08 49 20.2 +1.3**
	comp=Z,118nm,1.3s				
GUMT	**Gumushane**	**83.90 310**	*e*P	**P**	**08 49 20.5 +0.7**
MENT	**Mentasta**	**84.03 27**	*e*P	**P**	**08 49 20.5 +0.6**
KELT	**Kelkit**	**84.09 310**	*i* P	**P**	**08 49 17.9 -3.0**
MOS	**Moscow**	**84.31 325**	*e*P	**P**	**08 49 20.0 -1.3**
MOS			*e**PP	**pP**	**08 49 51.0 +1.3**
MOS			*e*		08 50 02.9
MOS			*e*		08 52 34.5
MOS			*e*S	S	08 59 31.2 -6.7
MOS			*e**SS	**sS**	**09 00 25.6 -1.0**
MOS			pmax	pmax	
	comp=Z,2µm,3.1s				
MOS			pmax	pmax	
	comp=Z,310nm,1.0s				
MOS			smax	smax	
	comp=E,700nm,3.4s				
MOS			smax	smax	
	comp=N,2µm,4.8s				
ELZG	**Elazig**	**84.40 308**	*i* P	**P**	**08 49 22.2 -0.2**
ESPY	**Espiye-Giresun**	**84.44 310**	*e*P	**P**	**08 49 21.9 -0.5**
URFA	**Urfa**	**84.60 307**	*e*P	**P**	**08 49 24.2 +0.9**
ILIC	**ilic-Erzincan**	**84.66 309**	*e*P	P	08 49 28.0 +4.3
KEMA	**Kemaliye**	**84.73 309**	*i* P	**P**	**08 49 22.2 -1.8**
MALT	**Malatya**	**84.85 308**	*e*P	**P**	**08 49 25.7 +1.1**
MALT	**Malatya**	**84.85 308**	⇑P	**P**	**08 49 26.9 +2.3**
MALT	**Malatya**	**84.85 308**⇑*i*P		**P**	**08 49 26.9 +2.3**
SUSE	**Susehri**	**84.89 310**	*i* P	**P**	**08 49 23.3 -1.6**
LVZ	**Lovozero**	**84.92 338***ce*P		**P**	**08 49 24.4 +0.2**
LVZ			pmax	pmax	
	comp=Z,86nm,1.4s				
LVZ	**Lovozero**	**84.92 338**	*e*P	**P**	**08 49 24.5 +0.2**
	comp=Z,61nm,1.0s				
OBN	**Obninsk**	**84.95 325**	P	**P**	**08 49 24.7 +0.2**
	comp=Z,2µm,1.0s,SNR=14				
OBN	**Obninsk**	**84.95 325***c i*P		**P**	**08 49 24.2 -0.4**
OBN			*i* S	S	08 59 35.9 -8.3
OBN			*e*SS	**SS**	**09 05 25.1 +6.0**
OBN			pmax	pmax	
	comp=Z,419nm,1.3s				
OBN			MLR	MLR	
	comp=Z,830nm,20.0s				
OBN	**Obninsk**	**84.95 325**	P	**P**	**08 49 24.2 -0.4**
	comp=Z,185nm,0.8s,baz=61,slow=1.8,SNR=58				
EGAK	**Eagle**	**85.05 25**	*e*P	**P**	**08 49 25.6 +0.7**
	comp=Z,41nm,0.9s				
ANN	**Anapa**	**85.12 314***c i*P		**P**	**08 49 24.8 -0.9**
ANN			*e**PP	**pP**	**08 49 55.4 +1.4**
ANN			*e*		08 52 42.0
ANN			*e*S	S	08 59 37.7 -8.7
ANN			*e*SS	**SS**	**09 05 19.5 -2.8**
ANN			pmax	pmax	
	comp=E,173nm,1.0s				
ANN			pmax	pmax	
	comp=Z,1µm,1.0s				
ANN			pmax	pmax	
	comp=N,240nm,1.0s				
AKCD	**Akcadag**	**85.25 308**	*i* P	**P**	**08 49 24.3 -2.3**
APA	**Apatity**	**85.42 337**⇓*i*P		**P**	**08 49 27.0 +0.3**
APA			*i* *PP	**pP**	**08 49 51.8 -3.3**
APA			*i*		08 52 44.0
APA			*i* PPP	PPP	08 54 43.0
APA			*i* S	**S**	**08 59 46.0 -2.5**
APA			*i* SS	**SS**	**09 05 28.0 +2.5**
APA			pmax	pmax	
	comp=Z,73nm,1.0s				
APA			MLR	MLR	
	comp=Z,900nm,19.0s				
RSDY	**Resadiye-TOKAT**	**85.54 310**	*e*P	**P**	**08 49 28.5 +0.6**
DARE	**Darende-Malaty**	**85.57 308**	*e*P	**P**	**08 49 29.3 +1.1**
PPT	**Papeete**	**85.80 108**	LR	LR	09 21 47.5
	comp=Z,330nm,20.3s,baz=258,slow=31				
PPT2	**Papeete2**	**85.80 108**	*e*S	**S**	**08 59 50.2 -4.0**
	comp=Z,2µm,29.8s				
PPT2	**Papeete2**	**85.80 108**	*e*LR	LR	09 16 41.1
	comp=Z,2µm,28.2s				
SVSK	**Karacayir**	**85.83 310**	*e*P	**P**	**08 49 30.0 +0.7**
DAWY	**Dawson**	**85.88 26**	*e*P	**P**	**08 49 30.1 +1.2**
VNDA	**Vanda**	**86.08 173**	P	**P**	**08 49 30.2 +0.5**
	comp=Z,29nm,1.0s,baz=319,slow=6.6,SNR=14				
VNDA			LR	LR	09 29 38.2
	comp=Z,195nm,18.1s,baz=336,slow=37				
KMRS	**Kahramanmaras**	**86.12 307**	*e*P	**P**	**08 49 31.2 +0.4**
MAW	**Mawson**	**86.34 200**	LR	LR	09 22 45.2
	comp=Z,332nm,21.4s,baz=42,slow=32				
KVT	**Kavak**	**86.45 311**	*e*P	**P**	**08 49 32.8 +0.3**
BTCH	**Batrach**	**86.60 306**	*e*P	**P**	**08 49 33.0 -0.3**
BTCH	**Batrach**	**86.60 306**	*e*P	**P**	**08 49 33.0 -0.3**
	SNR=45				
ASF	**Jabal al Asfar**	**86.61 302**	P	**P**	**08 49 34.7 +1.3**
ASF			pmax	pmax	
	comp=Z,242nm,0.9s				
ASF	**Jabal al Asfar**	**86.61 302**	P	**P**	**08 49 34.7 +1.3**
	comp=Z,242nm,0.9s,baz=52,slow=2.2,SNR=157				
HAVZ	**Havza**	**86.70 311**	*i* P	**P**	**08 49 30.7 -2.9**
FKH	**Fakeheh**	**86.82 304**	*e*P	**P**	**08 49 35.4 +0.9**
BNN	**Bunyan**	**86.82 309**	*e*P	**P**	**08 49 34.4 +0.1**
JOF	**Joensuu**	**86.85 333**	*e*P	**P**	**08 49 33.0 -0.8**
JOF			pmax	pmax	
	comp=Z,46nm,0.7s				
JOF	**Joensuu**	**86.85 333**	*e*p	**P**	**08 49 33.0 -0.8**
	comp=Z,46nm,0.7s				
KOZT	**Kozan**	**86.97 307**	*e*P	**P**	**08 49 35.2 +0.3**
DIKM	**Dikmen**	**86.98 311**	*e*P	**P**	**08 49 34.4 -0.6**
CEYT	**Ceyhan**	**87.08 307**	*e*P	**P**	**08 49 35.9 +0.4**
YOZ	**Yozgat**	**87.14 309**	*e*P	**P**	**08 49 35.5 -0.5**
FURI	**Furi**	**87.26 279**	*e*P	**P**	**08 49 38.8 +1.6**
BOYT	**Boyabat**	**87.27 311**	*i* P	**P**	**08 49 34.0 -2.4**
TCHB	**Talchebab**	**87.34 302**	*e*P	**P**	**08 49 34.8 -2.1**
TCHB	**Talchebab**	**87.34 302**	*e*P	**P**	**08 49 34.8 -2.1**
	SNR=45				
RCY	**Rachaya**	**87.37 303**	*e*P	**P**	**08 49 37.9 +0.7**
BYBT	**Boyabat**	**87.37 311**	*e*P	**P**	**08 49 36.9 +0.1**
KEV	**Kevo**	**87.41 340**	*e*P	**P**	**08 49 35.3 -1.1**
KEV			pmax	pmax	
	comp=Z,13nm,0.9s				
KEV	**Kevo**	**87.41 340**	*e*p	**P**	**08 49 35.3 -1.1**
	comp=Z,13nm,0.9s				
CTKT	**Corum**	**87.44 310**	*i* P	**P**	**08 49 36.1 -1.3**
SIM	**Simferopol'**	**87.46 315***ce*P		**P**	**08 49 36.8 -0.3**
SIM			*e**PP	**pP**	**08 50 07.0 +1.4**
SIM			*e*S	**S**	**09 00 07.0 -2.2**
SIM			pmax	pmax	
	comp=Z,139nm,0.9s				
BHL	**Bhannes**	**87.47 304**	*e*P	**P**	**08 49 37.5 -0.1**
KARA	**Karaisali**	**87.60 307**	*e*P	**P**	**08 49 37.6 -0.4**
CORM	**Corum**	**87.61 310**	*e*P	**P**	**08 49 38.1 -0.1**
MMAI	**Mount Meron Ar**	**87.78 303**	P	**P**	**08 49 39.9 +0.9**
	comp=Z,141nm,0.9s,baz=73,slow=6.2,SNR=44				
NIG	**Nigde**	**87.86 308**	*e*P	**P**	**08 49 40.4 +0.9**
SPA0	**Spitsbergen Ar**	**87.86 349**	*e*P	**P**	**08 49 38.2 -0.2**
SPITS	**Spitsbergen Ar**	**87.86 349**	P	**P**	**08 49 38.0 -0.4**
SPITS			pmax	pmax	
	comp=Z,25nm,0.9s				
SPITS	**Spitsbergen Ar**	**87.86 349**	P	**P**	**08 49 38.0 -0.4**
	comp=Z,25nm,0.9s,baz=92,slow=5.8,SNR=28				
BZK	**Bozkurt**	**87.88 312**	*e*P	**P**	**08 49 38.6 -0.6**
ARCES	**ARCESS Array B**	**87.97 340**	P	**P**	**08 49 38.2 -0.8**
	comp=Z,32nm,0.7s,baz=86,slow=5.1,SNR=118				
ARCES			pP	**pP**	**08 50 03.7 -3.9**
	comp=Z,21nm,0.8s,baz=66,slow=5.9,SNR=2.8				
ARCES			PKKPbc	**PKKPbc**	**09 07 24.1 -3.2**
	comp=Z,2.5nm,0.9s,baz=316,slow=3.3,SNR=4.0				
ARE0	**ARCESS Array S**	**87.97 340**	*e*P	**P**	**08 49 38.4 -0.7**
ARE0			IAmb	IAmb	08 49 46.9
	comp=Z,70nm,0.8s				
MERS	**Mersin**	**88.07 307**	*e*P	**P**	**08 49 40.0 -0.3**
CANT	**Cankiri**	**88.33 310**	*e*P	**P**	**08 49 41.3 -0.2**
KBS	**Kingsbay**	**88.38 350**	*e*P	P	08 49 45.9 +5.1
BR131	**Keskin Array S**	**88.42 310**	*e*P	**P**	**08 49 41.0 -1.0**
	comp=Z,69nm,0.9s				
BRTR	**Keskin Array B**	**88.42 310**	P	**P**	**08 49 41.2 -0.9**
BRTR					08 53 12.0
BRTR			pmax	pmax	
	comp=Z,69nm,0.9s				
BRTR			pmax	pmax	
	comp=Z,8.0nm,1.1s				
BRTR	**Keskin Array B**	**88.42 310**	P	**P**	**08 49 41.1 -0.9**
	comp=Z,69nm,0.9s,baz=108,slow=4.0,SNR=149				
BRTR			PP	**PP**	**08 53 12.0 +0.8**
	comp=Z,7.7nm,1.1s,baz=95,slow=6.2,SNR=4.1				
BRTR			LR	LR	09 35 19.9
	comp=Z,166nm,19.6s,baz=84,slow=40				
HSPB	**Hornsund (broa**	**88.47 348**	*e*P	**P**	**08 49 42.8 +1.5**
EREN	**Erenkoy**	**88.51 305**	*e*P	**P**	**08 49 41.3 -1.0**
EIL	**Elat**	**88.53 300**	P	**P**	**08 49 43.5 +0.9**
	comp=Z,140nm,1.0s,baz=26,slow=2.1,SNR=38				
SULT	**Sultanhani-AKS**	**88.71 308**	*e*P	**P**	**08 49 43.1 -0.2**
KTK1	**Kautokeino**	**88.88 340**	*e*P	**P**	**08 49 42.4 -1.0**
AFSR	**Af¯ar-Bala (A**	**88.89 309**	*e*P	**P**	**08 49 43.5 -0.6**
SAFT	**Safranbolu**	**88.95 311**	*e*P	**P**	**08 49 43.1 -1.2**
ANTO	**Ankara**	**89.05 310**	*e*P	**P**	**08 49 43.6 -1.3**
ANTO	**Ankara**	**89.05 310**	⇓P	**P**	**08 49 45.5 +0.6**
ANTO	**Ankara**	**89.05 310**⇓*i*P		**P**	**08 49 45.5 +0.6**
ANTO	**Ankara**	**89.05 310**	*e*P	**P**	**08 49 44.0 -0.9**
	comp=Z,58nm,0.9s				
LOD	**Lodumlu**	**89.07 310**	*e*P	**P**	**08 49 43.5 -1.5**
CSS	**Prodhromos**	**89.26 305**	P	**P**	**08 49 45.7 -0.2**
CSS	**Prodhromos**	**89.26 305**	P	**P**	**08 49 45.7 -0.2**
CSS	**Prodhromos**	**89.26 305**	*e*P	**P**	**08 49 46.1 +0.2**
	comp=Z,60nm,0.9s				
KAF	**Kangasniemi**	**89.28 332**	*e*P	**P**	**08 49 43.6 -1.7**
KAF			pmax	pmax	
	comp=Z,18nm,0.5s				
KAF	**Kangasniemi**	**89.28 332**	*e*p	**P**	**08 49 43.6 -1.7**
	comp=Z,18nm,0.5s				
FINES	**FINESS Array B**	**89.53 332**	P	**P**	**08 49 45.8 -0.7**
FINES			pmax	pmax	
	comp=Z,37nm,0.8s				
FINES	**FINESS Array B**	**89.53 332**	P	**P**	**08 49 45.8 -0.7**
	comp=Z,37nm,0.8s,baz=84,slow=4.2,SNR=101				
LEF	**Lefka**	**89.60 305**	*e*P	**P**	**08 49 47.5 +0.1**
LADK	**Ladik-KONYA**	**89.61 308**	*e*P	P	08 49 44.3 -3.3
KONT	**Konya--Tatoy**	**89.64 308**	*e*P	P	08 49 40.9 -6.8
KMBO	**Kilima Mbogo**	**89.77 269**	P	**P**	**08 49 49.1 +0.2**
	comp=Z,78nm,1.1s,baz=58,slow=5.6,SNR=82				
KMBO			LR	LR	09 33 02.3
	comp=Z,113nm,18.2s,baz=92,slow=38				
KMBO	**Kilima Mbogo**	**89.77 269**	*e*P	**P**	**08 49 48.9 -0.1**
	comp=Z,84nm,1.1s				
KMBO	**Kilima Mbogo**	**89.77 269**	⇑P	**P**	**08 49 48.8 -0.1**
	baz=90,SNR=28				
ALFC	**Alevga**	**89.83 305**	P	**P**	**08 49 48.0 -0.6**
KDZE	**Karadeniz Ereo**	**89.87 311**	*e*P	**P**	**08 49 48.0 -0.7**
AKASG	**Malin Array Be**	**89.90 321**	P	**P**	**08 49 47.5 -0.9**
	comp=Z,33nm,0.7s,baz=67,slow=4.3,SNR=152				
AKASG			LR	LR	09 34 26.4
	comp=Z,263nm,21.0s,baz=55,slow=38				
KIEV	**Kiev**	**89.91 321***c i*P		**P**	**08 49 47.5 -1.0**
KIEV	**Kiev**	**89.91 321**	*e*P	**P**	**08 49 48.3 -0.2**
	comp=Z,153nm,1.4s				
MICGM	**Minsk**	**90.01 325**	*e*	**P**	**08 49 47.0 -1.9**
MNK	**Minsk**	**90.04 325**	*e*P	**P**	**08 49 47.0 -2.0**
SVRH	**Sivrihisar-ESK**	**90.08 310**	*e*P	**P**	**08 49 49.0 -0.7**
TRO	**Tromso**	**90.16 341**	*e*P	**P**	**08 49 49.3 +0.1**
MDUB	**Mudurnu**	**90.18 311**	*e*P	**P**	**08 49 48.8 -1.4**
IDID	**Didziasalis**	**90.50 326**	*e*P	**P**	**08 49 51.6 +0.5**
IDID			AMB	AMB	08 49 54.5
	comp=Z,20nm,1.2s				
NACGM	**Naroch**	**90.56 325**	*e*P	P	08 49 48.0 -3.4
WRAK	**Wrangell Islan**	**90.60 33**	*e*P	**P**	**08 49 53.5 +1.9**
	comp=Z,30nm,1.1s				
GULT	**Gulveren**	**90.70 311**	*e*P	**P**	**08 49 50.4 -2.1**
IIGN	**Ignalina**	**90.78 326**	*e*P	**P**	**08 49 52.3 -0.1**
IIGN			AMB	AMB	08 49 55.3
	comp=Z,23nm,1.2s				
ISAL	**Salakas**	**90.78 326**	*e*P	**P**	**08 49 52.8 +0.4**
ISAL			AMB	AMB	08 49 55.8
	comp=Z,17nm,1.1s				
SHUT	**Suhut-Afyon**	**90.97 309**	*e*P	**P**	**08 49 53.0 -0.9**
ISP	**Isparta**	**91.10 308**	*e*P	**P**	**08 49 52.9 -1.7**
ISP	**Isparta**	**91.10 308**	⇑P	**P**	**08 49 53.8 -0.7**
ISP	**Isparta**	**91.10 308**⇑*i*P		**P**	**08 49 53.8 -0.7**
ISP	**Isparta**	**91.10 308**	*e*P	**P**	**08 49 53.8 -0.7**
	comp=Z,134nm,1.1s				
BCK	**Bucak**	**91.10 308**	*e*P	**P**	**08 49 52.8 -1.7**
TLCR		**91.14 316**	⇑P	**P**	**08 49 54.1 -0.3**
TLCR		**91.14 316**⇑*i*P		**P**	**08 49 54.1 -0.3**
ALT	**Altintas**	**91.23 309**	*e*P	**P**	**08 49 53.9 -1.1**
CAVI	**Cavuskoy**	**91.24 311**	*e*P	**P**	**08 49 53.4 -1.6**
HRT	**Hereke**	**91.27 311**	*e*P	**P**	**08 49 53.5 -1.6**
ADVT	**Abdulvahap**	**91.28 311**	*e*P	**P**	**08 49 53.9 -1.3**
DLBC	**Dease Lake**	**91.35 31**	*e*P	**P**	**08 49 56.5 +1.3**
TIRR	**Tirgusor**	**91.55 315**	*e*P	**P**	**08 49 56.5 +0.2**
TIRR	**Tirgusor**	**91.55 315**	P	**P**	**08 49 56.1 -0.2**
TIRR	**Tirgusor**	**91.55 315**⇑*i*P		**P**	**08 49 57.1 +0.8**
TIRR	**Tirgusor**	**91.55 315**	*e*P	**P**	**08 49 56.5 +0.2**
CFR	**Carcaliu**	**91.61 316**	⇑P	**P**	**08 49 56.5 0.0**
CFR	**Carcaliu**	**91.61 316**⇑*i*P		**P**	**08 49 56.5 0.0**
TVSB	**Tavsanli**	**91.66 310**	*e*P	**P**	**08 49 56.4 -0.7**
ELL	**Elmali**	**91.75 307**	*e*P	**P**	**08 49 56.1 -1.5**
KHL	**Karahalli**	**91.80 309**	*e*P	**P**	**08 49 56.4 -1.3**
HARR	**Harsova**	**91.85 315**	⇑P	**P**	**08 49 58.7 +1.0**
HARR	**Harsova**	**91.85 315**⇑*i*P		**P**	**08 49 58.7 +1.0**
PSN	**Preselentsi**	**91.86 314**	⇑P	**P**	**08 49 57.4 -0.3**
PSN	**Preselentsi**	**91.86 314**⇑*i*P		**P**	**08 49 57.4 -0.3**
ARMT	**Armutlu**	**91.92 311**	*e*P	**P**	**08 49 56.8 -1.4**
STEI	**Steigen**	**92.02 339**	*e*P	**P**	**08 49 57.3 -0.6**
CTKS	**Kestanelik-??a**	**92.07 312**	*e*P	**P**	**08 49 56.9 -1.9**
PETR	**Petresti**	**92.14 316**⇓*i*P		**P**	**08 50 00.4 +1.4**
CTYL	**Yal??k??y-??at**	**92.19 312**	*e*P	P	08 49 54.5 -4.7
SLVT	**Silivri**	**92.29 312**	*e*P	**P**	**08 49 57.8 -2.0**
TESR	**Tescani**	**92.37 317**⇑*i*P		**P**	**08 50 00.6 +0.5**
GRER		**92.38 316**⇓*i*P		**P**	**08 50 02.9 +2.8**
VRI	**Vrincioaia**	**92.45 316**	⇑P	**P**	**08 50 00.8 +0.3**
VRI	**Vrincioaia**	**92.45 316**	P	**P**	**08 50 01.0 +0.5**
VRI	**Vrincioaia**	**92.45 316**⇑*i*P		**P**	**08 50 00.8 +0.3**
PLOR	**Plostina**	**92.51 316**	⇑P	**P**	**08 50 01.9 +1.1**
PLOR	**Plostina**	**92.51 316**⇑*i*P		**P**	**08 50 01.9 +1.1**
PRD	**Provadia**	**92.51 314**	⇑P	**P**	**08 50 01.8 +1.1**
PRD	**Provadia**	**92.51 314**	P	**P**	**08 50 00.7 0.0**
NEF	**NEVSHA**	**92.59 314**	P	**P**	**08 50 02.3 +1.2**
EDC	**Edincik**	**92.71 311**	*e*P	**P**	**08 50 00.6 -1.1**
ISR	**Istrita**	**92.73 316**	⇑P	**P**	**08 50 02.3 +0.5**
ISR	**Istrita**	**92.73 316**⇑*i*P		**P**	**08 50 02.3 +0.5**
DALY	**Dalyan (Mu¨la**	**92.74 307**	*e*P	**P**	**08 49 59.6 -2.3**
SUW	**Suwalki**	**92.81 325**	*e*P	**P**	**08 50 02.1 +0.2**
SUW	**Suwalki**	**92.81 325**	*e*P	**P**	**08 50 02.0 +0.2**
SUW	**Suwalki**	**92.81 325**	*e*P	**P**	**08 50 02.1 +0.2**
MRMT	**Marmara Adasi**	**92.86 311**	*e*P	**P**	**08 50 00.9 -1.6**
YER	**Yerkesik**	**92.97 308**	*e*P	**P**	**08 50 02.0 -1.1**
AKS	**Akhisar**	**93.02 309**	*e*P	**P**	**08 50 02.5 -0.7**
MLR	**Muntele Rosu**	**93.07 316**	P	**P**	**08 50 03.7 +0.2**
MLR			pmax	pmax	
	comp=Z,19nm,1.0s				
MLR	**Muntele Rosu**	**93.07 316**⇑*i*P		**P**	**08 50 03.0 -0.5**
MLR	**Muntele Rosu**	**93.07 316**	P	**P**	**08 50 03.7 +0.2**
	comp=Z,19nm,1.0s,baz=347,slow=3.1,SNR=52				
BURAR	**Bucovina Array**	**93.09 318**	⇓P	**P**	**08 50 03.8 +0.3**
BURAR	**Bucovina Array**	**93.09 318**⇓*i*P		**P**	**08 50 03.8 +0.3**
BUR08	**Bucovina Ar. S**	**93.10 318**	*e*P	**P**	**08 50 03.7 +0.2**
KRBG	**Karabiga-Canak**	**93.12 311**	*e*P	**P**	**08 50 02.6 -1.1**
AYDB	**Zeytinkoy-Aydi**	**93.13 309**	*e*P	**P**	**08 50 04.0 +0.1**
RKY	**Sarkoy-Tekirda**	**93.16 311**	*e*P	**P**	**08 50 02.8 -1.1**
JMB	**Yambol**	**93.24 313**	P	**P**	**08 50 04.1 -0.1**
JMB	**Yambol**	**93.24 313**	⇑P	**P**	**08 50 04.5 +0.3**
JMB	**Yambol**	**93.24 313**	P	**P**	**08 50 03.8 -0.4**
JMB	**Yambol**	**93.24 313**⇑*i*P		**P**	**08 50 04.5 +0.3**
JMB	**Yambol**	**93.24 313**	P	**P**	**08 50 04.1 -0.1**
EDRB	**Edirne**	**93.25 313**	*e*P	**P**	**08 50 03.2 -1.0**
EDRB	**Edirne**	**93.25 313**	*e*P	**P**	**08 50 03.3 -0.9**
EDRB	**Edirne**	**93.25 313**	P	**P**	**08 50 03.2 -1.0**
ARG	**Arkhangelos**	**93.26 307**	*e*P	**P**	**08 50 03.4 -1.0**
FLOS	**Flostrand**	**93.33 338**	*e*P	**P**	**08 50 03.0 -1.0**
LVV	**L'vov**	**93.34 321**	*e*P	**P**	**08 50 03.5 -1.0**
LVV			*e*		08 50 32.7
LVV			*e*		09 00 32.5
LVV			*e*S	**S**	**09 00 57.3 -5.6**
KONS	**Konsvik**	**93.35 338**	*e*P	**P**	**08 50 05.2 +1.1**
LPK	**Lapseki**	**93.53 311**	*e*P	**P**	**08 50 04.7 -0.8**
SZH	**Strazhica**	**93.55 314**	P	**P**	**08 50 05.6 0.0**
VOIR		**93.69 316**	⇓P	**P**	**08 50 06.2 -0.1**
VOIR		**93.69 316**⇓*i*P		**P**	**08 50 06.2 -0.1**
GELI	**Tayfur-Gelibol**	**93.74 311**	*e*P	P	08 50 02.9 -3.6
BODT	**Bodrum**	**93.75 308**	*e*P	**P**	**08 50 05.1 -1.6**
ALN	**Alexandroupoli**	**93.96 312**	P	**P**	**08 50 06.0 -1.5**
ALN	**Alexandroupoli**	**93.96 312**	*e*P	P	08 50 04.1 -3.3
ALN	**Alexandroupoli**	**93.96 312**	P	**P**	**08 50 06.0 -1.5**
ALN	**Alexandroupoli**	**93.96 312**	P	**P**	**08 50 06.0 -1.5**
EZN	**Ezine**	**93.97 311**	*e*P	P	08 50 04.0 -3.5
ARR	**Arges**	**93.99 316**⇑*i*P		**P**	**08 50 08.5 +0.8**
DIM	**Dimitrovgrad**	**94.09 313**	P	**P**	**08 50 07.9 -0.2**
KWP	**Kalwaria Pacla**	**94.22 321**	*e*P	**P**	**08 50 09.4 +0.9**
KWP			pmax	pmax	
	comp=Z,109nm,1.0s				
KWP	**Kalwaria Pacla**	**94.22 321**	*e*P	**P**	**08 50 08.3 -0.2**
KWP	**Kalwaria Pacla**	**94.22 321**⇓*i*P		**P**	**08 50 09.2 +0.7**

KWP Kalwaria Pacla 94.22 321 eP P 08 50 09.4 +0.9
comp=Z,109nm,1.0s
KDZ Kurdzhali 94.26 313 ⇑iP P 08 50 08.7 -0.2
KDZ Kurdzhali 94.26 313 ⇑iP P 08 50 08.7 -0.2
CJR Cluj-Napoca 94.38 318 ⇑P P 08 50 11.1 +1.7
CJR Cluj-Napoca 94.38 318 ⇑iP P 08 50 11.1 +1.7
SIGR SIGRI 94.45 310 eP P 08 50 08.8 -1.0
DAG Danmarks Havn 94.60 352 i P P 08 50 09.0 -0.7
DAG pmax pmax
comp=Z,19nm,1.0s
DAG Danmarks Havn 94.60 352 i P P 08 50 09.0 -0.7
comp=Z,19nm,1.0s
NSS Namsos 94.62 337 eP P 08 50 08.6 -1.4
KOLS Kolonicke sedl 94.68 320 eP P 08 50 11.0 +0.4
KOLS pmax pmax
comp=Z,40nm,1.3s
KOLS Kolonicke sedl 94.68 320 eP P 08 50 11.0 +0.4
TRPA Tarpa 94.72 319 ⇑iP P 08 50 11.2 +0.4
UZH Uzhgorod 94.75 320 ⇑iP P 08 50 10.7 -0.2
UZH e 08 50 38.5
UZH e 08 50 50.1
RZN Rozhen 94.77 313 P P 08 50 10.7 -0.7
BEL Belsk 94.79 323 eP P 08 50 11.9 +0.9
BEL Belsk 94.79 323 eP P 08 50 11.8 +0.8
DRGR 94.95 318 ⇑P P 08 50 11.9 -0.1
DRGR 94.95 318 P P 08 50 12.3 +0.3
DRGR 94.95 318 ⇑iP P 08 50 11.9 -0.1
PGB Panagyurishte 94.97 314 P P 08 50 11.7 -0.5
SYO Syowa Base 95.00 201 ⇑eP P 08 50 11.2 -0.3
KAVA Kavala 95.07 312 P P 08 50 11.2 -1.4
KAVA Kavala 95.07 312 P P 08 50 11.2 -1.4
RES Resolute Bay 95.13 10 eP P 08 50 12.6 +0.5
RES pmax pmax
comp=Z,15nm,1.0s
RES Resolute Bay 95.13 10 eP P 08 50 12.6 +0.5
comp=Z,15nm,1.0s
STHS Stebnicka Huta 95.20 321 eP P 08 50 13.8 +0.8
STHS pmax pmax
comp=Z,26nm,1.3s
STHS Stebnicka Huta 95.20 321 eP P 08 50 13.8 +0.8
CRVS Cervenica-Dubn 95.20 320 eP P 08 50 13.5 +0.5
CRVS pmax pmax
comp=Z,116nm,1.3s
CRVS Cervenica-Dubn 95.20 320 eP P 08 50 13.5 +0.5
GZR Gura Zlata 95.26 317 ⇑P P 08 50 14.0 +0.6
GZR Gura Zlata 95.26 317 ⇑iP P 08 50 14.0 +0.6
NVR Nevrokopi 95.47 313 P P 08 50 13.0 -1.5
NVR Nevrokopi 95.47 313 P P 08 50 13.0 -1.5
MMB Musomiste 95.51 313 ⇑P P 08 50 13.1 -1.5
MMB Musomiste 95.51 313 P P 08 50 14.1 -0.5
MMB Musomiste 95.51 313 ⇑iP P 08 50 13.1 -1.5
OUR Ouranopolis 95.61 312 P P 08 50 13.8 -1.3
OUR Ouranopolis 95.61 312 eP P 08 50 13.7 -1.4
OUR Ouranopolis 95.61 312 P P 08 50 13.8 -1.3
OUR Ouranopolis 95.61 312 P P 08 50 13.8 -1.3
HFS Hagfors 95.70 332 P P 08 50 13.6 -1.5
comp=Z,29nm,0.8s,baz=76,slow=6.3,SNR=39
HFS LR LR 09 35 51.4
comp=Z,294nm,19.5s,baz=72,slow=37
NIE Niedzica 95.78 321 eP P 08 50 15.7 0.0
NIE Niedzica 95.78 321 eP P 08 50 15.7 0.0
KKB Krupnik 95.91 313 P P 08 50 15.1 -1.3
PAIG Paliouri 95.93 311 P P 08 50 14.4 -2.1
PAIG Paliouri 95.93 311 P P 08 50 14.4 -2.1
PAIG Paliouri 95.93 311 P P 08 50 14.4 -2.1
BZS Buzias 95.99 317 ⇑P P 08 50 16.8 +0.1
BZS Buzias 95.99 317 ⇑iP P 08 50 16.8 +0.1
PLG Polygyros 96.00 312 P P 08 50 15.0 -1.9
PLG Polygyros 96.00 312 P P 08 50 15.0 -1.9
PLG Polygyros 96.00 312 P P 08 50 15.0 -1.9
IDI Anoyia 96.02 306 P P 08 50 16.8 -0.4
comp=Z,57nm,0.9s,baz=85,slow=6.6,SNR=12
IDI LR LR 09 40 06.5
comp=Z,95nm,19.2s,baz=75,slow=40
KNT Kendrikon 96.22 313 P P 08 50 16.4 -1.4
KNT Kendrikon 96.22 313 P P 08 50 16.4 -1.4
KNT Kendrikon 96.22 313 P P 08 50 16.4 -1.4
GKP Gorka Klasztor 96.41 325 eP P 08 50 21.1 +2.7
GKP Gorka Klasztor 96.41 325 eP P 08 50 21.0 +2.7
VAY Valandovo 96.42 313 P P 08 50 16.2 -2.5
VAY Valandovo 96.42 313 P P 08 50 16.2 -2.5
VAY Valandovo 96.42 313 P P 08 50 17.9 -0.8
VAY Valandovo 96.42 313 i P P 08 50 17.6 -1.2
VAY Valandovo 96.42 313 P P 08 50 16.2 -2.5
NB2 NORSAR Subarra 96.44 334 P P 08 50 17.4 -1.0
comp=Z,7.2nm,0.8s,baz=64,slow=4.6
NB2 NORSAR Subarra 96.44 334 P P 08 50 17.4 -1.0
baz=64,slow=4.6
NOA NORSAR Array B 96.44 334 P P 08 50 17.1 -1.4
comp=Z,14nm,0.8s,baz=65,slow=4.6,SNR=46
NOA PKKPbc PKKPbc 09 07 04.9 -0.4
comp=Z,2.2nm,1.0s,baz=252,slow=2.2,SNR=3.7
NOA LR LR 09 38 50.1
comp=Z,282nm,18.6s,baz=80,slow=38
PSZ Piszkesteto 96.48 320 eP P 08 50 19.1 +0.1
PSZ Piszkesteto 96.48 320 ⇓iP P 08 50 19.0 +0.1
PSZ Piszkesteto 96.48 320 eP P 08 50 19.1 +0.1
PSZ Piszkesteto 96.48 320 eP P 08 50 19.0 +0.1
NAO01 NORSAR Array S 96.67 334 eP P 08 50 18.8 -0.6
comp=Z,35nm,1.0s
LIT Litokhoron 96.78 312 P P 08 50 18.4 -2.0
LIT Litokhoron 96.78 312 P P 08 50 18.4 -2.0
LIT Litokhoron 96.78 312 P P 08 50 18.4 -2.0
YKA Yellowknife Ar 96.97 24 P P 08 50 20.6 -0.1
comp=Z,6.5nm,0.9s,baz=300,slow=4.7,SNR=89
YKA PKKPbc PKKPbc 09 07 00.0 -3.7
comp=Z,1.2nm,0.6s,baz=122,slow=3.2,SNR=9.1
YKA PKPPKP P'P'df 09 15 11.3 -4.1
comp=Z,0.1nm,0.6s,baz=83,slow=2.1,SNR=3.9
VYHS Vyhne 96.99 320 eP P 08 50 20.8 -0.3
VYHS pmax pmax
comp=Z,13nm,1.4s
VYHS Vyhne 96.99 320 eP P 08 50 20.8 -0.3
OKC Ostrava-Krasne 97.00 322 i P P 08 50 21.6 +0.5
OKC Ostrava-Krasne 97.00 322 eP P 08 50 21.6 +0.5
SKO Skopje 97.07 314 i P P 08 50 21.2 -0.5
OSL Oslo 97.14 333 eP P 08 50 20.2 -1.3
OSL IAmb IAmb 08 50 22.3
comp=Z,35nm,0.8s
MORC Moravsky Berou 97.39 322 eP Pdif 08 50 23.3 +0.3
MORC pmax pmax
comp=Z,33nm,1.4s
MORC Moravsky Berou 97.39 322 ⇑iP P 08 50 22.4 -0.6
MORC Moravsky Berou 97.39 322 eP Pdif 08 50 23.3 +0.3
comp=Z,33nm,1.4s
GUR Goura 97.42 309 P P 08 50 21.2 -2.3
GUR Goura 97.42 309 P P 08 50 21.2 -2.3
DIVS Divibare 97.52 316 P Pdif 08 50 23.9 +0.1
KLV Kalavryta, Ach 97.54 310 P P 08 50 21.8 -2.1
KLV Kalavryta, Ach 97.54 310 P P 08 50 21.8 -2.1
LAKA Lakka 97.62 310 P P 08 50 22.9 -1.4
LAKA Lakka 97.62 310 P P 08 50 22.9 -1.4
KRLC Kraliky 97.75 322 i P Pdif 08 50 25.3 +0.7
KRLC Kraliky 97.75 322 eP Pdif 08 50 25.3 +0.7
KSP Ksiaz 97.78 323 eP Pdif 08 50 24.8 +0.1
KSP e*PP pP 08 50 54.8 +1.4
KSP Ksiaz 97.78 323 eP Pdif 08 50 25.6 +0.9
PKSM Moragy 97.81 318 ⇓P Pdif 08 50 25.6 +0.7
PKSM Moragy 97.81 318 ⇓iP Pdif 08 50 25.6 +0.7
PKSM Moragy 97.81 318 eP P 08 50 24.5 -0.4
PHP Peshkopia 97.87 314 P P 08 50 24.9 -0.4
PHP Peshkopia 97.87 314 P P 08 50 24.9 -0.4
PHP Peshkopia 97.87 314 P P 08 50 24.9 -0.4
DRO Drossia 97.90 310 P P 08 50 25.5 0.0
IVA Berane 97.93 315 eP Pdif 08 50 26.1 +0.4
DPC Dobruska-Polom 97.94 323 eP Pdif 08 50 25.9 +0.4
DPC Dobruska-Polom 97.94 323 eP Pdif 08 50 26.3 +0.8
DPC Dobruska-Polom 97.94 323 eP Pdif 08 50 25.9 +0.4
PVY Plav 97.96 314 ⇑iP Pdif 08 50 26.1 +0.2
RLS Riolos of Patr 98.06 310 P Pdif 08 50 26.4 +0.2
RLS Riolos of Patr 98.06 310 P Pdif 08 50 26.4 +0.2
UPC Upice 98.07 323 i P Pdif 08 50 26.8 +0.8
UPC Upice 98.07 323 eP Pdif 08 50 26.8 +0.8
VRAC Vranov 98.12 322 ⇑P Pdif 08 50 27.3 +1.0
VRAC Vranov 98.12 322 P Pdif 08 50 27.3 +1.0
comp=Z,21nm,0.8s,baz=80,slow=5.1,SNR=14
PDO Prodromos 98.14 310 P P 08 50 25.7 -0.8
PLE Pljevlja 98.16 315 ⇑iP Pdif 08 50 27.7 +1.0
TTG Podgorica 98.51 314 ⇑iP P 08 50 27.8 -0.3
UPM Unac-Piva 98.53 315 ⇑iP P 08 50 27.7 -0.7
NKY Niksic 98.58 315 ⇑iP P 08 50 28.4 -0.2
RUE Ruedersdorf 98.65 325 eP Pdif 08 50 29.2 +0.8
comp=Z,120nm,1.2s
ULC Ulcinj 98.65 314 ⇑iP Pdif 08 50 28.9 +0.1
BUM Brajici-Budva 98.80 314 ⇑iP Pdif 08 50 29.9 +0.4
TREC Trest 98.81 322 i P Pdif 08 50 30.0 +0.7
TREC Trest 98.81 322 eP Pdif 08 50 30.0 +0.7
HCY Herceg Novi 99.04 315 ⇑iP Pdif 08 50 30.3 -0.2
CONA Conrad Observa 99.05 321 ⇓iPdiff Pdif 08 50 31.5 +0.9
comp=Z,16nm,1.2s
PRU Pruhonice 99.14 323 i P Pdif 08 50 31.4 +0.7
PRU Pruhonice 99.14 323 eP Pdif 08 50 31.4 +0.7
BRG Berggiesshubel 99.16 324 i PDIF Pdif 08 50 31.6 +0.7
comp=Z,59nm,1.1s
BRG i pP pP 08 51 01.1 +1.5
comp=Z,21nm,1.2s
BRG ePP PP 08 54 32.7 -1.6
comp=Z,20nm,1.4s
BRG PP PP 08 54 35.0 +0.7
BRG SKS SKSac 09 01 01.0 +1.9
BRG SDIFF Sdif 09 01 56.0 +3.1
BRG Berggiesshubel 99.16 324 i P Pdif 08 50 31.5 +0.7
BRG i *PP pP 08 51 01.1 +1.5
BRG 08 54 35.0
BRG 09 01 01.0
BRG S Sdif 09 01 56.0 +3.1
BRG pmax pmax
comp=Z,59nm,1.1s
BRG MLR MLR
comp=N,426nm,17.4s
BRG MLR MLR
comp=E,388nm,17.5s
BRG MLR MLR
comp=Z,615nm,17.6s
ARSA Arzberg 99.50 320 ⇑iPdiff Pdif 08 50 33.1 +0.7
comp=Z,21nm,1.5s
CLL Collm 99.54 324 i P Pdif 08 50 32.5 0.0
CLL i *SP sP 08 51 02.6 -10
CLL e 09 01 03.0
CLL eS ScS 09 01 55.0 -1.0
CLL pmax pmax
comp=Z,34nm,1.2s
CLL Collm 99.54 324 i Pdif Pdif 08 50 32.5 0.0
comp=Z,34nm,1.2s
CLL epP pP 08 50 56.0 -5.3
CLL i (sP) sP 08 51 02.6 -10
CLL ePP PP 08 54 36.0 -1.1
CLL e 09 00 01.0
CLL eSKSac SKSac 09 01 03.0 +2.0
CLL eSdif ScS 09 01 55.0 -1.0
CLL ePS PS 09 03 33.0 -4.3
CLL eSPP SPP 09 04 12.0
CLL eSS SS 09 09 12.0 +24
CLL eSSS SSS 09 13 06.0
CLL e 09 14 24.0
CLL LmV 09 36 00.0
comp=Z,500nm,21.8s
CLL Collm 99.54 324 ePdif Pdif 08 50 32.9 +0.4
RKT Rikitea 99.96 112 eSKSac SKSac 09 00 57.6 -6.5
comp=Z,608nm,26.2s
RKT eSS SS 09 08 53.2 -3.0
comp=Z,421nm,31.5s
RKT Rikitea 99.96 112 eLQ LQ 09 19 09.4
comp=Z,603nm,33.2s
RKT eLR LR 09 23 27.4
comp=Z,960nm,33.0s
PERS Pernice 99.97 319 eP Pdif 08 50 35.4 +0.8
SOKA Soboth 100.01 320 ⇓iPdiff Pdif 08 50 34.7 -0.1
comp=Z,17nm,1.1s
KHC Kasperske Hory 100.03 322 i P Pdif 08 50 35.7 +0.9
KHC e 08 51 00.0
KHC MLR MLR
comp=Z,700nm,20.9s
KHC Kasperske Hory 100.03 322 eP Pdif 08 50 35.7 +0.9
KHC epP pP 08 51 00.0 -3.6
KHC AMS AMS 09 39 10.0
comp=Z,700nm,20.9s
KHC Kasperske Hory 100.03 322 ePdif Pdif 08 50 35.9 +1.1
GEC2 GERESS Array S 100.07 322 eP Pdif 08 50 35.7 +0.7
GEC2 GERESS Array S 100.07 322 ePdif Pdif 08 50 35.7 +0.7
GERES GERESS Array B 100.07 322 P Pdif 08 50 35.6 +0.6
GERES 08 54 42.2
GERES pmax pmax
comp=Z,11nm,0.9s
GERES pmax pmax
comp=Z,3.0nm,1.0s
GERES GERESS Array B 100.07 322 P Pdif 08 50 35.6 +0.6
comp=Z,11nm,0.9s,baz=68,slow=4.6,SNR=44
GERES PP PP 08 54 42.2 +0.9
comp=Z,3.0nm,1.0s,baz=72,slow=4.3,SNR=3.6
GERES LR LR 09 38 50.3
comp=Z,382nm,20.9s,baz=77,slow=37
MOA Molln 100.08 321 ⇓iPdiff Pdif 08 50 35.4 +0.4
comp=Z,45nm,1.3s
BOJS Bojanci 100.28 318 i P Pdif 08 50 36.8 +0.8
VISS Visnje 100.45 319 eP Pdif 08 50 37.5 +0.8
SUMG Summit 100.56 356 i P Pdif 08 50 37.8 +0.7
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 100.56 356 i P Pdif 08 50 37.8 +0.7
comp=Z,3.5nm,0.9s
B08A Colville Reser 100.61 38 ePdif Pdif 08 50 38.6 +1.2
JAVS Javornik 100.92 319 i P Pdif 08 50 39.5 +0.5
KBA Koelnbreinsper 100.95 320 ⇑iPdiff Pdif 08 50 39.5 +0.4
comp=Z,14nm,1.1s
GRF Grafenberg Arr 101.23 323 ePdiff Pdif 08 50 40.8 +0.7
TIP Timpagrande 101.29 312 ePdif Pdif 08 50 41.3 +0.7
WTTA Wattenberg 101.95 321 ⇓iPdiff Pdif 08 50 43.8 +0.2
comp=Z,31nm,1.3s
WATA Walderalm 101.96 321 ⇓iPdiff Pdif 08 50 43.6 0.0
comp=Z,21nm,1.1s
NEW Newport 102.00 38 P Pdif 08 50 44.3 +0.7
comp=Z,3.9nm,0.8s,baz=252,slow=3.1,SNR=12
CEL Celeste 102.21 311 ePdif Pdif 08 50 45.5 +0.8
MOTA Moosalm 102.25 321 ⇑iPdiff Pdif 08 50 45.2 +0.3
comp=Z,19nm,1.1s
FETA Feichten 102.62 321 ⇑iPdiff Pdif 08 50 47.3 +0.8
comp=Z,21nm,1.2s
LBTB Lobatse 102.91 246 P Pdif 08 50 47.6 -0.6
LBTB pmax pmax
comp=Z,12nm,1.0s
LBTB Lobatse 102.91 246 P Pdif 08 50 47.6 -0.6
comp=Z,12nm,1.0s,baz=100,slow=3.3,SNR=8.2
LBTB Lobatse 102.91 246 ePdif Pdif 08 50 47.6 -0.6
comp=Z,13nm,1.0s
DAVA Damuels 103.04 321 ⇓iPdiff Pdif 08 50 48.8 +0.5
comp=Z,15nm,1.2s
FUORN Ofenpass-Fuorn 103.07 321 ePdif Pdif 08 50 49.2 +0.5
DAVOX Davos/Dischmat 103.25 321 P Pdif 08 50 49.7 +0.3
DAVOX pmax pmax
comp=Z,9.0nm,0.8s
DAVOX Davos/Dischmat 103.25 321 Pdiff Pdif 08 50 49.7 +0.3
comp=Z,8.6nm,0.8s,baz=125,slow=14,SNR=7.1
BOSA Boshof 103.26 242 eP Pdif 08 50 49.1 -0.6
BOSA Boshof 103.26 242 Pdiff Pdif 08 50 48.6 -1.1
comp=Z,14nm,1.2s,baz=360,slow=5.8,SNR=4.2
BOSA Boshof 103.26 242 ePdif Pdif 08 50 49.1 -0.6
BSMT Bassoo Peak 103.60 38 ePdif Pdif 08 50 53.0 +2.1
MEM Membach 103.83 326 P Pdif 08 50 53.7 +2.1
CDF Champ du Feu 104.12 323 eP Pdif 08 50 54.1 +1.0
comp=Z,39nm,1.2s
CDF Champ du Feu 104.12 323 eP Pdif 08 50 54.1 +1.0
CDF pmax pmax
comp=Z,39nm,1.2s
CDF Champ du Feu 104.12 323 eP Pdif 08 50 54.1 +1.0
comp=Z,39nm,1.2s
BCLA Clavier 104.32 326 P Pdif 08 50 56.4 +2.6
MFID Camas Ranch 104.81 42 ePdif Pdif 08 50 58.5 +2.3
comp=Z,2.0nm,0.9s
NVAR Mina Array Bea 104.98 48 Pdiff Pdif 08 50 58.8 +1.5
comp=Z,1.4nm,0.8s,baz=265,slow=5.9,SNR=8.6
NVAR PP PP 08 55 19.7 +1.1
comp=Z,2.5nm,0.9s,baz=277,slow=8.1,SNR=4.1
NVAR PKKPbc PKKPbc 09 06 41.0 +0.7
comp=Z,3.0nm,1.0s,baz=124,slow=4.1,SNR=9.3
LPG La Plagne 105.77 321 eP Pdif 08 51 01.1 +0.4
comp=Z,57nm,1.3s
LPG La Plagne 105.77 321 eP Pdif 08 51 01.1 +0.4
LPG pmax pmax
comp=Z,57nm,1.3s
LPG La Plagne 105.77 321 eP Pdif 08 51 01.1 +0.4
comp=Z,57nm,1.3s
LPL La Plagne 105.77 321 eP Pdif 08 51 00.6 0.0
LPL La Plagne 105.77 321 eP Pdif 08 51 00.6 0.0
LPL La Plagne 105.77 321 eP Pdif 08 51 00.6 0.0
ELK Elko 106.29 44 PKKPbc PKKPbc 09 06 36.6 +0.3
comp=Z,3.0nm,0.8s,baz=260,slow=1.4,SNR=8.6
ELK PKKPab PKKPab 09 06 51.7 -1.0
comp=Z,11nm,1.2s,baz=149,slow=1.5,SNR=9.5
PDAR Pinedale Array 109.21 41 PKKPbc PKKPbc 09 06 25.6 -1.7
comp=Z,2.4nm,1.1s,baz=122,slow=7.7,SNR=8.7
PDAR PKKPab PKKPab 09 06 37.0 -2.7
comp=Z,13nm,1.1s,baz=116,slow=5.1,SNR=26
LAO LASA Array 109.25 36 ePKIKP PKiKP 08 55 21.2 +2.0
RSSD Black Hills 111.95 37 ePKIKP PKiKP 08 55 25.3 +0.7
RSSD Black Hills 111.95 37 ePKPdf PKiKP 08 55 25.3 +0.7
PV01 Paradox Valley 112.07 45 ePKPdf PKiKP 08 55 26.8 +1.8
ISCO Idaho Springs 113.26 42 ePKIKP PKiKP 08 55 28.7 +1.4
ISCO Idaho Springs 113.26 42 ePKPdf PKiKP 08 55 28.7 +1.4
SDCO Great Sand Dun 114.38 44 ePKPdf PKPdf 08 55 30.8 +1.2
BRSD Miller 114.71 34 ePKPdf PKPdf 08 55 30.4 +0.8
ANMO Albuquerque 115.07 47 ePKIKP PKPdf 08 55 33.0 +2.2
ANMO Albuquerque 115.07 47 ePKPdf PKPdf 08 55 33.0 +2.2
ESDC Sonseca Array 115.52 320 PP PP 08 56 37.4 +3.3
comp=Z,2.5nm,0.8s,baz=49,slow=7.8,SNR=5.1
TAM Tamanrasset 115.75 299 ePKIKP PKPdf 08 55 33.0 +0.6
TAM Tamanrasset 115.75 299 ePKPdf PKPdf 08 55 33.0 +0.6
ECSD EROS Data Cent 116.47 34 ePKPdf PKPdf 08 55 33.4 +0.4
POLO Lamas de Olo 116.91 323 PKPdf PKPdf 08 55 36.7 +2.7
BGNE Belgrade 117.05 37 ePKPdf PKPdf 08 55 34.8 +0.6
MTE Manteigas 117.34 322 ePKPdf PKPdf 08 55 36.8 +2.0
PCBR Castelo Branco 117.64 322 ePKPdf PKPdf 08 55 37.3 +2.0
SCHQ Schefferville 117.88 9 PKP PKPdf 08 55 34.8 -0.6
comp=Z,6.5nm,1.0s,baz=257,slow=3.6,SNR=6.6
SCHQ Schefferville 117.88 9 PKP PKPdf 08 55 34.8 -0.6
SCHQ ePKPdf PKiKP 08 55 35.8 +0.4
MSTX Muleshoe 118.20 46 ePKPdf PKPdf 08 55 37.5 +0.8
PBAR Barrancos 118.34 320 ePKPdf PKPdf 08 55 38.4 +1.7
KSU1 Kansas State U 119.40 38 ePKPdf PKPdf 08 55 39.4 +0.7
MDT Midelt 119.63 313 PKP PKPdf 08 55 38.7 -0.9
comp=Z,4.2nm,0.9s,baz=84,slow=3.6,SNR=6.4
TXAR Lajitas Array 119.80 51 PKP PKPdf 08 55 41.2 +1.3
comp=Z,2.6nm,1.0s,baz=270,slow=1.3,SNR=12
TXAR PKKPbc PKKPab 09 05 51.7 -1.0
comp=Z,2.0nm,0.8s,baz=134,slow=5.4,SNR=7.7
MORF Marmelete 119.89 320 ePKPdf PKPdf 08 55 41.7 +1.9
U34A Anderson Ranch 120.42 41 ePKPdf PKPdf 08 55 42.2 +1.4
V34A Guthrie 120.79 41 ePKPdf PKPdf 08 55 42.3 +0.8
JCT Junction City 122.15 48 ePKIKP PKPdf 08 55 44.9 +0.5
JCT Junction City 122.15 48 ePKPdf PKPdf 08 55 44.9 +0.5
TOA0 Torodi Ar. Sit 122.19 290 ePKPdf PKPdf 08 55 44.1 -0.6
TORD Torodi Ar. Bea 122.19 290 PKP PKPdf 08 55 44.1 -0.6
comp=Z,34nm,0.9s,baz=49,slow=1.6,SNR=89
TORD PP PP 08 57 13.0 -8.1
comp=Z,14nm,1.0s,baz=59,slow=5.1,SNR=5.7
TORD PKKPbc PKKPab 09 05 42.8 +0.7
comp=Z,1.5nm,1.0s,baz=278,slow=2.6,SNR=4.5
MIAR Mount Ida 124.14 40 ePKIKP PKPdf 08 55 49.1 +1.1
MIAR Mount Ida 124.14 40 ePKPdf PKPdf 08 55 49.1 +1.1
OLIL Olney 124.56 33 ePKPdf PKPdf 08 55 49.5 +0.8
BLO Bloomington 125.08 32 ePKIKP PKPdf 08 55 50.5 +0.8
BLO Bloomington 125.08 32 ePKPdf PKPdf 08 55 50.5 +0.8
PARMO Parma 125.09 36 ePKPdf PKPdf 08 55 51.2 +1.5
ACSO Alum Creek Sta 126.01 28 ePKPdf PKPdf 08 55 52.7 +1.3
WVT Waverly 126.57 35 ePKIKP PKPdf 08 55 53.1 +0.5
WVT Waverly 126.57 35 ePKPdf PKPdf 08 55 53.1 +0.5
OXF Oxford 126.76 38 ePKIKP PKPdf 08 55 54.3 +1.3
OXF Oxford 126.76 38 ePKPdf PKPdf 08 55 54.2 +1.3
TKL Tuckaleechee C 129.15 32 ePKIKP PKPdf 08 55 58.6 +1.1
TKL Tuckaleechee C 129.15 32 ePKPdf PKPdf 08 55 58.6 +1.1
LRAL Lakeview Retre 129.23 37 ePKPdf PKPdf 08 55 58.3 +0.6
KIC Kosan Boka 130.09 284 ePKIKP PKPdf 08 56 00.7 +0.8
comp=Z,124nm,1.1s
DBIC Dimbokro 130.12 284 ePKIKP PKPdf 08 56 00.2 +0.3
DBIC 08 58 13.2
DBIC Dimbokro 130.12 284 PKP PKPdf 08 56 00.6 +0.7
comp=Z,20nm,0.9s,baz=53,slow=2.7,SNR=14
DBIC PP PP 08 58 13.2 -0.6
comp=Z,28nm,1.0s,baz=45,slow=8.2,SNR=5.2
DBIC SKPbc SKPab 08 59 12.5 -0.4
comp=Z,38nm,0.8s,baz=53,slow=5.0,SNR=14
DBIC Dimbokro 130.12 284 ePKPdf PKPdf 08 56 00.2 +0.3
DBIC PKP PKPdf 08 56 00.6 +0.7
DBIC PP PP 08 58 13.2 -0.6
DBIC SKPbc SKPab 08 59 12.5 -0.4
USHA Ushuaia 130.20 168 SKPbc SKPbc 08 59 13.3 +1.3
comp=Z,30nm,0.9s,baz=168,slow=1.9,SNR=9.0
TIC Toumodi 130.28 284 ePKIKP PKPdf 08 56 00.6 +0.3
comp=Z,43nm,0.8s
LIC Lamto 130.39 284 ePKIKP PKPdf 08 56 00.4 0.0
comp=Z,75nm,1.0s
LIC Lamto 130.39 284 ePKIKP PKPdf 08 56 00.5 0.0
comp=Z,122nm,1.1s
LIC Lamto 130.39 284 ePKPdf PKPdf 08 56 00.4 0.0
BRAL Brewton 130.59 39 ePKIKP PKPdf 08 56 02.5 +2.1
PLCA Paso Flores 142.46 158 ePKIKP PKPdf 08 56 19.8 -2.3
PLCA Paso Flores 142.46 158 PKP PKPdf 08 56 20.0 -2.1
comp=Z,8.7nm,1.0s,baz=206,slow=3.6,SNR=10
PLCA Paso Flores 142.46 158 ePKPdf PKPdf 08 56 19.8 -2.3
PLCA PKP PKPdf 08 56 20.0 -2.1
JTS JuntasAbangare 144.19 63 ePKIKP PKPdf 08 56 25.5 -0.4
JTS JuntasAbangare 144.19 63 ePKPdf PKPdf 08 56 25.5 -0.4
TRQA Tornquist 147.52 167 ePKPdf PKPbc 08 56 32.4 -1.1
LMEL Las Melosas 148.47 152 eP PKPdf 08 56 37.0 +0.6
LMEL Las Melosas 148.47 152 eP PKPdf 08 56 37.0 +0.6
CLCH Cerro Calan 148.68 151 eP PKPdf 08 56 33.4 +0.4
SDDR Presa de Saban 149.03 35 ePKPbc PKPbc 08 56 38.9 +0.9
BCIP Isla Barro Col 149.18 60 ePKPbc PKPbc 08 56 39.1 +0.6
SMN1 Samana, DR 149.96 32 ePKPbc PKPbc 08 56 41.6 +1.3
CFAA Coronel Fontan 151.25 152 PKP PKPbc 08 56 37.7 +0.7
comp=Z,1.1nm,1.1s,baz=235,slow=2.2,SNR=14
CFAA PKPbc PKPbc 08 56 43.2 +0.1
comp=Z,2.7nm,0.6s,baz=224,slow=2.5,SNR=38
LSP Las Mesas 151.91 29 ePKPbc PKPbc 08 56 46.1 +1.2
LRS Lares 151.93 29 ePKPbc PKPbc 08 56 46.1 +1.2
CELP Cerrillos 152.25 28 ePKPbc PKPbc 08 56 45.4 -0.2
OBIP Obispado Ponce 152.26 28 ePKPbc PKPbc 08 56 46.2 +0.6
CBYP Canovanas 152.41 27 ePKPbc PKPbc 08 56 48.3 +2.3
ICMP Isla Caja de M 152.43 29 ePKPbc PKPbc 08 56 46.1 +0.1
STVI Saint Thomas 152.73 25 ePKPbc PKPbc 08 56 46.3 -0.4
OTAV Otavalo 153.85 76 ePKPdf PKPbc 08 56 43.2 +1.3
ROSC El Rosal 156.03 63 PKP PKPdf 08 56 45.9 +1.1
comp=Z,14nm,0.9s,baz=232,slow=0.6,SNR=11
FDF Fort de France 157.50 21 ePKIKP PKPdf 08 56 47.2 +1.1
FDF Fort de France 157.50 21 ePKPdf PKPdf 08 56 47.2 +1.1
LVC Limon Verde 157.85 138 ePKPdf PKPdf 08 56 49.1 +2.4
CPUP Villa Florida 159.82 169 PKP PKPdf 08 56 49.6 +1.0
comp=Z,9.5nm,1.0s,baz=320,slow=1.3,SNR=6.7
CPUP PKPab PKPab 08 57 29.1 +1.4
comp=Z,17nm,0.9s,baz=194,slow=2.6,SNR=10
LPAZ La Paz 162.34 125 ePKIKP PKPdf 08 56 53.7 +1.5
LPAZ La Paz 162.34 125 PKP PKPdf 08 56 54.0 +1.7
comp=Z,10nm,1.1s,baz=28,slow=1.4,SNR=23
LPAZ PKPab PKPab 08 57 41.8 +1.8
comp=Z,14nm,0.8s,baz=243,slow=1.7,SNR=7.5
LPAZ La Paz 162.34 125 ePKPdf PKPdf 08 56 53.7 +1.5
LPAZ PKP PKPdf 08 56 54.0 +1.7
LPAZ PKPab PKPab 08 57 41.8 +1.8
RCBR Riachuelo 162.88 271 PKP PKPdf 08 56 53.0 +0.8
comp=Z,23nm,1.0s,baz=67,slow=1.5,SNR=5.4
RCBR PKPab PKPab 08 57 40.6 -1.3
comp=Z,81nm,1.1s,baz=88,slow=4.3,SNR=11
RCBR Riachuelo 162.88 271 ePKPdf PKPdf 08 56 52.8 +0.6
RCBR PKP PKPdf 08 56 53.0 +0.8
RCBR PKPab PKPab 08 57 40.6 -1.3
RCBR PKPab PKPab 08 57 41.9 -0.1
BDFB Brasilia 169.58 208 PKIKP PKPdf 08 56 57.6 +0.2
BDFB 08 58 12.5
BDFB pmax pmax
comp=Z,15nm,1.1s
BDFB pmax pmax
comp=Z,46nm,1.1s
BDFB Brasilia 169.58 208 PKP PKPdf 08 56 57.6 +0.2
comp=Z,14nm,1.1s,baz=310,slow=2.3,SNR=8.5
BDFB PKPab PKPab 08 58 12.5 +1.4
comp=Z,46nm,1.1s,baz=146,slow=3.9,SNR=13
SAML Samuel 169.71 105 ePKPdf PKPdf 08 56 58.0 +0.6

*KRNET **26** 08:43:40.6±0.1, 39.50N×74.85E, h1km, mb3.7*
*NNC **26** 08:43:43.3±7.6, 39.60N×76.67E, h0km, mb3.4, mpv3.0,*
Error ellipse: s-maj=60.8km s-min=49.7km az=107.0
ISC 26 08:43:42.0±2.3, 39.5N±0.1×74.82E±0.09, h10km, n6, σ2.15/11, 6C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.12	295	eP	Pb	08 44 01.7	-2.0
	baz=297						
SFK				eS	Sg	08 44 18.5	+0.3

baz=297
OHH Osh 1.85 303 eP Pg 08 44 17.0 -0.5
baz=304
OHH eS Sg 08 44 44.2 +2.7
baz=304
DRK Karamyk 2.34 269 eP Pg 08 44 26.0 -0.9
baz=271
DRK eS Sg 08 44 59.3 +2.0
baz=271
AAK Ala-Archa 3.10 355 ⇑Pn Pb 08 44 38.8 +1.5
4.0nm,0.6s
AAK ⇑Sn Sg 08 45 21.0 -0.6
2.8nm,0.5s
TKM2 Tokmak 2 3.42 10 ⇑Pn Pn 08 44 37.4 +1.7
2.6nm,0.4s
TKM2 ⇑Sn Sb 08 45 21.1 -3.6
12nm,0.6s
KK31 Karatay Array 4.82 319 ⇑Pn Pg 08 45 10.7 -3.6
0.3nm,0.2s,baz=132,slow=15,SNR=11
KK31 ⇑Sn Sg 08 46 18.1 +1.5
1.3nm,0.5s,baz=120,slow=30

NNC 26 08:55:39.7±3.8, 37.17N×71.09E, h0km, mb5.0, mpv5.1, Error ellipse: s-maj=32.4km s-min=26.1km az=161.0
ISCJB 26 08:55:40.1±0.2, 36.78N±0.02×71.69E±0.04, h106km, mb4.2/31, Error ellipse: s-maj=4.3km s-min=2.7km az=157.1
IDC 26 08:55:41.9±1.2, 36.65N×71.56E, h109km±6km, mb3.8/18, mb1 4.0/20, mb1mx3.7/52, mbtmp4.2/20, Error ellipse: s-maj=23.2km s-min=14.3km az=174.0
MOS 26 08:55:41.6±1.0, 36.89N×71.56E, h112km, mb4.5/17, Error ellipse: s-maj=9.0km s-min=4.9km az=89.5
NEIC 26 08:55:42.7±0.8, 36.86N×71.58E, h109km±7km, mb4.6/14, Error ellipse: s-maj=8.9km s-min=7.2km az=151.0
ISC 26 08:55:41.7±0.4, 36.82N±0.04×71.65E±0.05, h106km, n145, σ1§62/166, mb4.2/31, 6C-10D, Afghanistan-Tajikistan border region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CEP Cherat 3.00 176 P Pn 08 56 30.0 +2.3
CEP S Sn 08 57 06.0 +2.9
KBL Kabul 3.11 224 ePN Pn 08 56 30.4 +1.1
KBL e 08 57 07.3
KBL Kabul 3.11 224 ePn Pn 08 56 30.4 +1.1
KBL eSn Sn 08 57 07.3 +1.4
CHCP Chirah Chowk 3.42 157 P Pn 08 56 36.8 +3.6
SARP Sargodha 4.96 170 P Pn 08 56 54.8 +0.9
AML Almayashu 5.54 16 P Pn 08 57 02.7 +0.7
SNR=958
AML Almayashu 5.54 16 ePN Pn 08 57 02.7 +0.7
DLH Dalhousie 5.55 139 eP Pn 08 57 03.0 +0.8
DLH eS Sn 08 58 04.0 -0.9
UCH Uchtor 5.84 21 P Pn 08 57 07.0 +0.8
SNR=101
UCH Uchtor 5.84 21 i PN Pn 08 57 06.9 +0.8
KZA Kyzart 5.94 27 P Pn 08 57 08.3 +0.7
SNR=39
KZA Kyzart 5.94 27 i PN Pn 08 57 08.3 +0.7
DHRM DHARAMSHALA 5.96 139 eP Pn 08 57 09.0 +1.4
DHRM eS Sn 08 58 13.0 -1.7
DHRM AML AML 08 58 17.2
comp=N,855nm,0.4s
DHRM AML AML 08 58 17.9
comp=E,1μm,0.4s
EKS2 Erkin-Say 6.06 15 P Pn 08 57 10.0 +1.1
SNR=99
EKS2 Erkin-Say 6.06 15 i PN Pn 08 57 10.0 +1.1
EKS2 Erkin-Say 6.06 15 ePn Pn 08 57 09.9 +1.1
comp=E,73nm,0.5s
EKS2 eSn Sn 08 58 16.6 -0.3
AAK Ala-Archa 6.21 20 ⇑P Pn 08 57 12.3 +1.4
comp=E,57nm,0.3s
AAK ⇓S Sn 08 58 21.6 +1.1
comp=E,74nm,0.5s
AAK Ala-Archa 6.21 20 P Pn 08 57 12.3 +1.4
SNR=194
AAK Ala-Archa 6.21 20 P Pn 08 57 12.3 +1.4
comp=E,52nm,0.3s,baz=179,slow=6.3,SNR=451
AAK S Sn 08 58 20.4 -0.1
comp=E,13nm,0.3s,baz=312,slow=20,SNR=14
KK31 Karatay Array 6.34 352 ⇑P Pn 08 57 12.4 -0.2
comp=E,122nm,0.4s,baz=177,slow=13,SNR=1202
KK31 ⇑S Sn 08 58 18.8 -4.7
comp=E,27nm,0.3s,baz=179,slow=23,SNR=8.4
KK31 Karatay Array 6.34 352 ePN Pn 08 57 12.1 -0.4
KK31 pmax pmax
comp=Z,241nm,0.4s
KKAR Karatay Array 6.34 352 ePN Pn 08 57 12.0 -0.5
KKAR pmax pmax
comp=Z,237nm,0.4s
KKAR Karatay Array 6.34 352 ePn Pn 08 57 12.0 -0.5
comp=Z,237nm,0.4s
KKAR eSn Sn 08 58 18.9 -4.6
KBK Karagaybulak 6.36 23 P Pn 08 57 14.4 +1.4
SNR=31
ULHL Ulahol 6.48 32 P Pn 08 57 15.5 +0.9
SNR=21
CHMS Chumysh 6.62 20 P Pn 08 57 17.5 +1.1
SNR=100
CHMS Chumysh 6.62 20 i PN Pn 08 57 17.4 +1.1
BHK Bhakra 6.68 142 eP Pn 08 57 17.5 +0.2
USP Ospenovka 6.80 18 P Pn 08 57 19.2 +0.4
SNR=64
USP Ospenovka 6.80 18 i PN Pn 08 57 19.2 +0.4
TKM2 Tokmak 2 6.81 25 ⇑P Pn 08 57 21.0 +1.9
comp=Z,59nm,0.5s
TKM2 ⇓S Sn 08 58 37.4 +2.2
comp=Z,27nm,0.6s
TKM2 Tokmak 2 6.81 25 P Pn 08 57 20.1 +1.0
SNR=109
TKM2 Tokmak 2 6.81 25 i PN Pn 08 57 20.1 +1.0
TKM2 Tokmak 2 6.81 25 ePn Pn 08 57 20.4 +1.3
comp=Z,123nm,0.8s
SDNR Sundarnagar 6.90 139 eP Pn 08 57 21.0 +0.8
SDNR eS Sn 08 58 34.0 -3.2
SMLA Simla 7.29 140 eP Pn 08 57 26.0 +0.5
SMLA eS Sn 08 58 42.4 -4.4
SMLA AML AML 08 58 50.3
comp=E,340nm,0.2s
SMLA AML AML 08 58 51.1
comp=N,332nm,0.3s
DDI Dehra Dun 8.40 139 eP Pn 08 57 41.2 +0.6
DDI ex Sn 08 59 12.6 -1.1
DDI AML AML 08 59 18.4
comp=N,420nm,0.6s
DDI AML AML 08 59 19.1
comp=E,444nm,0.3s
PDGK Podgornoye 8.85 40 ⇓P Pn 08 57 47.5 +0.9
NDI New Delhi 9.37 148 eP Pn 08 57 53.0 -0.7
NDI eS Sn 08 59 31.0 -6.3
LGTI Lohaghat 10.29 133 eP Pn 08 58 04.9 -1.3
LGTI eS Sn 08 59 54.2 -5.4
GEYT Alibeck 10.83 280 P Pn 08 58 08.9 -4.7
comp=E,17nm,0.3s,baz=107,slow=12,SNR=39
GEYT S Sn 08 59 59.2 -14
comp=E,3.5nm,0.3s,baz=124,slow=15,SNR=4.0
OTUK Ortayu 11.43 2 ⇓P Pn 08 58 19.9 -1.7
MK31 Makanchi Array 12.73 35 ⇓P Pn 08 58 38.3 -0.4
comp=E,5.7nm,0.7s,baz=197,slow=7.8,SNR=38
MK31 Makanchi Array 12.73 35 i P Pn 08 58 37.8 -0.9
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 12.73 35 P Pn 08 58 38.4 -0.3
comp=Z,0.4nm,0.3s,baz=223,slow=14,SNR=34
PYUN Piuthan 12.92 129 eP Pn 08 58 38.6 -3.0
comp=Z,155nm,0.4s
DANN Dangsing 13.24 126 eP Pn 08 58 43.0 -2.8
comp=Z,34nm,0.2s
KOLN Koldanda 13.54 128 eP Pn 08 58 47.2 -2.4
comp=Z,34nm,0.3s
GKN Gorkha 14.04 125 eP Pn 08 58 52.6 -3.5
comp=Z,85nm,0.4s
BHPL Bhopal 14.42 158 eP Pn 08 59 02.7 -1.9
KKN Kakani 14.61 124 eP Pn 08 58 59.8 -3.6
DMN Daman 14.62 125 eP Pn 08 59 00.7 -2.8
comp=Z,31nm,0.4s
KURK Kurchatov 14.77 18 eP Pn 08 59 07.3 -0.9
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 14.77 18 eP P 08 59 07.3 -0.9
comp=Z,3.9nm,0.6s
PKIN Phulchoki 14.83 125 eP Pn 08 59 03.6 -2.6
comp=Z,28nm,0.4s
PKI Pulchoki 14.84 124 eP Pn 08 59 03.1 -3.4
comp=Z,40nm,0.4s
GUN Gumba 14.94 122 eP Pn 08 59 04.2 -3.5
comp=Z,140nm,0.8s
AB31 Akbulak array 15.07 329 P Pn 08 59 05.2 -3.6
comp=Z,11nm,0.4s,baz=139,slow=11,SNR=493
AB31 Akbulak array 15.07 329 P Pn 08 59 05.2 -3.6
AB31 pmax pmax
comp=Z,10.0nm,0.3s
ABKAR Akbulak array 15.07 329 eP Pn 08 59 05.0 -3.8
comp=Z,20nm,0.4s
ABKAR eS Sn 09 01 40.5 -15
JIRN Jiri 15.31 122 eP Pn 08 59 09.6 -2.8
comp=Z,126nm,0.5s
VOSK Vostochnaya 15.91 359 ⇓P Pn 08 59 16.8 -2.5
comp=Z,4.0nm,0.7s
RAMN Ramite 16.05 124 eP Pn 08 59 18.6 -2.9
comp=Z,143nm,0.5s
BVA0 Borovoye Array 16.23 357 ⇓P Pn 08 59 22.7 -0.6
comp=Z,3.9nm,0.5s,baz=160,slow=13,SNR=37
BVA0 Borovoye Array 16.23 357 eP Pn 08 59 22.6 -0.6
BVA0 pmax pmax
comp=Z,3.0nm,0.4s
BVAR Borovoye Array 16.23 357 P Pn 08 59 21.8 -1.5
BVAR S Sn 09 02 24.3 +1.2
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BVAR Borovoye Array 16.23 357 P Pn 08 59 21.8 -1.5
comp=Z,2.4nm,0.3s,baz=162,slow=12,SNR=33
BVAR S Sn 09 02 24.3 +1.2
baz=170,slow=20,SNR=4.0
BRVK Borovoye 16.27 357 d iP Pn 08 59 22.5 -1.2
BRVK pmax pmax
comp=Z,4.0nm,0.4s
BRVK Borovoye 16.27 357 eP Pn 08 59 23.3 -0.4
comp=Z,7.1nm,0.5s
TAPN Taplejung 16.55 120 eP Pn 08 59 25.2 -2.5
comp=Z,30nm,0.4s
ODAN Odare 16.64 122 eP Pn 08 59 26.0 -2.7
comp=Z,75nm,0.6s
AKTO Aktyubinsk 16.77 329 ⇓P Pn 08 59 27.7 -2.3
comp=Z,22nm,0.5s
AKTO Aktyubinsk 16.77 329 P Pn 08 59 27.7 -2.3
AKTO pmax pmax
comp=Z,23nm,0.5s
AKTO Aktyubinsk 16.77 329 P Pn 08 59 28.3 -1.7
comp=Z,8.3nm,0.3s,baz=136,slow=9.7,SNR=61
AKTO S Sn 09 02 21.5 -15
comp=Z,0.3nm,0.3s,baz=147,slow=17,SNR=2.6
LSA Lhasa 17.77 108 eP Pn 08 59 44.1 +1.4
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 17.77 108 eP Pn 08 59 44.1 +1.4
comp=Z,7.9nm,0.6s
ZAA0 Zalesovo Array 19.41 24 eP P 08 59 59.6 +0.4
ZALV Zalesovo Beam 19.41 24 P P 08 59 59.8 +0.5
ZALV S S 09 03 30.3 -2.6
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 19.41 24 P P 08 59 59.8 +0.5
comp=Z,3.1nm,0.3s,baz=214,slow=9.9,SNR=50
ZALV S S 09 03 30.3 -2.6
baz=228,slow=21,SNR=2.7
HVS Khovu-Aksy 21.25 41 ⇓eP P 09 00 21.7 +2.4
HVS pmax pmax
comp=Z,70nm,1.5s
GNI Garni 21.30 287 eP P 09 00 21.4 +1.5
GNI pmax pmax
comp=Z,29nm,1.1s
GNI Garni 21.30 287 P P 09 00 19.6 -0.3
comp=Z,6.7nm,0.5s,baz=167,slow=1.2,SNR=5.0
GNI Garni 21.30 287 eP P 09 00 21.4 +1.5
comp=Z,29nm,1.1s
ARU Arti 21.51 340 d iP P 09 00 23.1 +1.3
ARU 09 01 00.1
ARU S S 09 04 10.5 -3.4
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 21.51 340 eP P 09 00 22.1 +0.3
comp=Z,9.3nm,0.7s
ZEI Tsey 22.08 294 eP P 09 00 28.5 +0.3
ZEI pmax pmax
comp=Z,5.0nm,0.5s
GTA Gaotai 22.27 75 eP P 09 00 33.5 +3.3
GTA pP pP 09 00 38.3 -12
GTA sP sP 09 00 40.8 -23
GTA pmax pmax
comp=Z,5.0nm,1.2s
KBZ Khabaz 22.92 296 P P 09 00 36.2 -0.3
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 22.92 296 P P 09 00 36.2 -0.3
comp=Z,4.0nm,0.9s,baz=119,slow=9.2,SNR=6.3
KIV Kislovodsk 23.11 297 eP P 09 00 36.8 -1.6
KIV pmax pmax
comp=Z,10.0nm,0.9s
MOY Mondy 25.51 45 eP P 09 01 05.6 +5.4
SONM Songino Array 27.72 56 P P 09 01 22.4 +2.3
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 27.72 56 P P 09 01 22.4 +2.3
comp=Z,0.9nm,0.5s,baz=268,slow=8.7,SNR=12
ULN Ulaanbaatar 28.16 56 ⇑eP P 09 01 29.7 +5.6
ULN pmax pmax
comp=Z,2.0nm,1.0s
BR131 Keskin Array S 29.84 287 eP P 09 01 40.1 +1.1
comp=Z,1.7nm,0.6s
BRTR Keskin Array B 29.84 287 P P 09 01 40.3 +1.4
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR Keskin Array B 29.84 287 P P 09 01 40.3 +1.4
comp=Z,2.8nm,0.6s,baz=107,slow=9.6,SNR=15
AKASG Malin Array Be 33.16 308 P P 09 02 07.3 -0.4
comp=Z,0.4nm,0.3s,baz=81,slow=7.0,SNR=8.7
MLR Muntele Rosu 35.08 299 P P 09 02 26.1 +1.5
MLR *PP pP 09 02 47.8 -0.6
MLR pmax pmax
comp=Z,1.0nm,0.8s
MLR pmax pmax
comp=Z,1.0nm,0.6s
MLR Muntele Rosu 35.08 299 P P 09 02 26.1 +1.5
comp=Z,1.0nm,0.8s,baz=86,slow=17,SNR=4.7
MLR pP pP 09 02 47.8 -0.6
comp=Z,0.6nm,0.6s,baz=174,slow=18,SNR=2.6
JOF Joensuu 35.86 330 eP P 09 02 30.9 +0.1
JOF pmax pmax
comp=Z,14nm,0.4s
JOF Joensuu 35.86 330 ep P 09 02 30.9 +0.1
comp=Z,14nm,0.4s
FINES FINESS Array B 37.51 326 P P 09 02 45.4 +0.5
FINES *PP pP 09 03 10.5 +1.6
FINES pmax pmax
comp=Z,6.0nm,0.4s
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 37.51 326 P P 09 02 45.4 +0.5
comp=Z,5.9nm,0.3s,baz=126,slow=10,SNR=85
FINES pP pP 09 03 10.5 +1.6
comp=Z,1.6nm,0.6s,baz=108,slow=12,SNR=1.9
KAF Kangasniemi 37.64 327 eP P 09 02 45.6 -0.4
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 37.64 327 ep P 09 02 45.6 -0.4
comp=Z,3.7nm,0.6s
ARCES ARCESS Array B 41.05 337 P P 09 03 14.9 +0.6
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 41.05 337 P P 09 03 14.9 +0.6
comp=Z,2.2nm,0.5s,baz=112,slow=8.2,SNR=22
HFS Hagfors 43.14 322 P P 09 03 31.5 +0.2
HFS *PP pP 09 03 57.3 +1.5
HFS pmax pmax
comp=Z,12nm,0.4s
HFS pmax pmax
comp=Z,4.0nm,0.5s
HFS Hagfors 43.14 322 P P 09 03 31.5 +0.2
comp=Z,12nm,0.4s,baz=94,slow=11,SNR=74
HFS pP pP 09 03 57.3 +1.5
comp=Z,3.9nm,0.5s,baz=93,slow=10,SNR=3.7
GERES GERESS Array B 43.17 305 P P 09 03 32.8 +0.9
comp=Z,0.3nm,0.5s,baz=101,slow=5.1,SNR=2.5
NB2 NORSAR Subarra 44.44 323 P P 09 03 41.6 -0.1
comp=Z,4.9nm,0.4s,baz=93,slow=7.9
NOA NORSAR Array B 44.44 323 P P 09 03 41.7 -0.1
NOA *PP pP 09 04 08.2 +1.8
NOA pmax pmax
comp=Z,5.0nm,0.4s
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 44.44 323 P P 09 03 41.6 -0.1
comp=Z,4.9nm,0.4s,baz=108,slow=7.1,SNR=34
NOA pP pP 09 04 08.2 +1.8
comp=Z,2.2nm,0.6s,baz=96,slow=8.1,SNR=4.0
DAVOX Davos/Dischmat 46.03 303 P P 09 03 54.9 +0.2
DAVOX pmax pmax
comp=Z,2.0nm,0.6s
DAVOX Davos/Dischmat 46.03 303 P P 09 03 54.9 +0.2
comp=Z,2.2nm,0.6s,baz=109,slow=7.5,SNR=4.1
SPITS Spitsbergen Ar 47.30 347 P P 09 04 06.3 +2.3
SPITS pmax pmax
comp=Z,7.0nm,0.9s
SPITS Spitsbergen Ar 47.30 347 P P 09 04 06.3 +2.3
comp=Z,6.9nm,0.9s,baz=118,slow=7.3,SNR=4.9
LPG La Plagne 48.42 302 eP P 09 04 13.2 -0.2
LPG La Plagne 48.42 302 eP P 09 04 13.2 -0.2
LPG La Plagne 48.42 302 eP P 09 04 13.2 -0.2
MBDF Montbardon 48.60 301 eP P 09 04 13.9 -0.7
comp=Z,6.2nm,0.5s
MBDF Montbardon 48.60 301 eP P 09 04 13.9 -0.7
MBDF pmax pmax
comp=Z,6.0nm,0.5s
MBDF Montbardon 48.60 301 eP P 09 04 13.9 -0.7
comp=Z,6.2nm,0.5s
CABF La Chapelle 48.62 303 eP P 09 04 14.9 +0.3
comp=Z,12nm,0.6s
CABF La Chapelle 48.62 303 eP P 09 04 14.9 +0.3
CABF pmax pmax
comp=Z,12nm,0.6s
CABF La Chapelle 48.62 303 eP P 09 04 14.9 +0.3
comp=Z,12nm,0.6s
AVF Avril sur Loir 50.40 304 eP P 09 04 28.0 0.0
AVF Avril sur Loir 50.40 304 eP P 09 04 28.0 0.0
AVF Avril sur Loir 50.40 304 eP P 09 04 28.0 0.0
TCF Toulx Ste Croi 51.29 304 eP P 09 04 34.6 -0.2
comp=Z,5.6nm,0.6s
TCF Toulx Ste Croi 51.29 304 eP P 09 04 34.6 -0.2
TCF pmax pmax
comp=Z,6.0nm,0.6s
TCF Toulx Ste Croi 51.29 304 eP P 09 04 34.6 -0.2
comp=Z,5.6nm,0.6s
EKA Eskdalemuir Ar 52.42 316 P P 09 04 42.7 -0.2
EKA pmax pmax
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 52.42 316 P P 09 04 42.7 -0.2
comp=Z,0.9nm,0.5s,baz=95,slow=8.1,SNR=3.7
ETSF Etsaut 54.20 300 eP P 09 04 56.4 +0.1
comp=Z,4.2nm,0.5s
ETSF Etsaut 54.20 300 eP P 09 04 56.4 +0.1
ETSF pmax pmax
comp=Z,4.0nm,0.5s
ETSF Etsaut 54.20 300 eP P 09 04 56.4 +0.1
comp=Z,4.2nm,0.5s
ESDC Sonseca Array 57.77 298 P P 09 05 21.8 +0.1
comp=Z,1.0nm,0.5s,baz=59,slow=8.3,SNR=5.9
TORD Torodi Ar. Bea 66.25 269 P P 09 06 16.5 -2.2
comp=Z,0.8nm,0.6s,baz=52,slow=6.3,SNR=9.4
YKA Yellowknife Ar 80.90 3 P P 09 07 43.9 +0.2
YKA *PP pP 09 08 12.6 +1.7
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 80.90 3 P P 09 07 43.9 +0.2
comp=Z,0.9nm,0.7s,baz=122,slow=3.0,SNR=8.7
YKA pP pP 09 08 12.6 +1.7
comp=Z,0.3nm,0.5s,baz=352,slow=5.4,SNR=1.9
WRA Warramunga Arr 81.72 122 P P 09 07 48.4 -0.2
comp=Z,0.4nm,0.6s,baz=323,slow=4.9,SNR=5.5
WRAB Tennant Creek 81.72 122 eP P 09 07 49.1 +0.5
WRAB pmax pmax
comp=Z,29nm,1.8s
WRAB Tennant Creek 81.72 122 eP P 09 07 49.1 +0.5
comp=Z,29nm,1.8s

IDC 26 09:29:42.8±1.2, 51.57N×75.32E, h0km, mb1 2.8/3, mb1mx2.6/30, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=27.7km s-min=9.6km az=33.0
NNC 26 09:29:45.7±1.5, 51.84N×75.64E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=22.3km s-min=9.2km az=25.0
ISC 26 09:29:43.2±0.9, 51.60N±0.06×75.36E±0.04, h10km, n9, σ1§65/14, 4C-7D, Eastern Kazakhstan

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KURBB Kurchatov Arra 2.22 115 ⇑Pn Pb 09 30 21.8 -1.7
6.4nm,0.6s,baz=307,slow=17
KURBB ⇓Sn Sg 09 30 53.8 -0.8
49nm,0.6s,baz=310,slow=28
VOSK Vostochnaya 2.92 294 ⇓Pn Pb 09 30 34.2 -1.2
1.1nm,0.4s
VOSK ⇑Sn Sb 09 31 11.2 0.0
5.2nm,0.6s
BVA0 Borovoye Array 3.37 297 ⇓Pn Pb 09 30 40.8 -2.2
1.8nm,0.8s,baz=118,slow=15,SNR=4.5
BVA0 ⇓Sn Sb 09 31 26.1 +2.1
6.3nm,0.6s,baz=124,slow=31,SNR=4.7
BVAR Borovoye Array 3.37 297 Pn Pn 09 30 36.4 +0.5
0.3nm,0.3s,baz=109,slow=15,SNR=5.6
BVAR Sn Sn 09 31 16.0 +0.1
0.7nm,0.3s,baz=123,slow=16,SNR=4.5
BVAR Lg Lg 09 31 26.5
2.1nm,0.3s,baz=114,slow=28,SNR=11
OTUK Ortayu 3.88 211 ⇓Pn Pb 09 30 49.5 -2.3
OTUK ⇓Sn Sb 09 31 40.5 +1.7
I46RU ZALESOVO INFRA 6.20 64 I 10 05 20.0
baz=253,slow=347,SNR=1.0
ZALV Zalesovo Beam 6.20 64 Pn Pn 09 31 15.5 +0.7
0.5nm,0.3s,baz=256,slow=14,SNR=5.9
ZALV Lg Lg 09 33 02.3
0.6nm,0.3s,baz=249,slow=25,SNR=4.7
MK31 Makanchi Array 6.61 134 ⇑Pn Pn 09 31 22.7 +2.3
0.3nm,0.5s,baz=317,slow=12,SNR=4.0
MK31 ⇑Sn Sn 09 32 38.3 +2.5
1.2nm,0.7s
MK31 ⇓Lg Lg 09 33 13.6
1.8nm,0.5s,baz=317,slow=27,SNR=3.7
MKAR Makanchi Array 6.61 134 Pn Pn 09 31 21.1 +0.7
0.1nm,0.3s,baz=322,slow=12,SNR=5.1
MKAR Sn Sn 09 32 35.4 -0.4
0.4nm,0.3s,baz=325,slow=16,SNR=7.3
MKAR Lg Lg 09 33 10.2
0.5nm,0.3s,baz=309,slow=28,SNR=13

IDC 26 10:03:36.6±1.3, 27.69N×139.99E, h280km±12km, mb3.2/10, mb1 3.3/12, mb1mx3.1/51, mbtmp3.8/12, Error ellipse: s-maj=48.9km s-min=21.7km az=22.0
ISCJB 26 10:03:38.8±0.5, 28.29N±0.05×140.8E±0.1, h300km, mb3.4/11, Error ellipse: s-maj=16.8km s-min=4.9km az=163.6
JMA 26 10:03:40.2±0.1, 28.29N×140.84E, h289km, M4.3
ISC 26 10:03:38.5±0.8, 28.28N±0.09×140.8E±0.2, h300km, n24, σ1§91/28, mb3.6/11, Bonin Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CBIJ Chichi jima 1.70 134 P Pn 10 04 23.8 +0.8
JCJ Chichijima 1.70 134 P Pn 10 04 23.8 +0.7
61nm,0.3s,baz=300,slow=23,SNR=49
JCJ S S 10 04 57.8 -0.8
194nm,0.3s,baz=284,slow=21,SNR=22
JHHJ Haha-jima-NKT 2.05 143 P Pn 10 04 26.2 +0.5
JHHJ S S 10 05 02.2 -1.1
BSO3 Boso 3 6.51 358 P Pn 10 05 16.2 +2.7
BSO3 S S 10 06 30.3 +0.1
BSO4 Boso 4 6.70 357 S S 10 06 34.6 -0.2
JOD2 Odawara 2 7.11 349 P Pn 10 05 23.8 +2.7
JOD2 S S 10 06 43.5 -0.7
JHU Hanno 7.66 351 P Pn 10 05 29.5 +1.7
JHU S S 10 06 53.4 -2.9
JRY Ryogami san 7.88 349 P Pn 10 05 33.1 +2.6
JRY S S 10 06 58.3 -3.0
JYT Yasato 7.94 356 S S 10 06 59.9 -2.7
JAG Ashikaga 8.20 352 P Pn 10 05 34.9 +0.5
JHO Hitachi 8.31 359 P Pn 10 05 38.0 +2.3
JHO S S 10 07 08.4 -2.5
MJAR Matsushiro Arr 8.52 346 P Pn 10 05 41.4 -2.2
0.3nm,0.3s,baz=195,slow=15,SNR=4.2
KSRS Korea Array 14.16 314 P Pn 10 06 48.4 +1.5
0.7nm,0.3s,baz=128,slow=12,SNR=14
SONM Songino Array 33.02 316 P P 10 09 46.9 +0.7

0.3nm,0.6s,baz=111,slow=7.9,SNR=2.3
MKAR Makanchi Array 48.78 309 P P 10 11 52.2 -1.5
0.1nm,0.3s,baz=88,slow=8.8,SNR=4.3
BVAR Borovoye Array 56.34 317 P P 10 12 46.6 -2.1
0.5nm,0.5s,baz=98,slow=8.3,SNR=3.7
YKA Yellowknife Ar 71.68 28 P P 10 14 32.5 +4.9
0.1nm,0.4s,baz=294,slow=6.1,SNR=5.5
ARCES ARCESS Array B 72.02 340 P P 10 14 32.2 +2.6
3.2nm,0.9s,baz=57,slow=8.8,SNR=6.1
JOF Joensuu 73.48 333 eP P 10 14 39.3 +1.1
1.9nm,0.6s
FINES FINESS Array B 76.34 333 P P 10 14 56.0 +1.4
1.2nm,0.3s,baz=87,slow=5.1,SNR=18
NVAR Mina Array Bea 80.74 51 P P 10 15 25.1 +6.0
0.6nm,0.6s,baz=297,slow=5.8,SNR=4.8
AKASG Malin Array Be 80.94 323 P P 10 15 20.3 +0.7
0.4nm,0.4s,baz=53,slow=5.1,SNR=3.3
HFS Hagfors 81.85 336 P P 10 15 25.5 +1.3
1.4nm,0.8s,baz=86,slow=1.9,SNR=6.2
NOA NORSAR Array B 82.06 338 P P 10 15 26.8 +1.5
1.2nm,0.9s,baz=45,slow=4.4,SNR=3.4

ISCJB 26 10:14:12.5±0.7, 14.34N±0.05×91.42W±0.06, h90km±7km, mb3.4/3, Error ellipse: s-maj=11.1km s-min=7.3km az=140.4
IDC 26 10:14:12.4±2.5, 14.21N×91.12W, h79km±24km, mb3.1/2, mb1 3.5/4, mb1mx3.2/41, mbtmp3.4/4, Error ellipse: s-maj=40.6km s-min=25.4km az=81.0
CASC 26 10:14:13.6±1.6, 13.91N×91.36W, h18km±9km, MD3.7
MEX 26 10:14:21.3±1.1, 14.70N×91.69W, h91km±21km, MD4.0
ISC 26 10:14:12.2±1.1, 14.19N±0.07×91.50W±0.06, h84km±8km, n23, σ1.55/31, mb3.4/3, 2C, Guatemala
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JAT Jato 0.19 313⇑eP Pn 10 14 24.1 -0.3
PCG Pacaya 0.88 77 eP Pn 10 14 30.4 0.0
PCG eS Sn 10 14 42.9 -1.1
GCG Guatemala City 1.01 67 eP Pn 10 14 32.4 +0.6
GCG eS Sn 10 14 47.8 +1.3
NBG Las Nubes 1.18 70 eP Pn 10 14 35.0 +1.1
NBG eS Sn 10 14 52.6 +2.3
APG El Apazote 1.28 51 P Pn 10 14 30.8 -4.4
baz=214,slow=14
APG S Sn 10 14 49.0 -3.5
88nm,0.3s,baz=0.0,slow=20,SNR=29
RBDL Robledal 1.76 92 eP Pn 10 14 40.6 -0.6
RTR El Retiro 1.82 99 eP Pn 10 14 41.7 -0.3
SBLS San Blas 1.85 101 eP Pn 10 14 42.7 +0.2
SNJE San Jose 1.86 100 eP Pn 10 14 42.6 0.0
MRL Marmol 1.95 63⇑eP Pn 10 14 44.7 +1.0
BOQS Boqueron 2.20 102 eP Pn 10 14 47.2 +0.2
LFU La Fuente 2.35 100 eP Pn 10 14 48.6 -0.4
LBRS Las Brisas 2.42 100 eP Pn 10 14 49.9 0.0
LFRS El Faro 2.43 103 eP Pn 10 14 50.1 0.0
LFRS eS Sn 10 15 19.6 +0.6
CNCH Conchagua 3.67 104 eP Pn 10 15 06.9 +0.1
CMIG Matias Romero 4.36 312 eP Pn 10 15 17.4 +1.4
CMIG iS Sn 10 16 03.0 -2.7
SCIG Sabancuy 4.76 4 eP Pn 10 15 22.5 +1.0
SCIG iS Sn 10 16 12.8 -2.6
TEIG Tepich 6.74 27 P Pn 10 15 48.2 -0.4
42nm,0.3s,baz=229,slow=1.3,SNR=282
TEIG S Sn 10 17 01.2 -2.8
baz=295,slow=19,SNR=1.7
JTS JuntasAbangare 7.48 120 P Pn 10 15 56.3 -2.3
0.1nm,0.3s,baz=270,slow=20,SNR=2.2
JTS S Sn 10 17 19.7 -2.3
baz=270,slow=20,SNR=2.1
TXAR Lajitas Array 18.82 325 P Pn 10 18 28.9 +2.1
0.1nm,0.3s,baz=144,slow=12,SNR=5.6
NVAR Mina Array Bea 33.83 320 P P 10 20 50.5 +3.6
0.8nm,0.7s,baz=131,slow=9.6,SNR=5.8
YKA Yellowknife Ar 50.96 346 P P 10 23 05.6 +0.6
0.2nm,0.6s,baz=148,slow=7.3,SNR=6.9
YKA PcP PcP 10 24 20.5 +0.5
0.1nm,0.7s,baz=148,slow=4.0,SNR=5.5
ILAR Eielson Array 62.86 337 P P 10 24 29.7 +0.6
0.2nm,0.5s,baz=114,slow=5.8,SNR=5.4

ISCJB 26 10:19:42.0±0.6, 5.66S±0.09×151.4E±0.1, h57km, mb4.3/14, MS3.3/7, Error ellipse: s-maj=17.9km s-min=7.6km az=36.2
IDC 26 10:19:43.2±3.2, 5.62S×151.32E, h53km±26km, mb3.8/9, mb1 3.9/9, mb1mx3.7/28, mbtmp4.0/9, ML3.9/1, MS3.4/9, Ms1 3.4/9, ms1mx3.2/25, Error ellipse: s-maj=27.6km s-min=18.0km az=109.0
NEIC 26 10:19:46.9±2.4, 5.69S×151.24E, h85km±20km, mb4.8/2, Error ellipse: s-maj=18.9km s-min=14.4km az=98.0
ISC 26 10:19:43.9±0.6, 5.7S±0.1×151.4E±0.1, h57km, n43, σ1.46/43, mb4.2/14, MS3.2/7, New Britain region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RABL Rabaul 1.66 27 P Pn 10 20 12.8 +2.1
baz=1.8,SNR=78
MANU Manus Island 5.40 312 P Pn 10 21 09.0 +7.1
baz=5.9,SNR=5.3
PMG Port Moresby 5.60 228 P Pn 10 21 05.8 +1.1
26nm,0.3s,baz=40,slow=9.4,SNR=67
PMG S Sn 10 22 08.0 +0.2
44nm,0.3s,baz=45,slow=20,SNR=15
PMG LR LR 10 23 22.7
comp=Z,385nm,21.0s,baz=48,slow=39
PMG Port Moresby 5.60 228 eP Pn 10 21 06.2 +1.5
PMG eSn Sn 10 22 08.6 +0.8
PMG Port Moresby 5.60 228 P Pn 10 21 07.0 +2.2
baz=5.8,SNR=32
PMG S Sn 10 22 08.6 +0.8
baz=5.8,SNR=12
HNR Honiara 9.26 114 LR LR 10 25 08.3
comp=Z,154nm,20.3s,baz=272,slow=35
QIS Mount Isa 18.71 217 P P 10 23 58.2 +0.3
baz=19,SNR=10
KDU Kakadu 19.93 248 P P 10 24 10.8 -0.4
baz=20,SNR=19
KDU S S 10 27 50.9 -1.7
baz=20,SNR=4.4
RMQ Roma 20.85 187 P Pn 10 24 25.8 +1.6
baz=21,SNR=6.0
WRAB Tennant Creek 21.81 228 eP P 10 24 29.4 -2.0
35nm,0.6s
WRAB eS S 10 28 29.6 -0.1
WRA Warramunga Arr 21.82 228 P P 10 24 30.7 -0.9
60nm,0.7s,baz=53,slow=9.6,SNR=66
WRA PcP PcP 10 28 29.9 -0.2
3.1nm,0.8s,baz=55,slow=2.1,SNR=7.0
WRA ScP ScP 10 32 03.9 +1.3
2.1nm,0.9s,baz=40,slow=2.8,SNR=6.2
DZM Mont Dzumac 21.85 140 LR LR 10 31 11.9
comp=Z,222nm,21.6s,baz=334,slow=31
QLP Quilpie 21.89 197 P P 10 24 32.5 +0.2
baz=22,SNR=11
KNRA Kununurra 24.34 244 P P 10 24 56.1 -0.5
baz=25,SNR=26
KNRA S S 10 29 18.1 +6.0
baz=25,SNR=3.2
AS31 Alice Springs 24.57 222 eP P 10 24 58.3 -0.4
AS31 eS S 10 29 17.3 +1.4
SOEI Soe 27.18 260 eP P 10 25 23.3 +0.8
7.2nm,0.3s
STKA Stephens Creek 27.64 198 P P 10 25 25.0 -1.3
3.6nm,0.7s,baz=2.1,slow=10,SNR=5.4
STKA LR LR 10 36 23.1
comp=Z,125nm,18.7s,baz=20,slow=36
STKA Stephens Creek 27.64 198 eP P 10 25 26.0 -0.3
BATI Baumata 27.83 259 P P 10 25 28.4 +0.2
43nm,0.7s,baz=314,slow=2.6,SNR=4.1
BATI LR LR 10 36 52.5
comp=Z,270nm,19.6s,baz=57,slow=37
WRKA Warakurna 29.35 227 P P 10 25 40.6 -1.0
baz=30,SNR=17
JCJ Chichijima 33.77 345 LR LR 10 39 04.6
comp=Z,33nm,19.2s,baz=118,slow=34
MEEK Meekatharra 37.57 233 P P 10 26 52.3 -0.8
baz=38,SNR=23
GIRL Giralia 39.62 241 P P 10 27 14.4 +4.1
baz=40,SNR=3.2
KLBR Kellerberrin 40.70 226 P P 10 27 17.6 -1.5
baz=41,SNR=6.6
MORW Morawa 40.71 231 P P 10 27 18.4 -0.9
baz=41,SNR=3.2
MJAR Matsushiro Arr 43.77 345 LR LR 10 44 56.5
comp=Z,16nm,19.2s,baz=95,slow=35
ASAJ Asahikawa 50.19 352 LR LR 10 47 47.6
comp=Z,26nm,19.8s,slow=34
PETK Petropavlovsk- 58.80 4 LR LR 10 49 40.7
comp=Z,21nm,20.2s,baz=276,slow=31
SONM Songino Array 66.33 329 P P 10 30 26.3 -0.4
0.7nm,0.5s,baz=116,slow=5.3,SNR=5.0
MKAR Makanchi Array 80.07 319 P P 10 31 46.8 -0.9
0.6nm,0.8s,baz=110,slow=6.1,SNR=6.3
ZALV Zalesovo Beam 81.11 327 P P 10 31 51.1 -1.9
0.6nm,0.3s,baz=111,slow=3.3,SNR=3.7
ILAR Eielson Array 83.49 22 P P 10 32 04.2 -1.0
5.6nm,0.3s,baz=256,slow=5.1,SNR=7.1
KURK Kurchatov 83.60 322 eP P 10 32 05.2 -0.8
AAK Ala-Archa 84.25 314 P P 10 32 08.7 -1.1
1.1nm,0.6s,baz=16,slow=18,SNR=3.5
QSPA South Pole Qui 84.29 180 P P 10 32 08.8 -0.7
3.4nm,0.8s,baz=329,slow=0.9,SNR=12
QSPA South Pole Qui 84.29 180 eP P 10 32 09.2 -0.3
BVAR Borovoye Array 89.10 323 P P 10 32 31.3 -1.7
1.1nm,0.8s,baz=101,slow=7.7,SNR=5.6
NVAR Mina Array Bea 93.72 52 P P 10 32 56.6 +1.5
0.7nm,0.8s,baz=251,slow=5.6,SNR=3.2
YKA Yellowknife Ar 96.84 28 P P 10 33 09.8 +1.3
0.1nm,0.6s,baz=266,slow=4.6,SNR=4.5
GERES GERESS Array B 124.05 328 PKP PKPdf 10 38 35.6 -0.6
0.9nm,0.6s,baz=79,slow=2.9,SNR=5.5
LPAZ La Paz 135.22 120 PKP PKPdf 10 38 58.8 -0.1
1.1nm,0.6s,baz=231,slow=3.1,SNR=5.6
TORD Torodi Ar. Bea 149.23 286 PKPbc PKPbc 10 39 26.6 -0.7
14nm,0.7s,baz=70,slow=2.8,SNR=85
BDFB Brasilia 151.40 138 PKPbc PKPbc 10 39 32.2 -0.3
2.6nm,0.5s,baz=169,slow=3.6,SNR=4.2

ISCJB 26 10:40:44.9±0.9, 21.56N±0.10×143.0E±0.2, h311km, mb3.7/8, Error ellipse: s-maj=27.9km s-min=12.9km az=174.2
IDC 26 10:40:46.4±2.1, 21.67N×143.06E, h311km±18km, mb3.2/8, mb1 3.4/9, mb1mx3.1/35, mbtmp3.9/9, Error ellipse: s-maj=24.5km s-min=17.5km az=93.0
ISC 26 10:40:46.3±1.0, 21.6N±0.1×143.0E±0.2, h311km, n10, σ0.79/11, mb3.7/8, Mariana Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JCJ Chichijima 5.48 352 P Pn 10 42 09.8 +0.1
4.6nm,0.3s,baz=254,slow=18,SNR=4.2
JCJ S S 10 43 17.4 +0.3
4.4nm,0.3s,baz=287,slow=19,SNR=3.2
KSRS Korea Array 20.47 324 P P 10 45 00.6 -0.7
1.2nm,0.5s,baz=151,slow=9.0,SNR=5.0
WRA Warramunga Arr 42.20 192 P P 10 48 09.6 0.0
0.3nm,0.5s,baz=17,slow=9.5,SNR=8.8
MKAR Makanchi Array 54.63 313 P P 10 49 43.8 +0.3
0.3nm,0.5s,baz=89,slow=9.8,SNR=4.1
ILAR Eielson Array 62.15 27 P P 10 50 33.5 -1.3
5.3nm,0.3s,baz=264,slow=4.9,SNR=6.7
BVAR Borovoye Array 62.62 320 P P 10 50 38.7 +0.6
1.7nm,0.3s,baz=100,slow=7.5,SNR=11
YKA Yellowknife Ar 76.57 28 P P 10 52 02.7 +0.2
0.5nm,0.6s,baz=291,slow=5.8,SNR=9.3
ARCES ARCESS Array B 78.93 341 P P 10 52 15.7 +0.3
4.2nm,0.9s,baz=71,slow=8.6,SNR=8.3
FINES FINESS Array B 83.17 334 P P 10 52 36.7 -1.0
1.1nm,0.5s,baz=71,slow=4.9,SNR=7.2
NVAR Mina Array Bea 83.29 51 P P 10 52 40.1 +1.0
0.4nm,0.7s,baz=297,slow=4.0,SNR=3.2

IDC 26 11:00:02.8±5.7, 48.41N×33.63E, h0km, mb3.9/1, mb1 4.2/1, mb1mx3.0/25, mbtmp4.1/1, Error ellipse: s-maj=62.7km s-min=34.0km az=9.0, Ukraine - Moldova - Southwestern Russia region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AKASG Malin Array Be 3.68 310 Pg Pb 11 01 07.7 -0.8
0.4nm,0.3s,baz=130,slow=17,SNR=3.1
AKASG Lg Lg 11 01 58.6
2.9nm,0.3s,baz=127,slow=29,SNR=5.3
I43RU DUBNA INFRASON 8.61 13 i 11 51 40.0
baz=194,slow=321,SNR=1.5
I31KZ AKTYUBINSK INF 15.99 74 i 12 39 20.0
baz=270,slow=338,SNR=1.0
ARCES ARCESS Array B 21.56 352 P P 11 04 53.3 -0.2
6.9nm,1.2s,baz=159,slow=10,SNR=3.5

MEX 26 11:03:01.7±0.4, 16.09N×98.80W, h6km±7km, MD3.9, Near coast of Guerrero
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PNIG Pinotepa 0.71 65 eP Pg 11 03 14.2 -1.2
PNIG iS Sg 11 03 24.1 -0.6
ACX Acapulco 1.28 307 iP Pn 11 03 17.0 -9.1
ACX iS Sb 11 03 35.6 -7.3
TLIG Tlapa 1.48 9 eP Pn 11 03 25.1 -3.9
TLIG iS Sn 11 03 43.7 -5.1
CAIG El Cayaco 1.70 304 iP Pn 11 03 28.5 -3.4
CAIG iS Sn 11 03 49.1 -4.9
HUIG Huatulco 2.61 97 iP Pn 11 03 40.8 -3.5
HUIG iS Sn 11 04 11.4 -4.9
ARIG Puente Sto Nin 2.63 326 iP Pn 11 03 42.5 -2.3
ARIG iS Sn 11 04 12.5 -4.6

NNC 26 11:09:46.6±8.2, 54.22N×86.62E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=64.0km s-min=49.5km az=5.0
IDC 26 11:09:49.0±2.2, 54.20N×86.11E, h0km, mb1 2.9/2, mb1mx2.8/33, mbtmp2.9/2, ML2.9/2, Error ellipse: s-maj=17.9km s-min=10.0km az=59.0
ISC 26 11:09:49.1±3.3, 54.5N±0.2×86.5E±0.2, h35km, n7, σ1.55/10, 6C-3D, Southwestern Siberia
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.11 241 i 11 15 20.0
baz=71,slow=335,SNR=2.8
ZALV Zalesovo Beam 1.11 241 Pg Pn 11 10 02.5 -5.6
1.4nm,0.3s,baz=70,slow=16,SNR=14
ZALV Lg Lg 11 10 15.4
6.0nm,0.3s,baz=75,slow=24,SNR=26
KURK Kurchatov 6.09 235 ⇑Pn Pn 11 11 16.0 -0.6
0.5nm,0.6s
KURK ⇑Sn Sn 11 12 25.9 +0.9
0.5nm,0.7s
KURK ⇑Lg Lg 11 12 55.4
1.2nm,0.7s
KURBB Kurchatov Arra 6.20 234 ⇑Pn Pn 11 11 17.7 -0.3
1.0nm,0.3s,baz=58,slow=13
KURBB ⇑Sn Sn 11 12 29.6 +2.0
1.2nm,0.6s
KURBB ⇓Lg Lg 11 13 00.3
2.0nm,0.5s,baz=123,slow=26
MK31 Makanchi Array 8.16 201 ⇓Pn Pn 11 11 45.3 +0.3
0.1nm,0.2s,baz=27,slow=14,SNR=10
MK31 ⇑Sn Sn 11 13 17.2 +1.4
0.3nm,0.5s,baz=25,slow=28
MK31 ⇓Lg Lg 11 14 00.7
0.5nm,0.6s,baz=31,slow=26
MKAR Makanchi Array 8.16 201 Pn Pn 11 11 44.6 -0.4
0.2nm,0.3s,baz=23,slow=13,SNR=14
MKAR Sn Sn 11 13 13.3 -2.5
0.1nm,0.3s,baz=19,slow=30,SNR=4.2
MKAR Lg Lg 11 13 59.7
0.1nm,0.3s,baz=23,slow=30,SNR=6.2
BVAR Borovoye Array 9.63 268 Pn Pn 11 12 05.5 +0.5
0.1nm,0.3s,baz=78,slow=11,SNR=4.0
BVAR Sn Sn 11 13 50.2 -1.7
0.3nm,0.3s,baz=73,slow=27,SNR=7.2

IDC 26 11:16:39.6±2.7, 53.70N×87.00E, h0km, mb1 2.9/1, mb1mx2.8/40, mbtmp2.9/1, ML2.5/1, Error ellipse: s-maj=25.7km s-min=14.7km az=70.0, Southwestern Siberia
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I46RU ZALESOVO INFRA 1.32 282 i 11 24 50.0
baz=102,slow=342,SNR=2.2
ZALV Zalesovo Beam 1.32 282 Pg Pg 11 17 03.5 -1.3
1.0nm,0.3s,baz=99,slow=16,SNR=12
ZALV Lg Lg 11 17 22.4
1.0nm,0.3s,baz=100,slow=30,SNR=10
MKAR Makanchi Array 7.55 205 Pn Pn 11 18 32.3 +1.5
0.1nm,0.3s,baz=23,slow=13,SNR=9.8
MKAR Lg Lg 11 20 40.4
0.0nm,0.3s,baz=40,slow=31,SNR=3.1

ISCJB 26 11:27:01.3±0.6, 5.98N±0.06×126.26E±0.08, h127km, mb4.0/12, Error ellipse: s-maj=11.8km s-min=8.5km az=167.2
MAN 26 11:27:03, 5.99N×126.03E, h137km, mb4.6, ML3.5, MS3.5
IDC 26 11:27:06.2±5.4, 6.04N×126.01E, h160km±50km, mb3.6/11, mb1 3.8/12, mb1mx3.6/33, mbtmp4.2/12, MS2.3/1, Ms1 2.3/1, ms1mx2.2/25, Error ellipse: s-maj=30.2km s-min=15.0km az=76.0
ISC 26 11:27:02.5±0.7, 5.98N±0.08×126.2E±0.1, h127km, n21, σ1.49/23, mb4.0/11, Mindanao
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MATI Mati 0.96 6 eP Pn 11 27 27.6 +2.8
MATI eS Sn 11 27 39.7 -2.0
GSPH General Santos 1.21 275 eP Pn 11 27 27.7 +0.3
GSPH eS Sn 11 27 46.4 +0.2
DMPH Davao City--Mi 1.27 329 eP Pn 11 27 30.4 +2.4
DMPH eS Sn 11 27 50.0 +2.7
BUKP Musuan 2.18 330 eP Pn 11 27 40.2 +1.6
BUTP Butuan 3.02 350 eP Pn 11 27 51.4 +2.1
PAGZ Pagadian 3.33 304 eP Pn 11 27 54.4 +1.2
TGY Tagaytay City 9.57 328 LR LR 11 33 23.9
comp=Z,18nm,19.4s,baz=122,slow=40
BATI Baumata 16.27 189 P Pn 11 30 45.6 +1.7
6.9nm,0.3s,baz=4.0,slow=1.5,SNR=5.2
WRA Warramunga Arr 26.99 163 P P 11 32 33.5 +0.9
0.8nm,0.5s,baz=343,slow=10,SNR=8.1
CMAR Chiang Mai Arr 29.29 297 P P 11 32 52.5 -0.6
0.6nm,0.5s,baz=111,slow=7.8,SNR=4.4
USRK Ussuriysk Arra 38.41 7 P P 11 34 12.9 +1.4
1.9nm,0.7s,baz=188,slow=14,SNR=4.3
NWAO Narrogin (SRO) 39.61 192 P P 11 34 23.0 +1.3
9.8nm,0.9s,baz=34,slow=7.3,SNR=8.4
SONM Songino Array 45.00 341 P P 11 35 05.0 -0.3
0.3nm,0.4s,baz=165,slow=6.0,SNR=2.8
SONM PcP PcP 11 36 44.4 +0.1
0.3nm,0.4s,baz=123,slow=5.3,SNR=3.1
MKAR Makanchi Array 55.40 325 P P 11 36 22.4 -1.2
1.3nm,0.5s,baz=119,slow=7.7,SNR=37
MKAR PcP PcP 11 37 21.7 -0.7
0.6nm,0.5s,baz=124,slow=3.4,SNR=7.6
ZALV Zalesovo Beam 58.34 333 P P 11 36 43.0 -1.2
0.6nm,0.5s,baz=106,slow=11,SNR=3.5
ILAR Eielson Array 83.33 26 P P 11 39 14.3 -0.7
13nm,0.4s,baz=241,slow=5.3,SNR=20
ARCES ARCESS Array B 88.16 340 P P 11 39 37.4 -1.3
3.3nm,0.9s,baz=91,slow=6.7,SNR=7.3
BRTR Keskin Array B 88.16 310 P P 11 39 38.2 -1.3
0.6nm,0.7s,baz=106,slow=7.8,SNR=4.1
FINES FINESS Array B 89.59 332 P P 11 39 44.0 -1.6
0.6nm,0.4s,baz=64,slow=4.4,SNR=9.4
YKA Yellowknife Ar 97.69 24 P Pdif 11 40 22.9 +0.2
0.3nm,0.7s,baz=295,slow=4.3,SNR=6.8
TORD Torodi Ar. Bea 121.66 289 PKP PKPdf 11 45 41.6 -0.7
0.8nm,0.7s,baz=64,slow=2.3,SNR=5.5

IDC 26 12:01:55.8±768.0, 58.63N×2.29W, h0km, Error ellipse: s-maj=403.1km s-min=159.4km az=112.0, United Kingdom
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I26DE FREYUNG INFRAS13.58 129 i 13 29 20.0
baz=320,slow=323,SNR=0.3
I43RU DUBNA INFRASON21.00 78 i 14 07 40.0
baz=289,slow=326,SNR=0.5
I48TN KESRA INFRASON24.09 156 i 14 31 40.0
baz=347,slow=319,SNR=0.2
I31KZ AKTYUBINSK INF 34.85 77 i 15 35 26.4
baz=303,slow=339,SNR=3.8

KRSC 26 12:10:43.3±2.6, 49.46N×157.53E, h41km±26km, ML3.8, East of Kuril Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PAU Pauzhetka 2.06 347 P Pn 12 11 17.4 +2.0
PAU S Sn 12 11 41.0 +1.2
RUS Russkaya 3.04 11 P Pn 12 11 33.2 +4.3
RUS S Sn 12 12 08.7 +4.7
MTVR Mutnovka 3.05 8 P Pn 12 11 33.8 +4.5
MTVR S Sn 12 12 09.2 +4.5
PET Petropavlovsk 3.64 11 S Sn 12 12 24.5 +5.8
UGLR Uglovaya 3.84 12 P Pn 12 11 44.5 +4.5
AVH Avacha 3.88 11 P Pn 12 11 45.1 +4.5
NLC Nalytchevo 3.89 16 S Sn 12 12 29.0 +4.2
KRX Arik 3.97 10 P Pn 12 11 46.9 +5.1
MKZ Mys Kozlova 5.72 25 P Pn 12 12 06.8 +1.1
MKZ S Sn 12 13 14.5 +4.5
BKI Bering 7.73 39 S Sn 12 14 03.8 +4.4

ISCJB 26 12:25:53.9±0.5, 23.95S±0.05×66.85W±0.06, h210km±6km, mb3.4/2, Error ellipse: s-maj=10.0km s-min=5.5km az=137.4
SJA 26 12:25:54.7±0.6, 24.00S×66.78W, h221km±7km, ML3.2
IDC 26 12:25:55.8±3.8, 23.82S×66.57W, h198km±27km, mb3.4/2, mb1 3.4/5, mb1mx3.3/21, mbtmp3.8/5, Error ellipse: s-maj=46.7km s-min=20.7km az=42.0
NEIC 26 12:25:56.6, 23.66S×67.35W, h252km, MG4.4(GUC), After GUC.
GUC 26 12:25:56.6±0.3, 23.66S×67.35W, h252km±9km, ML4.4
ISC 26 12:25:54.5±0.8, 23.92S±0.06×66.86W±0.06, h209km±7km, n31, σ1.38/43, 7C, Jujuy Province
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SLA San Lorenzo 1.47 123 eP Pn 12 26 29.3 +0.3
SLA eS S 12 26 54.6 -1.0
SLA AML AML 12 26 59.1
comp=Z,53nm,0.6s
ASTB Santa Barbara 2.17 91 eP Pn 12 26 35.6 -0.1
ASTB eP Pn 12 26 35.6 -0.1
LVC Limon Verde 2.29 304 eP Pn 12 26 38.1 +1.1
LVC eSn S 12 27 11.8 +2.1
LVC Limon Verde 2.29 304 eP Pn 12 26 38.5 +1.5
LVC eS S 12 27 12.2 +2.4
PB06 Plate Boundary 2.77 295 eP Pn 12 26 43.6 +1.4
PB06 eS S 12 27 19.2 +0.3
PB06 AML AML 12 27 22.2
comp=E,399nm,0.2s
PB06 Plate Boundary 2.77 295 eP Pn 12 26 43.6 +1.4
PB06 eS S 12 27 19.2 +0.3
PB04 Plate Boundary 2.92 304⇑eP Pn 12 26 50.6 +6.8
PB04 eS S 12 27 31.6 +10
PB04 AML AML 12 27 34.8
comp=N,316nm,0.2s
PB04 Plate Boundary 2.92 304⇑eP Pn 12 26 50.6 +6.8
PB04 eS S 12 27 31.6 +10
PB10 Plate Boundary 3.41 276⇑eP Pn 12 26 50.6 +1.2
PB10 eS S 12 27 31.8 -0.3
PB10 AML AML 12 27 34.4
comp=E,793nm,0.4s
PB07 Plate Boundary 3.54 307⇑eP Pn 12 26 52.1 +0.8
PB07 eS S 12 27 34.1 -1.3
PB07 AML AML 12 27 37.0
comp=N,364nm,0.3s
PB07 Plate Boundary 3.54 307⇑eP Pn 12 26 52.1 +0.8
PB07 eS S 12 27 34.1 -1.3
PB01 Plate Boundary 3.75 319⇑eP Pn 12 26 54.4 +0.6
PB01 eS S 12 27 39.0 -0.9
PB01 AML AML 12 27 41.6
comp=E,281nm,0.2s
PB01 Plate Boundary 3.75 319⇑eP Pn 12 26 54.4 +0.6
PB01 eS S 12 27 39.0 -0.9
PATCX Punta Patache 4.33 315 eP Pn 12 27 00.7 -0.2
HMBC Humberstone 4.58 322 eP Pn 12 27 03.6 -0.5
HMBC eS S 12 27 55.5 -3.0
HMBC Humberstone 4.58 322 eP Pn 12 27 03.6 -0.5
HMBC eS S 12 27 55.5 -3.0
PSGC Pisagua 5.26 324 eP Pn 12 27 11.6 -1.0
PSGC Pisagua 5.26 324 P Pn 12 27 11.6 -1.0

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
MNMC	Minimini	5.40	331	eP	Pn	12 27 14.9	+0.3
MNMC	Minimini	5.40	331	P	Pn	12 27 14.9	+0.3
ACLC	CERRO LA CRUZ	5.49	181	eP	Pn	12 27 14.9	-0.6
AVFE	Valle Fertil	6.74	184	eP	Pn	12 27 30.1	-1.3
AVFE				eS	S	12 28 41.9	-6.5
AVFE				AML	AML	12 28 45.3	
	comp=Z,9.5nm,0.4s						
ACHE	Chepes	7.22	179	eP	Pn	12 27 36.3	-1.5
LPAZ	La Paz	7.69	351	P	Pn	12 27 46.2	+1.9
	comp=Z,0.4nm,0.3s,baz=158,slow=4.5,SNR=8.3						
LPAZ				S	S	12 29 10.7	-1.0
	comp=Z,0.1nm,0.3s,baz=293,slow=18,SNR=2.9						
CPUP	Villa Florida	8.96	108	P	Pn	12 27 58.5	-1.7
	comp=Z,0.3nm,0.3s,baz=278,slow=9.7,SNR=4.3						
TRQA	Tornquist	14.70	165	ePn	P	12 29 14.8	+1.4
BDFB	Brasilia	19.54	69	P	P	12 30 06.6	0.0
	comp=Z,0.5nm,0.3s,baz=235,slow=13,SNR=6.7						
TORD	Torodi Ar. Bea	76.42	69	P	P	12 37 21.6	+0.2
	comp=Z,0.7nm,0.6s,baz=255,slow=5.9,SNR=11						
YKA	Yellowknife Ar	94.09	340	P	P	12 38 50.5	+2.0
	comp=Z,0.2nm,0.6s,baz=138,slow=4.7,SNR=6.3						
WRA	Warramunga Arr	131.76	207	PKP	PKPdf	12 44 46.1	+2.7
	comp=Z,0.3nm,0.5s,baz=127,slow=2.9,SNR=3.8						
MKAR	Makanchi Array	146.38	40	PKPbc	PKPab	12 45 13.0	+1.0
	comp=Z,0.3nm,0.5s,baz=319,slow=4.3,SNR=3.4						

WEL 26 12:34:49.5±1.0,46.27S×166.19E,h5km,ML3.5/9,1C, Error ellipse: s-maj=11.1km s-min=3.0km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	1.04	41	P*	Pg	12 35 08.6	-0.7
DCZ				S*	Sg	12 35 22.5	-0.3
DCZ				S*	Sb	12 35 23.0	-0.8
WHZ	Wether Hill Ro	1.28	74	⇑P*	Pn	12 35 13.8	-0.3
WHZ				S*	Sn	12 35 31.5	-0.1
WHZ				AML	AML	12 35 32.1	
APZ	The Paps	1.36	115	PN	Pn	12 35 14.1	-1.2
APZ				AML	AML	12 35 33.3	
APZ				AML	AML	12 35 34.3	
MLZ	Mavora Lakes	1.66	57	ePN	Pn	12 35 18.9	-0.5
MLZ				AML	AML	12 35 46.9	
MLZ				AML	AML	12 35 50.9	
MSZ	Milford Sound	2.01	38	ePN	Pn	12 35 23.6	-0.4
MSZ				AML	AML	12 36 03.3	
MSZ				AML	AML	12 36 12.1	
SYZ	Scrubby Hill	2.06	99	PN	Pn	12 35 24.1	-0.6
SYZ				AML	AML	12 36 04.5	
SYZ				AML	AML	12 36 06.4	
EAZ	Earnscleugh	2.42	66	PN	Pn	12 35 30.2	+0.5
EAZ				AML	AML	12 36 09.2	
EAZ				AML	AML	12 36 24.1	
WKZ	Wanaka	2.45	55	PN	Pn	12 35 31.9	+1.7
WKZ				AML	AML	12 36 12.1	
JCZ	Jackson Bay	2.85	41	PN	Pn	12 35 36.5	+0.8
JCZ				AML	AML	12 36 28.0	
JCZ				AML	AML	12 36 28.7	
ODZ	Otahua Downs	3.35	70	PN	Pn	12 35 41.4	-1.1
LBZ	Lake Benmore	3.39	58	ePN	Pn	12 35 42.4	-0.6
FOZ	Fox Glacier	3.67	44	PN	Pn	12 35 48.0	+1.1
RPZ	Rata Peaks	4.29	55	ePN	Pn	12 35 54.7	-0.8
WVZ	Waitaha Valley	4.55	47	ePN	Pn	12 35 58.7	-0.3
DSZ	Denniston Nort	6.07	44	ePN	Pn	12 36 19.3	-0.6
THZ	Tophouse	6.61	49	PN	Pn	12 36 28.7	+1.4
QRZ	Quartz Range	7.12	42	ePN	Pn	12 36 34.7	+0.4

IDC 26 12:55:36.5±0.9,30.51N×83.42E,h0km,mb3.8/12, mb1 3.9/15,mb1mx3.7/39,mbtmp3.7/15,ML3.4/3,MS3.5/3, Ms1 3.5/3,ms1mx2.9/41,Error ellipse: s-maj=24.2km s-min=16.8km az=39.0
ISCJB 26 12:55:37.6±0.7,30.6N±0.1×83.4E±0.1,h18km,mb3.7/12, MS3.5/3,Error ellipse: s-maj=18.3km s-min=11.3km az=41.3
ISC 26 12:55:39.9±0.7,30.7N±0.1×83.55E±0.08,h18km,n18, σ1§38/17,mb3.7/12,MS3.4/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	Pithoragarh	3.10	249	eP	Pg	12 56 40.6	+1.2
LGTI	Lohaghat	3.11	248	eP	Pb	12 56 34.8	0.0
AAK	Ala-Archa	13.95	331	Pn	Pn	12 58 56.2	-0.6
	0.1nm,0.3s,baz=199,slow=12,SNR=4.6						
MKAR	Makanchi Array	16.11	357	Pn	Pn	12 59 24.2	-1.3
	0.0nm,0.3s,baz=174,slow=12,SNR=4.8						
MKAR				Lg	Lg	13 04 14.6	
	baz=197,slow=32,SNR=2.2						
CMAR	Chiang Mai Arr	18.53	128	P	Pn	12 59 55.4	-0.4
	0.2nm,0.3s,baz=310,slow=11,SNR=7.9						
GEYT	Alibeck	22.17	296	P	P	13 00 33.1	-1.9
	1.5nm,0.4s,baz=96,slow=12,SNR=3.8						
GEYT				LR	LR	13 10 45.0	
	comp=Z,75nm,18.3s,baz=80,slow=41						
ZALV	Zalesovo Beam	23.27	2	P	P	13 00 45.9	-0.3
	1.1nm,0.7s,baz=198,slow=9.3,SNR=5.5						
BVAR	Borovoye Array	24.30	340	P	P	13 00 56.2	0.0
	0.5nm,0.5s,baz=153,slow=11,SNR=4.4						
SONM	Songino Array	24.48	39	P	P	13 00 58.8	+0.8
	1.6nm,0.8s,baz=227,slow=10,SNR=10						
KBZ	Khabaz	34.55	304	LR	LR	13 19 36.5	
	comp=Z,79nm,20.5s,baz=53,slow=42						
KSRS	Korea Array	37.11	67	P	P	13 02 49.0	-0.3
	1.3nm,0.6s,baz=279,slow=9.0,SNR=4.9						
BRTR	Keskin Array B	41.31	297	P	P	13 03 24.2	-0.4
	0.8nm,0.9s,baz=97,slow=5.1,SNR=3.8						
FINES	FINESS Array B	48.09	327	P	P	13 04 16.2	-2.0
	2.5nm,1.0s,baz=106,slow=7.8,SNR=2.9						
ARCES	ARCESS Array B	50.52	337	P	P	13 04 38.8	+2.1
	5.6nm,1.0s,baz=98,slow=6.6,SNR=2.9						
ARCES				LR	LR	13 26 38.4	
	comp=Z,81nm,18.2s,baz=32,slow=37						
WRA	Warramunga Arr	70.12	129	P	P	13 06 50.0	-1.4
	0.8nm,0.6s,baz=324,slow=6.3,SNR=12						
TORD	Torodi Ar. Bea	76.48	277	P	P	13 07 28.4	-0.8
	0.6nm,0.8s,baz=50,slow=4.6,SNR=5.8						
ILAR	Eielson Array	77.08	20	P	P	13 07 33.6	+1.8
	0.5nm,0.8s,baz=262,slow=4.7,SNR=6.5						
YKA	Yellowknife Ar	86.00	8	P	P	13 08 21.0	+2.0
	0.2nm,0.5s,baz=339,slow=5.4,SNR=5.3						

ISCJB 26 13:05:22.5±0.8,20.3S±0.1×67.8E±0.2,h10km,mb4.1/9, MS3.8/10,Error ellipse: s-maj=23.9km s-min=17.9km az=14.5
IDC 26 13:05:22.5±0.9,20.23S×67.86E,h0km,mb4.1/9, mb1 4.2/9,mb1mx3.9/37,mbtmp4.1/9,MS3.7/11, Ms1 3.7/11,ms1mx3.4/31,Error ellipse: s-maj=28.6km s-min=25.0km az=58.0
ISC 26 13:05:24.3±0.9,20.3S±0.2×67.9E±0.2,h10km,n39, σ0§65/22,mb4.3/9,MS3.8/10,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	13.32	20	T	T	13 22 08.5	
	baz=200,slow=76,SNR=133						
H08S2	Diego Garcia H	13.33	20	T	T	13 22 03.1	
	baz=200,slow=76,SNR=405						
H08S3	Diego Garcia H	13.34	20	T	T	13 22 06.3	
	baz=200,slow=76,SNR=135						
H08N3	Diego Garcia H	14.17	13	T	T	13 23 14.8	
	baz=223,slow=80,SNR=40						
H08N1	Diego Carcia H	14.18	13	T	T	13 23 13.6	
	baz=223,slow=80,SNR=28						
H08N2	Diego Garcia H	14.19	13	T	T	13 23 12.8	
	baz=223,slow=80,SNR=34						
OPO	Ambohidratompo	19.57	271	LR	LR	13 15 30.9	
	comp=Z,304nm,21.6s,baz=104,slow=31						
PALK	Pallekele	30.15	26	LR	LR	13 22 08.7	
	comp=Z,248nm,18.0s,baz=200,slow=33						
KMBO	Kilima Mbogo	35.45	299	LR	LR	13 24 36.4	
	comp=Z,115nm,19.4s,baz=95,slow=33						
H01W2	Cape Leeuwin H	43.16	120	T	T	13 59 17.1	
	baz=278,slow=75,SNR=5.5						
H01W3	Cape Leeuwin H	43.16	120	T	T	13 59 12.6	
	baz=278,slow=75,SNR=5.4						
H01W1	Cape Leeuwin H	43.17	120	T	T	13 59 14.0	
	baz=278,slow=75,SNR=4.5						
CMAR	Chiang Mai Arr	49.10	40	P	P	13 14 12.7	+0.5
	2.2nm,0.3s,baz=236,slow=8.5,SNR=21						
CMAR				LR	LR	13 33 47.5	
	comp=Z,55nm,18.3s,baz=240,slow=35						
KOLN	Koldanda	50.13	18	eP	P	13 14 20.5	+0.4
	25nm,1.1s						
RAMN	Ramite	50.33	22	eP	P	13 14 22.2	+0.5
DMN	Daman	50.44	20	eP	P	13 14 23.1	+0.6
PKI	Pulchoki	50.50	20	eP	P	13 14 23.0	-0.1
ODAN	Odare	50.53	23	eP	P	13 14 24.6	+1.4
GKN	Gorkha	50.66	19	eP	P	13 14 24.4	+0.3
KKN	Kakani	50.66	20	eP	P	13 14 24.7	+0.5
DANN	Dangsing	50.72	18	eP	P	13 14 24.9	+0.2
	20nm,1.0s						
JIRN	Jiri	50.84	21	eP	P	13 14 26.1	+0.4
	4.5nm,0.5s						
GUN	Gumba	50.97	21	eP	P	13 14 27.1	+0.4
	15nm,0.8s						
TAPN	Taplejung	51.09	23	eP	P	13 14 27.9	+0.4
	14nm,1.1s						
GEYT	Alibeck	58.61	351	LR	LR	13 37 56.5	
	comp=Z,59nm,19.1s,baz=325,slow=33						
WRA	Warramunga Arr	62.02	102	P	P	13 15 45.6	+0.4
	2.7nm,0.8s,baz=259,slow=5.7,SNR=5.3						
STKA	Stephens Creek	66.13	117	LR	LR	13 40 32.1	
	comp=Z,74nm,20.6s,baz=206,slow=32						
BRTR	Keskin Array B	67.70	332	P	P	13 16 21.6	-0.3
	0.9nm,0.9s,baz=159,slow=12,SNR=3.2						
MKAR	Makanchi Array	68.01	11	P	P	13 16 22.6	-1.0
	1.8nm,0.8s,baz=193,slow=5.0,SNR=14						
MKAR				LR	LR	13 45 46.9	
	comp=Z,57nm,18.0s,baz=192,slow=36						
QSPA	South Pole Qui	69.84	180	P	P	13 16 34.6	-0.4
	2.9nm,1.0s,baz=200,slow=4.0,SNR=5.4						
TORD	Torodi Ar. Bea	73.03	291	P	P	13 16 56.3	+1.4
	1.1nm,0.9s,baz=100,slow=6.0,SNR=6.4						
ZALV	Zalesovo Beam	75.34	10	P	P	13 17 07.0	-0.5
	2.7nm,0.7s,baz=194,slow=5.5,SNR=13						
SONM	Songino Array	76.10	26	LR	LR	13 49 47.5	
	comp=Z,68nm,19.3s,baz=186,slow=35						
PMG	Port Moresby	76.83	95	LR	LR	13 48 39.9	
	comp=Z,45nm,20.1s,baz=246,slow=34						
AKASG	Malin Array Be	78.43	336	P	P	13 17 24.3	-0.7
	0.4nm,0.4s,baz=134,slow=4.8,SNR=5.3						
KSRS	Korea Array	80.55	44	LR	LR	13 54 06.7	
	comp=Z,24nm,18.2s,baz=197,slow=36						
MJAR	Matsushiro Arr	87.13	49	P	P	13 18 10.3	-0.3
	0.8nm,0.7s,baz=223,slow=6.1,SNR=2.9						
MJAR				LR	LR	13 55 11.1	
	comp=Z,29nm,20.9s,baz=235,slow=34						
YKA	Yellowknife Ar	137.78	2	PKP	PKPdf	13 24 48.4	+0.1
	0.1nm,0.6s,baz=28,slow=2.8,SNR=3.1						
ULM	Lac du Bonnet	147.42	340	PKPbc	PKPdf	13 25 05.5	-0.4
	2.4nm,0.6s,baz=17,slow=4.9,SNR=3.5						

MAN 26 13:08:21,8.42N×127.02E,h15km,mb4.6,ML3.4,MS3.4, 1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.49	292	eP	Pn	13 08 47.2	0.0
BUTP				eS	Sb	13 09 06.9	-0.2
MATI	Mati	1.65	207	eP	Pn	13 08 49.7	+0.3
MATI				eS	Sb	13 09 11.7	+0.1
DMPH	Davao City--Mi	2.00	229	⇑eP	Pb	13 08 57.6	+0.4
DMPH				eS	Sn	13 09 19.0	-0.1
BUKP	Musuan	2.01	255	eP	Pn	13 08 55.6	+1.1
SCPH	Surigao	2.03	312	⇓eP	Pb	13 08 56.4	-1.2

JMA 26 13:11:27.8±0.2,24.87N×122.84E,h29km±4km,M2.9
ISCJB 26 13:11:28.6±1.3,24.8N±0.1×122.9E±0.1,h30km±10km, mb3.5/4,MS3.2/2,Error ellipse: s-maj=26.2km s-min=9.8km az=36.7
IDC 26 13:11:35.4±6.9,24.48N×122.01E,h62km±66km,mb3.4/4, mb1 3.7/5,mb1mx3.3/28,mbtmp3.7/5,ML3.5/1,MS3.2/3, Ms1 3.2/3,ms1mx2.9/16,Error ellipse: s-maj=49.7km s-min=24.1km az=68.0
ISC 26 13:11:30.0±1.4,24.70N±0.09×122.9E±0.1,h27km±10km, n14,σ1§07/14,mb3.4/4,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.26	163	P	Pb	13 11 36.8	+0.2
JYNG				eS	Sn	13 11 43.1	-0.1
YOJ	Yonaguni jima	0.27	151	P	Pb	13 11 36.9	+0.1
YOJ				eS	Sn	13 11 43.5	0.0
IRIF	Iriomote-Funau	0.87	115	P	Pn	13 11 45.0	-1.5
HATJ	Hateruma jima	1.07	127	eS	Sn	13 12 03.0	-0.3
JKRS	Kuro-shima	1.14	114	P	Pn	13 11 49.5	-0.7
JKRS				eS	Sn	13 12 05.5	+0.5
JIJ	Ishigaki jima	1.21	106	P	Pn	13 11 51.3	+0.1
JISG	Ishigakijimahi	1.32	95	P	Pn	13 11 51.0	-1.7
KSRS	Korea Array	13.43	18	P	P	13 14 49.5	+1.6
	0.3nm,0.3s,baz=198,slow=12,SNR=7.5						
KSRS				LR	LR	13 20 45.7	
	comp=Z,71nm,19.9s,baz=182,slow=40						
ASAJ	Asahikawa	25.19	35	LR	LR	13 26 17.4	
	comp=Z,90nm,21.4s,baz=34,slow=34						
SONM	Songino Array	26.52	335	P	P	13 17 04.7	-0.8
	0.9nm,1.0s,baz=150,slow=9.6,SNR=5.1						
PETK	Petropavlovsk-	38.59	34	LR	LR	13 36 04.9	
	comp=Z,33nm,18.8s,baz=237,slow=38						
MKAR	Makanchi Array	39.05	315	P	P	13 18 53.6	-1.0
	0.6nm,0.9s,baz=99,slow=9.5,SNR=3.8						
WRA	Warramunga Arr	45.76	165	P	P	13 19 50.5	+1.2
	2.4nm,0.9s,baz=346,slow=7.9,SNR=4.7						
YKA	Yellowknife Ar	81.90	23	P	P	13 23 50.9	+4.1
	0.4nm,0.8s,baz=316,slow=5.4,SNR=7.5						

TIF 26 13:18:31.7,41.97N×43.92E,h11km±2km
CSEM 26 13:18:49.5±0.4,37.28N×42.62E,h2km,MD2.8,Error ellipse: s-maj=11.5km s-min=4.9km az=8.0
DDA 26 13:18:50.0,37.51N×42.64E,h7km,MD2.7
ISK 26 13:18:51.5,37.36N×42.41E,h3km,MD2.8
ISC 26 13:18:50.6±1.4,37.38N±0.09×42.65E±0.04,h8km±9km, n14,σ1§10/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	Sirnak	0.21	307	ePG	Pg	13 18 54.4	-0.4
SIRT				eSG	Sg	13 18 58.7	+1.0
SIRT	Sirnak	0.21	307	ePg	Pg	13 18 54.4	-0.4
SIRT				eSg	Sg	13 18 58.7	+1.0
SIRN	S˘-rnak	0.22	303	i P	Pg	13 18 54.5	-0.6
SIRN				i S	Sg	13 18 59.5	+1.4
SIRN	S˘-rnak	0.22	303	i P	Pg	13 18 54.5	-0.6
SIRN				i S	Sg	13 18 59.5	+1.4
HAKT	HAKKARI	0.86	78	i P	Pg	13 19 07.0	-0.2
HAKT				i S	Sb	13 19 20.2	+0.5
HAKT	HAKKARI	0.86	78	i P	Pg	13 19 07.0	-0.2
HAKT				i S	Sb	13 19 20.2	+0.5
BEST	Besiri	1.21	296	i P	Pn	13 19 14.5	+0.7
BEST				i S	Sn	13 19 33.1	+2.8
SVAN	Silvan-Diyarba	1.38	304	ePN	Pn	13 19 15.9	-0.3
SVAN				eSN	Sn	13 19 33.9	-0.8
MARD	Mardin	1.49	268	i P	Pn	13 19 17.5	-0.2
MARD				i S	Sg	13 19 39.7	+1.3
MAZI	Mazidag	1.75	273	ePN	Pn	13 19 21.2	-0.1
MAZI	Mazidag	1.75	273	ePn	Pn	13 19 21.2	-0.1
CLDR	Caldiran	2.03	29	ePN	Pg	13 19 29.1	-0.3
BNGB	Bing¨¶l	2.24	317	ePN	Pb	13 19 29.1	-2.2
BINT	Bingol	2.27	312	ePn	Pn	13 19 29.1	+0.7

JMA 26 13:46:22.5±0.7,46.86N×152.59E,h30km,M4.2
SKHL 26 13:46:23.7±1.0,46.60N×152.61E,h110km±5km,mb4.7/3, msh5.0/1
ISC 26 13:46:20.2±2.5,46.3N±0.2×153.1E±0.2,h31km,n16, σ2§36/21,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.78	255	eP	Pn	13 47 18.8	+2.5
KUR				AMB	AMB	13 47 19.9	
	40nm,2.0s						
KUR				AMB	AMB	13 47 19.9	
	31nm,2.0s						
KUR				AMB	AMB	13 47 19.9	
	55nm,2.0s						
KUR				eS	Sn	13 48 00.5	+0.8
KUR				A	A	13 48 04.8	
	120nm,0.8s						
KUR				A	A	13 48 04.8	
	130nm,0.8s						
KUR				A	A	13 48 11.0	
	2μm,4.0s						
KUR				A	A	13 48 11.0	
	1μm,4.0s						
SKR	Severo-Kuril's	4.84	24	eP	Pn	13 47 32.5	+1.7
SKR				AMB	AMB	13 47 47.4	
	133nm,0.8s						
SKR				eS	Sn	13 48 23.4	-2.3
SKR				A	A	13 48 25.0	
	126nm,1.0s						
SHO	Shikotan	5.03	243	eP	Pn	13 47 35.0	+1.5
SHO				AMB	AMB	13 47 40.3	
	130nm,0.9s						
SHO				eS	Sn	13 48 29.5	-1.0
SHO				A	A	13 48 31.7	
	91nm,0.9s						
PAU	Pauzhetka	5.74	24	eS	Sn	13 48 46.2	-1.6
NEM2	Nemuro 2	5.97	243	P	Pn	13 47 47.9	+1.6
NEM2				eS	Sn	13 48 51.2	-2.4
JRA	Rausu	6.09	250	P	Pn	13 47 51.6	+3.6
JNK	Nakash	6.50	248	P	Pn	13 47 56.5	+2.8
JNK				eS	Sn	13 49 07.2	+0.4
JAK	Akkeshi	6.81	244	P	Pn	13 47 59.1	+1.2
JTKR	Abashiri--Toko	6.87	253	P	Pn	13 48 02.0	+3.2
JAR	Ashorobuto	7.25	249	P	Pn	13 48 06.8	+2.8
JAR				eS	Sn	13 49 25.3	+0.1
JOB	Onbets	7.40	246	P	Pn	13 48 08.3	+2.3
JOB				eS	Sn	13 49 26.6	-2.3
JCH	Churui	7.85	245	P	Pn	13 48 13.7	+1.5
JCH				eS	Sn	13 49 36.3	-3.6
MYR	Moyori	8.07	244	eP	Pn	13 48 16.7	+1.5
MYR				eS	Sn	13 49 40.8	-4.5
JNBK	Urakawa-nobuka	8.41	245	P	Pn	13 48 20.5	+0.7
JNBK				eS	Sn	13 49 49.1	-4.5
JANG	Nango	10.28	239	P	Pn	13 48 44.4	-1.0
JANG				eS	Sn	13 50 31.1	-8.4
JTH	Tanohata	10.35	236	eS	Sn	13 50 32.2	-9.2

DJA 26 14:26:25.2±0.4,9°S±3°×12°0E±°,h39km±6km,M3.7/7, MLv3.7/7,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	0.40	183	P	Pn	14 26 35.8	+1.3
WSI				S	Sn	14 26 44.0	+2.9
BASI	Baing, Sumba	0.98	165	P	Pn	14 26 41.9	-0.5
BASI				S	Sn	14 26 55.8	+0.7
WBSI	Waikabubak, Su	0.99	248	P	Pn	14 26 40.7	-1.9
WBSI				S	Sn	14 26 55.3	-0.1
MMRI	Maumere	2.00	72	P	Pn	14 26 56.5	+0.1
MMRI				S	Sn	14 27 21.7	+1.5
BATI	Baumata	3.42	106	P	Pn	14 27 16.8	+0.7
BATI				S	Sn	14 27 56.8	+1.2
BKSI	Bulukumba	3.93	357	P	Pn	14 27 24.5	+1.5
BKSI				S	Sn	14 28 09.1	+1.2

DJA 26 14:33:30.4±1.1,9°S±5°×11°8E±°,h28km±12km,M3.8/12, mb3.8/1,MLv3.8/12,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.90	108	P	Pn	14 34 00.6	-0.4
DNP	Denpasar	2.35	279	P	Pn	14 34 08.2	+1.0
DNP				S	Sn	14 34 37.4	+2.3
IGBI	Denpasar	2.40	275	P	Pn	14 34 08.4	+0.6
IGBI				S	Sn	14 34 36.9	+0.6
SRBI	Singaraja	2.51	292	P	Pn	14 34 08.2	-1.2
SRBI				S	Sn	14 34 40.4	+1.3
WSI	Waingapu	2.77	103	P	Pb	14 34 16.5	-2.8
WSI				S	Sn	14 34 46.5	+1.0
JAGI	Jajag, Banyuwa	3.42	279	P	Pn	14 34 21.8	-0.1
JAGI				S	Sn	14 35 03.2	+1.7
ABJI	Asem Bagus	3.52	290	P	Pn	14 34 25.7	+2.5
BLJI	Banyuglugur	4.13	288	P	Pn	14 34 33.0	+1.3
BKSI	Bulukumba	4.49	35	P	Pn	14 34 37.9	+1.2
BKSI				S	Sn	14 35 30.1	+2.1
PWJI	Pagerwojo	5.78	280	P	Pn	14 34 56.0	+1.6
PWJI				S	Sn	14 36 00.7	+0.8

ISCJB 26 14:42:13.4±1.5,23.1N±0.1×107.3W±0.2,h10km,mb3.5/4, MS3.0/2,Error ellipse: s-maj=30.0km s-min=17.7km az=160.4
IDC 26 14:42:13.5±1.8,23.03N×107.25W,h0km,mb3.5/4, mb1 3.8/7,mb1mx3.7/33,mbtmp3.5/7,ML3.7/3,MS3.1/6, Ms1 3.1/6,ms1mx2.9/28,Error ellipse: s-maj=46.2km s-min=24.0km az=66.0
ISC 26 14:42:15.3±1.6,23.0N±0.2×107.2W±0.2,h10km,n15, σ1§38/8,mb3.5/4,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	3.07	291	LR	LR	14 44 12.2	
	comp=Z,181nm,20.0s,baz=158,slow=40						
H06E1	SOCORRO T-PHAS	5.48	220	T	T	14 48 35.3	
	SNR=98						
TXAR	Lajitas Array	7.04	26	Pn	Pn	14 43 58.9	+0.3
	0.4nm,0.3s,baz=200,slow=15,SNR=16						
TXAR				Lg	Lg	14 46 04.7	
	1.2nm,0.3s,baz=198,slow=30,SNR=5.8						
TXAR				LR	LR	14 46 52.5	
	comp=Z,141nm,18.4s,baz=0.0,slow=40						
ANMO	Albuquerque	11.91	3	Pn	Pn	14 45 05.5	+0.2
	0.1nm,0.3s,baz=132,slow=7.5,SNR=3.1						
ANMO				LR	LR	14 50 14.8	
	comp=Z,128nm,19.4s,baz=186,slow=40						
NVAR	Mina Array Bea	18.08	331	P	P	14 46 29.6	+2.3
	0.2nm,0.3s,baz=122,slow=15,SNR=4.0						
PDAR	Pinedale Array	19.80	355	P	Pn	14 46 47.5	-0.2
	0.1nm,0.3s,baz=160,slow=11,SNR=12						
PDAR				LR	LR	14 55 16.3	
	comp=Z,69nm,18.0s,baz=186,slow=40						
TKL	Tuckaleechee C	23.91	53	P	P	14 47 29.7	+0.3
	4.4nm,0.8s,baz=84,slow=12,SNR=5.4						
NEW	Newport	26.42	345	LR	LR	14 57 25.8	
	comp=Z,29nm,18.8s,baz=184,slow=35						
ROSC	El Rosal	36.48	115	LR	LR	15 04 10.1	
	comp=Z,36nm,19.5s,baz=38,slow=36						
YKA	Yellowknife Ar	39.78	355	P	P	14 49 46.3	-1.9
	0.2nm,0.6s,baz=171,slow=8.1,SNR=4.1						
ILAR	Eielson Array	49.08	339	P	P	14 51 02.0	-0.6
	0.2nm,0.8s,baz=170,slow=7.1,SNR=4.0						
LPAZ	La Paz	54.63	132	P	P	14 51 45.6	+0.3
	0.5nm,0.5s,baz=321,slow=6.5,SNR=2.3						
H03N2	Juan Fernandez	62.26	153	T	T	15 59 40.9	
	baz=330,slow=75,SNR=18						
H03N1	Juan Fernandez	62.27	153	T	T	15 59 20.5	
	baz=330,slow=75,SNR=16						
H03N3	Juan Fernandez	62.28	153	T	T	15 59 42.9	
	baz=330,slow=75,SNR=12						

ISCJB 26 15:02:29.3±0.3,32.62N±0.02×115.19W±0.02,h11km±3km, Error ellipse: s-maj=2.9km s-min=2.5km az=36.2
NEIC 26 15:02:31.7,32.55N×115.26W,h15km,ML3.9(PAS), ML4.0(ECX),After PAS.
NEIC Felt [III] at Mexicali. Felt [III] at Calexico and [II] at El Centro and Holtville, California. Also felt at Brawley. Felt [II] at Yuma, Arizona.
ECX 26 15:02:32.4±0.6,32.56N×115.27W,h11km±3km,MD3.9, ML4.0,Fault plane solution: NP1:φs115.00000°, δ90.00000°,λ0.00000°.
ISC 26 15:02:30.9±1.0,32.54N±0.02×115.25W±0.02,h15km±8km, n32,σ0§64/75,10C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.13	201	⇑eP	Pb	15 02 35.5	+0.4
CPBX				eS	Sb	15 02 38.1	+0.3
COA	Coachella	0.34	18	⇓i P	Pg	15 02 38.7	-0.1
SGL	Mount Signal	0.42	286	⇑i P	Pg	15 02 39.5	+0.3
SLX	San Luis R˜›o	0.47	100	⇑eP	Pb	15 02 40.8	0.0
SLX				eS	Sb	15 02 48.3	+0.7
COK	Cook Ranch	0.51	308	⇑i P	Pg	15 02 41.3	+0.3
YUH	Yuha Desert	0.58	281	⇑i P	Pg	15 02 42.0	-0.3
YMD	Yuma Desert	0.59	88	⇑i P	Pg	15 02 42.6	+0.1
GLA	Glamis	0.62	35	ePg	Pg	15 02 42.9	-0.3
GLA				eSg	Sg	15 02 51.5	0.0
RMX	La Rumorosa	0.70	275	⇑eP	Pg	15 02 44.4	-0.3
RMX				eS	Sg	15 02 54.0	0.0
RMX				⇓e		15 02 55.4	

	comp=N,3µm,0.5s						
RDX	**Rancho Dawling**	**0.84**	**224**	*e*P	**Pb**	**15 02 47.3**	**-0.2**
RDX				*e*S	**Sb**	**15 02 58.4**	**-0.3**
RDX				⇓*e*		15 03 01.9	
	comp=N,6µm,0.8s						
ECBX	**El Chinero**	**1.08**	**171**	⇓*e*P	**Pb**	**15 02 49.2**	**-2.0**
CBX	**Cerro Bola**	**1.22**	**260**	⇑*e*P	**Pn**	**15 02 53.1**	**-0.5**
CBX				*e*S	**Sb**	**15 03 09.4**	**+0.1**
ZAX	**El Zacaton**	**1.34**	**221**	⇓*e*P	**Pn**	**15 02 54.8**	**-0.4**
ZAX				*e*S	**Sn**	**15 03 12.8**	**0.0**
ECNX	**Esteban Cantu**	**1.44**	**233**	⇓*e*P	**Pn**	**15 02 57.1**	**+0.5**
ECNX				*e*S	**Sb**	**15 03 16.9**	**+1.1**
PBX	**Punta Banda**	**1.48**	**238**	⇑*e*P	**Pn**	**15 02 57.4**	**+0.3**
PBX				*e*S	**Sb**	**15 03 17.4**	**+0.5**
SPX	**San Pedro Mart**	**1.50**	**187**	*e*P	**Pn**	**15 02 56.9**	**-0.7**
SPX				*e*S	**Sn**	**15 03 17.1**	**0.0**
LDFC	**Landfair**	**2.54**	**3**	*e*Pn	**Pn**	**15 03 12.0**	**+0.3**
LDFC				*e*Pg	**Pg**	**15 03 19.5**	**-0.1**
LDFC				*e*Sn	**Sn**	**15 03 41.3**	**-1.1**
LDFC				*e*Sg	**Sg**	**15 03 52.4**	**-0.1**
MWC	**Mount Wilson**	**2.89**	**306**	Pn	**Pn**	**15 03 16.4**	**-0.2**
MWC				*e*Pg	**Pg**	**15 03 26.6**	**+0.3**
MWC				*e*Sn	**Sn**	**15 03 51.4**	**+0.1**
MWC				*e*Sg	**Sg**	**15 04 03.6**	**-0.1**
PASC	**Pasadena Art C**	**2.95**	**304**	Pn	**Pn**	**15 03 15.9**	**-1.3**
PASC				*e*Pg	**Pg**	**15 03 27.4**	**0.0**
PASC				*e*Sn	**Sn**	**15 03 52.3**	**-0.1**
PASC				*e*Sg	**Sg**	**15 04 06.0**	**+0.4**
GSC	**Goldstone**	**3.05**	**335**	Pn	**Pn**	**15 03 19.6**	**+0.9**
GSC				*e*Pg	**Pg**	**15 03 29.4**	**+0.2**
GSC				*e*Sn	**Sn**	**15 03 54.2**	**-0.8**
GSC				*e*Sg	**Sg**	**15 04 10.2**	**+1.5**
TUC	**Tucson**	**3.78**	**92**	*e*Pn	**Pn**	**15 03 28.2**	**-0.5**
TUC				*e*Pg	**Pg**	**15 03 44.3**	**+0.9**
TUC				*e*Sg	**Sg**	**15 04 33.1**	**+0.8**
SHPR	**Sheep Range**	**3.96**	**1**	*e*Pn	**Pn**	**15 03 30.2**	**-1.1**
SHPR				*e*Pg	**Pg**	**15 03 46.2**	**-0.6**
SHPR				*e*Sg	**Sg**	**15 04 38.1**	**+0.1**
ISA	**Isabella**	**4.11**	**320**	Pn	**Pn**	**15 03 33.6**	**+0.3**
ISA				*e*Pg	**Pg**	**15 03 48.4**	**-1.2**
DAC	**Darwin (Calif)**	**4.20**	**333**	*e*Pn	**Pn**	**15 03 33.8**	**-0.9**
DAC				*e*Pg	**Pg**	**15 03 52.3**	**+0.8**
DAC				*e*Sn	**Sn**	**15 04 23.2**	**-0.5**
DAC				*e*Sg	**Sg**	**15 04 46.1**	**+0.3**
WUAZ	**Wupatki**	**4.38**	**46**	*e*Pn	**Pn**	**15 03 37.5**	**+0.4**
WUAZ				*e*Pg	**Pg**	**15 03 54.1**	**-0.6**
WUAZ				*e*Sg	**Sg**	**15 04 51.2**	**-0.3**
CCUT	**Cedar City**	**5.24**	**17**	*e*Pn	**Pn**	**15 03 49.8**	**+0.9**
	comp=N,44nm,0.7s						
CCUT				*e*Pg	**Pg**	**15 04 09.9**	**-1.3**
CCUT				*e*Sg	**Sg**	**15 05 18.7**	**-0.3**
W18A	**Petrified Fore**	**5.26**	**59**	*e*Pn	**Pn**	**15 03 49.7**	**+0.5**
	comp=N,29nm,0.5s						
W18A				*e*Pg	**Pg**	**15 04 11.2**	**-0.4**
W18A				*e*Sg	**Sg**	**15 05 19.3**	**-0.5**
ARUT	**Antelope Range**	**5.44**	**15**	Pn	**Pn**	**15 03 51.8**	**+0.1**
	comp=N,910nm,0.5s						
ARUT				*e*Pg	**Pg**	**15 04 15.6**	**+0.5**
ARUT				*e*Sg	**Sg**	**15 05 25.5**	**-0.2**
R11A	**Troy Canyon, C**	**5.80**	**357**	*e*Pn	**Pn**	**15 03 56.7**	**0.0**
	comp=N,16nm,0.6s						
R11A				*e*Pg	**Pg**	**15 04 23.0**	**+1.0**
R11A				*e*Sn	**Sn**	**15 05 02.7**	**-0.4**
R11A				*e*Sg	**Sg**	**15 05 36.3**	**-0.9**
121A	**Cookes Peak, D**	**6.30**	**88**	*e*Pn	**Pn**	**15 04 03.8**	**+0.2**
	comp=N,31nm,0.6s						
121A				*e*Sg	**Sg**	**15 05 53.7**	**+0.5**
MVCO	**Mesa Verde**	**7.24**	**48**	Pn	**Pn**	**15 04 17.1**	**+0.6**
	comp=N,18nm,0.6s						
MNTX	**Cornudas Mount**	**8.41**	**93**	*e*Pn	**Pn**	**15 04 32.4**	**+0.1**
	comp=N,1.8nm,0.5s						
MNTX				*e*Sn	**Sn**	**15 06 07.8**	**+0.8**

MEX 26 15:17:41.0±0.5**, 16.19N**×**95.47W, h74**km±9km**, MD3.5, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.74**	**236**	*e*P	Pn	15 17 55.4	-1.3
HUIG				*e*S	Sn	15 18 06.4	-1.8
CMIG	**Matias Romero**	**1.06**	**32**	*e*P	Pn	15 17 59.3	-1.1
CMIG				*e*S	Sn	15 18 13.0	-1.9
PNIG	**Pinotepa**	**2.56**	**275**	*e*P	Pn	15 18 18.7	-1.7
PNIG				*e*S	Sn	15 18 49.7	-0.9

*ISCJB **26** 15:21:57.1±0.3, 57.28N±0.03×154.86W±0.05, h74km±3km, mb3.9/20, Error ellipse: s-maj=5.6km s-min=3.3km az=141.1*
*IDC **26** 15:21:59.2±0.9, 57.59N×155.20W, h52km±9km, mb3.7/18, mb1 3.9/20, mb1mx3.8/37, mbtmp4.0/20, MS2.5/1, Ms1 2.6/1, ms1mx2.3/33, Error ellipse: s-maj=17.4km s-min=13.1km az=16.0*
*NEIC **26** 15:21:59.7, 57.30N×154.90W, h37km, mb3.9/1, ML3.7(AEIC), After AEIC.*
NEIC Felt at Akhiok and Larson Bay.
ISC 26 15:21:58.8±0.6**, 57.29N**±0.04×**154.92W**±0.04**, h63**km±6km**, n103, σ1s00**/113**, mb4.0**/20**, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.83**	**299**	P	**Pn**	**15 22 14.4**	**-0.4**
SII	**Sitkinak Islan**	**0.83**	**151**	P	**Pn**	**15 22 14.1**	**-0.8**
SII				S	**Sn**	**15 22 25.5**	**-1.2**
KABR	**Katmai Barrier**	**0.84**	**358**	P	**Pn**	**15 22 14.0**	**-1.1**
PLK4	**Peulik 4**	**0.85**	**294**	P	**Pn**	**15 22 14.5**	**-0.6**
OHAK	**Old Harbor**	**0.89**	**94**	P	**Pn**	**15 22 14.7**	**-0.8**
OHAK				S	**Sn**	**15 22 27.1**	**-0.7**
PLK2	**Peulik 2**	**0.90**	**303**	P	**Pn**	**15 22 15.3**	**-0.3**
KCE	**Katmai Mt Cerb**	**0.97**	**352**	P	**Pn**	**15 22 16.0**	**-0.6**
KABU	**Katmai Buttres**	**1.00**	**349**	P	**Pn**	**15 22 16.8**	**-0.3**
KABU				S	**Sn**	**15 22 30.9**	**+0.3**
KAKN	**Katmai Knife C**	**1.01**	**356**	P	**Pn**	**15 22 16.4**	**-0.8**
PLK1	**Peulik 1**	**1.05**	**300**	P	**Pn**	**15 22 17.4**	**-0.2**
PLWL	**Peulik Whale M**	**1.08**	**315**	P	**Pn**	**15 22 17.3**	**-0.6**
KVTA	**Katmai Vly 10**	**1.11**	**350**	P	**Pn**	**15 22 17.8**	**-0.7**
KELA	**Mount Kelez**	**1.24**	**339**	P	**Pn**	**15 22 19.4**	**-0.6**
KAPH	**Katmai Pasha**	**1.35**	**13**	P	**Pn**	**15 22 21.4**	**-0.2**
KDAK	**Kodiak Island**	**1.35**	**68**	P	**Pn**	**15 22 20.9**	**-0.6**
KDAK				S	**Sn**	**15 22 38.2**	**-0.4**
KAHC	**Katmai Hardscr**	**1.36**	**358**	P	**Pn**	**15 22 21.3**	**-0.5**
MCNL	**McNeil River**	**1.93**	**9**	P	**Pn**	**15 22 29.1**	**-0.2**
CHGN	**Chignik**	**2.16**	**244**	P	**Pn**	**15 22 32.6**	**+0.2**
AUI	**Augustine Isla**	**2.20**	**20**	P	**Pn**	**15 22 33.4**	**+0.4**
OPT	**Oil Point**	**2.53**	**20**	P	**Pn**	**15 22 38.1**	**+0.7**
IVS	**Iliamna South**	**2.89**	**19**	P	**Pn**	**15 22 43.6**	**+1.0**
IVE	**Iliamna Volcan**	**2.91**	**19**	P	**Pn**	**15 22 43.4**	**+0.6**
ILW	**Iliamna West**	**2.93**	**18**	P	**Pn**	**15 22 43.6**	**+0.6**
HOM	**Homer**	**2.93**	**35**	P	**Pn**	**15 22 43.1**	**+0.2**
BRLK	**Bradley Lake**	**3.26**	**39**	P	**Pn**	**15 22 47.0**	**-0.4**
BRLK				S	**Sn**	**15 23 23.7**	**-1.3**
RSO	**Redoubt South**	**3.38**	**19**	*e*Pn	**Pn**	**15 22 48.5**	**-0.7**
RSO				*e*Sn	**Sn**	**15 23 28.7**	**+0.6**
RDWB	**Redoubt West**	**3.38**	**18**	P	**Pn**	**15 22 50.0**	**+0.8**
RDN	**Redoubt North**	**3.42**	**18**	P	**Pn**	**15 22 51.1**	**+1.4**
NCT	**North Crescent**	**3.44**	**17**	P	**Pn**	**15 22 50.8**	**+0.8**
DFR	**Drift River**	**3.51**	**18**	P	**Pn**	**15 22 51.9**	**+1.0**
SDPT	**Sand Point**	**3.66**	**240**	P	**Pn**	**15 22 52.7**	**0.0**
SVW2	**Sparrevohn**	**3.84**	**355**	P	**Pn**	**15 22 55.2**	**-0.1**
SEW	**Seward**	**4.01**	**43**	P	**Pn**	**15 22 56.5**	**-1.2**
SLKM	**Skilak Lake**	**4.04**	**35**	P	**Pn**	**15 22 59.0**	**+0.9**
CKL	**Chakachamna La**	**4.14**	**18**	P	**Pn**	**15 23 00.3**	**+0.8**
BGL	**Barrier Glacie**	**4.19**	**17**	P	**Pn**	**15 23 01.3**	**+1.1**
PS4A	**Pavlof South-4**	**4.33**	**246**	P	**Pn**	**15 23 02.5**	**+0.5**
HAG	**Hague Volcano**	**4.36**	**246**	P	**Pn**	**15 23 03.6**	**+1.1**
STLK	**Strandline Lak**	**4.51**	**19**	P	**Pn**	**15 23 05.2**	**+0.7**
DTNA	**Dutton South F**	**4.62**	**245**	P	**Pn**	**15 23 06.1**	**0.0**
DT1	**Dutton Round H**	**4.66**	**245**	P	**Pn**	**15 23 07.6**	**+1.1**
SUA	**Susitna One**	**4.70**	**25**	P	**Pn**	**15 23 07.6**	**+0.4**
DRIA	**Deer Island**	**4.72**	**244**	P	**Pn**	**15 23 07.2**	**-0.2**
PWL	**Port Wells**	**4.93**	**41**	P	**Pn**	**15 23 09.4**	**-0.9**
SKT	**Skwentna**	**5.01**	**19**	P	**Pn**	**15 23 12.3**	**+1.0**
PMR	**Palmer**	**5.23**	**32**	P	**Pn**	**15 23 14.0**	**-0.2**
FALS	**False Pass**	**5.35**	**246**	*e*Pn	**Pn**	**15 23 15.0**	**-0.9**
	30nm,0.4s						
FALS				*e*Sn	**Sn**	**15 24 16.8**	**+0.8**
HIN	**Hinchinbrook I**	**5.37**	**51**	P	**Pn**	**15 23 15.2**	**-1.0**
TT01	**Tatalina**	**5.66**	**355**	P	**Pn**	**15 23 20.9**	**+0.7**
JPK	**Jack Peak**	**5.71**	**45**	P	**Pn**	**15 23 20.9**	**-0.6**
EYAK	**Cordova Ski Ar**	**5.76**	**52**	P	**Pn**	**15 23 20.6**	**-1.0**
PPLA	**Purkeypile**	**5.79**	**12**	P	**Pn**	**15 23 24.1**	**+2.0**
VLZ	**Valdez**	**5.85**	**45**	P	**Pn**	**15 23 22.3**	**-0.5**
SCM	**Sheep Creek Mo**	**5.97**	**37**	P	**Pn**	**15 23 22.9**	**-1.5**
SGAM	**Sherman Glacie**	**5.97**	**53**	P	**Pn**	**15 23 23.9**	**-0.6**
WESE	**West Dahl East**	**6.13**	**247**	P	**Pn**	**15 23 27.2**	**+0.5**
RAGM	**Ragged Mountai**	**6.16**	**55**	P	**Pn**	**15 23 26.6**	**-0.4**
KLU	**Klutina**	**6.23**	**44**	P	**Pn**	**15 23 27.6**	**-0.5**
BMRM	**Bremner River**	**6.46**	**51**	P	**Pn**	**15 23 30.5**	**-0.8**
KTH	**Kantishna Hill**	**6.59**	**16**	P	**Pn**	**15 23 32.7**	**-0.2**
TRF	**Thorofare Moun**	**6.59**	**18**	P	**Pn**	**15 23 33.2**	**+0.1**
RND	**Reindeer**	**6.83**	**24**	P	**Pn**	**15 23 35.4**	**-0.8**
HARP	**HAARP**	**7.10**	**40**	P	**Pn**	**15 23 39.4**	**-0.5**
MCK	**McKinley**	**7.10**	**22**	*e*Pn	**Pn**	**15 23 39.5**	**-0.5**
	8.0nm,0.6s						
MCK				*e*Sn	**Sn**	**15 24 58.7**	**-0.4**
PAX	**Paxson**	**7.39**	**36**	P	**Pn**	**15 23 43.3**	**-0.6**
UNV	**Unalaska Valle**	**7.42**	**247**	P	**Pn**	**15 23 44.1**	**-0.1**
MSW	**Makushin Switc**	**7.52**	**248**	P	**Pn**	**15 23 45.8**	**+0.2**
GCSA	**Galena City Sc**	**7.54**	**354**	P	**Pn**	**15 23 46.0**	**+0.1**
WRH	**Wood River Hil**	**7.93**	**22**	P	**Pn**	**15 23 49.5**	**-1.7**
MENT	**Mentasta**	**7.95**	**40**	*e*Pn	**Pn**	**15 23 52.3**	**+0.7**
CCB	**Clear Creek Bu**	**8.15**	**22**	P	**Pn**	**15 23 53.4**	**-0.7**
COLA	**College**	**8.34**	**21**	*e*Pn	**Pn**	**15 23 57.3**	**+0.6**
	4.3nm,0.5s						
ILAR	**Eielson Array**	**8.45**	**24**	P	**Pn**	**15 23 56.5**	**-1.9**
	0.5nm,0.3s,baz=218,slow=14,SNR=23						
ILAR				S	**Sn**	**15 25 26.1**	**-5.9**
	0.6nm,0.3s,baz=199,slow=15,SNR=3.2						
ILAR				LR	LR	15 26 51.5	
	comp=Z,29nm,19.5s,baz=163,slow=36						
ILB	**Eielson Array**	**8.45**	**24**	P	**Pn**	**15 23 56.6**	**-1.7**
BCA3	**Beaver Creek A**	**8.73**	**43**	P	**Pn**	**15 24 01.8**	**-0.3**
IM04	**Indian Mountai**	**8.73**	**3**	*e*Pn	**Pn**	**15 24 02.3**	**+0.1**
IM3	**Indian Mountai**	**8.74**	**3**	P	**Pn**	**15 24 01.6**	**-0.8**
TNA	**Tin City**	**10.35**	**329**	*e*Pn	**Pn**	**15 24 29.4**	**+0.7**
	12nm,0.4s						
TNA				*e*Sn	**Sn**	**15 26 17.5**	**-0.9**
FX1	**Attu Island--F**	**18.69**	**270**	P	**P**	**15 26 10.8**	**-0.8**
	4.4nm,0.3s,baz=297,slow=0.2,SNR=10						
BILL	**Bilibino**	**20.41**	**317**	*e*P	**P**	**15 26 28.9**	**-1.3**
	2.8nm,0.5s						
YKA	**Yellowknife Ar**	**20.61**	**59**	P	**P**	**15 26 32.7**	**+0.3**
	0.7nm,0.6s,baz=271,slow=9.8,SNR=13						
YKA				PcP	**PcP**	**15 30 41.5**	**+1.3**
	0.2nm,0.5s,baz=276,slow=2.0,SNR=5.7						
SEY	**Seymchan**	**26.20**	**304**	P	**P**	**15 27 25.4**	**-1.6**
	0.5nm,0.2s,baz=32,slow=17,SNR=2.0						
PETK	**Petropavlovsk-**	**26.92**	**282**	P	**P**	**15 27 32.7**	**-1.0**
	1.7nm,0.4s,baz=73,slow=12,SNR=5.2						
NVAR	**Mina Array Bea**	**30.45**	**112**	P	P	15 28 08.7	+3.3
	1.0nm,0.5s,baz=308,slow=8.5,SNR=5.9						
NVAR				pP	pP	15 28 22.7	+1.9
	0.8nm,0.6s,baz=299,slow=10,SNR=3.2						
PDAR	**Pinedale Array**	**31.89**	**97**	P	**P**	**15 28 20.4**	**+2.3**
	1.6nm,0.6s,baz=310,slow=4.8,SNR=18						
PDAR				pP	**pP**	**15 28 34.6**	**+1.1**
	1.4nm,0.6s,baz=314,slow=4.7,SNR=8.1						
TXAR	**Lajitas Array**	**45.09**	**106**	P	P	15 30 13.2	+4.8
	0.4nm,0.7s,baz=284,slow=7.3,SNR=2.3						
TXAR				pP	pP	15 30 25.6	+1.0
	0.5nm,0.6s,baz=331,slow=7.3,SNR=3.7						
KSRS	**Korea Array**	**52.80**	**283**	P	**P**	**15 31 08.0**	**+0.7**
	0.8nm,0.6s,baz=41,slow=7.6,SNR=3.1						
KEV	**Kevo**	**53.25**	**359**	*e*p	**P**	**15 31 09.2**	**-0.9**
	0.3nm,0.2s						
ARCES	**ARCESS Array B**	**53.48**	**360**	P	**P**	**15 31 11.2**	**-0.6**
	6.6nm,1.2s,baz=27,slow=6.4,SNR=6.9						
SONM	**Songino Array**	**55.58**	**306**	P	**P**	**15 31 27.5**	**0.0**
	1.6nm,0.6s,baz=34,slow=5.7,SNR=9.8						
ZALV	**Zalesovo Beam**	**58.96**	**323**	P	**P**	**15 31 51.2**	**+0.1**
	0.6nm,0.5s,baz=46,slow=7.0,SNR=3.7						
JOF	**Joensuu**	**60.03**	**357**	*e*p	**P**	**15 31 57.7**	**-0.6**
	0.7nm,0.4s						
KAF	**Kangasniemi**	**60.93**	**359**	*e*p	**P**	**15 32 03.5**	**-0.9**
	0.6nm,0.3s						
NB2	**NORSAR Subarra**	**61.51**	**8**	P	**P**	**15 32 08.4**	**0.0**
	comp=Z,0.8nm,0.5s,baz=352,slow=6.9						
NOA	**NORSAR Array B**	**61.51**	**8**	P	**P**	**15 32 08.6**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=352,slow=6.7,SNR=5.5						
FINES	**FINESS Array B**	**61.60**	**359**	P	**P**	**15 32 08.4**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=5.1,slow=5.5,SNR=10						
MKAR	**Makanchi Array**	**65.91**	**321**	P	**P**	**15 32 37.0**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=29,slow=6.3,SNR=32						
AKASG	**Malin Array Be**	**72.32**	**357**	P	**P**	**15 33 16.5**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=359,slow=5.7,SNR=6.2						
GERES	**GERESS Array B**	**73.81**	**8**	P	**P**	**15 33 27.4**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=358,slow=6.0,SNR=6.1						
GEYT	**Alibeck**	**81.14**	**334**	P	**P**	**15 34 07.1**	**0.0**
	comp=Z,0.5nm,0.4s,baz=313,slow=9.6,SNR=3.5						
CMAR	**Chiang Mai Arr**	**83.05**	**293**	P	**P**	**15 34 17.1**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=8.0,slow=5.1,SNR=7.2						
BRTR	**Keskin Array B**	**83.08**	**353**	P	**P**	**15 34 17.3**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=360,slow=1.4,SNR=4.7						
QSPA	**South Pole Qui**	**147.08**	**180**	PKPbc	**PKPab**	**15 41 33.9**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=27,slow=1.4,SNR=11						

*ISCJB **26** 15:48:31.3±0.5, 20.79S±0.04×69.3W±0.1, h109km±5km, mb3.9/4, Error ellipse: s-maj=16.0km s-min=5.9km az=175.2*
*GUC **26** 15:48:31.4±0.5, 20.80S×69.37W, h104km±2km, ML4.3*
*IDC **26** 15:48:31.6±1.1, 21.01S×69.10W, h106km±7km, mb3.6/2, mb1 3.6/5, mb1mx3.4/26, mbtmp3.8/5, Error ellipse: s-maj=33.9km s-min=26.2km az=99.0*
ISC 26 15:48:31.9±0.7**, 20.75S**±0.04×**69.32W**±0.09**, h102**km±6km**, n29, σ1s33**/30**, mb3.8**/4**, 6C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.33**	**208**	⇓*e*P	**Pn**	**15 48 46.7**	**-0.4**
PB01				*e*S	**Sn**	**15 48 58.1**	**-0.2**
PB01				AML	AML	15 48 59.0	
	comp=N,14µm,0.1s						
HMBC	**Humberstone**	**0.71**	**311**	⇓*e*P	**Pn**	**15 48 49.9**	**+0.1**
HMBC				*e*S	**Sn**	**15 49 03.6**	**+0.4**
HMBC				AML	AML	15 49 06.8	
	comp=E,9µm,0.4s						
PATCX	**Punta Patache**	**0.78**	**265**	⇓*e*P	**Pn**	**15 48 50.6**	**+0.2**
PATCX				*e*S	**Sn**	**15 49 04.7**	**+0.3**
PB11	**Plate Boundary**	**1.03**	**342**	*e*P	**Pn**	**15 48 53.4**	**+0.3**
PB11				*e*S	**Sn**	**15 49 10.0**	**+1.0**
PB11				AML	AML	15 49 10.9	
	comp=E,52µm,0.2s						
PB09	**Plate Boundary**	**1.04**	**176**	⇑*e*P	**Pn**	**15 48 52.7**	**-0.5**
PB09				*e*S	**Sn**	**15 49 08.6**	**-0.6**
PB09				AML	AML	15 49 10.4	
	comp=N,12µm,0.5s						
PB07	**Plate Boundary**	**1.11**	**208**	⇑*e*P	**Pn**	**15 48 53.5**	**-0.4**
PB07				*e*S	**Sn**	**15 49 09.5**	**-0.9**
PB07				AML	AML	15 49 10.6	
	comp=E,4µm,0.5s						
PSGC	**Pisagua**	**1.37**	**326**	⇑*e*P	**Pn**	**15 48 56.9**	**0.0**
PSGC				*e*S	**Sn**	**15 49 15.8**	**0.0**
PSGC				AML	AML	15 49 17.8	
	comp=E,4µm,0.4s						
PB04	**Plate Boundary**	**1.52**	**186**	⇑*e*P	**Pn**	**15 49 00.8**	**+2.3**
PB04				*e*S	**Sn**	**15 49 22.5**	**+3.9**
PB04				AML	AML	15 49 29.6	
	comp=E,1µm,0.3s						
MNMC	**Minimini**	**1.63**	**351**	⇑*e*P	**Pn**	**15 49 00.9**	**+0.6**
MNMC				*e*S	**Sn**	**15 49 23.2**	**+1.5**
MNMC				AML	AML	15 49 28.5	
	comp=N,6µm,0.2s						
PB06	**Plate Boundary**	**1.96**	**187**	⇑*e*P	**Pn**	**15 49 03.3**	**-0.9**
PB06				AML	AML	15 49 28.3	
	comp=E,679nm,0.2s						
LPAZ	**La Paz**	**4.58**	**14**	P	**Pn**	**15 49 42.0**	**+2.4**
	comp=E,2.9nm,0.3s,baz=212,slow=6.1,SNR=54						
LPAZ				S	Sn	15 50 23.3	-8.7
	comp=E,1.3nm,0.3s,baz=186,slow=14,SNR=8.2						
SIV	**San Ignacio**	**9.15**	**60**	P	**Pn**	**15 50 38.2**	**-2.9**
	comp=E,2.0nm,0.3s,baz=262,slow=10,SNR=21						
CFAA	**Coronel Fontan**	**10.85**	**175**	P	Pn	15 50 58.5	-5.7
	comp=E,0.1nm,0.3s,baz=348,slow=12,SNR=6.5						
CFAA				S	Sn	15 52 45.5	-18
	comp=E,0.1nm,0.3s,baz=45,slow=16,SNR=2.7						
H03N1	**Juan Fernandez**	**15.24**	**212**	T	T	16 07 24.7	
	baz=33,slow=75,SNR=9.6						
H03N2	**Juan Fernandez**	**15.25**	**212**	T	T	16 07 24.8	
	baz=33,slow=75,SNR=8.3						
H03N3	**Juan Fernandez**	**15.26**	**212**	T	T	16 07 25.2	
	baz=33,slow=75,SNR=9.8						
RCBR	**Riachuelo**	**35.64**	**70**	P	**P**	**15 55 21.1**	**+0.8**
	comp=E,6.9nm,0.9s,baz=198,slow=13,SNR=4.7						
QSPA	**South Pole Qui**	**69.44**	**180**	P	**P**	**15 59 29.4**	**+0.5**
	comp=E,0.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**77.47**	**71**	P	**P**	**16 00 15.1**	**-1.6**
	comp=E,0.6nm,0.5s,baz=243,slow=4.6,SNR=7.5						
TORD				pP	**pP**	**16 00 43.0**	**+0.1**
	comp=E,2.4nm,0.8s,baz=259,slow=5.2,SNR=9.4						
YKA	**Yellowknife Ar**	**90.36**	**341**	P	**P**	**16 01 21.1**	**0.0**
	comp=E,0.5nm,0.7s,baz=135,slow=4.8,SNR=12						
YKA				pP	**pP**	**16 01 48.2**	**+0.2**
	comp=E,0.7nm,0.7s,baz=136,slow=4.7,SNR=11						
H11S2	**WAKE ISLAND Hy**	**127.40**	**278**	T	T	18 27 20.4	
	baz=102,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**127.41**	**278**	T	T	18 27 20.3	
	baz=102,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**127.42**	**278**	T	T	18 27 21.7	
	baz=102,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**127.46**	**279**	T	T	18 27 23.2	
	baz=91,slow=74,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**127.48**	**279**	T	T	18 27 22.7	
	baz=91,slow=74,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**127.48**	**279**	T	T	18 27 23.5	
	baz=91						
WRA	**Warramunga Arr**	**133.40**	**211**	PKP	**PKPdf**	**16 07 36.0**	**-1.0**
	comp=E,0.7nm,1.0s,baz=159,slow=1.9,SNR=2.6						
ZALV	**Zalesovo Beam**	**141.44**	**24**	PKP	**PKPdf**	**16 07 50.9**	**+0.3**
	comp=E,0.6nm,0.5s,baz=318,slow=1.9,SNR=3.4						
MKAR	**Makanchi Array**	**145.25**	**35**	PKPbc	**PKPbc**	**16 07 57.2**	**-0.3**
	comp=E,1.6nm,0.8s,baz=313,slow=4.0,SNR=16						
MKAR				pPKPbc	pPKPbc	16 08 25.9	+0.6
	comp=E,0.3nm,0.5s,baz=300,slow=3.7,SNR=4.1						

WEL 26 16:03:43.1±0.3**, 44.84S**×**167.28E, h5**km**, ML3.5/10, 1C, Error ellipse: s-maj=3.1km s-min=1.9km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.49**	**71**	⇑PG	Pg	16 03 52.5	0.0
MSZ				SG	Sg	16 03 58.1	-0.7
MSZ				AML	AML	16 03 58.6	
MSZ				AML	AML	16 04 00.5	
MSZ				AML	AML	16 04 00.6	
DCZ	**Deep Cove**	**0.65**	**188**	P*	Pg	16 03 55.7	+0.1
DCZ				SG	Sg	16 04 04.8	+0.7
DCZ				AML	AML	16 04 04.8	
DCZ				AML	AML	16 04 04.9	
DCZ				AML	AML	16 04 05.2	
MLZ	**Mavora Lakes**	**0.81**	**129**	P*	Pg	16 03 58.7	-0.2
MLZ				AML	AML	16 04 09.9	
MLZ				AML	AML	16 04 10.0	
WHZ	**Wether Hill Ro**	**1.16**	**156**	P*	Pg	16 04 04.8	-0.6
WHZ				S*	Sg	16 04 19.9	-0.5
WHZ				AML	AML	16 04 21.4	
WKZ	**Wanaka**	**1.23**	**90**	P*	Pg	16 04 06.3	-0.6
WKZ				AML	AML	16 04 24.3	
WKZ				AML	AML	16 04 27.5	
JCZ	**Jackson Bay**	**1.30**	**55**	P*	Pn	16 04 07.9	-0.2
JCZ				AML	AML	16 04 32.3	
JCZ				AML	AML	16 04 33.1	
EAZ	**Earnscleugh**	**1.49**	**106**	PN	Pn	16 04 10.2	-0.3
EAZ				AML	AML	16 04 32.4	
EAZ				AML	AML	16 04 32.5	
EAZ				AML	AML	16 04 33.2	
EAZ				AML	AML	16 04 33.2	
TUZ	**Tuapeka**	**2.00**	**125**	PN	Pn	16 04 18.5	+1.0
APZ	**The Paps**	**2.06**	**166**	*e*PN	Pn	16 04 19.2	+0.8
APZ				SN	Sn	16 04 45.4	+0.9
APZ				AML	AML	16 04 48.9	
LBZ	**Lake Benmore**	**2.12**	**79**	PN	Pn	16 04 19.6	+0.4
LBZ				AML	AML	16 04 55.6	
LBZ				AML	AML	16 04 58.4	
SYZ	**Scrubby Hill**	**2.14**	**143**	PN	Pn	16 04 20.1	+0.6
SYZ				AML	AML	16 04 49.5	
SYZ				AML	AML	16 04 51.7	
SYZ				AML	AML	16 04 51.8	
SYZ				AML	AML	16 06 51.2	
FOZ	**Fox Glacier**	**2.15**	**55**	PN	Pn	16 04 20.7	+1.2
ODZ	**Otahua Downs**	**2.40**	**96**	PN	Pn	16 04 24.3	+1.2
DSZ	**Denniston Nort**	**4.52**	**48**	*e*PN	Pn	16 04 52.0	-0.2

DJA 26 16:04:36.9±1.5**, 2°N**±6°×**12°6E**±°**, h14**km±14km**, M3.6/6, MLv3.6/6, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.58**	**338**	P	Pn	16 05 03.8	-0.7
TNTI	**Ternate**	**1.90**	**139**	P	Pn	16 05 09.2	+0.2
TNTI				S	Sn	16 05 32.3	-0.4
KMSI	**Cibinong**	**2.68**	**233**	P	Pn	16 05 18.9	-0.7
KMSI				S	Sn	16 05 53.9	+2.0
LBMI	**Labuha**	**3.15**	**154**	P	Pn	16 05 27.0	+0.8
SANI	**Sanana**	**4.23**	**182**	P	Pn	16 05 40.3	-0.7
MRSI	**Marisa**	**4.51**	**248**	P	Pn	16 05 43.9	-0.9

MAN 26 16:05:28, 18.90N×**120.01E, h8**km**, mb4.6, ML3.5, MS3.4, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.81**	**134**	⇑*e*P	Pb	16 05 44.5	+0.1
ABRA	**Dolores**	**1.41**	**151**	*e*P	Pn	16 05 53.6	-0.4
APYP	**Conner**	**1.56**	**131**	*e*P	Pn	16 05 55.7	-0.3
APYP				*e*S	Sb	16 06 17.0	-0.1
BOLP	**Bolinao**	**2.50**	**182**	*e*P	Pg	16 06 18.4	+2.4
CAUP	**Cauayan**	**2.60**	**138**	*e*P	Pb	16 06 13.2	-1.7

*MAN **26** 16:18:53, 5.75N×125.78E, h14km, mb5.7, ML4.7, MS5.1*
MAN INTENSITY IV - GENERAL SANTOS CITY.
*MOS **26** 16:18:54.1±1.3, 5.76N×125.50E, h47km, mb5.2/56, MS4.2/18, Error ellipse: s-maj=10.2km s-min=5.3km az=110.2*
*IDC **26** 16:18:55.2±1.8, 5.78N×125.48E, h35km±13km, mb4.8/31, mb1 4.8/32, mb1mx4.8/35, mbtmp5.0/32, ML5.6/1, MS4.1/25, Ms1 4.2/25, ms1mx4.0/33, Error ellipse: s-maj=13.8km s-min=9.0km az=78.0*
*ISCJB **26** 16:18:56.7±0.3, 5.83N±0.01×125.80E±0.02, h67km±2km, mb5.0/158, Error ellipse: s-maj=3.7km s-min=2.3km az=172.0*
*BJI **26** 16:18:56.8, 5.80N×125.70E, h51km, mB5.2/44, mb5.0/60, Ms4.7/54, Ms7 4.5/54*
*GCMT **26** 16:18:57.3±0.2, 5.79N×125.51E, h31km±1km, MW5.0/70, Moment Tensor Solution. s44,c59; s70,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.09±.16; $M_{\theta\theta}$0.78±.11; $M_{\phi\phi}$-3.87±.12; $M_{r\theta}$-1.06±.18; $M_{\theta\phi}$-0.02±.08; $M_{\phi r}$-2.49±.18; Best double couple: $M_0$4.43800×10^{16} NP1:ϕ_s196.00000°, δ65.00000°, λ106.00000°. NP2: ϕ_s342.00000°, δ30.00000°, λ60.00000°. Principal axes: T 4.1860, Plg66.0000°, Azm135.0000°; N 0.5080, Plg15.0000°, Azm9.0000°; P -4.6910, Plg18.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*KLM **26** 16:18:57.1, 5.80N×125.92E, h50km, mb5.2, ML4.9, MS5.9*
*NEIC **26** 16:18:57.3±0.7, 5.82N×125.65E, h60km±6km, mb5.1/62, Error ellipse: s-maj=6.0km s-min=4.1km az=78.0*
NEIC Felt [IV PIVS] at General Santos. Also felt at Alabel and Magnaga.
*DJA **26** 16:18:58.6±0.5, 6°N±3°×12°6E±°, h48km±4km, M5.1/95, mB5.6/59, mb5.3/95, MLv5.7/8, Mw(mB)5.1/59, Mwp5.7/1*
ISC 26 16:18:57.4±0.3**, 5.84N**±0.02×**125.74E**±0.04**, h57**km±1km**, h57**km**:pP-P, n573, σ1s63**/651**, mb5.1**/156**, MS4.3**/51**, 96C-113D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.22**	**25**	*e*P	**Pn**	**16 19 15.8**	**-2.5**
MATI				*e*S	**Sn**	**16 19 28.9**	**-4.8**
DAV	**Davao City (W)**	**1.23**	**353**	*e*Pn	**Pn**	**16 19 18.3**	**-0.2**
DAV				*e*Sn	**Sn**	**16 19 36.1**	**+1.9**
DMPH	**Davao City--Mi**	**1.26**	**350**	⇑*e*P	**Pn**	**16 19 18.7**	**-0.1**
DMPH				*e*S	**Sn**	**16 19 36.4**	**+1.6**
BUKP	**Musuan**	**2.13**	**342**	*e*P	**Pn**	**16 19 31.7**	**+1.0**
BUKP				*e*S	**Sn**	**16 19 57.9**	**+1.8**
SGSI	**Sangihe**	**2.15**	**186**	P	**Pn**	**16 19 31.9**	**+1.0**
SGSI				S	**Sn**	**16 19 58.6**	**+2.2**
BIPH	**Bislig**	**2.41**	**15**	⇑*i*P	**Pn**	**16 19 33.7**	**-0.8**

BIPH i S Sn 16 20 03.1 +0.3
PAGZ Pagadian 3.07 311 eP Pn 16 19 41.9 -1.6
PAGZ eS Sn 16 20 23.3 +4.2
BUTP Butuan 3.11 358 eP Pn 16 19 45.5 +1.4
SCPH Surigao 3.92 356⇓eP Pn 16 19 56.0 +0.8
MSLP Maasin 4.36 349 eP Pn 16 20 02.4 +1.3
LLP Lapu-Lapu 4.78 339 eP Pn 16 20 08.2 +1.2
LLP eS Sn 16 21 03.5 +2.4
TNTI Ternate 5.29 162 P Pn 16 20 12.8 -1.2
926nm,1.1s,9µm3.6nm
TNTI S Sn 16 21 16.3 +2.6
926nm,1.1s,9µm3.6nm
TNTI Ternate 5.29 162 ePn Pn 16 20 12.7 -1.2
TNTI eSn Sn 16 21 16.2 +2.6
OCLP Ormoc 5.30 348 eP Pn 16 20 15.6 +1.6
PLP Palo 5.34 352⇓eP Pn 16 20 16.4 +1.7
KMSI Cibinong 5.51 199 P Pn 16 20 15.9 -1.1
1µm,0.9s,15µm8.2nm
GUIM Jordan 5.69 327 eP Pn 16 20 20.5 +1.2
RCP Roxas 6.41 333⇓eP Pn 16 20 30.8 +1.6
MRSI Marisa 6.54 216 P Pn 16 20 27.8 -3.2
LBMI Labuha 6.67 165 P Pn 16 20 32.8 -0.1
401nm,0.6s,5µm3.0nm
TOLI Toli-Toli 6.80 227 ePn Pn 16 20 28.1 -6.5
LUWI Luwuk 7.45 204 P Pn 16 20 44.8 +1.3
951nm,1.0s,10µm5.2nm
LUWI Luwuk 7.45 204 ePn Pn 16 20 42.3 -1.2
LUWI eSn Sn 16 22 03.9 -2.8
LUWI Luwuk 7.45 204 ⇑P Pn 16 20 43.4 -0.2
baz=7.4,SNR=47
SANI Sanana 7.84 178 P Pn 16 20 45.3 -3.6
APSI Ampana 7.85 211 P Pn 16 20 49.8 +0.8
555nm,1.0s,5µm2.1nm
PVCP Virac 7.86 349⇑eP Pn 16 20 51.5 +2.3
MPSI Mapaga 7.99 227 P Pn 16 20 48.8 -2.1
50nm,0.9s,1µm0.5nm
SDKM Sandakan 8.50 269 ⇑P Pn 16 20 57.7 -0.3
SWI Sorong 8.65 140 P Pn 16 20 59.7 -0.2
107nm,0.8s,1µm
SWI Sorong 8.65 140 ⇑P Pn 16 21 00.1 +0.2
baz=8.6,SNR=16
PALU Palau 8.81 80 ⇓P Pn 16 21 00.7 -1.5
baz=8.8,SNR=6.1
KDM Kudat 8.91 277 ⇓P Pn 16 21 07.0 +3.5
NLAI Namlea 9.12 171 P Pn 16 21 04.0 -2.4
313nm,0.8s,4µm
KKM Kota Kinabalu 9.47 272 ePn Pn 16 21 10.8 -0.6
KKM eSn Sn 16 22 55.2 -1.3
KKM Kota Kinabalu 9.47 272 ⇑P Pn 16 21 11.7 +0.4
baz=9.5,SNR=7.3
KKM Kota Kinabalu 9.47 272 ⇑P Pn 16 21 13.6 +2.3
TTSI Tana Toraja 10.62 214 P Pn 16 21 26.6 -0.3
138nm,0.9s,1µm
FAKI Fak Fak 10.86 143 P Pn 16 21 30.8 +0.5
131nm,1.0s
FAKI Fak Fak 10.86 143 ePn Pn 16 21 28.3 -2.0
FAKI eSn Sn 16 23 30.1 -0.3
FAKI Fak Fak 10.86 143 ⇓P Pn 16 21 30.6 +0.3
baz=11,SNR=17
SPSI Sidrap Palu 11.42 212 P Pn 16 21 38.8 +1.0
63nm,1.0s,825nm
BNSI Bone 11.62 209 P Pn 16 21 41.4 +0.8
79nm,0.9s,1µm
KAPI Kappang 12.33 209 Pn Pn 16 21 50.7 +0.4
471nm,1.2s,SNR=7.3
KAPI Kappang 12.33 209 ePn Pn 16 21 49.7 -0.6
BKSI Bulukumba 12.42 207 P Pn 16 21 53.0 +1.4
40nm,1.0s
BAKI Biak 12.49 124 P Pn 16 21 55.3 +2.8
198nm,1.5s,3µm
MTKI Muara Teweh, K 12.75 238 P P 16 22 12.2 +6.9
BTM Bintulu 12.88 259 ⇑P Pn 16 21 59.1 +1.3
SRPI Serui, Papua 12.99 126 P P 16 22 04.6 -3.4
SBUM Sibu 13.89 257 ⇑P Pn 16 22 13.4 +1.8
BBKI Banjar Baru 14.28 230 P Pn 16 22 18.1 +1.4
243nm,1.5s,3µm
MMRI Maumere 14.80 194 P P 16 22 44.5 +16
SMPI Sarmi 15.11 121 P P 16 22 30.7 -0.9
60nm,1.5s
STKI Sintang 15.35 249 P Pn 16 22 31.7 +1.1
47nm,1.1s,4µm
SOEI Soe 15.56 185 P P 16 22 36.5 -0.2
275nm,1.3s,3µm
SOEI Soe 15.56 185 ePn Pn 16 22 33.9 +0.5
236nm,1.0s
SOEI Soe 15.56 185 ⇓P Pn 16 22 35.0 +1.6
baz=16,SNR=12
KSM Kuching 15.99 255 ePn Pn 16 22 39.3 +0.4
118nm,1.0s
KSM Kuching 15.99 255 ⇓P P 16 22 42.7 +1.3
BATI Baumata 16.07 187 P Pn 16 22 39.3 -0.6
135nm,1.1s,2µm
BATI Baumata 16.07 187 Pn Pn 16 22 39.3 -0.6
21nm,0.3s,baz=298,slow=1.3,SNR=14
BATI LR LR 16 31 08.4
comp=Z,811nm,18.2s,baz=306,slow=46
PBKI Pangkalan Bun 16.41 239 P P 16 22 46.3 +0.2
236nm,1.0s,2µm
GENI Genyem 16.67 120 P P 16 22 54.1 +5.2
JAY Jayapura 17.10 119 P P 16 22 57.1 +3.4
28nm,0.7s
JAY Jayapura 17.10 119 ⇑P Pn 16 22 52.6 -0.1
baz=17,SNR=9.6
SRBI Singaraja 17.36 217 P P 16 22 58.5 +1.9
82nm,1.3s
KMMI Kalianget 17.37 223 P P 16 22 57.7 +1.0
99nm,0.9s,4µm
TWG Pinlang 17.47 346 ePn Pn 16 22 57.2 0.0
88nm,0.8s
ABJI Asem Bagus 17.75 220 P P 16 23 04.4 +3.6
80nm,1.0s
IGBI Denpasar 17.99 216 P Pn 16 23 05.3 +1.7
167nm,1.2s,3µm
TPUB Ta-pu 18.05 345 eP Pn 16 23 04.4 +0.1
44nm,0.9s
JAGI Jajag, Banyuwa 18.32 219 P Pn 16 23 08.9 +1.3
71nm,1.2s
JAGI Jajag, Banyuwa 18.32 219 ePn P 16 23 06.2 -0.9
51nm,0.7s
JAGI Jajag, Banyuwa 18.32 219 ⇓P Pn 16 23 08.2 +0.6
baz=18,SNR=9.8
GRJI Gresik 18.32 226 P Pn 16 23 15.4 +7.8
SSLB Suanglung 18.43 346 eP P 16 23 08.2 -0.1
SSLB ePn Pn 16 23 08.7 -0.2
GMJI Gumukmas 18.62 221 P Pn 16 23 13.6 +2.3
72nm,1.0s
UWJI Ujung Watu 19.14 231 P Pn 16 23 18.6 +1.2
153nm,1.4s,2µm
MTN Manton Dam 19.32 164 ⇓P P 16 23 17.9 -0.1
baz=19,SNR=27
NGJI Ngawi 19.36 228 P Pn 16 23 22.1 +2.0
93nm,1.1s
KDU Kakadu 19.59 160 ⇓P P 16 23 21.1 +0.1
baz=20,SNR=22
SMRI Semarang 19.92 230 P Pn 16 23 27.7 +0.9
143nm,1.0s
SMRI Semarang 19.92 230 eP Pn 16 23 26.7 -0.1
141nm,0.9s
TPI Tanjungpandan 19.98 245 P P 16 23 25.7 +0.4
151nm,0.9s,1µm
WOJI Wonogiri, Jawa 20.07 228 P P 16 23 27.1 +0.8
68nm,1.1s,4µm
QZH Quanzhou 20.19 341⇑iP Pn 16 23 31.0 +1.2
QZH S S 16 27 07.3 -3.8
QZH pmax pmax
comp=Z,2µm,3.3s
QZH LR LR
comp=Z,3µm,20.0s
QIZ Qiongzhong 20.29 312 P P 16 23 29.8 +1.2
QIZ pP pP 16 23 40.3 -0.9
QIZ sP sP 16 23 47.5 -1.0
QIZ S S 16 27 15.5 +2.4
QIZ sS sS 16 27 31.3 -2.4
QIZ pmax pmax
comp=Z,34nm,0.8s
QIZ pmax pmax
comp=Z,430nm,9.2s
QIZ LR LR
comp=N,660nm,18.1s
QIZ LR LR
comp=E,280nm,19.7s
QIZ LR LR
comp=Z,1µm,18.2s
QIZ Qiongzhong 20.29 312 eP P 16 23 27.5 -1.1
27nm,0.8s
MMPI Merauke 20.38 134 P Pn 16 23 35.4 +3.3
769nm,0.8s,6µm
MMPI Merauke 20.38 134 ⇑P P 16 23 29.7 +0.1
baz=20,SNR=7.7
UGM Wanagama 20.42 228 P Pn 16 23 41.6 +9.0
UGM Wanagama 20.42 228 ePn Pn 16 23 34.7 +2.1
201nm,1.2s
GZH Guangzhou 20.90 326 P Pn 16 23 40.0 +1.8
GZH LR LR
comp=N,2µm,14.7s
GZH LR LR
comp=E,2µm,14.9s
JOW Kunigami 21.02 6 P P 16 23 38.9 +2.5
1.8nm,0.5s,baz=142,slow=19,SNR=6.4
KPJI Karang Pucung 21.27 232 P P 16 23 42.1 +2.9
90nm,1.0s
JCJI Jatiwangi 21.30 235 P P 16 23 44.3 +4.7
254nm,1.3s
KNRA Kununurra 21.59 172 ⇑P P 16 23 41.8 -0.7
baz=22,SNR=30
TPRI Tanjung Pinang 21.72 258 P P 16 23 47.0 +2.9
76nm,0.8s,2µm
UBPT Khong Chiam 22.00 297 P P 16 23 47.2 +0.2
129nm,1.1s,2µm
LEM Lembang 22.03 235 P P 16 23 49.4 +1.9
278nm,1.1s,3µm
LEM Lembang 22.03 235 ⇑P P 16 23 49.0 +1.5
baz=22,SNR=14
MYKOM Kota Tinggi 22.20 260 ⇑P P 16 23 52.0 +2.8
CISI Cisompet, Garu 22.29 234 P P 16 23 53.3 +3.1
121nm,1.1s,2µm
CISI Cisompet, Garu 22.29 234 eP P 16 23 50.1 -0.1
BTDF Bukit Timah Da 22.36 259 ⇓P P 16 23 52.7 +1.8
baz=22,SNR=7.9
CBJI Citeko 22.44 237 P P 16 23 54.5 +2.7
1µm,1.4s,19µm
KTGM Kuala Trenggan 22.50 270 ⇑P P 16 23 54.5 +2.0
PMBI Palembang 22.68 248 P P 16 23 57.8 +3.5
391nm,1.0s,11µm
PMBI Palembang 22.68 248 eP P 16 23 56.9 +2.6
KGM Kluang 22.68 261 ⇑P P 16 23 56.5 +2.1
CNJI Cibinong 22.70 235 P P 16 23 56.3 +1.8
160nm,1.3s,2µm
SBJI Serang 22.89 239 P P 16 23 59.1 +2.5
355nm,1.9s,6µm
SKJI Sukabumi 23.00 237 P P 16 24 00.1 +2.4
418nm,1.0s,4µm
BLSI Bandar Lampung 23.29 242 P P 16 24 03.1 +2.6
429nm,0.9s,3µm
KLI Kotabumi 23.40 243 P P 16 24 03.9 +2.4
354nm,1.0s,3µm
CGJI Cibinong 23.52 239 P P 16 24 02.6 0.0
296nm,0.8s,3µm
FITZ Fitzroy Crossi 23.79 180 ⇓P P 16 24 04.1 -0.9
baz=24
KASI Kota Agung 24.02 242 P P 16 24 09.5 +2.3
319nm,0.9s,2µm
CHBT CHBT 24.08 288 P P 16 24 08.6 +0.8
50nm,0.9s,1µm
FRIM Kepong 24.17 265 ⇑P P 16 24 09.6 +1.0
LHSI Lahat 24.17 247 P P 16 24 11.4 +2.8
188nm,1.2s,2µm
LWLI Liwa 24.18 244 P P 16 24 09.8 +1.0
376nm,0.8s,3µm
IPM Ipoh 24.65 268 eP P 16 24 12.6 -0.4
34nm,0.7s
IPM Ipoh 24.65 268 ⇓P P 16 24 14.3 +1.3
MASI Maura Aman, Be 25.11 250 P P 16 24 20.7 +3.5
216nm,1.0s,5µm
SDSI Sungai Dareh 25.19 255 P P 16 24 20.1 +2.3
145nm,0.9s
BKNI Bangkinang 25.25 258 P P 16 24 20.8 +2.3
266nm,1.0s,2µm
BKNI Bangkinang 25.25 258 eP P 16 24 18.7 +0.2
219nm,1.0s
BKNI Bangkinang 25.25 258 ⇑P P 16 24 18.8 +0.4
baz=25,SNR=5.1
SSE Sheshan 25.49 351 P P 16 24 20.8 +0.5
SSE sP sP 16 24 39.8 -1.5
SSE S S 16 28 45.8 +2.2
SSE pmax pmax
comp=Z,46nm,0.8s
SSE pmax pmax
comp=Z,440nm,4.3s
SSE LR LR
comp=N,130nm,19.9s
SSE LR LR
comp=E,140nm,19.9s
SSE LR LR
comp=Z,130nm,17.7s
PATY Pattaya 25.51 288 P P 16 24 29.2 +8.4
PDSI Padang 26.11 256 P P 16 24 27.1 +0.8
95nm,0.9s,1µm
PMG Port Moresby 26.18 125 P P 16 24 27.6 +0.8
PMG pmax pmax
comp=Z,59nm,0.8s
PMG MLR MLR
comp=Z,263nm,18.2s
PMG Port Moresby 26.18 125 P P 16 24 27.6 +0.8
comp=Z,59nm,0.8s,baz=337,slow=6.0,SNR=21
PMG LR LR 16 35 37.6
comp=Z,263nm,18.2s,baz=316,slow=38
COEN Coen 26.20 139 eP P 16 24 27.4 +0.4
comp=Z,576nm,1.0s
COEN Coen 26.20 139 ⇓P P 16 24 27.1 +0.1
baz=26,SNR=42
CBIJ Chichi jima 26.31 35 P P 16 24 28.5 +0.6
JCJ Chichijima 26.31 35 P P 16 24 28.5 +0.6
comp=Z,39nm,0.4s,baz=282,slow=17,SNR=4.6
JCJ LR LR 16 32 54.5
comp=Z,194nm,21.6s,baz=182,slow=32
PBKT Sadao Pong 26.50 296 P P 16 24 30.1 +0.5
comp=Z,58nm,1.2s,comp=Z,1µm
MNSI Mandailing Nat 26.58 260 P P 16 24 32.2 +1.7
comp=Z,38nm,1.2s
WHN Wuhan 26.81 338 P P 16 24 33.0 +0.7
WHN LR LR
comp=Z,2µm,18.6s
WB9 Warramunga Arr 26.85 162 ⇓P P 16 24 32.3 -0.5
baz=27
NJ2 Nanjing 26.86 347 eP P 16 24 29.5 -3.3
NJ2 pmax pmax
comp=Z,20nm,1.1s
SURT Suratani 26.89 278 P P 16 24 35.7 +2.4
comp=Z,21nm,1.1s,comp=Z,221nm
PSI Prapat 26.90 265 P P 16 24 32.8 -0.7
PSI pmax pmax
comp=Z,16nm,0.9s
PSI Prapat 26.90 265 P P 16 24 32.8 -0.7
comp=Z,16nm,0.8s,baz=80,slow=4.9,SNR=18
WB6 Warramunga Arr 26.91 162 ⇓P P 16 24 32.8 -0.6
baz=27
WC1 Warramunga Arr 26.96 162 ⇓P P 16 24 33.3 -0.6
baz=27
WRAB Tennant Creek 26.98 162 P P 16 24 33.5 -0.4
comp=Z,456nm,0.8s,SNR=88
WRAB Tennant Creek 26.98 162c iP P 16 24 33.2 -0.7
WRAB Tennant Creek 26.98 162 eP P 16 24 32.6 -1.3
comp=Z,123nm,1.1s
WRA Warramunga Arr 26.98 162 P P 16 24 33.1 -0.9
comp=Z,57nm,0.9s,baz=338,slow=10,SNR=112
WRA PcP PcP 16 27 54.7 0.0
comp=Z,11nm,0.8s,baz=331,slow=2.8,SNR=6.8
WRA ScP ScP 16 31 33.1 +2.9
comp=Z,4.1nm,0.8s,baz=336,slow=3.3,SNR=7.4
WC4 Warramunga Arr 27.00 162 ⇑P P 16 24 33.7 -0.4
baz=27
PKDT Phuket 27.28 276 P P 16 24 40.0 +3.3
comp=Z,48nm,1.1s
UTTA Uttaradit 27.30 298 P P 16 24 38.6 +1.7
comp=Z,8.6nm,1.0s,comp=Z,86nm
GYA Guiyang 27.42 320⇑iP P 16 24 38.8 +0.8
GYA pP pP 16 24 53.3 +1.1
GYA sP sP 16 25 01.0 +2.0
GYA PP PnPn 16 25 29.0 +4.0
GYA S S 16 29 15.5 +1.0
GYA sS sS 16 29 38.0 -0.8
GYA SS SnSn 16 30 35.3 +6.4
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,120nm,4.7s
GYA LR LR
comp=Z,760nm,16.8s
GYA LR LR
comp=Z,580nm,17.0s
GYA LR LR
comp=Z,670nm,16.5s
MBWA Marble Bar 27.47 192 eP P 16 24 36.8 -1.5
comp=Z,54nm,1.1s
SRDT SRDT 27.51 290 P P 16 24 39.9 +1.1
comp=Z,89nm,1.0s
JNU Nakatsue 27.56 9 P P 16 24 39.9 +0.7
comp=Z,28nm,0.9s,baz=154,slow=6.2,SNR=7.3
JNU Nakatsue 27.56 9 eP P 16 24 39.0 -0.1
KCSI Kotacane, Aceh 27.96 267 P P 16 24 43.6 +0.7
comp=Z,66nm,1.0s,comp=Z,584nm
KHLT Khaolaem Dam 28.12 291 P P 16 24 47.2 +2.9
comp=Z,14nm,1.4s,comp=Z,240nm
LAMP Lampang 28.41 299 P P 16 24 50.5 +3.7
comp=Z,8.2nm,0.9s,comp=Z,81nm
GSI Gunungsitoli 28.46 262 P P 16 24 48.3 +1.0
comp=Z,134nm,0.8s
GSI Gunungsitoli 28.46 262 eP P 16 24 45.7 -1.6
comp=Z,91nm,0.8s
CRAI Chiangrai 28.48 302 P P 16 24 46.8 -0.7
comp=Z,165nm,0.9s
CMAR Chiang Mai Arr 28.98 298 P P 16 24 51.9 -0.1
comp=Z,4.8nm,0.7s,baz=123,slow=7.2,SNR=17
CMAR ScP ScP 16 31 37.8 +1.3
comp=Z,3.4nm,1.0s,baz=124,slow=1.8,SNR=12
CMAR LR LR 16 36 40.6
comp=Z,878nm,18.7s,baz=86,slow=37
CMMT Chiang Mai 29.11 299 P P 16 24 53.9 +0.8
comp=Z,31nm,1.2s,comp=Z,469nm
CHTO Chiang Mai 29.12 299 eP P 16 24 53.3 +0.2
CHTO pmax pmax
comp=Z,34nm,1.2s
CHTO Chiang Mai 29.12 299 P P 16 24 54.0 +0.9
comp=Z,100nm,1.2s,comp=Z,2µm
CHTO Chiang Mai 29.12 299 eP P 16 24 53.3 +0.2
comp=Z,34nm,1.2s
KMI Kunming 29.21 313 P P 16 24 56.3 +2.2
KMI S S 16 29 46.0 +3.0
KMI pmax pmax
comp=Z,32nm,1.2s
KMI LR LR
comp=Z,390nm,22.3s
KMI LR LR
comp=Z,490nm,19.5s
KMI LR LR
comp=Z,840nm,22.3s
CMAI Chiengmai2 29.48 301 P P 16 24 57.4 +0.9
comp=Z,182nm,0.8s,comp=Z,10µm
QIS Mount Isa 29.56 153 ⇑P P 16 24 57.4 +0.5
baz=30,SNR=32
MHMT Maesarieng 29.77 297 P P 16 25 02.4 +3.5
comp=Z,16nm,0.9s,comp=Z,636nm
AS15 Alice Springs 30.36 165 ⇑P P 16 25 04.1 0.0
baz=30
AS04 Alice Springs 30.39 165 ⇓P P 16 25 04.3 0.0
baz=30
AS10 Alice Springs 30.42 165 ⇓P P 16 25 04.5 -0.1
baz=30
GIRL Giralia 30.46 201 ⇑P P 16 25 05.7 +0.8
baz=31
WRKA Warakurna 30.79 175 P P 16 25 07.2 -0.6
baz=31,SNR=83
KSAR Wonju Array Be 31.52 3 P P 16 25 15.3 +1.2
KSAR 16 28 07.1
KSAR Wonju Array Be 31.52 3 P P 16 25 15.2 +1.2
KSAR PcP PcP 16 28 07.0 +1.2
KSAR ScP ScP 16 31 46.8 +2.4
KSRS Korea Array 31.53 3 P P 16 25 15.2 +1.1
comp=Z,6.9nm,0.7s,baz=183,slow=10.0,SNR=22
KSRS PcP PcP 16 28 07.0 +1.2
comp=Z,4.9nm,0.7s,baz=184,slow=3.3,SNR=9.6
KSRS ScP ScP 16 31 46.8 +2.4
comp=Z,2.7nm,0.8s,baz=213,slow=3.1,SNR=6.8
KSRS LR LR 16 39 55.6
comp=Z,419nm,19.7s,baz=194,slow=40
XAN Xi'an 32.10 333 P P 16 25 18.5 -0.8
XAN pP pP 16 25 32.5 -1.2
XAN sP sP 16 25 37.3 -3.1
XAN PP PnPn 16 26 23.8 -3.0
XAN S S 16 30 24.0 -3.7
XAN SS SnSn 16 32 20.8 -1.8
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN pmax pmax
comp=Z,23nm,4.1s
XAN LR LR
comp=Z,290nm,17.1s
XAN LR LR
comp=Z,150nm,18.3s
XAN LR LR
comp=Z,230nm,17.4s
CD2 Chengdu 32.37 323 ⇓P P 16 25 23.5 +1.8
CD2 pP pP 16 25 37.3 +1.2
CD2 sP sP 16 25 43.8 +0.9
CD2 PP PP 16 26 33.3 -2.5
CD2 PcP PcP 16 28 09.5 +1.1
CD2 S S 16 30 33.5 +1.5
CD2 sS sS 16 30 57.0 +0.6
CD2 SS SnSn 16 32 32.3 +3.1
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,230nm,4.9s
CD2 LR LR
comp=Z,1µm,22.5s
CD2 LR LR
comp=Z,960nm,18.6s
CD2 LR LR
comp=Z,1µm,18.6s
MAJO Matsushiro 32.63 19 P P 16 25 24.0 +0.2
MAJO pmax pmax
comp=Z,297nm,2.2s
MAJO MLR MLR
comp=Z,2µm,17.0s
MAJO Matsushiro 32.63 19 eP P 16 25 23.5 -0.4
comp=Z,9.4nm,0.8s
MAT Matsushiro 32.63 19 P P 16 25 23.8 0.0
MJAR Matsushiro Arr 32.63 19 P P 16 25 23.9 +0.1
comp=Z,9.2nm,0.7s,baz=194,slow=9.6,SNR=21
MJAR PcP PcP 16 28 09.7 +0.8
comp=Z,1.3nm,0.7s,baz=174,slow=3.5,SNR=4.1
MJAR LR LR 16 39 30.6
comp=Z,251nm,18.4s,baz=220,slow=38
CTA Charters Tower 32.73 142 P P 16 25 26.0 +1.1
CTA 16 28 11.5
CTA pmax pmax
comp=Z,24nm,0.9s
CTA Charters Tower 32.73 142 P P 16 25 26.0 +1.1
comp=Z,24nm,0.9s,baz=321,slow=12,SNR=13
CTA PcP PcP 16 28 11.5 +2.0
comp=Z,9.7nm,0.6s,baz=337,slow=4.2,SNR=4.8
CTAO Charters Tower 32.73 142 eP P 16 25 23.8 -1.1
CTAO pmax pmax
comp=Z,36nm,0.9s
CTAO Charters Tower 32.73 142 eP P 16 25 23.8 -1.1
comp=Z,36nm,0.9s
BJI Beijing 35.12 347 P P 16 25 45.3 -0.1
BJI pP pP 16 25 59.0 -0.9
BJI sP sP 16 26 05.3 -1.3
BJI S S 16 31 14.0 -0.2
BJI pmax pmax
comp=Z,23nm,0.7s
BJI pmax pmax
comp=Z,150nm,4.8s
BJI LR LR
comp=Z,130nm,8.4s
BJI LR LR
comp=Z,470nm,17.4s
BJI LR LR
comp=Z,280nm,24.3s
SNY Shenyang 35.89 357 ⇓P P 16 25 55.0 +3.1
SNY pmax pmax
comp=Z,40nm,1.1s
MORW Morawa 35.94 195 ⇓P P 16 25 51.1 -1.4
baz=36,SNR=16
LZH Lanzhou 36.20 329 eP P 16 25 56.3 +1.4
LZH pP pP 16 26 11.8 +2.4
LZH sP sP 16 26 20.5 +4.4
LZH PP PP 16 27 19.0 +0.9
LZH S S 16 31 33.0 +1.9
LZH sS ScP 16 32 00.0 -1.1
LZH SS SnSn 16 33 55.0 -6.9
LZH pmax pmax
comp=Z,29nm,1.3s
LZH pmax pmax
comp=Z,75nm,4.7s
LZH LR LR
comp=Z,1µm,17.9s

LZH LR LR
comp=Z,480nm,14.2s
LZH LR LR
comp=Z,760nm,15.3s
FORT Forrest 36.48 177 ⇓P **P 16 25 56.6 -0.5**
baz=37,SNR=18
QLP Quilpie 36.88 152 ⇓P **P 16 26 01.2 +0.6**
baz=37,SNR=25
HHC Hu-ho-hao-te 37.10 342 eP **P 16 26 04.0 +1.6**
HHC PP **PnPn 16 27 32.8 +4.0**
HHC S **S 16 31 46.0 +1.3**
HHC sS **sS 16 32 12.0 +2.7**
HHC SS **SnSn 16 34 16.5 -7.1**
HHC ScS **ScS 16 36 10.5 -1.4**
HHC pmax pmax
comp=Z,12nm,1.2s
HHC pmax pmax
comp=Z,280nm,5.1s
HHC LR LR
comp=Z,880nm,16.7s
HHC LR LR
comp=Z,420nm,15.1s
HHC LR LR
comp=Z,1μm,17.1s
BLDU Ballidu 37.26 193 ⇓P **P 16 26 02.2 -1.6**
baz=37,SNR=23
VLA Vladivostok 37.52 7⇑eP **P 16 26 07.5 +1.7**
VLA pmax pmax
comp=Z,67nm,1.4s
VLA MLR MLR
comp=Z,205nm,19.0s
CN2 Changchun 37.81 360 eP **P 16 26 09.5 +1.2**
CN2 eS **S 16 31 58.5 +3.4**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,600nm,20.0s
SHL Shillong 37.85 305⇑iP **P 16 26 10.5 +1.4**
SHL eS **S 16 32 00.0 +3.4**
KLBR Kellerberrin 37.99 191 P **P 16 26 08.9 -1.1**
baz=38,SNR=15
USRK Ussuriysk Arra 38.60 7 P **P 16 26 16.4 +1.5**
comp=Z,23nm,0.8s,baz=193,slow=6.9,SNR=50
USRK LR LR 16 42 20.1
comp=Z,155nm,21.5s,baz=177,slow=36
MDJ Mudanjiang 38.77 4 P **P 16 26 17.8 +1.5**
MDJ pP **pP 16 26 30.5 -0.5**
MDJ sP **sP 16 26 36.8 -0.9**
MDJ PP **PnPn 16 27 47.5 -1.3**
MDJ PcP **PcP 16 28 27.0 +0.1**
MDJ S **ScP 16 32 13.0 +2.6**
MDJ sS **sS 16 32 35.3 +0.9**
MDJ pmax pmax
comp=Z,34nm,1.0s
MDJ pmax pmax
comp=Z,100nm,3.3s
MDJ LR LR
comp=Z,210nm,20.5s
MDJ LR LR
comp=Z,270nm,20.1s
MDJ LR LR
comp=Z,290nm,22.8s
MDJ Mudanjiang 38.77 4 P **P 16 26 14.9 -1.4**
comp=Z,57nm,1.0s
RMQ Roma 39.12 146 ⇓P **P 16 26 20.0 +0.5**
baz=39,SNR=8.5
ERM Erimo 39.22 21⇑eP **P 16 26 22.8 +2.7**
ERM pmax pmax
comp=Z,165nm,2.5s
NWAO Narrogin (SRO) 39.39 191 P **P 16 26 21.0 -0.7**
NWAO pmax pmax
comp=Z,14nm,0.4s
NWAO Narrogin (SRO) 39.39 191 P **P 16 26 20.9 -0.7**
comp=Z,14nm,0.4s,baz=29,slow=7.1,SNR=30
EIDS Eidsvold 39.62 143 eP **P 16 26 22.6 -1.0**
comp=Z,133nm,1.5s
EIDS Eidsvold 39.62 143 ⇑P **P 16 26 24.2 +0.6**
baz=40,SNR=10
BBOO Buckleboo 39.67 166 eP **P 16 26 24.3 +0.4**
comp=Z,3μm,0.8s
BBOO Buckleboo 39.67 166 ⇑P **P 16 26 24.2 +0.2**
baz=40,SNR=135
LSA Lhasa 40.32 310 P **P 16 26 30.8 +0.8**
LSA pmax pmax
comp=Z,10.0nm,1.4s
LSA Lhasa 40.32 310 eP **P 16 26 29.4 -0.6**
LSA pmax pmax
comp=Z,45nm,1.2s
LSA Lhasa 40.32 310 eP **P 16 26 29.4 -0.6**
comp=Z,45nm,1.2s
STKA Stephens Creek 40.44 159 P **P 16 26 31.0 +0.6**
comp=Z,123nm,0.8s,baz=334,slow=7.8,SNR=126
STKA PcP **PcP 16 28 33.0 +0.6**
comp=Z,19nm,0.6s,baz=339,slow=2.0,SNR=4.1
STKA ScP **ScP 16 32 19.9 +2.8**
comp=Z,5.3nm,0.8s,baz=12,slow=7.5,SNR=3.9
STKA LR LR 16 45 07.5
comp=Z,187nm,20.0s,baz=357,slow=39
STKA Stephens Creek 40.44 159 eP **P 16 26 30.9 +0.5**
comp=Z,29nm,0.9s
STKA PcP **PcP 16 28 33.0 +0.6**
STKA ScP **ScP 16 32 19.9 +2.8**
STKA Stephens Creek 40.44 159 ⇓P **P 16 26 31.3 +0.9**
baz=41,SNR=55
STKA S **S 16 32 36.2 +1.3**
baz=41,SNR=8.4
GTA Gaotai 40.79 329 eP **P 16 26 33.8 +0.4**
GTA pP **pP 16 26 49.3 +1.2**
GTA sP **sP 16 26 56.3 +1.5**
GTA PcP **PcP 16 28 33.0 -0.7**
GTA S **S 16 32 41.3 +1.0**
GTA sS **sS 16 33 07.3 +2.1**
GTA SS **SS 16 35 40.8 -2.4**
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA pmax pmax
comp=Z,170nm,5.7s
GTA LR LR
comp=Z,570nm,18.1s
GTA LR LR
comp=Z,610nm,16.6s
GTA LR LR
comp=Z,880nm,18.5s
ASAJ Asahikawa 40.90 19 P **P 16 26 36.1 +2.1**
ASAJ pmax pmax
comp=Z,15nm,0.4s
ASAJ Asahikawa 40.90 19 P **P 16 26 36.1 +2.1**
comp=Z,15nm,0.4s,baz=246,slow=12,SNR=37
ASAJ Asahikawa 40.90 19 eP **P 16 26 33.9 -0.1**
comp=Z,33nm,1.4s
HTT Hallett 41.01 163 P **P 16 26 36.1 +1.0**
baz=41,SNR=19
RKGY Rocky Gully 41.07 191 ⇑P **P 16 26 35.8 +0.2**
baz=41,SNR=11
CMSA Cobar Meteorol 41.77 154 P **P 16 26 42.5 +1.2**
baz=42,SNR=30
H11S3 WAKE ISLAND Hy 41.85 69 T T 17 11 53.5
baz=257,slow=75,SNR=4.2
H11S1 WAKE ISLAND Hy 41.86 69 T T 17 11 52.5
baz=257,slow=75,SNR=14
H11S2 WAKE ISLAND Hy 41.86 69 T T 17 11 51.1
baz=257,slow=75,SNR=24
TAPN Taplejung 41.99 305 eP **P 16 26 43.5 -0.1**
comp=Z,71nm,0.9s
ODAN Odare 42.06 304 eP **P 16 26 43.9 -0.2**
comp=Z,70nm,0.9s
H11N1 WAKE ISLAND Hy 42.30 67 T T 17 11 31.6
baz=248,SNR=7.1
H11N2 WAKE ISLAND Hy 42.31 67 T T 17 12 54.7
baz=248,SNR=6.5
H11N3 WAKE ISLAND Hy 42.32 67 T T 17 12 15.0
baz=248,SNR=6.7
RAMN Ramite 42.74 304 eP **P 16 26 50.0 +0.3**
comp=Z,88nm,0.9s
HABR Khabarovsk 43.22 9ceP **P 16 26 52.5 -0.3**
HABR e*PP **pP 16 27 05.3 -2.3**
HABR e*SP **sP 16 27 11.7 -2.6**
HABR 16 28 39.9
HABR PPP PPP 16 29 08.6
HABR eS **S 16 33 17.4 +1.9**
HABR e*SS **sS 16 33 39.7 -0.9**
HABR e 16 36 47.1
HABR eSSS SSS 16 37 11.8
HABR pmax pmax
comp=E,30nm,2.0s
HABR pmax pmax
comp=Z,50nm,1.3s
HABR pmax pmax
comp=N,6.0nm,1.0s
HABR MLR MLR
comp=Z,207nm,21.0s
JIRN Jiri 43.35 305 eP **P 16 26 54.7 0.0**
comp=Z,88nm,0.8s
YSS Yuzh-Sakhalins 43.51 17 eP **P 16 26 57.0 +1.8**
YSS Yuzh-Sakhalins 43.51 17 eP **P 16 26 52.6 -2.5**
KLR Kul'dur 43.54 6 eP P 16 26 52.2 -3.2
KLR pmax pmax
comp=Z,38nm,1.4s
GUN Gumba 43.70 305 eP **P 16 26 57.5 0.0**
comp=Z,117nm,0.8s
ARMA Armidale 43.76 147 eP **P 16 26 58.6 +1.0**
comp=Z,21nm,0.7s
ARMA Armidale 43.76 147 ⇓P **P 16 26 59.2 +1.6**
baz=44,SNR=15
PKI Pulchoki 43.96 304 eP **P 16 26 58.9 -0.7**
comp=Z,72nm,1.2s
PKIN Phulchoki 43.97 304 eP **P 16 26 59.1 -0.5**
comp=Z,20nm,0.7s
KKN Kakani 44.15 304 eP **P 16 27 00.3 -0.6**
comp=Z,60nm,1.0s
DMN Daman 44.22 304 eP **P 16 27 01.7 +0.1**
comp=Z,63nm,1.0s
GKN Gorkha 44.76 304 eP **P 16 27 05.0 -0.7**
ULN Ulaanbaatar 44.82 342⇓eP **P 16 27 05.5 -0.4**
ULN pmax pmax
comp=Z,10.0nm,1.2s
ULN MLR MLR
comp=Z,487nm,20.0s
ULN Ulaanbaatar 44.82 342 eP **P 16 27 05.2 -0.7**
comp=Z,12nm,1.0s
ARPS Mount Arapiles 44.99 162 ⇓P **P 16 27 08.2 +1.1**
baz=45,SNR=16
SONM Songino Array 45.00 342 P **P 16 27 06.5 -0.8**
SONM 16 28 47.1
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM MLR MLR
comp=Z,592nm,21.0s
SONM Songino Array 45.00 342 P **P 16 27 06.5 -0.8**
comp=Z,3.2nm,0.8s,baz=154,slow=7.1,SNR=0.5
SONM PcP **PcP 16 28 47.1 -0.4**
comp=Z,2.4nm,0.7s,baz=162,slow=0.7,SNR=3.3
SONM LR LR 16 47 04.6
comp=Z,592nm,21.0s,baz=162,slow=38
YNG Young 45.30 153 ⇓P **P 16 27 11.7 +2.0**
baz=45,SNR=6.2
KOLN Koldanda 45.53 304 eP **P 16 27 11.7 -0.2**
comp=Z,91nm,0.8s
DANN Dangsing 45.60 304 eP **P 16 27 12.1 -0.5**
comp=Z,92nm,0.7s
CAN Canberra 46.43 154 P **P 16 27 17.0 -1.6**
CAN pmax pmax
comp=Z,62nm,0.7s
CAN Canberra 46.43 154 P **P 16 27 17.0 -1.6**
comp=Z,62nm,0.7s
CAN Canberra 46.43 154 ⇑P **P 16 27 20.8 +2.2**
baz=46
CNB Canberra Magne 46.59 153 P **P 16 27 22.0 +2.2**
baz=47,SNR=16
TOO Toolangi 46.95 158 ⇑P **P 16 27 24.8 +2.2**
baz=47,SNR=17
HYB Hyderabad 47.50 288 iP **P 16 27 26.0 -1.3**
comp=Z,107nm,1.2s
HYB epP **pP 16 27 41.0 -1.3**
MILA Mila 47.96 155 ⇑P **P 16 27 32.6 +2.1**
baz=48,SNR=5.5
ZAK Zakamensk 48.22 341 eP **P 16 27 30.2 -2.2**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
DZM Mont Dzumac 48.56 126 eS **S 16 34 35.5 +2.2**
comp=Z,159nm,29.3s
DZM eLR LR 16 41 32.0
comp=Z,307nm,26.1s
DZM Mont Dzumac 48.56 126 P **P 16 27 37.1 +1.7**
comp=Z,37nm,0.7s,baz=301,slow=5.8,SNR=33
DZM Mont Dzumac 48.56 126 eP **P 16 27 35.5 0.0**
comp=Z,27nm,0.6s
TLY Talaya 49.23 342 eP **P 16 27 39.2 -0.8**
TLY eS **S 16 34 37.1 -4.6**
TLY pmax pmax
comp=Z,7.0nm,1.3s
TLY MLR MLR
comp=Z,133nm,17.0s
TLY Talaya 49.23 342 eP **P 16 27 38.9 -1.1**
comp=Z,12nm,1.0s
MOY Mondy 50.07 340 eP **P 16 27 48.4 +1.8**
WMQ Urumqi 50.44 325 P **P 16 27 50.8 +1.4**
WMQ pP **pP 16 28 06.3 +1.7**
WMQ sP **sP 16 28 13.5 +2.3**
WMQ PcP **PcP 16 29 08.3 +1.2**
WMQ PP **PP 16 29 48.0 +2.4**
WMQ PcS **PcS 16 33 04.0 -0.3**
WMQ S **S 16 34 58.8 -0.2**
WMQ sS **sS 16 35 25.8 +1.3**
WMQ ScS **ScS 16 37 32.8 -2.7**
WMQ SS **SS 16 38 30.5 -3.0**
WMQ pmax pmax
comp=Z,9.0nm,1.2s
WMQ pmax pmax
comp=Z,92nm,5.8s
WMQ LR LR
comp=Z,700nm,17.0s
WMQ LR LR
comp=Z,710nm,18.6s
WMQ LR LR
comp=Z,560nm,20.0s
CLNS Chul'man 50.86 359 eP **P 16 27 53.1 +0.7**
CLNS pmax pmax
comp=Z,12nm,0.9s
CLNS pmax pmax
comp=N,20nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,0.8s
NDI New Delhi 51.15 302 eP **P 16 27 53.0 -2.0**
HVS Khovu-Aksy 52.42 335deP **P 16 28 03.9 -0.2**
HVS pmax pmax
comp=Z,58nm,1.5s
BOD Bodaibo 52.65 352 eP **P 16 28 04.8 -0.8**
BOD pmax pmax
comp=Z,12nm,1.2s
PETK Petropavlovsk- 53.88 23 P **P 16 28 16.9 +2.2**
comp=Z,12nm,0.6s,baz=200,slow=3.9,SNR=13
PETK PcP **PcP 16 29 20.5 +0.9**
comp=Z,1.3nm,0.4s,baz=213,slow=5.0,SNR=2.7
PETK LR LR 16 51 36.4
comp=Z,48nm,19.7s,baz=212,slow=36
H08S2 Diego Garcia H 54.77 256 P P 16 28 18.1 -3.4
baz=168,slow=29,SNR=3.2
H08S3 Diego Garcia H 54.78 256 P **P 16 28 19.2 -2.5**
baz=168,slow=29,SNR=3.5
H08S1 Diego Garcia H 54.79 256 P **P 16 28 19.7 -2.0**
baz=168,slow=29,SNR=3.4
MK31 Makanchi Array 55.27 325 eP **P 16 28 23.8 -1.2**
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 55.27 325 P **P 16 28 24.3 -0.7**
comp=Z,4.8nm,0.6s,baz=114,slow=6.9,SNR=47
MKAR ScP **ScP 16 33 23.0 +3.8**
comp=Z,1.0nm,0.8s,baz=123,slow=5.3,SNR=3.7
MKAR LR LR 16 53 41.7
comp=Z,520nm,18.1s,baz=123,slow=38
MKAR PKPPKP **P'P'df 16 58 27.8 -3.9**
comp=Z,0.9nm,1.1s,baz=276,slow=5.6,SNR=4.1
MKAR Makanchi Array 55.27 325 ⇓P **P 16 28 24.6 -0.4**
baz=55
KSH Kashi 55.86 314 eP **P 16 28 30.8 +1.3**
KSH epP **pP 16 28 45.0 +0.2**
KSH esP **sP 16 28 51.8 +0.4**
KSH PcS **PcS 16 33 23.3 -4.9**
KSH S **S 16 36 10.5 -2.5**
KSH pmax pmax
comp=Z,23nm,1.3s
KSH LR LR
comp=Z,15nm,6.1s
KSH LR LR
comp=Z,120nm,5.2s
KSH LR LR
comp=Z,240nm,7.1s
H08N1 Diego Garcia H 55.94 258 P **P 16 28 29.0 -0.9**
baz=106,slow=4.1,SNR=7.8
H08N2 Diego Garcia H 55.95 258 P **P 16 28 27.2 -2.8**
baz=106,slow=4.1,SNR=6.9
H08N3 Diego Garcia H 55.96 258 P **P 16 28 28.0 -2.0**
baz=106,slow=4.1,SNR=6.7
YAK Yakutsk 56.15 2ciP **P 16 28 30.8 0.0**
YAK e*PP pP 16 28 40.2 -6.0
YAK e 16 29 27.6
YAK eS **S 16 36 18.8 +3.2**
YAK e*SS **sS 16 36 36.6 -4.9**
YAK e 16 38 14.1
YAK eSS **SS 16 40 08.1 +5.3**
YAK pmax pmax
comp=Z,52nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,22nm,1.1s
YAK smax smax
comp=E,148nm,5.2s
YAK smax smax
comp=N,86nm,4.3s
YAK MLR MLR
comp=Z,198nm,19.0s
YAK MLR MLR
comp=N,137nm,23.0s
YAK MLR MLR
comp=E,125nm,22.0s
YAK Yakutsk 56.15 2 eP **P 16 28 30.9 0.0**
comp=E,121nm,0.9s
MSVF Nonsavu 56.70 116 eP **P 16 28 36.6 +0.9**
MSVF pmax pmax
comp=Z,51nm,1.0s
MSVF Nonsavu 56.70 116 eP **P 16 28 36.6 +0.9**
comp=Z,51nm,1.0s
KZA Kyzart 57.40 317 P **P 16 28 41.8 +1.1**
SNR=16
KZA Kyzart 57.40 317 iP **P 16 28 41.8 +1.1**
TKM2 Tokmak 2 57.52 318 P **P 16 28 42.0 +0.7**
SNR=7.5
TKM2 Tokmak 2 57.52 318 iP **P 16 28 42.0 +0.7**
TKM2 Tokmak 2 57.52 318 eP **P 16 28 40.6 -0.7**
comp=Z,10nm,1.1s
UCH Uchtor 57.96 317 P **P 16 28 46.0 +1.3**
SNR=24
UCH Uchtor 57.96 317 iP **P 16 28 46.0 +1.3**
AAK Ala-Archa 58.14 317 P **P 16 28 45.9 +0.4**
comp=Z,13nm,1.3s,baz=162,slow=9.3,SNR=11
AAK LR LR 16 55 35.1
comp=Z,232nm,20.5s,baz=79,slow=38
AAK Ala-Archa 58.14 317 eP **P 16 28 44.3 -1.3**
comp=Z,8.0nm,1.0s
ZALV Zalesovo Beam 58.27 333 P **P 16 28 44.4 -1.7**
comp=Z,2.1nm,0.6s,baz=127,slow=6.6,SNR=12
ZALV LR LR 16 55 34.0
comp=Z,347nm,18.6s,baz=70,slow=38
ZALV PKP2bc 16 58 34.6
comp=Z,1.8nm,0.8s,baz=250,slow=3.0,SNR=7.7
USP Ospenovka 58.40 318 P **P 16 28 47.7 +0.5**
SNR=11
USP Ospenovka 58.40 318 iP **P 16 28 47.7 +0.5**
AML Almayashu 58.48 317 P **P 16 28 49.4 +1.1**
SNR=19
EKS2 Erkin-Say 58.64 317 P **P 16 28 48.8 -0.2**
SNR=11
EKS2 Erkin-Say 58.64 317 iP **P 16 28 48.8 -0.2**
EKS2 Erkin-Say 58.64 317 eP **P 16 28 48.5 -0.5**
comp=Z,12nm,1.0s
KURK Kurchatov 59.44 327 eP **P 16 28 52.8 -1.4**
KURK pmax pmax
comp=Z,15nm,1.1s
KURK Kurchatov 59.44 327 eP **P 16 28 52.8 -1.4**
comp=Z,16nm,1.1s
KBL Kabul 59.47 307 eP **P 16 28 53.9 -1.1**
KBL Kabul 59.47 307 eP **P 16 28 53.9 -1.1**
KBL Kabul 59.47 307 ⇓P **P 16 28 54.8 -0.2**
baz=60
SEY Seymchan 60.22 14 P **P 16 29 01.5 +2.2**
SEY pmax pmax
comp=Z,8.0nm,0.7s
SEY Seymchan 60.22 14 P **P 16 29 01.5 +2.2**
comp=Z,8.2nm,0.7s,baz=202,slow=7.6,SNR=24
FX1 Attu Island--F 60.77 31 P **P 16 29 05.4 +2.1**
FX1 pmax pmax
comp=Z,80nm,0.9s
FX1 MLR MLR
comp=Z,41nm,21.8s
FX1 Attu Island--F 60.77 31 P **P 16 29 05.3 +2.1**
comp=Z,80nm,0.9s,baz=244,slow=1.2,SNR=8.2
FX1 LR LR 16 51 51.3
comp=Z,41nm,21.8s,baz=240,slow=32
FX1 Attu Island--F 60.77 31 eP **P 16 29 03.0 -0.3**
KK31 Karatay Array 61.03 317 iP **P 16 29 03.9 -1.4**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 61.03 317 eP **P 16 29 03.8 -1.5**
KKAR pmax pmax
comp=Z,14nm,1.0s
KKAR Karatay Array 61.03 317 eP **P 16 29 03.8 -1.5**
comp=Z,14nm,1.0s
RPZ Rata Peaks 64.05 145 eP **P 16 29 25.2 -0.1**
comp=Z,48nm,1.0s
KHZ Kahutara 64.73 143 eP **P 16 29 28.6 -1.2**
BRVK Borovoye 65.10 327 P **P 16 29 30.0 -2.0**
BRVK pmax pmax
comp=Z,16nm,1.2s
BRVK Borovoye 65.10 327 eP **P 16 29 29.1 -2.9**
comp=Z,8.5nm,0.6s
TIXI Tiksi 65.76 1ceP **P 16 29 35.3 -0.6**
TIXI pmax pmax
comp=Z,29nm,1.3s
TIXI MLR MLR
comp=Z,244nm,22.0s
TIXI Tiksi 65.76 1 eP **P 16 29 35.4 -0.6**
comp=Z,22nm,0.8s
IMYA Miami 66.98 307 eP **P 16 29 44.4 -0.3**
IKOO Kooshah 67.28 303 eP **P 16 29 47.0 +0.2**
ITEG Tejag 67.55 303 eP **P 16 29 48.8 +0.4**
BILL Bilibino 67.79 15⇑iP **P 16 29 49.4 +0.5**
BILL e 16 32 20.5
BILL eS **S 16 38 44.1 +1.7**
BILL pmax pmax
comp=Z,20nm,1.5s
BILL MLR MLR
comp=Z,87nm,18.0s
BILL Bilibino 67.79 15 eP **P 16 29 47.3 -1.6**
comp=Z,12nm,0.9s
IPAY Payeh 67.88 307 eP **P 16 29 49.0 -1.5**
IKRD Kardeh 68.31 307 eP P 16 29 47.2 -6.0
ABKT Ailbek 68.81 308 P **P 16 29 56.2 +0.2**
comp=Z,108nm,0.9s,SNR=5.9
GEYT Alibeck 68.81 308 P **P 16 29 56.1 +0.1**
comp=Z,6.2nm,0.8s,baz=129,slow=4.0,SNR=24
GEYT LR LR 17 04 10.7
comp=Z,240nm,21.2s,baz=70,slow=40
ABKAR Akbulak array 69.90 320 eP **P 16 30 00.6 -1.8**
comp=Z,4.8nm,0.7s
ABKAR Akbulak array 69.90 320 P **P 16 30 01.5 -0.9**
baz=70
SVE Sverdlovsk 71.66 328 eP **P 16 30 11.9 -1.0**
SVE pmax pmax
comp=Z,16nm,0.9s
SVE MLR MLR
comp=Z,285nm,17.0s
IGLO Ghaloghah 72.01 306 eP **P 16 30 15.6 -0.2**
ILAS Lasjerd 72.60 305 eP **P 16 30 18.7 -0.7**
ARU Arti 72.64 328 P **P 16 30 17.1 -1.7**
comp=Z,66nm,0.8s,SNR=5.7
ARU Arti 72.64 328diP **P 16 30 17.1 -1.7**
ARU 16 32 56.7
ARU S **S 16 39 39.1 -0.3**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU Arti 72.64 328 eP **P 16 30 16.6 -2.2**
comp=Z,7.3nm,0.6s
CASY Casey 72.78 186 eP **P 16 30 17.9 -1.4**
comp=Z,24nm,0.7s
GAMB Gambell 72.89 24 eP **P 16 30 20.6 +0.5**
comp=Z,9.3nm,0.9s
TNA Tin City 75.05 23 eP **P 16 30 30.5 -2.2**
comp=Z,4.7nm,0.8s
RAYN Ar Rayn 78.75 293 P **P 16 30 53.9 -0.6**
comp=Z,1.0nm,1.0s,SNR=13

RAYN Ar Rayn 78.75 293 eP P 16 30 52.0 -2.5
comp=Z,48nm,1.0s
DGRG David-gareji 78.94 311 P P 16 31 03.3 +8.2
GNI Garni 79.38 310⇑eP P 16 30 58.5 +0.7
GNI pmax pmax
comp=Z,18nm,1.4s
GNI Garni 79.38 310 eP P 16 30 56.9 -0.9
comp=Z,24nm,1.1s
TBLG Delisi 79.42 311 P P 16 30 57.7 -0.1
DUS Dusheti 79.46 312 P P 16 30 55.4 -2.7
ZEI Tsey 80.07 312 eP P 16 30 57.3 -4.2
ZEI pmax pmax
comp=Z,27nm,1.4s
PRGR Permogore 80.19 331 eP P 16 30 58.8 -2.6
PRGR pmax pmax
comp=Z,2.0nm,0.3s
OHAK Old Harbor 80.23 33 eP P 16 31 02.1 +0.3
AKH Akhalkalaki 80.35 311 P P 16 31 02.8 -0.3
ONI Oni 80.40 312 P P 16 30 57.4 -5.7
KDAK Kodiak Island 80.65 32 P P 16 31 05.6 +1.6
comp=Z,327nm,0.9s,SNR=15
KDAK Kodiak Island 80.65 32ceP P 16 31 06.5 +2.5
KDAK Kodiak Island 80.65 32 eP P 16 31 04.7 +0.7
comp=Z,122nm,1.3s
RSO Redoubt South 80.76 30 eP P 16 31 05.3 +0.5
comp=Z,33nm,0.7s
IM04 Indian Mountai 80.82 24 eP P 16 31 06.1 +1.3
KBZ Khabaz 80.82 313 P P 16 31 04.3 -0.9
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ MLR MLR
comp=Z,130nm,20.6s
KBZ Khabaz 80.82 313 P P 16 31 04.3 -0.9
comp=Z,4.9nm,0.8s,baz=0.2,slow=4.4,SNR=8.5
KBZ LR LR 17 10 32.1
comp=Z,130nm,20.6s,baz=75,slow=38
KIV Kislovodsk 80.98 313 eP P 16 31 05.4 -0.8
KIV eS S 16 41 10.5 -0.5
KIV pmax pmax
comp=Z,13nm,0.9s
KIV MLR MLR
comp=Z,141nm,19.0s
PPLA Purkeypile 81.22 27 eP P 16 31 07.0 -0.2
comp=Z,15nm,0.6s
VRHR Novokhopersk 81.79 321 eP P 16 31 06.7 -3.5
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.8s
KTH Kantishna Hill 81.83 27 eP P 16 31 10.1 -0.2
comp=N,16nm,0.8s
TRF Thorofare Moun 82.11 27 eP P 16 31 12.2 +0.3
comp=N,34nm,0.9s
COLD Coldfoot 82.35 23 eP P 16 31 13.5 +0.7
comp=N,20nm,0.8s
SEW Seward 82.39 30 eP P 16 31 11.8 -1.3
comp=N,56nm,1.1s
PMR Palmer 82.58 29 eP P 16 31 14.1 0.0
PMR pmax pmax
comp=Z,24nm,0.8s
PMR Palmer 82.58 29 eP P 16 31 14.1 0.0
comp=Z,24nm,0.8s
MCK McKinley 82.73 27 eP P 16 31 14.8 -0.1
MCK pmax pmax
comp=Z,53nm,0.9s
MCK McKinley 82.73 27 eP P 16 31 14.8 -0.1
comp=Z,53nm,0.9s
KLMR Klimovskoe 83.09 331 eP P 16 31 13.6 -3.2
KLMR pmax pmax
comp=Z,32nm,1.3s
COLA College 83.22 25⇓iP P 16 31 18.5 +1.1
COLA College 83.22 25 eP P 16 31 16.8 -0.6
comp=Z,22nm,0.8s
VORD Divnogorie 83.26 321 eP P 16 31 15.0 -2.8
VORD pmax pmax
comp=Z,9.0nm,0.6s
VORD pmax pmax
comp=N,80nm,0.7s
VORD pmax pmax
comp=E,60nm,0.8s
VSR Storozhevoye 83.34 321 eP P 16 31 14.7 -3.5
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.8s
ILAR Eielson Array 83.64 26 P P 16 31 19.3 -0.3
ILAR pmax pmax
comp=Z,11nm,0.9s
ILAR Eielson Array 83.64 26 P P 16 31 19.2 -0.3
comp=Z,11nm,0.9s,baz=248,slow=4.7,SNR=105
TMCR Tamitsa 83.78 334 eP P 16 31 18.9 -1.3
TMCR e 16 34 30.6
TMCR pmax pmax
comp=Z,17nm,0.4s
DIV Divide 84.20 29 eP P 16 31 22.7 +0.2
comp=Z,47nm,0.9s
PAX Paxson 84.29 27 eP P 16 31 22.2 -0.8
PAX pmax pmax
comp=Z,24nm,1.1s
PAX Paxson 84.29 27 eP P 16 31 22.1 -0.8
comp=Z,24nm,1.1s
ANN Anapa 84.72 314 eP P 16 31 23.4 -2.0
BMRM Bremner River 84.77 29 eP P 16 31 25.2 -0.2
comp=Z,26nm,0.8s
OBN Obninsk 84.78 325⇓iP P 16 31 23.8 -1.6
OBN pmax pmax
comp=Z,23nm,1.2s
OBN MLR MLR
comp=Z,284nm,18.0s
DOT Dot Lake 84.90 27 eP P 16 31 24.7 -1.3
comp=Z,24nm,1.1s
VNDA Vanda 85.63 173 P P 16 31 29.1 -0.1
comp=Z,16nm,1.0s,baz=263,slow=7.7,SNR=4.8
VNDA LR LR 17 10 51.2
comp=Z,102nm,19.2s,baz=342,slow=36
EGAK Eagle 86.09 25 eP P 16 31 32.8 +0.9
comp=Z,7.1nm,0.6s
PPT Papeete 86.70 108 LR LR 17 09 09.5
comp=Z,69nm,18.1s,baz=187,slow=35
PPT2 Papeete2 86.70 108 eLR LR 16 59 10.3
comp=Z,129nm,23.2s
JOF Joensuu 86.86 333 eP P 16 31 33.3 -2.3
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF Joensuu 86.86 333 ep P 16 31 33.3 -2.3
comp=Z,6.9nm,0.6s
DAWY Dawson 86.93 26 eP P 16 31 36.5 +0.5
KEV Kevo 87.58 340 eP P 16 31 40.0 +1.0
KEV Kevo 87.58 340 ep P 16 31 40.0 +1.0
comp=Z,0.4nm,0.4s
BRTR Keskin Array B 87.92 310 P P 16 31 39.2 -2.3
comp=Z,1.5nm,0.8s,baz=110,slow=5.1,SNR=7.7
BRTR LR LR 17 18 59.2
comp=Z,44nm,18.5s,baz=86,slow=41
ARCES ARCESS Array B 88.14 340 P P 16 31 40.9 -0.8
comp=Z,6.0nm,0.7s,baz=87,slow=6.3,SNR=13
ARCES PKKPbc PKKPbc 16 49 26.1 -2.7
comp=Z,0.8nm,0.5s,baz=298,slow=2.6,SNR=5.9
ARCES LR LR 17 15 41.7
comp=Z,189nm,18.0s,baz=92,slow=39
KMBO Kilima Mbogo 88.61 269 P P 16 31 43.3 -2.0
comp=Z,6.0nm,1.0s,baz=37,slow=6.8,SNR=12
KMBO LR LR 17 12 06.5
comp=Z,72nm,18.4s,baz=97,slow=36
KMBO Kilima Mbogo 88.61 269 eP P 16 31 43.1 -2.2
comp=Z,15nm,1.4s
KMBO Kilima Mbogo 88.61 269 ⇓P P 16 31 44.5 -0.8
baz=89
KAF Kangasniemi 89.28 332 eP P 16 31 44.2 -3.0
KAF pmax pmax
comp=Z,6.0nm,0.7s
KAF Kangasniemi 89.28 332 ep P 16 31 44.2 -3.0
comp=Z,5.6nm,0.7s
FINES FINESS Array B 89.52 332 P P 16 31 46.5 -1.8
comp=Z,3.6nm,0.5s,baz=60,slow=4.8,SNR=22
FINES PKKP PKKPdf 16 49 21.6 +1.6
comp=Z,2.4nm,0.9s,baz=35,slow=4.7,SNR=5.7
FINES LR LR 17 15 20.3
comp=Z,180nm,19.7s,baz=89,slow=38
AKASG Malin Array Be 89.64 321 P P 16 31 46.6 -2.5
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG MLR MLR
comp=Z,178nm,20.0s
AKASG Malin Array Be 89.64 321 P P 16 31 46.6 -2.5
comp=Z,1.1nm,0.5s,baz=72,slow=4.1,SNR=11
AKASG LR LR 17 16 07.5
comp=Z,178nm,20.0s,baz=105,slow=38
KIEV Kiev 89.65 321 P P 16 31 48.0 -1.1
SYO Syowa Base 94.02 201⇑eP P 16 32 07.5 -1.4
CRVS Cervenica-Dubn 94.93 320 eP P 16 32 12.1 -1.6
CRVS pmax pmax
comp=Z,69nm,2.9s
CRVS Cervenica-Dubn 94.93 320 eP P 16 32 12.0 -1.6
DAG Danmarks Havn 95.04 352 iP P 16 32 11.7 -1.8
DAG pmax pmax
comp=Z,8.0nm,0.9s
DAG Danmarks Havn 95.04 352 iP P 16 32 11.7 -1.8
comp=Z,9.4nm,0.9s
QSPA South Pole Qui 95.73 180 eP P 16 32 17.1 +0.1
comp=Z,15nm,1.1s
NB2 NORSAR Subarra 96.47 334 P P 16 32 17.4 -3.0
comp=Z,4.0nm,0.8s,baz=66,slow=4.6
NB2 NORSAR Subarra 96.47 334 P P 16 32 17.4 -3.0
baz=66,slow=4.6
NOA NORSAR Array B 96.47 334 P P 16 32 17.8 -2.6
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,126nm,21.1s
NOA NORSAR Array B 96.47 334 P P 16 32 17.8 -2.6
comp=Z,2.3nm,0.7s,baz=66,slow=4.6,SNR=9.4
NOA LR LR 17 18 49.5
comp=Z,126nm,21.1s,baz=65,slow=37
YKR4 Yellowknife Ar 97.92 24 ⇓P Pdif 16 32 27.1 +0.2
baz=98
YKB0 Yellowknife Ar 97.94 24 ⇓P Pdif 16 32 27.5 +0.6
baz=98
YKA Yellowknife Ar 97.99 24 P Pdif 16 32 27.6 +0.4
comp=Z,4.1nm,0.9s,baz=299,slow=4.6,SNR=42
YKA PKiKP PKiKP 16 36 58.9 -1.2
comp=Z,0.2nm,0.5s,baz=293,slow=1.4,SNR=2.9
YKA PKKPbc PKKPbc 16 48 59.2 -3.7
comp=Z,1.1nm,0.6s,baz=121,slow=2.6,SNR=21
YKB2 Yellowknife Ar 98.03 24 ⇑P Pdif 16 32 27.6 +0.2
baz=98
GERES GERESS Array B 99.83 322 P Pdif 16 32 34.4 -1.5
comp=Z,0.4nm,0.8s,baz=140,slow=4.9,SNR=3.4
GERES PKKPbc PKKPbc 16 48 56.8 -0.8
comp=Z,0.8nm,0.8s,baz=103,slow=4.8,SNR=4.8
GERES LR LR 17 21 10.8
comp=Z,147nm,18.1s,baz=108,slow=38
N02D Trinity Center 102.17 46 ⇓P Pdif 16 32 46.9 +0.5
baz=102
M04C Macdoel 102.52 45 ⇓P Pdif 16 32 48.2 +0.2
baz=102
NEW Newport 103.18 38 ⇓P Pdif 16 32 51.5 +0.8
baz=103
NVAR Mina Array Bea 106.23 47 PKiKP PKiKP 16 37 18.0 +1.8
comp=Z,0.8nm,0.6s,baz=247,slow=1.6,SNR=4.5
HLID Hailey 106.89 41 ⇑P PKiKP 16 37 18.4 +1.2
baz=107
EGMT Eagleton 107.67 35 ⇓P PKiKP 16 37 19.2 +0.8
baz=108
EDW2 Edwards Air Fo 107.73 51 ⇑P PKiKP 16 37 19.9 +1.0
baz=108
CIS Catalina Islan 107.92 52 ⇓P PKiKP 16 37 20.1 +0.9
baz=108
R11A Troy Canyon, C 108.24 47 ⇑P PKiKP 16 37 20.8 +0.9
baz=108
GMRC Granite Mounta 109.55 50 ⇑P PKiKP 16 37 23.0 +0.7
baz=110
BELC Belle Mtn. Jos 109.58 51 ⇑P PKiKP 16 37 23.5 +1.0
baz=110
G20A Bridger 110.02 37 ⇑P PKiKP 16 37 22.7 -0.2
baz=110
B23A Brockton 110.11 33 ⇑P PKiKP 16 37 23.4 +0.5
baz=110
D22A Cohagen 110.18 35 ⇑P PKiKP 16 37 23.5 +0.4
baz=110
A24A Westby 110.37 32 ⇑P PKiKP 16 37 23.6 +0.2
baz=110
PDAR Pinedale Array 110.41 40 PKiKP PKiKP 16 37 24.2 +0.4
comp=Z,0.7nm,0.9s,baz=338,slow=1.6,SNR=5.2
PDAR PKKPbc PKKPbc 16 48 20.7 -4.8
comp=Z,0.8nm,0.8s,baz=128,slow=5.7,SNR=5.7
PDAR PKKPab PKKPab 16 48 33.0 -3.1
comp=Z,1.5nm,0.8s,baz=120,slow=5.8,SNR=9.5
A26A Wade Farm, Ken 111.43 32 ⇓P PKiKP 16 37 26.3 +1.0
baz=111
K21A Alcova 111.95 39 ⇑P PKiKP 16 37 26.9 +0.1
baz=112
J22A Midwest 112.02 38 ⇑P PKiKP 16 37 26.8 -0.1
baz=112
C26A Wahner Farm, P 112.05 33 ⇓P PKiKP 16 37 26.6 +0.1
baz=112
N20A Spence Gulch, 112.20 42 ⇓P PKiKP 16 37 27.9 +0.5
baz=112
WUAZ Wupatki 112.47 48 ⇓P PKiKP 16 37 28.9 +1.0
baz=112
ULM Lac du Bonnet 113.58 28 i PKIKP PKiKP 16 37 29.2 -0.2
ULM pmax pmax
comp=Z,2.0nm,0.5s
ULM Lac du Bonnet 113.58 28 PKiKP PKiKP 16 37 29.1 -0.2
comp=Z,2.1nm,0.5s,baz=327,slow=1.5,SNR=4.8
G27A Dupree 113.61 35 ⇑P PKiKP 16 37 30.1 +0.5
baz=114
C30A Mose, Pekin 114.02 31 ⇓P PKPdf 16 37 30.5 +0.2
baz=114
O23A Lake Granby, G 114.06 41 ⇑P PKPdf 16 37 31.4 +0.4
baz=114
ISCO Idaho Springs 114.47 41 ⇑P PKPdf 16 37 32.2 +0.4
baz=114
E30A Jud 114.57 32 ⇓P PKPdf 16 37 32.1 +0.7
baz=114
S23A Nye Farm, Mont 115.28 44 ⇓P PKPdf 16 37 33.1 -0.2
baz=115
V22A San Miguel Ran 115.53 46 ⇓P PKPdf 16 37 35.2 +1.4
baz=116
P25A Willow Gulch B 115.57 41 ⇑P PKPdf 16 37 34.5 +0.7
baz=116
T23A Casias Ranch, 115.59 44 ⇑P PKPdf 16 37 35.0 +1.0
baz=116
Q25A Bedland, Calha 115.84 42 ⇓P PKPdf 16 37 34.8 +0.5
baz=116
P26A Davis Ranch, A 116.08 41 ⇓P PKPdf 16 37 35.2 +0.5
baz=116
V23A Ortiz Mt. (NFS 116.13 45 ⇓P PKPdf 16 37 35.8 +0.8
baz=116
R25A Fountain Ranch 116.22 42 ⇑P PKPdf 16 37 35.7 +0.7
baz=116
Q26A Hugo 116.31 41 ⇑P PKPdf 16 37 35.8 +0.7
baz=116
ANMO Albuquerque 116.32 46 i PKIKP PKPdf 16 37 37.0 +1.6
ANMO pmax pmax
comp=Z,62nm,2.5s
121A Cookes Peak, D 116.46 49 ⇑P PKPdf 16 37 37.6 +1.9
baz=116
T25A Trinidad 116.66 43 ⇑P PKPdf 16 37 38.1 +2.2
baz=117
X23A Hourglass Bar 116.69 47 ⇑P PKPdf 16 37 37.4 +1.3
baz=117
R26A Arlington 116.70 42 ⇑P PKPdf 16 37 37.3 +1.4
baz=117
Z22A Elephant Butte 116.74 48 ⇑P PKPdf 16 37 37.3 +1.2
baz=117
V24A Rampart Ranch, 116.78 45 ⇓P PKPdf 16 37 37.3 +1.0
baz=117
W24A Lazy 6 Ranch, 116.94 46 ⇓P PKPdf 16 37 38.0 +1.4
baz=117
S26A Kim 117.04 42 ⇓P PKPdf 16 37 37.2 +0.6
baz=117
U25A Circle Dot Ran 117.04 44 ⇓P PKPdf 16 37 37.1 +0.4
baz=117
Y23A Lovelace Mesa, 117.10 47 ⇑P PKPdf 16 37 38.0 +1.2
baz=117
V25A Rancho No Teng 117.19 45 ⇑P PKPdf 16 37 38.2 +1.2
baz=117
T26A Comanche Natio 117.20 43 ⇓P PKPdf 16 37 37.7 +0.7
baz=117
Q28A Sharon Springs 117.33 40 ⇑P PKPdf 16 37 37.8 +0.7
baz=117
U26A Atchley Ranch, 117.50 44 ⇓P PKPdf 16 37 38.4 +0.8
baz=118
Y24A Capitan 117.55 47 ⇓P PKPdf 16 37 39.4 +1.6
baz=118,SNR=6.6
ECSD EROS Data Cent 117.60 33 ⇓P PKPdf 16 37 37.9 +0.5
baz=118
W25A X Bar L Ranch, 117.61 45 ⇓P PKPdf 16 37 38.6 +0.8
baz=118
R28A Tribune 117.75 41 ⇑P PKPdf 16 37 38.1 +0.2
baz=118
M31A Lambtecht Ranc 117.76 37 ⇓P PKPdf 16 37 37.6 -0.2
baz=118
V26A Tequesquite Ra 117.79 44 ⇑P PKPdf 16 37 39.2 +1.1
baz=118
T27A Campo 117.85 43 ⇑P PKPdf 16 37 40.0 +1.8
baz=118
Z24A Sheeppen Canyo 117.89 47 ⇓P PKPdf 16 37 39.7 +1.2
baz=118
Q29A Oakley 117.98 40 ⇓P PKPdf 16 37 39.1 +0.8
baz=118
P30A Selden 118.06 39 ⇓P PKPdf 16 37 38.8 +0.4
baz=118
Y25A Mesa, Roswell 118.09 47 ⇓P PKPdf 16 37 39.0 +0.3
baz=118,SNR=7.1
U27A Thompson Grove 118.12 43 ⇓P PKPdf 16 37 39.6 +0.9
baz=118
X26A CR and CF Fran 118.41 46 ⇑P PKPdf 16 37 39.0 -0.3
baz=118
Q30A Quinter 118.41 40 ⇓P PKPdf 16 37 39.5 +0.4
baz=118
P31A Stockton 118.62 39 ⇓P PKPdf 16 37 40.2 +0.8
baz=118
SCHQ Schefferville 118.64 8 PKP PKPdf 16 37 39.1 +0.1
comp=Z,2.3nm,0.4s,baz=357,slow=2.3,SNR=14
W27A Bowe Ranch, En 118.67 45 ⇓P PKPdf 16 37 40.5 +0.7
baz=119
Z26A Caprock 118.93 47 ⇑P PKPdf 16 37 40.1 -0.2
baz=119
Y27A Causey 119.21 46 ⇓P PKPdf 16 37 41.2 +0.3
baz=119
R31A Burdett 119.25 40 ⇓P PKPdf 16 37 41.0 +0.2
baz=119
MSTX Muleshoe 119.44 46 ⇓P PKPdf 16 37 41.5 +0.2
baz=119
Q32A Meitler Ranch, 119.45 39 ⇑P PKPdf 16 37 41.3 +0.3
baz=119
U30A WK&E Inc. Balk 119.53 42 ⇓P PKPdf 16 37 42.7 +1.4
baz=120
S31A Mullinville 119.67 40 ⇓P PKPdf 16 37 41.6 +0.1
baz=120
R32A Long Quarter, 119.69 39 ⇓P PKPdf 16 37 42.0 +0.5
baz=120
Y28A McKinney Farm, 119.85 45 ⇑P PKPdf 16 37 42.4 +0.3
baz=120
Q33A Connelly Farm, 119.89 38 ⇓P PKPdf 16 37 42.0 +0.2
baz=120
R33A Olander Ranch, 120.22 39 ⇓P PKPdf 16 37 43.3 +0.7
baz=120
T32A Huddler Ranch, 120.29 41 ⇓P PKPdf 16 37 43.4 +0.7
baz=120
128A Castleberry Fa 120.34 47 ⇓P PKPdf 16 37 43.2 +0.2
baz=120
V31A Spring Creek L 120.49 42 ⇓P PKPdf 16 37 43.8 +0.7
baz=120
X30A Coker Ranch, T 120.53 44 ⇑P PKPdf 16 37 43.5 +0.3
baz=120
Z29A Hungry Hill Ra 120.57 46 ⇑P PKPdf 16 37 43.9 +0.4
baz=120
U32A Winter Ranch, 120.71 41 ⇓P PKPdf 16 37 44.7 +1.2
baz=121
W31A Holland Ranch, 120.75 43 ⇓P PKPdf 16 37 44.3 +0.6
baz=121
T33A Patterson Ranc 120.79 40 ⇑P PKPdf 16 37 44.4 +0.7
baz=121
Y30A Stafford Cattl 120.82 45 ⇑P PKPdf 16 37 44.3 +0.5
baz=121
Z30A Sanderson Ranc 120.97 45 ⇑P PKPdf 16 37 44.6 +0.4
baz=121
X31A McDonald Ranch 121.04 44 ⇓P PKPdf 16 37 45.1 +0.9
baz=121
V32A Arapaho 121.06 42 ⇑P PKPdf 16 37 44.9 +0.7
baz=121
TXAR Lajitas Array 121.07 51 PKP PKPdf 16 37 45.4 +0.9
comp=Z,2.2nm,0.7s,baz=234,slow=0.9,SNR=19
TXAR PKKPab PKKPbc 16 47 46.5 -1.2
comp=Z,1.3nm,1.0s,baz=120,slow=4.5,SNR=6.2
229A Bryant Ranch, 121.17 47 ⇓P PKPdf 16 37 45.4 +0.8
baz=121
Y31A Rekieta Farm, 121.21 44 ⇓P PKPdf 16 37 45.2 +0.6
baz=121
W32A Sentinel 121.26 43 ⇓P PKPdf 16 37 45.3 +0.7
baz=121
TORD Torodi Ar. Bea 121.31 289 PKP PKPdf 16 37 43.8 -1.4
comp=Z,3.3nm,0.6s,baz=55,slow=1.7,SNR=23
TORD PKKPbc PKKPab 16 47 48.0 +0.3
comp=Z,2.2nm,0.9s,baz=278,slow=2.5,SNR=9.6
429A Davenport Ranc 121.78 49 ⇑P PKPdf 16 37 46.5 +0.6
baz=122,SNR=9.0
529A Stev Forest Ra 121.79 49 ⇑P PKPdf 16 37 46.5 +0.7
baz=122,SNR=9.5
131A Roby 121.82 46 ⇑P PKPdf 16 37 46.1 +0.3
baz=122
330A Mertzon 121.92 47 ⇓P PKPdf 16 37 46.3 +0.3
baz=122
X33A Lawton 122.10 43 ⇓P PKPdf 16 37 46.9 +0.7
baz=122
Z32A Haskell 122.12 45 ⇓P PKPdf 16 37 47.2 +0.9
baz=122
430A Baggett Ranch, 122.19 48 ⇑P PKPdf 16 37 47.6 +1.0
baz=122
530A J-C Ranch, Com 122.44 49 ⇓P PKPdf 16 37 48.0 +0.9
baz=122,SNR=9.0
X34A Smith Ranch, M 122.51 42 ⇓P PKPdf 16 37 47.9 +0.9
baz=122
331A San Angelo 122.52 47 ⇓P PKPdf 16 37 47.6 +0.4
baz=122
431A Sonora 122.71 48 ⇑P PKPdf 16 37 48.1 +0.5
baz=123
232A Coleman 122.77 46 ⇑P PKPdf 16 37 48.0 +0.3
baz=123
Y34A Reagan Ranch, 122.94 43 ⇓P PKPdf 16 37 48.5 +0.7
baz=123
531A Rocksprings 123.02 48 ⇑P PKPdf 16 37 48.3 +0.1
baz=123,SNR=6.3
432A Menard 123.20 47 ⇑P PKPdf 16 37 48.8 +0.3
baz=123
233A Rising Star 123.23 46 ⇑P PKPdf 16 37 48.6 +0.1
baz=123
631A Perdido Creek 123.38 49 ⇑P PKPdf 16 37 49.8 +0.9
baz=123,SNR=6.5
JCT Junction City 123.41 48 ⇑P PKPdf 16 37 49.8 +0.8
baz=123
134A White-Moore Ra 123.50 45 ⇓P PKPdf 16 37 49.8 +0.9
baz=123
532A Rocksprings 123.52 48 ⇓P PKPdf 16 37 49.6 +0.4
baz=124
333A Richland Sprin 123.55 46 ⇓P PKPdf 16 37 49.3 +0.2
baz=124
433A Art 123.78 47 ⇑P PKPdf 16 37 50.6 +1.0
baz=124
234A Clairette 123.78 45 ⇑P PKPdf 16 37 50.4 +0.8
baz=124
632A Uvalde 123.92 49 ⇓P PKPdf 16 37 51.3 +1.4
baz=124,SNR=5.8
334A Lometa 124.08 46 ⇑P PKPdf 16 37 50.9 +0.7
baz=124
732A Laxson Ranch, 124.18 49 ⇓P PKPdf 16 37 50.7 +0.3
baz=124
533A Kerrville 124.19 48 ⇓P PKPdf 16 37 51.2 +0.8
baz=124
434A Burnet 124.34 46 ⇓P PKPdf 16 37 51.6 +0.9
baz=124
832A Faith Ranch, C 124.41 50 ⇓P PKPdf 16 37 51.9 +1.1
baz=124,SNR=6.5
534A Blanco 124.62 47 ⇑P PKPdf 16 37 52.1 +0.9
baz=125
335A Moody 124.69 45 ⇓P PKPdf 16 37 52.0 +0.7
baz=125
833A Chaparral WMA, 124.83 50 ⇑P PKPdf 16 37 53.7 +2.1
baz=125,SNR=7.5
933A Laredo 125.28 50 ⇓P PKPdf 16 37 54.0 +1.5
baz=125
034A Hebbronville 126.01 50 ⇑P PKPdf 16 37 56.1 +2.2
baz=126
035A Encino 126.52 50 ⇓P PKPdf 16 37 57.4 +2.5
baz=126
WVT Waverly 127.72 34 ePKIKP PKPdf 16 37 57.5 +0.6
WVT Waverly 127.72 34 ePKPdf PKPdf 16 37 57.5 +0.6
PLCA Paso Flores 142.31 160 PKIKP PKPdf 16 38 21.0 -3.1
PLCA pmax pmax
comp=Z,6.0nm,0.7s
PLCA Paso Flores 142.31 160 PKhKP PKPpre 16 38 20.9
comp=Z,6.0nm,0.7s,baz=221,slow=4.7,SNR=11
ROSC El Rosal 157.32 62 PKP PKPdf 16 38 49.5 +0.9
comp=Z,7.0nm,0.5s,baz=285,slow=13,SNR=3.7
CPUP Villa Florida 159.41 172 PKP2 PKPab 16 39 29.1 +1.2
CPUP pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,13nm,0.9s						
CPUP	**Villa Florida**	**159.41**	**172**	PKPab	**PKPab**	**16 39 29.1**	**+1.2**
	comp=Z,13nm,0.9s,baz=185,slow=6.0,SNR=13						
LPAZ	**La Paz**	**162.90**	**128**	PKIKP	**PKPdf**	**16 38 56.4**	**+1.4**
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LPAZ	**La Paz**	**162.90**	**128**	PKP	**PKPdf**	**16 38 56.4**	**+1.4**
	comp=Z,4.2nm,1.0s,baz=312,slow=2.9,SNR=11						
BDFB	**Brasilia**	**168.49**	**212**	PKP2	**PKPab**	**16 40 08.1**	**-0.1**
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BDFB	**Brasilia**	**168.49**	**212**	PKPab	**PKPab**	**16 40 08.1**	**-0.1**
	comp=Z,6.8nm,0.8s,baz=144,slow=6.6,SNR=8.0						

MAN 26 16:33:14, 10°.17N×124°.82E, h7km, mb4.5, ML3.3, MS3.2, 2C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.05**	**133**	eP	Pg	16 33 17.3	+1.8
SCPH	**Surigao**	**0.76**	**120**	⇓eP	Pg	16 33 27.3	-1.4
LLP	**Lapu-Lapu**	**0.85**	**280**	⇓eP	Pg	16 33 30.7	+0.2
LLP				eS	Sb	16 33 43.6	+0.7
OCLP	**Ormoc**	**0.90**	**347**	eP	Pb	16 33 31.9	-0.2
OCLP				eS	Sn	16 33 46.5	0.0
PLP	**Palo**	**1.00**	**9**	⇑eP	Pb	16 33 33.8	+0.1
PLP				eS	Sb	16 33 46.9	-0.2
GUIM	**Jordan**	**2.24**	**282**	eP	Pn	16 33 52.1	+0.6
RCP	**Roxas**	**2.46**	**304**	⇑eP	Pn	16 33 56.3	+1.7

IDC 26 16:40:55.3±17.0, 3°.98S×145°.88E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.3/29, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=278.2km s-min=100.9km az=176.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.45**	**214**	P	P	16 45 24.0	+0.3
	0.3nm,0.3s,baz=38,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**22.74**	**209**	P	P	16 45 59.0	-0.2
	0.7nm,0.5s,baz=38,slow=9.6,SNR=23						
STKA	**Stephens Creek**	**28.05**	**188**	P	P	16 46 48.3	-0.1
	0.5nm,0.4s,baz=29,slow=10,SNR=3.0						

WEL 26 17:16:43.7±0.4, 44°.83S×167°.29E, h5km, ML3.0/5, 1C-2D, Error ellipse: s-maj=3.6km s-min=2.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.48**	**71**	⇑PG	Pg	17 16 53.0	+0.1
MSZ				AML	AML	17 16 59.0	
MSZ				SG	Sg	17 16 59.0	-0.2
MSZ				AML	AML	17 16 59.0	
MSZ				AML	AML	17 16 59.5	
DCZ	**Deep Cove**	**0.66**	**188**	P*	Pg	17 16 56.3	+0.1
DCZ				SG	Sg	17 17 05.3	+0.5
DCZ				AML	AML	17 17 05.8	
DCZ				AML	AML	17 17 06.3	
DCZ				AML	AML	17 17 06.3	
MLZ	**Mavora Lakes**	**0.81**	**130**	P*	Pg	17 16 59.2	-0.1
MLZ				AML	AML	17 17 10.4	
MLZ				AML	AML	17 17 10.4	
WHZ	**Wether Hill Ro**	**1.16**	**157**	⇓P*	Pg	17 17 05.4	-0.6
WHZ				S*	Sg	17 17 20.6	-0.5
WKZ	**Wanaka**	**1.23**	**91**	P*	Pg	17 17 06.6	-0.2
JCZ	**Jackson Bay**	**1.29**	**55**	eP*	Pn	17 17 08.1	-0.4
EAZ	**Earnscleugh**	**1.49**	**106**	⇓PN	Pn	17 17 10.9	-0.2
EAZ				AML	AML	17 17 31.7	
EAZ				AML	AML	17 17 33.0	
TUZ	**Tuapeka**	**2.00**	**125**	PN	Pn	17 17 19.1	+1.0
LBZ	**Lake Benmore**	**2.11**	**79**	ePN	Pb	17 17 21.1	-1.4
FOZ	**Fox Glacier**	**2.14**	**55**	ePN	Pn	17 17 20.8	+0.8
SYZ	**Scrubby Hill**	**2.15**	**143**	PN	Pn	17 17 20.5	+0.4
ODZ	**Otahua Downs**	**2.39**	**96**	PN	Pn	17 17 24.8	+1.3

NEIC ***26*** *17:49:16.7±0.6, 4°.72S×100°.70E, h10km, mb4.3/5, Error ellipse: s-maj=18.2km s-min=9.9km az=47.0*
IDC ***26*** *17:49:16.7±2.1, 4°.60S×100°.97E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/32, mbtmp4.0/8, MS2.8/1, Ms1 2.8/1, ms1mx2.4/28, Error ellipse: s-maj=67.6km s-min=21.1km az=58.0*
DJA ***26*** *17:49:28.6±1.1, 5°S±10°×101°E±°, h84km±28km, M3.9/11, MLv3.9/11*
ISC 26 17:49:19.8±0.8, 4°.85S±0°.08×101°.01E±0°.08, h22km, n40, σ1.84/29, mb4.2/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.00**	**76**	P	**Pb**	**17 49 56.4**	**+0.8**
MNAI				S	**Sn**	**17 50 16.4**	**-0.4**
MNAI	**Manna**	**2.00**	**76**	ePn	**Pb**	**17 49 54.1**	**-1.5**
MASI	**Maura Aman, Be**	**2.10**	**36**	P	**Pb**	**17 49 58.8**	**+1.6**
LHSI	**Lahat**	**2.71**	**68**	P	**Pb**	**17 50 04.5**	**+2.4**
KRJI	**Kerinci**	**2.78**	**9**	P	**Pb**	**17 50 10.7**	**+1.9**
LWLI	**Liwa**	**3.05**	**93**	P	**Pn**	**17 50 08.9**	**+2.1**
MDSI	**Maura Dua**	**3.18**	**84**	P	**Pn**	**17 50 11.2**	**+2.6**
MDSI				S	**Sn**	**17 50 45.1**	**-0.8**
KASI	**Kota Agung**	**3.54**	**101**	P	**Pn**	**17 50 16.1**	**+2.6**
KASI				S	**Sn**	**17 50 52.5**	**-2.3**
KLI	**Kotabumi**	**3.84**	**90**	P	**Pn**	**17 50 20.0**	**+2.4**
BLSI	**Bandar Lampung**	**4.25**	**97**	P	**Pn**	**17 50 24.3**	**+0.9**
CGJI	**Cibinong**	**4.98**	**111**	P	**Pn**	**17 50 34.9**	**+1.5**
PSI	**Prapat**	**7.88**	**345**	LR	LR	17 53 59.3	
	comp=Z,65nm,18.7s,baz=80,slow=38						
KPJI	**Karang Pucung**	**8.26**	**108**	P	**Pn**	**17 51 20.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**23.25**	**355**	P	**P**	**17 54 22.8**	**-3.1**
	1.7nm,0.8s,baz=184,slow=9.5,SNR=11						
PALK	**Pallekele**	**23.57**	**301**	eP	P	17 54 23.0	-6.1
	29nm,1.3s						
CHTO	**Chiang Mai**	**23.60**	**355**	eP	**P**	**17 54 27.3**	**-2.0**
H08S2	**Diego Garcia H**	**28.47**	**263**	T	T	18 25 15.0	
	baz=85,slow=76,SNR=81						
H08S3	**Diego Garcia H**	**28.48**	**263**	T	T	18 25 28.0	
	baz=85,slow=76,SNR=86						
H08S1	**Diego Carcia H**	**28.49**	**263**	T	T	18 25 19.1	
	baz=85,slow=76,SNR=71						
H08N1	**Diego Carcia H**	**29.88**	**266**	T	T	18 27 44.3	
	baz=183						
H08N2	**Diego Garcia H**	**29.90**	**266**	T	T	18 27 48.4	
	baz=183						
H08N3	**Diego Garcia H**	**29.91**	**266**	T	T	18 27 45.5	
	baz=183						
H01W3	**Cape Leeuwin H**	**32.27**	**160**	T	T	18 30 30.1	
	baz=337,slow=76,SNR=3.3						
H01W2	**Cape Leeuwin H**	**32.28**	**160**	T	T	18 30 31.2	
	baz=337,slow=76,SNR=3.9						
H01W1	**Cape Leeuwin H**	**32.28**	**160**	T	T	18 30 28.3	
	baz=337,slow=76,SNR=5.2						
WRA	**Warramunga Arr**	**35.74**	**118**	P	**P**	**17 56 18.6**	**+1.2**
	1.2nm,0.7s,baz=300,slow=8.7,SNR=6.2						
WRAB	**Tennant Creek**	**35.75**	**118**	P	**P**	**17 56 17.7**	**+0.3**
STKA	**Stephens Creek**	**46.54**	**130**	P	**P**	**17 57 47.2**	**+1.2**
	2.4nm,1.0s,baz=332,slow=9.0,SNR=3.3						
SONM	**Songino Array**	**52.67**	**5**	P	**P**	**17 58 32.5**	**-0.1**
	2.0nm,0.9s,baz=184,slow=9.4,SNR=17						
AAK	**Ala-Archa**	**53.03**	**336**	P	**P**	**17 58 36.3**	**+0.9**
	4.0nm,1.4s						
MJAR	**Matsushiro Arr**	**53.88**	**37**	P	**P**	**17 58 39.7**	**-1.9**
	1.2nm,0.6s,baz=206,slow=8.6,SNR=3.9						
MK31	**Makanchi Array**	**54.02**	**344**	eP	**P**	**17 58 40.0**	**-2.5**
MKAR	**Makanchi Array**	**54.02**	**344**	P	**P**	**17 58 40.8**	**-1.7**
	0.8nm,0.8s,baz=152,slow=9.0,SNR=10						
USRK	**Ussuriysk Arra**	**56.21**	**26**	P	**P**	**17 58 57.6**	**-0.6**
	3.6nm,0.7s,baz=220,slow=9.1,SNR=6.9						
KURK	**Kurchatov**	**58.60**	**344**	P	P	17 59 11.1	-3.9
	0.9nm,0.9s						
ZAA0	**Zalesovo Array**	**60.13**	**349**	eP	P	17 59 22.7	-2.8
ZALV	**Zalesovo Beam**	**60.13**	**349**	P	**P**	**17 59 23.0**	**-2.5**
	1.8nm,0.8s,baz=178,slow=5.2,SNR=10.0						
CASY	**Casey**	**61.68**	**176**	eP	**P**	**17 59 36.8**	**+0.9**
	12nm,0.7s						
ABKAR	**Akbulak array**	**64.61**	**332**	eP	P	17 59 52.1	-3.4
	1.3nm,0.6s						
TXAR	**Lajitas Array**	**146.26**	**41**	PKPbc	**PKPbc**	**18 09 00.2**	**+0.7**
	0.8nm,0.8s,baz=318,slow=2.7,SNR=7.1						

MAN 26 17:54:30, 6°.85N×126°.02E, h30km, mb4.6, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.26**	**69**	eP	Pn	17 54 38.3	+0.5
MATI				eS	Sn	17 54 45.2	+2.5
DMPH	**Davao City--Mi**	**0.56**	**294**	⇑eP	Pn	17 54 42.1	+0.2
DMPH				eS	Sn	17 54 58.5	+8.4
BUKP	**Musuan**	**1.39**	**317**	eP	Pn	17 54 54.2	+0.7
BUKP				eS	Sn	17 55 11.1	+0.2

ISCJB ***26*** *18:01:21.4±0.4, 67°.05N±0°.03×21°.0E±0°.1, h0km, Error ellipse: s-maj=5.8km s-min=4.0km az=11.4*
UPP ***26*** *18:01:22.5, 67°.08N×20°.91E, h0km, ML2.0, Mining explosion.*
CSEM ***26*** *18:01:22.6±0.2, 67°.09N×20°.94E, h2km, ML2.0, Error ellipse: s-maj=5.3km s-min=4.0km az=89.0, Mining explosion.*
IDC ***26*** *18:01:22.3±1.0, 67°.07N×20°.71E, h0km, mb1 2.9/3, mb1mx2.8/38, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=15.8km s-min=8.3km az=110.0*
NAO ***26*** *18:01:23.7±0.8, 67°.09N×21°.25E, ML2.4*
BER ***26*** *18:01:25.0±5.0, 67°.11N×20°.99E, h0km, ML1.7, ML2.4(NAO), Suspected explosion*
ISC 26 18:01:22.1±0.7, 67°.08N±0°.02×20°.96E±0°.03, h0km, n49, σ0.88/65, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.55**	**47**	P	**Pg**	**18 01 33.4**	**+0.7**
MASU	**Masugnsbyn**	**0.55**	**47**	P	**Pg**	**18 01 33.4**	**+0.7**
ERTU	**Ertsjaerv**	**0.72**	**137**	P	**Pg**	**18 01 36.2**	**+0.3**
ERTU	**Ertsjaerv**	**0.72**	**137**	P	**Pg**	**18 01 36.2**	**+0.3**
KUA	**Kurravaara**	**0.91**	**345**	P	**Pg**	**18 01 39.3**	**-0.2**
KUA	**Kurravaara**	**0.91**	**345**	P	**Pg**	**18 01 39.4**	**-0.2**
HARU	**Harads**	**0.92**	**180**	P	**Pg**	**18 01 39.7**	**0.0**
HARU	**Harads**	**0.92**	**180**	P	**Pg**	**18 01 39.7**	**0.0**
SALU	**Saltoluokta**	**1.00**	**289**	P	**Pg**	**18 01 41.0**	**-0.2**
SALU	**Saltoluokta**	**1.00**	**289**	P	**Pg**	**18 01 41.0**	**-0.2**
LANU	**Lannavaara**	**1.05**	**22**	P	**Pg**	**18 01 42.0**	**-0.2**
LANU	**Lannavaara**	**1.05**	**22**	P	**Pg**	**18 01 42.0**	**-0.2**
NIKU	**Nikkaluokta**	**1.08**	**318**	P	**Pg**	**18 01 42.4**	**-0.4**
NIKU	**Nikkaluokta**	**1.08**	**318**	P	**Pg**	**18 01 42.4**	**-0.4**
KALU	**Kalix**	**1.56**	**141**	P	**Pn**	**18 01 51.1**	**+0.1**
KALU	**Kalix**	**1.56**	**141**	P	**Pn**	**18 01 51.1**	**+0.1**
SJUU	**Sjulsmark**	**1.60**	**170**	P	**Pn**	**18 01 51.7**	**+0.1**
SJUU	**Sjulsmark**	**1.60**	**170**	P	**Pn**	**18 01 51.7**	**+0.1**
KIF	**Kilpisjarvi**	**1.93**	**358**	Pn	**Pb**	**18 01 58.0**	**-0.2**
KIF				Sn	**Sg**	**18 02 25.1**	**+1.0**
KIF	**Kilpisjarvi**	**1.93**	**358**	Pn	**Pb**	**18 01 58.0**	**-0.2**
KIF				Sn	**Sg**	**18 02 25.1**	**+1.0**
KIF	**Kilpisjarvi**	**1.93**	**358**	Pn	**Pb**	**18 01 58.0**	**-0.2**
	SNR=50						
KIF				Sn	**Sg**	**18 02 25.1**	**+1.0**
	SNR=50						
KTK1	**Kautokeino**	**2.12**	**23**	eP	**Pb**	**18 02 00.4**	**-1.0**
KTK1				eSg	**Sg**	**18 02 29.7**	**-0.5**
KTK1				IAML		18 02 30.7	
	comp=N,12nm,0.2s						
STEI	**Steigen**	**2.36**	**294**	eP	**Pb**	**18 02 05.0**	**-0.4**
STEI				IAML		18 02 42.2	
	comp=Z,4.6nm,0.2s						
MOR8	**Moi Rana**	**2.75**	**254**	eSg	**Sn**	**18 02 43.5**	**+2.1**
MOR8				IAML		18 02 45.1	
	comp=Z,10nm,0.3s						
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**18 02 11.6**	**+0.9**
	baz=213,slow=14						
ARA0				Sn	**Sn**	**18 02 48.4**	**+1.2**
	baz=218,slow=22						
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**18 02 11.6**	**+0.9**
	baz=213,slow=14						
ARA0				Sn	**Sn**	**18 02 48.4**	**+1.2**
	baz=218,slow=22						
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**18 02 11.6**	**+0.9**
	SNR=50						
ARA0				Sn	**Sn**	**18 02 48.4**	**+1.2**
	SNR=50						
ARCES	**ARCESS Array B**	**2.99**	**32**	Pn	**Pn**	**18 02 11.6**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=210,slow=13,SNR=105						
ARCES				Sn	**Sn**	**18 02 49.3**	**+2.2**
	comp=Z,1.1nm,0.3s,baz=206,slow=22,SNR=13						
ARE0	**ARCESS Array S**	**2.99**	**32**	eP	**Pn**	**18 02 11.7**	**+1.0**
ARE0				eSg	**Sb**	**18 02 51.8**	**-1.4**
ARE0	**ARCESS Array S**	**2.99**	**32**	eP	**Pn**	**18 02 11.7**	**+1.0**
	SNR=50						
NSS	**Namsos**	**4.50**	**239**	eP	**Pn**	**18 02 33.2**	**+1.8**
NSS	**Namsos**	**4.50**	**239**	eP	**Pn**	**18 02 33.2**	**+1.8**
	SNR=49						
APA0	**Apatity Array**	**4.69**	**78**	Pn	**Pn**	**18 02 33.8**	**-0.2**
	baz=252,slow=12						
APA0				Sn	**Sn**	**18 03 28.6**	**-0.3**
	baz=274,slow=28						
APA0				Lg	Lg	18 03 46.1	
	baz=280,slow=28						
APA0	**Apatity Array**	**4.69**	**78**	Pn	**Pn**	**18 02 33.8**	**-0.2**
	baz=252,slow=12						
APA0				Sn	**Sn**	**18 03 28.6**	**-0.3**
	baz=274,slow=28						
APA0				Lg	Lg	18 03 46.1	
	baz=280,slow=28						
APA0	**Apatity Array**	**4.69**	**78**	Pn	**Pn**	**18 02 33.8**	**-0.2**
	SNR=50						
APA0				Sn	**Sn**	**18 03 28.6**	**-0.3**
	SNR=50						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 02 54.5**	**+1.4**
	baz=341,slow=12						
FIA0				Sn	**Sn**	**18 04 03.6**	**+0.4**
	baz=358,slow=22						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 02 54.5**	**+1.4**
	baz=341,slow=12						
FIA0				Sn	**Sn**	**18 04 03.6**	**+0.4**
	baz=358,slow=22						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 02 54.5**	**+1.4**
	SNR=50						
FIA0				Sn	**Sn**	**18 04 03.7**	**+0.4**
	SNR=50						
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**18 02 54.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=342,slow=11,SNR=12						
FINES				Sn	**Sn**	**18 04 01.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=0.5,slow=17,SNR=6.2						
FINES				Lg	Lg	18 04 35.5	
	comp=Z,0.2nm,0.3s,baz=336,slow=24,SNR=3.0						
NB2	**NORSAR Subarra**	**7.41**	**220**	Pn	**Pn**	**18 03 11.3**	**-0.1**
	baz=28,slow=14						
NB2	**NORSAR Subarra**	**7.41**	**220**	Pn	**Pn**	**18 03 11.3**	**-0.1**
	baz=28,slow=14						
NB2	**NORSAR Subarra**	**7.41**	**220**	Pn	**Pn**	**18 03 11.3**	**-0.1**
	SNR=50						
NOA	**NORSAR Array B**	**7.41**	**220**	Pn	**Pn**	**18 03 10.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=35,slow=17,SNR=3.4						
NOA				Sn	Sn	18 04 28.3	-7.8
	comp=Z,0.1nm,0.3s,baz=188,slow=13,SNR=2.6						
HFS	**Hagfors**	**7.68**	**208**	Pn	**Pn**	**18 03 15.8**	**+0.7**
	baz=18,slow=14						
HFS	**Hagfors**	**7.68**	**208**	Pn	**Pn**	**18 03 15.8**	**+0.7**
	baz=18,slow=14						
HFS	**Hagfors**	**7.68**	**208**	Pn	**Pn**	**18 03 15.8**	**+0.7**
	SNR=50						
SPA0	**Spitsbergen Ar**	**11.23**	**355**	Pn	**Pn**	**18 04 03.7**	**+0.1**
	baz=172,slow=18						
SPA0	**Spitsbergen Ar**	**11.23**	**355**	Pn	**Pn**	**18 04 03.7**	**+0.1**
	baz=172,slow=18						
SPA0	**Spitsbergen Ar**	**11.23**	**355**	Pn	**Pn**	**18 04 03.7**	**+0.1**
	SNR=50						

DJA 26 18:07:32.6±0.8, 8°S±5°×107°E±°, h24km±8km, M3.6/12, MLv3.6/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.03**	**39**	P	Pn	18 07 50.3	-1.3
CISI				S	Sb	18 08 00.2	-4.8
CNJI	**Cibinong**	**1.04**	**358**	P	Pn	18 07 50.8	-1.0
CNJI				S	Sb	18 08 01.4	-3.9
CMJI	**Cimerak**	**1.40**	**66**	P	Pn	18 07 55.4	-1.2
CMJI				S	Sb	18 08 16.2	+0.7
SKJI	**Sukabumi**	**1.47**	**336**	P	Pn	18 07 57.4	-0.3
LEM	**Lembang**	**1.59**	**17**	P	Pn	18 08 00.1	+0.6
LEM				S	Sn	18 08 19.6	+0.2
KPJI	**Karang Pucung**	**2.03**	**60**	P	Pn	18 08 05.4	+0.1
JCJI	**Jatiwangi**	**2.16**	**31**	P	Pn	18 08 06.1	-1.0
JCJI				S	Sn	18 08 27.4	-5.7
CGJI	**Cibinong**	**2.26**	**320**	P	Pn	18 08 08.7	+0.2
UGM	**Wanagama**	**3.36**	**83**	P	Pn	18 08 22.3	-1.4
PWJI	**Pagerwojo**	**4.61**	**86**	P	Pn	18 08 40.6	-0.2

MAN 26 18:08:57, 15°.65N×119°.84E, h22km, mb4.6, ML3.5, MS3.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.14**	**28**	eP	Pb	18 09 02.9	+0.6
SCZP				eS	Sb	18 09 08.9	+3.0
BOLP	**Bolinao**	**0.73**	**5**	eP	Pb	18 09 11.2	+0.1
BOLP				eS	Sn	18 09 23.2	+0.6
BCPH	**Baguio City Da**	**1.02**	**44**	⇓iP	Pn	18 09 16.4	+0.2
BCPH				iS	Sn	18 09 30.7	+0.7
LUBP	**Lubang**	**1.94**	**168**	eP	Pn	18 09 28.4	-0.3
ABRA	**Dolores**	**2.16**	**23**	eP	Pb	18 09 33.7	-1.7
CAUP	**Cauayan**	**2.30**	**56**	eP	Pn	18 09 34.9	+1.3
APYP	**Conner**	**2.58**	**31**	eP	Pb	18 09 40.9	-1.7

MEX 26 18:27:12.5±0.6, 18°.36N×100°.64W, h73km±7km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.29**	**105**	eP	Pn	18 27 22.7	-1.4
ARIG				iS	Sn	18 27 30.6	-1.9
MEIG	**Mezcala**	**1.06**	**114**	iP	Pn	18 27 31.5	-0.6
MEIG				iS	Sn	18 27 44.9	-1.8
ZIIG	**Zihuatanejo**	**1.08**	**227**	iP	Pn	18 27 30.5	-1.7
ZIIG				iS	Sn	18 27 45.4	-1.5
CAIG	**El Cayaco**	**1.35**	**165**	eP	Pn	18 27 34.6	-1.0
CAIG				eS	Sn	18 27 50.4	-2.6
MOIG	**Morelia**	**1.41**	**339**	iP	Pn	18 27 34.5	-2.3
MOIG				iS	Sn	18 27 52.8	-2.2
ACX	**Acapulco**	**1.66**	**153**	iP	Pn	18 27 32.5	-7.3
ACX				iS	Sn	18 27 52.4	-7.9
MMIG	**Aquila**	**2.57**	**269**	eP	Pn	18 27 51.0	-0.9
MMIG				iS	Sn	18 28 20.8	-1.4

ISCJB ***26*** *18:35:59.5±0.4, 58°.15S±0°.09×140°.0W±0°.1, h10km, mb4.9/20, MS4.6/13, Error ellipse: s-maj=13.7km s-min=10.7km az=172.2*
IDC ***26*** *18:36:00.1±0.6, 58°.04S×139°.93W, h0km, mb4.4/6, mb1 4.6/6, mb1mx4.4/26, mbtmp4.4/6, MS4.6/13, Ms1 4.5/13, ms1mx4.5/15, Error ellipse: s-maj=33.0km s-min=18.6km az=1.0*
GCMT ***26*** *18:36:01.0±0.2, 58°.65S×139°.60W, h12km, MW5.2/98, Moment Tensor Solution. s67,c86; s98,c146; Duration: 1.0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.78±.01; $M_{\theta\theta}$-0.72±.01; $M_{\phi\phi}$-0.05±.01; $M_{r\theta}$0.10±.04; $M_{\theta\phi}$0.01±.01; $M_{\phi r}$0.12±.04; Best double couple: $M_0$0.76300×10^{17} NP1:ϕ_s83.00000°, δ49.00000°, λ79.00000°. NP2: ϕ_s279.00000°, δ42.00000°, λ103.00000°. Principal axes: T 0.8000, Plg81.0000°, Azm294.0000°; N -0.0750, Plg8.0000°, Azm90.0000°; P -0.7260, Plg4.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *18:36:01.0±0.3, 58°.11S×139°.90W, h10km, mb5.1/15 Error ellipse: s-maj=18.7km s-min=10.8km az=173.0*
ISC 26 18:36:01.5±0.4, 58°.23S±0°.10×139°.85W±0°.09, h10km, n77, σ1.32/54, mb5.0/20, MS4.5/13, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**27.28**	**204**	LR	LR	18 49 45.6	
	comp=Z,3μm,20.4s,baz=91,slow=30						
QSPA	**South Pole Qui**	**31.92**	**180**	P	**P**	**18 42 28.8**	**+1.9**
	12nm,1.1s,baz=93,slow=2.8,SNR=14						
RKT	**Rikitea**	**35.25**	**8**	eS	**S**	**18 48 33.8**	**+4.3**
	272nm,27.0s						
RKT				eLR	LR	18 52 28.6	
	4μm,28.5s,baz=183						
RAR	**Rarotonga**	**39.71**	**330**	LR	LR	18 56 18.0	
	comp=Z,632nm,18.0s,baz=210,slow=31						
PPT2	**Papeete2**	**41.22**	**346**	eS	**S**	**18 50 00.1**	**+0.2**
	326nm,26.8s						
PPT2				eLR	LR	18 55 00.5	
	4μm,27.8s,baz=182						
PPT	**Papeete**	**41.24**	**346**	LR	LR	18 56 37.3	
	comp=Z,954nm,18.1s,baz=191,slow=30						
VAH	**Vaihoa**	**43.31**	**349**	eT	T	19 30 13.7	
	12nm,0.3s						
CASY	**Casey**	**45.24**	**212**	eP	**P**	**18 44 17.6**	**-0.6**
	17nm,1.2s						
PLCA	**Paso Flores**	**46.07**	**99**	P	**P**	**18 44 25.9**	**+0.6**
	1.4nm,0.4s,baz=204,slow=11,SNR=3.6						
PLCA				LR	LR	18 58 34.6	
	comp=Z,454nm,21.8s,baz=258,slow=29						
VNA3	**Neumayer Olymp**	**46.17**	**160**	P	**P**	**18 44 26.4**	**+0.8**
VNA2	**Neumayer--Watz**	**46.84**	**161**	P	**P**	**18 44 31.9**	**+1.1**
	baz=206,slow=5.1						
VNA1	**Neumayer--Stat**	**46.92**	**160**	P	P	18 44 27.6	-3.8
SNAA	**Sanae**	**46.95**	**163**	P	**P**	**18 44 32.2**	**+0.4**
SNAA	**Sanae**	**46.95**	**163**	eP	**P**	**18 44 30.2**	**-1.6**
	7.7nm,0.7s						
H03N3	**Juan Fernandez**	**47.11**	**86**	T	T	19 35 07.4	
	baz=218,slow=75,SNR=51						
H03N2	**Juan Fernandez**	**47.12**	**86**	T	T	19 35 03.4	
	baz=218,slow=75,SNR=65						
H03N1	**Juan Fernandez**	**47.13**	**86**	T	T	19 35 03.3	
	baz=218,slow=75,SNR=49						
TRQA	**Tornquist**	**52.50**	**103**	eP	**P**	**18 45 14.7**	**+0.3**
	21nm,1.4s						
DZM	**Mont Dzumac**	**52.59**	**290**	eLR	LR	19 00 10.1	
	744nm,26.1s						
MAW	**Mawson**	**53.36**	**191**	LR	LR	19 05 57.5	
	comp=Z,951nm,20.2s,baz=207,slow=34						
STKA	**Stephens Creek**	**57.64**	**261**	P	**P**	**18 45 52.2**	**+0.7**
	6.0nm,1.0s,baz=117,slow=9.3,SNR=3.3						
STKA				LR	LR	19 06 45.3	
	comp=Z,209nm,20.4s,baz=186,slow=32						
EIDS	**Eidsvold**	**57.82**	**273**	P	**P**	**18 45 51.9**	**-1.0**
	18nm,1.1s						
LVC	**Limon Verde**	**61.05**	**86**	eP	**P**	**18 46 15.9**	**+0.3**
	9.5nm,0.7s						
CPUP	**Villa Florida**	**64.14**	**99**	P	**P**	**18 46 35.6**	**-0.2**
	1.4nm,0.6s,baz=214,slow=8.7,SNR=3.8						
CPUP				LR	LR	19 10 44.0	
	comp=Z,177nm,19.0s,baz=193,slow=32						
CPUP	**Villa Florida**	**64.14**	**99**	P	**P**	**18 46 33.0**	**-2.8**
	0.2nm,0.7s						
CTAO	**Charters Tower**	**64.68**	**273**	P	**P**	**18 46 39.7**	**+0.2**
	37nm,1.3s						
NNA	**Nana**	**65.79**	**73**	P	**P**	**18 46 46.2**	**-0.5**
	46nm,1.2s						
LPAZ	**La Paz**	**66.67**	**83**	P	**P**	**18 46 54.3**	**+1.2**
	7.0nm,1.2s,baz=207,slow=5.3,SNR=12						
LPAZ	**La Paz**	**66.67**	**83**	eP	**P**	**18 46 53.6**	**+0.5**
	16nm,1.3s						
AS31	**Alice Springs**	**68.26**	**260**	eP	**P**	**18 47 01.4**	**-1.0**
H01W1	**Cape Leeuwin H**	**68.69**	**238**	T	T	20 02 44.2	
	baz=146,slow=76,SNR=8.4						
H01W2	**Cape Leeuwin H**	**68.70**	**238**	T	T	20 02 45.1	
	baz=146,slow=76,SNR=8.4						
H01W3	**Cape Leeuwin H**	**68.71**	**238**	T	T	20 02 46.2	
	baz=146,slow=76,SNR=5.4						
PAF	**Port-aux-Franc**	**69.97**	**200**	P	P	18 47 00.0	-12
PAF				S	S	18 56 11.0	-11
PAF				R		19 08 00.0	
WRA	**Warramunga Arr**	**71.09**	**263**	P	**P**	**18 47 19.2**	**-0.6**
	6.0nm,1.0s,baz=144,slow=5.7,SNR=13						
WRAB	**Tennant Creek**	**71.09**	**263**	eP	**P**	**18 47 18.9**	**-0.9**
	12nm,1.1s						
SAML	**Samuel**	**75.42**	**83**	eP	**P**	**18 47 44.1**	**-1.3**
	26nm,1.7s						
OTAV	**Otavalo**	**75.53**	**65**	eP	**P**	**18 47 46.8**	**+0.2**
	51nm,1.7s						
BDFB	**Brasilia**	**77.81**	**100**	LR	LR	19 19 39.1	
	comp=Z,379nm,18.4s,baz=202,slow=34						
JTS	**JuntasAbangare**	**81.44**	**55**	P	**P**	**18 48 16.6**	**-2.0**
	26nm,1.3s						
ROSC	**El Rosal**	**81.54**	**66**	LR	LR	19 17 38.0	
	comp=Z,217nm,19.8s,baz=273,slow=31						
LPIG	**La Paz**	**85.64**	**27**	LR	LR	19 17 56.5	
	comp=Z,530nm,19.7s,baz=205,slow=29						
SDV	**Santo Domingo**	**86.83**	**68**	eP	**P**	**18 48 44.7**	**-1.5**
	18nm,1.1s						
SUR	**Sutherland**	**88.29**	**164**	P	**P**	**18 48 54.8**	**+1.7**
	32nm,1.2s						

TEIG Tepich 89.02 47 LR LR 19 21 54.0
comp=Z,146nm,18.3s,baz=90,slow=31
TEIG Tepich 89.02 47 P P 18 48 56.9 +0.7
62nm,1.4s
TXAR Lajitas Array 92.33 31 LR LR 19 21 56.7
comp=Z,138nm,21.7s,baz=0.0,slow=30
BOSA Boshof 92.59 167 LR LR 19 30 00.7
comp=Z,475nm,18.1s,baz=186,slow=35
H10S3 ASCENSION HYDR99.79 125 T T 20 41 20.9
baz=207,slow=75,SNR=20
H10S2 ASCENSION HYDR99.79 125 T T 20 41 11.7
baz=207,slow=75,SNR=18
H10S1 ASCENSION HYDR99.80 125 T T 20 41 26.4
baz=207,slow=75,SNR=17
H10N3 ASCENSION HYDR100.85 125 T T 20 42 38.5
baz=206,slow=75,SNR=21
H10N1 ASCENSION HYDR100.85 125 T T 20 42 40.0
baz=206,slow=75,SNR=25
H10N2 ASCENSION HYDR100.87 125 T T 20 42 40.8
baz=206,slow=75,SNR=21
CMAR Chiang Mai Arr 121.82 253 PKP PKPdf 18 54 57.4 +1.9
0.6nm,0.8s,baz=195,slow=1.6,SNR=5.8
YKA Yellowknife Ar 121.97 13 PKP PKPdf 18 54 53.7 -0.6
1.1nm,1.0s,baz=192,slow=2.2,SNR=11
ILAR Eielson Array 122.80 356 PKP PKPdf 18 54 56.0 0.0
12nm,1.0s,baz=227,slow=1.5,SNR=30
TORD Torodi Ar. Bea 126.54 131 PKP PKPdf 18 55 03.8 -0.9
1.8nm,0.7s,baz=164,slow=0.9,SNR=9.4
TAM Tamanrasset 136.77 130 ePKPdf PKPdf 18 55 26.2 +2.2
SONM Songino Array 140.42 285 PKP PKPdf 18 55 27.8 -2.0
0.8nm,0.9s,baz=146,slow=6.2,SNR=6.1
KULLO Kullorsuaq 143.08 26 iP PKPab 18 55 19.5 -10
16nm,1.0s
TIXI Tiksi 143.97 327 ePKPdf PKPab 18 55 32.4 -0.2
RAYN Ar Rayn 145.11 189 ePKPdf PKPab 18 55 38.4 +0.1
ESDC Sonseca Array 146.38 104 PKPbc PKPbc 18 55 41.6 -0.2
1.0nm,0.8s,baz=251,slow=3.9,SNR=4.9
SUMG Summit 147.21 33 iP PKPbc 18 55 43.2 -0.4
12nm,0.8s
SUMG Summit 147.21 33 ePKPbc PKPbc 18 55 43.2 -0.4
KBL Kabul 149.47 232 ePKPbc PKPbc 18 55 48.7 -1.7
MKAR Makanchi Array 152.39 264 PKPbc PKPbc 18 55 55.6 -1.0
4.1nm,1.1s,baz=116,slow=5.6,SNR=15
MKAR PKPab PKPab 18 56 08.6 +1.7
2.1nm,0.9s,baz=116,slow=5.5,SNR=8.3
DAG Danmarks Havn 152.73 25 iP PKPbc 18 55 57.2 +0.7
3.0nm,0.8s
TKM2 Tokmak 2 153.18 251 ePKPdf PKPdf 18 55 51.9 +0.5
TKM2 ePKPbc PKPbc 18 55 58.1 -0.7
AAK Ala-Archa 153.51 249 PKPdf PKPdf 18 55 50.6 -1.2
AAK ePKPbc PKPbc 18 55 57.9 -1.5
AAK ePKPab PKPab 18 56 11.8 -0.1
EKS2 Erkin-Say 153.89 248 ePKPbc PKPbc 18 55 58.8 -1.4
ZALV Zalesovo Beam 155.08 280 PKPab PKPab 18 56 17.2 -0.9
13nm,1.1s,baz=114,slow=3.6,SNR=16
GEYT Alibeck 156.55 218 PKPab PKPab 18 56 25.4 +0.5
0.9nm,0.8s,baz=273,slow=2.7,SNR=4.5
BRTR Keskin Array B 161.01 164 PKP PKPdf 18 56 03.6 +2.4
1.0nm,1.0s,baz=202,slow=2.7,SNR=4.0
BRTR PKPab PKPab 18 56 45.5 +1.2
3.1nm,1.2s,baz=197,slow=7.2,SNR=4.7
BVAR Borovoye Array 162.25 266 PKPab PKPab 18 56 49.0 -0.2
1.7nm,0.9s,baz=114,slow=3.7,SNR=7.8
AKASG Malin Array Be 170.14 135 PKPab PKPab 18 57 24.5 +0.5
1.9nm,0.8s,baz=219,slow=4.1,SNR=8.5

NIED 26 19:07:00, 31°00N×141°50E, h38km, Mw4.3 Best double couple: $M_0$2.94000×10^{15} NP1:ϕ_s197.00000°, δ69.00000°, λ159.00000°. NP2:ϕ_s295.00000°, δ71.00000°, λ22.00000°.
BJI 26 19:07:53.5, 30°82N×141°63E, h49km, mB4.9/7, mb4.2/12
ISCJB 26 19:07:56.3±0.6, 30°89N±0°03×141°24E±0°06, h47km±5km, mb4.5/56, MS3.6/4, Error ellipse: s-maj=8.3km s-min=4.2km az=166.6
JMA 26 19:07:56.4±0.1, 31°00N×141°50E, h41km, M4.5
MOS 26 19:07:56.2±1.2, 30°84N×141°22E, h46km, mb4.8/40, Error ellipse: s-maj=11.5km s-min=5.5km az=112.5
IDC 26 19:07:59.6±2.3, 30°85N×141°18E, h56km±20km, mb4.1/22, mb1 4.3/26, mb1mx4.2/38, mbtmp4.3/26, ML3.9/3, MS3.1/8, Ms1 3.1/8, ms1mx2.9/33, Error ellipse: s-maj=14.8km s-min=14.0km az=88.0
NEIC 26 19:07:59.5±0.8, 30°86N×141°15E, h58km±7km, mb4.6/20, MW4.2(NIED), Error ellipse: s-maj=7.6km s-min=6.4km az=82.0
ISC 26 19:07:57.3±0.4, 30°93N±0°04×141°32E±0°07, h39km±2km, n167, σ1°21/161, mb4.5/56, MS3.5/4, 6C-5D, Southeast of Honshu

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JHCJ Hachijojimakas 2.49 329 P Pn 19 08 36.2 +0.9
JHJ2 Mitsune 2.52 330 P Pn 19 08 36.4 +0.8
JHJ2 S Sn 19 09 05.9 +0.8
BSO1 Boso 1 3.72 356 P Pn 19 08 52.9 +1.2
BSO1 eS Sn 19 09 34.9 +0.9
CBIJ Chichi jima 3.90 169 P Pn 19 08 56.2 +1.5
CBIJ S Sn 19 09 40.1 +0.9
CBIJ Chichi jima 3.90 169 ePn Pn 19 08 55.1 +0.5
CBIJ S Sn 19 09 38.1 -1.1
JCJ Chichijima 3.90 169 P Pn 19 08 55.8 +1.1
24nm,0.3s,baz=351,slow=24,SNR=10
JCJ S Sn 19 09 38.1 -1.1
42nm,0.3s,baz=275,slow=21,SNR=5.2
JCJ LR LR 19 10 26.8
comp=Z,309nm,21.5s,baz=343,slow=38
JOD2 Odawara 2 4.71 337 P Pn 19 09 07.4 +1.7
JHU Hanno 5.19 341 P Pn 19 09 14.4 +2.0
JYT Yasato 5.36 350 eS Sn 19 10 16.2 +1.0
JRY Ryogami san 5.46 339 P Pn 19 09 18.3 +2.2
JRY eS Sn 19 10 20.2 +2.6
JAG Ashikaga 5.69 345 P Pn 19 09 20.8 +1.5
JHO Hitachi 5.70 354 P Pn 19 09 18.7 -0.6
JHO eS Sn 19 10 19.1 -4.4
MJAR Matsushiro Arr 6.16 336 P Pn 19 09 28.0 +2.2
4.1nm,0.3s,baz=54,slow=28,SNR=24
MJAR LR LR 19 11 40.4
comp=Z,136nm,20.9s,baz=130,slow=36
MAJO Matsushiro 6.17 336 eP Pn 19 09 29.1 +3.3
MAJO Matsushiro 6.17 336 ePn Pn 19 09 28.4 +2.6
22nm,0.6s
MAT Matsushiro 6.17 336 P Pn 19 09 28.1 +2.3
MAT S Sn 19 10 38.4 +3.4
JFK Kawauchi 6.43 357 P Pn 19 09 27.8 -1.6
JMK Ichinoseki 8.00 359 P Pn 19 09 50.6 -0.3
JMK eS Sn 19 11 13.6 -6.5
JNU Nakatsue 9.12 287 LR LR 19 13 28.6
comp=Z,106nm,19.8s,baz=50,slow=36
ERM Erimo 11.16 7 P Pn 19 10 33.0 -1.2
JCH Churui 11.77 7 P Pn 19 10 40.8 -1.8
JCH eS Sn 19 12 38.8 -14
JOW Kunigami 12.13 254 LR LR 19 15 02.5
comp=Z,12nm,20.8s,baz=130,slow=35
KSRS Korea Array 12.85 304 P Pn 19 11 00.9 +3.6
0.2nm,0.3s,baz=122,slow=14,SNR=4.2
KSRS LR LR 19 15 37.8
comp=Z,77nm,20.6s,baz=131,slow=36
KSAR Wonju Array Be 12.87 304 P Pn 19 11 00.9 +3.3
KSAR Wonju Array Be 12.87 304 P Pn 19 11 00.9 +3.3
ASAJ Asahikawa 13.20 4 P Pn 19 11 00.1 -2.0
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ Asahikawa 13.20 4 P Pn 19 11 00.1 -2.0
comp=Z,2.1nm,0.3s,baz=221,slow=10,SNR=16
USRK Ussuriysk Arra 15.15 334 P P 19 11 31.6 -1.5
comp=Z,0.2nm,0.3s,baz=137,slow=13,SNR=3.1
USRK LR LR 19 16 56.2
comp=Z,81nm,20.1s,baz=126,slow=35
YSS Yuzh-Sakhalins 16.04 4 P P 19 11 43.7 +0.9
YSS pmax pmax
comp=Z,44nm,1.3s
YSS Yuzh-Sakhalins 16.04 4 P P 19 11 43.7 +0.9
comp=Z,44nm,1.3s
MDJ Mudanjiang 16.48 329 P Pn 19 11 44.6 -0.9
HABR Khabarovsk 18.16 347 eP P 19 12 05.4 -0.8
HABR pmax pmax
comp=Z,39nm,1.5s
HABR pmax pmax
comp=E,24nm,1.5s
HABR pmax pmax
comp=N,8.0nm,1.0s
HIA Hailar 24.50 324 eP P 19 13 12.2 -0.7
HIA pmax pmax
comp=Z,24nm,0.8s
HIA Hailar 24.50 324 eP P 19 13 12.2 -0.7
comp=Z,24nm,0.8s
PETK Petropavlovsk- 25.16 24 P P 19 13 20.2 +1.5
PETK pmax pmax
comp=Z,4.0nm,0.9s
PETK Petropavlovsk- 25.16 24 P P 19 13 20.2 +1.5
comp=Z,4.3nm,0.9s,baz=200,slow=3.9,SNR=4.4
H11N2 WAKE ISLAND Hy 25.61 110 T T 19 40 10.5
baz=297,slow=74,SNR=6.2
H11N1 WAKE ISLAND Hy 25.61 110 T T 19 40 18.9
baz=297,slow=74,SNR=3.8
H11N3 WAKE ISLAND Hy 25.63 110 T T 19 40 26.8
baz=297
H11S3 WAKE ISLAND Hy 26.09 112 T T 19 40 39.8
baz=304,slow=74,SNR=25
H11S1 WAKE ISLAND Hy 26.10 112 T T 19 40 44.2
baz=304,slow=74,SNR=22
H11S2 WAKE ISLAND Hy 26.11 112 T T 19 40 50.9
baz=304,slow=74,SNR=25
ULN Ulaanbaatar 31.09 313c iP P 19 14 13.2 +1.2
ULN pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 31.09 313 eP P 19 14 12.5 +0.5
comp=Z,4.8nm,0.6s
SONM Songino Array 31.50 312 P P 19 14 17.1 +1.6
comp=Z,31nm,1.3s,baz=108,slow=8.1,SNR=4.8
SONM LR LR 19 27 17.3
comp=Z,59nm,19.7s,baz=180,slow=37
YAK Yakutsk 32.02 350 eP P 19 14 19.0 -0.7
YAK Yakutsk 32.02 350 eP P 19 14 19.0 -0.7
BOD Bodaibo 32.79 333 eP P 19 14 25.3 -1.2
BOD pmax pmax
comp=Z,4.0nm,1.8s
SEY Seymchan 32.80 9 P P 19 14 27.7 +1.2
SEY pmax pmax
comp=Z,3.0nm,0.7s
SEY Seymchan 32.80 9 P P 19 14 27.7 +1.2
comp=Z,3.0nm,0.7s,baz=200,slow=5.8,SNR=10
ZAK Zakamensk 34.29 316 eP P 19 14 39.5 -0.3
ZAK pmax pmax
comp=Z,1.0nm,1.1s
TLY Talaya 34.54 318 eP P 19 14 43.4 +1.5
TLY pmax pmax
comp=Z,5.0nm,0.5s
TLY MLR MLR
comp=Z,84nm,16.0s
TLY Talaya 34.54 318 P P 19 14 43.3 +1.4
comp=Z,5.4nm,0.7s,baz=112,slow=20,SNR=6.8
TLY LR LR 19 29 31.1
comp=Z,76nm,18.3s,baz=147,slow=37
TLY Talaya 34.54 318 eP P 19 14 42.5 +0.6
comp=Z,6.8nm,0.8s
GTA Gaotai 34.72 296 eP P 19 14 42.8 -0.9
GTA pmax pmax
comp=Z,3.0nm,0.9s
BILL Bilibino 39.92 14 eP P 19 15 27.4 +0.2
BILL pmax pmax
comp=Z,4.0nm,1.4s
BILL Bilibino 39.92 14 P P 19 15 27.9 +0.7
CMAR Chiang Mai Arr 40.22 262 P P 19 15 29.3 -1.1
CMAR 19 17 35.1
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 40.22 262 P P 19 15 29.3 -1.1
comp=Z,1.3nm,0.8s,baz=57,slow=6.4,SNR=13
CMAR PcP PcP 19 17 35.0 +1.1
comp=Z,0.8nm,0.8s,baz=34,slow=0.5,SNR=6.0
HVS Khovu-Aksy 40.34 314⇑eP P 19 15 31.3 +0.2
HVS pmax pmax
comp=Z,24nm,1.1s
TIXI Tiksi 41.33 354⇓iP P 19 15 38.5 -0.3
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TIXI MLR MLR
comp=Z,48nm,18.0s
TIXI Tiksi 41.33 354 eP P 19 15 38.3 -0.5
comp=Z,4.7nm,0.9s
KSM Kuching 41.47 231 eP P 19 15 40.6 0.0
comp=Z,3.2nm,0.5s
KRAR Krasnoyarsk 41.98 321⇓eP P 19 15 45.4 +1.1
LSA Lhasa 43.02 282 P P 19 15 51.6 -2.1
LSA Lhasa 43.02 282 P P 19 15 51.6 -2.1
UNV Unalaska Valle 43.60 43 P P 19 16 01.0 +3.6
ZALV Zalesovo Beam 46.14 317 P P 19 16 17.1 -0.6
ZALV 19 17 53.2
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 46.14 317 P P 19 16 17.1 -0.6
comp=Z,0.9nm,0.6s,baz=110,slow=8.1,SNR=6.2
ZALV PcP PcP 19 17 53.1 0.0
comp=Z,1.4nm,0.6s,baz=102,slow=3.5,SNR=7.3
TAPN Taplejung 46.59 280 eP P 19 16 20.2 -1.8
comp=Z,7.1nm,0.8s
ODAN Odare 47.01 279 eP P 19 16 24.1 -1.1
comp=Z,8.8nm,0.5s
MKAR Makanchi Array 47.51 307 P P 19 16 27.6 -1.0
MKAR 19 17 58.5
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 47.51 307 P P 19 16 27.6 -1.0
comp=Z,2.4nm,0.8s,baz=89,slow=8.6,SNR=26
MKAR PcP PcP 19 17 58.5 +0.3
comp=Z,1.1nm,0.7s,baz=81,slow=5.8,SNR=3.7
RAMN Ramite 47.65 280 eP P 19 16 29.1 -1.1
comp=Z,9.8nm,0.6s
JIRN Jiri 47.78 281 eP P 19 16 30.6 -0.7
comp=Z,26nm,0.9s
GUN Gumba 47.96 281 eP P 19 16 32.0 -0.7
comp=Z,24nm,0.9s
PKI Pulchoki 48.47 281 eP P 19 16 35.1 -1.5
KKN Kakani 48.51 281 eP P 19 16 35.7 -1.1
GKN Gorkha 48.98 282 eP P 19 16 39.3 -1.1
comp=Z,11nm,0.9s
DANN Dangsing 49.61 282 eP P 19 16 44.7 -0.6
comp=Z,9.3nm,0.6s
KURK Kurchatov 49.80 312 eP P 19 16 45.2 -0.9
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 49.80 312 eP P 19 16 45.2 -0.9
comp=Z,1.9nm,0.6s
KOLN Koldanda 49.93 282 eP P 19 16 46.7 -0.9
comp=Z,9.4nm,0.8s
CTAO Charters Tower 50.95 174 P P 19 16 55.7 +0.7
CTAO Charters Tower 50.95 174 P P 19 16 55.7 +0.7
WRAB Tennant Creek 51.02 188⇓iP P 19 16 54.5 -1.0
WRAB Tennant Creek 51.02 188 eP P 19 16 54.6 -1.4
WRA Warramunga Arr 51.03 188 P P 19 16 54.6 -1.0
WRA pmax pmax
comp=Z,1.0nm,0.3s
WRA Warramunga Arr 51.03 188 P P 19 16 54.6 -1.0
comp=Z,1.1nm,0.3s,baz=66.6,slow=7.7,SNR=25
TKM2 Tokmak 2 52.65 303 eP P 19 17 03.9 -4.0
TKM2 Tokmak 2 52.65 303 eP P 19 17 03.9 -4.0
PMR Palmer 53.65 34 P P 19 17 14.3 -0.2
PMR pmax pmax
comp=Z,4.0nm,0.8s
PMR Palmer 53.65 34 P P 19 17 14.3 -0.2
comp=Z,4.5nm,0.8s
MCK McKinley 53.81 31 eP P 19 17 15.5 -0.3
MCK McKinley 53.81 31 eP P 19 17 15.5 -0.3
EKS2 Erkin-Say 54.02 303 eP P 19 17 17.7 -0.1
EKS2 Erkin-Say 54.02 303 eP P 19 17 17.7 -0.1
COLA College 54.34 30 P P 19 17 22.0 +2.4
COLA pmax pmax
comp=Z,12nm,0.8s
COLA College 54.34 30 eP P 19 17 20.0 +0.4
KIP Kipapa 54.70 84 P P 19 17 20.0 -2.8
ILAR Eielson Array 54.75 30 P P 19 17 23.1 +0.5
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR Eielson Array 54.75 30 P P 19 17 23.1 +0.5
comp=Z,1.7nm,0.6s,baz=255,slow=6.4,SNR=30
BRVK Borovoye 54.80 316⇑eP P 19 17 23.2 +0.1
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 54.80 316 eP P 19 17 22.1 -1.1
BRMM Bremner River 55.84 35 eP P 19 17 31.8 +1.3
comp=Z,23nm,1.3s
KKAR Karatay Array 56.28 304 eP P 19 17 32.8 -1.2
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 56.28 304 eP P 19 17 32.8 -1.2
comp=Z,1.2nm,0.6s
KBL Kabul 59.69 294 eP P 19 17 57.5 -0.7
KBL pmax pmax
comp=Z,5.0nm,1.0s
KBL Kabul 59.69 294 eP P 19 17 57.5 -0.7
comp=Z,4.8nm,1.0s
SVE Sverdlovsk 59.75 321 eP P 19 17 58.7 +0.7
SVE pmax pmax
comp=Z,19nm,1.1s
ARU Arti 60.95 321d iP P 19 18 05.9 -0.3
ARU 19 20 17.0
ARU S S 19 26 24.1 +2.6
ARU SS SS 19 30 19.7 -1.0
ARU pmax pmax
comp=Z,22nm,1.2s
ARU Arti 60.95 321 eP P 19 18 06.2 0.0
comp=Z,9.7nm,0.6s
ABKAR Akbulak array 61.91 313 eP P 19 18 12.1 -0.7
comp=Z,6.2nm,0.7s
STKA Stephens Creek 62.47 180 P P 19 18 16.5 -0.1
STKA pmax pmax
comp=Z,1.0nm,0.5s
STKA Stephens Creek 62.47 180 P P 19 18 16.5 -0.1
comp=Z,1.3nm,0.5s,baz=22,slow=5.4,SNR=3.1
PRGR Permogore 65.88 329 eP P 19 18 38.3 -0.3
PRGR pmax pmax
comp=Z,7.0nm,1.0s
TMCR Tamitsa 68.08 333 eP P 19 18 53.2 +0.6
TMCR e 19 21 24.5
TMCR pmax pmax
comp=Z,14nm,1.1s
KLMR Klimovskoe 68.90 329 eP P 19 18 57.3 -0.5
KLMR pmax pmax
comp=Z,7.0nm,0.6s
YKA Yellowknife Ar 69.15 29 P P 19 18 59.7 +0.4
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 69.15 29 P P 19 18 59.7 +0.4
comp=Z,2.1nm,0.6s,baz=296,slow=6.3,SNR=38
ARCES ARCESS Array B 69.68 340 P P 19 19 02.2 -0.3
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 69.68 340 P P 19 19 02.2 -0.3
comp=Z,5.0nm,0.9s,baz=30,slow=7.6,SNR=4.6
JOF Joensuu 71.32 333 eP P 19 19 12.2 -0.4
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 71.32 333 ep P 19 19 12.2 -0.4
comp=Z,2.4nm,0.5s
VRHR Novokhopersk 72.19 319 eP P 19 19 15.9 -2.1
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
OBN Obninsk 72.96 324⇑eP P 19 19 22.6 +0.1
OBN pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 73.50 320d iP P 19 19 25.7 -0.1
VSR pmax pmax
comp=Z,11nm,0.5s
VORD Divnogorie 73.56 320 eP P 19 19 24.1 -2.0
KAF Kangasniemi 73.70 334 eP P 19 19 26.0 -0.8
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 73.70 334 ep P 19 19 26.0 -0.8
comp=Z,4.5nm,0.7s
FINES FINESS Array B 74.19 333 P P 19 19 29.7 +0.1
FINES pmax pmax
comp=Z,12nm,1.2s
FINES FINESS Array B 74.19 333 P P 19 19 29.7 +0.1
comp=Z,12nm,1.2s,baz=81,slow=5.5,SNR=18
NEW Newport 74.61 43 P P 19 19 33.7 +1.3
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 74.61 43 P P 19 19 33.7 +1.3
comp=Z,5.7nm,1.0s,baz=308,slow=6.3,SNR=6.5
KBZ Khabaz 74.86 312 P P 19 19 34.8 +0.9
KBZ pmax pmax
comp=Z,8.0nm,0.8s
KBZ Khabaz 74.86 312 P P 19 19 34.8 +0.9
comp=Z,7.7nm,0.8s,baz=85,slow=3.4,SNR=30
KIV Kislovodsk 74.89 312 eP P 19 19 35.6 +1.4
KIV pmax pmax
comp=Z,11nm,0.9s
KIV MLR MLR
comp=Z,156nm,18.0s
KIV Kislovodsk 74.89 312 eP P 19 19 35.0 +0.8
comp=Z,6.0nm,0.6s
GNI Garni 75.34 308 P P 19 19 38.0 +1.1
GNI pmax pmax
comp=Z,13nm,1.5s
VSU Vasula 75.68 330c eP P 19 19 39.0 +0.7
VSU pmax pmax
comp=Z,60nm,1.5s
ANN Anapa 77.74 315 eP P 19 19 45.2 -4.9
NVAR Mina Array Bea 78.75 52 P P 19 19 58.0 +1.8
comp=Z,3.3nm,0.7s,baz=292,slow=5.2,SNR=12
FFC Flin Flon 78.89 32 eP P 19 19 56.7 +0.3
FFC pmax pmax
comp=Z,11nm,0.8s
FFC Flin Flon 78.89 32 eP P 19 19 56.7 +0.3
comp=Z,11nm,0.8s
AKASG Malin Array Be 79.09 323 P P 19 19 57.4 -0.1
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 79.09 323 P P 19 19 57.4 -0.1
comp=Z,4.1nm,0.6s,baz=49,slow=5.7,SNR=33
KIEV Kiev 79.10 323⇑iP P 19 19 56.9 -0.7
KIEV Kiev 79.10 323 eP P 19 19 56.5 -1.1
comp=Z,6.5nm,0.8s
ELK Elko 79.59 49 P P 19 20 02.7 +1.9
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 79.59 49 P P 19 20 02.7 +1.9
comp=Z,2.2nm,0.9s,baz=237,slow=4.2,SNR=5.8
NB2 NORSAR Subarra 79.78 338 P P 19 20 00.8 -0.4
comp=Z,4.0nm,0.7s,baz=41,slow=5.3
NOA NORSAR Array B 79.78 338 P P 19 20 01.2 +0.1
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA NORSAR Array B 79.78 338 P P 19 20 01.2 +0.1
comp=Z,4.4nm,0.8s,baz=42,slow=5.4,SNR=15
PDAR Pinedale Array 82.03 45 P P 19 20 14.8 +1.0
comp=Z,0.8nm,0.7s,baz=242,slow=1.0,SNR=6.5
DAU Daniels Canyon 82.31 47 P P 19 20 17.1 +1.7
DAU pmax pmax
comp=Z,3.0nm,0.8s
DAU Daniels Canyon 82.31 47 P P 19 20 17.1 +1.7
comp=Z,3.3nm,0.8s
BR131 Keskin Array S 82.86 312 eP P 19 20 17.9 -0.1
comp=Z,3.3nm,0.9s
BRTR Keskin Array B 82.86 312 P P 19 20 18.3 +0.3
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 82.86 312 P P 19 20 18.2 +0.3
comp=Z,3.0nm,0.9s,baz=102,slow=3.5,SNR=16
RAYN Ar Rayn 82.93 293 eP P 19 20 18.7 +0.2
comp=Z,38nm,0.9s
KWP Kalwaria Pacla 83.05 325 eP P 19 20 19.1 +0.4
KWP pmax pmax
comp=Z,7.0nm,0.9s
KWP Kalwaria Pacla 83.05 325 eP P 19 20 19.1 +0.4
comp=Z,7.0nm,0.9s
TBI Tubuai 85.49 120 eT T 19 20 27.4
comp=Z,19nm,0.4s
TXAR Lajitas Array 93.90 52 P P 19 21 13.1 +1.9
TXAR pmax pmax
comp=Z,4.0nm,0.7s
TXAR Lajitas Array 93.90 52 P P 19 21 13.1 +1.9
comp=Z,4.3nm,0.7s,baz=296,slow=2.8,SNR=39
RKT Rikitea 96.49 113 eT T 19 20 13.8
comp=Z,2.8nm,0.4s
TORD Torodi Ar. Bea 121.47 312 PKP PKPdf 19 26 46.7 -0.6
comp=Z,0.3nm,0.5s,baz=37,slow=1.0,SNR=5.7

CSEM 26 19:17:38.6±0.3, 32°38N×6°28W, h5km, mb3.7, Error ellipse: s-maj=7.4km s-min=4.9km az=97.0
ISCJB 26 19:17:38.1±0.5, 32°47N±0°02×6°35W±0°04, h10km, Error ellipse: s-maj=5.4km s-min=3.5km az=3.7
MDD 26 19:17:39.4±0.6, 32°31N×6°23W, h2km±5km, mb3.7/4, Error ellipse: s-maj=8.7km s-min=3.2km az=131.0, PRXIMO
CNRM 26 19:17:39.5, 32°29N×6°21W, h0km, MD3.0
IGIL 26 19:17:39.9, 32°34N×5°88W, h0km, ML2.2
INMG 26 19:17:40.2±0.9, 32°50N×5°91W, h0km, ML2.4, Error

ellipse: s-maj=8.5km s-min=6.7km az=117.0

ISC 26 19:17:38.6±0.9,**32.37N**±0.03×**6.26W**±0.04,**h10km**,**n37**, σ**1.09**/73,**Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIB	**El Ksiba**	**0.28**	**42**	P	**Pg**	**19 17 45.0**	**+0.7**
KIB				S	**Sb**	**19 17 50.0**	**-0.7**
KIB	**El Ksiba**	**0.28**	**42**	P	**Pg**	**19 17 45.0**	**+0.7**
KIB				S	**Sb**	**19 17 50.0**	**-0.7**
TZC	**Tazercounte**	**0.29**	**222**	P	**Pg**	**19 17 44.0**	**-0.5**
TZC				S	**Sg**	**19 17 49.0**	**+0.6**
TZC	**Tazercounte**	**0.29**	**222**	P	**Pg**	**19 17 44.0**	**-0.5**
TZC				S	**Sg**	**19 17 49.0**	**+0.6**
ZFT	**Errachidia**	**1.65**	**101**	P	**Pn**	**19 18 08.0**	**+0.2**
ZFT				S	**Sn**	**19 18 29.0**	**-0.2**
ZFT	**Errachidia**	**1.65**	**101**	P	**Pn**	**19 18 08.0**	**+0.2**
ZFT				S	**Sn**	**19 18 29.0**	**-0.2**
OUK	**Oukaimeden**	**1.79**	**230**	P	**Pn**	**19 18 10.0**	**+0.2**
OUK				S	**Sn**	**19 18 33.0**	**+0.3**
OUK	**Oukaimeden**	**1.79**	**230**	P	**Pn**	**19 18 10.0**	**+0.2**
OUK				S	**Sn**	**19 18 33.0**	**+0.3**
PBDV	**Barranco-do-Ve**	**5.06**	**345**	ePn	**Pn**	**19 18 55.6**	**+1.1**
PBDV				eSn	**Sn**	**19 19 52.7**	**-0.2**
PBDV				A	A	19 19 55.0	
	3.1nm,0.8s						
PBDV	**Barranco-do-Ve**	**5.06**	**345**	P	**Pn**	**19 18 55.6**	**+1.1**
PBDV				S	**Sn**	**19 19 52.7**	**-0.2**
	3.1nm,0.8s						
PBDV	**Barranco-do-Ve**	**5.06**	**345**	P	**Pn**	**19 18 55.6**	**+1.1**
PBDV				S	**Sn**	**19 19 52.7**	**-0.2**
	3.1nm,0.8s						
PVAQ	**Vaqueiros**	**5.17**	**347**	ePn	**Pn**	**19 18 57.1**	**+1.1**
PVAQ				eSn	**Sn**	**19 19 54.3**	**-1.3**
PVAQ				A	A	19 20 00.0	
	2.1nm,0.3s						
PVAQ	**Vaqueiros**	**5.17**	**347**	P	**Pn**	**19 18 57.0**	**+1.1**
PVAQ				S	**Sn**	**19 19 54.3**	**-1.3**
	2.1nm,0.3s						
PVAQ	**Vaqueiros**	**5.17**	**347**	P	**Pn**	**19 18 57.0**	**+1.1**
PVAQ				S	**Sn**	**19 19 54.3**	**-1.3**
	2.1nm,0.3s						
EGRO	**El Granado**	**5.25**	**349**	P	**Pn**	**19 18 57.1**	**0.0**
	2.1nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**19 19 56.6**	**-1.1**
	2.8nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**5.25**	**349**	P	**Pn**	**19 18 57.1**	**0.0**
	2.1nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**19 19 56.6**	**-1.1**
	2.8nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.40**	**357**	P	**Pn**	**19 18 60.0**	**+0.8**
	0.3nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**19 20 00.2**	**-1.2**
	0.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.40**	**357**	P	**Pn**	**19 19 00.0**	**+0.8**
	0.3nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**19 20 00.2**	**-1.2**
	0.5nm,0.2s,SNR=7.9						
PCVE	**Castro Verde**	**5.45**	**345**	ePn	**Pn**	**19 19 01.3**	**+1.4**
PCVE				eSn	**Sn**	**19 20 02.0**	**-0.7**
PCVE				A	A	19 20 08.3	
	2.1nm,0.3s						
PCVE	**Castro Verde**	**5.45**	**345**	P	**Pn**	**19 19 01.3**	**+1.4**
PCVE				S	**Sn**	**19 20 02.0**	**-0.7**
	2.1nm,0.3s						
PCVE	**Castro Verde**	**5.45**	**345**	P	**Pn**	**19 19 01.3**	**+1.4**
PCVE				S	**Sn**	**19 20 02.0**	**-0.7**
	2.1nm,0.3s						
MESJ	**Messejana**	**5.69**	**344**	eP	**Pn**	**19 19 04.5**	**+1.3**
MESJ				eS	**Sn**	**19 20 07.7**	**-0.8**
MESJ				AML	AML	19 20 10.1	
	comp=N,2.7nm,0.3s						
MESJ	**Messejana**	**5.69**	**344**	ePn	**Pn**	**19 19 04.7**	**+1.5**
MESJ				eSn	**Sn**	**19 20 09.3**	**+0.7**
MESJ				A	A	19 20 11.3	
	comp=N,1.2nm,0.2s						
MESJ	**Messejana**	**5.69**	**344**	P	**Pn**	**19 19 04.7**	**+1.5**
MESJ				S	**Sn**	**19 20 09.3**	**+0.7**
	comp=N,1.2nm,0.2s						
MESJ	**Messejana**	**5.69**	**344**	P	**Pn**	**19 19 04.7**	**+1.5**
MESJ				S	**Sn**	**19 20 09.3**	**+0.7**
	comp=N,1.2nm,0.2s						
ECAB	**El Cabril**	**5.74**	**7**	P	**Pn**	**19 19 04.6**	**+0.8**
	comp=N,0.3nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**19 20 08.0**	**-1.8**
	comp=N,0.6nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**5.74**	**7**	P	**Pn**	**19 19 04.6**	**+0.8**
	comp=N,0.3nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**19 20 08.0**	**-1.8**
	comp=N,0.6nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**5.83**	**354**	ePn	**Pn**	**19 19 06.0**	**+0.9**
PBAR				eSn	**Sn**	**19 20 11.0**	**-1.0**
PBAR				A	A	19 20 14.0	
	comp=N,3.9nm,0.6s						
PBAR	**Barrancos**	**5.83**	**354**	P	**Pn**	**19 19 06.0**	**+0.9**
PBAR				S	**Sn**	**19 20 11.0**	**-1.0**
	comp=N,3.9nm,0.6s						
PBAR	**Barrancos**	**5.83**	**354**	P	**Pn**	**19 19 06.0**	**+0.9**
PBAR				S	**Sn**	**19 20 11.0**	**-1.0**
	comp=N,3.9nm,0.6s						
PNCL	**Nicolau / Gran**	**6.03**	**343**	ePn	**Pn**	**19 19 08.8**	**+1.1**
PNCL				eSn	**Sn**	**19 20 14.9**	**-1.9**
PNCL				A	A	19 20 23.5	
	comp=N,2.3nm,0.5s						
PNCL	**Nicolau / Gran**	**6.03**	**343**	ePn	**Pn**	**19 19 08.8**	**+1.1**
PNCL				eSn	**Sn**	**19 20 14.9**	**-1.9**
	comp=N,2.3nm,0.5s						
EBAD	**Badajoz**	**6.41**	**355**	P	**Pn**	**19 19 13.7**	**+0.7**
	comp=N,0.7nm,0.1s,SNR=4.8						
EBAD				S	**Sn**	**19 20 23.4**	**-2.7**
	comp=N,2.3nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**6.41**	**355**	P	**Pn**	**19 19 13.7**	**+0.7**
	comp=N,0.7nm,0.1s,SNR=4.8						
PMRV	**Marv??o**	**7.11**	**353**	ePn	**Pn**	**19 19 23.7**	**+1.1**
PMRV				eSn	**Sn**	**19 20 41.9**	**-1.5**
PMRV	**Marv??o**	**7.11**	**353**	P	**Pn**	**19 19 23.7**	**+1.1**
PMRV				S	**Sn**	**19 20 41.9**	**-1.5**
PMRV	**Marv??o**	**7.11**	**353**	P	**Pn**	**19 19 23.7**	**+1.1**
PMRV				S	**Sn**	**19 20 41.9**	**-1.5**

*ISCJB **26** 19:26:18.1±0.3,21.71S±0.04×67.06W±0.03,h184km±4km, mb4.1/5,Error ellipse: s-maj=6.3km s-min=4.2km az=34.5*
*NEIC **26** 19:26:18.7±0.7,21.80S×67.16W,h186km±8km,mb4.1/4, Error ellipse: s-maj=12.6km s-min=9.4km az=94.0*
*IDC **26** 19:26:18.1±3.0,21.80S×67.14W,h173km±24km,mb4.0/3, mb1 3.8/7,mb1mx3.5/26,mbtmp4.3/7,Error ellipse: s-maj=36.1km s-min=20.0km az=118.0*
*SJA **26** 19:26:19.9±0.8,21.59S×67.01W,h112km±53km,ML3.6*
*GUC **26** 19:26:20.2±0.9,21.87S×67.56W,h224km±12km,ML4.5*
ISC 26 19:26:18.5±0.7,**21.71S**±0.05×**67.06W**±0.05,**h180km**±7km, **n41**,σ**1.36**/56,**mb4.4**/5,**12C,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.94**	**242**	ePn	**Pn**	**19 26 56.2**	**+1.1**
LVC				eSn	**Sn**	**19 27 22.9**	**-0.6**
LVC	**Limon Verde**	**1.94**	**242**	eP	**Pn**	**19 26 55.4**	**+0.2**
LVC				eS	**Sn**	**19 27 20.6**	**-2.9**
PB09	**Plate Boundary**	**2.03**	**267**	⇑eP	**Pn**	**19 26 57.6**	**+1.6**
PB09				eS	**Sn**	**19 27 25.9**	**+0.7**
PB09				AML	AML	19 27 32.3	
	comp=E,3μm,0.2s						
PB04	**Plate Boundary**	**2.32**	**256**	⇑eP	Pn	19 27 06.2	+7.2
PB04				eS	Sn	19 27 41.1	+11
PB01	**Plate Boundary**	**2.36**	**286**	⇑eP	**Pn**	**19 27 01.1**	**+1.5**
PB01				eS	**Sn**	**19 27 32.1**	**+0.5**
PB01				AML	AML	19 27 33.5	
	comp=N,5μm,0.3s						
PB06	**Plate Boundary**	**2.53**	**247**	⇑eP	**Pn**	**19 27 01.8**	**+0.1**
PB06				eS	**Sn**	**19 27 33.6**	**-1.7**
PB06				AML	AML	19 27 35.6	
	comp=E,1μm,0.4s						
MACH	**Maria Elena**	**2.55**	**259**	⇑eP	**Pn**	**19 27 02.4**	**+0.4**
MACH				eS	**Sn**	**19 27 34.6**	**-1.2**
MACH				AML	AML	19 27 35.6	
	comp=N,75nm,0.2s						
PB07	**Plate Boundary**	**2.63**	**269**	⇑eP	**Pn**	**19 27 03.3**	**+0.4**
PB07				eS	**Sn**	**19 27 36.2**	**-1.2**
PB07				AML	AML	19 27 37.0	
	comp=N,4μm,0.3s						
HMBC	**Humberstone**	**3.00**	**298**	⇑eP	**Pn**	**19 27 08.3**	**+1.0**
HMBC				eS	**Sn**	**19 27 44.9**	**-0.4**
HMBC				AML	AML	19 27 46.0	
	comp=N,1μm,0.5s						
PATCX	**Punta Patache**	**3.02**	**287**	⇑eP	**Pn**	**19 27 08.3**	**+0.8**
PATCX				eS	**Sn**	**19 27 44.6**	**-1.0**
PATCX				AML	AML	19 27 46.3	
	comp=N,3μm,0.3s						
AZAP	**Zapla**	**3.10**	**144**	eP	**Pn**	**19 27 09.8**	**+1.2**
AZAP				eS	**Sn**	**19 27 47.5**	**-0.2**
AZAP				AML	AML	19 27 52.2	
	comp=Z,98nm,0.6s						
PB11	**Plate Boundary**	**3.11**	**308**	⇑eP	**Pn**	**19 27 10.2**	**+1.6**
PB11				eS	**Sn**	**19 27 48.4**	**+0.7**
ASTB	**Santa Barbara**	**3.26**	**134**	eP	**Pn**	**19 27 12.2**	**+1.8**
ASTB				eS	**Sn**	**19 27 50.2**	**-0.7**
SLA	**San Lorenzo**	**3.32**	**155**	eP	**Pn**	**19 27 13.2**	**+2.0**
SLA				AML	AML	19 27 58.9	
	comp=Z,41nm,0.7s						
CEN1	**Los Morros**	**3.35**	**240**	⇑eP	**Pn**	**19 27 13.3**	**+1.8**
CEN1				eS	**Sn**	**19 27 53.9**	**+1.0**
ALOL	**LOMAS DE OLMED**	**3.54**	**127**	eP	**Pn**	**19 27 14.4**	**+0.7**
ALOL				eP	**Pn**	**19 27 14.4**	**+0.7**
ALOL				eS	**Sn**	**19 27 55.8**	**-1.2**
PSGC	**Pisagua**	**3.56**	**306**	⇑eP	**Pn**	**19 27 14.5**	**+0.3**
PSGC				eS	**Sn**	**19 27 57.3**	**-0.3**
ANCH	**Antofagasta**	**3.66**	**237**	⇑eP	Pn	19 27 11.7	-3.6
ANCH				eS	Sn	19 27 51.5	-8.2
ARE	**Arequipa**	**6.70**	**320**	eP	**Pn**	**19 27 55.0**	**+0.1**
ARE				eS	**Sn**	**19 29 09.0**	**-2.0**
SIV	**San Ignacio**	**8.03**	**46**	P	**Pn**	**19 28 13.2**	**+0.9**
	comp=Z,37nm,0.3s,baz=252,slow=10.0,SNR=214						
SIV				S	**Sn**	**19 29 40.2**	**-2.2**
	comp=Z,1.2nm,0.3s,baz=156,slow=20,SNR=3.6						
AVFE	**Valle Fertil**	**8.92**	**182**	AML	AML	19 30 00.2	
	comp=Z,12nm,0.4s						
CFAA	**Coronel Fontan**	**9.91**	**186**	P	**Pn**	**19 28 34.3**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=341,slow=7.2,SNR=6.5						
CFAA				S	Sn	19 30 16.8	-10
	comp=Z,0.3nm,0.3s,baz=152,slow=17,SNR=8.2						
CPUP	**Villa Florida**	**10.01**	**119**	P	**Pn**	**19 28 39.0**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=280,slow=11,SNR=7.1						
CPUP	**Villa Florida**	**10.01**	**119**	ePn	**Pn**	**19 28 38.7**	**+0.6**
	comp=Z,0.6nm,0.9s						
SAML	**Samuel**	**13.23**	**17**	ePn	**Pn**	**19 29 20.7**	**+1.1**
	comp=Z,4.2nm,0.7s						
H03N1	**Juan Fernandez**	**15.70**	**219**	P	**P**	**19 29 52.0**	**+2.0**
	baz=17,slow=15,SNR=13						
H03N2	**Juan Fernandez**	**15.71**	**219**	P	**P**	**19 29 52.6**	**+2.4**
	baz=17,slow=15,SNR=13						
H03N3	**Juan Fernandez**	**15.72**	**219**	P	**P**	**19 29 52.7**	**+2.4**
	baz=17,slow=15,SNR=13						
TRQA	**Tornquist**	**16.87**	**166**	eP	**P**	**19 30 01.5**	**-1.7**
	comp=Z,4.4nm,0.6s						
BDFB	**Brasilia**	**19.02**	**75**	P	**P**	**19 30 28.5**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=232,slow=5.6,SNR=4.2						
PLCA	**Paso Flores**	**19.19**	**188**	P	**P**	**19 30 28.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=3.2,slow=6.7,SNR=3.0						
PLCA	**Paso Flores**	**19.19**	**188**	P	**P**	**19 30 27.3**	**-1.2**
SNAA	**Sanae**	**61.52**	**161**	P	**P**	**19 36 15.2**	**-0.8**
TOA0	**Torodi Ar. Sit**	**75.81**	**69**	eP	**P**	**19 37 45.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**75.81**	**69**	P	**P**	**19 37 45.5**	**+0.3**
	comp=Z,6.3nm,0.4s,baz=255,slow=5.6,SNR=85						
TSUM	**Tsumeb**	**78.33**	**106**	eP	**P**	**19 37 59.8**	**+0.4**
	comp=Z,5.1nm,0.9s						
HOPS	**Hopland**	**79.94**	**319**	P	**P**	**19 38 04.4**	**-3.1**
BOSA	**Boshof**	**81.82**	**117**	P	**P**	**19 38 18.6**	**+0.6**
	comp=Z,3.3nm,0.4s,baz=207,slow=4.5,SNR=4.5						
LBTB	**Lobatse**	**83.36**	**114**	eP	**P**	**19 38 26.4**	**+0.4**
	comp=Z,8.7nm,0.9s						
YKA	**Yellowknife Ar**	**91.97**	**340**	P	**P**	**19 39 06.9**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=130,slow=4.5,SNR=4.8						
MKAR	**Makanchi Array**	**144.77**	**37**	PKP	**PKPdf**	**19 45 34.9**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=304,slow=3.4,SNR=5.8						

*IDC **26** 19:26:16.2±1.9,6.42S×130.72E,h0km,mb3.7/2, mb1 3.9/3,mb1mx3.5/21,mbtmp3.7/3,ML4.1/1,Error ellipse: s-maj=141.7km s-min=28.7km az=66.0*
*ISCJB **26** 19:26:27.2±0.8,7.03S±0.05×129.8E±0.1,h90km,mb3.3/2, Error ellipse: s-maj=18.5km s-min=7.1km az=177.3*
ISC 26 19:26:27.4±1.6,**6.93S**±0.09×**130.0E**±0.2,**h90km**,**n13**, σ**1.63**/11,**Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.58**	**30**	P	Pn	19 27 37.0	+2.6
	baz=4.6,SNR=6.1						
FAKI				S	**Sn**	**19 28 25.4**	**-1.1**
	baz=4.6,SNR=3.9						
MTN	**Manton Dam**	**5.99**	**169**	P	Pn	19 27 57.4	+3.8
	baz=6.0,SNR=7.3						
MTN				S	**Sn**	**19 29 01.1**	**+0.2**
	baz=6.0,SNR=5.8						
SWI	**Sorong**	**6.16**	**12**	P	Pn	19 28 00.6	+4.7
	baz=6.2,SNR=3.9						
KDU	**Kakadu**	**6.24**	**157**	P	Pn	19 27 59.5	+2.5
	baz=6.2,SNR=145						
KDU				S	**Sn**	**19 29 06.3**	**-0.5**
	baz=6.2,SNR=8.2						
KNRA	**Kununurra**	**8.78**	**188**	P	**Pn**	**19 28 32.4**	**+0.8**
	baz=8.8,SNR=20						
KNRA				S	**Sn**	**19 30 05.4**	**-3.4**
	baz=8.8,SNR=5.5						
FITZ	**Fitzroy Crossi**	**11.88**	**200**	P	**Pn**	**19 29 12.6**	**-1.2**
	baz=12,SNR=7.8						
WRA	**Warramunga Arr**	**13.62**	**162**	Pn	**Pn**	**19 29 35.5**	**-1.4**
	1.0nm,0.3s,baz=349,slow=13,SNR=16						
WRA				Sn	Sn	19 31 58.9	-7.8
	1.1nm,0.3s,baz=346,slow=24,SNR=9.9						
QIS	**Mount Isa**	**16.46**	**146**	P	**P**	**19 30 14.5**	**+0.3**
	baz=16,SNR=5.9						
WRKA	**Warakurna**	**18.08**	**185**	P	**Pn**	**19 30 34.3**	**+1.5**
	baz=18,SNR=6.2						
QLP	**Quilpie**	**23.80**	**147**	P	P	19 31 36.0	+3.8
	baz=24,SNR=3.1						
STKA	**Stephens Creek**	**27.09**	**158**	P	**P**	**19 32 02.2**	**+0.4**
	0.7nm,0.3s,baz=339,slow=10,SNR=4.3						
TOO	**Toolangi**	**33.61**	**157**	P	**P**	**19 33 00.5**	**+1.2**
	baz=34,SNR=5.4						
MKAR	**Makanchi Array**	**68.15**	**327**	P	P	19 37 18.2	+0.2
	0.1nm,0.4s,baz=122,slow=7.6,SNR=6.8						

*ISCJB **26** 19:34:52.0±0.7,9.29N±0.03×125.61E±0.06,h28km±5km, mb3.8/11,MS3.4/3,Error ellipse: s-maj=9.9km s-min=3.8km az=156.3*
*MAN **26** 19:34:52,9.27N×125.49E,h17km,mb4.9,ML3.8,MS3.9*
MAN INTENSITY III - ORMOC CITY; KANANGA & ALBUERA LEYTE; INTENSITY II - TACLOBAN CITY; PALOMPON LEYTE.
*DJA **26** 19:34:55.2±1.3,9°N±13°×12°6E±°,h10km,M4.5/11, mB5.3/1,mb4.5/11,Mw(mB)4.7/1*
*IDC **26** 19:35:07.3±7.1,9.03N×125.24E,h170km±71km,mb3.4/11, mb1 3.6/12,mb1mx3.5/34,mbtmp4.0/12,MS3.4/3, Ms1 3.5/3,ms1mx3.1/17,Error ellipse: s-maj=29.5km s-min=13.2km az=58.0*
ISC 26 19:34:53.3±1.1,**9.24N**±0.04×**125.52E**±0.07,**h27km**±8km, **n55**,σ**1.54**/50,**mb4.0**/11,**MS3.3**/3,**5C,Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.29**	**159**	eP	**Pb**	**19 34 60.0**	**-0.4**
BUTP				eS	**Sb**	**19 35 04.1**	**-1.0**
SCPH	**Surigao**	**0.54**	**357**	⇑eP	Pb	19 35 00.8	-3.5
MSLP	**Maasin**	**1.10**	**324**	eP	**Pn**	**19 35 10.9**	**-2.0**
MSLP				eS	**Sn**	**19 35 27.1**	**-0.1**
BIPH	**Bislig**	**1.34**	**141**	⇑iP	Pn	19 35 13.3	-2.9
BIPH				iS	**Sn**	**19 35 31.9**	**-1.3**
BUKP	**Musuan**	**1.42**	**198**	eP	**Pn**	**19 35 17.9**	**+0.5**
BUKP				eS	**Sn**	**19 35 33.0**	**-2.3**
LLP	**Lapu-Lapu**	**1.87**	**305**	eP	**Pn**	**19 35 21.8**	**-1.7**
LLP				eS	**Sn**	**19 35 47.2**	**+1.0**
PLP	**Palo**	**1.99**	**345**	⇑eP	**Pn**	**19 35 25.5**	**+0.4**
PLP				eS	**Sn**	**19 35 49.7**	**+0.6**
OCLP	**Ormoc**	**2.01**	**334**	eP	**Pn**	**19 35 25.2**	**-0.2**
DMPH	**Davao City--Mi**	**2.14**	**180**	⇑eP	**Pn**	**19 35 28.9**	**+1.6**
DMPH				eS	**Sn**	**19 35 54.8**	**+1.8**
MATI	**Mati**	**2.39**	**162**	eP	**Pn**	**19 35 32.1**	**+1.4**
PAGZ	**Pagadian**	**2.52**	**237**	eP	**Pn**	**19 35 33.5**	**+1.0**
GSPH	**General Santos**	**3.18**	**190**	eP	**Pn**	**19 35 44.5**	**+2.8**
GUIM	**Jordan**	**3.20**	**296**	eP	**Pn**	**19 35 42.1**	**+0.3**
CNP	**Catarman**	**3.36**	**346**	eP	**Pn**	**19 35 44.4**	**+0.4**
RCP	**Roxas**	**3.57**	**310**	⇑eP	**Pn**	**19 35 46.7**	**-0.2**
PVCP	**Virac**	**4.53**	**343**	eP	**Pn**	**19 36 02.1**	**+2.0**
TNTI	**Ternate**	**8.61**	**168**	P	**Pn**	**19 36 59.1**	**+2.9**
	75nm,1.3s						
PALU	**Palau**	**9.06**	**101**	S	Sn	19 38 35.3	-8.3
	baz=9.1,SNR=7.6						
MRSI	**Marisa**	**9.40**	**202**	P	Pn	19 37 14.1	+7.0
	24nm,0.6s						
LBMI	**Labuha**	**10.01**	**169**	P	**Pn**	**19 37 15.8**	**+0.4**
	56nm,1.0s						
APSI	**Ampana**	**10.79**	**201**	P	Pn	19 37 33.9	+7.7
	37nm,0.9s						
SANI	**Sanana**	**11.22**	**178**	P	Pn	19 37 29.3	-2.8
SWI	**Sorong**	**11.55**	**150**	P	Pn	19 37 44.5	+8.0
	baz=12,SNR=6.3						
TTSI	**Tana Toraja**	**13.46**	**205**	P	**P**	**19 38 11.0**	**-0.6**
	22nm,1.1s						
BBKI	**Banjar Baru**	**16.50**	**221**	P	P	19 38 54.1	+8.6
STKI	**Sintang**	**16.69**	**238**	P	**P**	**19 38 51.0**	**+3.5**
	11nm,1.1s						
KSM	**Kuching**	**16.98**	**244**	P	**P**	**19 38 53.6**	**+2.8**
	baz=17,SNR=3.7						
SMPI	**Sarmi**	**17.24**	**130**	P	**P**	**19 38 55.0**	**+1.3**
	43nm,1.1s,1μm						
BATI	**Baumata**	**19.41**	**185**	P	**P**	**19 39 18.1**	**+0.6**
	1.0nm,0.3s,baz=298,slow=16,SNR=2.5						
JNU	**Nakatsue**	**24.28**	**11**	LR	LR	19 48 11.4	
	comp=Z,89nm,20.6s,baz=328,slow=32						
KNRA	**Kununurra**	**24.96**	**173**	P	**P**	**19 40 15.1**	**+0.4**
	baz=25,SNR=7.1						
FITZ	**Fitzroy Crossi**	**27.17**	**180**	P	**P**	**19 40 37.2**	**+2.6**
	baz=27,SNR=3.1						
CMAR	**Chiang Mai Arr**	**27.34**	**292**	P	**P**	**19 40 35.5**	**-0.8**
	1.2nm,1.0s,baz=111,slow=6.7,SNR=8.0						
CMAR				LR	LR	19 52 28.6	
	comp=Z,132nm,18.1s,baz=156,slow=38						
COEN	**Coen**	**28.95**	**143**	P	P	19 40 53.9	+3.3
	baz=29,SNR=5.4						
WRA	**Warramunga Arr**	**30.27**	**163**	P	**P**	**19 40 59.7**	**-2.6**
	0.7nm,0.8s,baz=343,slow=9.3,SNR=7.0						
QIS	**Mount Isa**	**32.69**	**155**	P	**P**	**19 41 25.2**	**+1.6**
	baz=33,SNR=5.5						
WRKA	**Warakurna**	**34.18**	**176**	P	**P**	**19 41 35.7**	**-0.8**
	baz=34,SNR=6.0						
USRK	**Ussuriysk Arra**	**35.28**	**8**	P	**P**	**19 41 48.0**	**+2.2**
	2.7nm,1.0s,baz=201,slow=7.7,SNR=3.5						
CTA	**Charters Tower**	**35.58**	**145**	P	**P**	**19 41 49.8**	**+1.1**
	7.0nm,0.9s,baz=343,slow=14,SNR=2.7						
FORT	**Forrest**	**39.86**	**177**	P	**P**	**19 42 24.4**	**-0.3**
	baz=40,SNR=8.3						
TAPN	**Taplejung**	**39.95**	**302**	eP	**P**	**19 42 26.6**	**+0.7**
ODAN	**Odare**	**40.05**	**301**	eP	**P**	**19 42 27.0**	**+0.2**
	13nm,0.8s						
RAMN	**Ramite**	**40.75**	**301**	eP	**P**	**19 42 33.4**	**+0.8**
	9.8nm,0.9s						
JIRN	**Jiri**	**41.32**	**302**	eP	**P**	**19 42 38.1**	**+0.7**
	6.4nm,0.4s						
GUN	**Gumba**	**41.66**	**302**	eP	**P**	**19 42 40.7**	**+0.6**
	16nm,0.8s						
BBOO	**Buckleboo**	**43.01**	**167**	P	**P**	**19 42 49.6**	**-0.9**
	baz=43,SNR=7.6						
STKA	**Stephens Creek**	**43.68**	**160**	P	**P**	**19 42 54.8**	**-1.2**
	2.3nm,0.9s,baz=341,slow=13,SNR=3.0						
PETK	**Petropavlovsk-**	**50.88**	**24**	LR	LR	20 03 26.1	
	comp=Z,32nm,21.6s,baz=251,slow=33						
MKAR	**Makanchi Array**	**52.40**	**324**	P	**P**	**19 44 02.2**	**-1.1**
	1.3nm,0.7s,baz=123,slow=8.3,SNR=22						
ZALV	**Zalesovo Beam**	**55.17**	**332**	P	**P**	**19 44 21.5**	**-2.0**
	0.4nm,0.5s,baz=96,slow=7.5,SNR=3.5						
GEYT	**Alibeck**	**66.57**	**307**	P	**P**	**19 45 40.5**	**-0.8**
	1.0nm,0.8s,baz=62,slow=6.9,SNR=4.1						
ILAR	**Eielson Array**	**80.69**	**26**	P	**P**	**19 47 03.1**	**-0.6**
	0.6nm,0.8s,baz=233,slow=4.8,SNR=4.5						
FINES	**FINESS Array B**	**86.44**	**332**	P	P	19 47 29.6	-3.7
	1.0nm,0.9s,baz=54,slow=7.1,SNR=4.0						
YKA	**Yellowknife Ar**	**95.00**	**24**	P	**P**	**19 48 11.2**	**-2.0**
	0.1nm,0.6s,baz=306,slow=4.5,SNR=3.8						
PLCA	**Paso Flores**	**145.54**	**158**	PKPbc	**PKPdf**	**19 54 28.1**	**-1.5**
	2.2nm,0.8s,baz=191,slow=8.8,SNR=2.4						

WEL 26 19:38:45.1±0.3,**44.84S**×**167.31E**,**h5km**,**ML3.6**/10,**2C-1D, Error ellipse: s-maj=2.7km s-min=1.3km az=90.0,South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.47**	**69**	PG	Pg	19 38 54.2	0.0
MSZ				SG	Sg	19 38 59.9	-0.4
MSZ				AML	AML	19 39 00.3	
MSZ				AML	AML	19 39 00.4	
MSZ				AML	AML	19 39 02.2	
DCZ	**Deep Cove**	**0.65**	**190**	P*	Pg	19 38 57.4	-0.2
DCZ				SG	Sg	19 39 06.2	+0.2
DCZ				AML	AML	19 39 06.6	
DCZ				AML	AML	19 39 06.6	
DCZ				AML	AML	19 39 07.0	
MLZ	**Mavora Lakes**	**0.79**	**130**	⇑P*	Pg	19 39 00.4	-0.1
MLZ				S*	Sg	19 39 11.1	+0.3
MLZ				AML	AML	19 39 11.5	
WHZ	**Wether Hill Ro**	**1.14**	**157**	P*	Pg	19 39 06.6	-0.6
WHZ				S*	Sg	19 39 21.6	-0.4
WHZ				AML	AML	19 39 22.5	
WKZ	**Wanaka**	**1.21**	**90**	P*	Pg	19 39 07.6	-0.9
WKZ				AML	AML	19 39 24.8	
WKZ				AML	AML	19 39 24.8	
WKZ				AML	AML	19 39 26.0	
WKZ				AML	AML	19 39 26.1	
JCZ	**Jackson Bay**	**1.29**	**54**	eP*	Pn	19 39 09.3	-0.7
JCZ				AML	AML	19 39 31.9	
JCZ				AML	AML	19 39 34.8	
EAZ	**Earnscleugh**	**1.47**	**106**	⇓PN	Pn	19 39 12.1	-0.2
EAZ				AML	AML	19 39 34.1	
EAZ				AML	AML	19 39 34.1	
EAZ				AML	AML	19 39 34.9	
EAZ				AML	AML	19 39 34.9	
TUZ	**Tuapeka**	**1.98**	**125**	PN	Pn	19 39 20.0	+0.8
APZ	**The Paps**	**2.05**	**167**	PN	Pn	19 39 20.9	+0.6
APZ				AML	AML	19 39 47.9	
APZ				AML	AML	19 39 51.4	
LBZ	**Lake Benmore**	**2.10**	**78**	PN	Pn	19 39 22.2	+1.2
LBZ				AML	AML	19 39 53.1	
LBZ				AML	AML	19 39 54.9	
SYZ	**Scrubby Hill**	**2.12**	**144**	PN	Pn	19 39 21.7	+0.5
SYZ				AML	AML	19 39 51.2	
SYZ				AML	AML	19 39 53.6	
SYZ				AML	AML	19 39 56.7	
SYZ				AML	AML	19 39 56.8	
FOZ	**Fox Glacier**	**2.13**	**54**	PN	Pn	19 39 22.3	+1.0
ODZ	**Otahua Downs**	**2.37**	**96**	⇑PN	Pn	19 39 25.9	+1.2
HHSZ	**Highcliff Hill**	**2.54**	**115**	ePN	Pn	19 39 28.2	+1.2
RPZ	**Rata Peaks**	**2.91**	**69**	ePN	Pn	19 39 33.4	+1.2
WVZ	**Waitaha Valley**	**3.04**	**56**	ePN	Pn	19 39 33.5	-0.3
DSZ	**Denniston Nort**	**4.51**	**48**	ePN	Pn	19 39 53.4	-0.7
THZ	**Tophouse**	**5.11**	**55**	ePN	Pn	19 40 03.6	+1.2

WEL 26 19:39:18.2±0.3,**44.83S**×**167.32E**,**h5km**,**ML3.4**/10,**1C, Error ellipse: s-maj=2.3km s-min=1.7km az=90.0,South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.46**	**71**	PG	Pg	19 39 27.4	+0.4
MSZ				SG	Sg	19 39 33.2	+0.2
MSZ				AML	AML	19 39 34.2	
DCZ	**Deep Cove**	**0.66**	**190**	P*	Pg	19 39 31.0	+0.1
DCZ				SG	Sg	19 39 39.7	+0.2
DCZ				AML	AML	19 39 39.9	
MLZ	**Mavora Lakes**	**0.80**	**131**	P*	Pg	19 39 33.7	+0.1
MLZ				S*	Sg	19 39 44.2	+0.2
MLZ				AML	AML	19 39 45.2	
WHZ	**Wether Hill Ro**	**1.16**	**158**	⇑P*	Pg	19 39 39.9	-0.5
WHZ				S*	Sg	19 39 55.1	-0.4
WHZ				AML	AML	19 39 55.7	
WKZ	**Wanaka**	**1.21**	**91**	AML	AML	19 39 57.9	
WKZ				AML	AML	19 39 59.1	
JCZ	**Jackson Bay**	**1.27**	**54**	AML	AML	19 40 03.5	
JCZ				AML	AML	19 40 05.0	
EAZ	**Earnscleugh**	**1.47**	**107**	AML	AML	19 40 07.9	
EAZ				AML	AML	19 40 08.5	
APZ	**The Paps**	**2.06**	**167**	AML	AML	19 40 25.0	
LBZ	**Lake Benmore**	**2.09**	**79**	AML	AML	19 40 26.4	
SYZ	**Scrubby Hill**	**2.13**	**144**	AML	AML	19 40 24.4	
SYZ				AML	AML	19 40 24.9	

GUC 26 19:44:07.9±0.5, 20.54S×69.05W, h103km±4km, ML3.5, 7C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	Plate Boundary	0.65	219	⇑eP	Pn	19 44 25.2	-0.1
PB01				eS	Sn	19 44 38.9	+0.5
PB01				AML	AML	19 44 40.3	
	comp=N,1µm,0.2s						
HMBC	Humberstone	0.83	288	⇑eP	Pn	19 44 26.9	0.0
HMBC				eS	Sn	19 44 41.8	+0.5
HMBC				AML	AML	19 44 43.0	
	comp=E,2µm,0.6s						
PB11	Plate Boundary	0.96	323	⇓eP	Pn	19 44 28.4	0.0
PB11				eS	Sn	19 44 44.2	+0.5
PB11				AML	AML	19 44 44.7	
	comp=N,8µm,0.2s						
PATCX	Punta Patache	1.07	254	⇑eP	Pn	19 44 29.7	+0.2
PATCX				eS	Sn	19 44 46.6	+0.9
PATCX				AML	AML	19 44 51.7	
	comp=E,933nm,0.2s						
PB09	Plate Boundary	1.27	188	⇑eP	Pn	19 44 32.3	+0.5
PB09				eS	Sn	19 44 50.9	+1.0
PSGC	Pisagua	1.38	313	⇑eP	Pn	19 44 33.1	+0.1
PSGC				eS	Sn	19 44 52.0	0.0
PB07	Plate Boundary	1.42	213	⇑eP	Pn	19 44 33.8	+0.1
PB07				eS	Sn	19 44 53.5	+0.5
PB07				AML	AML	19 44 57.0	
	comp=N,681nm,0.3s						
MNMC	Minimini	1.49	340	⇓eP	Pn	19 44 34.9	+0.3
MNMC				eS	Sn	19 44 55.4	+0.6
PB06	Plate Boundary	2.21	193	⇑eP	Pn	19 44 44.4	+0.8
PB06				eS	Sn	19 45 12.1	+1.2

KRSC 26 19:53:31.3±1.5, 51.05N×160.75E, h37km±25km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.96	316	eS	Sn	19 54 28.3	+2.9
MTVR	Mutnovka	2.15	313	eP	Pn	19 54 07.3	+2.6
MTVR				eS	Sn	19 54 32.9	+2.6
ASAK	Asacha	2.22	308	eP	Pn	19 54 08.6	+2.9
ASAK				eS	Sn	19 54 34.8	+2.9
PET	Petropavlovsk	2.37	328	eS	Sn	19 54 39.2	+4.0
UGLR	Uglovaya	2.47	332	eP	Pn	19 54 11.6	+2.5
PAU	Pauzhetka	2.51	281	eS	Sn	19 54 43.4	+4.6
SDLR	Sedlovina	2.51	333	eP	Pn	19 54 12.1	+2.4
SDLR				eS	Sn	19 54 41.7	+2.5
AVH	Avacha	2.54	332	eP	Pn	19 54 13.5	+3.4
AVH				eS	Sn	19 54 43.4	+3.5
KRER	Koryakskii	2.57	332	eP	Pn	19 54 13.5	+2.8
KRER				eS	Sn	19 54 44.7	+3.8
KOK	Koryaka	2.60	331	eP	Pn	19 54 13.4	+2.5
KOK				eS	Sn	19 54 44.8	+3.6
KRX	Arik	2.65	332	eP	Pn	19 54 13.8	+2.1
KRX				eS	Sn	19 54 44.6	+1.9
MIPR	Malaya Ipel'ka	2.77	298	eP	Pn	19 54 17.2	+4.0
APC	Apacha	2.91	312	eS	Sn	19 54 54.5	+5.8
SKR	Severo-Kuril's	2.96	265	eP	Pn	19 54 18.8	+3.1
SKR				eS	Sn	19 54 52.6	+2.7
GNL	Ganaly	3.16	328	eP	Pn	19 54 22.9	+4.3
GNL				eS	Sn	19 54 59.5	+4.3

IDC 26 20:04:49.8±1.2, 12.73N×145.71E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/35, mbtmp3.8/8, Error ellipse: s-maj=34.0km s-min=26.5km az=111.0
ISCJB 26 20:04:52.7±0.8, 12.7N±0.1×145.7E±0.1, h33km, mb3.9/9, Error ellipse: s-maj=24.0km s-min=12.2km az=142.9
NEIC 26 20:04:56.1±2.0, 12.72N×145.65E, h44km±15km, mb4.2/1, Error ellipse: s-maj=21.3km s-min=15.0km az=95.0
ISC 26 20:04:55.1±0.9, 12.7N±0.1×145.7E±0.2, h35km, n15, σ0.64/15, mb3.9/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.17	318	ePg	Pn	20 05 15.8	+0.9
GUMO				eSg	Sn	20 05 28.9	-0.8
WRA	Warramunga Arr	34.31	199	P	P	20 11 38.2	-0.2
	0.4nm,0.7s,baz=18,slow=9.2,SNR=3.5						
CMAR	Chiang Mai Arr	45.27	283	P	P	20 13 10.6	+0.9
	1.1nm,0.6s,baz=77,slow=6.9,SNR=14						
ULN	Ulaanbaatar	47.54	325	eP	P	20 13 26.9	-0.4
SONM	Songino Array	47.89	325	P	P	20 13 30.1	+0.2
	0.9nm,0.3s,baz=130,slow=6.7,SNR=12						
LSA	Lhasa	53.09	298	eP	P	20 14 09.8	-0.1
MKAR	Makanchi Array	62.66	316	P	P	20 15 16.3	0.0
	0.5nm,0.5s,baz=95,slow=8.5,SNR=8.7						
ZALV	Zalesovo Beam	62.78	325	P	P	20 15 16.4	-0.5
	0.5nm,0.6s,baz=66,slow=7.0,SNR=2.7						
KURK	Kurchatov	65.75	320	eP	P	20 15 35.9	-0.5
SML	Sawmill	67.61	28	eP	P	20 15 38.5	-10
ILAR	Eielson Array	69.03	25	P	P	20 15 56.9	0.0
	0.6nm,0.7s,baz=256,slow=5.7,SNR=9.6						
BRVK	Borovoye	71.16	322	P	P	20 16 10.0	-0.2
	1.9nm,0.7s						
YKA	Yellowknife Ar	83.28	27	P	P	20 17 18.7	+0.8
	0.5nm,0.6s,baz=285,slow=5.0,SNR=6.2						
FINES	FINESS Array B	92.28	335	P	P	20 18 00.3	-1.1
	1.0nm,0.7s,baz=100,slow=7.2,SNR=4.2						
DBIC	Dimbokro	144.94	302	PKP	PKPdf	20 24 29.5	-0.2
	3.7nm,0.8s,baz=0.0,slow=4.0,SNR=4.5						

NNC 26 20:06:12.4±3.4, 38.96N×69.97E, h0km, mb3.5, mpv3.1, 9C, Error ellipse: s-maj=30.5km s-min=20.2km az=164.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.16	6	⇑Pn	Pn	20 07 17.9	+0.8
	0.6nm,0.5s,baz=187,slow=13,SNR=18						
KK31				⇑Pg	Pb	20 07 28.7	+2.3
	1.0nm,0.5s,baz=183,slow=14,SNR=3.6						
KK31				⇑Lg	Lg	20 08 20.6	
	2.0nm,0.5s,baz=174,slow=29,SNR=3.5						
AML	Almayashu	4.25	41	P	Pn	20 07 17.4	-1.6
	SNR=12						
UCH	Uchtor	4.75	45	P	Pn	20 07 25.9	0.0
	SNR=8.9						
AAK	Ala-Archa	5.02	42	⇑Pn	Pn	20 07 28.6	-0.6
	3.0nm,0.5s						
AAK				⇑Sn	Sn	20 08 30.5	+2.4
	4.4nm,1.1s						
AAK				⇑Lg	Lg	20 08 52.0	
	3.2nm,0.9s						
AAK	Ala-Archa	5.02	42	P	Pn	20 07 30.5	+1.2
	SNR=7.4						
KZA	Kyzart	5.09	51	P	Pn	20 07 30.6	+0.1
	SNR=6.4						
KBK	Karagaybulak	5.28	44	P	Pn	20 07 33.6	+0.8
	SNR=8.5						
TKM2	Tokmak 2	5.81	45	⇑Pn	Pn	20 07 38.5	-1.7
	2.7nm,0.5s						
TKM2				⇑Sn	Sn	20 08 48.2	+0.5
	1.7nm,0.7s						
TKM2				⇑Lg	Lg	20 09 16.1	
	2.8nm,1.0s						
TKM2	Tokmak 2	5.81	45	P	Pn	20 07 40.0	-0.1
	SNR=6.6						

ISCJB 26 20:06:15.4±0.2, 1.54S±0.04×77.82W±0.04, h168km±1km, mb4.5/49, Error ellipse: s-maj=8.3km s-min=4.6km az=143.8
IGQ 26 20:06:15±0.5, 1.55S×78.17W, h4km±23km, Mb4.6, Error ellipse: s-maj=2.3km s-min=1.8km az=169.0
NEIC 26 20:06:16.6±2.0, 1.44S×77.82W, mb4.6/34, MD4.6(IGQ), Error ellipse: s-maj=10.0km s-min=5.1km az=62.0
NEIC Felt at Guayaquil.
IDC 26 20:06:16.2±0.6, 1.43S×77.86W, h160km±5km, mb4.0/14, mb1 4.1/17, mb1mx4.0/28, mbtmp4.4/17, MS3.4/3, Ms1 3.3/3, ms1mx2.9/30, Error ellipse: s-maj=17.3km s-min=9.5km az=65.0
ISC 26 20:06:16.1±0.4, 1.53S±0.05×77.90W±0.06, h162km±3km, h162km:pP-P, n408, σ1.06/442, mb4.6/49, 128C-168D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	Ulba	0.52	279	⇓P	Pn	20 06 38.1	-1.3
RUN5	Runtun	0.54	282	P	Pn	20 06 38.4	-1.1
PAT1	Patacocha	0.54	273	⇓P	Pn	20 06 38.4	-1.2
RETU	Refugio	0.56	278	P	Pn	20 06 39.6	-0.1
ARRY	Arrayan	0.56	273	⇑P	Pn	20 06 38.2	-1.4
JUI6	Juive	0.58	281	P	Pn	20 06 38.4	-1.3
PISA	Pisayambo	0.68	314	P	Pn	20 06 40.5	+0.1
IGUA	Igualata	0.74	273	P	Pn	20 06 40.6	-0.3
RIOE	Riobamba	0.77	253	⇓P	Pn	20 06 39.3	-1.5
MACE	Macas	0.78	203	⇓P	Pn	20 06 40.9	+0.2
MACE	Macas	0.78	203	⇓S	Sn	20 06 58.5	-1.1
TAMB	Tambo	0.96	330	P	Pn	20 06 42.9	+0.5
COV1	Cotopaxi Volc	0.97	333	P	Pn	20 06 43.8	+1.1
BMOR	Cotopaxi Volca	0.97	325	⇓P	Pn	20 06 42.4	-0.4
MOV1	Cotopaxi Vol s	0.98	326	P	Pn	20 06 43.0	+0.3
BTAM	Cotopaxi Volca	0.99	330	⇓P	Pn	20 06 42.4	-0.3
BVC2	Cotopaxi Volca	1.01	329	⇓P	Pn	20 06 43.5	+0.7
BREF	Cotopaxi Volca	1.01	328	⇓P	Pn	20 06 43.8	+0.8
VC1	Cotopaxi 1	1.02	330	P	Pn	20 06 42.4	-0.5
CAMI	Rancho Maria	1.04	324	⇓P	Pn	20 06 43.0	0.0
NAS2	Nasa	1.05	327	P	Pn	20 06 43.2	+0.1
PITA	Cotopaxi Volc	1.11	331	P	Pn	20 06 43.1	-0.4
ANTI	Antisana	1.11	346	⇓P	Pn	20 06 43.5	-0.2
PAST	Pastocalle	1.12	318	P	Pn	20 06 43.1	-0.5
CHAR	Charly	1.45	9	⇓P	Pn	20 06 48.6	+1.9
LAV4	Lava4-Reventad	1.46	11	⇓P	Pn	20 06 47.2	+0.7
CONE	Cono NE Rev Vo	1.48	10	⇓P	Pn	20 06 48.6	+1.8
JUA2	San Juan 2	1.49	332	⇓P	Pn	20 06 46.5	-0.6
GGP	Refugio Guagua	1.52	333	⇓P	Pn	20 06 47.9	+0.4
TERV	Terraza Guagua	1.52	332	P	Pn	20 06 48.0	+0.5
PINO	Pino	1.54	332	⇓P	Pn	20 06 47.1	-0.6
CAYR	Refugio Cayamb	1.54	356	P	Pn	20 06 48.4	+0.6
CAYA	Cayambe	1.60	357	⇓P	Pn	20 06 49.0	+0.8
OTAV	Otavalo	1.84	342	ePn	Pn	20 06 49.7	-1.1
GOLV	Golondrinas	2.13	324	P	Pn	20 06 52.6	-0.9
GOLV	Golondrinas	2.13	324	S	Sn	20 07 17.7	-4.7
PECV	Mancha de Ca P	2.28	289	P	Pn	20 06 56.5	+1.3
MAG1	Magdalena	2.37	308	⇓P	Pn	20 06 54.2	-2.2
ATAH	Atahualpa	5.59	185	P	Pn	20 07 37.4	-0.5
	20nm,0.3s,baz=13,slow=10,SNR=51						
ATAH				S	Sn	20 08 34.9	-7.0
	25nm,0.3s,baz=346,slow=20,SNR=4.3						
ROSC	El Rosal	7.28	29	P	Pn	20 07 59.2	-1.2
	3.0nm,0.3s,baz=286,slow=16,SNR=2.3						
ROSC	El Rosal	7.28	29	Pn	Pn	20 07 57.8	-2.5
NNA	Nana	10.44	174	P	Pn	20 08 42.0	+0.2
	5.1nm,0.3s,baz=359,slow=12,SNR=7.3						
NNA				S	Sn	20 10 27.1	-11
	8.6nm,0.3s,baz=284,slow=19,SNR=6.6						
NNA	Nana	10.44	174	ePn	Pn	20 08 40.1	-1.7
NNA				eSn	Sn	20 10 25.6	-12
NNA				S	S	20 10 27.1	-12
BCIP	Isla Barro Col	10.80	350	ePn	Pn	20 08 43.5	-3.0
SDV	Santo Domingo	12.63	35	ePn	Pn	20 09 08.6	-1.8
	18nm,0.7s						
JTS	JuntasAbangare	13.69	329	P	Pn	20 09 25.2	+1.5
	1.1nm,0.3s,baz=129,slow=8.5,SNR=6.0						
JTS				LR	LR	20 13 48.7	
	comp=Z,160nm,19.1s,baz=153,slow=33						
JTS	JuntasAbangare	13.69	329	ePn	Pn	20 09 23.4	-0.3
SAML	Samuel	16.39	117	eP	P	20 09 55.6	-1.4
	69nm,1.0s						
SAML				eS	S	20 12 53.2	-5.6
APG	El Apazote	20.61	323	P	P	20 10 39.7	-3.3
	12nm,1.1s,baz=138,slow=12,SNR=8.5						
SIV	San Ignacio	21.94	132	P	P	20 10 58.2	+1.2
	4.4nm,0.5s,baz=323,slow=12,SNR=13						
SIV				S	S	20 14 50.7	+2.6
	1.7nm,0.7s,baz=259,slow=19,SNR=2.0						
LVC	Limon Verde	22.70	158	eP	P	20 11 06.0	+1.5
	10nm,1.0s						
TEIG	Tepich	23.90	335	P	P	20 11 13.7	-1.4
	3.4nm,0.3s,baz=134,slow=2.9,SNR=5.8						
TEIG	Tepich	23.90	335	P	P	20 11 11.4	-3.7
CFAA	Coronel Fontan	31.27	164	P	P	20 12 22.4	+1.5
	0.8nm,0.9s,baz=329,slow=5.9,SNR=6.6						
CPUP	Villa Florida	31.61	143	LR	LR	20 28 35.8	
	comp=Z,56nm,19.5s,baz=87,slow=42						
BDFB	Brasilia	32.63	117	P	P	20 12 33.6	+0.6
	4.7nm,0.4s,baz=275,slow=10.0,SNR=7.1						
BDFB				LR	LR	20 26 28.9	
	comp=Z,61nm,19.5s,baz=254,slow=37						
034A	Hebbronville	34.78	326	⇑P	P	20 12 53.1	+1.8
	baz=35						
934A	Benavides	35.11	327	⇑P	P	20 12 55.9	+1.8
	baz=35						
933A	Laredo	35.53	326	⇓P	P	20 12 59.2	+1.5
	baz=36						
834A	Tilden	35.54	328	⇑P	P	20 12 58.9	+1.2
	baz=36						
636A	Smothers Creek	35.87	331	⇓P	P	20 13 02.0	+1.5
	baz=36						
833A	Chaparral WMA,	36.15	327	⇓P	P	20 13 04.2	+1.2
	baz=36						
832A	Faith Ranch, C	36.44	326	⇓P	P	20 13 06.5	+1.1
	baz=36						
732A	Laxson Ranch,	36.78	327	⇑P	P	20 13 09.9	+1.6
	baz=37						
633A	Saathoff Ranch	36.93	328	⇑P	P	20 13 10.3	+0.7
	baz=37						
534A	Blanco	37.02	330	⇓P	P	20 13 11.1	+0.7
	baz=37						
632A	Uvalde	37.29	328	⇑P	P	20 13 13.6	+1.0
	baz=37,SNR=7.6						
533A	Kerrville	37.35	329	⇑P	P	20 13 14.0	+0.9
	baz=37						
336A	Riesel	37.36	333	⇑P	P	20 13 13.9	+0.7
	baz=38						
631A	Perdido Creek	37.65	327	⇓P	P	20 13 16.8	+1.1
	baz=38,SNR=11						
532A	Rocksprings	37.84	328	⇑P	P	20 13 18.8	+1.5
	baz=38,SNR=23						
433A	Art	37.92	330	⇓P	P	20 13 18.4	+0.5
	baz=38,SNR=7.5						
334A	Lometa	37.97	331	⇓P	P	20 13 18.7	+0.4
	baz=38						
JCT	Junction City	38.07	329	⇓P	P	20 13 20.2	+1.0
	baz=38						
531A	Rocksprings	38.22	327	⇓P	P	20 13 21.7	+1.3
	baz=38,SNR=13						
333A	Richland Sprin	38.33	330	⇑P	P	20 13 21.4	+0.1
	baz=38,SNR=5.4						
432A	Menard	38.38	329	⇑P	P	20 13 22.6	+0.8
	baz=38						
530A	J-C Ranch, Com	38.63	327	⇓P	P	20 13 25.1	+1.2
	baz=39,SNR=6.5						
431A	Sonora	38.65	328	⇑P	P	20 13 25.1	+1.0
	baz=39,SNR=6.7						
332A	Millersview	38.76	329	⇓P	P	20 13 25.8	+0.8
	baz=39,SNR=7.8						
233A	Rising Star	38.85	331	⇑P	P	20 13 26.7	+1.0
	baz=39						
134A	White-Moore Ra	38.92	332	⇓P	P	20 13 27.2	+0.9
	baz=39						
331A	San Angelo	39.05	329	⇓P	P	20 13 28.3	+1.0
	baz=39						
430A	Baggett Ranch,	39.07	327	⇓P	P	20 13 28.7	+1.1
	baz=39						
529A	Stev Forest Ra	39.11	326	⇑P	P	20 13 29.0	+1.1
	baz=39,SNR=5.8						
232A	Coleman	39.12	330	⇓P	P	20 13 28.4	+0.5
	baz=39,SNR=6.6						
TRQA	Tornquist	39.18	160	eP	P	20 13 27.8	-0.5
	11nm,1.2s						
429A	Davenport Ranc	39.31	326	⇓P	P	20 13 30.5	+0.9
	baz=39,SNR=7.8						
133A	Hamilton Ranch	39.35	331	⇑P	P	20 13 31.0	+1.2
	baz=39						
TXAR	Lajitas Array	39.37	323	P	P	20 13 30.4	+0.3
	3.0nm,0.9s,baz=147,slow=8.4,SNR=18						
TXAR				PcP	PcP	20 15 36.1	+0.9
	2.0nm,0.9s,baz=140,slow=4.6,SNR=10						
231A	Bronte	39.49	329	⇓P	P	20 13 31.8	+0.8
	baz=40						
Z34A	Collier Ranch,	39.52	333	⇑P	P	20 13 32.0	+0.9
	baz=40						
330A	Mertzon	39.52	328	⇓P	P	20 13 32.4	+1.1
	baz=40						
PLCA	Paso Flores	39.58	171	P	P	20 13 33.0	+1.3
	9.7nm,0.8s,baz=343,slow=8.8,SNR=19						
PLCA				PcP	PcP	20 15 36.6	+0.9
	3.0nm,0.7s,baz=0.8,slow=5.9,SNR=4.5						
PLCA	Paso Flores	39.58	171	eP	P	20 13 32.2	+0.5
	14nm,0.8s						
PLCA				PcP	PcP	20 15 36.6	+0.9
ABTX	Abilene, Hawle	39.71	331	⇓P	P	20 13 33.7	+0.9
	baz=40						
Z33A	Whitaker Ranch	39.84	332	⇑P	P	20 13 34.8	+1.0
	baz=40						
230A	Sterling City	39.87	328	⇑P	P	20 13 35.2	+1.1
	baz=40						
Y34A	Reagan Ranch,	39.94	334	⇑P	P	20 13 35.5	+0.8
	baz=40						
329A	Wagon Wheel Ra	40.02	327	⇓P	P	20 13 36.1	+0.7
	baz=40,SNR=5.5						
131A	Roby	40.12	330	⇑P	P	20 13 37.0	+0.8
	baz=40						
Z32A	Haskell	40.19	331	⇑P	P	20 13 37.5	+0.8
	baz=40,SNR=9.8						
229A	Bryant Ranch,	40.30	328	⇑P	P	20 13 38.7	+1.0
	baz=40						
130A	Snyder	40.35	329	⇑P	P	20 13 39.0	+0.9
	baz=40						
Y33A	Hilltop Ranch,	40.37	333	⇓P	P	20 13 38.9	+0.7
	baz=40						
Z31A	Sharp Cattle R	40.52	331	⇑P	P	20 13 40.2	+0.7
	baz=41,SNR=6.6						
X34A	Smith Ranch, M	40.52	334	⇓P	P	20 13 40.4	+1.0
	baz=41						
Y32A	R-V Farms, Ver	40.74	332	⇓P	P	20 13 42.5	+1.3
	baz=41						
X33A	Lawton	40.76	334	⇓P	P	20 13 42.0	+0.6
	baz=41						
TUL1	Tulsa	40.82	338	⇓P	P	20 13 42.1	+0.3
	baz=41						
228A	UT Block 9, Go	40.83	327	⇓P	P	20 13 43.1	+1.0
	baz=41						
Z30A	Sanderson Ranc	40.98	330	⇑P	P	20 13 44.1	+0.9
	baz=41,SNR=6.0						
X32A	Elmer	41.02	333	⇓P	P	20 13 44.6	+1.1
	baz=41						
W34A	Bridge Creek,	41.03	335	⇑P	P	20 13 44.2	+0.6
	baz=41						
Y31A	Rekieta Farm,	41.10	331	⇑P	P	20 13 45.4	+1.2
	baz=41						
128A	Castleberry Fa	41.16	328	⇑P	P	20 13 45.7	+0.9
	baz=41						
Z29A	Hungry Hill Ra	41.25	329	⇑P	P	20 13 46.5	+1.0
	baz=41						
W33A	Caddo, Fort Co	41.26	334	⇓P	P	20 13 46.5	+1.0
	baz=41						
Y30A	Stafford Cattl	41.34	331	⇓P	P	20 13 47.4	+1.2
	baz=41						
V34A	Guthrie	41.44	336	⇑P	P	20 13 47.1	+0.2
	baz=42						
X31A	McDonald Ranch	41.51	332	⇑P	P	20 13 48.3	+0.8
	baz=42,SNR=9.3						
W32A	Sentinel	41.58	333	⇑P	P	20 13 48.7	+0.6
	baz=42,SNR=16						
Y29A	Porterfield Fa	41.71	330	⇓P	P	20 13 50.2	+0.9
	baz=42,SNR=6.6						
V33A	Lossen Ranch,	41.75	335	⇓P	P	20 13 50.0	+0.6
	baz=42						
X30A	Coker Ranch, T	41.79	331	⇑P	P	20 13 50.6	+0.8
	baz=42						
W31A	Holland Ranch,	41.95	333	⇓P	P	20 13 51.7	+0.6
	baz=42						
U34A	Anderson Ranch	41.97	336	⇑P	P	20 13 51.4	+0.2
	baz=42						
V32A	Arapaho	41.99	334	⇓P	P	20 13 52.2	+0.7
	baz=42,SNR=7.2						
Y28A	McKinney Farm,	42.04	329	⇓P	P	20 13 52.6	+0.7
	baz=42						
Z27A	Tatum	42.09	328	⇑P	P	20 13 53.1	+0.7
	baz=42,SNR=12						
RCBR	Riachuelo	42.11	97	eP	P	20 13 52.9	+0.2
	8.8nm,0.8s						
X29A	Tulia	42.19	330	⇑P	P	20 13 54.0	+0.9
	baz=42						
U33A	Lingo Farm, Me	42.20	335	⇑P	P	20 13 53.4	+0.3
	baz=42						
MSTX	Muleshoe	42.36	329	eP	P	20 13 54.3	-0.3
	51nm,1.1s						
MSTX				epP	pP	20 14 32.7	+2.6
MSTX	Muleshoe	42.36	329	⇓P	P	20 13 55.1	+0.6
	baz=42,SNR=10						
V31A	Spring Creek L	42.39	333	⇓P	P	20 13 56.0	+1.3
	baz=42						
Y27A	Causey	42.50	328	⇑P	P	20 13 56.4	+0.7
	baz=43,SNR=8.2						
U32A	Winter Ranch,	42.53	335	⇓P	P	20 13 56.5	+0.7
	baz=43						
AMTX	Amarillo	42.53	331	⇑P	P	20 13 56.9	+1.0
	baz=43						
W29A	Amraillo	42.71	331	⇑P	P	20 13 57.8	+0.5
	baz=43						
Y26A	Elida	42.88	328	⇓P	P	20 13 59.5	+0.7
	baz=43						
Z25A	Roswell	42.88	326	⇓P	P	20 14 00.0	+1.3
	baz=43,SNR=5.7						
X27A	F and S Farms,	43.06	329	⇓P	P	20 14 01.5	+1.4
	baz=43						
S33A	Kaszmaul Farm,	43.15	336	⇑P	P	20 14 01.3	+0.6
	baz=43						
T32A	Huddler Ranch,	43.18	335	⇑P	P	20 14 01.5	+0.5
	baz=43						
Z24A	Sheeppen Canyo	43.28	326	⇓P	P	20 14 03.2	+1.2
	baz=43,SNR=13						
Y25A	Mesa, Roswell	43.35	327	⇓P	P	20 14 03.5	+1.0
	baz=43,SNR=8.2						
X26A	CR and CF Fran	43.35	328	⇓P	P	20 14 03.7	+1.2
	baz=44						
W27A	Bowe Ranch, En	43.37	329	⇓P	P	20 14 03.4	+0.8
	baz=44,SNR=7.2						
U30A	WK&E Inc. Balk	43.38	333	⇓P	P	20 14 03.8	+1.1
	baz=44						
T31A	Randall Ranch,	43.43	334	⇑P	P	20 14 03.9	+0.9
	baz=44						
V28A	Channing	43.49	331	⇓P	P	20 14 04.4	+0.8
	baz=44						
S32A	Newby Ranch, P	43.62	336	⇓P	P	20 14 05.3	+0.7
	baz=44						
W26A	Owens Ranch, T	43.74	329	⇑P	P	20 14 06.9	+1.3
	baz=44						
Y24A	Capitan	43.76	326	⇑P	P	20 14 07.0	+1.2
	baz=44,SNR=9.7						
R33A	Olander Ranch,	43.76	337	⇓P	P	20 14 06.3	+0.6
	baz=44						
S31A	Mullinville	43.78	335	⇓P	P	20 14 06.7	+0.9
	baz=44						
X25A	Clemmons Ranch	43.79	327	⇑P	P	20 14 07.1	+1.0
	baz=44						
KSU1	Kansas State U	43.94	339	⇑P	P	20 14 06.9	-0.1
	baz=44						
Y23A	Lovelace Mesa,	44.11	326	⇓P	P	20 14 09.8	+1.2
	baz=44,SNR=7.7						
121A	Cookes Peak, D	44.12	323	eP	P	20 14 10.2	+1.5
	77nm,2.0s						
121A				epP	pP	20 14 47.6	+3.0
121A	Cookes Peak, D	44.12	323	⇓P	P	20 14 10.3	+1.5
	baz=44,SNR=7.0						
Z22A	Elephant Butte	44.14	324	⇑P	P	20 14 10.0	+1.1
	baz=44,SNR=9.2						
T29A	Hugoton	44.19	333	⇑P	P	20 14 10.1	+1.0
	baz=44						
W25A	X Bar L Ranch,	44.21	328	⇑P	P	20 14 10.4	+1.0
	baz=44						
319A	Douglas	44.26	320	⇓P	P	20 14 11.1	+1.3
	baz=44,SNR=6.1						
V26A	Tequesquite Ra	44.30	329	⇑P	P	20 14 11.3	+1.2
	baz=44,SNR=17						
Q33A	Connelly Farm,	44.31	338	⇓P	P	20 14 10.2	+0.3
	baz=44						
U27A	Thompson Grove	44.32	331	⇓P	P	20 14 11.0	+0.8
	baz=44						
R31A	Burdett	44.37	335	⇓P	P	20 14 11.4	+0.9
	baz=44						
S29A	Ulysses	44.49	333	⇓P	P	20 14 12.8	+1.3
	baz=45,SNR=5.5						
Q32A	Meitler Ranch,	44.58	337	⇑P	P	20 14 12.5	+0.4
	baz=45						
R30A	Dighton	44.68	335	⇓P	P	20 14 13.9	+1.0
	baz=45						
W24A	Lazy 6 Ranch,	44.70	327	⇑P	P	20 14 14.3	+1.0
	baz=45,SNR=7.3						
U26A	Atchley Ranch,	44.75	330	⇓P	P	20 14 14.7	+1.0
	baz=45,SNR=7.5						
V25A	Rancho No Teng	44.76	329	⇑P	P	20 14 15.1	+1.3
	baz=45,SNR=14						
T27A	Campo	44.78	332	⇓P	P	20 14 14.8	+1.0
	baz=45						
S28A	Manter	44.82	333	⇑P	P	20 14 15.3	+1.2
	baz=45						
Q31A	Ellis	44.92	336	⇓P	P	20 14 16.0	+1.1
	baz=45						

V24A Rampart Ranch, 45.02 328 ⇑P P 20 14 16.9 +1.0
baz=45,SNR=9.2
LAZ Ladron 45.07 325 eP P 20 14 15.4 -0.8
6.1nm,1.5s
W23A Werner Place, 45.07 327 ⇓P P 20 14 17.6 +1.3
baz=45,SNR=5.8
ANMO Albuquerque 45.08 326 eP P 20 14 17.3 +1.0
23nm,1.0s
ANMO epP pP 20 14 55.1 +2.8
U25A Circle Dot Ran 45.09 329 ⇑P P 20 14 17.5 +1.1
baz=45,SNR=8.3
R29A Marienthal 45.17 334 ⇑P P 20 14 18.0 +1.1
baz=45
Q30A Quinter 45.24 335 ⇓P P 20 14 17.9 +0.5
baz=45,SNR=5.3
T26A Comanche Natio 45.29 331 ⇑P P 20 14 19.1 +1.2
baz=45
P31A Stockton 45.36 337 ⇑P P 20 14 19.0 +0.7
baz=46
R28A Tribune 45.40 333 ⇓P P 20 14 19.4 +0.8
baz=46,SNR=6.7
Q29A Oakley 45.49 335 ⇓P P 20 14 20.3 +1.0
baz=46
V23A Ortiz Mt. (NFS 45.52 327 ⇓P P 20 14 21.4 +1.5
baz=46
O32A Brockman Farm, 45.57 338 ⇑P P 20 14 20.1 +0.1
baz=46
S26A Kim 45.59 331 ⇓P P 20 14 21.4 +1.2
baz=46,SNR=10
T25A Trinidad 45.66 330 ⇑P P 20 14 22.0 +1.0
baz=46,SNR=5.8
P30A Selden 45.73 336 ⇓P P 20 14 22.2 +1.0
baz=46
R27A Eads 45.80 332 ⇓P P 20 14 22.5 +0.7
baz=46,SNR=8.8
TUC Tucson 45.84 320 eP P 20 14 22.0 -0.2
8.7nm,0.9s
TUC epP pP 20 15 00.7 +2.4
U23A El Rito 45.96 328 ⇑P P 20 14 24.6 +1.2
baz=46,SNR=7.7
Q28A Sharon Springs 46.00 334 ⇑P P 20 14 24.3 +0.9
baz=46
V22A San Miguel Ran 46.04 327 ⇓P P 20 14 25.2 +1.3
baz=46,SNR=6.5
P29A Atwood 46.06 335 ⇓P P 20 14 24.5 +0.6
baz=46
T24B San Luis 46.10 329 ⇑P P 20 14 26.0 +1.6
baz=46
R26A Arlington 46.12 332 ⇓P P 20 14 25.1 +0.8
baz=46,SNR=5.1
O30A MW Ranch, Wils 46.19 336 ⇓P P 20 14 25.5 +0.7
baz=46
N31A Bailey Ranch, 46.32 338 ⇑P P 20 14 26.5 +0.7
baz=46
U22A Llaves 46.35 327 ⇑P P 20 14 27.6 +1.3
baz=46
P28A Saint Francis 46.39 334 ⇑P P 20 14 27.8 +1.4
baz=46
R25A Fountain Ranch 46.39 331 ⇑P P 20 14 28.0 +1.4
baz=46
O29A 4D Ranch, Culb 46.45 336 ⇑P P 20 14 27.9 +1.1
baz=47
S24A Houchin Ranch, 46.46 330 ⇑P P 20 14 28.6 +1.4
baz=47,SNR=6.2
BGNE Belgrade 46.53 339 ⇑P P 20 14 27.8 +0.4
baz=47
Q26A Hugo 46.65 332 ⇓P P 20 14 29.6 +1.1
baz=47
SDCO Great Sand Dun 46.68 330 eP P 20 14 29.8 +0.8
30nm,1.3s
SDCO epP pP 20 15 05.6 +0.5
P27A Ficken Ranch, 46.73 334 ⇑P P 20 14 30.1 +0.9
baz=47
X18A Snowflake 46.80 323 ⇓P P 20 14 31.0 +1.2
baz=47
R24A Sanders Place, 46.86 330 ⇓P P 20 14 31.4 +1.1
baz=47
214A Organ Pipe Nat 46.94 318 eP P 20 14 31.8 +1.1
29nm,1.3s
214A epP pP 20 15 09.6 +2.6
214A Organ Pipe Nat 46.94 318 ⇓P P 20 14 31.8 +1.1
baz=47,SNR=9.1
N29A Votaw Ranch, W 46.96 336 ⇓P P 20 14 31.3 +0.4
baz=47
Q25A Bedland, Calha 46.98 332 ⇑P P 20 14 32.0 +0.8
baz=47
W18A Petrified Fore 47.08 324 eP P 20 14 32.0 0.0
34nm,1.2s
W18A Petrified Fore 47.08 324 ⇓P P 20 14 33.4 +1.4
baz=47
P26A Davis Ranch, A 47.08 333 ⇓P P 20 14 33.0 +1.2
baz=47
R23A Moffat 47.19 330 ⇓P P 20 14 33.8 +0.9
baz=47,SNR=5.4
N28A Pribbeno Ranch 47.23 335 ⇓P P 20 14 33.8 +1.0
baz=47
S22A 4UR Ranch, Cre 47.36 329 ⇓P P 20 14 35.1 +0.8
baz=48,SNR=8.5
P25A Willow Gulch B 47.42 332 ⇓P P 20 14 36.0 +1.4
baz=48
L31A Butterfield Fa 47.45 339 ⇓P P 20 14 34.6 0.0
baz=48,SNR=7.5
Q24A Divide 47.45 331 ⇓P P 20 14 36.2 +1.2
baz=48
M29A Burnside Ranch 47.52 337 ⇑P P 20 14 36.1 +1.0
baz=48
L30A Spencer Herefo 47.58 338 ⇑P P 20 14 36.2 +0.7
baz=48
X16A Lo Mia Camp, P 47.64 322 ⇓P P 20 14 37.4 +1.1
baz=48,SNR=7.3
OGNE Ogallala 47.65 335 ⇓P P 20 14 37.0 +0.8
baz=48
M28A Bar X Bar Ranc 47.75 336 ⇓P P 20 14 38.0 +1.0
baz=48
MVCO Mesa Verde 47.86 327 ⇑P P 20 14 38.5 +0.5
baz=48
O25A Wiggins 47.88 333 ⇓P P 20 14 38.8 +0.8
baz=48
L29A Maesberg Ranch 47.97 337 ⇓P P 20 14 39.5 +1.0
baz=48
113A Mohawk Valley, 48.07 318 ⇑P P 20 14 40.7 +1.2
baz=48
ECSD EROS Data Cent 48.09 342 ⇓P P 20 14 38.4 -1.0
baz=48
P23A Jefferson 48.11 331 ⇓P P 20 14 41.2 +1.2
baz=48,SNR=7.0
K30A Basset 48.17 339 ⇓P P 20 14 40.2 +0.1
baz=48
Y14A Wickenburg 48.31 320 ⇓P P 20 14 42.7 +1.4
baz=48
L28A Connealy Angus 48.33 336 ⇓P P 20 14 41.9 +0.6
baz=48
WUAZ Wupatki 48.33 323 ⇓P P 20 14 43.0 +1.4
baz=48,SNR=11
ISCO Idaho Springs 48.33 331 ⇓P P 20 14 42.6 +0.9
baz=48
SPMN St. Paul 48.40 346 ⇓P P 20 14 40.9 -0.9
baz=48
PV01 Paradox Valley 48.57 328 eP P 20 14 44.1 +0.6
670nm,1.1s
PV01 pP pP 20 15 22.3 +2.4
J30A Dallas 48.69 339 ⇓P P 20 14 43.5 -0.5
baz=49,SNR=6.7
P22A Eagle 48.73 330 ⇑P P 20 14 45.6 +0.9
baz=49
O23A Lake Granby, G 48.80 331 ⇑P P 20 14 46.1 +0.9
baz=49,SNR=12
K28A Ten Mile Ranch 48.86 337 ⇑P P 20 14 46.2 +0.8
baz=49,SNR=6.4
GLA Glamis 48.95 318 ⇑P P 20 14 47.5 +1.2
baz=49
J29A Okreek 49.06 338 ⇓P P 20 14 46.5 -0.4
baz=49,SNR=7.5
O22A Kremmling 49.06 331 ⇑P P 20 14 48.1 +0.8
baz=49
K27A Flueckinger Fa 49.20 336 ⇑P P 20 14 48.8 +0.8
baz=49
M24A Cheyenne 49.29 333 ⇓P P 20 14 49.5 +0.7
baz=49
N23A Red Feather La 49.35 332 ⇓P P 20 14 49.9 +0.5
baz=50
J28A Allard Ranch, 49.42 338 ⇑P P 20 14 49.9 +0.3
baz=50
U15A North Rim 49.49 323 ⇑P P 20 14 51.6 +1.1
baz=50
N22A Wattenberg Ran 49.52 332 ⇑P P 20 14 51.4 +0.8
baz=50
SWSC Sam W. Stewart 49.54 317 ⇓P P 20 14 52.1 +1.5
baz=50
J27A Elkhorn Farm, 49.57 337 ⇓P P 20 14 51.3 +0.5
baz=50
I29A Vivian Onida 49.59 339 ⇓P P 20 14 50.8 0.0
baz=50
M23A Laramie 49.69 333 ⇓P P 20 14 53.1 +1.1
baz=50
IRM Iron Mountain 49.84 319 ⇑P P 20 14 53.8 +0.9
baz=50
O20A White River Ci 49.88 330 ⇑P P 20 14 54.3 +1.0
baz=50
I28A Midland 49.88 338 ⇓P P 20 14 53.1 0.0
baz=50,SNR=9.4
MONP Monument Peak 49.94 317 ⇑P P 20 14 54.5 +0.7
baz=50,SNR=5.2
J26A Sides Ranch, S 50.05 336 ⇓P P 20 14 55.0 +0.6
baz=50
H29A Onida 50.08 339 ⇓P P 20 14 54.2 -0.3
baz=50
G30A Faulkton 50.15 340 ⇓P P 20 14 54.3 -0.8
baz=50,SNR=7.8
I27A Quinn 50.28 337 ⇓P P 20 14 56.1 0.0
baz=50,SNR=6.2
BELC Belle Mtn. Jos 50.30 318 ⇑P P 20 14 57.7 +1.2
baz=50
PFO Pinyon Flat Ob 50.38 318 ⇑P P 20 14 58.5 +1.4
baz=50
J25A Sunshine Ranch 50.41 336 ⇑P P 20 14 57.8 +0.7
baz=50
G29A Hoven 50.47 340 ⇑P P 20 14 57.4 0.0
baz=51
GMRC Granite Mounta 50.55 319 ⇑P P 20 14 59.3 +1.0
baz=51,SNR=6.0
EYMN Ely 50.69 348 eP P 20 14 56.6 -2.4
71nm,2.0s
H27A Howes 50.77 338 ⇓P P 20 15 00.1 +0.4
baz=51
MURC Murrieta 50.88 317 ⇑P P 20 15 01.8 +1.0
baz=51
F29A Eureka 51.00 340 ⇑P P 20 15 01.3 0.0
baz=51
HEC Hector,Ludlow 51.02 319 ⇓P P 20 15 03.4 +1.6
baz=51
TUQ Turquoise Moun 51.12 320 ⇓P P 20 15 03.8 +1.2
baz=51
E30A Jud 51.29 341 ⇑P P 20 15 03.0 -0.5
baz=51,SNR=7.9
SHPR Sheep Range 51.30 321 eP P 20 15 04.0 0.0
SHPR epP pP 20 15 42.9 +2.1
SHPR ePcP PcP 20 16 17.4 +0.8
E29A Napoleon 51.58 341 ⇑P P 20 15 05.9 +0.1
baz=52
CIS Catalina Islan 51.59 316 ⇑P P 20 15 07.5 +1.5
baz=52
GSC Goldstone 51.61 319 ⇓P P 20 15 07.6 +1.3
baz=52
DAU Daniels Canyon 51.66 328 eP P 20 15 07.3 +0.6
4.5nm,0.7s
D30A Buchanan 51.78 342 ⇑P P 20 15 06.6 -0.6
baz=52,SNR=5.9
F27A Lemmon 51.80 339 ⇓P P 20 15 07.7 +0.3
baz=52
MWC Mount Wilson 51.82 317 eP P 20 15 08.0 +0.1
20nm,1.3s
E28A Huff 51.94 340 ⇑P P 20 15 08.4 +0.1
baz=52,SNR=9.7
D29A Pettibone, Tap 52.00 341 ⇓P P 20 15 08.9 +0.1
baz=52
F26A Lodgepole 52.02 338 ⇑P P 20 15 09.2 +0.2
baz=52
AGMN Agassiz Nation 52.03 345 ⇓P P 20 15 08.2 -0.8
baz=52,SNR=7.8
EDW2 Edwards Air Fo 52.15 318 ⇓P P 20 15 11.1 +0.9
baz=52,SNR=7.5
C30A Mose, Pekin 52.23 343 ⇓P P 20 15 10.0 -0.5
baz=52,SNR=5.6
G24A Alzada 52.26 337 ⇓P P 20 15 10.8 0.0
baz=52
DUG Dugway 52.35 326 ⇓P P 20 15 12.8 +1.1
baz=52,SNR=6.7
D28A Regan 52.44 341 ⇑P P 20 15 11.8 -0.2
baz=52,SNR=5.5
E26A Carlson Angus 52.47 339 ⇑P P 20 15 12.8 +0.5
baz=53
BW06 Boulder Array 52.51 331 eP P 20 15 10.7 -2.2
8.4nm,1.0s
PDAR Pinedale Array 52.51 331 PcP PcP 20 16 20.8 -0.4
1.9nm,0.9s,baz=155,slow=3.0,SNR=5.3
D27A Center 52.69 340 ⇑P P 20 15 13.9 +0.1
baz=53
F24A Ekalaka 52.69 337 ⇑P P 20 15 14.3 +0.3
baz=53
R11A Troy Canyon, C 52.73 323 ⇑P P 20 15 15.6 +1.1
baz=53,SNR=5.2
I20A Worland 52.74 333 ⇑P P 20 15 15.5 +1.0
baz=53
C28A Hausauer Farms 52.84 341 ⇑P P 20 15 15.5 +0.6
baz=53
B30A Myrvik Farm, E 52.85 343 ⇓P P 20 15 14.6 -0.4
baz=53,SNR=5.9
ISA Isabella 52.93 318 ⇑P P 20 15 16.9 +1.0
baz=53
SPUT South Promonto 52.93 328 eP P 20 15 16.2 +0.3
20nm,1.0s
D26A Manning 52.94 339 ⇓P P 20 15 16.3 +0.6
baz=53
F23A Volborg 52.98 336 ⇓P P 20 15 16.5 +0.4
baz=53
H20A Greybull 53.10 333 ⇓P P 20 15 17.8 +0.8
baz=53
B29A Wagenman Farm, 53.17 342 ⇑P P 20 15 17.2 -0.1
baz=53,SNR=7.5
C27A Sayler Ranch, 53.20 340 ⇑P P 20 15 18.0 +0.4
baz=53
A30A Hoffart Farm, 53.29 343 ⇓P P 20 15 18.0 -0.2
baz=53
D25A Fairfield 53.36 339 ⇑P P 20 15 19.6 +0.7
baz=54
VES Vestal, Richgr 53.43 318 ⇑P P 20 15 20.6 +1.1
baz=54
HVU Hansel Valley 53.44 328 eP P 20 15 18.8 -0.8
19nm,1.5s
C26A Wahner Farm, P 53.50 340 ⇑P P 20 15 20.1 +0.3
baz=54
D24A Glendive 53.70 338 ⇑P P 20 15 22.2 +0.9
baz=54
C25A Freed Ranch, W 53.81 339 ⇓P P 20 15 22.9 +0.8
baz=54
ULM Lac du Bonnet 53.84 346 P P 20 15 20.8 -1.4
8.1nm,0.4s,baz=157,slow=8.2,SNR=15
ULM PcP PcP 20 16 25.1 -0.6
3.1nm,0.8s,baz=92,slow=4.7,SNR=3.7
A28A Rude Farm, Bot 53.85 342 ⇓P P 20 15 22.5 +0.2
baz=54
A26A Wade Farm, Ken 54.41 341 ⇓P P 20 15 26.8 +0.5
baz=54
D22A Cohagen 54.45 337 ⇑P P 20 15 27.4 +0.7
baz=55
NVAR Mina Array Bea 54.45 321 P P 20 15 27.2 +0.1
3.0nm,0.7s,baz=137,slow=7.4,SNR=7.6
NVAR pP pP 20 16 06.0 +1.7
3.5nm,0.9s,baz=135,slow=6.1,SNR=4.9
F19A Roth Farm, Mol 54.58 334 ⇑P P 20 15 28.1 +0.3
baz=55
C23A Lambert 54.60 338 ⇓P P 20 15 28.3 +0.5
baz=55
D21A La Casta Ranch 54.71 336 ⇓P P 20 15 29.1 +0.5
baz=55
E20A Meyer Farm, Mu 54.73 335 ⇓P P 20 15 29.5 +0.7
baz=55
A25A Svangstu Ranch 54.81 340 ⇑P P 20 15 29.7 +0.5
baz=55
C22A Vida 54.82 337 ⇓P P 20 15 29.5 +0.2
baz=55
GCMT Greycliff 54.85 333 eP P 20 15 30.1 +0.3
7.2nm,0.9s
E19A Rath Farm, Rou 54.98 334 ⇓P P 20 15 30.9 +0.3
baz=55
B23A Brockton 55.08 338 ⇓P P 20 15 31.4 +0.2
baz=55,SNR=6.7
A24A Westby 55.10 339 ⇑P P 20 15 32.4 +1.0
baz=55
C21A Desert Coulee 55.36 336 ⇓P P 20 15 34.0 +0.7
baz=56
A23A Redstone 55.45 339 ⇓P P 20 15 34.5 +0.7
baz=56
HLID Hailey 55.54 328 ⇓P P 20 15 35.1 +0.3
baz=56,SNR=6.5
MCMT McKenzie Canyo 55.64 330 eP P 20 15 36.4 +0.8
3.8nm,1.3s
MCMT epP pP 20 16 15.1 +2.1
B21A Ellsworth Farm 55.82 337 ⇑P P 20 15 37.1 +0.7
baz=56
A22A Carney Farms, 55.86 338 ⇑P P 20 15 37.3 +0.6
baz=56,SNR=6.6
C19A Slack Wire Ran 56.09 335 ⇑P P 20 15 39.1 +0.6
baz=56
MFID Camas Ranch 56.20 327 eP P 20 15 39.9 +0.5
22nm,1.0s
B20A Solberg Farm, 56.22 336 ⇑P P 20 15 40.1 +0.7
baz=56
A21A Bergtoll Ranch 56.24 337 ⇓P P 20 15 39.8 +0.4
baz=56,SNR=5.1
A20A Cobblestone Ra 56.54 337 ⇓P P 20 15 42.6 +1.0
baz=57
EGMT Eagleton 56.61 335 ⇓P P 20 15 42.9 +0.7
baz=57
A19A Klindworth Far 56.90 336 ⇓P P 20 15 45.0 +0.8
baz=57
SCHQ Schefferville 56.91 8 P P 20 15 43.7 -0.3
2.9nm,0.9s,baz=220,slow=9.1,SNR=3.7
WVOR Wild Horse Val 57.12 325 eP P 20 15 46.2 +0.3
25nm,1.1s
WVOR epP pP 20 16 24.4 +0.8
MSO Missoula 57.61 331 ⇓P P 20 15 49.5 +0.2
baz=58,SNR=6.8
JTMT Jette 58.43 332 eP P 20 15 55.3 +0.3
6.0nm,1.0s
M04C Macdoel 58.62 323 ⇑P P 20 15 57.3 +0.9
baz=59
N02D Trinity Center 58.69 321 ⇓P P 20 15 57.7 +0.9
baz=59
BSMT Bassoo Peak 58.74 332 eP P 20 15 57.9 +0.7
11nm,1.2s
J05D Fort Rock, OR 59.15 324 ⇓P P 20 16 01.1 +1.1
baz=59
I04A Tendick Farm, 60.14 324 ⇑P P 20 16 07.2 +0.5
baz=60
NEW Newport 60.15 331 ⇓P P 20 16 06.9 +0.2
baz=60,SNR=6.4
G05D Wamic, OR 60.38 326 ⇓P P 20 16 09.8 +1.5
baz=60
YKA Yellowknife Ar 69.60 343 P P 20 17 06.6 -0.8
2.6nm,0.7s,baz=140,slow=5.9,SNR=45
LIC Lamto 73.15 83 eP P 20 17 29.6 -0.1
41nm,1.1s
TIC Toumodi 73.18 83 eP P 20 17 29.7 -0.2
6.1nm,0.2s
DBIC Dimbokro 73.35 83 P P 20 17 30.7 -0.1
10nm,0.8s,baz=254,slow=3.7,SNR=54
KIC Kosan Boka 73.44 83 eP P 20 17 31.3 -0.1
31nm,0.6s
SUMG Summit 78.04 11 eP P 20 17 57.3 +0.5
11nm,1.2s
SUMG epP pP 20 18 36.4 -0.3
ESDC Sonseca Array 78.66 49 P P 20 18 00.7 +0.2
0.4nm,0.6s,baz=284,slow=4.7,SNR=3.0
TOA0 Torodi Ar. Sit 80.22 76 eP P 20 18 08.6 -0.7
TOA0 epP pP 20 18 48.5 -0.8
TORD Torodi Ar. Bea 80.22 76 P P 20 18 08.6 -0.7
2.5nm,0.4s,baz=286,slow=6.0,SNR=70
TORD pP pP 20 18 48.7 -0.6
5.5nm,1.1s,baz=275,slow=5.3,SNR=8.8
EGAK Eagle 80.29 337 eP P 20 18 08.9 +0.3
22nm,1.0s
EGAK epP pP 20 18 50.2 +1.5
ILAR Eielson Array 82.55 336 P P 20 18 20.2 -0.4
3.1nm,0.5s,baz=139,slow=3.8,SNR=45
ILAR pP pP 20 19 01.9 +1.0
0.9nm,0.9s,baz=104,slow=4.6,SNR=3.0
COLA College 82.98 336 P P 20 18 21.6 -1.1
5.0nm,0.8s
MCK McKinley 83.06 335 eP P 20 18 23.0 -0.3
14nm,1.1s
KTH Kantishna Hill 83.86 334 eP P 20 18 27.1 -0.3
12nm,0.9s
KTH epP pP 20 19 07.2 -0.6
SNAA Sanae 83.87 162 eP P 20 18 27.5 +0.2
PPLA Purkeypile 84.24 334 eP P 20 18 29.2 -0.2
23nm,1.0s
TAM Tamanrasset 84.52 67 eP P 20 18 32.7 +1.0
9.7nm,0.9s
TAM epP pP 20 19 12.4 +0.3
COLD Coldfoot 84.62 338 eP P 20 18 31.1 0.0
5.8nm,1.1s
IM04 Indian Mountai 85.67 337 eP P 20 18 35.7 -0.6
GEYT Alibeck 125.80 43 PKP PKPdf 20 24 58.8 -0.4
1.3nm,0.6s,baz=251,slow=4.5,SNR=5.9
GEYT pPKP pPKPdf 20 25 41.3 -0.6
0.5nm,0.5s,baz=272,slow=10,SNR=2.7
ZAA0 Zalesovo Array 125.85 13 ePKPdf PKPdf 20 24 58.2 -0.4
ZAA0 epPKPdf pPKPdf 20 25 40.6 -0.8
ZALV Zalesovo Beam 125.85 13 PKP PKPdf 20 24 58.0 -0.6
1.6nm,0.4s,baz=286,slow=2.8,SNR=13
ZALV pPKP pPKPdf 20 25 41.4 0.0
2.0nm,0.9s,baz=339,slow=2.1,SNR=3.4
USRK Ussuriysk Arra 129.93 332 PKP PKPdf 20 25 05.5 -1.2
3.6nm,1.0s,baz=127,slow=1.0,SNR=4.1
STKA Stephens Creek 129.97 225 PKP PKPdf 20 25 07.2 0.0
3.8nm,0.9s,baz=338,slow=5.4,SNR=3.6
MKAR Makanchi Array 131.72 18 PKP PKPdf 20 25 09.8 -0.2
0.6nm,0.4s,baz=294,slow=2.9,SNR=24
MKAR pPKP pPKPdf 20 25 52.5 -0.3
1.1nm,1.0s,baz=346,slow=0.5,SNR=4.0
MKAR SKPbc SKPab 20 28 21.9 +0.4
0.5nm,0.9s,baz=346,slow=4.1,SNR=3.6
AAK Ala-Archa 132.19 27 ePKPdf PKPdf 20 25 10.8 -0.5
AAK epPKPdf pPKPdf 20 25 54.6 +0.6
SONM Songino Array 133.73 356 PKP PKPdf 20 25 13.7 -0.3
0.5nm,0.4s,baz=282,slow=2.8,SNR=9.9
SONM SKPbc SKPbc 20 28 28.5 +0.6
0.9nm,1.0s,baz=342,slow=2.7,SNR=3.6
KSRS Korea Array 137.07 329 PKP PKPdf 20 25 20.0 -0.3
4.0nm,1.0s,baz=30,slow=1.0,SNR=8.2
KSAR Wonju Array Be 137.10 329 PKP PKPdf 20 25 20.0 -0.4
WRAB Tennant Creek 141.85 234 PKPdf PKPdf 20 25 29.1 -0.5
WRA Warramunga Arr 141.86 234 PKhKP PKPpre 20 25 23.2
1.9nm,0.8s,baz=118,slow=2.8,SNR=7.7
WRA PKP PKPdf 20 25 28.5 -1.1
4.1nm,0.8s,baz=122,slow=1.5,SNR=10.0
DANN Dangsing 148.09 32 eP PKPdf 20 25 41.1 +0.7
KOLN Koldanda 148.46 33 eP PKPdf 20 25 41.3 +0.4
25nm,1.1s
GKN Gorkha 148.82 31 eP PKPdf 20 25 41.8 +0.3
57nm,1.0s
KKN Kakani 149.32 30 eP PKPdf 20 25 42.4 +0.1
38nm,1.0s
DMN Daman 149.38 31 eP PKPdf 20 25 42.6 +0.1
GUN Gumba 149.52 29 eP PKPdf 20 25 43.4 +0.6
PKIN Phulchoki 149.56 30 eP PKPdf 20 25 43.0 +0.2
PKI Pulchoki 149.57 30 eP PKPdf 20 25 42.9 0.0
30nm,0.9s
JIRN Jiri 149.88 29 eP PKPdf 20 25 42.7 -0.7
LSA Lhasa 150.11 19 ePKPdf PKPdf 20 25 44.4 +0.6
LSA ePKPbc PKiKP 20 25 49.7 -0.2
LSA epPKPbc pPKPbc 20 26 32.1 +0.5
RAMN Ramite 150.67 29 eP PKPdf 20 25 43.6 -0.9
43nm,0.9s
TAPN Taplejung 150.85 27 eP PKPdf 20 25 43.8 -1.1
ODAN Odare 151.12 28 eP PKPdf 20 25 43.3 -1.9
24nm,1.0s
CMAR Chiang Mai Arr 162.90 10 PKP PKPdf 20 26 00.1 +0.1
0.9nm,0.9s,baz=274,slow=2.1,SNR=7.1
CMAR PKPab PKPab 20 26 49.5 -0.2
2.4nm,0.9s,baz=330,slow=5.0,SNR=15

IDC **26** *20:23:42.3±1.0, 51°.83N×172°.27W, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.7/44, mbtmp3.8/9, ML3.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.9/46, Error ellipse: s-maj=38.1km s-min=14.3km az=3.0*

ISCJB **26** *20:23:47.0±0.8, 52°.0N±0°.1×172°.21W±0°.06, h42km±7km, mb3.8/9, Error ellipse: s-maj=21.1km s-min=3.8km az=165.4*

NEIC **26** *20:23:48.0±0.5, 51°.98N×172°.21W, h36km±5km, mb4.1/2, ML3.6(AEIC), Error ellipse: s-maj=12.2km s-min=2.8km az=167.0*

ISC 26 20:23:46.5±2.4, 51°.9N±0°.1×172°.21W±0°.05, h26km±17km, n41, σ0.83/38, mb3.8/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.22**	**288**	**P**	**Pn**	**20 24 08.2**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
KOKL	Mount Kliuchef	1.29	289	P	Pb	20 24 09.8	-0.3
NIKH	Nikolski High	2.31	61	P	Pn	20 24 22.6	-0.3
NIKH				S	Sn	20 24 48.8	-1.6
GSMY	Great Sitkin M	2.38	275	P	Pn	20 24 24.6	+0.8
GSTD	Great Sitkin T	2.44	275	P	Pn	20 24 25.2	+0.5
GSTD				S	Sn	20 24 53.5	-0.1
GSCK	Great Sitkin C	2.45	274	P	Pn	20 24 25.3	+0.6
ADAG	Mount Adagdak	2.72	273	P	Pn	20 24 29.6	+1.1
OKSP	Okmok Steeple	2.74	59	P	Pn	20 24 29.0	+0.2
ADK	Adak	2.77	271	P	Pn	20 24 29.6	+0.5
ADK				S	Sn	20 25 02.2	+0.4
OKFG	Magazine Ridge	3.02	59	P	Pn	20 24 32.2	-0.3
OKFG				S	Sn	20 25 06.5	-1.3
KIKV	Kanaga Island	3.07	271	P	Pn	20 24 34.9	+1.6
TAFP	Tanaga Falls P	3.58	272	P	Pn	20 24 41.6	+1.4
MSOM	Makushin Julie	3.71	57	P	Pn	20 24 42.8	+0.7
MREP	Makushin Rep't	3.82	58	P	Pn	20 24 43.7	+0.1
MSW	Makushin Switc	3.85	57	P	Pn	20 24 44.1	+0.1
MSW				S	Sn	20 25 30.4	+2.1
UNV	Unalaska Valle	3.96	59	P	Pn	20 24 45.3	-0.2
UNV				S	Sn	20 25 31.7	+0.6
AHB	Akutan Harbor	4.45	58	P	Pn	20 24 52.5	+0.4
SPIA	Saint Paul Isl	5.39	11	P	Pn	20 25 05.2	0.0
DTNA	Dutton South F	6.76	57	P	Pn	20 25 24.6	+0.6
FX1	Attu Island--F	9.00	282	Pn	Pn	20 25 53.6	-1.0
	0.6nm,0.3s,baz=107,slow=19,SNR=5.2						
FX1				LR	LR	20 29 03.0	
	comp=Z,79nm,20.0s,baz=104,slow=36						
ILAR	Eielson Array	18.33	36	P	P	20 27 58.0	-0.5
	0.1nm,0.3s,baz=214,slow=11,SNR=8.4						
HYT	Haines Junctio	20.95	51	eP	P	20 28 28.3	+1.0
SEY	Seymchan	21.71	314	P	P	20 28 35.6	+0.4
	0.6nm,0.5s,baz=85,slow=12,SNR=2.3						
NEW	Newport	34.82	74	P	P	20 30 34.7	-0.2
	3.3nm,0.5s,baz=311,slow=5.6,SNR=3.7						
EDM	Edmonton	34.92	64	eP	P	20 30 35.6	-0.2
H11N2	WAKE ISLAND Hy	36.04	215	T	T	21 08 54.9	
	baz=21,slow=76,SNR=29						
H11N3	WAKE ISLAND Hy	36.05	215	T	T	21 08 56.7	
	baz=21,slow=76,SNR=26						
H11N1	WAKE ISLAND Hy	36.06	215	T	T	21 08 58.9	
	baz=21,slow=76,SNR=27						
H11S1	WAKE ISLAND Hy	37.24	214	T	T	21 10 43.0	
	baz=20,slow=76,SNR=34						
H11S2	WAKE ISLAND Hy	37.26	214	T	T	21 10 37.7	
	baz=20,slow=76,SNR=10						
H11S3	WAKE ISLAND Hy	37.26	214	T	T	21 10 29.8	
	baz=20,slow=76,SNR=8.4						
MCMT	McKenzie Canyo	39.09	76	eP	P	20 31 12.3	+0.9
	1.3nm,0.6s						
BW06	Boulder Array	42.21	77	eP	P	20 31 37.9	+0.6
	4.1nm,0.6s						
PDAR	Pinedale Array	42.21	77	P	P	20 31 38.2	+0.9
	4.1nm,0.7s,baz=304,slow=4.0,SNR=30						
TXAR	Lajitas Array	54.52	86	P	P	20 33 12.1	0.0
	0.8nm,0.7s,baz=298,slow=4.3,SNR=8.0						
MKAR	Makanchi Array	62.82	312	P	P	20 34 09.0	-0.6
	0.2nm,0.7s,baz=36,slow=5.4,SNR=3.2						
CMAR	Chiang Mai Arr	75.00	281	P	P	20 35 25.2	-0.4
	0.6nm,0.8s,baz=34,slow=6.6,SNR=4.7						
WRA	Warramunga Arr	85.36	229	P	P	20 36 20.7	-0.6
	0.5nm,0.8s,baz=36,slow=5.5,SNR=2.4						
H03N2	Juan Fernandez	117.40	110	T	T	22 50 39.7	
	baz=316,slow=75,SNR=12						
H03N1	Juan Fernandez	117.42	110	T	T	22 50 41.0	
	baz=316,slow=75,SNR=16						
H03N3	Juan Fernandez	117.42	110	T	T	22 50 42.7	
	baz=316,slow=75,SNR=20						

*KMA **26** 20:30:42.9, 22°.65N, 128°.73E, h10km*

*NIED **26** 20:31:00, 25°.90N, 128°.70E, h32km, Mw7.0 Best double couple: $M_0$3.02000×10^{19} NP1:ϕ_s3.00000°, δ88.00000°, λ180.00000°. NP2:ϕ_s93.00000°, δ90.00000°, λ2.00000°.*

*BJI **26** 20:31:22.6, 25°.86N, 128°.65E, h25km, mB7.0/59, mb6.7/74, Ms7.3/92, Ms7 7.2/84*

*IDC **26** 20:31:23.1±0.4, 25°.99N, 128°.52E, h0km, mb6.0/25, mb1 6.1/30, mb1mx6.1/30, mbtmp6.0/30, ML6.1/4, MS6.9/41, Ms1 6.9/41, ms1mx6.8/46, Error ellipse: s-maj=13.4km s-min=10.2km az=73.0*

*ISCJB **26** 20:31:24.5±0.5, 25°.922N±0°.010, 128°.48E±0°.01, h15km±2km, mb6.6/508, MS7.2/220, Error ellipse: s-maj=2.0km s-min=1.6km az=28.1*

*JMA **26** 20:31:25.9±0.3, 25°.92N, 128°.68E, h37km, M7.2*

*MOS **26** 20:31:25.8±1.1, 26°.00N, 128°.49E, h31km, mb6.8/160, MS7.2/73, Error ellipse: s-maj=6.7km s-min=4.2km az=109.0 Broadband fault plane solution: P waves. $M_0$5.10000×10^{19} NP1:ϕ_s354.00000°, δ90.00000°, λ180.00000°. NP2:ϕ_s84.00000°, δ90.00000°, λ0.00000°. Principal axes: T Plg0.0000°, Azm309.0000°; N Plg90.0000°, Azm0.0000°; P Plg0.0000°, Azm39.0000°;*

*NEIC **26** 20:31:26.0±0.0, 25°.97N, 128°.44E, h22km Best double couple: NP1:ϕ_s0.00000°, δ88.00000°, λ-174.00000°. NP2:ϕ_s270.00000°, δ85.00000°, λ0.00000°. Principal axes: T 3.6000, Plg2.0000°, Azm135.0000°; N -0.4600, Plg84.0000°, Azm17.0000°; P -3.1400, Plg4.0000°, Azm225.0000°;*

*NEIC **26** 20:31:27.0±0.1, 25°.93N, 128°.43E, h25km, mb6.7/279, ME7.4, MS7.0/102, MW7.0, MW6.9, MW7.0, MW6.9(NIED) Error ellipse: s-maj=3.2km s-min=2.7km az=141.0, Moment Tensor Solution. s85 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.31; $M_{\theta\theta}$0.30; $M_{\phi\phi}$0.00; $M_{r\theta}$0.37; $M_{\phi\theta}$3.10; $M_{\phi r}$0.81; Best double couple: $M_0$3.20000×10^{19} NP1: ϕ_s92.00000°, δ76.00000°, λ4.00000°. NP2:ϕ_s1.00000°, δ86.00000°, λ166.00000°. Principal axes: T 3.4400, Plg12.0000°, Azm315.0000°; N -0.4500, Plg75.0000°, Azm166.0000°; P -2.9900, Plg7.0000°, Azm47.0000°; Broadband fault plane solution: P waves. NP1: ϕ_s254.00000°, δ76.00000°, λ-26.00000°. NP2: ϕ_s350.00000°, δ65.00000°, λ-165.00000°. Principal axes: T Plg8.0000°, Azm304.0000°; N Plg0.0000°, Azm0.0000°; P Plg28.0000°, Azm210.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V] on Okinawa. Also felt at Taipei and T'ao-yuan, Taiwan. Recorded [5L JMA] on Okinawa; [4 JMA] in the Kerama-retto and on Kitadaito and Yoron-jima; [3 JMA] on Aguni-jima, Amami-oshima, Ie-jima, Iheya-shima, Izena-shima, Kikaiga-shima, Kume-jima, Minamidaito-jima, Okino-erabu-shima, Tokuno-shima, Tonaki-jima, Uke-jima and Yoro-jima; [2 JMA] on Akuseki-jima, Kareroma-jima, Miyako-jima and Suwanose-jima; [1 JMA] on Iriomote-jima, Ishigaki-jima, Tanega-shima, Tarama-shima and Yaku-shima. Also recorded [1 JMA] in Kagoshima, Kumamoto and Miyazaki, Kyushu.

*SZGRF **26** 20:31:27.2, 26°.18N, 129°.56E, h33km, mb6.7, MS7.9, Ryukyu Islands, Japan*

*GCMT **26** 20:31:27.0±0.1, 25°.86N, 128°.61E, h18km, MW7.0/140, Moment Tensor Solution. s131,c349; s140,c628; Duration: 7s.4 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.75±.01; $M_{\theta\theta}$0.41±.01; $M_{\phi\phi}$0.34±.01; $M_{r\theta}$0.80±.04; $M_{\phi\theta}$3.36±.01; $M_{\phi r}$0.80±.04; Best double couple: $M_0$3.49400×10^{19} NP1:ϕ_s360.00000°, δ81.00000°, λ170.00000°. NP2:ϕ_s91.00000°, δ80.00000°, λ9.00000°. Principal axes: T 4.0050, Plg13.0000°, Azm315.0000°; N -1.0210, Plg77.0000°, Azm136.0000°; P -2.9830, Plg0.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **26** 20:31:41.6±0.0, 25°.96N, 129°.03E, h29km, Moment Tensor Solution. s140 Moment tensor: Scale 10^{19}Nm; M_{rr}-1.02; $M_{\theta\theta}$0.51; $M_{\phi\phi}$0.51; $M_{r\theta}$-0.41; $M_{\phi\theta}$3.29; $M_{\phi r}$0.28; Best double couple: $M_0$3.40000×10^{19} NP1:ϕ_s181.00000°, δ79.00000°, λ-169.00000°. NP2:ϕ_s89.00000°, δ81.00000°, λ-10.00000°. Principal axes: T 3.8000, Plg1.0000°, Azm135.0000°; N -0.9000, Plg75.0000°, Azm229.0000°; P -2.9000, Plg14.0000°, Azm44.0000°;*

ISC 26 20:31:26.9±0.2, 25°.98N±0°.02, 128°.51E±0°.02, h24km±1km, h24km:pP-P, n2357, σ1s.53/2528, mb6.6/526, MS7.2/230, 597C-370D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.69	321	P	Pn	20 31 41.1	0.0
JNTH				eS	Sn	20 31 52.5	+1.5
JJT2	Tamagusuku 2	0.70	283	⇑P	Pn	20 31 42.0	+0.8
JJT2				eS	Sn	20 31 53.3	+2.0
JOW	Kunigami	0.87	346	⇑P	Pn	20 31 43.8	+0.2
JOW				eS	Sn	20 31 55.5	0.0
JOW	Kunigami	0.87	346	Pn	Pb	20 31 43.4	0.0
	13μm,0.3s,baz=139,slow=20						
JOW				Sn	Sn	20 31 55.9	+0.3
	17μm,0.3s,baz=62,slow=17,SNR=26						
JIH	Iheya	1.15	335	⇑P	Pb	20 31 48.2	+0.1
JIH				eS	Sb	20 32 05.6	+2.9
JAGN	Aguni-jima	1.29	298	⇑P	Pb	20 31 50.3	-0.1
JAGN				eS	Sb	20 32 08.1	+1.6
JOKE	Okinoerabujima	1.37	2	P	Pn	20 31 50.5	0.0
JOKE				eS	Sb	20 32 08.7	-0.3
JKE	Kume jima 2	1.58	283	⇑P	Pn	20 31 53.7	+0.3
JKE				eS	Sn	20 32 13.3	+0.2
JTK	Tokunoshima	1.84	12	⇓P	Pn	20 31 56.7	-0.2
JTK				eS	Sn	20 32 19.3	-0.1
JAMN	Amaminishikomi	2.33	15	P	Pn	20 32 03.2	-0.4
JAMN				eS	Sn	20 32 31.4	-0.1
JMZ	Minamidaito 2	2.45	93	⇑P	Pn	20 32 01.9	-3.4
JMZ				eS	Sn	20 32 27.3	-7.2
JAM	Amami Oshima	2.61	22	P	Pn	20 32 06.7	-0.8
JAM				eS	Sn	20 32 38.5	+0.1
JZK	Kikaishima	2.66	29	P	Pn	20 32 07.8	-0.5
JZK				eS	Sn	20 32 39.9	+0.1
JOGS	Gusukube	3.06	247	⇓P	Pn	20 32 13.9	+0.2
JOGS				S	Sn	20 32 49.3	-0.2
JIKM	Ikemajima	3.13	251	P	Pn	20 32 14.6	-0.1
JIKM				S	Sn	20 32 50.4	-0.9
JMJ	Miyako jima 2	3.13	249	⇓P	Pn	20 32 14.7	0.0
JMJ				S	Sn	20 32 50.4	-0.9
JTAJ	Takarajima	3.22	11	P	Pn	20 32 15.3	-0.6
JTAJ				S	Sn	20 32 51.9	-1.5
JIRB	Irabujima	3.23	250	P	Pn	20 32 15.7	-0.3
JIRB				S	Sn	20 32 52.3	-1.4
JTJ	Tarama	3.69	250	⇓P	Pn	20 32 21.8	-0.7
JTJ				S	Sn	20 33 03.2	-2.0
JNN	Nakanoshima	4.03	17	P	Pn	20 32 26.9	-0.2
JNN				S	Sn	20 33 13.4	-0.1
JISG	Ishigakijimahi	4.05	251	P	Pn	20 32 25.9	-1.4
JISG				S	Sn	20 33 10.5	-3.4
JIJ	Ishigaki jima	4.27	249	⇓P	Pn	20 32 29.0	-1.4
JIJ				S	Sn	20 33 15.9	-3.6
JKRS	Kuro-shima	4.43	248	⇓P	Pn	20 32 31.5	-1.1
JKRS				S	Sn	20 33 17.7	-5.8
JYAK	Yakushimahirau	4.59	22	P	Pn	20 32 33.4	-1.4
IRIF	Iriomote-Funau	4.63	250	⇓P	Pn	20 32 33.5	-1.8
HATJ	Hateruma jima	4.68	247	P	Pn	20 32 34.3	-1.7
JKC	Kuchinoerabu	4.70	18	P	Pn	20 32 35.5	-0.8
JTN	Tanegashima 3	5.14	25	P	Pn	20 32 40.9	-1.4
YOJ	Yonaguni jima	5.20	254	⇓iP	Pn	20 32 41.8	-1.4
YOJ	Yonaguni jima	5.20	254	⇓P	Pn	20 32 41.9	-1.3
YOJ	Yonaguni jima	5.20	254	⇓iPn	Pn	20 32 41.8	-1.4
JYNG	Yonagunijimaku	5.26	254	P	Pn	20 32 42.7	-1.3
JTSR	Tashiro 2	5.58	22	P	Pn	20 32 47.8	-0.6
JSU	Suzuyama	5.76	17	P	Pn	20 32 50.0	-0.9
JSJ	Shimokoshiki	5.77	10	P	Pn	20 32 51.7	+0.7
TATO	Taipei	6.42	263	⇓iPn	Pn	20 33 00.8	+0.9
NACB	Ninganchiao	6.52	255	⇓ePn	Pn	20 32 59.2	-2.1
	6μm,0.7s						
YHNB	Yeheng	6.58	260	⇓ePn	Pn	20 33 02.4	+0.1
	10μm,0.9s						
YULB	Yu-li	7.05	250	⇓ePn	Pn	20 33 04.6	-4.0
	2μm,0.4s						
YULB				eSn	Sn	20 34 16.9	-11
SSLB	Suanglung	7.20	254	⇓ePn	Pn	20 33 08.4	-2.3
SSLB				eSn	Sn	20 34 23.1	-8.6
JNU	Nakatsue	7.41	16	Pn	Pn	20 33 13.9	+0.4
	588nm,0.3s,baz=184,slow=2.5,SNR=515						
JNU				Sn	Sn	20 34 35.4	-1.3
	237nm,0.3s,baz=342,slow=20,SNR=2.7						
JNU				LR	LR	20 36 42.9	
	comp=Z,898μm,18.0s,baz=202,slow=43						
KSSGP	Seogwipo	7.46	347	P	Pn	20 33 19.2	+5.0
	SNR=20						
KSSGP	Seogwipo	7.46	347	P	Pn	20 33 19.2	+5.0
	SNR=22						
TWG	Pinlang	7.47	247	⇓ePn	Pn	20 33 10.0	-4.4
	14μm,0.4s						
TWG				eSn	Sn	20 34 30.4	-8.1
KSSSP	Seongsanpo	7.51	350	P	Pn	20 33 18.3	+3.5
	SNR=43						
KSSSP	Seongsanpo	7.51	350	P	Pn	20 33 18.3	+3.5
	SNR=43						
KSGOS	Gosan	7.56	345	P	Pn	20 33 21.0	+5.4
	SNR=13						
KSGOS	Gosan	7.56	345	P	Pn	20 33 21.0	+5.4
	SNR=13						
KSJJU	Jeju	7.61	348	P	Pn	20 33 19.6	+3.2
	SNR=17						
KSJJU	Jeju	7.61	348	P	Pn	20 33 19.6	+3.2
	SNR=17						
TPUB	Ta-pu	7.65	251	⇓ePn	Pn	20 33 14.8	-2.0
	4μm,0.5s						
TPUB				eSn	Sn	20 34 27.3	-15
SSE	Sheshan	8.21	310	P	Pn	20 33 24.3	-0.1
SSE				S	Sn	20 34 56.5	+0.1
SSE				pmax	pmax		
	comp=Z,3μm,1.2s						
SSE				pmax	pmax		
	comp=Z,88μm,10.9s						
SSE				LR	LR		
	comp=N,979μm,15.5s						
SSE				LR	LR		
	comp=E,767μm,15.5s						
SSE				LR	LR		
	comp=Z,1427μm,17.7s						
KSWAN	Wando	8.52	350	P	Pn	20 33 31.6	+2.9
	SNR=54						
KSJDO	Jindo	8.67	348	P	Pn	20 33 35.3	+4.5
	SNR=15						
KSJDO	Jindo	8.67	348	P	Pn	20 33 33.7	+3.0
	SNR=41						
KSHAN	Haenam	8.72	349	P	Pn	20 33 34.4	+2.9
	SNR=63						
KSMOK	Mokpo	8.88	351	P	Pn	20 33 37.0	+3.3
	SNR=183						
QZH	Quanzhou	9.02	266	⇓iP	Pn	20 33 35.0	-0.6
QZH				S	Sn	20 35 12.0	-4.5
QZH				LR	LR		
	comp=N,1765μm,16.2s						
QZH				LR	LR		
	comp=E,1803μm,16.0s						
QZH				LR	LR		
	comp=Z,1889μm,14.5s						
KSHUK	Heuksando	9.06	344	P	Pn	20 33 39.1	+2.9
	SNR=68						
KSKWJ	Gwangju	9.24	352	P	Pn	20 33 41.6	+3.0
	SNR=25						
KSBUS	Busan	9.25	3	P	Pn	20 33 42.2	+3.5
	SNR=28						
KSJEU	Jeongeup	9.57	352	P	Pn	20 33 46.2	+3.0
	SNR=70						
SGCP	Mt. Cagua	9.76	219	eP	Pn	20 33 43.0	-2.7
SGCP				eS	x	20 33 58.6	
KSDAG	Daegu	9.76	2	P	Pn	20 33 48.7	+3.0
	SNR=16						
KSJEO	Jeonju	9.98	354	P	Pn	20 33 53.0	+4.3
	SNR=23						
KSGUS	GUNSAN	10.13	352	P	Pn	20 33 54.7	+3.9
	SNR=82						
KSPHA	Pohang	10.20	4	P	Pn	20 33 55.9	+4.1
	SNR=34						
KSCPR	CHUPUNGNYEONG	10.21	358	P	Pn	20 33 54.7	+2.7
	SNR=211						
NJ2	Nanjing	10.39	308	eP	Pn	20 33 55.5	+1.2
NJ2				S	Sn	20 35 58.3	+8.4
NJ2				pmax	pmax		
	comp=Z,101μm,11.4s						
NJ2				LR	LR		
	comp=N,993μm,17.3s						
NJ2				LR	LR		
	comp=E,817μm,13.1s						
NJ2				LR	LR		
	comp=Z,943μm,12.2s						
KSBON	Boeun	10.50	357	P	Pn	20 33 59.9	+4.0
	SNR=18						
APYP	Conner	10.52	221	eP	Pn	20 33 53.3	-2.9
PIP	Pasuquin	10.56	225	⇓eP	Pn	20 33 54.8	-1.9
KSULJ	Uljin	10.71	4	P	Pn	20 34 02.0	+3.3
	SNR=32						
KSCEA	Cheonan	10.86	355	P	Pn	20 34 05.2	+4.4
	SNR=47						
KSCHJ	Chungju	10.87	358	P	Pn	20 34 05.3	+4.4
	SNR=27						
KSSES	Seosan	10.91	351	P	Pn	20 34 05.6	+4.1
	SNR=11						
CAUP	Cauayan	10.94	216	eP	Pn	20 34 00.2	-1.6
CAUP				eS	x	20 34 26.8	
SIPP	Brgy, Tapao	10.96	225	⇓iP	Pn	20 33 56.8	-5.4
ABRA	Dolores	11.01	223	eP	Pn	20 34 00.4	-2.5
KSTBA	Taebaek	11.11	2	P	Pn	20 34 07.4	+3.1
	SNR=97						
KSYOW	Yeongwol	11.16	360	P	Pn	20 34 08.0	+3.1
	SNR=145						
KSICN	Icheon	11.31	356	P	Pn	20 34 11.4	+4.4
	SNR=104						
KSSWO	Suwon	11.32	354	P	Pn	20 34 11.7	+4.5
	SNR=75						
KSWJU	Wonju	11.39	358	P	Pn	20 34 10.4	+2.3
	SNR=80						
KSAR	Wonju Array Be	11.44	357	P	Pn	20 34 10.3	+1.6
KSAR						20 36 09.8	
KSAR	Wonju Array Be	11.44	357	Pn	Pn	20 34 10.2	+1.6
KSAR				Sn	Sn	20 36 09.8	-5.8
KSAR				PKKKP		21 11 15.4	
KSRS	Korea Array	11.45	358	Pn	Pn	20 34 10.2	+1.5
	8.2nm,0.3s,baz=177,slow=14,SNR=108						
KSRS				Sn	Sn	20 36 09.8	-6.1
	4.8nm,0.3s,baz=193,slow=21,SNR=4.2						
KSRS				LR	LR	20 39 03.2	
	comp=Z,1069μm,18.2s,baz=178,slow=40						
KSRS				P3KP		21 11 15.4	
	0.2nm,0.3s,baz=346,slow=4.6,SNR=6.1						
KSSEO	Seoul	11.55	354	P	Pn	20 34 12.0	+1.8
	SNR=21						
INCN	Inchon	11.57	353	⇑ePn	Pn	20 34 10.6	0.0
KSULL	Ulleungdo	11.63	9	P	Pn	20 34 15.1	+3.7
	SNR=7.1						
KSDGY	Daegwallycong	11.67	1	P	Pn	20 34 16.3	+4.4
	SNR=31						
KSCHC	Chuncheon	11.77	357	P	Pn	20 34 17.5	+4.2
	SNR=20						
KSGAH	Ganghwa	11.82	352	P	Pn	20 34 16.1	+2.3
	SNR=33						
KSJMJ	Jumunjin	11.86	1	P	Pn	20 34 17.5	+3.0
	SNR=77						
KSDDC	Dongducheon	11.94	354	P	Pn	20 34 20.4	+4.8
	SNR=46						
KSMUS	Musan	11.96	353	P	Pn	20 34 19.9	+4.1
	SNR=53						
KSIJA	INJE	11.97	358	P	Pn	20 34 20.1	+4.1
	SNR=61						
BALP	Baler	12.07	214	eP	Pn	20 34 16.4	-1.1
BCPH	Baguio City Da	12.08	219	⇓iP	Pn	20 34 14.6	-3.1
BCPH				iS	Sn	20 36 33.4	+1.6
KSCWO	Cheorwon	12.09	356	P	Pn	20 34 19.0	+1.4
	SNR=89						
YNCB	YEONCHEON	12.10	354	P	Pn	20 34 23.3	+5.6
	SNR=9.9						
JHJ2	Mitsune	12.13	52	⇓ePn	Pn	20 34 17.9	-0.4
SEHB	SEOHWA	12.25	359	P	Pn	20 34 22.9	+3.0
	SNR=6.9						
KSSKC	Sokcho	12.27	0	P	Pn	20 34 22.8	+2.8
	SNR=145						
CBIJ	Chichi jima	12.30	82	ePn	Pn	20 34 16.6	-3.8
CBIJ				eSn	Sn	20 36 17.9	-19
CBIJ				Sn	Sn	20 36 24.4	-12
JCJ	Chichijima	12.30	82	Pn	Pn	20 34 17.9	-2.5
	107nm,0.3s,baz=292,slow=21,SNR=34						
JCJ				Sn	Sn	20 36 24.4	-12
	78nm,0.3s,baz=114,slow=20,SNR=7.1						
JCJ				LR	LR	20 39 16.5	
	comp=Z,242μm,18.1s,baz=246,slow=38						
KSBAR	Backryungdo	12.38	346	P	Pn	20 34 24.8	+3.3
	SNR=86						
BOLP	Bolinao	12.47	222	eP	Pn	20 34 21.0	-1.8
PCPH	Palayan	12.47	215	⇓eP	Pn	20 34 21.9	-1.0
SCZP	Santa Cruz	12.94	220	eP	Pn	20 34 27.7	-1.7
PVCP	Virac	12.98	199	⇓eP	Pn	20 34 28.3	-1.6
PVCP	Virac	12.98	199	eP	Pn	20 34 28.8	-1.1
WHN	Wuhan	13.28	293	⇑iP	Pn	20 34 34.5	+0.7
WHN				S	Sn	20 36 54.3	-6.4
WHN				LR	LR		
	comp=N,1729μm,16.4s						
WHN				LR	LR		
	comp=E,1147μm,13.8s						
WHN				LR	LR		
	comp=Z,1758μm,14.6s						
GQP	Guinayangan	13.30	206	⇓eP	Pn	20 34 32.3	-1.9
GQP				eS	Sn	20 36 54.7	-6.6
MAJO	Matsushiro	13.39	36	d iP	Pn	20 34 33.0	-2.5
MAJO	Matsushiro	13.39	36	⇓ePn	Pn	20 34 32.9	-2.5
MAT	Matsushiro	13.39	36	P	Pn	20 34 33.4	-2.0
MAT				S	Sn	20 37 00.0	-3.5
MJAR	Matsushiro Arr	13.39	36	Pn	Pn	20 34 32.9	-2.5
	17nm,0.3s,baz=229,slow=6.2,SNR=206						
MJAR				P3KP		21 11 05.8	
	0.1nm,0.3s,baz=335,slow=2.2,SNR=6.2						
HKC	Hong Kong Obse	13.59	257	⇓iP	Pn	20 34 36.0	-2.1
AUQP	San Andres	13.74	205	eP	Pn	20 34 41.4	+1.2
TGY	Tagaytay City	13.79	212	Pn	Pn	20 34 40.1	-0.9
	115nm,0.3s,baz=78,slow=3.8,SNR=15						
TGY				LR	LR	20 40 06.8	
	comp=Z,6μm,20.1s,baz=120,slow=38						
TGY	Tagaytay City	13.79	212	⇑eP	P	20 34 45.7	-3.6
TGY				iS	Px	20 34 53.8	
TGY	Tagaytay City	13.79	212	⇓iP	Sn	20 37 12.6	-0.9
CNP	Catarman	13.88	196	eP	Pn	20 34 42.5	+0.3
TIA	Tai'an	14.10	319	⇑P	Pn	20 34 46.3	+1.3
TIA				S	Sn	20 37 19.0	-1.7
TIA				pmax	pmax		
	comp=Z,390nm,2.0s						
TIA				pmax	pmax		
	comp=Z,160μm,11.0s						
TIA				LR	LR		
	comp=N,985μm,15.6s						
TIA				LR	LR		
	comp=E,767μm,13.7s						
TIA				LR	LR		
	comp=Z,1264μm,15.0s						
GZH	Guangzhou	14.10	261	P	Pn	20 34 38.5	-6.6
GZH				S	Sn	20 37 31.0	+10
GZH				LR	LR		
	comp=N,1286μm,14.9s						
GZH				LR	LR		
	comp=E,821μm,15.3s						
DL2	Dalian	14.13	337	P	Pn	20 34 47.3	+1.9
DL2				S	Sn	20 37 29.5	+8.2
DL2				pmax	pmax		
	comp=E,15μm,1.6s						
DL2				pmax	pmax		
	comp=E,104μm,9.2s						
DL2				LR	LR		
	comp=E,447μm,18.0s						
DL2				LR	LR		
	comp=E,850μm,19.2s						
DL2				LR	LR		
	comp=E,589μm,16.0s						
LUBP	Lubang	14.45	214	eP	Pn	20 34 51.7	+1.8
PLP	Palo	15.11	193	⇑eP	Pn	20 34 58.6	-0.3
SJMP	San Jose	15.15	209	eP	Pn	20 35 00.3	+1.0
OCLP	Ormoc	15.30	195	eP	Pn	20 35 03.0	+1.5
RCP	Roxas	15.35	202	⇓eP	Pn	20 35 02.0	0.0
KALP	Kalibo	15.38	203	⇑eP	Pn	20 35 04.1	+1.7
BUSP	Coron	15.96	211	eP	Pn	20 35 10.0	0.0
MSLP	Maasin	16.14	193	eP	P	20 35 13.9	-1.4
LLP	Lapu-Lapu	16.17	196	eP	Pn	20 35 12.1	-0.5
GUIM	Jordan	16.27	201	eP	P	20 35 15.4	-1.4
SNY	Shenyang	16.32	347	⇑P	Pn	20 35 15.0	+0.7
SNY				S	Sn	20 38 13.8	-0.9
SNY				pmax	pmax		
	comp=E,2μm,2.0s						
SNY				pmax	pmax		
	comp=E,160μm,11.8s						
SNY				LR	LR		
	comp=E,677μm,20.1s						
SNY				LR	LR		
	comp=E,1775μm,19.1s						
SNY				LR	LR		
	comp=E,1095μm,16.2s						
SCPH	Surigao	16.37	191	⇓eP	Pn	20 35 14.9	-0.2
ENPP	El Nido	17.02	212	eP	Pn	20 35 23.7	+0.3
BUTP	Butuan	17.14	190	eP	P	20 35 26.8	+0.3
ENH	Enshi	17.31	289	⇑ePn	Pn	20 35 26.6	-0.3
	comp=E,3μm,1.4s						

ENH eSn Sn 20 38 39.0 0.0
VLA Vladivostok 17.32 8αiP P 20 35 27.9 -0.2
VLA iS Sn 20 38 38.1 -0.7
BJT Baijiatuau 17.38 327⇑iP Pn 20 35 28.0 +0.3
BJT pmax pmax
comp=Z,3µm,0.8s
BJT Baijiatuau 17.38 327⇑iPn Pn 20 35 28.0 +0.3
comp=Z,3µm,0.8s
BJI Beijing 17.39 327 P P 20 35 28.5 -0.5
BJI pP pP 20 35 35.5 -0.2
BJI sP sP 20 35 38.5 -0.3
BJI S Sn 20 38 43.5 +2.8
BJI ScS ScS 20 47 15.3 -6.9
BJI pmax pmax
comp=Z,2µm,1.5s
BJI pmax pmax
comp=Z,155µm,8.9s
BJI LR LR
comp=Z,1459µm,19.3s
BJI LR LR
comp=Z,1148µm,17.6s
BJI LR LR
comp=Z,617µm,19.3s
BIPH Bislig 17.82 187⇑eP Pn 20 35 33.0 -0.3
TIY Taiyuan 17.95 315⇑iP P 20 35 36.3 +1.0
TIY S S 20 38 58.0 -2.3
TIY pmax pmax
comp=Z,7µm,1.1s
TIY pmax pmax
comp=Z,112µm,5.7s
TIY LR LR
comp=Z,759µm,13.2s
TIY LR LR
comp=Z,558µm,14.6s
TIY LR LR
comp=Z,1116µm,16.0s
CN2 Changchun 17.95 353 eP Pn 20 35 34.0 -0.7
CN2 epP pP 20 35 40.0 -1.8
CN2 esP sP 20 35 44.3 -0.6
CN2 eS Sn 20 38 53.0 -1.2
BUKP Musuan 18.30 191 eP Pn 20 35 40.8 +1.5
I45RU USSURIYSK INFR 18.39 8 P Pn 20 35 45.5 +5.4
baz=193,slow=13
USRK Ussuriysk Arra 18.39 8 P P 20 35 39.3 -0.7
comp=Z,7.9nm,0.3s,baz=189,slow=8.2,SNR=95
USRK LR LR 20 43 07.5
comp=Z,380µm,19.2s,baz=180,slow=38
USRK P3KPbc 21 10 14.9
comp=Z,0.2nm,0.3s,baz=27,slow=3.5,SNR=2.8
QIZ Qiongzhong 18.57 252 P P 20 35 40.5 -1.7
QIZ pP pP 20 35 47.0 -1.8
QIZ sP sP 20 35 50.0 -2.0
QIZ S Sn 20 39 07.5 -2.1
QIZ sS sS 20 39 19.8 -3.7
QIZ pmax pmax
comp=Z,45µm,9.7s
QIZ LR LR
comp=Z,403µm,21.1s
QIZ LR LR
comp=Z,278µm,21.5s
QIZ LR LR
comp=Z,617µm,23.1s
QIZ Qiongzhong 18.57 252⇓ePn P 20 35 42.1 -0.1
comp=Z,5µm,1.5s
QIZ eS S 20 39 12.2 -0.4
MDJ Mudanjiang 18.61 2 P Pn 20 35 43.0 +0.2
MDJ pP pP 20 35 49.0 -0.1
MDJ sP sP 20 35 51.8 -0.4
MDJ S Sn 20 39 09.0 -1.2
MDJ pmax pmax
comp=Z,22µm,7.1s
MDJ LR LR
comp=Z,304µm,25.4s
MDJ LR LR
comp=Z,614µm,20.4s
MDJ LR LR
comp=Z,330µm,15.8s
MDJ Mudanjiang 18.61 2⇑ePn P 20 35 39.9 -2.6
comp=Z,1µm,1.1s
PAGZ Pagadian 18.69 196 eP Pn 20 35 45.0 +1.1
XAN Xi'an 18.75 300 P P 20 35 44.0 -0.1
XAN pP pP 20 35 50.5 -0.2
XAN PP PnPn 20 35 59.5 +2.6
XAN S Sn 20 39 02.8 -11
XAN pmax pmax
comp=Z,1µm,1.4s
XAN pmax pmax
comp=Z,35µm,14.0s
XAN LR LR
comp=Z,605µm,23.4s
XAN LR LR
comp=Z,66µm,18.2s
XAN LR LR
comp=Z,174µm,16.8s
DAV Davao City (W) 19.02 189⇓ePn P 20 35 46.4 -0.7
comp=Z,6µm,1.3s
MATI Mati 19.05 187 eP P 20 35 47.2 -0.3
GYA Guiyang 19.60 276⇑iP P 20 35 53.8 +0.2
GYA pP pP 20 36 01.8 +1.5
GYA PP PnPn 20 36 12.8 +4.1
GYA S S 20 39 27.0 -6.7
GYA sS Sn 20 39 37.5 +2.9
GYA SS SnSn 20 39 55.0 +6.1
GYA pmax pmax
comp=Z,2µm,1.2s
GYA LR LR
comp=Z,1393µm,22.0s
GYA LR LR
comp=Z,384µm,20.0s
GYA LR LR
comp=Z,515µm,21.0s
GUMO Guam 19.70 126⇑eP P 20 35 54.8 +0.2
GUMO eS Sn 20 39 37.6 +0.8
GUMO pmax pmax
comp=Z,10µm,1.8s
GUMO Guam 19.70 126⇑ePn P 20 35 54.8 +0.2
comp=Z,23µm,1.8s
GUMO eS Sn 20 39 37.6 +0.8
ERM Erimo 20.03 33ciP P 20 35 56.6 -1.4
ERM pmax pmax
comp=Z,2µm,1.0s
ERM Erimo 20.03 33⇑eP P 20 35 55.9 -2.1
ERM LR LR
comp=Z,391µm,19.0s
GSPH General Santos 20.08 190 eP Pn 20 36 02.4 +1.7
HHC Hu-ho-hao-te 20.43 321 eP P 20 36 02.8 +0.3
HHC PP PnPn 20 36 23.5 +3.5
HHC S S 20 39 45.5 -4.8
HHC SS SnSn 20 40 15.3 +6.1
HHC pmax pmax
comp=Z,3µm,1.8s
HHC pmax pmax
comp=Z,116µm,5.8s
HHC LR LR
comp=Z,1388µm,15.9s
HHC LR LR
comp=Z,1065µm,16.1s
HHC LR LR
comp=Z,1357µm,16.9s
BTO Baotou 21.18 318 eP P 20 36 10.3 -0.3
ASAJ Asahikawa 21.40 29 P P 20 36 11.3 -1.4
comp=Z,163nm,0.9s,baz=252,slow=26,SNR=24
ASAJ LR LR 20 44 56.5
comp=Z,450µm,18.7s,baz=236,slow=38
ASAJ Asahikawa 21.40 29 eP P 20 36 09.2 -3.5
comp=Z,2µm,1.3s
ASAJ eS S 20 39 55.6 -14
KDM Kudat 21.99 212 ⇓P P 20 36 20.0 +0.7
CD2 Chengdu 22.29 288⇑iP P 20 36 21.0 -1.5
CD2 pP pP 20 36 27.0 -2.3
CD2 sP sP 20 36 30.5 -1.9
CD2 PP PnPn 20 36 47.8 +2.4
CD2 PcP PcP 20 40 18.0 0.0
CD2 S S 20 40 20.3 -6.3
CD2 SS SnSn 20 40 59.5 +4.9
CD2 pmax pmax
comp=Z,6µm,1.2s
CD2 LR LR
comp=Z,1574µm,20.6s
CD2 LR LR
comp=Z,1006µm,16.6s
CD2 LR LR
comp=Z,884µm,15.2s
SGSI Sangihe 22.36 188 P P 20 36 23.0 -0.2
comp=Z,8µm,1.1s,comp=Z,76µm

YUK Yuzh-Kuril'sk 22.86 34⇓iP P 20 36 28.5 +0.1
YUK iS S 20 40 33.2 -3.2
YUK pmax pmax
comp=Z,35µm,1.5s
YUK pmax pmax
comp=Z,26µm,1.4s
YUK pmax pmax
comp=E,16µm,1.5s
YUK pmax pmax
comp=N,26µm,0.7s
YUK MLR MLR
comp=N,140µm,20.0s
YUK MLR MLR
comp=E,276µm,20.0s
YUK MLR MLR
comp=Z,376µm,20.0s
SDKM Sandakan 22.94 210 ⇑P P 20 36 28.7 -0.8
HABR Khabarovsk 23.03 11ciP P 20 36 26.3 -3.7
HABR i*SP sP 20 36 34.2 -5.7
HABR ePPP PPP 20 36 59.6
HABR eS S 20 40 37.8 -1.4
HABR eSSS SSS 20 41 24.9
HABR e 20 47 39.3
HABR pmax pmax
comp=Z,26µm,5.1s
HABR MLR MLR
comp=Z,519µm,18.0s
HABR MLR MLR
comp=N,357µm,18.0s
HABR MLR MLR
comp=E,313µm,14.0s
KKM Kota Kinabalu 23.05 213⇓eP P 20 36 30.3 -0.3
comp=E,2µm,1.2s
KKM LR LR
comp=Z,310µm,19.0s
KKM Kota Kinabalu 23.05 213 ⇑P P 20 36 30.9 +0.3
KMI Kunming 23.25 274 P P 20 36 33.5 +0.6
KMI pP pP 20 36 41.3 +1.6
KMI sP sP 20 36 45.3 +2.5
KMI S S 20 40 38.3 -5.6
KMI pmax pmax
comp=Z,4µm,1.3s
KMI pmax pmax
comp=Z,68µm,12.5s
KMI LR LR
comp=Z,632µm,19.8s
KMI LR LR
comp=Z,355µm,21.4s
KMI LR LR
comp=Z,442µm,21.7s
KLR Kul'dur 23.34 5 eP P 20 36 25.2 -8.0
KLR eS S 20 40 38.7 -5.8
LZH Lanzhou 23.35 301 ⇑P P 20 36 32.8 -0.9
LZH pP pP 20 36 40.5 -0.1
LZH sP sP 20 36 43.3 -0.4
LZH PP PnPn 20 37 04.0 +4.0
LZH S S 20 40 42.0 -3.3
LZH sS sS 20 40 52.0 -5.1
LZH SS SnSn 20 41 27.0 +6.2
LZH pmax pmax
comp=Z,11µm,1.3s
LZH pmax pmax
comp=Z,41µm,4.0s
LZH LR LR
comp=Z,497µm,15.8s
LZH LR LR
comp=Z,288µm,15.2s
LZH LR LR
comp=Z,588µm,16.8s
YSS Yuzh-Sakhalins 23.79 25κiP P 20 36 38.0 +0.5
YSS e 20 37 12.0
YSS iS S 20 40 51.0 -0.6
YSS pmax pmax
comp=N,8µm,2.0s
YSS pmax pmax
comp=Z,13µm,2.0s
YSS pmax pmax
comp=E,3µm,1.5s
YSS pmax pmax
comp=N,68µm,6.0s
YSS pmax pmax
comp=E,41µm,6.0s
YSS pmax pmax
comp=Z,99µm,6.0s
YSS smax smax
comp=N,381µm,10.0s
YSS MLR MLR
comp=Z,396µm,18.0s
YSS MLR MLR
comp=N,392µm,17.0s
YSS Yuzh-Sakhalins 23.79 25 eP P 20 36 37.1 -0.4
comp=N,18µm,1.1s
UBPT Khong Chiam 24.01 248 P P 20 36 40.5 +0.6
comp=N,5µm,1.5s,comp=N,68µm
HIA Hailar 24.22 346⇑iP P 20 36 38.4 -3.3
HIA pmax pmax
comp=Z,2µm,1.4s
HIA MLR MLR
comp=Z,591µm,19.0s
HIA Hailar 24.22 346⇑iP P 20 36 38.4 -3.3
comp=Z,2µm,1.4s
HIA eS S 20 41 07.2 +8.5
HIA LR LR
comp=Z,591µm,19.0s
KUR Kuril'sk 24.72 34diP P 20 36 47.8 +1.7
KUR i 20 37 20.4
KUR iS S 20 41 10.5 +3.9
KUR pmax pmax
comp=N,2µm,1.0s
KUR pmax pmax
comp=E,2µm,1.0s
KUR pmax pmax
comp=Z,115µm,6.8s
KUR MLR MLR
comp=N,241µm,20.0s
KUR MLR MLR
comp=Z,113µm,20.0s
KUR MLR MLR
comp=E,330µm,20.0s
TNTI Ternate 25.09 183 P P 20 36 49.9 +0.2
comp=E,5µm,1.4s,comp=E,77µmcomp=E,311µm
TNTI Ternate 25.09 183⇓eP P 20 36 48.7 -1.0
comp=E,9µm,1.3s
KMSI Cibinong 25.64 191 P P 20 36 55.0 +0.3
comp=E,4µm,0.8s,comp=E,47µmcomp=E,126µm
TOLI Toli-Toli 25.81 198⇓iP P 20 36 55.7 -0.6
comp=E,3µm,1.1s
MRSI Marisa 26.14 195 P P 20 36 58.7 -0.6
comp=E,1µm,1.3s,comp=E,36µmcomp=E,144µm
CRAI Chiangrai 26.47 263 P P 20 37 02.5 +0.1
comp=E,1µm,1.1s,comp=E,30µm
LBMI Labuha 26.48 182 P P 20 37 02.0 -0.4
comp=E,3µm,1.2s,comp=E,48µmcomp=E,159µm
MPSI Mapaga 26.82 199 P P 20 37 05.5 +0.1
comp=E,945nm,1.1s,comp=E,30µm
SWI Sorong 26.82 174 P P 20 37 04.6 -0.8
comp=E,432nm,1.2s,comp=E,30µmcomp=E,378µm
BTM Bintulu 27.07 216 ⇑P P 20 37 08.4 +0.7
UTTA Uttaradit 27.27 258 P P 20 37 09.7 +1.1
comp=E,280nm,1.1s,comp=E,2µm
PBKT Sadao Pong 27.27 255 P P 20 37 10.5 +1.0
comp=E,819nm,1.4s,comp=E,26µm
LUWI Luwuk 27.43 193 P P 20 37 11.5 +0.6
comp=E,1µm,1.1s,comp=E,39µmcomp=E,162µm
LUWI Luwuk 27.43 193⇓iP P 20 37 07.5 -3.5
comp=E,2µm,1.3s
GTA Gaotai 27.48 306 ⇑P P 20 37 10.8 -0.6
GTA pP pP 20 37 20.0 +1.4
GTA sP sP 20 37 24.3 +2.7
GTA PcP PcP 20 40 28.5 -0.9
GTA S S 20 41 48.8 -2.0
GTA sS sS 20 42 04.5 +1.8
GTA SS SnSn 20 43 08.0 +6.5
GTA pmax pmax
comp=E,2µm,1.9s
GTA pmax pmax
comp=E,32µm,8.1s
GTA LR LR
comp=E,376µm,15.7s
GTA LR LR
comp=E,558µm,17.1s
GTA LR LR
comp=E,709µm,18.0s
APSI Ampana 27.55 195 P P 20 37 12.0 +0.1
comp=E,1µm,1.3s,comp=E,27µmcomp=E,111µm
ULN Ulaanbaatar 27.60 328ciP P 20 37 11.1 -1.3

ULN pmax pmax
comp=Z,1µm,1.7s
ULN MLR MLR
comp=Z,688µm,16.0s
ULN Ulaanbaatar 27.60 328⇑iP P 20 37 10.8 -1.5
comp=Z,4µm,1.4s
LAMP Lampang 27.70 260 P P 20 37 14.7 +1.4
comp=Z,701nm,0.8s,comp=Z,5µm
CMAI Chiengmai2 27.75 264 P P 20 37 15.6 +1.6
comp=Z,695nm,1.4s,comp=Z,25µm
SONM Songino Array 27.89 327 P P 20 37 14.2 -0.8
comp=Z,298nm,0.6s,baz=140,slow=8.9,SNR=71
SONM LR LR 20 49 57.1
comp=Z,638µm,19.4s,baz=134,slow=40
SONM P3KPbc 21 09 40.7
comp=Z,4.1nm,1.1s,baz=299,slow=2.3,SNR=12
CHBT CHBT 27.91 247 P P 20 37 16.2 +0.9
comp=Z,796nm,0.9s,comp=Z,22µm
SANI Sanana 27.98 185 P P 20 37 14.6 -1.2
comp=Z,2µm,1.0s,comp=Z,26µmcomp=Z,199µm
BAKI Biak 28.00 164 P P 20 37 14.8 -1.2
comp=Z,885nm,1.5s,comp=Z,37µm
SBUM Sibu 28.16 216 ⇑P P 20 37 18.0 +0.6
CMMT Chiang Mai 28.20 261 P P 20 37 18.6 +0.7
comp=Z,1µm,0.8s,comp=Z,26µm
CHTO Chiang Mai 28.21 261⇓iP P 20 37 18.9 +1.0
CHTO pmax pmax
comp=Z,593nm,0.8s
CHTO MLR MLR
comp=Z,254µm,20.0s
CHTO Chiang Mai 28.21 261 P P 20 37 18.7 +0.8
comp=Z,5µm,0.8s,comp=Z,101µm
CHTO Chiang Mai 28.21 261⇓iP P 20 37 18.9 +1.0
comp=Z,593nm,0.8s
CHTO LR LR
comp=Z,254µm,20.0s
CM31 Chiang Mai Arr 28.33 261⇓iP P 20 37 20.0 +1.0
comp=Z,263nm,0.7s
CMAR Chiang Mai Arr 28.33 261 P P 20 37 20.0 +1.0
comp=Z,221nm,1.0s,baz=56,slow=7.9,SNR=206
CMAR PcP PcP 20 40 30.9 -0.8
comp=Z,26nm,0.7s,baz=58,slow=0.9,SNR=4.8
CMAR PKiKP PKiKP 20 48 07.5 +0.3
comp=Z,2.4nm,0.8s,baz=319,slow=1.4,SNR=5.6
CMAR LR LR 20 49 50.6
comp=Z,228µm,18.8s,baz=68,slow=39
CMAR P3KPbc 21 09 40.4
comp=Z,4.0nm,1.1s,baz=236,slow=4.0,SNR=8.2
CIT Chita 28.36 340 eP P 20 37 17.9 -1.1
CIT e 20 38 24.2
CIT pmax pmax
comp=Z,2µm,2.0s
SGKI Sangatta, Kali 28.39 203 P P 20 37 14.9 -4.6
comp=Z,3µm,1.4s,comp=Z,65µm
SRPI Serui, Papua 28.68 164 P P 20 37 21.8 -0.3
comp=Z,896nm,1.1s,comp=Z,28µmcomp=Z,222µm
FAKI Fak Fak 28.96 172 P P 20 37 24.3 -0.3
comp=Z,1µm,1.1s,comp=Z,36µmcomp=Z,251µm
FAKI Fak Fak 28.96 172⇓iP P 20 37 23.8 -0.8
comp=Z,1µm,1.0s
FAKI ePcP PcP 20 40 34.5 +1.3
PATY Pattaya 29.05 249 P P 20 37 27.4 +2.0
comp=Z,122nm,1.2s,comp=Z,1µm
NLAI Namlea 29.08 183 P P 20 37 26.3 +0.7
comp=Z,726nm,0.9s,comp=Z,19µmcomp=Z,123µm
MSAI Masohi 29.16 179 P P 20 37 27.1 +0.8
comp=Z,306nm,1.3s,comp=Z,7µmcomp=Z,36µm
BKB Balikpapan 29.32 204 P P 20 37 29.0 +1.3
comp=Z,2µm,1.1s,comp=Z,61µmcomp=Z,316µm
SMPI Sarmi 29.51 159 P P 20 37 29.4 0.0
comp=Z,1µm,1.7s,comp=Z,43µm
MTKI Muara Teweh, K 29.82 208 P P 20 37 33.5 +1.3
comp=Z,1µm,1.0s,comp=Z,37µmcomp=Z,165µm
SRDT SRDT 29.84 253 P P 20 37 33.6 +1.2
comp=Z,2µm,1.5s,comp=Z,60µm
KMPI Kaimana, Papua 29.90 170 P P 20 37 32.8 0.0
comp=Z,1µm,1.1s,comp=Z,29µm
KSM Kuching 30.02 219⇓iP P 20 37 34.8 +0.9
comp=Z,1µm,1.0s
KSM LR LR
comp=Z,121µm,22.0s
KSM Kuching 30.02 219 ⇑P P 20 37 35.3 +1.4
TTSI Tana Toraja 30.06 198 P P 20 37 34.4 +0.1
comp=Z,415nm,1.1s,comp=Z,13µmcomp=Z,103µm
KHLT Khaolaem Dam 30.10 254 P P 20 37 37.2 +2.5
comp=Z,444nm,1.2s,comp=Z,9µm
BNDI Bandanaira 30.36 177 P P 20 37 37.2 +0.3
comp=Z,1µm,1.2s,comp=Z,37µmcomp=Z,202µm
GENI Genyem 30.57 157 P P 20 37 39.7 +0.9
comp=Z,1µm,1.8s,comp=Z,41µmcomp=Z,258µm
JAY Jayapura 30.69 156 P P 20 37 40.5 +0.6
comp=Z,271nm,1.2s,comp=Z,12µm
CLNS Chul'man 30.94 356 eP P 20 37 39.4 -2.3
CLNS e*PP pP 20 37 48.0 -1.0
CLNS ePPP PPP 20 38 48.9
CLNS e 20 40 33.5
CLNS eS S 20 42 43.3 -1.3
CLNS eSSS SSS 20 44 25.6
CLNS pmax pmax
comp=Z,123nm,1.2s
CLNS pmax pmax
comp=E,50nm,1.1s
CLNS pmax pmax
comp=N,145nm,1.1s
CLNS smax smax
comp=N,25µm,11.3s
CLNS smax smax
comp=E,28µm,12.1s
CLNS MLR MLR
comp=Z,231µm,16.0s
CLNS MLR MLR
comp=N,252µm,18.0s
CLNS MLR MLR
comp=E,126µm,13.0s
SPSI Sidrap Palu 30.95 197 P P 20 37 41.7 -0.5
comp=E,187nm,1.3s,comp=E,25µmcomp=E,120µm
ZAK Zakamensk 31.13 328⇓iP P 20 37 40.8 -2.8
ZAK pmax pmax
comp=Z,162nm,1.3s
BNSI Bone 31.28 196 P P 20 37 45.3 +0.2
comp=Z,238nm,1.1s,comp=Z,32µmcomp=Z,164µm
KTGM Kuala Trenggan 31.79 234 ⇓P P 20 37 51.6 +2.0
TLY Talaya 31.85 330ciP P 20 37 48.5 -1.3
TLY e 20 38 51.3
TLY ePPP PPP 20 39 09.0
TLY e 20 40 45.0
TLY eS S 20 42 48.9 -10
TLY pmax pmax
comp=Z,615nm,1.5s
TLY MLR MLR
comp=Z,465µm,15.0s
TLY Talaya 31.85 330⇑iP P 20 37 48.1 -1.7
comp=Z,2µm,1.9s
KAPI Kappang 31.96 197⇓iP P 20 37 48.8 -2.3
comp=Z,3µm,1.4s
KAPI LR LR
comp=Z,253µm,20.0s
IRK Irkutsk 31.97 332⇑iP P 20 37 49.3 -1.6
IRK e 20 39 09.5
IRK pmax pmax
comp=Z,911nm,2.1s
BBKI Banjar Baru 32.13 206 P P 20 37 52.3 -0.2
comp=Z,2µm,1.6s,comp=Z,58µmcomp=Z,188µm
BKSI Bulukumba 32.17 196 P P 20 37 52.4 -0.5
comp=Z,215nm,1.0s,comp=Z,11µmcomp=Z,62µm
SKR Severo-Kuril's 32.48 33⇓iP P 20 37 52.0 -3.3
SKR iPPP PPP 20 38 57.0
SKR iS S 20 43 04.0 -4.6
SKR pmax pmax
comp=E,12µm,6.0s
SKR pmax pmax
comp=Z,20µm,6.0s
SKR pmax pmax
comp=N,13µm,10.0s
SKR pmax pmax
comp=Z,3µm,1.0s
SKR pmax pmax
comp=N,660nm,0.9s
SKR pmax pmax
comp=E,240nm,0.6s
SKR smax smax
comp=N,13µm,4.0s
SKR smax smax
comp=E,10µm,4.0s
SKR smax smax
comp=N,94µm,16.0s
SKR smax smax

comp=E,49µm,10.0s
SKR MLR MLR
comp=N,135µm,18.0s
SKR MLR MLR
comp=Z,202µm,18.0s
SKR MLR MLR
comp=E,144µm,22.0s
PBKI Pangkalan Bun 32.85 212 P P 20 37 59.8 +0.9
comp=E,612nm,1.4s,comp=E,24µmcomp=E,167µm
BSSI Bau Bau, Buton 32.87 195 P P 20 37 59.8 +0.8
comp=E,922nm,1.7s,comp=E,25µm
SURT Suratani 32.89 244 P P 20 38 00.6 +1.3
comp=E,511nm,1.4s,comp=E,10µm
SHL Shillong 32.92 277 eP P 20 38 01.1 +1.4
SHL eS S 20 43 14.0 -2.4
SHL ex x 20 48 27.0
MOY Mondy 33.06 328 eP P 20 37 59.1 -1.5
MOY e 20 48 16.0
MOY pmax pmax
comp=Z,320nm,3.1s
LSA Lhasa 33.15 285 P P 20 38 02.5 +0.5
LSA S S 20 43 10.3 -10
LSA pmax pmax
comp=Z,280nm,2.6s
LSA LR LR
comp=Z,372µm,25.0s
LSA LR LR
comp=Z,311µm,20.3s
LSA LR LR
comp=Z,471µm,17.5s
LSA Lhasa 33.15 285⇑iP P 20 38 01.9 -0.1
LSA pmax pmax
comp=Z,932nm,1.1s
LSA MLR MLR
comp=Z,468µm,20.0s
LSA Lhasa 33.15 285⇑iP P 20 38 01.9 -0.1
comp=Z,932nm,1.1s
LSA LR LR
comp=Z,468µm,20.0s
BOD Bodaibo 33.44 346 eP P 20 38 02.4 -1.2
BOD pmax pmax
comp=Z,227nm,1.5s
PKDT Phuket 33.87 243 P P 20 38 09.2 +1.4
comp=Z,1µm,1.5s,comp=Z,22µm
SAUI Saumlaki 33.87 175 P P 20 38 08.1 +0.3
comp=Z,4µm,1.0s,comp=Z,49µmcomp=Z,241µm
IPM Ipoh 33.91 236⇓iP P 20 38 08.2 0.0
comp=Z,2µm,1.5s
IPM Ipoh 33.91 236 ⇓P P 20 38 09.8 +1.6
KGM Kluang 33.98 230 ⇓P P 20 38 10.3 +1.5
TPRI Tanjung Pinang 33.98 227 P P 20 38 10.1 +1.3
comp=Z,524nm,2.3s,comp=Z,22µmcomp=Z,119µm
FRIM Kepong 34.31 233 ⇓P P 20 38 13.3 +1.7
PEA0B Petropavlovsk- 34.78 31 eP P 20 38 14.7 -0.6
PETK Petropavlovsk- 34.78 31 P P 20 38 15.1 -0.2
PETK pmax pmax
comp=Z,720nm,1.0s
PETK MLR MLR
comp=Z,143µm,18.2s
PETK Petropavlovsk- 34.78 31 P P 20 38 15.1 -0.2
comp=Z,720nm,1.0s,baz=219,slow=7.0,SNR=136
PETK LR LR 20 55 29.3
comp=Z,143µm,18.2s,baz=226,slow=42
MMRI Maumere 34.95 191 P P 20 38 16.4 -0.7
comp=Z,1µm,1.4s,comp=Z,26µmcomp=Z,104µm
MMRI Maumere 34.95 191⇓iP P 20 38 14.6 -2.4
comp=Z,3µm,1.4s
TPI Tanjungpandan 34.98 218 P P 20 38 19.3 +1.9
comp=Z,1µm,2.0s,comp=Z,41µmcomp=Z,151µm
DSRI Dabo 35.01 225 P P 20 38 19.3 +1.6
comp=Z,1µm,1.1s,comp=Z,48µm
PET Petropavlovsk 35.17 32d iP P 20 38 18.8 +0.1
PET e 20 39 37.5
PET iS S 20 43 48.4 -1.9
PET eSS SnSn 20 46 09.5 +1.5
PET pmax pmax
comp=Z,23µm,7.3s
PET pmax pmax
comp=Z,18µm,8.9s
PET pmax pmax
comp=Z,4µm,1.4s
PET pmax pmax
comp=Z,29µm,13.2s
PET pmax pmax
comp=Z,28µm,13.0s
PET smax smax
comp=N,71µm,15.5s
PET smax smax
comp=N,124µm,16.2s
PET MLR MLR
comp=Z,180µm,18.0s
PET MLR MLR
comp=Z,216µm,19.0s
PET Petropavlovsk 35.17 32⇓eP P 20 38 18.2 -0.5
comp=Z,6µm,1.3s
PET eS S 20 43 43.5 -6.8
BWJI Bawean 35.19 208 P P 20 38 20.8 +1.6
comp=Z,728nm,1.2s,comp=Z,10µm
DGPR DIGLIPUR 35.73 256 eP P 20 38 26.0 +2.0
DGPR AMB AMB 20 38 34.9
comp=Z,2µm,0.0s
WAKE Wake Island 35.74 93 eP P 20 38 23.1 -0.8
comp=Z,1µm,1.2s
KMMI Kalianget 35.75 205 P P 20 38 24.4 +0.4
comp=Z,599nm,1.6s,comp=Z,28µmcomp=Z,294µm
SOEI Soe 35.76 187 P P 20 38 22.5 -1.7
comp=Z,1µm,1.1s,comp=Z,19µmcomp=Z,105µm
SOEI Soe 35.76 187⇓iP P 20 38 21.1 -3.1
comp=Z,1µm,1.0s
H11N1 WAKE ISLAND Hy 35.83 92 P P 20 38 24.2 -0.2
baz=269,slow=9.7,SNR=18
H11N1 T T 21 16 40.2
baz=290,slow=74,SNR=8.4
H11N2 WAKE ISLAND Hy 35.83 92 P P 20 38 24.3 -0.1
baz=269,slow=9.7,SNR=19
H11N2 T T 21 16 37.6
baz=290,slow=74,SNR=7.0
H11N3 WAKE ISLAND Hy 35.84 92 P P 20 38 24.4 -0.2
baz=269,slow=9.7,SNR=16
H11N3 T T 21 16 41.3
baz=290,slow=74,SNR=9.0
H11S3 WAKE ISLAND Hy 36.02 94 P P 20 38 26.8 +0.6
H11S3 T T 21 17 11.2
baz=290,slow=75,SNR=5.2
H11S1 WAKE ISLAND Hy 36.03 94 P P 20 38 26.8 +0.6
H11S1 T T 21 17 12.5
baz=290,slow=75,SNR=4.1
H11S2 WAKE ISLAND Hy 36.04 94 P P 20 38 26.9 +0.6
H11S2 T T 21 17 12.5
baz=290,slow=75,SNR=5.6
YAK Yakutsk 36.05 1c iP P 20 38 25.0 -1.0
YAK e*PP pP 20 38 35.9 +2.6
YAK e 20 39 46.1
YAK e 20 40 53.9
YAK eS S 20 43 57.7 -5.8
YAK e*SS sS 20 44 17.7 +2.2
YAK eSS SnSn 20 46 19.7 -9.3
YAK eSSS SSS 20 46 47.3
YAK e 20 48 41.4
YAK pmax pmax
comp=N,10µm,1.5s
YAK pmax pmax
comp=E,2µm,1.5s
YAK pmax pmax
comp=Z,2µm,2.2s
YAK pmax pmax
comp=N,2µm,1.9s
YAK pmax pmax
comp=E,396nm,1.6s
YAK smax smax
comp=E,28µm,6.3s
YAK smax smax
comp=N,34µm,5.2s
YAK MLR MLR
comp=Z,274µm,17.0s
YAK MLR MLR
comp=N,211µm,16.0s
YAK MLR MLR
comp=E,96µm,14.0s
YAK Yakutsk 36.05 1⇑eP P 20 38 24.2 -1.8
comp=E,13µm,1.0s
YAK eS S 20 43 59.3 -4.2
MMPI Merauke 36.14 160 P P 20 38 28.4 +1.1
comp=E,3µm,0.8s,comp=E,68µmcomp=E,261µm
GRJI Gresik 36.22 208 P P 20 38 29.1 +1.1
comp=E,727nm,1.2s,comp=E,8µmcomp=E,4µm
SRBI Singaraja 36.25 203 P P 20 38 27.2 -1.0
comp=E,535nm,1.4s,comp=E,20µm
BATI Baumata 36.28 188 P P 20 38 26.0 -2.6
comp=E,1µm,0.8s,comp=E,14µmcomp=E,3µm
BATI Baumata 36.28 188 LR LR 20 52 15.1
comp=E,135µm,21.6s,baz=20,slow=34
WSI Waingapu 36.33 194 P P 20 38 27.2 -1.7
comp=E,1µm,1.1s,comp=E,32µmcomp=E,192µm
ABJI Asem Bagus 36.33 204 P P 20 38 29.2 +0.2
comp=E,430nm,1.4s,comp=E,29µmcomp=E,106µm
TAPN Taplejung 36.37 281 eP P 20 38 29.1 -0.6
TSI Tuntungan 36.40 237 P P 20 38 30.7 +1.1
comp=E,637nm,2.4s,comp=E,34µm
TBJI Tambak Boyo 36.40 209 P P 20 38 30.8 +1.2
comp=E,3µm,1.4s,comp=E,75µmcomp=E,131µm
UWJI Ujung Watu 36.45 210 P P 20 38 30.9 +0.9
comp=E,2µm,1.3s,comp=E,42µmcomp=E,99µm
HVS Khovu-Aksy 36.48 323c iP P 20 38 29.6 -0.5
HVS pmax pmax
comp=Z,8µm,1.6s
HVS MLR MLR
comp=Z,1292µm,16.0s
WBSI Waikabubak, Su 36.51 195 P P 20 38 29.6 -0.9
comp=Z,812nm,0.8s,comp=Z,29µm
BLJI Banyuglugur 36.53 205 P P 20 38 30.4 -0.2
comp=Z,808nm,0.9s,comp=Z,26µmcomp=Z,86µm
LHMI Lhok Sumawe 36.56 241 P P 20 38 33.6 +2.6
comp=Z,2µm,1.3s,comp=Z,47µmcomp=Z,209µm
LHMI Lhok Sumawe 36.56 241⇓iP P 20 38 32.4 +1.4
comp=Z,3µm,1.3s
PSI Prapat 36.59 236 LR LR 20 53 41.3
comp=Z,108µm,20.5s,baz=56,slow=36
PBA Port Blair 36.59 254 eP P 20 38 32.1 +0.8
ODAN Odare 36.72 281 eP P 20 38 32.1 -0.5
BKNI Bangkinang 36.77 230 P P 20 38 34.1 +1.3
comp=Z,2µm,1.3s,comp=Z,30µmcomp=Z,181µm
BKNI Bangkinang 36.77 230⇓iP P 20 38 33.4 +0.6
comp=Z,3µm,1.4s
PMBI Palembang 36.80 222 P P 20 38 34.7 +1.7
comp=Z,2µm,1.1s,comp=Z,38µmcomp=Z,159µm
DNP Denpasar 36.80 202 P P 20 38 33.7 +0.7
comp=Z,2µm,2.2s,comp=Z,82µmcomp=Z,195µm
BASI Baing, Sumba 36.80 193 P P 20 38 34.7 +1.7
comp=Z,1µm,1.5s,comp=Z,16µm
IGBI Denpasar 36.95 202 P P 20 38 35.0 +0.7
comp=Z,562nm,2.9s,comp=Z,31µmcomp=Z,57µm
JAGI Jajag, Banyuwa 36.98 204 P P 20 38 33.8 -0.7
comp=Z,1µm,1.5s,comp=Z,32µmcomp=Z,123µm
JAGI Jajag, Banyuwa 36.98 204⇓iP P 20 38 31.8 -2.8
comp=Z,2µm,1.4s
KCSI Kotacane, Aceh 36.99 238 P P 20 38 34.5 -0.2
comp=Z,380nm,1.3s,comp=Z,13µmcomp=Z,94µm
NGJI Ngawi 37.06 209 P P 20 38 37.3 +2.1
comp=Z,2µm,1.2s,comp=Z,51µmcomp=Z,199µm
GMJI Gumukmas 37.07 205 P P 20 38 35.7 +0.5
comp=Z,426nm,1.1s,comp=Z,26µmcomp=Z,91µm
SMRI Semarang 37.23 211 P P 20 38 38.2 +1.5
comp=Z,2µm,2.2s,comp=Z,82µmcomp=Z,222µm
SMRI Semarang 37.23 211⇓iP P 20 38 37.3 +0.6
comp=Z,3µm,1.4s
RAMN Ramite 37.41 281 eP P 20 38 37.9 -0.5
SDSI Sungai Dareh 37.42 229 P P 20 38 40.2 +1.9
comp=Z,533nm,1.9s,comp=Z,25µm
WMQ Urumqi 37.46 309 P P 20 38 38.3 -0.2
WMQ pP pP 20 38 44.3 -1.5
WMQ sP sP 20 38 47.3 -1.5
WMQ PP PnPn 20 40 06.3 +1.4
WMQ PcP PcP 20 40 57.5 +0.8
WMQ S S 20 44 25.0 -0.8
WMQ sS sS 20 44 35.0 -2.8
WMQ ScP ScP 20 44 42.3 -0.2
WMQ PcS PcS 20 44 44.5 -0.6
WMQ SS SnSn 20 47 00.3 -3.6
WMQ ScS ScS 20 48 49.0 -1.7
WMQ pmax pmax
comp=Z,3µm,1.2s
WMQ pmax pmax
comp=Z,23µm,4.0s
WMQ LR LR
comp=Z,305µm,18.6s
WMQ LR LR
comp=Z,409µm,16.4s
WMQ LR LR
comp=Z,353µm,20.6s
MNSI Mandailing Nat 37.47 233 P P 20 38 39.6 +0.9
comp=Z,996nm,1.1s,comp=Z,25µmcomp=Z,101µm
JIRN Jiri 37.67 282 eP P 20 38 40.3 -0.5
WOJI Wonogiri, Jawa 37.71 209 P P 20 38 41.4 +0.7
comp=Z,3µm,1.4s,comp=Z,59µmcomp=Z,110µm
JCJI Jatiwangi 37.79 214 P P 20 38 45.0 +3.6
comp=Z,2µm,1.1s,comp=Z,57µmcomp=Z,212µm
GUN Gumba 37.91 283 eP P 20 38 41.9 -0.9
UGM Wanagama 37.96 210 P P 20 38 43.7 +0.9
comp=Z,4µm,1.3s,comp=Z,98µmcomp=Z,170µm
CMBY CAMPBELL BAY 37.96 246 eP P 20 38 44.1 +1.2
PDSI Padang 38.06 230 P P 20 38 45.4 +1.7
comp=Z,460nm,1.1s,comp=Z,17µmcomp=Z,98µm
KPJI Karang Pucung 38.19 213 P P 20 38 45.8 +1.0
comp=Z,2µm,1.6s,comp=Z,57µm
LHSI Lahat 38.27 223 P P 20 38 47.6 +2.2
comp=Z,944nm,3.0s,comp=Z,47µmcomp=Z,125µm
KLI Kotabumi 38.29 220 P P 20 38 47.3 +1.6
comp=Z,1µm,1.2s,comp=Z,31µmcomp=Z,617µm
PKI Pulchoki 38.37 282 eP P 20 38 46.2 -0.5
TNG Tangerang 38.37 217 P P 20 38 47.8 +1.5
comp=Z,3µm,1.7s,comp=Z,83µmcomp=Z,218µm
PKIN Phulchoki 38.38 282 eP P 20 38 46.6 -0.1
MDSI Maura Dua 38.39 221 P P 20 38 47.2 +0.7
comp=Z,970nm,1.1s,comp=Z,33µmcomp=Z,114µm
LEM Lembang 38.41 215 P P 20 38 48.2 +1.4
comp=Z,3µm,1.1s,comp=Z,88µmcomp=Z,256µm
KKN Kakani 38.45 283 eP P 20 38 46.6 -0.6
BLSI Bandar Lampung 38.48 219 P P 20 38 48.5 +1.3
comp=Z,775nm,1.5s,comp=Z,33µmcomp=Z,89µm
MASI Maura Aman, Be 38.54 225 P P 20 38 49.9 +2.1
comp=Z,4µm,1.4s,comp=Z,64µm
GSI Gunungsitoli 38.58 235 P P 20 38 48.4 +0.3
comp=Z,2µm,1.4s,comp=Z,34µm
GSI Gunungsitoli 38.58 235⇓iP P 20 38 47.7 -0.5
comp=Z,3µm,1.3s
GSI eS S 20 44 44.8 +1.7
BOK Bokaro 38.60 276 eP P 20 38 50.3 +2.0
BOK AMB AMB 20 38 58.8
comp=Z,2µm,1.7s
SBJI Serang 38.61 217 P P 20 38 50.0 +1.7
comp=Z,3µm,1.3s,comp=Z,56µm
DMN Daman 38.63 282 eP P 20 38 47.9 -0.9
SNSI Sinabang, Aceh 38.80 238 P P 20 38 51.0 +1.0
comp=Z,963nm,1.8s,comp=Z,28µm
CMJI Cimerak 38.82 213 P P 20 38 48.5 -1.5
comp=Z,641nm,0.9s,comp=Z,21µmcomp=Z,76µm
LWLI Liwa 38.88 221 P P 20 38 51.8 +1.0
comp=Z,894nm,0.8s,comp=Z,19µm
CISI Cisompet, Garu 38.93 214 P P 20 38 50.8 -0.3
comp=Z,2µm,1.3s,comp=Z,34µmcomp=Z,141µm
CISI Cisompet, Garu 38.93 214⇓P P 20 38 49.7 -1.4
comp=Z,3µm,1.2s
CISI ePP PnPn 20 40 24.5 +1.5
GKN Gorkha 38.99 283 eP P 20 38 50.6 -1.1
MNAI Manna 39.03 223 P P 20 38 53.3 +1.4
comp=Z,2µm,2.2s,comp=Z,63µmcomp=Z,175µm
MNAI Manna 39.03 223⇓iP P 20 38 51.8 -0.1
comp=Z,3µm,1.4s
KASI Kota Agung 39.04 220 P P 20 38 51.9 0.0
comp=Z,622nm,1.4s,comp=Z,22µmcomp=Z,99µm
CNJI Cibinong 39.07 215 P P 20 38 51.9 -0.3
comp=Z,1µm,1.2s,comp=Z,25µmcomp=Z,89µm
SKJI Sukabumi 39.12 216 P P 20 38 53.7 +1.1
comp=Z,1µm,1.1s,comp=Z,29µmcomp=Z,82µm
CGJI Cibinong 39.25 218 P P 20 38 52.7 -1.0
comp=Z,1µm,1.3s,comp=Z,20µmcomp=Z,88µm
KRAR Krasnoyarsk 39.52 329c iP P 20 38 54.7 -0.8
KRAR pmax pmax
comp=Z,511nm,1.5s
KRAR MLR MLR
comp=Z,161µm,14.0s
PMG Port Moresby 39.58 150c iP P 20 38 55.4 -1.0
PMG pmax pmax
comp=Z,851nm,2.5s
PMG MLR MLR
comp=Z,90µm,16.0s
PMG Port Moresby 39.58 150 LR LR 20 52 50.7
comp=Z,296µm,22.0s,baz=318,slow=32
PMG Port Moresby 39.58 150⇑eP P 20 38 54.9 -1.5
comp=Z,440nm,1.0s
DANN Dangsing 39.71 284 eP P 20 38 56.9 -0.9
KOLN Koldanda 39.93 283 eP P 20 38 58.7 -0.9
SEY Seymchan 40.18 17 P P 20 39 01.0 +0.1
SEY pmax pmax
comp=Z,373nm,0.9s
SEY MLR MLR
comp=Z,387µm,19.7s
SEY Seymchan 40.18 17 P P 20 39 01.0 +0.1
comp=Z,373nm,0.9s,baz=209,slow=6.8,SNR=111
SEY LR LR 20 55 47.6
comp=Z,387µm,19.7s,baz=213,slow=36
KWAJ Kwajalein Atol 40.84 108 eP P 20 39 07.3 +0.4
KWAJ pmax pmax
comp=Z,971nm,1.5s
KWAJ Kwajalein Atol 40.84 108 eP P 20 39 07.3 +0.4
comp=Z,971nm,1.5s
MK31 Makanchi Array 41.88 312 P P 20 39 14.0 -1.2
MK31 pmax pmax
comp=Z,2µm,1.1s
MKAR Makanchi Array 41.88 312 P P 20 39 14.3 -0.9
comp=Z,203nm,0.5s,baz=94,slow=10,SNR=708
MKAR LR LR 20 58 18.6
comp=Z,153µm,19.8s,baz=94,slow=39
MKAR P3KPbc 21 08 42.2
comp=Z,1.0nm,0.8s,baz=277,slow=3.4,SNR=6.2
MKAR PKPPKP P'P'df 21 11 16.9 -10
comp=Z,1.4nm,0.9s,baz=270,slow=0.5,SNR=3.6
MKAR P4KPbc 21 17 18.9
comp=Z,0.5nm,0.5s,baz=86,slow=5.8,SNR=12
COEN Coen 42.19 159 eP P 20 39 17.5 -0.4
comp=Z,12µm,1.6s
XMIS Christmas Isla 42.52 214⇓iP P 20 39 18.3 -2.4
comp=Z,3µm,1.3s
VIS Vishakhapatnam 42.56 268 iP P 20 39 23.0 +2.0
VIS eP P 20 39 23.2 +2.2
VIS AMB AMB 20 39 27.9
comp=Z,1µm,0.0s
VIS ix S 20 45 44.7 +2.2
ZALV Zalesovo Beam 42.59 323 P P 20 39 19.5 -1.3
comp=Z,249nm,0.6s,baz=110,slow=6.8,SNR=287
ZALV LR LR 20 59 06.0
comp=Z,450µm,19.1s,baz=124,slow=39
ZALV P3KP 21 10 23.1
comp=Z,2.3nm,0.8s,baz=338,slow=3.1,SNR=5.9
ZALV PKPPKP P'P'df 21 11 20.8 -5.7
comp=Z,5.5nm,1.1s,baz=326,slow=4.3,SNR=3.7
ZALV P4KPbc 21 17 18.1
comp=Z,0.7nm,0.6s,baz=94,slow=5.0,SNR=3.8
LGTI Lohaghat 42.63 286 eP P 20 39 25.1 +3.7
PTH Pithoragarh 42.64 286 eP P 20 39 22.2 +0.4
PTH ex x 20 45 19.9
FX1 Attu Island--F 42.73 39 eP P 20 39 22.5 +0.6
FX1 Attu Island--F 42.73 39 eP P 20 39 22.5 +0.6
SMY Shemya 43.20 39 eP P 20 39 25.9 +0.2
SMY pmax pmax
comp=Z,3µm,1.3s
SMY Shemya 43.20 39 eP P 20 39 25.9 +0.2
comp=Z,3µm,1.3s
NVS Novosibirsk 43.79 324⇑iP P 20 39 29.3 -1.2
NVS e 20 41 13.1
NVS eS S 20 45 54.3 -5.3
NVS eSS ScS 20 49 31.6 +3.7
NVS pmax pmax
comp=N,845nm,2.3s
NVS pmax pmax
comp=E,2µm,2.3s
NVS pmax pmax
comp=Z,2µm,2.3s
NVS pmax pmax
comp=N,628nm,2.6s
NVS pmax pmax
comp=E,1µm,2.6s
NVS pmax pmax
comp=Z,1µm,2.6s
NVS smax smax
comp=N,198nm,1.6s
NVS smax smax
comp=E,648nm,1.9s
FITZ Fitzroy Crossi 43.91 184 eP P 20 39 29.6 -2.2
comp=E,682nm,0.8s
DDI Dehra Dun 44.40 288 eP P 20 39 36.7 +0.9
AAA Alma-Ata 45.06 306 eP P 20 39 41.7 +0.8
AAA eS S 20 46 15.2 -3.4
AAA pmax pmax
comp=Z,34µm,9.6s
AAA MLR MLR
comp=Z,301µm,17.0s
SMLA Simla 45.06 289 eP P 20 39 41.7 +0.7
SMLA AMB AMB 20 39 44.4
comp=Z,2µm,1.5s
KURK Kurchatov 45.17 317 P P 20 39 40.7 -0.9
KURK pmax pmax
comp=Z,1µm,1.2s
KURK Kurchatov 45.17 317⇑iP P 20 39 40.5 -1.1
comp=Z,881nm,1.3s
KURK ePP PP 20 41 27.8 +0.5
KURK LR LR
comp=Z,240µm,20.0s
SDNR Sundarnagar 45.19 289 eP P 20 39 43.0 +0.9
SDNR ex S 20 46 19.0 -1.6
NDI New Delhi 45.36 286 eP P 20 39 42.0 -1.4
ULHL Ulahol 45.50 305 P P 20 39 46.1 +1.4
SNR=60
ULHL Ulahol 45.50 305 iP P 20 39 46.0 +1.4
KSH Kashi 45.60 301⇑iP P 20 39 48.5 +3.2
KSH pP pP 20 39 55.8 +3.0
KSH sP sP 20 39 58.5 +2.8
KSH PP PP 20 41 37.0 +4.8
KSH S S 20 46 29.5 +2.9
KSH ScS ScS 20 49 41.5 +1.1
KSH SS SS 20 49 45.0 -5.5
KSH pmax pmax
comp=Z,6µm,2.4s
KSH pmax pmax
comp=Z,11µm,3.2s
KSH LR LR
comp=Z,125µm,21.0s
KSH LR LR
comp=Z,131µm,23.5s
BHK Bhakra 45.67 289 eP P 20 39 46.0 +0.2
BHK ex x 20 41 06.4
DHRM DHARAMSHALA 45.67 291 eP P 20 39 46.4 +0.3
TIXI Tiksi 45.70 0c iP P 20 39 45.2 -0.2
TIXI pmax pmax
comp=Z,2µm,2.5s
TIXI MLR MLR
comp=Z,271µm,16.0s
TIXI Tiksi 45.70 0⇑eP P 20 39 44.7 -0.8
comp=Z,4µm,1.5s
TIXI eS S 20 46 24.7 -2.1
DLH Dalhousie 45.92 291 eP P 20 39 48.0 -0.1
DLH ex x 20 40 05.0
WRAB Tennant Creek 45.99 172d iP P 20 39 47.9 -0.5
WRAB pmax pmax
comp=Z,5µm,2.5s
WRAB MLR MLR
comp=Z,117µm,17.0s
WRAB Tennant Creek 45.99 172⇓iP P 20 39 47.5 -0.8
comp=Z,2µm,1.0s
WRA Warramunga Arr 46.00 172 P P 20 39 47.7 -0.8
comp=Z,236nm,0.6s,baz=350,slow=8.3,SNR=161
WRA S S 20 46 27.3 -4.9
comp=Z,17nm,1.1s,baz=348,slow=15,SNR=7.2
WRA LR LR 20 58 42.0
comp=Z,126µm,20.4s,baz=350,slow=36
WRA PKPPKP P'P'df 21 11 17.1 +6.7
comp=Z,1.0nm,0.3s,baz=174,slow=1.2,SNR=9.1
WRA P4KPbc 21 17 35.5
comp=Z,1.0nm,0.7s,baz=354,slow=5.4,SNR=5.6
TKM2 Tokmak 2 46.02 305 P P 20 39 49.2 +0.5
SNR=337
TKM2 Tokmak 2 46.02 305⇑iP P 20 39 49.0 +0.3
TKM2 Tokmak 2 46.02 305⇑iP P 20 39 49.0 +0.3
KZA Kyzart 46.23 304 P P 20 39 51.6 +1.0
SNR=239
KZA Kyzart 46.23 304 iP P 20 39 51.6 +1.0
BHPL Bhopal 46.29 278 eP P 20 39 50.8 0.0
BHPL AMB AMB 20 39 55.0
comp=Z,821nm,1.1s
KBK Karagaybulak 46.48 305 P P 20 39 52.9 +0.6
SNR=237
HNR Honiara 46.63 135 LR LR 21 01 07.2
comp=Z,42µm,18.2s,baz=316,slow=38
CHMS Chumysh 46.65 306 P P 20 39 53.6 +0.2
SNR=237
CHMS Chumysh 46.65 306 iP P 20 39 53.6 +0.2
FRU Bishkek 46.73 305 eP P 20 39 52.0 -2.1
FRU i 20 50 00.0
FRU pmax pmax

comp=Z,3µm,2.0s
UCH Uchtor 46.78 304 P P 20 39 56.1 +1.1
SNR=750
UCH Uchtor 46.78 304 i P P 20 39 56.1 +1.1
AAK Ala-Archa 46.81 305 P P 20 39 55.2 +0.3
SNR=184
AAK Ala-Archa 46.81 305c iP P 20 39 55.0 +0.1
AAK pmax pmax
comp=Z,2µm,2.5s
AAK MLR MLR
comp=Z,488µm,18.0s
AAK Ala-Archa 46.81 305 P4KPbc 21 17 43.5
comp=Z,1.5nm,0.6s,baz=110,slow=3.4,SNR=7.2
AAK Ala-Archa 46.81 305⇑iP P 20 39 54.5 -0.4
comp=Z,434nm,1.0s
AAK e 21 17 43.5
AAK LR LR
comp=Z,139µm,21.0s
USP Ospenovka 46.84 306 P P 20 39 54.9 -0.1
SNR=174
USP Ospenovka 46.84 306 i P P 20 39 54.9 -0.1
HYB Hyderabad 46.96 270 i P P 20 39 56.0 -0.2
comp=Z,570nm,1.0s
HYB ePP PP 20 41 45.0 -1.8
HYB eS S 20 46 46.0 -0.4
HYB eScS ScS 20 49 48.0 -1.7
HYB eSS SS 20 50 04.0 -9.3
HYB LR LR 21 01 10.0
comp=Z,188nm,22.0s
HYB Hyderabad 46.96 270 eP P 20 39 57.3 +1.1
MDRS Chennai 47.02 264 i P9 P 20 40 02.2 +5.6
MDRS i S S 20 46 53.2 +6.1
EKS2 Erkin-Say 47.34 305 P P 20 40 00.8 +1.8
SNR=167
EKS2 Erkin-Say 47.34 305 i P P 20 40 00.8 +1.8
EKS2 Erkin-Say 47.34 305⇑iP P 20 39 58.5 -0.5
comp=Z,382nm,1.0s
EKS2 LR LR
comp=Z,154µm,19.0s
AML Almayashu 47.39 304 P P 20 40 00.3 +0.7
SNR=254
MBWA Marble Bar 47.63 191⇓iP P 20 39 59.2 -1.9
comp=Z,556nm,1.1s
MBWA LR LR
comp=Z,51µm,20.0s
BILL Bilibino 47.83 18d iP P 20 40 01.8 -0.4
BILL i 20 41 58.5
BILL i S S 20 46 57.4 +0.1
BILL pmax pmax
comp=Z,3µm,1.6s
BILL MLR MLR
comp=Z,209µm,18.0s
BILL Bilibino 47.83 18⇓eP P 20 40 01.6 -0.6
comp=Z,3µm,1.3s
BILL eS S 20 47 01.6 +4.3
BILL LR LR
comp=Z,237µm,20.0s
MIDW Midway 47.90 75 eP P 20 40 04.2 +1.0
comp=Z,2µm,1.3s
AJM Ajmer 48.01 283 ex P 20 40 04.0 -0.3
ADK Adak 48.44 43 eP P 20 40 05.6 -1.5
ADK pmax pmax
comp=Z,651nm,1.2s
ADK MLR MLR
comp=Z,37µm,20.0s
ADK Adak 48.44 43 eP P 20 40 05.5 -1.5
comp=Z,651nm,1.2s
ADK LR LR
comp=Z,37µm,20.0s
COCO West Island 48.89 223 eP P 20 40 11.2 +0.2
COCO pmax pmax
comp=Z,2µm,1.6s
COCO MLR MLR
comp=Z,61µm,22.0s
COCO West Island 48.89 223 eP P 20 40 11.2 +0.2
comp=Z,2µm,1.6s
COCO LR LR
comp=Z,61µm,22.0s
CTA Charters Tower 48.93 158 LR LR 21 01 00.9
comp=Z,54µm,19.6s,slow=36
CTAO Charters Tower 48.93 158 eP P 20 40 10.4 -0.8
CTAO e 20 42 05.5
CTAO pmax pmax
comp=Z,1µm,1.1s
CTAO MLR MLR
comp=Z,88µm,20.0s
CTAO Charters Tower 48.93 158 eP P 20 40 10.4 -0.8
comp=Z,1µm,1.1s
CTAO ePP PP 20 42 05.5 +0.5
CTAO LR LR
comp=Z,88µm,20.0s
PALK Pallekele 49.12 256⇑eP P 20 40 13.8 +0.9
PALK eS S 20 47 20.7 +3.7
PALK pmax pmax
comp=Z,2µm,1.3s
PALK Pallekele 49.12 256⇑eP P 20 40 13.8 +0.9
comp=Z,2µm,1.3s
PALK eS S 20 47 20.7 +3.7
PALK Pallekele 49.12 256 i P P 20 40 14.7 +1.8
SNR=64
TARA Tarawa 49.23 113 eP P 20 40 12.8 -0.9
comp=Z,2µm,1.7s
AS31 Alice Springs 49.63 174⇓iP P 20 40 16.2 -0.3
AS31 eS S 20 47 22.6 -1.1
KK31 Karatay Array 49.76 306 i P P 20 40 17.3 -0.1
KK31 pmax pmax
comp=Z,660nm,1.0s
KKAR Karatay Array 49.76 306 eP P 20 40 17.3 -0.1
KKAR pmax pmax
comp=Z,242nm,0.7s
KKAR Karatay Array 49.76 306 eP P 20 40 17.3 -0.1
comp=Z,242nm,0.7s
VOSK Vostochnaya 50.22 318 P P 20 40 19.5 -1.3
VOSK pmax pmax
comp=Z,806nm,1.4s
BVA0 Borovoye Array 50.62 318 i P P 20 40 23.2 -0.6
BVA0 pmax pmax
comp=Z,808nm,1.0s
BVAR Borovoye Array 50.62 318 PKPPKP P'P'df 21 11 05.0 -11
comp=Z,3.8nm,1.1s,baz=197,slow=3.0,SNR=5.0
BVAR P4KPbc 21 17 56.3
comp=Z,1.9nm,0.7s,baz=104,slow=6.1,SNR=8.4
BRVK Borovoye 50.69 318c iP P 20 40 23.9 -0.4
BRVK pmax pmax
comp=Z,2µm,2.5s
BRVK MLR MLR
comp=Z,213µm,15.0s
BRVK Borovoye 50.69 318⇑iP P 20 40 23.4 -0.9
comp=Z,2µm,1.1s
BRVK eS S 20 47 33.6 -4.3
BRVK LR LR
comp=Z,455µm,20.0s
POO Poona 50.83 273 eP P 20 40 26.5 +0.7
POO ePP PP 20 42 21.5 -0.7
POO i S S 20 47 40.0 -0.8
KAD Karad 50.93 272 eP P 20 40 27.8 +1.2
KAD ex x 20 47 38.7
KBL Kabul 51.43 295⇑iP P 20 40 30.4 -0.1
KBL eS S 20 47 41.5 -7.7
KBL pmax pmax
comp=Z,4µm,1.2s
KBL Kabul 51.43 295⇑iP P 20 40 30.4 -0.1
comp=Z,4µm,1.2s
KBL eS S 20 47 41.5 -7.7
TRD Trivandrum 51.85 260 eP P 20 40 35.1 +1.6
TRD AMB AMB 20 40 43.2
comp=Z,675nm,0.4s
GOA Goa 51.88 270 eP P 20 40 35.3 +1.6
MNGI Mangalore 51.93 266 eP9 P 20 40 27.8 -6.3
MNGI eS S 20 47 48.9 -7.1
MNGI eS S 20 47 49.9 -6.1
BHJ Bhuj 53.19 281 eP P 20 40 44.9 +1.6
BHJ AMB AMB 20 40 48.6
comp=Z,2µm,0.7s
GAMB Gambell 53.73 28⇓eP P 20 40 44.7 -1.9
comp=Z,4µm,0.6s
UNV Unalaska Valle 54.80 41 eP P 20 40 55.5 +1.0
comp=Z,253nm,1.1s
AKUT Akutan 55.24 41 eP P 20 40 58.6 +0.9
comp=Z,510nm,1.0s
EIDS Eidsvold 55.51 155 eP P 20 40 58.9 -1.1
comp=Z,552nm,1.3s
TNA Tin City 55.74 27 eP P 20 41 02.0 +0.8
comp=Z,393nm,0.6s
TNA ePP PP 20 43 04.3 -1.2
FORT Forrest 56.45 180⇓eP P 20 41 05.4 -1.2
comp=Z,2µm,1.0s
SVE Sverdlovsk 56.61 322d iP P 20 41 07.6 0.0
SVE e 20 43 16.9
SVE ePPP PPP 20 44 27.8
SVE eS S 20 48 57.6 -0.4
SVE pmax pmax
comp=Z,1µm,1.2s
SVE pmax pmax
comp=Z,21µm,19.7s
SVE MLR MLR
comp=Z,533µm,15.0s
SVE MLR MLR
comp=E,313µm,14.0s
FALS False Pass 56.64 40 eP P 20 41 09.4 +1.6
comp=E,213nm,1.2s
AB31 Akbulak array 57.00 313 i P P 20 41 10.3 -0.1
AB31 pmax pmax
comp=Z,487nm,0.6s
ABKAR Akbulak array 57.00 313⇑iP P 20 41 09.9 -0.5
comp=Z,0.5nm,0.3s
ABKAR eS S 20 48 57.6 -5.8
ARU Arti 57.74 322 P P 20 41 15.3 -0.3
comp=Z,4µm,1.0s
ARU Arti 57.74 322c iP P 20 41 14.8 -0.8
ARU e 20 42 09.6
ARU 20 43 23.5
ARU PPP PPP 20 44 42.2
ARU S S 20 49 13.3 +0.4
ARU 20 51 04.3
ARU SS SS 20 53 03.7 +0.6
ARU pmax pmax
comp=Z,2µm,2.5s
ARU pmax pmax
comp=Z,13µm,13.6s
ARU MLR MLR
comp=Z,730µm,18.0s
ARU Arti 57.74 322⇑iP P 20 41 14.7 -0.9
comp=Z,916nm,1.1s
ARU LR LR
comp=Z,693µm,19.0s
AKTO Aktyubinsk 58.18 315 LR LR 21 07 09.2
comp=Z,103µm,20.8s,baz=93,slow=37
AKTO P4KPbc 21 18 30.3
comp=Z,5.6nm,1.0s,baz=104,slow=6.5,SNR=6.2
SDPT Sand Point 58.34 39⇓eP P 20 41 17.3 -2.5
comp=Z,452nm,0.8s
IMYA Miami 58.36 298 eP P 20 41 22.0 +1.5
SOKR Solikamsk 58.75 326c iP P 20 41 22.4 -0.1
SOKR e 20 41 35.3
SOKR PPP PPP 20 44 59.0
SOKR S S 20 49 21.5 -4.4
SOKR 20 51 09.9
SOKR SS SS 20 53 23.8 +5.1
SOKR pmax pmax
comp=Z,890nm,2.0s
SOKR MLR MLR
comp=Z,405µm,18.0s
STKA Stephens Creek 58.88 167 P P 20 41 23.4 -0.4
comp=Z,37nm,0.4s,baz=352,slow=6.6,SNR=139
STKA LR LR 21 07 01.5
comp=Z,84µm,19.8s,baz=337,slow=36
STKA PKP2ab 21 11 22.7
comp=Z,9.5nm,0.9s,baz=16,slow=1.1,SNR=6.7
STKA Stephens Creek 58.88 167⇓iP P 20 41 23.1 -0.6
comp=Z,0.8nm,0.7s
STKA P'P'ab P'P'ab 21 11 22.7 +5.8
BBOO Buckleboo 58.91 173⇓iP P 20 41 23.4 -0.5
comp=Z,12µm,1.1s
IMOG Moghan 59.01 298 eP P 20 41 26.8 +1.6
IPAY Payeh 59.22 298 eP P 20 41 27.6 +1.1
IDAH Dahanechah 59.28 294 eP P 20 41 28.1 +1.1
IEMG Emamgholi 59.31 300 eP P 20 41 28.3 +1.1
IAKL Akhelmad 59.38 299 eP P 20 41 29.1 +1.4
IKRD Kardeh 59.54 299 eP P 20 41 25.1 -3.7
ABKT Alibek 59.63 300 P P 20 41 30.9 +1.8
comp=Z,6µm,0.8s
GEYT Alibeck 59.63 300 P P 20 41 30.2 +1.1
comp=Z,374nm,0.6s,baz=50,slow=2.3,SNR=346
GEYT PKPPKP P'P'df 21 10 55.4 -6.8
comp=Z,0.3nm,0.3s,baz=290,slow=4.3,SNR=8.8
GEYT LR LR 21 11 30.8
comp=Z,195µm,20.0s,baz=85,slow=40
ISFR Sfrayin 59.89 299 eP P 20 41 32.8 +1.6
ISHV Shirvan 60.03 300 eP P 20 41 35.3 +3.2
IKOO Kooshah 60.06 294 eP P 20 41 34.5 +2.0
ITEG Tejag 60.16 294 eP P 20 41 34.9 +1.8
NOUC Port Laguerre 60.23 139 eP P 20 41 34.0 +0.8
DZM Mont Dzumac 60.28 139 eP P 20 41 34.7 +1.0
comp=Z,2µm,1.4s
DZM eS S 20 49 48.4 +1.6
comp=Z,320µm,29.9s
DZM eLR LR 20 59 29.6
comp=Z,204µm,22.4s
DZM Mont Dzumac 60.28 139 LR LR 21 03 31.5
comp=Z,73µm,20.9s,baz=324,slow=32
DZM Mont Dzumac 60.28 139 eP P 20 41 34.5 +0.7
comp=Z,840nm,1.3s
ARMA Armidale 60.30 157 eP P 20 41 33.8 +0.2
comp=Z,854nm,1.4s
IM04 Indian Mountai 61.58 27 eP P 20 41 42.6 +0.7
RSO Redoubt South 62.25 33 eP P 20 41 47.3 +0.5
comp=Z,1µm,1.1s
PPLA Purkeypile 62.36 31 eP P 20 41 48.4 +1.0
comp=Z,7µm,1.5s
KDAK Kodiak Island 62.57 36 i P P 20 41 49.0 +0.4
KDAK Kodiak Island 62.57 36 eP P 20 41 47.9 -0.7
comp=Z,4µm,1.4s
KDAK LR LR
comp=Z,102µm,20.0s
WBK Wadi Bani Khal 62.78 283 P P 20 41 52.4 +1.7
SNR=74
KTH Kantishna Hill 62.89 30 eP P 20 41 51.4 +0.6
comp=Z,1µm,1.2s
KTH ePP PP 20 44 07.6 -1.4
COLD Coldfoot 62.97 26 eP P 20 41 51.7 +0.6
comp=Z,15µm,0.6s
IBAF Bafgh 63.10 294 eP P 20 41 53.9 +1.1
TRF Thorofare Moun 63.19 30 eP P 20 41 53.0 +0.1
comp=Z,19nm,1.2s
IGLO Ghaloghah 63.27 300 eP P 20 41 55.4 +1.4
IBND Bandar-abas 63.42 289 eP P 20 41 56.0 +1.2
IBND eP P 20 41 56.7 +1.8
SMDO Samad 63.45 284 P P 20 41 56.9 +1.7
SNR=77
IANJ Anjilo 63.45 298 eP P 20 41 56.4 +1.1
JMDO Jabal Madar 63.62 283 P P 20 41 57.1 +0.9
SNR=68
JMDO P P 20 41 57.7 +1.5
SNR=76
RC01 Rabbit Creek A 63.67 32 eP P 20 41 55.1 -0.8
comp=Z,3µm,1.4s
DGAR Diego Garcia 63.73 247d iP P 20 41 56.8 -0.2
DGAR Diego Garcia 63.73 247 eP P 20 41 56.5 -0.5
comp=Z,681nm,1.1s
DGAR LR LR
comp=Z,109µm,22.0s
MCK McKinley 63.76 29 eP P 20 41 56.0 -0.5
MCK pmax pmax
comp=Z,3µm,1.3s
MCK McKinley 63.76 29 eP P 20 41 56.0 -0.5
comp=Z,3µm,1.3s
ICHK Chekchek 63.88 295 eP P 20 41 59.1 +1.0
PMR Palmer 63.90 32 eP P 20 41 56.8 -0.6
PMR eS S 20 50 32.6 +1.3
PMR pmax pmax
comp=Z,2µm,1.3s
PMR Palmer 63.90 32 eP P 20 41 56.8 -0.6
comp=Z,2µm,1.3s
PMR eS S 20 50 32.6 +1.3
SEW Seward 63.92 34 eP P 20 41 57.5 0.0
comp=Z,3µm,1.3s
HOQ Hoqain 63.93 285 P P 20 41 59.4 +1.2
SNR=137
IMEH Mehriz 63.94 294 eP P 20 41 58.6 +0.1
CAN Canberra 63.98 161 eP P 20 41 58.9 +0.7
CAN pmax pmax
comp=Z,1µm,1.5s
CAN MLR MLR
comp=Z,108µm,19.0s
CAN Canberra 63.98 161 eP P 20 41 58.9 +0.7
comp=Z,1µm,1.5s
CAN LR LR
comp=Z,108µm,19.0s
BANOM Banah 64.08 288 P P 20 42 02.0 +2.7
SNR=21
BANOM P P 20 42 02.2 +2.9
SNR=11
COLA College 64.11 28 eP P 20 41 59.0 +0.3
COLA e 20 44 25.5
COLA eS S 20 50 34.8 +1.0
COLA pmax pmax
comp=Z,392nm,0.8s
COLA MLR MLR
comp=Z,72µm,20.0s
COLA College 64.11 28 eP P 20 41 59.0 +0.3
comp=Z,392nm,0.8s
COLA ePP PP 20 44 25.5 +6.0
COLA eS S 20 50 34.8 +1.0
COLA ePKKPdf PKKPdf 21 02 33.2 +2.4
COLA LR LR
comp=Z,72µm,20.0s
PRGR Permogore 64.14 328⇑iP P 20 41 58.7 -0.3
PRGR *PP pP 20 42 03.8 -2.8
PRGR 20 42 34.3
PRGR 20 44 19.1
PRGR PPP PPP 20 45 49.4
PRGR i S S 20 50 34.5 +0.2
PRGR i 20 51 51.3
PRGR pmax pmax
comp=Z,852nm,1.4s
IALA Alasht 64.17 299 eP P 20 42 02.6 +2.6
ILAS Lasjerd 64.23 299 eP P 20 42 01.8 +1.4
IFIR Firoozkooh 64.33 299 eP P 20 42 03.0 +2.0
IPRN Peran 64.50 300 eP P 20 42 03.6 +1.6
ILAR Eielson Array 64.53 28 P P 20 42 00.6 -0.9
comp=Z,39nm,0.7s,baz=272,slow=3.2,SNR=181
ILAR S S 20 50 47.3 +8.2
comp=Z,2.1nm,1.0s,baz=287,slow=9.3,SNR=2.3
ILAR PKPPKP P'P'df 21 10 47.6 -6.9
comp=Z,0.8nm,0.8s,baz=134,slow=4.1,SNR=4.3
ILAR LR LR 21 13 17.3
comp=Z,71µm,18.8s,baz=298,slow=39
ISAD Sadrabad 64.56 295 eP P 20 42 04.4 +1.8
HATD Hatta, Dubai 64.56 286⇓iP P 20 42 03.9 +1.6
SNR=70
ASHO Ashiyiah 64.67 286 P P 20 42 04.8 +1.7
SNR=117
ASHO P P 20 42 05.0 +1.9
SNR=48
ARQ Araqi 64.69 285 P P 20 42 04.2 +0.9
SNR=79
ARQ P P 20 42 04.2 +0.9
SNR=106
MSVF Nonsavu 64.87 127 eP P 20 42 05.0 +0.6
MSVF pmax pmax
comp=Z,914nm,1.3s
MSVF MLR MLR
comp=Z,84µm,19.0s
MSVF Nonsavu 64.87 127 eP P 20 42 05.0 +0.6
comp=Z,914nm,1.3s
MSVF LR LR
comp=Z,84µm,19.0s
IDMV Damavand 64.91 299 eP P 20 42 05.9 +1.0
NAZ Nazwa, Dubai 64.92 287⇑iP P 20 42 05.9 +1.3
SNR=53
FAQ Al Faqa, Dubai 65.05 287⇓iP P 20 42 06.5 +0.9
SNR=87
IVRN Varamin 65.31 298 eP P 20 42 08.2 +1.0
ASUD Al Ashush, Dub 65.31 287⇓iP P 20 42 08.9 +1.6
SNR=28
IZEF Zefreh 65.39 296 eP P 20 42 08.9 +0.9
PAX Paxson 65.41 30 eP P 20 42 07.4 0.0
PAX pmax pmax
comp=Z,1µm,0.7s
PAX Paxson 65.41 30 eP P 20 42 07.4 0.0
comp=Z,1µm,0.7s
DIV Divide 65.57 32 eP P 20 42 08.5 +0.1
comp=Z,3µm,1.4s
MID Middleton Isla 65.58 34 eP P 20 42 10.1 +1.7
MID pmax pmax
comp=Z,2µm,1.4s
MID Middleton Isla 65.58 34 eP P 20 42 10.1 +1.7
comp=Z,2µm,1.4s
IGAR Gharneh 65.76 296 eP P 20 42 12.4 +2.1
IKLH Kolahrood 65.88 297 eP P 20 42 12.4 +1.3
DOT Dot Lake 65.92 29 eP P 20 42 10.0 -0.6
comp=Z,64nm,1.5s
IMHD Mahdasht 65.96 299 eP P 20 42 13.9 +2.5
IGZV Ghazvin 66.12 300 eP P 20 42 14.0 +1.4
BMRM Bremner River 66.16 32 eP P 20 42 12.0 -0.1
comp=Z,2µm,0.5s
MENT Mentasta 66.20 30 eP P 20 42 13.3 +0.9
MENT eS S 20 51 05.3 +5.6
MAK Makhachkala 66.47 308 eP P 20 42 12.3 -2.1
MAK e 20 42 26.9
MAK e 20 44 42.5
MAK ePPP PPP 20 46 16.3
MAK eS S 20 51 01.6 -1.9
MAK e 20 52 06.5
MAK eSS SS 20 55 20.8 +0.7
MAK pmax pmax
comp=Z,6µm,2.8s
MAK pmax pmax
comp=N,1µm,6.3s
MAK pmax pmax
comp=Z,7µm,8.4s
MAK pmax pmax
comp=E,1µm,6.0s
MAK MLR MLR
comp=N,181µm,15.0s
MAK MLR MLR
comp=Z,230µm,18.0s
MAK MLR MLR
comp=E,241µm,17.0s
IRAZ Razeghan 66.61 299 eP P 20 42 16.9 +1.1
KIP Kipapa 66.63 77⇓eP P 20 42 17.4 +1.7
KIP pmax pmax
comp=Z,1µm,1.7s
KIP MLR MLR
comp=Z,35µm,20.0s
KIP Kipapa 66.63 77 eP P 20 42 16.3 +0.5
comp=Z,872nm,1.4s
KIP LR LR
comp=Z,99µm,21.0s
HON Honolulu 66.67 77 eP P 20 42 17.5 +1.5
HON Honolulu 66.67 77 eP P 20 42 17.4 +1.5
EGAK Eagle 66.95 28 eP P 20 42 17.3 +0.2
comp=Z,198nm,1.0s
EGAK eS S 20 50 52.8 -16
EGAK LR LR
comp=Z,82µm,20.0s
TMCR Tamitsa 67.14 332 eP P 20 42 18.8 +0.5
TMCR eS S 20 51 12.8 +1.9
TMCR pmax pmax
comp=Z,3µm,1.4s
KLMR Klimovskoe 67.19 328c iP P 20 42 18.5 -0.1
KLMR i 20 44 44.8
KLMR eS S 20 51 10.4 -1.1
KLMR pmax pmax
comp=Z,5µm,2.3s
KLMR pmax pmax
comp=Z,2µm,1.5s
LVZ Lovozero 67.64 336 P P 20 42 21.0 -0.5
comp=Z,3µm,1.1s,SNR=13
LVZ Lovozero 67.64 336c iP P 20 42 21.4 -0.1
LVZ pmax pmax
comp=Z,2µm,2.5s
LVZ MLR MLR
comp=Z,174µm,17.0s
LVZ Lovozero 67.64 336⇑iP P 20 42 20.9 -0.6
comp=Z,740nm,1.2s
LVZ LR LR
comp=Z,170µm,20.0s
ISRB Sarab 67.69 302 eP P 20 42 24.2 +1.6
HOPEN Hopen 68.02 346⇑iP P 20 42 24.4 +0.7
HOPEN IAmb IAmb 20 42 41.4
comp=Z,1µm,1.1s
HOPEN IVmB_BB 20 42 42.6
comp=Z,22µm,6.1s
HOPEN eS S 20 51 21.2 +0.1
HOPEN IVMs_BB IVMs_BB 21 16 17.8
comp=Z,106µm,17.1s
IHRS Heris 68.03 303 eP P 20 42 26.3 +1.6
APA Apatity 68.18 336⇓iP P 20 42 25.2 +0.4
APA i S S 20 51 20.0 -3.3
APA i 20 52 08.0
APA MLR MLR
comp=Z,287µm,17.0s
VRHR Novokhopersk 68.34 317 eP P 20 42 25.7 -0.4
VRHR eS S 20 51 23.8 -1.9
VRHR pmax pmax

comp=E,650nm,1.0s
VRHR pmax pmax
comp=Z,950nm,1.0s
VRHR pmax pmax
comp=N,290nm,0.8s
VRHR smax smax
comp=E,20μm,8.3s
VRHR smax smax
comp=Z,9μm,8.6s
VRHR smax smax
comp=N,3μm,5.3s
VRHR MLR MLR
comp=Z,150μm,21.0s
VRHR MLR MLR
comp=N,117μm,17.0s
VRHR MLR MLR
comp=E,113μm,16.0s
DGRG David-gareji 68.39 307 P P 20 42 28.3 +1.6
IBZA Bozab 68.51 299 eP P 20 42 29.2 +1.4
DUS Dusheti 68.70 307 P P 20 42 30.6 +1.9
ITBZ Tabriz 68.73 303 eP P 20 42 30.3 +1.3
RBK Rabkut 68.74 280 P P 20 42 30.4 +1.2
SNR=92
TBLG Delisi 68.77 307 eP P 20 42 29.9 +0.9
TBLG Delisi 68.77 307 P P 20 42 30.0 +1.0
IKOM Komasi 68.88 299 eP P 20 42 31.6 +1.7
IMRD Marand 68.92 304 eP P 20 42 31.7 +1.5
GOF Gofitskoye 69.03 311 eP P 20 42 31.2 +0.7
GOF eS **S 20 51 33.9 -0.2**
GOF pmax pmax
comp=Z,2μm,1.3s
GOF smax smax
comp=N,280nm,1.5s
GOF smax smax
comp=E,280nm,1.5s
ZEI Tsey 69.07 308⇑iP P 20 42 31.3 +0.2
ZEI eS **S 20 51 35.8 +0.7**
ZEI pmax pmax
comp=Z,2μm,1.4s
ZEI pmax pmax
comp=N,2μm,1.4s
ZEI pmax pmax
comp=E,2μm,1.0s
ZEI pmax pmax
comp=Z,4μm,6.6s
ZEI smax smax
comp=E,1μm,5.6s
ZEI smax smax
comp=N,3μm,8.8s
ZEI MLR MLR
comp=N,145μm,19.0s
ZEI MLR MLR
comp=E,103μm,17.0s
ZEI MLR MLR
comp=Z,129μm,17.0s
ILIN Lien 69.08 300 eP P 20 42 32.5 +1.2
NCK Nalchik 69.09 309c iP P 20 42 31.6 +0.7
SPA0 Spitsbergen Ar 69.12 348⇑iP P 20 42 30.2 -0.3
SPA0 IAmb IAmb 20 42 32.5
comp=Z,4μm,1.8s
SPA0 eS **S 20 51 35.9 +1.7**
GNI Garni 69.22 305 eP P 20 42 34.0 +2.0
GNI Garni 69.22 305⇑iP P 20 42 33.6 +1.6
GNI pmax pmax
comp=Z,3μm,1.7s
GNI MLR MLR
comp=Z,169μm,19.0s
GNI Garni 69.22 305 PKPPKP P'P'bc 21 10 38.5 -7.9
comp=Z,1.7nm,0.4s,baz=144,slow=4.9,SNR=8.7
GNI LR LR 21 15 60.0
comp=Z,61μm,19.2s,baz=76,slow=39
GNI Garni 69.22 305⇑iP P 20 42 33.0 +0.9
comp=Z,2μm,1.3s
GNI eS **S 20 51 40.4 +3.5**
GNI P'P' 21 10 38.5
GNI Garni 69.22 305 i P P 20 42 33.8 +1.8
SNR=402
POHA Pohakuloa 69.39 77 eP P 20 42 34.2 +0.8
comp=Z,915nm,1.0s
MOS Moscow 69.42 323 eP P 20 42 29.5 -3.2
MOS e 20 42 49.6
MOS ePPP PPP 20 46 44.0
MOS i S **S 20 51 37.3 -1.0**
MOS e 20 52 27.6
MOS eSS **SS 20 56 08.4 +3.3**
MOS pmax pmax
comp=Z,10μm,3.0s
MOS pmax pmax
comp=N,3μm,3.3s
MOS pmax pmax
comp=E,7μm,4.0s
MOS pmax pmax
comp=Z,3μm,1.4s
MOS pmax pmax
comp=N,675nm,1.2s
MOS pmax pmax
comp=E,643nm,1.2s
MOS smax smax
comp=E,25μm,6.9s
MOS smax smax
comp=N,5μm,4.3s
MOS MLR MLR
comp=N,190μm,19.0s
MOS MLR MLR
comp=E,500μm,19.0s
MOS MLR MLR
comp=Z,570μm,19.0s
ONI Oni 69.44 308 P P 20 42 34.9 +1.7
KBZ Khabaz 69.51 309 P P 20 42 34.4 +0.9
comp=Z,966nm,0.9s,baz=86,slow=4.4,SNR=752
KBZ S **S 20 51 42.0 +2.3**
comp=Z,10nm,1.1s,baz=239,slow=23,SNR=13
KBZ PKP2bc 21 10 38.5
comp=Z,4.0nm,1.1s,baz=164,slow=2.1,SNR=4.6
KBZ LR LR 21 16 28.4
comp=Z,194μm,20.4s,baz=97,slow=39
KBS Kingsbay 69.53 349⇑eP P 20 42 32.0 -1.0
KBS eS **S 20 51 40.2 +1.2**
KBS pmax pmax
comp=Z,402nm,1.0s
KBS MLR MLR
comp=Z,247μm,20.0s
KBS Kingsbay 69.53 349⇑iP P 20 42 32.3 -0.7
KBS IVmB_BB 20 42 50.0
comp=Z,14μm,3.4s
KBS eS **S 20 51 41.8 +2.9**
KBS IAMs_20 IAMs_20 21 10 57.3
comp=Z,274μm,20.5s
KBS IVMs_BB IVMs_BB 21 11 01.7
comp=Z,88μm,19.1s
KBS Kingsbay 69.53 349⇑eP P 20 42 32.0 -1.0
comp=Z,402nm,1.0s
KBS eS **S 20 51 40.2 +1.2**
KBS LR LR
comp=Z,247μm,20.0s
IGHG Ghaleghazi 69.57 299 eP P 20 42 35.4 +1.1
KIV Kislovodsk 69.59 310 P P 20 42 35.4 +1.3
comp=Z,15μm,1.5s
KIV Kislovodsk 69.59 310c iP P 20 42 35.3 +1.2
KIV e 20 45 08.2
KIV eS **S 20 51 43.5 +2.5**
KIV pmax pmax
comp=Z,3μm,3.8s
KIV pmax pmax
comp=Z,3μm,1.1s
KIV MLR MLR
comp=Z,206μm,18.0s
KIV Kislovodsk 69.59 310⇑iP P 20 42 34.9 +0.8
comp=Z,4μm,1.3s
KIV eS **S 20 51 38.1 -2.9**
KIV LR LR
comp=Z,236μm,20.0s
KIV Kislovodsk 69.59 310 ⇓P P 20 42 35.4 +1.2
ABTO Aybut 69.60 280 P P 20 42 35.5 +1.0
SNR=147
IDHR Dehrash 69.60 299 eP P 20 42 34.8 +0.3
VOR Voronezh 69.64 318⇑iP P 20 42 32.0 -2.1
VOR eS **S 20 51 38.0 -3.0**
VOR pmax pmax
comp=Z,3μm,1.6s
KEV Kevo 69.75 339⇑eP P 20 42 34.5 0.0
KEV eS **S 20 51 39.8 -2.0**
KEV pmax pmax
comp=Z,725nm,1.0s
KEV MLR MLR
comp=Z,98μm,20.0s

KEV Kevo 69.75 339 ep P 20 42 34.2 -0.3
comp=Z,188nm,0.7s
KEV Kevo 69.75 339⇑eP P 20 42 34.5 0.0
comp=Z,725nm,1.0s
KEV eS **S 20 51 39.8 -2.0**
KEV LR LR
comp=Z,98μm,20.0s
AKH Akhalkalaki 69.76 307 eP P 20 42 37.2 +1.8
AKH Akhalkalaki 69.76 307 P P 20 42 37.2 +1.8
VORD Divnogorie 69.80 318 eP P 20 42 34.7 -0.4
VORD eS **S 20 51 41.0 -1.9**
VORD pmax pmax
comp=Z,580nm,0.9s
VORD pmax pmax
comp=N,40nm,0.6s
VORD pmax pmax
comp=E,560nm,1.1s
VORD smax smax
comp=E,20μm,8.1s
VORD smax smax
comp=Z,7μm,7.8s
VORD smax smax
comp=N,3μm,7.6s
VORD MLR MLR
comp=Z,143μm,20.0s
VORD MLR MLR
comp=N,101μm,18.0s
VORD MLR MLR
comp=E,159μm,22.0s
VSR Storozhevoye 69.80 318 eP P 20 42 35.4 +0.3
VSR eS **S 20 51 40.9 -2.1**
VSR pmax pmax
comp=Z,1μm,0.9s
VSR pmax pmax
comp=N,520nm,1.1s
VSR pmax pmax
comp=E,1μm,1.1s
VSR smax smax
comp=E,22μm,8.9s
VSR smax smax
comp=Z,8μm,8.3s
VSR smax smax
comp=N,4μm,7.7s
VSR MLR MLR
comp=Z,157μm,19.0s
VSR MLR MLR
comp=N,107μm,18.0s
VSR MLR MLR
comp=E,117μm,20.0s
HSP Hornsund 69.82 347 eP P 20 42 35.6 +0.8
HSPB Hornsund (broa 69.82 347⇓iP P 20 42 34.3 -0.6
CLDR Caldiran 70.13 305 eP P 20 42 39.5 +1.8
BJO Bjornoya 70.14 344⇑iP P 20 42 36.8 0.0
BJO eS **S 20 51 49.5 +3.3**
BJO IAMs_20 IAMs_20 21 17 57.1
comp=Z,270μm,18.4s
OBN Obninsk 70.17 322d iP P 20 42 37.4 +0.1
OBN i 20 42 52.7
OBN i S **S 20 51 46.1 -1.0**
OBN pmax pmax
comp=Z,2μm,1.5s
OBN MLR MLR
comp=Z,429μm,16.0s
OBN Obninsk 70.17 322 LR LR 21 16 05.4
comp=Z,404μm,19.8s,baz=72,slow=38
OBN Obninsk 70.17 322⇑iP P 20 42 36.9 -0.4
comp=Z,3μm,1.4s
OBN eS **S 20 51 45.0 -2.1**
KARS Kars 70.29 306 eP P 20 42 40.7 +2.2
ARCES ARCESS Array B 70.33 339 P P 20 42 38.0 -0.1
ARCES pmax pmax
comp=Z,243nm,0.9s
ARCES MLR MLR
comp=Z,95μm,19.0s
ARCES ARCESS Array B 70.33 339 P P 20 42 38.0 -0.1
comp=Z,243nm,0.9s,baz=64,slow=5.5,SNR=178
ARCES LR LR 21 19 48.9
comp=Z,95μm,19.0s,baz=52,slow=41
ARE0 ARCESS Array S 70.33 339⇑iP P 20 42 38.3 +0.3
ARE0 eS **S 20 51 49.8 +1.3**
ARE0 IAMs_20 IAMs_20 21 20 07.0
comp=Z,222μm,19.5s
ARE0 ARCESS Array S 70.33 339⇑iP P 20 42 38.0 -0.1
AFI Afiamalu 70.33 117 eP P 20 42 39.7 +0.8
AFI pmax pmax
comp=Z,2μm,1.2s
AFI MLR MLR
comp=Z,32μm,19.0s
AFI Afiamalu 70.33 117 eP P 20 42 39.7 +0.8
comp=Z,2μm,1.2s
AFI LR LR
comp=Z,32μm,19.0s
JOF Joensuu 70.38 331 eP P 20 42 38.3 -0.2
JOF pmax pmax
comp=Z,228nm,0.9s
JOF Joensuu 70.38 331 ep P 20 42 38.3 -0.2
comp=Z,228nm,0.9s
AGRB Hanur-Agry 70.68 305 eP P 20 42 42.8 +1.8
VANB Van 70.69 304 eP P 20 42 42.4 +1.4
TAU Tasmania Unive 70.71 165⇓eP P 20 42 41.2 +0.6
TAU pmax pmax
comp=Z,516nm,1.3s
TAU Tasmania Unive 70.71 165⇓eP P 20 42 41.2 +0.6
comp=Z,516nm,1.3s
HKR Hakkari 70.74 303 eP P 20 42 42.3 +0.8
CUKT Cukurca 70.95 303 eP P 20 42 51.5 +8.8
KTK1 Kautokeino 71.27 338 eP P 20 42 44.5 +0.7
PZAR Pazar-Rize 71.69 307 eP P 20 42 48.3 +1.5
SIRT Sirnak 71.75 303 eP P 20 42 48.5 +1.1
SOC Sochi 71.75 310c iP P 20 42 48.0 +0.8
SOC i 20 43 03.8
SOC e 20 45 26.0
SOC ePPP PPP 20 47 05.2
SOC i S **S 20 52 06.5 +0.6**
SOC e 20 52 44.4
SOC pmax pmax
comp=Z,5μm,1.5s
SOC pmax pmax
comp=Z,2μm,1.0s
SOC MLR MLR
comp=E,103μm,14.0s
SOC MLR MLR
comp=N,68μm,14.0s
SOC MLR MLR
comp=Z,131μm,14.0s
EZM Erzurum 71.77 306 eP P 20 42 49.2 +1.6
SIT Sitka 71.81 35 eP P 20 42 48.2 +1.0
SIT pmax pmax
comp=Z,1μm,1.3s
SIT Sitka 71.81 35 eP P 20 42 48.2 +1.0
comp=Z,1μm,1.3s
PUL Pulkovo 71.88 328c iP P 20 42 48.8 +1.2
PUL pmax pmax
comp=Z,2μm,1.7s
PUL MLR MLR
comp=Z,218μm,16.0s
VRTB Varto-Mus 71.94 305 eP P 20 42 50.7 +2.1
BTMT Batman 72.23 304 eP P 20 42 53.1 +2.9
TRO Tromso 72.39 340⇑iP P 20 42 51.0 +0.6
TRO IAMs_20 IAMs_20 21 19 27.8
comp=Z,381μm,20.2s
SVAN Silvan-Diyarba 72.46 304 eP P 20 42 53.0 +1.4
BAYT Ayd¯-ntepe-Bay 72.49 307 eP P 20 42 53.8 +1.9
KTUT Trabzon 72.56 308 eP P 20 42 53.0 +0.9
BNGB Bing˜¶l 72.56 305 eP P 20 42 54.0 +1.7
KAF Kangasniemi 72.83 331 eP P 20 42 52.9 -0.4
KAF pmax pmax
comp=Z,257nm,0.7s
KAF Kangasniemi 72.83 331 ep P 20 42 52.9 -0.4
comp=Z,257nm,0.7s
ANN Anapa 72.90 312 i P P 20 42 52.6 -1.4
ANN i 20 43 08.5
ANN i 20 45 33.3
ANN i PPP PPP 20 47 17.8
ANN i S **S 20 52 19.8 +0.8**
ANN pmax pmax
comp=E,2μm,2.7s
ANN pmax pmax
comp=Z,10μm,2.7s
ANN pmax pmax
comp=N,1μm,1.3s
ANN pmax pmax
comp=N,856nm,1.5s
ANN pmax pmax
comp=Z,3μm,1.5s

ANN pmax pmax
comp=E,632nm,1.5s
GUMT Gumushane 72.94 307 eP P 20 42 56.0 +1.4
ERZN Erzincan 73.06 306 eP P 20 42 57.6 +2.3
FINES FINESS Array B 73.20 331 P P 20 42 55.4 0.0
comp=E,208nm,0.5s,baz=73,slow=4.9,SNR=342
FINES PKPPKP P'P'df 21 10 27.5 -12
comp=E,3.3nm,1.1s,baz=193,slow=7.6,SNR=4.0
FINES LR LR 21 18 46.3
comp=E,233μm,18.4s,baz=90,slow=39
MAZI Mazidag 73.25 304 eP P 20 42 57.5 +1.1
DYBB Diyarbakir 73.31 304 eP P 20 42 57.7 +1.0
ESPY Espiye-Giresun 73.33 308 eP P 20 42 56.8 +0.1
KBSD Kabsdagh 73.34 303 eP P 20 42 59.1 +2.3
CRAG Craig 73.53 36 eP P 20 42 59.1 +1.7
comp=E,895nm,1.3s
WRAK Wrangell Islan 73.57 35⇓eP P 20 42 58.4 +0.6
comp=E,919nm,1.4s
MZRK Al-Mazaregh 73.66 302 eP P 20 43 01.3 +2.6
MZRK Al-Mazaregh 73.66 302 eP S 20 52 31.3 +3.3
SFNV Sufian 73.87 303 eP P 20 43 02.1 +2.2
SFNV Sufian 73.87 303 eP S 20 52 31.3 +0.9
ILIC ilic-Erzincan 73.95 306 eP P 20 43 05.7 +5.2
DLBC Dease Lake 73.95 32 eP P 20 43 01.8 +1.8
VSU Vasula 74.09 328c iP P 20 43 01.0 +0.3
VSU pmax pmax
comp=Z,5μm,1.6s
VSU MLR MLR
comp=Z,810μm,15.0s
RAYN Ar Rayn 74.12 289⇑eP P 20 43 01.8 +0.1
comp=Z,2μm,1.3s
OUZ Omahuta 74.33 143⇓eP P 20 43 03.5 +1.2
comp=Z,3μm,1.3s
OUZ Omahuta 74.33 143 PN P 20 43 03.8 +1.5
STEI Steigen 74.39 339 eP P 20 43 02.7 +0.4
STEI IAmb IAmb 20 43 22.8
comp=Z,623nm,0.9s
MALT Malatya 74.45 305 eP P 20 43 05.7 +2.3
MALT Malatya 74.45 305⇑iP P 20 43 05.4 +2.0
URFA Urfa 74.47 304 eP P 20 43 05.2 +1.7
MUKL Al Mukalla 74.48 279⇑eP P 20 43 04.3 +0.6
RSDY Resadiye-TOKAT 74.51 308 eP P 20 43 04.6 +1.0
MNKR ALMNKUR 74.67 303 eP P 20 43 05.2 +0.6
XMAS Kiritimati 74.77 95 eP P 20 43 06.4 +1.0
comp=Z,2μm,1.8s
LOF Lofoten 74.83 339 eP P 20 43 04.3 -0.5
LOF IAmb IAmb 20 43 25.1
comp=Z,422nm,1.0s
KSRV Kasrt alli 74.90 303 eP P 20 43 07.4 +1.5
KSRV Kasrt alli 74.90 303 eP S 20 52 45.1 +3.2
SVSK Karacayir 74.91 307 eP P 20 43 07.5 +1.6
DARE Darende-Malaty 75.05 306 eP P 20 43 08.8 +1.9
SIM Simferopol' 75.06 313ceP P 20 43 07.2 +0.6
SIM e 20 45 58.0
SIM ePPP PPP 20 47 42.0
SIM eS **S 20 52 44.0 +0.7**
SIM pmax pmax
comp=Z,980nm,0.9s
SIM pmax pmax
comp=Z,3μm,9.8s
MICGM Minsk 75.10 324⇑iP P 20 43 06.0 -0.7
MNK Minsk 75.13 324⇑eP P 20 43 06.0 -0.8
MNK e 20 45 56.0
MNK eS **S 20 52 38.0 -5.7**
MNK pmax pmax
comp=Z,4μm,1.0s
MNK pmax pmax
comp=N,2μm,1.0s
MNK pmax pmax
comp=E,4μm,1.0s
MNK pmax pmax
comp=Z,2μm,4.0s
MNK smax smax
comp=E,7μm,5.0s
MNK MLR MLR
comp=Z,277μm,18.0s
MNK MLR MLR
comp=N,147μm,20.0s
MNK MLR MLR
comp=Z,187μm,18.0s
KVT Kavak 75.17 309 eP P 20 43 08.9 +1.5
RAO Raoul Island 75.22 133 eP P 20 43 06.5 -1.1
RAO Raoul Island 75.22 133 LR LR 21 14 19.2
comp=Z,37μm,18.8s,baz=308,slow=34
RAO Raoul Island 75.22 133 eP P 20 43 06.5 -1.1
IDID Didziasalis 75.37 325 eP P 20 43 09.3 +1.1
IDID AMB AMB 20 43 16.6
comp=Z,619nm,1.3s
IDID eS **S 20 52 45.4 -1.0**
JHLN Al Jahlan 75.40 303 eP S 20 52 48.6 +1.2
DIKM Dikmen 75.51 309 eP P 20 43 10.3 +1.0
NACGM Naroch 75.52 324 eP P 20 43 06.0 -3.1
DAG Danmarks Havn 75.53 353⇑iP P 20 43 09.1 +0.3
DAG i S **S 20 52 44.0 -3.5**
DAG pmax pmax
comp=Z,220nm,0.8s
DAG MLR MLR
comp=Z,60μm,19.0s
DAG Danmarks Havn 75.53 353⇑iP P 20 43 09.1 +0.3
comp=Z,298nm,0.8s
DAG i S **S 20 52 44.0 -3.5**
comp=Z,58μm,18.0s
MOR8 Moi Rana 75.58 337 eP P 20 43 08.2 -1.1
MOR8 epP **pP 20 43 13.9 -3.2**
ISAL Salakas 75.58 325 eP P 20 43 10.4 +1.0
ISAL AMB AMB 20 43 17.9
comp=Z,506nm,1.4s
SLMH Al Salmeh 75.58 303 eP S 20 52 52.0 +2.4
IIGN Ignalina 75.62 325 eP P 20 43 10.0 +0.3
IIGN AMB AMB 20 43 17.6
comp=Z,435nm,1.5s
IIGN eS **S 20 52 48.4 -0.8**
RES Resolute Bay 75.74 11 eP P 20 43 10.3 +0.3
RES pmax pmax
comp=Z,234nm,0.6s
RES Resolute Bay 75.74 11 eP P 20 43 10.3 +0.3
comp=Z,234nm,0.6s
KONS Konsvik 75.85 338 eP P 20 43 09.7 -1.0
KONS IAmb IAmb 20 43 29.4
comp=Z,554nm,1.1s
FLOS Flostrand 75.86 338 eP P 20 43 11.4 +0.7
FLOS IAmb IAmb 20 43 25.6
comp=Z,578nm,0.8s
KMRS Kahramanmaras 75.87 305 eP P 20 43 12.8 +1.3
AKASG Malin Array Be 75.88 320 P P 20 43 11.1 -0.2
comp=Z,544nm,0.7s,baz=56,slow=6.5,SNR=757
AKASG S **S 20 52 48.9 -3.3**
comp=Z,4.0nm,0.9s,baz=64,slow=11,SNR=9.9
AKASG PKPPKP P'P'df 21 10 28.7 -6.1
comp=Z,0.1nm,0.3s,baz=250,slow=2.2,SNR=6.0
AKASG LR LR 21 20 12.1
comp=Z,289μm,18.1s,baz=60,slow=39
AKBB Malin Array Si 75.88 320⇑iP P 20 43 10.9 -0.3
AKBB Malin Array Si 75.88 320⇑iP P 20 43 10.9 -0.3
AK01 Malin Array Si 75.89 320⇑eP P 20 43 10.9 -0.4
KIEV Kiev 75.89 320c iP P 20 43 11.2 -0.1
KIEV Kiev 75.89 320⇑iP P 20 43 11.0 -0.3
comp=Z,2μm,1.3s
KIEV eS **S 20 52 49.1 -3.2**
KIEV LR LR
comp=Z,297μm,21.0s
AK02 Malin Array Si 75.91 320⇑eP P 20 43 10.9 -0.4
STOK Stokkvaagen 75.98 338 eP P 20 43 12.0 +0.5
YOZ Yozgat 76.22 307 eP P 20 43 14.9 +1.3
BZK Bozkurt 76.26 310 eP P 20 43 14.9 +1.4
CORM Corum 76.50 308 eP P 20 43 16.5 +1.4
TOS Tosya 76.60 309 eP P 20 43 17.3 +1.6
KOZT Kozan 76.67 305 eP P 20 43 17.4 +1.3
BTCH Batrach 76.75 304 eP P 20 43 17.4 +0.8
BTCH Batrach 76.75 304 eP S 20 53 03.8 +1.3
RABH Abou Rabah 76.80 302 eP P 20 43 18.5 +1.6
ROOS tl_alroos 76.84 302 eP S 20 53 06.6 +3.1
MSEY Mahe Island 76.90 258 i P P 20 43 18.8 +1.1
MSEY Mahe Island 76.90 258⇓eP P 20 43 17.8 +0.1
comp=Z,310nm,1.2s
MSEY LR LR
comp=Z,103μm,22.0s
MSEY Mahe Island 76.90 258⇓iP P 20 43 18.3 +0.7
SNR=14
CEYT Ceyhan 76.91 305 eP P 20 43 18.9 +1.6
CANT Cankiri 77.05 305 eP P 20 43 19.2 +1.1
ARNB Al Arnab 77.19 304 eP P 20 43 20.7 +1.7
ZALF Zalf 77.28 300 eP P 20 43 21.3 +1.7
ZALF eP **P 20 43 21.9 +2.4**

ZALF Zalf 77.28 300 eP S 20 53 12.0 +3.7
NIG Nigde 77.32 306 eP P 20 43 22.1 +2.1
KARA Karaisali 77.32 305 eP P 20 43 20.9 +1.2
NSS Namsos 77.35 337⇑iP P 20 43 18.8 -0.4
NSS eS S 20 53 06.7 -1.1
NSS IAMs_20 IAMs_20 21 22 23.1
comp=Z,287μm,18.4s
BR131 Keskin Array S 77.38 308⇑iP P 20 43 20.4 +0.2
comp=Z,386nm,0.8s
BRTR Keskin Array B 77.38 308 P P 20 43 20.6 +0.5
comp=Z,527nm,1.1s,baz=113,slow=2.7,SNR=676
BRTR S S 20 53 14.4 +5.0
comp=Z,5.5nm,1.0s,baz=59,slow=15,SNR=7.1
BRTR PKPPKP P'P'df 21 10 24.6 -7.5
comp=Z,2.1nm,1.1s,baz=236,slow=1.3,SNR=4.1
BRTR LR LR 21 22 35.9
comp=Z,29μm,18.4s,baz=52,slow=40
SAFT Safranbolu 77.45 310 eP P 20 43 22.4 +2.1
HIZ Hauiti 77.46 144 PN P 20 43 21.0 +0.9
FKH Fakeheh 77.48 302 eP P 20 43 22.7 +1.9
MARH Ras Al Marh 77.51 302 eP P 20 43 21.7 +0.5
KIS Kishinev 77.64 316αiP P 20 43 21.0 -0.3
KIS iS S 20 53 11.0 -0.6
KIS pmax pmax
comp=N,2μm,2.0s
KIS pmax pmax
comp=E,2μm,2.0s
KIS pmax pmax
comp=Z,3μm,2.0s
KIS pmax pmax
comp=N,3μm,4.0s
KIS pmax pmax
comp=E,5μm,4.0s
KIS pmax pmax
comp=Z,7μm,4.0s
KIS pmax pmax
comp=Z,15μm,20.0s
KIS smax smax
comp=N,8μm,6.0s
KIS smax smax
comp=E,23μm,15.0s
KIS MLR MLR
comp=Z,150μm,15.0s
KIS MLR MLR
comp=N,127μm,16.0s
KIS MLR MLR
comp=Z,132μm,16.0s
KIS Kishinev 77.64 316⇑iP P 20 43 21.0 -0.3
comp=Z,3μm,2.0s
BDHA Al Bayda' 77.76 280⇑eP P 20 43 23.4 +0.6
SUW Suwalki 77.80 324 eP P 20 43 22.3 +0.3
SUW e*PP pP 20 43 28.0 -1.8
SUW eS S 20 53 13.8 +0.8
SUW pmax pmax
comp=Z,2μm,1.2s
SUW MLR MLR
comp=Z,427μm,19.4s
SUW Suwalki 77.80 324 eP P 20 43 22.2 +0.3
SUW epP pP 20 43 28.0 -1.8
SUW eS S 20 53 13.8 +0.8
SUW LMZ LR 21 21 11.7
SUW Suwalki 77.80 324⇑iP P 20 43 22.0 0.0
comp=Z,4μm,1.1s
TOTH TOTAH 77.81 301 eP S 20 53 16.7 +2.6
SALA Sala 77.83 300 eP P 20 43 24.6 +1.8
QASN Qassioun 77.86 301 eP P 20 43 24.0 +1.2
MERS Mersin 77.87 305 eP P 20 43 23.5 +0.7
OPRZ Ohinepanea 77.87 143 PN P 20 43 22.2 -0.2
AFSR Af`ar-Bala (A 77.89 308 eP P 20 43 24.1 +1.2
ANTO Ankara 77.92 308 eP P 20 43 24.0 +1.0
ANTO Ankara 77.92 308⇑iP P 20 43 23.6 +0.5
ANTO eS S 20 53 13.9 -1.2
ANTO pmax pmax
comp=Z,2μm,1.5s
ANTO MLR MLR
comp=Z,69μm,22.0s
ANTO Ankara 77.92 308⇑iP P 20 43 24.0 +1.0
ANTO Ankara 77.92 308⇑iP P 20 43 23.6 +0.5
comp=Z,2μm,1.5s
ANTO ePP PP 20 46 12.3 -6.5
ANTO eS S 20 53 13.9 -1.2
ANTO LR LR
comp=Z,69μm,22.0s
LOD Lodumlu 77.93 308 eP P 20 43 24.0 +0.9
QRZ Quartz Range 78.03 147 PN P 20 43 23.2 -0.1
SULT Sultanhani-AKS 78.08 307 eP P 20 43 24.9 +0.9
LBOS 78.09 280⇑eP P 20 43 25.2 +0.6
LBOS AMb AMB 20 43 28.0
comp=Z,2μm,1.5s
BHL Bhannes 78.19 302 eP P 20 43 24.7 +0.1
RCY Rachaya 78.21 301 eP P 20 43 26.9 +2.0
LEOM Leova 78.22 316⇑iP P 20 43 26.7 +2.2
KDZE Karadeniz Ereo 78.28 310 eP P 20 43 24.4 -0.6
IAS Iasi 78.34 317⇑iP P 20 43 26.0 +0.9
FWVZ Far West T-bar 78.37 145 PN P 20 43 25.5 0.0
DSZ Denniston Nort 78.39 148 PN P 20 43 25.6 +0.3
TRVZ Turoa 78.40 145 PN P 20 43 25.7 0.0
TLCR 78.41 315⇓iP P 20 43 27.1 +1.6
TCHB Talchebab 78.44 301 eP P 20 43 28.2 +2.2
URZ Urewera 78.47 143 LR LR 21 14 57.3
comp=Z,35μm,20.0s,baz=314,slow=33
URZ Urewera 78.47 143⇓iP P 20 43 24.3 -1.4
comp=Z,1μm,1.5s
URZ Urewera 78.47 143 PN P 20 43 24.7 -1.1
HAZ Te Kaha 78.48 142 PN P 20 43 25.0 -0.8
DHBB Dhamar BB 78.56 281⇑eP P 20 43 27.9 +0.6
YKA Yellowknife Ar 78.64 25 P P 20 43 27.0 +0.6
comp=Z,57nm,0.6s,baz=298,slow=5.3,SNR=292
YKA PKKP PKKPdf 21 02 07.1 -2.3
comp=Z,0.5nm,0.7s,baz=161,slow=2.7,SNR=4.9
YKA PKKPbc PKKPbc 21 02 19.9 -2.7
comp=Z,1.5nm,0.7s,baz=128,slow=2.6,SNR=12
YKA PKPPKP P'P'df 21 10 21.2 -8.6
comp=Z,0.7nm,0.8s,baz=128,slow=2.5,SNR=4.1
JNW Jan Mayen West 78.65 347 eP P 20 43 28.5 +2.1
EREN Erenkoy 78.66 304 eP P 20 43 27.3 +0.2
GIUM Giurgiulesti 78.67 315⇑iP P 20 43 29.5 +2.5
JMIC Jan Mayen 78.70 347 eP P 20 43 27.1 +0.4
JMIC eS S 20 53 25.8 +3.6
TBLU Trondheim 78.71 336⇑iP P 20 43 25.5 -1.3
TBLU eS S 20 53 21.2 -1.2
NNZ Nelson 78.75 147 PN P 20 43 26.3 -0.9
MDUB Mudurnu 78.79 310 eP P 20 43 28.7 +0.8
CFR Carcaliu 78.85 315⇑iP P 20 43 28.5 +0.6
FOZ Fox Glacier 78.86 151 PN P 20 43 27.8 +0.1
LADK Ladik-KONYA 78.90 307 eP P 20 43 28.9 +0.3
THZ Tophouse 78.93 148 PN P 20 43 27.1 -1.2
PUZ Puketiti 78.97 142 PN P 20 43 27.5 -1.0
TIRR Tirgusor 78.98 314⇑iP P 20 43 28.8 +0.1
TIRR pmax pmax
comp=Z,2μm,1.8s
TIRR Tirgusor 78.98 314⇓iP P 20 43 30.3 +1.6
TIRR Tirgusor 78.98 314⇑iP P 20 43 28.8 +0.1
comp=Z,2μm,1.8s
SVRH Sivrihisar-ESK 78.99 308 eP P 20 43 29.6 +0.6
KONT Konya--Tatoy 79.01 307 eP P 20 43 29.1 0.0
PRAR RASCA 79.08 317⇓iP P 20 43 30.6 +1.4
MANR Mangalia 79.14 313⇑iP P 20 43 32.3 +2.7
HFS Hagfors 79.15 332 PKPPKP P'P'df 21 10 23.6 -5.3
comp=Z,4.8nm,1.1s,baz=131,slow=10,SNR=3.7
HFS LR LR 21 21 57.1
comp=Z,123μm,19.9s,baz=55,slow=38
PETR Petresti 79.18 316⇓iP P 20 43 33.4 +3.6
TESR Tescani 79.20 317⇑iP P 20 43 30.8 +0.9
LVV L'vov 79.27 320diP P 20 43 30.7 +0.5
LVV e 20 46 32.3
LVV iS S 20 53 27.5 -1.4
LVV iPS PnS 20 54 28.7 +15
ODBI Odobesti 79.28 316⇓iP P 20 43 38.2 +7.9
GULT Gulveren 79.28 310 eP P 20 43 31.0 +0.4
SPNC Sapanca-Adapaz 79.32 310 eP P 20 43 31.2 +0.6
KNZ Kokohu 79.33 143 PN P 20 43 30.4 0.0
TRBA At Turbah 79.35 280⇑eP P 20 43 32.1 +0.6
AIS Amsterdam Isla 79.43 219 P P 20 43 05.0 -26
AIS Amsterdam Isla 79.43 219 S S 20 53 30.0 -0.7
AIS SS SS 20 58 39.0 -0.1
AIS L L 21 04 00.0
AIS R 21 07 00.0
VRI Vrincioaia 79.44 316⇓iP P 20 43 33.6 +2.4
PSN Preselentsi 79.46 313 P P 20 43 31.8 +0.4
PSN Preselentsi 79.46 313⇓iP P 20 43 33.8 +2.4
SNZO South Karori 79.47 146⇓iP P 20 43 29.4 -1.8
comp=Z,595nm,1.5s

PLOR Plostina 79.49 316⇓iP P 20 43 33.6 +2.1
GRER 79.50 315⇓iP P 20 43 35.3 +3.8
MSAB Monastry St. A 79.52 314⇓iP P 20 43 33.8 +2.2
MAMC Mammari 79.52 304⇓eP P 20 43 33.6 +1.8
CSS Prodhromos 79.52 304 eP P 20 43 33.7 +1.8
SILT Sile 79.58 311 eP P 20 43 32.9 +0.8
BURAR Bucovina Array 79.58 318⇑iP P 20 43 32.8 +0.7
RPZ Rata Peaks 79.59 150⇓eP P 20 43 30.8 -1.0
comp=Z,679nm,1.1s
RPZ Rata Peaks 79.59 150 PN P 20 43 31.2 -0.6
AMRR Amara 79.61 315⇓iP P 20 43 34.7 +2.6
KULLO Kullorsuaq 79.61 2⇑iP P 20 43 32.3 +0.7
KULLO iS S 20 53 28.3 -3.5
KULLO pmax pmax
comp=Z,540nm,0.9s
KULLO MLR MLR
comp=Z,96μm,20.0s
KULLO Kullorsuaq 79.61 2⇑iP P 20 43 32.3 +0.7
comp=Z,545nm,0.9s
KULLO iS S 20 53 28.3 -3.5
comp=Z,96μm,19.0s
NB2 NORSAR Subarra 79.64 334 P P 20 43 32.2 +0.1
comp=Z,801nm,1.1s,baz=53,slow=6.2
NB2 NORSAR Subarra 79.64 334 P P 20 43 32.2 +0.1
baz=53,slow=6.2
NOA NORSAR Array B 79.64 334 P P 20 43 31.4 -0.7
comp=Z,219nm,0.8s,baz=52,slow=5.2,SNR=294
NOA PKKPbc PKKPbc 21 02 19.9 -0.6
comp=Z,5.1nm,0.9s,baz=236,slow=2.4,SNR=6.1
NOA LR LR 21 23 02.6
comp=Z,192μm,18.9s,baz=65,slow=39
NC602 NORSAR Array S 79.69 334⇑iP P 20 43 31.3 -1.0
NC602 eS S 20 53 34.6 +1.6
HRT Hereke 79.70 310 eP P 20 43 33.4 +0.6
LBZ Lake Benmore 79.73 151 PN P 20 43 32.8 +0.3
KHZ Kahutara 79.74 148⇑iP P 20 43 30.8 -1.7
comp=Z,372nm,1.0s
LEF Lefka 79.79 304 eP P 20 43 33.2 -0.1
ADVT Abdulvahap 79.82 310 eP P 20 43 34.1 +0.8
CAVI Cavuskoy 79.84 310 eP P 20 43 34.4 +0.8
DOMB Dombas 79.87 335 eP P 20 43 34.1 +0.8
DOMB IAmb IAmb 20 43 53.7
comp=Z,363nm,1.2s
ISR Istrita 79.89 315⇓iP P 20 43 36.9 +3.2
NAO01 NORSAR Array S 79.89 334⇑eP P 20 43 33.3 0.0
comp=Z,15nm,1.1s
SZAC Souni-Zanaja 79.94 304 eP P 20 43 35.0 +0.8
KLYT Kilyos 79.94 311 eP P 20 43 34.5 +0.5
ALFC Alevga 79.99 304 eP P 20 43 35.6 +1.2
WHZ Wether Hill Ro 80.00 153⇓eP P 20 43 33.2 -0.7
comp=Z,243nm,1.4s
ISK Istanbul-Kandi 80.01 311 P P 20 43 34.9 +0.5
ISK Istanbul-Kandi 80.01 311 eP P 20 43 35.0 +0.6
ISK Istanbul-Kandi 80.01 311 P P 20 43 34.9 +0.5
ISK Istanbul-Kandi 80.01 311 P P 20 43 34.9 +0.5
AVR AVREN 80.05 313 P P 20 43 36.9 +2.3
SHUT Suhut-Afyon 80.05 308 eP P 20 43 35.5 +0.6
MLR Muntele Rosu 80.09 316⇓iP P 20 43 37.0 +2.1
BEL Belsk 80.11 323 eP P 20 43 35.9 +1.2
BEL eS S 20 53 38.3 +0.6
BEL pmax pmax
comp=Z,4μm,1.6s
BEL MLR MLR
comp=Z,537μm,19.4s
BEL Belsk 80.11 323 eP P 20 43 35.8 +1.1
BEL eS S 20 53 38.3 +0.6
BEL LMZ LR 21 22 03.4
MOL Molde 80.11 336 eP P 20 43 34.2 -0.2
MOL eS S 20 53 37.7 +0.4
KWP Kalwaria Pacla 80.11 321⇑iP P 20 43 35.4 +0.6
KWP eS S 20 53 40.5 +2.6
KWP pmax pmax
comp=Z,1μm,1.0s
KWP MLR MLR
comp=Z,315μm,19.0s
KWP Kalwaria Pacla 80.11 321 eP P 20 43 35.6 +0.8
KWP ePcP pP 20 43 42.4 -0.3
KWP eS S 20 53 37.4 -0.5
KWP LMZ LR 21 20 59.4
KWP Kalwaria Pacla 80.11 321⇑iP P 20 43 35.7 +0.9
KWP Kalwaria Pacla 80.11 321⇑iP P 20 43 35.4 +0.6
comp=Z,1μm,1.0s
KWP eS S 20 53 40.5 +2.6
KWP LR LR
comp=Z,315μm,19.0s
ALT Altintas 80.15 309 P P 20 43 36.6 +1.3
ALT Altintas 80.15 309 eP P 20 43 35.9 +0.5
ALT Altintas 80.15 309 P P 20 43 36.6 +1.3
BGKT Bogazkoy 80.16 311 eP P 20 43 35.8 +0.6
PRD Provadia 80.19 313 P P 20 43 36.9 +1.6
SECR 80.22 315⇓iP P 20 43 38.8 +3.3
DOPR Dopca 80.23 316⇑iP P 20 43 38.6 +3.1
ROIA ROIAK 80.25 313 P P 20 43 38.1 +2.4
SULR 80.27 315⇑iP P 20 43 38.6 +2.9
PPCY Paphos 80.29 304 P P 20 43 37.3 +1.3
MQZ McQueen's Vall 80.31 149 PN P 20 43 35.5 -0.2
CTKS Kestanelik-??a 80.31 311 eP P 20 43 36.3 +0.3
CTYL Yal??k??y-??at 80.36 311 eP P 20 43 36.8 +0.6
ARMT Armutlu 80.36 310 eP P 20 43 36.8 +0.4
ISP Isparta 80.38 307 P P 20 43 36.4 -0.2
ISP Isparta 80.38 307 eP P 20 43 36.9 +0.3
ISP Isparta 80.38 307⇑iP P 20 43 36.3 -0.3
ISP eS S 20 53 31.9 -9.5
ISP pmax pmax
comp=Z,869nm,1.1s
ISP MLR MLR
comp=Z,69μm,22.0s
ISP Isparta 80.38 307⇑iP P 20 43 36.7 +0.1
ISP Isparta 80.38 307⇑iP P 20 43 36.3 -0.3
comp=Z,869nm,1.1s
ISP eS S 20 53 31.9 -9.5
ISP LR LR
comp=Z,69μm,22.0s
TVSB Tavsanli 80.43 309 eP P 20 43 37.2 +0.4
MDNY Mudanya-Bursa 80.44 310 eP P 20 43 37.1 +0.5
ODZ Otahua Downs 80.45 151 eP P 20 43 36.6 +0.2
comp=Z,252nm,1.3s
OSL Oslo 80.49 333 eP P 20 43 36.7 +0.2
OSL IAmb IAmb 20 43 55.4
comp=Z,829nm,1.1s
BCK Bucak 80.49 307 eP P 20 43 36.8 -0.3
SLVT Silivri 80.52 311 eP P 20 43 38.1 +1.0
CIOR Ciorogarla 80.61 315⇓iP P 20 43 39.6 +2.1
VOIR 80.68 316⇑iP P 20 43 40.1 +2.1
ANTB Antalya 80.68 306 eP P 20 43 37.3 -0.7
KOLS Kolonicke sedl 80.70 320 eP P 20 43 38.5 +0.5
KOLS pmax pmax
comp=Z,146nm,1.0s
KOLS Kolonicke sedl 80.70 320 eP P 20 43 38.5 +0.5
KOLS Kolonicke sedl 80.70 320 eS S 20 53 44.0 -0.1
KOLS eSS SS 20 59 32.1 +36
PHSR Pinarhisar 80.80 312 eP P 20 43 39.4 +0.7
UZH Uzhgorod 80.83 320 eP P 20 43 37.7 -0.9
UZH e 20 43 45.5
UZH eS S 20 53 41.5 -3.9
UZH e 20 54 48.9
UZH MLR MLR
comp=Z,101μm,17.0s
KHL Karahalli 80.88 308 eP P 20 43 40.1 +0.9
CRLT Corlu 80.88 311 eP P 20 43 40.6 +1.6
TRPA Tarpa 80.93 319⇓iP P 20 43 41.1 +1.9
TRPA Tarpa 80.93 319⇑eP P 20 43 40.5 +1.3
ARR Arges 80.97 316⇓iP P 20 43 40.7 +1.1
CJR Cluj-Napoca 80.98 318⇓iP P 20 43 41.1 +1.6
SYZ Scrubby Hill 81.01 153 PN P 20 43 40.0 +0.6
STHS Stebnicka Huta 81.05 321 eP P 20 43 41.3 +1.4
STHS pmax pmax
comp=Z,289nm,1.4s
STHS Stebnicka Huta 81.05 321 eP P 20 43 41.3 +1.4
JMB Yambol 81.05 313 P P 20 43 39.5 -0.5
JMB Yambol 81.05 313 P P 20 43 39.5 -0.5
JMB Yambol 81.05 313 P P 20 43 39.8 -0.2
JMB Yambol 81.05 313⇑iP P 20 43 41.5 +1.5
JMB Yambol 81.05 313 P P 20 43 39.5 -0.5
SZH Strazhica 81.11 314 P P 20 43 41.5 +1.2
KONO Kongsberg 81.12 333⇑iP P 20 43 39.5 -0.4
KONO MLR MLR
comp=Z,175μm,21.0s
KONO Kongsberg 81.12 333⇑iP P 20 43 39.5 -0.4
KONO eS S 20 53 48.7 +0.7
KONO Kongsberg 81.12 333⇑iP P 20 43 39.5 -0.4
comp=Z,25nm,1.7s
KONO LR LR

comp=Z,175μm,21.0s
EDC Edincik 81.14 311 eP P 20 43 41.2 +0.8
CRVS Cervenica-Dubn 81.18 320 eP P 20 43 41.5 +1.0
CRVS pmax pmax
comp=Z,886nm,1.8s
CRVS Cervenica-Dubn 81.18 320 eP P 20 43 41.5 +1.0
CRVS Cervenica-Dubn 81.18 320 eS S 20 53 48.8 -0.3
CRVS eSS SS 20 59 37.7 +34
MRMT Marmara Adasi 81.21 311 eP P 20 43 41.3 +0.4
EDRB Edirne 81.23 312 P P 20 43 41.6 +0.7
EDRB Edirne 81.23 312 eP P 20 43 42.0 +1.1
EDRB Edirne 81.23 312 P P 20 43 41.6 +0.7
GKP Gorka Klasztor 81.24 326 eP P 20 43 41.4 +0.7
GKP eS S 20 53 49.6 +0.1
GKP pmax pmax
comp=Z,900nm,1.6s
GKP MLR MLR
comp=Z,741μm,18.2s
GKP Gorka Klasztor 81.24 326 eP P 20 43 41.4 +0.7
GKP eS S 20 53 49.5 +0.1
GKP LMZ LR 21 23 35.4
ELL Elmali 81.29 307 eP P 20 43 41.9 +0.4
SUMG Summit 81.30 356⇑eP P 20 43 41.8 +0.6
SUMG e 20 46 47.0
SUMG eS S 20 53 49.1 -1.2
SUMG pmax pmax
comp=Z,3μm,1.0s
SUMG Summit 81.30 356⇑iP P 20 43 42.7 +1.5
comp=Z,2μm,0.9s
SUMG Summit 81.30 356 iS S 20 53 50.0 -0.3
comp=Z,78μm,19.0s
SUMG Summit 81.30 356⇑eP P 20 43 41.8 +0.6
comp=Z,3μm,1.0s
SUMG ePP PP 20 46 47.0 +0.8
SUMG eS S 20 53 49.1 -1.2
ZIMR 81.30 314⇑iP P 20 43 44.5 +3.3
BSD Bornholm Skovb 81.39 328⇑iP P 20 43 42.0 +0.5
BSD iS S 20 53 51.5 +0.5
BSD pmax pmax
comp=Z,300nm,0.8s
BSD MLR MLR
comp=Z,260μm,16.0s
BSD Bornholm Skovb 81.39 328⇑iP P 20 43 42.0 +0.5
comp=Z,304nm,0.8s
BSD Bornholm Skovb 81.39 328 iS S 20 53 51.5 +0.5
comp=Z,262μm,15.0s
KULA Kula-Manisa 81.40 309 P P 20 43 42.2 +0.2
KULA Kula-Manisa 81.40 309 P P 20 43 42.2 +0.2
BALB Balikesir 81.45 310 eP P 20 43 42.9 +0.8
RKY Sarkoy-Tekirda 81.46 311 eP P 20 43 43.1 +0.8
OJC Ojcow 81.46 322⇑iP P 20 43 42.7 +0.7
OJC i 20 43 47.9
OJC iS S 20 53 53.5 +1.5
OJC MLR MLR
comp=Z,662μm,18.3s
OJC Ojcow 81.46 322 iP P 20 43 42.7 +0.7
OJC iPcP PcP 20 43 47.9 -0.1
OJC iS S 20 53 53.5 +1.5
OJC iSKKSac SKKSac 20 54 03.1 +0.3
OJC L L 21 22 49.0
comp=Z,662μm,18.3s
LOT Lotru 81.47 316⇑iP P 20 43 43.9 +1.6
DRGR 81.47 318⇑iP P 20 43 42.9 +0.7
HYA Hoyanger 81.50 336 eP P 20 43 42.3 +0.4
HYA IAmb IAmb 20 43 49.2
comp=Z,510nm,1.0s
KRBG Karabiga-Canak 81.51 311 eP P 20 43 43.2 +0.8
PVL Pavlikeni 81.53 314 P P 20 43 44.6 +2.2
NIE Niedzica 81.58 321⇑iP P 20 43 43.4 +0.7
NIE i 20 43 48.2
NIE iS S 20 53 54.6 +1.3
NIE MLR MLR
comp=Z,343μm,19.5s
NIE Niedzica 81.58 321 iP P 20 43 43.4 +0.7
NIE iPcP PcP 20 43 48.2 -0.3
NIE iS S 20 53 54.6 +1.3
NIE L L 21 22 57.0
comp=Z,343μm,19.5s
FOO Floro 81.64 336 eP P 20 43 44.2 +1.6
FOO eS S 20 53 53.1 -0.2
DEV Deva 81.80 317⇑iP P 20 43 45.2 +1.4
AKS Akhisar 81.83 309 eP P 20 43 45.2 +1.0
PGC Sidney 81.88 40⇓eP P 20 43 44.0 -0.1
comp=Z,65nm,1.4s
LPK Lapseki 81.89 311 eP P 20 43 45.2 +0.8
DIM Dimitrovgrad 81.94 313 P P 20 43 46.4 +1.8
STW Striped Peak 82.00 40 P P 20 43 47.5 +2.7
GELI Tayfur-Gelibol 82.07 311 eP P 20 43 46.1 +0.8
SUE Sulen 82.10 336⇑iP P 20 43 44.5 -0.6
SUE IAMs_20 IAMs_20 21 23 57.8
comp=Z,188μm,21.9s
GZR Gura Zlata 82.11 317⇑iP P 20 43 46.7 +1.1
ALN Alexandroupoli 82.13 312 P P 20 43 45.0 -0.7
ALN Alexandroupoli 82.13 312 eP P 20 43 46.4 +0.7
ALN Alexandroupoli 82.13 312 P P 20 43 45.0 -0.7
ALN Alexandroupoli 82.13 312 P P 20 43 45.0 -0.7
ENEZ Enez 82.13 311 eP P 20 43 46.6 +0.9
ODD1 Odda 82.13 334 eP P 20 43 46.0 +0.6
ODD1 IAmb IAmb 20 43 52.6
comp=Z,914nm,1.5s
DALY Dalyan (Mu`la 82.16 307 eP P 20 43 46.3 +0.4
SRE Strehaia 82.20 316⇓iP P 20 43 49.8 +3.8
KDZ Kurdzhali 82.20 313 P P 20 43 47.9 +1.8
KDZ Kurdzhali 82.20 313⇓iP P 20 43 48.3 +2.2
COP Copenhagen 82.24 329⇑iP P 20 43 46.9 +1.0
COP iS S 20 53 58.7 -0.9
COP pmax pmax
comp=Z,290nm,0.9s
COP MLR MLR
comp=Z,130μm,17.0s
COP Copenhagen 82.24 329⇑iP P 20 43 46.9 +1.0
comp=Z,290nm,0.9s
COP Copenhagen 82.24 329 iS S 20 53 58.7 -0.9
comp=Z,130μm,16.0s
NLWA Neilton Lookou 82.27 41⇓eP P 20 43 47.5 +1.2
comp=Z,934nm,1.3s
YER Yerkesik 82.28 307 eP P 20 43 47.8 +1.2
RUND Rundenannen 82.29 335 eP P 20 43 46.9 +0.7
ASK Askoy 82.31 335 eP P 20 43 46.9 +0.7
ASK IAmb IAmb 20 44 00.6
comp=Z,720nm,1.5s
ASK IVmB_BB 20 44 08.0
comp=Z,13μm,3.7s
BER Bergen 82.32 335 eP P 20 43 45.6 -0.6
BER eS S 20 54 01.4 +1.0
BER eSS SS 20 59 22.5 +2.6
HOMB Homborsund 82.41 333 eP P 20 43 46.5 -0.3
HOMB eS S 20 54 00.8 -0.5
RAC Raciborz 82.42 322 eP P 20 43 48.3 +1.3
RAC eS S 20 54 00.0 -1.8
RAC MLR MLR
comp=Z,460μm,19.7s
EZN Ezine 82.43 311 eP P 20 43 48.0 +0.7
PLD Plovdiv 82.46 313 P P 20 43 48.3 +0.9
PLD Plovdiv 82.46 313 P P 20 43 48.3 +0.9
PLD Plovdiv 82.46 313 P P 20 43 48.5 +1.1
PLD Plovdiv 82.46 313 P P 20 43 48.3 +0.9
RGN Rugen 82.47 328 eP P 20 43 48.4 +1.3
comp=Z,1μm,1.3s
RGN Rugen 82.47 328⇑iP P 20 43 47.9 +0.7
comp=Z,1μm,1.4s
BLS5 Blasjo 82.51 334 eP P 20 43 48.2 +0.9
BLS5 IAmb IAmb 20 44 03.0
comp=Z,324nm,1.1s
LLD Lille Linde 82.54 329 iP P 20 43 49.0 +1.5
LLD Lille Linde 82.54 329 iP P 20 43 49.0 +1.5
OKC Ostrava-Krasne 82.57 322⇑iP P 20 43 48.9 +1.1
OKC e 20 44 01.6
OKC e 20 54 05.8
OKC MLR MLR
comp=Z,339μm,19.2s
OKC Ostrava-Krasne 82.57 322⇑iP P 20 43 48.9 +1.1
OKC esP sP 20 44 01.6 +3.1
OKC eSKS SKSac 20 54 05.8 -1.7
OKC ePKPPKP P'P'df 21 10 16.4 -6.2
OKC AMS AMS 21 22 50.0
comp=Z,339μm,19.2s
PSZ Piszkesteto 82.58 320⇑iP P 20 43 48.2 +0.2
PSZ e 20 46 58.8
PSZ eS S 20 54 02.7 -1.0
PSZ pmax pmax
comp=Z,949nm,1.4s
PSZ MLR MLR

comp=Z,234µm,19.0s
PSZ Piszkesteto 82.58 320⇓iP P 20 43 49.7 +1.7
PSZ Piszkesteto 82.58 320⇑iP P 20 43 48.2 +0.2
comp=Z,949nm,1.4s
PSZ ePP PP 20 46 58.8 +1.7
PSZ eS S 20 54 02.7 -1.0
PSZ LR LR
comp=Z,234µm,19.0s
PSZ Piszkesteto 82.58 320⇑eP P 20 43 49.3 +1.3
BLCB Balcova 82.60 309 eP P 20 43 48.6 +0.5
PGB Panagyurishte 82.60 314 P P 20 43 49.9 +1.7
RZN Rozhen 82.65 313 P P 20 43 49.9 +1.3
SMTH Samothraki Isl 82.67 311 P P 20 43 48.3 -0.2
SMTH Samothraki Isl 82.67 311 P P 20 43 48.3 -0.2
BZS Buzias 82.71 317⇑iP P 20 43 48.9 +0.3
PRK Paraskevi 82.74 310 P P 20 43 49.0 +0.1
PRK Paraskevi 82.74 310 P P 20 43 49.0 +0.1
PRK Paraskevi 82.74 310 P P 20 43 49.0 +0.1
GNW Green Mountain 82.79 40 P P 20 43 50.0 +1.0
ARG Arkhangelos 82.81 307 P P 20 43 50.1 +0.8
ARG Arkhangelos 82.81 307 eP P 20 43 50.2 +0.8
ARG Arkhangelos 82.81 307 P P 20 43 50.1 +0.8
ARG Arkhangelos 82.81 307 P P 20 43 50.1 +0.8
MRIV Mauritius Mete 82.84 243⇓eP P 20 43 49.6 0.0
VYHS Vyhne 82.89 321 eP P 20 43 50.1 +0.6
VYHS pmax pmax
comp=Z,415nm,1.2s
VYHS Vyhne 82.89 321 eP P 20 43 50.1 +0.6
VYHS Vyhne 82.89 321 eS S 20 54 05.2 -1.5
VYHS eSS SS 20 59 59.7 +31
SNART Snartemo 82.90 333 eP P 20 43 50.9 +1.6
SNART IAmb IAmb 20 43 55.8
comp=Z,318nm,0.8s
MORC Moravsky Berou 82.94 322⇑iP P 20 43 50.5 +0.7
MORC pmax pmax
comp=Z,293nm,0.9s
MORC Moravsky Berou 82.94 322⇓iP P 20 43 51.7 +1.9
MORC Moravsky Berou 82.94 322⇑iP P 20 43 50.5 +0.7
comp=Z,293nm,0.9s
JCW Jim Creek 82.98 39 P P 20 43 51.7 +1.6
BODT Bodrum 83.01 308 eP P 20 43 51.0 +0.6
KSP Ksiaz 83.04 324⇑eP P 20 43 51.0 +0.8
KSP e 20 54 10.0
KSP eSS SS 20 59 28.5 -2.6
KSP Ksiaz 83.04 324 eP P 20 43 51.3 +1.1
KSP epP PcP 20 43 55.6 +0.7
KSP eS S 20 54 10.4 +2.3
KSP LMZ LR 21 24 03.7
SIGR SIGRI 83.04 310 P P 20 43 50.6 +0.2
SIGR SIGRI 83.04 310 eP P 20 43 51.2 +0.8
SIGR SIGRI 83.04 310 P P 20 43 50.6 +0.2
SMG Samos 83.05 309 P P 20 43 51.0 +0.4
SMG Samos 83.05 309 P P 20 43 51.0 +0.4
KAVA Kavala 83.11 312 P P 20 43 51.1 +0.3
KAVA Kavala 83.11 312 P P 20 43 51.1 +0.3
KMY Karmoy 83.12 334 eP P 20 43 51.0 +0.5
KMY IAmb IAmb 20 43 52.5
comp=Z,524nm,1.3s
LIA Limnos Island 83.18 311 P P 20 43 50.9 -0.2
LIA Limnos Island 83.18 311 P P 20 43 50.9 -0.2
KRLC Kraliky 83.19 323⇑iP P 20 43 52.2 +1.1
KRLC e 20 44 00.0
KRLC Kraliky 83.19 323⇑iP P 20 43 52.2 +1.1
KRLC epP pP 20 44 00.0 +1.0
KRLC ePKPPKP P'P'df 21 10 13.8 -7.7
CHOS Chios island 83.28 309 P P 20 43 51.7 -0.1
CHOS Chios island 83.28 309 eP P 20 43 52.1 +0.3
CHOS Chios island 83.28 309 P P 20 43 51.7 -0.1
DPC Dobruska-Polom 83.29 323⇑iP P 20 43 52.8 +1.2
DPC e 20 44 00.5
DPC e 20 54 13.5
DPC Dobruska-Polom 83.29 323⇑iP P 20 43 52.8 +1.2
DPC epP pP 20 44 00.5 +1.0
DPC eSKS S 20 54 13.5 +2.7
DPC ePKPPKP P'P'df 21 10 10.5 -11
DPC ex x 21 10 27.8
DPC AMS AMS 21 24 00.0
BUD Budapest 83.31 320⇑eP P 20 43 52.9 +1.3
MMB Musomiste 83.34 313 P P 20 43 53.3 +1.3
MMB Musomiste 83.34 313⇓iP P 20 43 53.7 +1.7
NVR Nevrokopi 83.37 313 P P 20 43 52.0 -0.2
NVR Nevrokopi 83.37 313 P P 20 43 52.0 -0.2
UPC Upice 83.37 324 eP P 20 43 54.1 +2.1
UPC e 20 44 11.3
UPC Upice 83.37 324⇑eP P 20 43 54.1 +2.1
UPC ex x 20 44 11.3
UPC ePKPPKP P'P'df 21 10 12.7 -8.4
C05A Tolt Reservoir 83.38 40 P P 20 43 52.9 +0.8
RUE Ruedersdorf 83.43 326 eP P 20 43 53.5 +1.4
comp=Z,2µm,1.4s
RUE eS S 20 54 14.0 +2.1
RUE Ruedersdorf 83.43 326⇑iP P 20 43 52.7 +0.5
comp=Z,1µm,1.2s
F04D Rainier, OR 83.44 42 ⇑P P 20 43 53.1 +0.7
baz=83
PKS6 Bocsa 83.45 319⇓eP P 20 43 54.2 +1.8
D05A Enumclaw 83.47 40 P P 20 43 54.0 +1.5
KKB Krupnik 83.63 314 P P 20 43 54.9 +1.4
SRS Serrai 83.66 313 P P 20 43 53.5 -0.1
SRS Serrai 83.66 313 P P 20 43 53.5 -0.1
SRS Serrai 83.66 313 P P 20 43 53.5 -0.1
SMOL Smolenice 83.67 321 eP P 20 43 56.4 +2.9
SMOL Smolenice 83.67 321 e P 20 43 56.4 +2.9
VRAC Vranov 83.71 322⇑iP P 20 43 56.7 +3.0
PKSG 83.72 320⇓eP P 20 43 55.6 +1.8
G03D McMinnville, O 83.73 42 ⇑P P 20 43 54.3 +0.5
baz=84
TDL Tradedollar La 83.77 41 P P 20 43 56.0 +1.7
OUR Ouranopolis 83.78 312 P P 20 43 54.3 +0.1
OUR Ouranopolis 83.78 312 eP P 20 43 54.5 +0.3
OUR Ouranopolis 83.78 312 P P 20 43 54.3 +0.1
OUR Ouranopolis 83.78 312 P P 20 43 54.3 +0.1
LON Longmire 83.80 41⇓eP P 20 43 54.3 0.0
LON pmax pmax
comp=Z,306nm,1.2s
LON Longmire 83.80 41⇓eP P 20 43 54.3 0.0
comp=Z,306nm,1.2s
CSKK Csˇ‡kako 83.81 320⇓eP P 20 43 55.9 +1.6
KARP Karpathos 83.81 306 P P 20 43 54.7 +0.1
KARP Karpathos 83.81 306 P P 20 43 54.7 +0.1
RAR Rarotonga 83.88 117 eP P 20 43 56.0 +1.1
RAR pmax pmax
comp=Z,238nm,1.3s
RAR Rarotonga 83.88 117 LR LR 21 13 22.7
comp=Z,22µm,21.6s,baz=310,slow=30
RAR Rarotonga 83.88 117 eP P 20 43 56.0 +1.1
comp=Z,238nm,1.3s
NLW Nelson Butte 83.95 39 P P 20 43 56.4 +1.2
SOH Sokhos 83.96 313 P P 20 43 55.1 -0.1
SOH Sokhos 83.96 313 P P 20 43 55.1 -0.1
SOH Sokhos 83.96 313 P P 20 43 55.1 -0.1
PKST T˘'s 84.00 320⇓eP P 20 43 56.6 +1.4
COR Corvallis 84.03 43⇓eP P 20 43 56.8 +1.4
COR pmax pmax
comp=Z,2µm,1.3s
COR Corvallis 84.03 43⇓eP P 20 43 56.8 +1.4
comp=Z,2µm,1.3s
KNT Kendrikon 84.10 313 P P 20 43 55.9 0.0
KNT Kendrikon 84.10 313 P P 20 43 55.9 0.0
KNT Kendrikon 84.10 313 P P 20 43 55.9 0.0
RNO Roman Nose 84.10 44 P P 20 43 58.9 +3.0
PLG Polygyros 84.12 312 P P 20 43 55.9 -0.1
PLG Polygyros 84.12 312 P P 20 43 55.9 -0.1
PLG Polygyros 84.12 312 P P 20 43 55.9 -0.1
PVCC Panska Ves 84.12 324⇑eP P 20 43 56.8 +1.0
PVCC esP sP 20 44 07.4 +0.9
PVCC eSKS SKSac 20 54 17.7 0.0
PVCC AMS AMS 21 26 00.0
comp=Z,311µm,16.6s
PAIG Paliouri 84.18 312 P P 20 43 56.0 -0.3
PAIG Paliouri 84.18 312 P P 20 43 56.0 -0.3
PAIG Paliouri 84.18 312 P P 20 43 56.0 -0.3
PKSM Moragy 84.19 319⇓iP P 20 43 57.6 +1.4
PKSM Moragy 84.19 319⇑eP P 20 43 57.2 +1.0
PKS9 Tamasi 84.21 319⇓eP P 20 43 57.8 +1.5
VAY Valandovo 84.23 313 P P 20 43 56.1 -0.4
VAY Valandovo 84.23 313 P P 20 43 56.1 -0.4
VAY Valandovo 84.23 313⇑iP P 20 43 56.8 +0.3
VAY ⇑iS S 20 54 21.6 +1.2
VAY Valandovo 84.23 313 P P 20 43 56.1 -0.4
HORT Hortiatis 84.24 312 P P 20 43 56.4 -0.3
HORT Hortiatis 84.24 312 P P 20 43 56.4 -0.3
KEBM Edson Butte 84.25 45⇓eP P 20 43 57.9 +1.2
comp=Z,2µm,1.2s
BRG Berggiesshubel 84.26 325 iP P 20 43 58.0 +1.5
comp=Z,665nm,1.4s
BRG iPCP pP 20 44 02.4 -1.9
comp=Z,400nm,1.2s
BRG i 20 44 10.7
comp=Z,575nm,1.2s
BRG PP PP 20 47 08.0 -2.6
BRG S S 20 54 18.0 -2.4
BRG PS PnS 20 55 13.0 -2.2
BRG SS SS 20 59 41.0 -8.1
BRG ePKKP PKKPdf 21 02 04.5 +4.2
comp=Z,59nm,1.9s
BRG ePKPPKP P'P'df 21 10 11.4 -8.0
comp=Z,81nm,2.1s
comp=N,622µm,21.6s
comp=E,422µm,22.2s
comp=Z,335µm,17.8s
BRG Berggiesshubel 84.26 325 iP P 20 43 58.0 +1.5
BRG i 20 44 02.4
BRG i 20 44 10.7
BRG 20 47 08.0
BRG S S 20 54 18.0 -2.4
BRG PS PnS 20 55 13.0 -2.2
BRG pmax pmax
comp=Z,665nm,1.4s
BRG MLR MLR
comp=N,622µm,21.6s
BRG MLR MLR
comp=E,422µm,22.2s
BRG MLR MLR
comp=Z,335µm,17.8s
BRG Berggiesshubel 84.26 325 eP P 20 43 57.5 +1.0
comp=Z,670nm,1.4s
BRG eS S 20 54 22.0 +1.6
BSEG Bad Segeberg 84.26 328 eP P 20 43 57.7 +1.3
comp=Z,1µm,1.4s
BSEG eS S 20 54 19.2 -1.0
APE Apeiranthos 84.27 308 P P 20 43 55.5 -1.4
APE Apeiranthos 84.27 308 eP P 20 43 55.9 -0.9
APE Apeiranthos 84.27 308c iP P 20 43 56.0 -0.9
APE pmax pmax
comp=Z,283nm,1.8s
APE Apeiranthos 84.27 308⇑iP P 20 43 55.3 -1.6
APE Apeiranthos 84.27 308 P P 20 43 55.5 -1.4
THE Thessaloniki 84.31 313 P P 20 43 56.2 -0.7
THE Thessaloniki 84.31 313 P P 20 43 56.2 -0.7
THE Thessaloniki 84.31 313 P P 20 43 56.2 -0.7
TREC Trest 84.32 323⇑iP P 20 43 57.7 +0.8
TREC e 20 44 05.2
TREC e 20 54 20.2
TREC MLR MLR
comp=Z,450µm,19.3s
TREC Trest 84.32 323⇑iP P 20 43 57.7 +0.8
TREC epP pP 20 44 05.2 +0.4
TREC eSKS S 20 54 20.2 -1.0
TREC AMS AMS 21 24 20.0
comp=Z,450µm,19.3s
MCQ Macquarie Isla 84.34 163 eP P 20 43 56.6 +0.2
MCQ Macquarie Isla 84.34 163 eP P 20 43 56.6 +0.2
comp=Z,67µm,1.4s
WTV Waterville 84.37 39 P P 20 43 57.3 +0.1
AOS Alonnisos 84.41 311 P P 20 43 57.2 -0.3
AOS Alonnisos 84.41 311 eP P 20 43 57.7 +0.3
AOS Alonnisos 84.41 311 P P 20 43 57.2 -0.3
PRU Pruhonice 84.44 324⇑iP P 20 43 58.0 +0.6
PRU e 20 44 05.2
PRU e 20 47 14.7
PRU e 20 54 20.5
PRU e 20 55 25.5
PRU Pruhonice 84.44 324⇑iP P 20 43 58.0 +0.6
PRU epP pP 20 44 05.2 -0.1
PRU ePP PP 20 47 14.7 +2.6
PRU eSKS S 20 54 20.5 -1.8
PRU ePS PnS 20 55 25.5 +8.0
PRU ePKPPKP P'P'df 21 10 10.1 -9.0
PRU ex x 21 10 23.7
PRU AMS AMS 21 24 40.0
comp=Z,386µm,18.8s
I03D Drain, OR 84.45 44 ⇑P P 20 43 58.3 +0.7
baz=84
PRA Prague 84.45 324 ⇑P P 20 43 58.0 +0.5
PRA PP PP 20 47 15.0 +2.8
PRA SKS S 20 54 21.0 -1.4
PRA PKPPKP P'P'df 21 10 11.0 -8.1
DIVS Divibare 84.48 317 P P 20 43 58.2 +0.4
CLL Collm 84.49 325⇑iP P 20 43 58.7 +1.1
CLL i 20 44 04.4
CLL i 20 44 12.3
CLL eS S 20 54 22.0 -0.7
CLL pmax pmax
comp=Z,895nm,1.5s
CLL MLR MLR
comp=Z,480µm,18.7s
CLL Collm 84.49 325 eP P 20 43 58.9 +1.3
comp=Z,911nm,1.3s
CLL eS S 20 54 24.7 +2.0
CLL Collm 84.49 325⇑iP P 20 43 58.7 +1.1
comp=Z,895nm,1.5s
CLL iPmax 20 43 59.1
CLL ipP pP 20 44 04.4 -1.1
CLL i 20 44 12.3
comp=Z,692nm,0.9s
CLL ePP PP 20 47 12.0 -0.5
CLL ePPPP 20 50 42.0
CLL eS S 20 54 22.0 -0.7
comp=N,15µm,18.6s
CLL eS S 20 54 22.0 -0.7
comp=E,54µm,23.8s
CLL ePS PnS 20 55 19.0 +1.0
CLL eSS SS 20 59 58.0 +5.5
CLL ePKKPdf PKKPdf 21 01 56.0 -3.9
CLL ePKKPbc PKKPbc 21 02 10.0 +0.9
CLL e 21 04 24.0
CLL ePKPPKPdP'P'df 21 10 12.0 -7.0
CLL e 21 13 34.0
CLL LmH 21 18 00.0
comp=N,810µm,21.4s
CLL LmH 21 18 00.0
comp=E,725µm,22.0s
CLL Lmax 21 25 00.0
CLL LmV 21 26 00.0
comp=Z,480µm,18.7s
GRG Griva 84.53 313 P P 20 43 57.5 -0.6
GRG Griva 84.53 313 P P 20 43 57.5 -0.6
GRG Griva 84.53 313 P P 20 43 57.5 -0.6
SOP Sopron 84.61 321⇑eP P 20 43 59.8 +1.5
SKO Skopje 84.64 314 P P 20 43 59.0 +0.4
SKO Skopje 84.64 314 P P 20 43 59.0 +0.4
SKO Skopje 84.64 314⇑iP P 20 43 59.6 +1.0
SKO ⇑iS S 20 54 27.3 +2.7
SKO Skopje 84.64 314 P P 20 43 59.0 +0.4
KBO Bosley Butte 84.65 45 eP P 20 44 01.1 +2.3
comp=Z,2µm,1.7s
EDM Edmonton 84.67 32⇓eP P 20 43 58.8 +0.2
EDM Edmonton 84.67 32⇓eP P 20 43 58.8 +0.2
EDM ePP PP 20 46 57.7 -16
RER Riviere de l'E 84.69 244 eP P 20 43 56.5 -2.6
comp=Z,247nm,0.8s
RER LR LR
comp=Z,44µm,19.0s
SKIA Skiathos 84.69 311 P P 20 43 58.8 -0.1
ZKR Zakros 84.70 306 P P 20 43 59.9 +0.9
ZKR Zakros 84.70 306 P P 20 43 59.9 +0.9
XOR Xorichti 84.78 311 P P 20 43 58.8 -0.6
XOR Xorichti 84.78 311 P P 20 43 58.8 -0.6
NEO Neokhori 84.79 311 P P 20 43 58.7 -0.7
NEO Neokhori 84.79 311 P P 20 43 58.7 -0.7
MRKA Markates 84.83 311 P P 20 43 59.1 -0.6
LRW Lerwick 84.86 337 eP P 20 43 59.4 +0.1
LRW AMB AMB 20 44 00.7
comp=Z,536nm,1.4s
LRW AMS AMS 21 25 15.2
comp=Z,160µm,21.3s
CONA Conrad Observa 84.87 321⇑iPcP P 20 44 01.1 +1.4
comp=Z,971nm,1.3s,SNR=214
G05D Wamic, OR 84.89 42 ⇑P P 20 44 00.1 +0.3
baz=85
LIT Litokhoron 84.89 312 P P 20 43 59.4 -0.5
LIT Litokhoron 84.89 312 P P 20 43 59.4 -0.5
LIT Litokhoron 84.89 312 P P 20 43 59.4 -0.5
FYTO Fytoko, Volos 84.93 311 P P 20 43 59.4 -0.7
FYTO Fytoko, Volos 84.93 311 P P 20 43 59.4 -0.7
PTL Penteli 84.96 310 P P 20 43 59.3 -1.0
PTL Penteli 84.96 310 P P 20 43 59.3 -1.0
I04A Tendick Farm, 84.98 43 ⇑P P 20 44 01.3 +1.0
baz=85
SMIA Simia 85.01 311 P P 20 44 00.5 0.0
E07A Sunnyside 85.05 40 P P 20 44 01.4 +0.9
ATHU Athens Univers 85.06 310 P P 20 43 59.8 -1.0
ATHU Athens Univers 85.06 310 P P 20 43 59.8 -1.0
NPS Neapolis 85.06 307 P P 20 44 01.1 +0.2
NPS Neapolis 85.06 307 P P 20 44 01.1 +0.2
NPS Neapolis 85.06 307 P P 20 44 01.1 +0.2
L02D Cave Junction, 85.08 45 ⇓P P 20 44 01.6 +0.8
baz=85
ILULI Ilulissat 85.08 360⇑iP P 20 44 01.0 +0.8
ILULI i 20 47 16.0
ILULI iS S 20 54 25.8 -2.1
ILULI pmax pmax
comp=Z,750nm,1.0s
ILULI MLR MLR
comp=Z,91µm,22.0s
ILULI Ilulissat 85.08 360⇑iP P 20 44 01.0 +0.8
comp=Z,750nm,0.9s
ILULI i 20 47 16.0
ILULI i 20 47 16.0
ILULI iS S 20 54 25.8 -2.1
comp=Z,91µm,22.0s
ATH Athens Observa 85.10 310 P P 20 44 00.1 -0.9
ATH Athens Observa 85.10 310 P P 20 44 00.1 -0.9
ATH Athens Observa 85.10 310 P P 20 44 00.1 -0.9
BEHE Becsehely 85.15 320⇑eP P 20 44 02.3 +1.2
IVA Berane 85.17 316⇓iP P 20 44 03.5 +2.1
NEUB Neuenburg 85.18 326 eP P 20 44 02.4 +1.3
comp=Z,1µm,1.3s
LAST Lasithi 85.21 307 P P 20 44 02.5 +0.8
LAST Lasithi 85.21 307 P P 20 44 02.5 +0.8
NRDL Niedersach Rie 85.23 327 eP P 20 44 02.5 +1.3
comp=Z,594nm,1.3s
NRDL eS S 20 54 31.5 +1.6
HLG Helgoland 85.24 330 eP P 20 44 02.7 +1.4
comp=Z,3µm,2.0s
PLE Pljevlja 85.25 316⇓iP P 20 44 03.7 +1.9
HUMO Hull Mountain 85.26 45⇓eP P 20 44 02.5 +0.8
comp=Z,502nm,1.3s
LKR Lokris 85.26 311 P P 20 44 00.8 -1.0
LKR Lokris 85.26 311 P P 20 44 00.8 -1.0
KZN Kozani 85.26 313 P P 20 44 01.3 -0.6
KZN Kozani 85.26 313 P P 20 44 01.3 -0.6
KZN Kozani 85.26 313 P P 20 44 01.3 -0.6
PVY Plav 85.27 315⇓iP P 20 44 03.5 +1.6
SOFL Sornfelli, Far 85.28 341 eP P 20 44 00.2 -1.2
SOFL AMB AMB 20 44 03.3
comp=Z,487nm,1.6s
SOFL AMS AMS 21 20 18.9
comp=Z,136µm,19.9s
FNA Florina 85.28 313 P P 20 44 01.4 -0.5
FNA Florina 85.28 313 P P 20 44 01.4 -0.5
FNA Florina 85.28 313 P P 20 44 01.4 -0.5
TANN Tannenbergstha 85.29 325 eP P 20 44 02.7 +0.9
comp=Z,361nm,1.3s
WRD Warden 85.32 40 P P 20 44 03.6 +1.7
HAWA Hanford 85.32 40⇓eP P 20 44 01.6 -0.3
comp=Z,1µm,1.5s
HAWA LR LR
comp=Z,28µm,20.0s
WERD Werda 85.35 325 eP P 20 44 03.3 +1.3
comp=Z,542nm,1.4s
I05D Terrebonne, OR 85.36 43 ⇑P P 20 44 03.0 +0.8
baz=85
GUNZ Gunzen 85.39 325 eP P 20 44 03.3 +1.1
comp=Z,728nm,1.3s
GUNZ eS S 20 54 33.8 +2.0
PLN Plauen 85.41 325 eP P 20 44 03.4 +1.1
comp=Z,555nm,1.3s
WERN Wernitzgruen 85.41 325 eP P 20 44 03.8 +1.5
comp=Z,829nm,1.3s
PHP Peshkopia 85.43 314 P P 20 44 03.1 +0.4
PHP Peshkopia 85.43 314 P P 20 44 03.1 +0.4
PHP Peshkopia 85.43 314 P P 20 44 03.1 +0.4
AXAR Agios Charalam 85.44 311 P P 20 44 01.3 -1.4
AXAR Agios Charalam 85.44 311 P P 20 44 01.3 -1.4
ARSA Arzberg 85.44 321⇑iPcP P 20 44 03.4 +0.9
comp=Z,391nm,1.4s,SNR=81
KHC Kasperske Hory 85.45 323⇑iP P 20 44 03.4 +0.8
KHC e 20 44 10.8
KHC e 20 44 16.0
KHC e 20 47 22.8
KHC e 20 54 27.2
KHC MLR MLR
comp=Z,416µm,18.1s
KHC Kasperske Hory 85.45 323⇑iP P 20 44 03.4 +0.8
KHC epP pP 20 44 10.8 +0.3
KHC esP sP 20 44 16.0 +2.7
KHC ePP PP 20 47 22.8 +2.4
KHC eSKS SKSac 20 54 27.2 +0.9
KHC ePKPPKP P'P'df 21 10 11.9 -5.4
KHC AMS AMS 21 25 20.0
comp=Z,416µm,18.1s
KHC Kasperske Hory 85.45 323⇑eP P 20 44 02.7 +0.2
comp=Z,480nm,1.3s
J04D Umpqua Nationa 85.46 44 ⇑P P 20 44 03.9 +0.9
baz=85
THL Klokotos Trika 85.47 312 P P 20 44 01.5 -1.3
CLZ Clausthal 85.50 327 eP P 20 44 04.3 +1.5
comp=Z,2µm,1.2s
CLZ eS S 20 54 35.2 +2.4
AGG Agios Georgios 85.53 311 P P 20 44 01.3 -1.9
AGG Agios Georgios 85.53 311 P P 20 44 01.3 -1.9
AGG Agios Georgios 85.53 311 P P 20 44 01.3 -1.9
GEC2 GERESS Array S 85.55 323 eP P 20 44 04.2 +1.1
comp=Z,437nm,1.4s
GERES GERESS Array B 85.55 323 P P 20 44 03.9 +0.7
comp=Z,40nm,0.6s,baz=53,slow=5.2,SNR=97
GERES PKKPbc PKKPbc 21 02 06.0 -0.8
comp=Z,10.0nm,1.1s,baz=264,slow=2.0,SNR=9.0
GERES PKPPKP P'P'df 21 10 14.2 -3.0
comp=Z,7.9nm,1.2s,baz=182,slow=4.8,SNR=6.5
GERES LR LR 21 25 57.0
comp=Z,510µm,19.2s,baz=50,slow=38
LTK Loutraki 85.59 310 P P 20 44 01.9 -1.6
LTK Loutraki 85.59 310 P P 20 44 01.9 -1.6
MOX Moxa 85.59 325 eP P 20 44 04.1 +0.9
comp=Z,2µm,2.6s
MOX eS S 20 54 36.6 +2.9
MOX eL L 21 26 22.1
comp=Z,471µm,19.1s
UPM Unac-Piva 85.62 316⇓iP P 20 44 04.9 +1.2
NEW Newport 85.64 38⇓eP P 20 44 03.8 +0.2
NEW pmax pmax
comp=Z,533nm,1.3s
NEW Newport 85.64 38⇓eP P 20 44 03.8 +0.2
comp=Z,533nm,1.3s
NEW Newport 85.64 38 ⇑P P 20 44 03.3 -0.2
baz=86
KHMM Horse Mountain 85.65 46⇓eP P 20 44 04.7 +0.8
comp=Z,604nm,1.5s
DID Didima 85.66 310 P P 20 44 01.9 -1.9
DID Didima 85.66 310 P P 20 44 01.9 -1.9
MAKR Makrakomi, Fth 85.67 311 P P 20 44 03.0 -0.9
MAKR Makrakomi, Fth 85.67 311 P P 20 44 03.0 -0.9
DSF Desfina 85.70 311 P P 20 44 02.4 -1.7
DSF Desfina 85.70 311 P P 20 44 02.4 -1.7
KBN Korca 85.75 313 P P 20 44 04.1 -0.2
KBN Korca 85.75 313 P P 20 44 04.1 -0.2
KBN Korca 85.75 313 P P 20 44 04.1 -0.2
SIVA Sivas 85.76 307 P P 20 44 04.9 +0.6
SIVA Sivas 85.76 307 eP P 20 44 05.3 +1.0
SIVA Sivas 85.76 307 P P 20 44 04.9 +0.6
NKY Niksic 85.77 316⇓iP P 20 44 06.0 +1.6
PDG Podgorica 85.80 316 P P 20 44 05.0 +0.6
TTG Podgorica 85.80 316⇓iP P 20 44 04.6 +0.2
TTG Podgorica 85.80 316 P P 20 44 05.0 +0.6
TTG Podgorica 85.80 316 P P 20 44 05.0 +0.6
MOA Molln 85.80 322 iPcP PcP 20 44 06.0 -1.2
comp=Z,846nm,1.3s,SNR=47
ROTZ Rotzenmuhle 85.81 324 eP P 20 44 05.7 +1.4
comp=Z,859nm,1.4s
WET Wettzell 85.81 324 eP P 20 44 05.5 +1.1
comp=Z,248nm,1.3s
YBH Yreka Blue Hor 85.87 45⇓eP P 20 44 04.5 -0.3
YBH pmax pmax
comp=Z,899nm,1.5s
YBH Yreka Blue Hor 85.87 45⇓eP P 20 44 04.5 -0.3

comp=Z,899nm,1.5s
PINOR Pine Mountain 85.92 43⇓eP P 20 44 06.2 +1.3
comp=Z,2µm,1.4s
SISC Sisak 85.93 319 P P 20 44 06.4 +1.5
EVR Evrytania 85.94 311 P P 20 44 04.5 -0.8
EVR Evrytania 85.94 311 P P 20 44 04.5 -0.8
M02C Callahan 85.95 46 ⇑P P 20 44 06.4 +1.2
baz=86
KALE Kalithea 85.98 311 P P 20 44 04.2 -1.2
KALE Kalithea 85.98 311 P P 20 44 04.2 -1.2
J05D Fort Rock, OR 85.98 43 ⇑P P 20 44 05.8 +0.4
baz=86
K04D Chiloquin, OR 86.01 44 ⇓P P 20 44 06.5 +0.9
baz=86
VAM Vamos 86.01 307 P P 20 44 03.1 -2.5
VAM Vamos 86.01 307 P P 20 44 03.1 -2.5
VAM Vamos 86.01 307 P P 20 44 03.1 -2.5
PERS Pernice 86.01 321 eP P 20 44 05.8 +0.4
PERS ePP PP 20 47 23.1 -2.0
PERS eSKSac SKSac 20 54 28.5 -1.4
SOKA Soboth 86.03 321⇑iPcP P 20 44 06.2 +0.6
comp=Z,528nm,1.7s,SNR=89
ULC Ulcinj 86.05 315⇓iP P 20 44 08.1 +2.4
GUR Goura 86.06 310 P P 20 44 04.6 -1.3
GUR Goura 86.06 310 P P 20 44 04.6 -1.3
BUM Brajici-Budva 86.10 316⇓iP P 20 44 06.4 +0.4
EFP Efpalio 86.12 311 P P 20 44 05.5 -0.5
KLV Kalavryta, Ach 86.14 311 P P 20 44 05.1 -1.2
KLV Kalavryta, Ach 86.14 311 P P 20 44 05.1 -1.2
LAKA Lakka 86.16 311 P P 20 44 05.7 -0.6
LAKA Lakka 86.16 311 P P 20 44 05.7 -0.6
JAN Janina 86.20 313 P P 20 44 06.5 0.0
JAN Janina 86.20 313 P P 20 44 06.5 0.0
JAN Janina 86.20 313 P P 20 44 06.5 0.0
VLI Veliai 86.26 309 P P 20 44 05.2 -1.6
VLI Veliai 86.26 309 P P 20 44 05.2 -1.6
N02D Trinity Center 86.27 46 ⇓P P 20 44 08.1 +1.3
baz=86
HCY Herceg Novi 86.27 316⇓iP P 20 44 07.1 +0.4
DSL Palaion Diasel 86.31 312 P P 20 44 06.4 -0.6
DSL Palaion Diasel 86.31 312 P P 20 44 06.4 -0.6
UBBA Unterbreizbach 86.31 326 eP P 20 44 07.6 +1.0
comp=Z,807nm,1.6s
UBBA eS S 20 54 42.6 +2.2
VLX Vlachokerasia 86.32 310 P P 20 44 06.1 -1.1
VLX Vlachokerasia 86.32 310 P P 20 44 06.1 -1.1
KCPM Cahto Peak 86.36 47 eP P 20 44 08.7 +1.3
comp=Z,309nm,1.3s
GRF Grafenberg Arr 86.37 325 eP P 20 44 08.4 +1.3
comp=Z,2µm,1.3s
GRF eS S 20 54 43.5 +2.2
GRF eL L 21 28 29.6
comp=Z,336µm,18.1s
M04C Macdoel 86.40 45 ⇑P P 20 44 08.2 +0.7
baz=86
KYTH Kithira 86.40 309 P P 20 44 09.3 +1.8
KYTH Kithira 86.40 309 P P 20 44 09.3 +1.8
OBKA Obir 86.41 321⇓iPcP P 20 44 07.8 +0.4
comp=Z,242nm,1.2s,SNR=19
ANKY Antikythira Is 86.42 308 P P 20 44 09.2 +1.6
ANKY Antikythira Is 86.42 308 P P 20 44 09.2 +1.6
IBBN Ibbenburen 86.48 328 eP P 20 44 08.5 +1.0
comp=Z,2µm,1.3s
IBBN eS S 20 54 44.4 +2.2
DRO Drossia 86.49 311 P P 20 44 07.9 0.0
PDO Prodromos 86.52 311 P P 20 44 07.2 -0.8
STON Ston 86.54 316 P P 20 44 07.9 -0.1
BOJS Bojanci 86.57 320 eP P 20 44 09.2 +1.1
BOJS ePP PP 20 47 07.6 -22
BOJS eSKSac SKSac 20 54 31.6 -1.7
BOJS e 20 54 45.6
BORG Borgarnes 86.57 348 eP P 20 44 05.9 -1.8
BORG pmax pmax
comp=Z,682nm,1.1s
BORG MLR MLR
comp=Z,57µm,21.0s
BORG Borgarnes 86.57 348 eP P 20 44 05.9 -1.8
comp=Z,682nm,1.1s
BORG LR LR
comp=Z,57µm,21.0s
WDC Whiskeytown Da 86.58 46 eP P 20 44 09.1 +0.9
WDC pmax pmax
comp=Z,445nm,1.1s
WDC Whiskeytown Da 86.58 46 eP P 20 44 09.1 +0.9
comp=Z,445nm,1.1s
RLS Riolos of Patr 86.60 311 P P 20 44 08.7 +0.3
RLS Riolos of Patr 86.60 311 P P 20 44 08.7 +0.3
IGT Igoumenitsa 86.61 313 P P 20 44 08.0 -0.5
IGT Igoumenitsa 86.61 313 P P 20 44 08.0 -0.5
IGT Igoumenitsa 86.61 313 P P 20 44 08.0 -0.5
SRN Sarande 86.65 313 P P 20 44 08.4 -0.2
SRN Sarande 86.65 313 P P 20 44 08.4 -0.2
VLO Vlora 86.67 314 P P 20 44 09.6 +0.9
VLO Vlora 86.67 314 P P 20 44 09.6 +0.9
VLO Vlora 86.67 314 P P 20 44 09.6 +0.9
RJOB Jochberg 86.68 322 eP P 20 44 10.0 +1.3
comp=Z,563nm,1.0s
LJU Ljubljana 86.68 320 eP P 20 44 09.2 +0.6
LJU e 20 44 27.9
LJU ePP PP 20 47 15.7 -15
LJU eSKSac SKSac 20 54 29.5 -4.5
LJU e 20 54 45.6
LJU eS ScS 20 54 59.5 +6.8
AMT Artemida-Makis 86.70 310 P P 20 44 08.6 -0.2
ITM Ithomi 86.73 310 P P 20 44 08.2 -0.9
ITM Ithomi 86.73 310 P P 20 44 08.2 -0.9
KBA Koelnbreinsper 86.76 322 iPcP P 20 44 09.7 +0.5
comp=Z,551nm,1.4s,SNR=26
UDBI Udbina 86.81 319 P P 20 44 10.2 +0.8
MYKA Terra Mystica 86.85 321⇑iPcP P 20 44 09.8 +0.2
comp=Z,294nm,1.2s,SNR=29
KEK Kerkira 86.87 313 P P 20 44 09.5 -0.2
KEK Kerkira 86.87 313 P P 20 44 09.5 -0.2
WALA Waterton Lakes 86.90 36 eP P 20 44 10.2 +0.3
comp=Z,19nm,1.4s
WALA ePP PP 20 47 32.6 +0.4
MLA1 Latheron 86.97 337⇑iP P 20 44 10.0 +0.2
PYL PYLOS 87.00 310 P P 20 44 09.5 -0.9
PYL PYLOS 87.00 310 P P 20 44 09.5 -0.9
BIGH Upper Bighouse 87.02 337 eP P 20 44 09.6 -0.4
JAVS Javornik 87.03 320 iP P 20 44 10.5 0.0
JAVS eSKSac SKSac 20 54 31.7 -4.7
JAVS e 20 54 51.8
KFL Anninata 87.04 311 P P 20 44 10.6 +0.1
HOPS Hopland 87.05 48 eP P 20 44 12.0 +1.4
comp=Z,972nm,1.6s
VLS Valsamata 87.14 311 P P 20 44 10.4 -0.7
VLS Valsamata 87.14 311 P P 20 44 10.4 -0.7
VLS Valsamata 87.14 311 P P 20 44 10.4 -0.7
BSMT Bassoo Peak 87.15 37 eP P 20 44 11.7 +0.5
comp=Z,1µm,1.3s
WTSB Winterswijk 87.15 328 iP P 20 44 11.4 +0.6
comp=Z,2µm,2.3s
FUR Furstenfeldbru 87.25 323 eP P 20 44 12.8 +1.4
comp=Z,1µm,1.2s
FUR eS S 20 54 54.1 +4.1
BUG Bochum--Univer 87.27 328 eP P 20 44 12.0 +0.7
comp=Z,896nm,1.3s
BUG eS S 20 54 54.6 +4.8
BLMT Blacktail Moun 87.29 37 eP P 20 44 13.3 +1.5
comp=Z,503nm,1.4s
MOD Modoc 87.30 44 eP P 20 44 13.4 +1.4
comp=Z,1µm,1.3s
MOD ePP PP 20 47 30.7 -5.0
SFJD Kangerlussuaq 87.31 360⇑iP P 20 44 11.8 +0.6
SFJD i 20 47 35.3
SFJD iS SKSac 20 54 33.1 -3.9
SFJD pmax pmax
comp=Z,340nm,1.0s
SFJD MLR MLR
comp=Z,78µm,18.0s
SFJD Kangerlussuaq 87.31 360⇑iP P 20 44 11.8 +0.6
comp=Z,340nm,0.9s
SFJD i 20 47 34.1
SFJD i 20 47 35.3
SFJD iS SKSac 20 54 33.1 -3.9
comp=Z,78µm,18.0s
SFJD Kangerlussuaq 87.31 360 eP P 20 44 11.3 0.0
comp=Z,508nm,0.9s
SFD Strofades 87.32 310 P P 20 44 11.9 0.0
NVLJ Novalja 87.32 319 P P 20 44 12.1 +0.3
ABTA Abfaltersbach 87.42 322⇑iPcP P 20 44 12.0 -0.3
comp=Z,824nm,1.3s,SNR=40

TNS Taunus Mts 87.46 326 eP P 20 44 12.9 +0.5
comp=Z,336nm,1.3s
MCD Coleburn Disti 87.47 336⇑iP P 20 44 11.9 -0.3
BMO Blue Mountains 87.48 41 eP P 20 44 13.1 +0.4
comp=Z,434nm,1.3s
BMO LR LR
comp=Z,33µm,20.0s
JTMT Jette 87.49 37 eP P 20 44 14.1 +1.3
comp=Z,730nm,1.7s
MVH1 Achvaich 87.54 337⇑eP P 20 44 12.7 +0.1
RSC Scourie 87.56 338⇑eP P 20 44 12.4 -0.2
YBMT Yellow Bay 87.57 37 eP P 20 44 14.3 +1.2
comp=Z,235nm,1.2s
WATA Walderalm 87.58 323⇓iPcP P 20 44 13.7 +0.5
comp=Z,643nm,1.3s,SNR=48
WTTA Wattenberg 87.59 323⇑iPcP P 20 44 13.3 0.0
comp=Z,924nm,1.2s,SNR=55
MCCM Marconi Confer 87.62 48 eP P 20 44 14.0 +0.7
comp=Z,764nm,1.3s
DRUM Mains of Drum 87.68 336 eP P 20 44 12.9 -0.4
DRUM AMB AMB 20 44 14.0
comp=Z,378nm,2.0s
DRUM AMS AMS 21 29 17.2
comp=Z,235µm,16.7s
SWMT Swartz Lake 87.78 37 eP P 20 44 14.8 +0.7
comp=Z,191nm,1.1s
MOTA Moosalm 87.84 323 iPcP P 20 44 14.7 +0.3
comp=Z,290nm,0.9s,SNR=79
RETA Reutte 87.94 323 iPcP P 20 44 15.4 +0.6
comp=Z,275nm,1.2s,SNR=27
MDO Dochfour 87.97 337⇑eP P 20 44 14.1 -0.5
STU Stuttgart 87.98 325 eP P 20 44 15.0 +0.1
STU pmax pmax
comp=Z,333nm,0.9s
STU Stuttgart 87.98 325 eP P 20 44 15.2 +0.3
comp=Z,531nm,1.3s
STU Stuttgart 87.98 325 eP P 20 44 15.0 +0.1
comp=Z,333nm,0.9s
WVOR Wild Horse Val 88.04 43 eP P 20 44 16.0 +0.5
WVOR pmax pmax
comp=Z,823nm,1.4s
WVOR Wild Horse Val 88.04 43 eP P 20 44 16.0 +0.5
comp=Z,823nm,1.4s
RRR Rubha Reidh 88.16 337⇑eP P 20 44 15.6 +0.1
SLMT Seeley Lake 88.22 37 eP P 20 44 16.4 +0.1
comp=Z,809nm,1.6s
MSO Missoula 88.23 38 ⇑P P 20 44 15.8 -0.5
baz=88
FETA Feichten 88.23 323 iPcP P 20 44 17.0 +0.6
comp=Z,370nm,1.0s,SNR=40
KAC Achnashellach 88.26 337⇑iP P 20 44 16.2 +0.2
HGN Heimansgroeve 88.35 328 iP P 20 44 17.1 +0.5
comp=Z,2µm,2.6s
HGN ePP PP 20 47 44.2 +0.7
HGN eS SKSac 20 54 43.8 -0.1
HGN eSS SS 21 00 54.7 +5.8
MEM Membach 88.41 327 P P 20 44 17.9 +1.0
comp=Z,140nm,1.5s
RRH Rhenigidale 88.41 338⇑eP P 20 44 16.1 -0.6
BEBN Eben Emael 88.45 328 P P 20 44 17.4 +0.4
FCC Fort Churchill 88.48 21 eP P 20 44 17.0 0.0
FCC Fort Churchill 88.48 21 eP P 20 44 17.0 0.0
comp=Z,50nm,1.6s
KPL Plockton 88.50 337 eP P 20 44 17.6 +0.5
KPL AMB AMB 20 44 23.5
comp=Z,384nm,1.9s
KPL AMS AMS 21 29 53.3
comp=Z,137µm,15.9s
KSB Sheil Bridge 88.52 337⇑iP P 20 44 16.7 -0.5
DAVA Damuels 88.53 323 iPcP P 20 44 18.5 +0.8
comp=Z,390nm,0.8s,SNR=42
CHMT Chamberlain Mo 88.55 37 eP P 20 44 18.3 +0.4
comp=Z,131nm,0.8s
LANF Langenberg 88.56 325 eP P 20 44 18.4 +0.7
EDI Edinburgh 88.67 335 AMS AMS 21 29 44.5
comp=Z,195µm,17.1s
FFC Flin Flon 88.70 27 eP P 20 44 18.4 +0.2
FFC pmax pmax
comp=Z,1µm,1.3s
FFC MLR MLR
comp=Z,61µm,22.0s
FFC Flin Flon 88.70 27 eP P 20 44 18.4 +0.2
comp=Z,1µm,1.3s
FFC LR LR
comp=Z,61µm,22.0s
BFO Black Forest 88.70 325 P P 20 44 19.4 +1.0
comp=Z,1µm,1.1s,SNR=30
BFO Black Forest 88.70 325⇑eP P 20 44 18.0 -0.3
BFO pmax pmax
comp=Z,333nm,1.2s
BFO MLR MLR
comp=Z,295µm,20.0s
BFO Black Forest 88.70 325 eP P 20 44 18.1 -0.3
comp=Z,513nm,1.4s
BFO eS S 20 55 06.4 +2.6
BFO Black Forest 88.70 325⇑eP P 20 44 18.0 -0.3
comp=Z,333nm,1.2s
BFO LR LR
comp=Z,295µm,20.0s
EBL Broad Law 88.73 335 eP P 20 44 18.4 +0.2
STR Strasbourg 88.84 325 eP P 20 44 17.2 -1.7
BCLA Clavier 88.88 328 P P 20 44 19.5 +0.4
comp=Z,139nm,2.4s
EAB Aberfoyle 88.91 336 eP P 20 44 19.0 -0.1
WLF Walferdange 88.96 327 P P 20 44 20.7 +1.2
comp=Z,171nm,1.6s
WLF Walferdange 88.96 327 eP P 20 44 19.5 0.0
WLF pmax pmax
comp=Z,267nm,1.0s
WLF Walferdange 88.96 327 eP P 20 44 20.5 +1.1
comp=Z,970nm,1.9s
WLF Walferdange 88.96 327 eP P 20 44 19.5 0.0
comp=Z,266nm,1.0s
UCC Uccle 89.08 328 P P 20 44 20.6 +0.6
XAL Allendale 89.08 334 eP P 20 44 19.2 -0.7
ESK Eskdalemuir 89.13 335 eP P 20 44 20.3 +0.2
ESK AMB AMB 20 44 26.2
comp=Z,239nm,2.8s
ESK e 20 47 04.9
ESK AMS AMS 21 30 04.2
comp=Z,192µm,18.0s
TIP Timpagrande 89.14 314 P P 20 44 21.4 +0.7
TIP Timpagrande 89.14 314 eP P 20 44 21.1 +0.5
comp=Z,194nm,1.3s
WLS Welschbruch 89.16 325 eP P 20 44 21.4 +0.9
MFID Camas Ranch 89.18 41 eP P 20 44 22.0 +1.2
comp=Z,829nm,1.4s
CDF Champ du Feu 89.20 325⇑iP P 20 44 21.3 +0.6
comp=Z,652nm,1.0s
CDF Champ du Feu 89.20 325⇑iP P 20 44 21.3 +0.6
CDF pmax pmax
comp=Z,652nm,1.0s
CDF Champ du Feu 89.20 325⇑iP P 20 44 21.3 +0.6
comp=Z,652nm,1.0s
ECK Cauldkaine Hil 89.20 335 eP P 20 44 20.8 +0.3
PGBU Glenifferbraes 89.24 336 eP P 20 44 20.7 +0.1
PGBU AMB AMB 20 44 25.4
comp=Z,415nm,2.8s
PGBU AMS AMS 21 29 13.3
comp=Z,189µm,19.0s
CUC Castrocucco 89.30 315 eP P 20 44 21.0 -0.3
comp=Z,230nm,1.5s
CUC LR LR
comp=Z,74µm,20.0s
SNF Seneffe 89.31 328 P P 20 44 21.7 +0.6
SAO San Andreas Ge 89.32 49 eP P 20 44 22.3 +0.9
SAO pmax pmax
comp=Z,212nm,1.2s
SAO San Andreas Ge 89.32 49 eP P 20 44 22.3 +0.9
comp=Z,212nm,1.2s
GIVF Givet 89.32 328⇑iP P 20 44 21.9 +0.8
comp=Z,389nm,1.2s
GIVF Givet 89.32 328⇑iP P 20 44 21.9 +0.8
GIVF pmax pmax
comp=Z,389nm,1.2s
GIVF Givet 89.32 328⇑iP P 20 44 21.9 +0.8
comp=Z,389nm,1.2s
TUE Stuetta 89.32 323 eP P 20 44 21.4 -0.1
comp=Z,328nm,0.8s
TUE eS SKSac 20 54 53.0 +2.6
LMK Market Rasen 89.33 332 AMS AMS 21 30 50.6
comp=Z,254µm,16.1s
CMB Columbia Colle 89.34 47 eP P 20 44 21.3 -0.3
CMB pmax pmax
comp=Z,333nm,1.1s
CMB Columbia Colle 89.34 47 eP P 20 44 21.3 -0.3

comp=Z,333nm,1.1s
CMB ePP PP 20 47 44.7 -7.4
ECH Echery 89.38 325 eP P 20 44 21.1 -0.4
ECH pmax pmax
comp=Z,227nm,1.1s
ECH MLR MLR
comp=Z,326µm,20.0s
ECH Echery 89.38 325 eP P 20 44 21.5 0.0
ECH Echery 89.38 325 eP P 20 44 21.1 -0.4
comp=Z,228nm,1.1s
ECH LR LR
comp=Z,326µm,20.0s
DOU Dourbes 89.43 328 P P 20 44 22.2 +0.6
comp=Z,75nm,1.6s
HRY Holter Researc 89.44 37 eP P 20 44 23.5 +1.5
comp=Z,927nm,1.5s
HPK Haverah Park 89.50 333 eP P 20 44 21.9 0.0
HPK AMB AMB 20 44 26.6
comp=Z,462nm,3.2s
HPK e 20 47 06.0
HPK AMS AMS 21 23 58.4
comp=Z,132µm,23.6s
MOF Molkenrain 89.63 325 eP P 20 44 22.8 0.0
A19A Klindworth Far 89.63 34 ⇓P P 20 44 23.2 +0.5
baz=90,SNR=141
KESW Keswick, Cumbr 89.63 334 eP P 20 44 23.1 +0.6
KESW AMB AMB 20 44 33.3
comp=Z,360nm,2.1s
KESW e 20 47 07.5
KESW AMS AMS 21 30 26.0
comp=Z,145µm,16.5s
BAIF Baives 89.64 328⇑iP P 20 44 23.4 +0.8
comp=Z,512nm,1.5s
BAIF Baives 89.64 328⇑iP P 20 44 23.4 +0.8
BAIF pmax pmax
comp=Z,512nm,1.5s
BAIF Baives 89.64 328⇑iP P 20 44 23.4 +0.8
comp=Z,512nm,1.5s
LRM Limekiln Ridge 89.66 38 eP P 20 44 23.1 0.0
comp=Z,2µm,1.3s
EGMT Eagleton 89.71 35 eP P 20 44 22.2 -0.9
comp=Z,3µm,0.8s
EGMT LR LR
comp=Z,42µm,20.0s
EGMT Eagleton 89.71 35 ⇓P P 20 44 23.8 +0.7
baz=90,SNR=158
WAKR Walker 89.71 47 eP P 20 44 23.8 +0.3
comp=Z,472nm,1.6s
HINF Hinterfeld 89.80 325⇑iP P 20 44 23.6 +0.1
comp=Z,358nm,1.2s
HINF Hinterfeld 89.80 325⇑iP P 20 44 23.6 +0.1
HINF pmax pmax
comp=Z,359nm,1.2s
HINF Hinterfeld 89.80 325⇑iP P 20 44 23.6 +0.1
comp=Z,358nm,1.2s
B19A Brinkman Farms 89.84 34 ⇓P P 20 44 24.4 +0.7
baz=90,SNR=113
PAGF Fort de Pagny 89.89 326⇑iP P 20 44 24.7 +0.8
comp=Z,134nm,1.1s,baz=62
PAGF Fort de Pagny 89.89 326⇑iP P 20 44 24.7 +0.8
comp=Z,134nm,1.1s
LHO Holmfirth 89.90 333⇑eP P 20 44 24.0 +0.2
HLID Hailey 89.92 40 eP P 20 44 25.0 +0.6
comp=Z,300nm,1.1s
HLID LR LR
comp=Z,37µm,22.0s
HLID Hailey 89.92 40 ⇑P P 20 44 25.0 +0.6
baz=90
HAU Haudompre 89.93 325⇑iP P 20 44 24.4 +0.3
comp=Z,335nm,1.1s
HAU eR
comp=Z,358µm,19.5s
HAU Haudompre 89.93 325⇑iP P 20 44 24.4 +0.3
HAU pmax pmax
comp=Z,335nm,1.1s
HAU Haudompre 89.93 325⇑iP P 20 44 24.4 +0.3
comp=Z,335nm,1.1s
KBI1 Birley Grange 89.97 333⇑eP P 20 44 23.2 -0.9
THEF They Montfort 89.97 326 eP P 20 44 24.4 +0.1
GAL1 Galloway 90.04 335 eP P 20 44 23.9 -0.5
GAL1 AMB AMB 20 44 29.2
comp=Z,346nm,2.5s
GAL1 e 20 47 11.2
GAL1 AMS AMS 21 30 47.9
comp=Z,202µm,16.7s
MCMT McKenzie Canyo 90.05 39 eP P 20 44 25.7 +0.7
comp=Z,131nm,1.2s
BMN Battle Mountai 90.05 44 eP P 20 44 25.7 +0.7
BMN pmax pmax
comp=Z,1µm,1.8s
BMN Battle Mountai 90.05 44 eP P 20 44 25.7 +0.7
comp=Z,1µm,1.8s
A20A Cobblestone Ra 90.07 33 ⇑P P 20 44 25.4 +0.7
baz=90,SNR=126
LOMF Lomont 90.11 325 eP P 20 44 23.0 -2.0
VLC Villacollemand 90.16 321 eP P 20 44 26.6 +1.4
comp=Z,458nm,1.4s
CEL Celeste 90.22 313⇑eP P 20 44 25.4 -0.2
comp=Z,704nm,1.0s
CEL ePP PP 20 47 58.8 -0.2
CEL LR LR
comp=Z,81µm,21.0s
BOZ Bozeman (W) 90.22 37 eP P 20 44 26.4 +0.7
BOZ pmax pmax
comp=Z,489nm,1.5s
BOZ MLR MLR
comp=Z,46µm,19.0s
BOZ Bozeman (W) 90.22 37 eP P 20 44 26.4 +0.7
comp=Z,489nm,1.5s
BOZ LR LR
comp=Z,46µm,19.0s
C19A Slack Wire Ran 90.25 35 ⇑P P 20 44 26.6 +0.9
baz=90,SNR=148
MEZF Maizieres J'vi 90.27 326⇑iP P 20 44 26.4 +0.8
comp=Z,828nm,1.4s,baz=45
MEZF Maizieres J'vi 90.27 326⇑iP P 20 44 26.4 +0.8
comp=Z,828nm,1.4s
B20A Solberg Farm, 90.31 34 ⇓P P 20 44 26.7 +0.7
baz=90,SNR=40
ELSH Elham, Standar 90.33 330 eP P 20 44 26.8 +1.0
ELSH AMS AMS 21 30 54.3
comp=Z,282µm,16.0s
STNC Stoke 90.37 333 eP P 20 44 25.7 -0.3
STNC AMB AMB 20 44 35.2
comp=Z,396nm,2.2s
STNC e 20 47 10.1
STNC AMS AMS 21 29 56.9
comp=Z,132µm,18.5s
SFTF Sexfontaines 90.47 326⇑iP P 20 44 27.0 +0.4
comp=Z,685nm,1.2s,baz=39
SFTF Sexfontaines 90.47 326⇑iP P 20 44 27.0 +0.4
comp=Z,685nm,1.2s
A21A Bergtoll Ranch 90.49 33 ⇑P P 20 44 27.7 +1.0
baz=90,SNR=210
NVAR Mina Array Bea 90.49 46 P P 20 44 28.3 +1.1
comp=Z,24nm,0.9s,baz=291,slow=4.8,SNR=60
NVAR LR LR 21 21 50.4
comp=Z,11µm,19.7s,baz=65,slow=33
PPT Papeete 90.57 109 P P 20 44 29.3 +1.8
PPT pmax pmax
comp=Z,51nm,0.9s
PPT MLR MLR
comp=Z,76µm,18.5s
PPT Papeete 90.57 109 P P 20 44 29.3 +1.8
comp=Z,50nm,0.9s,baz=341,slow=1.8,SNR=13
PPT LR LR 21 21 15.7
comp=Z,76µm,18.5s,baz=290,slow=33
PPT2 Papeete2 90.58 109 eP P 20 44 31.8 +4.2
comp=Z,546nm,1.5s
PPT2 Papeete2 90.58 109 eS S 20 55 23.1 +0.9
comp=Z,43µm,29.0s
PPT2 eSS SS 21 01 24.1 0.0
comp=Z,39µm,26.0s
PPT2 eLQ LQ 21 09 21.6
comp=Z,302µm,31.2s
PPT2 eLR LR 21 13 21.4
comp=Z,229µm,25.0s,baz=297
NV11 Mina Array Sit 90.59 46 eP P 20 44 28.8 +1.3
MLAC Mammoth Lakes 90.59 47 ⇓P P 20 44 28.4 +0.7
baz=90
PAE Paea 90.61 109 eP P 20 44 31.5 +3.9
comp=Z,82nm,1.3s
ABPO Ambohimpanom 90.69 249 eP P 20 44 27.7 -0.5
ABPO pmax pmax
comp=Z,310nm,1.2s
ABPO Ambohimpanom 90.69 249 eP P 20 44 27.7 -0.5
comp=Z,310nm,1.2s

D19A Cripps Ranch, 90.71 35 ⇓P P 20 44 28.5 +0.7
baz=91
TIAR Tiarei 90.76 109 eP P 20 44 32.3 +3.9
comp=Z,69nm,1.1s
C20A Veseth Ranch, 90.80 34 ⇓P P 20 44 29.2 +1.0
baz=91,SNR=134
B21A Ellsworth Farm 90.82 33 ⇓P P 20 44 28.5 +0.2
baz=91,SNR=6.8
QLMT Earthquake Lak 90.84 38 eP P 20 44 30.2 +1.5
comp=Z,101nm,1.8s
PMOR Pomariorio Ree 90.87 106 eP P 20 44 32.1 +3.2
comp=Z,1µm,1.4s
HMNX Herstmonceux 90.88 330 eP P 20 44 27.6 -0.8
HMNX AMB AMB 20 44 35.1
comp=Z,755nm,1.8s
HMNX AMS AMS 21 31 12.5
comp=Z,275µm,15.9s
FOEL Foel Wylfa 90.93 333 eP P 20 44 28.5 -0.2
FOEL AMB AMB 20 44 35.1
comp=Z,315nm,2.5s
WPM1 Penmaenmawr 90.94 334⇑eP P 20 44 28.9 +0.3
TVO Taravao 90.94 109 eP P 20 44 33.4 +4.1
comp=Z,166nm,1.4s
CABF La Chapelle 90.97 324⇑iP P 20 44 29.4 +0.3
comp=Z,311nm,1.2s
CABF La Chapelle 90.97 324⇑iP P 20 44 29.4 +0.3
CABF pmax pmax
comp=Z,311nm,1.2s
CABF La Chapelle 90.97 324⇑iP P 20 44 29.4 +0.3
comp=Z,311nm,1.2s
A22A Carney Farms, 90.98 32 ⇑P P 20 44 29.4 +0.4
baz=91,SNR=120
WME Myndd Eilian 90.99 334⇑iP P 20 44 29.0 +0.2
RCTC Rector, Farmer 91.05 48 ⇑P P 20 44 30.2 +0.7
baz=91
HLM1 Long Mynd 91.07 333 eP P 20 44 28.7 -0.6
HLM1 AMB AMB 20 44 34.3
comp=Z,224nm,2.9s
SMMC Simmler 91.09 50 ⇑P P 20 44 30.6 +0.8
baz=91
WLF1 Llynfaes 91.11 334 eP P 20 44 29.7 +0.3
WLF1 AMB AMB 20 44 40.1
comp=Z,310nm,3.6s
WLF1 e 20 47 15.0
WLF1 AMS AMS 21 31 37.0
comp=Z,176µm,16.8s
D20A Manuel Ranch, 91.14 35 ⇑P P 20 44 30.5 +0.7
baz=91,SNR=110
PAF Port-aux-Franc 91.17 214 PFAKE 20 44 40.0 +11
PAF LR LR
comp=Z,22µm,21.0s
PAF Port-aux-Franc 91.17 214 P P 20 44 11.0 -18
PAF Port-aux-Franc 91.17 214 S S 20 54 16.0 -70
PAF SS SS 21 01 32.0 +0.7
PAF L L 21 08 00.0
PAF R 21 15 00.0
C21A Desert Coulee 91.18 34 ⇑P P 20 44 30.9 +0.9
baz=91,SNR=96
GCMT Greycliff 91.19 36 eP P 20 44 31.3 +1.1
comp=Z,323nm,1.4s
YMR Madison River 91.20 38 eP P 20 44 32.0 +1.6
comp=Z,885nm,1.4s
VAH Vaihoa 91.20 106 eP P 20 44 33.6 +3.2
comp=Z,422nm,1.4s
YRC Rhoscolyn 91.21 334⇑eP P 20 44 30.1 +0.3
E19A Rath Farm, Rou 91.22 36 ⇓P P 20 44 31.0 +0.8
baz=91,SNR=137
WOL Wolverton 91.25 331 eP P 20 44 30.0 -0.1
WOL AMB AMB 20 44 40.4
comp=Z,431nm,2.8s
WOL AMS AMS 21 31 41.0
comp=Z,261µm,15.9s
TIN Tinemaha 91.31 47 ⇓P P 20 44 31.8 +0.9
baz=91
STRD Stroud 91.32 332 eP P 20 44 30.5 +0.1
STRD AMB AMB 20 44 32.5
comp=Z,664nm,1.4s
STRD e 20 47 15.4
STRD AMS AMS 21 32 08.0
comp=Z,298µm,15.4s
YNR Norris Junctio 91.33 38 eP P 20 44 33.3 +2.4
comp=Z,869nm,1.7s
LPL La Plagne 91.34 323⇑iP P 20 44 31.7 +0.7
comp=Z,435nm,1.2s
LPL La Plagne 91.34 323⇑iP P 20 44 31.7 +0.7
LPL pmax pmax
comp=Z,435nm,1.2s
LPL La Plagne 91.34 323⇑iP P 20 44 31.7 +0.7
comp=Z,435nm,1.2s
LPG La Plagne 91.34 323⇑iP P 20 44 31.8 +0.7
comp=Z,413nm,0.9s
LPG La Plagne 91.34 323⇑iP P 20 44 31.8 +0.7
LPG pmax pmax
comp=Z,413nm,0.9s
LPG La Plagne 91.34 323⇑iP P 20 44 31.8 +0.7
comp=Z,413nm,0.9s
YRE Yr Eifl 91.35 334⇑eP P 20 44 30.8 +0.2
SWN1 Swindon 91.36 332 eP P 20 44 31.0 +0.4
SWN1 AMB AMB 20 44 32.7
comp=Z,654nm,1.3s
SWN1 AMS AMS 21 30 31.3
comp=Z,245µm,18.2s
TPH Tonopah 91.40 46 eP P 20 44 32.5 +1.2
TPH pmax pmax
comp=Z,615nm,1.2s
TPH Tonopah 91.40 46 eP P 20 44 32.5 +1.2
comp=Z,615nm,1.2s
B22A Reddig Ranch S 91.41 33 ⇑P P 20 44 31.5 +0.5
baz=91,SNR=11
YFT Old Faithful 91.41 38 eP P 20 44 34.5 +3.1
comp=Z,2µm,1.8s
VES Vestal, Richgr 91.42 49 ⇓P P 20 44 31.2 0.0
baz=91,SNR=27
A23A Redstone 91.50 32 ⇓P P 20 44 32.1 +0.8
baz=91,SNR=52
MCH1 Michaelchurch 91.51 332⇑eP P 20 44 31.1 -0.1
MCH1 AMB AMB 20 44 33.3
comp=Z,486nm,1.4s
MCH1 AMS AMS 21 30 49.2
comp=Z,206µm,17.5s
F19A Roth Farm, Mol 91.53 36 ⇓P P 20 44 32.2 +0.5
baz=91,SNR=29
E20A Meyer Farm, Mu 91.54 35 ⇑P P 20 44 32.5 +0.8
baz=91,SNR=118
MONM Monmouth 91.54 332 eP P 20 44 31.6 +0.1
MONM e 20 47 14.8
MONM AMS AMS 21 32 17.9
comp=Z,232µm,15.6s
OLDB Oldbury-Upon-S 91.57 332 eP P 20 44 31.2 -0.3
OLDB AMB AMB 20 44 36.4
comp=Z,420nm,2.7s
OLDB AMS AMS 21 32 16.2
comp=Z,242µm,15.2s
H17A Grant Village 91.59 38 eP P 20 44 34.8 +2.6
comp=Z,1µm,1.5s
H17A Grant Village 91.59 38 ⇓P P 20 44 33.5 +1.3
baz=91,SNR=174
KMBO Kilima Mbogo 91.62 270 eP P 20 44 33.3 +0.5
KMBO 20 48 12.2
KMBO pmax pmax
comp=Z,299nm,1.3s
KMBO Kilima Mbogo 91.62 270 P P 20 44 33.8 +1.0
comp=Z,26nm,0.9s,baz=44,slow=5.7,SNR=51
KMBO PP PP 20 48 12.2 +0.8
comp=Z,15nm,1.1s,baz=58,slow=10,SNR=3.5
KMBO PKKPbc PKKPbc 21 01 55.1 +3.7
comp=Z,4.1nm,1.1s,baz=3.2,slow=2.7,SNR=4.0
KMBO PKPPKP P'P'df 21 10 05.4 +1.5
comp=Z,0.5nm,0.5s,baz=212,slow=2.3,SNR=8.5
KMBO LR LR 21 23 48.5
comp=Z,25µm,21.7s,baz=58,slow=34
KMBO Kilima Mbogo 91.62 270 eP P 20 44 33.3 +0.5
comp=Z,299nm,1.3s
KMBO PP PP 20 48 12.2 +0.8
KMBO PKKPbc PKKPbc 21 01 55.1 +3.7
KMBO P'P' 21 10 05.4
BATH Bath 91.63 332 eP P 20 44 32.0 +0.1
BATH AMB AMB 20 44 34.3
comp=Z,460nm,1.4s
BATH e 20 47 11.7
BATH AMS AMS 21 32 18.2
comp=Z,211µm,15.6s
BNI Bardonecchia 91.67 323 eP P 20 44 31.3 -1.1
BNI e 20 48 05.3
BNI pmax pmax
comp=Z,213nm,1.1s
BNI MLR MLR
comp=Z,505µm,19.0s
BNI Bardonecchia 91.67 323 eP P 20 44 31.3 -1.1
comp=Z,213nm,1.1s
BNI ePP PP 20 48 05.2 -5.1
BNI LR LR
comp=Z,505µm,19.0s
OG22 Abries 91.67 323 eP P 20 44 34.4 +1.9
LOR Lormes 91.69 326⇑iP P 20 44 32.4 +0.1
comp=Z,372nm,1.4s,baz=51
LOR eR
comp=Z,346µm,20.5s
LOR Lormes 91.69 326⇑iP P 20 44 32.4 +0.1
LOR pmax pmax
comp=Z,372nm,1.4s
LOR Lormes 91.69 326⇑iP P 20 44 32.4 +0.1
comp=Z,372nm,1.4s
D21A La Casta Ranch 91.75 34 ⇑P P 20 44 33.8 +1.2
baz=92,SNR=84
SBC Santa Barbara 91.76 50 ⇓P P 20 44 34.0 +1.2
baz=92
B23A Brockton 91.78 32 ⇑P P 20 44 33.3 +0.6
baz=92,SNR=96
MBDF Montbardon 91.83 323⇑iP P 20 44 33.2 +0.1
comp=Z,236nm,1.0s
MBDF Montbardon 91.83 323⇑iP P 20 44 33.2 +0.1
MBDF pmax pmax
comp=Z,236nm,1.0s
MBDF Montbardon 91.83 323⇑iP P 20 44 33.2 +0.1
comp=Z,236nm,1.0s
RLMT Red Lodge 91.84 37 eP P 20 44 33.7 +0.4
comp=Z,13µm,1.6s
RLMT LR LR
comp=Z,42µm,19.0s
C22A Vida 91.84 33 ⇓P P 20 44 33.3 +0.3
baz=92,SNR=60
LPW Lampeter 91.86 333 eP P 20 44 32.7 -0.2
LPW AMB AMB 20 44 38.8
comp=Z,346nm,3.0s
LPW AMS AMS 21 31 04.2
comp=Z,204µm,19.0s
SAOF Saorge 91.87 322 eP P 20 44 33.2 0.0
GDM Grand'Maison 91.87 323 eP P 20 44 33.9 +0.5
I17A Pilgrim Ck. 91.89 38 ⇑P P 20 44 35.9 +2.3
baz=92,SNR=127
H18A Shoshone NF, C 91.91 37 ⇓P P 20 44 34.6 +1.0
baz=92,SNR=74
GRAC Grapevine Rang 91.91 47 ⇑P P 20 44 34.8 +1.2
baz=92,SNR=33
DSB Dublin 91.92 335 eP P 20 44 33.2 0.0
comp=Z,77nm,0.9s
ISA Isabella 91.93 49 eP P 20 44 33.8 +0.1
ISA pmax pmax
comp=Z,262nm,1.6s
ISA Isabella 91.93 49 eP P 20 44 33.8 +0.1
comp=Z,262nm,1.6s
ISA Isabella 91.93 49 ⇑P P 20 44 34.0 +0.3
baz=92,SNR=55
AUTN L'Aution 91.93 322 eP P 20 44 34.1 +0.4
A24A Westby 91.94 32 ⇑P P 20 44 34.3 +0.9
baz=92,SNR=74
PGF Pioggiola 91.95 320⇑iP P 20 44 34.9 +1.2
comp=Z,2µm,1.3s
PGF Pioggiola 91.95 320⇑iP P 20 44 34.9 +1.2
PGF pmax pmax
comp=Z,2µm,1.3s
PGF Pioggiola 91.95 320⇑iP P 20 44 34.9 +1.2
comp=Z,2µm,1.3s
HVU Hansel Valley 91.96 41 eP P 20 44 35.2 +1.4
HVU pmax pmax
comp=Z,140nm,1.2s
HVU Hansel Valley 91.96 41 eP P 20 44 35.2 +1.4
comp=Z,140nm,1.2s
SURF Saint Ours 91.96 322 eP P 20 44 34.4 +0.6
ARVC Arvin 91.99 49 ⇑P P 20 44 34.8 +1.0
baz=92
F20A Billings 91.99 36 ⇓P P 20 44 34.4 +0.6
baz=92,SNR=26
MEH Mehetia 92.00 109 eP P 20 44 37.9 +3.8
comp=Z,35nm,1.0s
SSF Saint Saulge 92.00 326⇑iP P 20 44 34.0 +0.3
comp=Z,311nm,1.4s
SSF Saint Saulge 92.00 326⇑iP P 20 44 34.0 +0.3
SSF pmax pmax
comp=Z,311nm,1.4s
SSF Saint Saulge 92.00 326⇑iP P 20 44 34.0 +0.3
comp=Z,311nm,1.4s
SBF Sospel 92.01 322⇑iP P 20 44 34.1 +0.2
comp=Z,331nm,0.7s
SBF Sospel 92.01 322⇑iP P 20 44 34.1 +0.2
SBF pmax pmax
comp=Z,331nm,0.7s
SBF Sospel 92.01 322⇑iP P 20 44 34.1 +0.2
comp=Z,331nm,0.7s
TOUF Mont Tournerai 92.02 322 eP P 20 44 34.0 -0.1
GRN Grenoble 92.05 324 eP P 20 44 34.6 +0.5
E21A Keefer Ranch, 92.06 35 ⇑P P 20 44 35.7 +1.6
baz=92,SNR=25
BSC Santa Cruz Isl 92.06 50 ⇑P P 20 44 35.0 +0.7
baz=92,SNR=13
D22A Cohagen 92.10 34 ⇑P P 20 44 34.5 +0.3
baz=92,SNR=61
SMF Signal de Mont 92.11 325⇑iP P 20 44 34.4 +0.1
comp=Z,677nm,1.4s
SMF Signal de Mont 92.11 325⇑iP P 20 44 34.4 +0.1
SMF pmax pmax
comp=Z,677nm,1.4s
SMF Signal de Mont 92.11 325⇑iP P 20 44 34.4 +0.1
comp=Z,677nm,1.4s
REVF Revere 92.13 322 eP P 20 44 33.2 -1.2
C23A Lambert 92.15 33 ⇓P P 20 44 35.5 +1.1
baz=92,SNR=62
MVIF Mont Vial 92.15 322 eP P 20 44 34.7 +0.1
DGMT Dagmar 92.16 32 eP P 20 44 35.0 +0.6
comp=Z,847nm,1.3s
DGMT LR LR
comp=Z,64µm,21.0s
DGMT Dagmar 92.16 32 ⇑P P 20 44 35.8 +1.3
baz=92,SNR=67
ORIF Oris-en-Rattie 92.19 323⇑iP P 20 44 35.4 +0.7
comp=Z,907nm,1.7s
ORIF eR
comp=Z,729µm,20.2s
ORIF Oris-en-Rattie 92.19 323⇑iP P 20 44 35.4 +0.7
ORIF pmax pmax
comp=Z,907nm,1.7s
ORIF Oris-en-Rattie 92.19 323⇑iP P 20 44 35.4 +0.7
comp=Z,907nm,1.7s
AVF Avril sur Loir 92.26 326⇑iP P 20 44 35.1 +0.2
comp=Z,384nm,1.3s
AVF Avril sur Loir 92.26 326⇑iP P 20 44 35.1 +0.2
AVF pmax pmax
comp=Z,384nm,1.3s
AVF Avril sur Loir 92.26 326⇑iP P 20 44 35.1 +0.2
comp=Z,384nm,1.3s
H19A Powell 92.28 37 ⇓P P 20 44 37.0 +1.7
baz=92,SNR=55
R11A Troy Canyon, C 92.29 45 eP P 20 44 35.3 -0.1
comp=Z,26nm,0.6s
R11A Troy Canyon, C 92.29 45 ⇑P P 20 44 37.0 +1.5
baz=92,SNR=132
HYF Humbligny 92.30 326⇑iP P 20 44 36.0 +0.9
HYF Humbligny 92.30 326⇑iP P 20 44 36.0 +0.9
AHID Auburn Hatcher 92.32 39 eP P 20 44 37.1 +1.6
comp=Z,239nm,1.3s
AHID LR LR
comp=Z,49µm,21.0s
BGU Big Grassy Mou 92.33 42 eP P 20 44 36.5 +0.9
comp=Z,217nm,0.6s
G20A Bridger 92.34 36 ⇓P P 20 44 36.5 +1.0
baz=92,SNR=58
A25A Svangstu Ranch 92.34 31 ⇑P P 20 44 36.5 +1.2
baz=92,SNR=28
OSI Osito Adit 92.34 50 eP P 20 44 37.0 +1.4
comp=Z,735nm,1.6s
OSI Osito Adit 92.34 50 ⇑P P 20 44 36.8 +1.2
baz=92
CALN Calern 92.39 322 eP P 20 44 35.9 +0.2
LAO LASA Array 92.39 34 eP P 20 44 36.9 +1.3
comp=Z,2µm,0.7s
LAO LR LR
comp=Z,52µm,20.0s
SPUT South Promonto 92.44 41 eP P 20 44 37.7 +1.6
comp=Z,629nm,1.7s
WDD Wield Dalam 92.46 312 eP P 20 44 31.3 -4.7
comp=Z,862nm,1.3s
F21A Absaloka Mine, 92.51 35 ⇓P P 20 44 36.9 +0.7
baz=92,SNR=7.8
HEX Exmoor 92.53 332⇑iP P 20 44 35.9 -0.1
FURC Furnace Creek, 92.55 47 ⇑P P 20 44 37.5 +1.1
baz=92,SNR=89
LRMC Laurel Mountai 92.56 48 ⇓P P 20 44 37.6 +0.9
baz=92,SNR=92
D23A Lindsay 92.57 33 ⇓P P 20 44 35.7 -0.7
baz=92
FRF La Foret Royal 92.65 322⇑iP P 20 44 37.2 +0.4
comp=Z,423nm,1.1s
FRF La Foret Royal 92.65 322⇑iP P 20 44 37.2 +0.4
FRF pmax pmax
comp=Z,423nm,1.1s
FRF La Foret Royal 92.65 322⇑iP P 20 44 37.2 +0.4
comp=Z,423nm,1.1s
SSB Saint Sauveur 92.66 324 eP P 20 44 36.8 0.0
SSB pmax pmax
comp=Z,107nm,1.1s
SSB MLR MLR
comp=Z,235µm,19.0s
SSB Saint Sauveur 92.66 324 eP P 20 44 36.8 0.0
comp=Z,107nm,1.1s
SSB LR LR
comp=Z,235µm,19.0s
BGF Bois d'Agland 92.68 326⇑iP P 20 44 37.2 +0.4
comp=Z,191nm,1.3s
BGF Bois d'Agland 92.68 326⇑iP P 20 44 37.2 +0.4
BGF pmax pmax
comp=Z,191nm,1.3s
BGF Bois d'Agland 92.68 326⇑iP P 20 44 37.2 +0.4
comp=Z,191nm,1.3s
PLDF La Plantade 92.68 325 eP P 20 44 36.9 -0.1
I19A Meeteetse 92.69 38 ⇓P P 20 44 38.5 +1.2
baz=92,SNR=34
EDW2 Edwards Air Fo 92.70 49 ⇑P P 20 44 38.5 +1.2
baz=93,SNR=123
E22A Miles City 92.70 34 ⇑P P 20 44 38.1 +1.1
baz=92,SNR=57
LDF La Druitiere 92.70 329⇑iP P 20 44 37.3 +0.4
comp=Z,454nm,1.2s
LDF La Druitiere 92.70 329⇑iP P 20 44 37.3 +0.4
LDF pmax pmax
comp=Z,454nm,1.2s
LDF La Druitiere 92.70 329⇑iP P 20 44 37.3 +0.4
comp=Z,454nm,1.2s
C24A Savage 92.71 33 ⇓P P 20 44 38.8 +1.8
baz=92,SNR=12
FLN La Foliniere 92.75 329⇑iP P 20 44 37.5 +0.4
comp=Z,416nm,1.2s,baz=51
FLN eR
comp=Z,380µm,18.0s
FLN La Foliniere 92.75 329⇑iP P 20 44 37.5 +0.4
FLN pmax pmax
comp=Z,416nm,1.2s
FLN La Foliniere 92.75 329⇑iP P 20 44 37.5 +0.4
comp=Z,416nm,1.2s
DRV Dumont d'Urvil 92.77 175 P P 20 44 01.0 -35
DRV PP PP 20 47 52.0 -27
DRV S SKSac 20 54 49.0 -19
DRV SS SS 21 01 21.0 -33
DRV L L 21 08 00.0
DRV R 21 15 00.0
HWUT Hardware Ranch 92.78 41 PFAKE 20 44 50.0 +12
HWUT LR LR
comp=Z,52µm,20.0s
B25A Knox Farm, Ray 92.79 32 ⇑P P 20 44 38.9 +1.5
baz=93,SNR=46
MAUS Longido 92.81 268 iP P 20 44 37.2 -1.0
DECC Green Verdugo 92.82 50 ⇑P P 20 44 38.5 +0.8
baz=93
G21A Lodge Grass 92.87 36 ⇑P P 20 44 38.4 +0.5
baz=93
LMR La Mourre 92.87 322⇑iP P 20 44 38.4 +0.6
comp=Z,522nm,1.1s
LMR La Mourre 92.87 322⇑iP P 20 44 38.4 +0.6
LMR pmax pmax
comp=Z,522nm,1.1s
LMR La Mourre 92.87 322⇑iP P 20 44 38.4 +0.6
comp=Z,522nm,1.1s
A26A Wade Farm, Ken 92.87 31 ⇑P P 20 44 39.1 +1.4
baz=93,SNR=33
VIVF Saint-Julien-l 92.87 324⇑iP P 20 44 38.2 +0.4
comp=Z,282nm,1.2s
VIVF Saint-Julien-l 92.87 324⇑iP P 20 44 38.2 +0.4
VIVF pmax pmax
comp=Z,282nm,1.2s
VIVF Saint-Julien-l 92.87 324⇑iP P 20 44 38.2 +0.4
comp=Z,282nm,1.2s
HTL Hartland 92.88 332 eP P 20 44 37.2 -0.4
HTL AMS AMS 21 32 45.2
comp=Z,237µm,15.4s
AGO Saint Agoulin 92.88 325 eP P 20 44 37.0 -0.8
DUG Dugway 92.91 42 eP P 20 44 39.1 +0.9
DUG pmax pmax
comp=Z,592nm,1.5s
DUG MLR MLR
comp=Z,35µm,20.0s
DUG Dugway 92.91 42 eP P 20 44 39.1 +0.9
comp=Z,592nm,1.5s
DUG LR LR
comp=Z,35µm,20.0s
DUG Dugway 92.91 42 ⇑P P 20 44 39.5 +1.2
baz=93,SNR=140
H20A Greybull 92.94 37 ⇓P P 20 44 39.2 +0.9
baz=93,SNR=20
PASC Pasadena Art C 92.96 50 eP P 20 44 39.3 +0.9
comp=Z,338nm,1.3s
SMRF Simiane la Rot 92.97 323⇑iP P 20 44 39.1 +0.8
comp=Z,423nm,1.3s
SMRF Simiane la Rot 92.97 323⇑iP P 20 44 39.1 +0.8
comp=Z,423nm,1.3s
E23A Ismay 92.98 34 ⇓P P 20 44 40.3 +2.0
baz=93,SNR=9.9
CASY Casey 92.99 187 eP P 20 44 37.8 +0.3
comp=Z,1µm,1.9s
CASY LR LR
comp=Z,43µm,21.0s
F22A Rosebud 92.99 35 ⇑P P 20 44 39.2 +0.8
baz=93,SNR=47
D24A Glendive 93.04 33 ⇑P P 20 44 40.4 +1.8
baz=93,SNR=29
DYA Yadsworthy 93.06 332 eP P 20 44 37.3 -1.2
DYA AMB AMB 20 44 44.5
comp=Z,362nm,2.1s
DYA e 20 47 23.2
DYA AMS AMS 21 33 13.8
comp=Z,235µm,15.2s
C25A Freed Ranch, W 93.14 32 ⇓P P 20 44 40.2 +1.2
baz=93,SNR=7.2
FMP Fort Macarthur 93.14 50 ⇑P P 20 44 40.0 +0.8
baz=93
PYM Petit Puy Mans 93.14 325 eP P 20 44 36.8 -2.3
B26A Jensen Ranch, 93.15 31 ⇓P P 20 44 39.6 +0.6
baz=93
J19A Crowheart 93.16 38 ⇓P P 20 44 40.2 +0.9
baz=93,SNR=60
TCUT Toone Canyon 93.18 41 eP P 20 44 40.7 +1.1
comp=Z,562nm,1.4s
TCF Toulx Ste Croi 93.18 326⇑iP P 20 44 39.7 +0.5
comp=Z,348nm,1.5s
TCF Toulx Ste Croi 93.18 326⇑iP P 20 44 39.7 +0.5
TCF pmax pmax
comp=Z,348nm,1.5s
TCF Toulx Ste Croi 93.18 326⇑iP P 20 44 39.7 +0.5
comp=Z,348nm,1.5s
A27A Ledoux Ranch, 93.19 30 ⇓P P 20 44 40.2 +1.0
baz=93,SNR=16
GRR Gorron 93.19 329⇑iP P 20 44 39.7 +0.5
comp=Z,447nm,1.2s
GRR Gorron 93.19 329⇑iP P 20 44 39.7 +0.5
GRR pmax pmax
comp=Z,447nm,1.2s
GRR Gorron 93.19 329⇑iP P 20 44 39.7 +0.5
comp=Z,447nm,1.2s
BW06 Boulder Array 93.20 39 eP P 20 44 39.9 +0.2
comp=Z,121nm,1.0s
BW06 LR LR
comp=Z,47µm,21.0s
PDAR Pinedale Array 93.20 39 P P 20 44 40.4 +0.8
comp=Z,23nm,0.9s,baz=302,slow=0.9,SNR=93
PDAR PP PP 20 48 27.6 +5.1
comp=Z,37nm,1.1s,baz=329,slow=2.3,SNR=3.7
PDAR PKKPbc PKKPbc 21 01 50.0 +2.0
comp=Z,0.9nm,0.6s,baz=112,slow=1.0,SNR=3.9
PDAR PKPPKP P'P'df 21 09 55.2 -7.8
comp=Z,2.3nm,1.2s,baz=232,slow=1.7,SNR=4.7
JSA Saint Aubin 93.21 330 eP P 20 44 38.9 -0.3

JSA AMB AMB 20 44 45.6
comp=Z,248nm,3.9s
JSA e 20 47 23.0
JSA AMS AMS 21 32 30.3
comp=Z,245µm,17.0s
I20A Worland 93.22 37 ⇓P P 20 44 40.5 +1.0
baz=93,SNR=21
CIS Catalina Islan 93.24 50 ⇑P P 20 44 40.2 +0.5
baz=93,SNR=28
CTU Camp Tracy 93.24 41 eP P 20 44 41.0 +1.2
comp=Z,661nm,1.9s
CTU ePP PP 20 48 23.2 +0.3
GSC Goldstone 93.26 48 eP P 20 44 40.1 +0.3
GSC e 20 48 23.5
GSC pmax pmax
comp=Z,613nm,1.3s
GSC Goldstone 93.26 48 eP P 20 44 40.1 +0.3
comp=Z,613nm,1.3s
GSC ePP PP 20 48 23.5 +0.4
GSC Goldstone 93.26 48 ⇓P P 20 44 41.0 +1.1
baz=93,SNR=170
SHOC Shoshone 93.26 47 ⇓P P 20 44 40.7 +0.9
baz=93,SNR=11
TBI Tubuai 93.27 114 eP P 20 44 43.2 +3.4
comp=Z,1µm,1.3s
BFSC Mount Baldy Ra 93.28 49 ⇑P P 20 44 41.1 +1.1
baz=93,SNR=68
G22A Birney 93.35 35 ⇓P P 20 44 39.9 -0.2
baz=93,SNR=37
H21A Big Horn, Sher 93.35 36 ⇑P P 20 44 41.8 +1.6
baz=93,SNR=8.3
RRX Edison Barstow 93.37 49 ⇑P P 20 44 41.4 +1.1
baz=93
LBL Lubilhac 93.37 325 eP P 20 44 40.0 -0.2
SCI San Clemente I 93.37 51 ⇑P P 20 44 41.2 +0.9
baz=93
E24A Baker 93.44 33 ⇑P P 20 44 41.7 +1.2
baz=93,SNR=16
F23A Volborg 93.47 35 ⇑P P 20 44 41.3 +0.7
baz=93,SNR=69
JLU Jordanelle 93.47 41 eP P 20 44 42.1 +1.2
comp=Z,441nm,1.6s
NLU North Lily Min 93.50 42 eP P 20 44 42.7 +1.6
comp=Z,289nm,1.4s
D25A Fairfield 93.51 33 ⇑P P 20 44 43.0 +2.3
baz=93,SNR=19
B27A Peters Farms, 93.58 31 ⇑P P 20 44 41.8 +0.8
baz=93
C26A Wahner Farm, P 93.61 31 ⇑P P 20 44 43.0 +1.8
baz=93,SNR=33
VSL Villasalto 93.61 317 eP P 20 44 41.7 +0.4
comp=Z,350nm,1.2s
FRNF Fournols 93.62 325 eP P 20 44 42.1 +0.8
J20A Shoshoni 93.64 38 ⇓P P 20 44 42.5 +1.0
baz=94,SNR=32
SHPR Sheep Range 93.64 46 eP P 20 44 42.3 +0.6
comp=Z,462nm,1.3s
A28A Rude Farm, Bot 93.66 30 ⇑P P 20 44 42.8 +1.4
baz=94,SNR=51
DAU Daniels Canyon 93.71 41 eP P 20 44 43.8 +1.6
DAU pmax pmax
comp=Z,578nm,1.6s
DAU Daniels Canyon 93.71 41 eP P 20 44 43.8 +1.6
comp=Z,578nm,1.6s
MPU Maple Canyon 93.73 42 eP P 20 44 43.3 +1.2
comp=Z,574nm,1.6s
H22A Clearmont 93.74 36 ⇓P P 20 44 43.0 +1.1
baz=94,SNR=23
I21A Big Trails, Te 93.76 37 ⇓P P 20 44 42.9 +0.7
baz=94,SNR=59
TUQ Turquoise Moun 93.77 48 ⇑P P 20 44 43.3 +1.0
baz=94,SNR=173
BBRC Big Bear Solar 93.77 49 ⇑P P 20 44 43.0 +0.6
baz=94,SNR=12
G23A Biddle 93.83 35 ⇓P P 20 44 42.3 +0.1
baz=94,SNR=36
LASF Ste Croix 93.83 324⇑iP P 20 44 42.9 +0.7
comp=Z,350nm,1.3s
LASF Ste Croix 93.83 324⇑iP P 20 44 42.9 +0.7
comp=Z,350nm,1.3s
HEC Hector,Ludlow 93.85 48 ⇓P P 20 44 43.6 +1.0
baz=94,SNR=141
F24A Ekalaka 93.87 34 ⇓P P 20 44 43.3 +0.8
baz=94,SNR=71
E25A Miller Ranch, 93.93 33 ⇑P P 20 44 43.7 +1.1
baz=94,SNR=19
B28A Dugan Ranch, T 93.96 30 ⇑P P 20 44 43.7 +1.0
baz=94,SNR=45
MURC Murrieta 93.96 50 ⇑P P 20 44 43.7 +0.7
baz=94,SNR=42
C27A Sayler Ranch, 93.97 31 ⇓P P 20 44 44.0 +1.2
baz=94,SNR=23
ARUT Antelope Range 93.98 44 eP P 20 44 43.8 +0.5
ARUT Antelope Range 93.98 44 eP P 20 44 43.8 +0.5
comp=Z,4µm,1.3s
J21A Lysite 93.99 37 ⇑P P 20 44 43.6 +0.3
baz=94,SNR=68
D26A Manning 94.02 32 ⇑P P 20 44 44.1 +1.0
baz=94,SNR=31
SGMF Saint Gilles 94.07 330⇑iP P 20 44 43.9 +0.7
comp=Z,450nm,1.2s
SGMF Saint Gilles 94.07 330⇑iP P 20 44 43.9 +0.7
SGMF pmax pmax
comp=Z,450nm,1.2s
SGMF Saint Gilles 94.07 330⇑iP P 20 44 43.9 +0.7
comp=Z,450nm,1.2s
A29A Manning Farm, 94.11 29 ⇓P P 20 44 44.4 +0.9
baz=94,SNR=17
MFF Saint Martin d 94.13 327⇑iP P 20 44 44.2 +0.7
comp=Z,557nm,1.4s
MFF Saint Martin d 94.13 327⇑iP P 20 44 44.2 +0.7
MFF pmax pmax
comp=Z,557nm,1.4s
MFF Saint Martin d 94.13 327⇑iP P 20 44 44.2 +0.7
comp=Z,557nm,1.4s
I22A 9 Mile Ranch, 94.14 36 ⇑P P 20 44 44.4 +0.6
baz=94,SNR=33
CCUT Cedar City 94.18 45 eP P 20 44 46.2 +2.0
comp=Z,466nm,1.8s
CAF Calviac 94.19 325⇑iP P 20 44 44.7 +0.8
comp=Z,258nm,1.1s
CAF Calviac 94.19 325⇑iP P 20 44 44.7 +0.8
CAF pmax pmax
comp=Z,258nm,1.1s
CAF Calviac 94.19 325⇑iP P 20 44 44.7 +0.8
comp=Z,258nm,1.1s
RJF Les Rejaudoux 94.21 326⇑iP P 20 44 44.7 +0.8
comp=Z,586nm,1.5s
RJF eR
comp=Z,378µm,20.8s
RJF Les Rejaudoux 94.21 326⇑iP P 20 44 44.7 +0.8
RJF pmax pmax
comp=Z,586nm,1.5s
RJF Les Rejaudoux 94.21 326⇑iP P 20 44 44.7 +0.8
comp=Z,586nm,1.5s
G24A Alzada 94.24 34 ⇑P P 20 44 44.7 +0.5
baz=94,SNR=35
H23A Clabaugh Cattl 94.26 35 ⇑P P 20 44 44.6 +0.3
baz=94
F25A Bowman 94.30 33 ⇑P P 20 44 44.8 +0.4
baz=94,SNR=34
GMRC Granite Mounta 94.32 48 ⇑P P 20 44 45.9 +1.1
baz=94,SNR=124
ROSF Rostrenen 94.33 330⇑iP P 20 44 45.1 +0.7
comp=Z,458nm,1.2s
ROSF Rostrenen 94.33 330⇑iP P 20 44 45.1 +0.7
ROSF pmax pmax
comp=Z,458nm,1.2s
ROSF Rostrenen 94.33 330⇑iP P 20 44 45.1 +0.7
comp=Z,458nm,1.2s
D27A Center 94.40 32 ⇑P P 20 44 46.2 +1.4
baz=94,SNR=12
B29A Wagenman Farm, 94.40 30 ⇓P P 20 44 46.0 +1.3
baz=94,SNR=11
VAL Valentia 94.40 336 eP P 20 44 45.5 +0.9
E26A Carlson Angus 94.41 33 ⇓P P 20 44 46.6 +1.8
baz=94,SNR=19
109C Camp Elliot, M 94.43 50 ⇑P P 20 44 45.9 +0.7
baz=94,SNR=15
TMUT Trail Mountain 94.44 42 eP P 20 44 46.1 +0.6
comp=Z,405nm,1.7s
PFO Pinyon Flat Ob 94.46 49 eP P 20 44 46.7 +1.2
PFO pmax pmax
comp=Z,560nm,1.1s
PFO MLR MLR
comp=Z,61µm,21.0s
PFO Pinyon Flat Ob 94.46 49 eP P 20 44 46.6 +1.2
comp=Z,560nm,1.1s
PFO LR LR
comp=Z,61µm,21.0s
PFO Pinyon Flat Ob 94.46 49 ⇓P P 20 44 46.5 +1.1
baz=94,SNR=137
J22A Midwest 94.47 37 ⇑P P 20 44 46.3 +1.0
baz=94,SNR=86
C28A Hausauer Farms 94.48 31 ⇑P P 20 44 46.5 +1.3
baz=94,SNR=18
A30A Hoffart Farm, 94.51 29 ⇑P P 20 44 46.0 +0.8
baz=94,SNR=11
LDFC Landfair 94.52 47 eP P 20 44 46.6 +0.9
comp=Z,693nm,1.4s
ULM Lac du Bonnet 94.52 27 P P 20 44 45.8 +0.6
ULM 20 48 38.2
ULM pmax pmax
comp=Z,57nm,1.0s
ULM pmax pmax
comp=Z,107nm,1.2s
ULM MLR MLR
comp=Z,46µm,21.7s
ULM Lac du Bonnet 94.52 27 P P 20 44 45.8 +0.6
comp=Z,57nm,1.0s,baz=326,slow=5.5,SNR=39
ULM PP PP 20 48 38.1 +5.9
comp=Z,107nm,1.1s,baz=301,slow=9.2,SNR=4.4
ULM PKKP PKKPdf 21 01 42.8 +0.2
comp=Z,4.4nm,0.7s,baz=188,slow=4.6,SNR=3.2
ULM LR LR 21 29 01.7
comp=Z,46µm,21.7s,baz=340,slow=37
BELC Belle Mtn. Jos 94.55 49 ⇓P P 20 44 46.4 +0.5
baz=94,SNR=90
K21A Alcova 94.57 38 ⇑P P 20 44 46.9 +1.0
baz=94,SNR=66
H24A Dirks Ranch, A 94.57 35 ⇓P P 20 44 45.9 +0.1
baz=94,SNR=46
QUIF Quistinic 94.60 330⇑iP P 20 44 46.0 +0.4
comp=Z,236nm,1.0s
QUIF Quistinic 94.60 330⇑iP P 20 44 46.0 +0.4
QUIF pmax pmax
comp=Z,236nm,1.0s
QUIF Quistinic 94.60 330⇑iP P 20 44 46.0 +0.4
comp=Z,236nm,1.0s
I23A Meade Ranch, G 94.64 36 ⇑P P 20 44 46.5 +0.3
baz=94
F26A Lodgepole 94.75 33 ⇑P P 20 44 47.2 +0.8
baz=95,SNR=36
D28A Regan 94.78 31 ⇑P P 20 44 47.9 +1.3
baz=95,SNR=21
G25A Newell 94.84 34 ⇓P P 20 44 47.8 +0.9
baz=95,SNR=17
BAR Barrett 94.85 50 eP P 20 44 47.8 +0.7
comp=Z,1µm,1.2s
LFF La Frestale 94.86 326⇑iP P 20 44 47.7 +0.8
comp=Z,460nm,1.3s
LFF La Frestale 94.86 326⇑iP P 20 44 47.7 +0.8
LFF pmax pmax
comp=Z,460nm,1.3s
LFF La Frestale 94.86 326⇑iP P 20 44 47.7 +0.8
comp=Z,460nm,1.3s
B30A Myrvik Farm, E 94.86 29 ⇓P P 20 44 47.3 +0.4
baz=95,SNR=15
E27A Carson 94.87 32 ⇓P P 20 44 48.2 +1.2
baz=95,SNR=15
MONP Monument Peak 94.90 50 ⇑P P 20 44 48.5 +0.9
baz=95,SNR=90
K22A Casper 94.96 37 eP P 20 44 48.2 +0.6
comp=Z,211nm,1.3s
K22A Casper 94.96 37 ⇓P P 20 44 48.2 +0.6
baz=95,SNR=12
SRU San Rafael 94.97 42 eP P 20 44 48.3 +0.5
SRU San Rafael 94.97 42 eP P 20 44 48.3 +0.5
comp=Z,8µm,0.2s
J23A Dilts Ranch, B 94.97 36 ⇑P P 20 44 48.0 +0.3
baz=95
TAOE Nuku Hiva Isla 95.02 97 eLR LR 21 15 31.2
comp=Z,79µm,24.3s
NEE2 Needles Airpor 95.03 47 ⇓P P 20 44 49.0 +1.2
baz=95,SNR=12
IRM Iron Mountain 95.03 48 ⇑P P 20 44 49.1 +1.2
baz=95,SNR=135
F27A Lemmon 95.05 33 ⇓P P 20 44 49.0 +1.2
baz=95,SNR=63
BC3 Big Chuckawall 95.12 49 ⇑P P 20 44 49.8 +1.4
baz=95,SNR=155
DODT Dodoma, Tanzan 95.15 266 i P P 20 44 48.5 -0.4
H25A Fruitdale 95.15 34 ⇑P P 20 44 49.1 +0.7
baz=95,SNR=34
I24A Kuemmerle Ranc 95.15 36 ⇑P P 20 44 48.4 0.0
baz=95,SNR=19
E28A Huff 95.18 32 ⇑P P 20 44 49.1 +0.7
baz=95,SNR=16
G26A Maurine 95.18 33 ⇑P P 20 44 49.2 +0.8
baz=95,SNR=107
N20A Spence Gulch, 95.19 40 ⇑P P 20 44 49.4 +0.5
baz=95,SNR=52
MTLF Montolieu 95.20 324⇑iP P 20 44 49.2 +0.7
comp=Z,296nm,1.3s
MTLF Montolieu 95.20 324⇑iP P 20 44 49.2 +0.7
MTLF pmax pmax
comp=Z,296nm,1.3s
MTLF Montolieu 95.20 324⇑iP P 20 44 49.2 +0.7
comp=Z,296nm,1.3s
RSSD Black Hills 95.27 35 eP P 20 44 49.3 +0.2
RSSD pmax pmax
comp=Z,278nm,1.4s
RSSD Black Hills 95.27 35 eP P 20 44 49.3 +0.2
comp=Z,278nm,1.4s
SWSC Sam W. Stewart 95.30 50 ⇑P P 20 44 50.0 +0.9
baz=95,SNR=43
LRDF Laroque-de-Fa 95.31 323 eP P 20 44 49.7 +0.7
W13A Hualapai Mount 95.31 47 ⇑P P 20 44 49.4 0.0
baz=95
D29A Pettibone, Tap 95.33 31 ⇑P P 20 44 49.1 0.0
baz=95,SNR=21
C30A Mose, Pekin 95.36 30 ⇑P P 20 44 49.3 +0.1
baz=95,SNR=16
K23A Bowen Ranch, D 95.38 37 ⇑P P 20 44 49.2 -0.3
baz=95,SNR=13
L22A Ellis Ranch, M 95.42 38 ⇑P P 20 44 50.9 +1.1
baz=95,SNR=12
G27A Dupree 95.45 33 ⇑P P 20 44 50.5 +0.8
baz=95,SNR=72
J24A Dixon Ranch, L 95.50 36 ⇑P P 20 44 50.3 +0.3
baz=95
I25A Rochford 95.50 35 ⇓P P 20 44 50.3 +0.2
baz=95,SNR=61
U15A North Rim 95.54 45 ⇓P P 20 44 51.9 +1.3
baz=95,SNR=102
H26A Fairpoint 95.57 34 ⇑P P 20 44 51.4 +1.2
baz=95,SNR=34
PDMCI Parker Dam,Lak 95.62 48 ⇑P P 20 44 50.9 +0.3
baz=96,SNR=55
F28A McLaughlin 95.66 32 ⇓P P 20 44 51.8 +1.2
baz=96,SNR=20
O20A White River Ci 95.66 40 eP P 20 44 51.7 +0.8
comp=Z,2µm,1.2s
O20A White River Ci 95.66 40 ⇓P P 20 44 51.9 +1.0
baz=96,SNR=28
E29A Napoleon 95.67 31 ⇑P P 20 44 51.2 +0.6
baz=96,SNR=23
D30A Buchanan 95.68 30 ⇑P P 20 44 50.9 +0.3
baz=96,SNR=27
M22A Cedar Creek Ra 95.75 38 ⇓P P 20 44 51.7 +0.3
baz=96
L23A Garrett 95.77 37 ⇓P P 20 44 51.5 +0.1
baz=96,SNR=37
K24A Anderson Ranch 95.83 36 ⇑P P 20 44 51.7 +0.1
baz=96
GLA Glamis 95.89 49 eP P 20 44 53.6 +1.7
GLA e 20 48 41.2
GLA pmax pmax
comp=Z,378nm,1.3s
GLA Glamis 95.89 49 eP P 20 44 53.6 +1.7
comp=Z,378nm,1.3s
GLA ePP PP 20 48 41.2 -2.4
GLA Glamis 95.89 49 ⇓P P 20 44 53.0 +1.0
baz=96,SNR=36
J25A Sunshine Ranch 95.91 35 ⇓P P 20 44 51.6 -0.3
baz=96
H27A Howes 95.91 34 ⇓P P 20 44 52.7 +0.9
baz=96,SNR=18
KEST Kesra 95.94 314 P P 20 44 52.7 +0.5
comp=Z,7.5nm,0.8s,baz=23,slow=2.0,SNR=20
KEST PP PP 20 48 45.1 +1.2
comp=Z,19nm,1.0s,baz=277,slow=6.5,SNR=3.6
KEST LR LR 21 32 28.8
comp=Z,43µm,20.9s,baz=328,slow=38
I26A New Underwood 95.94 35 ⇓P P 20 44 51.9 -0.1
baz=96,SNR=17
VALF Valcebollere 95.95 323 eP P 20 44 52.8 +0.6
AGMN Agassiz Nation 96.04 28 eP P 20 44 52.1 -0.1
comp=Z,206nm,1.5s
AGMN LR LR
comp=Z,43µm,20.0s
AGMN Agassiz Nation 96.04 28 ⇑P P 20 44 52.2 -0.1
baz=96
MLS Moulis 96.06 324 eP P 20 44 52.3 -0.1
E30A Jud 96.06 31 ⇑P P 20 44 52.6 +0.3
baz=96
MIR Mirnyy 96.09 194 eP P 20 44 53.0 +1.3
MIR pmax pmax
comp=Z,700nm,8.0s
MIR MLR MLR
comp=N,23µm,20.0s
MIR MLR MLR
comp=E,21µm,20.0s
MIR MLR MLR
comp=Z,37µm,20.0s
F29A Eureka 96.13 32 ⇓P P 20 44 53.3 +0.5
baz=96,SNR=34
G28A Parade 96.16 33 ⇓P P 20 44 53.5 +0.6
baz=96
M23A Laramie 96.20 38 ⇑P P 20 44 54.4 +1.0
baz=96,SNR=12
L24A Wheatland 96.24 37 ⇓P P 20 44 53.4 0.0
baz=96
N22A Wattenberg Ran 96.24 39 ⇑P P 20 44 54.7 +1.1
baz=96,SNR=31
I27A Quinn 96.32 34 ⇑P P 20 44 54.0 +0.4
baz=96,SNR=28
J26A Sides Ranch, S 96.34 35 ⇓P P 20 44 54.3 +0.5
baz=96,SNR=45
PV04 Paradox Valley 96.40 42 eP P 20 44 55.6 +1.3
H28A Mission Ridge 96.40 33 ⇓P P 20 44 55.4 +1.4
baz=96
EPF Esparros 96.41 325⇑iP P 20 44 54.0 -0.1
comp=Z,45nm,0.9s
EPF Esparros 96.41 325⇑iP P 20 44 54.0 -0.1
EPF pmax pmax
comp=Z,45nm,0.9s
EPF Esparros 96.41 325⇑iP P 20 44 54.0 -0.1
comp=Z,45nm,0.9s
K25A Mack Ranch, Ha 96.41 36 ⇓P P 20 44 54.5 +0.3
baz=96
N23A Red Feather La 96.46 38 ⇓P P 20 44 56.0 +1.3
baz=96,SNR=27
F30A Leola 96.50 31 ⇓P P 20 44 55.4 +1.0
baz=96,SNR=15
G29A Hoven 96.56 32 ⇑P P 20 44 55.1 +0.4
baz=96,SNR=14
Y14A Wickenburg 96.59 47 ⇓P P 20 44 55.6 +0.5
baz=96,SNR=45
CMAH Djebel Manchou 96.61 316 P P 20 45 01.6 +6.5
O22A Kremmling 96.61 39 ⇑P P 20 44 56.0 +0.5
baz=96,SNR=32
VIEF Viey 96.67 325 eP P 20 44 56.2 +0.9
L25A Engebretsen Ra 96.68 36 ⇑P P 20 44 55.4 -0.1
baz=96
WUAZ Wupatki 96.69 45 eP P 20 44 56.7 +1.1
comp=Z,100nm,1.0s
WUAZ Wupatki 96.69 45 ⇓P P 20 44 56.2 +0.5
baz=97,SNR=39
M24A Cheyenne 96.69 37 ⇑P P 20 44 56.8 +1.2
baz=96,SNR=10
K26A Motz Farm, Whi 96.71 36 ⇓P P 20 44 56.0 +0.4
baz=96,SNR=14
PV01 Paradox Valley 96.77 42 eP P 20 44 57.3 +1.3
comp=Z,3µm,1.4s
113A Mohawk Valley, 96.78 49 ⇓P P 20 44 57.4 +1.6
baz=97,SNR=54
ABSA Djebel Ababsia 96.79 316 P P 20 45 02.6 +6.6
I28A Midland 96.82 34 ⇑P P 20 44 56.5 +0.6
baz=97,SNR=21
H29A Onida 96.83 33 ⇓P P 20 44 55.9 0.0
baz=97,SNR=21
CAEH 'Ain El Ouahch 96.86 317 P P 20 45 02.9 +6.7
P22A Eagle 96.87 40 ⇑P P 20 44 57.1 +0.6
baz=97,SNR=32
J27A Elkhorn Farm, 96.93 35 ⇑P P 20 44 57.0 +0.5
baz=97,SNR=26
O23A Lake Granby, G 96.94 39 ⇑P P 20 44 57.2 +0.3
baz=97,SNR=21
ETSF Etsaut 96.97 325⇑iP P 20 44 57.7 +1.1
comp=Z,64nm,0.8s
ETSF Etsaut 96.97 325⇑iP P 20 44 57.7 +1.1
ETSF pmax pmax
comp=Z,64nm,0.8s
ETSF Etsaut 96.97 325⇑iP P 20 44 57.7 +1.1
comp=Z,64nm,0.8s
G30A Faulkton 96.97 32 ⇑P P 20 44 56.9 +0.4
baz=97,SNR=21
Z14A Wintersburg 96.98 48 ⇓P P 20 44 57.9 +1.1
baz=97
N24A Carr 97.10 38 ⇓P Pdif 20 44 58.0 +0.5
baz=97
M25A Palm-Egli Farm 97.13 37 ⇓P P 20 44 57.6 0.0
baz=97
SJPF Ste Jean 97.16 325⇑iP Pdif 20 44 58.4 +0.9
comp=Z,173nm,1.2s
SJPF Ste Jean 97.16 325⇑iP Pdif 20 44 58.4 +0.9
SJPF pmax pmax
comp=Z,173nm,1.2s
SJPF Ste Jean 97.16 325⇑iP Pdif 20 44 58.4 +0.9
comp=Z,173nm,1.2s
CKFL Kef-Lekhel 97.19 316 P Pdif 20 45 04.3 +6.4
J28A Allard Ranch, 97.20 34 ⇓P Pdif 20 44 57.9 +0.1
baz=97,SNR=14
K27A Flueckinger Fa 97.20 35 ⇑P Pdif 20 44 58.0 +0.1
baz=97,SNR=12
I29A Vivian Onida 97.23 33 ⇑P Pdif 20 44 58.7 +0.9
baz=97,SNR=13
L26A Underwood Farm 97.23 36 ⇓P Pdif 20 44 58.0 0.0
baz=97
X16A Lo Mia Camp, P 97.32 46 ⇓P Pdif 20 44 59.8 +1.1
baz=97,SNR=38
ISCO Idaho Springs 97.39 39 eP Pdif 20 45 00.0 +1.0
ISCO pmax pmax
comp=Z,75nm,1.3s
ISCO MLR MLR
comp=Z,50µm,20.0s
ISCO Idaho Springs 97.39 39 eP Pdif 20 45 00.0 +1.0
comp=Z,75nm,1.3s
ISCO LR LR
comp=Z,50µm,20.0s
ISCO Idaho Springs 97.39 39 ⇓P Pdif 20 45 00.3 +1.3
baz=97,SNR=37
MVCO Mesa Verde 97.41 42 eP Pdif 20 45 00.6 +1.6
comp=Z,66nm,1.2s
MVCO Mesa Verde 97.41 42 ⇓P Pdif 20 45 00.1 +1.0
baz=97,SNR=19
CASM Ain Smara 97.42 316 P Pdif 20 45 02.9 +4.0
O24A Longmont 97.47 38 ⇓P Pdif 20 44 59.2 +0.1
baz=97
N25A Grover 97.54 37 ⇓P Pdif 20 45 00.5 +1.0
baz=97
P23A Jefferson 97.55 39 ⇑P Pdif 20 44 59.9 +0.1
baz=97
BRSD Miller 97.57 32 eP Pdif 20 44 59.9 +0.5
comp=Z,156nm,0.9s
BRSD Miller 97.57 32 ⇑P P 20 44 58.7 -0.6
baz=97,SNR=8.0
CTEI Djebel Teioual 97.59 316 P Pdif 20 45 05.5 +5.7
M26A McRoberts Ranc 97.60 36 ⇑P P 20 44 59.6 0.0
baz=97
L27A T5 Ranch, Ells 97.60 36 ⇑P Pdif 20 45 00.1 +0.5
baz=97
DFRA Djebel Bou Aff 97.61 317 P Pdif 20 45 04.7 +4.9
K28A Ten Mile Ranch 97.64 35 ⇑P Pdif 20 45 00.3 +0.6
baz=98
J29A Okreek 97.67 34 ⇓P Pdif 20 45 00.2 +0.4
baz=98,SNR=9.0
I30A Oacoma 97.74 33 P P 20 44 60.0 -0.1
baz=98
Q23A Hartsel 97.86 40 ⇓P Pdif 20 45 01.2 0.0
baz=98
214A Organ Pipe Nat 97.91 49 eP Pdif 20 45 02.4 +1.3
comp=Z,161nm,1.4s
214A Organ Pipe Nat 97.91 49 ⇑P Pdif 20 45 02.6 +1.4
baz=98,SNR=26
M27A Reverse DX Ran 97.96 36 ⇑P P 20 45 01.1 -0.1
baz=98
W18A Petrified Fore 97.98 45 P Pdif 20 45 03.5 +2.0
comp=Z,120nm,1.6s
W18A Petrified Fore 97.98 45 ⇓P Pdif 20 45 02.5 +1.0
baz=98
P24A Kohler Place, 97.98 39 ⇓P Pdif 20 45 03.3 +1.8
baz=98

N26A Koester Ranch, 98.00 37 ⇑P P 20 45 01.4 0.0
baz=98
O25A Wiggins 98.01 38 ⇑P Pdif 20 45 01.7 +0.2
baz=98
S22A 4UR Ranch, Cre 98.06 41 ⇑P Pdif 20 45 03.2 +1.2
baz=98,SNR=18
L28A Connealy Angus 98.07 35 ⇑P Pdif 20 45 02.0 +0.3
baz=98
EYMN Ely 98.10 26 eP Pdif 20 45 01.8 +0.1
comp=Z,720nm,2.0s
EYMN LR LR
comp=Z,35μm,20.0s
SET Setif 98.13 317 P Pdif 20 45 05.0 +2.9
J30A Dallas 98.14 33 ⇓P Pdif 20 45 02.0 +0.1
baz=98,SNR=15
K29A Lazy Trails An 98.14 34 ⇑P Pdif 20 45 02.8 +0.8
baz=98
CKHR Kef el Ahmar 98.18 317 P P 20 45 01.8 -0.5
X18A Snowflake 98.21 45 ⇓P Pdif 20 45 03.3 +0.7
baz=98
Q24A Divide 98.22 39 ⇓P P 20 45 02.6 -0.1
baz=98
R23A Moffat 98.35 40 ⇑P Pdif 20 45 03.5 +0.3
baz=98,SNR=17
O26A Horse Wrangler 98.36 37 ⇑P Pdif 20 45 03.7 +0.6
baz=98
N27A Anderson Farm, 98.39 37 ⇓P Pdif 20 45 03.5 +0.3
baz=98
P25A Willow Gulch B 98.40 38 ⇓P Pdif 20 45 04.4 +1.0
baz=98
SCHQ Schefferville 98.44 9 P Pdif 20 45 03.0 0.0
comp=Z,33nm,0.9s,baz=360,slow=5.6,SNR=17
SCHQ PP PP 20 49 04.9 +2.7
comp=Z,43nm,1.0s,baz=6.8,slow=10,SNR=4.8
SCHQ PKKPbc PKKPbc 21 01 32.4 -1.7
comp=Z,3.7nm,0.7s,baz=203,slow=4.4,SNR=4.1
SCHQ LR LR 21 32 31.1
comp=Z,48μm,19.8s,baz=350,slow=37
K30A Basset 98.56 34 ⇑Pdiff Pdif 20 45 04.7 +0.9
baz=98
OGNE Ogallala 98.56 36 eP P 20 45 03.4 -0.4
comp=Z,186nm,1.3s
OGNE Ogallala 98.56 36 ⇓Pdiff Pdif 20 45 04.5 +0.6
baz=98
L29A Maesberg Ranch 98.57 35 ⇓Pdiff Pdif 20 45 04.4 +0.5
baz=98
S23A Nye Farm, Mont 98.57 41 ⇑Pdiff Pdif 20 45 05.6 +1.4
baz=98
M28A Bar X Bar Ranc 98.59 36 ⇑Pdiff Pdif 20 45 04.5 +0.5
baz=98
R24A Sanders Place, 98.74 40 ⇓Pdiff Pdif 20 45 06.2 +1.3
baz=99
Q25A Bedland, Calha 98.76 39 ⇓Pdiff Pdif 20 45 05.4 +0.4
baz=99
P26A Davis Ranch, A 98.82 38 ⇑Pdiff Pdif 20 45 05.4 +0.2
baz=99
SDCO Great Sand Dun 98.84 40 eP Pdif 20 45 06.8 +1.3
comp=Z,2μm,0.6s
SDCO LR LR
comp=Z,39μm,20.0s
O27A Beecher Island 98.86 37 ⇓Pdiff Pdif 20 45 05.8 +0.5
baz=99
M29A Burnside Ranch 98.91 35 ⇓Pdiff Pdif 20 45 05.6 +0.2
baz=99
MZM Mzuzu 98.91 262 iP P 20 45 01.9 -3.8
U22A Llaves 98.95 42 ⇑Pdiff Pdif 20 45 06.6 +0.7
baz=99
T23A Casias Ranch, 99.00 41 ⇓Pdiff Pdif 20 45 06.4 +0.2
baz=99
N28A Pribbeno Ranch 99.01 36 ⇑Pdiff Pdif 20 45 06.5 +0.6
baz=99
ATAF Djebel Tarf 99.03 317 P Pdif 20 45 05.5 -0.6
L30A Spencer Herefo 99.04 34 ⇓Pdiff Pdif 20 45 05.9 0.0
baz=99
TUC Tucson 99.06 47 eP Pdif 20 45 07.6 +1.3
TUC e 20 49 10.0
TUC pmax pmax
comp=Z,94nm,1.4s
TUC Tucson 99.06 47 eP Pdif 20 45 07.5 +1.3
comp=Z,94nm,1.4s
TUC ePP PP 20 49 10.0 +2.1
S24A Houchin Ranch, 99.08 40 ⇑Pdiff Pdif 20 45 06.9 +0.3
baz=99
Q26A Hugo 99.17 39 ⇓Pdiff Pdif 20 45 07.2 +0.5
baz=99
ECSD EROS Data Cent 99.22 31 eP Pdif 20 45 07.4 +0.7
comp=Z,39nm,1.0s
ECSD LR LR
comp=Z,48μm,22.0s
ECSD EROS Data Cent 99.22 31 ⇓Pdiff Pdif 20 45 07.3 +0.7
baz=99
V22A San Miguel Ran 99.22 43 ⇑Pdiff Pdif 20 45 07.3 +0.2
baz=99
P27A Ficken Ranch, 99.25 38 ⇑Pdiff Pdif 20 45 06.8 -0.2
baz=99
M30A Dale-Ortello V 99.26 35 ⇑Pdiff Pdif 20 45 06.6 -0.4
baz=99
R25A Fountain Ranch 99.27 40 ⇑Pdiff Pdif 20 45 06.9 -0.2
baz=99
O28A Krutsinger Ran 99.28 37 ⇓Pdiff Pdif 20 45 07.6 +0.4
baz=99
L31A Butterfield Fa 99.31 34 ⇓Pdiff Pdif 20 45 08.6 +1.5
baz=99
T24B San Luis 99.37 41 ⇑Pdiff Pdif 20 45 08.8 +0.9
baz=99
U23A El Rito 99.38 42 ⇓Pdiff Pdif 20 45 09.0 +1.2
baz=99
N29A Votaw Ranch, W 99.39 36 ⇓Pdiff Pdif 20 45 08.4 +0.8
baz=99
S25A Robets Cordova 99.52 40 ⇑Pdiff Pdif 20 45 07.6 -0.8
baz=99
KSCO Kaye Shedlock' 99.60 38 ePdif Pdif 20 45 10.1 +1.5
comp=Z,125nm,1.6s
KSCO Kaye Shedlock' 99.60 38 ⇓Pdiff Pdif 20 45 08.6 0.0
baz=99
EMHD Djebel Mahouad 99.62 318 P Pdif 20 45 08.6 -0.1
R26A Arlington 99.64 39 ⇑Pdiff Pdif 20 45 08.6 -0.2
baz=100
N30A Hueftle Ranch, 99.69 35 ⇓Pdiff Pdif 20 45 09.4 +0.6
baz=100
P28A Saint Francis 99.69 37 ⇑Pdiff Pdif 20 45 09.1 +0.2
baz=100
SPMN St. Paul 99.76 28 ⇓Pdiff Pdif 20 45 09.5 +0.5
baz=100
V23A Ortiz Mt. (NFS 99.77 42 ⇓Pdiff Pdif 20 45 11.5 +1.9
baz=100
O29A 4D Ranch, Culb 99.80 36 ⇑Pdiff Pdif 20 45 09.5 +0.1
baz=100
M31A Lambtecht Ranc 99.86 34 ⇑Pdiff Pdif 20 45 09.7 +0.1
baz=100
U24A Moreno Valley 99.87 41 ⇓Pdiff Pdif 20 45 11.0 +0.9
baz=100
T25A Trinidad 99.89 40 ⇑Pdiff Pdif 20 45 10.8 +0.8
baz=100
Q28A Sharon Springs 100.01 37 ⇓Pdiff Pdif 20 45 09.8 -0.6
baz=100
R27A Eads 100.02 39 ⇓Pdiff Pdif 20 45 10.1 -0.3
baz=100
LAZ Ladron 100.07 44 ePdif Pdif 20 45 12.7 +1.8
comp=Z,19nm,1.3s
S26A Kim 100.10 39 ⇓Pdiff Pdif 20 45 12.2 +1.4
baz=100
P29A Atwood 100.11 37 ⇓Pdiff Pdif 20 45 11.9 +1.1
baz=100
ANMO Albuquerque 100.14 43 eP Pdif 20 45 13.3 +2.1
ANMO e 20 49 12.8
ANMO pmax pmax
comp=Z,39nm,1.2s
ANMO MLR MLR
comp=Z,33μm,19.0s
ANMO Albuquerque 100.14 43 ePdif Pdif 20 45 13.3 +2.1
comp=Z,39nm,1.2s
ANMO ePP PP 20 49 12.8 -3.4
ANMO LR LR
comp=Z,33μm,19.0s
O30A MW Ranch, Wils 100.16 36 ⇑Pdiff Pdif 20 45 11.1 +0.1
baz=100
W23A Werner Place, 100.18 43 ⇓Pdiff Pdif 20 45 12.2 +0.8
baz=100
BGNE Belgrade 100.23 34 ePdif Pdif 20 45 11.7 +0.5
comp=Z,64nm,0.9s
BGNE Belgrade 100.23 34 ⇑Pdiff Pdif 20 45 10.2 -1.0
baz=100
N31A Bailey Ranch, 100.25 35 ⇑Pdiff Pdif 20 45 11.0 -0.4
baz=100
LENM Lemitar 100.33 44 ePdif Pdif 20 45 13.6 +1.6
comp=Z,13nm,1.1s
T26A Comanche Natio 100.34 40 ⇑Pdiff Pdif 20 45 10.9 -1.1
baz=100
V24A Rampart Ranch, 100.34 42 ⇑Pdiff Pdif 20 45 11.4 -0.8
baz=100
S27A Las Animas 100.38 39 ⇑Pdiff Pdif 20 45 12.7 +0.6
baz=100
U25A Circle Dot Ran 100.39 41 ⇓Pdiff Pdif 20 45 12.3 0.0
baz=100
EBNR Beni Rached 100.41 319 P Pdif 20 45 13.0 +0.9
Y22D IRIS PASSCAL I 100.42 44 ⇑Pdiff Pdif 20 45 13.0 +0.6
baz=100
LPM Los Pinos Moun 100.45 44 ePdif Pdif 20 45 14.5 +1.9
comp=Z,15nm,1.1s
P30A Selden 100.52 36 ⇓Pdiff Pdif 20 45 12.5 0.0
baz=100
R28A Tribune 100.53 38 ⇑Pdiff Pdif 20 45 13.9 +1.1
baz=100
COWI Conover 100.54 26 PFAKE 20 45 20.0 +7.5
COWI LR LR
comp=Z,75μm,20.0s
X23A Hourglass Bar 100.54 43 ⇑Pdiff Pdif 20 45 13.4 +0.4
baz=100
O31A Woolen Ranch, 100.56 35 ⇑Pdiff Pdif 20 45 11.6 -1.1
baz=100
Q29A Oakley 100.59 37 ⇑Pdiff Pdif 20 45 12.9 -0.1
baz=100
ECHA Ech Chlef 100.60 319 P Pdif 20 45 14.0 +1.1
W24A Lazy 6 Ranch, 100.60 42 ⇑Pdiff Pdif 20 45 14.3 +1.0
baz=100
N32A Stulken Farm, 100.64 34 ⇓Pdiff Pdif 20 45 12.3 -0.8
baz=100
319A Douglas 100.64 47 ⇑Pdiff Pdif 20 45 14.3 +0.9
baz=100
V25A Rancho No Teng 100.65 41 ⇓Pdiff Pdif 20 45 14.4 +0.9
baz=100
U26A Atchley Ranch, 100.79 41 ⇓Pdiff Pdif 20 45 13.3 -0.7
baz=101
R29A Marienthal 100.84 38 ⇓Pdiff Pdif 20 45 14.4 +0.3
baz=101
PBRG Braganca 100.87 328 ePdif Pdif 20 45 14.6 +0.5
PBRG Braganca 100.87 328 ePP PP 20 49 19.0 -2.2
PBRG eSKS 20 55 59.0
121A Cookes Peak, D 100.88 46 ePdif Pdif 20 45 16.7 +2.2
comp=Z,875nm,2.2s
121A Cookes Peak, D 100.88 46 ⇓Pdiff Pdif 20 45 14.0 -0.5
baz=101
EANR 'Ain N'Sour 100.89 319 P Pdif 20 45 15.2 +0.9
T27A Campo 100.92 39 ⇑Pdiff Pdif 20 45 14.5 0.0
baz=101
Z22A Elephant Butte 100.93 45 ⇓Pdiff Pdif 20 45 15.0 +0.4
baz=101
Q30A Quinter 100.94 37 ⇓Pdiff Pdif 20 45 14.1 -0.4
baz=101
P31A Stockton 100.99 36 ⇓Pdiff Pdif 20 45 14.3 -0.4
baz=101
S28A Manter 101.01 39 ⇓Pdiff Pdif 20 45 15.0 +0.2
baz=101
X24A Lazy VL Ranch, 101.02 43 ⇓Pdiff Pdif 20 45 15.3 +0.2
baz=101
Y23A Lovelace Mesa, 101.06 44 ⇑Pdiff Pdif 20 45 14.5 -0.8
baz=101
ESDC Sonseca Array 101.07 325 P Pdif 20 45 15.2 +0.2
comp=Z,25nm,1.1s,baz=34,slow=4.4,SNR=44
ESDC PP PP 20 49 23.9 +1.0
comp=Z,50nm,1.1s,baz=47,slow=8.0,SNR=8.9
ESDC PKKPbc PKKPbc 21 01 27.9 +1.6
comp=Z,6.2nm,1.0s,baz=249,slow=1.7,SNR=8.2
ESLA Sonseca Array 101.07 325 ePdif Pdif 20 45 15.4 +0.4
comp=Z,27nm,1.1s
ETRT Tiaret 101.16 318 P Pdif 20 45 17.0 +1.4
W25A X Bar L Ranch, 101.17 42 ⇓Pdiff Pdif 20 45 13.4 -2.3
baz=101
V26A Tequesquite Ra 101.17 41 ⇑Pdiff Pdif 20 45 11.1 -4.6
baz=101
T28A Walsh 101.22 39 ⇓Pdiff Pdif 20 45 12.4 -3.4
baz=101
U27A Thompson Grove 101.30 40 ⇑Pdiff Pdif 20 45 15.1 -1.1
baz=101
P32A Huiting Farm, 101.32 35 ⇓Pdiff Pdif 20 45 11.7 -4.5
baz=101
Q31A Ellis 101.36 36 ⇓Pdiff Pdif 20 45 14.2 -2.2
baz=101
PAB San Pablo 101.36 325 eP Pdif 20 45 16.3 -0.1
PAB pmax pmax
comp=Z,61nm,1.3s
PAB San Pablo 101.36 325 ePdif Pdif 20 45 16.3 -0.1
comp=Z,61nm,1.3s
R30A Dighton 101.41 37 ⇑Pdiff Pdif 20 45 14.4 -2.2
baz=101
S29A Ulysses 101.43 38 ⇑Pdiff Pdif 20 45 15.6 -1.1
baz=101
Y24A Capitan 101.44 43 ⇓Pdiff Pdif 20 45 15.8 -1.2
baz=101
MVO Moncorvo 101.50 327 ePdif Pdif 20 45 17.1 +0.2
MVO Moncorvo 101.50 327 ePP PP 20 49 28.2 +2.2
MVO eSKS SKSac 20 56 00.6 +5.6
MVO Moncorvo 101.50 327 eLQ LQ 21 16 38.4
MVO eLR LR 21 20 03.7
comp=Z,151μm,20.0s
X25A Clemmons Ranch 101.51 42 ⇑Pdiff Pdif 20 45 16.1 -1.1
baz=101
PCAB Cabril 101.55 328 ePP PP 20 49 28.1 +1.8
T29A Hugoton 101.66 39 ⇓Pdiff Pdif 20 45 14.4 -3.4
baz=102
W26A Owens Ranch, T 101.67 41 ⇓Pdiff Pdif 20 45 13.3 -4.6
baz=102
U28A Mallet 101.68 40 ⇑Pdiff Pdif 20 45 13.3 -4.6
baz=102
POLO Lamas de Olo 101.70 328 ePdif Pdif 20 45 18.8 +0.9
POLO Lamas de Olo 101.70 328 ePP PP 20 49 25.6 -2.0
POLO eSKS SKSac 20 56 01.4 +5.3
PVRL Vila Real 101.74 328 ePdif Pdif 20 45 19.1 +1.1
PVRL Vila Real 101.74 328 ePP PP 20 49 26.0 -1.8
V27A Dan Oppiter Fa 101.76 40 ⇓Pdiff Pdif 20 45 16.0 -2.3
baz=102
S30A Montezuma 101.77 38 ⇓Pdiff Pdif 20 45 16.0 -2.2
baz=102
Q32A Meitler Ranch, 101.81 36 ⇑Pdiff Pdif 20 45 17.3 -1.0
baz=102
R31A Burdett 101.81 37 ⇓Pdiff Pdif 20 45 16.2 -2.2
baz=102
Z24A Sheeppen Canyo 101.89 44 ⇓Pdiff Pdif 20 45 16.6 -2.4
baz=102
Y25A Mesa, Roswell 101.90 43 ⇓Pdiff Pdif 20 45 20.1 +1.2
baz=102
P33A Williams Farm, 101.93 35 ⇓Pdiff Pdif 20 45 14.4 -4.5
baz=102
X26A CR and CF Fran 102.01 42 ⇑Pdiff Pdif 20 45 19.5 0.0
baz=102
W27A Bowe Ranch, En 102.11 41 ⇓Pdiff Pdif 20 45 18.7 -1.1
baz=102
V28A Channing 102.12 40 ⇓Pdiff Pdif 20 45 17.6 -2.3
baz=102
R32A Long Quarter, 102.15 36 ⇑Pdiff Pdif 20 45 16.5 -3.3
baz=102
T30A Plains 102.16 38 ⇓Pdiff Pdif 20 45 20.0 +0.1
baz=102
U29A Oasis Ranch, S 102.17 39 ⇑Pdiff Pdif 20 45 19.0 -1.1
baz=102
Q33A Connelly Farm, 102.19 35 ⇓Pdiff Pdif 20 45 16.7 -3.3
baz=102
SCIA State Center 102.21 31 ePdif Pdif 20 45 21.5 +1.5
comp=Z,127nm,1.5s
PVIS Viseu 102.26 328 ePdif Pdif 20 45 21.4 +1.1
PVIS Viseu 102.26 328 ePP PP 20 49 30.4 -1.3
Z25A Roswell 102.32 43 ⇓Pdiff Pdif 20 45 20.9 0.0
baz=102
S31A Mullinville 102.32 37 ⇓Pdiff Pdif 20 45 18.4 -2.2
baz=102
MTE Manteigas 102.33 327 ePdif Pdif 20 45 19.9 -0.7
MTE Manteigas 102.33 327 ePP PP 20 49 30.0 -2.3
MTE eSKS SKSac 20 56 05.7 +6.7
MTE Manteigas 102.33 327 eLQ LQ 21 16 58.8
MTE eLR LR 21 21 23.2
comp=Z,201μm,20.0s
MTE Manteigas 102.33 327 ePdif Pdif 20 45 19.3 -1.3
comp=Z,87nm,1.1s
MTE LR LR
comp=Z,189μm,20.0s
X27A F and S Farms, 102.37 41 ⇓Pdiff Pdif 20 45 22.2 +1.2
baz=102
Y26A Elida 102.43 42 ⇑Pdiff Pdif 20 45 16.7 -4.6
baz=102
V29A Stinnett 102.44 40 ⇓Pdiff Pdif 20 45 19.0 -2.2
baz=102
U30A WK&E Inc. Balk 102.47 39 ⇓Pdiff Pdif 20 45 18.0 -3.4
baz=102
W28A Vega 102.47 40 ⇓Pdiff Pdif 20 45 20.3 -1.1
baz=102
S32A Newby Ranch, P 102.56 37 ⇑Pdiff Pdif 20 45 19.5 -2.2
baz=102
T31A Randall Ranch, 102.60 38 ⇑Pdiff Pdif 20 45 20.8 -1.0
baz=102
R33A Olander Ranch, 102.62 36 ⇓Pdiff Pdif 20 45 20.9 -1.0
baz=102
JFWS Jewell Farm 102.71 28 PFAKE 20 45 30.0 +7.8
JFWS LR LR
comp=Z,69μm,19.0s
PCBR Castelo Branco 102.73 327 ePP PP 20 49 39.0 +3.9
KSU1 Kansas State U 102.74 34 Pdif Pdif 20 45 21.6 -0.8
comp=Z,63nm,1.2s
KSU1 ePP PP 20 49 37.0 +1.7
KSU1 LR LR
comp=Z,95μm,20.0s
KSU1 Kansas State U 102.74 34 ⇑Pdiff Pdif 20 45 17.9 -4.5
baz=103
Z26A Caprock 102.78 43 ⇓Pdiff Pdif 20 45 23.5 +0.6
baz=103
Y27A Causey 102.86 42 ⇑Pdiff Pdif 20 45 23.8 +0.6
baz=103
W29A Amraillo 102.89 40 ⇑Pdiff Pdif 20 45 23.9 +0.6
baz=103
T32A Huddler Ranch, 102.95 37 ⇓Pdiff Pdif 20 45 25.1 +1.7
baz=103
MNTX Cornudas Mount 102.96 45 ePdif Pdif 20 45 24.4 +0.9
comp=Z,43nm,1.5s
MNTX LR LR
comp=Z,30μm,20.0s
V30A Spur Ranch, Mi 102.99 39 ⇑Pdiff Pdif 20 45 25.9 +2.2
baz=103
X28A Dimmitt 103.00 41 ⇓PKiKP PKiKP 20 49 35.0 -8.8
baz=103
PMRV Marv??o 103.00 326 ePdif Pdif 20 45 25.1 +1.5
PMRV Marv??o 103.00 326 ePP PP 20 49 34.9 -2.3
PMRV eSKS SKSac 20 56 05.9 +3.8
PMRV Marv??o 103.00 326 eLQ LQ 21 17 13.1
PMRV eLR LR 21 21 33.3
comp=Z,109μm,18.0s
U31A Nine Bar Ranch 103.03 38 ⇓Pdiff Pdif 20 45 24.3 +0.5
baz=103
MSTX Muleshoe 103.03 42 ⇓Pdiff Pdif 20 45 25.8 +1.8
baz=103
AMTX Amarillo 103.04 40 ePdif Pdif 20 45 25.0 +1.0
comp=Z,64nm,1.4s
AMTX Amarillo 103.04 40 ⇓Pdiff Pdif 20 45 25.7 +1.7
baz=103
PCAS Casmilo, Conde 103.06 327 ePdif Pdif 20 45 22.5 -1.3
PCAS Casmilo, Conde 103.06 327 ePP PP 20 49 40.9 +3.2
PCAS eSKS SKSac 20 56 07.6 +5.2
S33A Kaszmaul Farm, 103.14 36 ⇑Pdiff Pdif 20 45 24.9 +0.6
baz=103
Z27A Tatum 103.22 42 ⇓Pdiff Pdif 20 45 26.0 +1.2
baz=103
X29A Tulia 103.34 41 ⇓Pdiff Pdif 20 45 26.9 +1.6
baz=103
T33A Patterson Ranc 103.39 37 ⇑Pdiff Pdif 20 45 26.3 +1.0
baz=103
Y28A McKinney Farm, 103.39 41 ⇓PKiKP PKiKP 20 49 36.8 -7.8
baz=103
V31A Spring Creek L 103.46 39 ⇑Pdiff Pdif 20 45 27.1 +1.4
baz=103
W30A Crocket Farms 103.47 40 ⇓Pdiff Pdif 20 45 27.4 +1.6
baz=103
U32A Winter Ranch, 103.49 38 ⇑Pdiff Pdif 20 45 28.3 +2.4
baz=103
PESTR Estremoz 103.53 326 ePdif Pdif 20 45 27.0 +1.1
PESTR Estremoz 103.53 326 ePP PP 20 49 38.7 -2.5
PESTR eSKS SKSac 20 56 12.1 +7.5
127A Arkansas Junct 103.57 43 ⇑PKiKP PKiKP 20 49 37.6 -7.3
baz=103
Z28A Tucker Farm, M 103.74 42 ⇓PKiKP PKiKP 20 49 40.3 -4.9
baz=104
Y29A Porterfield Fa 103.77 41 ⇓Pdiff Pdif 20 45 28.5 +1.3
baz=104
PBAR Barrancos 103.78 325 ePdif Pdif 20 45 28.0 +1.0
PBAR Barrancos 103.78 325 ePP PP 20 49 40.5 -2.6
PBAR eSKS SKSac 20 56 08.4 +2.7
X30A Coker Ranch, T 103.82 40 ⇑Pdiff Pdif 20 45 27.8 +0.4
baz=104
W31A Holland Ranch, 103.83 39 ⇑Pdiff Pdif 20 45 28.7 +1.3
baz=104
U33A Lingo Farm, Me 103.94 37 ⇑Pdiff Pdif 20 45 28.0 +0.2
baz=104
V32A Arapaho 103.95 38 ⇑Pdiff Pdif 20 45 28.7 +0.8
baz=104
EVO Evora 104.00 326 ePdif Pdif 20 45 29.1 +1.1
EVO Evora 104.00 326 ePP PP 20 49 43.0 -1.7
128A Castleberry Fa 104.14 43 ⇓Pdiff Pdif 20 45 29.5 +0.6
baz=104
Z29A Hungry Hill Ra 104.17 42 ⇑Pdiff Pdif 20 45 30.0 +1.0
baz=104
X31A McDonald Ranch 104.21 40 ⇓Pdiff Pdif 20 45 30.6 +1.5
baz=104
Y30A Stafford Cattl 104.21 41 ⇓PKiKP PKiKP 20 49 44.4 -1.6
baz=104
U34A Anderson Ranch 104.25 37 ⇑Pdiff Pdif 20 45 30.4 +1.2
baz=104
W32A Sentinel 104.27 39 ⇓Pdiff Pdif 20 45 30.1 +0.8
baz=104
V33A Lossen Ranch, 104.29 38 ⇓Pdiff Pdif 20 45 31.2 +1.8
baz=104
PMAFR Mafra 104.30 327 ePdif Pdif 20 45 28.9 -0.4
PMAFR Mafra 104.30 327 ePP PP 20 49 48.8 +1.9
PMAFR eSKS SKSac 20 56 14.6 +6.5
LIS Lisbon 104.42 327 eP Pdif 20 45 29.7 -0.2
LIS eS SKSac 20 56 08.0 -0.7
LIS AMS AMS 21 32 05.2
comp=N,286μm,26.1s
LIS Lisbon 104.42 327 eP Pdif 20 45 29.6 -0.2
LIS eS SKSac 20 56 07.9 -0.7
228A UT Block 9, Go 104.42 43 ⇑Pdiff Pdif 20 45 31.5 +1.4
baz=104
Z30A Sanderson Ranc 104.49 41 ⇓Pdiff Pdif 20 45 32.0 +1.6
baz=104
129A Stewart Farms, 104.51 42 ⇑Pdiff Pdif 20 45 31.1 +0.6
baz=104
Y31A Rekieta Farm, 104.52 40 ⇑Pdiff Pdif 20 45 32.1 +1.6
baz=104
PNCL Nicolau / Gran 104.58 326 ePdif Pdif 20 45 31.5 +0.9
PNCL Nicolau / Gran 104.58 326 ePP PP 20 49 46.7 -2.3
PNCL eSKS 20 56 18.8
MESJ Messejana 104.64 326 eP Pdif 20 45 30.2 -0.6
MESJ ePP PP 20 49 50.4 +1.0
MESJ eS SKSac 20 56 09.1 -0.6
MESJ AMS AMS 21 30 44.2
comp=E,429μm,22.1s
MESJ Messejana 104.64 326 ePdif Pdif 20 45 32.6 +1.8
MESJ Messejana 104.64 326 ePP PP 20 49 48.7 -0.7
MESJ Messejana 104.64 326 eP Pdif 20 45 30.2 -0.6
MESJ e 20 49 50.3
MESJ eS SKSac 20 56 09.0 -0.6
W33A Caddo, Fort Co 104.68 38 ⇑Pdiff Pdif 20 45 34.6 +3.4
baz=104
PCVE Castro Verde 104.70 326 ePdif Pdif 20 45 32.8 +1.6
PCVE Castro Verde 104.70 326 ePP PP 20 49 48.7 -1.2
PCVE eSKS 20 56 17.1
V34A Guthrie 104.70 37 ⇑Pdiff Pdif 20 45 32.7 +1.4
baz=104
PVAQ Vaqueiros 104.71 325 ePdif Pdif 20 45 28.9 -2.3
PVAQ Vaqueiros 104.71 325 ePP PP 20 49 43.2 -6.8
PVAQ Vaqueiros 104.71 325 ePP PP 20 49 48.2 -1.8
PVAQ eSKS 20 56 16.6
PVAQ Vaqueiros 104.71 325 eLR LR 21 21 51.2
comp=E,165μm,20.0s
X32A Elmer 104.75 39 ⇑Pdiff Pdif 20 45 34.3 +2.8
baz=105
PBDV Barranco-do-Ve 104.95 325 ePdif Pdif 20 45 30.3 -2.0
PBDV Barranco-do-Ve 104.95 325 ePP PP 20 49 50.2 -1.6
PBDV eSKS 20 56 16.9
Y32A R-V Farms, Ver 104.97 40 ⇑Pdiff Pdif 20 45 32.7 +0.3
baz=105
229A Bryant Ranch, 105.00 43 ⇑Pdiff Pdif 20 45 33.6 +0.9
baz=105
W34A Bridge Creek, 105.01 38 ePKPdf PKiKP 20 49 42.4 -4.9
W34A Bridge Creek, 105.01 38 ⇓Pdiff Pdif 20 45 34.6 +2.0
baz=105
Z31A Sharp Cattle R 105.05 41 ⇑Pdiff Pdif 20 45 33.7 +0.9
baz=105
130A Snyder 105.08 42 ⇑Pdiff Pdif 20 45 33.5 +0.5
baz=105
X33A Lawton 105.11 39 ⇓Pdiff Pdif 20 45 30.5 -2.6
baz=105
PTEO Sao Teotonio 105.12 326 ePdif Pdif 20 45 32.3 -0.7
PTEO Sao Teotonio 105.12 326 ePP PP 20 49 53.9 +0.9

VNDA Vanda 105.17 173 PP PP 20 50 04.5 +11
comp=E,39nm,1.0s,baz=315,slow=4.3,SNR=5.7
VNDA PKKPbc PKKPab 21 01 28.7 +0.4
comp=E,16nm,0.9s,baz=106,slow=1.0,SNR=4.8
329A Wagon Wheel Ra 105.23 43 ⇑Pdiff Pdif 20 45 34.5 +0.8
baz=105
MORF Marmelete 105.26 326 eP Pdif 20 45 32.8 -0.9
MORF ePP PP 20 49 55.2 +1.1
MORF eS SKSac 20 56 13.0 +0.4
MORF AMS AMS 21 31 02.4
comp=N,429μm,20.7s
MORF Marmelete 105.26 326 ePdif Pdif 20 45 36.3 +2.6
MORF Marmelete 105.26 326 ePP PP 20 49 52.2 -2.0
MORF eSKS SKSac 20 56 15.2 +2.6
MORF Marmelete 105.26 326 eP Pdif 20 45 32.8 -0.9
MORF e 20 49 55.2
MORF eS SKSac 20 56 13.0 +0.4
RKT Rikitea 105.32 108 ePdif Pdif 20 45 38.3 +4.3
comp=N,3μm,28.2s
RKT Rikitea 105.32 108 ePP PP 20 50 02.4 +6.5
comp=N,5μm,28.5s
RKT eSKSac SKSac 20 56 14.5 +1.6
comp=N,14μm,26.5s
RKT eSS SS 21 04 52.8 +1.5
comp=N,36μm,30.0s
RKT Rikitea 105.32 108 eLQ LQ 21 15 41.0
comp=N,117μm,33.5s
RKT eLR LR 21 20 15.2
comp=N,140μm,32.0s,baz=290
131A Roby 105.36 41 ⇑Pdiff Pdif 20 45 35.5 +1.3
baz=105
Y33A Hilltop Ranch, 105.43 39 ⇑Pdiff Pdif 20 45 35.4 +0.9
baz=105
X34A Smith Ranch, M 105.44 38 ⇑Pdiff Pdif 20 45 35.2 +0.7
baz=105
Z32A Haskell 105.45 40 ⇓Pdiff Pdif 20 45 33.5 -1.0
baz=105
230A Sterling City 105.48 42 ⇑Pdiff Pdif 20 45 36.0 +1.1
baz=105
PFVI Vila Bisbo 105.49 326 ePdif Pdif 20 45 32.9 -1.7
PFVI Vila Bisbo 105.49 326 ePP PP 20 49 54.0 -1.7
PFVI eSKS SKSac 20 56 16.7 +3.2
TUL1 Tulsa 105.57 36 ePdif Pdif 20 45 33.0 -2.0
comp=N,21nm,0.9s
TUL1 Tulsa 105.57 36 ⇓Pdiff Pdif 20 45 37.5 +2.4
baz=105
TXAR Lajitas Array 105.64 46 P Pdif 20 45 37.2 +1.6
TXAR 20 49 59.1
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR pmax pmax
comp=Z,25nm,1.0s
TXAR Lajitas Array 105.64 46 Pdiff Pdif 20 45 37.2 +1.6
comp=Z,2.3nm,0.7s,baz=296,slow=2.9,SNR=14
TXAR PP PP 20 49 59.1 +1.7
comp=Z,24nm,1.0s,baz=292,slow=4.8,SNR=7.7
TXAR PKKPbc PKKPbc 21 01 12.0 -0.6
comp=Z,5.4nm,1.1s,baz=141,slow=4.2,SNR=4.4
LSZ Lusaka 105.65 260 eP Pdif 20 45 35.3 -0.5
LSZ pmax pmax
comp=Z,83nm,1.1s
LSZ Lusaka 105.65 260 ePdif Pdif 20 45 35.3 -0.5
comp=Z,83nm,1.1s
330A Mertzon 105.78 43 ⇓Pdiff Pdif 20 45 36.6 +0.4
baz=105
ABTX Abilene, Hawle 105.84 41 ePdif Pdif 20 45 36.9 +0.6
comp=Z,88nm,1.5s
ABTX Abilene, Hawle 105.84 41 ⇑Pdiff Pdif 20 45 37.0 +0.6
baz=106
AAM Ann Arbor 105.85 24 PFAKE 20 50 00.0
AAM LR LR
comp=Z,67μm,21.0s
Z33A Whitaker Ranch 105.87 40 ⇑Pdiff Pdif 20 45 37.6 +1.1
baz=106
429A Davenport Ranc 105.88 44 ⇓Pdiff Pdif 20 45 37.7 +1.0
baz=106
231A Bronte 105.93 42 ⇑Pdiff Pdif 20 45 37.1 +0.3
baz=106
Y34A Reagan Ranch, 105.96 39 ⇑Pdiff Pdif 20 45 37.5 +0.7
baz=106
529A Stev Forest Ra 106.02 44 ⇓Pdiff Pdif 20 45 37.6 +0.3
baz=106
SFIN Scholer Farm 106.13 28 ⇑PKiKP PKiKP 20 49 58.3 +9.0
baz=106
430A Baggett Ranch, 106.18 43 ⇑Pdiff Pdif 20 45 37.2 -0.7
baz=106
133A Hamilton Ranch 106.28 40 ⇑Pdiff Pdif 20 45 39.7 +1.4
baz=106
Z34A Collier Ranch, 106.30 39 ⇓Pdiff Pdif 20 45 37.6 -0.7
baz=106
331A San Angelo 106.31 42 ⇑Pdiff Pdif 20 45 38.0 -0.4
baz=106
232A Coleman 106.36 41 ⇑Pdiff Pdif 20 45 38.3 -0.5
baz=106
MDT Midelt 106.44 320 PKKPbc PKKPbc 21 01 11.4 +1.2
comp=Z,11nm,1.0s,baz=207,slow=4.4,SNR=8.0
TAM Tamanrasset 106.52 306 eP Pdif 20 45 38.8 -0.9
TAM pmax pmax
comp=Z,22nm,1.5s
TAM Tamanrasset 106.52 306 ePdif Pdif 20 45 38.8 -0.9
comp=Z,22nm,1.5s
TAM ePKKP PKKPbc 21 01 06.0 -3.8
530A J-C Ranch, Com 106.56 44 ⇑Pdiff Pdif 20 45 39.9 +0.2
baz=106
LONY Lake Ozonia 106.63 17 PFAKE 20 50 00.0
LONY LR LR
comp=Z,63μm,20.0s
431A Sonora 106.64 43 ⇓Pdiff Pdif 20 45 41.4 +1.4
baz=106
332A Millersview 106.67 42 ⇓Pdiff Pdif 20 45 40.6 +0.5
baz=106
Z35A Perchaven, San 106.70 39 ⇑Pdiff Pdif 20 45 40.6 +0.5
baz=106
233A Rising Star 106.71 41 ⇓Pdiff Pdif 20 45 40.7 +0.5
baz=107
134A White-Moore Ra 106.79 40 ⇓Pdiff Pdif 20 45 39.5 -1.1
baz=107
432A Menard 107.00 42 ⇑Pdiff Pdif 20 45 43.3 +1.7
baz=107
531A Rocksprings 107.04 43 ⇑Pdiff Pdif 20 45 41.0 -0.7
baz=107
H06E1 SOCORRO T-PHAS107.11 59 T T 22 45 30.6
SNR=4.0
333A Richland Sprin 107.16 41 ⇓Pdiff Pdif 20 45 42.4 +0.2
baz=107
234A Clairette 107.17 40 ⇓Pdiff Pdif 20 45 39.9 -2.3
baz=107
135A Vickery Place, 107.18 39 ⇓Pdiff Pdif 20 45 42.2 -0.1
baz=107
JCT Junction City 107.27 42 ePKPdf PKiKP 20 49 52.9 +1.2
JCT LR LR
comp=Z,51μm,20.0s
JCT Junction City 107.27 42 ⇑Pdiff Pdif 20 45 41.7 -1.1
baz=107
ERPA Erie 107.30 22 PFAKE 20 50 00.0
ERPA LR LR
comp=Z,67μm,19.0s
NCB Newcomb 107.33 17 ePKPdf PKiKP 20 49 46.9 -4.5
NCB LR LR
comp=Z,56μm,19.0s
532A Rocksprings 107.46 43 ⇑Pdiff Pdif 20 45 43.2 -0.5
baz=107
433A Art 107.50 42 ⇓Pdiff Pdif 20 45 43.4 -0.4
baz=107
631A Perdido Creek 107.55 44 ⇑Pdiff Pdif 20 45 44.6 +0.6
baz=107
WHTX Lake Whitney 107.57 40 ⇓Pdiff Pdif 20 45 44.5 +0.5
baz=107
334A Lometa 107.59 41 ⇑Pdiff Pdif 20 45 44.7 +0.5
baz=107
LBNH Lisbon 107.65 15 PFAKE 20 50 00.0
LBNH LR LR
comp=Z,51μm,20.0s
MIAR Mount Ida 107.78 36 eP Pdif 20 45 44.2 -0.8
MIAR pmax pmax
comp=Z,43nm,1.4s
MIAR MLR MLR
comp=Z,41μm,20.0s
MIAR Mount Ida 107.78 36 ePdif Pdif 20 45 44.2 -0.8
comp=Z,43nm,1.4s
MIAR LR LR
comp=Z,41μm,20.0s
ACSO Alum Creek Sta 107.89 25 ePdif Pdif 20 45 46.6 +1.3
comp=Z,15nm,0.5s
ACSO LR LR
comp=Z,53μm,19.0s
434A Burnet 107.95 41 ⇓Pdiff Pdif 20 45 44.7 -1.1
baz=108
632A Uvalde 107.97 43 ⇓Pdiff Pdif 20 45 48.0 +2.1
baz=108
533A Kerrville 108.03 42 ⇑Pdiff Pdif 20 45 45.7 -0.5
baz=108
335A Moody 108.11 40 ⇓Pdiff Pdif 20 45 46.3 -0.1
baz=108
336A Riesel 108.37 40 ⇑Pdiff Pdif 20 45 46.8 -0.8
baz=108
633A Saathoff Ranch 108.38 43 ⇑Pdiff Pdif 20 45 49.4 +1.8
baz=108
435B Jarrell 108.38 41 ⇑Pdiff Pdif 20 45 47.5 -0.1
baz=108
534A Blanco 108.39 42 ⇑Pdiff Pdif 20 45 48.6 +0.8
baz=108
732A Laxson Ranch, 108.40 44 ⇓Pdiff Pdif 20 45 48.0 +0.3
baz=108
BINY Binghamton 108.48 19 PFAKE 20 50 10.0
BINY LR LR
comp=Z,82μm,21.0s
832A Faith Ranch, C 108.71 44 ⇑Pdiff Pdif 20 45 50.7 +1.5
baz=109
733A Divot King Ran 108.83 43 ⇑Pdiff Pdif 20 45 50.9 +1.2
baz=109
436A Wall Ranch, Ga 108.85 40 ⇓Pdiff Pdif 20 45 51.5 +1.7
baz=109
634A China Grove, S 108.93 42 ⇑Pdiff Pdif 20 45 51.6 +1.5
baz=109
535A Dale 108.93 41 ⇑Pdiff Pdif 20 45 49.4 -0.7
baz=109
337A Centerville 108.97 39 ⇑PKiKP PKiKP 20 50 06.9 +12
baz=109
833A Chaparral WMA, 109.05 44 ⇓Pdiff Pdif 20 45 50.6 0.0
baz=109
734A La Parita Cree 109.19 43 ⇑Pdiff Pdif 20 45 53.7 +2.4
baz=109
536A Bastrop 109.20 41 ⇓Pdiff Pdif 20 45 52.1 +0.8
baz=109
338A Crockett 109.27 39 ⇓Pdiff Pdif 20 45 53.0 +1.4
baz=109
635A Leesville 109.28 42 ⇑Pdiff Pdif 20 45 52.5 +0.8
baz=109
933A Laredo 109.62 44 ⇓Pdiff Pdif 20 45 54.4 +1.2
baz=110
537A Green Hill Far 109.64 40 ⇑Pdiff Pdif 20 45 54.0 +0.8
baz=110
636A Smothers Creek 109.64 41 ⇑Pdiff Pdif 20 45 53.1 -0.1
baz=110
735A Kenedy 109.64 42 ⇓Pdiff Pdif 20 45 53.8 +0.5
baz=110
339A Huntington 109.71 38 ⇑Pdiff Pdif 20 45 57.4 +3.9
baz=110
834A Tilden 109.71 43 ⇑Pdiff Pdif 20 45 56.0 +2.4
baz=110
538A Harpers Horsep 110.01 40 ⇓PKiKP PP 20 50 30.0 +1.0
baz=110
340A Bronson 110.01 38 ⇑Pdiff Pdif 20 45 56.0 +1.1
baz=110
835A Beeville 110.04 43 ⇑Pdiff Pdif 20 45 58.7 +3.6
baz=110
934A Benavides 110.10 44 ⇓Pdiff Pdif 20 45 57.5 +2.1
baz=110
034A Hebbronville 110.38 44 ⇓Pdiff Pdif 20 45 58.1 +1.5
baz=110
KVTX Kingsville 110.53 43 PFAKE 20 50 10.0
KVTX LR LR
comp=Z,42μm,20.0s
PRYS Parys 110.59 249 P PKiKP 20 49 55.0 -3.0
KSR Koster 110.62 251 P PKiKP 20 49 53.4 -4.8
035A Encino 110.83 44 ⇓Pdiff Pdif 20 46 00.1 +1.5
baz=111
035Z Hargill 111.19 44 ⇑PKiKP PP 20 50 27.8 -10
baz=111
LBTB Lobatse 111.45 252 eP Pdif 20 46 00.4 -1.0
LBTB e 20 49 57.3
LBTB Lobatse 111.45 252 PKKPbc PKKPbc 21 01 05.7 +12
comp=Z,7.1nm,0.9s,baz=232,slow=5.2,SNR=4.5
LBTB Lobatse 111.45 252 ePdif Pdif 20 46 00.4 -1.0
LBTB ePKPdf PKiKP 20 49 57.3 -2.4
LBTB PKKPbc PKKPab 21 01 05.7 +2.7
BLA Blacksburg 111.50 25 PFAKE 20 50 10.0
BLA LR LR
comp=Z,62μm,20.0s
PGRA Graciosa 111.69 340 ePP PP 20 50 42.2 +1.7
PGRA eSP SP 21 00 12.7 +2.5
PGRA eSS SS 21 06 17.6 +3.6
PGRA Graciosa 111.69 340 eLR LR 21 24 45.1
comp=Z,6μm,16.8s
CBN Corbin 111.69 22 PFAKE 20 50 10.0
CBN LR LR
comp=Z,59μm,19.0s
ADH Angra Heroismo 111.80 340 ePP PP 20 50 42.2 +0.8
ROSA Rosais 112.05 341 ePP PP 20 50 43.3 +0.1
ROSA Rosais 112.05 341 eLR LR 21 24 36.4
comp=Z,6μm,24.3s
PSET Sete Cidades 112.07 338 ePP PP 20 50 44.4 +1.0
PSET eSP SP 21 00 15.0 +1.2
PSET eSS SS 21 06 13.7 -5.5
PSET Sete Cidades 112.07 338 eLR LR 21 24 43.9
comp=Z,5μm,28.9s
TOPO Topo 112.07 340 ePP PP 20 50 42.5 -0.9
PMAN Manadas 112.09 340 ePP PP 20 50 38.1 -5.3
H07S1 FLORES T-PHASE112.27 343 ePP PP 20 50 44.1 -0.6
H07S1 eSP SP 21 00 12.7 -2.8
H07S1 eSS SS 21 06 10.7 -11
LRAL Lakeview Retre 112.28 32 ePKPdf PKiKP 20 50 00.3 -0.7
PCAN Candelaria 112.36 341 ePP PP 20 50 45.9 +0.5
SWZ Schweizer 112.38 250 P PKiKP 20 50 03.6 +2.2
PSMN Pico do Norte, 112.59 337 ePP PP 20 50 46.1 -1.0
PSMN eSP SP 21 00 06.6 -12
PSMN eSS SS 21 06 08.3 -18
PSMN Pico do Norte, 112.59 337 eLR LR 21 24 52.7
comp=Z,4μm,21.4s
PSMA Santa Maria 112.62 337 ePP PP 20 50 44.8 -2.4
BOSA Boshof 112.89 248 ePKIKP PKiKP 20 50 02.4 +0.1
BOSA Boshof 112.89 248 PKiKP PKiKP 20 50 02.5 +0.2
comp=Z,5.7nm,0.7s,baz=77,slow=5.3,SNR=7.1
BOSA PKKPbc PKKPab 21 00 53.7 -2.7
comp=Z,3.2nm,0.7s,baz=201,slow=5.3,SNR=5.5
KMSC Kings Mountain 112.96 26 ⇓PKiKP PP 20 50 46.1 -3.7
baz=113
PMOZ Porto Moniz, M 113.02 329 eLR LR 21 26 10.8
comp=Z,136μm,18.0s
MSKU Masuku 113.03 280 PFAKE 20 50 10.0
MSKU LR LR
comp=Z,3.0nm,22.0s
BRAL Brewton 113.91 33 PFAKE 20 50 20.0
BRAL LR LR
comp=Z,56μm,20.0s
CNNC Cliffs of the 114.18 24 PFAKE 20 50 20.0 +15
CNNC LR LR
comp=Z,66μm,19.0s
TIGA Tifton 115.19 30 ePKPdf PKPdf 20 50 07.7 +1.1
TIGA Tifton 115.19 30 ⇑PKiKP PP 20 50 58.3 -7.4
baz=115
NHSC New Hope 115.20 26 PFAKE 20 50 20.0 +13
NHSC LR LR
comp=Z,57μm,19.0s
TOA0 Torodi Ar. Sit 115.27 300 ePKPdf PKPdf 20 50 06.1 -1.0
TORD Torodi Ar. Bea 115.27 300 Pdiff Pdif 20 46 20.7 +2.1
comp=Z,0.9nm,0.8s,baz=57,slow=2.8,SNR=5.3
TORD PKP PKiKP 20 50 05.7 -1.4
comp=Z,17nm,0.8s,baz=36,slow=1.5,SNR=23
TORD PP PP 20 51 07.2 -0.1
comp=Z,95nm,1.1s,baz=54,slow=5.7,SNR=5.8
TORD PKKPbc PKKPbc 21 00 43.1 +2.2
comp=Z,5.2nm,0.9s,baz=236,slow=3.2,SNR=9.0
TORD SKKP 21 04 34.1
comp=Z,9.3nm,1.2s,baz=268,slow=1.3,SNR=3.9
QSPA South Pole Qui 115.76 180 PKP PKPdf 20 50 05.8 -0.8
comp=Z,53nm,1.0s,baz=269,slow=0.8,SNR=30
QSPA PP PP 20 51 09.2 -1.0
comp=Z,55nm,1.0s,baz=309,slow=4.2,SNR=5.1
QSPA PKKPbc PKKPbc 21 00 39.4 -1.7
comp=Z,11nm,1.0s,baz=218,slow=0.8,SNR=5.9
TSUM Tsumeb 116.50 261 ePKPdf PKPdf 20 50 09.6 +0.1
SUR Sutherland 117.63 245 PFAKE 20 50 20.0 +8.6
SUR LR LR
comp=Z,64μm,20.0s
WIN Windhoek 118.03 257 PKIKP PKPdf 20 50 12.8 +0.4
WIN Windhoek 118.03 257 P PKPdf 20 50 12.8 +0.4
WIN Windhoek 118.03 257 i P PP 20 51 20.9 -6.6
ELIM Elim 119.02 243 P PKPdf 20 50 09.3 -4.4
CER Ceres 119.11 245 P PKPdf 20 50 09.7 -4.3
BBSR BB Station 120.62 13 PFAKE 20 50 30.0 +13
BBSR LR LR
comp=Z,36μm,19.0s
KUK Kukurantumi 121.00 295 i P PP 20 51 42.9 -4.4
TEIG Tepich 121.82 41 PP PP 20 51 53.0 +1.0
comp=Z,38nm,1.1s,baz=269,slow=7.3,SNR=5.4
TEIG PKKPbc PKKPab 21 00 19.9 -0.4
comp=Z,21nm,0.9s,baz=223,slow=0.9,SNR=6.4
NVL N'lazarevskaya 123.03 201⇓ePKIKP PKPdf 20 50 21.4 +1.1
NVL e 21 01 45.9
NVL eSS SS 21 08 54.3 +12
NVL pmax pmax
comp=Z,70nm,1.1s
DBIC Dimbokro 124.31 299 ePKIKP PKPdf 20 50 23.5 -1.0
DBIC 20 52 17.0
DBIC Dimbokro 124.31 299 PKP PKPdf 20 50 24.4 -0.1
comp=Z,39nm,0.7s,baz=13,slow=2.2,SNR=31
DBIC PP PP 20 52 17.0 +7.5
comp=Z,151nm,1.3s,baz=52,slow=8.1,SNR=4.3
DBIC PKKPab PKKPab 21 00 09.7 +0.6
comp=Z,23nm,1.2s,baz=228,slow=3.7,SNR=4.6
DBIC Dimbokro 124.31 299 ePKPdf PKPdf 20 50 23.5 -1.0
DBIC PKP PKPdf 20 50 24.4 -0.1
DBIC PP PP 20 52 17.0 +7.5
DBIC PKKPab PKKPab 21 00 09.7 +0.6
APG El Apazote 124.34 47 PKhKP PKPpre 20 50 20.4
comp=Z,7.0nm,0.6s,baz=303,slow=1.8,SNR=11
APG PP PP 20 52 12.9 +3.3
comp=Z,11nm,1.0s,baz=322,slow=11,SNR=4.4
KIC Kosan Boka 124.40 299 ePKIKP PKPdf 20 50 24.8 +0.1
comp=Z,348nm,1.1s
TIC Toumodi 124.45 299 ePKIKP PKPdf 20 50 24.7 -0.1
comp=Z,134nm,0.8s
LIC Lamto 124.71 299 ePKIKP PKPdf 20 50 25.0 -0.3
comp=Z,352nm,1.2s
LIC eR
comp=Z,91μm,20.2s
LIC Lamto 124.71 299 ePKIKP PKPdf 20 50 25.2 -0.1
comp=Z,400nm,1.2s
LIC Lamto 124.71 299 ePKPdf PKPdf 20 50 25.0 -0.3
SNAA Sanae 126.98 197 P PKPdf 20 50 28.8 +0.8
SNAA Sanae 126.98 197 PKP PKPdf 20 50 27.9 -0.1
comp=Z,33nm,1.1s,baz=102,slow=2.6,SNR=19
SNAA SKKPbc SKKPbc 21 03 48.7 -2.1
comp=Z,8.4nm,1.1s,baz=234,slow=3.3,SNR=3.7
SNAA Sanae 126.98 197 PKP PKPdf 20 50 27.9 -0.1
SNAA ePKPdf PKiKP 20 50 28.6 +0.1
SNAA SKKPbc SKKPbc 21 03 48.7 -2.1
VNA2 Neumayer--Watz 128.61 197 P PKPdf 20 50 31.4 +0.4
baz=88,slow=3.0
GTBY Guantanamo Bay 128.92 29 ePKPdf PKPdf 20 50 33.4 +0.2
GTBY LR LR
comp=Z,33μm,20.0s
VNA3 Neumayer Olymp 129.00 196 P PKPdf 20 50 32.8 +1.0
VNA1 Neumayer--Stat 129.01 197 P PKPdf 20 50 33.5 +1.7
GRTK Grand Turk 129.09 24 PFAKE 20 50 50.0 +17
GRTK LR LR
comp=Z,53μm,22.0s
MTDJ Mount Denham 129.28 33 PFAKE 20 50 50.0 +16
MTDJ LR LR
comp=Z,46μm,21.0s
SACV Santiago Islan 131.07 323 ePKPdf PKPdf 20 50 37.6 +0.2
SACV LR LR
comp=Z,52μm,20.0s
SDDR Presa de Saban 131.34 25 ePKPdf PKPdf 20 50 38.4 +0.5
SDDR ePP PP 20 52 53.5 -1.2
JTS JuntasAbangare 131.43 46 PKhKP PKPpre 20 50 32.6
comp=Z,3.7nm,0.4s,baz=347,slow=13,SNR=3.8
JTS PKP PKPdf 20 50 38.5 +0.3
comp=Z,12nm,0.6s,baz=349,slow=4.2,SNR=7.3
JTS PP PP 20 52 58.4 +2.4
comp=Z,17nm,0.9s,baz=292,slow=13,SNR=4.6
JTS JuntasAbangare 131.43 46 ePKPpre PKPpre 20 50 32.0
JTS PKPpre PKPpre 20 50 32.6
JTS PKP PKPdf 20 50 38.5 +0.3
JTS ePKPdf PKiKP 20 50 39.0 0.0
JTS PP PP 20 52 58.4 +2.4
JTS LR LR
comp=Z,26μm,19.0s
SMN1 Samana, DR 131.89 23 ePKPdf PKPdf 20 50 39.2 +0.3
LRS Lares 133.53 20 ePKPdf PKPdf 20 50 42.1 +0.1
LSP Las Mesas 133.56 21 ePKPpre PKPpre 20 50 35.8
CELP Cerrillos 133.81 20 ePKPdf PKPdf 20 50 43.0 +0.5
OBIP Obispado Ponce 133.84 20 ePKPdf PKPdf 20 50 42.2 -0.3
CBYP Canovanas 133.85 19 ePKPdf PKPdf 20 50 43.1 +0.5
ICMP Isla Caja de M 134.01 20 ePKPdf PKPdf 20 50 41.8 -1.1
STVI Saint Thomas 134.03 18 ePKPdf PKPdf 20 50 43.2 +0.3
ANWB Willy Bob 135.47 14 PFAKE 20 51 00.0 +14
ANWB LR LR
comp=Z,36μm,22.0s
BCIP Isla Barro Col 135.50 42 ePKPdf PKPdf 20 50 47.4 +1.6
BCIP LR LR
comp=Z,38μm,20.0s
SHEL Horse Pasture 136.32 274 PFAKE 20 51 00.0 +13
SHEL LR LR
comp=Z,35μm,20.0s
FDF Fort de France 138.45 14 ePKPpre PKPpre 20 50 45.2
FDF LR LR
comp=Z,44μm,22.0s
BBGH Gun Hill 140.32 12 PFAKE 20 51 10.0 +15
BBGH LR LR
comp=Z,55μm,22.0s
ASCN Ascension 140.40 290 ePKPpre PKPpre 20 50 51.0
ASCN LR LR
comp=Z,31μm,20.0s
SDV Santo Domingo 140.66 31 ePKPpre PKPpre 20 50 47.9
SDV ePKPdf PKPdf 20 50 56.2 +0.7
GRGR Grenville 140.84 16 ePKPpre PKPpre 20 50 45.0
GRGR LR LR
comp=Z,40μm,22.0s
PCRV Puerto La Cruz 141.85 21 PKhKP PKPpre 20 50 53.2
comp=Z,58nm,1.0s,baz=324,slow=3.1,SNR=7.6
PCRV PP PP 20 54 14.5 +14
comp=Z,40nm,1.1s,baz=150,slow=19,SNR=3.1
TPR Prospect 141.97 15 e PKPdf 20 50 53.5 -4.1
BOT Bacolet 142.00 15 e PKPdf 20 50 53.6 -4.1
ROSC El Rosal 142.18 39 PKP PKPdf 20 50 56.4 -2.1
comp=Z,13nm,0.6s,baz=110,slow=0.9,SNR=12
ROSC PP PP 20 54 11.0 +7.5
comp=Z,46nm,1.0s,baz=61,slow=5.8,SNR=3.6
TRN Trinidad (W) 142.33 16 e PKPdf 20 50 57.9 -0.4
TBH Brigand Hill 142.57 16 e PKPdf 20 50 56.4 -2.2
TPP Pointe-a-Pierr 142.64 16 e PKPdf 20 50 52.9 -5.9
OTAV Otavalo 143.17 49 ePKPpre PKPpre 20 50 57.8
OTAV ePP PP 20 54 11.0 +1.0
ATAH Atahualpa 148.24 59 PKPbc PKPdf 20 51 10.4 +1.5
comp=Z,136nm,1.0s,baz=338,slow=2.6,SNR=31
USHA Ushuaia 148.60 161 PKPbc PKPbc 20 51 09.7 -1.6
comp=Z,216nm,0.9s,baz=176,slow=3.6,SNR=20
HOPE Hope Point 149.63 197 ePKPbc PKPdf 20 51 08.8 -0.5
HOPE LR LR
comp=Z,22μm,22.0s
NNA Nana 152.35 65 ePKIKP PKPdf 20 51 13.5 -1.3
NNA 20 51 15.4
NNA 20 51 21.7
NNA MLR MLR
comp=Z,28μm,22.0s
NNA Nana 152.35 65 PKP PKPdf 20 51 15.4 +0.6
comp=Z,32nm,0.9s,baz=278,slow=3.8,SNR=9.7
NNA PKPbc PKPbc 20 51 21.6 0.0
comp=Z,131nm,0.9s,baz=320,slow=5.1,SNR=23
NNA Nana 152.35 65 ePKPdf PKPdf 20 51 13.5 -1.3
NNA PKP PKPdf 20 51 15.4 +0.6
NNA PKPbc PKPbc 20 51 21.6 0.0
NNA LR LR
comp=Z,28μm,22.0s
RCBR Riachuelo 155.02 321 PKP PKPdf 20 51 19.0 +0.3
comp=Z,25nm,0.9s,baz=34,slow=3.3
RCBR PKPab PKPab 20 51 43.1 +0.2
comp=Z,110nm,0.7s,baz=38,slow=3.4,SNR=4.3
PLCA Paso Flores 158.39 138 ePKIKP PKPdf 20 51 21.5 -0.8
PLCA 20 51 56.8
PLCA Paso Flores 158.39 138 PKP PKPdf 20 51 21.9 -0.4
comp=Z,12nm,1.0s,baz=209,slow=3.8,SNR=12
PLCA PKPab PKPab 20 51 56.8 0.0
comp=Z,30nm,0.8s,baz=229,slow=6.7,SNR=8.0
PLCA Paso Flores 158.39 138 ePKPdf PKPdf 20 51 21.5 -0.8
PLCA PKP PKPdf 20 51 21.9 -0.4
PLCA PKPab PKPab 20 51 56.8 0.0
SAML Samuel 159.74 35 ePKPdf PKPdf 20 51 24.4 -0.1
SAML ePP PP 20 55 39.6 -4.2
LVC Limon Verde 163.77 82 ePKPdf PKPdf 20 51 31.5 +2.7
LVC LR LR
comp=Z,30μm,21.0s
CFAA Coronel Fontan 164.29 115 PKP PKPdf 20 51 28.4 -0.3
comp=Z,4.1nm,1.1s,baz=264,slow=1.2,SNR=34
CFAA PKPab PKPab 20 52 24.3 +1.4

comp=Z,19nm,1.0s,baz=245,slow=5.0,SNR=20
TRQA Tornquist 165.05 146 ePKPdf PKPdf 20 51 29.3 +0.1
SIV San Ignacio 166.63 44 PKP PKPdf 20 51 31.5 +0.4
comp=Z,52nm,1.1s,baz=227,slow=0.6,SNR=32
SIV PKPab PKPab 20 52 33.5 +0.1
comp=Z,12nm,0.8s,baz=283,slow=0.9,SNR=2.2
SIV PP PP 20 56 22.8 +2.2
comp=Z,54nm,1.1s,baz=339,slow=5.4,SNR=6.6
BDFB Brasilia 169.21 342 PKIKP PKPdf 20 51 33.0 +0.1
BDFB 20 52 45.3
BDFB pmax pmax
comp=Z,44nm,0.9s
BDFB pmax pmax
comp=Z,46nm,0.9s
BDFB Brasilia 169.21 342 PKP PKPdf 20 51 33.0 +0.1
comp=Z,44nm,0.9s,baz=30,slow=2.1,SNR=34
BDFB PKPab PKPab 20 52 45.3 +0.6
comp=Z,46nm,0.9s,baz=14,slow=3.4,SNR=5.5
BDFB PP PP 20 56 41.8 +8.8
comp=Z,52nm,1.1s,baz=16,slow=6.7,SNR=4.2
CPUP Villa Florida 174.74 95 PKIKP PKPdf 20 51 34.8 -0.3
CPUP 20 57 05.6
CPUP pmax pmax
comp=Z,31nm,1.1s
CPUP pmax pmax
comp=Z,18nm,1.0s
CPUP Villa Florida 174.74 95 PKP PKPdf 20 51 34.8 -0.3
comp=Z,31nm,1.1s,baz=42,slow=1.3,SNR=20
CPUP PKPab PKPab 20 53 10.3 +1.0
comp=Z,19nm,0.9s,baz=187,slow=1.7,SNR=5.0
CPUP PP PP 20 57 05.6 +3.4
comp=Z,18nm,1.0s,baz=186,slow=4.3,SNR=4.7
CPUP Villa Florida 174.74 95 PKP PKPdf 20 51 34.8 -0.3
CPUP ePKPdf PKPdf 20 51 35.4 +0.3
CPUP PKPab PKPab 20 53 10.3 +1.0
CPUP PP PP 20 57 05.6 +3.4

JMA 26 20:45:07.1±0.3, 25°96N×128°72E, h33km, M3.7, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.84 312 P Pn 20 45 22.2 -0.4
JNTH eS Sn 20 45 33.6 -0.2
JJT2 Tamagusuku 2 0.89 282 P Pn 20 45 23.5 +0.2
JJT2 eS Sn 20 45 35.3 +0.2
JOW Kunigami 0.96 335 P Pn 20 45 24.6 +0.3
JOW S Sn 20 45 36.7 -0.1
JIH Iheya 1.27 328 P Pn 20 45 29.3 +0.8
JIH S Sn 20 45 44.9 +0.6
JOKE Okinoerabujima 1.40 355 P Pn 20 45 31.4 +1.0
JOKE eS Sn 20 45 47.7 -0.1
JAGN Aguni-jima 1.47 296 P Pn 20 45 31.9 +0.7
JKE Kume jima 2 1.78 282 P Pn 20 45 35.4 -0.1
JKE eS Sn 20 45 55.0 -2.0
JTK Tokunoshima 1.83 6 P Pn 20 45 37.4 +1.1
JTK eS Sn 20 45 58.9 +0.6
JMZ Minamidaito 2 2.26 93 P Pn 20 45 42.7 +0.6
JAM Amami Oshima 2.57 18 P Pn 20 45 47.3 +0.9

JMA 26 20:45:55.5±0.5, 25°94N×128°56E, h35km, M4.0
ISCJB 26 20:45:59.7±0.5, 25°99N±0°05×128°38E±0°05, h10km, mb4.4/19, Error ellipse: s-maj=7.6km s-min=5.9km az=137.5
IDC 26 20:46:00.1±0.9, 25°97N×128°69E, h0km, mb4.2/11, mb1 4.3/14, mb1mx4.2/40, mbtmp4.2/14, ML3.5/3, Error ellipse: s-maj=28.1km s-min=19.1km az=78.0
MOS 26 20:46:02.6±1.2, 25°96N×128°72E, h30km, mb4.6/13, Error ellipse: s-maj=24.2km s-min=10.0km az=101.0
NEIC 26 20:46:03.7±0.7, 25°92N×128°07E, h35km, mb4.9/7, Error ellipse: s-maj=18.8km s-min=11.7km az=102.0
ISC 26 20:46:02.1±0.7, 25°96N±0°07×128°32E±0°08, h10km, n62, σ1§65/46, mb4.4/19, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JJT2 Tamagusuku 2 0.54 290 P Pg 20 46 09.9 -2.7
JJT2 eS Sb 20 46 20.5 -1.0
JNTH Nagotoyohara 0.62 335 P Pg 20 46 09.3 -4.8
JNTH eS Sg 20 46 19.6 -2.6
JOW Kunigami 0.87 358 P Pg 20 46 12.6 -6.3
JOW Kunigami 0.87 358 Pn Pb 20 46 20.4 +1.1
41nm,0.3s,baz=149,slow=17,SNR=12
JOW Sn Sg 20 46 31.1 +0.8
72nm,0.3s,baz=311,slow=19,SNR=29
JIH Iheya 1.12 344 P Pb 20 46 16.8 -6.7
JAGN Aguni-jima 1.15 303 P Pb 20 46 18.4 -5.7
JOKE Okinoerabujima 1.42 9 P Pn 20 46 19.9 -8.0
JKE Kume jima 2 1.42 285 P Pn 20 46 21.8 -6.2
JTK Tokunoshima 1.91 17 P Pn 20 46 25.9 -8.8
JAMN Amaminishikomi 2.40 18 P Pn 20 46 32.4 -9.1
JAM Amami Oshima 2.70 25 P Pn 20 46 36.0 -10
JAM eS Sn 20 47 10.3 -8.0
JZK Kikaishima 2.77 32 P Pn 20 46 38.0 -8.6
YOJ Yonaguni jima 5.03 254 eP Pn 20 47 09.3 -8.3
YOJ Yonaguni jima 5.03 254 ePn Pn 20 47 09.3 -8.3
TATO Taipei 6.25 262 ePn Pn 20 47 28.1 -6.2
NACB Ninganchiao 6.35 255 ePn Pn 20 47 24.3 -11
YHNB Yeheng 6.41 260 ePn Pn 20 47 25.9 -11
JNU Nakatsue 7.48 17 Pn Pn 20 47 49.6 -1.7
2.6nm,0.3s,baz=230,slow=6.3,SNR=8.9
JNU Sn Sn 20 49 09.3 -6.9
0.6nm,0.3s,baz=306,slow=17,SNR=2.1
KSAR Wonju Array Be 11.46 358 P Pn 20 48 46.3 +0.6
KSAR Wonju Array Be 11.46 358 Pn Pn 20 48 46.3 +0.6
KSRS Korea Array 11.47 358 Pn Pn 20 48 46.3 +0.4
0.1nm,0.3s,baz=178,slow=12,SNR=3.6
USRK Ussuriysk Arra 18.44 8 P P 20 50 18.0 +0.3
0.2nm,0.3s,baz=194,slow=8.9,SNR=5.6
YSS Yuzh-Sakhalins 23.88 25 eP P 20 51 14.8 -0.9
YSS Yuzh-Sakhalins 23.88 25 eP P 20 51 14.8 -0.9
710nm,2.3s
SONM Songino Array 27.82 327 P P 20 51 55.4 +3.7
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM Songino Array 27.82 327 P P 20 51 55.4 +3.7
comp=Z,1.8nm,0.6s,baz=142,slow=10,SNR=19
YAK Yakutsk 36.08 1 eP P 20 53 02.6 -1.0
YAK pmax pmax
comp=Z,38nm,0.8s
YAK Yakutsk 36.08 1 eP P 20 53 02.6 -1.0
comp=Z,38nm,0.8s
PMG Port Moresby 39.64 150 P P 20 53 31.3 -2.9
PMG pmax pmax
comp=Z,20nm,0.9s
PMG Port Moresby 39.64 150 P P 20 53 31.3 -2.9
comp=Z,20nm,0.9s
MKAR Makanchi Array 41.77 312 P P 20 53 52.5 +0.8
MKAR pmax pmax
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 41.77 312 P P 20 53 52.5 +0.8
comp=Z,3.3nm,1.0s,baz=104,slow=8.9,SNR=3.5
ZALV Zalesovo Beam 42.51 323 P P 20 53 59.0 +1.5
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 42.51 323 P P 20 53 59.0 +1.5
comp=Z,1.4nm,0.7s,baz=104,slow=11,SNR=2.7
WRAB Tennant Creek 45.99 172 eP P 20 54 24.4 -1.3
WRAB pmax pmax
comp=Z,7.0nm,0.8s
WRAB Tennant Creek 45.99 172 eP P 20 54 24.4 -1.3
comp=Z,7.1nm,0.8s
WRA Warramunga Arr 46.00 172 P P 20 54 25.2 -0.6
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 46.00 172 P P 20 54 25.2 -0.6
comp=Z,5.4nm,0.7s,baz=354,slow=8.5,SNR=18
AAK Ala-Archa 46.69 305 P P 20 54 29.1 -2.2
AAK Ala-Archa 46.69 305 P P 20 54 29.1 -2.2
BILL Bilibino 47.91 18 eP P 20 54 34.0 -6.1
BILL pmax pmax
comp=Z,16nm,1.3s
BILL Bilibino 47.91 18 eP P 20 54 34.0 -6.1
comp=Z,16nm,1.3s
KBL Kabul 51.29 295 eP P 20 55 09.3 +2.6
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 51.29 295 eP P 20 55 09.3 +2.6
comp=Z,8.3nm,0.9s
GEYT Alibeck 59.49 300 P P 20 56 08.0 +2.4
comp=Z,2.6nm,0.8s,baz=64,slow=3.4,SNR=3.6
MCK McKinley 63.87 29 P P 20 56 33.1 -1.5
MCK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 63.87 29 P P 20 56 33.1 -1.5
comp=Z,7.5nm,0.9s
ILAR Eielson Array 64.64 28 P P 20 56 37.8 -1.9
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 64.64 28 P P 20 56 37.8 -1.9
comp=Z,0.8nm,0.7s,baz=289,slow=4.1,SNR=6.3
KBZ Khabaz 69.39 309 P P 20 57 12.2 +2.0
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 69.39 309 P P 20 57 12.2 +2.0
comp=Z,5.1nm,0.9s,baz=120,slow=3.0,SNR=5.1
FINES FINESS Array B 73.14 331 P P 20 57 32.7 +0.1
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 73.14 331 P P 20 57 32.7 +0.1
comp=Z,1.7nm,0.7s,baz=63,slow=4.0,SNR=4.1
AKASG Malin Array Be 75.79 320 P P 20 57 48.2 0.0
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 75.79 320 P P 20 57 48.1 0.0
comp=Z,2.7nm,0.7s,baz=57,slow=6.5,SNR=8.0
BRTR Keskin Array B 77.26 308 P P 20 57 58.3 +1.3
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 77.26 308 P P 20 57 58.2 +1.3
comp=Z,3.2nm,0.9s,baz=81,slow=7.6,SNR=8.7
YKA Yellowknife Ar 78.74 25 P P 20 58 03.5 -1.0
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 78.74 25 P P 20 58 03.5 -1.0
comp=Z,1.1nm,0.8s,baz=305,slow=5.2,SNR=5.0
NB2 NORSAR Subarra 79.59 334 P P 20 58 09.0 -0.3
comp=Z,2.7nm,0.8s,baz=53,slow=5.9
NOA NORSAR Array B 79.59 334 P P 20 58 08.9 -0.3
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 79.59 334 P P 20 58 08.9 -0.3
comp=Z,2.2nm,0.8s,baz=54,slow=5.3,SNR=4.2

JMA 26 20:49:17.6±0.3, 26°00N×128°74E, h35km, M2.8, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.83 309 P Pn 20 49 32.7 0.0
JNTH eS Sn 20 49 44.0 +0.3
JJT2 Tamagusuku 2 0.90 279 P Pn 20 49 34.0 +0.2
JJT2 eS Sn 20 49 46.2 +0.6
JOW Kunigami 0.93 333 P Pn 20 49 34.5 +0.3
JOW eS Sn 20 49 45.9 -0.4
JIH Iheya 1.24 326 P Pn 20 49 39.6 +1.1
JIH eS Sn 20 49 54.5 +0.5
JOKE Okinoerabujima 1.36 354 P Pn 20 49 41.2 +1.0
JOKE eS Sn 20 49 57.6 +0.5
JAGN Aguni-jima 1.47 294 P Pn 20 49 42.4 +0.8
JAGN eS Sn 20 50 00.5 +1.0
JKE Kume jima 2 1.79 281 P Pn 20 49 46.1 +0.2
JTK Tokunoshima 1.79 6 P Pn 20 49 47.0 +1.0
JTK eS Sn 20 50 08.9 +1.4
JAMN Amaminishikomi 2.27 10 P Pn 20 49 53.9 +1.3
JAM Amami Oshima 2.52 18 P Pn 20 49 56.7 +0.6

IDC 26 20:49:32.0±8.6, 24°80N×128°67E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/39, mbtmp3.8/3, Error ellipse: s-maj=201.9km s-min=149.5km az=26.0, Southeast of Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SONM Songino Array 28.96 328 P P 20 55 33.3 0.0
0.6nm,0.4s,baz=143,slow=11,SNR=10
MKAR Makanchi Array 42.78 313 P P 20 57 31.3 -0.1
0.4nm,0.7s,baz=98,slow=9.2,SNR=4.5
FINES FINESS Array B 74.30 331 P P 21 01 10.9 0.0
2.3nm,1.0s,baz=64,slow=3.2,SNR=3.4

JMA 26 20:56:19.7±0.5, 25°98N×128°65E, h37km, M2.9, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.78 314 P Pn 20 56 34.0 -0.1
JJT2 Tamagusuku 2 0.83 281 P Pn 20 56 35.1 +0.3
JOW Kunigami 0.91 338 P Pn 20 56 36.4 +0.4
JOW eS Sn 20 56 48.6 +0.6
JIH Iheya 1.22 330 P Pn 20 56 41.1 +1.0
JIH eS Sn 20 56 56.8 +1.5
JOKE Okinoerabujima 1.38 357 P Pn 20 56 43.4 +1.0
JOKE eS Sn 20 56 59.7 +0.3
JAGN Aguni-jima 1.40 296 P Pn 20 56 43.5 +0.8
JKE Kume jima 2 1.71 282 P Pn 20 56 47.0 +0.1
JKE eS Sn 20 57 06.8 -0.7
JTK Tokunoshima 1.82 8 P Pn 20 56 49.0 +0.6

IDC 26 20:56:57.5±1.5, 25°96N×128°71E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/48, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=63.2km s-min=24.6km az=75.0
ISCJB 26 20:56:58.9±1.1, 26°00N±0°05×128°80E±0°04, h27km±7km, mb3.5/4, Error ellipse: s-maj=7.8km s-min=6.4km az=175.9
JMA 26 20:56:59.8±0.2, 26°01N×128°78E, h34km, M3.3
ISC 26 20:56:58.8±1.7, 25°98N±0°06×128°78E±0°04, h15km±10km, n16, σ1§38/26, mb3.7/4, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.86 308 P Pb 20 57 15.2 -0.3
JNTH eS Sb 20 57 26.6 -0.2
JJT2 Tamagusuku 2 0.94 280 P Pn 20 57 17.0 -0.4
JJT2 eS Sg 20 57 29.5 +0.2
JOW Kunigami 0.96 332 P Pg 20 57 17.2 -0.2
JOW eS Sb 20 57 28.3 -1.3
JIH Iheya 1.27 325 P Pn 20 57 21.9 -0.1
JIH eS Sb 20 57 37.0 -1.7
JOKE Okinoerabujima 1.39 352 P Pn 20 57 23.3 -0.3
JOKE eS Sn 20 57 40.1 -1.5
JAGN Aguni-jima 1.50 294 P Pn 20 57 25.3 +0.1
JAGN eS Sn 20 57 43.4 -1.1
JTK Tokunoshima 1.80 5 P Pn 20 57 29.1 -0.2
JKE Kume jima 2 1.82 281 P Pn 20 57 28.9 -0.7
JKE eS Sn 20 57 49.4 -2.9
JMZ Minamidaito 2 2.21 94 P Pn 20 57 34.4 -0.4
JMZ eS Sn 20 57 58.4 -3.5
JAMN Amaminishikomi 2.28 9 P Pn 20 57 35.8 0.0
JAMN eS Sn 20 58 03.4 -0.2
JAM Amami Oshima 2.53 17 P Pn 20 57 38.8 -0.5
JAM eS Sn 20 58 08.2 -1.6
JNU Nakatsue 7.35 14 Pn Pn 20 58 46.6 +1.0
1.4nm,0.3s,baz=195,slow=12,SNR=10
SONM Songino Array 28.03 327 P P 21 02 51.9 +2.5
0.6nm,0.4s,baz=142,slow=7.3,SNR=16
MKAR Makanchi Array 42.06 312 P P 21 04 49.8 -0.1
0.2nm,0.6s,baz=88,slow=9.9,SNR=5.7
WRA Warramunga Arr 45.97 173 P P 21 05 22.6 +1.2
1.0nm,0.9s,baz=354,slow=8.8,SNR=4.3
FINES FINESS Array B 73.32 331 P P 21 08 29.9 +0.5
1.4nm,0.9s,baz=66,slow=6.8,SNR=5.6

IDC 26 20:57:41.7±1.6, 25°91N×128°65E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/49, mbtmp3.8/3, ML3.6/1, MS4.4/1, Ms1 4.4/1, ms1mx4.0/44, Error ellipse: s-maj=64.4km s-min=25.2km az=74.0
ISCJB 26 20:57:44.1±1.5, 26°01N±0°06×128°69E±0°06, h29km±8km, mb3.5/3, Error ellipse: s-maj=10.9km s-min=7.8km az=44.2
JMA 26 20:57:45.2±0.3, 26°03N×128°65E, h36km, M3.3
ISC 26 20:57:44.9±2.3, 26°03N±0°08×128°64E±0°07, h23km±15km, n13, σ0§83/20, mb3.6/3, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.74 312 P Pb 20 57 59.1 0.0
JNTH eS Sb 20 58 09.0 +0.2
JJT2 Tamagusuku 2 0.81 278 P Pb 20 58 00.3 0.0
JJT2 eS Sn 20 58 12.1 -0.1
JOW Kunigami 0.87 338 P Pb 20 58 01.4 +0.1
JOW eS Sb 20 58 12.2 -0.3
JIH Iheya 1.17 329 P Pn 20 58 05.8 -0.1
JIH eS Sn 20 58 20.7 -0.5
JOKE Okinoerabujima 1.33 357 P Pn 20 58 08.0 -0.1
JOKE eS Sn 20 58 24.0 -1.1
JAGN Aguni-jima 1.37 294 P Pn 20 58 09.0 +0.3
JAGN eS Sb 20 58 26.9 -0.1
JKE Kume jima 2 1.69 281 P Pn 20 58 12.5 -0.6
JKE eS Sn 20 58 33.0 -1.0
JTK Tokunoshima 1.77 9 P Pn 20 58 13.7 -0.5
JTK eS Sn 20 58 35.1 -1.0
JNU Nakatsue 7.33 15 Pn Pn 20 59 31.2 +0.6
0.9nm,0.3s,baz=229,slow=11,SNR=5.2
TGY Tagaytay City 13.89 213 LR LR 21 05 06.7
comp=Z,1μm,20.0s,baz=150,slow=32
SONM Songino Array 27.92 327 P P 21 03 35.9 +2.4
0.6nm,0.4s,baz=141,slow=9.3,SNR=7.1
MKAR Makanchi Array 41.94 312 P P 21 05 33.8 -0.1
0.5nm,0.8s,baz=93,slow=8.7,SNR=3.5
WRA Warramunga Arr 46.03 173 P P 21 06 06.2 -0.6
0.8nm,0.8s,baz=355,slow=8.5,SNR=2.8

DJA 26 21:02:00.9±0.3, 7°S±3°×10°8E±°, h10km, M3.6/12, MLv3.6/12, Jawa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CISI Cisompet, Garu 0.23 155 P Pg 21 02 06.8 +1.1
CISI S Sg 21 02 10.0 +1.1
LEM Lembang 0.53 349 P Pg 21 02 08.6 -2.9
CNJI Cibinong 0.59 274 P Pg 21 02 11.3 -1.0
CNJI S Sg 21 02 20.5 +0.5
CMJI Cimerak 0.84 121 P Pg 21 02 16.5 -0.6
CMJI S Sg 21 02 27.3 -0.8
KPJI Karang Pucung 1.20 89 P Pb 21 02 22.5 -1.3
SKJI Sukabumi 1.20 286 P Pn 21 02 22.8 -1.0
TNG Tangerang 1.58 318 P Pn 21 02 27.4 -1.6
SBJI Serang 2.00 308 P Pb 21 02 36.2 -1.1
CGJI Cibinong 2.14 290 P Pn 21 02 37.1 +0.4
SMRI Semarang 2.72 84 P Pb 21 02 50.4 +0.8

DDA 26 21:02:12.4, 38°66N×30°94E, h7km, MD2.8
CSEM 26 21:02:12.3±0.3, 38°64N×30°90E, h8km, MD2.6, Error ellipse: s-maj=7.3km s-min=5.1km az=159.0
ISK 26 21:02:13.3, 38°74N×30°76E, h9km, MD2.6
ISC 26 21:02:12.5±1.1, 38°66N±0°04×30°91E±0°03, h7km±10km, n18, σ0§60/28, Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SHUT Suhut-Afyon 0.30 249 ePG Pg 21 02 18.4 0.0
SHUT eSG Sg 21 02 23.1 +0.7
SHUT Suhut-Afyon 0.30 249 ePg Pg 21 02 18.4 0.0
SHUT eSg Sg 21 02 23.1 +0.7
ALT Altintas 0.74 303 ePG Pg 21 02 25.4 -1.3
ALT Altintas 0.74 303 ePg Pg 21 02 25.4 -1.3
SEYT Eskypehyr 0.86 357 eP Pg 21 02 29.0 -0.1
SEYT iS Sb 21 02 41.7 0.0
SEYT Eskypehyr 0.86 357 eP Pg 21 02 29.0 -0.1
SEYT iS Sb 21 02 41.7 0.0
SVRH Sivrihisar-ESK 0.92 31 ePG Pg 21 02 31.5 -0.5
SVRH Sivrihisar-ESK 0.92 31 ePg Pg 21 02 31.5 -0.5
KDHN Kadinhani 0.96 98 iP Pg 21 02 30.5 -0.5
KDHN iS Sg 21 02 43.7 +0.3
KDHN Kadinhani 0.96 98 iP Pg 21 02 30.5 -0.5
KDHN iS Sg 21 02 43.7 +0.3
KHAL Karahalli 1.15 256 iP Pg 21 02 34.5 -0.1
KHAL iS Sn 21 02 51.4 +0.3
KHAL Karahalli 1.15 256 iP Pg 21 02 34.5 -0.1
KHAL iS Sn 21 02 51.4 +0.3
BORA Eskisehir 1.27 344 iP Pg 21 02 37.1 +0.2
BORA iS Sn 21 02 54.8 +0.7
BORA Eskisehir 1.27 344 iP Pg 21 02 37.1 +0.2
BORA iS Sn 21 02 54.8 +0.7
TVSB Tavsanli 1.38 306 ePN Pn 21 02 37.3 -0.9
TVSB Tavsanli 1.38 306 ePn Pn 21 02 37.3 -0.9
GULT Gulveren 1.80 350 ePN Pn 21 02 44.1 +0.2
GULT Gulveren 1.80 350 ePn Pn 21 02 44.2 +0.2

IDC 26 21:09:31.1±3.1, 25°88N×128°71E, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.6/42, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=68.8km s-min=42.3km az=104.0
ISCJB 26 21:09:34.1±1.3, 25°97N±0°05×128°74E±0°04, h30km±10km, mb3.7/4, Error ellipse: s-maj=9.2km s-min=6.2km az=157.1
JMA 26 21:09:34.0±0.3, 25°95N×128°75E, h34km, M3.4
ISC 26 21:09:33.4±1.7, 25°95N±0°06×128°73E±0°05, h16km±10km, n18, σ1§15/29, mb3.9/4, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.85 312 P Pg 21 09 49.5 -0.5
JJT2 Tamagusuku 2 0.90 283 P Pg 21 09 50.9 0.0
JJT2 S Sg 21 10 02.9 +0.2
JOW Kunigami 0.97 336 P Pb 21 09 51.9 0.0
JOW eS Sb 21 10 03.8 -0.8
JOW Kunigami 0.97 336 Pn Pb 21 09 51.9 0.0
17nm,0.3s,baz=154,slow=14,SNR=30
JOW Sn Sb 21 10 04.0 -0.6
21nm,0.3s,baz=119,slow=19,SNR=20
JIH Iheya 1.28 328 P Pn 21 09 56.6 -0.1
JIH S Sb 21 10 12.2 -1.2
JOKE Okinoerabujima 1.42 354 P Pn 21 09 58.5 -0.1
JOKE S Sn 21 10 15.9 -1.1
JAGN Aguni-jima 1.48 296 P Pn 21 09 59.4 0.0
JAGN eS Sn 21 10 17.7 -0.7
JKE Kume jima 2 1.78 283 P Pn 21 10 02.8 -0.8
JKE eS Sn 21 10 23.7 -2.3
JTK Tokunoshima 1.84 6 P Pn 21 10 04.4 -0.1
JTK eS Sn 21 10 24.7 -2.8
JMZ Minamidaito 2 2.25 93 P Pn 21 10 08.7 -1.3
JAMN Amaminishikomi 2.32 10 P Pn 21 10 11.1 +0.1
JAMN eS Sn 21 10 38.4 -0.9
JAM Amami Oshima 2.58 18 P Pn 21 10 14.1 -0.4
JAM eS Sn 21 10 43.7 -1.9
JZK Kikaishima 2.61 25 P Pn 21 10 15.2 +0.2
JZK eS Sn 21 10 46.1 -0.3
JNU Nakatsue 7.39 14 Pn Pn 21 11 22.1 +1.3
1.0nm,0.3s,baz=198,slow=6.2,SNR=15
SONM Songino Array 28.03 327 P P 21 15 26.3 +2.4
0.8nm,0.4s,baz=139,slow=10,SNR=21
FINES FINESS Array B 73.33 331 P P 21 21 04.5 +0.4
0.8nm,0.6s,baz=76,slow=5.9,SNR=5.3
AKASG Malin Array Be 76.04 320 P P 21 21 19.5 -0.5
0.7nm,0.6s,baz=56,slow=6.5,SNR=4.9
BRTR Keskin Array B 77.56 308 P P 21 21 29.9 +0.9
0.8nm,1.0s,baz=70,slow=6.6,SNR=4.5

ISC 26 21:11:13.7±1.4, 36°93N±0°06×29°30E±0°04, h9km, n5, σ0§97/8, Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GOLH Golhisar 0.37 34 iP Pg 21 11 19.9 -1.1
GOLH iS Sg 21 11 26.4 +0.4
ELL Elmali 0.52 110 ePG Pg 21 11 22.6 -1.2
ELL eSG Sg 21 11 30.8 +0.2
DALY Dalyan (Mu¯la 0.53 258 ePG Pg 21 11 23.5 -0.5
KORT Korkueli 0.84 85 iP Pg 21 11 30.0 +0.1
KORT iS Sb 21 11 43.2 +1.2
YER Yerkesik 0.84 285 ePG Pg 21 11 29.6 -0.3

IDC 26 21:16:25.5±2.5, 26°09N×128°83E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/36, mbtmp3.7/6, Error ellipse: s-maj=147.8km s-min=25.3km az=67.0
ISCJB 26 21:16:26.3±1.0, 25°98N±0°04×128°78E±0°04, h18km±7km, mb3.6/6, Error ellipse: s-maj=7.3km s-min=5.1km az=137.0
JMA 26 21:16:27.3±0.3, 25°98N×128°73E, h28km±5km, M3.6
ISC 26 21:16:25.7±2.3, 25°95N±0°05×128°71E±0°04, h6km±14km, n31, σ1§78/43, mb3.7/6, Ryukyu Islands

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

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res
JNTH	Nagotoyohara	0.84	313	P	Pb	21 16 42.6	-0.1
JNTH				S	Sb	21 16 53.6	-0.7
JJT2	Tamagusuku 2	0.89	283	P	Pb	21 16 43.9	+0.5
JJT2				eS	Sb	21 16 56.1	+0.6
JOW	Kunigami	0.97	336	P	Pb	21 16 44.9	0.0
JOW				eS	Sg	21 16 56.6	-0.2
JIH	Iheya	1.27	329	P	Pn	21 16 49.7	-0.3
JIH				eS	Sg	21 17 05.6	-1.0
JOKE	Okinoerabujima	1.42	355	P	Pn	21 16 51.8	-0.2
JOKE				eS	Sb	21 17 09.0	-1.9
JAGN	Aguni-jima	1.47	296	P	Pn	21 16 52.8	+0.2
JAGN				eS	Sn	21 17 10.9	-1.3
JKE	Kume jima 2	1.77	283	P	Pn	21 16 56.2	-0.6
JKE				eS	Sn	21 17 16.1	-3.6
JTK	Tokunoshima	1.85	7	P	Pn	21 16 57.5	-0.4
JTK				eS	Sn	21 17 18.7	-2.9
JMZ	Minamidaito 2	2.27	93	P	Pn	21 17 02.9	-0.8
JMZ				eS	Sn	21 17 27.7	-4.2
JAMN	Amaminishikomi	2.33	10	P	Pn	21 17 04.2	-0.3
JAMN				eS	Sn	21 17 31.0	-2.4
JAM	Amami Oshima	2.58	18	P	Pn	21 17 07.6	-0.4
JAM				S	Sn	21 17 36.9	-2.9
JZK	Kikaishima	2.62	25	eS	Sn	21 17 39.4	-1.2
JOGS	Gusukube	3.21	249	P	Pn	21 17 16.6	-0.1
JTJ	Tarama	3.85	251	P	Pn	21 17 24.6	-0.9
JTJ				eS	Sn	21 18 05.8	-5.3
JIJ	Ishigaki jima	4.43	250	P	Pn	21 17 31.5	-1.9
IRIF	Iriomote-Funau	4.79	252	P	Pn	21 17 36.9	-1.5
SONM	Songino Array	28.02	327	P	P	21 22 19.7	+2.0
	0.3nm,0.3s,baz=143,slow=9.7,SNR=4.0						
TAPN	Taplejung	36.56	282	eP	P	21 23 34.5	+1.7
ODAN	Odare	36.91	281	eP	P	21 23 36.4	+0.7
	7.7nm,0.7s						
JIRN	Jiri	37.85	282	eP	P	21 23 45.9	+2.0
GUN	Gumba	38.10	283	eP	P	21 23 46.8	+0.9
PKI	Pulchoki	38.55	282	eP	P	21 23 50.6	+0.8
	3.8nm,0.4s						
PKIN	Phulchoki	38.56	282	eP	P	21 23 51.1	+1.3
KKN	Kakani	38.64	283	eP	P	21 23 51.7	+1.4
	4.1nm,0.4s						
GKN	Gorkha	39.17	283	eP	P	21 23 55.3	+0.5
	5.8nm,0.5s						
DANN	Dangsing	39.90	284	eP	P	21 24 02.8	+1.8
	6.6nm,0.5s						
MKAR	Makanchi Array	42.04	312	P	P	21 24 18.1	0.0
	0.5nm,0.5s,baz=88,slow=8.9,SNR=3.6						
WRA	Warramunga Arr	45.94	173	P	P	21 24 51.3	+1.8
	0.7nm,0.7s,baz=354,slow=8.5,SNR=4.2						
BVAR	Borovoye Array	50.77	318	P	P	21 25 26.3	-0.2
	0.8nm,0.8s,baz=114,slow=9.9,SNR=4.6						
FINES	FINESS Array B	73.32	331	P	P	21 27 57.6	-0.3
	0.7nm,0.7s,baz=60,slow=6.9,SNR=4.4						
BRTR	Keskin Array B	77.55	308	P	P	21 28 24.1	+1.3
	0.5nm,0.6s,baz=47,slow=6.3,SNR=3.3						

KRNET 26 21:18:43.8±0.1, 40.26N×76.70E, h3km, mb4.0
ISCJB 26 21:18:45.9±1.3, 40.08N±0.08×76.80E±0.10, h28km, Error ellipse: s-maj=11.8km s-min=10.0km az=145.5
NNC 26 21:18:48.2±2.2, 40.40N×76.54E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=19.1km s-min=14.9km az=172.0
ISC 26 21:18:47.4±2.3, 40.1N±0.1×76.66E±0.08, h28km, n27, σ1.26/30, 10C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res
ULHL	Ulahol	2.19	352	P	Pn	21 19 22.1	0.0
	SNR=7.0						
ULHL	Ulahol	2.19	352	⇑iP	Pn	21 19 20.3	-1.8
	baz=350						
ULHL				⇑iS	Sn	21 19 46.9	-1.4
	baz=350						
KZA	Kyzart	2.26	332	P	Pn	21 19 22.9	-0.4
	SNR=216						
KZA	Kyzart	2.26	332	⇑iP	Pn	21 19 22.7	-0.6
	baz=329						
KZA				⇑iS	Sn	21 19 50.5	0.0
	baz=329						
SFK	Sufi-Kurgan	2.43	269	eP	Pn	21 19 25.9	+0.5
	baz=265						
SFK				eS	Sb	21 20 00.0	-0.1
	baz=265						
BOOM	Boomskoye usch	2.47	347	eP	Pn	21 19 24.2	-1.7
	baz=346						
BOOM				eS	Sn	21 19 56.1	+0.9
	baz=346						
ARLS	Aral	2.51	316	⇓iP	Pn	21 19 25.9	-0.6
	baz=312						
ARLS				⇓eS	Sn	21 19 58.9	+2.7
	baz=312						
UCH	Uchtor	2.69	324	P	Pn	21 19 29.3	+0.1
	SNR=21						
ANVS	Anan'yevo	2.80	15	⇓iP	Pn	21 19 30.9	+0.4
	baz=16						
ANVS				⇓eS	Sn	21 20 07.4	+3.9
	baz=16						
KBK	Karagaybulak	2.88	334	P	Pn	21 19 31.8	+0.3
	SNR=25						
TKM2	Tokmak 2	2.95	345	⇓Pn	Pn	21 19 32.1	-0.5
	9.6nm,0.3s						
TKM2				⇑Lg	Lg	21 20 12.6	
	31nm,0.5s						
TKM2	Tokmak 2	2.95	345	P	Pn	21 19 32.8	+0.3
	SNR=21						
AAK	Ala-Archa	3.03	328	⇑Pn	Pn	21 19 34.0	+0.4
	25nm,0.5s						
AAK				⇓Lg	Lg	21 20 14.9	
	109nm,0.8s						
AAK	Ala-Archa	3.03	328	P	Pn	21 19 34.2	+0.7
	SNR=22						
AML	Almayashu	3.04	313	P	Pn	21 19 34.6	+0.7
	SNR=140						
KNDC	Almaty	3.14	4	⇑Pn	Pn	21 19 35.5	+0.4
KNDC				⇑Lg	Lg	21 20 18.0	
FRU	Bishkek	3.15	331	eP	Pn	21 19 36.0	+0.9
	baz=329						
CHMS	Chumysh	3.25	334	P	Pn	21 19 36.9	+0.4
	SNR=14						
EKS	Erkin-Say	3.37	321	eP	Pn	21 19 39.7	+1.5
	baz=319						
EKS2	Erkin-Say	3.37	321	P	Pn	21 19 39.5	+1.3
	SNR=30						
USP	Ospenovka	3.57	334	P	Pn	21 19 41.5	+0.6
	SNR=21						
PDGK	Podgornoye	3.87	32	Pn	Pn	21 19 44.4	-0.6
PDGK				Lg	Lg	21 20 41.1	
KK31	Karatay Array	5.51	305	Pn	Pn	21 20 06.6	-1.0
	0.5nm,0.3s,baz=128,slow=13,SNR=16						
KK31				⇓Pg	Pb	21 20 21.4	-1.5
	2.0nm,0.5s,baz=122,slow=14,SNR=4.5						
KK31				⇓Lg	Lg	21 21 35.8	
	4.3nm,0.5s,baz=122,slow=28,SNR=4.4						
MK31	Makanchi Array	7.86	30	⇓Pn	Pn	21 20 45.3	+5.6
	0.3nm,0.5s,baz=200,slow=23,SNR=7.0						
MK31				⇓Lg	Lg	21 22 48.5	
	1.3nm,0.6s						
OTUK	Ortayu	8.73	341	⇑Lg	Lg	21 23 11.6	
KURBB	Kurchatov Arra	10.62	6	⇓Lg	Lg	21 24 15.7	
	11nm,0.7s						
KURK	Kurchatov	10.72	7	⇑Lg	Lg	21 24 15.4	
	5.0nm,1.1s						

IDC 26 21:27:33.5±1.5, 25.96N×128.68E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/40, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=45.4km s-min=20.8km az=75.0
ISCJB 26 21:27:35.2±1.1, 25.95N±0.05×128.72E±0.04, h29km±8km, mb3.4/3, Error ellipse: s-maj=8.0km s-min=6.1km az=7.4
JMA 26 21:27:35.9±0.3, 25.97N×128.71E, h32km, M3.1
ISC 26 21:27:36.0±2.2, 25.94N±0.06×128.69E±0.04, h26km±17km, n16, σ1.02/24, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res
JNTH	Nagotoyohara	0.83	314	P	Pn	21 27 50.9	-1.2
JJT2	Tamagusuku 2	0.87	284	P	Pn	21 27 52.2	-0.3
JJT2				eS	Sb	21 28 04.2	+0.5
JOW	Kunigami	0.97	337	P	Pn	21 27 53.2	-0.7
JOW				eS	Sn	21 28 05.0	-1.8
JOW	Kunigami	0.97	337	Pn	Pn	21 27 53.2	-0.7
	7.8nm,0.3s,baz=160,slow=13,SNR=14						
JOW				Sn	Sb	21 28 06.2	-0.3
	11nm,0.3s,baz=143,slow=19,SNR=15						
JIH	Iheya	1.27	330	P	Pn	21 27 57.9	-0.2
JIH				eS	Sn	21 28 13.5	-0.8
JOKE	Okinoerabujima	1.42	356	P	Pn	21 28 00.2	0.0
JOKE				S	Sn	21 28 16.9	-1.2
JAGN	Aguni-jima	1.45	297	P	Pn	21 28 00.7	+0.1
JAGN				eS	Sn	21 28 18.3	-0.5
JKE	Kume jima 2	1.75	283	P	Pn	21 28 04.1	-0.6
JKE				eS	Sn	21 28 24.7	-1.5
JTK	Tokunoshima	1.86	7	P	Pn	21 28 06.2	+0.1
JMZ	Minamidaito 2	2.28	92	P	Pn	21 28 11.3	-0.7
JMZ				eS	Sn	21 28 36.9	-2.4
JAMN	Amaminishikomi	2.34	11	P	Pn	21 28 13.2	+0.5
JAM	Amami Oshima	2.60	18	P	Pn	21 28 17.2	+0.9
JAM				eS	Sn	21 28 46.5	-0.5
JNU	Nakatsue	7.41	14	Pn	Pn	21 29 22.7	+0.2
	0.3nm,0.3s,baz=233,slow=10,SNR=4.2						
SONM	Songino Array	28.02	327	P	P	21 33 27.7	+2.7
	0.4nm,0.4s,baz=139,slow=10,SNR=11						
MKAR	Makanchi Array	42.04	312	P	P	21 35 25.9	+0.6
	0.3nm,0.5s,baz=98,slow=7.8,SNR=7.6						
WRA	Warramunga Arr	45.93	173	P	P	21 35 58.1	+1.4
	0.6nm,0.7s,baz=356,slow=8.5,SNR=2.9						

IDC 26 21:30:52.6±1.7, 25.93N×128.78E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/42, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=63.9km s-min=26.4km az=74.0
ISCJB 26 21:30:54.2±0.7, 26.02N±0.05×128.80E±0.04, h27km, mb3.3/3, Error ellipse: s-maj=6.7km s-min=5.0km az=175.1
JMA 26 21:30:56.2±0.4, 26.06N×128.71E, h37km, M3.1
ISC 26 21:30:55.2±0.9, 26.00N±0.06×128.78E±0.04, h27km, n16, σ1.33/24, mb3.3/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res
JNTH	Nagotoyohara	0.85	308	P	Pb	21 31 10.5	-0.9
JJT2	Tamagusuku 2	0.94	279	P	Pn	21 31 12.4	-0.1
JJT2				S	Sb	21 31 23.6	-1.2
JOW	Kunigami	0.95	332	P	Pn	21 31 12.2	-0.5
JOW	Kunigami	0.95	332	Sn	Sb	21 31 23.2	-1.9
	20nm,0.3s,baz=148,slow=14,SNR=15						
JIH	Iheya	1.26	325	P	Pn	21 31 17.1	+0.1
JIH				S	Sn	21 31 32.2	-0.9
JOKE	Okinoerabujima	1.37	352	P	Pn	21 31 18.6	0.0
JOKE				S	Sn	21 31 34.9	-1.0
JAGN	Aguni-jima	1.50	294	P	Pn	21 31 20.5	+0.2
JAGN				S	Sn	21 31 38.3	-0.6
JTK	Tokunoshima	1.79	5	P	Pn	21 31 24.8	+0.5
JTK				S	Sn	21 31 44.0	-2.2
JKE	Kume jima 2	1.82	281	P	Pn	21 31 24.1	-0.6
JKE				S	Sn	21 31 44.9	-1.9
JMZ	Minamidaito 2	2.21	94	P	Pn	21 31 29.5	-0.6
JMZ				S	Sn	21 31 53.6	-2.9
JAMN	Amaminishikomi	2.27	9	P	Pn	21 31 31.0	+0.2
JAM	Amami Oshima	2.52	17	P	Pn	21 31 34.2	-0.1
JAM				S	Sn	21 32 03.3	-0.8
JNU	Nakatsue	7.33	14	Pn	Pn	21 32 41.7	+1.2
	0.4nm,0.3s,baz=238,slow=13,SNR=4.0						
SONM	Songino Array	28.02	327	P	P	21 36 46.6	+2.6
	0.3nm,0.5s,baz=144,slow=7.6,SNR=6.6						
MKAR	Makanchi Array	42.05	312	P	P	21 38 45.8	+1.2
	0.2nm,0.6s,baz=98,slow=7.4,SNR=2.8						
WRA	Warramunga Arr	45.98	173	P	P	21 39 17.2	+1.1
	0.7nm,0.6s,baz=354,slow=8.6,SNR=5.2						

IDC 26 21:35:05.6±2.7, 6.68S×155.70E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/32, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=72.4km s-min=35.0km az=120.0
ISC 26 21:35:11.1±2.7, 6.7S±0.4×155.7E±0.4, h35km, n9, σ0.57/7, mb3.8/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res
PMG	Port Moresby	8.86	252	Pn	Pn	21 37 17.0	+0.3
	2.6nm,0.3s,baz=79,slow=3.4,SNR=6.2						
WRA	Warramunga Arr	24.55	236	P	P	21 40 27.3	-0.5
	2.0nm,0.7s,baz=61,slow=9.4,SNR=7.1						
H11S3	WAKE ISLAND Hy	27.29	23	T	T	22 09 25.9	
	baz=202,slow=74						
H11S2	WAKE ISLAND Hy	27.29	23	T	T	22 09 32.2	
	baz=202,slow=74						
H11S1	WAKE ISLAND Hy	27.31	23	T	T	22 09 36.0	
	baz=202						
CMAR	Chiang Mai Arr	61.28	295	P	P	21 45 22.9	-0.4
	1.8nm,0.7s,baz=123,slow=5.4,SNR=10						
SONM	Songino Array	69.46	327	P	P	21 46 15.8	-0.2
	0.4nm,0.7s,baz=145,slow=6.0,SNR=3.6						
MKAR	Makanchi Array	83.64	319	P	P	21 47 36.7	+0.6
	0.7nm,0.8s,baz=113,slow=5.8,SNR=3.8						
TORD	Torodi Ar. Bea	153.60	286	PKPbc	PKPbc	21 55 07.7	+0.5
	0.7nm,0.7s,baz=77,slow=2.2,SNR=5.7						
TORD				PKPab	PKPab	21 55 19.4	-0.4
	0.5nm,0.8s,baz=90,slow=2.9,SNR=4.1						

OTT 26 21:35:55.5±0.7, 40.46N×53.60W, h18km, ML3.6/4, Atlantic Ocean, offshore Nl 756km south from Marystown, Nl, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res
GBN	Guysborough	7.62	313	PN	Pn	21 37 44.7	-0.9
GBN				SN	Sn	21 39 05.5	-5.9
GBN				Trac		21 39 13.5	
	comp=Z,5.7nm,0.2s						
DRLN	Deer Lake	9.22	344	PN	Pn	21 38 06.0	-1.5
DRLN				SN	Sn	21 39 44.5	-6.2
DRLN				Trac		21 39 52.5	
	comp=Z,1.5nm,0.2s						
LMN	Caledonia Moun	9.80	307	PN	Pn	21 38 13.8	-1.7
LMN				SN	Sn	21 39 56.5	-8.4
LMN				Trac		21 40 02.7	
	comp=Z,12nm,0.4s						
BATG	Bathurst New B	11.28	311	PN	Pn	21 38 33.6	-2.1
BATG				SN	Sn	21 40 31.4	-10
BATG				Trac		21 40 37.0	
	comp=Z,0.4nm,0.0s						
NATG	Natashquan Que	11.76	330	PN	Pn	21 38 41.6	-0.5
NATG				SN	Sn	21 40 46.7	-6.1

IDC 26 21:37:31.6±0.7, 31.17N×103.60E, h0km, mb4.0/18, mb1 4.2/20, mb1mx4.0/45, mbtmp4.0/20, ML3.8/2, Error ellipse: s-maj=20.1km s-min=14.5km az=29.0
ISCJB 26 21:37:33.7±0.7, 31.12N±0.04×103.51E±0.03, h28km±5km, mb4.3/37, Error ellipse: s-maj=8.0km s-min=6.1km az=171.2
BJI 26 21:37:34.0, 31.16N×103.41E, h21km, mb4.3/16, ML4.2/24
MOS 26 21:37:35.1±1.1, 31.18N×103.61E, h33km, mb4.4/21, Error ellipse: s-maj=9.4km s-min=6.3km az=95.8
NEIC 26 21:37:35.2±1.1, 31.20N×103.62E, h21km±9km, mb4.5/12, Error ellipse: s-maj=6.1km s-min=5.7km az=94.0
NEIC Felt at Chengdu.
ISC 26 21:37:35.4±0.6, 31.17N±0.04×103.54E±0.04, h23km±4km, n129, σ1.87/143, mb4.3/37, 7C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res
CD2	Chengdu	0.32	144	⇑iPg	Pb	21 37 40.5	-2.1
CD2				Sg	Sb	21 37 46.8	-0.7
CD2				smax	smax		
	comp=N,98μm,0.5s						
CD2				smax	smax		
	comp=E,61μm,0.6s						
CD2	Chengdu	0.32	144	⇑iPg	Pb	21 37 40.5	-2.1
CD2				Sg	Sb	21 37 46.8	-0.7
LZH	Lanzhou	4.91	3	ePg	Pb	21 39 09.0	+8.2
LZH				Sg	Sb	21 40 10.5	+11
LZH				smax	smax		
	comp=N,260nm,0.9s						
LZH				smax	smax		
	comp=E,180nm,0.9s						
ENH	Enshi	5.20	98	ePn	Pn	21 38 51.4	-0.4
ENH				eSn	Sn	21 39 51.0	-0.1
XAN	Xi'an	5.37	56	Pn	Pn	21 38 53.5	-0.6
XAN				Pg	Pb	21 39 13.8	+5.3
XAN				Sn	Sn	21 39 50.3	-4.9
XAN				Sg	Sb	21 40 17.5	+5.0
XAN				smax	smax		
	comp=E,270nm,0.8s						
XAN				smax	smax		
	comp=E,100nm,0.9s						
XAN	Xi'an	5.37	56	P	Pn	21 38 53.5	-0.6
XAN						21 39 50.3	
XAN	Xi'an	5.37	56	Pn	Pn	21 38 53.5	-0.6
XAN				Pg	Pb	21 39 13.8	+5.3
XAN				Sn	Sn	21 39 50.3	-4.9
XAN				Sg	Sb	21 40 17.5	+5.0
GYA	Guiyang	5.43	149	⇑iPn	Pn	21 38 55.5	+0.3
GYA				Pg	Pb	21 39 13.5	+3.7
GYA				Sn	Sn	21 40 00.5	+3.4
GYA				smax	smax		
	comp=E,620nm,0.8s						
GYA				smax	smax		
	comp=E,440nm,0.8s						
GYA	Guiyang	5.43	149	⇑iPn	Pn	21 38 55.5	+0.3
GYA				Pg	Pb	21 39 13.5	+3.7
GYA				Sn	Sn	21 40 00.5	+3.4
KMI	Kunming	6.07	187	Pn	Pn	21 39 04.3	+0.4
KMI				Sn	Sn	21 40 13.8	+1.0
KMI				smax	smax		
	comp=E,86nm,1.4s						
KMI				smax	smax		
	comp=E,110nm,0.9s						
KMI	Kunming	6.07	187	P	Pn	21 39 04.3	+0.4
KMI						21 40 13.8	
KMI	Kunming	6.07	187	Pn	Pn	21 39 04.3	+0.4
KMI				Sn	Sn	21 40 13.8	+1.0
GTA	Gaotai	8.77	341	eP	Pn	21 39 47.5	+6.6
GTA				pP		21 39 51.3	
GTA				sP		21 39 53.5	
GTA				pmax	pmax		
	comp=E,5.0nm,1.1s						
LSA	Lhasa	10.80	265	eP	Pn	21 40 09.8	+0.8
LSA	Lhasa	10.80	265	ePn	Pn	21 40 09.8	+0.8
TIA	Tai'an	12.38	62	eP	Pn	21 40 31.0	+0.8
CHTO	Chiang Mai	12.99	200	eP	Pn	21 40 41.0	+2.4
CHTO	Chiang Mai	12.99	200	ePn	Pn	21 40 41.0	+2.4
NJ2	Nanjing	13.08	82	eP	Pn	21 40 40.3	+0.5
NJ2				pmax	pmax		
	comp=E,10.0nm,0.7s						
CMAR	Chiang Mai Arr	13.33	199	eP	Pn	21 40 47.3	+4.1
CMAR	Chiang Mai Arr	13.33	199	Pn	Pn	21 40 43.4	+0.2
	comp=E,0.3nm,0.3s,baz=13,slow=12,SNR=9.0						
CM01	Chiang Mai Arr	13.36	199	ePn	Pn	21 40 45.9	+2.3
TAPN	Taplejung	14.33	259	eP	Pn	21 40 54.8	-2.4
	comp=E,24nm,1.0s						
ODAN	Odare	14.77	257	eP	Pn	21 40 59.0	-4.1
	comp=E,10.0nm,0.5s						
RAMN	Ramite	15.40	258	eP	Pn	21 41 07.5	-4.0
JIRN	Jiri	15.52	261	eP	Pn	21 41 10.5	-2.7
	comp=E,14nm,0.7s						
GUN	Gumba	15.71	263	eP	Pn	21 41 13.0	-2.7
	comp=E,41nm,0.8s						
PKI	Pulchoki	16.21	262	eP	Pn	21 41 18.9	-3.1
	comp=E,24nm,0.6s						
PKIN	Phulchoki	16.22	262	eP	Pn	21 41 18.7	-3.4
	comp=E,11nm,0.6s						
KKN	Kakani	16.25	263	eP	Pn	21 41 19.6	-2.9
	comp=E,37nm,0.7s						
DMN	Daman	16.45	262	eP	Pn	21 41 22.2	-2.9
	comp=E,35nm,0.8s						
GKN	Gorkha	16.74	264	eP	Pn	21 41 26.2	-2.5
	comp=E,60nm,0.6s						
SONM	Songino Array	16.79	7	Pn	Pn	21 41 29.7	+0.7
	comp=E,0.1nm,0.3s,baz=186,slow=13,SNR=15						
SONA1	Songino Array	16.80	7	ePn	Pn	21 41 28.3	-0.9
SONA1				ePcP	PcP	21 46 16.6	+0.1
ULN	Ulaanbaatar	16.89	8	P	P	21 41 32.0	-0.3
ULN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ULN	Ulaanbaatar	16.89	8	ePn	P	21 41 31.9	-0.4
	comp=Z,5.0nm,0.9s						
ULN				ePcP	PcP	21 46 20.1	+3.3
DANN	Dangsing	17.41	266	eP	Pn	21 41 34.1	-3.0
	comp=Z,23nm,0.6s						
KOLN	Koldanda	17.69	264	eP	Pn	21 41 36.6	-3.9
	comp=Z,38nm,1.0s						
WMQ	Urumqi	17.78	320	P	P	21 41 43.8	+1.7
WMQ				pP	pP	21 41 48.5	+0.1
WMQ				sP	sP	21 41 52.3	+0.9
WMQ				PP	PnPn	21 41 58.5	+6.3
WMQ				S	Sn	21 44 59.5	+0.6
WMQ				sS	S	21 45 07.3	+1.7
WMQ				PcP	PcP	21 46 21.5	+3.4
WMQ				ScS	ScS	21 53 33.3	+1.1
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ZAK	Zakamensk	19.19	359	eP	Pn	21 41 59.6	+1.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
TLY	Talaya	20.49	0	eP	Pn	21 42 17.4	+3.5
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TLY	Talaya	20.49	0	P	Pn	21 42 16.3	+2.4
	comp=Z,2.4nm,0.7s,baz=240,slow=3.6,SNR=4.8						
MOY	Mondy	20.57	355	eP	Pn	21 42 15.1	+0.2
KSAR	Wonju Array Be	21.03	66	P	P	21 42 18.2	+0.7
KSAR	Wonju Array Be	21.03	66	P	P	21 42 18.2	+0.7
KSRS	Korea Array	21.06	66	eP	P	21 42 18.6	+0.7
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSRS	Korea Array	21.06	66	P	P	21 42 18.2	+0.3
	comp=Z,5.8nm,0.7s,baz=257,slow=10.0,SNR=17						
HVS	Khovu-Aksy	21.24	343	⇑eP	P	21 42 21.1	+1.3
HVS				pmax	pmax		
	comp=Z,40nm,0.8s						
CN2	Changchun	21.40	48	eP	P	21 42 22.3	+0.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	Hailar	21.82	29	eP	P	21 42 24.8	-1.1
HIA				pmax	pmax		
	comp=Z,11nm,1.0s						
HIA	Hailar	21.82	29	eP	P	21 42 24.8	-1.1
	comp=Z,11nm,1.0s						
MK01	Makanchi Array	22.59	320	eP	P	21 42 34.6	+0.3
MKAR	Makanchi Array	22.61	320	eP	P	21 42 35.0	+0.5
MKAR	Makanchi Array	22.61	320	P	P	21 42 34.9	+0.4
	comp=Z,11nm,0.9s,baz=136,slow=12,SNR=28						
MDJ	Mudanjiang	24.43	49	P	P	21 42 52.0	-0.2
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KZA	Kyzart	25.07	304	P	P	21 43 00.6	+2.0
	SNR=6.4						
KZA	Kyzart	25.07	304	iP	P	21 43 00.6	+2.0
TKM2	Tokmak 2	25.08	306	P	P	21 43 01.7	+3.3
	SNR=5.1						
TKM2	Tokmak 2	25.08	306	eP	P	21 42 59.8	+1.4
TKM2	Tokmak 2	25.08	306	eP	P	21 42 59.8	+1.4
KBK	Karagaybulak	25.45	305	P	P	21 43 06.6	+4.8
	SNR=9.5						
UCH	Uchtor	25.64	304	P	P	21 43 07.9	+4.1
	SNR=13						
AAK	Ala-Archa	25.77	304	P	P	21 43 11.9	+7.3
	SNR=10.0						
AAK	Ala-Archa	25.77	304	P	P	21 43 05.7	+1.1
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AAK	Ala-Archa	25.77	304	P	P	21 43 05.7	+1.1
	comp=Z,2.6nm,0.7s,baz=129,slow=6.8,SNR=15						
AAK	Ala-Archa	25.77	304	eP	P	21 43 06.8	+2.1
	comp=Z,11nm,0.8s						
USRK	Ussuriysk Arra	25.86	52	P	P	21 43 05.1	0.0
	comp=Z,1.0nm,0.7s,baz=260,slow=8.8,SNR=3.1						
USP	Ospenovka	25.95	306	P	P	21 43 13.0	+6.9
	SNR=7.5						
EKS2	Erkin-Say	26.28	304	eP	P	21 43 10.5	+1.3
EKS2				pmax	pmax		
	comp=Z,7.0nm,1.0s						
EKS2	Erkin-Say	26.28	304	eP	P	21 43 10.5	+1.3
	comp=Z,7.2nm,1.0s						
ZAA0	Zalesovo Array	26.45	335	eP	P	21 43 10.3	-0.1
ZALV	Zalesovo Beam	26.45	335	eP	P	21 43 10.7	+0.2
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZALV	Zalesovo Beam	26.45	335	P	P	21 43 10.3	-0.1
	comp=Z,3.0nm,0.7s,baz=133,slow=8.7,SNR=14						
KURK	Kurchatov	26.91	324	eP	P	21 43 14.5	-0.1
KURK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KURK	Kurchatov	26.91	324	eP	P	21 43 14.5	-0.1
	comp=Z,5.7nm,1.2s						
KKAR	Karatay Array	28.72	304	eP	P	21 43 30.8	-0.1
KKAR	Karatay Array	28.72	304	eP	P	21 43 30.8	-0.1
KBL	Kabul	29.09	286	eP	P	21 43 34.3	-0.3
KBL				pmax	pmax		

	comp=Z,3.0nm,0.8s						
KBL	Kabul	29.09	286	eP	P	21 43 34.3	-0.3
	comp=Z,3.3nm,0.8s						
VOSK	Vostochnaya	31.98	322	eP	P	21 43 59.6	0.0
VOSK				pmax	pmax		
	comp=Z,38nm,2.5s						
VOSK	Vostochnaya	31.98	322	eP	P	21 43 59.6	0.0
	comp=Z,38nm,2.5s						
BVAR	Borovoye Array	32.44	322	P	P	21 44 04.0	+0.3
BVAR						21 46 49.6	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	Borovoye Array	32.44	322	P	P	21 44 04.0	+0.3
	comp=Z,1.1nm,0.7s,baz=118,slow=9.1,SNR=9.5						
BVAR				PcP	PcP	21 46 49.6	-0.9
	comp=Z,1.8nm,0.7s,baz=140,slow=3.3,SNR=12						
ABKAR	Akbulak array	37.27	312	eP	P	21 44 45.3	-0.1
GEYT	Alibeck	37.72	293	P	P	21 44 49.5	+0.1
	comp=Z,2.5nm,0.8s,baz=77,slow=6.5,SNR=7.8						
ARU	Arti	40.09	322	d iP	P	21 45 08.0	-0.1
ARU				S	S	21 51 11.7	-1.8
ARU				SS	SS	21 54 06.2	-4.9
ARU				pmax	pmax		
	comp=Z,10.0nm,1.7s						
TIXI	Tiksi	42.78	12	⇑eP	P	21 45 30.2	-0.6
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.7s						
PETK	Petropavlovsk-	44.48	44	P	P	21 45 44.7	0.0
PETK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PETK	Petropavlovsk-	44.48	44	P	P	21 45 44.7	0.0
	comp=Z,4.6nm,0.9s,baz=245,slow=9.4,SNR=2.9						
KBZ	Khabaz	48.75	303	P	P	21 46 19.5	+1.3
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KBZ	Khabaz	48.75	303	P	P	21 46 19.5	+1.3
	comp=Z,1.1nm,0.8s,baz=127,slow=5.1,SNR=3.4						
KIV	Kislovodsk	48.87	303	eP	P	21 46 19.7	+0.3
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BILL	Bilibino	51.32	25	⇑iP	P	21 46 37.5	0.0
BILL				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BRTR	Keskin Array B	56.29	299	P	P	21 47 16.1	+1.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	56.29	299	P	P	21 47 16.1	+1.7
	comp=Z,0.6nm,0.8s,baz=108,slow=8.2,SNR=3.8						
AKASG	Malin Array Be	56.99	313	eP	P	21 47 20.8	+1.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	56.99	313	P	P	21 47 17.7	-1.3
	comp=Z,0.7nm,0.4s,baz=67,slow=7.1,SNR=5.5						
ARCES	ARCESS Array B	57.00	336	eP	P	21 47 17.4	-1.4
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	ARCESS Array B	57.00	336	P	P	21 47 17.1	-1.7
	comp=Z,6.2nm,1.1s,baz=93,slow=8.1,SNR=4.2						
FINES	FINESS Array B	57.24	326	eP	P	21 47 19.8	-0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	57.24	326	P	P	21 47 19.9	-0.8
	comp=Z,1.0nm,0.6s,baz=106,slow=7.2,SNR=11						
WRA	Warramunga Arr	58.80	146	P	P	21 47 31.6	-0.4
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	Warramunga Arr	58.80	146	P	P	21 47 31.6	-0.4
	comp=Z,2.2nm,0.6s,baz=337,slow=7.6,SNR=21						
COEN	Coen	58.84	134	eP	P	21 47 32.8	+0.4
	comp=Z,516nm,2.2s						
NB2	NORSAR Subarra	64.34	327	P	P	21 48 07.5	-1.5
	comp=Z,0.6nm,0.6s,baz=73,slow=6.9						
NOA	NORSAR Array B	64.34	327	eP	P	21 48 10.3	+1.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	64.34	327	P	P	21 48 07.3	-1.7
	comp=Z,1.0nm,0.8s,baz=73,slow=7.0,SNR=3.7						
COLD	Coldfoot	67.61	24	eP	P	21 48 29.8	0.0
	comp=Z,3.9nm,0.8s						
COLA	College	69.58	26	eP	P	21 48 40.5	-1.6
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
COLA	College	69.58	26	eP	P	21 48 40.5	-1.6
	comp=Z,8.4nm,0.8s						
IL1	Eielson Array	69.98	25	eP	P	21 48 43.9	-0.8
ILAR	Eielson Array	69.98	25	eP	P	21 48 43.7	-1.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	Eielson Array	69.98	25	P	P	21 48 43.3	-1.4
	comp=Z,1.0nm,0.9s,baz=290,slow=4.8,SNR=8.5						
KDAK	Kodiak Island	71.05	33	iP	P	21 48 50.7	-0.6
CDF	Champ du Feu	71.23	316	eP	P	21 48 51.5	-1.2
PAX	Paxson	71.47	27	eP	P	21 48 53.3	-0.6
PAX				pmax	pmax		
	comp=Z,33nm,2.0s						
PAX	Paxson	71.47	27	eP	P	21 48 53.3	-0.6
	comp=Z,33nm,2.0s						
STKA	Stephens Creek	72.33	147	eP	P	21 48 59.3	+0.1
STKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STKA	Stephens Creek	72.33	147	P	P	21 48 58.5	-0.7
	comp=Z,2.4nm,0.7s,baz=331,slow=10,SNR=3.3						
STKA	Stephens Creek	72.33	147	eP	P	21 48 58.8	-0.5
	comp=Z,26nm,3.0s						
LPG	La Plagne	72.85	313	eP	P	21 49 02.2	-0.5
	comp=Z,14nm,0.9s						
LPL	La Plagne	72.86	313	eP	P	21 49 02.0	-0.7
	comp=Z,7.8nm,0.7s						
BMRM	Bremner River	72.91	28	eP	P	21 49 02.5	0.0
	comp=Z,11nm,1.0s						
DAWY	Dawson	73.08	24	eP	P	21 49 03.1	-0.3
SMF	Signal de Mont	74.11	315	eP	P	21 49 08.5	-1.3
HYT	Haines Junctio	75.78	26	eP	P	21 49 18.4	-0.9
YKA	Yellowknife Ar	81.77	17	P	P	21 49 51.8	-0.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	81.77	17	P	P	21 49 51.8	-0.2
	comp=Z,0.9nm,0.6s,baz=330,slow=5.2,SNR=21						
YKB5	Yellowknife Ar	81.77	17	eP	P	21 49 51.6	-0.4

IDC 26 21:42:31.2±1.5,25.88N×128.72E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.4/41,mbtmp3.7/4,ML3.8/1,Error ellipse: s-maj=74.3km s-min=21.1km az=76.0
ISCJB 26 21:42:33.8±0.9,25.93N±0.03×128.66E±0.04,h30km±6km, mb3.6/3,Error ellipse: s-maj=6.6km s-min=3.6km az=43.1
JMA 26 21:42:35.6±0.3,26.01N×128.64E,h38km±5km,M3.6
ISC 26 21:42:33.2±1.7,25.91N±0.04×128.67E±0.04,h17km±11km, n38,σ1s50/59,mb3.7/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.84	316	P	Pg	21 42 49.6	-0.1
JNTH				S	Sb	21 42 59.8	-0.2
JJT2	Tamagusuku 2	0.86	286	P	Pn	21 42 50.8	+0.2
JJT2				eS	Sn	21 43 01.9	-0.9
JOW	Kunigami	0.99	339	P	Pg	21 42 52.1	-0.3
JOW				S	Sb	21 43 03.3	-1.4
JOW	Kunigami	0.99	339	Pn	Pn	21 42 52.2	-0.1
	12nm,0.3s,baz=120,slow=22,SNR=36						
JOW				Sn	Sb	21 43 03.3	-1.4
	26nm,0.3s,baz=125,slow=18,SNR=31						
JIH	Iheya	1.29	331	P	Pb	21 42 56.8	-0.2
JIH				S	Sb	21 43 11.8	-1.5
JOKE	Okinoerabujima	1.45	356	P	Pn	21 42 58.7	0.0
JOKE				S	Sn	21 43 15.5	-1.9
JAGN	Aguni-jima	1.45	298	P	Pb	21 42 59.2	-0.6
JAGN				S	Sn	21 43 16.6	-0.8
JKE	Kume jima 2	1.75	284	P	Pn	21 43 02.7	-0.1
JKE				S	Sn	21 43 22.7	-2.0
JTK	Tokunoshima	1.89	7	P	Pn	21 43 04.6	-0.1
JTK				S	Sn	21 43 25.5	-2.6
JMZ	Minamidaito 2	2.30	92	P	Pn	21 43 09.8	-0.5
JMZ				S	Sn	21 43 35.0	-3.2
JAMN	Amaminishikomi	2.37	11	P	Pn	21 43 11.5	+0.2
JAMN				eS	Sn	21 43 38.7	-1.3
JAM	Amami Oshima	2.63	18	P	Pn	21 43 14.6	-0.3
JAM				S	Sn	21 43 45.1	-1.3
JZK	Kikaishima	2.66	25	P	Pn	21 43 16.6	+1.3
JZK				S	Sn	21 43 46.4	-0.8
JOGS	Gusukube	3.17	250	P	Pn	21 43 23.1	+0.8
JOGS				S	Sn	21 43 58.5	-1.3
JMJ	Miyako jima 2	3.25	251	S	Sn	21 44 01.0	-0.7
JIKM	Ikemajima	3.25	253	P	Pn	21 43 23.8	+0.4
JIKM				S	Sn	21 44 00.5	-1.2
JTAJ	Takarajima	3.27	8	P	Pn	21 43 23.7	0.0
JTAJ				S	Sn	21 43 59.7	-2.4
JIRB	Irabujima	3.34	252	P	Pn	21 43 25.2	+0.5
JIRB				S	Sn	21 44 02.7	-1.4
JTJ	Tarama	3.81	252	P	Pn	21 43 31.1	0.0
JTJ				S	Sn	21 44 12.4	-3.2
JISG	Ishigakijimahi	4.17	253	P	Pn	21 43 35.4	-0.6
JISG				S	Sn	21 44 20.8	-3.5
JIJ	Ishigaki jima	4.39	250	P	Pn	21 43 38.5	-0.6
JIJ				S	Sn	21 44 26.5	-3.3
JKRS	Kuro-shima	4.55	250	P	Pn	21 43 42.0	+0.8
JKRS				S	Sn	21 44 31.9	-1.8
IRIF	Iriomote-Funau	4.75	252	P	Pn	21 43 44.5	+0.5
JNU	Nakatsue	7.44	14	Pn	Pn	21 44 22.4	+1.3
	1.3nm,0.3s,baz=207,slow=4.7,SNR=20						
SONM	Songino Array	28.04	327	P	P	21 48 26.3	+2.6
	0.6nm,0.4s,baz=140,slow=10,SNR=16						
TAPN	Taplejung	36.53	282	eP	P	21 49 39.7	+1.3
ODAN	Odare	36.88	281	eP	P	21 49 42.7	+1.4
	11nm,0.6s						
JIRN	Jiri	37.83	282	eP	P	21 49 51.7	+2.1
	4.4nm,0.2s						
GUN	Gumba	38.07	283	eP	P	21 49 53.6	+2.0
PKI	Pulchoki	38.53	282	eP	P	21 49 56.2	+0.8
	6.2nm,0.5s						
PKIN	Phulchoki	38.54	282	eP	P	21 49 57.1	+1.7
	2.6nm,0.4s						
KKN	Kakani	38.62	283	eP	P	21 49 57.8	+1.8
	5.7nm,0.4s						
DMN	Daman	38.79	283	eP	P	21 49 59.2	+1.7
	5.6nm,0.5s						
GKN	Gorkha	39.15	283	eP	P	21 50 01.4	+1.0
	4.6nm,0.4s						
DANN	Dangsing	39.88	284	eP	P	21 50 07.8	+1.2
	10nm,0.5s						
KOLN	Koldanda	40.09	283	eP	P	21 50 09.6	+1.3
	7.5nm,0.8s						
WRA	Warramunga Arr	45.91	173	P	P	21 50 55.5	+0.4
	0.7nm,0.8s,baz=354,slow=8.6,SNR=2.5						
FINES	FINESS Array B	73.34	331	P	P	21 54 03.2	-0.5
	0.5nm,0.6s,baz=74,slow=6.4,SNR=3.6						

IDC 26 21:50:35.8±1.4,25.99N×128.71E,h0km,mb3.9/9, mb1 4.0/10,mb1mx3.8/36,mbtmp3.9/10,ML3.7/1,Error ellipse: s-maj=42.4km s-min=20.5km az=78.0
JMA 26 21:50:38.1±0.4,25.99N×128.74E,h24km,M3.5
ISC 26 21:50:35.8±1.8,25.90N±0.05×128.70E±0.04,h4km±11km, n31,σ1s85/47,mb4.0/9,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.86	316	P	Pb	21 50 53.5	+0.2
JJT2	Tamagusuku 2	0.89	286	P	Pn	21 50 54.9	0.0
JJT2				S	Sb	21 51 07.0	+1.2
JOW	Kunigami	1.00	338	S	Sg	21 51 07.0	-1.0
JOW	Kunigami	1.00	338	Pn	Pg	21 50 55.1	+0.1
	13nm,0.3s,baz=138,slow=16,SNR=6.9						
JOW				Sn	Sg	21 51 06.3	-1.7
	35nm,0.3s,baz=0.0,slow=20,SNR=15						
JIH	Iheya	1.30	330	P	Pg	21 51 01.2	+0.4
JIH				eS	Sb	21 51 15.8	-2.1
JOKE	Okinoerabujima	1.46	356	P	Pn	21 51 02.6	-0.3
JOKE				eS	Sn	21 51 19.5	-2.9
JAGN	Aguni-jima	1.48	298	P	Pn	21 51 03.3	+0.2
JAGN				S	Sn	21 51 21.8	-1.0
JKE	Kume jima 2	1.77	284	P	Pn	21 51 06.9	-0.2
JKE				eS	Sn	21 51 27.8	-2.2
JTK	Tokunoshima	1.89	7	P	Pn	21 51 08.4	-0.4
JMZ	Minamidaito 2	2.28	92	P	Pn	21 51 13.6	-0.5
JMZ				S	Sn	21 51 38.5	-4.1
JAMN	Amaminishikomi	2.37	10	eS	Sn	21 51 44.0	-0.9
JAM	Amami Oshima	2.63	18	P	Pn	21 51 18.1	-0.8
JAM				eS	Sn	21 51 49.2	-2.1
JOGS	Gusukube	3.19	250	P	Pn	21 51 27.4	+0.8
JOGS				S	Sn	21 52 03.1	-1.9
JMJ	Miyako jima 2	3.26	251	P	Pn	21 51 28.0	+0.3
JMJ				S	Sn	21 52 04.3	-2.6
JIKM	Ikemajima	3.27	253	P	Pn	21 51 28.2	+0.5
JIKM				S	Sn	21 52 03.9	-3.1
JIRB	Irabujima	3.36	252	P	Pn	21 51 29.4	+0.4
JIRB				S	Sn	21 52 06.8	-2.6
JTJ	Tarama	3.83	252	P	Pn	21 51 35.2	-0.2
JTJ				S	Sn	21 52 18.0	-2.9
JISG	Ishigakijimahi	4.18	253	P	Pn	21 51 39.8	-0.5
JISG				S	Sn	21 52 24.6	-5.0
JIJ	Ishigaki jima	4.40	251	P	Pn	21 51 42.7	-0.6
JIJ				S	Sn	21 52 29.8	-5.2
JKRS	Kuro-shima	4.56	250	P	Pn	21 51 46.2	+0.7
IRIF	Iriomote-Funau	4.76	252	P	Pn	21 51 48.1	-0.2
JNU	Nakatsue	7.44	14	Pn	Pn	21 52 26.0	+0.9
	1.2nm,0.3s,baz=348,slow=7.5,SNR=6.9						
SONM	Songino Array	28.06	327	P	P	21 56 29.9	+1.6
	1.3nm,0.5s,baz=143,slow=11,SNR=16						
CMAR	Chiang Mai Arr	28.48	261	P	P	21 56 34.0	+1.7
	0.3nm,0.4s,baz=70,slow=7.8,SNR=4.1						
MKAR	Makanchi Array	42.06	312	P	P	21 58 27.9	-0.7
	0.6nm,0.5s,baz=96,slow=10,SNR=10						
MKAR				PcP	PcP	22 00 24.6	+1.2
	0.3nm,1.0s,baz=83,slow=4.5,SNR=2.9						
WRA	Warramunga Arr	45.90	173	P	P	21 59 00.4	+0.8
	1.4nm,0.9s,baz=353,slow=8.6,SNR=3.6						
GEYT	Alibeck	59.82	300	P	P	22 00 43.5	+1.1
	1.1nm,0.5s,baz=57,slow=5.3,SNR=4.2						
KBZ	Khabaz	69.69	310	P	P	22 01 47.0	+0.4
	1.5nm,0.8s,baz=76,slow=6.2,SNR=4.4						
FINES	FINESS Array B	73.35	331	P	P	22 02 08.2	-0.2
	0.6nm,0.7s,baz=64,slow=8.7,SNR=5.1						
AKASG	Malin Array Be	76.05	320	P	P	22 02 24.2	0.0
	0.5nm,0.4s,baz=58,slow=6.7,SNR=4.6						
BRTR	Keskin Array B	77.57	308	P	P	22 02 33.8	+0.5
	1.0nm,0.9s,baz=64,slow=8.4,SNR=5.2						

CSEM 26 21:51:36.0±2.6,36.41N×4.11E,h10km,mb3.5,Error ellipse: s-maj=61.4km s-min=24.8km az=120.0
CRAAG 26 21:51:40.7,36.47N×3.44E,Ml2.7
MDD 26 21:51:41.2±2.3,36.49N×3.69E,h21km±7km,mb3.5/6, Error ellipse: s-maj=36.7km s-min=7.4km az=94.0, PRXIMO
ISC 26 21:51:40.2±1.7,36.57N±0.06×3.7E±0.1,h18km,n24, σ1s87/27,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	Boumerdes	0.26	315	P	Pb	21 51 47.7	+1.4
ABMS	Boumerdes	0.26	315	P	Pb	21 51 47.7	+1.4
ABMS	Boumerdes	0.26	315	P	Pb	21 51 47.7	+1.4
ADJB	Djebel Djouab	0.46	208	P	Pg	21 51 49.0	-0.6
ADJB	Djebel Djouab	0.46	208	P	Pg	21 51 49.0	-0.6
ADJB	Djebel Djouab	0.46	208	P	Pg	21 51 49.0	-0.6
ABA	Alger-Bouzarea	0.59	294	P	Pn	21 51 56.3	+2.6
ABA	Alger-Bouzarea	0.59	294	P	Pn	21 51 56.3	+2.6
ABA	Alger-Bouzarea	0.59	294	P	Pn	21 51 56.3	+2.6
EMHD	Djebel Mahouad	0.71	239	P	Pb	21 51 49.3	-4.8
EMHD	Djebel Mahouad	0.71	239	P	Pb	21 51 49.3	-4.8
EMHD	Djebel Mahouad	0.71	239	P	Pb	21 51 49.3	-4.8
OKGL	Djebel Kef Gue	2.53	259	P	Pn	21 52 20.3	-0.1
	1.2nm,0.1s,SNR=7.9						
OKGL				S	Sb	21 52 57.3	+1.3
	35nm,0.2s,SNR=7.9						
OKGL	Djebel Kef Gue	2.53	259	P	Pn	21 52 20.3	-0.1
	1.2nm,0.1s,SNR=7.9						
OKGL				S	Sb	21 52 57.3	+1.3
	35nm,0.2s,SNR=7.9						
EIBI	Ibiza	3.09	323	P	Pn	21 52 28.7	+0.6
	0.7nm,0.1s,SNR=7.9						
EIBI				S	Sn	21 53 00.8	-3.7
	0.8nm,0.1s,SNR=7.9						
EIBI	Ibiza	3.09	323	P	Pn	21 52 28.7	+0.6
	0.7nm,0.1s,SNR=7.9						
EIBI				S	Sn	21 53 00.8	-3.7
	0.8nm,0.1s,SNR=7.9						
ETOS	Mallorca	3.27	348	P	Pn	21 52 32.1	+1.5
	0.3nm,0.1s,SNR=7.9						
ETOS				S	Sn	21 53 06.3	-2.8
	0.3nm,0.1s,SNR=7.9						
ETOS	Mallorca	3.27	348	P	Pn	21 52 32.1	+1.5
	0.3nm,0.1s,SNR=7.9						
ETOS				S	Sn	21 53 06.3	-2.8
	0.3nm,0.1s,SNR=7.9						
ETOB	Tobarra	4.66	298	P	Pn	21 52 49.3	-0.4
	0.2nm,0.1s,SNR=7.9						
ETOB	Tobarra	4.66	298	P	Pn	21 52 49.3	-0.4
	0.2nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	5.01	320	P	Pn	21 52 54.3	-0.4
	0.3nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	5.01	320	P	Pn	21 52 54.3	-0.4
	0.3nm,0.1s,SNR=7.9						
EMIR	Miracle	5.60	343	P	Pn	21 53 04.0	+1.4
	1.3nm,0.1s,SNR=7.9						
EMIR	Miracle	5.60	343	P	Pn	21 53 04.0	+1.4
	1.3nm,0.1s,SNR=7.9						

MAN 26 22:08:56,9.16N×124.57E,h33km,mb4.7,ML3.6,MS3.5, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.00	16	eP	Pn	22 09 14.3	+0.5
MSLP				eS	Sn	22 09 25.0	-1.9
BUTP	Butuan	1.05	101	eP	Pn	22 09 14.6	+0.1
SCPH	Surigao	1.09	56	⇑eP	Pn	22 09 06.6	-8.5
SCPH				eS	Sn	22 09 11.2	-18
LLP	Lapu-Lapu	1.29	333	eP	Pb	22 09 27.2	+7.4
LLP				eS	Sb	22 09 46.8	+11
BUKP	Musuan	1.37	159	eP	Sn	22 09 32.1	-3.8
PLP	Palo	2.03	11	⇓eP	Pn	22 09 28.8	+0.9
PLP				eS	Sn	22 09 49.5	-2.6

IDC 26 22:18:20.6±1.6,25.95N×128.70E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.6/31,mbtmp3.8/5,ML3.4/1,Error ellipse: s-maj=62.2km s-min=22.3km az=75.0
ISCJB 26 22:18:22.4±0.6,25.98N±0.05×128.81E±0.04,h27km, mb3.6/4,Error ellipse: s-maj=6.9km s-min=4.7km az=20.1
JMA 26 22:18:23.2±0.3,25.98N×128.78E,h33km,M3.2
ISC 26 22:18:23.5±1.0,25.97N±0.06×128.77E±0.04,h27km,n16, σ0s96/24,mb3.7/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.86	309	P	Pn	22 18 38.8	-1.0
JNTH				eS	Sb	22 18 50.8	-0.2
JJT2	Tamagusuku 2	0.93	280	P	Pn	22 18 40.4	-0.4
JJT2				eS	Sb	22 18 52.9	-0.1
JOW	Kunigami	0.96	333	P	Pn	22 18 40.7	-0.5
JOW				eS	Sb	22 18 52.3	-1.6
JOW	Kunigami	0.96	333	Pn	Pn	22 18 40.8	-0.4
	16nm,0.3s,baz=148,slow=18,SNR=18						
JOW				Sn	Sb	22 18 52.1	-1.8
	20nm,0.3s,baz=135,slow=19,SNR=19						
JIH	Iheya	1.28	326	P	Pn	22 18 45.6	+0.1
JIH				eS	Sn	22 19 00.9	-0.9
JOKE	Okinoerabujima	1.39	353	P	Pn	22 18 47.4	+0.2
JOKE				eS	Sn	22 19 04.5	-0.2
JAGN	Aguni-jima	1.50	294	P	Pn	22 18 48.6	0.0
JAGN				eS	Sn	22 19 06.9	-0.4
JTK	Tokunoshima	1.81	5	P	Pn	22 18 53.3	+0.4
JTK				eS	Sn	22 19 14.0	-1.0
JKE	Kume jima 2	1.82	282	P	Pn	22 18 52.3	-0.7
JMZ	Minamidaito 2	2.21	93	P	Pn	22 18 57.8	-0.6
JMZ				eS	Sn	22 19 22.6	-2.3
JAM	Amami Oshima	2.54	17	P	Pn	22 19 03.3	+0.4
JNU	Nakatsue	7.36	14	Pn	Pn	22 20 10.2	+1.1
	0.6nm,0.3s,baz=209,slow=7.0,SNR=7.0						
SONM	Songino Array	28.03	327	P	P	22 24 15.4	+2.9
	0.7nm,0.4s,baz=143,slow=11,SNR=13						
MKAR	Makanchi Array	42.06	312	P	P	22 26 13.2	+0.3
	0.3nm,0.4s,baz=92,slow=7.2,SNR=13						
WRA	Warramunga Arr	45.96	173	P	P	22 26 45.3	+1.0
	0.7nm,0.6s,baz=354,slow=8.5,SNR=4.6						
FINES	FINESS Array B	73.32	331	P	P	22 29 53.4	+1.0
	1.3nm,0.9s,baz=77,slow=5.3,SNR=6.1						

ISCJB 26 22:31:35.6±1.0,25.99N±0.04×128.77E±0.04,h24km±6km, mb3.4/4,Error ellipse: s-maj=7.0km s-min=6.0km az=145.8
JMA 26 22:31:35.8±0.2,25.96N×128.75E,h31km,M3.5
IDC 26 22:31:36.4±1.7,26.15N×128.41E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.5/25,mbtmp3.6/4,Error ellipse: s-maj=69.8km s-min=16.9km az=81.0
ISC 26 22:31:34.5±1.7,25.93N±0.05×128.72E±0.04,h11km±10km, n30,σ1s55/38,mb3.5/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.86	313	P	Pg	22 31 51.4	+0.3
JJT2	Tamagusuku 2	0.90	284	P	Pn	22 31 52.8	-0.3
JJT2				eS	Sb	22 32 04.7	+0.5
JOW	Kunigami	0.99	336	P	Pg	22 31 53.3	-0.2
JOW				eS	Sg	22 32 06.5	+0.1
JOW	Kunigami	0.99	336	Pn	Pb	22 31 53.7	0.0
	11nm,0.3s,baz=156,slow=15,SNR=12						
JOW				Sn	Sg	22 32 05.0	-1.4
	14nm,0.3s,baz=175,slow=15,SNR=12						
JIH	Iheya	1.29	329	P	Pn	22 31 58.4	-0.2
JIH				eS	Sb	22 32 13.3	-2.2
JOKE	Okinoerabujima	1.43	355	P	Pn	22 32 00.4	-0.1
JOKE				eS	Sn	22 32 17.8	-1.6
JAGN	Aguni-jima	1.48	297	P	Pn	22 32 01.2	0.0
JAGN				eS	Sn	22 32 19.8	-0.8
JKE	Kume jima 2	1.78	283	P	Pn	22 32 04.8	-0.5
JTK	Tokunoshima	1.86	6	P	Pn	22 32 06.3	-0.1
JTK				eS	Sn	22 32 27.2	-2.8
JMZ	Minamidaito 2	2.25	92	P	Pn	22 32 11.6	-0.2
JMZ				eS	Sn	22 32 36.6	-3.0
JAMN	Amaminishikomi	2.34	10	P	Pn	22 32 13.1	+0.1
JAM	Amami Oshima	2.60	17	P	Pn	22 32 16.2	-0.3
JAM				S	Sn	22 32 46.2	-1.9
JOGS	Gusukube	3.22	250	eS	Sn	22 33 00.3	-3.1
JTJ	Tarama	3.86	251	P	Pn	22 32 33.4	-0.4
JTJ				eS	Sn	22 33 15.1	-4.1
JIJ	Ishigaki jima	4.43	250	eS	Sn	22 33 27.0	-6.4
SONM	Songino Array	28.05	327	P	P	22 37 28.4	+2.5
	0.7nm,0.8s,baz=142,slow=11,SNR=7.3						
TAPN	Taplejung	36.57	282	eP	P	22 38 42.0	+1.0
	11nm,1.1s						
ODAN	Odare	36.92	281	eP	P	22 38 45.4	+1.5
	17nm,0.9s						
RAMN	Ramite	37.60	281	eP	P	22 38 50.9	+1.1
JIRN	Jiri	37.87	282	eP	P	22 38 53.2	+1.0
GUN	Gumba	38.11	283	eP	P	22 38 56.0	+1.8
PKI	Pulchoki	38.57	282	eP	P	22 38 58.5	+0.5
	10nm,1.0s						
PKIN	Phulchoki	38.58	282	eP	P	22 38 59.0	+1.0
	3.4nm,0.5s						
KKN	Kakani	38.65	283	eP	P	22 39 00.4	+1.8
	7.0nm,0.7s						
GKN	Gorkha	39.19	283	eP	P	22 39 03.6	+0.6
DANN	Dangsing	39.91	284	eP	P	22 39 11.0	+1.8
	12nm,0.8s						
KOLN	Koldanda	40.13	283	eP	P	22 39 11.8	+0.9
	7.4nm,0.8s						
MKAR	Makanchi Array	42.06	312	P	P	22 39 26.5	+0.1
	0.4nm,0.6s,baz=92,slow=10.0,SNR=7.8						
WRA	Warramunga Arr	45.92	173	P	P	22 40 03.0	+5.6
	0.5nm,0.8s,baz=354,slow=8.3,SNR=2.9						
BRTR	Keskin Array B	77.57	308	P	P	22 43 31.4	+0.4
	0.7nm,0.9s,baz=87,slow=4.0,SNR=4.2						

IDC 26 22:44:58.6±1.6,26.07N×128.75E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.4/31,mbtmp3.5/4,ML3.4/1,Error ellipse: s-maj=52.3km s-min=21.1km az=72.0
ISCJB 26 22:44:59.6±1.0,26.02N±0.04×128.78E±0.04,h27km±7km, mb3.3/3,Error ellipse: s-maj=7.2km s-min=6.2km az=168.6
JMA 26 22:45:00.1±0.2,26.01N×128.76E,h36km,M3.5
ISC 26 22:44:59.3±3.3,26.00N±0.05×128.77E±0.04,h14km±22km, n16,σ1s45/28,mb3.4/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.85	308	P	Pb	22 45 15.4	-0.4
JNTH				eS	Sb	22 45 26.7	-0.3
JJT2	Tamagusuku 2	0.93	279	P	Pb	22 45 17.0	-0.2
JJT2				eS	Sb	22 45 29.1	-0.3
JOW	Kunigami	0.94	332	P	Pb	22 45 17.2	-0.2
JOW				S	Sb	22 45 28.6	-1.1
JOW	Kunigami	0.94	332	Pn	Pb	22 45 16.9	-0.4
	9.2nm,0.3s,baz=147,slow=14,SNR=6.3						

JOW				Sn	Sb	22 45 28.1	-1.6
	17nm,0.3s,baz=311,slow=20,SNR=12						
JIH	Iheya	1.26	325	P	Pn	22 45 22.0	-0.4
JIH				S	Sb	22 45 37.3	-1.5
JOKE	Okinoerabujima	1.37	353	P	Pn	22 45 23.7	-0.3
JOKE				eS	Sn	22 45 40.1	-1.8
JAGN	Aguni-jima	1.49	293	P	Pn	22 45 25.4	-0.3
JAGN				eS	Sn	22 45 43.5	-1.4
JTK	Tokunoshima	1.78	5	P	Pn	22 45 29.6	-0.1
JTK				S	Sn	22 45 50.4	-1.8
JKE	Kume jima 2	1.81	281	P	Pn	22 45 28.8	-1.3
JKE				eS	Sn	22 45 50.0	-2.9
JMZ	Minamidaito 2	2.21	94	P	Pn	22 45 34.6	-1.0
JMZ				eS	Sn	22 45 59.1	-3.7
JAMN	Amaminishikomi	2.26	9	P	Pn	22 45 36.3	+0.1
JAMN				eS	Sn	22 46 03.2	-0.7
JAM	Amami Oshima	2.51	17	P	Pn	22 45 39.2	-0.5
JAM				eS	Sn	22 46 09.1	-1.0
JNU	Nakatsue	7.33	14	Pn	Pn	22 46 46.8	+0.8
	0.5nm,0.3s,baz=192,slow=19,SNR=5.3						
SONM	Songino Array	28.01	327	P	P	22 50 52.1	+2.2
	0.3nm,0.4s,baz=141,slow=10,SNR=8.4						
MKAR	Makanchi Array	42.05	312	P	P	22 52 51.4	+1.0
	0.2nm,0.6s,baz=98,slow=9.8,SNR=3.6						
WRA	Warramunga Arr	45.99	173	P	P	22 53 23.9	+1.6
	0.7nm,0.8s,baz=354,slow=8.5,SNR=3.4						

IDC 26 22:49:49.2±1.1,26.°03N×128.°38E,h0km,mb3.7/8, mb1 3.9/9,mb1mx3.7/35,mbtmp3.7/9,ML2.5/1,Error ellipse: s-maj=41.9km s-min=20.3km az=82.0
JMA 26 22:49:51.0±0.3,26.°03N×128.°73E,h27km,M3.4
ISC 26 22:49:49.3±2.1,26.°03N±0.°06×128.°67E±0.°05,h5km±13km, n29,σ1.°22/36,mb3.8/9,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.76	310	P	Pn	22 50 05.7	-1.0
JNTH				eS	Sn	22 50 16.8	-1.8
JJT2	Tamagusuku 2	0.84	278	P	Pn	22 50 07.7	-0.1
JOW	Kunigami	0.87	336	P	Pn	22 50 07.7	-0.6
JOW				S	Sn	22 50 19.6	-1.8
JOW	Kunigami	0.87	336	Pn	Pn	22 50 07.6	-0.7
	20nm,0.3s,baz=121,slow=22,SNR=19						
JOW				Sn	Sb	22 50 18.2	-0.8
	40nm,0.3s,baz=126,slow=19,SNR=15						
JIH	Iheya	1.18	328	P	Pn	22 50 12.5	0.0
JIH				eS	Sn	22 50 28.1	-0.9
JOKE	Okinoerabujima	1.33	356	P	Pb	22 50 14.6	-0.1
JOKE				eS	Sn	22 50 32.3	-0.3
JAGN	Aguni-jima	1.40	294	P	Pg	22 50 15.8	-0.4
JKE	Kume jima 2	1.72	280	P	Pn	22 50 19.5	-0.4
JKE				eS	Sn	22 50 40.6	-1.7
JTK	Tokunoshima	1.77	8	P	Pn	22 50 20.6	0.0
JAMN	Amaminishikomi	2.25	11	P	Pn	22 50 27.5	+0.3
JMZ	Minamidaito 2	2.30	95	eS	Sn	22 50 52.9	-3.8
JAM	Amami Oshima	2.51	19	P	Pn	22 50 30.6	-0.2
JAM				eS	Sn	22 51 00.0	-1.8
USRK	Ussuriysk Arra	18.33	8	P	P	22 54 07.0	+2.6
	0.2nm,0.3s,baz=185,slow=11,SNR=4.1						
SONM	Songino Array	27.94	327	P	P	22 55 42.6	+2.0
	1.4nm,0.9s,baz=143,slow=11,SNR=9.6						
ODAN	Odare	36.86	281	eP	P	22 56 59.3	+0.2
RAMN	Ramite	37.54	281	eP	P	22 57 05.9	+1.0
GUN	Gumba	38.05	283	eP	P	22 57 10.1	+0.8
PKI	Pulchoki	38.50	282	eP	P	22 57 13.2	+0.1
	8.3nm,0.8s						
GKN	Gorkha	39.12	283	eP	P	22 57 18.2	+0.1
DANN	Dangsing	39.85	284	eP	P	22 57 24.9	+0.6
	4.8nm,0.5s						
KOLN	Koldanda	40.06	283	eP	P	22 57 26.4	+0.4
MKAR	Makanchi Array	41.96	312	P	P	22 57 40.2	-1.0
	0.6nm,0.7s,baz=99,slow=9.9,SNR=8.4						
ZALV	Zalesovo Beam	42.65	323	P	P	22 57 45.9	-0.7
	0.4nm,0.5s,baz=86,slow=5.9,SNR=2.9						
WRA	Warramunga Arr	46.03	173	P	P	22 58 14.9	+0.9
	0.4nm,0.5s,baz=353,slow=8.4,SNR=4.3						
FINES	FINESS Array B	73.23	331	P	P	23 01 21.1	-0.1
	0.8nm,0.7s,baz=57,slow=7.0,SNR=5.5						
AKASG	Malin Array Be	75.94	320	P	P	23 01 36.7	-0.4
	0.5nm,0.4s,baz=56,slow=6.5,SNR=3.4						
BRTR	Keskin Array B	77.47	308	P	P	23 01 46.0	-0.1
	1.0nm,0.7s,baz=77,slow=6.5,SNR=6.5						
YKA	Yellowknife Ar	78.54	25	P	P	23 01 52.4	+1.0
	0.3nm,0.7s,baz=309,slow=5.5,SNR=4.7						
NOA	NORSAR Array B	79.67	334	P	P	23 01 57.4	-0.3
	1.2nm,0.8s,baz=59,slow=5.1,SNR=3.4						

IDC 26 22:56:08.6±1.9,21.°65N×93.°01E,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.3/35,mbtmp3.8/3,ML3.9/1,Error ellipse: s-maj=57.3km s-min=20.3km az=47.0
ISC 26 22:56:28.6±3.3,22.°9N±0.°3×94.°2E±0.°2,h100km,n16, σ1.°08/27,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	3.42	321	eP	Pn	22 57 21.0	+0.9
SHL				eS	Sn	22 57 58.0	-1.8
CMAR	Chiang Mai Arr	6.24	134	Pn	Pn	22 57 46.3	-12
	0.6nm,0.3s,baz=302,slow=14,SNR=3.2						
CMAR				Pg	Pn	22 58 04.3	+6.1
	1.1nm,0.3s,baz=301,slow=17,SNR=9.1						
CMAR				Lg	Lg	22 59 34.9	
	0.3nm,0.3s,baz=298,slow=32,SNR=2.6						
ODAN	Odare	7.36	304	ePn	Pn	22 58 14.9	+1.3
ODAN				eSn	Sn	22 59 37.1	+1.3
	93nm,0.5s						
TAPN	Taplejung	7.39	308	ePn	Pn	22 58 15.1	+1.0
TAPN				eSn	Sn	22 59 37.9	+1.4
	78nm,0.7s						
RAMN	Ramite	8.02	302	ePn	Pn	22 58 23.8	+1.2
RAMN				eSn	Sn	22 59 52.2	+0.4
	33nm,0.4s						
JIRN	Jiri	8.69	305	ePn	Pn	22 58 32.5	+0.7
JIRN				eSn	Sn	23 00 08.3	0.0
	73nm,0.4s						
GUN	Gumba	9.05	305	ePn	Pn	22 58 37.5	+0.7
GUN				eSn	Sn	23 00 17.2	+0.1
	72nm,0.5s						
PKI	Pulchoki	9.25	302	ePn	Pn	22 58 39.6	+0.2
PKI				eSn	Sn	23 00 22.2	+0.4
	23nm,0.5s						
PKIN	Phulchoki	9.26	302	ePn	Pn	22 58 40.5	+1.0
PKIN				eSn	Sn	23 00 22.3	+0.3
	38nm,0.5s						
KKN	Kakani	9.45	303	ePn	Pn	22 58 43.6	+1.6
KKN				eSn	Sn	23 00 27.1	+0.5
	20nm,0.4s						
DMN	Daman	9.50	301	ePn	Pn	22 58 42.8	0.0
DMN				eSn	Sn	23 00 27.8	-0.1
	20nm,0.4s						
GKN	Gorkha	10.05	302	ePn	Pn	22 58 50.1	-0.1
GKN				eSn	Sn	23 00 39.8	-1.4
	42nm,0.5s						
KOLN	Koldanda	10.78	299	ePn	Pn	22 58 59.4	-0.6
KOLN				eSn	Sn	23 00 56.2	-2.6
	28nm,0.4s						
DANN	Dangsing	10.90	302	ePn	Pn	22 59 01.5	-0.3
DANN				eSn	Sn	23 01 00.7	-1.2
	19nm,0.5s						
MKAR	Makanchi Array	25.71	341	P	P	23 01 48.7	-0.8
	0.7nm,0.5s,baz=144,slow=10,SNR=27						
WRA	Warramunga Arr	57.83	134	P	P	23 06 00.9	-9.1
	1.0nm,0.6s,baz=320,slow=7.6,SNR=5.5						

WEL 26 23:03:19.3±0.6,36.°74S×178.°83W,h33km,ML3.8/7,Error ellipse: s-maj=7.0km s-min=4.7km az=0.0,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.44	249	PN	Pn	23 03 55.5	-1.2
MXZ				SN	Sn	23 04 22.8	-2.6
PUZ	Puketiti	2.68	239	PN	Pn	23 03 59.5	-0.6
PUZ				SN	Sn	23 04 30.8	-0.7
HAZ	Te Kaha	2.89	248	PN	Pn	23 04 02.7	-0.4
HAZ				SN	Sn	23 04 36.0	-0.7
CNGZ	Carnagh Statio	2.93	233	PN	Pn	23 04 03.4	-0.2
MWZ	Matawai	3.31	240	PN	Pn	23 04 07.8	-1.1
MWZ				SN	Sn	23 04 45.2	-1.9
RIGZ	Rimuhau	3.34	233	PN	Pn	23 04 08.7	-0.6
MHGZ	Mahia Peninsul	3.54	226	PN	Pn	23 04 11.2	-0.7
URZ	Urewera	3.57	244	PN	Pn	23 04 11.9	-0.5
URZ				SN	Sn	23 04 52.1	-1.3
URZ				AML	AML	23 04 53.0	
KNZ	Kokohu	3.59	229	PN	Pn	23 04 11.6	-0.9
UTU	Utuhina	4.22	249	AML	AML	23 06 27.7	
BKZ	Black Stump Fm	4.42	235	PN	Pn	23 04 23.2	-1.0
BKZ				SN	Sn	23 05 12.5	-2.1
BHHZ	Black Hill Sta	4.88	234	PN	Pn	23 04 29.3	-1.1
MRZ	Mangatainoka R	5.87	226	ePN	Pn	23 04 40.5	-3.6
MRZ				SN	Sn	23 05 46.8	-3.5
CTZ	Chatham Island	7.19	167	ePN	Pn	23 05 05.4	+3.3
CTZ				SN	Sn	23 06 20.0	-2.6
QRZ	Quartz Range	7.89	236	SN	Sn	23 06 33.2	-6.6
MQZ	McQueen's Vall	9.53	220	SN	Sn	23 07 08.9	-11

IDC 26 23:05:42.9±1.5,25.°88N×128.°81E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.5/41,mbtmp3.6/6,Error ellipse: s-maj=62.7km s-min=24.5km az=74.0
ISCJB 26 23:05:45.2±1.3,25.°91N±0.°05×128.°75E±0.°04, h30km±10km,mb3.5/5,Error ellipse: s-maj=7.8km s-min=5.9km az=9.1
JMA 26 23:05:45.7±0.2,25.°89N×128.°71E,h37km,M3.1
ISC 26 23:05:44.3±1.7,25.°92N±0.°05×128.°75E±0.°04,h12km±10km, n16,σ1.°27/26,mb3.9/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.89	313	P	Pg	23 06 01.5	0.0
JNTH				eS	Sg	23 06 13.4	+0.3
JJT2	Tamagusuku 2	0.93	284	P	Pb	23 06 02.2	-0.1
JJT2				eS	Sb	23 06 14.2	-0.4
JOW	Kunigami	1.01	335	P	Pn	23 06 04.1	-0.2
JOW				eS	Sb	23 06 16.2	-0.8
JIH	Iheya	1.32	328	P	Pb	23 06 08.7	-0.3
JIH				eS	Sb	23 06 24.8	-1.0
JOKE	Okinoerabujima	1.45	354	P	Pb	23 06 10.9	-0.4
JOKE				eS	Sn	23 06 28.0	-1.3
JAGN	Aguni-jima	1.51	297	P	Pn	23 06 10.8	-0.4
JAGN				eS	Sn	23 06 29.0	-1.8
JKE	Kume jima 2	1.81	284	P	Pn	23 06 14.2	-1.1
JKE				eS	Sn	23 06 36.1	-2.1
JTK	Tokunoshima	1.87	5	P	Pb	23 06 16.8	-1.7
JTK				eS	Sn	23 06 38.3	-1.5
JMZ	Minamidaito 2	2.23	92	P	Pn	23 06 20.7	-0.4
JMZ				eS	Sn	23 06 46.0	-2.5
JAMN	Amaminishikomi	2.35	9	P	Pn	23 06 24.0	+1.3
JAMN				eS	Sn	23 06 50.5	-1.0
JNU	Nakatsue	7.42	14	Pn	Pn	23 07 32.6	+0.2
	baz=221,slow=11						
SONM	Songino Array	28.07	327	P	P	23 11 38.2	+2.5
	0.4nm,0.4s,baz=142,slow=11,SNR=15						
MKAR	Makanchi Array	42.09	312	P	P	23 13 35.8	-0.4
	0.1nm,0.5s,baz=97,slow=7.5,SNR=4.9						
WRA	Warramunga Arr	45.91	173	P	P	23 14 07.1	+0.2
	0.5nm,0.4s,baz=355,slow=8.5,SNR=2.7						
KBZ	Khabaz	69.72	310	P	P	23 16 55.6	+1.5
	1.2nm,0.9s,baz=58,slow=9.5,SNR=3.6						
FINES	FINESS Array B	73.36	331	P	P	23 17 16.0	+0.2
	1.1nm,0.9s,baz=64,slow=6.3,SNR=6.3						

ISCJB 26 23:27:22.1±0.5,33.°85N±0.°08×136.°61E±0.°07, h389km±3km,mb3.3/10,Error ellipse: s-maj=13.0km s-min=9.1km az=157.6
JMA 26 23:27:22.6±0.2,33.°85N×136.°56E,h386km±2km,M3.3
IDC 26 23:27:22.1±1.0,33.°78N×136.°73E,h382km±9km,mb3.1/10, mb1 3.3/14,mb1mx3.1/43,mbtmp3.1/14,Error ellipse: s-maj=20.1km s-min=14.9km az=89.0
ISC 26 23:27:22.8±0.8,33.°85N±0.°09×136.°61E±0.°07,h384km±5km, n36,σ0.°62/47,mb3.4/10,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TTO1	TONANKAI O.B.S	0.27	147	P	Pn	23 28 11.2	+1.0
TTO2	TONANKAI O.B.S	0.37	108	P	Pn	23 28 11.4	+1.1
JKN2	Miekihoku	0.48	324	P	Pn	23 28 10.8	+0.1
JKN2				S	S	23 28 49.0	-0.4
JIE	Ise	0.55	9	P	Pn	23 28 11.3	+0.5
TTO4	TONANKAI O.B.S	0.79	78	P	Pn	23 28 12.0	+0.9
JWZ	Kozaga	0.81	247	P	Pn	23 28 11.2	-0.4
JWY	Kouya	0.92	294	P	Pn	23 28 12.3	+0.3
JWY				S	S	23 28 50.7	-0.9
TK02	Tokai 2	0.96	84	P	Pn	23 28 12.7	+1.0
TTO5	TONANKAI O.B.S	1.00	66	P	Pn	23 28 13.1	+1.2
TK03	Tokai 3	1.17	74	P	Pn	23 28 13.8	+1.2
JEG	Eigenji	1.29	352	P	Pn	23 28 14.0	+0.7
JEG				S	S	23 28 54.0	-0.1
JHMK	Hamakita	1.35	44	P	Pn	23 28 13.7	+0.3
HMMJ	Hamamatsu 2	1.36	42	P	Pn	23 28 14.0	+0.4
JAO	Obara	1.51	21	P	Pn	23 28 15.1	+0.7
JWT	Wachi	1.74	325	P	Pn	23 28 15.7	+0.1
JWT				S	S	23 28 57.2	-1.0
JAI	Aioi	1.80	269	P	Pn	23 28 16.2	+0.2
JAI				S	S	23 28 57.9	-1.0
JNY	Yasuok	1.82	34	P	Pn	23 28 16.6	+0.4
JOD2	Odawara 2	2.48	55	P	Pn	23 28 20.4	-0.2
JRY	Ryogami san	2.87	40	P	Pn	23 28 23.8	+0.2
JHU	Hanno	2.97	47	P	Pn	23 28 24.3	-0.1
MAT	Matsushiro	2.99	26	P	Pn	23 28 24.7	+0.1
MAT				S	S	23 29 13.9	-0.7
MJAR	Matsushiro Arr	2.99	26	P	Pn	23 28 24.3	-0.3
	4.0nm,0.3s,baz=187,slow=9.3,SNR=41						
MJAR				S	S	23 29 14.1	-0.4
	0.5nm,0.3s,baz=194,slow=15,SNR=5.3						
BSO3	Boso 3	3.37	73	S	S	23 29 19.4	-0.6
JNU	Nakatsue	4.84	263	P	Pn	23 28 42.8	+0.4
	3.4nm,0.3s,baz=100,slow=1.6,SNR=26						
KSRS	Korea Array	7.93	299	P	P	23 29 17.7	+0.4
	0.7nm,0.3s,baz=112,slow=12,SNR=12						
USRK	Ussuriysk Arra	10.94	342	P	Pn	23 29 51.4	-0.2
	0.3nm,0.3s,baz=164,slow=12,SNR=7.1						
SONM	Songino Array	26.59	311	P	P	23 32 28.4	+0.7
	0.2nm,0.5s,baz=128,slow=9.3,SNR=3.1						
CMAR	Chiang Mai Arr	36.89	255	P	P	23 33 56.4	-0.3
	1.0nm,0.3s,baz=66,slow=6.9,SNR=7.3						
ZALV	Zalesovo Beam	41.28	315	P	P	23 34 32.3	+0.1
	0.4nm,0.4s,baz=100,slow=11,SNR=3.5						
ZALV				PcP	PcP	23 36 22.0	-0.3
	0.8nm,0.6s,baz=98,slow=4.7,SNR=5.6						
MKAR	Makanchi Array	42.58	304	P	P	23 34 43.1	+0.4
	0.4nm,0.5s,baz=87,slow=10,SNR=10						
MKAR				PcP	PcP	23 36 26.9	+0.1
	0.1nm,0.3s,baz=130,slow=4.5,SNR=4.4						
MKAR				ScP	ScP	23 39 39.5	-0.8
	0.1nm,0.4s,baz=86,slow=5.5,SNR=4.4						
BVAR	Borovoye Array	49.87	314	P	P	23 35 38.6	+0.1
	0.6nm,0.4s,baz=99,slow=9.3,SNR=6.5						
BVAR				PcP	PcP	23 36 52.4	-0.1
	0.4nm,0.5s,baz=94,slow=4.3,SNR=4.0						
WRA	Warramunga Arr	53.54	183	P	P	23 36 04.5	-1.1
	1.5nm,0.3s,baz=359,slow=7.8,SNR=11						
ARCES	ARCESS Array B	65.56	339	P	P	23 37 26.4	+0.2
	1.7nm,0.8s,baz=64,slow=10,SNR=4.7						
FINES	FINESS Array B	69.76	331	P	P	23 37 52.2	0.0
	0.7nm,0.4s,baz=64,slow=5.3,SNR=20						
KBZ	Khabaz	69.95	310	P	P	23 37 54.4	+0.7
	1.4nm,0.8s,baz=67,slow=7.7,SNR=3.7						
BRTR	Keskin Array B	77.94	310	P	P	23 38 40.3	+0.5
	0.3nm,0.6s,baz=46,slow=8.3,SNR=3.1						

IDC 26 23:30:53.7±4.5,11.°38S×166.°45E,h51km±39km,mb4.3/15, mb1 4.3/16,mb1mx4.2/31,mbtmp4.5/16,ML4.0/1,Error ellipse: s-maj=25.2km s-min=19.6km az=81.0
ISCJB 26 23:30:57.5±0.3,11.°50S±0.°04×166.°31E±0.°05,h96km, mb4.8/50,Error ellipse: s-maj=7.5km s-min=5.9km az=5.0
BJI 26 23:30:57.0,11.°40S×166.°30E,h96km,mB5.2/7,mb4.8/7
NEIC 26 23:30:57.4±1.2,11.°44S×166.°29E,h82km±10km,mb5.1/27, Error ellipse: s-maj=7.8km s-min=7.0km az=222.0
ISC 26 23:30:59.2±0.5,11.°52S±0.°06×166.°26E±0.°07,h98km±3km, n117,σ1.°26/143,mb4.8/49,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	6.55	288	ePn	Pn	23 32 30.3	-2.7
DZM	Mont Dzumac	10.49	179	P	Pn	23 33 24.3	-2.4
	1.2nm,0.3s,baz=0.0,slow=20,SNR=14						
DZM				S	Sn	23 35 15.0	-7.3
	0.5nm,0.3s,baz=315,slow=19,SNR=3.2						
MSVF	Nonsavu	12.97	120	ePn	Pn	23 34 01.1	+1.3
PATS	Pohnpei	19.88	336	P	P	23 35 23.1	+0.2
	baz=20,SNR=7.0						
EIDS	Eidsvold	19.89	224	eP	Pn	23 35 24.6	-0.8
	27nm,1.2s						
EIDS	Eidsvold	19.89	224	P	Pn	23 35 25.1	-0.4
	baz=20,SNR=3.4						
CTA	Charters Tower	21.03	244	P	P	23 35 35.9	+0.6
	12nm,0.8s,baz=73,slow=15,SNR=8.3						
CTAO	Charters Tower	21.03	244	eP	P	23 35 36.3	+1.0
	79nm,1.9s						
RMQ	Roma	22.21	225	P	P	23 35 49.1	+1.3
	baz=22,SNR=8.4						
COEN	Coen	22.65	261	eP	P	23 35 53.5	+1.1
	196nm,1.4s						
ARMA	Armidale	23.19	214	eP	P	23 35 58.7	+0.9
	38nm,0.9s						
ARMA	Armidale	23.19	214	P	P	23 35 58.6	+0.9
	baz=23,SNR=8.3						
OUZ	Omahuta	24.52	165	eP	P	23 36 08.8	-0.6
	1μm,2.7s						
OUZ				ePcP	PcP	23 39 43.8	-1.8
QLP	Quilpie	25.58	231	P	P	23 36 20.4	+1.0
	baz=26,SNR=3.7						
JAY	Jayapura	26.87	288	S	S	23 40 57.8	-3.1
	baz=27,SNR=9.5						
CMSA	Cobar Meteorol	27.52	220	P	P	23 36 37.4	+0.7
	baz=28,SNR=6.6						
URZ	Urewera	28.34	162	P	P	23 36 43.6	-0.2
	5.4nm,0.7s,baz=297,slow=4.5,SNR=4.0						
URZ	Urewera	28.34	162	eP	P	23 36 43.7	-0.1
	28nm,1.4s						
BKZ	Black Stump Fm	29.00	163	eP	P	23 36 49.1	-0.7
	181nm,2.6s						
H11S2	WAKE ISLAND Hy	29.83	1	T	T	00 08 05.4	
	baz=181,slow=76,SNR=23						
H11S3	WAKE ISLAND Hy	29.83	1	T	T	00 08 05.7	
	baz=181,slow=76,SNR=6.3						
H11S1	WAKE ISLAND Hy	29.84	1	T	T	00 08 06.5	
	baz=181,slow=76,SNR=8.4						
STKA	Stephens Creek	30.45	224	P	P	23 37 03.5	+0.8
	12nm,0.7s,baz=45,slow=8.2,SNR=16						
STKA				PcP	PcP	23 40 00.6	+0.6
	6.2nm,1.1s,baz=7.0,slow=8.5,SNR=3.3						
STKA	Stephens Creek	30.45	224	eP	P	23 37 03.8	+1.1
	2.6nm,0.8s						
STKA				ePcP	PcP	23 40 00.8	+0.8
STKA	Stephens Creek	30.45	224	P	P	23 37 04.0	+1.3
	baz=30,SNR=8.7						
H11N1	WAKE ISLAND Hy	31.05	1	T	T	00 09 36.1	
	baz=182						
H11N3	WAKE ISLAND Hy	31.05	1	T	T	00 09 40.1	
	baz=182						
H11N2	WAKE ISLAND Hy	31.06	1	T	T	00 09 21.5	
	baz=182						
KHZ	Kahutara	31.43	170	eP	P	23 37 09.3	-1.8
	352nm,2.9s						
WRA	Warramunga Arr	31.80	251	P	P	23 37 14.2	-0.5
	14nm,0.9s,baz=84,slow=9.4,SNR=7.4						
WRA				PcP	PcP	23 40 04.8	+0.9
	2.5nm,0.8s,baz=85,slow=3.2,SNR=6.2						
TOO	Toolangi	31.93	212	P	P	23 37 17.0	+1.3
	baz=32,SNR=5.2						
RPZ	Rata Peaks	32.34	173	eP	P	23 37 19.1	-0.1
	616nm,2.8s						
AS01	Alice Springs	32.99	244	eP	P	23 37 24.5	-0.7
AS01				ePcP	PcP	23 40 07.5	+0.4
KDU	Kakadu	33.05	264	P	P	23 37 25.8	+0.1
	baz=33,SNR=5.8						
HTT	Hallett	33.19	225	P	P	23 37 28.2	+1.5
	baz=33,SNR=5.5						
ODZ	Otahua Downs	33.62	174	eP	P	23 37 31.9	+1.7
	424nm,2.8s						
BBOO	Buckleboo	34.88	228	eP	P	23 37 41.9	+0.6
	549nm,1.7s						
BBOO	Buckleboo	34.88	228	P	P	23 37 42.0	+0.7
	baz=35,SNR=5.7						
KNRA	Kununurra	36.65	259	P	P	23 37 57.0	+0.4
	baz=37,SNR=4.1						
PALU	Palau	36.76	299	S	S	23 43 25.5	-9.0
	baz=37,SNR=3.9						
WRKA	Warakurna	38.33	244	P	P	23 38 10.8	0.0
	baz=38,SNR=6.5						
FITZ	Fitzroy Crossi	39.75	256	eP	P	23 38 22.7	+0.1
	16nm,0.9s						
FITZ				ePcP	PcP	23 40 29.1	+1.7
FITZ	Fitzroy Crossi	39.75	256	P	P	23 38 23.1	+0.5
	baz=40,SNR=7.5						
SOEI	Soe	41.28	268	P	P	23 38 35.5	0.0
	baz=41,SNR=4.7						
WSI	Waingapu	45.18	268	S	S	23 45 39.4	-0.2
	baz=45,SNR=6.8						
MBWA	Marble Bar	45.52	252	eP	P	23 39 09.9	+0.5
	138nm,1.8s						
MEEK	Meekatharra	47.20	244	P	P	23 39 23.4	+0.9
	baz=47,SNR=27						
KLBR	Kellerberrin	48.88	238	P	P	23 39 35.6	+0.3
	baz=49,SNR=13						
BLDU	Ballidu	49.55	240	P	P	23 39 41.0	+0.5
	baz=50,SNR=6.6						
MORW	Morawa	49.84	242	P	P	23 39 43.5	+0.8
	baz=50,SNR=7.2						
KKM	Kota Kinabalu	52.76	287	eP	P	23 40 03.4	-1.4
	24nm,0.7s						
KKM	Kota Kinabalu	52.76	287	P	P	23 40 05.6	+0.9
	baz=53,SNR=6.1						
MJAR	Matsushiro Arr	54.63	332	P	P	23 40 15.9	-2.0
	3.0nm,0.8s,baz=160,slow=8.3,SNR=4.8						
SBUM	Sibu	55.49	281	eP	P	23 40 25.7	+1.2
	15nm,1.1s						
KSM	Kuching	57.08	279	eP	P	23 40 35.0	-0.8
	23nm,1.4s						
KSRS	Korea Array	60.55	325	P	P	23 40 58.7	-0.6
	2.4nm,0.9s,baz=126,slow=7.3,SNR=3.9						
KSAR	Wonju Array Be	60.57	325	P	P	23 40 58.7	-0.7
NJ2	Nanjing	62.71	315	eP	P	23 41 11.0	-3.0
NJ2				pmax	pmax		
	comp=Z,50nm,1.5s						
QIZ	Qiongzhong	63.35	298	P	P	23 41 17.3	-1.2
QIZ				S	S	23 49 45.3	+1.6
QIZ				pmax	pmax		
	comp=Z,17nm,2.9s						
USRK	Ussuriysk Arra	63.60	333	P	P	23 41 19.8	+0.2
	3.9nm,0.8s,baz=123,slow=7.0,SNR=5.5						
FX1	Attu Island--F	64.42	5	eP	P	23 41 23.9	-0.9
BKNI	Bangkinang	65.82	276	eP	P	23 41 35.2	+0.5
	66nm,0.5s						
IPM	Ipoh	66.80	280	eP	P	23 41 40.8	-0.2
	42nm,1.2s						
PSI	Prapat	68.44	278	P	P	23 41 51.6	+0.2
	baz=68,SNR=5.4						
GYA	Guiyang	69.10	304	eP	P	23 41 57.0	+1.7
GYA				pP	pP	23 42 20.8	+0.7
GYA				sP	sP	23 42 31.3	+0.6
GYA				PP	PP	23 44 33.0	+3.7
GYA				ScP		23 46 13.3	
GYA				S	S	23 50 53.8	+0.4
GYA				SKS	SKSac	23 51 43.8	-2.9
GYA				SS	SS	23 55 24.0	+2.3
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.4s						
GYA				LR	LR		
	comp=N,560nm,19.8s						
GYA				LR	LR		
	comp=E,480nm,20.0s						
GYA				LR	LR		
	comp=Z,520nm,18.5s						
GSI	Gunungsitoli	69.41	276	eP	P	23 41 56.9	-0.4
	29nm,0.8s						
XAN	Xi'an	70.82	312	P	P	23 42 05.8	+0.3
XAN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CM01	Chiang Mai Arr	72.74	293	eP	P	23 42 18.4	+1.1
CMAR	Chiang Mai Arr	72.77	294	P	P	23 42 19.0	+1.5
	4.4nm,0.9s,baz=116,slow=4.4,SNR=21						
CMAR				pP	PcP	23 42 33.1	-1.1
	1.0nm,0.4s,baz=109,slow=4.7,SNR=2.7						
CHTO	Chiang Mai	72.88	294	eP	P	23 42 18.1	-0.1
	12nm,1.3s						
CD2	Chengdu	73.29	307	eP	P	23 42 21.8	+1.4
CD2				PcP	PcP	23 42 37.8	+1.5
CD2				pP	pP	23 42 45.5	+0.1
CD2				sP	sP	23 42 55.8	-0.2
CD2				PP	PP	23 45 08.5	+3.4
CD2				S	S	23 51 42.0	+0.5

CD2 SKS SKSac 23 52 14.5 -3.5
CD2 sS sS 23 52 23.0 -1.4
CD2 SS SS 23 56 28.0 +2.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.6s
LZH Lanzhou 75.45 312 eP P 23 42 35.3 +2.3
LZH pP pP 23 43 00.5 +2.4
LZH sP sP 23 43 10.5 +1.8
LZH pmax pmax
comp=Z,19nm,1.0s
QSPA South Pole Qui 78.48 180 eP P 23 42 49.1 -0.3
21nm,1.0s
ULN Ulaanbaatar 78.98 324 eP P 23 42 52.4 0.0
11nm,1.1s
SONM Songino Array 79.35 324 P P 23 42 54.5 +0.1
3.0nm,1.0s,baz=141,slow=4.7,SNR=17
SONA1 Songino Array 79.35 324 eP P 23 42 54.3 -0.1
BILL Bilibino 79.35 0 eP P 23 42 52.9 -0.9
5.4nm,1.0s
GTA Gaotai 79.75 314 P P 23 42 58.0 +1.2
GTA S S 23 52 54.3 +2.4
GTA SS SS 23 58 04.0 +0.9
GTA pmax pmax
comp=Z,11nm,1.3s
GTA pmax pmax
comp=Z,800nm,6.6s
GTA LR LR
comp=N,710nm,18.5s
GTA LR LR
comp=E,880nm,18.5s
GTA LR LR
comp=Z,910nm,17.8s
KTH Kantishna Hill 81.69 18 eP P 23 43 05.2 -1.3
54nm,2.2s
TRF Thorofare Moun 81.81 18 eP P 23 43 07.7 +0.4
109nm,2.7s
BMRM Bremner River 81.98 22 eP P 23 43 06.7 -1.3
22nm,1.5s
TLY Talaya 82.80 326 P P 23 43 12.6 +0.1
3.5nm,0.7s,baz=108,slow=10,SNR=4.4
ILAR Eielson Array 83.80 18 P P 23 43 16.1 -1.2
0.8nm,0.5s,baz=238,slow=5.3,SNR=17
IL1 Eielson Array 83.81 18 eP P 23 43 16.9 -0.4
DOT Dot Lake 83.95 20 eP P 23 43 17.9 -0.3
6.9nm,1.0s
TAPN Taplejung 85.28 299 eP P 23 43 26.7 +0.7
28nm,1.2s
ODAN Odare 85.42 298 eP P 23 43 27.3 +0.7
20nm,0.7s
EGAK Eagle 85.65 20 eP P 23 43 26.5 -0.1
84nm,2.5s
NVAR Mina Array Bea 85.94 50 P P 23 43 31.4 +2.5
2.0nm,0.7s,baz=196,slow=3.8,SNR=4.1
RAMN Ramite 86.13 298 eP P 23 43 30.6 +0.5
33nm,1.3s
JIRN Jiri 86.66 299 eP P 23 43 33.5 +0.6
23nm,1.1s
GUN Gumba 86.99 299 eP P 23 43 35.0 +0.5
PKI Pulchoki 87.31 299 eP P 23 43 36.3 +0.3
27nm,1.0s
PKIN Phulchoki 87.32 299 eP P 23 43 36.6 +0.6
KKN Kakani 87.47 299 eP P 23 43 37.2 +0.6
DMN Daman 87.58 299 eP P 23 43 37.7 +0.5
36nm,1.0s
GKN Gorkha 88.08 299 eP P 23 43 39.4 0.0
28nm,0.9s
DANN Dangsing 88.91 299 eP P 23 43 43.2 -0.3
16nm,0.7s
KOLN Koldanda 88.92 298 eP P 23 43 43.1 -0.3
17nm,0.9s
WMQ Urumqi 89.79 315 P P 23 43 47.0 0.0
WMQ pP pP 23 44 13.0 +0.2
WMQ sP sP 23 44 23.5 +0.3
WMQ PP PP 23 47 22.0 +1.2
WMQ SKS SKSac 23 54 06.8 -2.1
WMQ S S 23 54 28.0 -3.0
WMQ sS sS 23 55 13.5 -1.9
WMQ pmax pmax
comp=Z,9.0nm,0.8s
WMQ LR LR
comp=N,560nm,20.8s
WMQ LR LR
comp=E,410nm,21.2s
WMQ LR LR
comp=Z,750nm,19.6s
HYB Hyderabad 91.24 287 iP P 23 43 54.0 -0.2
PDAR Pinedale Array 93.50 47 P P 23 44 05.8 +1.4
0.3nm,0.6s,baz=211,slow=5.1,SNR=3.8
MK01 Makanchi Array 94.20 317 eP P 23 44 07.5 +0.2
MKAR Makanchi Array 94.22 317 P P 23 44 07.4 +0.1
6.9nm,0.7s,baz=88,slow=5.8,SNR=118
MKAR Makanchi Array 94.22 317 eP P 23 44 07.7 +0.4
ZAA0 Zalesovo Array 94.24 324 eP P 23 44 05.9 -1.3
ZALV Zalesovo Beam 94.24 324 P P 23 44 06.5 -0.7
2.5nm,0.6s,baz=104,slow=4.7,SNR=13
YKA Yellowknife Ar 95.16 27 P P 23 44 09.2 -2.0
0.3nm,0.6s,baz=260,slow=4.8,SNR=5.8
KSH Kashi 97.45 309 eP Pdif 23 44 24.0 +1.6
KSH epP pP 23 44 51.0 +2.7
AAK Ala-Archa 98.99 312 P Pdif 23 44 28.8 -0.4
0.7nm,0.8s,baz=135,slow=4.3,SNR=4.8
BVAR Borovoye Array 102.64 322 P Pdif 23 44 44.5 -0.5
0.7nm,0.7s,baz=108,slow=3.2,SNR=3.8
ARCES ARCESS Array B 116.92 346 PKP PKPdf 23 49 31.3 -0.6
5.3nm,1.1s,baz=81,slow=2.5,SNR=9.2
FINES FINESS Array B 122.40 339 PKP PKPdf 23 49 41.9 -0.7
1.3nm,0.9s,baz=325,slow=3.0,SNR=4.3
BOSA Boshof 125.11 223 PKP PKPdf 23 49 49.6 +0.5
2.6nm,0.7s,baz=175,slow=4.5,SNR=4.6
KEST Kesra 148.10 323 PKPbc PKPbc 23 50 34.4 +0.3
2.0nm,0.8s,baz=266,slow=3.6,SNR=8.3
ESDC Sonseca Array 150.65 344 PKPbc PKPbc 23 50 39.6 -0.6
0.9nm,0.7s,baz=4.1,slow=1.9,SNR=6.6
ESDC PKPab PKPab 23 50 47.5 +0.1
0.5nm,0.5s,baz=15,slow=4.0,SNR=4.9
TORD Torodi Ar. Bea 164.84 278 PKP PKPdf 23 50 53.4 +0.7
0.5nm,0.8s,baz=340,slow=1.5,SNR=4.1
TORD PKPab PKPab 23 51 49.2 -0.1
2.1nm,0.9s,baz=84,slow=4.1,SNR=8.5

IDC 26 23:46:50.0±1.1, 25°.92N×128°.64E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/34, mbtmp3.7/8, Error ellipse: s-maj=47.4km s-min=21.0km az=69.0
ISCJB 26 23:46:51.3±1.0, 25°.91N±0°.03×128°.73E±0°.04, h27km±7km, mb3.6/8, Error ellipse: s-maj=6.8km s-min=5.3km az=33.7
JMA 26 23:46:53.4±0.3, 25°.99N×128°.70E, h35km±5km, M3.3
ISC 26 23:46:50.4±2.2, 25°.90N±0°.05×128°.73E±0°.04, h8km±13km, n27, σ1§51/39, mb3.8/8, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.89 314 P Pb 23 47 08.2 +0.2
JNTH S Sg 23 47 18.9 0.0
JJT2 Tamagusuku 2 0.92 285 P Pn 23 47 09.5 -0.1
JJT2 S Sn 23 47 21.3 +0.4
JOW Kunigami 1.01 336 P Pb 23 47 10.4 +0.2
JOW S Sg 23 47 22.2 +0.8
JOW Kunigami 1.01 336 Pn Pb 23 47 10.3 +0.2
16nm,0.3s,baz=134,slow=23,SNR=29
JOW Sn Sg 23 47 22.1 -0.9
24nm,0.3s,baz=127,slow=20,SNR=23
JIH Iheya 1.32 329 P Pb 23 47 15.3 -0.1
JIH S Sb 23 47 31.1 -1.4
JOKE Okinoerabujima 1.46 354 P Pn 23 47 17.2 +0.1
JOKE S Sn 23 47 34.1 -2.3
JAGN Aguni-jima 1.50 297 P Pn 23 47 17.8 +0.2
JAGN S Sn 23 47 36.4 -1.1
JKE Kume jima 2 1.80 284 P Pn 23 47 21.4 -0.3
JKE S Sn 23 47 41.8 -3.0
JTK Tokunoshima 1.88 6 P Pn 23 47 23.0 +0.1
JTK S Sn 23 47 43.6 -3.3
JMZ Minamidaito 2 2.24 92 P Pn 23 47 27.4 -0.4
JMZ S Sn 23 47 51.8 -3.9
JAMN Amaminishikomi 2.36 9 P Pn 23 47 30.0 +0.5
JAM Amami Oshima 2.62 17 P Pn 23 47 32.7 -0.2
JAM S Sn 23 48 02.4 -2.5
JIKM Ikemajima 3.30 254 P Pn 23 47 42.5 +0.1
JIRB Irabujima 3.40 252 P Pn 23 47 43.2 -0.5
JTJ Tarama 3.86 252 P Pn 23 47 49.3 -0.8
JTJ S Sn 23 48 31.8 -3.9
JISG Ishigakijimahi 4.21 253 P Pn 23 47 53.7 -1.2
JIJ Ishigaki jima 4.43 251 P Pn 23 47 56.8 -1.2
JKRS Kuro-shima 4.59 250 P Pn 23 48 00.6 +0.4
IRIF Iriomote-Funau 4.80 252 P Pn 23 48 02.9 -0.1
SONM Songino Array 28.07 327 P P 23 52 44.7 +2.2
1.0nm,0.4s,baz=138,slow=10.0,SNR=29
MKAR Makanchi Array 42.09 312 P P 23 54 42.4 -0.4
0.5nm,0.5s,baz=104,slow=10.0,SNR=12
WRA Warramunga Arr 45.90 173 P P 23 55 14.4 +0.8
0.6nm,0.5s,baz=354,slow=8.5,SNR=2.7
BVAR Borovoye Array 50.82 318 P P 23 55 51.3 0.0
0.2nm,0.3s,baz=92,slow=9.4,SNR=3.4
FINES FINESS Array B 73.37 331 P P 23 58 22.9 +0.3
0.6nm,0.4s,baz=88,slow=4.8,SNR=12
BRTR Keskin Array B 77.59 308 P P 23 58 48.5 +1.0
0.9nm,0.9s,baz=100,slow=6.9,SNR=5.2
YKA Yellowknife Ar 78.63 25 P P 23 58 53.9 +1.4
0.2nm,0.5s,baz=294,slow=5.4,SNR=3.6
NOA NORSAR Array B 79.80 334 P P 23 58 59.1 0.0
0.7nm,0.7s,baz=51,slow=5.5,SNR=2.7

IDC 26 23:53:15.6±1.5, 25°.96N×128°.95E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/35, mbtmp3.8/8, Error ellipse: s-maj=59.3km s-min=21.3km az=70.0
JMA 26 23:53:17.9±0.3, 26°.00N×129°.03E, h40km, M4.2
ISC 26 23:53:16.8±1.8, 25°.92N±0°.05×129°.03E±0°.04, h23km±14km, n29, σ1§96/47, mb3.6/7, Southeast of Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 1.08 304 P Pn 23 53 36.3 -0.2
JNTH S Sn 23 53 48.4 -2.4
JOW Kunigami 1.13 324 P Pn 23 53 37.1 -0.2
JOW S Sn 23 53 50.3 -1.8
JOW Kunigami 1.13 324 Pn Pn 23 53 37.3 0.0
95nm,0.3s,baz=138,slow=14,SNR=272
JOW Sn Sn 23 53 50.4 -1.8
22nm,0.3s,baz=160,slow=27,SNR=12
JJT2 Tamagusuku 2 1.17 281 P Pb 23 53 38.6 +0.2
JJT2 S Sb 23 53 52.8 -0.4
JIH Iheya 1.46 320 P Pn 23 53 42.2 +0.4
JIH S Sn 23 53 59.1 -1.1
JOKE Okinoerabujima 1.49 344 P Pn 23 53 42.4 +0.2
JOKE S Sn 23 53 59.7 -1.3
JAGN Aguni-jima 1.74 293 P Pn 23 53 46.2 +0.7
JAGN S Sn 23 54 06.1 -0.9
JTK Tokunoshima 1.86 358 P Pn 23 53 47.2 -0.1
JTK S Sn 23 54 07.0 -3.0
JMZ Minamidaito 2 1.98 92 P Pn 23 53 48.8 0.0
JMZ S Sn 23 54 09.2 -3.7
JKE Kume jima 2 2.06 282 P Pn 23 53 50.0 +0.1
JKE S Sn 23 54 12.8 -2.1
JAMN Amaminishikomi 2.32 3 P Pn 23 53 53.4 -0.1
JAMN S Sn 23 54 19.2 -2.1
JAM Amami Oshima 2.54 12 P Pn 23 53 56.4 -0.1
JAM S Sn 23 54 24.4 -2.3
JOGS Gusukube 3.48 251 P Pn 23 54 10.5 +1.1
JOGS S Sn 23 54 48.3 -1.6
JMJ Miyako jima 2 3.55 253 P Pn 23 54 11.1 +0.6
JIKM Ikemajima 3.56 255 P Pn 23 54 11.5 +0.9
JIKM S Sn 23 54 50.3 -1.7
JIRB Irabujima 3.65 254 P Pn 23 54 12.4 +0.5
JIRB S Sn 23 54 52.3 -2.0
JTJ Tarama 4.12 253 P Pn 23 54 18.5 +0.2
JTJ S Sn 23 55 01.4 -4.3
JISG Ishigakijimahi 4.47 254 P Pn 23 54 22.7 -0.5
JISG S Sn 23 55 10.7 -3.8
JIJ Ishigaki jima 4.69 252 P Pn 23 54 25.8 -0.4
JIJ S Sn 23 55 15.6 -4.3
JKRS Kuro-shima 4.85 251 P Pn 23 54 29.8 +1.5
JKRS S Sn 23 55 20.8 -3.0
IRIF Iriomote-Funau 5.05 253 P Pn 23 54 30.5 -0.7
IRIF S Sn 23 55 24.4 -4.4
JNU Nakatsue 7.36 12 Pn Pn 23 55 04.3 +1.5
baz=145,slow=16
JNU Sn Sn 23 56 22.9 -2.7
0.6nm,0.3s,baz=26,slow=19,SNR=6.6
SONM Songino Array 28.20 327 P P 23 59 10.5 +2.7
0.5nm,0.6s,baz=144,slow=10,SNR=5.7
MKAR Makanchi Array 42.28 312 P P 00 01 08.9 +0.4
0.5nm,0.7s,baz=88,slow=5.5,SNR=8.2
ZALV Zalesovo Beam 42.93 323 P P 00 01 13.8 +0.2
0.7nm,0.6s,baz=136,slow=9.2,SNR=3.8
WRA Warramunga Arr 45.88 173 P P 00 01 39.6 +2.1
0.5nm,0.3s,baz=349,slow=8.8,SNR=2.8
KBZ Khabaz 69.91 310 P P 00 04 28.9 +2.9
2.0nm,0.8s,baz=49,slow=2.1,SNR=4.0
FINES FINESS Array B 73.48 331 P P 00 04 48.7 +1.5
0.7nm,0.6s,baz=63,slow=5.1,SNR=5.5
BRTR Keskin Array B 77.79 308 P P 00 05 16.6 +4.1
0.4nm,0.8s,baz=116,slow=4.0,SNR=3.1

IDC 26 23:59:09.3±2.1, 26°.03N×128°.93E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/30, mbtmp3.8/7, MS4.4/1, Ms1 4.6/1, ms1mx3.6/31, Error ellipse: s-maj=112.2km s-min=21.6km az=65.0
JMA 26 23:59:12.3±0.2, 25°.98N×128°.76E, h37km, M3.4
ISC 26 23:59:10.4±1.7, 25°.94N±0°.05×128°.75E±0°.04, h9km±10km, n25, σ1§81/37, mb3.9/7, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.87 312 P Pb 23 59 27.8 +0.1
JNTH S Sb 23 59 39.4 0.0
JJT2 Tamagusuku 2 0.92 283 P Pn 23 59 29.2 -0.3
JJT2 S Sn 23 59 41.4 +0.6
JOW Kunigami 0.99 335 P Pg 23 59 29.8 +0.3
JOW S Sg 23 59 41.3 -1.0
JOW Kunigami 0.99 335 Pn Pg 23 59 29.7 +0.3
16nm,0.3s,baz=148,slow=18,SNR=47
JOW Sn Sg 23 59 41.0 -1.2
32nm,0.3s,baz=144,slow=19,SNR=41
JIH Iheya 1.30 328 P Pn 23 59 34.6 -0.1
JIH S Sb 23 59 50.1 -1.6
JOKE Okinoerabujima 1.43 354 P Pn 23 59 36.4 -0.1
JOKE S Sn 23 59 53.0 -2.4
JAGN Aguni-jima 1.50 296 P Pn 23 59 37.5 +0.1
JAGN S Sn 23 59 56.0 -1.1
JKE Kume jima 2 1.81 283 P Pn 23 59 41.1 -0.5
JKE S Sn 00 00 02.1 -2.6
JTK Tokunoshima 1.85 6 P Pn 23 59 42.1 -0.2
JTK S Sn 00 00 02.4 -3.4
JMZ Minamidaito 2 2.23 92 P Pn 23 59 47.0 -0.5
JMZ S Sn 00 00 11.5 -3.7
JAMN Amaminishikomi 2.33 9 P Pn 23 59 48.9 0.0
JAM Amami Oshima 2.58 17 P Pn 23 59 51.8 -0.5
JAM S Sn 00 00 20.6 -3.2
JIKM Ikemajima 3.32 253 P Pn 00 00 02.6 +0.1
JIKM S Sn 00 00 38.7 -3.4
JIRB Irabujima 3.42 252 P Pn 00 00 41.7 -2.7
JTJ Tarama 3.88 251 P Pn 00 00 09.6 -0.6
JTJ S Sn 00 00 51.4 -4.5
JISG Ishigakijimahi 4.24 252 P Pn 00 00 13.9 -1.2
JIJ Ishigaki jima 4.46 250 P Pn 00 00 16.8 -1.3
SONM Songino Array 28.05 327 P P 00 05 04.0 +1.9
1.0nm,0.4s,baz=143,slow=11,SNR=30
CMAR Chiang Mai Arr 28.54 261 LR LR 00 17 31.2
comp=Z,706nm,19.5s,baz=63,slow=38
MKAR Makanchi Array 42.08 312 P P 00 07 02.4 -0.2
0.5nm,0.5s,baz=95,slow=10,SNR=15
WRA Warramunga Arr 45.93 173 P P 00 07 34.3 +0.6
1.5nm,0.8s,baz=352,slow=8.6,SNR=4.1
GEYT Alibeck 59.84 300 P P 00 09 18.5 +2.1
1.1nm,0.7s,baz=108,slow=4.7,SNR=3.9
FINES FINESS Array B 73.35 331 P P 00 10 42.4 +0.2
1.1nm,0.9s,baz=72,slow=6.6,SNR=5.1
AKASG Malin Array Be 76.06 320 P P 00 10 58.3 +0.2
0.2nm,0.3s,baz=56,slow=6.7,SNR=2.9
BRTR Keskin Array B 77.58 308 P P 00 11 08.3 +1.1
0.6nm,0.7s,baz=71,slow=6.3,SNR=4.8

DJA 27 00:05:33.8±0.9, 7°S±15'×10°6E±', h10km, M3.6/5, MLv3.6/5, Jawa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SKJI Sukabumi 0.40 78 P Pg 00 05 41.0 -0.8
CGJI Cibinong 0.66 316 P Pg 00 05 45.8 -0.8
CNJI Cibinong 0.99 103 P Pg 00 05 50.8 -2.0
CNJI S Sg 00 06 05.8 +0.1
LEM Lembang 1.47 80 P Pn 00 05 59.6 -1.0
CISI Cisompet, Garu 1.71 106 P Pn 00 06 02.4 -1.3
CISI S Sn 00 06 24.5 -1.2
KASI Kota Agung 2.27 313 P Pn 00 06 11.0 -0.4
KPJI Karang Pucung 2.76 95 P Pn 00 06 20.4 +2.3
MDSI Maura Dua 3.25 323 P Pn 00 06 24.9 0.0

IDC 27 00:08:20.9±1.0, 25°.95N×128°.64E, h0km, mb3.9/12, mb1 4.0/16, mb1mx4.0/34, mbtmp3.9/16, ML3.2/3, Error ellipse: s-maj=25.5km s-min=19.5km az=82.0
ISCJB 27 00:08:22.3±1.0, 25°.97N±0°.04×128°.76E±0°.04, h21km±6km, mb3.8/12, Error ellipse: s-maj=7.5km s-min=5.4km az=138.8
JMA 27 00:08:25.1±0.3, 26°.05N×128°.66E, h35km, M3.9
ISC 27 00:08:22.7±1.6, 25°.95N±0°.05×128°.69E±0°.04, h14km±10km, n45, σ1§41/55, mb3.9/12, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.82 313 P Pb 00 08 38.9 +0.1
JNTH S Sg 00 08 48.7 -0.8
JJT2 Tamagusuku 2 0.87 283 P Pb 00 08 40.4 -0.1
JJT2 eS Sn 00 08 52.1 -0.8
JOW Kunigami 0.95 337 P Pg 00 08 41.1 -0.1
JOW eS Sb 00 08 52.0 -1.5
JOW Kunigami 0.95 337 Pn Pg 00 08 41.2 0.0
55nm,0.3s,baz=146,slow=15,SNR=106
JOW Sn Sb 00 08 52.0 -1.5
70nm,0.3s,baz=121,slow=18,SNR=59
JIH Iheya 1.26 329 P Pn 00 08 45.9 0.0
JIH S Sb 00 09 00.6 -1.7
JOKE Okinoerabujima 1.41 356 P Pn 00 08 47.8 -0.2
JOKE S Sn 00 09 04.0 -2.3
JAGN Aguni-jima 1.45 296 P Pn 00 08 48.8 +0.3
JKE Kume jima 2 1.75 283 P Pn 00 08 52.4 -0.3
JTK Tokunoshima 1.84 7 P Pn 00 08 53.7 -0.2
JTK S Sn 00 09 14.0 -3.0
JMZ Minamidaito 2 2.28 93 P Pn 00 08 59.4 -0.6
JMZ S Sn 00 09 24.0 -3.9
JAMN Amaminishikomi 2.32 11 P Pn 00 09 00.2 -0.3
JAM Amami Oshima 2.58 18 P Pn 00 09 03.5 -0.6
JOGS Gusukube 3.20 249 P Pn 00 09 13.0 +0.4
JTAJ Takarajima 3.22 8 P Pn 00 09 12.8 -0.1
JIKM Ikemajima 3.28 253 P Pn 00 09 14.0 +0.4
JTJ Tarama 3.84 251 P Pn 00 09 21.0 -0.4
JTJ eS Sn 00 10 03.2 -3.1
JISG Ishigakijimahi 4.19 252 P Pn 00 09 25.2 -1.0
JIJ Ishigaki jima 4.41 250 P Pn 00 09 28.0 -1.3
JIJ eS Sn 00 10 15.6 -4.9
JNU Nakatsue 7.39 14 Pn Pn 00 10 11.7 +1.4
KSRS Korea Array 11.49 357 Pn Pn 00 11 07.4 +1.1
0.4nm,0.3s,baz=194,slow=15,SNR=2.7
MJAR Matsushiro Arr 13.32 35 Pn Pn 00 11 32.0 +0.6
0.3nm,0.3s,baz=208,slow=12,SNR=3.3
USRK Ussuriysk Arra 18.40 8 P Pn 00 12 39.0 +1.7
0.1nm,0.3s,baz=187,slow=9.2,SNR=4.4
SONM Songino Array 28.01 327 P P 00 14 12.6 -0.8
2.1nm,0.4s,baz=144,slow=11,SNR=88
TAPN Taplejung 36.54 282 ePn P 00 15 29.9 +1.5
11nm,0.7s
ODAN Odare 36.89 281 ePn P 00 15 32.2 +0.9
28nm,0.5s
RAMN Ramite 37.57 281 ePn P 00 15 38.2 +1.0
9.4nm,0.6s
JIRN Jiri 37.84 282 ePn P 00 15 40.4 +0.9
5.2nm,0.4s
GUN Gumba 38.08 283 ePn P 00 15 42.6 +1.1
7.7nm,0.4s
PKI Pulchoki 38.53 282 ePn P 00 15 46.3 +0.9
13nm,0.3s
PKIN Phulchoki 38.55 282 ePn P 00 15 46.4 +1.0
7.3nm,0.3s
KKN Kakani 38.62 283 ePn P 00 15 47.4 +1.4
15nm,0.4s
GKN Gorkha 39.16 283 ePn P 00 15 51.0 +0.6
15nm,0.4s
DANN Dangsing 39.88 284 ePn P 00 15 57.5 +0.9
21nm,0.5s
KOLN Koldanda 40.10 283 ePn P 00 15 59.1 +0.8
14nm,0.8s
MKAR Makanchi Array 42.03 312 P P 00 16 13.5 -0.2
0.9nm,0.4s,baz=94,slow=9.8,SNR=36
ZALV Zalesovo Beam 42.72 323 P P 00 16 18.6 -0.6
0.8nm,0.4s,baz=110,slow=8.9,SNR=4.8
WRA Warramunga Arr 45.95 173 P P 00 16 45.8 +0.4
0.7nm,0.6s,baz=353,slow=8.1,SNR=3.4
GEYT Alibeck 59.79 300 P P 00 18 29.0 +1.4
1.8nm,0.4s,baz=50,slow=4.6,SNR=7.8
ILAR Eielson Array 64.49 28 P P 00 18 59.4 +0.8
0.3nm,0.7s,baz=277,slow=5.8,SNR=3.8
KBZ Khabaz 69.65 310 P P 00 19 33.3 +1.5
0.6nm,0.5s,baz=259,slow=3.0,SNR=4.2
FINES FINESS Array B 73.31 331 P P 00 19 53.9 +0.4
0.6nm,0.4s,baz=72,slow=5.0,SNR=20
AKASG Malin Array Be 76.01 320 P P 00 20 09.7 +0.3
1.0nm,0.4s,baz=56,slow=6.0,SNR=56
BRTR Keskin Array B 77.53 308 P P 00 20 18.3 -0.1
1.1nm,0.8s,baz=128,slow=4.2,SNR=8.8
YKA Yellowknife Ar 78.60 25 P P 00 20 23.5 -0.2
0.1nm,0.5s,baz=302,slow=5.3,SNR=4.1
NOA NORSAR Array B 79.74 334 P P 00 20 30.5 +0.4
0.8nm,0.8s,baz=55,slow=5.4,SNR=2.4

NIED 27 00:48:00, 25°.90N×128°.70E, h8km, Mw4.9 Best double couple: M0 2.20000×10^16 NP1: φs 58.00000°, δ71.00000°, λ12.00000°. NP2: φs 324.00000°, δ79.00000°, λ161.00000°.
BJI 27 00:48:40.0, 25°.70N×128°.85E, h28km, mB4.9/44, mb4.6/56, Ms4.7/61, Ms7 4.4/57
IDC 27 00:48:41.4±0.7, 25°.99N×128°.58E, h0km, mb4.4/20, mb1 4.6/24, mb1mx4.5/30, mbtmp4.4/24, ML4.0/4, MS4.3/14, Ms1 4.3/14, ms1mx4.0/39, Error ellipse: s-maj=17.6km s-min=13.6km az=91.0
ISCJB 27 00:48:42.3±0.6, 25°.93N±0°.02×128°.62E±0°.02, h21km±4km, mb4.8/99, MS4.6/54, Error ellipse: s-maj=4.3km s-min=3.1km az=44.2
JMA 27 00:48:42.7±0.3, 25°.94N×128°.71E, h29km, M5.1
NEIC 27 00:48:43.7±2.1, 25°.97N±0°.05×128°.50E, h16km±13km, mb5.1/47, MS4.7/25, MW4.8(NIED), Error ellipse: s-maj=6.4km s-min=4.1km az=132.0
MOS 27 00:48:44.3±1.0, 25°.99N×128°.59E, h33km, mb4.9/49, MS4.4/18, Error ellipse: s-maj=9.8km s-min=5.4km az=105.5
ISC 27 00:48:45.6±0.4, 26°.01N±0°.03×128°.55E±0°.03, h29km±2km, h28km:pP-P, n275, σ1§64/311, mb4.8/99, MS4.6/54, 8C-8D, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.69 317 P Pb 00 48 57.9 -1.3
JNTH S Sn 00 49 09.9 +0.5
JJT2 Tamagusuku 2 0.73 281 P Pb 00 48 59.2 -0.6
JJT2 S Sn 00 49 11.0 +0.8
JOW Kunigami 0.86 344 P Pn 00 49 00.6 -1.2
JOW S Sb 00 49 11.9 -1.3
JOW Kunigami 0.86 344 Pn Pn 00 49 00.7 -1.2
116nm,0.3s,baz=147,slow=17,SNR=87
JOW Sn Sn 00 49 14.0 +0.6
220nm,0.3s,baz=125,slow=18,SNR=38
JOW LR LR 00 49 28.6
comp=Z,660nm,20.2s,baz=326,slow=53
JIH Iheya 1.15 333 P Pn 00 49 05.3 -0.5
JIH S Sn 00 49 20.6 0.0
JAGN Aguni-jima 1.31 297 P Pn 00 49 07.6 -0.4
JAGN S Sb 00 49 26.3 +0.4
JOKE Okinoerabujima 1.35 1 P Pn 00 49 07.6 -1.0
JOKE S Sn 00 49 24.8 -0.8
JKE Kume jima 2 1.61 282 P Pn 00 49 11.3 -0.9
JTK Tokunoshima 1.81 11 P Pn 00 49 13.5 -1.4
JAMN Amaminishikomi 2.30 14 P Pn 00 49 20.2 -1.4
JMZ Minamidaito 2 2.42 94 P Pn 00 49 18.8 -4.4
JMZ S Sn 00 49 44.3 -7.5
JAM Amami Oshima 2.58 21 P Pn 00 49 23.5 -1.9
JZK Kikaishima 2.63 29 P Pn 00 49 24.4 -1.7
JZK S Sn 00 49 55.7 -1.4
JOGS Gusukube 3.10 247 P Pn 00 49 31.8 -0.8
JOGS S Sn 00 50 07.2 -1.5
JIKM Ikemajima 3.17 251 P Pn 00 49 32.5 -1.1
JMJ Miyako jima 2 3.17 249 P Pn 00 49 33.0 -0.6
JIRB Irabujima 3.27 250 P Pn 00 49 33.7 -1.2
JIRB S Sn 00 50 10.3 -2.6

JTJ Tarama 3.73 249 P Pn 00 49 39.8 -1.6
JTJ S Sn 00 50 21.6 -2.8
JNN Nakanoshima 4.00 17 P Pn 00 49 44.0 -1.0
JISG Ishigakijimahi 4.09 251 P Pn 00 49 43.8 -2.4
JISG S Sn 00 50 29.3 -3.8
JIJ Ishigaki jima 4.31 249 P Pn 00 49 47.3 -2.0
JIJ S Sn 00 50 34.3 -4.3
YOJ Yonaguni jima 5.24 254 eP Pn 00 50 00.0 -2.1
YOJ Yonaguni jima 5.24 254 ePn Pn 00 50 00.0 -2.1
TATO Taipei 6.46 262 ePn Pn 00 50 19.7 +0.9
NACB Ninganchiao 6.56 255 ePn Pn 00 50 17.0 -3.2
YHNB Yeheng 6.62 260 ePn Pn 00 50 21.1 -0.1
YULB Yu-li 7.09 250 ePn Pn 00 50 22.9 -4.6
SSLB Suanglung 7.24 254 ePn Pn 00 50 26.5 -3.0
SSLB eSn Sn 00 51 46.6 -4.2
JNU Nakatsue 7.38 15 Pn Pn 00 50 31.6 +0.1
9.9nm,0.3s,baz=206,slow=4.4,SNR=42
JNU Sn Sn 00 51 51.0 -3.2
1.1nm,0.3s,baz=197,slow=18,SNR=1.8
JNU LR LR 00 53 47.1
comp=Z,1µm,20.7s,baz=172,slow=41
TWG Pinlang 7.51 247 ePn Pn 00 50 27.9 -5.4
TPUB Ta-pu 7.69 251 ePn Pn 00 50 33.1 -2.6
SSE Sheshan 8.22 310 eP Pn 00 50 43.8 +0.8
SSE S Sn 00 52 14.5 -0.4
SSE pmax pmax
comp=Z,41nm,0.7s
SSE pmax pmax
comp=Z,220nm,3.6s
SSE LR LR
comp=N,2µm,19.5s
SSE LR LR
comp=E,3µm,19.5s
SSE LR LR
comp=Z,3µm,9.8s
NJ2 Nanjing 10.40 308 eP Pn 00 51 15.8 +2.9
NJ2 pP 00 51 23.5
NJ2 sP 00 51 26.3
NJ2 S Sn 00 53 10.5 +2.0
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=N,2µm,11.7s
NJ2 LR LR
comp=E,3µm,12.9s
NJ2 LR LR
comp=Z,10µm,12.2s
KSAR Wonju Array Be 11.42 357 P Pn 00 51 27.4 +0.6
KSAR Wonju Array Be 11.42 357 Pn Pn 00 51 27.4 +0.6
KSRS Korea Array 11.43 357 Pn Pn 00 51 27.4 +0.5
0.3nm,0.3s,baz=177,slow=14,SNR=15
KSRS LR LR 00 56 08.3
comp=Z,1µm,19.0s,baz=172,slow=39
KS01 Wonju Array Si 11.45 357 ePn Pn 00 51 24.6 -2.7
WHN Wuhan 13.30 293 ⇓P P 00 52 03.0 +1.1
WHN S S 00 54 38.3 -4.8
WHN LR LR
comp=N,5µm,10.0s
WHN LR LR
comp=E,2µm,16.2s
WHN LR LR
comp=Z,3µm,15.6s
MAJO Matsushiro 13.35 36 eP Pn 00 51 50.5 -2.8
MAJO Matsushiro 13.35 36 ePn Pn 00 51 50.5 -2.8
MAT Matsushiro 13.35 36 P P 00 52 03.8 +1.3
MAT eS Sn 00 54 21.6 +0.9
MJAR Matsushiro Arr 13.35 36 P Pn 00 51 52.6 -0.7
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 13.35 36 Pn Pn 00 51 52.6 -0.7
comp=Z,0.5nm,0.3s,baz=206,slow=14,SNR=5.0
SNY Shenyang 16.31 347 ⇓P P 00 52 43.8 +8.6
SNY S S 00 55 42.5 -2.0
SNY pmax pmax
comp=Z,18nm,2.1s
SNY pmax pmax
comp=Z,440nm,4.4s
SNY LR LR
comp=N,1µm,18.0s
SNY LR LR
comp=E,2µm,16.8s
SNY LR LR
comp=Z,2µm,16.8s
VLA Vladivostok 17.29 8⇑eP P 00 52 45.4 -0.7
VLA S Sn 00 55 57.9 +1.6
BJT Baijiatuau 17.38 327 eP P 00 52 47.2 0.0
BJT pmax pmax
comp=Z,26nm,0.6s
BJT Baijiatuau 17.38 327 eP P 00 52 47.2 0.0
comp=Z,26nm,0.6s
BJI Beijing 17.39 327 P P 00 52 48.0 +0.7
BJI sP sP 00 53 00.0 +1.3
BJI S Sn 00 56 00.3 +1.4
BJI pmax pmax
comp=Z,21nm,1.0s
BJI pmax pmax
comp=Z,160nm,3.4s
BJI LR LR
comp=Z,3µm,16.1s
BJI LR LR
comp=Z,4µm,17.0s
BJI LR LR
comp=Z,410nm,22.9s
CN2 Changchun 17.93 353 eP P 00 52 54.0 +0.8
CN2 epP pP 00 53 01.8 +0.9
CN2 eS Sn 00 56 10.8 -1.1
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,700nm,14.0s
USRK Ussuriysk Arra 18.37 8 Pn Pn 00 52 58.4 +0.3
comp=Z,0.6nm,0.3s,baz=183,slow=8.8,SNR=30
USRK LR LR 01 00 28.8
comp=Z,686nm,18.1s,baz=185,slow=38
MDJ Mudanjiang 18.59 2 P Pn 00 53 00.8 0.0
MDJ pP pP 00 53 08.0 -0.1
MDJ sP sP 00 53 12.8 +1.0
MDJ S Sn 00 56 27.0 -0.8
MDJ ScP ScP 01 01 01.8 -0.6
MDJ PcS PcS 01 01 05.5 +0.1
MDJ ScS ScS 01 04 38.8 -4.6
MDJ pmax pmax
comp=Z,5.0nm,1.0s
MDJ pmax pmax
comp=Z,130nm,6.1s
MDJ LR LR
comp=Z,650nm,9.6s
MDJ LR LR
comp=Z,220nm,10.5s
MDJ LR LR
comp=Z,810nm,10.5s
QIZ Qiongzhong 18.61 252 P P 00 53 00.0 -0.9
QIZ pP pP 00 53 09.5 +0.9
QIZ S Sn 00 56 27.3 -1.4
QIZ pmax pmax
comp=Z,12nm,1.6s
QIZ LR LR
comp=Z,1µm,22.0s
QIZ LR LR
comp=Z,230nm,20.5s
QIZ LR LR
comp=Z,1µm,20.1s
XAN Xi'an 18.77 300 P Pn 00 53 03.0 -0.1
XAN pP pP 00 53 10.3 +0.1
XAN sP sP 00 53 14.5 +0.6
XAN S Sn 00 56 25.5 -6.8
XAN pmax pmax
comp=Z,5.0nm,0.7s
XAN pmax pmax
comp=Z,33nm,5.3s
XAN LR LR
comp=Z,940nm,14.7s
XAN LR LR
comp=Z,280nm,15.0s
XAN LR LR
comp=Z,240nm,11.7s
GYA Guiyang 19.64 276⇑iP Pn 00 53 14.0 +0.3
GYA pP pP 00 53 22.5 +2.6
GYA PP PnPn 00 53 32.5 +5.0
GYA S S 00 56 46.5 -5.9
GYA sS Sn 00 56 59.0 +5.5
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=Z,760nm,16.6s
GYA LR LR
comp=Z,680nm,17.0s
GYA LR LR
comp=Z,820nm,16.8s
ERM Erimo 20.00 33 eP P 00 53 14.5 -1.3
ERM pmax pmax
comp=Z,47nm,0.8s
ERM Erimo 20.00 33 eP P 00 53 14.5 -1.3
comp=Z,47nm,0.8s
HHC Hu-ho-hao-te 20.44 321 eP Pn 00 53 25.0 +1.9
HHC PP PnPn 00 53 43.0 +4.5
HHC S S 00 57 05.3 -3.0
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,170nm,4.0s
HHC LR LR
comp=Z,980nm,8.8s
HHC LR LR
comp=Z,2µm,11.8s
HHC LR LR
comp=Z,2µm,12.3s
ASAJ Asahikawa 21.36 29 P P 00 53 30.9 +0.3
comp=Z,20nm,0.8s,baz=227,slow=14,SNR=7.8
ASAJ LR LR 01 01 52.7
comp=Z,577nm,20.7s,baz=347,slow=37
ASAJ Asahikawa 21.36 29 eP P 00 53 32.4 +1.8
comp=Z,74nm,1.3s
CD2 Chengdu 22.32 288 eP P 00 53 42.0 +0.9
CD2 pP pP 00 53 48.8 -0.1
CD2 sP sP 00 53 52.3 -0.2
CD2 PP PnPn 00 54 09.0 +4.9
CD2 S S 00 57 40.3 -4.7
CD2 sS sS 00 57 51.3 -6.5
CD2 SS SnSn 00 58 20.5 +7.1
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,320nm,6.2s
CD2 LR LR
comp=Z,3µm,14.2s
CD2 LR LR
comp=Z,2µm,12.7s
CD2 LR LR
comp=Z,1µm,14.7s
HABR Khabarovsk 23.00 11 eP P 00 53 55.9 +7.9
HABR e*SP sP 00 54 00.1 +0.6
HABR eS S 00 57 56.2 -0.4
HABR e*SS Sn 00 58 12.3 -1.4
HABR eSS SnSn 00 58 31.4 +1.5
HABR eSSS SSS 00 58 45.3
HABR pmax pmax
comp=Z,82nm,1.7s
HABR MLR MLR
comp=Z,831nm,18.0s
KMI Kunming 23.29 273 P P 00 53 51.8 +0.4
KMI S S 00 57 59.5 -2.8
KMI pmax pmax
comp=Z,20nm,1.0s
KMI LR LR
comp=Z,1µm,12.6s
KMI LR LR
comp=Z,1µm,12.6s
KMI LR LR
comp=Z,1µm,15.5s
KLR Kul'dur 23.32 5 eP P 00 53 46.0 -5.2
LZH Lanzhou 23.37 301 ⇓P P 00 53 51.3 -0.8
LZH pP pP 00 53 59.8 -0.3
LZH sP sP 00 54 02.8 -0.9
LZH PP PnPn 00 54 23.0 +4.4
LZH eS S 00 58 00.0 -3.4
LZH sS sS 00 58 16.5 -0.7
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,170nm,4.3s
LZH LR LR
comp=Z,980nm,12.1s
LZH LR LR
comp=Z,930nm,10.8s
LZH LR LR
comp=Z,1µm,12.0s
YSS Yuzh-Sakhalins 23.75 25⇑eP P 00 53 56.0 +0.6
YSS i 00 54 09.5
YSS pmax pmax
comp=Z,100nm,0.8s
YSS MLR MLR
comp=Z,500nm,17.0s
YSS Yuzh-Sakhalins 23.75 25 eP P 00 53 55.4 -0.1
comp=Z,114nm,0.8s
UBPT Khong Chiam 24.05 248 P P 00 54 00.6 +2.1
comp=Z,41nm,1.2s,comp=Z,1µm
HIA Hailar 24.21 346 eP P 00 53 59.6 -0.1
HIA pmax pmax
comp=Z,10.0nm,1.0s
HIA MLR MLR
comp=Z,1µm,18.0s
HIA Hailar 24.21 346 eP P 00 53 59.6 -0.1
comp=Z,9.6nm,1.0s
HIA LR LR
comp=Z,1µm,18.0s
TNTI Ternate 25.11 183 eP P 00 54 06.5 -1.7
comp=Z,510nm,2.0s
TOLI Toli-Toli 25.84 198 PFAKE 00 54 30.0 +15
TOLI LR LR
comp=Z,500nm,19.0s
CRAI Chiangrai 26.51 263 P P 00 54 22.8 +1.9
comp=Z,19nm,0.8s,comp=Z,11µm
MPSI Mapaga 26.85 199 P P 00 54 30.9 +7.0
comp=Z,9.7nm,1.2s
UTTA Uttaradit 27.20 258 P P 00 54 30.4 +3.3
comp=Z,2.9nm,1.0s
PBKT Sadao Pong 27.31 255 P P 00 54 30.7 +2.7
comp=Z,13nm,0.8s,comp=Z,1µm
GTA Gaotai 27.49 306 ⇑P P 00 54 28.5 -1.2
GTA pP pP 00 54 37.8 -0.3
GTA sP sP 00 54 42.0 +0.4
GTA PcP PcP 00 57 47.5 0.0
GTA S S 00 59 04.8 -4.0
GTA sS sS 00 59 20.0 -2.7
GTA pmax pmax
comp=Z,34nm,0.9s
GTA pmax pmax
comp=Z,110nm,4.4s
GTA LR LR
comp=Z,1µm,13.5s
GTA LR LR
comp=Z,900nm,15.2s
GTA LR LR
comp=Z,1µm,14.5s
ULN Ulaanbaatar 27.60 328ceP P 00 54 32.4 +1.9
ULN pmax pmax
comp=Z,18nm,1.2s
ULN MLR MLR
comp=Z,597nm,16.0s
ULN Ulaanbaatar 27.60 328 eP P 00 54 32.0 +1.5
comp=Z,28nm,1.2s
ULN LR LR
comp=Z,700nm,18.0s
LAMP Lampang 27.73 260 P P 00 54 33.3 +1.4
comp=Z,6.5nm,0.8s
SONM Songino Array 27.89 327 P P 00 54 34.3 +1.1
SONM pmax pmax
comp=Z,4.0nm,0.5s
SONM Songino Array 27.89 327 P P 00 54 34.3 +1.1
comp=Z,4.0nm,0.5s,baz=140,slow=10,SNR=51
SONA1 Songino Array 27.90 327 eP P 00 54 32.7 -0.6
SANI Sanana 28.00 185 P P 00 54 40.0 +5.8
comp=Z,33nm,0.9s
SBUM Sibu 28.19 216 eP P 00 54 36.3 +0.3
comp=Z,34nm,1.5s
SBUM LR LR
comp=Z,500nm,20.0s
CMMT Chiang Mai 28.24 261 P P 00 54 37.4 +1.0
comp=Z,15nm,1.0s
CHTO Chiang Mai 28.24 261 eP P 00 54 36.8 +0.4
CHTO pmax pmax
comp=Z,17nm,1.3s
CHTO MLR MLR
comp=Z,600nm,21.0s
CHTO Chiang Mai 28.24 261 P P 00 54 37.4 +1.0
comp=Z,50nm,1.1s
CHTO Chiang Mai 28.24 261 eP P 00 54 36.8 +0.4
comp=Z,17nm,1.3s
CHTO LR LR
comp=Z,600nm,21.0s
CM01 Chiang Mai Arr 28.37 261 eP P 00 54 37.6 0.0
CMAR Chiang Mai Arr 28.37 261 P P 00 54 38.7 +1.2
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 28.37 261 P P 00 54 38.7 +1.2
comp=Z,2.0nm,0.6s,baz=58,slow=8.4,SNR=12
FAKI Fak Fak 28.98 172 eP P 00 54 43.7 +0.9
comp=Z,37nm,1.0s
KSM Kuching 30.05 219 eP P 00 54 52.9 +0.5
comp=Z,107nm,2.0s
KSM LR LR
comp=Z,200nm,21.0s
JAY Jayapura 30.70 156 P P 00 54 58.5 +0.3
comp=Z,95nm,0.5s,comp=Z,12µm
ZAK Zakamensk 31.13 328 eP P 00 55 08.0 +6.2
ZAK pmax pmax
comp=Z,2.0nm,1.7s
TLY Talaya 31.85 330 eP P 00 55 16.5 +8.5
TLY pmax pmax
comp=Z,3.0nm,1.3s
TLY MLR MLR
comp=Z,838nm,17.0s
TLY Talaya 31.85 330 PFAKE 00 55 20.0 +12
TLY LR LR
comp=Z,300nm,19.0s
SURT Suratani 32.93 244 P P 00 55 30.6 +13
SHL Shillong 32.95 277 ex P 00 55 20.5 +2.4
LSA Lhasa 33.17 285 eP P 00 55 18.8 -1.6
LSA pmax pmax
comp=Z,13nm,1.6s
LSA Lhasa 33.17 285 eP P 00 55 18.8 -1.6
comp=Z,13nm,1.6s
PEA0 Petropavlovsk- 34.74 31 eP P 00 55 33.0 -0.2
PETK Petropavlovsk- 34.74 31 P P 00 55 32.9 -0.3
PETK pmax pmax
comp=Z,5.0nm,0.8s
PETK Petropavlovsk- 34.74 31 P P 00 55 32.9 -0.3
comp=Z,5.4nm,0.8s,baz=205,slow=6.6,SNR=5.4
TPI Tanjungpandan 35.02 218 P P 00 55 40.2 +4.3
comp=Z,12nm,1.7s
YAK Yakutsk 36.02 1 eP P 00 55 43.3 -0.7
YAK pmax pmax
comp=Z,73nm,0.9s
YAK pmax pmax
comp=N,29nm,1.3s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK Yakutsk 36.02 1 eP P 00 55 44.0 -0.1
comp=E,77nm,0.7s
YAK LR LR
comp=Z,500nm,20.0s
TAPN Taplejung 36.40 281 eP P 00 55 48.4 +0.3
comp=Z,29nm,0.8s
HVS Khovu-Aksy 36.49 323 P P 00 55 48.1 -0.2
HVS pmax pmax
comp=Z,32nm,1.4s
PSI Prapat 36.63 236 LR LR 01 10 12.1
comp=Z,388nm,21.2s,baz=27,slow=35
ODAN Odare 36.75 281 eP P 00 55 51.2 +0.2
comp=Z,70nm,0.6s
RAMN Ramite 37.44 281 eP P 00 55 56.9 +0.1
comp=Z,21nm,0.6s
WMQ Urumqi 37.48 309 P P 00 55 56.8 0.0
WMQ pP pP 00 56 04.0 -1.3
WMQ sP sP 00 56 07.5 -1.3
WMQ PP PnPn 00 57 24.8 +1.4
WMQ PcP PcP 00 58 15.8 +1.0
WMQ S S 01 01 43.0 -0.8
WMQ PcS PcS 01 02 03.0 -0.3
WMQ SS SnSn 01 04 18.8 -3.5
WMQ ScS ScS 01 06 06.8 -1.6
WMQ pmax pmax
comp=Z,18nm,1.0s
WMQ pmax pmax
comp=Z,290nm,5.2s
WMQ LR LR
comp=Z,860nm,13.4s
WMQ LR LR
comp=Z,720nm,15.6s
WMQ LR LR
comp=Z,480nm,18.4s
JIRN Jiri 37.70 282 eP P 00 55 59.3 +0.1
comp=Z,18nm,0.6s
GUN Gumba 37.94 283 eP P 00 56 01.4 +0.2
comp=Z,63nm,1.0s
KPJI Karang Pucung 38.23 213 P P 00 56 08.1 +4.9
PKI Pulchoki 38.40 282 eP P 00 56 04.7 -0.4
comp=Z,25nm,0.4s
PKIN Phulchoki 38.41 282 eP P 00 56 05.5 +0.4
comp=Z,12nm,0.4s
KKN Kakani 38.48 283 eP P 00 56 05.6 0.0
DMN Daman 38.66 282 eP P 00 56 07.0 -0.2
GKN Gorkha 39.02 283 eP P 00 56 10.1 0.0
comp=Z,35nm,0.6s
DANN Dangsing 39.74 284 eP P 00 56 16.5 +0.2
comp=Z,44nm,0.5s
KOLN Koldanda 39.96 283 eP P 00 56 18.3 +0.3
comp=Z,42nm,0.9s
SEY Seymchan 40.15 17 P P 00 56 19.3 +0.5
SEY pmax pmax
comp=Z,2.0nm,0.3s
SEY Seymchan 40.15 17 P P 00 56 19.2 +0.5
comp=Z,1.9nm,0.3s,baz=218,slow=7.2,SNR=11
MK01 Makanchi Array 41.88 312 eP P 00 56 33.1 -0.3
MK31 Makanchi Array 41.90 312 eP P 00 56 33.0 -0.5
MK31 pmax pmax
comp=Z,10.0nm,0.9s
MKAR Makanchi Array 41.90 312 P P 00 56 33.1 -0.3
comp=Z,3.1nm,0.5s,baz=97,slow=10,SNR=84
MKAR PcP PcP 00 58 31.4 +2.6
comp=Z,1.2nm,0.8s,baz=97,slow=4.5,SNR=2.7
MKAR ScP ScP 01 02 32.5 +15
comp=Z,0.8nm,0.8s,baz=94,slow=3.6,SNR=4.4
ZAA0 Zalesovo Array 42.60 323 eP P 00 56 37.7 -1.3
ZALV Zalesovo Beam 42.60 323 P P 00 56 38.1 -0.9
comp=Z,3.0nm,0.6s,baz=108,slow=8.6,SNR=21
ZALV ScP ScP 01 02 34.4 +15
comp=Z,1.4nm,0.8s,baz=108,slow=4.8,SNR=4.7
KURK Kurchatov 45.18 317 P P 00 56 59.3 -0.5
comp=Z,32nm,1.1s,SNR=5.3
KURK Kurchatov 45.18 317 eP P 00 56 59.1 -0.7
KURK pmax pmax
comp=Z,11nm,1.3s
KURK Kurchatov 45.18 317 eP P 00 56 59.1 -0.7
comp=Z,11nm,1.3s
KSH Kashi 45.62 301 eP P 00 57 05.8 +2.2
KSH epP pP 00 57 12.8 +0.5
KSH esP sP 00 57 15.0 -0.8
KSH ePP PP 00 58 52.5 +1.9
KSH ePcS PcS 01 02 39.0 +3.1
KSH S S 01 03 45.0 +0.4
KSH pmax pmax
comp=Z,13nm,1.6s
KSH pmax pmax
comp=Z,89nm,3.1s
KSH LR LR
comp=Z,220nm,5.6s
KSH LR LR
comp=Z,300nm,15.1s
TIXI Tiksi 45.68 0deP P 00 57 04.7 +1.3
TIXI pmax pmax
comp=Z,13nm,1.2s
TIXI MLR MLR
comp=Z,434nm,17.0s
TIXI Tiksi 45.68 0 eP P 00 57 04.1 +0.6
comp=Z,11nm,0.8s
TIXI LR LR
comp=Z,500nm,22.0s
WRAB Tennant Creek 46.01 172 eP P 00 57 06.6 0.0
WRAB pmax pmax
comp=Z,78nm,1.4s
WRAB MLR MLR
comp=Z,728nm,22.0s
WRAB Tennant Creek 46.01 172 eP P 00 57 07.5 +0.8
comp=Z,51nm,0.6s
WRA Warramunga Arr 46.02 172 P P 00 57 06.0 -0.7
WRA pmax pmax
comp=Z,13nm,1.0s
WRA Warramunga Arr 46.02 172 P P 00 57 06.0 -0.7
comp=Z,12nm,1.0s,baz=352,slow=8.4,SNR=24

TKM2 Tokmak 2 46.04 305 eP P 00 57 07.6 +0.6
TKM2 pmax pmax
comp=Z,17nm,1.3s
TKM2 Tokmak 2 46.04 305 eP P 00 57 07.6 +0.6
comp=Z,17nm,1.3s
AAK Ala-Archa 46.83 305 eP P 00 57 12.5 -0.7
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK MLR MLR
comp=Z,600nm,20.0s
AAK Ala-Archa 46.83 305 eP P 00 57 12.5 -0.7
comp=Z,5.6nm,1.0s
AAK LR LR
comp=Z,600nm,20.0s
HYB Hyderabad 46.99 270 i P P 00 57 14.0 -0.6
EKS2 Erkin-Say 47.36 305 eP P 00 57 17.2 -0.1
EKS2 pmax pmax
comp=Z,8.0nm,1.3s
EKS2 MLR MLR
comp=Z,400nm,21.0s
EKS2 Erkin-Say 47.36 305 eP P 00 57 17.2 -0.1
comp=Z,8.4nm,1.3s
EKS2 LR LR
comp=Z,400nm,21.0s
BILL Bilibino 47.80 18 eP P 00 57 20.1 0.0
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL Bilibino 47.80 18 eP P 00 57 20.5 +0.5
comp=Z,79nm,1.8s
AS01 Alice Springs 49.65 173 eP P 00 57 34.7 -0.2
VOSK Vostochnaya 50.23 318 eP P 00 57 39.2 +0.2
VOSK pmax pmax
comp=Z,5.0nm,1.0s
VOSK MLR MLR
comp=Z,600nm,18.4s
VOSK Vostochnaya 50.23 318 eP P 00 57 39.2 +0.2
comp=Z,4.6nm,1.0s
VOSK LR LR
comp=Z,600nm,18.4s
BVA0 Borovoye Array 50.63 318 i P P 00 57 41.6 -0.4
BVA0 pmax pmax
comp=Z,9.0nm,1.1s
BRVK Borovoye 50.70 318⇑eP P 00 57 42.8 +0.3
BRVK pmax pmax
comp=Z,7.0nm,1.2s
BRVK MLR MLR
comp=Z,615nm,17.0s
BRVK Borovoye 50.70 318 eP P 00 57 43.1 +0.6
comp=Z,12nm,0.9s
BRVK LR LR
comp=Z,700nm,18.0s
KBL Kabul 51.45 295 eP P 00 57 48.0 -0.8
KBL pmax pmax
comp=Z,69nm,1.8s
KBL Kabul 51.45 295 eP P 00 57 48.0 -0.8
comp=Z,69nm,1.8s
GAMB Gambell 53.70 28 eP P 00 58 05.0 +0.5
comp=Z,61nm,2.2s
TNA Tin City 55.71 27 eP P 00 58 20.2 +1.1
comp=Z,19nm,1.1s
SVE Sverdlovsk 56.61 322 eP P 00 58 26.7 +1.0
SVE pmax pmax
comp=Z,13nm,1.2s
SVE MLR MLR
comp=Z,654nm,13.0s
ABKAR Akbulak array 57.01 313 eP P 00 58 28.4 -0.2
ARU Arti 57.74 322 d iP P 00 58 33.3 -0.4
ARU 01 00 40.2
ARU S S 01 06 34.0 +3.3
ARU SS SS 01 10 24.0 +3.0
ARU pmax pmax
comp=Z,14nm,1.7s
ARU MLR MLR
comp=Z,606nm,18.0s
ARU Arti 57.74 322 eP P 00 58 33.9 +0.2
comp=Z,8.5nm,1.0s
STKA Stephens Creek 58.89 167 P P 00 58 41.8 -0.1
comp=Z,1.6nm,0.5s,baz=338,slow=7.8,SNR=3.0
STKA PP PP 01 01 01.6 +9.0
comp=Z,2.8nm,0.9s,baz=344,slow=9.5,SNR=3.5
STKA LR LR 01 24 03.6
comp=Z,166nm,20.6s,baz=360,slow=36
GEYT Alibeck 59.65 300 P P 00 58 48.4 +1.0
comp=Z,4.7nm,0.6s,baz=29,slow=3.4,SNR=14
GEYT LR LR 01 27 49.9
comp=Z,311nm,19.6s,baz=285,slow=39
SVW2 Sparrevohn 60.80 33 eP P 00 58 54.7 -0.2
comp=Z,151nm,2.8s
RSO Redoubt South 62.22 33 eP P 00 59 05.3 +0.7
PPLA Purkeypile 62.33 31 eP P 00 59 06.4 +1.1
comp=Z,30nm,1.3s
KDAK Kodiak Island 62.53 36 eP P 00 59 05.7 -0.8
KDAK pmax pmax
comp=Z,140nm,1.8s
KDAK Kodiak Island 62.53 36 eP P 00 59 05.7 -0.8
comp=Z,140nm,1.8s
KTH Kantishna Hill 62.86 30 eP P 00 59 10.2 +1.5
comp=Z,24nm,1.4s
COLD Coldfoot 62.94 26 eP P 00 59 08.8 -0.3
comp=Z,97nm,2.8s
TRF Thorofare Moun 63.15 30 eP P 00 59 11.4 +0.7
comp=Z,25nm,1.5s
MCK McKinley 63.73 29 eP P 00 59 13.6 -0.8
MCK pmax pmax
comp=Z,13nm,0.8s
MCK McKinley 63.73 29 eP P 00 59 13.6 -0.8
comp=Z,13nm,0.8s
COLA College 64.08 28 eP P 00 59 17.6 +1.0
COLA pmax pmax
comp=Z,11nm,0.6s
COLA College 64.08 28 eP P 00 59 17.6 +1.0
comp=Z,12nm,0.6s
PRGR Permogore 64.14 328 P P 00 59 18.8 +1.7
PRGR pmax pmax
comp=Z,15nm,1.0s
ILAR Eielson Array 64.50 28 P P 00 59 19.6 +0.2
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 64.50 28 P P 00 59 19.6 +0.2
comp=Z,1.9nm,0.8s,baz=269,slow=6.6,SNR=20
IL1 Eielson Array 64.50 28 eP P 00 59 19.2 -0.2
PAX Paxson 65.37 30 eP P 00 59 25.8 +0.5
PAX pmax pmax
comp=Z,12nm,1.1s
PAX MLR MLR
comp=Z,200nm,18.6s
PAX Paxson 65.37 30 eP P 00 59 25.8 +0.5
comp=Z,12nm,1.1s
PAX LR LR
comp=Z,200nm,18.6s
DOT Dot Lake 65.89 29 eP P 00 59 27.9 -0.5
comp=Z,11nm,0.9s
BMRM Bremner River 66.12 32 eP P 00 59 30.8 +0.7
comp=Z,221nm,2.4s
MENT Mentasta 66.17 30 eP P 00 59 30.9 +0.6
RAGM Ragged Mountai 66.20 33 eP P 00 59 30.4 -0.1
comp=Z,188nm,2.3s
EGAK Eagle 66.92 28 eP P 00 59 36.0 +1.0
comp=Z,54nm,2.2s
TMCR Tamitsa 67.14 332 eP P 00 59 36.2 -0.2
TMCR e 01 00 01.0
TMCR e 01 02 03.9
TMCR pmax pmax
comp=Z,11nm,0.9s
DAWY Dawson 67.83 28 eP P 00 59 41.4 +0.6
APA Apatity 68.18 336⇑iP P 00 59 44.0 +1.1
APA MLR MLR
comp=Z,600nm,12.0s
VRHR Novokhopersk 68.35 317 eP P 00 59 44.5 +0.2
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,9.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
ZEI Tsey 69.08 308 eP P 00 59 49.6 +0.3
ZEI pmax pmax
comp=Z,11nm,0.9s
KBZ Khabaz 69.52 310 P P 00 59 52.6 +0.9
KBZ pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 69.52 310 P P 00 59 52.6 +0.9
comp=Z,8.1nm,1.0s,baz=85,slow=3.1,SNR=14
HYT Haines Junctio 69.53 31 eP P 00 59 52.3 +0.7
KIV Kislovodsk 69.60 310 eP P 00 59 52.4 +0.1
KIV pmax pmax
comp=Z,33nm,1.2s
KIV Kislovodsk 69.60 310 eP P 00 59 52.4 +0.1
comp=Z,33nm,1.2s
VORD Divnogorie 69.80 318 eP P 00 59 52.2 -1.1
VORD pmax pmax
comp=N,5.0nm,0.6s
VORD pmax pmax
comp=E,3.0nm,0.6s
VORD pmax pmax
comp=Z,2.0nm,0.6s
VSR Storozhevoye 69.81 318⇓eP P 00 59 53.1 -0.2
VSR pmax pmax
comp=Z,6.0nm,0.7s
OBN Obninsk 70.18 322 eP P 00 59 56.1 +0.6
OBN i 01 00 04.5
OBN i 01 00 19.9
OBN pmax pmax
comp=Z,8.0nm,1.5s
OBN MLR MLR
comp=Z,278nm,18.0s
ARCES ARCESS Array B 70.32 339 P P 00 59 55.8 -0.3
comp=Z,5.7nm,0.9s,baz=72,slow=8.0,SNR=4.6
ARCES LR LR 01 37 38.9
comp=Z,203nm,18.1s,baz=36,slow=42
JOF Joensuu 70.38 331 eP P 00 59 56.6 0.0
JOF pmax pmax
comp=Z,9.0nm,0.8s
JOF Joensuu 70.38 331 ep P 00 59 56.6 0.0
comp=Z,8.6nm,0.8s
SOC Sochi 71.76 310 eP P 01 00 03.3 -2.1
SOC e*PP pP 01 00 13.1 -1.3
SOC eS S 01 09 22.9 -0.9
SOC e 01 10 05.7
SOC pmax pmax
comp=Z,10.0nm,0.8s
SOC MLR MLR
comp=Z,245nm,19.0s
KAF Kangasniemi 72.83 331 eP P 01 00 11.1 -0.3
KAF pmax pmax
comp=Z,8.0nm,0.7s
KAF Kangasniemi 72.83 331 ep P 01 00 11.1 -0.3
comp=Z,7.8nm,0.7s
FINES FINESS Array B 73.20 331 P P 01 00 13.8 +0.2
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES MLR MLR
comp=Z,410nm,18.1s
FINES FINESS Array B 73.20 331 P P 01 00 13.8 +0.2
comp=Z,3.5nm,0.7s,baz=78,slow=5.0,SNR=32
FINES LR LR 01 35 42.1
comp=Z,410nm,18.1s,baz=90,slow=38
VSU Vasula 74.09 328 P P 01 00 18.9 +0.1
VSU pmax pmax
comp=Z,43nm,1.7s
RAYN Ar Rayn 74.15 289 eP P 01 00 18.1 -1.9
comp=Z,122nm,3.0s
DAG Danmarks Havn 75.51 353 eP P 01 00 26.9 +0.1
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 75.51 353 i P P 01 00 26.9 +0.1
comp=Z,6.5nm,0.8s
NACGM Naroch 75.52 324 e P 01 00 34.0 +6.8
RES Resolute Bay 75.71 11 eP P 01 00 28.9 +1.0
RES pmax pmax
comp=Z,14nm,0.8s
RES Resolute Bay 75.71 11 eP P 01 00 28.9 +1.0
comp=Z,14nm,0.8s
AKASG Malin Array Be 75.89 320 P P 01 00 29.5 +0.1
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 75.89 320 P P 01 00 29.5 +0.1
comp=Z,4.1nm,0.6s,baz=58,slow=6.4,SNR=33
KIEV Kiev 75.90 320⇑eP P 01 00 29.6 +0.2
KIEV Kiev 75.90 320 eP P 01 00 28.1 -1.3
comp=Z,10nm,0.6s
AK11 Malin Array Si 75.93 320 eP P 01 00 29.2 -0.4
BRTR Keskin Array B 77.39 308 P P 01 00 39.2 +0.8
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 77.39 308 P P 01 00 39.1 +0.8
comp=Z,4.5nm,0.9s,baz=93,slow=5.2,SNR=21
SUW Suwalki 77.80 324 eP P 01 00 39.8 -0.3
SUW pmax pmax
comp=Z,45nm,1.2s
SUW Suwalki 77.80 324 eP P 01 00 39.8 -0.3
comp=Z,45nm,1.2s
BR231 Keskin MP Arra 77.96 308 eP P 01 00 40.0 -1.4
YKA Yellowknife Ar 78.61 25 P P 01 00 44.9 +0.5
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 78.61 25 P P 01 00 44.9 +0.5
comp=Z,1.5nm,0.8s,baz=297,slow=5.2,SNR=28
MMAI Mount Meron Ar 78.75 301 LR LR 01 41 21.0
comp=Z,90nm,19.2s,baz=145,slow=40
BKZ Black Stump Fm 78.80 144 PFAKE 01 01 00.0 +14
BKZ LR LR
comp=Z,400nm,18.0s
BUR04 Bucovina Ar. S 79.59 318 eP P 01 00 49.5 -0.8
NB201 NORSAR Array S 79.60 334 eP P 01 00 50.3 +0.3
NB2 NORSAR Subarra 79.64 334 P P 01 00 50.2 0.0
comp=Z,6.0nm,0.7s,baz=53,slow=5.6
NOA NORSAR Array B 79.64 334 P P 01 00 50.2 0.0
NOA 01 11 11.9
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,185nm,19.0s
NOA NORSAR Array B 79.64 334 P P 01 00 50.2 0.0
comp=Z,2.0nm,0.7s,baz=52,slow=5.6,SNR=12
NOA ScS ScS 01 11 11.9 0.0
comp=Z,1.0nm,0.9s,baz=62,slow=8.2,SNR=3.3
NOA LR LR 01 39 38.6
comp=Z,185nm,19.0s,baz=10.0,slow=38
KWP Kalwaria Pacla 80.12 321 eP P 01 00 53.7 +0.8
KWP pmax pmax
comp=Z,24nm,1.2s
KWP Kalwaria Pacla 80.12 321 eP P 01 00 53.7 +0.8
comp=Z,24nm,1.2s
KOLS Kolonicke sedl 80.70 320 eP pP 01 01 05.1 -0.2
KOLS Kolonicke sedl 80.70 320 esP pP 01 01 05.1 -0.2
UZH Uzhgorod 80.84 320 eP P 01 01 01.3 +4.5
UZH i 01 01 08.7
STHS Stebnicka Huta 81.06 321 eP pP 01 01 07.9 +0.7
STHS Stebnicka Huta 81.06 321 esP pP 01 01 07.9 +0.7
CRVS Cervenica-Dubn 81.19 320 eP P 01 01 00.5 +1.8
CRVS e 01 01 14.0
CRVS Cervenica-Dubn 81.19 320 eP P 01 01 00.5 +1.8
CRVS e 01 01 14.0
SUMG Summit 81.28 356 eP P 01 00 59.4 +0.2
SUMG pmax pmax
comp=Z,15nm,0.8s
SUMG Summit 81.28 356 i P P 01 01 00.9 +1.7
comp=Z,13nm,0.9s
SUMG Summit 81.28 356 eP P 01 00 59.4 +0.2
comp=Z,15nm,0.8s
OJC Ojcow 81.47 322 eP P 01 00 58.4 -1.7
OJC pmax pmax
comp=Z,90nm,2.3s
OJC Ojcow 81.47 322 eP P 01 00 58.4 -1.7
comp=Z,90nm,2.3s
VYHS Vyhne 82.89 321 eP P 01 01 11.5 +3.8
VYHS Vyhne 82.89 321 e P 01 01 11.5 +3.8
BRG Berggiesshubel 84.26 325 eP sP 01 01 30.1 +2.9
comp=Z,19nm,1.6s
comp=N,1µm,22.5s
comp=E,885nm,21.8s
comp=Z,378nm,20.9s
CLL Collm 84.50 325⇓eP P 01 01 17.0 +1.2
CLL i 01 01 25.4
CLL Collm 84.50 325 eP P 01 01 17.0 +1.2
CLL ⇓i(sP) sP 01 01 25.4 -2.9
comp=Z,7.0nm,0.6s
CLL i 01 01 36.9
G06A Carlson Farm, 85.26 42 PFAKE 01 01 30.0 +10
G06A LR LR
comp=Z,1µm,20.5s
GERES GERESS Array B 85.55 323 P P 01 01 22.6 +1.3
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 85.55 323 P P 01 01 22.6 +1.3
comp=Z,1.0nm,0.6s,baz=16,slow=7.5,SNR=3.2
DAVOX Davos/Dischmat 88.85 323 LR LR 01 45 52.0
comp=Z,235nm,19.1s,baz=74,slow=39
TIP Timpagrande 89.16 314 PFAKE 01 01 50.0 +11
TIP LR LR
comp=Z,200nm,22.0s
PPT Papeete 90.55 109 LR LR 01 34 50.8
comp=Z,123nm,20.9s,baz=297,slow=31
YMR Madison River 91.16 38 PFAKE 01 02 00.0 +12
YMR LR LR
comp=Z,996nm,19.1s
TCUT Toone Canyon 93.14 41 PFAKE 01 02 10.0 +12
TCUT LR LR
comp=Z,1µm,18.3s
PDAR Pinedale Array 93.16 39 P P 01 01 57.6 +0.1
comp=Z,0.7nm,1.0s,baz=306,slow=2.1,SNR=2.8
CTU Camp Tracy 93.20 41 PFAKE 01 02 10.0 +12
CTU LR LR
comp=Z,900nm,18.1s
SHPR Sheep Range 93.61 46 eP P 01 01 57.5 -2.2
MPU Maple Canyon 93.69 42 PFAKE 01 02 10.0 +10
MPU LR LR
comp=Z,1µm,21.6s
SCHQ Schefferville 98.41 9 LR LR 01 49 49.1
comp=Z,131nm,20.3s,baz=5.5,slow=37
FRNY Flat Rock 106.66 16 PFAKE 01 07 20.0
FRNY LR LR
comp=Z,1µm,21.4s
HNH Hanover 108.04 16 PFAKE 01 07 20.0
HNH LR LR
comp=Z,3µm,21.1s
TRY Troy 108.60 17 PFAKE 01 07 20.0
TRY LR LR
comp=Z,3µm,20.0s
MSKU Masuku 113.06 280 PFAKE 01 07 30.0
MSKU LR LR
comp=Z,400nm,19.4s
TORD Torodi Ar. Bea 115.29 300 PKP PKPdf 01 07 24.6 -0.7
comp=Z,0.4nm,0.9s,baz=10,slow=1.6,SNR=2.6
CRPR Cabo Rojo, PR 133.68 21 PFAKE 01 08 10.0 +10
CRPR LR LR
comp=Z,500nm,19.9s
STVI Saint Thomas 134.00 18 PFAKE 01 08 10.0 +9.1
STVI LR LR
comp=Z,500nm,20.7s
SMRT St. Maarten 134.77 16 PFAKE 01 08 10.0 +7.6
SMRT LR LR
comp=Z,300nm,19.9s

SJA 27 01:06:17.3±0.6, 25.54S×70.38W, h232km±136km, MD3.9, ML2.9
ISCJB 27 01:06:25.2±0.6, 26.13S±0.03×70.38W±0.07, h42km, Error ellipse: s-maj=9.6km s-min=4.9km az=179.7
GUC 27 01:06:26.6±0.7, 26.36S×70.14W, h61km±10km, ML4.1
ISC 27 01:06:26.5±1.3, 26.11S±0.04×70.47W±0.08, h42km, n10, σ2.06/19, Near coast of northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CDCH Caldera 1.01 198 eP Pn 01 06 45.1 +0.9
CDCH eS Sn 01 06 58.4 +1.2
CPCH Copiapo 1.25 175 eP Pn 01 06 45.9 -1.7
CPCH eS Sn 01 07 00.0 -3.2
ANCH Antofagasta 2.41 1 eP Pn 01 07 02.5 -1.0
ANCH eS Sn 01 07 40.6 +8.8
VACH Vallenar 2.47 186 eP Pn 01 07 03.6 -0.7
VACH eS Sn 01 07 30.9 -2.4
VACH AML AML 01 07 37.4
comp=E,1µm,0.1s
CEN1 Los Morros 2.71 5 eP Pn 01 07 07.4 -0.4
CEN1 eS Sn 01 07 40.8 +1.4
ACLC CERRO LA CRUZ 4.54 138 i P Pn 01 07 32.9 0.0
ACLC i S Sn 01 08 27.6 +3.0
CYA Choya 4.76 120 i P Pn 01 07 33.4 -2.4
CYA i S Sn 01 08 29.2 -0.5
CYA AML AML 01 08 31.6
comp=Z,6.3nm,0.5s
AVFE Valle Fertil 5.26 150 i P Pn 01 07 41.9 -0.7
AVFE i P Pn 01 07 41.9 -0.7
AVFE i S Sn 01 08 45.0 +3.0
RTLL Cerro Villicun 5.49 162 i P Pn 01 07 45.7 -0.1
RTLL i S Sn 01 08 51.9 +4.2
RTLS Leoncito 5.76 170 i P Pn 01 07 49.3 -0.5

IDC 27 01:11:08.2±1.2, 25.87N×128.37E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/24, mbtmp3.6/8, Error ellipse: s-maj=46.9km s-min=21.1km az=77.0
ISCJB 27 01:11:10.0±2.0, 25.94N±0.05×128.71E±0.05, h31km±16km, mb3.5/8, Error ellipse: s-maj=8.1km s-min=7.7km az=24.4
JMA 27 01:11:09.8±0.4, 25.92N×128.69E, h32km, M3.3
ISC 27 01:11:09.2±2.0, 25.90N±0.05×128.63E±0.04, h16km±12km, n23, σ1.75/28, mb3.7/8, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.83 319 P Pg 01 11 25.0 -0.3
JJT2 Tamagusuku 2 0.83 287 P Pn 01 11 26.1 -0.1
JOW Kunigami 0.99 341 P Pb 01 11 27.7 -0.3
JOW eS Sb 01 11 40.6 -0.1
JOW Kunigami 0.99 341 Pn Pb 01 11 27.7 -0.3
6.9nm,0.3s,baz=134,slow=18,SNR=19
JOW Sn Sb 01 11 40.3 -0.5
12nm,0.3s,baz=133,slow=19,SNR=15
JIH Iheya 1.28 333 P Pn 01 11 32.4 -0.1
JAGN Aguni-jima 1.43 299 P Pn 01 11 34.4 0.0
JOKE Okinoerabujima 1.46 358 P Pn 01 11 34.8 -0.2
JOKE S Sn 01 11 51.5 -2.3
JKE Kume jima 2 1.71 285 P Pn 01 11 37.9 -0.5
JTK Tokunoshima 1.90 9 P Pn 01 11 40.7 -0.4
JTK eS Sn 01 12 01.5 -3.2
JMZ Minamidaito 2 2.33 91 P Pn 01 11 46.2 -0.8
JMZ eS Sn 01 12 12.3 -3.0
JAMN Amaminishikomi 2.39 12 P Pn 01 11 47.6 -0.1
JAM Amami Oshima 2.65 19 P Pn 01 11 51.3 0.0
JAM eS Sn 01 12 20.6 -2.6
JIKM Ikemajima 3.21 253 eS Sn 01 12 35.3 -1.6
JTJ Tarama 3.77 251 eS Sn 01 12 47.3 -3.4
JIJ Ishigaki jima 4.34 250 eS Sn 01 13 00.7 -4.2
SONM Songino Array 28.03 327 P P 01 17 02.1 +2.4
0.7nm,0.5s,baz=142,slow=11,SNR=13
MKAR Makanchi Array 42.02 312 P P 01 18 60.0 +0.1
0.4nm,0.6s,baz=96,slow=11,SNR=11
ZALV Zalesovo Beam 42.73 323 P P 01 19 04.9 -0.5
0.5nm,0.6s,baz=118,slow=8.3,SNR=2.8
WRA Warramunga Arr 45.90 173 P P 01 19 32.0 +0.9
0.8nm,0.9s,baz=357,slow=8.3,SNR=2.7
FINES FINESS Array B 73.33 331 P P 01 22 40.8 +0.9
1.0nm,0.9s,baz=54,slow=3.3,SNR=4.6
AKASG Malin Array Be 76.02 320 P P 01 22 56.5 +0.8
0.3nm,0.4s,baz=58,slow=5.7,SNR=3.8
BRTR Keskin Array B 77.52 308 P P 01 23 05.3 +0.8
0.6nm,0.8s,baz=86,slow=3.9,SNR=4.0
YKA Yellowknife Ar 78.67 25 P P 01 23 14.0 +3.8
0.1nm,0.5s,baz=297,slow=6.2,SNR=2.8

BJI 27 01:17:34.2, 52.40N×158.70E, h52km, mB5.0/15, mb4.4/23, Ms4.7/11, Ms7 4.5/11
MOS 27 01:17:35.6±1.2, 52.38N×158.90E, h63km, mb4.9/47, Error ellipse: s-maj=9.3km s-min=4.5km az=88.7
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
KRSC 27 01:17:35.2±1.6, 52.42N×159.19E, h61km±16km, ML4.7, FELT [II-III] at Petropavlovsk; [II] Institute.
ISCJB 27 01:17:37.3±0.3, 52.46N±0.03×158.92E±0.05, h75km±2km, mb4.5/115, Error ellipse: s-maj=5.7km s-min=3.0km az=42.2
NEIC 27 01:17:38.4±0.6, 52.52N×158.84E, h69km±4km, mb4.9/74, Error ellipse: s-maj=7.3km s-min=4.5km az=166.0
NEIC Felt [III] at Petropavlovsk-Kamchatskiy.
IDC 27 01:17:40.2±1.1, 52.62N×158.80E, h87km±7km, mb3.9/21, mb1 4.1/23, mb1mx4.0/35, mbtmp4.2/23, MS4.1/2, Ms1 4.2/2, ms1mx3.1/50, Error ellipse: s-maj=17.6km s-min=12.1km az=152.0
ISC 27 01:17:36.4±0.4, 52.40N±0.03×158.97E±0.04, h62km±3km, n353, σ1.44/395, mb4.8/116, 54C-5D, Near east coast of Kamchatka Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RUS Russkaya 0.28 276 PN Pn 01 17 47.7 +1.1
RUS Russkaya 0.28 276 i P Pn 01 17 47.7 +1.1
MTVR Mutnovka 0.49 280 i P Pn 01 17 50.2 +1.6
PET Petropavlovsk 0.65 343⇓iPN Pn 01 17 50.3 +0.1

PET				iS	Sn	01 18 00.1	-0.1
PET				pmax	pmax		
	comp=Z,2µm,0.4s						
PET				smax	smax		
	comp=E,17µm,0.7s						
PET				smax	smax		
	comp=N,22µm,0.5s						
PET				smax	smax		
	comp=N,28µm,0.6s						
PET	Petropavlovsk	0.65	343	ePn	Pn	01 17 50.4	+0.2
PET				eSn	Sn	01 18 00.4	+0.2
ASAK	Asacha	0.66	269	iP	Pn	01 17 52.6	+2.3
ASAK				S	Sn	01 18 02.9	+2.4
INSR	Institute	0.70	342	iP	Pn	01 17 51.5	+0.7
INSR				iS	Sn	01 18 01.0	-0.3
UGLR	Uglovaya	0.81	354	iP	Pn	01 17 52.9	+0.6
UGLR				S	Sn	01 18 03.4	-0.5
SMAR	Somma	0.87	353	iP	Pn	01 17 53.6	+0.5
SMAR				eS	Sn	01 18 04.3	-1.0
AVH	Avacha	0.87	351	iP	Pn	01 17 54.2	+1.2
AVH				eS	Sn	01 18 05.3	+0.1
SDLR	Sedlovina	0.88	357	iP	Pn	01 17 53.5	+0.4
KRER	Koryakskii	0.91	352	iP	Pn	01 17 54.6	+1.0
KRER				eS	Sn	01 18 06.1	-0.2
KOK	Koryaka	0.91	347	iP	Pn	01 17 54.8	+1.3
KOK				eS	Sn	01 18 06.8	+0.7
KRX	Arik	0.98	349	iP	Pn	01 17 55.4	+1.0
KRX				eS	Sn	01 18 07.9	+0.3
PEA0B	Petropavlovsk-	1.04	313	ePn	Pn	01 17 56.7	+1.6
PEA0B				eSn	Sn	01 18 12.2	+3.2
PETK	Petropavlovsk-	1.04	313	PN	Pn	01 17 56.9	+1.7
PETK				S	Sn	01 18 12.2	+3.2
PETK				pmax	pmax		
	comp=Z,340nm,0.3s						
PETK				smax	smax		
	comp=N,538nm,0.3s						
PETK	Petropavlovsk-	1.04	313	P	Pn	01 17 56.9	+1.7
	comp=N,340nm,0.3s,baz=110,slow=18,SNR=3299						
PETK				LR	LR	01 17 58.9	
	comp=N,108nm,21.9s,baz=94,slow=22						
PETK				S	Sn	01 18 12.2	+3.2
	comp=N,538nm,0.3s,baz=85,slow=36,SNR=43						
APC	Apacha	1.22	296	iP	Pn	01 17 59.7	+2.3
APC				iS	Sn	01 18 15.7	+2.7
MIPR	Malaya Ipel'ka	1.36	265	iP	Pn	01 18 02.1	+2.8
MIPR				eS	Sn	01 18 19.6	+3.1
GNL	Ganaly	1.43	335	iP	Pn	01 18 02.0	+1.6
GNL				eS	Sn	01 18 19.1	+0.8
PAU	Pauzhetka	1.63	236	PN	Pn	01 18 05.6	+2.7
PAU				S	Sn	01 18 25.5	+2.6
PAU	Pauzhetka	1.63	236	eP	Pn	01 18 05.6	+2.7
PAU				eS	Sn	01 18 25.5	+2.6
KII	Karymskiy	1.66	10	eP	Pn	01 18 05.6	+2.2
KII				eS	Sn	01 18 25.8	+2.1
SKR	Severo-Kuril's	2.48	227	ePN	Pn	01 18 13.0	-1.4
SKR				iS	Sn	01 18 42.0	-1.4
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax	smax		
	comp=N,1µm,0.4s						
SKR				smax	smax		
	comp=E,900nm,0.4s						
SKR	Severo-Kuril's	2.48	227	eP	Pn	01 18 17.1	+2.7
SKR				eS	Sn	01 18 45.2	+1.8
TUMR	Tumrok	2.97	13	eP	Pn	01 18 24.0	+2.8
TUMR				eS	Sn	01 18 56.6	+1.0
KMNR	Kamenistaya	3.44	12	P	Pn	01 18 29.6	+2.0
KMNR				S	Sn	01 19 06.4	-0.7
ESO	Esso	3.53	358	PN	Pn	01 18 31.7	+2.9
ESO				S	Sn	01 19 10.6	+1.3
ESO	Esso	3.53	358	iP	Pn	01 18 31.7	+2.9
ESO				eS	Sn	01 19 10.6	+1.3
KOZ	Kozyrevsk	3.70	8	P	Pn	01 18 34.2	+3.1
KOZ				S	Sn	01 19 14.9	+1.5
KOZR	Kozyr	3.71	8	PN	Pn	01 18 34.2	+3.0
KOZR				S	Sn	01 19 14.9	+1.3
SRDR	Sredinnyy	3.94	6	eP	Pn	01 18 37.3	+2.8
SRDR				eS	Sn	01 19 19.9	+0.4
KLY	Klyuchi	4.04	13	PN	Pn	01 18 39.5	+3.9
KLY				S	Sn	01 19 23.7	+2.1
KLY	Klyuchi	4.04	13	eP	Pn	01 18 39.5	+3.9
KLY				eS	Sn	01 19 23.7	+2.1
BDR	Baidarnaya	4.37	16	eP	Pn	01 18 42.4	+2.1
BDR				eS	Sn	01 19 29.3	-0.6
KBTR	Krutoberegovo	4.43	29	PN	Pn	01 18 42.5	+1.5
KBTR				S	Sn	01 19 29.2	-2.0
KBTR	Krutoberegovo	4.43	29	eP	Pn	01 18 42.5	+1.5
KBTR				S	Sn	01 19 29.2	-2.0
SRKR	Sorokina	4.45	16	eP	Pn	01 18 44.7	+3.4
SRKR				eS	Sn	01 19 32.9	+1.1
BKI	Bering	5.01	53	PN	Pn	01 18 48.3	-0.6
BKI	Bering	5.01	53	eP	Pn	01 18 48.3	-0.6
BKI				eS	Sn	01 19 38.5	-6.9
PALN	Palana	6.72	4	P	Pn	01 19 17.5	+5.1
FX1	Attu Island--F	8.65	81	PN	Pn	01 19 38.7	0.0
FX1				pmax	pmax		
	comp=Z,12nm,0.3s						
FX1	Attu Island--F	8.65	81	P	Pn	01 19 38.7	0.0
	comp=Z,12nm,0.3s,baz=320,slow=5.0,SNR=67						
SEY	Seymchan	11.12	344	P	Pn	01 20 16.1	+3.7
	comp=Z,0.2nm,0.3s,baz=145,slow=14,SNR=6.9						
ASAJ	Asahikawa	13.68	239	P	Pn	01 20 50.4	+3.1
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	Asahikawa	13.68	239	P	Pn	01 20 50.4	+3.1
	comp=Z,1.7nm,0.3s,baz=104,slow=11,SNR=6.3						
ERM	Erimo	14.91	232	P	Pn	01 21 02.9	-0.6
BILL	Bilibino	16.08	10	eP	P	01 21 21.6	+1.1
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BILL	Bilibino	16.08	10	ePn	P	01 21 19.9	-0.6
	comp=Z,4.1nm,0.8s						
YAK	Yakutsk	18.39	313	eP	P	01 21 46.3	+0.3
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
GAMB	Gambell	19.03	42	ePn	Pn	01 21 55.3	+1.1
	comp=Z,47nm,2.4s						
USRK	Ussuriysk Arra	19.64	256	P	Pn	01 22 01.0	-0.8
	comp=Z,0.1nm,0.3s,baz=54,slow=13,SNR=4.1						
VLA	Vladivostok	20.33	254⇑	iP	P	01 22 07.2	-0.1
VLA				i		01 22 27.3	
VLA				eS	S	01 25 50.1	-1.5
VLA				pmax	pmax		
	comp=Z,36nm,1.8s						
TNA	Tin City	21.22	39	eP	P	01 22 17.3	+0.7
	comp=Z,21nm,1.4s						
MAJO	Matsushiro	21.58	231	eP	P	01 22 22.4	+1.6
MAJO				pmax	pmax		
	comp=Z,18nm,0.8s						
MAJO	Matsushiro	21.58	231	eP	P	01 22 22.4	+1.6
	comp=Z,18nm,0.8s						
MAT	Matsushiro	21.58	231	P	P	01 22 22.3	+1.5
MAT				S	S	01 26 11.6	-4.8
MJAR	Matsushiro Arr	21.58	231	P	P	01 22 22.8	+2.0
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MJAR	Matsushiro Arr	21.58	231	P	P	01 22 22.8	+2.0
	comp=Z,8.4nm,0.9s,baz=20,slow=11,SNR=17						
TIXI	Tiksi	23.43	336⇓	eP	P	01 22 39.4	-0.2
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TIXI	Tiksi	23.43	336	eP	P	01 22 38.3	-1.4
	comp=Z,9.0nm,0.8s						
HIA	Hailar	24.76	278⇓	eP	P	01 22 53.1	+1.1
HIA				pmax	pmax		
	comp=Z,14nm,1.0s						
HIA	Hailar	24.76	278	eP	P	01 22 52.8	+0.8
	comp=Z,20nm,1.0s						
MCK	McKinley	28.92	47	eP	P	01 23 29.5	+0.3
MCK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MCK	McKinley	28.92	47	eP	P	01 23 29.5	+0.3
	comp=Z,5.3nm,1.0s						
COLA	College	29.37	44	eP	P	01 23 34.3	+1.2
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
COLA	College	29.37	44	eP	P	01 23 34.3	+1.2
	comp=Z,5.0nm,0.8s						
ILAR	Eielson Array	29.79	44	P	P	01 23 36.9	+0.1
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ILAR	Eielson Array	29.79	44	P	P	01 23 36.9	+0.1
	comp=Z,2.9nm,0.8s,baz=266,slow=8.1,SNR=32						
BMRM	Bremner River	31.22	52	eP	P	01 23 51.7	+2.1
	comp=Z,10nm,1.0s						
EGAK	Eagle	32.23	44	eP	P	01 23 57.7	-0.7
	comp=Z,4.8nm,0.8s						
H11N2	WAKE ISLAND Hy	33.19	166	T	T	02 00 04.1	
	baz=352,slow=76,SNR=628						
H11N3	WAKE ISLAND Hy	33.21	166	T	T	02 00 07.3	
	baz=352,slow=76,SNR=346						
H11N1	WAKE ISLAND Hy	33.21	166	T	T	02 00 05.5	
	baz=352,slow=76,SNR=517						
TLY	Talaya	33.33	291	eP	P	01 24 09.3	+1.2
TLY				pmax	pmax		
	comp=Z,4.0nm,1.4s						
TLY	Talaya	33.33	291	PcP	PcP	01 26 49.5	+1.0
	comp=Z,1.4nm,0.7s,baz=265,slow=4.7,SNR=3.8						
SONM	Songino Array	33.39	284	P	P	01 24 09.1	+0.3
	comp=Z,0.6nm,0.8s,baz=86,slow=6.4,SNR=4.5						
SONM				PcP	PcP	01 26 50.0	+1.1
	comp=Z,0.9nm,0.7s,baz=97,slow=1.8,SNR=8.2						
SONM				LR	LR	01 39 09.0	
	comp=Z,161nm,18.3s,baz=58,slow=39						
HHC	Hu-ho-hao-te	33.95	269	eP	P	01 24 13.3	-0.4
HHC				pP	pP	01 24 28.0	-1.0
HHC				S	S	01 29 32.0	-2.1
HHC				sS	sS	01 29 57.3	-2.8
HHC				SS	SnSn	01 31 42.0	-3.3
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,180nm,6.0s						
HHC				LR	LR		
	comp=Z,680nm,13.9s						
HHC				LR	LR		
	comp=Z,690nm,13.9s						
HHC				LR	LR		
	comp=Z,690nm,11.8s						
JOW	Kunigami	34.35	234	eP	P	01 24 20.1	+2.9
	comp=Z,25nm,0.6s						
H11S1	WAKE ISLAND Hy	34.37	167	T	T	02 01 36.4	
	baz=352,slow=76,SNR=101						
H11S3	WAKE ISLAND Hy	34.38	167	T	T	02 01 37.4	
	baz=352,slow=76,SNR=218						
H11S2	WAKE ISLAND Hy	34.38	167	T	T	02 01 34.5	
	baz=352,slow=76,SNR=62						
NJ2	Nanjing	35.39	251	eP	P	01 24 24.8	-1.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GTA	Gaotai	42.00	276	eP	P	01 25 22.0	+0.5
GTA				pP	pP	01 25 36.8	-0.4
GTA				sP	sP	01 25 43.8	-0.5
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZALV	Zalesovo Beam	42.57	303	PcP	PcP	01 27 17.1	+0.1
	comp=Z,1.1nm,0.6s,baz=60,slow=3.6,SNR=4.5						
YKA	Yellowknife Ar	44.13	42	P	P	01 25 38.6	+0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	Yellowknife Ar	44.13	42	P	P	01 25 38.6	+0.4
	comp=Z,1.4nm,0.8s,baz=298,slow=8.0,SNR=16						
RES	Resolute Bay	44.22	21	eP	P	01 25 39.0	+0.3
RES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
RES	Resolute Bay	44.22	21	eP	P	01 25 39.0	+0.3
	comp=Z,6.3nm,0.8s						
CD2	Chengdu	45.22	264	P	P	01 25 46.3	-1.0
CD2				pP	pP	01 26 00.3	-2.8
CD2				sP	sP	01 26 06.8	-3.5
CD2				PcP	PcP	01 27 27.5	+1.1
CD2				PcS	PcS	01 31 19.8	-0.7
CD2				S	S	01 32 19.8	-2.9
CD2				sS	sS	01 32 43.8	-5.7
CD2				SS	ScS	01 35 33.3	-4.8
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.4s						
WMQ	Urumqi	46.55	289	eP	P	01 25 58.0	+0.3
WMQ				pP	pP	01 26 13.5	-0.1
WMQ				sP	sP	01 26 21.0	+0.3
WMQ				PcP	PcP	01 27 32.5	+1.6
WMQ				ScP	ScP	01 31 19.3	+0.6
WMQ				S	S	01 32 40.5	-1.1
WMQ				sS	sS	01 33 06.0	-2.5
WMQ				pmax	pmax		
	comp=Z,15nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,140nm,5.6s						
WMQ				LR	LR		
	comp=Z,930nm,22.2s						
WMQ				LR	LR		
	comp=Z,110nm,21.2s						
GYA	Guiyang	46.68	257	eP	P	01 25 56.8	-2.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KURK	Kurchatov	47.52	302	eP	P	01 26 03.9	-1.1
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	Kurchatov	47.52	302	eP	P	01 26 03.9	-1.1
	comp=Z,1.7nm,0.6s						
SPITS	Spitsbergen Ar	47.70	350	P	P	01 26 05.5	-0.6
SPITS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SPITS	Spitsbergen Ar	47.70	350	P	P	01 26 05.5	-0.6
	comp=Z,4.1nm,0.6s,baz=60,slow=8.5,SNR=4.9						
MK31	Makanchi Array	47.84	296	eP	P	01 26 06.0	-1.6
MK31	Makanchi Array	47.84	296	eP	P	01 26 06.0	-1.6
MKAR	Makanchi Array	47.84	296	P	P	01 26 06.2	-1.4
	comp=Z,0.8nm,0.6s,baz=57,slow=6.7,SNR=15						
EDM	Edmonton	49.73	52	eP	P	01 26 23.4	+1.4
EDM	Edmonton	49.73	52	eP	P	01 26 23.4	+1.4
BRVK	Borovoye	50.31	308	eP	P	01 26 24.9	-1.4
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	Borovoye	50.31	308	eP	P	01 26 24.9	-1.4
	comp=Z,2.7nm,0.8s						
QIZ	Qiongzhong	50.55	248	P	P	01 26 27.5	-1.0
QIZ				S	S	01 33 36.0	-2.2
QIZ				pmax	pmax		
	comp=Z,22nm,1.8s						
QIZ				LR	LR		
	comp=Z,440nm,21.8s						
QIZ				LR	LR		
	comp=Z,430nm,20.0s						
KULLO	Kullorsuaq	51.01	12	iP	P	01 26 31.2	-0.1
KULLO				pmax	pmax		
	comp=Z,15nm,0.8s						
KULLO	Kullorsuaq	51.01	12	iP	P	01 26 31.2	-0.1
	comp=Z,15nm,0.8s						
DAG	Danmarks Havn	51.09	359	iP	P	01 26 31.1	-0.8
DAG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DAG	Danmarks Havn	51.09	359	iP	P	01 26 31.1	-0.8
	comp=Z,3.6nm,0.9s						
E09A	Wood Farm, Sta	51.39	61	eP	P	01 26 36.4	+1.9
	comp=Z,5.8nm,1.0s						
G08A	Pilot Rock	51.72	63	eP	P	01 26 32.2	-5.0
	comp=Z,118nm,2.8s						
BSMT	Bassoo Peak	52.32	58	eP	P	01 26 42.8	+1.1
JTMT	Jette	52.65	58	eP	P	01 26 46.4	+2.3
SLMT	Seeley Lake	53.39	58	eP	P	01 26 50.8	+1.3
	comp=Z,5.9nm,1.0s						
ARU	Arti	53.44	317d	iP	P	01 26 46.8	-2.7
ARU				S	S	01 34 12.7	-4.2
ARU				pmax	pmax		
	comp=Z,14nm,2.5s						
APA	Apatity	53.62	337	eP	P	01 26 53.6	+2.9
APA				MLR	MLR		
	comp=Z,500nm,16.0s						
ARCES	ARCESS Array B	53.73	342	P	P	01 26 49.5	-2.0
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES	ARCESS Array B	53.73	342	P	P	01 26 49.5	-2.0
	comp=Z,4.7nm,0.9s,baz=33,slow=7.9,SNR=5.8						
WVOR	Wild Horse Val	53.75	65	eP	P	01 26 54.5	+2.3
WVOR	Wild Horse Val	53.75	65	eP	P	01 26 54.5	+2.3
FFC	Flin Flon	53.99	45	eP	P	01 26 54.6	+0.9
FFC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FFC	Flin Flon	53.99	45	eP	P	01 26 54.6	+0.9
	comp=Z,4.8nm,1.0s						
FCC	Fort Churchill	54.45	38	eP	P	01 26 57.3	+0.5
FCC	Fort Churchill	54.45	38	eP	P	01 26 57.3	+0.5
	comp=Z,0.1nm,0.8s						
MFID	Camas Ranch	54.65	63	eP	P	01 26 58.9	+0.1
	comp=Z,8.1nm,0.8s						
SUMG	Summit	54.72	6	eP	P	01 26 59.6	+0.4
SUMG				pmax	pmax		
	comp=Z,16nm,1.0s						
SUMG	Summit	54.72	6	iP	P	01 26 59.5	+0.4
	comp=Z,9.6nm,1.0s						
SUMG	Summit	54.72	6	eP	P	01 26 59.6	+0.4
	comp=Z,16nm,1.0s						
AAK	Ala-Archa	54.77	296⇑	eP	P	01 26 58.8	-0.9
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	Ala-Archa	54.77	296	eP	P	01 26 58.4	-1.2
	comp=Z,1.3nm,0.7s						
EKS2	Erkin-Say	55.14	296	eP	P	01 27 01.5	-0.8
EKS2				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EKS2	Erkin-Say	55.14	296	eP	P	01 27 01.5	-0.8
	comp=Z,1.8nm,0.8s						
KSH	Kashi	56.03	292	eP	P	01 27 11.5	+2.8
KSH				epP	pP	01 27 27.5	+2.4
KSH				esP	sP	01 27 35.0	+2.9
KSH				pmax	pmax		
	comp=Z,11nm,1.9s						
H17A	Grant Village	56.80	59	eP	P	01 27 17.9	+3.6
	comp=Z,6.2nm,1.0s						
FXWY	Fox Creek	57.08	60	eP	P	01 27 18.7	+2.4
	comp=Z,2.5nm,1.0s						
LOHW	Long Hollow	57.32	60	eP	P	01 27 20.5	+2.6
	comp=Z,57nm,2.8s						
CMAR	Chiang Mai Arr	57.37	258	P	P	01 27 20.0	+1.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR				MLR	MLR		
	comp=Z,234nm,18.7s						
CMAR	Chiang Mai Arr	57.37	258	P	P	01 27 20.0	+1.7
	comp=Z,0.7nm,0.4s,baz=30,slow=6.7,SNR=4.5						
CMAR				LR	LR	01 53 16.3	
	comp=Z,234nm,18.7s,baz=71,slow=37						
LAO	LASA Array	57.46	54	eP	P	01 27 20.7	+2.0
	comp=Z,83nm,2.3s						
ABKAR	Akbulak array	57.72	310	eP	P	01 27 18.7	-1.6
KKM	Kota Kinabalu	57.99	233	eP	P	01 27 19.9	-2.9
	comp=Z,7.1nm,0.7s						
HWUT	Hardware Ranch	58.19	62	eP	P	01 27 26.0	+2.0
	comp=Z,3.6nm,0.9s						
PDAR	Pinedale Array	58.46	60	P	P	01 27 27.6	+1.7
	comp=Z,4.8nm,0.8s,baz=316,slow=2.5,SNR=34						
SFJD	Kangerlussuaq	58.84	13	iP	P	01 27 27.2	-0.7
SFJD				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SFJD	Kangerlussuaq	58.84	13	iP	P	01 27 27.2	-0.7
	comp=Z,5.7nm,0.8s						
ULM	Lac du Bonnet	59.79	46	P	P	01 27 34.6	-0.1
ULM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULM	Lac du Bonnet	59.79	46	P	P	01 27 34.6	-0.1
	comp=Z,2.0nm,0.8s,baz=311,slow=7.8,SNR=3.7						
RSSD	Black Hills	60.36	55	eP	P	01 27 40.4	+1.4
RSSD				pmax	pmax		
	comp=Z,11nm,0.8s						
RSSD	Black Hills	60.36	55	eP	P	01 27 40.4	+1.4
	comp=Z,11nm,0.8s						
FINES	FINESS Array B	60.48	336	P	P	01 27 38.7	-0.5
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	60.48	336	P	P	01 27 38.7	-0.5
	comp=Z,2.7nm,0.8s,baz=57,slow=7.0,SNR=10						
SRU	San Rafael	60.51	63	eP	P	01 27 42.3	+2.3
SRU				pmax	pmax		
	comp=Z,6.0nm,0.4s						
SRU	San Rafael	60.51	63	eP	P	01 27 42.3	+2.3
	comp=Z,5.7nm,0.4s						
PV04	Paradox Valley	61.90	63	eP	P	01 27 50.5	+1.1
SMCO	Snowmass	62.38	61	eP	P	01 27 54.5	+1.6
ISCO	Idaho Springs	62.66	60	eP	P	01 27 56.7	+2.0
ISCO				pmax	pmax		
	comp=Z,115nm,3.0s						
ISCO	Idaho Springs	62.66	60	eP	P	01 27 56.6	+2.0
	comp=Z,115nm,3.0s						
NB2	NORSAR Subarra	64.01	343	P	P	01 28 02.1	-0.8
	comp=Z,6.9nm,0.8s,baz=22,slow=6.5						
NOA	NORSAR Array B	64.01	343	P	P	01 28 02.5	-0.4
NOA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NOA	NORSAR Array B	64.01	343	P	P	01 28 02.5	-0.4
	comp=Z,6.0nm,0.8s,baz=23,slow=6.6,SNR=22						
NAO01	NORSAR Array S	64.25	343	eP	P	01 28 03.9	-0.5
	comp=Z,3.8nm,0.7s						
ECSD	EROS Data Cent	64.29	51	eP	P	01 28 05.8	+0.8
	comp=Z,82nm,2.6s						
ANMO	Albuquerque	65.76	64⇑	eP	P	01 28 16.4	+1.5
ANMO				pmax	pmax		
	comp=Z,13nm,1.3s						
LAZ	Ladron	65.79	65	eP	P	01 28 17.2	+2.2
	comp=Z,19nm,2.2s						
GEYT	Alibeck	66.88	302	P	P	01 28 22.1	+0.2
	comp=Z,0.9nm,0.6s,baz=103,slow=4.6,SNR=3.6						
SCIA	State Center	67.29	50	eP	P	01 28 25.5	+1.2
	comp=Z,23nm,0.9s						
COEN	Coen	67.49	197	eP	P	01 28 23.6	-2.1
AKASG	Malin Array Be	68.85	328	P	P	01 28 32.8	-1.0
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	Malin Array Be	68.85	328	P	P	01 28 32.8	-1.0
	comp=Z,2.4nm,0.5s,baz=30,slow=6.1,SNR=12						
AKBB	Malin Array Si	68.85	328	eP	P	01 28 33.4	-0.4
AKBB	Malin Array Si	68.85	328	eP	P	01 28 33.4	-0.4
KIEV	Kiev	68.86	328	P	P	01 28 33.2	-0.7
KIEV	Kiev	68.86	328	eP	P	01 28 32.4	-1.5
	comp=Z,3.8nm,0.9s						
GDL2	Guadalupe Moun	68.97	64	eP	P	01 28 33.8	-1.4
KBZ	Khabaz	69.56	316	P	P	01 28 38.5	+0.2
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KBZ	Khabaz	69.56	316	P	P	01 28 38.5	+0.2
	comp=Z,1.4nm,0.8s,baz=61,slow=4.3,SNR=5.5						
TXAR	Lajitas Array	71.54	66	P	P	01 28 52.5	+1.7
TXAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TXAR	Lajitas Array	71.54	66	P	P	01 28 52.5	+1.7
	comp=Z,3.8nm,0.8s,baz=299,slow=4.6,SNR=28						
STHS	Stebnicka Huta	72.39	333	eP	P	01 28 56.4	+0.9
STHS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
STHS	Stebnicka Huta	72.39	333	eP	P	01 28 56.4	+0.9
KOLS	Kolonicke sedl	72.53	332	eP	P	01 28 56.0	-0.3
KOLS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KOLS	Kolonicke sedl	72.53	332	eP	P	01 28 56.0	-0.3
KOLS				e		01 45 47.7	
CLL	Collm	72.75	338	eP	P	01 28 57.8	+0.3
CLL	Collm	72.75	338	eP	P	01 28 57.0	-0.5
	comp=Z,12nm,1.2s						
CLL	Collm	72.75	338	eP	P	01 28 57.8	+0.3
BUR08	Bucovina Ar. S	72.80	329	eP	P	01 28 57.7	-0.3
DPC	Dobruska-Polom	72.85	336	eP	P	01 28 58.6	+0.4
DPC	Dobruska-Polom	72.85	336	eP	P	01 28 58.6	+0.4
OKC	Ostrava-Krasne	72.85	335	eP	P	01 28 58.4	+0.2
OKC	Ostrava-Krasne	72.85	335	eP	P	01 28 58.4	+0.2
BRG	Berggiesshubel	72.94	338	eP	P	01 29 00.7	+2.0
	comp=Z,12nm,1.5s						
BRG	Berggiesshubel	72.94	338	eP	P	01 29 00.7	+2.0
BRG				pmax	pmax		
	comp=Z,12nm,1.5s						
MORC	Moravsky Berou	73.07	335	eP	P	01 28 59.9	+0.4
MORC				pmax	pmax		
	comp=Z,25nm,2.0s						
MORC	Moravsky Berou	73.07	335	eP	P	01 28 59.9	+0.4
	comp=Z,25nm,2.0s						
PRU	Pruhonice	73.62	337	eP	P	01 29 02.8	+0.1
PRU	Pruhonice	73.62	337	eP	P	01 29 02.8	+0.1
VYHS	Vyhne	73.90	334	eP	P	01 29 04.8	+0.4
VYHS	Vyhne	73.90	334	eP	P	01 29 04.8	+0.4
PSZ	Piszkesteto	74.13	333	eP	P	01 29 06.0	+0.2
PSZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PSZ	Piszkesteto	74.13	333	eP	P	01 29 06.0	+0.2
	comp=Z,2.5nm,0.8s						
KHC	Kasperske Hory	74.65	337	eP	P	01 29 09.7	+0.9
KHC	Kasperske Hory	74.65	337	eP	P	01 29 09.7	+0.9
GERES	GERESS Array B	74.89	337	P	P	01 29 10.4	+0.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	74.89	337	P	P	01 29 10.4	+0.2
	comp=Z,0.8nm,0.7s,baz=26,slow=4.7,SNR=4.1						
BCLA	Clavier	75.15	343	P	P	01 29 12.4	+0.8
WRAB	Tennant Creek	75.16	204	eP	P	01 29 12.9	+1.1
WRAB				pmax	pmax		

comp=Z,4.0nm,0.8s
WRAB Tennant Creek 75.16 204 eP P 01 29 12.9 +1.1
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 75.17 204 P P 01 29 13.4 +1.5
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 75.17 204 P P 01 29 13.4 +1.5
comp=Z,4.1nm,0.8s,baz=18,slow=6.0,SNR=9.9
GIVF Givet 75.54 343 eP P 01 29 14.4 +0.6
comp=Z,20nm,0.8s
GIVF Givet 75.54 343 eP P 01 29 14.4 +0.6
GIVF pmax pmax
comp=Z,20nm,0.8s
GIVF Givet 75.54 343 eP P 01 29 14.4 +0.6
comp=Z,20nm,0.8s
BAIF Baives 75.69 344⇑iP P 01 29 15.4 +0.7
comp=Z,33nm,1.0s
BAIF Baives 75.69 344⇑iP P 01 29 15.4 +0.7
BAIF pmax pmax
comp=Z,33nm,1.0s
BAIF Baives 75.69 344⇑iP P 01 29 15.4 +0.7
comp=Z,33nm,1.0s
WLF Walferdange 75.72 342 P P 01 29 08.9 -5.9
comp=Z,24nm,1.0s
WLF Walferdange 75.72 342 eP P 01 29 15.7 +0.9
WLF pmax pmax
comp=Z,13nm,0.9s
WLF Walferdange 75.72 342 eP P 01 29 15.7 +0.9
comp=Z,13nm,0.9s
KBA Koelnbreinsper 76.62 337⇑iP P 01 29 21.4 +1.2
comp=Z,22nm,0.8s,SNR=11
CDF Champ du Feu 76.70 341⇑iP P 01 29 21.1 +0.5
comp=Z,20nm,0.8s
CDF Champ du Feu 76.70 341⇑iP P 01 29 21.1 +0.5
CDF pmax pmax
comp=Z,20nm,0.8s
CDF Champ du Feu 76.70 341⇑iP P 01 29 21.1 +0.5
comp=Z,20nm,0.8s
BR131 Keskin Array S 76.71 320 eP P 01 29 20.4 -0.4
comp=Z,1.1nm,0.7s
BRTR Keskin Array B 76.71 320 P P 01 29 20.8 -0.1
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 76.71 320 P P 01 29 20.8 -0.1
comp=Z,0.6nm,0.6s,baz=62,slow=1.8,SNR=4.6
WTTA Wattenberg 76.85 338⇓iP P 01 29 23.1 +1.5
comp=Z,14nm,1.1s
PAGF Fort de Pagny 76.87 342⇑iP P 01 29 22.4 +1.0
comp=Z,12nm,0.7s
PAGF Fort de Pagny 76.87 342⇑iP P 01 29 22.4 +1.0
comp=Z,12nm,0.7s
MOTA Moosalm 76.90 338⇑iP P 01 29 22.7 +0.9
comp=Z,15nm,1.1s
ECH Echery 76.91 341 eP P 01 29 21.9 +0.2
ECH pmax pmax
comp=Z,6.0nm,0.8s
ECH Echery 76.91 341 eP P 01 29 21.9 +0.2
comp=Z,5.5nm,0.8s
MEZF Maizieres J'vi 77.04 343⇑iP P 01 29 23.3 +1.0
comp=Z,24nm,0.7s
MEZF Maizieres J'vi 77.04 343⇑iP P 01 29 23.3 +1.0
comp=Z,24nm,0.7s
PALK Pallekele 77.11 265 eP P 01 29 23.1 -0.2
PALK pmax pmax
comp=Z,13nm,0.9s
PALK Pallekele 77.11 265 eP P 01 29 23.1 -0.2
comp=Z,13nm,0.9s
ABTA Abfaltersbach 77.13 337 iP P 01 29 23.7 +0.7
comp=Z,16nm,1.0s,SNR=8.6
HAU Haudompre 77.27 342⇑iP P 01 29 24.1 +0.4
comp=Z,33nm,1.1s
HAU Haudompre 77.27 342⇑iP P 01 29 24.1 +0.4
HAU pmax pmax
comp=Z,33nm,1.1s
HAU Haudompre 77.27 342⇑iP P 01 29 24.1 +0.4
comp=Z,33nm,1.1s
FETA Feichten 77.29 338⇑iP P 01 29 24.9 +0.9
comp=Z,9.7nm,0.9s
SFTF Sexfontaines 77.33 342⇑iP P 01 29 24.7 +0.7
comp=Z,45nm,0.7s
SFTF Sexfontaines 77.33 342⇑iP P 01 29 24.7 +0.7
comp=Z,45nm,0.7s
HINF Hinteralfeld 77.36 341 eP P 01 29 24.4 +0.2
comp=Z,7.6nm,0.7s
HINF Hinteralfeld 77.36 341 eP P 01 29 24.4 +0.2
HINF pmax pmax
comp=Z,8.0nm,0.7s
HINF Hinteralfeld 77.36 341 eP P 01 29 24.4 +0.2
comp=Z,7.6nm,0.7s
FLN La Foliniere 77.70 346 eP P 01 29 26.4 +0.4
FLN La Foliniere 77.70 346 eP P 01 29 26.4 +0.4
FLN La Foliniere 77.70 346 eP P 01 29 26.4 +0.4
LDF La Druitiere 77.81 346 eP P 01 29 27.1 +0.5
LDF La Druitiere 77.81 346 eP P 01 29 27.1 +0.5
LDF La Druitiere 77.81 346 eP P 01 29 27.1 +0.5
TUE Stuetta 78.12 339 eP P 01 29 28.5 -0.1
comp=Z,9.9nm,0.8s
GRR Gorron 78.12 346 eP P 01 29 28.7 +0.4
GRR Gorron 78.12 346 eP P 01 29 28.7 +0.4
GRR Gorron 78.12 346 eP P 01 29 28.7 +0.4
LOR Lormes 78.45 343⇑iP P 01 29 30.8 +0.6
comp=Z,26nm,0.9s
LOR Lormes 78.45 343⇑iP P 01 29 30.8 +0.6
LOR pmax pmax
comp=Z,26nm,0.9s
LOR Lormes 78.45 343⇑iP P 01 29 30.8 +0.6
comp=Z,26nm,0.9s
SGMF Saint Gilles 78.49 348 eP P 01 29 31.8 +1.4
SGMF Saint Gilles 78.49 348 eP P 01 29 31.8 +1.4
SGMF Saint Gilles 78.49 348 eP P 01 29 31.8 +1.4
ROSF Rostrenen 78.50 348 eP P 01 29 31.1 +0.7
ROSF Rostrenen 78.50 348 eP P 01 29 31.1 +0.7
ROSF Rostrenen 78.50 348 eP P 01 29 31.1 +0.7
CABF La Chapelle 78.66 341 eP P 01 29 32.3 +0.8
comp=Z,23nm,0.8s
CABF La Chapelle 78.66 341 eP P 01 29 32.3 +0.8
CABF pmax pmax
comp=Z,23nm,0.8s
CABF La Chapelle 78.66 341 eP P 01 29 32.3 +0.8
comp=Z,23nm,0.8s
HYF Humbligny 78.66 344 eP P 01 29 32.5 +1.1
HYF Humbligny 78.66 344 eP P 01 29 32.5 +1.1
SSF Saint Saulge 78.71 343⇑iP P 01 29 32.3 +0.7
comp=Z,20nm,0.9s
SSF Saint Saulge 78.71 343⇑iP P 01 29 32.3 +0.7
SSF pmax pmax
comp=Z,20nm,0.9s
SSF Saint Saulge 78.71 343⇑iP P 01 29 32.3 +0.7
comp=Z,20nm,0.9s
AS31 Alice Springs 78.85 203 eP P 01 29 32.5 0.0
QUIF Quistinic 78.90 348 eP P 01 29 33.0 +0.4
comp=Z,151nm,1.4s
QUIF Quistinic 78.90 348 eP P 01 29 33.0 +0.4
QUIF Quistinic 78.90 348 eP P 01 29 33.0 +0.4
comp=Z,151nm,1.4s
AVF Avril sur Loir 79.00 343⇑iP P 01 29 34.0 +0.8
comp=Z,40nm,0.9s
AVF Avril sur Loir 79.00 343⇑iP P 01 29 34.0 +0.8
AVF pmax pmax
comp=Z,40nm,0.9s
AVF Avril sur Loir 79.00 343⇑iP P 01 29 34.0 +0.8
comp=Z,40nm,0.9s
SMF Signal de Mont 79.05 343 eP P 01 29 34.2 +0.7
comp=Z,24nm,1.0s
SMF Signal de Mont 79.05 343 eP P 01 29 34.2 +0.7
SMF pmax pmax
comp=Z,25nm,1.0s
SMF Signal de Mont 79.05 343 eP P 01 29 34.2 +0.7
comp=Z,24nm,1.0s
BGF Bois d'Agland 79.31 343 eP P 01 29 35.7 +0.8
comp=Z,38nm,1.1s
BGF Bois d'Agland 79.31 343 eP P 01 29 35.7 +0.8
BGF pmax pmax
comp=Z,38nm,1.1s
BGF Bois d'Agland 79.31 343 eP P 01 29 35.7 +0.8
comp=Z,38nm,1.1s
LPL La Plagne 79.58 341⇑iP P 01 29 38.1 +1.4
comp=Z,22nm,0.9s
LPL La Plagne 79.58 341⇑iP P 01 29 38.1 +1.4
LPL pmax pmax
comp=Z,22nm,0.9s
LPL La Plagne 79.58 341⇑iP P 01 29 38.1 +1.4
comp=Z,22nm,0.9s
LPG La Plagne 79.59 341⇑iP P 01 29 38.3 +1.4
comp=Z,18nm,0.7s
LPG La Plagne 79.59 341⇑iP P 01 29 38.3 +1.4
LPG pmax pmax
comp=Z,18nm,0.7s
LPG La Plagne 79.59 341⇑iP P 01 29 38.3 +1.4
comp=Z,18nm,0.7s
TCF Toulx Ste Croi 79.68 344⇑iP P 01 29 38.0 +1.0
comp=Z,17nm,0.8s
TCF Toulx Ste Croi 79.68 344⇑iP P 01 29 38.0 +1.0
TCF pmax pmax
comp=Z,17nm,0.8s
TCF Toulx Ste Croi 79.68 344⇑iP P 01 29 38.0 +1.0
comp=Z,17nm,0.8s
MFF Saint Martin d 79.76 346 eP P 01 29 38.3 +0.9
MFF Saint Martin d 79.76 346 eP P 01 29 38.3 +0.9
MFF Saint Martin d 79.76 346 eP P 01 29 38.3 +0.9
BNI Bardonecchia 80.04 340 eP P 01 29 40.1 +1.0
BNI pmax pmax
comp=Z,20nm,1.3s
BNI Bardonecchia 80.04 340 eP P 01 29 40.1 +1.0
comp=Z,20nm,1.3s
SSB Saint Sauveur 80.24 342 eP P 01 29 40.5 +0.5
SSB pmax pmax
comp=Z,10.0nm,0.7s
SSB Saint Sauveur 80.24 342 eP P 01 29 40.5 +0.5
comp=Z,9.8nm,0.7s
ORIF Oris-en-Rattie 80.33 341⇑iP P 01 29 42.0 +1.4
comp=Z,20nm,0.8s
ORIF Oris-en-Rattie 80.33 341⇑iP P 01 29 42.0 +1.4
ORIF pmax pmax
comp=Z,20nm,0.8s
ORIF Oris-en-Rattie 80.33 341⇑iP P 01 29 42.0 +1.4
comp=Z,20nm,0.8s
MBDF Montbardon 80.33 340 eP P 01 29 42.4 +1.7
comp=Z,12nm,0.8s
MBDF Montbardon 80.33 340 eP P 01 29 42.4 +1.7
MBDF pmax pmax
comp=Z,12nm,0.8s
MBDF Montbardon 80.33 340 eP P 01 29 42.4 +1.7
comp=Z,12nm,0.8s
VIVF Saint-Julien-l 80.62 342 eP P 01 29 43.4 +1.3
comp=Z,31nm,0.9s
VIVF Saint-Julien-l 80.62 342 eP P 01 29 43.4 +1.3
VIVF pmax pmax
comp=Z,31nm,0.9s
VIVF Saint-Julien-l 80.62 342 eP P 01 29 43.4 +1.3
comp=Z,31nm,0.9s
RJF Les Rejaudoux 80.76 344⇑iP P 01 29 44.8 +2.0
comp=Z,20nm,1.0s
RJF Les Rejaudoux 80.76 344⇑iP P 01 29 44.8 +2.0
RJF pmax pmax
comp=Z,21nm,1.0s
RJF Les Rejaudoux 80.76 344⇑iP P 01 29 44.8 +2.0
comp=Z,20nm,1.0s
CAF Calviac 81.03 344⇑iP P 01 29 45.8 +1.5
comp=Z,14nm,0.7s
CAF Calviac 81.03 344⇑iP P 01 29 45.8 +1.5
CAF pmax pmax
comp=Z,14nm,0.7s
CAF Calviac 81.03 344⇑iP P 01 29 45.8 +1.5
comp=Z,14nm,0.7s
LFF La Frestale 81.24 345 eP P 01 29 46.8 +1.5
comp=Z,40nm,1.0s
LFF La Frestale 81.24 345 eP P 01 29 46.8 +1.5
LFF pmax pmax
comp=Z,40nm,1.0s
LFF La Frestale 81.24 345 eP P 01 29 46.8 +1.5
comp=Z,40nm,1.0s
SMRF Simiane la Rot 81.29 341 eP P 01 29 47.2 +1.5
SMRF Simiane la Rot 81.29 341 eP P 01 29 47.2 +1.5
FRF La Foret Royal 81.47 340 eP P 01 29 48.2 +1.6
FRF La Foret Royal 81.47 340 eP P 01 29 48.2 +1.6
FRF La Foret Royal 81.47 340 eP P 01 29 48.2 +1.6
LASF Ste Croix 81.53 342 eP P 01 29 48.4 +1.5
LASF Ste Croix 81.53 342 eP P 01 29 48.4 +1.5
MMAI Mount Meron Ar 81.72 315 P P 01 29 48.7 +0.6
baz=34,slow=5.4
MTLF Montolieu 82.54 343 eP P 01 29 53.6 +1.4
comp=Z,13nm,0.8s
MTLF Montolieu 82.54 343 eP P 01 29 53.6 +1.4
MTLF pmax pmax
comp=Z,13nm,0.8s
MTLF Montolieu 82.54 343 eP P 01 29 53.6 +1.4
comp=Z,13nm,0.8s
TIP Timpagrande 83.05 331 eP P 01 29 55.6 +0.6
comp=Z,12nm,1.1s
EPF Esparros 83.16 344⇑iP P 01 29 57.1 +1.6
comp=Z,8.0nm,0.7s
EPF Esparros 83.16 344⇑iP P 01 29 57.1 +1.6
EPF pmax pmax
comp=Z,8.0nm,0.7s
EPF Esparros 83.16 344⇑iP P 01 29 57.1 +1.6
comp=Z,8.0nm,0.7s
SJPF Ste Jean 83.33 346 eP P 01 29 57.9 +1.6
comp=Z,11nm,0.7s
SJPF Ste Jean 83.33 346 eP P 01 29 57.9 +1.6
SJPF pmax pmax
comp=Z,11nm,0.7s
SJPF Ste Jean 83.33 346 eP P 01 29 57.9 +1.6
comp=Z,11nm,0.7s
ETSF Etsaut 83.44 345⇑iP P 01 29 58.5 +1.6
comp=Z,11nm,0.6s
ETSF Etsaut 83.44 345⇑iP P 01 29 58.5 +1.6
ETSF pmax pmax
comp=Z,11nm,0.6s
ETSF Etsaut 83.44 345⇑iP P 01 29 58.5 +1.6
comp=Z,11nm,0.6s
ESDC Sonseca Array 87.10 347 P P 01 30 14.4 -0.8
comp=Z,1.6nm,0.7s,baz=4.1,slow=4.6,SNR=10
KEST Kesra 88.31 336 P P 01 30 21.4 +0.2
comp=Z,1.6nm,0.8s,baz=15,slow=9.7,SNR=8.8
KEST Kesra 88.31 336 eP P 01 30 20.8 -0.4
TORD Torodi Ar. Bea 111.83 336 PKiKP PKiKP 01 36 04.7 +0.4
comp=Z,0.4nm,0.6s,baz=359,slow=2.6,SNR=4.7
DBIC Dimbokro 119.56 341 PKIKP PKPdf 01 36 19.6 +0.4
DBIC pmax pmax
comp=Z,4.0nm,0.7s
DBIC Dimbokro 119.56 341 PKP PKPdf 01 36 19.6 +0.4
comp=Z,3.8nm,0.7s,baz=77,slow=1.8,SNR=5.4
H03N2 Juan Fernandez 134.89 89 T T 04 07 21.9
baz=312,slow=75,SNR=10.0
H03N1 Juan Fernandez 134.90 89 T T 04 07 23.9
baz=312,slow=75,SNR=150
H03N3 Juan Fernandez 134.90 89 T T 04 07 22.7
baz=312,slow=75,SNR=13
SUR Sutherland 143.84 287 ePKPdf PKPdf 01 37 03.6 -0.7
PLCA Paso Flores 144.69 91 PKIKP PKPdf 01 37 05.7 +0.3
PLCA pmax pmax
comp=Z,4.0nm,0.8s
PLCA Paso Flores 144.69 91 PKP PKPdf 01 37 05.7 +0.3
comp=Z,3.8nm,0.8s,baz=303,slow=3.8,SNR=10.0
PLCA Paso Flores 144.69 91 ePKPdf PKPdf 01 37 05.0 -0.4
PLCA PKP PKPbc 01 37 05.7 +1.3
TRQA Tornquist 148.26 80 ePKPbc PKPbc 01 37 15.0 +0.2

ISCJB 27 01:19:05.4±0.6, 6.°99N±0.°07×73.°07W±0.°08, h162km±6km, mb3.6/4, Error ellipse: s-maj=15.6km s-min=7.5km az=36.0
IDC 27 01:19:05.7±3.0, 6.°83N×72.°95W, h159km±32km, mb3.3/4, mb1 3.6/5, mb1mx3.3/22, mbtmp3.8/5, Error ellipse: s-maj=42.4km s-min=27.7km az=54.0
FUNV 27 01:19:11.6, 7.°02N×72.°78W, h152km, MW3.8
ISC 27 01:19:05.8±0.9, 6.°90N±0.°07×72.°90W±0.°07, h163km±8km, n18, σ2§67/27, mb3.6/4, 1C, Northern Colombia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CAPV Capacho 1.12 31⇑iP Pn 01 19 35.1 +2.0
CAPV eS Sn 01 19 53.8 -0.4
SOCV Socops 2.45 56 eP Pn 01 19 49.4 +2.4
SOCV eS Sn 01 20 17.8 -1.1
VIGV El Vigia 2.46 38 eP Pn 01 19 49.6 +2.5
VIGV eS Sn 01 20 17.5 -1.6
ROSC El Rosal 2.48 215 P Pn 01 19 47.2 -0.6
38nm,0.3s,baz=315,slow=2.6,SNR=206
ROSC S Sn 01 20 18.2 -1.9
55nm,0.3s,baz=87,slow=15,SNR=10
ELOV Elorza 3.39 88 eP Pn 01 20 01.5 +2.8
VIRV Villa del Rosa 3.62 8 eS Sn 01 20 42.4 -2.6
SANV Sanarito 4.21 52 eP Pn 01 20 11.7 +2.3
SANV eS Sn 01 20 54.9 -4.0
CURV Curarigua 4.25 43 eP Pn 01 20 11.8 +2.1
CURV eS Sn 01 20 56.5 -3.1
SIQV Siquisique 4.82 39 eP Pn 01 20 19.1 +1.9
SIQV eS Sn 01 21 08.2 -4.7
BAUV El Baul 5.22 67 eP Pn 01 20 23.4 +0.9
BAUV eS Sn 01 21 17.0 -5.3
MAPV Macapo 5.27 56 eP Pn 01 20 25.2 +2.1
MONV Montecano 5.80 30 eP Pn 01 20 31.3 +1.3
MONV eS Sn 01 21 30.8 -5.2
TXAR Lajitas Array 36.58 311 P P 01 25 56.3 -0.1
0.4nm,0.6s,baz=129,slow=9.4,SNR=3.1
ULM Lac du Bonnet 47.29 340 P P 01 27 23.2 +0.4
1.4nm,0.4s,baz=148,slow=8.2,SNR=5.4
YKA Yellowknife Ar 63.27 340 P P 01 29 17.6 +0.7
0.9nm,0.6s,baz=133,slow=6.7,SNR=23
TORD Torodi Ar. Bea 73.51 78 P P 01 30 21.8 +0.4
0.8nm,1.0s,baz=283,slow=5.9,SNR=3.8
MKAR Makanchi Array 122.18 20 PKP PKPdf 01 37 42.3 +0.7
0.1nm,0.3s,baz=300,slow=2.9,SNR=4.1
WRA Warramunga Arr 150.57 241 PKPbc PKPbc 01 38 39.3 -0.1
0.2nm,0.3s,baz=106,slow=2.7,SNR=3.2

CSEM 27 01:27:08.9, 46.°04N×13.°85E, h0km, ML0.5, After LJU
LJU 27 01:27:08.9, 46.°04N×13.°85E, h22km, ML0.5, 2D, Austria

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VOJS Vojsko 0.03 119⇓iPg Pb 01 27 13.0 +0.1
VOJS iSg Sb 01 27 15.9 +0.3
VOJS
comp=Z,4.0nm,0.1s
VOJS Vojsko 0.03 119⇓iPg Pb 01 27 13.0 +0.1
VOJS iSg Sb 01 27 15.9 +0.3
comp=Z,4.0nm,0.1s
CADS Cadrg 0.20 337 iPg Pb 01 27 14.6 +0.1
CADS iSg Sb 01 27 18.4 +0.1
CADS
comp=Z,2.0nm,0.1s
CADS Cadrg 0.20 337 iPg Pb 01 27 14.6 +0.1
CADS iSg Sb 01 27 18.4 0.0
comp=Z,2.0nm,0.1s
JAVS Javornik 0.21 135 iPg Pb 01 27 14.6 -0.1
JAVS iSg Sb 01 27 18.7 +0.1
JAVS
comp=Z,2.0nm,0.1s
JAVS Javornik 0.21 135 iPg Pb 01 27 14.6 -0.1
JAVS iSg Sb 01 27 18.7 +0.1
comp=Z,2.0nm,0.1s
CRNS Crni Vrh 0.29 83 iPg Pb 01 27 15.8 +0.2
CRNS iSg Sb 01 27 20.6 +0.4
CRNS
comp=Z,0.0nm,0.0s
GORS Gorjuse 0.29 20 iPg Pb 01 27 15.9 +0.2
GORS iSg Sb 01 27 21.0 +0.6
GORS
comp=Z,1.0nm,0.1s
GORS Gorjuse 0.29 20 iPg Pb 01 27 15.9 +0.1
GORS iSg Sb 01 27 21.0 +0.6
comp=Z,1.0nm,0.1s
ROBS Robic 0.31 310 iPg Pb 01 27 16.1 +0.2
ROBS iSg Sb 01 27 21.1 +0.5
ROBS Robic 0.31 310 iPg Pb 01 27 16.1 +0.2
ROBS iSg Sb 01 27 21.1 +0.4

ISCJB 27 01:29:46.6±1.5, 25.°94N±0.°07×128.°65E±0.°05, h31km±10km, mb3.1/3, Error ellipse: s-maj=12.5km s-min=7.5km az=163.4
JMA 27 01:29:46.7±0.3, 25.°96N×128.°69E, h36km, M3.1
IDC 27 01:29:46.6±2.8, 26.°11N×128.°50E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/48, mbtmp3.4/3, Error ellipse: s-maj=59.4km s-min=40.9km az=47.0
ISC 27 01:29:46.5±1.8, 25.°94N±0.°07×128.°63E±0.°05, h16km±11km, n16, σ1§44/21, mb3.2/3, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.80 317 P Pb 01 30 01.6 -0.4
JNTH S Sg 01 30 12.7 +0.1
JJT2 Tamagusuku 2 0.82 284 P Pg 01 30 02.7 +0.2
JJT2 S Sn 01 30 14.1 -1.0
JOW Kunigami 0.94 340 P Pb 01 30 04.0 -0.6
JOW Kunigami 0.94 340 Pn Pb 01 30 04.2 -0.3
5.8nm,0.3s,baz=146,slow=17,SNR=14
JOW Sn Sn 01 30 24.9 +6.6
8.7nm,0.3s,baz=321,slow=29,SNR=9.6
JIH Iheya 1.24 332 P Pn 01 30 08.9 -0.3
JAGN Aguni-jima 1.41 298 P Pn 01 30 10.8 -0.6
JAGN S Sn 01 30 28.8 -0.8
JOKE Okinoerabujima 1.42 358 P Pn 01 30 10.4 -1.3
JKE Kume jima 2 1.70 283 P Pn 01 30 14.6 -0.9
JKE S Sn 01 30 33.8 -3.2
JTK Tokunoshima 1.86 9 P Pn 01 30 17.1 -0.7
JMZ Minamidaito 2 2.34 92 P Pn 01 30 22.7 -1.6
JAMN Amaminishikomi 2.35 12 P Pn 01 30 24.8 +0.4
JAM Amami Oshima 2.61 19 P Pn 01 30 26.6 -1.4
JAM S Sn 01 30 57.6 -1.8
JIKM Ikemajima 3.22 252 P Pn 01 30 35.9 -0.5
SONM Songino Array 27.99 327 P P 01 35 39.2 +2.5
0.5nm,0.5s,baz=135,slow=11,SNR=6.9
MKAR Makanchi Array 42.00 312 P P 01 37 36.6 -0.3
0.3nm,0.7s,baz=98,slow=11,SNR=5.2
YKA Yellowknife Ar 78.64 25 P P 01 41 49.6 +2.2
0.1nm,0.7s,baz=299,slow=5.3,SNR=2.8

NIED 27 01:33:00, 25.°90N×128.°70E, h11km, Mw4.5 Best double couple: M0 6.63000×10^15 NP1:φs338.00000°, δ67.00000°, λ171.00000°. NP2:φs72.00000°, δ82.00000°, λ24.00000°.
BJI 27 01:33:15.4, 25.°87N×128.°89E, h5km, mb4.7/30, mb4.5/44, Ms4.4/37, Ms7 4.1/36
ISCJB 27 01:33:19.8±0.7, 25.°89N±0.°02×128.°57E±0.°03, h17km±4km, mb4.5/82, MS4.1/15, Error ellipse: s-maj=4.8km s-min=3.0km az=137.0
IDC 27 01:33:19.0±0.7, 25.°89N×128.°48E, h0km, mb4.3/25, mb1 4.4/29, mb1mx4.3/52, mbtmp4.3/29, ML3.7/4, MS3.8/8, Ms1 3.8/8, ms1mx3.4/48, Error ellipse: s-maj=19.0km s-min=14.4km az=88.0
NEIC 27 01:33:20.1±1.5, 25.°91N×128.°48E, h4km±8km, mb4.8/33, MW4.5(NIED), Error ellipse: s-maj=6.8km s-min=4.9km az=124.0
NEIC Felt at Chatan, Okinawa.
JMA 27 01:33:21.2±0.3, 25.°93N×128.°69E, h38km, M4.7
MOS 27 01:33:22.3±1.1, 25.°94N×128.°54E, h33km, mb4.7/52, Error ellipse: s-maj=9.5km s-min=5.7km az=111.3
ISC 27 01:33:22.2±0.5, 25.°98N±0.°03×128.°53E±0.°03, h17km±2km, h16km:pP-P, n224, σ1§70/266, mb4.7/82, MS4.2/16, 5C-3D, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.71 320 P Pb 01 33 36.4 +0.3
JJT2 Tamagusuku 2 0.72 283 P Pb 01 33 37.4 -0.3
JJT2 S Sn 01 33 48.7 +0.3
JOW Kunigami 0.88 345 P Pb 01 33 38.9 -0.2
JOW S Sn 01 33 52.1 -0.2
JOW Kunigami 0.88 345 Pn Pb 01 33 38.9 -0.2
65nm,0.3s,baz=148,slow=15,SNR=38
JOW Sn Sn 01 33 52.2 -0.1
171nm,0.3s,baz=131,slow=20,SNR=19
JOW Kunigami 0.88 345 ePg Pb 01 33 38.7 -0.4
JOW Pn Pb 01 33 38.9 -0.2
JOW S Sn 01 33 52.2 -0.1
JIH Iheya 1.17 334 P Pn 01 33 43.4 -0.4
JIH S Sn 01 33 59.1 -0.3
JAGN Aguni-jima 1.31 298 P Pn 01 33 45.8 +0.1
JAGN S Sg 01 34 03.7 -0.9
JOKE Okinoerabujima 1.38 1 P Pn 01 33 45.6 -1.1
JOKE S Sn 01 34 03.0 -1.6
JKE Kume jima 2 1.61 283 P Pn 01 33 49.4 -0.5
JKE S Sn 01 34 09.6 -0.6
JTK Tokunoshima 1.84 12 P Pn 01 33 51.9 -1.1
JAMN Amaminishikomi 2.33 14 P Pn 01 33 58.6 -1.1
JMZ Minamidaito 2 2.42 93 P Pn 01 33 57.1 -4.0
JMZ S Sn 01 34 22.2 -8.2
JAM Amami Oshima 2.60 21 P Pn 01 34 01.6 -2.0
JAM S Sn 01 34 31.5 -3.3
JZK Kikaishima 2.66 29 P Pn 01 34 03.2 -1.1
JZK S Sn 01 34 34.2 -1.9
JOGS Gusukube 3.08 247 P Pn 01 34 10.0 -0.1
JOGS S Sn 01 34 45.3 -1.2
JIKM Ikemajima 3.15 251 P Pn 01 34 10.4 -0.7
JIKM S Sn 01 34 46.9 -1.4
JMJ Miyako jima 2 3.15 249 P Pn 01 34 10.2 -0.9

JMJ S Sn 01 34 46.3 -2.0
JTAJ Takarajima 3.22 10 P Pn 01 34 11.0 -1.0
JTAJ S Sn 01 34 46.6 -3.3
JIRB Irabujima 3.25 250 P Pn 01 34 11.4 -1.0
JIRB S Sn 01 34 48.7 -2.0
JTJ Tarama 3.71 250 P Pn 01 34 17.7 -1.1
JTJ S Sn 01 34 59.9 -2.4
JNN Nakanoshima 4.03 17 P Pn 01 34 21.9 -1.2
JNN S Sn 01 35 06.7 -3.2
JISG Ishigakijimahi 4.07 251 P Pn 01 34 22.1 -1.6
JISG S Sn 01 35 09.1 -1.8
JIJ Ishigaki jima 4.29 249 P Pn 01 34 24.8 -2.0
JIJ S Sn 01 35 12.0 -4.5
JKRS Kuro-shima 4.45 248 P Pn 01 34 27.4 -1.6
IRIF Iriomote-Funau 4.65 250 P Pn 01 34 29.8 -1.9
YOJ Yonaguni jima 5.22 254 eP Pn 01 34 38.0 -1.6
YOJ e 01 35 36.9
YOJ Yonaguni jima 5.22 254 P Pn 01 34 37.8 -1.8
YOJ Yonaguni jima 5.22 254 ePn Pn 01 34 38.0 -1.6
YOJ eSn Sn 01 35 36.9 -2.6
JYNG Yonagunijimaku 5.29 254 P Pn 01 34 38.9 -1.5
JYNG S Sn 01 35 35.5 -5.5
NACB Ninganchiao 6.54 256 ePn Pn 01 34 55.5 -2.3
YHNB Yeheng 6.61 260 ePn Pn 01 34 59.6 +0.9
YULB Yu-li 7.07 250 ePn Pn 01 35 00.4 -4.5
YULB eSn Sn 01 36 15.9 -9.1
SSLB Suanglung 7.22 254 ePn Pn 01 35 04.7 -2.4
SSLB eSn Sn 01 36 21.9 -6.9
JNU Nakatsue 7.40 15 Pn Pn 01 35 10.2 +0.6
4.2nm,0.3s,baz=208,slow=4.6,SNR=14
JNU Sn Sn 01 36 32.6 -0.6
baz=161,slow=16
JNU LR LR 01 38 25.0
comp=Z,366nm,21.4s,baz=251,slow=41
JNU Nakatsue 7.40 15 ePn Pn 01 35 09.1 -0.5
JNU Sn Sn 01 36 32.6 -0.6
TWG Pinlang 7.49 247 ePn Pn 01 35 06.6 -4.2
TWG eSn Sn 01 36 25.4 -10
TPUB Ta-pu 7.67 251 ePn Pn 01 35 11.6 -1.7
NJ2 Nanjing 10.41 308 eP Pn 01 35 50.3 -0.4
NJ2 pmax pmax
comp=Z,20nm,0.7s
KSAR Wonju Array Be 11.44 357 P Pn 01 36 05.8 +0.9
KSAR Wonju Array Be 11.44 357 Pn Pn 01 36 05.8 +0.9
KSRS Korea Array 11.45 358 Pn Pn 01 36 05.8 +0.8
0.1nm,0.3s,baz=175,slow=14,SNR=3.5
KSRS LR LR 01 40 46.6
comp=Z,494nm,18.6s,baz=162,slow=39
WHN Wuhan 13.30 293 ⇓P P 01 36 42.3 +2.4
WHN S S 01 40 24.0 +62
WHN LR LR
comp=N,2µm,3.8s
WHN LR LR
comp=E,2µm,13.6s
WHN LR LR
comp=Z,2µm,13.3s
MAJO Matsushiro 13.38 36 eP Pn 01 36 30.3 -1.1
MAJO Matsushiro 13.38 36 ePn Pn 01 36 30.3 -1.1
MJAR Matsushiro Arr 13.38 36 Pn Pn 01 36 31.1 -0.4
comp=Z,0.2nm,0.3s,baz=239,slow=14,SNR=4.0
TGY Tagaytay City 13.80 213 LR LR 01 41 18.7
comp=Z,13nm,21.0s,baz=120,slow=35
BJT Baijiatuau 17.40 327 eP P 01 37 25.2 -0.2
BJT pmax pmax
comp=Z,14nm,0.4s
BJT Baijiatuau 17.40 327 ePn Pn 01 37 25.2 -0.2
comp=Z,14nm,0.4s
BJI Beijing 17.41 327 P P 01 37 25.5 0.0
BJI S Sn 01 40 40.0 +2.3
BJI pmax pmax
comp=Z,27nm,0.6s
BJI pmax pmax
comp=Z,130nm,5.0s
BJI LR LR
comp=Z,990nm,16.4s
BJI LR LR
comp=Z,1µm,16.9s
BJI LR LR
comp=Z,170nm,15.9s
CN2 Changchun 17.96 353 eP Pn 01 37 30.3 -0.8
CN2 eS Sn 01 40 48.3 -2.6
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,700nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
USRK Ussuriysk Arra 18.39 8 P Pn 01 37 37.9 +1.5
comp=Z,0.5nm,0.3s,baz=176,slow=9.0,SNR=13
USRK LR LR 01 45 06.7
comp=Z,262nm,18.5s,baz=181,slow=38
QIZ Qiongzhong 18.59 252 P P 01 37 38.5 -0.2
QIZ S Sn 01 41 05.3 -1.3
QIZ pmax pmax
comp=Z,12nm,1.4s
QIZ LR LR
comp=Z,440nm,21.2s
QIZ LR LR
comp=Z,400nm,20.8s
XAN Xi'an 18.77 300 P Pn 01 37 41.0 -0.1
XAN pP pP 01 37 49.8 +4.4
XAN pmax pmax
comp=Z,4.0nm,1.0s
GYA Guiyang 19.63 276⇑iP Pn 01 37 51.0 -0.6
GYA PP PnPn 01 38 09.5 +4.3
GYA S S 01 41 25.0 -6.3
GYA PcP PcP 01 42 11.5 +1.9
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,560nm,16.4s
GYA LR LR
comp=Z,480nm,17.2s
GYA LR LR
comp=Z,520nm,16.6s
HHC Hu-ho-hao-te 20.45 321 eP P 01 37 58.5 -0.6
HHC sP sP 01 38 05.5 -0.5
HHC PP PnPn 01 38 18.8 +2.4
HHC S S 01 41 41.3 -6.2
HHC pmax pmax
comp=Z,32nm,1.0s
HHC pmax pmax
comp=Z,190nm,3.4s
HHC LR LR
comp=Z,590nm,9.3s
HHC LR LR
comp=Z,750nm,8.4s
HHC LR LR
comp=Z,790nm,11.8s
ASAJ Asahikawa 21.39 29 P P 01 38 11.2 +2.2
ASAJ pmax pmax
comp=Z,8.0nm,0.7s
ASAJ Asahikawa 21.39 29 P P 01 38 11.2 +2.2
comp=Z,7.9nm,0.7s,baz=232,slow=14,SNR=4.3
CD2 Chengdu 22.31 288 eP P 01 38 19.3 +0.2
CD2 pP pP 01 38 23.5 -0.4
CD2 sP sP 01 38 26.3 +0.2
CD2 PP PnPn 01 38 45.5 +3.6
CD2 PcP PcP 01 42 17.0 +2.4
CD2 S S 01 42 18.8 -5.2
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.4s
CD2 LR LR
comp=Z,610nm,14.2s
CD2 LR LR
comp=Z,600nm,12.2s
CD2 LR LR
comp=Z,540nm,12.7s
YUK Yuzh-Kuril'sk 22.85 34c iP P 01 38 19.1 -5.5
YUK e 01 38 50.4
YUK eS S 01 42 24.2 -9.1
YUK i SSS SSS 01 43 21.7
YUK MLR MLR
comp=Z,585nm,20.0s
KMI Kunming 23.28 274 P P 01 38 30.0 +0.6
KMI S S 01 42 37.3 -4.1
KMI pmax pmax
comp=Z,15nm,0.9s
KMI LR LR
comp=Z,470nm,10.9s
KMI LR LR
comp=Z,350nm,11.0s
KMI LR LR
comp=Z,400nm,11.3s
KLR Kul'dur 23.35 5 eP P 01 38 26.7 -2.9
LZH Lanzhou 23.38 301 eP P 01 38 29.5 -0.8
LZH pP pP 01 38 32.3 -2.9
LZH sP sP 01 38 34.0 -3.3
LZH PP PnPn 01 39 00.0 +3.5
LZH eS S 01 42 37.3 -5.4
LZH pmax pmax
comp=Z,31nm,1.1s
LZH pmax pmax
comp=Z,150nm,5.0s
LZH LR LR
comp=Z,510nm,14.0s
LZH LR LR
comp=Z,410nm,13.4s
LZH LR LR
comp=Z,730nm,15.2s
YSS Yuzh-Sakhalins 23.78 25⇑eP P 01 38 35.0 +1.1
YSS e 01 38 42.2
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 23.78 25 eP P 01 38 34.5 +0.6
comp=Z,135nm,1.4s
UBPT Khong Chiam 24.03 248 P P 01 38 39.8 +3.3
comp=Z,11nm,1.6s,comp=Z,821nm
CRAI Chiangrai 26.50 263 P P 01 39 02.0 +3.0
comp=Z,11nm,1.2s,comp=Z,13µm
GTA Gaotai 27.50 306 ⇑P P 01 39 06.8 -1.1
GTA pP pP 01 39 11.0 -2.1
GTA sP sP 01 39 13.8 -1.4
GTA PP PnPn 01 39 53.3 +0.5
GTA S S 01 43 45.0 -3.2
GTA ScS ScS 01 49 59.5 +1.8
GTA pmax pmax
comp=Z,33nm,1.1s
GTA pmax pmax
comp=Z,73nm,5.6s
GTA LR LR
comp=Z,460nm,12.2s
GTA LR LR
comp=Z,280nm,12.5s
GTA LR LR
comp=Z,350nm,14.2s
ULN Ulaanbaatar 27.61 328 eP P 01 39 10.7 +1.8
ULN pmax pmax
comp=Z,20nm,1.2s
ULN Ulaanbaatar 27.61 328 eP P 01 39 10.7 +1.8
comp=Z,20nm,1.2s
LAMP Lampang 27.72 260 P P 01 39 15.8 +5.9
comp=Z,3.2nm,0.9s
SONM Songino Array 27.91 327 P P 01 39 13.1 +1.6
SONM pmax pmax
comp=Z,6.0nm,0.5s
SONM Songino Array 27.91 327 P P 01 39 13.1 +1.6
comp=Z,5.8nm,0.5s,baz=141,slow=11,SNR=56
SBUM Sibu 28.17 216 eP P 01 39 14.5 +0.6
comp=Z,39nm,1.8s
CMMT Chiang Mai 28.23 261 P P 01 39 19.0 +4.5
comp=Z,11nm,0.9s
CHTO Chiang Mai 28.23 261 eP P 01 39 15.0 +0.5
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 28.23 261 P P 01 39 19.5 +5.0
comp=Z,40nm,0.9s
CHTO Chiang Mai 28.23 261 eP P 01 39 15.0 +0.5
comp=Z,5.7nm,0.9s
CMAR Chiang Mai Arr 28.35 261 P P 01 39 13.8 -1.8
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 28.35 261 P P 01 39 13.8 -1.8
comp=Z,1.3nm,0.4s,baz=57,slow=7.1,SNR=7.4
KSM Kuching 30.03 219 eP P 01 39 29.2 -1.2
comp=Z,16nm,1.0s
IPM Ipoh 33.93 236 eP P 01 40 03.2 -1.5
PETK Petropavlovsk- 34.77 31 LR LR 01 55 48.1
comp=Z,41nm,19.2s,baz=236,slow=39
YAK Yakutsk 36.05 1 eP P 01 40 16.3 -6.2
YAK pmax pmax
comp=Z,16nm,1.0s
TAPN Taplejung 36.40 281 eP P 01 40 26.5 +0.2
comp=Z,34nm,1.0s
HVS Khovu-Aksy 36.50 323 P P 01 40 26.4 -0.3
HVS pmax pmax
comp=Z,31nm,1.5s
ODAN Odare 36.74 281 eP P 01 40 29.5 +0.3
comp=Z,51nm,0.6s
RAMN Ramite 37.43 281 eP P 01 40 35.2 +0.2
comp=Z,11nm,0.5s
WMQ Urumqi 37.48 309 P P 01 40 35.0 -0.1
WMQ pP pP 01 40 39.5 -0.8
WMQ sP sP 01 40 42.0 -0.4
WMQ PP PnPn 01 42 02.8 +1.4
WMQ PcP PcP 01 42 54.3 +1.0
WMQ S S 01 46 22.3 -0.9
WMQ sS sS 01 46 29.5 -2.2
WMQ ScP ScP 01 46 39.5 -0.4
WMQ PcS PcS 01 46 41.5 -0.3
WMQ ScS ScS 01 50 45.8 -2.4
WMQ pmax pmax
comp=Z,12nm,1.2s
WMQ pmax pmax
comp=Z,130nm,5.8s
WMQ LR LR
comp=Z,280nm,11.8s
WMQ LR LR
comp=Z,390nm,13.6s
WMQ LR LR
comp=Z,140nm,20.4s
JIRN Jiri 37.69 282 eP P 01 40 37.6 +0.2
comp=Z,12nm,0.4s
GUN Gumba 37.94 283 eP P 01 40 39.7 +0.3
PKI Pulchoki 38.39 282 eP P 01 40 43.1 -0.2
comp=Z,22nm,0.5s
PKIN Phulchoki 38.40 282 eP P 01 40 43.2 -0.1
comp=Z,9.8nm,0.4s
KKN Kakani 38.48 283 eP P 01 40 43.9 +0.1
comp=Z,20nm,0.4s
DMN Daman 38.65 282 eP P 01 40 45.4 0.0
GKN Gorkha 39.01 283 eP P 01 40 48.3 0.0
comp=Z,20nm,0.4s
PMG Port Moresby 39.56 150 eP P 01 40 53.4 +0.7
PMG pmax pmax
comp=Z,6.0nm,0.3s
PMG Port Moresby 39.56 150 eP P 01 40 53.4 +0.7
comp=Z,6.1nm,0.3s
DANN Dangsing 39.74 284 eP P 01 40 54.7 +0.2
comp=Z,66nm,0.7s
KOLN Koldanda 39.95 283 eP P 01 40 56.2 0.0
comp=Z,41nm,0.8s
MK31 Makanchi Array 41.90 312 eP P 01 41 10.8 -1.0
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 41.90 312 eP P 01 41 10.8 -1.0
MKAR Makanchi Array 41.90 312 P P 01 41 11.0 -0.8
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 41.90 312 P P 01 41 10.9 -0.8
comp=Z,3.4nm,0.7s,baz=94,slow=10,SNR=63
MKAR Makanchi Array 41.90 312 eP P 01 41 11.3 -0.5
ZAA0 Zalesovo Array 42.61 323 eP P 01 41 15.8 -1.5
ZALV Zalesovo Beam 42.61 323 P P 01 41 15.9 -1.5
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 42.61 323 P P 01 41 15.8 -1.5
comp=Z,2.3nm,0.5s,baz=116,slow=8.4,SNR=13
KURK Kurchatov 45.19 317 eP P 01 41 37.0 -1.2
KURK pmax pmax
comp=Z,31nm,2.1s
KURK Kurchatov 45.19 317 eP P 01 41 37.0 -1.2
comp=Z,31nm,2.1s
KSH Kashi 45.62 301 eP P 01 41 45.0 +3.1
KSH ePP PP 01 43 35.0 +6.3
KSH PcS PcS 01 47 15.5 +1.2
KSH S S 01 48 28.3 +4.3
KSH eScS ScS 01 51 40.8 +2.9
KSH eSS SS 01 51 44.0 -3.9
KSH pmax pmax
comp=Z,32nm,2.9s
KSH LR LR
comp=Z,470nm,18.3s
KSH LR LR
comp=Z,100nm,6.9s
TIXI Tiksi 45.71 0⇑eP P 01 41 41.7 -0.2
TIXI pmax pmax
comp=Z,15nm,2.5s
TIXI MLR MLR
comp=Z,138nm,17.0s
TIXI Tiksi 45.71 0 eP P 01 41 41.7 -0.2
comp=Z,6.4nm,0.8s
WRAB Tennant Creek 45.99 172 eP P 01 41 43.4 -1.4
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WRAB Tennant Creek 45.99 172 eP P 01 41 43.4 -1.4
comp=Z,8.6nm,0.8s
WRA Warramunga Arr 45.99 172 P P 01 41 43.7 -1.1
WRA pmax pmax
comp=Z,6.0nm,0.6s
WRA Warramunga Arr 45.99 172 P P 01 41 43.7 -1.1
comp=Z,6.4nm,0.6s,baz=354,slow=8.5,SNR=33
TKM2 Tokmak 2 46.04 305 eP P 01 41 45.3 0.0
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 46.04 305 eP P 01 41 45.3 0.0
comp=Z,6.7nm,0.8s
AAK Ala-Archa 46.84 305 P P 01 41 51.0 -0.5
AAK pmax pmax
comp=Z,1.0nm,0.4s
AAK Ala-Archa 46.84 305 P P 01 41 51.0 -0.5
comp=Z,1.1nm,0.4s,baz=106,slow=7.4,SNR=5.6
AAK Ala-Archa 46.84 305 eP P 01 41 51.4 -0.2
EKS2 Erkin-Say 47.37 305 eP P 01 41 56.8 +1.2
EKS2 pmax pmax
comp=Z,4.0nm,1.1s
EKS2 Erkin-Say 47.37 305 eP P 01 41 56.8 +1.2
comp=Z,3.8nm,1.1s
BILL Bilibino 47.82 18 eP P 01 41 55.3 -3.3
BILL pmax pmax
comp=Z,4.0nm,1.5s
BILL Bilibino 47.82 18 eP P 01 41 59.2 +0.7
comp=Z,16nm,1.1s
CTAO Charters Tower 48.92 158 eP P 01 42 06.7 -0.9
CTAO pmax pmax
comp=Z,10.0nm,0.9s
CTAO Charters Tower 48.92 158 eP P 01 42 06.7 -0.9
comp=Z,10nm,0.9s
AS31 Alice Springs 49.62 174 eP P 01 42 12.2 -0.8
KKAR Karatay Array 49.78 306 eP P 01 42 15.1 +1.1
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 49.78 306 eP P 01 42 15.1 +1.1
comp=Z,1.6nm,0.6s
BVAR Borovoye Array 50.64 318 P P 01 42 20.0 -0.4
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 50.64 318 P P 01 42 20.0 -0.4
comp=Z,3.1nm,0.6s,baz=83,slow=8.8,SNR=18
BRVK Borovoye 50.71 318d iP P 01 42 21.4 +0.5
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK MLR MLR
comp=Z,195nm,20.0s
BRVK Borovoye 50.71 318 eP P 01 42 20.7 -0.2
comp=Z,12nm,1.0s
KBL Kabul 51.46 295 eP P 01 42 27.6 +0.6
KBL pmax pmax
comp=Z,67nm,2.0s
KBL Kabul 51.46 295 eP P 01 42 27.6 +0.6
comp=Z,67nm,2.0s
TNA Tin City 55.73 27 eP P 01 42 59.6 +1.9
comp=Z,7.5nm,1.0s
FORT Forrest 56.44 180 eP P 01 43 03.0 0.0
comp=Z,25nm,0.8s
SVE Sverdlovsk 56.62 322 eP P 01 43 04.4 +0.3
SVE pmax pmax
comp=Z,15nm,1.5s
ABKAR Akbulak array 57.02 313 eP P 01 43 06.9 -0.1
ARU Arti 57.76 322d iP P 01 43 12.3 +0.2
ARU 01 45 16.9
ARU S S 01 51 12.1 +1.8
ARU SS SS 01 55 01.6 +1.1
ARU pmax pmax
comp=Z,9.0nm,1.7s
ARU Arti 57.76 322 eP P 01 43 12.4 +0.2
comp=Z,7.9nm,1.1s
ARU epP pP 01 43 22.2 +4.6
AKTO Aktyubinsk 58.20 315 P P 01 43 15.5 +0.1
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 58.20 315 P P 01 43 15.5 +0.1
comp=Z,1.5nm,0.6s,baz=93,slow=12,SNR=7.1
STKA Stephens Creek 58.87 167 P P 01 43 19.1 -1.0
STKA pmax pmax
comp=Z,1.0nm,0.5s
STKA Stephens Creek 58.87 167 P P 01 43 19.1 -1.0
comp=Z,1.3nm,0.5s,baz=354,slow=6.0,SNR=7.3
GEYT Alibeck 59.65 300 P P 01 43 25.4 -0.3
comp=Z,3.6nm,0.6s,baz=42,slow=4.6,SNR=10
RSO Redoubt South 62.24 33 eP P 01 43 45.9 +2.8
comp=Z,30nm,1.0s
MCK McKinley 63.75 29 eP P 01 43 52.7 -0.2
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 63.75 29 eP P 01 43 52.6 -0.2
comp=Z,8.7nm,0.8s
COLA College 64.11 28 eP P 01 43 56.6 +1.5
COLA pmax pmax
comp=Z,4.0nm,0.6s
COLA College 64.11 28 eP P 01 43 56.6 +1.5
comp=Z,4.2nm,0.6s
ILAR Eielson Array 64.53 28 P P 01 43 57.6 -0.4
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 64.53 28 P P 01 43 57.6 -0.4
comp=Z,0.6nm,0.7s,baz=268,slow=5.9,SNR=13
PAX Paxson 65.40 30 eP P 01 44 04.1 +0.3
PAX pmax pmax
comp=Z,4.0nm,0.7s
PAX Paxson 65.40 30 eP P 01 44 04.1 +0.3
comp=Z,4.3nm,0.7s
DOT Dot Lake 65.92 29 eP P 01 44 07.5 +0.5
comp=Z,7.4nm,0.7s
TMCR Tamitsa 67.16 332 eP P 01 44 14.4 -0.4
TMCR e 01 44 41.8
TMCR e 01 46 43.4
TMCR pmax pmax
comp=Z,11nm,1.1s
VRHR Novokhopersk 68.36 317 eP P 01 44 21.3 -1.4
VRHR pmax pmax
comp=N,6.0nm,0.9s
VRHR pmax pmax
comp=E,6.0nm,0.9s
VRHR pmax pmax
comp=Z,8.0nm,0.9s
ZEI Tsey 69.09 308 eP P 01 44 26.4 -1.3
ZEI pmax pmax
comp=Z,7.0nm,0.8s
KBZ Khabaz 69.53 310 P P 01 44 30.2 +0.1
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 69.53 310 P P 01 44 30.2 +0.1
comp=Z,5.2nm,0.9s,baz=120,slow=5.8,SNR=8.8
KIV Kislovodsk 69.61 310 eP P 01 44 30.9 +0.2
KIV pmax pmax
comp=Z,25nm,1.3s
KIV Kislovodsk 69.61 310 eP P 01 44 30.9 +0.2
comp=Z,25nm,1.3s
VORD Divnogorie 69.81 318 eP P 01 44 31.0 -0.7
VORD pmax pmax
comp=N,7.0nm,0.8s
VORD pmax pmax
comp=E,7.0nm,0.8s
VORD pmax pmax
comp=Z,3.0nm,0.8s
VSR Storozhevoye 69.82 318 eP P 01 44 30.4 -1.3
VSR pmax pmax
comp=N,6.0nm,1.2s
VSR pmax pmax
comp=E,7.0nm,1.2s
VSR pmax pmax
comp=Z,6.0nm,1.2s
OBN Obninsk 70.19 322 P P 01 44 34.0 +0.1
OBN e 01 44 45.4
OBN e 01 44 49.4
OBN pmax pmax
comp=Z,6.0nm,1.3s
OBN MLR MLR
comp=Z,102nm,16.0s
ARCES ARCESS Array B 70.34 339 P P 01 44 34.3 -0.3
ARCES pmax pmax

comp=Z,9.0nm,1.1s
ARCES ARCESS Array B 70.34 339 P P 01 44 34.3 -0.3
comp=Z,11nm,1.2s,baz=58,slow=6.5,SNR=7.8
ARCES LR LR 02 22 08.2
comp=Z,102nm,18.4s,baz=140,slow=42
SOC Sochi 71.77 310 eP P 01 44 41.9 -1.9
SOC pmax pmax
comp=Z,24nm,1.3s
FINES FINESS Array B 73.21 331 P P 01 44 51.7 -0.3
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 73.21 331 P P 01 44 51.7 -0.3
comp=Z,2.4nm,0.5s,baz=79,slow=4.9,SNR=27
RAYN Ar Rayn 74.15 289 eP P 01 44 58.9 +0.6
comp=Z,5.2nm,1.1s
DAG Danmarks Havn 75.54 353 eP P 01 45 11.9 +6.6
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 75.54 353 iP P 01 45 11.9 +6.6
comp=Z,2.4nm,0.9s
AKASG Malin Array Be 75.90 320 P P 01 45 07.3 -0.5
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 75.90 320 P P 01 45 07.3 -0.5
comp=Z,5.3nm,0.7s,baz=56,slow=6.1,SNR=12
AKASG LR LR 02 20 52.9
comp=Z,111nm,18.1s,baz=325,slow=38
AKBB Malin Array Si 75.90 320 eP P 01 45 07.2 -0.6
AKBB Malin Array Si 75.90 320 eP P 01 45 07.2 -0.6
KIEV Kiev 75.91 320 eP P 01 45 06.9 -1.0
KIEV Kiev 75.91 320 eP P 01 45 06.9 -1.0
BRTR Keskin Array B 77.40 308 P P 01 45 16.9 +0.1
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 77.40 308 P P 01 45 16.9 +0.1
comp=Z,3.8nm,0.9s,baz=103,slow=3.9,SNR=15
SUW Suwalki 77.82 324 eP P 01 45 18.7 +0.2
SUW Suwalki 77.82 324 eP P 01 45 18.6 0.0
SUW Suwalki 77.82 324 eP P 01 45 18.7 +0.2
comp=Z,26nm,1.0s
ASF Jabal al Asfar 77.93 300 P P 01 45 20.9 +1.1
ASF pmax pmax
comp=Z,6.0nm,0.9s
ASF Jabal al Asfar 77.93 300 P P 01 45 20.9 +1.1
comp=Z,5.5nm,0.9s,baz=58,slow=9.5
YKA Yellowknife Ar 78.64 25 P P 01 45 23.1 +0.2
comp=Z,0.6nm,0.6s,baz=301,slow=5.6,SNR=16
HFS Hagfors 79.17 332 P P 01 45 25.0 -0.9
HFS pmax pmax
comp=Z,1.0nm,0.4s
HFS Hagfors 79.17 332 P P 01 45 25.0 -0.9
comp=Z,0.8nm,0.4s,baz=66,slow=3.6,SNR=10
BUR08 Bucovina Ar. S 79.59 318 eP P 01 45 28.6 -0.1
NB2 NORSAR Subarra 79.66 334 P P 01 45 27.7 -0.9
comp=Z,5.8nm,1.0s,baz=53,slow=5.9
NOA NORSAR Array B 79.66 334 P P 01 45 27.9 -0.7
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 79.66 334 P P 01 45 27.9 -0.7
comp=Z,2.0nm,0.8s,baz=56,slow=7.0,SNR=7.6
MLR Muntele Rosu 80.11 316 P P 01 45 31.2 -0.3
comp=Z,0.5nm,0.6s,baz=11,slow=5.2,SNR=4.6
KWP Kalwaria Pacla 80.13 321 eP P 01 45 32.3 +0.9
KWP pmax pmax
comp=Z,12nm,1.0s
KWP Kalwaria Pacla 80.13 321 eP P 01 45 32.3 +0.9
comp=Z,12nm,1.0s
CRVS Cervenica-Dubn 81.20 320 eP P 01 45 40.6 +3.5
CRVS e 01 45 51.2
CRVS pmax pmax
comp=Z,4.0nm,1.4s
CRVS Cervenica-Dubn 81.20 320 eP P 01 45 40.6 +3.5
CRVS e 01 45 51.2
SUMG Summit 81.30 356 eP P 01 45 41.7 +4.0
SUMG Summit 81.30 356 iP P 01 45 42.7 +5.0
comp=Z,11nm,0.9s
SUMG Summit 81.30 356 eP P 01 45 41.7 +4.0
comp=Z,39nm,1.5s
PSZ Piszkesteto 82.60 320 eP P 01 45 42.9 -1.7
PSZ pmax pmax
comp=Z,11nm,1.5s
PSZ Piszkesteto 82.60 320 eP P 01 45 42.9 -1.7
comp=Z,11nm,1.5s
E03A Lebam 82.86 41 eP P 01 45 47.6 +1.8
comp=Z,75nm,1.4s
VYHS Vyhne 82.91 321 eP P 01 45 50.0 +3.9
VYHS e 01 46 01.0
VYHS pmax pmax
comp=Z,2.0nm,1.2s
VYHS Vyhne 82.91 321 eP P 01 45 50.0 +3.9
VYHS e 01 46 01.0
MORC Moravsky Berou 82.95 322 eP P 01 45 49.4 +3.0
MORC pmax pmax
comp=Z,2.0nm,0.7s
MORC Moravsky Berou 82.95 322 eP P 01 45 49.4 +3.0
comp=Z,1.9nm,0.7s
KSP Ksiaz 83.05 324 eP P 01 45 50.9 +4.1
VRAC Vranov 83.73 322 P P 01 45 49.8 -0.5
VRAC pmax pmax
comp=Z,3.0nm,1.0s
VRAC MLR MLR
comp=Z,103nm,18.8s
VRAC Vranov 83.73 322 P P 01 45 49.8 -0.5
comp=Z,3.4nm,1.0s,baz=90,slow=8.1,SNR=1.9
VRAC LR LR 02 26 28.0
comp=Z,103nm,18.8s,baz=342,slow=38
CLL Collm 84.51 325 eP P 01 46 03.0 +8.8
CLL Collm 84.51 325 e(P) P 01 45 57.0 +2.8
CLL e 01 46 03.0
CLL LmV 02 26 00.0
comp=Z,100nm,18.2s
KHC Kasperske Hory 85.47 323 eP P 01 46 00.9 +1.7
KHC Kasperske Hory 85.47 323 eP P 01 46 00.9 +1.7
GERES GERESS Array B 85.56 323 P P 01 45 59.7 0.0
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 85.56 323 P P 01 45 59.7 0.0
comp=Z,1.0nm,0.7s,baz=56,slow=9.9,SNR=4.4
IDI Anoyia 85.59 307 P P 01 46 02.7 +2.6
comp=Z,5.6nm,0.8s,baz=32,slow=20,SNR=5.6
DAVOX Davos/Dischmat 88.86 323 P P 01 46 16.4 +0.5
DAVOX pmax pmax
comp=Z,3.0nm,0.6s
DAVOX Davos/Dischmat 88.86 323 P P 01 46 16.4 +0.5
comp=Z,2.9nm,0.6s,baz=11,slow=5.2,SNR=8.4
PPT Papeete 90.55 109 LR LR 02 20 41.6
comp=Z,48nm,18.6s,baz=263,slow=31
TORD Torodi Ar. Bea 115.29 300 PKP PKPdf 01 52 02.1 -1.6
comp=Z,0.3nm,0.7s,baz=187,slow=1.2,SNR=2.8

PRU 27 01:43:54.0,50.24N×19.28E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.33	93	ePg	Pg	01 44 00.4	0.0
OJC				eSg	Sg	01 44 05.0	+0.2
OKC	Ostrava-Krasne	0.83	242	eSG	Sg	01 44 21.4	+0.6
DPC	Dobruska-Polom	1.90	274	eSG	Sg	01 44 54.9	-0.3

MAN 27 01:47:47,7.52N×126.71E, h51km, mb4.1, ML2.9, MS2.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.73	218	eP	Pn	01 48 03.6	+2.4
DMPH	Davao City--Mi	1.27	250	⇓iP	Pn	01 48 08.4	-0.1
DMPH				eS	Sn	01 48 17.6	-6.9
BUKP	Musuan	1.67	282	eP	Pn	01 48 18.7	+4.8
BUKP				eS	Sn	01 48 39.0	+4.7
MSLP	Maasin	3.17	325	eP	Pn	01 48 35.3	+0.8
PAGZ	Pagadian	3.31	276	eP	Pn	01 48 39.4	+3.0

IDC 27 01:57:23.2±8.2, 29.97N×118.87E, h0km, mb3.4/4, mb1 3.4/4, mb1mx3.2/43, mbtmp3.4/4, Error ellipse: s-maj=155.7km s-min=44.6km az=173.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	20.26	335	P	P	02 02 00.3	-0.1
	0.3nm,0.4s,baz=140,slow=11,SNR=5.4						
MKAR	Makanchi Array	32.87	311	P	P	02 03 58.6	-0.2
	0.2nm,0.5s,baz=98,slow=10,SNR=4.4						
ZALV	Zalesovo Beam	34.32	324	P	P	02 04 11.4	+0.1
	0.2nm,0.3s,baz=138,slow=7.0,SNR=2.9						
SEY	Seymchan	39.38	23	P	P	02 04 54.1	-0.1
	0.7nm,0.3s,baz=237,slow=12,SNR=2.9						

MEX 27 02:10:17.5±0.6, 18.08N×100.65W, h52km±8km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.35	55	eP	Pn	02 10 25.2	-2.1
ARIG				eS	Sn	02 10 32.5	-1.9
ZIIG	Zihuatanejo	0.90	239	eP	Pn	02 10 32.5	-1.5
ZIIG				eS	Sn	02 10 44.7	-1.4
CAIG	El Cayaco	1.08	160	eP	Pn	02 10 34.0	-2.4
CAIG				eS	Sn	02 10 48.5	-1.9
PLIG	Platanillo	1.14	74	eP	Pn	02 10 35.6	-1.6
PLIG				eS	Sn	02 10 50.6	-1.3
ACX	Acapulco	1.42	148	iP	Pn	02 10 35.2	-5.8
ACX				eS	Sn	02 10 52.6	-5.9
TLIG	Tlapa	2.05	104	iP	Pn	02 10 47.6	-2.1
TLIG				iS	Sn	02 11 12.7	-1.6
PNIG	Pinotepa	2.94	124	iP	Pn	02 11 01.2	-0.6
PNIG				iS	Sn	02 11 34.4	-1.4

IDC 27 02:11:48.3±11.0, 1.39N×126.77E, h113km±110km, mb3.7/3, mb1 3.8/3, mb1mx3.2/43, mbtmp4.0/3, Error ellipse: s-maj=197.5km s-min=26.4km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.47	161	P	P	02 16 38.3	-0.1
	1.4nm,0.4s,baz=340,slow=11,SNR=4.5						
STKA	Stephens Creek	35.95	158	P	P	02 18 38.3	+0.1
	1.5nm,0.4s,baz=327,slow=9.0,SNR=8.2						
MKAR	Makanchi Array	59.49	326	P	P	02 21 39.6	0.0
	0.7nm,0.3s,baz=115,slow=7.8,SNR=28						
TORD	Torodi Ar. Bea	123.65	287	PKP	PKPdf	02 30 33.4	-0.4
	0.3nm,0.5s,baz=69,slow=1.8,SNR=7.1						

JMA 27 02:14:13.0±0.4, 25.94N×128.64E, h36km, M3.2
IDC 27 02:14:17.0±2.2, 26.31N×128.17E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/48, mbtmp3.5/4, Error ellipse: s-maj=50.0km s-min=23.1km az=115.0
ISC 27 02:14:14.1±2.8, 26.10N±0.10×128.4E±0.1, h0km±13km, n14, σ1§35/18, mb3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.56	318	P	Pb	02 14 27.7	+0.9
JJT2	Tamagusuku 2	0.62	273	P	Pb	02 14 28.6	+0.7
JJT2				eS	Sn	02 14 39.3	-1.6
JOW	Kunigami	0.74	348	P	Pn	02 14 30.5	-1.3
JOW				eS	Sn	02 14 43.0	-0.8
JOW	Kunigami	0.74	348	Pn	Pn	02 14 30.6	-1.3
	2.2nm,0.3s,baz=156,slow=14,SNR=11						
JOW				Sn	Sn	02 14 44.5	+0.7
	24nm,0.3s,baz=149,slow=19,SNR=22						
JIH	Iheya	1.02	335	P	Pn	02 14 35.0	-0.7
JIH				eS	Sn	02 14 50.3	-0.4
JAGN	Aguni-jima	1.18	294	P	Pg	02 14 37.0	+0.2
JAGN				eS	Sn	02 14 54.1	-0.5
JOKE	Okinoerabujima	1.26	5	P	Pn	02 14 37.4	-1.5
JOKE				eS	Sg	02 14 54.2	-0.4
JKE	Kume jima 2	1.50	279	P	Pn	02 14 40.6	-1.7
JTK	Tokunoshima	1.74	15	P	Pn	02 14 43.4	-2.1
JMZ	Minamidaito 2	2.52	96	P	Pn	02 14 49.0	-7.2
SONM	Songino Array	27.76	327	P	P	02 20 05.0	+0.4
	0.2nm,0.4s,baz=148,slow=10,SNR=3.5						
ZALV	Zalesovo Beam	42.46	323	P	P	02 22 09.9	-0.8
	0.3nm,0.4s,baz=101,slow=7.5,SNR=2.6						
FINES	FINESS Array B	73.07	331	P	P	02 25 48.2	+2.5
	3.4nm,1.2s,baz=44,slow=6.2,SNR=2.9						
YKA	Yellowknife Ar	78.56	25	P	P	02 26 19.9	+2.8
	0.4nm,0.9s,baz=288,slow=5.1,SNR=3.3						

ISCJB 27 02:17:27.0±1.4, 25.95N±0.05×128.73E±0.04, h30km±11km, mb3.2/3, Error ellipse: s-maj=8.2km s-min=6.5km az=177.2
JMA 27 02:17:27.2±0.2, 25.94N×128.71E, h38km±4km, M3.3
IDC 27 02:17:28.8±2.6, 26.24N×128.39E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.3/48, mbtmp3.5/3, Error ellipse: s-maj=37.5km s-min=26.6km az=112.0
ISC 27 02:17:25.9±1.7, 25.95N±0.06×128.72E±0.04, h10km±10km, n15, σ1§43/24, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.85	313	P	Pg	02 17 42.7	+0.4
JJT2	Tamagusuku 2	0.89	283	P	Pb	02 17 43.6	+0.1
JOW	Kunigami	0.97	336	P	Pg	02 17 45.0	+0.4
JOW				eS	Sg	02 17 57.5	+0.3
JOW	Kunigami	0.97	336	Pn	Pg	02 17 45.0	+0.4
	17nm,0.3s,baz=132,slow=19,SNR=13						
JOW				Sn	Sg	02 17 55.1	-2.1
	19nm,0.3s,baz=170,slow=15,SNR=7.7						
JIH	Iheya	1.28	328	P	Pn	02 17 49.7	-0.1
JIH				eS	Sb	02 18 05.1	-1.4
JOKE	Okinoerabujima	1.42	355	P	Pn	02 17 51.5	-0.2
JOKE				eS	Sn	02 18 09.0	-1.4
JAGN	Aguni-jima	1.47	296	P	Pn	02 17 52.3	-0.1
JAGN				eS	Sn	02 18 09.3	-1.8
JKE	Kume jima 2	1.78	283	P	Pn	02 17 56.0	-0.6
JKE				eS	Sn	02 18 16.7	-2.6
JTK	Tokunoshima	1.84	6	P	Pn	02 17 57.5	-0.1
JTK				eS	Sn	02 18 19.5	-1.5
JMZ	Minamidaito 2	2.26	93	P	Pn	02 18 02.9	-0.3
JMZ				eS	Sn	02 18 27.9	-3.2
JAMN	Amaminishikomi	2.33	10	eS	Sn	02 18 32.6	-0.2
JAM	Amami Oshima	2.58	18	P	Pn	02 18 07.5	-0.2
JAM				eS	Sn	02 18 37.9	-1.2
SONM	Songino Array	28.03	327	P	P	02 23 19.5	+2.3
	0.3nm,0.4s,baz=139,slow=11,SNR=4.9						
MKAR	Makanchi Array	42.05	312	P	P	02 25 18.4	+0.7
	0.1nm,0.6s,baz=91,slow=9.1,SNR=4.0						
FINES	FINESS Array B	73.33	331	P	P	02 28 58.7	+1.3
	0.8nm,0.9s,baz=79,slow=7.2,SNR=3.7						

ISCJB 27 02:20:40.5±1.0, 25.96N±0.04×128.69E±0.04, h25km±6km, mb3.5/5, Error ellipse: s-maj=7.5km s-min=6.1km az=178.7
JMA 27 02:20:40.8±0.2, 25.95N×128.68E, h29km±4km, M3.3
IDC 27 02:20:40.2±1.9, 26.19N×128.76E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.4/50, mbtmp3.7/5, Error ellipse: s-maj=44.7km s-min=28.5km az=63.0
ISC 27 02:20:40.3±1.6, 25.95N±0.05×128.67E±0.04, h12km±9km, n17, σ1§35/29, mb3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.81	314	P	Pg	02 20 55.8	-0.1
JNTH				eS	Sg	02 21 06.9	+0.3
JJT2	Tamagusuku 2	0.85	283	P	Pg	02 20 56.7	+0.1
JJT2				eS	Sg	02 21 08.1	+0.4
JOW	Kunigami	0.95	338	P	Pg	02 20 58.2	-0.3
JOW				eS	Sg	02 21 10.3	-0.6
JOW	Kunigami	0.95	338	Pn	Pg	02 20 58.6	+0.1
	14nm,0.3s,baz=142,slow=16,SNR=11						
JOW				Sn	Sg	02 21 11.2	+0.3
	21nm,0.3s,baz=126,slow=19,SNR=14						
JOW				LR	LR	02 21 24.6	
	comp=Z,48nm,18.6s,baz=282,slow=57						
JIH	Iheya	1.25	330	P	Pn	02 21 02.9	-0.6
JIH				S	Sb	02 21 18.4	-1.4
JOKE	Okinoerabujima	1.41	357	P	Pn	02 21 05.5	-0.2
JOKE				eS	Sn	02 21 22.6	-1.6
JAGN	Aguni-jima	1.43	297	P	Pn	02 21 06.1	+0.1
JAGN				eS	Sn	02 21 23.1	-1.6
JKE	Kume jima 2	1.73	283	P	Pn	02 21 08.8	-1.4
JKE				eS	Sn	02 21 28.9	-3.3
JTK	Tokunoshima	1.84	8	P	Pn	02 21 11.6	-0.1
JTK				eS	Sn	02 21 33.5	-1.5
JMZ	Minamidaito 2	2.31	93	P	Pn	02 21 17.1	-0.9
JMZ				eS	Sn	02 21 43.6	-2.7
JAMN	Amaminishikomi	2.33	11	P	Pn	02 21 18.2	-0.2
JAMN				eS	Sn	02 21 45.8	-1.1
JAM	Amami Oshima	2.59	19	P	Pn	02 21 21.9	-0.1
JAM				eS	Sn	02 21 51.9	-1.5
SONM	Songino Array	28.00	327	P	P	02 26 33.3	+2.2
	0.5nm,0.5s,baz=142,slow=11,SNR=8.1						
MKAR	Makanchi Array	42.01	312	P	P	02 28 30.6	-0.9
	0.4nm,0.7s,baz=98,slow=10,SNR=5.8						
FINES	FINESS Array B	73.30	331	P	P	02 32 12.2	+0.9
	1.4nm,1.0s,baz=99,slow=8.7,SNR=3.6						
AKASG	Malin Array Be	76.00	320	P	P	02 32 28.1	+0.9
	0.4nm,0.4s,baz=60,slow=6.6,SNR=2.5						
BRTR	Keskin Array B	77.51	308	P	P	02 32 38.0	+1.8
	0.4nm,0.7s,baz=100,slow=7.9,SNR=3.0						

MEX 27 02:24:57.5±1.1, 16.37N×94.11W, h119km±14km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.03	314	eP	Pn	02 25 18.3	-1.4
CMIG				eS	Sn	02 25 34.6	-2.0
PCIG		1.08	127	eP	Pn	02 25 19.6	-0.7
PCIG				eS	Sn	02 25 36.4	-1.2
CCIG	Comitan	1.90	92	eP	Pn	02 25 29.1	-0.9
CCIG				iS	Sn	02 25 52.5	-2.2
HUIG	Huatulco	2.01	253	iP	Pn	02 25 28.8	-2.2
HUIG				iS	Sn	02 25 55.1	-1.6
VHO	Vista Hermosa	2.60	286	iP	Pn	02 25 38.4	-0.5
VHO				iS	Sn	02 26 09.6	-1.2

JMA 27 02:26:38.2±0.2, 25.95N×128.68E, h37km, M3.3
IDC 27 02:26:42.8±4.1, 26.38N×128.08E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.5/24, mbtmp3.7/5, Error ellipse: s-maj=89.8km s-min=18.4km az=131.0
ISC 27 02:26:42.0±1.8, 26.10N±0.09×128.51E±0.09, h27km, n14, σ1§27/16, mb3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.60	314	P	Pb	02 26 53.2	-0.9
JNTH				eS	Sn	02 27 04.4	+0.7
JJT2	Tamagusuku 2	0.68	273	P	Pb	02 26 54.1	-1.3
JJT2				eS	Sb	02 27 05.2	+0.8
JOW	Kunigami	0.76	344	eS	Sn	02 27 07.6	0.0
JOW	Kunigami	0.76	344	Pn	Pn	02 26 56.6	-0.4
	4.4nm,0.3s,baz=168,slow=18,SNR=7.3						
JOW				Sn	Sn	02 27 07.6	0.0
	13nm,0.3s,baz=118,slow=23,SNR=8.9						
JIH	Iheya	1.05	333	eS	Sb	02 27 15.7	+0.8
JAGN	Aguni-jima	1.23	294	P	Pn	02 27 02.5	-1.0
JAGN				eS	Sn	02 27 20.2	+0.9
JOKE	Okinoerabujima	1.26	3	P	Pn	02 27 02.7	-1.2
JOKE				eS	Sb	02 27 19.9	-1.0
JKE	Kume jima 2	1.56	279	P	Pn	02 27 06.3	-1.7
JMZ	Minamidaito 2	2.46	96	P	Pn	02 27 14.3	-6.1
SONM	Songino Array	27.80	327	P	P	02 32 30.6	+1.7
	0.3nm,0.5s,baz=138,slow=12,SNR=4.6						
MKAR	Makanchi Array	41.81	312	P	P	02 34 28.3	-1.1
	0.4nm,0.8s,baz=98,slow=10,SNR=2.9						
FINES	FINESS Array B	73.10	331	P	P	02 38 12.2	+2.6
	1.1nm,0.8s,baz=77,slow=6.1,SNR=4.3						
AKASG	Malin Array Be	75.79	320	P	P	02 38 27.8	+2.3
	0.3nm,0.4s,baz=55,slow=6.5,SNR=4.1						
BRTR	Keskin Array B	77.31	308	P	P	02 38 38.0	+3.5
	0.6nm,0.9s,baz=85,slow=6.4,SNR=4.2						

IDC 27 02:30:50.6±0.8, 8.14S×129.19E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/18, mbtmp4.1/8, ML3.1/1, Error ellipse: s-maj=36.4km s-min=20.8km az=68.0
ISCJB 27 02:30:52.1±0.3, 8.52S±0.03×129.27E±0.03, h33km, mb4.2/16, Error ellipse: s-maj=5.0km s-min=4.0km az=148.7
NEIC 27 02:30:52.8±3.0, 8.35S×129.19E, h19km±19km, mb4.3/10, Error ellipse: s-maj=9.6km s-min=7.9km az=55.0
DJA 27 02:31:05.6±0.3, 8°S±3°×12°9E±°, h69km±9km, M4.7/14, mB5.3/6, mb4.6/14, MLv4.7/8, Mw(mB)4.7/6
ISC 27 02:30:54.9±0.5, 8.49S±0.05×129.23E±0.06, h35km, n58, σ1§98/57, mb4.2/16, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.11	76	P	Pn	02 31 38.1	+10
SAUI				S	Sn	02 32 04.9	+12
BNDI	Bandanaira	3.99	10	P	Pn	02 31 58.6	+4.9
SOEI	Soe	5.06	255	ePn	Pn	02 32 09.1	+0.7
	137nm,1.0s						
SOEI				eSn	Sn	02 33 07.0	+1.3
NLAI	Namlea	5.62	338	P	Pn	02 32 19.6	+3.5
	164nm,0.9s,2µm0.5nm						
BATI	Baumata	5.75	252	Pn	Pn	02 32 17.9	0.0
	0.5nm,0.3s,baz=102,slow=14,SNR=2.3						
BATI				Sn	Sn	02 33 23.6	+0.9
	8.4nm,0.3s,baz=78,slow=19,SNR=3.3						
FAKI	Fak Fak	6.29	29	P	Pn	02 32 26.9	+1.6
	82nm,0.6s,0.3nm						
FAKI	Fak Fak	6.29	29	ePn	Pn	02 32 25.5	+0.2
	47nm,0.6s						
KNRA	Kununurra	7.16	184	S	Sn	02 33 58.5	+1.1
	baz=6.7,SNR=15						
LBMI	Labuha	7.98	347	P	Pn	02 32 52.6	+4.1
	133nm,1.5s,1µm0.5nm						
BKSI	Bulukumba	9.57	289	P	Pn	02 33 17.0	+6.7
	23nm,0.8s						
BNSI	Bone	9.93	294	P	Pn	02 33 23.5	+8.3
	35nm,1.9s,1µm						
BAKI	Biak	9.97	44	P	Pn	02 33 23.4	+7.6
	60nm,0.9s,2µm						
FITZ	Fitzroy Crossi	10.18	200	ePn	Pn	02 33 18.9	+0.3
	15nm,0.6s						
FITZ	Fitzroy Crossi	10.18	200	P	Pn	02 33 19.3	+0.7
	baz=9.9,SNR=25						
FITZ				S	Sn	02 35 08.9	-2.6
	baz=9.9,SNR=4.9						
SPSI	Sidrap Palu	10.42	295	P	Pn	02 33 27.9	+6.0
	22nm,1.2s						
APSI	Ampana	10.66	315	P	Pn	02 33 30.6	+5.4
	42nm,0.9s						
TTSI	Tana Toraja	10.81	299	P	Pn	02 33 33.0	+5.8
	15nm,1.6s,1µm						
MMPI	Merauke	11.04	91	P	Pn	02 33 29.9	-0.5
	baz=11,SNR=5.0						
WRAB	Tennant Creek	12.41	157	ePn	Pn	02 33 49.6	+0.4
	11nm,0.6s						
WRAB				eSn	Sn	02 36 04.9	-1.5
WRA	Warramunga Arr	12.42	157	Pn	Pn	02 33 49.0	-0.3
	1.3nm,0.3s,baz=339,slow=13,SNR=26						
WRA				Sn	Sn	02 36 04.9	-1.6
	1.2nm,0.3s,baz=330,slow=25,SNR=13						
COEN	Coen	14.72	113	ePn	Pn	02 34 21.6	+0.9
COEN	Coen	14.72	113	P	Pn	02 34 21.7	+1.0
	baz=14,SNR=7.6						
COEN				S	Sn	02 36 59.8	-3.0
	baz=14,SNR=5.9						
MBWA	Marble Bar	15.58	215	ePn	Pn	02 34 28.8	-3.2
QIS	Mount Isa	15.64	141	P	Pn	02 34 33.5	+0.7
	baz=15,SNR=7.2						
QIS				S	Sn	02 37 22.7	-2.4
	baz=15,SNR=5.5						
AS31	Alice Springs	15.75	164	ePn	Pn	02 34 32.5	-1.7
AS31				eSn	Sn	02 37 26.3	-1.4
WRKA	Warakurna	16.48	183	P	Pn	02 34 42.7	-0.9
	baz=16,SNR=22						
WRKA				S	Sn	02 37 38.8	-6.8
	baz=16,SNR=6.0						
PMG	Port Moresby	17.74	94	ePn	Pn	02 34 56.9	-2.4
FORT	Forrest	22.21	183	eP	P	02 35 50.7	+2.3
	26nm,0.7s						
QLP	Quilpie	22.95	144	P	P	02 36 01.5	+5.3
	baz=22,SNR=9.1						
STKA	Stephens Creek	25.96	155	P	P	02 36 26.8	+2.5
	6.6nm,0.8s,baz=321,slow=11,SNR=8.5						
STKA	Stephens Creek	25.96	155	eP	P	02 36 25.4	+1.1
	6.9nm,1.5s						
STKA	Stephens Creek	25.96	155	P	P	02 36 28.6	+4.3
	baz=26,SNR=6.3						
CMSA	Cobar Meteorol	27.59	148	P	P	02 36 43.6	+4.7
	baz=27,SNR=5.4						
DZM	Mont Dzumac	38.23	115	eP	P	02 38 12.3	+0.3
	42nm,1.5s						
CMAR	Chiang Mai Arr	40.12	312	P	P	02 38 27.0	-0.7
	0.8nm,0.4s,baz=153,slow=6.1,SNR=3.5						
CHTO	Chiang Mai	40.35	312	eP	P	02 38 27.4	-2.1
	2.6nm,0.6s						

MJAR	Matsushiro Arr	45.58	10	P	P	02 39 10.1	-1.4
	1.4nm,0.6s,baz=184,slow=9.5,SNR=3.6						
SONM	Songino Array	59.61	342	P	P	02 40 54.3	-1.1
	1.0nm,0.9s,baz=159,slow=6.6,SNR=5.8						
MK31	Makanchi Array	69.05	327	eP	P	02 41 55.9	-1.3
MKAR	Makanchi Array	69.05	327	eP	P	02 41 55.9	-1.3
	2.3nm,0.9s,baz=128,slow=7.9,SNR=22						
TKM2	Tokmak 2	70.64	321	eP	P	02 42 05.9	-1.4
	1.4nm,0.7s						
AAK	Ala-Archa	71.18	320	eP	P	02 42 10.4	-0.1
	1.4nm,0.8s						
EKS2	Erkin-Say	71.65	320	eP	P	02 42 13.5	+0.2
	1.3nm,0.6s						
ZAA0	Zalesovo Array	72.57	334	eP	P	02 42 16.1	-2.3
ZALV	Zalesovo Beam	72.57	334	P	P	02 42 16.9	-1.5
	1.9nm,0.9s,baz=134,slow=4.3,SNR=6.6						
KURK	Kurchatov	73.39	329	eP	P	02 42 22.3	-0.9
	2.5nm,0.9s						
BRVK	Borovoye	78.98	328	eP	P	02 42 54.5	-0.6
	3.7nm,1.0s						
ABKAR	Akbulak array	83.19	322	eP	P	02 43 15.9	-1.7
MCK	McKinley	93.94	26	eP	P	02 44 08.3	-0.5
	7.4nm,1.4s						
ILAR	Eielson Array	95.01	25	P	P	02 44 12.8	-0.9
	1.2nm,0.8s,baz=274,slow=4.2,SNR=12						
TOA0	Torodi Ar. Sit	128.33	280	ePKPdf	PKPdf	02 50 00.5	+1.7
TORD	Torodi Ar. Bea	128.33	280	PKP	PKPdf	02 50 00.1	+1.2
	0.7nm,0.9s,baz=100,slow=2.8,SNR=3.3						
ASCN	Ascension	140.22	247	ePKPdf	PKPdf	02 50 21.8	+0.7
LVC	Limon Verde	144.35	150	ePKPdf	PKPdf	02 50 30.8	+2.2
CPUP	Villa Florida	144.81	170	ePKPbc	PKPdf	02 50 30.5	+1.5
	1.8nm,0.6s,baz=273,slow=1.5,SNR=4.7						
CPUP	Villa Florida	144.81	170	ePKPbc	PKPdf	02 50 30.7	+1.8
LPAZ	La Paz	149.98	145	PKPbc	PKPbc	02 50 46.4	+2.9
	1.2nm,0.9s,baz=210,slow=8.1,SNR=3.2						
SAML	Samuel	158.72	144	ePKPdf	PKPdf	02 50 50.2	+0.1
SAML				ePKPab	PKPab	02 51 27.3	+1.9

NIED 27 02:47:00, 26°.00N×128°.70E, h11km, Mw3.9 Best double couple: $M_0$8.07000×10^{14} NP1:ϕ_s79.00000°, δ39.00000°, λ-39.00000°. NP2:ϕ_s201.00000°, δ67.00000°, λ-122.00000°.
IDC 27 02:47:02.5±1.0, 25°.99N×128°.80E, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.8/34, mbtmp3.8/14, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/36, Error ellipse: s-maj=29.0km s-min=20.4km az=70.0
ISCJB 27 02:47:04.3±0.9, 25°.98N±0°.04×128°.77E±0°.04, h24km±6km, mb3.8/17, MS3.2/1, Error ellipse: s-maj=6.3km s-min=5.7km az=156.2
JMA 27 02:47:05.6±0.2, 25°.98N×128°.69E, h36km±4km, M3.7
NEIC 27 02:47:07.9±0.7, 26°.04N×128°.80E, h35km, mb4.2/5, Error ellipse: s-maj=13.2km s-min=12.0km az=143.0
ISC 27 02:47:03.9±1.6, 25°.99N±0°.05×128°.74E±0°.04, h10km±9km, n39, σ1°.16/50, mb4.1/17, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.84	309	P	Pg	02 47 20.4	+0.3
JNTH				eS	Sg	02 47 30.9	-0.2
JJT2	Tamagusuku 2	0.91	280	P	Pb	02 47 21.4	-0.4
JJT2				eS	Sb	02 47 32.8	-1.1
JOW	Kunigami	0.94	334	P	Pn	02 47 22.6	-0.6
JOW				eS	Sn	02 47 35.3	-1.5
JOW	Kunigami	0.94	334	Pn	Pn	02 47 22.7	-0.6
	47nm,0.3s,baz=144,slow=18,SNR=51						
JOW				Sn	Sg	02 47 34.0	-0.5
	41nm,0.3s,baz=126,slow=19,SNR=22						
JOW				LR	LR	02 47 38.7	
	comp=Z,18nm,20.9s,baz=294,slow=37						
JIH	Iheya	1.26	326	P	Pb	02 47 27.2	-0.5
JIH				S	Sn	02 47 42.6	-1.9
JOKE	Okinoerabujima	1.38	354	P	Pb	02 47 29.4	-0.4
JOKE				eS	Sb	02 47 46.5	-1.0
JAGN	Aguni-jima	1.48	294	P	Pn	02 47 30.1	-0.5
JAGN				eS	Sn	02 47 48.2	-1.7
JKE	Kume jima 2	1.79	281	P	Pn	02 47 33.9	-1.0
JTK	Tokunoshima	1.80	6	P	Pn	02 47 35.2	+0.1
JTK				S	Sn	02 47 56.3	-1.7
JMZ	Minamidaito 2	2.24	94	P	Pn	02 47 40.2	-0.8
JMZ				S	Sn	02 48 05.2	-3.5
JAMN	Amaminishikomi	2.28	10	P	Pn	02 47 42.2	+0.6
JAM	Amami Oshima	2.54	17	P	Pn	02 47 44.9	-0.2
JAM				S	Sn	02 48 14.2	-1.9
JZK	Kikaishima	2.56	25	eS	Sn	02 48 17.3	+0.5
JTAJ	Takarajima	3.18	7	P	Pn	02 47 54.5	+0.5
JTAJ				eS	Sn	02 48 30.2	-1.8
JNU	Natsatsue	7.35	14	Pn	Pn	02 48 52.7	+1.3
	1.3nm,0.3s,baz=205,slow=9.6,SNR=5.9						
JNU				Sn	Sn	02 50 11.9	-2.9
	0.7nm,0.3s,baz=204,slow=20,SNR=3.4						
MAJO	Matsushiro	13.27	35	ePn	Pn	02 50 11.5	-0.8
USRK	Ussuriysk Arra	18.36	7	P	P	02 51 19.0	+0.4
	0.1nm,0.3s,baz=184,slow=11,SNR=3.4						
ULN	Ulaanbaatar	27.71	328	eP	P	02 52 54.1	+1.6
	3.8nm,1.0s						
SONM	Songino Array	28.01	327	P	P	02 52 57.5	+2.4
	1.1nm,0.7s,baz=141,slow=11,SNR=11						
TLY	Talaya	31.95	330	LR	LR	03 08 52.2	
	comp=Z,50nm,18.4s,baz=44,slow=41						
MK31	Makanchi Array	42.04	312	eP	P	02 54 55.7	0.0
MKAR	Makanchi Array	42.04	312	P	P	02 54 55.5	-0.2
	0.6nm,0.5s,baz=94,slow=9.3,SNR=4.9						
ZALV	Zalesovo Beam	42.72	323	P	P	02 55 00.8	-0.2
	0.6nm,0.6s,baz=120,slow=8.8,SNR=3.5						
KURK	Kurchatov	45.31	317	eP	P	02 55 22.1	+0.2
	2.9nm,1.2s						
WRA	Warramunga Arr	45.98	173	P	P	02 55 27.6	+0.2
	1.5nm,0.6s,baz=354,slow=8.4,SNR=4.2						
TKM2	Tokmak 2	46.20	305	eP	P	02 55 29.6	+0.3
	1.9nm,0.8s						
ABKAR	Akbulak array	57.15	313	eP	P	02 56 50.9	+0.1
GEYT	Alibeck	59.81	300	P	P	02 57 10.5	+0.9
	0.9nm,0.4s,baz=81,slow=4.5,SNR=2.5						
MCK	McKinley	63.66	29	eP	P	02 57 36.1	+1.0
	2.6nm,0.7s						
ILAR	Eielson Array	64.43	28	P	P	02 57 39.8	-0.3
	0.5nm,0.8s,baz=274,slow=6.1,SNR=4.9						
KBZ	Khabaz	69.67	310	P	P	02 58 14.9	+1.2
	1.0nm,0.7s,baz=90,slow=8.1,SNR=3.1						
FINES	FINESS Array B	73.30	331	P	P	02 58 35.5	+0.2
	0.9nm,0.6s,baz=81,slow=4.4,SNR=9.9						
AKASG	Malin Array Be	76.02	320	P	P	02 58 51.3	0.0
	0.8nm,0.5s,baz=58,slow=6.6,SNR=5.3						
AKBB	Malin Array Si	76.02	320	eP	P	02 58 50.6	-0.7
BRTR	Keskin Array B	77.55	308	P	P	02 59 01.0	+0.6
	0.3nm,0.6s,baz=95,slow=4.2,SNR=5.5						
BRTR	Keskin Array B	77.55	308	P	P	02 59 01.0	+0.6
YKA	Yellowknife Ar	78.55	25	P	P	02 59 05.3	0.0
	0.2nm,0.6s,baz=298,slow=5.6,SNR=5.9						
NOA	NORSAR Array B	79.73	334	P	P	02 59 11.8	0.0
	0.4nm,0.6s,baz=52,slow=5.7,SNR=2.7						
SUMG	Summit	81.31	356	eP	P	02 59 20.2	-0.3
	2.0nm,0.5s						

IDC 27 02:58:59.4±1.2, 25°.94N×128°.53E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/37, mbtmp3.5/5, Error ellipse: s-maj=33.4km s-min=18.2km az=74.0
ISCJB 27 02:59:00.5±1.0, 25°.95N±0°.05×128°.70E±0°.04, h25km±7km, mb3.4/5, Error ellipse: s-maj=7.6km s-min=6.4km az=5.7
JMA 27 02:59:01.2±0.3, 25°.94N×128°.67E, h35km, M3.3
ISC 27 02:59:00.2±3.3, 25°.94N±0°.05×128°.67E±0°.04, h12km±21km, n17, σ1°.54/26, mb3.7/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.82	315	P	Pb	02 59 16.1	-0.3
JJT2	Tamagusuku 2	0.85	284	P	Pb	02 59 17.0	0.0
JJT2				eS	Sb	02 59 28.5	+0.1
JOW	Kunigami	0.96	338	P	Pb	02 59 18.5	-0.3
JOW	Kunigami	0.96	338	Pn	Pb	02 59 18.9	0.0
	8.2nm,0.3s,baz=171,slow=18,SNR=18						
JOW				Sn	Sn	02 59 34.0	+0.8
	18nm,0.3s,baz=162,slow=20,SNR=12						
JIH	Iheya	1.26	330	P	Pn	02 59 23.3	-0.4
JIH				eS	Sb	02 59 38.9	-1.3
JOKE	Okinoerabujima	1.42	356	P	Pn	02 59 25.7	-0.2
JOKE				eS	Sn	02 59 42.0	-2.6
JAGN	Aguni-jima	1.44	297	P	Pn	02 59 25.6	-0.5
JAGN				eS	Sn	02 59 43.5	-1.5
JKE	Kume jima 2	1.74	283	P	Pn	02 59 29.1	-1.2
JKE				eS	Sn	02 59 49.3	-3.1
JTK	Tokunoshima	1.86	8	P	Pn	02 59 31.8	-0.1
JTK				eS	Sn	02 59 53.1	-2.2
JMZ	Minamidaito 2	2.30	92	P	Pn	02 59 37.3	-0.6
JMZ				eS	Sn	03 00 03.0	-3.2
JAMN	Amaminishikomi	2.34	11	eS	Sn	03 00 06.4	-0.8
JAM	Amami Oshima	2.60	18	P	Pn	02 59 41.9	-0.2
JAM				eS	Sn	03 00 11.8	-1.8
SONM	Songino Array	28.01	327	P	P	03 04 53.5	+2.3
	0.8nm,0.4s,baz=142,slow=11,SNR=14						
MKAR	Makanchi Array	42.02	312	P	P	03 06 51.0	-0.6
	0.3nm,0.5s,baz=97,slow=7.4,SNR=8.5						
WRA	Warramunga Arr	45.94	173	P	P	03 07 23.8	+0.7
	0.5nm,0.6s,baz=353,slow=8.4,SNR=2.3						
FINES	FINESS Array B	73.31	331	P	P	03 10 32.8	+1.4
	0.6nm,0.8s,baz=141,slow=4.8,SNR=3.6						
YKA	Yellowknife Ar	78.62	25	P	P	03 11 02.8	+1.1
	0.2nm,0.7s,baz=292,slow=5.0,SNR=3.2						

JMA 27 03:00:15.6±0.5, 25°.93N×128°.64E, h28km, M3.2
IDC 27 03:00:15.3±4.6, 26°.08N×128°.29E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/36, mbtmp3.6/3, Error ellipse: s-maj=107.1km s-min=28.1km az=107.0
ISC 27 03:00:15.8±1.9, 25°.90N±0°.08×128°.62E±0°.05, h22km±6km, n13, σ1°.27/19, mb3.3/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.82	319	P	Pb	03 00 30.2	-1.1
JJT2	Tamagusuku 2	0.82	287	P	Pb	03 00 31.1	-0.3
JJT2				eS	Sb	03 00 42.3	+0.3
JOW	Kunigami	0.98	342	P	Pb	03 00 33.4	-0.7
JOW				S	Sb	03 00 45.4	-1.1
JOW	Kunigami	0.98	342	Pn	Pb	03 00 33.5	-0.6
	baz=167,slow=16,SNR=1.2						
JOW				Sn	Sb	03 00 45.5	-1.1
	5.3nm,0.3s,baz=154,slow=15,SNR=5.0						
JIH	Iheya	1.27	333	P	Pn	03 00 38.0	-0.3
JIH				S	Sn	03 00 52.5	-2.2
JAGN	Aguni-jima	1.41	299	P	Pn	03 00 39.9	-0.4
JOKE	Okinoerabujima	1.46	358	P	Pn	03 00 40.5	-0.4
JOKE				S	Sn	03 00 57.2	-2.1
JKE	Kume jima 2	1.70	285	P	Pn	03 00 43.4	-0.8
JKE				S	Sn	03 01 03.2	-2.1
JTK	Tokunoshima	1.90	9	P	Pn	03 00 46.7	-0.3
JMZ	Minamidaito 2	2.34	91	P	Pn	03 00 51.9	-1.2
SONM	Songino Array	28.02	327	P	P	03 06 06.7	+1.3
	0.3nm,0.5s,baz=135,slow=10,SNR=4.8						
MKAR	Makanchi Array	42.01	312	P	P	03 08 05.0	-0.6
	0.2nm,0.5s,baz=100,slow=9.5,SNR=3.6						
FINES	FINESS Array B	73.32	331	P	P	03 11 46.4	+0.9
	1.9nm,1.0s,baz=355,slow=13,SNR=2.4						

IDC 27 03:01:49.1±2.0, 0°.87N×124°.70E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/34, mbtmp3.7/3, Error ellipse: s-maj=276.3km s-min=25.1km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.74	156	P	P	03 06 52.5	-0.6
	0.8nm,0.5s,baz=334,slow=11,SNR=3.2						
STKA	Stephens Creek	36.29	155	P	P	03 08 54.8	+0.3
	1.3nm,0.8s,baz=348,slow=7.6,SNR=4.4						
MKAR	Makanchi Array	58.78	327	P	P	03 11 48.9	-0.3
	0.3nm,0.3s,baz=122,slow=7.6,SNR=6.8						
TORD	Torodi Ar. Bea	121.81	286	PKP	PKPdf	03 20 46.5	+0.2
	0.5nm,0.8s,baz=85,slow=1.4,SNR=4.9						

NIED 27 03:02:00, 26°.00N×128°.80E, h8km, Mw4.1 Best double couple: $M_0$1.36000×10^{15} NP1:ϕ_s43.00000°, δ22.00000°, λ-74.00000°. NP2:ϕ_s206.00000°, δ68.00000°, λ-96.00000°.
IDC 27 03:02:28.8±0.9, 25°.99N×128°.68E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.9/38, mbtmp3.9/13, ML3.5/2, Error ellipse: s-maj=29.6km s-min=18.9km az=72.0
ISCJB 27 03:02:31.1±1.0, 26°.04N±0°.04×128°.75E±0°.04, h28km±7km, mb4.0/18, Error ellipse: s-maj=6.8km s-min=6.0km az=33.0
JMA 27 03:02:31.1±0.3, 26°.03N×128°.77E, h33km, M3.8
NEIC 27 03:02:34.0±0.4, 26°.02N×128°.69E, h35km, mb4.3/8, Error ellipse: s-maj=14.0km s-min=8.3km az=69.0
ISC 27 03:02:30.3±1.9, 26°.02N±0°.05×128°.76E±0°.04, h12km±11km, n43, σ1°.43/48, mb4.2/18, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.83	307	P	Pg	03 02 46.2	-0.2
JJT2	Tamagusuku 2	0.92	278	P	Pb	03 02 48.0	-0.2
JJT2				S	Sb	03 03 00.3	0.0
JOW	Kunigami	0.92	332	P	Pb	03 02 48.0	-0.3
JOW				S	Sb	03 02 59.4	-1.1
JOW	Kunigami	0.92	332	Pn	Pb	03 02 48.1	-0.3
	91nm,0.3s,baz=149,slow=18,SNR=110						
JOW				Sn	Sb	03 02 59.2	-1.3
	72nm,0.3s,baz=106,slow=20,SNR=25						
JIH	Iheya	1.24	325	P	Pn	03 02 52.9	-0.6
JIH				S	Sb	03 03 07.9	-1.7
JOKE	Okinoerabujima	1.35	353	P	Pn	03 02 54.4	-0.6
JOKE				S	Sn	03 03 10.8	-2.1
JAGN	Aguni-jima	1.48	293	P	Pn	03 02 56.3	-0.4
JTK	Tokunoshima	1.77	5	P	Pn	03 03 00.3	-0.5
JTK				S	Sn	03 03 20.2	-3.1
JKE	Kume jima 2	1.80	280	P	Pn	03 03 00.1	-1.1
JKE				S	Sn	03 03 20.8	-3.2
JMZ	Minamidaito 2	2.23	95	P	Pn	03 03 05.7	-1.3
JMZ				S	Sn	03 03 30.3	-4.2
JAMN	Amaminishikomi	2.25	9	P	Pn	03 03 07.6	+0.2
JAM	Amami Oshima	2.50	17	P	Pn	03 03 10.4	-0.5
JAM				S	Sn	03 03 38.0	-3.3
JOGS	Gusukube	3.28	248	S	Sn	03 03 57.6	-2.9
JNU	Nakatsue	7.32	14	Pn	Pn	03 04 18.4	+1.4
	1.7nm,0.3s,baz=353,slow=4.1,SNR=10						
USRK	Ussuriysk Arra	18.33	7	P	P	03 06 46.3	+1.8
	0.2nm,0.3s,baz=187,slow=10.0,SNR=3.6						
ULN	Ulaanbaatar	27.69	328	eP	P	03 08 20.0	+1.6
	5.7nm,0.9s						
SONM	Songino Array	27.99	327	P	P	03 08 22.4	+1.3
	1.9nm,0.8s,baz=139,slow=10,SNR=17						
H11S3	WAKE ISLAND Hy	35.80	94	T	T	03 47 44.5	
	baz=282,slow=74,SNR=4.8						
H11S1	WAKE ISLAND Hy	35.80	94	T	T	03 47 45.0	
	baz=282,slow=74,SNR=4.4						
H11S2	WAKE ISLAND Hy	35.81	94	T	T	03 47 44.9	
	baz=282						
MK31	Makanchi Array	42.03	312	eP	P	03 10 21.1	-0.6
MKAR	Makanchi Array	42.03	312	P	P	03 10 20.7	-1.0
	1.0nm,0.7s,baz=105,slow=9.9,SNR=12						
COEN	Coen	42.14	159	eP	P	03 10 23.2	+0.5
ZALV	Zalesovo Beam	42.70	323	P	P	03 10 26.2	-0.8
	1.0nm,0.8s,baz=92,slow=9.2,SNR=3.8						
KURK	Kurchatov	45.30	317	eP	P	03 10 47.6	-0.3
	2.5nm,1.1s						
WRAB	Tennant Creek	46.00	173	eP	P	03 10 53.3	-0.3
	8.1nm,1.0s						
WRA	Warramunga Arr	46.00	173	P	P	03 10 53.7	-0.1
	4.7nm,0.8s,baz=349,slow=8.3,SNR=12						
TKM2	Tokmak 2	46.19	305	eP	P	03 10 55.0	-0.3
	6.3nm,1.4s						
BRVK	Borovoye	50.82	318	eP	P	03 11 30.1	-0.4
	3.7nm,0.8s						
ABKAR	Akbulak array	57.14	313	eP	P	03 12 17.3	+0.5
GEYT	Alibeck	59.81	300	P	P	03 12 37.2	+1.5
	2.9nm,1.0s,baz=63,slow=6.8,SNR=4.4						
MCK	McKinley	63.62	29	eP	P	03 13 01.5	+0.6
	2.9nm,0.9s						
ILAR	Eielson Array	64.40	28	P	P	03 13 06.8	+0.8
	0.2nm,0.7s,baz=272,slow=4.8,SNR=4.2						
KBZ	Khabaz	69.66	310	P	P	03 13 40.6	+0.8
	2.0nm,0.8s,baz=97,slow=4.9,SNR=4.1						
KIV	Kislovodsk	69.74	310	eP	P	03 13 40.6	+0.1
	7.1nm,0.9s						
FINES	FINESS Array B	73.28	331	P	P	03 14 01.6	+0.2
	1.5nm,0.8s,baz=49,slow=4.8,SNR=7.7						
AKASG	Malin Array Be	76.00	320	P	P	03 14 17.0	-0.3
	0.2nm,0.3s,baz=52,slow=6.6,SNR=4.3						
BR131	Keskin Array S	77.54	308	eP	P	03 14 27.0	+0.5
	1.4nm,0.9s						
BRTR	Keskin Array B	77.54	308	P	P	03 14 26.8	+0.4
	0.7nm,0.7s,baz=111,slow=5.4,SNR=5.9						
YKA	Yellowknife Ar	78.52	25	P	P	03 14 31.4	+0.2
	0.3nm,0.6s,baz=298,slow=5.6,SNR=5.0						
BUR08	Bucovina Ar. S	79.70	318	eP	P	03 14 39.6	+1.4
CLL	Collm	84.60	325	e(P)	P	03 15 08.0	+4.4
LPAZ	La Paz	161.53	62	PKP	PKPdf	03 22 32.6	0.0
	0.4nm,0.4s,baz=267,slow=12,SNR=3.4						

IDC 27 03:04:47.4±2.0, 25°.94N×128°.56E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/36, mbtmp3.6/3, Error ellipse: s-maj=104.9km s-min=21.6km az=73.0
JMA 27 03:04:49.6±0.2, 26°.00N×128°.78E, h34km, M3.3
ISCJB 27 03:04:50.8±2.3, 26°.00N±0°.05×128°.81E±0°.04, h33km±20km, mb4.3/3, Error ellipse: s-maj=8.7km s-min=6.1km az=7.7
ISC 27 03:04:49.3±1.5, 26°.02N±0°.06×128°.78E±0°.04, h26km±12km, n14, σ1°.29/22, mb3.3/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.85	306	P	Pb	03 05 05.2	-0.2
JNTH				S	Sn	03 05 16.1	-1.1
JOW	Kunigami	0.93	331	P	Pb	03 05 06.9	+0.1
JOW				S	Sb	03 05 19.4	+0.6
JOW	Kunigami	0.93	331	Pn	Pb	03 05 07.0	+0.2
	10.0nm,0.3s,baz=141,slow=16,SNR=19						
JOW				Sn	Sn	03 05 15.5	-3.8
	27nm,0.3s,baz=148,slow=19,SNR=6.8						
JJT2	Tamagusuku 2	0.94	278	P	Pb	03 05 06.7	-0.2
JJT2				S	Sb	03 05 19.2	+0.2
JIH	Iheya	1.25	324	P	Pb	03 05 11.8	-0.4
JIH				S	Sn	03 05 26.9	-0.2
JOKE	Okinoerabujima	1.35	352	P	Pb	03 05 13.3	-0.7
JAGN	Aguni-jima	1.50	293	P	Pn	03 05 15.2	-1.2
JAGN				eS	Sn	03 05 33.4	+0.2
JTK	Tokunoshima	1.77	5	P	Pn	03 05 19.1	+0.9
JTK				S	Sn	03 05 38.7	-1.2
JKE	Kume jima 2	1.82	280	P	Pn	03 05 19.0	0.0
JKE				S	Sn	03 05 39.7	-1.5
JMZ	Minamidaito 2	2.20	95	P	Pn	03 05 24.2	0.0
JMZ				S	Sn	03 05 48.4	-2.2
JAMN	Amaminishikomi	2.25	9	S	Sn	03 05 52.1	+0.4
SONM	Songino Array	28.00	327	P	P	03 10 41.6	+3.5
	0.4nm,0.6s,baz=147,slow=8.5,SNR=5.9						
MKAR	Makanchi Array	42.05	312	P	P	03 12 38.9	+0.1
	0.4nm,0.7s,baz=107,slow=7.2,SNR=3.8						
WRA	Warramunga Arr	46.00	173	P	P	03 13 12.1	+1.5
	0.5nm,0.5s,baz=353,slow=8.4,SNR=3.8						

IDC 27 03:15:16.2±3.9, 25°.89N×128°.54E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/35, mbtmp3.8/5, ML3.2/1, Error ellipse: s-maj=84.0km s-min=41.5km az=109.0
JMA 27 03:15:18.0±0.2, 25°.89N×128°.68E, h33km, M3.3
ISC 27 03:15:16.9±1.7, 25°.95N±0°.06×128°.67E±0°.04, h8km±10km, n17, σ1°.62/27, mb3.8/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.82	314	P	Pg	03 15 33.6	+1.0
JNTH				S	Sb	03 15 44.9	+0.4
JJT2	Tamagusuku 2	0.85	283	P	Pg	03 15 34.0	+0.7
JJT2				S	Sb	03 15 46.2	+0.7
JOW	Kunigami	0.95	338	P	Pb	03 15 36.3	+0.7
JOW	Kunigami	0.95	338	Pn	Pb	03 15 36.4	+0.7
	9.2nm,0.3s,baz=144,slow=18,SNR=14						
JOW				Sn	Sg	03 15 43.9	-3.8
	16nm,0.3s,baz=142,slow=17,SNR=16						
JIH	Iheya	1.25	330	P	Pn	03 15 40.8	+0.1
JIH				eS	Sb	03 15 56.1	-1.0
JOKE	Okinoerabujima	1.41	356	P	Pn	03 15 43.2	+0.3
JOKE				S	Sn	03 16 00.1	-1.5
JAGN	Aguni-jima	1.44	297	P	Pn	03 15 43.2	0.0
JAGN				S	Sn	03 16 00.8	-1.4
JKE	Kume jima 2	1.74	283	P	Pn	03 15 46.8	-0.5
JKE				S	Sn	03 16 06.6	-3.1
JTK	Tokunoshima	1.85	8	P	Pn	03 15 49.5	+0.6
JTK				S	Sn	03 16 10.1	-2.3
JMZ	Minamidaito 2	2.30	93	P	Pn	03 15 54.7	-0.3
JMZ				S	Sn	03 16 20.3	-3.2
JAM	Amami Oshima	2.59	18	P	Pn	03 15 59.6	+0.5
JAM				S	Sn	03 16 29.2	-1.5
JOGS	Gusukube	3.18	249	P	Pn	03 16 07.4	+0.2
JNU	Nakatsue	7.40	15	Pn	Pn	03 17 07.4	+2.2
	0.4nm,0.3s,baz=180,slow=7.1,SNR=3.2						
SONM	Songino Array	28.01	327	P	P	03 21 10.5	+2.2
	0.7nm,0.4s,baz=140,slow=10,SNR=12						
MKAR	Makanchi Array	42.02	312	P	P	03 23 08.3	-0.4
	0.4nm,0.7s,baz=99,slow=9.5,SNR=5.9						
FINES	FINESS Array B	73.31	331	P	P	03 26 48.9	+0.3
	2.3nm,1.0s,baz=66,slow=4.7,SNR=3.7						
AKASG	Malin Array Be	76.00	320	P	P	03 27 04.8	+0.4
	0.3nm,0.4s,baz=62,slow=5.9,SNR=3.0						

NIED 27 03:20:00, 26°.00N×128°.70E, h5km, Mw4.1 Best double couple: $M_0$1.43000×10^{15} NP1:ϕ_s101.00000°, δ85.00000°, λ-2.00000°. NP2:ϕ_s191.00000°, δ88.00000°, λ-175.00000°.
IDC 27 03:20:26.2±1.0, 25°.94N×128°.35E, h0km, mb3.9/13, mb1 4.0/16, mb1mx4.0/37, mbtmp3.9/16, ML3.5/2, MS3.7/3, Ms1 3.7/3, ms1mx3.0/39, Error ellipse: s-maj=27.5km s-min=19.2km az=91.0
ISCJB 27 03:20:28.1±1.0, 26°.00N±0°.04×128°.65E±0°.05, h29km±6km, mb4.0/20, MS3.7/3, Error ellipse: s-maj=7.6km s-min=6.0km az=135.3
JMA 27 03:20:28.0±0.3, 25°.98N×128°.68E, h34km, M3.8
NEIC 27 03:20:31.5±0.5, 26°.01N×128°.47E, h35km, mb4.3/8, Error ellipse: s-maj=14.7km s-min=9.5km az=87.0
ISC 27 03:20:27.4±1.5, 25°.96N±0°.05×128°.67E±0°.04, h14km±9km, n45, σ1°.30/50, mb4.1/20, MS3.7/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.81	314	P	Pb	03 20 42.6	-0.6
JJT2	Tamagusuku 2	0.85	282	P	Pg	03 20 43.9	+0.1
JJT2				S	Sg	03 20 55.4	+0.4
JOW	Kunigami	0.94	338	P	Pg	03 20 45.1	-0.5
JOW				S	Sb	03 20 56.5	-1.3
JOW	Kunigami	0.94	338	Pn	Pg	03 20 45.2	-0.5
	18nm,0.3s,baz=182,slow=12,SNR=83						
JOW				Sn	Sb	03 20 56.7	-1.1
	36nm,0.3s,baz=131,slow=20,SNR=13						
JOW				LR	LR	03 21 01.9	
	comp=Z,34nm,21.7s,baz=48,slow=40						
JIH	Iheya	1.24	330	P	Pn	03 20 49.7	-0.6
JOKE	Okinoerabujima	1.40	356	P	Pn	03 20 52.0	-0.5
JOKE				S	Sn	03 21 08.7	-2.1
JAGN	Aguni-jima	1.43	296	P	Pn	03 20 52.3	-0.5
JAGN				S	Sn	03 21 09.7	-1.7
JKE	Kume jima 2	1.73	283	P	Pn	03 20 55.8	-1.2
JKE				S	Sn	03 21 15.5	-3.4
JTK	Tokunoshima	1.84	8	P	Pn	03 20 58.0	-0.5
JMZ	Minamidaito 2	2.30	93	P	Pn	03 21 03.6	-1.3
JMZ				S	Sn	03 21 28.7	-4.3
JAMN	Amaminishikomi	2.32	11	P	Pn	03 21 04.9	-0.2
JAM	Amami Oshima	2.58	19	P	Pn	03 21 08.1	-0.6
JAM				S	Sn	03 21 38.6	-1.3
JOGS	Gusukube	3.18	249	P	Pn	03 21 16.1	-0.9
JNU	Nakatsue	7.39	15	Pn	Pn	03 22 16.2	+1.3
	1.1nm,0.3s,baz=78,slow=2.4,SNR=8.2						
JNU				Sn	Sn	03 23 36.5	-2.1
	0.5nm,0.3s,baz=198,slow=20,SNR=2.8						
KSAR	Wonju Array Be	11.47	357	Pn	Pn	03 23 12.3	+1.6
KSRS	Korea Array	11.48	357	Pn	Pn	03 23 12.3	+1.4
	0.1nm,0.3s,baz=182,slow=13,SNR=3.1						
USRK	Ussuriysk Arra	18.40	8	P	P	03 24 42.5	+0.6
	0.1nm,0.3s,baz=183,slow=13,SNR=4.8						
ASAJ	Asahikawa	21.35	28	LR	LR	03 33 54.2	
	comp=Z,101nm,20.2s,baz=305,slow=38						
ULN	Ulaanbaatar	27.70	328	eP	P	03 26 16.3	+1.1
	6.4nm,0.9s						
SONM	Songino Array	28.00	327	P	P	03 26 19.1	+1.3
	2.0nm,0.6s,baz=139,slow=10,SNR=27						
MK31	Makanchi Array	42.01	312	eP	P	03 28 17.3	-1.0
MKAR	Makanchi Array	42.01	312	P	P	03 28 17.4	-0.8
	1.0nm,0.5s,baz=100,slow=10,SNR=23						
ZALV	Zalesovo Beam	42.70	323	P	P	03 28 22.4	-1.3
	0.8nm,0.6s,baz=104,slow=6.3,SNR=4.6						
KURK	Kurchatov	45.29	317	eP	P	03 28 43.8	-0.7
	2.1nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIXI	Tiksi	45.73	0	eP	P	03 28 47.4	-0.3
WRAB	Tennant Creek	45.95	173	eP	P	03 28 51.3	+1.3
	13nm,1.2s						
WRA	Warramunga Arr	45.96	173	P	P	03 28 50.8	+0.7
	1.4nm,0.6s,baz=351,slow=8.5,SNR=4.0						
TKM2	Tokmak 2	46.16	305	eP	P	03 28 52.1	+0.3
	2.3nm,0.8s						
BRVK	Borovoye	50.81	318	eP	P	03 29 27.0	-0.2
	5.4nm,0.9s						
ABKAR	Akbulak array	57.12	313	eP	P	03 30 13.7	+0.3
GEYT	Alibeck	59.77	300	P	P	03 30 31.3	-0.8
	1.3nm,0.5s,baz=72,slow=4.7,SNR=3.1						
ILAR	Eielson Array	64.49	28	P	P	03 31 06.5	+3.2
	0.3nm,0.8s,baz=266,slow=7.3,SNR=3.3						
KBZ	Khabaz	69.64	310	P	P	03 31 37.3	+1.0
	2.2nm,0.8s,baz=111,slow=2.6,SNR=5.6						
KIV	Kislovodsk	69.72	310	eP	P	03 31 37.5	+0.6
	7.4nm,0.9s						
ARCES	ARCESS Array B	70.40	339	LR	LR	04 07 24.1	
	comp=Z,15nm,18.5s,baz=158,slow=40						
FINES	FINESS Array B	73.29	331	P	P	03 31 58.0	0.0
	1.0nm,0.6s,baz=78,slow=9.7,SNR=9.9						
RES	Resolute Bay	75.74	11	eP	P	03 32 13.3	+1.2
	2.2nm,0.6s						
AKASG	Malin Array Be	75.99	320	P	P	03 32 13.8	-0.1
	1.7nm,0.6s,baz=58,slow=6.3,SNR=9.7						
BR131	Keskin Array S	77.51	308	eP	P	03 32 22.9	0.0
	1.4nm,0.8s						
BRTR	Keskin Array B	77.51	308	P	P	03 32 23.6	+0.6
	1.1nm,0.8s,baz=77,slow=5.7,SNR=8.1						
YKA	Yellowknife Ar	78.60	25	P	P	03 32 30.3	+2.0
	0.1nm,0.5s,baz=297,slow=5.5,SNR=4.4						
BUR08	Bucovina Ar. S	79.69	318	eP	P	03 32 35.1	+0.3
NOA	NORSAR Array B	79.73	334	P	P	03 32 34.2	-0.4
	0.9nm,0.7s,baz=54,slow=5.2,SNR=3.5						
MLR	Muntele Rosu	80.22	316	LR	LR	04 09 44.5	
	comp=Z,301nm,19.4s,baz=105,slow=37						
GERES	GERESS Array B	85.65	323	P	P	03 33 05.5	-0.3
	0.6nm,0.8s,baz=60,slow=5.8,SNR=2.0						

NIED **27** *03:23:00, 26°.00N×128°.70E, h5km, Mw4.0 Best double couple: M0 1.27000×10^15 NP1:φs 8.00000°, δ70.00000°, λ-180.00000°. NP2:φs 278.00000°, δ90.00000°, λ-20.00000°.*
IDC **27** *03:23:20.6±1.0, 25°.91N×128°.48E, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.8/34, mbtmp3.7/12, ML2.4/1, Error ellipse: s-maj=29.4km s-min=20.1km az=81.0*
JMA **27** *03:23:22.7±0.3, 25°.96N×128°.66E, h28km, M3.6*
ISC 27 03:23:21.3±2.1, 25°.94N±0°.06×128°.60E±0°.05, h7km±13km, n25, σ1s29/34, mb3.8/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.78	318	P	Pb	03 23 37.4	+0.3
JNTH				S	Sb	03 23 48.0	+0.1
JJT2	Tamagusuku 2	0.79	285	P	Pn	03 23 38.4	-0.5
JJT2				S	Sn	03 23 49.8	-1.1
JOW	Kunigami	0.94	342	P	Pn	03 23 40.1	-0.8
JOW	Kunigami	0.94	342	Pn	Pn	03 23 40.3	-0.6
	14nm,0.3s,baz=157,slow=21,SNR=13						
JOW				Sn	Sb	03 23 52.3	-0.2
	34nm,0.3s,baz=180,slow=20,SNR=21						
JIH	Iheya	1.23	333	P	Pn	03 23 44.7	-0.2
JIH				S	Sb	03 24 00.5	-0.3
JAGN	Aguni-jima	1.38	298	P	Pg	03 23 47.3	-0.5
JAGN				S	Sn	03 24 04.8	-0.7
JOKE	Okinoerabujima	1.42	359	P	Pn	03 23 47.2	-0.3
JKE	Kume jima 2	1.68	284	P	Pn	03 23 50.4	-0.7
JKE				S	Sn	03 24 09.9	-2.9
JTK	Tokunoshima	1.86	10	P	Pn	03 23 53.3	-0.4
JTK				S	Sn	03 24 14.8	-2.7
JAMN	Amaminishikomi	2.35	12	P	Pn	03 24 00.4	0.0
JAMN				S	Sn	03 24 26.7	-2.8
JMZ	Minamidaito 2	2.37	92	P	Pn	03 23 58.9	-1.6
JAM	Amami Oshima	2.62	20	P	Pn	03 24 04.2	+0.1
JZK	Kikaishima	2.66	27	S	Sn	03 24 36.1	-1.1
JNU	Nakatsue	7.43	15	Pn	Pn	03 25 10.9	+0.7
	baz=180,slow=20						
JNU				Sn	Sn	03 26 32.6	-2.1
	baz=279,slow=7.1						
USRK	Ussuriysk Arra	18.43	8	P	P	03 27 39.2	+2.0
	0.1nm,0.3s,baz=178,slow=9.1,SNR=4.2						
SONM	Songino Array	27.98	327	P	P	03 29 14.6	+1.9
	1.2nm,0.5s,baz=142,slow=11,SNR=21						
MKAR	Makanchi Array	41.97	312	P	P	03 31 12.4	-0.6
	0.4nm,0.6s,baz=93,slow=11,SNR=6.1						
ZALV	Zalesovo Beam	42.68	323	P	P	03 31 17.3	-1.3
	0.5nm,0.5s,baz=122,slow=7.5,SNR=3.2						
WRA	Warramunga Arr	45.95	172	P	P	03 31 45.0	0.0
	0.9nm,0.7s,baz=352,slow=8.6,SNR=3.2						
ILAR	Eielson Array	64.53	28	P	P	03 33 59.4	+0.7
	0.1nm,0.5s,baz=298,slow=5.7,SNR=2.9						
KBZ	Khabaz	69.60	310	P	P	03 34 32.3	+1.1
	1.6nm,0.9s,baz=145,slow=3.0,SNR=3.0						
FINES	FINESS Array B	73.28	331	P	P	03 34 53.1	0.0
	1.2nm,0.8s,baz=65,slow=4.6,SNR=7.1						
AKASG	Malin Array Be	75.97	320	P	P	03 35 08.6	-0.3
	0.6nm,0.5s,baz=57,slow=5.8,SNR=4.2						
BRTR	Keskin Array B	77.47	308	P	P	03 35 17.9	0.0
	0.4nm,0.7s,baz=63,slow=4.5,SNR=2.9						
YKA	Yellowknife Ar	78.65	25	P	P	03 35 25.0	+1.3
	0.1nm,0.6s,baz=300,slow=5.8,SNR=3.5						

NIED **27** *03:26:00, 26°.00N×128°.60E, h8km, Mw3.7 Best double couple: M0 4.07000×10^14 NP1:φs 59.00000°, δ37.00000°, λ-66.00000°. NP2:φs 209.00000°, δ56.00000°, λ-107.00000°.*
IDC **27** *03:26:40.6±0.8, 25°.94N×128°.53E, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.8/26, mbtmp3.7/11, Error ellipse: s-maj=35.8km s-min=16.4km az=71.0*
ISCJB **27** *03:26:42.7±1.1, 25°.96N±0°.05×128°.64E±0°.05, h27km±8km, mb3.6/11, Error ellipse: s-maj=8.0km s-min=7.9km az=155.0*
JMA **27** *03:26:43.9±0.4, 25°.99N×128°.58E, h33km, M3.5*
ISC 27 03:26:42.5±1.7, 25°.94N±0°.06×128°.60E±0°.05, h15km±10km, n23, σ1s32/29, mb3.6/11, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.77	318	P	Pg	03 26 57.4	-0.2
JNTH				S	Sg	03 27 07.7	-0.2
JJT2	Tamagusuku 2	0.79	284	P	Pb	03 26 58.4	+0.4
JOW	Kunigami	0.93	342	P	Pb	03 27 00.3	-0.1
JOW	Kunigami	0.93	342	Pn	Pb	03 27 00.4	0.0
	30nm,0.3s,baz=159,slow=18,SNR=26						
JOW				Sn	Sb	03 27 12.1	-0.6
	32nm,0.3s,baz=135,slow=20,SNR=25						
JIH	Iheya	1.23	332	P	Pn	03 27 04.9	-0.3
JAGN	Aguni-jima	1.38	298	P	Pn	03 27 07.0	-0.3
JOKE	Okinoerabujima	1.41	359	P	Pn	03 27 07.4	-0.3
JKE	Kume jima 2	1.68	284	P	Pn	03 27 10.3	-1.0
JKE				S	Sn	03 27 29.1	-3.5
JTK	Tokunoshima	1.86	10	P	Pn	03 27 13.8	-0.1
JAMN	Amaminishikomi	2.35	12	P	Pn	03 27 20.7	+0.1
JAMN				S	Sn	03 27 47.4	-1.7
JMZ	Minamidaito 2	2.36	92	P	Pn	03 27 20.0	-0.8
JMZ				S	Sn	03 27 45.7	-3.8
JAM	Amami Oshima	2.62	20	P	Pn	03 27 24.5	+0.3
JAM				eS	Sn	03 27 53.6	-2.1
SONM	Songino Array	27.97	327	P	P	03 32 34.8	+2.1
	0.4nm,0.4s,baz=141,slow=11,SNR=10.0						
MKAR	Makanchi Array	41.97	312	P	P	03 34 32.6	-0.4
	0.4nm,0.6s,baz=97,slow=12,SNR=7.7						
ZALV	Zalesovo Beam	42.68	323	P	P	03 34 38.6	+0.1
	0.4nm,0.4s,baz=126,slow=7.4,SNR=3.1						
WRA	Warramunga Arr	45.95	172	P	P	03 35 05.4	+0.3
	1.2nm,0.8s,baz=353,slow=8.4,SNR=3.8						
STKA	Stephens Creek	58.82	167	P	P	03 36 41.0	+0.7
	1.4nm,0.6s,baz=310,slow=7.9,SNR=2.7						
ILAR	Eielson Array	64.53	28	P	P	03 37 19.7	+1.1
	0.3nm,0.8s,baz=274,slow=5.3,SNR=3.2						
FINES	FINESS Array B	73.28	331	P	P	03 38 13.2	+0.2
	0.4nm,0.4s,baz=69,slow=4.1,SNR=6.2						
AKASG	Malin Array Be	75.97	320	P	P	03 38 28.7	-0.1
	0.3nm,0.4s,baz=57,slow=6.2,SNR=4.4						
BRTR	Keskin Array B	77.47	308	P	P	03 38 38.2	+0.5
	1.3nm,0.9s,baz=101,slow=6.4,SNR=7.1						
YKA	Yellowknife Ar	78.64	25	P	P	03 38 44.3	+0.7
	0.2nm,0.6s,baz=298,slow=5.9,SNR=4.1						
NOA	NORSAR Array B	79.72	334	P	P	03 38 49.3	-0.3
	0.6nm,0.8s,baz=56,slow=8.0,SNR=3.1						

IDC **27** *03:42:55.2±7.2, 26°.09N×128°.39E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.4/24, mbtmp3.6/3, Error ellipse: s-maj=152.4km s-min=44.1km az=110.0*
JMA **27** *03:42:56.3±0.4, 26°.01N×128°.64E, h36km, M3.1*
ISC 27 03:42:54.0±2.0, 25°.99N±0°.07×128°.66E±0°.05, h11km±11km, n15, σ1s31/22, mb3.4/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.78	313	P	Pn	03 43 10.3	-0.6
JJT2	Tamagusuku 2	0.83	281	P	Pn	03 43 11.6	-0.1
JOW	Kunigami	0.91	338	P	Pn	03 43 12.7	0.0
JOW				eS	Sn	03 43 24.2	-1.7
JOW	Kunigami	0.91	338	Pn	Pn	03 43 12.8	0.0
	9.3nm,0.3s,baz=143,slow=17,SNR=24						
JOW				Sn	Sn	03 43 24.1	-1.9
	22nm,0.3s,baz=167,slow=9.4,SNR=28						
JIH	Iheya	1.21	329	P	Pg	03 43 17.5	+0.2
JIH				S	Sg	03 43 32.6	-0.5
JOKE	Okinoerabujima	1.37	357	P	Pb	03 43 19.5	-0.2
JOKE				S	Sn	03 43 36.1	-1.2
JAGN	Aguni-jima	1.41	296	P	Pb	03 43 20.0	-0.3
JKE	Kume jima 2	1.72	282	P	Pn	03 43 23.5	-0.3
JKE				S	Sn	03 43 43.7	-2.1
JTK	Tokunoshima	1.81	8	P	Pn	03 43 25.4	+0.2
JTK				S	Sn	03 43 46.2	-1.9
JAMN	Amaminishikomi	2.29	11	P	Pn	03 43 32.3	+0.5
JMZ	Minamidaito 2	2.31	94	P	Pn	03 43 30.8	-1.2
JAM	Amami Oshima	2.56	19	P	Pn	03 43 35.3	-0.1
JAM				eS	Sn	03 44 05.2	-1.4
SONM	Songino Array	27.97	327	P	P	03 48 47.4	+2.7
	0.3nm,0.4s,baz=141,slow=11,SNR=7.1						
MKAR	Makanchi Array	41.98	312	P	P	03 50 44.7	-0.5
	0.3nm,0.6s,baz=99,slow=9.4,SNR=5.7						
FINES	FINESS Array B	73.26	331	P	P	03 54 26.7	+1.6
	0.8nm,0.9s,baz=17,slow=10,SNR=3.1						

WEL 27 03:55:29.6±0.5, 44°.84S×167°.32E, h5km, ML3.8/11, 1C-5D, Error ellipse: s-maj=4.1km s-min=2.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.46	69	⇑PG	Pg	03 55 38.7	+0.1
MSZ				SG	Sg	03 55 44.1	-0.5
MSZ				AML	AML	03 55 44.2	
MSZ				AML	AML	03 55 44.7	
MSZ				AML	AML	03 55 44.7	
DCZ	Deep Cove	0.65	190	P*	Pg	03 55 42.1	0.0
DCZ				SG	Sg	03 55 51.1	+0.6
DCZ				AML	AML	03 55 51.5	
DCZ				AML	AML	03 55 51.6	
DCZ				AML	AML	03 55 51.6	
MLZ	Mavora Lakes	0.79	130	⇓P*	Pg	03 55 45.0	+0.1
MLZ				AML	AML	03 55 56.1	
MLZ				AML	AML	03 55 56.1	
WHZ	Wether Hill Ro	1.14	158	⇓P*	Pg	03 55 51.3	-0.3
WHZ				S*	Sg	03 56 06.1	-0.4
WHZ				AML	AML	03 56 07.7	
WKZ	Wanaka	1.21	90	⇓P*	Pg	03 55 52.4	-0.5
WKZ				AML	AML	03 56 09.5	
WKZ				AML	AML	03 56 09.5	
WKZ				AML	AML	03 56 10.3	
WKZ				AML	AML	03 56 10.5	
JCZ	Jackson Bay	1.28	54	P*	Pn	03 55 53.8	-0.6
JCZ				AML	AML	03 56 18.8	
JCZ				AML	AML	03 56 19.4	
EAZ	Earnscleugh	1.46	106	⇓PN	Pn	03 55 56.6	-0.1
EAZ				AML	AML	03 56 17.4	
EAZ				AML	AML	03 56 17.4	
EAZ				AML	AML	03 56 20.1	
EAZ				AML	AML	03 56 20.1	
TUZ	Tuapeka	1.98	125	PN	Pn	03 56 04.6	+0.9
APZ	The Paps	2.05	167	PN	Pn	03 56 05.4	+0.6
APZ				SN	Sb	03 56 32.1	-1.1
APZ				AML	AML	03 56 37.2	
LBZ	Lake Benmore	2.10	79	⇓PN	Pn	03 56 06.7	+1.3
LBZ				AML	AML	03 56 37.7	
LBZ				AML	AML	03 56 43.4	
SYZ	Scrubby Hill	2.12	144	PN	Pn	03 56 06.6	+0.8
SYZ				AML	AML	03 56 35.3	
SYZ				AML	AML	03 56 35.7	
SYZ				AML	AML	03 56 35.7	
SYZ				AML	AML	03 56 36.0	
FOZ	Fox Glacier	2.13	54	PN	Pn	03 56 06.9	+1.1
FOZ				AML	AML	03 56 43.5	
FOZ				AML	AML	03 56 45.5	
ODZ	Otahua Downs	2.37	96	PN	Pn	03 56 10.4	+1.2
WVZ	Waitaha Valley	3.03	56	PN	Pn	03 56 17.8	-0.4
DSZ	Denniston Nort	4.50	48	PN	Pn	03 56 38.3	-0.2
THZ	Tophouse	5.10	55	PN	Pn	03 56 47.9	+1.0
QRZ	Quartz Range	5.54	45	PN	Pn	03 56 52.5	-0.3

IDC **27** *04:52:13.6±1.1, 25°.98N×128°.65E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/32, mbtmp3.7/8, MS3.6/1, Ms1 3.6/1, ms1mx2.4/45, Error ellipse: s-maj=48.3km s-min=20.7km az=69.0*
ISCJB **27** *04:52:16.2±1.0, 26°.0N±0°.1×128°.6E±0°.3, h27km, mb3.6/8, MS3.7/1, Error ellipse: s-maj=44.6km s-min=11.5km az=163.6*
ISC 27 04:52:18.0±1.1, 26°.0N±0°.1×128°.6E±0°.3, h27km, n10, σ1s01/10, mb3.7/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	Kunigami	0.86	339	Pn	Pb	04 52 33.5	-0.8
	22nm,0.3s,baz=143,slow=16,SNR=104						
JOW				Sn	Sb	04 52 45.0	-0.3
	16nm,0.3s,baz=156,slow=20,SNR=15						
JOW				LR	LR	04 52 53.2	
	comp=Z,15nm,19.2s,baz=324,slow=43						
SONM	Songino Array	27.91	327	P	P	04 58 08.0	+2.2
	0.9nm,0.4s,baz=145,slow=12,SNR=20						
MKAR	Makanchi Array	41.93	312	P	P	05 00 05.8	-0.5
	0.5nm,0.6s,baz=96,slow=11,SNR=11						
ZALV	Zalesovo Beam	42.62	323	P	P	05 00 11.2	-0.5
	0.5nm,0.5s,baz=92,slow=10,SNR=3.3						
WRA	Warramunga Arr	46.03	173	P	P	05 00 38.6	-0.8
	0.9nm,0.6s,baz=352,slow=8.5,SNR=3.7						
FINES	FINESS Array B	73.21	331	P	P	05 03 46.4	+0.2
	1.0nm,0.7s,baz=72,slow=4.5,SNR=7.4						
AKASG	Malin Array Be	75.91	320	P	P	05 04 01.9	-0.2
	0.6nm,0.5s,baz=57,slow=6.4,SNR=4.3						
BRTR	Keskin Array B	77.43	308	P	P	05 04 11.8	+0.7
	0.6nm,0.9s,baz=101,slow=6.5,SNR=4.2						
YKA	Yellowknife Ar	78.56	25	P	P	05 04 16.9	+0.2
	0.1nm,0.5s,baz=298,slow=6.4,SNR=2.7						
IDI	Anoyia	85.62	307	LR	LR	05 46 57.2	
	comp=Z,28nm,18.3s,baz=112,slow=38						

KLM **27** *05:04:27.4, 7°.29S×111°.34E, h273km, mb5.0, ML4.2, MS5.3*
BJI **27** *05:04:28.0, 7°.20S×111°.30E, h256km, mB4.6/20, mb4.5/33*
NEIC **27** *05:04:28.6±0.4, 7°.17S×111°.34E, h247km±4km, mb4.4/18, Error ellipse: s-maj=8.0km s-min=4.9km az=221.0*
NEIC Felt at Salatiga.
ISCJB **27** *05:04:28.2±0.2, 7°.22S±0°.03×111°.33E±0°.02, h254km±2km, mb4.4/38, Error ellipse: s-maj=5.5km s-min=3.3km az=21.8*
DJA **27** *05:04:30.1±0.2, 7°S±3°×11°1E±°, h235km±3km, M4.8/48, mb4.9/34, mB5.4/23, MLv5.0/48, Mw(mB)4.8/23*
IDC **27** *05:04:32.8±3.8, 7°.05S×111°.43E, h288km±40km, mb4.0/13, mb1 4.0/14, mb1mx3.8/36, mbtmp4.6/14, Error ellipse: s-maj=21.1km s-min=10.0km az=61.0*
ISC 27 05:04:29.1±0.4, 7°.28S±0°.05×111°.34E±0°.04, h252km±3km, h252km:pP-P, n165, σ1s37/196, mb4.5/38, 3C-3D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NGJI	Ngawi	0.15	125	P	Pn	05 05 02.1	+0.6
TBJI	Tambak Boyo	0.68	48	P	Pn	05 05 01.6	-1.2
WOJI	Wonogiri, Jawa	0.69	217	P	Pn	05 05 02.2	-0.6
SMRI	Semarang	0.92	285	P	Pn	05 05 03.4	-0.6
SMRI				S	S	05 05 30.6	-0.7
SMRI	Semarang	0.92	285	ePn	Pn	05 05 03.3	-0.6
SMRI				eS	S	05 05 31.1	-0.2
SMRI	Semarang	0.92	285	P	Pn	05 05 03.5	-0.4
	baz=0.9,SNR=30						
SMRI				S	S	05 05 31.4	+0.1
	baz=0.9,SNR=7.8						
UWJI	Ujung Watu	0.94	336	P	Pn	05 05 03.2	-0.9
UGM	Wanagama	1.02	232	P	Pn	05 05 04.1	-0.4
UGM				S	S	05 05 31.1	-1.3
UGM	Wanagama	1.02	232	P	Pn	05 05 04.1	-0.4
	baz=1.2,SNR=386						
UGM				S	S	05 05 31.1	-1.3
	baz=1.2,SNR=6.4						
GRJI	Gresik	1.19	72	P	Pn	05 05 04.7	-0.7
BWJI	Bawean	1.93	43	P	Pn	05 05 10.3	-0.9
BLJI	Banyuglugur	2.28	102	P	Pn	05 05 13.9	-0.4
GMJI	Gumukmas	2.31	115	P	Pn	05 05 13.2	-1.4
KPJI	Karang Pucung	2.39	269	P	Pn	05 05 15.6	+0.2
KMMI	Kalianget	2.62	85	P	Pn	05 05 17.4	-0.3
CMJI	Cimerak	2.91	260	P	Pn	05 05 19.5	-1.2
ABJI	Asem Bagus	2.91	100	P	Pn	05 05 21.3	+0.5
JAGI	Jajag, Banyuwa	3.02	113	P	Pn	05 05 20.7	-1.3
JAGI	Jajag, Banyuwa	3.02	113	ePn	Pn	05 05 20.1	-1.9
JAGI				eS	S	05 06 00.3	-3.5
JAGI	Jajag, Banyuwa	3.02	113	P	Pn	05 05 20.4	-1.6
	baz=3.1,SNR=259						
JCJI	Jatiwangi	3.15	284	P	Pn	05 05 22.5	-0.8
CISI	Cisompet, Garu	3.51	265	P	Pn	05 05 26.3	-1.1
CISI	Cisompet, Garu	3.51	265	ePn	Pn	05 05 26.6	-0.9
CISI				eS	S	05 06 11.7	-1.9
CISI	Cisompet, Garu	3.51	265	P	Pn	05 05 26.5	-0.9
	baz=3.5,SNR=37						
CISI				S	S	05 06 11.6	-1.9
	baz=3.5,SNR=8.5						
LEM	Lembang	3.72	277	P	Pn	05 05 30.3	+0.4
LEM	Lembang	3.72	277	P	Pn	05 05 30.4	+0.5
	baz=3.7,SNR=36						
SRBI	Singaraja	3.92	102	P	Pn	05 05 32.3	+0.3
IGBI	Denpasar	4.07	112	P	Pn	05 05 32.6	-1.1
DNP	Denpasar	4.08	110	P	Pn	05 05 33.4	-0.5
CNJI	Cibinong	4.18	269	P	Pn	05 05 34.3	-0.8
CBJI	Citeko	4.54	281	P	Pn	05 05 38.3	-1.1
PBKI	Pangkalan Bun	4.56	4	P	Pn	05 05 37.3	-2.4
SKJI	Sukabumi	4.75	273	P	Pn	05 05 41.5	-0.5
BBKI	Banjar Baru	5.15	43	P	Pn	05 05 45.4	-1.5
	193nm,0.8s,8μm0.8nm						
SBJI	Serang	5.30	282	P	Pn	05 05 50.8	+2.1
	271nm,0.8s,5μm1.3nm						
CGJI	Cibinong	5.65	276	P	Pn	05 05 51.4	-1.5
	2μm,0.5s,43μm8.7nm						
TPI	Tanjungpandan	5.81	321	P	Pn	05 05 53.5	-1.4
	77nm,1.0s,688nm0.2nm						
BLSI	Bandar Lampung	6.35	287	P	Pn	05 06 03.6	+1.9
	433nm,0.6s,5μm1.7nm						
XMI	Christmas Isla	6.41	240	P	Pn	05 06 02.1	-0.3
	baz=6.5,SNR=19						
XMI				S	S	05 07 08.5	-8.7
	baz=6.5,SNR=37						
XMIS	Christmas Isla	6.46	240	ePn	Pn	05 06 01.1	-1.9
XMIS				eS	S	05 07 08.1	-10
XMIS	Christmas Isla	6.46	240	P	Pn	05 06 01.7	-1.3
	baz=6.6,SNR=58						
XMIS				S	S	05 07 06.9	-11
	baz=6.6,SNR=11						
KLI	Kotabumi	6.88	290	P	Pn	05 06 08.8	+0.5
	195nm,0.7s,4μm0.9nm						
KASI	Kota Agung	7.02	284	P	Pn	05 06 10.4	+0.3
	1μm,0.4s,27μm6.7nm						
STKI	Sintang	7.30	1	P	Pn	05 06 12.8	-0.9
	78nm,0.7s,16μm1.1nm						
LWLI	Liwa	7.58	287	P	Pn	05 06 18.0	+0.7
	730nm,0.6s,26μm5.5nm						
MDSI	Maura Dua	7.65	291	P	Pn	05 06 17.4	-0.6
	98nm,0.6s,2μm0.6nm						
WBSI	Waikabubak, Su	8.30	107	P	Pn	05 06 24.3	-2.0
	178nm,0.5s,1.7nm						
LHSI	Lahat	8.50	293	P	Pn	05 06 30.2	+1.4
	196nm,0.9s,3μm0.7nm						
KAPI	Kappang	8.66	75	ePn	Pn	05 06 30.2	-0.6
KSM	Kuching	8.76	353	ePn	Pn	05 06 30.2	-1.8
KSM	Kuching	8.76	353	P	Pn	05 06 31.0	-1.1
	baz=8.6,SNR=3.5						
KSM				S	S	05 08 23.7	+12
	baz=8.6,SNR=32						
MNAI	Manna	8.83	289	P	Pn	05 06 32.6	-0.4
	3μm,0.6s,54μm16nm						
MNAI	Manna	8.83	289	ePn	Pn	05 06 32.4	-0.6
	2μm,0.5s						
MNAI	Manna	8.83	289	P	Pn	05 06 32.3	-0.6
	baz=8.8,SNR=292						
MNAI				S	S	05 08 13.8	+0.7
	baz=8.8,SNR=4.7						
BKSI	Bulukumba	8.94	78	P	Pn	05 06 34.7	+0.3
	86nm,1.3s,857nm0.3nm						
SPSI	Sidrap Palu	9.01	69	P	Pn	05 06 35.7	+0.4
	16nm,1.2s						
BSSI	Bau Bau, Buton	9.16	83	P	Pn	05 06 38.0	+0.9
	276nm,1.0s						
WSI	Waingapu	9.17	106	S	S	05 08 15.7	-5.3
	baz=9.2,SNR=4.2						
BNSI	Bone	9.18	72	P	Pn	05 06 39.6	+2.2
	36nm,0.9s						
TTSI	Tana Toraja	9.43	64	P	Pn	05 06 42.2	+1.6
	36nm,1.0s						
SBUM	Sibu	9.71	5	ePn	Pn	05 06 43.9	-0.1
SBUM	Sibu	9.71	5	⇑P	Pn	05 06 44.6	+0.6
MASI	Maura Aman, Be	9.95	294	P	Pn	05 06 47.5	+0.3
	595nm,0.9s,7μm						
BTM	Bintulu	10.56	10	⇑P	Pn	05 06 54.8	0.0
MPSI	Mapaga	11.41	49	P	P	05 07 10.3	+1.2
MYKOM	Kota Tinggi	11.71	320	ePn	Pn	05 07 08.4	-0.7
MYKOM	Kota Tinggi	11.71	320	⇓P	Pn	05 07 09.2	+0.1
APSI	Ampana	12.07	59	P	P	05 07 19.9	+3.5
KGM	Kluang	12.22	319	⇓P	Pn	05 07 14.4	-1.1
BATI	Baumata	12.52	104	P	Pn	05 07 23.1	+1.6
BATI	Baumata	12.52	104	P	Pn	05 07 17.1	-2.2
	25nm,0.3s,baz=310,slow=6.0,SNR=16						
BATI				S	S	05 09 27.2	-12
	13nm,0.3s,baz=106,slow=20,SNR=3.1						
PDSI	Padang	12.56	300	P	Pn	05 07 20.2	+0.5
	32nm,0.3s,10μm						
BKNI	Bangkinang	12.76	306	ePn	Pn	05 07 21.8	-0.3
MRSI	Marisa	13.09	54	P	P	05 07 27.5	-0.2
	78nm,0.8s,770nm						
KKM	Kota Kinabalu	14.10	20	ePn	Pn	05 07 37.1	-1.5
KKM	Kota Kinabalu	14.10	20	P	Pn	05 07 37.1	-1.5
	baz=14,SNR=9.0						
MYLDM	Lahad Datu	14.29	30	ePn	P	05 07 43.4	+2.3
SANI	Sanana	15.49	71	P	Pn	05 07 55.7	+0.5
	74nm,0.8s						
IPM	Ipoh	15.57	318	ePn	Pn	05 07 56.0	-0.2
	12nm,0.6s						
PSI	Prapat	15.93	309	P	P	05 07 58.2	-1.2
	0.8nm,0.3s,baz=135,slow=16,SNR=5.1						
MBWA	Marble Bar	16.00	150	eP	Pn	05 08 02.3	+1.1
	32nm,0.4s						
MBWA				eS	S	05 10 57.8	+2.8
NLAI	Namlea	16.20	76	P	Pn	05 08 05.8	+2.2
	139nm,0.5s,2μm						
KULM	Kulim	16.43	319	eP	P	05 08 03.5	-1.1
	9.7nm,0.6s						
KCSI	Kotacane, Aceh	17.28	308	P	Pn	05 08 15.7	-0.6
	24nm,0.6s,600nm						
KNRA	Kununurra	18.99	118	P	P	05 08 33.4	+1.1
	baz=19,SNR=100						
PKDT	Phuket	19.89	319	P	P	05 08 43.2	+1.3
	34nm,0.7s						
MTN	Manton Dam	20.25	107	P	P	05 08 45.8	0.0
	baz=20,SNR=20						
MTN				S	S	05 12 33.1	+15
	baz=20,SNR=4.7						
SURT	Suratani	20.41	322	P	P	05 08 49.2	+1.7
	8.8nm,0.7s						
FAKI	Fak Fak	21.27	79	P	P	05 08 53.3	-3.1
	baz=21,SNR=6.3						
KDU	Kakadu	21.49	106	P	P	05 08 58.1	-0.2
	baz=22,SNR=30						
MORW	Morawa	22.12	169	P	P	05 09 06.1	+2.0
	baz=22,SNR=9.8						
MORW				S	S	05 13 28.8	+40
	baz=22,SNR=3.6						
BLDU	Ballidu	23.75	168	P	P	05 09 20.6	+1.7
	baz=24,SNR=13						
WRKA	Warakurna	23.97	139	P	P	05 09 22.7	+1.7
	baz=24,SNR=15						
WRA	Warramunga Arr	25.61	122	P	P	05 09 36.6	+0.8
	4.7nm,0.3s,baz=296,slow=11,SNR=21						
WRAB	Tennant Creek	25.61	122	eP	P	05 09 36.9	+1.0

	11nm,0.5s						
PBKT	**Sadao Pong**	**25.83**	**337**	P	**P**	**05 09 38.0**	**+0.3**
	12nm,1.6s,844nm						
NWAO	**Narrogin (SRO)**	**26.10**	**169**	P	**P**	**05 09 41.8**	**+1.8**
	5.3nm,0.4s,baz=340,slow=7.8,SNR=14						
UTTA	**Uttaradit**	**27.05**	**337**	P	**P**	**05 09 49.1**	**+0.5**
	10.0nm,0.5s,122nm						
AS31	**Alice Springs**	**27.10**	**129**	eP	**P**	**05 09 50.3**	**+1.2**
LAMP	**Lampang**	**28.12**	**336**	P	**P**	**05 09 59.0**	**+0.9**
	11nm,0.7s,102nm						
CMAR	**Chiang Mai Arr**	**28.35**	**335**	P	**P**	**05 10 00.7**	**+0.6**
	7.2nm,0.6s,baz=166,slow=8.3,SNR=32						
CMMT	**Chiang Mai**	**28.67**	**335**	P	**P**	**05 10 04.1**	**+1.2**
	10nm,0.7s						
CHTO	**Chiang Mai**	**28.67**	**335**	P	**P**	**05 10 04.1**	**+1.1**
	36nm,0.8s						
CHTO	**Chiang Mai**	**28.67**	**335**	eP	**P**	**05 10 03.1**	**+0.2**
	4.0nm,0.6s						
MMPI	**Merauke**	**28.79**	**94**	P	P	05 10 08.9	+4.8
	baz=29,SNR=5.3						
MMPI				S	S	05 14 47.1	+12
	baz=29,SNR=3.1						
CRAI	**Chiangrai**	**29.39**	**339**	P	**P**	**05 10 09.1**	**-0.2**
	21nm,0.7s,716nm						
QIS	**Mount Isa**	**30.37**	**119**	P	**P**	**05 10 19.0**	**+0.9**
	baz=30,SNR=6.9						
COEN	**Coen**	**31.96**	**105**	eP	**P**	**05 10 32.0**	**+0.1**
	198nm,0.7s						
COEN	**Coen**	**31.96**	**105**	P	**P**	**05 10 32.3**	**+0.3**
	baz=32,SNR=44						
PALK	**Pallekele**	**33.80**	**295**	eP	**P**	**05 10 47.0**	**-0.9**
	10nm,0.7s						
GYA	**Guiyang**	**33.85**	**352**	eP	**P**	**05 10 50.3**	**+2.1**
GYA				pP	**pP**	**05 11 40.8**	**+2.1**
GYA				sP	**sP**	**05 12 08.3**	**+0.6**
GYA				PP	**PnPn**	**05 12 15.0**	**+3.4**
GYA				S	**S**	**05 15 55.5**	**+2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BBOO	**Buckleboo**	**34.23**	**141**	P	**P**	**05 10 53.1**	**+1.7**
	baz=34,SNR=5.8						
CTA	**Charters Tower**	**36.14**	**114**	P	**P**	**05 11 08.9**	**+1.2**
	8.1nm,1.1s,baz=296,slow=11,SNR=6.1						
CTAO	**Charters Tower**	**36.14**	**114**	eP	**P**	**05 11 09.3**	**+1.6**
	10nm,0.8s						
HTT	**Hallett**	**36.45**	**139**	P	**P**	**05 11 12.6**	**+2.4**
	baz=37,SNR=6.5						
QLP	**Quilpie**	**36.68**	**125**	P	**P**	**05 11 14.5**	**+2.3**
	baz=37,SNR=8.3						
STKA	**Stephens Creek**	**37.32**	**135**	P	**P**	**05 11 19.6**	**+2.0**
	15nm,0.3s,baz=322,slow=6.5,SNR=94						
STKA	**Stephens Creek**	**37.32**	**135**	eP	**P**	**05 11 19.5**	**+2.0**
	3.2nm,0.4s						
STKA	**Stephens Creek**	**37.32**	**135**	P	**P**	**05 11 19.9**	**+2.3**
	baz=38,SNR=91						
ENH	**Enshi**	**37.38**	**357**	eP	**P**	**05 11 17.6**	**-0.4**
	7.0nm,0.4s						
CD2	**Chengdu**	**38.66**	**350**	eP	**P**	**05 11 30.5**	**+1.8**
CD2				pP	**pP**	**05 12 21.5**	**+1.2**
CD2				sP	**sP**	**05 12 49.5**	**+0.4**
CD2				PP	**PnPn**	**05 13 08.5**	**+0.1**
CD2				PcP	**PcP**	**05 13 37.0**	**+1.7**
CD2				S	**S**	**05 17 09.3**	**+3.0**
CD2				PcS	**PcS**	**05 17 25.5**	**+0.3**
CD2				sS	**sS**	**05 18 39.0**	**+0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.4s						
HYB	**Hyderabad**	**40.64**	**307**	*i* P	**P**	**05 11 43.0**	**-2.2**
ODAN	**Odare**	**41.12**	**327**	eP	**P**	**05 11 48.8**	**-0.4**
	48nm,0.5s						
XAN	**Xi'an**	**41.16**	**357**	P	**P**	**05 11 48.8**	**-0.4**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,28nm,4.5s						
TAPN	**Taplejung**	**41.34**	**327**	eP	**P**	**05 11 51.0**	**0.0**
	46nm,0.5s						
LSA	**Lhasa**	**41.58**	**333**	eP	**P**	**05 11 53.7**	**+0.6**
	17nm,0.6s						
RAMN	**Ramite**	**41.63**	**326**	eP	**P**	**05 11 52.9**	**-0.4**
	16nm,0.5s						
EIDS	**Eidsvold**	**41.95**	**120**	P	**P**	**05 11 57.6**	**+1.9**
	baz=42,SNR=3.4						
JIRN	**Jiri**	**42.41**	**326**	eP	**P**	**05 11 59.3**	**-0.4**
	41nm,0.5s						
GUN	**Gumba**	**42.77**	**326**	eP	**P**	**05 12 02.0**	**-0.7**
	58nm,0.6s						
PKI	**Pulchoki**	**42.78**	**325**	eP	**P**	**05 12 01.4**	**-1.3**
DMN	**Daman**	**42.98**	**325**	eP	**P**	**05 12 03.4**	**-0.8**
	26nm,0.5s						
KKN	**Kakani**	**43.02**	**325**	eP	**P**	**05 12 03.6**	**-0.9**
	23nm,0.8s						
TOO	**Toolangi**	**43.22**	**139**	P	P	05 12 09.4	+3.7
	baz=43,SNR=4.6						
GKN	**Gorkha**	**43.55**	**325**	eP	**P**	**05 12 07.8**	**-0.8**
	22nm,0.3s						
LZH	**Lanzhou**	**43.71**	**351**	⇑P	**P**	**05 12 10.8**	**+1.0**
LZH				pP	**pP**	**05 13 01.3**	**-1.2**
LZH				sP	**sP**	**05 13 30.8**	**-0.2**
LZH				pmax	pmax		
	comp=Z,38nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.0s						
KOLN	**Koldanda**	**43.97**	**324**	eP	**P**	**05 12 11.0**	**-1.0**
	20nm,0.3s						
DANN	**Dangsing**	**44.31**	**324**	eP	**P**	**05 12 13.8**	**-1.0**
	28nm,0.5s						
BJT	**Baijiatuau**	**47.27**	**5**	eP	**P**	**05 12 36.6**	**-0.7**
	19nm,0.6s						
BJI	**Beijing**	**47.30**	**5**	P	**P**	**05 12 36.5**	**-1.0**
BJI				sP	**sP**	**05 13 57.0**	**-2.3**
BJI				S	**S**	**05 19 13.3**	**+2.0**
BJI				sS	**sS**	**05 20 44.0**	**-2.2**
BJI				pmax	pmax		
	comp=Z,32nm,0.5s						
BJI				pmax	pmax		
	comp=Z,110nm,4.5s						
GTA	**Gaotai**	**47.67**	**348**	⇓P	**P**	**05 12 41.3**	**+0.8**
GTA				pP	**pP**	**05 13 36.0**	**+1.7**
GTA				sP	**sP**	**05 14 04.3**	**+1.9**
GTA				S	**S**	**05 19 18.3**	**+1.4**
GTA				sS	**sS**	**05 20 53.3**	**+1.4**
GTA				ScS	**ScS**	**05 22 08.0**	**+0.9**
GTA				SS	**SS**	**05 22 46.0**	**-3.0**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,110nm,4.5s						
GTA				LR	LR		
	comp=N,240nm,13.6s						
GTA				LR	LR		
	comp=E,280nm,15.9s						
GTA				LR	LR		
	comp=Z,190nm,13.3s						
HHC	**Hu-ho-hao-te**	**47.89**	**0**	eP	**P**	**05 12 42.0**	**-0.2**
HHC				pP	**pP**	**05 13 36.5**	**+0.5**
HHC				sP	**sP**	**05 14 03.8**	**-0.4**
HHC				pmax	pmax		
	comp=Z,54nm,0.7s						
HHC				pmax	pmax		
	comp=Z,250nm,3.3s						
MJAR	**Matsushiro Arr**	**50.36**	**28**	P	**P**	**05 12 58.3**	**-2.5**
	1.7nm,0.6s,baz=203,slow=9.1,SNR=9.1						
USRK	**Ussuriysk Arra**	**54.54**	**18**	P	**P**	**05 13 29.7**	**-1.5**
	7.8nm,0.8s,baz=201,slow=6.0,SNR=17						
ULN	**Ulaanbaatar**	**55.04**	**356**	eP	**P**	**05 13 34.2**	**-0.7**
	8.9nm,0.8s						
SONM	**Songino Array**	**55.05**	**356**	P	**P**	**05 13 34.4**	**-0.6**
	6.5nm,0.6s,baz=173,slow=9.3,SNR=52						
SONM				PcP	**pP**	**05 14 31.0**	**+0.7**
	0.9nm,0.4s,baz=185,slow=4.0,SNR=6.5						
WMQ	**Urumqi**	**55.19**	**339**	eP	**P**	**05 13 35.8**	**-0.2**
TKM2	**Tokmak 2**	**59.60**	**330**	eP	**P**	**05 14 06.1**	**-0.8**
	1.7nm,0.5s						
MK31	**Makanchi Array**	**59.71**	**337**	eP	**P**	**05 14 06.5**	**-0.9**
MKAR	**Makanchi Array**	**59.71**	**337**	P	**P**	**05 14 06.3**	**-1.0**
	3.1nm,0.4s,baz=148,slow=7.2,SNR=40						
AAK	**Ala-Archa**	**59.94**	**329**	P	**P**	**05 14 08.3**	**-0.9**
	1.1nm,0.4s,baz=130,slow=8.4,SNR=4.0						
AAK	**Ala-Archa**	**59.94**	**329**	eP	**P**	**05 14 09.5**	**+0.3**
	1.2nm,0.4s						
EKS2	**Erkin-Say**	**60.33**	**329**	eP	**P**	**05 14 11.3**	**-0.4**
	1.6nm,0.6s						
YSS	**Yuzh-Sakhalins**	**60.78**	**24**	eP	**P**	**05 14 13.2**	**-1.3**
	16nm,0.4s						
KURK	**Kurchatov**	**64.32**	**338**	eP	**P**	**05 14 36.7**	**-1.1**
	1.1nm,0.6s						
ZAA0	**Zalesovo Array**	**64.97**	**343**	eP	**P**	**05 14 40.2**	**-1.6**
ZALV	**Zalesovo Beam**	**64.97**	**343**	P	**P**	**05 14 40.0**	**-1.9**
	3.0nm,0.3s,baz=162,slow=5.9,SNR=25						
PETK	**Petropavlovsk-**	**71.80**	**27**	P	**P**	**05 15 22.9**	**-1.3**
	2.0nm,0.5s,baz=193,slow=5.0,SNR=5.1						
ABKAR	**Akbulak array**	**71.92**	**327**	eP	**P**	**05 15 23.9**	**-1.0**
	2.7nm,0.5s						
BRTR	**Keskin Array B**	**85.25**	**311**	P	**P**	**05 16 36.5**	**-1.4**
	1.0nm,0.8s,baz=119,slow=6.5,SNR=7.0						
YKA	**Yellowknife Ar**	**115.58**	**22**	PKP	**PKPdf**	**05 22 39.2**	**-1.6**
	0.2nm,0.5s,baz=319,slow=1.6,SNR=5.2						
TXAR	**Lajitas Array**	**140.43**	**52**	PKhKP	PKPpre	05 23 23.9	
	0.2nm,0.6s,baz=264,slow=1.7,SNR=2.9						
MIAR	**Mount Ida**	**144.47**	**37**	ePKPdf	**PKPab**	**05 23 34.8**	**-0.1**
CPUP	**Villa Florida**	**144.82**	**198**	PKPbc	**PKPdf**	**05 23 37.7**	**+0.9**
	0.9nm,0.5s,baz=130,slow=2.5,SNR=4.7						
WVT	**Waverly**	**146.36**	**29**	ePKPbc	**PKPbc**	**05 23 40.3**	**-0.5**

IDC 27 05:05:26.2±3.5, 25.80N×128.77E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/37, mbtmp3.7/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/45, Error ellipse: s-maj=99.7km s-min=53.5km az=77.0

ISCJB 27 05:05:29.6±0.8, 25.90N±0.05×128.71E±0.04, h27km, mb3.6/4, MS3.7/1, Error ellipse: s-maj=7.2km s-min=5.6km az=167.6

JMA 27 05:05:30.9±0.3, 25.93N×128.67E, h36km, M3.2

ISC 27 05:05:30.7±1.1, 25.90N±0.07×128.68E±0.05, h27km±7km, n17, σ0.91/25, mb3.8/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.85**	**316**	P	**Pb**	**05 05 45.9**	**-1.0**
JNTH				eS	**Sb**	**05 05 56.7**	**-1.3**
JJT2	**Tamagusuku 2**	**0.87**	**286**	P	**Pn**	**05 05 46.7**	**-0.5**
JJT2				eS	**Sn**	**05 05 58.6**	**-0.4**
JOW	**Kunigami**	**0.99**	**339**	P	**Pn**	**05 05 48.4**	**-0.5**
JOW				eS	**Sb**	**05 06 01.0**	**-1.0**
JOW	**Kunigami**	**0.99**	**339**	Pn	**Pn**	**05 05 48.3**	**-0.6**
	6.0nm,0.3s,baz=157,slow=14,SNR=4.1						
JOW				Sn	**Sb**	**05 06 01.1**	**-1.0**
	16nm,0.3s,baz=150,slow=20,SNR=8.6						
JIH	**Iheya**	**1.30**	**331**	P	**Pn**	**05 05 53.1**	**+0.1**
JIH				eS	**Sn**	**05 06 08.9**	**-0.6**
JOKE	**Okinoerabujima**	**1.46**	**356**	P	**Pn**	**05 05 55.3**	**0.0**
JOKE				eS	**Sn**	**05 06 12.4**	**-1.1**
JAGN	**Aguni-jima**	**1.46**	**298**	P	**Pn**	**05 05 55.2**	**-0.1**
JAGN				eS	**Sn**	**05 06 13.9**	**+0.3**
JKE	**Kume jima 2**	**1.75**	**284**	P	**Pn**	**05 05 58.5**	**-0.8**
JKE				eS	**Sn**	**05 06 20.2**	**-0.6**
JTK	**Tokunoshima**	**1.89**	**7**	P	**Pn**	**05 06 01.2**	**0.0**
JTK				eS	**Sn**	**05 06 23.8**	**-0.4**
JMZ	**Minamidaito 2**	**2.29**	**92**	P	**Pn**	**05 06 05.3**	**-1.4**
JAM	**Amami Oshima**	**2.63**	**18**	P	**Pn**	**05 06 11.8**	**+0.4**
JAM				eS	**Sn**	**05 06 42.1**	**-0.3**
KSRS	**Korea Array**	**11.54**	**357**	LR	LR	05 12 52.4	
	comp=Z,33nm,18.9s,baz=156,slow=38						
SONM	**Songino Array**	**28.05**	**327**	P	**P**	**05 11 22.4**	**+2.6**
	0.6nm,0.4s,baz=135,slow=10,SNR=10						
MKAR	**Makanchi Array**	**42.05**	**312**	P	**P**	**05 13 20.2**	**+0.1**
	0.3nm,0.5s,baz=99,slow=9.4,SNR=5.3						
FINES	**FINESS Array B**	**73.35**	**331**	P	**P**	**05 17 00.5**	**+0.7**
	0.5nm,0.4s,baz=61,slow=6.5,SNR=8.2						
AKASG	**Malin Array Be**	**76.04**	**320**	P	**P**	**05 17 15.4**	**-0.1**
	0.5nm,0.5s,baz=57,slow=6.8,SNR=3.8						
ELK	**Elko**	**91.05**	**43**	LR	LR	05 55 50.1	
	comp=Z,27nm,18.9s,baz=186,slow=33						

CSEM 27 05:09:43.5, 38.57N×29.26W, h1km, ML3.3, After PDA

PDA 27 05:09:43.5±1.3, 38.57N×29.26W, h1km±8km, MD3.7, ML3.3, Error ellipse: s-maj=9.1km s-min=6.4km az=112.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.43**	**88**	eP	Pg	05 09 51.8	-0.2
CALA				eS	Sg	05 09 57.2	-0.5
CALA	**Caldeira**	**0.43**	**88**	eP	Pg	05 09 51.8	-0.2
CALA				eS	Sg	05 09 57.2	-0.5
PCED	**Cedros**	**0.44**	**82**	eP	Pg	05 09 51.5	-0.4
PCED				eS	Sg	05 09 57.4	-0.2
PCED				A	A	05 09 58.7	
	2μm,0.4s						
PCED	**Cedros**	**0.44**	**82**	eP	Pg	05 09 51.5	-0.4
PCED				eS	Sg	05 09 57.4	-0.2
HOR	**Horta**	**0.49**	**94**	*i* P	Pg	05 09 52.6	-0.3
HOR				eS	Sg	05 09 59.0	-0.3
PCAN	**Candelaria**	**0.61**	**99**	*i* P	Pg	05 09 53.8	-1.5
PCAN				eS	Sg	05 10 02.6	-0.7
PCAN				A	A	05 10 07.2	
	1μm,0.3s						
PICO	**Pico**	**0.65**	**96**	*i* P	Pg	05 09 55.3	-0.9
PICO				eS	Sg	05 10 03.6	-1.1
ROSA	**Rosais**	**0.81**	**79**	eP	Pg	05 09 57.0	-2.0
ROSA				eS	Sg	05 10 07.2	-2.4
ROSA				A	A	05 10 13.6	
	1μm,0.6s						
ROSA	**Rosais**	**0.81**	**79**	eP	Pg	05 09 57.0	-2.0
ROSA				eS	Sg	05 10 07.2	-2.4
PID	**Ribeirinha**	**0.90**	**98**	eP	Pg	05 09 58.1	-2.7
PID	**Ribeirinha**	**0.90**	**98**	eP	Pg	05 09 58.1	-2.7
PMAN	**Manadas**	**0.92**	**86**	eP	Pg	05 09 58.3	-2.8
PMAN				eS	Sg	05 10 10.1	-2.9
PMAN				A	A	05 10 17.2	
	424nm,0.4s						
PMAN	**Manadas**	**0.92**	**86**	eP	Pg	05 09 58.3	-2.8
PMAN				eS	Sg	05 10 10.1	-2.9
TOPO	**Topo**	**1.05**	**88**	eP	Pg	05 10 00.6	-3.1
TOPO	**Topo**	**1.05**	**88**	eP	Pg	05 10 00.6	-3.1
PGRA	**Graciosa**	**1.10**	**65**	eP	Pg	05 10 01.0	-3.6
PGRA				eS	Sg	05 10 14.1	-4.7
PGRA				A	A	05 10 26.4	
	128nm,0.4s						
PGRA	**Graciosa**	**1.10**	**65**	eP	Pg	05 10 01.0	-3.6
PGRA				eS	Sg	05 10 14.1	-4.7
ADH	**Angra Heroismo**	**1.58**	**86**	eP	Pn	05 10 07.9	-4.9
ADH				eS	Sn	05 10 26.4	-7.5
ADH				A	A	05 10 28.1	
	114nm,0.7s						
ADH	**Angra Heroismo**	**1.58**	**86**	eP	Pn	05 10 07.9	-4.9
ADH				eS	Sn	05 10 26.4	-7.5
PSET	**Sete Cidades**	**2.88**	**104**	eP	Pn	05 10 26.0	-4.7
PSET				eS	Sn	05 10 58.3	-7.7
PSET	**Sete Cidades**	**2.88**	**104**	eP	Pn	05 10 26.0	-4.7
PSET				eS	Sn	05 10 58.3	-7.7
PDA	**Ponta Delgada**	**2.95**	**105**	*i* P	Pn	05 10 27.2	-4.3
PDA				eS	Sn	05 10 59.0	-8.5
PDA				A	A	05 11 03.1	
	19nm,0.2s						
GRON	**Grota Negra**	**3.04**	**104**	eP	Pn	05 10 30.3	-2.5
GRON				eS	Sn	05 11 04.6	-5.4
GRON				A	A	05 11 10.0	
	4.9nm,0.4s						
PSMA	**Santa Maria**	**3.63**	**114**	*i* P	Pn	05 10 35.9	-4.9
PSMA				eS	Sn	05 11 15.7	-8.6
PSMA				A	A	05 11 19.8	
	30nm,0.5s						
PSMN	**Pico do Norte,**	**3.67**	**114**	eP	Pn	05 10 36.4	-5.0
PSMN				eS	Sn	05 11 16.6	-8.8
PSMN				A	A	05 11 22.1	
	21nm,0.7s						

ISCJB 27 05:10:00.0±1.0, 25.94N±0.04×128.68E±0.04, h26km±6km, mb3.5/9, Error ellipse: s-maj=7.2km s-min=6.1km az=177.6

NIED 27 05:10:00, 26.00N×128.70E, h8km, Mw4.0 Best double couple: M0 9.86000×10^14 NP1:φs75.00000°, δ74.00000°, λ-5.00000°. NP2:φs166.00000°, δ85.00000°, λ-164.00000°.

JMA 27 05:10:00.9±0.2, 25.96N×128.66E, h32km, M3.7

IDC 27 05:10:02.7±1.3, 25.99N×128.55E, h28km±5km, mb3.5/9, mb1 3.7/10, mb1mx3.5/37, mbtmp3.7/10, ML4.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/30, Error ellipse: s-maj=30.5km s-min=25.2km az=66.0

ISC 27 05:10:01.7±0.8, 25.95N±0.06×128.63E±0.04, h26km±5km, n22, σ1.23/38, mb3.6/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.79**	**316**	P	**Pb**	**05 10 15.4**	**-1.5**
JNTH				S	**Sb**	**05 10 26.0**	**-1.3**
JJT2	**Tamagusuku 2**	**0.82**	**284**	P	**Pb**	**05 10 16.5**	**-0.9**
JJT2				S	**Sb**	**05 10 27.8**	**-0.2**
JOW	**Kunigami**	**0.94**	**340**	P	**Pn**	**05 10 18.0**	**-1.2**
JOW				eS	**Sb**	**05 10 30.2**	**-1.3**
JOW	**Kunigami**	**0.94**	**340**	Pn	**Pn**	**05 10 18.2**	**-1.1**
	20nm,0.3s,baz=148,slow=16,SNR=37						
JOW				Sn	**Sn**	**05 10 32.6**	**+0.8**
	39nm,0.3s,baz=294,slow=20,SNR=24						
JIH	**Iheya**	**1.24**	**331**	P	**Pn**	**05 10 22.6**	**-0.7**
JIH				eS	**Sn**	**05 10 38.1**	**-1.1**
JAGN	**Aguni-jima**	**1.41**	**297**	P	**Pn**	**05 10 24.9**	**-0.7**
JAGN				eS	**Sn**	**05 10 43.1**	**-0.2**
JOKE	**Okinoerabujima**	**1.41**	**358**	P	**Pn**	**05 10 25.2**	**-0.5**
JOKE				eS	**Sn**	**05 10 41.9**	**-1.6**
JKE	**Kume jima 2**	**1.70**	**283**	P	**Pn**	**05 10 28.4**	**-1.3**
JKE				eS	**Sn**	**05 10 48.2**	**-2.5**
JTK	**Tokunoshima**	**1.85**	**9**	P	**Pn**	**05 10 31.3**	**-0.5**
JTK				S	**Sn**	**05 10 53.1**	**-1.3**
JMZ	**Minamidaito 2**	**2.33**	**93**	P	**Pn**	**05 10 37.4**	**-1.0**
JMZ				S	**Sn**	**05 11 03.0**	**-3.2**
JAMN	**Amaminishikomi**	**2.34**	**12**	P	**Pn**	**05 10 37.8**	**-0.7**
JAMN				eS	**Sn**	**05 11 05.3**	**-1.0**
JAM	**Amami Oshima**	**2.60**	**19**	P	**Pn**	**05 10 41.3**	**-0.8**
JAM				eS	**Sn**	**05 11 11.6**	**-1.3**
JNU	**Nakatsue**	**7.41**	**15**	Pn	**Pn**	**05 11 49.0**	**+0.7**
	2.1nm,0.3s,baz=207,slow=11,SNR=6.7						
JNU				LR	LR	05 15 12.5	
	comp=Z,102nm,19.0s,baz=262,slow=42						
SONM	**Songino Array**	**27.99**	**327**	P	**P**	**05 15 52.2**	**+1.8**
	0.7nm,0.5s,baz=142,slow=10,SNR=6.4						
MKAR	**Makanchi Array**	**41.99**	**312**	P	**P**	**05 17 50.9**	**+0.2**
	0.6nm,0.5s,baz=99,slow=9.9,SNR=5.9						
MKAR				pP	**pP**	**05 17 59.2**	**+0.5**
	1.6nm,0.5s,baz=98,slow=10,SNR=12						
ZALV	**Zalesovo Beam**	**42.69**	**323**	P	**P**	**05 17 55.0**	**-1.2**
	0.4nm,0.5s,baz=116,slow=8.5,SNR=2.4						
ILAR	**Eielson Array**	**64.52**	**28**	P	**P**	**05 20 37.1**	**+1.1**
	0.3nm,0.8s,baz=262,slow=6.3,SNR=3.3						
FINES	**FINESS Array B**	**73.29**	**331**	P	**P**	**05 21 30.6**	**+0.1**
	1.2nm,0.7s,baz=57,slow=5.1,SNR=4.3						
FINES				pP	**pP**	**05 21 40.0**	**+1.0**
	2.5nm,0.9s,baz=76,slow=5.9,SNR=3.8						
AKASG	**Malin Array Be**	**75.98**	**320**	P	**P**	**05 21 46.7**	**+0.4**
	0.5nm,0.4s,baz=59,slow=6.2,SNR=7.1						
AKASG				pP	**pP**	**05 21 55.4**	**+0.6**
	0.7nm,0.4s,baz=62,slow=6.4,SNR=5.3						
BRTR	**Keskin Array B**	**77.50**	**308**	P	**P**	**05 21 56.5**	**+1.2**
	0.9nm,0.9s,baz=56,slow=5.1,SNR=5.0						
YKA	**Yellowknife Ar**	**78.63**	**25**	P	**P**	**05 22 01.8**	**+0.9**
	0.1nm,0.6s,baz=298,slow=5.5,SNR=2.7						
NOA	**NORSAR Array B**	**79.73**	**334**	P	**P**	**05 22 06.3**	**-0.8**
	0.5nm,0.7s,baz=46,slow=2.4,SNR=2.9						
NOA				pP	**pP**	**05 22 16.4**	**+0.9**
	0.8nm,0.7s,baz=56,slow=5.4,SNR=2.4						

MEX 27 05:11:07.9±0.8, 15.00N×96.83W, h13km±43km, MD3.8, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.04**	**42**	*i* P	Pb	05 11 23.9	-3.8
HUIG				*i* S	Sb	05 11 37.3	-4.0
PNIG	**Pinotepa**	**1.86**	**318**	*i* P	Pn	05 11 36.7	-2.9
PNIG				*i* S	Sn	05 11 57.8	-5.2
VHO	**Vista Hermosa**	**2.06**	**3**	*i* P	Pn	05 11 38.7	-3.8
VHO				*i* S	Sn	05 12 03.6	-4.7
CMIG	**Matias Romero**	**2.80**	**42**	eP	Pn	05 11 49.4	-3.0
CMIG				eS	Sn	05 12 23.0	-3.1
PCIG		**3.56**	**78**	*i* P	Pn	05 11 58.7	-4.1
PCIG				*i* S	Sn	05 12 37.7	-7.0

WEL 27 05:17:42.5±0.4, 44.84S×167.30E, h5km, ML3.8/12, 1C-2D, Error ellipse: s-maj=4.2km s-min=2.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.48**	**70**	⇑PG	Pg	05 17 51.8	+0.1
MSZ				SG	Sg	05 17 57.3	-0.6
MSZ				AML	AML	05 17 57.7	
MSZ				AML	AML	05 17 59.7	
MSZ				AML	AML	05 17 59.7	
DCZ	**Deep Cove**	**0.65**	**189**	P*	Pg	05 17 55.0	0.0
DCZ				SG	Sg	05 18 03.8	+0.4
DCZ				AML	AML	05 18 04.3	
DCZ				AML	AML	05 18 04.5	
DCZ				AML	AML	05 18 04.5	
MLZ	**Mavora Lakes**	**0.80**	**130**	⇓P*	Pg	05 17 58.0	0.0
MLZ				AML	AML	05 18 09.0	
MLZ				AML	AML	05 18 09.2	
WHZ	**Wether Hill Ro**	**1.15**	**157**	P*	Pg	05 18 04.1	-0.5
WHZ				S*	Sg	05 18 19.0	-0.6
WHZ				AML	AML	05 18 21.9	
WKZ	**Wanaka**	**1.22**	**90**	P*	Pg	05 18 05.4	-0.7
WKZ				AML	AML	05 18 23.0	
WKZ				AML	AML	05 18 23.0	
WKZ				AML	AML	05 18 23.5	
WKZ				AML	AML	05 18 23.5	
JCZ	**Jackson Bay**	**1.29**	**54**	P*	Pn	05 18 06.7	-0.7
JCZ				AML	AML	05 18 26.8	
JCZ				AML	AML	05 18 32.3	
EAZ	**Earnscleugh**	**1.48**	**106**	⇓PN	Pn	05 18 09.6	-0.2
EAZ				AML	AML	05 18 31.6	
EAZ				AML	AML	05 18 32.4	
EAZ				AML	AML	05 18 32.4	
EAZ				AML	AML	05 18 34.4	
TUZ	**Tuapeka**	**1.99**	**125**	PN	Pn	05 18 17.4	+0.6
APZ	**The Paps**	**2.05**	**167**	PN	Pn	05 18 18.5	+0.8
APZ				AML	AML	05 18 46.0	
APZ				AML	AML	05 18 54.0	
LBZ	**Lake Benmore**	**2.11**	**79**	PN	Pn	05 18 19.6	+1.1
LBZ				AML	AML	05 18 51.2	
LBZ				AML	AML	05 18 58.5	
SYZ	**Scrubby Hill**	**2.13**	**143**	PN	Pn	05 18 19.0	+0.3
SYZ				AML	AML	05 18 48.8	
SYZ				AML	AML	05 18 48.8	
SYZ				AML	AML	05 18 48.9	
SYZ				AML	AML	05 18 48.9	
FOZ	**Fox Glacier**	**2.14**	**54**	ePN	Pn	05 18 20.0	+1.2
FOZ				AML	AML	05 18 55.9	
FOZ				AML	AML	05 18 58.9	
FOZ				AML	AML	05 18 59.0	
FOZ				AML	AML	05 18 59.0	
ODZ	**Otahua Downs**	**2.38**	**96**	PN	Pn	05 18 23.0	+0.8
HHSZ	**Highcliff Hill**	**2.55**	**115**	PN	Pn	05 18 26.1	+1.5
RPZ	**Rata Peaks**	**2.92**	**69**	PN	Pn	05 18 30.5	+0.9
RPZ				AML	AML	05 19 18.2	
DSZ	**Denniston Nort**	**4.51**	**48**	PN	Pn	05 18 51.2	-0.3

NNC 27 05:30:39.4±1.6, 54.45N×86.48E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=13.8km s-min=12.3km az=157.0

IDC 27 05:30:41.4±3.8, 54.57N×86.36E, h0km, mb1 2.7/1, mb1mx2.6/29, mbtmp2.7/1, ML2.6/1, Error ellipse: s-maj=26.9km s-min=14.1km az=48.0

ISC 27 05:30:40.7±4.9, 54.8N±0.2×86.4E±0.2, h35km, n6, σ1.85/8, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**228**	*i*		05 38 00.0	
	baz=57,slow=344,SNR=13						
ZALV	**Zalesovo Beam**	**1.27**	**228**	Pg	**Pn**	**05 31 01.2**	**-0.8**
	0.9nm,0.3s,baz=55,slow=17,SNR=15						
ZALV				Lg	Lg	05 31 17.7	
	5.5nm,0.3s,baz=54,slow=27,SNR=35						
KURK	**Kurchatov**	**6.26**	**232**	⇓Pn	**Pn**	**05 32 10.8**	**+0.4**
	0.5nm,0.9s						
KURK				⇓Sn	**Sn**	**05 33 21.7**	**+1.1**
	0.9nm,1.2s						
KURK				⇓Lg	Lg	05 33 53.2	
	5.1nm,1.4s						
KURBB	**Kurchatov Arra**	**6.36**	**232**	⇑Pn	**Pn**	**05 32 11.4**	**-0.5**
	2.4nm,0.9s						
KURBB				⇓Lg	Lg	05 33 56.7	
	5.0nm,1.0s						

MK31 Makanchi Array 8.43 200 ⇑Pn Pn 05 32 38.9 -1.4
0.5nm,0.8s,baz=26,slow=13,SNR=4.6
MK31 ⇑Sn Sn 05 34 11.9 -2.3
1.1nm,1.1s
MK31 ⇑Lg Lg 05 34 58.4
5.0nm,1.4s,baz=21,slow=28,SNR=3.9
MKAR Makanchi Array 8.43 200 Pn Pn 05 32 42.8 +2.5
0.1nm,0.3s,baz=24,slow=13,SNR=5.9
MKAR Sn Sn 05 34 15.4 +1.2
0.1nm,0.3s,baz=20,slow=25,SNR=5.7
MKAR Lg Lg 05 35 00.4
0.0nm,0.3s,baz=23,slow=29,SNR=6.5

IDC 27 05:31:46.9±10.0, 12.99N×145.19E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/45, mbtmp3.7/5, Error ellipse: s-maj=320.4km s-min=47.3km az=176.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	62.14	316	P	P	05 42 10.7	+0.7
	0.2nm,0.5s,baz=93,slow=8.3,SNR=5.0						
ILAR	Eielson Array	68.98	25	P	P	05 42 53.1	-0.7
	0.3nm,0.5s,baz=246,slow=5.9,SNR=6.7						
BVAR	Borovoye Array	70.59	322	P	P	05 43 03.8	-0.2
	0.8nm,0.5s,baz=108,slow=8.8,SNR=5.0						
YKA	Yellowknife Ar	83.25	27	P	P	05 44 16.6	+1.4
	0.3nm,0.6s,baz=286,slow=4.9,SNR=5.1						
FINES	FINESS Array B	91.84	335	P	P	05 44 55.5	-1.2
	1.9nm,1.1s,baz=83,slow=6.0,SNR=5.5						

NIED 27 05:37:00, 25.90N×128.70E, h8km, Mw4.4 Best double couple: M0 4.64000×10^15 NP1:φs 52.00000°, δ43.00000°, λ-71.00000°. NP2:φs 207.00000°, δ49.00000°, λ-107.00000°.
BJI 27 05:37:25.2, 25.87N×128.63E, h6km, mB4.8/33, mb4.5/42, Ms4.4/36, Ms7 4.2/35
IDC 27 05:37:26.0±0.7, 25.97N×128.71E, h0km, mb4.3/25, mb1 4.4/28, mb1mx4.3/50, mbtmp4.3/28, ML3.5/3, MS3.4/6, Ms1 3.4/6, ms1mx3.2/29, Error ellipse: s-maj=17.8km s-min=16.9km az=140.0
NEIC 27 05:37:26.6±1.7, 25.90N×128.61E, h4km±9km, mb4.8/27, MW4.4(NIED), Error ellipse: s-maj=9.0km s-min=5.5km az=135.0
NEIC Felt [V] at Chatan, Naha and Yomitan, Okinawa. Also felt at Ishikawa, Okinawa and Urasoe.
JMA 27 05:37:28.3±0.3, 25.94N×128.73E, h36km±5km, M4.5
MOS 27 05:37:29.6±0.9, 26.00N×128.75E, h33km, mb4.7/34, Error ellipse: s-maj=10.2km s-min=6.1km az=103.1
ISCJB 27 05:37:29.1±0.8, 26.02N±0.03×128.70E±0.03, h30km±4km, mb4.5/66, MS4.0/12, Error ellipse: s-maj=5.1km s-min=4.1km az=155.7
ISC 27 05:37:29.4±0.5, 26.01N±0.04×128.72E±0.03, h19km±1km, n185, σ1.48/234, mb4.7/66, MS3.7/12, 6C-6D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.81	309	P	Pb	05 37 44.0	-0.8
JNTH				eS	Sb	05 37 54.7	-0.6
JJT2	Tamagusuku 2	0.89	279	eS	Sb	05 37 56.5	-1.0
JOW	Kunigami	0.91	334	P	Pb	05 37 45.9	-0.7
JOW				eS	Sg	05 37 59.1	-0.3
JOW	Kunigami	0.91	334	Pn	Pb	05 37 46.0	-0.6
	43nm,0.3s,baz=141,slow=18,SNR=53						
JOW				Sn	Sb	05 37 57.4	-1.0
	baz=135,slow=20						
JIH	Iheya	1.23	327	P	Pn	05 37 50.7	-0.8
JIH				S	Sb	05 38 06.4	-1.0
JOKE	Okinoerabujima	1.35	354	P	Pn	05 37 52.6	-0.7
JOKE				eS	Sn	05 38 09.9	-0.8
JAGN	Aguni-jima	1.45	294	P	Pn	05 37 53.8	-0.7
JAGN				eS	Sn	05 38 11.5	-1.5
JKE	Kume jima 2	1.77	281	P	Pn	05 37 57.6	-1.3
JKE				eS	Sn	05 38 18.1	-2.8
JTK	Tokunoshima	1.78	7	P	Pn	05 37 58.3	-0.8
JTK				eS	Sn	05 38 19.1	-2.2
JMZ	Minamidaito 2	2.26	94	P	Pn	05 38 03.7	-2.0
JMZ				eS	Sn	05 38 28.5	-4.5
JAMN	Amaminishikomi	2.26	10	P	Pn	05 38 05.3	-0.4
JAM	Amami Oshima	2.52	18	P	Pn	05 38 08.1	-1.2
JAM				eS	Sn	05 38 38.9	-0.5
YOJ	Yonaguni jima	5.40	255	eP	Pn	05 38 46.2	-2.6
YOJ	Yonaguni jima	5.40	255	ePn	Pn	05 38 46.2	-2.6
NACB	Ninganchiao	6.71	256	ePn	Pn	05 39 03.4	-3.6
YHNB	Yeheng	6.78	260	ePn	Pn	05 39 07.2	-0.7
YULB	Yu-li	7.24	250	ePn	Pn	05 39 09.1	-5.0
JNU	Nakatsue	7.33	14	Pn	Pn	05 39 16.1	+0.6
	2.8nm,0.3s,baz=188,slow=13,SNR=13						
JNU	Nakatsue	7.33	14	ePn	Pn	05 39 16.5	+1.0
	9.2nm,0.6s						
SSLB	Suanglung	7.39	254	ePn	Pn	05 39 12.8	-3.4
TWG	Pinlang	7.66	247	ePn	Pn	05 39 14.4	-5.5
NJ2	Nanjing	10.53	307	eP	Pn	05 40 00.3	+1.1
NJ2				S	Sn	05 41 56.0	-0.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=N,1μm,11.3s						
NJ2				LR	LR		
	comp=E,2μm,10.8s						
NJ2				LR	LR		
	comp=Z,9μm,10.8s						
MAJO	Matsushiro	13.26	35	eP	Pn	05 40 37.1	+0.5
MJAR	Matsushiro Arr	13.26	35	Pn	Pn	05 40 36.2	-0.4
	0.1nm,0.3s,baz=213,slow=13,SNR=2.7						
MJAR				LR	LR	05 45 18.9	
	comp=Z,48nm,21.0s,baz=195,slow=36						
VLA	Vladivostok	17.27	8	⇑P	Pn	05 41 29.0	-0.3
BJT	Baijiatuau	17.47	326	eP	P	05 41 33.3	+0.3
BJT				pmax	pmax		
	comp=Z,21nm,0.6s						
BJT	Baijiatuau	17.47	326	eP	P	05 41 33.3	+0.3
	comp=Z,21nm,0.6s						
BJI	Beijing	17.48	326	P	P	05 41 33.3	+0.2
BJI				sP	sP	05 41 38.5	-2.6
BJI				S	Sn	05 44 41.0	-5.1
BJI				pmax	pmax		
	comp=Z,27nm,0.6s						
BJI				pmax	pmax		
	comp=Z,170nm,5.1s						
BJI				LR	LR		
	comp=Z,1μm,11.6s						
BJI				LR	LR		
	comp=Z,650nm,13.1s						
BJI				LR	LR		
	comp=Z,190nm,13.6s						
CN2	Changchun	17.95	352	eP	P	05 41 41.5	+3.2
CN2				eS	Sn	05 44 59.5	+2.0
CN2				LR	LR		
	comp=Z,600nm,10.0s						
CN2				LR	LR		
	comp=Z,400nm,10.0s						
CN2				LR	LR		
	comp=Z,500nm,12.0s						
USRK	Ussuriysk Arra	18.34	7	P	P	05 41 43.9	+1.3
	comp=Z,0.2nm,0.3s,baz=194,slow=9.6,SNR=14						
MDJ	Mudanjiang	18.58	2	P	Pn	05 41 47.3	+1.8
MDJ				pP	pP	05 41 50.3	-0.4
MDJ				sP	sP	05 41 51.5	-1.7
MDJ				S	S	05 45 17.0	+0.7
MDJ				sS	sS	05 45 25.0	+0.1
MDJ				PcP	PcP	05 46 15.5	+1.5
MDJ				ScP	ScP	05 49 51.5	+2.9
MDJ				PcS	PcS	05 49 52.8	+2.2
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,90nm,3.5s						
MDJ				LR	LR		
	comp=Z,110nm,6.3s						
MDJ				LR	LR		
	comp=Z,130nm,7.4s						
MDJ				LR	LR		
	comp=Z,160nm,5.5s						
QIZ	Qiongzhong	18.76	252	P	P	05 41 46.0	-1.4
QIZ				S	Sn	05 45 15.8	-1.6
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.4s						
QIZ				LR	LR		
	comp=Z,290nm,19.6s						
QIZ				LR	LR		
	comp=Z,310nm,20.0s						
XAN	Xi'an	18.90	300	P	P	05 41 49.0	+0.1
XAN				sP	sP	05 41 57.3	+0.4
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,24nm,5.3s						
GYA	Guiyang	19.79	276	⇑iP	Pn	05 42 01.0	+0.6
GYA				pP	pP	05 42 08.5	+4.2
GYA				PP	PnPn	05 42 17.5	+3.2
GYA				S	S	05 45 34.0	-7.2
GYA				SS	SnSn	05 46 01.0	+4.2
GYA				PcP	PcP	05 46 17.3	+0.7
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=Z,560nm,16.4s						
GYA				LR	LR		
	comp=Z,480nm,17.2s						
GYA				LR	LR		
	comp=Z,520nm,16.6s						
ERM	Erimo	19.91	33	eP	P	05 41 59.9	+0.2
ERM				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC	Hu-ho-hao-te	20.54	320	eP	P	05 42 06.8	0.0
HHC				sP	sP	05 42 15.5	+0.7
HHC				PP	PnPn	05 42 27.5	+3.1
HHC				eS	S	05 45 50.0	-5.8
HHC				SS	SnSn	05 46 25.5	+11
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,76nm,4.1s						
HHC				LR	LR		
	comp=Z,1μm,10.7s						
HHC				LR	LR		
	comp=Z,800nm,9.8s						
HHC				LR	LR		
	comp=Z,1μm,11.8s						
ASAJ	Asahikawa	21.29	28	P	P	05 42 16.1	+1.4
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ASAJ	Asahikawa	21.29	28	P	P	05 42 16.1	+1.4
	comp=Z,7.1nm,0.7s,baz=288,slow=13,SNR=4.8						
CD2	Chengdu	22.47	288	eP	P	05 42 26.8	-0.7
CD2				pP	pP	05 42 31.8	-1.3
CD2				sP	sP	05 42 35.0	-0.6
CD2				PP	PnPn	05 42 53.8	+3.0
CD2				PcP	PcP	05 46 23.5	+1.9
CD2				S	S	05 46 26.0	-7.4
CD2				sS	sS	05 46 34.5	-8.1
CD2				SS	SnSn	05 47 06.5	+4.3
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,260nm,5.6s						
CD2				LR	LR		
	comp=Z,750nm,11.2s						
CD2				LR	LR		
	comp=Z,930nm,11.9s						
CD2				LR	LR		
	comp=Z,790nm,11.4s						
KLR	Kul'dur	23.30	5	eP	P	05 42 31.6	-4.4
KMI	Kunming	23.45	274	P	P	05 42 38.5	+0.6
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
LZH	Lanzhou	23.50	301	eP	P	05 42 38.0	-0.3
LZH				pP	pP	05 42 42.3	-1.7
LZH				sP	sP	05 42 46.0	-0.5
LZH				eS	S	05 46 45.0	-6.3
LZH				pmax	pmax		
	comp=Z,38nm,1.2s						
LZH				pmax	pmax		
	comp=Z,140nm,5.8s						
LZH				LR	LR		
	comp=Z,570nm,14.4s						
LZH				LR	LR		
	comp=Z,470nm,12.0s						
LZH				LR	LR		
	comp=Z,440nm,11.5s						
YSS	Yuzh-Sakhalins	23.68	24	⇑eP	P	05 42 41.1	+1.4
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS	Yuzh-Sakhalins	23.68	24	eP	P	05 42 41.5	+1.8
	comp=Z,54nm,1.1s						
UBPT	Khong Chiam	24.20	248	P	P	05 42 46.6	+1.8
	comp=Z,15nm,1.6s						
CRAI	Chiangrai	26.67	263	P	P	05 43 10.9	+3.6
	comp=Z,23nm,1.0s						
PBKT	Sadao Pong	27.46	256	P	P	05 43 16.3	+1.9
	comp=Z,7.9nm,1.1s,comp=Z,1μm						
GTA	Gaotai	27.62	306	⇑P	P	05 43 14.5	-1.3
GTA				pP	pP	05 43 20.3	-1.4
GTA				sP	sP	05 43 23.3	-0.8
GTA				PP	PnPn	05 44 02.8	+1.5
GTA				S	S	05 47 52.3	-4.4
GTA				pmax	pmax		
	comp=Z,19nm,1.0s						
GTA				pmax	pmax		
	comp=Z,74nm,6.7s						
GTA				LR	LR		
	comp=Z,330nm,13.8s						
GTA				LR	LR		
	comp=Z,240nm,11.6s						
GTA				LR	LR		
	comp=Z,350nm,13.5s						
ULN	Ulaanbaatar	27.68	328	d iP	P	05 43 17.8	+1.5
ULN				pmax	pmax		
	comp=Z,26nm,1.6s						
ULN	Ulaanbaatar	27.68	328	eP	P	05 43 18.2	+2.0
	comp=Z,11nm,0.8s						
LAMP	Lampang	27.89	260	P	P	05 43 22.1	+3.9
	comp=Z,3.9nm,0.8s						
SONM	Songino Array	27.98	327	P	P	05 43 20.6	+1.7
SONM				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,108nm,19.4s						
SONM	Songino Array	27.98	327	P	P	05 43 20.6	+1.7
	comp=Z,6.0nm,0.6s,baz=140,slow=10,SNR=30						
SONM				LR	LR	05 55 45.0	
	comp=Z,108nm,19.4s,baz=158,slow=39						
SONA1	Songino Array	27.98	327	eP	P	05 43 19.9	+0.9
CMMT	Chiang Mai	28.40	262	P	P	05 43 23.8	+1.0
	comp=Z,16nm,0.8s						
CHTO	Chiang Mai	28.40	262	eP	P	05 43 23.4	+0.6
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CHTO	Chiang Mai	28.40	262	P	P	05 43 23.9	+1.1
	comp=Z,39nm,0.9s						
CHTO	Chiang Mai	28.40	262	eP	P	05 43 23.4	+0.6
	comp=Z,6.6nm,1.0s						
CMAR	Chiang Mai Arr	28.52	261	P	P	05 43 24.3	+0.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	Chiang Mai Arr	28.52	261	P	P	05 43 24.3	+0.4
	comp=Z,1.0nm,0.6s,baz=52,slow=6.8,SNR=6.3						
PETK	Petropavlovsk-	34.66	31	P	P	05 44 17.1	-0.4
PETK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PETK	Petropavlovsk-	34.66	31	P	P	05 44 17.1	-0.4
	comp=Z,5.6nm,0.9s,baz=204,slow=11,SNR=4.0						
YAK	Yakutsk	36.02	1	eP	P	05 44 28.2	-0.8
YAK				pmax	pmax		
	comp=N,21nm,1.3s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.2s						
YAK	Yakutsk	36.02	1	eP	P	05 44 29.2	+0.2
	comp=E,56nm,0.7s						
TAPN	Taplejung	36.56	281	eP	P	05 44 34.4	0.0
HVS	Khovu-Aksy	36.58	323	⇑eP	P	05 44 34.6	+0.5
HVS				pmax	pmax		
	comp=Z,43nm,1.6s						
ODAN	Odare	36.91	281	eP	P	05 44 37.2	-0.1
	comp=Z,36nm,0.7s						
RAMN	Ramite	37.59	281	eP	P	05 44 42.7	-0.5
	comp=Z,14nm,0.7s						
WMQ	Urumqi	37.60	309	P	P	05 44 43.0	+0.2
WMQ				pP	pP	05 44 48.8	0.0
WMQ				sP	sP	05 44 51.8	+0.6
WMQ				PP	PnPn	05 46 10.8	+1.2
WMQ				PcP	PcP	05 47 02.0	+1.6
WMQ				S	S	05 50 31.0	-0.4
WMQ				ScP	ScP	05 50 46.5	-0.3
WMQ				PcS	PcS	05 50 49.3	+0.4
WMQ				ScS	ScS	05 54 53.8	-1.5
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,100nm,4.2s						
WMQ				LR	LR		
	comp=Z,77nm,19.0s						
WMQ				LR	LR		
	comp=Z,84nm,16.0s						
WMQ				LR	LR		
	comp=Z,89nm,17.8s						
JIRN	Jiri	37.85	282	eP	P	05 44 45.4	-0.1
GUN	Gumba	38.09	283	eP	P	05 44 47.3	-0.2
	comp=Z,34nm,0.9s						
PKI	Pulchoki	38.55	282	eP	P	05 44 50.9	-0.5
	comp=Z,12nm,0.4s						
KKN	Kakani	38.64	283	eP	P	05 44 51.8	-0.2
DMN	Daman	38.81	282	eP	P	05 44 53.1	-0.4
GKN	Gorkha	39.17	283	eP	P	05 44 56.1	-0.3
DANN	Dangsing	39.89	284	eP	P	05 45 02.5	-0.1
	comp=Z,36nm,0.8s						
KOLN	Koldanda	40.11	283	eP	P	05 45 04.2	-0.1
	comp=Z,33nm,1.0s						
MK01	Makanchi Array	42.00	312	eP	P	05 45 17.9	-1.5
MK31	Makanchi Array	42.01	312	eP	P	05 45 18.0	-1.4
MK31	Makanchi Array	42.01	312	eP	P	05 45 18.0	-1.4
MKAR	Makanchi Array	42.01	312	P	P	05 45 18.4	-1.0
MKAR						05 47 14.1	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	Makanchi Array	42.01	312	P	P	05 45 18.4	-1.0
	comp=Z,2.8nm,0.8s,baz=102,slow=9.8,SNR=39						
MKAR				PcP	PcP	05 47 14.1	-0.3
	comp=Z,1.6nm,0.8s,baz=93,slow=5.8,SNR=5.9						
ZAA0	Zalesovo Array	42.69	323	eP	P	05 45 23.2	-1.6
ZALV	Zalesovo Beam	42.69	323	P	P	05 45 23.0	-1.8
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV	Zalesovo Beam	42.69	323	P	P	05 45 23.0	-1.8
	comp=Z,2.3nm,0.7s,baz=108,slow=8.1,SNR=13						
ZALV				LR	LR	06 04 25.5	
	comp=Z,40nm,20.0s,baz=18,slow=38						
KURK	Kurchatov	45.28	317	eP	P	05 45 45.0	-0.7
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURK	Kurchatov	45.28	317	eP	P	05 45 45.0	-0.7
	comp=Z,3.0nm,1.0s						
TIXI	Tiksi	45.68	0	⇑iP	P	05 45 48.7	+0.2
TIXI				pmax	pmax		
	comp=Z,17nm,2.5s						
TIXI	Tiksi	45.68	0	eP	P	05 45 48.0	-0.4
	comp=Z,20nm,1.7s						
KSH	Kashi	45.75	301	eP	P	05 45 54.3	+4.6
WRAB	Tennant Creek	45.99	173	d iP	P	05 45 51.3	-0.3
WRAB				pmax	pmax		
	comp=Z,57nm,2.2s						
WRAB	Tennant Creek	45.99	173	eP	P	05 45 51.2	-0.3
	comp=Z,9.7nm,0.9s						
WRA	Warramunga Arr	46.00	173	P	P	05 45 51.4	-0.2
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA	Warramunga Arr	46.00	173	P	P	05 45 51.4	-0.2
	comp=Z,3.8nm,0.6s,baz=352,slow=8.3,SNR=14						
TKM2	Tokmak 2	46.16	305	eP	P	05 45 53.3	+0.2
TKM2				pmax	pmax		
	comp=Z,23nm,1.9s						
TKM2	Tokmak 2	46.16	305	eP	P	05 45 53.3	+0.2
	comp=Z,23nm,1.9s						
AAK	Ala-Archa	46.96	305	P	P	05 45 59.3	+0.1
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	Ala-Archa	46.96	305	P	P	05 45 59.3	+0.1
	comp=Z,0.7nm,0.4s,baz=90,slow=7.1,SNR=2.7						
BILL	Bilibino	47.74	18	eP	P	05 46 05.6	+0.9
BILL				e		05 47 34.9	
BILL				e		05 47 52.5	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,87nm,21.0s						
BILL	Bilibino	47.74	18	eP	P	05 46 05.8	+1.0
	comp=Z,3.5nm,0.6s						
AS01	Alice Springs	49.64	174	eP	P	05 46 19.9	+0.1
VOSK	Vostochnaya	50.34	318	eP	P	05 46 24.3	-0.5
VOSK				pmax	pmax		
	comp=Z,24nm,2.4s						
VOSK	Vostochnaya	50.34	318	eP	P	05 46 24.3	-0.5
	comp=Z,24nm,2.4s						
BVAR	Borovoye Array	50.73	318	P	P	05 46 28.5	+0.7
BVAR						05 47 44.7	
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BVAR	Borovoye Array	50.73	318	P	P	05 46 28.5	+0.7
	comp=Z,3.9nm,0.9s,baz=91,slow=8.9,SNR=14						
BVAR				PcP	PcP	05 47 44.7	-0.1
	comp=Z,1.8nm,0.8s,baz=107,slow=5.0,SNR=2.8						
BRVK	Borovoye	50.80	318	eP	P	05 46 28.1	-0.2
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRVK	Borovoye	50.80	318	eP	P	05 46 28.1	-0.2
	comp=Z,6.2nm,0.8s						
KBL	Kabul	51.60	295	eP	P	05 46 35.8	+0.9
KBL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KBL	Kabul	51.60	295	eP	P	05 46 35.8	+0.9
	comp=Z,7.2nm,0.6s						
GAMB	Gambell	53.62	28	eP	P	05 46 49.9	+0.8
	comp=Z,2.3nm,0.6s						
TNA	Tin City	55.63	27	eP	P	05 47 05.3	+1.7
	comp=Z,10nm,1.0s						
FORT	Forrest	56.47	181	eP	P	05 47 10.1	+0.1
	comp=Z,48nm,1.1s						
ABKAR	Akbulak array	57.12	313	eP	P	05 47 14.3	-0.2
	comp=Z,3.0nm,0.6s						
ARU	Arti	57.84	322	d iP	P	05 47 19.4	-0.1
ARU						05 49 27.2	
ARU				S	S	05 55 21.1	+3.2
ARU				SS	SS	05 59 06.7	-1.6
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
AKTO	Aktyubinsk	58.30	315	P	P	05 47 23.0	+0.1
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKTO	Aktyubinsk	58.30	315	P	P	05 47 22.9	+0.1
	comp=Z,1.9nm,0.8s,baz=94,slow=10,SNR=7.0						
GEYT	Alibeck	59.78	300	P	P	05 47 33.2	-0.2
	comp=Z,5.3nm,0.8s,baz=46,slow=4.2,SNR=7.4						
GEYT				LR	LR	06 17 26.9	
	comp=Z,45nm,19.1s,baz=140,slow=40						
MCK	McKinley	63.65	29	eP	P	05 47 59.8	+0.8
MCK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MCK	McKinley	63.65	29	eP	P	05 47 59.8	+0.8
	comp=Z,8.8nm,1.0s						
COLA	College	64.00	28	⇓iP	P	05 48 03.0	+1.8
COLA				pmax	pmax		
	comp=Z,19nm,0.7s						
COLA	College	64.00	28	eP	P	05 48 03.0	+1.8
	comp=Z,6.6nm,0.6s						
ILAR	Eielson Array	64.42	28	P	P	05 48 03.7	-0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	64.42	28	P	P	05 48 03.7	-0.3
	comp=Z,1.4nm,0.7s,baz=268,slow=6.9,SNR=16						
PAX	Paxson	65.29	30	eP	P	05 48 10.3	+0.5
PAX				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PAX	Paxson	65.29	30	eP	P	05 48 10.3	+0.5
	comp=Z,2.8nm,0.7s						
DOT	Dot Lake	65.81	29	eP	P	05 48 13.4	+0.3
	comp=Z,9.4nm,1.1s						
TMCR	Tamitsa	67.21	332	eP	P	05 48 22.2	+0.3
TMCR				e		05 48 50.8	
TMCR				pmax	pmax		
	comp=Z,20nm,1.0s						
APA	Apatity	68.24	336	⇓iP	P	05 48 29.0	+0.6
APA				MLR	MLR		
	comp=Z,600nm,11.0s						
ZEI	Tsey	69.21	308	eP	P	05 48 33.1	-2.1
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KBZ	Khabaz	69.64	310	P	P	05 48 38.1	+0.6
KBZ				pmax	pmax		

	comp=Z,8.0nm,0.9s						
KBZ	Khabaz	69.64	310	P	P	05 48 38.1	+0.6
	comp=Z,7.8nm,0.9s,baz=70,slow=5.8,SNR=14						
KIV	Kislovodsk	69.72	310	eP	P	05 48 38.3	+0.1
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
KIV	Kislovodsk	69.72	310	eP	P	05 48 38.3	+0.1
	comp=Z,12nm,1.0s						
ARCES	ARCESS Array B	70.37	339	P	P	05 48 40.9	-0.7
	comp=Z,2.2nm,0.8s,baz=52,slow=6.0,SNR=4.3						
ARCES				LR	LR	06 26 23.2	
	comp=Z,40nm,19.4s,baz=14,slow=42						
FINES	FINESS Array B	73.27	331	P	P	05 48 58.9	-0.2
	comp=Z,5.1nm,0.8s,baz=75,slow=5.1,SNR=23						
FINES				LR	LR	06 23 23.6	
	comp=Z,43nm,20.1s,baz=7.0,slow=38						
DAG	Danmarks Havn	75.53	353	iP	P	05 49 12.1	+0.1
DAG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DAG	Danmarks Havn	75.53	353	iP	P	05 49 12.1	+0.1
	comp=Z,2.5nm,0.8s						
RES	Resolute Bay	75.68	11	eP	P	05 49 13.0	+0.1
RES				pmax	pmax		
	comp=Z,130nm,2.7s						
RES	Resolute Bay	75.68	11	eP	P	05 49 13.0	+0.1
	comp=Z,130nm,2.7s						
AKASG	Malin Array Be	75.99	320	P	P	05 49 14.3	-0.8
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AKASG	Malin Array Be	75.99	320	P	P	05 49 14.3	-0.8
	comp=Z,6.8nm,0.7s,baz=57,slow=6.1,SNR=23						
AKBB	Malin Array Si	75.99	320	eP	P	05 49 14.8	-0.3
AKBB	Malin Array Si	75.99	320	eP	P	05 49 14.8	-0.3
AK01	Malin Array Si	76.00	320	eP	P	05 49 13.8	-1.4
KIEV	Kiev	76.00	320d	iP	P	05 49 14.6	-0.5
KIEV	Kiev	76.00	320	eP	P	05 49 14.9	-0.2
	comp=Z,5.2nm,0.6s						
AK02	Malin Array Si	76.02	320	eP	P	05 49 15.0	-0.3
AK11	Malin Array Si	76.03	320	eP	P	05 49 15.1	-0.2
BRTR	Keskin Array B	77.52	308	P	P	05 49 24.1	-0.1
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BRTR	Keskin Array B	77.52	308	P	P	05 49 24.1	-0.1
	comp=Z,6.4nm,0.9s,baz=84,slow=5.9,SNR=37						
SUW	Suwalki	77.89	324	eP	P	05 49 25.7	0.0
SUW				pmax	pmax		
	comp=Z,18nm,0.8s						
SUW	Suwalki	77.89	324	eP	P	05 49 25.7	0.0
	comp=Z,18nm,0.8s						
BR231	Keskin MP Arra	78.08	308	eP	P	05 49 24.6	-2.6
YKA	Yellowknife Ar	78.54	25	P	P	05 49 29.8	+0.6
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	Yellowknife Ar	78.54	25	P	P	05 49 29.8	+0.6
	comp=Z,1.7nm,0.8s,baz=300,slow=5.2,SNR=7.4						
HFS	Hagfors	79.22	333	P	P	05 49 32.6	-0.4
HFS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HFS	Hagfors	79.22	333	P	P	05 49 32.6	-0.4
	comp=Z,2.8nm,0.8s,baz=70,slow=8.3,SNR=5.5						
BUR04	Bucovina Ar. S	79.69	318	eP	P	05 49 36.2	+0.3
NB2	NORSAR Subarra	79.71	334	P	P	05 49 35.0	-0.6
	comp=Z,2.0nm,0.7s,baz=52,slow=5.6						
NOA	NORSAR Array B	79.71	334	P	P	05 49 35.1	-0.6
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NOA	NORSAR Array B	79.71	334	P	P	05 49 35.1	-0.6
	comp=Z,3.7nm,0.8s,baz=52,slow=5.5,SNR=13						
MLR	Muntele Rosu	80.21	316	P	P	05 49 38.9	+0.1
MLR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MLR	Muntele Rosu	80.21	316	P	P	05 49 38.9	+0.1
	comp=Z,1.0nm,0.9s,baz=14,slow=8.3,SNR=4.8						
KWP	Kalwaria Pacla	80.22	321	eP	P	05 49 39.5	+0.8
KWP	Kalwaria Pacla	80.22	321	eP	P	05 49 39.4	+0.8
KOLS	Kolonicke sedl	80.80	320	eP	P	05 49 42.0	+0.2
KOLS	Kolonicke sedl	80.80	320	eP	P	05 49 42.0	+0.2
CRVS	Cervenica-Dubn	81.29	320	eP	P	05 49 45.0	+0.6
CRVS	Cervenica-Dubn	81.29	320	eP	P	05 49 44.9	+0.6
SUMG	Summit	81.29	356	iP	P	05 49 44.9	+0.5
SUMG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SUMG	Summit	81.29	356	iP	P	05 49 44.9	+0.5
	comp=Z,7.2nm,1.0s						
SUMG	Summit	81.29	356	eP	P	05 49 44.9	+0.5
	comp=Z,18nm,1.2s						
OJC	Ojcow	81.56	322	eP	P	05 49 46.7	+0.9
OJC				pmax	pmax		
	comp=Z,12nm,1.1s						
OJC	Ojcow	81.56	322	eP	P	05 49 46.6	+0.9
	comp=Z,12nm,1.1s						
VYHS	Vyhne	82.99	321	eP	P	05 49 53.2	-0.1
VYHS	Vyhne	82.99	321	eP	P	05 49 53.2	-0.1
VRAC	Vranov	83.81	322	P	P	05 49 57.3	-0.2
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.4s						
VRAC	Vranov	83.81	322	P	P	05 49 57.3	-0.2
	comp=Z,1.7nm,0.4s,baz=100,slow=5.1,SNR=3.5						
CLL	Collm	84.58	325	eP	P	05 50 01.0	-0.4
CLL	Collm	84.58	325	eP	P	05 50 01.0	-0.4
GERES	GERESS Array B	85.64	323	P	P	05 50 06.9	0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	85.64	323	P	P	05 50 06.9	0.0
	comp=Z,0.9nm,0.8s,baz=46,slow=3.9,SNR=6.5						
NVAR	Mina Array Base	90.34	46	P	P	05 50 29.1	-0.6
	comp=Z,0.5nm,0.4s,baz=296,slow=6.8,SNR=2.7						
PDAR	Pinedale Array	93.06	39	P	P	05 50 42.0	-0.3
	comp=Z,0.5nm,0.8s,baz=48,slow=2.2,SNR=4.1						
TORD	Torodi Ar. Bea	115.42	301	PKP	PKPdf	05 56 08.8	-1.8
	comp=Z,0.2nm,0.6s,baz=18,slow=4.0,SNR=2.7						

NIED **27** *06:04:00,26°.00N×128°.60E,h11km,Mw4.2 Best double couple: M0 1.96000×10^15 NP1:φs69.00000°,δ65.00000°, λ-3.00000°. NP2:φs161.00000°,δ87.00000°, λ-155.00000°.*

ISCJB **27** *06:04:35.4±0.9,25°.96N±0°.03×128°.63E±0°.04,h29km±6km, mb3.6/10,MS4.3/1,Error ellipse: s-maj=6.8km s-min=4.8km az=37.5*

JMA **27** *06:04:36.0±0.2,25°.97N×128°.65E,h35km,M4.2*

IDC **27** *06:04:38.0±1.1,25°.96N×128°.46E,h27km±5km,mb3.6/10, mb1 3.7/12,mb1mx3.6/28,mbtmp3.7/12,ML3.9/2,MS3.4/4, Ms1 3.4/4,ms1mx2.9/32,Error ellipse: s-maj=25.3km s-min=20.6km az=77.0*

ISC 27 06:04:36.8±0.9,**25°.96N**±0°.04×**128°.61E**±0°.04,**h23**km±6km, **n33**,σ1°83/51,**mb3.7**/10,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.77	317	P	Pb	06 04 50.3	-1.2
JNTH				S	Sb	06 05 01.1	-0.4
JJT2	Tamagusuku 2	0.80	283	P	Pb	06 04 51.4	-0.5
JJT2				S	Sn	06 05 02.7	-1.0
JOW	Kunigami	0.92	341	P	Pn	06 04 53.0	-1.3
JOW				S	Sb	06 05 04.2	-1.7
JOW	Kunigami	0.92	341	Pn	Pn	06 04 53.0	-1.3
	19nm,0.3s,baz=145,slow=15,SNR=58						
JOW				Sn	Sb	06 05 03.8	-2.2
	34nm,0.3s,baz=90,slow=20,SNR=25						
JIH	Iheya	1.22	332	P	Pn	06 04 57.5	-0.9
JIH				S	Sn	06 05 12.3	-1.9
JAGN	Aguni-jima	1.38	297	P	Pn	06 04 59.7	-0.9
JOKE	Okinoerabujima	1.40	359	P	Pn	06 05 00.0	-0.9
JOKE				S	Sn	06 05 18.3	-0.4
JKE	Kume jima 2	1.68	283	P	Pn	06 05 03.4	-1.4
JKE				S	Sn	06 05 23.7	-1.9
JTK	Tokunoshima	1.85	9	P	Pn	06 05 06.1	-0.9
JTK				S	Sn	06 05 27.7	-2.0
JAMN	Amaminishikomi	2.33	12	P	Pn	06 05 12.7	-1.0
JAMN				S	Sn	06 05 40.0	-1.6
JMZ	Minamidaito 2	2.35	93	P	Pn	06 05 12.2	-1.8
JMZ				S	Sn	06 05 37.7	-4.5
JAM	Amami Oshima	2.60	20	P	Pn	06 05 16.1	-1.3
JAM				S	Sn	06 05 46.7	-1.6
JZK	Kikaishima	2.64	27	P	Pn	06 05 17.7	-0.3
JZK				S	Sn	06 05 49.0	-0.3
JOGS	Gusukube	3.13	248	P	Pn	06 05 24.2	-0.6
JTAJ	Takarajima	3.23	9	P	Pn	06 05 24.6	-1.4
JTAJ				S	Sn	06 06 00.5	-3.2
JTJ	Tarama	3.77	250	P	Pn	06 05 32.2	-1.3
JTJ				S	Sn	06 06 13.7	-3.5
JNN	Nakanoshima	4.03	16	P	Pn	06 05 36.4	-0.7
JNN				S	Sn	06 06 21.4	-2.1
JISG	Ishigakijimahi	4.12	252	P	Pn	06 05 36.4	-2.0
JISG				S	Sn	06 06 22.0	-3.9
JIJ	Ishigaki jima	4.35	250	P	Pn	06 05 39.3	-2.2
JNU	Nakatsue	7.41	15	Pn	Pn	06 06 22.9	-0.6
	2.4nm,0.3s,baz=320,slow=6.0,SNR=11						
JNU				Sn	Sn	06 07 42.5	-4.4
	0.3nm,0.3s,baz=137,slow=18,SNR=1.8						
JNU				LR	LR	06 09 40.6	
	comp=Z,125nm,20.7s,baz=220,slow=41						
KSRS	Korea Array	11.48	357	LR	LR	06 12 00.4	
	comp=Z,123nm,19.5s,baz=171,slow=39						
MJAR	Matsushiro Arr	13.36	36	Pn	Pn	06 07 47.6	+2.7
	0.4nm,0.3s,baz=205,slow=9.4,SNR=4.1						
MJAR				LR	LR	06 12 41.8	
	comp=Z,58nm,21.6s,baz=250,slow=36						
SONM	Songino Array	27.97	327	P	P	06 10 27.2	+1.5
	0.7nm,0.5s,baz=139,slow=11,SNR=6.9						
MKAR	Makanchi Array	41.97	312	P	P	06 12 25.9	-0.1
	0.5nm,0.5s,baz=96,slow=11,SNR=7.9						
MKAR				pP	pP	06 12 33.9	+0.8
	1.5nm,0.6s,baz=98,slow=9.0,SNR=11						
ZALV	Zalesovo Beam	42.67	323	P	P	06 12 31.7	+0.2
	0.4nm,0.4s,baz=116,slow=6.6,SNR=2.5						
WRA	Warramunga Arr	45.96	172	P	P	06 12 57.8	-0.4
	0.9nm,0.7s,baz=354,slow=8.5,SNR=4.9						
ILAR	Eielson Array	64.51	28	P	P	06 15 13.3	+1.9
	0.4nm,1.0s,baz=270,slow=8.8,SNR=3.3						
FINES	FINESS Array B	73.27	331	P	P	06 16 06.1	+0.2
	1.4nm,0.8s,baz=44,slow=4.3,SNR=4.6						
RAO	Raoul Island	75.13	133	LR	LR	06 44 22.9	
	comp=Z,154nm,19.6s,baz=128,slow=32						
AKASG	Malin Array Be	75.96	320	P	P	06 16 21.4	-0.3
	0.9nm,0.5s,baz=58,slow=6.3,SNR=4.9						
AKASG				pP	pP	06 16 30.7	+1.5
	1.2nm,0.6s,baz=61,slow=6.5,SNR=3.2						
BRTR	Keskin Array B	77.47	308	P	P	06 16 31.4	+0.7
	0.8nm,0.7s,baz=89,slow=5.2,SNR=4.8						
YKA	Yellowknife Ar	78.63	25	P	P	06 16 37.9	+1.5
	0.1nm,0.6s,baz=298,slow=5.2,SNR=3.5						
YKA				pP	PcP	06 16 46.5	+1.1
	0.3nm,0.8s,baz=303,slow=5.5,SNR=4.1						
NOA	NORSAR Array B	79.71	334	P	P	06 16 42.1	-0.4
	0.6nm,0.7s,baz=58,slow=4.7,SNR=2.9						

DJA 27 06:12:07.4±0.4,**6°S**±4°×**10°5E**±°,**h10**km,**M3.7**/9,**MLv3.7**/9, **Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	0.56	150	P	Pg	06 12 15.2	-3.2
CGJI				S	Sg	06 12 26.3	+0.4
SBJI	Serang	0.72	90	P	Pg	06 12 19.2	-2.1
BLSI	Bandar Lampung	0.77	348	P	Pg	06 12 19.2	-3.0
BLSI				S	Sg	06 12 32.0	-0.2
KASI	Kota Agung	1.08	303	P	Pb	06 12 27.9	-0.4
KLI	Kotabumi	1.36	336	P	Pn	06 12 32.4	-0.1
SKJI	Sukabumi	1.44	128	P	Pn	06 12 31.9	-1.7
CBJI	Citeko	1.46	102	P	Pg	06 12 38.5	+3.0
LWLI	Liwa	1.73	309	P	Pg	06 12 40.8	-0.1
MDSI	Maura Dua	2.03	323	P	Pn	06 12 40.4	-1.3
CNJI	Cibinong	2.08	125	P	Pn	06 12 41.2	-1.1
LEM	Lembang	2.30	108	P	Pg	06 12 51.7	-0.1
CISI	Cisompet, Garu	2.78	121	P	Pn	06 12 54.6	+2.5
LHSI	Lahat	2.95	320	P	Pg	06 13 03.9	-0.2
CMJI	Cimerak	3.44	119	P	Pn	06 13 04.3	+3.2
TPI	Tanjungpandan	4.02	34	P	Pn	06 13 11.7	+2.6

ISCJB **27** *06:34:13.5±2.2,54°.0S±0°.2×133°.4W±0°.6,h10km,mb5.5/16, Error ellipse: s-maj=53.3km s-min=19.6km az=152.7*

NEIC **27** *06:34:16.3±1.3,54°.03S×133°.64W,h10km,mb5.6/16, Error ellipse: s-maj=33.4km s-min=16.7km az=62.0*

ISC 27 06:34:13.6±1.8,**53°.8S**±0°.2×**133°.0W**±0°.3,**h10**km,**n33**, σ1°64/29,**mb5.5**/16,**Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	Scott Base	31.87	200	eP	P	06 40 39.4	+1.2
	197nm,1.3s						
QSPA	South Pole Qui	36.35	180	eP	P	06 41 17.9	+0.4
	93nm,1.1s						
RPZ	Rata Peaks	37.34	262	eP	P	06 41 24.2	-1.7
	46nm,1.3s						
AFI	Afiamalu	50.14	308	eP	P	06 43 09.8	+0.7
	274nm,0.9s						
CASY	Casey	50.99	208	eP	P	06 43 14.3	-0.6
	61nm,1.0s						
MILA	Mila	54.36	254	P	P	06 43 41.8	+1.5
	baz=3.2,SNR=5.8						
CAN	Canberra	55.67	256	eP	P	06 43 50.1	+0.3
	18nm,0.8s						
TOO	Toolangi	56.07	251	P	P	06 43 53.8	+1.1
	baz=4.0,SNR=6.3						
ARMA	Armidale	57.68	262	eP	P	06 44 05.2	+1.0
	30nm,1.0s						
ARMA	Armidale	57.68	262	P	P	06 44 05.3	+1.2
	baz=4.9,SNR=7.4						
ARPS	Mount Arapiles	58.68	249	P	P	06 44 11.0	0.0
	baz=5.6,SNR=4.8						
EIDS	Eidsvold	61.75	265	eP	P	06 44 32.2	0.0
	55nm,1.3s						
STKA	Stephens Creek	62.40	253	eP	P	06 44 36.1	-0.4
	3.4nm,0.8s						
HTT	Hallett	62.75	250	P	P	06 44 40.4	+1.5
	baz=7.4,SNR=6.8						
BBOO	Buckleboo	64.80	249	eP	P	06 44 51.6	-0.7
CTAO	Charters Tower	68.64	265	eP	P	06 45 17.4	+0.5
	66nm,1.1s						
FORT	Forrest	70.71	244	eP	P	06 45 29.2	-0.3
	82nm,1.0s						
AS31	Alice Springs	73.04	253	eP	P	06 45 42.9	-0.9
COEN	Coen	75.25	267	eP	P	06 45 57.4	+0.7
	240nm,1.2s						
WRAB	Tennant Creek	75.72	256	eP	P	06 45 58.4	-0.9
	60nm,0.9s						
PMG	Port Moresby	76.49	273	eP	P	06 46 06.0	+2.2
	33nm,0.9s						
MBWA	Marble Bar	82.86	244	eP	P	06 46 37.2	-1.1
	29nm,0.8s						
KAPI	Kappang	96.06	253	eP	P	06 47 41.5	+0.1
	81nm,1.3s						
CHTO	Chiang Mai	127.20	249	ePKPdf	PKPdf	06 53 19.8	+1.7
LSA	Lhasa	140.12	251	ePKPdf	PKPdf	06 53 45.4	+2.8
TAPN	Taplejung	140.18	245	eP	PKPdf	06 53 33.7	-8.9
RAMN	Ramite	140.45	243	eP	PKPdf	06 53 39.7	-3.3
JIRN	Jiri	141.23	243	eP	PKPdf	06 53 38.3	-6.2
PKI	Pulchoki	141.57	242	eP	PKPdf	06 53 42.1	-3.0
GUN	Gumba	141.60	243	eP	PKPdf	06 53 39.4	-5.8
DMN	Daman	141.76	242	eP	PKPdf	06 53 42.6	-2.8
KKN	Kakani	141.82	243	eP	PKPdf	06 53 42.3	-3.1
DANN	Dangsing	143.06	241	eP	PKPbc	06 53 45.5	+0.9

GUC **27** *06:34:08.7±0.3,36°.29S×73°.24W,h30km±2km,ML8.8, MW8.8(NEIC)*

IDC **27** *06:34:08.0±0.3,36°.18S×72°.84W,h0km,mb5.9/34, mb1 5.9/37,mb1mx5.9/37,mbtmp5.9/37,ML5.1/4,MS8.3/23, Ms1 8.3/23,ms1mx8.1/32,Error ellipse: s-maj=12.3km s-min=9.2km az=77.0*

ISCJB **27** *06:34:11.1±0.1,36°.04S±0°.02×72°.90W±0°.03,h29km, mb6.9/304,MS8.5/428,Error ellipse: s-maj=3.2km s-min=3.0km az=178.2*

NEIC **27** *06:34:11.5±1.4,36°.12S×72°.90W,h23km±9km,mb7.2/245, ME8.3,MS8.5/299,MW8.8,MW8.8,Error ellipse: s-maj=5.2km s-min=3.2km az=73.0,Complex event observed on broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt IX MMS.

MOS **27** *06:34:12.8±2.0,35°.99S×72°.92W,h33km,mb7.1/37, MS8.5/60,Error ellipse: s-maj=10.1km s-min=5.8km az=93.4 Broadband fault plane solution: P waves. NP1: φs180.00000°,δ71.00000°,λ90.00000°. NP2:φs0.00000°, δ19.00000°,λ90.00000°. Principal axes: T Plg64.0000°, Azm90.0000°; N Plg0.0000°, Azm360.0000°; P Plg26.0000°, Azm270.0000°;*

BJI **27** *06:34:14.0,35°.80S×72°.80W,h35km,mB7.6/37,Ms8.8/76, Ms7 8.7/63*

GCMT **27** *06:34:15.6±0.1,35°.98S×73°.15W,h23km,MW8.8/136, Moment Tensor Solution. s105,c268; s136,c580; Duration: 60s0 Moment tensor: Scale 10^22Nm; Mrr1.04±.00; Mθθ-0.04±.00; Mφφ-1.00±.00; Mrθ0.30±.02; Mθφ-0.12±.00; Mφr-1.52±.03; Best double couple: M0 1.85800×10^22 NP1:φs172.00000°,δ74.00000°, λ82.00000°. NP2:φs19.00000°,δ18.00000°,λ116.00000°. Principal axes: T 1.9050, Plg61.0000°, Azm70.0000°; N -0.0920, Plg8.0000°, Azm174.0000°; P -1.8110, Plg28.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=200s.*

NEIC **27** *06:34:17.0±0.0,35°.83S×72°.67W,h35km,Moment Tensor Solution. s28 Moment tensor: Scale 10^24Nm; Mrr0.93; Mθθ0.01; Mφφ-0.94; Mrθ-0.01; Mθφ-0.15; Mφr-1.72; Best double couple: M0 0.02000×10^24 NP1:φs181.00000°, δ75.00000°,λ86.00000°. NP2:φs16.00000°,δ14.00000°, λ104.00000°. Principal axes: T 1.9600, Plg59.0000°, Azm86.0000°; N 0.0200, Plg3.0000°, Azm182.0000°; P -1.9700, Plg30.0000°, Azm274.0000°;*

NEIC **27** *06:35:27.5±0.0,35°.77S×72°.47W,h30km,Moment Tensor Solution. s187 Moment tensor: Scale 10^22Nm; Mrr1.13; Mθθ-0.06; Mφφ-1.07; Mrθ0.09; Mθφ-0.12; Mφr-1.43; Best double couple: M0 1.80000×10^22 NP1:φs179.00000°, δ71.00000°,λ85.00000°. NP2:φs14.00000°,δ19.00000°, λ104.00000°. Principal axes: T 1.8400, Plg63.0000°, Azm80.0000°; N -0.0600, Plg4.0000°, Azm180.0000°; P -1.7800, Plg26.0000°, Azm272.0000°;*

ISC 27 06:34:13.3±0.5,**36°.15S**±0°.03×**72°.93W**±0°.04,**h28**km±2km, **h28**km**:pP-P,n2384,**σ**2°20**/2220,**mb7.1**/305,**MS8.5**/434, **342C-283D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.71	191	eS	Sb	06 34 27.6	-9.0
CTCH	Constitucion	0.92	28	eP	Pn	06 34 29.0	-1.3
TALC	Talca	1.29	55	eP	Pn	06 34 35.4	-0.1
NICH	Los Niches	1.80	51	eP	Pn	06 34 43.2	+0.8
NICH				eS	Sb	06 35 09.4	+1.7
LNV	Longovilo	2.52	30	eP	Pn	06 34 51.4	-1.0
LNV	Longovilo	2.52	30⇑	eP	Pn	06 34 51.4	-1.0
CACH	El Canelo	2.79	44⇑	eP	Pn	06 34 55.9	-0.3
CACH	El Canelo	2.79	44⇑	eP	Pn	06 34 55.9	-0.3
CHCH	Chadas Angostu	2.90	41	eP	Pn	06 34 57.6	0.0
CHCH	Chadas Angostu	2.90	41⇓	eP	Pn	06 34 57.6	0.0
TACH	Talagante	2.98	34	eP	Pn	06 34 58.3	-0.4
TACH	Talagante	2.98	34⇓	eP	Pn	06 34 58.1	-0.7
ANTU	Antumapu	3.19	37	eP	Pn	06 35 02.3	+0.6
ANTU				eS	Sb	06 35 43.1	-4.7
ANTU				AML	AML	06 36 25.6	
	comp=N,13900µm,0.5s						
SAN	Santiago	3.27	35	P	Pn	06 35 02.6	-0.2
SAN	Santiago	3.27	35	eP	Pn	06 35 03.5	+0.7
SAN	Santiago	3.27	35	P	Pn	06 35 02.6	-0.2
SAN				S	Pb	06 35 10.1	-0.6
IHA	Instituto Hidr	3.29	19⇑	eP	Pn	06 35 01.9	-1.2
STL	Santa Lucia	3.30	36	eP	Pn	06 35 02.6	-0.5
FSR	Penalolen	3.32	37⇓	eP	Pn	06 35 04.3	+0.8
FSR	Penalolen	3.32	37	P	Pn	06 35 05.4	+1.9
CLCH	Cerro Calan	3.38	36	eP	Pn	06 35 05.2	+0.9
CLCH				eS	Sn	06 35 42.1	-1.4
CLCH				AML	AML	06 36 31.4	
	comp=N,11200µm,0.7s						
CLCH	Cerro Calan	3.38	36	eP	Pn	06 35 04.2	-0.1
CLCH				eS	Sn	06 35 42.9	-0.6
PEL	Peldehue	3.52	32⇓	eP	Pn	06 35 05.8	-0.5
PEL	Peldehue	3.52	32⇓	eP	Pn	06 35 05.6	-0.6
PEL	Peldehue	3.52	32⇓	eP	Pn	06 35 05.8	-0.5
PEL				S	Sn	06 35 23.4	-24
ROCH	El Roble	3.54	27	eP	Pn	06 35 06.1	-0.6
ROCH	El Roble	3.54	27	eP	Pn	06 35 06.4	-0.3
ROCH				S	Sn	06 35 28.1	-20
VLCH	Valdivia	3.66	184	eP	Pn	06 35 02.9	-5.2
VLCH	Valdivia	3.66	184	P	Pn	06 35 04.3	-3.7
PLCA	Paso Flores	4.94	159	eP	Pn	06 35 21.9	-3.9
PLCA	Paso Flores	4.94	159	Pn	Pn	06 35 23.7	-2.1
	comp=N,24nm,0.3s,baz=329,slow=14,SNR=332						
PLCA				Pg	Pb	06 35 35.8	-3.4
	comp=N,423nm,0.3s,baz=334,slow=16,SNR=26						
PLCA	Paso Flores	4.94	159	P	Pn	06 35 23.4	-2.4
CMCH	Combarbala	5.22	19⇓	eP	Pn	06 35 27.9	-1.6
I14CL	ROBINSON CRUSO	5.42	296	Pn	Pn	06 35 32.0	-0.3
I14CL				i		07 08 44.0	
	baz=119,slow=321						
H03N1	Juan Fernandez	5.61	297	Pn	Pn	06 35 35.1	+0.5
H03N1				T	T	06 41 59.7	
	baz=107,slow=74						
H03N3	Juan Fernandez	5.61	297	Pn	Pn	06 35 34.1	-0.7
H03N3				T	T	06 41 54.9	
	baz=107						
H03N2	Juan Fernandez	5.63	297	Pn	Pn	06 35 34.2	-0.7
H03N2				T	T	06 42 06.2	
	baz=107,slow=74						
CFAA	Coronel Fontan	5.98	42	Pn	Pn	06 35 38.1	-1.9
	comp=N,7.7nm,0.3s,baz=214,slow=12,SNR=344						
CFAA				Pg	Pb	06 35 54.1	-2.8
	comp=N,166nm,0.3s,baz=214,slow=15,SNR=28						
CFAA				Sn	Sb	06 36 59.9	-8.1
	comp=N,1µm,0.3s,baz=215,slow=15,SNR=5.8						
CFAA				Lg	Lg	06 37 25.3	
	comp=N,2µm,0.3s,baz=122,slow=19,SNR=6.0						
FUTA	Futaleufœ	7.08	174	eP	Pn	06 35 51.8	-3.3
FUTA	Futaleufœ	7.08	174	eP	Pn	06 35 52.7	-2.4
TRQA	Tornquist	8.96	106⇑	iPn	Pn	06 36 21.1	+0.2
	comp=N,6µm,2.7s						
COYC	Coyhaique	9.44	176	eP	Pn	06 36 25.2	-2.2
CHRN	Cochrane	10.99	179	eP	Pn	06 36 45.4	-3.2
ANCH	Antofagasta	12.62	11	eP	Pn	06 37 03.6	-7.3
CEN1	Los Morros	12.93	11	eP	Pn	06 37 07.0	-8.5
LVC	Limon Verde	13.93	16	ePn	Pn	06 37 26.2	-3.0
	comp=N,387nm,1.2s						
CPUP	Villa Florida	16.53	58	P	Pn	06 37 58.8	-4.4
CPUP						06 41 10.6	
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CPUP	Villa Florida	16.53	58	Pn	Pn	06 37 58.8	-4.4
	comp=Z,2.4nm,0.3s,baz=217,slow=16,SNR=36						
CPUP				Sn	Sn	06 41 10.6	+4.8
	baz=209,slow=19,SNR=1.1						
CPUP	Villa Florida	16.53	58	ePn	Pn	06 37 57.2	-5.9
	comp=Z,8.0nm,1.4s						
CPUP				Sn	Sn	06 41 10.6	+4.8
I41PY	VILLA FLORIDA	16.53	58	Pn	P	06 38 20.0	+14
	baz=228,slow=19,SNR=92						
I41PY				i		08 19 30.0	
	baz=229,slow=320,SNR=29						
EFI	East Falkland	18.80	150	eP	P	06 38 25.3	-5.1
EFI				pmax	pmax		
	comp=Z,10µm,1.9s						
EFI	East Falkland	18.80	150	eP	P	06 38 25.3	-5.1
	comp=Z,55µm,1.9s						
USHA	Ushuaia	18.94	172	P	P	06 38 30.0	-2.0
	comp=Z,14nm,0.3s,baz=340,slow=8.8,SNR=30						
USHA				S	Sn	06 42 03.7	0.0
	comp=Z,17nm,0.3s,baz=330,slow=20,SNR=1.4						
USHA				LR	LR	06 46 03.2	
	comp=Z,5659µm,19.0s,baz=322,slow=38						
LPAZ	La Paz	20.24	13	P	P	06 38 47.5	+0.4
	comp=Z,206nm,0.8s,baz=183,slow=6.8,SNR=187						
LPAZ				S	Sn	06 42 39.2	+2.4
	comp=Z,1µm,1.1s,baz=197,slow=19,SNR=1.5						
LPAZ				LR	LR	06 47 21.1	
	comp=Z,3534µm,19.7s,baz=174,slow=39						
LPAZ	La Paz	20.24	13	eP	P	06 38 47.8	+0.8
	comp=Z,75µm,2.1s						
LPAZ				S	Sn	06 42 39.2	+2.4
SIV	San Ignacio	22.69	31	P	P	06 39 11.2	-1.6
	comp=Z,942nm,1.0s,baz=228,slow=11,SNR=214						
SIV				S	S	06 43 26.2	+6.7
	comp=Z,735nm,0.8s,baz=258,slow=20,SNR=2.8						
SIV				Lg	Lg	06 46 08.7	
	comp=Z,662nm,1.1s,baz=107,slow=19,SNR=1.9						
SIV				LR	LR	06 49 27.6	
	comp=Z,4410µm,19.4s,baz=212,slow=41						
NNA	Nana	24.31	351	P	P	06 39 27.1	-1.6
	comp=Z,4µm,1.0s,SNR=27						
NNA	Nana	24.31	351	iP	P	06 39 28.8	+0.1
NNA	Nana	24.31	351	P	P	06 39 26.6	-2.1
	comp=Z,153nm,1.0s,baz=187,slow=8.5,SNR=24						
NNA				S	S	06 44 15.4	+29
	comp=Z,576nm,1.0s,baz=245,slow=19,SNR=2.6						
NNA				Lg	Lg	06 47 00.6	
	comp=Z,202nm,1.1s,baz=72,slow=19,SNR=4.4						

NNA Nana 24.31 351⇑iP P 06 39 26.7 -1.9
comp=Z,821nm,2.6s
NNA S S 06 44 15.4 +29
NNA Lg Lg 06 47 00.6
NNA LR LR
comp=Z,16442μm,21.4s
SAML Samuel 28.50 21⇑iP P 06 40 05.0 -1.3
comp=Z,12μm,1.4s
PMSA Palmer Station 29.15 172 P P 06 40 11.5 -0.2
comp=Z,266nm,0.9s,baz=349,slow=9.7,SNR=16
PMSA LR LR 06 51 14.3
comp=Z,13951μm,21.2s,baz=339,slow=35
PMSA Palmer Station 29.15 172 eP P 06 40 09.1 -2.5
comp=Z,5μm,1.3s
ATAH Atahualpa 29.31 349 P P 06 40 14.5 +0.5
comp=Z,38nm,1.1s,baz=170,slow=7.6,SNR=20
ATAH S S 06 45 28.0 +22
comp=Z,272nm,1.0s,baz=99,slow=15,SNR=1.7
BDFB Brasilia 30.17 54 P P 06 40 19.2 -2.1
BDFB S S 06 45 18.9 0.0
BDFB pmax pmax
comp=Z,173nm,1.1s
BDFB smax smax
comp=N,495nm,0.9s
BDFB Brasilia 30.17 54 P P 06 40 19.2 -2.1
comp=N,173nm,1.1s,baz=219,slow=7.5,SNR=61
BDFB S S 06 45 18.9 0.0
comp=N,495nm,0.9s,baz=114,slow=19,SNR=1.6
BDFB LR LR 06 53 50.9
comp=N,523μm,20.9s,baz=89,slow=39
I09BR BRASILIA INFRA 30.17 54 P P 06 40 45.0 +24
baz=210,slow=18,SNR=89
HOPE Hope Point 30.96 137 P P 06 40 26.7 -1.1
comp=N,4μm,0.8s,SNR=14
HOPE Hope Point 30.96 137⇑eP P 06 40 25.4 -2.4
comp=N,3μm,1.1s
RPN Rapa Nui 32.12 276 P P 06 40 42.9 +4.6
comp=N,3μm,1.4s,SNR=12
RPN Rapa Nui 32.12 276 P P 06 40 37.9 -0.4
comp=N,79nm,1.1s,baz=204,slow=1.8,SNR=1.7
I13CL EASTER ISLAND 32.14 276 i 09 50 20.0
baz=113,slow=316,SNR=4.1
OTAV Otavalo 36.56 351⇑eP P 06 41 17.3 0.0
comp=N,6μm,1.5s
ROSC El Rosal 40.81 358 P P 06 41 53.5 +0.6
comp=N,81nm,0.9s,baz=116,slow=4.3,SNR=32
ROSC S S 06 48 03.8 +1.3
comp=N,189nm,1.1s,baz=66,slow=20,SNR=1.8
SDV Santo Domingo 44.84 3⇑iP P 06 42 23.4 -1.9
comp=N,4μm,1.0s
RCBR Riachuelo 45.41 57 P P 06 42 28.9 -0.8
comp=N,166nm,1.0s,baz=210,slow=9.3,SNR=34
RCBR S S 06 49 13.9 +4.5
comp=N,57nm,0.9s,baz=150,slow=20,SNR=1.2
RCBR LR LR 07 02 51.3
comp=N,20406μm,20.9s,baz=210,slow=38
RCBR Riachuelo 45.41 57⇑eP P 06 42 28.9 -0.8
comp=N,228nm,1.0s
RCBR e 06 42 38.4
RCBR S S 06 49 13.9 +4.5
BCIP Isla Barro Col 45.54 350 eP P 06 42 29.9 -0.7
comp=N,2μm,1.0s
BCIP LR LR
comp=Z,2714μm,22.0s
PCRV Puerto La Cruz 46.73 11 LR LR 07 05 54.0
comp=Z,4712μm,18.0s,baz=180,slow=41
ALNG Atlantic LNG 47.28 15 e P 06 42 45.6 +1.3
SIPA Siparia 47.29 15 e P 06 42 45.7 +1.3
TPP Pointe-a-Pierr 47.47 15 e P 06 42 45.0 -0.7
JTS JuntasAbangare 47.56 344 P P 06 42 46.9 +0.4
comp=Z,2μm,1.1s,SNR=23
JTS JuntasAbangare 47.56 344c iP P 06 42 46.3 -0.2
JTS pmax pmax
comp=Z,796nm,2.2s
JTS JuntasAbangare 47.56 344 P P 06 42 46.4 -0.2
comp=Z,69nm,0.9s,baz=153,slow=4.4,SNR=33
JTS S S 06 49 56.2 +16
comp=Z,104nm,1.1s,baz=219,slow=16,SNR=1.6
JTS LR LR 06 58 56.5
comp=Z,3180μm,21.3s,baz=146,slow=31
JTS JuntasAbangare 47.56 344 eP P 06 42 46.2 -0.2
comp=Z,3μm,1.1s
JTS S S 06 49 56.2 +16
VNA3 Neumayer Olymp 47.66 157 P P 06 42 44.4 -2.3
VNA3 Neumayer Olymp 47.66 157 P P 06 42 44.4 -2.3
TBH Brigand Hill 47.71 16 e P 06 42 47.3 -0.4
TRN Trinidad (W) 47.80 15 e P 06 42 48.5 +0.2
H09W1 TRISTAN DA CUN 47.90 110 P P 06 42 59.7 +11
H09N1 TRISTAN DA CUN 47.92 110 P P 06 42 59.3 +10
TRIS Tristan da Cun 47.92 110 eP P 06 42 50.1 +0.9
comp=Z,11μm,1.3s
TRIS e 06 43 01.5
TRIS LR LR
comp=Z,3755μm,19.0s
I27DE GEORG VON NEUM48.00 156 P P 06 43 15.0 +26
baz=247,slow=4.8,SNR=3.0
VNA1 Neumayer--Stat 48.00 156 P P 06 42 47.5 -1.8
VNA1 Neumayer--Stat 48.00 156 P P 06 42 47.5 -1.8
VNA2 Neumayer--Watz 48.33 156 P P 06 42 50.0 -1.9
VNA2 Neumayer--Watz 48.33 156 P P 06 42 50.0 -1.9
BOT Bacolet 48.45 16 e P 06 42 52.4 -1.0
TOSP Speyside 48.62 16 e P 06 42 55.2 +0.6
TOSP Speyside 48.62 16 eP P 06 42 55.2 +0.6
GRGR Grenville 49.19 15⇑iP P 06 42 57.2 -1.8
comp=Z,8μm,0.8s
GRGR LR LR
comp=Z,7912μm,20.0s
GRW Mount Saint Ca 49.21 15 e P 06 42 59.3 0.0
PTCN Pitcairn Islan 49.80 266⇓eP P 06 43 02.6 -1.1
comp=Z,3μm,1.0s
PTCN LR LR
comp=Z,3207μm,22.0s
SNAA Sanae 49.89 157 P P 06 43 01.6 -2.3
SNAA Sanae 49.89 157 eP P 06 43 02.0 -1.9
SNAA Sanae 49.89 157ceP P 06 43 01.5 -2.4
SNAA pmax pmax
comp=Z,388nm,0.9s
SNAA MLR MLR
comp=Z,2819μm,17.0s
SNAA Sanae 49.89 157 P P 06 43 01.4 -2.4
comp=Z,154nm,0.8s,baz=280,slow=6.9,SNR=112
SNAA S S 06 50 06.4 -5.4
comp=Z,41nm,0.8s,baz=243,slow=13,SNR=1.6
SNAA LR LR 07 05 28.3
comp=Z,1275μm,18.2s,baz=284,slow=38
SNAA Sanae 49.89 157⇑eP P 06 43 01.5 -2.4
comp=Z,13μm,1.4s
SNAA S S 06 50 06.4 -5.4
FCV Fort Charlotte 50.27 15 e P 06 43 04.8 -2.5
SVB Belmont 50.38 15 eP P 06 43 06.3 -1.8
SVB Belmont 50.38 15 eP P 06 43 06.3 -1.8
SVB Belmont 50.38 15 e P 06 43 06.4 -1.8
BHS Barnard House 50.43 15 e P 06 43 09.5 +1.1
BBGH Gun Hill 50.63 17 eP P 06 43 09.9 0.0
comp=Z,9μm,1.5s
MCLT Moule a Chique 50.87 15 e P 06 43 09.9 -1.9
SLB Belfond 50.96 15 e P 06 43 12.6 +0.1
H05S1 Guadeloupe/Mar 51.58 15 P P 06 43 17.9 +0.9
FDF Fort de France 51.82 15 eP P 06 43 16.4 -2.5
FDF pmax pmax
comp=Z,10μm,1.1s
FDF Fort de France 51.82 15 eP P 06 43 17.2 -1.7
FDF Fort de France 51.82 15 eP P 06 43 16.4 -2.5
comp=Z,10μm,1.1s
DSHT Scott's Head 52.24 14 e P 06 43 19.8 -2.2
DPMT Pointe Michel 52.28 14 e P 06 43 20.7 -1.6
DBCT Belle View Cho 52.30 14 e P 06 43 21.4 -1.1
DLPL La Plaine 52.38 14 eP P 06 43 23.4 +0.4
DLPL La Plaine 52.38 14 e P 06 43 24.1 +1.0
DLPL La Plaine 52.38 14 eP P 06 43 24.1 +1.0
BBL Barber's Block 52.52 14 eP P 06 43 21.4 -2.8
TBG Guadaloupe-3 52.81 14 eP P 06 43 24.6 -1.6
HMG Houelmont 52.92 14 eP P 06 43 24.1 -3.0
MGG Marie-Galante 52.94 14 eP P 06 43 25.8 -1.4
PHG Guadaloupe-2 52.97 14 eP P 06 43 24.6 -2.9
SCG Saint Claude 52.98 14 eP P 06 43 24.4 -3.1
DOG Dongo Capester 52.99 14 eP P 06 43 25.0 -2.5
ECG Echelle 52.99 14 eP P 06 43 24.9 -2.8
LKG Breislack 52.99 14 eP P 06 43 25.3 -2.5
MLG Mont-d'or 53.00 14 eP P 06 43 26.0 -1.7
CRG Carmichael 53.00 14 eP P 06 43 25.1 -2.7
FNG Fond-Bernard 53.00 14 eP P 06 43 24.7 -3.0
SSG Sans Toucher 53.03 14 eP P 06 43 25.1 -2.9
DEG La Desirade 53.37 14 eP P 06 43 27.1 -3.3
SEG Port Louis 53.37 14 eP P 06 43 27.2 -3.1
H05N1 Guadeloupe/Mar 53.38 14 P P 06 43 37.6 +7.2
APG El Apazote 53.51 339 P P 06 43 30.7 -0.9
comp=Z,342nm,0.9s,baz=170,slow=11,SNR=37
PCJ Portland Cotta 53.74 355 iP P 06 43 32.0 -1.0
YHJ Yallahs 53.85 356 iP P 06 43 41.5 +7.6
MCJ Malvern 53.97 354 iPA P 06 43 42.7 +8.0
HOJ Hope 53.98 356 iP P 06 43 35.4 +0.7
GWJ Greenwich 54.05 356 iPA P 06 43 38.0 +2.5
STH Stony Hill 54.05 356 iPA P 06 43 37.8 +2.5
ICMP Isla Caja de M 54.08 8 eP P 06 43 32.9 -2.6
QSPA South Pole Qui 54.09 180 P P 06 43 33.1 -2.3
comp=Z,261nm,1.0s,baz=150,slow=2.0,SNR=36
QSPA S S 06 51 02.2 -7.6
comp=Z,228nm,1.2s,baz=53,slow=15,SNR=1.9
QSPA LR LR 07 05 25.3
comp=Z,2300μm,20.9s,baz=158,slow=35
QSPA PKPKPKP P'P'df 07 13 45.9 -12
comp=Z,50nm,1.0s,baz=297,slow=1.2,SNR=3.8
QSPA South Pole Qui 54.09 180 eP P 06 43 33.7 -1.6
comp=Z,7μm,1.3s
QSPA e 06 43 45.4
QSPA S S 06 51 02.2 -7.6
QSPA P'P' 07 13 46.0
CRPR Cabo Rojo, PR 54.14 7 eP P 06 43 33.6 -2.3
comp=Z,5μm,1.1s
CRPR LR LR
comp=Z,2819μm,19.0s
SEUS St. Eustatius 54.17 12 eP P 06 43 33.9 -2.2
comp=Z,26μm,1.4s
SEUS LR LR
comp=Z,5712μm,19.9s
OBIP Obispado Ponce 54.23 7 eP P 06 43 33.9 -2.7
comp=Z,2μm,0.6s
CVJ Coleyville 54.25 355 iP P 06 43 32.0 -4.8
MTDJ Mount Denham 54.25 355 eP P 06 43 35.6 -1.3
comp=Z,2μm,1.5s
MTDJ LR LR
comp=Z,3214μm,22.0s
SABA Saba 54.26 11 eP P 06 43 34.7 -2.1
SABA Saba 54.26 11 eP P 06 43 35.1 -1.8
comp=Z,12μm,1.0s
SABA LR LR
comp=Z,5556μm,18.3s
CELP Cerrillos 54.26 7 eP P 06 43 34.3 -2.5
CPD Cerro la Pandu 54.30 8 eP P 06 43 34.7 -2.4
CPD pmax pmax
comp=Z,3μm,1.1s
CPD Cerro la Pandu 54.30 8 eP P 06 43 34.7 -2.4
comp=Z,3μm,1.1s
LSP Las Mesas 54.31 7 eP P 06 43 35.1 -2.1
MPR Mayaguez 54.34 7 eP P 06 43 34.9 -2.4
comp=Z,3μm,1.2s
MPR LR LR
comp=Z,2771μm,18.8s
HUMP Col San Antoni 54.41 8 eP P 06 43 35.0 -2.9
comp=Z,4μm,1.3s
HUMP LR LR
comp=Z,6623μm,19.2s
LRS Lares 54.45 7 eP P 06 43 35.4 -2.8
MBJ Montego Bay 54.45 354 iP P 06 43 42.9 +4.6
AOPR Arecibo Observ 54.51 7 eP P 06 43 35.7 -2.9
comp=Z,3μm,0.8s
AOPR LR LR
comp=Z,6697μm,19.3s
AGP Aguadilla 54.53 7 eP P 06 43 41.5 +2.7
comp=Z,4μm,1.3s
AGP LR LR
comp=Z,6555μm,18.8s
PCDR Punta Cana, DR 54.53 5 eP P 06 43 36.5 -2.3
CBYP Canovanas 54.54 8 eP P 06 43 35.6 -3.3
comp=Z,4μm,1.1s
CBYP LR LR
comp=Z,6621μm,19.0s
ANWB Willy Bob 54.55 13 eP P 06 43 35.5 -3.4
comp=Z,5μm,0.8s
ANWB LR LR
comp=Z,5131μm,20.0s
AGPR Aguadilla, PR 54.60 7 eP P 06 43 35.8 -3.4
comp=Z,3μm,1.2s
RKT Rikitea 54.64 266 eP P 06 43 40.1 +0.3
comp=Z,1μm,1.3s
RKT eS S 06 51 18.2 +0.2
comp=Z,1916μm,28.0s
RKT eLR LR 06 59 44.0
comp=Z,8428μm,31.5s,baz=122
RKT Rikitea 54.64 266 eT T 07 41 50.8
comp=Z,145nm,0.2s
NVL N'lazarevskaya 54.65 156 eP P 06 43 32.2 -6.9
NVL eS S 06 51 13.6 -3.2
NVL eSS SS 06 55 00.1 +0.9
NVL pmax pmax
comp=Z,7μm,1.5s
NVL MLR MLR
comp=Z,245μm,19.0s
SMRT St. Maarten 54.70 12 eP P 06 43 38.3 -1.8
comp=Z,4μm,1.0s
SMRT LR LR
comp=Z,5537μm,18.1s
STVI Saint Thomas 54.73 9 eP P 06 43 36.7 -3.4
comp=Z,2μm,1.1s
STVI LR LR
comp=Z,4653μm,20.9s
SDDR Presa de Saban 54.85 2⇑iP P 06 43 37.1 -4.0
comp=Z,7μm,2.2s
SDDR LR LR
comp=Z,5313μm,19.0s
SMN1 Samana, DR 55.14 4 eP P 06 43 40.8 -2.4
GTBY Guantanamo Bay 55.81 358 eP P 06 43 46.2 -1.7
GTBY e 06 43 58.2
GTBY LR LR
comp=Z,3377μm,22.0s
GRTK Grand Turk 57.37 2 eP P 06 43 58.2 -0.9
comp=Z,5μm,1.0s
GRTK LR LR
comp=Z,3742μm,18.0s
TEIG Tepich 57.92 343 P P 06 44 01.2 -1.7
comp=Z,286nm,0.9s,baz=180,slow=5.1,SNR=62
TEIG Tepich 57.92 343 eP P 06 44 01.2 -1.7
comp=Z,2μm,1.0s
TEIG LR LR
comp=Z,2024μm,20.0s
H10S3 ASCENSION HYDR59.25 78 P P 06 44 13.2 +1.0
baz=248,slow=8.5,SNR=1678
H10S2 ASCENSION HYDR59.26 78 P P 06 44 12.4 +0.1
baz=248,slow=8.5,SNR=2573
H10S1 ASCENSION HYDR59.27 78 P P 06 44 13.0 +0.7
baz=248,slow=8.5,SNR=2727
H10N3 ASCENSION HYDR60.04 77 P P 06 44 24.2 +6.6
H10N1 ASCENSION HYDR60.05 77 P P 06 44 21.5 +3.8
H10N2 ASCENSION HYDR60.06 77 P P 06 44 24.3 +6.6
I50GB ASCENSION ISLA 60.08 77 P P 06 44 55.0 +37
baz=219,slow=12,SNR=3.8
ASCN Ascension 60.09 77 P P 06 44 18.9 +0.6
comp=Z,7μm,0.9s,SNR=13
ASCN Ascension 60.09 77 eP P 06 44 17.3 -1.1
comp=Z,8μm,1.3s
ASCN LR LR
comp=Z,8646μm,21.0s
I55US WINDLESS BIGHT 60.76 192 P P 06 45 05.0 +43
baz=66,slow=8.4,SNR=2.2
SBA Scott Base 60.83 192 eP P 06 44 22.7 +0.3
SBA e 06 44 35.5
SBA pmax pmax
comp=Z,10μm,2.4s
SBA MLR MLR
comp=Z,1042μm,21.7s
SBA Scott Base 60.83 192 eP P 06 44 22.7 +0.3
comp=Z,35μm,2.4s
SBA e 06 44 35.5
SBA LR LR
comp=Z,1042μm,21.7s
VNDA Vanda 61.85 192 P P 06 44 28.4 -1.0
comp=Z,54nm,1.1s,baz=128,slow=5.7,SNR=6.7
VNDA PcP PcP 06 45 07.0 -3.1
comp=Z,610nm,1.1s,baz=139,slow=4.2,SNR=7.4
VNDA S S 06 52 50.1 -0.6
comp=Z,28nm,0.9s,baz=332,slow=4.6,SNR=1.4
VNDA LR LR 07 09 08.4
comp=Z,1744μm,18.1s,baz=136,slow=34
VNDA PKPKPKP P'P'df 07 13 44.0 -1.8
comp=Z,32nm,1.2s,baz=31,slow=5.9,SNR=3.5
VNDA Vanda 61.85 192 eP P 06 44 31.7 +2.3
comp=Z,73nm,0.4s
VNDA e 06 44 43.6
VNDA PcP PcP 06 45 07.0 -3.1
VNDA S S 06 52 50.1 -0.6
VNDA P'P' 07 13 44.0
SHEL Horse Pasture 62.46 90 P P 06 44 43.2 +8.8
comp=Z,24μm,2.0s,SNR=9.5
SHEL Horse Pasture 62.46 90 eP P 06 44 33.7 -0.7
SHEL pmax pmax
comp=Z,10μm,1.5s
SHEL MLR MLR
comp=Z,7437μm,21.8s
SHEL Horse Pasture 62.46 90 eP P 06 44 33.7 -0.7
comp=Z,22μm,1.5s
SHEL LR LR
comp=Z,7437μm,21.8s
SYO Syowa Base 64.14 158⇓iP P 06 44 44.4 -0.2
H06S1 SOCORRO T 65.37 320 P P 06 44 58.6 +5.3
H06S1 T T 07 55 59.7
SNR=21
H06E1 SOCORRO T-PHAS65.39 320 P P 06 44 58.1 +4.7
H06E1 T T 07 56 15.5
SNR=298
H06N1 SOCORRO T-PHAS65.49 320 P P 06 45 01.6 +7.6
H06N1 T T 07 56 26.3
SNR=9.9
TBI Tubuai 66.12 258 eT T 07 56 06.8
comp=Z,181nm,0.3s
TAOE Nuku Hiva Isla 66.45 276 eP P 06 45 00.4 -0.2
comp=Z,4μm,1.3s
TAOE eS S 06 53 49.1 -0.3
comp=Z,5076μm,26.9s
TAOE Nuku Hiva Isla 66.45 276 eLR LR 07 05 10.9
comp=Z,8749μm,29.1s,baz=132
TAOE Nuku Hiva Isla 66.45 276 eT T 07 56 43.1
comp=Z,564nm,0.2s
TAOE Nuku Hiva Isla 66.45 276 eP P 06 44 59.9 -0.7
comp=Z,1μm,1.2s
035Z Hargill 66.64 335 ⇑P P 06 45 01.3 +0.1
baz=67
035A Encino 67.09 336 ⇓P P 06 45 03.7 -0.4
baz=67,SNR=8.7
936A North Padre Is 67.28 337 ⇓P P 06 45 05.4 +0.1
baz=68
034A Hebbronville 67.40 335 ⇑P P 06 45 05.5 -0.6
baz=68,SNR=10
KVTX Kingsville 67.58 336 eP P 06 45 07.1 -0.1
comp=Z,3μm,1.1s
KVTX LR LR
comp=Z,2592μm,22.0s
934A Benavides 67.84 336 ⇓P P 06 45 08.5 -0.4
baz=68,SNR=6.4
MEH Mehetia 67.86 264 eP P 06 45 08.8 -0.6
comp=Z,426nm,1.2s
TIGA Tifton 67.97 350 eP P 06 45 07.4 -2.2
comp=Z,4μm,1.0s
TIGA LR LR
comp=Z,1844μm,21.5s
TIGA Tifton 67.97 350 ⇓P P 06 45 07.4 -2.2
baz=68,SNR=48
933A Laredo 68.11 335 ⇓P P 06 45 10.2 -0.4
baz=68,SNR=24
BRAL Brewton 68.11 347 eP P 06 45 10.0 -0.5
comp=Z,4μm,1.2s
BRAL LR LR
comp=Z,996μm,22.0s
835A Beeville 68.25 336 ⇓P P 06 45 11.9 +0.5
baz=69
834A Tilden 68.33 336 ⇑P P 06 45 12.0 0.0
baz=69,SNR=44
BBSR BB Station 68.60 7 eP P 06 45 11.5 -2.0
comp=Z,2μm,1.1s
735A Kenedy 68.77 337 ⇑P P 06 45 14.4 -0.2
baz=69,SNR=28
833A Chaparral WMA, 68.80 335 ⇑P P 06 45 14.1 -0.7
baz=69,SNR=58
TVO Taravao 68.86 263 eP P 06 45 15.3 -0.4
comp=Z,444nm,1.1s
TVO Taravao 68.86 263 eT T 07 59 34.4
comp=Z,63nm,0.2s
I24FR TAHITI-TARAVAO 68.91 263 P P 06 46 15.0 +59
baz=120,slow=3.9,SNR=1.4
VAH Vaihoa 68.92 266 eP P 06 45 16.1 +0.1
comp=Z,3μm,1.4s
VAH Vaihoa 68.92 266 eT T 07 59 41.5
comp=Z,60nm,0.2s
SACV Santiago Islan 68.95 52 P P 06 45 13.0 -3.1
comp=Z,3μm,0.9s,SNR=21
SACV Santiago Islan 68.95 52 eP P 06 45 14.6 -1.5
comp=Z,8μm,1.6s
SACV LR LR
comp=Z,5161μm,18.6s
832A Faith Ranch, C 68.97 335 ⇓P P 06 45 13.5 -2.4
baz=69,SNR=49
734A La Parita Cree 69.00 336 ⇑P P 06 45 14.2 -1.9
baz=69,SNR=9.8
RGRS Roger Stewart 69.03 253 eP P 06 45 14.6 -1.5
TIAR Tiarei 69.06 263 eP P 06 45 16.5 -0.4
comp=Z,382nm,0.9s
TIAR Tiarei 69.06 263 eT T 07 59 49.4
comp=Z,241nm,0.2s
636A Smothers Creek 69.11 338 ⇓P P 06 45 16.3 -0.4
baz=69,SNR=44
733A Divot King Ran 69.13 335 ⇑P P 06 45 15.9 -1.0
baz=69,SNR=26
HKT Hockley 69.18 339 eP P 06 45 15.9 -1.2
HKT pmax pmax
comp=Z,7μm,1.9s
HKT MLR MLR
comp=Z,2406μm,21.0s
HKT Hockley 69.18 339 eP P 06 45 15.9 -1.2
comp=Z,7μm,1.9s
HKT LR LR
comp=Z,2406μm,21.0s
PAE Paea 69.19 263 eP P 06 45 17.2 -0.4
comp=Z,547nm,1.2s
PAE Paea 69.19 263 eT T 07 59 59.3
comp=Z,39nm,0.3s
PPT2 Papeete2 69.22 263 eP P 06 45 17.8 -0.2
comp=Z,3μm,1.3s
PPT2 eS S 06 54 23.2 +0.6
comp=Z,1192μm,29.5s
PPT2 eLQ LQ 07 03 28.6
comp=Z,807μm,34.2s
PPT2 eLR LR 07 06 29.1
comp=Z,6406μm,37.5s,baz=117
PPT2 Papeete2 69.22 263 eT T 08 00 01.3
comp=Z,72nm,0.2s
NHSC New Hope 69.23 354 eP P 06 45 16.4 -1.0
comp=Z,875nm,0.5s
NHSC LR LR
comp=Z,1710μm,21.0s
PPT Papeete 69.23 263 P P 06 45 18.3 +0.3
comp=Z,175nm,0.9s,baz=179,slow=3.4,SNR=12
PPT LR LR 07 09 22.5
comp=Z,1617μm,18.4s,baz=118,slow=30
PPT Papeete 69.23 263 eP P 06 45 18.4 +0.5
635A Leesville 69.25 337 ⇓P P 06 45 16.6 -1.1
baz=70,SNR=22
PMOR Pomariorio Ree 69.27 266 eP P 06 45 17.3 -0.8
comp=Z,2μm,1.3s
538A Harpers Horsep 69.34 339 ⇑P P 06 45 17.9 -0.3
baz=70
732A Laxson Ranch, 69.37 335 ⇑P P 06 45 17.3 -1.1
baz=70,SNR=89
634A China Grove, S 69.43 336 ⇑P P 06 45 17.6 -1.2
baz=70,SNR=5.1
I11CV MAIO ISLAND IN 69.44 52 P P 06 46 15.0 +56
baz=179,slow=12,SNR=0.6
537A Green Hill Far 69.45 338 ⇑P P 06 45 17.8 -1.0
baz=70
536A Bastrop 69.67 338 ⇑P P 06 45 19.0 -1.2
baz=70,SNR=34
633A Saathoff Ranch 69.77 336 ⇓P P 06 45 19.7 -1.2
baz=70,SNR=60
535A Dale 69.78 337 ⇓P P 06 45 19.9 -1.1
baz=70,SNR=45
GOGA Godfrey 69.90 351 eP P 06 45 19.4 -2.1
GOGA MLR MLR
comp=Z,2442μm,22.0s
GOGA Godfrey 69.90 351 eP P 06 45 19.4 -2.1
comp=Z,22nm,0.6s
GOGA LR LR
comp=Z,2442μm,22.0s
VBMS Vicksburg 69.98 344 eP P 06 45 21.4 -0.7
comp=Z,13μm,1.6s
VBMS LR LR
comp=Z,686μm,20.0s
632A Uvalde 70.02 335 ⇑P P 06 45 21.3 -1.1
baz=70,SNR=82
340A Bronson 70.03 341 ⇓P P 06 45 21.4 -1.0
baz=70,SNR=6.9

534A	Blanco	70.07 337	⇑P	P	06 45 21.1 -1.6
	baz=70,SNR=38				
LRAL	Lakeview Retre	70.07 347	eP	P	06 45 20.9 -1.7
	comp=Z,575nm,1.6s				
LRAL			LR	LR	
	comp=Z,1447µm,22.0s				
339A	Huntington	70.13 340	⇑P	P	06 45 22.1 -0.9
	baz=70,SNR=16				
631A	Perdido Creek	70.21 335	⇓P	P	06 45 22.2 -1.3
	baz=70,SNR=67				
436A	Wall Ranch, Ga	70.24 338	⇓P	P	06 45 22.9 -0.8
	baz=71,SNR=18				
533A	Kerrville	70.29 336	⇓P	P	06 45 23.1 -1.0
	baz=71,SNR=109				
338A	Crockett	70.36 340	⇑P	P	06 45 24.1 -0.3
	baz=71,SNR=35				
337A	Centerville	70.48 339	⇓P	P	06 45 25.0 -0.1
	baz=71,SNR=34				
435B	Jarrell	70.49 338	⇓P	P	06 45 24.3 -0.9
	baz=71,SNR=32				
NATX	Nacogdoches	70.56 340	eP	P	06 45 24.8 -0.8
	comp=Z,3µm,0.9s				
NATX			LR	LR	
	comp=Z,1154µm,21.0s				
532A	Rocksprings	70.63 335	⇑P	P	06 45 25.4 -0.8
	baz=71,SNR=196				
434A	Burnet	70.73 337	⇑P	P	06 45 25.8 -1.0
	baz=71,SNR=128				
336A	Riesel	70.83 338	⇑P	P	06 45 26.4 -0.9
	baz=71,SNR=78				
531A	Rocksprings	70.88 335	⇓P	P	06 45 27.0 -0.8
	baz=71,SNR=90				
335A	Moody	70.91 338	⇓P	P	06 45 26.2 -1.5
	baz=71,SNR=24				
JCT	Junction City	70.92 336	eP	P	06 45 26.5 -1.4
JCT			e		06 45 36.4
JCT			pmax	pmax	
	comp=Z,2µm,1.1s				
JCT			MLR	MLR	
	comp=Z,681µm,21.0s				
JCT	Junction City	70.92 336	eP	P	06 45 26.5 -1.4
	comp=Z,2µm,1.1s				
JCT			e		06 45 36.4
JCT			LR	LR	
	comp=Z,681µm,21.0s				
JCT	Junction City	70.92 336	⇓P	P	06 45 26.2 -1.7
	baz=71,SNR=107				
433A	Art	70.94 336	⇓P	P	06 45 26.4 -1.6
	baz=71,SNR=112				
530A	J-C Ranch, Com	71.14 334	⇑P	P	06 45 27.6 -1.7
	baz=72,SNR=123				
CNNC	Cliffs of the	71.17 356	eP	P	06 45 27.9 -1.3
	comp=Z,732nm,0.8s				
CNNC			LR	LR	
	comp=Z,1505µm,19.0s				
334A	Lometa	71.20 337	⇑P	P	06 45 28.4 -1.2
	baz=72,SNR=191				
TXAR	Lajitas Array	71.26 332	P	P	06 45 28.9 -1.2
	comp=Z,62nm,1.0s,baz=151,slow=7.9,SNR=212				
TXAR			S	S	06 54 52.6 +6.8
	comp=Z,12nm,1.0s,baz=146,slow=5.5,SNR=1.9				
TXAR			LR	LR	07 13 15.4
	comp=Z,4075µm,18.3s,baz=0.0,slow=33				
TXAR			PKPPKP	P'P'df	07 13 24.2 +5.4
	comp=Z,6.4nm,0.8s,baz=90,slow=1.8,SNR=2.3				
TX31	Lajitas Ar. Si	71.26 332	eP	P	06 45 27.9 -2.2
432A	Menard	71.28 336	⇑P	P	06 45 28.1 -2.0
	baz=72,SNR=73				
MAW	Mawson	71.33 164	P	P	06 45 29.4 -0.5
	comp=Z,269nm,1.1s,baz=216,slow=3.9,SNR=8.5				
MAW			S	S	06 54 41.8 -3.7
	comp=Z,78nm,1.1s,baz=289,slow=18,SNR=1.6				
MAW			LR	LR	07 17 26.9
	comp=Z,5386µm,21.6s,baz=224,slow=36				
MAW	Mawson	71.33 164	eP	P	06 45 28.0 -2.0
	comp=Z,487nm,0.8s				
MAW			S	S	06 54 41.8 -3.7
KMSC	Kings Mountain	71.36 353	eP	P	06 45 28.4 -1.9
	comp=Z,26nm,0.5s				
KMSC			LR	LR	
	comp=Z,1957µm,21.2s				
KMSC	Kings Mountain	71.36 353	⇑P	P	06 45 28.5 -1.9
	baz=72,SNR=60				
431A	Sonora	71.38 335	⇓P	P	06 45 28.8 -1.9
	baz=72,SNR=78				
333A	Richland Sprin	71.43 337	⇓P	P	06 45 29.2 -1.8
	baz=72,SNR=98				
529A	Stev Forest Ra	71.44 333	⇑P	P	06 45 29.5 -1.6
	baz=72,SNR=91				
WHTX	Lake Whitney	71.58 338	eP	P	06 45 30.3 -1.5
	comp=Z,1µm,0.6s				
WHTX			e		06 45 39.6
WHTX			LR	LR	
	comp=Z,983µm,21.6s				
WHTX	Lake Whitney	71.58 338	⇑P	P	06 45 30.2 -1.6
	baz=72,SNR=59				
430A	Baggett Ranch,	71.69 335	⇑P	P	06 45 30.9 -1.7
	baz=72,SNR=91				
332A	Millersview	71.73 336	⇑P	P	06 45 30.5 -2.3
	baz=72,SNR=70				
429A	Davenport Ranc	71.78 334	⇓P	P	06 45 31.7 -1.4
	baz=72,SNR=90				
234A	Clairette	71.79 338	⇑P	P	06 45 31.4 -1.8
	baz=72,SNR=99				
331A	San Angelo	71.89 335	⇑P	P	06 45 31.7 -2.1
	baz=72,SNR=212				
OXF	Oxford	71.96 346	eP	P	06 45 32.0 -2.0
OXF			e		06 45 40.6
OXF			pmax	pmax	
	comp=Z,10µm,1.0s				
OXF			MLR	MLR	
	comp=Z,1221µm,20.0s				
OXF	Oxford	71.96 346	eP	P	06 45 32.0 -2.0
	comp=Z,66µm,1.0s				
OXF			e		06 45 40.6
OXF			LR	LR	
	comp=Z,1221µm,20.0s				
SWET	Sewanee	72.03 349	eP	P	06 45 32.9 -1.6
	comp=Z,6µm,1.1s				
233A	Rising Star	72.05 337	⇓P	P	06 45 33.0 -1.7
	baz=72,SNR=124				
CPCT	Cooper Cave	72.05 350	eP	P	06 45 34.9 +0.3
135A	Vickery Place,	72.09 338	⇑P	P	06 45 33.0 -1.9
	baz=72,SNR=24				
TKL	Tuckaleechee C	72.15 351	P	P	06 45 34.4 -0.8
TKL			S	S	06 54 51.3 -4.3
TKL			smax	smax	
	comp=N,33nm,0.9s				
TKL	Tuckaleechee C	72.15 351	P	P	06 45 34.4 -0.8
	comp=N,167nm,0.8s,baz=164,slow=5.7,SNR=2.2				
TKL			S	S	06 54 51.3 -4.3
	comp=N,33nm,0.9s,baz=87,slow=18,SNR=1.5				
TKL	Tuckaleechee C	72.15 351	eP	P	06 45 32.8 -2.4
TKL			e		06 45 40.9
TKL			S	S	06 54 51.3 -4.3
232A	Coleman	72.17 336	⇓P	P	06 45 33.8 -1.6
	baz=72,SNR=116				
330A	Mertzon	72.23 335	⇓P	P	06 45 34.1 -1.7
	baz=72,SNR=60				
134A	White-Moore Ra	72.31 338	⇑P	P	06 45 34.4 -1.7
	baz=73,SNR=41				
231A	Bronte	72.43 336	⇓P	P	06 45 35.2 -1.8
	baz=73,SNR=187				
ELIM	Elim	72.50 120	eP	P	06 45 36.8 -0.8
ELIM			AMB	AMB	06 47 02.7
	comp=Z,5µm,4.2s				
ELIM	Elim	72.50 120	P	P	06 45 36.8 -0.8
	comp=Z,5µm,4.2s				
329A	Wagon Wheel Ra	72.59 334	⇓P	P	06 45 36.5 -1.5
	baz=73,SNR=76				
133A	Hamilton Ranch	72.60 337	⇑P	P	06 45 36.3 -1.6
	baz=73,SNR=101				
230A	Sterling City	72.65 335	⇓P	P	06 45 36.5 -1.8
	baz=73,SNR=24				
Z35A	Perchaven, San	72.77 339	⇓P	P	06 45 37.3 -1.6
	baz=73,SNR=115				
CER	Ceres	72.83 119	eP	P	06 45 39.2 -0.4
CER			AMB	AMB	06 46 41.9
	comp=Z,6µm,2.5s				
CER	Ceres	72.83 119	P	P	06 45 39.2 -0.4
	comp=Z,6µm,2.5s				
ABTX	Abilene, Hawle	72.84 337	eP	P	06 45 37.8 -1.6
	comp=Z,5.1nm,0.6s				
ABTX			e		06 45 47.2
ABTX			LR	LR	
	comp=Z,519µm,19.0s				
ABTX	Abilene, Hawle	72.84 337	⇓P	P	06 45 37.7 -1.6

	baz=73,SNR=92				
UALR	University of	72.85 343	eP	P	06 45 37.4 -2.0
	comp=Z,2µm,1.3s				
UALR			LR	LR	
	comp=Z,984µm,20.0s				
MIAR	Mount Ida	72.92 342	eP	P	06 45 37.9 -1.9
MIAR			pmax	pmax	
	comp=Z,3µm,1.8s				
MIAR			MLR	MLR	
	comp=Z,729µm,20.0s				
MIAR	Mount Ida	72.92 342	eP	P	06 45 37.9 -1.9
	comp=Z,3µm,1.8s				
MIAR			LR	LR	
	comp=Z,729µm,20.0s				
229A	Bryant Ranch,	72.97 335	⇑P	P	06 45 38.7 -1.5
	baz=73,SNR=63				
TZTN	Tazewell	73.00 351	eP	P	06 45 38.1 -2.1
	comp=Z,4µm,1.3s				
TZTN			LR	LR	
	comp=Z,2116µm,21.0s				
Z34A	Collier Ranch,	73.00 338	⇓P	P	06 45 38.5 -1.7
	baz=73,SNR=47				
131A	Roby	73.13 336	⇑P	P	06 45 39.6 -1.6
	baz=73,SNR=64				
Z33A	Whitaker Ranch	73.18 338	⇓P	P	06 45 39.9 -1.5
	baz=74,SNR=106				
HBAR	Harrisburg	73.22 345	eP	P	06 45 38.6 -2.9
HBAR			e		06 45 48.0
WVT	Waverly	73.23 347	eP	P	06 45 39.5 -2.1
WVT			MLR	MLR	
	comp=Z,1140µm,22.0s				
WVT	Waverly	73.23 347	eP	P	06 45 39.5 -2.1
	comp=Z,175nm,0.9s				
WVT			LR	LR	
	comp=Z,1140µm,22.0s				
130A	Snyder	73.25 336	⇑P	P	06 45 40.2 -1.7
	baz=74,SNR=63				
HALT	Halls	73.30 346	eP	P	06 45 40.4 -1.6
VWCC	Virginia Weste	73.32 354	eP	P	06 45 40.2 -1.8
BLA	Blacksburg	73.32 354	eP	P	06 45 40.6 -1.5
BLA			pmax	pmax	
	comp=Z,471nm,0.9s				
BLA			MLR	MLR	
	comp=Z,1747µm,22.0s				
BLA	Blacksburg	73.32 354	eP	P	06 45 40.6 -1.5
	comp=Z,471nm,0.9s				
BLA			LR	LR	
	comp=Z,1747µm,22.0s				
228A	UT Block 9, Go	73.38 334	⇓P	P	06 45 40.9 -1.7
	baz=74,SNR=86				
BBTS	Babate	73.39 57	P	P	06 45 42.3 -0.7
	comp=Z,597nm,1.2s,baz=222,slow=1.4,SNR=34				
BBTS			S	SKiKP	06 55 16.8 +4.7
	comp=Z,100nm,1.2s,baz=174,slow=19,SNR=1.6				
BBTS			LR	LR	07 17 30.3
	comp=Z,963µm,19.2s,baz=213,slow=36				
Z32A	Haskell	73.42 337	⇓P	P	06 45 41.3 -1.5
	baz=74,SNR=104				
KOMG	Komaggas	73.43 115	eP	P	06 45 42.2 -1.0
KOMG			AMB	AMB	06 46 37.3
	comp=Z,8µm,3.1s				
KOMG	Komaggas	73.43 115	P	P	06 45 42.2 -1.0
	comp=Z,8µm,3.1s				
URVA	University of	73.47 356	eP	P	06 45 41.9 -1.0
Y34A	Reagan Ranch,	73.50 339	⇓P	P	06 45 41.2 -2.0
	baz=74,SNR=16				
129A	Stewart Farms,	73.59 335	⇓P	P	06 45 41.8 -2.1
	baz=74,SNR=68				
JSRW	J. Sargeant Re	73.62 356	eP	P	06 45 42.3 -1.5
GLAT	Glass	73.64 346	eP	P	06 45 43.3 -0.6
GLAT			e		06 45 50.7
Z31A	Sharp Cattle R	73.64 336	⇓P	P	06 45 42.5 -1.6
	baz=74,SNR=125				
128A	Castleberry Fa	73.80 334	⇑P	P	06 45 43.5 -1.6
	baz=74,SNR=81				
Y33A	Hilltop Ranch,	73.81 338	⇓P	P	06 45 43.3 -1.7
	baz=74,SNR=105				
PVMO	Portageville	73.86 346	eP	P	06 45 43.7 -1.5
	comp=Z,12µm,1.2s				
PVMO			LR	LR	
	comp=Z,1140µm,19.7s				
Z30A	Sanderson Ranc	73.94 336	⇑P	P	06 45 43.9 -1.9
	baz=74,SNR=102				
MNTX	Cornudas Mount	74.03 332	eP	P	06 45 43.9 -2.6
	comp=Z,846nm,1.0s				
MNTX			e		06 45 53.8
MNTX			LR	LR	
	comp=Z,3014µm,22.0s				
Y32A	R-V Farms, Ver	74.05 337	⇑P	P	06 45 44.9 -1.6
	baz=74,SNR=64				
GDL2	Guadalupe Moun	74.09 333	eP	P	06 45 45.6 -1.3
	comp=Z,164nm,0.6s				
GDL2			e		06 45 54.9
CBN	Corbin	74.10 356	eP	P	06 45 45.3 -1.3
	comp=Z,3µm,0.6s				
Z29A	Hungry Hill Ra	74.11 335	⇓P	P	06 45 44.7 -2.2
	baz=74,SNR=143				
PARMO	Parma	74.11 346	eP	P	06 45 45.0 -1.7
X34A	Smith Ranch, M	74.12 339	⇓P	P	06 45 45.1 -1.7
	baz=74,SNR=67				
127A	Arkansas Junct	74.16 334	⇑P	P	06 45 45.5 -1.8
	baz=74,SNR=39				
AUSN	Aus	74.19 112	iP	P	06 45 47.3 -0.6
X33A	Lawton	74.26 338	⇓P	P	06 45 45.7 -2.0
	baz=75,SNR=37				
Y31A	Rekieta Farm,	74.27 337	⇑P	P	06 45 45.9 -1.9
	baz=75,SNR=73				
PBMO	Poplar Bluff	74.36 345	eP	P	06 45 46.1 -2.1
	comp=Z,2µm,0.9s				
PBMO			LR	LR	
	comp=Z,930µm,20.9s				
Z28A	Tucker Farm, M	74.37 335	⇑P	P	06 45 46.3 -2.1
	baz=75,SNR=8.7				
X32A	Elmer	74.39 338	⇑P	P	06 45 46.6 -1.8
	baz=75,SNR=55				
Y30A	Stafford Cattl	74.40 336	⇑P	P	06 45 46.8 -1.8
	baz=75,SNR=57				
SUR	Sutherland	74.44 119	P	P	06 45 48.8 -0.5
	comp=Z,5µm,1.1s,SNR=42				
SUR	Sutherland	74.44 119	P	P	06 45 48.4 -0.9
	comp=Z,294nm,0.9s,baz=246,slow=5.1,SNR=56				
SUR			LR	LR	07 13 50.0
	comp=Z,299µm,21.7s,baz=193,slow=32				
SUR	Sutherland	74.44 119	⇑iP	P	06 45 48.1 -1.2
	comp=Z,6µm,1.3s				
DRV	Dumont d'Urvil	74.45 193	P	P	06 46 02.0 +14
DRV			S	SKiKP	06 55 14.0 +1.4
DRV			SS	SS	07 00 31.0 +25
DRV			L	L	07 05 00.0
DRV			R	R	07 09 00.0
Y29A	Porterfield Fa	74.64 335	⇓P	P	06 45 48.4 -1.6
	baz=75,SNR=102				
CPRX	Cap Rock	74.66 333	eP	P	06 45 49.4 -0.8
	comp=Z,8µm,0.5s				
CPRX			e		06 45 58.6
Z27A	Tatum	74.68 334	⇓P	P	06 45 48.5 -1.8
	baz=75,SNR=7.3				
W34A	Bridge Creek,	74.70 339	eP	P	06 45 48.3 -1.9
	comp=Z,13µm,1.9s				
W34A			LR	LR	
	comp=Z,1339µm,21.0s				
W34A	Bridge Creek,	74.70 339	⇑P	P	06 45 48.2 -1.9
	baz=75,SNR=35				
TUL1	Tulsa	74.78 341	eP	P	06 45 48.7 -2.0
	comp=Z,363nm,0.6s				
TUL1			LR	LR	
	comp=Z,778µm,20.9s				
TUL1	Tulsa	74.78 341	⇑P	P	06 45 48.6 -2.0
	baz=75,SNR=102				
X31A	McDonald Ranch	74.80 337	⇓P	P	06 45 49.1 -1.7
	baz=75,SNR=88				
W33A	Caddo, Fort Co	74.82 339	⇓P	P	06 45 49.8 -1.1
	baz=75,SNR=149				
Y28A	McKinney Farm,	74.88 335	⇓P	P	06 45 49.6 -1.8
	baz=75,SNR=61				
X30A	Coker Ranch, T	74.92 336	⇓P	P	06 45 49.9 -1.6
	baz=75,SNR=37				
Z26A	Caprock	74.92 333	⇑P	P	06 45 50.0 -1.6
	baz=75,SNR=177				
USIN	University of	75.00 348	eP	P	06 45 49.6 -2.2
	comp=Z,323nm,0.8s				
USIN			LR	LR	
	comp=Z,999µm,20.8s				
SIUC	Southern Illin	75.03 347	eP	P	06 45 49.7 -2.3
	comp=Z,198nm,0.6s				
SIUC			LR	LR	
	comp=Z,1031µm,20.4s				

W32A	Sentinel	75.03 338	⇑P	P	06 45 50.5 -1.6
	baz=75,SNR=128				
WCI	Wyandotte Cave	75.03 349	eP	P	06 45 49.6 -2.5
WCI			MLR	MLR	
	comp=Z,1115µm,21.0s				
WCI	Wyandotte Cave	75.03 349	eP	P	06 45 49.6 -2.5
	comp=Z,34nm,0.9s				
WCI			LR	LR	
	comp=Z,1115µm,21.0s				
MSTX	Muleshoe	75.12 335	eP	P	06 45 50.7 -2.1
	comp=Z,1µm,0.8s				
MSTX			e		06 46 00.1
MSTX			LR	LR	
	comp=Z,1354µm,18.7s				
MSTX	Muleshoe	75.12 335	⇓P	P	06 45 50.7 -2.1
	baz=75,SNR=95				
Y27A	Causey	75.18 334	⇓P	P	06 45 51.1 -2.0
	baz=76,SNR=47				
V34A	Guthrie	75.18 340	eP	P	06 45 50.9 -2.0
	comp=Z,1µm,1.1s				
V34A			LR	LR	
	comp=Z,1320µm,22.0s				
V34A	Guthrie	75.18 340	⇓P	P	06 45 51.3 -1.7
	baz=76,SNR=14				
X29A	Tulia	75.19 336	⇑P	P	06 45 51.7 -1.5
	baz=76,SNR=106				
Z25A	Roswell	75.19 333	⇑P	P	06 45 51.5 -1.8
	baz=76,SNR=51				
SDMD	Soldier's Deli	75.27 357	eP	P	06 45 52.1 -1.3
	comp=Z,923nm,1.0s				
SDMD			LR	LR	
	comp=Z,2165µm,21.3s				
W31A	Holland Ranch,	75.30 337	⇑P	P	06 45 52.1 -1.6
	baz=76,SNR=37				
319A	Douglas	75.33 328	⇑P	P	06 45 53.4 -0.7
	baz=76,SNR=53				
RAR	Rarotonga	75.35 254	P	P	06 45 53.0 -1.4
	comp=Z,35nm,0.9s,baz=48,slow=4.4,SNR=3.2				
RAR			LR	LR	07 12 09.9
	comp=Z,1288µm,20.5s,baz=140,slow=30				
RAR	Rarotonga	75.35 254	eP	P	06 45 54.4 0.0
	comp=Z,4µm,1.9s				
V33A	Lossen Ranch,	75.39 339	⇓P	P	06 45 52.6 -1.6
	baz=76,SNR=80				
X28A	Dimmitt	75.42 335	⇓P	P	06 45 52.8 -1.7
	baz=76,SNR=22				
Y26A	Elida	75.45 334	⇓P	P	06 45 52.9 -1.8
	baz=76,SNR=68				
Z24A	Sheeppen Canyo	75.48 332	⇓P	P	06 45 53.7 -1.3
	baz=76,SNR=99				
W30A	Crocket Farms	75.50 337	⇑P	P	06 45 53.2 -1.7
	baz=76,SNR=13				
V32A	Arapaho	75.52 338	⇑P	P	06 45 53.6 -1.3
	baz=76,SNR=38				
AMTX	Amarillo	75.58 336	eP	P	06 45 53.8 -1.6
	comp=Z,3µm,0.7s				
AMTX			e		06 46 03.5
AMTX			LR	LR	
	comp=Z,800µm,22.0s				
AMTX	Amarillo	75.58 336	⇑P	P	06 45 54.2 -1.2
	baz=76				
121A	Cookes Peak, D	75.72 330	eP	P	06 45 55.6 -0.7
	comp=Z,2µm,1.0s				
121A			e		06 46 05.4
121A	Cookes Peak, D	75.72 330	⇑P	P	06 45 55.7 -0.7
	baz=76,SNR=96				
U34A	Anderson Ranch	75.75 340	eP	P	06 45 54.6 -1.6
	comp=Z,2µm,1.3s				
U34A			e		06 46 04.3
U34A			LR	LR	
	comp=Z,842µm,22.0s				
U34A	Anderson Ranch	75.75 340	⇑P	P	06 45 54.6 -1.6
	baz=76,SNR=18				
Y25A	Mesa, Roswell	75.76 333	⇑P	P	06 45 54.7 -1.8
	baz=76,SNR=33				
W29A	Amraillo	75.79 336	⇓P	P	06 45 55.3 -1.3
	baz=76,SNR=65				
V31A	Spring Creek L	75.81 338	⇑P	P	06 45 56.0 -0.6
	baz=76,SNR=59				
OLIL	Olney	75.82 348	eP	P	06 45 53.5 -3.0
	comp=Z,310nm,1.0s				
OLIL			LR	LR	
	comp=Z,1140µm,22.0s				
MVL	Millersville	75.84 357	PFAKE		06 46 10.0 +13
MVL			LR	LR	
	comp=Z,2462µm,21.1s				
X27A	F and S Farms,	75.84 335	⇑P	P	06 45 55.1 -1.9
	baz=76,SNR=18				
U33A	Lingo Farm, Me	75.91 339	⇑P	P	06 45 55.5 -1.7
	baz=76,SNR=26				
BLO	Bloomington	75.99 349	eP	P	06 45 55.0 -2.5
BLO			e		06 46 03.7
BLO			pmax	pmax	
	comp=Z,9µm,2.3s				
BLO			MLR	MLR	
	comp=Z,1938µm,21.3s				
BLO	Bloomington	75.99 349	eP	P	06 45 55.0 -2.5
	comp=Z,9µm,2.3s				
BLO			e		06 46 03.7
BLO			LR	LR	
	comp=Z,1938µm,21.3s				
X26A	CR and CF Fran	76.01 334	⇑P	P	06 45 56.6 -1.3
	baz=76,SNR=69				
Z22A	Elephant Butte	76.03 331	⇓P	P	06 45 57.2 -0.8
	baz=76,SNR=77				
Y24A	Capitan	76.04 333	⇑P	P	06 45 57.2 -1.0
	baz=76,SNR=78				
ARMS	Ukamas	76.04 115	iP	P	06 45 56.8 -1.6
V30A	Spur Ranch, Mi	76.07 337	⇑P	P	06 45 57.5 -0.7
	baz=76,SNR=17				
W28A	Vega	76.10 336	⇑P	P	06 45 57.1 -1.2
	baz=76,SNR=26				
SLM	Saint Louis	76.11 346	eP	P	06 45 56.3 -1.9
SLM	Saint Louis	76.11 346	eP	P	06 45 56.3 -1.9
	comp=Z,110nm,1.4s				
U32A	Winter Ranch,	76.12 339	⇓P	P	06 45 57.0 -1.3
	baz=76,SNR=73				
LIC	Lamto	76.15 72	⇑iP	P	06 45 57.6 -1.4
	comp=Z,12µm,1.2s,baz=239				
LIC			eR		
	comp=Z,8387µm,22.5s				
LIC	Lamto	76.15 72	eP	P	06 45 56.2 -2.8
	comp=Z,13µm,1.4s				
LIC	Lamto	76.15 72	⇑iP	P	06 45 57.6 -1.4
	comp=Z,12µm,1.2s				
W27A	Bowe Ranch, En	76.21 335	⇑P	P	06 45 57.7 -1.4
	baz=76,SNR=124				
Y23A	Lovelace Mesa,	76.27 332	⇓P	P	06 45 58.8 -0.7
	baz=77,SNR=69				
X25A	Clemmons Ranch	76.29 333	⇓P	P	06 45 58.1 -1.4
	baz=77,SNR=26				
U31A	Nine Bar Ranch	76.36 338	⇓P	P	06 45 58.9 -0.9
	baz=77,SNR=19				
LUPA	Lehigh Univers	76.41 358	PFAKE		06 46 10.0 +10
LUPA			LR	LR	
	comp=Z,270µm,21.8s				
TIC	Toumodi	76.42 71	eP	P	06 45 58.1 -2.5
	comp=Z,1µm,0.9s				
V29A	Stinnett	76.43 336	⇓P	P	06 45 59.2 -1.0
	baz=77,SNR=11				
KIC	Kosan Boka	76.45 72	eP	P	06 45 58.1 -2.7
	comp=Z,3µm,1.2s				
BRNJ	Basking Ridge	76.47 359	eP	P	06 46 01.5 +1.3
	comp=Z,2µm,1.0s				
BRNJ			LR	LR	
	comp=Z,2024µm,20.3s				
W26A	Owens Ranch, T	76.48 334	⇓P	P	06 45 59.3 -1.2
	baz=77,SNR=40				
SSPA	Standing Stone	76.55 356	eP	P	06 45 59.0 -1.6
	comp=Z,2µm,1.2s				
SSPA			LR	LR	
	comp=Z,1664µm,21.0s				
V28A	Channing	76.55 336	⇑P	P	06 45 59.9 -1.1
	baz=77,SNR=69				
T33A	Patterson Ranc	76.56 339	⇑P	P	06 45 59.6 -1.2
	baz=77,SNR=83				
DBIC	Dimbokro	76.56 71	eP	P	06 46 01.2 -0.1
DBIC	Dimbokro	76.56 71	P	P	06 46 00.1 -1.3
DBIC			S	S	06 56 06.9 +21
DBIC			pmax	pmax	
	comp=Z,267nm,1.1s				
DBIC			smax	smax	
	comp=N,93nm,0.7s				
DBIC	Dimbokro	76.56 71	P	P	06 46 00.1 -1.3
	comp=N,267nm,1.1s,baz=204,slow=5.0,SNR=81				
DBIC			S	S	06 56 06.9 +21
	comp=N,93nm,0.7s,baz=16,slow=19,SNR=7.6				
DBIC			LR	LR	07 15 58.5

comp=N,3471µm,21.6s,baz=204,slow=33
DBIC Dimbokro 76.56 71 eP P 06 45 60.0 -1.4
comp=N,82nm,0.6s
DBIC S S 06 56 06.9 +21
I17CI DIMBOKRO INFRA76.56 71 P P 06 46 10.0 +8.6
baz=233,slow=5.8,SNR=3.7
ACSO Alum Creek Sta 76.57 352 eP P 06 45 58.5 -2.2
comp=N,1µm,0.8s
ACSO LR LR
comp=Z,1682µm,22.0s
CPNY Central Park 76.57 359 eP P 06 46 00.2 -0.5
comp=Z,648nm,0.3s
CPNY LR LR
comp=Z,2044µm,20.1s
X24A Lazy VL Ranch, 76.61 333 ⇓P P 06 46 00.5 -0.9
baz=77,SNR=116
BNM Barren Site 76.69 332 eP P 06 46 01.1 -0.8
Y22D IRIS PASSCAL I 76.73 332 ⇑P P 06 46 01.5 -0.6
baz=77
U30A WK&E Inc. Balk 76.76 337 ⇑P P 06 46 00.9 -1.1
baz=77,SNR=55
V27A Dan Oppiter Fa 76.76 335 ⇑P P 06 46 01.2 -1.0
baz=77,SNR=55
TUC Tucson 76.78 328 eP P 06 46 01.2 -1.0
TUC pmax pmax
comp=Z,2µm,1.2s
TUC MLR MLR
comp=Z,1896µm,19.0s
TUC Tucson 76.78 328 eP P 06 46 01.2 -1.0
comp=Z,2µm,1.2s
TUC LR LR
comp=Z,1896µm,19.0s
PAL Palisades 76.79 359 PFAKE 06 46 10.0 +8.1
PAL LR LR
comp=Z,2019µm,21.0s
LPM Los Pinos Moun 76.83 332 eP P 06 46 01.8 -0.8
comp=Z,2µm,0.4s
LPM e 06 46 11.5
LENM Lemitar 76.83 332 eP P 06 46 01.7 -0.9
comp=Z,15µm,1.6s
W25A X Bar L Ranch, 76.84 334 ⇑P P 06 46 01.1 -1.5
baz=77,SNR=61
T32A Huddler Ranch, 76.84 339 ⇑P P 06 46 01.2 -1.2
baz=77,SNR=33
ODNJ Ogdensburg 76.87 359 PFAKE 06 46 10.0 +7.6
ODNJ LR LR
comp=Z,2015µm,20.0s
U29A Oasis Ranch, S 76.88 337 ⇑P P 06 46 01.1 -1.6
baz=77,SNR=19
X23A Hourglass Bar 76.90 332 ⇑P P 06 46 01.8 -1.2
baz=77
KJAB KAMANJAB 76.96 105 iP P 06 46 02.4 -1.4
S33A Kaszmaul Farm, 76.96 340 ⇑P P 06 46 01.7 -1.4
baz=77,SNR=14
UPI Upington 76.97 116 eP P 06 46 02.5 -1.2
UPI AMB AMB 06 46 21.1
comp=Z,5µm,1.7s
UPI Upington 76.97 116 P P 06 46 02.5 -1.2
comp=Z,5µm,1.7s
T31A Randall Ranch, 76.99 338 ⇑P P 06 46 01.8 -1.4
baz=77,SNR=27
WIN Windhoek 77.08 108 eP P 06 46 04.1 -0.4
WIN AMB AMB 06 47 28.5
comp=Z,1µm,1.6s
WIN Windhoek 77.08 108 P P 06 46 04.1 -0.4
WIN pmax pmax
comp=Z,1µm,1.6s
WIN Windhoek 77.08 108 P P 06 46 04.1 -0.4
comp=Z,1µm,1.6s
WIN Windhoek 77.08 108 iP P 06 46 04.0 -0.6
WIN Windhoek 77.08 108 iP P 06 46 03.3 -1.2
YLE Yale 77.09 360 PFAKE 06 46 10.0 +6.4
YLE LR LR
comp=Z,2495µm,19.2s
LAZ Ladron 77.11 332 eP P 06 46 03.7 -0.5
comp=Z,4µm,1.2s
LAZ e 06 46 13.4
V26A Tequesquite Ra 77.12 335 ⇓P P 06 46 02.7 -1.5
baz=77,SNR=34
U28A Mallet 77.12 336 ⇓P P 06 46 03.0 -1.2
baz=77
W24A Lazy 6 Ranch, 77.17 333 ⇓P P 06 46 03.1 -1.5
baz=78,SNR=75
T30A Plains 77.20 338 ⇑P P 06 46 03.4 -1.1
baz=78,SNR=25
SFIN Scholer Farm 77.26 349 eP P 06 46 01.7 -3.0
comp=Z,2µm,0.6s
SFIN LR LR
comp=Z,1726µm,20.4s
SFIN Scholer Farm 77.26 349 ⇓P P 06 46 03.4 -1.2
baz=78,SNR=14
ANMO Albuquerque 77.33 332 iP P 06 46 04.5 -0.9
ANMO pmax pmax
comp=Z,989nm,2.1s
ANMO MLR MLR
comp=Z,3372µm,14.0s
ANMO Albuquerque 77.33 332 eP P 06 46 04.6 -0.9
comp=Z,2µm,1.3s
ANMO e 06 46 14.4
ANMO LR LR
comp=Z,3428µm,22.0s
S32A Newby Ranch, P 77.33 339 ⇑P P 06 46 03.7 -1.4
baz=78,SNR=63
U27A Thompson Grove 77.36 336 ⇑P P 06 46 04.3 -1.2
baz=78,SNR=50
214A Organ Pipe Nat 77.37 326 eP P 06 46 05.0 -0.5
comp=Z,8µm,1.8s
214A Organ Pipe Nat 77.37 326 ⇓P P 06 46 05.2 -0.4
baz=78,SNR=53
KSPA Keystone Colle 77.38 358 PFAKE 06 46 20.0 +15
KSPA LR LR
comp=Z,1471µm,20.6s
W23A Werner Place, 77.40 333 ⇑P P 06 46 05.1 -0.8
baz=78,SNR=80
S31A Mullinville 77.41 339 ⇑P P 06 46 04.4 -1.2
baz=78,SNR=41
V25A Rancho No Teng 77.45 334 ⇓P P 06 46 04.5 -1.6
baz=78,SNR=64
T29A Hugoton 77.54 337 ⇑P P 06 46 05.1 -1.3
baz=78,SNR=35
V24A Rampart Ranch, 77.58 334 ⇓P P 06 46 05.6 -1.3
baz=78,SNR=37
R33A Olander Ranch, 77.63 340 ⇓P P 06 46 05.4 -1.4
baz=78,SNR=29
U26A Atchley Ranch, 77.65 335 ⇑P P 06 46 05.8 -1.4
baz=78,SNR=24
BRYW Bryant College 77.70 1 eP P 06 46 06.8 -0.3
comp=Z,6µm,1.4s
BRYW LR LR
comp=Z,1919µm,20.6s
ALLY Alegheny Colle 77.70 354 eP P 06 46 05.5 -1.7
comp=Z,396nm,0.6s
ALLY LR LR
comp=Z,1445µm,20.6s
S30A Montezuma 77.72 338 ⇓P P 06 46 06.1 -1.4
baz=78,SNR=72
T28A Walsh 77.77 336 ⇓P P 06 46 06.3 -1.4
baz=78,SNR=93
CASY Casey 77.86 181 eP P 06 46 05.1 -2.8
comp=Z,3µm,1.2s
CASY LR LR
comp=Z,3418µm,19.0s
U25A Circle Dot Ran 77.88 334 ⇑P P 06 46 07.3 -1.2
baz=78,SNR=64
GRM Grahamstown 77.89 122 eP P 06 46 06.9 -1.8
GRM AMB AMB 06 47 11.9
comp=Z,7µm,1.9s
GRM Grahamstown 77.89 122 P P 06 46 06.9 -1.8
GRM pmax pmax
comp=Z,7µm,1.9s
GRM Grahamstown 77.89 122 P P 06 46 06.9 -1.8
comp=Z,7µm,1.9s
GRM Grahamstown 77.89 122 iP P 06 46 08.4 -0.3
S29A Ulysses 77.91 337 ⇓P P 06 46 07.2 -1.3
baz=78,SNR=43
T27A Campo 77.91 336 ⇑P P 06 46 07.1 -1.5
baz=78,SNR=59
V23A Ortiz Mt. (NFS 77.93 333 ⇓P P 06 46 08.1 -0.7
baz=78,SNR=34
R32A Long Quarter, 77.94 340 ⇓P P 06 46 07.1 -1.4
baz=78,SNR=56
KSU1 Kansas State U 78.00 341 eP P 06 46 07.2 -1.7
comp=Z,205nm,0.6s
KSU1 e 06 46 15.5
KSU1 Kansas State U 78.00 341 ⇑P P 06 46 06.7 -2.1
baz=78,SNR=20
BINY Binghamton 78.02 358 eP P 06 46 07.1 -1.8
comp=Z,1µm,1.0s
BINY LR LR
comp=Z,1350µm,20.0s
R31A Burdett 78.05 339 ⇑P P 06 46 07.5 -1.7
baz=78,SNR=43
QUA2 Belchertown 78.06 0 PFAKE 06 46 20.0 +11
QUA2 LR LR
comp=Z,1874µm,18.9s
S28A Manter 78.12 337 ⇓P P 06 46 08.3 -1.4
baz=78,SNR=84
ERPA Erie 78.16 355 eP P 06 46 07.5 -2.1
comp=Z,3µm,0.6s
ERPA LR LR
comp=Z,2001µm,21.0s
WES Weston 78.17 1 PFAKE 06 46 20.0 +10
WES LR LR
comp=Z,2404µm,20.6s
U24A Moreno Valley 78.20 334 ⇓P P 06 46 09.9 -0.4
baz=78,SNR=21
Q33A Connelly Farm, 78.23 340 ⇓P P 06 46 08.9 -1.3
baz=79,SNR=34
R30A Dighton 78.26 338 ⇓P P 06 46 08.9 -1.5
baz=79,SNR=31
HRV Adam Dziewonsk 78.29 1 eP P 06 46 10.1 -0.2
HRV pmax pmax
comp=Z,2µm,1.0s
HRV MLR MLR
comp=Z,2172µm,22.0s
HRV Adam Dziewonsk 78.29 1 eP P 06 46 10.1 -0.2
comp=Z,2µm,1.0s
HRV LR LR
comp=Z,2172µm,22.0s
T26A Comanche Natio 78.30 335 ⇓P P 06 46 09.6 -1.2
baz=79,SNR=52
X18A Snowflake 78.34 330 ⇑P P 06 46 10.6 -0.5
baz=79,SNR=69
V22A San Miguel Ran 78.35 332 ⇑P P 06 46 10.9 -0.3
baz=79,SNR=129
Q32A Meitler Ranch, 78.42 340 ⇓P P 06 46 09.9 -1.3
baz=79,SNR=40
U23A El Rito 78.46 333 ⇑P P 06 46 10.9 -0.9
baz=79,SNR=70
113A Mohawk Valley, 78.49 326 ⇓P P 06 46 11.1 -0.5
baz=79,SNR=33
TRY Troy 78.51 359 eP P 06 46 10.8 -0.7
comp=Z,4µm,1.1s
TRY LR LR
comp=Z,2201µm,19.4s
S27A Las Animas 78.53 336 ⇓P P 06 46 10.7 -1.3
baz=79,SNR=16
T25A Trinidad 78.55 335 ⇑P P 06 46 11.5 -0.7
baz=79,SNR=97
P33A Williams Farm, 78.60 341 ⇑P P 06 46 10.7 -1.5
baz=79,SNR=28
Z14A Wintersburg 78.62 327 ⇑P P 06 46 11.7 -0.7
baz=79,SNR=21
R29A Marienthal 78.65 338 ⇓P P 06 46 11.6 -1.0
baz=79,SNR=56
S26A Kim 78.67 336 ⇓P P 06 46 11.6 -1.1
baz=79,SNR=62
Q31A Ellis 78.67 339 ⇑P P 06 46 11.3 -1.3
baz=79,SNR=73
AAM Ann Arbor 78.69 352 eP P 06 46 10.2 -2.3
AAM pmax pmax
comp=Z,7µm,1.2s
AAM MLR MLR
comp=Z,1895µm,21.0s
AAM Ann Arbor 78.69 352 eP P 06 46 10.2 -2.3
comp=Z,7µm,1.2s
AAM LR LR
comp=Z,1895µm,21.0s
HVD Gariep Dam 78.74 120 eP P 06 46 13.1 -0.5
HVD AMB AMB 06 47 38.8
comp=Z,7µm,4.2s
HVD Gariep Dam 78.74 120 P P 06 46 13.1 -0.5
HVD pmax pmax
comp=Z,7µm,4.2s
HVD Gariep Dam 78.74 120 P P 06 46 13.1 -0.5
comp=Z,7µm,4.2s
U22A Llaves 78.74 333 ⇑P P 06 46 13.1 -0.3
baz=79,SNR=86
W18A Petrified Fore 78.76 330 eP P 06 46 12.7 -0.7
comp=Z,4µm,1.3s
W18A e 06 46 22.1
W18A LR LR
comp=Z,3704µm,21.6s
W18A Petrified Fore 78.76 330 ⇓P P 06 46 12.5 -0.9
baz=79,SNR=7.0
R28A Tribune 78.79 337 ⇓P P 06 46 12.0 -1.3
baz=79,SNR=59
T24B San Luis 78.82 334 ⇑P P 06 46 13.0 -0.8
baz=79,SNR=70
X16A Lo Mia Camp, P 78.86 328 ⇓P P 06 46 13.3 -0.6
baz=79,SNR=70
Q30A Quinter 78.89 339 ⇑P P 06 46 12.5 -1.3
baz=79,SNR=84
P32A Huiting Farm, 79.02 340 ⇓P P 06 46 13.0 -1.5
baz=79,SNR=29
S25A Robets Cordova 79.03 335 ⇓P P 06 46 13.7 -1.0
baz=79,SNR=78
T23A Casias Ranch, 79.03 334 ⇑P P 06 46 14.1 -0.8
baz=79,SNR=39
Q29A Oakley 79.03 338 ⇓P P 06 46 13.4 -1.2
baz=79,SNR=50
R27A Eads 79.05 336 ⇑P P 06 46 13.4 -1.4
baz=79,SNR=68
Y14A Wickenburg 79.13 327 ⇓P P 06 46 14.2 -1.1
baz=79,SNR=52
P31A Stockton 79.15 339 ⇓P P 06 46 13.8 -1.4
baz=80,SNR=41
ACCN Adirondack Com 79.16 359 eP P 06 46 13.8 -1.3
comp=Z,18µm,1.0s
ACCN LR LR
comp=Z,2036µm,19.9s
GLA Glamis 79.21 325 eP P 06 46 15.2 -0.5
GLA e 06 46 24.4
GLA pmax pmax
comp=Z,345nm,0.7s
GLA MLR MLR
comp=Z,1715µm,21.2s
GLA Glamis 79.21 325 eP P 06 46 15.2 -0.5
comp=Z,345nm,0.7s
GLA e 06 46 24.4
GLA LR LR
comp=Z,1715µm,21.2s
GLA Glamis 79.21 325 ⇓P P 06 46 15.2 -0.5
baz=80,SNR=26
FFD Franklin Falls 79.25 1 PFAKE 06 46 30.0 +14
FFD LR LR
comp=Z,1728µm,21.3s
R26A Arlington 79.27 336 ⇑P P 06 46 15.2 -0.8
baz=80,SNR=42
S24A Houchin Ranch, 79.28 334 ⇓P P 06 46 15.7 -0.6
baz=80,SNR=45
MCQ Macquarie Isla 79.30 208 eP P 06 46 17.6 +1.6
MCQ e 06 46 26.5
MCQ pmax pmax
comp=Z,10µm,1.3s
MCQ Macquarie Isla 79.30 208 eP P 06 46 17.6 +1.6
comp=Z,66µm,1.3s
MCQ e 06 46 26.5
TSUM Tsumeb 79.33 106 P P 06 46 15.7 -1.2
comp=Z,153nm,1.1s,baz=217,slow=6.1,SNR=60
TSUM Tsumeb 79.33 106 eP P 06 46 15.4 -1.5
comp=Z,5µm,1.3s
I35NA TSUMEB INFRASO79.33 106 P P 06 46 35.0 +18
baz=308,slow=13,SNR=3.0
R25A Fountain Ranch 79.41 335 ⇑P P 06 46 15.7 -1.1
baz=80,SNR=18
P30A Selden 79.42 339 ⇓P P 06 46 15.4 -1.3
baz=80,SNR=29
Q28A Sharon Springs 79.45 337 ⇓P P 06 46 16.2 -0.8
baz=80,SNR=19
SDCO Great Sand Dun 79.47 334 eP P 06 46 16.2 -1.1
comp=Z,2µm,1.2s
SDCO e 06 46 26.1
SDCO LR LR
comp=Z,2674µm,20.0s
HNH Hanover 79.48 0 PFAKE 06 46 30.0 +13
HNH LR LR
comp=Z,2062µm,21.4s
O32A Brockman Farm, 79.53 341 ⇑P P 06 46 16.1 -1.2
baz=80,SNR=24
SWSC Sam W. Stewart 79.57 324 ⇑P P 06 46 17.2 -0.4
baz=80,SNR=22
S23A Nye Farm, Mont 79.61 334 ⇑P P 06 46 17.2 -0.9
baz=80,SNR=15
KSCO Kaye Shedlock' 79.66 337 eP P 06 46 17.1 -1.0
comp=Z,6µm,1.3s
KSCO LR LR
comp=Z,836µm,20.2s
KSCO Kaye Shedlock' 79.66 337 ⇑P P 06 46 17.3 -0.8
baz=80,SNR=24
P29A Atwood 79.67 338 ⇓P P 06 46 17.0 -1.1
baz=80,SNR=37
O31A Woolen Ranch, 79.72 340 ⇓P P 06 46 17.2 -1.0
baz=80,SNR=38
BOSA Boshof 79.72 118 eP P 06 46 18.9 0.0
BOSA AMB AMB 06 46 59.5
comp=Z,5µm,3.3s
BOSA Boshof 79.72 118 eP P 06 46 17.0 -2.0
BOSA S S 06 56 21.2 +1.2
BOSA pmax pmax
comp=Z,5µm,1.0s
BOSA MLR MLR
comp=Z,2269µm,20.2s
BOSA Boshof 79.72 118 P P 06 46 16.9 -2.0
comp=Z,662nm,1.1s,baz=246,slow=4.3,SNR=140
BOSA S S 06 56 21.1 +1.2
comp=Z,54nm,0.8s,baz=264,slow=19,SNR=3.5
BOSA Boshof 79.72 118 eP P 06 46 16.9 -2.0
comp=Z,5µm,1.0s
BOSA S S 06 56 21.1 +1.2
BOSA LR LR
comp=Z,2269µm,20.2s
KUK Kukurantumi 79.73 75 iP P 06 46 17.8 -1.2
NCB Newcomb 79.75 359 eP P 06 46 16.4 -2.0
comp=Z,1µm,1.0s
NCB LR LR
comp=Z,1949µm,19.0s
R24A Sanders Place, 79.77 335 ⇓P P 06 46 18.3 -0.6
baz=80,SNR=130
BAR Barrett 79.77 324 eP P 06 46 18.1 -0.7
comp=Z,4µm,1.8s
BAR LR LR
comp=Z,2217µm,19.7s
MDV Middlebury 79.77 360 eP P 06 46 17.2 -1.2
WUAZ Wupatki 79.78 329 eP P 06 46 18.4 -0.6
comp=Z,2µm,1.2s
WUAZ e 06 46 27.8
WUAZ LR LR
comp=Z,2598µm,18.0s
WUAZ Wupatki 79.78 329 ⇓P P 06 46 18.3 -0.6
baz=80,SNR=53
MONP Monument Peak 79.83 324 ⇑P P 06 46 18.7 -0.6
baz=80,SNR=23
Q26A Hugo 79.86 336 ⇑P P 06 46 18.3 -1.0
baz=80,SNR=44
SCIA State Center 79.87 345 eP P 06 46 17.1 -1.9
comp=Z,3µm,1.2s
SCIA e 06 46 25.6
SCIA LR LR
comp=Z,1059µm,18.0s
P28A Saint Francis 79.90 338 ⇑P P 06 46 18.5 -0.9
baz=80,SNR=38
PDMCI Parker Dam,Lak 79.94 326 ⇑P P 06 46 19.1 -0.5
baz=80,SNR=26
S22A 4UR Ranch, Cre 79.95 333 ⇑P P 06 46 19.4 -0.6
baz=80,SNR=61
O30A MW Ranch, Wils 79.95 339 ⇓P P 06 46 18.9 -0.7
baz=80,SNR=37
R23A Moffat 79.98 334 ⇑P P 06 46 19.3 -0.8
baz=80,SNR=42
BC3 Big Chuckawall 80.00 325 ⇓P P 06 46 19.3 -0.8
baz=80,SNR=47
N32A Stulken Farm, 80.01 341 ⇓P P 06 46 18.4 -1.4
baz=80,SNR=6.3
LBNH Lisbon 80.02 1 eP P 06 46 19.2 -0.5
LBNH pmax pmax
comp=Z,2µm,0.8s
LBNH MLR MLR
comp=Z,1884µm,21.0s
LBNH Lisbon 80.02 1 eP P 06 46 19.2 -0.5
comp=Z,2µm,0.8s
LBNH LR LR
comp=Z,1884µm,21.0s
Q25A Bedland, Calha 80.09 336 ⇓P P 06 46 19.3 -1.3
baz=80,SNR=39
MVCO Mesa Verde 80.10 332 eP P 06 46 19.7 -1.0
comp=Z,3µm,1.3s
MVCO e 06 46 29.4
MVCO LR LR
comp=Z,4456µm,18.0s
MVCO Mesa Verde 80.10 332 ⇑P P 06 46 19.7 -1.0
baz=80,SNR=53
O29A 4D Ranch, Culb 80.12 339 ⇓P P 06 46 19.1 -1.3
baz=80,SNR=18
P27A Ficken Ranch, 80.14 337 ⇑P P 06 46 19.6 -1.1
baz=80,SNR=19
109C Camp Elliot, M 80.15 323 ⇑P P 06 46 19.8 -1.0
baz=80,SNR=7.9
N31A Bailey Ranch, 80.24 340 ⇑P P 06 46 20.1 -1.1
baz=81,SNR=13
JFWS Jewell Farm 80.26 347 eP P 06 46 19.2 -1.9
JFWS e 06 46 26.5
JFWS pmax pmax
comp=Z,3µm,0.6s
JFWS MLR MLR
comp=Z,2031µm,20.0s
JFWS Jewell Farm 80.26 347 eP P 06 46 19.2 -1.9
comp=Z,3µm,0.6s
JFWS e 06 46 26.5
JFWS LR LR
comp=Z,2031µm,20.0s
IRM Iron Mountain 80.28 326 ⇑P P 06 46 21.1 -0.4
baz=81,SNR=59
PTN Potsdam (NY) 80.36 359 PFAKE 06 46 30.0 +8.4
PTN LR LR
comp=Z,5094µm,19.4s
P26A Davis Ranch, A 80.38 337 ⇑P P 06 46 20.9 -1.2
baz=81,SNR=36
WVL Waterville 80.39 2 PFAKE 06 46 30.0 +8.3
WVL LR LR
comp=Z,2566µm,21.0s
LONY Lake Ozonia 80.41 359 eP P 06 46 20.2 -1.6
comp=Z,1µm,1.0s
LONY LR LR
comp=Z,2162µm,20.4s
O28A Krutsinger Ran 80.41 338 ⇓P P 06 46 21.2 -0.9
baz=81,SNR=19
PFO Pinyon Flat Ob 80.43 324 P P 06 46 22.3 -0.2
comp=Z,2µm,1.2s,SNR=24
PFO Pinyon Flat Ob 80.43 324 eP P 06 46 22.2 -0.2
PFO pmax pmax
comp=Z,2µm,2.2s
PFO MLR MLR
comp=Z,2286µm,18.0s
PFO Pinyon Flat Ob 80.43 324 eP P 06 46 22.2 -0.2
comp=Z,2µm,2.2s
PFO LR LR
comp=Z,2286µm,18.0s
PFO Pinyon Flat Ob 80.43 324 ⇓P P 06 46 22.3 -0.2
baz=81,SNR=56
Q24A Divide 80.44 335 ⇑P P 06 46 21.9 -0.7
baz=81,SNR=84
W13A Hualapai Mount 80.50 327 ⇑P P 06 46 22.4 -0.4
baz=81,SNR=45
N30A Hueftle Ranch, 80.53 339 ⇑P P 06 46 21.8 -1.0
baz=81
BELC Belle Mtn. Jos 80.54 325 ⇓P P 06 46 22.4 -0.6
baz=81,SNR=36
NEE2 Needles Airpor 80.55 326 ⇓P P 06 46 21.6 -1.3
baz=81,SNR=6.9
BGNE Belgrade 80.57 341 eP P 06 46 20.9 -1.9
comp=Z,311nm,0.6s
BGNE LR LR
comp=Z,875µm,19.6s
BGNE Belgrade 80.57 341 ⇑P P 06 46 21.2 -1.6
baz=81,SNR=20
SWZ Schweizer 80.61 117 eP P 06 46 21.9 -1.8
SWZ AMB AMB 06 47 31.1
comp=Z,6µm,2.8s
SWZ Schweizer 80.61 117 P P 06 46 21.9 -1.8
comp=Z,6µm,2.8s
P25A Willow Gulch B 80.61 336 ⇑P P 06 46 22.8 -0.5
baz=81,SNR=60
FRNY Flat Rock 80.61 360 PFAKE 06 46 30.0 +7.1
FRNY LR LR
comp=Z,3µm,18.4s
Q23A Hartsel 80.62 335 ⇓P P 06 46 22.0 -1.6
baz=81
EMMW East Machias 80.64 4 PFAKE 06 46 30.0 +7.0
EMMW LR LR
comp=Z,2035µm,20.4s
BFZ Birch Farm 80.64 226 PFAKE 06 46 30.0 +6.4

BFZ LR LR
comp=Z,1298µm,19.0s
BFZ Birch Farm 80.64 226 ePN P 06 46 24.7 +1.1
PLWZ Palliser 80.64 225 ePN P 06 46 28.8 +5.2
O27A Beecher Island 80.68 337 ⇓P P 06 46 22.4 -1.2
baz=81,SNR=34
N29A Votaw Ranch, W 80.71 339 ⇑P P 06 46 22.3 -1.3
baz=81,SNR=30
M31A Lambtecht Ranc 80.73 340 ⇓P P 06 46 22.7 -1.0
baz=81,SNR=59
TUZ Tuapeka 80.76 219 ePN P 06 46 25.6 +1.6
MURC Murrieta 80.78 324 ⇑P P 06 46 23.4 -0.8
baz=81,SNR=30
TIWZ Tintock 80.79 226 ePN P 06 46 26.6 +2.2
N28A Pribbeno Ranch 80.85 338 ⇑P P 06 46 23.2 -1.2
baz=81,SNR=29
P24A Kohler Place, 80.86 335 ⇓P P 06 46 23.4 -1.3
baz=81,SNR=18
ODZ Otahua Downs 80.86 220 eP P 06 46 23.2 -1.4
comp=Z,2µm,1.5s
ODZ LR LR
comp=Z,3876µm,19.0s
ODZ Otahua Downs 80.86 220 ePN P 06 46 23.3 -1.4
SCI San Clemente I 80.93 323 ⇓P P 06 46 24.2 -0.7
baz=81
HOWZ Holdsworth Sta 80.93 226 ePN P 06 46 27.3 +2.1
PV01 Paradox Valley 80.93 332 eP P 06 46 24.1 -1.0
comp=Z,5µm,0.4s
PV01 e 06 46 33.2
U15A North Rim 80.94 329 ⇑P P 06 46 24.8 -0.5
baz=81,SNR=101
APZ The Paps 80.97 217 ePN P 06 46 26.1 +0.9
O26A Horse Wrangler 80.99 337 ⇑P P 06 46 24.3 -0.9
baz=81,SNR=60
LDFC Landfair 81.03 326 eP P 06 46 25.5 0.0
comp=Z,4µm,0.9s
LDFC e 06 46 34.5
LDFC LR LR
comp=Z,1605µm,18.9s
GMRC Granite Mounta 81.03 326 ⇑P P 06 46 25.8 +0.2
baz=81,SNR=115
MRZ Mangatainoka R 81.05 226 ePN P 06 46 23.7 -2.0
P23A Jefferson 81.05 335 ⇑P P 06 46 25.1 -0.7
baz=81,SNR=22
KHZ Kahutara 81.06 223 eP P 06 46 24.2 -1.5
comp=Z,2µm,1.2s
KHZ LR LR
comp=Z,1013µm,21.0s
PV05 Paradox Valley 81.09 332 eP P 06 46 24.9 -1.0
SNZO South Karori 81.13 225 eP P 06 46 27.6 +1.5
comp=Z,1µm,1.1s
SNZO LR LR
comp=Z,1698µm,20.0s
O25A Wiggins 81.14 336 ⇓P P 06 46 25.1 -1.0
baz=82,SNR=38
M30A Dale-Ortello V 81.16 340 ⇑P P 06 46 24.9 -1.1
baz=82,SNR=17
BBRC Big Bear Solar 81.19 324 ⇑P P 06 46 26.1 -0.5
baz=82,SNR=6.5
CIS Catalina Islan 81.20 323 ⇑P P 06 46 25.9 -0.5
baz=82,SNR=8.1
KRHZ Kereru 81.24 227 ePN P 06 46 29.7 +2.9
OGNE Ogallala 81.24 338 eP P 06 46 25.2 -1.3
comp=Z,6µm,1.7s
OGNE Ogallala 81.24 338 ⇓P P 06 46 25.5 -1.0
baz=82,SNR=15
N27A Anderson Farm, 81.27 338 ⇓P P 06 46 25.8 -0.9
baz=82,SNR=44
SMCO Snowmass 81.27 334 eP P 06 46 26.4 -0.7
comp=Z,5µm,1.3s
SMCO LR LR
comp=Z,2923µm,18.8s
PV04 Paradox Valley 81.29 332 eP P 06 46 26.0 -1.0
PV04 e 06 46 36.0
M29A Burnside Ranch 81.30 339 ⇓P P 06 46 26.5 -0.4
baz=82,SNR=23
PV10 Paradox Valley 81.32 332 eP P 06 46 25.6 -1.6
comp=Z,20µm,1.0s
PV10 e 06 46 35.5
ISCO Idaho Springs 81.35 335 eP P 06 46 26.2 -1.2
ISCO pmax pmax
comp=Z,10µm,0.8s
ISCO MLR MLR
comp=Z,1730µm,19.0s
ISCO Idaho Springs 81.35 335 eP P 06 46 26.2 -1.2
comp=Z,12µm,0.8s
ISCO LR LR
comp=Z,1730µm,19.0s
ISCO Idaho Springs 81.35 335 ⇑P P 06 46 26.7 -0.7
baz=82,SNR=38
HEC Hector,Ludlow 81.38 325 ⇑P P 06 46 27.1 -0.3
baz=82,SNR=51
FMP Fort Macarthur 81.40 323 ⇓P P 06 46 26.9 -0.4
baz=82
M28A Bar X Bar Ranc 81.46 339 ⇓P P 06 46 27.0 -0.6
baz=82
O24A Longmont 81.46 336 ⇓P P 06 46 27.3 -0.5
baz=82,SNR=25
BKZ Black Stump Fm 81.47 227 PFAKE 06 46 40.0 +12
BKZ LR LR
comp=Z,3530µm,19.0s
L31A Butterfield Fa 81.47 341 ⇓P P 06 46 26.4 -1.3
baz=82,SNR=79
L30A Spencer Herefo 81.50 340 ⇑P P 06 46 26.9 -0.9
baz=82,SNR=48
N26A Koester Ranch, 81.50 337 ⇓P P 06 46 27.0 -0.9
baz=82,SNR=21
KSD Kokstad 81.51 122 eP P 06 46 28.2 -0.3
KSD AMB AMB 06 47 49.2
comp=Z,2µm,3.0s
KSD Kokstad 81.51 122 P P 06 46 28.2 -0.3
comp=Z,2µm,3.0s
LTZ Lake Taylor 81.52 223 ePN P 06 46 28.2 0.0
BFSC Mount Baldy Ra 81.52 324 ⇓P P 06 46 27.7 -0.5
baz=82,SNR=45
BHHZ Black Hill Sta 81.52 227 ePN P 06 46 31.1 +2.7
RPZ Rata Peaks 81.54 221 eP P 06 46 27.9 -0.4
comp=Z,2µm,1.2s
RPZ LR LR
comp=Z,2469µm,19.0s
RPZ Rata Peaks 81.54 221 ePN P 06 46 27.7 -0.6
LBZ Lake Benmore 81.55 220 ePN P 06 46 28.3 0.0
P22A Eagle 81.56 334 ⇑P P 06 46 27.7 -0.7
baz=82,SNR=28
EKU East Kanab 81.58 329 eP P 06 46 28.2 -0.3
SEK Senekal 81.58 119 eP P 06 46 26.4 -2.6
SEK AMB AMB 06 47 53.3
comp=Z,7µm,4.6s
SEK Senekal 81.58 119 P P 06 46 26.4 -2.6
comp=Z,7µm,4.6s
WHZ Wether Hill Ro 81.65 218 eP P 06 46 26.6 -2.2
comp=Z,1µm,1.5s
WHZ LR LR
comp=Z,1252µm,21.0s
WHZ Wether Hill Ro 81.65 218 ePN P 06 46 29.9 +1.1
KNB Kanab 81.66 329 eP P 06 46 28.7 -0.3
KNB pmax pmax
comp=Z,10µm,1.6s
KNB MLR MLR
comp=Z,1594µm,19.6s
KNB Kanab 81.66 329 eP P 06 46 28.7 -0.3
comp=Z,11µm,1.6s
KNB LR LR
comp=Z,1594µm,19.6s
URZ Urewera 81.68 228 P P 06 46 28.6 -0.5
comp=Z,31nm,0.6s,baz=130,slow=6.2,SNR=1.3
URZ Urewera 81.68 228 P P 06 46 28.6 -0.5
URZ LR LR
comp=Z,2928µm,19.0s
TUQ Turquoise Moun 81.69 326 ⇑P P 06 46 28.6 -0.5
baz=82,SNR=32
MWC Mount Wilson 81.70 324 eP P 06 46 28.7 -0.5
MWC pmax pmax
comp=Z,7µm,1.8s
MWC MLR MLR
comp=Z,2098µm,18.2s
MWC Mount Wilson 81.70 324 eP P 06 46 28.7 -0.5
comp=Z,7µm,1.8s
MWC LR LR
comp=Z,2098µm,18.2s
PASC Pasadena Art C 81.72 323 eP P 06 46 29.2 +0.1
comp=Z,4µm,1.6s
PASC e 06 46 38.0
PASC LR LR
comp=Z,1626µm,19.0s
RUDU RUNDU 81.73 106 eP P 06 46 29.2 -0.6
RUDU AMB AMB 06 47 54.5
comp=Z,12µm,3.6s
RUDU RUNDU 81.73 106 P P 06 46 29.2 -0.6
comp=Z,12µm,3.6s
RRX Edison Barstow 81.73 325 ⇓P P 06 46 28.8 -0.4
baz=82
N25A Grover 81.76 337 ⇑P P 06 46 28.5 -0.9
baz=82
L29A Maesberg Ranch 81.82 340 ⇓P P 06 46 28.7 -0.8
baz=82,SNR=18
O23A Lake Granby, G 81.82 335 ⇑P P 06 46 28.8 -1.0
baz=82,SNR=86
BFSD Buffelsfontein 81.84 117 eP P 06 46 28.8 -1.5
BFSD AMB AMB 06 47 38.0
comp=Z,7µm,2.6s
BFSD Buffelsfontein 81.84 117 P P 06 46 28.8 -1.5
comp=Z,7µm,2.6s
THZ Tophouse 81.84 224 ePN P 06 46 28.5 -1.5
WKZ Wanaka 81.85 219 ePN P 06 46 28.7 -1.2
DECC Green Verdugo 81.85 323 ⇑P P 06 46 29.6 -0.2
baz=82,SNR=14
M27A Reverse DX Ran 81.88 338 ⇓P P 06 46 29.3 -0.6
baz=82,SNR=14
WNVZ Wahianoa 81.90 227 ePN P 06 46 32.9 +2.5
MLZ Mavora Lakes 81.92 219 ePN P 06 46 29.6 -0.6
NNZ Nelson 81.94 224 ePN P 06 46 32.4 +2.0
TRVZ Turoa 81.94 227 ePN P 06 46 33.1 +2.3
GSC Goldstone 81.99 325 eP P 06 46 30.2 -0.4
GSC e 06 46 39.8
GSC MLR MLR
comp=Z,1619µm,18.9s
GSC Goldstone 81.99 325 eP P 06 46 30.2 -0.4
comp=Z,249nm,0.7s
GSC e 06 46 39.8
GSC LR LR
comp=Z,1619µm,18.9s
GSC Goldstone 81.99 325 ⇓P P 06 46 30.3 -0.3
baz=82,SNR=58
O22A Kremmling 82.00 335 ⇑P P 06 46 30.0 -0.8
baz=82,SNR=62
COVZ Chateau Observ 82.01 227 ePN P 06 46 33.1 +2.1
N24A Carr 82.03 336 ⇓P P 06 46 30.0 -0.8
baz=82,SNR=16
MMU Miners Mountai 82.05 330 eP P 06 46 30.0 -1.1
M26A McRoberts Ranc 82.05 338 ⇓P P 06 46 29.8 -1.1
baz=82
L28A Connealy Angus 82.06 339 ⇓P P 06 46 30.0 -0.9
baz=82
LBTB Lobatse 82.06 115 eP P 06 46 30.0 -1.5
LBTB AMB AMB 06 47 39.1
comp=Z,7µm,3.0s
LBTB Lobatse 82.06 115 eP P 06 46 29.3 -2.2
LBTB pmax pmax
comp=Z,3µm,0.9s
LBTB MLR MLR
comp=Z,3352µm,19.8s
LBTB Lobatse 82.06 115 eP P 06 46 29.3 -2.2
comp=Z,3µm,0.9s
LBTB LR LR
comp=Z,3352µm,19.8s
KATZ Kakaramea 82.07 227 ePN P 06 46 34.4 +3.0
K30A Basset 82.14 340 ⇓P P 06 46 29.9 -1.3
baz=82,SNR=89
EDW2 Edwards Air Fo 82.20 324 ⇓P P 06 46 30.7 -1.0
baz=82,SNR=48
PRYS Parys 82.22 118 eP P 06 46 30.3 -2.0
PRYS AMB AMB 06 47 39.4
comp=Z,3µm,3.4s
PRYS Parys 82.22 118 P P 06 46 30.3 -2.0
comp=Z,3µm,3.4s
GRRZ Galatos Road 82.23 228 ePN P 06 46 34.3 +2.2
SHOC Shoshone 82.24 326 ⇑P P 06 46 31.1 -0.7
baz=82,SNR=12
SHPR Sheep Range 82.24 327 eP P 06 46 31.6 -0.4
comp=Z,3µm,1.3s
ICU Indian Springs 82.24 328 eP P 06 46 31.6 -0.4
BSC Santa Cruz Isl 82.28 322 ⇓P P 06 46 31.2 -0.9
baz=83,SNR=6.0
M25A Palm-Egli Farm 82.31 337 ⇑P P 06 46 31.5 -0.7
baz=83,SNR=25
DCZ Deep Cove 82.34 218 eP P 06 46 35.4 +3.1
comp=Z,1µm,1.3s
DCZ LR LR
comp=Z,1079µm,21.0s
OSI Osito Adit 82.34 323 eP P 06 46 31.8 -0.6
comp=Z,3µm,1.2s
OSI LR LR
comp=Z,1607µm,20.6s
OSI Osito Adit 82.34 323 ⇓P P 06 46 32.0 -0.4
baz=83,SNR=18
CCUT Cedar City 82.34 329 eP P 06 46 32.6 0.0
comp=Z,3µm,1.4s
CCUT e 06 46 42.2
CCUT LR LR
comp=Z,1564µm,19.6s
L27A T5 Ranch, Ells 82.37 338 ⇑P P 06 46 31.3 -1.1
baz=83,SNR=16
FOZ Fox Glacier 82.37 221 ePN P 06 46 32.3 -0.3
ECSD EROS Data Cent 82.37 343 eP P 06 46 30.4 -1.9
comp=Z,4µm,1.1s
ECSD LR LR
comp=Z,1316µm,21.0s
ECSD EROS Data Cent 82.37 343 ⇑P P 06 46 30.9 -1.4
baz=83,SNR=189
K29A Lazy Trails An 82.42 340 ⇑P P 06 46 31.6 -1.1
baz=83,SNR=49
N23A Red Feather La 82.44 335 ⇓P P 06 46 32.3 -0.8
baz=83,SNR=38
DSZ Denniston Nort 82.47 223 ePN P 06 46 32.3 -0.9
JCZ Jackson Bay 82.50 220 ePN P 06 46 33.1 -0.4
KSR Koster 82.52 116 eP P 06 46 31.8 -2.2
KSR AMB AMB 06 46 59.3
comp=Z,3µm,2.3s
KSR Koster 82.52 116 P P 06 46 31.8 -2.2
comp=Z,3µm,2.3s
SRU San Rafael 82.53 331⇑eP P 06 46 32.2 -1.3
SRU e 06 46 42.3
SRU pmax pmax
comp=Z,2µm,1.2s
SRU MLR MLR
comp=Z,2299µm,19.3s
SRU San Rafael 82.53 331⇑eP P 06 46 32.2 -1.3
comp=Z,2µm,1.2s
SRU e 06 46 42.2
SRU LR LR
comp=Z,2299µm,19.3s
N22A Wattenberg Ran 82.53 335 ⇑P P 06 46 33.0 -0.5
baz=83,SNR=60
LRMC Laurel Mountai 82.55 325 ⇑P P 06 46 33.3 -0.2
baz=83,SNR=6.8
L26A Underwood Farm 82.55 338 ⇑P P 06 46 32.5 -0.9
baz=83
WDLM Western Deep L 82.56 117 eP P 06 46 31.7 -2.5
WDLM AMB AMB 06 47 41.7
comp=Z,4µm,3.0s
PQI Presque Isle 82.56 3 PFAKE 06 46 40.0 +6.8
PQI LR LR
comp=Z,1847µm,20.5s
O20A White River Ci 82.57 333 eP P 06 46 32.6 -1.1
comp=Z,2µm,1.3s
O20A LR LR
comp=Z,2274µm,22.0s
O20A White River Ci 82.57 333 ⇑P P 06 46 33.0 -0.7
baz=83,SNR=31
ARUT Antelope Range 82.58 329 eP P 06 46 33.0 -0.7
ARUT e 06 46 42.1
ARUT Antelope Range 82.58 329 eP P 06 46 33.0 -0.7
comp=Z,5µm,0.4s
ARUT e 06 46 42.1
M24A Cheyenne 82.59 336 ⇓P P 06 46 33.1 -0.6
baz=83,SNR=42
OWUT Old Woman Plat 82.60 331 eP P 06 46 33.5 -0.5
PHWY Pilot Hill 82.64 336 eP P 06 46 32.8 -1.4
comp=Z,3µm,1.3s
PHWY LR LR
comp=Z,844µm,18.2s
DWU Dry Willow Pea 82.66 329 eP P 06 46 31.7 -2.6
K28A Ten Mile Ranch 82.67 339 ⇓P P 06 46 33.4 -0.6
baz=83,SNR=69
MSU Marysvale 82.67 330 eP P 06 46 33.8 -0.5
MSU Marysvale 82.67 330 eP P 06 46 33.8 -0.5
SBC Santa Barbara 82.68 323 ⇓P P 06 46 33.5 -0.6
baz=83
QRZ Quartz Range 82.68 224 ePN P 06 46 31.4 -2.9
J30A Dallas 82.72 341 ⇑P P 06 46 32.5 -1.6
baz=83,SNR=66
KLOF Kloof 82.74 117 eP P 06 46 33.9 -1.2
KLOF AMB AMB 06 47 42.4
comp=Z,4µm,3.4s
KLOF Kloof 82.74 117 P P 06 46 33.9 -1.2
comp=Z,4µm,3.4s
ARVC Arvin 82.80 324 ⇓P P 06 46 34.2 -0.6
baz=83
NEZ North Egmont 82.81 226 ePN P 06 46 36.3 +1.1
HIZ Hauiti 82.87 227 ePN P 06 46 37.6 +2.3
M23A Laramie 82.88 336 ⇓P P 06 46 34.2 -1.1
baz=83,SNR=45
K27A Flueckinger Fa 82.91 339 ⇑P P 06 46 34.4 -0.9
baz=83,SNR=56
L25A Engebretsen Ra 82.94 337 ⇑P P 06 46 34.9 -0.6
baz=83
ROA Roan Cliffs 82.95 332 eP P 06 46 35.0 -0.8
TMUT Trail Mountain 82.96 331 eP P 06 46 35.1 -0.7
comp=Z,3µm,1.2s
TMUT LR LR
comp=Z,2334µm,21.6s
SPMN St. Paul 82.97 346 eP P 06 46 32.7 -2.6
comp=Z,680nm,0.8s
SPMN LR LR
comp=Z,1874µm,20.6s
SPMN St. Paul 82.97 346 ⇑P P 06 46 32.6 -2.6
baz=83,SNR=48
FURC Furnace Creek, 82.97 326 ⇑P P 06 46 34.8 -0.8
baz=83,SNR=15
J29A Okreek 83.02 340 ⇑P P 06 46 34.2 -1.5
baz=83,SNR=126
ISA Isabella 83.07 324 eP P 06 46 36.0 -0.2
ISA pmax pmax
comp=Z,2µm,1.1s
ISA MLR MLR
comp=Z,2391µm,18.8s
ISA Isabella 83.07 324 eP P 06 46 36.0 -0.2
comp=Z,2µm,1.1s
ISA LR LR
comp=Z,2391µm,18.8s
ISA Isabella 83.07 324 ⇓P P 06 46 35.5 -0.7
baz=83,SNR=59
CRWM Crown Mines 83.10 117 eP P 06 46 36.0 -1.0
CRWM AMB AMB 06 47 44.2
comp=Z,5µm,3.4s
M22A Cedar Creek Ra 83.12 335 ⇓P P 06 46 35.4 -1.1
baz=83,SNR=18
L24A Wheatland 83.14 337 ⇑P P 06 46 35.2 -1.3
baz=84,SNR=15
ARGU Argyle Ridge 83.16 332 eP P 06 46 36.1 -0.7
OBSV Observatory 83.17 117 eP P 06 46 34.9 -2.5
OBSV AMB AMB 06 47 44.6
comp=Z,5µm,3.5s
IMU Iron Mountain 83.18 329 eP P 06 46 36.5 -0.3
K26A Motz Farm, Whi 83.19 338 ⇑P P 06 46 35.7 -1.0
baz=84
N20A Spence Gulch, 83.19 334 ⇑P P 06 46 35.7 -1.2
baz=84,SNR=60
ERPM east rand prop 83.20 118 eP P 06 46 36.1 -1.4
ERPM AMB AMB 06 47 03.0
comp=Z,6µm,2.3s
ERPM east rand prop 83.20 118 P P 06 46 36.1 -1.4
comp=Z,6µm,2.3s
I30A Oacoma 83.25 341 ⇑P P 06 46 34.8 -2.0
baz=84,SNR=102
J28A Allard Ranch, 83.28 340 ⇓P P 06 46 35.8 -1.3
baz=84
K25A Mack Ranch, Ha 83.32 338 ⇓P P 06 46 36.6 -0.8
baz=84,SNR=16
J27A Elkhorn Farm, 83.35 339 ⇑P P 06 46 36.4 -1.1
baz=84,SNR=85
FLU Fool Peak 83.41 330 eP P 06 46 37.5 -0.6
L23A Garrett 83.45 336 ⇓P P 06 46 36.5 -1.7
baz=84,SNR=24
VES Vestal, Richgr 83.50 324 ⇓P P 06 46 37.2 -1.1
baz=84,SNR=35
SMMC Simmler 83.52 323 ⇑P P 06 46 37.2 -1.3
baz=84,SNR=13
I29A Vivian Onida 83.58 341 ⇓P P 06 46 36.4 -2.1
baz=84,SNR=40
RWWY Rawlins 83.58 335 PFAKE 06 46 50.0 +11
RWWY LR LR
comp=Z,2355µm,19.5s
SLR Silverton 83.59 117 eP P 06 46 38.0 -1.5
SLR AMB AMB 06 48 01.3
comp=Z,4µm,1.3s
SLR Silverton 83.59 117 P P 06 46 38.0 -1.5
SLR pmax pmax
comp=Z,4µm,1.3s
SLR Silverton 83.59 117 P P 06 46 38.0 -1.5
comp=Z,4µm,1.3s
MKAZ Moumakai 83.60 228 ePN P 06 46 40.5 +1.4
BRSD Miller 83.62 342 eP P 06 46 37.2 -1.5
comp=Z,3µm,0.9s
BRSD LR LR
comp=Z,1393µm,19.4s
BRSD Miller 83.62 342 ⇑P P 06 46 36.6 -2.1
baz=84,SNR=31
L22A Ellis Ranch, M 83.62 336 ⇑P P 06 46 38.8 -0.3
baz=84,SNR=18
GRAC Grapevine Rang 83.64 326 ⇑P P 06 46 38.6 -0.5
baz=84,SNR=17
J26A Sides Ranch, S 83.72 338 ⇑P P 06 46 38.4 -1.0
baz=84,SNR=48
K24A Anderson Ranch 83.72 337 ⇓P P 06 46 38.1 -1.4
baz=84,SNR=39
MPU Maple Canyon 83.74 331 eP P 06 46 38.7 -1.1
comp=Z,57nm,0.2s
MPU e 06 46 48.2
MPU LR LR
comp=Z,2528µm,21.5s
I28A Midland 83.80 340 ⇑P P 06 46 38.3 -1.4
baz=84,SNR=113
NLU North Lily Min 83.87 331 eP P 06 46 39.5 -0.9
comp=Z,327nm,0.7s
NLU LR LR
comp=Z,2698µm,21.4s
WMUT West Mountain 83.88 331 eP P 06 46 39.4 -1.0
DAU Daniels Canyon 83.94 332 eP P 06 46 42.3 +1.4
DAU pmax pmax
comp=Z,10µm,1.6s
DAU Daniels Canyon 83.94 332 eP P 06 46 42.3 +1.4
comp=Z,14µm,1.6s
RCTC Rector, Farmer 83.95 324 ⇓P P 06 46 38.9 -1.7
baz=84,SNR=10
R11A Troy Canyon, C 83.96 328 eP P 06 46 40.5 -0.4
comp=Z,379nm,0.7s
R11A LR LR
comp=Z,2649µm,18.3s
R11A Troy Canyon, C 83.96 328 ⇑P P 06 46 40.1 -0.8
baz=84,SNR=141
CRZF Crozet Islands 83.99 145 P P 06 46 29.0 -12
K23A Bowen Ranch, D 84.00 336 ⇑P P 06 46 39.6 -1.4
baz=84,SNR=56
J25A Sunshine Ranch 84.01 338 ⇑P P 06 46 39.5 -1.4
baz=84,SNR=45
TIN Tinemaha 84.08 325 ⇑P P 06 46 40.7 -0.7
baz=84,SNR=14
RAO Raoul Island 84.11 238 P P 06 46 41.9 +0.1
RAO pmax pmax
comp=Z,106nm,0.4s
RAO Raoul Island 84.11 238 P P 06 46 41.9 +0.1
comp=Z,106nm,0.4s,baz=313,slow=16,SNR=2.4
RAO Raoul Island 84.11 238 eP P 06 46 43.8 +2.0
comp=Z,5µm,1.5s
RAO LR LR
comp=Z,726µm,18.1s
I27A Quinn 84.11 339 ⇑P P 06 46 39.7 -1.6
baz=84,SNR=39
H29A Onida 84.12 341 ⇑P P 06 46 39.4 -1.9
baz=84,SNR=79
JLU Jordanelle 84.18 332 eP P 06 46 40.8 -1.2
comp=Z,64nm,0.9s
JLU LR LR
comp=Z,1919µm,19.3s
FSU Fish Springs 84.20 330 eP P 06 46 41.4 -0.6
K22A Casper 84.21 336 eP P 06 46 40.6 -1.4
comp=Z,361nm,0.6s
K22A e 06 46 47.8
K22A LR LR
comp=Z,2652µm,18.9s
K22A Casper 84.21 336 ⇑P P 06 46 40.7 -1.3
baz=84,SNR=77
J24A Dixon Ranch, L 84.22 337 ⇓P P 06 46 41.2 -0.8
baz=84,SNR=64
G30A Faulkton 84.31 342 ⇑P P 06 46 40.6 -1.6
baz=85,SNR=64
I26A New Underwood 84.31 339 ⇑P P 06 46 40.9 -1.5
baz=85,SNR=20

DUG Dugway 84.36 330 eP P 06 46 41.8 -1.0
DUG e 06 46 52.5
DUG pmax pmax
comp=Z,1μm,0.6s
DUG MLR MLR
comp=Z,2362μm,18.0s
DUG Dugway 84.36 330 eP P 06 46 41.8 -1.0
comp=Z,1μm,0.6s
DUG e 06 46 52.5
DUG LR LR
comp=Z,2362μm,18.0s
DUG Dugway 84.36 330 ⇑P P 06 46 41.8 -1.0
baz=85,SNR=124
CTU Camp Tracy 84.37 331 eP P 06 46 41.3 -1.6
comp=Z,184nm,0.9s
H28A Mission Ridge 84.38 340 ⇑P P 06 46 41.0 -1.7
baz=85,SNR=84
H07S1 FLORES T-PHASE 84.43 31 eP P 06 46 45.7 +2.7
H07S1 FLORES T-PHASE 84.43 31 eSKS S 06 57 29.3 +22
H07S1 FLORES T-PHASE 84.43 31 eLQ LQ 07 10 13.2
H07S1 eLR LR 07 13 53.1
H07S1 FLORES T-PHASE 84.43 31 P P 06 46 43.5 +0.5
K21A Alcova 84.43 335 ⇑P P 06 46 41.9 -1.3
baz=85,SNR=129
TPH Tonopah 84.46 326 eP P 06 46 42.6 -0.8
TPH e 06 46 52.9
TPH pmax pmax
comp=Z,646nm,0.4s
TPH MLR MLR
comp=Z,2530μm,22.0s
TPH Tonopah 84.46 326 eP P 06 46 42.6 -0.8
comp=Z,646nm,0.4s
TPH e 06 46 52.9
TPH LR LR
comp=Z,2530μm,22.0s
I25A Rochford 84.56 338 ⇓P P 06 46 42.2 -1.5
baz=85,SNR=85
J23A Dilts Ranch, B 84.56 337 ⇓P P 06 46 42.3 -1.5
baz=85,SNR=7.5
G29A Hoven 84.57 341 ⇑P P 06 46 41.8 -1.8
baz=85,SNR=46
TCUT Toone Canyon 84.61 332 eP P 06 46 43.0 -1.1
comp=Z,5μm,1.5s
TCUT LR LR
comp=Z,2614μm,20.0s
H27A Howes 84.64 340 ⇓P P 06 46 42.4 -1.6
baz=85,SNR=59
SAIU Southern Antel 84.68 331 eP P 06 46 42.9 -1.5
I24A Kuemmerle Ranc 84.68 338 ⇓P P 06 46 42.6 -1.7
baz=85,SNR=57
FPU Francis Peak 84.69 331 eP P 06 46 43.5 -1.2
G28A Parade 84.72 340 ⇓P P 06 46 42.8 -1.6
baz=85,SNR=94
RSSD Black Hills 84.74 338 eP P 06 46 42.8 -1.9
RSSD e 06 46 51.5
RSSD MLR MLR
comp=Z,938μm,21.0s
RSSD Black Hills 84.74 338 eP P 06 46 42.8 -1.9
comp=Z,387nm,2.3s
RSSD e 06 46 51.5
RSSD LR LR
comp=Z,938μm,21.0s
H26A Fairpoint 84.82 339 ⇑P P 06 46 43.1 -1.8
baz=85,SNR=17
MLAC Mammoth Lakes 84.83 325 ⇑P P 06 46 44.7 -0.6
baz=85,SNR=72
HOR Horta 84.84 33 eP P 06 46 45.8 +0.8
PCAN Candelaria 84.85 34 eP P 06 46 48.7 +3.6
comp=Z,424nm,1.0s
PCAN Candelaria 84.85 34 eSKS S 06 57 29.0 +18
CALA Caldeira 84.85 33 eP P 06 46 45.6 +0.4
J22A Midwest 84.87 336 ⇓P P 06 46 43.2 -2.1
baz=85,SNR=43
PCED Cedros 84.89 33 eP P 06 46 51.7 +6.4
comp=Z,745nm,1.4s
PCED Cedros 84.89 33 eSKS S 06 57 35.8 +24
PICO Pico 84.91 34 eP P 06 46 48.9 +3.4
PICO Pico 84.91 34 eSKS S 06 57 44.6 +32
F30A Leola 84.94 342 ⇑P P 06 46 43.6 -1.8
baz=85,SNR=45
MCU Monte Cristo P 84.94 332 eP P 06 46 44.5 -1.4
PID Ribeirinha 85.00 34 eSKS S 06 57 44.8 +32
I23A Meade Ranch, G 85.04 337 ⇓P P 06 46 43.9 -2.2
baz=85
RSUT Red Spur Mount 85.06 332 eP P 06 46 45.0 -1.5
H25A Fruitdale 85.06 339 ⇓P P 06 46 44.7 -1.5
baz=85,SNR=59
BGU Big Grassy Mou 85.07 331 eP P 06 46 44.9 -1.5
comp=Z,71nm,0.6s
BGU LR LR
comp=Z,1336μm,18.9s
GZU Grizzly Peak 85.09 332 eP P 06 46 45.2 -1.4
J21A Lysite 85.13 335 ⇑P P 06 46 44.9 -1.8
baz=86,SNR=53
F29A Eureka 85.14 341 ⇓P P 06 46 44.5 -1.9
baz=86,SNR=92
PMAN Manadas 85.16 34 eP P 06 46 50.4 +3.7
comp=Z,626nm,1.4s
PMAN Manadas 85.16 34 eSKS S 06 57 41.5 +27
ROSA Rosais 85.17 34 eP P 06 46 50.9 +4.2
comp=Z,615nm,1.7s
ROSA Rosais 85.17 34 eSKS S 06 57 35.4 +21
ROSA Rosais 85.17 34 eLQ LQ 07 10 15.7
ROSA eLR LR 07 14 25.9
comp=Z,106μm,15.4s
NV11 Mina Array Sit 85.17 326 eP P 06 46 46.6 -0.3
SPUT South Promonto 85.17 331 eP P 06 46 45.5 -1.4
comp=Z,20nm,0.2s
SPUT e 06 46 53.4
SPUT LR LR
comp=Z,2147μm,21.4s
TOPO Topo 85.21 34 eP P 06 46 48.4 +1.4
TOPO Topo 85.21 34 eSKS S 06 57 44.8 +30
PSMA Santa Maria 85.22 37 eP P 06 46 49.2 +2.2
comp=Z,362nm,0.9s
PSMA Santa Maria 85.22 37 eSKS S 06 57 39.9 +25
EPU East Promontor 85.23 331 eP P 06 46 45.8 -1.4
NV01 Mina Array Sit 85.24 326 eP P 06 46 46.1 -1.3
NVAR Mina Array Bea 85.24 326 P P 06 46 46.8 -0.6
comp=Z,41nm,0.7s,baz=156,slow=5.9,SNR=52
NVAR S S 06 57 25.3 +9.5
comp=Z,10nm,0.9s,baz=146,slow=5.5,SNR=2.7
PSMN Pico do Norte, 85.25 37 eP P 06 46 50.3 +3.1
comp=Z,461nm,1.1s
PSMN Pico do Norte, 85.25 37 eSKS S 06 57 37.2 +22
PSMN Pico do Norte, 85.25 37 eLQ LQ 07 10 29.9
PSMN eLR LR 07 14 49.7
comp=Z,204μm,19.8s
BMUT Black Mountain 85.27 332 eP P 06 46 45.9 -1.6
G27A Dupree 85.28 340 ⇑P P 06 46 45.2 -1.9
baz=86,SNR=71
I22A 9 Mile Ranch, 85.30 336 ⇑P P 06 46 45.6 -1.8
baz=86,SNR=132
HDU Hyde Park 85.33 332 eP P 06 46 46.1 -1.6
LTU Little Mountai 85.34 332 eP P 06 46 46.2 -1.5
EYMN Ely 85.35 348 eP P 06 46 44.9 -2.5
comp=Z,12μm,0.8s
EYMN e 06 46 52.9
EYMN LR LR
comp=Z,1302μm,21.0s
BW06 Boulder Array 85.35 334 eP P 06 46 45.9 -2.0
comp=Z,27μm,1.4s
BW06 LR LR
comp=Z,3849μm,22.0s
PDAR Pinedale Array 85.35 334 P P 06 46 45.8 -2.1
comp=Z,45nm,1.1s,baz=177,slow=4.2,SNR=45
PDAR S S 06 57 16.1 -0.7
comp=Z,29nm,1.1s,baz=145,slow=3.3,SNR=3.0
PDAR PKPPKP P'P'df 07 13 02.6 +8.7
comp=Z,5.1nm,1.0s,baz=62,slow=2.1,SNR=2.8
J20A Shoshoni 85.36 335 ⇑P P 06 46 46.5 -1.2
baz=86,SNR=159
SAO San Andreas Ge 85.38 323 eP P 06 46 47.6 -0.2
SAO pmax pmax
comp=Z,2μm,1.5s
SAO MLR MLR
comp=Z,2259μm,22.0s
SAO San Andreas Ge 85.38 323 eP P 06 46 47.6 -0.2
comp=Z,2μm,1.5s
SAO LR LR
comp=Z,2259μm,22.0s
G26A Maurine 85.39 339 ⇓P P 06 46 45.8 -2.0
baz=86,SNR=114
F28A McLaughlin 85.41 341 ⇓P P 06 46 46.2 -1.5
baz=86,SNR=74
H24A Dirks Ranch, A 85.46 338 ⇑P P 06 46 45.9 -2.3
baz=86,SNR=133
I21A Big Trails, Te 85.50 336 ⇓P P 06 46 46.4 -2.0
baz=86,SNR=131
MTUT Morton Thiokol 85.52 331 eP P 06 46 46.8 -1.7
E30A Jud 85.53 342 ⇑P P 06 46 46.6 -1.8
baz=86,SNR=46
G25A Newell 85.53 339 ⇑P P 06 46 46.7 -1.7
baz=86,SNR=163
PGRA Graciosa 85.54 34 eP P 06 46 51.0 +2.5
comp=Z,274nm,1.4s
PGRA Graciosa 85.54 34 eSKS S 06 57 41.6 +23
PGRA Graciosa 85.54 34 eLQ LQ 07 10 41.6
PGRA eLR LR 07 14 15.1
comp=Z,153μm,16.7s
H23A Clabaugh Cattl 85.56 337 ⇑P P 06 46 46.6 -2.0
baz=86,SNR=6.7
PDA Ponta Delgada 85.56 36 eP P 06 46 50.3 +1.6
comp=Z,428nm,1.3s
PDA Ponta Delgada 85.56 36 eSKS S 06 57 54.1 +36
ADH Angra Heroismo 85.57 34 eP P 06 46 51.9 +3.2
comp=Z,321nm,1.3s
ADH Angra Heroismo 85.57 34 eSKS S 06 57 47.6 +29
PSET Sete Cidades 85.60 36 eP P 06 46 52.1 +3.2
comp=Z,726nm,2.5s
PSET Sete Cidades 85.60 36 eSKS S 06 57 41.9 +23
PSET Sete Cidades 85.60 36 eLQ LQ 07 10 39.1
PSET eLR LR 07 14 04.3
comp=Z,138μm,17.6s
BEI Bear River Ran 85.61 332 eP P 06 46 47.5 -1.5
J19A Crowheart 85.61 334 ⇓P P 06 46 47.5 -1.5
baz=86,SNR=85
TOA0 Torodi Ar. Sit 85.63 70 eP P 06 46 47.5 -2.0
TOA0 e 06 46 57.0
TORD Torodi Ar. Bea 85.63 70 P P 06 46 47.7 -1.9
comp=Z,203nm,1.1s,baz=238,slow=3.9,SNR=114
TORD S S 06 57 20.3 +0.2
comp=Z,22nm,0.9s,baz=222,slow=4.6,SNR=2.4
TORD LR LR 07 24 30.6
comp=Z,847μm,18.9s,baz=245,slow=35
GRON Grota Negra 85.64 36 eP P 06 46 52.2 +3.0
comp=Z,151nm,1.3s
GRON eP PP 06 50 34.2 +25
HVU Hansel Valley 85.70 331 eP P 06 46 47.9 -1.6
HVU e 06 46 55.6
HVU pmax pmax
comp=Z,3μm,1.2s
HVU MLR MLR
comp=Z,5185μm,19.2s
HVU Hansel Valley 85.70 331 eP P 06 46 47.9 -1.6
comp=Z,3μm,1.2s
HVU e 06 46 55.6
HVU LR LR
comp=Z,5185μm,19.2s
F27A Lemmon 85.76 340 ⇓P P 06 46 47.9 -1.7
baz=86,SNR=146
E29A Napoleon 85.77 342 ⇑P P 06 46 47.7 -1.9
baz=86,SNR=32
OUZ Omahuta 85.80 229 eP P 06 46 51.7 +1.5
comp=Z,6μm,1.4s
OUZ LR LR
comp=Z,9487μm,21.0s
ELK Elko 85.82 329 eP P 06 46 49.0 -1.2
ELK pmax pmax
comp=Z,10μm,2.5s
ELK MLR MLR
comp=Z,1792μm,18.0s
ELK Elko 85.82 329 eP P 06 46 49.0 -1.2
comp=Z,12μm,2.5s
ELK LR LR
comp=Z,1792μm,18.0s
CMB Columbia Colle 85.88 324 eP P 06 46 49.4 -1.0
CMB MLR MLR
comp=Z,1629μm,19.0s
CMB Columbia Colle 85.88 324 eP P 06 46 49.4 -1.0
comp=Z,8μm,0.8s
CMB LR LR
comp=Z,1629μm,19.0s
H22A Clearmont 85.89 337 ⇑P P 06 46 48.4 -1.9
baz=86,SNR=17
I20A Worland 85.90 335 ⇓P P 06 46 48.4 -2.0
baz=86,SNR=142
AHID Auburn Hatcher 85.91 333 eP P 06 46 48.8 -1.8
comp=Z,570nm,0.5s
AHID LR LR
comp=Z,2923μm,18.0s
F26A Lodgepole 85.92 340 ⇑P P 06 46 48.3 -2.1
baz=86,SNR=92
G24A Alzada 85.95 338 ⇓P P 06 46 48.4 -2.1
baz=86,SNR=58
E28A Huff 86.05 341 ⇑P P 06 46 49.2 -1.8
baz=86,SNR=36
D30A Buchanan 86.06 343 ⇓P P 06 46 49.3 -1.6
baz=86,SNR=117
DRLN Deer Lake 86.13 10 eP P 06 46 50.0 -1.2
comp=Z,5μm,1.3s
G23A Biddle 86.13 338 ⇑P P 06 46 49.1 -2.4
baz=86,SNR=81
H21A Big Horn, Sher 86.14 336 ⇓P P 06 46 49.1 -2.5
baz=86,SNR=66
E27A Carson 86.15 341 ⇓P P 06 46 49.5 -1.9
baz=86,SNR=69
PMOZ Porto Moniz, M 86.17 44 eP P 06 46 49.6 -2.4
PMOZ Porto Moniz, M 86.17 44 eSKS S 06 57 17.3 -7.6
PMOZ Porto Moniz, M 86.17 44 eLQ LQ 07 10 59.8
PMOZ eLR LR 07 15 24.8
comp=Z,4010μm,20.0s
F25A Bowman 86.21 339 ⇑P P 06 46 49.8 -2.0
baz=86,SNR=112
D29A Pettibone, Tap 86.22 342 ⇓P P 06 46 49.8 -2.0
baz=87,SNR=79
I19A Meeteetse 86.27 335 ⇑P P 06 46 50.4 -1.9
baz=87,SNR=44
H20A Greybull 86.33 336 ⇑P P 06 46 50.0 -2.4
baz=87,SNR=133
REDW Red Top Meadow 86.34 333 PFAKE 06 47 00.0 +7.3
REDW LR LR
comp=Z,3117μm,20.4s
SNOW Snow King Moun 86.39 333 PFAKE 06 47 00.0 +7.0
SNOW LR LR
comp=Z,2687μm,19.5s
BMN Battle Mountai 86.40 328 eP P 06 46 51.1 -1.9
BMN pmax pmax
comp=Z,2μm,0.8s
BMN MLR MLR
comp=Z,2910μm,21.0s
BMN Battle Mountai 86.40 328 eP P 06 46 51.1 -1.9
comp=Z,2μm,0.8s
BMN LR LR
comp=Z,2910μm,21.0s
F24A Ekalaka 86.43 339 ⇓P P 06 46 50.9 -2.0
baz=87,SNR=71
G22A Birney 86.43 337 ⇑P P 06 46 50.6 -2.3
baz=87,SNR=71
E26A Carlson Angus 86.43 340 ⇓P P 06 46 51.1 -1.7
baz=87,SNR=128
LOHW Long Hollow 86.47 334 PFAKE 06 47 00.0 +6.7
LOHW LR LR
comp=Z,3033μm,18.0s
TPAW Teton Pass 86.48 333 eP P 06 46 51.9 -1.6
comp=Z,3μm,1.4s
TPAW LR LR
comp=Z,2606μm,21.3s
SAC San Andreas 86.50 323 eP P 06 46 56.1 +2.7
SAC pmax pmax
comp=Z,2μm,1.1s
SAC San Andreas 86.50 323 eP P 06 46 56.0 +2.7
comp=Z,2μm,1.1s
AGMN Agassiz Nation 86.53 345 eP P 06 46 51.1 -2.1
comp=Z,6μm,0.5s
AGMN LR LR
comp=Z,1502μm,20.6s
AGMN Agassiz Nation 86.53 345 ⇓P P 06 46 51.4 -1.8
baz=87,SNR=76
C30A Mose, Pekin 86.55 343 ⇑P P 06 46 51.9 -1.5
baz=87,SNR=249
D28A Regan 86.59 342 ⇓P P 06 46 52.1 -1.5
baz=87,SNR=102
F23A Volborg 86.60 338 ⇑P P 06 46 51.6 -2.1
baz=87,SNR=132
FXWY Fox Creek 86.64 333 eP P 06 46 52.4 -1.8
comp=Z,5μm,1.9s
FXWY LR LR
comp=Z,2540μm,20.8s
E25A Miller Ranch, 86.72 339 ⇑P P 06 46 52.7 -1.6
baz=87,SNR=109
I17A Pilgrim Ck. 86.72 334 ⇓P P 06 46 52.8 -1.7
baz=87,SNR=146
G21A Lodge Grass 86.72 337 ⇓P P 06 46 52.3 -2.1
baz=87,SNR=44
XMAS Kiritimati 86.76 275 eP P 06 46 58.1 +2.9
comp=Z,3μm,1.4s
D27A Center 86.76 341 ⇑P P 06 46 52.9 -1.5
baz=87,SNR=43
H19A Powell 86.82 335 ⇓P P 06 46 53.1 -1.9
baz=87,SNR=96
PMPS Porto Santo 86.83 45 eP P 06 46 56.1 +1.1
IMW Indian Meadow 86.83 334 eP P 06 46 53.7 -1.5
comp=Z,5μm,1.8s
IMW LR LR
comp=Z,2693μm,18.8s
MSNA Messina 86.90 115 eP P 06 46 53.3 -2.7
MSNA AMB AMB 06 47 13.6
comp=Z,4μm,3.5s
MSNA Messina 86.90 115 P P 06 46 53.3 -2.7
comp=Z,4μm,3.5s
FLWY Flagg Ranch 86.91 334 eP P 06 46 54.4 -1.0
comp=Z,8μm,1.8s
FLWY LR LR
comp=Z,2854μm,18.4s
F22A Rosebud 86.92 337 ⇑P P 06 46 53.2 -2.1
baz=87,SNR=90
D26A Manning 86.93 340 ⇓P P 06 46 53.6 -1.7
baz=87,SNR=187
C28A Hausauer Farms 87.03 342 ⇓P P 06 46 54.4 -1.3
baz=87,SNR=23
E24A Baker 87.03 339 ⇓P P 06 46 54.3 -1.5
baz=87,SNR=18
G20A Bridger 87.05 336 ⇓P P 06 46 54.0 -2.0
baz=87,SNR=116
H18A Shoshone NF, C 87.06 335 ⇓P P 06 46 54.2 -2.0
baz=87,SNR=175
H17A Grant Village 87.14 334 eP P 06 46 56.4 -0.3
comp=Z,2μm,1.4s
H17A LR LR
comp=Z,4974μm,21.7s
H17A Grant Village 87.14 334 ⇓P P 06 46 55.5 -1.2
baz=88,SNR=18
MCID Moose Creek 87.17 334 eP P 06 46 55.6 -1.2
MOPA Mopani 87.18 117 eP P 06 46 56.8 -0.4
MOPA AMB AMB 06 47 40.0
comp=Z,3μm,2.9s
MOPA Mopani 87.18 117 P P 06 46 56.8 -0.4
comp=Z,3μm,2.9s
B30A Myrvik Farm, E 87.22 343 ⇓P P 06 46 54.8 -1.8
baz=88,SNR=408
LKWY Lake 87.22 334 eP P 06 46 56.2 -0.9
LKWY Lake 87.22 334 eP P 06 46 56.2 -0.9
F21A Absaloka Mine, 87.23 337 ⇑P P 06 46 55.0 -1.8
baz=88,SNR=20
E23A Ismay 87.27 338 ⇑P P 06 46 55.0 -2.0
baz=88,SNR=39
YFT Old Faithful 87.28 334 eP P 06 46 56.8 -0.5
comp=Z,2μm,1.1s
YFT LR LR
comp=Z,4266μm,19.3s
D25A Fairfield 87.29 340 ⇑P P 06 46 55.8 -1.2
baz=88,SNR=119
C27A Sayler Ranch, 87.31 341 ⇓P P 06 46 55.6 -1.5
baz=88,SNR=112
RLMT Red Lodge 87.32 335 eP P 06 46 55.6 -1.9
comp=Z,44nm,0.3s
RLMT LR LR
comp=Z,2052μm,19.0s
E22A Miles City 87.41 338 ⇓P P 06 46 55.4 -2.2
baz=88,SNR=28
YNR Norris Junctio 87.45 334 eP P 06 46 57.7 -0.4
comp=Z,160nm,0.9s
YNR LR LR
comp=Z,2992μm,21.4s
YPM Purple Mountai 87.47 334 eP P 06 46 57.4 -0.8
B29A Wagenman Farm, 87.47 343 ⇓P P 06 46 56.2 -1.6
baz=88,SNR=142
YMR Madison River 87.51 334 eP P 06 46 57.6 -0.7
comp=Z,216nm,0.9s
YMR LR LR
comp=Z,2633μm,19.0s
F20A Billings 87.54 336 ⇓P P 06 46 56.5 -1.8
baz=88,SNR=18
D24A Glendive 87.54 339 ⇓P P 06 46 56.5 -1.7
baz=88,SNR=97
C26A Wahner Farm, P 87.57 341 ⇑P P 06 46 56.4 -1.9
baz=88,SNR=79
YHH Holmes Hill 87.57 334 eP P 06 46 57.7 -1.1
A30A Hoffart Farm, 87.67 344 ⇓P P 06 46 56.7 -2.0
baz=88,SNR=111
B28A Dugan Ranch, T 87.70 342 ⇑P P 06 46 57.5 -1.4
baz=88,SNR=164
LAO LASA Array 87.72 338 eP P 06 46 57.1 -2.0
comp=Z,1μm,0.5s
LAO LR LR
comp=Z,2184μm,21.0s
C25A Freed Ranch, W 87.78 340 ⇑P P 06 46 57.5 -1.8
baz=88,SNR=78
QLMT Earthquake Lak 87.82 334 eP P 06 46 59.4 -0.4
comp=Z,7μm,1.4s
F19A Roth Farm, Mol 87.85 336 ⇑P P 06 46 57.9 -2.0
baz=88,SNR=49
D23A Lindsay 87.85 339 ⇑P P 06 46 58.4 -1.4
baz=88,SNR=132
HLID Hailey 87.85 331 eP P 06 46 58.8 -1.2
comp=Z,12μm,0.8s
HLID LR LR
comp=Z,2193μm,19.0s
HLID Hailey 87.85 331 ⇑P P 06 46 58.6 -1.4
baz=88,SNR=87
E21A Keefer Ranch, 87.85 337 ⇑P P 06 46 57.9 -1.9
baz=88,SNR=38
ITZ Itezhi-Tezhi 87.87 108 iP P 06 47 02.2 +1.4
A29A Manning Farm, 87.87 343 ⇑P P 06 46 57.7 -2.0
baz=88,SNR=265
B27A Peters Farms, 87.89 342 ⇓P P 06 46 58.4 -1.4
baz=88,SNR=31
HOPS Hopland 87.92 323 eP P 06 46 59.2 -1.0
comp=Z,2μm,1.4s
HOPS LR LR
comp=Z,2153μm,21.0s
C24A Savage 87.95 339 ⇓P P 06 46 58.3 -1.8
baz=88,SNR=188
A28A Rude Farm, Bot 88.11 342 ⇑P P 06 46 59.1 -1.8
baz=88,SNR=106
B26A Jensen Ranch, 88.12 341 ⇓P P 06 46 59.1 -1.8
baz=88,SNR=39
D22A Cohagen 88.12 338 ⇑P P 06 46 59.5 -1.5
baz=88,SNR=86
E20A Meyer Farm, Mu 88.16 337 ⇓P P 06 46 59.2 -2.0
baz=88,SNR=110
B25A Knox Farm, Ray 88.27 340 ⇑P P 06 47 00.4 -1.2
baz=89,SNR=33
MFID Camas Ranch 88.29 330 eP P 06 47 01.6 -0.4
comp=Z,501nm,0.5s
MFID LR LR
comp=Z,1954μm,19.0s
D21A La Casta Ranch 88.30 337 ⇑P P 06 47 00.7 -1.2
baz=89,SNR=37
E19A Rath Farm, Rou 88.33 336 ⇓P P 06 47 00.8 -1.3
baz=89,SNR=120
MCMT McKenzie Canyo 88.33 333 eP P 06 47 01.9 -0.4
comp=Z,583nm,0.6s
ULM Lac du Bonnet 88.38 346 P P 06 47 00.0 -2.1
ULM S S 06 57 36.4 -8.8
ULM smax smax
comp=N,41nm,1.1s
ULM Lac du Bonnet 88.38 346 P P 06 46 60.0 -2.1
comp=N,116nm,1.0s,baz=175,slow=3.5,SNR=47
ULM S S 06 57 36.4 -8.8
comp=N,41nm,1.1s,baz=346,slow=17,SNR=2.4
ULM Lac du Bonnet 88.38 346 eP P 06 46 59.7 -2.4
comp=N,48μm,1.1s
ULM S S 06 57 36.4 -8.8
ULM LR LR
comp=Z,1451μm,21.5s
A27A Ledoux Ranch, 88.39 342 ⇑P P 06 47 01.1 -1.0
baz=89
C23A Lambert 88.41 339 ⇑P P 06 47 00.3 -2.1
baz=89,SNR=73
A26A Wade Farm, Ken 88.54 341 ⇑P P 06 47 01.0 -1.9
baz=89,SNR=42
C22A Vida 88.57 338 ⇑P P 06 47 01.1 -2.0
baz=89,SNR=37
BOZ Bozeman (W) 88.59 334 eP P 06 47 01.9 -1.5
BOZ pmax pmax
comp=Z,1μm,0.5s
BOZ MLR MLR
comp=Z,2749μm,21.0s
BOZ Bozeman (W) 88.59 334 eP P 06 47 01.9 -1.5

comp=Z,1µm,0.5s
BOZ LR LR
comp=Z,2749µm,21.0s
WVOR Wild Horse Val 88.65 328 eP P 06 47 02.7 -1.0
WVOR MLR MLR
comp=Z,1635µm,19.0s
WVOR Wild Horse Val 88.65 328 eP P 06 47 02.7 -1.0
comp=Z,12µm,0.8s
WVOR LR LR
comp=Z,1635µm,19.0s
D20A Manuel Ranch, 88.68 337 ⇑P P 06 47 01.6 -2.0
baz=89,SNR=84
DLMT Dillon 88.70 333 PFAKE 06 47 10.0 +6.1
DLMT LR LR
comp=Z,2087µm,20.1s
KCPM Cahto Peak 88.71 323 eP P 06 47 04.5 +0.4
comp=Z,2µm,1.6s
KCPM LR LR
comp=Z,996µm,21.0s
DGMT Dagmar 88.73 340 eP P 06 47 02.3 -1.5
comp=Z,6µm,0.5s
DGMT LR LR
comp=Z,1334µm,21.0s
DGMT Dagmar 88.73 340 ⇑P P 06 47 02.1 -1.7
baz=89,SNR=86
PAF Port-aux-Franc 88.81 157 eP P 06 47 06.2 +1.7
PAF pmax pmax
comp=Z,3µm,1.3s
PAF Port-aux-Franc 88.81 157 eP P 06 47 06.2 +1.7
comp=Z,3µm,1.3s
PAF Port-aux-Franc 88.81 157 P P 06 46 56.0 -8.5
PAF Port-aux-Franc 88.81 157 S S 06 57 36.0 -14
PAF R 07 10 00.0
LCCM Lewis and Clar 88.85 334 P P 06 47 03.6 -1.0
A25A Svangstu Ranch 88.87 341 ⇑P P 06 47 02.9 -1.6
baz=89,SNR=31
AFI Afiamalu 88.89 254 eP P 06 47 08.2 +2.7
AFI MLR MLR
comp=Z,3319µm,22.0s
AFI Afiamalu 88.89 254 eP P 06 47 08.2 +2.7
comp=Z,9µm,1.5s
AFI LR LR
comp=Z,3319µm,22.0s
WDC Whiskeytown Da 88.92 325 eP P 06 47 03.3 -1.6
WDC MLR MLR
comp=Z,1205µm,21.0s
WDC Whiskeytown Da 88.92 325 eP P 06 47 03.3 -1.6
comp=Z,13µm,0.8s
WDC LR LR
comp=Z,1205µm,21.0s
MOD Modoc 88.94 327 eP P 06 47 04.9 -0.2
comp=Z,3µm,0.8s
MOD LR LR
comp=Z,1832µm,18.0s
B23A Brockton 88.95 339 ⇓P P 06 47 03.4 -1.5
baz=89,SNR=32
D19A Cripps Ranch, 88.98 336 ⇑P P 06 47 03.7 -1.4
baz=89,SNR=23
C21A Desert Coulee 89.01 338 ⇓P P 06 47 03.3 -1.9
baz=89,SNR=52
LRM Limekiln Ridge 89.04 334 eP P 06 47 04.7 -0.9
comp=Z,61nm,0.4s
A24A Westby 89.09 340 ⇓P P 06 47 04.2 -1.3
baz=89,SNR=33
B22A Reddig Ranch S 89.10 339 ⇓P P 06 47 04.0 -1.6
baz=89,SNR=42
C20A Veseth Ranch, 89.19 337 ⇓P P 06 47 04.0 -2.0
baz=90,SNR=24
KMRM Mail Ridge 89.19 324 eP P 06 47 07.9 +1.6
comp=Z,6µm,1.5s
KMRM LR LR
comp=Z,2282µm,20.9s
LKVW Lakeview 89.23 327 P P 06 47 06.1 -0.4
N02D Trinity Center 89.30 325 ⇑P P 06 47 05.3 -1.5
baz=90
A23A Redstone 89.37 340 ⇑P P 06 47 05.0 -1.8
baz=90,SNR=5.6
B21A Ellsworth Farm 89.52 338 ⇓P P 06 47 05.6 -2.0
baz=90,SNR=16
C19A Slack Wire Ran 89.54 337 ⇓P P 06 47 05.7 -2.0
baz=90,SNR=26
M04C Macdoel 89.54 326 ⇓P P 06 47 06.8 -1.1
baz=90
HRY Holter Researc 89.58 334 eP P 06 47 06.6 -1.4
comp=Z,216nm,0.9s
A22A Carney Farms, 89.70 339 ⇑P P 06 47 06.8 -1.6
baz=90,SNR=64
M02C Callahan 89.70 325 ⇓P P 06 47 07.9 -0.7
baz=90
KHMM Horse Mountain 89.71 324 eP P 06 47 12.1 +3.3
comp=Z,2µm,1.3s
KHMM LR LR
comp=Z,1340µm,19.2s
LSZ Lusaka 89.82 109 eP P 06 47 09.5 -0.5
LSZ e 06 47 20.2
LSZ Lusaka 89.82 109 eP P 06 47 09.5 -0.5
comp=Z,4.6nm,0.4s
LSZ e 06 47 20.2
B20A Solberg Farm, 89.83 337 ⇓P P 06 47 07.4 -1.6
baz=90
K05A Summer Lake 89.86 327 eP P 06 47 09.1 -0.4
comp=Z,5µm,1.3s
K05A LR LR
comp=Z,1824µm,20.0s
YBH Yreka Blue Hor 89.90 325 eP P 06 47 09.2 -0.4
YBH MLR MLR
comp=Z,1605µm,19.0s
YBH Yreka Blue Hor 89.90 325 eP P 06 47 09.2 -0.4
comp=Z,8µm,0.8s
YBH LR LR
comp=Z,1605µm,19.0s
A21A Bergtoll Ranch 89.99 338 ⇑P P 06 47 08.0 -1.7
baz=90,SNR=48
EGMT Eagleton 90.02 336 eP P 06 47 07.5 -2.4
comp=Z,12µm,0.8s
EGMT LR LR
comp=Z,1854µm,19.0s
EGMT Eagleton 90.02 336 ⇑P P 06 47 08.4 -1.6
baz=90,SNR=28
BMO Blue Mountains 90.08 330 eP P 06 47 08.8 -1.6
comp=Z,3µm,0.8s
BMO LR LR
comp=Z,1938µm,20.0s
B19A Brinkman Farms 90.14 337 ⇑P P 06 47 08.4 -2.0
baz=90,SNR=23
K04D Chiloquin, OR 90.17 326 ⇓P P 06 47 10.1 -0.8
baz=90
A20A Cobblestone Ra 90.20 338 ⇓P P 06 47 09.1 -1.6
baz=90,SNR=55
CHMT Chamberlain Mo 90.26 334 eP P 06 47 09.6 -1.7
comp=Z,77nm,0.6s
I07A Izee 90.35 328 eP P 06 47 11.0 -0.6
comp=Z,4µm,1.5s
MSO Missoula 90.44 333 eP P 06 47 10.1 -1.8
comp=Z,7µm,2.6s
MSO LR LR
comp=Z,2206µm,20.0s
MSO Missoula 90.44 333 ⇓P P 06 47 10.7 -1.3
baz=91,SNR=43
J05D Fort Rock, OR 90.46 327 ⇓P P 06 47 11.2 -1.0
baz=91
A19A Klindworth Far 90.49 337 ⇓P P 06 47 11.1 -1.0
baz=91,SNR=61
SLMT Seeley Lake 90.62 334 eP P 06 47 11.7 -1.2
comp=Z,10µm,1.6s
L02D Cave Junction, 90.65 325 ⇑P P 06 47 12.6 -0.4
baz=91
HUMO Hull Mountain 90.70 326 eP P 06 47 15.2 +2.0
comp=Z,478nm,1.1s
HUMO LR LR
comp=Z,1453µm,19.0s
PINOR Pine Mountain 90.72 327 eP P 06 47 13.2 0.0
comp=Z,2µm,1.3s
PINOR LR LR
comp=Z,1512µm,18.6s
SCHQ Schefferville 90.77 4 P P 06 47 10.7 -2.4
comp=Z,43nm,1.0s,baz=188,slow=6.0,SNR=10
SCHQ PP PP 06 51 00.2 +11
comp=Z,154nm,1.1s,baz=174,slow=7.1,SNR=1.4
SCHQ S SKSac 06 57 51.5 +9.1
comp=Z,32nm,1.0s,baz=143,slow=10,SNR=1.8
SCHQ LR LR 07 27 46.0
comp=Z,1178µm,21.2s,baz=189,slow=35
J04D Umpqua Nationa 90.82 326 ⇓P P 06 47 13.5 -0.5
baz=91
F10A Beach Ranch, E 90.97 331 eP P 06 47 13.2 -1.2
comp=Z,2µm,1.1s
KBO Bosley Butte 90.98 325 eP P 06 47 15.3 +0.8
comp=Z,716nm,1.8s
KBO LR LR
comp=Z,1129µm,20.4s
SWMT Swartz Lake 91.03 334 eP P 06 47 13.5 -1.2
comp=Z,3µm,1.2s
G08A Pilot Rock 91.11 329 eP P 06 47 14.5 -0.6
comp=Z,2µm,1.4s
G08A LR LR
comp=Z,2124µm,20.5s
JTMT Jette 91.34 334 eP P 06 47 14.3 -1.9
comp=Z,28nm,0.2s
YBMT Yellow Bay 91.34 334 eP P 06 47 15.0 -1.2
comp=Z,253nm,0.6s
I05D Terrebonne, OR 91.35 328 ⇑P P 06 47 15.8 -0.4
baz=92
I04A Tendick Farm, 91.39 327 ⇑P P 06 47 15.4 -1.0
baz=92
KEBM Edson Butte 91.54 325 PFAKE 06 47 30.0 +13
KEBM LR LR
comp=Z,1831µm,20.1s
BLMT Blacktail Moun 91.59 334 eP P 06 47 18.0 +0.6
comp=Z,320nm,0.7s
BSMT Bassoo Peak 91.61 333 eP P 06 47 15.7 -1.8
comp=Z,83nm,1.2s
CROR Criterion Ridg 91.71 328 P P 06 47 17.5 -0.4
I03D Drain, OR 91.73 326 ⇑P P 06 47 17.7 -0.2
baz=92
G06A Carlson Farm, 91.76 328 eP P 06 47 17.9 -0.2
comp=Z,4µm,1.5s
G06A LR LR
comp=Z,2768µm,20.3s
E09A Wood Farm, Sta 91.78 331 eP P 06 47 16.3 -1.7
comp=Z,750nm,1.1s
E09A LR LR
comp=Z,2589µm,20.9s
H04A Detroit Lake 91.99 327 eP P 06 47 17.2 -1.9
comp=Z,1µm,1.3s
H04A LR LR
comp=Z,1708µm,20.0s
G05D Wamic, OR 92.06 328 ⇓P P 06 47 19.2 -0.2
baz=92
BLTW Bickleton 92.11 329 P P 06 47 19.4 -0.3
H2OWA Water 92.19 330 P P 06 47 19.4 -0.5
HAWA Hanford 92.23 330 eP P 06 47 19.0 -1.2
comp=Z,18µm,1.4s
HAWA LR LR
comp=Z,2052µm,19.0s
WALA Waterton Lakes 92.32 334 eP P 06 47 19.3 -1.4
comp=Z,1.1nm,0.6s
SNIWA Snively Ranch 92.34 330 P P 06 47 21.1 +0.4
COR Corvallis 92.41 327 eP P 06 47 21.6 +0.6
COR pmax pmax
comp=Z,1µm,1.1s
COR MLR MLR
comp=Z,1754µm,19.0s
COR Corvallis 92.41 327 eP P 06 47 21.6 +0.6
comp=Z,1µm,1.1s
COR LR LR
comp=Z,1754µm,19.0s
WRD Warden 92.41 330 P P 06 47 20.7 -0.3
E07A Sunnyside 92.50 330 eP P 06 47 20.4 -1.0
comp=Z,845nm,1.1s
D08A Wollman Farm, 92.53 331 eP P 06 47 20.1 -1.5
comp=Z,1µm,1.2s
FHE Frenchman Hill 92.67 330 P P 06 47 23.5 +1.3
OD2 Odessa Site #2 92.72 331 eP P 06 47 21.1 -1.3
NEW Newport 92.82 332 eP P 06 47 20.4 -2.5
NEW Newport 92.82 332 LR LR 07 25 19.2
comp=Z,1258µm,20.4s,baz=139,slow=33
NEW Newport 92.82 332 eP P 06 47 20.4 -2.5
comp=Z,12µm,0.8s
NEW Newport 92.82 332 ⇑P P 06 47 23.2 +0.3
baz=93,SNR=40
C09A Chrisman Ranch 92.88 331 eP P 06 47 22.0 -1.1
comp=Z,2µm,1.2s
C09A LR LR
comp=Z,2128µm,20.1s
G03D McMinnville, O 92.88 327 ⇑P P 06 47 22.7 -0.4
baz=93
ASR Mount Adams--S 92.90 328 P P 06 47 22.5 -0.9
EBG Ellensburg 93.07 330 P P 06 47 23.6 -0.5
F04A Amboy 93.08 328 PFAKE 06 47 30.0 +6.0
F04A LR LR
comp=Z,1993µm,21.3s
TAU Tasmania Unive 93.18 208 P P 06 47 30.7 +5.8
comp=Z,1µm,1.5s,SNR=5.1
TAU Tasmania Unive 93.18 208 eP P 06 47 25.0 +0.1
TAU pmax pmax
comp=Z,699nm,1.1s
TAU MLR MLR
comp=Z,1038µm,20.0s
TAU Tasmania Unive 93.18 208 eP P 06 47 25.0 +0.1
comp=Z,699nm,1.1s
TAU LR LR
comp=Z,1038µm,20.0s
LTY Liberty 93.39 330 eP P 06 47 24.2 -1.4
comp=Z,920nm,1.4s
LTY LR LR
comp=Z,2146µm,20.1s
F04D Rainier, OR 93.45 328 ⇓P P 06 47 28.4 +2.6
baz=94
WTV Waterville 93.46 330 P P 06 47 24.2 -1.6
LON Longmire 93.46 329 eP P 06 47 23.5 -2.4
LON pmax pmax
comp=Z,300nm,0.6s
LON MLR MLR
comp=Z,2030µm,19.2s
LON Longmire 93.46 329 eP P 06 47 23.5 -2.4
comp=Z,300nm,0.6s
LON LR LR
comp=Z,2030µm,19.2s
FMW Mount Fremont 93.55 329 P P 06 47 26.7 +0.2
F03A Seaside 93.57 327 eP P 06 47 30.1 +3.7
comp=Z,1µm,1.1s
MDT Midelt 93.73 52 P P 06 47 26.8 -0.7
comp=Z,69nm,1.2s,baz=225,slow=5.8,SNR=28
MDT PP PP 06 51 13.3 -0.1
comp=Z,75nm,0.9s,baz=247,slow=7.7,SNR=2.0
MDT S SKSac 06 58 03.1 +2.8
comp=Z,21nm,1.1s,baz=0.0,slow=5.1,SNR=1.6
MDT LR LR 07 31 15.6
comp=Z,862µm,18.3s,slow=37
B08A Colville Reser 93.75 331 eP P 06 47 25.4 -1.8
comp=Z,1µm,1.5s
B08A LR LR
comp=Z,2408µm,20.7s
D05A Enumclaw 93.88 329 eP P 06 47 26.6 -1.1
comp=Z,1µm,1.0s
D05A LR LR
comp=Z,2957µm,19.3s
FFC Flin Flon 93.89 344 P P 06 47 29.4 +1.8
comp=Z,491nm,1.1s,SNR=6.7
FFC Flin Flon 93.89 344 eP P 06 47 26.2 -1.4
FFC MLR MLR
comp=Z,1446µm,20.0s
FFC Flin Flon 93.89 344 eP P 06 47 26.2 -1.4
comp=Z,327nm,4.5s
FFC LR LR
comp=Z,1446µm,20.0s
PFVI Vila Bisbo 94.05 46 eP P 06 47 31.4 +2.6
PFVI Vila Bisbo 94.05 46 ePP PP 06 51 11.2 -4.5
PFVI eSKS SKSac 06 58 07.5 +6.0
PFVI Vila Bisbo 94.05 46 eLQ LQ 07 14 28.7
PFVI eLR LR 07 18 43.3
comp=Z,4647µm,18.0s
E03A Leban 94.05 328 eP P 06 47 27.7 -0.8
comp=Z,2µm,1.1s
E03A LR LR
comp=Z,1426µm,19.6s
MSVF Nonsavu 94.22 245 eP P 06 47 33.6 +3.3
MSVF e 06 47 42.5
MSVF pmax pmax
comp=Z,1µm,1.4s
MSVF MLR MLR
comp=Z,1316µm,18.0s
MSVF Nonsavu 94.22 245 eP P 06 47 33.6 +3.3
comp=Z,1µm,1.4s
MSVF e 06 47 42.5
MSVF LR LR
comp=Z,1316µm,18.0s
MORF Marmelete 94.27 46 eP P 06 47 28.9 -1.0
MORF eS SKSac 06 58 01.6 -1.2
MORF AMS AMS 07 31 35.5
comp=Z,4351µm,19.6s
MORF Marmelete 94.27 46 eP P 06 47 32.4 +2.6
MORF Marmelete 94.27 46 ePP PP 06 51 20.3 +2.8
MORF iP x 06 51 49.7
MORF Marmelete 94.27 46 eLR LR 07 19 10.4
comp=Z,4372µm,16.0s
MORF Marmelete 94.27 46 eP P 06 47 28.8 -1.0
MORF eS SKSac 06 58 01.6 -1.2
PTEO Sao Teotonio 94.39 46 eP P 06 47 32.8 +2.5
PTEO Sao Teotonio 94.39 46 ePP PP 06 51 17.6 -0.7
TAM Tamanrasset 94.40 65 eP P 06 47 29.8 -1.1
TAM pmax pmax
comp=Z,440nm,2.5s
TAM Tamanrasset 94.40 65 eP P 06 47 29.8 -1.1
comp=Z,440nm,2.5s
PBDV Barranco-do-Ve 94.64 47 eP P 06 47 34.6 +3.1
PBDV iP PP 06 51 35.5 +15
PBDV eSKS SKSac 06 58 16.3 +11
PBDV Barranco-do-Ve 94.64 47 eLQ LQ 07 18 10.5
PBDV eLR LR 07 19 23.1
comp=Z,4366µm,18.0s
B06A Marblemount 94.73 330 PFAKE 06 47 40.0 +8.4
B06A LR LR
comp=Z,2314µm,21.3s
NLWA Neilton Lookou 94.84 328 eP P 06 47 31.2 -1.0
comp=Z,683nm,1.1s
NLWA LR LR
comp=Z,1620µm,22.0s
PCVE Castro Verde 94.84 46 eP P 06 47 35.5 +3.1
PCVE Castro Verde 94.84 46 ePP PP 06 51 23.1 +1.2
PCVE iP PP 06 51 36.8 +15
PCVE eSKS SKSac 06 58 11.5 +5.7
PCVE Castro Verde 94.84 46 eLR LR 07 18 54.1
comp=Z,4191µm,16.0s
PVAQ Vaqueiros 94.88 47 eP P 06 47 35.0 +2.4
PVAQ Vaqueiros 94.88 47 ePP PP 06 51 24.1 +1.9
PVAQ eSKS SKSac 06 58 25.4 +19
PVAQ iP x 07 01 32.8
PVAQ Vaqueiros 94.88 47 eLQ LQ 07 13 18.1
PVAQ eLR LR 07 19 31.4
comp=Z,4324µm,18.0s
MESJ Messejana 94.88 46 eP P 06 47 31.6 -0.9
MESJ eS SKSac 06 58 03.8 -2.2
MESJ AMS AMS 07 32 05.4
comp=Z,4987µm,18.1s
MESJ Messejana 94.88 46 eP P 06 47 34.5 +1.9
MESJ Messejana 94.88 46 ePP PP 06 51 24.4 +2.2
MESJ Messejana 94.88 46 eP P 06 47 31.6 -0.9
PNCL Nicolau / Gran 94.88 46 eP P 06 47 35.5 +2.9
PNCL Nicolau / Gran 94.88 46 ePP PP 06 51 24.1 +1.9
PNCL iP PP 06 51 37.3 +15
PNCL eSKS SKSac 06 58 17.1 +11
PNCL Nicolau / Gran 94.88 46 eLQ LQ 07 15 05.0
PNCL eLR LR 07 18 59.6
comp=Z,4366µm,18.0s
CMW Cultus Mountai 94.91 330 P P 06 47 30.9 -1.7
LIS Lisbon 94.94 45 eP P 06 47 31.9 -0.9
LIS AMS AMS 07 28 17.0
comp=Z,2362µm,21.5s
LIS Lisbon 94.94 45 eP P 06 47 35.8 +3.0
LIS Lisbon 94.94 45 ePP PP 06 51 24.7 +2.1
LIS iP PP 06 51 38.2 +16
LIS Lisbon 94.94 45 eP P 06 47 31.9 -0.9
PMAFR Mafra 95.03 45 eP P 06 47 32.4 -0.8
PMAFR Mafra 95.03 45 ePP PP 06 51 26.5 +3.2
PMAFR iP PP 06 51 38.2 +15
PMAFR eSKS SKSac 06 58 19.2 +12
PMAFR Mafra 95.03 45 eLQ LQ 07 14 45.7
PMAFR eLR LR 07 19 10.4
comp=Z,2251µm,22.0s
OBC Olympics--Boni 95.43 328 P P 06 47 37.4 +2.5
EVO Evora 95.47 46 eP P 06 47 37.8 +2.6
EVO Evora 95.47 46 ePP PP 06 51 27.8 +1.1
PGC Sidney 95.64 329 eP P 06 47 36.9 +1.2
comp=Z,39nm,1.2s
EDM Edmonton 95.67 337 eP P 06 47 32.7 -3.1
EDM Edmonton 95.67 337 eP P 06 47 32.7 -3.1
POHA Pohakuloa 95.69 290 PFAKE 06 47 50.0 +13
POHA LR LR
comp=Z,873µm,22.0s
PMTG Montargil 95.71 45 eP P 06 47 38.5 +2.2
PMTG Montargil 95.71 45 ePP PP 06 51 29.8 +1.2
PMTG eSKS SKSac 06 58 22.5 +12
PMTG Montargil 95.71 45 eLQ LQ 07 15 21.7
PMTG eLR LR 07 19 28.5
comp=Z,2793µm,18.0s
PBAR Barrancos 95.79 46 eP P 06 47 39.0 +2.3
PBAR iP PP 06 51 43.1 +14
PBAR eSKS SKSac 06 58 15.6 +4.8
PBAR Barrancos 95.79 46 eLR LR 07 19 28.5
comp=Z,8902µm,18.0s
PESTR Estremoz 95.94 46 eP P 06 47 40.0 +2.6
PESTR Estremoz 95.94 46 ePP PP 06 51 43.5 +13
PESTR eSKS SKSac 06 58 15.6 +4.0
PESTR Estremoz 95.94 46 eLQ LQ 07 15 52.9
PESTR eLR LR 07 19 43.0
comp=Z,3697µm,18.0s
PTOM Tomar 95.97 45 eP P 06 47 38.5 +1.0
PTOM Tomar 95.97 45 PP PP 06 51 27.6 -3.0
PTOM iP PP 06 51 46.4 +16
FCC Fort Churchill 96.19 349 eP P 06 47 35.5 -2.5
FCC Fort Churchill 96.19 349 eP P 06 47 35.5 -2.5
comp=Z,43nm,0.8s
PCAS Casmilo, Conde 96.22 44 eP P 06 47 39.7 +1.1
PCAS Casmilo, Conde 96.22 44 ePP PP 06 51 33.2 +0.7
PCAS iP PP 06 51 46.3 +14
PCAS eSKS S 06 58 51.1 -5.0
PCAS Casmilo, Conde 96.22 44 eLR LR 07 19 41.2
comp=Z,2821µm,18.0s
PMRV Marv??o 96.43 45 eP P 06 47 41.6 +2.0
PMRV Marv??o 96.43 45 ePP PP 06 51 47.8 +14
PMRV eSKS SKSac 06 58 28.1 +14
PMRV iP x 07 01 51.6
PMRV Marv??o 96.43 45 eLQ LQ 07 13 59.8
PMRV eLR LR 07 19 50.8
comp=Z,2936µm,22.0s
MZM Mzuzu 96.64 109 iP P 06 47 47.8 +6.6
PCBR Castelo Branco 96.66 45 eP P 06 47 37.6 -3.0
PCBR iP PP 06 51 54.6 +19
MTE Manteigas 96.99 44 eP P 06 47 42.7 +0.5
MTE Manteigas 96.99 44 PP PP 06 51 34.7 -3.9
MTE iP PP 06 51 58.3 +20
MTE eP x 06 58 36.9
MTE iP x 07 01 58.0
MTE Manteigas 96.99 44 eLQ LQ 07 14 08.7
MTE eLR LR 07 19 51.1
comp=Z,2834µm,20.0s
MTE Manteigas 96.99 44 eP P 06 47 42.1 -0.1
comp=Z,420nm,1.0s
MTE LR LR
comp=Z,3355µm,22.0s
PVIS Viseu 97.01 44 eP P 06 47 41.5 -0.8
PVIS Viseu 97.01 44 ePP PP 06 51 40.4 +1.7
PVIS iP x 06 52 00.1
PVRL Vila Real 97.48 44 eP Pdif 06 47 52.5 +8.0
PVRL Vila Real 97.48 44 ePP PP 06 51 43.6 +1.3
PVRL iP x 06 52 02.7
POLO Lamas de Olo 97.50 44 eP Pdif 06 47 51.5 +6.9
POLO Lamas de Olo 97.50 44 ePP PP 06 51 36.1 -6.5
POLO iP PP 06 51 57.1 +15
POLO eSKS SKSac 06 58 31.9 +12
POLO Lamas de Olo 97.50 44 eLQ LQ 07 15 53.8
POLO eLR LR 07 20 10.1
comp=Z,1714µm,18.0s
PCAB Cabril 97.60 43 eP Pdif 06 47 47.0 +2.0
PCAB Cabril 97.60 43 ePP PP 06 51 41.1 -2.1
PCAB iP PKiKP 06 52 03.8 -15
MVO Moncorvo 97.79 44 eP Pdif 06 47 48.1 +2.2
MVO iP PP 06 52 00.0 +15
MVO eP x 06 58 42.6
MVO iP x 07 02 04.8
MVO Moncorvo 97.79 44 eLQ LQ 07 14 04.3
MVO eLR LR 07 20 31.9
comp=Z,3481µm,18.0s
USTO Oran 98.17 52 P Pdif 06 48 01.0 +13
ODJA Bouhanifia 98.18 52 P Pdif 06 47 54.0 +6.3
PAB San Pablo 98.28 47 eP P 06 47 47.3 -0.7
PAB e 06 48 03.4
PAB pmax pmax
comp=Z,391nm,1.3s
PAB San Pablo 98.28 47 eP P 06 47 47.3 -0.7
comp=Z,391nm,1.3s
PAB e 06 48 03.4
PBRG Braganca 98.38 44 eP Pdif 06 47 50.8 +2.4
PBRG Braganca 98.38 44 ePP PP 06 51 56.5 +7.3
PBRG eSKS SKSac 06 58 30.3 +6.2

PBRG Braganca 98.38 44 eLQ LQ 07 16 26.0
PBRG eLR LR 07 20 40.8
comp=Z,2861µm,18.0s
KIP Kipapa 98.55 290 PFAKE 06 48 00.0 +10
KIP LR LR
comp=Z,836µm,18.0s
ESDC Sonseca Array 98.58 47 P P 06 47 47.7 -1.7
comp=Z,16nm,1.1s,baz=236,slow=4.9,SNR=22
ESDC PP PP 06 51 50.1 -0.7
comp=Z,42nm,1.0s,baz=216,slow=5.5,SNR=3.1
ESDC S SKSac 06 58 24.0 -1.3
comp=Z,13nm,1.0s,baz=233,slow=2.8,SNR=2.5
ESDC LR LR 07 32 36.8
comp=Z,2426µm,18.9s,baz=220,slow=36
ESLA Sonseca Array 98.58 47 eP P 06 47 48.4 -1.0
comp=Z,13nm,0.5s
ES19 SONSECA Array 98.64 47 eP Pdif 06 47 49.8 +0.1
OJGS Djebel Guires 98.86 52 P Pdif 06 47 56.0 +5.2
ETRT Tiaret 99.14 53 P Pdif 06 47 52.7 +0.6
EANR 'Ain N'Sour 99.36 52 P Pdif 06 47 55.0 +2.0
DZM Mont Dzumac 99.38 234 eP Pdif 06 47 58.2 +4.6
comp=Z,614nm,1.6s
DZM Mont Dzumac 99.38 234 ePP PP 06 51 55.1 -1.3
comp=Z,107µm,29.1s
DZM eSKSac SKSac 06 58 32.1 +1.6
comp=Z,973µm,35.2s
DZM Mont Dzumac 99.38 234 ePS PS 07 01 03.0 +9.1
comp=Z,1004µm,37.0s
DZM eSS SS 07 06 15.9 +2.7
comp=Z,2265µm,35.0s
DZM eLQ LQ 07 16 07.6
comp=Z,2135µm,37.9s
DZM eLR LR 07 20 23.6
comp=Z,2632µm,31.7s
DZM Mont Dzumac 99.38 234 LR LR 07 24 20.9
comp=Z,850µm,21.2s,baz=140,slow=30
DZM Mont Dzumac 99.38 234 ePdif Pdif 06 47 54.9 +1.3
comp=Z,452nm,1.5s
ECHA Ech Chlef 99.65 52 P Pdif 06 47 57.0 +2.9
EBNR Beni Rached 99.84 52 P Pdif 06 47 58.6 +3.5
EMHD Djebel Mahouad 100.70 53 P Pdif 06 48 05.0 +6.0
ABA Alger-Bouzarea 101.11 53 P Pdif 06 48 07.0 +6.3
ABPO Ambohimpanom 101.22 123 PFAKE 06 48 10.0 +8.1
ABPO LR LR
comp=Z,2300µm,21.0s
DODT Dodoma, Tanzan 101.24 106 i P Pdif 06 47 58.9 -3.1
AIS Amsterdam Isla 101.52 157 P Pdif 06 47 58.0 -4.7
AIS PP PP 06 52 16.0 +4.4
AIS S 06 59 33.0
AIS SS SS 07 06 57.0 +16
AIS L L 07 16 00.0
AIS R 07 26 00.0
ARMA Armidale 101.67 218 PFAKE 06 48 10.0 +6.3
ARMA LR LR
comp=Z,969µm,21.9s
CKHR Kef el Ahmar 102.26 54 P Pdif 06 48 14.5 +8.5
SET Setif 102.30 54 P Pdif 06 48 14.0 +7.9
SJPF Ste Jean 102.35 45 eP Pdif 06 48 07.0 +1.0
comp=Z,1µm,1.5s
SJPF Ste Jean 102.35 45 eP Pdif 06 48 07.0 +1.0
comp=Z,1µm,1.5s
ETSF Etsaut 102.61 46 eP Pdif 06 48 08.2 +1.0
comp=Z,850nm,1.5s
ETSF Etsaut 102.61 46 eP Pdif 06 48 08.2 +1.0
comp=Z,850nm,1.5s
DFRA Djebel Bou Aff 102.81 54 P Pdif 06 48 13.3 +4.9
CTEI Djebel Teioual 102.88 55 P Pdif 06 48 13.1 +4.4
VIEF Viey 102.94 46 eP Pdif 06 48 25.8 +17
CASM Ain Smara 103.05 55 P Pdif 06 48 12.3 +3.0
LABF Labassere 103.06 46 eP Pdif 06 48 25.1 +16
EPF Esparros 103.21 46 eP Pdif 06 48 10.9 +1.0
comp=Z,679nm,1.7s
EPF Esparros 103.21 46 eP Pdif 06 48 10.9 +1.0
EPF pmax pmax
comp=Z,679nm,1.7s
EPF Esparros 103.21 46 eP Pdif 06 48 10.9 +1.0
comp=Z,679nm,1.7s
CKFL Kef-Lekhel 103.28 55 P Pdif 06 48 11.4 +0.9
MELF Melles 103.36 46 eP Pdif 06 48 26.5 +16
VAL Valentia 103.38 34 eP Pdif 06 48 09.4 -0.9
VAL ePP PKiKP 06 52 39.2 +10
VAL eS 06 59 17.4
CAEH 'Ain El Ouahch 103.58 54 P Pdif 06 48 09.8 -1.9
MLS Moulis 103.61 47 eP Pdif 06 48 25.9 +14
ABSA Djebel Ababsia 103.71 55 P Pdif 06 48 09.4 -2.9
VALF Valcebollere 103.82 47 eP Pdif 06 48 28.7 +16
YKA Yellowknife Ar 103.86 341 P Pdif 06 48 09.8 -2.3
YKA 06 52 27.9
YKA pmax pmax
comp=Z,9.0nm,1.1s
YKA pmax pmax
comp=Z,11nm,0.8s
YKA Yellowknife Ar 103.86 341 Pdiff Pdif 06 48 09.8 -2.3
comp=Z,8.8nm,1.1s,baz=141,slow=4.1,SNR=23
YKA PP PKiKP 06 52 27.9 -1.8
comp=Z,11nm,0.8s,baz=125,slow=9.2,SNR=2.9
YKA PKKPbc PKKPbc 07 04 05.9 +1.7
comp=Z,11nm,1.1s,baz=15,slow=3.1,SNR=5.2
CMAH Djebel Manchou 103.87 55 P Pdif 06 48 08.8 -4.2
MAUS Longido 104.11 104 i P Pdif 06 48 17.8 +3.0
SFJD Kangerlussuaq 104.23 9 i P Pdif 06 48 13.1 -0.6
SFJD i 06 52 40.2
comp=Z,953µm,18.0s
SFJD Kangerlussuaq 104.23 9 Pdiff Pdif 06 48 15.0 +1.3
comp=Z,7.0nm,1.1s,baz=270,slow=7.4,SNR=2.8
SFJD PP PP 06 52 34.3 +1.7
comp=Z,36nm,0.9s,baz=190,slow=5.8,SNR=2.6
SFJD Kangerlussuaq 104.23 9 Pdif Pdif 06 48 15.0 +1.3
SFJD PP PP 06 52 34.3 +1.7
SFJD LR LR
comp=Z,1374µm,20.0s
FILF Fillols 104.24 48 eP Pdif 06 48 29.8 +15
QUIF Quistinic 104.26 41 eP Pdif 06 48 14.5 +0.2
comp=Z,400nm,1.2s
QUIF Quistinic 104.26 41 eP Pdif 06 48 14.5 +0.2
comp=Z,400nm,1.2s
LRDF Laroque-de-Fa 104.45 47 eP Pdif 06 48 30.3 +15
ROSF Rostrenen 104.46 40 eP Pdif 06 48 15.2 0.0
comp=Z,767nm,1.5s
ROSF Rostrenen 104.46 40 eP Pdif 06 48 15.2 0.0
comp=Z,767nm,1.5s
MTLF Montolieu 104.50 47 eP Pdif 06 48 15.9 +0.4
comp=Z,316nm,1.2s
MTLF Montolieu 104.50 47 eP Pdif 06 48 15.9 +0.4
MTLF pmax pmax
comp=Z,316nm,1.2s
MTLF Montolieu 104.50 47 eP Pdif 06 48 15.9 +0.4
comp=Z,316nm,1.2s
LFF La Frestale 104.59 45 eP Pdif 06 48 16.5 +0.6
comp=Z,551nm,1.1s
LFF La Frestale 104.59 45 eP Pdif 06 48 16.5 +0.6
comp=Z,551nm,1.1s
KEST Kesra 104.65 56 Pdiff Pdif 06 48 19.6 +3.1
comp=Z,2.4nm,1.0s,baz=191,slow=5.0,SNR=3.9
KEST PP PP 06 52 40.0 +3.3
comp=Z,44nm,1.1s,baz=202,slow=5.4,SNR=3.7
KEST Kesra 104.65 56 ePdif Pdif 06 48 16.4 -0.2
KEST PP PP 06 52 40.0 +3.3
CRAG Craig 104.69 329 PFAKE 06 48 30.0 +14
CRAG LR LR
comp=Z,806µm,20.6s
STKA Stephens Creek 104.99 210 eP Pdif 06 48 19.6 +1.3
STKA 06 52 39.0
STKA pmax pmax
comp=Z,1.0nm,0.7s
STKA MLR MLR
comp=Z,203µm,20.4s
STKA Stephens Creek 104.99 210 Pdiff Pdif 06 48 22.9 +4.6
comp=Z,14nm,1.2s,baz=165,slow=11,SNR=3.1
STKA PP PP 06 52 39.0 +1.2
comp=Z,16nm,0.9s,baz=95,slow=1.3,SNR=2.8
STKA Stephens Creek 104.99 210 ePdif Pdif 06 48 19.6 +1.3
comp=Z,0.5nm,0.7s
STKA PP PP 06 52 39.0 +1.2
STKA LR LR
comp=Z,203µm,20.4s
WRAK Wrangell Islan 105.03 330 ePdif Pdif 06 48 20.5 +2.9
comp=Z,181nm,1.1s
WRAK LR LR
comp=Z,1435µm,19.0s
MFF Saint Martin d 105.08 43 eP Pdif 06 48 18.6 +0.5
comp=Z,618nm,1.3s
MFF Saint Martin d 105.08 43 eP Pdif 06 48 18.6 +0.5
comp=Z,618nm,1.3s
RER Riviere de l'E 105.15 131 ePdif Pdif 06 48 18.6 -0.6
comp=Z,188nm,0.9s
RJF Les Rejaudoux 105.25 45 eP Pdif 06 48 19.2 +0.4
comp=Z,545nm,1.4s
RJF eR
comp=Z,5621µm,19.0s
RJF Les Rejaudoux 105.25 45 eP Pdif 06 48 19.2 +0.4
comp=Z,545nm,1.4s
CAF Calviac 105.34 45 eP Pdif 06 48 20.0 +0.7
comp=Z,261nm,1.3s
CAF Calviac 105.34 45 eP Pdif 06 48 20.0 +0.7
comp=Z,261nm,1.3s
DYA Yadsworthy 105.43 38 eP Pdif 06 48 17.2 -2.3
DYA AMS AMS 07 36 09.9
comp=Z,2333µm,18.7s
HTL Hartland 105.50 38 eP Pdif 06 48 17.5 -2.3
HTL AMS AMS 07 30 38.6
comp=Z,2276µm,24.7s
KMBO Kilima Mbogo 105.53 103 P Pdif 06 48 24.1 +2.9
KMBO 06 52 48.4
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO pmax pmax
comp=Z,28nm,1.0s
KMBO Kilima Mbogo 105.53 103 Pdiff Pdif 06 48 24.1 +2.9
comp=Z,0.6nm,0.5s,baz=189,slow=2.9,SNR=6.3
KMBO PP PP 06 52 48.4 +5.1
comp=Z,28nm,1.0s,baz=216,slow=13,SNR=2.8
KMBO Kilima Mbogo 105.53 103 ePdif Pdif 06 48 22.2 +1.0
comp=Z,85nm,0.8s
KMBO PP PP 06 52 48.4 +5.1
DLBC Dease Lake 105.56 333 ePdif Pdif 06 48 22.9 +3.0
JSA Saint Aubin 105.56 40 eP Pdif 06 48 17.9 -2.2
JSA AMS AMS 07 36 14.0
comp=Z,2523µm,19.2s
GRR Gorron 105.77 41 eP Pdif 06 48 21.1 +0.1
comp=Z,587nm,1.6s
GRR Gorron 105.77 41 eP Pdif 06 48 21.1 +0.1
GRR pmax pmax
comp=Z,587nm,1.6s
GRR Gorron 105.77 41 eP Pdif 06 48 21.1 +0.1
comp=Z,587nm,1.6s
LASF Ste Croix 105.89 47 eP Pdif 06 48 22.4 +0.6
comp=Z,173nm,1.2s
LASF Ste Croix 105.89 47 eP Pdif 06 48 22.4 +0.6
comp=Z,173nm,1.2s
FRNF Fournols 105.89 45 eP Pdif 06 48 24.2 +2.5
DSB Dublin 106.02 35 ePdif Pdif 06 48 20.9 -1.1
comp=Z,286nm,1.5s
DSB LR LR
comp=Z,3181µm,20.0s
EIDS Eidsvold 106.04 221 ePdif Pdif 06 48 22.1 -0.9
comp=Z,34nm,1.0s
EIDS LR LR
comp=Z,553µm,20.5s
FLN La Foliniere 106.19 41 eP Pdif 06 48 23.3 +0.4
comp=Z,652nm,1.6s
FLN eR
comp=Z,4828µm,23.0s
FLN La Foliniere 106.19 41 eP Pdif 06 48 23.3 +0.4
FLN pmax pmax
comp=Z,652nm,1.6s
FLN La Foliniere 106.19 41 eP Pdif 06 48 23.3 +0.4
comp=Z,652nm,1.6s
LBL Lubilhac 106.20 46 eP Pdif 06 48 39.0 +16
TCF Toulx Ste Croi 106.21 44 eP Pdif 06 48 23.5 +0.4
comp=Z,332nm,1.3s
TCF Toulx Ste Croi 106.21 44 eP Pdif 06 48 23.5 +0.4
TCF pmax pmax
comp=Z,332nm,1.3s
TCF Toulx Ste Croi 106.21 44 eP Pdif 06 48 23.5 +0.4
comp=Z,332nm,1.3s
BBOO Buckleboo 106.23 205 PFAKE 06 52 50.0
BBOO LR LR
comp=Z,5133µm,18.6s
ILULI Ilulissat 106.28 8 eP Pdif 06 48 24.2 +1.4
ILULI MLR MLR
comp=Z,1200µm,27.0s
ILULI Ilulissat 106.28 8 i P Pdif 06 48 24.2 +1.4
ILULI i 06 52 59.1
comp=Z,1233µm,26.0s
LDF La Druitiere 106.28 41 eP Pdif 06 48 23.6 +0.3
comp=Z,713nm,1.7s
LDF La Druitiere 106.28 41 eP Pdif 06 48 23.6 +0.3
LDF pmax pmax
comp=Z,713nm,1.7s
LDF La Druitiere 106.28 41 eP Pdif 06 48 23.6 +0.3
comp=Z,713nm,1.7s
PYM Petit Puy Mans 106.36 45 eP Pdif 06 48 40.0 +16
LPW Lampeter 106.40 37 eP Pdif 06 48 18.5 -5.2
LPW AMS AMS 07 36 12.1
comp=Z,1934µm,20.9s
AGO Saint Agoulin 106.60 45 eP Pdif 06 48 40.7 +16
SIT Sitka 106.68 330 PFAKE 06 52 50.0
SIT LR LR
comp=Z,1275µm,19.3s
BGF Bois d'Agland 106.73 44 eP Pdif 06 48 26.0 +0.6
comp=Z,516nm,1.3s
BGF Bois d'Agland 106.73 44 eP Pdif 06 48 26.0 +0.6
BGF pmax pmax
comp=Z,516nm,1.3s
BGF Bois d'Agland 106.73 44 eP Pdif 06 48 26.0 +0.6
comp=Z,516nm,1.3s
VSL Villasalto 106.75 53 PFAKE 06 52 50.0
VSL LR LR
comp=Z,3447µm,22.0s
VIVF Saint-Julien-l 106.81 47 eP Pdif 06 48 26.8 +0.9
comp=Z,367nm,1.5s
VIVF Saint-Julien-l 106.81 47 eP Pdif 06 48 26.8 +0.9
VIVF pmax pmax
comp=Z,367nm,1.5s
VIVF Saint-Julien-l 106.81 47 eP Pdif 06 48 26.8 +0.9
comp=Z,367nm,1.5s
PLDF La Plantade 106.83 45 eP Pdif 06 48 41.6 +16
BATH Bath 106.85 38 eP Pdif 06 48 24.1 -1.7
BATH AMS AMS 07 33 42.5
comp=Z,2231µm,23.5s
MONM Monmouth 106.85 38 eP Pdif 06 48 23.1 -2.7
MONM AMS AMS 07 31 30.6
comp=Z,1884µm,24.1s
MCH1 Michaelchurch 106.85 37 eP Pdif 06 48 22.0 -3.8
MCH1 AMS AMS 07 34 06.8
comp=Z,1715µm,21.8s
SMRF Simiane la Rot 106.86 48 eP Pdif 06 48 27.5 +1.4
comp=Z,368nm,1.3s
SMRF Simiane la Rot 106.86 48 eP Pdif 06 48 27.5 +1.4
comp=Z,368nm,1.3s
OLDB Oldbury-Upon-S 106.87 38 eP Pdif 06 48 22.9 -2.9
OLDB AMS AMS 07 31 18.0
comp=Z,2180µm,24.6s
WLF1 Llynfaes 106.97 36 eP Pdif 06 48 21.9 -4.3
WLF1 AMS AMS 07 38 43.0
comp=Z,2313µm,18.7s
SSB Saint Sauveur 106.98 46 eP Pdif 06 48 28.9 +2.3
SSB pmax pmax
comp=Z,134nm,1.1s
SSB Saint Sauveur 106.98 46 eP Pdif 06 48 32.4 +5.8
SSB Saint Sauveur 106.98 46 ePdif Pdif 06 48 28.9 +2.3
comp=Z,134nm,1.1s
HYF Humbligny 107.02 44 eP Pdif 06 48 27.3 +0.6
HYF Humbligny 107.02 44 eP Pdif 06 48 27.3 +0.6
LMR La Mourre 107.06 49 eP Pdif 06 48 28.1 +1.2
comp=Z,651nm,1.8s
LMR La Mourre 107.06 49 eP Pdif 06 48 28.1 +1.2
LMR pmax pmax
comp=Z,651nm,1.8s
LMR La Mourre 107.06 49 eP Pdif 06 48 28.1 +1.2
comp=Z,651nm,1.8s
STRD Stroud 107.13 38 eP Pdif 06 48 24.1 -2.9
STRD AMS AMS 07 31 24.5
comp=Z,2084µm,24.9s
AVF Avril sur Loir 107.15 44 eP Pdif 06 48 27.7 +0.5
comp=Z,612nm,1.7s
AVF Avril sur Loir 107.15 44 eP Pdif 06 48 27.7 +0.5
AVF pmax pmax
comp=Z,612nm,1.7s
AVF Avril sur Loir 107.15 44 eP Pdif 06 48 27.7 +0.5
comp=Z,612nm,1.7s
SWN1 Swindon 107.15 38 eP Pdif 06 48 25.1 -2.1
SWN1 AMS AMS 07 37 41.0
comp=Z,2442µm,18.8s
HLM1 Long Mynd 107.23 37 eP Pdif 06 48 25.7 -1.8
FRF La Foret Royal 107.27 48 eP Pdif 06 48 29.0 +1.1
comp=Z,439nm,1.6s
FRF La Foret Royal 107.27 48 eP Pdif 06 48 29.0 +1.1
comp=Z,439nm,1.6s
FOEL Foel Wylfa 107.30 37 eP Pdif 06 48 24.5 -3.3
WOL Wolverton 107.33 39 eP Pdif 06 48 25.0 -2.9
WOL AMS AMS 07 38 12.1
comp=Z,2769µm,18.7s
SMF Signal de Mont 107.34 45 eP Pdif 06 48 28.9 +0.8
comp=Z,697nm,1.4s
SMF Signal de Mont 107.34 45 eP Pdif 06 48 28.9 +0.8
SMF pmax pmax
comp=Z,697nm,1.4s
SMF Signal de Mont 107.34 45 eP Pdif 06 48 28.9 +0.8
comp=Z,697nm,1.4s
SSF Saint Saulge 107.39 44 eP Pdif 06 48 28.5 +0.2
comp=Z,280nm,1.2s
SSF Saint Saulge 107.39 44 eP Pdif 06 48 28.5 +0.2
SSF pmax pmax
comp=Z,280nm,1.2s
SSF Saint Saulge 107.39 44 eP Pdif 06 48 28.5 +0.2
comp=Z,280nm,1.2s
ORIF Oris-en-Rattie 107.56 47 eP Pdif 06 48 30.7 +1.4
comp=Z,199nm,1.1s
ORIF eR
comp=Z,4836µm,21.2s
ORIF Oris-en-Rattie 107.56 47 eP Pdif 06 48 30.7 +1.4
ORIF pmax pmax
comp=Z,199nm,1.1s
ORIF Oris-en-Rattie 107.56 47 eP Pdif 06 48 30.7 +1.4
comp=Z,199nm,1.1s
GRN Grenoble 107.66 47 eP Pdif 06 48 45.4 +16
LOR Lormes 107.70 44 eP Pdif 06 48 30.0 +0.3
comp=Z,354nm,1.3s
LOR eR
comp=Z,5264µm,18.8s
LOR Lormes 107.70 44 eP Pdif 06 48 30.0 +0.3
LOR pmax pmax
comp=Z,354nm,1.3s
LOR Lormes 107.70 44 eP Pdif 06 48 30.0 +0.3
comp=Z,354nm,1.3s
GAL1 Galloway 107.80 34 eP Pdif 06 48 27.8 -2.1
GAL1 AMS AMS 07 37 55.1
comp=Z,1873µm,20.2s
GDM Grand'Maison 107.86 47 eP Pdif 06 48 42.9 +12
HMNX Herstmonceux 107.86 40 eP Pdif 06 48 29.0 -1.2
HMNX AMS AMS 07 32 24.9
comp=Z,2375µm,24.2s
SURF Saint Ours 107.88 48 eP Pdif 06 48 46.9 +16
STNC Stoke 107.90 37 eP Pdif 06 48 27.3 -3.1
STNC AMS AMS 07 37 16.1
comp=Z,2457µm,19.7s
SBF Sospel 107.91 49 eP Pdif 06 48 31.8 +1.0
comp=Z,406nm,1.3s
SBF Sospel 107.91 49 eP Pdif 06 48 31.8 +1.0
SBF pmax pmax
comp=Z,406nm,1.3s
SBF Sospel 107.91 49 eP Pdif 06 48 31.8 +1.0
comp=Z,406nm,1.3s
MBDF Montbardon 107.98 48 eP Pdif 06 48 32.6 +1.4
comp=Z,381nm,1.5s
MBDF Montbardon 107.98 48 eP Pdif 06 48 32.6 +1.4
MBDF pmax pmax
comp=Z,381nm,1.5s
MBDF Montbardon 107.98 48 eP Pdif 06 48 32.6 +1.4
comp=Z,381nm,1.5s
BNI Bardonecchia 108.11 47 eP Pdif 06 48 31.8 +0.1
BNI pmax pmax
comp=Z,114nm,1.4s
BNI Bardonecchia 108.11 47 ePdif Pdif 06 48 31.8 +0.1
comp=Z,114nm,1.4s
BNI LR LR
comp=Z,4242µm,20.0s
WDD Wield Dalam 108.26 59 PFAKE 06 52 50.0
WDD LR LR
comp=Z,9730µm,19.0s
BORG Borgarnes 108.35 21 PP PP 06 53 02.3 -0.9
comp=Z,214nm,1.3s,baz=289,slow=1.0,SNR=4.4
BORG Borgarnes 108.35 21 PP PP 06 53 02.3 -0.8
BORG LR LR
comp=Z,1991µm,20.0s
KESW Keswick, Cumbr 108.37 35 eP Pdif 06 48 30.2 -2.2
KESW AMS AMS 07 38 22.3
comp=Z,1959µm,18.6s
LPL La Plagne 108.39 47 eP Pdif 06 48 34.6 +1.5
comp=Z,517nm,1.6s
LPL La Plagne 108.39 47 eP Pdif 06 48 34.6 +1.5
LPL pmax pmax
comp=Z,517nm,1.6s
LPL La Plagne 108.39 47 eP Pdif 06 48 34.6 +1.5
comp=Z,517nm,1.6s
LPG La Plagne 108.39 47 eP Pdif 06 48 34.8 +1.6
comp=Z,206nm,1.2s
LPG La Plagne 108.39 47 eP Pdif 06 48 34.8 +1.6
LPG pmax pmax
comp=Z,206nm,1.2s
LPG La Plagne 108.39 47 eP Pdif 06 48 34.8 +1.6
comp=Z,206nm,1.2s
ELSH Elham, Standar 108.43 40 eP Pdif 06 48 30.1 -2.7
ELSH AMS AMS 07 32 55.0
comp=Z,2292µm,24.8s
PGBU Glenifferbraes 108.48 34 eP Pdif 06 48 28.9 -4.0
PGBU AMS AMS 07 39 05.4
comp=Z,2393µm,19.5s
HPK Haverah Park 108.69 36 eP Pdif 06 48 31.8 -2.1
HPK AMS AMS 07 31 48.5
comp=Z,2182µm,28.0s
ESK Eskdalemuir 108.76 34 eP Pdif 06 48 31.9 -2.3
ESK AMS AMS 07 32 58.8
comp=Z,1760µm,24.7s
EKA Eskdalemuir Ar 108.79 34 P Pdif 06 48 37.3 +3.0
EKA 06 53 06.5
EKA pmax pmax
comp=Z,7.0nm,1.0s
EKA pmax pmax
comp=Z,24nm,0.8s
EKA Eskdalemuir Ar 108.79 34 Pdiff Pdif 06 48 37.3 +3.0
comp=Z,7.2nm,1.0s,baz=203,slow=4.1,SNR=4.2
EKA PP PP 06 53 06.5 0.0
comp=Z,24nm,0.8s,baz=243,slow=3.1,SNR=5.0
SFTF Sexfontaines 108.89 44 eP Pdif 06 48 35.3 +0.4
SFTF Sexfontaines 108.89 44 eP Pdif 06 48 35.3 +0.4
KPL Plockton 108.90 32 eP Pdif 06 48 31.5 -3.2
KPL AMS AMS 07 34 40.4
comp=Z,2310µm,22.0s
LMK Market Rasen 109.03 37 eP Pdif 06 48 33.1 -2.2
LMK AMS AMS 07 38 19.7
comp=Z,1766µm,19.5s
MEZF Maizieres J'vi 109.06 43 eP Pdif 06 48 36.3 +0.6
comp=Z,372nm,1.5s
MEZF Maizieres J'vi 109.06 43 eP Pdif 06 48 36.3 +0.6
EDI Edinburgh 109.13 34 AMS AMS 07 36 45.4
comp=Z,1898µm,19.3s
EDI Edinburgh 109.13 34 PFAKE 06 52 50.0
EDI LR LR
comp=Z,1219µm,19.8s
THEF They Montfort 109.43 44 eP Pdif 06 48 52.8 +15
LOMF Lomont 109.44 45 eP Pdif 06 48 46.5 +9.0
BAIF Baives 109.45 42 eP Pdif 06 48 37.7 +0.3
comp=Z,403nm,1.7s
BAIF Baives 109.45 42 eP Pdif 06 48 37.7 +0.3
PAGF Fort de Pagny 109.46 44 eP Pdif 06 48 38.2 +0.7
comp=Z,115nm,1.4s
PAGF Fort de Pagny 109.46 44 eP Pdif 06 48 38.2 +0.7
HAU Haudompre 109.52 44 eP Pdif 06 48 38.1 +0.3
comp=Z,296nm,1.6s
HAU eR
comp=Z,3855µm,22.8s
HAU Haudompre 109.52 44 eP Pdif 06 48 38.1 +0.3
HAU Haudompre 109.52 44 eP Pdif 06 48 38.1 +0.3
DOU Dourbes 109.68 42 P Pdif 06 48 38.5 +0.1
SNF Seneffe 109.73 41 P Pdif 06 48 43.7 +5.1
GIVF Givet 109.80 42 eP Pdif 06 48 39.6 +0.7
comp=Z,428nm,1.5s
GIVF Givet 109.80 42 eP Pdif 06 48 39.6 +0.7
GIVF Givet 109.80 42 eP Pdif 06 48 39.6 +0.7
VLC Villacollemand 109.87 49 PFAKE 06 52 50.0
VLC LR LR
comp=Z,1349µm,20.0s
MOF Molkenrain 109.88 45 eP Pdif 06 48 55.0 +16
UCC Uccle 109.93 41 P Pdif 06 48 42.1 +2.6
HYT Haines Junctio 109.98 332 ePdif Pdif 06 48 41.7 +2.1
DRUM Mains of Drumt 110.03 33 eP Pdif 06 48 36.7 -3.0
DRUM AMS AMS 07 36 57.5
comp=Z,1718µm,19.4s
ECH Echery 110.09 45 eP Pdif 06 48 42.8 +2.5
ECH Echery 110.09 45 eP Pdif 06 48 55.7 +15
ECH Echery 110.09 45 ePdif Pdif 06 48 42.8 +2.5
BCLA Clavier 110.23 42 P Pdif 06 48 40.8 -0.1
comp=Z,46nm,2.5s
CDF Champ du Feu 110.26 44 eP Pdif 06 48 41.6 +0.5

comp=Z,540nm,1.8s
CDF Champ du Feu 110.26 44 *e*P **Pdif** **06 48 41.6 +0.5**
CDF Champ du Feu 110.26 44 *e*P **Pdif** **06 48 41.6 +0.5**
WLF Walferdange 110.29 43 P **Pdif** **06 48 45.6 +4.5**
WLF Walferdange 110.29 43 *e*P **Pdif** **06 48 41.1 0.0**
WLF MLR MLR
comp=Z,4405µm,20.0s
WLF Walferdange 110.29 43 *e*Pdiff **Pdif** **06 48 44.3 +3.2**
WLF *e*PP PP 06 53 32.4 +15
WLF *e*SP SP 07 03 06.0 +23
WLF *e*SS SS 07 08 54.6 +12
WLF Walferdange 110.29 43 *e*Pdif **Pdif** **06 48 41.1 0.0**
WLF LR LR
comp=Z,4405µm,20.0s
CEL Celeste 110.43 57 PFAKE 06 52 50.0
CEL LR LR
comp=Z,8404µm,22.0s
TUE Stuetta 110.44 47 *e*Pdif **Pdif** **06 48 38.7 -3.5**
TUE LR LR
comp=Z,3474µm,19.0s
NWAO Narrogin (SRO) 110.63 189 P **Pdif** **06 48 48.2 +4.9**
NWAO pmax pmax
comp=Z,8.0nm,1.0s
NWAO Narrogin (SRO) 110.63 189 Pdiff **Pdif** **06 48 48.2 +4.9**
comp=Z,7.5nm,1.0s,baz=327,slow=15,SNR=2.0
BEBN Eben Emael 110.64 42 P **Pdif** **06 48 45.7 +3.1**
MEM Membach 110.72 42 P **Pdif** **06 48 45.3 +2.3**
MEM Membach 110.72 42 *e*PP PP 06 53 14.3 -6.3
HGN Heimansgroeve 110.76 42 *e*Pdiff **Pdif** **06 48 50.6 +7.4**
HGN *e*PP PKiKP 06 52 33.3 -10
HGN *e*SKS **SKSdf** **06 59 49.3 -3.4**
HGN *e*PKKP PKKPdf 07 04 09.6 +9.4
HGN *e*SS SS 07 09 10.8 +22
BFO Black Forest 110.81 45 *e*P **Pdif** **06 48 45.1 +1.5**
BFO Black Forest 110.81 45 *e*Pdiff **Pdif** **06 48 46.5 +3.0**
BFO *e*PP PP 06 53 36.1 +15
BFO *e*SP SP 07 03 12.0 +24
BFO *e*SS SS 07 09 01.7 +12
BFO Black Forest 110.81 45 *e*Pdif **Pdif** **06 48 45.1 +1.5**
DAVOX Davos/Dischmat 110.92 47 P **Pdif** **06 48 47.9 +3.6**
DAVOX 06 53 18.9
DAVOX pmax pmax
comp=Z,1.0nm,0.4s
DAVOX pmax pmax
comp=Z,53nm,0.7s
DAVOX Davos/Dischmat 110.92 47 Pdiff **Pdif** **06 48 47.9 +3.6**
comp=Z,1.0nm,0.4s,baz=188,slow=8.7,SNR=2.6
DAVOX PP **PP** **06 53 18.9 -3.5**
comp=Z,52nm,0.7s,baz=236,slow=10,SNR=3.2
KULLO Kullorsuaq 110.94 4 *e*P **Pdif** **06 48 46.8 +3.4**
KULLO MLR MLR
comp=Z,1100µm,19.0s
KULLO Kullorsuaq 110.94 4 *i* P **Pdif** **06 48 46.8 +3.4**
comp=Z,1125µm,19.0s
SUMG Summit 111.04 11 *e*P **Pdif** **06 48 45.3 +0.8**
SUMG MLR MLR
comp=Z,1377µm,19.6s
SUMG Summit 111.04 11 *i* P **Pdif** **06 48 43.6 -0.8**
comp=Z,1053µm,19.0s
SUMG Summit 111.04 11 *e*Pdif **Pdif** **06 48 45.3 +0.8**
SUMG LR LR
comp=Z,1377µm,19.6s
FUORN Ofenpass-Fuorn 111.06 47 PFAKE 06 52 50.0
FUORN LR LR
comp=Z,4488µm,21.6s
DAVA Damuels 111.18 46⇑*i*pPdiff **Pdif** **06 48 49.0 +3.7**
comp=Z,45µm,17.6s
CUC Castrocucco 111.25 55 *e*PKPdf 06 52 48.1
CUC LR LR
comp=Z,2461µm,20.0s
TIP Timpagrande 111.48 57 P **Pdif** **06 48 50.8 +4.0**
TIP Timpagrande 111.48 57 P **Pdif** **06 48 50.8 +4.0**
TIP LR LR
comp=Z,5562µm,20.0s
RES Resolute Bay 111.51 354 *e*P **Pdif** **06 48 54.0 +8.0**
RES Resolute Bay 111.51 354 *e*Pdif **Pdif** **06 48 54.0 +8.0**
STU Stuttgart 111.53 45 *e*Pdiff **Pdif** **06 48 49.9 +3.2**
STU *e*PP PP 06 53 41.1 +15
STU *e*SP SP 07 03 20.2 +25
STU *e*SS SS 07 09 14.0 +14
STU Stuttgart 111.53 45 PFAKE 06 53 00.0
STU LR LR
comp=Z,2826µm,18.0s
FETA Feichten 111.54 47⇑*i*pPdiff **Pdif** **06 48 51.5 +4.5**
comp=Z,46µm,19.3s
RETA Reutte 111.80 47⇑*i*Pdiff **Pdif** **06 48 50.3 +2.3**
comp=Z,42µm,17.5s
BUG Bochum--Univer 111.83 42 *e*Pdiff **Pdif** **06 48 50.8 +2.9**
BUG *e*PP PP 06 53 43.1 +15
BUG *e*SP SP 07 03 24.4 +27
BUG *e*SS SS 07 09 17.0 +14
WTSB Winterswijk 111.85 41 *e*Pdiff **Pdif** **06 48 56.1 +8.1**
WTSB *e*PP **PKiKP** **06 52 44.4 -0.5**
TNS Taunus Mts 111.85 43 *e*Pdiff **Pdif** **06 48 51.4 +3.3**
TNS *e*PP PP 06 53 43.7 +15
TNS *e*SP SP 07 03 24.4 +27
TNS *e*SS SS 07 09 18.1 +14
WTTA Wattenberg 112.20 47⇑*i*pPdiff **Pdif** **06 48 53.3 +3.4**
comp=Z,47µm,19.4s
FUR Furstenfeldbru 112.43 46 *e*Pdiff **Pdif** **06 48 54.1 +3.4**
FUR *e*PP PP 06 53 47.6 +15
FUR *e*SP SP 07 03 31.5 +28
FUR *e*SS SS 07 09 23.6 +12
ABTA Abfaltersbach 112.47 48⇑*i*pPdiff **Pdif** **06 48 55.5 +4.5**
comp=Z,45µm,20.4s
IBBN Ibbenburen 112.53 41 *e*Pdiff **Pdif** **06 48 54.0 +3.0**
IBBN *e*PP PP 06 53 48.2 +15
IBBN *e*SP SP 07 03 31.3 +28
IBBN *e*SS SS 07 09 24.9 +12
RAGM Ragged Mountai 112.57 329 PFAKE 06 53 00.0
RAGM LR LR
comp=Z,1162µm,19.8s
FURI Furi 112.63 96 PFAKE 06 53 00.0
FURI LR LR
comp=Z,4023µm,22.0s
FURI Furi 112.63 96 *i* P **Pdif** **06 48 59.5 +6.6**
HNR Honiara 112.73 239 PFAKE 06 53 00.0
HNR LR LR
comp=Z,790µm,21.5s
HNR Honiara 112.73 239 *e*P **PKiKP** **06 52 52.0 +4.1**
MID Middleton Isla 112.75 328 PFAKE 06 53 00.0
MID LR LR
comp=Z,616µm,19.6s
NVLJ Novalja 112.86 51 *i* P **Pdif** **06 48 52.8 +0.1**
CTAO Charters Tower 112.90 220 PFAKE 06 53 00.0
CTAO LR LR
comp=Z,736µm,22.0s
CADS Cadrg 112.96 49 *e*Pdiff **Pdif** **06 48 56.8 +3.7**
CADS *e* 06 52 52.0
UBBA Unterbreizbach 113.01 43 *e*Pdiff **Pdif** **06 48 56.6 +3.6**
UBBA *e*PP PP 06 53 51.6 +15
UBBA *e*SP SP 07 03 38.5 +30
UBBA *e*SS SS 07 09 32.7 +14
MYKA Terra Mystica 113.09 48⇓*i*pPdiff **Pdif** **06 48 57.4 +3.6**
comp=Z,44µm,19.8s
RJOB Jochberg 113.12 47 *e*Pdiff **Pdif** **06 48 57.1 +3.2**
RJOB *e*PP PP 06 53 52.6 +15
RJOB *e*SP SP 07 03 39.2 +30
RJOB *e*SS SS 07 09 33.4 +12
KBA Koelnbreinsper 113.13 48⇑*i*Pdiff **Pdif** **06 48 55.6 +1.6**
comp=Z,44µm,19.6s
GRF Grafenberg Arr 113.14 45 *e*Pdiff **Pdif** **06 48 57.3 +3.4**
GRF *e*PP PP 06 53 52.5 +14
GRF *e*SP SP 07 03 40.4 +31
GRF *e*SS SS 07 09 34.2 +13
GRF *e*L L 07 40 53.1
comp=Z,3225µm,20.8s
LJU Ljubljana 113.36 49 *e*Pdiff **Pdif** **06 48 58.1 +3.2**
LJU *i* 06 49 10.9
LJU *e*PP **PP** **06 53 44.6 +5.0**
LJU *e* 06 56 21.7
LJU *e* 06 56 51.3
LJU *e*SP SP 07 03 34.5 +23
LJU *e* 07 03 43.5
LJU *e* 07 05 49.0
LJU *e* 07 10 36.5
LJU *e* 07 15 04.3
LJU *e* 07 21 31.0
LJU *e* 07 22 50.3
LJU *e* 07 28 22.2
UDBI Udbina 113.41 51 *i* P **Pdif** **06 48 57.7 +2.5**
DIV Divide 113.43 330 PFAKE 06 53 00.0
DIV LR LR

comp=Z,1498µm,20.8s
SFD Strofades 113.48 60 P Pdif 06 49 09.6 +14
SFD Strofades 113.48 60 *e*P **Pdif** **06 48 58.9 +3.3**
HLG Helgoland 113.53 39 *e*Pdiff **Pdif** **06 48 58.0 +2.6**
HLG *e*PP PP 06 53 54.8 +14
HLG *e*SP SP 07 03 41.6 +29
HLG *e*SS SS 07 09 37.7 +12
BOJS Bojanci 113.55 50 *e*Pdiff **Pdif** **06 48 59.2 +3.5**
OBKA Obir 113.59 49⇑*i*Pdiff **Pdif** **06 48 58.8 +2.8**
comp=Z,46µm,20.4s
MENT Mentasta 113.61 332 *e*Pdif **Pdif** **06 48 57.1 +1.5**
MENT *e*PKPdf **PKiKP** **06 52 49.3 +1.3**
VLS Valsamata 113.62 59 P **Pdif** **06 48 59.9 +3.6**
VLS Valsamata 113.62 59 P **Pdif** **06 48 59.9 +3.6**
VLS Valsamata 113.62 59 *e*P **Pdif** **06 48 59.5 +3.2**
VLS Valsamata 113.62 59 P **Pdif** **06 48 59.9 +3.6**
EGAK Eagle 113.70 334 *e*Pdif **Pdif** **06 48 57.4 +1.4**
EGAK LR LR
comp=Z,1230µm,19.0s
CLZ Clausthal 113.71 42 *e*Pdiff **Pdif** **06 49 00.0 +3.7**
CLZ *e*PP PP 06 53 57.0 +15
CLZ *e*SP SP 07 03 46.7 +32
CLZ *e*SS SS 07 09 40.7 +12
ROTZ Rotzenmuhle 113.74 45 *e*Pdiff **Pdif** **06 49 00.5 +4.0**
ROTZ *e*PP PP 06 53 57.2 +15
ROTZ *e*SP SP 07 03 47.2 +32
ROTZ *e*SS SS 07 09 43.4 +14
KEK Kerkira 113.80 57 P **Pdif** **06 49 00.8 +3.8**
KEK Kerkira 113.80 57 *e*P **Pdif** **06 48 55.8 -1.2**
KEK Kerkira 113.80 57 P **Pdif** **06 49 00.8 +3.8**
MOX Moxa 113.82 44 *e*Pdiff **Pdif** **06 49 00.5 +3.7**
MOX *e*PP PP 06 53 57.5 +15
MOX *e*SP SP 07 03 48.5 +33
MOX *e*SS SS 07 09 44.0 +14
MOX *e*L L 07 41 56.3
comp=Z,2454µm,19.8s
PYL PYLOS 113.83 61 P **Pdif** **06 48 59.8 +2.6**
PYL PYLOS 113.83 61 P **Pdif** **06 48 59.8 +2.6**
WET Wettzell 113.83 46 *e*Pdiff **Pdif** **06 49 00.9 +3.9**
WET *e*PP PP 06 53 57.8 +15
WET *e*SP SP 07 03 47.7 +32
WET *e*SS SS 07 09 45.2 +15
STON Ston 113.87 54 *i* P **Pdif** **06 48 57.7 +0.5**
NRDL Niedersach Rie 113.88 42 *e*Pdiff **Pdif** **06 49 00.3 +3.4**
NRDL *e*PP PP 06 53 57.8 +15
NRDL *e*SP SP 07 03 47.2 +31
NRDL *e*SS SS 07 09 43.4 +13
SOKA Soboth 113.96 49⇑*i*Pdiff **Pdif** **06 48 58.1 +0.4**
comp=Z,43µm,20.2s
MOA Molln 114.05 47⇑*i*pPdiff **Pdif** **06 49 02.2 +4.2**
comp=Z,39µm,18.9s
IGT Igoumenitsa 114.08 58 P **Pdif** **06 49 01.0 +2.7**
IGT Igoumenitsa 114.08 58 P **Pdif** **06 49 01.0 +2.7**
IGT Igoumenitsa 114.08 58 *e*P **Pdif** **06 48 58.5 +0.2**
IGT Igoumenitsa 114.08 58 P **Pdif** **06 49 01.0 +2.7**
ITM Ithomi 114.09 61 P **Pdif** **06 49 02.3 +3.9**
ITM Ithomi 114.09 61 *e*P **Pdif** **06 49 01.5 +3.1**
ITM Ithomi 114.09 61 P **Pdif** **06 49 02.3 +3.9**
AMT Artemida-Makis 114.10 60 P Pdif 06 49 16.3 +18
AMT Artemida-Makis 114.10 60 *e*P Pdif 06 49 16.3 +18
DOT Dot Lake 114.13 332 *e*Pdif **Pdif** **06 49 00.6 +2.7**
DOT LR LR
comp=Z,1917µm,21.8s
GEC2 GERESS Array S 114.17 46 *e*Pdiff **Pdif** **06 49 01.7 +3.1**
GEC2 *e*PP PP 06 53 59.7 +14
GEC2 *e*SP SP 07 03 50.3 +31
GEC2 *e*SS SS 07 09 48.3 +13
GERES GERESS Array B 114.17 46 P Pdif 06 49 10.2 +12
GERES 06 52 48.3
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES pmax pmax
comp=Z,18nm,0.9s
GERES GERESS Array B 114.17 46 Pdiff Pdif 06 49 10.2 +12
comp=Z,0.6nm,0.8s,baz=228,slow=2.5,SNR=3.5
GERES PKP PKPdf 06 52 48.3 -1.3
comp=Z,18nm,0.9s,baz=222,slow=1.3,SNR=2.8
GERES PKKP PKKPdf 07 03 46.4 -7.4
comp=Z,12nm,0.9s,baz=116,slow=2.3,SNR=3.5
RLS Riolos of Patr 114.18 60 P **Pdif** **06 49 00.4 +1.7**
RLS Riolos of Patr 114.18 60 *e*P **Pdif** **06 49 00.5 +1.7**
RLS Riolos of Patr 114.18 60 P **Pdif** **06 49 00.4 +1.7**
NEUB Neuenburg 114.18 43 *e*Pdiff **Pdif** **06 49 01.9 +3.5**
NEUB *e*PP PP 06 54 00.0 +15
NEUB *e*SP SP 07 03 51.7 +33
NEUB *e*SS SS 07 09 48.7 +14
TANN Tannenbergstha 114.19 44 *e*Pdiff **Pdif** **06 49 02.4 +3.8**
TANN *e*PP PP 06 54 00.3 +15
TANN *e*SP SP 07 03 52.3 +33
TANN *e*SS SS 07 09 49.2 +14
SISC Sisak 114.23 50 *i* P **Pdif** **06 49 00.5 +1.7**
PDO Prodromos 114.23 59 P **Pdif** **06 49 03.1 +4.2**
PDO Prodromos 114.23 59 *e*P **Pdif** **06 49 00.6 +1.7**
KHC Kasperske Hory 114.23 46 *i* P **Pdif** **06 48 59.4 +0.6**
KHC *e* 06 52 50.1
KHC *e* 06 53 45.6
KHC MLR MLR
comp=Z,2985µm,18.1s
KHC Kasperske Hory 114.23 46 *e*PDIFF **Pdif** **06 48 59.4 +0.6**
KHC *e*x x 06 49 33.0
KHC *e*PKP **PKiKP** **06 52 50.1 +0.4**
KHC *e*PP **PP** **06 53 45.6 -0.3**
KHC *e*x x 07 03 46.4
KHC *e*PKKP **PKKPdf** **07 03 54.8 +1.2**
KHC AMS AMS 07 43 30.0
comp=Z,2985µm,18.1s
KHC Kasperske Hory 114.23 46 PFAKE 06 53 00.0 +10
KHC LR LR
comp=Z,3053µm,18.8s
PAX Paxson 114.30 331 *e*P **Pdif** **06 48 59.0 +0.2**
PAX MLR MLR
comp=Z,1081µm,20.6s
PAX Paxson 114.30 331 *e*Pdif **Pdif** **06 48 59.0 +0.2**
PAX LR LR
comp=Z,1081µm,20.6s
DRO Drossia 114.30 60 P **Pdif** **06 49 02.9 +3.6**
DRO Drossia 114.30 60 *e*P **Pdif** **06 49 00.9 +1.6**
DSL Palaion Diasel 114.42 58 P **Pdif** **06 49 02.5 +2.7**
DSL Palaion Diasel 114.42 58 *e*P **Pdif** **06 49 01.0 +1.2**
DSL Palaion Diasel 114.42 58 P **Pdif** **06 49 02.5 +2.7**
SEW Seward 114.44 328 PFAKE 06 53 00.0 +10
SEW LR LR
comp=Z,957µm,21.9s
ANKY Antikythira Is 114.45 62 *e*P **Pdif** **06 49 00.8 +0.8**
JAN Janina 114.49 58 P **Pdif** **06 49 04.4 +4.3**
JAN Janina 114.49 58 *e*P **Pdif** **06 49 04.0 +3.9**
VLX Vlachokerasia 114.50 61 P **Pdif** **06 49 04.5 +4.2**
VLX Vlachokerasia 114.50 61 *e*P **Pdif** **06 49 03.5 +3.2**
VLX Vlachokerasia 114.50 61 P **Pdif** **06 49 04.5 +4.2**
ARSA Arzberg 114.52 48⇑*i*pPdiff **Pdif** **06 49 03.8 +3.7**
comp=Z,44µm,19.9s
VLI Veliai 114.59 62 P **Pdif** **06 49 03.0 +2.4**
VLI Veliai 114.59 62 *e*P **Pdif** **06 49 00.9 +0.3**
VLI Veliai 114.59 62 P **Pdif** **06 49 03.0 +2.4**
KOGS Kog 114.60 49 *e*Pdiff **Pdif** **06 49 02.7 +2.3**
LAKA Lakka 114.62 60 P **Pdif** **06 49 04.0 +3.3**
LAKA Lakka 114.62 60 *e*P **Pdif** **06 49 01.9 +1.2**
LAKA Lakka 114.62 60 P **Pdif** **06 49 04.0 +3.3**
KLV Kalavryta, Ach 114.65 60 P **Pdif** **06 49 04.6 +3.7**
KLV Kalavryta, Ach 114.65 60 *e*P **Pdif** **06 48 59.1 -1.8**
KLV Kalavryta, Ach 114.65 60 P **Pdif** **06 49 04.6 +3.7**
EFP Efpalio 114.65 59 P **Pdif** **06 49 05.3 +4.5**
EFP Efpalio 114.65 59 *e*P **Pdif** **06 49 05.0 +4.2**
BSEG Bad Segeberg 114.67 40 *e*Pdiff **Pdif** **06 49 03.4 +3.0**
BSEG *e*PP PP 06 54 02.7 +14
BSEG *e*SP SP 07 03 53.9 +31
BSEG *e*SS SS 07 09 51.0 +10
PDG Podgorica 114.69 55 P **Pdif** **06 49 06.2 +5.4**
KMY Karmoy 114.73 34 *e*PKPdf PKPdf 06 52 49.6 -0.6
GUR Goura 114.73 60 P **Pdif** **06 49 04.5 +3.2**
GUR Goura 114.73 60 *e*P **Pdif** **06 48 59.3 -2.0**
GUR Goura 114.73 60 P **Pdif** **06 49 04.5 +3.2**
KALE Kalithea 114.80 60 P **Pdif** **06 49 06.0 +4.4**
KALE Kalithea 114.80 60 *e*P **Pdif** **06 49 05.2 +3.6**
STAV Stavanger 114.80 34 *e* 06 54 24.8
EVR Evrytania 114.81 59 P **Pdif** **06 49 06.5 +4.8**
EVR Evrytania 114.81 59 *e*P **Pdif** **06 49 03.8 +2.1**
SML Sawmill 114.83 330 PFAKE 06 53 00.0 +10
SML LR LR
comp=Z,234µm,18.6s
VAM Vamos 114.89 63 P **Pdif** **06 49 06.8 +4.9**

VAM Vamos 114.89 63 *e*P **Pdif** **06 49 03.2 +1.3**
SII Sitkinak Islan 114.89 323 PFAKE 06 53 00.0 +9.3
SII LR LR
comp=Z,1202µm,18.9s
CLL Collm 114.91 44 *e*Pdiff **Pdif** **06 49 05.3 +3.7**
CLL *e*PP PP 06 54 05.4 +15
CLL *e*SP SP 07 04 00.1 +35
CLL *e*SS SS 07 09 57.4 +13
CLL Collm 114.91 44 *e*Pdif **Pdif** **06 49 04.0 +2.4**
CLL *e*Pdiffmax 06 49 19.0
comp=Z,69nm,1.9s
CLL *e*Pmax 06 49 21.0
CLL *e*Plp 06 49 27.0
comp=Z,40µm,25.6s
CLL *e* 06 49 35.0
CLL *e* 06 50 30.0
CLL *e*PKiKP PKPdf 06 52 50.0 -0.8
CLL *e*PKiKPmax 06 52 59.0
CLL *i* 06 53 26.7
CLL *i* PP **PP** **06 53 46.3 -4.2**
CLL *e* 06 53 56.0
CLL *e*PPmax 06 53 59.0
comp=Z,130µm,23.6s
CLL *e* 06 54 11.0
CLL *e* 06 54 44.0
CLL *e* 06 57 36.0
CLL *e*SKKSac SKKSac 07 01 00.0 +11
CLL *e*Sdif Sdif 07 01 54.0 +22
CLL *e*PKKPdfm 07 03 57.0
CLL *e*PSKSmax 07 03 58.0
CLL *e*pPKKPdf 07 04 03.0
CLL *e*PPSmax 07 04 49.0
CLL *e* 07 05 51.0
CLL *e*SSmax 07 10 00.0
CLL *e* 07 10 49.0
CLL *e* 07 11 28.0
CLL *e*SSSmax 07 14 54.0
CLL *e*SSSSmax 07 18 06.0
CLL *e* 07 23 00.0
CLL Lmax 07 37 00.0
CLL LV 07 41 00.0
comp=Z,2414µm,21.0s
CLL LmV 07 42 00.0
comp=Z,2389µm,20.3s
CLL W 11 30 00.0
CLL W 11 35 00.0
comp=N,12µm,23.3s
CLL W 11 35 00.0
comp=E,23µm,20.9s
CLL W 11 35 00.0
comp=Z,39µm,20.2s
CLL Collm 114.91 44 PFAKE 06 53 00.0 +9.2
CLL LR LR
comp=Z,2908µm,21.0s
BEHE Becsehely 114.94 50 *e*Pdiff Pdif 06 49 23.3 +21
CONA Conrad Observa 115.04 48⇑*i*pPdiff pPdif 06 49 07.4 -4.1
comp=Z,41µm,19.7s
RC01 Rabbit Creek A 115.06 329 PFAKE 06 53 00.0 +9.2
RC01 LR LR
comp=Z,696µm,21.1s
MAKR Makrakomi, Fth 115.08 59 P **Pdif** **06 49 07.0 +4.2**
MAKR Makrakomi, Fth 115.08 59 *e*P **Pdif** **06 49 05.1 +2.3**
DSF Desfina 115.08 60 P **Pdif** **06 49 06.3 +3.5**
DSF Desfina 115.08 60 *e*P **Pdif** **06 49 05.6 +2.8**
DSF Desfina 115.08 60 P **Pdif** **06 49 06.3 +3.5**
SIVA Sivas 115.15 64 P **Pdif** **06 49 08.5 +5.4**
SIVA Sivas 115.15 64 *e*P **Pdif** **06 48 59.8 -3.3**
DID Didima 115.17 61 P **Pdif** **06 49 06.3 +3.1**
DID Didima 115.17 61 *e*P **Pdif** **06 49 06.7 +3.5**
DID Didima 115.17 61 P **Pdif** **06 49 06.3 +3.1**
PRU Pruhonice 115.19 45 *i* P **Pdif** **06 49 02.1 -0.8**
PRU *e* 06 52 53.7
PRU *e* 06 53 51.4
PRU *e* 07 09 59.0
PRU MLR MLR
comp=Z,3353µm,22.6s
PRU Pruhonice 115.19 45 *e*PDIFF **Pdif** **06 49 02.1 -0.8**
PRU *e*PKP **PKiKP** **06 52 53.7 +2.3**
PRU *e*PP **PP** **06 53 51.4 -1.1**
PRU *e*x x 07 01 05.7
PRU *e*PKKP **PKKPdf** **07 03 50.7 -1.1**
PRU *e*x x 07 09 59.0
PRU AMS AMS 07 40 10.0
comp=Z,3353µm,22.6s
SNART Snartemo 115.21 35 *e*PKPdf PKPdf 06 53 00.2 +9.0
LTK Loutraki 115.21 60 P **Pdif** **06 49 04.0 +0.7**
LTK Loutraki 115.21 60 *e*P **Pdif** **06 49 00.5 -2.8**
LTK Loutraki 115.21 60 P **Pdif** **06 49 04.0 +0.7**
AGG Agios Georgios 115.22 59 P **Pdif** **06 49 06.9 +3.5**
AGG Agios Georgios 115.22 59 *e*P **Pdif** **06 49 03.5 +0.1**
AGG Agios Georgios 115.22 59 P **Pdif** **06 49 06.9 +3.5**
BRG Berggiesshubel 115.24 44 PDIFF **Pdif** **06 49 04.0 +0.9**
BRG Berggiesshubel 115.24 44 *i* PKP **PKPdf** **06 52 53.2 +1.7**
comp=Z,185nm,1.6s
BRG PP **PP** **06 53 57.0 +4.2**
BRG SKS **SKSdf** **07 00 02.0 +0.7**
BRG *e*PKKP PKKPab 07 03 39.7 +10
comp=Z,195nm,1.7s
BRG *e* 07 04 01.7
comp=Z,257nm,1.6s
BRG PS PKKPdf 07 04 03.0 +11
BRG SS SS 07 10 11.0 +22
BRG *e*PKPPKP P'P'df 07 12 11.4 +12
comp=Z,362nm,2.3s
comp=N,1343µm,19.2s
comp=E,1460µm,17.7s
comp=Z,2746µm,18.7s
BRG Berggiesshubel 115.24 44 *i* PKIKP **PKPdf** **06 52 53.2 +1.7**
BRG 06 53 57.0
BRG 07 00 02.0
BRG SS SS 07 10 11.0 +22
BRG pmax pmax
comp=Z,185nm,1.6s
BRG MLR MLR
comp=N,1343µm,19.2s
BRG MLR MLR
comp=E,1460µm,17.7s
BRG MLR MLR
comp=Z,2746µm,18.7s
BRG Berggiesshubel 115.24 44 *e*Pdiff **Pdif** **06 49 07.1 +4.0**
BRG *e*PP PP 06 54 08.0 +15
BRG *e*SP SP 07 04 03.8 +35
BRG *e*SS SS 07 10 03.4 +15
THL Klokotos Trika 115.25 58 P **Pdif** **06 49 07.2 +3.8**
THL Klokotos Trika 115.25 58 *e*P **Pdif** **06 49 01.9 -1.5**
MUD Monsted U'grnd 115.26 37 *i* P **Pdif** **06 49 06.9 +3.9**
MUD *i* 07 03 55.1
comp=Z,1736µm,18.0s
AS31 Alice Springs 115.33 207 *e*PKPdf **PKPdf** **06 52 55.4 +2.7**
AXAR Agios Charalam 115.33 59 P **Pdif** **06 49 07.2 +3.3**
AXAR Agios Charalam 115.33 59 *e*P **Pdif** **06 49 03.8 -0.1**
AXAR Agios Charalam 115.33 59 P **Pdif** **06 49 07.2 +3.3**
IDI Anoyia 115.33 64 Pdiff Pdif 06 49 17.8 +14
comp=Z,8.5nm,1.0s,baz=247,slow=6.9,SNR=1.8
IDI PKP **PKiKP** **06 52 52.6 +0.3**
comp=Z,31nm,0.9s,baz=266,slow=4.1,SNR=3.1
IDI PP **PP** **06 53 56.4 +2.4**
comp=Z,74nm,0.7s,baz=252,slow=9.6,SNR=3.3
BER Bergen 115.34 33 *e*PP PP 06 53 58.5 +5.2
BER IAMs_20 IAMs_20 07 45 16.8
comp=Z,1878µm,18.0s
SOP Sopron 115.35 48 *e* Pdif 06 49 23.9 +20
FNA Florina 115.36 57 P **Pdif** **06 49 05.9 +1.9**
FNA Florina 115.36 57 P **Pdif** **06 49 05.9 +1.9**
FNA Florina 115.36 57 P **Pdif** **06 49 05.9 +1.9**
KZN Kozani 115.42 58 P **Pdif** **06 49 06.3 +2.0**
KZN Kozani 115.42 58 P **Pdif** **06 49 06.3 +2.0**
KZN Kozani 115.42 58 *e*P **Pdif** **06 49 04.3 0.0**
KZN Kozani 115.42 58 P **Pdif** **06 49 06.3 +2.0**
SUE Sulen 115.42 32 *e*PKPdf PKPdf 06 53 08.2 +17
SUE IAMs_20 IAMs_20 07 38 36.3
comp=Z,2243µm,21.3s
TREC Trest 115.42 46 *i* P **Pdif** **06 49 06.3 +2.3**
TREC *e* 06 54 02.0
TREC MLR MLR
comp=Z,2463µm,20.5s
TREC Trest 115.42 46 *e*PDIFF **Pdif** **06 49 06.3 +2.3**
TREC *e*pPKP **PKiKP** **06 52 57.0 +5.1**
TREC *e*x x 06 54 02.0
TREC *e*x x 07 03 43.1
TREC *e*PKKP **PKKPdf** **07 03 50.6 -0.7**
TREC AMS AMS 07 43 00.0
comp=Z,2463µm,20.5s

PVCC Panska Ves 115.44 45 ePDIFF Pdif 06 49 05.3 +1.3
PVCC ePKKP PKKPdf 07 03 56.4 +5.1
PVCC ex x 07 10 06.9
PVCC AMS AMS 07 41 30.0
comp=Z,3403µm,21.2s
LKR Lokris 115.52 60 P Pdif 06 49 07.3 +2.6
LKR Lokris 115.52 60 eP Pdif 06 49 04.3 -0.4
LKR Lokris 115.52 60 P Pdif 06 49 07.3 +2.6
ODD1 Odda 115.68 33 e PP 06 53 53.2 -2.5
LAST Lasithi 115.70 64 P Pdif 06 49 10.1 +4.4
LAST Lasithi 115.70 64 eP Pdif 06 49 09.8 +4.1
ATH Athens Observa 115.72 61 P Pdif 06 49 09.8 +4.3
ATH Athens Observa 115.72 61 eP Pdif 06 49 08.1 +2.6
ATHU Athens Univers 115.76 61 P Pdif 06 49 09.8 +4.0
IL1 Eielson Array 115.77 333 ePdif Pdif 06 49 06.8 +1.7
ILAR Eielson Array 115.77 333 P Pdif 06 49 06.7 +1.6
ILAR 06 52 51.0
ILAR 06 54 04.6
ILAR 07 03 26.1
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR Eielson Array 115.77 333 Pdiff Pdif 06 49 06.7 +1.6
comp=Z,3.2nm,1.0s,baz=156,slow=2.9,SNR=13
ILAR PKP PKPdf 06 52 51.0 -1.1
comp=Z,10nm,1.0s,baz=132,slow=1.3,SNR=3.4
ILAR PP PP 06 54 04.6 +8.4
comp=Z,35nm,0.8s,baz=116,slow=2.1,SNR=2.8
ILAR PKKPab PKKPbc 07 03 26.1 +0.6
comp=Z,16nm,0.9s,baz=297,slow=1.2,SNR=3.3
HOMB Homborsund 115.78 35 ePP PP 06 54 07.2 +11
FOO Floro 115.80 31 ePP PP 06 54 07.3 +11
LIT Litokhoron 115.82 58 P Pdif 06 49 09.6 +3.6
LIT Litokhoron 115.82 58 P Pdif 06 49 09.6 +3.6
LIT Litokhoron 115.82 58 eP Pdif 06 49 07.8 +1.8
LIT Litokhoron 115.82 58 P Pdif 06 49 09.6 +3.6
FYTO Fytoko, Volos 115.82 59 P Pdif 06 49 08.9 +2.9
FYTO Fytoko, Volos 115.82 59 P Pdif 06 49 08.9 +2.9
NPS Neapolis 115.85 64 P Pdif 06 49 12.6 +6.4
NPS Neapolis 115.85 64 eP Pdif 06 49 13.4 +7.2
PTL Penteli 115.86 61 P Pdif 06 49 25.9 +20
PTL Penteli 115.86 61 eP Pdif 06 49 08.8 +2.6
RUE Ruedersdorf 115.86 43 ePdiff Pdif 06 49 09.5 +3.7
RUE ePP PP 06 54 11.9 +15
RUE eSP SP 07 04 09.6 +35
RUE eSS SS 07 10 07.9 +11
RUE Ruedersdorf 115.86 43 ePKPdf PKPdf 06 52 52.0 -0.6
RUE LR LR
comp=Z,3036µm,22.0s
DIVS Divibare 115.91 53 P Pdif 06 49 09.8 +3.4
SKO Skopje 115.93 56 P Pdif 06 49 09.2 +2.8
SKO Skopje 115.93 56 P Pdif 06 49 09.2 +2.8
SKO Skopje 115.93 56 i P PP 06 53 57.9 0.0
SKO ⇑i 07 04 17.7
SKO Skopje 115.93 56 P Pdif 06 49 09.2 +2.8
MRKA Markates 115.95 60 P Pdif 06 49 10.5 +3.9
MRKA Markates 115.95 60 eP Pdif 06 49 09.2 +2.6
NEO Neokhori 115.97 59 P Pdif 06 49 10.3 +3.6
NEO Neokhori 115.97 59 P Pdif 06 49 10.3 +3.6
XOR Xorichti 115.97 59 P Pdif 06 49 06.8 +0.1
XOR Xorichti 115.97 59 eP Pdif 06 49 06.7 +0.1
XOR Xorichti 115.97 59 P Pdif 06 49 06.8 +0.1
PKSM Moragy 115.98 51 ⇑PKIKP PKPdf 06 52 53.0 0.0
PKSM Moragy 115.98 51 ⇑i P PKPdf 06 52 53.0 0.0
PKSM Moragy 115.98 51 e Pdif 06 49 24.6 +18
MCK McKinley 116.03 331 eP Pdif 06 49 06.9 +0.5
MCK MLR MLR
comp=Z,912µm,19.7s
MCK McKinley 116.03 331 ePdif Pdif 06 49 06.9 +0.5
MCK LR LR
comp=Z,912µm,19.7s
RSO Redoubt South 116.06 327 ePdif Pdif 06 49 10.1 +3.3
SKIA Skiathos 116.08 59 P Pdif 06 49 10.9 +3.8
SKIA Skiathos 116.08 59 eP Pdif 06 49 09.9 +2.8
HYA Hoyanger 116.08 32 ePKPdf PKPdf 06 52 54.5 +1.8
HYA ePP PP 06 54 04.3 +5.9
VRAC Vranov 116.08 47 ⇓PKIKP PKPdf 06 52 58.8 +5.6
VRAC Vranov 116.08 47 ⇓i P PKPdf 06 52 58.8 +5.6
VRAC Vranov 116.08 47 Pdiff Pdif 06 49 22.5 +16
comp=Z,1.4nm,0.4s,baz=224,slow=2.4,SNR=4.1
VRAC PKP PKiKP 06 52 57.1 +3.9
comp=Z,57nm,1.2s,baz=253,slow=1.9,SNR=3.1
VRAC PP PP 06 54 02.7 +3.9
comp=Z,197nm,1.1s,baz=262,slow=7.2,SNR=4.7
JMIC Jan Mayen 116.13 19 ePP PP 06 53 59.9 +1.4
JMIC Jan Mayen 116.13 19 PP PP 06 53 59.6 +1.1
comp=Z,78nm,0.8s,baz=172,slow=12,SNR=2.9
GRG Griva 116.13 57 P Pdif 06 49 11.0 +3.6
GRG Griva 116.13 57 P Pdif 06 49 11.0 +3.6
COLA College 116.18 333 eP Pdif 06 49 08.3 +1.4
COLA MLR MLR
comp=Z,1314µm,21.0s
COLA College 116.18 333 ePdif Pdif 06 49 08.2 +1.4
COLA LR LR
comp=Z,1314µm,21.0s
ZKR Zakros 116.22 64 P Pdif 06 49 11.7 +3.8
ZKR Zakros 116.22 64 eP Pdif 06 49 06.3 -1.6
ZKR Zakros 116.22 64 P Pdif 06 49 11.7 +3.8
UPC Upice 116.26 45 i P Pdif 06 49 15.1 +7.4
UPC e 06 52 55.2
UPC ePS PS 07 03 39.3 -2.5
UPC Upice 116.26 45 epP Pdif 06 49 15.1 +7.4
UPC ePKP PKiKP 06 52 55.2 +1.7
UPC ePS PS 07 03 39.3 -2.5
AOS Alonnisos 116.36 59 P Pdif 06 49 11.6 +3.2
AOS Alonnisos 116.36 59 eP Pdif 06 49 10.2 +1.8
AOS Alonnisos 116.36 59 eP Pdif 06 49 10.2 +1.8
AOS Alonnisos 116.36 59 P Pdif 06 49 11.6 +3.2
DPC Dobruska-Polom 116.37 46 i P Pdif 06 49 10.5 +2.3
DPC e 06 52 53.1
DPC e 06 54 11.2
DPC ePS PS 07 03 41.8 -1.1
DPC e 07 09 59.8
DPC Dobruska-Polom 116.37 46 ePDIFF Pdif 06 49 10.5 +2.3
DPC ePKP PKPdf 06 52 53.1 -0.7
DPC ex x 06 54 11.2
DPC ePS PS 07 03 41.8 -1.1
DPC ex x 07 03 59.4
DPC eSS SS 07 09 59.8 -3.8
DPC AMS AMS 07 41 30.0
DPC Dobruska-Polom 116.37 46 PFAKE 06 53 00.0 +6.2
DPC LR LR
comp=Z,15843µm,22.0s
THE Thessaloniki 116.38 58 P Pdif 06 49 12.0 +3.6
THE Thessaloniki 116.38 58 P Pdif 06 49 12.0 +3.6
THE Thessaloniki 116.38 58 eP Pdif 06 49 08.5 +0.1
THE Thessaloniki 116.38 58 P Pdif 06 49 12.0 +3.6
VAY Valandovo 116.41 57 P Pdif 06 49 12.6 +4.1
VAY Valandovo 116.41 57 P Pdif 06 49 12.6 +4.1
VAY Valandovo 116.41 57 eP Pdif 06 49 27.8 +19
VAY Valandovo 116.41 57 P Pdif 06 49 12.6 +4.1
TRF Thorofare Moun 116.43 331 ePdif Pdif 06 49 09.0 +0.7
HORT Hortiatis 116.45 58 P Pdif 06 49 12.3 +3.4
HORT Hortiatis 116.45 58 eP Pdif 06 49 10.4 +1.5
HORT Hortiatis 116.45 58 P Pdif 06 49 12.3 +3.4
RGN Rugen 116.52 41 ePdiff Pdif 06 49 12.3 +3.6
RGN ePP PP 06 54 16.3 +15
RGN eSP SP 07 04 15.6 +36
RGN eSS SS 07 10 18.9 +14
RGN Rugen 116.52 41 PFAKE 06 53 00.0 +6.2
RGN LR LR
comp=Z,3138µm,19.0s
COP Copenhagen 116.55 39 i P Pdif 06 49 12.3 +3.5
COP MLR MLR
comp=Z,1100µm,19.0s
COP Copenhagen 116.55 39 i P Pdif 06 49 12.3 +3.5
COP i 07 04 13.2
COP e 07 11 39.6
comp=Z,1061µm,19.0s
PAIG Paliouri 116.56 59 P Pdif 06 49 13.3 +4.1
PAIG Paliouri 116.56 59 eP Pdif 06 49 10.6 +1.4
KNT Kendrikon 116.56 57 P Pdif 06 49 10.5 +1.2
KNT Kendrikon 116.56 57 P Pdif 06 49 10.5 +1.2
KNT Kendrikon 116.56 57 eP Pdif 06 49 09.0 -0.3
KNT Kendrikon 116.56 57 P Pdif 06 49 10.5 +1.2
KSP Ksiaz 116.57 45 i PKIKP PKPdf 06 52 55.9 +1.9
KSP e 06 54 06.0
KSP Ksiaz 116.57 45 ePdiff Pdif 06 49 13.6 +4.6
KSP ePKiKP PKiKP 06 52 55.3 +1.2
KSP ePP PP 06 54 07.6 +5.4
KSP eSKSdf SKSdf 07 00 07.9 +4.0
KSP LMZ LR 07 41 37.5

PLG Polygyros 116.59 58 P Pdif 06 49 13.8 +4.3
PLG Polygyros 116.59 58 eP Pdif 06 49 06.4 -3.1
APE Apeiranthos 116.60 62 P Pdif 06 49 12.9 +3.3
APE Apeiranthos 116.60 62 eP Pdif 06 49 11.5 +1.9
APE i 06 52 52.5
APE MLR MLR
comp=Z,2004µm,19.0s
APE Apeiranthos 116.60 62 eP Pdif 06 49 12.1 +2.5
APE Apeiranthos 116.60 62 ⇓i P PKPdf 06 52 51.8 -2.8
APE Apeiranthos 116.60 62 P Pdif 06 49 12.9 +3.3
KTH Kantishna Hill 116.72 331 ePdif Pdif 06 49 10.9 +1.3
KTH LR LR
comp=Z,784µm,18.6s
SOH Sokhos 116.72 58 P Pdif 06 49 09.4 -0.6
SOH Sokhos 116.72 58 P Pdif 06 49 09.4 -0.6
SOH Sokhos 116.72 58 eP Pdif 06 49 06.2 -3.8
SOH Sokhos 116.72 58 P Pdif 06 49 09.4 -0.6
BUD Budapest 116.76 49 e Pdif 06 49 29.7 +20
BUD ePdiff 06 49 30.6
MORC Moravsky Berou 116.84 47 ⇓PKIKP PKPdf 06 52 47.0 -7.7
MORC Moravsky Berou 116.84 47 ⇓i P PKPdf 06 52 47.0 -7.7
MORC Moravsky Berou 116.84 47 PFAKE 06 53 10.0 +15
MORC LR LR
comp=Z,2086µm,21.0s
KONO Kongsberg 116.90 34 ePKIKP PKPdf 06 52 56.2 +1.8
KONO MLR MLR
comp=Z,2183µm,20.0s
KONO Kongsberg 116.90 34 ePKPdf PKPdf 06 53 02.0 +7.6
KONO e 06 54 06.9
KONO IAMs_20 IAMs_20 07 44 06.1
comp=Z,2359µm,21.3s
KONO Kongsberg 116.90 34 ePKPdf PKPdf 06 52 56.2 +1.8
KONO LR LR
comp=Z,2183µm,20.0s
PPLA Purkeypile 116.93 330 ePdif Pdif 06 49 12.6 +2.1
PPLA LR LR
comp=Z,1101µm,19.7s
OUR Ouranopolis 116.94 58 P Pdif 06 49 14.6 +3.7
OUR Ouranopolis 116.94 58 P Pdif 06 49 14.6 +3.7
OUR Ouranopolis 116.94 58 eP Pdif 06 49 06.9 -4.0
OUR Ouranopolis 116.94 58 P Pdif 06 49 14.6 +3.7
MSEY Mahe Island 116.98 119 PFAKE 06 53 10.0 +14
MSEY LR LR
comp=Z,3098µm,20.0s
KKB Krupnik 116.99 56 eP Pdif 06 49 32.8 +22
SRS Serrai 117.02 57 P Pdif 06 49 10.8 -0.5
SRS Serrai 117.02 57 eP Pdif 06 49 10.9 -0.4
SRS Serrai 117.02 57 P Pdif 06 49 10.8 -0.5
MIDW Midway 117.02 286 PFAKE 06 53 10.0 +14
MIDW LR LR
comp=Z,545µm,18.4s
VYHS Vyhne 117.07 48 eP Pdif 06 49 18.1 +6.7
VYHS e 06 52 54.3
VYHS e 06 54 13.0
VYHS MLR MLR
comp=Z,930µm,22.2s
VYHS Vyhne 117.07 48 pPDIF 06 49 18.1
VYHS e 06 49 29.0
VYHS Vyhne 117.07 48 ePKP PKPdf 06 52 54.3 -0.8
VYHS e 06 54 13.0
VYHS e 07 04 07.7
VYHS e 07 11 06.1
VYHS e 07 24 08.4
KARP Karpathos 117.10 64 P Pdif 06 49 16.9 +5.1
KARP Karpathos 117.10 64 eP Pdif 06 49 12.9 +1.1
CAST Castle Rocks 117.13 330 ePKPdf PKPdf 06 52 58.1 +3.3
OKC Ostrava-Krasne 117.22 47 i P Pdif 06 49 11.9 0.0
OKC e 06 54 04.5
OKC eSP SP 07 03 42.0 -4.7
OKC MLR MLR
comp=Z,1566µm,18.7s
OKC Ostrava-Krasne 117.22 47 ePDIFF Pdif 06 49 11.9 0.0
OKC epPKP pPKPdf 06 53 01.0 -3.7
OKC ePP PP 06 54 04.5 -2.3
OKC eSP SP 07 03 42.0 -4.7
OKC ex x 07 04 04.3
OKC AMS AMS 07 49 10.0
comp=Z,1566µm,18.7s
MOL Molde 117.29 31 ePP4 06 54 40.8
NVR Nevrokopi 117.30 57 P Pdif 06 49 13.3 +0.7
NVR Nevrokopi 117.30 57 eP Pdif 06 49 10.4 -2.2
NVR Nevrokopi 117.30 57 P Pdif 06 49 13.3 +0.7
MMB Musomiste 117.31 57 eP Pdif 06 49 32.6 +20
RAC Raciborz 117.35 46 eP Pdif 06 49 16.9 +4.4
RAC e 06 54 06.2
RAC MLR MLR
comp=N,2500µm,22.6s
RAC MLR MLR
comp=Z,2100µm,22.3s
PSZ Piszkesteto 117.48 49 ⇑PKIKP PKPdf 06 53 00.1 +4.1
PSZ Piszkesteto 117.48 49 ⇑i P PKPdf 06 53 00.1 +4.1
PSZ Piszkesteto 117.48 49 PFAKE 06 53 10.0 +14
PSZ LR LR
comp=Z,3232µm,19.0s
PSZ Piszkesteto 117.48 49 e Pdif 06 49 30.6 +17
SDPT Sand Point 117.53 320 PFAKE 06 53 10.0 +14
SDPT LR LR
comp=Z,669µm,21.2s
OSL Oslo 117.54 34 e 06 54 07.7
CHOS Chios island 117.55 61 P Pdif 06 49 17.3 +3.5
CHOS Chios island 117.55 61 eP Pdif 06 49 14.1 +0.3
CHOS Chios island 117.55 61 P Pdif 06 49 17.3 +3.5
DAG Danmarks Havn 117.56 12 i P Pdif 06 49 14.8 +1.9
DAG MLR MLR
comp=Z,1500µm,20.0s
DAG Danmarks Havn 117.56 12 i P Pdif 06 49 14.8 +1.9
DAG e 07 11 19.1
comp=Z,1430µm,19.0s
LIA Limnos Island 117.59 59 P Pdif 06 49 17.0 +3.2
LIA Limnos Island 117.59 59 eP Pdif 06 49 16.8 +3.0
LIA Limnos Island 117.59 59 P Pdif 06 49 17.0 +3.2
KAVA Kavala 117.59 58 P Pdif 06 49 17.6 +3.8
KAVA Kavala 117.59 58 eP Pdif 06 49 14.4 +0.6
KAVA Kavala 117.59 58 P Pdif 06 49 17.6 +3.8
BSD Bornholm Skovb 117.59 40 i P Pdif 06 49 16.4 +3.0
BSD MLR MLR
comp=Z,1800µm,19.0s
BSD Bornholm Skovb 117.59 40 i P Pdif 06 49 16.4 +3.0
BSD i 07 04 18.1
comp=Z,1847µm,18.0s
BZS Buzias 117.61 52 ⇑PKIKP PKPdf 06 52 57.7 +1.5
BZS Buzias 117.61 52 ⇑i P PKPdf 06 52 57.7 +1.5
SIGR SIGRI 117.77 60 P Pdif 06 49 19.3 +4.7
SIGR SIGRI 117.77 60 eP Pdif 06 49 12.3 -2.3
SMG Samos 117.82 62 P Pdif 06 49 18.3 +3.4
SMG Samos 117.82 62 P Pdif 06 49 18.3 +3.4
PGB Panagyurishte 118.01 56 eP Pdif 06 49 35.4 +20
RZN Rozhen 118.02 57 eP Pdif 06 49 35.9 +20
PRK Paraskevi 118.07 60 P Pdif 06 49 20.7 +4.7
SMTH Samothraki Isl 118.07 59 P Pdif 06 49 19.0 +3.0
SMTH Samothraki Isl 118.07 59 eP Pdif 06 49 18.2 +2.2
SMTH Samothraki Isl 118.07 59 P Pdif 06 49 19.0 +3.0
GKP Gorka Klasztor 118.10 43 eP Pdif 06 49 21.2 +5.5
GKP Gorka Klasztor 118.10 43 ePdiff Pdif 06 49 21.1 +5.4
GKP ePKPdf PKiKP 06 52 58.4 +1.5
GKP ePP PP 06 54 25.0 +12
GKP eSKSac SKSac 06 59 50.9 +2.6
GKP eSdiff Sdif 07 02 16.1 +18
GKP LMZ LR 07 39 22.2
ARG Arkhangelos 118.10 64 P Pdif 06 49 21.3 +5.1
ARG Arkhangelos 118.10 64 eP Pdif 06 49 11.1 -5.1
COLD Coldfoot 118.13 334 PFAKE 06 53 10.0 +13
COLD LR LR
comp=Z,1119µm,19.9s
PLD Plovdiv 118.19 57 P Pdif 06 49 20.7 +4.3
PLD Plovdiv 118.19 57 eP Pdif 06 49 36.2 +20
NB2 NORSAR Subarra 118.22 33 PKPdf PKPdf 06 53 02.8 +5.8
comp=Z,215nm,1.1s,baz=246,slow=2.0
NB2 NORSAR Subarra 118.22 33 PKPd4 06 53 02.8
baz=246,slow=2.0
NOA NORSAR Array B 118.22 33 Pdiff Pdif 06 49 22.4 +6.2
comp=Z,0.8nm,0.9s,baz=243,slow=4.3,SNR=2.8
NOA PKP PKPdf 06 52 55.8 -1.1
comp=Z,2.0nm,0.7s,baz=294,slow=16,SNR=3.0
NOA PP PP 06 54 12.9 -0.6
comp=Z,61nm,1.0s,baz=250,slow=2.2,SNR=5.2
NOA PKKPab PKKPbc 07 03 19.2 +2.6
comp=Z,10nm,0.8s,baz=68,slow=4.5,SNR=4.2
SRE Strehaia 118.24 54 ⇑PKIKP PKPdf 06 53 00.7 +3.2
SRE Strehaia 118.24 54 ⇑i P PKPdf 06 53 00.7 +3.2
NC602 NORSAR Array S 118.24 34 e 06 54 11.2
GZR Gura Zlata 118.26 53 ⇑PKIKP PKPdf 06 53 01.8 +4.2

GZR Gura Zlata 118.26 53 ⇑i P PKPdf 06 53 01.8 +4.2
NIE Niedzica 118.34 48 ePKIKP PKPdf 06 53 02.7 +5.1
NIE e 06 53 15.2
NIE e 06 54 16.7
NIE MLR MLR
comp=Z,1884µm,20.5s
NIE Niedzica 118.34 48 ePdiff Pdif 06 49 19.1 +2.1
NIE epPdiff pPdif 06 49 33.9 +7.8
NIE ePKPdf PKPdf 06 53 02.7 +5.1
NIE epPKPdf pPKPdf 06 53 15.2 +8.3
NIE ePP PP 06 54 16.7 +2.1
NIE e 06 54 34.1
NIE eSKKSac SKKSac 07 01 22.8 +11
NIE L L 07 44 58.0
comp=Z,1884µm,20.5s
OJC Ojcow 118.35 47 ePKIKP PKPdf 06 53 02.0 +4.5
OJC e 06 53 14.6
OJC e 06 54 16.2
OJC MLR MLR
comp=Z,2089µm,21.7s
OJC Ojcow 118.35 47 ePdiff Pdif 06 49 18.9 +1.9
OJC epPdiff pPdif 06 49 33.7 +7.6
OJC ePKPdf PKPdf 06 53 02.0 +4.5
OJC epPKPdf pPKPdf 06 53 14.6 +7.8
OJC ePP PP 06 54 16.2 +1.6
OJC e 06 54 33.5
OJC eSKKSac SKKSac 07 01 21.6 +9.4
OJC L L 07 41 31.0
comp=Z,2088µm,21.7s
OJC Ojcow 118.35 47 epPKPdf pPKPdf 06 53 05.2 -1.6
OJC LR LR
comp=Z,1554µm,21.7s
KDZ Kurdzhali 118.48 58 eP Pdif 06 49 37.4 +20
KDZ Kurdzhali 118.48 58 ⇑i P PKPdf 06 53 03.2 +5.1
WRA Warramunga Arr 118.53 209 Pdiff Pdif 06 49 31.3 +13
comp=Z,3.4nm,0.9s,baz=157,slow=3.9,SNR=4.1
WRA PKP PKPdf 06 52 57.5 -1.5
comp=Z,17nm,0.7s,baz=157,slow=1.8,SNR=17
WRA PP PP 06 54 15.7 +0.8
comp=Z,100nm,0.7s,baz=159,slow=1.6,SNR=3.6
WRA PKKPab PKKPbc 07 03 17.8 +2.9
comp=Z,11nm,0.9s,baz=163,slow=1.7,SNR=5.5
WRAB Tennant Creek 118.54 209 i PKIKP PKPdf 06 52 58.0 -0.9
WRAB MLR MLR
comp=Z,1951µm,16.0s
WRAB Tennant Creek 118.54 209 ePKPdf PKPdf 06 52 57.8 -1.2
WRAB LR LR
comp=Z,1697µm,22.0s
DEV Deva 118.54 52 ⇓i P PKPdf 06 53 00.0 +2.0
ALN Alexandroupoli 118.61 59 P Pdif 06 49 18.4 +0.1
ALN Alexandroupoli 118.61 59 P Pdif 06 49 18.4 +0.1
ALN Alexandroupoli 118.61 59 eP Pdif 06 49 18.1 -0.2
ALN Alexandroupoli 118.61 59 P Pdif 06 49 18.4 +0.1
TBLU Trondheim 118.71 31 ePP PP 06 54 21.4 +4.7
TBLU e 07 11 02.3
DRGR 118.78 51 ⇑PKIKP PKPdf 06 53 00.4 +1.9
DRGR 118.78 51 eP Pdif 06 49 39.0 +20
DRGR 118.78 51 ⇑i P PKPdf 06 53 00.4 +1.9
CRVS Cervenica-Dubn 118.83 49 eP Pdif 06 49 25.0 +5.8
CRVS e 06 54 21.1
CRVS MLR MLR
comp=Z,1033µm,26.5s
CRVS Cervenica-Dubn 118.83 49 pPDIF 06 49 25.0
CRVS e 06 49 49.4
CRVS e 06 53 01.3
CRVS ePP PP 06 54 21.1 +3.1
CRVS e 07 04 29.6
CRVS e 07 11 11.2
CRVS e 07 24 55.1
FALS False Pass 118.89 319 PFAKE 06 53 10.0 +12
FALS LR LR
comp=Z,206µm,20.2s
IM04 Indian Mountai 118.89 333 ePdif Pdif 06 49 19.8 +0.8
IM04 ePKPdf PKiKP 06 52 58.5 +0.3
LOT Lotru 118.92 53 ⇑i P PKPdf 06 52 56.2 -2.7
HFS Hagfors 118.99 35 PKP PKPdf 06 52 56.9 -1.5
comp=Z,6.8nm,0.7s,baz=224,slow=4.0,SNR=4.7
HFS PP PP 06 54 20.4 +1.7
comp=Z,359nm,1.1s,baz=191,slow=2.9,SNR=4.1
HFS PKKPab PKKPbc 07 03 17.9 +4.1
comp=Z,23nm,0.9s,baz=72,slow=4.7,SNR=6.1
PVL Pavlikeni 119.06 56 eP Pdif 06 49 38.7 +18
TRPA Tarpa 119.19 50 ⇓i P PKPdf 06 52 57.4 -1.8
TRPA Tarpa 119.19 50 e Pdif 06 49 41.5 +21
UZH Uzhgorod 119.23 49 eP Pdif 06 49 24.1 +3.2
UZH i 06 54 22.9
UZH e 06 56 58.7
UZH e 07 00 01.7
UZH e 07 10 44.5
UZH e 07 14 57.9
UZH MLR MLR
comp=N,1126µm,17.5s
UZH MLR MLR
comp=E,1144µm,17.5s
UZH MLR MLR
comp=Z,812µm,17.5s
ZIMR 119.26 55 ⇑PKIKP PKPdf 06 52 59.1 -0.3
ZIMR 119.26 55 ⇑i P PKPdf 06 52 59.1 -0.3
KOLS Kolonicke sedl 119.34 49 eP Pdif 06 49 31.6 +10
KOLS e 06 54 23.6
KOLS eSS SS 07 11 01.2 +19
KOLS MLR MLR
comp=Z,1045µm,25.7s
ARR Arges 119.45 53 ⇓i P PKPdf 06 53 02.8 +2.9
GOLR 119.46 54 ⇓i P PKPdf 06 53 01.2 +1.4
KULA Kula-Manisa 119.46 62 P Pdif 06 49 25.7 +3.4
KULA Kula-Manisa 119.46 62 P Pdif 06 49 25.7 +3.4
EDRB Edirne 119.47 58 P Pdif 06 49 20.6 -1.6
EDRB Edirne 119.47 58 P Pdif 06 49 20.6 -1.6
SZH Strazhica 119.49 56 eP Pdif 06 49 42.1 +20
BEL Belsk 119.55 45 ePKIKP PKPdf 06 53 01.2 +1.5
BEL e 06 59 53.5
BEL Belsk 119.55 45 ePdiff Pdif 06 49 25.4 +3.2
BEL ePKPdf PKPdf 06 53 01.2 +1.5
BEL ePP PP 06 54 36.3 +13
BEL eSKSac SKSac 06 59 53.5 0.0
BEL LMZ LR 07 40 11.1
MDB Medias 119.59 52 ⇓PKIKP PKPdf 06 53 05.1 +5.1
MDB Medias 119.59 52 ⇓i P PKPdf 06 53 05.1 +5.1
COEN Coen 119.61 221 ePKPdf PKPdf 06 53 01.7 +0.6
COEN LR LR
comp=Z,7774µm,20.4s
JMB Yambol 119.61 57 P Pdif 06 49 27.9 +5.1
JMB Yambol 119.61 57 ⇑PKIKP PKPdf 06 52 58.3 -1.9
JMB Yambol 119.61 57 eP Pdif 06 49 42.1 +19
JMB Yambol 119.61 57 ⇑i P PKPdf 06 52 58.3 -1.9
VOIR 119.75 53 ⇓PKIKP PKPdf 06 53 04.8 +4.3
VOIR 119.75 53 ⇓i P PKPdf 06 53 04.8 +4.3
KWP Kalwaria Pacla 119.86 48 ePKIKP PKPdf 06 53 01.4 +0.9
KWP MLR MLR
comp=Z,2326µm,19.0s
KWP Kalwaria Pacla 119.86 48 ePdiff Pdif 06 49 28.1 +4.4
KWP ePKPdf PKiKP 06 53 02.4 +1.9
KWP ePP PP 06 54 38.2 +13
KWP eSKSdf SKSdf 07 00 08.8 -1.5
KWP LMZ LR 07 40 13.1
KWP Kalwaria Pacla 119.86 48 ⇑i P PKPdf 06 53 02.1 +1.6
KWP Kalwaria Pacla 119.86 48 ePKPdf PKPdf 06 53 01.4 +0.9
KWP LR LR
comp=Z,2326µm,19.0s
NSS Namsos 119.90 30 e PKPdf 06 52 59.6 -0.4
NSS e 06 54 20.8
NSS i 07 04 23.6
NSS eSS SS 07 11 08.5 +20
DOPR Dopca 120.17 53 ⇓i P PKPdf 06 53 05.9 +4.7
UNV Unalaska Valle 120.19 317 PFAKE 06 53 10.0 +9.1
UNV LR LR
comp=Z,582µm,19.7s
SULR 120.25 55 ⇑i P PKPdf 06 53 00.8 -0.5
SECR 120.26 54 ⇓i P PKPdf 06 53 02.5 +1.1
MLR Muntele Rosu 120.35 54 ⇓i P PKPdf 06 53 06.4 +4.7
MLR Muntele Rosu 120.35 54 PKP PKPdf 06 52 59.9 -1.8
comp=Z,4.5nm,0.9s,baz=45,slow=4.3,SNR=2.1
MLR PP PP 06 54 41.6 +13
comp=Z,69nm,0.9s,baz=49,slow=3.0,SNR=3.4
PRD Provadia 120.45 57 eP Pdif 06 49 46.0 +20
ISP Isparta 120.52 63 P Pdif 06 49 29.2 +2.1
ISP Isparta 120.52 63 ⇓PKIKP PKPdf 06 52 54.7 -7.5
ISP Isparta 120.52 63 ⇓i P PKPdf 06 52 54.7 -7.5
ISP Isparta 120.52 63 P Pdif 06 49 29.2 +2.1
ISP ePKPdf PKiKP 06 53 03.1 +0.8
ISP LR LR

comp=Z,3216µm,21.0s
ISR Istrita 120.60 54⇑iP PKPdf 06 53 06.7 +4.6
PPCY Paphos 120.64 67 P PKPdf 06 53 04.2 +1.8
BURAR Bucovina Array 120.67 51 ⇓PKIKP PKPdf 06 53 04.2 +2.0
BURAR Bucovina Array 120.67 51⇓iP PKPdf 06 53 04.2 +2.0
ALT Altintas 120.71 62 P Pdif 06 49 30.2 +2.3
ALT Altintas 120.71 62 P Pdif 06 49 30.2 +2.3
LVV L'vov 120.73 48 eP Pdif 06 49 35.8 +8.2
LVV i 06 53 01.8
LVV e 06 54 29.0
LVV e 07 00 03.2
LVV MLR MLR
comp=Z,1197µm,21.0s
ISK Istanbul-Kandi 120.76 59 P Pdif 06 49 31.4 +3.5
ISK Istanbul-Kandi 120.76 59 P Pdif 06 49 31.4 +3.5
ISK Istanbul-Kandi 120.76 59 P Pdif 06 49 31.4 +3.5
PGOR Pogoanele 120.81 55⇓iP PKPdf 06 53 04.4 +2.0
PLOR Plostina 120.94 53 ⇓PKIKP PKPdf 06 53 02.2 -0.5
PLOR Plostina 120.94 53⇓iP PKPdf 06 53 02.2 -0.5
ALFC Alevga 120.95 67 P PKPdf 06 53 03.7 +0.7
GRER 120.98 54⇓iP PKPdf 06 53 05.8 +3.1
SZAC Souni-Zanaja 120.99 68 P PKPdf 06 53 06.1 +3.0
VRI Vrincioaia 121.00 53 ⇑PKIKP PKPdf 06 53 01.3 -1.5
VRI Vrincioaia 121.00 53 eP Pdif 06 49 47.9 +19
VRI Vrincioaia 121.00 53⇑iP PKPdf 06 53 01.3 -1.5
PMG Port Moresby 121.04 228 ePKIKP PKPdf 06 53 04.9 +1.0
PMG MLR MLR
comp=Z,1555µm,22.0s
PMG Port Moresby 121.04 228 ePKPdf PKPdf 06 53 04.9 +1.0
PMG LR LR
comp=Z,1555µm,22.0s
MSAB Monastry St. A 121.07 56⇑iP PKPdf 06 53 03.9 +1.0
PSN Preselentsi 121.16 56 ⇓PKIKP PKPdf 06 53 03.2 +0.1
PSN Preselentsi 121.16 56 eP Pdif 06 49 49.5 +20
PSN Preselentsi 121.16 56⇓iP PKPdf 06 53 03.2 +0.1
TESR Tescani 121.18 53⇑iP PKPdf 06 53 03.8 +0.7
PETR Petresti 121.28 54⇑iP PKPdf 06 53 06.9 +3.7
HARR Harsova 121.36 55 ⇓PKIKP PKPdf 06 52 59.5 -3.9
HARR Harsova 121.36 55⇓iP PKPdf 06 52 59.5 -3.9
CSS Prodhromos 121.41 67 P PKPdf 06 53 03.7 -0.2
MOR8 Moi Rana 121.44 28 e PKPdf 06 53 03.1 +0.1
MANR Mangalia 121.48 56⇑iP PKPdf 06 53 05.8 +2.1
TIRR Tirgusor 121.60 56 ePKIKP PKPdf 06 53 01.0 -2.9
TIRR MLR MLR
comp=Z,3090µm,20.0s
TIRR Tirgusor 121.60 56 eP Pdif 06 49 50.4 +19
TIRR Tirgusor 121.60 56⇓iP PKPdf 06 53 03.3 -0.6
TIRR Tirgusor 121.60 56 ePKPdf PKPdf 06 53 01.0 -2.9
TIRR LR LR
comp=Z,3090µm,20.0s
SUW Suwalki 121.67 44 ePKIKP PKPdf 06 53 02.9 -0.8
SUW MLR MLR
comp=Z,3489µm,21.0s
SUW Suwalki 121.67 44 ePdiff Pdif 06 49 35.5 +3.9
SUW ePKPdf PKPdf 06 53 02.9 -0.8
SUW ePP PP 06 54 51.3 +14
SUW eSKSac SKSac 07 00 03.0 +2.3
SUW LMZ LR 07 42 56.3
SUW Suwalki 121.67 44 ePKPdf PKPdf 06 53 02.9 -0.8
SUW LR LR
comp=Z,3489µm,21.0s
CFR Carcaliu 121.67 55⇑iP PKPdf 06 53 05.3 +1.3
LOF Lofoten 121.73 26 e PKPdf 06 53 03.0 -0.5
MBWA Marble Bar 121.76 194 ePKPdf PKPdf 06 53 03.7 -1.4
MBWA LR LR
comp=Z,1377µm,20.0s
GIUM Giurgiulesti 121.83 54⇑iP PKPdf 06 53 06.0 +1.7
IAS Iasi 122.01 52⇑iP PKPdf 06 53 12.7 +8.1
TLCR 122.12 55 ⇑PKIKP PKPdf 06 53 02.9 -2.0
TLCR 122.12 55⇑iP PKPdf 06 53 02.9 -2.0
LEOM Leova 122.20 53 ⇑PKIKP PKPdf 06 53 05.7 +0.7
LEOM Leova 122.20 53⇑iP PKPdf 06 53 05.7 +0.7
STEI Steigen 122.28 27 ePP PP 06 54 55.8 +15
BEYL Beirut 122.59 70 eP PKPdf 06 53 16.8 +11
RCY Rachaya 122.70 70 eP PKPdf 06 53 19.5 +13
BHL Bhannes 122.73 70 eP PKPdf 06 53 20.0 +13
KIS Kishinev 122.75 53d iP Pdif 06 49 40.0 +3.4
KIS i 06 53 06.0
KIS i 06 54 54.0
KIS pmax pmax
comp=Z,27µm,20.0s
KIS MLR MLR
comp=Z,1113µm,26.0s
KIS Kishinev 122.75 53⇓iP PKPdf 06 53 05.2 -0.8
KIS Kishinev 122.75 53⇓iP Pdif 06 49 40.0 +3.4
comp=Z,27µm,20.0s
KIS Kishinev 122.75 53 i PKP PKPdf 06 53 06.0 0.0
KIS Kishinev 122.75 53 ePsP 06 53 24.0
KIS Kishinev 122.75 53 i PP PP 06 54 54.0 +9.2
comp=Z,103µm,18.0s
KIS i SKP 06 56 12.0
KIS i SKS 07 01 52.0
ANTO Ankara 122.94 62 ePKIKP PKPdf 06 53 06.7 -0.1
ANTO MLR MLR
comp=Z,2817µm,21.0s
ANTO Ankara 122.94 62⇓iP PKPdf 06 53 11.7 +4.9
ANTO Ankara 122.94 62 ePKPdf PKPdf 06 53 06.7 -0.1
ANTO LR LR
comp=Z,2817µm,21.0s
FKH Fakeheh 123.44 70 eP PKPdf 06 53 09.3 +1.3
BRTR Keskin Array B 123.50 62 PKP PKPdf 06 53 05.8 -2.2
comp=Z,46nm,1.0s,baz=194,slow=3.4,SNR=9.8
BRTR PP PP 06 54 55.8 +5.6
comp=Z,83nm,0.8s,baz=233,slow=3.6,SNR=2.0
IIGN Ignalina 123.75 43 eP PKPdf 06 53 05.4 -2.3
ISAL Salakas 123.76 42 eP PKPdf 06 53 05.3 -2.4
NACGM Naroch 123.94 43 eP Pdif 06 49 40.0 -1.7
TRO Tromso 124.01 25 ePKPdf PKPdf 06 53 24.6 +17
TRO ePP PP 06 54 54.1 +1.5
TRO ePP PP 06 55 04.9 +12
IDID Didziasalis 124.03 43 eP PKPdf 06 53 08.7 +0.5
AK11 Malin Array Si 124.13 49 ePKPdf PKPdf 06 53 06.3 -2.2
AK02 Malin Array Si 124.14 49 ePKPdf PKPdf 06 53 08.2 -0.4
KIEV Kiev 124.16 49c iP Pdif 06 49 43.9 +1.2
KIEV i 06 53 09.0
KIEV Kiev 124.16 49 ePKPdf PKPdf 06 53 09.2 +0.5
KIEV LR LR
comp=Z,1768µm,20.4s
AK01 Malin Array Si 124.16 49 ePKPdf PKPdf 06 53 08.7 +0.1
AKASG Malin Array Be 124.17 49 PKP PKPdf 06 53 08.9 +0.3
comp=Z,45nm,1.0s,baz=262,slow=2.7,SNR=12
AKASG PP PP 06 55 00.1 +5.9
comp=Z,90nm,0.8s,baz=250,slow=2.6,SNR=4.6
AKBB Malin Array Si 124.17 49 ePKIKP PKPdf 06 53 08.8 +0.1
AKBB Malin Array Si 124.17 49 ePKPdf PKPdf 06 53 08.8 +0.1
KBS Kingsbay 124.21 13 ePKPdf PKPdf 06 53 10.6 +2.6
KBS Kingsbay 124.21 13 PFAKE 06 53 20.0 +12
KBS LR LR
comp=Z,1279µm,20.0s
TNA Tin City 124.29 330 ePdif Pdif 06 49 44.6 +1.7
TNA ePKPdf PKiKP 06 53 09.9 +1.2
TNA LR LR
comp=Z,1000µm,21.3s
MNK Minsk 124.42 44ceP Pdif 06 49 46.0 +2.2
MNK e 06 53 08.0
MNK ePPP PPP 06 57 44.0
MNK e 07 00 04.0
MNK ePS PS 07 04 56.0 +1.3
MNK pmax pmax
comp=Z,18µm,11.0s
MNK MLR MLR
comp=Z,1275µm,22.0s
MNK MLR MLR
comp=E,1327µm,22.0s
MNK MLR MLR
comp=N,1465µm,20.0s
MICGM Minsk 124.44 44 eP Pdif 06 49 46.0 +2.1
HSPB Hornsund (broa 124.55 16 ePKPdf PKPdf 06 53 13.7 +5.0
HSPB e 06 54 53.2
SPA0 Spitsbergen Ar 124.94 15 e PKPdf 06 53 09.2 -0.2
SPA0 e 07 12 18.7
SPA0 IAMs_20 IAMs_20 07 42 49.5
comp=Z,1722µm,22.3s
SPITS Spitsbergen Ar 124.94 15 PKP PKPdf 06 53 10.4 +1.0
comp=Z,54nm,1.1s,baz=166,slow=4.3,SNR=12
H11S2 WAKE ISLAND Hy124.99 268 PKP PKPdf 06 53 26.6 +16
H11S2 T T 09 11 14.6
baz=118,slow=74
H11S1 WAKE ISLAND Hy125.00 268 PKP PKPdf 06 53 26.6 +16
H11S1 T T 09 11 32.3
baz=118
H11S3 WAKE ISLAND Hy125.00 268 PKP PKPdf 06 53 26.0 +15
H11S3 T T 09 11 23.9
baz=118,slow=74
BJO Bjornoya 125.01 19 ePKPdf PKPdf 06 53 25.8 +16
BJO e 07 12 18.9
FINES FINESS Array B 125.17 35 PKP PKPdf 06 53 11.1 +0.9
comp=Z,9.1nm,0.7s,baz=225,slow=1.9,SNR=7.2
FINES PP PP 06 55 06.5 +5.9
comp=Z,304nm,1.2s,baz=259,slow=1.4,SNR=1.9
FINES PKPPKP P'P'df 07 11 42.0 +2.4
comp=Z,12nm,0.9s,baz=129,slow=5.2,SNR=3.7
FIA1 FINESS Array S 125.17 35 ePKPdf PKPdf 06 53 11.1 +0.9
KTK1 Kautokeino 125.39 26 ePP PP 06 55 02.4 +0.4
KAF Kangasniemi 125.41 35 ePKIKP PKPdf 06 53 06.7 -4.0
KAF Kangasniemi 125.41 35 ep PKPdf 06 53 06.7 -4.0
H11N3 WAKE ISLAND Hy125.45 270 PKP PKPdf 06 53 25.7 +14
H11N3 T T 09 12 41.9
baz=122,slow=74
ADK Adak 125.46 312 ePKIKP PKPdf 06 53 14.2 +3.1
ADK MLR MLR
comp=Z,948µm,21.0s
ADK Adak 125.46 312 ePKPdf PKPdf 06 53 14.2 +3.1
ADK LR LR
comp=Z,948µm,21.0s
H11N1 WAKE ISLAND Hy125.47 270 PKP PKPdf 06 53 19.0 +7.1
H11N1 T T 09 12 39.9
baz=122,slow=74
H11N2 WAKE ISLAND Hy125.47 270 PKP PKPdf 06 53 22.4 +11
H11N2 T T 09 12 56.7
baz=122
GAMB Gambell 125.52 327 ePKPdf PKPdf 06 53 11.3 +0.5
GAMB LR LR
comp=Z,1038µm,20.3s
SIM Simferopol' 125.59 57ceP Pdif 06 49 54.1 +4.8
SIM e 06 53 12.3
SIM pmax pmax
comp=Z,2µm,11.0s
SIM pmax pmax
comp=Z,429nm,1.0s
SIM pmax pmax
comp=Z,37µm,10.0s
SIM MLR MLR
comp=Z,1006µm,23.0s
H08S1 Diego Carcia H 125.65 136 PKP PKPdf 06 53 15.2 +2.8
H08S2 Diego Garcia H 125.66 136 PKP PKPdf 06 53 17.5 +5.1
H08S3 Diego Garcia H 125.67 136 PKP PKPdf 06 53 16.4 +4.0
DGAR Diego Garcia 125.83 136 ePKIKP PKPdf 06 53 15.6 +2.6
DGAR MLR MLR
comp=Z,1412µm,19.0s
DGAR Diego Garcia 125.83 136 ePKPdf PKPdf 06 53 15.6 +2.6
DGAR LR LR
comp=Z,1412µm,19.0s
H08N3 Diego Garcia H 125.86 134 PKP PKPdf 06 53 19.6 +6.9
H08N1 Diego Carcia H 125.87 134 PKP PKPdf 06 53 16.8 +4.1
H08N2 Diego Garcia H 125.88 134 PKP PKPdf 06 53 15.7 +3.0
RAYN Ar Rayn 125.93 85 PFAKE 06 53 20.0 +7.0
RAYN LR LR
comp=Z,2326µm,20.0s
ARA0 ARCESS Array S 126.27 26 ePKPdf PKPdf 06 53 13.3 +1.1
ARCES ARCESS Array B 126.27 26 PKP PKPdf 06 53 11.8 -0.4
comp=Z,15nm,0.8s,baz=251,slow=3.0,SNR=9.0
ARCES PP PP 06 55 17.3 +10
comp=Z,52nm,0.6s,baz=262,slow=2.7,SNR=1.7
ARE0 ARCESS Array S 126.27 26 ePKPdf PKPdf 06 53 26.1 +14
ARE0 ePP PP 06 55 16.8 +9.1
ARE0 e 07 12 34.0
ARE0 ARCESS Array S 126.27 26 ePKPdf PKPdf 06 53 12.7 +0.5
MALT Malatya 126.48 66 ⇑PKIKP PKPdf 06 53 12.3 -1.3
MALT Malatya 126.48 66⇑iP PKPdf 06 53 12.3 -1.3
HOPEN Hopen 126.67 17 ePKPdf PKPdf 06 53 29.6 +17
KEV Kevo 126.81 25 ep PKPdf 06 53 27.5 +14
KEV Kevo 126.81 25 PFAKE 06 53 20.0 +6.9
KEV LR LR
comp=Z,1429µm,22.0s
ANN Anapa 127.80 58c iP Pdif 06 49 58.3 -0.8
ANN i 06 53 15.4
ANN i 06 55 16.3
ANN i PPP PPP 06 57 58.2
ANN i 07 00 23.9
ANN i PS PS 07 05 23.6 -1.1
ANN i 07 06 58.3
ANN i SS SS 07 12 20.8 -8.6
ANN i SSS SSS 07 17 06.9
ANN pmax pmax
comp=E,83nm,1.8s
ANN pmax pmax
comp=N,351nm,1.8s
ANN pmax pmax
comp=Z,1µm,1.8s
ANN MLR MLR
comp=E,310µm,18.0s
ANN MLR MLR
comp=Z,319µm,18.0s
ANN MLR MLR
comp=N,333µm,18.0s
JOF Joensuu 127.83 34 ePKIKP PKPdf 06 53 14.7 -0.6
JOF Joensuu 127.83 34 ep PKPdf 06 53 14.7 -0.6
APA Apatity 129.03 28⇑iPKIKP PKPdf 06 53 24.0 +6.6
APA i 07 00 27.0
APA i 07 05 29.0
APA MLR MLR
comp=Z,2082µm,23.0s
SOC Sochi 129.05 60 i P Pdif 06 50 06.9 +2.2
SOC i 06 53 18.2
SOC e 06 53 32.7
SOC pmax pmax
comp=Z,427nm,1.1s
SOC MLR MLR
comp=Z,326µm,17.0s
ABTO Aybut 129.12 97 ⇑P PKPdf 06 53 15.8 -3.4
SNR=16
OBN Obninsk 129.49 45c iP Pdif 06 50 06.8 +0.5
OBN i 06 53 19.7
OBN i 06 53 30.4
OBN i 06 53 33.7
OBN e 07 07 08.3
OBN i SS SS 07 12 50.8 +1.2
OBN pmax pmax
comp=Z,25µm,34.8s
OBN pmax pmax
comp=Z,1µm,1.4s
OBN pmax pmax
comp=Z,904nm,1.6s
OBN MLR MLR
comp=Z,3104µm,22.0s
OBN Obninsk 129.49 45 ePKPdf PKPdf 06 53 19.3 +0.7
OBN LR LR
comp=Z,1840µm,19.0s
LVZ Lovozero 129.50 28c iP Pdif 06 50 14.3 +8.1
LVZ i 06 53 19.1
LVZ pmax pmax
comp=Z,170nm,1.7s
LVZ MLR MLR
comp=Z,1393µm,22.0s
LVZ Lovozero 129.50 28 ePKPdf PKPdf 06 53 19.0 +0.6
LVZ LR LR
comp=Z,1384µm,20.0s
RBK Rabkut 129.93 97 ⇑P PKPdf 06 53 21.3 +0.6
SNR=6.5
MOS Moscow 130.17 44 i PKIKP PKPdf 06 53 22.1 +2.2
MOS i 06 53 38.6
MOS i 06 55 33.8
MOS i PPP PPP 06 58 20.4
MOS pmax pmax
comp=Z,776nm,1.7s
MOS MLR MLR
comp=E,4023µm,23.0s
MOS MLR MLR
comp=Z,4781µm,23.0s
VSR Storozhevoye 130.40 50 eP Pdif 06 50 09.4 -1.1
VSR e 06 53 18.9
VSR e 06 55 38.9
VSR eSS SS 07 12 53.3 -7.8
VSR pmax pmax
comp=N,340nm,13.3s
VSR pmax pmax
comp=E,2µm,13.3s
VSR pmax pmax
comp=Z,7µm,13.3s
VSR pmax pmax
comp=Z,23µm,14.8s
VSR pmax pmax
comp=N,1µm,14.9s
VSR pmax pmax
comp=E,1µm,14.9s
VSR pmax pmax
comp=N,17µm,18.9s
VSR pmax pmax
comp=E,55µm,18.9s
VSR pmax pmax
comp=Z,119µm,18.9s
VORD Divnogorie 130.43 50 eP Pdif 06 50 06.5 -4.1
VORD e 06 53 19.0
VORD e 06 55 38.4
VORD eSSS SSS 07 17 48.5
VORD pmax pmax
comp=N,110nm,11.3s
VORD pmax pmax
comp=E,590nm,11.3s
VORD pmax pmax
comp=Z,2µm,11.3s
VORD pmax pmax
comp=Z,20µm,13.4s
VORD pmax pmax
comp=N,18µm,20.3s
VORD pmax pmax
comp=E,75µm,20.3s
VORD pmax pmax
comp=Z,153µm,20.3s
VOR Voronezh 130.51 49 ePKIKP PKPdf 06 53 18.0 -2.7
VOR pmax pmax
comp=Z,4µm,3.5s
SAUI Saumlaki 130.54 212 PFAKE 06 53 30.0 +8.0
SAUI LR LR
comp=Z,1145µm,18.0s
TMCR Tamitsa 130.91 33 ePKIKP PKPdf 06 53 22.8 +1.7
TMCR e 06 55 35.4
TMCR pmax pmax
comp=Z,116nm,1.3s
COCO West Island 130.96 167 ePKIKP PKPdf 06 53 24.1 +1.3
COCO MLR MLR
comp=Z,765µm,22.0s
COCO West Island 130.96 167 ePKPdf PKPdf 06 53 24.1 +1.3
COCO LR LR
comp=Z,765µm,22.0s
AKH Akhalkalaki 131.14 63 P PKPdf 06 53 29.8 +7.2
SMY Shemya 131.17 312 ePKIKP PKPdf 06 53 21.9 0.0
SMY MLR MLR
comp=Z,806µm,20.6s
SMY Shemya 131.17 312 ePKPdf PKPdf 06 53 21.9 0.0
SMY LR LR
comp=Z,806µm,20.6s
KIV Kislovodsk 131.22 60cePKIKP PKPdf 06 53 24.0 +1.5
KIV e 07 00 35.0
KIV eSS SS 07 13 24.2 +12
KIV pmax pmax
comp=Z,9µm,3.7s
KIV pmax pmax
comp=Z,991nm,1.1s
KIV MLR MLR
comp=Z,1109µm,21.0s
KIV Kislovodsk 131.22 60 ePKPdf PKPdf 06 53 23.5 +1.0
KIV LR LR
comp=Z,1037µm,21.0s
KIV Kislovodsk 131.22 60⇑iPdiff Pdif 06 50 19.5 +5.0
SNR=21
IDHR Dehrash 131.25 73 eP PKPdf 06 53 23.1 +0.1
IGHG Ghaleghazi 131.26 73 eP PKPdf 06 53 26.9 +3.8
KBZ Khabaz 131.31 60 PKIKP PKPdf 06 53 23.4 +0.9
KBZ 06 55 50.4
KBZ pmax pmax
comp=Z,36nm,0.9s
KBZ pmax pmax
comp=Z,143nm,1.0s
KBZ Khabaz 131.31 60 PKP PKPdf 06 53 23.4 +0.9
comp=Z,36nm,0.9s,baz=264,slow=2.8,SNR=11
KBZ PP PP 06 55 50.4 +8.9
comp=Z,143nm,1.0s,baz=227,slow=18,SNR=1.3
KBZ PKPPKP 07 11 28.4
comp=Z,7.0nm,1.0s,baz=49,slow=8.8,SNR=3.7
ONI Oni 131.42 62 P PKPdf 06 53 24.0 +1.1
SOEI Soe 131.55 203 ePKPdf PKPdf 06 53 24.8 +0.7
SOEI LR LR
comp=Z,1717µm,21.0s
KLMR Klimovskoe 131.56 37 P Pdif 06 50 20.3 +4.9
KLMR e 06 53 21.3
KLMR 06 55 50.1
KLMR SP SP 07 05 56.0 +3.6
KLMR SS SS 07 13 09.7 -5.0
KLMR pmax pmax
comp=Z,25nm,1.9s
GNI Garni 131.71 65c iP Pdif 06 50 20.1 +3.3
GNI i 06 53 23.0
GNI MLR MLR
comp=Z,1139µm,19.0s
GNI Garni 131.71 65 PKP PKPdf 06 53 24.6 +1.0
comp=Z,30nm,0.8s,baz=216,slow=6.2,SNR=7.1
GNI Garni 131.71 65 ePKPdf PKPdf 06 53 25.3 +1.7
GNI LR LR
comp=Z,1452µm,21.0s
GNI Garni 131.71 65⇓iPdiff Pdif 06 50 20.9 +4.0
SNR=20
GOF Gofitskoye 131.72 59 ePKIKP PKPdf 06 53 18.1 -5.2
GOF pmax pmax
comp=Z,73nm,1.0s
FX1 Attu Island--F 131.75 312 ePKIKP PKPdf 06 53 23.6 +0.6
FX1 Attu Island--F 131.75 312 PKP PKPdf 06 53 24.4 +1.4
comp=Z,6.8nm,0.6s,baz=251,slow=7.1,SNR=4.6
FX1 Attu Island--F 131.75 312 ePKPdf PKPdf 06 53 23.6 +0.6
ZEI Tsey 131.79 62 i PKIKP PKPdf 06 53 23.8 0.0
ZEI pmax pmax
comp=Z,464nm,1.1s
ZEI MLR MLR
comp=Z,2884µm,24.0s
ZEI MLR MLR
comp=N,741µm,22.0s
VRHR Novokhopersk 131.91 50 eP Pdif 06 50 19.0 +1.8
VRHR e 06 53 19.6
VRHR e 06 55 44.9
VRHR pmax pmax
comp=Z,7µm,7.3s
VRHR pmax pmax
comp=N,4µm,5.4s
VRHR pmax pmax
comp=E,4µm,5.6s
IKOM Komasi 131.94 74 eP PKPdf 06 53 18.6 -5.7
IMRD Marand 132.01 68 eP PKPdf 06 53 22.9 -1.3
TBLG Delisi 132.13 63 P PKPdf 06 53 29.2 +5.0
SEAG Tbilisi Sea 132.18 63 P PKPdf 06 53 24.3 0.0
DUS Dusheti 132.19 63 P PKPdf 06 53 26.5 +2.2
ITBZ Tabriz 132.20 68 eP PKPdf 06 53 23.9 -0.7
IFTB Fath-abad 132.32 69 eP PKPdf 06 53 18.8 -6.2
IKMR Kamar-syah 132.39 75 eP PKPdf 06 53 27.3 +2.4
DGRG David-gareji 132.52 64 P PKPdf 06 53 29.8 +4.9
IHRS Heris 132.90 68 eP PKPdf 06 53 23.0 -3.0
WBSI Waikabubak, Su 133.00 197 P PKPdf 06 53 32.5 +5.8
MMRI Maumere 133.22 201 ePKPdf PKPdf 06 53 27.6 +0.5
MMRI LR LR
comp=Z,663µm,21.0s
ISRB Sarab 133.23 69 eP PKPdf 06 53 29.1 +2.5
XMIS Christmas Isla 133.60 178 ePKPdf PKPdf 06 53 30.1 +2.3
XMIS LR LR
comp=Z,3383µm,21.7s
IPIR Pirpir 134.07 77 eP PKPdf 06 53 21.3 -7.2
IRAZ Razeghan 134.23 73 eP PKPdf 06 53 25.5 -3.1
ASUD Al Ashush, Dub 134.39 90⇓iPdiff Pdif 06 50 37.4 +8.5
SNR=13
MAK Makhachkala 134.41 62 eP Pdif 06 50 28.6 +0.1
MAK i 06 53 30.3
MAK i 06 56 01.4
MAK ePPP PPP 06 58 53.5
MAK eSSS SSS 07 18 50.3
MAK pmax pmax
comp=Z,841nm,1.4s
MAK pmax pmax
comp=N,1µm,1.0s
MAK pmax pmax
comp=Z,26µm,9.5s
MAK pmax pmax
comp=E,1µm,1.8s
MAK MLR MLR
comp=N,296µm,17.0s
MAK MLR MLR
comp=E,380µm,20.0s
MAK MLR MLR
comp=Z,297µm,17.0s
BILL Bilibino 134.43 333c iP Pdif 06 50 30.7 +2.6
BILL e 07 00 30.0
BILL ePS PS 07 06 25.9 +4.6
BILL pmax pmax

comp=Z,4µm,18.9s
BILL MLR MLR
comp=Z,1313µm,22.0s
BILL Bilibino 134.43 333 ePKPdf PKPdf 06 53 28.2 +0.5
BILL LR LR
comp=Z,1091µm,21.0s
FAKI Fak Fak 134.57 217 ePKPdf PKPdf 06 53 25.8 -3.9
ISRV Sarvestan 134.62 82 eP PKPdf 06 53 27.2 -2.4
FAQ Al Faqa, Dubai 134.66 90⇓iPdiff Pdif 06 50 34.4 +4.2
SNR=14
IPAR Pars 134.74 82 eP PKPdf 06 53 31.0 +1.1
IGZV Ghazvin 134.75 72 eP PKPdf 06 53 27.3 -2.2
ARQ Araqi 134.75 92 ⇓P PKPdf 06 53 22.7 -7.0
NAZ Nazwa, Dubai 134.82 89⇑iPdiff Pdif 06 50 36.6 +5.8
SNR=21
IKLH Kolahrood 134.83 77 eP PKPdf 06 53 29.7 -0.2
IGAR Gharneh 134.88 78 eP PKPdf 06 53 29.3 -0.6
IMHD Mahdasht 134.89 73 eP PKPdf 06 53 30.8 +1.1
ASHO Ashiyieh 135.00 90 ⇑P PKPdf 06 53 27.1 -3.1
SNR=11
ASHO ⇑S SKiKP 06 57 11.7 +6.0
IR3 Iran Long-Peri 135.10 74 eP PKPdf 06 53 30.4 +0.3
JAGI Jajag, Banyuwa 135.12 190 P PKPdf 06 53 31.3 +0.6
JAGI Jajag, Banyuwa 135.12 190 ePKPdf PKPdf 06 53 30.5 -0.2
JAGI LR LR
comp=Z,739µm,20.0s
HATD Hatta, Dubai 135.13 90⇓iPdiff Pdif 06 50 37.6 +5.4
SNR=12
IZEF Zefreh 135.28 78 ePn PKPdf 06 53 26.6 -4.1
SRBI Singaraja 135.34 192 P PKPdf 06 53 30.4 -0.7
GMJI Gumukmas 135.41 189 P PKPdf 06 53 36.7 +5.5
IVRN Varamin 135.50 74 eP PKPdf 06 53 29.1 -1.6
HOQ Hoqain 135.51 92 ⇓P PKPdf 06 53 26.9 -4.2
JMDO Jabal Madar 135.57 94 ⇓P PKPdf 06 53 27.1 -4.1
SNR=11
BANOM Banah 135.75 89 ⇓P PKPdf 06 53 30.2 -1.3
SMDO Samad 135.86 93 ⇓P PKPdf 06 53 24.1 -7.7
SNR=13
BLJI Banyuglugur 135.91 189 P PKPdf 06 53 33.7 +1.6
IDMV Damavand 135.91 74 eP PKPdf 06 53 25.1 -6.7
ISAD Sadrabad 136.02 79 eP PKPdf 06 53 32.4 +0.2
UGM Wanagama 136.05 185 ePKPdf PKPdf 06 53 33.6 +1.2
UGM LR LR
comp=Z,674µm,20.0s
WBK Wadi Bani Khal 136.39 94 ⇓P PKPdf 06 53 31.8 -0.9
SNR=43
IFIR Firoozkooh 136.49 74 eP PKPdf 06 53 34.2 +1.3
CISI Cisompet, Garu 136.52 181 ePKPdf PKPdf 06 53 32.0 -1.4
CISI LR LR
comp=Z,792µm,20.0s
KMMI Kalianget 136.54 190 P PKPdf 06 53 35.3 +2.0
IMEH Mehriz 136.57 81 eP PKPdf 06 53 31.0 -2.2
ILAS Lasjerd 136.57 74 eP PKPdf 06 53 32.8 -0.2
ICHK Chekchek 136.71 79 eP PKPdf 06 53 32.3 -1.0
GRJI Gresik 136.87 188 P PKPdf 06 53 40.4 +6.5
comp=Z,392nm,1.0s,comp=Z,5µmcomp=Z,1.5nm
SMRI Semarang 136.91 185 ePKPdf PKPdf 06 53 34.4 +0.4
SMRI LR LR
comp=Z,1088µm,21.0s
BKSI Bulukumba 136.97 199 P PKPdf 06 53 35.1 +1.0
IANJ Anjilo 137.34 75 eP PKPdf 06 53 31.7 -2.7
KAPI Kappang 137.36 199 ePKPdf PKPdf 06 53 32.8 -2.1
KAPI LR LR
comp=Z,904µm,20.0s
IBAF Bafgh 137.40 81 eP PKPdf 06 53 32.1 -2.5
BNSI Bone 137.85 200 P PKPdf 06 53 33.0 -2.7
SPSI Sidrap Palu 138.36 199 P PKPdf 06 53 31.8 -4.9
MNCY Minicoy 138.40 123 eP PKPdf 06 53 34.1 -2.5
MNCY AMS AMS 07 54 04.0
comp=Z,1332µm,14.1s
TTSI Tana Toraja 139.23 200 P PKPdf 06 53 39.4 +1.1
GUMO Guam 139.37 246 PFAKE 06 53 50.0 +12
GUMO LR LR
comp=Z,431µm,21.0s
MNAI Manna 139.52 174 PFAKE 06 53 50.0 +11
MNAI LR LR
comp=Z,1170µm,19.0s
BBKI Banjar Baru 139.93 192 P PKPdf 06 53 40.9 +1.3
TNTI Ternate 140.08 213 ePKPdf PKPdf 06 53 39.5 -0.3
TNTI LR LR
comp=Z,532µm,21.0s
LUWI Luwuk 140.21 205 ePKPdf PKPdf 06 53 41.7 +1.7
LUWI LR LR
comp=Z,556µm,20.0s
SOKR Solikamsk 140.24 38c iPKHKP PKPpre 06 53 29.3
SOKR MLR MLR
comp=Z,2501µm,17.0s
IKOO Kooshah 140.43 81 eP PKPdf 06 53 34.3 -5.9
PET Petropavlovsk 140.52 312 eP Pdif 06 51 09.2 +14
PET pmax pmax
comp=Z,64µm,12.9s
PET pmax pmax
comp=Z,223nm,0.9s
PET MLR MLR
comp=Z,808µm,20.0s
PET MLR MLR
comp=Z,818µm,21.0s
PET Petropavlovsk 140.52 312 ePKPdf PKPdf 06 53 36.8 -2.5
PET LR LR
comp=Z,490µm,22.0s
ISHV Shirvan 140.83 73 eP PKPdf 06 53 38.7 -2.0
PMBI Palembang 141.07 176 PFAKE 06 53 50.0 +8.4
PMBI LR LR
comp=Z,994µm,18.0s
PEA0 Petropavlovsk- 141.09 312 ePKPpre PKPpre 06 53 36.0
PEA0B Petropavlovsk- 141.09 312 ePKPpre PKPpre 06 53 29.5
PETK Petropavlovsk- 141.09 312 PKP PKPdf 06 53 40.9 +0.5
comp=Z,16nm,0.8s,baz=108,slow=5.7,SNR=6.9
TRD Trivandrum 141.16 128 eP PKPdf 06 53 39.6 -2.1
TRD AMS AMS 07 55 35.4
comp=Z,1619µm,19.9s
IDAH Dahanechah 141.22 81 eP PKPdf 06 53 40.3 -1.3
GEYT Alibeck 141.24 72 PKP PKPdf 06 53 40.9 -0.3
comp=Z,25nm,0.6s,baz=270,slow=3.0,SNR=19
GEYT PP PP 06 56 48.6 +4.5
comp=Z,168nm,1.1s,baz=213,slow=5.0,SNR=1.9
IKRD Kardeh 141.28 74 eP PKPdf 06 53 43.3 +1.7
IAKL Akhelmad 141.43 75 eP PKPdf 06 53 48.6 +6.7
IEMG Emamgholi 141.54 73 eP PKPdf 06 53 40.1 -2.0
IPAY Payeh 141.58 75 eP PKPdf 06 53 36.5 -5.6
IMOG Moghan 141.76 75 eP PKPdf 06 53 43.8 +1.3
ARU Arti 141.84 42 P Pdif 06 51 07.1 +5.8
ARU i 06 53 39.8
ARU MLR MLR
comp=Z,2711µm,21.0s
ARU Arti 141.84 42 ePdif Pdif 06 51 02.5 +1.2
ARU ePKPpre PKPpre 06 53 36.2
ARU LR LR
comp=Z,2693µm,21.0s
ISRO Mashad 141.91 75 eP PKPdf 06 53 33.1 -9.4
IMYA Miami 142.42 75 eP PKPdf 06 53 38.7 -4.8
PALK Pallekele 142.49 134 iPKIKP PKPdf 06 53 41.6 -2.6
PALK Pallekele 142.49 134 ePKPdf PKPdf 06 53 41.4 -2.8
PALK LR LR
comp=Z,1506µm,20.0s
TIXI Tiksi 142.66 349 iPKIKP PKPdf 06 53 39.1 -3.5
TIXI i 06 53 44.2
TIXI MLR MLR
comp=Z,1083µm,21.0s
TIXI Tiksi 142.66 349 ePKPpre PKPpre 06 53 35.1
TIXI LR LR
comp=Z,1057µm,20.0s
SVE Sverdlovsk 142.87 41d iPKHKP PKPpre 06 53 36.7
SVE pmax pmax
comp=Z,2µm,1.6s
SVE MLR MLR
comp=Z,2835µm,25.0s
SVE MLR MLR
comp=E,2301µm,24.0s
TOLI Toli-Toli 142.89 203 ePKPdf PKPdf 06 53 46.8 +2.0
TOLI LR LR
comp=Z,508µm,21.0s
ABKAR Akbulak array 143.56 54 ePKPpre PKPpre 06 53 39.8
BKNI Bangkinang 143.92 170 ePKPpre PKPpre 06 53 40.2
BKNI LR LR
comp=Z,860µm,21.0s
GOA Goa 143.95 116 eP PKPab 06 53 44.0 +0.2
GOA AMS AMS 07 57 21.6
comp=Z,679µm,16.3s
GSI Gunungsitoli 144.23 164 PFAKE 06 54 00.0 +13
GSI LR LR
comp=Z,1979µm,19.0s
BHJ Bhuj 145.27 101 eP PKPbc 06 53 46.6 -1.8
BHJ AMS AMS 07 56 20.6

comp=Z,1807µm,18.5s
KSM Kuching 145.37 186 ePKPdf PKPbc 06 53 47.2 -1.8
KSM LR LR
comp=Z,565µm,19.0s
KSM Kuching 145.37 186 ⇑P PKPbc 06 53 47.2 -1.8
KAD Karad 145.38 114 ex PKPbc 06 53 50.0 +1.0
MYKOM Kota Tinggi 145.68 174 ePKPdf PKPdf 06 53 47.1 -2.6
MYKOM LR LR
comp=Z,1208µm,22.0s
MYKOM Kota Tinggi 145.68 174 ⇑P PKPdf 06 53 47.7 -2.0
KGM Kluang 145.86 173 ⇓P PKPdf 06 53 49.5 -0.6
POO Poona 145.89 112⇑iPKP PKPdf 06 53 47.0 -2.9
comp=Z,81nm,2.0s
POO eP PKPbc 06 53 48.2 -2.4
MATI Mati 146.04 216 eP PKPdf 06 53 49.7 -0.6
SBUM Sibu 146.13 189 ePKPdf PKPdf 06 53 48.8 -1.7
SBUM LR LR
comp=Z,1263µm,22.0s
SBUM Sibu 146.13 189 ⇓P PKPab 06 53 53.3 +1.3
DAV Davao City (W) 146.47 215 ePKPdf PKPdf 06 53 48.1 -2.9
DAV LR LR
comp=Z,481µm,22.0s
MDRS Chennai 146.70 127 eP PKPdf 06 53 50.9 -0.4
MDRS ix x 06 54 13.2
MDRS ex x 06 56 01.2
MDRS AMS AMS 07 53 30.5
comp=Z,1181µm,20.4s
BTM Bintulu 146.75 191 ⇓P PKPdf 06 53 51.8 +0.2
FRIM Kepong 146.87 170 ⇓P PKPdf 06 53 52.2 +0.4
BIPH Bislig 147.07 217⇑eP PKPab 06 54 01.3 +5.7
CTBH Cotabato--PC H 147.20 213⇑eP PKPbc 06 53 54.3 -0.2
BUKP Musuan 147.41 215 eP PKPdf 06 53 52.6 0.0
MYLDM Lahad Datu 147.44 202 ePKPdf PKPdf 06 53 55.6 +0.5
MYLDM Lahad Datu 147.44 202 ⇑P PKPab 06 53 58.5 +1.5
LHMI Lhok Sumawe 147.85 161 ePKPdf PKPdf 06 53 53.4 +0.1
LHMI LR LR
comp=Z,1140µm,20.0s
ZMPH Zamboanga City 147.86 209 eP PKPbc 06 53 55.2 -1.0
IPM Ipoh 148.00 169 ePKPdf PKPdf 06 53 53.2 -0.4
IPM LR LR
comp=Z,1184µm,20.0s
KUR Kuril'sk 148.05 299c iPKHKP PKPpre 06 53 49.1
KUR e 07 08 55.6
KUR eSS SS 07 16 39.8 +11
KUR pmax pmax
comp=Z,51µm,2.9s
KUR pmax pmax
comp=Z,1µm,1.2s
CGP Cagayan de Oro 148.09 215⇓eP PKPab 06 54 00.8 +1.2
PAGZ Pagadian 148.13 212 eP PKPbc 06 53 56.0 -1.0
SDKM Sandakan 148.24 199 ⇑P PKPdf 06 53 54.5 +0.4
CMBY CAMPBELL BAY 148.60 154 eP PKPdf 06 53 52.4 -2.1
CMBY AMS AMS 07 52 47.0
comp=Z,1008µm,23.1s
HYB Hyderabad 148.62 119 e PKPdf 06 53 55.0 +0.5
HYB Hyderabad 148.62 119 eP PKPdf 06 53 52.3 -2.2
HYB AMS AMS 07 54 07.8
comp=Z,1305µm,16.8s
KULM Kulim 148.73 168 ePKPdf PKPdf 06 53 55.2 +0.5
KULM ePKPbc PKPbc 06 53 59.2 +0.6
KULM LR LR
comp=Z,1661µm,20.0s
KKM Kota Kinabalu 148.88 198 ePKPdf PKPdf 06 53 55.7 +0.5
KKM ePKPbc PKPbc 06 53 59.8 +0.7
JCJ Chichijima 148.90 263 PKPbc PKPbc 06 53 57.5 -1.1
comp=Z,68nm,0.7s,baz=157,slow=2.5,SNR=2.5
CBIJ Chichi jima 148.90 263 ePKPdf PKPdf 06 53 54.3 -0.3
CBIJ LR LR
comp=Z,358µm,19.5s
KBL Kabul 149.07 82 ePKIKP PKPdf 06 53 56.1 +1.1
KBL MLR MLR
comp=Z,1626µm,20.4s
KBL Kabul 149.07 82 ePKPdf PKPdf 06 53 56.1 +1.1
KBL LR LR
comp=Z,1626µm,20.4s
BRVK Borovoye 149.26 45c iPKIKP PKPdf 06 53 53.1 -1.3
BRVK pmax pmax
comp=Z,193nm,2.5s
BRVK Borovoye 149.26 45 ePKPdf PKPdf 06 53 53.4 -1.0
BRVK ePKPbc PKPbc 06 53 56.7 -2.0
BRVK LR LR
comp=Z,3303µm,21.0s
MSLP Maasin 149.48 216 eP PKPdf 06 53 58.1 +2.2
YUK Yuzh-Kuril'sk 149.52 297 i PKPdf 06 53 50.7 -4.3
YUK i 06 57 34.3
YUK MLR MLR
comp=N,246µm,21.0s
YUK MLR MLR
comp=E,545µm,21.0s
YUK MLR MLR
comp=Z,645µm,21.0s
SNPH Sibulan 149.53 213 eP PKPdf 06 53 54.5 -1.6
TBP Tagbilaran 149.56 214 eP PKPbc 06 53 59.4 -1.3
VOSK Vostochnaya 149.77 45 PFAKE 06 54 10.0 +4.5
VOSK LR LR
comp=Z,2919µm,21.9s
LLP Lapu-Lapu 150.06 215 eP PKPdf 06 53 58.5 +1.6
PLP Palo 150.31 218⇓eP PKPdf 06 53 59.6 +2.4
OCLP Ormoc 150.40 217 eP PKPab 06 54 06.9 -2.1
YAK Yakutsk 150.48 338 ePKIKP PKPdf 06 53 56.5 +0.5
YAK e 06 54 02.5
YAK ePPP PPP 07 01 05.1
YAK e 07 10 24.0
YAK pmax pmax
comp=Z,258nm,0.9s
YAK pmax pmax
comp=N,27nm,1.4s
YAK pmax pmax
comp=E,22nm,1.2s
YAK MLR MLR
comp=N,1047µm,20.0s
YAK MLR MLR
comp=E,336µm,22.0s
YAK MLR MLR
comp=Z,1209µm,21.0s
YAK Yakutsk 150.48 338 ePKPdf PKPdf 06 53 52.6 -3.4
YAK ePKPbc PKiKP 06 54 02.9 +0.9
YAK LR LR
comp=Z,1256µm,22.0s
GUIM Jordan 150.96 213 eP PKPbc 06 54 03.5 -0.4
BATP Bataraza 151.07 202 eP PKPdf 06 53 59.9 +1.5
KKAR Karatay Array 151.17 65 ePKPdf PKPdf 06 53 55.3 -2.4
KKAR ePKPbc PKPbc 06 54 03.1 -0.6
BHPL Bhopal 151.34 108 eP PKPdf 06 53 57.0 -1.6
BHPL AMS AMS 07 51 44.3
comp=Z,722µm,21.3s
NGP Nagpur 151.36 114 ex PKPbc 06 54 04.3 -0.5
YSS Yuzh-Sakhalins 151.42 303 iPKIKP PKPdf 06 53 58.5 +0.6
YSS e 06 54 03.0
YSS e 06 54 10.0
YSS e 07 01 08.0
YSS eSS SS 07 17 17.0 +10
YSS pmax pmax
comp=Z,303nm,0.6s
YSS MLR MLR
comp=N,342µm,19.0s
YSS MLR MLR
comp=E,330µm,19.0s
YSS MLR MLR
comp=Z,483µm,19.0s
YSS Yuzh-Sakhalins 151.42 303 ePKPdf PKPdf 06 53 58.7 +0.8
YSS LR LR
comp=Z,810µm,22.0s
ERM Erimo 151.53 293 ePKIKP PKPdf 06 53 56.6 -1.6
ERM MLR MLR
comp=Z,919µm,20.0s
ERM Erimo 151.53 293 ePKPdf PKPdf 06 53 56.6 -1.6
ERM LR LR
comp=Z,919µm,20.0s
PPR Puerto Princes 151.69 205⇓eP PKPbc 06 54 07.7 +2.0
RCP Roxas 151.71 214⇓eP PKPdf 06 54 01.2 +1.8
CUYO Cuyo Island 151.82 210 eP PKPdf 06 54 03.1 -2.8
ASAJ Asahikawa 151.86 297 ePKPdf PKPdf 06 53 59.3 +0.6
ASAJ LR LR
comp=Z,761µm,20.7s
VIS Vishakhapatnam 152.11 125 eP PKPdf 06 53 58.0 -1.9
PBA Port Blair 152.39 148 eP PKPdf 06 53 58.8 -1.6
PBA AMS AMS 07 50 10.7
comp=Z,1415µm,25.1s
OTRP Odiongan 152.75 213 eP PKPbc 06 54 08.3 +0.3
ENPP El Nido 152.76 207 eP PKPbc 06 54 08.0 0.0
PVCP Virac 152.80 219 eP PKPbc 06 54 05.2 -2.9
JHJ2 Mitsune 152.95 273 PFAKE 06 54 10.0 +2.0
JHJ2 LR LR

comp=Z,527µm,21.3s
BUSP Coron 153.20 210 eP PKPbc 06 54 09.4 +0.4
SJMP San Jose 153.23 212 eP PKPbc 06 54 08.3 -0.8
AUQP San Andres 153.29 216 eP PKPbc 06 54 11.1 +1.9
AML Almayashu 153.55 67 P PKPdf 06 54 00.1 -1.7
SNR=31
EKS2 Erkin-Say 153.59 66 P PKPdf 06 53 59.9 -1.6
SNR=47
EKS2 Erkin-Say 153.59 66 ePKIKP PKPdf 06 54 00.4 -1.1
EKS2 MLR MLR
comp=Z,1536µm,20.0s
EKS2 Erkin-Say 153.59 66 ePKPdf PKPdf 06 54 00.4 -1.1
EKS2 LR LR
comp=Z,1536µm,20.0s
NDI New Delhi 153.79 98 ex PKPab 06 54 36.0 +13
DGPR DIGLIPUR 153.83 147 eP PKPdf 06 53 59.7 -2.7
GQP Guinayangan 153.90 216⇑eP PKPbc 06 54 10.4 -0.1
PONG Pong 153.94 90 ex PKPbc 06 54 10.5 +0.4
USP Ospenovka 154.07 64 P PKPdf 06 54 00.4 -1.7
SNR=38
AAK Ala-Archa 154.12 66c iPKIKP PKPdf 06 54 01.2 -1.1
AAK pmax pmax
comp=Z,529nm,2.5s
AAK Ala-Archa 154.12 66 ePKPdf PKPdf 06 54 00.8 -1.5
AAK ePKPbc PKPbc 06 54 09.8 -0.6
AAK LR LR
comp=Z,1745µm,20.0s
DLH Dalhousie 154.13 89 eP PKPdf 06 54 04.0 +1.3
DLH ex x 06 56 03.0
BHK Bhakra 154.15 92 eP PKPdf 06 54 03.4 +0.9
BHK ex x 06 55 56.6
UCH Uchtor 154.15 66 P PKPdf 06 54 01.1 -1.6
SNR=59
CHMS Chumysh 154.28 65 P PKPdf 06 54 04.2 +1.9
SNR=9.7
CHMS Chumysh 154.28 65 iPKIKP PKPdf 06 54 04.2 +1.9
DHRM DHARAMSHALA 154.31 90 eP PKPdf 06 54 01.8 -1.1
DHRM AMS AMS 07 58 41.5
comp=Z,1252µm,26.1s
KBK Karagaybulak 154.45 65 P PKPdf 06 54 04.4 +1.6
SNR=25
SDNR Sundarnagar 154.62 92 eP PKPdf 06 54 01.0 -2.2
SDNR ex x 06 55 35.0
SMLA Simla 154.66 93 eP PKPdf 06 54 00.6 -2.5
KZA Kyzart 154.71 67 P PKPdf 06 54 01.9 -1.5
SNR=10
LUBP Lubang 154.74 211 eP PKPbc 06 54 12.9 +0.6
TKM2 Tokmak 2 154.90 65 P PKPdf 06 54 01.4 -2.0
SNR=44
TKM2 Tokmak 2 154.90 65 ePKIKP PKPdf 06 54 01.5 -2.0
TKM2 e 06 54 11.0
TKM2 MLR MLR
comp=Z,1399µm,19.0s
TKM2 Tokmak 2 154.90 65 ePKPdf PKPdf 06 54 01.5 -1.9
TKM2 ePKPbc PKPbc 06 54 11.0 -1.2
TKM2 LR LR
comp=Z,1399µm,19.0s
KURK Kurchatov 154.93 46 ePKIKP PKPdf 06 54 00.7 -2.2
KURK MLR MLR
comp=Z,924µm,20.0s
KURK Kurchatov 154.93 46 ePKPdf PKPdf 06 54 00.7 -2.2
KURK LR LR
comp=Z,924µm,20.0s
MJAR Matsushiro Arr 154.96 280 PKIKP PKPdf 06 54 03.5 0.0
MJAR pmax pmax
comp=Z,11nm,1.0s
MJAR Matsushiro Arr 154.96 280 PKP PKPdf 06 54 03.5 0.0
comp=Z,11nm,1.0s,baz=140,slow=1.3,SNR=8.8
MAJO Matsushiro 154.97 280 ePKIKP PKPdf 06 54 03.2 -0.3
MAJO MLR MLR
comp=Z,937µm,22.0s
MAJO Matsushiro 154.97 280 ePKPdf PKPdf 06 54 03.2 -0.3
MAJO LR LR
comp=Z,937µm,22.0s
MAT Matsushiro 154.97 280 PKP PKPdf 06 54 01.5 -2.0
DDI Dehra Dun 155.10 95 eP PKPdf 06 54 00.3 -3.6
DDI eP x 06 54 06.0
DDI ex x 06 58 09.8
DDI AMS AMS 07 52 47.1
comp=Z,991µm,38.4s
NVS Novosibirsk 155.14 34⇑iPKIKP PKPdf 06 54 04.1 +1.1
NVS e 07 01 38.2
NVS pmax pmax
comp=Z,4µm,1.9s
NVS pmax pmax
comp=N,363nm,1.8s
NVS pmax pmax
comp=E,892nm,2.0s
KSH Kashi 155.28 73 PKPbc PKPbc 06 54 01.5 -2.4
KSH pPKP pPKPdf 06 54 12.5 -0.8
KSH sPKP 06 54 16.3
KSH PKS PKSdf 06 57 35.3 -2.8
KSH SKS SKSdf 07 01 06.0 -2.5
KSH AMB AMB
comp=E,46µm,7.6s
KSH LR LR
comp=E,561µm,22.3s
KSH LR LR
comp=E,1585µm,39.4s
ULHL Ulahol 155.43 66 P PKPdf 06 54 06.1 +2.0
SNR=6.2
AAA Alma-Ata 155.85 64 iPKIKP PKPdf 06 54 07.3 +2.8
AAA pmax pmax
comp=Z,110µm,10.4s
BALP Baler 155.91 216 eP PKPdf 06 54 06.8 +1.6
HABR Khabarovsk 156.07 310c ePKP2 PKPab 06 54 30.4 -1.7
HABR e 06 58 08.8
HABR e 07 01 06.8
HABR PPP PPP 07 01 41.4
HABR eSS SS 07 17 56.2 -0.7
HABR eSSS SSS 07 23 54.1
HABR MLR MLR
comp=N,541µm,25.0s
HABR MLR MLR
comp=E,494µm,25.0s
HABR MLR MLR
comp=Z,669µm,25.0s
CLNS Chul'man 156.08 335 ePKIKP PKPdf 06 54 02.5 -1.8
CLNS pmax pmax
comp=N,14nm,1.3s
CLNS pmax pmax
comp=E,9.0nm,1.1s
CLNS pmax pmax
comp=Z,42nm,1.0s
ZAA0 Zalesovo Array 156.42 34 ePKPdf PKPdf 06 54 02.2 -2.6
ZALV Zalesovo Beam 156.42 34 PKP PKPdf 06 54 02.4 -2.4
comp=Z,127nm,1.0s,baz=281,slow=2.1,SNR=50
ZALV PP PP 06 58 24.4 +13
comp=Z,392nm,1.0s,baz=306,slow=5.0,SNR=1.9
LGTI Lohaghat 156.53 99 ex x 06 53 55.9
SCZP Santa Cruz 156.70 213 eP PKPdf 06 54 08.0 +1.7
CAUP Cauayan 156.81 218 eP PKPdf 06 54 15.3 +8.8
BCPH Baguio City Da 156.93 215⇓iP PKPdf 06 54 05.4 -1.4
BOLP Bolinao 157.23 213 eP PKPdf 06 54 12.6 +5.6
CVP Callao Caves 157.46 219⇓eP PKPdf 06 54 09.1 +1.8
APYP Conner 157.88 218 eP PKPdf 06 54 07.9 +0.2
BOK Bokaro 157.96 118 eP PKPdf 06 54 06.4 -1.3
BOK AMS AMS 07 52 00.5
comp=Z,709µm,30.4s
ABRA Dolores 157.96 217 eP PKPdf 06 54 13.7 +5.8
KOLN Koldanda 158.45 106 eP PKPdf 06 54 07.8 -0.7
MK31 Makanchi Array 158.69 52 ePKIKP PKPdf 06 54 05.7 -2.2
MK31 Makanchi Array 158.69 52 ePKPdf PKPdf 06 54 05.7 -2.2
MKAR Makanchi Array 158.69 52 PKIKP PKPdf 06 54 05.4 -2.5
MKAR pmax pmax
comp=Z,76nm,1.0s
MKAR Makanchi Array 158.69 52 PKP PKPdf 06 54 05.4 -2.5
comp=Z,77nm,1.0s,baz=297,slow=1.0,SNR=77
MKAR PP PP 06 58 38.3 +14
comp=Z,140nm,0.9s,baz=277,slow=2.8,SNR=2.1
MK01 Makanchi Array 158.71 52 ePKPdf PKPdf 06 54 04.8 -3.1
DANN Dangsing 158.84 105 eP PKPdf 06 54 09.8 +0.8
GKN Gorkha 159.36 107 eP PKPdf 06 54 09.9 +0.4
USRK Ussuriysk Arra 159.38 301 PKP PKPdf 06 54 07.0 -1.8
comp=Z,1.0nm,0.6s,baz=143,slow=35,SNR=5.1
DMN Daman 159.53 108 eP PKPdf 06 54 10.2 +0.4
JOW Kunigami 159.70 249 PKP PKPdf 06 54 08.1 -1.6
comp=Z,14nm,0.3s,baz=112,slow=21,SNR=8.8
JOW Kunigami 159.70 249 PKP PKPdf 06 54 08.1 -1.6
JOW LR LR
comp=Z,660µm,21.6s
PKI Pulchoki 159.74 109 eP PKPdf 06 54 10.4 +0.2
KKN Kakani 159.75 108 eP PKPdf 06 54 10.5 +0.5
JNU Nakatsue 160.19 268 ePKPdf PKPdf 06 54 05.0 -5.1

GUN Gumba 160.28 109 eP PKPdf 06 54 11.3 +0.5
RAMN Ramite 160.32 112 eP PKPdf 06 54 09.6 -1.1
JIRN Jiri 160.39 110 eP PKPdf 06 54 11.2 +0.3
ODAN Odare 160.86 113 eP PKPdf 06 54 10.8 -0.5
MDJ Mudanjiang 160.91 303 PKP PKPdf 06 54 10.3 -0.2
MDJ pPKP pPKPdf 06 54 20.0 +0.2
MDJ sPKP 06 54 24.5
MDJ PKS PKSdf 06 57 43.5 -0.1
MDJ PP PP 06 58 38.3 +1.8
MDJ AMB AMB
comp=Z,16μm,9.8s
MDJ LR LR
comp=Z,517μm,36.7s
MDJ LR LR
comp=Z,1165μm,26.9s
MDJ LR LR
comp=Z,1347μm,25.9s
MDJ Mudanjiang 160.91 303 ePKPdf PKPdf 06 54 05.5 -4.9
CMAR Chiang Mai Arr 160.97 156 PKP PKPdf 06 54 12.0 +0.7
comp=Z,30nm,1.0s,baz=248,slow=2.6,SNR=28
CMAR PP PP 06 58 47.3 +11
comp=Z,35nm,1.0s,baz=204,slow=2.0,SNR=2.5
CHTO Chiang Mai 161.30 155 ePKIKP PKPdf 06 54 08.9 -2.8
CHTO e 06 54 56.4
CHTO Chiang Mai 161.30 155 ePKPdf PKPdf 06 54 08.9 -2.8
CHTO ePKPab PKPab 06 54 56.4 +0.9
TAPN Taplejung 161.37 113 eP PKPdf 06 54 12.3 +0.4
YOJ Yonaguni jima 162.00 234 ePKIKP PKPdf 06 54 08.6 -3.6
YOJ Yonaguni jima 162.00 234 ePKPdf PKPdf 06 54 08.6 -3.6
YULB Yu-li 162.30 228 ePKPdf PKPdf 06 54 09.1 -3.5
TPUB Ta-pu 162.63 226 ePKPdf PKPdf 06 54 09.6 -3.3
QIZ Qiongzhong 162.77 189 PKP PKPdf 06 54 13.5 +0.3
QIZ LR LR
comp=Z,473μm,20.9s
QIZ LR LR
comp=Z,1119μm,25.3s
QIZ Qiongzhong 162.77 189 ePKPdf PKPdf 06 54 11.3 -1.8
SSLB Suanglung 162.81 228 ePKPdf PKPdf 06 54 08.8 -4.3
SHL Shillong 163.25 125 eP PKPdf 06 54 11.0 -2.7
SHL ex x 06 58 56.0
SHL AMS AMS 07 55 16.1
comp=Z,809μm,33.5s
WMQ Urumqi 163.31 57 PKP PKPdf 06 54 12.0 -1.0
WMQ pPKP pPKPdf 06 54 22.8 +0.4
WMQ sPKP 06 54 26.3
WMQ PKS PKSdf 06 57 44.0 -2.0
WMQ PP PP 06 58 49.8 +0.4
WMQ SKS SKSdf 07 01 11.5 -4.1
WMQ SKKS SKKSac 07 05 32.5 -2.6
WMQ AMB AMB
comp=Z,62μm,12.0s
WMQ LR LR
comp=Z,2302μm,24.2s
WMQ LR LR
comp=Z,1485μm,21.6s
WMQ LR LR
comp=Z,2304μm,22.6s
CIT Chita 163.47 346 ePKIKP PKPdf 06 54 13.2 +0.3
CIT e 06 54 59.6
HIA Hailar 163.95 329 ePKIKP PKPdf 06 54 08.7 -4.7
HIA Hailar 163.95 329 ePKPdf PKPdf 06 54 08.7 -4.7
CN2 Changchun 163.99 304 eP PKPdf 06 54 12.5 -1.0
CN2 pPKP pPKPdf 06 54 23.3 +0.4
CN2 PP PP 06 58 55.0 +2.2
CN2 AMB AMB
comp=Z,63μm,13.0s
INCN Inchon 164.27 281 ePKPdf PKPdf 06 54 12.3 -1.7
HKC Hong Kong Obse 164.88 206 PKP PKPdf 06 54 15.0 0.0
QZH Quanzhou 165.07 225 iPKP PKPdf 06 54 16.5 +1.4
QZH PKPab PKPab 06 55 14.3 +2.4
QZH PP PP 06 59 07.3 +9.2
QZH AMB AMB
comp=Z,192μm,9.6s
QZH LR LR
comp=Z,1183μm,19.4s
QZH LR LR
comp=Z,238μm,17.4s
QZH LR LR
comp=Z,1990μm,22.5s
LSA Lhasa 165.17 111 PKP PKPdf 06 54 16.5 +0.8
LSA LR LR
comp=Z,1030μm,27.1s
LSA LR LR
comp=Z,1190μm,27.1s
LSA LR LR
comp=Z,2210μm,21.7s
LSA Lhasa 165.17 111 ePKIKP PKPdf 06 54 13.6 -2.1
LSA Lhasa 165.17 111 ePKPdf PKPdf 06 54 13.6 -2.1
GZH Guangzhou 165.89 204 PKP PKPdf 06 54 15.3 -0.5
GZH LR LR
comp=Z,1176μm,20.2s
GZH LR LR
comp=Z,787μm,19.4s
GZH LR LR
comp=Z,2642μm,26.5s
SNY Shenyang 165.97 299 ⇑PKP PKPdf 06 54 12.5 -2.8
SNY PP PP 06 59 02.5 -0.8
SNY SKS SKSdf 07 01 09.8 -7.5
SNY AMB AMB
comp=Z,73μm,12.3s
SNY LR LR
comp=Z,641μm,19.6s
SNY LR LR
comp=Z,907μm,18.6s
SNY LR LR
comp=Z,1358μm,19.1s
SSE Sheshan 167.20 251 ⇑PKP PKPdf 06 54 17.8 +1.2
DL2 Dalian 168.12 288 PKP PKPdf 06 54 17.5 +0.5
DL2 AMB AMB
comp=Z,58μm,12.0s
DL2 LR LR
comp=Z,348μm,19.8s
DL2 LR LR
comp=Z,362μm,22.2s
DL2 LR LR
comp=Z,954μm,21.1s
SONM Songino Array 168.31 2 PKIKP PKPdf 06 54 16.8 -0.2
SONM pmax pmax
comp=Z,9.0nm,1.1s
SONM Songino Array 168.31 2 PKP PKPdf 06 54 16.8 -0.2
comp=Z,16nm,1.1s,baz=25,slow=0.7,SNR=3.7
SONM PP PP 06 59 28.0 +14
comp=Z,36nm,1.0s,baz=338,slow=6.2,SNR=2.5
KMI Kunming 168.40 160 PKP PKPdf 06 54 19.5 +1.6
KMI pPKP pPKPdf 06 54 32.3 +5.0
NJ2 Nanjing 169.41 251 ePKP PKPdf 06 54 18.5 +0.5
NJ2 PKS PKSdf 06 57 51.5 +1.0
NJ2 PP PP 06 59 25.5 +4.4
NJ2 SKS SKSdf 07 01 19.0 -0.7
NJ2 SKKS SKKSac 07 06 09.0 +3.1
NJ2 SS SS 07 20 21.0 +4.8
NJ2 AMB AMB
comp=Z,287μm,11.2s
NJ2 LR LR
comp=Z,983μm,19.0s
NJ2 LR LR
comp=Z,773μm,18.5s
NJ2 LR LR
comp=Z,801μm,18.2s
GYA Guiyang 170.33 178 iPKP PKPdf 06 54 20.0 +1.1
GYA pPKP pPKPdf 06 54 30.3 +2.0
GYA PKPab PKPab 06 55 38.0 +2.9
GYA PKS PKSdf 06 57 50.8 -0.8
GYA PP PP 06 59 31.8 +7.5
GYA SKKS 07 06 11.5
GYA LR LR
comp=Z,629μm,21.4s
GYA LR LR
comp=Z,801μm,21.1s
GYA LR LR
comp=Z,977μm,24.2s
WHN Wuhan 171.73 230⇑iPKP PKPdf 06 54 20.5 +1.2
WHN sPKP 06 54 34.0
WHN LR LR
comp=Z,1353μm,26.6s
WHN LR LR
comp=Z,2044μm,18.6s
BJI Beijing 171.84 301 PKP PKPdf 06 54 19.0 -0.1
BJI PP PP 06 59 32.5 -0.4
BJI SKS SKSdf 07 01 19.8 -0.5
BJI AMB AMB
comp=Z,48μm,13.8s
BJI LR LR
comp=Z,507μm,24.2s
BJI LR LR
comp=Z,1403μm,22.4s
BJI LR LR
comp=Z,1980μm,23.3s
BJT Baijiatuau 171.85 301 ePKIKP PKPdf 06 54 15.3 -3.8
BJT Baijiatuau 171.85 301 ePKPdf PKPdf 06 54 15.3 -3.8
TIA Tai'an 171.87 273 PKP PKPdf 06 54 20.0 +0.7
TIA AMB AMB
comp=Z,96μm,10.7s
TIA LR LR
comp=Z,329μm,58.3s
TIA LR LR
comp=Z,281μm,64.2s
TIA LR LR
comp=Z,1220μm,30.9s
GTA Gaotai 173.40 58 ⇑PKP PKPdf 06 54 21.5 +1.5
GTA pPKP pPKPdf 06 54 31.5 +2.1
GTA sPKP 06 54 35.8
GTA SKS SKSdf 07 01 19.3 -1.9
GTA AMB AMB
comp=Z,51μm,8.5s
GTA LR LR
comp=Z,1309μm,25.2s
GTA LR LR
comp=Z,1684μm,23.3s
GTA LR LR
comp=Z,3594μm,25.7s
ENH Enshi 173.80 200 ePKPdf PKPdf 06 54 17.5 -2.8
CD2 Chengdu 174.09 151 PKP PKPdf 06 54 22.0 +1.6
CD2 PKS PKSdf 06 57 52.8 +0.1
CD2 PP PP 06 59 49.3 +6.1
CD2 SKS SKSdf 07 01 17.3 -4.3
CD2 SKKS SKKSac 07 06 27.5 -0.8
CD2 AMB AMB
comp=Z,385μm,16.6s
CD2 LR LR
comp=Z,1209μm,24.5s
CD2 LR LR
comp=Z,810μm,23.0s
CD2 LR LR
comp=Z,1641μm,26.0s
HHC Hu-ho-hao-te 174.13 324 ePKP PKPdf 06 54 18.0 -2.2
HHC pPKP pPKPdf 06 54 27.0 -2.6
HHC sPKP 06 54 32.5
HHC PP PP 06 59 44.3 +0.6
HHC SKKS 07 06 25.5
HHC AMB AMB
comp=Z,113μm,10.3s
HHC LR LR
comp=Z,2362μm,21.2s
HHC LR LR
comp=Z,1350μm,21.6s
BTO Baotou 174.98 333 ePKP PKPdf 06 54 18.5 -1.9
TIY Taiyuan 175.43 292 ePKP PKPdf 06 54 22.3 +1.7
TIY AMB AMB
comp=Z,109μm,10.7s
TIY LR LR
comp=Z,1448μm,21.4s
TIY LR LR
comp=Z,583μm,19.7s
TIY LR LR
comp=Z,2200μm,22.9s
LZH Lanzhou 177.39 90 PKP PKPdf 06 54 22.8 +1.6
LZH PKS PKSdf 06 57 54.0 +0.6
LZH PP PP 07 00 03.0 +2.5
LZH SKS SKSdf 07 01 20.0 -2.3
LZH AMB AMB
comp=Z,405μm,10.0s
LZH LR LR
comp=Z,959μm,18.9s
LZH LR LR
comp=Z,1368μm,20.5s
LZH LR LR
comp=Z,1837μm,21.0s
XAN Xi'an 177.40 216 PKP PKPdf 06 54 18.3 -2.8
XAN pPKP pPKPdf 06 54 30.0 -0.5
XAN sPKP 06 54 33.8
XAN PP PP 07 00 08.0 +8.8
XAN SKS SKSdf 07 01 14.0 -8.1
XAN SKKS SKKSac 07 06 48.5 +4.6
XAN LR LR
comp=Z,890μm,21.8s
XAN LR LR
comp=Z,292μm,26.4s
XAN LR LR
comp=Z,404μm,24.3s

IDC **27** *06:47:19.1±1.4, 33.°53S×71.°74W, h0km, mb5.4/3, mb1 5.6/3, mb1mx5.1/15, mbtmp5.4/3, Error ellipse: s-maj=74.2km s-min=34.4km az=64.0*
ISCJB **27** *06:47:22.5±0.5, 33.°7S±0.°1×71.°9W±0.°1, h33km, mb5.5/9, Error ellipse: s-maj=18.3km s-min=11.7km az=44.9*
NEIC **27** *06:47:23.6±0.7, 33.°66S×72.°03W, h35km, mb5.6/6, Error ellipse: s-maj=19.1km s-min=16.6km az=56.0*
ISC 27 06:47:24.0±0.8, 33.°6S±0.°1×71.°5W±0.°2, h35km, n105, σ0§62/88, mb5.5/9, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CPUP Villa Florida 14.29 63 Pn P 06 50 50.1 -0.4
RCBR Riachuelo 43.09 58 P P 06 55 21.1 +0.2
SNAA Sanae 51.78 158 P P 06 56 29.3 +1.4
65nm,1.0s,baz=290,slow=9.0,SNR=5.8
QSPA South Pole Qui 56.62 180 eP P 06 57 01.7 -1.5
113nm,1.1s
933A Laredo 66.34 333 P P 06 58 09.2 +0.1
baz=66
834A Tilden 66.53 334 P P 06 58 11.0 +0.7
baz=67
735A Kenedy 66.93 335 P P 06 58 13.6 +0.8
baz=67
833A Chaparral WMA, 67.02 333 P P 06 58 14.1 +0.7
baz=67
734A La Parita Cree 67.19 334 P P 06 58 15.2 +0.7
baz=67
832A Faith Ranch, C 67.20 333 P P 06 58 15.2 +0.6
baz=67
732A Laxson Ranch, 67.60 333 P P 06 58 17.3 +0.3
baz=68
339A Huntington 68.16 339 P P 06 58 21.4 +0.9
baz=68
632A Uvalde 68.23 334 P P 06 58 21.9 +0.8
baz=68
338A Crockett 68.41 338 P P 06 58 23.5 +1.4
baz=69
533A Kerrville 68.47 335 P P 06 58 22.9 +0.3
baz=69
337A Centerville 68.55 338 P P 06 58 24.0 +1.0
baz=69
239A Gary 68.77 339 P P 06 58 24.9 +0.6
baz=69
532A Rocksprings 68.84 334 P P 06 58 25.3 +0.5
baz=69
434A Burnet 68.88 335 P P 06 58 25.5 +0.4
baz=69
238A Jacksonville 68.95 339 P P 06 58 26.0 +0.6
baz=69
335A Moody 69.02 336 P P 06 58 26.4 +0.5
baz=69
531A Rocksprings 69.11 333 P P 06 58 27.0 +0.4
baz=69
530A J-C Ranch, Com 69.40 333 P P 06 58 28.2 -0.1
baz=70
432A Menard 69.47 334 P P 06 58 29.5 +0.7
baz=70
138A Matatall Enter 69.55 339 P P 06 58 30.5 +1.4
baz=70
TXAR Lajitas Array 69.60 330 P P 06 58 29.4 -0.3
6.6nm,0.6s,baz=156,slow=7.2,SNR=5.2
WHTX Lake Whitney 69.68 337 P P 06 58 30.7 +0.8
baz=70
137A Heron Place, G 69.70 338 P P 06 58 30.5 +0.5
baz=70
529A Stev Forest Ra 69.72 332 P P 06 58 31.0 +0.7
baz=70
OXF Oxford 69.81 344 eP P 06 58 29.7 -1.0
228nm,1.1s
331A San Angelo 70.09 334 P P 06 58 32.9 +0.3
baz=70
135A Vickery Place, 70.19 337 P P 06 58 33.4 +0.4
baz=70
232A Coleman 70.34 335 P P 06 58 34.1 +0.1
baz=70
330A Mertzon 70.46 333 P P 06 58 34.7 -0.2
baz=71
133A Hamilton Ranch 70.74 336 P P 06 58 36.8 +0.4
baz=71
329A Wagon Wheel Ra 70.84 333 P P 06 58 37.4 +0.2
baz=71
Z35A Perchaven, San 70.85 337 P P 06 58 37.3 +0.2
baz=71
Z34A Collier Ranch, 71.10 337 P P 06 58 39.0 +0.4
baz=71
229A Bryant Ranch, 71.20 333 P P 06 58 39.6 +0.2
baz=71
228A UT Block 9, Go 71.63 333 P P 06 58 42.2 +0.2
baz=72
Z31A Sharp Cattle R 71.81 335 P P 06 58 43.3 +0.3
baz=72
129A Stewart Farms, 71.81 333 P P 06 58 43.2 +0.2
baz=72
Y33A Hilltop Ranch, 71.92 337 P P 06 58 43.6 0.0
baz=72
Z30A Sanderson Ranc 72.13 334 P P 06 58 45.3 +0.4
baz=72
SIUC Southern Illin 72.85 345 eP P 06 58 47.3 -1.7
42nm,0.8s
W33A Caddo, Fort Co 72.91 337 P P 06 58 50.3 +0.8
baz=73
W32A Sentinel 73.14 337 P P 06 58 51.3 +0.5
baz=73
Z26A Caprock 73.19 332 P P 06 58 51.2 -0.1
baz=73
MSTX Muleshoe 73.35 333 P P 06 58 52.4 +0.2
baz=74
X29A Tulia 73.38 334 P P 06 58 52.7 +0.3
baz=74
AMTX Amarillo 73.77 335 P P 06 58 55.1 +0.5
baz=74
U34A Anderson Ranch 73.80 338 P P 06 58 55.1 +0.4
baz=74
319A Douglas 73.80 327 P P 06 58 55.0 +0.1
baz=74
ACSO Alum Creek Sta 74.24 351 eP P 06 58 55.9 -1.2
46nm,0.6s
X26A CR and CF Fran 74.26 333 P P 06 58 58.1 +0.6
baz=74
T33A Patterson Ranc 74.61 338 P P 06 59 00.2 +0.8
baz=75
SUR Sutherland 74.65 119 eP P 06 59 01.9 +1.6
38nm,0.9s
W26A Owens Ranch, T 74.72 333 P P 06 59 00.3 +0.1
baz=75
V28A Channing 74.74 335 P P 06 59 00.6 +0.3
baz=75
U30A WK&E Inc. Balk 74.89 336 P P 06 59 02.2 +1.1
baz=75
X24A Lazy VL Ranch, 74.90 332 P P 06 59 02.5 +1.1
baz=75
T32A Huddler Ranch, 74.92 338 P P 06 59 01.8 +0.7
baz=75
T30A Plains 75.32 336 P P 06 59 04.3 +0.8
baz=76
ANMO Albuquerque 75.65 331 P P 06 59 03.8 -1.8
24nm,1.0s
T29A Hugoton 75.67 336 P P 06 59 05.9 +0.3
baz=76
T28A Walsh 75.93 335 P P 06 59 07.6 +0.5
baz=76
S28A Manter 76.27 336 P P 06 59 09.1 +0.1
baz=76
U23A El Rito 76.74 332 P P 06 59 12.5 +0.7
baz=77
R29A Marienthal 76.77 337 P P 06 59 12.5 +0.8
baz=77
T25A Trinidad 76.77 334 P P 06 59 13.1 +1.1
baz=77
R28A Tribune 76.92 336 P P 06 59 13.2 +0.6
baz=77
W18A Petrified Fore 77.17 329 P P 06 59 14.9 +0.6
baz=77
S25A Robets Cordova 77.24 334 P P 06 59 14.5 -0.1
baz=77
X16A Lo Mia Camp, P 77.34 327 P P 06 59 14.8 -0.5
baz=77
S24A Houchin Ranch, 77.51 333 P P 06 59 16.4 +0.1
baz=78
SDCO Great Sand Dun 77.72 333 eP P 06 59 17.7 +0.4
GLA Glamis 77.82 324 P P 06 59 18.0 +0.2
baz=78
R24A Sanders Place, 77.99 334 P P 06 59 20.0 +1.1
baz=78
N32A Stulken Farm, 78.02 340 P P 06 59 20.3 +1.7
baz=78
Q24A Divide 78.66 334 P P 06 59 23.0 +0.4
baz=79
N29A Votaw Ranch, W 78.78 338 P P 06 59 24.3 +1.4
baz=79
O27A Beecher Island 78.81 336 P P 06 59 24.1 +0.9
baz=79
O26A Horse Wrangler 79.14 336 P P 06 59 25.7 +0.7
baz=79
M30A Dale-Ortello V 79.20 339 P P 06 59 26.1 +0.9
baz=79
O25A Wiggins 79.30 335 P P 06 59 27.1 +1.2
baz=80
MURC Murrieta 79.44 323 P P 06 59 27.7 +1.0
baz=80
L31A Butterfield Fa 79.48 340 P P 06 59 27.9 +1.2
baz=80
HEC Hector,Ludlow 79.98 324 P P 06 59 30.4 +0.8
baz=80
BFSC Mount Baldy Ra 80.18 323 P P 06 59 31.7 +0.9
baz=80
M25A Palm-Egli Farm 80.45 336 P P 06 59 32.5 +0.4
baz=81
DECC Green Verdugo 80.53 322 P P 06 59 31.9 -0.6
baz=81
I28A Midland 81.83 339 P P 06 59 39.8 +0.5
baz=82
H29A Onida 82.12 340 P P 06 59 41.3 +0.6
baz=82
VES Vestal, Richgr 82.16 323 P P 06 59 41.4 +0.4
baz=82
RCTC Rector, Farmer 82.60 323 P P 06 59 43.2 -0.1
baz=83
F28A McLaughlin 83.41 340 P P 06 59 48.1 +0.7
baz=84
TORD Torodi Ar. Bea 83.69 70 P P 06 59 51.0 +1.5
64nm,1.0s,baz=245,slow=5.3,SNR=5.6
H18A Shoshone NF, C 85.28 334 P P 06 59 57.5 +0.4
baz=86
D25A Fairfield 85.33 339 P P 06 59 57.7 +0.6
baz=86
B21A Ellsworth Farm 87.61 337 P P 07 00 08.4 +0.2
baz=88
B20A Solberg Farm, 87.95 337 P P 07 00 10.3 +0.4
baz=88
M04C Macdoel 88.11 325 P P 07 00 11.7 +0.7
baz=88
A20A Cobblestone Ra 88.30 337 P P 07 00 11.5 0.0
baz=88
M02C Callahan 88.31 324 P P 07 00 11.6 -0.2
baz=88
ZALV Zalesovo Beam 153.68 32 PKPbc PKPbc 07 07 19.0 +0.4
42nm,0.9s,baz=301,slow=3.0,SNR=4.2

IDC **27** *06:50:30.9±1.1, 37.°28S×73.°10W, h0km, mb5.2/8, mb1 5.4/8, mb1mx5.1/28, mbtmp5.2/8, Error ellipse: s-maj=60.2km s-min=24.7km az=38.0*
ISCJB **27** *06:50:35.6±1.7, 37.°0S±0.°5×72.°9W±0.°5, h33km, mb5.1/8, Error ellipse: s-maj=85.1km s-min=23.0km az=35.4*
ISC 27 06:50:36.2±1.1, 37.°2S±0.°4×73.°1W±0.°3, h33km, n15, σ0§96/15, mb5.2/8, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TXAR Lajitas Array 72.15 332 P P 07 01 57.5 0.0
27nm,0.9s,baz=150,slow=9.3,SNR=5.9
DBIC Dimbokro 77.01 71 P P 07 02 26.2 +0.2
16nm,0.6s,baz=216,slow=6.6,SNR=4.5
TSUM Tsumeb 79.15 106 P P 07 02 38.6 +0.5
5.2nm,0.7s,baz=237,slow=6.7,SNR=2.4
BOSA Boshof 79.33 118 P P 07 02 39.0 0.0
16nm,0.6s,baz=248,slow=4.6,SNR=5.7
NVAR Mina Array Bea 86.05 326 P P 07 03 14.8 +1.3
14nm,1.0s,baz=148,slow=5.3,SNR=3.1
TORD Torodi Ar. Bea 86.09 70 P P 07 03 14.3 +0.3
12nm,0.7s,baz=230,slow=5.5,SNR=4.1
PDAR Pinedale Array 86.26 334 P P 07 03 15.0 +0.6
20nm,1.1s,baz=138,slow=4.4,SNR=3.3
ULM Lac du Bonnet 89.38 346 P P 07 03 27.6 -1.3

15nm,0.7s,baz=141,slow=4.4,SNR=3.1
WRA Warramunga Arr 117.55 209 PKP PKPdf 07 09 18.9 -0.2
15nm,1.2s,baz=154,slow=1.7,SNR=7.6
BRTR Keskin Array B 124.08 63 PKP PKPdf 07 09 31.4 +0.2
15nm,0.7s,baz=236,slow=2.0,SNR=4.1
AKASG Malin Array Be 124.95 49 PKP PKPdf 07 09 30.4 -1.8
5.4nm,0.7s,baz=261,slow=2.8,SNR=3.2
ARCES ARCESS Array B 127.27 26 PKP PKPdf 07 09 35.9 -0.3
2.7nm,0.8s,baz=267,slow=3.6,SNR=3.6
PETK Petropavlovsk- 141.70 311 PKP PKPdf 07 10 04.8 +1.2
6.8nm,0.9s,baz=111,slow=3.2,SNR=3.8
ZALV Zalesovo Beam 157.36 35 PKP PKPdf 07 10 26.9 -1.2
8.8nm,0.8s,baz=302,slow=3.2,SNR=2.3
SONM Songino Array 169.38 2 PKPab PKPab 07 11 53.3 +0.8
7.8nm,1.0s,baz=348,slow=3.3,SNR=3.4

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*IDC **27** 06:51:11.5±0.4, 31.70S×69.31W, h0km, mb5.6/16, mb1 5.8/17, mb1mx5.7/21, mbtmp5.7/17, ML6.3/1, Error ellipse: s-maj=15.8km s-min=9.6km az=2.0*
*ISCJB **27** 06:51:14.6±0.8, 31.63S±0.04×69.20W±0.05, h24km±5km, mb5.8/77, Error ellipse: s-maj=7.8km s-min=6.0km az=164.6*
*SJA **27** 06:51:14.2±0.6, 31.69S×69.28W, h17km±3km, ML5.5*
*MOS **27** 06:51:17.7±3.0, 31.70S×69.10W, h33km, mb6.1/28, Error ellipse: s-maj=18.1km s-min=9.8km az=106.7*
*NEIC **27** 06:51:17.6±0.8, 31.66S×69.14W, h40km±7km, mb6.0/58, Error ellipse: s-maj=7.5km s-min=4.1km az=68.0*
ISC 27 06:51:16.5±1.5, 31.68S±0.05×69.18W±0.07, h31km±10km, n640, σ0.83/643, mb5.9/77, 232C-210D, San Juan Province

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RTLS Leoncito 0.15 220 eP Pb 06 51 18.6 -4.1
SJA San Juan 0.56 74 eP Pb 06 51 27.2 -0.7
RTCV Cerro Valdivia 0.57 108 eP Pb 06 51 27.3 -0.9
CFAA Coronel Fontan 0.81 85 Pn Pn 06 51 31.5 -0.3
593nm,0.3s,baz=258,slow=8.1,SNR=58
CFAA Lg Lg 06 51 43.4
892nm,0.3s,baz=228,slow=12,SNR=33
CFAA Coronel Fontan 0.81 85 eP Pn 06 51 31.4 -0.4
CFAA eP Pn 06 51 31.4 -0.4
ARCO CERRO ARCO 1.18 170 eP Pn 06 51 37.2 +0.3
ARCO eS Sb 06 51 53.4 +0.1
ARCO AML AML 06 51 58.2
comp=Z,96μm,0.5s
AVFE Valle Fertil 1.80 56 eP Pb 06 51 47.8 -1.0
AVFE eS Sb 06 52 12.7 +1.7
AVFE AML AML 06 52 19.2
comp=Z,47μm,0.6s
TRQA Tornquist 8.68 139 ePn Pn 06 53 21.3 +1.4
CPUP Villa Florida 11.66 66 eP Pn 06 54 01.6 +0.9
CPUP Villa Florida 11.66 66 Pn Pn 06 54 00.6 -0.1
comp=Z,45nm,0.3s,baz=238,slow=13,SNR=13
CPUP Villa Florida 11.66 66 ePn Pn 06 54 01.6 +0.9
NNA Nana 20.84 338 eP P 06 55 56.6 +0.9
NNA pmax pmax
comp=Z,356nm,1.1s
NNA Nana 20.84 338 P P 06 55 56.4 +0.7
comp=Z,73nm,0.9s,baz=207,slow=13,SNR=5.4
NNA Nana 20.84 338 eP P 06 55 56.6 +0.9
comp=Z,356nm,1.1s
PMSA Palmer Station 33.27 176 eP P 06 57 50.8 +0.1
PAYG Puerto Ayora 36.73 323 eP P 06 58 21.3 +0.2
SDV Santo Domingo 40.36 358 eP P 06 58 50.8 -0.9
RCBR Riachuelo 40.38 57 eP P 06 58 50.8 -0.9
BCIP Isla Barro Col 41.88 344 eP P 06 59 03.4 -0.5
comp=Z,115nm,0.9s
GRGR Grenville 44.16 11 eP P 06 59 22.3 -0.1
comp=Z,104nm,0.6s
JTS JuntasAbangare 44.38 338 eP P 06 59 25.1 +0.9
JTS pmax pmax
comp=Z,233nm,1.6s
JTS JuntasAbangare 44.38 338 P P 06 59 22.9 -1.4
comp=Z,36nm,0.9s,baz=170,slow=6.1,SNR=5.2
JTS JuntasAbangare 44.38 338 eP P 06 59 25.1 +0.9
comp=Z,233nm,1.6s
FDF Fort de France 46.79 11 eP P 06 59 42.3 -0.9
FDF pmax pmax
comp=Z,184nm,0.8s
FDF Fort de France 46.79 11 eP P 06 59 42.3 -0.9
comp=Z,184nm,0.8s
OBIP Obispado Ponce 49.50 3 eP P 07 00 03.4 -0.7
comp=Z,144nm,1.3s
CELP Cerrillos 49.53 3 eP P 07 00 03.8 -0.5
LSP Las Mesas 49.61 3 eP P 07 00 04.5 -0.5
LRS Lares 49.74 3 eP P 07 00 07.2 +1.3
PCDR Punta Cana, DR 49.91 1 eP P 07 00 06.2 -1.1
SMN1 Samana, DR 50.58 360 eP P 07 00 11.7 -0.6
TEIG Tepich 54.77 338 eP P 07 00 42.0 -1.2
comp=Z,88nm,0.8s
QSPA South Pole Qui 58.55 180 P P 07 01 10.2 +0.3
comp=Z,172nm,1.0s,baz=153,slow=2.9,SNR=6.6
QSPA South Pole Qui 58.55 180 eP P 07 01 09.5 -0.3
comp=Z,73nm,0.8s
035Z Hargill 64.06 331 ⇑P P 07 01 48.7 +1.4
baz=64
035A Encino 64.49 331 ⇑P P 07 01 51.2 +1.1
baz=65
034A Hebbronville 64.84 331 ⇓P P 07 01 53.4 +0.9
baz=65
KVTX Kingsville 64.94 332 eP P 07 01 54.7 +1.6
comp=Z,203nm,1.1s
934A Benavides 65.25 331 ⇓P P 07 01 56.2 +1.2
baz=66
933A Laredo 65.57 331 ⇑P P 07 01 58.3 +1.2
baz=66
835A Beeville 65.58 332 ⇓P P 07 01 58.5 +1.3
baz=66
834A Tilden 65.72 332 ⇓P P 07 01 59.2 +1.1
baz=66
735A Kenedy 66.08 333 ⇑P P 07 02 01.3 +1.0
baz=66
833A Chaparral WMA, 66.24 331 ⇑P P 07 02 02.2 +0.8
baz=66,SNR=6.3
734A La Parita Cree 66.37 332 ⇑P P 07 02 03.1 +0.8
baz=67
538A Harpers Horsep 66.44 335 ⇓P P 07 02 03.6 +1.0
baz=67
832A Faith Ranch, C 66.45 330 ⇑P P 07 02 03.8 +1.0
baz=67,SNR=6.3
LRAL Lakeview Retre 66.53 344 eP P 07 02 03.2 0.0
comp=Z,73nm,1.0s
635A Leesville 66.54 333 ⇑P P 07 02 04.0 +0.7
baz=67
733A Divot King Ran 66.55 331 ⇑P P 07 02 04.3 +0.8
baz=67
537A Green Hill Far 66.61 334 ⇓P P 07 02 04.7 +1.0
baz=67
634A China Grove, S 66.76 332 ⇑P P 07 02 05.3 +0.6
baz=67
VNDA Vanda 66.83 191 P P 07 02 05.1 +0.5
VNDA pmax pmax
comp=Z,25nm,0.8s
VNDA Vanda 66.83 191 P P 07 02 05.1 +0.5
comp=Z,26nm,0.8s,baz=137,slow=5.8,SNR=5.3
732A Laxson Ranch, 66.84 331 ⇑P P 07 02 06.1 +0.8
baz=67,SNR=6.2
536A Bastrop 66.88 334 ⇓P P 07 02 06.6 +1.1
baz=67
535A Dale 67.03 333 ⇓P P 07 02 07.6 +1.1
baz=67
CNNC Cliffs of the 67.07 352 eP P 07 02 07.7 +1.1
comp=Z,214nm,1.1s
339A Huntington 67.13 337 ⇑P P 07 02 07.9 +0.9
baz=67
633A Saathoff Ranch 67.16 332 ⇓P P 07 02 08.1 +0.8
baz=68
534A Blanco 67.38 333 ⇑P P 07 02 09.2 +0.4
baz=68
338A Crockett 67.41 336 ⇑P P 07 02 10.7 +1.9
baz=68
436A Wall Ranch, Ga 67.41 334 ⇑P P 07 02 10.2 +1.4
baz=68
KMSC Kings Mountain 67.45 349 eP P 07 02 08.5 -0.5
comp=Z,167nm,1.3s
KMSC Kings Mountain 67.45 349 ⇓P P 07 02 09.3 +0.3
baz=68
632A Uvalde 67.45 331 ⇓P P 07 02 10.0 +0.8
baz=68
337A Centerville 67.57 335 ⇓P P 07 02 11.1 +1.2
baz=68,SNR=5.5
533A Kerrville 67.64 332 ⇑P P 07 02 10.9 +0.5
baz=68
631A Perdido Creek 67.69 331 ⇑P P 07 02 11.6 +0.9
baz=68
435B Jarrell 67.71 334 ⇑P P 07 02 11.6 +0.8
baz=68
336A Riesel 67.98 335 ⇑P P 07 02 13.5 +1.1
baz=68
434A Burnet 68.00 333 ⇓P P 07 02 13.3 +0.7
baz=68
532A Rocksprings 68.04 331 ⇑P P 07 02 13.6 +0.6
baz=68
335A Moody 68.10 334 ⇓P P 07 02 14.1 +0.8
baz=68
433A Art 68.27 332 ⇓P P 07 02 15.5 +1.2
baz=69,SNR=6.2
JCT Junction City 68.31 332 ⇑P P 07 02 15.4 +0.8
baz=69
531A Rocksprings 68.34 331 ⇓P P 07 02 15.4 +0.6
baz=69
BBTS Babate 68.34 56 P P 07 02 15.0 0.0
comp=Z,143nm,1.0s,baz=188,slow=3.2,SNR=7.9
TKL Tuckaleechee C 68.37 347 eP P 07 02 13.5 -1.3
TKL Tuckaleechee C 68.37 347 eP P 07 02 13.5 -1.3
334A Lometa 68.45 333 ⇑P P 07 02 15.8 +0.3
baz=69
OXF Oxford 68.54 342 eP P 07 02 15.4 -0.5
OXF pmax pmax
comp=Z,245nm,1.1s
OXF Oxford 68.54 342 eP P 07 02 15.4 -0.5
comp=Z,245nm,1.1s
530A J-C Ranch, Com 68.65 330 ⇓P P 07 02 17.8 +1.0
baz=69
432A Menard 68.66 332 ⇑P P 07 02 17.1 +0.4
baz=69,SNR=5.7
333A Richland Sprin 68.73 333 ⇑P P 07 02 18.0 +0.8
baz=69,SNR=5.1
WHTX Lake Whitney 68.75 334 ⇑P P 07 02 17.6 +0.4
baz=69
431A Sonora 68.82 331 ⇑P P 07 02 18.0 +0.3
baz=69
TXAR Lajitas Array 68.97 328 P P 07 02 18.5 -0.3
TXAR pmax pmax
comp=Z,45nm,1.1s
TXAR Lajitas Array 68.97 328 P P 07 02 18.5 -0.3
comp=Z,45nm,1.1s,baz=140,slow=7.1,SNR=5.8
529A Stev Forest Ra 69.01 330 ⇓P P 07 02 19.6 +0.6
baz=69
234A Clairette 69.02 334 ⇑P P 07 02 19.5 +0.6
baz=69
430A Baggett Ranch, 69.17 331 ⇓P P 07 02 20.5 +0.5
baz=70
135A Vickery Place, 69.24 335 ⇑P P 07 02 20.7 +0.4
baz=70
331A San Angelo 69.29 332 ⇑P P 07 02 20.9 +0.2
baz=70
429A Davenport Ranc 69.30 330 ⇓P P 07 02 21.2 +0.4
baz=70
VWCC Virginia Weste 69.31 351 eP P 07 02 20.9 +0.3
233A Rising Star 69.32 333 ⇑P P 07 02 21.2 +0.4
baz=70
232A Coleman 69.49 333 ⇓P P 07 02 22.2 +0.3
baz=70
JSRW J. Sargeant Re 69.50 353 eP P 07 02 22.0 +0.3
134A White-Moore Ra 69.50 334 ⇓P P 07 02 22.1 +0.2
baz=70
330A Mertzon 69.68 331 ⇑P P 07 02 23.4 +0.3
baz=70
WVT Waverly 69.69 344 eP P 07 02 23.3 +0.3
WVT pmax pmax
comp=Z,431nm,1.2s
WVT Waverly 69.69 344 eP P 07 02 23.3 +0.3
comp=Z,431nm,1.2s
MIAR Mount Ida 69.76 339 eP P 07 02 23.6 +0.1
MIAR pmax pmax
comp=Z,89nm,1.3s
MIAR Mount Ida 69.76 339 eP P 07 02 23.6 +0.1
comp=Z,89nm,1.3s
231A Bronte 69.80 332 ⇓P P 07 02 24.1 +0.3
baz=70
133A Hamilton Ranch 69.85 334 ⇑P P 07 02 24.5 +0.5
baz=70
Z35A Perchaven, San 69.88 335 ⇓P P 07 02 24.8 +0.6
baz=70
CBN Corbin 69.95 353 eP P 07 02 25.6 +1.1
comp=Z,21nm,0.6s
230A Sterling City 70.08 331 ⇓P P 07 02 25.9 +0.4
baz=70
329A Wagon Wheel Ra 70.09 331 ⇓P P 07 02 26.3 +0.6
baz=70
ABTX Abilene, Hawle 70.14 333 eP P 07 02 24.9 -1.0
comp=Z,288nm,1.1s
ABTX Abilene, Hawle 70.14 333 ⇓P P 07 02 26.1 +0.2
baz=70
Z34A Collier Ranch, 70.16 335 ⇓P P 07 02 26.4 +0.5
baz=70
TBI Tubuai 70.23 254 eP P 07 02 25.5 -1.2
comp=Z,360nm,1.1s
Z33A Whitaker Ranch 70.40 334 ⇑P P 07 02 27.7 +0.4
baz=71
229A Bryant Ranch, 70.43 331 ⇓P P 07 02 28.3 +0.5
baz=71
131A Roby 70.48 332 ⇓P P 07 02 28.0 +0.1
baz=71
Y34A Reagan Ranch, 70.63 335 ⇓P P 07 02 29.0 +0.3
baz=71
130A Snyder 70.64 332 ⇑P P 07 02 29.4 +0.4
baz=71
Z32A Haskell 70.68 333 ⇑P P 07 02 29.4 +0.2
baz=71
228A UT Block 9, Go 70.89 330 ⇑P P 07 02 30.8 +0.2
baz=71,SNR=5.0
Z31A Sharp Cattle R 70.95 333 ⇓P P 07 02 31.4 +0.6
baz=71,SNR=5.3
Y33A Hilltop Ranch, 70.99 334 ⇑P P 07 02 31.6 +0.6
baz=71
129A Stewart Farms, 71.03 331 ⇑P P 07 02 30.9 -0.5
baz=71,SNR=5.5
X34A Smith Ranch, M 71.23 335 ⇑P P 07 02 32.7 +0.2
baz=72
128A Castleberry Fa 71.28 331 ⇑P P 07 02 32.8 -0.1
baz=72
Y32A R-V Farms, Ver 71.29 334 ⇓P P 07 02 32.9 +0.1
baz=72
Z30A Sanderson Ranc 71.31 332 ⇑P P 07 02 33.4 +0.4
baz=72
X33A Lawton 71.42 335 ⇑P P 07 02 33.7 +0.1
baz=72
Z29A Hungry Hill Ra 71.52 332 ⇓P P 07 02 34.9 +0.6
baz=72
SIUC Southern Illin 71.53 343 eP P 07 02 33.3 -0.8
comp=Z,176nm,1.0s
Y31A Rekieta Farm, 71.56 333 ⇑P P 07 02 35.1 +0.6
baz=72
MEH Mehetia 71.58 260 eP P 07 02 35.1 0.0
comp=Z,55nm,1.1s
X32A Elmer 71.60 334 ⇑P P 07 02 35.2 +0.5
baz=72
127A Arkansas Junct 71.70 330 ⇓P P 07 02 35.7 +0.2
baz=72
TUL1 Tulsa 71.72 337 ⇑P P 07 02 35.9 +0.5
baz=72
Y30A Stafford Cattl 71.74 333 ⇓P P 07 02 36.0 +0.4
baz=72
MNTX Cornudas Mount 71.75 328 eP P 07 02 35.4 -0.3
comp=Z,30nm,0.8s
W34A Bridge Creek, 71.78 336 ⇑P P 07 02 36.0 +0.2
baz=72
Z28A Tucker Farm, M 71.82 331 ⇓P P 07 02 36.5 +0.4
baz=72
W33A Caddo, Fort Co 71.96 335 ⇓P P 07 02 37.3 +0.5
baz=72
Y29A Porterfield Fa 72.03 332 ⇑P P 07 02 37.8 +0.4
baz=72,SNR=7.9
X31A McDonald Ranch 72.05 334 ⇑P P 07 02 37.7 +0.3
baz=72
Z27A Tatum 72.19 331 ⇓P P 07 02 38.7 +0.3
baz=72
W32A Sentinel 72.21 334 ⇑P P 07 02 39.0 +0.6
baz=72
X30A Coker Ranch, T 72.23 333 ⇓P P 07 02 38.7 +0.2
baz=72
V34A Guthrie 72.23 336 eP P 07 02 38.7 +0.2
comp=Z,208nm,1.2s
V34A Guthrie 72.23 336 ⇑P P 07 02 38.7 +0.2
baz=73
Y28A McKinney Farm, 72.30 332 ⇓P P 07 02 39.3 +0.2
baz=73
SSPA Standing Stone 72.41 353 eP P 07 02 39.8 +0.5
VAH Vaihoa 72.46 263 eP P 07 02 40.9 +0.6
comp=Z,88nm,1.0s
Z26A Caprock 72.47 330 ⇓P P 07 02 40.8 +0.7
baz=73,SNR=5.1
V33A Lossen Ranch, 72.49 336 ⇓P P 07 02 40.6 +0.6
baz=73
W31A Holland Ranch, 72.53 334 ⇑P P 07 02 40.5 +0.2
baz=73
X29A Tulia 72.55 332 ⇓P P 07 02 41.0 +0.5
baz=73
MSTX Muleshoe 72.57 331 ⇑P P 07 02 41.0 +0.4
baz=73,SNR=6.3
TVO Taravao 72.62 260 eP P 07 02 41.5 +0.2
comp=Z,56nm,1.2s
Y27A Causey 72.66 331 ⇑P P 07 02 41.3 +0.1
baz=73
V32A Arapaho 72.67 335 ⇑P P 07 02 42.2 +1.1
baz=73
ACSO Alum Creek Sta 72.69 349 eP P 07 02 41.1 +0.1
comp=Z,337nm,1.1s
W30A Crocket Farms 72.76 333 ⇓P P 07 02 42.1 +0.4
baz=73
U34A Anderson Ranch 72.78 336 ⇑P P 07 02 42.1 +0.4
baz=73
Z25A Roswell 72.80 329 ⇓P P 07 02 42.4 +0.3
baz=73
TIAR Tiarei 72.80 260 eP P 07 02 42.7 +0.3
comp=Z,28nm,1.1s
X28A Dimmitt 72.81 332 ⇑P P 07 02 42.8 +0.8
baz=73,SNR=7.2
AMTX Amarillo 72.93 332 eP P 07 02 42.7 0.0
comp=Z,602nm,1.8s
AMTX Amarillo 72.93 332 ⇑P P 07 02 43.5 +0.8
baz=73
PAE Paea 72.95 260 eP P 07 02 43.3 +0.1
comp=Z,53nm,1.1s
Y26A Elida 72.97 330 ⇑P P 07 02 43.5 +0.5
baz=73
U33A Lingo Farm, Me 72.98 336 ⇑P P 07 02 43.0 +0.1
baz=73
PPT2 Papeete2 72.98 260 eP P 07 02 43.7 +0.2
comp=Z,268nm,1.1s
PPT Papeete 72.99 260 P P 07 02 43.4 -0.1
PPT pmax pmax
comp=Z,245nm,0.9s
PPT Papeete 72.99 260 P P 07 02 43.4 -0.1
comp=Z,244nm,0.9s,baz=156,slow=1.2,SNR=13
V31A Spring Creek L 73.01 334 ⇑P P 07 02 43.7 +0.6
baz=73
W29A Amraillo 73.12 333 ⇓P P 07 02 44.4 +0.5
baz=73
Z24A Sheeppen Canyo 73.13 329 ⇓P P 07 02 44.6 +0.6
baz=73,SNR=5.4
U32A Winter Ranch, 73.25 335 ⇑P P 07 02 45.0 +0.5
baz=74
X27A F and S Farms, 73.29 331 ⇓P P 07 02 45.4 +0.5
baz=74
V30A Spur Ranch, Mi 73.32 334 ⇑P P 07 02 46.1 +1.2
baz=74
319A Douglas 73.32 325 ⇑P P 07 02 46.1 +1.0
baz=74
Y25A Mesa, Roswell 73.34 330 ⇓P P 07 02 45.9 +0.7
baz=74
W28A Vega 73.46 332 ⇑P P 07 02 46.6 +0.7
baz=74
X26A CR and CF Fran 73.50 331 ⇑P P 07 02 47.1 +0.9
baz=74,SNR=8.3
U31A Nine Bar Ranch 73.54 335 ⇑P P 07 02 47.3 +1.1
baz=74
121A Cookes Peak, D 73.56 327 ⇑P P 07 02 47.5 +0.9
baz=74,SNR=5.3
SFIN Scholer Farm 73.59 346 ⇓P P 07 02 46.1 -0.2
baz=74
T33A Patterson Ranc 73.61 336 ⇓P P 07 02 47.6 +1.0
baz=74
W27A Bowe Ranch, En 73.64 332 ⇓P P 07 02 47.5 +0.6
baz=74
Y24A Capitan 73.66 329 ⇓P P 07 02 47.8 +0.6
baz=74
V29A Stinnett 73.73 333 ⇓P P 07 02 48.1 +0.7
baz=74
Z22A Elephant Butte 73.78 328 ⇓P P 07 02 48.7 +0.8
baz=74
X25A Clemmons Ranch 73.84 330 ⇑P P 07 02 48.5 +0.3
baz=74
HRV Adam Dziewonsk 73.86 358 eP P 07 02 49.0 +1.2
HRV Adam Dziewonsk 73.86 358 eP P 07 02 49.0 +1.2
V28A Channing 73.90 333 ⇓P P 07 02 49.2 +0.8
baz=74,SNR=5.9
T32A Huddler Ranch, 73.94 336 ⇑P P 07 02 49.1 +0.6
baz=74
Y23A Lovelace Mesa, 73.94 329 ⇓P P 07 02 49.5 +0.6
baz=74
W26A Owens Ranch, T 73.95 331 ⇑P P 07 02 49.6 +0.9
baz=74,SNR=8.3
U30A WK&E Inc. Balk 73.98 334 ⇑P P 07 02 49.4 +0.6
baz=74
S33A Kaszmaul Farm, 73.99 337 ⇑P P 07 02 49.3 +0.5
baz=74
ERPA Erie 74.11 352 eP P 07 02 49.6 +0.2
comp=Z,244nm,1.1s
T31A Randall Ranch, 74.13 335 ⇓P P 07 02 50.1 +0.5
baz=74
U29A Oasis Ranch, S 74.15 334 ⇑P P 07 02 50.9 +1.1
baz=74,SNR=5.3
V27A Dan Oppiter Fa 74.15 332 ⇓P P 07 02 50.5 +0.6
baz=74
X24A Lazy VL Ranch, 74.20 330 ⇑P P 07 02 50.6 +0.2
baz=74
W25A X Bar L Ranch, 74.35 331 ⇓P P 07 02 51.6 +0.5
baz=75
T30A Plains 74.40 334 ⇓P P 07 02 52.1 +0.8
baz=75
U28A Mallet 74.45 333 ⇑P P 07 02 52.1 +0.5
baz=75
S31A Mullinville 74.53 335 ⇑P P 07 02 52.9 +1.0
baz=75
X23A Hourglass Bar 74.55 329 ⇓P P 07 02 53.2 +0.9
baz=75
V26A Tequesquite Ra 74.57 331 ⇓P P 07 02 53.0 +0.6
baz=75
R33A Olander Ranch, 74.63 337 ⇑P P 07 02 53.3 +0.8
baz=75
MAW Mawson 74.70 163 eP P 07 02 52.6 0.0
MAW pmax pmax
comp=Z,33nm,1.0s
MAW Mawson 74.70 163 P P 07 02 52.5 -0.1
comp=Z,146nm,0.9s,baz=232,slow=7.7,SNR=7.1
MAW Mawson 74.70 163 eP P 07 02 52.6 0.0
comp=Z,33nm,1.0s
U27A Thompson Grove 74.72 332 ⇑P P 07 02 54.1 +0.8
baz=75
W24A Lazy 6 Ranch, 74.74 330 ⇑P P 07 02 54.4 +0.9
baz=75
T29A Hugoton 74.78 334 ⇓P P 07 02 54.0 +0.6
baz=75
AAM Ann Arbor 74.81 349 eP P 07 02 52.9 -0.6
AAM pmax pmax
comp=Z,284nm,1.5s
AAM Ann Arbor 74.81 349 eP P 07 02 52.9 -0.6
comp=Z,284nm,1.5s
S30A Montezuma 74.90 335 ⇑P P 07 02 54.6 +0.4
baz=75
KSU1 Kansas State U 74.90 338 ⇑P P 07 02 54.1 +0.1
baz=75
V25A Rancho No Teng 74.94 331 ⇑P P 07 02 55.3 +0.6
baz=75
ANMO Albuquerque 74.97 329 eP P 07 02 55.7 +0.9
ANMO pmax pmax
comp=Z,152nm,1.3s
ANMO Albuquerque 74.97 329 eP P 07 02 55.7 +0.9
comp=Z,152nm,1.3s
R32A Long Quarter, 74.98 336 ⇑P P 07 02 55.3 +0.8
baz=75
W23A Werner Place, 75.02 329 ⇑P P 07 02 56.6 +1.5
baz=75,SNR=6.6
T28A Walsh 75.06 333 ⇑P P 07 02 55.8 +0.6
baz=75
U26A Atchley Ranch, 75.07 332 ⇓P P 07 02 56.4 +1.1
baz=75,SNR=5.2
S29A Ulysses 75.12 334 ⇑P P 07 02 56.1 +0.6
baz=75,SNR=6.6
V24A Rampart Ranch, 75.12 330 ⇓P P 07 02 56.4 +0.7
baz=75
R31A Burdett 75.14 336 ⇑P P 07 02 56.2 +0.7
baz=76
Q33A Connelly Farm, 75.20 337 ⇑P P 07 02 56.7 +0.9
baz=76
T27A Campo 75.24 333 ⇑P P 07 02 56.8 +0.6

baz=76,SNR=5.6
U25A Circle Dot Ran 75.34 331 ⇑P P 07 02 57.4 +0.5
baz=76,SNR=5.0
S28A Manter 75.39 334 ⇑P P 07 02 57.8 +0.8
baz=76,SNR=5.4
R30A Dighton 75.40 335 ⇑P P 07 02 57.6 +0.6
baz=76
Q32A Meitler Ranch, 75.44 337 ⇑P P 07 02 57.8 +0.7
baz=76,SNR=5.3
V23A Ortiz Mt. (NFS 75.53 330 ⇓P P 07 02 58.6 +0.6
baz=76
P33A Williams Farm, 75.55 338 ⇓P P 07 02 58.7 +0.9
baz=76
214A Organ Pipe Nat 75.57 323 ⇑P P 07 02 59.4 +1.3
baz=76,SNR=7.9
T26A Comanche Natio 75.68 332 ⇓P P 07 03 00.2 +1.4
baz=76
U24A Moreno Valley 75.71 331 ⇓P P 07 03 00.5 +1.4
baz=76
Q31A Ellis 75.73 336 ⇑P P 07 03 00.1 +1.2
baz=76,SNR=6.3
R29A Marienthal 75.84 335 ⇑P P 07 03 00.4 +0.8
baz=76,SNR=5.8
S27A Las Animas 75.85 333 ⇑P P 07 03 00.2 +0.5
baz=76
T25A Trinidad 75.98 332 ⇑P P 07 03 01.9 +1.4
baz=76
V22A San Miguel Ran 75.99 329 ⇑P P 07 03 02.1 +1.5
baz=76,SNR=6.6
Q30A Quinter 76.00 336 ⇓P P 07 03 01.2 +0.8
baz=76,SNR=6.4
R28A Tribune 76.01 334 ⇓P P 07 03 01.2 +0.7
baz=76
S26A Kim 76.02 333 ⇑P P 07 03 01.2 +0.5
baz=76,SNR=5.4
P32A Huiting Farm, 76.02 337 ⇑P P 07 03 01.3 +0.8
baz=76
U23A El Rito 76.03 330 ⇑P P 07 03 02.3 +1.5
baz=76
LONY Lake Ozonia 76.10 356 eP P 07 03 01.4 +0.7
comp=Z,132nm,1.2s
P31A Stockton 76.19 336 ⇑P P 07 03 02.3 +0.8
baz=76,SNR=8.2
Q29A Oakley 76.19 335 ⇓P P 07 03 02.1 +0.5
baz=76,SNR=5.4
X18A Snowflake 76.22 326 ⇓P P 07 03 03.4 +1.4
baz=76
T24B San Luis 76.31 331 ⇓P P 07 03 04.0 +1.4
baz=77,SNR=5.2
R27A Eads 76.34 333 ⇑P P 07 03 03.4 +1.0
baz=77
U22A Llaves 76.35 330 ⇓P P 07 03 04.9 +2.2
baz=77,SNR=7.6
S25A Robets Cordova 76.44 332 ⇓P P 07 03 04.4 +1.3
baz=77
O32A Brockman Farm, 76.49 338 ⇑P P 07 03 03.7 +0.6
baz=77,SNR=5.5
SCIA State Center 76.50 342 eP P 07 03 02.9 -0.2
comp=Z,220nm,1.0s
P30A Selden 76.51 336 ⇓P P 07 03 04.2 +0.9
baz=77
T23A Casias Ranch, 76.56 330 ⇑P P 07 03 04.9 +1.0
baz=77,SNR=5.6
R26A Arlington 76.60 333 ⇓P P 07 03 05.1 +1.1
baz=77
W18A Petrified Fore 76.60 327 ⇓P P 07 03 05.5 +1.4
baz=77
Q28A Sharon Springs 76.65 334 ⇑P P 07 03 05.2 +1.0
baz=77,SNR=5.3
113A Mohawk Valley, 76.70 323 ⇑P P 07 03 05.8 +1.3
baz=77
JFWS Jewell Farm 76.71 344 eP P 07 03 04.0 -0.3
JFWS pmax pmax
comp=Z,318nm,1.4s
JFWS Jewell Farm 76.71 344 eP P 07 03 04.0 -0.3
comp=Z,318nm,1.4s
S24A Houchin Ranch, 76.73 331 ⇓P P 07 03 06.9 +1.9
baz=77,SNR=6.6
O31A Woolen Ranch, 76.74 337 ⇓P P 07 03 05.4 +0.8
baz=77,SNR=6.7
Z14A Wintersburg 76.75 324 ⇓P P 07 03 05.9 +1.2
baz=77
R25A Fountain Ranch 76.80 332 ⇑P P 07 03 06.3 +1.2
baz=77
P29A Atwood 76.81 335 ⇓P P 07 03 06.3 +1.3
baz=77,SNR=6.1
X16A Lo Mia Camp, P 76.85 325 ⇑P P 07 03 06.8 +1.3
baz=77,SNR=8.1
KSCO Kaye Shedlock' 76.91 334 ⇑P P 07 03 06.8 +1.2
baz=77,SNR=7.7
SDCO Great Sand Dun 76.94 331 eP P 07 03 07.1 +1.0
comp=Z,48nm,0.9s
N32A Stulken Farm, 76.95 338 ⇓P P 07 03 06.5 +0.8
baz=77,SNR=5.2
O30A MW Ranch, Wils 77.01 336 ⇓P P 07 03 07.2 +1.1
baz=77
P28A Saint Francis 77.08 335 ⇑P P 07 03 07.7 +1.2
baz=77,SNR=6.6
S23A Nye Farm, Mont 77.11 331 ⇑P P 07 03 08.6 +1.6
baz=77,SNR=7.4
Q26A Hugo 77.17 333 ⇑P P 07 03 08.6 +1.5
baz=78
R24A Sanders Place, 77.20 332 ⇓P P 07 03 08.7 +1.3
baz=78
N31A Bailey Ranch, 77.22 337 ⇓P P 07 03 09.1 +1.8
baz=78,SNR=6.6
O29A 4D Ranch, Culb 77.22 336 ⇑P P 07 03 08.4 +1.1
baz=78
Y14A Wickenburg 77.24 324 ⇓P P 07 03 08.3 +0.8
baz=78,SNR=5.3
P27A Ficken Ranch, 77.36 334 ⇑P P 07 03 09.5 +1.3
baz=78
Q25A Bedland, Calha 77.44 333 ⇑P P 07 03 09.9 +1.1
baz=78
R23A Moffat 77.45 331 ⇓P P 07 03 10.0 +1.0
baz=78
GLA Glamis 77.48 322 ⇑P P 07 03 10.0 +1.1
baz=78
BGNE Belgrade 77.49 338 ⇑P P 07 03 09.5 +0.8
baz=78,SNR=9.5
S22A 4UR Ranch, Cre 77.50 330 ⇓P P 07 03 10.2 +1.0
baz=78
TSUM Tsumeb 77.51 105 P P 07 03 10.4 +0.8
comp=Z,102nm,1.1s,baz=237,slow=5.3,SNR=9.6
TSUM Tsumeb 77.51 105 eP P 07 03 10.2 +0.6
comp=Z,144nm,1.1s
O28A Krutsinger Ran 77.57 335 ⇑P P 07 03 10.9 +1.6
baz=78,SNR=5.2
N30A Hueftle Ranch, 77.58 336 ⇓P P 07 03 10.3 +1.0
baz=78
P26A Davis Ranch, A 77.66 334 ⇓P P 07 03 11.0 +1.1
baz=78
M31A Lambtecht Ranc 77.69 337 ⇓P P 07 03 11.1 +1.2
baz=78,SNR=6.1
WUAZ Wupatki 77.70 326 eP P 07 03 11.1 +0.9
comp=Z,194nm,1.3s
WUAZ Wupatki 77.70 326 ⇑P P 07 03 10.8 +0.6
baz=78,SNR=5.7
MVCO Mesa Verde 77.77 329 eP P 07 03 11.4 +0.7
comp=Z,301nm,1.4s
MVCO Mesa Verde 77.77 329 ⇑P P 07 03 11.5 +0.9
baz=78,SNR=5.8
N29A Votaw Ranch, W 77.78 336 ⇑P P 07 03 11.7 +1.3
baz=78,SNR=5.7
Q24A Divide 77.84 332 ⇓P P 07 03 12.5 +1.3
baz=78,SNR=8.4
O27A Beecher Island 77.88 335 ⇓P P 07 03 12.8 +1.7
baz=78,SNR=9.7
SWSC Sam W. Stewart 77.90 321 ⇓P P 07 03 12.1 +0.9
baz=78
P25A Willow Gulch B 77.93 333 ⇓P P 07 03 13.3 +1.9
baz=78,SNR=7.3
N28A Pribbeno Ranch 77.98 335 ⇓P P 07 03 12.5 +0.9
baz=78,SNR=6.7
Q23A Hartsel 78.07 332 ⇓P P 07 03 13.4 +1.0
baz=78
PDMCI Parker Dam,Lak 78.10 323 ⇑P P 07 03 13.6 +1.3
baz=78
M30A Dale-Ortello V 78.16 337 ⇑P P 07 03 13.6 +1.0
baz=78,SNR=9.7
MONP Monument Peak 78.20 321 ⇑P P 07 03 14.3 +1.2
baz=78
P24A Kohler Place, 78.22 333 ⇓P P 07 03 14.6 +1.5
baz=78,SNR=5.7
O26A Horse Wrangler 78.24 334 ⇑P P 07 03 14.6 +1.5
baz=79,SNR=5.2
BC3 Big Chuckawall 78.27 322 ⇓P P 07 03 14.7 +1.3
baz=79
M29A Burnside Ranch 78.36 336 ⇑P P 07 03 14.8 +1.1
baz=79,SNR=6.0
OGNE Ogallala 78.39 335 ⇓P P 07 03 14.6 +0.8
baz=79
L31A Butterfield Fa 78.40 338 ⇑P P 07 03 14.8 +1.0
baz=79,SNR=7.2
O25A Wiggins 78.43 333 ⇑P P 07 03 15.6 +1.5
baz=79,SNR=7.3
N27A Anderson Farm, 78.44 335 ⇓P P 07 03 15.1 +1.0
baz=79,SNR=6.1
P23A Jefferson 78.47 332 ⇓P P 07 03 15.7 +1.1
baz=79
L30A Spencer Herefo 78.48 337 ⇑P P 07 03 14.6 +0.4
baz=79,SNR=6.2
IRM Iron Mountain 78.51 323 ⇓P P 07 03 15.5 +1.0
baz=79
M28A Bar X Bar Ranc 78.55 336 ⇓P P 07 03 16.1 +1.4
baz=79
109C Camp Elliot, M 78.57 320 ⇑P P 07 03 16.1 +1.2
baz=79
W13A Hualapai Mount 78.60 324 ⇓P P 07 03 16.4 +1.1
baz=79
NEE2 Needles Airpor 78.71 323 ⇑P P 07 03 16.8 +1.2
baz=79
N26A Koester Ranch, 78.72 334 ⇑P P 07 03 16.7 +1.0
baz=79,SNR=6.8
ISCO Idaho Springs 78.74 332 eP P 07 03 17.5 +1.4
ISCO pmax pmax
comp=Z,191nm,1.4s
ISCO Idaho Springs 78.74 332 eP P 07 03 17.5 +1.4
comp=Z,191nm,1.4s
ISCO Idaho Springs 78.74 332 ⇑P P 07 03 16.5 +0.4
baz=79,SNR=6.2
PFO Pinyon Flat Ob 78.77 321 ⇓P P 07 03 17.9 +1.7
baz=79,SNR=6.3
O24A Longmont 78.81 333 ⇓P P 07 03 17.6 +1.3
baz=79
BELC Belle Mtn. Jos 78.83 322 ⇑P P 07 03 17.7 +1.2
baz=79
L29A Maesberg Ranch 78.84 337 ⇓P P 07 03 17.7 +1.5
baz=79
U15A North Rim 78.87 326 ⇓P P 07 03 17.9 +1.0
baz=79
BOSA Boshof 78.99 117 P P 07 03 18.0 +0.3
BOSA pmax pmax
comp=Z,88nm,0.9s
BOSA Boshof 78.99 117 P P 07 03 18.0 +0.3
comp=Z,88nm,0.9s,baz=238,slow=6.3,SNR=6.6
M27A Reverse DX Ran 79.02 335 ⇑P P 07 03 18.5 +1.2
baz=79,SNR=7.6
N25A Grover 79.02 334 ⇓P P 07 03 18.6 +1.2
baz=79
P22A Eagle 79.03 331 ⇓P P 07 03 18.9 +1.3
baz=79,SNR=5.5
K30A Basset 79.10 338 ⇑P P 07 03 18.8 +1.2
baz=79,SNR=5.2
ECSD EROS Data Cent 79.14 340 eP P 07 03 17.5 -0.3
comp=Z,228nm,0.9s
ECSD EROS Data Cent 79.14 340 ⇓P P 07 03 18.2 +0.4
baz=80,SNR=5.3
MURC Murrieta 79.16 321 ⇓P P 07 03 19.0 +0.8
baz=79,SNR=8.3
O23A Lake Granby, G 79.22 332 ⇑P P 07 03 19.4 +0.7
baz=80,SNR=6.4
M26A McRoberts Ranc 79.24 335 ⇓P P 07 03 19.9 +1.4
baz=80
GMRC Granite Mounta 79.25 323 ⇓P P 07 03 19.6 +0.9
baz=80,SNR=6.1
N24A Carr 79.34 333 ⇑P P 07 03 20.5 +1.3
baz=80
K29A Lazy Trails An 79.41 337 ⇑P P 07 03 20.3 +0.9
baz=80,SNR=7.1
O22A Kremmling 79.42 332 ⇑P P 07 03 21.1 +1.3
baz=80,SNR=5.1
SCI San Clemente I 79.43 320 ⇓P P 07 03 20.8 +1.2
baz=80
L27A T5 Ranch, Ells 79.49 336 ⇑P P 07 03 21.2 +1.4
baz=80,SNR=5.4
SPMN St. Paul 79.50 343 ⇓P P 07 03 19.9 +0.3
baz=80
BBRC Big Bear Solar 79.52 321 ⇓P P 07 03 22.0 +1.6
baz=80
M25A Palm-Egli Farm 79.55 334 ⇑P P 07 03 21.6 +1.3
baz=80
HEC Hector,Ludlow 79.64 322 ⇑P P 07 03 21.7 +0.8
baz=80,SNR=7.1
J30A Dallas 79.64 338 ⇓P P 07 03 21.3 +0.8
baz=80
CIS Catalina Islan 79.67 320 ⇓P P 07 03 22.2 +1.3
baz=80
K28A Ten Mile Ranch 79.72 336 ⇓P P 07 03 22.6 +1.6
baz=80,SNR=6.3
L26A Underwood Farm 79.72 335 ⇑P P 07 03 22.8 +1.6
baz=80
N23A Red Feather La 79.81 333 ⇑P P 07 03 23.3 +1.4
baz=80
FMP Fort Macarthur 79.84 320 ⇓P P 07 03 23.1 +1.3
baz=80
M24A Cheyenne 79.87 334 ⇓P P 07 03 23.1 +1.1
baz=80,SNR=5.5
BFSC Mount Baldy Ra 79.89 321 ⇓P P 07 03 23.6 +1.4
baz=80
TUQ Turquoise Moun 79.90 323 ⇓P P 07 03 23.8 +1.5
baz=80
N22A Wattenberg Ran 79.93 332 ⇓P P 07 03 24.2 +1.6
baz=80,SNR=5.5
J29A Okreek 79.98 337 ⇑P P 07 03 23.3 +0.9
baz=80,SNR=6.7
K27A Flueckinger Fa 80.01 336 ⇓P P 07 03 23.7 +1.1
baz=80,SNR=6.4
RRX Edison Barstow 80.03 322 ⇑P P 07 03 24.2 +1.4
baz=80
O20A White River Ci 80.10 331 ⇓P P 07 03 24.6 +1.3
baz=80
L25A Engebretsen Ra 80.14 334 ⇑P P 07 03 24.4 +1.0
baz=80,SNR=6.5
I30A Oacoma 80.15 338 ⇓P P 07 03 24.0 +0.7
baz=80
M23A Laramie 80.21 333 ⇑P P 07 03 25.1 +1.1
baz=80,SNR=6.8
GSC Goldstone 80.25 322 ⇑P P 07 03 25.1 +0.9
baz=80
DECC Green Verdugo 80.26 321 ⇓P P 07 03 24.7 +0.5
baz=80,SNR=6.6
J28A Allard Ranch, 80.30 337 ⇓P P 07 03 25.4 +1.2
baz=81
K26A Motz Farm, Whi 80.34 335 ⇓P P 07 03 25.7 +1.3
baz=81
L24A Wheatland 80.41 334 ⇑P P 07 03 26.1 +1.2
baz=81
J27A Elkhorn Farm, 80.41 336 ⇓P P 07 03 26.0 +1.2
baz=81,SNR=7.6
SHOC Shoshone 80.44 323 ⇓P P 07 03 26.3 +1.2
baz=81
BRSD Miller 80.48 339 ⇑P P 07 03 25.7 +0.7
baz=81
M22A Cedar Creek Ra 80.50 332 ⇓P P 07 03 26.4 +0.8
baz=81
K25A Mack Ranch, Ha 80.51 335 ⇑P P 07 03 26.8 +1.4
baz=81
I29A Vivian Onida 80.53 338 ⇑P P 07 03 25.7 +0.4
baz=81
EDW2 Edwards Air Fo 80.56 321 ⇑P P 07 03 26.5 +0.7
baz=81
N20A Spence Gulch, 80.69 331 ⇓P P 07 03 27.4 +0.9
baz=81
OSI Osito Adit 80.75 321 ⇓P P 07 03 27.1 +0.3
baz=81,SNR=6.6
L23A Garrett 80.76 333 ⇑P P 07 03 27.7 +0.9
baz=81
BSC Santa Cruz Isl 80.78 320 ⇑P P 07 03 28.2 +1.3
baz=81
I28A Midland 80.79 337 ⇑P P 07 03 27.5 +0.8
baz=81
J26A Sides Ranch, S 80.83 336 ⇓P P 07 03 28.8 +1.7
baz=81,SNR=7.2
LRMC Laurel Mountai 80.85 322 ⇑P P 07 03 28.5 +1.1
baz=81
K24A Anderson Ranch 80.95 334 ⇓P P 07 03 29.6 +1.8
baz=81,SNR=13
L22A Ellis Ranch, M 80.97 333 ⇑P P 07 03 29.0 +1.0
baz=81
H29A Onida 81.04 338 ⇑P P 07 03 28.4 +0.3
baz=81,SNR=6.0
LBTB Lobatse 81.06 114 eP P 07 03 28.6 -0.4
LBTB pmax pmax
comp=Z,137nm,1.1s
LBTB Lobatse 81.06 114 eP P 07 03 28.6 -0.4
comp=Z,137nm,1.1s
TORD Torodi Ar. Bea 81.14 69 P P 07 03 29.5 +0.2
comp=Z,96nm,0.9s,baz=254,slow=4.5,SNR=13
I27A Quinn 81.15 337 ⇑P P 07 03 29.7 +1.0
baz=82
G30A Faulkton 81.16 339 ⇓P P 07 03 29.8 +1.2
baz=82
J25A Sunshine Ranch 81.16 335 ⇑P P 07 03 30.0 +1.2
baz=82
SBC Santa Barbara 81.16 320 ⇓P P 07 03 30.3 +1.4
baz=81
FURC Furnace Creek, 81.18 323 ⇓P P 07 03 30.1 +1.2
baz=82
K23A Bowen Ranch, D 81.28 334 ⇑P P 07 03 30.2 +0.7
baz=82,SNR=9.5
H28A Mission Ridge 81.34 338 ⇓P P 07 03 30.6 +0.9
baz=82
I26A New Underwood 81.39 336 ⇑P P 07 03 30.8 +0.8
baz=82
ISA Isabella 81.41 321 ⇓P P 07 03 31.5 +1.2
baz=82
J24A Dixon Ranch, L 81.42 335 ⇑P P 07 03 31.5 +1.3
baz=82
G29A Hoven 81.46 339 ⇑P P 07 03 30.3 0.0
baz=82,SNR=5.4
K22A Casper 81.53 333 ⇓P P 07 03 32.2 +1.3
baz=82,SNR=5.8
H27A Howes 81.65 337 ⇓P P 07 03 32.0 +0.6
baz=82
G28A Parade 81.67 338 ⇓P P 07 03 32.1 +0.8
baz=82
I25A Rochford 81.68 336 ⇑P P 07 03 32.4 +0.7
baz=82
F30A Leola 81.76 339 ⇓P P 07 03 32.6 +0.8
baz=82
K21A Alcova 81.80 333 ⇑P P 07 03 32.8 +0.4
baz=82,SNR=9.3
J23A Dilts Ranch, B 81.81 334 ⇓P P 07 03 33.3 +1.0
baz=82
GRAC Grapevine Rang 81.85 323 ⇑P P 07 03 33.7 +1.2
baz=82
I24A Kuemmerle Ranc 81.86 335 ⇓P P 07 03 33.2 +0.6
baz=82
VES Vestal, Richgr 81.87 321 ⇑P P 07 03 33.4 +0.8
baz=82,SNR=12
RSSD Black Hills 81.88 335 eP P 07 03 32.3 -0.4
RSSD pmax pmax
comp=Z,230nm,1.2s
RSSD Black Hills 81.88 335 eP P 07 03 32.3 -0.4
comp=Z,230nm,1.2s
SMMC Simmler 81.97 320 ⇑P P 07 03 34.4 +1.2
baz=82
R11A Troy Canyon, C 81.99 325 ⇑P P 07 03 34.1 +0.6
baz=82,SNR=6.4
F29A Eureka 82.00 339 ⇓P P 07 03 33.0 -0.1
baz=82,SNR=5.3
DUG Dugway 82.14 328 eP P 07 03 34.6 +0.4
DUG pmax pmax
comp=Z,125nm,1.3s
DUG Dugway 82.14 328 eP P 07 03 34.5 +0.4
comp=Z,125nm,1.3s
H25A Fruitdale 82.16 336 ⇓P P 07 03 35.1 +1.1
baz=82
J22A Midwest 82.17 334 ⇓P P 07 03 34.8 +0.6
baz=82
I23A Meade Ranch, G 82.25 334 ⇓P P 07 03 35.6 +1.0
baz=83
G27A Dupree 82.27 337 ⇓P P 07 03 34.8 +0.3
baz=83
RCTC Rector, Farmer 82.30 321 ⇑P P 07 03 35.3 +0.4
baz=83
F28A McLaughlin 82.32 338 ⇑P P 07 03 35.4 +0.7
baz=83
E30A Jud 82.33 340 ⇓P P 07 03 35.3 +0.6
baz=83,SNR=5.4
TIN Tinemaha 82.33 322 ⇑P P 07 03 36.2 +1.0
baz=83
CASY Casey 82.35 180 eP P 07 03 34.7 -0.1
comp=Z,156nm,1.0s
G26A Maurine 82.41 337 ⇑P P 07 03 36.0 +0.7
baz=83
J21A Lysite 82.48 333 ⇓P P 07 03 36.8 +0.9
baz=83
I22A 9 Mile Ranch, 82.58 334 ⇑P P 07 03 37.0 +0.7
baz=83
TPH Tonopah 82.59 324 eP P 07 03 37.0 +0.4
TPH pmax pmax
comp=Z,155nm,1.3s
TPH Tonopah 82.59 324 eP P 07 03 37.0 +0.4
comp=Z,155nm,1.3s
G25A Newell 82.60 336 ⇓P P 07 03 37.4 +1.1
baz=83
H24A Dirks Ranch, A 82.61 335 ⇓P P 07 03 36.8 +0.4
baz=83
E29A Napoleon 82.61 339 ⇓P P 07 03 36.7 +0.4
baz=83
F27A Lemmon 82.73 338 ⇑P P 07 03 37.8 +0.9
baz=83
J20A Shoshoni 82.74 332 ⇓P P 07 03 38.1 +0.9
baz=83,SNR=5.9
H23A Clabaugh Cattl 82.75 335 ⇓P P 07 03 38.1 +0.9
baz=83
I21A Big Trails, Te 82.82 333 ⇓P P 07 03 38.2 +0.6
baz=83
D30A Buchanan 82.83 340 ⇑P P 07 03 38.0 +0.6
baz=83,SNR=8.6
PDAR Pinedale Array 82.84 331 P P 07 03 37.8 -0.1
comp=Z,39nm,0.8s,baz=142,slow=4.6,SNR=11
F26A Lodgepole 82.92 337 ⇑P P 07 03 38.3 +0.4
baz=83
E28A Huff 82.93 339 ⇓P P 07 03 38.5 +0.5
baz=83
D29A Pettibone, Tap 83.04 340 ⇓P P 07 03 39.0 +0.6
baz=83
J19A Crowheart 83.05 332 ⇓P P 07 03 39.2 +0.3
baz=83,SNR=5.8
G24A Alzada 83.06 336 ⇑P P 07 03 39.0 +0.3
baz=83
E27A Carson 83.08 338 ⇓P P 07 03 39.4 +0.6
baz=83
MLAC Mammoth Lakes 83.08 322 ⇑P P 07 03 40.5 +1.3
baz=83
H22A Clearmont 83.13 334 ⇑P P 07 03 39.8 +0.6
baz=83
AGMN Agassiz Nation 83.13 342 eP P 07 03 38.3 -0.6
comp=Z,430nm,1.7s
AGMN Agassiz Nation 83.13 342 ⇓P P 07 03 39.0 +0.1
baz=84
F25A Bowman 83.25 337 ⇓P P 07 03 40.5 +0.8
baz=84
I20A Worland 83.26 333 ⇑P P 07 03 40.0 +0.2
baz=84,SNR=5.6
C30A Mose, Pekin 83.29 341 ⇑P P 07 03 40.4 +0.7
baz=84,SNR=6.6
G23A Biddle 83.30 335 ⇓P P 07 03 40.3 +0.4
baz=84,SNR=10
NV11 Mina Array Sit 83.34 323 eP P 07 03 40.2 -0.2
E26A Carlson Angus 83.40 338 ⇑P P 07 03 40.8 +0.4
baz=84
H21A Big Horn, Sher 83.41 334 ⇑P P 07 03 40.9 +0.2
baz=84
NVAR Mina Array Bea 83.41 323 P P 07 03 41.4 +0.5
comp=Z,41nm,0.9s,baz=155,slow=6.3,SNR=11
D28A Regan 83.45 339 ⇑P P 07 03 41.1 +0.5
baz=84
AHID Auburn Hatcher 83.48 330 eP P 07 03 41.3 +0.2
comp=Z,245nm,1.6s
F24A Ekalaka 83.52 336 ⇑P P 07 03 41.0 -0.1
baz=84,SNR=5.2
G22A Birney 83.64 335 ⇑P P 07 03 41.9 +0.2
baz=84
H20A Greybull 83.66 333 ⇓P P 07 03 42.0 +0.2
baz=84,SNR=10
D27A Center 83.67 338 ⇑P P 07 03 42.5 +0.8
baz=84
I19A Meeteetse 83.67 332 ⇓P P 07 03 42.7 +0.6
baz=84
E25A Miller Ranch, 83.74 337 ⇓P P 07 03 43.0 +0.8
baz=84
F23A Volborg 83.75 335 ⇑P P 07 03 42.4 +0.2
baz=84,SNR=8.9
SAO San Andreas Ge 83.83 320 eP P 07 03 43.2 +0.4
SAO pmax pmax
comp=Z,61nm,1.2s
SAO San Andreas Ge 83.83 320 eP P 07 03 43.2 +0.4
comp=Z,61nm,1.2s
C28A Hausauer Farms 83.86 339 ⇓P P 07 03 43.2 +0.6
baz=84

D26A Manning 83.89 338 ⇑P P 07 03 43.5 +0.6
baz=84
B30A Myrvik Farm, E 83.93 341 ⇑P P 07 03 43.1 +0.1
baz=84,SNR=7.4
G21A Lodge Grass 83.98 334 ⇑P P 07 03 43.5 0.0
baz=84,SNR=7.2
E24A Baker 84.10 336 ⇓P P 07 03 44.6 +0.6
baz=84
F22A Rosebud 84.11 335 ⇓P P 07 03 44.2 +0.2
baz=84,SNR=13
H19A Powell 84.19 333 ⇑P P 07 03 45.3 +0.7
baz=84
CMB Columbia Colle 84.20 322 eP P 07 03 44.5 -0.2
CMB pmax pmax
comp=Z,84nm,1.2s
CMB Columbia Colle 84.20 322 eP P 07 03 44.5 -0.2
comp=Z,84nm,1.2s
C27A Sayler Ranch, 84.20 339 ⇑P P 07 03 45.3 +0.9
baz=84
I17A Pilgrim Ck. 84.21 331 ⇓P P 07 03 45.8 +1.0
baz=84
B29A Wagenman Farm, 84.23 340 ⇓P P 07 03 45.4 +0.8
baz=85
D25A Fairfield 84.28 337 ⇓P P 07 03 45.6 +0.7
baz=85,SNR=7.5
G20A Bridger 84.36 333 ⇓P P 07 03 44.8 -0.6
baz=85,SNR=10
A30A Hoffart Farm, 84.37 341 ⇓P P 07 03 45.8 +0.6
baz=85
E23A Ismay 84.39 336 ⇑P P 07 03 45.8 +0.4
baz=85,SNR=6.2
F21A Absaloka Mine, 84.46 334 ⇑P P 07 03 46.4 +0.6
baz=85
H18A Shoshone NF, C 84.47 332 ⇑P P 07 03 45.6 -0.5
baz=85,SNR=6.3
C26A Wahner Farm, P 84.48 338 ⇓P P 07 03 46.6 +0.8
baz=85
B28A Dugan Ranch, T 84.51 340 ⇓P P 07 03 46.4 +0.4
baz=85,SNR=5.1
E22A Miles City 84.56 335 ⇑P P 07 03 46.7 +0.3
baz=85
D24A Glendive 84.59 337 ⇑P P 07 03 47.3 +0.9
baz=85
A29A Manning Farm, 84.61 341 ⇓P P 07 03 46.9 +0.4
baz=85
RLMT Red Lodge 84.68 333 eP P 07 03 47.2 +0.1
comp=Z,118nm,1.3s
B27A Peters Farms, 84.74 339 ⇓P P 07 03 47.9 +0.8
baz=85
YFT Old Faithful 84.75 331 eP P 07 03 48.4 +0.9
comp=Z,87nm,1.1s
C25A Freed Ranch, W 84.75 338 ⇓P P 07 03 48.0 +0.8
baz=85
F20A Billings 84.82 334 ⇑P P 07 03 48.2 +0.5
baz=85
LAO LASA Array 84.87 335 eP P 07 03 48.4 +0.5
comp=Z,176nm,1.5s
A28A Rude Farm, Bot 84.90 340 ⇓P P 07 03 48.0 0.0
baz=85
D23A Lindsay 84.94 336 ⇑P P 07 03 48.4 +0.2
baz=85,SNR=5.6
ULM Lac du Bonnet 84.94 343 P P 07 03 47.4 -0.6
ULM pmax pmax
comp=Z,99nm,0.9s
ULM Lac du Bonnet 84.94 343 P P 07 03 47.4 -0.6
comp=Z,99nm,0.9s,baz=156,slow=6.3,SNR=10
C24A Savage 84.98 337 ⇓P P 07 03 48.2 -0.2
baz=85,SNR=5.0
YMR Madison River 84.98 331 eP P 07 03 49.2 +0.5
comp=Z,274nm,1.1s
B26A Jensen Ranch, 85.02 339 ⇑P P 07 03 49.0 +0.5
baz=85
E21A Keefer Ranch, 85.05 335 ⇑P P 07 03 49.3 +0.5
baz=85
F19A Roth Farm, Mol 85.17 333 ⇓P P 07 03 49.8 +0.4
baz=86
B25A Knox Farm, Ray 85.22 338 ⇓P P 07 03 50.1 +0.5
baz=86,SNR=5.2
A27A Ledoux Ranch, 85.22 339 ⇓P P 07 03 50.3 +0.8
baz=86
D22A Cohagen 85.25 336 ⇓P P 07 03 50.6 +0.8
baz=86
E20A Meyer Farm, Mu 85.41 334 ⇑P P 07 03 51.5 +0.9
baz=86
A26A Wade Farm, Ken 85.42 339 ⇑P P 07 03 51.3 +0.8
baz=86
D21A La Casta Ranch 85.47 335 ⇓P P 07 03 51.2 +0.3
baz=86
C23A Lambert 85.47 337 ⇑P P 07 03 50.7 -0.1
baz=86,SNR=5.0
HLID Hailey 85.55 329 eP P 07 03 51.6 +0.1
comp=Z,152nm,1.0s
HLID Hailey 85.55 329 ⇑P P 07 03 52.1 +0.5
baz=86
E19A Rath Farm, Rou 85.62 334 ⇑P P 07 03 52.3 +0.7
baz=86
C22A Vida 85.66 336 ⇑P P 07 03 52.3 +0.5
baz=86
DGMT Dagmar 85.72 337 eP P 07 03 51.8 -0.3
comp=Z,260nm,0.9s
DGMT Dagmar 85.72 337 ⇓P P 07 03 51.9 -0.1
baz=86,SNR=7.2
A25A Svangstu Ranch 85.79 338 ⇓P P 07 03 53.2 +0.9
baz=86
D20A Manuel Ranch, 85.91 334 ⇑P P 07 03 53.4 +0.3
baz=86
B23A Brockton 85.98 337 ⇓P P 07 03 53.8 +0.5
baz=86
A24A Westby 86.06 338 ⇑P P 07 03 54.6 +0.9
baz=86
C21A Desert Coulee 86.16 335 ⇓P P 07 03 53.9 -0.3
baz=86,SNR=7.6
B22A Reddig Ranch S 86.18 336 ⇓P P 07 03 54.6 +0.2
baz=86,SNR=10.0
SCHQ Schefferville 86.19 1 P P 07 03 53.6 -0.6
comp=Z,107nm,1.0s,baz=166,slow=3.6,SNR=12
D19A Cripps Ranch, 86.24 334 ⇑P P 07 03 55.1 +0.4
baz=87
A23A Redstone 86.37 337 ⇓P P 07 03 55.9 +0.6
baz=87
C20A Veseth Ranch, 86.38 335 ⇑P P 07 03 55.5 +0.1
baz=87
WVOR Wild Horse Val 86.62 326 eP P 07 03 56.8 0.0
WVOR pmax pmax
comp=Z,89nm,1.1s
WVOR Wild Horse Val 86.62 326 eP P 07 03 56.8 0.0
comp=Z,89nm,1.1s
B21A Ellsworth Farm 86.64 336 ⇑P P 07 03 56.3 -0.3
baz=87,SNR=12
A22A Carney Farms, 86.75 337 ⇓P P 07 03 57.6 +0.5
baz=87
C19A Slack Wire Ran 86.78 334 ⇑P P 07 03 57.7 +0.3
baz=87
B20A Solberg Farm, 87.00 335 ⇑P P 07 03 58.8 +0.5
baz=87
MOD Modoc 87.04 324 eP P 07 03 57.7 -1.1
comp=Z,100nm,1.0s
A21A Bergtoll Ranch 87.09 336 ⇓P P 07 03 59.2 +0.5
baz=87
WDC Whiskeytown Da 87.20 322 eP P 07 03 58.6 -0.9
WDC pmax pmax
comp=Z,143nm,1.4s
WDC Whiskeytown Da 87.20 322 eP P 07 03 58.6 -0.9
comp=Z,143nm,1.4s
EGMT Eagleton 87.29 334 ⇑P P 07 03 60.0 +0.2
baz=88
A20A Cobblestone Ra 87.34 336 ⇑P P 07 04 00.2 +0.2
baz=88
B19A Brinkman Farms 87.35 335 ⇓P P 07 04 00.3 +0.2
baz=88
A19A Klindworth Far 87.67 335 ⇑P P 07 04 01.9 +0.3
baz=88
M04C Macdoel 87.72 323 ⇑P P 07 04 02.7 +0.5
baz=88
M02C Callahan 87.95 323 ⇑P P 07 04 03.7 +0.5
baz=88
MSO Missoula 87.95 331 ⇓P P 07 04 03.8 +0.7
baz=88
YBH Yreka Blue Hor 88.12 323 eP P 07 04 03.8 -0.2
YBH pmax pmax
comp=Z,69nm,1.4s
YBH Yreka Blue Hor 88.12 323 eP P 07 04 03.8 -0.2
comp=Z,69nm,1.4s
LSZ Lusaka 88.21 107 eP P 07 04 06.0 +0.9
LSZ pmax pmax
comp=Z,66nm,1.0s
LSZ Lusaka 88.21 107 eP P 07 04 06.0 +0.9
comp=Z,66nm,1.0s

K04D Chiloquin, OR 88.29 324 ⇑P P 07 04 05.2 +0.4
baz=89
J05D Fort Rock, OR 88.52 325 ⇑P P 07 04 06.2 +0.3
baz=89
PINOR Pine Mountain 88.74 325 eP P 07 04 07.4 +0.7
comp=Z,92nm,0.9s
L02D Cave Junction, 88.89 323 ⇑P P 07 04 08.2 +0.7
baz=89
J04D Umpqua Nationa 88.92 324 ⇑P P 07 04 08.1 +0.2
baz=89
I05D Terrebonne, OR 89.35 325 ⇑P P 07 04 10.1 +0.4
baz=90
I04A Tendick Farm, 89.48 325 ⇑P P 07 04 09.9 -0.3
baz=90
VTHM Trough 89.61 326 P P 07 04 12.2 +1.4
WALA Waterton Lakes 89.73 332 eP P 07 04 11.4 +0.1
comp=Z,3.7nm,1.0s
WIW Wooded Island 89.96 328 P P 07 04 13.1 +0.8
G05D Wamic, OR 90.01 326 ⇑P P 07 04 11.3 -1.4
baz=90
HAWA Hanford 90.04 328 eP P 07 04 13.0 +0.3
comp=Z,181nm,1.4s
WRD Warden 90.18 328 P P 07 04 14.6 +1.2
CRF Corfu 90.30 328 P P 07 04 14.6 +0.7
FFC Flin Flon 90.57 342 eP P 07 04 14.9 -0.1
FFC pmax pmax
comp=Z,138nm,1.6s
FFC Flin Flon 90.57 342 eP P 07 04 14.9 -0.1
comp=Z,138nm,1.6s
DPW Davenport 90.57 329 P P 07 04 15.6 +0.3
DPW Davenport 90.57 329 P P 07 04 15.6 +0.3
FCC Fort Churchill 92.47 347 eP P 07 04 23.6 -0.1
FCC pmax pmax
comp=Z,4.0nm,0.8s
FCC Fort Churchill 92.47 347 eP P 07 04 23.6 -0.1
comp=Z,3.9nm,0.8s
ESDC Sonseca Array 93.24 45 P P 07 04 27.4 -0.5
comp=Z,5.4nm,0.9s,baz=32,slow=5.8,SNR=4.4
YKA Yellowknife Ar 100.67 340 PKKPbc PKKPbc 07 21 13.6 -3.1
comp=Z,1.0nm,0.7s,baz=334,slow=3.1,SNR=7.2
GERES GERESS Array B 108.82 44 PKKPbc PKKPbc 07 20 43.1 -8.4
comp=Z,1.1nm,0.6s,baz=202,slow=1.1,SNR=4.6
NOA NORSAR Array B 112.79 31 PKKPbc PKKPbc 07 20 43.6 +4.9
comp=Z,4.2nm,0.9s,baz=68,slow=4.4,SNR=6.6
ILAR Eielson Array 113.23 333 PKKPbc PKKPbc 07 20 33.5 -3.8
comp=Z,1.6nm,0.8s,baz=293,slow=4.1,SNR=4.1
HFS Hagfors 113.55 33 PKKPbc PKKPbc 07 20 38.3 +2.3
comp=Z,5.2nm,0.7s,baz=72,slow=4.7,SNR=7.8
FINES FINESS Array B 119.73 33 PKP PKPdf 07 10 02.4 -0.2
comp=Z,14nm,1.0s,baz=244,slow=0.9,SNR=5.0
FINES PKKPbc PKKPbc 07 20 14.4 +0.3
comp=Z,3.4nm,0.8s,baz=92,slow=4.2,SNR=4.4
ARCES ARCESS Array B 120.92 24 PKP PKPdf 07 10 04.3 -0.4
comp=Z,6.7nm,0.8s,baz=202,slow=3.9,SNR=4.2
ARCES PKKPbc PKKPab 07 20 06.0 -1.2
comp=Z,13nm,1.0s,baz=96,slow=1.8,SNR=6.8
WRA Warramunga Arr 123.93 207 PKIKP PKPdf 07 10 10.8 -1.3
WRA pmax pmax
comp=Z,23nm,0.8s
WRA Warramunga Arr 123.93 207 PKP PKPdf 07 10 10.8 -1.3
comp=Z,23nm,0.8s,baz=154,slow=1.9,SNR=7.4
GEYT Alibeck 136.76 67 PKP PKPdf 07 10 34.6 -1.2
comp=Z,9.9nm,0.8s,baz=259,slow=2.9,SNR=2.9
SEY Seymchan 139.16 332 PKIKP PKPdf 07 10 39.6 +0.2
SEY pmax pmax
comp=Z,28nm,0.8s
SEY Seymchan 139.16 332 PKP PKPdf 07 10 39.5 +0.2
comp=Z,42nm,1.0s,baz=90,slow=7.1,SNR=7.7
PETK Petropavlovsk- 140.20 317 PKhKP PKPpre 07 10 38.5
comp=Z,23nm,0.9s,baz=129,slow=3.9,SNR=4.9
CISI Cisompet, Garu 140.88 175 ePKPdf PKPdf 07 10 44.0 -0.1
GUMO Guam 143.99 248 ePKPdf PKPab 07 10 46.5 -0.2
LUWI Luwuk 145.54 201 ePKPdf PKPdf 07 10 51.9 -0.4
YAK Yakutsk 147.28 344 ePKIKP PKPdf 07 10 54.0 +0.4
YAK pmax pmax
comp=Z,243nm,1.1s
YAK Yakutsk 147.28 344 ePKPbc PKPbc 07 10 55.1 -0.8
GSI Gunungsitoli 147.30 155 ePKPbc PKPbc 07 10 58.0 +0.5
BKNI Bangkinang 147.47 162 ePKPbc PKPbc 07 10 56.6 +1.1
HYB Hyderabad 147.54 108 i PKP PKPbc 07 10 58.5 +0.4
EKS2 Erkin-Say 148.75 59 P PKPbc 07 11 02.1 +1.4
SNR=6.0
EKS2 Erkin-Say 148.75 59 ePKP2 PKPbc 07 11 01.2 +0.5
EKS2 Erkin-Say 148.75 59 ePKPbc PKPbc 07 11 01.2 +0.5
PSI Prapat 149.16 156 PKIKP PKPbc 07 11 01.3 -1.3
PSI pmax pmax
comp=Z,192nm,0.9s
PSI Prapat 149.16 156 PKPbc PKPbc 07 11 01.3 -1.3
comp=Z,192nm,0.8s,baz=208,slow=4.2,SNR=9.8
USP Ospenovka 149.17 58 P PKPbc 07 11 01.9 +0.3
SNR=7.5
FRU Bishkek 149.33 58 i PKP2 PKPbc 07 11 03.0 +0.9
FRU pmax pmax
comp=Z,210nm,1.0s
CHMS Chumysh 149.40 58 P PKPbc 07 11 03.0 +0.7
SNR=8.0
KBK Karagaybulak 149.60 59 P PKPbc 07 11 04.5 +1.6
SNR=5.3
TKM2 Tokmak 2 150.03 58 P PKPbc 07 11 04.4 +0.4
SNR=8.1
TKM2 Tokmak 2 150.03 58 ePKPbc PKPbc 07 11 04.1 +0.1
ULHL Ulahol 150.61 59 P PKPbc 07 11 06.7 +1.3
SNR=5.3
LHMI Lhok Sumawe 150.65 151 ePKPdf PKPdf 07 11 00.1 -0.4
LHMI ePKPbc PKPbc 07 11 04.9 -1.2
LHMI ePKPab PKPab 07 11 13.1 +0.3
ZAA0 Zalesovo Array 150.99 32 ePKPdf PKPdf 07 11 00.4 +0.5
ZAA0 ePKPbc PKPbc 07 11 05.3 -0.3
ZALV Zalesovo Beam 150.99 32 PKIKP PKPdf 07 11 00.3 +0.4
ZALV 07 11 06.1
ZALV pmax pmax
comp=Z,15nm,0.6s
ZALV pmax pmax
comp=Z,183nm,0.8s
ZALV Zalesovo Beam 150.99 32 PKP PKPdf 07 11 00.2 +0.4
comp=Z,15nm,0.6s,baz=299,slow=3.5,SNR=3.6
ZALV PKPbc PKiKP 07 11 06.1 -0.1
comp=Z,183nm,0.8s,baz=306,slow=3.2,SNR=31
YSS Yuzh-Sakhalins 151.21 311 ⇓PKIKP PKPbc 07 11 06.0 -0.3
ASAJ Asahikawa 152.20 306 PKIKP PKPbc 07 11 08.2 -0.5
ASAJ pmax pmax
comp=Z,46nm,0.8s
ASAJ Asahikawa 152.20 306 PKPbc PKPbc 07 11 08.2 -0.5
comp=Z,46nm,0.8s,baz=285,slow=11,SNR=5.5
MK31 Makanchi Array 153.43 47 ePKIKP PKPbc 07 11 11.7 +0.3
MK31 Makanchi Array 153.43 47 ePKPbc PKPbc 07 11 11.7 +0.3
MKAR Makanchi Array 153.43 47 PKIKP PKPbc 07 11 11.7 +0.3
MKAR pmax pmax
comp=Z,33nm,0.9s
MKAR Makanchi Array 153.43 47 PKPbc PKPbc 07 11 11.7 +0.3
comp=Z,33nm,0.9s,baz=302,slow=2.8,SNR=9.0
MJAR Matsushiro Arr 156.85 290 PKP2 PKPab 07 11 38.2 -0.5
MJAR pmax pmax
comp=Z,41nm,0.9s
MJAR Matsushiro Arr 156.85 290 PKPab PKPab 07 11 38.2 -0.5
comp=Z,41nm,0.9s,baz=125,slow=2.7,SNR=13
MAT Matsushiro 156.85 290 PKP PKPab 07 11 38.6 -0.1
USRK Ussuriysk Arra 159.22 313 PKP PKPdf 07 11 10.4 -0.9
comp=Z,6.2nm,1.0s,baz=48,slow=2.1,SNR=4.2
USRK PKPab PKPab 07 11 48.1 -0.5
comp=Z,17nm,1.0s,baz=72,slow=4.7,SNR=6.3
TLY Talaya 159.33 13 PKPab PKPab 07 11 49.5 +0.7
comp=Z,20nm,0.9s,baz=337,slow=4.3,SNR=6.9
JNU Nakatsue 163.00 280 PKPab PKPab 07 12 05.3 -0.3
comp=Z,20nm,0.8s,baz=93,slow=5.9,SNR=5.1
CMAR Chiang Mai Arr 163.02 138 PKIKP PKPdf 07 11 16.3 +0.1
CMAR 07 12 04.6
CMAR pmax pmax
comp=Z,16nm,1.0s
CMAR pmax pmax
comp=Z,16nm,1.0s
CMAR Chiang Mai Arr 163.02 138 PKP PKPdf 07 11 16.3 +0.1
comp=Z,16nm,1.0s,baz=224,slow=2.5,SNR=9.0
CMAR PKPab PKPab 07 12 04.6 -1.2
comp=Z,16nm,0.9s,baz=227,slow=4.2,SNR=8.3
SONM Songino Array 163.52 11 PKP2 PKPab 07 12 08.0 +0.7
SONM pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 163.52 11 PKPab PKPab 07 12 08.0 +0.7
comp=Z,11nm,0.9s,baz=341,slow=5.1,SNR=5.1

IDC 27 06:52:27.8±0.5, 34°.89S×72°.75W, h0km, mb5.8/15, mb1 5.9/16, mb1mx5.6/28, mbtmp5.8/16, ML5.7/1, Error ellipse: s-maj=20.7km s-min=16.4km az=74.0

ISCJB 27 06:52:30.0±0.2, 34°.78S±0°.03×72°.61W±0°.05, h18km, mb6.1/107, Error ellipse: s-maj=6.5km s-min=4.2km az=149.9

MOS 27 06:52:34.0±2.0, 34°.90S×72°.60W, h33km, mb6.3/45, Error ellipse: s-maj=14.8km s-min=8.2km az=96.6

NEIC 27 06:52:34.0±0.2, 34°.87S×72°.61W, h35km, mb6.2/88, Error ellipse: s-maj=8.3km s-min=4.8km az=64.0

BJI 27 06:52:35.9, 34°.80S×72°.70W, h35km, mB6.4/6, Ms6.7/4, Ms7 6.4/4

ISC 27 06:52:31.8±0.3, 34°.84S±0°.06×72°.66W±0°.08, h18km, n791, σ1§15/797, mb6.2/107, 251C-218D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
TRQA Tornquist 9.19 114 ePn Pn 06 54 47.0 +3.6
LVC Limon Verde 12.62 16 ePn Pn 06 55 35.4 +4.8
CPUP Villa Florida 15.68 61 eP P 06 56 14.5 -1.2
CPUP pmax pmax
comp=Z,202nm,1.2s
CPUP Villa Florida 15.68 61 eP P 06 56 14.5 -1.2
comp=Z,202nm,1.2s
LPAZ La Paz 18.91 14 P Pn 06 56 53.3 +0.4
LPAZ pmax pmax
comp=Z,10.0nm,0.3s
LPAZ La Paz 18.91 14 P Pn 06 56 53.2 +0.4
comp=Z,9.9nm,0.3s,baz=198,slow=10,SNR=5.5
SIV San Ignacio 21.45 32 P P 06 57 18.9 -0.3
comp=Z,1μm,1.1s,baz=230,slow=14,SNR=11
NNA Nana 23.06 350 eP P 06 57 38.1 +1.7
NNA pmax pmax
comp=Z,314nm,1.1s
NNA Nana 23.06 350 P P 06 57 35.7 -0.7
comp=Z,120nm,0.9s,baz=186,slow=10,SNR=4.8
NNA Nana 23.06 350 eP P 06 57 38.1 +1.7
comp=Z,314nm,1.1s
PMSA Palmer Station 30.42 173 eP P 06 58 43.5 +0.7
comp=Z,1μm,1.8s
HOPE Hope Point 31.79 139 eP P 06 58 55.3 +0.4
OTAV Otavalo 35.31 350 eP P 06 59 27.7 +1.2
comp=Z,400nm,1.3s
ROSC El Rosal 39.51 357 eP P 07 00 01.9 0.0
BCIP Isla Barro Col 44.29 350 eP P 07 00 41.2 +0.7
comp=Z,341nm,1.5s
JTS JuntasAbangare 46.37 343 eP P 07 00 58.1 +1.0
JTS pmax pmax
comp=Z,109nm,1.1s
JTS JuntasAbangare 46.37 343 P P 07 00 56.1 -0.9
comp=Z,89nm,1.1s,baz=187,slow=5.1,SNR=5.1
JTS JuntasAbangare 46.37 343 eP P 07 00 58.1 +1.0
comp=Z,109nm,1.1s
GRGR Grenville 47.87 15 eP P 07 01 10.3 +1.6
comp=Z,900nm,1.2s
TRIS Tristan da Cun 48.18 111 eP P 07 01 15.5 +4.5
comp=Z,128nm,0.3s
VNA3 Neumayer Olymp 48.78 157 P P 07 01 14.5 -0.7
FCV Fort Charlotte 48.95 15 e P 07 01 18.0 +1.0
SVV Soufriere Volc 49.11 15 e P 07 01 19.3 +1.0
VNA1 Neumayer--Stat 49.11 157 P P 07 01 17.5 -0.2
VNA1 Neumayer--Stat 49.11 157 P P 07 01 17.5 -0.2
VNA2 Neumayer--Watz 49.44 157 P P 07 01 19.7 -0.6
H05S1 Guadeloupe/Mar 50.26 15 P P 07 01 24.4 -2.6
FDF Fort de France 50.49 14 eP P 07 01 28.1 -0.8
FDF pmax pmax
comp=Z,332nm,1.0s
FDF Fort de France 50.49 14 eP P 07 01 28.1 -0.8
comp=Z,332nm,1.0s
SNAA Sanae 51.01 158 P P 07 01 32.2 0.0
SNAA Sanae 51.01 158 ⇑iP P 07 01 33.1 +0.9
SNAA pmax pmax
comp=Z,232nm,1.0s
BBL Barber's Block 51.20 14 eP P 07 01 32.5 -1.7
HMG Houelmont 51.60 13 eP P 07 01 35.8 -1.4
PHG Guadaloupe-2 51.64 14 eP P 07 01 36.8 -0.8
DOG Dongo Capester 51.66 14 eP P 07 01 36.2 -1.5
ECG Echelle 51.67 14 eP P 07 01 35.8 -2.1
MLG Mont-d'or 51.68 13 eP P 07 01 36.6 -1.1
CRG Carmichael 51.68 14 eP P 07 01 36.9 -1.0
FNG Fond-Bernard 51.68 13 eP P 07 01 36.2 -1.6
SSG Sans Toucher 51.71 13 eP P 07 01 36.2 -1.9
SEG Port Louis 52.05 14 eP P 07 01 38.2 -2.3
DEG La Desirade 52.05 14 eP P 07 01 38.1 -2.4
H05N1 Guadeloupe/Mar 52.05 14 P P 07 01 37.9 -2.6
ICMP Isla Caja de M 52.76 7 eP P 07 01 44.1 -1.6
OBIP Obispado Ponce 52.90 7 eP P 07 01 47.0 +0.3
comp=Z,195nm,0.8s
CELP Cerrillos 52.94 7 eP P 07 01 46.2 -0.8
LSP Las Mesas 52.98 7 eP P 07 01 46.9 -0.6
LRS Lares 53.12 7 eP P 07 01 47.0 -1.5
CBYP Canovanas 53.21 8 eP P 07 01 47.5 -1.6
comp=Z,201nm,1.0s
PCDR Punta Cana, DR 53.23 5 eP P 07 01 49.4 +0.3
ANWB Willy Bob 53.23 13 eP P 07 01 47.2 -1.9
comp=Z,451nm,1.0s
SDDR Presa de Saban 53.54 2 eP P 07 01 53.5 +2.0
comp=Z,66nm,1.0s
SMN1 Samana, DR 53.82 4 eP P 07 01 54.2 +0.6
GTBY Guantanamo Bay 54.51 357 eP P 07 01 57.3 -1.2
comp=Z,167nm,1.0s
RKT Rikitea 54.98 265 eP P 07 02 00.5 -1.6
comp=Z,165nm,1.4s
GRTK Grand Turk 56.06 2 eP P 07 02 09.5 -0.2
comp=Z,218nm,1.0s
TEIG Tepich 56.74 342 eP P 07 02 13.3 -1.2
comp=Z,628nm,1.3s
H10S3 ASCENSION HYDR 58.76 78 P P 07 02 25.5 -3.2
H10S2 ASCENSION HYDR 58.77 79 P P 07 02 25.6 -3.2
H10S1 ASCENSION HYDR 58.78 78 P P 07 02 23.4 -5.5
ASCN Ascension 59.59 78 eP P 07 02 34.4 -0.4
comp=Z,128nm,0.9s
SBA Scott Base 62.15 192 eP P 07 02 52.4 +1.1
SBA pmax pmax
comp=Z,1μm,1.9s
SBA Scott Base 62.15 192 eP P 07 02 52.4 +1.1
comp=Z,1μm,1.9s
SHEL Horse Pasture 62.25 91 P P 07 02 55.9 +3.0
comp=Z,3μm,0.9s,SNR=5.2
VNDA Vanda 63.18 191 eP P 07 03 01.3 +3.1
VNDA pmax pmax
comp=Z,370nm,1.8s
VNDA Vanda 63.18 191 P P 07 02 58.2 0.0
comp=Z,41nm,1.1s,baz=141,slow=4.3,SNR=3.5
VNDA Vanda 63.18 191 eP P 07 03 01.3 +3.1
comp=Z,370nm,1.8s
035Z Hargill 65.54 335 ⇑P P 07 03 14.6 +0.5
baz=66
035A Encino 65.99 335 ⇓P P 07 03 17.5 +0.5
baz=66
034A Hebbronville 66.31 335 ⇑P P 07 03 19.2 +0.1
baz=67
KVTX Kingsville 66.48 336 eP P 07 03 21.4 +1.2
comp=Z,264nm,1.2s
TBI Tubuai 66.63 257 eP P 07 03 20.0 -1.4
comp=Z,758nm,1.5s
TIGA Tifton 66.72 350 ⇑P P 07 03 20.9 -0.8
baz=67,SNR=10
934A Benavides 66.75 335 ⇓P P 07 03 21.3 -0.5
baz=67
BRAL Brewton 66.89 347 eP P 07 03 23.6 +0.9
comp=Z,606nm,1.4s
933A Laredo 67.02 334 ⇓P P 07 03 23.0 -0.7
baz=67,SNR=9.0
835A Beeville 67.14 336 ⇓P P 07 03 23.1 -1.2
baz=68,SNR=5.6
834A Tilden 67.24 335 ⇑P P 07 03 24.6 -0.4
baz=68,SNR=9.1
BBSR BB Station 67.27 7 eP P 07 03 25.6 +0.5
comp=Z,143nm,0.9s
735A Kenedy 67.66 336 ⇓P P 07 03 27.4 -0.2
baz=68,SNR=8.5
833A Chaparral WMA, 67.71 335 ⇑P P 07 03 27.8 -0.2
baz=68,SNR=13
832A Faith Ranch, C 67.88 334 ⇑P P 07 03 28.7 -0.4
baz=68,SNR=7.9
734A La Parita Cree 67.90 336 ⇓P P 07 03 28.4 -0.7
baz=68,SNR=8.4
NHSC New Hope 67.95 353 eP P 07 03 29.4 0.0
comp=Z,542nm,1.1s
636A Smothers Creek 67.99 337 ⇓P P 07 03 29.0 -0.7
baz=68,SNR=7.2
733A Divot King Ran 68.04 335 ⇑P P 07 03 29.2 -0.9
baz=68,SNR=5.5
HKT Hockley 68.05 338 eP P 07 03 30.3 +0.3
HKT Hockley 68.05 338 eP P 07 03 30.3 +0.3
635A Leesville 68.14 336 ⇑P P 07 03 30.2 -0.5

baz=68
538A Harpers Horsep 68.20 339 ⇑P P 07 03 30.3 -0.7
732A Laxson Ranch, 68.29 334 ⇑P P 07 03 30.7 -0.9
baz=69,SNR=11
537A Green Hill Far 68.32 338 ⇓P P 07 03 31.2 -0.5
baz=69,SNR=6.7
634A China Grove, S 68.32 336 ⇓P P 07 03 30.8 -1.0
baz=69
536A Bastrop 68.55 337 ⇑P P 07 03 32.2 -0.9
baz=69,SNR=10
GOGA Godfrey 68.64 350 eP P 07 03 32.4 -1.3
GOGA pmax pmax
comp=Z,252nm,1.2s
GOGA Godfrey 68.64 350 eP P 07 03 32.4 -1.3
comp=Z,252nm,1.2s
535A Dale 68.66 337 ⇓P P 07 03 33.0 -1.0
baz=69,SNR=16
633A Saathoff Ranch 68.67 335 ⇓P P 07 03 33.0 -1.0
baz=69,SNR=7.2
LRAL Lakeview Retre 68.84 347 eP P 07 03 35.3 +0.3
comp=Z,389nm,1.7s
340A Bronson 68.87 341 ⇑P P 07 03 34.4 -0.7
baz=69
632A Uvalde 68.93 335 ⇑P P 07 03 34.6 -1.0
baz=69,SNR=5.7
534A Blanco 68.96 336 ⇑P P 07 03 34.8 -1.0
baz=69
339A Huntington 68.97 340 ⇑P P 07 03 35.2 -0.6
baz=69,SNR=7.6
436A Wall Ranch, Ga 69.11 338 ⇑P P 07 03 36.2 -0.4
baz=70,SNR=5.1
631A Perdido Creek 69.12 334 ⇓P P 07 03 35.8 -1.0
baz=70
533A Kerrville 69.19 336 ⇑P P 07 03 36.2 -1.0
baz=70,SNR=11
338A Crockett 69.21 339 ⇓P P 07 03 36.3 -1.0
baz=70,SNR=9.6
VAH Vaihoa 69.24 266 eP P 07 03 36.4 -1.5
comp=Z,276nm,1.3s
337A Centerville 69.34 339 ⇓P P 07 03 37.2 -0.9
baz=70,SNR=9.9
435B Jarrell 69.37 337 ⇓P P 07 03 37.7 -0.6
baz=70,SNR=7.6
NATX Nacogdoches 69.40 340 eP P 07 03 38.2 -0.3
comp=Z,269nm,1.0s
TIAR Tiarei 69.44 263 eP P 07 03 37.7 -1.5
comp=Z,40nm,1.0s
532A Rocksprings 69.54 335 ⇑P P 07 03 38.4 -1.1
baz=70,SNR=11
PAE Paea 69.58 262 eP P 07 03 38.6 -1.4
comp=Z,65nm,1.3s
PMOR Pomariorio Ree 69.58 266 eP P 07 03 38.8 -1.2
comp=Z,207nm,1.4s
PPT2 Papeete2 69.61 262 eP P 07 03 38.9 -1.4
434A Burnet 69.62 337 ⇑P P 07 03 38.8 -1.1
baz=70,SNR=11
PPT Papeete 69.62 262 P P 07 03 39.1 -1.2
PPT pmax pmax
comp=Z,70nm,0.8s
PPT Papeete 69.62 262 P P 07 03 39.1 -1.2
comp=Z,70nm,0.8s,baz=108,slow=6.5,SNR=3.4
336A Riesel 69.69 338 ⇑P P 07 03 39.3 -1.0
baz=70,SNR=11
335A Moody 69.78 338 ⇑P P 07 03 39.4 -1.4
baz=70,SNR=9.6
531A Rocksprings 69.80 334 ⇓P P 07 03 40.1 -0.9
baz=70,SNR=6.4
JCT Junction City 69.82 335 eP P 07 03 41.4 +0.2
JCT pmax pmax
comp=Z,413nm,1.2s
JCT Junction City 69.82 335 eP P 07 03 41.4 +0.2
comp=Z,413nm,1.2s
JCT Junction City 69.82 335 ⇓P P 07 03 40.6 -0.5
baz=70,SNR=12
433A Art 69.83 336 ⇓P P 07 03 40.5 -0.8
baz=70,SNR=9.7
CNNC Cliffs of the 69.89 355 eP P 07 03 40.9 -0.5
comp=Z,368nm,1.1s
530A J-C Ranch, Com 70.07 334 ⇑P P 07 03 42.0 -0.7
baz=70,SNR=12
334A Lometa 70.08 337 ⇑P P 07 03 41.9 -0.8
baz=70,SNR=7.7
KMSC Kings Mountain 70.09 352 ⇓P P 07 03 42.1 -0.6
baz=70,SNR=12
432A Menard 70.18 335 ⇓P P 07 03 42.3 -1.0
baz=70,SNR=6.7
TXAR Lajitas Array 70.22 331 P P 07 03 42.8 -0.9
TXAR pmax pmax
comp=Z,35nm,0.7s
TXAR Lajitas Array 70.22 331 P P 07 03 42.8 -0.9
comp=Z,35nm,0.7s,baz=152,slow=8.8,SNR=8.9
431A Sonora 70.29 335 ⇓P P 07 03 42.7 -1.3
baz=71
333A Richland Sprin 70.32 336 ⇑P P 07 03 43.0 -1.2
baz=71,SNR=9.1
529A Stev Forest Ra 70.37 333 ⇓P P 07 03 43.5 -1.1
baz=71,SNR=8.4
WHTX Lake Whitney 70.45 338 ⇑P P 07 03 43.9 -1.0
baz=71,SNR=13
430A Baggett Ranch, 70.61 334 ⇑P P 07 03 44.7 -1.3
baz=71,SNR=11
332A Millersview 70.63 336 ⇑P P 07 03 44.8 -1.3
baz=71,SNR=6.8
234A Clairette 70.67 337 ⇓P P 07 03 45.2 -1.1
baz=71,SNR=9.5
429A Davenport Ranc 70.70 334 ⇓P P 07 03 45.2 -1.4
baz=71,SNR=6.3
OXF Oxford 70.75 345 eP P 07 03 46.8 +0.1
OXF pmax pmax
comp=Z,283nm,1.0s
OXF Oxford 70.75 345 eP P 07 03 46.8 +0.1
comp=Z,283nm,1.0s
SWET Sewanee 70.79 349 eP P 07 03 46.4 -0.6
comp=Z,231nm,0.8s
331A San Angelo 70.80 335 ⇓P P 07 03 45.8 -1.3
baz=71,SNR=15
TKL Tuckaleechee C 70.90 350 eP P 07 03 46.9 -0.7
TKL Tuckaleechee C 70.90 350 eP P 07 03 46.9 -0.7
233A Rising Star 70.93 337 ⇑P P 07 03 46.7 -1.2
baz=71
135A Vickery Place, 70.96 338 ⇑P P 07 03 46.4 -1.7
baz=71,SNR=6.7
232A Coleman 71.06 336 ⇑P P 07 03 47.3 -1.4
baz=71,SNR=6.7
330A Mertzon 71.15 334 ⇑P P 07 03 48.0 -1.3
baz=72,SNR=6.6
134A White-Moore Ra 71.18 337 ⇑P P 07 03 48.2 -1.2
baz=72,SNR=6.1
231A Bronte 71.33 335 ⇑P P 07 03 49.0 -1.4
baz=72,SNR=12
133A Hamilton Ranch 71.48 337 ⇑P P 07 03 50.2 -0.9
baz=72,SNR=12
329A Wagon Wheel Ra 71.51 334 ⇓P P 07 03 50.4 -1.1
baz=72,SNR=9.1
230A Sterling City 71.56 335 ⇑P P 07 03 50.2 -1.5
baz=72
Z35A Perchaven, San 71.63 338 ⇓P P 07 03 50.8 -1.3
baz=72,SNR=15
ABTX Abilene, Hawle 71.73 336 ⇑P P 07 03 51.4 -1.3
baz=72,SNR=12
MIAR Mount Ida 71.74 342 eP P 07 03 52.1 -0.6
MIAR pmax pmax
comp=Z,265nm,1.8s
MIAR Mount Ida 71.74 342 eP P 07 03 52.1 -0.6
comp=Z,265nm,1.8s
Z34A Collier Ranch, 71.87 338 ⇑P P 07 03 52.5 -1.0
baz=72,SNR=7.8
229A Bryant Ranch, 71.88 334 ⇓P P 07 03 52.4 -1.3
baz=72,SNR=10
WVT Waverly 72.01 347 eP P 07 03 53.2 -1.0
WVT pmax pmax
comp=Z,414nm,1.0s
WVT Waverly 72.01 347 eP P 07 03 53.2 -1.0
comp=Z,414nm,1.0s
131A Roby 72.03 336 ⇓P P 07 03 53.3 -1.3
baz=72,SNR=12
Z33A Whitaker Ranch 72.06 337 ⇑P P 07 03 53.6 -1.1
baz=72,SNR=10
130A Snyder 72.16 335 ⇓P P 07 03 53.9 -1.4
baz=72,SNR=9.4
228A UT Block 9, Go 72.30 334 ⇑P P 07 03 54.8 -1.5
baz=73,SNR=13
Z32A Haskell 72.31 337 ⇑P P 07 03 54.9 -1.2
baz=73,SNR=12
Y34A Reagan Ranch, 72.36 338 ⇑P P 07 03 55.2 -1.3
baz=73,SNR=11
BBTS Babate 72.50 57 P P 07 03 57.3 -0.3
comp=Z,145nm,1.0s,baz=203,slow=2.9,SNR=6.4
129A Stewart Farms, 72.50 334 ⇑P P 07 03 56.0 -1.4
baz=73,SNR=9.9
MAW Mawson 72.52 164 eP P 07 03 55.8 -1.3
MAW pmax pmax
comp=Z,48nm,1.1s
MAW Mawson 72.52 164 P P 07 03 55.7 -1.3
comp=Z,173nm,1.1s,baz=229,slow=8.0,SNR=4.9
MAW Mawson 72.52 164 eP P 07 03 55.8 -1.3
comp=Z,48nm,1.1s
Z31A Sharp Cattle R 72.53 336 ⇓P P 07 03 56.2 -1.3
baz=73,SNR=10
PVMO Portageville 72.64 346 eP P 07 03 59.1 +1.1
comp=Z,449nm,1.1s
Y33A Hilltop Ranch, 72.68 338 ⇑P P 07 03 56.9 -1.4
baz=73,SNR=11
128A Castleberry Fa 72.72 334 ⇓P P 07 03 57.1 -1.6
baz=73,SNR=12
CBN Corbin 72.81 356 eP P 07 03 59.3 +0.3
comp=Z,212nm,1.3s
Z30A Sanderson Ranc 72.84 335 ⇑P P 07 03 58.0 -1.4
baz=73,SNR=10.0
Y32A R-V Farms, Ver 72.93 337 ⇓P P 07 03 58.8 -1.1
baz=73,SNR=11
ELIM Elim 72.97 120 eP P 07 03 57.4 -3.0
ELIM AMB AMB 07 04 15.6
comp=Z,1μm,22.2s
ELIM Elim 72.97 120 P P 07 03 57.4 -3.0
X34A Smith Ranch, M 72.98 338 ⇑P P 07 03 59.5 -0.6
baz=73,SNR=7.5
MNTX Cornudas Mount 72.99 331 eP P 07 03 58.2 -2.0
comp=Z,101nm,1.2s
Z29A Hungry Hill Ra 73.02 335 ⇑P P 07 03 59.3 -1.2
baz=73,SNR=12
127A Arkansas Junct 73.08 333 ⇓P P 07 03 59.9 -1.0
baz=73,SNR=6.2
X33A Lawton 73.13 338 ⇑P P 07 04 00.4 -0.6
baz=74,SNR=6.2
Y31A Rekieta Farm, 73.16 336 ⇑P P 07 04 00.8 -0.5
baz=74,SNR=5.9
X32A Elmer 73.27 337 ⇑P P 07 04 01.5 -0.3
baz=74,SNR=6.9
CER Ceres 73.28 119 eP P 07 04 01.8 -0.4
CER AMB AMB 07 04 29.8
comp=Z,726nm,4.4s
CER Ceres 73.28 119 P P 07 04 01.8 -0.4
comp=Z,726nm,4.4s
Z28A Tucker Farm, M 73.28 334 ⇓P P 07 04 01.3 -0.7
baz=74
Y30A Stafford Cattl 73.30 336 ⇑P P 07 04 01.2 -0.9
baz=74,SNR=6.4
Y29A Porterfield Fa 73.55 335 ⇓P P 07 04 02.4 -1.2
baz=74,SNR=9.0
W34A Bridge Creek, 73.56 339 eP P 07 04 03.4 -0.2
comp=Z,306nm,1.2s
W34A Bridge Creek, 73.56 339 ⇑P P 07 04 02.9 -0.6
baz=74,SNR=8.2
Z27A Tatum 73.60 334 ⇑P P 07 04 02.7 -1.3
baz=74
TUL1 Tulsa 73.62 341 ⇑P P 07 04 02.5 -1.3
baz=74,SNR=8.2
X31A McDonald Ranch 73.68 337 ⇓P P 07 04 03.1 -1.2
baz=74,SNR=8.4
W33A Caddo, Fort Co 73.69 338 ⇑P P 07 04 03.4 -0.9
baz=74,SNR=12
Y28A McKinney Farm, 73.79 335 ⇓P P 07 04 04.1 -1.0
baz=74,SNR=6.5
SIUC Southern Illin 73.81 346 eP P 07 04 04.8 -0.1
comp=Z,153nm,0.9s
X30A Coker Ranch, T 73.81 336 ⇓P P 07 04 04.0 -1.1
baz=74
Z26A Caprock 73.85 333 ⇑P P 07 04 04.3 -1.1
baz=74,SNR=15
W32A Sentinel 73.90 338 ⇓P P 07 04 04.5 -1.0
baz=74,SNR=21
MSTX Muleshoe 74.03 334 ⇑P P 07 04 05.1 -1.4
baz=74,SNR=9.4
V34A Guthrie 74.04 339 eP P 07 04 05.9 -0.4
comp=Z,421nm,1.2s
V34A Guthrie 74.04 339 ⇓P P 07 04 05.2 -1.1
baz=74,SNR=14
X29A Tulia 74.09 335 ⇑P P 07 04 05.7 -1.1
baz=74
Y27A Causey 74.10 334 ⇑P P 07 04 05.7 -1.1
baz=74
Z25A Roswell 74.13 332 ⇓P P 07 04 06.3 -0.8
baz=74
W31A Holland Ranch, 74.18 337 ⇑P P 07 04 06.4 -0.8
baz=75,SNR=9.0
V33A Lossen Ranch, 74.25 339 ⇑P P 07 04 06.7 -0.9
baz=75,SNR=9.8
X28A Dimmitt 74.33 335 ⇑P P 07 04 07.3 -0.8
baz=75,SNR=6.3
319A Douglas 74.33 328 ⇓P P 07 04 07.1 -1.1
baz=75
Y26A Elida 74.37 333 ⇑P P 07 04 07.7 -0.8
baz=75,SNR=12
W30A Crocket Farms 74.38 337 ⇑P P 07 04 07.4 -1.0
baz=75,SNR=6.3
V32A Arapaho 74.39 338 ⇓P P 07 04 07.6 -0.8
baz=75,SNR=7.0
Z24A Sheeppen Canyo 74.42 332 ⇓P P 07 04 07.9 -1.0
baz=75,SNR=7.0
AMTX Amarillo 74.48 336 eP P 07 04 08.8 -0.2
comp=Z,518nm,1.2s
AMTX Amarillo 74.48 336 ⇓P P 07 04 08.5 -0.5
baz=75
U34A Anderson Ranch 74.60 339 eP P 07 04 09.0 -0.6
comp=Z,501nm,1.2s
U34A Anderson Ranch 74.60 339 ⇓P P 07 04 09.6 0.0
baz=75,SNR=12
W29A Amraillo 74.68 336 ⇑P P 07 04 09.4 -0.8
baz=75,SNR=17
V31A Spring Creek L 74.69 337 ⇑P P 07 04 09.6 -0.6
baz=75,SNR=8.9
121A Cookes Peak, D 74.69 330 ⇓P P 07 04 09.6 -0.8
baz=75,SNR=6.1
Y25A Mesa, Roswell 74.69 333 ⇓P P 07 04 09.6 -0.8
baz=75
X27A F and S Farms, 74.76 334 ⇑P P 07 04 10.0 -0.7
baz=75,SNR=7.1
U33A Lingo Farm, Me 74.77 339 ⇓P P 07 04 09.6 -1.0
baz=75,SNR=5.2
SUR Sutherland 74.88 119 P P 07 04 12.6 +0.8
comp=Z,1μm,0.9s,SNR=5.5
SUR Sutherland 74.88 119 eP P 07 04 12.5 +0.8
comp=Z,101nm,0.7s
X26A CR and CF Fran 74.93 334 ⇓P P 07 04 10.9 -0.8
baz=75,SNR=9.9
V30A Spur Ranch, Mi 74.95 337 ⇑P P 07 04 11.6 -0.1
baz=75,SNR=9.1
Y24A Capitan 74.98 332 ⇑P P 07 04 11.2 -0.9
baz=75,SNR=8.5
U32A Winter Ranch, 74.98 338 ⇑P P 07 04 11.2 -0.7
baz=75,SNR=7.5
Z22A Elephant Butte 74.99 331 ⇑P P 07 04 11.5 -0.6
baz=75
W28A Vega 75.00 335 ⇓P P 07 04 10.9 -1.2
baz=75
W27A Bowe Ranch, En 75.12 335 ⇓P P 07 04 11.8 -1.0
baz=76,SNR=11
X25A Clemmons Ranch 75.22 333 ⇑P P 07 04 12.5 -0.9
baz=76
Y23A Lovelace Mesa, 75.22 332 ⇓P P 07 04 12.8 -0.6
baz=76,SNR=5.2
U31A Nine Bar Ranch 75.24 338 ⇓P P 07 04 12.8 -0.6
baz=76,SNR=6.6
SSPA Standing Stone 75.26 356 eP P 07 04 13.0 -0.3
ACSO Alum Creek Sta 75.30 352 eP P 07 04 12.2 -1.3
comp=Z,678nm,1.2s
V29A Stinnett 75.33 336 ⇑P P 07 04 13.1 -0.8
baz=76
W26A Owens Ranch, T 75.39 334 ⇑P P 07 04 13.6 -0.7
baz=76,SNR=8.5
T33A Patterson Ranc 75.41 339 ⇑P P 07 04 13.5 -0.7
baz=76,SNR=16
V28A Channing 75.45 336 ⇑P P 07 04 14.0 -0.7
baz=76,SNR=10
LIC Lamto 75.53 72 eP P 07 04 14.6 -0.9
comp=Z,1μm,1.6s
X24A Lazy VL Ranch, 75.55 333 ⇑P P 07 04 14.7 -0.6
baz=76,SNR=20
U30A WK&E Inc. Balk 75.64 337 ⇓P P 07 04 15.6 -0.1
baz=76,SNR=7.8
V27A Dan Oppiter Fa 75.67 335 ⇓P P 07 04 14.7 -1.2
baz=76,SNR=7.9
T32A Huddler Ranch, 75.70 339 ⇑P P 07 04 15.3 -0.6
baz=76,SNR=11
W25A X Bar L Ranch, 75.76 334 ⇓P P 07 04 15.6 -0.9
baz=76,SNR=8.4
U29A Oasis Ranch, S 75.77 337 ⇑P P 07 04 15.4 -1.0
baz=76,SNR=5.1
TIC Toumodi 75.79 71 eP P 07 04 16.2 -0.8
comp=Z,752nm,1.4s
S33A Kaszmaul Farm, 75.81 339 ⇑P P 07 04 15.9 -0.6
baz=76,SNR=7.5
KIC Kosan Boka 75.83 72 eP P 07 04 16.6 -0.6
comp=Z,4μm,2.0s
X23A Hourglass Bar 75.85 332 ⇑P P 07 04 16.2 -0.9
baz=76
T31A Randall Ranch, 75.86 338 ⇑P P 07 04 15.9 -0.9
baz=76,SNR=7.5
DBIC Dimbokro 75.93 71 P P 07 04 16.8 -1.0
DBIC pmax pmax
comp=Z,129nm,0.8s
DBIC Dimbokro 75.93 71 P P 07 04 16.8 -1.0
comp=Z,97nm,0.7s,baz=209,slow=5.9,SNR=10
DBIC Dimbokro 75.93 71 eP P 07 04 16.8 -1.0
comp=Z,672nm,1.4s
SFIN Scholer Farm 76.02 349 ⇓P P 07 04 15.7 -1.9
baz=76
U28A Mallet 76.02 336 ⇑P P 07 04 16.7 -1.2
baz=76
V26A Tequesquite Ra 76.04 334 ⇓P P 07 04 16.4 -1.6
baz=76,SNR=7.0
T30A Plains 76.08 337 ⇑P P 07 04 16.6 -1.6
baz=76,SNR=5.3
W24A Lazy 6 Ranch, 76.11 333 ⇑P P 07 04 16.8 -1.7
baz=76
S32A Newby Ranch, P 76.19 339 ⇑P P 07 04 17.6 -1.1
baz=77,SNR=11
U27A Thompson Grove 76.26 335 ⇑P P 07 04 17.8 -1.5
baz=77
ANMO Albuquerque 76.27 332 ⇓iP P 07 04 20.2 +0.7
ANMO pmax pmax
comp=Z,612nm,1.1s
ANMO Albuquerque 76.27 332 eP P 07 04 20.4 +1.0
comp=Z,168nm,1.1s
S31A Mullinville 76.28 338 ⇓P P 07 04 18.2 -1.0
baz=77,SNR=6.8
W23A Werner Place, 76.34 332 ⇑P P 07 04 18.5 -1.4
baz=77,SNR=8.4
V25A Rancho No Teng 76.37 334 ⇑P P 07 04 18.7 -1.3
baz=77,SNR=8.3
214A Organ Pipe Nat 76.41 326 ⇓P P 07 04 18.8 -1.3
baz=77,SNR=5.1
T29A Hugoton 76.42 337 ⇓P P 07 04 19.8 -0.3
baz=77,SNR=14
R33A Olander Ranch, 76.47 340 ⇑P P 07 04 20.1 -0.2
baz=77,SNR=6.5
V24A Rampart Ranch, 76.51 333 ⇑P P 07 04 20.9 0.0
baz=77
U26A Atchley Ranch, 76.56 335 ⇓P P 07 04 20.6 -0.5
baz=77,SNR=6.0
S30A Montezuma 76.60 338 ⇓P P 07 04 20.6 -0.5
baz=77,SNR=14
T28A Walsh 76.66 336 ⇑P P 07 04 21.2 -0.3
baz=77,SNR=21
BINY Binghamton 76.73 357 eP P 07 04 21.7 +0.1
comp=Z,537nm,1.7s
S29A Ulysses 76.79 337 ⇓P P 07 04 21.9 -0.2
baz=77,SNR=16
R32A Long Quarter, 76.79 339 ⇓P P 07 04 22.0 -0.1
baz=77,SNR=17
U25A Circle Dot Ran 76.80 334 ⇓P P 07 04 21.9 -0.5
baz=77,SNR=8.0
T27A Campo 76.81 336 ⇑P P 07 04 22.0 -0.3
baz=77,SNR=14
KSU1 Kansas State U 76.84 341 eP P 07 04 22.3 0.0
comp=Z,254nm,1.3s
KSU1 Kansas State U 76.84 341 ⇑P P 07 04 21.9 -0.4
baz=77,SNR=7.1
V23A Ortiz Mt. (NFS 76.87 333 ⇑P P 07 04 22.4 -0.5
baz=77
ERPA Erie 76.88 354 eP P 07 04 21.8 -0.7
comp=Z,273nm,1.1s
R31A Burdett 76.91 339 ⇑P P 07 04 22.7 0.0
baz=77,SNR=11
HRV Adam Dziewonsk 76.98 1 eP P 07 04 24.0 +1.0
HRV pmax pmax
comp=Z,269nm,1.1s
HRV Adam Dziewonsk 76.98 1 eP P 07 04 24.0 +1.0
comp=Z,269nm,1.1s
S28A Manter 77.01 337 ⇑P P 07 04 23.8 +0.3
baz=77,SNR=18
Q33A Connelly Farm, 77.07 340 ⇑P P 07 04 24.2 +0.5
baz=78,SNR=7.9
U24A Moreno Valley 77.12 334 ⇓P P 07 04 24.5 +0.1
baz=78,SNR=5.2
R30A Dighton 77.13 338 ⇓P P 07 04 24.1 +0.1
baz=78,SNR=7.4
T26A Comanche Natio 77.21 335 ⇑P P 07 04 24.6 -0.1
baz=78,SNR=10.0
Q32A Meitler Ranch, 77.27 340 ⇑P P 07 04 25.4 +0.6
baz=78,SNR=10
WIN Windhoek 77.28 109 eP P 07 04 25.3 -0.4
WIN AMB AMB 07 04 50.9
comp=Z,298nm,38.0s
WIN Windhoek 77.28 109 P P 07 04 25.3 -0.4
WIN Windhoek 77.28 109 P P 07 04 25.3 -0.4
V22A San Miguel Ran 77.30 332 ⇑P P 07 04 25.7 +0.4
baz=78,SNR=8.8
X18A Snowflake 77.32 329 ⇓P P 07 04 25.8 +0.4
baz=78,SNR=5.6
UPI Upington 77.33 116 eP P 07 04 24.9 -0.8
UPI AMB AMB 07 04 35.2
comp=Z,709nm,7.5s
UPI Upington 77.33 116 P P 07 04 24.9 -0.8
comp=Z,709nm,7.5s
U23A El Rito 77.39 333 ⇓P P 07 04 26.2 +0.5
baz=78,SNR=7.2
AAM Ann Arbor 77.43 352 eP P 07 04 24.6 -0.9
AAM pmax pmax
comp=Z,536nm,1.5s
AAM Ann Arbor 77.43 352 eP P 07 04 24.6 -0.9
comp=Z,536nm,1.5s
S27A Las Animas 77.43 336 ⇓P P 07 04 25.9 +0.1
baz=78
P33A Williams Farm, 77.44 340 ⇑P P 07 04 26.1 +0.4
baz=78,SNR=6.6
T25A Trinidad 77.46 334 ⇑P P 07 04 26.2 0.0
baz=78,SNR=16
R29A Marienthal 77.53 337 ⇓P P 07 04 26.3 0.0
baz=78,SNR=11
Q31A Ellis 77.53 339 ⇓P P 07 04 26.1 -0.2
baz=78,SNR=14
113A Mohawk Valley, 77.53 325 ⇑P P 07 04 26.5 +0.1
baz=78
S26A Kim 77.57 335 ⇑P P 07 04 26.8 +0.1
baz=78,SNR=15
Z14A Wintersburg 77.65 326 ⇑P P 07 04 26.5 -0.5
baz=78
R28A Tribune 77.67 337 ⇑P P 07 04 27.0 -0.2
baz=78,SNR=15
U22A Llaves 77.69 332 ⇑P P 07 04 28.1 +0.7
baz=78,SNR=6.8
W18A Petrified Fore 77.74 330 ⇑P P 07 04 27.8 +0.1
baz=78,SNR=5.8
T24B San Luis 77.74 334 ⇓P P 07 04 28.0 +0.1
baz=78,SNR=6.6
Q30A Quinter 77.75 338 ⇑P P 07 04 27.4 -0.1
baz=78,SNR=9.2
X16A Lo Mia Camp, P 77.87 328 ⇑P P 07 04 28.1 -0.4
baz=78,SNR=8.7
P32A Huiting Farm, 77.87 340 ⇑P P 07 04 27.8 -0.4
baz=78,SNR=8.6
Q29A Oakley 77.91 338 ⇓P P 07 04 27.7 -0.7
baz=78,SNR=5.5
S25A Robets Cordova 77.94 335 ⇓P P 07 04 28.6 -0.2
baz=78,SNR=10.0
R27A Eads 77.94 336 ⇓P P 07 04 28.1 -0.6
baz=78,SNR=17
T23A Casias Ranch, 77.96 333 ⇑P P 07 04 28.5 -0.5
baz=78,SNR=7.4
P31A Stockton 78.00 339 ⇑P P 07 04 28.6 -0.3
baz=78,SNR=7.8
Y14A Wickenburg 78.16 327 ⇓P P 07 04 30.2 +0.3
baz=78
R26A Arlington 78.17 336 ⇑P P 07 04 30.0 0.0
baz=78,SNR=13
S24A Houchin Ranch, 78.19 334 ⇓P P 07 04 30.7 +0.4
baz=79,SNR=9.5
GLA Glamis 78.27 325 ⇓P P 07 04 31.1 +0.6
baz=79,SNR=5.9
P30A Selden 78.28 339 ⇑P P 07 04 30.9 +0.5
baz=79

R25A Fountain Ranch 78.32 335 ⇑P P 07 04 31.2 +0.4
baz=79
Q28A Sharon Springs 78.33 337 ⇑P P 07 04 31.4 +0.6
baz=79,SNR=11
O32A Brockman Farm, 78.37 340 ⇓P P 07 04 31.2 +0.3
baz=79,SNR=8.0
SDCO Great Sand Dun 78.39 334 eP P 07 04 32.6 +1.2
comp=Z,43nm,0.9s
GRM Grahamstown 78.40 122 eP P 07 04 30.7 -0.8
GRM AMB AMB 07 05 23.8
comp=Z,1μm,15.5s
GRM Grahamstown 78.40 122 P P 07 04 30.7 -0.8
GRM Grahamstown 78.40 122 P P 07 04 30.7 -0.8
NCB Newcomb 78.45 359 eP P 07 04 31.0 -0.2
comp=Z,116nm,1.0s
S23A Nye Farm, Mont 78.54 334 ⇓P P 07 04 32.6 +0.4
baz=79,SNR=5.6
KSCO Kaye Shedlock' 78.54 337 ⇓P P 07 04 32.2 +0.2
baz=79,SNR=10
P29A Atwood 78.54 338 ⇓P P 07 04 31.8 -0.1
baz=79,SNR=10
O31A Woolen Ranch, 78.57 339 ⇑P P 07 04 32.8 +0.8
baz=79,SNR=10.0
SWSC Sam W. Stewart 78.64 324 ⇑P P 07 04 32.9 +0.5
baz=79
SCIA State Center 78.67 344 eP P 07 04 32.7 +0.3
comp=Z,374nm,1.2s
R24A Sanders Place, 78.68 334 ⇓P P 07 04 33.4 +0.5
baz=79,SNR=15
LBNH Lisbon 78.71 1 eP P 07 04 33.5 +0.9
LBNH pmax pmax
comp=Z,360nm,1.2s
LBNH Lisbon 78.71 1 eP P 07 04 33.5 +0.9
comp=Z,360nm,1.2s
Q26A Hugo 78.76 336 ⇑P P 07 04 34.1 +0.9
baz=79,SNR=11
P28A Saint Francis 78.77 337 ⇑P P 07 04 33.9 +0.7
baz=79,SNR=9.5
WUAZ Wupatki 78.77 329 eP P 07 04 35.2 +1.9
comp=Z,317nm,1.6s
WUAZ Wupatki 78.77 329 ⇓P P 07 04 33.9 +0.6
baz=79,SNR=6.8
O30A MW Ranch, Wils 78.81 339 ⇑P P 07 04 33.9 +0.6
baz=79,SNR=9.2
N32A Stulken Farm, 78.85 340 ⇑P P 07 04 34.2 +0.7
baz=79,SNR=7.9
S22A 4UR Ranch, Cre 78.88 333 ⇑P P 07 04 34.5 +0.4
baz=79,SNR=6.0
MONP Monument Peak 78.90 324 ⇓P P 07 04 34.2 0.0
baz=79
R23A Moffat 78.91 334 ⇓P P 07 04 34.4 +0.2
baz=79,SNR=7.9
PDMCI Parker Dam,Lak 78.98 326 ⇑P P 07 04 34.3 0.0
baz=79
O29A 4D Ranch, Culb 78.98 338 ⇓P P 07 04 34.2 -0.1
baz=79,SNR=6.8
Q25A Bedland, Calha 79.00 335 ⇑P P 07 04 34.4 -0.2
baz=79,SNR=6.9
P27A Ficken Ranch, 79.02 337 ⇑P P 07 04 35.1 +0.5
baz=79
JFWS Jewell Farm 79.03 347 eP P 07 04 34.2 -0.2
JFWS pmax pmax
comp=Z,547nm,1.4s
JFWS Jewell Farm 79.03 347 eP P 07 04 34.2 -0.2
comp=Z,547nm,1.4s
MVCO Mesa Verde 79.05 332 ⇓P P 07 04 35.0 0.0
baz=79,SNR=7.1
BC3 Big Chuckawall 79.06 325 ⇓P P 07 04 35.1 +0.2
baz=79
N31A Bailey Ranch, 79.09 340 ⇑P P 07 04 35.0 +0.2
baz=80,SNR=5.7
LONY Lake Ozonia 79.10 359 eP P 07 04 34.8 +0.1
comp=Z,243nm,1.1s
CASY Casey 79.17 181 eP P 07 04 35.7 +0.6
comp=Z,154nm,1.2s
HVD Gariep Dam 79.20 120 eP P 07 04 35.6 -0.5
HVD AMB AMB 07 04 47.5
comp=Z,821nm,15.3s
HVD Gariep Dam 79.20 120 P P 07 04 35.6 -0.5
HVD Gariep Dam 79.20 120 P P 07 04 35.6 -0.5
P26A Davis Ranch, A 79.27 336 ⇑P P 07 04 35.8 -0.2
baz=80,SNR=7.2
O28A Krutsinger Ran 79.28 338 ⇓P P 07 04 36.0 0.0
baz=80,SNR=10
IRM Iron Mountain 79.33 325 ⇑P P 07 04 36.7 +0.4
baz=80
Q24A Divide 79.35 335 ⇑P P 07 04 36.6 -0.1
baz=80,SNR=9.5
N30A Hueftle Ranch, 79.39 339 ⇓P P 07 04 37.0 +0.5
baz=80
BGNE Belgrade 79.41 341 ⇑P P 07 04 36.9 +0.4
baz=80,SNR=5.5
TSUM Tsumeb 79.48 106 P P 07 04 37.3 -0.5
comp=Z,40nm,0.7s,baz=230,slow=10,SNR=3.1
TSUM Tsumeb 79.48 106 eP P 07 04 38.0 +0.2
comp=Z,252nm,1.1s
PFO Pinyon Flat Ob 79.50 324 ⇑P P 07 04 37.5 +0.1
baz=80,SNR=5.9
P25A Willow Gulch B 79.50 336 ⇓P P 07 04 37.2 -0.2
baz=80,SNR=13
W13A Hualapai Mount 79.53 327 ⇑P P 07 04 37.4 -0.1
baz=80
O27A Beecher Island 79.56 337 ⇓P P 07 04 37.4 -0.2
baz=80,SNR=11
N29A Votaw Ranch, W 79.57 339 ⇓P P 07 04 37.1 -0.3
baz=80,SNR=7.3
M31A Lambtecht Ranc 79.58 340 ⇑P P 07 04 37.3 -0.1
baz=80,SNR=7.4
NEE2 Needles Airpor 79.59 326 ⇑P P 07 04 37.5 -0.1
baz=80
BELC Belle Mtn. Jos 79.60 325 ⇓P P 07 04 37.7 -0.2
baz=80
N28A Pribbeno Ranch 79.72 338 ⇑P P 07 04 37.9 -0.5
baz=80,SNR=7.1
P24A Kohler Place, 79.76 335 ⇓P P 07 04 38.4 -0.3
baz=80,SNR=5.9
MURC Murrieta 79.86 324 ⇓P P 07 04 39.4 +0.2
baz=80
O26A Horse Wrangler 79.88 337 ⇑P P 07 04 39.2 -0.1
baz=80,SNR=7.0
PV01 Paradox Valley 79.88 332 eP P 07 04 40.2 +0.8
comp=Z,14μm,1.2s
U15A North Rim 79.94 329 ⇓P P 07 04 40.1 +0.2
baz=80
P23A Jefferson 79.96 334 ⇑P P 07 04 40.1 +0.1
baz=80
M30A Dale-Ortello V 80.01 340 ⇓P P 07 04 40.4 +0.6
baz=80,SNR=8.7
SCI San Clemente I 80.03 322 ⇑P P 07 04 40.3 +0.3
baz=80
O25A Wiggins 80.03 336 ⇑P P 07 04 40.1 0.0
baz=80,SNR=10
GMRC Granite Mounta 80.08 325 ⇑P P 07 04 40.8 +0.3
baz=80
OGNE Ogallala 80.11 338 eP P 07 04 41.9 +1.4
comp=Z,536nm,1.9s
OGNE Ogallala 80.11 338 ⇓P P 07 04 41.2 +0.8
baz=80
BOSA Boshof 80.14 118 eP P 07 04 39.6 -1.6
BOSA AMB AMB 07 04 49.5
comp=Z,539nm,1.2s
BOSA Boshof 80.14 118 P P 07 04 40.0 -1.2
BOSA pmax pmax
comp=Z,235nm,0.9s
BOSA Boshof 80.14 118 P P 07 04 40.0 -1.2
comp=Z,235nm,0.9s,baz=246,slow=4.0,SNR=14
BOSA Boshof 80.14 118 eP P 07 04 40.0 -1.2
comp=Z,614nm,1.2s
N27A Anderson Farm, 80.14 337 ⇓P P 07 04 40.9 +0.2
baz=80,SNR=9.9
M29A Burnside Ranch 80.16 339 ⇑P P 07 04 40.7 0.0
baz=80,SNR=5.5
PV04 Paradox Valley 80.24 332 eP P 07 04 42.2 +0.9
BBRC Big Bear Solar 80.26 324 ⇓P P 07 04 41.7 +0.1
baz=81
ISCO Idaho Springs 80.26 335 eP P 07 04 41.9 +0.3
ISCO pmax pmax
comp=Z,208nm,1.4s
ISCO Idaho Springs 80.26 335 eP P 07 04 41.9 +0.3
comp=Z,208nm,1.4s
ISCO Idaho Springs 80.26 335 ⇑P P 07 04 41.6 0.0
baz=81,SNR=6.4
PV10 Paradox Valley 80.27 332 eP P 07 04 42.2 +0.6
comp=Z,2μm,0.9s
CIS Catalina Islan 80.30 323 ⇓P P 07 04 41.9 +0.4
baz=81
L31A Butterfield Fa 80.31 341 ⇓P P 07 04 42.4 +1.0
baz=81,SNR=11
M28A Bar X Bar Ranc 80.32 338 ⇑P P 07 04 41.7 +0.2
baz=81
L30A Spencer Herefo 80.34 340 ⇓P P 07 04 42.3 +0.7
baz=81,SNR=7.7
O24A Longmont 80.36 335 ⇑P P 07 04 42.5 +0.6
baz=81
N26A Koester Ranch, 80.38 337 ⇓P P 07 04 42.5 +0.6
baz=81,SNR=8.7
HEC Hector,Ludlow 80.44 325 ⇑P P 07 04 42.7 +0.3
baz=81
P22A Eagle 80.48 334 ⇑P P 07 04 43.5 +0.8
baz=81,SNR=5.5
BFSC Mount Baldy Ra 80.60 324 ⇓P P 07 04 43.2 -0.1
baz=81
N25A Grover 80.65 336 ⇓P P 07 04 43.8 +0.4
baz=81
L29A Maesberg Ranch 80.67 339 ⇑P P 07 04 43.8 +0.4
baz=81,SNR=9.6
O23A Lake Granby, G 80.73 335 ⇓P P 07 04 44.4 +0.3
baz=81,SNR=8.1
TUQ Turquoise Moun 80.74 325 ⇑P P 07 04 44.4 +0.4
baz=81
M27A Reverse DX Ran 80.75 338 ⇑P P 07 04 44.2 +0.3
baz=81,SNR=7.7
MWC Mount Wilson 80.78 323 eP P 07 04 45.2 +0.9
MWC pmax pmax
comp=Z,142nm,1.3s
MWC Mount Wilson 80.78 323 eP P 07 04 45.2 +0.9
comp=Z,142nm,1.3s
RRX Edison Barstow 80.80 324 ⇑P P 07 04 44.9 +0.7
baz=81
O22A Kremmling 80.91 334 ⇓P P 07 04 45.7 +0.6
baz=81,SNR=7.3
N24A Carr 80.92 336 ⇑P P 07 04 45.8 +0.8
baz=81,SNR=5.2
M26A McRoberts Ranc 80.93 337 ⇓P P 07 04 45.5 +0.6
baz=81
DECC Green Verdugo 80.94 323 ⇓P P 07 04 45.6 +0.6
baz=81
K30A Basset 80.99 340 ⇑P P 07 04 45.6 +0.6
baz=81,SNR=9.8
SWZ Schweizer 81.00 117 eP P 07 04 44.4 -1.5
SWZ AMB AMB 07 08 04.7
comp=Z,2μm,35.2s
SWZ Schweizer 81.00 117 P P 07 04 44.4 -1.5
GSC Goldstone 81.05 325 ⇓P P 07 04 46.2 +0.6
baz=81
ECSD EROS Data Cent 81.19 343 eP P 07 04 45.5 -0.6
comp=Z,560nm,1.2s
ECSD EROS Data Cent 81.19 343 ⇑P P 07 04 46.0 -0.1
baz=82,SNR=12
M25A Palm-Egli Farm 81.20 337 ⇓P P 07 04 47.0 +0.6
baz=82,SNR=7.0
L27A T5 Ranch, Ells 81.23 338 ⇓P P 07 04 46.8 +0.3
baz=82,SNR=6.4
K29A Lazy Trails An 81.26 340 ⇑P P 07 04 47.0 +0.4
baz=82,SNR=8.9
EDW2 Edwards Air Fo 81.27 324 ⇓P P 07 04 47.0 +0.2
baz=82
SHOC Shoshone 81.29 325 ⇓P P 07 04 47.5 +0.7
baz=82
N23A Red Feather La 81.35 335 ⇓P P 07 04 47.5 +0.2
baz=82
OSI Osito Adit 81.42 323 ⇑P P 07 04 47.9 +0.3
baz=82
L26A Underwood Farm 81.43 338 ⇓P P 07 04 48.4 +0.9
baz=82
N22A Wattenberg Ran 81.44 335 ⇑P P 07 04 48.1 +0.3
baz=82,SNR=5.6
M24A Cheyenne 81.48 336 ⇑P P 07 04 48.3 +0.4
baz=82,SNR=6.6
O20A White River Ci 81.50 333 ⇓P P 07 04 48.1 0.0
baz=82
K28A Ten Mile Ranch 81.52 339 ⇑P P 07 04 48.3 +0.4
baz=82,SNR=9.4
J30A Dallas 81.56 341 ⇑P P 07 04 48.4 +0.4
baz=82
LRMC Laurel Mountai 81.61 324 ⇓P P 07 04 48.9 +0.3
baz=82
SPMN St. Paul 81.75 346 ⇓P P 07 04 48.9 -0.1
baz=82,SNR=6.8
K27A Flueckinger Fa 81.78 338 ⇓P P 07 04 50.0 +0.7
baz=82,SNR=6.8
M23A Laramie 81.78 336 ⇓P P 07 04 49.9 +0.4
baz=82,SNR=7.4
L25A Engebretsen Ra 81.82 337 ⇓P P 07 04 50.0 +0.4
baz=82,SNR=6.4
J29A Okreek 81.86 340 ⇓P P 07 04 49.6 0.0
baz=82,SNR=12
SEK Senekal 82.02 119 eP P 07 04 50.4 -0.9
SEK AMB AMB 07 07 27.6
comp=Z,1μm,32.4s
SEK Senekal 82.02 119 P P 07 04 50.4 -0.9
FURC Furnace Creek, 82.02 325 ⇓P P 07 04 51.1 +0.5
baz=82
M22A Cedar Creek Ra 82.03 335 ⇓P P 07 04 51.5 +0.6
baz=82
L24A Wheatland 82.03 336 ⇑P P 07 04 51.1 +0.4
baz=82
K26A Motz Farm, Whi 82.06 338 ⇓P P 07 04 51.2 +0.4
baz=82
I30A Oacoma 82.08 341 ⇓P P 07 04 50.7 -0.1
baz=82,SNR=7.0
N20A Spence Gulch, 82.12 334 ⇓P P 07 04 50.8 -0.5
baz=82
J28A Allard Ranch, 82.14 339 ⇓P P 07 04 51.3 +0.2
baz=82,SNR=7.1
ISA Isabella 82.14 324 eP P 07 04 51.3 -0.1
ISA pmax pmax
comp=Z,308nm,1.7s
ISA Isabella 82.14 324 eP P 07 04 51.3 -0.1
comp=Z,308nm,1.7s
ISA Isabella 82.14 324 ⇓P P 07 04 51.9 +0.6
baz=82
K25A Mack Ranch, Ha 82.20 337 ⇑P P 07 04 52.3 +0.7
baz=83
J27A Elkhorn Farm, 82.21 339 ⇓P P 07 04 51.8 +0.2
baz=83,SNR=8.0
BFSD Buffelsfontein 82.24 117 eP P 07 04 51.6 -0.8
BFSD AMB AMB 07 04 53.8
comp=Z,721nm,15.3s
BFSD Buffelsfontein 82.24 117 P P 07 04 51.6 -0.8
L23A Garrett 82.35 336 ⇑P P 07 04 52.6 0.0
baz=83
LBTB Lobatse 82.42 115 eP P 07 04 52.6 -0.7
LBTB AMB AMB 07 08 06.3
comp=Z,772nm,14.4s
LBTB Lobatse 82.42 115 eP P 07 04 52.8 -0.5
LBTB pmax pmax
comp=Z,373nm,1.0s
LBTB Lobatse 82.42 115 eP P 07 04 52.8 -0.5
comp=Z,373nm,1.0s
I29A Vivian Onida 82.42 340 ⇓P P 07 04 52.6 0.0
baz=83,SNR=5.2
BRSD Miller 82.45 341 eP P 07 04 53.3 +0.7
comp=Z,2μm,1.1s
VES Vestal, Richgr 82.58 324 ⇑P P 07 04 54.4 +0.9
baz=83
J26A Sides Ranch, S 82.58 338 ⇑P P 07 04 54.4 +0.9
baz=83
K24A Anderson Ranch 82.60 337 ⇑P P 07 04 54.2 +0.5
baz=83,SNR=5.9
SMMC Simmler 82.61 323 ⇑P P 07 04 54.3 +0.6
baz=83
I28A Midland 82.65 340 ⇑P P 07 04 53.7 0.0
baz=83,SNR=8.6
GRAC Grapevine Rang 82.69 325 ⇑P P 07 04 54.7 +0.5
baz=83
URZ Urewera 82.72 228 ePN P 07 04 57.4 +2.9
WHZ Wether Hill Ro 82.81 218 eP P 07 04 53.7 -1.2
comp=Z,338nm,1.6s
J25A Sunshine Ranch 82.88 338 ⇓P P 07 04 55.6 +0.5
baz=83
K23A Bowen Ranch, D 82.90 336 ⇓P P 07 04 56.0 +0.7
baz=83,SNR=6.1
THZ Tophouse 82.95 223 PN P 07 04 54.3 -1.4
H29A Onida 82.96 341 ⇑P P 07 04 54.8 -0.5
baz=83,SNR=9.2
WDLM Western Deep L 82.96 117 eP P 07 04 55.6 -0.6
WDLM AMB AMB 07 05 01.1
comp=Z,493nm,9.8s
I27A Quinn 82.97 339 ⇑P P 07 04 55.1 -0.3
baz=83,SNR=5.6
R11A Troy Canyon, C 82.98 327 ⇓P P 07 04 56.1 +0.3
baz=83
RCTC Rector, Farmer 83.03 324 ⇓P P 07 04 55.8 -0.1
baz=83
J24A Dixon Ranch, L 83.10 337 ⇑P P 07 04 56.5 +0.3
baz=84
K22A Casper 83.11 336 ⇓P P 07 04 56.3 -0.1
baz=84,SNR=6.1
G30A Faulkton 83.14 341 ⇓P P 07 04 55.9 -0.4
baz=84,SNR=6.9
TIN Tinemaha 83.14 325 ⇑P P 07 04 57.1 +0.5
baz=84
H28A Mission Ridge 83.22 340 ⇑P P 07 04 56.2 -0.5
baz=84,SNR=6.3
DUG Dugway 83.34 330 eP P 07 04 58.0 +0.4
DUG pmax pmax
comp=Z,303nm,1.3s
DUG Dugway 83.34 330 eP P 07 04 58.0 +0.4
comp=Z,303nm,1.3s
DUG Dugway 83.34 330 ⇑P P 07 04 57.7 +0.1
baz=84
K21A Alcova 83.34 335 ⇑P P 07 04 57.1 -0.5
baz=84,SNR=6.7
G29A Hoven 83.40 341 ⇑P P 07 04 57.5 -0.1
baz=84,SNR=12
I25A Rochford 83.43 338 ⇓P P 07 04 58.1 +0.1
baz=84
J23A Dilts Ranch, B 83.45 337 ⇑P P 07 04 58.6 +0.5
baz=84
H27A Howes 83.49 339 ⇑P P 07 04 58.7 +0.6
baz=84
TPH Tonopah 83.49 326 eP P 07 04 59.3 +0.8
TPH pmax pmax
comp=Z,136nm,1.2s
TPH Tonopah 83.49 326 eP P 07 04 59.3 +0.8
comp=Z,136nm,1.2s
CRWM Crown Mines 83.50 117 eP P 07 04 58.4 -0.7
CRWM AMB AMB 07 06 03.4
comp=Z,690nm,8.0s
I24A Kuemmerle Ranc 83.56 337 ⇓P P 07 04 59.2 +0.6
baz=84
G28A Parade 83.56 340 ⇑P P 07 04 58.4 -0.1
baz=84,SNR=6.1
OBSV Observatory 83.57 117 eP P 07 04 58.4 -1.1
OBSV AMB AMB 07 05 24.5
comp=Z,456nm,13.4s
DSZ Denniston Nort 83.58 223 PN P 07 04 57.2 -1.8
ERPM east rand prop 83.61 118 eP P 07 04 59.6 +0.1
ERPM AMB AMB 07 05 47.7
comp=Z,764nm,14.7s
ERPM east rand prop 83.61 118 P P 07 04 59.6 +0.1
RSSD Black Hills 83.61 338 eP P 07 04 59.7 +0.7
RSSD pmax pmax
comp=Z,95nm,1.0s
RSSD Black Hills 83.61 338 eP P 07 04 59.6 +0.7
comp=Z,95nm,1.0s
JCZ Jackson Bay 83.65 220 ePN P 07 04 58.7 -0.7
H26A Fairpoint 83.68 339 ⇑P P 07 05 00.0 +0.9
baz=84
F30A Leola 83.76 342 ⇓P P 07 04 59.3 -0.1
baz=84,SNR=7.5
QRZ Quartz Range 83.78 224 ePN P 07 04 57.3 -2.6
MLAC Mammoth Lakes 83.89 325 ⇑P P 07 05 01.1 +0.5
baz=84
I23A Meade Ranch, G 83.92 337 ⇓P P 07 04 59.6 -0.8
baz=84
H25A Fruitdale 83.93 338 ⇑P P 07 05 00.7 +0.3
baz=84
F29A Eureka 83.97 341 ⇓P P 07 05 00.5 0.0
baz=84,SNR=12
SLR Silverton 83.99 117 eP P 07 04 58.1 -3.3
SLR AMB AMB 07 08 10.5
comp=Z,1μm,11.7s
SLR Silverton 83.99 117 P P 07 04 58.2 -3.3
SLR Silverton 83.99 117 P P 07 04 58.1 -3.3
J21A Lysite 84.04 335 ⇓P P 07 05 01.6 +0.4
baz=84
HWUT Hardware Ranch 84.04 332 eP P 07 05 01.6 +0.4
comp=Z,288nm,1.2s
EYMN Ely 84.12 347 eP P 07 05 00.4 -0.8
comp=Z,174nm,1.1s
G27A Dupree 84.13 340 ⇑P P 07 05 01.6 +0.2
baz=84
I22A 9 Mile Ranch, 84.19 336 ⇑P P 07 05 02.0 +0.1
baz=85
G26A Maurine 84.24 339 ⇑P P 07 05 02.4 +0.4
baz=85
F28A McLaughlin 84.24 341 ⇑P P 07 05 02.4 +0.4
baz=85,SNR=7.9
J20A Shoshoni 84.26 335 ⇑P P 07 05 02.2 -0.1
baz=85,SNR=5.9
BW06 Boulder Array 84.28 334 eP P 07 05 02.7 +0.3
comp=Z,205nm,1.4s
PDAR Pinedale Array 84.28 334 P P 07 04 59.5 -2.9
comp=Z,52nm,1.0s,baz=122,slow=4.4,SNR=6.6
NVAR Mina Array Bea 84.28 326 P P 07 05 00.5 -2.0
comp=Z,35nm,0.8s,baz=146,slow=6.6,SNR=5.1
E30A Jud 84.35 342 ⇓P P 07 05 01.9 -0.5
baz=85,SNR=6.0
G25A Newell 84.39 339 ⇓P P 07 05 02.5 -0.2
baz=85
I21A Big Trails, Te 84.39 336 ⇓P P 07 05 02.5 -0.4
baz=85
H23A Clabaugh Cattl 84.44 337 ⇑P P 07 05 02.7 -0.3
baz=85
SAO San Andreas Ge 84.47 323 eP P 07 05 04.2 +0.9
SAO pmax pmax
comp=Z,774nm,2.3s
SAO San Andreas Ge 84.47 323 eP P 07 05 04.2 +0.9
comp=Z,774nm,2.3s
J19A Crowheart 84.53 334 ⇑P P 07 05 03.5 -0.1
baz=85,SNR=5.5
E29A Napoleon 84.60 342 ⇓P P 07 05 02.7 -1.0
baz=85
F27A Lemmon 84.61 340 ⇓P P 07 05 03.3 -0.5
baz=85,SNR=5.6
F26A Lodgepole 84.77 339 ⇓P P 07 05 04.6 -0.1
baz=85
H22A Clearmont 84.77 337 ⇑P P 07 05 04.7 -0.1
baz=85
I20A Worland 84.80 335 ⇓P P 07 05 04.5 -0.4
baz=85,SNR=6.9
G24A Alzada 84.82 338 ⇓P P 07 05 05.0 +0.1
baz=85
AHID Auburn Hatcher 84.85 333 eP P 07 05 05.9 +0.6
comp=Z,511nm,1.6s
D30A Buchanan 84.88 342 ⇑P P 07 05 04.9 -0.1
baz=85,SNR=7.8
E28A Huff 84.88 341 ⇑P P 07 05 05.0 -0.2
baz=85,SNR=5.3
CMB Columbia Colle 84.95 324 eP P 07 05 06.3 +0.6
CMB pmax pmax
comp=Z,67nm,1.1s
CMB Columbia Colle 84.95 324 eP P 07 05 06.3 +0.6
comp=Z,67nm,1.1s
TORD Torodi Ar. Bea 84.98 70 P P 07 05 05.8 -0.5
comp=Z,101nm,0.8s,baz=208,slow=4.3,SNR=12
E27A Carson 84.99 340 ⇑P P 07 05 05.5 -0.2
baz=85
G23A Biddle 85.01 337 ⇑P P 07 05 05.7 -0.2
baz=85
H21A Big Horn, Sher 85.03 336 ⇓P P 07 05 05.7 -0.4
baz=85
D29A Pettibone, Tap 85.05 342 ⇑P P 07 05 05.9 0.0
baz=85
F25A Bowman 85.07 339 ⇑P P 07 05 06.3 +0.2
baz=86
I19A Meeteetse 85.18 335 ⇑P P 07 05 06.8 -0.1
baz=86
H20A Greybull 85.23 335 ⇓P P 07 05 06.3 -0.8
baz=86,SNR=7.7
E26A Carlson Angus 85.28 340 ⇓P P 07 05 06.6 -0.6
baz=86
F24A Ekalaka 85.29 338 ⇑P P 07 05 07.1 -0.2
baz=86,SNR=5.3
AGMN Agassiz Nation 85.32 345 eP P 07 05 06.0 -1.2
comp=Z,166nm,1.2s
AGMN Agassiz Nation 85.32 345 ⇓P P 07 05 06.7 -0.5
baz=86
C30A Mose, Pekin 85.36 343 ⇑P P 07 05 07.2 -0.3
baz=86,SNR=7.1
BMN Battle Mountai 85.41 327 eP P 07 05 08.9 +0.8
BMN pmax pmax
comp=Z,99nm,1.4s
BMN Battle Mountai 85.41 327 eP P 07 05 08.9 +0.8
comp=Z,99nm,1.4s
D28A Regan 85.42 341 ⇑P P 07 05 07.8 0.0
baz=86
F23A Volborg 85.48 338 ⇑P P 07 05 07.8 -0.4
baz=86,SNR=5.1
E25A Miller Ranch, 85.57 339 ⇓P P 07 05 08.7 0.0
baz=86
D27A Center 85.60 341 ⇓P P 07 05 08.3 -0.4

baz=86
G21A Lodge Grass 85.61 336 ⇓P P 07 05 08.2 -0.8
baz=86,SNR=5.4
I17A Pilgrim Ck. 85.65 334 ⇑P P 07 05 08.4 -0.9
baz=86
H19A Powell 85.73 335 ⇑P P 07 05 08.8 -0.8
baz=86
D26A Manning 85.78 340 ⇑P P 07 05 09.1 -0.5
baz=86,SNR=7.8
F22A Rosebud 85.80 337 ⇓P P 07 05 09.2 -0.6
baz=86,SNR=6.1
C28A Hausauer Farms 85.86 342 ⇑P P 07 05 09.6 -0.4
baz=86
E24A Baker 85.89 339 ⇑P P 07 05 09.7 -0.5
baz=86,SNR=6.5
G20A Bridger 85.95 336 ⇓P P 07 05 09.1 -1.5
baz=86,SNR=5.3
H18A Shoshone NF, C 85.97 335 ⇑P P 07 05 09.8 -1.1
baz=86,SNR=5.8
B30A Myrvik Farm, E 86.03 343 ⇓P P 07 05 09.9 -0.9
baz=86,SNR=6.7
F21A Absaloka Mine, 86.12 337 ⇑P P 07 05 11.1 -0.3
baz=86
D25A Fairfield 86.14 340 ⇓P P 07 05 11.0 -0.4
baz=86,SNR=8.4
E23A Ismay 86.14 338 ⇑P P 07 05 11.7 +0.3
baz=86
C27A Sayler Ranch, 86.15 341 ⇓P P 07 05 11.7 +0.3
baz=86,SNR=7.7
RLMT Red Lodge 86.22 335 eP P 07 05 11.5 -0.6
comp=Z,264nm,1.4s
B29A Wagenman Farm, 86.29 343 ⇓P P 07 05 11.8 -0.3
baz=87,SNR=6.1
D24A Glendive 86.40 339 ⇓P P 07 05 12.3 -0.4
baz=87,SNR=5.6
C26A Wahner Farm, P 86.41 341 ⇑P P 07 05 13.0 +0.3
baz=87
F20A Billings 86.44 336 ⇓P P 07 05 12.7 -0.2
baz=87
YMR Madison River 86.44 334 eP P 07 05 12.4 -0.8
comp=Z,394nm,1.2s
A30A Hoffart Farm, 86.48 343 ⇓P P 07 05 13.0 0.0
baz=87
B28A Dugan Ranch, T 86.53 342 ⇓P P 07 05 12.8 -0.4
baz=87,SNR=6.7
LAO LASA Array 86.60 338 eP P 07 05 13.2 -0.5
comp=Z,318nm,1.3s
C25A Freed Ranch, W 86.63 340 ⇓P P 07 05 14.1 +0.3
baz=87
A29A Manning Farm, 86.69 343 ⇑P P 07 05 14.0 0.0
baz=87,SNR=7.6
D23A Lindsay 86.72 338 ⇑P P 07 05 14.0 -0.3
baz=87,SNR=13
B27A Peters Farms, 86.72 341 ⇓P P 07 05 13.8 -0.4
baz=87,SNR=7.3
E21A Keefer Ranch, 86.73 337 ⇓P P 07 05 14.2 -0.1
baz=87
C24A Savage 86.80 339 ⇓P P 07 05 14.3 -0.4
baz=87,SNR=14
HLID Hailey 86.81 331 eP P 07 05 10.1 -4.9
comp=Z,101nm,1.1s
A28A Rude Farm, Bot 86.93 342 ⇓P P 07 05 15.7 +0.5
baz=87
B26A Jensen Ranch, 86.95 341 ⇓P P 07 05 15.8 +0.4
baz=87
D22A Cohagen 86.99 338 ⇑P P 07 05 15.8 +0.2
baz=87
B25A Knox Farm, Ray 87.11 340 ⇑P P 07 05 15.9 -0.2
baz=88,SNR=6.1
D21A La Casta Ranch 87.17 337 ⇓P P 07 05 16.7 +0.2
baz=88
ULM Lac du Bonnet 87.17 345 P P 07 05 14.7 -1.6
ULM pmax pmax
comp=Z,143nm,1.0s
ULM Lac du Bonnet 87.17 345 P P 07 05 14.7 -1.6
comp=Z,143nm,1.0s,baz=166,slow=3.7,SNR=7.3
A27A Ledoux Ranch, 87.22 342 ⇑P P 07 05 17.1 +0.5
baz=88
E19A Rath Farm, Rou 87.23 336 ⇓P P 07 05 16.4 -0.3
baz=88
MCMT McKenzie Canyo 87.27 333 eP P 07 05 17.9 +0.7
comp=Z,159nm,1.4s
C23A Lambert 87.27 339 ⇓P P 07 05 16.3 -0.7
baz=88,SNR=5.4
A26A Wade Farm, Ken 87.38 341 ⇑P P 07 05 16.9 -0.5
baz=88,SNR=5.5
C22A Vida 87.43 338 ⇓P P 07 05 18.2 +0.5
baz=88
D20A Manuel Ranch, 87.56 337 ⇑P P 07 05 18.9 +0.6
baz=88
DGMT Dagmar 87.59 340 eP P 07 05 17.6 -0.8
comp=Z,699nm,1.1s
DGMT Dagmar 87.59 340 ⇑P P 07 05 17.9 -0.5
baz=88,SNR=8.3
A25A Svangstu Ranch 87.71 340 ⇓P P 07 05 18.7 -0.2
baz=88,SNR=9.9
C21A Desert Coulee 87.88 338 ⇓P P 07 05 20.6 +0.7
baz=88
B22A Reddig Ranch S 87.96 338 ⇑P P 07 05 19.7 -0.6
baz=88,SNR=6.7
MOD Modoc 87.97 326 eP P 07 05 22.1 +1.5
comp=Z,221nm,1.3s
C20A Veseth Ranch, 88.07 337 ⇓P P 07 05 21.7 +0.9
baz=88
A22A Carney Farms, 88.56 339 ⇓P P 07 05 24.0 +1.0
baz=89
M04C Macdoel 88.59 326 ⇓P P 07 05 23.9 +0.4
baz=89
B20A Solberg Farm, 88.71 337 ⇓P P 07 05 24.5 +0.7
baz=89
KHMM Horse Mountain 88.78 324 eP P 07 05 25.9 +1.5
comp=Z,78nm,0.8s
LSZ Lusaka 90.03 109 eP P 07 05 31.2 +0.2
LSZ pmax pmax
comp=Z,202nm,1.3s
LSZ Lusaka 90.03 109 eP P 07 05 31.2 +0.2
comp=Z,202nm,1.3s
GERES GERESS Array B 113.11 46 PKiKP PKiKP 07 11 06.6 -1.1
comp=Z,11nm,1.0s,baz=241,slow=2.0,SNR=4.5
CLL Collm 113.81 43 e(P) PP 07 11 55.0 -7.6
CLL Collm 113.81 43 ePS PS 07 21 48.0 +8.9
ILAR Eielson Array 114.71 333 PKIKP PKPdf 07 11 09.0 -1.1
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR Eielson Array 114.71 333 PKP PKPdf 07 11 09.0 -1.1
comp=Z,2.9nm,0.9s,baz=135,slow=1.6,SNR=3.5
PKSM Moragy 114.97 50 ⇓PKIKP PKPdf 07 11 11.0 -0.2
PKSM Moragy 114.97 50⇓iP PKPdf 07 11 11.0 -0.2
KSP Ksiaz 115.48 45 ePKiKP PKiKP 07 11 17.9 +5.9
MORC Moravsky Berou 115.78 46 ⇓PKIKP PKPdf 07 11 10.5 -2.2
MORC Moravsky Berou 115.78 46⇓iP PKPdf 07 11 10.5 -2.2
APE Apeiranthos 115.79 62 ⇓iPKIKP PKPdf 07 11 13.0 -0.1
VYHS Vyhne 116.03 48 ePKIKP PKPdf 07 11 13.0 -0.2
VYHS Vyhne 116.03 48 ePP PKPdf 07 11 13.0 -0.2
BZS Buzias 116.62 52 ⇑PKIKP PKPdf 07 11 14.5 +0.1
BZS Buzias 116.62 52⇑iP PKPdf 07 11 14.5 +0.1
GKP Gorka Klasztor 116.99 42 i PKIKP PKPdf 07 11 16.3 +1.5
GKP Gorka Klasztor 116.99 42 ePKIKP PKPdf 07 11 16.3 +1.5
NB2 NORSAR Subarra117.00 33 PKPdf PKPdf 07 11 14.1 -0.6
comp=Z,15nm,1.2s,baz=248,slow=1.9
NB2 NORSAR Subarra117.00 33 PKPdf PKPdf 07 11 14.1 -0.6
baz=248,slow=1.9
NOA NORSAR Array B 117.00 33 PKIKP PKPdf 07 11 13.1 -1.6
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA NORSAR Array B 117.00 33 PKP PKPdf 07 11 13.1 -1.6
comp=Z,4.8nm,0.9s,baz=248,slow=2.0,SNR=4.7
KDZ Kurdzhali 117.59 57 ⇑PKIKP PKPdf 07 11 14.9 -1.5
KDZ Kurdzhali 117.59 57⇑iP PKPdf 07 11 14.9 -1.5
DRGR 117.78 51 ⇑PKIKP PKPdf 07 11 16.8 +0.1
DRGR 117.78 51⇑iP PKPdf 07 11 16.8 +0.1
LOT Lotru 117.95 52⇑iP PKPdf 07 11 19.9 +2.8
TRPA Tarpa 118.17 49⇑iP PKPdf 07 11 16.4 -0.9
BEL Belsk 118.47 45 i PKIKP PKPdf 07 11 26.5 +8.8
BEL Belsk 118.47 45 ePKIKP PKPdf 07 11 26.5 +8.8
ARR Arges 118.49 53⇑iP PKPdf 07 11 18.5 +0.4
JMB Yambol 118.71 56 ⇓PKIKP PKPdf 07 11 17.1 -1.4
JMB Yambol 118.71 56⇓iP PKPdf 07 11 17.1 -1.4
VOIR 118.78 53 ⇓PKIKP PKPdf 07 11 18.9 +0.2
VOIR 118.78 53⇓iP PKPdf 07 11 18.9 +0.2
KWP Kalwaria Pacla 118.82 48 ⇑PKIKP PKPdf 07 11 19.0 +0.5
KWP Kalwaria Pacla 118.82 48 ePP PP 07 12 19.0 -19
KWP Kalwaria Pacla 118.82 48⇑iP PKPdf 07 11 19.0 +0.5
MLR Muntele Rosu 119.39 53 ⇓PKIKP PKPdf 07 11 19.4 -0.5
MLR Muntele Rosu 119.39 53⇓iP PKPdf 07 11 19.4 -0.5
PRD Provadia 119.54 56 ⇑PKIKP PKPdf 07 11 19.9 -0.1

BUR08 Bucovina Ar. S 119.67 50 ePKPdf PKPdf 07 11 20.4 0.0
BURAR Bucovina Array 119.67 50 ⇑PKIKP PKPdf 07 11 19.6 -0.8
BURAR Bucovina Array 119.67 50⇑iP PKPdf 07 11 19.5 -0.8
VRI Vrincioaia 120.04 53 ⇓PKIKP PKPdf 07 11 19.9 -1.1
VRI Vrincioaia 120.04 53⇓iP PKPdf 07 11 19.9 -1.1
TESR Tescani 120.21 52⇓iP PKPdf 07 11 20.8 -0.5
PSN Preselentsi 120.24 56 ⇑PKIKP PKPdf 07 11 20.1 -1.3
PSN Preselentsi 120.24 56⇑iP PKPdf 07 11 20.1 -1.3
HARR Harsova 120.42 54 ⇓PKIKP PKPdf 07 11 22.4 +0.7
HARR Harsova 120.42 54⇓iP PKPdf 07 11 22.4 +0.7
SUW Suwalki 120.56 43 eP Pdif 07 07 49.7 +3.0
SUW Suwalki 120.56 43 ePdiff Pdif 07 07 49.6 +2.9
SUW ePP PP 07 12 36.4 -13
SUW Suwalki 120.56 43 ePKPdf PKPdf 07 11 21.2 -0.5
TIRR Tirgusor 120.67 55 ⇑PKIKP PKPdf 07 11 21.0 -1.2
TIRR Tirgusor 120.67 55⇑iP PKPdf 07 11 21.0 -1.2
CFR Carcaliu 120.73 54 ⇓PKIKP PKPdf 07 11 21.2 -1.1
CFR Carcaliu 120.73 54⇓iP PKPdf 07 11 21.2 -1.1
IAS Iasi 121.03 52 ⇓PKIKP PKPdf 07 11 23.2 +0.4
IAS Iasi 121.03 52⇓iP PKPdf 07 11 23.1 +0.3
TLCR 121.19 54 ⇑PKIKP PKPdf 07 11 19.0 -4.2
TLCR 121.19 54⇑iP PKPdf 07 11 19.0 -4.2
LEOM Leova 121.24 53 ⇓PKIKP PKPdf 07 11 22.5 -0.7
LEOM Leova 121.24 53⇓iP PKPdf 07 11 22.5 -0.7
KIS Kishinev 121.78 52 ePKIKP PKPdf 07 11 40.0 +16
KIS Kishinev 121.78 52 ePKP PKPdf 07 11 40.0 +16
ANTO Ankara 122.13 61 ⇑PKIKP PKPdf 07 11 24.6 -0.7
ANTO Ankara 122.13 61⇑iP PKPdf 07 11 24.6 -0.7
BRTR Keskin Array B 122.69 62 PKIKP PKPdf 07 11 25.4 -1.1
BRTR pmax pmax
comp=Z,23nm,0.8s
BRTR Keskin Array B 122.69 62 PKP PKPdf 07 11 25.4 -1.1
comp=Z,24nm,0.8s,baz=203,slow=2.4,SNR=12
KIEV Kiev 123.12 48⇓iPKIKP PKPdf 07 11 26.4 -0.3
AKASG Malin Array Be 123.13 48 PKIKP PKPdf 07 11 24.8 -1.9
AKASG pmax pmax
comp=Z,21nm,0.9s
AKASG Malin Array Be 123.13 48 PKP PKPdf 07 11 24.8 -1.9
comp=Z,21nm,0.9s,baz=265,slow=2.6,SNR=9.9
FINES FINESS Array B 123.97 35 PKIKP PKPdf 07 11 26.0 -2.0
FINES pmax pmax
comp=Z,19nm,0.9s
FINES FINESS Array B 123.97 35 PKP PKPdf 07 11 26.0 -2.0
comp=Z,19nm,0.9s,baz=253,slow=1.5,SNR=5.0
SIM Simferopol' 124.68 56 i PKIKP PKPdf 07 11 30.9 +1.0
SIM pmax pmax
comp=Z,55nm,0.9s
ARCES ARCESS Array B 124.99 25 PKIKP PKPdf 07 11 28.4 -1.4
ARCES pmax pmax
comp=Z,16nm,0.9s
ARCES ARCESS Array B 124.99 25 PKP PKPdf 07 11 28.4 -1.4
comp=Z,16nm,0.9s,baz=336,slow=2.7,SNR=3.9
MALT Malatya 125.73 65 ⇑PKIKP PKPdf 07 11 32.1 -0.2
MALT Malatya 125.73 65⇑iP PKPdf 07 11 32.1 -0.2
ANN Anapa 126.91 57 i PKIKP PKPdf 07 11 33.6 -0.5
ANN pmax pmax
comp=Z,195nm,1.5s
APA Apatity 127.77 28⇑iPKIKP PKPdf 07 11 44.0 +8.9
LVZ Lovozero 128.24 27⇓iPKIKP PKPdf 07 11 37.0 +0.9
LVZ pmax pmax
comp=Z,77nm,1.2s
OBN Obninsk 128.40 44⇑iPKIKP PKPdf 07 11 36.7 +0.1
OBN pmax pmax
comp=Z,243nm,1.7s
OBN Obninsk 128.40 44 ePKPdf PKPdf 07 11 39.7 +3.1
MOS Moscow 129.07 43 ePKIKP PKPdf 07 11 37.8 -0.1
MOS pmax pmax
comp=Z,344nm,1.7s
TMCR Tamitsa 129.68 32 ePKIKP PKPdf 07 11 39.4 +0.6
TMCR e 07 13 53.8
TMCR pmax pmax
comp=Z,154nm,1.5s
KLMR Klimovskoe 130.38 37 ePKIKP PKPdf 07 11 38.0 -2.3
KLMR pmax pmax
comp=Z,416nm,1.5s
KBZ Khabaz 130.46 59 PKIKP PKPdf 07 11 40.6 -0.4
KBZ pmax pmax
comp=Z,33nm,1.0s
KBZ Khabaz 130.46 59 PKP PKPdf 07 11 40.5 -0.4
comp=Z,32nm,1.0s,baz=248,slow=2.9,SNR=6.0
GOF Gofitskoye 130.85 58 ePKIKP PKPdf 07 11 40.7 -1.0
GNI Garni 130.95 64⇑ePKIKP PKPdf 07 11 42.4 +0.1
GNI Garni 130.95 64 ePKPdf PKPdf 07 11 43.2 +0.9
ZEI Tsey 130.97 61 i PKIKP PKPdf 07 11 40.5 -1.8
ZEI pmax pmax
comp=Z,152nm,2.2s
PRGR Permogore 133.30 35 ePKIKP PKPdf 07 11 43.5 -2.2
PRGR pmax pmax
comp=Z,451nm,1.7s
BILL Bilibino 133.36 334 ePKIKP PKPdf 07 11 48.7 +3.0
BILL pmax pmax
comp=Z,36nm,0.9s
BILL Bilibino 133.36 334 ePKPdf PKPdf 07 11 50.8 +5.0
PETK Petropavlovsk- 140.36 313 PKIKP PKPdf 07 11 58.3 -0.8
PETK pmax pmax
comp=Z,9.0nm,0.7s
PETK Petropavlovsk- 140.36 313 PKP PKPdf 07 11 58.3 -0.8
comp=Z,8.7nm,0.7s,baz=132,slow=2.1,SNR=3.7
SEY Seymchan 140.49 329 PKIKP PKPdf 07 11 57.3 -1.7
SEY pmax pmax
comp=Z,20nm,0.8s
SEY Seymchan 140.49 329 PKP PKPdf 07 11 57.3 -1.7
comp=Z,20nm,0.8s,baz=96,slow=4.8,SNR=4.6
GEYT Alibeck 140.62 71 PKhKP PKPpre 07 11 55.8
comp=Z,9.0nm,0.8s,baz=282,slow=1.3,SNR=3.3
ARU Arti 140.71 41 PKIKP PKPdf 07 12 04.9 +5.3
TIXI Tiksi 141.42 349c iPKIKP PKPdf 07 12 03.1 +2.6
TIXI pmax pmax
comp=Z,107nm,1.7s
ABKAR Akbulak array 142.60 53 ePKPdf PKPdf 07 11 59.2 -4.0
BKNI Bangkinang 145.16 169 ePKPdf PKPbc 07 12 07.0 -1.4
GSI Gunungsitoli 145.42 163 ePKPdf PKPab 07 12 09.8 +0.4
PSI Prapat 147.18 164 PKIKP PKPdf 07 12 12.4 0.0
PSI pmax pmax
comp=Z,133nm,1.0s
PSI Prapat 147.18 164 PKPbc PKPdf 07 12 12.4 0.0
comp=Z,132nm,1.0s,baz=270,slow=1.0,SNR=5.1
KBL Kabul 148.63 79 ePKP2 PKPbc 07 12 17.7 -0.4
KBL Kabul 148.63 79 ePKPbc PKPbc 07 12 17.6 -0.4
HYB Hyderabad 149.03 117 i PKP PKPbc 07 12 18.0 -1.3
YAK Yakutsk 149.34 339 ePKHKP PKPpre 07 12 16.8
YAK pmax pmax
comp=E,35nm,1.3s
YAK pmax pmax
comp=Z,483nm,1.5s
YAK pmax pmax
comp=N,80nm,1.4s
YAK Yakutsk 149.34 339 ePKPbc PKPbc 07 12 17.7 -0.9
KKM Kota Kinabalu 150.20 198 ePKPbc PKPbc 07 12 20.7 -1.7
KKAR Karatay Array 150.39 63 ePKPbc PKPbc 07 12 22.3 +0.4
KKAR Karatay Array 150.39 63 ePKPbc PKPbc 07 12 22.3 +0.4
YSS Yuzh-Sakhalins 150.87 305⇑ePKIKP PKPdf 07 12 19.6 +2.4
YSS pmax pmax
comp=Z,340nm,1.5s
YSS Yuzh-Sakhalins 150.87 305 ePKPdf PKPdf 07 12 19.3 +2.1
ERM Erimo 151.19 295 ePKIKP PKPbc 07 12 24.1 +0.3
ERM Erimo 151.19 295 ePKPbc PKPbc 07 12 24.1 +0.3
ASAJ Asahikawa 151.44 300 PKIKP PKPbc 07 12 23.5 -0.7
ASAJ pmax pmax
comp=Z,133nm,1.1s
ASAJ Asahikawa 151.44 300 PKPbc PKPbc 07 12 23.5 -0.7
comp=Z,133nm,1.1s,baz=250,slow=5.5,SNR=5.9
ASAJ Asahikawa 151.44 300 ePKPbc PKPbc 07 12 24.0 -0.3
EKS2 Erkin-Say 152.82 63 ePKIKP PKPdf 07 12 21.6 +1.1
EKS2 e 07 12 27.9
EKS2 Erkin-Say 152.82 63 ePKPdf PKPdf 07 12 21.6 +1.1
EKS2 ePKPbc PKiKP 07 12 27.9 0.0
AAK Ala-Archa 153.35 63c iPKIKP PKPbc 07 12 30.5 +1.7
AAK pmax pmax
comp=Z,346nm,1.7s
TKM2 Tokmak 2 154.12 62 ePKIKP PKPbc 07 12 30.2 -0.4
TKM2 e 07 12 45.5
TKM2 Tokmak 2 154.12 62 ePKPbc PKPbc 07 12 30.2 -0.4
TKM2 ePKPab PKPab 07 12 45.5 +1.2
KSH Kashi 154.65 70 ePKPbc PKPbc 07 12 29.8 -1.9
ZAA0 Zalesovo Array 155.21 33 ePKPbc PKPbc 07 12 32.2 +9.0
ZAA0 ePKPab PKPab 07 12 49.3 +1.1
ZALV Zalesovo Beam 155.21 33 PKIKP PKPdf 07 12 23.3 +0.1
ZALV 07 12 48.4
ZALV pmax pmax
comp=Z,38nm,0.8s
ZALV pmax pmax
comp=Z,89nm,0.8s

ZALV Zalesovo Beam 155.21 33 PKP PKPdf 07 12 23.3 +0.1
comp=Z,38nm,0.8s,baz=336,slow=3.2,SNR=2.4
ZALV PKPab PKPab 07 12 48.4 +0.2
comp=Z,89nm,0.8s,baz=307,slow=4.3,SNR=5.0
BOD Bodaibo 156.58 351 ePKP2 PKPab 07 12 53.1 -0.8
BOD pmax pmax
comp=Z,143nm,1.3s
MKAR Makanchi Array 157.70 50 PKP2 PKPab 07 12 58.5 -0.8
MKAR pmax pmax
comp=Z,14nm,0.8s
MKAR Makanchi Array 157.70 50 PKPab PKPab 07 12 58.5 -0.8
comp=Z,14nm,0.8s,baz=299,slow=4.0,SNR=3.2
MDJ Mudanjiang 160.35 306 PKP PKPdf 07 12 28.0 -1.9
MDJ pPKP pPKPdf 07 12 40.0 +3.9
MDJ sPKP 07 12 44.0
MDJ PKS PKSdf 07 16 04.5 +1.3
MDJ SKS SKSdf 07 19 34.0 -0.1
MDJ SS SS 07 37 04.5 +0.8
CMAR Chiang Mai Arr 162.06 153 PKIKP PKPdf 07 12 32.2 -0.3
CMAR 07 13 16.4
CMAR pmax pmax
comp=Z,19nm,1.0s
CMAR pmax pmax
comp=Z,15nm,1.0s
CMAR Chiang Mai Arr 162.06 153 PKP PKPdf 07 12 32.2 -0.3
comp=Z,46nm,1.3s,baz=239,slow=2.9,SNR=5.6
CMAR PKPab PKPab 07 13 16.4 -2.4
comp=Z,15nm,1.0s,baz=228,slow=3.0,SNR=4.9
WMQ Urumqi 162.38 54 ePKP PKPdf 07 12 32.8 +0.6
WMQ pPKP pPKPdf 07 12 43.5 +5.1
WMQ sPKP 07 12 47.0
WMQ PKS PKSdf 07 16 04.8 -0.5
WMQ PP PP 07 17 08.0 +3.6
WMQ SKS SKSdf 07 19 32.3 -3.8
WMQ SKKS SKKSac 07 23 50.8 -0.5
WMQ SS SS 07 37 24.0 -1.2
WMQ AMB AMB
comp=Z,2μm,10.6s
WMQ LR LR
comp=Z,3μm,23.8s
WMQ LR LR
comp=Z,5μm,23.6s
WMQ LR LR
comp=Z,7μm,22.8s
TLY Talaya 162.96 8 ePKP2 PKPab 07 13 23.9 +2.0
TLY pmax pmax
comp=Z,170nm,1.7s
TLY Talaya 162.96 8 PKPab PKPab 07 13 22.1 +0.3
comp=Z,22nm,0.9s,baz=332,slow=4.1,SNR=6.8
ZAK Zakamensk 164.19 10 ePKP2 PKPab 07 13 25.8 -1.6
ZAK e 07 17 16.8
ZAK pmax pmax
comp=Z,54nm,1.7s
SONM Songino Array 167.00 3 PKP2 PKPab 07 13 39.4 -0.5
SONM pmax pmax
comp=Z,22nm,0.9s
SONM Songino Array 167.00 3 PKPab PKPab 07 13 39.4 -0.5
comp=Z,22nm,0.9s,baz=342,slow=3.8,SNR=7.2
NJ2 Nanjing 169.99 257 ePKP PKPdf 07 12 38.8 +0.3
GYA Guiyang 171.63 176 i PKP PKPdf 07 12 39.0 -0.7
GYA pPKP pPKPdf 07 12 51.0 +5.1
GYA PKPab PKPab 07 14 02.5 +1.6
GYA PKS PKSdf 07 16 10.0 -2.2
GYA PP PP 07 17 55.3 +4.5
GYA SKKS 07 24 35.8
GYA SS SS 07 38 55.5 -1.0
GYA AMB AMB
comp=Z,5μm,11.0s
GYA LR LR
comp=Z,10μm,21.0s
GYA LR LR
comp=Z,7μm,21.6s
GYA LR LR
comp=Z,8μm,24.2s
GTA Gaotai 172.45 51 ePKP PKPdf 07 12 40.5 +0.8
GTA pPKP pPKPdf 07 12 51.0 +5.1
GTA sPKP 07 12 55.0
HHC Hu-ho-hao-te 173.13 332 ePKP PKPdf 07 12 38.0 -1.9
HHC PP PP 07 17 59.3 +0.7
HHC SS SS 07 39 08.3 -3.6
CD2 Chengdu 175.06 141 PKP PKPdf 07 12 41.0 +0.2
CD2 pPKP pPKPdf 07 12 52.3 +5.3
CD2 sPKP 07 12 56.0
CD2 PKS PKSdf 07 16 11.8 -1.2
CD2 PP PP 07 18 12.3 +4.1
CD2 SKS SKSdf 07 19 38.5 -4.6
CD2 SKKS SKKSac 07 24 53.0 -1.1
CD2 SS SS 07 39 29.8 -1.1
CD2 AMB AMB
comp=Z,2μm,9.8s
LZH Lanzhou 176.89 65 ePKP PKPdf 07 12 42.0 +0.8
LZH pPKP pPKPdf 07 12 52.0 +4.6
LZH sPKP 07 12 55.8
LZH PKPab PKPab 07 14 25.0 +0.6
LZH PP PP 07 18 22.3 +4.5

IDC 27 06:53:14.7±1.3, 34.36S×71.90W, h0km, mb5.6/1, Error ellipse: s-maj=279.5km s-min=45.7km az=122.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	San Ignacio	20.73	31	P	P	06 57 55.8	-1.0
	281nm,0.9s,baz=225,slow=12,SNR=1.2						
WRA	Warramunga Arr	120.50	209	PKP	PKPdf	07 12 08.1	-0.6
	baz=156,slow=1.6						
AKASG	Malin Array Be	122.35	48	PKP	PKPdf	07 12 10.7	-0.5
	7.9nm,0.8s,baz=262,slow=2.8,SNR=4.1						
FINES	FINESS Array B	123.22	35	PKP	PKPdf	07 12 12.3	-0.2
	baz=191,slow=5.7						
ARCES	ARCESS Array B	124.30	25	PKP	PKPdf	07 12 14.6	+0.2
	4.8nm,0.7s,baz=237,slow=3.1,SNR=4.3						
ZALV	Zalesovo Beam	154.47	33	PKPbc	PKPbc	07 13 16.2	-0.4
	52nm,0.6s,baz=318,slow=3.3,SNR=4.2						
ZALV				PKPab	PKPab	07 13 31.6	+0.6
	baz=290,slow=5.0						
MKAR	Makanchi Array	156.91	50	PKPab	PKPab	07 13 41.4	-0.3
	baz=306,slow=3.1						

ISCJB 27 06:56:21.8±0.8, 34.30S±0.09×72.2W±0.2, h16km, mb5.5/9, MS7.8/2, Error ellipse: s-maj=19.1km s-min=13.1km az=174.0

IDC 27 06:56:25.0±0.8, 34.42S×72.48W, h28km±4km, mb5.2/4, mb1 5.4/5, mb1mx4.8/28, mbtmp5.4/5, ML5.5/1, MS7.8/2, Ms1 7.8/2, ms1mx6.7/42, Error ellipse: s-maj=38.8km s-min=32.6km az=110.0

NEIC 27 06:56:26.2±3.4, 34.35S×72.20W, h35km±23km, mb5.6/8, Error ellipse: s-maj=18.7km s-min=10.5km az=94.0

ISC 27 06:56:23.6±0.6, 34.3S±0.1×72.2W±0.2, h16km, n36, σ1§78/33, mb5.6/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.55	169	ePn	Pn	06 58 00.1	+0.7
CPUP	Villa Florida	15.10	62	eP	Pn	06 59 54.8	-1.5
	116nm,1.2s						
LPAZ	La Paz	18.31	13	P	P	07 00 40.0	+2.3
	6.1nm,0.3s,baz=204,slow=8.7,SNR=7.1						
SIV	San Ignacio	20.81	32	P	Pn	07 01 05.6	-1.3
	201nm,0.8s,baz=224,slow=12,SNR=8.7						
I09BR	BRASILIA INFRA	28.63	56	P	P	07 02 05.0	-15
	baz=262,slow=25,SNR=25						
ROSC	El Rosal	39.00	357	LR	LR	07 18 27.2	
	comp=Z,1341μm,19.8s,baz=176,slow=34						
RCBR	Riachuelo	43.93	58	eP	P	07 04 31.0	+1.0
GRGR	Grenville	47.26	14	eP	P	07 04 56.5	+0.3
	99nm,0.7s						
I27DE	GEORG VON NEUM	49.45	157	P	P	07 04 50.0	-22
	baz=316,slow=10,SNR=335						
MTDJ	Mount Denham	52.48	354	eP	P	07 05 35.4	-0.6
	73nm,1.0s						
CBYP	Canovanas	52.63	8	eP	P	07 05 36.7	-0.3
	40nm,0.8s						
SDDR	Presa de Saban	53.00	1	eP	P	07 05 40.6	+0.9
	36nm,1.0s						
TEIG	Tepich	56.34	342	LR	LR	07 26 56.6	
	comp=Z,780μm,20.4s,baz=110,slow=32						
I50GB	ASCENSION ISLA	59.11	78	P	P	07 06 10.0	-14
	baz=196,slow=18,SNR=132						
TXAR	Lajitas Array	69.93	331	P	P	07 07 33.1	-1.0
	18nm,1.0s,baz=155,slow=6.9,SNR=3.2						
WVT	Waverly	71.57	347	P	P	07 07 43.6	-0.2

	96nm,0.8s						
DBIC	Dimbokro	75.41	71	P	P	07 08 07.5	+0.5
	26nm,0.7s,baz=205,slow=4.8,SNR=5.5						
DBIC	Dimbokro	75.41	71	eP	P	07 08 07.6	+0.7
	71nm,0.8s						
TPH	Tonopah	83.26	326	eP	P	07 08 49.9	+0.4
	64nm,1.3s						
TORD	Torodi Ar. Bea	84.45	70	P	P	07 08 56.0	+0.1
	33nm,0.9s,baz=234,slow=3.8,SNR=4.2						
YKA	Yellowknife Ar	102.30	341	Pdiff	Pdif	07 10 21.5	+4.0
	5.2nm,0.9s,baz=145,slow=5.2,SNR=3.4						
GERES	GERESS Array B	112.47	45	PKiKP	PKiKP	07 14 58.3	-0.3
	1.2nm,0.6s,baz=222,slow=1.3,SNR=4.1						
NOA	NORSAR Array B	116.36	33	PKP	PKPdf	07 15 06.5	+0.8
	3.7nm,1.1s,baz=242,slow=1.4,SNR=3.1						
HFS	Hagfors	117.14	34	PKP	PKPdf	07 15 07.1	0.0
	2.5nm,0.7s,baz=208,slow=2.8,SNR=3.0						
HFS				pPKP	pPKPdf	07 15 14.8	+2.2
	3.7nm,0.8s,baz=200,slow=3.9,SNR=2.3						
WRA	Warramunga Arr	120.42	209	PKP	PKPdf	07 15 13.5	-1.3
	4.4nm,0.8s,baz=158,slow=1.7,SNR=7.6						
WRA				pPKP	pPKPdf	07 15 21.5	+1.2
	5.4nm,0.6s,baz=174,slow=1.3,SNR=3.7						
BRTR	Keskin Array B	122.11	61	PKP	PKPdf	07 15 16.3	-1.2
	7.0nm,0.8s,baz=208,slow=0.5,SNR=6.2						
AKASG	Malin Array Be	122.50	48	PKP	PKPdf	07 15 17.3	-0.4
	3.4nm,0.6s,baz=259,slow=2.5,SNR=6.7						
FINES	FINESS Array B	123.32	35	PKP	PKPdf	07 15 18.7	-0.3
	2.4nm,0.8s,baz=241,slow=2.9,SNR=2.3						
ARCES	ARCESS Array B	124.35	25	PKP	PKPdf	07 15 20.4	-0.4
	1.5nm,0.5s,baz=256,slow=3.6,SNR=3.6						
GEYT	Alibeck	140.09	70	PKhKP	PKPpre	07 15 43.6	
	5.8nm,0.7s,baz=266,slow=2.2,SNR=2.9						
PETK	Petropavlovsk-	140.26	314	PKhKP	PKPpre	07 15 44.6	
	13nm,1.1s,baz=86,slow=6.4,SNR=4.0						
ABKAR	Akbulak array	141.99	52	ePKPdf	PKPdf	07 15 53.0	-1.3
BVAR	Borovoye Array	147.60	43	PKPbc	PKPab	07 16 07.7	-1.2
	24nm,0.6s,baz=289,slow=2.3,SNR=9.9						
BVAR				pPKPbc	pPKPbc	07 16 16.1	+4.0
	28nm,0.6s,baz=297,slow=3.3,SNR=7.4						
ZALV	Zalesovo Beam	154.56	32	PKPbc	PKPbc	07 16 23.3	+0.3
	22nm,0.8s,baz=287,slow=3.2,SNR=4.2						
ZALV				pPKPbc	PKPab	07 16 32.5	-5.1
	49nm,0.7s,baz=295,slow=2.9,SNR=9.0						
MKAR	Makanchi Array	157.07	49	PKP	PKPdf	07 16 16.3	-1.9
	4.9nm,0.8s,baz=276,slow=3.7,SNR=2.5						
SONM	Songino Array	166.44	4	PKPab	PKPab	07 17 29.1	-0.5
	8.3nm,1.1s,baz=344,slow=3.9,SNR=4.0						
SONM				pPKPab	pPKPab	07 17 37.4	+2.4
	9.4nm,0.9s,baz=355,slow=4.3,SNR=4.4						

IDC 27 06:57:17.0±2.4, 35°.08S×72°.58W, h0km, mb5.7/1, Error ellipse: s-maj=133.6km s-min=38.4km az=40.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	70.46	331	P	P	07 08 33.7	+0.4
	baz=153,slow=8.1						
BOSA	Boshof	79.97	118	P	P	07 09 29.1	+0.6
	51nm,0.8s,baz=239,slow=5.6,SNR=4.0						
TORD	Torodi Ar. Bea	85.00	70	P	P	07 09 54.8	+0.1
	baz=248,slow=4.2						
BRTR	Keskin Array B	122.74	62	PKP	PKPdf	07 16 13.8	-1.1
	baz=203,slow=3.6						
ARCES	ARCESS Array B	125.18	25	PKP	PKPdf	07 16 18.0	-0.5
	baz=270,slow=1.8						

IDC 27 06:58:23.2±1.2, 31°.70S×72°.21W, h0km, mb5.2/3, Error ellipse: s-maj=49.0km s-min=36.7km az=22.0
ISCJB 27 06:58:24.2±0.5, 31°.95S±0°.09×71°.6W±0°.1, h14km, mb5.2/4, Error ellipse: s-maj=18.8km s-min=12.3km az=160.2
NEIC 27 06:58:28.1±0.7, 31°.72S×72°.16W, h35km, mb5.2/4, Error ellipse: s-maj=26.2km s-min=13.8km az=85.0
ISC 27 06:58:26.4±0.7, 31°.8S±0°.1×71°.6W±0°.2, h14km, n192, σ1s15/184, mb5.4/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	8.93	175	Pn	Pn	07 00 35.3	+0.3
LPAZ	La Paz	15.79	12	Pn	Pn	07 02 07.4	-1.6
	baz=195,slow=13						
LPAZ	La Paz	15.79	12	eP	Pn	07 02 07.8	-1.1
	80nm,0.9s						
NNA	Nana	20.33	345	eP	P	07 02 57.2	-5.0
	57nm,0.7s						
RCBR	Riachuelo	42.22	60	eP	P	07 06 19.5	+0.3
GRGR	Grenville	44.74	14	eP	P	07 06 32.5	-6.9
934A	Benavides	64.42	334	P	P	07 09 03.6	+1.5
	baz=64						
735A	Kenedy	65.29	335	P	P	07 09 10.8	+3.1
	baz=65						
734A	La Parita Cree	65.56	334	P	P	07 09 12.2	+2.7
	baz=66						
636A	Smothers Creek	65.59	336	P	P	07 09 12.3	+2.6
	baz=66						
635A	Leesville	65.76	335	P	P	07 09 12.9	+2.1
	baz=66						
536A	Bastrop	66.14	336	P	P	07 09 16.3	+3.1
	baz=66						
535A	Dale	66.27	336	P	P	07 09 16.5	+2.4
	baz=66						
340A	Bronson	66.35	339	P	P	07 09 17.5	+3.0
	baz=66						
338A	Crockett	66.73	338	P	P	07 09 21.4	+4.4
	baz=67						
337A	Centerville	66.88	338	P	P	07 09 21.4	+3.5
	baz=67						
239A	Gary	67.08	339	P	P	07 09 22.0	+2.8
	baz=67						
336A	Riesel	67.26	337	P	P	07 09 23.2	+2.8
	baz=67						
335A	Moody	67.36	336	P	P	07 09 23.5	+2.4
	baz=67						
334A	Lometa	67.69	336	P	P	07 09 24.9	+1.7
	baz=68						
530A	J-C Ranch, Com	67.79	332	P	P	07 09 25.4	+1.6
	baz=68						
138A	Matatall Enter	67.87	339	P	P	07 09 27.5	+3.3
	baz=68						
WHTX	Lake Whitney	68.02	336	P	P	07 09 27.3	+2.2
	baz=68						
234A	Clairette	68.27	336	P	P	07 09 28.6	+1.9
	baz=68						
429A	Davenport Ranc	68.43	332	P	P	07 09 28.9	+1.0
	baz=68						
135A	Vickery Place,	68.52	337	P	P	07 09 29.3	+1.0
	baz=69						
233A	Rising Star	68.55	335	P	P	07 09 30.2	+1.7
	baz=69						
232A	Coleman	68.70	335	P	P	07 09 30.9	+1.4
	baz=69						
330A	Mertzon	68.84	333	P	P	07 09 31.3	+0.9
	baz=69						
Z35A	Perchaven, San	69.18	337	P	P	07 09 34.3	+1.9
	baz=69						
ABTX	Abilene, Hawle	69.36	335	P	P	07 09 35.1	+1.5
	baz=69						
Z34A	Collier Ranch,	69.44	337	P	P	07 09 35.1	+1.1
	baz=70						
Z33A	Whitaker Ranch	69.65	336	P	P	07 09 35.6	+0.3
	baz=70						
131A	Roby	69.68	334	P	P	07 09 35.3	-0.2
	baz=70						
130A	Snyder	69.82	334	P	P	07 09 36.2	-0.2
	baz=70						
Y34A	Reagan Ranch,	69.92	337	P	P	07 09 38.2	+1.3
	baz=70						
Z32A	Haskell	69.92	335	P	P	07 09 38.3	+1.3
	baz=70						
228A	UT Block 9, Go	70.03	332	P	P	07 09 38.2	+0.5
	baz=70						
129A	Stewart Farms,	70.20	333	P	P	07 09 39.0	+0.2
	baz=70						
Y33A	Hilltop Ranch,	70.26	336	P	P	07 09 40.1	+1.1
	baz=70						
Z30A	Sanderson Ranc	70.50	334	P	P	07 09 41.0	+0.4
	baz=70						
X34A	Smith Ranch, M	70.53	337	P	P	07 09 42.2	+1.5
	baz=71						
Y32A	R-V Farms, Ver	70.54	336	P	P	07 09 41.5	+0.7
	baz=71						
X33A	Lawton	70.70	337	P	P	07 09 41.7	-0.1
	baz=71						
X32A	Elmer	70.86	336	P	P	07 09 44.2	+1.5
	baz=71						
TUL1	Tulsa	71.10	339	P	P	07 09 45.8	+1.7
	baz=71						
W33A	Caddo, Fort Co	71.25	337	P	P	07 09 46.8	+1.8
	baz=71						
X31A	McDonald Ranch	71.29	336	P	P	07 09 46.0	+0.7
	baz=71						
W32A	Sentinel	71.48	336	P	P	07 09 47.3	+0.8
	baz=72						
V34A	Guthrie	71.56	338	P	P	07 09 47.3	+0.4
	baz=72						
Z26A	Caprock	71.59	332	P	P	07 09 47.1	-0.2
	baz=72						
MSTX	Muleshoe	71.73	333	P	P	07 09 47.2	-0.9
	baz=72						
V33A	Lossen Ranch,	71.80	337	P	P	07 09 49.3	+1.0
	baz=72						
Y26A	Elida	72.10	332	P	P	07 09 50.4	0.0
	baz=72						
U34A	Anderson Ranch	72.12	338	P	P	07 09 50.9	+0.6
	baz=72						
U33A	Lingo Farm, Me	72.30	338	P	P	07 09 51.3	-0.1
	baz=72						
W29A	Amraillo	72.33	334	P	P	07 09 52.1	+0.5
	baz=72						
X27A	F and S Farms,	72.45	333	P	P	07 09 52.7	+0.2
	baz=72						
ACSO	Alum Creek Sta	72.47	351	eP	P	07 09 55.1	+2.9
	70nm,0.8s						
121A	Cookes Peak, D	72.57	328	P	P	07 09 52.2	-1.0
	baz=72						
X26A	CR and CF Fran	72.65	333	P	P	07 09 54.0	+0.4
	baz=73						
W27A	Bowe Ranch, En	72.81	333	P	P	07 09 54.9	+0.4
	baz=73						
T33A	Patterson Ranc	72.94	338	P	P	07 09 56.3	+1.2
	baz=73						
Y23A	Lovelace Mesa,	73.02	331	P	P	07 09 56.2	+0.3
	baz=73						
V28A	Channing	73.10	334	P	P	07 09 57.0	+0.8
	baz=73						
U30A	WK&E Inc. Balk	73.24	336	P	P	07 09 57.9	+0.9
	baz=73						
T32A	Huddler Ranch,	73.25	337	P	P	07 09 57.8	+0.9
	baz=73						
X24A	Lazy VL Ranch,	73.31	331	P	P	07 09 57.6	0.0
	baz=73						
S33A	Kaszmaul Farm,	73.33	338	P	P	07 09 58.0	+0.5
	baz=73						
U29A	Oasis Ranch, S	73.39	335	P	P	07 09 58.4	+0.6
	baz=73						
T31A	Randall Ranch,	73.42	337	P	P	07 09 58.7	+0.7
	baz=74						
W25A	X Bar L Ranch,	73.49	332	P	P	07 09 58.2	-0.4
	baz=74						
S32A	Newby Ranch, P	73.72	338	P	P	07 10 00.3	+0.6
	baz=74						
S31A	Mullinville	73.83	337	P	P	07 10 00.7	+0.3
	baz=74						
T29A	Hugoton	74.03	336	P	P	07 10 02.0	+0.4
	baz=74						
V25A	Rancho No Teng	74.09	333	P	P	07 10 02.2	0.0
	baz=74						
W23A	Werner Place,	74.12	331	P	P	07 10 02.2	-0.2
	baz=74						
DBIC	Dimbokro	74.15	72	P	P	07 10 05.5	+2.7
	16nm,0.7s,baz=197,slow=6.3,SNR=4.4						
DBIC	Dimbokro	74.15	72	eP	P	07 10 05.9	+3.2
	33nm,0.8s						
S30A	Montezuma	74.17	337	P	P	07 10 02.8	+0.4
	baz=74						
T28A	Walsh	74.28	335	P	P	07 10 03.3	+0.1
	baz=74						
R32A	Long Quarter,	74.31	338	P	P	07 10 03.6	+0.4
	baz=74						
S29A	Ulysses	74.38	336	P	P	07 10 04.0	+0.3
	baz=74						
R31A	Burdett	74.45	338	P	P	07 10 04.3	+0.2
	baz=74						
T27A	Campo	74.45	335	P	P	07 10 04.2	0.0
	baz=74						
S28A	Manter	74.63	335	P	P	07 10 05.5	+0.4
	baz=75						
R30A	Dighton	74.69	337	P	P	07 10 06.0	+0.5
	baz=75						
Q32A	Meitler Ranch,	74.78	339	P	P	07 10 06.7	+0.8
	baz=75						
T26A	Comanche Natio	74.87	334	P	P	07 10 07.3	+0.6
	baz=75						
Q31A	Ellis	75.06	338	P	P	07 10 08.3	+0.8
	baz=75						
V22A	San Miguel Ran	75.08	331	P	P	07 10 08.4	+0.4
	baz=75						
R29A	Marienthal	75.11	336	P	P	07 10 08.3	+0.5
	baz=75						
T25A	Trinidad	75.15	333	P	P	07 10 08.5	+0.2
	baz=75						
S26A	Kim	75.22	334	P	P	07 10 09.1	+0.5
	baz=75						
R28A	Tribune	75.27	336	P	P	07 10 08.9	+0.1
	baz=75						
Q30A	Quinter	75.30	337	P	P	07 10 09.2	+0.2
	baz=75						
P32A	Huiting Farm,	75.38	339	P	P	07 10 09.9	+0.6
	baz=75						
T24B	San Luis	75.46	333	P	P	07 10 10.3	+0.2
	baz=76						
P31A	Stockton	75.53	338	P	P	07 10 11.1	+1.0
	baz=76						
R27A	Eads	75.57	335	P	P	07 10 10.6	0.0
	baz=76						
S25A	Robets Cordova	75.62	334	P	P	07 10 11.0	0.0
	baz=76						
T23A	Casias Ranch,	75.69	332	P	P	07 10 11.2	-0.3
	baz=76						
R26A	Arlington	75.81	335	P	P	07 10 12.7	+0.7
	baz=76						
S24A	Houchin Ranch,	75.90	333	P	P	07 10 13.1	+0.4
	baz=76						
Q28A	Sharon Springs	75.92	336	P	P	07 10 12.6	+0.1
	baz=76						
O31A	Woolen Ranch,	76.08	338	P	P	07 10 14.1	+0.8
	baz=76						
P29A	Atwood	76.10	337	P	P	07 10 13.6	+0.1
	baz=76						
KSCO	Kaye Shedlock'	76.15	336	P	P	07 10 14.1	+0.2
	baz=76						
S23A	Nye Farm, Mont	76.26	333	P	P	07 10 14.9	+0.2
	baz=76						
N32A	Stulken Farm,	76.33	339	P	P	07 10 15.0	+0.3
	baz=76						
O30A	MW Ranch, Wils	76.34	338	P	P	07 10 15.3	+0.5
	baz=76						
R24A	Sanders Place,	76.37	333	P	P	07 10 15.4	+0.1
	baz=76						
O29A	4D Ranch, Culb	76.53	337	P	P	07 10 16.4	+0.5
	baz=77						
O28A	Krutsinger Ran	76.86	337	P	P	07 10 18.3	+0.5
	baz=77						
Q24A	Divide	77.03	334	P	P	07 10 19.0	-0.1
	baz=77						
M31A	Lambtecht Ranc	77.07	339	P	P	07 10 19.9	+1.0
	baz=77						
P25A	Willow Gulch B	77.15	335	P	P	07 10 20.1	+0.5
	baz=77						
O27A	Beecher Island	77.15	336	P	P	07 10 20.2	+0.7
	baz=77						
O26A	Horse Wrangler	77.49	336	P	P	07 10 21.8	+0.4
	baz=78						
M29A	Burnside Ranch	77.69	338	P	P	07 10 22.7	+0.3
	baz=78						
N27A	Anderson Farm,	77.72	336	P	P	07 10 22.7	0.0
	baz=78						
U15A	North Rim	77.86	327	P	P	07 10 22.9	-0.9
	baz=78						
L29A	Maesberg Ranch	78.18	338	P	P	07 10 25.4	+0.2
	baz=78						
ECSD	EROS Data Cent	78.60	342	P	P	07 10 27.7	+0.4
	baz=79						
N23A	Red Feather La	79.01	334	P	P	07 10 30.1	+0.1
	baz=79						
K28A	Ten Mile Ranch	79.05	338	P	P	07 10 29.7	-0.3
	baz=79						
SPMN	St. Paul	79.07	345	P	P	07 10 29.9	+0.1
	baz=79						
M24A	Cheyenne	79.11	335	P	P	07 10 29.8	-0.6
	baz=79						
N22A	Wattenberg Ran	79.12	334	P	P	07 10 30.4	-0.2
	baz=79						
O20A	White River Ci	79.24	332	P	P	07 10 29.7	-1.4
	baz=79						
K27A	Flueckinger Fa	79.32	338	P	P	07 10 31.6	+0.1
	baz=79						
M23A	Laramie	79.43	335	P	P	07 10 32.0	-0.2
	baz=80						
I30A	Oacoma	79.55	340	P	P	07 10 32.8	+0.3
	baz=80						
K26A	Motz Farm, Whi	79.63	337	P	P	07 10 32.9	-0.2
	baz=80						
I28A	Midland	80.15	339	P	P	07 10 35.9	+0.1
	baz=80						
H29A	Onida	80.43	340	P	P	07 10 37.0	-0.3
	baz=80						
J25A	Sunshine Ranch	80.45	337	P	P	07 10 36.6	-0.9
	baz=80						
K23A	Bowen Ranch, D	80.52	335	P	P	07 10 37.2	-0.9
	baz=81						
H28A	Mission Ridge	80.72	339	P	P	07 10 38.4	-0.5
	baz=81						
G29A	Hoven	80.86	340	P	P	07 10 38.7	-0.9
	baz=81						
R11A	Troy Canyon, C	80.94	326	P	P	07 10 38.9	-1.6
	baz=81						
K21A	Alcova	81.00	334	P	P	07 10 39.0	-1.6
	baz=81						
G28A	Parade	81.05	339	P	P	07 10 40.2	-0.4
	baz=81						
I24A	Kuemmerle Ranc	81.14	336	P	P	07 10 39.5	-1.8
	baz=81						
F30A	Leola	81.20	341	P	P	07 10 41.0	-0.3
	baz=81						
F29A	Eureka	81.42	340	P	P	07 10 41.9	-0.7
	baz=82						
I22A	9 Mile Ranch,	81.82	335	P	P	07 10 43.5	-1.4
	baz=82						
H24A	Dirks Ranch, A	81.90	337	P	P	07 10 44.2	-1.0
	baz=82						
G25A	Newell	81.93	338	P	P	07 10 44.7	-0.6
	baz=82						
J20A	Shoshoni	81.94	334	P	P	07 10 44.3	-1.2
	baz=82						
PDAR	Pinedale Array	82.00	333	P	P	07 10 43.6	-2.4
	baz=160,slow=5.6						
E29A	Napoleon	82.04	341	P	P	07 10 44.9	-0.9
	baz=82						
F27A	Lemmon	82.10	339	P	P	07 10 45.1	-1.1
	baz=82						
J19A	Crowheart	82.22	333	P	P	07 10 45.5	-1.5
	baz=82						
NVAR	Mina Array Bea	82.32	325	P	P	07 10 44.7	-3.0
	10nm,0.9s,baz=144,slow=6.3,SNR=3.6						
I20A	Worland	82.46	334	P	P	07 10 46.9	-1.3
	baz=82						
D29A	Pettibone, Tap	82.48	341	P	P	07 10 47.4	-0.6
	baz=83						
F25A	Bowman	82.59	338	P	P	07 10 47.8	-1.0
	baz=83						
AGMN	Agassiz Nation	82.67	344	P	P	07 10 48.5	-0.6
	baz=83						
C30A	Mose, Pekin	82.77	342	P	P	07 10 49.1	-0.5
	baz=83						
E26A	Carlson Angus	82.77	339	P	P	07 10 48.8	-0.9
	baz=83						
F24A	Ekalaka	82.84	338	P	P	07 10 48.8	-1.3
	baz=83						
H20A	Greybull	82.88	335	P	P	07 10 48.6	-1.8
	baz=83						
F23A	Volborg	83.05	337	P	P	07 10 49.3	-1.8
	baz=83						
E25A	Miller Ranch,	83.09	338	P	P	07 10 50.0	-1.3
	baz=83						
TORD	Torodi Ar. Bea	83.13	70	P	P	07 10 53.8	+1.6
	baz=236,slow=4.6						
D26A	Manning	83.27	339	P	P	07 10 51.9	-0.3
	baz=83						
C28A	Hausauer Farms	83.30	341	P	P	07 10 51.5	-0.8
	baz=83						
F22A	Rosebud	83.39	336	P	P	07 10 50.9	-2.0
	baz=83						
H19A	Powell	83.40	334	P	P	07 10 51.0	-2.1
	baz=83						
B30A	Myrvik Farm, E	83.42	342	P	P	07 10 52.1	-0.8
	baz=84						
E24A	Baker	83.43	338	P	P	07 10 52.1	-1.0
	baz=84						
C27A	Sayler Ranch,	83.61	340	P	P	07 10 53.5	-0.5
	baz=84						
B29A	Wagenman Farm,	83.70	342	P	P	07 10 54.0	-0.4
	baz=84						
C26A	Wahner Farm, P	83.88	340	P	P	07 10 54.2	-1.2
	baz=84						
D24A	Glendive	83.93	338	P	P	07 10 54.6	-1.0
	baz=84						
B28A	Dugan Ranch, T	83.96	341	P	P	07 10 54.6	-1.1
	baz=84						
A29A	Manning Farm,	84.09	342	P	P	07 10 55.3	-1.0
	baz=84						
C25A	Freed Ranch, W	84.13	339	P	P	07 10 55.3	-1.3
	baz=84						
B27A	Peters Farms,	84.17	341	P	P	07 10 55.9	-0.9
	baz=84						
D23A	Lindsay	84.26	338	P	P	07 10 55.9	-1.5
	baz=84						
C24A	Savage	84.33	338	P	P	07 10 56.2	-1.4
	baz=84						
E21A	Keefer Ranch,	84.33	336	P	P	07 10 55.8	-1.9
	baz=84						
B26A	Jensen Ranch,	84.42	340	P	P	07 10 56.5	-1.6
	baz=84						
ULM	Lac du Bonnet	84.50	345	P	P	07 10 56.8	-1.6
	26nm,0.9s,baz=182,slow=2.6,SNR=3.8						
B25A	Knox Farm, Ray	84.60	339	P	P	07 10 57.9	-1.1
	baz=85						
A27A	Ledoux Ranch,	84.66	341	P	P	07 10 58.5	-0.8
	baz=85						
DGMT	Dagmar	85.09	339	P	P	07 10 59.9	-1.6
	baz=85						
ESDC	Sonseca Array	94.81	46	P	P	07 11 46.4	-1.2
	baz=240,slow=3.3						
AKASG	Malin Array Be	120.45	46	PKP	PKPdf	07 17 15.8	-1.1
	baz=262,slow=2.3						
WRA	Warramunga Arr	122.83	209	PKP	PKPdf	07 17 21.4	-1.2
	baz=167,slow=1.6						
SONM	Songino Array	163.94	5	PKP	PKPdf	07 18 27.6	-1.4
	baz=336,slow=3.2						

IDC 27 06:59:28.3±0.9, 34°.01S×72°.20W, h0km, mb5.3/4, mb1 5.5/5, mb1mx4.9/28, mbtmp5.4/5, ML5.4/1, Error ellipse: s-maj=43.1km s-min=37.6km az=127.0
ISCJB 27 06:59:30.5±0.4, 33°.95S±0°.08×72°.0W±0°.1, h19km, mb5.3/12, Error ellipse: s-maj=13.9km s-min=8.6km az=142.7
NEIC 27 06:59:31.9±2.4, 33°.98S×72°.12W, h21km±16km, mb5.3/10, Error ellipse: s-maj=13.0km s-min=7.3km az=82.0
ISC 27 06:59:32.2±0.5, 33°.95S±0°.08×71°.9W±0°.1, h19km, n123, σ0s71/122, mb5.3/12, 8C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.89	54	Pn	Pb	07 00 38.0	-2.2
	54nm,0.3s,baz=229,slow=12,SNR=7.0						
CFAA				Lg	Lg	07 01 32.2	
	16nm,0.3s,baz=74,slow=14,SNR=3.1						
PLCA	Paso Flores	6.86	171	Pn	Pn	07 01 10.7	-1.1
CPUP	Villa Florida	14.73	63	Pn	Pn	07 03 01.1	+1.7
	3.8nm,0.3s,baz=223,slow=15,SNR=1.6						
CPUP	Villa Florida	14.73	63	eP	Pn	07 03 01.2	+1.7
	146nm,1.5s						
SIV	San Ignacio	20.38	31	P	P	07 04 08.2	+0.3
	51nm,0.7s,baz=216,slow=14,SNR=3.9						
NNA	Nana	22.32	347	eP	P	07 04 28.8	0.0
	53nm,0.4s						
JTS	JuntasAbangare	45.70	342	eP	P	07 07 52.2	+0.1
GRGR	Grenville	46.86	14	eP	P	07 08 00.7	-0.4
CRPR	Cabo Rojo, PR	51.87	6	eP	P	07 08 38.3	-1.0
	36nm,0.9s						
ANWB	Willy Bob	52.23	12	eP	P	07 08 40.4	-1.7
	54nm,0.6s						
TEIG	Tepich	56.08	341	eP	P	07 09 09.7	-0.4
	28nm,0.8s						
QSPA	South Pole Qui	56.29	180	eP	P	07 09 11.9	+0.5
	53nm,1.1s						
035A	Encino	65.45	334	P	P	07 10 15.3	+1.5
	baz=66						
933A	Laredo	66.49	334	P	P	07 10 20.7	+0.2

baz=67
835A Beeville 66.58 335 P P 07 10 21.9 +0.9
baz=67
834A Tilden 66.69 334 P P 07 10 22.4 +0.6
baz=67
735A Kenedy 67.10 335 P P 07 10 25.0 +0.7
baz=67
833A Chaparral WMA, 67.18 334 P P 07 10 25.4 +0.5
baz=67
734A La Parita Cree 67.35 335 P P 07 10 26.6 +0.7
baz=68
832A Faith Ranch, C 67.36 333 P P 07 10 26.1 +0.1
baz=68
636A Smothers Creek 67.42 336 P P 07 10 26.9 +0.5
baz=68
733A Divot King Ran 67.50 334 P P 07 10 27.2 +0.3
baz=68
635A Leesville 67.57 336 P P 07 10 27.7 +0.4
baz=68
732A Laxson Ranch, 67.76 334 P P 07 10 28.7 +0.2
baz=68
536A Bastrop 67.97 337 P P 07 10 30.5 +0.7
baz=68
535A Dale 68.09 336 P P 07 10 31.3 +0.7
baz=68
633A Saathoff Ranch 68.13 335 P P 07 10 31.5 +0.6
baz=68
632A Uvalde 68.39 334 P P 07 10 33.0 +0.5
baz=69
631A Perdido Creek 68.60 333 P P 07 10 34.8 +1.0
baz=69
533A Kerrville 68.64 335 P P 07 10 34.7 +0.6
baz=69
435B Jarrell 68.79 336 P P 07 10 35.8 +0.8
baz=69
239A Gary 68.97 340 P P 07 10 36.9 +0.9
baz=69
532A Rocksprings 69.00 334 P P 07 10 36.9 +0.6
baz=69
336A Riesel 69.11 337 P P 07 10 37.7 +0.8
baz=69
335A Moody 69.20 337 P P 07 10 37.9 +0.4
baz=70
531A Rocksprings 69.27 334 P P 07 10 38.8 +0.8
baz=70
433A Art 69.28 335 P P 07 10 38.4 +0.3
baz=70
JCT Junction City 69.28 334 P P 07 10 39.3 +1.2
baz=70
530A J-C Ranch, Com 69.55 333 P P 07 10 40.0 +0.2
baz=70
432A Menard 69.64 335 P P 07 10 40.7 +0.4
baz=70
WHTX Lake Whitney 69.86 337 P P 07 10 42.4 +0.9
baz=70
529A Stev Forest Ra 69.86 332 P P 07 10 42.3 +0.6
baz=70
137A Heron Place, G 69.89 339 P P 07 10 42.9 +1.2
baz=70
430A Baggett Ranch, 70.08 333 P P 07 10 43.8 +0.7
baz=70
234A Clairette 70.09 336 P P 07 10 43.6 +0.5
baz=70
429A Davenport Ranc 70.18 333 P P 07 10 44.5 +0.8
baz=70
331A San Angelo 70.25 334 P P 07 10 44.2 +0.2
baz=70
232A Coleman 70.50 335 P P 07 10 45.7 +0.1
baz=71
330A Mertzon 70.62 334 P P 07 10 46.3 0.0
baz=71
133A Hamilton Ranch 70.91 336 P P 07 10 48.7 +0.7
baz=71
329A Wagon Wheel Ra 70.99 333 P P 07 10 49.1 +0.5
baz=71
Z35A Perchaven, San 71.03 338 P P 07 10 49.5 +0.8
baz=71
ABTX Abilene, Hawle 71.17 336 P P 07 10 50.1 +0.5
baz=72
Z34A Collier Ranch, 71.28 337 P P 07 10 50.5 +0.3
baz=72
229A Bryant Ranch, 71.35 333 P P 07 10 50.8 0.0
baz=72
131A Roby 71.48 335 P P 07 10 51.2 -0.3
baz=72
Z33A Whitaker Ranch 71.48 336 P P 07 10 51.6 +0.1
baz=72
Z32A Haskell 71.74 336 P P 07 10 53.3 +0.3
baz=72
Y34A Reagan Ranch, 71.77 338 P P 07 10 53.0 -0.1
baz=72
228A UT Block 9, Go 71.78 333 eP P 07 10 53.2 -0.2
baz=72
Z31A Sharp Cattle R 71.98 335 P P 07 10 54.3 -0.1
baz=72
Y33A Hilltop Ranch, 72.09 337 P P 07 10 55.0 -0.1
baz=72
128A Castleberry Fa 72.19 333 P P 07 10 55.5 -0.3
baz=72
Z30A Sanderson Ranc 72.29 335 P P 07 10 56.9 +0.5
baz=73
X34A Smith Ranch, M 72.39 338 P P 07 10 57.1 +0.3
baz=73
Y31A Rekieta Farm, 72.60 336 P P 07 10 58.5 +0.4
baz=73
Y30A Stafford Cattl 72.74 335 P P 07 11 00.3 +1.2
baz=73
X31A McDonald Ranch 73.11 336 P P 07 11 01.0 -0.2
baz=73
W32A Sentinel 73.32 337 P P 07 11 02.8 +0.4
baz=74
V34A Guthrie 73.43 339 P P 07 11 03.3 +0.3
baz=74
V33A Lossen Ranch, 73.65 338 P P 07 11 04.5 +0.2
baz=74
AMTX Amarillo 73.93 335 P P 07 11 06.3 +0.3
baz=74
Z24A Sheeppen Canyo 73.93 331 P P 07 11 06.3 +0.1
baz=74
ACSO Alum Creek Sta 74.52 351 eP P 07 11 08.9 -0.3
13nm,0.6s
Y23A Lovelace Mesa, 74.74 331 P P 07 11 11.5 +0.6
baz=75
SUR Sutherland 74.77 119 eP P 07 11 11.6 +0.2
W26A Owens Ranch, T 74.87 333 P P 07 11 12.2 +0.6
baz=75
V28A Channing 74.90 335 P P 07 11 12.5 +0.8
baz=75
X24A Lazy VL Ranch, 75.04 332 P P 07 11 13.4 +0.7
baz=75
DBIC Dimbokro 75.08 71 eP P 07 11 13.7 +0.6
17nm,0.6s
ANMO Albuquerque 75.78 331 eP P 07 11 16.3 -0.6
32nm,1.4s
W23A Werner Place, 75.85 332 P P 07 11 17.7 +0.4
baz=76
T28A Walsh 76.09 336 P P 07 11 18.8 +0.3
baz=76
T27A Campo 76.25 335 P P 07 11 19.4 -0.1
baz=76
X18A Snowflake 76.88 329 P P 07 11 25.1 +1.9
baz=77
T25A Trinidad 76.93 334 P P 07 11 24.6 +1.2
baz=77
TSUM Tsumeb 79.14 106 P P 07 11 36.3 +0.2
25nm,1.0s,baz=260,slow=7.2,SNR=4.4
TSUM Tsumeb 79.14 106 eP P 07 11 37.2 +1.1
26nm,0.8s
BOSA Boshof 80.01 118 P P 07 11 40.9 +0.1
20nm,0.7s,baz=242,slow=6.5,SNR=3.4
LBTB Lobatse 82.24 115 eP P 07 11 53.3 +0.6
30nm,0.9s
TORD Torodi Ar. Bea 84.11 70 P P 07 12 02.7 +0.6
62nm,0.8s,baz=256,slow=4.3,SNR=12
GERES GERESS Array B 112.05 45 PKiKP PKiKP 07 18 05.8 -0.1
1.8nm,0.7s,baz=204,slow=2.2,SNR=4.6
NOA NORSAR Array B 115.93 33 PKP PKPdf 07 18 12.4 -0.5
1.4nm,0.8s,baz=251,slow=2.2,SNR=3.5
HFS Hagfors 116.71 34 PKP PKPdf 07 18 13.3 -1.0
2.3nm,0.6s,baz=248,slow=1.6,SNR=4.0
DRGR 116.75 50⇑iP PKPdf 07 18 14.9 -0.1
TRPA Tarpa 117.13 49⇑iP PKPdf 07 18 15.5 0.0
JMB Yambol 117.71 56⇓iP PKPdf 07 18 16.9 +0.1
VOIR 117.76 52⇑iP PKPdf 07 18 17.4 +0.4
KWP Kalwaria Pacla 117.78 47⇓iP PKPdf 07 18 17.9 +1.1
BURAR Bucovina Array 118.64 50⇑iP PKPdf 07 18 19.3 +0.7
VRI Vrincioaia 119.02 52⇑iP PKPdf 07 18 18.6 -0.7
TESR Tescani 119.19 51⇑iP PKPdf 07 18 19.3 -0.3
TIRR Tirgusor 119.66 54⇓iP PKPdf 07 18 20.6 +0.1
CFR Carcaliu 119.72 53⇑iP PKPdf 07 18 19.9 -0.7
TLCR 120.17 53⇑iP PKPdf 07 18 21.7 +0.2
WRA Warramunga Arr 120.85 209 PKP PKPdf 07 18 22.2 -1.5
2.8nm,0.6s,baz=157,slow=1.6,SNR=7.8
ANTO Ankara 121.17 60⇓iP PKPdf 07 18 23.8 +0.1
BRTR Keskin Array B 121.73 61 PKP PKPdf 07 18 24.9 0.0
6.7nm,0.8s,baz=202,slow=2.6,SNR=7.8
AKASG Malin Array Be 122.09 47 PKP PKPdf 07 18 24.2 -0.8
11nm,0.8s,baz=258,slow=2.7,SNR=13
SPITS Spitsbergen Ar 122.61 14 PKP PKPdf 07 18 24.6 -0.6
7.4nm,0.8s,baz=320,slow=3.8,SNR=5.6
FINES FINESS Array B 122.90 35 PKP PKPdf 07 18 26.1 0.0
4.7nm,0.8s,baz=188,slow=3.9,SNR=3.9
ARCES ARCESS Array B 123.93 25 PKP PKPdf 07 18 27.6 -0.4
4.0nm,0.6s,baz=243,slow=3.4,SNR=7.9
MALT Malatya 124.80 64⇓iP PKPdf 07 18 31.9 +1.1
KBZ Khabaz 129.49 58 PKP PKPdf 07 18 40.0 +0.7
9.5nm,0.9s,baz=261,slow=5.7,SNR=3.8
PALK Pallekele 143.35 130 ePKPdf PKPbc 07 19 03.1 +0.1
BVAR Borovoye Array 147.18 43 PKPbc PKPdf 07 19 12.3 +0.9
20nm,0.6s,baz=280,slow=2.6,SNR=11
HYB Hyderabad 148.87 115 iPKP PKPbc 07 19 19.0 -0.1
KKAR Karatay Array 149.44 61 ePKPbc PKPbc 07 19 19.9 +0.1
AAK Ala-Archa 152.40 62 PKPbc PKPbc 07 19 26.9 -0.1
32nm,0.8s,baz=122,slow=1.4,SNR=6.4
ZALV Zalesovo Beam 154.13 32 PKPbc PKPbc 07 19 30.2 +0.1
43nm,0.6s,baz=306,slow=3.2,SNR=13
MKAR Makanchi Array 156.66 49 PKPab PKPab 07 19 55.4 +0.4
9.0nm,0.7s,baz=275,slow=3.0,SNR=4.7
CMAR Chiang Mai Arr 162.55 150 PKP PKPdf 07 19 32.4 -0.9
6.1nm,0.9s,baz=226,slow=3.1,SNR=5.0
SONM Songino Array 166.07 5 PKPab PKPab 07 20 35.0 -1.0
5.8nm,1.1s,baz=350,slow=4.4,SNR=3.5

IDC 27 07:01:59.1±2.0,37.98S×73.73W,h0km,mb5.0/3, mb1 5.2/3,mb1mx4.6/31,mbtmp5.0/3,Error ellipse: s-maj=93.3km s-min=41.4km az=24.0
ISCJB 27 07:02:01.9±1.3,38.0S±0.3×73.5W±0.4,h22km,mb5.0/4, Error ellipse: s-maj=58.9km s-min=14.8km az=144.3
NEIC 27 07:02:04.3±0.8,38.10S×73.71W,h35km,mb5.1/1,Error ellipse: s-maj=38.9km s-min=13.7km az=57.0
ISC 27 07:02:02.7±1.3,38.1S±0.3×73.6W±0.3,h22km,n16, σ1.19/16,mb5.1/4,Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.56 139 Pn Pn 07 02 57.1 +0.4
OTAV Otavalo 38.40 352 eP P 07 09 22.6 -0.5
37nm,1.1s
TXAR Lajitas Array 72.72 333 P P 07 13 28.3 -0.8
6.7nm,0.8s,baz=150,slow=9.2,SNR=5.4
138A Matatall Enter 73.18 341 P P 07 13 33.2 +1.7
baz=74
WHTX Lake Whitney 73.18 339 P P 07 13 33.2 +1.6
baz=74
430A Baggett Ranch, 73.21 335 P P 07 13 33.7 +1.9
baz=74
DBIC Dimbokro 77.72 71 P P 07 13 58.5 +0.5
19nm,0.6s,baz=197,slow=6.0,SNR=5.7
TORD Torodi Ar. Bea 86.81 71 P P 07 14 45.3 -0.3
12nm,0.9s,baz=224,slow=4.3,SNR=3.6
BRTR Keskin Array B 124.88 64 PKP PKPdf 07 21 00.9 +0.1
2.4nm,0.7s,baz=196,slow=3.8,SNR=4.3
AKASG Malin Array Be 125.87 50 PKP PKPdf 07 21 01.0 -1.1
1.6nm,0.6s,baz=264,slow=2.7,SNR=7.5
GEYT Alibeck 142.34 75 PKP PKPdf 07 21 31.8 -1.6
2.7nm,0.6s,baz=262,slow=2.9,SNR=2.8
PSI Prapat 144.22 167 PKP PKPdf 07 21 37.2 -0.4
28nm,0.7s,baz=155,slow=7.3,SNR=6.6
ABKAR Akbulak array 145.14 56 ePKPdf PKPbc 07 21 37.4 -0.1
BVAR Borovoye Array 151.09 47 PKPbc PKPbc 07 21 54.3 +0.9
10.0nm,0.6s,baz=302,slow=2.0,SNR=5.0
AAK Ala-Archa 155.39 69 PKPab PKPab 07 22 20.6 +0.8
13nm,0.8s,baz=215,slow=7.4,SNR=3.5
MKAR Makanchi Array 160.29 56 PKPab PKPab 07 22 39.2 -1.6
3.5nm,0.7s,baz=279,slow=4.4,SNR=3.2

IDC 27 07:04:45.1±1.4,32.70S×72.44W,h0km,mb5.1/1, mb1 5.6/1,mb1mx4.4/30,mbtmp5.1/1,Error ellipse: s-maj=120.6km s-min=63.7km az=62.0,Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TXAR Lajitas Array 68.44 331 P P 07 15 49.1 0.0
21nm,1.1s,baz=147,slow=8.6,SNR=1.4
BRTR Keskin Array B 121.49 60 PKP PKPdf 07 23 40.4 -0.3
2.0nm,0.8s,baz=248,slow=1.6,SNR=3.9
AKASG Malin Array Be 121.56 47 PKP PKPdf 07 23 40.1 -0.1
1.3nm,0.6s,baz=263,slow=2.5,SNR=4.3
WRA Warramunga Arr 121.72 210 PKP PKPdf 07 23 41.4 -0.3
1.0nm,0.8s,baz=161,slow=1.6,SNR=3.4

IDC 27 07:05:00.4±0.4,33.91S×72.10W,h0km,mb5.2/16, mb1 5.3/17,mb1mx5.2/31,mbtmp5.2/17,ML4.8/1,Error ellipse: s-maj=23.8km s-min=14.9km az=79.0
ISCJB 27 07:05:02.4±0.3,33.79S±0.05×71.9W±0.1,h19km, mb5.6/65,Error ellipse: s-maj=12.8km s-min=7.7km az=169.9
NEIC 27 07:05:05.7±0.2,33.91S×72.11W,h35km,mb5.8/52,Error ellipse: s-maj=9.3km s-min=5.4km az=79.0
MOS 27 07:05:05.7±2.0,33.90S×72.10W,h33km,mb6.0/12,Error ellipse: s-maj=25.1km s-min=9.9km az=98.3
ISC 27 07:05:03.6±0.3,33.87S±0.07×72.0W±0.1,h19km,n600, σ0.83/598,mb5.8/65,227C-212D,Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 3.92 56 Pn Pn 07 06 07.0 +4.3
5.6nm,0.3s,baz=265,slow=11,SNR=2.1
CFAA Lg Lg 07 07 11.4
28nm,0.3s,baz=27,slow=9.1,SNR=3.7
PLCA Paso Flores 6.95 171 P Pn 07 06 46.6 +2.1
PLCA Paso Flores 6.95 171 Pn Pn 07 06 46.6 +2.1
LPAZ La Paz 17.86 12 eP P 07 09 13.7 +1.5
LPAZ pmax pmax
comp=Z,4μm,2.6s
LPAZ La Paz 17.86 12 P P 07 09 13.6 +1.3
comp=Z,1.4nm,0.3s,baz=188,slow=7.1,SNR=4.5
LPAZ La Paz 17.86 12 eP P 07 09 13.7 +1.5
comp=Z,4μm,2.6s
SIV San Ignacio 20.36 32 P P 07 09 40.0 +1.0
comp=Z,41nm,0.6s,baz=181,slow=9.8
USHA Ushuaia 21.11 174 P P 07 09 47.5 +0.6
comp=Z,68nm,1.0s,baz=292,slow=7.4,SNR=3.7
NNA Nana 22.22 347 eP P 07 10 00.7 +1.6
NNA pmax pmax
comp=Z,70nm,0.8s
NNA Nana 22.22 347 P P 07 09 59.5 +0.3
comp=Z,114nm,0.8s,baz=191,slow=12,SNR=11
NNA Nana 22.22 347 eP P 07 10 00.7 +1.6
comp=Z,70nm,0.8s
ROSC El Rosal 38.58 356 P P 07 12 32.5 +6.7
comp=Z,19nm,0.7s,baz=122,slow=5.2,SNR=4.6
GRGR Grenville 46.80 14 eP P 07 13 32.7 +0.7
comp=Z,404nm,1.2s
SNAA Sanae 51.71 158 P P 07 14 09.2 +0.1
comp=Z,30nm,0.8s,baz=292,slow=7.4,SNR=11
ICMP Isla Caja de M 51.73 7 eP P 07 14 08.8 -0.9
CRPR Cabo Rojo, PR 51.80 6 eP P 07 14 10.2 +0.1
comp=Z,82nm,0.8s
LSP Las Mesas 51.97 6 eP P 07 14 10.7 -0.8
LRS Lares 52.10 6 eP P 07 14 12.8 +0.3
ANWB Willy Bob 52.17 12 eP P 07 14 11.7 -1.3
comp=Z,98nm,0.7s
CBYP Canovanas 52.18 7 eP P 07 14 12.7 -0.4
comp=Z,98nm,0.9s
SDDR Presa de Saban 52.56 1 eP P 07 14 15.9 0.0
comp=Z,173nm,1.2s
SMN1 Samana, DR 52.83 3 eP P 07 14 18.1 +0.3
GTBY Guantanamo Bay 53.57 356 eP P 07 14 23.2 -0.1
comp=Z,79nm,0.8s
TEIG Tepich 55.98 342 eP P 07 14 40.5 -0.2
comp=Z,74nm,0.7s
QSPA South Pole Qui 56.37 180 P P 07 14 43.3 +0.1
comp=Z,111nm,1.1s,baz=260,slow=2.7,SNR=6.2
035A Encino 65.34 334 ⇑P P 07 15 46.0 +1.6
baz=66
TIGA Tifton 65.87 349 ⇑P P 07 15 48.4 +0.6
baz=66
933A Laredo 66.38 334 ⇓P P 07 15 52.3 +1.2
baz=67
834A Tilden 66.58 335 ⇑P P 07 15 53.7 +1.3
baz=67
735A Kenedy 66.99 336 ⇓P P 07 15 56.3 +1.3
baz=67
833A Chaparral WMA, 67.06 334 ⇓P P 07 15 57.0 +1.4
baz=67
734A La Parita Cree 67.24 335 ⇑P P 07 15 57.8 +1.2
baz=68
832A Faith Ranch, C 67.24 333 ⇑P P 07 15 58.0 +1.3
baz=68
636A Smothers Creek 67.31 336 ⇓P P 07 15 58.0 +0.9
baz=68
538A Harpers Horsep 67.49 338 ⇓P P 07 15 59.5 +1.3
baz=68
537A Green Hill Far 67.62 337 ⇓P P 07 15 59.9 +1.0
baz=68
732A Laxson Ranch, 67.64 334 ⇑P P 07 16 00.1 +0.9
baz=68
634A China Grove, S 67.66 335 ⇑P P 07 15 59.9 +0.7
baz=68
536A Bastrop 67.86 337 ⇑P P 07 16 01.3 +0.8
baz=68
535A Dale 67.98 336 ⇓P P 07 16 02.0 +0.7
baz=68
633A Saathoff Ranch 68.02 335 ⇓P P 07 16 02.2 +0.7
baz=68
340A Bronson 68.13 340 ⇑P P 07 16 02.9 +0.7
baz=68
339A Huntington 68.24 339 ⇑P P 07 16 04.0 +1.1
baz=69
632A Uvalde 68.28 334 ⇑P P 07 16 04.1 +0.9
baz=69
436A Wall Ranch, Ga 68.41 337 ⇑P P 07 16 05.2 +1.2
baz=69
631A Perdido Creek 68.49 333 ⇑P P 07 16 05.5 +1.0
baz=69
338A Crockett 68.49 339 ⇑P P 07 16 05.7 +1.2
baz=69
533A Kerrville 68.53 335 ⇓P P 07 16 06.1 +1.4
baz=69,SNR=5.7
337A Centerville 68.63 338 ⇓P P 07 16 06.3 +1.0
baz=69
435B Jarrell 68.68 337 ⇓P P 07 16 06.2 +0.6
baz=69
532A Rocksprings 68.89 334 ⇓P P 07 16 07.9 +0.9
baz=69
434A Burnet 68.94 336 ⇓P P 07 16 07.6 +0.3
baz=69,SNR=5.4
336A Riesel 69.00 337 ⇓P P 07 16 08.3 +0.7
baz=69
335A Moody 69.09 337 ⇑P P 07 16 08.9 +0.7
baz=69
433A Art 69.17 335 ⇑P P 07 16 09.1 +0.4
baz=70,SNR=6.8
JCT Junction City 69.17 335 ⇓P P 07 16 09.6 +0.9
baz=70
KMSC Kings Mountain 69.20 352 ⇑P P 07 16 09.9 +1.1
baz=70
334A Lometa 69.40 336 ⇑P P 07 16 10.7 +0.5
baz=70,SNR=6.8
530A J-C Ranch, Com 69.43 333 ⇑P P 07 16 11.8 +1.4
baz=70
432A Menard 69.52 335 ⇓P P 07 16 11.7 +0.7
baz=70
TXAR Lajitas Array 69.62 331 P P 07 16 11.9 +0.3
comp=Z,34nm,0.9s,baz=157,slow=6.4,SNR=9.3
431A Sonora 69.64 334 ⇓P P 07 16 12.8 +1.1
baz=70
333A Richland Sprin 69.65 336 ⇓P P 07 16 12.5 +0.8
baz=70
529A Stev Forest Ra 69.75 332 ⇓P P 07 16 12.7 +0.4
baz=70
WHTX Lake Whitney 69.75 337 eP P 07 16 12.0 -0.3
comp=Z,396nm,1.3s
WHTX Lake Whitney 69.75 337 ⇓P P 07 16 13.0 +0.7
baz=70
OXF Oxford 69.95 345 eP P 07 16 12.4 -1.0
OXF pmax pmax
comp=Z,180nm,0.9s
OXF Oxford 69.95 345 eP P 07 16 12.4 -1.0
comp=Z,180nm,0.9s
SWET Sewanee 69.95 348 eP P 07 16 13.6 +0.1
comp=Z,132nm,0.9s
332A Millersview 69.97 335 ⇓P P 07 16 14.1 +0.4
baz=70
430A Baggett Ranch, 69.97 333 ⇑P P 07 16 14.0 +0.2
baz=70
234A Clairette 69.99 337 ⇑P P 07 16 14.3 +0.5
baz=70
429A Davenport Ranc 70.07 333 ⇓P P 07 16 15.0 +0.6
baz=70
331A San Angelo 70.14 334 ⇓P P 07 16 15.1 +0.4
baz=70
233A Rising Star 70.25 336 ⇑P P 07 16 16.1 +0.6
baz=71
135A Vickery Place, 70.26 337 ⇑P P 07 16 15.7 +0.3
baz=71
PPT Papeete 70.27 262 P P 07 16 16.2 +0.3
comp=Z,117nm,1.0s,baz=164,slow=7.4,SNR=2.1
232A Coleman 70.39 335 ⇑P P 07 16 16.7 +0.4
baz=71
134A White-Moore Ra 70.49 337 ⇓P P 07 16 17.4 +0.6
baz=71
330A Mertzon 70.50 334 ⇓P P 07 16 17.3 +0.4
baz=71
231A Bronte 70.67 335 ⇓P P 07 16 18.1 +0.1
baz=71,SNR=6.6
133A Hamilton Ranch 70.80 336 ⇑P P 07 16 19.5 +0.8
baz=71
329A Wagon Wheel Ra 70.88 333 ⇓P P 07 16 20.0 +0.7
baz=71
230A Sterling City 70.91 334 ⇑P P 07 16 19.7 +0.2
baz=71
Z35A Perchaven, San 70.92 338 ⇓P P 07 16 19.9 +0.5
baz=71,SNR=8.0
ABTX Abilene, Hawle 71.06 336 eP P 07 16 20.3 0.0
comp=Z,172nm,0.9s
ABTX Abilene, Hawle 71.06 336 ⇓P P 07 16 20.8 +0.5
baz=71
Z34A Collier Ranch, 71.17 337 ⇓P P 07 16 21.5 +0.6
baz=72
WVT Waverly 71.18 347 eP P 07 16 21.4 +0.5
WVT pmax pmax
comp=Z,169nm,0.8s
WVT Waverly 71.18 347 eP P 07 16 21.4 +0.5
comp=Z,169nm,0.8s
229A Bryant Ranch, 71.24 334 ⇑P P 07 16 22.1 +0.6
baz=72
131A Roby 71.37 335 ⇑P P 07 16 22.9 +0.8
baz=72,SNR=5.0
Z33A Whitaker Ranch 71.37 337 ⇓P P 07 16 22.7 +0.6
baz=72
130A Snyder 71.50 334 ⇓P P 07 16 23.1 +0.1
baz=72
GLAT Glass 71.61 345 eP P 07 16 23.9 +0.4
Z32A Haskell 71.63 336 ⇓P P 07 16 24.2 +0.5
baz=72,SNR=5.2
Y34A Reagan Ranch, 71.66 338 ⇑P P 07 16 24.6 +0.7
baz=72
228A UT Block 9, Go 71.67 333 ⇓P P 07 16 24.3 +0.2
baz=72,SNR=7.8
129A Stewart Farms, 71.86 334 ⇑P P 07 16 25.3 +0.1
baz=72
Z31A Sharp Cattle R 71.86 335 ⇓P P 07 16 25.6 +0.4
baz=72
Y33A Hilltop Ranch, 71.99 337 ⇑P P 07 16 25.7 -0.2
baz=72
128A Castleberry Fa 72.08 333 ⇑P P 07 16 26.5 0.0
baz=72
PARMO Parma 72.09 345 eP P 07 16 26.6 +0.2
Z30A Sanderson Ranc 72.18 335 ⇓P P 07 16 27.1 0.0
baz=72,SNR=5.9
Y32A R-V Farms, Ver 72.25 336 ⇓P P 07 16 27.0 -0.4
baz=73
X34A Smith Ranch, M 72.28 338 ⇓P P 07 16 26.8 -0.8
baz=73
Z29A Hungry Hill Ra 72.36 334 ⇑P P 07 16 28.2 0.0
baz=73,SNR=5.2
MNTX Cornudas Mount 72.40 331 eP P 07 16 27.4 -1.0
X33A Lawton 72.44 337 ⇓P P 07 16 28.6 +0.1
baz=73
127A Arkansas Junct 72.46 333 ⇑P P 07 16 29.5 +0.7
baz=73
Y31A Rekieta Farm, 72.49 336 ⇓P P 07 16 29.5 +0.7
baz=73,SNR=6.6

X32A	Elmer	72.58	337	⇑P	P	07 16 29.7	+0.3	baz=73,SNR=5.3
Y30A	Stafford Cattl	72.63	335	⇑P	P	07 16 29.9	+0.1	baz=73
Z28A	Tucker Farm, M	72.64	334	⇑P	P	07 16 30.4	+0.6	baz=73
W34A	Bridge Creek,	72.84	338	*e*P	P	07 16 32.6	+1.7	comp=Z,156nm,1.2s
W34A	Bridge Creek,	72.84	338	⇑P	P	07 16 31.0	+0.1	baz=73
TUL1	Tulsa	72.88	340	*e*P	P	07 16 31.0	-0.1	comp=Z,17µm,3.9s
TUL1	Tulsa	72.88	340	⇑P	P	07 16 30.9	-0.2	baz=73
Y29A	Porterfield Fa	72.89	334	⇑P	P	07 16 31.3	0.0	baz=73
USIN	University of	72.93	347	*e*P	P	07 16 30.8	-0.6	comp=Z,124nm,0.9s
Z27A	Tatum	72.97	333	⇑P	P	07 16 32.0	+0.2	baz=73
W33A	Caddo, Fort Co	72.99	338	⇑P	P	07 16 32.4	+0.6	baz=73,SNR=6.9
SIUC	Southern Illin	72.99	346	*e*P	P	07 16 31.3	-0.4	comp=Z,102nm,0.8s
X31A	McDonald Ranch	73.00	336	⇑P	P	07 16 32.1	+0.2	baz=73,SNR=5.2
SDMD	Soldier's Deli	73.05	356	*e*P	P	07 16 33.0	+1.0	comp=Z,38nm,0.9s
X30A	Coker Ranch, T	73.14	335	⇑P	P	07 16 32.5	-0.2	baz=74
Y28A	McKinney Farm,	73.14	334	⇓P	P	07 16 33.3	+0.4	baz=74
W32A	Sentinel	73.21	337	⇑P	P	07 16 33.7	+0.6	baz=74,SNR=11
Z26A	Caprock	73.22	332	⇑P	P	07 16 33.7	+0.3	baz=74,SNR=9.2
V34A	Guthrie	73.32	339	*e*P	P	07 16 33.7	0.0	comp=Z,201nm,1.3s
V34A	Guthrie	73.32	339	⇓P	P	07 16 34.0	+0.2	baz=74
MSTX	Muleshoe	73.39	334	*e*P	P	07 16 34.2	-0.1	comp=Z,316nm,1.3s
MSTX	Muleshoe	73.39	334	⇓P	P	07 16 34.5	+0.2	baz=74,SNR=5.9
X29A	Tulia	73.43	335	⇑P	P	07 16 34.7	+0.2	baz=74
Y27A	Causey	73.46	333	⇓P	P	07 16 35.0	+0.3	baz=74
W31A	Holland Ranch,	73.50	336	⇓P	P	07 16 35.0	+0.2	baz=74
Z25A	Roswell	73.52	332	⇓P	P	07 16 35.7	+0.6	baz=74
V33A	Lossen Ranch,	73.55	338	⇑P	P	07 16 35.6	+0.6	baz=74,SNR=8.1
X28A	Dimmitt	73.67	334	⇑P	P	07 16 36.8	+0.8	baz=74
V32A	Arapaho	73.69	337	⇓P	P	07 16 36.9	+0.9	baz=74
W30A	Crocket Farms	73.71	336	⇑P	P	07 16 36.8	+0.7	baz=74
Y26A	Elida	73.74	333	⇓P	P	07 16 36.7	+0.3	baz=74,SNR=5.8
319A	Douglas	73.79	327	⇓P	P	07 16 37.5	+0.7	baz=74
AMTX	Amarillo	73.82	335	*e*P	P	07 16 37.2	+0.4	comp=Z,162nm,1.1s
AMTX	Amarillo	73.82	335	⇑P	P	07 16 37.6	+0.8	baz=74
Z24A	Sheeppen Canyo	73.82	331	⇑P	P	07 16 37.6	+0.6	baz=74
U34A	Anderson Ranch	73.88	339	*e*P	P	07 16 37.2	+0.1	comp=Z,229nm,1.3s
U34A	Anderson Ranch	73.88	339	⇓P	P	07 16 37.4	+0.4	baz=74
V31A	Spring Creek L	74.00	337	⇓P	P	07 16 38.3	+0.5	baz=74
W29A	Amraillo	74.02	335	⇓P	P	07 16 37.7	-0.3	baz=74,SNR=5.2
U33A	Lingo Farm, Me	74.06	338	⇑P	P	07 16 38.3	+0.2	baz=74
Y25A	Mesa, Roswell	74.08	332	⇓P	P	07 16 38.3	-0.1	baz=74
X27A	F and S Farms,	74.12	334	⇑P	P	07 16 39.4	+0.8	baz=74
121A	Cookes Peak, D	74.13	329	⇓P	P	07 16 39.5	+0.8	baz=74
V30A	Spur Ranch, Mi	74.27	336	⇑P	P	07 16 40.0	+0.6	baz=75
U32A	Winter Ranch,	74.28	338	⇓P	P	07 16 39.6	+0.2	baz=75,SNR=5.6
X26A	CR and CF Fran	74.30	333	⇓P	P	07 16 40.3	+0.7	baz=75
W28A	Vega	74.34	335	⇑P	P	07 16 40.4	+0.6	baz=75
Y24A	Capitan	74.37	332	⇓P	P	07 16 40.9	+0.7	baz=75
Z22A	Elephant Butte	74.41	330	⇑P	P	07 16 41.1	+0.8	baz=75
ACSO	Alum Creek Sta	74.42	351	*e*P	P	07 16 39.2	-0.8	comp=Z,116nm,0.8s
U31A	Nine Bar Ranch	74.55	337	⇑P	P	07 16 41.4	+0.4	baz=75
X25A	Clemmons Ranch	74.60	333	⇓P	P	07 16 41.7	+0.3	baz=75
Y23A	Lovelace Mesa,	74.62	331	⇓P	P	07 16 43.0	+1.3	baz=75
V29A	Stinnett	74.66	336	⇑P	P	07 16 42.6	+1.0	baz=75
T33A	Patterson Ranc	74.69	339	⇑P	P	07 16 42.8	+1.1	baz=75
W26A	Owens Ranch, T	74.76	333	⇑P	P	07 16 43.0	+0.7	baz=75,SNR=6.7
V28A	Channing	74.79	335	⇑P	P	07 16 43.4	+0.9	baz=75
X24A	Lazy VL Ranch,	74.93	332	⇓P	P	07 16 44.3	+0.8	baz=75
U30A	WK&E Inc. Balk	74.96	336	⇑P	P	07 16 44.2	+0.9	baz=75
T32A	Huddler Ranch,	74.99	338	⇑P	P	07 16 44.4	+0.9	baz=75
V27A	Dan Oppiter Fa	75.01	334	⇓P	P	07 16 44.8	+1.1	baz=75
U29A	Oasis Ranch, S	75.09	336	⇑P	P	07 16 44.9	+0.7	baz=75
S33A	Kaszmaul Farm,	75.09	339	⇑P	P	07 16 45.1	+1.1	baz=76
W25A	X Bar L Ranch,	75.13	333	⇓P	P	07 16 45.3	+0.8	baz=76
T31A	Randall Ranch,	75.16	337	⇑P	P	07 16 45.4	+0.9	baz=76
SFIN	Scholer Farm	75.18	348	⇑P	P	07 16 44.7	+0.3	baz=76
U28A	Mallet	75.36	335	⇓P	P	07 16 46.2	+0.5	baz=76
T30A	Plains	75.39	337	⇑P	P	07 16 46.2	+0.4	baz=76
V26A	Tequesquite Ra	75.39	334	⇓P	P	07 16 46.3	+0.3	baz=76
S32A	Newby Ranch, P	75.48	338	⇓P	P	07 16 47.0	+0.7	baz=76
W24A	Lazy 6 Ranch,	75.49	332	⇑P	P	07 16 47.1	+0.5	baz=76
S31A	Mullinville	75.57	338	⇑P	P	07 16 47.3	+0.4	baz=76
U27A	Thompson Grove	75.61	335	⇑P	P	07 16 47.6	+0.4	baz=76
W23A	Werner Place,	75.73	332	⇓P	P	07 16 48.9	+0.8	baz=76
T29A	Hugoton	75.74	336	⇑P	P	07 16 48.8	+1.0	baz=76
V25A	Rancho No Teng	75.74	333	⇑P	P	07 16 48.8	+0.7	baz=76
R33A	Olander Ranch,	75.75	339	⇑P	P	07 16 48.0	+0.2	baz=76
V24A	Rampart Ranch,	75.89	333	⇓P	P	07 16 49.2	+0.3	baz=76
S30A	Montezuma	75.91	337	⇑P	P	07 16 49.5	+0.8	baz=76
214A	Organ Pipe Nat	75.91	325	⇑P	P	07 16 49.9	+1.0	baz=76
U26A	Atchley Ranch,	75.91	334	⇓P	P	07 16 49.6	+0.6	baz=76
ERPA	Erie	75.97	354	*e*P	P	07 16 49.0	0.0	comp=Z,805nm,2.3s
T28A	Walsh	75.98	336	⇓P	P	07 16 49.9	+0.6	baz=76,SNR=7.9
R32A	Long Quarter,	76.07	339	⇓P	P	07 16 50.4	+0.7	baz=76,SNR=5.7
KSU1	Kansas State U	76.09	341	⇓P	P	07 16 50.1	+0.4	baz=76
S29A	Ulysses	76.10	337	⇑P	P	07 16 50.2	+0.3	baz=76
T27A	Campo	76.14	335	⇑P	P	07 16 50.9	+0.7	baz=76,SNR=9.2
U25A	Circle Dot Ran	76.16	334	⇑P	P	07 16 50.5	+0.1	baz=76
R31A	Burdett	76.20	338	⇓P	P	07 16 51.1	+0.7	baz=77
V23A	Ortiz Mt. (NFS	76.26	332	⇑P	P	07 16 51.7	+0.7	baz=77
S28A	Manter	76.33	336	⇑P	P	07 16 51.6	+0.4	baz=77,SNR=7.3
Q33A	Connelly Farm,	76.34	340	⇑P	P	07 16 51.5	+0.4	baz=77
R30A	Dighton	76.43	337	⇑P	P	07 16 52.2	+0.4	baz=77
U24A	Moreno Valley	76.49	333	⇓P	P	07 16 52.8	+0.4	baz=77
AAM	Ann Arbor	76.55	351	*e*P	P	07 16 52.3	+0.1	
AAM				pmax	pmax			comp=Z,170nm,1.5s
AAM	Ann Arbor	76.55	351	*e*P	P	07 16 52.3	+0.1	comp=Z,170nm,1.5s
Q32A	Meitler Ranch,	76.55	339	⇓P	P	07 16 52.8	+0.5	baz=77
T26A	Comanche Natio	76.55	335	⇑P	P	07 16 53.1	+0.5	baz=77
V22A	San Miguel Ran	76.69	332	⇑P	P	07 16 53.9	+0.4	baz=77
P33A	Williams Farm,	76.71	340	⇑P	P	07 16 53.9	+0.6	baz=77
S27A	Las Animas	76.76	335	⇓P	P	07 16 54.5	+0.8	baz=77
X18A	Snowflake	76.76	329	⇑P	P	07 16 54.5	+0.7	baz=77
U23A	El Rito	76.77	332	⇓P	P	07 16 54.1	+0.2	baz=77
T25A	Trinidad	76.82	334	⇓P	P	07 16 54.8	+0.7	baz=77,SNR=8.4
Q31A	Ellis	76.82	338	⇓P	P	07 16 54.3	+0.5	baz=77,SNR=6.5
R29A	Marienthal	76.84	337	⇑P	P	07 16 54.6	+0.5	baz=77
ACCN	Adirondack Com	76.90	359	*e*P	P	07 16 53.9	-0.3	comp=Z,110nm,1.5s
S26A	Kim	76.91	335	⇓P	P	07 16 54.7	+0.2	baz=77,SNR=5.0
R28A	Tribune	76.98	336	⇓P	P	07 16 55.0	+0.1	baz=77
113A	Mohawk Valley,	77.04	325	⇑P	P	07 16 56.3	+1.1	baz=77
Q30A	Quinter	77.05	338	⇑P	P	07 16 55.6	+0.4	baz=77
U22A	Llaves	77.07	332	⇓P	P	07 16 57.1	+1.4	baz=77
T24B	San Luis	77.11	333	⇑P	P	07 16 56.7	+0.9	baz=77
P32A	Huiting Farm,	77.15	339	⇑P	P	07 16 56.7	+1.0	baz=78
W18A	Petrified Fore	77.17	329	*e*P	P	07 16 57.3	+1.1	comp=Z,216nm,1.4s
W18A	Petrified Fore	77.17	329	⇑P	P	07 16 56.6	+0.4	baz=78
Q29A	Oakley	77.21	337	⇑P	P	07 16 56.3	+0.2	baz=78
R27A	Eads	77.27	336	⇑P	P	07 16 56.5	0.0	baz=78,SNR=6.2
P31A	Stockton	77.29	339	⇓P	P	07 16 56.6	+0.1	baz=78
S25A	Robets Cordova	77.29	334	⇓P	P	07 16 57.6	+0.9	baz=78
X16A	Lo Mia Camp, P	77.33	327	⇑P	P	07 16 58.1	+1.0	baz=78
T23A	Casias Ranch,	77.33	333	⇓P	P	07 16 57.9	+0.8	baz=78
R26A	Arlington	77.51	335	⇓P	P	07 16 58.7	+0.8	baz=78
S24A	Houchin Ranch,	77.56	334	⇓P	P	07 16 59.1	+0.7	baz=78,SNR=6.5
P30A	Selden	77.57	338	⇑P	P	07 16 58.9	+0.8	baz=78
Y14A	Wickenburg	77.64	326	⇑P	P	07 16 59.6	+1.0	baz=78
O32A	Brockman Farm,	77.64	340	⇑P	P	07 16 59.5	+1.0	baz=78
Q28A	Sharon Springs	77.64	337	⇓P	P	07 16 59.7	+1.1	baz=78
R25A	Fountain Ranch	77.67	334	⇑P	P	07 16 59.4	+0.6	baz=78
SDCO	Great Sand Dun	77.75	333	*e*P	P	07 16 59.1	-0.4	comp=Z,18nm,1.0s
GLA	Glamis	77.78	324	⇓P	P	07 17 00.5	+1.0	baz=78
P29A	Atwood	77.84	338	⇓P	P	07 17 00.4	+0.8	baz=78
O31A	Woolen Ranch,	77.85	339	⇑P	P	07 17 00.6	+1.0	baz=78
KSCO	Kaye Shedlock'	77.86	336	⇓P	P	07 17 00.9	+1.1	baz=78
SCIA	State Center	77.88	344	*e*P	P	07 16 58.4	-1.3	comp=Z,62nm,1.0s
S23A	Nye Farm, Mont	77.91	333	⇑P	P	07 17 01.1	+0.8	baz=78
R24A	Sanders Place,	78.04	334	⇓P	P	07 17 01.7	+0.7	baz=78
P28A	Saint Francis	78.08	337	⇑P	P	07 17 01.8	+0.8	baz=78
Q26A	Hugo	78.09	335	⇑P	P	07 17 01.9	+0.8	baz=78
O30A	MW Ranch, Wils	78.10	338	⇑P	P	07 17 02.1	+1.1	baz=78
N32A	Stulken Farm,	78.11	340	⇑P	P	07 17 02.1	+1.0	baz=78
SWSC	Sam W. Stewart	78.16	324	⇑P	P	07 17 03.0	+1.5	baz=78
JFWS	Jewell Farm	78.21	346	*e*P	P	07 17 01.3	-0.2	
JFWS				pmax	pmax			comp=Z,53nm,0.8s
JFWS	Jewell Farm	78.21	346	*e*P	P	07 17 01.3	-0.2	comp=Z,53nm,0.8s
WUAZ	Wupatki	78.22	328	⇑P	P	07 17 02.8	+0.8	baz=78
S22A	4UR Ranch, Cre	78.26	332	⇑P	P	07 17 02.7	+0.4	baz=79
R23A	Moffat	78.27	333	⇓P	P	07 17 03.0	+0.6	baz=79
O29A	4D Ranch, Culb	78.28	338	⇑P	P	07 17 02.5	+0.4	baz=79
Q25A	Bedland, Calha	78.34	335	⇑P	P	07 17 02.9	+0.3	baz=79
P27A	Ficken Ranch,	78.34	336	⇓P	P	07 17 02.9	+0.5	baz=79
N31A	Bailey Ranch,	78.36	339	⇑P	P	07 17 02.8	+0.4	baz=79
MONP	Monument Peak	78.43	323	⇑P	P	07 17 04.0	+0.8	baz=79
MVCO	Mesa Verde	78.45	331	*e*P	P	07 17 02.9	-0.4	comp=Z,122nm,1.3s
MVCO	Mesa Verde	78.45	331	⇓P	P	07 17 03.5	+0.2	baz=79
PDMCI	Parker Dam,Lak	78.47	325	⇓P	P	07 17 03.5	+0.4	baz=79
BC3	Big Chuckawall	78.57	324	⇓P	P	07 17 04.4	+0.5	baz=79
O28A	Krutsinger Ran	78.59	337	⇑P	P	07 17 04.3	+0.5	baz=79
P26A	Davis Ranch, A	78.60	336	⇑P	P	07 17 03.6	-0.3	baz=79
BGNE	Belgrade	78.67	340	⇑P	P	07 17 04.8	+0.6	baz=79
Q24A	Divide	78.70	334	⇓P	P	07 17 05.1	+0.3	baz=79
IRM	Iron Mountain	78.84	325	⇓P	P	07 17 06.4	+1.1	baz=79
P25A	Willow Gulch B	78.84	335	⇓P	P	07 17 06.1	+0.8	baz=79
M31A	Lambtecht Ranc	78.84	340	⇑P	P	07 17 05.9	+0.7	baz=79
N29A	Votaw Ranch, W	78.86	338	⇓P	P	07 17 06.2	+0.9	baz=79
O27A	Beecher Island	78.88	337	⇑P	P	07 17 06.6	+1.2	baz=79
W13A	Hualapai Mount	79.01	326	⇑P	P	07 17 07.2	+0.8	baz=79
N28A	Pribbeno Ranch	79.02	338	⇑P	P	07 17 06.9	+0.8	baz=79
PFO	Pinyon Flat Ob	79.03	323	⇑P	P	07 17 07.7	+1.2	baz=79
NEE2	Needles Airpor	79.08	325	⇑P	P	07 17 07.8	+1.3	baz=79
P24A	Kohler Place,	79.10	335	⇓P	P	07 17 07.9	+1.1	baz=79
BELC	Belle Mtn. Jos	79.12	324	⇑P	P	07 17 08.0	+1.1	baz=79
O26A	Horse Wrangler	79.20	336	⇓P	P	07 17 08.2	+1.0	baz=80
M30A	Dale-Ortello V	79.28	339	⇑P	P	07 17 08.5	+1.0	baz=80
O25A	Wiggins	79.36	336	⇑P	P	07 17 09.3	+1.2	baz=80
U15A	North Rim	79.39	328	⇑P	P	07 17 08.9	+0.4	baz=80
MURC	Murrieta	79.39	323	⇓P	P	07 17 09.2	+1.0	baz=80
OGNE	Ogallala	79.41	337	⇑P	P	07 17 09.1	+0.8	baz=80
M29A	Burnside Ranch	79.45	338	⇓P	P	07 17 09.5	+1.1	baz=80
N27A	Anderson Farm,	79.45	337	⇓P	P	07 17 09.4	+0.9	baz=80
L31A	Butterfield Fa	79.57	340	⇑P	P	07 17 10.2	+1.1	baz=80
GMRC	Granite Mounta	79.58	325	⇓P	P	07 17 10.0	+0.6	baz=80
ISCO	Idaho Springs	79.61	334	*e*P	P	07 17 10.2	+0.5	
ISCO				pmax	pmax			comp=Z,49nm,1.1s
ISCO	Idaho Springs	79.61	334	*e*P	P	07 17 10.2	+0.5	comp=Z,49nm,1.1s
ISCO	Idaho Springs	79.61	334	⇑P	P	07 17 10.2	+0.5	baz=80
L30A	Spencer Herefo	79.62	339	⇑P	P	07 17 09.6	+0.2	baz=80
PV10	Paradox Valley	79.67	331	*e*P	P	07 17 10.7	+0.7	comp=Z,748nm,0.9s
N26A	Koester Ranch,	79.70	336	⇓P	P	07 17 10.7	+0.9	baz=80
CIS	Catalina Islan	79.85	322	⇑P	P	07 17 12.0	+1.3	baz=80
P22A	Eagle	79.85	333	⇑P	P	07 17 11.7	+0.8	baz=80
HEC	Hector,Ludlow	79.95	324	⇓P	P	07 17 12.9	+1.5	baz=80
L29A	Maesberg Ranch	79.95	339	⇓P	P	07 17 12.5	+1.3	baz=80
M27A	Reverse DX Ran	80.05	337	⇑P	P	07 17 12.8	+1.0	baz=80
O23A	Lake Granby, G	80.08	334	⇓P	P	07 17 12.3	+0.1	baz=80
BOSA	Boshof	80.13	118	P	P	07 17 13.5	+0.8	comp=Z,12nm,0.5s,baz=238,slow=3.3,SNR=5.8
BFSC	Mount Baldy Ra	80.13	323	⇓P	P	07 17 12.9	+0.5	baz=80
TUQ	Turquoise Moun	80.24	325	⇑P	P	07 17 14.0	+1.0	baz=80
M26A	McRoberts Ranc	80.24	337	⇑P	P	07 17 14.1	+1.2	baz=81
K30A	Basset	80.25	340	⇓P	P	07 17 14.2	+1.5	baz=81
O22A	Kremmling	80.27	334	⇓P	P	07 17 14.0	+0.7	baz=81
RRX	Edison Barstow	80.31	324	⇑P	P	07 17 14.4	+1.2	baz=81
PASC	Pasadena Art C	80.34	323	*e*P	P	07 17 15.4	+2.1	comp=Z,95nm,1.3s
ECSD	EROS Data Cent	80.42	342	*e*P	P	07 17 13.2	-0.4	comp=Z,73nm,0.9s
ECSD	EROS Data Cent	80.42	342	⇓P	P	07 17 14.3	+0.7	baz=81
DECC	Green Verdugo	80.48	323	⇓P	P	07 17 15.3	+1.1	baz=81
M25A	Palm-Egli Farm	80.52	336	⇑P	P	07 17 15.3	+0.9	baz=81
L27A	T5 Ranch, Ells	80.53	338	⇓P	P	07 17 15.4	+1.0	baz=81
K29A	Lazy Trails An	80.54	339	⇑P	P	07 17 15.4	+1.1	baz=81
GSC	Goldstone	80.56	324	⇓P	P	07 17 14.6	0.0	baz=81
N23A	Red Feather La	80.69	335	⇓P	P	07 17 15.0	-0.5	baz=81
L26A	Underwood Farm	80.73	337	⇑P	P	07 17 15.7	+0.3	baz=81
SHOC	Shoshone	80.79	325	⇓P	P	07 17 16.2	+0.4	baz=81
N22A	Wattenberg Ran	80.79	334	⇑P	P	07 17 16.3	+0.3	baz=81
CCUT	Cedar City	80.80	328	*e*P	P	07 17 16.3	+0.3	comp=Z,106nm,1.2s
EDW2	Edwards Air Fo	80.81	323	⇓P	P	07 17 16.5	+0.6	baz=81
M24A	Cheyenne	80.81	336	⇓P	P	07 17 16.6	+0.6	baz=81
K28A	Ten Mile Ranch	80.81	339	⇓P	P	07 17 16.5	+0.7	baz=81
SRU	San Rafael	80.90	331	*e*P	P	07 17 16.1	-0.4	
SRU				pmax	pmax			comp=Z,87nm,1.3s
SRU	San Rafael	80.90	331	*e*P	P	07 17 16.1	-0.4	comp=Z,87nm,1.3s
BSC	Santa Cruz Isl	80.94	322	⇑P	P	07 17 17.2	+0.5	baz=81
SPMN	St. Paul	80.95	345	*e*P	P	07 17 15.3	-1.0	comp=Z,40nm,0.8s
SPMN	St. Paul	80.95	345	⇑P	P	07 17 16.6	+0.3	baz=81
OSI	Osito Adit	80.96	323	*e*P	P	07 17 17.1	+0.3	comp=Z,5µm,3.3s
OSI	Osito Adit	80.96	323	⇑P	P	07 17 17.2	+0.5	baz=81
K27A	Flueckinger Fa	81.07	338	⇓P	P	07 17 17.9	+0.7	baz=81
L25A	Engebretsen Ra	81.13	337	⇑P	P	07 17 18.2	+0.6	baz=82
LRMC	Laurel Mountai	81.13	324	⇑P	P	07 17 18.3	+0.6	baz=81
J29A	Okreek	81.13	340	⇑P	P	07 17 17.7	+0.3	baz=82,SNR=5.8
I30A	Oacoma	81.34	340	⇓P	P	07 17 18.9	+0.4	baz=82
J28A	Allard Ranch,	81.42	339	⇑P	P	07 17 19.1	+0.1	baz=82
J27A	Elkhorn Farm,	81.50	338	⇓P	P	07 17 20.0	+0.6	baz=82
K25A	Mack Ranch, Ha	81.51	337	⇓P	P	07 17 19.9	+0.4	baz=82
FURC	Furnace Creek,	81.52	325	⇑P	P	07 17 20.9	+1.3	baz=82
ISA	Isabella	81.67	323	⇓P	P	07 17 21.2	+0.7	baz=82
L23A	Garrett	81.68	335	⇓P	P	07 17 21.5	+0.8	baz=82
I29A	Vivian Onida	81.69	340	⇑P	P	07 17 21.3	+0.9	baz=82
BRSD	Miller	81.70	341	⇓P	P	07 17 21.3	+0.9	baz=82
L22A	Ellis Ranch, M	81.87	335	⇑P	P	07 17 22.2	+0.6	baz=82
J26A	Sides Ranch, S	81.88	338	⇓P	P	07 17 22.4	+0.9	baz=82
K24A	Anderson Ranch	81.92	336	⇑P	P	07 17 22.5	+0.7	baz=82
I28A	Midland	81.92	339	⇓P	P	07 17 22.2	+0.6	baz=82
VES	Vestal, Richgr	82.11	323	⇓P	P	07 17 23.8	+1.0	baz=82
SMMC	Simmler	82.16	322	⇓P	P	07 17 23.9	+0.9	baz=82
J25A	Sunshine Ranch	82.19	337	⇑P	P	07 17 23.6	+0.5	baz=82
GRAC	Grapevine Rang	82.19	325	⇓P	P	07 17 23.5	+0.3	baz=82
H29A	Onida	82.22	340	⇓P	P	07 17 24.2	+1.0	baz=83
K23A	Bowen Ranch, D	82.22	336	⇑P	P	07 17 23.2	-0.2	baz=83
I27A	Quinn	82.25	339	⇓P	P	07 17 23.9	+0.6	baz=83
G30A	Faulkton	82.39	341	⇓P	P	07 17 24.7	+0.7	baz=83
J24A	Dixon Ranch, L	82.41	337	⇑P	P	07 17 25.0	+0.8	baz=83
K22A	Casper	82.44	335	⇑P	P	07 17 25.3	+0.8	baz=83

R11A Troy Canyon, C 82.45 327 ⇑P P 07 17 25.3 +0.6
baz=83
I26A New Underwood 82.46 338 ⇓P P 07 17 25.3 +0.8
baz=83
H28A Mission Ridge 82.50 340 ⇓P P 07 17 25.2 +0.7
baz=83
RCTC Rector, Farmer 82.56 323 ⇑P P 07 17 25.8 +0.8
baz=83
TIN Tinemaha 82.65 324 ⇓P P 07 17 26.1 +0.5
baz=83
G29A Hoven 82.66 341 ⇓P P 07 17 25.8 +0.6
baz=83
K21A Alcova 82.69 335 ⇓P P 07 17 26.1 +0.3
baz=83
I25A Rochford 82.73 338 ⇓P P 07 17 25.8 -0.2
baz=83
DUG Dugway 82.76 330 eP P 07 17 23.8 -2.4
DUG pmax pmax
comp=Z,134nm,1.4s
DUG Dugway 82.76 330 eP P 07 17 23.8 -2.4
comp=Z,134nm,1.4s
DUG Dugway 82.76 330 ⇓P P 07 17 26.3 +0.1
baz=83
H27A Howes 82.77 339 ⇓P P 07 17 26.5 +0.5
baz=83
G28A Parade 82.83 340 ⇓P P 07 17 26.6 +0.3
baz=83
I24A Kuemmerle Ranc 82.87 337 ⇓P P 07 17 27.2 +0.5
baz=83
TCUT Toone Canyon 82.96 331 eP P 07 17 27.4 0.0
comp=Z,157nm,1.4s
TPH Tonopah 82.98 326 eP P 07 17 27.0 -0.5
TPH Tonopah 82.98 326 eP P 07 17 26.9 -0.5
baz=83
F30A Leola 83.01 341 ⇓P P 07 17 27.6 +0.4
J22A Midwest 83.10 335 ⇓P P 07 17 28.0 +0.1
baz=83
F29A Eureka 83.22 341 ⇓P P 07 17 28.5 +0.2
baz=84
H25A Fruitdale 83.22 338 ⇓P P 07 17 29.6 +1.2
baz=84,SNR=5.4
G27A Dupree 83.40 339 ⇑P P 07 17 30.2 +0.9
baz=84
F28A McLaughlin 83.51 340 ⇑P P 07 17 30.8 +1.0
baz=84,SNR=6.2
I22A 9 Mile Ranch, 83.52 336 ⇑P P 07 17 30.8 +0.7
baz=84
G26A Maurine 83.52 339 ⇑P P 07 17 30.4 +0.5
baz=84
SPUT South Promonto 83.54 331 eP P 07 17 30.1 -0.2
comp=Z,152nm,1.3s
E30A Jud 83.59 342 ⇓P P 07 17 31.0 +0.8
baz=84,SNR=5.7
J20A Shoshoni 83.61 334 ⇓P P 07 17 31.5 +1.0
baz=84
H24A Dirks Ranch, A 83.64 337 ⇑P P 07 17 31.3 +0.7
baz=84
PDAR Pinedale Array 83.65 333 P P 07 17 31.1 +0.2
comp=Z,14nm,1.1s,baz=143,slow=4.6,SNR=3.5
G25A Newell 83.68 338 ⇑P P 07 17 31.5 +0.7
baz=84
NVAR Mina Array Bea 83.78 325 P P 07 17 32.4 +0.8
comp=Z,8.5nm,0.7s,baz=152,slow=5.9,SNR=5.4
E29A Napoleon 83.85 341 ⇑P P 07 17 32.0 +0.4
baz=84
F27A Lemmon 83.88 339 ⇑P P 07 17 32.1 +0.4
baz=84
J19A Crowheart 83.89 334 ⇓P P 07 17 32.5 +0.6
baz=84
F26A Lodgepole 84.05 339 ⇓P P 07 17 33.2 +0.6
baz=84
HVU Hansel Valley 84.07 331 eP P 07 17 32.3 -0.6
HVU pmax pmax
comp=Z,61nm,0.9s
HVU Hansel Valley 84.07 331 eP P 07 17 32.3 -0.6
comp=Z,62nm,0.9s
H22A Clearmont 84.10 336 ⇓P P 07 17 33.2 +0.3
baz=84
D30A Buchanan 84.12 342 ⇑P P 07 17 33.7 +0.9
baz=84,SNR=6.4
G24A Alzada 84.12 338 ⇑P P 07 17 33.2 +0.2
baz=84
E28A Huff 84.14 341 ⇓P P 07 17 33.6 +0.6
baz=84
I20A Worland 84.15 335 ⇓P P 07 17 33.6 +0.4
baz=84
E27A Carson 84.25 340 ⇓P P 07 17 33.9 +0.3
baz=85
D29A Pettibone, Tap 84.29 341 ⇓P P 07 17 34.3 +0.6
baz=85
G23A Biddle 84.31 337 ⇑P P 07 17 34.4 +0.4
baz=85
F25A Bowman 84.35 339 ⇑P P 07 17 34.4 +0.2
baz=85
H21A Big Horn, Sher 84.36 336 ⇓P P 07 17 34.3 0.0
baz=85
AGMN Agassiz Nation 84.53 344 eP P 07 17 34.5 -0.4
comp=Z,17nm,0.7s
AGMN Agassiz Nation 84.53 344 ⇑P P 07 17 35.0 +0.1
baz=85
H20A Greybull 84.57 335 ⇑P P 07 17 35.7 +0.4
baz=85
C30A Mose, Pekin 84.60 342 ⇑P P 07 17 35.8 +0.5
baz=85,SNR=6.7
D28A Regan 84.67 341 ⇑P P 07 17 36.3 +0.6
baz=85
F23A Volborg 84.78 337 ⇑P P 07 17 36.7 +0.3
baz=85
E25A Miller Ranch, 84.86 339 ⇓P P 07 17 37.0 +0.4
baz=85
D27A Center 84.86 340 ⇓P P 07 17 37.3 +0.7
baz=85
G21A Lodge Grass 84.94 336 ⇓P P 07 17 38.0 +0.8
baz=85
I17A Pilgrim Ck. 85.02 333 ⇓P P 07 17 38.5 +0.7
baz=85
D26A Manning 85.05 340 ⇓P P 07 17 38.6 +1.0
baz=85
H19A Powell 85.08 334 ⇑P P 07 17 38.5 +0.6
baz=85
C28A Hausauer Farms 85.10 341 ⇓P P 07 17 38.9 +1.1
baz=86
F22A Rosebud 85.11 337 ⇓P P 07 17 38.9 +1.0
baz=86
E24A Baker 85.19 338 ⇑P P 07 17 38.9 +0.6
baz=86
B30A Myrvik Farm, E 85.25 343 ⇓P P 07 17 39.3 +0.8
baz=86,SNR=7.5
G20A Bridger 85.28 335 ⇑P P 07 17 39.2 +0.3
baz=86
H18A Shoshone NF, C 85.33 334 ⇑P P 07 17 39.8 +0.5
baz=86
C27A Sayler Ranch, 85.41 341 ⇓P P 07 17 40.2 +0.8
baz=86
D25A Fairfield 85.42 339 ⇑P P 07 17 40.1 +0.6
baz=86
H17A Grant Village 85.42 333 ⇑P P 07 17 40.0 +0.2
baz=86
F21A Absaloka Mine, 85.44 336 ⇓P P 07 17 40.3 +0.7
baz=86
B29A Wagenman Farm, 85.53 342 ⇓P P 07 17 40.5 +0.6
baz=86
E22A Miles City 85.59 337 ⇓P P 07 17 41.0 +0.6
baz=86
C26A Wahner Farm, P 85.67 340 ⇑P P 07 17 41.5 +0.8
baz=86
D24A Glendive 85.69 339 ⇑P P 07 17 41.6 +0.8
baz=86
A30A Hoffart Farm, 85.70 343 ⇑P P 07 17 41.4 +0.6
baz=86
F20A Billings 85.77 336 ⇑P P 07 17 41.8 +0.6
baz=86
B28A Dugan Ranch, T 85.77 342 ⇓P P 07 17 42.0 +0.9
baz=86,SNR=5.8
YMR Madison River 85.80 333 eP P 07 17 41.5 -0.2
comp=Z,200nm,1.4s
LAO LASA Array 85.90 337 eP P 07 17 42.2 +0.3
comp=Z,327nm,1.9s
C25A Freed Ranch, W 85.91 339 ⇑P P 07 17 42.4 +0.6
baz=86
A29A Manning Farm, 85.92 342 ⇑P P 07 17 42.2 +0.4
baz=86
B27A Peters Farms, 85.97 341 ⇓P P 07 17 42.9 +0.7
baz=86
D23A Lindsay 86.01 338 ⇓P P 07 17 42.8 +0.4
baz=86,SNR=6.3
E21A Keefer Ranch, 86.05 337 ⇓P P 07 17 43.0 +0.4
baz=86
F19A Roth Farm, Mol 86.09 335 ⇓P P 07 17 43.2 +0.3
baz=86
C24A Savage 86.09 339 ⇓P P 07 17 43.2 +0.4
baz=86,SNR=6.3
A28A Rude Farm, Bot 86.17 342 ⇓P P 07 17 44.1 +1.0
baz=86
B26A Jensen Ranch, 86.21 340 ⇑P P 07 17 43.9 +0.6
baz=87
HLID Hailey 86.22 331 eP P 07 17 43.7 0.0
comp=Z,30nm,1.3s
HLID Hailey 86.22 331 ⇑P P 07 17 44.2 +0.5
baz=86
D22A Cohagen 86.30 337 ⇑P P 07 17 44.4 +0.6
baz=87
E20A Meyer Farm, Mu 86.37 336 ⇓P P 07 17 44.5 +0.2
baz=87
ULM Lac du Bonnet 86.37 345 P P 07 17 44.0 0.0
ULM Lac du Bonnet 86.37 345 P P 07 17 44.0 0.0
comp=Z,13nm,0.8s,baz=145,slow=4.1,SNR=4.4
B25A Knox Farm, Ray 86.38 340 ⇑P P 07 17 44.9 +0.7
baz=87
A27A Ledoux Ranch, 86.47 341 ⇓P P 07 17 45.3 +0.7
baz=87
D21A La Casta Ranch 86.48 337 ⇓P P 07 17 45.3 +0.5
baz=87
E19A Rath Farm, Rou 86.56 336 ⇑P P 07 17 45.4 +0.2
baz=87
C23A Lambert 86.56 338 ⇑P P 07 17 45.1 0.0
baz=87
A26A Wade Farm, Ken 86.63 341 ⇓P P 07 17 45.2 -0.1
baz=87
C22A Vida 86.73 338 ⇓P P 07 17 45.8 -0.1
baz=87
DGMT Dagmar 86.86 339 eP P 07 17 46.6 0.0
comp=Z,129nm,0.9s
DGMT Dagmar 86.86 339 ⇑P P 07 17 46.7 +0.2
baz=87,SNR=6.3
D20A Manuel Ranch, 86.89 336 ⇓P P 07 17 47.3 +0.6
baz=87
A25A Svangstu Ranch 86.97 340 ⇓P P 07 17 47.5 +0.5
baz=87
B23A Brockton 87.09 339 ⇑P P 07 17 48.1 +0.4
baz=88
C21A Desert Coulee 87.19 337 ⇑P P 07 17 48.4 +0.3
baz=88
D19A Cripps Ranch, 87.20 336 ⇑P P 07 17 48.7 +0.5
baz=88
A24A Westby 87.21 340 ⇓P P 07 17 48.8 +0.6
baz=88
B22A Reddig Ranch S 87.26 338 ⇓P P 07 17 48.9 +0.4
baz=88
C20A Veseth Ranch, 87.38 337 ⇑P P 07 17 49.5 +0.4
baz=88
MOD Modoc 87.46 326 eP P 07 17 50.3 +0.5
comp=Z,82nm,1.3s
WDC Whiskeytown Da 87.50 324 eP P 07 17 49.1 -0.7
comp=Z,56nm,1.0s
A23A Redstone 87.50 339 ⇓P P 07 17 50.1 +0.4
baz=88
B21A Ellsworth Farm 87.69 338 ⇑P P 07 17 51.0 +0.4
baz=88
C19A Slack Wire Ran 87.75 336 ⇑P P 07 17 51.5 +0.6
baz=88
A22A Carney Farms, 87.84 338 ⇑P P 07 17 51.8 +0.5
baz=88
N02D Trinity Center 87.88 324 ⇑P P 07 17 51.8 +0.1
baz=88
B20A Solberg Farm, 88.02 337 ⇓P P 07 17 52.3 +0.1
baz=88
M04C Macdoel 88.09 325 ⇓P P 07 17 52.9 +0.2
baz=88
A21A Bergtoll Ranch 88.16 338 ⇑P P 07 17 52.6 -0.2
baz=88
EGMT Eagleton 88.24 336 ⇑P P 07 17 53.6 +0.4
baz=89
M02C Callahan 88.27 324 ⇑P P 07 17 54.0 +0.4
baz=89
KHMM Horse Mountain 88.31 323 eP P 07 17 55.2 +1.4
comp=Z,80nm,1.1s
B19A Brinkman Farms 88.34 336 ⇑P P 07 17 53.8 +0.2
baz=89
A20A Cobblestone Ra 88.38 337 ⇑P P 07 17 54.2 +0.4
baz=89
SCHQ Schefferville 88.45 3 P P 07 17 53.9 -0.1
comp=Z,22nm,1.1s,baz=190,slow=3.6,SNR=9.3
YBH Yreka Blue Hor 88.46 325 eP P 07 17 54.3 -0.2
YBH pmax pmax
comp=Z,23nm,0.8s
YBH Yreka Blue Hor 88.46 325 P P 07 17 54.2 -0.3
comp=Z,27nm,1.0s,baz=107,slow=7.0,SNR=8.5
YBH Yreka Blue Hor 88.46 325 eP P 07 17 54.3 -0.2
comp=Z,23nm,0.8s
A19A Klindworth Far 88.69 337 ⇑P P 07 17 55.6 +0.3
baz=89
K04D Chiloquin, OR 88.69 326 ⇑P P 07 17 55.9 +0.3
baz=89
J05D Fort Rock, OR 88.97 326 ⇓P P 07 17 57.4 +0.6
baz=89
PINOR Pine Mountain 89.21 327 eP P 07 17 59.8 +2.0
comp=Z,51nm,1.2s
I04A Tendick Farm, 89.90 326 ⇓P P 07 18 01.8 +0.7
baz=90
NEW Newport 91.16 332 P P 07 18 06.3 -0.6
comp=Z,6.0nm,1.0s,baz=175,slow=5.5,SNR=3.1
NEW Newport 91.16 332 ⇓P P 07 18 07.4 +0.5
baz=92
MDT Midelt 91.73 51 P P 07 18 09.5 -0.4
comp=Z,15nm,1.3s
ESDC Sonseca Array 96.48 46 P P 07 18 31.1 -0.4
comp=Z,1.8nm,0.8s,baz=256,slow=3.7,SNR=4.2
YKA Yellowknife Ar 101.93 341 P Pdif 07 18 53.7 -1.5
comp=Z,1.3nm,0.8s,baz=144,slow=3.6,SNR=4.1
YKA PP PP 07 23 04.5 -2.6
comp=Z,0.9nm,0.9s,baz=143,slow=7.2,SNR=5.9
GERES GERESS Array B 112.06 45 PKiKP PKiKP 07 23 36.7 -0.6
comp=Z,2.2nm,0.7s,baz=211,slow=1.1,SNR=6.3
CLL Collm 112.75 43 ePKiKP PKiKP 07 23 37.0 -1.4
ILAR Eielson Array 114.08 333 PP PP 07 24 36.2 +0.4
comp=Z,0.7nm,0.8s,baz=123,slow=5.6,SNR=3.4
MORC Moravsky Berou 114.73 46 ⇓PKIKP PKPdf 07 23 41.9 -0.4
MORC Moravsky Berou 114.73 46 ⇓iP PKPdf 07 23 41.9 -0.4
BZS Buzias 115.61 51 ⇑PKIKP PKPdf 07 23 43.9 -0.2
BZS Buzias 115.61 51 ⇑iP PKPdf 07 23 43.9 -0.2
KDZ Kurdzhali 116.62 56 ⇑PKIKP PKPdf 07 23 46.1 -0.1
KDZ Kurdzhali 116.62 56 ⇑iP PKPdf 07 23 46.1 -0.1
HFS Hagfors 116.69 34 PKP PKPdf 07 23 44.9 -0.8
comp=Z,2.6nm,0.9s,baz=215,slow=6.8,SNR=2.8
DRGR 116.77 50 ⇑PKIKP PKPdf 07 23 46.6 +0.2
DRGR 116.77 50 ⇑iP PKPdf 07 23 46.6 +0.2
TRPA Tarpa 117.15 49 ⇑iP PKPdf 07 23 47.1 +0.2
ARR Arges 117.49 52 ⇑iP PKPdf 07 23 48.3 +0.5
JMB Yambol 117.74 56 ⇑PKIKP PKPdf 07 23 48.5 +0.2
JMB Yambol 117.74 56 ⇑iP PKPdf 07 23 48.5 +0.2
KWP Kalwaria Pacla 117.78 47 ⇓PKIKP PKPdf 07 23 48.8 +0.6
KWP Kalwaria Pacla 117.78 47 ⇓iP PKPdf 07 23 48.8 +0.6
VOIR 117.78 52 ⇑PKIKP PKPdf 07 23 43.1 -5.3
VOIR 117.78 52 ⇑iP PKPdf 07 23 43.1 -5.3
MLR Muntele Rosu 118.39 52 ⇓PKIKP PKPdf 07 23 50.5 +0.9
MLR Muntele Rosu 118.39 52 ⇓iP PKPdf 07 23 50.5 +0.9
BUR08 Bucovina Ar. S 118.65 50 ePKPdf PKPdf 07 23 50.2 +0.2
BURAR Bucovina Array 118.65 50 ⇓PKIKP PKPdf 07 23 51.0 +1.0
BURAR Bucovina Array 118.65 50 ⇓iP PKPdf 07 23 51.0 +1.0
PLOR Plostina 118.98 52 ⇓PKIKP PKPdf 07 23 50.3 -0.3
PLOR Plostina 118.98 52 ⇓iP PKPdf 07 23 50.3 -0.3
VRI Vrincioaia 119.04 52 ⇑PKIKP PKPdf 07 23 46.2 -4.5
VRI Vrincioaia 119.04 52 ⇑iP PKPdf 07 23 46.2 -4.5
TESR Tescani 119.20 51 ⇓iP PKPdf 07 23 50.2 -0.8
SUW Suwalki 119.50 42 ePKIKP PKPdf 07 23 50.8 -0.5
SUW Suwalki 119.50 42 ePKPdf PKPdf 07 23 50.8 -0.5
TIRR Tirgusor 119.68 54 ⇓PKIKP PKPdf 07 23 52.4 +0.5
TIRR Tirgusor 119.68 54 ⇓iP PKPdf 07 23 52.4 +0.5
CFR Carcaliu 119.74 53 ⇑PKIKP PKPdf 07 23 51.3 -0.7
CFR Carcaliu 119.74 53 ⇑iP PKPdf 07 23 51.3 -0.7
CSS Prodhromos 119.83 66 ePKPdf PKPdf 07 23 53.1 +0.5
TLCR 120.19 53 ⇑iP PKPdf 07 23 52.7 -0.2
WRA Warramunga Arr 120.88 209 PKP PKPdf 07 23 53.6 -1.5
comp=Z,3.7nm,0.7s,baz=158,slow=1.7,SNR=7.1
ANTO Ankara 121.20 60 ⇑PKIKP PKPdf 07 23 56.2 +1.1
ANTO Ankara 121.20 60 ⇑iP PKPdf 07 23 56.2 +1.1
BRTR Keskin Array B 121.77 61 PKP PKPdf 07 23 56.1 -0.2
comp=Z,9.2nm,0.8s,baz=204,slow=3.0,SNR=18
KIEV Kiev 122.09 47 ePKIKP PKPdf 07 23 54.6 -1.8
KIEV Kiev 122.09 47 ePKPdf PKPdf 07 23 54.5 -1.8
AK01 Malin Array Si 122.09 47 ePKPdf PKPdf 07 23 54.7 -1.6
AKASG Malin Array Be 122.10 47 PKP PKPdf 07 23 55.1 -1.3
comp=Z,10nm,0.7s,baz=263,slow=3.0,SNR=21
AKBB Malin Array Si 122.10 47 ePKPdf PKPdf 07 23 54.9 -1.5
SPITS Spitsbergen Ar 122.55 14 PKP PKPdf 07 23 56.1 -0.5
comp=Z,7.0nm,0.8s,baz=160,slow=4.6,SNR=3.7
TNA Tin City 122.68 331 ePKPdf PKPdf 07 23 56.9 -0.1
FINES FINESS Array B 122.88 35 PKP PKPdf 07 23 57.4 -0.1
comp=Z,4.8nm,0.9s,baz=321,slow=2.0,SNR=5.7
ARCES ARCESS Array B 123.89 25 PKP PKPdf 07 23 58.5 -0.8
comp=Z,1.5nm,0.5s,baz=240,slow=2.8,SNR=7.7
MALT Malatya 124.84 64 ⇓PKIKP PKPdf 07 24 02.9 +0.7
MALT Malatya 124.84 64 ⇓iP PKPdf 07 24 02.9 +0.7
OBN Obninsk 127.34 43 d iPKIKP PKPdf 07 24 06.3 +0.1
OBN pmax pmax
comp=Z,59nm,1.6s
KBZ Khabaz 129.52 58 PKP PKPdf 07 24 11.4 +0.6
comp=Z,11nm,1.0s,baz=122,slow=2.3,SNR=6.4
ZEI Tsey 130.04 60 ePKIKP PKPdf 07 24 13.1 +1.0
ZEI pmax pmax
comp=Z,17nm,1.2s
PRGR Permogore 132.21 35 ePKIKP PKPdf 07 24 15.0 -0.3
PRGR pmax pmax
comp=Z,106nm,1.4s
BILL Bilibino 132.72 334 ePKIKP PKPdf 07 24 17.5 +1.4
BILL e 07 26 44.8
BILL pmax pmax
comp=Z,15nm,1.1s
CISI Cisompet, Garu 138.80 180 ePKPdf PKPdf 07 24 27.7 -1.5
ARU Arti 139.64 41 PKIKP PKPdf 07 24 25.6 -3.7
GEYT Alibeck 139.80 69 PKP PKPdf 07 24 28.8 -1.5
comp=Z,9.8nm,0.8s,baz=239,slow=1.5,SNR=7.1
SEY Seymchan 139.92 330 PKP PKPdf 07 24 27.9 -1.7
comp=Z,12nm,0.8s,baz=47,slow=4.8,SNR=7.4
PETK Petropavlovsk- 140.07 314 PKhKP PKPpre 07 24 25.2
comp=Z,4.4nm,0.8s,baz=101,slow=6.0,SNR=3.6
PETK PKP PKPdf 07 24 29.9 -0.3
comp=Z,19nm,1.0s,baz=127,slow=3.9,SNR=6.1
PALK Pallekele 143.47 130 PKHKP PKPpre 07 24 34.2
PALK e 07 24 34.7
PALK Pallekele 143.47 130 PKhKP PKPpre 07 24 34.2
comp=Z,81nm,1.2s,baz=217,slow=4.7,SNR=9.5
PALK Pallekele 143.47 130 PKPpre PKPpre 07 24 34.2
PALK ePKPdf PKPbc 07 24 34.7 -0.1
KAD Karad 145.55 110 eP PKPdf 07 24 40.7 -0.4
BKNI Bangkinang 146.01 168 ePKPdf PKPdf 07 24 40.5 -1.5
KBL Kabul 147.94 78 ePKP2 PKPbc 07 24 47.8 -0.1
KBL Kabul 147.94 78 ePKPbc PKPbc 07 24 47.8 -0.1
PSI Prapat 147.96 163 PKPbc PKPdf 07 24 45.6 +0.2
comp=Z,72nm,0.9s,baz=224,slow=4.1,SNR=7.8
YAK Yakutsk 148.61 340 ePKIKP PKPdf 07 24 46.5 +1.8
YAK pmax pmax
comp=N,43nm,1.3s
YAK pmax pmax
comp=E,31nm,1.2s
YAK pmax pmax
comp=Z,158nm,1.3s
YAK Yakutsk 148.61 340 ePKPdf PKPdf 07 24 43.4 -1.3
HYB Hyderabad 148.98 115 iPKP PKPbc 07 24 50.0 -0.8
KKAR Karatay Array 149.48 61 ePKIKP PKPdf 07 24 44.8 -2.0
KKAR e 07 24 51.1
KKAR Karatay Array 149.48 61 ePKPdf PKPdf 07 24 44.8 -2.0
KKAR ePKPbc PKPbc 07 24 51.1 -0.2
YSS Yuzh-Sakhalins 150.72 307 ePKIKP PKPbc 07 24 52.5 -1.6
YSS e 07 25 01.0
YSS pmax pmax
comp=Z,30nm,0.9s
KULM Kulim 150.76 165 ePKPbc PKPbc 07 24 54.6 -0.6
KKM Kota Kinabalu 151.28 197 ePKPbc PKPbc 07 24 55.7 -0.9
ASAJ Asahikawa 151.39 301 PKPbc PKPbc 07 24 55.5 -0.3
comp=Z,32nm,0.9s,baz=246,slow=4.2,SNR=5.6
ASAJ Asahikawa 151.39 301 ePKPbc PKPbc 07 24 55.8 0.0
EKS2 Erkin-Say 151.91 62 ePKIKP PKPbc 07 24 57.5 +0.3
EKS2 e 07 25 06.5
EKS2 Erkin-Say 151.91 62 ePKPbc PKPbc 07 24 57.5 +0.3
EKS2 ePKPab PKPab 07 25 06.5 0.0
AAK Ala-Archa 152.44 62 PKIKP PKPbc 07 24 59.0 +0.5
AAK Ala-Archa 152.44 62 PKPbc PKPbc 07 24 59.0 +0.5
comp=Z,45nm,0.7s,baz=212,slow=1.6,SNR=18
FRU Bishkek 152.50 61 ePKIKP PKPbc 07 25 00.0 +1.6
TKM2 Tokmak 2 153.20 61 ePKIKP PKPdf 07 24 53.7 +1.0
TKM2 e 07 25 01.2
TKM2 Tokmak 2 153.20 61 ePKPdf PKPdf 07 24 53.7 +1.0
TKM2 ePKPbc PKiKP 07 25 01.2 +0.9
ZAA0 Zalesovo Array 154.11 32 ePKPdf PKPdf 07 24 53.2 -0.1
ZAA0 ePKPbc PKiKP 07 25 02.3 +0.8
ZALV Zalesovo Beam 154.11 32 PKP PKPdf 07 24 53.8 +0.5
comp=Z,10nm,0.9s,baz=282,slow=2.9,SNR=4.1
ZALV PKPbc PKiKP 07 25 01.9 +0.3
comp=Z,28nm,0.6s,baz=302,slow=3.2,SNR=13
BOD Bodaibo 155.70 352 ePKP2 PKPab 07 25 21.2 -0.6
BOD pmax pmax
comp=Z,49nm,1.3s
MKAR Makanchi Array 156.68 49 PKP PKPdf 07 24 57.8 +0.7
comp=Z,5.9nm,0.8s,baz=318,slow=1.6,SNR=4.1
MKAR PKPab PKPab 07 25 26.9 +0.4
comp=Z,10.0nm,0.6s,baz=275,slow=3.1,SNR=12
USRK Ussuriysk Arra 158.75 306 PKPab PKPab 07 25 34.8 -0.6
comp=Z,2.4nm,0.8s,baz=79,slow=4.1,SNR=4.8
TLY Talaya 161.92 9 PKPab PKPab 07 25 50.1 +1.2
comp=Z,7.3nm,0.8s,baz=82,slow=1.3,SNR=8.1
CMAR Chiang Mai Arr 162.66 150 PKP PKPdf 07 25 04.8 0.0
comp=Z,8.3nm,0.9s,baz=251,slow=2.8,SNR=9.1
ZAK Zakamensk 163.14 10 ePKP2 PKPab 07 25 46.6 -7.9
ZAK pmax pmax
comp=Z,13nm,1.5s
TPUB Ta-pu 164.70 230 ePKPdf PKPdf 07 25 04.0 -2.5
QIZ Qiongzhong 165.13 187 ePKPdf PKPdf 07 25 06.8 -0.2
SONM Songino Array 166.00 4 PKP PKPdf 07 25 07.9 +0.8
comp=Z,2.1nm,1.0s,baz=296,slow=2.1,SNR=2.4
SONM PKPab PKPab 07 26 07.5 +0.4
comp=Z,7.2nm,0.8s,baz=335,slow=4.7,SNR=9.3

LJU 27 07:09:17.4, 46°.39N×15°.07E, h0km Rockburst, Northwestern Balkan Peninsula

NEIC 27 07:10:48.1, 36°.06N×117°.89W, h1km, ML3.5(PAS), After PAS., California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISA	Isabella	0.62	230	ePg	Pg	07 10 60.0	-0.2
ISA				eSg	Sg	07 11 08.5	+0.1
GSC	Goldstone	1.16	130	ePg	Pg	07 11 09.4	-1.2
GSC				eSn	Sn	07 11 28.6	+0.2
OSI	Osito Adit	1.60	206	ePn	Pn	07 11 17.7	0.0
MWC	Mount Wilson	1.84	184	ePn	Pn	07 11 21.2	+0.1
MWC				eSg	Sg	07 11 47.2	-0.5
PASC	Pasadena Art C	1.90	187	ePn	Pn	07 11 21.2	-0.6
PASC				eSn	Sn	07 11 46.0	-0.4
TPH	Tonopah	2.08	15	ePg	Pb	07 11 27.4	+0.4
NV11	Mina Array Sit	2.38	355	ePn	Pn	07 11 28.8	+0.3
NV11				ePg	Pg	07 11 34.2	+0.3
LDFC	Landfair	2.47	113	ePn	Pn	07 11 28.2	-1.6
LDFC				ePg	Pb	07 11 33.7	+0.2
PFO	Pinyon Flat Ob	2.72	154	ePn	Pn	07 11 32.0	-1.2
PFO				ePg	Pb	07 11 39.1	+1.3
PFO				eSg	Sg	07 12 13.9	-1.9
CMB	Columbia Colle	2.81	315	ePg	Pb	07 11 37.4	-1.8
CMB				eSg	Sb	07 12 14.7	+0.5
SAO	San Andreas Ge	2.96	285	ePn	Pn	07 11 37.6	+1.3
ARUT	Antelope Range	3.96	63	Pn	Pn	07 11 51.9	+1.6
ARUT				ePg	Pb	07 12 01.3	+2.3
WUAZ	Wupatki	5.32	94	ePg	Pb	07 12 25.9	+3.7
	23nm,0.6s						

IDC 27 07:12:23.0±0.3, 33°.89S×71°.94W, h0km, mb4.5/27, mb1 5.6/29, mb1mx5.5/37, mbtmp5.4/29, ML3.5/2, Error ellipse: s-maj=15.6km s-min=10.9km az=78.0
ISCJB 27 07:12:28.7±0.8, 33°.84S±0°.03×71°.96W±0°.06, h51km±7km, mb5.8/189, Error ellipse: s-maj=7.8km s-min=5.4km az=170.6
NEIC 27 07:12:28.4±0.1, 33°.88S×71°.94W, h35km, mb6.0/159, Error ellipse: s-maj=6.5km s-min=3.9km az=77.0
MOS 27 07:12:28.5±1.8, 33°.90S×71°.90W, h33km, mb5.9/38, Error ellipse: s-maj=13.3km s-min=6.9km az=95.7
GUC 27 07:12:29.5±0.4, 33°.76S×71°.95W, h38km±5km, ML6.0
ISC 27 07:12:27.8±0.6, 33°.86S±0°.04×72°.00W±0°.05, h31km±3km, h31km:pP-P, n1036, σ1°14/1062, mb5.9/194, 256C-247D, Off coast of central Chile

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

IHA Instituto Hidr 0.89 20 eP Pb 07 12 44.0 -0.8
ANTU Antumapu 1.18 76 eP Pb 07 12 49.4 -0.3
ANTU iS Sb 07 13 04.6 0.0
ANTU AML AML 07 13 18.6
comp=E,195μm,0.7s
SAN Santiago 1.19 70⇓iP Pb 07 12 49.7 -0.2
PCH Pirque 1.26 79⇑iP Pb 07 12 51.0 -0.2
CMCH Combarbala 2.81 18 eP Pn 07 13 11.8 +1.1
CMCH AML AML 07 14 07.5
comp=E,198μm,0.9s
CFAA Coronel Fontan 3.89 56 Pn Pb 07 13 30.8 -5.0
comp=E,10nm,0.3s,baz=225,slow=13,SNR=3.2
CFAA Lg Lg 07 14 28.9
comp=E,29nm,0.3s,baz=63,slow=19,SNR=3.0
PLCA Paso Flores 6.95 171 eP Pn 07 14 06.5 -1.1
PLCA pmax pmax
comp=Z,3μm,1.0s
PLCA Paso Flores 6.95 171 ePn Pn 07 14 06.5 -1.1
comp=Z,3μm,1.0s
TRQA Tornquist 9.14 120 ePn Pn 07 14 38.8 +1.3
LVC Limon Verde 11.54 14 ePn Pn 07 15 08.0 -2.6
CPUP Villa Florida 14.74 63 eP Pn 07 15 56.1 +1.9
CPUP pmax pmax
comp=Z,13nm,0.7s
CPUP Villa Florida 14.74 63 Pn Pn 07 15 53.3 -0.9
comp=Z,1.6nm,0.3s,baz=231,slow=13,SNR=2.7
CPUP Sn S 07 18 47.2 -7.2
comp=Z,4.1nm,0.3s,baz=247,slow=15,SNR=2.7
CPUP Villa Florida 14.74 63 ePn Pn 07 15 56.1 +1.9
comp=Z,13nm,0.7s
LPAZ La Paz 17.85 12 eP P 07 16 36.3 +1.4
LPAZ pmax pmax
comp=Z,487nm,1.0s
LPAZ La Paz 17.85 12 P Pn 07 16 34.9 +0.5
comp=Z,7.6nm,0.3s,baz=192,slow=6.3,SNR=22
LPAZ La Paz 17.85 12 eP P 07 16 36.3 +1.4
comp=Z,486nm,1.0s
SIV San Ignacio 20.34 32 P P 07 17 02.2 +0.5
comp=Z,303nm,1.0s,baz=222,slow=13,SNR=15
USHA Ushuaia 21.11 174 P P 07 17 10.2 +0.5
comp=Z,84nm,0.9s,baz=320,slow=12,SNR=6.5
NNA Nana 22.22 347 P P 07 17 22.5 +0.6
comp=Z,1μm,0.9s,SNR=7.6
NNA Nana 22.22 347 P P 07 17 22.7 +0.8
NNA pmax pmax
comp=Z,156nm,0.8s
NNA Nana 22.22 347 P P 07 17 22.7 +0.8
comp=Z,156nm,0.8s,baz=186,slow=11,SNR=14
NNA Nana 22.22 347 eP P 07 17 22.2 +0.3
comp=Z,1μm,2.3s
SAML Samuel 26.09 20 eP P 07 17 58.9 +0.1
comp=Z,210nm,0.9s
ATAH Atahualpa 27.25 346 P P 07 18 09.8 +0.1
comp=Z,5.1nm,0.6s,baz=161,slow=18,SNR=2.6
BDFB Brasilia 28.23 56 eP P 07 18 20.2 +2.0
BDFB Brasilia 28.23 56 P P 07 18 18.0 -0.2
comp=Z,92nm,0.7s,baz=224,slow=8.8,SNR=0.1
BDFB Brasilia 28.23 56 eP P 07 18 20.2 +2.0
PMSA Palmer Station 31.32 173 eP P 07 18 45.4 +0.6
comp=Z,448nm,1.6s
HOPE Hope Point 32.17 140 P P 07 18 52.4 -0.1
comp=Z,2μm,1.0s,SNR=5.6
HOPE Hope Point 32.17 140 eP P 07 18 52.7 +0.2
comp=Z,173nm,0.9s
OTAV Otavalo 34.46 349 eP P 07 19 15.9 +2.6
comp=Z,1μm,2.5s
ROSC El Rosal 38.57 356 P P 07 19 50.9 +2.6
comp=Z,21nm,0.9s,baz=274,slow=19,SNR=3.3
BCIP Isla Barro Col 43.44 349 eP P 07 20 28.9 +1.0
comp=Z,74nm,1.1s
RCBR Riachuelo 43.55 58 P P 07 20 29.6 +0.6
comp=Z,60nm,0.7s,baz=226,slow=13,SNR=14
RCBR Riachuelo 43.55 58 eP P 07 20 29.8 +0.8
comp=Z,128nm,1.0s
JTS JuntasAbangare 45.60 342 eP P 07 20 47.1 +1.9
JTS 07 22 22.5
JTS pmax pmax
comp=Z,973nm,2.7s
JTS JuntasAbangare 45.60 342 P P 07 20 46.6 +1.4
comp=Z,12nm,0.8s,baz=120,slow=3.6,SNR=5.2
JTS PcP PcP 07 22 22.5 -0.9
comp=Z,19nm,0.9s,baz=108,slow=3.2,SNR=7.0
JTS JuntasAbangare 45.60 342 eP P 07 20 47.1 +1.9
comp=Z,972nm,2.7s
JTS PcP PcP 07 22 22.5 -0.9
GRGR Grenville 46.79 14 eP P 07 20 54.3 -0.3
comp=Z,992nm,1.3s
FCV Fort Charlotte 47.87 14 e P 07 21 03.7 +0.8
BHS Barnard House 48.03 14 e P 07 21 04.8 +0.7
SVV Soufriere Volc 48.03 14 e P 07 21 06.2 +2.0
SSV Crater Summit 48.05 14 e P 07 21 05.3 +0.9
BBGH Gun Hill 48.23 16 eP P 07 21 08.2 +2.5
comp=Z,345nm,1.1s
SLB Belfond 48.56 14 e P 07 21 07.8 -0.6
FDF Fort de France 49.42 14 eP P 07 21 14.4 -0.5
FDF pmax pmax
comp=Z,193nm,1.0s
FDF Fort de France 49.42 14 eP P 07 21 14.4 -0.5
comp=Z,193nm,1.0s
VNA3 Neumayer Olymp 49.47 158 P P 07 21 14.6 -0.1
VNA1 Neumayer--Stat 49.79 157 P P 07 21 17.6 +0.5
VNA1 Neumayer--Stat 49.79 157 P P 07 21 17.6 +0.5
VNA2 Neumayer--Watz 50.12 157 P P 07 21 19.5 -0.2
VNA2 Neumayer--Watz 50.12 157 P P 07 21 19.5 -0.2
PTCN Pitcairn Islan 50.76 264 eP P 07 21 26.0 +0.9
comp=Z,275nm,0.9s
APG El Apazote 51.68 337 P P 07 21 28.6 -3.6
comp=Z,44nm,0.8s,baz=162,slow=7.9,SNR=12
SNAA Sanae 51.70 158 P P 07 21 31.1 -0.4
SNAA Sanae 51.70 158 P P 07 21 31.6 0.0
SNAA pmax pmax
comp=Z,76nm,0.9s
SNAA Sanae 51.70 158 P P 07 21 31.6 0.0
comp=Z,76nm,0.9s,baz=273,slow=8.5,SNR=14
SNAA Sanae 51.70 158 eP P 07 21 31.0 -0.5
comp=Z,328nm,1.0s
ICMP Isla Caja de M 51.73 7 eP P 07 21 30.9 -1.3
SEUS St. Eustatius 51.79 11 eP P 07 21 33.8 +1.1
comp=Z,2μm,1.7s
CRPR Cabo Rojo, PR 51.79 6 eP P 07 21 31.7 -1.0
comp=Z,260nm,0.8s
JAKH Jacmel 51.81 359 eP P 07 21 34.8 +1.9
OBIP Obispado Ponce 51.87 7 eP P 07 21 32.6 -0.7
comp=Z,269nm,0.8s
SABA Saba 51.87 11 eP P 07 21 32.6 -0.7
comp=Z,1μm,1.0s
CELP Cerrillos 51.91 7 eP P 07 21 32.9 -0.6
CPD Cerro la Pandu 51.94 7 eP P 07 21 34.7 +0.9
CPD pmax pmax
comp=Z,106nm,1.0s
CPD Cerro la Pandu 51.94 7 eP P 07 21 34.6 +0.9
comp=Z,106nm,1.0s
LSP Las Mesas 51.96 6 eP P 07 21 33.3 -0.7
MPR Mayaguez 51.99 6 eP P 07 21 34.5 +0.3
comp=Z,128nm,1.1s
HUMP Col San Antoni 52.05 7 eP P 07 21 34.0 -0.6
MTDJ Mount Denham 52.07 353 eP P 07 21 34.8 -0.1
comp=Z,200nm,1.1s
PAPH Port-au-Prince 52.09 360 eP P 07 21 35.7 +0.8
LRS Lares 52.10 6 eP P 07 21 32.7 -2.3
AOPR Arecibo Observ 52.16 6 eP P 07 21 34.6 -0.8
comp=Z,280nm,1.3s
ANWB Willy Bob 52.16 12 eP P 07 21 33.5 -1.9
comp=Z,428nm,1.0s
CBYP Canovanas 52.17 7 eP P 07 21 33.7 -1.9
comp=Z,158nm,0.8s
PCDR Punta Cana, DR 52.20 4 eP P 07 21 35.4 -0.3
SMRT St. Maarten 52.32 11 eP P 07 21 35.2 -1.4
comp=Z,156nm,0.8s
SDDR Presa de Saban 52.55 1 eP P 07 21 38.4 0.0
comp=Z,86nm,0.9s
SMN1 Samana, DR 52.82 3 eP P 07 21 41.5 +1.1
GTBY Guantanamo Bay 53.57 356 eP P 07 21 45.5 -0.4
comp=Z,181nm,0.8s
RKT Rikitea 55.62 264 eP P 07 22 01.6 +0.7
comp=Z,73nm,1.3s
RKT Rikitea 55.62 264 eT T 08 21 42.3
comp=Z,6.6nm,0.2s
TEIG Tepich 55.98 341 P P 07 22 03.3 0.0
comp=Z,395nm,0.9s,baz=163,slow=4.3,SNR=41
TEIG Tepich 55.98 341 eP P 07 22 02.6 -0.7
comp=Z,258nm,0.8s
QSPA South Pole Qui 56.37 180 P P 07 22 05.4 -0.4
comp=Z,103nm,1.0s,baz=214,slow=1.2,SNR=6.4
QSPA South Pole Qui 56.37 180 eP P 07 22 04.5 -1.3
comp=Z,192nm,0.9s
SHEL Horse Pasture 61.72 91 eP P 07 22 46.9 +3.4
SHEL pmax pmax
comp=Z,93nm,0.7s
SHEL Horse Pasture 61.72 91 eP P 07 22 46.9 +3.4
comp=Z,93nm,0.7s
VNDA Vanda 64.24 191 eP P 07 23 02.1 +2.8
VNDA pmax pmax
comp=Z,561nm,2.1s
VNDA Vanda 64.24 191 P P 07 22 59.5 +0.3
comp=Z,24nm,1.0s,baz=129,slow=6.5,SNR=2.9
VNDA Vanda 64.24 191 eP P 07 23 02.1 +2.8
comp=Z,561nm,2.1s
035Z Hargill 64.90 334 ⇑P P 07 23 04.4 +0.3
baz=65
035A Encino 65.34 334 ⇓P P 07 23 07.9 +0.9
baz=66,SNR=11
034A Hebbronville 65.67 334 ⇓P P 07 23 09.9 +0.7
baz=66,SNR=5.7
KVTX Kingsville 65.83 335 eP P 07 23 11.5 +1.5
comp=Z,7μm,3.0s
TIGA Tifton 65.87 349 eP P 07 23 09.5 -0.8
comp=Z,183nm,0.8s
TIGA Tifton 65.87 349 ⇑P P 07 23 10.1 -0.2
baz=66,SNR=17
BRAL Brewton 66.07 346 eP P 07 23 12.9 +1.3
comp=Z,264nm,1.2s
933A Laredo 66.39 334 ⇓P P 07 23 14.4 +0.7
baz=67
835A Beeville 66.48 335 ⇑P P 07 23 15.0 +0.8
baz=67
834A Tilden 66.59 335 ⇑P P 07 23 15.7 +0.7
baz=67,SNR=9.5
735A Kenedy 66.99 335 ⇑P P 07 23 18.2 +0.6
baz=67,SNR=10
NHSC New Hope 67.06 353 eP P 07 23 17.8 0.0
comp=Z,491nm,1.2s
833A Chaparral WMA, 67.07 334 ⇑P P 07 23 18.4 +0.4
baz=67,SNR=12
734A La Parita Cree 67.25 335 ⇓P P 07 23 19.4 +0.3
baz=68,SNR=9.4
832A Faith Ranch, C 67.25 333 ⇓P P 07 23 19.6 +0.4
baz=68,SNR=9.6
636A Smothers Creek 67.31 336 ⇓P P 07 23 20.2 +0.6
baz=68,SNR=6.1
HKT Hockley 67.35 338 eP P 07 23 22.7 +3.0
HKT pmax pmax
comp=Z,43nm,1.0s
HKT Hockley 67.35 338 eP P 07 23 22.7 +3.0
comp=Z,43nm,1.0s
TBI Tubuai 67.38 256 eP P 07 23 20.2 -0.1
comp=Z,128nm,0.8s
TBI Tubuai 67.38 256 eT T 08 36 24.0
comp=Z,38nm,0.3s
733A Divot King Ran 67.40 334 ⇑P P 07 23 20.2 +0.1
baz=68,SNR=7.9
635A Leesville 67.47 336 ⇑P P 07 23 20.6 0.0
baz=68
537A Green Hill Far 67.62 337 ⇑P P 07 23 22.3 +0.8
baz=68,SNR=5.8
732A Laxson Ranch, 67.65 334 ⇑P P 07 23 22.2 +0.5
baz=68,SNR=9.8
634A China Grove, S 67.66 335 ⇓P P 07 23 22.3 +0.5
baz=68
GOGA Godfrey 67.78 350 eP P 07 23 21.2 -1.2
GOGA pmax pmax
comp=Z,2μm,2.9s
GOGA Godfrey 67.78 350 eP P 07 23 21.2 -1.2
comp=Z,2μm,2.9s
536A Bastrop 67.86 337 ⇑P P 07 23 23.7 +0.6
baz=68,SNR=13
535A Dale 67.99 336 ⇑P P 07 23 24.0 +0.1
baz=68,SNR=13
VBMS Vicksburg 68.01 343 eP P 07 23 24.9 +1.0
comp=Z,194nm,0.8s
LRAL Lakeview Retre 68.02 346 eP P 07 23 23.5 -0.5
comp=Z,110nm,1.3s
633A Saathoff Ranch 68.03 335 ⇑P P 07 23 24.4 +0.4
baz=68
340A Bronson 68.14 340 ⇓P P 07 23 25.3 +0.6
baz=68
LPIG La Paz 68.19 322 P P 07 23 25.4 +0.1
comp=Z,52nm,0.8s,baz=59,slow=0.6,SNR=7.0
339A Huntington 68.25 339 ⇓P P 07 23 25.9 +0.4
baz=69,SNR=14
632A Uvalde 68.29 334 ⇓P P 07 23 26.2 +0.5
baz=69,SNR=10
534A Blanco 68.30 335 ⇓P P 07 23 25.5 -0.3
baz=69
436A Wall Ranch, Ga 68.42 337 ⇑P P 07 23 26.9 +0.4
baz=69
631A Perdido Creek 68.50 333 ⇓P P 07 23 27.0 0.0
baz=69
338A Crockett 68.50 339 ⇑P P 07 23 27.4 +0.4
baz=69
533A Kerrville 68.53 335 ⇑P P 07 23 27.4 +0.1
baz=69,SNR=12
337A Centerville 68.64 338 ⇑P P 07 23 28.9 +1.0
baz=69,SNR=14
NATX Nacogdoches 68.68 339 eP P 07 23 28.4 +0.3
comp=Z,306nm,1.0s
435B Jarrell 68.69 336 ⇓P P 07 23 28.3 +0.1
baz=69
532A Rocksprings 68.89 334 ⇓P P 07 23 29.9 +0.3
baz=69,SNR=10.0
MEH Mehetia 68.90 262 eP P 07 23 30.0 +0.1
comp=Z,42nm,1.2s
434A Burnet 68.95 336 ⇓P P 07 23 30.1 +0.2
baz=69,SNR=8.8
CNNC Cliffs of the 68.97 355 eP P 07 23 29.4 -0.4
comp=Z,142nm,1.0s
336A Riesel 69.00 337 ⇑P P 07 23 29.5 -0.6
baz=69,SNR=12
335A Moody 69.09 337 ⇓P P 07 23 30.4 -0.3
baz=69,SNR=13
531A Rocksprings 69.16 334 ⇓P P 07 23 30.7 -0.6
baz=70
433A Art 69.17 335 ⇓P P 07 23 31.2 0.0
baz=70,SNR=16
JCT Junction City 69.18 334 eP P 07 23 31.3 0.0
JCT Junction City 69.18 334 eP P 07 23 31.3 0.0
comp=Z,3μm,2.8s
JCT Junction City 69.18 334 ⇑P P 07 23 30.5 -0.8
baz=70
KMSC Kings Mountain 69.20 352 eP P 07 23 30.1 -1.2
comp=Z,272nm,1.5s
KMSC Kings Mountain 69.20 352 ⇓P P 07 23 30.4 -0.9
baz=70
334A Lometa 69.41 336 ⇑P P 07 23 32.7 0.0
baz=70,SNR=6.8
530A J-C Ranch, Com 69.44 333 ⇑P P 07 23 33.5 +0.6
baz=70,SNR=11
432A Menard 69.53 335 ⇑P P 07 23 33.9 +0.4
baz=70,SNR=7.7
TXAR Lajitas Array 69.63 331 P P 07 23 35.1 +0.9
TXAR pmax pmax
comp=Z,28nm,0.7s
TXAR Lajitas Array 69.63 331 P P 07 23 35.1 +0.9
comp=Z,28nm,0.7s,baz=149,slow=8.5,SNR=18
431A Sonora 69.65 334 ⇑P P 07 23 34.7 +0.4
baz=70
333A Richland Sprin 69.66 336 ⇑P P 07 23 34.7 +0.5
baz=70,SNR=11
529A Stev Forest Ra 69.76 332 ⇓P P 07 23 35.2 +0.3
baz=70,SNR=18
WHTX Lake Whitney 69.76 337 eP P 07 23 35.2 +0.4
comp=Z,188nm,0.8s
WHTX Lake Whitney 69.76 337 ⇓P P 07 23 35.5 +0.7
baz=70,SNR=9.2
VAH Vaihoa 69.86 265 eP P 07 23 35.9 0.0
comp=Z,90nm,0.9s
TVO Taravao 69.92 262 eP P 07 23 36.4 +0.1
comp=Z,25nm,1.0s
TVO Taravao 69.92 262 eT T 08 39 34.1
comp=Z,4.4nm,0.2s
CPCT Cooper Cave 69.94 349 eP P 07 23 37.5 +1.6
SWET Sewanee 69.95 348 eP P 07 23 35.4 -0.5
comp=Z,132nm,0.8s
OXF Oxford 69.95 345 eP P 07 23 35.2 -0.7
OXF pmax pmax
comp=Z,419nm,1.0s
OXF Oxford 69.95 345 eP P 07 23 35.2 -0.7
comp=Z,418nm,1.0s
332A Millersview 69.97 335 ⇑P P 07 23 36.3 +0.1
baz=70,SNR=9.6
430A Baggett Ranch, 69.98 333 ⇑P P 07 23 36.4 +0.2
baz=70,SNR=14
234A Clairette 69.99 337 ⇑P P 07 23 36.1 -0.1
baz=70,SNR=16
TKL Tuckaleechee C 70.03 350 P P 07 23 36.5 +0.1
TKL pmax pmax
comp=Z,45nm,0.8s
TKL Tuckaleechee C 70.03 350 P P 07 23 36.5 +0.1
comp=Z,45nm,0.8s,baz=163,slow=8.2,SNR=5.9
TKL Tuckaleechee C 70.03 350 eP P 07 23 35.6 -0.8
429A Davenport Ranc 70.08 333 ⇓P P 07 23 36.8 -0.1
baz=70,SNR=10.0
TIAR Tiarei 70.11 262 eP P 07 23 37.5 +0.1
comp=Z,36nm,0.9s
TIAR Tiarei 70.11 262 eT T 08 39 48.3
comp=Z,15nm,0.3s
331A San Angelo 70.15 334 ⇑P P 07 23 37.2 0.0
baz=70,SNR=13
PMOR Pomariorio Ree 70.20 265 eP P 07 23 38.1 +0.1
comp=Z,128nm,1.1s
PAE Paea 70.25 262 eP P 07 23 38.3 +0.1
comp=Z,43nm,1.3s
PAE Paea 70.25 262 eT T 08 39 58.6
comp=Z,2.8nm,0.3s
233A Rising Star 70.26 336 ⇑P P 07 23 38.0 +0.1
baz=71,SNR=8.8
135A Vickery Place, 70.27 337 ⇑P P 07 23 38.1 +0.2
baz=71,SNR=9.2
PPT2 Papeete2 70.28 262 eP P 07 23 38.8 +0.2
comp=Z,153nm,1.0s
PPT Papeete 70.29 262 P P 07 23 39.2 +0.6
PPT pmax pmax
comp=Z,154nm,0.8s
PPT Papeete 70.29 262 P P 07 23 39.2 +0.6
comp=Z,154nm,0.8s,baz=83,slow=0.9,SNR=13
232A Coleman 70.40 335 ⇑P P 07 23 39.0 +0.2
baz=71,SNR=10.0
134A White-Moore Ra 70.50 337 ⇓P P 07 23 39.2 -0.1
baz=71
330A Mertzon 70.51 334 ⇑P P 07 23 39.6 +0.1
baz=71,SNR=9.7
231A Bronte 70.68 335 ⇑P P 07 23 40.7 +0.2
baz=71,SNR=14
133A Hamilton Ranch 70.81 336 ⇓P P 07 23 41.4 +0.1
baz=71,SNR=11
TZTN Tazewell 70.87 350 eP P 07 23 41.3 -0.2
comp=Z,163nm,1.4s
329A Wagon Wheel Ra 70.88 333 ⇑P P 07 23 41.7 -0.1
baz=71,SNR=9.8
UALR University of 70.89 342 eP P 07 23 41.7 0.0
230A Sterling City 70.92 334 ⇓P P 07 23 41.7 -0.3
baz=71,SNR=7.7
Z35A Perchaven, San 70.93 338 ⇑P P 07 23 42.4 +0.4
baz=71,SNR=16
MIAR Mount Ida 71.00 341 eP P 07 23 43.0 +0.7
MIAR pmax pmax
comp=Z,190nm,1.4s
MIAR Mount Ida 71.00 341 eP P 07 23 43.0 +0.7
comp=Z,190nm,1.4s
ABTX Abilene, Hawle 71.07 336 eP P 07 23 42.5 -0.3
comp=Z,253nm,1.0s
ABTX Abilene, Hawle 71.07 336 ⇑P P 07 23 42.9 +0.1
baz=71,SNR=9.9
VWCC Virginia Weste 71.14 353 eP P 07 23 43.1 0.0
BLA Blacksburg 71.15 353 eP P 07 23 43.8 +0.6
BLA pmax pmax
comp=Z,58nm,1.0s
BLA Blacksburg 71.15 353 eP P 07 23 43.8 +0.6
comp=Z,58nm,1.0s
Z34A Collier Ranch, 71.18 337 ⇑P P 07 23 43.7 +0.3
baz=72,SNR=14
WVT Waverly 71.19 347 eP P 07 23 42.3 -1.1
comp=Z,315nm,0.9s
HBAR Harrisburg 71.23 344 eP P 07 23 43.9 +0.2
229A Bryant Ranch, 71.25 334 ⇓P P 07 23 43.9 -0.1
baz=72,SNR=8.9
HALT Halls 71.28 345 eP P 07 23 44.0 +0.1
131A Roby 71.37 335 ⇓P P 07 23 44.9 +0.2
baz=72,SNR=7.1
Z33A Whitaker Ranch 71.38 337 ⇓P P 07 23 45.1 +0.4
baz=72,SNR=8.0
JSRW J. Sargeant Re 71.40 355 eP P 07 23 45.1 +0.4
130A Snyder 71.51 334 ⇑P P 07 23 45.5 0.0
baz=72,SNR=8.4
GLAT Glass 71.62 345 eP P 07 23 45.7 -0.3
Z32A Haskell 71.63 336 ⇓P P 07 23 46.0 -0.2
baz=72,SNR=8.9
Y34A Reagan Ranch, 71.67 338 ⇑P P 07 23 46.2 -0.2
baz=72
228A UT Block 9, Go 71.68 333 ⇑P P 07 23 46.6 0.0
baz=72,SNR=21
PVMO Portageville 71.84 345 eP P 07 23 48.2 +0.9
comp=Z,294nm,0.8s
129A Stewart Farms, 71.87 334 ⇓P P 07 23 47.9 +0.2
baz=72,SNR=7.7
Z31A Sharp Cattle R 71.87 335 ⇑P P 07 23 48.0 +0.4
baz=72,SNR=12
CBN Corbin 71.88 356 eP P 07 23 48.1 +0.6
comp=Z,82nm,1.0s
Y33A Hilltop Ranch, 71.99 337 ⇓P P 07 23 48.8 +0.4
baz=72,SNR=6.4
128A Castleberry Fa 72.09 333 ⇓P P 07 23 49.0 -0.1
baz=72,SNR=9.3
Z30A Sanderson Ranc 72.19 335 ⇑P P 07 23 49.7 +0.1
baz=72,SNR=8.2
Y32A R-V Farms, Ver 72.26 336 ⇓P P 07 23 49.7 -0.2
baz=73
X34A Smith Ranch, M 72.28 338 ⇑P P 07 23 49.8 -0.3
baz=73
PBMO Poplar Bluff 72.35 345 eP P 07 23 49.7 -0.7
comp=Z,160nm,1.1s
Z29A Hungry Hill Ra 72.37 334 ⇓P P 07 23 50.3 -0.4
baz=73,SNR=11
MNTX Cornudas Mount 72.41 331 eP P 07 23 49.6 -1.3
comp=Z,54nm,0.9s
GDL2 Guadalupe Moun 72.44 332 eP P 07 23 51.6 +0.5
comp=Z,236nm,1.4s
X33A Lawton 72.44 337 ⇑P P 07 23 50.4 -0.6
baz=73
127A Arkansas Junct 72.47 333 ⇓P P 07 23 50.7 -0.6
baz=73
Y31A Rekieta Farm, 72.50 336 ⇑P P 07 23 51.5 +0.1
baz=73,SNR=7.7
X32A Elmer 72.59 337 ⇓P P 07 23 51.4 -0.5
baz=73
Y30A Stafford Cattl 72.64 335 ⇑P P 07 23 52.0 -0.3
baz=73,SNR=7.3
Z28A Tucker Farm, M 72.65 334 ⇓P P 07 23 51.9 -0.5
baz=73
W34A Bridge Creek, 72.85 338 eP P 07 23 54.9 +1.4
comp=Z,207nm,1.3s
W34A Bridge Creek, 72.85 338 ⇑P P 07 23 53.4 -0.1
baz=73
TUL1 Tulsa 72.89 340 eP P 07 23 52.8 -0.8
comp=Z,154nm,1.0s
TUL1 Tulsa 72.89 340 ⇓P P 07 23 52.6 -1.0
baz=73,SNR=6.9
Y29A Porterfield Fa 72.90 334 ⇑P P 07 23 53.3 -0.6
baz=73,SNR=14
USIN University of 72.94 347 eP P 07 23 52.7 -1.1
comp=Z,332nm,1.3s
CPRX Cap Rock 72.98 332 eP P 07 23 54.9 +0.4
comp=Z,28nm,0.9s
Z27A Tatum 72.98 333 ⇓P P 07 23 54.2 -0.2
baz=73
W33A Caddo, Fort Co 72.99 338 ⇓P P 07 23 54.7 +0.4
baz=73,SNR=8.2
SIUC Southern Illin 73.00 346 eP P 07 23 53.0 -1.2
comp=Z,128nm,0.9s
X31A McDonald Ranch 73.01 336 ⇑P P 07 23 54.1 -0.4
baz=73
SDMD Soldier's Deli 73.05 356 eP P 07 23 55.0 +0.5
comp=Z,121nm,1.3s
Y28A McKinney Farm, 73.15 334 ⇑P P 07 23 55.3 -0.1
baz=74
W32A Sentinel 73.22 337 ⇑P P 07 23 55.4 -0.2
baz=74,SNR=15
Z26A Caprock 73.23 332 ⇓P P 07 23 55.7 -0.2
baz=74,SNR=16
MAW Mawson 73.30 164 P P 07 23 55.9 +0.1
comp=Z,103nm,0.8s,baz=272,slow=21,SNR=9.0
V34A Guthrie 73.33 339 eP P 07 23 56.2 0.0
comp=Z,168nm,1.0s
V34A Guthrie 73.33 339 ⇑P P 07 23 56.1 -0.2
baz=74
MSTX Muleshoe 73.40 334 eP P 07 23 56.9 +0.1
comp=Z,2μm,2.9s
MSTX Muleshoe 73.40 334 ⇑P P 07 23 56.5 -0.4
baz=74
X29A Tulia 73.44 335 ⇑P P 07 23 56.7 -0.3

baz=74
Y27A Causey 73.47 333 ⇑P P 07 23 57.2 -0.1
baz=74
W31A Holland Ranch, 73.50 336 ⇓P P 07 23 56.7 -0.6
baz=74,SNR=7.4
Z25A Roswell 73.53 332 ⇑P P 07 23 57.2 -0.5
baz=74
V33A Lossen Ranch, 73.55 338 ⇑P P 07 23 57.3 -0.3
baz=74,SNR=9.2
MVL Millersville 73.61 357 eP P 07 23 58.8 +1.1
comp=Z,50nm,1.0s
X28A Dimmitt 73.68 334 ⇓P P 07 23 58.3 -0.2
baz=74
V32A Arapaho 73.70 337 ⇑P P 07 23 58.4 -0.1
baz=74
W30A Crocket Farms 73.71 336 ⇑P P 07 23 58.5 -0.2
baz=74
Y26A Elida 73.75 333 ⇓P P 07 23 58.6 -0.4
baz=74,SNR=5.7
OLIL Olney 73.76 347 eP P 07 23 57.3 -1.4
comp=Z,221nm,1.4s
319A Douglas 73.80 327 ⇓P P 07 23 58.7 -0.6
baz=74
AMTX Amarillo 73.83 335 eP P 07 23 59.3 0.0
comp=Z,269nm,1.2s
AMTX Amarillo 73.83 335 ⇑P P 07 23 58.9 -0.4
baz=74
Z24A Sheeppen Canyo 73.83 331 ⇓P P 07 23 59.0 -0.5
baz=74
U34A Anderson Ranch 73.89 339 eP P 07 23 59.9 +0.4
comp=Z,182nm,1.1s
U34A Anderson Ranch 73.89 339 ⇓P P 07 23 59.2 -0.3
baz=74
BLO Bloomington 73.91 348 eP P 07 24 00.6 +1.1
BLO Bloomington 73.91 348 eP P 07 24 00.6 +1.1
V31A Spring Creek L 74.01 337 ⇑P P 07 24 00.2 -0.1
baz=74
W29A Amraillo 74.03 335 ⇑P P 07 24 00.3 -0.2
baz=74,SNR=7.1
U33A Lingo Farm, Me 74.06 338 ⇑P P 07 23 59.9 -0.7
baz=74
Y25A Mesa, Roswell 74.09 332 ⇓P P 07 24 00.5 -0.4
baz=74
SLM Saint Louis 74.09 345 eP P 07 24 00.1 -0.6
SLM pmax pmax
comp=Z,382nm,1.3s
SLM Saint Louis 74.09 345 eP P 07 24 00.1 -0.6
comp=Z,382nm,1.3s
X27A F and S Farms, 74.12 334 ⇑P P 07 24 00.7 -0.4
baz=74
121A Cookes Peak, D 74.14 329 eP P 07 24 02.4 +1.1
comp=Z,240nm,1.4s
121A Cookes Peak, D 74.14 329 ⇓P P 07 24 01.4 +0.1
baz=74,SNR=7.7
V30A Spur Ranch, Mi 74.28 336 ⇓P P 07 24 02.5 +0.6
baz=75
U32A Winter Ranch, 74.29 338 ⇑P P 07 24 02.8 +0.9
baz=75
X26A CR and CF Fran 74.30 333 ⇓P P 07 24 02.0 -0.1
baz=75,SNR=8.8
W28A Vega 74.35 335 ⇑P P 07 24 02.7 +0.3
baz=75
Y24A Capitan 74.38 332 ⇑P P 07 24 03.0 +0.3
baz=75
Z22A Elephant Butte 74.42 330 ⇑P P 07 24 03.5 +0.6
baz=75
ACSO Alum Creek Sta 74.42 351 eP P 07 24 01.9 -0.7
comp=Z,516nm,1.6s
W27A Bowe Ranch, En 74.48 334 ⇑P P 07 24 02.8 -0.3
baz=75,SNR=10
U31A Nine Bar Ranch 74.55 337 ⇑P P 07 24 04.2 +0.8
baz=75
X25A Clemmons Ranch 74.61 332 ⇓P P 07 24 04.4 +0.5
baz=75
ODNJ Ogdensburg 74.62 358 eP P 07 24 04.5 +0.9
comp=Z,26nm,0.7s
Y23A Lovelace Mesa, 74.63 331 ⇑P P 07 24 04.8 +0.7
baz=75
V29A Stinnett 74.66 335 ⇑P P 07 24 04.5 +0.3
baz=75
T33A Patterson Ranc 74.70 338 ⇑P P 07 24 04.7 +0.5
baz=75
LIC Lamto 74.70 72 eP P 07 24 04.3 -0.5
comp=Z,445nm,1.5s
W26A Owens Ranch, T 74.77 333 ⇓P P 07 24 05.1 +0.3
baz=75,SNR=17
V28A Channing 74.80 335 ⇓P P 07 24 05.3 +0.3
baz=75
YLE Yale 74.82 359 eP P 07 24 05.8 +1.1
comp=Z,2μm,2.6s
SUR Sutherland 74.87 119 P P 07 24 06.6 +0.8
comp=Z,1μm,1.2s,SNR=6.2
SUR Sutherland 74.87 119 eP P 07 24 06.8 +0.9
comp=Z,14nm,0.7s
X24A Lazy VL Ranch, 74.94 332 ⇑P P 07 24 05.9 -0.1
baz=75
TIC Toumodi 74.96 71 eP P 07 24 05.9 -0.4
comp=Z,430nm,1.5s
U30A WK&E Inc. Balk 74.96 336 ⇓P P 07 24 06.2 +0.4
baz=75
T32A Huddler Ranch, 75.00 338 ⇑P P 07 24 06.2 +0.2
baz=75
KIC Kosan Boka 75.01 72 eP P 07 24 06.2 -0.4
comp=Z,600nm,1.4s
V27A Dan Oppiter Fa 75.02 334 ⇑P P 07 24 06.3 0.0
baz=75
S33A Kaszmaul Farm, 75.10 339 ⇑P P 07 24 07.6 +1.1
baz=76
U29A Oasis Ranch, S 75.10 336 ⇓P P 07 24 06.6 0.0
baz=76
DBIC Dimbokro 75.11 71 P P 07 24 07.4 +0.3
DBIC pmax pmax
comp=Z,81nm,0.7s
DBIC Dimbokro 75.11 71 P P 07 24 07.4 +0.3
comp=Z,81nm,0.7s,baz=212,slow=5.2,SNR=12
DBIC Dimbokro 75.11 71 eP P 07 24 07.3 +0.1
comp=Z,1μm,2.1s
KSPA Keystone Colle 75.13 357 eP P 07 24 07.9 +1.3
comp=Z,83nm,1.2s
W25A X Bar L Ranch, 75.14 333 ⇑P P 07 24 07.0 0.0
baz=76
T31A Randall Ranch, 75.16 337 ⇑P P 07 24 06.6 -0.3
baz=76
SFIN Scholer Farm 75.18 348 eP P 07 24 05.3 -1.6
comp=Z,1μm,3.0s
SFIN Scholer Farm 75.18 348 ⇑P P 07 24 05.8 -1.1
baz=76
LPM Los Pinos Moun 75.20 331 eP P 07 24 07.5 +0.1
comp=Z,57nm,1.1s
X23A Hourglass Bar 75.25 331 ⇑P P 07 24 07.3 -0.5
baz=76
U28A Mallet 75.36 335 ⇑P P 07 24 07.8 -0.4
baz=76
T30A Plains 75.40 337 ⇓P P 07 24 08.6 +0.3
baz=76
V26A Tequesquite Ra 75.40 334 ⇑P P 07 24 08.3 -0.2
baz=76,SNR=7.7
S32A Newby Ranch, P 75.48 338 ⇑P P 07 24 08.6 -0.2
baz=76
W24A Lazy 6 Ranch, 75.50 332 ⇓P P 07 24 08.7 -0.4
baz=76
ALLY Alegheny Colle 75.52 354 eP P 07 24 08.0 -0.9
comp=Z,165nm,1.3s
S31A Mullinville 75.58 338 ⇓P P 07 24 09.1 -0.2
baz=76
U27A Thompson Grove 75.61 335 ⇑P P 07 24 09.3 -0.3
baz=76
ANMO Albuquerque 75.68 331 P P 07 24 10.8 +0.6
ANMO pmax pmax
comp=Z,32nm,1.0s
ANMO Albuquerque 75.68 331 P P 07 24 10.8 +0.6
comp=Z,32nm,1.0s,baz=154,slow=6.3,SNR=6.3
ANMO Albuquerque 75.68 331 eP P 07 24 10.6 +0.4
comp=Z,1μm,2.7s
W23A Werner Place, 75.74 332 ⇓P P 07 24 10.2 -0.3
baz=76
T29A Hugoton 75.75 336 ⇑P P 07 24 10.1 -0.3
baz=76
V25A Rancho No Teng 75.75 333 ⇓P P 07 24 10.1 -0.4
baz=76
R33A Olander Ranch, 75.76 339 ⇑P P 07 24 10.0 -0.3
baz=76
BINY Binghamton 75.78 357 eP P 07 24 10.3 -0.1
comp=Z,95nm,1.3s
V24A Rampart Ranch, 75.90 333 ⇑P P 07 24 11.1 -0.4
baz=76
S30A Montezuma 75.91 337 ⇓P P 07 24 11.4 +0.1
baz=76
U26A Atchley Ranch, 75.92 334 ⇓P P 07 24 11.6 +0.1
baz=76
214A Organ Pipe Nat 75.92 325 eP P 07 24 11.6 +0.1
comp=Z,407nm,1.9s
214A Organ Pipe Nat 75.92 325 ⇑P P 07 24 11.4 0.0
baz=76
ERPA Erie 75.97 354 eP P 07 24 10.9 -0.5
comp=Z,229nm,1.4s
T28A Walsh 75.99 336 ⇑P P 07 24 11.7 -0.1
baz=76
R32A Long Quarter, 76.08 339 ⇑P P 07 24 12.1 0.0
baz=76
KSU1 Kansas State U 76.10 341 eP P 07 24 12.0 -0.3
comp=Z,97nm,1.2s
KSU1 Kansas State U 76.10 341 ⇑P P 07 24 12.2 0.0
baz=76
S29A Ulysses 76.11 337 ⇑P P 07 24 12.6 +0.2
baz=76
T27A Campo 76.15 335 ⇑P P 07 24 13.0 +0.3
baz=76,SNR=6.6
U25A Circle Dot Ran 76.17 334 ⇑P P 07 24 13.2 +0.3
baz=76
R31A Burdett 76.21 338 ⇓P P 07 24 13.2 +0.3
baz=77
TRY Troy 76.24 359 eP P 07 24 13.8 +0.9
comp=Z,254nm,1.4s
V23A Ortiz Mt. (NFS 76.27 332 ⇓P P 07 24 13.7 +0.2
baz=77
S28A Manter 76.34 336 ⇓P P 07 24 14.0 +0.2
baz=77
Q33A Connelly Farm, 76.35 340 ⇓P P 07 24 13.9 +0.2
baz=77
R30A Dighton 76.44 337 ⇑P P 07 24 14.3 0.0
baz=77
U24A Moreno Valley 76.50 333 ⇓P P 07 24 15.0 +0.1
baz=77
AAM Ann Arbor 76.55 351 eP P 07 24 13.9 -0.8
AAM pmax pmax
comp=Z,234nm,1.4s
AAM Ann Arbor 76.55 351 eP P 07 24 13.9 -0.8
comp=Z,234nm,1.4s
Q32A Meitler Ranch, 76.56 339 ⇑P P 07 24 15.1 +0.2
baz=77
T26A Comanche Natio 76.56 335 ⇑P P 07 24 15.2 +0.1
baz=77
V22A San Miguel Ran 76.70 331 ⇑P P 07 24 16.2 +0.2
baz=77,SNR=6.6
P33A Williams Farm, 76.72 340 ⇓P P 07 24 16.1 +0.4
baz=77
S27A Las Animas 76.77 335 ⇓P P 07 24 16.4 +0.2
baz=77
X18A Snowflake 76.78 329 ⇑P P 07 24 16.5 +0.1
baz=77
U23A El Rito 76.78 332 ⇓P P 07 24 16.7 +0.3
baz=77
Q31A Ellis 76.82 338 ⇓P P 07 24 16.7 +0.3
baz=77,SNR=7.9
T25A Trinidad 76.82 334 ⇑P P 07 24 17.0 +0.3
baz=77,SNR=11
R29A Marienthal 76.84 337 ⇑P P 07 24 17.2 +0.6
baz=77
ACCN Adirondack Com 76.89 359 eP P 07 24 16.6 0.0
comp=Z,240nm,1.6s
S26A Kim 76.92 335 ⇓P P 07 24 17.2 +0.2
baz=77,SNR=7.4
R28A Tribune 76.99 336 ⇑P P 07 24 17.4 0.0
baz=77
113A Mohawk Valley, 77.05 325 ⇑P P 07 24 18.2 +0.4
baz=77
Q30A Quinter 77.05 338 ⇑P P 07 24 18.0 +0.3
baz=77,SNR=5.8
U22A Llaves 77.08 332 ⇓P P 07 24 18.1 -0.1
baz=77
T24B San Luis 77.12 333 ⇓P P 07 24 18.5 +0.1
baz=78
Z14A Wintersburg 77.15 326 ⇓P P 07 24 18.8 +0.5
baz=78
P32A Huiting Farm, 77.15 339 ⇑P P 07 24 18.8 +0.6
baz=78
W18A Petrified Fore 77.18 329 eP P 07 24 20.9 +2.3
comp=Z,16nm,0.9s
W18A Petrified Fore 77.18 329 ⇓P P 07 24 19.0 +0.4
baz=78
HNH Hanover 77.20 360 eP P 07 24 19.8 +1.5
comp=Z,208nm,1.5s
Q29A Oakley 77.22 337 ⇓P P 07 24 18.5 -0.1
baz=78
R27A Eads 77.28 336 ⇓P P 07 24 18.7 -0.3
baz=78,SNR=7.3
P31A Stockton 77.29 339 ⇓P P 07 24 19.0 0.0
baz=78
S25A Robets Cordova 77.30 334 ⇓P P 07 24 19.5 +0.2
baz=78
X16A Lo Mia Camp, P 77.34 327 ⇓P P 07 24 20.1 +0.5
baz=78
T23A Casias Ranch, 77.34 333 ⇓P P 07 24 19.5 -0.1
baz=78
NCB Newcomb 77.49 358 eP P 07 24 19.3 -0.7
comp=Z,65nm,1.3s
MDV Middlebury 77.50 359 eP P 07 24 20.2 +0.2
R26A Arlington 77.52 335 ⇓P P 07 24 20.7 +0.3
baz=78
S24A Houchin Ranch, 77.56 334 ⇓P P 07 24 21.1 +0.2
baz=78,SNR=14
P30A Selden 77.58 338 ⇑P P 07 24 21.4 +0.8
baz=78
O32A Brockman Farm, 77.65 340 ⇓P P 07 24 21.7 +0.7
baz=78
Q28A Sharon Springs 77.65 337 ⇓P P 07 24 21.1 0.0
baz=78,SNR=10
Y14A Wickenburg 77.65 326 ⇑P P 07 24 21.7 +0.6
baz=78
R25A Fountain Ranch 77.67 334 ⇑P P 07 24 21.7 +0.4
baz=78
LBNH Lisbon 77.73 0 eP P 07 24 21.4 +0.1
LBNH pmax pmax
comp=Z,64nm,0.9s
LBNH Lisbon 77.73 0 eP P 07 24 21.4 +0.1
comp=Z,64nm,0.9s
SDCO Great Sand Dun 77.76 333 eP P 07 24 22.1 +0.2
comp=Z,91nm,1.4s
GLA Glamis 77.79 324 eP P 07 24 22.6 +0.7
GLA pmax pmax
comp=Z,451nm,2.3s
GLA Glamis 77.79 324 eP P 07 24 22.6 +0.7
comp=Z,451nm,2.3s
GLA Glamis 77.79 324 ⇑P P 07 24 22.5 +0.5
baz=78
P29A Atwood 77.85 338 ⇓P P 07 24 22.4 +0.3
baz=78,SNR=6.9
O31A Woolen Ranch, 77.86 339 ⇑P P 07 24 22.4 +0.2
baz=78
KSCO Kaye Shedlock' 77.87 336 eP P 07 24 23.0 +0.6
comp=Z,1μm,2.5s
KSCO Kaye Shedlock' 77.87 336 ⇓P P 07 24 22.5 +0.2
baz=78
SCIA State Center 77.88 344 eP P 07 24 21.6 -0.5
comp=Z,205nm,1.2s
S23A Nye Farm, Mont 77.92 333 ⇓P P 07 24 22.9 +0.1
baz=78
R24A Sanders Place, 78.05 334 ⇑P P 07 24 23.8 +0.3
baz=78,SNR=8.8
P28A Saint Francis 78.09 337 ⇓P P 07 24 23.8 +0.2
baz=78
WVL Waterville 78.09 2 eP P 07 24 24.3 +1.1
comp=Z,199nm,1.3s
Q26A Hugo 78.10 335 ⇑P P 07 24 23.8 +0.2
baz=78
O30A MW Ranch, Wils 78.10 338 ⇓P P 07 24 23.8 +0.3
baz=78
PTN Potsdam (NY) 78.11 358 eP P 07 24 22.8 -0.5
PTN pmax pmax
comp=Z,1μm,3.0s
PTN Potsdam (NY) 78.11 358 eP P 07 24 22.8 -0.5
comp=Z,1μm,3.0s
N32A Stulken Farm, 78.12 340 ⇓P P 07 24 23.7 +0.1
baz=78
LONY Lake Ozonia 78.15 358 eP P 07 24 23.3 -0.3
comp=Z,100nm,1.2s
SWSC Sam W. Stewart 78.18 324 ⇓P P 07 24 24.5 +0.5
baz=78
JFWS Jewell Farm 78.21 346 eP P 07 24 22.9 -1.1
JFWS pmax pmax
comp=Z,245nm,1.3s
JFWS Jewell Farm 78.21 346 eP P 07 24 22.9 -1.1
comp=Z,245nm,1.3s
WUAZ Wupatki 78.23 328 eP P 07 24 25.3 +0.8
comp=Z,20nm,0.8s
WUAZ Wupatki 78.23 328 ⇓P P 07 24 25.0 +0.5
baz=79
S22A 4UR Ranch, Cre 78.27 332 ⇑P P 07 24 25.1 +0.3
baz=79
R23A Moffat 78.28 333 ⇑P P 07 24 25.3 +0.5
baz=79
O29A 4D Ranch, Culb 78.28 338 ⇓P P 07 24 25.5 +0.9
baz=79
P27A Ficken Ranch, 78.34 336 ⇑P P 07 24 25.4 +0.5
baz=79
Q25A Bedland, Calha 78.34 335 ⇓P P 07 24 25.0 0.0
baz=79
N31A Bailey Ranch, 78.36 339 ⇑P P 07 24 25.4 +0.5
baz=79
BAR Barrett 78.41 323 eP P 07 24 26.3 +0.9
comp=Z,32nm,1.0s
MONP Monument Peak 78.45 323 ⇓P P 07 24 26.3 +0.5
baz=79
MVCO Mesa Verde 78.46 331 eP P 07 24 26.7 +0.9
MVCO Mesa Verde 78.46 331 ⇑P P 07 24 25.9 0.0
baz=79
PDMCI Parker Dam,Lak 78.48 325 ⇓P P 07 24 26.3 +0.6
baz=79
BC3 Big Chuckawall 78.59 324 ⇓P P 07 24 26.6 +0.2
baz=79
O28A Krutsinger Ran 78.59 337 ⇑P P 07 24 26.4 +0.1
baz=79
P26A Davis Ranch, A 78.61 336 ⇓P P 07 24 26.6 +0.2
baz=79
BGNE Belgrade 78.67 340 eP P 07 24 26.9 +0.3
comp=Z,279nm,1.3s
BGNE Belgrade 78.67 340 ⇓P P 07 24 26.9 +0.3
baz=79
N30A Hueftle Ranch, 78.68 339 ⇑P P 07 24 27.1 +0.4
baz=79
Q24A Divide 78.71 334 ⇑P P 07 24 27.2 0.0
baz=79,SNR=7.8
109C Camp Elliot, M 78.79 323 ⇑P P 07 24 28.0 +0.6
baz=79
IRM Iron Mountain 78.85 325 ⇑P P 07 24 28.7 +1.0
baz=79
P25A Willow Gulch B 78.85 335 ⇓P P 07 24 28.3 +0.5
baz=79,SNR=6.4
M31A Lambtecht Ranc 78.85 340 ⇓P P 07 24 27.7 +0.1
baz=79,SNR=8.1
N29A Votaw Ranch, W 78.86 338 ⇑P P 07 24 28.0 +0.3
baz=79
O27A Beecher Island 78.88 337 ⇓P P 07 24 28.0 +0.1
baz=79,SNR=6.7
W13A Hualapai Mount 79.02 326 ⇓P P 07 24 29.4 +0.5
baz=79
N28A Pribbeno Ranch 79.03 338 ⇑P P 07 24 29.2 +0.5
baz=79
PFO Pinyon Flat Ob 79.04 323 P P 07 24 29.3 +0.3
comp=Z,315nm,1.3s,SNR=5.8
PFO Pinyon Flat Ob 79.04 323 eP P 07 24 30.4 +1.5
PFO Pinyon Flat Ob 79.04 323 P P 07 24 29.8 +0.8
comp=Z,411nm,1.0s,baz=131,slow=4.4,SNR=8.5
PFO Pinyon Flat Ob 79.04 323 eP P 07 24 30.4 +1.5
PFO Pinyon Flat Ob 79.04 323 ⇓P P 07 24 29.8 +0.8
baz=79
NEE2 Needles Airpor 79.09 325 ⇓P P 07 24 29.8 +0.8
baz=79
P24A Kohler Place, 79.11 335 ⇓P P 07 24 29.8 +0.5
baz=80
BELC Belle Mtn. Jos 79.13 324 ⇓P P 07 24 30.1 +0.6
baz=80
O26A Horse Wrangler 79.21 336 ⇑P P 07 24 30.0 +0.3
baz=80
PV01 Paradox Valley 79.28 331 eP P 07 24 30.6 +0.3
M30A Dale-Ortello V 79.29 339 ⇓P P 07 24 30.2 +0.2
baz=80
P23A Jefferson 79.32 334 ⇓P P 07 24 30.7 0.0
baz=80
O25A Wiggins 79.37 335 ⇑P P 07 24 31.0 +0.4
baz=80
U15A North Rim 79.40 328 ⇑P P 07 24 30.8 -0.2
baz=80
MURC Murrieta 79.41 323 ⇓P P 07 24 31.0 +0.2
baz=80
OGNE Ogallala 79.42 337 eP P 07 24 32.0 +1.2
comp=Z,244nm,1.6s
OGNE Ogallala 79.42 337 ⇑P P 07 24 30.9 +0.1
baz=80
M29A Burnside Ranch 79.45 338 ⇓P P 07 24 30.7 -0.2
baz=80
N27A Anderson Farm, 79.46 337 ⇑P P 07 24 31.0 0.0
baz=80,SNR=6.2
SMCO Snowmass 79.57 333 eP P 07 24 33.3 +1.2
comp=Z,59nm,1.1s
LDFC Landfair 79.58 325 eP P 07 24 33.2 +1.4
comp=Z,120nm,1.3s
L31A Butterfield Fa 79.58 340 ⇓P P 07 24 31.2 -0.4
baz=80,SNR=8.6
GMRC Granite Mounta 79.60 325 ⇓P P 07 24 32.4 +0.4
baz=80
ISCO Idaho Springs 79.62 334 eP P 07 24 33.0 +0.8
ISCO pmax pmax
comp=Z,22nm,0.9s
ISCO Idaho Springs 79.62 334 eP P 07 24 33.0 +0.8
comp=Z,22nm,0.9s
ISCO Idaho Springs 79.62 334 ⇑P P 07 24 32.0 -0.2
baz=80
M28A Bar X Bar Ranc 79.62 338 ⇓P P 07 24 31.8 -0.1
baz=80
L30A Spencer Herefo 79.62 339 ⇑P P 07 24 31.8 0.0
baz=80
PV04 Paradox Valley 79.64 331 eP P 07 24 35.0 +2.8
PV10 Paradox Valley 79.68 331 eP P 07 24 32.4 -0.1
comp=Z,728nm,0.9s
N26A Koester Ranch, 79.70 336 ⇓P P 07 24 32.6 +0.2
baz=80,SNR=5.9
O24A Longmont 79.71 335 ⇓P P 07 24 32.4 -0.1
baz=80
P22A Eagle 79.86 333 ⇓P P 07 24 33.0 -0.4
baz=80
CIS Catalina Islan 79.86 322 ⇑P P 07 24 33.4 +0.1
baz=80
L29A Maesberg Ranch 79.95 339 ⇓P P 07 24 33.6 -0.1
baz=80
HEC Hector,Ludlow 79.96 324 ⇓P P 07 24 34.2 +0.4
baz=80
M27A Reverse DX Ran 80.06 337 ⇑P P 07 24 34.3 0.0
baz=80
O23A Lake Granby, G 80.09 334 ⇑P P 07 24 34.8 +0.1
baz=80,SNR=8.2
BOSA Boshof 80.11 118 P P 07 24 35.0 -0.1
BOSA pmax pmax
comp=Z,41nm,0.7s
BOSA Boshof 80.11 118 P P 07 24 35.0 -0.1
comp=Z,41nm,0.7s,baz=246,slow=3.8,SNR=12
BOSA Boshof 80.11 118 eP P 07 24 34.9 -0.2
comp=Z,188nm,1.0s
BFSC Mount Baldy Ra 80.14 323 ⇓P P 07 24 35.0 +0.1
baz=80
TUQ Turquoise Moun 80.25 325 ⇑P P 07 24 35.8 +0.3
baz=81
K30A Basset 80.26 340 ⇓P P 07 24 35.6 +0.4
baz=81,SNR=8.8
N24A Carr 80.27 335 ⇑P P 07 24 35.6 +0.2
baz=81
O22A Kremmling 80.27 334 ⇑P P 07 24 35.6 -0.2
baz=81
RRX Edison Barstow 80.33 324 ⇓P P 07 24 36.4 +0.7
baz=81
MWC Mount Wilson 80.33 323 eP P 07 24 37.0 +1.0
MWC pmax pmax
comp=Z,564nm,2.6s
MWC Mount Wilson 80.33 323 eP P 07 24 37.0 +1.0
comp=Z,564nm,2.6s
PASC Pasadena Art C 80.35 323 eP P 07 24 37.0 +1.1
comp=Z,440nm,2.0s
ECSD EROS Data Cent 80.43 342 eP P 07 24 35.6 -0.4
comp=Z,137nm,1.0s
ECSD EROS Data Cent 80.43 342 ⇓P P 07 24 35.4 -0.7
baz=81,SNR=8.2
DECC Green Verdugo 80.49 323 ⇓P P 07 24 36.9 +0.2
baz=81
M25A Palm-Egli Farm 80.53 336 ⇓P P 07 24 36.5 -0.3
baz=81
L27A T5 Ranch, Ells 80.54 338 ⇓P P 07 24 36.5 -0.4
baz=81
K29A Lazy Trails An 80.55 339 ⇓P P 07 24 36.6 -0.2
baz=81
GSC Goldstone 80.57 324 eP P 07 24 38.4 +1.2
GSC pmax pmax
comp=Z,85nm,1.4s
GSC Goldstone 80.57 324 eP P 07 24 38.4 +1.2

	comp=Z,85nm,1.4s						
GSC	Goldstone	80.57	324	⇓P	P	07 24 37.4	+0.2
	baz=81						
N23A	Red Feather La	80.70	335	⇓P	P	07 24 38.1	+0.2
	baz=81						
L26A	Underwood Farm	80.74	337	⇑P	P	07 24 38.4	+0.5
	baz=81						
SHOC	Shoshone	80.80	325	⇑P	P	07 24 37.8	-0.5
	baz=81						
N22A	Wattenberg Ran	80.80	334	⇓P	P	07 24 38.4	-0.1
	baz=81						
CCUT	Cedar City	80.81	328	eP	P	07 24 39.8	+1.2
K28A	Ten Mile Ranch	80.82	339	⇓P	P	07 24 38.0	-0.3
	baz=81,SNR=7.5						
M24A	Cheyenne	80.82	336	⇑P	P	07 24 38.3	-0.1
	baz=81						
EDW2	Edwards Air Fo	80.82	323	⇑P	P	07 24 38.1	-0.3
	baz=81						
J30A	Dallas	80.82	340	⇑P	P	07 24 37.9	-0.3
	baz=81						
O20A	White River Ci	80.89	333	eP	P	07 24 39.5	+0.6
	comp=Z,408nm,1.9s						
O20A	White River Ci	80.89	333	⇓P	P	07 24 38.5	-0.4
	baz=81						
PHWY	Pilot Hill	80.89	335	eP	P	07 24 39.0	0.0
	comp=Z,107nm,1.3s						
SRU	San Rafael	80.91	331	eP	P	07 24 39.4	+0.4
SRU				pmax	pmax		
	comp=Z,19nm,0.8s						
SRU	San Rafael	80.91	331	eP	P	07 24 39.4	+0.4
	comp=Z,19nm,0.8s						
SPMN	St. Paul	80.95	345	eP	P	07 24 37.6	-1.2
	comp=Z,724nm,2.5s						
SPMN	St. Paul	80.95	345	⇓P	P	07 24 38.0	-0.8
	baz=81,SNR=6.1						
BSC	Santa Cruz Isl	80.95	322	⇓P	P	07 24 39.2	0.0
	baz=81						
OSI	Osito Adit	80.98	323	eP	P	07 24 40.3	+1.0
	comp=Z,90nm,1.1s						
OSI	Osito Adit	80.98	323	⇑P	P	07 24 39.1	-0.2
	baz=81						
K27A	Flueckinger Fa	81.08	338	⇓P	P	07 24 39.5	-0.2
	baz=81						
M23A	Laramie	81.13	335	⇑P	P	07 24 39.4	-0.8
	baz=82						
J29A	Okreek	81.14	340	⇑P	P	07 24 39.7	-0.2
	baz=82,SNR=9.8						
LRMC	Laurel Mountai	81.14	324	⇑P	P	07 24 40.2	-0.1
	baz=82						
TMUT	Trail Mountain	81.35	330	eP	P	07 24 44.2	+2.7
I30A	Oacoma	81.35	340	⇑P	P	07 24 40.9	-0.1
	baz=82,SNR=8.1						
L24A	Wheatland	81.36	336	⇓P	P	07 24 41.0	-0.3
	baz=82						
K26A	Motz Farm, Whi	81.37	337	⇑P	P	07 24 41.2	-0.1
	baz=82						
M22A	Cedar Creek Ra	81.38	334	⇓P	P	07 24 41.7	+0.2
	baz=82						
J28A	Allard Ranch,	81.42	339	⇓P	P	07 24 41.6	+0.1
	baz=82,SNR=10						
N20A	Spence Gulch,	81.50	333	⇑P	P	07 24 42.0	-0.2
	baz=82						
J27A	Elkhorn Farm,	81.50	338	⇓P	P	07 24 42.1	+0.2
	baz=82,SNR=13						
K25A	Mack Ranch, Ha	81.52	337	⇑P	P	07 24 42.2	+0.1
	baz=82						
FURC	Furnace Creek,	81.53	325	⇑P	P	07 24 42.5	+0.4
	baz=82						
ISA	Isabella	81.68	323	eP	P	07 24 43.6	+0.6
ISA				pmax	pmax		
	comp=Z,124nm,1.3s						
ISA	Isabella	81.68	323	eP	P	07 24 43.5	+0.6
	comp=Z,124nm,1.3s						
ISA	Isabella	81.68	323	⇓P	P	07 24 43.8	+0.8
	baz=82						
L23A	Garrett	81.69	335	⇓P	P	07 24 43.0	-0.2
	baz=82						
I29A	Vivian Onida	81.70	340	⇓P	P	07 24 42.6	-0.2
	baz=82						
BRSD	Miller	81.71	341	eP	P	07 24 42.6	-0.3
	comp=Z,107nm,1.0s						
BRSD	Miller	81.71	341	⇓P	P	07 24 42.2	-0.7
	baz=82,SNR=7.7						
L22A	Ellis Ranch, M	81.88	335	⇓P	P	07 24 43.9	-0.1
	baz=82						
J26A	Sides Ranch, S	81.89	338	⇑P	P	07 24 44.4	+0.4
	baz=82						
K24A	Anderson Ranch	81.93	336	⇓P	P	07 24 44.6	+0.3
	baz=82						
I28A	Midland	81.93	339	⇓P	P	07 24 43.6	-0.5
	baz=82,SNR=10						
VES	Vestal, Richgr	82.12	323	⇓P	P	07 24 45.3	0.0
	baz=82						
MPU	Maple Canyon	82.13	330	eP	P	07 24 46.2	+0.7
	comp=Z,127nm,1.5s						
SMMC	Simmler	82.17	322	⇓P	P	07 24 46.0	+0.5
	baz=82						
J25A	Sunshine Ranch	82.19	337	⇓P	P	07 24 45.7	+0.2
	baz=83						
GRAC	Grapevine Rang	82.20	325	⇑P	P	07 24 46.3	+0.6
	baz=82						
H29A	Onida	82.22	340	⇓P	P	07 24 45.3	-0.3
	baz=83,SNR=14						
K23A	Bowen Ranch, D	82.23	336	⇑P	P	07 24 45.9	+0.1
	baz=83,SNR=8.2						
I27A	Quinn	82.26	339	⇑P	P	07 24 45.7	-0.1
	baz=83						
NLU	North Lily Min	82.26	330	eP	P	07 24 48.7	+2.6
LBTB	Lobatse	82.33	115	eP	P	07 24 46.6	-0.3
LBTB				pmax	pmax		
	comp=Z,288nm,1.1s						
LBTB	Lobatse	82.33	115	eP	P	07 24 46.6	-0.3
	comp=Z,288nm,1.1s						
G30A	Faulkton	82.39	341	⇑P	P	07 24 46.4	0.0
	baz=83						
J24A	Dixon Ranch, L	82.42	337	⇑P	P	07 24 47.0	+0.3
	baz=83						
K22A	Casper	82.45	335	eP	P	07 24 48.2	+1.2
	comp=Z,40nm,0.8s						
K22A	Casper	82.45	335	⇓P	P	07 24 47.2	+0.2
	baz=83						
R11A	Troy Canyon, C	82.46	327	eP	P	07 24 48.5	+1.3
	comp=Z,8.0nm,0.9s						
R11A	Troy Canyon, C	82.46	327	⇑P	P	07 24 47.4	+0.2
	baz=83						
I26A	New Underwood	82.47	338	⇓P	P	07 24 46.7	-0.3
	baz=83						
H28A	Mission Ridge	82.50	340	⇓P	P	07 24 46.8	-0.2
	baz=83,SNR=7.4						
JLU	Jordanelle	82.55	331	eP	P	07 24 48.4	+0.7
RCTC	Rector, Farmer	82.57	323	⇓P	P	07 24 47.7	+0.1
	baz=83						
TIN	Tinemaha	82.66	324	⇓P	P	07 24 48.6	+0.4
	baz=83						
G29A	Hoven	82.66	340	⇓P	P	07 24 47.4	-0.4
	baz=83,SNR=10						
K21A	Alcova	82.69	335	⇑P	P	07 24 47.8	-0.5
	baz=83,SNR=7.4						
I25A	Rochford	82.73	338	⇓P	P	07 24 48.4	-0.1
	baz=83,SNR=8.2						
CTU	Camp Tracy	82.75	331	eP	P	07 24 49.2	+0.6
	comp=Z,17nm,0.9s						
DUG	Dugway	82.77	330	eP	P	07 24 49.5	+0.8
DUG				pmax	pmax		
	comp=Z,51nm,1.2s						
DUG	Dugway	82.77	330	eP	P	07 24 49.5	+0.8
	comp=Z,51nm,1.2s						
DUG	Dugway	82.77	330	⇑P	P	07 24 48.7	0.0
	baz=83						
H27A	Howes	82.78	339	⇑P	P	07 24 48.3	-0.2
	baz=83,SNR=11						
BFZ	Birch Farm	82.78	225	eP	P	07 24 49.4	+0.5
	comp=Z,95nm,1.1s						
G28A	Parade	82.84	340	⇑P	P	07 24 48.3	-0.5
	baz=83,SNR=9.4						
I24A	Kuemmerle Ranc	82.88	337	⇑P	P	07 24 49.3	+0.1
	baz=83,SNR=5.6						
RSSD	Black Hills	82.92	337	eP	P	07 24 48.8	-0.7
RSSD	Black Hills	82.92	337	eP	P	07 24 48.8	-0.7
TCUT	Toone Canyon	82.97	331	eP	P	07 24 50.7	+0.8
	comp=Z,247nm,1.5s						
H26A	Fairpoint	82.97	338	⇓P	P	07 24 48.9	-0.6
	baz=83						
TPH	Tonopah	83.00	326	eP	P	07 24 50.0	0.0
TPH				pmax	pmax		
	comp=Z,77nm,1.1s						
TPH	Tonopah	83.00	326	eP	P	07 24 50.0	0.0
	comp=Z,77nm,1.1s						
F30A	Leola	83.01	341	⇑P	P	07 24 49.8	+0.1
	baz=83,SNR=9.1						
ODZ	Otahua Downs	83.10	219	eP	P	07 24 49.8	-0.6
	comp=Z,492nm,2.5s						
J22A	Midwest	83.11	335	⇑P	P	07 24 50.1	-0.3
	baz=84						
F29A	Eureka	83.23	341	⇑P	P	07 24 50.7	0.0
	baz=84,SNR=11						
H25A	Fruitdale	83.23	338	⇓P	P	07 24 50.0	-0.9
	baz=84						
KHZ	Kahutara	83.24	223	eP	P	07 24 49.5	-1.7
	comp=Z,619nm,2.3s						
EYMN	Ely	83.30	347	eP	P	07 24 50.2	-0.9
	comp=Z,119nm,1.2s						
J21A	Lysite	83.39	335	⇑P	P	07 24 50.9	-1.0
	baz=84						
G27A	Dupree	83.41	339	⇓P	P	07 24 51.3	-0.5
	baz=84,SNR=9.9						
MLAC	Mammoth Lakes	83.41	324	⇓P	P	07 24 51.8	-0.5
	baz=84						
HWUT	Hardware Ranch	83.44	331	eP	P	07 24 52.1	-0.1
	comp=Z,204nm,1.4s						
BGU	Big Grassy Mou	83.47	330	eP	P	07 24 54.1	+1.7
	comp=Z,50nm,1.6s						
F28A	McLaughlin	83.51	340	⇓P	P	07 24 51.8	-0.4
	baz=84,SNR=10						
I22A	9 Mile Ranch,	83.53	336	⇓P	P	07 24 52.3	-0.3
	baz=84						
G26A	Maurine	83.53	339	⇓P	P	07 24 51.9	-0.5
	baz=84,SNR=9.9						
SPUT	South Promonto	83.55	331	eP	P	07 24 52.4	-0.4
	comp=Z,3μm,3.0s						
BKZ	Black Stump Fm	83.58	227	eP	P	07 24 53.8	+0.7
	comp=Z,194nm,1.5s						
E30A	Jud	83.60	342	⇑P	P	07 24 52.4	-0.3
	baz=84,SNR=10						
J20A	Shoshoni	83.62	334	⇑P	P	07 24 52.7	-0.3
	baz=84						
H24A	Dirks Ranch, A	83.65	337	⇓P	P	07 24 52.9	-0.2
	baz=84						
BW06	Boulder Array	83.66	333	eP	P	07 24 53.2	-0.2
	comp=Z,28nm,1.0s						
PDAR	Pinedale Array	83.66	333	P	P	07 24 54.1	+0.8
	comp=Z,11nm,1.0s,baz=132,slow=2.2,SNR=8.1						
G25A	Newell	83.69	338	⇓P	P	07 24 52.7	-0.5
	baz=84,SNR=12						
NV11	Mina Array Sit	83.72	325	eP	P	07 24 54.6	+1.0
I21A	Big Trails, Te	83.74	335	⇑P	P	07 24 52.9	-0.8
	baz=84						
DRLN	Deer Lake	83.75	9	eP	P	07 24 53.3	0.0
RPZ	Rata Peaks	83.77	221	eP	P	07 24 53.4	-0.6
	comp=Z,156nm,1.0s						
URZ	Urewera	83.77	228	P	P	07 24 55.2	+1.2
	baz=117,slow=13						
URZ	Urewera	83.77	228	eP	P	07 24 54.6	+0.6
	comp=Z,776nm,2.6s						
NVAR	Mina Array Bea	83.79	325	P	P	07 24 55.0	+0.9
	comp=Z,14nm,0.8s,baz=158,slow=6.1,SNR=14						
E29A	Napoleon	83.85	341	⇑P	P	07 24 53.7	-0.3
	baz=84,SNR=6.8						
F27A	Lemmon	83.88	339	⇑P	P	07 24 53.8	-0.3
	baz=84,SNR=12						
J19A	Crowheart	83.90	334	⇓P	P	07 24 54.3	-0.2
	baz=84						
WHZ	Wether Hill Ro	83.92	217	eP	P	07 24 54.8	+0.2
	comp=Z,1μm,2.6s						
F26A	Lodgepole	84.06	339	⇓P	P	07 24 54.8	-0.2
	baz=84,SNR=13						
HVU	Hansel Valley	84.08	331	eP	P	07 24 55.6	+0.2
HVU	Hansel Valley	84.08	331	eP	P	07 24 55.6	+0.2
H22A	Clearmont	84.10	336	⇓P	P	07 24 55.3	-0.1
	baz=84						
D30A	Buchanan	84.12	342	⇓P	P	07 24 54.8	-0.5
	baz=84,SNR=15						
G24A	Alzada	84.12	338	⇑P	P	07 24 55.4	-0.1
	baz=84						
E28A	Huff	84.15	341	⇑P	P	07 24 55.2	-0.3
	baz=84,SNR=12						
I20A	Worland	84.16	335	⇑P	P	07 24 54.9	-0.9
	baz=84						
E27A	Carson	84.26	340	⇑P	P	07 24 55.7	-0.3
	baz=85,SNR=6.7						
ELK	Elko	84.26	328	eP	P	07 24 57.1	+0.6
ELK	Elko	84.26	328	P	P	07 24 56.4	-0.1
	comp=Z,21nm,0.9s,baz=181,slow=1.3,SNR=5.8						
ELK	Elko	84.26	328	eP	P	07 24 57.1	+0.6
D29A	Pettibone, Tap	84.30	341	⇑P	P	07 24 55.8	-0.4
	baz=85,SNR=12						
G23A	Biddle	84.32	337	⇓P	P	07 24 55.8	-0.7
	baz=85						
F25A	Bowman	84.36	339	⇓P	P	07 24 56.0	-0.6
	baz=85,SNR=7.9						
H21A	Big Horn, Sher	84.37	336	⇓P	P	07 24 56.3	-0.5
	baz=85						
CMB	Columbia Colle	84.49	324	eP	P	07 24 58.1	+0.7
CMB				pmax	pmax		
	comp=Z,19nm,1.1s						
CMB	Columbia Colle	84.49	324	eP	P	07 24 58.1	+0.7
	comp=Z,19nm,1.1s						
AGMN	Agassiz Nation	84.53	344	eP	P	07 24 56.8	-0.6
	comp=Z,47nm,0.8s						
AGMN	Agassiz Nation	84.53	344	⇑P	P	07 24 56.7	-0.6
	baz=85,SNR=8.0						
I19A	Meeteetse	84.54	334	⇓P	P	07 24 57.2	-0.6
	baz=85						
E26A	Carlson Angus	84.56	339	⇓P	P	07 24 56.9	-0.7
	baz=85,SNR=9.0						
H20A	Greybull	84.58	335	⇑P	P	07 24 57.1	-0.7
	baz=85						
F24A	Ekalaka	84.59	338	⇓P	P	07 24 57.3	-0.5
	baz=85						
C30A	Mose, Pekin	84.60	342	⇓P	P	07 24 57.5	-0.2
	baz=85,SNR=17						
G22A	Birney	84.63	336	⇓P	P	07 24 57.0	-1.1
	baz=85						
D28A	Regan	84.68	341	⇑P	P	07 24 57.6	-0.5
	baz=85,SNR=10.0						
LOHW	Long Hollow	84.77	333	eP	P	07 24 59.5	+0.5
F23A	Volborg	84.79	337	⇑P	P	07 24 57.9	-0.9
	baz=85						
E25A	Miller Ranch,	84.86	339	⇑P	P	07 24 58.7	-0.5
	baz=85,SNR=8.1						
D27A	Center	84.87	340	⇓P	P	07 24 58.3	-0.8
	baz=85,SNR=7.0						
G21A	Lodge Grass	84.95	336	⇑P	P	07 24 59.1	-0.6
	baz=85						
I17A	Pilgrim Ck.	85.03	333	⇓P	P	07 24 59.9	-0.4
	baz=85						
D26A	Manning	85.06	340	⇑P	P	07 24 59.9	-0.2
	baz=85,SNR=9.0						
H19A	Powell	85.09	334	⇓P	P	07 25 00.0	-0.4
	baz=85						
C28A	Hausauer Farms	85.11	341	⇑P	P	07 24 59.9	-0.4
	baz=86						
F22A	Rosebud	85.12	337	⇓P	P	07 24 59.6	-0.9
	baz=86						
E24A	Baker	85.19	338	⇑P	P	07 25 00.2	-0.6
	baz=86						
FLWY	Flagg Ranch	85.21	333	eP	P	07 25 01.8	+0.6
B30A	Myrvik Farm, E	85.26	343	⇑P	P	07 25 00.6	-0.5
	baz=86,SNR=23						
G20A	Bridger	85.29	335	⇓P	P	07 25 00.7	-0.7
	baz=86,SNR=7.4						
H18A	Shoshone NF, C	85.34	334	⇑P	P	07 25 01.2	-0.6
	baz=86,SNR=9.1						
C27A	Sayler Ranch,	85.41	341	⇑P	P	07 25 01.7	-0.2
	baz=86,SNR=8.4						
D25A	Fairfield	85.42	339	⇓P	P	07 25 02.0	0.0
	baz=86,SNR=9.2						
H17A	Grant Village	85.43	333	⇑P	P	07 25 02.0	-0.3
	baz=86						
F21A	Absaloka Mine,	85.44	336	⇓P	P	07 25 01.4	-0.7
	baz=86						
E23A	Ismay	85.45	338	⇓P	P	07 25 01.7	-0.3
	baz=86						
B29A	Wagenman Farm,	85.53	342	⇓P	P	07 25 02.0	-0.3
	baz=86,SNR=12						
YFT	Old Faithful	85.58	333	eP	P	07 25 04.8	+1.8
RLMT	Red Lodge	85.58	335	eP	P	07 25 02.4	-0.6
	comp=Z,160nm,1.6s						
E22A	Miles City	85.60	337	⇓P	P	07 25 02.6	-0.2
	baz=86						
C26A	Wahner Farm, P	85.68	340	⇑P	P	07 25 03.1	0.0
	baz=86						
D24A	Glendive	85.69	339	⇓P	P	07 25 02.9	-0.3
	baz=86						
A30A	Hoffart Farm,	85.71	343	⇑P	P	07 25 02.8	-0.4
	baz=86,SNR=12						
YNR	Norris Junctio	85.74	333	eP	P	07 25 07.2	+3.4
	comp=Z,3.3nm,0.4s						
F20A	Billings	85.77	336	⇓P	P	07 25 03.2	-0.6
	baz=86						
B28A	Dugan Ranch, T	85.78	342	⇑P	P	07 25 03.4	-0.2
	baz=86,SNR=7.8						
YMR	Madison River	85.81	333	eP	P	07 25 05.0	+0.9
	comp=Z,42nm,0.8s						
LAO	LASA Array	85.91	337	eP	P	07 25 04.0	-0.4
	comp=Z,129nm,1.1s						
C25A	Freed Ranch, W	85.91	339	⇑P	P	07 25 03.9	-0.4
	baz=86						
A29A	Manning Farm,	85.92	342	⇑P	P	07 25 04.0	-0.3
	baz=86,SNR=12						
B27A	Peters Farms,	85.98	341	⇓P	P	07 25 04.1	-0.5
	baz=86						
D23A	Lindsay	86.02	338	⇓P	P	07 25 04.7	-0.2
	baz=86,SNR=13						
E21A	Keefer Ranch,	86.06	337	⇓P	P	07 25 04.7	-0.4
	baz=86,SNR=12						
C24A	Savage	86.09	339	⇑P	P	07 25 05.0	-0.2
	baz=86,SNR=12						
F19A	Roth Farm, Mol	86.09	335	⇑P	P	07 25 04.7	-0.7
	baz=86						
A28A	Rude Farm, Bot	86.17	342	⇑P	P	07 25 05.2	-0.4
	baz=86						
HLID	Hailey	86.23	331	eP	P	07 25 07.1	+0.9
HLID	Hailey	86.23	331	⇓P	P	07 25 05.5	-0.7
	baz=87						
D22A	Cohagen	86.30	337	⇑P	P	07 25 05.9	-0.3
	baz=87,SNR=13						
ULM	Lac du Bonnet	86.38	345	P	P	07 25 05.8	-0.7
ULM				pmax	pmax		
	comp=Z,37nm,0.9s						
ULM	Lac du Bonnet	86.38	345	P	P	07 25 05.8	-0.7
	comp=Z,37nm,0.8s,baz=167,slow=4.7,SNR=15						
E20A	Meyer Farm, Mu	86.38	336	⇑P	P	07 25 06.6	-0.1
	baz=87,SNR=9.9						
B25A	Knox Farm, Ray	86.39	340	⇓P	P	07 25 06.2	-0.4
	baz=87,SNR=7.3						
A27A	Ledoux Ranch,	86.47	341	⇓P	P	07 25 07.0	0.0
	baz=87						
D21A	La Casta Ranch	86.49	337	⇓P	P	07 25 06.7	-0.5
	baz=87,SNR=8.5						
E19A	Rath Farm, Rou	86.57	336	⇓P	P	07 25 07.0	-0.7
	baz=87,SNR=10						
C23A	Lambert	86.57	338	⇑P	P	07 25 07.4	-0.2
	baz=87,SNR=19						
A26A	Wade Farm, Ken	86.64	341	⇑P	P	07 25 07.7	-0.1
	baz=87,SNR=8.1						
MFID	Camas Ranch	86.70	330	eP	P	07 25 09.0	+0.6
	comp=Z,4.1nm,0.8s						
C22A	Vida	86.74	338	⇑P	P	07 25 08.1	-0.3
	baz=87,SNR=8.7						
DGMT	Dagmar	86.87	339	eP	P	07 25 09.1	+0.1
	comp=Z,280nm,1.0s						
DGMT	Dagmar	86.87	339	⇓P	P	07 25 09.1	+0.1
	baz=87,SNR=14						
D20A	Manuel Ranch,	86.89	336	⇑P	P	07 25 09.0	-0.2
	baz=87,SNR=16						
A25A	Svangstu Ranch	86.98	340	⇓P	P	07 25 09.1	-0.4
	baz=87,SNR=11						
DLMT	Dillon	87.01	333	eP	P	07 25 10.1	+0.2
	comp=Z,5.7nm,0.8s						
B23A	Brockton	87.10	339	⇓P	P	07 25 09.6	-0.5
	baz=88						
C21A	Desert Coulee	87.19	337	⇓P	P	07 25 09.8	-0.8
	baz=88,SNR=15						
D19A	Cripps Ranch,	87.21	336	⇓P	P	07 25 10.1	-0.6
	baz=88						
A24A	Westby	87.22	340	⇑P	P	07 25 10.4	-0.3
	baz=88,SNR=8.4						
B22A	Reddig Ranch S	87.26	338	⇑P	P	07 25 10.6	-0.3
	baz=88,SNR=17						
C20A	Veseth Ranch,	87.39	337	⇓P	P	07 25 10.9	-0.7
	baz=88,SNR=14						
MOD	Modoc	87.47	326	eP	P	07 25 13.0	+0.8
A23A	Redstone	87.51	339	⇑P	P	07 25 11.3	-0.8
	baz=88,SNR=8.3						
WDC	Whiskeytown Da	87.51	324	eP	P	07 25 11.4	-0.9
WDC				pmax	pmax		
	comp=Z,1μm,3.0s						
WDC	Whiskeytown Da	87.51	324	eP	P	07 25 11.4	-0.9
	comp=Z,1μm,3.0s						
B21A	Ellsworth Farm	87.70	338	⇓P	P	07 25 12.5	-0.5
	baz=88,SNR=15						
C19A	Slack Wire Ran	87.76	336	⇑P	P	07 25 12.8	-0.6
	baz=88						
KMRM	Mail Ridge	87.82	323	eP	P	07 25 15.1	+1.2
	comp=Z,141nm,1.3s						
A22A	Carney Farms,	87.85	338	⇓P	P	07 25 12.9	-0.8
	baz=88,SNR=17						
N02D	Trinity Center	87.89	324	⇑P	P	07 25 13.6	-0.6
	baz=88						
B20A	Solberg Farm,	88.03	337	⇓P	P	07 25 13.9	-0.7
	baz=88,SNR=15						
M04C	Macdoel	88.10	325	⇓P	P	07 25 14.4	-0.8
	baz=88						
A21A	Bergtoll Ranch	88.16	338	⇑P	P	07 25 14.4	-0.8
	baz=88,SNR=12						
EGMT	Eagleton	88.25	336	eP	P	07 25 15.3	-0.4
	comp=Z,78nm,1.3s						
EGMT	Eagleton	88.25	336	⇑P	P	07 25 14.8	-0.9
	baz=89						
M02C	Callahan	88.29	324	⇓P	P	07 25 15.3	-0.7
	baz=89						
KHMM	Horse Mountain	88.32	323	eP	P	07 25 17.7	+1.4
	comp=Z,409nm,1.7s						
B19A	Brinkman Farms	88.35	336	⇑P	P	07 25 15.7	-0.4
	baz=89,SNR=6.6						
A20A	Cobblestone Ra	88.38	337	⇑P	P	07 25 15.3	-0.9
	baz=89,SNR=13						
K05A	Summer Lake	88.39	326	eP	P	07 25 17.8	+1.2
	comp=Z,251nm,1.5s						
SCHQ	Schefferville	88.45	3	P	P	07 25 15.1	-1.3
	comp=Z,21nm,0.8s,baz=189,slow=4.2,SNR=19						
YBH	Yreka Blue Hor	88.48	325	eP	P	07 25 16.1	-0.9
YBH				pmax	pmax		
	comp=Z,38nm,1.0s						
YBH	Yreka Blue Hor	88.48	325	eP	P	07 25 16.1	-0.9
	comp=Z,38nm,1.0s						
BMO	Blue Mountains	88.49	330	eP	P	07 25 17.2	+0.3
A19A	Klindworth Far	88.69	337	⇓P	P	07 25 17.3	-0.5
	baz=89						
K04D	Chiloquin, OR	88.71	326	⇑P	P	07 25 18.2	+0.1
	baz=89						
MSO	Missoula	88.75	333	⇑P	P	07 25 18.6	+0.4
	baz=89						
I07A	Izee	88.82	328	eP	P	07 25 19.5	+1.0
J05D	Fort Rock, OR	88.98	326	⇓P	P	07 25 20.0	+0.7
	baz=89						
PINOR	Pine Mountain	89.22	327	eP	P	07 25 20.8	+0.6
	comp=Z,101nm,1.4s						
L02D	Cave Junction,	89.23	324	⇑P	P	07 25 21.3	+0.9
	baz=90						
SWMT	Swartz Lake	89.34	333	eP	P	07 25 21.2	+0.3
J04D	Umpqua Nationa	89.35	326	⇑P	P	07 25 21.4	+0.2
	baz=90						
F10A	Beach Ranch, E	89.36	330	eP	P	07 25 21.9	+1.0
	comp=Z,568nm,2.8s						
G08A	Pilot Rock	89.54	329	eP	P	07 25 22.4	+0.5
	comp=Z,12nm,1.4s						
YBMT	Yellow Bay	89.64	333	eP	P	07 25 22.2	-0.2
	comp=Z,18nm,1.1s						
I05D	Terrebonne, OR	89.84	327	⇑P	P	07 25 23.7	+0.4
	baz=90						
I04A	Tendick Farm,	89.91	326	⇑P	P	07 25 23.9	+0.3
	baz=90						
G06A	Carlson Farm,	90.22	328	eP	P	07 25 28.9	+3.9
	comp=Z,40nm,1.3s						
I03D	Drain, OR	90.28	325	⇓P	P	07 25 26.1	+0.9
	baz=91						
WALA	Waterton Lakes	90.60	334	eP	P	07 25 26.8	+0.1
HAWA	Hanford	90.66	329	eP	P	07 25 27.5	+0.6
	comp=Z,11nm,1.2s						
E07A	Sunnyside	90.92	329	eP	P	07 25 28.8	+0.6
	comp=Z,248nm,2.6s						
D08A	Wollman Farm,	90.93	330	eP	P	07 25 28.4	+0.2
	comp=Z,6.9nm,0.8s						
NEW	Newport	91.17	332	eP	P	07 25 29.0	-0.3
NEW	Newport	91.17	332	P	P	07 25 28.8	-0.5
	comp=Z,11nm,0.9s,baz=171,slow=4.3,SNR=6.3						
NEW	Newport	91.17	332	eP	P	07 25 29.0	-0.3
NEW	Newport	91.17	332	⇓P	P	07 25 29.0	-0.3
	baz=92						
C09A	Chrisman Ranch	91.25	331	eP	P	07 25 29.9	+0.2
	comp=Z,14nm,0.8s						
F04A	Amboy	91.56	327	eP	P	07 25 31.7	+0.6

	comp=Z,36nm,1.2s						
EDM	Edmonton	93.87	337	eP	P	07 25 39.5	-2.2
EDM	Edmonton	93.87	337	eP	P	07 25 39.5	-2.2
FCC	Fort Churchill	94.10	349	eP	P	07 25 42.6	+0.1
FCC	Fort Churchill	94.10	349	eP	P	07 25 42.6	+0.1
	comp=Z,0.8nm,0.8s						
ESDC	Sonseca Array	96.46	46	P	P	07 25 53.6	-0.3
	comp=Z,2.9nm,0.7s,baz=243,slow=4.0,SNR=9.3						
SJPF	Ste Jean	100.20	45	eP	Pdif	07 26 03.9	-6.6
	comp=Z,44nm,1.0s						
ETSF	Etsaut	100.46	45	eP	Pdif	07 26 05.2	-6.6
	comp=Z,19nm,0.8s						
EPF	Esparros	101.07	45	eP	Pdif	07 26 07.5	-7.0
YKA	Yellowknife Ar	101.94	341	P	Pdif	07 26 17.1	-0.6
	comp=Z,3.2nm,0.8s,baz=140,slow=4.6,SNR=12						
YKA				PP	PP	07 30 27.7	-2.0
	comp=Z,2.9nm,0.9s,baz=141,slow=7.8,SNR=7.8						
YKA				PKiKP	PKiKP	07 30 41.9	+1.7
	comp=Z,1.5nm,0.8s,baz=154,slow=1.6,SNR=7.6						
YKA				PKKPbc	PKKPbc	07 42 22.7	-1.4
	comp=Z,0.3nm,0.6s,baz=309,slow=3.7,SNR=5.3						
MTLF	Montolieu	102.37	46	eP	Pdif	07 26 12.9	-7.3
LFF	La Frestale	102.42	44	eP	Pdif	07 26 13.3	-7.0
	comp=Z,16nm,0.7s						
RJF	Les Rejaudoux	103.08	44	eP	Pdif	07 26 15.9	-7.4
CAF	Calviac	103.19	45	eP	Pdif	07 26 16.8	-7.0
	comp=Z,24nm,1.1s						
VIVF	Saint-Julien-l	104.68	46	eP	Pdif	07 26 23.8	-6.7
SUMG	Summit	108.66	10	iP	PP	07 31 16.5	-3.2
GEC2	GERESS Array S	112.04	45	ePKIKP	PKiKP	07 31 00.1	+0.4
GEC2	GERESS Array S	112.04	45	ePKIKP	PKiKP	07 31 00.1	+0.4
GERES	GERESS Array B	112.04	45	iPKIKP	PKiKP	07 30 58.9	-0.8
GERES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GERES	GERESS Array B	112.04	45	PKiKP	PKiKP	07 30 58.9	-0.8
	comp=Z,4.6nm,0.7s,baz=248,slow=1.4,SNR=20						
FURI	Furi	112.06	94	iP	Pdif	07 27 00.1	-4.2
KHC	Kasperske Hory	112.09	45	ePKIKP	PKiKP	07 31 00.2	+0.5
KHC				e		07 31 09.4	
KHC	Kasperske Hory	112.09	45	ePKP	PKiKP	07 31 00.2	+0.5
KHC				epKP	sPKiKP	07 31 09.4	-4.2
CLL	Collm	112.72	43	ePKIKP	PKiKP	07 31 00.0	-0.7
CLL	Collm	112.72	43	ePKIKP	PKiKP	07 31 00.0	-0.7
PRU	Pruhonice	113.03	44	ePKIKP	PKiKP	07 30 58.7	-2.7
PRU	Pruhonice	113.03	44	ePKP	PKiKP	07 30 58.7	-2.7
BRG	Berggiesshubel	113.07	43	iPKIKP	PKiKP	07 31 03.2	+1.8
	comp=Z,20nm,1.2s						
BRG	Berggiesshubel	113.07	43	iPKIKP	PKiKP	07 31 03.2	+1.8
BRG				pmax	pmax		
	comp=Z,20nm,1.2s						
IDI	Anoyia	113.62	62	PKiKP	PKiKP	07 31 03.4	+0.3
	baz=7.8,slow=3.1						
PKSM	Moragy	113.93	49	⇑PKIKP	PKiKP	07 31 03.6	+0.4
PKSM	Moragy	113.93	49	⇑iP	PKiKP	07 31 03.6	+0.4
VRAC	Vranov	113.95	46	⇑PKIKP	PKiKP	07 31 03.6	+0.4
VRAC	Vranov	113.95	46	⇑iP	PKiKP	07 31 03.6	+0.4
ILAR	Eielson Array	114.09	333	PKP	PKPdf	07 31 02.6	-0.3
	comp=Z,2.1nm,0.8s,baz=176,slow=1.6,SNR=6.2						
ILAR				PKKPbc	PKKPbc	07 41 43.9	-1.6
	comp=Z,0.9nm,0.7s,baz=304,slow=4.0,SNR=7.1						
ILAR				PKKP	PKKPdf	07 42 11.3	+2.9
	comp=Z,1.5nm,0.9s,baz=186,slow=4.1,SNR=4.5						
UPC	Upice	114.11	44	ePKIKP	PKPdf	07 31 03.0	-0.4
UPC	Upice	114.11	44	ePKIKP	PKPdf	07 31 03.0	-0.4
DPC	Dobruska-Polom	114.22	45	ePKIKP	PKPdf	07 31 02.9	-0.8
DPC				e		07 31 14.3	
DPC	Dobruska-Polom	114.22	45	ePKP	PKPdf	07 31 02.9	-0.8
DPC				epKP	sPKiKP	07 31 14.3	-3.3
MORC	Moravsky Berou	114.71	46	⇑PKIKP	PKPdf	07 31 04.3	-0.3
MORC	Moravsky Berou	114.71	46	⇑iP	PKPdf	07 31 04.3	-0.3
TRF	Thorofare Moun	114.81	331	ePKPdf	PKPdf	07 31 04.4	-0.2
APE	Apeiranthos	114.84	61	⇓PKIKP	PKPdf	07 31 06.0	+0.7
APE	Apeiranthos	114.84	61	⇓iP	PKPdf	07 31 06.0	+0.7
VYHS	Vyhne	114.98	47	ePKIKP	PKPdf	07 31 04.9	-0.3
VYHS	Vyhne	114.98	47	ePKP	PKPdf	07 31 04.9	-0.3
OKC	Ostrava-Krasne	115.09	46	ePKIKP	PKPdf	07 31 04.6	-0.7
OKC	Ostrava-Krasne	115.09	46	ePKP	PKPdf	07 31 04.6	-0.7
CTA	Charters Tower	115.14	220	PKKPbc	PKKPbc	07 41 42.4	+1.5
	comp=Z,5.8nm,0.8s,baz=45,slow=2.9,SNR=6.8						
DAG	Danmarks Havn	115.17	12	ePKIKP	PKPdf	07 31 03.0	-1.7
DAG	Danmarks Havn	115.17	12	iP	PKPdf	07 31 03.0	-1.7
PSZ	Piszkesteto	115.40	48	⇓PKIKP	PKPdf	07 31 07.2	+1.1
PSZ	Piszkesteto	115.40	48	⇓iP	PKPdf	07 31 07.2	+1.1
MMB	Musomiste	115.41	56	⇑PKIKP	PKPdf	07 31 06.1	-0.2
MMB	Musomiste	115.41	56	⇑iP	PKPdf	07 31 06.1	-0.2
BZS	Buzias	115.59	51	⇑PKIKP	PKPdf	07 31 05.8	-0.6
BZS	Buzias	115.59	51	⇑iP	PKPdf	07 31 05.8	-0.6
NB2	NORSAR Subarra	115.89	32	PKPdf	PKPdf	07 31 05.9	-0.7
	comp=Z,6.9nm,1.0s,baz=248,slow=1.9						
NB2	NORSAR Subarra	115.89	32	PKPdf	PKPdf	07 31 05.9	-0.7
	baz=248,slow=1.9						
NOA	NORSAR Array B	115.89	32	PKIKP	PKPdf	07 31 05.8	-0.7
NOA						07 32 08.6	
NOA						07 41 42.3	
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA	NORSAR Array B	115.89	32	PKP	PKPdf	07 31 05.8	-0.7
	comp=Z,3.3nm,0.9s,baz=252,slow=2.1,SNR=10						
NOA				PP	PP	07 32 08.6	-2.6
	comp=Z,2.0nm,0.9s,baz=245,slow=6.1,SNR=2.2						
NOA				PKKPab	PKKPab	07 41 42.3	+1.7
	comp=Z,1.4nm,0.9s,baz=78,slow=4.2,SNR=3.3						
GZR	Gura Zlata	116.26	52	⇓PKIKP	PKPdf	07 31 06.8	-1.0
GZR	Gura Zlata	116.26	52	⇓iP	PKPdf	07 31 06.8	-1.0
DEV	Deva	116.53	51	⇑PKIKP	PKPdf	07 31 09.6	+1.4
DEV	Deva	116.53	51	⇑iP	PKPdf	07 31 09.6	+1.4
KDZ	Kurdzhali	116.60	56	⇑PKIKP	PKPdf	07 31 08.6	+0.1
KDZ	Kurdzhali	116.60	56	⇑iP	PKPdf	07 31 08.6	+0.1
HFS	Hagfors	116.67	34	PKIKP	PKPdf	07 31 07.2	-0.8
HFS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	Hagfors	116.67	34	PKP	PKPdf	07 31 07.2	-0.8
	comp=Z,4.3nm,0.6s,baz=222,slow=2.0,SNR=13						
HFS				PKKPab	PKKPab	07 41 40.3	+3.1
	comp=Z,1.3nm,0.6s,baz=354,slow=1.4,SNR=4.7						
DRGR		116.74	50	⇓PKIKP	PKPdf	07 31 08.1	-0.6
DRGR		116.74	50	⇓iP	PKPdf	07 31 08.1	-0.6
STHS	Stebnicka Huta	116.80	47	ePKIKP	PKPdf	07 31 09.8	+1.2
STHS	Stebnicka Huta	116.80	47	ePKP	PKPdf	07 31 09.8	+1.2
TRPA	Tarpa	117.12	49	⇑iP	PKPdf	07 31 08.6	-0.4
TRPA	Tarpa	117.12	49	⇓iP	PKKPdf	07 42 02.5	+0.4
KOLS	Kolonicke sedl	117.25	48	ePKIKP	PKPdf	07 31 10.0	+0.5
KOLS	Kolonicke sedl	117.25	48	ePKP	PKPdf	07 31 10.0	+0.5
ARR	Arges	117.46	52	⇓iP	PKPdf	07 31 09.6	-0.5
MTUR	Matau	117.69	52	⇑PKIKP	PKPdf	07 31 14.5	+3.9
MTUR	Matau	117.69	52	⇑iP	PKPdf	07 31 14.5	+3.9
JMB	Yambol	117.71	56	⇓PKIKP	PKPdf	07 31 10.1	-0.5
JMB	Yambol	117.71	56	⇓iP	PKPdf	07 31 10.1	-0.5
VOIR		117.76	52	⇑PKIKP	PKPdf	07 31 09.6	-1.1
VOIR		117.76	52	⇑iP	PKPdf	07 31 09.6	-1.1
KWP	Kalwaria Pacla	117.76	47	⇓PKIKP	PKPdf	07 31 10.0	-0.5
KWP	Kalwaria Pacla	117.76	47	⇓iP	PKPdf	07 31 10.0	-0.5
KWP	Kalwaria Pacla	117.76	47	ePKPdf	PKPdf	07 31 09.9	-0.5
DOPR	Dopca	118.17	52	⇑iP	PKPdf	07 31 12.2	+0.8
SECR		118.29	53	⇑iP	PKPdf	07 31 12.6	+1.0
MLR	Muntele Rosu	118.37	52	⇑PKIKP	PKPdf	07 31 10.3	-1.6
MLR	Muntele Rosu	118.37	52	⇑iP	PKPdf	07 31 10.3	-1.6
PRD	Provadia	118.54	55	⇓PKIKP	PKPdf	07 31 11.8	-0.3
BUR08	Bucovina Ar. S	118.63	50	ePKPdf	PKPdf	07 31 11.7	-0.6
BURAR	Bucovina Array	118.63	50	⇑PKIKP	PKPdf	07 31 11.8	-0.5
BURAR	Bucovina Array	118.63	50	⇑iP	PKPdf	07 31 11.8	-0.5
PLOR	Plostina	118.96	52	⇓PKIKP	PKPdf	07 31 11.4	-1.5
PLOR	Plostina	118.96	52	⇓iP	PKPdf	07 31 11.4	-1.5
VRI	Vrincioaia	119.02	52	⇑PKIKP	PKPdf	07 31 11.5	-1.5
VRI	Vrincioaia	119.02	52	⇑iP	PKPdf	07 31 11.5	-1.5
VRI	Vrincioaia	119.02	52	⇑iP	PKKPdf	07 42 02.1	+3.6
MSAB	Monastry St. A	119.14	54	⇓iP	PKPdf	07 31 13.9	+0.6
TESR	Tescani	119.18	51	⇓iP	PKPdf	07 31 13.9	+0.6
PSN	Preselentsi	119.24	55	⇓PKIKP	PKPdf	07 31 14.8	+1.3
PSN	Preselentsi	119.24	55	⇓iP	PKPdf	07 31 14.8	+1.3
HARR	Harsova	119.42	54	⇑PKIKP	PKPdf	07 31 14.8	+1.0
HARR	Harsova	119.42	54	⇑iP	PKPdf	07 31 14.8	+1.0
SUW	Suwalki	119.48	42	ePKIKP	PKPdf	07 31 12.8	-0.8
SUW	Suwalki	119.48	42	ePKPdf	PKPdf	07 31 12.8	-0.8
TIRR	Tirgusor	119.66	54	⇑PKIKP	PKPdf	07 31 13.5	-0.7
TIRR	Tirgusor	119.66	54	⇑iP	PKPdf	07 31 13.5	-0.7
TIRR	Tirgusor	119.66	54	ePKPdf	PKPdf	07 31 13.5	-0.7
CFR	Carcaliu	119.72	53	⇓PKIKP	PKPdf	07 31 13.3	-1.0
CFR	Carcaliu	119.72	53	⇑iP	PKPdf	07 31 13.3	-1.0
TLCR		120.17	53	⇓PKIKP	PKPdf	07 31 16.4	+1.2
TLCR		120.17	53	⇓iP	PKPdf	07 31 16.4	+1.2
KIS	Kishinev	120.75	51	ePKIKP	PKPdf	07 31 17.0	+0.7
KIS	Kishinev	120.75	51	ePKP	PKPdf	07 31 17.0	+0.7
WRA	Warramunga Arr	120.89	209	PKIKP	PKPdf	07 31 16.4	-1.2
WRA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WRA	Warramunga Arr	120.89	209	PKP	PKPdf	07 31 16.4	-1.2
	comp=Z,10nm,0.6s,baz=167,slow=1.5,SNR=26						
ANTO	Ankara	121.18	60	⇓PKIKP	PKPdf	07 31 17.4	-0.1
ANTO	Ankara	121.18	60	⇓iP	PKPdf	07 31 17.4	-0.1
ANTO	Ankara	121.18	60	ePKPdf	PKPdf	07 31 19.1	+1.7
IIGN	Ignalina	121.55	42	eP	PKPdf	07 31 16.4	-1.1
IIGN				AMB	AMB	07 31 19.1	
	comp=Z,17nm,0.8s						
ISAL	Salakas	121.56	41	eP	PKPdf	07 31 16.5	-1.0
ISAL				AMB	AMB	07 31 19.0	
	comp=Z,17nm,1.3s						
BRTR	Keskin Array B	121.74	61	PKIKP	PKPdf	07 31 17.9	-0.7
BRTR				pmax	pmax		
	comp=Z,15nm,0.7s						
BRTR	Keskin Array B	121.74	61	PKP	PKPdf	07 31 17.9	-0.7
	comp=Z,14nm,0.7s,baz=193,slow=3.1,SNR=29						
NACGM	Naroch	121.75	42	e	PKPdf	07 31 14.0	-3.9
COEN	Coen	121.83	221	ePKPdf	PKPdf	07 31 20.8	+1.4
IDID	Didziasalis	121.83	42	eP	PKPdf	07 31 17.3	-0.7
IDID				AMB	AMB	07 31 20.1	
	comp=Z,14nm,0.7s						
AK02	Malin Array Si	122.06	47	ePKPdf	PKPdf	07 31 16.8	-1.8
KIEV	Kiev	122.07	47	ePKIKP	PKPdf	07 31 16.9	-1.8
KIEV	Kiev	122.07	47	ePKP	PKPdf	07 31 16.9	-1.8
AK01	Malin Array Si	122.07	47	ePKPdf	PKPdf	07 31 16.9	-1.7
AKASG	Malin Array Be	122.08	47	PKIKP	PKPdf	07 31 17.2	-1.5
AKASG				pmax	pmax		
	comp=Z,24nm,0.7s						
AKASG	Malin Array Be	122.08	47	PKP	PKPdf	07 31 17.2	-1.5
	comp=Z,21nm,0.7s,baz=260,slow=2.9,SNR=49						
AKBB	Malin Array Si	122.08	47	ePKIKP	PKPdf	07 31 17.0	-1.7
AKBB	Malin Array Si	122.08	47	ePKPdf	PKPdf	07 31 17.0	-1.7
SPITS	Spitsbergen Ar	122.54	14	PKIKP	PKPdf	07 31 18.2	-0.7
SPITS				pmax	pmax		
	comp=Z,12nm,0.8s						
SPITS	Spitsbergen Ar	122.54	14	PKP	PKPdf	07 31 18.2	-0.7
	comp=Z,8.0nm,0.7s,baz=165,slow=3.5,SNR=11						
TNA	Tin City	122.69	331	ePKPdf	PKPdf	07 31 19.4	0.0
FINES	FINESS Array B	122.86	34	PKP	PKPdf	07 31 19.1	-0.8
	comp=Z,12nm,0.9s,baz=211,slow=2.2,SNR=16						
FINES				PKKPab	PKKPbc	07 41 12.9	-0.4
	comp=Z,0.7nm,0.4s,baz=85,slow=4.0,SNR=4.5						
FIA1	FINESS Array S	122.86	34	ePKPdf	PKPdf	07 31 19.0	-0.9
SIM	Simferopol'	123.68	55	iPKIKP	PKPdf	07 31 21.4	-0.6
SIM				pmax	pmax		
	comp=Z,21nm,1.1s						
ARCES	ARCESS Array B	123.88	25	PKIKP	PKPdf	07 31 22.3	+0.7
ARCES				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ARCES	ARCESS Array B	123.88	25	PKP	PKPdf	07 31 22.3	+0.7
	comp=Z,8.3nm,0.6s,baz=260,slow=3.1,SNR=27						
GAMB	Gambell	124.00	328	ePKPdf	PKPdf	07 31 22.2	+0.3
MBWA	Marble Bar	124.15	193	ePKPdf	PKPdf	07 31 21.3	-2.4
MALT	Malatya	124.81	64	⇓PKIKP	PKPdf	07 31 24.5	0.0
MALT	Malatya	124.81	64	⇓iP	PKPdf	07 31 24.5	0.0
RAYN	Ar Rayn	124.95	83	ePKPdf	PKPdf	07 31 24.8	-0.3
APA	Apatity	126.66	27	⇓iPKIKP	PKPdf	07 31 26.0	-1.0
LVZ	Lovozero	127.13	27	ePKIKP	PKPdf	07 31 27.7	-0.3
LVZ	Lovozero	127.13	27	ePKPdf	PKPdf	07 31 27.7	-0.3
OBN	Obninsk	127.32	43	⇑iPKIKP	PKPdf	07 31 28.0	-0.6
OBN				e		07 31 39.6	
OBN				*PP	PP	07 33 31.8	+2.7
OBN				pmax	pmax		
	comp=Z,63nm,1.2s						
MOS	Moscow	127.99	43	ePKIKP	PKPdf	07 31 29.6	-0.2
MOS				e		07 33 39.3	
MOS				pmax	pmax		
	comp=Z,133nm,1.4s						
KIV	Kislovodsk	129.39	58	ePKIKP	PKPdf	07 31 32.9	-0.2
KIV	Kislovodsk	129.39	58	ePKPdf	PKPdf	07 31 32.9	-0.2
KBZ	Khabaz	129.50	58	PKIKP	PKPdf	07 31 33.3	+0.2
KBZ				pmax	pmax		
	comp=Z,14nm,0.8s						
KBZ	Khabaz	129.50	58	PKP	PKPdf	07 31 33.3	+0.2
	comp=Z,14nm,0.8s,baz=217,slow=4.7,SNR=13						
IDHR	Dehrash	129.81	71	eP	PKPdf	07 31 32.8	-1.5
GOF	Gofitskoye	129.86	57	ePKIKP	PKPdf	07 31 34.0	+0.2
IMRD	Marand	130.40	65	eP	PKPdf	07 31 33.4	-1.8
ITBZ	Tabriz	130.62	66	eP	PKPdf	07 31 34.4	-1.3
IHRS	Heris	131.32	66	eP	PKPdf	07 31 36.9	-0.2
ISRB	Sarab	131.67	67	eP	PKPdf	07 31 35.1	-2.7
PRGR	Permogore	132.19	35	ePKIKP	PKPdf	07 31 36.2	-1.4
ISRV	Sarvestan	133.51	80	eP	PKPdf	07 31 44.6	+3.0
SOEI	Soe	133.95	203	ePKPdf	PKPdf	07 31 43.4	+0.7
JAGI	Jajag, Banyuwa	137.50	189	ePKPdf	PKPdf	07 31 50.7	+1.6
SOKR	Solikamsk	137.96	36	ePKIKP	PKPdf	07 31 47.0	-1.4
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s						
MNCY	Minicoy	138.95	120	eP	PKPdf	07 31 50.9	-0.9
PET	Petropavlovsk	139.52	314	ePKIKP	PKPdf	07 31 49.7	-1.8
PET				i		07 31 54.2	
PET				pmax	pmax		
	comp=Z,19nm,0.7s						
KAPI	Kappang	139.76	198	ePKPdf	PKPdf	07 31 52.5	-0.8
PETK	Petropavlovsk-	140.08	314	PKIKP	PKPdf	07 31 53.4	+0.8
PETK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PETK	Petropavlovsk-	140.08	314	PKP	PKPdf	07 31 53.4	+0.8
	comp=Z,10nm,0.9s,baz=114,slow=3.5,SNR=3.2						
ABKAR	Akbulak array	141.57	52	ePKPdf	PKPdf	07 31 50.2	-5.2
TRD	Trivandrum	141.88	124	eP	PKPdf	07 31 56.0	-1.0
PALK	Pallekele	143.45	130	iPKHKP	PKPpre	07 31 55.3	
PALK				pmax	pmax		
	comp=Z,171nm,1.1s						
PALK	Pallekele	143.45	130	PKhKP	PKPpre	07 31 55.3	
	comp=Z,171nm,1.1s,baz=202,slow=3.9,SNR=11						
PALK	Pallekele	143.45	130	PKPpre	PKPpre	07 31 55.3	
PALK				ePKPdf	PKPab	07 31 55.5	-0.6
GOA	Goa	144.19	112	eP	PKPbc	07 31 59.8	+0.6
BHJ	Bhuj	144.88	97	eP	PKPab	07 31 59.7	-1.5
POO	Poona	145.95	108	eP	PKPdf	07 32 02.0	-1.2
BKNI	Bangkinang	146.00	167	ePKPdf	PKPdf	07 32 03.1	-1.2
BRVK	Borovoye	147.09	43	ePKIKP	PKPdf	07 32 05.2	+0.3
BRVK	Borovoye	147.09	43	ePKPdf	PKPdf	07 32 05.2	+0.3
MDRS	Chennai	147.37	123	eP	PKPdf	07 32 05.8	-0.7
KSM	Kuching	147.70	184	ePKPdf	PKPdf	07 32 08.6	+1.4
MYKOM	Kota Tinggi	147.86	172	ePKPdf	PKPdf	07 32 08.6	+1.2
KBL	Kabul	147.91	78	ePKIKP	PKPdf	07 32 07.9	+0.8
KBL	Kabul	147.91	78	ePKPdf	PKPdf	07 32 07.9	+0.8
PSI	Prapat	147.96	163	PKIKP	PKPdf	07 32 08.9	+1.2
PSI				pmax	pmax		
	comp=Z,80nm,0.7s						
PSI	Prapat	147.96	163	PKPbc	PKPdf	07 32 08.9	+1.2
	comp=Z,80nm,0.7s,baz=156,slow=3.3,SNR=14						
SBUM	Sibu	148.50	188	ePKPdf	PKPdf	07 32 10.9	+2.4
YAK	Yakutsk	148.61	340	ePKIKP	PKPdf	07 32 09.1	+2.0
YAK				pmax	pmax		
	comp=E,22nm,0.9s						
YAK				pmax	pmax		
	comp=N,46nm,1.5s						
YAK				pmax	pmax		
	comp=Z,220nm,0.8s						
YAK	Yakutsk	148.61	340	ePKPdf	PKPdf	07 32 07.7	+0.6
HYB	Hyderabad	148.96	114	iPKP	PKPbc	07 32 12.0	-1.1
HYB	Hyderabad	148.96	114	eP	PKPdf	07 32 09.3	+0.2
KKAR	Karatay Array	149.45	61	ePKPdf	PKPdf	07 32 10.6	+1.5
LHMI	Lhok Sumawe	149.71	158	ePKPbc	PKPbc	07 32 13.7	-1.4
MYLDM	Lahad Datu	149.84	201	ePKPbc	PKPbc	07 32 15.0	-0.4
IPM	Ipoh	150.05	166	ePKPdf	PKPdf	07 32 10.0	-1.0
CMBY	CAMPBELL BAY	150.28	151	eP	PKPdf	07 32 09.9	-1.4
YSS	Yuzh-Sakhalins	150.74	307	⇓ePKIKP	PKPbc	07 32 15.5	-1.0
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS	Yuzh-Sakhalins	150.74	307	ePKPdf	PKPdf	07 32 11.6	+0.6
YSS				ePKPbc	PKPbc	07 32 16.4	-0.1
KULM	Kulim	150.76	165	ePKPdf	PKPdf	07 32 10.5	-1.6
KULM				ePKPbc	PKPbc	07 32 16.4	-1.2
BHPL	Bhopal	151.23	104	eP	PKPdf	07 32 11.8	-0.7
BHPL				AMB	AMB	07 32 41.7	
	comp=Z,339nm,16.0s						
KKM	Kota Kinabalu	151.29	197	ePKPdf	PKPdf	07 32 16.4	+3.4
ASAJ	Asahikawa	151.41	301	ePKPbc	PKPbc	07 32 16.4	-1.9
EKS2	Erkin-Say	151.89	62	ePKIKP	PKPdf	07 32 14.2	+1.1
EKS2				e		07 32 19.9	
EKS2	Erkin-Say	151.89	62	ePKPdf	PKPdf	07 32 14.2	+1.1
EKS2				ePKPbc	PKPbc	07 32 19.9	+0.3
AAK	Ala-Archa	152.41	62	ePKIKP	PKPdf	07 32 14.7	+0.8
AAK				e		07 32 22.3	
AAK	Ala-Archa	152.41	62	ePKPdf	PKPdf	07 32 14.7	+0.8
AAK				ePKPbc	PKiKP	07 32 22.3	+1.3
FRU	Bishkek	152.48	61	ePKIKP	PKPbc	07 32 21.5	+0.8
FRU				pmax	pmax		
	comp=Z,100nm,0.8s						
VIS	Vishakhapatnam	152.69	120	eP	PKPdf	07 32 12.8	-2.0
KURK	Kurchatov	152.76	43	ePKIKP	PKPdf	07 32 15.7	+1.8
KURK				e		07 32 20.4	
KURK	Kurchatov	152.76	43	ePKPdf	PKPdf	07 32 15.7	+1.8
KURK				ePKPbc	PKPbc	07 32 20.4	-0.6
NVS	Novosibirsk	152.81	32	ePKIKP	PKPdf	07 32 13.1	-0.7
NVS				pmax	pmax		
	comp=Z,33nm,1.5s						
NVS				pmax	pmax		
	comp=N,29nm,0.9s						
NVS				pmax	pmax		
	comp=E,42nm,0.7s						
TKM2	Tokmak 2	153.18	61	ePKIKP	PKPdf	07 32 15.0	-0.1
TKM2				e		07 32 22.7	
TKM2	Tokmak 2	153.18	61	ePKPdf	PKPdf	07 32 15.0	-0.1
TKM2				ePKPbc	PKPbc	07 32 22.7	+0.2
DHRM	DHARAMSHALA	153.44	85	eP	PKPdf	07 32 14.7	-1.1
KSH	Kashi	153.79	68	ePKPbc	PKPdf	07 32 14.5	-1.5
KSH				esPKP		07 32 27.3	
PBA	Port Blair	153.87	144	eP	PKPdf	07 32 15.8	-0.8
SMLA	Simla	153.90	87	eP	PKPdf	07 32 15.2	-0.9
ZAA0	Zalesovo Array	154.10	32	ePKPdf	PKPdf	07 32 14.8	-0.9
ZAA0				ePKPbc	PKPbc	07 32 23.2	-0.6
ZAA0				ePKPab	PKPab	07 32 35.2	-2.4
ZALV	Zalesovo Beam	154.10	32	PKIKP	PKPdf	07 32 14.5	-1.2
ZALV						07 32 23.5	
ZALV				pmax	pmax		
	comp=Z,16nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,109nm,0.6s						
ZALV	Zalesovo Beam	154.10	32	PKP	PKPdf	07 32 14.5	-1.2
	comp=Z,16nm,0.7s,baz=302,slow=2.4,SNR=8.5						
ZALV				PKPbc	PKPbc	07 32 23.4	-0.4
	comp=Z,109nm,0.6s,baz=302,slow=2.4,SNR=43						
DDI	Dehra Dun	154.43	90	eP	PKPdf	07 32 14.5	-2.5
MJAR	Matsushiro Arr	155.22	285	PKIKP	PKPdf	07 32 16.7	-1.2
MJAR						07 32 26.9	
MJAR						07 32 45.0	
MJAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MJAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MJAR	Matsushiro Arr	155.22	285	PKP	PKPdf	07 32 16.7	-1.2
	comp=Z,3.9nm,0.9s,baz=178,slow=1.5,SNR=4.4						
MJAR				PKPbc	PKPbc	07 32 26.9	
	comp=Z,8.0nm,1.0s,baz=114,slow=3.1,SNR=6.5						
MJAR				PKPab	PKPab	07 32 45.0	+2.0
	comp=Z,7.4nm,0.8s,baz=88,slow=2.9,SNR=4.0						
MAT	Matsushiro	155.22	285	ePKP	PKPdf	07 32 15.3	-2.6
DGPR	DIGLIPUR	155.26	143	eP	PKPdf	07 32 18.2	-0.2
BOD	Bodaibo	155.70	352	ePKP2	PKPab	07 32 42.3	-1.9
BOD				pmax	pmax		
	comp=Z,96nm,1.3s						
MK31	Makanchi Array	156.65	49	ePKIKP	PKPdf	07 32 19.0	-0.5
MK31	Makanchi Array	156.65	49	ePKPdf	PKPdf	07 32 19.0	-0.5
MKAR	Makanchi Array	156.65	49	PKP	PKPdf	07 32 19.4	-0.1
	comp=Z,12nm,0.8s,baz=288,slow=1.9,SNR=7.9						
MKAR				PKPab	PKPab	07 32 49.7	+0.9
	comp=Z,25nm,0.6s,baz=292,slow=3.5,SNR=15						
MKAR	Makanchi Array	156.65	49	PKP	PKPdf	07 32 19.4	-0.1
MKAR				ePKPdf	PKPdf	07 32 19.9	+0.4
MKAR				PKPab	PKPab	07 32 49.7	+0.9
KOLN	Koldanda	158.21	100	eP	PKPdf	07 32 21.2	-1.1
	comp=Z,249nm,1.5s						
DANN	Dangsing	158.55	98	eP	PKPdf	07 32 21.2	-1.6
	comp=Z,512nm,1.5s						
USRK	Ussuriysk Arra	158.77	306	PKP	PKPdf	07 32 22.6	+0.5
	comp=Z,1.5nm,0.7s,baz=64,slow=3.4,SNR=4.8						
USRK				PKPab	PKPab	07 32 59.9	+1.9
	comp=Z,5.6nm,0.8s,baz=54,slow=3.8,SNR=4.9						
GKN	Gorkha	159.15	100	eP	PKPdf	07 32 21.5	-1.8
	comp=Z,159nm,1.3s						
DMN	Daman	159.38	101	eP	PKPdf	07 32 22.5	-1.2
KKN	Kakani	159.59	101	eP	PKPdf	07 32 22.7	-1.2
PKI	Pulchoki	159.61	102	eP	PKPdf	07 32 22.7	-1.4
	comp=Z,230nm,1.6s						
GUN	Gumba	160.13	101	eP	PKPdf	07 32 23.7	-1.0
MDJ	Mudanjiang	160.18	309	PKP	PKPdf	07 32 21.3	-2.4
MDJ				pPKP	pPKPdf	07 32 34.0	-0.1
MDJ				sPKP		07 32 37.8	
MDJ				PKS	PKSdf	07 35 57.8	+0.8
MDJ				PP	PP	07 36 47.5	+1.0
MDJ				AMB	AMB		
	comp=Z,71μm,12.9s						
MDJ	Mudanjiang	160.18	309	ePKPdf	PKPdf	07 32 24.2	+0.5
JIRN	Jiri	160.28	102	eP	PKPdf	07 32 23.7	-1.2
RAMN	Ramite	160.32	105	eP	PKPdf	07 32 24.0	-0.8
	comp=Z,324nm,1.3s						
ODAN	Odare	160.91	106	eP	PKPdf	07 32 24.6	-0.8
	comp=Z,211nm,1.4s						
UBPT	Khong Chiam	161.36	172	PKP	PKPdf	07 32 26.8	+1.0
WMQ	Urumqi	161.36	52	PKP	PKPdf	07 32 24.8	-0.3
WMQ				pPKP	pPKPdf	07 32 35.5	0.0
WMQ				sPKP		07 32 39.0	
WMQ				PKS	PKSdf	07 35 56.8	-1.6
WMQ				PP	PP	07 36 50.6	+3.0
WMQ				SKS	SKSdf	07 39 24.5	-3.3
WMQ				SKKS	SKKSac	07 43 38.8	-0.1
WMQ				AMB	AMB		
	comp=Z,1μm,10.0s						
WMQ				LR	LR		
	comp=Z,3μm,24.8s						
WMQ				LR	LR		
	comp=Z,5μm,23.6s						
WMQ				LR	LR		
	comp=Z,7μm,23.8s						
TAPN	Taplejung	161.38	105	eP	PKPdf	07 32 24.3	-1.7
TLY	Talaya	161.91	9	PKPab	PKPab	07 33 11.7	+0.3
	comp=Z,13nm,0.7s,baz=317,slow=3.1,SNR=7.9						
CMAR	Chiang Mai Arr	162.65	150	PKIKP	PKPdf	07 32 26.4	-0.8
CMAR						07 33 17.1	
CMAR				pmax	pmax		
	comp=Z,15nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,11nm,1.1s						
CMAR	Chiang Mai Arr	162.65	150	PKP	PKPdf	07 32 26.4	-0.8
	comp=Z,14nm,0.9s,baz=250,slow=2.6,SNR=12						
CMAR				PKPab	PKPab	07 33 17.1	+1.6
	comp=Z,11nm,1.1s,baz=233,slow=5.3,SNR=5.3						
CHTO	Chiang Mai	162.97	149	PKP	PKPdf	07 32 27.5	+0.1
ZAK	Zakamensk	163.13	10	ePKIKP	PKPdf	07 32 28.7	+1.9
ZAK				e		07 33 14.9	
ZAK				pmax	pmax		
	comp=Z,11nm,1.7s						
ZAK				pmax	pmax		
	comp=Z,34nm,1.8s						
CN2	Changchun	163.20	311	ePKP	PKPdf	07 32 24.8	-2.1
SHL	Shillong	163.75	116	eP	PKPdf	07 32 25.8	-2.4
SSLB	Suanglung	164.86	232	ePKPdf	PKPdf	07 32 30.7	+1.7
LSA	Lhasa	165.08	102	ePKIKP	PKPdf	07 32 29.7	+0.1
LSA	Lhasa	165.08	102	ePKPdf	PKPdf	07 32 29.7	+0.1
QIZ	Qiongzhong	165.13	187	ePKPdf	PKPdf	07 32 31.9	+2.5
SONM	Songino Array	165.99	4	PKIKP	PKPdf	07 32 30.0	+0.6
SONM						07 33 31.0	
SONM						07 37 14.9	
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,15nm,0.9s						
SONM				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM	Songino Array	165.99	4	PKP	PKPdf	07 32 30.0	+0.6
	comp=Z,3.7nm,0.7s,baz=332,slow=0.7,SNR=6.7						
SONM				PKPab	PKPab	07 33 31.0	+1.5
	comp=Z,15nm,0.8s,baz=334,slow=2.4,SNR=14						
SONM				PP	PP	07 37 14.9	-1.4
	comp=Z,6.2nm,0.9s,baz=354,slow=4.7,SNR=4.7						
NJ2	Nanjing	170.70	262	ePKP	PKPdf	07 32 33.8	+1.0
GTA	Gaotai	171.41	48	⇑PKP	PKPdf	07 32 32.3	-0.9
GTA				pPKP	pPKPdf	07 32 42.5	-1.1
GTA				sPKP		07 32 46.8	
GTA				PKPab	PKPab	07 33 54.5	+0.6
HHC	Hu-ho-hao-te	172.47	339	ePKP	PKPdf	07 32 32.8	-0.8
HHC				sPKP		07 32 47.3	
HHC				SKKS		07 44 29.0	

GYA Guiyang 172.53 171 i PKP PKPdf 07 32 33.8 -0.3
GYA pPKP pPKPdf 07 32 46.0 +1.5
GYA PKP PKPab 07 34 01.5 +2.6
GYA PKS PKSdf 07 36 03.3 -3.3
GYA PP PP 07 37 53.5 +4.2
GYA SKKS 07 44 33.3
GYA SS SS 07 58 59.0 +0.9
GYA AMB AMB
comp=Z,4μm,10.9s
GYA LR LR
comp=Z,5μm,21.9s
GYA LR LR
comp=Z,3μm,21.4s
GYA LR LR
comp=Z,6μm,24.3s
WHN Wuhan 173.68 240 PKP PKPdf 07 32 34.8 +0.6
CD2 Chengdu 175.36 128 PKP PKPdf 07 32 34.0 -0.8
CD2 pPKP pPKPdf 07 32 45.3 0.0
CD2 sPKP 07 32 49.0
CD2 PKS PKSdf 07 36 04.8 -2.3
CD2 PP PP 07 38 06.5 +2.4
CD2 SKS SKSdf 07 39 31.5 -4.2
CD2 SKKS SKKSac 07 44 47.0 -1.3
CD2 SS SS 07 59 24.5 -2.8
CD2 AMB AMB
comp=Z,2μm,8.6s
LZH Lanzhou 175.93 56 ePKP PKPdf 07 32 35.3 +0.3
LZH pPKP pPKPdf 07 32 45.3 -0.1
LZH sPKP 07 32 51.0
LZH PKPab PKPab 07 34 16.0 +1.8
ENH Enshi 176.20 200 ePKPdf PKPdf 07 32 33.9 -1.1

IDC 27 07:14:40.6±1.3, 36.82S×72.25W, h0km, mb5.0/8, mb1 5.2/8, mb1mx4.8/38, mbtmp5.0/8, Error ellipse: s-maj=79.0km s-min=35.7km az=55.0
ISCJB 27 07:14:45.0±0.7, 36.7S±0.1×72.0W±0.2, h35km, mb5.0/9, Error ellipse: s-maj=22.8km s-min=12.2km az=150.5
NEIC 27 07:14:46.4±0.6, 36.72S×72.14W, h35km, mb4.9/1, Error ellipse: s-maj=21.8km s-min=12.1km az=63.0
ISC 27 07:14:46.3±0.8, 36.7S±0.1×72.0W±0.1, h35km, n16, σ1.25/16, mb4.9/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.20	164	ePn	Pn	07 15 49.4	+1.5
TRQA	Tornquist	8.12	103	ePn	Pn	07 16 42.1	+0.3
LVC	Limon Verde	14.29	12	ePn	Pn	07 18 08.5	+2.0
BCIP	Isla Barro Col	46.20	349	eP	P	07 23 07.9	0.0
	8.0nm,0.5s						
TEIG	Tepich	58.66	342	P	P	07 24 39.6	-0.5
	22nm,0.7s,baz=169,slow=10,SNR=2.7						
TXAR	Lajitas Array	72.09	331	P	P	07 26 06.4	-0.7
	6.1nm,0.7s,baz=151,slow=8.2,SNR=4.0						
TKL	Tuckaleechee C	72.81	350	P	P	07 26 10.5	-0.6
	31nm,1.0s,baz=157,slow=9.1,SNR=4.5						
ANMO	Albuquerque	78.15	332	P	P	07 26 41.9	-0.1
	12nm,0.9s,baz=198,slow=4.6,SNR=3.2						
PFO	Pinyon Flat Ob	81.30	324	P	P	07 26 59.3	+0.3
	8.1nm,0.8s,baz=118,slow=2.8,SNR=4.5						
NVAR	Mina Array Bea	86.09	325	P	P	07 27 23.7	+0.1
	5.9nm,0.8s,baz=155,slow=6.7,SNR=3.8						
PDAR	Pinedale Array	86.16	333	P	P	07 27 23.9	0.0
	3.1nm,0.7s,baz=140,slow=5.8,SNR=3.4						
ULM	Lac du Bonnet	89.10	345	P	P	07 27 39.2	+1.8
	21nm,0.8s,baz=162,slow=3.6,SNR=5.1						
WRA	Warramunga Arr	118.40	208	PKP	PKPdf	07 33 29.7	-1.0
	2.6nm,0.9s,baz=159,slow=1.7,SNR=3.1						
BRTR	Keskin Array B	123.11	62	PKP	PKPdf	07 33 38.7	-0.5
	4.4nm,0.9s,baz=207,slow=3.6,SNR=3.3						
AKASG	Malin Array Be	123.99	49	PKP	PKPdf	07 33 38.2	-2.0
	2.5nm,0.6s,baz=259,slow=2.7,SNR=3.3						
BVAR	Borovoye Array	149.20	46	PKPbc	PKPab	07 34 32.9	-2.1
	10nm,0.6s,baz=336,slow=1.9,SNR=5.0						

IDC 27 07:15:47.1±1.9, 36.93S×73.50W, h0km, mb5.2/7, mb1 5.2/7, mb1mx5.1/18, mbtmp5.2/7, Error ellipse: s-maj=81.8km s-min=28.0km az=52.0
ISCJB 27 07:15:49.0±1.3, 36.7S±0.2×73.3W±0.3, h14km, mb5.1/11, Error ellipse: s-maj=44.8km s-min=21.7km az=141.1
NEIC 27 07:15:52.6±0.6, 36.91S×73.37W, h35km, mb5.2/6, Error ellipse: s-maj=28.5km s-min=13.9km az=65.0
ISC 27 07:15:49.5±1.0, 36.9S±0.2×73.4W±0.3, h14km, n27, σ1.04/27, mb5.2/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	25.03	352	P	P	07 21 12.1	-1.1
	26nm,0.8s,baz=207,slow=10,SNR=3.1						
NNA	Nana	25.03	352	eP	P	07 21 13.1	-0.1
	36nm,0.8s						
OTAV	Otavalo	37.27	352	eP	P	07 23 03.6	+2.1
ROSC	El Rosal	41.58	359	P	P	07 23 38.8	+1.4
	24nm,0.8s,baz=127,slow=5.1,SNR=3.4						
BCIP	Isla Barro Col	46.25	351	eP	P	07 24 14.2	-0.1
	15nm,0.6s						
GRGR	Grenville	50.04	14	eP	P	07 24 43.3	-0.4
	15nm,0.7s						
CELP	Cerrillos	55.09	8	eP	P	07 25 19.6	-1.4
TEIG	Tepich	58.55	344	P	P	07 25 45.1	-0.5
	59nm,0.8s,baz=147,slow=8.3,SNR=4.7						
TEIG	Tepich	58.55	344	eP	P	07 25 45.3	-0.3
338A	Crockett	70.96	340	P	P	07 27 07.9	+1.6
	baz=71						
337A	Centerville	71.08	340	P	P	07 27 08.6	+1.6
	baz=71						
336A	Riesel	71.42	339	P	P	07 27 10.9	+1.8
	baz=72						
TXAR	Lajitas Array	71.77	332	P	P	07 27 11.5	+0.1
	5.9nm,0.8s,baz=148,slow=8.6,SNR=2.9						
SWET	Sewanee	72.72	349	eP	P	07 27 16.2	-0.7
	36nm,1.0s						
DBIC	Dimbokro	77.17	71	P	P	07 27 43.5	+0.4
	21nm,0.9s,baz=200,slow=7.5,SNR=3.6						
DBIC	Dimbokro	77.17	71	eP	P	07 27 43.6	+0.5
	28nm,1.1s						
LBTB	Lobatse	82.08	115	P	P	07 28 10.9	+1.0
	39nm,0.8s,baz=253,slow=6.1,SNR=5.4						
RSSD	Black Hills	85.32	338	eP	P	07 28 25.9	0.0
	16nm,0.8s						
ULM	Lac du Bonnet	89.04	346	P	P	07 28 42.9	-0.6
	15nm,0.9s,baz=148,slow=2.6,SNR=2.8						
BRTR	Keskin Array B	124.19	63	PKP	PKPdf	07 34 47.4	-0.2
	2.0nm,0.8s,baz=204,slow=1.9,SNR=2.5						
AKASG	Malin Array Be	124.97	49	PKP	PKPdf	07 34 47.9	-0.6
	2.6nm,0.7s,baz=260,slow=2.9,SNR=4.4						
TOLI	Toli-Toli	142.03	203	ePKPdf	PKPdf	07 35 21.3	-0.4
KSM	Kuching	144.55	186	ePKPdf	PKPdf	07 35 26.1	0.0
HYB	Hyderabad	148.56	121	i PKP	PKPbc	07 35 36.5	+0.1
BVAR	Borovoye Array	150.15	46	PKPbc	PKPbc	07 35 39.8	+0.5
	15nm,0.8s,baz=280,slow=2.9,SNR=3.5						
TKM2	Tokmak 2	155.58	66	ePKPab	PKPab	07 36 07.7	-1.2
MKAR	Makanchi Array	159.47	54	PKPab	PKPab	07 36 23.5	-1.7
	9.2nm,0.8s,baz=311,slow=2.7,SNR=3.9						

IDC 27 07:19:40.4±0.6, 36.16S×72.95W, h0km, mb5.0/18, mb1 5.1/19, mb1mx5.0/25, mbtmp5.0/19, ML4.3/1, Error ellipse: s-maj=25.4km s-min=16.4km az=60.0
ISCJB 27 07:19:45.2±0.3, 35.82S±0.06×72.74W±0.08, h28km, mb5.3/77, Error ellipse: s-maj=10.4km s-min=7.5km az=43.3
NEIC 27 07:19:47.9±0.3, 35.82S×72.84W, h35km, mb5.4/54, Error ellipse: s-maj=11.4km s-min=8.4km az=59.0
MOS 27 07:19:47.9±2.4, 35.80S×72.80W, h33km, mb5.6/7, Error ellipse: s-maj=26.9km s-min=10.7km az=101.7
ISC 27 07:19:47.1±0.4, 35.82S±0.07×72.7W±0.1, h28km, n463, σ1.07/473, mb5.4/78, 168C-162D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.18	162	ePn	Pn	07 21 06.9	+4.1
PLCA	Paso Flores	5.18	162	ePn	Pn	07 21 06.9	+4.1
TRQA	Tornquist	8.85	108	ePn	Pn	07 21 57.7	+4.6
LVC	Limon Verde	13.57	15	ePn	Pn	07 22 59.9	+2.0
USHA	Ushuaia	19.24	173	P	P	07 24 02.7	-6.2
	0.9nm,0.3s,baz=343,slow=14,SNR=2.1						
LPAZ	La Paz	19.87	13	eP	Pn	07 24 19.1	+0.6
LPAZ				pmax	pmax		
	comp=Z,51nm,0.8s						
LPAZ	La Paz	19.87	13	P	P	07 24 16.4	-0.3
	comp=Z,27nm,0.8s,baz=201,slow=14,SNR=3.3						
LPAZ	La Paz	19.87	13	eP	Pn	07 24 19.1	+0.6
	comp=Z,51nm,0.8s						
SIV	San Ignacio	22.30	31	P	P	07 24 40.9	-1.5
	comp=Z,90nm,0.9s,baz=64,slow=23,SNR=5.5						
NNA	Nana	24.03	350	P	P	07 24 58.3	-1.5
	comp=Z,24nm,0.9s,baz=197,slow=13,SNR=3.6						
PMSA	Palmer Station	29.45	172	eP	P	07 25 48.2	+0.1
BDFB	Brasilia	29.81	54	P	P	07 25 53.1	+1.2
	comp=Z,13nm,0.7s,baz=205,slow=15,SNR=1.9						
RCBR	Riachuelo	45.06	57	P	P	07 28 01.4	+0.7
	comp=Z,14nm,0.7s,baz=216,slow=11,SNR=6.5						
GRGR	Grenville	48.82	14	eP	P	07 28 31.2	+1.3
	comp=Z,264nm,0.8s						
SNAA	Sanae	50.10	157	P	P	07 28 35.0	-4.3
SNAA	Sanae	50.10	157	P	P	07 28 35.0	-4.3
	comp=Z,15nm,0.9s,baz=283,slow=5.8,SNR=5.4						
APG	El Apazote	53.28	338	P	P	07 29 00.3	-3.5
	comp=Z,17nm,0.8s,baz=171,slow=6.6,SNR=7.2						
OBIP	Obispado Ponce	53.88	7	eP	P	07 29 08.7	+0.9
	comp=Z,50nm,0.8s						
LRS	Lares	54.10	7	eP	P	07 29 09.4	0.0
ANWB	Willy Bob	54.19	13	eP	P	07 29 09.7	-0.4
	comp=Z,54nm,0.7s						
QSPA	South Pole Qui	54.42	180	eP	P	07 29 12.5	+1.1
	comp=Z,55nm,1.0s						
SMN1	Samana, DR	54.80	4	eP	P	07 29 16.8	+2.3
RKT	Rikitea	54.88	265	eP	P	07 29 23.2	+8.0
	comp=Z,82nm,1.4s						
TEIG	Tepich	57.67	343	eP	P	07 29 35.5	+0.6
	comp=Z,41nm,0.8s						
035A	Encino	66.88	335	⇑P	P	07 30 39.0	+2.5
	baz=67						
936A	North Padre Is	67.06	336	⇑P	P	07 30 40.0	+2.3
	baz=67						
034A	Hebbronville	67.19	335	⇑P	P	07 30 41.0	+2.5
	baz=67						
934A	Benavides	67.63	335	⇓P	P	07 30 44.4	+3.1
	baz=68						
TIGA	Tifton	67.69	350	eP	P	07 30 41.2	-0.4
	comp=Z,31nm,0.8s						
933A	Laredo	67.90	335	⇑P	P	07 30 44.7	+1.7
	baz=68						
835A	Beeville	68.03	336	⇑P	P	07 30 46.0	+2.2
	baz=68						
834A	Tilden	68.12	335	⇓P	P	07 30 46.5	+2.1
	baz=68						
735A	Kenedy	68.55	336	⇑P	P	07 30 49.3	+2.2
	baz=69						
833A	Chaparral WMA,	68.59	335	⇑P	P	07 30 49.0	+1.6
	baz=69						
832A	Faith Ranch, C	68.76	334	⇓P	P	07 30 50.3	+2.0
	baz=69						
734A	La Parita Cree	68.79	336	⇑P	P	07 30 50.5	+1.9
	baz=69						
636A	Smothers Creek	68.89	337	⇓P	P	07 30 50.4	+1.3
	baz=69						
635A	Leesville	69.03	337	⇑P	P	07 30 51.1	+1.1
	baz=69						
VAH	Vaihoa	69.15	266	eP	P	07 30 57.6	+6.4
	comp=Z,54nm,1.1s						
732A	Laxson Ranch,	69.17	334	⇓P	P	07 30 51.9	+1.0
	baz=69						
536A	Bastrop	69.45	338	⇓P	P	07 30 53.4	+0.8
	baz=70						
633A	Saathoff Ranch	69.56	335	⇓P	P	07 30 54.4	+1.0
	baz=70						
535A	Dale	69.56	337	⇓P	P	07 30 54.3	+1.0
	baz=70						
632A	Uvalde	69.81	335	⇑P	P	07 30 55.7	+0.7
	baz=70						
534A	Blanco	69.85	336	⇓P	P	07 30 56.0	+0.8
	baz=70						
339A	Huntington	69.89	340	⇓P	P	07 30 56.0	+0.7
	baz=70						
436A	Wall Ranch, Ga	70.01	338	⇑P	P	07 30 56.6	+0.6
	baz=70						
533A	Kerrville	70.08	336	⇑P	P	07 30 56.9	+0.4
	baz=70						
338A	Crockett	70.12	340	⇓P	P	07 30 58.0	+1.3
	baz=70						
337A	Centerville	70.25	339	⇓P	P	07 30 58.5	+1.0
	baz=70						
435B	Jarrell	70.27	337	⇓P	P	07 30 58.5	+0.9
	baz=70						
NATX	Nacogdoches	70.32	340	eP	P	07 30 57.4	-0.5
	comp=Z,67nm,1.1s						
532A	Rocksprings	70.42	335	⇓P	P	07 30 58.9	+0.2
	baz=71						
434A	Burnet	70.51	337	⇑P	P	07 30 59.3	+0.1
	baz=71						
336A	Riesel	70.60	338	⇓P	P	07 30 60.0	+0.3
	baz=71						
531A	Rocksprings	70.68	335	⇑P	P	07 31 00.6	+0.3
	baz=71						
335A	Moody	70.68	338	⇓P	P	07 31 00.3	+0.2
	baz=71						
JCT	Junction City	70.71	335	eP	P	07 31 02.3	+1.9
JCT				pmax	pmax		
	comp=Z,49nm,1.3s						
JCT	Junction City	70.71	335	eP	P	07 31 02.3	+1.9
	comp=Z,49nm,1.3s						
JCT	Junction City	70.71	335	⇓P	P	07 31 01.8	+1.4
	baz=71						
433A	Art	70.72	336	⇑P	P	07 31 01.8	+1.3
	baz=71						
CNNC	Cliffs of the	70.86	355	eP	P	07 31 01.6	+0.4
	comp=Z,44nm,0.8s						
530A	J-C Ranch, Com	70.94	334	⇓P	P	07 31 02.5	+0.7
	baz=71						
334A	Lometa	70.98	337	⇓P	P	07 31 02.1	+0.1
	baz=71						
KMSC	Kings Mountain	71.06	353	eP	P	07 31 02.0	-0.4
	comp=Z,29nm,0.9s						
KMSC	Kings Mountain	71.06	353	⇑P	P	07 31 02.8	+0.4
	baz=71						
432A	Menard	71.07	336	⇑P	P	07 31 02.1	-0.5
	baz=71						
TXAR	Lajitas Array	71.08	332	P	P	07 31 03.2	+0.5
	comp=Z,9.0nm,0.8s,baz=150,slow=8.3,SNR=9.4						
431A	Sonora	71.17	335	⇑P	P	07 31 03.7	+0.5
	baz=71						
333A	Richland Sprin	71.22	336	⇑P	P	07 31 04.1	+0.7
	baz=72						
529A	Stev Forest Ra	71.24	333	⇓P	P	07 31 04.2	+0.5
	baz=72,SNR=5.6						
WHTX	Lake Whitney	71.35	338	⇓P	P	07 31 04.4	+0.2
	baz=72						
430A	Baggett Ranch,	71.49	334	⇑P	P	07 31 05.3	+0.2
	baz=72						
332A	Millersview	71.52	336	⇓P	P	07 31 05.3	+0.1
	baz=72						
234A	Clairette	71.57	337	⇑P	P	07 31 06.0	+0.4
	baz=72						
429A	Davenport Ranc	71.57	334	⇓P	P	07 31 05.9	+0.3
	baz=72						
331A	San Angelo	71.68	335	⇑P	P	07 31 06.4	+0.1
	baz=72						
OXF	Oxford	71.70	345	eP	P	07 31 05.1	-1.1
OXF				pmax	pmax		
	comp=Z,69nm,1.0s						
OXF	Oxford	71.70	345	eP	P	07 31 05.1	-1.1
	comp=Z,69nm,1.0s						
SWET	Sewanee	71.75	349	eP	P	07 31 06.1	-0.5
	comp=Z,52nm,0.8s						
CPCT	Cooper Cave	71.76	350	eP	P	07 31 08.1	+1.5
233A	Rising Star	71.83	337	⇑P	P	07 31 07.5	+0.4
	baz=72						
135A	Vickery Place,	71.86	338	⇑P	P	07 31 07.4	+0.1
	baz=72						
TKL	Tuckaleechee C	71.86	351	P	P	07 31 06.5	-0.7
	comp=Z,17nm,1.0s,baz=188,slow=8.5,SNR=4.6						
232A	Coleman	71.95	336	⇓P	P	07 31 07.4	-0.4
	baz=72						
330A	Mertzon	72.03	335	⇑P	P	07 31 08.2	-0.2
	baz=72						
134A	White-Moore Ra	72.08	338	⇑P	P	07 31 08.8	+0.2
	baz=72						
231A	Bronte	72.22	336	⇓P	P	07 31 09.4	-0.1
	baz=72						
133A	Hamilton Ranch	72.38	337	⇑P	P	07 31 09.8	-0.6
	baz=73						
329A	Wagon Wheel Ra	72.39	334	⇑P	P	07 31 10.3	-0.2
	baz=73						
230A	Sterling City	72.45	335	⇓P	P	07 31 10.1	-0.8
	baz=73						
Z35A	Perchaven, San	72.54	339	⇓P	P	07 31 11.2	-0.1
	baz=73						
ABTX	Abilene, Hawle	72.63	336	eP	P	07 31 11.1	-0.7
ABTX	Abilene, Hawle	72.63	336	⇑P	P	07 31 11.4	-0.5
	baz=73						
229A	Bryant Ranch,	72.76	334	⇓P	P	07 31 12.5	-0.3
	baz=73						
Z34A	Collier Ranch,	72.77	338	⇓P	P	07 31 12.6	-0.2
	baz=73						
131A	Roby	72.92	336	⇓P	P	07 31 13.3	-0.3
	baz=73						
Z33A	Whitaker Ranch	72.96	337	⇓P	P	07 31 13.2	-0.6
	baz=73						
WVT	Waverly	72.96	347	eP	P	07 31 13.9	+0.2
WVT				pmax	pmax		
	comp=Z,149nm,1.5s						
WVT	Waverly	72.96	347	eP	P	07 31 13.9	+0.2
	comp=Z,149nm,1.5s						
130A	Snyder	73.04	335	⇓P	P	07 31 13.8	-0.6
	baz=73						
BBTS	Babate	73.04	57	P	P	07 31 14.2	-0.4
	comp=Z,18nm,0.8s,baz=252,slow=6.4,SNR=3.4						
228A	UT Block 9, Go	73.18	334	⇑P	P	07 31 15.4	+0.2
	baz=73,SNR=5.4						
Z32A	Haskell	73.20	337	⇓P	P	07 31 14.9	-0.3
	baz=74						
Y34A	Reagan Ranch,	73.27	338	⇓P	P	07 31 15.5	-0.1
	baz=74						
129A	Stewart Farms,	73.38	335	⇑P	P	07 31 15.8	-0.7
	baz=74						
Z31A	Sharp Cattle R	73.43	336	⇑P	P	07 31 16.2	-0.4
	baz=74						
Y33A	Hilltop Ranch,	73.58	338	⇑P	P	07 31 17.4	0.0
	baz=74						
128A	Castleberry Fa	73.59	334	⇑P	P	07 31 17.4	-0.3
	baz=74						
Z30A	Sanderson Ranc	73.73	335	⇑P	P	07 31 18.2	-0.2
	baz=74						
Y32A	R-V Farms, Ver	73.83	337	⇑P	P	07 31 18.9	-0.1
	baz=74						
MNTX	Cornudas Mount	73.84	331	eP	P	07 31 19.1	0.0
	comp=Z,10nm,0.7s						
X34A	Smith Ranch, M	73.89	339	⇑P	P	07 31 19.4	+0.1
	baz=74						
Z29A	Hungry Hill Ra	73.90	335	⇑P	P	07 31 19.1	-0.4
	baz=74						
127A	Arkansas Junct	73.96	333	⇑P	P	07 31 19.5	-0.4
	baz=74						
X33A	Lawton	74.04	338	⇓P	P	07 31 19.9	-0.3
	baz=74						
Y31A	Rekieta Farm,	74.06	336	⇓P	P	07 31 20.3	0.0
	baz=74						
X32A	Elmer	74.17	337	⇓P	P	07 31 19.7	-1.2
	baz=74						
Y30A	Stafford Cattl	74.19	336	⇓P	P	07 31 20.4	-0.7
	baz=74						
Y29A	Porterfield Fa	74.43	335	⇑P	P	07 31 22.1	-0.5
	baz=75						
CPRX	Cap Rock	74.46	333	eP	P	07 31 22.6	-0.2
	comp=Z,7.8nm,0.8s						
W34A	Bridge Creek,	74.47	339	⇑P	P	07 31 22.0	-0.6
	baz=75						
TUL1	Tulsa	74.54	341	eP	P	07 31 21.8	-1.2
	comp=Z,27nm,0.8s						
TUL1	Tulsa	74.54	341	⇓P	P	07 31 22.1	-0.9
	baz=75						
X31A	McDonald Ranch	74.58	337	⇑P	P	07 31 22.7	-0.6
	baz=75						
W33A	Caddo, Fort Co	74.59	338	⇓P	P	07 31 23.1	-0.3
	baz=75						
Y28A	McKinney Farm,	74.67	335	⇓P	P	07 31 23.6	-0.4
	baz=75						
X30A	Coker Ranch, T	74.70	336	⇓P	P	07 31 23.4	-0.7
	baz=75						
Z26A	Caprock	74.72	333	⇓P	P	07 31 24.5	+0.2
	baz=75,SNR=6.7						
USIN	University of	74.72	348	eP	P	07 31 22.9	-1.1
	comp=Z,67nm,0.9s						
SIUC	Southern Illin	74.76	346	eP	P	07 31 23.5	-0.7
	comp=Z,52nm,1.1s						
W32A	Sentinel	74.81	338	⇓P	P	07 31 24.4	-0.2
	baz=75						
MSTX	Muleshoe	74.91	334	eP	P	07 31 27.2	+1.9
	comp=Z,45nm,0.9s						
MSTX	Muleshoe	74.91	334	⇑P	P	07 31 25.3	-0.1
	baz=75,SNR=7.3						
V34A	Guthrie	74.95	339	eP	P	07 31 24.4	-0.9
	comp=Z,31nm,0.9s						
V34A	Guthrie	74.95	339	⇑P	P	07 31 25.1	-0.3
	baz=75						
Y27A	Causey	74.97	334	⇓P	P	07 31 25.4	-0.3
	baz=75						
X29A	Tulia	74.98	335	⇑P	P	07 31 25.2	-0.5
	baz=75						
Z25A	Roswell	75.00	333	⇓P	P	07 31 25.1	-0.8
	baz=75						
W31A	Holland Ranch,	75.08	337	⇓P	P	07 31 25.6	-0.6
	baz=75						
319A	Douglas	75.16	328	⇓P	P	07 31 25.8	-1.0
	baz=75						
V33A	Lossen Ranch,	75.16	339	⇑P	P	07 31 26.3	-0.4
	baz=76						
Y26A	Elida	75.25	334	⇓P	P	07 31 26.6	-0.8
	baz=76						
Z24A	Sheeppen Canyo	75.29	332	⇑P	P	07 31 26.9	-0.8
	baz=76						
V32A	Arapaho	75.30	338	⇑P	P	07 31 27.4	0.0
	baz=76						
AMTX	Amarillo	75.37	336	eP	P	07 31 27.3	-0.7
	comp=Z,64nm,1.1s						
AMTX	Amarillo	75.37	336	⇑P	P	07 31 27.7	-0.2
	baz=76						
U34A	Anderson Ranch	75.52	340	eP	P	07 31 28.2	-0.4
	comp=Z,38nm,1.3s						
U34A	Anderson Ranch	75.52	340	⇓P	P	07 31 28.2	-0.4
	baz=76						
W29A	Amraillo	75.57	336	⇑P	P	07 31 28.8	-0.3
	baz=76						
V31A	Spring Creek L	75.59	337	⇓P	P	07 31 29.3	+0.2
	baz=76						
X27A	F and S Farms,	75.64	334	⇑P	P	07 31 29.5	-0.1
	baz=76						
X26A	CR and CF Fran	75.81	334	⇓P	P	07 31 30.8	+0.3
	baz=76,SNR=5.1						
Y24A	Capitan	75.84	332	⇓P	P	07 31 30.7	-0.1
	baz=76						
V30A	Spur Ranch, Mi	75.85	337	⇓P	P	07 31 31.4	+0.7
	baz=76						
LIC	Lamto	75.85	71	eP	P	07 31 32.2	+1.1
	comp=Z,115nm,1.4s						
W28A	Vega	75.89	335	⇑P	P	07 31 31.3	+0.4
	baz=76						
W27A	Bowe Ranch, En	76.00	335	⇑P	P	07 31 31.2	-0.4
	baz=76						
Y23A	Lovelace Mesa,	76.08	332	⇑P	P	07 31 32.2	0.0
	baz=76						
TIC	Toumodi	76.12	71	eP	P	07 31 33.8	+1.1
	comp=Z,64nm,0.9s						
KIC	Kosan Boka	76.16	72	eP	P	07 31 33.6	+0.8
	comp=Z,112nm,1.0s						
DBIC	Dimbokro	76.26	71	eP	P	07 31 34.3	+0.9
DBIC				pmax	pmax		
	comp=Z,41nm,0.9s						
DBIC	Dimbokro	76.26	71	P	P	07 31 33.0	-0.5
	comp=Z,35nm,0.9s,baz=190,slow=6.4,SNR=7.4						
DBIC	Dimbokro	76.26	71	eP	P	07 31 34.3	+0.9
	comp=Z,41nm,0.9s						
W26A	Owens Ranch, T	76.27	334	⇑P	P	07 31 33.3	+0.2
	baz=76						
ACSO	Alum Creek Sta	76.28	352	eP	P	07 31 32.3	-0.5
	comp=Z,50nm,0.8s						
T33A	Patterson Ranc	76.32	339	⇑P	P	07 31 33.8	+0.6
	baz=77						
V28A	Channing	76.34	336	⇑P	P	07 31 33.8	+0.3
	baz=77						
X24A	Lazy VL Ranch,	76.41	333	⇓P	P	07 31 34.0	0.0
	baz=77						
U30A	WK&E Inc. Balk	76.54	337	⇑P	P	07 31 35.4	+0.9
	baz=77						
T32A	Huddler Ranch,	76.61	339	⇑P	P	07 31 34.9	0.0
	baz=77						
W25A	X Bar L Ranch,	76.64	334	⇑P	P	07 31 34.7	-0.5
	baz=77						
U29A	Oasis Ranch, S	76.67	337	⇑P	P	07 31 35.1	-0.1
	baz=77						
X23A	Hourglass Bar	76.71	332	⇓P	P	07 31 34.7	-1.0
	baz=77						
S33A	Kaszmaul Farm,	76.73	340	⇑P	P	07 31 35.2	-0.3
	baz=77						

T31A Randall Ranch, 76.76 338 ⇓P P 07 31 35.1 -0.6
baz=77
U28A Mallet 76.91 336 ⇓P P 07 31 36.1 -0.6
baz=77
V26A Tequesquite Ra 76.92 334 ⇓P P 07 31 36.3 -0.4
baz=77
W24A Lazy 6 Ranch, 76.98 333 ⇑P P 07 31 36.4 -0.9
baz=77
T30A Plains 76.98 337 ⇑P P 07 31 36.6 -0.5
baz=77
SFIN Scholer Farm 76.98 349 ⇓P P 07 31 36.7 -0.1
baz=77
S32A Newby Ranch, P 77.10 339 ⇑P P 07 31 37.4 -0.2
baz=77
ANMO Albuquerque 77.14 332 P P 07 31 37.5 -0.6
comp=Z,15nm,0.9s,baz=162,slow=7.1,SNR=6.3
U27A Thompson Grove 77.15 335 ⇓P P 07 31 37.2 -0.9
baz=77
S31A Mullinville 77.19 338 ⇑P P 07 31 37.4 -0.8
baz=78
W23A Werner Place, 77.21 332 ⇓P P 07 31 37.3 -1.3
baz=78
214A Organ Pipe Nat 77.22 326 eP P 07 31 38.0 -0.4
comp=Z,42nm,1.4s
214A Organ Pipe Nat 77.22 326 ⇓P P 07 31 37.3 -1.1
baz=77
V25A Rancho No Teng 77.25 334 ⇓P P 07 31 37.6 -1.2
baz=78
T29A Hugoton 77.32 337 ⇑P P 07 31 38.9 0.0
baz=78
V24A Rampart Ranch, 77.39 333 ⇓P P 07 31 39.7 +0.1
baz=78
R33A Olander Ranch, 77.39 340 ⇑P P 07 31 39.6 +0.3
baz=78
U26A Atchley Ranch, 77.44 335 ⇑P P 07 31 39.8 0.0
baz=78
S30A Montezuma 77.50 338 ⇑P P 07 31 39.7 -0.2
baz=78
T28A Walsh 77.55 336 ⇓P P 07 31 40.3 +0.1
baz=78,SNR=5.1
U25A Circle Dot Ran 77.68 334 ⇓P P 07 31 41.7 +0.6
baz=78
S29A Ulysses 77.69 337 ⇓P P 07 31 41.2 +0.3
baz=78
T27A Campo 77.70 336 ⇑P P 07 31 41.4 +0.2
baz=78,SNR=5.8
R32A Long Quarter, 77.70 339 ⇑P P 07 31 40.9 -0.1
baz=78
KSU1 Kansas State U 77.76 341 eP P 07 31 40.0 -1.2
comp=Z,25nm,0.9s
KSU1 Kansas State U 77.76 341 ⇓P P 07 31 41.0 -0.2
baz=78
R31A Burdett 77.82 339 ⇓P P 07 31 41.7 0.0
baz=78
ERPA Erie 77.86 354 eP P 07 31 41.2 -0.5
comp=Z,32nm,1.1s
S28A Manter 77.91 337 ⇑P P 07 31 43.1 +0.8
baz=78,SNR=5.1
Q33A Connelly Farm, 77.99 340 ⇓P P 07 31 42.9 +0.4
baz=78
U24A Moreno Valley 78.00 334 ⇓P P 07 31 42.2 -0.8
baz=78
R30A Dighton 78.04 338 ⇓P P 07 31 42.9 0.0
baz=78
T26A Comanche Natio 78.09 335 ⇑P P 07 31 43.7 +0.3
baz=78
V22A San Miguel Ran 78.16 332 ⇓P P 07 31 43.4 -0.4
baz=78
Q32A Meitler Ranch, 78.19 340 ⇓P P 07 31 43.6 -0.1
baz=78
CASY Casey 78.19 181 eP P 07 31 45.2 +1.7
U23A El Rito 78.26 333 ⇑P P 07 31 44.5 +0.1
baz=78
S27A Las Animas 78.32 336 ⇓P P 07 31 44.3 -0.3
baz=79
113A Mohawk Valley, 78.34 326 ⇓P P 07 31 44.3 -0.3
baz=79
T25A Trinidad 78.34 335 ⇑P P 07 31 46.0 +1.2
baz=79,SNR=5.1
R29A Marienthal 78.43 338 ⇑P P 07 31 44.8 -0.3
baz=79
Q31A Ellis 78.44 339 ⇑P P 07 31 44.9 -0.2
baz=79
S26A Kim 78.45 335 ⇓P P 07 31 46.3 +1.0
baz=79,SNR=5.4
R28A Tribune 78.57 337 ⇓P P 07 31 46.0 +0.1
baz=79
T24B San Luis 78.62 334 ⇑P P 07 31 46.0 -0.4
baz=79
Q30A Quinter 78.66 338 ⇓P P 07 31 46.7 +0.3
baz=79
X16A Lo Mia Camp, P 78.69 328 ⇑P P 07 31 47.1 +0.3
baz=79
P32A Huiting Farm, 78.79 340 ⇑P P 07 31 47.2 +0.2
baz=79
Q29A Oakley 78.81 338 ⇓P P 07 31 47.6 +0.4
baz=79
S25A Robets Cordova 78.82 335 ⇑P P 07 31 47.4 0.0
baz=79
T23A Casias Ranch, 78.83 333 ⇓P P 07 31 47.3 -0.3
baz=79
R27A Eads 78.83 336 ⇓P P 07 31 47.4 +0.1
baz=79,SNR=5.9
Y14A Wickenburg 78.97 327 ⇓P P 07 31 47.8 -0.3
baz=79
R26A Arlington 79.06 336 ⇑P P 07 31 48.6 0.0
baz=79
S24A Houchin Ranch, 79.07 334 ⇑P P 07 31 48.4 -0.5
baz=79,SNR=5.2
P30A Selden 79.19 339 ⇑P P 07 31 49.4 +0.2
baz=80
R25A Fountain Ranch 79.20 335 ⇑P P 07 31 49.7 +0.2
baz=80
TSUM Tsumeb 79.22 106 P P 07 31 50.5 +0.4
comp=Z,7.9nm,0.9s,baz=224,slow=12,SNR=3.7
Q28A Sharon Springs 79.23 337 ⇓P P 07 31 49.9 +0.4
baz=80
SDCO Great Sand Dun 79.27 334 eP P 07 31 49.5 -0.4
comp=Z,823nm,3.0s
O32A Brockman Farm, 79.30 340 ⇓P P 07 31 50.3 +0.6
baz=80
S23A Nye Farm, Mont 79.41 334 ⇑P P 07 31 50.5 -0.3
baz=80
KSCO Kaye Shedlock' 79.44 337 eP P 07 31 50.5 -0.1
comp=Z,41nm,1.0s
KSCO Kaye Shedlock' 79.44 337 ⇓P P 07 31 51.1 +0.4
baz=80
P29A Atwood 79.45 338 ⇑P P 07 31 51.1 +0.4
baz=80
O31A Woolen Ranch, 79.49 340 ⇓P P 07 31 51.2 +0.4
baz=80
R24A Sanders Place, 79.56 335 ⇑P P 07 31 51.6 +0.1
baz=80
WUAZ Wupatki 79.61 329 eP P 07 31 52.4 +0.7
comp=Z,4.8nm,0.7s
WUAZ Wupatki 79.61 329 ⇑P P 07 31 52.0 +0.2
baz=80
Q26A Hugo 79.65 336 ⇑P P 07 31 51.6 -0.3
baz=80
P28A Saint Francis 79.67 338 ⇓P P 07 31 52.0 +0.1
baz=80
BOSA Boshof 79.69 118 eP P 07 31 49.7 -2.8
BOSA pmax pmax
comp=Z,360nm,2.2s
BOSA Boshof 79.69 118 P P 07 31 50.1 -2.5
comp=Z,28nm,1.0s,baz=227,slow=5.5,SNR=5.0
BOSA Boshof 79.69 118 eP P 07 31 49.7 -2.8
comp=Z,360nm,2.2s
O30A MW Ranch, Wils 79.72 339 ⇑P P 07 31 52.2 +0.1
baz=80
S22A 4UR Ranch, Cre 79.75 333 ⇑P P 07 31 52.2 -0.5
baz=80
R23A Moffat 79.78 334 ⇓P P 07 31 52.5 -0.3
baz=80
BC3 Big Chuckawall 79.86 325 ⇑P P 07 31 52.5 -0.5
baz=80
Q25A Bedland, Calha 79.88 335 ⇑P P 07 31 53.1 -0.1
baz=80
MVCO Mesa Verde 79.91 332 ⇓P P 07 31 53.2 -0.2
baz=80
N31A Bailey Ranch, 80.00 340 ⇑P P 07 31 53.5 -0.1
baz=80
IRM Iron Mountain 80.13 325 ⇑P P 07 31 53.7 -0.8
baz=80
P26A Davis Ranch, A 80.17 336 ⇑P P 07 31 54.0 -0.6
baz=80
O28A Krutsinger Ran 80.19 338 ⇓P P 07 31 54.3 -0.4
baz=80

Q24A Divide 80.24 335 ⇑P P 07 31 54.3 -0.9
baz=80
BELC Belle Mtn. Jos 80.39 325 ⇑P P 07 31 55.2 -0.8
baz=81
P25A Willow Gulch B 80.40 336 ⇓P P 07 31 55.5 -0.4
baz=81
O27A Beecher Island 80.46 337 ⇓P P 07 31 55.9 -0.3
baz=81
N29A Votaw Ranch, W 80.48 339 ⇑P P 07 31 56.3 +0.1
baz=81
M31A Lambtecht Ranc 80.50 340 ⇓P P 07 31 56.7 +0.4
baz=81
N28A Pribbeno Ranch 80.63 338 ⇓P P 07 31 57.3 +0.3
baz=81
PV01 Paradox Valley 80.74 332 eP P 07 31 57.8 -0.1
comp=Z,5μm,1.5s
U15A North Rim 80.77 329 ⇓P P 07 31 57.7 -0.4
baz=81
O26A Horse Wrangler 80.78 337 ⇑P P 07 31 58.0 +0.2
baz=81
LDFC Landfair 80.87 326 eP P 07 31 58.2 -0.3
comp=Z,49nm,1.3s
GMRC Granite Mounta 80.88 325 ⇓P P 07 31 58.2 -0.4
baz=81
M30A Dale-Ortello V 80.92 340 ⇑P P 07 31 58.5 0.0
baz=81
N27A Anderson Farm, 81.04 338 ⇑P P 07 31 59.9 +0.6
baz=81
PV10 Paradox Valley 81.13 332 eP P 07 31 58.4 -1.6
comp=Z,690nm,0.8s
ISCO Idaho Springs 81.14 335 ⇑P P 07 32 00.2 +0.1
baz=81
HEC Hector,Ludlow 81.23 325 ⇑P P 07 31 59.9 -0.5
baz=82
L31A Butterfield Fa 81.23 341 ⇓P P 07 32 00.1 0.0
baz=82
O24A Longmont 81.25 335 ⇑P P 07 31 60.0 -0.4
baz=82
L30A Spencer Herefo 81.26 340 ⇓P P 07 32 00.5 +0.2
baz=82
O23A Lake Granby, G 81.61 335 ⇓P P 07 32 02.2 -0.4
baz=82
O22A Kremmling 81.79 334 ⇑P P 07 32 03.1 -0.4
baz=82
N24A Carr 81.82 336 ⇑P P 07 32 03.4 -0.1
baz=82
GSC Goldstone 81.84 325 ⇓P P 07 32 03.0 -0.6
baz=82
K30A Basset 81.91 340 ⇑P P 07 32 03.9 +0.2
baz=82
LBTB Lobatse 82.02 115 P P 07 32 03.5 -1.5
comp=Z,27nm,1.0s,baz=256,slow=6.1,SNR=3.9
EDW2 Edwards Air Fo 82.06 324 ⇓P P 07 32 04.1 -0.6
baz=82
M25A Palm-Egli Farm 82.09 337 ⇓P P 07 32 04.2 -0.6
baz=82
ECSD EROS Data Cent 82.12 343 eP P 07 32 03.8 -1.0
comp=Z,53nm,1.0s
ECSD EROS Data Cent 82.12 343 ⇓P P 07 32 04.0 -0.8
baz=82
CCUT Cedar City 82.17 328 eP P 07 32 05.3 -0.2
comp=Z,26nm,1.0s
K29A Lazy Trails An 82.18 340 ⇓P P 07 32 04.4 -0.7
baz=82
N23A Red Feather La 82.23 335 ⇑P P 07 32 05.3 -0.5
baz=82
N22A Wattenberg Ran 82.33 335 ⇑P P 07 32 06.3 0.0
baz=83
SRU San Rafael 82.35 331 eP P 07 32 05.4 -0.9
SRU pmax pmax
comp=Z,20nm,0.8s
SRU San Rafael 82.35 331 eP P 07 32 05.4 -0.9
comp=Z,20nm,0.8s
M24A Cheyenne 82.37 336 ⇓P P 07 32 06.4 +0.1
baz=83
O20A White River Ci 82.37 333 ⇑P P 07 32 06.4 0.0
baz=83
K28A Ten Mile Ranch 82.44 339 ⇓P P 07 32 06.8 +0.3
baz=83
M23A Laramie 82.67 336 ⇑P P 07 32 07.3 -0.6
baz=83
K27A Flueckinger Fa 82.68 338 ⇓P P 07 32 07.2 -0.6
baz=83
SPMN St. Paul 82.70 346 eP P 07 32 05.8 -1.9
comp=Z,3μm,3.6s
SPMN St. Paul 82.70 346 ⇑P P 07 32 07.1 -0.7
baz=83
TMUT Trail Mountain 82.78 331 eP P 07 32 08.1 -0.6
comp=Z,18nm,0.8s
J29A Okreek 82.78 340 ⇑P P 07 32 08.4 +0.2
baz=83
ISA Isabella 82.92 324 eP P 07 32 08.4 -0.8
ISA pmax pmax
comp=Z,27nm,1.3s
ISA Isabella 82.92 324 eP P 07 32 08.4 -0.8
comp=Z,27nm,1.3s
N20A Spence Gulch, 83.00 334 ⇓P P 07 32 09.8 +0.1
baz=83
I30A Oacoma 83.01 341 ⇓P P 07 32 09.0 -0.4
baz=83
J28A Allard Ranch, 83.05 339 ⇑P P 07 32 09.8 +0.1
baz=83
K25A Mack Ranch, Ha 83.10 337 ⇓P P 07 32 10.0 -0.1
baz=83
J27A Elkhorn Farm, 83.12 339 ⇓P P 07 32 10.2 +0.2
baz=83
L23A Garrett 83.24 336 ⇑P P 07 32 10.6 -0.3
baz=84
VES Vestal, Richgr 83.36 324 ⇑P P 07 32 10.6 -0.8
baz=84
BRSD Miller 83.38 341 eP P 07 32 09.9 -1.3
comp=Z,28nm,0.8s
BRSD Miller 83.38 341 ⇑P P 07 32 10.9 -0.4
baz=84
J26A Sides Ranch, S 83.49 338 ⇑P P 07 32 12.0 0.0
baz=84
MPU Maple Canyon 83.56 331 eP P 07 32 12.0 -0.6
comp=Z,33nm,1.0s
NLU North Lily Min 83.68 331 eP P 07 32 12.9 -0.3
comp=Z,63nm,1.6s
J25A Sunshine Ranch 83.78 338 ⇓P P 07 32 13.0 -0.5
baz=84
K23A Bowen Ranch, D 83.79 336 ⇑P P 07 32 13.0 -0.7
baz=84
R11A Troy Canyon, C 83.80 327 eP P 07 32 14.0 +0.2
comp=Z,28nm,1.4s
R11A Troy Canyon, C 83.80 327 ⇑P P 07 32 12.3 -1.5
baz=84
RCTC Rector, Farmer 83.81 324 ⇓P P 07 32 12.8 -0.9
baz=84
H29A Onida 83.88 341 ⇓P P 07 32 13.5 -0.3
baz=84
I27A Quinn 83.88 339 ⇓P P 07 32 13.5 -0.4
baz=84
JLU Jordanelle 83.99 331 eP P 07 32 13.5 -1.3
comp=Z,23nm,1.0s
K22A Casper 84.00 336 eP P 07 32 13.3 -1.4
comp=Z,49nm,1.1s
K22A Casper 84.00 336 ⇑P P 07 32 14.1 -0.6
baz=84
J24A Dixon Ranch, L 84.00 337 ⇑P P 07 32 14.3 -0.3
baz=84
G30A Faulkton 84.06 342 ⇑P P 07 32 14.4 -0.4
baz=84
H28A Mission Ridge 84.14 340 ⇑P P 07 32 14.9 -0.3
baz=84
DUG Dugway 84.18 330 ⇓P P 07 32 14.6 -1.0
baz=84
K21A Alcova 84.23 335 ⇑P P 07 32 14.9 -1.0
baz=84
G29A Hoven 84.33 341 ⇑P P 07 32 15.7 -0.4
baz=85
I25A Rochford 84.33 338 ⇓P P 07 32 15.6 -0.8
baz=85
TCUT Toone Canyon 84.42 332 eP P 07 32 17.5 +0.5
comp=Z,70nm,1.1s
G28A Parade 84.48 340 ⇑P P 07 32 16.6 -0.3
baz=85
J22A Midwest 84.66 336 ⇑P P 07 32 17.6 -0.4
baz=85
F30A Leola 84.69 342 ⇓P P 07 32 17.9 0.0
baz=85
H25A Fruitdale 84.84 338 ⇓P P 07 32 17.9 -0.8
baz=85
BGU Big Grassy Mou 84.89 330 eP P 07 32 20.7 +1.4
comp=Z,17nm,1.4s
F29A Eureka 84.89 341 ⇓P P 07 32 18.1 -0.9
baz=85

J21A Lysite 84.92 335 ⇓P P 07 32 18.8 -0.6
baz=85
SPUT South Promonto 84.99 331 eP P 07 32 18.4 -1.3
comp=Z,111nm,1.5s
G27A Dupree 85.00 340 ⇓P P 07 32 18.8 -1.0
baz=85
NVAR Mina Array Bea 85.08 326 P P 07 32 19.2 -1.2
comp=Z,5.7nm,0.8s,baz=164,slow=6.1,SNR=7.1
I22A 9 Mile Ranch, 85.09 336 ⇓P P 07 32 18.6 -1.5
baz=85
J20A Shoshoni 85.15 335 ⇓P P 07 32 19.5 -1.0
baz=85
PDAR Pinedale Array 85.15 334 P P 07 32 19.3 -1.3
comp=Z,3.9nm,0.9s,baz=136,slow=6.4,SNR=5.5
G26A Maurine 85.16 339 ⇓P P 07 32 19.7 -0.7
baz=86
F28A McLaughlin 85.17 341 ⇑P P 07 32 19.5 -0.8
baz=86
H24A Dirks Ranch, A 85.24 338 ⇑P P 07 32 19.8 -1.0
baz=86
E30A Jud 85.28 342 ⇓P P 07 32 20.3 -0.6
baz=86
I21A Big Trails, Te 85.28 336 ⇓P P 07 32 19.9 -1.2
baz=86
G25A Newell 85.30 339 ⇑P P 07 32 20.3 -0.8
baz=86
TORD Torodi Ar. Bea 85.32 70 P P 07 32 20.0 -1.8
comp=Z,12nm,1.0s,baz=246,slow=2.7
J19A Crowheart 85.41 334 ⇑P P 07 32 20.4 -1.4
baz=86
HVU Hansel Valley 85.52 331 eP P 07 32 20.8 -1.6
HVU pmax pmax
comp=Z,23nm,0.9s
HVU Hansel Valley 85.52 331 eP P 07 32 20.8 -1.6
comp=Z,23nm,0.9s
F27A Lemmon 85.52 340 ⇑P P 07 32 21.4 -0.8
baz=86
E29A Napoleon 85.53 342 ⇓P P 07 32 21.0 -1.2
baz=86
ELK Elko 85.64 329 P P 07 32 21.8 -1.3
comp=Z,5.8nm,0.8s,baz=168,slow=0.7,SNR=4.1
H22A Clearmont 85.67 337 ⇑P P 07 32 21.5 -1.5
baz=86
F26A Lodgepole 85.69 339 ⇓P P 07 32 21.8 -1.2
baz=86
I20A Worland 85.69 335 ⇓P P 07 32 21.9 -1.2
baz=86
G24A Alzada 85.72 338 ⇑P P 07 32 22.2 -1.0
baz=86
CMB Columbia Colle 85.74 324 eP P 07 32 22.9 -0.5
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 85.74 324 eP P 07 32 22.9 -0.5
comp=Z,8.3nm,1.0s
E28A Huff 85.81 341 ⇑P P 07 32 22.2 -1.3
baz=86
D30A Buchanan 85.81 342 ⇑P P 07 32 22.3 -1.2
baz=86
E27A Carson 85.91 340 ⇑P P 07 32 23.2 -0.9
baz=86
G23A Biddle 85.91 337 ⇓P P 07 32 22.6 -1.5
baz=86
H21A Big Horn, Sher 85.92 336 ⇑P P 07 32 22.9 -1.4
baz=86
D29A Pettibone, Tap 85.98 342 ⇑P P 07 32 23.5 -0.8
baz=86
F25A Bowman 85.98 339 ⇑P P 07 32 23.5 -0.9
baz=86
I19A Meeteetse 86.06 335 ⇑P P 07 32 23.9 -1.2
baz=86
H20A Greybull 86.12 335 ⇑P P 07 32 24.1 -1.1
baz=86
E26A Carlson Angus 86.19 340 ⇓P P 07 32 24.4 -1.0
baz=86
F24A Ekalaka 86.20 338 ⇑P P 07 32 24.7 -0.9
baz=86
G22A Birney 86.21 337 ⇓P P 07 32 24.8 -0.8
baz=86
AGMN Agassiz Nation 86.27 345 eP P 07 32 24.7 -1.0
comp=Z,1μm,3.3s
AGMN Agassiz Nation 86.27 345 ⇓P P 07 32 24.9 -0.8
baz=87
C30A Mose, Pekin 86.30 343 ⇓P P 07 32 25.2 -0.7
baz=87
D28A Regan 86.35 341 ⇑P P 07 32 25.7 -0.4
baz=87
F23A Volborg 86.38 338 ⇑P P 07 32 25.5 -0.9
baz=87
E25A Miller Ranch, 86.49 339 ⇑P P 07 32 26.3 -0.6
baz=87
G21A Lodge Grass 86.51 336 ⇑P P 07 32 25.7 -1.4
baz=87
D27A Center 86.52 341 ⇓P P 07 32 26.1 -1.0
baz=87
D26A Manning 86.70 340 ⇓P P 07 32 27.1 -0.8
baz=87,SNR=8.9
F22A Rosebud 86.70 337 ⇓P P 07 32 26.8 -1.1
baz=87
E24A Baker 86.81 339 ⇑P P 07 32 27.4 -1.1
baz=87
G20A Bridger 86.84 336 ⇓P P 07 32 27.7 -1.1
baz=87
B30A Myrvik Farm, E 86.97 343 ⇓P P 07 32 28.3 -0.9
baz=87,SNR=6.7
E23A Ismay 87.05 338 ⇑P P 07 32 28.9 -0.7
baz=87
D25A Fairfield 87.06 340 ⇓P P 07 32 28.6 -1.1
baz=87
C27A Sayler Ranch, 87.07 341 ⇓P P 07 32 29.0 -0.7
baz=87,SNR=7.0
YFT Old Faithful 87.08 334 eP P 07 32 31.9 +1.8
comp=Z,5μm,3.7s
RLMT Red Lodge 87.11 335 eP P 07 32 30.4 +0.2
comp=Z,10nm,0.6s
B29A Wagenman Farm, 87.22 343 ⇓P P 07 32 29.5 -0.9
baz=88
D24A Glendive 87.31 339 ⇓P P 07 32 29.8 -1.1
baz=88
C26A Wahner Farm, P 87.33 341 ⇑P P 07 32 29.6 -1.4
baz=88
A30A Hoffart Farm, 87.42 343 ⇑P P 07 32 30.2 -1.1
baz=88
B28A Dugan Ranch, T 87.46 342 ⇓P P 07 32 30.3 -1.2
baz=88
LAO LASA Array 87.50 338 eP P 07 32 30.6 -1.2
comp=Z,26nm,1.0s
C25A Freed Ranch, W 87.55 340 ⇓P P 07 32 30.8 -1.2
baz=88
A29A Manning Farm, 87.62 343 ⇑P P 07 32 31.1 -1.1
baz=88,SNR=7.0
D23A Lindsay 87.62 338 ⇑P P 07 32 31.3 -1.1
baz=88
E21A Keefer Ranch, 87.64 337 ⇓P P 07 32 31.2 -1.3
baz=88
F19A Roth Farm, Mol 87.64 336 ⇓P P 07 32 31.4 -1.2
baz=88
B27A Peters Farms, 87.65 341 ⇑P P 07 32 31.1 -1.3
baz=88
HLID Hailey 87.67 331 eP P 07 32 34.7 +1.9
comp=Z,11nm,1.0s
HLID Hailey 87.67 331 ⇑P P 07 32 31.5 -1.3
baz=88
C24A Savage 87.72 339 ⇓P P 07 32 31.4 -1.4
baz=88
A28A Rude Farm, Bot 87.86 342 ⇓P P 07 32 32.1 -1.3
baz=88
B26A Jensen Ranch, 87.88 341 ⇑P P 07 32 31.9 -1.6
baz=88
D22A Cohagen 87.90 338 ⇓P P 07 32 31.9 -1.8
baz=88
E20A Meyer Farm, Mu 87.94 336 ⇑P P 07 32 32.4 -1.6
baz=88
B25A Knox Farm, Ray 88.03 340 ⇑P P 07 32 32.9 -1.4
baz=88
D21A La Casta Ranch 88.08 337 ⇑P P 07 32 32.8 -1.8
baz=88
E19A Rath Farm, Rou 88.12 336 ⇓P P 07 32 33.8 -1.0
baz=88
ULM Lac du Bonnet 88.12 345 P P 07 32 33.0 -1.6
comp=Z,10nm,0.8s,baz=166,slow=4.3,SNR=5.4
A27A Ledoux Ranch, 88.15 342 ⇓P P 07 32 34.3 -0.5
baz=88
C23A Lambert 88.19 339 ⇓P P 07 32 34.2 -0.9
baz=88
A26A Wade Farm, Ken 88.30 341 ⇑P P 07 32 35.2 -0.4
baz=89
C22A Vida 88.34 338 ⇓P P 07 32 34.5 -1.2
baz=89

D20A Manuel Ranch, 88.46 337 ⇓P P 07 32 35.8 -0.6
baz=89
DGMT Dagmar 88.50 340 eP P 07 32 35.8 -0.7
comp=Z,45nm,0.8s
DGMT Dagmar 88.50 340 ⇓P P 07 32 36.1 -0.4
baz=89
A25A Svangstu Ranch 88.63 340 ⇑P P 07 32 36.8 -0.3
baz=89
MOD Modoc 88.79 327 eP P 07 32 37.5 -0.7
comp=Z,24nm,1.0s
B22A Reddig Ranch S 88.87 338 ⇑P P 07 32 37.9 -0.4
baz=89
A22A Carney Farms, 89.47 339 ⇑P P 07 32 40.0 -1.1
baz=90
B20A Solberg Farm, 89.61 337 ⇓P P 07 32 40.3 -1.4
baz=90
A21A Bergtoll Ranch 89.77 338 ⇑P P 07 32 41.2 -1.3
baz=90
HAWA Hanford 92.06 330 eP P 07 32 52.3 -0.8
comp=Z,207nm,2.4s
NEW Newport 92.63 332 eP P 07 32 55.3 -0.5
NEW Newport 92.63 332 eP P 07 32 55.3 -0.5
YKA Yellowknife Ar 103.61 341 Pdiff Pdif 07 33 43.8 -1.0
comp=Z,1.2nm,1.0s,baz=135,slow=3.5,SNR=2.9
GERES GERESS Array B 113.80 46 PKP PKiKP 07 38 22.4 -0.3
comp=Z,0.3nm,0.6s,baz=228,slow=1.2,SNR=2.2
WRA Warramunga Arr 118.92 209 PKP PKPdf 07 38 29.3 -4.2
comp=Z,1.5nm,0.6s,baz=162,slow=1.7,SNR=0.2
KWP Kalwaria Pacla 119.49 48⇑iP PKPdf 07 38 37.3 +3.8
BRTR Keskin Array B 123.16 62 PKP PKPdf 07 38 39.5 -1.6
comp=Z,1.9nm,0.8s,baz=179,slow=3.4,SNR=3.5
AKASG Malin Array Be 123.80 48 PKP PKPdf 07 38 39.7 -2.0
comp=Z,0.3nm,0.4s,baz=266,slow=2.4,SNR=2.6
FINES FINESS Array B 124.78 35 PKP PKPdf 07 38 40.8 -2.5
comp=Z,1.3nm,0.8s,baz=359,slow=5.6,SNR=2.6
PSI Prapat 146.23 165 PKPbc PKPdf 07 39 20.8 -3.8
comp=Z,46nm,0.7s,baz=209,slow=3.1,SNR=11
IPM Ipoh 148.27 168 ePKPdf PKPdf 07 39 27.2 -0.7
HYB Hyderabad 148.59 118 iPKP PKPdf 07 39 29.0 +0.8
BVAR Borovoye Array 148.96 45 PKPbc PKPbc 07 39 30.0 -1.7
comp=Z,6.1nm,0.8s,baz=291,slow=3.3,SNR=5.1
KULM Kulim 149.00 167 ePKPdf PKPdf 07 39 28.7 -0.3
KKM Kota Kinabalu 149.26 198 ePKPbc PKPbc 07 39 35.1 +1.4
YAK Yakutsk 150.25 339 ePKIKP PKPdf 07 39 31.7 +2.3
YAK e 07 39 39.6
YAK Yakutsk 150.25 339 ePKPbc PKPdf 07 39 31.7 +2.3
YAK ePKPab PKPab 07 39 39.6 -1.3
YSS Yuzh-Sakhalins 151.41 304⇓ePKIKP PKPab 07 39 50.5 +4.3
YSS pmax pmax
comp=Z,30nm,1.0s
KSH Kashi 154.98 72 ePKPbc PKPdf 07 39 38.8 +1.5
KSH esPKP 07 39 55.0
KSH SKS SKSdf 07 46 39.0 -3.0
KSH SKKS SKKSac 07 50 25.5 -0.3
KSH SS SS 08 03 20.5 +0.3
ZALV Zalesovo Beam 156.04 34 PKPab PKPab 07 40 06.1 +0.6
comp=Z,13nm,0.8s,baz=309,slow=4.3,SNR=5.9
WMQ Urumqi 162.96 56 PKP PKPdf 07 39 46.5 0.0
WMQ PKS PKSdf 07 43 18.5 -1.0
WMQ PP PP 07 44 24.3 +3.0
WMQ SKKS 07 51 07.0
WMQ SS SS 08 04 42.0 -2.1
WMQ AMB AMB
comp=Z,310nm,11.2s
WMQ LR LR
comp=Z,290nm,20.6s
WMQ LR LR
comp=Z,340nm,20.2s
WMQ LR LR
comp=Z,380nm,19.8s
SONM Songino Array 167.98 3 PKPab PKPab 07 40 58.1 +0.1
comp=Z,3.5nm,0.9s,baz=340,slow=4.7,SNR=4.1
NJ2 Nanjing 169.71 252 ePKP PKPdf 07 39 52.5 +0.5
GYA Guiyang 170.65 176 PKP PKPdf 07 39 52.8 -0.1
GYA pPKP pPKPdf 07 40 03.0 +0.8
GYA PKPab PKPab 07 41 11.5 +1.2
GYA PKS PKSdf 07 43 24.0 -1.5
GYA PP PP 07 45 03.0 +3.3
GYA SKKS 07 51 44.3
GYA SS SS 08 06 01.0 +1.4
GYA AMB AMB
comp=Z,160nm,8.0s
GYA LR LR
comp=Z,190nm,21.4s
GYA LR LR
comp=Z,160nm,21.0s
GYA LR LR
comp=Z,180nm,24.5s
WHN Wuhan 172.10 230 PKP PKPdf 07 39 53.5 +0.2
HHC Hu-ho-hao-te 173.97 328 ePKP PKPdf 07 39 49.8 -4.1
CD2 Chengdu 174.26 148 PKP PKPdf 07 39 53.5 -0.7
CD2 pPKP pPKPdf 07 40 05.0 +1.4
CD2 sPKP 07 40 08.8
CD2 PKS PKSdf 07 43 24.5 -2.0
CD2 PP PP 07 45 21.5 +3.6
CD2 SKS SKSdf 07 46 51.3 -4.2
CD2 SKKS SKKSac 07 52 02.3 -0.6
CD2 SS SS 08 06 35.3 -0.4
CD2 AMB AMB
comp=Z,460nm,6.8s
LZH Lanzhou 177.17 84 ePKP PKPdf 07 39 55.5 +0.6
LZH pPKP pPKPdf 07 40 06.0 +1.7
LZH sPKP 07 40 12.3
LZH PP PP 07 45 36.8 +3.6

IDC 27 07:20:40.9±1.8, 37.°58S×73.°81W, h19km±5km, mb4.7/4, mb1 4.8/4, mb1mx4.4/37, mbtmp4.8/4, Error ellipse: s-maj=59.2km s-min=30.1km az=42.0
ISCJB 27 07:20:41.1±1.3, 37.°7S±0.°2×73.°7W±0.°4, h33km, mb4.8/7, Error ellipse: s-maj=50.7km s-min=14.6km az=151.3
NEIC 27 07:20:43.0±0.7, 37.°69S×73.°75W, h35km, mb4.9/3, Error ellipse: s-maj=35.0km s-min=11.6km az=64.0
ISC 27 07:20:42.3±1.1, 37.°7S±0.°2×73.°8W±0.°3, h35km, n13, σ2§17/16, mb4.8/7, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PLCA Paso Flores 3.98 142 Pn Pn 07 21 40.3 -0.6
OTAV Otavalo 37.94 352 eP P 07 27 57.3 +0.1
ROSC El Rosal 42.29 359 P P 07 28 33.1 0.0
14nm,0.9s,baz=121,slow=7.2,SNR=2.3
ROSC pP pP 07 28 39.2 -4.1
19nm,0.7s,baz=122,slow=7.3,SNR=3.3
GRGR Grenville 50.81 15 eP P 07 29 40.8 +1.4
8.1nm,0.4s
ANWB Willy Bob 56.17 14 eP P 07 30 20.1 +1.5
10nm,0.6s
TXAR Lajitas Array 72.27 333 P P 07 32 04.0 -0.1
5.1nm,0.9s,baz=160,slow=8.2,SNR=2.5
TXAR pP pP 07 32 10.4 -4.6
7.3nm,0.8s,baz=150,slow=6.2,SNR=3.0
SWET Sewanee 73.37 350 eP P 07 32 11.8 +1.4
4.6nm,0.7s
DBIC Dimbokro 77.69 72 P P 07 32 36.7 +1.0
11nm,0.7s,baz=203,slow=5.4,SNR=1.9
DBIC pP PcP 07 32 42.8 -2.9
13nm,0.7s,baz=190,slow=9.2,SNR=2.2
PDAR Pinedale Array 86.40 334 P P 07 33 23.1 +2.1
6.7nm,1.0s,baz=180,slow=7.2,SNR=4.0
BRTR Keskin Array B 124.79 64 PKP PKPdf 07 39 38.9 +0.6
1.5nm,0.8s,baz=186,slow=4.2,SNR=2.9
AKASG Malin Array Be 125.67 50 PKP PKPdf 07 39 39.7 +0.3
1.6nm,0.8s,baz=262,slow=1.9,SNR=2.7
PSI Prapat 144.68 167 PKP PKPdf 07 40 17.3 +1.3
20nm,0.7s,baz=243,slow=2.2,SNR=3.0
BVAR Borovoye Array 150.87 47 PKPbc PKPbc 07 40 30.9 +0.4
6.8nm,0.6s,baz=301,slow=2.6,SNR=4.2

ISCJB 27 07:21:27.7±2.1, 38.°5S±0.°5×74.°2W±0.°6, h33km, mb4.8/5, Error ellipse: s-maj=94.7km s-min=16.0km az=137.1
IDC 27 07:21:27.9±1.6, 37.°95S×73.°99W, h0km, mb4.8/3, mb1 4.9/3, mb1mx4.4/37, mbtmp4.8/3, Error ellipse: s-maj=83.6km s-min=37.5km az=38.0
NEIC 27 07:21:33.0±1.0, 37.°96S×74.°13W, h35km, mb5.1/2, Error ellipse: s-maj=54.7km s-min=23.2km az=49.0
ISC 27 07:21:30.3±1.5, 38.°0S±0.°4×74.°1W±0.°4, h18km±4km, n13, σ1§18/12, mb5.0/5, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PLCA Paso Flores 3.88 136 ePn Pn 07 22 22.3 -6.9
JTS JuntasAbangare 49.08 346 eP P 07 30 18.1 +1.4
TXAR Lajitas Array 72.46 333 P P 07 32 56.1 +0.4
0.9nm,0.5s,baz=157,slow=9.3,SNR=3.4
DBIC Dimbokro 78.02 72 P P 07 33 27.0 -1.0
14nm,0.8s,baz=197,slow=8.6,SNR=3.1
ACSO Alum Creek Sta 78.26 353 eP P 07 33 26.9 -1.8
40nm,1.3s
ANMO Albuquerque 78.53 333 eP P 07 33 29.8 -0.8
16nm,1.1s
LBTB Lobatse 82.12 115 P P 07 33 50.7 +0.4
11nm,0.7s,baz=260,slow=4.5,SNR=2.9
GERES GERESS Array B 116.10 47 PKP PKPdf 07 40 12.2 +0.3
0.7nm,0.6s,baz=219,slow=1.3,SNR=3.1
BRTR Keskin Array B 125.15 64 PKP PKPdf 07 40 29.8 +0.1
2.0nm,0.8s,baz=184,slow=2.3,SNR=4.0
AKASG Malin Array Be 126.06 50 PKP PKPdf 07 40 29.6 -1.2
1.3nm,0.8s,baz=247,slow=2.1,SNR=3.1
PSI Prapat 144.41 168 PKP PKPdf 07 41 06.2 0.0
29nm,0.8s,baz=175,slow=5.5,SNR=3.8
BVAR Borovoye Array 151.27 47 PKPbc PKPbc 07 41 23.2 +1.1
6.0nm,0.6s,baz=289,slow=2.3,SNR=3.4
MKAR Makanchi Array 160.51 56 PKPab PKPab 07 42 11.6 +1.6
2.8nm,0.6s,baz=285,slow=2.7,SNR=3.4

CASC 27 07:22:31.0±1.5, 13.°48N×90.°73W, h13km±14km, MD3.6, Near coast of Guatemala

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PCG Pacaya 0.91 8 eP Pg 07 22 48.2 -0.9
PCG eS Sg 07 23 01.1 -0.2
RTR El Retiro 1.13 69 eP Pb 07 22 51.4 -1.3
RTR eS Sg 07 23 07.8 -0.2
SBLS San Blas 1.13 72 eP Pb 07 22 51.3 -1.6
SBLS eS Sb 07 23 07.1 -0.6
SNJE San Jose 1.16 71 eP Pb 07 22 51.6 -1.6
NBG Las Nubes 1.16 19 eP Pg 07 22 53.8 0.0
RBDL Robledal 1.19 58 eP Pn 07 22 52.8 -0.9
JAT Jato 1.21 313 eP Pn 07 22 50.9 -2.8
BOQS Boqueron 1.43 80 eP Pn 07 22 56.8 -0.2
MTO2 Montecristo 2 1.61 55 eP Pn 07 22 59.4 -0.1
MTO2 eS Sb 07 23 21.1 -0.3
LFRS El Faro 1.63 85 eP Pn 07 22 59.2 -0.4
LBRS Las Brisas 1.66 81 eP Pn 07 22 59.7 -0.3
MRL Marmol 1.87 33 eP Pn 07 23 02.2 -0.7
MRL eP Pn 07 23 02.2 -0.7

ISCJB 27 07:23:12.6±0.2, 36.°85S±0.°05×73.°59W±0.°09, h21km, mb5.3/44, Error ellipse: s-maj=11.2km s-min=6.5km az=152.4
IDC 27 07:23:14.2±0.5, 36.°95S×73.°55W, h21km±3km, mb5.0/21, mb1 5.1/24, mb1mx5.0/37, mbtmp5.1/24, ML5.1/3, Error ellipse: s-maj=18.1km s-min=11.5km az=72.0
NEIC 27 07:23:16.0±0.3, 36.°92S×73.°59W, h35km, mb5.6/21, Error ellipse: s-maj=14.5km s-min=8.3km az=77.0
MOS 27 07:23:16.0±2.5, 36.°90S×73.°60W, h33km, mb5.4/22, Error ellipse: s-maj=22.3km s-min=11.3km az=100.7
ISC 27 07:23:14.0±0.5, 36.°96S±0.°06×73.°5W±0.°1, h20km±6km, h19km:pP-P, n391, σ1§17/383, mb5.4/44, 1C-2D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PLCA Paso Flores 4.43 149 P Pn 07 24 20.0 -0.2
PLCA 07 25 10.0
PLCA pmax pmax
comp=Z,36nm,0.3s
PLCA smax smax
comp=N,79nm,0.3s
PLCA Paso Flores 4.43 149 Pn Pn 07 24 20.0 -0.2
comp=N,36nm,0.3s,baz=307,slow=17,SNR=2.3
PLCA Sn Sn 07 25 09.9 -1.3
comp=N,79nm,0.3s,baz=305,slow=17,SNR=3.8
PLCA Lg Lg 07 25 27.1
comp=N,71nm,0.3s,baz=48,slow=20,SNR=6.1
PLCA Paso Flores 4.43 149 ePn Pb 07 24 30.1 -1.1
PLCA Sn Sn 07 25 09.9 -1.3
PLCA Lg Lg 07 25 27.1
CPUP Villa Florida 17.38 57 P Pn 07 27 15.4 0.0
CPUP pmax pmax
comp=Z,2.0nm,0.3s
CPUP Villa Florida 17.38 57 P Pn 07 27 15.3 0.0
comp=Z,2.2nm,0.3s,baz=184,slow=13,SNR=3.2
CPUP Villa Florida 17.38 57 eP Pn 07 27 15.1 -0.2
comp=Z,12nm,1.2s
USHA Ushuaia 18.22 171 P P 07 27 26.3 +0.7
comp=Z,0.9nm,0.3s,baz=328,slow=9.7,SNR=3.9
LPAZ La Paz 21.14 15 P P 07 27 59.8 +1.3
LPAZ pmax pmax
comp=Z,28nm,0.7s
LPAZ La Paz 21.14 15 P P 07 27 59.8 +1.3
comp=Z,28nm,0.7s,baz=203,slow=9.9,SNR=5.0
SIV San Ignacio 23.63 31 P P 07 28 23.1 -0.9
comp=Z,117nm,1.3s,baz=222,slow=13,SNR=6.5
NNA Nana 25.04 352 P P 07 28 37.9 +0.8
NNA pmax pmax
comp=Z,28nm,0.9s
NNA Nana 25.04 352 P P 07 28 37.9 +0.8
comp=Z,28nm,0.9s,baz=215,slow=11,SNR=5.1
PMSA Palmer Station 28.42 171 pP pP 07 29 14.3 +1.4
comp=Z,96nm,0.9s,baz=355,slow=9.9,SNR=5.7
PMSA Palmer Station 28.42 171 P P 07 29 07.3 +0.4
comp=Z,190nm,1.2s
PMSA pP pP 07 29 14.3 +1.4
OTAV Otavalo 37.29 352 eP P 07 30 25.4 +0.1
ROSC El Rosal 41.60 359 P P 07 31 01.7 +0.5
comp=Z,13nm,0.6s,baz=104,slow=9.1,SNR=6.7
BCIP Isla Barro Col 46.26 351 eP P 07 31 39.0 +0.9
comp=Z,38nm,0.9s
VNA3 Neumayer Olymp 47.11 157 P P 07 31 50.9 +6.6
VNA1 Neumayer--Stat 47.46 156 P P 07 31 53.9 +6.9
VNA1 Neumayer--Stat 47.46 156 P P 07 31 53.9 +6.9
VNA2 Neumayer--Watz 47.79 156 P P 07 31 56.1 +6.6
JTS JuntasAbangare 48.21 345 eP P 07 31 54.4 +1.1
JTS pmax pmax
comp=Z,82nm,1.2s
JTS JuntasAbangare 48.21 345 P P 07 31 53.9 +0.6
comp=Z,15nm,1.0s,baz=265,slow=6.9,SNR=4.7
JTS JuntasAbangare 48.21 345 eP P 07 31 54.4 +1.1
comp=Z,82nm,1.2s
SNAA Sanae 49.33 157 P P 07 32 08.1 +6.6
SNAA Sanae 49.33 157 P P 07 32 02.7 +1.3
comp=Z,15nm,1.0s,baz=259,slow=8.9,SNR=4.4
SNAA pP pP 07 32 08.1 +0.5
comp=Z,52nm,0.8s,baz=276,slow=7.6,SNR=18
GRGR Grenville 50.09 15 eP P 07 32 06.9 -0.9
comp=Z,78nm,0.6s
QSPA South Pole Qui 53.28 180 P P 07 32 31.8 +0.6
comp=Z,50nm,0.9s,baz=138,slow=1.6,SNR=8.9
QSPA pP pP 07 32 38.5 +1.0
comp=Z,145nm,1.0s,baz=292,slow=2.6,SNR=11
QSPA South Pole Qui 53.28 180 eP P 07 32 31.8 +0.6
comp=Z,167nm,1.1s
APG El Apazote 54.09 340 P P 07 32 34.4 -3.4
comp=Z,20nm,0.8s,baz=178,slow=6.2
TEIG Tepich 58.55 344 P P 07 33 09.6 +0.4
baz=201,slow=6.0
TEIG Tepich 58.55 344 eP P 07 33 04.0 -5.3
comp=Z,55nm,1.1s
035A Encino 67.63 336 P P 07 34 08.5 -0.9
baz=68
034A Hebbronville 67.94 336 P P 07 34 10.4 -0.9
baz=68
934A Benavides 68.38 336 P P 07 34 12.9 -1.2
baz=69
933A Laredo 68.64 336 P P 07 34 14.5 -1.3
baz=69
PPT Papeete 68.65 264 P P 07 34 15.5 -0.8
comp=Z,43nm,1.0s,baz=214,slow=2.1,SNR=2.8
835A Beeville 68.80 337 P P 07 34 16.5 -0.2
baz=69
834A Tilden 68.88 336 P P 07 34 16.2 -1.0
baz=69
735A Kenedy 69.32 337 P P 07 34 18.9 -1.1
baz=70
833A Chaparral WMA, 69.33 336 P P 07 34 18.7 -1.4
baz=70
832A Faith Ranch, C 69.49 335 P P 07 34 19.5 -1.5
baz=70
734A La Parita Cree 69.55 337 P P 07 34 19.9 -1.4
baz=70
733A Divot King Ran 69.67 336 P P 07 34 21.2 -0.9
baz=70
636A Smothers Creek 69.68 338 P P 07 34 21.0 -1.1
baz=70
635A Leesville 69.81 338 P P 07 34 21.2 -1.8
baz=70
732A Laxson Ranch, 69.90 335 P P 07 34 21.9 -1.6
baz=70
537A Green Hill Far 70.03 339 P P 07 34 22.6 -1.6
baz=70
536A Bastrop 70.24 338 P P 07 34 23.9 -1.7
baz=70
633A Saathoff Ranch 70.31 336 P P 07 34 24.3 -1.8
baz=71
535A Dale 70.34 338 P P 07 34 24.6 -1.7
baz=71
632A Uvalde 70.56 336 P P 07 34 26.3 -1.2
baz=71
MAW Mawson 70.69 164 P P 07 34 26.8 -1.1
comp=Z,40nm,0.9s,baz=222,slow=7.9,SNR=3.0
631A Perdido Creek 70.73 335 P P 07 34 26.5 -2.2
baz=71
533A Kerrville 70.84 337 P P 07 34 28.0 -1.3
baz=71
338A Crockett 70.95 340 P P 07 34 28.5 -1.4
baz=71
435B Jarrell 71.05 338 P P 07 34 29.1 -1.4
baz=71
337A Centerville 71.07 340 P P 07 34 29.1 -1.5
baz=71
NATX Nacogdoches 71.16 341 eP P 07 34 28.7 -2.4
comp=Z,113nm,1.2s
532A Rocksprings 71.17 336 P P 07 34 29.9 -1.5
baz=71
434A Burnet 71.29 338 P P 07 34 30.0 -2.0
baz=72
239A Gary 71.36 341 P P 07 34 30.3 -2.1
baz=72
336A Riesel 71.41 339 P P 07 34 30.9 -1.7
baz=72
531A Rocksprings 71.41 335 P P 07 34 31.1 -1.7
baz=72
JCT Junction City 71.46 336 eP P 07 34 31.0 -2.0
comp=Z,86nm,1.3s
JCT Junction City 71.46 336 P P 07 34 31.2 -1.9
baz=72
335A Moody 71.47 339 P P 07 34 31.1 -1.9
baz=72
433A Art 71.49 337 P P 07 34 31.0 -2.2
baz=72
530A J-C Ranch, Com 71.67 335 P P 07 34 33.2 -1.1
baz=72
237A Washetta, Mont 71.69 340 P P 07 34 32.5 -1.9
baz=72
TXAR Lajitas Array 71.75 333 P P 07 34 33.7 -1.2
TXAR pmax pmax
comp=Z,10.0nm,0.8s
TXAR Lajitas Array 71.75 333 P P 07 34 33.7 -1.2
comp=Z,9.9nm,0.8s,baz=152,slow=8.4,SNR=8.7
334A Lometa 71.76 338 P P 07 34 33.1 -1.8
baz=72
432A Menard 71.82 336 P P 07 34 33.2 -2.1
baz=72
431A Sonora 71.91 336 P P 07 34 34.0 -1.8
baz=72
529A Stev Forest Ra 71.95 334 P P 07 34 34.7 -1.3
baz=72
333A Richland Sprin 71.98 337 P P 07 34 34.3 -1.9
baz=72
WHTX Lake Whitney 72.15 339 P P 07 34 35.0 -2.1
baz=72
430A Baggett Ranch, 72.22 335 P P 07 34 36.0 -1.6
baz=72
137A Heron Place, G 72.24 340 P P 07 34 36.0 -1.7
baz=72
332A Millersview 72.28 337 P P 07 34 35.9 -2.0
baz=73
429A Davenport Ranc 72.29 335 P P 07 34 36.6 -1.5
baz=73
234A Clairette 72.36 338 P P 07 34 36.1 -2.3
baz=73
331A San Angelo 72.43 336 P P 07 34 36.9 -2.0
baz=73
233A Rising Star 72.60 338 P P 07 34 37.6 -2.3
baz=73
OXF Oxford 72.63 346 eP P 07 34 35.5 -4.4
OXF pmax pmax
comp=Z,16nm,0.5s
OXF Oxford 72.63 346 eP P 07 34 35.5 -4.4
comp=Z,16nm,0.5s
135A Vickery Place, 72.67 339 P P 07 34 38.1 -2.1
baz=73
232A Coleman 72.71 337 P P 07 34 38.4 -2.1
baz=73
SWET Sewanee 72.73 349 eP P 07 34 36.5 -4.1
comp=Z,94nm,1.0s
330A Mertzon 72.76 335 P P 07 34 39.1 -1.8
baz=73
TKL Tuckaleechee C 72.87 351 P P 07 34 37.1 -4.3
TKL pmax pmax
comp=Z,14nm,0.8s
TKL Tuckaleechee C 72.87 351 P P 07 34 37.0 -4.3
comp=Z,14nm,0.8s,baz=167,slow=8.4,SNR=5.9
231A Bronte 72.97 336 P P 07 34 40.3 -1.7
baz=73
329A Wagon Wheel Ra 73.11 335 P P 07 34 41.6 -1.3
baz=73
133A Hamilton Ranch 73.16 338 P P 07 34 41.6 -1.6
baz=73
230A Sterling City 73.19 336 P P 07 34 41.7 -1.7
baz=74
Z35A Perchaven, San 73.35 339 P P 07 34 42.7 -1.5
baz=74
ABTX Abilene, Hawle 73.39 337 eP P 07 34 41.4 -3.1
comp=Z,63nm,1.1s
ABTX Abilene, Hawle 73.39 337 P P 07 34 42.6 -1.9
baz=74
229A Bryant Ranch, 73.49 335 P P 07 34 43.3 -1.9
baz=74
Z34A Collier Ranch, 73.57 339 P P 07 34 43.8 -1.7
baz=74
131A Roby 73.67 337 P P 07 34 44.5 -1.7
baz=74
Z33A Whitaker Ranch 73.74 338 P P 07 34 45.0 -1.5
baz=74
130A Snyder 73.79 336 P P 07 34 44.9 -2.0
baz=74
228A UT Block 9, Go 73.89 335 P P 07 34 45.9 -1.6
baz=74
Z32A Haskell 73.98 338 P P 07 34 46.4 -1.6
baz=74
Y34A Reagan Ranch, 74.08 339 P P 07 34 46.4 -2.1
baz=74
129A Stewart Farms, 74.12 335 P P 07 34 46.6 -2.2
baz=74
Z31A Sharp Cattle R 74.19 337 P P 07 34 47.4 -1.8
baz=74
128A Castleberry Fa 74.32 335 P P 07 34 48.4 -1.6
baz=75
Y33A Hilltop Ranch, 74.38 339 P P 07 34 48.7 -1.5
baz=75
Z30A Sanderson Ranc 74.48 336 P P 07 34 49.0 -2.0
baz=75
Y32A R-V Farms, Ver 74.61 338 P P 07 34 49.8 -1.9
baz=75
Z29A Hungry Hill Ra 74.64 336 P P 07 34 50.0 -1.9
baz=75
127A Arkansas Junct 74.67 334 P P 07 34 50.6 -1.5
baz=75
X34A Smith Ranch, M 74.70 339 P P 07 34 50.1 -2.0
baz=75
Y31A Rekieta Farm, 74.83 337 P P 07 34 50.9 -2.0
baz=75
Y30A Stafford Cattl 74.95 337 P P 07 34 52.0 -1.6
baz=75
X32A Elmer 74.96 338 P P 07 34 51.8 -1.8
baz=75
Y29A Porterfield Fa 75.18 336 P P 07 34 53.7 -1.3
baz=76
X31A McDonald Ranch 75.36 338 P P 07 34 54.7 -1.2
baz=76
TUL1 Tulsa 75.39 341 eP P 07 34 53.4 -2.7
comp=Z,41nm,1.1s
TUL1 Tulsa 75.39 341 P P 07 34 53.4 -2.7
baz=76
W33A Caddo, Fort Co 75.40 339 P P 07 34 55.0 -1.2
baz=76
Y28A McKinney Farm, 75.41 336 P P 07 34 55.2 -1.2
baz=76
Z26A Caprock 75.42 334 P P 07 34 55.4 -1.0
baz=76

W32A Sentinel 75.60 338 P P 07 34 55.9 -1.4
baz=76
MSTX Muleshoe 75.64 335 P P 07 34 56.1 -1.6
baz=76
Z25A Roswell 75.69 333 P P 07 34 57.4 -0.7
baz=76
Y27A Causey 75.70 335 P P 07 34 56.8 -1.2
baz=76
319A Douglas 75.76 329 P P 07 34 59.2 +0.8
baz=76
X28A Dimmitt 75.95 336 P P 07 34 58.9 -0.6
baz=76
Y26A Elida 75.96 334 P P 07 34 58.4 -1.2
baz=76
Z24A Sheeppen Canyo 75.97 333 P P 07 34 59.8 +0.1
baz=76
V33A Lossen Ranch, 75.97 339 P P 07 34 57.5 -1.9
baz=76
AMTX Amarillo 76.12 336 P P 07 34 59.1 -1.2
baz=76
121A Cookes Peak, D 76.18 331 P P 07 35 01.7 +0.9
baz=76
Y25A Mesa, Roswell 76.26 334 P P 07 35 00.3 -1.0
baz=76
W29A Amraillo 76.33 337 P P 07 35 00.4 -1.1
baz=77
U34A Anderson Ranch 76.34 340 P P 07 34 59.9 -1.6
baz=77
X27A F and S Farms, 76.37 335 P P 07 35 00.2 -1.6
baz=77
V31A Spring Creek L 76.38 338 P P 07 35 00.6 -1.1
baz=77
Z22A Elephant Butte 76.50 332 P P 07 35 02.6 0.0
baz=77
X26A CR and CF Fran 76.53 335 P P 07 35 01.9 -0.8
baz=77
Y24A Capitan 76.53 333 P P 07 35 02.1 -0.8
baz=77
V30A Spur Ranch, Mi 76.62 338 P P 07 35 03.0 -0.2
baz=77
U32A Winter Ranch, 76.70 339 P P 07 35 02.0 -1.5
baz=77
W27A Bowe Ranch, En 76.74 335 P P 07 35 02.6 -1.3
baz=77
LIC Lamto 76.87 72 eP P 07 35 04.7 -0.3
comp=Z,63nm,0.6s
W26A Owens Ranch, T 77.00 335 P P 07 35 04.9 -0.5
baz=77
CASY Casey 77.04 182 eP P 07 35 05.7 +0.5
comp=Z,54nm,0.9s
V28A Channing 77.09 336 P P 07 35 05.2 -0.6
baz=77
X24A Lazy VL Ranch, 77.11 333 P P 07 35 05.8 -0.3
baz=77
TIC Toumodi 77.14 71 eP P 07 35 06.3 -0.3
comp=Z,65nm,0.9s
KIC Kosan Boka 77.17 72 eP P 07 35 06.5 -0.2
comp=Z,130nm,0.9s
DBIC Dimbokro 77.28 72 P P 07 35 07.2 -0.1
DBIC *PP pP 07 35 14.1 +0.4
DBIC pmax pmax
comp=Z,22nm,0.6s
DBIC Dimbokro 77.28 72 P P 07 35 07.2 -0.1
comp=Z,17nm,0.5s,baz=200,slow=6.2,SNR=11
DBIC pP pP 07 35 14.1 +0.4
comp=Z,30nm,0.6s,baz=190,slow=5.7,SNR=6.7
DBIC Dimbokro 77.28 72 eP P 07 35 06.7 -0.7
comp=Z,60nm,0.9s
ACSO Alum Creek Sta 77.31 353 eP P 07 35 02.8 -4.0
comp=Z,81nm,0.9s
U30A WK&E Inc. Balk 77.32 338 P P 07 35 06.3 -0.8
baz=78
W25A X Bar L Ranch, 77.35 334 P P 07 35 07.3 -0.1
baz=78
X23A Hourglass Bar 77.39 333 P P 07 35 08.2 +0.5
baz=78
V26A Tequesquite Ra 77.65 335 P P 07 35 08.2 -0.8
baz=78
U28A Mallet 77.67 337 P P 07 35 08.7 -0.4
baz=78
214A Organ Pipe Nat 77.77 327 P P 07 35 10.9 +1.2
baz=78
ANMO Albuquerque 77.82 333 P P 07 35 10.3 +0.2
ANMO pmax pmax
comp=Z,36nm,1.1s
ANMO Albuquerque 77.82 333 P P 07 35 10.3 +0.2
comp=Z,36nm,1.1s,baz=163,slow=7.7,SNR=11
ANMO Albuquerque 77.82 333 eP P 07 35 06.0 -4.0
comp=Z,49nm,1.1s
W23A Werner Place, 77.90 333 P P 07 35 10.7 +0.2
baz=78
V25A Rancho No Teng 77.97 335 P P 07 35 10.7 -0.2
baz=78
V24A Rampart Ranch, 78.09 334 P P 07 35 11.6 0.0
baz=78
T29A Hugoton 78.10 338 P P 07 35 10.7 -0.7
baz=78
U26A Atchley Ranch, 78.18 336 P P 07 35 10.8 -1.2
baz=78
R33A Olander Ranch, 78.22 341 P P 07 35 12.1 +0.1
baz=78
S30A Montezuma 78.30 338 P P 07 35 11.5 -0.9
baz=79
T28A Walsh 78.31 337 P P 07 35 11.6 -1.0
baz=79
U25A Circle Dot Ran 78.41 335 P P 07 35 13.0 -0.3
baz=79
V23A Ortiz Mt. (NFS 78.43 333 P P 07 35 13.5 0.0
baz=79
T27A Campo 78.45 337 P P 07 35 12.8 -0.7
baz=79
S29A Ulysses 78.47 338 P P 07 35 12.6 -0.9
baz=79
R32A Long Quarter, 78.53 340 P P 07 35 12.6 -1.1
baz=79
R31A Burdett 78.63 339 P P 07 35 13.0 -1.3
baz=79
S28A Manter 78.68 337 P P 07 35 13.6 -1.0
baz=79
U24A Moreno Valley 78.71 334 P P 07 35 15.9 +0.8
baz=79
X18A Snowflake 78.79 330 P P 07 35 15.9 +0.4
baz=79
T26A Comanche Natio 78.84 336 P P 07 35 16.3 +0.6
baz=79
V22A San Miguel Ran 78.85 333 P P 07 35 16.6 +0.8
baz=79
U23A El Rito 78.96 334 P P 07 35 16.9 +0.5
baz=79
T25A Trinidad 79.08 335 P P 07 35 17.3 +0.3
baz=79
S26A Kim 79.21 336 P P 07 35 17.8 +0.3
baz=80
R29A Marienthal 79.22 338 P P 07 35 16.8 -0.8
baz=80
U22A Llaves 79.24 333 P P 07 35 17.6 -0.4
baz=80
Q31A Ellis 79.26 340 P P 07 35 16.7 -1.0
baz=80
X16A Lo Mia Camp, P 79.30 329 P P 07 35 19.7 +1.4
baz=80
T24B San Luis 79.34 335 P P 07 35 19.0 +0.5
baz=80
R28A Tribune 79.35 338 P P 07 35 17.9 -0.4
baz=80
Q30A Quinter 79.47 339 P P 07 35 18.3 -0.6
baz=80
T23A Casias Ranch, 79.54 334 P P 07 35 20.1 +0.5
baz=80
Y14A Wickenburg 79.55 327 P P 07 35 20.1 +0.7
baz=80
TSUM Tsumeb 79.58 106 P P 07 35 21.8 +1.6
comp=Z,5.0nm,0.7s,baz=302,slow=3.7,SNR=4.9
R27A Eads 79.60 337 P P 07 35 18.7 -0.9
baz=80
GLA Glamis 79.60 326 P P 07 35 20.5 +0.8
baz=80
Q29A Oakley 79.60 339 P P 07 35 18.6 -1.1
baz=80
BOSA Boshof 79.78 118 P P 07 35 22.8 +1.7
BOSA pmax pmax
comp=Z,33nm,0.8s
BOSA Boshof 79.78 118 P P 07 35 22.8 +1.7
comp=Z,37nm,0.9s,baz=256,slow=4.2,SNR=4.6
S24A Houchin Ranch, 79.80 335 P P 07 35 21.7 +0.6
baz=80
R26A Arlington 79.82 337 P P 07 35 21.9 +1.0
baz=80

R25A Fountain Ranch 79.95 336 P P 07 35 21.3 -0.3
baz=80
Q28A Sharon Springs 80.02 338 P P 07 35 21.7 -0.2
baz=80
S23A Nye Farm, Mont 80.13 334 P P 07 35 23.5 +0.8
baz=80
O32A Brockman Farm, 80.14 341 P P 07 35 23.4 +0.9
baz=80
KSCO Kaye Shedlock' 80.21 337 P P 07 35 22.9 -0.1
baz=80
WUAZ Wupatki 80.22 329 P P 07 35 24.6 +1.4
baz=80
P29A Atwood 80.25 339 P P 07 35 22.5 -0.6
baz=81
R24A Sanders Place, 80.30 335 P P 07 35 24.0 +0.4
baz=81
BC3 Big Chuckawall 80.39 326 P P 07 35 25.2 +1.1
baz=81
Q26A Hugo 80.41 337 P P 07 35 24.3 +0.2
baz=81
S22A 4UR Ranch, Cre 80.45 334 P P 07 35 25.0 +0.4
baz=81
P28A Saint Francis 80.46 338 P P 07 35 24.3 0.0
baz=81
MVCO Mesa Verde 80.58 332 P P 07 35 25.7 +0.5
baz=81
Q25A Bedland, Calha 80.63 336 P P 07 35 25.7 +0.4
baz=81
IRM Iron Mountain 80.68 326 P P 07 35 26.9 +1.4
baz=81
P27A Ficken Ranch, 80.69 338 P P 07 35 26.1 +0.5
baz=81
PFO Pinyon Flat Ob 80.81 325 P P 07 35 27.5 +1.2
PFO pmax pmax
comp=Z,19nm,1.0s
PFO Pinyon Flat Ob 80.81 325 P P 07 35 27.5 +1.2
comp=Z,19nm,1.0s,baz=137,slow=3.4,SNR=5.8
PFO Pinyon Flat Ob 80.81 325 P P 07 35 28.6 +2.2
baz=81
W13A Hualapai Mount 80.92 327 P P 07 35 28.5 +1.5
baz=81
P26A Davis Ranch, A 80.94 337 P P 07 35 26.5 -0.4
baz=81
NEE2 Needles Airpor 80.95 327 P P 07 35 28.0 +1.1
baz=81
Q24A Divide 80.97 336 P P 07 35 27.3 0.0
baz=81
O28A Krutsinger Ran 80.98 338 P P 07 35 26.9 -0.2
baz=81
P25A Willow Gulch B 81.15 336 P P 07 35 28.4 +0.3
baz=81
O27A Beecher Island 81.25 338 P P 07 35 28.5 0.0
baz=82
U15A North Rim 81.38 329 P P 07 35 30.9 +1.4
baz=82
P24A Kohler Place, 81.39 336 P P 07 35 29.8 +0.4
baz=82
GMRC Granite Mounta 81.42 326 P P 07 35 31.4 +1.8
baz=82
P23A Jefferson 81.57 335 P P 07 35 31.2 +0.7
baz=82
O25A Wiggins 81.68 337 P P 07 35 31.6 +0.8
baz=82
HEC Hector,Ludlow 81.77 326 P P 07 35 34.0 +2.7
baz=82
PV10 Paradox Valley 81.81 333 eP P 07 35 31.8 +0.1
N27A Anderson Farm, 81.83 338 P P 07 35 31.3 -0.3
baz=82
N26A Koester Ranch, 82.06 338 P P 07 35 32.7 -0.1
baz=82
LBTB Lobatse 82.16 115 P P 07 35 33.3 -0.6
LBTB *PP PcP 07 35 39.6 +0.3
LBTB pmax pmax
comp=Z,27nm,0.8s
LBTB Lobatse 82.16 115 P P 07 35 33.2 -0.6
comp=Z,27nm,0.8s,baz=253,slow=6.0,SNR=11
LBTB pP PcP 07 35 39.6 +0.3
comp=Z,93nm,0.7s,baz=252,slow=5.8,SNR=14
O23A Lake Granby, G 82.35 336 P P 07 35 34.8 +0.2
baz=83
GSC Goldstone 82.38 326 P P 07 35 36.8 +2.3
baz=83
O22A Kremmling 82.52 335 P P 07 35 36.1 +0.6
baz=83
K30A Basset 82.75 341 P P 07 35 35.8 -0.4
baz=83
M25A Palm-Egli Farm 82.87 337 P P 07 35 37.4 +0.3
baz=83
LRMC Laurel Mountai 82.92 325 P P 07 35 39.1 +1.7
baz=83
N23A Red Feather La 82.98 336 P P 07 35 38.4 +0.7
baz=83
ECSD EROS Data Cent 83.01 343 eP P 07 35 34.7 -2.8
comp=Z,57nm,1.1s
M24A Cheyenne 83.14 337 P P 07 35 39.1 +0.6
baz=83
K28A Ten Mile Ranch 83.25 340 P P 07 35 39.0 +0.1
baz=84
M23A Laramie 83.42 336 P P 07 35 40.4 +0.4
baz=84
K27A Flueckinger Fa 83.49 339 P P 07 35 40.9 +0.8
baz=84
J29A Okreek 83.61 341 P P 07 35 40.2 -0.5
baz=84
I30A Oacoma 83.86 341 P P 07 35 40.7 -1.2
baz=84
J28A Allard Ranch, 83.88 340 P P 07 35 41.9 -0.1
baz=84
K25A Mack Ranch, Ha 83.88 338 P P 07 35 42.7 +0.5
baz=84
J27A Elkhorn Farm, 83.93 340 P P 07 35 42.9 +0.6
baz=84
R11A Troy Canyon, C 84.39 328 eP P 07 35 46.6 +1.6
comp=Z,35nm,1.4s
R11A Troy Canyon, C 84.39 328 P P 07 35 46.8 +1.9
baz=85
J24A Dixon Ranch, L 84.78 338 P P 07 35 46.8 0.0
baz=85
DUG Dugway 84.83 331 eP P 07 35 48.1 +1.0
DUG pmax pmax
comp=Z,145nm,1.5s
DUG Dugway 84.83 331 eP P 07 35 48.1 +1.0
comp=Z,145nm,1.5s
DUG Dugway 84.83 331 P P 07 35 48.5 +1.4
baz=85
TPH Tonopah 84.86 327 eP P 07 35 49.5 +2.1
TPH pmax pmax
comp=Z,56nm,1.3s
TPH Tonopah 84.86 327 eP P 07 35 49.5 +2.1
comp=Z,56nm,1.3s
H28A Mission Ridge 84.98 341 P P 07 35 46.9 -0.7
baz=85
J23A Dilts Ranch, B 85.12 337 P P 07 35 50.0 +1.6
baz=85
I25A Rochford 85.13 339 P P 07 35 48.5 0.0
baz=85
H27A Howes 85.22 340 P P 07 35 49.2 +0.4
baz=86
I24A Kuemmerle Ranc 85.25 338 P P 07 35 48.7 -0.4
baz=86
G28A Parade 85.32 341 P P 07 35 48.6 -0.7
baz=86
F30A Leola 85.56 342 P P 07 35 49.4 -1.0
baz=86
NVAR Mina Array Bea 85.64 326 P P 07 35 51.8 +0.5
comp=Z,5.8nm,0.7s,baz=149,slow=6.3,SNR=5.2
H25A Fruitdale 85.64 339 P P 07 35 50.9 -0.1
baz=86
I22A 9 Mile Ranch, 85.85 337 P P 07 35 52.1 0.0
baz=86
PDAR Pinedale Array 85.87 334 P P 07 35 52.2 -0.1
comp=Z,5.1nm,0.9s,baz=193,slow=3.7,SNR=3.9
G27A Dupree 85.87 340 P P 07 35 51.9 -0.1
baz=86
F28A McLaughlin 86.01 341 P P 07 35 52.9 +0.2
baz=86
G25A Newell 86.11 339 P P 07 35 52.6 -0.7
baz=86
J19A Crowheart 86.13 335 P P 07 35 53.8 +0.3
baz=86
CMB Columbia Colle 86.26 325 eP P 07 35 53.3 -0.8
CMB pmax pmax
comp=Z,13nm,1.0s
CMB Columbia Colle 86.26 325 eP P 07 35 53.3 -0.8
comp=Z,13nm,1.0s
ELK Elko 86.26 330 P P 07 35 55.6 +1.3
ELK pmax pmax
comp=Z,16nm,1.1s

ELK Elko 86.26 330 P P 07 35 55.6 +1.3
comp=Z,15nm,1.1s,baz=171,slow=2.8,SNR=3.9
F27A Lemmon 86.35 340 P P 07 35 53.6 -0.8
baz=87
TORD Torodi Ar. Bea 86.36 71 P P 07 35 54.6 -0.5
comp=Z,6.3nm,0.5s,baz=254,slow=3.3
I20A Worland 86.43 336 P P 07 35 55.4 +0.5
baz=87
F26A Lodgepole 86.51 340 P P 07 35 55.2 +0.1
baz=87
E27A Carson 86.75 341 P P 07 35 56.3 0.0
baz=87
F25A Bowman 86.80 340 P P 07 35 56.1 -0.5
baz=87
D29A Pettibone, Tap 86.84 342 P P 07 35 57.2 +0.5
baz=87
H20A Greybull 86.87 336 P P 07 35 56.8 -0.2
baz=87
E26A Carlson Angus 87.03 340 P P 07 35 57.7 +0.1
baz=87
F23A Volborg 87.17 338 P P 07 35 58.0 -0.4
baz=88
AGMN Agassiz Nation 87.18 345 P P 07 35 58.7 +0.3
baz=88
C30A Mose, Pekin 87.18 343 P P 07 35 57.9 -0.5
baz=88
D28A Regan 87.20 342 P P 07 35 59.2 +0.7
baz=88
I17A Pilgrim Ck. 87.23 334 P P 07 35 59.5 +0.5
baz=88
G21A Lodge Grass 87.27 337 P P 07 35 58.7 -0.3
baz=88
E25A Miller Ranch, 87.31 340 P P 07 35 59.1 0.0
baz=88
H19A Powell 87.35 336 P P 07 35 59.5 +0.1
baz=88
D27A Center 87.37 341 P P 07 35 59.7 +0.4
baz=88
F22A Rosebud 87.48 338 P P 07 35 59.4 -0.5
baz=88
D26A Manning 87.53 341 P P 07 36 00.2 +0.1
baz=88
H18A Shoshone NF, C 87.59 335 P P 07 36 00.4 -0.2
baz=88
G20A Bridger 87.59 336 P P 07 36 00.2 -0.4
baz=88
E24A Baker 87.62 339 P P 07 36 00.3 -0.2
baz=88
F21A Absaloka Mine, 87.78 337 P P 07 36 01.2 -0.2
baz=88
B30A Myrvik Farm, E 87.86 344 P P 07 36 01.0 -0.6
baz=88
D25A Fairfield 87.88 340 P P 07 36 01.7 -0.1
baz=88
C27A Sayler Ranch, 87.92 342 P P 07 36 01.8 -0.1
baz=88
B28A Dugan Ranch, T 88.33 343 P P 07 36 03.6 -0.2
baz=89
HLID Hailey 88.33 332 P P 07 36 05.3 +1.2
baz=89
C25A Freed Ranch, W 88.38 340 P P 07 36 04.3 +0.1
baz=89
E21A Keefer Ranch, 88.41 338 P P 07 36 04.5 +0.1
baz=89
D23A Lindsay 88.43 339 P P 07 36 04.3 -0.1
baz=89
A29A Manning Farm, 88.50 343 P P 07 36 04.1 -0.5
baz=89
B27A Peters Farms, 88.50 342 P P 07 36 04.4 -0.2
baz=89
C24A Savage 88.53 340 P P 07 36 04.6 -0.2
baz=89
E20A Meyer Farm, Mu 88.71 337 P P 07 36 05.8 +0.1
baz=89
D20A La Casta Ranch 88.86 338 P P 07 36 06.3 -0.2
baz=89
B25A Knox Farm, Ray 88.87 341 P P 07 36 06.4 0.0
baz=89
E19A Rath Farm, Rou 88.88 336 P P 07 36 06.3 -0.2
baz=89
C23A Lambert 88.99 339 P P 07 36 06.9 -0.1
baz=89
A27A Ledoux Ranch, 89.01 342 P P 07 36 06.9 -0.1
baz=89
ULM Lac du Bonnet 89.05 346 P P 07 36 05.0 -2.1
ULM pmax pmax
comp=Z,43nm,1.2s
ULM Lac du Bonnet 89.05 346 P P 07 36 05.0 -2.1
comp=Z,35nm,1.1s,baz=172,slow=4.9,SNR=4.2
C22A Vida 89.14 339 P P 07 36 07.6 -0.1
baz=89
D20A Manuel Ranch, 89.23 337 P P 07 36 07.6 -0.6
baz=90
DGMT Dagmar 89.33 340 P P 07 36 08.1 -0.5
baz=90
C21A Desert Coulee 89.57 338 P P 07 36 09.2 -0.6
baz=90
B22A Reddig Ranch S 89.68 339 P P 07 36 10.4 +0.2
baz=90
A24A Westby 89.69 340 P P 07 36 10.0 -0.3
baz=90
C20A Veseth Ranch, 89.75 338 P P 07 36 10.3 -0.3
baz=90
A23A Redstone 89.96 340 P P 07 36 11.1 -0.4
baz=90
J05D Fort Rock, OR 90.88 327 P P 07 36 18.1 +2.0
baz=91
SCHQ Schefferville 91.61 4 P P 07 36 18.1 -0.8
comp=Z,5.9nm,0.9s,baz=162,slow=3.2,SNR=1.9
YKA Yellowknife Ar 104.47 342 P Pdif 07 37 15.9 -0.9
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 104.47 342 Pdiff Pdif 07 37 15.9 -0.9
comp=Z,0.9nm,0.8s,baz=144,slow=4.5,SNR=3.8
GERES GERESS Array B 115.09 47 PKIKP PKPdf 07 41 51.6 -1.8
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 115.09 47 PKP PKPdf 07 41 51.6 -1.8
comp=Z,0.9nm,0.7s,baz=207,slow=1.5,SNR=4.6
CLL Collm 115.83 44 ePKiKP PKiKP 07 41 58.0 +3.4
VRAC Vranov 116.99 47 PKIKP PKPdf 07 41 55.5 -1.4
VRAC pmax pmax
comp=Z,2.0nm,0.5s
VRAC Vranov 116.99 47 PKP PKPdf 07 41 55.5 -1.4
comp=Z,1.9nm,0.5s,baz=311,slow=19,SNR=2.8
WRA Warramunga Arr 117.59 210 PKIKP PKPdf 07 41 58.2 -0.9
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 117.59 210 PKP PKPdf 07 41 58.2 -0.9
comp=Z,2.2nm,0.5s,baz=172,slow=1.3,SNR=12
BURAR Bucovina Array 121.56 52⇓iP PKPdf 07 42 07.5 +1.6
TIRR Tirgusor 122.46 56⇑iP PKPdf 07 42 07.2 -0.3
MMAI Mount Meron Ar 122.90 71 PKP PKPdf 07 42 08.0 -0.9
comp=Z,3.9nm,0.6s,baz=70,slow=2.7,SNR=6.7
BRTR Keskin Array B 124.30 63 PKIKP PKPdf 07 42 12.4 +0.9
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 124.30 63 PKP PKPdf 07 42 12.3 +0.9
comp=Z,2.1nm,0.8s,baz=194,slow=3.7,SNR=4.5
AK02 Malin Array Si 125.05 49 ePKPdf PKPdf 07 42 11.3 -1.0
AKASG Malin Array Be 125.07 49 PKIKP PKPdf 07 42 10.9 -1.4
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 125.07 49 PKP PKPdf 07 42 10.9 -1.4
comp=Z,3.0nm,0.8s,baz=255,slow=2.6,SNR=5.5
ARCES ARCESS Array B 127.21 26 PKIKP PKPdf 07 42 15.3 -0.6
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 127.21 26 PKP PKPdf 07 42 15.3 -0.6
comp=Z,2.4nm,0.7s,baz=251,slow=3.7,SNR=6.0
MALT Malatya 127.25 66⇓iP PKPdf 07 42 17.8 +0.7
OBN Obninsk 130.41 45 i PKIKP PKPdf 07 42 22.7 +0.4
OBN e 07 42 39.4
OBN pmax pmax
comp=Z,29nm,1.6s
GNI Garni 132.49 66 PKIKP PKPdf 07 42 27.8 +0.7
GNI pmax pmax
comp=Z,3.0nm,0.3s
GNI Garni 132.49 66 PKP PKPdf 07 42 27.8 +0.7
comp=Z,2.9nm,0.3s,baz=135,slow=8.6,SNR=2.4
SEY Seymchan 141.93 328 i PKHKP PKPpre 07 42 39.7
SEY pmax pmax
comp=Z,5.0nm,0.9s
SEY Seymchan 141.93 328 PKhKP PKPpre 07 42 39.7
comp=Z,4.5nm,0.8s,baz=286,slow=7.4,SNR=3.0
GEYT Alibeck 141.95 73 PKhKP PKPpre 07 42 39.5
comp=Z,2.9nm,0.6s,baz=318,slow=1.9,SNR=3.6

GEYT PKP PKPdf 07 42 45.1 +0.7
comp=Z,6.6nm,0.9s,baz=243,slow=6.0,SNR=4.5
ABKAR Akbulak array 144.43 55 ePKPdf PKPab 07 42 42.5 -4.2
KSM Kuching 144.51 187 ePKPdf PKPbc 07 42 48.1 -0.1
PSI Prapat 145.31 167 PKPbc PKPbc 07 42 49.4 -1.4
comp=Z,61nm,0.9s,baz=202,slow=3.0,SNR=11
PSI pPKPbc pPKPbc 07 42 57.6 0.0
comp=Z,131nm,1.2s,baz=186,slow=7.0,SNR=8.6
KKM Kota Kinabalu 147.96 199 ePKPbc PKPbc 07 42 58.3 -0.3
HYB Hyderabad 148.64 121 iPKP PKPbc 07 43 00.0 -0.2
KBL Kabul 149.66 83 ePKP2 PKPbc 07 43 02.8 +0.3
KBL Kabul 149.66 83 ePKPbc PKPbc 07 43 02.8 +0.3
BVAR Borovoye Array 150.25 46 PKIKP PKPdf 07 42 58.7 +0.8
BVAR 07 43 03.6
BVAR pmax pmax
comp=Z,10.0nm,0.6s
BVAR pmax pmax
comp=Z,10.0nm,0.6s
BVAR Borovoye Array 150.25 46 PKP PKPdf 07 42 58.7 +0.8
comp=Z,10.0nm,0.6s,baz=273,slow=2.7,SNR=4.0
BVAR PKPbc PKiKP 07 43 03.6 -0.3
comp=Z,10.0nm,0.6s,baz=311,slow=3.0,SNR=7.4
YAK Yakutsk 151.04 337 ePKIKP PKPbc 07 43 04.4 -0.2
YAK Yakutsk 151.04 337 ePKIKP PKPbc 07 43 04.4 -0.2
ASAJ Asahikawa 151.79 296 PKPab PKPab 07 43 14.0 -2.0
comp=Z,22nm,0.9s,baz=98,slow=7.1,SNR=4.5
EKS2 Erkin-Say 154.36 67 ePKPdf PKPdf 07 43 04.8 +0.3
AAK Ala-Archa 154.89 67 PKIKP PKPdf 07 43 05.7 +0.4
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 154.89 67 PKP PKPdf 07 43 05.7 +0.4
comp=Z,5.2nm,0.8s,baz=202,slow=5.4,SNR=2.5
ZALV Zalesovo Beam 157.37 35 PKIKP PKPdf 07 43 08.4 +0.5
ZALV pmax pmax
comp=Z,10.0nm,1.0s
ZALV Zalesovo Beam 157.37 35 PKP PKPdf 07 43 08.4 +0.5
comp=Z,10nm,1.0s,baz=298,slow=3.1,SNR=3.7
BOD Bodaibo 158.54 349 ePKP2 PKPab 07 43 41.8 -2.5
BOD pmax pmax
comp=Z,20nm,1.0s
MKAR Makanchi Array 159.57 54 PKP PKPdf 07 43 10.5 -0.4
comp=Z,1.4nm,0.7s,baz=335,slow=1.6,SNR=3.0
MKAR pPKPab pPKPab 07 43 55.5 -0.4
comp=Z,8.1nm,0.9s,baz=290,slow=3.6,SNR=4.5
CMAR Chiang Mai Arr 160.42 158 PKPab PKPab 07 43 52.0 -1.5
comp=Z,2.0nm,0.3s,baz=224,slow=5.1,SNR=4.2
CMAR pPKPab pPKPab 07 43 59.5 -0.5
comp=Z,14nm,1.1s,baz=220,slow=5.0,SNR=4.4
ZAK Zakamensk 166.39 9 ePKP2 PKPab 07 44 10.9 -8.1
ZAK pmax pmax
comp=Z,7.0nm,1.6s
SONM Songino Array 169.13 0 PKP2 PKPab 07 44 30.4 -0.9
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 169.13 0 PKPab PKPab 07 44 30.4 -0.9
comp=Z,4.3nm,0.9s,baz=346,slow=4.0,SNR=7.3

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*IDC **27** 07:27:11.6±3.8, 34.60S×72.91W, h0km, mb4.6/5, mb1 4.7/5, mb1mx4.3/37, mbtmp4.6/5, Error ellipse: s-maj=147.4km s-min=31.9km az=27.0*
ISC 27 07:27:16.8±3.9, 34.7S±0.9×73.0W±0.5, h35km, n6, σ0 94/6, mb4.7/5, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TEIG Tepich 56.48 343 P P 07 36 55.2 -0.1
12nm,0.7s,baz=147,slow=5.5,SNR=4.0
TXAR Lajitas Array 69.94 332 P P 07 38 25.2 +0.7
1.5nm,0.7s,baz=147,slow=8.5,SNR=3.5
DBIC Dimbokro 76.11 72 P P 07 39 00.6 -0.7
7.4nm,0.8s,baz=207,slow=6.3,SNR=3.2
NVAR Mina Array Bea 83.99 326 P P 07 39 42.6 -0.9
1.6nm,0.8s,baz=156,slow=6.9,SNR=3.6
TORD Torodi Ar. Bea 85.15 71 P P 07 39 50.1 +0.5
8.3nm,0.9s,baz=250,slow=4.5,SNR=2.2
BVAR Borovoye Array 148.28 43 PKPbc PKPbc 07 46 59.4 +0.8
4.0nm,0.9s,baz=262,slow=5.2,SNR=2.9

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*ISCJB **27** 07:29:09.9±0.3, 34.83S±0.06×72.37W±0.10, h33km, mb5.1/65, Error ellipse: s-maj=12.3km s-min=8.8km az=149.8*
*IDC **27** 07:29:09.9±0.6, 35.10S×72.49W, h28km±3km, mb4.7/17, mb1 4.8/19, mb1mx4.6/37, mbtmp4.9/19, ML4.7/2, Error ellipse: s-maj=23.2km s-min=13.7km az=67.0*
*NEIC **27** 07:29:10.4±0.8, 34.99S×72.62W, h29km±5km, mb5.2/46, Error ellipse: s-maj=9.9km s-min=6.7km az=63.0*
ISC 27 07:29:08.8±0.4, 35.01S±0.08×72.7W±0.1, h18km, n484, σ0 76/488, mb5.2/65, 203C-187D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TRQA Tornquist 9.15 113 ePn Pn 07 31 22.0 +2.1
CPUP Villa Florida 15.79 61 Pn Pn 07 32 50.0 -0.2
1.1nm,0.3s,baz=243,slow=14,SNR=3.0
CPUP Villa Florida 15.79 61 eP Pn 07 32 51.7 +1.5
3.6nm,0.8s
LPAZ La Paz 19.09 14 P Pn 07 33 32.2 +0.2
0.7nm,0.3s,baz=156,slow=5.6,SNR=4.5
SIV San Ignacio 21.61 32 P P 07 33 56.6 -1.4
46nm,0.6s,baz=217,slow=8.7,SNR=17
NNA Nana 23.23 350 P P 07 34 16.4 +1.2
14nm,0.8s,baz=201,slow=14,SNR=3.6
PMSA Palmer Station 30.26 173 eP P 07 35 20.1 +1.8
132nm,1.3s
OTAV Otavalo 35.47 350 eP P 07 36 05.9 +1.0
ROSC El Rosal 39.68 357 P P 07 36 41.8 +1.4
10nm,0.6s,baz=107,slow=20,SNR=5.0
FDF Fort de France 50.67 14 eP P 07 38 05.2 -2.0
27nm,0.8s
SNAA Sanae 50.86 157 P P 07 38 06.4 -1.7
2.9nm,0.9s,baz=291,slow=8.8,SNR=2.9
APG El Apazote 52.52 338 P P 07 38 17.0 -4.3
12nm,0.7s,baz=139,slow=6.0,SNR=10
OBIP Obispado Ponce 53.07 7 eP P 07 38 22.8 -2.3
57nm,1.4s
ANWB Willy Bob 53.40 13 eP P 07 38 30.5 +3.0
GTBY Guantanamo Bay 54.68 357 eP P 07 38 35.9 -0.9
16nm,0.6s
QSPA South Pole Qui 55.23 180 P P 07 38 40.6 +0.1
6.4nm,0.7s,baz=106,slow=4.1,SNR=3.4
QSPA South Pole Qui 55.23 180 eP P 07 38 40.6 +0.1
6.7nm,0.8s
TEIG Tepich 56.89 342 P P 07 38 52.4 -0.3
37nm,0.7s,baz=153,slow=2.8,SNR=11
TEIG Tepich 56.89 342 eP P 07 38 52.2 -0.5
74nm,1.0s
035A Encino 66.13 335 ⇓P P 07 39 55.9 +0.9
baz=66
034A Hebbronville 66.45 335 ⇑P P 07 39 58.5 +1.4
baz=67
TIGA Tifton 66.89 350 ⇑P P 07 39 58.5 -1.2
baz=67
934A Benavides 66.89 335 ⇑P P 07 40 01.0 +1.2
baz=67
933A Laredo 67.16 334 ⇓P P 07 40 02.7 +1.1
baz=68
835A Beeville 67.28 336 ⇑P P 07 40 03.1 +0.8
baz=68
834A Tilden 67.38 335 ⇑P P 07 40 03.9 +1.0
baz=68
735A Kenedy 67.80 336 ⇑P P 07 40 06.8 +1.2
baz=68
833A Chaparral WMA, 67.85 335 ⇓P P 07 40 06.3 +0.4
baz=68,SNR=8.2
832A Faith Ranch, C 68.02 334 ⇑P P 07 40 07.3 +0.2
baz=68,SNR=6.7
734A La Parita Cree 68.04 336 ⇑P P 07 40 08.1 +1.0
baz=68
636A Smothers Creek 68.14 337 ⇓P P 07 40 08.8 +1.1
baz=68
733A Divot King Ran 68.18 335 ⇑P P 07 40 08.6 +0.6
baz=68
635A Leesville 68.28 337 ⇓P P 07 40 08.9 +0.3
baz=69
732A Laxson Ranch, 68.43 334 ⇑P P 07 40 09.8 +0.3
baz=69,SNR=15
537A Green Hill Far 68.46 338 ⇓P P 07 40 10.6 +0.9
baz=69
634A China Grove, S 68.47 336 ⇓P P 07 40 10.0 +0.2
baz=69
536A Bastrop 68.69 337 ⇑P P 07 40 11.3 +0.2
baz=69
GOGA Godfrey 68.81 350 eP P 07 40 10.8 -1.0
20nm,1.2s
535A Dale 68.81 337 ⇓P P 07 40 12.1 +0.2
baz=69,SNR=5.8
633A Saathoff Ranch 68.82 335 ⇑P P 07 40 12.2 +0.3
baz=69,SNR=7.1
632A Uvalde 69.07 335 ⇑P P 07 40 14.0 +0.4
baz=69,SNR=8.0
534A Blanco 69.10 336 ⇑P P 07 40 13.3 -0.5
baz=69
339A Huntington 69.12 340 ⇑P P 07 40 13.6 -0.2
baz=70
533A Kerrville 69.33 336 ⇓P P 07 40 15.3 +0.1
baz=70,SNR=9.9
338A Crockett 69.36 339 ⇓P P 07 40 15.4 +0.2
baz=70
337A Centerville 69.49 339 ⇑P P 07 40 16.7 +0.6
baz=70
435B Jarrell 69.51 337 ⇓P P 07 40 16.9 +0.6
baz=70
532A Rocksprings 69.68 335 ⇑P P 07 40 17.6 +0.2
baz=70,SNR=12
434A Burnet 69.76 337 ⇑P P 07 40 17.9 +0.1
baz=70,SNR=10
336A Riesel 69.84 338 ⇓P P 07 40 18.3 +0.1
baz=70,SNR=7.7
335A Moody 69.92 338 ⇓P P 07 40 18.8 0.0
baz=70,SNR=5.7
531A Rocksprings 69.94 334 ⇑P P 07 40 19.4 +0.5
baz=70,SNR=8.9
JCT Junction City 69.97 335 eP P 07 40 19.3 +0.2
56nm,1.2s
JCT Junction City 69.97 335 ⇑P P 07 40 19.4 +0.3
baz=70,SNR=12
433A Art 69.98 336 ⇓P P 07 40 19.2 0.0
baz=70,SNR=15
530A J-C Ranch, Com 70.21 334 ⇓P P 07 40 21.3 +0.7
baz=70,SNR=8.5
334A Lometa 70.23 337 ⇑P P 07 40 20.7 0.0
baz=71,SNR=9.1
KMSC Kings Mountain 70.25 352 eP P 07 40 19.8 -0.9
28nm,1.3s
KMSC Kings Mountain 70.25 352 ⇑P P 07 40 19.7 -1.0
baz=71
432A Menard 70.33 335 ⇑P P 07 40 21.0 -0.3
baz=71,SNR=6.2
TXAR Lajitas Array 70.35 332 P P 07 40 21.9 +0.3
7.6nm,0.6s,baz=158,slow=8.7,SNR=24
431A Sonora 70.43 335 ⇑P P 07 40 21.6 -0.3
baz=71
333A Richland Sprin 70.47 336 ⇑P P 07 40 21.9 -0.2
baz=71,SNR=10
529A Stev Forest Ra 70.51 333 ⇑P P 07 40 23.1 +0.6
baz=71,SNR=11
WHTX Lake Whitney 70.59 338 eP P 07 40 22.9 +0.1
29nm,1.0s
WHTX Lake Whitney 70.59 338 ⇑P P 07 40 22.7 -0.1
baz=71,SNR=6.9
430A Baggett Ranch, 70.75 334 ⇓P P 07 40 24.0 +0.1
baz=71,SNR=8.3
332A Millersview 70.77 336 ⇓P P 07 40 24.0 0.0
baz=71,SNR=9.2
234A Clairette 70.82 337 ⇑P P 07 40 24.3 +0.1
baz=71,SNR=9.1
429A Davenport Ranc 70.84 334 ⇑P P 07 40 25.1 +0.6
baz=71,SNR=6.4
OXF Oxford 70.91 345 eP P 07 40 24.0 -0.7
331A San Angelo 70.94 335 ⇑P P 07 40 25.2 +0.2
baz=71,SNR=13
SWET Sewanee 70.95 349 eP P 07 40 24.6 -0.3
47nm,1.0s
TKL Tuckaleechee C 71.06 350 P P 07 40 24.8 -0.9
13nm,0.8s,baz=174,slow=8.1,SNR=7.0
233A Rising Star 71.08 337 ⇑P P 07 40 26.1 +0.2
baz=71,SNR=9.0
135A Vickery Place, 71.10 338 ⇓P P 07 40 25.1 -0.8
baz=71
232A Coleman 71.20 336 ⇑P P 07 40 26.5 -0.2
baz=72,SNR=8.4
330A Mertzon 71.29 335 ⇑P P 07 40 26.8 -0.4
baz=72,SNR=6.8
134A White-Moore Ra 71.33 338 ⇓P P 07 40 26.5 -0.8
baz=72
231A Bronte 71.47 335 ⇑P P 07 40 28.0 -0.3
baz=72,SNR=9.3
133A Hamilton Ranch 71.62 337 ⇑P P 07 40 29.1 0.0
baz=72,SNR=10.0
329A Wagon Wheel Ra 71.65 334 ⇑P P 07 40 29.4 +0.1
baz=72,SNR=8.4
230A Sterling City 71.70 335 ⇑P P 07 40 29.4 -0.3
baz=72,SNR=5.9
Z35A Perchaven, San 71.78 339 ⇓P P 07 40 29.7 -0.3
baz=72
ABTX Abilene, Hawle 71.88 336 eP P 07 40 30.3 -0.3
70nm,1.3s
ABTX Abilene, Hawle 71.88 336 ⇓P P 07 40 30.5 -0.2
baz=72,SNR=8.1
Z34A Collier Ranch, 72.01 338 ⇓P P 07 40 30.8 -0.6
baz=72
229A Bryant Ranch, 72.02 334 ⇓P P 07 40 31.9 +0.3
baz=72
131A Roby 72.17 336 ⇑P P 07 40 32.3 -0.1
baz=72,SNR=7.5
Z33A Whitaker Ranch 72.20 337 ⇑P P 07 40 32.3 -0.2
baz=72,SNR=7.8
130A Snyder 72.30 335 ⇓P P 07 40 33.0 -0.2
baz=73
228A UT Block 9, Go 72.44 334 ⇑P P 07 40 34.2 +0.1
baz=73,SNR=11
Z32A Haskell 72.45 337 ⇓P P 07 40 33.8 -0.2
baz=73,SNR=9.5
Y34A Reagan Ranch, 72.51 338 ⇓P P 07 40 34.1 -0.3
baz=73,SNR=6.4
GLAT Glass 72.58 346 eP P 07 40 35.3 +0.6
129A Stewart Farms, 72.64 334 ⇓P P 07 40 35.0 -0.3
baz=73,SNR=7.7
Z31A Sharp Cattle R 72.68 336 ⇑P P 07 40 35.2 -0.3
baz=73,SNR=9.4
Y33A Hilltop Ranch, 72.82 338 ⇓P P 07 40 35.8 -0.5
baz=73,SNR=5.3
128A Castleberry Fa 72.86 334 ⇓P P 07 40 36.3 -0.3
baz=73,SNR=9.4
Z30A Sanderson Ranc 72.98 335 ⇓P P 07 40 37.2 -0.1
baz=73,SNR=7.6
PARMO Parma 73.05 346 eP P 07 40 36.8 -0.7
Y32A R-V Farms, Ver 73.08 337 ⇑P P 07 40 37.5 -0.2
baz=73,SNR=7.0
MNTX Cornudas Mount 73.12 331 eP P 07 40 36.9 -1.2
12nm,0.9s
X34A Smith Ranch, M 73.13 339 ⇓P P 07 40 37.9 -0.2
baz=74,SNR=5.7
Z29A Hungry Hill Ra 73.16 335 ⇑P P 07 40 38.1 -0.3
baz=74,SNR=9.1
127A Arkansas Junct 73.22 333 ⇓P P 07 40 38.8 0.0
baz=74,SNR=6.5
X33A Lawton 73.28 338 ⇓P P 07 40 38.2 -0.7
baz=74
Y31A Rekieta Farm, 73.31 336 ⇑P P 07 40 38.8 -0.4
baz=74,SNR=6.3
X32A Elmer 73.41 337 ⇓P P 07 40 39.2 -0.5
baz=74
Y30A Stafford Cattl 73.44 336 ⇑P P 07 40 39.4 -0.6
baz=74
Y29A Porterfield Fa 73.69 335 ⇓P P 07 40 41.5 0.0
baz=74,SNR=8.5
W34A Bridge Creek, 73.70 339 eP P 07 40 41.2 -0.2
34nm,1.3s
W34A Bridge Creek, 73.70 339 ⇓P P 07 40 40.5 -1.0
baz=74
Z27A Tatum 73.74 334 ⇓P P 07 40 42.0 +0.2
baz=74
TUL1 Tulsa 73.77 341 eP P 07 40 41.0 -0.8
45nm,0.9s
TUL1 Tulsa 73.77 341 ⇑P P 07 40 41.0 -0.8
baz=74,SNR=7.6
X31A McDonald Ranch 73.83 337 ⇑P P 07 40 42.2 0.0
baz=74,SNR=7.4
W33A Caddo, Fort Co 73.83 338 ⇑P P 07 40 42.5 +0.3
baz=74,SNR=9.7
Y28A McKinney Farm, 73.93 335 ⇑P P 07 40 43.2 +0.2
baz=74,SNR=5.1
X30A Coker Ranch, T 73.95 336 ⇑P P 07 40 42.6 -0.4
baz=74
SIUC Southern Illin 73.97 346 eP P 07 40 42.0 -0.9
34nm,1.0s
Z26A Caprock 73.99 333 ⇓P P 07 40 43.5 +0.2
baz=74,SNR=16
W32A Sentinel 74.05 338 ⇓P P 07 40 43.4 -0.1
baz=74,SNR=12
MSTX Muleshoe 74.17 334 eP P 07 40 43.9 -0.4
28nm,1.0s
MSTX Muleshoe 74.17 334 ⇑P P 07 40 44.3 -0.1
baz=74,SNR=9.3
V34A Guthrie 74.19 339 eP P 07 40 43.4 -0.9
23nm,1.0s
V34A Guthrie 74.19 339 ⇑P P 07 40 43.2 -1.1
baz=74,SNR=5.4
X29A Tulia 74.23 335 ⇓P P 07 40 44.4 -0.3
baz=75,SNR=5.5
Y27A Causey 74.24 334 ⇑P P 07 40 44.0 -0.7
baz=75
Z25A Roswell 74.27 333 ⇓P P 07 40 44.9 0.0
baz=75
W31A Holland Ranch, 74.33 337 ⇑P P 07 40 44.9 -0.2
baz=75,SNR=5.2
V33A Lossen Ranch, 74.40 339 ⇑P P 07 40 45.1 -0.3
baz=75,SNR=7.2
319A Douglas 74.46 328 ⇑P P 07 40 47.0 +1.0
baz=75,SNR=5.6
X28A Dimmitt 74.47 335 ⇑P P 07 40 45.7 -0.3
baz=75
Y26A Elida 74.51 334 ⇓P P 07 40 46.4 0.0
baz=75,SNR=7.7
W30A Crocket Farms 74.53 337 ⇓P P 07 40 45.9 -0.4
baz=75
V32A Arapaho 74.54 338 ⇓P P 07 40 46.0 -0.3
baz=75
Z24A Sheeppen Canyo 74.56 332 ⇑P P 07 40 47.1 +0.4
baz=75,SNR=8.7
AMTX Amarillo 74.62 336 eP P 07 40 46.8 -0.1
72nm,1.3s
AMTX Amarillo 74.62 336 ⇑P P 07 40 46.8 -0.1
baz=75
U34A Anderson Ranch 74.75 339 eP P 07 40 47.0 -0.5
31nm,1.2s
U34A Anderson Ranch 74.75 339 ⇑P P 07 40 47.0 -0.5
baz=75
121A Cookes Peak, D 74.83 330 eP P 07 40 49.4 +1.1
13nm,1.0s
121A Cookes Peak, D 74.83 330 ⇑P P 07 40 49.2 +1.0
baz=75,SNR=8.3
W29A Amraillo 74.83 336 ⇑P P 07 40 48.0 -0.1
baz=75,SNR=7.4
Y25A Mesa, Roswell 74.83 333 ⇓P P 07 40 47.5 -0.7
baz=75
V31A Spring Creek L 74.83 337 ⇑P P 07 40 48.5 +0.5
baz=75
X27A F and S Farms, 74.90 334 ⇓P P 07 40 48.3 -0.2
baz=75
U33A Lingo Farm, Me 74.92 339 ⇓P P 07 40 47.6 -0.9
baz=75
X26A CR and CF Fran 75.07 334 ⇑P P 07 40 49.9 +0.3
baz=75,SNR=8.7
V30A Spur Ranch, Mi 75.09 337 ⇑P P 07 40 50.8 +1.2
baz=75
Y24A Capitan 75.12 332 ⇓P P 07 40 50.2 +0.2
baz=75,SNR=7.9
Z22A Elephant Butte 75.12 331 ⇓P P 07 40 50.5 +0.6
baz=76,SNR=6.0
U32A Winter Ranch, 75.13 338 ⇑P P 07 40 49.3 -0.4
baz=76
W28A Vega 75.14 335 ⇓P P 07 40 49.9 0.0
baz=76
W27A Bowe Ranch, En 75.26 335 ⇓P P 07 40 50.5 -0.1
baz=76,SNR=9.9
Y23A Lovelace Mesa, 75.36 332 ⇓P P 07 40 51.9 +0.6
baz=76,SNR=6.4
ACSO Alum Creek Sta 75.47 352 eP P 07 40 50.5 -1.1
8.6nm,0.9s
W26A Owens Ranch, T 75.53 334 ⇑P P 07 40 52.5 +0.3
baz=76,SNR=9.3
T33A Patterson Ranc 75.56 339 ⇑P P 07 40 51.9 -0.3
baz=76,SNR=6.5
V28A Channing 75.59 336 ⇑P P 07 40 52.7 +0.2
baz=76,SNR=8.8
X24A Lazy VL Ranch, 75.68 333 ⇑P P 07 40 53.8 +0.6
baz=76
U30A WK&E Inc. Balk 75.78 337 ⇑P P 07 40 53.8 +0.2
baz=76
V27A Dan Oppiter Fa 75.81 335 ⇑P P 07 40 53.9 +0.1
baz=76,SNR=6.5
T32A Huddler Ranch, 75.85 339 ⇑P P 07 40 53.4 -0.4
baz=76
W25A X Bar L Ranch, 75.90 334 ⇑P P 07 40 54.4 0.0
baz=76,SNR=6.7
S33A Kaszmaul Farm, 75.96 340 ⇑P P 07 40 54.2 -0.3
baz=76
X23A Hourglass Bar 75.98 332 ⇑P P 07 40 55.7 +0.8
baz=76,SNR=9.0
T31A Randall Ranch, 76.00 338 ⇓P P 07 40 54.5 -0.2
baz=76
DBIC Dimbokro 76.02 71 P P 07 40 54.5 -0.8
5.6nm,0.7s,baz=267,slow=5.6,SNR=4.1
U28A Mallet 76.16 336 ⇑P P 07 40 55.8 0.0
baz=76
V26A Tequesquite Ra 76.18 334 ⇑P P 07 40 56.0 +0.1
baz=76
SFIN Scholer Farm 76.18 349 ⇑P P 07 40 53.9 -1.7
baz=76
T30A Plains 76.22 337 ⇑P P 07 40 55.7 -0.4
baz=77
W24A Lazy 6 Ranch, 76.25 333 ⇓P P 07 40 56.6 +0.2
baz=77
S32A Newby Ranch, P 76.33 339 ⇑P P 07 40 56.6 0.0
baz=77
U27A Thompson Grove 76.41 335 ⇓P P 07 40 57.4 +0.2
baz=77
ANMO Albuquerque 76.41 332 P P 07 40 58.2 +0.9
15nm,1.0s,baz=163,slow=7.8,SNR=12
ANMO Albuquerque 76.41 332 eP P 07 40 57.9 +0.6
18nm,1.1s
S31A Mullinville 76.42 338 ⇓P P 07 40 56.9 -0.2
baz=77
W23A Werner Place, 76.48 332 ⇓P P 07 40 58.5 +0.8
baz=77,SNR=8.1
V25A Rancho No Teng 76.51 334 ⇑P P 07 40 58.1 +0.2
baz=77,SNR=8.5
214A Organ Pipe Nat 76.54 326 eP P 07 40 59.1 +1.2
740nm,3.3s
214A Organ Pipe Nat 76.54 326 ⇑P P 07 40 59.4 +1.5
baz=77
T29A Hugoton 76.56 337 ⇑P P 07 40 58.2 +0.3
baz=77,SNR=7.3
R33A Olander Ranch, 76.62 340 ⇑P P 07 40 57.8 -0.4
baz=77
V24A Rampart Ranch, 76.65 333 ⇓P P 07 40 59.1 +0.4
baz=77,SNR=5.2
U26A Atchley Ranch, 76.70 335 ⇑P P 07 40 58.9 -0.1
baz=77
S30A Montezuma 76.74 338 ⇑P P 07 40 59.1 +0.2
baz=77,SNR=7.6
T28A Walsh 76.80 336 ⇑P P 07 40 59.3 0.0
baz=77,SNR=13
S29A Ulysses 76.93 337 ⇑P P 07 41 00.0 0.0
baz=77,SNR=7.8
R32A Long Quarter, 76.94 339 ⇑P P 07 40 60.0 0.0
baz=77,SNR=6.6
U25A Circle Dot Ran 76.94 334 ⇑P P 07 41 00.4 +0.2
baz=77,SNR=5.6
T27A Campo 76.95 336 ⇑P P 07 41 00.4 +0.1
baz=77,SNR=8.4
KSU1 Kansas State U 76.99 341 eP P 07 40 58.8 -1.4
8.4nm,0.6s
KSU1 Kansas State U 76.99 341 ⇑P P 07 40 58.9 -1.3
baz=77
V23A Ortiz Mt. (NFS 77.01 333 ⇓P P 07 41 01.7 +1.0
baz=77
R31A Burdett 77.06 339 ⇑P P 07 41 00.7 0.0
baz=77,SNR=5.8
S28A Manter 77.16 337 ⇓P P 07 41 01.4 +0.1
baz=78,SNR=14
Q33A Connelly Farm, 77.22 340 ⇑P P 07 41 00.9 -0.6
baz=78
U24A Moreno Valley 77.26 334 ⇑P P 07 41 03.1 +0.9
baz=78
R30A Dighton 77.28 338 ⇑P P 07 41 01.9 0.0
baz=78
T26A Comanche Natio 77.35 335 ⇑P P 07 41 02.8 +0.3
baz=78,SNR=6.3
Q32A Meitler Ranch, 77.42 340 ⇑P P 07 41 02.6 -0.1
baz=78,SNR=5.8
V22A San Miguel Ran 77.44 332 ⇑P P 07 41 04.4 +1.3
baz=78,SNR=13
X18A Snowflake 77.45 329 ⇓P P 07 41 04.7 +1.5
baz=78
U23A El Rito 77.53 333 ⇓P P 07 41 04.8 +1.1
baz=78,SNR=5.4

S27A	Las Animas baz=78	77.57	336	⇓P	P	07 41 03.8	+0.1
P33A	Williams Farm, baz=78	77.59	340	⇓P	P	07 41 03.2	-0.4
T25A	Trinidad baz=78,SNR=11	77.60	335	⇑P	P	07 41 04.9	+0.9
113A	Mohawk Valley, baz=78	77.66	325	⇓P	P	07 41 05.5	+1.4
R29A	Marienthal baz=78	77.67	337	⇓P	P	07 41 04.0	-0.2
Q31A	Ellis baz=78,SNR=6.0	77.68	339	⇓P	P	07 41 04.0	-0.1
S26A	Kim baz=78,SNR=12	77.71	335	⇑P	P	07 41 04.9	+0.4
Z14A	Wintersburg baz=78	77.78	326	⇓P	P	07 41 06.5	+1.7
R28A	Tribune baz=78,SNR=8.2	77.81	337	⇑P	P	07 41 04.8	-0.2
U22A	Llaves baz=78	77.82	332	⇓P	P	07 41 06.2	+0.9
W18A	Petrified Fore 26nm,1.1s	77.87	330	eP	P	07 41 06.1	+0.6
W18A	Petrified Fore baz=78	77.87	330	⇑P	P	07 41 06.9	+1.4
T24B	San Luis baz=78,SNR=6.2	77.88	334	⇓P	P	07 41 06.4	+0.7
Q30A	Quinter baz=78,SNR=8.5	77.90	338	⇓P	P	07 41 05.5	+0.1
X16A	Lo Mia Camp, P baz=78,SNR=11	78.00	328	⇓P	P	07 41 07.7	+1.4
P32A	Huiting Farm, baz=78	78.02	340	⇓P	P	07 41 05.9	-0.1
Q29A	Oakley baz=78,SNR=6.1	78.05	338	⇓P	P	07 41 06.2	-0.1
S25A	Robets Cordova baz=78,SNR=5.7	78.08	335	⇑P	P	07 41 07.2	+0.6
R27A	Eads baz=78,SNR=12	78.08	336	⇑P	P	07 41 06.5	0.0
T23A	Casias Ranch, baz=78,SNR=5.5	78.10	333	⇓P	P	07 41 07.4	+0.6
P31A	Stockton baz=78,SNR=5.3	78.15	339	⇓P	P	07 41 06.6	-0.2
Y14A	Wickenburg baz=79	78.28	327	⇓P	P	07 41 09.0	+1.3
R26A	Arlington baz=79,SNR=7.0	78.31	336	⇓P	P	07 41 08.2	+0.4
S24A	Houchin Ranch, baz=79,SNR=8.4	78.33	334	⇑P	P	07 41 09.1	+1.0
P30A	Selden baz=79	78.43	339	⇑P	P	07 41 08.0	-0.3
R25A	Fountain Ranch baz=79	78.46	335	⇑P	P	07 41 09.3	+0.6
Q28A	Sharon Springs baz=79,SNR=5.3	78.47	337	⇑P	P	07 41 08.9	+0.3
O32A	Brockman Farm, baz=79	78.52	340	⇑P	P	07 41 08.2	-0.6
SDCO	Great Sand Dun 34nm,1.7s	78.53	334	eP	P	07 41 09.5	+0.3
S23A	Nye Farm, Mont baz=79	78.68	334	⇑P	P	07 41 10.6	+0.6
KSCO	Kaye Shedlock' 19nm,1.0s	78.69	337	eP	P	07 41 10.3	+0.5
KSCO	Kaye Shedlock' baz=79	78.69	337	⇓P	P	07 41 10.6	+0.7
P29A	Atwood baz=79,SNR=6.9	78.69	338	⇑P	P	07 41 10.0	+0.3
O31A	Woolen Ranch, baz=79	78.72	339	⇓P	P	07 41 09.8	-0.1
SWSC	Sam W. Stewart baz=79	78.76	324	⇓P	P	07 41 11.7	+1.5
R24A	Sanders Place, baz=79,SNR=9.4	78.83	335	⇑P	P	07 41 11.7	+1.0
Q26A	Hugo baz=79	78.90	336	⇑P	P	07 41 11.9	+0.8
WUAZ	Wupatki	78.90	329	eP	P	07 41 12.2	+1.0
WUAZ	Wupatki baz=79,SNR=8.6	78.90	329	⇑P	P	07 41 12.6	+1.4
P28A	Saint Francis baz=79,SNR=6.5	78.92	338	⇓P	P	07 41 11.3	+0.2
O30A	MW Ranch, Wils baz=79	78.96	339	⇑P	P	07 41 11.2	0.0
N32A	Stulken Farm, baz=79	79.00	340	⇓P	P	07 41 10.9	-0.5
CASY	Casey 15nm,1.0s	79.00	181	eP	P	07 41 11.3	+0.1
MONP	Monument Peak baz=79	79.02	324	⇓P	P	07 41 13.3	+1.3
S22A	4UR Ranch, Cre baz=79	79.02	333	⇓P	P	07 41 12.9	+0.9
R23A	Moffat baz=79,SNR=6.2	79.05	334	⇑P	P	07 41 12.6	+0.6
O29A	4D Ranch, Culb baz=80	79.13	338	⇓P	P	07 41 12.2	+0.1
Q25A	Bedland, Calha baz=80	79.14	335	⇓P	P	07 41 12.9	+0.5
P27A	Ficken Ranch, baz=80	79.16	337	⇑P	P	07 41 13.0	+0.6
BC3	Big Chuckawall baz=80,SNR=5.1	79.18	325	⇑P	P	07 41 13.8	+1.1
MVCO	Mesa Verde 21nm,1.2s	79.19	332	eP	P	07 41 13.2	+0.5
MVCO	Mesa Verde baz=80,SNR=6.7	79.19	332	⇓P	P	07 41 13.4	+0.6
N31A	Bailey Ranch, baz=80	79.24	340	⇓P	P	07 41 12.9	+0.2
P26A	Davis Ranch, A baz=80	79.42	336	⇓P	P	07 41 14.3	+0.4
O28A	Krutsinger Ran baz=80,SNR=5.7	79.43	338	⇑P	P	07 41 14.1	+0.3
IRM	Iron Mountain baz=80	79.45	325	⇑P	P	07 41 15.2	+1.1
TSUM	Tsumeb 3.0nm,0.8s,baz=74,slow=21,SNR=3.2	79.46	106	P	P	07 41 14.0	-0.7
Q24A	Divide baz=80,SNR=7.3	79.49	335	⇑P	P	07 41 15.2	+0.7
N30A	Hueftle Ranch, baz=80	79.54	339	⇑P	P	07 41 15.0	+0.6
BGNE	Belgrade baz=80	79.56	341	⇓P	P	07 41 14.0	-0.4
PFO	Pinyon Flat Ob 13nm,0.9s,baz=148,slow=3.5,SNR=13	79.62	324	P	P	07 41 16.8	+1.7
PFO	 15nm,1.1s,baz=103,slow=6.1,SNR=7.3			pP	PcP	07 41 26.1	+3.1
PFO	Pinyon Flat Ob baz=80,SNR=8.2	79.62	324	⇑P	P	07 41 16.9	+1.8
P25A	Willow Gulch B baz=80,SNR=5.6	79.65	336	⇑P	P	07 41 16.1	+1.0
W13A	Hualapai Mount baz=80	79.65	327	⇓P	P	07 41 16.8	+1.4
O27A	Beecher Island baz=80,SNR=5.4	79.71	337	⇓P	P	07 41 15.6	+0.3
N29A	Votaw Ranch, W baz=80	79.71	339	⇓P	P	07 41 15.7	+0.4
BELC	Belle Mtn. Jos baz=80	79.72	325	⇑P	P	07 41 17.0	+1.4
M31A	Lambtecht Ranc baz=80,SNR=6.7	79.72	340	⇑P	P	07 41 15.5	+0.1
N28A	Pribbeno Ranch baz=80	79.87	338	⇓P	P	07 41 16.3	+0.1
P24A	Kohler Place, baz=80	79.90	335	⇑P	P	07 41 17.1	+0.6
MURC	Murrieta baz=80	79.98	324	⇓P	P	07 41 18.4	+1.5
PV01	Paradox Valley 1μm,1.0s	80.02	332	eP	P	07 41 17.9	+0.6
U15A	North Rim baz=80,SNR=7.3	80.07	329	⇑P	P	07 41 19.1	+1.5
BOSA	Boshof 12nm,0.8s,baz=240,slow=3.2,SNR=5.6	80.08	118	P	P	07 41 17.1	-0.8
SCI	San Clemente I baz=80	80.14	322	⇑P	P	07 41 22.7	+4.9
O25A	Wiggins baz=80	80.17	336	⇑P	P	07 41 19.3	+1.3
GMRC	Granite Mounta baz=80,SNR=7.0	80.20	325	⇓P	P	07 41 19.7	+1.5
N27A	Anderson Farm, baz=81,SNR=5.6	80.29	337	⇓P	P	07 41 19.0	+0.5
M29A	Burnside Ranch baz=81	80.31	339	⇑P	P	07 41 18.8	+0.2
PV04	Paradox Valley	80.37	332	eP	P	07 41 19.6	+0.5
ISCO	Idaho Springs 183nm,2.6s	80.40	335	eP	P	07 41 19.9	+0.5
ISCO	Idaho Springs baz=81	80.40	335	⇓P	P	07 41 19.9	+0.5
PV10	Paradox Valley 298nm,0.9s	80.41	332	eP	P	07 41 19.2	-0.2
L31A	Butterfield Fa baz=81,SNR=5.8	80.46	341	⇑P	P	07 41 19.5	+0.2
L30A	Spencer Herefo baz=81	80.49	340	⇑P	P	07 41 19.4	-0.1
N26A	Koester Ranch, baz=81	80.53	337	⇓P	P	07 41 20.6	+0.8
HEC	Hector,Ludlow baz=81,SNR=6.7	80.56	325	⇓P	P	07 41 21.9	+1.9
P22A	Eagle baz=81	80.62	334	⇓P	P	07 41 20.9	+0.4
O23A	Lake Granby, G baz=81	80.87	335	⇓P	P	07 41 22.7	+0.9
M27A	Reverse DX Ran baz=81	80.90	338	⇑P	P	07 41 21.9	+0.2
O22A	Kremmling baz=81,SNR=5.5	81.05	334	⇑P	P	07 41 23.4	+0.5
N24A	Carr baz=81	81.07	336	⇓P	P	07 41 23.8	+1.0
L28A	Connealy Angus baz=81	81.07	339	⇓P	P	07 41 23.3	+0.6
K30A	Basset baz=82,SNR=6.9	81.14	340	⇑P	P	07 41 23.5	+0.6
GSC	Goldstone 11nm,1.0s	81.17	325	eP	P	07 41 24.6	+1.3
GSC	Goldstone baz=82	81.17	325	⇓P	P	07 41 24.7	+1.3
ECSD	EROS Data Cent 38nm,1.0s	81.34	343	eP	P	07 41 23.2	-0.8
ECSD	EROS Data Cent baz=82,SNR=9.7	81.34	343	⇑P	P	07 41 23.9	-0.1
EDW2	Edwards Air Fo baz=82	81.39	324	⇑P	P	07 41 25.1	+0.6
K29A	Lazy Trails An baz=82,SNR=6.0	81.41	340	⇓P	P	07 41 24.7	+0.3
N23A	Red Feather La baz=82	81.49	335	⇓P	P	07 41 25.6	+0.5
N22A	Wattenberg Ran baz=82	81.58	335	⇓P	P	07 41 26.9	+1.2
M24A	Cheyenne baz=82	81.62	336	⇑P	P	07 41 26.5	+0.8
O20A	White River Ci baz=82	81.64	333	⇓P	P	07 41 26.6	+0.7
K28A	Ten Mile Ranch baz=82,SNR=7.2	81.67	339	⇓P	P	07 41 26.7	+0.9
J30A	Dallas baz=82	81.70	341	⇑P	P	07 41 25.6	-0.3
LRMC	Laurel Mountai baz=82	81.73	324	⇓P	P	07 41 27.6	+1.2
SPMN	St. Paul baz=82	81.91	346	⇓P	P	07 41 25.9	-1.0
K27A	Flueckinger Fa baz=82	81.92	338	⇑P	P	07 41 27.6	+0.5
L25A	Engebretsen Ra baz=82	81.96	337	⇑P	P	07 41 27.9	+0.5
J29A	Okreek baz=82,SNR=8.6	82.01	340	⇑P	P	07 41 27.4	-0.1
FURC	Furnace Creek, baz=82	82.14	325	⇓P	P	07 41 29.9	+1.6
M22A	Cedar Creek Ra baz=82	82.17	335	⇓P	P	07 41 29.4	+0.8
I30A	Oacoma baz=83,SNR=8.9	82.23	341	⇑P	P	07 41 28.2	-0.5
ISA	Isabella 11nm,1.0s	82.26	324	eP	P	07 41 30.3	+1.2
ISA	Isabella baz=83,SNR=6.4	82.26	324	⇓P	P	07 41 30.7	+1.7
N20A	Spence Gulch, baz=83	82.26	334	⇓P	P	07 41 28.9	-0.2
J28A	Allard Ranch, baz=83,SNR=6.6	82.29	339	⇑P	P	07 41 29.5	+0.5
K25A	Mack Ranch, Ha baz=83	82.34	337	⇑P	P	07 41 30.0	+0.6
J27A	Elkhorn Farm, baz=83,SNR=7.2	82.35	339	⇑P	P	07 41 30.2	+0.9
L23A	Garrett baz=83	82.49	336	⇓P	P	07 41 30.2	-0.1
BRSD	Miller baz=83,SNR=6.2	82.60	341	⇑P	P	07 41 30.2	-0.4
L22A	Ellis Ranch, M baz=83	82.67	335	⇑P	P	07 41 31.7	+0.5
VES	Vestal, Richgr baz=83,SNR=7.4	82.70	324	⇑P	P	07 41 32.6	+1.4
J26A	Sides Ranch, S baz=83	82.73	338	⇑P	P	07 41 31.9	+0.6
I28A	Midland baz=83,SNR=6.4	82.80	340	⇓P	P	07 41 31.3	-0.3
MPU	Maple Canyon 19nm,1.1s	82.84	331	eP	P	07 41 32.7	+0.6
NLU	North Lily Min 19nm,1.3s	82.97	331	eP	P	07 41 33.5	+0.6
J25A	Sunshine Ranch baz=83	83.03	338	⇓P	P	07 41 33.4	+0.5
K23A	Bowen Ranch, D baz=83,SNR=5.3	83.04	336	⇓P	P	07 41 33.6	+0.5
H29A	Onida baz=84,SNR=7.6	83.11	341	⇓P	P	07 41 32.8	-0.4
R11A	Troy Canyon, C baz=83,SNR=8.2	83.11	327	⇑P	P	07 41 34.7	+1.1
I27A	Quinn baz=84	83.11	339	⇑P	P	07 41 33.4	+0.1
RCTC	Rector, Farmer baz=84	83.15	324	⇑P	P	07 41 34.2	+0.7
J24A	Dixon Ranch, L baz=84,SNR=5.7	83.24	337	⇑P	P	07 41 34.2	+0.2
K22A	Casper baz=84	83.25	336	⇓P	P	07 41 34.4	+0.2
TIN	Tinemaha baz=84	83.26	325	⇓P	P	07 41 35.9	+1.6
G30A	Faulkton baz=84,SNR=5.8	83.29	341	⇓P	P	07 41 34.0	0.0
I26A	New Underwood baz=84	83.32	339	⇓P	P	07 41 34.5	+0.1
H28A	Mission Ridge baz=84,SNR=7.5	83.37	340	⇑P	P	07 41 34.2	-0.4
DUG	Dugway 48nm,1.4s	83.47	330	eP	P	07 41 36.1	+0.8
DUG	Dugway baz=84,SNR=7.4	83.47	330	⇑P	P	07 41 35.9	+0.6
K21A	Alcova baz=84,SNR=7.3	83.48	335	⇑P	P	07 41 35.7	+0.3
G29A	Hoven baz=84,SNR=5.4	83.55	341	⇓P	P	07 41 34.9	-0.6
I25A	Rochford baz=84,SNR=6.6	83.57	338	⇑P	P	07 41 35.9	+0.1
TPH	Tonopah 0.6nm,0.3s	83.62	326	eP	P	07 41 37.3	+1.1
H27A	Howes baz=84,SNR=5.2	83.64	339	⇑P	P	07 41 35.3	-0.7
I24A	Kuemmerle Ranc baz=84	83.71	337	⇑P	P	07 41 36.2	-0.2
G28A	Parade baz=84,SNR=8.6	83.71	340	⇑P	P	07 41 36.0	-0.3
J22A	Midwest baz=84	83.91	336	⇓P	P	07 41 36.9	-0.6
F30A	Leola baz=84,SNR=6.5	83.91	342	⇑P	P	07 41 36.9	-0.4
MLAC	Mammoth Lakes baz=84	84.01	325	⇑P	P	07 41 40.0	+1.8
F29A	Eureka baz=84,SNR=11	84.12	341	⇓P	P	07 41 38.2	-0.1
BGU	Big Grassy Mou 11nm,1.5s	84.18	330	eP	P	07 41 38.8	-0.1
J21A	Lysite baz=84	84.18	335	⇓P	P	07 41 38.6	-0.3
SPUT	South Promonto 37nm,1.4s	84.27	331	eP	P	07 41 39.8	+0.4
G27A	Dupree baz=85	84.28	340	⇓P	P	07 41 38.5	-0.7
EYMN	Ely 2μm,3.8s	84.28	347	eP	P	07 41 37.7	-1.3
I22A	9 Mile Ranch, baz=85,SNR=6.0	84.34	336	⇑P	P	07 41 39.2	-0.5
G26A	Maurine baz=85,SNR=5.8	84.39	339	⇑P	P	07 41 39.3	-0.4
F28A	McLaughlin baz=85,SNR=8.5	84.39	341	⇓P	P	07 41 39.6	-0.1
NVAR	Mina Array Bea 6.5nm,0.8s,baz=157,slow=6.0,SNR=13	84.40	326	P	P	07 41 41.3	+1.1
J20A	Shoshoni baz=85,SNR=7.6	84.41	335	⇓P	P	07 41 40.6	+0.6
PDAR	Pinedale Array 4.1nm,0.9s,baz=142,slow=6.8,SNR=9.2	84.42	334	P	P	07 41 39.8	-0.4
H24A	Dirks Ranch, A baz=85	84.48	338	⇓P	P	07 41 39.3	-1.0
E30A	Jud baz=85,SNR=5.7	84.50	342	⇓P	P	07 41 40.0	-0.3
I21A	Big Trails, Te baz=85,SNR=6.3	84.54	336	⇑P	P	07 41 40.8	+0.1
G25A	Newell baz=85,SNR=7.9	84.54	339	⇑P	P	07 41 40.4	-0.1
J19A	Crowheart baz=85,SNR=6.2	84.67	334	⇓P	P	07 41 41.5	+0.1
E29A	Napoleon baz=85	84.75	342	⇓P	P	07 41 40.3	-1.2
F27A	Lemmon baz=85,SNR=5.8	84.75	340	⇑P	P	07 41 41.2	-0.3
HVU	Hansel Valley 12nm,0.8s	84.80	331	eP	P	07 41 41.7	-0.3
F26A	Lodgepole baz=85	84.92	339	⇓P	P	07 41 41.9	-0.6
ELK	Elko 5.8nm,0.9s,baz=171,slow=2.7,SNR=5.5	84.94	329	P	P	07 41 43.4	+0.4
I20A	Worland baz=85,SNR=7.4	84.94	335	⇑P	P	07 41 42.8	+0.1
G24A	Alzada baz=85	84.96	338	⇑P	P	07 41 42.5	-0.2
D30A	Buchanan baz=85,SNR=6.4	85.03	342	⇑P	P	07 41 42.3	-0.6
E28A	Huff baz=85	85.03	341	⇓P	P	07 41 42.5	-0.5
CMB	Columbia Colle 3.7nm,0.7s	85.07	324	eP	P	07 41 44.0	+0.6
E27A	Carson baz=86	85.14	340	⇑P	P	07 41 42.9	-0.6
G23A	Biddle baz=86	85.15	337	⇓P	P	07 41 42.9	-0.8
H21A	Big Horn, Sher baz=86	85.17	336	⇓P	P	07 41 43.2	-0.7
D29A	Pettibone, Tap baz=86	85.20	342	⇑P	P	07 41 42.8	-0.9
F25A	Bowman baz=86,SNR=6.1	85.22	339	⇓P	P	07 41 43.4	-0.5
I19A	Meeteetse baz=86	85.32	335	⇑P	P	07 41 44.4	-0.2
H20A	Greybull baz=86,SNR=14	85.37	335	⇓P	P	07 41 44.5	-0.3
E26A	Carlson Angus baz=86	85.43	340	⇑P	P	07 41 44.2	-0.8
F24A	Ekalaka baz=86	85.44	338	⇑P	P	07 41 44.8	-0.3
G22A	Birney baz=86	85.45	337	⇓P	P	07 41 44.7	-0.5
AGMN	Agassiz Nation baz=86,SNR=5.1	85.48	345	⇑P	P	07 41 44.1	-1.0
C30A	Mose, Pekin baz=86,SNR=10.0	85.52	343	⇑P	P	07 41 45.1	-0.2
D28A	Regan baz=86,SNR=5.5	85.57	341	⇓P	P	07 41 45.0	-0.6
F23A	Volborg baz=86,SNR=5.7	85.62	338	⇑P	P	07 41 45.7	-0.3
E25A	Miller Ranch, baz=86	85.72	339	⇓P	P	07 41 46.3	-0.2
D27A	Center baz=86	85.75	341	⇑P	P	07 41 46.2	-0.3
G21A	Lodge Grass baz=86,SNR=6.7	85.76	336	⇓P	P	07 41 46.2	-0.5
I17A	Pilgrim Ck. baz=86,SNR=5.3	85.79	334	⇓P	P	07 41 47.6	+0.6
H19A	Powell baz=86,SNR=6.9	85.87	335	⇓P	P	07 41 47.1	-0.2
D26A	Manning baz=86,SNR=5.9	85.93	340	⇑P	P	07 41 47.1	-0.3
F22A	Rosebud baz=86,SNR=7.1	85.94	337	⇓P	P	07 41 47.4	-0.2
E24A	Baker baz=86,SNR=6.8	86.04	339	⇓P	P	07 41 48.0	0.0
G20A	Bridger baz=86,SNR=10	86.09	336	⇑P	P	07 41 47.7	-0.6
H18A	Shoshone NF, C baz=86,SNR=11	86.12	335	⇓P	P	07 41 48.5	-0.1
B30A	Myrvik Farm, E baz=86,SNR=9.5	86.18	343	⇑P	P	07 41 48.0	-0.6
H17A	Grant Village baz=86	86.20	334	⇓P	P	07 41 49.8	+0.7
F21A	Absaloka Mine, baz=87	86.26	337	⇓P	P	07 41 48.8	-0.3
E23A	Ismay baz=87	86.29	338	⇑P	P	07 41 48.6	-0.6
D25A	Fairfield baz=87,SNR=8.7	86.29	340	⇓P	P	07 41 49.5	+0.3
C27A	Sayler Ranch, baz=87,SNR=5.6	86.30	341	⇑P	P	07 41 49.6	+0.4
RLMT	Red Lodge 26nm,1.2s	86.36	335	eP	P	07 41 49.8	0.0
E22A	Miles City baz=87	86.43	338	⇓P	P	07 41 49.4	-0.5
B29A	Wagenman Farm, baz=87,SNR=6.3	86.44	343	⇓P	P	07 41 49.5	-0.4
D24A	Glendive baz=87,SNR=6.2	86.55	339	⇓P	P	07 41 50.5	+0.1
C26A	Wahner Farm, P baz=87	86.56	341	⇑P	P	07 41 50.1	-0.4
YMR	Madison River 24nm,0.9s	86.58	334	eP	P	07 41 51.6	+0.7
F20A	Billings baz=87	86.58	336	⇑P	P	07 41 50.3	-0.4
A30A	Hoffart Farm, baz=87	86.63	343	⇓P	P	07 41 50.2	-0.6
B28A	Dugan Ranch, T baz=87,SNR=8.0	86.68	342	⇑P	P	07 41 50.9	-0.2
OUZ	Omahuta 25μm,1.2s	86.69	229	eP	P	07 41 51.9	+0.2
LAO	LASA Array 26nm,1.0s	86.74	338	eP	P	07 41 50.8	-0.7
C25A	Freed Ranch, W baz=87,SNR=5.0	86.78	340	⇓P	P	07 41 51.0	-0.6
A29A	Manning Farm, baz=87,SNR=9.7	86.84	343	⇓P	P	07 41 51.2	-0.6
D23A	Lindsay baz=87,SNR=17	86.86	338	⇓P	P	07 41 52.2	+0.2
B27A	Peters Farms, baz=87	86.87	341	⇑P	P	07 41 51.7	-0.2
E21A	Keefer Ranch, baz=87,SNR=7.0	86.88	337	⇓P	P	07 41 52.1	0.0
F19A	Roth Farm, Mol baz=87	86.89	336	⇑P	P	07 41 51.6	-0.7
HLID	Hailey 338nm,2.9s	86.95	331	eP	P	07 41 53.1	+0.4
HLID	Hailey baz=87,SNR=5.8	86.95	331	⇓P	P	07 41 53.5	+0.8
C24A	Savage baz=87,SNR=14	86.95	339	⇓P	P	07 41 52.8	+0.4
A28A	Rude Farm, Bot baz=87	87.08	342	⇓P	P	07 41 52.7	-0.3
D22A	Cohagen baz=88,SNR=7.4	87.14	338	⇓P	P	07 41 53.5	+0.2
E20A	Meyer Farm, Mu baz=88,SNR=9.3	87.19	336	⇓P	P	07 41 53.5	-0.2
B25A	Knox Farm, Ray baz=88,SNR=9.3	87.26	340	⇓P	P	07 41 54.3	+0.4
D21A	La Casta Ranch baz=88	87.32	337	⇓P	P	07 41 53.9	-0.4
ULM	Lac du Bonnet 18nm,0.9s,baz=182,slow=3.0,SNR=12	87.33	345	P	P	07 41 53.4	-0.7
E19A	Rath Farm, Rou baz=88,SNR=7.1	87.37	336	⇑P	P	07 41 54.0	-0.5
A27A	Ledoux Ranch, baz=88	87.37	342	⇓P	P	07 41 54.5	+0.1
C23A	Lambert baz=88,SNR=8.2	87.42	339	⇓P	P	07 41 54.3	-0.4
A26A	Wade Farm, Ken baz=88,SNR=6.1	87.53	341	⇓P	P	07 41 54.8	-0.4
C22A	Vida baz=88,SNR=5.4	87.58	338	⇓P	P	07 41 54.8	-0.7
D20A	Manuel Ranch, baz=88,SNR=6.8	87.71	337	⇑P	P	07 41 55.7	-0.4
DGMT	Dagmar 63nm,1.2s	87.73	340	eP	P	07 41 56.1	0.0
DGMT	Dagmar baz=88,SNR=13	87.73	340	⇓P	P	07 41 56.1	0.0
A25A	Svangstu Ranch baz=88,SNR=6.7	87.86	340	⇓P	P	07 41 56.5	-0.2
B23A	Brockton baz=88	87.96	339	⇓P	P	07 41 57.0	-0.2
D19A	Cripps Ranch, baz=88	88.02	336	⇑P	P	07 41 57.3	-0.4
C21A	Desert Coulee baz=88,SNR=7.0	88.03	338	⇓P	P	07 41 57.0	-0.6
A24A	Westby baz=88,SNR=5.3	88.09	340	⇑P	P	07 41 57.7	-0.2
MOD	Modoc 9.5nm,1.0s	88.10	327	eP	P	07 41 59.0	+0.7
B22A	Reddig Ranch S baz=88	88.11	338	⇓P	P	07 41 58.1	+0.1
C20A	Veseth Ranch, baz=89	88.21	337	⇑P	P	07 41 58.0	-0.5
A23A	Redstone baz=89	88.37	339	⇓P	P	07 41 58.5	-0.7

N02D Trinity Center 88.49 325 ⇓P P 07 42 00.9 +0.9
baz=89
C19A Slack Wire Ran 88.57 336 ⇑P P 07 42 00.0 -0.2
baz=89
A22A Carney Farms, 88.70 339 ⇓P P 07 42 00.6 -0.2
baz=89
M04C Macdoel 88.71 326 ⇑P P 07 42 02.1 +1.0
baz=89
A21A Bergtoll Ranch 89.01 338 ⇑P P 07 42 01.9 -0.3
baz=89
EGMT Eagleton 89.06 336 ⇓P P 07 42 02.1 -0.4
baz=89
B19A Brinkman Farms 89.17 337 ⇓P P 07 42 02.1 -0.8
baz=90
A20A Cobblestone Ra 89.22 338 ⇑P P 07 42 02.4 -0.8
baz=90
A19A Klindworth Far 89.52 337 ⇓P P 07 42 03.9 -0.8
baz=90
J05D Fort Rock, OR 89.61 327 ⇑P P 07 42 06.4 +1.0
baz=90
I05D Terrebonne, OR 90.49 327 ⇑P P 07 42 10.1 +0.8
baz=91
NEW Newport 91.90 332 ⇑P P 07 42 15.2 -0.5
baz=92
YKA Yellowknife Ar 102.84 341 P Pdif 07 43 03.5 -1.2
0.6nm,0.7s,baz=145,slow=4.5,SNR=4.6
WRA Warramunga Arr 119.62 209 PKP PKPdf 07 47 56.3 -1.9
1.2nm,0.7s,baz=163,slow=1.7,SNR=4.1
BRTR Keskin Array B 122.79 62 PKP PKPdf 07 48 02.9 -0.8
1.2nm,0.7s,baz=198,slow=3.4,SNR=4.8
BRTR pPKP pPKPdf 07 48 11.1 +1.2
2.7nm,0.8s,baz=193,slow=4.1,SNR=7.9
AKASG Malin Array Be 123.27 48 PKP PKPdf 07 48 02.2 -1.8
0.4nm,0.4s,baz=258,slow=2.9,SNR=4.1
AKASG pPKP pPKPdf 07 48 10.9 +0.7
2.2nm,0.8s,baz=304,slow=1.9,SNR=5.2
SEY Seymchan 140.62 329 PKP PKPdf 07 48 34.8 -1.6
3.6nm,0.8s,baz=40,slow=7.9,SNR=4.1
ABKAR Akbulak array 142.73 53 ePKPdf PKPdf 07 48 41.8 +1.3
PSI Prapat 147.02 164 PKPbc PKPdf 07 48 47.5 -1.7
14nm,0.7s,baz=222,slow=5.2,SNR=4.8
BVAR Borovoye Array 148.38 44 PKPbc PKPbc 07 48 53.4 -0.2
3.8nm,0.8s,baz=305,slow=5.2,SNR=4.0
BVAR pPKPbc pPKPbc 07 49 02.8 +3.0
6.6nm,0.7s,baz=288,slow=4.2,SNR=6.1
ASAJ Asahikawa 151.49 299 pPKPbc PKPab 07 49 10.1 +0.2
20nm,1.0s,baz=324,slow=8.3,SNR=4.0
AAK Ala-Archa 153.45 63 PKPbc PKPbc 07 49 04.6 -1.5
5.2nm,0.7s,baz=175,slow=2.4,SNR=5.7
AAK pPKPbc pPKPbc 07 49 14.0 +1.7
9.4nm,0.9s,baz=208,slow=3.9,SNR=5.3
USRK Ussuriysk Arra 158.94 303 PKPab PKPab 07 49 41.4 -0.3
2.2nm,0.8s,baz=108,slow=3.8,SNR=3.4
TLY Talaya 163.13 8 PKPab PKPab 07 49 58.9 -0.7
2.6nm,0.6s,baz=75,slow=5.7,SNR=3.8
SONM Songino Array 167.17 3 PKPab PKPab 07 50 17.2 -0.5
2.3nm,0.8s,baz=340,slow=4.6,SNR=5.5
SONM pPKPab pPKPab 07 50 25.8 +2.1
1.5nm,0.8s,baz=341,slow=5.8,SNR=3.7

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*IDC **27** 07:29:41.6±0.7, 35.°81S×72.°84W, h26km±4km, mb4.8/20, mb1 4.9/22, mb1mx4.7/39, mbtmp4.9/22, ML4.1/2, Error ellipse: s-maj=18.5km s-min=12.8km az=71.0*
*ISCJB **27** 07:29:42.3±0.4, 35.°62S±0.°09×72.°68W±0.°08, h33km, mb5.2/43, Error ellipse: s-maj=12.8km s-min=8.7km az=21.6*
*NEIC **27** 07:29:42.7±0.3, 35.°82S×72.°82W, h35km, mb5.4/27, Error ellipse: s-maj=10.8km s-min=8.6km az=75.0*
*MOS **27** 07:29:42.7±1.9, 35.°80S×72.°80W, h33km, mb5.4/3, Error ellipse: s-maj=28.4km s-min=14.5km az=94.2*
ISC 27 07:29:41.6±0.5, 35.°83S±0.°08×72.°8W±0.°1, h28km, n334, σ0.95/337, mb5.3/43, Near coast of central Chile

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

CFAA Coronel Fontan 5.70 44 Pn Pn 07 31 05.8 +1.4
2.2nm,0.3s,baz=240,slow=14,SNR=2.2
CFAA Lg Lg 07 32 27.2
14nm,0.3s,baz=87,slow=11,SNR=6.9
TRQA Tornquist 8.97 108 ePn Pn 07 31 54.0 +4.6
LPAZ La Paz 19.91 13 eP Pn 07 34 14.7 +1.2
LPAZ pmax pmax
comp=Z,41nm,0.8s
LPAZ La Paz 19.91 13 P P 07 34 10.1 -1.7
comp=Z,0.6nm,0.3s,baz=166,slow=9.0,SNR=2.5
LPAZ La Paz 19.91 13 eP Pn 07 34 14.7 +1.2
comp=Z,41nm,0.8s
SIV San Ignacio 22.38 31 P P 07 34 37.5 -0.2
comp=Z,83nm,0.8s,baz=228,slow=14,SNR=13
BDFB Brasilia 29.93 54 P P 07 35 46.7 -0.8
comp=Z,24nm,0.7s,baz=201,slow=8.5,SNR=7.2
SDV Santo Domingo 44.53 3 eP P 07 37 49.7 -1.4
comp=Z,28nm,0.8s
RCBR Riachuelo 45.17 57 P P 07 37 56.7 +0.5
comp=Z,13nm,0.7s,baz=210,slow=12,SNR=4.4
RCBR Riachuelo 45.17 57 eP P 07 37 56.8 +0.6
GRGR Grenville 48.86 15 eP P 07 38 23.6 -1.3
comp=Z,73nm,0.7s
SNAA Sanae 50.15 157 P P 07 38 33.3 -0.8
comp=Z,19nm,0.9s,baz=292,slow=6.6,SNR=12
FDF Fort de France 51.49 15 eP P 07 38 43.3 -1.5
FDF pmax pmax
comp=Z,712nm,1.8s
FDF Fort de France 51.49 15 eP P 07 38 43.3 -1.5
comp=Z,712nm,1.8s
APG El Apazote 53.24 339 P P 07 38 57.4 -0.6
comp=Z,9.5nm,0.9s,baz=127,slow=7.1,SNR=3.6
OBIP Obispado Ponce 53.91 7 eP P 07 39 02.1 -0.4
comp=Z,54nm,1.2s
CELP Cerrillos 53.94 7 eP P 07 39 01.9 -0.9
CBYP Canovanas 54.21 8 eP P 07 39 03.1 -1.7
comp=Z,143nm,1.4s
ANWB Willy Bob 54.23 13 eP P 07 39 02.5 -2.4
comp=Z,29nm,0.6s
QSPA South Pole Qui 54.41 180 P P 07 39 07.3 +1.4
comp=Z,27nm,0.9s,baz=154,slow=4.1,SNR=4.8
QSPA pP pP 07 39 14.7 +0.2
comp=Z,37nm,0.9s,baz=169,slow=2.5,SNR=6.4
QSPA South Pole Qui 54.41 180 eP P 07 39 07.1 +1.2
comp=Z,22nm,0.6s
TEIG Tepich 57.64 343 P P 07 39 29.4 +0.1
comp=Z,21nm,0.6s,baz=190,slow=2.4,SNR=7.9
TEIG pP pP 07 39 36.7 -1.2
comp=Z,27nm,0.7s,baz=111,slow=3.3,SNR=4.3
TEIG Tepich 57.64 343 eP P 07 39 29.3 +0.1
comp=Z,28nm,0.8s
834A Tilden 68.08 336 P P 07 40 41.0 +2.3
baz=68
735A Kenedy 68.51 337 P P 07 40 43.0 +1.7
baz=69
833A Chaparral WMA, 68.55 335 P P 07 40 43.0 +1.4
baz=69
832A Faith Ranch, C 68.71 334 P P 07 40 44.0 +1.4
baz=69
636A Smothers Creek 68.85 337 P P 07 40 45.1 +1.7
baz=69
732A Laxson Ranch, 69.12 335 P P 07 40 46.2 +1.1
baz=69
537A Green Hill Far 69.18 338 P P 07 40 46.8 +1.3
baz=70
536A Bastrop 69.41 338 P P 07 40 48.2 +1.3
baz=70
633A Saathoff Ranch 69.52 336 P P 07 40 48.7 +1.1
baz=70
632A Uvalde 69.77 335 P P 07 40 50.7 +1.6
baz=70
533A Kerrville 70.03 336 P P 07 40 52.0 +1.2
baz=70
338A Crockett 70.09 340 P P 07 40 53.4 +2.3
baz=70
337A Centerville 70.21 339 P P 07 40 53.5 +1.7
baz=70
435B Jarrell 70.23 337 P P 07 40 53.8 +1.9
baz=70
532A Rocksprings 70.38 335 P P 07 40 53.9 +0.9
baz=71
434A Burnet 70.47 337 P P 07 40 54.5 +1.0
baz=71
336A Riesel 70.56 338 P P 07 40 55.0 +1.0
baz=71
531A Rocksprings 70.63 335 P P 07 40 55.8 +1.3
baz=71
238A Jacksonville 70.64 340 P P 07 40 56.7 +2.3
baz=71
433A Art 70.68 336 P P 07 40 55.6 +0.8
baz=71
530A J-C Ranch, Com 70.89 334 P P 07 40 57.5 +1.4
baz=71
334A Lometa 70.94 337 P P 07 40 57.3 +1.0
baz=71
TXAR Lajitas Array 71.02 332 P P 07 40 57.8 +0.8
comp=Z,2.9nm,0.6s,baz=149,slow=8.9,SNR=4.3
TXAR pP pP 07 41 05.5 -0.2
comp=Z,4.6nm,0.7s,baz=154,slow=7.7,SNR=3.7
432A Menard 71.03 336 P P 07 40 57.6 +0.7
baz=71
KMSC Kings Mountain 71.06 353 eP P 07 40 56.4 -0.5
comp=Z,30nm,1.0s
KMSC Kings Mountain 71.06 353 P P 07 40 57.0 +0.1
baz=71
431A Sonora 71.12 335 P P 07 40 58.1 +0.6
baz=71
333A Richland Sprin 71.17 337 P P 07 40 58.3 +0.6
baz=72
529A Stev Forest Ra 71.19 333 P P 07 40 58.8 +0.9
baz=72
WHTX Lake Whitney 71.31 338 eP P 07 40 58.8 +0.3
comp=Z,55nm,1.0s
WHTX Lake Whitney 71.31 338 P P 07 40 59.4 +0.9
baz=72
137A Heron Place, G 71.38 340 P P 07 40 59.7 +0.9
baz=72
430A Baggett Ranch, 71.44 334 P P 07 41 00.1 +0.8
baz=72
332A Millersview 71.47 336 P P 07 41 00.2 +0.6
baz=72
234A Clairette 71.53 337 P P 07 41 00.3 +0.4
baz=72
331A San Angelo 71.64 335 P P 07 41 00.9 +0.4
baz=72
SWET Sewanee 71.73 349 eP P 07 41 00.6 -0.4
comp=Z,87nm,1.1s
135A Vickery Place, 71.83 338 P P 07 41 01.9 +0.3
baz=72
TKL Tuckaleechee C 71.85 351 P P 07 41 01.2 -0.4
comp=Z,12nm,0.8s,baz=148,slow=8.8,SNR=5.3
232A Coleman 71.91 336 P P 07 41 02.8 +0.6
baz=72
330A Mertzon 71.98 335 P P 07 41 03.1 +0.5
baz=72
134A White-Moore Ra 72.04 338 P P 07 41 03.5 +0.6
baz=72
231A Bronte 72.17 336 P P 07 41 04.2 +0.5
baz=72
133A Hamilton Ranch 72.34 337 P P 07 41 05.4 +0.7
baz=73
329A Wagon Wheel Ra 72.34 334 P P 07 41 05.3 +0.5
baz=73
230A Sterling City 72.40 335 P P 07 41 05.7 +0.6
baz=73
Z35A Perchaven, San 72.50 339 P P 07 41 06.8 +1.2
baz=73
ABTX Abilene, Hawle 72.58 336 P P 07 41 06.7 +0.6
baz=73
229A Bryant Ranch, 72.71 334 P P 07 41 08.0 +1.0
baz=73
131A Roby 72.87 336 P P 07 41 08.6 +0.7
baz=73
Z33A Whitaker Ranch 72.92 337 P P 07 41 08.8 +0.7
baz=73
WVT Waverly 72.94 347 eP P 07 41 08.9 +0.7
WVT pmax pmax
comp=Z,6.0nm,0.6s
WVT Waverly 72.94 347 eP P 07 41 08.9 +0.7
comp=Z,6.1nm,0.6s
130A Snyder 73.00 335 P P 07 41 09.2 +0.5
baz=73
228A UT Block 9, Go 73.13 334 P P 07 41 10.2 +0.7
baz=73
Z32A Haskell 73.16 337 P P 07 41 10.4 +0.8
baz=74
BBTS Babate 73.16 57 P P 07 41 11.3 +1.4
comp=Z,29nm,0.8s,baz=219,slow=3.0,SNR=7.1
Z31A Sharp Cattle R 73.39 336 P P 07 41 11.7 +0.8
baz=74
Y33A Hilltop Ranch, 73.54 338 P P 07 41 12.2 +0.5
baz=74
128A Castleberry Fa 73.54 334 P P 07 41 12.6 +0.7
baz=74
Z30A Sanderson Ranc 73.68 336 P P 07 41 13.2 +0.5
baz=74
Y32A R-V Farms, Ver 73.79 337 P P 07 41 13.6 +0.3
baz=74
MNTX Cornudas Mount 73.79 331 eP P 07 41 13.4 +0.1
comp=Z,11nm,1.0s
Z29A Hungry Hill Ra 73.85 335 P P 07 41 14.0 +0.3
baz=74
X34A Smith Ranch, M 73.86 339 P P 07 41 14.3 +0.7
baz=74
127A Arkansas Junct 73.91 334 P P 07 41 15.0 +0.9
baz=74
Y31A Rekieta Farm, 74.02 337 P P 07 41 15.3 +0.7
baz=74
X32A Elmer 74.13 337 P P 07 41 15.7 +0.5
baz=74
Y30A Stafford Cattl 74.14 336 P P 07 41 15.8 +0.4
baz=74
Y29A Porterfield Fa 74.39 335 P P 07 41 17.2 +0.4
baz=75
Z27A Tatum 74.43 334 P P 07 41 17.4 +0.3
baz=75
TUL1 Tulsa 74.51 341 eP P 07 41 17.2 -0.2
comp=Z,42nm,0.9s
TUL1 Tulsa 74.51 341 P P 07 41 17.7 +0.4
baz=75
X31A McDonald Ranch 74.54 337 P P 07 41 18.1 +0.5
baz=75
W33A Caddo, Fort Co 74.56 338 P P 07 41 18.9 +1.2
baz=75
Y28A McKinney Farm, 74.63 335 P P 07 41 19.1 +0.8
baz=75
Z26A Caprock 74.67 333 P P 07 41 19.1 +0.6
baz=75
USIN University of 74.70 348 eP P 07 41 18.1 -0.3
comp=Z,47nm,1.1s
SIUC Southern Illin 74.74 347 eP P 07 41 27.1 +8.5
comp=Z,39nm,1.2s
W32A Sentinel 74.77 338 P P 07 41 19.6 +0.7
baz=75
MSTX Muleshoe 74.87 335 P P 07 41 20.2 +0.5
baz=75
X29A Tulia 74.93 336 P P 07 41 20.8 +0.8
baz=75
Z25A Roswell 74.95 333 P P 07 41 21.2 +1.1
baz=75
V33A Lossen Ranch, 75.12 339 P P 07 41 21.5 +0.6
baz=76
Y26A Elida 75.20 334 P P 07 41 22.5 +1.0
baz=76
Z24A Sheeppen Canyo 75.23 332 P P 07 41 22.8 +0.9
baz=76
V32A Arapaho 75.26 338 P P 07 41 22.6 +0.9
baz=76
AMTX Amarillo 75.32 336 eP P 07 41 22.8 +0.6
comp=Z,39nm,0.9s
AMTX Amarillo 75.32 336 P P 07 41 23.0 +0.7
baz=76
W29A Amraillo 75.53 336 P P 07 41 24.3 +0.9
baz=76
V31A Spring Creek L 75.55 338 P P 07 41 24.5 +1.0
baz=76
X27A F and S Farms, 75.59 335 P P 07 41 24.6 +0.8
baz=76
X26A CR and CF Fran 75.76 334 P P 07 41 25.5 +0.7
baz=76
W28A Vega 75.84 336 P P 07 41 26.8 +1.6
baz=76
U32A Winter Ranch, 75.86 338 P P 07 41 25.8 +0.7
baz=76
W27A Bowe Ranch, En 75.96 335 P P 07 41 26.4 +0.5
baz=76
U31A Nine Bar Ranch 76.10 338 P P 07 41 27.7 +1.1
baz=76
ACSO Alum Creek Sta 76.27 352 eP P 07 41 27.0 -0.3
comp=Z,39nm,0.8s
T33A Patterson Ranc 76.29 339 P P 07 41 28.6 +1.1
baz=77
V28A Channing 76.30 336 P P 07 41 29.2 +1.4
baz=77
DBIC Dimbokro 76.39 71 eP P 07 41 28.9 +0.2
DBIC pmax pmax
comp=Z,63nm,1.3s
DBIC Dimbokro 76.39 71 P P 07 41 29.2 +0.5
comp=Z,12nm,0.8s,baz=198,slow=5.7,SNR=6.1
DBIC Dimbokro 76.39 71 eP P 07 41 28.9 +0.2
comp=Z,63nm,1.3s
U30A WK&E Inc. Balk 76.50 337 P P 07 41 30.4 +1.6
baz=77
V27A Dan Oppiter Fa 76.51 335 P P 07 41 30.2 +1.2
baz=77
T32A Huddler Ranch, 76.57 339 P P 07 41 30.3 +1.0
baz=77
W25A X Bar L Ranch, 76.59 334 P P 07 41 30.4 +0.9
baz=77
X23A Hourglass Bar 76.66 332 P P 07 41 31.2 +1.2
baz=77
T31A Randall Ranch, 76.72 338 P P 07 41 31.2 +1.2
baz=77
W24A Lazy 6 Ranch, 76.93 333 P P 07 41 32.6 +1.1
baz=77
S32A Newby Ranch, P 77.06 339 P P 07 41 33.2 +1.2
baz=77
ANMO Albuquerque 77.08 332 P P 07 41 33.2 +0.9
comp=Z,1.7nm,0.7s,baz=158,slow=11,SNR=2.0
U27A Thompson Grove 77.11 336 P P 07 41 33.5 +1.1
baz=77
S31A Mullinville 77.15 339 P P 07 41 33.2 +0.7
baz=78
W23A Werner Place, 77.16 333 P P 07 41 34.1 +1.3
baz=78
V25A Rancho No Teng 77.20 334 P P 07 41 33.8 +0.8
baz=78
T29A Hugoton 77.28 337 P P 07 41 34.1 +0.9
baz=78
S30A Montezuma 77.46 338 P P 07 41 35.1 +0.9
baz=78
T28A Walsh 77.51 336 P P 07 41 35.4 +0.8
baz=78
U25A Circle Dot Ran 77.63 334 P P 07 41 36.3 +0.9
baz=78
S29A Ulysses 77.65 337 P P 07 41 36.4 +1.1
baz=78
T27A Campo 77.65 336 P P 07 41 36.4 +1.0
baz=78
R32A Long Quarter, 77.67 339 P P 07 41 36.5 +1.1
baz=78
V23A Ortiz Mt. (NFS 77.69 333 P P 07 41 37.1 +1.3
baz=78
R31A Burdett 77.78 339 P P 07 41 36.8 +0.8
baz=78
S28A Manter 77.86 337 P P 07 41 38.0 +1.5
baz=78
Q33A Connelly Farm, 77.96 340 P P 07 41 39.3 +2.4
baz=78
R30A Dighton 78.00 338 P P 07 41 38.1 +0.8
baz=78
T26A Comanche Natio 78.05 335 P P 07 41 38.9 +1.2
baz=78
X18A Snowflake 78.10 329 P P 07 41 39.7 +1.7
baz=78
Q32A Meitler Ranch, 78.15 340 P P 07 41 38.9 +0.8
baz=78
S27A Las Animas 78.28 336 P P 07 41 40.2 +1.3
baz=79
T25A Trinidad 78.30 335 P P 07 41 39.8 +0.7
baz=79
R29A Marienthal 78.39 338 P P 07 41 40.5 +1.0
baz=79
Z14A Wintersburg 78.40 327 P P 07 41 40.6 +1.2
baz=79
Q31A Ellis 78.41 339 P P 07 41 40.4 +1.0
baz=79
S26A Kim 78.41 336 P P 07 41 40.5 +0.9
baz=79
R28A Tribune 78.53 337 P P 07 41 41.3 +1.1
baz=79
T24B San Luis 78.57 334 P P 07 41 41.9 +1.2
baz=79
Q30A Quinter 78.62 339 P P 07 41 41.8 +1.1
baz=79
X16A Lo Mia Camp, P 78.64 328 P P 07 41 42.2 +1.2
baz=79
P32A Huiting Farm, 78.75 340 P P 07 41 42.0 +0.6
baz=79
Q29A Oakley 78.77 338 P P 07 41 42.4 +0.9
baz=79
S25A Robets Cordova 78.77 335 P P 07 41 43.0 +1.3
baz=79
T23A Casias Ranch, 78.78 333 P P 07 41 43.2 +1.3
baz=79
R27A Eads 78.79 336 P P 07 41 42.5 +0.9
baz=79
P31A Stockton 78.88 339 P P 07 41 42.8 +0.7
baz=79
R26A Arlington 79.02 336 P P 07 41 44.4 +1.4
baz=79
S24A Houchin Ranch, 79.03 334 P P 07 41 44.5 +1.3
baz=79
Q28A Sharon Springs 79.19 337 P P 07 41 44.9 +1.0
baz=80
SDCO Great Sand Dun 79.22 334 eP P 07 41 43.9 -0.4
comp=Z,9.8nm,1.1s
P29A Atwood 79.41 338 P P 07 41 46.5 +1.6
baz=80
O31A Woolen Ranch, 79.45 340 P P 07 41 46.7 +1.6
baz=80
R24A Sanders Place, 79.52 335 P P 07 41 47.0 +1.2
baz=80
P28A Saint Francis 79.63 338 P P 07 41 47.5 +1.3
baz=80
BOSA Boshof 79.80 118 P P 07 41 48.1 +0.4
comp=Z,41nm,0.8s,baz=229,slow=5.6,SNR=11
Q25A Bedland, Calha 79.84 336 P P 07 41 48.5 +1.0
baz=80
IRM Iron Mountain 80.06 325 P P 07 41 49.8 +1.2
baz=80
P26A Davis Ranch, A 80.12 337 P P 07 41 50.0 +1.0
baz=80
O28A Krutsinger Ran 80.15 338 P P 07 41 50.0 +1.0
baz=80
Q24A Divide 80.19 335 P P 07 41 50.9 +1.4
baz=80
PFO Pinyon Flat Ob 80.22 324 P P 07 41 51.0 +1.5
comp=Z,7.4nm,1.1s,baz=209,slow=10,SNR=2.5
O27A Beecher Island 80.42 337 P P 07 41 51.5 +1.0
baz=81
M31A Lambtecht Ranc 80.46 340 P P 07 41 51.8 +1.2
baz=81
N28A Pribbeno Ranch 80.59 338 P P 07 41 52.6 +1.3
baz=81
P24A Kohler Place, 80.60 335 P P 07 41 52.5 +0.9
baz=81
HEC Hector,Ludlow 81.17 325 P P 07 41 56.7 +2.2
baz=82
L31A Butterfield Fa 81.20 341 P P 07 41 55.6 +1.1
baz=82
L30A Spencer Herefo 81.23 340 P P 07 41 55.8 +1.1
baz=82
O23A Lake Granby, G 81.57 335 P P 07 41 58.3 +1.5
baz=82
O22A Kremmling 81.74 335 P P 07 41 59.1 +1.3
baz=82
N24A Carr 81.77 336 P P 07 41 59.7 +1.9
baz=82
K30A Basset 81.87 340 P P 07 41 59.4 +1.4
baz=82
EDW2 Edwards Air Fo 81.99 324 P P 07 42 00.3 +1.4
baz=82
ECSD EROS Data Cent 82.09 343 eP P 07 41 59.2 0.0
comp=Z,43nm,0.9s
ECSD EROS Data Cent 82.09 343 P P 07 41 59.6 +0.5
baz=82
LBTB Lobatse 82.13 115 P P 07 42 00.6 +0.5
comp=Z,15nm,0.8s,baz=254,slow=6.0,SNR=3.7
K29A Lazy Trails An 82.15 340 P P 07 42 00.1 +0.6
baz=82
N23A Red Feather La 82.19 335 P P 07 42 01.2 +1.2
baz=82
J29A Okreek 82.75 340 P P 07 42 03.4 +0.8
baz=83
ISA Isabella 82.85 324 P P 07 42 05.1 +1.7
baz=83
N20A Spence Gulch, 82.95 334 P P 07 42 05.2 +1.2
baz=83
I30A Oacoma 82.97 341 P P 07 42 04.2 +0.4
baz=83
K25A Mack Ranch, Ha 83.06 337 P P 07 42 05.6 +1.2
baz=83
J27A Elkhorn Farm, 83.08 339 P P 07 42 05.7 +1.3
baz=83
VES Vestal, Richgr 83.29 324 P P 07 42 06.9 +1.3
baz=84

I29A Vivian Onida 83.31 340 P P 07 42 06.2 +0.7
baz=84
J26A Sides Ranch, S 83.45 338 P P 07 42 07.5 +1.2
baz=84
I28A Midland 83.53 340 P P 07 42 07.3 +0.7
baz=84
R11A Troy Canyon, C 83.74 328 P P 07 42 07.8 -0.3
baz=84
J25A Sunshine Ranch 83.74 338 P P 07 42 08.4 +0.6
baz=84
K23A Bowen Ranch, D 83.75 336 P P 07 42 08.3 +0.4
baz=84
I27A Quinn 83.84 339 P P 07 42 08.8 +0.5
baz=84
H29A Onida 83.84 341 P P 07 42 08.6 +0.4
baz=84
TIN Tinemaha 83.87 325 P P 07 42 09.3 +0.7
baz=84
K22A Casper 83.95 336 P P 07 42 10.2 +1.2
baz=84
J24A Dixon Ranch, L 83.96 337 P P 07 42 10.2 +1.2
baz=84
G30A Faulkton 84.03 342 P P 07 42 09.2 +0.1
baz=84
I26A New Underwood 84.04 339 P P 07 42 09.7 +0.4
baz=84
H28A Mission Ridge 84.11 340 P P 07 42 10.3 +0.7
baz=84
K21A Alcova 84.18 335 P P 07 42 10.9 +0.6
baz=84
TPH Tonopah 84.24 326 eP P 07 42 12.1 +1.5
TPH pmax pmax
comp=Z,33nm,1.2s
TPH Tonopah 84.24 326 eP P 07 42 12.1 +1.5
comp=Z,32nm,1.2s
G29A Hoven 84.29 341 P P 07 42 10.5 0.0
baz=85
I25A Rochford 84.29 338 P P 07 42 11.4 +0.7
baz=85
G28A Parade 84.45 340 P P 07 42 11.8 +0.5
baz=85
J22A Midwest 84.61 336 P P 07 42 12.7 +0.4
baz=85
F30A Leola 84.66 342 P P 07 42 12.7 +0.4
baz=85
H25A Fruitdale 84.80 338 P P 07 42 15.3 +2.2
baz=85
F29A Eureka 84.86 341 P P 07 42 13.5 +0.2
baz=85
J21A Lysite 84.88 335 P P 07 42 16.2 +2.5
baz=85
G27A Dupree 85.01 340 P P 07 42 14.4 +0.3
baz=85
NVAR Mina Array Bea 85.02 326 P P 07 42 15.9 +1.3
comp=Z,3.6nm,0.7s,baz=150,slow=6.7,SNR=6.5
I22A 9 Mile Ranch, 85.04 336 P P 07 42 14.5 +0.1
baz=85
J20A Shoshoni 85.10 335 P P 07 42 16.1 +1.4
baz=85
PDAR Pinedale Array 85.11 334 P P 07 42 15.1 +0.2
comp=Z,2.7nm,0.9s,baz=127,slow=5.7,SNR=2.9
G26A Maurine 85.12 339 P P 07 42 14.8 +0.1
baz=86
F28A McLaughlin 85.13 341 P P 07 42 14.9 +0.2
baz=86
H24A Dirks Ranch, A 85.20 338 P P 07 42 15.2 +0.1
baz=86
I21A Big Trails, Te 85.24 336 P P 07 42 16.0 +0.6
baz=86
E30A Jud 85.25 342 P P 07 42 15.6 +0.3
baz=86
G25A Newell 85.27 339 P P 07 42 15.7 +0.3
baz=86
TORD Torodi Ar. Bea 85.45 70 P P 07 42 17.3 +0.3
comp=Z,9.2nm,0.8s,baz=256,slow=4.1
F27A Lemmon 85.49 340 P P 07 42 16.6 +0.1
baz=86
E29A Napoleon 85.50 342 P P 07 42 16.7 +0.2
baz=86
ELK Elko 85.58 329 P P 07 42 17.1 -0.3
comp=Z,3.0nm,0.9s,baz=181,slow=4.4,SNR=2.7
I20A Worland 85.64 335 P P 07 42 17.9 +0.5
baz=86
F26A Lodgepole 85.65 340 P P 07 42 17.8 +0.4
baz=86
G24A Alzada 85.69 338 P P 07 42 18.0 +0.5
baz=86
E28A Huff 85.78 341 P P 07 42 18.3 +0.4
baz=86
D30A Buchanan 85.78 343 P P 07 42 18.2 +0.3
baz=86
G23A Biddle 85.87 338 P P 07 42 18.5 0.0
baz=86
E27A Carson 85.87 341 P P 07 42 18.7 +0.3
baz=86
H21A Big Horn, Sher 85.88 336 P P 07 42 18.4 -0.1
baz=86
F25A Bowman 85.94 339 P P 07 42 19.0 +0.2
baz=86
D29A Pettibone, Tap 85.94 342 P P 07 42 19.1 +0.4
baz=86
I19A Meeteetse 86.02 335 P P 07 42 20.0 +0.7
baz=86
H20A Greybull 86.07 336 P P 07 42 19.7 +0.2
baz=86
E26A Carlson Angus 86.16 340 P P 07 42 20.1 +0.3
baz=86
F24A Ekalaka 86.16 338 P P 07 42 19.8 -0.1
baz=86
G22A Birney 86.17 337 P P 07 42 20.1 +0.1
baz=86
AGMN Agassiz Nation 86.24 345 eP P 07 42 20.0 -0.1
comp=Z,24nm,1.1s
AGMN Agassiz Nation 86.24 345 P P 07 42 20.3 +0.2
baz=87
C30A Mose, Pekin 86.27 343 P P 07 42 20.5 +0.2
baz=87
D28A Regan 86.32 341 P P 07 42 20.9 +0.3
baz=87
F23A Volborg 86.34 338 P P 07 42 20.8 0.0
baz=87
E25A Miller Ranch, 86.45 339 P P 07 42 22.1 +0.8
baz=87
G21A Lodge Grass 86.47 336 P P 07 42 21.9 +0.4
baz=87
D27A Center 86.49 341 P P 07 42 22.1 +0.7
baz=87
H19A Powell 86.57 335 P P 07 42 22.4 +0.4
baz=87
F22A Rosebud 86.66 337 P P 07 42 23.1 +0.8
baz=87
D26A Manning 86.66 340 P P 07 42 23.1 +0.8
baz=87
E24A Baker 86.77 339 P P 07 42 23.9 +1.1
baz=87
G20A Bridger 86.79 336 P P 07 42 23.4 +0.3
baz=87
H18A Shoshone NF, C 86.81 335 P P 07 42 23.7 +0.4
baz=87
B30A Myrvik Farm, E 86.94 343 P P 07 42 23.9 +0.4
baz=87
F21A Absaloka Mine, 86.97 337 P P 07 42 24.1 +0.2
baz=87
E23A Ismay 87.01 338 P P 07 42 24.6 +0.6
baz=87
D25A Fairfield 87.02 340 P P 07 42 24.7 +0.7
baz=87
C27A Sayler Ranch, 87.04 341 P P 07 42 24.8 +0.8
baz=87
B29A Wagenman Farm, 87.19 343 P P 07 42 25.4 +0.7
baz=88
D24A Glendive 87.28 339 P P 07 42 25.8 +0.5
baz=88
F20A Billings 87.28 336 P P 07 42 25.8 +0.4
baz=88
C26A Wahner Farm, P 87.30 341 P P 07 42 25.9 +0.6
baz=88
A30A Hoffart Farm, 87.39 344 P P 07 42 25.8 +0.1
baz=88
B28A Dugan Ranch, T 87.43 342 P P 07 42 26.5 +0.6
baz=88
LAO LASA Array 87.46 338 eP P 07 42 26.5 +0.4
comp=Z,34nm,1.1s
C25A Freed Ranch, W 87.51 340 P P 07 42 27.1 +0.8
baz=88
D23A Lindsay 87.59 339 P P 07 42 27.6 +0.9
baz=88
B27A Peters Farms, 87.61 341 P P 07 42 27.3 +0.5
baz=88
C24A Savage 87.68 339 P P 07 42 27.9 +0.7
baz=88
A28A Rude Farm, Bot 87.83 342 P P 07 42 28.2 +0.4
baz=88
D22A Cohagen 87.86 338 P P 07 42 28.6 +0.5
baz=88
E20A Meyer Farm, Mu 87.90 336 P P 07 42 28.5 +0.2
baz=88
B25A Knox Farm, Ray 88.00 340 P P 07 42 29.9 +1.2
baz=88
E19A Rath Farm, Rou 88.08 336 P P 07 42 29.5 +0.4
baz=88
ULM Lac du Bonnet 88.10 345 P P 07 42 28.2 -0.9
comp=Z,16nm,0.7s,baz=180,slow=2.3,SNR=10
A27A Ledoux Ranch, 88.12 342 P P 07 42 29.8 +0.6
baz=88
C23A Lambert 88.15 339 P P 07 42 30.0 +0.6
baz=88
A26A Wade Farm, Ken 88.27 341 P P 07 42 30.4 +0.5
baz=89
D20A Manuel Ranch, 88.42 337 P P 07 42 31.1 +0.3
baz=89
DGMT Dagmar 88.47 340 eP P 07 42 31.2 +0.3
comp=Z,77nm,1.0s
DGMT Dagmar 88.47 340 P P 07 42 31.6 +0.7
baz=89
A25A Svangstu Ranch 88.59 341 P P 07 42 32.3 +0.9
baz=89
MOD Modoc 88.72 327 eP P 07 42 33.8 +1.4
comp=Z,19nm,1.0s
B22A Reddig Ranch S 88.83 339 P P 07 42 33.2 +0.6
baz=89
YKA Yellowknife Ar 103.58 341 Pdiff Pdif 07 43 38.4 -0.8
comp=Z,0.9nm,0.9s,baz=147,slow=4.1,SNR=3.4
WRA Warramunga Arr 118.84 209 PKP PKPdf 07 48 26.9 -0.9
comp=Z,0.6nm,0.5s,baz=159,slow=1.7,SNR=1.8
AKASG Malin Array Be 123.91 49 PKP PKPdf 07 48 34.9 -1.5
comp=Z,1.3nm,0.6s,baz=266,slow=2.6,SNR=4.2
SPITS Spitsbergen Ar 124.61 15 PKP PKPdf 07 48 36.2 -0.9
comp=Z,17nm,1.1s,baz=250,slow=4.2,SNR=3.8
ARCES ARCESS Array B 125.95 25 PKP PKPdf 07 48 38.9 -1.0
comp=Z,1.7nm,0.6s,baz=258,slow=4.5,SNR=3.7
PSI Prapat 146.26 165 PKPbc PKPbc 07 49 19.8 -0.4
comp=Z,35nm,0.9s,baz=219,slow=4.2,SNR=6.6
HYB Hyderabad 148.70 118 *i* PKP PKPbc 07 49 26.5 -0.2
AAK Ala-Archa 153.92 65 PKPab PKPab 07 49 52.4 +0.7
comp=Z,12nm,0.6s,baz=285,slow=1.9,SNR=8.8
ZALV Zalesovo Beam 156.12 34 PKP PKPdf 07 49 33.2 +0.5
comp=Z,3.7nm,0.7s,baz=307,slow=3.7,SNR=3.7
ZALV pPKP pPKPdf 07 49 41.6 -0.4
comp=Z,5.5nm,0.7s,baz=308,slow=3.6,SNR=3.5
ZALV PKPab PKPab 07 50 00.9 +0.5
comp=Z,3.7nm,0.6s,baz=305,slow=2.9,SNR=4.5
MKAR Makanchi Array 158.44 52 PKPab PKPab 07 50 11.0 +0.3
comp=Z,4.2nm,0.8s,baz=289,slow=5.1,SNR=4.5
KOLN Koldanda 158.46 105 eP PKPab 07 50 10.8 -0.8
DANN Dangsing 158.85 104 eP PKPab 07 50 13.0 -0.4
GKN Gorkha 159.38 106 eP PKPab 07 50 15.2 -0.4
DMN Daman 159.56 107 eP PKPab 07 50 15.0 -1.5
comp=Z,73nm,0.8s
PKIN Phulchoki 159.77 108 eP PKPab 07 50 16.4 -1.0
PKI Pulchoki 159.77 108 eP PKPab 07 50 16.4 -1.1
KKN Kakani 159.78 107 eP PKPab 07 50 16.5 -0.9
comp=Z,64nm,0.8s
GUN Gumba 160.30 108 eP PKPab 07 50 19.2 -0.6
RAMN Ramite 160.37 111 eP PKPab 07 50 19.2 -0.8
comp=Z,30nm,0.7s
JIRN Jiri 160.42 109 eP PKPab 07 50 19.4 -1.0
comp=Z,44nm,0.8s
ODAN Odare 160.92 112 eP PKPab 07 50 21.5 -0.9
comp=Z,29nm,0.7s
CMAR Chiang Mai Arr 161.23 155 PKP2 PKPab 07 50 23.0 -0.4
CMAR Chiang Mai Arr 161.23 155 PKPab PKPab 07 50 22.9 -0.4
comp=Z,3.4nm,0.9s,baz=226,slow=4.1,SNR=5.7
TAPN Taplejung 161.42 112 eP PKPab 07 50 23.6 -1.0
SONM Songino Array 168.00 2 PKPab PKPab 07 50 52.4 -0.2
comp=Z,2.5nm,0.7s,baz=341,slow=4.2,SNR=6.3

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*IDC **27** 07:30:23.7±1.0, 35.°20S×73.°02W, h0km, mb4.9/7, mb1 5.1/7, mb1mx4.7/35, mbtmp4.9/7, Error ellipse: s-maj=49.2km s-min=29.4km az=35.0*
*NEIC **27** 07:30:29.9±0.5, 34.°91S×72.°82W, h35km, mb5.2/16, Error ellipse: s-maj=19.9km s-min=13.8km az=54.0*
*ISCJB **27** 07:30:30.0±0.9, 34.°6S±0.°2×72.°6W±0.°2, h33km, mb5.1/21, Error ellipse: s-maj=25.7km s-min=18.3km az=6.7*
ISC 27 07:30:29.7±0.8, 35.°0S±0.°2×72.°7W±0.°2, h35km, n353, σ0.s55/353, mb5.2/21, Near coast of central Chile

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

RCBR Riachuelo 44.67 58 P P 07 38 40.1 +0.7
14nm,0.7s,baz=233,slow=12,SNR=4.7
RCBR Riachuelo 44.67 58 eP P 07 38 40.3 +0.9
20nm,0.8s
GRGR Grenville 48.07 15 eP P 07 39 04.5 -1.4
4.7nm,0.2s
FDF Fort de France 50.70 15 eP P 07 39 25.4 -0.5
16nm,0.5s
ANWB Willy Bob 53.43 13 eP P 07 39 44.9 -1.3
9.7nm,0.5s
933A Laredo 67.17 335 P P 07 41 20.8 +0.7
baz=67
835A Beeville 67.29 336 P P 07 41 22.2 +1.4
baz=68
834A Tilden 67.39 335 P P 07 41 22.5 +1.0
baz=68
735A Kenedy 67.81 336 P P 07 41 25.3 +1.2
baz=68
833A Chaparral WMA, 67.86 335 P P 07 41 25.1 +0.6
baz=68
832A Faith Ranch, C 68.03 334 P P 07 41 26.0 +0.5
baz=68
734A La Parita Cree 68.05 336 P P 07 41 26.3 +0.7
baz=68
636A Smothers Creek 68.15 337 P P 07 41 27.3 +1.1
baz=68
733A Divot King Ran 68.19 335 P P 07 41 27.0 +0.5
baz=68
635A Leesville 68.29 337 P P 07 41 27.7 +0.6
baz=68
538A Harpers Horsep 68.36 339 P P 07 41 28.2 +0.7
baz=68
732A Laxson Ranch, 68.44 334 P P 07 41 28.5 +0.5
baz=69
537A Green Hill Far 68.47 338 P P 07 41 29.1 +0.9
baz=69
634A China Grove, S 68.48 336 P P 07 41 28.8 +0.5
baz=69
536A Bastrop 68.70 337 P P 07 41 30.4 +0.7
baz=69
535A Dale 68.82 337 P P 07 41 30.8 +0.4
baz=69
633A Saathoff Ranch 68.83 335 P P 07 41 31.0 +0.5
baz=69
632A Uvalde 69.08 335 P P 07 41 32.6 +0.6
baz=69
436A Wall Ranch, Ga 69.26 338 P P 07 41 33.8 +0.7
baz=69
533A Kerrville 69.34 336 P P 07 41 34.4 +0.7
baz=70
337A Centerville 69.50 339 P P 07 41 35.4 +0.8
baz=70
435B Jarrell 69.52 337 P P 07 41 35.4 +0.7
baz=70
532A Rocksprings 69.69 335 P P 07 41 36.7 +0.8
baz=70
239A Gary 69.75 340 P P 07 41 37.2 +1.1
baz=70
434A Burnet 69.77 337 P P 07 41 36.8 +0.5
baz=70
336A Riesel 69.85 338 P P 07 41 37.4 +0.6
baz=70
238A Jacksonville 69.92 340 P P 07 41 38.1 +0.9
baz=70
531A Rocksprings 69.95 335 P P 07 41 38.1 +0.7
baz=70
JCT Junction City 69.97 335 eP P 07 41 37.0 -0.6
54nm,1.3s
JCT Junction City 69.97 335 P P 07 41 38.0 +0.4
baz=70
433A Art 69.99 336 P P 07 41 37.9 +0.2
baz=70
237A Washetta, Mont 70.12 339 P P 07 41 39.5 +1.1
baz=70
530A J-C Ranch, Com 70.22 334 P P 07 41 39.8 +0.7
baz=70
334A Lometa 70.24 337 P P 07 41 39.7 +0.5
baz=70
KMSC Kings Mountain 70.27 353 P P 07 41 38.9 -0.4
baz=70
432A Menard 70.33 335 P P 07 41 40.1 +0.3
baz=70
TXAR Lajitas Array 70.36 332 P P 07 41 38.9 -1.1
6.0nm,0.9s,baz=155,slow=9.2,SNR=4.6
431A Sonora 70.44 335 P P 07 41 40.7 +0.2
baz=71
333A Richland Sprin 70.47 336 P P 07 41 40.7 +0.1
baz=71
529A Stev Forest Ra 70.52 333 P P 07 41 41.1 +0.2
baz=71
138A Matatall Enter 70.53 340 P P 07 41 41.5 +0.6
baz=71
WHTX Lake Whitney 70.60 338 P P 07 41 41.6 +0.3
baz=71
137A Heron Place, G 70.66 340 P P 07 41 42.4 +0.8
baz=71
430A Baggett Ranch, 70.76 334 P P 07 41 42.9 +0.5
baz=71
332A Millersview 70.78 336 P P 07 41 42.6 +0.2
baz=71
234A Clairette 70.83 337 P P 07 41 43.0 +0.2
baz=71
429A Davenport Ranc 70.85 334 P P 07 41 43.2 +0.3
baz=71
331A San Angelo 70.95 335 P P 07 41 43.6 +0.1
baz=71
233A Rising Star 71.08 337 P P 07 41 44.0 -0.3
baz=71
135A Vickery Place, 71.11 338 P P 07 41 44.5 +0.1
baz=71
232A Coleman 71.21 336 P P 07 41 45.1 0.0
baz=71
330A Mertzon 71.30 335 P P 07 41 45.7 0.0
baz=72
134A White-Moore Ra 71.34 338 P P 07 41 46.4 +0.6
baz=72
231A Bronte 71.48 335 P P 07 41 46.7 0.0
baz=72
133A Hamilton Ranch 71.64 337 P P 07 41 47.8 +0.2
baz=72
329A Wagon Wheel Ra 71.66 334 P P 07 41 48.0 +0.1
baz=72
230A Sterling City 71.71 335 P P 07 41 48.0 -0.2
baz=72
Z35A Perchaven, San 71.79 339 P P 07 41 48.7 +0.2
baz=72
ABTX Abilene, Hawle 71.89 336 P P 07 41 49.0 -0.1
baz=72
MIAR Mount Ida 71.91 342 eP P 07 41 48.2 -1.0
15nm,1.1s
Z34A Collier Ranch, 72.03 338 P P 07 41 50.1 +0.2
baz=72
229A Bryant Ranch, 72.03 334 P P 07 41 50.0 0.0
baz=72
131A Roby 72.18 336 P P 07 41 50.9 0.0
baz=72
Z33A Whitaker Ranch 72.21 337 P P 07 41 51.3 +0.3
baz=72
130A Snyder 72.31 335 P P 07 41 51.4 -0.3
baz=72
228A UT Block 9, Go 72.45 334 P P 07 41 52.6 0.0
baz=73
Z32A Haskell 72.46 337 P P 07 41 52.7 +0.2
baz=73
Y34A Reagan Ranch, 72.52 338 P P 07 41 52.7 -0.2
baz=73
129A Stewart Farms, 72.65 335 P P 07 41 53.7 0.0
baz=73
Z31A Sharp Cattle R 72.69 336 P P 07 41 54.0 +0.1
baz=73
Y33A Hilltop Ranch, 72.83 338 P P 07 41 54.9 +0.1
baz=73
128A Castleberry Fa 72.86 334 P P 07 41 55.0 -0.1
baz=73
Z30A Sanderson Ranc 72.99 335 P P 07 41 55.6 -0.1
baz=73
Y32A R-V Farms, Ver 73.09 337 P P 07 41 56.4 +0.1
baz=73
X34A Smith Ranch, M 73.14 339 P P 07 41 56.9 +0.3
baz=73
Z29A Hungry Hill Ra 73.17 335 P P 07 41 56.6 -0.2
baz=73
127A Arkansas Junct 73.23 333 P P 07 41 57.6 +0.3
baz=73
Y31A Rekieta Farm, 73.32 336 P P 07 41 57.6 0.0
baz=74
X32A Elmer 73.42 337 P P 07 41 58.3 +0.1
baz=74
Y30A Stafford Cattl 73.45 336 P P 07 41 58.6 +0.1
baz=74
Y29A Porterfield Fa 73.70 335 P P 07 41 59.8 -0.2
baz=74
W34A Bridge Creek, 73.71 339 eP P 07 41 57.9 -2.0
55nm,1.3s
W34A Bridge Creek, 73.71 339 P P 07 41 59.9 0.0
baz=74
Z27A Tatum 73.75 334 P P 07 42 00.2 -0.1
baz=74
TUL1 Tulsa 73.78 341 P P 07 42 00.2 -0.1
baz=74
X31A McDonald Ranch 73.84 337 P P 07 42 00.8 +0.1
baz=74
W33A Caddo, Fort Co 73.84 338 P P 07 42 01.2 +0.5
baz=74
Y28A McKinney Farm, 73.94 335 P P 07 42 01.2 -0.2
baz=74
Z26A Caprock 73.99 333 P P 07 42 01.8 +0.1
baz=74
W32A Sentinel 74.06 338 P P 07 42 02.1 +0.1
baz=74
MSTX Muleshoe 74.18 334 P P 07 42 02.7 -0.1
baz=74
V34A Guthrie 74.20 339 eP P 07 42 01.7 -1.0
109nm,1.5s
V34A Guthrie 74.20 339 P P 07 42 02.7 0.0
baz=74
Y27A Causey 74.25 334 P P 07 42 02.9 -0.3
baz=74
Z25A Roswell 74.28 333 P P 07 42 03.0 -0.4
baz=74
W31A Holland Ranch, 74.34 337 P P 07 42 03.5 -0.1
baz=74
V33A Lossen Ranch, 74.41 339 P P 07 42 03.9 0.0
baz=75
Y26A Elida 74.52 334 P P 07 42 05.0 +0.2
baz=75
V32A Arapaho 74.55 338 P P 07 42 05.4 +0.6
baz=75
Z24A Sheeppen Canyo 74.57 332 P P 07 42 05.4 +0.2
baz=75
AMTX Amarillo 74.63 336 P P 07 42 05.5 +0.2
baz=75
U34A Anderson Ranch 74.76 339 eP P 07 42 05.5 -0.4
84nm,1.3s
U34A Anderson Ranch 74.76 339 P P 07 42 06.1 +0.2
baz=75
121A Cookes Peak, D 74.83 330 P P 07 42 07.5 +0.8
baz=75
W29A Amraillo 74.84 336 P P 07 42 06.6 0.0
baz=75
V31A Spring Creek L 74.84 337 P P 07 42 07.5 +1.0
baz=75
X27A F and S Farms, 74.91 334 P P 07 42 07.2 +0.2
baz=75
U33A Lingo Farm, Me 74.93 339 P P 07 42 06.8 -0.2
baz=75
X26A CR and CF Fran 75.08 334 P P 07 42 07.7 -0.3
baz=75
V30A Spur Ranch, Mi 75.11 337 P P 07 42 08.5 +0.4
baz=75
Y24A Capitan 75.12 332 P P 07 42 08.6 +0.2
baz=75
Z22A Elephant Butte 75.13 331 P P 07 42 08.9 +0.5
baz=75
U32A Winter Ranch, 75.14 338 P P 07 42 08.3 +0.1
baz=75
W28A Vega 75.15 335 P P 07 42 08.8 +0.4
baz=75
W27A Bowe Ranch, En 75.27 335 P P 07 42 09.2 +0.1
baz=76
U31A Nine Bar Ranch 75.40 338 P P 07 42 10.6 +0.9
baz=76
V29A Stinnett 75.48 336 P P 07 42 10.9 +0.6
baz=76

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res	
W26A	Owens Ranch, T	75.54	334	P	P	07 42 11.1	+0.4	baz=76
T33A	Patterson Ranc	75.57	339	P	P	07 42 11.1	+0.5	baz=76
V28A	Channing	75.60	336	P	P	07 42 11.0	+0.1	baz=76
U30A	WK&E Inc. Balk	75.80	337	P	P	07 42 12.9	+0.9	baz=76
V27A	Dan Oppiter Fa	75.82	335	P	P	07 42 12.7	+0.5	baz=76
T32A	Huddler Ranch,	75.86	339	P	P	07 42 12.9	+0.6	baz=76
W25A	X Bar L Ranch,	75.91	334	P	P	07 42 13.1	+0.3	baz=76
X23A	Hourglass Bar	75.99	332	P	P	07 42 13.7	+0.4	baz=76
T31A	Randall Ranch,	76.01	338	P	P	07 42 13.8	+0.6	baz=76
U28A	Mallet	76.17	336	P	P	07 42 14.5	+0.3	baz=76
V26A	Tequesquite Ra	76.19	334	P	P	07 42 14.6	+0.2	baz=76
T30A	Plains	76.24	337	P	P	07 42 14.7	+0.2	baz=76
W24A	Lazy 6 Ranch,	76.25	333	P	P	07 42 15.1	+0.3	baz=76
S32A	Newby Ranch, P	76.35	339	P	P	07 42 15.3	+0.3	baz=76
U27A	Thompson Grove	76.42	335	P	P	07 42 15.5	-0.1	baz=77
ANMO	Albuquerque	76.42	332	P	P	07 42 16.2	+0.5	17nm,1.0s,baz=160,slow=8.0,SNR=4.6
ANMO	Albuquerque	76.42	332	eP	P	07 42 16.0	+0.2	20nm,1.0s
S31A	Mullinville	76.44	338	P	P	07 42 15.8	+0.2	baz=77
W23A	Werner Place,	76.49	332	P	P	07 42 16.4	+0.2	baz=77
V25A	Rancho No Teng	76.52	334	P	P	07 42 16.7	+0.4	baz=77
214A	Organ Pipe Nat	76.54	326	P	P	07 42 16.6	+0.3	baz=77
T29A	Hugoton	76.58	337	P	P	07 42 16.7	+0.3	baz=77
R33A	Olander Ranch,	76.64	340	P	P	07 42 16.8	+0.1	baz=77
V24A	Rampart Ranch,	76.66	333	P	P	07 42 17.1	0.0	baz=77
U26A	Atchley Ranch,	76.71	335	P	P	07 42 17.5	+0.2	baz=77
S30A	Montezuma	76.75	338	P	P	07 42 17.9	+0.5	baz=77
T28A	Walsh	76.81	336	P	P	07 42 18.1	+0.3	baz=77
S29A	Ulysses	76.94	337	P	P	07 42 19.0	+0.5	baz=77
U25A	Circle Dot Ran	76.95	334	P	P	07 42 19.3	+0.6	baz=77
R32A	Long Quarter,	76.95	339	P	P	07 42 18.6	+0.2	baz=77
T27A	Campo	76.96	336	P	P	07 42 18.6	-0.1	baz=77
KSU1	Kansas State U	77.00	341	P	P	07 42 18.3	-0.4	baz=77
R31A	Burdett	77.07	339	P	P	07 42 19.2	0.0	baz=77
S28A	Manter	77.17	337	P	P	07 42 19.7	-0.1	baz=77
Q33A	Connelly Farm,	77.24	340	P	P	07 42 20.1	+0.1	baz=77
U24A	Moreno Valley	77.27	334	P	P	07 42 21.3	+0.6	baz=78
R30A	Dighton	77.29	338	P	P	07 42 20.5	+0.1	baz=78
T26A	Comanche Natio	77.36	335	P	P	07 42 21.1	+0.1	baz=78
Q32A	Meitler Ranch,	77.43	340	P	P	07 42 21.4	+0.2	baz=78
V22A	San Miguel Ran	77.44	332	P	P	07 42 21.8	+0.3	baz=78
X18A	Snowflake	77.46	329	P	P	07 42 21.9	+0.3	baz=78
U23A	El Rito	77.54	333	P	P	07 42 22.8	+0.8	baz=78
P33A	Williams Farm,	77.61	340	P	P	07 42 22.2	+0.1	baz=78
T25A	Trinidad	77.61	335	P	P	07 42 23.1	+0.7	baz=78
R29A	Marienthal	77.69	338	P	P	07 42 22.9	+0.3	baz=78
Q31A	Ellis	77.69	339	P	P	07 42 22.8	+0.2	baz=78
S26A	Kim	77.72	335	P	P	07 42 23.0	+0.1	baz=78
R28A	Tribune	77.82	337	P	P	07 42 23.8	+0.4	baz=78
U22A	Llaves	77.83	332	P	P	07 42 24.4	+0.7	baz=78
W18A	Petrified Fore	77.88	330	P	P	07 42 24.1	+0.2	baz=78
T24B	San Luis	77.89	334	P	P	07 42 24.7	+0.6	baz=78
Q30A	Quinter	77.91	338	P	P	07 42 24.5	+0.7	baz=78
X16A	Lo Mia Camp, P	78.00	328	P	P	07 42 25.4	+0.7	baz=78
P32A	Huiting Farm,	78.03	340	P	P	07 42 24.7	+0.3	baz=78
Q29A	Oakley	78.06	338	P	P	07 42 24.8	+0.1	baz=78
S25A	Robets Cordova	78.09	335	P	P	07 42 25.1	0.0	baz=78
R27A	Eads	78.09	336	P	P	07 42 24.5	-0.5	baz=78
T23A	Casias Ranch,	78.11	333	P	P	07 42 25.6	+0.3	baz=78
P31A	Stockton	78.16	339	P	P	07 42 25.6	+0.4	baz=78
Y14A	Wickenburg	78.29	327	P	P	07 42 26.5	+0.5	baz=78
R26A	Arlington	78.32	336	P	P	07 42 26.9	+0.7	baz=78
S24A	Houchin Ranch,	78.34	334	P	P	07 42 27.2	+0.6	baz=78
P30A	Selden	78.44	339	P	P	07 42 27.1	+0.3	baz=79
Q28A	Sharon Springs	78.49	337	P	P	07 42 27.4	+0.3	baz=79
O32A	Brockman Farm,	78.54	340	P	P	07 42 27.7	+0.4	baz=79
S23A	Nye Farm, Mont	78.69	334	P	P	07 42 28.4	0.0	baz=79
KSCO	Kaye Shedlock'	78.69	337	P	P	07 42 28.5	+0.3	baz=79
P29A	Atwood	78.70	338	P	P	07 42 28.7	+0.4	baz=79
O31A	Woolen Ranch,	78.73	340	P	P	07 42 28.8	+0.5	baz=79
R24A	Sanders Place,	78.83	335	P	P	07 42 29.9	+0.8	baz=79
WUAZ	Wupatki	78.91	329	P	P	07 42 30.2	+0.6	baz=79
Q26A	Hugo	78.91	336	P	P	07 42 29.8	+0.3	baz=79
P28A	Saint Francis	78.93	338	P	P	07 42 30.1	+0.6	baz=79
O30A	MW Ranch, Wils	78.97	339	P	P	07 42 29.5	-0.2	baz=79
R23A	Moffat	79.05	334	P	P	07 42 31.1	+0.7	baz=79
O29A	4D Ranch, Culb	79.14	338	P	P	07 42 30.9	+0.3	baz=79
Q25A	Bedland, Calha	79.15	335	P	P	07 42 30.9	0.0	baz=79
P27A	Ficken Ranch,	79.17	337	P	P	07 42 31.6	+0.7	baz=79
BC3	Big Chuckawall	79.18	325	P	P	07 42 31.6	+0.5	baz=79
MVCO	Mesa Verde	79.19	332	P	P	07 42 31.6	+0.4	baz=79
LONY	Lake Ozonia	79.30	359	eP	P	07 42 31.2	-0.1	28nm,1.1s
P26A	Davis Ranch, A	79.43	336	P	P	07 42 33.2	+0.9	baz=80
O28A	Krutsinger Ran	79.44	338	P	P	07 42 33.1	+0.9	baz=80
IRM	Iron Mountain	79.46	325	P	P	07 42 33.2	+0.7	baz=80
Q24A	Divide	79.50	335	P	P	07 42 33.5	+0.6	baz=80
P25A	Willow Gulch B	79.66	336	P	P	07 42 34.7	+1.1	baz=80
O27A	Beecher Island	79.72	337	P	P	07 42 34.6	+0.8	baz=80
BELC	Belle Mtn. Jos	79.72	325	P	P	07 42 34.9	+0.8	baz=80
N29A	Votaw Ranch, W	79.73	339	P	P	07 42 34.6	+0.8	baz=80
M31A	Lambtecht Ranc	79.74	340	P	P	07 42 34.4	+0.6	baz=80
N28A	Pribbeno Ranch	79.88	338	P	P	07 42 34.9	+0.2	baz=80
P24A	Kohler Place,	79.91	335	P	P	07 42 35.9	+0.9	baz=80
MURC	Murrieta	79.98	324	P	P	07 42 36.1	+0.8	baz=80
O26A	Horse Wrangler	80.03	337	P	P	07 42 36.7	+1.1	baz=80
U15A	North Rim	80.07	329	P	P	07 42 36.7	+0.6	baz=80
BOSA	Boshof	80.10	118	P	P	07 42 36.1	-0.3	25nm,0.8s,baz=247,slow=4.7,SNR=4.3
GMRC	Granite Mounta	80.20	325	P	P	07 42 37.3	+0.7	baz=80
N27A	Anderson Farm,	80.30	337	P	P	07 42 37.5	+0.5	baz=80
M29A	Burnside Ranch	80.32	339	P	P	07 42 37.2	+0.2	baz=80
ISCO	Idaho Springs	80.41	335	eP	P	07 42 37.7	-0.1	21nm,1.4s
ISCO	Idaho Springs	80.41	335	P	P	07 42 38.5	+0.6	baz=81
L31A	Butterfield Fa	80.47	341	P	P	07 42 38.6	+0.9	baz=81
M28A	Bar X Bar Ranc	80.48	339	P	P	07 42 38.6	+0.7	baz=81
L30A	Spencer Herefo	80.51	340	P	P	07 42 38.7	+0.7	baz=81
HEC	Hector,Ludlow	80.56	325	P	P	07 42 39.0	+0.6	baz=81
BFSC	Mount Baldy Ra	80.72	324	P	P	07 42 40.1	+0.7	baz=81
O23A	Lake Granby, G	80.88	335	P	P	07 42 41.3	+1.0	baz=81
M27A	Reverse DX Ran	80.91	338	P	P	07 42 40.6	+0.5	baz=81
O22A	Kremmling	81.06	334	P	P	07 42 41.8	+0.5	baz=81
N24A	Carr	81.08	336	P	P	07 42 42.0	+0.8	baz=81
GSC	Goldstone	81.17	325	P	P	07 42 42.5	+0.8	baz=81
M25A	Palm-Egli Farm	81.35	337	P	P	07 42 43.1	+0.5	baz=82
L27A	T5 Ranch, Ells	81.39	338	P	P	07 42 43.8	+1.1	baz=82
EDW2	Edwards Air Fo	81.39	324	P	P	07 42 43.6	+0.7	baz=82
N23A	Red Feather La	81.50	335	P	P	07 42 44.3	+0.7	baz=82
N22A	Wattenberg Ran	81.59	335	P	P	07 42 45.1	+1.1	baz=82
M24A	Cheyenne	81.63	336	P	P	07 42 44.8	+0.7	baz=82
O20A	White River Ci	81.65	333	P	P	07 42 44.8	+0.5	baz=82
K28A	Ten Mile Ranch	81.68	339	P	P	07 42 45.3	+1.1	baz=82
LRMC	Laurel Mountai	81.73	324	P	P	07 42 45.2	+0.5	baz=82
K27A	Flueckinger Fa	81.93	338	P	P	07 42 45.8	+0.3	baz=82
M23A	Laramie	81.93	336	P	P	07 42 46.4	+0.6	baz=82
L25A	Engebretsen Ra	81.97	337	P	P	07 42 46.6	+0.8	baz=82
L24A	Wheatland	82.19	336	P	P	07 42 47.4	+0.5	baz=82
ISA	Isabella	82.26	324	P	P	07 42 48.1	+0.7	baz=82
N20A	Spence Gulch,	82.27	334	P	P	07 42 47.9	+0.3	baz=82
J28A	Allard Ranch,	82.30	339	P	P	07 42 48.1	+0.6	baz=82
J27A	Elkhorn Farm,	82.37	339	P	P	07 42 48.3	+0.4	baz=83
L23A	Garrett	82.50	336	P	P	07 42 49.1	+0.3	baz=83
VES	Vestal, Richgr	82.70	324	P	P	07 42 50.3	+0.7	baz=83
J26A	Sides Ranch, S	82.74	338	P	P	07 42 50.0	+0.3	baz=83
I28A	Midland	82.81	340	P	P	07 42 50.6	+0.5	baz=83
K23A	Bowen Ranch, D	83.05	336	P	P	07 42 51.7	+0.2	baz=83
R11A	Troy Canyon, C	83.11	327	P	P	07 42 52.7	+0.7	baz=83
H29A	Onida	83.12	341	P	P	07 42 51.5	-0.1	baz=83
I27A	Quinn	83.13	339	P	P	07 42 51.8	+0.1	baz=83
J24A	Dixon Ranch, L	83.25	337	P	P	07 42 52.9	+0.4	baz=84
K22A	Casper	83.26	336	P	P	07 42 52.9	+0.3	baz=84
TIN	Tinemaha	83.26	325	P	P	07 42 53.3	+0.7	baz=83
G30A	Faulkton	83.30	342	P	P	07 42 52.2	-0.3	baz=84
I26A	New Underwood	83.33	339	P	P	07 42 53.1	+0.4	baz=84
DUG	Dugway	83.48	330	eP	P	07 42 53.7	0.0	79nm,1.5s
DUG	Dugway	83.48	330	P	P	07 42 54.4	+0.6	baz=84
K21A	Alcova	83.49	335	P	P	07 42 54.0	+0.2	baz=84
G29A	Hoven	83.56	341	P	P	07 42 53.9	0.0	baz=84
I25A	Rochford	83.58	338	P	P	07 42 54.2	0.0	baz=84
TPH	Tonopah	83.62	326	eP	P	07 42 54.6	0.0	41nm,1.5s
G28A	Parade	83.73	340	P	P	07 42 55.1	+0.4	baz=84
J22A	Midwest	83.92	336	P	P	07 42 55.2	-0.8	baz=84
F30A	Leola	83.93	342	P	P	07 42 55.2	-0.5	baz=84
MLAC	Mammoth Lakes	84.01	325	P	P	07 42 57.4	+0.7	baz=84
F29A	Eureka	84.13	341	P	P	07 42 56.6	-0.2	baz=84
G27A	Dupree	84.29	340	P	P	07 42 57.3	-0.3	baz=84
I22A	9 Mile Ranch,	84.35	336	P	P	07 42 57.3	-0.7	baz=84
NVAR	Mina Array Bea	84.41	326	P	P	07 42 57.3	-1.3	4.2nm,0.8s,baz=151,slow=6.5,SNR=5.1
F28A	McLaughlin	84.41	341	P	P	07 42 58.3	+0.1	baz=85
J20A	Shoshoni	84.41	335	P	P	07 42 59.1	+0.7	baz=85
PDAR	Pinedale Array	84.43	334	P	P	07 42 58.5	-0.1	6.1nm,1.0s,baz=145,slow=4.5,SNR=4.5
E30A	Jud	84.52	342	P	P	07 42 58.8	+0.1	baz=85
I21A	Big Trails, Te	84.55	336	P	P	07 42 58.8	-0.3	baz=85
J19A	Crowheart	84.68	334	P	P	07 42 59.8	0.0	baz=85
F27A	Lemmon	84.77	340	P	P	07 43 00.2	+0.2	baz=85
E29A	Napoleon	84.77	342	P	P	07 42 59.6	-0.4	baz=85
F26A	Lodgepole	84.93	340	P	P	07 43 00.9	0.0	baz=85
I20A	Worland	84.95	335	P	P	07 43 01.0	-0.1	baz=85
I19A	Meeteetse	85.33	335	P	P	07 43 03.2	+0.1	baz=86
H20A	Greybull	85.38	336	P	P	07 43 02.9	-0.4	baz=86
E26A	Carlson Angus	85.44	340	P	P	07 43 03.3	0.0	baz=86
F24A	Ekalaka	85.45	338	P	P	07 43 02.9	-0.6	baz=86
C30A	Mose, Pekin	85.53	343	P	P	07 43 03.9	+0.1	baz=86
F23A	Volborg	85.63	338	P	P	07 43 04.0	-0.4	baz=86
E25A	Miller Ranch,	85.73	339	P	P	07 43 05.0	+0.2	baz=86
I17A	Pilgrim Ck.	85.80	334	P	P	07 43 05.7	+0.3	baz=86
H19A	Powell	85.88	335	P	P	07 43 05.9	+0.2	baz=86
D26A	Manning	85.94	340	P	P	07 43 06.1	+0.2	baz=86
F22A	Rosebud	85.95	337	P	P	07 43 05.6	-0.3	baz=86
E24A	Baker	86.05	339	P	P	07 43 06.7	+0.2	baz=86
G20A	Bridger	86.10	336	P	P	07 43 06.3	-0.5	baz=86
H18A	Shoshone NF, C	86.12	335	P	P	07 43 07.2	+0.1	baz=86
B30A	Myrvik Farm, E	86.20	343	P	P	07 43 07.1	+0.1	baz=86
D25A	Fairfield	86.30	340	P	P	07 43 08.0	+0.3	baz=86
C27A	Sayler Ranch,	86.31	341	P	P	07 43 08.0	+0.4	baz=86
D24A	Glendive	86.56	339	P	P	07 43 08.8	0.0	baz=87
C26A	Wahner Farm, P	86.58	341	P	P	07 43 08.9	0.0	baz=87
F20A	Billings	86.59	336	P	P	07 43 08.8	-0.3	baz=87
B28A	Dugan Ranch, T	86.69	342	P	P	07 43 09.8	+0.3	baz=87
C25A	Freed Ranch, W	86.79	340	P	P	07 43 10.4	+0.4	baz=87
A29A	Manning Farm,	86.85	343	P	P	07 43 10.2	-0.1	baz=87
D23A	Lindsay	86.87	338	P	P	07 43 10.7	+0.2	baz=87
B27A	Peters Farms,	86.88	341	P	P	07 43 10.7	+0.4	baz=87
E21A	Keefer Ranch,	86.89	337	P	P	07 43 10.7	+0.2	baz=87
F19A	Roth Farm, Mol	86.90	336	P	P	07 43 10.5	-0.1	baz=87
HLID	Hailey	86.95	331	eP	P	07 43 10.9	-0.1	805nm,3.5s
HLID	Hailey	86.95	331	P	P	07 43 11.8	+0.7	baz=87
C24A	Savage	86.96	339	P	P	07 43 11.2	+0.4	baz=87
A28A	Rude Farm, Bot	87.10	342	P	P	07 43 11.4	0.0	baz=87
D22A	Cohagen	87.15	338	P	P	07 43 11.7	-0.1	baz=87
E20A	Meyer Farm, Mu	87.20	336	P	P	07 43 11.9	-0.2	baz=87
B25A	Knox Farm, Ray	87.28	340	P	P	07 43 13.0	+0.7	baz=88
D21A	La Casta Ranch	87.33	337	P	P	07 43 12.5	-0.1	baz=88
ULM	Lac du Bonnet	87.35	345	P	P	07 43 11.6	-0.9	22nm,1.0s,baz=175,slow=4.7,SNR=3.7
E19A	Rath Farm, Rou	87.38	336	P	P	07 43 12.8	-0.1	baz=88
A27A	Ledoux Ranch,	87.38	342	P	P	07 43 12.9	+0.1	baz=88
C23A	Lambert	87.43	339	P	P	07 43 13.2	+0.1	baz=88
A26A	Wade Farm, Ken	87.54	341	P	P	07 43 13.4	-0.1	baz=88
C22A	Vida	87.59	338	P	P	07 43 13.6	-0.2	baz=88
D20A	Manuel Ranch,	87.72	337	P	P	07 43 14.2	-0.3	baz=88
DGMT	Dagmar	87.75	340	eP	P	07 43 13.6	-1.0	85nm,1.3s
DGMT	Dagmar	87.75	340	P	P	07 43 14.5	-0.1	baz=88
WVOR	Wild Horse Val	87.79	328	eP	P	07 43 15.0	-0.1	22nm,1.4s
A25A	Svangstu Ranch	87.87	341	P	P	07 43 15.0	-0.2	baz=88
B23A	Brockton	87.97	339	P	P	07 43 15.6	-0.1	baz=88
D19A	Cripps Ranch,	88.03	336	P	P	07 43 15.7	-0.3	baz=88
C21A	Desert Coulee	88.04	338	P	P	07 43 15.7	-0.3	baz=88
A24A	Westby	88.10	340	P	P	07 43 16.1	-0.2	baz=88
B22A	Reddig Ranch S	88.12	339	P	P	07 43 16.2	-0.2	baz=88
C20A	Veseth Ranch,	88.22	337	P	P	07 43 16.7	-0.2	baz=88
A20A	Cobblestone Ra	89.23	338	P	P	07 43 21.6	-0.1	baz=89
MSO	Missoula	89.52	333	P	P	07 43 24.2	+1.2	baz=90
A19A	Klindworth Far	89.53	337	P	P	07 43 24.6	+1.5	baz=90
WRA	Warramunga Arr	119.58	209	PKP	PKPdf	07 49 14.7	-1.6	1.7nm,0.8s,baz=173,slow=1.4,SNR=2.3
BRTR	Keskin Array B	122.83	62	PKP	PKPdf	07 49 21.8	-0.3	2.2nm,0.8s,baz=171,slow=3.3,SNR=5.0
AK01	Malin Array Si	123.30	48	ePKPdf	PKPdf	07 49 21.1	-1.3	
AKASG	Malin Array Be	123.31	48	PKP	PKPdf	07 49 21.9	-0.5	1.8nm,0.6s,baz=263,slow=2.6,SNR=5.5
FINES	FINESS Array B	124.16	35	PKP	PKPdf	07 49 23.4	-0.3	1.9nm,0.7s,baz=188,slow=4.2,SNR=3.4
ARCES	ARCESS Array B	125.19	25	PKP	PKPdf	07 49 27.6	+2.2	2.3nm,0.8s,baz=234,slow=3.0,SNR=2.6
SEY	Seymchan	140.63	329	PKP	PKPdf	07 49 54.9	+0.3	5.7nm,0.8s,baz=62,slow=6.4,SNR=2.7
PSI	Prapat	147.01	165	PKPbc	PKPab	07 50 11.8	+0.9	32nm,0.9s,baz=196,slow=2.2,SNR=4.3
BVAR	Borovoye Array	148.42	44	PKPbc	PKPbc	07 50 12.9	+0.9	7.3nm,0.7s,baz=286,slow=2.3,SNR=3.9
ASAJ	Asahikawa	151.48	299	PKPbc	PKPbc	07 50 18.9	-0.8	39nm,1.1s,baz=268,slow=12.5,SNR=5.0
EKS2	Erkin-Say	152.96	64	ePKPbc	PKPbc	07 50 23.6	+0.3	

*ISCJB **27** 07:33:29.0±2.9, 37.90S±0.05×73.32W±0.08, h29km±20km, mb5.5/115, MS6.7/1, Error ellipse: s-maj=11.4km s-min=6.8km az=159.1*

*NEIC **27** 07:33:30.7±0.2, 38.03S×73.39W, h35km, mb5.6/99, Error ellipse: s-maj=7.2km s-min=4.6km az=70.0*

*MOS **27** 07:33:30.1±0.9, 37.86S×73.46W, h33km, mb5.8/30, Error ellipse: s-maj=16.3km s-min=8.2km az=100.5*

*IDC **27** 07:33:30.3±0.8, 38.02S×73.52W, h30km±5km, mb5.1/22, mb1 5.2/26, mb1mx5.1/35, mbtmp5.2/26, ML4.9/4, MS6.8/1, Ms1 6.8/1, ms1mx6.1/36, Error ellipse: s-maj=16.5km s-min=11.5km az=70.0*

*BJI **27** 07:33:31.2, 38.00S×73.20W, h35km, mB5.7/4, Ms5.6/2, Ms7 5.4/2*

ISC 27 07:33:30.5±0.7, 38.00S±0.06×73.55W±0.08, h33km±3km, h33km:pP-P, n708, σ0.94/736, mb5.5/117, 193C-227D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC	
PLCA	Paso Flores	3.58	141	eP	Pn	07 34 26.6	+2.8	
PLCA						07 35 15.9		
PLCA	Paso Flores	3.58	141	Pn	Pn	07 34 25.0	+1.2	31nm,0.3s,baz=327,slow=17,SNR=2.9
PLCA				Lg	Lg	07 35 15.9		101nm,0.3s,baz=255,slow=20,SNR=6.5
PLCA	Paso Flores	3.58	141	ePn	Pn	07 34 26.6	+2.8	
PLCA				Lg	Lg	07 35 15.9		
CFAA	Coronel Fontan	7.73	36	Pn	Pn	07 35 22.4	+1.7	4.4nm,0.3s,baz=188,slow=14,SNR=6.7
CFAA				Sn	Sn	07 36 37.8	-9.3	42nm,0.3s,baz=97,slow=15,SNR=6.3
USHA	Ushuaia	17.20	170	P	P	07 37 29.4	+0.2	1.5nm,0.3s,baz=314,slow=5.8,SNR=8.3
EFI	East Falkland	17.48	146	eP	Pn	07 37 29.9	-1.6	
EFI				pmax	pmax			comp=Z,186nm,0.8s
EFI	East Falkland	17.48	146	ePn	Pn	07 37 29.9	-1.6	comp=Z,186nm,0.8s
CPUP	Villa Florida	17.97	54	P	P	07 37 38.6	+0.6	comp=Z,4.0nm,0.3s,baz=231,slow=8.0,SNR=4.3

LPAZ La Paz 22.15 14 eP P 07 38 24.4 +0.3
LPAZ pmax pmax
comp=Z,288nm,1.1s
LPAZ La Paz 22.15 14 P P 07 38 25.0 +0.9
comp=Z,62nm,1.1s,baz=175,slow=6.0,SNR=5.0
LPAZ La Paz 22.15 14 eP P 07 38 24.4 +0.3
comp=Z,288nm,1.1s
SIV San Ignacio 24.53 30 P P 07 38 47.1 +0.1
comp=Z,33nm,0.8s,baz=226,slow=11,SNR=5.7
NNA Nana 26.07 353 eP P 07 39 00.2 -0.9
NNA pmax pmax
comp=Z,288nm,1.4s
NNA Nana 26.07 353 P P 07 39 00.9 -0.1
comp=Z,26nm,0.9s,baz=203,slow=11,SNR=6.4
NNA Nana 26.07 353 eP P 07 39 00.2 -0.9
comp=Z,288nm,1.4s
PMSA Palmer Station 27.40 171 LR LR 07 49 18.8
comp=Z,193µm,18.2s,baz=346,slow=35
SAML Samuel 30.40 21 eP P 07 39 39.0 -0.7
comp=Z,23nm,0.9s
ATAH Atahualpa 31.04 351 P P 07 39 47.0 +1.2
comp=Z,33nm,1.1s,baz=175,slow=12,SNR=3.3
BDFB Brasilia 31.67 52 P P 07 39 49.2 -1.8
comp=Z,17nm,0.8s,baz=202,slow=6.3,SNR=3.6
OTAV Otavalo 38.32 352 eP P 07 40 50.4 +1.7
comp=Z,105nm,1.3s
ROSC El Rosal 42.64 359 P P 07 41 27.1 +2.8
comp=Z,29nm,0.7s,baz=135,slow=5.2,SNR=11
ROSC El Rosal 42.64 359 eP P 07 41 26.8 +2.5
VNA3 Neumayer Olymp 46.16 156 P P 07 41 51.8 +0.4
VNA1 Neumayer--Stat 46.52 155 P P 07 41 54.9 +0.7
SDV Santo Domingo 46.72 4 eP P 07 41 55.5 -1.1
comp=Z,2µm,2.6s
RCBR Riachuelo 46.83 56 P P 07 41 58.1 +0.7
comp=Z,16nm,0.6s,baz=211,slow=10,SNR=9.8
VNA2 Neumayer--Watz 46.84 156 P P 07 41 57.3 +0.5
BCIP Isla Barro Col 47.29 352 eP P 07 42 00.6 -0.2
comp=Z,40nm,0.7s
SNAA Sanae 48.38 156 P P 07 42 09.0 +0.2
SNAA Sanae 48.38 156 eP P 07 42 08.6 -0.2
SNAA pmax pmax
comp=Z,126nm,1.0s
SNAA Sanae 48.38 156 P P 07 42 09.2 +0.4
comp=Z,34nm,0.9s,baz=284,slow=7.0,SNR=14
SNAA Sanae 48.38 156 eP P 07 42 08.6 -0.2
comp=Z,126nm,1.0s
JTS JuntasAbangare 49.21 345 eP P 07 42 17.1 +1.5
JTS pmax pmax
comp=Z,52nm,1.3s
JTS JuntasAbangare 49.21 345 P P 07 42 16.7 +1.1
comp=Z,25nm,1.0s,baz=134,slow=3.3,SNR=7.5
JTS JuntasAbangare 49.21 345 eP P 07 42 17.1 +1.5
comp=Z,52nm,1.3s
QSPA South Pole Qui 52.24 180 P P 07 42 38.8 +0.6
comp=Z,46nm,0.8s,baz=177,slow=1.7,SNR=13
QSPA South Pole Qui 52.24 180 eP P 07 42 37.8 -0.3
comp=Z,42nm,0.8s
SLB Belfond 52.87 15 e P 07 42 43.6 +0.4
APG El Apazote 55.06 340 P P 07 42 55.8 -3.6
comp=Z,27nm,0.9s,baz=170,slow=7.5,SNR=13
OBIP Obispado Ponce 56.12 8 eP P 07 43 05.2 -1.4
comp=Z,256nm,0.9s
CELP Cerrillos 56.16 8 eP P 07 43 06.2 -0.7
ANWB Willy Bob 56.46 13 eP P 07 43 06.6 -2.5
comp=Z,36nm,0.6s
SDDR Presa de Saban 56.72 3 eP P 07 43 10.0 -0.9
comp=Z,49nm,1.0s
GTBY Guantanamo Bay 57.63 358 eP P 07 43 16.9 -0.4
comp=Z,91nm,0.8s
TEIG Tepich 59.55 344 P P 07 43 30.3 -0.3
comp=Z,46nm,0.8s,baz=171,slow=5.7,SNR=10
TEIG Tepich 59.55 344 eP P 07 43 30.2 -0.5
comp=Z,31nm,0.8s
SHEL Horse Pasture 62.96 90 eP P 07 43 56.7 +2.6
SHEL pmax pmax
comp=Z,289nm,1.7s
SHEL Horse Pasture 62.96 90 eP P 07 43 56.7 +2.6
comp=Z,289nm,1.7s
034A Hebbronville 68.88 336 ⇓P P 07 44 33.0 +1.2
baz=69
933A Laredo 69.58 336 ⇓P P 07 44 36.9 +0.8
baz=70
TIGA Tifton 69.71 351 eP P 07 44 36.1 -0.7
comp=Z,45nm,0.9s
TIGA Tifton 69.71 351 ⇓P P 07 44 36.4 -0.4
baz=70
834A Tilden 69.83 337 ⇓P P 07 44 38.9 +1.3
baz=70,SNR=5.6
735A Kenedy 70.28 337 ⇓P P 07 44 41.5 +1.2
baz=71
833A Chaparral WMA, 70.28 336 ⇓P P 07 44 41.1 +0.7
baz=71
832A Faith Ranch, C 70.43 335 ⇑P P 07 44 42.1 +0.8
baz=71
734A La Parita Cree 70.50 337 ⇓P P 07 44 42.8 +1.1
baz=71
733A Divot King Ran 70.61 336 ⇑P P 07 44 43.1 +0.7
baz=71
636A Smothers Creek 70.64 338 ⇓P P 07 44 43.5 +1.0
baz=71
635A Leesville 70.77 338 ⇑P P 07 44 43.5 +0.2
baz=71
732A Laxson Ranch, 70.84 336 ⇓P P 07 44 44.4 +0.6
baz=71,SNR=7.6
536A Bastrop 71.20 339 ⇑P P 07 44 46.7 +0.7
baz=72
633A Saathoff Ranch 71.26 337 ⇓P P 07 44 47.0 +0.7
baz=72
535A Dale 71.31 338 ⇓P P 07 44 46.9 +0.3
baz=72,SNR=6.1
632A Uvalde 71.50 336 ⇓P P 07 44 48.4 +0.6
baz=72,SNR=6.6
534A Blanco 71.58 337 ⇑P P 07 44 48.2 -0.1
baz=72
340A Bronson 71.62 342 ⇓P P 07 44 48.6 +0.2
baz=72
VBMS Vicksburg 71.63 345 eP P 07 44 49.5 +1.0
comp=Z,75nm,0.9s
GOGA Godfrey 71.64 351 eP P 07 44 48.1 -0.4
GOGA pmax pmax
comp=Z,42nm,0.9s
GOGA Godfrey 71.64 351 eP P 07 44 48.1 -0.4
comp=Z,42nm,0.9s
339A Huntington 71.71 341 ⇓P P 07 44 49.8 +0.8
baz=72
LRAL Lakeview Retre 71.77 348 eP P 07 44 49.7 +0.4
comp=Z,43nm,0.9s
436A Wall Ranch, Ga 71.78 339 ⇓P P 07 44 50.2 +0.9
baz=72
533A Kerrville 71.79 337 ⇓P P 07 44 50.3 +0.8
baz=72,SNR=10
338A Crockett 71.93 341 ⇓P P 07 44 51.2 +1.0
baz=72,SNR=7.6
435B Jarrell 72.02 338 ⇑P P 07 44 51.2 +0.3
baz=72
337A Centerville 72.04 340 ⇑P P 07 44 52.2 +1.2
baz=72,SNR=10
532A Rocksprings 72.11 336 ⇑P P 07 44 52.2 +0.6
baz=72,SNR=9.4
NATX Nacogdoches 72.14 341 eP P 07 44 52.4 +0.8
comp=Z,96nm,1.0s
434A Burnet 72.25 338 ⇑P P 07 44 52.3 +0.1
baz=73,SNR=13
531A Rocksprings 72.36 336 ⇑P P 07 44 53.6 +0.6
baz=73,SNR=6.5
336A Riesel 72.37 339 ⇑P P 07 44 53.3 +0.4
baz=73,SNR=11
JCT Junction City 72.41 336 eP P 07 44 53.9 +0.7
JCT pmax pmax
comp=Z,91nm,1.1s
JCT Junction City 72.41 336 eP P 07 44 53.9 +0.7
comp=Z,91nm,1.1s
JCT Junction City 72.41 336 ⇑P P 07 44 53.8 +0.5
baz=73,SNR=10
335A Moody 72.44 339 ⇑P P 07 44 54.0 +0.7
baz=73,SNR=5.6
433A Art 72.44 337 ⇓P P 07 44 53.7 +0.3
baz=73,SNR=10
530A J-C Ranch, Com 72.60 335 ⇓P P 07 44 55.2 +0.8
baz=73,SNR=12
TXAR Lajitas Array 72.67 333 P P 07 44 55.6 +0.7
comp=Z,16nm,0.9s,baz=151,slow=8.0,SNR=14
TX31 Lajitas Ar. Si 72.67 333 eP P 07 44 55.4 +0.5
334A Lometa 72.72 338 ⇑P P 07 44 55.5 +0.4
baz=73,SNR=15
432A Menard 72.77 337 ⇑P P 07 44 55.7 +0.3
baz=73,SNR=7.3
431A Sonora 72.85 336 ⇓P P 07 44 56.2 +0.2
baz=73,SNR=9.9
529A Stev Forest Ra 72.88 334 ⇓P P 07 44 56.6 +0.5
baz=73,SNR=7.6
333A Richland Sprin 72.94 337 ⇓P P 07 44 56.5 +0.2
baz=73,SNR=7.8
CNNC Cliffs of the 72.98 356 eP P 07 44 56.4 0.0
comp=Z,20nm,0.8s
WHTX Lake Whitney 73.11 339 eP P 07 44 57.9 +0.6
comp=Z,63nm,0.8s
WHTX Lake Whitney 73.11 339 ⇓P P 07 44 57.8 +0.4
baz=74,SNR=8.6
KMSC Kings Mountain 73.13 353 eP P 07 44 56.8 -0.6
comp=Z,33nm,0.7s
KMSC Kings Mountain 73.13 353 ⇓P P 07 44 57.1 -0.2
baz=74
430A Baggett Ranch, 73.16 335 ⇓P P 07 44 58.2 +0.5
baz=74,SNR=13
429A Davenport Ranc 73.23 335 ⇑P P 07 44 58.6 +0.5
baz=74,SNR=8.3
332A Millersview 73.23 337 ⇓P P 07 44 58.7 +0.6
baz=74,SNR=13
234A Clairette 73.32 338 ⇑P P 07 44 59.0 +0.4
baz=74,SNR=8.6
331A San Angelo 73.37 336 ⇓P P 07 44 59.3 +0.4
baz=74,SNR=12
233A Rising Star 73.56 338 ⇓P P 07 45 00.4 +0.4
baz=74,SNR=11
135A Vickery Place, 73.63 339 ⇓P P 07 45 00.5 +0.1
baz=74,SNR=5.1
OXF Oxford 73.63 346 eP P 07 45 00.1 -0.2
OXF pmax pmax
comp=Z,151nm,1.2s
OXF Oxford 73.63 346 eP P 07 45 00.1 -0.2
comp=Z,151nm,1.2s
232A Coleman 73.67 337 ⇓P P 07 45 01.1 +0.4
baz=74,SNR=13
330A Mertzon 73.70 336 ⇓P P 07 45 01.0 +0.1
baz=74,SNR=6.8
SWET Sewanee 73.75 349 eP P 07 45 00.8 -0.2
comp=Z,210nm,0.9s
CPCT Cooper Cave 73.78 351 eP P 07 45 02.9 +1.7
134A White-Moore Ra 73.84 339 ⇑P P 07 45 01.9 +0.3
baz=74,SNR=5.7
TKL Tuckaleechee C 73.90 351 eP P 07 45 01.6 -0.3
TKL Tuckaleechee C 73.90 351 P P 07 45 01.3 -0.6
comp=Z,34nm,0.9s,baz=175,slow=7.6,SNR=13
TKL Tuckaleechee C 73.90 351 eP P 07 45 01.6 -0.3
231A Bronte 73.92 337 ⇑P P 07 45 02.3 +0.1
baz=74,SNR=9.9
SUR Sutherland 73.98 119 eP P 07 45 03.0 0.0
329A Wagon Wheel Ra 74.05 335 ⇑P P 07 45 03.4 +0.5
baz=74,SNR=10
133A Hamilton Ranch 74.12 338 ⇓P P 07 45 03.5 +0.3
baz=74,SNR=11
230A Sterling City 74.13 336 ⇑P P 07 45 03.3 -0.1
baz=75,SNR=9.7
Z35A Perchaven, San 74.32 340 ⇑P P 07 45 04.8 +0.4
baz=75,SNR=7.8
ABTX Abilene, Hawle 74.35 337 ⇑P P 07 45 04.8 +0.2
baz=75,SNR=11
229A Bryant Ranch, 74.43 335 ⇓P P 07 45 05.5 +0.4
baz=75,SNR=10.0
UALR University of 74.48 344 eP P 07 45 05.2 -0.1
comp=Z,49nm,1.2s
MIAR Mount Ida 74.54 343 eP P 07 45 05.7 +0.1
MIAR pmax pmax
comp=Z,18nm,1.0s
MIAR Mount Ida 74.54 343 eP P 07 45 05.7 +0.1
comp=Z,18nm,1.0s
Z34A Collier Ranch, 74.54 339 ⇑P P 07 45 06.1 +0.4
baz=75
131A Roby 74.63 337 ⇓P P 07 45 06.5 +0.3
baz=75,SNR=9.2
Z33A Whitaker Ranch 74.70 338 ⇓P P 07 45 07.1 +0.4
baz=75,SNR=7.0
130A Snyder 74.73 336 ⇓P P 07 45 06.9 0.0
baz=75,SNR=6.3
BBTS Babate 74.81 57 P P 07 45 08.2 +0.7
comp=Z,49nm,0.9s,baz=222,slow=2.6,SNR=8.7
228A UT Block 9, Go 74.83 335 ⇑P P 07 45 08.2 +0.7
baz=75,SNR=11
WVT Waverly 74.94 348 eP P 07 45 07.3 -0.6
WVT pmax pmax
comp=Z,67nm,1.0s
WVT Waverly 74.94 348 eP P 07 45 07.3 -0.6
comp=Z,67nm,1.0s
Z32A Haskell 74.94 338 ⇑P P 07 45 08.3 +0.3
baz=75,SNR=11
Y34A Reagan Ranch, 75.05 339 ⇑P P 07 45 08.8 +0.2
baz=76,SNR=10
129A Stewart Farms, 75.06 336 ⇑P P 07 45 09.0 +0.2
baz=76
Z31A Sharp Cattle R 75.15 337 ⇑P P 07 45 09.5 +0.3
baz=76,SNR=12
128A Castleberry Fa 75.25 335 ⇑P P 07 45 10.5 +0.6
baz=76,SNR=9.4
Y33A Hilltop Ranch, 75.34 339 ⇓P P 07 45 10.6 +0.3
baz=76,SNR=8.4
Z30A Sanderson Ranc 75.42 336 ⇓P P 07 45 11.2 +0.4
baz=76,SNR=11
JSRW J. Sargeant Re 75.43 356 eP P 07 45 10.6 0.0
MNTX Cornudas Mount 75.43 332 eP P 07 45 10.1 -0.8
comp=Z,22nm,0.8s
Y32A R-V Farms, Ver 75.57 338 ⇑P P 07 45 12.1 +0.4
baz=76,SNR=6.9
Z29A Hungry Hill Ra 75.58 336 ⇓P P 07 45 12.0 +0.2
baz=76,SNR=16
127A Arkansas Junct 75.60 334 ⇑P P 07 45 12.4 +0.4
baz=76
X34A Smith Ranch, M 75.67 340 ⇑P P 07 45 12.9 +0.7
baz=76,SNR=14
Y31A Rekieta Farm, 75.78 337 ⇓P P 07 45 13.5 +0.7
baz=76,SNR=8.8
X33A Lawton 75.80 339 ⇑P P 07 45 12.9 -0.1
baz=76,SNR=7.6
Y30A Stafford Cattl 75.90 337 ⇓P P 07 45 13.9 +0.4
baz=76,SNR=9.1
X32A Elmer 75.92 338 ⇑P P 07 45 13.8 +0.2
baz=76,SNR=9.6
CASY Casey 76.00 182 eP P 07 45 14.0 +0.2
comp=Z,40nm,0.9s
PBMO Poplar Bluff 76.03 346 eP P 07 45 14.0 -0.1
comp=Z,44nm,0.8s
Y29A Porterfield Fa 76.13 336 ⇓P P 07 45 15.0 +0.1
baz=77,SNR=8.5
Z27A Tatum 76.13 335 ⇑P P 07 45 15.2 +0.2
baz=77
W34A Bridge Creek, 76.25 340 eP P 07 45 15.8 +0.3
comp=Z,81nm,1.0s
W34A Bridge Creek, 76.25 340 ⇑P P 07 45 15.7 +0.2
baz=77,SNR=9.9
X31A McDonald Ranch 76.32 338 ⇓P P 07 45 16.2 +0.3
baz=77,SNR=15
Z26A Caprock 76.36 334 ⇓P P 07 45 17.0 +0.8
baz=77,SNR=7.4
Y28A McKinney Farm, 76.36 336 ⇓P P 07 45 16.5 +0.3
baz=77,SNR=6.3
W33A Caddo, Fort Co 76.37 339 ⇑P P 07 45 17.3 +1.2
baz=77,SNR=15
TUL1 Tulsa 76.37 342 eP P 07 45 15.7 -0.4
comp=Z,102nm,0.9s
TUL1 Tulsa 76.37 342 ⇑P P 07 45 16.2 +0.1
baz=77,SNR=14
X30A Coker Ranch, T 76.42 337 ⇓P P 07 45 17.6 +1.1
baz=77,SNR=12
W32A Sentinel 76.56 339 ⇓P P 07 45 18.0 +0.8
baz=77,SNR=14
MSTX Muleshoe 76.58 335 eP P 07 45 17.9 +0.4
comp=Z,58nm,1.0s
MSTX Muleshoe 76.58 335 ⇓P P 07 45 17.7 +0.2
baz=77,SNR=7.8
Z25A Roswell 76.62 334 ⇓P P 07 45 17.9 +0.2
baz=77
Y27A Causey 76.64 335 ⇓P P 07 45 18.0 +0.2
baz=77,SNR=6.7
319A Douglas 76.65 329 ⇓P P 07 45 19.5 +1.5
baz=77,SNR=7.5
X29A Tulia 76.67 336 ⇑P P 07 45 18.6 +0.6
baz=77,SNR=12
SIUC Southern Illin 76.72 347 eP P 07 45 17.7 -0.3
comp=Z,43nm,0.8s
V34A Guthrie 76.75 340 eP P 07 45 18.5 +0.2
comp=Z,89nm,0.9s
V34A Guthrie 76.75 340 ⇓P P 07 45 18.3 +0.1
baz=77,SNR=15
W31A Holland Ranch, 76.82 338 ⇑P P 07 45 18.9 +0.1
baz=77,SNR=9.3
Y26A Elida 76.89 335 ⇓P P 07 45 20.1 +0.8
baz=77,SNR=12
Z24A Sheeppen Canyo 76.89 333 ⇑P P 07 45 20.1 +0.7
baz=77,SNR=5.3
X28A Dimmitt 76.90 336 ⇓P P 07 45 19.6 +0.3
baz=77,SNR=7.2
V33A Lossen Ranch, 76.94 340 ⇓P P 07 45 19.9 +0.5
baz=77,SNR=12
W30A Crocket Farms 77.01 338 ⇑P P 07 45 19.7 -0.1
baz=77
V32A Arapaho 77.06 339 ⇓P P 07 45 21.1 +1.0
baz=78,SNR=10
AMTX Amarillo 77.07 337 eP P 07 45 20.7 +0.4
comp=Z,78nm,0.9s
AMTX Amarillo 77.07 337 ⇑P P 07 45 20.7 +0.4
baz=78
121A Cookes Peak, D 77.08 331 ⇑P P 07 45 21.4 +1.0
baz=78
Y25A Mesa, Roswell 77.19 334 ⇓P P 07 45 21.1 +0.1
baz=78,SNR=5.8
LIC Lamto 77.20 72 eP P 07 45 21.5 +0.2
comp=Z,459nm,0.9s
W29A Amarillo 77.28 337 ⇑P P 07 45 22.1 +0.7
baz=78,SNR=12
X27A F and S Farms, 77.31 335 ⇑P P 07 45 22.0 +0.4
baz=78,SNR=8.3
U34A Anderson Ranch 77.32 340 eP P 07 45 21.5 +0.1
comp=Z,66nm,0.9s
U34A Anderson Ranch 77.32 340 ⇓P P 07 45 21.6 +0.2
baz=78,SNR=8.2
V31A Spring Creek L 77.34 338 ⇓P P 07 45 22.9 +1.2
baz=78,SNR=11
Z22A Elephant Butte 77.41 332 ⇓P P 07 45 23.5 +1.2
baz=78
Y24A Capitan 77.46 333 ⇑P P 07 45 23.6 +1.1
baz=78,SNR=7.3
X26A CR and CF Fran 77.46 335 ⇑P P 07 45 23.4 +0.9
baz=78,SNR=7.2
U33A Lingo Farm, Me 77.47 340 ⇑P P 07 45 22.7 +0.4
baz=78
TIC Toumodi 77.48 71 eP P 07 45 23.0 +0.1
comp=Z,244nm,0.8s
KIC Kosan Boka 77.50 72 eP P 07 45 23.3 +0.2
comp=Z,420nm,0.8s
V30A Spur Ranch, Mi 77.58 338 ⇓P P 07 45 24.2 +1.2
baz=78,SNR=5.5
W28A Vega 77.58 336 ⇓P P 07 45 23.9 +0.8
baz=78,SNR=5.2
DBIC Dimbokro 77.62 71 eP P 07 45 24.1 +0.4
DBIC pmax pmax
comp=Z,159nm,0.8s
DBIC Dimbokro 77.62 71 P P 07 45 24.0 +0.4
comp=Z,152nm,0.8s,baz=203,slow=5.3,SNR=50
DBIC Dimbokro 77.62 71 eP P 07 45 24.1 +0.4
comp=Z,159nm,0.8s
MVL Millersville 77.67 358 eP P 07 45 23.9 +0.7
comp=Z,101nm,1.3s
U32A Winter Ranch, 77.67 339 ⇓P P 07 45 24.1 +0.7
baz=78,SNR=11
W27A Bowe Ranch, En 77.68 336 ⇓P P 07 45 24.5 +0.8
baz=78,SNR=11
Y23A Lovelace Mesa, 77.68 333 ⇑P P 07 45 25.0 +1.2
baz=78
BLO Bloomington 77.72 350 eP P 07 45 22.6 -1.0
BLO pmax pmax
comp=Z,48nm,0.8s
BLO Bloomington 77.72 350 eP P 07 45 22.6 -1.0
comp=Z,48nm,0.8s
X25A Clemmons Ranch 77.73 334 ⇑P P 07 45 24.4 +0.4
baz=78
U31A Nine Bar Ranch 77.90 339 ⇓P P 07 45 25.4 +0.6
baz=78,SNR=5.5
V29A Stinnett 77.94 337 ⇓P P 07 45 25.7 +0.7
baz=78
W26A Owens Ranch, T 77.94 335 ⇑P P 07 45 25.9 +0.8
baz=78,SNR=6.3
X24A Lazy VL Ranch, 78.03 334 ⇓P P 07 45 26.5 +0.8
baz=78,SNR=10
V28A Channing 78.04 336 ⇑P P 07 45 26.7 +1.0
baz=78,SNR=8.0
TUC Tucson 78.08 328 eP P 07 45 27.4 +1.4
TUC pmax pmax
comp=Z,51nm,1.4s
TUC Tucson 78.08 328 eP P 07 45 27.4 +1.4
comp=Z,51nm,1.4s
T33A Patterson Ranc 78.12 340 ⇓P P 07 45 26.8 +0.9
baz=78,SNR=12
V27A Dan Oppiter Fa 78.24 336 ⇓P P 07 45 27.6 +0.8
baz=79,SNR=5.1
U30A WK&E Inc. Balk 78.28 338 ⇓P P 07 45 27.8 +0.8
baz=79,SNR=6.6
W25A X Bar L Ranch, 78.29 335 ⇑P P 07 45 27.7 +0.6
baz=79,SNR=8.6
X23A Hourglass Bar 78.31 333 ⇓P P 07 45 28.7 +1.4
baz=79,SNR=10
ACSO Alum Creek Sta 78.33 353 eP P 07 45 26.4 -0.6
comp=Z,196nm,1.4s
T32A Huddler Ranch, 78.39 340 ⇓P P 07 45 28.1 +0.6
baz=79,SNR=6.2
U29A Oasis Ranch, S 78.39 337 ⇓P P 07 45 28.1 +0.6
baz=79
T31A Randall Ranch, 78.53 339 ⇓P P 07 45 28.8 +0.6
baz=79,SNR=6.8
S33A Kaszmaul Farm, 78.53 340 ⇑P P 07 45 28.6 +0.4
baz=79
V26A Tequesquite Ra 78.59 335 ⇑P P 07 45 29.1 +0.4
baz=79,SNR=6.4
W24A Lazy 6 Ranch, 78.61 334 ⇓P P 07 45 29.9 +1.0
baz=79,SNR=6.4
U28A Mallet 78.62 337 ⇓P P 07 45 29.1 +0.3
baz=79
214A Organ Pipe Nat 78.64 327 ⇓P P 07 45 30.8 +1.8
baz=79,SNR=13
T30A Plains 78.73 338 ⇓P P 07 45 30.3 +1.0
baz=79
ANMO Albuquerque 78.74 333 eP P 07 45 30.5 +0.9
ANMO pmax pmax
comp=Z,59nm,1.1s
ANMO Albuquerque 78.74 333 P P 07 45 30.7 +1.0
comp=Z,33nm,1.0s,baz=164,slow=7.6,SNR=16
ANMO Albuquerque 78.74 333 eP P 07 45 30.5 +0.9
comp=Z,59nm,1.1s
W23A Werner Place, 78.82 333 ⇑P P 07 45 31.3 +1.1
baz=79,SNR=6.2
U27A Thompson Grove 78.85 336 ⇓P P 07 45 31.0 +0.9
baz=79,SNR=5.8
S32A Newby Ranch, P 78.88 340 ⇓P P 07 45 30.9 +0.8
baz=79,SNR=11
V25A Rancho No Teng 78.90 335 ⇓P P 07 45 31.3 +0.8
baz=79,SNR=10
YLE Yale 78.94 0 eP P 07 45 31.2 +0.9
comp=Z,121nm,1.0s
S31A Mullinville 78.96 339 ⇓P P 07 45 31.4 +0.9
baz=79,SNR=8.9
V24A Rampart Ranch, 79.03 334 ⇓P P 07 45 31.7 +0.5
baz=80,SNR=7.7
T29A Hugoton 79.05 338 ⇓P P 07 45 31.9 +0.7
baz=80,SNR=5.4
U26A Atchley Ranch, 79.12 336 ⇓P P 07 45 32.0 +0.3
baz=80,SNR=5.4
R33A Olander Ranch, 79.20 341 ⇓P P 07 45 32.0 +0.1
baz=80,SNR=6.1
S30A Montezuma 79.26 339 ⇑P P 07 45 33.1 +0.8
baz=80,SNR=8.8
T28A Walsh 79.27 337 ⇓P P 07 45 33.0 +0.7
baz=80,SNR=9.9
BOSA Boshof 79.29 118 eP P 07 45 32.4 -0.6
BOSA pmax pmax
comp=Z,60nm,1.0s
BOSA Boshof 79.29 118 P P 07 45 32.5 -0.5
comp=Z,42nm,0.8s,baz=236,slow=3.5,SNR=11
BOSA Boshof 79.29 118 eP P 07 45 32.4 -0.6
comp=Z,60nm,1.0s
TSUM Tsumeb 79.30 106 P P 07 45 33.3 +0.1
comp=Z,9.1nm,0.9s,baz=244,slow=7.1,SNR=5.2
TSUM pP pP 07 45 42.8 -0.7
comp=Z,13nm,0.9s,baz=236,slow=4.9,SNR=5.7
TSUM Tsumeb 79.30 106 eP P 07 45 32.4 -0.8
TSUM pP pP 07 45 42.8 -0.7
U25A Circle Dot Ran 79.34 335 ⇓P P 07 45 34.0 +1.0
baz=80,SNR=8.6
V23A Ortiz Mt. (NFS 79.36 333 ⇓P P 07 45 34.2 +1.1
baz=80
T27A Campo 79.40 337 ⇓P P 07 45 34.0 +0.9
baz=80
S29A Ulysses 79.43 338 ⇑P P 07 45 34.0 +0.8
baz=80,SNR=5.3
R32A Long Quarter, 79.50 340 ⇑P P 07 45 34.1 +0.6
baz=80,SNR=7.7

R31A Burdett 79.60 339 ⇑P P 07 45 34.8 +0.7
baz=80,SNR=7.4
KSU1 Kansas State U 79.60 342 eP P 07 45 34.1 +0.1
comp=Z,41nm,0.9s
KSU1 Kansas State U 79.60 342 ⇑P P 07 45 33.9 -0.1
baz=80
S28A Manter 79.64 337 ⇑P P 07 45 35.3 +0.9
baz=80,SNR=6.6
U24A Moreno Valley 79.64 334 ⇑P P 07 45 36.0 +1.3
baz=80
X18A Snowflake 79.69 330 ⇑P P 07 45 36.2 +1.4
baz=80
113A Mohawk Valley, 79.75 326 ⇓P P 07 45 36.4 +1.5
baz=80,SNR=6.3
V22A San Miguel Ran 79.77 333 ⇓P P 07 45 37.0 +1.7
baz=80,SNR=9.0
T26A Comanche Natio 79.78 336 ⇑P P 07 45 36.2 +0.9
baz=80,SNR=11
R30A Dighton 79.80 339 ⇑P P 07 45 35.7 +0.5
baz=80
Q33A Connelly Farm, 79.81 341 ⇑P P 07 45 35.4 +0.3
baz=80,SNR=5.8
BINY Binghamton 79.85 358 eP P 07 45 35.2 -0.1
comp=Z,373nm,2.0s
BKZ Black Stump Fm 79.86 228 eP P 07 45 37.4 +1.6
comp=Z,49nm,1.5s
U23A El Rito 79.89 334 ⇑P P 07 45 37.5 +1.6
baz=80,SNR=7.2
Z14A Wintersburg 79.90 327 ⇑P P 07 45 37.1 +1.4
baz=80
ERPA Erie 79.95 355 eP P 07 45 35.0 -0.8
comp=Z,413nm,1.3s
Q32A Meitler Ranch, 79.99 340 ⇑P P 07 45 36.5 +0.4
baz=80,SNR=6.9
T25A Trinidad 80.02 335 ⇓P P 07 45 38.1 +1.5
baz=80,SNR=9.7
S27A Las Animas 80.03 337 ⇓P P 07 45 37.5 +1.0
baz=80
W18A Petrified Fore 80.12 331 ⇓P P 07 45 38.5 +1.4
baz=81
S26A Kim 80.15 336 ⇓P P 07 45 38.3 +1.1
baz=81,SNR=9.9
U22A Llaves 80.17 333 ⇑P P 07 45 38.8 +1.4
baz=81
R29A Marienthal 80.18 338 ⇓P P 07 45 37.8 +0.6
baz=81,SNR=5.9
X16A Lo Mia Camp, P 80.19 329 ⇓P P 07 45 39.4 +1.9
baz=81,SNR=11
P33A Williams Farm, 80.19 341 ⇑P P 07 45 37.6 +0.4
baz=81
Q31A Ellis 80.23 340 ⇑P P 07 45 38.6 +1.1
baz=81,SNR=6.9
T24B San Luis 80.27 335 ⇑P P 07 45 39.4 +1.4
baz=81,SNR=7.9
R28A Tribune 80.30 338 ⇑P P 07 45 38.6 +0.7
baz=81,SNR=7.5
TRY Troy 80.35 360 eP P 07 45 39.4 +1.5
comp=Z,81nm,1.0s
Y14A Wickenburg 80.42 328 ⇓P P 07 45 40.0 +1.4
baz=81,SNR=8.9
Q30A Quinter 80.43 339 ⇓P P 07 45 39.5 +1.0
baz=81,SNR=9.2
AAM Ann Arbor 80.45 352 eP P 07 45 38.0 -0.5
AAM pmax pmax
comp=Z,44nm,0.8s
AAM Ann Arbor 80.45 352 eP P 07 45 38.0 -0.5
comp=Z,44nm,0.8s
GLA Glamis 80.45 326 eP P 07 45 40.2 +1.4
GLA Glamis 80.45 326 eP P 07 45 40.2 +1.4
GLA Glamis 80.45 326 ⇓P P 07 45 40.3 +1.5
baz=81
T23A Casias Ranch, 80.47 334 ⇑P P 07 45 40.4 +1.3
baz=81,SNR=5.3
S25A Robets Cordova 80.50 336 ⇓P P 07 45 40.2 +1.0
baz=81,SNR=7.3
R27A Eads 80.55 337 ⇓P P 07 45 39.9 +0.6
baz=81,SNR=9.7
Q29A Oakley 80.57 339 ⇓P P 07 45 39.6 +0.3
baz=81,SNR=6.4
P32A Huiting Farm, 80.60 341 ⇑P P 07 45 39.8 +0.4
baz=81,SNR=6.2
P31A Stockton 80.71 340 ⇓P P 07 45 40.6 +0.6
baz=81,SNR=5.4
S24A Houchin Ranch, 80.74 335 ⇓P P 07 45 41.8 +1.3
baz=81,SNR=9.2
R26A Arlington 80.77 337 ⇓P P 07 45 42.1 +1.6
baz=81,SNR=8.9
SWSC Sam W. Stewart 80.80 325 ⇑P P 07 45 41.9 +1.4
baz=81
R25A Fountain Ranch 80.89 336 ⇓P P 07 45 42.5 +1.3
baz=81
SDCO Great Sand Dun 80.93 335 eP P 07 45 42.6 +1.0
comp=Z,21nm,1.4s
P30A Selden 80.97 339 ⇑P P 07 45 42.2 +0.8
baz=81,SNR=7.4
Q28A Sharon Springs 80.97 338 ⇓P P 07 45 42.5 +1.0
baz=81
ACCN Adirondack Com 81.00 360 eP P 07 45 41.4 0.0
comp=Z,68nm,1.1s
MONP Monument Peak 81.04 325 ⇓P P 07 45 43.8 +1.7
baz=82
S23A Nye Farm, Mont 81.06 334 ⇑P P 07 45 43.4 +1.2
baz=82
WUAZ Wupatki 81.11 330 eP P 07 45 43.5 +1.1
comp=Z,293nm,2.3s
WUAZ Wupatki 81.11 330 ⇓P P 07 45 43.8 +1.4
baz=82,SNR=7.8
O32A Brockman Farm, 81.11 341 ⇓P P 07 45 42.9 +0.7
baz=82,SNR=7.0
KSCO Kaye Shedlock' 81.17 337 eP P 07 45 43.6 +1.0
comp=Z,296nm,1.9s
KSCO Kaye Shedlock' 81.17 337 ⇑P P 07 45 43.4 +0.8
baz=82,SNR=6.8
PDMCI Parker Dam,Lak 81.21 327 ⇓P P 07 45 44.5 +1.8
baz=82
P29A Atwood 81.22 339 ⇓P P 07 45 43.9 +1.2
baz=82,SNR=5.5
R24A Sanders Place, 81.24 335 ⇑P P 07 45 44.3 +1.2
baz=82,SNR=7.6
BC3 Big Chuckawall 81.24 326 ⇓P P 07 45 44.4 +1.3
baz=82
O31A Woolen Ranch, 81.29 340 ⇑P P 07 45 44.0 +1.0
baz=82,SNR=7.0
Q26A Hugo 81.36 337 ⇓P P 07 45 44.8 +1.2
baz=82,SNR=8.3
S22A 4UR Ranch, Cre 81.38 334 ⇑P P 07 45 45.1 +1.1
baz=82,SNR=6.9
P28A Saint Francis 81.42 338 ⇑P P 07 45 44.7 +0.8
baz=82,SNR=5.6
R23A Moffat 81.44 335 ⇓P P 07 45 45.1 +0.9
baz=82,SNR=6.3
MVCO Mesa Verde 81.50 332 eP P 07 45 45.3 +0.8
comp=Z,43nm,1.1s
MVCO Mesa Verde 81.50 332 ⇓P P 07 45 45.5 +0.9
baz=82,SNR=7.1
O30A MW Ranch, Wils 81.51 340 ⇓P P 07 45 45.1 +0.8
baz=82,SNR=6.8
SCIA State Center 81.53 345 eP P 07 45 44.4 +0.2
comp=Z,68nm,1.1s
IRM Iron Mountain 81.53 326 ⇑P P 07 45 45.8 +1.3
baz=82,SNR=5.1
Q25A Bedland, Calha 81.58 336 ⇓P P 07 45 45.6 +0.7
baz=82,SNR=7.4
N32A Stulken Farm, 81.59 341 ⇑P P 07 45 45.3 +0.6
baz=82
MDV Middlebury 81.62 0 eP P 07 45 45.1 +0.5
P27A Ficken Ranch, 81.65 338 ⇑P P 07 45 46.0 +0.9
baz=82
PFO Pinyon Flat Ob 81.65 325 P P 07 45 47.2 +2.0
comp=Z,151nm,1.0s,SNR=5.3
PFO Pinyon Flat Ob 81.65 325 eP P 07 45 47.3 +2.0
PFO pmax pmax
comp=Z,37nm,1.1s
PFO Pinyon Flat Ob 81.65 325 P P 07 45 46.4 +1.1
comp=Z,17nm,0.9s,baz=125,slow=3.7,SNR=12
PFO Pinyon Flat Ob 81.65 325 eP P 07 45 47.3 +2.0
comp=Z,37nm,1.1s
PFO Pinyon Flat Ob 81.65 325 ⇓P P 07 45 47.0 +1.7
baz=82,SNR=7.3
O29A 4D Ranch, Culb 81.66 339 ⇓P P 07 45 46.4 +1.3
baz=82
LBTB Lobatse 81.73 115 eP P 07 45 45.6 -0.5
LBTB pmax pmax
comp=Z,146nm,1.1s
LBTB Lobatse 81.73 115 eP P 07 45 45.6 -0.5
comp=Z,146nm,1.1s
BELC Belle Mtn. Jos 81.78 325 ⇓P P 07 45 47.6 +1.6
baz=82
W13A Hualapai Mount 81.79 328 ⇓P P 07 45 47.8 +1.7
baz=82,SNR=5.4
N31A Bailey Ranch, 81.82 341 ⇓P P 07 45 46.7 +0.8
baz=82
NEE2 Needles Airpor 81.82 327 ⇑P P 07 45 47.8 +1.8
baz=82
LBNH Lisbon 81.87 1 eP P 07 45 46.7 +0.7
LBNH pmax pmax
comp=Z,33nm,0.8s
LBNH Lisbon 81.87 1 eP P 07 45 46.7 +0.7
comp=Z,33nm,0.8s
P26A Davis Ranch, A 81.89 337 ⇓P P 07 45 46.7 +0.3
baz=82
Q24A Divide 81.92 336 ⇑P P 07 45 47.4 +0.6
baz=82,SNR=6.1
O28A Krutsinger Ran 81.94 339 ⇓P P 07 45 47.7 +1.1
baz=82,SNR=7.8
JFWS Jewell Farm 81.95 348 eP P 07 45 46.4 -0.1
JFWS pmax pmax
comp=Z,127nm,1.4s
JFWS Jewell Farm 81.95 348 eP P 07 45 46.4 -0.1
comp=Z,126nm,1.4s
MURC Murrieta 81.99 324 ⇓P P 07 45 48.3 +1.4
baz=82,SNR=5.1
P25A Willow Gulch B 82.10 337 ⇓P P 07 45 49.0 +1.4
baz=82,SNR=5.6
BGNE Belgrade 82.16 342 eP P 07 45 47.7 0.0
comp=Z,82nm,1.0s
BGNE Belgrade 82.16 342 ⇓P P 07 45 48.2 +0.6
baz=83,SNR=6.2
PTN Potsdam (NY) 82.20 359 eP P 07 45 48.2 +0.5
PTN pmax pmax
comp=Z,84nm,0.9s
PTN Potsdam (NY) 82.20 359 eP P 07 45 48.2 +0.5
comp=Z,84nm,0.9s
O27A Beecher Island 82.21 338 ⇓P P 07 45 49.1 +1.1
baz=83,SNR=6.0
N29A Votaw Ranch, W 82.26 340 ⇑P P 07 45 49.3 +1.0
baz=83,SNR=6.0
U15A North Rim 82.27 329 ⇑P P 07 45 50.0 +1.4
baz=83,SNR=8.2
GMRC Granite Mounta 82.28 326 ⇓P P 07 45 49.7 +1.2
baz=83,SNR=6.1
M31A Lambtecht Ranc 82.31 341 ⇑P P 07 45 49.8 +1.3
baz=83,SNR=9.2
P24A Kohler Place, 82.34 336 ⇑P P 07 45 49.8 +1.0
baz=83
N28A Pribbeno Ranch 82.39 339 ⇑P P 07 45 49.8 +0.9
baz=83
PV05 Paradox Valley 82.49 332 eP P 07 45 50.9 +1.2
O26A Horse Wrangler 82.50 337 ⇓P P 07 45 51.2 +1.6
baz=83
P23A Jefferson 82.51 335 ⇓P P 07 45 51.4 +1.4
baz=83
HEC Hector,Ludlow 82.62 326 ⇑P P 07 45 52.1 +1.8
baz=83
O25A Wiggins 82.63 337 ⇑P P 07 45 51.8 +1.6
baz=83
PV04 Paradox Valley 82.70 333 eP P 07 45 51.0 +0.3
SMCO Snowmass 82.72 334 eP P 07 45 52.6 +1.5
comp=Z,201nm,2.1s
BFSC Mount Baldy Ra 82.73 324 ⇑P P 07 45 51.8 +0.9
baz=83
PV10 Paradox Valley 82.73 333 eP P 07 45 51.5 +0.5
N27A Anderson Farm, 82.79 338 ⇑P P 07 45 52.3 +1.2
baz=83,SNR=6.2
ISCO Idaho Springs 82.83 336 eP P 07 45 52.2 +0.7
ISCO pmax pmax
comp=Z,26nm,1.5s
ISCO Idaho Springs 82.83 336 eP P 07 45 52.2 +0.7
comp=Z,26nm,1.5s
ISCO Idaho Springs 82.83 336 ⇓P P 07 45 52.0 +0.5
baz=83
M29A Burnside Ranch 82.86 340 ⇓P P 07 45 52.6 +1.3
baz=83,SNR=6.2
PV09 Paradox Valley 82.87 333 eP P 07 45 53.1 +1.3
O24A Longmont 82.94 336 ⇑P P 07 45 52.4 +0.5
baz=83
M28A Bar X Bar Ranc 83.00 339 ⇑P P 07 45 53.6 +1.5
baz=83
N26A Koester Ranch, 83.02 338 ⇑P P 07 45 53.3 +1.1
baz=84
P22A Eagle 83.02 335 ⇓P P 07 45 53.5 +1.1
baz=84
L31A Butterfield Fa 83.06 341 ⇓P P 07 45 53.6 +1.3
baz=84,SNR=12
L30A Spencer Herefo 83.07 341 ⇓P P 07 45 53.6 +1.2
baz=84,SNR=7.0
GSC Goldstone 83.23 326 eP P 07 45 55.2 +1.8
GSC pmax pmax
comp=Z,27nm,1.3s
GSC Goldstone 83.23 326 eP P 07 45 55.2 +1.8
comp=Z,27nm,1.3s
GSC Goldstone 83.23 326 ⇑P P 07 45 54.8 +1.4
baz=84,SNR=6.1
O23A Lake Granby, G 83.30 336 ⇓P P 07 45 55.0 +1.1
baz=84
L29A Maesberg Ranch 83.38 340 ⇓P P 07 45 55.1 +1.1
baz=84
EDW2 Edwards Air Fo 83.41 325 ⇓P P 07 45 55.3 +1.0
baz=84,SNR=5.9
M27A Reverse DX Ran 83.42 339 ⇑P P 07 45 55.7 +1.5
baz=84
O22A Kremmling 83.46 335 ⇑P P 07 45 56.0 +1.2
baz=84,SNR=5.5
N24A Carr 83.52 337 ⇑P P 07 45 56.3 +1.4
baz=84
OSI Osito Adit 83.53 324 eP P 07 45 56.6 +1.7
comp=Z,9.8nm,0.6s
OSI Osito Adit 83.53 324 ⇓P P 07 45 56.6 +1.7
baz=84
L28A Connealy Angus 83.61 339 ⇑P P 07 45 56.7 +1.5
baz=84
CCUT Cedar City 83.67 329 eP P 07 45 57.2 +1.4
comp=Z,37nm,1.0s
K30A Basset 83.72 341 ⇓P P 07 45 57.1 +1.4
baz=84,SNR=11
LRMC Laurel Mountai 83.77 325 ⇑P P 07 45 57.6 +1.4
baz=84,SNR=6.1
M25A Palm-Egli Farm 83.82 337 ⇓P P 07 45 57.3 +0.9
baz=84,SNR=6.3
N23A Red Feather La 83.92 336 ⇓P P 07 45 57.7 +0.6
baz=84,SNR=7.5
SRU San Rafael 83.92 332 eP P 07 45 57.3 +0.3
SRU pmax pmax
comp=Z,20nm,0.7s
SRU San Rafael 83.92 332 eP P 07 45 57.3 +0.3
comp=Z,20nm,0.7s
K29A Lazy Trails An 83.99 341 ⇓P P 07 45 57.6 +0.5
baz=84,SNR=5.7
ECSD EROS Data Cent 84.00 343 eP P 07 45 57.2 +0.1
comp=Z,103nm,0.9s
ECSD EROS Data Cent 84.00 343 ⇑P P 07 45 57.6 +0.6
baz=84,SNR=16
N22A Wattenberg Ran 84.00 336 ⇑P P 07 45 58.6 +1.1
baz=84
O20A White River Ci 84.01 334 ⇑P P 07 45 58.3 +0.8
baz=84
M24A Cheyenne 84.09 337 ⇓P P 07 45 59.0 +1.2
baz=84,SNR=5.7
K28A Ten Mile Ranch 84.23 340 ⇓P P 07 45 59.8 +1.5
baz=85,SNR=6.5
FURC Furnace Creek, 84.23 326 ⇑P P 07 45 59.9 +1.6
baz=85
ISA Isabella 84.28 325 eP P 07 46 00.1 +1.3
ISA pmax pmax
comp=Z,15nm,1.1s
ISA Isabella 84.28 325 eP P 07 46 00.1 +1.3
comp=Z,15nm,1.1s
ISA Isabella 84.28 325 ⇓P P 07 46 00.8 +2.0
baz=85,SNR=7.2
J30A Dallas 84.30 341 ⇑P P 07 45 58.9 +0.3
baz=85
TMUT Trail Mountain 84.34 332 eP P 07 46 00.2 +0.9
comp=Z,19nm,0.7s
M23A Laramie 84.37 336 ⇑P P 07 46 00.3 +1.0
baz=85,SNR=5.0
L25A Engebretsen Ra 84.45 338 ⇓P P 07 46 00.7 +1.2
baz=85
K27A Flueckinger Fa 84.46 339 ⇑P P 07 46 00.8 +1.3
baz=85,SNR=7.9
J29A Okreek 84.59 341 ⇓P P 07 46 01.0 +0.9
baz=85,SNR=5.8
N20A Spence Gulch, 84.64 334 ⇓P P 07 46 01.6 +0.9
baz=85
L24A Wheatland 84.64 337 ⇓P P 07 46 01.7 +1.1
baz=85
SPMN St. Paul 84.64 346 eP P 07 45 59.3 -1.0
comp=Z,35nm,0.8s
SPMN St. Paul 84.64 346 ⇓P P 07 46 00.2 -0.1
baz=85,SNR=9.8
VES Vestal, Richgr 84.71 324 ⇑P P 07 46 02.2 +1.4
baz=85
K26A Motz Farm, Whi 84.72 339 ⇓P P 07 46 01.8 +0.9
baz=85
I30A Oacoma 84.84 342 ⇓P P 07 46 01.2 -0.1
baz=85,SNR=8.5
K25A Mack Ranch, Ha 84.84 338 ⇑P P 07 46 02.4 +0.9
baz=85
J28A Allard Ranch, 84.85 340 ⇓P P 07 46 02.2 +0.7
baz=85,SNR=7.4
J27A Elkhorn Farm, 84.90 340 ⇓P P 07 46 02.9 +1.2
baz=85,SNR=10
L23A Garrett 84.95 337 ⇑P P 07 46 02.6 +0.4
baz=85
L22A Ellis Ranch, M 85.11 336 ⇑P P 07 46 03.2 +0.3
baz=86
I29A Vivian Onida 85.16 341 ⇑P P 07 46 03.5 +0.5
baz=86
RCTC Rector, Farmer 85.17 325 ⇑P P 07 46 03.6 +0.5
baz=86
BRSD Miller 85.22 342 eP P 07 46 02.9 -0.3
comp=Z,29nm,0.8s
BRSD Miller 85.22 342 ⇑P P 07 46 03.2 0.0
baz=86,SNR=6.1
K24A Anderson Ranch 85.23 337 ⇓P P 07 46 04.3 +0.9
baz=86
J26A Sides Ranch, S 85.26 339 ⇑P P 07 46 04.3 +0.8
baz=86,SNR=7.7
R11A Troy Canyon, C 85.27 328 ⇓P P 07 46 05.2 +1.4
baz=86
TIN Tinemaha 85.32 326 ⇓P P 07 46 05.9 +1.8
baz=86
I28A Midland 85.37 340 ⇑P P 07 46 04.4 +0.4
baz=86,SNR=11
K23A Bowen Ranch, D 85.50 337 ⇓P P 07 46 05.5 +0.6
baz=86,SNR=5.7
J25A Sunshine Ranch 85.54 338 ⇓P P 07 46 05.7 +0.8
baz=86,SNR=9.2
I27A Quinn 85.67 340 ⇑P P 07 46 06.0 +0.5
baz=86,SNR=6.0
K22A Casper 85.69 336 eP P 07 46 06.1 +0.3
comp=Z,28nm,0.9s
K22A Casper 85.69 336 ⇓P P 07 46 06.7 +0.8
baz=86,SNR=6.0
H29A Onida 85.70 341 ⇑P P 07 46 06.0 +0.4
baz=86,SNR=7.2
TPH Tonopah 85.73 327 eP P 07 46 07.3 +1.1
TPH pmax pmax
comp=Z,46nm,1.2s
TPH Tonopah 85.73 327 eP P 07 46 07.2 +1.1
comp=Z,46nm,1.2s
DUG Dugway 85.73 331 eP P 07 46 07.4 +1.3
DUG pmax pmax
comp=Z,65nm,1.4s
DUG Dugway 85.73 331 eP P 07 46 07.4 +1.3
comp=Z,65nm,1.4s
DUG Dugway 85.73 331 ⇑P P 07 46 07.1 +1.1
baz=86
J24A Dixon Ranch, L 85.74 338 ⇓P P 07 46 07.0 +1.0
baz=86,SNR=7.1
CTU Camp Tracy 85.76 332 eP P 07 46 06.7 +0.5
comp=Z,9.3nm,1.0s
I26A New Underwood 85.86 339 ⇑P P 07 46 06.8 +0.3
baz=86
G30A Faulkton 85.91 342 ⇓P P 07 46 06.9 +0.3
baz=86,SNR=9.0
K21A Alcova 85.91 336 ⇑P P 07 46 07.5 +0.5
baz=86
H28A Mission Ridge 85.96 341 ⇑P P 07 46 07.4 +0.5
baz=86,SNR=9.9
MLAC Mammoth Lakes 86.07 326 ⇑P P 07 46 09.2 +1.3
baz=86
I25A Rochford 86.09 339 ⇑P P 07 46 08.3 +0.6
baz=86,SNR=5.4
G29A Hoven 86.16 342 ⇑P P 07 46 07.8 -0.1
baz=87,SNR=6.3
H27A Howes 86.20 340 ⇓P P 07 46 08.2 +0.1
baz=87,SNR=6.4
I24A Kuemmerle Ranc 86.21 338 ⇓P P 07 46 08.8 +0.5
baz=87,SNR=5.1
RSSD Black Hills 86.27 339 eP P 07 46 08.8 +0.1
RSSD Black Hills 86.27 339 eP P 07 46 08.8 +0.1
G28A Parade 86.30 341 ⇓P P 07 46 09.0 +0.4
baz=87,SNR=11
J22A Midwest 86.37 337 ⇓P P 07 46 09.3 +0.2
baz=87
H26A Fairpoint 86.37 340 ⇑P P 07 46 09.8 +0.8
baz=87
BGU Big Grassy Mou 86.45 331 eP P 07 46 09.7 +0.1
comp=Z,9.1nm,1.5s
NVAR Mina Array Bea 86.50 326 P P 07 46 10.4 +0.4
comp=Z,6.0nm,0.7s,baz=163,slow=6.2,SNR=9.8
F30A Leola 86.55 342 ⇑P P 07 46 10.4 +0.6
baz=87
SPUT South Promonto 86.56 332 eP P 07 46 10.9 +0.8
comp=Z,7.9nm,0.9s
H25A Fruitdale 86.61 339 ⇓P P 07 46 10.8 +0.7
baz=87,SNR=6.2
J21A Lysite 86.61 336 ⇓P P 07 46 10.9 +0.5
baz=87
TOA0 Torodi Ar. Sit 86.71 71 eP P 07 46 10.5 -0.8
TORD Torodi Ar. Bea 86.71 71 P P 07 46 10.8 -0.4
comp=Z,31nm,0.8s,baz=224,slow=3.9,SNR=25
F29A Eureka 86.74 342 ⇑P P 07 46 10.9 +0.2
baz=87,SNR=8.4
BW06 Boulder Array 86.80 334 eP P 07 46 11.2 -0.2
comp=Z,25nm,1.4s
PDAR Pinedale Array 86.80 334 P P 07 46 11.8 +0.5
comp=Z,7.4nm,0.8s,baz=155,slow=5.9,SNR=12
PDAR PKKP PKKPdf 08 03 57.9 -3.2
comp=Z,4.2nm,0.9s,baz=141,slow=7.3,SNR=5.8
I22A 9 Mile Ranch, 86.80 337 ⇑P P 07 46 11.6 +0.4
baz=87
J20A Shoshoni 86.83 336 ⇓P P 07 46 12.6 +1.2
baz=87,SNR=7.5
G27A Dupree 86.85 340 ⇓P P 07 46 11.4 +0.1
baz=87,SNR=9.2
G26A Maurine 86.95 340 ⇓P P 07 46 11.6 -0.2
baz=87,SNR=11
I21A Big Trails, Te 86.98 336 ⇑P P 07 46 12.4 +0.3
baz=87
F28A McLaughlin 86.99 341 ⇓P P 07 46 12.0 +0.1
baz=87,SNR=9.3
H24A Dirks Ranch, A 87.00 338 ⇑P P 07 46 12.2 +0.1
baz=87
EYMN Ely 87.05 348 eP P 07 46 11.6 -0.6
comp=Z,37nm,1.4s
J19A Crowheart 87.07 335 ⇓P P 07 46 13.0 +0.4
baz=88,SNR=7.0
G25A Newell 87.08 339 ⇓P P 07 46 12.7 +0.3
baz=88,SNR=7.3
HVU Hansel Valley 87.09 332 eP P 07 46 13.3 +0.6
HVU pmax pmax
comp=Z,34nm,1.1s
HVU Hansel Valley 87.09 332 eP P 07 46 13.3 +0.6
comp=Z,34nm,1.1s
CMB Columbia Colle 87.10 325 eP P 07 46 14.1 +1.4
CMB pmax pmax
comp=Z,345nm,3.0s
CMB Columbia Colle 87.10 325 eP P 07 46 14.1 +1.4
comp=Z,345nm,3.0s
E30A Jud 87.14 343 ⇑P P 07 46 12.7 +0.1
baz=88,SNR=5.9
F27A Lemmon 87.33 341 ⇑P P 07 46 13.7 +0.1
baz=88,SNR=8.0
I20A Worland 87.38 336 ⇓P P 07 46 14.7 +0.7
baz=88
E29A Napoleon 87.38 342 ⇑P P 07 46 13.8 0.0
baz=88,SNR=6.3
H22A Clearmont 87.39 337 ⇓P P 07 46 13.8 -0.3
baz=88
F26A Lodgepole 87.48 340 ⇑P P 07 46 14.4 0.0
baz=88,SNR=5.9
G24A Alzada 87.49 339 ⇑P P 07 46 14.4 0.0
baz=88
E28A Huff 87.64 342 ⇑P P 07 46 15.1 +0.1
baz=88,SNR=6.0
G23A Biddle 87.66 338 ⇓P P 07 46 14.6 -0.6
baz=88
D30A Buchanan 87.68 343 ⇓P P 07 46 15.5 +0.3
baz=88,SNR=6.9
BMN Battle Mountai 87.70 328 eP P 07 46 16.3 +0.6
BMN pmax pmax
comp=Z,25nm,1.4s
BMN Battle Mountai 87.70 328 eP P 07 46 16.3 +0.6

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
	comp=Z,25nm,1.4s						
E27A	Carson	87.73	341	⇑P	P	07 46 15.9	+0.4
	baz=88						
I19A	Meeteetse	87.74	335	⇓P	P	07 46 16.1	+0.3
	baz=88						
F25A	Bowman	87.77	340	⇓P	P	07 46 16.2	+0.5
	baz=88						
REDW	Red Top Meadow	87.77	334	eP	P	07 46 16.6	+0.5
	comp=Z,112nm,2.0s						
H20A	Greybull	87.81	336	⇑P	P	07 46 16.5	+0.5
	baz=88						
SNOW	Snow King Moun	87.83	334	eP	P	07 46 17.0	+0.7
	comp=Z,9.8nm,0.8s						
D29A	Pettibone, Tap	87.83	343	⇓P	P	07 46 16.1	+0.2
	baz=88,SNR=6.8						
G22A	Birney	87.94	338	⇑P	P	07 46 16.7	+0.1
	baz=88						
F24A	Ekalaka	87.97	339	⇓P	P	07 46 16.9	+0.2
	baz=88						
E26A	Carlson Angus	88.00	340	⇑P	P	07 46 16.8	0.0
	baz=88,SNR=6.2						
F23A	Volborg	88.13	338	⇓P	P	07 46 17.4	-0.1
	baz=89						
I17A	Pilgrim Ck.	88.17	334	⇓P	P	07 46 18.7	+0.8
	baz=89,SNR=5.3						
C30A	Mose, Pekin	88.18	343	⇑P	P	07 46 17.9	+0.3
	baz=89,SNR=8.2						
AGMN	Agassiz Nation	88.19	345	eP	P	07 46 17.4	-0.1
	comp=Z,69nm,1.4s						
AGMN	Agassiz Nation	88.19	345	⇓P	P	07 46 17.6	+0.1
	baz=89,SNR=8.2						
D28A	Regan	88.19	342	⇓P	P	07 46 17.9	+0.3
	baz=89,SNR=8.5						
G21A	Lodge Grass	88.23	337	⇑P	P	07 46 18.2	+0.2
	baz=89						
E25A	Miller Ranch,	88.28	340	⇑P	P	07 46 19.1	+1.0
	baz=89						
H19A	Powell	88.30	336	⇑P	P	07 46 19.0	+0.7
	baz=89						
D27A	Center	88.35	341	⇑P	P	07 46 19.0	+0.5
	baz=89						
F22A	Rosebud	88.44	338	⇑P	P	07 46 19.9	+1.0
	baz=89						
D26A	Manning	88.51	341	⇓P	P	07 46 19.5	+0.3
	baz=89,SNR=5.8						
H18A	Shoshone NF, C	88.53	335	⇑P	P	07 46 20.2	+0.7
	baz=89						
E24A	Baker	88.58	339	⇓P	P	07 46 20.3	+0.8
	baz=89						
H17A	Grant Village	88.58	334	⇓P	P	07 46 19.8	-0.1
	baz=89						
C28A	Hausauer Farms	88.63	342	⇑P	P	07 46 20.3	+0.6
	baz=89						
YFT	Old Faithful	88.72	334	eP	P	07 46 21.9	+1.4
	comp=Z,9.6nm,0.9s						
B30A	Myrvik Farm, E	88.85	344	⇓P	P	07 46 21.0	+0.3
	baz=89,SNR=7.3						
D25A	Fairfield	88.86	340	⇑P	P	07 46 21.6	+0.8
	baz=89						
C27A	Sayler Ranch,	88.91	342	⇓P	P	07 46 21.7	+0.7
	baz=89,SNR=6.0						
E22A	Miles City	88.94	338	⇑P	P	07 46 22.1	+0.9
	baz=89						
YMR	Madison River	88.96	334	eP	P	07 46 22.7	+1.1
	comp=Z,48nm,1.7s						
F20A	Billings	89.04	337	⇓P	P	07 46 22.0	+0.2
	baz=90						
B29A	Wagenman Farm,	89.09	343	⇑P	P	07 46 22.5	+0.7
	baz=90						
D24A	Glendive	89.10	340	⇓P	P	07 46 22.7	+0.8
	baz=90						
C26A	Wahner Farm, P	89.16	341	⇓P	P	07 46 22.9	+0.7
	baz=90						
HLID	Hailey	89.24	332	eP	P	07 46 23.9	+1.0
	comp=Z,91nm,1.8s						
HLID	Hailey	89.24	332	⇑P	P	07 46 24.1	+1.2
	baz=90						
A30A	Hoffart Farm,	89.31	344	⇓P	P	07 46 22.8	-0.1
	baz=90,SNR=5.4						
F19A	Roth Farm, Mol	89.33	336	⇓P	P	07 46 23.0	-0.2
	baz=90						
C25A	Freed Ranch, W	89.36	340	⇑P	P	07 46 23.6	+0.4
	baz=90						
A29A	Manning Farm,	89.50	343	⇓P	P	07 46 24.0	+0.3
	baz=90,SNR=6.4						
D22A	Cohagen	89.65	338	⇑P	P	07 46 25.3	+0.8
	baz=90						
E20A	Meyer Farm, Mu	89.66	337	⇓P	P	07 46 25.4	+0.7
	baz=90						
A28A	Rude Farm, Bot	89.72	343	⇑P	P	07 46 25.1	+0.3
	baz=90						
E19A	Rath Farm, Rou	89.83	336	⇓P	P	07 46 25.8	+0.4
	baz=90						
WVOR	Wild Horse Val	89.96	328	eP	P	07 46 27.5	+1.3
WVOR				pmax	pmax		
	comp=Z,218nm,2.8s						
WVOR	Wild Horse Val	89.96	328	eP	P	07 46 27.5	+1.3
	comp=Z,218nm,2.8s						
A27A	Ledoux Ranch,	90.00	342	⇓P	P	07 46 26.5	+0.4
	baz=90						
ULM	Lac du Bonnet	90.05	346	P	P	07 46 26.5	+0.2
	comp=Z,7.1nm,0.7s,baz=182,slow=5.2,SNR=6.5						
ULM	Lac du Bonnet	90.05	346	P	P	07 46 26.5	+0.2
DLMT	Dillon	90.13	334	eP	P	07 46 28.7	+1.7
	comp=Z,53nm,1.4s						
A26A	Wade Farm, Ken	90.14	342	⇑P	P	07 46 26.9	+0.2
	baz=91						
D20A	Manuel Ranch,	90.19	337	⇑P	P	07 46 27.4	+0.4
	baz=91						
A25A	Svangstu Ranch	90.45	341	⇑P	P	07 46 28.9	+0.7
	baz=91						
C21A	Desert Coulee	90.53	338	⇑P	P	07 46 29.2	+0.5
	baz=91						
B22A	Reddig Ranch S	90.64	339	⇓P	P	07 46 29.7	+0.5
	baz=91						
C20A	Veseth Ranch,	90.70	338	⇑P	P	07 46 29.8	+0.4
	baz=91						
M04C	Macdoel	90.79	326	⇓P	P	07 46 31.3	+1.2
	baz=91						
A22A	Carney Farms,	91.25	339	⇑P	P	07 46 32.5	+0.5
	baz=92						
BMO	Blue Mountains	91.44	331	eP	P	07 46 33.7	+0.7
	comp=Z,116nm,3.0s						
A21A	Bergtoll Ranch	91.53	339	⇑P	P	07 46 33.2	-0.1
	baz=92						
B19A	Brinkman Farms	91.65	337	⇑P	P	07 46 34.2	+0.4
	baz=92						
A20A	Cobblestone Ra	91.72	338	⇑P	P	07 46 34.4	+0.3
	baz=92						
J05D	Fort Rock, OR	91.75	327	⇑P	P	07 46 35.0	+0.5
	baz=92						
MSO	Missoula	91.87	334	⇓P	P	07 46 35.6	+0.7
	baz=92						
A19A	Klindworth Far	92.01	338	⇓P	P	07 46 35.6	+0.1
	baz=92						
F10A	Beach Ranch, E	92.34	331	eP	P	07 46 38.4	+1.3
	comp=Z,179nm,2.6s						
G08A	Pilot Rock	92.45	330	eP	P	07 46 38.8	+1.1
	comp=Z,9.9nm,1.2s						
JTMT	Jette	92.77	334	eP	P	07 46 39.2	+0.1
YBMT	Yellow Bay	92.78	334	eP	P	07 46 39.9	+0.7
HAWA	Hanford	93.59	330	eP	P	07 46 44.4	+1.6
WALA	Waterton Lakes	93.77	335	eP	P	07 46 44.1	+0.3
	comp=Z,0.9nm,1.3s						
NEW	Newport	94.23	332	eP	P	07 46 45.6	-0.1
NEW				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NEW	Newport	94.23	332	eP	P	07 46 45.6	-0.1
	comp=Z,5.8nm,1.0s						
ESDC	Sonseca Array	100.20	47	P	Pdif	07 47 13.4	+0.4
	comp=Z,6.3nm,1.2s,baz=261,slow=4.4,SNR=4.3						
ES19	SONSECA Array	100.26	47	ePdif	Pdif	07 47 12.4	-0.8
YKA	Yellowknife Ar	105.45	342	Pdif	Pdif	07 47 35.1	-0.5
	comp=Z,0.2nm,0.5s,baz=146,slow=5.0,SNR=4.2						
OBKA	Obir	115.17	50	P	PKPdf	07 52 07.9	0.0
	comp=Z,10.0nm,0.8s						
GEC2	GERESS Array S	115.80	47	ePKIKP	PKPdf	07 52 09.0	-0.1
GEC2	GERESS Array S	115.80	47	ePKPdf	PKPdf	07 52 09.0	-0.1
GERES	GERESS Array B	115.80	47	PKP	PKPdf	07 52 08.8	-0.3
	comp=Z,9.9nm,0.8s,baz=202,slow=1.4,SNR=37						
CLL	Collm	116.58	44	i PKIKP	PKPdf	07 52 10.7	+0.4
CLL	Collm	116.58	44	i PKIKP	PKPdf	07 52 10.7	+0.4
WRA	Warramunga Ar	116.68	210	PKP	PKPdf	07 52 10.8	-0.9
	comp=Z,3.7nm,0.7s,baz=163,slow=1.6,SNR=8.3						
ILAR	Eielson Array	117.18	333	PKP	PKPdf	07 52 10.6	-0.6
	comp=Z,2.0nm,0.8s,baz=173,slow=2.1,SNR=9.1						
MORC	Moravsky Berou	118.46	48	⇓PKIKP	PKPdf	07 52 14.4	+0.3
MORC	Moravsky Berou	118.46	48	⇓iP	PKPdf	07 52 14.4	+0.3
VYHS	Vyhne	118.66	49	ePKIKP	PKPdf	07 52 14.4	-0.1
VYHS	Vyhne	118.66	49	ePKP	PKPdf	07 52 14.4	-0.1
BZS	Buzias	119.12	53	⇑PKIKP	PKPdf	07 52 15.4	0.0
BZS	Buzias	119.12	53	⇑iP	PKPdf	07 52 15.4	0.0
KDZ	Kurdzhali	119.88	59	⇓PKIKP	PKPdf	07 52 16.4	-0.7
KDZ	Kurdzhali	119.88	59	⇓iP	PKPdf	07 52 16.4	-0.7
NB2	NORSAR Subarra	120.03	34	PKPdf	PKPdf	07 52 16.2	-0.6
	comp=Z,6.0nm,0.8s,baz=248,slow=1.9						
NB2	NORSAR Subarra	120.03	34	PKPdf	PKPdf	07 52 16.2	-0.6
	baz=248,slow=1.9						
NOA	NORSAR Array B	120.03	34	PKP	PKPdf	07 52 16.6	-0.1
	comp=Z,4.4nm,0.6s,baz=251,slow=2.1,SNR=16						
DRGR		120.31	52	⇑PKIKP	PKPdf	07 52 17.6	-0.2
DRGR		120.31	52	⇑iP	PKPdf	07 52 17.6	-0.2
STHS	Stebnicka Huta	120.49	49	ePKIKP	PKPdf	07 52 18.0	0.0
STHS	Stebnicka Huta	120.49	49	ePKP	PKPdf	07 52 18.0	0.0
TRPA	Tarpa	120.75	51	⇑iP	PKPdf	07 52 18.5	0.0
HFS	Hagfors	120.78	36	PKP	PKPdf	07 52 17.2	-0.9
	comp=Z,16nm,0.7s,baz=186,slow=4.5,SNR=27						
JMB	Yambol	121.01	58	⇑PKIKP	PKPdf	07 52 18.7	-0.5
JMB	Yambol	121.01	58	⇑iP	PKPdf	07 52 18.7	-0.5
KWP	Kalwaria Pacla	121.45	49	⇓PKIKP	PKPdf	07 52 20.1	+0.2
KWP	Kalwaria Pacla	121.45	49	⇓iP	PKPdf	07 52 20.0	+0.2
MLR	Muntele Rosu	121.83	55	⇑PKIKP	PKPdf	07 52 20.3	-0.5
MLR	Muntele Rosu	121.83	55	⇑iP	PKPdf	07 52 20.3	-0.5
PRD	Provadia	121.86	58	⇓PKIKP	PKPdf	07 52 20.7	-0.1
BUR04	Bucovina Ar. S	122.20	52	ePKIKP	PKPdf	07 52 21.4	-0.1
BURAR	Bucovina Array	122.20	52	⇑PKIKP	PKPdf	07 52 21.8	+0.4
BURAR	Bucovina Array	122.20	52	⇑iP	PKPdf	07 52 21.8	+0.4
BUR08	Bucovina Ar. S	122.20	52	ePKPdf	PKPdf	07 52 21.2	-0.2
PLOR	Plostina	122.43	55	⇓PKIKP	PKPdf	07 52 20.9	-1.0
PLOR	Plostina	122.43	55	⇓iP	PKPdf	07 52 20.9	-1.0
VRI	Vrincioaia	122.48	55	⇓PKIKP	PKPdf	07 52 21.2	-0.7
VRI	Vrincioaia	122.48	55	⇓iP	PKPdf	07 52 21.2	-0.7
TESR	Tescani	122.68	54	⇓iP	PKPdf	07 52 21.7	-0.6
HARR	Harsova	122.81	56	⇓PKIKP	PKPdf	07 52 22.2	-0.3
HARR	Harsova	122.81	56	⇓iP	PKPdf	07 52 22.2	-0.3
TIRR	Tirgusor	123.04	57	⇑PKIKP	PKPdf	07 52 23.0	0.0
TIRR	Tirgusor	123.04	57	⇑iP	PKPdf	07 52 23.0	0.0
CFR	Carcaliu	123.13	56	⇑PKIKP	PKPdf	07 52 22.9	-0.2
CFR	Carcaliu	123.13	56	⇑iP	PKPdf	07 52 22.9	-0.2
TLCR		123.58	56	⇑PKIKP	PKPdf	07 52 23.7	-0.3
TLCR		123.58	56	⇑iP	PKPdf	07 52 23.7	-0.3
BR231	Keskin MP Arra	124.21	63	ePKPdf	PKPdf	07 52 25.0	-0.6
BRTR	Keskin Array B	124.77	64	PKP	PKPdf	07 52 26.6	-0.1
	comp=Z,18nm,0.7s,baz=193,slow=3.1,SNR=52						
TNA	Tin City	125.63	329	ePKPdf	PKPdf	07 52 26.8	-0.5
AK11	Malin Array Si	125.71	50	ePKPdf	PKPdf	07 52 26.7	-1.2
AK02	Malin Array Si	125.72	50	ePKPdf	PKPdf	07 52 26.6	-1.3
AK01	Malin Array Si	125.74	50	ePKPdf	PKPdf	07 52 26.8	-1.2
AKASG	Malin Array Be	125.75	50	PKP	PKPdf	07 52 27.0	-0.9
	comp=Z,8.3nm,0.6s,baz=262,slow=2.7,SNR=32						
GAMB	Gambell	126.80	327	ePKPdf	PKPdf	07 52 29.4	-0.1
SPITS	Spitsbergen Ar	126.85	15	PKP	PKPdf	07 52 28.3	-1.1
	comp=Z,13nm,0.9s,baz=248,slow=3.5,SNR=5.6						
FINES	FINESS Array B	126.95	36	PKP	PKPdf	07 52 29.6	-0.4
	comp=Z,15nm,0.9s,baz=112,slow=2.1,SNR=20						
SIM	Simferopol'	127.01	58	i PKIKP	PKPdf	07 52 30.8	+0.2
SIM				pmax	pmax		
	comp=Z,38nm,0.9s						
ARCES	ARCESS Array B	128.14	26	PKP	PKPdf	07 52 31.8	-0.2
	comp=Z,11nm,0.7s,baz=300,slow=2.4,SNR=14						
APA	Apatity	130.88	29	⇓iPKIKP	PKPdf	07 52 37.0	-0.3
OBN	Obninsk	131.14	46	⇑iPKIKP	PKPdf	07 52 37.3	-0.8
OBN				e		07 52 46.5	
OBN				pmax	pmax		
	comp=Z,21nm,1.1s						
KBZ	Khabaz	132.64	62	PKP	PKPdf	07 52 41.2	-0.1
	comp=Z,8.3nm,0.7s,baz=193,slow=2.2,SNR=21						
GOF	Gofitskoye	133.09	60	ePKIKP	PKPdf	07 52 42.8	+0.7
BILL	Bilibino	135.84	332	ePKIKP	PKPdf	07 52 46.9	+0.3
BILL				pmax	pmax		
	comp=Z,6.0nm,1.7s						
PRGR	Permogore	136.27	37	ePKIKP	PKPdf	07 52 44.0	-3.5
PETK	Petropavlovsk-	141.93	310	PKhKP	PKPpre	07 52 51.6	
	comp=Z,3.1nm,0.6s,baz=104,slow=5.9,SNR=5.8						
GEYT	Alibeck	142.24	75	PKhKP	PKPpre	07 52 54.5	
	comp=Z,8.3nm,0.6s,baz=262,slow=3.0,SNR=10						
SEY	Seymchan	142.80	327	PKhKP	PKPpre	07 52 55.9	
	comp=Z,12nm,1.0s,baz=79,slow=5.5,SNR=5.3						
ARU	Arti	143.52	44	PKIKP	PKPbc	07 52 58.3	0.0
PSI	Prapat	144.30	167	PKP	PKPab	07 53 01.1	-0.6
	comp=Z,84nm,0.8s,baz=185,slow=4.6,SNR=18						
PSI	Prapat	144.30	167	S	PKPab	07 53 01.3	-0.4
	baz=41,SNR=12						
TIXI	Tiksi	144.37	348	ePKIKP	PKPab	07 52 59.2	-0.9
TIXI	Tiksi	144.37	348	ePKPab	PKPab	07 52 59.1	-0.9
ABKAR	Akbulak array	145.03	56	ePKPdf	PKPbc	07 53 03.0	-0.2
LHMI	Lhok Sumawe	146.25	163	ePKPdf	PKPbc	07 53 07.3	+0.4
KKM	Kota Kinabalu	146.98	198	ePKPbc	PKPbc	07 53 09.9	-0.4
HYB	Hyderabad	148.10	122	i PKP	PKPbc	07 53 13.0	-0.2
KBL	Kabul	149.78	85	ePKPdf	PKPbc	07 53 12.7	+0.3
KBL				ePKPbc	PKPbc	07 53 16.7	-0.5
BVAR	Borovoye Array	150.97	47	PKP	PKPdf	07 53 14.4	+1.0
	comp=Z,9.7nm,0.9s,baz=273,slow=2.1,SNR=7.5						
BVAR				PKPbc	PKiKP	07 53 19.8	+0.1
	comp=Z,87nm,0.6s,baz=305,slow=3.0,SNR=23						
YSS	Yuzh-Sakhalins	151.98	300	⇓ePKIKP	PKPab	07 53 31.5	+0.4
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YAK	Yakutsk	152.00	337	ePKIKP	PKPbc	07 53 20.5	-0.7
YAK	Yakutsk	152.00	337	ePKPbc	PKPbc	07 53 20.5	-0.7
ASAJ	Asahikawa	152.23	294	PKPbc	PKPbc	07 53 21.9	-0.4
	comp=Z,24nm,0.8s,baz=240,slow=8.1,SNR=6.0						
KKAR	Karatay Array	152.36	68	ePKIKP	PKPbc	07 53 22.4	-0.3
KKAR	Karatay Array	152.36	68	ePKPbc	PKPbc	07 53 22.4	-0.3
MJAR	Matsushiro Arr	154.75	277	PKP	PKPdf	07 53 19.8	+0.3
	comp=Z,2.1nm,0.9s,baz=256,slow=2.6,SNR=4.1						
MJAR				pPKP	PKiKP	07 53 28.3	+0.2
	comp=Z,2.2nm,0.6s,baz=147,slow=2.7,SNR=4.2						
MJAR				PKPab	PKPab	07 53 43.5	+0.3
	comp=Z,6.4nm,0.8s,baz=148,slow=3.8,SNR=6.9						
EKS2	Erkin-Say	154.75	69	ePKIKP	PKPdf	07 53 19.7	+0.3
EKS2				e		07 53 27.7	
EKS2	Erkin-Say	154.75	69	ePKPdf	PKPdf	07 53 19.7	+0.3
EKS2				ePKPbc	PKPbc	07 53 27.7	-0.3
AAK	Ala-Archa	155.28	69	PKP	PKPdf	07 53 21.1	+0.9
	comp=Z,11nm,0.7s,baz=123,slow=1.1,SNR=5.3						
AAK				pPKP	pPKPdf	07 53 29.7	-1.4
	comp=Z,30nm,0.7s,baz=219,slow=3.1,SNR=17						
AAK				PKPab	PKPab	07 53 45.7	+0.2
	comp=Z,19nm,0.5s,baz=177,slow=1.7,SNR=22						
TKM2	Tokmak 2	156.09	68	ePKIKP	PKPdf	07 53 21.7	+0.3
TKM2	Tokmak 2	156.09	68	ePKPdf	PKPdf	07 53 21.6	+0.3
KSH	Kashi	156.24	77	ePKP	PKPdf	07 53 21.8	+0.3
KSH				sPKP		07 53 34.8	
KSH				PKS	PKSdf	07 56 54.3	-1.2
KSH				SKKS		08 04 12.8	
KSH				SS	SS	08 17 11.0	-4.9
NVS	Novosibirsk	156.94	36	ePKIKP	PKPdf	07 53 20.8	-0.9
NVS				pmax	pmax		
	comp=Z,40nm,1.0s						
NVS				pmax	pmax		
	comp=N,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,10.0nm,0.6s						
ZAA0	Zalesovo Array	158.22	36	ePKPdf	PKPdf	07 53 22.2	-1.2
ZALV	Zalesovo Beam	158.22	36	PKP	PKPdf	07 53 22.2	-1.2
	comp=E,18nm,0.8s,baz=275,slow=2.3,SNR=11						
ZALV				PKPab	PKPab	07 53 57.0	-0.5
	comp=E,20nm,0.9s,baz=297,slow=5.3,SNR=7.5						
KOLN	Koldanda	158.32	111	eP	PKPdf	07 53 23.9	-0.7
DANN	Dangsing	158.75	110	eP	PKPdf	07 53 24.8	-0.5
	comp=E,48nm,0.9s						
GKN	Gorkha	159.21	112	eP	PKPdf	07 53 24.6	-1.0
CMAR	Chiang Mai Arr	159.45	159	PKP	PKPdf	07 53 26.2	+0.2
	comp=Z,2.5nm,0.6s,baz=244,slow=2.9,SNR=9.4						
CMAR				PKPab	PKPab	07 54 02.0	-1.7
	comp=E,1.8nm,0.3s,baz=217,slow=4.9,SNR=5.7						
PKI	Pulchoki	159.52	114	eP	PKPdf	07 53 25.3	-0.9
KKN	Kakani	159.56	114	eP	PKPdf	07 53 25.5	-0.6
RAMN	Ramite	160.00	118	eP	PKPdf	07 53 26.3	-0.4
GUN	Gumba	160.06	114	eP	PKPdf	07 53 26.3	-0.5
JIRN	Jiri	160.13	115	eP	PKPdf	07 53 26.4	-0.6
MK31	Makanchi Array	160.17	56	ePKIKP	PKPdf	07 53 25.7	-0.2
MK31	Makanchi Array	160.17	56	ePKPdf	PKPdf	07 53 25.7	-0.2
MKAR	Makanchi Array	160.17	56	ePKIKP	PKPdf	07 53 25.5	-0.5
MKAR	Makanchi Array	160.17	56	PKP	PKPdf	07 53 25.1	-0.8
	comp=E,14nm,1.0s,baz=282,slow=2.2,SNR=16						
MKAR				PKPab	PKPab	07 54 06.2	-0.2
	comp=E,17nm,0.8s,baz=290,slow=4.6,SNR=14						
MKAR	Makanchi Array	160.17	56	ePKPdf	PKPdf	07 53 25.5	-0.5
MKAR				PKPab	PKPab	07 54 06.2	-0.2
MK01	Makanchi Array	160.18	56	ePKPdf	PKPdf	07 53 25.6	-0.4
ODAN	Odare	160.49	119	eP	PKPdf	07 53 26.8	-0.4
TAPN	Taplejung	161.02	119	eP	PKPdf	07 53 27.3	-0.5
KS01	Wonju Array Si	163.03	275	ePKPdf	PKPdf	07 53 26.8	-2.4
KS01				ePKPab	PKPab	07 54 19.2	+0.1
WMQ	Urumqi	164.68	62	PKP	PKPdf	07 53 31.0	+0.4
WMQ				PKS	PKSdf	07 57 02.5	-0.9
WMQ				PP	PP	07 58 16.0	+2.9
WMQ				SKS	SKSdf	08 00 30.0	-2.3
WMQ				SKKS	SKKSac	08 04 58.0	+0.1
WMQ				AMB	AMB		
	comp=E,500nm,11.6s						
WMQ				LR	LR		
	comp=E,900nm,21.2s						
WMQ				LR	LR		
	comp=E,1μm,21.8s						
WMQ				LR	LR		
	comp=E,1μm,20.5s						
NJ2	Nanjing	168.23	243	ePKP	PKPdf	07 53 35.5	+1.9
GYA	Guiyang	168.49	181	PKP	PKPdf	07 53 33.0	-1.1
GYA				pPKP	pPKPdf	07 53 46.3	+1.3
GYA				PKS	PKSdf	07 57 05.0	-1.9
GYA				PP	PP	07 58 33.5	+2.0
GYA				SKKS		08 05 16.5	
GYA				SS	SS	08 19 23.3	+3.0
GYA				AMB	AMB		
	comp=E,190nm,8.5s						
GYA				LR	LR		
	comp=E,220nm,21.8s						
GYA				LR	LR		
	comp=E,190nm,21.4s						
GYA				LR	LR		
	comp=E,240nm,24.6s						
SONM	Songino Array	170.17	0	PKP	PKPdf	07 53 33.0	-1.5
	comp=E,2.8nm,0.9s,baz=90,slow=0.6,SNR=4.8						
SONM				PKPab	PKPab	07 54 51.1	+0.8
	comp=E,5.9nm,0.8s,baz=337,slow=4.8,SNR=10						
CD2	Chengdu	172.59	162	PKP	PKPdf	07 53 36.0	-0.1
CD2				pPKP	pPKPdf	07 53 47.5	+0.5
CD2				sPKP		07 53 51.3	
CD2				PKS	PKSdf	07 57 06.8	-1.7
CD2				PP	PP	07 58 55.5	+3.5
CD2				SKS	SKSdf	08 00 33.5	-3.4
CD2				SKKS	SKKSac	08 05 37.0	+0.2
CD2				AMB	AMB		
	comp=E,1μm,8.6s						
GTA	Gaotai	174.62	73	⇑PKP	PKPdf	07 53 36.8	+0.1
GTA				pPKP	pPKPdf	07 53 47.5	-0.1
GTA				sPKP		07 53 51.3	
HHC	Hu-ho-hao-te	175.12	307	ePKP	PKPdf	07 53 34.0	-2.8
HHC				sPKP		07 53 49.8	
LZH	Lanzhou	177.17	132	ePKP	PKPdf	07 53 37.0	-0.5
LZH				pPKP	pPKPdf	07 53 48.3	-0.1
LZH				sPKP		07 53 54.5	
LZH				PKPab	PKPab	07 55 21.0	-0.9
LZH				PP	PP	07 59 17.0	+2.0

IDC 27 07:34:19.6±3.7, 10°.12N×125°.67E, h0km, mb4.5/10, mb1 4.6/10, mb1mx4.2/47, mbtmp4.5/10, Error ellipse: s-maj=86.1km s-min=41.7km az=145.0
NEIC 27 07:34:24.6±1.6, 10°.03N×125°.62E, h35km, mb4.8/2, Error ellipse: s-maj=37.4km s-min=20.4km az=115.0
NEIC Felt [III PIVS] at Albuera, Kananga and Ormoc; [II PIVS] at Palompon and Tacloban.
ISCJB 27 07:34:27.7±0.8, 11°.10N±0°.03×124°.68E±0°.04, h9km±5km, mb4.5/11, Error ellipse: s-maj=6.7km s-min=4.7km az=179.4
MAN 27 07:34:27, 11°.08N×124°.68E, h2km, mb5.1, ML4.1, MS4.3
ISC 27 07:34:28.4±1.1, 11°.08N±0°.03×124°.66E±0°.04, h8km±7km, n31,σ1§35/35, mb4.6/11, 3C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.06	239	eP	Pg	07 34 29.6	-0.5
PLP	Palo	0.33	75	⇓iP	Pg	07 34 34.2	-0.6
BESP	Borongan	0.93	56	eP	Pg	07 34 45.0	-1.2
MSLP	Maasin	0.96	168	eP	Pg	07 34 46.3	-0.5
MSLP				eS	Sb	07 34 59.6	-0.6
LLP	Lapu-Lapu	1.02	222	⇑eP	Pg	07 34 45.8	-2.1
LLP				eS	Sg	07 35 01.0	-0.2
TBP	Tagbilaran	1.59	210	eP	Pn	07 34 56.2	-0.7
TBP				i S	Sg	07 35 20.9	+1.5
MMPH	Masbate	1.62	322	⇓eP	Pn	07 34 56.2	-1.1
MMPH				i S	Sn	07 35 18.3	-0.2
GUIM	Jordan	2.08	258	eP	Pn	07 35 03.6	0.0
GUIM				eS	Sb	07 35 32.7	+0.2
SNPH	Sibulan	2.22	219	⇓iP	Pn	07 34 59.5	-6.2
SNPH				i S	Sn	07 35 32.7	-0.7
PVCP	Virac	2.55	349	eP	Pn	07 35 10.1	0.0
CGP	Cagayan de Oro	2.61	179	⇑eP	Pn	07 35 11.3	+0.4
CGP				eS	Sn	07 35 44.2	+1.4
OTRP	Odiongan	2.88	297	eP	Pn	07 35 16.5	+1.9
BUKP	Musuan	3.21	173	eP	Pn	07 35 20.5	+1.3
BIPH	Bislig	3.33	150	⇑eP	Pb	07 35 23.9	-3.9
BIPH				eS	Sb	07 36 08.3	-0.2
PAGZ	Pagadian	3.45	202	eP	Pn	07 35 22.3	-0.1
CUYO	Cuyo Island	3.58	267	eP	Pn	07 35 24.4	+0.1
SJMP	San Jose	3.73	292	eP	Pn	07 35 27.5	+1.2
ENPP	El Nido	5.14	272	eP	Pn	07 35 46.6	+0.9
TPUB	Ta-pu	12.75	343	ePn	Pn	07 37 41.1	+11
KULM	Kulim	24.44	258	eP	P	07 39 46.1	-1.9
	35nm,1.2s						
CMAR	Chiang Mai Arr	25.90	289	P	P	07 40 05.5	+4.3
	1.5nm,0.4s,baz=98,slow=8.1,SNR=7.7						
USRK	Ussuriysk Arra	33.60	10	P	P	07 41 09.4	+0.2
	8.0nm,0.8s,baz=203,slow=6.7,SNR=11						
SONM	Songino Array	39.72	341	P	P	07 42 03.0	+1.4
	4.1nm,0.9s,baz=163,slow=11,SNR=5.4						
TLY	Talaya	43.95	341	P	P	07 42 37.2	+1.3
	5.6nm,0.8s,baz=203,slow=13,SNR=6.2						
TLY	Talaya	43.95	341	eP	P	07 42 37.7	+1.8
	13nm,1.0s						
MKAR	Makanchi Array	50.43	323	P	P	07 43 30.4	+3.8
	3.8nm,0.7s,baz=119,slow=7.9,SNR=5.0						
KBZ	Khabaz	76.50	312	P	P	07 46 19.6	+0.5
	3.0nm,0.9s,baz=196,slow=7.4,SNR=3.5						
ARCES	ARCESS Array B	82.89	340	P	P	07 46 52.0	-1.4
	6.3nm,0.9s,baz=82,slow=6.5,SNR=6.1						
FINES	FINESS Array B	84.43	331	P	P	07 47 00.7	-0.7
	7.4nm,1.0s,baz=100,slow=5.8,SNR=8.2						
AKASG	Malin Array Be	84.94	321	P	P	07 47 02.9	-1.3
	5.5nm,0.9s,baz=68,slow=4.8,SNR=12						
NOA	NORSAR Array B	91.33	333	P	P	07 47 33.3	-1.4
	1.6nm,0.9s,baz=60,slow=5.0,SNR=3.8						

GUC 27 07:34:26.8±0.7, 33°.98S×72°.35W, h16km±182km, ML5.6
ISCJB 27 07:34:29.3±0.2, 33°.88S±0°.05×72°.28W±0°.04, h33km, mb5.4/78, Error ellipse: s-maj=6.9km s-min=4.3km az=15.5
MOS 27 07:34:29.2±1.2, 33°.86S×72°.29W, h33km, mb5.6/31, Error ellipse: s-maj=17.8km s-min=10.0km az=101.0
IDC 27 07:34:29.8±0.6, 33°.84S×72°.11W, h25km±3km, mb5.2/23, mb1 5.3/25, mb1mx5.1/35, mbtmp5.3/25, ML5.1/2, Error ellipse: s-maj=16.5km s-min=12.1km az=81.0
NEIC 27 07:34:30.9±0.2, 33°.82S×72°.13W, h35km, mb5.5/61, Error ellipse: s-maj=7.9km s-min=4.7km az=61.0
ISC 27 07:34:29.7±0.7, 33°.87S±0°.06×72°.20W±0°.06, h27km±4km, h27km:pP-P, n450, σ0§81/457, mb5.5/78, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.96	30	eP	Pn	07 34 46.8	-0.6
TACH	Talagante	1.08	79	eP	Pn	07 34 48.6	-0.4
ROCH	El Roble	1.34	49	eP	Pn	07 34 53.5	+0.6
ANTU	Antumapu	1.34	78	eP	Pn	07 34 53.3	+0.5
ANTU				eS	Sb	07 35 12.9	+1.8
ANTU				AML	AML	07 35 17.6	
	comp=E,74μm,0.7s						
SAN	Santiago	1.35	73	eP	Pb	07 34 53.7	-0.7
SAN				i S	Sb	07 35 13.7	+2.4
PEL	Peldehue	1.46	61	eP	Pb	07 34 55.6	-0.7
PEL				eS	Sb	07 35 17.4	+3.0
PEL				AML	AML	07 35 27.1	
	comp=N,214μm,0.6s						
CFAA	Coronel Fontan	4.03	57	Pn	Pn	07 35 34.6	+4.9
	comp=N,6.8nm,0.3s,baz=224,slow=14,SNR=8.0						
TRQA	Tornquist	9.28	120	ePn	Pn	07 36 44.3	+2.5
CPUP	Villa Florida	14.89	64	eP	P	07 38 02.3	-1.6

CPUP pmax pmax
comp=Z,132nm,1.8s
CPUP Villa Florida 14.89 64 Pn Pn 07 37 59.0 +0.5
comp=Z,3.4nm,0.3s,baz=245,slow=17,SNR=3.2
CPUP Villa Florida 14.89 64 eP P 07 38 02.3 -1.6
comp=Z,132nm,1.8s
LPAZ La Paz 17.88 13 eP P 07 38 41.0 +3.3
LPAZ pmax pmax
comp=Z,253nm,1.1s
LPAZ La Paz 17.88 13 P P 07 38 38.2 +0.5
comp=Z,1.8nm,0.3s,baz=140,slow=7.8,SNR=10
LPAZ La Paz 17.88 13 eP P 07 38 41.0 +3.3
comp=Z,252nm,1.1s
SIV San Ignacio 20.43 32 P P 07 39 05.2 +0.1
comp=Z,111nm,0.9s,baz=230,slow=14,SNR=16
USHA Ushuaia 21.13 174 P P 07 39 14.0 +1.8
comp=Z,74nm,0.9s,baz=332,slow=6.1,SNR=4.7
NNA Nana 22.19 348 P P 07 39 26.0 +2.1
comp=Z,662nm,1.2s,SNR=5.1
NNA Nana 22.19 348 P P 07 39 25.8 +1.8
NNA pmax pmax
comp=Z,104nm,1.2s
NNA Nana 22.19 348 P P 07 39 25.8 +1.8
comp=Z,104nm,1.2s,baz=186,slow=9.8,SNR=7.0
SAML Samuel 26.15 21 eP P 07 40 01.7 -0.1
comp=Z,246nm,1.2s
BDFB Brasilia 28.37 56 P P 07 40 20.9 -1.0
BDFB pmax pmax
comp=Z,83nm,0.9s
BDFB Brasilia 28.37 56 P P 07 40 20.9 -1.0
comp=Z,83nm,0.9s,baz=225,slow=8.8,SNR=8.2
HOPE Hope Point 32.28 140 P P 07 40 56.8 +0.9
comp=Z,1µm,1.1s,SNR=6.1
HOPE Hope Point 32.28 140 eP P 07 40 55.9 0.0
comp=Z,218nm,1.6s
BCIP Isla Barro Col 43.40 349 eP P 07 42 30.7 +0.6
comp=Z,210nm,1.6s
RCBR Riachuelo 43.69 59 P P 07 42 30.5 -2.1
comp=Z,74nm,1.1s,baz=205,slow=9.2,SNR=4.9
SNAA Sanae 51.76 158 eP P 07 43 33.7 -0.8
SNAA Sanae 51.76 158 P P 07 43 34.2 -0.3
comp=Z,43nm,0.9s,baz=288,slow=6.1,SNR=8.5
SNAA Sanae 51.76 158 eP P 07 43 33.7 -0.8
comp=Z,939nm,2.3s
ANWB Willy Bob 52.20 13 eP P 07 43 36.2 -2.0
comp=Z,365nm,1.2s
TEIG Tepich 55.93 342 P P 07 44 04.9 -0.5
baz=144,slow=8.4
TEIG Tepich 55.93 342 eP P 07 44 06.3 +0.9
comp=Z,114nm,1.1s
QSPA South Pole Qui 56.37 180 P P 07 44 08.6 +0.3
comp=Z,30nm,0.9s,baz=135,slow=6.4,SNR=2.8
QSPA South Pole Qui 56.37 180 eP P 07 44 08.7 +0.3
comp=Z,78nm,1.0s
VNDA Vanda 64.21 191 P P 07 45 03.2 +1.7
VNDA pmax pmax
comp=Z,25nm,1.2s
VNDA Vanda 64.21 191 P P 07 45 03.1 +1.7
comp=Z,25nm,1.2s,baz=94,slow=3.8,SNR=2.3
035A Encino 65.27 335 P P 07 45 10.6 +1.6
baz=66
034A Hebbronville 65.60 334 P P 07 45 12.6 +1.5
baz=66
933A Laredo 66.31 334 P P 07 45 16.5 +0.7
baz=67
835A Beeville 66.41 335 P P 07 45 17.8 +1.5
baz=67
834A Tilden 66.52 335 P P 07 45 17.8 +0.8
baz=67
735A Kenedy 66.93 336 P P 07 45 20.4 +0.8
baz=67
833A Chaparral WMA, 67.00 334 P P 07 45 20.9 +0.8
baz=67
734A La Parita Cree 67.18 335 P P 07 45 22.2 +1.0
baz=68
832A Faith Ranch, C 67.18 334 P P 07 45 22.1 +0.9
baz=68
636A Smothers Creek 67.25 337 P P 07 45 22.9 +1.3
baz=68
HKT Hockley 67.29 338 eP P 07 45 21.8 0.0
HKT pmax pmax
comp=Z,93nm,1.7s
HKT Hockley 67.29 338 eP P 07 45 21.8 0.0
comp=Z,93nm,1.7s
733A Divot King Ran 67.32 334 P P 07 45 23.2 +1.0
baz=68
635A Leesville 67.40 336 P P 07 45 23.4 +0.8
baz=68
732A Laxson Ranch, 67.58 334 P P 07 45 24.5 +0.7
baz=68
GOGA Godfrey 67.75 350 eP P 07 45 23.7 -1.0
GOGA pmax pmax
comp=Z,65nm,1.2s
GOGA Godfrey 67.75 350 eP P 07 45 23.7 -1.0
comp=Z,65nm,1.2s
536A Bastrop 67.80 337 P P 07 45 25.9 +0.8
baz=68
535A Dale 67.92 336 P P 07 45 26.6 +0.7
baz=68
633A Saathoff Ranch 67.95 335 P P 07 45 26.8 +0.6
baz=68
LRAL Lakeview Retre 67.99 347 eP P 07 45 25.6 -0.6
comp=Z,253nm,1.3s
339A Huntington 68.19 339 P P 07 45 28.3 +0.7
baz=68
632A Uvalde 68.22 334 P P 07 45 28.7 +0.9
baz=68
338A Crockett 68.44 339 P P 07 45 31.0 +1.9
baz=69
533A Kerrville 68.46 335 P P 07 45 30.2 +0.9
baz=69
337A Centerville 68.57 338 P P 07 45 31.8 +1.8
baz=69
435B Jarrell 68.62 337 P P 07 45 30.9 +0.7
baz=69
NATX Nacogdoches 68.62 340 eP P 07 45 31.3 +1.0
comp=Z,189nm,1.4s
239A Gary 68.81 340 P P 07 45 32.1 +0.7
baz=69
532A Rocksprings 68.82 334 P P 07 45 32.5 +0.9
baz=69
434A Burnet 68.88 336 P P 07 45 32.3 +0.4
baz=69
336A Riesel 68.94 338 P P 07 45 32.7 +0.5
baz=69
CNNC Cliffs of the 68.95 355 eP P 07 45 31.9 -0.3
comp=Z,137nm,1.2s
238A Jacksonville 68.98 339 P P 07 45 33.3 +0.8
baz=69
531A Rocksprings 69.09 334 P P 07 45 35.2 +1.9
baz=69
433A Art 69.11 335 P P 07 45 33.7 +0.4
baz=69
JCT Junction City 69.11 335 eP P 07 45 33.1 -0.3
JCT pmax pmax
comp=Z,125nm,1.3s
JCT Junction City 69.11 335 eP P 07 45 33.1 -0.3
comp=Z,125nm,1.3s
JCT Junction City 69.11 335 P P 07 45 34.0 +0.7
baz=69
KMSC Kings Mountain 69.18 352 P P 07 45 33.6 -0.1
baz=70
334A Lometa 69.34 336 P P 07 45 35.1 +0.3
baz=70
530A J-C Ranch, Com 69.37 333 P P 07 45 35.6 +0.6
baz=70
432A Menard 69.46 335 P P 07 45 36.1 +0.6
baz=70
TXAR Lajitas Array 69.55 331 P P 07 45 36.7 +0.5
TXAR pmax pmax
comp=Z,7.0nm,0.6s
TXAR Lajitas Array 69.55 331 P P 07 45 36.7 +0.5
comp=Z,6.7nm,0.6s,baz=153,slow=8.4,SNR=8.0
431A Sonora 69.58 334 P P 07 45 37.7 +1.4
baz=70
333A Richland Sprin 69.59 336 P P 07 45 36.7 +0.4
baz=70
529A Stev Forest Ra 69.68 332 P P 07 45 37.2 +0.2
baz=70
WHTX Lake Whitney 69.69 337 eP P 07 45 36.8 -0.1
comp=Z,67nm,0.8s
WHTX Lake Whitney 69.69 337 P P 07 45 37.3 +0.4
baz=70
137A Heron Place, G 69.73 339 P P 07 45 37.8 +0.7
baz=70
430A Baggett Ranch, 69.90 334 P P 07 45 38.7 +0.4
baz=70
332A Millersview 69.91 335 P P 07 45 38.5 +0.2
baz=70
OXF Oxford 69.91 345 eP P 07 45 37.7 -0.4
OXF pmax pmax
comp=Z,222nm,1.3s
OXF Oxford 69.91 345 eP P 07 45 37.7 -0.4
comp=Z,222nm,1.3s
SWET Sewanee 69.92 348 eP P 07 45 38.2 -0.1
comp=Z,250nm,1.6s
234A Clairette 69.93 337 P P 07 45 38.6 +0.3
baz=70
429A Davenport Ranc 70.00 333 P P 07 45 39.4 +0.5
baz=70
TKL Tuckaleechee C 70.00 350 P P 07 45 38.1 -0.7
TKL pmax pmax
comp=Z,37nm,1.1s
TKL Tuckaleechee C 70.00 350 P P 07 45 38.0 -0.7
comp=Z,37nm,1.2s,baz=149,slow=8.7,SNR=4.8
331A San Angelo 70.08 334 P P 07 45 39.7 +0.3
baz=70
PPT Papeete 70.13 262 P P 07 45 41.1 +1.1
PPT pmax pmax
comp=Z,55nm,1.0s
PPT Papeete 70.13 262 P P 07 45 41.1 +1.1
comp=Z,42nm,0.9s,baz=36,slow=4.1,SNR=3.6
233A Rising Star 70.19 336 P P 07 45 40.3 +0.3
baz=70
135A Vickery Place, 70.20 338 P P 07 45 40.6 +0.6
baz=70
232A Coleman 70.33 335 P P 07 45 41.2 +0.3
baz=71
134A White-Moore Ra 70.43 337 P P 07 45 41.6 +0.2
baz=71
330A Mertzon 70.44 334 P P 07 45 41.6 0.0
baz=71
231A Bronte 70.61 335 P P 07 45 42.7 +0.2
baz=71
133A Hamilton Ranch 70.74 336 P P 07 45 43.5 +0.2
baz=71
329A Wagon Wheel Ra 70.81 333 P P 07 45 44.3 +0.4
baz=71
230A Sterling City 70.85 334 P P 07 45 43.3 -0.7
baz=71
Z35A Perchaven, San 70.87 338 P P 07 45 44.1 0.0
baz=71
MIAR Mount Ida 70.94 341 eP P 07 45 44.2 -0.3
MIAR pmax pmax
comp=Z,61nm,1.4s
MIAR Mount Ida 70.94 341 eP P 07 45 44.2 -0.3
comp=Z,61nm,1.4s
ABTX Abilene, Hawle 71.00 336 P P 07 45 44.9 0.0
baz=71
WVT Waverly 71.15 347 eP P 07 45 45.3 -0.4
WVT Waverly 71.15 347 eP P 07 45 45.3 -0.4
comp=Z,543nm,1.6s
229A Bryant Ranch, 71.18 334 P P 07 45 46.3 +0.3
baz=72
HBAR Harrisburg 71.19 344 eP P 07 45 46.5 +0.6
131A Roby 71.30 335 P P 07 45 46.9 +0.1
baz=72
Z33A Whitaker Ranch 71.31 337 P P 07 45 47.1 +0.4
baz=72
130A Snyder 71.44 335 P P 07 45 47.9 +0.3
baz=72
Z32A Haskell 71.57 336 P P 07 45 48.7 +0.3
baz=72
228A UT Block 9, Go 71.60 333 P P 07 45 48.9 +0.2
baz=72
Y34A Reagan Ranch, 71.61 338 P P 07 45 49.0 +0.5
baz=72
BBTS Babate 71.66 57 P P 07 45 49.8 +0.6
comp=Z,143nm,1.0s,baz=232,slow=1.8,SNR=11
BBTS pP pP 07 45 57.7 -0.1
comp=Z,181nm,1.1s,baz=229,slow=0.7,SNR=7.0
Z31A Sharp Cattle R 71.80 336 P P 07 45 50.1 +0.4
baz=72
Y33A Hilltop Ranch, 71.93 337 P P 07 45 50.7 +0.3
baz=72
128A Castleberry Fa 72.01 333 P P 07 45 51.2 +0.1
baz=72
Z30A Sanderson Ranc 72.12 335 P P 07 45 51.5 -0.2
baz=72
Y32A R-V Farms, Ver 72.19 336 P P 07 45 51.9 -0.1
baz=72
X34A Smith Ranch, M 72.22 338 P P 07 45 52.1 -0.1
baz=72
Z29A Hungry Hill Ra 72.30 334 P P 07 45 52.5 -0.3
baz=73
X33A Lawton 72.38 337 P P 07 45 53.5 +0.4
baz=73
127A Arkansas Junct 72.39 333 P P 07 45 53.7 +0.3
baz=73
Y31A Rekieta Farm, 72.43 336 P P 07 45 53.9 +0.5
baz=73
X32A Elmer 72.52 337 P P 07 45 54.4 +0.4
baz=73
W34A Bridge Creek, 72.79 338 eP P 07 45 55.2 -0.3
comp=Z,61nm,1.1s
W34A Bridge Creek, 72.79 338 P P 07 45 55.7 +0.2
baz=73
Y29A Porterfield Fa 72.83 335 P P 07 45 56.1 +0.1
baz=73
TUL1 Tulsa 72.83 340 eP P 07 45 55.1 -0.7
comp=Z,63nm,1.2s
TUL1 Tulsa 72.83 340 P P 07 45 55.9 +0.1
baz=73
USIN University of 72.90 347 eP P 07 45 55.3 -0.8
comp=Z,126nm,1.2s
Z27A Tatum 72.91 333 P P 07 45 56.2 -0.2
baz=73
W33A Caddo, Fort Co 72.93 338 P P 07 45 57.1 +0.7
baz=73
X31A McDonald Ranch 72.94 336 P P 07 45 56.9 +0.4
baz=73
SIUC Southern Illin 72.95 346 eP P 07 45 56.0 -0.5
comp=Z,39nm,0.9s
SDMD Soldier's Deli 73.03 356 eP P 07 45 57.3 +0.4
comp=Z,70nm,1.3s
Y28A McKinney Farm, 73.08 334 P P 07 45 57.9 +0.4
baz=73
W32A Sentinel 73.15 337 P P 07 45 58.2 +0.5
baz=74
Z26A Caprock 73.16 333 P P 07 45 58.4 +0.5
baz=74
V34A Guthrie 73.27 339 eP P 07 45 58.3 -0.1
comp=Z,96nm,1.3s
V34A Guthrie 73.27 339 P P 07 45 58.9 +0.5
baz=74
MSTX Muleshoe 73.33 334 eP P 07 45 58.6 -0.3
MSTX Muleshoe 73.33 334 P P 07 45 59.0 +0.1
baz=74
MAW Mawson 73.35 164 eP P 07 45 57.8 -0.7
MAW pmax pmax
comp=Z,38nm,1.3s
MAW Mawson 73.35 164 P P 07 45 58.7 +0.2
comp=Z,95nm,1.1s,baz=229,slow=12,SNR=4.4
MAW Mawson 73.35 164 eP P 07 45 57.8 -0.7
comp=Z,38nm,1.3s
X29A Tulia 73.37 335 P P 07 45 59.4 +0.3
baz=74
Y27A Causey 73.39 333 P P 07 45 59.2 -0.1
baz=74
W31A Holland Ranch, 73.44 337 P P 07 45 59.6 +0.1
baz=74
Z25A Roswell 73.45 332 P P 07 45 59.9 +0.2
baz=74
V33A Lossen Ranch, 73.49 338 P P 07 46 00.2 +0.5
baz=74
X28A Dimmitt 73.61 335 P P 07 46 00.9 +0.3
baz=74
V32A Arapaho 73.64 337 P P 07 46 01.3 +0.7
baz=74
W30A Crocket Farms 73.65 336 P P 07 46 01.1 +0.4
baz=74
Y26A Elida 73.68 333 P P 07 46 01.3 +0.3
baz=74
319A Douglas 73.71 328 P P 07 46 02.5 +1.3
baz=74
Z24A Sheeppen Canyo 73.75 332 P P 07 46 02.2 +0.6
baz=74
AMTX Amarillo 73.76 335 P P 07 46 02.0 +0.6
baz=74
U34A Anderson Ranch 73.83 339 eP P 07 46 01.6 0.0
comp=Z,104nm,1.3s
U34A Anderson Ranch 73.83 339 P P 07 46 02.2 +0.6
baz=74
V31A Spring Creek L 73.94 337 P P 07 46 03.4 +1.0
baz=74
W29A Amraillo 73.96 335 P P 07 46 03.2 +0.7
baz=74
Y25A Mesa, Roswell 74.01 332 P P 07 46 03.6 +0.6
baz=74
121A Cookes Peak, D 74.05 329 P P 07 46 04.7 +1.4
baz=74
X27A F and S Farms, 74.05 334 P P 07 46 03.5 +0.3
baz=74
V30A Spur Ranch, Mi 74.21 336 P P 07 46 04.5 +0.5
baz=74
U32A Winter Ranch, 74.23 338 P P 07 46 04.6 +0.6
baz=74
X26A CR and CF Fran 74.23 333 P P 07 46 04.6 +0.4
baz=74
W28A Vega 74.28 335 P P 07 46 04.9 +0.4
baz=75
Y24A Capitan 74.30 332 P P 07 46 05.1 +0.3
baz=75
Z22A Elephant Butte 74.33 330 P P 07 46 05.8 +0.9
baz=75
ACSO Alum Creek Sta 74.40 351 eP P 07 46 04.5 -0.4
comp=Z,125nm,1.1s
U31A Nine Bar Ranch 74.49 337 P P 07 46 06.2 +0.6
baz=75
Y23A Lovelace Mesa, 74.55 331 P P 07 46 07.2 +1.1
baz=75
T33A Patterson Ranc 74.64 339 P P 07 46 06.9 +0.5
baz=75
W26A Owens Ranch, T 74.69 334 P P 07 46 07.5 +0.6
baz=75
V28A Channing 74.73 335 P P 07 46 07.8 +0.8
baz=75
X24A Lazy VL Ranch, 74.86 332 P P 07 46 08.6 +0.6
baz=75
U30A WK&E Inc. Balk 74.90 337 P P 07 46 09.6 +1.6
baz=75
V27A Dan Oppiter Fa 74.95 335 P P 07 46 09.2 +0.8
baz=75
W25A X Bar L Ranch, 75.06 333 P P 07 46 09.4 +0.3
baz=75
X23A Hourglass Bar 75.17 332 P P 07 46 10.9 +1.2
baz=76
DBIC Dimbokro 75.27 71 eP P 07 46 10.8 +0.3
DBIC Dimbokro 75.27 71 P P 07 46 10.3 -0.2
comp=Z,83nm,1.0s,baz=202,slow=6.9,SNR=7.7
DBIC Dimbokro 75.27 71 eP P 07 46 10.8 +0.3
U28A Mallet 75.29 335 P P 07 46 11.4 +1.1
baz=76
V26A Tequesquite Ra 75.33 334 P P 07 46 10.9 +0.3
baz=76
W24A Lazy 6 Ranch, 75.42 332 P P 07 46 11.9 +0.7
baz=76
U27A Thompson Grove 75.54 335 P P 07 46 12.0 +0.3
baz=76
ANMO Albuquerque 75.60 331 eP P 07 46 12.9 +0.7
ANMO pmax pmax
comp=Z,24nm,1.0s
ANMO Albuquerque 75.60 331 P P 07 46 13.2 +1.0
comp=Z,11nm,0.9s,baz=159,slow=12,SNR=2.1
ANMO Albuquerque 75.60 331 eP P 07 46 12.9 +0.7
comp=Z,24nm,1.0s
W23A Werner Place, 75.67 332 P P 07 46 13.0 +0.4
baz=76
V25A Rancho No Teng 75.67 333 P P 07 46 13.3 +0.7
baz=76
T29A Hugoton 75.68 336 P P 07 46 13.4 +0.9
baz=76
214A Organ Pipe Nat 75.83 325 P P 07 46 13.9 +0.5
baz=76
U26A Atchley Ranch, 75.85 334 P P 07 46 13.9 +0.3
baz=76
S30A Montezuma 75.85 337 P P 07 46 14.2 +0.7
baz=76
T28A Walsh 75.92 336 P P 07 46 14.3 +0.4
baz=76
R32A Long Quarter, 76.02 339 P P 07 46 14.8 +0.5
baz=76
S29A Ulysses 76.04 337 P P 07 46 15.2 +0.7
baz=76
KSU1 Kansas State U 76.04 341 P P 07 46 14.6 +0.2
baz=76
T27A Campo 76.08 335 P P 07 46 14.8 0.0
baz=76
U25A Circle Dot Ran 76.09 334 P P 07 46 14.9 -0.1
baz=76
R31A Burdett 76.14 338 P P 07 46 15.2 +0.1
baz=76
S28A Manter 76.28 336 P P 07 46 15.7 -0.2
baz=77
Q33A Connelly Farm, 76.29 340 P P 07 46 15.7 -0.2
baz=77
R30A Dighton 76.38 338 P P 07 46 17.2 +0.8
baz=77
U24A Moreno Valley 76.43 333 P P 07 46 18.1 +1.1
baz=77
T26A Comanche Natio 76.49 335 P P 07 46 17.6 +0.3
baz=77
Q32A Meitler Ranch, 76.50 339 P P 07 46 17.0 0.0
baz=77
AAM Ann Arbor 76.52 351 eP P 07 46 16.8 -0.2
AAM pmax pmax
comp=Z,47nm,1.1s
AAM Ann Arbor 76.52 351 eP P 07 46 16.8 -0.2
comp=Z,47nm,1.1s
V22A San Miguel Ran 76.62 332 P P 07 46 19.3 +1.2
baz=77
P33A Williams Farm, 76.66 340 P P 07 46 17.9 0.0
baz=77
X18A Snowflake 76.69 329 P P 07 46 19.0 +0.6
baz=77
U23A El Rito 76.70 332 P P 07 46 19.5 +1.0
baz=77
T25A Trinidad 76.75 334 P P 07 46 19.7 +1.0
baz=77
Q31A Ellis 76.76 339 P P 07 46 19.4 +0.9
baz=77
R29A Marienthal 76.78 337 P P 07 46 19.2 +0.5
baz=77
S26A Kim 76.85 335 P P 07 46 19.7 +0.6
baz=77
ACCN Adirondack Com 76.89 359 eP P 07 46 19.3 +0.2
comp=Z,79nm,1.3s
R28A Tribune 76.93 336 P P 07 46 19.8 +0.3
baz=77
113A Mohawk Valley, 76.95 325 P P 07 46 20.3 +0.6
baz=77
Q30A Quinter 76.99 338 P P 07 46 20.6 +0.8
baz=77
U22A Llaves 77.00 332 P P 07 46 21.2 +1.0
baz=77
T24B San Luis 77.04 333 P P 07 46 21.5 +1.0
baz=77
P32A Huiting Farm, 77.09 339 P P 07 46 21.3 +0.9
baz=77
W18A Petrified Fore 77.10 329 P P 07 46 21.9 +1.2
baz=77
R27A Eads 77.21 336 P P 07 46 21.4 +0.2
baz=78
S25A Robets Cordova 77.22 334 P P 07 46 22.0 +0.6
baz=78
P31A Stockton 77.23 339 P P 07 46 22.3 +1.1
baz=78
X16A Lo Mia Camp, P 77.25 328 P P 07 46 22.5 +1.0
baz=78
T23A Casias Ranch, 77.27 333 P P 07 46 22.5 +0.8
baz=78
R26A Arlington 77.44 335 P P 07 46 23.2 +0.7
baz=78
S24A Houchin Ranch, 77.49 334 P P 07 46 23.9 +0.9
baz=78
MDV Middlebury 77.50 359 eP P 07 46 23.7 +1.2
P30A Selden 77.52 338 P P 07 46 24.1 +1.3
baz=78
Y14A Wickenburg 77.56 326 P P 07 46 24.1 +1.0
baz=78
Q28A Sharon Springs 77.58 337 P P 07 46 23.7 +0.5
baz=78
O32A Brockman Farm, 77.59 340 P P 07 46 23.6 +0.4
baz=78
SDCO Great Sand Dun 77.69 334 eP P 07 46 24.5 +0.4
comp=Z,15nm,0.9s
GLA Glamis 77.69 324 P P 07 46 24.6 +0.7
baz=78
LBNH Lisbon 77.74 0 eP P 07 46 23.3 -0.5
LBNH pmax pmax
comp=Z,60nm,1.3s
LBNH Lisbon 77.74 0 eP P 07 46 23.3 -0.5
comp=Z,60nm,1.3s
P29A Atwood 77.79 338 P P 07 46 24.8 +0.5

baz=78
O31A Woolen Ranch, 77.80 339 P P 07 46 25.1 +0.8
baz=78
SCIA State Center 77.83 344 eP P 07 46 24.1 -0.4
comp=Z,90nm,1.2s
S23A Nye Farm, Mont 77.84 333 P P 07 46 26.2 +1.3
baz=78
R24A Sanders Place, 77.97 334 P P 07 46 26.8 +1.2
baz=78
P28A Saint Francis 78.02 337 P P 07 46 26.4 +0.8
baz=78
SWSC Sam W. Stewart 78.08 324 P P 07 46 26.6 +0.6
baz=78
WUAZ Wupatki 78.14 328 eP P 07 46 27.5 +1.0
comp=Z,27nm,1.0s
WUAZ Wupatki 78.14 328 P P 07 46 27.7 +1.2
baz=78
LONY Lake Ozonia 78.14 358 eP P 07 46 26.6 +0.5
comp=Z,51nm,1.4s
JFWS Jewell Farm 78.18 347 eP P 07 46 25.5 -0.8
JFWS pmax pmax
comp=Z,75nm,1.2s
JFWS Jewell Farm 78.18 347 eP P 07 46 25.5 -0.8
comp=Z,75nm,1.2s
R23A Moffat 78.20 334 P P 07 46 27.9 +1.0
baz=78
P27A Ficken Ranch, 78.28 336 P P 07 46 29.4 +2.3
baz=79
MONP Monument Peak 78.35 323 P P 07 46 28.7 +0.9
baz=79
MVCO Mesa Verde 78.38 331 eP P 07 46 27.3 -0.6
comp=Z,47nm,1.3s
MVCO Mesa Verde 78.38 331 P P 07 46 28.7 +0.8
baz=79
BC3 Big Chuckawall 78.49 324 P P 07 46 29.3 +0.9
baz=79
P26A Davis Ranch, A 78.54 336 P P 07 46 29.9 +1.3
baz=79
Q24A Divide 78.64 334 P P 07 46 29.8 +0.5
baz=79
IRM Iron Mountain 78.75 325 P P 07 46 30.4 +0.7
baz=79
P25A Willow Gulch B 78.78 335 P P 07 46 31.2 +1.2
baz=79
N29A Votaw Ranch, W 78.80 338 P P 07 46 31.3 +1.4
baz=79
O27A Beecher Island 78.82 337 P P 07 46 31.2 +1.2
baz=79
W13A Hualapai Mount 78.93 326 P P 07 46 31.7 +0.8
baz=79
PFO Pinyon Flat Ob 78.94 324 P P 07 46 32.0 +1.1
PFO pmax pmax
comp=Z,15nm,1.1s
PFO Pinyon Flat Ob 78.94 324 P P 07 46 32.0 +1.1
comp=Z,10nm,1.0s,baz=116,slow=3.6,SNR=3.7
PFO Pinyon Flat Ob 78.94 324 P P 07 46 31.8 +0.9
baz=79
BELC Belle Mtn. Jos 79.03 324 P P 07 46 32.3 +0.9
baz=79
MURC Murrieta 79.30 323 P P 07 46 33.5 +0.8
baz=80
U15A North Rim 79.31 328 P P 07 46 33.8 +0.8
baz=80
TSUM Tsumeb 79.38 106 P P 07 46 34.4 +0.6
comp=Z,46nm,1.1s,baz=245,slow=6.1,SNR=7.7
GMRC Granite Mounta 79.50 325 P P 07 46 34.7 +0.7
baz=80
ISCO Idaho Springs 79.55 334 eP P 07 46 33.7 -0.6
ISCO pmax pmax
comp=Z,28nm,1.3s
ISCO Idaho Springs 79.55 334 eP P 07 46 33.7 -0.6
comp=Z,28nm,1.3s
ISCO Idaho Springs 79.55 334 P P 07 46 34.8 +0.5
baz=80
PV04 Paradox Valley 79.56 331 eP P 07 46 34.1 -0.2
L30A Spencer Herefo 79.57 339 P P 07 46 34.4 +0.4
baz=80
HEC Hector,Ludlow 79.86 324 P P 07 46 37.0 +1.1
baz=80
CASY Casey 80.15 181 eP P 07 46 36.9 -0.1
comp=Z,50nm,1.2s
O22A Kremmling 80.20 334 P P 07 46 37.9 +0.1
baz=80
BOSA Boshof 80.25 118 P P 07 46 38.3 -0.1
BOSA *PP pP 07 46 46.8 -0.3
BOSA pmax pmax
comp=Z,48nm,1.0s
BOSA pmax pmax
comp=Z,44nm,0.9s
BOSA Boshof 80.25 118 P P 07 46 38.3 -0.1
comp=Z,48nm,1.0s,baz=255,slow=5.1,SNR=5.5
BOSA pP pP 07 46 46.8 -0.3
comp=Z,44nm,0.9s,baz=230,slow=6.5,SNR=4.2
BOSA Boshof 80.25 118 eP P 07 46 38.0 -0.4
comp=Z,38nm,0.9s
GSC Goldstone 80.47 324 eP P 07 46 40.2 +1.0
GSC pmax pmax
comp=Z,70nm,1.6s
GSC Goldstone 80.47 324 eP P 07 46 40.1 +1.0
comp=Z,70nm,1.6s
GSC Goldstone 80.47 324 P P 07 46 40.1 +0.9
baz=81
CCUT Cedar City 80.72 328 eP P 07 46 41.7 +1.2
comp=Z,34nm,1.0s
K28A Ten Mile Ranch 80.76 339 P P 07 46 41.5 +1.1
baz=81
K27A Flueckinger Fa 81.01 338 P P 07 46 43.0 +1.2
baz=81
LRMC Laurel Mountai 81.05 324 P P 07 46 43.1 +0.8
baz=81
L25A Engebretsen Ra 81.07 337 P P 07 46 43.4 +1.2
baz=81
J28A Allard Ranch, 81.36 339 P P 07 46 44.2 +0.5
baz=82
ISA Isabella 81.58 323 eP P 07 46 45.4 +0.4
ISA pmax pmax
comp=Z,31nm,1.1s
ISA Isabella 81.58 323 eP P 07 46 45.4 +0.4
comp=Z,31nm,1.1s
ISA Isabella 81.58 323 P P 07 46 45.8 +0.8
baz=82
I28A Midland 81.87 339 P P 07 46 47.2 +0.9
baz=82
H29A Onida 82.17 340 P P 07 46 47.9 +0.1
baz=82
I27A Quinn 82.20 339 P P 07 46 48.1 +0.1
baz=82
G30A Faulkton 82.34 341 P P 07 46 48.8 +0.1
baz=83
J24A Dixon Ranch, L 82.35 337 P P 07 46 49.9 +1.0
baz=83
R11A Troy Canyon, C 82.37 327 eP P 07 46 50.4 +1.1
comp=Z,30nm,1.1s
R11A Troy Canyon, C 82.37 327 P P 07 46 50.2 +1.0
baz=83
K22A Casper 82.38 335 eP P 07 46 49.5 +0.3
comp=Z,64nm,1.4s
K22A Casper 82.38 335 P P 07 46 49.9 +0.8
baz=83
RCTC Rector, Farmer 82.47 323 P P 07 46 49.9 +0.3
baz=83
LBTB Lobatse 82.49 115 eP P 07 46 49.6 -0.7
LBTB pmax pmax
comp=Z,105nm,1.1s
LBTB Lobatse 82.49 115 eP P 07 46 49.6 -0.7
comp=Z,105nm,1.1s
G29A Hoven 82.61 341 P P 07 46 50.1 0.0
baz=83
K21A Alcova 82.62 335 P P 07 46 50.6 +0.2
baz=83
DUG Dugway 82.69 330 eP P 07 46 51.4 +0.6
DUG pmax pmax
comp=Z,60nm,1.4s
DUG Dugway 82.69 330 eP P 07 46 51.4 +0.6
comp=Z,60nm,1.4s
DUG Dugway 82.69 330 P P 07 46 51.8 +1.0
baz=83
TPH Tonopah 82.90 326 eP P 07 46 51.1 -0.9
TPH pmax pmax
comp=Z,29nm,1.0s
TPH Tonopah 82.90 326 eP P 07 46 51.1 -0.9
comp=Z,29nm,1.0s
F30A Leola 82.96 341 P P 07 46 52.7 +0.7
baz=83
F29A Eureka 83.17 341 P P 07 46 53.0 0.0
baz=84
EYMN Ely 83.26 347 eP P 07 46 51.1 -2.3
comp=Z,66nm,1.6s
BGU Big Grassy Mou 83.39 330 eP P 07 46 54.4 -0.1
comp=Z,12nm,1.3s
F28A McLaughlin 83.46 340 P P 07 46 54.9 +0.4
baz=84
SPUT South Promonto 83.47 331 eP P 07 46 55.6 +0.8
comp=Z,55nm,1.7s
E30A Jud 83.55 342 P P 07 46 55.1 +0.2
baz=84
J20A Shoshoni 83.55 335 P P 07 46 55.2 0.0
baz=84
I21A Big Trails, Te 83.67 335 P P 07 46 55.8 0.0
baz=84
NVAR Mina Array Bea 83.69 325 P P 07 46 56.8 +0.7
comp=Z,3.1nm,0.7s,baz=146,slow=6.0,SNR=4.0
J19A Crowheart 83.82 334 P P 07 46 56.9 +0.3
baz=84
F27A Lemmon 83.83 340 P P 07 46 57.0 +0.6
baz=84
G24A Alzada 84.06 338 P P 07 46 58.1 +0.4
baz=84
D30A Buchanan 84.07 342 P P 07 46 58.1 +0.5
baz=84
I20A Worland 84.08 335 P P 07 46 57.9 0.0
baz=84
D29A Pettibone, Tap 84.24 342 P P 07 46 59.0 +0.6
baz=85
TOA0 Torodi Ar. Sit 84.29 70 eP P 07 46 58.8 -0.6
TORD Torodi Ar. Bea 84.29 70 P P 07 46 59.0 -0.4
comp=Z,100nm,1.0s,baz=243,slow=4.9,SNR=9.4
TORD pP pP 07 47 08.1 -0.1
comp=Z,92nm,1.0s,baz=247,slow=5.1,SNR=9.9
H20A Greybull 84.51 335 P P 07 46 59.7 -0.2
baz=85
F24A Ekalaka 84.53 338 P P 07 46 59.8 -0.3
baz=85
F23A Volborg 84.72 337 P P 07 47 00.7 -0.3
baz=85
E25A Miller Ranch, 84.80 339 P P 07 47 01.5 +0.1
baz=85
I17A Pilgrim Ck. 84.95 333 P P 07 47 02.8 +0.4
baz=85
H19A Powell 85.02 335 P P 07 47 02.6 +0.1
baz=85
F22A Rosebud 85.05 337 P P 07 47 01.9 -0.7
baz=85
E24A Baker 85.13 338 P P 07 47 03.3 +0.3
baz=85
B30A Myrvik Farm, E 85.21 343 P P 07 47 03.7 +0.4
baz=86
G20A Bridger 85.22 335 P P 07 47 03.2 -0.4
baz=86
H18A Shoshone NF, C 85.26 334 P P 07 47 03.6 -0.4
baz=86
D25A Fairfield 85.36 339 P P 07 47 04.7 +0.5
baz=86
B29A Wagenman Farm, 85.48 342 P P 07 47 04.8 +0.2
baz=86
RLMT Red Lodge 85.51 335 eP P 07 47 04.9 -0.2
comp=Z,32nm,1.2s
E22A Miles City 85.54 337 P P 07 47 04.8 -0.2
baz=86
C26A Wahner Farm, P 85.62 340 P P 07 47 06.1 +0.7
baz=86
D24A Glendive 85.63 339 P P 07 47 06.2 +0.7
baz=86
F20A Billings 85.70 336 P P 07 47 05.6 -0.3
baz=86
B28A Dugan Ranch, T 85.72 342 P P 07 47 06.1 +0.2
baz=86
YMR Madison River 85.74 333 eP P 07 47 06.6 +0.3
comp=Z,38nm,1.1s
LAO LASA Array 85.84 337 eP P 07 47 05.5 -1.0
comp=Z,41nm,1.1s
C25A Freed Ranch, W 85.85 340 P P 07 47 06.6 +0.1
baz=86
B27A Peters Farms, 85.92 341 P P 07 47 07.0 +0.2
baz=86
D23A Lindsay 85.95 338 P P 07 47 07.1 0.0
baz=86
E21A Keefer Ranch, 85.99 337 P P 07 47 07.5 +0.2
baz=86
F19A Roth Farm, Mol 86.03 335 P P 07 47 07.6 0.0
baz=86
C24A Savage 86.03 339 P P 07 47 07.6 +0.1
baz=86
A28A Rude Farm, Bot 86.12 342 P P 07 47 08.3 +0.5
baz=86
HLID Hailey 86.15 331 eP P 07 47 08.4 +0.1
comp=Z,34nm,1.3s
HLID Hailey 86.15 331 P P 07 47 09.1 +0.8
baz=86
D22A Cohagen 86.24 338 P P 07 47 09.4 +1.0
baz=87
E20A Meyer Farm, Mu 86.31 336 P P 07 47 09.1 +0.2
baz=87
B25A Knox Farm, Ray 86.33 340 P P 07 47 09.9 +1.1
baz=87
ULM Lac du Bonnet 86.33 345 P P 07 47 08.3 -0.5
ULM pmax pmax
comp=Z,29nm,1.3s
ULM Lac du Bonnet 86.33 345 P P 07 47 08.3 -0.5
comp=Z,29nm,1.3s,baz=171,slow=4.1,SNR=3.1
A27A Ledoux Ranch, 86.42 341 P P 07 47 10.3 +1.1
baz=87
D21A La Casta Ranch 86.43 337 P P 07 47 09.7 +0.2
baz=87
E19A Rath Farm, Rou 86.50 336 P P 07 47 09.9 +0.1
baz=87
C23A Lambert 86.51 338 P P 07 47 10.0 +0.2
baz=87
C22A Vida 86.67 338 P P 07 47 10.6 +0.1
baz=87
DGMT Dagmar 86.81 339 eP P 07 47 11.1 -0.2
comp=Z,84nm,1.0s
DGMT Dagmar 86.81 339 P P 07 47 11.2 0.0
baz=87
D20A Manuel Ranch, 86.83 336 P P 07 47 11.3 -0.1
baz=87
A25A Svangstu Ranch 86.92 340 P P 07 47 12.1 +0.3
baz=87
B23A Brockton 87.04 339 P P 07 47 12.4 0.0
baz=87
C21A Desert Coulee 87.13 337 P P 07 47 12.8 0.0
baz=87
D19A Cripps Ranch, 87.14 336 P P 07 47 12.9 0.0
baz=88
A24A Westby 87.16 340 P P 07 47 13.1 +0.1
baz=88
B22A Reddig Ranch S 87.20 338 P P 07 47 13.4 +0.2
baz=88
MOD Modoc 87.38 326 eP P 07 47 14.3 0.0
comp=Z,14nm,0.9s
WDC Whiskeytown Da 87.42 324 eP P 07 47 14.0 -0.3
WDC pmax pmax
comp=Z,25nm,1.0s
WDC Whiskeytown Da 87.42 324 eP P 07 47 14.0 -0.3
comp=Z,25nm,1.0s
EGMT Eagleton 88.18 336 eP P 07 47 17.2 -0.7
comp=Z,21nm,1.1s
SCHQ Schefferville 88.46 3 P P 07 47 18.6 -0.3
comp=Z,29nm,1.3s,baz=164,slow=6.5,SNR=3.8
SCHQ pP pP 07 47 27.1 -0.7
comp=Z,10nm,0.7s,baz=177,slow=4.6,SNR=5.7
WALA Waterton Lakes 90.53 334 eP P 07 47 28.8 -0.1
comp=Z,0.7nm,1.4s
HAWA Hanford 90.57 329 eP P 07 47 28.9 -0.1
comp=Z,26nm,1.3s
FCC Fort Churchill 94.07 349 eP P 07 47 44.8 -0.1
FCC Fort Churchill 94.07 349 eP P 07 47 44.8 -0.1
ESDC Sonseca Array 96.58 46 P P 07 47 57.0 0.0
comp=Z,2.8nm,1.1s,baz=243,slow=9.3,SNR=6.5
ESDC Sonseca Array 96.58 46 P P 07 47 57.0 0.0
YKA Yellowknife Ar 101.89 341 P Pdif 07 48 19.0 -1.0
comp=Z,1.6nm,1.1s,baz=144,slow=4.2,SNR=3.8
YKA pP pP 07 48 29.0 -0.1
comp=Z,1.3nm,0.7s,baz=143,slow=4.6,SNR=6.0
CLL Collm 112.84 43 ePKiKP PKiKP 07 53 04.0 +0.5
BUR08 Bucovina Ar. S 118.76 50 ePKPdf PKPdf 07 53 14.4 -0.7
WRA Warramunga Arr 120.81 209 PKIKP PKPdf 07 53 18.0 -1.9
WRA pmax pmax
comp=Z,4.0nm,1.1s
WRA Warramunga Arr 120.81 209 PKP PKPdf 07 53 18.0 -1.9
comp=Z,4.3nm,1.1s,baz=145,slow=1.5,SNR=3.6
BRTR Keskin Array B 121.89 61 PKIKP PKPdf 07 53 20.9 -0.6
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 121.89 61 PKP PKPdf 07 53 20.9 -0.6
comp=Z,9.1nm,0.9s,baz=190,slow=3.5,SNR=9.7
AK02 Malin Array Si 122.18 47 ePKPdf PKPdf 07 53 19.9 -1.5
AK01 Malin Array Si 122.19 47 ePKPdf PKPdf 07 53 20.1 -1.3
AKASG Malin Array Be 122.20 47 PKIKP PKPdf 07 53 20.1 -1.4
AKASG pmax pmax
comp=Z,20nm,1.0s
AKASG Malin Array Be 122.20 47 PKP PKPdf 07 53 20.1 -1.4
comp=Z,20nm,1.0s,baz=262,slow=2.7,SNR=9.8
FINES FINESS Array B 122.96 35 PKIKP PKPdf 07 53 22.2 -0.4
FINES pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 122.96 35 PKP PKPdf 07 53 22.2 -0.4
comp=Z,7.1nm,1.0s,baz=228,slow=1.7,SNR=4.4
GAMB Gambell 123.91 328 ePKPdf PKPdf 07 53 23.6 -0.7
OBN Obninsk 127.43 43 ePKIKP PKPdf 07 53 31.3 0.0
OBN e 07 53 38.4
OBN pmax pmax
comp=Z,57nm,1.2s
KBZ Khabaz 129.64 58 PKIKP PKPdf 07 53 36.7 +0.8
KBZ pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 129.64 58 PKP PKPdf 07 53 36.7 +0.8
comp=Z,14nm,1.0s,baz=246,slow=3.6,SNR=4.3
ZEI Tsey 130.16 60 i PKIKP PKPdf 07 53 36.5 -0.8
ZEI pmax pmax
comp=Z,21nm,1.3s
GNI Garni 130.18 63 PKIKP PKPdf 07 53 38.4 +1.1
GNI pmax pmax
comp=Z,10.0nm,0.7s
GNI Garni 130.18 63 PKP PKPdf 07 53 38.4 +1.1
comp=Z,10.0nm,0.7s,baz=105,slow=12,SNR=5.1
PRGR Permogore 132.29 35 ePKIKP PKPdf 07 53 39.1 -1.3
PRGR pmax pmax
comp=Z,127nm,1.3s
GEYT Alibeck 139.93 69 PKP PKPdf 07 53 56.0 +0.6
comp=Z,8.8nm,0.9s,baz=232,slow=1.6,SNR=3.9
PALK Pallekele 143.58 130 ePKIKP PKPab 07 53 59.2 +0.1
PALK Pallekele 143.58 130 ePKPdf PKPab 07 53 59.2 +0.1
HYB Hyderabad 149.11 115 i PKP PKPbc 07 54 14.0 -2.0
KKAR Karatay Array 149.60 61 ePKPbc PKPbc 07 54 16.5 0.0
EKS2 Erkin-Say 152.03 62 ePKIKP PKPbc 07 54 22.4 0.0
EKS2 Erkin-Say 152.03 62 ePKPbc PKPbc 07 54 22.4 0.0
AAK Ala-Archa 152.56 62 PKIKP PKPbc 07 54 24.3 +0.6
AAK pmax pmax
comp=Z,52nm,0.9s
AAK Ala-Archa 152.56 62 PKPbc PKPbc 07 54 24.3 +0.6
comp=Z,52nm,0.9s,baz=182,slow=2.7,SNR=9.0
FRU Bishkek 152.63 61 ePKIKP PKPbc 07 54 24.0 +0.4
FRU e 07 54 31.5
FRU pmax pmax
comp=Z,70nm,1.1s
NVS Novosibirsk 152.90 32 ePKIKP PKPbc 07 54 22.9 -0.8
NVS pmax pmax
comp=Z,113nm,1.2s
NVS pmax pmax
comp=N,8.0nm,0.7s
NVS pmax pmax
comp=E,17nm,0.7s
TKM2 Tokmak 2 153.33 61 ePKIKP PKPbc 07 54 25.4 0.0
TKM2 Tokmak 2 153.33 61 ePKPbc PKPbc 07 54 25.4 0.0
ZAA0 Zalesovo Array 154.19 32 ePKPbc PKPbc 07 54 26.5 -0.1
ZALV Zalesovo Beam 154.19 32 PKIKP PKPbc 07 54 26.3 -0.3
ZALV 07 54 34.2
ZALV pmax pmax
comp=Z,38nm,1.0s
ZALV Zalesovo Beam 154.19 32 PKPbc PKPbc 07 54 26.3 -0.3
comp=Z,38nm,1.0s,baz=298,slow=3.2,SNR=8.4
ZALV pPKPbc pPKPbc 07 54 34.2 -1.4
comp=Z,24nm,0.7s,baz=311,slow=2.9,SNR=5.3
MKAR Makanchi Array 156.78 49 PKPab PKPab 07 54 51.8 -0.1
comp=Z,16nm,0.9s,baz=299,slow=3.7,SNR=5.4
MKAR pPKPab pPKPab 07 55 00.8 0.0
comp=Z,14nm,0.7s,baz=305,slow=3.6,SNR=4.7
CMAR Chiang Mai Arr 162.74 151 PKIKP PKPdf 07 54 29.4 -0.3
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 162.74 151 PKP PKPdf 07 54 29.4 -0.3
comp=Z,2.9nm,0.3s,baz=247,slow=2.8,SNR=6.0
ZAK Zakamensk 163.16 10 ePKIKP PKPdf 07 54 29.5 +0.2
ZAK e 07 55 18.2
ZAK pmax pmax
comp=Z,8.0nm,1.8s
ZAK pmax pmax
comp=Z,14nm,1.3s
SONM Songino Array 166.00 4 PKP2 PKPab 07 55 32.8 +0.7
SONM pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 166.00 4 PKPab PKPab 07 55 32.8 +0.7
comp=Z,8.3nm,1.0s,baz=352,slow=4.5,SNR=7.4

IDC 27 07:36:40.4±1.4, 35°.01S×72°.29W, h0km, mb4.9/5, mb1 5.0/5, mb1mx4.5/27, mbtmp4.9/5, Error ellipse: s-maj=57.1km s-min=36.3km az=4.0
ISCJB 27 07:36:46.4±0.7, 34°.4S±0°.1×72°.0W±0°.1, h33km, mb5.0/11, Error ellipse: s-maj=23.4km s-min=14.1km az=32.0
NEIC 27 07:36:46.4±0.9, 34°.63S×72°.23W, h35km, mb5.1/6, Error ellipse: s-maj=30.3km s-min=19.1km az=57.0
ISC 27 07:36:44.0±1.0, 34°.75S±0°.2×72°.52W±0°.2, h18km, n95, σ0.85/94, mb5.1/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	18.70	12	eP	P	07 41 00.6	-1.5
BDFB	Brasilia	28.84	55	P	P	07 42 41.3	-0.2
	25nm,0.7s,baz=154,slow=3.3,SNR=3.4						
OTAV	Otavalo	35.25	349	eP	P	07 43 35.8	-2.4
	13nm,1.0s						
MTDJ	Mount Denham	52.88	354	eP	P	07 45 58.3	-0.6
	21nm,1.1s						
TEIG	Tepich	56.73	342	eP	P	07 46 27.0	+0.3
	14nm,0.6s						
732A	Laxson Ranch,	68.34	334	P	P	07 47 44.7	+0.6
	baz=69						
632A	Uvalde	68.98	334	P	P	07 47 49.1	+1.0
	baz=69						
532A	Rocksprings	69.58	335	P	P	07 47 52.8	+0.9
	baz=70						
334A	Lometa	70.12	336	P	P	07 47 55.6	+0.5
	baz=70						
530A	J-C Ranch, Com	70.12	333	P	P	07 47 56.4	+1.1
	baz=70						
333A	Richland Sprin	70.36	336	P	P	07 47 56.4	-0.3
	baz=71						
529A	Stev Forest Ra	70.43	333	P	P	07 47 58.7	+1.5
	baz=71						
WHTX	Lake Whitney	70.47	337	P	P	07 47 57.9	+0.6
	baz=71						
137A	Heron Place, G	70.52	339	P	P	07 47 58.3	+0.8
	baz=71						
430A	Baggett Ranch,	70.66	334	P	P	07 47 59.0	+0.4
	baz=71						
332A	Millersview	70.67	335	P	P	07 47 58.5	-0.1
	baz=71						
234A	Clairette	70.70	337	P	P	07 47 59.2	+0.4
	baz=71						
429A	Davenport Ranc	70.76	333	P	P	07 48 00.3	+1.2
	baz=71						
331A	San Angelo	70.84	335	P	P	07 47 60.0	+0.3
	baz=71						
233A	Rising Star	70.97	336	P	P	07 48 01.1	+0.7
	baz=71						
232A	Coleman	71.10	336	P	P	07 48 02.0	+0.8
	baz=71						
330A	Mertzon	71.20	334	P	P	07 48 02.3	+0.5
	baz=71						
231A	Bronte	71.37	335	P	P	07 48 02.8	0.0
	baz=72						
133A	Hamilton Ranch	71.51	336	P	P	07 48 04.1	+0.5
	baz=72						
329A	Wagon Wheel Ra	71.56	333	P	P	07 48 04.6	+0.6
	baz=72						
230A	Sterling City	71.61	334	P	P	07 48 05.2	+0.9
	baz=72						
Z35A	Perchaven, San	71.65	338	P	P	07 48 05.1	+0.7
	baz=72						
ABTX	Abilene, Hawle	71.77	336	P	P	07 48 05.5	+0.4
	baz=72						
Z34A	Collier Ranch,	71.89	338	P	P	07 48 06.3	+0.4
	baz=72						
229A	Bryant Ranch,	71.93	334	P	P	07 48 05.9	-0.3
	baz=72						
131A	Roby	72.07	335	P	P	07 48 07.2	+0.2
	baz=72						
Z33A	Whitaker Ranch	72.09	337	P	P	07 48 07.3	+0.2
	baz=72						
130A	Snyder	72.20	335	P	P	07 48 07.9	+0.1

baz=72
Z31A Sharp Cattle R 72.57 336 P P 07 48 09.9 0.0
baz=73
Y33A Hilltop Ranch, 72.71 337 P P 07 48 10.8 0.0
baz=73
X34A Smith Ranch, M 73.00 338 P P 07 48 13.1 +0.6
baz=73
W33A Caddo, Fort Co 73.71 338 P P 07 48 17.7 +1.1
baz=74
W32A Sentinel 73.93 337 P P 07 48 18.8 +0.9
baz=74
Y27A Causey 74.15 334 P P 07 48 20.5 +1.1
baz=74
V33A Lossen Ranch, 74.27 338 P P 07 48 20.8 +0.9
baz=74
AMTX Amarillo 74.52 335 P P 07 48 22.6 +1.1
baz=75
W29A Amraillo 74.72 335 P P 07 48 23.2 +0.5
baz=75
X27A F and S Farms, 74.81 334 P P 07 48 23.3 +0.1
baz=75
ACSO Alum Creek Sta 75.23 351 eP P 07 48 25.0 -0.3
67nm,1.2s
T33A Patterson Ranc 75.43 339 P P 07 48 27.2 +0.6
baz=76
DBIC Dimbokro 75.52 71 P P 07 48 29.8 +2.2
15nm,0.8s,baz=198,slow=6.9,SNR=3.4
S31A Mullinville 76.30 338 P P 07 48 32.4 +0.8
baz=77
V25A Rancho No Teng 76.43 333 P P 07 48 32.9 +0.4
baz=77
T29A Hugoton 76.45 336 P P 07 48 33.6 +1.1
baz=77
R32A Long Quarter, 76.81 339 P P 07 48 35.6 +1.1
baz=77
S29A Ulysses 76.82 337 P P 07 48 35.1 +0.5
baz=77
U25A Circle Dot Ran 76.85 334 P P 07 48 36.1 +1.2
baz=77
S28A Manter 77.05 336 P P 07 48 36.5 +0.7
baz=77
Q32A Meitler Ranch, 77.29 339 P P 07 48 37.7 +0.6
baz=78
V22A San Miguel Ran 77.37 332 P P 07 48 39.1 +1.2
baz=78
T25A Trinidad 77.51 334 P P 07 48 39.8 +1.2
baz=78
R28A Tribune 77.70 337 P P 07 48 40.3 +0.8
baz=78
Q29A Oakley 77.93 337 P P 07 48 41.4 +0.7
baz=78
R27A Eads 77.98 336 P P 07 48 41.4 +0.3
baz=78
P31A Stockton 78.02 339 P P 07 48 41.6 +0.5
baz=78
S24A Houchin Ranch, 78.25 334 P P 07 48 43.5 +0.7
baz=78
P29A Atwood 78.57 338 P P 07 48 45.1 +0.8
baz=79
KSCO Kaye Shedlock' 78.58 336 P P 07 48 45.8 +1.4
baz=79
R24A Sanders Place, 78.73 334 P P 07 48 46.3 +0.9
baz=79
P25A Willow Gulch B 79.55 335 P P 07 48 51.0 +1.2
baz=80
O27A Beecher Island 79.59 337 P P 07 48 51.1 +1.2
baz=80
BOSA Boshof 79.85 118 eP P 07 48 51.8 -0.1
32nm,0.9s
O26A Horse Wrangler 79.91 336 P P 07 48 52.2 +0.5
baz=80
ISCO Idaho Springs 80.31 334 P P 07 48 54.4 +0.4
baz=81
O23A Lake Granby, G 80.78 334 P P 07 48 57.6 +1.1
baz=81
ECSD EROS Data Cent 81.18 342 eP P 07 48 57.6 -0.7
20nm,0.9s
ECSD EROS Data Cent 81.18 342 P P 07 48 58.4 +0.2
baz=82
K28A Ten Mile Ranch 81.54 339 P P 07 49 01.6 +1.3
baz=82
F28A McLaughlin 84.25 340 P P 07 49 15.5 +1.3
baz=84
J20A Shoshoni 84.31 335 P P 07 49 15.9 +1.2
baz=85
PDAR Pinedale Array 84.33 333 P P 07 49 16.8 +1.8
2.5nm,0.9s,baz=165,slow=3.7,SNR=2.9
G25A Newell 84.41 338 P P 07 49 15.4 +0.3
baz=85
TORD Torodi Ar. Bea 84.56 70 P P 07 49 15.9 -0.5
8.5nm,0.7s,baz=249,slow=4.8,SNR=5.8
I20A Worland 84.85 335 P P 07 49 18.4 +1.1
baz=85
F25A Bowman 85.09 339 P P 07 49 18.9 +0.5
baz=85
H20A Greybull 85.27 335 P P 07 49 19.7 +0.2
baz=86
H18A Shoshone NF, C 86.03 334 P P 07 49 23.6 +0.3
baz=86
C27A Sayler Ranch, 86.15 341 P P 07 49 24.5 +0.8
baz=86
D25A Fairfield 86.15 339 P P 07 49 24.6 +0.9
baz=86
D24A Glendive 86.42 339 P P 07 49 25.5 +0.5
baz=87
B28A Dugan Ranch, T 86.52 342 P P 07 49 26.4 +1.0
baz=87
D23A Lindsay 86.74 338 P P 07 49 27.1 +0.5
baz=87
C24A Savage 86.82 339 P P 07 49 27.6 +0.6
baz=87
B25A Knox Farm, Ray 87.12 340 P P 07 49 29.3 +0.9
baz=87
ULM Lac du Bonnet 87.14 345 P P 07 49 28.4 0.0
9.5nm,1.0s,baz=191,slow=5.2,SNR=2.8
DGMT Dagmar 87.60 339 P P 07 49 31.5 +0.8
baz=88
LSZ Lusaka 89.70 108 eP P 07 49 41.3 -0.4
YKA Yellowknife Ar 102.68 341 P Pdif 07 50 38.4 -0.8
1.0nm,0.9s,baz=146,slow=4.5,SNR=4.6
WRA Warramunga Arr 120.09 209 PKP PKPdf 07 55 31.9 -2.3
1.4nm,0.6s,baz=162,slow=1.6,SNR=0.3
BRTR Keskin Array B 122.28 61 PKP PKPdf 07 55 38.0 +0.1
2.3nm,0.8s,baz=193,slow=2.1,SNR=2.9

ISCJB 27 07:37:16.8±0.2, 36.79S±0.03×72.78W±0.04, h34km, mb6.0/218, Error ellipse: s-maj=5.2km s-min=4.2km az=141.3
NEIC 27 07:37:18.0±0.1, 36.87S×72.67W, h35km, mb6.0/197, Error ellipse: s-maj=5.4km s-min=3.5km az=79.0
MOS 27 07:37:17.2±1.0, 36.72S×72.78W, h33km, mb6.1/61, Error ellipse: s-maj=14.9km s-min=6.8km az=100.0
IDC 27 07:37:18.0±0.4, 36.94S×72.81W, h34km±3km, mb5.6/22, mb1 5.6/25, mb1mx5.6/29, mbtmp5.7/25, ML5.1/3, Error ellipse: s-maj=15.4km s-min=10.9km az=83.0
BJI 27 07:37:17.0, 36.80S×72.70W, h35km, mB6.2/5, Ms6.3/4, Ms7 6.0/5
ISC 27 07:37:18.1±0.3, 36.94S±0.04×72.82W±0.06, h40km±3km, h39km:pP-P, n1155, σ0.87/1178, mb6.0/216, 239C-280D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.18 156 P Pn 07 38 22.3 +2.9
PLCA pmax pmax
comp=Z,18nm,0.3s
PLCA Paso Flores 4.18 156 Pn Pn 07 38 22.3 +2.9
comp=Z,18nm,0.3s,baz=326,slow=15,SNR=3.5
PLCA Lg Lg 07 39 25.0
comp=Z,147nm,0.3s,baz=324,slow=11,SNR=4.3
PLCA Paso Flores 4.18 156 ePn Pn 07 38 21.7 +2.3
PLCA Lg Lg 07 39 25.0
CFAA Coronel Fontan 6.53 37 Pn Pn 07 38 51.7 0.0
comp=Z,8.0nm,0.3s,baz=193,slow=13,SNR=3.4
CFAA Sn Sn 07 40 08.9 +3.9
comp=Z,1.5nm,0.3s,baz=126,slow=19,SNR=1.7
TRQA Tornquist 8.68 101 ePn Pn 07 39 25.2 +4.0
CPUP Villa Florida 16.88 56 eP Pn 07 41 07.5 -3.9
CPUP pmax pmax
comp=Z,51nm,1.1s
CPUP Villa Florida 16.88 56 Pn Pn 07 41 12.3 +0.9
comp=Z,8.9nm,0.3s,baz=311,slow=18,SNR=5.9
CPUP Villa Florida 16.88 56 eP Pn 07 41 07.5 -3.9
comp=Z,51nm,1.1s
USHA Ushuaia 18.15 172 P P 07 41 26.5 -0.3
comp=Z,2.6nm,0.3s,baz=315,slow=11,SNR=5.8
LPAZ La Paz 20.99 13 eP P 07 41 59.4 +0.7
LPAZ pmax pmax
comp=Z,312nm,0.8s
LPAZ La Paz 20.99 13 P P 07 41 59.2 +0.5
comp=Z,160nm,0.9s,baz=156,slow=3.1,SNR=9.1
LPAZ La Paz 20.99 13 eP P 07 41 59.4 +0.7
comp=Z,312nm,0.8s
SIV San Ignacio 23.32 30 P P 07 42 22.6 -0.2
comp=Z,754nm,1.0s,baz=229,slow=11,SNR=39
NNA Nana 25.11 351 ceP P 07 42 39.7 +0.4
NNA Nana 25.11 351 P P 07 42 38.9 -0.4
comp=Z,42nm,0.8s,baz=87,slow=2.2,SNR=6.2
NNA Nana 25.11 351 eP P 07 42 39.0 -0.3
comp=Z,223nm,1.1s
NNA e 07 42 48.4
PMSA Palmer Station 28.36 172 P P 07 43 08.1 0.0
comp=Z,102nm,1.0s,baz=21,slow=11,SNR=4.8
PMSA Palmer Station 28.36 172 eP P 07 43 09.0 +0.9
comp=Z,512nm,1.8s
SAML Samuel 29.20 20 eP P 07 43 15.8 -0.2
comp=Z,108nm,1.1s
ATAH Atahualpa 30.10 349 P P 07 43 25.8 +1.4
comp=Z,111nm,1.2s,baz=186,slow=6.6,SNR=4.6
BDFB Brasilia 30.57 53 P P 07 43 28.5 +0.2
BDFB pmax pmax
comp=Z,111nm,1.0s
BDFB Brasilia 30.57 53 P P 07 43 28.5 +0.2
comp=Z,111nm,0.9s,baz=247,slow=5.9,SNR=6.7
OTAV Otavalo 37.36 351 eP P 07 44 29.7 +2.2
comp=Z,410nm,1.4s
ROSC El Rosal 41.60 358 P P 07 45 05.6 +2.8
comp=Z,30nm,0.5s,baz=39,slow=2.8,SNR=15
ROSC El Rosal 41.60 358 eP P 07 45 06.2 +3.5
SDV Santo Domingo 45.63 3 eP P 07 45 35.0 +0.1
comp=Z,298nm,1.1s
RCBR Riachuelo 45.76 57 P P 07 45 36.9 +1.0
comp=Z,160nm,1.0s,baz=214,slow=12,SNR=13
RCBR Riachuelo 45.76 57 eP P 07 45 37.4 +1.5
comp=Z,121nm,0.9s
BCIP Isla Barro Col 46.33 350 eP P 07 45 40.3 0.0
comp=Z,381nm,1.4s
BCIP e 07 45 51.0
VNA3 Neumayer Olymp 46.90 157 P P 07 45 44.9 +0.8
VNA1 Neumayer--Stat 47.24 156 P P 07 45 48.2 +1.4
H09W1 TRISTAN DA CUN 47.54 109 P P 07 45 52.1 +2.5
TRIS Tristan da Cun 47.57 109 eP P 07 45 51.6 +1.8
comp=Z,764nm,1.0s
VNA2 Neumayer--Watz 47.57 156 P P 07 45 50.3 +0.9
JTS JuntasAbangare 48.34 344 P P 07 45 57.2 +1.3
comp=Z,465nm,1.4s,SNR=7.6
JTS JuntasAbangare 48.34 344⇓iP P 07 45 57.3 +1.3
JTS pmax pmax
comp=Z,157nm,1.4s
JTS JuntasAbangare 48.34 344 P P 07 45 56.8 +0.8
comp=Z,62nm,1.1s,baz=185,slow=6.1,SNR=13
JTS JuntasAbangare 48.34 344 eP P 07 45 57.1 +1.3
comp=Z,344nm,1.5s
SNAA Sanae 49.12 157 P P 07 46 01.9 +0.5
SNAA Sanae 49.12 157⇑iP P 07 46 02.3 +0.9
SNAA pmax pmax
comp=Z,424nm,1.2s
SNAA Sanae 49.12 157 P P 07 46 01.9 +0.5
comp=Z,90nm,1.0s,baz=277,slow=6.3,SNR=18
SNAA Sanae 49.12 157 eP P 07 46 01.8 +0.5
comp=Z,505nm,1.3s
GRGR Grenville 49.93 14 eP P 07 46 07.8 -0.3
comp=Z,1μm,1.3s
GRW Mount Saint Ca 49.95 14 e P 07 46 09.6 +1.3
FCV Fort Charlotte 51.01 15 e P 07 46 09.8 -6.3
BHS Barnard House 51.16 15 e P 07 46 15.4 -1.9
SVV Soufriere Volc 51.17 15 e P 07 46 17.6 +0.2
SSV Crater Summit 51.18 15 e P 07 46 18.7 +1.1
SLB Belfond 51.70 15 e P 07 46 21.7 +0.3
H05S1 Guadeloupe/Mar 52.32 15 P P 07 46 25.7 -0.2
FDF Fort de France 52.56 14 eP P 07 46 26.9 -0.9
FDF Fort de France 52.56 14 eP P 07 46 26.9 -0.9
QSPA South Pole Qui 53.30 180 P P 07 46 33.6 +0.7
comp=Z,150nm,1.0s,baz=144,slow=4.2,SNR=15
QSPA South Pole Qui 53.30 180 eP P 07 46 33.5 +0.6
comp=Z,242nm,1.1s
H05N1 Guadeloupe/Mar 54.12 14 P P 07 46 37.8 -1.4
SNR=20
RKT Rikitea 54.68 266 eP P 07 46 44.4 +1.0
comp=Z,85nm,1.4s
RKT Rikitea 54.68 266 eT T 08 44 52.6
comp=Z,6.0nm,0.2s
ICMP Isla Caja de M 54.85 7 eP P 07 46 43.0 -1.4
OBIP Obispado Ponce 55.00 7 eP P 07 46 45.1 -0.4
comp=Z,299nm,1.2s
SABA Saba 55.01 11 eP P 07 46 45.1 -0.5
comp=Z,473nm,1.1s
CELP Cerrillos 55.03 7 eP P 07 46 45.4 -0.4
MTDJ Mount Denham 55.05 355 eP P 07 46 45.9 -0.1
comp=Z,278nm,1.4s
LSP Las Mesas 55.08 7 eP P 07 46 45.5 -0.7
LSP e 07 46 53.9
PAPH Port-au-Prince 55.16 1 eP P 07 46 48.0 +1.3
HUMP Col San Antoni 55.18 8 eP P 07 46 46.1 -0.7
ANWB Willy Bob 55.30 13 eP P 07 46 45.6 -2.1
comp=Z,250nm,0.9s
CBYP Canovanas 55.30 8 eP P 07 46 45.6 -2.2
comp=Z,325nm,1.3s
PCDR Punta Cana, DR 55.31 5 eP P 07 46 47.3 -0.4
PCDR e 07 46 57.6
SMRT St. Maarten 55.46 11 eP P 07 46 47.0 -1.8
comp=Z,153nm,1.3s
SMRT epP pP 07 46 57.5 -2.9
STVI Saint Thomas 55.49 9 eP P 07 46 48.0 -1.0
comp=Z,49nm,1.0s
SDDR Presa de Saban 55.64 2 eP P 07 46 49.4 -0.8
comp=Z,201nm,1.3s
SMN1 Samana, DR 55.92 4 eP P 07 46 52.6 -0.2
GTBY Guantanamo Bay 56.60 357 eP P 07 46 56.1 -0.9
comp=Z,158nm,0.9s
GRTK Grand Turk 58.16 2 eP P 07 47 08.1 +0.2
comp=Z,361nm,1.1s
TEIG Tepich 58.70 343 eP P 07 47 11.6 -0.1
comp=Z,157nm,0.9s
H10S3 ASCENSION HYDR 59.32 77 P P 07 47 17.0 +0.9
baz=261,slow=10,SNR=4.4
H10S2 ASCENSION HYDR 59.33 77 P P 07 47 17.9 +1.8
baz=261,slow=10,SNR=5.9
H10S1 ASCENSION HYDR 59.34 77 P P 07 47 17.7 +1.5
baz=261,slow=10,SNR=7.6
H10N3 ASCENSION HYDR 60.13 76 P P 07 47 23.2 +1.7
H10N1 ASCENSION HYDR 60.14 76 P P 07 47 23.8 +2.2
H10N2 ASCENSION HYDR 60.15 76 P P 07 47 23.7 +2.1
ASCN Ascension 60.18 77 P P 07 47 23.9 +1.7
comp=Z,2μm,0.8s,SNR=5.7
VNDA Vanda 61.10 192 eP P 07 47 28.5 +0.9
VNDA e 07 47 37.4
VNDA pmax pmax
comp=Z,226nm,1.9s
VNDA Vanda 61.10 192 eP P 07 47 28.5 +0.9
comp=Z,226nm,1.9s
VNDA e 07 47 37.4
SHEL Horse Pasture 62.37 90 eP P 07 47 38.2 +1.1
SHEL Horse Pasture 62.37 90 eP P 07 47 38.2 +1.1
comp=Z,1μm,1.5s
SYO Syowa Base 63.37 158⇓iP P 07 47 41.3 -1.6
TBI Tubuai 66.05 258 eP P 07 48 01.7 +0.6
comp=Z,226nm,0.9s
TBI Tubuai 66.05 258 eT T 08 59 05.5
comp=Z,11nm,0.3s
035Z Hargill 67.40 336 ⇓P P 07 48 10.1 +0.7
baz=68
035A Encino 67.85 336 ⇓P P 07 48 13.2 +1.0
baz=68
MEH Mehetia 67.86 264 eP P 07 48 13.4 +0.7
comp=Z,51nm,1.2s
MEH Mehetia 67.86 264 eT T 09 01 20.7
comp=Z,201nm,0.2s
034A Hebbronville 68.16 335 ⇑P P 07 48 15.2 +1.1
baz=68
KVTX Kingsville 68.34 336 eP P 07 48 17.2 +1.9
comp=Z,576nm,1.5s
934A Benavides 68.60 336 ⇓P P 07 48 18.0 +1.1
baz=69
TIGA Tifton 68.77 350 eP P 07 48 17.4 -0.4
comp=Z,134nm,0.9s
TIGA e 07 48 28.1
TIGA Tifton 68.77 350 ⇓P P 07 48 17.7 -0.1
baz=69,SNR=13
TVO Taravao 68.86 263 eP P 07 48 19.9 +0.9
comp=Z,46nm,1.3s
TVO Taravao 68.86 263 eT T 09 02 35.3
comp=Z,4.3nm,0.2s
933A Laredo 68.86 335 ⇓P P 07 48 19.4 +0.8
baz=69,SNR=15
VAH Vaihoa 68.97 266 eP P 07 48 20.1 +0.5
comp=Z,147nm,1.3s
835A Beeville 69.01 336 ⇑P P 07 48 20.1 +0.7
baz=69
TIAR Tiarei 69.06 263 eP P 07 48 21.0 +0.8
comp=Z,54nm,1.3s
TIAR Tiarei 69.06 263 eT T 09 02 50.0
comp=Z,24nm,0.2s
834A Tilden 69.09 336 ⇓P P 07 48 21.0 +1.0
baz=69,SNR=13
PAE Paea 69.19 263 eP P 07 48 21.0 +0.1
comp=Z,63nm,1.4s
PAE Paea 69.19 263 eT T 09 02 59.9
comp=Z,2.5nm,0.3s
PPT2 Papeete2 69.22 263 eP P 07 48 21.2 0.0
comp=Z,282nm,1.4s
PPT2 Papeete2 69.22 263 eT T 09 03 01.9
comp=Z,4.6nm,0.2s
PPT Papeete 69.23 263 P P 07 48 22.4 +1.2
PPT *PP pP 07 48 33.3 +0.2
PPT pmax pmax
comp=Z,81nm,1.0s
PPT pmax pmax
comp=Z,117nm,1.0s
PPT Papeete 69.23 263 P P 07 48 22.4 +1.2
comp=Z,81nm,1.0s,baz=220,slow=1.9,SNR=4.9
PPT pP pP 07 48 33.3 +0.2
comp=Z,117nm,1.0s,baz=113,slow=2.3,SNR=7.4
BBSR BB Station 69.37 7 eP P 07 48 21.9 +0.3
comp=Z,82nm,0.9s
SACV Santiago Islan 69.37 51 P P 07 48 21.1 -0.9
comp=Z,734nm,1.2s,SNR=6.4
SACV Santiago Islan 69.37 51 eP P 07 48 21.1 -0.9
comp=Z,121nm,1.0s
SACV e 07 48 32.4
735A Kenedy 69.53 337 ⇑P P 07 48 23.5 +0.8
baz=70,SNR=12
833A Chaparral WMA, 69.56 335 ⇑P P 07 48 23.4 +0.6
baz=70,SNR=14
832A Faith Ranch, C 69.72 335 ⇑P P 07 48 24.3 +0.5
baz=70,SNR=13
734A La Parita Cree 69.76 336 ⇑P P 07 48 24.4 +0.3
baz=70,SNR=12
636A Smothers Creek 69.88 338 ⇑P P 07 48 25.4 +0.6
baz=70,SNR=13
733A Divot King Ran 69.89 335 ⇑P P 07 48 25.3 +0.4
baz=70,SNR=7.8
HKT Hockley 69.95 339 eP P 07 48 25.2 +0.1
HKT e 07 48 35.0
HKT pmax pmax
comp=Z,156nm,1.4s
HKT Hockley 69.95 339 eP P 07 48 25.2 +0.1
comp=Z,156nm,1.4s
HKT e 07 48 35.0
635A Leesville 70.02 337 ⇑P P 07 48 26.2 +0.6
baz=70,SNR=8.0
NHSC New Hope 70.03 353 eP P 07 48 25.2 -0.3
comp=Z,504nm,1.1s
NHSC e 07 48 36.7
538A Harpers Horsep 70.11 339 ⇑P P 07 48 27.1 +0.9
baz=70
732A Laxson Ranch, 70.13 335 ⇓P P 07 48 27.0 +0.6
baz=70,SNR=20
634A China Grove, S 70.19 336 ⇓P P 07 48 27.3 +0.6
baz=70
537A Green Hill Far 70.22 338 ⇑P P 07 48 27.2 +0.4
baz=70
536A Bastrop 70.44 338 ⇓P P 07 48 28.7 +0.5
baz=71,SNR=16
633A Saathoff Ranch 70.53 336 ⇑P P 07 48 29.2 +0.4
baz=71,SNR=14
MAW Mawson 70.55 164 P P 07 48 29.4 +0.9
MAW pmax pmax
comp=Z,174nm,1.0s
MAW Mawson 70.55 164 P P 07 48 29.4 +0.9
comp=Z,174nm,1.0s,baz=212,slow=4.9,SNR=9.2
MAW Mawson 70.55 164 eP P 07 48 28.6 +0.2
comp=Z,62nm,1.1s
535A Dale 70.55 337 ⇓P P 07 48 29.2 +0.4
baz=71,SNR=18
GOGA Godfrey 70.69 351 eP P 07 48 28.8 -0.8
GOGA e 07 48 39.8
GOGA pmax pmax
comp=Z,133nm,1.0s
GOGA Godfrey 70.69 351 eP P 07 48 28.8 -0.8
comp=Z,133nm,1.0s
GOGA e 07 48 39.8
VBMS Vicksburg 70.76 344 eP P 07 48 31.0 +0.9
comp=Z,328nm,1.1s
632A Uvalde 70.78 335 ⇓P P 07 48 30.6 +0.2
baz=71,SNR=14
340A Bronson 70.81 341 ⇑P P 07 48 30.9 +0.5
baz=71
534A Blanco 70.83 337 ⇑P P 07 48 30.8 +0.2
baz=71,SNR=6.8
339A Huntington 70.90 340 ⇑P P 07 48 31.5 +0.5
baz=71,SNR=12
631A Perdido Creek 70.96 335 ⇓P P 07 48 32.0 +0.6
baz=71
436A Wall Ranch, Ga 71.01 338 ⇓P P 07 48 31.9 +0.3
baz=71
533A Kerrville 71.05 336 ⇓P P 07 48 32.1 +0.1
baz=71,SNR=28
338A Crockett 71.13 340 ⇓P P 07 48 32.8 +0.5
baz=71,SNR=18
337A Centerville 71.25 339 ⇓P P 07 48 33.8 +0.7
baz=72,SNR=23
435B Jarrell 71.25 338 ⇓P P 07 48 33.3 +0.1
baz=72,SNR=9.6
NATX Nacogdoches 71.33 340 eP P 07 48 33.4 -0.2
comp=Z,407nm,1.1s
532A Rocksprings 71.39 335 ⇓P P 07 48 34.3 +0.2
baz=72,SNR=16
434A Burnet 71.50 337 ⇑P P 07 48 34.6 -0.1
baz=72,SNR=28
336A Riesel 71.60 338 ⇑P P 07 48 35.6 +0.4
baz=72,SNR=22
531A Rocksprings 71.64 335 ⇑P P 07 48 35.9 +0.3
baz=72,SNR=12
335A Moody 71.67 338 ⇓P P 07 48 35.6 -0.1
baz=72,SNR=14
JCT Junction City 71.68 336 eP P 07 48 36.2 +0.4
JCT e 07 48 46.7
JCT pmax pmax
comp=Z,322nm,1.2s
JCT Junction City 71.68 336 eP P 07 48 36.1 +0.4
comp=Z,322nm,1.2s
JCT e 07 48 46.7
JCT Junction City 71.68 336 ⇑P P 07 48 36.2 +0.4
baz=72,SNR=18
433A Art 71.70 336 ⇑P P 07 48 36.3 +0.4
baz=72,SNR=24
530A J-C Ranch, Com 71.90 334 ⇑P P 07 48 37.5 +0.4
baz=72,SNR=21
334A Lometa 71.97 337 ⇑P P 07 48 37.6 +0.1
baz=72,SNR=30
CNNC Cliffs of the 71.97 356 eP P 07 48 37.3 0.0
comp=Z,147nm,0.9s
CNNC e 07 48 48.0
TXAR Lajitas Array 72.00 332 P P 07 48 38.3 +0.5
TXAR pmax pmax
comp=Z,35nm,0.9s
TXAR Lajitas Array 72.00 332 P P 07 48 38.3 +0.5
comp=Z,35nm,0.9s,baz=146,slow=9.1,SNR=17
432A Menard 72.04 336 ⇑P P 07 48 38.2 +0.2
baz=72,SNR=11
431A Sonora 72.14 335 ⇓P P 07 48 39.0 +0.5
baz=72,SNR=18
KMSC Kings Mountain 72.15 353 eP P 07 48 37.9 -0.5
comp=Z,119nm,0.9s
KMSC e 07 48 49.1
KMSC Kings Mountain 72.15 353 ⇑P P 07 48 38.2 -0.2
baz=72,SNR=23
529A Stev Forest Ra 72.19 333 ⇓P P 07 48 39.3 +0.4
baz=72,SNR=15
333A Richland Sprin 72.19 337 ⇑P P 07 48 38.9 +0.1
baz=72,SNR=17
WHTX Lake Whitney 72.34 338 eP P 07 48 39.2 -0.4
comp=Z,311nm,1.1s
WHTX e 07 48 50.1
WHTX Lake Whitney 72.34 338 ⇓P P 07 48 40.0 +0.3
baz=73,SNR=18
430A Baggett Ranch, 72.44 335 ⇓P P 07 48 40.6 +0.2

baz=73,SNR=19
332A Millersview 72.49 336 ⇓P P 07 48 40.7 +0.1
baz=73,SNR=27
429A Davenport Ranc 72.53 334 ⇑P P 07 48 40.9 +0.1
baz=73,SNR=14
234A Clairette 72.56 338 ⇓P P 07 48 40.8 -0.2
baz=73,SNR=18
331A San Angelo 72.65 335 ⇓P P 07 48 41.2 -0.3
baz=73,SNR=23
OXF Oxford 72.75 346 eP P 07 48 41.3 -0.7
OXF e 07 48 51.9
OXF pmax pmax
comp=Z,269nm,1.0s
OXF Oxford 72.75 346 eP P 07 48 41.3 -0.7
comp=Z,269nm,1.0s
OXF e 07 48 51.9
233A Rising Star 72.81 337 ⇑P P 07 48 42.1 -0.4
baz=73,SNR=20
SWET Sewanee 72.82 349 eP P 07 48 42.1 -0.3
comp=Z,432nm,1.0s
SWET e 07 48 53.5
CPCT Cooper Cave 72.84 350 eP P 07 48 43.8 +1.3
CPCT e 07 48 55.2
135A Vickery Place, 72.86 338 ⇓P P 07 48 42.6 -0.2
baz=73,SNR=7.3
232A Coleman 72.93 336 ⇑P P 07 48 42.8 -0.4
baz=73,SNR=18
TKL Tuckaleechee C 72.95 351 eP P 07 48 42.3 -0.9
TKL e 07 48 52.1
TKL Tuckaleechee C 72.95 351 eP P 07 48 42.3 -0.9
TKL e 07 48 52.1
330A Mertzon 72.99 335 ⇑P P 07 48 43.0 -0.6
baz=73,SNR=10
134A White-Moore Ra 73.07 338 ⇑P P 07 48 43.6 -0.4
baz=73,SNR=12
231A Bronte 73.19 336 ⇑P P 07 48 44.6 -0.2
baz=74,SNR=19
329A Wagon Wheel Ra 73.34 334 ⇑P P 07 48 45.5 -0.2
baz=74,SNR=20
133A Hamilton Ranch 73.36 337 ⇓P P 07 48 45.6 -0.1
baz=74,SNR=19
230A Sterling City 73.41 335 ⇑P P 07 48 45.7 -0.3
baz=74,SNR=8.1
Z35A Perchaven, San 73.54 339 ⇓P P 07 48 46.4 -0.3
baz=74,SNR=18
ABTX Abilene, Hawle 73.61 337 eP P 07 48 46.8 -0.4
comp=Z,355nm,1.2s
ABTX e 07 48 58.0
ABTX Abilene, Hawle 73.61 337 ⇑P P 07 48 46.5 -0.6
baz=74,SNR=18
UALR University of 73.63 343 eP P 07 48 47.0 -0.2
comp=Z,106nm,1.1s
UALR e 07 48 57.8
MIAR Mount Ida 73.70 342 eP P 07 48 46.8 -0.8
MIAR e 07 48 58.0
MIAR pmax pmax
comp=Z,63nm,0.9s
MIAR Mount Ida 73.70 342 eP P 07 48 46.8 -0.8
comp=Z,63nm,0.9s
MIAR e 07 48 58.0
229A Bryant Ranch, 73.72 335 ⇓P P 07 48 47.8 -0.1
baz=74,SNR=18
Z34A Collier Ranch, 73.77 338 ⇑P P 07 48 47.9 -0.2
baz=74,SNR=6.1
TZTN Tazewell 73.79 351 eP P 07 48 47.4 -0.8
comp=Z,135nm,1.0s
131A Roby 73.89 336 ⇓P P 07 48 48.8 -0.1
baz=74,SNR=17
Z33A Whitaker Ranch 73.94 338 ⇓P P 07 48 48.8 -0.3
baz=74,SNR=16
SUR Sutherland 73.97 119 P P 07 48 51.9 +2.1
comp=Z,1μm,1.0s,SNR=11
SUR Sutherland 73.97 119 eP P 07 48 50.5 +0.6
comp=Z,278nm,1.4s
130A Snyder 74.01 336 ⇑P P 07 48 49.1 -0.4
baz=74,SNR=12
HBAR Harrisburg 74.01 345 eP P 07 48 49.1 -0.3
HBAR e 07 48 59.7
WVT Waverly 74.03 347 eP P 07 48 48.9 -0.6
WVT e 07 48 59.9
WVT pmax pmax
comp=Z,277nm,1.0s
WVT Waverly 74.03 347 eP P 07 48 48.9 -0.6
comp=Z,277nm,1.0s
WVT e 07 48 59.9
HALT Halls 74.09 346 eP P 07 48 49.6 -0.3
HALT e 07 48 59.5
VWCC Virginia Weste 74.11 354 eP P 07 48 49.6 -0.4
VWCC e 07 49 00.4
BLA Blacksburg 74.12 354 eP P 07 48 49.0 -1.1
BLA e 07 48 59.8
BLA pmax pmax
comp=Z,104nm,1.0s
BLA Blacksburg 74.12 354 eP P 07 48 49.0 -1.1
comp=Z,104nm,1.0s
BLA e 07 48 59.8
228A UT Block 9, Go 74.13 334 ⇓P P 07 48 50.1 -0.2
baz=74,SNR=23
Z32A Haskell 74.18 337 ⇓P P 07 48 50.2 -0.3
baz=74,SNR=20
Y34A Reagan Ranch, 74.27 339 ⇓P P 07 48 50.6 -0.4
baz=75,SNR=19
129A Stewart Farms, 74.34 335 ⇑P P 07 48 51.1 -0.5
baz=75,SNR=12
Z31A Sharp Cattle R 74.41 336 ⇑P P 07 48 51.5 -0.4
baz=75,SNR=11
JSRW J. Sargeant Re 74.41 356 eP P 07 48 51.7 0.0
JSRW e 07 49 02.6
128A Castleberry Fa 74.55 334 ⇑P P 07 48 52.8 +0.1
baz=75,SNR=17
Y33A Hilltop Ranch, 74.57 338 ⇓P P 07 48 52.2 -0.5
baz=75,SNR=14
PVMO Portageville 74.65 346 eP P 07 48 53.6 +0.5
comp=Z,1μm,1.2s
PVMO e 07 49 04.9
Z30A Sanderson Ranc 74.70 336 ⇓P P 07 48 53.4 -0.2
baz=75,SNR=22
Y32A R-V Farms, Ver 74.82 337 ⇓P P 07 48 54.0 -0.2
baz=75,SNR=10
GDL2 Guadalupe Moun 74.84 333 eP P 07 48 54.3 -0.2
GDL2 e 07 49 05.1
Z29A Hungry Hill Ra 74.86 335 ⇓P P 07 48 54.6 0.0
baz=75,SNR=32
CBN Corbin 74.89 356 eP P 07 48 54.8 +0.3
comp=Z,96nm,1.1s
CBN e 07 49 04.9
X34A Smith Ranch, M 74.89 339 ⇓P P 07 48 54.9 +0.3
baz=75,SNR=16
PARMO Parma 74.90 346 eP P 07 48 54.0 -0.6
PARMO e 07 49 04.7
127A Arkansas Junct 74.91 334 ⇓P P 07 48 55.0 +0.2
baz=75,SNR=8.3
X33A Lawton 75.03 338 ⇓P P 07 48 55.3 -0.1
baz=75,SNR=12
Y31A Rekieta Farm, 75.04 337 ⇑P P 07 48 55.5 0.0
baz=75,SNR=6.7
Z28A Tucker Farm, M 75.12 335 ⇑P P 07 48 56.0 0.0
baz=75
PBMO Poplar Bluff 75.14 345 eP P 07 48 55.2 -0.7
comp=Z,132nm,0.9s
X32A Elmer 75.16 338 ⇓P P 07 48 56.0 -0.1
baz=76,SNR=15
Y30A Stafford Cattl 75.16 336 ⇓P P 07 48 56.1 -0.1
baz=76,SNR=7.6
Y29A Porterfield Fa 75.40 335 ⇑P P 07 48 57.3 -0.3
baz=76,SNR=8.0
Z27A Tatum 75.43 334 ⇑P P 07 48 57.2 -0.7
baz=76,SNR=5.5
W34A Bridge Creek, 75.47 339 eP P 07 48 57.8 -0.1
comp=Z,171nm,1.0s
W34A e 07 49 08.2
W34A Bridge Creek, 75.47 339 ⇓P P 07 48 57.2 -0.7
baz=76,SNR=15
TUL1 Tulsa 75.56 341 eP P 07 48 57.5 -0.9
comp=Z,281nm,1.1s
TUL1 e 07 49 08.7
TUL1 Tulsa 75.56 341 ⇑P P 07 48 57.9 -0.5
baz=76,SNR=21
X31A McDonald Ranch 75.56 337 ⇑P P 07 48 58.2 -0.3
baz=76,SNR=16
W33A Caddo, Fort Co 75.59 339 ⇑P P 07 48 58.6 0.0
baz=76,SNR=23
Y28A McKinney Farm, 75.64 335 ⇑P P 07 48 59.0 0.0
baz=76,SNR=9.8
Z26A Caprock 75.67 333 ⇓P P 07 48 59.4 +0.2
baz=76,SNR=19
X30A Coker Ranch, T 75.68 336 ⇑P P 07 48 59.3 +0.2
baz=76,SNR=10
USIN University of 75.79 348 eP P 07 48 58.2 -1.4
comp=Z,268nm,1.0s
USIN e 07 49 09.3
W32A Sentinel 75.80 338 ⇓P P 07 49 00.1 +0.3
baz=76,SNR=27
SIUC Southern Illin 75.82 347 eP P 07 48 59.0 -0.7
comp=Z,150nm,0.9s
SIUC e 07 49 10.0
WCI Wyandotte Cave 75.83 349 eP P 07 48 58.5 -1.4
WCI pmax pmax
comp=Z,53nm,0.9s
WCI Wyandotte Cave 75.83 349 eP P 07 48 58.5 -1.4
comp=Z,53nm,0.9s
MSTX Muleshoe 75.87 335 eP P 07 48 59.2 -1.2
comp=Z,206nm,1.2s
MSTX e 07 49 10.6
MSTX Muleshoe 75.87 335 ⇑P P 07 48 59.9 -0.5
baz=76,SNR=11
Y27A Causey 75.93 334 ⇓P P 07 49 00.3 -0.4
baz=76,SNR=7.8
Z25A Roswell 75.94 333 ⇓P P 07 49 00.9 +0.1
baz=76,SNR=12
X29A Tulia 75.95 336 ⇓P P 07 49 01.0 +0.2
baz=76,SNR=12
V34A Guthrie 75.96 340 eP P 07 49 00.4 -0.3
comp=Z,238nm,1.1s
V34A e 07 49 10.8
V34A Guthrie 75.96 340 ⇑P P 07 49 00.5 -0.1
baz=76,SNR=15
319A Douglas 76.05 328 ⇓P P 07 49 02.1 +0.6
baz=76,SNR=12
SDMD Soldier's Deli 76.07 357 eP P 07 49 00.9 -0.3
comp=Z,106nm,1.1s
SDMD e 07 49 12.5
W31A Holland Ranch, 76.07 337 ⇓P P 07 49 01.2 -0.2
baz=76,SNR=13
V33A Lossen Ranch, 76.16 339 ⇓P P 07 49 02.0 +0.2
baz=76,SNR=28
X28A Dimmitt 76.18 335 ⇑P P 07 49 01.9 -0.2
baz=76,SNR=8.1
Y26A Elida 76.20 334 ⇑P P 07 49 02.4 +0.2
baz=76,SNR=24
Z24A Sheeppen Canyo 76.22 332 ⇓P P 07 49 02.5 0.0
baz=76,SNR=14
W30A Crocket Farms 76.26 337 ⇓P P 07 49 02.4 -0.1
baz=77,SNR=5.6
V32A Arapaho 76.29 338 ⇑P P 07 49 02.8 +0.2
baz=77,SNR=15
LIC Lamto 76.31 71 eP P 07 49 04.0 +0.8
comp=Z,1μm,0.9s
AMTX Amarillo 76.34 336 eP P 07 49 02.5 -0.5
comp=Z,383nm,1.3s
AMTX e 07 49 13.6
AMTX Amarillo 76.34 336 ⇑P P 07 49 03.0 0.0
baz=77
121A Cookes Peak, D 76.45 330 ⇑P P 07 49 04.7 +0.9
baz=77,SNR=10
Y25A Mesa, Roswell 76.51 333 ⇓P P 07 49 04.2 +0.1
baz=77,SNR=11
U34A Anderson Ranch 76.53 340 eP P 07 49 03.8 -0.1
comp=Z,241nm,1.2s
U34A e 07 49 14.2
U34A Anderson Ranch 76.53 340 ⇓P P 07 49 04.0 +0.1
baz=77,SNR=18
W29A Amraillo 76.55 336 ⇑P P 07 49 04.1 0.0
baz=77,SNR=25
V31A Spring Creek L 76.58 338 ⇓P P 07 49 04.8 +0.5
baz=77,SNR=26
TIC Toumodi 76.58 71 eP P 07 49 05.6 +0.8
comp=Z,616nm,0.9s
X27A F and S Farms, 76.60 335 ⇓P P 07 49 04.5 0.0
baz=77,SNR=16
OLIL Olney 76.61 348 eP P 07 49 02.7 -1.5
comp=Z,113nm,1.1s
OLIL e 07 49 13.1
KIC Kosan Boka 76.61 71 eP P 07 49 05.8 +0.9
comp=Z,987nm,0.8s
MVL Millersville 76.63 357 eP P 07 49 05.1 +0.8
comp=Z,120nm,1.4s
U33A Lingo Farm, Me 76.68 339 ⇓P P 07 49 04.5 -0.3
baz=77
DBIC Dimbokro 76.72 71 P P 07 49 06.5 +1.0
DBIC Dimbokro 76.72 71 P P 07 49 06.5 +1.0
comp=Z,471nm,0.9s,baz=202,slow=6.4,SNR=55
DBIC Dimbokro 76.72 71 eP P 07 49 06.5 +1.0
comp=Z,435nm,0.8s
X26A CR and CF Fran 76.76 334 ⇑P P 07 49 05.5 +0.1
baz=77,SNR=14
Z22A Elephant Butte 76.76 331 ⇑P P 07 49 06.3 +0.8
baz=77,SNR=12
Y24A Capitan 76.78 333 ⇓P P 07 49 05.8 +0.2
baz=77,SNR=15
BLO Bloomington 76.78 349 eP P 07 49 04.0 -1.2
BLO e 07 49 14.6
BLO pmax pmax
comp=Z,152nm,1.0s
BLO Bloomington 76.78 349 eP P 07 49 04.0 -1.2
comp=Z,152nm,1.0s
BLO e 07 49 14.6
V30A Spur Ranch, Mi 76.83 337 ⇑P P 07 49 06.3 +0.6
baz=77,SNR=13
W28A Vega 76.86 336 ⇓P P 07 49 06.0 +0.1
baz=77,SNR=11
U32A Winter Ranch, 76.89 339 ⇓P P 07 49 05.9 0.0
baz=77,SNR=12
SLM Saint Louis 76.90 346 eP P 07 49 05.6 -0.3
SLM e 07 49 16.4
SLM pmax pmax
comp=Z,243nm,0.9s
SLM Saint Louis 76.90 346 eP P 07 49 05.5 -0.3
comp=Z,243nm,0.9s
SLM e 07 49 16.4
W27A Bowe Ranch, En 76.97 335 ⇑P P 07 49 06.5 -0.1
baz=77,SNR=20
Y23A Lovelace Mesa, 77.02 332 ⇓P P 07 49 07.1 +0.2
baz=77,SNR=14
X25A Clemmons Ranch 77.04 333 ⇑P P 07 49 06.7 -0.3
baz=77
U31A Nine Bar Ranch 77.13 338 ⇓P P 07 49 07.4 0.0
baz=78,SNR=10
V29A Stinnett 77.20 336 ⇓P P 07 49 07.7 -0.1
baz=78,SNR=6.0
W26A Owens Ranch, T 77.23 334 ⇓P P 07 49 08.2 +0.1
baz=78,SNR=13
BRNJ Basking Ridge 77.27 359 eP P 07 49 09.2 +1.3
comp=Z,78nm,1.0s
V28A Channing 77.31 336 ⇓P P 07 49 08.6 +0.1
baz=78,SNR=15
T33A Patterson Ranc 77.33 339 ⇑P P 07 49 08.7 +0.3
baz=78,SNR=21
SSPA Standing Stone 77.34 356 eP P 07 49 08.5 +0.1
comp=Z,79nm,1.2s
SSPA e 07 49 18.7
X24A Lazy VL Ranch, 77.35 333 ⇓P P 07 49 09.3 +0.4
baz=78,SNR=25
ACSO Alum Creek Sta 77.36 352 eP P 07 49 08.2 -0.3
comp=Z,236nm,0.9s
ACSO e 07 49 18.7
Y22D IRIS PASSCAL I 77.47 332 ⇓P P 07 49 10.2 +0.8
baz=78
TUC Tucson 77.50 328 eP P 07 49 10.6 +1.1
TUC e 07 49 20.9
TUC pmax pmax
comp=Z,111nm,1.1s
TUC Tucson 77.50 328 eP P 07 49 10.6 +1.1
comp=Z,111nm,1.1s
TUC e 07 49 20.9
V27A Dan Oppiter Fa 77.52 335 ⇓P P 07 49 09.8 +0.2
baz=78,SNR=9.1
U30A WK&E Inc. Balk 77.53 337 ⇓P P 07 49 10.0 +0.5
baz=78,SNR=14
LENM Lemitar 77.57 332 eP P 07 49 11.1 +1.0
LENM e 07 49 21.3
LPM Los Pinos Moun 77.57 332 eP P 07 49 10.5 +0.4
LPM e 07 49 22.0
W25A X Bar L Ranch, 77.59 334 ⇓P P 07 49 10.0 -0.1
baz=78,SNR=16
T32A Huddler Ranch, 77.61 339 ⇓P P 07 49 10.3 +0.3
baz=78,SNR=14
X23A Hourglass Bar 77.64 332 ⇑P P 07 49 11.3 +0.8
baz=78,SNR=19
U29A Oasis Ranch, S 77.65 337 ⇓P P 07 49 10.5 +0.2
baz=78,SNR=6.6
ODNJ Ogdensburg 77.67 359 eP P 07 49 10.1 0.0
comp=Z,126nm,1.2s
ODNJ e 07 49 21.7
S33A Kaszmaul Farm, 77.74 340 ⇓P P 07 49 10.7 +0.1
baz=78,SNR=9.2
T31A Randall Ranch, 77.76 338 ⇓P P 07 49 10.8 0.0
baz=78,SNR=11
LAZ Ladron 77.84 332 eP P 07 49 12.2 +0.6
comp=Z,123nm,1.2s
LAZ e 07 49 23.3
V26A Tequesquite Ra 77.88 335 ⇓P P 07 49 11.5 -0.1
baz=78,SNR=12
YLE Yale 77.88 360 eP P 07 49 12.6 +1.3
comp=Z,239nm,1.0s
U28A Mallet 77.89 336 ⇓P P 07 49 11.4 -0.2
baz=78
W24A Lazy 6 Ranch, 77.92 333 ⇓P P 07 49 11.8 -0.2
baz=78,SNR=15
T30A Plains 77.97 338 ⇓P P 07 49 12.1 0.0
baz=78,SNR=7.9
SFIN Scholer Farm 78.06 349 eP P 07 49 10.5 -1.8
comp=Z,117nm,1.2s
SFIN Scholer Farm 78.06 349 ⇑P P 07 49 11.3 -1.0
baz=78,SNR=5.2
ANMO Albuquerque 78.07 332 ⇓iP P 07 49 14.1 +1.3
ANMO Albuquerque 78.07 332 eP P 07 49 13.3 +0.5
comp=Z,227nm,1.1s
ANMO e 07 49 24.5
214A Organ Pipe Nat 78.08 326 ⇓P P 07 49 13.8 +1.0
baz=78,SNR=13
S32A Newby Ranch, P 78.10 339 ⇑P P 07 49 12.6 -0.1
baz=78,SNR=19
U27A Thompson Grove 78.12 336 ⇑P P 07 49 13.1 +0.1
baz=78,SNR=11
W23A Werner Place, 78.15 333 ⇑P P 07 49 13.7 +0.4
baz=78,SNR=17
S31A Mullinville 78.18 339 ⇓P P 07 49 13.2 0.0
baz=78,SNR=16
V25A Rancho No Teng 78.20 334 ⇑P P 07 49 13.7 +0.2
baz=78,SNR=17
T29A Hugoton 78.30 337 ⇑P P 07 49 14.0 +0.1
baz=79,SNR=16
V24A Rampart Ranch, 78.33 334 ⇓P P 07 49 14.2 -0.1
baz=79,SNR=10
R33A Olander Ranch, 78.40 340 ⇓P P 07 49 14.1 -0.3
baz=79,SNR=14
U26A Atchley Ranch, 78.40 335 ⇑P P 07 49 14.6 0.0
baz=79,SNR=8.7
S30A Montezuma 78.49 338 ⇑P P 07 49 14.9 -0.1
baz=79,SNR=22
T28A Walsh 78.53 336 ⇓P P 07 49 15.0 -0.2
baz=79,SNR=24
U25A Circle Dot Ran 78.64 334 ⇑P P 07 49 15.9 0.0
baz=79,SNR=14
T27A Campo 78.67 336 ⇑P P 07 49 16.0 0.0
baz=79,SNR=14
S29A Ulysses 78.67 337 ⇓P P 07 49 16.1 +0.2
baz=79,SNR=15
V23A Ortiz Mt. (NFS 78.68 333 ⇓P P 07 49 16.3 +0.1
baz=79,SNR=6.8
R32A Long Quarter, 78.71 340 ⇓P P 07 49 16.1 0.0
baz=79,SNR=17
KSU1 Kansas State U 78.78 341 eP P 07 49 16.1 -0.3
comp=Z,129nm,0.9s
KSU1 e 07 49 26.7
KSU1 Kansas State U 78.78 341 ⇓P P 07 49 16.0 -0.3
baz=79,SNR=8.5
BINY Binghamton 78.82 358 eP P 07 49 16.6 +0.1
BINY e 07 49 27.1
R31A Burdett 78.82 339 ⇓P P 07 49 16.4 -0.2
baz=79,SNR=14
S28A Manter 78.89 337 ⇓P P 07 49 16.9 -0.3
baz=79,SNR=18
U24A Moreno Valley 78.95 334 ⇓P P 07 49 17.9 +0.2
baz=79,SNR=7.1
ERPA Erie 78.95 355 eP P 07 49 16.4 -0.9
comp=Z,138nm,1.1s
ERPA e 07 49 27.5
Q33A Connelly Farm, 79.01 340 ⇓P P 07 49 17.8 +0.1
baz=79,SNR=10
TSUM Tsumeb 79.03 106 P P 07 49 19.2 +0.6
comp=Z,120nm,1.0s,baz=223,slow=5.9,SNR=16
TSUM Tsumeb 79.03 106 eP P 07 49 19.1 +0.6
comp=Z,526nm,1.4s
TSUM e 07 49 29.8
R30A Dighton 79.03 338 ⇑P P 07 49 18.1 +0.2
baz=79,SNR=7.1
T26A Comanche Natio 79.06 335 ⇓P P 07 49 18.2 0.0
baz=79,SNR=18
X18A Snowflake 79.06 329 ⇑P P 07 49 18.6 +0.3
baz=79,SNR=9.8
HRV Adam Dziewonsk 79.08 1 eP P 07 49 18.9 +1.0
HRV pmax pmax
comp=Z,215nm,1.5s
HRV Adam Dziewonsk 79.08 1 eP P 07 49 18.9 +1.0
comp=Z,215nm,1.5s
V22A San Miguel Ran 79.10 332 ⇑P P 07 49 19.3 +0.8
baz=79,SNR=19
113A Mohawk Valley, 79.19 326 ⇑P P 07 49 20.0 +1.2
baz=80,SNR=10
Q32A Meitler Ranch, 79.20 340 ⇓P P 07 49 19.0 +0.3
baz=80,SNR=16
U23A El Rito 79.20 333 ⇑P P 07 49 19.9 +0.9
baz=80,SNR=20
BOSA Boshof 79.27 118 eP P 07 49 19.9 +0.1
BOSA pmax pmax
comp=Z,293nm,1.1s
BOSA Boshof 79.27 118 P P 07 49 20.1 +0.3
comp=Z,185nm,1.0s,baz=234,slow=5.5,SNR=20
BOSA Boshof 79.27 118 eP P 07 49 19.9 +0.1
comp=Z,293nm,1.1s
S27A Las Animas 79.29 336 ⇑P P 07 49 19.4 0.0
baz=80,SNR=6.1
TRY Troy 79.30 359 eP P 07 49 20.2 +1.1
comp=Z,236nm,1.0s
T25A Trinidad 79.30 335 ⇑P P 07 49 20.0 +0.4
baz=80,SNR=20
Z14A Wintersburg 79.33 327 ⇑P P 07 49 19.9 +0.3
baz=80,SNR=8.4
P33A Williams Farm, 79.38 341 ⇑P P 07 49 19.7 0.0
baz=80,SNR=9.1
R29A Marienthal 79.42 338 ⇓P P 07 49 19.9 -0.1
baz=80,SNR=15
S26A Kim 79.42 336 ⇓P P 07 49 20.6 +0.5
baz=80,SNR=20
Q31A Ellis 79.44 339 ⇑P P 07 49 20.1 0.0
baz=80,SNR=15
AAM Ann Arbor 79.48 352 eP P 07 49 19.5 -0.6
AAM e 07 49 30.1
AAM pmax pmax
comp=Z,144nm,1.0s
AAM Ann Arbor 79.48 352 eP P 07 49 19.5 -0.6
comp=Z,144nm,1.0s
AAM e 07 49 30.1
U22A Llaves 79.49 333 ⇑P P 07 49 21.3 +0.7
baz=80,SNR=13
W18A Petrified Fore 79.49 330 eP P 07 49 21.9 +1.3
comp=Z,246nm,1.1s
W18A e 07 49 31.9
W18A Petrified Fore 79.49 330 ⇓P P 07 49 21.1 +0.5
baz=80,SNR=16
R28A Tribune 79.55 337 ⇓P P 07 49 21.0 +0.2
baz=80,SNR=18
T24B San Luis 79.57 334 ⇑P P 07 49 21.6 +0.4
baz=80,SNR=12
X16A Lo Mia Camp, P 79.59 328 ⇑P P 07 49 21.9 +0.8
baz=80,SNR=21
Q30A Quinter 79.66 339 ⇑P P 07 49 21.5 +0.2
baz=80,SNR=17
T23A Casias Ranch, 79.78 334 ⇓P P 07 49 22.6 +0.3
baz=80,SNR=12
S25A Robets Cordova 79.78 335 ⇑P P 07 49 22.3 +0.2
baz=80,SNR=15
P32A Huiting Farm, 79.80 340 ⇑P P 07 49 22.1 +0.1
baz=80,SNR=14
Q29A Oakley 79.80 338 ⇑P P 07 49 22.0 0.0
baz=80,SNR=12
R27A Eads 79.81 336 ⇑P P 07 49 22.4 +0.2
baz=80,SNR=17
Y14A Wickenburg 79.85 327 ⇑P P 07 49 23.3 +0.9
baz=80,SNR=15
GLA Glamis 79.91 325 ⇓P P 07 49 23.9 +1.1
baz=80,SNR=9.6
P31A Stockton 79.92 339 ⇑P P 07 49 23.0 +0.3
baz=80,SNR=15
ACCN Adirondack Com 79.95 359 eP P 07 49 22.9 +0.3
comp=Z,224nm,1.4s
ACCN e 07 49 33.9
S24A Houchin Ranch, 80.03 334 ⇑P P 07 49 24.1 +0.5
baz=80,SNR=22

R26A Arlington 80.03 336 ⇑P P 07 49 24.1 +0.7
baz=80,SNR=23
BFZ Birch Farm 80.17 226 eP P 07 49 28.1 +3.9
comp=Z,122nm,1.3s
R25A Fountain Ranch 80.17 335 ⇓P P 07 49 24.3 +0.1
baz=80
P30A Selden 80.19 339 ⇑P P 07 49 24.4 +0.3
baz=80,SNR=14
Q28A Sharon Springs 80.22 337 ⇓P P 07 49 24.6 +0.3
baz=80,SNR=11
SDCO Great Sand Dun 80.22 334 eP P 07 49 24.7 +0.1
comp=Z,88nm,1.1s
SDCO e 07 49 35.8
SWSC Sam W. Stewart 80.27 324 ⇑P P 07 49 25.8 +1.2
baz=81,SNR=7.5
HNH Hanover 80.27 0 eP P 07 49 25.7 +1.3
comp=Z,85nm,0.9s
O32A Brockman Farm, 80.31 341 ⇑P P 07 49 24.7 0.0
baz=81,SNR=15
ODZ Otahua Downs 80.31 220 eP P 07 49 25.4 +0.4
comp=Z,308nm,1.9s
ODZ e 07 49 34.2
S23A Nye Farm, Mont 80.36 334 ⇑P P 07 49 25.8 +0.4
baz=81,SNR=12
KSCO Kaye Shedlock' 80.42 337 eP P 07 49 25.9 +0.4
comp=Z,362nm,1.3s
KSCO e 07 49 36.5
KSCO Kaye Shedlock' 80.42 337 ⇓P P 07 49 25.9 +0.4
baz=81,SNR=10
P29A Atwood 80.44 338 ⇓P P 07 49 26.0 +0.5
baz=81,SNR=14
BAR Barrett 80.47 324 eP P 07 49 26.4 +0.7
comp=Z,312nm,1.3s
BAR e 07 49 37.2
O31A Woolen Ranch, 80.49 340 ⇓P P 07 49 26.3 +0.6
baz=81,SNR=18
WUAZ Wupatki 80.50 329 eP P 07 49 27.4 +1.4
comp=Z,175nm,1.1s
WUAZ e 07 49 38.1
WUAZ Wupatki 80.50 329 ⇑P P 07 49 27.0 +1.0
baz=81,SNR=16
MONP Monument Peak 80.52 324 ⇓P P 07 49 27.4 +1.1
baz=81,SNR=7.2
R24A Sanders Place, 80.53 335 ⇓P P 07 49 26.7 +0.5
baz=81,SNR=29
NCB Newcomb 80.54 359 eP P 07 49 25.3 -0.5
comp=Z,73nm,1.0s
NCB e 07 49 36.6
KHZ Kahutara 80.55 223 eP P 07 49 27.7 +1.5
comp=Z,582nm,2.2s
KHZ e 07 49 36.1
MDV Middlebury 80.56 360 eP P 07 49 26.4 +0.5
MDV e 07 49 37.0
Q26A Hugo 80.62 336 ⇓P P 07 49 27.1 +0.5
baz=81,SNR=18
PDMCI Parker Dam,Lak 80.65 326 ⇑P P 07 49 27.3 +0.7
baz=81,SNR=7.8
SCIA State Center 80.66 345 eP P 07 49 25.9 -0.6
comp=Z,180nm,1.2s
SCIA e 07 49 37.4
P28A Saint Francis 80.66 338 ⇓P P 07 49 27.2 +0.4
baz=81,SNR=13
S22A 4UR Ranch, Cre 80.70 333 ⇓P P 07 49 27.6 +0.4
baz=81,SNR=16
BC3 Big Chuckawall 80.70 325 ⇑P P 07 49 28.3 +1.2
baz=81,SNR=14
O30A MW Ranch, Wils 80.72 339 ⇓P P 07 49 27.3 +0.3
baz=81,SNR=18
R23A Moffat 80.74 334 ⇓P P 07 49 27.8 +0.4
baz=81,SNR=16
N32A Stulken Farm, 80.78 341 ⇓P P 07 49 27.6 +0.3
baz=81
LBNH Lisbon 80.81 1 eP P 07 49 27.9 +0.6
LBNH e 07 49 38.6
LBNH pmax pmax
comp=Z,115nm,1.0s
LBNH Lisbon 80.81 1 eP P 07 49 27.9 +0.6
comp=Z,115nm,1.0s
LBNH e 07 49 38.6
MVCO Mesa Verde 80.84 332 eP P 07 49 28.3 +0.4
comp=Z,214nm,1.1s
MVCO e 07 49 39.6
MVCO Mesa Verde 80.84 332 ⇓P P 07 49 28.2 +0.3
baz=81,SNR=20
109C Camp Elliot, M 80.84 323 ⇓P P 07 49 28.2 +0.5
baz=81
Q25A Bedland, Calha 80.85 336 ⇓P P 07 49 28.5 +0.6
baz=81,SNR=16
O29A 4D Ranch, Culb 80.89 339 ⇓P P 07 49 27.8 -0.1
baz=81,SNR=10.0
P27A Ficken Ranch, 80.90 337 ⇑P P 07 49 28.4 +0.4
baz=81,SNR=10.0
IRM Iron Mountain 80.99 326 ⇑P P 07 49 29.2 +0.7
baz=81,SNR=16
BKZ Black Stump Fm 81.01 227 eP P 07 49 30.6 +1.8
comp=Z,272nm,1.5s
RPZ Rata Peaks 81.01 221 eP P 07 49 29.4 +0.6
comp=Z,447nm,1.8s
N31A Bailey Ranch, 81.02 340 ⇑P P 07 49 28.3 -0.2
baz=81
JFWS Jewell Farm 81.05 347 eP P 07 49 28.3 -0.3
JFWS e 07 49 38.8
JFWS pmax pmax
comp=Z,105nm,0.9s
JFWS Jewell Farm 81.05 347 eP P 07 49 28.3 -0.3
comp=Z,105nm,0.9s
JFWS e 07 49 38.8
WHZ Wether Hill Ro 81.08 218 eP P 07 49 29.9 +0.9
comp=Z,372nm,1.9s
PFO Pinyon Flat Ob 81.13 324 P P 07 49 30.5 +1.1
comp=Z,315nm,1.0s,SNR=13
PFO Pinyon Flat Ob 81.13 324 eP P 07 49 31.1 +1.7
PFO e 07 49 41.8
PFO Pinyon Flat Ob 81.13 324 eP P 07 49 31.1 +1.7
PFO e 07 49 41.8
PFO Pinyon Flat Ob 81.13 324 ⇓P P 07 49 30.3 +0.9
baz=81,SNR=19
P26A Davis Ranch, A 81.15 337 ⇑P P 07 49 29.7 +0.3
baz=82,SNR=12
PTN Potsdam (NY) 81.16 358 eP P 07 49 29.5 +0.4
PTN pmax pmax
comp=Z,229nm,1.0s
PTN Potsdam (NY) 81.16 358 eP P 07 49 29.5 +0.4
comp=Z,229nm,1.0s
O28A Krutsinger Ran 81.18 338 ⇓P P 07 49 29.8 +0.4
baz=82,SNR=14
WVL Waterville 81.18 2 eP P 07 49 30.4 +1.3
comp=Z,662nm,2.0s
LONY Lake Ozonia 81.20 359 eP P 07 49 29.2 -0.1
comp=Z,146nm,1.0s
LONY e 07 49 40.4
Q24A Divide 81.20 335 ⇓P P 07 49 30.2 +0.3
baz=82,SNR=16
W13A Hualapai Mount 81.21 327 ⇓P P 07 49 30.7 +0.8
baz=82,SNR=16
URZ Urewera 81.23 228 eP P 07 49 32.9 +2.9
comp=Z,459nm,2.1s
BELC Belle Mtn. Jos 81.24 325 ⇑P P 07 49 30.8 +0.8
baz=82,SNR=8.8
NEE2 Needles Airpor 81.26 326 ⇓P P 07 49 30.4 +0.6
baz=82,SNR=7.5
N30A Hueftle Ranch, 81.31 339 ⇑P P 07 49 30.1 0.0
baz=82
BGNE Belgrade 81.35 341 eP P 07 49 30.4 +0.1
comp=Z,233nm,1.0s
BGNE e 07 49 41.4
BGNE Belgrade 81.35 341 ⇑P P 07 49 30.5 +0.2
baz=82,SNR=8.9
P25A Willow Gulch B 81.37 336 ⇓P P 07 49 31.0 +0.4
baz=82,SNR=16
O27A Beecher Island 81.45 337 ⇓P P 07 49 31.1 +0.2
baz=82,SNR=14
MURC Murrieta 81.47 324 ⇓P P 07 49 32.0 +0.9
baz=82,SNR=11
N29A Votaw Ranch, W 81.48 339 ⇑P P 07 49 31.2 +0.2
baz=82,SNR=12
M31A Lambtecht Ranc 81.51 340 ⇑P P 07 49 31.4 +0.3
baz=82,SNR=14
P24A Kohler Place, 81.61 335 ⇓P P 07 49 32.4 +0.5
baz=82,SNR=14
N28A Pribbeno Ranch 81.62 338 ⇑P P 07 49 32.0 +0.2
baz=82,SNR=11
LBTB Lobatse 81.64 115 eP P 07 49 32.9 +0.4
LBTB pmax pmax
comp=Z,353nm,1.0s
LBTB Lobatse 81.64 115 eP P 07 49 32.9 +0.4
comp=Z,353nm,1.0s
U15A North Rim 81.66 329 ⇓P P 07 49 32.9 +0.6
baz=82,SNR=24
PV01 Paradox Valley 81.68 332 eP P 07 49 32.6 +0.3
comp=Z,14µm,1.1s
PV01 e 07 49 44.2
GMRC Granite Mounta 81.74 326 ⇑P P 07 49 33.3 +0.7
baz=82,SNR=17
LDFC Landfair 81.74 326 eP P 07 49 33.7 +1.2
comp=Z,221nm,1.2s
LDFC e 07 49 44.7
O26A Horse Wrangler 81.76 337 ⇑P P 07 49 32.9 +0.4
baz=82,SNR=16
P23A Jefferson 81.80 335 ⇑P P 07 49 33.6 +0.5
baz=82,SNR=6.3
CIS Catalina Islan 81.89 323 ⇓P P 07 49 34.1 +0.8
baz=82
O25A Wiggins 81.90 336 ⇑P P 07 49 33.9 +0.6
baz=82,SNR=8.0
M30A Dale-Ortello V 81.93 340 ⇓P P 07 49 33.9 +0.5
baz=82,SNR=9.2
OGNE Ogallala 82.01 338 eP P 07 49 34.7 +0.9
comp=Z,103nm,1.0s
OGNE e 07 49 45.4
OGNE Ogallala 82.01 338 ⇓P P 07 49 34.0 +0.3
baz=82
SMCO Snowmass 82.02 334 eP P 07 49 35.6 +1.3
comp=Z,301nm,1.2s
PV04 Paradox Valley 82.03 332 eP P 07 49 35.1 +1.0
PV04 e 07 49 45.8
N27A Anderson Farm, 82.03 338 ⇑P P 07 49 34.3 +0.4
baz=82,SNR=14
PV10 Paradox Valley 82.07 332 eP P 07 49 34.1 -0.3
comp=Z,3µm,0.9s
PV10 e 07 49 46.0
M29A Burnside Ranch 82.08 339 ⇓P P 07 49 34.2 +0.1
baz=82,SNR=12
HEC Hector,Ludlow 82.08 325 ⇑P P 07 49 35.1 +0.8
baz=82,SNR=20
ISCO Idaho Springs 82.11 335 eP P 07 49 35.5 +0.8
ISCO pmax pmax
comp=Z,110nm,1.3s
ISCO Idaho Springs 82.11 335 eP P 07 49 35.5 +0.8
comp=Z,110nm,1.3s
ISCO Idaho Springs 82.11 335 ⇓P P 07 49 34.8 +0.2
baz=82,SNR=19
BFSC Mount Baldy Ra 82.21 324 ⇓P P 07 49 35.7 +0.6
baz=82,SNR=16
O24A Longmont 82.22 336 ⇓P P 07 49 34.8 -0.2
baz=82
M28A Bar X Bar Ranc 82.23 339 ⇓P P 07 49 35.6 +0.7
baz=82,SNR=6.7
L31A Butterfield Fa 82.25 341 ⇑P P 07 49 35.3 +0.3
baz=83,SNR=19
N26A Koester Ranch, 82.26 337 ⇑P P 07 49 35.4 +0.2
baz=83,SNR=11
L30A Spencer Herefo 82.27 340 ⇑P P 07 49 35.3 +0.2
baz=83,SNR=16
P22A Eagle 82.32 334 ⇑P P 07 49 36.3 +0.6
baz=83,SNR=11
MWC Mount Wilson 82.39 324 eP P 07 49 37.4 +1.3
MWC e 07 49 48.1
MWC pmax pmax
comp=Z,42nm,1.1s
MWC Mount Wilson 82.39 324 eP P 07 49 37.4 +1.3
comp=Z,42nm,1.1s
MWC e 07 49 48.1
TUQ Turquoise Moun 82.40 326 ⇓P P 07 49 36.8 +0.7
baz=83,SNR=6.4
RRX Edison Barstow 82.43 325 ⇑P P 07 49 36.7 +0.6
baz=83
N25A Grover 82.52 337 ⇓P P 07 49 36.6 0.0
baz=83
DECC Green Verdugo 82.54 323 ⇑P P 07 49 37.8 +1.1
baz=83
O23A Lake Granby, G 82.58 335 ⇓P P 07 49 37.5 +0.5
baz=83,SNR=13
L29A Maesberg Ranch 82.59 340 ⇓P P 07 49 37.3 +0.5
baz=83,SNR=7.8
M27A Reverse DX Ran 82.65 338 ⇑P P 07 49 37.5 +0.4
baz=83,SNR=9.9
GSC Goldstone 82.69 325 eP P 07 49 38.3 +0.8
GSC e 07 49 49.5
GSC pmax pmax
comp=Z,171nm,1.4s
GSC Goldstone 82.69 325 eP P 07 49 38.3 +0.8
comp=Z,171nm,1.4s
GSC e 07 49 49.5
GSC Goldstone 82.69 325 ⇑P P 07 49 38.4 +0.8
baz=83,SNR=14
O22A Kremmling 82.75 335 ⇑P P 07 49 37.9 -0.1
baz=83,SNR=22
N24A Carr 82.79 336 ⇑P P 07 49 38.2 +0.2
baz=83,SNR=17
M26A McRoberts Ranc 82.82 338 ⇓P P 07 49 38.4 +0.3
baz=83
L28A Connealy Angus 82.83 339 ⇑P P 07 49 38.4 +0.3
baz=83,SNR=5.2
EDW2 Edwards Air Fo 82.89 324 ⇑P P 07 49 38.9 +0.3
baz=83,SNR=11
K30A Basset 82.92 340 ⇑P P 07 49 38.6 +0.1
baz=83,SNR=24
SHOC Shoshone 82.95 326 ⇑P P 07 49 39.5 +0.8
baz=83,SNR=5.5
SHPR Sheep Range 82.95 327 eP P 07 49 40.0 +1.1
SHPR e 07 49 51.5
BSC Santa Cruz Isl 82.96 322 ⇓P P 07 49 39.7 +0.8
baz=83
OSI Osito Adit 83.03 323 ⇑P P 07 49 40.2 +0.9
baz=83,SNR=6.0
CCUT Cedar City 83.07 329 eP P 07 49 40.9 +1.3
comp=Z,188nm,1.0s
CCUT e 07 49 52.2
M25A Palm-Egli Farm 83.08 337 ⇑P P 07 49 39.6 +0.2
baz=83,SNR=15
L27A T5 Ranch, Ells 83.14 338 ⇓P P 07 49 40.2 +0.6
baz=84
ECSD EROS Data Cent 83.16 343 eP P 07 49 39.3 -0.3
comp=Z,257nm,1.0s
ECSD e 07 49 50.6
ECSD EROS Data Cent 83.16 343 ⇓P P 07 49 39.7 +0.1
baz=84,SNR=28
K29A Lazy Trails An 83.19 340 ⇑P P 07 49 40.1 +0.2
baz=84,SNR=16
N23A Red Feather La 83.20 335 ⇓P P 07 49 40.8 +0.5
baz=84,SNR=15
LRMC Laurel Mountai 83.24 325 ⇑P P 07 49 41.3 +0.9
baz=84,SNR=14
SRU San Rafael 83.27 331 eP P 07 49 41.2 +0.6
SRU e 07 49 51.9
SRU pmax pmax
comp=Z,159nm,0.9s
SRU San Rafael 83.27 331 eP P 07 49 41.2 +0.6
comp=Z,159nm,0.9s
SRU e 07 49 51.9
CRZF Crozet Islands 83.29 145 R 07 57 00.0
CRZF Crozet Islands 83.29 145 R 07 56 00.0
N22A Wattenberg Ran 83.29 335 ⇓P P 07 49 41.1 +0.4
baz=84,SNR=16
ARUT Antelope Range 83.30 329 eP P 07 49 41.3 +0.6
ARUT e 07 49 52.9
ARUT Antelope Range 83.30 329 eP P 07 49 41.3 +0.6
comp=Z,3µm,1.1s
ARUT e 07 49 52.9
O20A White River Ci 83.32 333 eP P 07 49 40.6 -0.2
comp=Z,296nm,1.4s
O20A White River Ci 83.32 333 ⇑P P 07 49 41.1 +0.3
baz=84,SNR=10
L26A Underwood Farm 83.32 338 ⇑P P 07 49 41.0 +0.4
baz=84,SNR=7.7
M24A Cheyenne 83.35 336 ⇓P P 07 49 41.5 +0.6
baz=84,SNR=14
PHWY Pilot Hill 83.41 336 eP P 07 49 41.4 +0.1
comp=Z,135nm,1.0s
K28A Ten Mile Ranch 83.44 339 ⇑P P 07 49 41.6 +0.4
baz=84,SNR=11
J30A Dallas 83.49 341 ⇑P P 07 49 41.8 +0.4
baz=84,SNR=11
M23A Laramie 83.64 336 ⇓P P 07 49 42.8 +0.4
baz=84,SNR=15
FURC Furnace Creek, 83.68 326 ⇑P P 07 49 43.2 +0.8
baz=84,SNR=9.1
K27A Flueckinger Fa 83.68 339 ⇑P P 07 49 42.8 +0.4
baz=84,SNR=13
TMUT Trail Mountain 83.70 331 eP P 07 49 43.2 +0.4
comp=Z,228nm,1.0s
TMUT e 07 49 54.5
L25A Engebretsen Ra 83.70 337 ⇓P P 07 49 42.9 +0.3
baz=84,SNR=16
SPMN St. Paul 83.76 346 eP P 07 49 41.5 -1.2
comp=Z,70nm,0.9s
SPMN e 07 49 52.6
SPMN St. Paul 83.76 346 ⇑P P 07 49 42.0 -0.6
baz=84,SNR=8.8
ISA Isabella 83.76 324 eP P 07 49 44.0 +1.0
ISA e 07 49 54.4
ISA pmax pmax
comp=Z,179nm,1.4s
ISA Isabella 83.76 324 eP P 07 49 44.0 +1.0
comp=Z,179nm,1.4s
ISA e 07 49 54.4
ISA Isabella 83.76 324 ⇓P P 07 49 43.7 +0.7
baz=84,SNR=15
J29A Okreek 83.79 340 ⇑P P 07 49 43.3 +0.4
baz=84,SNR=28
M22A Cedar Creek Ra 83.88 335 ⇓P P 07 49 44.4 +0.7
baz=84,SNR=7.1
L24A Wheatland 83.90 337 ⇓P P 07 49 44.2 +0.6
baz=84,SNR=11
N20A Spence Gulch, 83.94 334 ⇓P P 07 49 44.5 +0.5
baz=84,SNR=17
K26A Motz Farm, Whi 83.96 338 ⇓P P 07 49 43.9 +0.1
baz=84,SNR=7.8
I30A Oacoma 84.03 341 ⇓P P 07 49 43.9 -0.1
baz=84,SNR=14
J28A Allard Ranch, 84.06 340 ⇑P P 07 49 44.5 +0.2
baz=84,SNR=9.8
K25A Mack Ranch, Ha 84.09 337 ⇑P P 07 49 45.3 +0.8
baz=84,SNR=8.2
J27A Elkhorn Farm, 84.12 339 ⇑P P 07 49 45.3 +0.7
baz=84,SNR=15
VES Vestal, Richgr 84.19 324 ⇓P P 07 49 46.2 +1.1
baz=84,SNR=13
SMMC Simmler 84.20 323 ⇑P P 07 49 46.4 +1.2
baz=84
L23A Garrett 84.22 336 ⇓P P 07 49 45.3 -0.1
baz=84,SNR=12
GRAC Grapevine Rang 84.35 326 ⇓P P 07 49 46.7 +0.8
baz=85
I29A Vivian Onida 84.36 340 ⇓P P 07 49 45.8 +0.1
baz=85,SNR=11
L22A Ellis Ranch, M 84.38 336 ⇓P P 07 49 46.4 +0.2
baz=85,SNR=6.6
BRSD Miller 84.40 342 eP P 07 49 45.6 -0.3
comp=Z,259nm,0.9s
BRSD e 07 49 56.3
BRSD Miller 84.40 342 ⇓P P 07 49 45.8 -0.2
baz=85,SNR=11
K24A Anderson Ranch 84.48 337 ⇑P P 07 49 47.3 +0.7
baz=85,SNR=6.9
MPU Maple Canyon 84.48 331 eP P 07 49 47.1 +0.4
comp=Z,239nm,1.0s
MPU e 07 49 57.4
J26A Sides Ranch, S 84.49 338 ⇑P P 07 49 47.0 +0.5
baz=85,SNR=20
I28A Midland 84.57 340 ⇑P P 07 49 47.2 +0.3
baz=85,SNR=21
NLU North Lily Min 84.60 331 eP P 07 49 47.8 +0.5
comp=Z,183nm,1.2s
NLU e 07 49 58.9
RCTC Rector, Farmer 84.65 324 ⇑P P 07 49 47.9 +0.5
baz=85,SNR=9.3
DAU Daniels Canyon 84.68 332 eP P 07 49 48.9 +1.1
DAU e 07 49 59.3
DAU Daniels Canyon 84.68 332 eP P 07 49 48.9 +1.1
DAU e 07 49 59.2
R11A Troy Canyon, C 84.68 328 eP P 07 49 48.8 +1.0
comp=Z,123nm,1.0s
R11A e 07 49 59.3
R11A Troy Canyon, C 84.68 328 ⇓P P 07 49 48.9 +1.1
baz=85
K23A Bowen Ranch, D 84.77 336 ⇓P P 07 49 48.2 +0.2
baz=85,SNR=23
J25A Sunshine Ranch 84.77 338 ⇑P P 07 49 48.6 +0.6
baz=85,SNR=12
TIN Tinemaha 84.78 325 ⇑P P 07 49 49.1 +0.9
baz=85,SNR=10.0
I27A Quinn 84.88 339 ⇑P P 07 49 48.4 0.0
baz=85,SNR=14
H29A Onida 84.89 341 ⇓P P 07 49 48.5 0.0
baz=85,SNR=18
JLU Jordanelle 84.92 331 eP P 07 49 49.7 +0.7
comp=Z,130nm,0.9s
JLU e 07 50 00.5
K22A Casper 84.97 336 eP P 07 49 49.6 +0.6
comp=Z,337nm,1.0s
K22A e 07 49 60.0
K22A Casper 84.97 336 ⇓P P 07 49 49.1 0.0
baz=85,SNR=26
J24A Dixon Ranch, L 84.98 337 ⇑P P 07 49 49.5 +0.4
baz=85,SNR=26
I26A New Underwood 85.08 339 ⇓P P 07 49 49.3 -0.2
baz=85,SNR=15
G30A Faulkton 85.09 342 ⇓P P 07 49 49.4 0.0
baz=85,SNR=12
DUG Dugway 85.10 330 eP P 07 49 50.8 +1.1
DUG e 07 50 01.3
DUG pmax pmax
comp=Z,243nm,1.1s
DUG Dugway 85.10 330 eP P 07 49 50.8 +1.1
comp=Z,243nm,1.1s
DUG e 07 50 01.3
DUG Dugway 85.10 330 ⇑P P 07 49 49.7 -0.1
baz=85,SNR=26
CTU Camp Tracy 85.11 331 eP P 07 49 50.2 +0.3
comp=Z,68nm,0.9s
CTU e 07 50 00.9
H28A Mission Ridge 85.16 340 ⇓P P 07 49 49.7 0.0
baz=86,SNR=12
TPH Tonopah 85.17 326 eP P 07 49 51.5 +1.3
TPH e 07 50 01.5
TPH pmax pmax
comp=Z,239nm,1.1s
TPH Tonopah 85.17 326 eP P 07 49 51.5 +1.3
comp=Z,239nm,1.1s
TPH e 07 50 01.5
MTUM Tungsten Hills 85.18 325 eP P 07 49 51.7 +1.4
K21A Alcova 85.19 335 ⇓P P 07 49 50.2 0.0
baz=86
I25A Rochford 85.33 338 ⇑P P 07 49 50.5 -0.3
baz=86,SNR=22
J23A Dilts Ranch, B 85.33 337 ⇓P P 07 49 50.8 0.0
baz=86,SNR=6.8
G29A Hoven 85.34 341 ⇑P P 07 49 50.5 -0.2
baz=86,SNR=19
TCUT Toone Canyon 85.35 332 eP P 07 49 51.1 0.0
comp=Z,593nm,1.4s
OUZ Omahuta 85.35 229 eP P 07 49 53.2 +1.9
comp=Z,723nm,1.6s
H27A Howes 85.41 340 ⇓P P 07 49 51.0 -0.1
baz=86,SNR=19
I24A Kuemmerle Ranc 85.45 338 ⇑P P 07 49 51.5 +0.1
baz=86,SNR=16
G28A Parade 85.50 340 ⇑P P 07 49 51.6 +0.1
baz=86,SNR=14
RSSD Black Hills 85.51 338 eP P 07 49 51.6 -0.2
RSSD e 07 50 02.5
RSSD pmax pmax
comp=Z,193nm,1.0s
RSSD Black Hills 85.51 338 eP P 07 49 51.5 -0.2
comp=Z,193nm,1.0s
RSSD e 07 50 02.5
MLAC Mammoth Lakes 85.53 325 ⇓P P 07 49 52.9 +0.8
baz=86,SNR=10
H26A Fairpoint 85.59 339 ⇓P P 07 49 51.6 -0.4
baz=86,SNR=9.6
J22A Midwest 85.63 336 ⇓P P 07 49 52.0 -0.3
baz=86,SNR=17
F30A Leola 85.72 342 ⇓P P 07 49 52.3 -0.3
baz=86,SNR=16
TOA0 Torodi Ar. Sit 85.80 70 eP P 07 49 53.8 +0.1
TORD Torodi Ar. Bea 85.80 70 P P 07 49 53.9 +0.2
comp=Z,145nm,1.0s,baz=237,slow=4.4,SNR=24
BGU Big Grassy Mou 85.81 331 eP P 07 49 53.5 +0.2
comp=Z,178nm,1.8s
BGU e 07 50 02.6
HWUT Hardware Ranch 85.83 332 eP P 07 49 53.0 -0.4
comp=Z,190nm,1.2s
H25A Fruitdale 85.83 339 ⇑P P 07 49 53.4 +0.2
baz=86,SNR=40
NV11 Mina Array Sit 85.88 326 eP P 07 49 54.3 +0.6
NV11 e 07 50 05.2
J21A Lysite 85.89 335 ⇓P P 07 49 53.8 +0.1
baz=86,SNR=13
SPUT South Promonto 85.91 331 eP P 07 49 53.7 -0.1

comp=Z,466nm,1.4s
SPUT e 07 50 04.8
F29A Eureka 85.92 341 ⇑P P 07 49 53.4 -0.2
baz=86,SNR=19
NVAR Mina Array Bea 85.94 326 P P 07 49 55.3 +1.2
comp=Z,21nm,0.9s,baz=152,slow=5.6,SNR=15
NVAR pP pP 07 50 06.4 +0.1
comp=Z,50nm,0.9s,baz=156,slow=5.2,SNR=18
G27A Dupree 86.05 340 ⇑P P 07 49 53.9 -0.3
baz=86,SNR=25
I22A 9 Mile Ranch, 86.06 336 ⇓P P 07 49 54.3 -0.1
baz=86,SNR=30
BW06 Boulder Array 86.11 334 eP P 07 49 54.5 -0.3
comp=Z,558nm,1.2s
PDAR Pinedale Array 86.11 334 P P 07 49 54.7 -0.1
comp=Z,73nm,1.1s,baz=134,slow=4.3,SNR=28
PDAR pP pP 07 50 05.7 -1.3
comp=Z,77nm,1.0s,baz=147,slow=5.1,SNR=18
PDAR PKKP PKKPbc 08 07 53.8 -1.4
comp=Z,4.2nm,0.9s,baz=101,slow=0.6,SNR=9.0
J20A Shoshoni 86.11 335 ⇓P P 07 49 54.7 0.0
baz=86,SNR=20
EYMN Ely 86.14 348 eP P 07 49 54.1 -0.5
comp=Z,82nm,1.1s
EYMN e 07 50 04.5
G26A Maurine 86.16 339 ⇑P P 07 49 54.6 -0.2
baz=86,SNR=33
F28A McLaughlin 86.18 341 ⇑P P 07 49 54.5 -0.3
baz=86,SNR=19
H24A Dirks Ranch, A 86.23 338 ⇓P P 07 49 54.8 -0.4
baz=87,SNR=26
I21A Big Trails, Te 86.25 336 ⇑P P 07 49 55.1 -0.3
baz=87,SNR=29
G25A Newell 86.30 339 ⇓P P 07 49 55.6 +0.1
baz=86,SNR=30
E30A Jud 86.31 342 ⇑P P 07 49 55.4 0.0
baz=87,SNR=22
H23A Clabaugh Cattl 86.32 337 ⇓P P 07 49 55.5 -0.1
baz=87,SNR=5.5
J19A Crowheart 86.37 334 ⇓P P 07 49 55.8 -0.2
baz=87,SNR=29
HVU Hansel Valley 86.44 331 eP P 07 49 56.7 +0.3
HVU e 07 50 07.3
HVU pmax pmax
comp=Z,169nm,0.9s
HVU Hansel Valley 86.44 331 eP P 07 49 56.7 +0.3
comp=Z,169nm,0.9s
HVU e 07 50 07.2
F27A Lemmon 86.53 340 ⇓P P 07 49 56.2 -0.4
baz=87,SNR=34
ELK Elko 86.54 329 eP P 07 49 57.8 +0.8
ELK pmax pmax
comp=Z,112nm,1.2s
ELK Elko 86.54 329 eP P 07 49 57.8 +0.8
comp=Z,112nm,1.2s
E29A Napoleon 86.55 342 ⇓P P 07 49 56.1 -0.5
baz=87,SNR=11
CMB Columbia Colle 86.58 324 eP P 07 49 58.2 +1.2
CMB pmax pmax
comp=Z,104nm,1.3s
CMB Columbia Colle 86.58 324 eP P 07 49 58.1 +1.2
comp=Z,104nm,1.3s
H22A Clearmont 86.65 337 ⇑P P 07 49 57.1 -0.2
baz=87,SNR=11
I20A Worland 86.66 335 ⇑P P 07 49 57.2 -0.2
baz=87,SNR=15
AHID Auburn Hatcher 86.66 333 eP P 07 49 57.4 -0.1
comp=Z,167nm,1.0s
AHID e 07 50 08.4
F26A Lodgepole 86.69 340 ⇓P P 07 49 57.2 -0.2
baz=87,SNR=24
G24A Alzada 86.72 338 ⇓P P 07 49 57.2 -0.3
baz=87,SNR=22
E28A Huff 86.83 341 ⇓P P 07 49 57.8 -0.2
baz=87,SNR=18
D30A Buchanan 86.84 343 ⇓P P 07 49 57.8 -0.2
baz=87,SNR=19
G23A Biddle 86.90 338 ⇓P P 07 49 58.2 -0.2
baz=87,SNR=16
H21A Big Horn, Sher 86.90 336 ⇑P P 07 49 58.0 -0.5
baz=87,SNR=10
E27A Carson 86.92 341 ⇑P P 07 49 58.1 -0.3
baz=87,SNR=16
F25A Bowman 86.98 339 ⇑P P 07 49 58.5 -0.4
baz=87,SNR=23
D29A Pettibone, Tap 87.00 342 ⇓P P 07 49 58.5 -0.4
baz=87,SNR=22
I19A Meeteetse 87.02 335 ⇓P P 07 49 58.8 -0.5
baz=87,SNR=7.3
REDW Red Top Meadow 87.09 333 eP P 07 49 59.8 +0.2
comp=Z,137nm,1.0s
H20A Greybull 87.09 336 ⇑P P 07 49 58.9 -0.5
baz=87,SNR=10
BMN Battle Mountai 87.11 328 eP P 07 49 59.9 +0.2
BMN e 07 50 10.9
BMN pmax pmax
comp=Z,35nm,1.0s
BMN Battle Mountai 87.11 328 eP P 07 49 59.9 +0.2
comp=Z,35nm,1.0s
BMN e 07 50 10.9
G22A Birney 87.19 337 ⇓P P 07 49 59.4 -0.5
baz=88,SNR=12
F24A Ekalaka 87.20 338 ⇓P P 07 49 59.6 -0.3
baz=88,SNR=18
E26A Carlson Angus 87.20 340 ⇓P P 07 49 59.5 -0.4
baz=88,SNR=34
LOHW Long Hollow 87.22 334 eP P 07 50 00.4 +0.2
comp=Z,87nm,0.9s
TPAW Teton Pass 87.23 333 eP P 07 50 00.7 +0.4
comp=Z,166nm,0.9s
AGMN Agassiz Nation 87.31 345 eP P 07 49 59.8 -0.5
comp=Z,82nm,0.9s
AGMN e 07 50 11.3
AGMN Agassiz Nation 87.31 345 ⇓P P 07 49 59.7 -0.5
baz=88,SNR=17
C30A Mose, Pekin 87.33 343 ⇓P P 07 50 00.2 -0.2
baz=88,SNR=30
D28A Regan 87.37 341 ⇓P P 07 50 00.4 -0.2
baz=88,SNR=41
F23A Volborg 87.37 338 ⇑P P 07 50 00.3 -0.4
baz=88,SNR=19
FXWY Fox Creek 87.39 333 eP P 07 50 01.3 +0.2
comp=Z,78nm,1.1s
I17A Pilgrim Ck. 87.47 334 ⇓P P 07 50 01.3 -0.1
baz=88,SNR=21
G21A Lodge Grass 87.49 336 ⇑P P 07 50 01.6 +0.3
baz=88,SNR=6.4
E25A Miller Ranch, 87.49 339 ⇓P P 07 50 01.1 -0.2
baz=88,SNR=31
D27A Center 87.54 341 ⇓P P 07 50 01.3 -0.2
baz=88,SNR=16
H19A Powell 87.58 335 ⇓P P 07 50 01.8 -0.1
baz=88
IMW Indian Meadow 87.58 333 eP P 07 50 02.4 +0.4
comp=Z,148nm,1.0s
FLWY Flagg Ranch 87.66 334 eP P 07 50 03.0 +0.7
comp=Z,197nm,1.0s
F22A Rosebud 87.68 337 ⇓P P 07 50 02.0 -0.2
baz=88,SNR=10
D26A Manning 87.71 340 ⇓P P 07 50 02.4 +0.2
baz=88,SNR=38
E24A Baker 87.81 339 ⇑P P 07 50 02.8 +0.1
baz=88,SNR=13
C28A Hausauer Farms 87.81 342 ⇓P P 07 50 02.2 -0.4
baz=88,SNR=19
G20A Bridger 87.81 336 ⇑P P 07 50 02.5 -0.3
baz=88,SNR=7.1
H18A Shoshone NF, C 87.82 335 ⇓P P 07 50 03.0 -0.1
baz=88,SNR=7.1
H17A Grant Village 87.89 334 eP P 07 50 05.0 +1.5
comp=Z,59nm,1.4s
H17A Grant Village 87.89 334 ⇑P P 07 50 04.1 +0.6
baz=88
F21A Absaloka Mine, 87.99 337 ⇑P P 07 50 03.4 -0.3
baz=88
B30A Myrvik Farm, E 88.00 343 ⇓P P 07 50 03.8 +0.3
baz=88,SNR=35
YFT Old Faithful 88.03 334 eP P 07 50 05.9 +1.8
comp=Z,59nm,0.9s
E23A Ismay 88.04 338 ⇑P P 07 50 03.8 -0.1
baz=88,SNR=7.4
D25A Fairfield 88.06 340 ⇑P P 07 50 04.2 +0.3
baz=88,SNR=24
RLMT Red Lodge 88.07 335 eP P 07 50 03.9 -0.4
comp=Z,81nm,1.2s
RLMT e 07 50 14.8
C27A Sayler Ranch, 88.09 341 ⇓P P 07 50 04.1 0.0
baz=88,SNR=32
E22A Miles City 88.18 338 ⇓P P 07 50 04.5 -0.1
baz=88,SNR=6.0
YNR Norris Junctio 88.20 334 eP P 07 50 05.4 +0.5
comp=Z,111nm,1.5s
B29A Wagenman Farm, 88.25 343 ⇑P P 07 50 04.9 +0.2
baz=89,SNR=37
YMR Madison River 88.26 334 eP P 07 50 06.2 +1.0
comp=Z,162nm,1.0s
YMR e 07 50 17.1
F20A Billings 88.30 336 ⇓P P 07 50 05.0 -0.2
baz=89
D24A Glendive 88.31 339 ⇑P P 07 50 05.2 0.0
baz=89,SNR=12
C26A Wahner Farm, P 88.35 341 ⇑P P 07 50 05.3 0.0
baz=89,SNR=17
A30A Hoffart Farm, 88.45 344 ⇑P P 07 50 05.9 +0.2
baz=89,SNR=16
B28A Dugan Ranch, T 88.48 342 ⇑P P 07 50 06.0 +0.2
baz=89,SNR=37
LAO LASA Array 88.49 338 eP P 07 50 05.8 -0.2
comp=Z,82nm,1.0s
LAO e 07 50 16.4
C25A Freed Ranch, W 88.56 340 ⇑P P 07 50 06.4 +0.1
baz=89,SNR=13
QLMT Earthquake Lak 88.57 334 eP P 07 50 07.8 +1.1
QLMT e 07 50 18.3
HLID Hailey 88.59 331 eP P 07 50 07.3 +0.6
comp=Z,358nm,1.9s
HLID Hailey 88.59 331 ⇓P P 07 50 07.2 +0.6
baz=89
F19A Roth Farm, Mol 88.61 336 ⇓P P 07 50 06.4 -0.2
baz=89
E21A Keefer Ranch, 88.62 337 ⇑P P 07 50 06.5 -0.1
baz=89,SNR=8.4
D23A Lindsay 88.62 339 ⇑P P 07 50 06.7 +0.1
baz=89,SNR=9.4
A29A Manning Farm, 88.65 343 ⇓P P 07 50 06.4 -0.2
baz=89,SNR=60
B27A Peters Farms, 88.67 341 ⇓P P 07 50 06.9 +0.1
baz=89,SNR=12
C24A Savage 88.72 339 ⇑P P 07 50 07.1 0.0
baz=89,SNR=14
A28A Rude Farm, Bot 88.89 342 ⇑P P 07 50 07.7 0.0
baz=89,SNR=16
D22A Cohagen 88.89 338 ⇑P P 07 50 08.0 +0.2
baz=89,SNR=7.7
B26A Jensen Ranch, 88.89 341 ⇓P P 07 50 08.1 +0.2
baz=89,SNR=5.7
E20A Meyer Farm, Mu 88.92 336 ⇓P P 07 50 07.8 -0.2
baz=89
MFID Camas Ranch 89.02 330 eP P 07 50 09.6 +0.9
comp=Z,190nm,1.5s
B25A Knox Farm, Ray 89.05 340 ⇓P P 07 50 08.5 0.0
baz=89,SNR=8.4
D21A La Casta Ranch 89.06 337 ⇓P P 07 50 08.4 -0.2
baz=89
MCMT McKenzie Canyo 89.08 333 eP P 07 50 09.6 +0.5
comp=Z,58nm,1.1s
MCMT e 07 50 20.4
E19A Rath Farm, Rou 89.09 336 ⇓P P 07 50 08.5 -0.4
baz=89,SNR=7.6
A27A Ledoux Ranch, 89.17 342 ⇑P P 07 50 08.8 -0.2
baz=90
ULM Lac du Bonnet 89.17 345 P P 07 50 08.2 -0.8
ULM *PP pP 07 50 19.2 -2.0
ULM pmax pmax
comp=Z,70nm,1.0s
ULM pmax pmax
comp=Z,77nm,1.0s
ULM Lac du Bonnet 89.17 345 P P 07 50 08.2 -0.8
comp=Z,70nm,1.0s,baz=171,slow=3.6,SNR=14
ULM pP pP 07 50 19.2 -2.0
comp=Z,77nm,1.0s,baz=187,slow=3.4,SNR=11
C23A Lambert 89.18 339 ⇑P P 07 50 09.2 0.0
baz=90,SNR=7.3
A26A Wade Farm, Ken 89.32 341 ⇓P P 07 50 09.5 -0.3
baz=90,SNR=12
C22A Vida 89.34 338 ⇓P P 07 50 09.8 -0.1
baz=90
BOZ Bozeman (W) 89.34 334 eP P 07 50 10.1 0.0
BOZ e 07 50 20.9
BOZ pmax pmax
comp=Z,142nm,2.0s
BOZ Bozeman (W) 89.34 334 eP P 07 50 10.1 0.0
comp=Z,142nm,2.0s
BOZ e 07 50 20.9
WVOR Wild Horse Val 89.37 328 eP P 07 50 11.3 +1.0
WVOR e 07 50 21.5
WVOR pmax pmax
comp=Z,182nm,1.3s
WVOR Wild Horse Val 89.37 328 eP P 07 50 11.3 +1.0
comp=Z,182nm,1.3s
WVOR e 07 50 21.5
D20A Manuel Ranch, 89.44 337 ⇑P P 07 50 09.9 -0.6
baz=90,SNR=6.4
DLMT Dillon 89.44 333 eP P 07 50 11.5 +0.8
comp=Z,180nm,1.4s
LSZ Lusaka 89.48 109 eP P 07 50 13.3 +1.7
LSZ pmax pmax
comp=Z,155nm,0.9s
LSZ Lusaka 89.48 109 eP P 07 50 13.3 +1.7
comp=Z,155nm,0.9s
DGMT Dagmar 89.51 340 eP P 07 50 11.0 +0.3
comp=Z,236nm,1.1s
DGMT e 07 50 21.7
DGMT Dagmar 89.51 340 ⇓P P 07 50 10.3 -0.4
baz=90,SNR=11
WDC Whiskeytown Da 89.61 324 eP P 07 50 11.6 +0.2
WDC e 07 50 21.9
WDC pmax pmax
comp=Z,53nm,1.2s
WDC Whiskeytown Da 89.61 324 eP P 07 50 11.6 +0.2
comp=Z,53nm,1.2s
WDC e 07 50 21.9
A25A Svangstu Ranch 89.64 341 ⇓P P 07 50 11.4 +0.1
baz=90,SNR=11
MOD Modoc 89.66 327 eP P 07 50 12.8 +1.1
comp=Z,95nm,1.0s
MOD e 07 50 23.4
B23A Brockton 89.73 339 ⇓P P 07 50 11.7 0.0
baz=90
D19A Cripps Ranch, 89.74 336 ⇑P P 07 50 11.6 -0.3
baz=90
C21A Desert Coulee 89.77 338 ⇓P P 07 50 11.4 -0.6
baz=90,SNR=6.5
LRM Limekiln Ridge 89.79 334 eP P 07 50 13.1 +0.7
A24A Westby 89.87 340 ⇓P P 07 50 12.0 -0.4
baz=90,SNR=6.7
B22A Reddig Ranch S 89.87 339 ⇑P P 07 50 12.4 0.0
baz=90,SNR=8.1
KMRM Mail Ridge 89.88 324 eP P 07 50 14.7 +1.9
comp=Z,542nm,2.0s
C20A Veseth Ranch, 89.95 337 ⇓P P 07 50 12.1 -0.7
baz=90,SNR=6.0
A23A Redstone 90.14 340 ⇓P P 07 50 13.3 -0.4
baz=90
M04C Macdoel 90.25 326 ⇑P P 07 50 14.7 +0.3
baz=91
B21A Ellsworth Farm 90.29 338 ⇓P P 07 50 14.0 -0.4
baz=91
C19A Slack Wire Ran 90.30 336 ⇓P P 07 50 14.1 -0.4
baz=91
HRY Holter Researc 90.33 334 eP P 07 50 15.1 +0.4
comp=Z,22nm,1.2s
M02C Callahan 90.40 325 ⇓P P 07 50 15.1 0.0
baz=91
KHMM Horse Mountain 90.40 324 epP pP 07 50 28.0 +0.5
A22A Carney Farms, 90.47 339 ⇓P P 07 50 14.6 -0.6
baz=91,SNR=9.3
K05A Summer Lake 90.58 327 eP P 07 50 17.6 +1.5
comp=Z,256nm,1.5s
K05A ePP PP 07 53 50.3 -1.6
B20A Solberg Farm, 90.60 337 ⇑P P 07 50 15.2 -0.6
baz=91
A21A Bergtoll Ranch 90.76 338 ⇓P P 07 50 15.6 -0.9
baz=91,SNR=7.4
EGMT Eagleton 90.78 336 eP P 07 50 15.7 -1.0
comp=Z,8.2nm,0.9s
EGMT Eagleton 90.78 336 ⇑P P 07 50 15.9 -0.8
baz=91
BMO Blue Mountains 90.81 330 eP P 07 50 17.4 +0.4
comp=Z,32nm,0.9s
BMO e 07 50 28.0
B19A Brinkman Farms 90.90 337 ⇓P P 07 50 16.6 -0.6
baz=91
A20A Cobblestone Ra 90.96 338 ⇑P P 07 50 16.8 -0.7
baz=91,SNR=8.7
CHMT Chamberlain Mo 91.01 334 eP P 07 50 18.0 0.0
CHMT e 07 50 29.0
I07A Izee 91.08 328 eP P 07 50 19.4 +1.2
comp=Z,113nm,1.3s
J05D Fort Rock, OR 91.18 327 ⇓P P 07 50 18.8 +0.1
baz=92
MSO Missoula 91.18 333 eP P 07 50 19.4 +0.8
comp=Z,87nm,1.4s
MSO Missoula 91.18 333 ⇑P P 07 50 18.6 0.0
baz=92,SNR=11
A19A Klindworth Far 91.26 337 ⇑P P 07 50 18.8 -0.1
baz=92,SNR=6.1
SLMT Seeley Lake 91.38 334 eP P 07 50 20.1 +0.5
SLMT epP pP 07 50 28.6 -3.3
J04D Umpqua Nationa 91.53 326 ⇓P P 07 50 20.6 +0.1
baz=92
SCHQ Schefferville 91.55 3 P P 07 50 20.0 0.0
comp=Z,56nm,1.1s,baz=171,slow=3.2,SNR=13
F10A Beach Ranch, E 91.70 331 ePKKPbc PKKPbc 08 07 40.2 -0.9
SWMT Swartz Lake 91.78 333 eP P 07 50 22.0 +0.6
SWMT epP pP 07 50 31.1 -2.5
G08A Pilot Rock 91.83 329 eP P 07 50 22.6 +0.8
comp=Z,84nm,1.2s
I05D Terrebonne, OR 92.06 327 ⇓P P 07 50 23.4 +0.7
baz=92
JTMT Jette 92.09 333 eP P 07 50 23.4 +0.6
YBMT Yellow Bay 92.09 334 eP P 07 50 23.3 +0.5
I04A Tendick Farm, 92.10 327 ⇓P P 07 50 23.1 +0.2
baz=92
BLMT Blacktail Moun 92.34 334 eP P 07 50 24.6 +0.5
BSMT Bassoo Peak 92.36 333 eP P 07 50 24.1 -0.1
I03D Drain, OR 92.44 326 ⇑P P 07 50 25.4 +1.0
baz=93
G06A Carlson Farm, 92.48 328 eP P 07 50 25.9 +1.3
comp=Z,137nm,1.5s
H2OWA Water 92.92 330 P P 07 50 27.4 +0.9
HAWA Hanford 92.96 330 eP P 07 50 27.5 +0.8
comp=Z,83nm,1.0s
WALA Waterton Lakes 93.07 334 eP P 07 50 27.5 +0.2
WRD Warden 93.14 330 P P 07 50 28.7 +1.1
E07A Sunnyside 93.23 330 eP P 07 50 28.8 +0.8
comp=Z,43nm,1.0s
D08A Wollman Farm, 93.26 330 eP P 07 50 28.6 +0.5
comp=Z,56nm,0.9s
TRW Toppenish Ridg 93.30 329 P P 07 50 29.2 +0.9
OD2 Odessa Site #2 93.45 331 P P 07 50 29.3 +0.3
NEW Newport 93.56 332 eP P 07 50 29.0 -0.5
NEW e 07 50 40.0
NEW pmax pmax
comp=Z,56nm,1.3s
NEW Newport 93.56 332 eP P 07 50 29.0 -0.5
comp=Z,56nm,1.3s
NEW e 07 50 40.0
NEW Newport 93.56 332 ⇓P P 07 50 29.1 -0.4
baz=94
C09A Chrisman Ranch 93.62 331 eP P 07 50 30.1 +0.3
comp=Z,56nm,1.0s
F04A Amboy 93.80 328 eP P 07 50 31.3 +0.7
comp=Z,55nm,0.9s
EBG Ellensburg 93.80 329 P P 07 50 31.6 +0.9
LTY Liberty 94.12 330 eP P 07 50 32.4 +0.2
comp=Z,28nm,1.4s
LON Longmire 94.19 329 eP P 07 50 32.6 +0.1
LON pmax pmax
comp=Z,38nm,1.0s
LON Longmire 94.19 329 eP P 07 50 32.6 +0.1
comp=Z,38nm,1.0s
WTV Waterville 94.19 330 P P 07 50 32.7 +0.2
B08A Colville Reser 94.48 331 eP P 07 50 33.6 -0.1
comp=Z,42nm,1.3s
PFVI Vila Bisbo 94.52 46 eP P 07 50 36.1 +1.9
D05A Enumclaw 94.61 329 eP P 07 50 34.7 +0.4
comp=Z,79nm,1.1s
MORF Marmelete 94.75 46 eP P 07 50 35.5 +0.3
E03A Lebam 94.77 328 eP P 07 50 36.1 +1.1
comp=Z,111nm,1.0s
PTEO Sao Teotonio 94.87 46 eP P 07 50 37.6 +1.9
PBDV Barranco-do-Ve 95.12 47 eP P 07 50 38.2 +1.3
PVAQ Vaqueiros 95.35 47 eP P 07 50 38.7 +0.8
PNCL Nicolau / Gran 95.37 46 eP P 07 50 39.2 +1.2
B06A Marblemount 95.46 330 eP P 07 50 39.2 +1.1
comp=Z,26nm,0.9s
NLWA Neilton Lookou 95.56 328 eP P 07 50 38.6 -0.1
comp=Z,69nm,1.4s
NLWA e 07 50 48.4
A05A Maple Falls 96.08 330 eP P 07 50 41.2 +0.2
comp=Z,41nm,1.0s
PBAR Barrancos 96.27 46 eP P 07 50 43.0 +0.9
PESTR Estremoz 96.42 46 eP P 07 50 43.9 +1.1
EDM Edmonton 96.43 337 eP P 07 50 40.8 -1.7
EDM e 07 50 51.2
EDM Edmonton 96.43 337 eP P 07 50 40.8 -1.7
EDM e 07 50 51.2
PTOM Tomar 96.47 45 eP P 07 50 44.3 +1.3
PMRV Marv??o 96.92 45 eP P 07 50 39.3 -5.8
FCC Fort Churchill 96.99 349 eP P 07 50 43.8 -1.0
FCC e 07 50 54.9
FCC Fort Churchill 96.99 349 eP P 07 50 43.8 -1.0
comp=Z,1.1nm,1.0s
FCC e 07 50 54.9
MTE Manteigas 97.49 44 eP Pdif 07 50 48.8 +1.1
MVO Moncorvo 98.30 44 eP Pdif 07 50 52.0 +0.7
ESDC Sonseca Array 99.06 47 P Pdif 07 50 55.5 +0.8
comp=Z,13nm,1.0s,baz=241,slow=4.0,SNR=17
ESLA Sonseca Array 99.06 47 eP Pdif 07 50 54.5 -0.3
comp=Z,4.6nm,1.1s
SJPF Ste Jean 102.84 45 eP Pdif 07 51 12.8 +1.4
comp=Z,42nm,1.1s
SJPF Ste Jean 102.84 45 eP Pdif 07 51 12.8 +1.4
SJPF pmax pmax
comp=Z,42nm,1.1s
SJPF Ste Jean 102.84 45 eP Pdif 07 51 12.8 +1.4
comp=Z,42nm,1.1s
ETSF Etsaut 103.09 46 eP Pdif 07 51 12.8 +0.2
comp=Z,119nm,1.8s
ETSF Etsaut 103.09 46 eP Pdif 07 51 12.8 +0.2
ETSF pmax pmax
comp=Z,119nm,1.8s
ETSF Etsaut 103.09 46 eP Pdif 07 51 12.8 +0.2
comp=Z,119nm,1.8s
YKA Yellowknife Ar 104.63 341 P Pdif 07 51 17.9 -0.9
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKA Yellowknife Ar 104.63 341 Pdiff Pdif 07 51 17.9 -0.9
comp=Z,3.6nm,1.0s,baz=142,slow=4.5,SNR=11
MTLF Montolieu 104.97 47 eP Pdif 07 51 21.1 +0.3
comp=Z,26nm,1.2s
MTLF Montolieu 104.97 47 eP Pdif 07 51 21.1 +0.3
MTLF pmax pmax
comp=Z,26nm,1.2s
MTLF Montolieu 104.97 47 eP Pdif 07 51 21.1 +0.3
comp=Z,26nm,1.2s
LFF La Frestale 105.08 45 eP Pdif 07 51 22.2 +0.9
LFF La Frestale 105.08 45 eP Pdif 07 51 22.2 +0.9
LFF La Frestale 105.08 45 eP Pdif 07 51 22.2 +0.9
MFF Saint Martin d 105.60 43 eP Pdif 07 51 23.8 +0.3
comp=Z,108nm,1.3s
MFF Saint Martin d 105.60 43 eP Pdif 07 51 23.8 +0.3
MFF pmax pmax
comp=Z,108nm,1.3s
MFF Saint Martin d 105.60 43 eP Pdif 07 51 23.8 +0.3
comp=Z,108nm,1.3s
RJF Les Rejaudoux 105.74 45 eP Pdif 07 51 25.2 +1.0
RJF Les Rejaudoux 105.74 45 eP Pdif 07 51 25.2 +1.0
RJF Les Rejaudoux 105.74 45 eP Pdif 07 51 25.2 +1.0
LASF Ste Croix 106.36 47 eP Pdif 07 51 27.2 +0.2
comp=Z,54nm,1.4s
LASF Ste Croix 106.36 47 eP Pdif 07 51 27.2 +0.2
comp=Z,54nm,1.4s
TCF Toulx Ste Croi 106.71 44 eP Pdif 07 51 29.2 +0.6
TCF Toulx Ste Croi 106.71 44 eP Pdif 07 51 29.2 +0.6
TCF Toulx Ste Croi 106.71 44 eP Pdif 07 51 29.2 +0.6
SSF Saint Saulge 107.89 44 eP Pdif 07 51 34.3 +0.6
comp=Z,48nm,1.4s
SSF Saint Saulge 107.89 44 eP Pdif 07 51 34.3 +0.6
SSF pmax pmax
comp=Z,48nm,1.4s
SSF Saint Saulge 107.89 44 eP Pdif 07 51 34.3 +0.6
comp=Z,48nm,1.4s
LOR Lormes 108.20 44 eP Pdif 07 51 35.8 +0.6
comp=Z,54nm,1.4s
LOR Lormes 108.20 44 eP Pdif 07 51 35.8 +0.6
LOR pmax pmax
comp=Z,54nm,1.4s
LOR Lormes 108.20 44 eP Pdif 07 51 35.8 +0.6

comp=Z,54nm,1.4s
MBDF Montbardon 108.45 48 eP Pdif 07 51 38.1 +1.6
comp=Z,76nm,1.7s
MBDF Montbardon 108.45 48 eP Pdif 07 51 38.1 +1.6
MBDF pmax pmax
comp=Z,76nm,1.7s
MBDF Montbardon 108.45 48 eP Pdif 07 51 38.1 +1.6
comp=Z,76nm,1.7s
LPG La Plagne 108.86 47 eP Pdif 07 51 40.6 +2.1
LPG La Plagne 108.86 47 eP Pdif 07 51 40.6 +2.1
LPG La Plagne 108.86 47 eP Pdif 07 51 40.6 +2.1
BFO Black Forest 111.31 45c iPKIKP PKiKP 07 55 49.0 +1.8
MOTA Moosalm 112.40 47⇑iPPdiff pPdif 07 52 05.3 -1.0
comp=Z,14nm,1.2s
MOTA i PKIKP PKiKP 07 55 50.3 +0.8
comp=Z,26nm,1.0s,SNR=7.7
OBKA Obir 114.03 49⇓iPKPdf PKiKP 07 55 53.1 +0.5
comp=Z,21nm,0.9s
GEC2 GERESS Array S 114.65 47 ePKIKP PKPdf 07 55 53.7 0.0
GEC2 GERESS Array S 114.65 47 ePKiKP PKiKP 07 55 53.6 -0.1
GERES GERESS Array B 114.65 47 PKIKP PKPdf 07 55 53.6 -0.1
GERES 07 56 05.0
GERES pmax pmax
comp=Z,26nm,0.9s
GERES GERESS Array B 114.65 47 PKP PKPdf 07 55 53.6 -0.1
comp=Z,26nm,0.9s,baz=209,slow=1.0,SNR=39
GERES pPKP pPKiKP 07 56 05.0 -1.4
comp=Z,15nm,0.8s,baz=217,slow=0.7,SNR=10.0
KHC Kasperske Hory 114.72 46 ePKIKP PKPdf 07 55 53.2 -0.5
KHC e 07 56 05.4
KHC Kasperske Hory 114.72 46 ePKP PKPdf 07 55 53.2 -0.5
KHC epPKP pPKiKP 07 56 05.4 -1.0
KHC ex x 07 57 11.5
DOT Dot Lake 114.87 332 ePKiKP PKiKP 07 55 54.3 +0.7
ARSA Arzberg 114.97 49⇑iPdiff Pdif 07 52 09.5 +4.2
comp=Z,9.0nm,0.6s
ARSA ⇓iPKPdf PKPdf 07 55 53.6 -0.7
comp=Z,26nm,0.9s,SNR=6.2
CLL Collm 115.41 44 ePKIKP PKPdf 07 55 56.0 +1.1
CLL e 07 56 07.0
CLL Collm 115.41 44 ePKiKP PKPdf 07 55 56.0 +1.1
CLL epPKiKP pPKiKP 07 56 07.0 -0.6
CONA Conrad Observa 115.49 48⇑iPdiff Pdif 07 52 10.2 +2.5
comp=Z,8.7nm,0.6s
CONA i PKIKP PKiKP 07 55 55.2 -0.1
comp=Z,23nm,0.9s,SNR=5.3
PRA Prague 115.65 46 PKP PKPdf 07 55 55.0 -0.4
PRU Pruhonice 115.67 46 ePKIKP PKPdf 07 55 54.7 -0.8
PRU e 07 56 07.1
PRU Pruhonice 115.67 46 ePKP PKPdf 07 55 54.7 -0.8
PRU epPKP pPKiKP 07 56 07.1 -1.0
BRG Berggiesshubel 115.74 45 i PKP PKPdf 07 55 56.5 +0.9
comp=Z,19nm,1.1s
BRG Berggiesshubel 115.74 45 i PKIKP PKPdf 07 55 56.5 +0.9
BRG pmax pmax
comp=Z,19nm,1.1s
PMR Palmer 115.78 329 ePKIKP PKPdf 07 55 55.9 +0.6
PMR Palmer 115.78 329 ePKPdf PKPdf 07 55 55.9 +0.6
RC01 Rabbit Creek A 115.78 328 ePKPdf PKPdf 07 55 55.3 0.0
TREC Trest 115.90 47 ePKIKP PKPdf 07 55 56.1 +0.1
TREC Trest 115.90 47 ePKP PKPdf 07 55 56.1 +0.1
PKSM Moragy 116.41 51⇑iP Pdif 07 52 12.3 +0.7
PKSM Moragy 116.41 51⇑iP PKPdf 07 55 57.5 +0.5
ILAR Eielson Array 116.51 333 PKIKP PKPdf 07 55 56.5 -0.2
ILAR 07 56 07.6
ILAR pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 116.51 333 PKP PKPdf 07 55 56.5 -0.2
comp=Z,4.4nm,0.9s,baz=181,slow=1.3,SNR=11
ILAR pPKP pPKPdf 07 56 07.5 -1.8
comp=Z,8.1nm,0.9s,baz=192,slow=1.0,SNR=13
ILAR PKKPab PKKPbc 08 06 23.6 -2.3
comp=Z,1.5nm,0.8s,baz=308,slow=3.5,SNR=6.4
VRAC Vranov 116.55 47⇑iP Pdif 07 52 12.8 +0.6
VRAC Vranov 116.55 47⇓iP PKPdf 07 55 57.5 +0.3
UPC Upice 116.75 46 ePKIKP PKPdf 07 55 57.8 +0.2
UPC e 07 56 09.8
UPC Upice 116.75 46 ePKP PKPdf 07 55 57.8 +0.2
UPC epPKP pPKPdf 07 56 09.8 -0.4
DPC Dobruska-Polom 116.86 46 ePKIKP PKPdf 07 55 58.2 +0.4
DPC e 07 56 09.6
DPC Dobruska-Polom 116.86 46 ePKP PKPdf 07 55 58.2 +0.4
DPC epPKP pPKPdf 07 56 09.6 -0.9
APE Apeiranthos 116.88 63⇑PKIKP PKPdf 07 55 57.7 -0.6
APE Apeiranthos 116.88 63⇑iP PKPdf 07 55 56.4 -1.9
COLA College 116.92 332⇑iPKIKP PKPdf 07 55 59.5 +2.1
COLA College 116.92 332 ePKPdf PKPdf 07 55 57.9 +0.5
KRLC Kraliky 117.00 46 ePKIKP PKPdf 07 55 58.8 +0.7
KRLC Kraliky 117.00 46 ePKP PKPdf 07 55 58.8 +0.7
KSP Ksiaz 117.06 45 i PKIKP PKPdf 07 55 58.6 +0.5
KSP Ksiaz 117.06 45 ePKP PKPdf 07 55 59.1 +1.0
TRF Thorofare Moun 117.16 330 ePKPdf PKPdf 07 55 58.4 +0.2
MORC Moravsky Berou 117.31 47⇓iP PKPdf 07 55 57.9 -0.8
KTH Kantishna Hill 117.46 330 ePKPdf PKPdf 07 55 58.0 -0.6
KONO Kongsberg 117.50 35 ePKIKP PKPdf 07 55 57.9 -0.8
KONO Kongsberg 117.50 35 ePKPdf PKPdf 07 55 57.9 -0.8
VYHS Vyhne 117.53 49 ePKIKP PKPdf 07 55 59.1 0.0
VYHS Vyhne 117.53 49 ePKP PKPdf 07 55 59.1 0.0
PPLA Purkeypile 117.66 329 ePKPdf PKPdf 07 56 00.0 +0.9
OKC Ostrava-Krasne 117.69 47 ePKIKP PKPdf 07 55 59.9 +0.5
OKC e 07 56 11.5
OKC Ostrava-Krasne 117.69 47 ePKP PKPdf 07 55 59.9 +0.5
OKC epPKP pPKPdf 07 56 11.5 -0.5
CAST Castle Rocks 117.86 330 ePKPdf PKPdf 07 55 59.2 -0.1
WRA Warramunga Arr 117.89 209 PKIKP PKPdf 07 56 00.3 -0.6
WRA 07 56 11.9
WRA pmax pmax
comp=Z,13nm,1.0s
WRA Warramunga Arr 117.89 209 PKP PKPdf 07 56 00.3 -0.6
comp=Z,13nm,1.0s,baz=159,slow=1.5,SNR=0.6
WRA pPKP pPKPdf 07 56 11.9 -1.5
comp=Z,13nm,0.8s,baz=158,slow=1.6,SNR=3.1
WRA PKKPbc PKKPbc 08 06 21.7 +1.5
comp=Z,6.4nm,1.0s,baz=344,slow=4.2,SNR=7.8
WRAB Tennant Creek 117.89 209⇓ePKIKP PKPdf 07 56 01.1 +0.2
WRAB Tennant Creek 117.89 209 ePKPdf PKPdf 07 56 00.4 -0.5
PSZ Piszkesteto 117.92 50⇓iP PKPdf 07 55 59.6 -0.4
BZS Buzias 118.02 52⇑PKIKP PKPdf 07 55 59.5 -0.6
BZS Buzias 118.02 52⇓iP PKPdf 07 56 00.2 +0.1
DAG Danmarks Havn 118.31 12 ePKIKP PKPdf 07 55 58.3 -1.5
DAG i 07 56 10.6
DAG Danmarks Havn 118.31 12 i P PKPdf 07 55 58.3 -1.5
DAG i 07 56 10.6
GKP Gorka Klasztor 118.61 43 ePKIKP PKPdf 07 56 01.4 +0.4
GKP Gorka Klasztor 118.61 43 ePKP PKPdf 07 56 01.3 +0.3
GZR Gura Zlata 118.66 53⇑PKIKP PKPdf 07 56 00.5 -1.0
GZR Gura Zlata 118.66 53⇓iP PKPdf 07 56 01.8 +0.3
KDZ Kurdzhali 118.83 58⇑PKIKP PKPdf 07 56 02.0 +0.1
KDZ Kurdzhali 118.83 58⇑iP PKPdf 07 56 02.0 +0.1
NB2 NORSAR Subarra118.83 34 PKPdf PKPdf 07 56 00.9 -0.4
comp=Z,31nm,1.1s,baz=248,slow=1.9
NB2 NORSAR Subarra118.83 34 PKPdf PKPdf 07 56 00.9 -0.4
baz=248,slow=1.9
NOA NORSAR Array B118.83 34 PKIKP PKPdf 07 56 01.6 +0.3
NOA 07 56 13.0
NOA pmax pmax
comp=Z,18nm,1.0s
NOA NORSAR Array B118.83 34 PKP PKPdf 07 56 01.6 +0.3
comp=Z,18nm,1.0s,baz=247,slow=2.0,SNR=19
NOA pPKP pPKPdf 07 56 13.0 -0.9
comp=Z,11nm,0.9s,baz=248,slow=1.9,SNR=11
NOA PKKPab PKKPbc 08 06 29.4 +12
comp=Z,3.3nm,0.8s,baz=67,slow=4.5,SNR=7.6
COLD Coldfoot 118.89 334 ePKPdf PKPdf 07 56 02.3 +1.1
DEV Deva 118.94 53⇑PKIKP PKPdf 07 56 01.1 -0.8
DEV Deva 118.94 53⇓iP PKPdf 07 56 02.0 +0.1
DRGR 119.19 52⇑PKIKP PKPdf 07 56 02.2 -0.3
DRGR 119.19 52⇑iP PKPdf 07 56 02.5 0.0
LOT Lotru 119.32 53⇓iP PKPdf 07 56 02.3 -0.5
STHS Stebnicka Huta 119.35 48 ePKIKP PKPdf 07 56 03.4 +0.8
STHS Stebnicka Huta 119.35 48 ePKP PKPdf 07 56 03.4 +0.8
HFS Hagfors 119.58 35 PKIKP PKPdf 07 56 01.9 -0.8
HFS pmax pmax
comp=Z,28nm,0.9s
HFS Hagfors 119.58 35 PKP PKPdf 07 56 01.9 -0.8
comp=Z,28nm,0.9s,baz=197,slow=1.5,SNR=19
HFS PKKPbc PKKPbc 08 06 24.4 +10
comp=Z,5.8nm,0.8s,baz=46,slow=6.2,SNR=6.0
TRPA Tarpa 119.63 50⇓iP PKPdf 07 56 03.2 +0.1
UZH Uzhgorod 119.67 50 ePKIKP Pdif 07 52 33.0 +6.9
CJR Cluj-Napoca 119.72 52⇓PKIKP PKPdf 07 56 04.0 +0.5
CJR Cluj-Napoca 119.72 52⇓iP PKPdf 07 56 03.8 +0.3
KOLS Kolonicke sedl 119.78 49 ePKIKP PKPdf 07 56 03.3 -0.2
KOLS Kolonicke sedl 119.78 49 ePKP PKPdf 07 56 03.3 -0.2
ARR Arges 119.84 54⇓iP PKPdf 07 56 03.6 -0.2
JMB Yambol 119.96 57⇓PKIKP PKPdf 07 56 03.6 -0.4
JMB Yambol 119.96 57⇓iP PKPdf 07 56 03.6 -0.4
BEL Belsk 120.04 46 ePKIKP PKPdf 07 56 04.7 +0.9
BEL Belsk 120.04 46 ePKP PKPdf 07 56 04.7 +0.9
MTUR Matau 120.06 54⇓iP PKPdf 07 56 08.0 +3.8
VOIR 120.14 54⇑iP PKPdf 07 56 04.4 0.0
KWP Kalwaria Pacla 120.31 49 ePKIKP PKPdf 07 56 05.1 +0.6
KWP Kalwaria Pacla 120.31 49 ePKP PKPdf 07 56 05.0 +0.6
KWP Kalwaria Pacla 120.31 49⇑iP PKPdf 07 56 05.2 +0.7
DOPR Dopca 120.57 53⇓iP PKPdf 07 56 05.4 +0.3
PMG Port Moresby 120.58 227 i PKIKP PKPdf 07 56 07.5 +1.4
SECR 120.64 55⇓iP PKPdf 07 56 06.1 +0.9
MLR Muntele Rosu 120.74 54⇓iP PKPdf 07 56 05.2 -0.4
MBWA Marble Bar 121.01 194 ePKPdf PKPdf 07 56 06.0 -0.9
BUR08 Bucovina Ar. S 121.09 51 ePKPdf PKPdf 07 56 06.5 +0.3
BURAR Bucovina Array 121.09 51⇓PKIKP PKPdf 07 56 06.6 +0.5
BURAR Bucovina Array 121.09 51⇓iP PKPdf 07 56 06.2 +0.1
LVV L'vov 121.18 49 ePKIKP PKPdf 07 56 04.6 -1.5
PLOR Plostina 121.34 54⇑iP PKPdf 07 56 06.2 -0.4
VRI Vrincioaia 121.39 54⇓iP PKPdf 07 56 05.9 -0.8
MSAB Monastry St. A 121.43 56⇓iP PKPdf 07 56 07.2 +0.5
PSN Preselentsi 121.52 57⇓iP PKPdf 07 56 07.1 +0.2
TESR Tescani 121.58 53⇓iP PKPdf 07 56 06.7 -0.3
HARR Harsova 121.73 55⇓PKIKP PKPdf 07 56 07.5 +0.2
HARR Harsova 121.73 55⇑iP PKPdf 07 56 07.6 +0.2
TIRR Tirgusor 121.96 56⇑iP PKPdf 07 56 08.0 +0.3
CFR Carcaliu 122.05 55⇓PKIKP PKPdf 07 56 08.0 +0.1
CFR Carcaliu 122.05 55⇑iP PKPdf 07 56 08.3 +0.4
SUW Suwalki 122.17 44 ePKIKP PKPdf 07 56 07.8 0.0
SUW Suwalki 122.17 44 ePKP PKPdf 07 56 07.8 0.0
SUW Suwalki 122.17 44 ePKPdf PKPdf 07 56 07.5 -0.3
IAS Iasi 122.42 53⇓PKIKP PKPdf 07 56 09.2 +0.7
IAS Iasi 122.42 53⇓iP PKPdf 07 56 09.0 +0.5
TLCR 122.50 55⇑iP PKPdf 07 56 08.9 +0.1
LEOM Leova 122.60 54⇑PKIKP PKPdf 07 56 09.0 +0.1
LEOM Leova 122.60 54⇑iP PKPdf 07 56 09.0 +0.1
KIS Kishinev 123.15 53 ePKIKP PKPdf 07 56 10.0 0.0
KIS Kishinev 123.15 53 ePKP PKPdf 07 56 10.0 0.0
ANTO Ankara 123.23 62⇓PKIKP PKPdf 07 56 11.1 +0.6
ANTO Ankara 123.23 62⇓iP PKPdf 07 56 11.1 +0.6
BRTR Keskin Array B 123.78 63 PKIKP PKPdf 07 56 11.3 -0.3
BRTR 07 56 23.2
BRTR pmax pmax
comp=Z,25nm,0.9s
BRTR Keskin Array B 123.78 63 PKP PKPdf 07 56 11.3 -0.3
comp=Z,25nm,0.8s,baz=192,slow=3.7,SNR=23
BRTR pPKP pPKPdf 07 56 23.1 -1.1
comp=Z,15nm,0.8s,baz=185,slow=2.2,SNR=7.5
AK02 Malin Array Si 124.59 49 ePKPdf PKPdf 07 56 11.7 -0.9
KIEV Kiev 124.61 49⇑ePKIKP PKPdf 07 56 12.9 +0.3
AK01 Malin Array Si 124.61 49 ePKPdf PKPdf 07 56 11.4 -1.2
AKASG Malin Array Be 124.62 49 PKIKP PKPdf 07 56 11.8 -0.8
AKASG 07 56 23.3
AKASG 07 57 57.1
AKASG pmax pmax
comp=Z,47nm,1.0s
AKASG Malin Array Be 124.62 49 PKP PKPdf 07 56 11.8 -0.8
comp=Z,47nm,0.9s,baz=263,slow=2.6,SNR=37
AKASG pPKP pPKPdf 07 56 23.3 -2.0
comp=Z,24nm,0.8s,baz=262,slow=2.6,SNR=9.9
AKASG PP PP 07 57 57.0 -3.5
comp=Z,18nm,1.1s,baz=253,slow=7.1,SNR=5.2
TNA Tin City 125.02 330 ePKPdf PKPdf 07 56 13.2 +0.3
FINES FINESS Array B 125.75 36 PKIKP PKPdf 07 56 14.2 -0.3
FINES 07 56 25.8
FINES pmax pmax
comp=Z,42nm,1.0s
FINES FINESS Array B 125.75 36 PKP PKPdf 07 56 14.2 -0.3
comp=Z,42nm,1.0s,baz=186,slow=1.9,SNR=27
FINES pPKP pPKPdf 07 56 25.8 -1.3
comp=Z,23nm,0.9s,baz=52,slow=3.1,SNR=8.8
FIA1 FINESS Array S 125.75 36 eP PKPdf 07 56 13.6 -0.9
RAYN Ar Rayn 125.90 86 ePKPdf PKPdf 07 56 16.4 +0.4
SIM Simferopol' 125.94 57 i PKIKP PKPdf 07 56 15.9 +0.5
SIM pmax pmax
comp=Z,63nm,1.0s
GAMB Gambell 126.23 327 ePKPdf PKPdf 07 56 15.7 +0.4
MALT Malatya 126.71 66⇓PKIKP PKPdf 07 56 18.4 +1.2
MALT Malatya 126.71 66⇓iP PKPdf 07 56 18.4 +1.2
ARCES ARCESS Array B 126.94 26 PKIKP PKPdf 07 56 16.9 +0.3
ARCES pmax pmax
comp=Z,38nm,1.0s
ARCES ARCESS Array B 126.94 26 PKP PKPdf 07 56 16.9 +0.3
comp=Z,38nm,1.0s,baz=236,slow=1.3,SNR=22
PUL Pulkovo 127.46 38c iPKIKP PKPdf 07 56 19.9 +2.1
PUL pmax pmax
comp=Z,220nm,1.0s
APA Apatity 129.68 29⇑iPKIKP PKPdf 07 56 22.0 +0.2
OBN Obninsk 129.98 45⇓iPKIKP PKPdf 07 56 22.7 0.0
OBN e 07 56 33.7
OBN e 07 56 36.8
OBN *PP PP 07 58 32.7 -3.1
OBN pmax pmax
comp=Z,202nm,1.2s
LVZ Lovozero 130.16 28⇑iPKIKP PKPdf 07 56 23.6 +0.8
LVZ pmax pmax
comp=Z,139nm,1.2s
MOS Moscow 130.67 44 ePKIKP PKPdf 07 56 23.3 -0.7
MOS e 07 56 33.8
MOS pmax pmax
comp=Z,216nm,1.4s
IGHG Ghaleghazi 131.40 74 eP PKPdf 07 56 26.8 +0.3
TMCR Tamitsa 131.52 33 ePKIKP PKPdf 07 56 24.5 -0.9
TMCR pmax pmax
comp=Z,182nm,1.2s
KBZ Khabaz 131.62 61 PKhKP PKPpre 07 56 23.1
comp=Z,33nm,1.1s,baz=197,slow=2.7,SNR=5.6
KBZ PKP PKiKP 07 56 27.3 +0.1
comp=Z,26nm,1.0s,baz=269,slow=4.4,SNR=8.0
GNI Garni 131.94 66⇑iPKIKP PKPdf 07 56 29.0 +1.8
GNI pmax pmax
comp=Z,62nm,1.7s
GOF Gofitskoye 132.05 59 ePKIKP PKPdf 07 56 27.3 +0.3
ZEI Tsey 132.08 62 i PKIKP PKPdf 07 56 26.6 -0.8
ZEI pmax pmax
comp=Z,46nm,1.1s
IMRD Marand 132.22 68 eP PKPdf 07 56 26.2 -1.6
IHRS Heris 133.10 69 eP PKPdf 07 56 29.0 -0.6
PRGR Permogore 135.07 36 ePKIKP PKPdf 07 56 30.7 -1.4
PRGR pmax pmax
comp=Z,534nm,1.6s
BILL Bilibino 135.18 333 ePKIKP PKPdf 07 56 33.4 +1.2
BILL pmax pmax
comp=Z,27nm,1.5s
SOKR Solikamsk 140.81 38 ePKHKP PKPpre 07 56 35.2
SOKR pmax pmax
comp=Z,30nm,0.9s
PET Petropavlovsk 141.11 311 ePKIKP PKPdf 07 56 44.8 +1.3
PET i 07 56 56.0
PET pmax pmax
comp=Z,24nm,0.8s
GEYT Alibeck 141.39 73 PKhKP PKPpre 07 56 39.4
comp=Z,13nm,0.9s,baz=258,slow=5.9,SNR=8.2
GEYT PKP PKiKP 07 56 46.8 -0.6
comp=Z,24nm,0.8s,baz=270,slow=5.8,SNR=14
PETK Petropavlovsk- 141.68 311 PKhKP PKPpre 07 56 40.8
comp=Z,74nm,1.2s,baz=126,slow=7.5,SNR=4.4
PETK PKP PKiKP 07 56 45.8 -1.7
comp=Z,58nm,1.1s,baz=108,slow=3.6,SNR=13
PETK pPKP pPKPdf 07 56 56.2 -1.0
comp=Z,43nm,0.9s,baz=104,slow=4.7,SNR=9.3
PALK Pallekele 141.88 134 ePKIKP PKPdf 07 56 46.6 +0.4
PALK Pallekele 141.88 134 ePKPdf PKPdf 07 56 46.6 +0.4
SEY Seymchan 142.22 328 PKhKP PKPpre 07 56 41.6
comp=Z,77nm,1.0s,baz=109,slow=3.2,SNR=5.9
SEY PKP PKiKP 07 56 46.7 -1.5
comp=Z,70nm,1.0s,baz=79,slow=3.6,SNR=19
SEY pPKP pPKPdf 07 56 57.9 +0.1
comp=Z,110nm,0.9s,baz=98,slow=3.6,SNR=14
ARU Arti 142.35 43 PKHKP PKPpre 07 56 41.5
GSI Gunungsitoli 143.44 164 ePKPdf PKPdf 07 56 47.5 -1.5
TIXI Tiksi 143.46 349 ePKIKP PKPbc 07 56 44.8 +0.3
TIXI Tiksi 143.46 349 ePKPdf PKPbc 07 56 44.8 +0.3
GOA Goa 143.51 117 eP PKPbc 07 56 47.3 +1.1
ABKAR Akbulak array 143.94 55 ePKPdf PKPbc 07 56 46.5 -0.1
KSM Kuching 144.59 185 ePKPdf PKPab 07 56 49.4 -0.1
MYKOM Kota Tinggi 144.89 174 ePKPdf PKPab 07 56 49.9 -0.7
BHJ Bhuj 145.01 102 eP PKPbc 07 56 50.4 -0.4
SBUM Sibu 145.37 189 ePKPdf PKPab 07 56 52.6 +0.3
POO Poona 145.50 113 eP PKPdf 07 56 52.2 -0.2
POO ⇓iP PKPab 07 56 53.0 +0.2
comp=Z,45nm,1.0s
MYLDM Lahad Datu 146.73 201 ePKPdf PKPbc 07 56 56.6 +0.3
LHMI Lhok Sumawe 147.07 161 ePKPdf PKPdf 07 56 55.2 +0.1
IPM Ipoh 147.20 169 ePKPdf PKPdf 07 56 54.9 -0.5
CMBY CAMPBELL BAY 147.85 155 eP PKPdf 07 56 57.4 +1.0
KULM Kulim 147.94 168 ePKPdf PKPdf 07 56 56.9 +0.3
HYB Hyderabad 148.15 120 i PKP PKPbc 07 56 59.0 -1.1
HYB Hyderabad 148.15 120 eP PKPdf 07 56 57.1 +0.3
KKM Kota Kinabalu 148.16 197 ePKPdf PKPbc 07 56 59.8 -0.6
KBL Kabul 149.08 83 ePKIKP PKPdf 07 56 58.1 0.0
KBL e 07 57 02.4
KBL Kabul 149.08 83 ePKPdf PKPdf 07 56 58.1 0.0
KBL ePKPbc PKPbc 07 57 02.4 +0.1
BRVK Borovoye 149.75 46 ePKP2 PKPbc 07 57 03.6 +0.6
BRVK Borovoye 149.75 46 ePKPbc PKPbc 07 57 03.6 +0.6
BHPL Bhopal 150.99 110 eP PKPdf 07 57 00.8 -0.5
YAK Yakutsk 151.25 338 ePKIKP PKPbc 07 57 04.7 -1.6
YAK pmax pmax
comp=Z,496nm,1.2s
YAK pmax pmax
comp=N,32nm,1.2s
YAK pmax pmax
comp=E,34nm,1.2s
YAK Yakutsk 151.25 338 ePKPdf PKPdf 07 56 58.9 -1.4
YAK ePKPbc PKPbc 07 57 05.8 -0.5
KKAR Karatay Array 151.41 66 ePKIKP PKPdf 07 57 02.3 +1.1
KKAR e 07 57 06.9
KKAR Karatay Array 151.41 66 ePKPdf PKPdf 07 57 02.3 +1.1
KKAR ePKPbc PKPbc 07 57 06.9 -0.5
VIS Vishakhapatnam 151.57 126 eP PKPdf 07 57 02.0 -0.2
PBA Port Blair 151.67 149 eP PKPdf 07 57 03.3 +0.9
ERM Erimo 151.91 292c iPKIKP PKPbc 07 57 10.2 +1.7
ERM pmax pmax
comp=Z,80nm,1.0s
ERM Erimo 151.91 292 ePKPbc PKPbc 07 57 09.5 +1.0
YSS Yuzh-Sakhalins 151.93 302⇑ePKIKP PKPbc 07 57 07.5 -0.9
YSS e 07 57 18.5
YSS pmax pmax
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 151.93 302 ePKPbc PKPbc 07 57 07.9 -0.5
YSS ePKPab PKPab 07 57 19.4 +1.6
ASAJ Asahikawa 152.31 296 PKIKP PKPbc 07 57 09.4 +0.1
ASAJ pmax pmax
comp=Z,83nm,1.1s
ASAJ Asahikawa 152.31 296 PKPbc PKPbc 07 57 09.4 +0.1
comp=Z,83nm,1.1s,baz=258,slow=9.7,SNR=5.7
ASAJ Asahikawa 152.31 296 ePKPbc PKPbc 07 57 08.6 -0.8
ASAJ ePKPab PKPab 07 57 19.8 +0.3
DGPR DIGLIPUR 153.11 148 eP PKPdf 07 57 04.8 +0.3
EKS2 Erkin-Say 153.82 67 P PKPdf 07 57 02.3 -2.6
SNR=7.6
EKS2 Erkin-Say 153.82 67 ePKIKP PKPdf 07 57 05.2 +0.3
EKS2 Erkin-Say 153.82 67 ePKPdf PKPdf 07 57 05.2 +0.3
BHK Bhakra 154.02 93 eP PKPdf 07 57 05.4 -0.1
BHK ex x 07 57 27.2
DLH Dalhousie 154.04 90 ex PKPab 07 57 28.0 +0.6
DHRM DHARAMSHALA 154.21 91 eP PKPdf 07 57 05.0 -1.0
USP Ospenovka 154.32 66 P PKPdf 07 57 06.0 +0.5
SNR=7.3
AAK Ala-Archa 154.35 67 ePKIKP PKPdf 07 57 06.7 +0.9
AAK e 07 57 15.3
AAK e 07 57 28.2
AAK Ala-Archa 154.35 67 ePKPdf PKPdf 07 57 06.7 +0.9
AAK ePKPbc PKiKP 07 57 15.3 +1.2
AAK ePKPab PKPab 07 57 28.2 -0.2
UCH Uchtor 154.37 68 P PKPdf 07 57 07.1 +1.0
SNR=6.1
FRU Bishkek 154.43 67 ePKIKP PKPdf 07 57 07.0 +1.3
FRU e 07 57 15.0
FRU e 07 57 27.0
FRU pmax pmax
comp=Z,224nm,1.1s
SDNR Sundarnagar 154.49 93 eP PKPdf 07 57 06.0 -0.1
SMLA Simla 154.52 94 eP PKPdf 07 57 06.0 -0.1
KBK Karagaybulak 154.68 67 P PKPdf 07 57 07.3 +1.1
SNR=5.5
KZA Kyzart 154.92 68 P PKPdf 07 57 08.2 +1.3
SNR=6.1
DDI Dehra Dun 154.93 97 eP PKPdf 07 57 07.2 +0.4
TKM2 Tokmak 2 155.14 66 P PKPdf 07 57 07.6 +0.7
SNR=12
TKM2 Tokmak 2 155.14 66 ePKIKP PKPdf 07 57 06.9 0.0
TKM2 e 07 57 17.0
TKM2 Tokmak 2 155.14 66 ePKPdf PKPdf 07 57 06.9 0.0
TKM2 ePKPbc PKPbc 07 57 17.0
MJAR Matsushiro Arr 155.19 278 PKIKP PKPdf 07 57 16.9 +10
MJAR pmax pmax
comp=Z,10.0nm,1.1s
MJAR Matsushiro Arr 155.19 278 PKPbc PKPdf 07 57 16.9 +10
comp=Z,10nm,1.1s,baz=179,slow=1.8,SNR=6.5
MAJO Matsushiro 155.19 278 ePKIKP PKPdf 07 57 08.0 +1.1
MAJO Matsushiro 155.19 278 ePKPdf PKPdf 07 57 08.0 +1.1
MAT Matsushiro 155.19 278 ePKP PKPdf 07 57 06.3 -0.6
KSH Kashi 155.41 74 PKPbc PKPdf 07 57 05.0 -2.3
KSH pPKP pPKPdf 07 57 16.8 -3.1
KSH SKS SKSdf 08 04 07.0 -3.6
KSH SKKS SKKSac 08 07 52.8 -3.5
KSH SS SS 08 20 46.8 -6.5
PATY Pattaya 155.42 165 PKP PKPdf 07 57 18.3 +11
CHBT CHBT 155.52 169 PKP PKPdf 07 57 09.0 +1.1
NVS Novosibirsk 155.74 35 ePKIKP PKPdf 07 57 05.8 -1.2
NVS pmax pmax
comp=Z,126nm,1.1s
NVS pmax pmax
comp=N,10.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
SRDT SRDT 156.38 160 PKP PKPdf 07 57 10.2 +1.1
SRDT PKP PKPab 07 57 36.8 -0.5
KHLT Khaolaem Dam 156.65 159 PKP PKPdf 07 57 10.4 +1.0
KHLT PKP PKPab 07 57 38.0 -0.5
ZAA0 Zalesovo Array 157.02 35 ePKPdf PKPdf 07 57 08.4 -0.3
ZALV Zalesovo Beam 157.02 35 PKIKP PKPdf 07 57 08.0 -0.7
ZALV 07 57 19.7
ZALV pmax pmax
comp=Z,118nm,1.0s
ZALV Zalesovo Beam 157.02 35 PKP PKPdf 07 57 08.0 -0.7
comp=Z,118nm,1.0s,baz=279,slow=2.9,SNR=23
ZALV pPKP pPKPdf 07 57 19.7 -1.7
comp=Z,104nm,0.9s,baz=299,slow=3.1,SNR=9.6
ZALV PKPab PKPab 07 57 39.5 +0.3
comp=Z,126nm,1.0s,baz=298,slow=6.2,SNR=7.5
BOK Bokaro 157.49 120 eP PKPdf 07 57 09.6 -0.7
KOLN Koldanda 158.12 108 eP PKPdf 07 57 10.5 -0.7
UBPT Khong Chiam 158.37 176 PKP PKPdf 07 57 12.1 +0.6
DANN Dangsing 158.53 107 eP PKPdf 07 57 11.6 -0.2
comp=Z,226nm,1.2s
BOD Bodaibo 158.63 350 ePKP2 PKPab 07 57 41.5 -4.5
BOD pmax pmax
comp=Z,104nm,1.0s
PBKT Sadao Pong 158.98 163 PKP PKPdf 07 57 13.1 +0.9
GKN Gorkha 159.03 109 eP PKPdf 07 57 11.5 -0.7
comp=Z,157nm,1.2s
MK31 Makanchi Array 159.09 54 ePKIKP PKPdf 07 57 11.4 -0.1
MK31 Makanchi Array 159.09 54 ePKPdf PKPdf 07 57 11.4 -0.1
MKAR Makanchi Array 159.09 54 PKIKP PKPdf 07 57 11.2 -0.3
MKAR pmax pmax
comp=Z,78nm,1.0s
MKAR Makanchi Array 159.09 54 PKP PKPdf 07 57 11.2 -0.3
comp=Z,78nm,1.0s,baz=318,slow=1.6,SNR=26
MKAR PKPab PKPab 07 57 49.3 +0.8
comp=Z,54nm,1.0s,baz=289,slow=3.7,SNR=7.2
MKAR Makanchi Array 159.09 54 PKP PKPdf 07 57 11.2 -0.3
MKAR ePKPdf PKPdf 07 57 11.7 +0.1
MKAR PKPab PKPab 07 57 49.3 +0.8
DMN Daman 159.18 110 eP PKPdf 07 57 12.0 -0.6
PKI Pulchoki 159.39 111 eP PKPdf 07 57 11.8 -1.1
KKN Kakani 159.41 110 eP PKPdf 07 57 11.9 -0.9
MHMT Maesarieng 159.61 154 PKP PKPdf 07 57 13.6 +0.7
GUN Gumba 159.92 111 eP PKPdf 07 57 12.9 -0.6
RAMN Ramite 159.93 114 eP PKPdf 07 57 13.1 -0.3
UTTA Uttaradit 160.00 161 PKP PKPdf 07 57 14.1 +0.7
JIRN Jiri 160.02 112 eP PKPdf 07 57 13.0 -0.7
CM31 Chiang Mai Arr 160.21 156 ePKPdf PKPdf 07 57 13.8 +0.1
CM31 ePKPab PKPab 07 57 52.7 -1.2
CMAR Chiang Mai Arr 160.21 156 PKIKP PKPdf 07 57 13.9 +0.2
CMAR 07 57 53.6
CMAR pmax pmax
comp=Z,13nm,1.0s
CMAR pmax pmax
comp=Z,34nm,1.1s
CMAR Chiang Mai Arr 160.21 156 PKP PKPdf 07 57 13.8 +0.2
comp=Z,13nm,0.9s,baz=245,slow=2.6,SNR=16

CMAR PKPab PKPab 07 57 53.6 -0.3
comp=Z,34nm,1.1s,baz=224,slow=5.1,SNR=14
ODAN Odare 160.45 115 eP PKPdf 07 57 13.7 -0.3
LAMP Lampang 160.49 158 PKP PKPdf 07 57 26.0 +12
CHTO Chiang Mai 160.54 156 PKP PKPdf 07 57 14.2 +0.2
TAPN Taplejung 160.97 115 eP PKPdf 07 57 14.0 -0.6
MDJ Mudanjiang 161.42 301 PKP PKPdf 07 57 15.0 +0.9
MDJ pPKP pPKPdf 07 57 24.8 -2.0
MDJ sPKP 07 57 29.0
MDJ PKS PKSdf 08 00 48.5 +1.3
MDJ PP PP 08 01 44.3 +1.8
MDJ SKS SKSdf 08 04 18.0 +2.2
MDJ SS SS 08 22 00.5 +4.2
CMAI Chiengmai2 161.62 155 PKP PKPdf 07 57 16.0 +0.7
TPUB Ta-pu 162.14 224 ePKPdf PKPdf 07 57 16.4 +0.8
CRAI Chiangrai 162.32 158 PKP PKPdf 07 57 15.3 -0.5
SHL Shillong 162.71 127 eP PKPdf 07 57 16.2 -0.1
WMQ Urumqi 163.65 59 PKP PKPdf 07 57 16.8 +0.3
WMQ LR LR
comp=Z,1µm,23.2s
WMQ LR LR
comp=Z,1µm,22.4s
WMQ LR LR
comp=Z,1µm,21.6s
CN2 Changchun 164.50 302 ePKP PKPdf 07 57 18.0 +0.9
IRK Irkutsk 164.56 7 ePKP2 PKPab 07 58 12.0 -0.1
IRK pmax pmax
comp=Z,193nm,1.4s
TLY Talaya 165.05 9 ePKP2 PKPab 07 58 15.8 +1.6
TLY pmax pmax
comp=Z,75nm,1.2s
TLY Talaya 165.05 9 PKPab PKPab 07 58 15.8 +1.6
comp=Z,27nm,0.8s,baz=348,slow=4.5,SNR=12
ZAK Zakamensk 166.27 11 ePKIKP PKPdf 07 57 17.1 -1.5
ZAK e 07 58 19.4
ZAK pmax pmax
comp=Z,13nm,1.5s
ZAK pmax pmax
comp=Z,45nm,1.1s
SONM Songino Array 169.10 3 PKIKP PKPdf 07 57 19.7 -1.0
SONM 07 58 32.9
SONM pmax pmax
comp=Z,10.0nm,1.1s
SONM pmax pmax
comp=Z,45nm,1.0s
SONM Songino Array 169.10 3 PKP PKPdf 07 57 19.7 -1.0
comp=Z,9.9nm,1.1s,baz=186,slow=0.5,SNR=8.3
SONM PKPab PKPab 07 58 32.9 +0.5
comp=Z,45nm,0.9s,baz=337,slow=2.7,SNR=23
SONM pPKPab pPKPab 07 58 43.9 -0.7
comp=Z,37nm,1.0s,baz=347,slow=2.6,SNR=9.0
NJ2 Nanjing 169.21 247 ePKP PKPdf 07 57 20.3 -0.7
GYA Guiyang 169.54 177 iPKP PKPdf 07 57 20.8 -0.8
GYA pPKP pPKPdf 07 57 33.0 -1.3
GYA PKPab PKPab 07 58 36.5 +1.7
GYA PP PP 08 02 26.5 +2.9
GYA SKKS 08 09 10.0
GYA SS SS 08 23 19.3 +2.3
GYA AMB AMB
comp=Z,4µm,11.9s
GYA LR LR
comp=Z,6µm,21.4s
GYA LR LR
comp=Z,4µm,21.0s
GYA LR LR
comp=Z,5µm,24.5s
WHN Wuhan 171.27 225 PKP PKPdf 07 57 22.0 -0.2
ENH Enshi 173.08 197 ePKPdf PKPdf 07 57 23.0 -0.2
CD2 Chengdu 173.35 154 PKP PKPdf 07 57 23.3 0.0
CD2 pPKP pPKPdf 07 57 34.5 -1.4
CD2 sPKP 07 57 38.5
CD2 PKS PKSdf 08 00 54.0 -1.6
CD2 PP PP 08 02 46.3 +3.6
CD2 SKS SKSdf 08 04 21.0 -2.4
CD2 SKKS SKKSac 08 09 27.8 +1.1
CD2 SS SS 08 23 55.5 +0.6
CD2 AMB AMB
comp=Z,1µm,6.4s
GTA Gaotai 173.69 65 ⇑PKP PKPdf 07 57 23.3 +0.1
GTA pPKP pPKPdf 07 57 33.0 -2.9
GTA sPKP 07 57 36.5
GTA PKPab PKPab 07 58 53.8 +0.5
HHC Hu-ho-hao-te 174.81 320 ePKP PKPdf 07 57 22.8 -0.7
HHC sPKP 07 57 36.3
HHC PP PP 08 02 49.8 -0.6
LZH Lanzhou 177.18 107 ePKP PKPdf 07 57 24.8 +0.5
LZH pPKP pPKPdf 07 57 35.3 -1.7
LZH sPKP 07 57 40.0
LZH PKPab PKPab 07 59 09.8 +0.9
LZH PP PP 08 03 04.5 +1.9

IDC **27** *07:38:10.8±1.6, 26.°02N×128.°88E, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/40, mbtmp4.1/3, Error ellipse: s-maj=55.5km s-min=21.8km az=69.0*
JMA **27** *07:38:13.1±0.3, 25.°93N×128.°64E, h35km, M3.4*
ISC 27 07:38:11.2±2.4, 25.°97N±0.°05×128.°63E±0.°04, h5km±15km, n16, σ1§29/28, mb4.2/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.78	315	P	Pb	07 38 27.7	+0.5
JJT2	Tamagusuku 2	0.81	282	P	Pb	07 38 28.5	+0.7
JJT2				eS	Sb	07 38 39.9	+0.8
JOW	Kunigami	0.92	340	P	Pn	07 38 30.5	-0.3
JOW				eS	Sb	07 38 42.2	0.0
JOW	Kunigami	0.92	340	Pn	Pn	07 38 30.7	-0.1
	13nm,0.3s,baz=145,slow=17,SNR=13						
JOW				Sn	Sg	07 38 38.9	-1.9
	30nm,0.3s,baz=128,slow=18,SNR=16						
JIH	Iheya	1.22	331	P	Pn	07 38 35.2	+0.3
JIH				eS	Sg	07 38 50.7	+0.3
JOKE	Okinoerabujima	1.39	358	P	Pn	07 38 37.7	+0.4
JOKE				eS	Sb	07 38 54.7	-1.0
JAGN	Aguni-jima	1.39	297	P	Pn	07 38 37.0	-0.3
JAGN				eS	Sb	07 38 54.4	-1.4
JKE	Kume jima 2	1.70	283	P	Pn	07 38 40.5	-1.0
JKE				eS	Sn	07 39 01.1	-2.5
JTK	Tokunoshima	1.83	9	P	Pn	07 38 44.0	+0.6
JTK				eS	Sn	07 39 05.4	-1.6
JAMN	Amaminishikomi	2.32	12	P	Pn	07 38 50.8	+0.8
JAMN				eS	Sn	07 39 18.2	-0.7
JMZ	Minamidaito 2	2.34	93	P	Pn	07 38 49.8	-0.5
JMZ				eS	Sn	07 39 16.7	-2.7
JAM	Amami Oshima	2.58	19	P	Pn	07 38 54.1	+0.4
JAM				eS	Sn	07 39 24.5	-1.0
JTAJ	Takarajima	3.21	9	P	Pn	07 39 02.0	-0.3
JTAJ				eS	Sn	07 39 38.7	-2.3
SONM	Songino Array	27.97	327	P	P	07 44 05.0	+2.2
	0.9nm,0.5s,baz=136,slow=9.2,SNR=10						
WRA	Warramunga Arr	45.97	173	P	P	07 46 35.7	+0.2
	1.5nm,0.6s,baz=355,slow=8.6,SNR=4.0						
FINES	FINESS Array B	73.27	331	P	P	07 49 44.4	+1.1
	2.1nm,0.9s,baz=64,slow=6.3,SNR=3.9						

ISCJB **27** *07:40:43.3±0.3, 35.°24S±0.°05×72.°43W±0.°06, h18km, mb5.3/53, MS6.9/1, Error ellipse: s-maj=7.5km s-min=6.6km az=23.6*
GUC **27** *07:40:45.4±0.5, 35.°09S×72.°59W, h26km±7km, ML6.0, MW5.7*
MOS **27** *07:40:45.0±1.1, 35.°14S×72.°18W, h33km, mb5.8/9, Error ellipse: s-maj=34.1km s-min=11.2km az=101.9*
NEIC **27** *07:40:46.8±0.8, 35.°13S×72.°18W, h33km±5km, mb5.5/38, Error ellipse: s-maj=10.7km s-min=6.7km az=78.0*
IDC **27** *07:40:46.0±0.8, 35.°24S×72.°29W, h29km±5km, mb5.1/15, mb1 5.1/17, mb1mx5.0/29, mbtmp5.2/17, ML4.8/2, MS6.9/1, Ms1 6.9/1, ms1mx5.9/36, Error ellipse: s-maj=22.1km s-min=15.5km az=75.0*
ISC 27 07:40:44.7±0.4, 35.°22S±0.°06×72.°26W±0.°09, h18km, n349, σ0§90/350, mb5.5/53, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	Talagante	1.91	35	eP	Pb	07 41 18.8	-0.2
ANTU	Antumapu	2.13	40	eP	Pb	07 41 22.6	-0.2
ANTU				eS	Sb	07 41 50.4	+1.6
ANTU				AML	AML	07 41 56.3	
	comp=E,136µm,0.5s						
SAN	Santiago	2.20	37	eP	Pb	07 41 23.1	-0.9
SAN				eS	Sb	07 41 52.5	+1.5
PEL	Peldehue	2.45	33	eP	Pn	07 41 26.5	+2.7
PEL				eS	Sb	07 41 57.6	-0.5
PEL				AML	AML	07 42 06.8	
	comp=E,82µm,0.3s						
CFAA	Coronel Fontan	4.93	44	Pn	Pn	07 41 59.0	+1.1
	comp=E,5.7nm,0.3s,baz=205,slow=17,SNR=7.3						
CFAA				Lg	Lg	07 43 09.7	
	comp=E,27nm,0.3s,baz=39,slow=16,SNR=6.4						
PLCA	Paso Flores	5.67	167	eP	Pn	07 42 09.9	+1.7
PLCA	Paso Flores	5.67	167	ePn	Pn	07 42 09.9	+1.7
LVC	Limon Verde	12.90	14	ePn	Pn	07 43 44.7	-2.7
	comp=E,2µm,1.4s						
LPAZ	La Paz	19.21	12	eP	Pn	07 45 09.9	+0.5
LPAZ				pmax	pmax		
	comp=Z,120nm,0.9s						
LPAZ	La Paz	19.21	12	P	P	07 45 09.5	+1.1
	comp=Z,4.2nm,0.3s,baz=191,slow=14,SNR=5.4						
LPAZ	La Paz	19.21	12	eP	Pn	07 45 09.9	+0.5
	comp=Z,120nm,0.9s						
USHA	Ushuaia	19.79	173	P	Pn	07 45 17.2	+1.8
	comp=Z,1.1nm,0.3s,baz=321,slow=11,SNR=2.6						
SIV	San Ignacio	21.61	30	P	P	07 45 32.8	-1.1
	comp=Z,330nm,0.9s,baz=187,slow=10,SNR=18						
OTAV	Otavalo	35.74	349	eP	P	07 47 43.5	+0.4
	comp=Z,59nm,1.2s						
ROSC	El Rosal	39.91	357	P	P	07 48 19.7	+1.5
	comp=Z,28nm,0.5s,baz=108,slow=3.3,SNR=11						
ROSC				LR	LR	08 03 32.9	
	comp=Z,157µm,19.5s,baz=130,slow=34						
SDV	Santo Domingo	43.89	2	eP	P	07 48 49.1	-1.4
	comp=Z,86nm,1.0s						
RCBR	Riachuelo	44.45	57	P	P	07 48 55.0	+0.1
	comp=Z,36nm,0.9s,baz=215,slow=14,SNR=3.1						
RCBR	Riachuelo	44.45	57	eP	P	07 48 55.3	+0.4
BCIP	Isla Barro Col	44.72	349	eP	P	07 48 56.6	-0.4
	comp=Z,15nm,0.5s						
JTS	JuntasAbangare	46.83	343	eP	P	07 49 13.4	-0.2
JTS				pmax	pmax		
	comp=Z,162nm,1.7s						
JTS	JuntasAbangare	46.83	343	eP	P	07 49 13.4	-0.2
	comp=Z,162nm,1.7s						
GRGR	Grenville	48.15	14	eP	P	07 49 22.7	-1.2
	comp=Z,126nm,0.8s						
SNAA	Sanae	50.53	157	P	P	07 49 41.9	+0.3
	comp=Z,44nm,1.1s,baz=293,slow=5.4,SNR=5.5						
FDF	Fort de France	50.78	14	eP	P	07 49 41.6	-2.4
FDF				pmax	pmax		
	comp=Z,69nm,0.6s						
FDF	Fort de France	50.78	14	eP	P	07 49 41.6	-2.4
	comp=Z,69nm,0.6s						
ANWB	Willy Bob	53.53	12	eP	P	07 50 01.8	-2.5
	comp=Z,80nm,0.8s						
CBYP	Canovanas	53.54	8	eP	P	07 50 02.3	-2.2
QSPA	South Pole Qui	55.02	180	P	P	07 50 15.5	+0.6
	comp=Z,18nm,0.8s,baz=148,slow=4.0,SNR=3.7						
QSPA	South Pole Qui	55.02	180	eP	P	07 50 15.1	+0.2
	comp=Z,80nm,1.1s						
TEIG	Tepich	57.20	342	eP	P	07 50 29.4	-1.3
933A	Laredo	67.50	334	P	P	07 51 40.2	+0.6
	baz=68						
835A	Beeville	67.62	336	P	P	07 51 41.8	+1.5
	baz=68						
834A	Tilden	67.72	335	P	P	07 51 41.9	+0.9
	baz=68						
735A	Kenedy	68.14	336	P	P	07 51 44.1	+0.6
	baz=68						
833A	Chaparral WMA,	68.19	334	P	P	07 51 44.3	+0.3
	baz=68						
832A	Faith Ranch, C	68.37	334	P	P	07 51 44.7	-0.3
	baz=69						
734A	La Parita Cree	68.38	335	P	P	07 51 46.5	+1.4
	baz=69						
636A	Smothers Creek	68.47	337	P	P	07 51 46.1	+0.4
	baz=69						
733A	Divot King Ran	68.52	335	P	P	07 51 46.1	+0.2
	baz=69						
732A	Laxson Ranch,	68.77	334	P	P	07 51 47.3	-0.2
	baz=69						
536A	Bastrop	69.02	337	P	P	07 51 48.9	-0.2
	baz=69						
535A	Dale	69.14	337	P	P	07 51 49.9	0.0
	baz=69						
633A	Saathoff Ranch	69.16	335	P	P	07 51 49.7	-0.2
	baz=69						
632A	Uvalde	69.41	335	P	P	07 51 51.8	+0.2
	baz=70						
631A	Perdido Creek	69.61	334	P	P	07 51 52.7	0.0
	baz=70						
533A	Kerrville	69.67	335	P	P	07 51 52.7	-0.5
	baz=70						
337A	Centerville	69.81	339	P	P	07 51 54.3	+0.3
	baz=70						
435B	Jarrell	69.84	337	P	P	07 51 54.4	+0.3
	baz=70						
NATX	Nacogdoches	69.87	340	eP	P	07 51 54.4	+0.1
532A	Rocksprings	70.02	335	P	P	07 51 55.3	-0.1
	baz=70						
239A	Gary	70.06	340	P	P	07 51 55.4	0.0
	baz=70						
434A	Burnet	70.09	336	P	P	07 51 55.6	-0.2
	baz=70						
336A	Riesel	70.17	338	P	P	07 51 56.8	+0.6
	baz=70						
238A	Jacksonville	70.23	339	P	P	07 51 56.4	-0.1
	baz=70						
335A	Moody	70.25	337	P	P	07 51 57.0	+0.3
	baz=70						
531A	Rocksprings	70.28	334	P	P	07 51 56.8	-0.1
	baz=70						
CNNC	Cliffs of the	70.29	355	eP	P	07 51 56.8	0.0
	comp=Z,52nm,0.9s						
JCT	Junction City	70.31	335	eP	P	07 51 56.5	-0.6
JCT				pmax	pmax		
	comp=Z,52nm,1.1s						
JCT	Junction City	70.31	335	eP	P	07 51 56.5	-0.6
	comp=Z,52nm,1.1s						
JCT	Junction City	70.31	335	P	P	07 51 56.9	-0.1
	baz=71						
433A	Art	70.31	336	P	P	07 51 56.5	-0.6
	baz=71						
237A	Washetta, Mont	70.43	339	P	P	07 51 57.7	0.0
	baz=71						
530A	J-C Ranch, Com	70.55	333	P	P	07 51 58.8	+0.2
	baz=71						
432A	Menard	70.66	335	P	P	07 52 00.3	+1.1
	baz=71						
TXAR	Lajitas Array	70.71	331	P	P	07 51 59.7	+0.1
	comp=Z,5.3nm,0.7s,baz=153,slow=8.0,SNR=9.4						
TXAR				pP	pP	07 52 09.1	+3.5
	comp=Z,12nm,0.7s,baz=153,slow=8.1,SNR=7.2						
431A	Sonora	70.77	334	P	P	07 52 01.0	+1.0
	baz=71						
333A	Richland Sprin	70.80	336	P	P	07 52 00.1	+0.1
	baz=71						
529A	Stev Forest Ra	70.86	333	P	P	07 52 01.1	+0.7
	baz=71						
WHTX	Lake Whitney	70.92	337	eP	P	07 52 00.5	-0.2
	comp=Z,48nm,0.9s						
WHTX	Lake Whitney	70.92	337	P	P	07 52 00.6	-0.2
	baz=71						
137A	Heron Place, G	70.97	339	P	P	07 52 01.4	+0.3
	baz=71						
430A	Baggett Ranch,	71.09	334	P	P	07 52 00.8	-1.1
	baz=71						
332A	Millersview	71.11	335	P	P	07 52 02.1	+0.1
	baz=71						
234A	Clairette	71.15	337	P	P	07 52 02.3	+0.1
	baz=71						
429A	Davenport Ranc	71.19	333	P	P	07 52 03.0	+0.5
	baz=72						
OXF	Oxford	71.20	345	eP	P	07 52 01.4	-0.9
OXF				pmax	pmax		
	comp=Z,49nm,0.8s						
OXF	Oxford	71.20	345	eP	P	07 52 01.4	-0.9
	comp=Z,49nm,0.8s						
SWET	Sewanee	71.22	348	eP	P	07 52 01.1	-1.5
	comp=Z,50nm,0.8s						
331A	San Angelo	71.28	335	P	P	07 52 03.0	0.0
	baz=72						
233A	Rising Star	71.41	336	P	P	07 52 03.0	-0.8
	baz=72						
232A	Coleman	71.54	336	P	P	07 52 05.9	+1.3
	baz=72						
231A	Bronte	71.81	335	P	P	07 52 05.4	-0.7
	baz=72						
133A	Hamilton Ranch	71.96	337	P	P	07 52 06.3	-0.7
	baz=72						
329A	Wagon Wheel Ra	71.99	334	P	P	07 52 06.5	-0.9
	baz=72						
230A	Sterling City	72.05	334	P	P	07 52 06.7	-0.9
	baz=72						
Z35A	Perchaven, San	72.10	338	P	P	07 52 07.1	-0.8
	baz=72						
ABTX	Abilene, Hawle	72.21	336	eP	P	07 52 08.3	-0.2
	comp=Z,71nm,0.9s						
ABTX	Abilene, Hawle	72.21	336	P	P	07 52 07.9	-0.6
	baz=72						
Z34A	Collier Ranch,	72.34	338	P	P	07 52 09.1	-0.2
	baz=73						
229A	Bryant Ranch,	72.37	334	P	P	07 52 09.1	-0.5
	baz=73						
WVT	Waverly	72.45	347	eP	P	07 52 08.0	-1.8
WVT	Waverly	72.45	347	eP	P	07 52 08.0	-1.8
131A	Roby	72.51	335	P	P	07 52 10.4	+0.1
	baz=73						
Z33A	Whitaker Ranch	72.53	337	P	P	07 52 10.1	-0.3
	baz=73						
130A	Snyder	72.64	335	P	P	07 52 10.5	-0.7
	baz=73						
JSRW	J. Sargeant Re	72.73	355	eP	P	07 52 11.8	+0.4
Z32A	Haskell	72.78	336	P	P	07 52 12.9	+1.0
	baz=73						
228A	UT Block 9, Go	72.79	333	P	P	07 52 11.5	-0.6
	baz=73						
Y34A	Reagan Ranch,	72.84	338	P	P	07 52 13.2	+1.0
	baz=73						
129A	Stewart Farms,	72.98	334	P	P	07 52 14.8	+1.6
	baz=73						
128A	Castleberry Fa	73.20	334	P	P	07 52 14.8	+0.3
	baz=74						
Z30A	Sanderson Ranc	73.32	335	P	P	07 52 15.4	+0.3
	baz=74						
Y32A	R-V Farms, Ver	73.41	337	P	P	07 52 15.0	-0.6
	baz=74						
X34A	Smith Ranch, M	73.46	338	P	P	07 52 15.6	-0.3
	baz=74						
MNTX	Cornudas Mount	73.48	331	eP	P	07 52 14.7	-1.4
	comp=Z,23nm,0.9s						
Z29A	Hungry Hill Ra	73.50	335	P	P	07 52 15.6	-0.6
	baz=74						
W34A	Bridge Creek,	74.03	338	P	P	07 52 18.7	-0.5
	baz=74						
Y29A	Porterfield Fa	74.03	335	P	P	07 52 19.6	+0.2
	baz=74						
TUL1	Tulsa	74.09	340	eP	P	07 52 18.6	-0.9
	comp=Z,80nm,0.9s						
TUL1	Tulsa	74.09	340	P	P	07 52 19.5	0.0
	baz=74						
W33A	Caddo, Fort Co	74.16	338	P	P	07 52 20.2	+0.2
	baz=74						
X31A	McDonald Ranch	74.16	337	P	P	07 52 19.9	-0.1
	baz=74						
USIN	University of	74.20	347	eP	P	07 52 20.0	-0.1
Z26A	Caprock	74.33	333	P	P	07 52 20.7	-0.5
	baz=75						
W32A	Sentinel	74.38	337	P	P	07 52 21.3	+0.1
	baz=75						
V34A	Guthrie	74.51	339	eP	P	07 52 21.4	-0.6
	comp=Z,47nm,1.3s						
MSTX	Muleshoe	74.52	334	eP	P	07 52 23.0	+0.8
	comp=Z,73nm,0.9s						
X29A	Tulia	74.57	335	P	P	07 52 23.2	+0.7
	baz=75						
Z25A	Roswell	74.62	332	P	P	07 52 23.6	+0.8
	baz=75						
V33A	Lossen Ranch,	74.72	338	P	P	07 52 22.8	-0.5
	baz=75						
Y26A	Elida	74.86	333	P	P	07 52 24.2	-0.1
	baz=75						
Z24A	Sheeppen Canyo	74.91	332	P	P	07 52 25.2	+0.6
	baz=75						
AMTX	Amarillo	74.96	335	eP	P	07 52 24.5	-0.2
	comp=Z,83nm,1.2s						
AMTX	Amarillo	74.96	335	P	P	07 52 25.2	+0.4
	baz=75						
U34A	Anderson Ranch	75.07	339	P	P	07 52 24.9	-0.3
	baz=75						
W29A	Amraillo	75.16	335	P	P	07 52 25.5	-0.5
	baz=75						
V31A	Spring Creek L	75.17	337	P	P	07 52 25.5	-0.4
	baz=75						
121A	Cookes Peak, D	75.19	329	eP	P	07 52 26.1	-0.1
	comp=Z,69nm,1.1s						
121A	Cookes Peak, D	75.19	329	P	P	07 52 25.6	-0.6
	baz=76						
X26A	CR and CF Fran	75.41	333	P	P	07 52 27.8	+0.4
	baz=76						
Z22A	Elephant Butte	75.48	330	P	P	07 52 29.9	+2.0
	baz=76						
W27A	Bowe Ranch, En	75.61	334	P	P	07 52 28.2	-0.3
	baz=76						
ACSO	Alum Creek Sta	75.73	352	eP	P	07 52 27.4	-1.4
	comp=Z,66nm,0.8s						
DBIC	Dimbokro	75.75	71	eP	P	07 52 29.4	-0.3
DBIC				pmax	pmax		
	comp=Z,145nm,1.0s						
DBIC	Dimbokro	75.75	71	P	P	07 52 29.4	-0.3
	comp=Z,80nm,0.7s,baz=201,slow=6.4,SNR=9.4						
DBIC	Dimbokro	75.75	71	eP	P	07 52 29.4	-0.3
	comp=Z,145nm,1.0s						
W26A	Owens Ranch, T	75.88	334	P	P	07 52 29.9	-0.1
	baz=76						
T33A	Patterson Ranc	75.88	339	P	P	07 52 29.5	-0.4
	baz=76						
V28A	Channing	75.93	335	P	P	07 52 30.1	-0.2
	baz=76						
X24A	Lazy VL Ranch,	76.03	332	P	P	07 52 30.6	-0.4
	baz=76						
V27A	Dan Oppiter Fa	76.15	335	P	P	07 52 31.4	-0.2
	baz=76						
W25A	X Bar L Ranch,	76.25	333	P	P	07 52 32.4	+0.2
	baz=76						
T31A	Randall Ranch,	76.33	338	P	P	07 52 32.5	+0.1
	baz=77						
U28A	Mallet	76.50	336	P	P	07 52 33.6	+0.1
	baz=77						
LAZ	Ladron	76.55	331	eP	P	07 52 35.1	+1.1
W24A	Lazy 6 Ranch,	76.59	333	P	P	07 52 34.1	-0.1
	baz=77						
S32A	Newby Ranch, P	76.66	339	P	P	07 52 35.3	+1.0
	baz=77						
S31A	Mullinville	76.75	338	P	P	07 52 35.4	+0.5
	baz=77						
W23A	Werner Place,	76.83	332	P	P	07 52 36.0	+0.4
	baz=77						
V25A	Rancho No Teng	76.86	333	P	P	07 52 35.6	-0.1
	baz=77						
T29A	Hugoton	76.90	337	P	P	07 52 35.5	-0.2
	baz=77						
214A	Organ Pipe Nat	76.91	325	P	P	07 52 35.8	0.0
	baz=77						
S30A	Montezuma	77.07	337	P	P	07 52 36.2	-0.5
	baz=77						
T28A	Walsh	77.14	336	P	P	07 52 36.7	-0.4
	baz=77						
R32A	Long Quarter,	77.26	339	P	P	07 52 37.5	-0.1
	baz=78						
S29A	Ulysses	77.26	337	P	P	07 52 37.5	-0.2
	baz=78						
R31A	Burdett	77.38	338	P	P	07 52 38.5	+0.1
	baz=78						
S28A	Manter	77.49	336	P	P	07 52 39.3	+0.3
	baz=78						
Q33A	Connelly Farm,	77.54	340	P	P	07 52 39.4	+0.2
	baz=78						
V22A	San Miguel Ran	77.79	332	P	P	07 52 41.3	+0.4
	baz=78						
U23A	El Rito	77.88	333	P	P	07 52 41.5	0.0
	baz=78						
T25A	Trinidad	77.94	334	P	P	07 52 42.5	+0.7
	baz=78						
R29A	Marienthal	78.00	337	P	P	07 52 41.7	-0.2
	baz=78						
S26A	Kim	78.05	335	P	P	07 52 42.3	0.0
	baz=78						
R28A	Tribune	78.14	337	P	P	07 52 42.4	-0.3
	baz=78						
Q30A	Quinter	78.22	338	P	P	07 52 43.0	-0.1
	baz=78						
T24B	San Luis	78.23	333	P	P	07 52 43.7	+0.3
	baz=78						
X16A	Lo Mia Camp, P	78.36	328	P	P	07 52 43.9	-0.2
	baz=79						
Q29A	Oakley	78.38	337	P	P	07 52 43.5	-0.5
	baz=79						
R27A	Eads	78.42	336	P	P	07 52 43.8	-0.5

baz=79
S25A Robets Cordova 78.42 334 P P 07 52 44.2 -0.1
baz=79
T23A Casias Ranch, 78.44 333 P P 07 52 44.5 -0.1
baz=79
P31A Stockton 78.47 339 P P 07 52 44.5 +0.1
baz=79
R26A Arlington 78.65 335 P P 07 52 45.3 -0.2
baz=79
Y14A Wickenburg 78.66 326 P P 07 52 45.4 -0.1
baz=79
S24A Houchin Ranch, 78.68 334 P P 07 52 46.0 0.0
baz=79
O32A Brockman Farm, 78.84 340 P P 07 52 47.3 +0.9
baz=79
SDCO Great Sand Dun 78.88 334 eP P 07 52 48.0 +1.0
comp=Z,18nm,0.9s
P29A Atwood 79.02 338 P P 07 52 47.5 +0.1
baz=79
TSUM Tsumeb 79.06 106 P P 07 52 47.9 -0.5
comp=Z,55nm,1.0s,baz=240,slow=3.1,SNR=4.3
SWSC Sam W. Stewart 79.14 324 P P 07 52 47.8 -0.3
baz=79
R24A Sanders Place, 79.17 334 P P 07 52 48.4 -0.1
baz=80
P28A Saint Francis 79.25 337 P P 07 52 48.5 -0.3
baz=80
WUAZ Wupatki 79.27 328 eP P 07 52 49.1 0.0
comp=Z,60nm,1.2s
WUAZ Wupatki 79.27 328 P P 07 52 48.1 -0.9
baz=80
S22A 4UR Ranch, Cre 79.37 333 P P 07 52 49.8 +0.1
baz=80
R23A Moffat 79.39 334 P P 07 52 50.2 +0.4
baz=80
MONP Monument Peak 79.40 323 P P 07 52 50.4 +0.5
baz=80
Q25A Bedland, Calha 79.48 335 P P 07 52 50.9 +0.7
baz=80
JFWS Jewell Farm 79.48 347 eP P 07 52 50.3 +0.5
JFWS pmax pmax
comp=Z,32nm,0.9s
JFWS Jewell Farm 79.48 347 eP P 07 52 50.3 +0.5
comp=Z,32nm,0.9s
MVCO Mesa Verde 79.54 331 P P 07 52 51.5 +0.9
baz=80
BC3 Big Chuckawall 79.56 325 P P 07 52 51.6 +1.0
baz=80
BOSA Boshof 79.67 118 P P 07 52 51.1 -0.5
comp=Z,101nm,0.9s,baz=256,slow=3.6,SNR=14
P26A Davis Ranch, A 79.75 336 P P 07 52 51.9 +0.3
baz=80
O28A Krutsinger Ran 79.76 337 P P 07 52 52.4 +0.9
baz=80
IRM Iron Mountain 79.83 325 P P 07 52 52.7 +0.8
baz=80
Q24A Divide 79.83 335 P P 07 52 52.3 0.0
baz=80
P25A Willow Gulch B 79.98 335 P P 07 52 52.8 -0.1
baz=80
PFO Pinyon Flat Ob 80.00 324 P P 07 52 52.7 -0.3
baz=80
W13A Hualapai Mount 80.02 326 P P 07 52 53.4 +0.2
baz=80
M31A Lambtecht Ranc 80.04 340 P P 07 52 53.3 +0.4
baz=80
BELC Belle Mtn. Jos 80.10 324 P P 07 52 53.9 +0.3
baz=80
MURC Murrieta 80.36 323 P P 07 52 55.6 +0.8
baz=81
U15A North Rim 80.43 328 P P 07 52 55.8 +0.3
baz=81
GMRC Granite Mounta 80.58 325 P P 07 52 55.9 -0.3
baz=81
N27A Anderson Farm, 80.62 337 P P 07 52 56.2 0.0
baz=81
ISCO Idaho Springs 80.74 335 P P 07 52 58.7 +1.6
baz=81
PV10 Paradox Valley 80.76 332 eP P 07 52 57.6 +0.4
comp=Z,645nm,0.9s
N26A Koester Ranch, 80.86 337 P P 07 52 57.4 0.0
baz=81
HEC Hector,Ludlow 80.93 325 P P 07 52 57.8 -0.1
baz=81
BFSC Mount Baldy Ra 81.09 323 P P 07 52 58.8 -0.1
baz=81
O23A Lake Granby, G 81.21 335 P P 07 53 00.6 +1.0
baz=81
M27A Reverse DX Ran 81.22 338 P P 07 53 00.9 +1.6
baz=82
PASC Pasadena Art C 81.30 323 eP P 07 52 59.4 -0.4
comp=Z,37nm,1.2s
O22A Kremmling 81.39 334 P P 07 53 01.9 +1.3
baz=82
GSC Goldstone 81.54 325 eP P 07 53 01.7 +0.5
GSC Goldstone 81.54 325 eP P 07 53 01.7 +0.5
GSC Goldstone 81.54 325 P P 07 53 01.5 +0.3
baz=82
ECSD EROS Data Cent 81.65 342 eP P 07 53 00.3 -1.2
comp=Z,97nm,1.0s
ECSD EROS Data Cent 81.65 342 P P 07 53 01.6 +0.2
baz=82
EDW2 Edwards Air Fo 81.77 324 P P 07 53 02.9 +0.6
baz=82
CCUT Cedar City 81.84 328 eP P 07 53 02.6 -0.3
comp=Z,38nm,1.1s
LBTB Lobatse 81.96 115 eP P 07 53 03.3 -0.6
LBTB Lobatse 81.96 115 P P 07 53 03.5 -0.4
comp=Z,39nm,0.6s,baz=262,slow=5.7,SNR=7.1
LBTB Lobatse 81.96 115 eP P 07 53 03.3 -0.6
O20A White River Ci 81.99 333 P P 07 53 04.8 +1.2
baz=82
K28A Ten Mile Ranch 82.00 339 P P 07 53 04.6 +1.2
baz=82
J30A Dallas 82.02 340 P P 07 53 04.8 +1.4
baz=82
LRMC Laurel Mountai 82.11 324 P P 07 53 05.0 +0.8
baz=82
K27A Flueckinger Fa 82.25 338 P P 07 53 04.2 -0.5
baz=82
L25A Engebretsen Ra 82.29 337 P P 07 53 06.5 +1.5
baz=83
I30A Oacoma 82.55 341 P P 07 53 07.5 +1.3
baz=83
ISA Isabella 82.64 324 eP P 07 53 06.3 -0.6
ISA pmax pmax
comp=Z,20nm,0.9s
ISA Isabella 82.64 324 eP P 07 53 06.2 -0.6
comp=Z,20nm,0.9s
ISA Isabella 82.64 324 P P 07 53 07.3 +0.4
baz=83
J26A Sides Ranch, S 83.06 338 P P 07 53 08.9 0.0
baz=83
VES Vestal, Richgr 83.08 323 P P 07 53 09.6 +0.6
baz=83
NLU North Lily Min 83.33 330 eP P 07 53 09.9 -0.6
comp=Z,28nm,1.2s
J25A Sunshine Ranch 83.35 337 P P 07 53 12.4 +1.9
baz=84
K23A Bowen Ranch, D 83.38 336 P P 07 53 10.7 +0.1
baz=84
H29A Onida 83.42 340 P P 07 53 10.6 -0.1
baz=84
R11A Troy Canyon, C 83.47 327 eP P 07 53 11.7 +0.4
comp=Z,24nm,1.1s
R11A Troy Canyon, C 83.47 327 P P 07 53 10.9 -0.4
baz=84
RCTC Rector, Farmer 83.53 324 P P 07 53 11.6 +0.2
baz=84
K22A Casper 83.59 335 P P 07 53 11.9 +0.1
baz=84
JLU Jordanelle 83.62 331 eP P 07 53 11.5 -0.6
H28A Mission Ridge 83.69 340 P P 07 53 12.5 +0.4
baz=84
K21A Alcova 83.82 335 P P 07 53 13.7 +0.7
baz=84
DUG Dugway 83.83 330 eP P 07 53 11.9 -1.1
DUG pmax pmax
comp=Z,61nm,1.3s
DUG Dugway 83.83 330 eP P 07 53 11.9 -1.1
comp=Z,61nm,1.3s
DUG Dugway 83.83 330 P P 07 53 12.8 -0.2
baz=84
G29A Hoven 83.87 341 P P 07 53 13.8 +0.8
baz=84
I25A Rochford 83.90 338 P P 07 53 13.6 +0.3
baz=84
H27A Howes 83.96 339 P P 07 53 14.3 +0.9
baz=84
TPH Tonopah 83.99 326 eP P 07 53 14.5 +0.5
TPH Tonopah 83.99 326 eP P 07 53 14.5 +0.5
G28A Parade 84.03 340 P P 07 53 13.8 -0.1
baz=84
I24A Kuemmerle Ranc 84.04 337 P P 07 53 13.8 -0.1
baz=84
F30A Leola 84.22 342 P P 07 53 14.7 -0.1
baz=84
F29A Eureka 84.43 341 P P 07 53 15.9 +0.1
baz=85
I22A 9 Mile Ranch, 84.67 336 P P 07 53 18.1 +0.9
baz=85
F28A McLaughlin 84.71 340 P P 07 53 17.8 +0.6
baz=85
G26A Maurine 84.71 339 P P 07 53 18.7 +1.5
baz=85
PDAR Pinedale Array 84.76 333 P P 07 53 16.9 -1.0
comp=Z,4.2nm,0.9s,baz=144,slow=7.8,SNR=4.8
PDAR pP pP 07 53 26.1 +2.3
comp=Z,7.7nm,0.9s,baz=154,slow=3.3,SNR=4.8
NVAR Mina Array Bea 84.78 325 P P 07 53 17.7 -0.3
comp=Z,2.4nm,0.7s,baz=134,slow=6.4,SNR=3.8
TORD Torodi Ar. Bea 84.80 70 P P 07 53 17.5 -0.8
comp=Z,18nm,0.7s,baz=221,slow=5.2,SNR=8.1
E30A Jud 84.81 342 P P 07 53 18.9 +1.2
baz=85
I20A Worland 85.28 335 P P 07 53 20.1 -0.2
baz=86
D30A Buchanan 85.34 342 P P 07 53 20.3 0.0
baz=86
CMB Columbia Colle 85.45 324 eP P 07 53 22.6 +1.5
CMB pmax pmax
comp=Z,53nm,1.6s
CMB Columbia Colle 85.45 324 eP P 07 53 22.6 +1.5
comp=Z,54nm,1.6s
H20A Greybull 85.71 335 P P 07 53 21.4 -0.9
baz=86
F24A Ekalaka 85.76 338 P P 07 53 23.6 +1.0
baz=86
D28A Regan 85.89 341 P P 07 53 23.9 +0.8
baz=86
I17A Pilgrim Ck. 86.13 333 P P 07 53 24.7 0.0
baz=86
H19A Powell 86.21 335 P P 07 53 24.3 -0.6
baz=86
D26A Manning 86.25 340 P P 07 53 25.6 +0.7
baz=86
F22A Rosebud 86.27 337 P P 07 53 25.7 +0.6
baz=87
C28A Hausauer Farms 86.32 341 P P 07 53 25.5 +0.4
baz=87
E24A Baker 86.37 338 P P 07 53 25.9 +0.4
baz=87
G20A Bridger 86.43 335 P P 07 53 24.7 -1.2
baz=87
H18A Shoshone NF, C 86.46 334 P P 07 53 25.2 -1.0
baz=87
B30A Myrvik Farm, E 86.48 343 P P 07 53 25.6 -0.3
baz=87
D25A Fairfield 86.61 339 P P 07 53 26.0 -0.7
baz=87
C27A Sayler Ranch, 86.61 341 P P 07 53 26.6 -0.1
baz=87
E23A Ismay 86.61 338 P P 07 53 26.9 +0.2
baz=87
RLMT Red Lodge 86.70 335 eP P 07 53 26.4 -1.0
comp=Z,8.4nm,0.6s
D24A Glendive 86.87 339 P P 07 53 27.4 -0.5
baz=87
F20A Billings 86.91 336 P P 07 53 27.8 -0.5
baz=87
B28A Dugan Ranch, T 86.99 342 P P 07 53 28.8 +0.4
baz=87
C25A Freed Ranch, W 87.10 340 P P 07 53 29.1 +0.1
baz=87
A29A Manning Farm, 87.14 343 P P 07 53 29.4 +0.3
baz=87
D23A Lindsay 87.19 338 P P 07 53 29.2 -0.2
baz=88
E21A Keefer Ranch, 87.21 337 P P 07 53 29.0 -0.6
baz=88
F19A Roth Farm, Mol 87.23 335 P P 07 53 28.9 -0.9
baz=88
C24A Savage 87.28 339 P P 07 53 29.7 -0.2
baz=88
HLID Hailey 87.30 331 eP P 07 53 29.9 -0.4
comp=Z,11nm,1.0s
HLID Hailey 87.30 331 P P 07 53 29.8 -0.5
baz=88
A28A Rude Farm, Bot 87.39 342 P P 07 53 29.7 -0.6
baz=88
E20A Meyer Farm, Mu 87.53 336 P P 07 53 30.2 -0.9
baz=88
B25A Knox Farm, Ray 87.58 340 P P 07 53 31.1 -0.2
baz=88
ULM Lac du Bonnet 87.62 345 P P 07 53 29.0 -2.4
comp=Z,9.5nm,0.8s,baz=152,slow=8.2,SNR=3.9
D21A La Casta Ranch 87.65 337 P P 07 53 31.1 -0.6
baz=88
A27A Ledoux Ranch, 87.68 341 P P 07 53 31.6 -0.2
baz=88
E19A Rath Farm, Rou 87.71 336 P P 07 53 31.2 -0.8
baz=88
C23A Lambert 87.75 338 P P 07 53 31.3 -0.8
baz=88
A26A Wade Farm, Ken 87.84 341 P P 07 53 31.7 -0.8
baz=88
D20A Manuel Ranch, 88.04 336 P P 07 53 34.3 +0.7
baz=88
DGMT Dagmar 88.06 339 eP P 07 53 32.5 -1.1
comp=Z,39nm,1.0s
DGMT Dagmar 88.06 339 P P 07 53 33.0 -0.6
baz=88
B23A Brockton 88.28 339 P P 07 53 34.4 -0.2
baz=89
MOD Modoc 88.47 326 eP P 07 53 35.7 -0.2
comp=Z,33nm,1.2s
A22A Carney Farms, 89.03 339 P P 07 53 37.4 -0.7
baz=89
M04C Macdoel 89.08 325 P P 07 53 38.3 -0.5
baz=89
B20A Solberg Farm, 89.19 337 P P 07 53 38.4 -0.5
baz=90
M02C Callahan 89.26 324 P P 07 53 38.6 -0.9
baz=90
A20A Cobblestone Ra 89.55 337 P P 07 53 41.2 +0.6
baz=90
J05D Fort Rock, OR 89.98 327 P P 07 53 42.9 0.0
baz=90
I05D Terrebonne, OR 90.86 327 P P 07 53 47.4 +0.5
baz=91
WALA Waterton Lakes 91.72 334 eP P 07 53 51.4 +0.6
comp=Z,0.6nm,1.1s
FCC Fort Churchill 95.39 349 eP P 07 54 06.2 -1.0
FCC Fort Churchill 95.39 349 eP P 07 54 06.2 -1.0
comp=Z,0.4nm,1.1s
ESDC Sonseca Array 97.55 46 P P 07 54 15.7 -2.1
comp=Z,2.3nm,0.9s,baz=236,slow=4.6,SNR=4.1
YKA Yellowknife Ar 103.15 341 Pdiff Pdif 07 54 39.5 -2.5
comp=Z,0.7nm,0.7s,baz=144,slow=4.4,SNR=5.2
HFS Hagfors 117.91 34 PKP PKPdf 07 59 27.6 -1.7
comp=Z,1.8nm,0.9s,baz=165,slow=6.0,SNR=4.1
WRA Warramunga Arr 119.61 209 PKP PKPdf 07 59 31.6 -2.4
comp=Z,1.7nm,0.8s,baz=158,slow=1.6,SNR=6.5
BRTR Keskin Array B 122.58 62 PKP PKPdf 07 59 37.4 -1.8
comp=Z,3.3nm,0.8s,baz=189,slow=2.0,SNR=3.7
NACGM Naroch 122.89 43 e Pdif 07 56 09.0 -0.9
AKASG Malin Array Be 123.14 48 PKP PKPdf 07 59 40.2 +0.5
comp=Z,2.0nm,0.7s,baz=260,slow=2.7,SNR=4.3
ARCES ARCESS Array B 125.19 25 PKP PKPdf 07 59 41.1 -2.0
comp=Z,4.7nm,0.8s,baz=262,slow=1.8,SNR=4.0
GOF Gofitskoye 130.77 58 ePKIKP PKPdf 07 59 52.0 -2.5
GEYT Alibeck 140.43 71 PKP PKPdf 08 00 09.6 -3.1
comp=Z,21nm,1.2s,baz=298,slow=3.2,SNR=3.6
BKNI Bangkinang 144.73 168 ePKPdf PKPab 08 00 18.6 -1.1
BVAR Borovoye Array 148.29 44 PKPbc PKPbc 08 00 30.4 +1.1
comp=Z,4.7nm,0.6s,baz=305,slow=1.3,SNR=5.6
KBL Kabul 148.38 80 ePKP2 PKPbc 08 00 31.1 +0.7
KBL Kabul 148.38 80 ePKPbc PKPbc 08 00 31.1 +0.7
HYB Hyderabad 148.57 117 i PKP PKPdf 08 00 30.0 +2.6
KKAR Karatay Array 150.27 63 ePKIKP PKPbc 08 00 34.5 0.0
KKAR Karatay Array 150.27 63 ePKPbc PKPbc 08 00 34.5 0.0
YSS Yuzh-Sakhalins 151.35 305 ePKIKP PKPbc 08 00 41.5 +4.6
YSS pmax pmax
comp=Z,30nm,1.0s
AAK Ala-Archa 153.22 64 PKPbc PKPbc 08 00 41.3 -0.2
comp=Z,19nm,0.8s,baz=153,slow=4.5,SNR=5.8
MJAR Matsushiro Arr 155.32 282 PKPab PKPab 08 01 04.0 +1.7
comp=Z,5.4nm,0.9s,baz=123,slow=2.9,SNR=4.8
ZALV Zalesovo Beam 155.35 33 PKP PKPdf 08 00 35.1 -1.2
comp=Z,7.1nm,0.8s,baz=273,slow=3.6,SNR=2.6
ZALV pPKP pPKPdf 08 00 44.7 +2.1
comp=Z,10nm,0.7s,baz=308,slow=3.4,SNR=4.4
MKAR Makanchi Array 157.69 51 PKPab PKPab 08 01 12.8 +0.7
comp=Z,17nm,1.0s,baz=298,slow=2.6,SNR=4.8
CMAR Chiang Mai Arr 161.57 153 pPKPab pPKPab 08 01 39.5 +3.9
comp=Z,8.0nm,1.0s,baz=227,slow=5.2,SNR=4.9
TLY Talaya 163.28 9 PKPab PKPab 08 01 36.7 +0.5
comp=Z,4.0nm,0.8s,baz=300,slow=4.2,SNR=3.4
ZAK Zakamensk 164.50 11 ePKP2 PKPab 08 01 41.0 -0.7
ZAK pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 167.35 4 PKPab PKPab 08 01 54.3 -0.1
comp=Z,2.9nm,0.6s,baz=337,slow=3.2,SNR=6.0
SONM pPKPab pPKPab 08 02 03.2 +2.8
comp=Z,6.4nm,1.1s,baz=342,slow=4.2,SNR=4.5

IDC 27 07:43:09.7±0.9, 35°.95S×74°.26W, h0km, mb4.7/6, mb1 4.8/6, mb1mx4.5/28, mbtmp4.7/6, Error ellipse: s-maj=38.1km s-min=22.8km az=96.0
ISCJB 27 07:43:13.1±0.8, 36°.02S±0°.09×74°.0W±0°.2, h33km, mb4.9/8, Error ellipse: s-maj=22.4km s-min=11.8km az=167.2
NEIC 27 07:43:15.6±0.8, 35°.99S×74°.01W, h35km, mb5.2/3, Error ellipse: s-maj=23.0km s-min=13.0km az=73.0
ISC 27 07:43:15.4±0.8, 36°.0S±0°.1×74°.0W±0°.2, h35km, n13, σ1ˢ29/13, mb5.0/8, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 5.47 151 ePn Pn 07 44 35.3 +0.9
TRQA Tornquist 9.84 106 ePn Pn 07 45 33.5 -0.8
LPAZ La Paz 20.30 16 eP P 07 47 48.7 -0.2
73nm,1.3s
SIV San Ignacio 23.00 33 P P 07 48 17.0 -0.3
18nm,0.7s,baz=217,slow=10,SNR=3.9
RCBR Riachuelo 46.05 59 P P 07 51 36.1 +0.1
11nm,0.7s,baz=207,slow=11,SNR=4.2
GRGR Grenville 49.25 16 eP P 07 52 02.5 +1.8
26nm,0.6s
SNAA Sanae 50.38 157 P P 07 52 07.8 -0.9
19nm,1.1s,baz=294,slow=8.5,SNR=3.1
FDF Fort de France 51.88 16 eP P 07 52 22.2 +1.7
21nm,0.7s
QSPA South Pole Qui 54.26 180 P P 07 52 37.3 -0.4
17nm,1.1s,baz=90,slow=4.0,SNR=2.4
TXAR Lajitas Array 70.71 333 P P 07 54 26.0 -1.8
0.6nm,0.5s,baz=156,slow=8.9,SNR=3.3
ULM Lac du Bonnet 88.01 346 P P 07 56 00.7 -0.7
8.1nm,0.8s,baz=157,slow=4.6,SNR=2.7
WRA Warramunga Arr 118.25 210 PKP PKPdf 08 01 59.7 +0.3
1.5nm,1.0s,baz=168,slow=1.2,SNR=4.6
BVAR Borovoye Array 149.82 44 PKPbc PKPbc 08 03 03.2 +2.0
3.1nm,0.7s,baz=306,slow=3.4,SNR=3.1

ISCJB 27 07:46:44.7±4.5, 36°.78S±0°.05×73°.0W±0°.1, h12km±28km, mb5.2/92, Error ellipse: s-maj=14.8km s-min=7.1km az=161.3
IDC 27 07:46:48.0±0.6, 36°.93S×73°.21W, h26km±4km, mb4.9/18, mb1 5.0/21, mb1mx4.9/32, mbtmp5.1/21, ML5.0/3, Error ellipse: s-maj=21.6km s-min=12.0km az=72.0
NEIC 27 07:46:49.4±0.2, 36°.87S×73°.12W, h35km, mb5.3/78, Error ellipse: s-maj=8.4km s-min=4.8km az=71.0
ISC 27 07:46:48.5±0.6, 36°.86S±0°.06×73°.2W±0°.1, h29km±3km, h28km:pP-P, n481, σ0ˢ83/497, mb5.3/92, 174C-170D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.38 153 Pn Pn 07 47 54.3 +1.2
29nm,0.3s,baz=326,slow=16,SNR=4.2
PLCA Lg Lg 07 48 59.2
58nm,0.3s,baz=309,slow=14,SNR=2.8
PLCA Paso Flores 4.38 153 ePn Pn 07 47 53.4 +0.3
PLCA Lg Lg 07 48 59.2
CFAA Coronel Fontan 6.66 39 Lg Lg 07 50 10.1
baz=288,slow=19,SNR=2.0
TRQA Tornquist 9.00 101 ePn Pn 07 48 50.1 -6.3
CPUP Villa Florida 17.09 57 P P 07 50 47.6 +0.8
1.6nm,0.3s,baz=225,slow=10.0,SNR=2.0
USHA Ushuaia 18.27 171 P Pn 07 50 59.9 +0.3
2.0nm,0.3s,baz=309,slow=4.1,SNR=11
LPAZ La Paz 20.98 14 P Pn 07 51 31.7 -1.2
70nm,0.9s,baz=182,slow=6.6,SNR=9.9
LPAZ La Paz 20.98 14 ePn P 07 51 31.4 +1.3
86nm,0.9s
SIV San Ignacio 23.41 31 P P 07 51 55.1 0.0
62nm,1.1s,baz=231,slow=12,SNR=6.4
NNA Nana 24.98 352 P P 07 52 09.4 -0.3
36nm,0.7s,baz=191,slow=11,SNR=14
NNA Nana 24.98 352 eP P 07 52 09.4 -0.3
31nm,0.7s
PMSA Palmer Station 28.48 172 eP P 07 52 42.0 +1.3
97nm,1.1s
ATAH Atahualpa 29.97 350 P P 07 52 56.9 +2.1
25nm,1.0s,baz=185,slow=5.9,SNR=5.4
OTAV Otavalo 37.23 351 eP P 07 53 59.3 +1.3
142nm,1.5s
ROSC El Rosal 41.51 358 P P 07 54 36.9 +3.2
23nm,0.6s,baz=156,slow=4.3,SNR=11
ROSC El Rosal 41.51 358 eP P 07 54 36.6 +2.9
SDV Santo Domingo 45.57 4 eP P 07 55 05.5 -0.6
1µm,2.5s
VNA3 Neumayer Olymp 47.09 157 P P 07 55 17.1 -0.2
VNA1 Neumayer--Stat 47.44 156 P P 07 55 20.5 +0.6
VNA2 Neumayer--Watz 47.76 156 P P 07 55 22.7 +0.1
JTS JuntasAbangare 48.19 344 P P 07 55 27.4 +1.0
20nm,1.0s,baz=192,slow=3.2,SNR=4.9
JTS JuntasAbangare 48.19 344 eP P 07 55 27.1 +0.7
27nm,1.0s
SNAA Sanae 49.31 157 P P 07 55 34.4 -0.1
SNAA Sanae 49.31 157 P P 07 55 34.2 -0.3
24nm,0.9s,baz=286,slow=6.2,SNR=19
SNAA Sanae 49.31 157 eP P 07 55 34.0 -0.5
155nm,1.4s
GRGR Grenville 49.93 15 eP P 07 55 38.0 -1.6
166nm,0.8s
FDF Fort de France 52.56 15 eP P 07 55 58.9 -0.6
55nm,1.0s
QSPA South Pole Qui 53.38 180 P P 07 56 05.1 -0.1
70nm,0.9s,baz=131,slow=3.9,SNR=16
QSPA South Pole Qui 53.38 180 eP P 07 56 05.1 -0.1
90nm,1.0s
OBIP Obispado Ponce 54.96 8 eP P 07 56 15.8 -1.1
55nm,1.1s
SDDR Presa de Saban 55.57 2 eP P 07 56 21.8 +0.4
16nm,0.9s
GTBY Guantanamo Bay 56.51 358 eP P 07 56 27.4 -0.6
45nm,0.8s
GRTK Grand Turk 58.09 2 eP P 07 56 39.2 +0.1
50nm,0.6s
TEIG Tepich 58.54 343 eP P 07 56 41.8 -0.4
43nm,0.7s
SYO Syowa Base 63.56 158 ⇑iP P 07 57 13.8 -2.0
035A Encino 67.65 336 ⇓P P 07 57 43.9 +1.2
baz=68
034A Hebbronville 67.96 336 ⇑P P 07 57 45.9 +1.2
baz=68
934A Benavides 68.40 336 ⇓P P 07 57 49.4 +2.0
baz=69
TIGA Tifton 68.64 350 eP P 07 57 47.9 -0.9
24nm,0.8s
TIGA Tifton 68.64 350 ⇑P P 07 57 48.4 -0.4
baz=69
933A Laredo 68.67 335 ⇑P P 07 57 50.0 +1.0
baz=69
834A Tilden 68.90 336 ⇓P P 07 57 51.9 +1.4
baz=69
735A Kenedy 69.34 337 ⇑P P 07 57 54.5 +1.3
baz=70
833A Chaparral WMA, 69.36 335 ⇓P P 07 57 54.5 +1.1
baz=70
832A Faith Ranch, C 69.52 335 ⇑P P 07 57 54.8 +0.5
baz=70
734A La Parita Cree 69.57 336 ⇓P P 07 57 55.5 +0.9
baz=70
733A Divot King Ran 69.69 336 ⇓P P 07 57 55.9 +0.5
baz=70
636A Smothers Creek 69.69 338 ⇑P P 07 57 56.6 +1.3
baz=70
635A Leesville 69.83 337 ⇓P P 07 57 56.6 +0.4

baz=70
732A Laxson Ranch, 69.93 335 ⇓P P 07 57 57.5 +0.6
baz=70,SNR=12
537A Green Hill Far 70.03 339 ⇑P P 07 57 58.6 +1.2
baz=70
536A Bastrop 70.25 338 ⇓P P 07 57 59.6 +0.8
baz=71
633A Saathoff Ranch 70.34 336 ⇓P P 07 57 59.8 +0.5
baz=71
535A Dale 70.36 338 ⇑P P 07 58 00.4 +0.9
baz=71
GOGA Godfrey 70.57 351 eP P 07 57 59.8 -0.8
84nm,1.6s
632A Uvalde 70.58 336 ⇑P P 07 58 01.5 +0.6
baz=71,SNR=10.0
534A Blanco 70.64 337 ⇑P P 07 58 01.3 +0.1
baz=71
LRAL Lakeview Retre 70.72 348 eP P 07 58 00.8 -0.8
17nm,1.2s
631A Perdido Creek 70.76 335 ⇓P P 07 58 02.4 +0.5
baz=71,SNR=5.5
436A Wall Ranch, Ga 70.82 339 ⇑P P 07 58 02.9 +0.7
baz=71
533A Kerrville 70.86 336 ⇓P P 07 58 03.1 +0.6
baz=71,SNR=10
338A Crockett 70.95 340 ⇓P P 07 58 04.0 +0.9
baz=71
435B Jarrell 71.07 338 ⇓P P 07 58 04.0 +0.3
baz=71
337A Centerville 71.07 340 ⇓P P 07 58 04.9 +1.2
baz=71,SNR=5.2
NATX Nacogdoches 71.16 341 eP P 07 58 04.9 +0.6
44nm,0.8s
NATX e 07 58 13.5
532A Rocksprings 71.19 336 ⇑P P 07 58 05.2 +0.6
baz=72,SNR=13
434A Burnet 71.31 337 ⇓P P 07 58 05.5 +0.2
baz=72,SNR=9.0
336A Riesel 71.42 339 ⇓P P 07 58 06.4 +0.5
baz=72
531A Rocksprings 71.44 335 ⇑P P 07 58 06.7 +0.6
baz=72,SNR=9.2
JCT Junction City 71.48 336 eP P 07 58 06.8 +0.5
35nm,0.9s
JCT Junction City 71.48 336 ⇑P P 07 58 06.8 +0.5
baz=72,SNR=8.5
335A Moody 71.49 338 ⇓P P 07 58 06.7 +0.4
baz=72
433A Art 71.51 337 ⇑P P 07 58 06.6 +0.1
baz=72,SNR=8.8
530A J-C Ranch, Com 71.70 335 ⇓P P 07 58 08.5 +0.8
baz=72,SNR=10
334A Lometa 71.78 338 ⇑P P 07 58 08.6 +0.5
baz=72,SNR=16
TXAR Lajitas Array 71.79 332 P P 07 58 08.6 +0.2
11nm,0.8s,baz=152,slow=8.6,SNR=22
TXAR pP pP 07 58 17.0 -0.4
7.0nm,0.6s,baz=147,slow=8.4,SNR=11
432A Menard 71.85 336 ⇓P P 07 58 08.6 +0.1
baz=72,SNR=5.1
431A Sonora 71.94 335 ⇑P P 07 58 09.5 +0.4
baz=72,SNR=9.9
529A Stev Forest Ra 71.98 334 ⇑P P 07 58 09.8 +0.4
baz=72,SNR=6.2
333A Richland Sprin 72.00 337 ⇑P P 07 58 08.9 -0.5
baz=72,SNR=8.2
KMSC Kings Mountain 72.04 353 eP P 07 58 09.2 -0.4
14nm,1.1s
KMSC Kings Mountain 72.04 353 ⇓P P 07 58 09.1 -0.4
baz=72
WHTX Lake Whitney 72.16 338 eP P 07 58 10.6 +0.3
40nm,0.9s
WHTX e 07 58 18.9
WHTX Lake Whitney 72.16 338 ⇑P P 07 58 10.5 +0.2
baz=72,SNR=7.2
430A Baggett Ranch, 72.25 335 ⇑P P 07 58 10.9 -0.1
baz=73,SNR=10
332A Millersview 72.30 336 ⇑P P 07 58 11.1 -0.1
baz=73,SNR=7.6
429A Davenport Ranc 72.32 334 ⇓P P 07 58 11.6 +0.2
baz=73,SNR=9.9
234A Clairette 72.37 338 ⇓P P 07 58 11.6 0.0
baz=73,SNR=8.9
331A San Angelo 72.45 336 ⇓P P 07 58 12.2 +0.1
baz=73,SNR=16
OXF Oxford 72.60 346 eP P 07 58 12.1 -0.8
78nm,1.2s
233A Rising Star 72.62 337 ⇑P P 07 58 13.0 -0.1
baz=73,SNR=7.8
135A Vickery Place, 72.67 339 ⇑P P 07 58 13.3 -0.1
baz=73
SWET Sewanee 72.69 349 eP P 07 58 13.0 -0.4
67nm,0.8s
232A Coleman 72.73 337 ⇑P P 07 58 13.6 -0.2
baz=73,SNR=11
330A Mertzon 72.79 335 ⇑P P 07 58 14.0 -0.2
baz=73,SNR=5.4
134A White-Moore Ra 72.89 338 ⇓P P 07 58 14.5 -0.1
baz=73
231A Bronte 72.99 336 ⇑P P 07 58 15.4 +0.1
baz=73,SNR=14
329A Wagon Wheel Ra 73.14 335 ⇓P P 07 58 16.3 +0.1
baz=74,SNR=10
133A Hamilton Ranch 73.17 337 ⇑P P 07 58 16.4 0.0
baz=74,SNR=8.7
230A Sterling City 73.21 335 ⇑P P 07 58 16.6 0.0
baz=74,SNR=7.5
Z35A Perchaven, San 73.36 339 ⇑P P 07 58 17.5 +0.2
baz=74,SNR=8.9
ABTX Abilene, Hawle 73.41 337 eP P 07 58 17.6 -0.2
38nm,1.0s
ABTX Abilene, Hawle 73.41 337 ⇑P P 07 58 17.8 0.0
baz=74,SNR=6.8
229A Bryant Ranch, 73.52 335 ⇑P P 07 58 18.5 +0.1
baz=74,SNR=9.1
Z34A Collier Ranch, 73.58 339 ⇑P P 07 58 18.9 +0.2
baz=74
131A Roby 73.70 336 ⇓P P 07 58 19.4 0.0
baz=74,SNR=8.6
Z33A Whitaker Ranch 73.76 338 ⇑P P 07 58 19.7 -0.1
baz=74,SNR=7.3
130A Snyder 73.81 336 ⇑P P 07 58 20.1 0.0
baz=74,SNR=5.7
WVT Waverly 73.88 348 eP P 07 58 19.9 -0.5
69nm,1.1s
228A UT Block 9, Go 73.93 334 ⇓P P 07 58 20.9 0.0
baz=74,SNR=11
BBTS Babate 73.95 57 P P 07 58 22.6 +1.3
6.8nm,0.3s,baz=165,slow=5.2,SNR=2.8
Z32A Haskell 74.00 337 ⇑P P 07 58 21.1 -0.1
baz=74,SNR=7.4
Y34A Reagan Ranch, 74.09 339 ⇑P P 07 58 21.3 -0.3
baz=74,SNR=5.5
129A Stewart Farms, 74.14 335 ⇑P P 07 58 21.6 -0.6
baz=74
Z31A Sharp Cattle R 74.21 337 ⇑P P 07 58 22.2 -0.3
baz=75,SNR=5.5
SUR Sutherland 74.28 119 eP P 07 58 24.3 +0.9
70nm,1.0s
128A Castleberry Fa 74.35 335 ⇑P P 07 58 23.1 -0.2
baz=75,SNR=7.7
Y33A Hilltop Ranch, 74.39 338 ⇑P P 07 58 23.2 -0.2
baz=75,SNR=5.8
Z30A Sanderson Ranc 74.50 336 ⇓P P 07 58 23.6 -0.5
baz=75,SNR=7.3
MNTX Cornudas Mount 74.56 332 eP P 07 58 23.4 -1.0
7.9nm,0.8s
Y32A R-V Farms, Ver 74.63 338 ⇓P P 07 58 24.9 0.0
baz=75
Z29A Hungry Hill Ra 74.67 335 ⇑P P 07 58 24.8 -0.3
baz=75,SNR=9.9
127A Arkansas Junct 74.70 334 ⇓P P 07 58 25.7 +0.3
baz=75
X34A Smith Ranch, M 74.71 339 ⇑P P 07 58 25.7 +0.4
baz=75
Y31A Rekieta Farm, 74.84 337 ⇓P P 07 58 25.9 -0.2
baz=75
X33A Lawton 74.85 339 ⇓P P 07 58 25.5 -0.6
baz=75
Y30A Stafford Cattl 74.97 336 ⇑P P 07 58 26.6 -0.3
baz=75
X32A Elmer 74.97 338 ⇑P P 07 58 26.6 -0.2
baz=75
Y29A Porterfield Fa 75.20 336 ⇑P P 07 58 28.1 -0.2
baz=76,SNR=6.1
Z27A Tatum 75.23 334 ⇓P P 07 58 28.6 +0.1
baz=76
W34A Bridge Creek, 75.29 339 ⇑P P 07 58 28.5 -0.1
baz=76
X31A McDonald Ranch 75.38 337 ⇓P P 07 58 29.0 -0.1
baz=76,SNR=7.9
TUL1 Tulsa 75.39 341 eP P 07 58 28.6 -0.6
55nm,1.1s
TUL1 Tulsa 75.39 341 ⇑P P 07 58 28.6 -0.6
baz=76,SNR=5.4
W33A Caddo, Fort Co 75.41 339 ⇓P P 07 58 29.8 +0.5
baz=76,SNR=9.7
Y28A McKinney Farm, 75.44 335 ⇑P P 07 58 29.8 +0.2
baz=76
Z26A Caprock 75.46 334 ⇓P P 07 58 30.2 +0.4
baz=76,SNR=11
X30A Coker Ranch, T 75.48 337 ⇓P P 07 58 30.4 +0.6
baz=76
W32A Sentinel 75.61 338 ⇑P P 07 58 30.8 +0.3
baz=76,SNR=8.6
USIN University of 75.65 348 eP P 07 58 29.7 -0.9
43nm,0.8s
SIUC Southern Illin 75.67 347 eP P 07 58 30.2 -0.5
34nm,1.0s
MSTX Muleshoe 75.67 335 eP P 07 58 31.0 +0.1
30nm,1.1s
MSTX Muleshoe 75.67 335 ⇑P P 07 58 31.1 +0.1
baz=76
Y27A Causey 75.73 335 ⇓P P 07 58 31.7 +0.4
baz=76
Z25A Roswell 75.73 333 ⇑P P 07 58 31.6 +0.2
baz=76
X29A Tulia 75.75 336 ⇓P P 07 58 31.6 +0.2
baz=76
V34A Guthrie 75.78 340 eP P 07 58 31.2 -0.1
47nm,1.1s
V34A Guthrie 75.78 340 ⇑P P 07 58 31.7 +0.3
baz=76
319A Douglas 75.83 329 ⇑P P 07 58 33.0 +1.1
baz=76
W31A Holland Ranch, 75.88 338 ⇑P P 07 58 32.0 0.0
baz=76
V33A Lossen Ranch, 75.98 339 ⇑P P 07 58 32.6 0.0
baz=76,SNR=6.2
Y26A Elida 75.99 334 ⇑P P 07 58 33.0 +0.1
baz=76,SNR=7.5
Z24A Sheeppen Canyo 76.01 333 ⇑P P 07 58 33.3 +0.3
baz=76,SNR=6.5
V32A Arapaho 76.11 339 ⇑P P 07 58 33.8 +0.5
baz=76
AMTX Amarillo 76.15 336 eP P 07 58 33.7 0.0
52nm,1.1s
AMTX Amarillo 76.15 336 ⇓P P 07 58 34.1 +0.4
baz=76
121A Cookes Peak, D 76.23 330 eP P 07 58 35.5 +1.2
31nm,1.4s
121A Cookes Peak, D 76.23 330 ⇓P P 07 58 35.0 +0.8
baz=77
Y25A Mesa, Roswell 76.30 333 ⇑P P 07 58 34.3 -0.3
baz=77
U34A Anderson Ranch 76.35 340 eP P 07 58 34.4 -0.2
29nm,1.4s
U34A Anderson Ranch 76.35 340 ⇓P P 07 58 34.6 -0.1
baz=77
W29A Amraillo 76.35 336 ⇑P P 07 58 34.9 0.0
baz=77,SNR=9.9
V31A Spring Creek L 76.39 338 ⇑P P 07 58 35.8 +0.9
baz=77,SNR=6.5
X27A F and S Farms, 76.40 335 ⇑P P 07 58 35.2 +0.1
baz=77
U33A Lingo Farm, Me 76.50 340 ⇓P P 07 58 35.3 -0.2
baz=77
Z22A Elephant Butte 76.55 331 ⇑P P 07 58 37.0 +0.9
baz=77
X26A CR and CF Fran 76.56 334 ⇑P P 07 58 36.5 +0.5
baz=77,SNR=5.5
Y24A Capitan 76.57 333 ⇓P P 07 58 36.7 +0.5
baz=77
W28A Vega 76.66 336 ⇑P P 07 58 37.2 +0.7
baz=77
U32A Winter Ranch, 76.71 339 ⇑P P 07 58 37.0 +0.3
baz=77
W27A Bowe Ranch, En 76.77 335 ⇑P P 07 58 37.4 +0.3
baz=77,SNR=8.2
Y23A Lovelace Mesa, 76.81 332 ⇑P P 07 58 38.3 +0.8
baz=77
DBIC Dimbokro 76.99 71 P P 07 58 38.5 -0.3
20nm,0.9s,baz=214,slow=7.7,SNR=5.8
DBIC Dimbokro 76.99 71 eP P 07 58 38.8 0.0
41nm,1.1s
W26A Owens Ranch, T 77.03 335 ⇓P P 07 58 39.2 +0.5
baz=77
V28A Channing 77.12 336 ⇑P P 07 58 39.8 +0.7
baz=78,SNR=5.5
X24A Lazy VL Ranch, 77.14 333 ⇓P P 07 58 40.2 +0.8
baz=78
CASY Casey 77.15 182 eP P 07 58 38.7 -0.1
44nm,1.0s
T33A Patterson Ranc 77.15 340 ⇓P P 07 58 39.7 +0.5
baz=78,SNR=6.3
ACSO Alum Creek Sta 77.25 352 eP P 07 58 39.1 -0.5
88nm,1.4s
V27A Dan Oppiter Fa 77.32 336 ⇑P P 07 58 40.9 +0.6
baz=78
U30A WK&E Inc. Balk 77.34 338 ⇓P P 07 58 40.6 +0.3
baz=78
W25A X Bar L Ranch, 77.39 334 ⇓P P 07 58 40.8 +0.1
baz=78,SNR=6.1
T32A Huddler Ranch, 77.43 339 ⇓P P 07 58 41.1 +0.4
baz=78
X23A Hourglass Bar 77.44 333 ⇓P P 07 58 41.9 +0.9
baz=78
S33A Kaszmaul Farm, 77.56 340 ⇓P P 07 58 42.0 +0.5
baz=78
T31A Randall Ranch, 77.57 339 ⇓P P 07 58 41.8 +0.3
baz=78
V26A Tequesquite Ra 77.68 335 ⇓P P 07 58 42.4 +0.1
baz=78
U28A Mallet 77.69 336 ⇓P P 07 58 42.5 +0.2
baz=78
W24A Lazy 6 Ranch, 77.72 333 ⇑P P 07 58 43.2 +0.6
baz=78
T30A Plains 77.78 338 ⇓P P 07 58 43.5 +0.7
baz=78
214A Organ Pipe Nat 77.85 326 eP P 07 58 44.4 +1.2
2.9nm,0.8s
214A Organ Pipe Nat 77.85 326 ⇓P P 07 58 44.1 +0.9
baz=78
ANMO Albuquerque 77.86 333 eP P 07 58 44.2 +0.8
27nm,1.1s
S32A Newby Ranch, P 77.92 339 ⇑P P 07 58 43.7 +0.3
baz=78,SNR=7.1
U27A Thompson Grove 77.92 336 ⇓P P 07 58 44.1 +0.5
baz=78
W23A Werner Place, 77.94 333 ⇑P P 07 58 44.6 +0.7
baz=78
V25A Rancho No Teng 78.00 334 ⇑P P 07 58 44.7 +0.5
baz=78,SNR=5.3
S31A Mullinville 78.00 339 ⇑P P 07 58 44.3 +0.4
baz=78,SNR=5.6
T29A Hugoton 78.11 337 ⇓P P 07 58 45.2 +0.6
baz=78
V24A Rampart Ranch, 78.13 334 ⇓P P 07 58 45.5 +0.6
baz=78
R33A Olander Ranch, 78.22 340 ⇓P P 07 58 45.4 +0.3
baz=79
S30A Montezuma 78.31 338 ⇑P P 07 58 46.0 +0.3
baz=79,SNR=10
T28A Walsh 78.33 337 ⇓P P 07 58 46.2 +0.3
baz=79,SNR=6.6
U25A Circle Dot Ran 78.44 335 ⇓P P 07 58 47.1 +0.5
baz=79
V23A Ortiz Mt. (NFS 78.47 333 ⇓P P 07 58 47.7 +0.9
baz=79
T27A Campo 78.48 336 ⇑P P 07 58 47.4 +0.7
baz=79
S29A Ulysses 78.48 338 ⇑P P 07 58 47.1 +0.4
baz=79
R32A Long Quarter, 78.53 340 ⇑P P 07 58 47.1 +0.3
baz=79
KSU1 Kansas State U 78.61 342 eP P 07 58 46.7 -0.5
16nm,0.9s
KSU1 Kansas State U 78.61 342 ⇓P P 07 58 47.0 -0.2
baz=79
R31A Burdett 78.64 339 ⇑P P 07 58 47.8 +0.4
baz=79
S28A Manter 78.70 337 ⇑P P 07 58 48.4 +0.5
baz=79
U24A Moreno Valley 78.75 334 ⇑P P 07 58 48.8 +0.4
baz=79
Q33A Connelly Farm, 78.83 341 ⇓P P 07 58 48.9 +0.4
baz=79
X18A Snowflake 78.84 330 ⇑P P 07 58 49.7 +0.9
baz=79
R30A Dighton 78.85 339 ⇑P P 07 58 49.0 +0.3
baz=79
T26A Comanche Natio 78.86 336 ⇓P P 07 58 49.3 +0.4
baz=79
V22A San Miguel Ran 78.89 333 ⇓P P 07 58 50.3 +1.2
baz=79,SNR=8.5
U23A El Rito 79.00 333 ⇑P P 07 58 50.8 +1.1
baz=79
Q32A Meitler Ranch, 79.02 340 ⇑P P 07 58 49.4 -0.1
baz=79,SNR=5.8
T25A Trinidad 79.10 335 ⇓P P 07 58 51.1 +0.9
baz=80,SNR=6.6
P33A Williams Farm, 79.21 341 ⇓P P 07 58 50.5 0.0
baz=80
S26A Kim 79.23 336 ⇑P P 07 58 51.4 +0.6
baz=80,SNR=7.3
R29A Marienthal 79.23 338 ⇓P P 07 58 51.1 +0.3
baz=80
Q31A Ellis 79.27 340 ⇓P P 07 58 51.1 +0.2
baz=80,SNR=7.4
W18A Petrified Fore 79.27 330 eP P 07 58 52.1 +1.0
18nm,1.0s
W18A Petrified Fore 79.27 330 ⇑P P 07 58 51.9 +0.7
baz=80
U22A Llaves 79.28 333 ⇑P P 07 58 51.8 +0.6
baz=80
TSUM Tsumeb 79.34 106 P P 07 58 51.9 -0.1
19nm,0.9s,baz=238,slow=4.7,SNR=10
TSUM Tsumeb 79.34 106 eP P 07 58 51.6 -0.4
28nm,0.9s
X16A Lo Mia Camp, P 79.36 329 ⇑P P 07 58 52.6 +1.0
baz=80
R28A Tribune 79.36 337 ⇑P P 07 58 52.0 +0.5
baz=80,SNR=5.3
T24B San Luis 79.37 334 ⇓P P 07 58 52.8 +1.0
baz=80
Q30A Quinter 79.47 339 ⇓P P 07 58 52.1 +0.1
baz=80,SNR=8.4
BOSA Boshof 79.57 118 P P 07 58 52.6 -0.6
41nm,0.9s,baz=219,slow=5.3,SNR=15
BOSA Boshof 79.57 118 eP P 07 58 52.4 -0.8
54nm,1.0s
T23A Casias Ranch, 79.58 334 ⇑P P 07 58 53.3 +0.4
baz=80
S25A Robets Cordova 79.58 335 ⇓P P 07 58 53.4 +0.5
baz=80
Q29A Oakley 79.62 338 ⇓P P 07 58 52.8 -0.1
baz=80,SNR=5.3
R27A Eads 79.62 337 ⇓P P 07 58 53.3 +0.4
baz=80,SNR=5.4
P32A Huiting Farm, 79.62 340 ⇓P P 07 58 52.8 0.0
baz=80
GLA Glamis 79.68 325 ⇓P P 07 58 54.6 +1.3
baz=80
P31A Stockton 79.74 340 ⇑P P 07 58 53.8 +0.4
baz=80
S24A Houchin Ranch, 79.83 335 ⇓P P 07 58 55.4 +1.1
baz=80,SNR=5.4
R26A Arlington 79.84 336 ⇑P P 07 58 55.1 +1.0
baz=80,SNR=6.7
P30A Selden 80.01 339 ⇓P P 07 58 55.7 +0.8
baz=80
SDCO Great Sand Dun 80.02 335 eP P 07 58 55.5 +0.2
10.0nm,1.0s
Q28A Sharon Springs 80.03 338 ⇓P P 07 58 56.2 +1.1
baz=80
SWSC Sam W. Stewart 80.03 325 ⇓P P 07 58 56.4 +1.3
baz=80
O32A Brockman Farm, 80.13 341 ⇓P P 07 58 56.2 +0.6
baz=80
S23A Nye Farm, Mont 80.16 334 ⇓P P 07 58 57.2 +1.2
baz=80
P29A Atwood 80.26 339 ⇓P P 07 58 57.5 +1.2
baz=81
WUAZ Wupatki 80.28 329 eP P 07 58 58.0 +1.4
22nm,1.2s
WUAZ Wupatki 80.28 329 ⇓P P 07 58 57.8 +1.2
baz=81
O31A Woolen Ranch, 80.31 340 ⇑P P 07 58 57.3 +0.7
baz=81
R24A Sanders Place, 80.33 335 ⇑P P 07 58 58.1 +1.2
baz=81,SNR=8.4
Q26A Hugo 80.43 336 ⇓P P 07 58 58.3 +0.9
baz=81
BC3 Big Chuckawall 80.47 325 ⇓P P 07 58 58.6 +1.0
baz=81
P28A Saint Francis 80.48 338 ⇑P P 07 58 58.6 +1.1
baz=81
MDV Middlebury 80.48 0 eP P 07 58 57.2 0.0
S22A 4UR Ranch, Cre 80.49 334 ⇑P P 07 58 58.8 +1.0
baz=81
R23A Moffat 80.54 334 ⇑P P 07 58 58.7 +0.6
baz=81
O30A MW Ranch, Wils 80.54 339 ⇓P P 07 58 58.7 +1.0
baz=81
N32A Stulken Farm, 80.61 341 ⇓P P 07 58 58.6 +0.5
baz=81
MVCO Mesa Verde 80.63 332 eP P 07 58 59.5 +1.0
20nm,1.0s
MVCO Mesa Verde 80.63 332 ⇓P P 07 58 59.5 +1.0
baz=81
Q25A Bedland, Calha 80.66 336 ⇑P P 07 58 59.1 +0.5
baz=81
O29A 4D Ranch, Culb 80.70 339 ⇑P P 07 58 59.2 +0.6
baz=81
IRM Iron Mountain 80.75 326 ⇑P P 07 59 00.3 +1.3
baz=81
BKZ Black Stump Fm 80.84 228 eP P 07 59 01.0 +1.3
56nm,1.5s
RPZ Rata Peaks 80.87 221 eP P 07 59 00.3 +0.5
75nm,1.2s
P26A Davis Ranch, A 80.95 337 ⇑P P 07 59 01.2 +1.1
baz=81
W13A Hualapai Mount 80.98 327 ⇓P P 07 59 01.2 +0.8
baz=81
O28A Krutsinger Ran 80.99 338 ⇓P P 07 59 00.9 +0.7
baz=81
Q24A Divide 81.00 335 ⇑P P 07 59 01.2 +0.6
baz=81,SNR=5.4
BELC Belle Mtn. Jos 81.00 325 ⇓P P 07 59 02.4 +1.9
baz=81
P25A Willow Gulch B 81.17 336 ⇓P P 07 59 02.5 +1.1
baz=82,SNR=5.2
BGNE Belgrade 81.18 341 eP P 07 59 01.1 0.0
60nm,1.1s
BGNE Belgrade 81.18 341 ⇓P P 07 59 01.5 +0.4
baz=82
O27A Beecher Island 81.26 338 ⇓P P 07 59 02.8 +1.1
baz=82
N29A Votaw Ranch, W 81.30 339 ⇑P P 07 59 02.6 +0.8
baz=82
M31A Lambtecht Ranc 81.33 341 ⇑P P 07 59 03.0 +1.1
baz=82
P24A Kohler Place, 81.42 336 ⇓P P 07 59 03.8 +1.1
baz=82
N28A Pribbeno Ranch 81.44 339 ⇑P P 07 59 03.4 +0.8
baz=82
U15A North Rim 81.44 329 ⇑P P 07 59 04.1 +1.2
baz=82
PV01 Paradox Valley 81.47 333 eP P 07 59 04.0 +1.0
1µm,0.9s
GMRC Granite Mounta 81.50 326 ⇓P P 07 59 04.8 +1.7
baz=82
O26A Horse Wrangler 81.57 337 ⇑P P 07 59 04.5 +1.2
baz=82,SNR=6.0
BBRC Big Bear Solar 81.65 325 ⇓P P 07 59 04.6 +0.6
baz=82
O25A Wiggins 81.70 337 ⇑P P 07 59 05.2 +1.2
baz=82
SMCO Snowmass 81.82 334 eP P 07 59 06.8 +1.7
50nm,1.3s
PV04 Paradox Valley 81.82 332 eP P 07 59 05.5 +0.7
N27A Anderson Farm, 81.84 338 ⇑P P 07 59 05.9 +1.1
baz=82,SNR=5.3
PV10 Paradox Valley 81.86 332 eP P 07 59 05.1 0.0
375nm,0.8s
M29A Burnside Ranch 81.89 339 ⇓P P 07 59 05.6 +0.7
baz=82
ISCO Idaho Springs 81.91 335 eP P 07 59 05.9 +0.6
13nm,1.2s
ISCO Idaho Springs 81.91 335 ⇓P P 07 59 06.0 +0.6
baz=82
LBTB Lobatse 81.95 115 P P 07 59 05.3 -0.6
79nm,0.8s,baz=252,slow=5.6,SNR=31
BFSC Mount Baldy Ra 81.97 324 ⇓P P 07 59 06.7 +1.1
baz=82

O24A Longmont 82.02 336 ⇓P P 07 59 06.7 +0.9
baz=82
N26A Koester Ranch, 82.07 337 ⇑P P 07 59 06.6 +0.6
baz=82
L31A Butterfield Fa 82.08 341 ⇑P P 07 59 06.4 +0.6
baz=82,SNR=5.5
L30A Spencer Herefo 82.10 340 ⇑P P 07 59 06.4 +0.4
baz=82
P22A Eagle 82.12 334 ⇑P P 07 59 07.0 +0.7
baz=82
O23A Lake Granby, G 82.38 335 ⇓P P 07 59 08.8 +1.0
baz=83,SNR=6.1
M27A Reverse DX Ran 82.46 338 ⇑P P 07 59 09.2 +1.2
baz=83
O22A Kremmling 82.55 335 ⇓P P 07 59 09.4 +0.7
baz=83,SNR=5.2
N24A Carr 82.60 336 ⇓P P 07 59 09.6 +0.9
baz=83
K30A Basset 82.74 341 ⇓P P 07 59 10.1 +0.8
baz=83,SNR=6.3
CCUT Cedar City 82.84 329 eP P 07 59 12.1 +1.9
11nm,1.1s
M25A Palm-Egli Farm 82.88 337 ⇑P P 07 59 10.5 +0.3
baz=83
ECSD EROS Data Cent 82.99 343 eP P 07 59 10.3 -0.2
44nm,0.9s
ECSD EROS Data Cent 82.99 343 ⇓P P 07 59 10.7 +0.1
baz=83,SNR=12
N23A Red Feather La 83.00 336 ⇑P P 07 59 11.6 +0.6
baz=83
K29A Lazy Trails An 83.01 340 ⇓P P 07 59 11.8 +1.0
baz=83
SRU San Rafael 83.06 332 eP P 07 59 11.5 +0.2
16nm,0.8s
N22A Wattenberg Ran 83.09 335 ⇓P P 07 59 12.4 +1.0
baz=84
O20A White River Ci 83.12 334 eP P 07 59 12.1 +0.6
11nm,0.9s
O20A White River Ci 83.12 334 ⇓P P 07 59 12.6 +1.1
baz=84
M24A Cheyenne 83.16 337 ⇓P P 07 59 12.5 +0.9
baz=84
PHWY Pilot Hill 83.21 336 eP P 07 59 12.6 +0.5
6.9nm,0.7s
K28A Ten Mile Ranch 83.26 339 ⇓P P 07 59 13.3 +1.3
baz=84,SNR=7.4
J30A Dallas 83.32 341 ⇓P P 07 59 12.8 +0.6
baz=84
FURC Furnace Creek, 83.45 326 ⇓P P 07 59 14.5 +1.5
baz=84
M23A Laramie 83.45 336 ⇑P P 07 59 14.0 +0.8
baz=84
TMUT Trail Mountain 83.48 331 eP P 07 59 14.3 +0.8
12nm,0.8s
K27A Flueckinger Fa 83.50 339 ⇑P P 07 59 14.1 +0.9
baz=84
L25A Engebretsen Ra 83.51 337 ⇓P P 07 59 14.3 +0.9
baz=84
ISA Isabella 83.52 324 eP P 07 59 15.1 +1.5
5.3nm,0.8s
ISA Isabella 83.52 324 ⇓P P 07 59 14.7 +1.1
baz=84
SPMN St. Paul 83.61 346 ⇓P P 07 59 12.6 -1.0
baz=84
J29A Okreek 83.62 340 ⇑P P 07 59 14.5 +0.7
baz=84
N20A Spence Gulch, 83.74 334 ⇓P P 07 59 15.9 +1.1
baz=84
I30A Oacoma 83.85 341 ⇑P P 07 59 14.7 -0.3
baz=84,SNR=12
K25A Mack Ranch, Ha 83.90 338 ⇑P P 07 59 16.1 +0.7
baz=84
J27A Elkhorn Farm, 83.94 339 ⇑P P 07 59 16.5 +1.0
baz=84,SNR=5.7
BRSD Miller 84.23 342 eP P 07 59 17.0 +0.1
37nm,0.9s
BRSD Miller 84.23 342 ⇓P P 07 59 16.8 0.0
baz=85,SNR=5.9
MPU Maple Canyon 84.27 331 eP P 07 59 17.8 +0.4
36nm,1.2s
J26A Sides Ranch, S 84.30 339 ⇓P P 07 59 17.7 +0.4
baz=85
NLU North Lily Min 84.39 331 eP P 07 59 19.3 +1.2
34nm,1.9s
I28A Midland 84.39 340 ⇓P P 07 59 18.0 +0.3
baz=85
R11A Troy Canyon, C 84.45 328 eP P 07 59 19.6 +1.1
21nm,1.4s
R11A Troy Canyon, C 84.45 328 ⇓P P 07 59 19.5 +1.1
baz=85
K23A Bowen Ranch, D 84.57 337 ⇑P P 07 59 19.0 +0.1
baz=85,SNR=5.6
J25A Sunshine Ranch 84.59 338 ⇑P P 07 59 18.9 +0.1
baz=85,SNR=7.8
I27A Quinn 84.70 340 ⇓P P 07 59 19.3 0.0
baz=85
JLU Jordanelle 84.70 332 eP P 07 59 19.8 +0.2
11nm,1.0s
H29A Onida 84.72 341 ⇓P P 07 59 19.7 +0.3
baz=85
K22A Casper 84.77 336 eP P 07 59 20.4 +0.5
43nm,1.2s
K22A Casper 84.77 336 ⇑P P 07 59 20.2 +0.3
baz=85,SNR=7.4
J24A Dixon Ranch, L 84.79 338 ⇓P P 07 59 20.2 +0.3
baz=85,SNR=9.5
DUG Dugway 84.88 331 eP P 07 59 21.2 +0.8
29nm,1.2s
DUG Dugway 84.88 331 ⇓P P 07 59 20.6 +0.2
baz=85
CTU Camp Tracy 84.90 332 eP P 07 59 20.5 -0.1
7.5nm,0.8s
I26A New Underwood 84.90 339 ⇑P P 07 59 20.6 +0.2
baz=85
G30A Faulkton 84.92 342 ⇑P P 07 59 20.4 +0.1
baz=85
TPH Tonopah 84.94 327 eP P 07 59 22.2 +1.3
32nm,1.4s
H28A Mission Ridge 84.98 340 ⇓P P 07 59 21.0 +0.3
baz=85
K21A Alcova 84.99 335 ⇓P P 07 59 21.1 0.0
baz=85,SNR=12
I25A Rochford 85.14 338 ⇑P P 07 59 22.0 +0.3
baz=86,SNR=8.5
G29A Hoven 85.17 341 ⇑P P 07 59 21.6 -0.1
baz=86
H27A Howes 85.23 340 ⇓P P 07 59 21.6 -0.4
baz=86,SNR=5.5
I24A Kuemmerle Ranc 85.26 338 ⇑P P 07 59 22.1 -0.1
baz=86,SNR=5.7
G28A Parade 85.32 341 ⇓P P 07 59 22.5 +0.2
baz=86,SNR=5.9
RSSD Black Hills 85.32 338 eP P 07 59 22.8 +0.1
16nm,0.8s
H26A Fairpoint 85.41 339 ⇑P P 07 59 22.5 -0.4
baz=86
J22A Midwest 85.44 336 ⇑P P 07 59 22.8 -0.4
baz=86,SNR=5.4
F30A Leola 85.55 342 ⇓P P 07 59 23.3 -0.2
baz=86
H25A Fruitdale 85.65 339 ⇑P P 07 59 24.4 +0.4
baz=86
J21A Lysite 85.69 336 ⇑P P 07 59 24.8 +0.3
baz=86
SPUT South Promonto 85.70 331 eP P 07 59 24.9 +0.4
30nm,1.5s
NVAR Mina Array Bea 85.71 326 P P 07 59 25.8 +1.1
1.6nm,0.7s,baz=168,slow=5.6,SNR=4.6
F29A Eureka 85.75 342 ⇓P P 07 59 24.3 -0.2
baz=86,SNR=6.1
I22A 9 Mile Ranch, 85.87 337 ⇓P P 07 59 24.8 -0.5
baz=86,SNR=8.8
G27A Dupree 85.88 340 ⇑P P 07 59 25.0 -0.1
baz=86,SNR=8.0
PDAR Pinedale Array 85.90 334 P P 07 59 25.6 +0.1
4.1nm,0.8s,baz=159,slow=5.4,SNR=8.6
PDAR pP pP 07 59 34.7 -0.1
5.5nm,0.8s,baz=124,slow=4.5,SNR=10.0
BW06 Boulder Array 85.90 334 eP P 07 59 25.4 -0.2
18nm,1.3s
J20A Shoshoni 85.91 335 ⇓P P 07 59 25.9 +0.4
baz=86,SNR=7.1
G26A Maurine 85.98 340 ⇑P P 07 59 25.3 -0.4
baz=86,SNR=8.4
F28A McLaughlin 86.01 341 ⇑P P 07 59 26.1 +0.3
baz=86
H24A Dirks Ranch, A 86.05 338 ⇑P P 07 59 25.9 -0.2
baz=86,SNR=5.6
I21A Big Trails, Te 86.06 336 ⇑P P 07 59 25.8 -0.4
baz=86
TOA0 Torodi Ar. Sit 86.06 71 eP P 07 59 26.3 -0.5
TORD Torodi Ar. Bea 86.06 71 P P 07 59 26.3 -0.4
6.8nm,1.0s,baz=232,slow=4.5,SNR=3.8
G25A Newell 86.12 339 ⇓P P 07 59 26.2 -0.1
baz=86,SNR=14
J19A Crowheart 86.17 335 ⇓P P 07 59 27.1 +0.3
baz=86,SNR=5.4
HVU Hansel Valley 86.22 331 eP P 07 59 27.4 +0.2
15nm,0.9s
F27A Lemmon 86.36 340 ⇓P P 07 59 27.5 0.0
baz=87,SNR=15
E29A Napoleon 86.39 342 ⇓P P 07 59 27.6 0.0
baz=87
I20A Worland 86.46 336 ⇑P P 07 59 28.2 0.0
baz=87
H22A Clearmont 86.46 337 ⇓P P 07 59 28.3 +0.1
baz=87
F26A Lodgepole 86.51 340 ⇑P P 07 59 28.0 -0.3
baz=87,SNR=7.6
G24A Alzada 86.53 339 ⇓P P 07 59 28.1 -0.3
baz=87
E28A Huff 86.66 341 ⇑P P 07 59 29.0 0.0
baz=87
D30A Buchanan 86.68 343 ⇑P P 07 59 29.0 +0.1
baz=87
H21A Big Horn, Sher 86.71 337 ⇑P P 07 59 28.7 -0.6
baz=87
G23A Biddle 86.71 338 ⇓P P 07 59 28.7 -0.6
baz=87
E27A Carson 86.75 341 ⇓P P 07 59 29.2 -0.2
baz=87
F25A Bowman 86.80 339 ⇑P P 07 59 29.6 -0.2
baz=87,SNR=5.8
I19A Meeteetse 86.83 335 ⇑P P 07 59 29.8 -0.2
baz=87
D29A Pettibone, Tap 86.83 342 ⇓P P 07 59 29.7 -0.1
baz=87
H20A Greybull 86.89 336 ⇓P P 07 59 29.8 -0.5
baz=87
G22A Birney 87.00 337 ⇓P P 07 59 30.0 -0.7
baz=87
F24A Ekalaka 87.01 339 ⇓P P 07 59 30.6 -0.2
baz=87,SNR=5.8
E26A Carlson Angus 87.03 340 ⇑P P 07 59 30.3 -0.5
baz=87,SNR=8.5
TPAW Teton Pass 87.03 333 eP P 07 59 31.6 +0.4
22nm,1.0s
AGMN Agassiz Nation 87.16 345 eP P 07 59 31.1 -0.3
7.2nm,0.6s
AGMN Agassiz Nation 87.16 345 ⇑P P 07 59 31.0 -0.3
baz=88
C30A Mose, Pekin 87.17 343 ⇑P P 07 59 31.3 -0.1
baz=88,SNR=8.4
F23A Volborg 87.18 338 ⇓P P 07 59 31.0 -0.6
baz=88
D28A Regan 87.20 342 ⇑P P 07 59 31.4 -0.1
baz=88,SNR=5.9
I17A Pilgrim Ck. 87.27 334 ⇑P P 07 59 32.3 +0.1
baz=88
E25A Miller Ranch, 87.31 340 ⇓P P 07 59 32.0 -0.2
baz=88
D27A Center 87.37 341 ⇓P P 07 59 32.2 -0.1
baz=88
IMW Indian Meadow 87.38 334 eP P 07 59 33.3 +0.5
13nm,1.0s
H19A Powell 87.38 335 ⇑P P 07 59 32.2 -0.4
baz=88
F22A Rosebud 87.50 338 ⇑P P 07 59 32.6 -0.4
baz=88
D26A Manning 87.53 340 ⇓P P 07 59 33.4 +0.2
baz=88,SNR=9.4
G20A Bridger 87.61 336 ⇓P P 07 59 33.4 -0.3
baz=88
H18A Shoshone NF, C 87.62 335 ⇓P P 07 59 33.8 -0.1
baz=88
E24A Baker 87.62 339 ⇑P P 07 59 33.8 +0.2
baz=88
C28A Hausauer Farms 87.64 342 ⇓P P 07 59 33.9 +0.2
baz=88
B30A Myrvik Farm, E 87.84 344 ⇑P P 07 59 34.7 +0.1
baz=88,SNR=7.4
D25A Fairfield 87.89 340 ⇑P P 07 59 35.2 +0.3
baz=88
C27A Sayler Ranch, 87.92 341 ⇓P P 07 59 35.1 +0.1
baz=88,SNR=9.7
E22A Miles City 87.99 338 ⇑P P 07 59 35.4 -0.1
baz=88
YMR Madison River 88.06 334 eP P 07 59 37.5 +1.5
23nm,1.2s
B29A Wagenman Farm, 88.09 343 ⇑P P 07 59 35.6 -0.1
baz=88,SNR=5.9
F20A Billings 88.11 336 ⇓P P 07 59 35.8 -0.3
baz=88
D24A Glendive 88.13 339 ⇑P P 07 59 36.0 -0.1
baz=88
C26A Wahner Farm, P 88.18 341 ⇓P P 07 59 36.3 +0.1
baz=89
A30A Hoffart Farm, 88.29 344 ⇓P P 07 59 36.5 -0.3
baz=89,SNR=6.1
B28A Dugan Ranch, T 88.32 342 ⇑P P 07 59 37.0 +0.1
baz=89
C25A Freed Ranch, W 88.38 340 ⇑P P 07 59 37.4 +0.2
baz=89
E21A Keefer Ranch, 88.43 337 ⇓P P 07 59 37.9 +0.4
baz=89
D23A Lindsay 88.44 339 ⇑P P 07 59 37.8 +0.3
baz=89
A29A Manning Farm, 88.49 343 ⇑P P 07 59 37.5 -0.1
baz=89,SNR=8.2
C24A Savage 88.54 339 ⇑P P 07 59 38.4 +0.4
baz=89
D22A Cohagen 88.70 338 ⇓P P 07 59 38.8 0.0
baz=89
B26A Jensen Ranch, 88.72 341 ⇓P P 07 59 38.6 -0.2
baz=89
A28A Rude Farm, Bot 88.72 343 ⇑P P 07 59 38.4 -0.4
baz=89
E20A Meyer Farm, Mu 88.73 337 ⇑P P 07 59 38.3 -0.6
baz=89
MFID Camas Ranch 88.80 330 eP P 07 59 38.2 -1.2
15nm,1.0s
B25A Knox Farm, Ray 88.87 340 ⇑P P 07 59 39.8 +0.3
baz=89
E19A Rath Farm, Rou 88.90 336 ⇑P P 07 59 40.0 +0.2
baz=89
C23A Lambert 89.00 339 ⇓P P 07 59 40.3 +0.2
baz=89
ULM Lac du Bonnet 89.02 346 P P 07 59 39.4 -0.7
9.4nm,0.8s,baz=146,slow=3.6,SNR=7.2
ULM pP pP 07 59 48.2 -1.2
8.3nm,0.9s,baz=191,slow=4.2,SNR=5.0
A26A Wade Farm, Ken 89.15 341 ⇑P P 07 59 41.1 +0.3
baz=90
C21A Desert Coulee 89.59 338 ⇑P P 07 59 42.9 0.0
baz=90
A24A Westby 89.69 340 ⇓P P 07 59 43.5 +0.2
baz=90
B20A Solberg Farm, 90.41 338 ⇓P P 07 59 46.3 -0.5
baz=91
A21A Bergtoll Ranch 90.58 339 ⇓P P 07 59 46.9 -0.6
baz=91
B19A Brinkman Farms 90.71 337 ⇓P P 07 59 47.0 -1.1
baz=91
A20A Cobblestone Ra 90.78 338 ⇑P P 07 59 47.5 -1.0
baz=91
SCHQ Schefferville 91.49 4 P P 07 59 50.7 -0.8
5.5nm,0.9s,baz=108,slow=3.2,SNR=3.7
WALA Waterton Lakes 92.87 335 eP P 07 59 58.0 -0.2
0.1nm,0.8s
FCC Fort Churchill 96.85 349 eP P 08 00 15.2 -0.8
0.1nm,0.8s
GERES GERESS Array B 114.82 47 PKP PKPdf 08 05 24.5 -1.3
1.4nm,1.0s,baz=132,slow=2.0,SNR=4.1
ILAR Eielson Array 116.31 333 PKP PKPdf 08 05 28.4 +0.3
1.0nm,1.0s,baz=160,slow=0.9,SNR=2.6
WRA Warramunga Arr 117.81 209 PKP PKPdf 08 05 31.3 -1.3
2.1nm,0.7s,baz=163,slow=1.5,SNR=6.8
WRA pPKP pPKPdf 08 05 40.1 -2.0
1.9nm,0.7s,baz=159,slow=1.7,SNR=4.2
BRTR Keskin Array B 124.01 63 PKP PKPdf 08 05 43.5 -0.4
2.8nm,0.9s,baz=90,slow=0.1,SNR=6.1
AKASG Malin Array Be 124.79 49 PKP PKPdf 08 05 43.7 -1.1
1.6nm,0.8s,baz=258,slow=2.4,SNR=4.1
GAMB Gambell 126.00 327 ePKPdf PKPdf 08 05 47.0 +0.3
ABKAR Akbulak array 144.15 55 ePKPdf PKPab 08 06 18.5 -0.1
KSM Kuching 144.64 186 ePKPdf PKPab 08 06 21.4 -0.1
HYB Hyderabad 148.45 120 iPKP PKPdf 08 06 30.0 +0.8
KBL Kabul 149.37 83 ePKPbc PKPbc 08 06 34.6 -0.2
BVAR Borovoye Array 149.98 46 PKPbc PKPbc 08 06 35.6 +0.2
7.4nm,0.9s,baz=291,slow=4.6,SNR=5.9
KKAR Karatay Array 151.66 66 ePKPbc PKPbc 08 06 41.9 +2.2
ASAJ Asahikawa 152.00 296 PKPab PKPab 08 06 49.3 -0.7
14nm,0.8s,baz=114,slow=20,SNR=4.3
ZALV Zalesovo Beam 157.13 35 PKP PKPdf 08 06 39.7 -1.0
6.1nm,0.9s,baz=277,slow=3.8,SNR=3.7
ZALV PKPab PKPab 08 07 11.2 -0.2
10nm,0.8s,baz=301,slow=3.6,SNR=6.4
MKAR Makanchi Array 159.28 54 PKP PKPdf 08 06 42.0 -1.7
2.1nm,0.8s,baz=270,slow=3.9,SNR=3.2
MKAR pPKP pPKPdf 08 06 51.8 -1.4
4.4nm,0.9s,baz=272,slow=4.0,SNR=4.0
MKAR PKPab PKPab 08 07 20.8 -0.4
4.0nm,0.9s,baz=280,slow=5.4,SNR=3.6
CMAR Chiang Mai Arr 160.40 157 PKPab PKPab 08 07 25.6 -0.9
6.9nm,1.0s,baz=216,slow=6.0,SNR=6.1
NJ2 Nanjing 168.96 248 ePKP PKPdf 08 06 53.5 +0.8
SONM Songino Array 169.03 1 PKPab PKPab 08 08 03.7 -0.2
2.5nm,0.8s,baz=339,slow=4.7,SNR=5.1
GYA Guiyang 169.63 179 PKP PKPdf 08 06 53.3 -0.2
GYA pPKP pPKPdf 08 07 03.8 +0.7
GYA PKPab PKPab 08 08 09.0 +2.0
GYA PKS PKSdf 08 10 23.5 -2.7
GYA PP PP 08 12 00.0 +4.2
GYA SKKS 08 18 41.0
GYA SS SS 08 32 51.5 +0.8
GYA AMB AMB
comp=Z,160nm,8.2s
GYA LR LR
comp=N,190nm,21.2s
GYA LR LR
comp=E,160nm,21.8s
GYA LR LR
comp=Z,180nm,24.6s
CD2 Chengdu 173.54 156 PKP PKPdf 08 06 54.5 -0.7
CD2 pPKP pPKPdf 08 07 05.8 +1.0
CD2 sPKP 08 07 09.5
CD2 PKS PKSdf 08 10 25.3 -2.2
CD2 PP PP 08 12 18.3 +2.9
CD2 SKS SKSdf 08 13 52.0 -4.4
CD2 SKKS SKKSac 08 18 59.5 -1.1
CD2 SS SS 08 33 28.0 -1.5
CD2 AMB AMB
comp=Z,660nm,6.4s
HHC Hu-ho-hao-te 174.56 318 ePKP PKPdf 08 06 51.3 -4.0
HHC sPKP 08 07 05.8
LZH Lanzhou 177.49 107 ePKP PKPdf 08 06 56.0 -0.2
LZH pPKP pPKPdf 08 07 06.8 +1.0
LZH sPKP 08 07 12.0
LZH PKPab PKPab 08 08 41.5 -0.6
LZH ePP PP 08 12 39.3 +3.5

IDC 27 07:47:10.7±0.8, 36.34S×73.73W, h0km, mb5.1/7, mb1 5.2/8, mb1mx4.8/31, mbtmp5.0/8, ML5.6/1, Error ellipse: s-maj=34.5km s-min=26.3km az=97.0
ISCJB 27 07:47:12.2±1.0, 36.3S±0.2×74.0W±0.2, h27km, mb5.0/7, Error ellipse: s-maj=29.5km s-min=19.7km az=23.9
ISC 27 07:47:14.8±0.8, 36.3S±0.2×73.8W±0.2, h27km, n16, σ1.32/15, mb5.3/6, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CPUP Villa Florida 17.18 59 P Pn 07 51 13.2 +0.3
4.5nm,0.3s,baz=212,slow=16,SNR=5.4
SIV San Ignacio 23.18 32 P P 07 52 17.9 -1.5
29nm,0.8s,baz=225,slow=13,SNR=3.0
QSPA South Pole Qui 53.92 180 P P 07 56 34.2 -1.5
44nm,1.0s,baz=63,slow=4.2,SNR=3.5
TXAR Lajitas Array 71.11 333 P P 07 58 29.4 -1.5
8.1nm,1.1s,baz=184,slow=5.0,SNR=4.3
BOSA Boshof 80.22 118 P P 07 59 22.8 -0.6
24nm,0.7s,baz=239,slow=7.2,SNR=4.9
LBTB Lobatse 82.59 115 P P 07 59 36.8 +0.9
34nm,0.8s,baz=245,slow=7.2,SNR=4.1
TORD Torodi Ar. Bea 86.31 71 P P 07 59 54.7 +0.1
28nm,1.2s,baz=232,slow=4.0,SNR=5.1
ESDC Sonseca Array 99.19 47 P Pdif 08 00 54.2 +0.4
0.6nm,0.3s,baz=218,slow=3.8,SNR=5.8
GERES GERESS Array B 114.77 47 PKP PKPdf 08 05 51.2 -1.2
1.8nm,0.8s,baz=236,slow=1.4,SNR=4.9
WRA Warramunga Arr 118.06 210 PKP PKPdf 08 06 00.5 +0.8
0.9nm,0.5s,baz=145,slow=1.5,SNR=3.4
BRTR Keskin Array B 124.16 63 PKP PKPdf 08 06 09.9 -1.0
2.6nm,0.9s,baz=172,slow=2.5,SNR=3.8
AKASG Malin Array Be 124.78 49 PKP PKPdf 08 06 12.8 +1.3
2.5nm,0.8s,baz=262,slow=3.2,SNR=5.1
BVAR Borovoye Array 149.92 45 PKPbc PKPbc 08 07 02.9 +0.9
13nm,0.9s,baz=283,slow=2.5,SNR=7.1
ASAJ Asahikawa 151.36 297 PKPbc PKPbc 08 07 07.9 +2.3
14nm,0.8s,baz=112,slow=5.2,SNR=4.8
MKAR Makanchi Array 159.32 52 PKP PKPdf 08 07 12.1 +1.7
4.6nm,0.8s,baz=295,slow=2.4,SNR=4.1
CMAR Chiang Mai Arr 161.07 158 PKPab PKPab 08 07 55.4 -0.6
3.4nm,1.0s,baz=250,slow=4.4,SNR=3.8

IDC 27 07:49:48.1±0.6, 33.52S×72.05W, h0km, mb4.8/16, mb1 4.9/19, mb1mx4.8/34, mbtmp4.8/19, ML5.0/2, Error ellipse: s-maj=19.9km s-min=17.3km az=78.0
ISCJB 27 07:49:50.6±0.3, 33.49S±0.06×72.07W±0.03, h19km, mb5.0/48, Error ellipse: s-maj=8.2km s-min=3.4km az=10.9
NEIC 27 07:49:51.8, 33.62S×72.16W, h15km, mb5.2/36, ML5.2(GUC), After GUC.
GUC 27 07:49:51.8±0.7, 33.62S×72.16W, h15km±62km, ML5.2
ISC 27 07:49:51.4±0.5, 33.52S±0.06×72.01W±0.05, h19km, n364, σ0.94/373, mb5.1/48, 4C, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
IHA Instituto Hidr 0.58 32 eP Pb 07 50 03.5 +0.7
IHA Instituto Hidr 0.58 32 eP Pb 07 50 03.5 +0.7
SAN Santiago 1.13 87 iP Pn 07 50 12.4 +0.2
SAN eS Sg 07 50 28.0 -0.1
SAN AML AML 07 50 30.7
comp=E,21μm,0.4s
SAN Santiago 1.13 87 iP Pn 07 50 12.4 +0.2
SAN eS Sg 07 50 28.0 -0.1
ANTU Antumapu 1.15 93 ⇑iP Pn 07 50 12.6 +0.1
ANTU eS Sn 07 50 28.1 +0.3
ANTU AML AML 07 50 33.7
comp=E,111μm,0.5s
ANTU Antumapu 1.15 93 ⇑iP Pn 07 50 12.6 +0.1
ANTU eS Sn 07 50 28.1 +0.3
PEL Peldehue 1.17 72 eP Pn 07 50 12.0 -0.8
PEL iS Sg 07 50 30.2 +0.7
PEL AML AML 07 50 36.5
comp=N,195μm,0.5s
PEL Peldehue 1.17 72 P Pn 07 50 12.0 -0.8
PEL iS Sg 07 50 30.2 +0.7
PCH Pirque 1.25 95 ⇑iP Pb 07 50 14.6 +0.1
PCH iS Sn 07 50 31.1 +0.7
PCH Pirque 1.25 95 ⇑iP Pb 07 50 14.6 +0.1
PCH iS Sn 07 50 31.1 +0.7
CFAA Coronel Fontan 3.72 60 Pn Pn 07 50 49.0 +1.2
comp=N,4.3nm,0.3s,baz=224,slow=12,SNR=1.8
CFAA Lg Lg 07 51 43.1
comp=N,36nm,0.3s,baz=68,slow=15,SNR=4.8
PLCA Paso Flores 7.29 171 Pn Pn 07 51 39.4 +2.5
CPUP Villa Florida 14.60 64 Pn Pn 07 53 17.0 0.0
comp=N,2.5nm,0.3s,baz=205,slow=16,SNR=2.0
CPUP Villa Florida 14.60 64 ePn Pn 07 53 18.0 +1.0
LPAZ La Paz 17.52 12 P Pn 07 53 55.8 +0.7
comp=N,1.5nm,0.3s,baz=289,slow=0.5,SNR=4.9
LPAZ La Paz 17.52 12 eP Pn 07 53 55.9 +0.7
comp=N,46nm,0.7s
SIV San Ignacio 20.06 32 P P 07 54 22.8 -0.8
comp=N,27nm,0.9s,baz=239,slow=12,SNR=5.9
NNA Nana 21.89 347 P P 07 54 41.6 -1.8
comp=N,32nm,1.1s,baz=213,slow=16,SNR=4.4
NNA Nana 21.89 347 eP P 07 54 44.6 +1.3
comp=N,106nm,1.4s
SAML Samuel 25.78 20 eP P 07 55 22.8 +1.7
comp=N,71nm,0.9s
BDFB Brasilia 28.05 56 P P 07 55 40.0 -1.8
comp=N,37nm,0.9s,baz=216,slow=4.5,SNR=6.7
OTAV Otavalo 34.12 348 eP P 07 56 36.5 +0.8
comp=N,8.1nm,0.8s
SDV Santo Domingo 42.19 2 eP P 07 57 42.4 -0.9
comp=N,26nm,1.0s

RCBR Riachuelo 43.37 59 P P 07 57 52.3 -0.5
comp=N,14nm,0.8s,baz=223,slow=15,SNR=4.8
GRGR Grenville 46.46 14 eP P 07 58 16.5 -0.8
comp=N,67nm,0.4s
FDF Fort de France 49.09 14 eP P 07 58 36.2 -1.5
comp=N,31nm,0.5s
OBIP Obispado Ponce 51.53 7 eP P 07 58 54.5 -1.5
comp=N,60nm,1.0s
ANWB Willy Bob 51.83 12 eP P 07 58 56.5 -1.8
comp=N,33nm,0.4s
SNAA Sanae 52.02 158 P P 07 58 59.7 +0.4
comp=N,5.0nm,0.6s,baz=274,slow=8.3,SNR=13
SDDR Presa de Saban 52.22 1 eP P 07 59 01.1 0.0
comp=N,52nm,1.3s
TEIG Tepich 55.66 341 P P 07 59 26.0 -0.3
comp=N,8.4nm,0.5s,baz=142,slow=4.4,SNR=2.9
TEIG Tepich 55.66 341 eP P 07 59 26.0 -0.3
comp=N,18nm,0.7s
QSPA South Pole Qui 56.71 180 P P 07 59 32.9 -0.7
comp=N,20nm,0.8s,baz=156,slow=4.2,SNR=3.7
QSPA South Pole Qui 56.71 180 eP P 07 59 34.0 +0.4
comp=N,28nm,1.1s
034A Hebbronville 65.36 334 P P 08 00 34.1 +1.7
baz=66
933A Laredo 66.08 334 P P 08 00 38.8 +1.7
baz=66
834A Tilden 66.28 334 P P 08 00 40.0 +1.7
baz=67
735A Kenedy 66.68 335 P P 08 00 42.7 +1.8
baz=67
833A Chaparral WMA, 66.77 334 P P 08 00 43.0 +1.6
baz=67
734A La Parita Cree 66.94 335 P P 08 00 44.2 +1.6
baz=67
832A Faith Ranch, C 66.95 333 P P 08 00 44.1 +1.5
baz=67
636A Smothers Creek 67.00 336 P P 08 00 44.7 +1.8
baz=67
537A Green Hill Far 67.31 337 P P 08 00 46.7 +1.9
baz=68
732A Laxson Ranch, 67.35 334 P P 08 00 46.7 +1.6
baz=68
536A Bastrop 67.55 337 P P 08 00 47.8 +1.4
baz=68
535A Dale 67.68 336 P P 08 00 48.4 +1.3
baz=68
633A Saathoff Ranch 67.72 335 P P 08 00 48.7 +1.2
baz=68
632A Uvalde 67.98 334 P P 08 00 50.7 +1.6
baz=68
338A Crockett 68.18 339 P P 08 00 51.9 +1.6
baz=68
631A Perdido Creek 68.19 333 P P 08 00 51.4 +1.0
baz=68
533A Kerrville 68.22 335 P P 08 00 51.6 +1.0
baz=68
337A Centerville 68.32 338 P P 08 00 52.6 +1.4
baz=69
435B Jarrell 68.37 336 P P 08 00 52.9 +1.3
baz=69
239A Gary 68.55 340 P P 08 00 54.0 +1.4
baz=69
532A Rocksprings 68.58 334 P P 08 00 54.3 +1.3
baz=69
434A Burnet 68.63 336 P P 08 00 54.5 +1.3
baz=69
238A Jacksonville 68.72 339 P P 08 00 55.3 +1.6
baz=69
335A Moody 68.78 337 P P 08 00 55.4 +1.3
baz=69
531A Rocksprings 68.85 334 P P 08 00 55.7 +1.1
baz=69
433A Art 68.86 335 P P 08 00 55.2 +0.5
baz=69
JCT Junction City 68.87 334 eP P 08 00 55.6 +0.9
JCT Junction City 68.87 334 P P 08 00 55.6 +0.9
baz=69
334A Lometa 69.10 336 P P 08 00 57.2 +1.1
baz=69
530A J-C Ranch, Com 69.14 333 P P 08 00 57.7 +1.3
baz=69
432A Menard 69.22 335 P P 08 00 57.8 +0.9
baz=70
138A Matatall Enter 69.33 339 P P 08 00 58.9 +1.5
baz=70
TXAR Lajitas Array 69.33 331 P P 08 00 57.4 -0.3
comp=N,2.4nm,0.8s,baz=154,slow=7.9,SNR=4.3
431A Sonora 69.34 334 P P 08 00 58.7 +1.0
baz=70
333A Richland Sprin 69.34 335 P P 08 00 58.3 +0.6
baz=70
WHTX Lake Whitney 69.44 337 eP P 08 00 58.3 +0.1
comp=N,14nm,0.9s
WHTX Lake Whitney 69.44 337 P P 08 00 59.0 +0.8
baz=70
529A Stev Forest Ra 69.45 332 P P 08 00 59.4 +1.0
baz=70
137A Heron Place, G 69.47 339 P P 08 00 59.9 +1.5
baz=70
SWET Sewanee 69.61 348 eP P 08 00 59.2 0.0
comp=N,50nm,1.3s
OXF Oxford 69.62 345 eP P 08 00 59.0 -0.2
comp=N,36nm,0.8s
332A Millersview 69.66 335 P P 08 01 00.1 +0.5
baz=70
430A Baggett Ranch, 69.67 333 P P 08 01 00.5 +0.8
baz=70
234A Clairette 69.68 336 P P 08 01 00.6 +0.9
baz=70
TKL Tuckaleechee C 69.70 350 P P 08 00 58.7 -1.0
comp=N,11nm,0.9s,baz=178,slow=10,SNR=4.0
429A Davenport Ranc 69.77 333 P P 08 01 01.6 +1.3
baz=70
331A San Angelo 69.84 334 P P 08 01 01.7 +1.0
baz=70
135A Vickery Place, 69.95 337 P P 08 01 01.9 +0.6
baz=70
233A Rising Star 69.95 336 P P 08 01 02.3 +1.0
baz=70
232A Coleman 70.09 335 P P 08 01 02.6 +0.4
baz=70
134A White-Moore Ra 70.18 337 P P 08 01 03.2 +0.5
baz=70
330A Mertzon 70.20 334 P P 08 01 03.3 +0.4
baz=70
231A Bronte 70.37 335 P P 08 01 04.4 +0.4
baz=71
133A Hamilton Ranch 70.49 336 P P 08 01 05.2 +0.6
baz=71
329A Wagon Wheel Ra 70.58 333 P P 08 01 06.0 +0.7
baz=71
Z35A Perchaven, San 70.61 338 P P 08 01 06.4 +1.1
baz=71
230A Sterling City 70.61 334 P P 08 01 06.2 +0.7
baz=71
ABTX Abilene, Hawle 70.76 336 eP P 08 01 06.6 +0.3
comp=N,27nm,1.2s
ABTX Abilene, Hawle 70.76 336 P P 08 01 06.9 +0.7
baz=71
WVT Waverly 70.85 346 eP P 08 01 06.1 -0.6
comp=N,58nm,0.9s
Z34A Collier Ranch, 70.86 337 P P 08 01 07.6 +0.7
baz=71
229A Bryant Ranch, 70.94 333 P P 08 01 08.0 +0.5
baz=71
131A Roby 71.06 335 P P 08 01 08.8 +0.7
baz=71
Z33A Whitaker Ranch 71.06 337 P P 08 01 08.5 +0.4
baz=71
130A Snyder 71.20 334 P P 08 01 09.3 +0.3
baz=72
Z32A Haskell 71.32 336 P P 08 01 10.5 +0.8
baz=72
BBTS Babate 71.34 57 P P 08 01 11.0 +0.9
comp=N,17nm,0.7s,baz=292,slow=4.0,SNR=3.6
Y34A Reagan Ranch, 71.35 338 P P 08 01 10.4 +0.6
baz=72
228A UT Block 9, Go 71.37 333 P P 08 01 10.6 +0.5
baz=72
129A Stewart Farms, 71.56 334 P P 08 01 11.7 +0.5
baz=72
Z31A Sharp Cattle R 71.56 335 P P 08 01 11.8 +0.7
baz=72
Y33A Hilltop Ranch, 71.68 337 P P 08 01 12.5 +0.7
baz=72
128A Castleberry Fa 71.78 333 P P 08 01 13.1 +0.5
baz=72
Z30A Sanderson Ranc 71.88 335 P P 08 01 13.3 +0.2
baz=72
Y32A R-V Farms, Ver 71.94 336 P P 08 01 14.0 +0.6
baz=72
X34A Smith Ranch, M 71.97 338 P P 08 01 14.0 +0.5
baz=72
Z29A Hungry Hill Ra 72.06 334 P P 08 01 14.5 +0.3
baz=72
127A Arkansas Junct 72.16 333 P P 08 01 15.8 +1.0
baz=72
Y31A Rekieta Farm, 72.19 336 P P 08 01 15.3 +0.4
baz=72
X32A Elmer 72.27 337 P P 08 01 15.8 +0.4
baz=73
Y30A Stafford Cattl 72.33 335 P P 08 01 16.2 +0.4
baz=73
W34A Bridge Creek, 72.53 338 P P 08 01 17.2 +0.3
baz=73
TUL1 Tulsa 72.57 340 eP P 08 01 16.8 -0.3
comp=N,14nm,0.7s
TUL1 Tulsa 72.57 340 P P 08 01 17.4 +0.4
baz=73
Y29A Porterfield Fa 72.59 334 P P 08 01 17.9 +0.5
baz=73
Z27A Tatum 72.67 333 P P 08 01 18.5 +0.6
baz=73
W33A Caddo, Fort Co 72.68 338 P P 08 01 18.6 +0.8
baz=73
X31A McDonald Ranch 72.70 336 P P 08 01 18.4 +0.5
baz=73
W32A Sentinel 72.90 337 P P 08 01 19.8 +0.7
baz=73
Z26A Caprock 72.93 332 P P 08 01 20.3 +0.8
baz=73
V34A Guthrie 73.01 339 eP P 08 01 19.7 0.0
comp=N,62nm,1.5s
V34A Guthrie 73.01 339 P P 08 01 20.1 +0.4
baz=73
MSTX Muleshoe 73.09 334 eP P 08 01 20.4 0.0
comp=N,20nm,0.9s
MSTX Muleshoe 73.09 334 P P 08 01 20.6 +0.3
baz=73
X29A Tulia 73.13 335 P P 08 01 21.0 +0.4
baz=73
Y27A Causey 73.16 333 P P 08 01 20.8 0.0
baz=74
Z25A Roswell 73.22 332 P P 08 01 21.7 +0.5
baz=74
V33A Lossen Ranch, 73.23 338 P P 08 01 21.6 +0.6
baz=74
X28A Dimmitt 73.37 334 P P 08 01 22.5 +0.4
baz=74
V32A Arapaho 73.38 337 P P 08 01 22.7 +0.8
baz=74
W30A Crocket Farms 73.40 336 P P 08 01 22.8 +0.7
baz=74
Y26A Elida 73.45 333 P P 08 01 23.1 +0.6
baz=74
319A Douglas 73.51 327 P P 08 01 24.0 +1.1
baz=74
AMTX Amarillo 73.52 335 eP P 08 01 23.0 +0.1
comp=N,89nm,1.6s
AMTX Amarillo 73.52 335 P P 08 01 23.7 +0.8
baz=74
Z24A Sheeppen Canyo 73.53 331 P P 08 01 24.5 +1.4
baz=74
U34A Anderson Ranch 73.57 339 P P 08 01 23.6 +0.5
baz=74
V31A Spring Creek L 73.69 337 P P 08 01 24.6 +0.8
baz=74
W29A Amraillo 73.72 335 P P 08 01 24.4 +0.4
baz=74
U33A Lingo Farm, Me 73.74 338 P P 08 01 24.2 +0.2
baz=74
Y25A Mesa, Roswell 73.78 332 P P 08 01 24.9 +0.5
baz=74
X27A F and S Farms, 73.82 334 P P 08 01 25.2 +0.6
baz=74
121A Cookes Peak, D 73.84 329 eP P 08 01 26.4 +1.5
comp=N,7.4nm,0.7s
121A Cookes Peak, D 73.84 329 P P 08 01 26.4 +1.5
baz=74
U32A Winter Ranch, 73.97 338 P P 08 01 26.5 +1.1
baz=74
X26A CR and CF Fran 74.00 333 P P 08 01 26.7 +1.0
baz=74
W28A Vega 74.04 335 P P 08 01 26.8 +0.9
baz=74
Y24A Capitan 74.08 332 P P 08 01 27.0 +0.7
baz=74
ACSO Alum Creek Sta 74.09 351 eP P 08 01 24.4 -1.6
comp=N,58nm,1.4s
Z22A Elephant Butte 74.12 330 P P 08 01 28.4 +1.9
baz=74
W27A Bowe Ranch, En 74.17 334 P P 08 01 27.3 +0.5
baz=74
U31A Nine Bar Ranch 74.24 337 P P 08 01 27.6 +0.6
baz=74
Y23A Lovelace Mesa, 74.33 331 P P 08 01 29.3 +1.5
baz=75
T33A Patterson Ranc 74.38 338 P P 08 01 28.8 +1.0
baz=75
W26A Owens Ranch, T 74.46 333 P P 08 01 29.4 +1.0
baz=75
V28A Channing 74.49 335 P P 08 01 29.8 +1.3
baz=75
T32A Huddler Ranch, 74.68 338 P P 08 01 30.3 +0.8
baz=75
V27A Dan Oppiter Fa 74.71 334 P P 08 01 30.5 +0.7
baz=75
W25A X Bar L Ranch, 74.83 333 P P 08 01 31.3 +0.7
baz=75
DBIC Dimbokro 75.00 71 P P 08 01 31.6 -0.3
comp=N,15nm,0.8s,baz=206,slow=4.5,SNR=8.4
U28A Mallet 75.05 335 P P 08 01 32.5 +0.8
baz=75
V26A Tequesquite Ra 75.09 334 P P 08 01 33.5 +1.4
baz=75
S32A Newby Ranch, P 75.16 338 P P 08 01 32.8 +0.5
baz=76
W24A Lazy 6 Ranch, 75.19 332 P P 08 01 33.9 +1.1
baz=76
S31A Mullinville 75.26 338 P P 08 01 33.5 +0.6
baz=76
U27A Thompson Grove 75.30 335 P P 08 01 34.1 +0.8
baz=76
ANMO Albuquerque 75.38 331 eP P 08 01 32.9 -0.9
T29A Hugoton 75.43 336 P P 08 01 35.2 +1.2
baz=76
R33A Olander Ranch, 75.44 339 P P 08 01 34.3 +0.5
baz=76
W23A Werner Place, 75.44 332 P P 08 01 35.2 +1.0
baz=76
V25A Rancho No Teng 75.44 333 P P 08 01 35.1 +0.9
baz=76
V24A Rampart Ranch, 75.59 333 P P 08 01 36.1 +1.1
baz=76
S30A Montezuma 75.60 337 P P 08 01 35.4 +0.5
baz=76
U26A Atchley Ranch, 75.61 334 P P 08 01 35.5 +0.4
baz=76
214A Organ Pipe Nat 75.64 325 eP P 08 01 36.6 +1.5
comp=N,11nm,1.2s
214A Organ Pipe Nat 75.64 325 P P 08 01 36.8 +1.6
baz=76
T28A Walsh 75.68 336 P P 08 01 36.1 +0.8
baz=76
R32A Long Quarter, 75.76 339 P P 08 01 36.5 +0.8
baz=76
S29A Ulysses 75.79 337 P P 08 01 36.9 +0.9
baz=76
T27A Campo 75.84 335 P P 08 01 37.2 +0.8
baz=76
U25A Circle Dot Ran 75.86 334 P P 08 01 37.2 +0.7
baz=76
R31A Burdett 75.89 338 P P 08 01 37.3 +0.8
baz=76
S28A Manter 76.03 336 P P 08 01 38.3 +1.0
baz=76
Q33A Connelly Farm, 76.03 340 P P 08 01 38.3 +1.1
baz=76
R30A Dighton 76.12 337 P P 08 01 38.6 +0.8
baz=76
U24A Moreno Valley 76.20 333 P P 08 01 39.3 +0.7
baz=76
Q32A Meitler Ranch, 76.24 339 P P 08 01 39.0 +0.6
baz=76
T26A Comanche Natio 76.25 334 P P 08 01 39.8 +1.1
baz=76
V22A San Miguel Ran 76.40 331 P P 08 01 41.2 +1.5
baz=77
U23A El Rito 76.48 332 P P 08 01 41.5 +1.4
baz=77
X18A Snowflake 76.48 329 P P 08 01 41.6 +1.5
baz=77
Q31A Ellis 76.50 338 P P 08 01 41.0 +1.0
baz=77
T25A Trinidad 76.52 334 P P 08 01 41.7 +1.4
baz=77
R29A Marienthal 76.53 337 P P 08 01 41.0 +0.9
baz=77
S26A Kim 76.61 335 P P 08 01 41.4 +0.7
baz=77
R28A Tribune 76.68 336 P P 08 01 41.6 +0.6
baz=77
Q30A Quinter 76.74 338 P P 08 01 42.3 +1.0
baz=77
U22A Llaves 76.78 332 P P 08 01 43.5 +1.7
baz=77
T24B San Luis 76.81 333 P P 08 01 43.8 +1.7
baz=77
R27A Eads 76.96 336 P P 08 01 43.3 +0.6
baz=77
P31A Stockton 76.97 339 P P 08 01 43.3 +0.8
baz=77
S25A Robets Cordova 76.99 334 P P 08 01 44.2 +1.3
baz=77
X16A Lo Mia Camp, P 77.05 327 P P 08 01 44.7 +1.4
baz=77
R26A Arlington 77.20 335 P P 08 01 45.5 +1.5
baz=78
S24A Houchin Ranch, 77.26 334 P P 08 01 45.8 +1.3
baz=78
Q28A Sharon Springs 77.33 337 P P 08 01 45.9 +1.2
baz=78
R25A Fountain Ranch 77.36 334 P P 08 01 46.2 +1.3
baz=78
Y14A Wickenburg 77.37 326 P P 08 01 46.2 +1.3
baz=78
SDCO Great Sand Dun 77.46 333 eP P 08 01 46.1 +0.5
comp=N,14nm,1.3s
P29A Atwood 77.53 338 P P 08 01 46.9 +1.2
baz=78
O31A Woolen Ranch, 77.54 339 P P 08 01 46.9 +1.2
baz=78
KSCO Kaye Shedlock' 77.56 336 P P 08 01 47.0 +1.0
baz=78
R24A Sanders Place, 77.74 334 P P 08 01 48.1 +1.0
baz=78
Q26A Hugo 77.78 335 P P 08 01 48.5 +1.2
baz=78
SWSC Sam W. Stewart 77.90 323 P P 08 01 49.2 +1.4
baz=78
WUAZ Wupatki 77.94 328 P P 08 01 49.4 +1.2
baz=78
S22A 4UR Ranch, Cre 77.96 332 P P 08 01 49.7 +1.2
baz=78
O29A 4D Ranch, Culb 77.97 338 P P 08 01 49.4 +1.3
baz=78
MONP Monument Peak 78.17 323 P P 08 01 50.7 +1.0
baz=78
PDMCI Parker Dam,Lak 78.20 325 P P 08 01 50.6 +1.2
baz=78
O28A Krutsinger Ran 78.28 337 P P 08 01 50.9 +1.0
baz=79
P26A Davis Ranch, A 78.29 336 P P 08 01 51.2 +1.1
baz=79
BC3 Big Chuckawall 78.31 324 P P 08 01 51.4 +1.1
baz=79
Q24A Divide 78.40 334 P P 08 01 52.2 +1.3
baz=79
M31A Lambtecht Ranc 78.53 340 P P 08 01 52.5 +1.3
baz=79
P25A Willow Gulch B 78.54 335 P P 08 01 52.5 +1.1
baz=79
IRM Iron Mountain 78.57 325 P P 08 01 52.9 +1.3
baz=79
O27A Beecher Island 78.57 337 P P 08 01 53.1 +1.6
baz=79
W13A Hualapai Mount 78.73 326 P P 08 01 54.2 +1.5
baz=79
PFO Pinyon Flat Ob 78.76 323 P P 08 01 54.7 +1.9
baz=79
BELC Belle Mtn. Jos 78.85 324 P P 08 01 55.1 +1.8
baz=79
U15A North Rim 79.11 328 P P 08 01 56.2 +1.4
baz=79
N27A Anderson Farm, 79.14 337 P P 08 01 56.0 +1.3
baz=79
L31A Butterfield Fa 79.26 340 P P 08 01 56.5 +1.3
baz=80
L30A Spencer Herefo 79.30 339 P P 08 01 56.5 +1.0
baz=80
ISCO Idaho Springs 79.31 334 P P 08 01 56.6 +0.8
baz=80
GMRC Granite Mounta 79.31 325 P P 08 01 57.1 +1.3
baz=80
N26A Koester Ranch, 79.39 336 P P 08 01 57.1 +1.0
baz=80
O22A Kremmling 79.97 334 P P 08 02 00.5 +1.1
baz=80
ECSD EROS Data Cent 80.10 342 eP P 08 01 59.5 -0.2
comp=N,22nm,1.2s
GSC Goldstone 80.29 324 eP P 08 02 02.9 +1.9
comp=N,4.7nm,0.8s
GSC Goldstone 80.29 324 P P 08 02 02.3 +1.3
baz=81
K28A Ten Mile Ranch 80.50 339 P P 08 02 03.6 +1.7
baz=81
M24A Cheyenne 80.50 336 P P 08 02 03.6 +1.5
baz=81
CCUT Cedar City 80.52 328 eP P 08 02 03.7 +1.3
comp=N,12nm,1.2s
VES Vestal, Richgr 81.85 323 P P 08 02 10.9 +1.7
baz=82
J25A Sunshine Ranch 81.88 337 P P 08 02 11.2 +1.9
baz=82
H29A Onida 81.90 340 P P 08 02 09.7 +0.5
baz=82
I27A Quinn 81.94 339 P P 08 02 10.2 +0.6
baz=82
G30A Faulkton 82.07 341 P P 08 02 10.7 +0.6
baz=82
J24A Dixon Ranch, L 82.10 337 P P 08 02 11.0 +0.5
baz=82
K22A Casper 82.14 335 eP P 08 02 11.6 +0.8
comp=N,72nm,1.8s
K22A Casper 82.14 335 P P 08 02 11.9 +1.1
baz=82
I26A New Underwood 82.15 338 P P 08 02 11.7 +1.1
baz=82
R11A Troy Canyon, C 82.17 327 P P 08 02 12.6 +1.6
baz=82
G29A Hoven 82.34 340 P P 08 02 12.1 +0.5
baz=83
K21A Alcova 82.38 335 P P 08 02 13.0 +0.9
baz=83
I25A Rochford 82.42 338 P P 08 02 13.3 +1.1
baz=83
H27A Howes 82.45 339 P P 08 02 12.9 +0.7
baz=83
DUG Dugway 82.47 330 eP P 08 02 13.0 +0.5
LBTB Lobatse 82.48 115 eP P 08 02 13.0 -0.2
comp=N,8.5nm,0.7s
I24A Kuemmerle Ranc 82.56 337 P P 08 02 13.7 +0.8
baz=83
F30A Leola 82.69 341 P P 08 02 13.8 +0.5
baz=83
TPH Tonopah 82.71 326 eP P 08 02 14.7 +0.8
comp=N,7.5nm,1.0s
J22A Midwest 82.79 335 P P 08 02 14.3 +0.1
baz=83
F29A Eureka 82.90 341 P P 08 02 15.0 +0.5
baz=83
G27A Dupree 83.09 339 P P 08 02 15.8 +0.3
baz=83
HWUT Hardware Ranch 83.14 331 eP P 08 02 14.6 -1.5
comp=N,22nm,0.8s
BGU Big Grassy Mou 83.17 330 eP P 08 02 15.6 -0.6
comp=N,10.0nm,1.8s
F28A McLaughlin 83.19 340 P P 08 02 16.6 +0.6
baz=84
G26A Maurine 83.21 339 P P 08 02 16.1 0.0
baz=84
I22A 9 Mile Ranch, 83.22 336 P P 08 02 16.6 +0.3
baz=84
E30A Jud 83.27 342 P P 08 02 17.0 +0.7

baz=84
J20A Shoshoni 83.31 334 P P 08 02 18.3 +1.5
baz=84
PDAR Pinedale Array 83.35 333 P P 08 02 17.4 +0.3
comp=N,3.2nm,1.0s,baz=123,slow=6.6,SNR=4.0
G25A Newell 83.37 338 P P 08 02 17.7 +0.7
baz=84
I21A Big Trails, Te 83.43 335 P P 08 02 17.6 +0.2
baz=84
NVAR Mina Array Bea 83.51 325 P P 08 02 19.4 +1.4
comp=N,3.7nm,0.8s,baz=152,slow=6.2,SNR=5.6
F27A Lemmon 83.56 339 P P 08 02 18.6 +0.7
baz=84
J19A Crowheart 83.59 334 P P 08 02 19.0 +0.7
baz=84
F26A Lodgepole 83.74 339 P P 08 02 19.4 +0.6
baz=84
E27A Carson 83.94 340 P P 08 02 20.5 +0.7
baz=84
D29A Pettibone, Tap 83.97 341 P P 08 02 20.2 +0.3
baz=84
TOA0 Torodi Ar. Sit 84.03 70 eP P 08 02 20.3 -0.6
TORD Torodi Ar. Bea 84.03 70 P P 08 02 20.9 0.0
comp=N,17nm,0.8s,baz=273,slow=7.4,SNR=16
F25A Bowman 84.04 339 P P 08 02 20.9 +0.5
baz=84
E26A Carlson Angus 84.23 339 P P 08 02 22.1 +0.7
baz=84
H20A Greybull 84.27 335 P P 08 02 22.2 +0.5
baz=85
C30A Mose, Pekin 84.28 342 P P 08 02 22.3 +0.8
baz=85
F24A Ekalaka 84.28 338 P P 08 02 22.0 +0.4
baz=85
D28A Regan 84.36 341 P P 08 02 22.6 +0.7
baz=85
D27A Center 84.54 340 P P 08 02 23.5 +0.7
baz=85
G21A Lodge Grass 84.63 336 P P 08 02 24.5 +1.1
baz=85
I17A Pilgrim Ck. 84.72 333 P P 08 02 24.9 +0.8
baz=85
D26A Manning 84.73 340 P P 08 02 24.4 +0.6
baz=85
H19A Powell 84.78 334 P P 08 02 24.5 +0.3
baz=85
E24A Baker 84.87 338 P P 08 02 24.7 +0.1
baz=85
B30A Myrvik Farm, E 84.93 343 P P 08 02 24.9 +0.1
baz=85
G20A Bridger 84.98 335 P P 08 02 25.2 -0.1
baz=85
H18A Shoshone NF, C 85.03 334 P P 08 02 25.5 -0.1
baz=85
C27A Sayler Ranch, 85.09 341 P P 08 02 26.5 +0.9
baz=85
D25A Fairfield 85.10 339 P P 08 02 26.5 +0.8
baz=85
B29A Wagenman Farm, 85.20 342 P P 08 02 26.6 +0.5
baz=86
B28A Dugan Ranch, T 85.45 342 P P 08 02 28.0 +0.7
baz=86
YMR Madison River 85.50 333 eP P 08 02 28.9 +0.9
comp=N,20nm,1.0s
C25A Freed Ranch, W 85.59 339 P P 08 02 29.0 +0.9
baz=86
A29A Manning Farm, 85.59 342 P P 08 02 28.8 +0.7
baz=86
D23A Lindsay 85.70 338 P P 08 02 29.8 +1.1
baz=86
E21A Keefer Ranch, 85.74 337 P P 08 02 30.0 +1.1
baz=86
C24A Savage 85.78 339 P P 08 02 30.1 +1.0
baz=86
F19A Roth Farm, Mol 85.78 335 P P 08 02 29.5 +0.3
baz=86
HLID Hailey 85.93 331 eP P 08 02 30.1 0.0
HLID Hailey 85.93 331 P P 08 02 30.9 +0.8
baz=86
D22A Cohagen 85.99 337 P P 08 02 30.5 +0.4
baz=86
ULM Lac du Bonnet 86.05 345 P P 08 02 29.3 -1.0
comp=N,5.5nm,0.8s,baz=166,slow=4.7,SNR=3.8
E20A Meyer Farm, Mu 86.06 336 P P 08 02 30.9 +0.3
baz=86
B25A Knox Farm, Ray 86.07 340 P P 08 02 31.2 +0.7
baz=86
A27A Ledoux Ranch, 86.15 341 P P 08 02 31.7 +0.9
baz=86
D21A La Casta Ranch 86.18 337 P P 08 02 31.7 +0.6
baz=86
C23A Lambert 86.25 338 P P 08 02 32.1 +0.7
baz=87
E19A Rath Farm, Rou 86.25 335 P P 08 02 32.1 +0.6
baz=87
A26A Wade Farm, Ken 86.31 341 P P 08 02 32.0 +0.4
baz=87
C22A Vida 86.42 338 P P 08 02 32.7 +0.4
baz=87
DGMT Dagmar 86.55 339 eP P 08 02 32.7 -0.1
comp=N,116nm,1.6s
DGMT Dagmar 86.55 339 P P 08 02 33.5 +0.7
baz=87
D20A Manuel Ranch, 86.58 336 P P 08 02 33.5 +0.4
baz=87
A25A Svangstu Ranch 86.65 340 P P 08 02 34.0 +0.7
baz=87
C21A Desert Coulee 86.88 337 P P 08 02 34.5 0.0
baz=87
D19A Cripps Ranch, 86.89 336 P P 08 02 35.0 +0.3
baz=87
A24A Westby 86.90 340 P P 08 02 35.0 +0.5
baz=87
B22A Reddig Ranch S 86.94 338 P P 08 02 35.5 +0.7
baz=87
C20A Veseth Ranch, 87.08 337 P P 08 02 35.7 +0.3
baz=87
A23A Redstone 87.19 339 P P 08 02 36.2 +0.3
baz=88
B21A Ellsworth Farm 87.38 338 P P 08 02 37.3 +0.5
baz=88
C19A Slack Wire Ran 87.44 336 P P 08 02 37.6 +0.4
baz=88
A22A Carney Farms, 87.53 338 P P 08 02 38.1 +0.5
baz=88
B20A Solberg Farm, 87.71 337 P P 08 02 38.8 +0.3
baz=88
M04C Macdoel 87.81 325 P P 08 02 40.1 +0.8
baz=88
A21A Bergtoll Ranch 87.84 338 P P 08 02 39.1 0.0
baz=88
EGMT Eagleton 87.94 336 P P 08 02 39.5 -0.1
baz=88
M02C Callahan 88.01 324 P P 08 02 40.3 +0.2
baz=88
B19A Brinkman Farms 88.03 336 P P 08 02 40.2 +0.1
baz=88
A20A Cobblestone Ra 88.07 337 P P 08 02 40.3 +0.1
baz=88
SCHQ Schefferville 88.11 3 P P 08 02 39.7 -0.5
comp=N,7.6nm,1.2s,baz=235,slow=12,SNR=3.0
BMO Blue Mountains 88.19 330 eP P 08 02 40.8 -0.1
comp=N,10nm,1.3s
A19A Klindworth Far 88.38 337 P P 08 02 41.9 +0.2
baz=89
WALA Waterton Lakes 90.29 334 eP P 08 02 50.6 -0.1
comp=N,0.5nm,1.4s
MMAI Mount Meron Ar 120.54 69 PKP PKPdf 08 08 41.9 0.0
comp=N,7.5nm,1.0s,baz=79,slow=1.8,SNR=5.3
WRA Warramunga Arr 121.19 209 PKP PKPdf 08 08 42.0 -1.6
comp=N,1.3nm,0.4s,baz=158,slow=1.7,SNR=17
SPITS Spitsbergen Ar 122.21 14 PKP PKPdf 08 08 42.7 -1.1
comp=N,2.8nm,0.8s,baz=232,slow=7.1,SNR=4.1
FINES FINESS Array B 122.58 34 PKP PKPdf 08 08 44.5 -0.3
comp=N,0.8nm,0.6s,baz=191,slow=1.9,SNR=4.9
ARCES ARCESS Array B 123.57 25 PKP PKPdf 08 08 46.0 -0.5
comp=N,0.9nm,0.4s,baz=272,slow=4.3,SNR=6.6
SEY Seymchan 139.63 330 PKP PKPdf 08 09 16.8 -0.1
comp=N,6.2nm,0.8s,baz=141,slow=6.5,SNR=5.0
BVAR Borovoye Array 146.91 42 PKPbc PKPbc 08 09 32.6 +0.6
comp=N,7.7nm,0.6s,baz=289,slow=1.9,SNR=8.2
HYB Hyderabad 149.11 114 iP PKPbc 08 09 38.5 -0.5
ASAJ Asahikawa 151.23 302 PKPbc PKPbc 08 09 43.0 -0.3
comp=N,5.1nm,0.6s,baz=207,slow=6.8,SNR=3.2
AAK Ala-Archa 152.26 61 PKPbc PKPbc 08 09 46.4 +0.6
comp=N,5.9nm,0.5s,baz=52,slow=4.8,SNR=8.2
ZALV Zalesovo Beam 153.81 32 PKPbc PKPbc 08 09 48.6 0.0
comp=N,8.1nm,0.5s,baz=319,slow=2.7,SNR=10
ZALV PKPab PKPab 08 10 01.7 0.0
comp=N,20nm,0.8s,baz=296,slow=4.8,SNR=7.7
MKAR Makanchi Array 156.43 48 PKPab PKPab 08 10 13.0 -0.2
comp=N,5.4nm,0.7s,baz=285,slow=2.9,SNR=8.6
SONM Songino Array 165.65 4 PKPab PKPab 08 10 54.2 +0.8
comp=N,1.6nm,0.9s,baz=340,slow=4.5,SNR=4.0

ISCJB ***27*** *07:51:01.8±3.4, 36°.41S±0°.05×72°.54W±0°.09, h21km±23km, mb5.3/98, Error ellipse: s-maj=12.9km s-min=7.0km az=156.8*

MOS ***27*** *07:51:03.9±1.0, 36°.39S×72°.65W, h33km, mb5.6/21, Error ellipse: s-maj=26.7km s-min=9.2km az=103.0*

NEIC ***27*** *07:51:05.0±0.2, 36°.46S×72°.65W, h35km, mb5.4/80, Error ellipse: s-maj=9.3km s-min=5.1km az=67.0*

BJI ***27*** *07:51:04.6, 36°.40S×72°.60W, h35km, mB5.4/2, Ms5.1/1, Ms7 4.8/1*

IDC ***27*** *07:51:04.1±0.4, 36°.54S×72°.83W, h30km±2km, mb5.0/22, mb1 5.1/23, mb1mx5.0/34, mbtmp5.2/23, ML4.7/1, Error ellipse: s-maj=18.9km s-min=10.9km az=70.0*

ISC 27 07:51:04.3±0.4, **36°.44S**±0°.06×**72°.8W**±0°.1, **h32**km±2km, **h31km:pP-P, n581,** $\sigma 1^{s}.17$/609, **mb5.4**/98, **180C-198D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.62 159 eP Pn 07 52 13.8 +1.7
PLCA Paso Flores 4.62 159 Pn Pn 07 52 13.4 +1.3
21nm,0.3s,baz=318,slow=14,SNR=3.1
PLCA Lg Lg 07 53 20.7
129nm,0.3s,baz=249,slow=17,SNR=3.7
PLCA Paso Flores 4.62 159 ePn Pn 07 52 13.8 +1.7
PLCA Lg Lg 07 53 20.7
USHA Ushuaia 18.63 172 P Pn 07 55 20.0 +0.4
2.7nm,0.3s,baz=312,slow=8.1,SNR=7.0
LPAZ La Paz 20.50 13 eP Pn 07 55 43.0 +0.2
LPAZ pmax pmax
comp=Z,131nm,1.4s
LPAZ La Paz 20.50 13 P Pn 07 55 43.1 +0.3
comp=Z,37nm,1.0s,baz=178,slow=6.2,SNR=3.6
LPAZ La Paz 20.50 13 eP Pn 07 55 43.0 +0.2
comp=Z,131nm,1.4s
SIV San Ignacio 22.88 30 P P 07 56 06.3 +1.1
comp=Z,133nm,1.0s,baz=232,slow=11,SNR=8.3
NNA Nana 24.63 350 P P 07 56 23.1 +1.1
comp=Z,16nm,0.8s,baz=200,slow=16,SNR=2.8
OTAV Otavalo 36.88 351 eP P 07 58 12.7 +2.2
comp=Z,58nm,1.2s
ROSC El Rosal 41.11 358 P P 07 58 49.8 +3.9
comp=Z,12nm,0.8s,baz=126,slow=6.6,SNR=4.1
SDV Santo Domingo 45.13 3 eP P 07 59 18.4 +0.2
comp=Z,73nm,0.9s
SDV e 07 59 27.9
RCBR Riachuelo 45.46 57 P P 07 59 22.0 +1.4
comp=Z,24nm,0.8s,baz=221,slow=8.0,SNR=4.5
RCBR Riachuelo 45.46 57 eP P 07 59 22.1 +1.4
comp=Z,106nm,1.3s
BCIP Isla Barro Col 45.85 350 eP P 07 59 23.9 +0.3
comp=Z,45nm,0.8s
BCIP e 07 59 33.0
VNA3 Neumayer Olymp 47.34 157 P P 07 59 34.7 0.0
VNA1 Neumayer--Stat 47.68 156 P P 07 59 37.2 -0.1
JTS JuntasAbangare 47.88 344 eP P 07 59 41.1 +1.6
JTS JuntasAbangare 47.88 344 P P 07 59 41.7 +2.3
comp=Z,23nm,1.1s,baz=129,slow=5.2,SNR=4.7
JTS JuntasAbangare 47.88 344 eP P 07 59 41.1 +1.6
comp=Z,2μm,3.4s
VNA2 Neumayer--Watz 48.01 156 P P 07 59 39.8 -0.1
GRGR Grenville 49.44 14 eP P 07 59 53.3 +1.9
comp=Z,303nm,1.5s
SNAA Sanae 49.56 157 P P 07 59 51.7 -0.2
SNAA Sanae 49.56 157 P P 07 59 51.4 -0.5
comp=Z,20nm,0.9s,baz=285,slow=6.8,SNR=7.1
SNAA pP pP 08 00 00.2 -1.2
comp=Z,13nm,0.8s,baz=286,slow=7.1,SNR=3.5
FDF Fort de France 52.07 14 eP P 08 00 11.2 -0.1
FDF pmax pmax
comp=Z,87nm,1.0s
FDF Fort de France 52.07 14 eP P 08 00 11.2 -0.1
comp=Z,87nm,1.0s
QSPA South Pole Qui 53.80 180 P P 08 00 23.1 -0.6
comp=Z,73nm,0.9s,baz=150,slow=4.4,SNR=9.4
QSPA South Pole Qui 53.80 180 eP P 08 00 23.1 -0.6
comp=Z,121nm,1.1s
APG El Apazote 53.83 339 P P 08 00 21.4 -3.1
comp=Z,20nm,1.0s,baz=171,slow=7.4,SNR=6.2
APG pP pP 08 00 30.8 -3.3
comp=Z,37nm,0.8s,baz=167,slow=8.6,SNR=12
ICMP Isla Caja de M 54.36 7 eP P 08 00 27.7 -0.3
CRPR Cabo Rojo, PR 54.42 7 eP P 08 00 27.5 -0.9
comp=Z,69nm,1.3s
OBIP Obispado Ponce 54.50 7 eP P 08 00 28.4 -0.7
comp=Z,127nm,1.3s
ANWB Willy Bob 54.81 13 eP P 08 00 30.2 -1.1
comp=Z,68nm,0.9s
TEIG Tepich 58.24 343 P P 08 00 56.4 +0.8
comp=Z,29nm,0.9s,baz=171,slow=5.3,SNR=3.8
TEIG pP pP 08 01 05.2 -0.1
comp=Z,100nm,0.8s,baz=162,slow=5.0,SNR=16
TEIG Tepich 58.24 343 eP P 08 00 55.8 +0.1
comp=Z,106nm,0.8s
TEIG e 08 01 04.6
SYO Syowa Base 63.82 158⇓eP P 08 01 30.4 -2.6
SYO Syowa Base 63.82 158⇓isP sP 08 01 43.4 -3.1
034A Hebbronville 67.72 335 ⇓P P 08 01 59.8 +1.2
baz=68
934A Benavides 68.16 335 ⇓P P 08 02 02.7 +1.4
baz=68
TIGA Tifton 68.28 350 eP P 08 02 01.8 -0.3
comp=Z,52nm,0.9s
TIGA e 08 02 11.3
TIGA Tifton 68.28 350 ⇓P P 08 02 02.7 +0.7
baz=69
933A Laredo 68.43 335 ⇑P P 08 02 04.5 +1.5
baz=69
835A Beeville 68.57 336 ⇓P P 08 02 06.0 +2.1
baz=69
834A Tilden 68.66 336 ⇓P P 08 02 06.8 +2.4
baz=69
735A Kenedy 69.09 337 ⇑P P 08 02 09.0 +1.9
baz=70,SNR=5.6
833A Chaparral WMA, 69.12 335 ⇓P P 08 02 08.1 +0.7
baz=70
832A Faith Ranch, C 69.29 334 ⇑P P 08 02 09.5 +1.1
baz=70
734A La Parita Cree 69.33 336 ⇓P P 08 02 09.6 +1.0
baz=70
636A Smothers Creek 69.44 337 ⇓P P 08 02 10.9 +1.6
baz=70,SNR=5.8
733A Divot King Ran 69.45 335 ⇑P P 08 02 10.8 +1.4
baz=70
635A Leesville 69.57 337 ⇓P P 08 02 11.9 +1.8
baz=70
732A Laxson Ranch, 69.69 335 ⇑P P 08 02 12.2 +1.4
baz=70
537A Green Hill Far 69.77 338 ⇓P P 08 02 12.6 +1.3
baz=70
536A Bastrop 69.99 338 ⇑P P 08 02 14.1 +1.4
baz=70,SNR=6.5
633A Saathoff Ranch 70.09 336 ⇓P P 08 02 14.5 +1.1
baz=70,SNR=5.7
535A Dale 70.11 337 ⇓P P 08 02 14.6 +1.3
baz=70,SNR=6.0
GOGA Godfrey 70.21 351 eP P 08 02 13.4 -0.5
GOGA e 08 02 23.1
GOGA pmax pmax
comp=Z,38nm,1.4s
GOGA Godfrey 70.21 351 eP P 08 02 13.4 -0.5
comp=Z,38nm,1.4s
GOGA e 08 02 23.1
632A Uvalde 70.34 335 ⇑P P 08 02 16.6 +1.7
baz=71,SNR=7.0
LRAL Lakeview Retre 70.39 347 eP P 08 02 14.9 -0.1
comp=Z,47nm,1.6s
LRAL e 08 02 24.6
339A Huntington 70.45 340 ⇑P P 08 02 17.0 +1.5
baz=71
631A Perdido Creek 70.53 334 ⇓P P 08 02 17.1 +1.1
baz=71
533A Kerrville 70.61 336 ⇓P P 08 02 17.9 +1.3
baz=71,SNR=5.3
338A Crockett 70.68 340 ⇓P P 08 02 18.0 +1.2
baz=71
337A Centerville 70.80 339 ⇓P P 08 02 18.9 +1.3
baz=71
435B Jarrell 70.81 338 ⇑P P 08 02 19.2 +1.5
baz=71,SNR=5.2
NATX Nacogdoches 70.88 340 eP P 08 02 18.7 +0.6
comp=Z,96nm,0.8s
NATX e 08 02 28.5
532A Rocksprings 70.95 335 ⇓P P 08 02 20.1 +1.4
baz=71,SNR=9.1
MAW Mawson 71.01 164 P P 08 02 18.7 +0.3
comp=Z,43nm,0.9s,baz=234,slow=8.8,SNR=3.6
434A Burnet 71.05 337 ⇓P P 08 02 20.0 +0.9
baz=71,SNR=5.3
336A Riesel 71.15 338 ⇓P P 08 02 20.5 +0.8
baz=72,SNR=5.6
531A Rocksprings 71.21 335 ⇓P P 08 02 21.0 +0.8
baz=72,SNR=5.2
335A Moody 71.23 338 ⇓P P 08 02 21.5 +1.3
baz=72,SNR=6.4
JCT Junction City 71.24 336 eP P 08 02 21.1 +0.7
JCT e 08 02 30.3
JCT pmax pmax
comp=Z,16nm,1.0s
JCT Junction City 71.24 336 eP P 08 02 21.1 +0.7
comp=Z,16nm,1.0s
JCT e 08 02 30.3
JCT Junction City 71.24 336 ⇑P P 08 02 21.3 +1.0
baz=72
433A Art 71.26 336 ⇓P P 08 02 21.0 +0.6
baz=72,SNR=5.4
530A J-C Ranch, Com 71.47 334 ⇓P P 08 02 22.5 +0.8
baz=72,SNR=5.9
CNNC Cliffs of the 71.48 356 eP P 08 02 21.7 +0.2
comp=Z,72nm,1.4s
334A Lometa 71.52 337 ⇓P P 08 02 22.8 +0.8
baz=72,SNR=5.1
TXAR Lajitas Array 71.58 332 P P 08 02 22.9 +0.4
comp=Z,7.0nm,0.9s,baz=146,slow=9.1,SNR=6.4
TXAR pP pP 08 02 32.6 +0.2
comp=Z,22nm,0.8s,baz=150,slow=8.5,SNR=17
432A Menard 71.60 336 ⇑P P 08 02 23.2 +0.7
baz=72,SNR=5.1
KMSC Kings Mountain 71.67 353 eP P 08 02 22.6 -0.1
comp=Z,37nm,1.3s
KMSC Kings Mountain 71.67 353 ⇓P P 08 02 23.1 +0.3
baz=72
431A Sonora 71.70 335 ⇓P P 08 02 24.2 +1.1
baz=72,SNR=5.1
333A Richland Sprin 71.75 337 ⇑P P 08 02 23.6 +0.2
baz=72,SNR=5.2
529A Stev Forest Ra 71.76 333 ⇑P P 08 02 24.7 +1.2
baz=72,SNR=7.4
WHTX Lake Whitney 71.90 338 eP P 08 02 24.8 +0.7
comp=Z,26nm,1.0s
WHTX e 08 02 33.5
WHTX Lake Whitney 71.90 338 ⇑P P 08 02 24.9 +0.7
baz=72,SNR=6.0
430A Baggett Ranch, 72.01 334 ⇑P P 08 02 25.4 +0.4
baz=72,SNR=6.4
332A Millersview 72.05 336 ⇑P P 08 02 25.7 +0.5
baz=72
429A Davenport Ranc 72.10 334 ⇑P P 08 02 26.3 +0.8
baz=72,SNR=5.1
234A Clairette 72.12 338 ⇑P P 08 02 26.4 +0.9
baz=72,SNR=5.6
331A San Angelo 72.21 335 ⇓P P 08 02 26.9 +0.7
baz=73,SNR=5.1
OXF Oxford 72.28 346 eP P 08 02 25.8 -0.6
OXF e 08 02 35.4
OXF pmax pmax
comp=Z,43nm,1.0s
OXF Oxford 72.28 346 eP P 08 02 25.8 -0.6
comp=Z,43nm,1.0s
OXF e 08 02 35.4
233A Rising Star 72.37 337 ⇑P P 08 02 27.8 +0.7
baz=73,SNR=6.0
135A Vickery Place, 72.41 338 ⇓P P 08 02 27.8 +0.5
baz=73
TKL Tuckaleechee C 72.46 351 P P 08 02 27.2 -0.3
comp=Z,14nm,1.0s,baz=171,slow=5.5,SNR=3.6
TKL pP pP 08 02 36.5 -0.9
comp=Z,19nm,0.9s,baz=171,slow=7.6,SNR=5.1
232A Coleman 72.49 336 ⇓P P 08 02 28.3 +0.5
baz=73,SNR=5.7
330A Mertzon 72.56 335 ⇑P P 08 02 28.6 +0.3
baz=73,SNR=5.1
134A White-Moore Ra 72.63 338 ⇑P P 08 02 29.3 +0.8
baz=73
231A Bronte 72.75 336 ⇓P P 08 02 30.0 +0.6
baz=73,SNR=7.5
329A Wagon Wheel Ra 72.91 334 ⇓P P 08 02 31.3 +0.9
baz=73,SNR=6.2
133A Hamilton Ranch 72.92 337 ⇓P P 08 02 31.2 +0.9
baz=73,SNR=6.1
230A Sterling City 72.97 335 ⇓P P 08 02 31.0 +0.3
baz=73
Z35A Perchaven, San 73.09 339 ⇓P P 08 02 32.1 +0.8
baz=74,SNR=5.6
ABTX Abilene, Hawle 73.16 337 eP P 08 02 32.2 +0.4
comp=Z,62nm,0.9s
ABTX e 08 02 41.4
ABTX Abilene, Hawle 73.16 337 ⇓P P 08 02 32.6 +0.9
baz=74,SNR=7.1
UALR University of 73.17 343 eP P 08 02 31.7 +0.1
comp=Z,40nm,1.0s
UALR e 08 02 41.2
MIAR Mount Ida 73.24 342 eP P 08 02 31.6 -0.5
MIAR pmax pmax
comp=Z,10.0nm,0.9s
MIAR Mount Ida 73.24 342 eP P 08 02 31.6 -0.5
comp=Z,10nm,0.9s
229A Bryant Ranch, 73.29 334 ⇓P P 08 02 33.0 +0.4
baz=74,SNR=6.0
Z34A Collier Ranch, 73.32 338 ⇓P P 08 02 33.3 +0.7
baz=74,SNR=5.3
BBTS Babate 73.44 57 P P 08 02 34.5 +0.8
comp=Z,74nm,1.1s,baz=164,slow=1.2,SNR=5.9
131A Roby 73.45 336 ⇑P P 08 02 34.0 +0.5
baz=74,SNR=6.4
Z33A Whitaker Ranch 73.50 337 ⇓P P 08 02 34.5 +0.8
baz=74,SNR=5.4
WVT Waverly 73.55 347 eP P 08 02 34.5 +0.6
WVT e 08 02 43.5
WVT pmax pmax
comp=Z,31nm,0.8s
WVT Waverly 73.55 347 eP P 08 02 34.5 +0.6
comp=Z,31nm,0.8s
WVT e 08 02 43.5
130A Snyder 73.57 335 ⇓P P 08 02 35.0 +0.8
baz=74,SNR=5.4
228A UT Block 9, Go 73.70 334 ⇓P P 08 02 35.5 +0.5
baz=74,SNR=6.3
Z32A Haskell 73.74 337 ⇑P P 08 02 36.0 +0.9
baz=74,SNR=5.5
Y34A Reagan Ranch, 73.82 339 ⇓P P 08 02 36.2 +0.7
baz=74
129A Stewart Farms, 73.91 335 ⇑P P 08 02 36.9 +0.7
baz=74
Z31A Sharp Cattle R 73.97 336 ⇓P P 08 02 37.1 +0.6
baz=74
128A Castleberry Fa 74.12 334 ⇑P P 08 02 37.9 +0.4
baz=74,SNR=5.9
Y33A Hilltop Ranch, 74.13 338 ⇑P P 08 02 38.2 +0.8
baz=74,SNR=5.6
SUR Sutherland 74.18 119 eP P 08 02 38.9 +0.7
comp=Z,105nm,1.3s
Z30A Sanderson Ranc 74.26 336 ⇓P P 08 02 39.2 +1.0
baz=75,SNR=6.1
MNTX Cornudas Mount 74.35 332 eP P 08 02 38.2 -0.5
comp=Z,24nm,0.9s
MNTX e 08 02 46.9
Y32A R-V Farms, Ver 74.37 337 ⇑P P 08 02 39.6 +0.8
baz=75,SNR=5.6
Z29A Hungry Hill Ra 74.43 335 ⇑P P 08 02 40.2 +0.9
baz=75,SNR=7.2
X34A Smith Ranch, M 74.44 339 ⇓P P 08 02 40.6 +1.4
baz=75
127A Arkansas Junct 74.48 334 ⇓P P 08 02 41.1 +1.5
baz=75
X33A Lawton 74.58 338 ⇑P P 08 02 40.6 +0.5
baz=75
Y31A Rekieta Farm, 74.60 337 ⇑P P 08 02 41.1 +1.0
baz=75
Y30A Stafford Cattl 74.72 336 ⇓P P 08 02 41.9 +0.9
baz=75
Y29A Porterfield Fa 74.97 335 ⇑P P 08 02 43.0 +0.7
baz=75,SNR=5.2
Z27A Tatum 75.00 334 ⇑P P 08 02 43.5 +0.9
baz=75
W34A Bridge Creek, 75.02 339 eP P 08 02 42.2 -0.3

comp=Z,60nm,1.1s
W34A e 08 02 52.0
W34A Bridge Creek, 75.02 339 ⇑P P 08 02 43.5 +1.0
baz=75
TUL1 Tulsa 75.10 341 eP P 08 02 42.8 -0.1
comp=Z,29nm,1.1s
TUL1 e 08 02 52.1
TUL1 Tulsa 75.10 341 ⇑P P 08 02 44.1 +1.2
baz=76
X31A McDonald Ranch 75.12 337 ⇑P P 08 02 44.8 +1.6
baz=76
W33A Caddo, Fort Co 75.14 338 ⇑P P 08 02 44.9 +1.6
baz=76
Y28A McKinney Farm, 75.20 335 ⇑P P 08 02 45.1 +1.4
baz=76
Z26A Caprock 75.24 333 ⇑P P 08 02 45.3 +1.4
baz=76,SNR=7.6
X30A Coker Ranch, T 75.24 336 ⇑P P 08 02 45.4 +1.6
baz=76
USIN University of 75.31 348 eP P 08 02 43.7 -0.4
comp=Z,20nm,0.8s
USIN e 08 02 52.8
SIUC Southern Illin 75.34 347 eP P 08 02 43.9 -0.4
comp=Z,23nm,1.1s
SIUC e 08 02 53.3
W32A Sentinel 75.35 338 ⇓P P 08 02 45.8 +1.4
baz=76,SNR=5.1
MSTX Muleshoe 75.44 335 ⇑P P 08 02 45.9 +0.8
baz=76
Y27A Causey 75.50 334 ⇑P P 08 02 46.3 +0.9
baz=76
V34A Guthrie 75.50 339 eP P 08 02 44.9 -0.4
comp=Z,15nm,0.9s
V34A e 08 02 54.6
V34A Guthrie 75.50 339 ⇑P P 08 02 46.3 +1.0
baz=76
X29A Tulia 75.51 336 ⇑P P 08 02 46.6 +1.2
baz=76
Z25A Roswell 75.51 333 ⇑P P 08 02 46.7 +1.1
baz=76
W31A Holland Ranch, 75.62 337 ⇑P P 08 02 47.2 +1.1
baz=76,SNR=5.6
319A Douglas 75.65 328 ⇑P P 08 02 48.4 +2.0
baz=76,SNR=6.1
V33A Lossen Ranch, 75.71 339 ⇓P P 08 02 47.5 +1.0
baz=76
X28A Dimmitt 75.74 335 ⇑P P 08 02 48.3 +1.5
baz=76
Y26A Elida 75.77 334 ⇑P P 08 02 48.2 +1.2
baz=76,SNR=6.2
Z24A Sheeppen Canyo 75.80 332 ⇓P P 08 02 48.2 +0.9
baz=76
W30A Crocket Farms 75.82 337 ⇓P P 08 02 48.4 +1.2
baz=76
V32A Arapaho 75.84 338 ⇓P P 08 02 48.9 +1.6
baz=76
AMTX Amarillo 75.90 336 eP P 08 02 48.0 +0.3
comp=Z,40nm,1.2s
AMTX e 08 02 57.3
AMTX Amarillo 75.90 336 ⇓P P 08 02 49.0 +1.3
baz=76
121A Cookes Peak, D 76.04 330 ⇑P P 08 02 50.0 +1.4
baz=76
U34A Anderson Ranch 76.07 340 eP P 08 02 48.3 -0.2
comp=Z,16nm,1.0s
U34A e 08 02 58.2
U34A Anderson Ranch 76.07 340 ⇓P P 08 02 49.1 +0.5
baz=76
Y25A Mesa, Roswell 76.08 333 ⇑P P 08 02 49.5 +0.7
baz=76
W29A Amraillo 76.11 336 ⇓P P 08 02 49.5 +0.7
baz=76
OLIL Olney 76.13 348 eP P 08 02 47.2 -1.5
comp=Z,40nm,1.3s
V31A Spring Creek L 76.13 338 ⇓P P 08 02 50.7 +1.7
baz=76
X27A F and S Farms, 76.17 335 ⇓P P 08 02 49.8 +0.5
baz=77
U33A Lingo Farm, Me 76.23 339 ⇑P P 08 02 50.5 +1.0
baz=77
X26A CR and CF Fran 76.33 334 ⇑P P 08 02 51.5 +1.3
baz=77,SNR=5.5
Z22A Elephant Butte 76.35 331 ⇓P P 08 02 51.9 +1.5
baz=77
Y24A Capitan 76.36 332 ⇓P P 08 02 52.0 +1.5
baz=77
V30A Spur Ranch, Mi 76.39 337 ⇓P P 08 02 52.4 +1.9
baz=77
W28A Vega 76.42 336 ⇑P P 08 02 51.9 +1.3
baz=77
U32A Winter Ranch, 76.44 338 ⇓P P 08 02 52.3 +1.6
baz=77
DBIC Dimbokro 76.53 71 eP P 08 02 51.6 0.0
DBIC pmax pmax
comp=Z,151nm,1.3s
DBIC Dimbokro 76.53 71 P P 08 02 52.0 +0.3
comp=Z,50nm,0.8s,baz=199,slow=6.8,SNR=11
DBIC pP pP 08 03 01.5 -0.1
comp=Z,27nm,0.8s,baz=213,slow=4.5,SNR=4.0
DBIC Dimbokro 76.53 71 eP P 08 02 51.6 0.0
comp=Z,151nm,1.3s
W27A Bowe Ranch, En 76.53 335 ⇓P P 08 02 52.6 +1.2
baz=77,SNR=5.4
X25A Clemmons Ranch 76.61 333 ⇑P P 08 02 53.1 +1.3
baz=77
U31A Nine Bar Ranch 76.69 338 ⇓P P 08 02 53.6 +1.5
baz=77
W26A Owens Ranch, T 76.80 334 ⇓P P 08 02 54.4 +1.6
baz=77
V28A Channing 76.87 336 ⇓P P 08 02 54.6 +1.4
baz=77,SNR=5.4
T33A Patterson Ranc 76.88 339 ⇓P P 08 02 54.6 +1.5
baz=77
ACSO Alum Creek Sta 76.88 352 eP P 08 02 52.7 -0.3
comp=Z,89nm,1.4s
ACSO e 08 03 02.3
X24A Lazy VL Ranch, 76.93 333 ⇑P P 08 02 55.0 +1.4
baz=77
U30A WK&E Inc. Balk 77.08 337 ⇓P P 08 02 56.1 +1.8
baz=78
V27A Dan Oppiter Fa 77.08 335 ⇑P P 08 02 56.3 +1.9
baz=78
W25A X Bar L Ranch, 77.16 334 ⇓P P 08 02 56.0 +1.1
baz=78
T32A Huddler Ranch, 77.16 339 ⇑P P 08 02 56.5 +1.7
baz=78
X23A Hourglass Bar 77.22 332 ⇓P P 08 02 56.9 +1.6
baz=78
S33A Kaszmaul Farm, 77.28 340 ⇑P P 08 02 56.5 +1.1
baz=78
T31A Randall Ranch, 77.31 338 ⇑P P 08 02 56.5 +1.0
baz=78
V26A Tequesquite Ra 77.44 335 ⇓P P 08 02 57.6 +1.1
baz=78
U28A Mallet 77.45 336 ⇓P P 08 02 58.3 +1.9
baz=78
W24A Lazy 6 Ranch, 77.49 333 ⇓P P 08 02 58.2 +1.4
baz=78
CASY Casey 77.57 181 eP P 08 02 56.3 -0.4
comp=Z,96nm,1.4s
CASY e 08 03 05.7
ANMO Albuquerque 77.65 332 eP P 08 02 59.2 +1.5
ANMO e 08 03 08.1
ANMO pmax pmax
comp=Z,30nm,1.4s
ANMO Albuquerque 77.65 332 P P 08 02 58.2 +0.6
comp=Z,15nm,1.1s,baz=156,slow=7.1,SNR=5.3
ANMO pP pP 08 03 08.4 +0.8
comp=Z,26nm,1.0s,baz=160,slow=7.0,SNR=9.9
ANMO Albuquerque 77.65 332 eP P 08 02 59.1 +1.5
comp=Z,30nm,1.4s
ANMO e 08 03 08.1
S32A Newby Ranch, P 77.65 339 ⇑P P 08 02 58.8 +1.4
baz=78
U27A Thompson Grove 77.68 336 ⇑P P 08 03 00.6 +2.8
baz=78
214A Organ Pipe Nat 77.69 326 eP P 08 02 58.9 +1.2
comp=Z,27nm,1.0s
214A e 08 03 08.2
214A Organ Pipe Nat 77.69 326 ⇑P P 08 02 59.6 +1.9
baz=78
W23A Werner Place, 77.72 333 ⇑P P 08 02 59.7 +1.6
baz=78
S31A Mullinville 77.73 339 ⇓P P 08 02 59.6 +1.7
baz=78
V25A Rancho No Teng 77.77 334 ⇑P P 08 02 59.4 +1.0
baz=78
T29A Hugoton 77.86 337 ⇑P P 08 03 00.2 +1.6
baz=78
V24A Rampart Ranch, 77.91 333 ⇓P P 08 03 00.1 +0.9
baz=78
R33A Olander Ranch, 77.95 340 ⇑P P 08 03 00.1 +1.0
baz=78
U26A Atchley Ranch, 77.97 335 ⇓P P 08 03 00.3 +0.9
baz=78
S30A Montezuma 78.05 338 ⇑P P 08 03 01.0 +1.3
baz=78
T28A Walsh 78.09 336 ⇑P P 08 03 01.4 +1.4
baz=78
U25A Circle Dot Ran 78.20 334 ⇑P P 08 03 01.8 +1.0
baz=79
S29A Ulysses 78.23 337 ⇑P P 08 03 01.9 +1.2
baz=79
T27A Campo 78.23 336 ⇑P P 08 03 02.0 +1.2
baz=79
V23A Ortiz Mt. (NFS 78.25 333 ⇑P P 08 03 01.3 +0.2
baz=79
R32A Long Quarter, 78.26 339 ⇑P P 08 03 01.7 +0.9
baz=79
KSU1 Kansas State U 78.32 341 ⇑P P 08 03 01.6 +0.5
baz=79
R31A Burdett 78.37 339 ⇑P P 08 03 02.4 +1.0
baz=79
S28A Manter 78.45 337 ⇓P P 08 03 03.6 +1.7
baz=79
Q33A Connelly Farm, 78.55 340 ⇓P P 08 03 04.3 +1.9
baz=79
R30A Dighton 78.58 338 ⇑P P 08 03 04.5 +1.8
baz=79
T26A Comanche Natio 78.62 335 ⇑P P 08 03 04.8 +1.8
baz=79
X18A Snowflake 78.66 329 ⇑P P 08 03 05.1 +1.8
baz=79,SNR=5.9
V22A San Miguel Ran 78.67 332 ⇓P P 08 03 05.1 +1.7
baz=79
Q32A Meitler Ranch, 78.75 340 ⇓P P 08 03 04.5 +1.0
baz=79
U23A El Rito 78.78 333 ⇓P P 08 03 05.8 +1.8
baz=79
113A Mohawk Valley, 78.81 326 ⇓P P 08 03 05.9 +2.0
baz=79
T25A Trinidad 78.87 335 ⇓P P 08 03 06.3 +1.8
baz=79
P33A Williams Farm, 78.92 341 ⇑P P 08 03 05.8 +1.4
baz=79
R29A Marienthal 78.97 338 ⇑P P 08 03 06.1 +1.3
baz=79
S26A Kim 78.99 336 ⇑P P 08 03 06.7 +1.7
baz=79
Q31A Ellis 78.99 339 ⇓P P 08 03 07.1 +2.2
baz=79
U22A Llaves 79.06 333 ⇓P P 08 03 07.6 +2.1
baz=80
W18A Petrified Fore 79.08 330 eP P 08 03 06.9 +1.3
comp=Z,45nm,1.1s
W18A e 08 03 16.5
W18A Petrified Fore 79.08 330 ⇑P P 08 03 07.7 +2.1
baz=80
R28A Tribune 79.11 337 ⇑P P 08 03 07.3 +1.8
baz=80
TSUM Tsumeb 79.13 106 P P 08 03 07.3 +1.0
comp=Z,24nm,1.1s,baz=226,slow=9.4,SNR=2.7
TSUM Tsumeb 79.13 106 eP P 08 03 06.0 -0.3
comp=Z,147nm,1.4s
T24B San Luis 79.14 334 ⇑P P 08 03 07.8 +1.7
baz=80
X16A Lo Mia Camp, P 79.18 328 ⇓P P 08 03 08.1 +1.9
baz=80,SNR=5.6
Q30A Quinter 79.21 339 ⇑P P 08 03 07.5 +1.5
baz=80
P32A Huiting Farm, 79.34 340 ⇑P P 08 03 08.2 +1.5
baz=80
S25A Robets Cordova 79.35 335 ⇓P P 08 03 08.4 +1.4
baz=80
T23A Casias Ranch, 79.35 333 ⇓P P 08 03 08.5 +1.4
baz=80
Q29A Oakley 79.36 338 ⇑P P 08 03 07.2 +0.3
baz=80
R27A Eads 79.37 336 ⇑P P 08 03 07.5 +0.5
baz=80
Y14A Wickenburg 79.45 327 ⇑P P 08 03 08.4 +1.0
baz=80
ACCN Adirondack Com 79.46 359 eP P 08 03 07.4 +0.2
comp=Z,78nm,1.6s
BOSA Boshof 79.47 118 eP P 08 03 07.0 -1.0
BOSA pmax pmax
comp=Z,128nm,1.3s
BOSA Boshof 79.47 118 P P 08 03 08.3 +0.3
comp=Z,79nm,1.2s,baz=236,slow=5.4,SNR=6.8
BOSA Boshof 79.47 118 eP P 08 03 07.0 -1.0
comp=Z,128nm,1.3s
P31A Stockton 79.47 339 ⇓P P 08 03 08.8 +1.3
baz=80
GLA Glamis 79.53 325 eP P 08 03 09.0 +1.1
GLA e 08 03 18.8
GLA pmax pmax
comp=Z,46nm,1.3s
GLA Glamis 79.53 325 eP P 08 03 09.0 +1.1
comp=Z,46nm,1.3s
GLA e 08 03 18.8
GLA Glamis 79.53 325 ⇑P P 08 03 09.6 +1.7
baz=80
R26A Arlington 79.60 336 ⇑P P 08 03 09.7 +1.5
baz=80
S24A Houchin Ranch, 79.60 334 ⇑P P 08 03 10.2 +1.7
baz=80
P30A Selden 79.74 339 ⇓P P 08 03 10.0 +1.1
baz=80
Q28A Sharon Springs 79.77 337 ⇓P P 08 03 10.2 +1.0
baz=80
SDCO Great Sand Dun 79.80 334 eP P 08 03 10.2 +0.7
comp=Z,21nm,1.5s
SDCO e 08 03 20.1
O32A Brockman Farm, 79.85 340 ⇓P P 08 03 10.2 +0.7
baz=80
SWSC Sam W. Stewart 79.89 324 ⇓P P 08 03 10.5 +0.8
baz=80
S23A Nye Farm, Mont 79.94 334 ⇑P P 08 03 10.9 +0.7
baz=80
KSCO Kaye Shedlock' 79.98 337 eP P 08 03 10.9 +0.6
comp=Z,11nm,0.8s
KSCO e 08 03 20.6
KSCO Kaye Shedlock' 79.98 337 ⇓P P 08 03 11.2 +0.8
baz=80
P29A Atwood 80.00 338 ⇓P P 08 03 11.6 +1.3
baz=80
O31A Woolen Ranch, 80.04 340 ⇑P P 08 03 11.4 +0.9
baz=80
BAR Barrett 80.09 324 eP P 08 03 12.1 +1.1
comp=Z,113nm,1.1s
BAR e 08 03 21.5
R24A Sanders Place, 80.09 335 ⇑P P 08 03 12.4 +1.3
baz=80
WUAZ Wupatki 80.10 329 eP P 08 03 12.6 +1.5
comp=Z,19nm,1.1s
WUAZ e 08 03 22.3
WUAZ Wupatki 80.10 329 ⇓P P 08 03 12.8 +1.7
baz=80
MONP Monument Peak 80.14 324 ⇑P P 08 03 12.3 +0.8
baz=80
Q26A Hugo 80.18 336 ⇑P P 08 03 12.6 +1.2
baz=81
P28A Saint Francis 80.22 338 ⇓P P 08 03 12.9 +1.4
baz=81
PDMCI Parker Dam,Lak 80.26 326 ⇓P P 08 03 13.2 +1.4
baz=81
S22A 4UR Ranch, Cre 80.27 333 ⇓P P 08 03 13.2 +1.1
baz=81
O30A MW Ranch, Wils 80.27 339 ⇓P P 08 03 13.0 +1.2
baz=81
R23A Moffat 80.31 334 ⇓P P 08 03 13.3 +1.0
baz=81
BC3 Big Chuckawall 80.32 325 ⇓P P 08 03 13.4 +1.1
baz=81
N32A Stulken Farm, 80.33 341 ⇓P P 08 03 13.3 +1.2
baz=81
Q25A Bedland, Calha 80.42 336 ⇓P P 08 03 13.9 +1.1
baz=81
MVCO Mesa Verde 80.42 332 eP P 08 03 13.6 +0.7
comp=Z,117nm,1.7s
MVCO e 08 03 23.4
MVCO Mesa Verde 80.42 332 ⇓P P 08 03 14.0 +1.2
baz=81
O29A 4D Ranch, Culb 80.44 339 ⇓P P 08 03 14.4 +1.7
baz=81
P27A Ficken Ranch, 80.46 337 ⇑P P 08 03 14.5 +1.6
baz=81
IRM Iron Mountain 80.60 325 ⇓P P 08 03 15.1 +1.4
baz=81
P26A Davis Ranch, A 80.71 337 ⇓P P 08 03 15.8 +1.5
baz=81
O28A Krutsinger Ran 80.73 338 ⇓P P 08 03 15.8 +1.5
baz=81
PFO Pinyon Flat Ob 80.75 324 ⇓P P 08 03 16.0 +1.5
baz=81
Q24A Divide 80.77 335 ⇓P P 08 03 16.5 +1.7
baz=81
W13A Hualapai Mount 80.82 327 ⇓P P 08 03 16.4 +1.4
baz=81
BELC Belle Mtn. Jos 80.86 325 ⇑P P 08 03 16.9 +1.7
baz=81
BGNE Belgrade 80.89 341 eP P 08 03 12.9 -2.1
comp=Z,43nm,1.0s
P25A Willow Gulch B 80.93 336 ⇑P P 08 03 16.9 +1.4
baz=81
O27A Beecher Island 81.01 337 ⇑P P 08 03 17.3 +1.5
baz=81
N29A Votaw Ranch, W 81.03 339 ⇓P P 08 03 17.2 +1.4
baz=81
M31A Lambtecht Ranc 81.05 340 ⇑P P 08 03 17.5 +1.6
baz=82
MURC Murrieta 81.09 324 ⇑P P 08 03 17.8 +1.5
baz=82
N28A Pribbeno Ranch 81.18 338 ⇓P P 08 03 18.0 +1.4
baz=82
P24A Kohler Place, 81.18 335 ⇑P P 08 03 18.3 +1.5
baz=82
PV01 Paradox Valley 81.26 332 eP P 08 03 18.8 +1.5
PV01 e 08 03 28.0
U15A North Rim 81.26 329 ⇓P P 08 03 19.6 +2.2
baz=82
O26A Horse Wrangler 81.31 337 ⇑P P 08 03 19.1 +1.7
baz=82
LDFC Landfair 81.34 326 eP P 08 03 20.0 +2.3
comp=Z,70nm,1.2s
LDFC e 08 03 28.8
GMRC Granite Mounta 81.35 325 ⇓P P 08 03 19.5 +1.7
baz=82
CIS Catalina Islan 81.52 323 ⇓P P 08 03 19.6 +1.0
baz=82
URZ Urewera 81.58 228 eP P 08 03 19.5 +0.4
comp=Z,33nm,0.9s
URZ e 08 03 28.2
N27A Anderson Farm, 81.59 338 ⇑P P 08 03 19.8 +1.0
baz=82
M29A Burnside Ranch 81.62 339 ⇓P P 08 03 20.0 +1.0
baz=82
PV10 Paradox Valley 81.64 332 eP P 08 03 20.1 +0.7
comp=Z,449nm,0.9s
PV10 e 08 03 29.4
ISCO Idaho Springs 81.67 335 ⇓P P 08 03 20.7 +1.1
baz=82
HEC Hector,Ludlow 81.70 325 ⇓P P 08 03 20.5 +1.0
baz=82
O24A Longmont 81.78 336 ⇓P P 08 03 21.8 +1.9
baz=82
L31A Butterfield Fa 81.79 341 ⇑P P 08 03 21.2 +1.4
baz=82
L30A Spencer Herefo 81.82 340 ⇑P P 08 03 21.4 +1.4
baz=82
N26A Koester Ranch, 81.82 337 ⇑P P 08 03 21.4 +1.3
baz=82
LBTB Lobatse 81.82 115 eP P 08 03 20.2 -0.5
LBTB e 08 03 30.5
LBTB pmax pmax
comp=Z,58nm,0.9s
LBTB Lobatse 81.82 115 P P 08 03 20.4 -0.3
comp=Z,39nm,0.7s,baz=242,slow=5.9,SNR=4.4
LBTB pP pP 08 03 29.7 -1.0
comp=Z,32nm,0.6s,baz=250,slow=6.0,SNR=3.6
LBTB Lobatse 81.82 115 eP P 08 03 20.2 -0.5
comp=Z,58nm,0.9s
LBTB e 08 03 30.4
BFSC Mount Baldy Ra 81.83 324 ⇓P P 08 03 21.9 +1.5
baz=82
MWC Mount Wilson 82.01 324 eP P 08 03 22.9 +1.5
MWC pmax pmax
comp=Z,34nm,1.1s
MWC Mount Wilson 82.01 324 eP P 08 03 22.9 +1.5
comp=Z,34nm,1.1s
PASC Pasadena Art C 82.03 323 eP P 08 03 22.8 +1.5
comp=Z,38nm,1.4s
L29A Maesberg Ranch 82.14 340 ⇑P P 08 03 23.7 +2.0
baz=82
O23A Lake Granby, G 82.14 335 ⇓P P 08 03 22.7 +0.7
baz=82
M27A Reverse DX Ran 82.20 338 ⇓P P 08 03 23.3 +1.2
baz=83
GSC Goldstone 82.31 325 eP P 08 03 24.2 +1.5
GSC e 08 03 33.9
GSC pmax pmax
comp=Z,28nm,1.0s
GSC Goldstone 82.31 325 eP P 08 03 24.2 +1.5
comp=Z,28nm,1.0s
GSC e 08 03 33.9
GSC Goldstone 82.31 325 ⇑P P 08 03 24.0 +1.2
baz=83
O22A Kremmling 82.32 335 ⇓P P 08 03 24.5 +1.6
baz=83
N24A Carr 82.35 336 ⇑P P 08 03 24.6 +1.6
baz=83
L28A Connealy Angus 82.38 339 ⇑P P 08 03 24.5 +1.5
baz=83
K30A Basset 82.46 340 ⇓P P 08 03 24.6 +1.3
baz=83
EDW2 Edwards Air Fo 82.52 324 ⇑P P 08 03 24.9 +1.1
baz=83
SHOC Shoshone 82.56 326 ⇓P P 08 03 25.3 +1.3
baz=83
BSC Santa Cruz Isl 82.59 322 ⇑P P 08 03 26.1 +1.9
baz=83
M25A Palm-Egli Farm 82.63 337 ⇓P P 08 03 25.6 +1.3
baz=83
OSI Osito Adit 82.65 323 eP P 08 03 25.4 +1.0
comp=Z,51nm,1.2s
CCUT Cedar City 82.66 329 eP P 08 03 26.2 +1.5
comp=Z,41nm,1.0s
CCUT e 08 03 36.3
ECSD EROS Data Cent 82.69 343 eP P 08 03 24.5 +0.1
comp=Z,61nm,0.9s
ECSD e 08 03 33.8
ECSD EROS Data Cent 82.69 343 ⇑P P 08 03 24.8 +0.4
baz=83
K29A Lazy Trails An 82.74 340 ⇑P P 08 03 26.2 +1.4
baz=83
N23A Red Feather La 82.77 335 ⇑P P 08 03 26.5 +1.2
baz=83
N22A Wattenberg Ran 82.86 335 ⇑P P 08 03 27.2 +1.5
baz=83
LRMC Laurel Mountai 82.86 324 ⇓P P 08 03 27.7 +2.0
baz=83
L26A Underwood Farm 82.88 338 ⇓P P 08 03 27.0 +1.4
baz=83
O20A White River Ci 82.89 333 ⇑P P 08 03 27.4 +1.6
baz=83
M24A Cheyenne 82.91 336 ⇑P P 08 03 27.7 +1.8
baz=83
K28A Ten Mile Ranch 82.99 339 ⇓P P 08 03 27.5 +1.4
baz=83
J30A Dallas 83.04 341 ⇑P P 08 03 27.8 +1.6
baz=83
K27A Flueckinger Fa 83.23 339 ⇓P P 08 03 29.0 +1.6
baz=84
L25A Engebretsen Ra 83.26 337 ⇓P P 08 03 28.9 +1.3
baz=84
SPMN St. Paul 83.28 346 ⇑P P 08 03 27.4 0.0
baz=84
FURC Furnace Creek, 83.29 326 ⇑P P 08 03 29.2 +1.5
baz=84
J29A Okreek 83.34 340 ⇑P P 08 03 29.2 +1.4
baz=84
ISA Isabella 83.38 324 eP P 08 03 30.1 +1.8
ISA e 08 03 39.1
ISA pmax pmax
comp=Z,32nm,1.0s
ISA Isabella 83.38 324 eP P 08 03 30.1 +1.8
comp=Z,32nm,1.0s
ISA e 08 03 39.1
ISA Isabella 83.38 324 ⇑P P 08 03 30.2 +2.0
baz=84
N20A Spence Gulch, 83.52 334 ⇓P P 08 03 30.4 +1.4
baz=84
I30A Oacoma 83.57 341 ⇓P P 08 03 29.5 +0.6
baz=84

J28A Allard Ranch, 83.61 340 ⇑P P 08 03 30.0 +0.8
baz=84
K25A Mack Ranch, Ha 83.64 337 ⇑P P 08 03 30.4 +0.9
baz=84
J27A Elkhorn Farm, 83.67 339 ⇑P P 08 03 30.2 +0.6
baz=84
L23A Garrett 83.78 336 ⇑P P 08 03 30.8 +0.4
baz=84
VES Vestal, Richgr 83.81 324 ⇓P P 08 03 31.6 +1.2
baz=84
SMMC Simmler 83.83 323 ⇑P P 08 03 31.8 +1.2
baz=84
I29A Vivian Onida 83.90 340 ⇑P P 08 03 31.5 +0.8
baz=84
BRSD Miller 83.94 341 eP P 08 03 30.3 -0.6
comp=Z,18nm,0.8s
BRSD e 08 03 40.0
BRSD Miller 83.94 341 ⇑P P 08 03 31.2 +0.3
baz=84
L22A Ellis Ranch, M 83.94 335 ⇑P P 08 03 32.4 +1.2
baz=84
J26A Sides Ranch, S 84.04 338 ⇑P P 08 03 32.6 +1.1
baz=84
K24A Anderson Ranch 84.04 337 ⇓P P 08 03 32.7 +1.1
baz=84
I28A Midland 84.12 340 ⇓P P 08 03 33.0 +1.2
baz=84
NLU North Lily Min 84.19 331 eP P 08 03 33.8 +1.4
comp=Z,9.8nm,1.0s
NLU e 08 03 43.3
RCTC Rector, Farmer 84.27 324 ⇓P P 08 03 34.0 +1.3
baz=85
R11A Troy Canyon, C 84.28 328 eP P 08 03 34.6 +1.6
comp=Z,2μm,3.9s
R11A Troy Canyon, C 84.28 328 ⇓P P 08 03 34.3 +1.3
baz=85
K23A Bowen Ranch, D 84.33 336 ⇑P P 08 03 34.0 +1.0
baz=85
J25A Sunshine Ranch 84.33 338 ⇑P P 08 03 34.4 +1.4
baz=85
TIN Tinemaha 84.40 325 ⇑P P 08 03 34.5 +1.0
baz=85
I27A Quinn 84.43 339 ⇓P P 08 03 34.4 +1.0
baz=85
H29A Onida 84.44 341 ⇓P P 08 03 34.4 +1.0
baz=85
JLU Jordanelle 84.50 331 eP P 08 03 35.0 +0.9
comp=Z,9.7nm,1.1s
JLU e 08 03 44.5
K22A Casper 84.53 336 eP P 08 03 34.5 +0.4
comp=Z,18nm,1.0s
K22A e 08 03 44.2
K22A Casper 84.53 336 ⇑P P 08 03 34.9 +0.8
baz=85
J24A Dixon Ranch, L 84.54 337 ⇓P P 08 03 35.0 +0.9
baz=85
G30A Faulkton 84.63 342 ⇓P P 08 03 34.6 +0.3
baz=85
I26A New Underwood 84.63 339 ⇓P P 08 03 35.3 +0.8
baz=85
DUG Dugway 84.69 330 eP P 08 03 36.0 +1.1
DUG e 08 03 44.6
DUG pmax pmax
comp=Z,60nm,1.2s
DUG Dugway 84.69 330 eP P 08 03 36.0 +1.1
comp=Z,60nm,1.2s
DUG e 08 03 44.5
DUG Dugway 84.69 330 ⇓P P 08 03 35.8 +0.9
baz=85
H28A Mission Ridge 84.70 340 ⇓P P 08 03 35.8 +1.0
baz=85
K21A Alcova 84.76 335 ⇓P P 08 03 36.1 +0.8
baz=85
TPH Tonopah 84.78 326 eP P 08 03 36.9 +1.4
TPH e 08 03 46.1
TPH pmax pmax
comp=Z,33nm,1.1s
TPH Tonopah 84.78 326 eP P 08 03 36.9 +1.4
comp=Z,33nm,1.1s
TPH e 08 03 46.1
I25A Rochford 84.88 338 ⇑P P 08 03 36.4 +0.6
baz=85
G29A Hoven 84.89 341 ⇓P P 08 03 36.3 +0.7
baz=85
TCUT Toone Canyon 84.93 332 eP P 08 03 36.7 +0.5
comp=Z,38nm,1.4s
TCUT e 08 03 46.4
H27A Howes 84.96 339 ⇑P P 08 03 36.7 +0.6
baz=85
I24A Kuemmerle Ranc 85.01 337 ⇓P P 08 03 37.2 +0.8
baz=85
G28A Parade 85.04 340 ⇓P P 08 03 37.3 +0.9
baz=85
RSSD Black Hills 85.06 338 eP P 08 03 36.7 -0.1
RSSD Black Hills 85.06 338 eP P 08 03 36.7 -0.1
comp=Z,1.0nm,0.6s
MLAC Mammoth Lakes 85.15 325 ⇓P P 08 03 38.8 +1.4
baz=86
J22A Midwest 85.19 336 ⇓P P 08 03 37.7 +0.3
baz=86
F30A Leola 85.26 342 ⇓P P 08 03 38.3 +0.8
baz=86
H25A Fruitdale 85.39 338 ⇑P P 08 03 38.4 +0.2
baz=86
BGU Big Grassy Mou 85.39 331 eP P 08 03 38.6 +0.2
comp=Z,12nm,1.3s
BGU e 08 03 48.2
J21A Lysite 85.45 335 ⇑P P 08 03 39.0 +0.3
baz=86
F29A Eureka 85.46 341 ⇓P P 08 03 39.0 +0.5
baz=86
NV11 Mina Array Sit 85.49 326 eP P 08 03 40.5 +1.5
NV11 e 08 03 49.9
SPUT South Promonto 85.49 331 eP P 08 03 39.5 +0.5
comp=Z,18nm,1.2s
SPUT e 08 03 49.0
NVAR Mina Array Bea 85.55 326 P P 08 03 41.0 +1.6
comp=Z,9.2nm,0.9s,baz=149,slow=6.1,SNR=8.0
NVAR pP pP 08 03 50.2 +0.8
comp=Z,16nm,0.8s,baz=158,slow=6.1,SNR=14
G27A Dupree 85.60 340 ⇓P P 08 03 39.7 +0.5
baz=86
TOA0 Torodi Ar. Sit 85.60 70 eP P 08 03 39.6 -0.3
TORD Torodi Ar. Bea 85.60 70 P P 08 03 40.1 +0.2
comp=Z,28nm,1.1s,baz=236,slow=4.8,SNR=7.4
I22A 9 Mile Ranch, 85.62 336 ⇓P P 08 03 39.9 +0.4
baz=86
BW06 Boulder Array 85.68 334 eP P 08 03 39.3 -0.6
comp=Z,12nm,1.4s
BW06 e 08 03 49.2
PDAR Pinedale Array 85.68 334 P P 08 03 39.2 -0.7
comp=Z,10nm,1.2s,baz=151,slow=3.4,SNR=5.4
PDAR pP pP 08 03 49.4 -0.6
comp=Z,5.3nm,0.9s,baz=149,slow=3.5,SNR=5.0
J20A Shoshoni 85.68 335 ⇓P P 08 03 40.5 +0.7
baz=86
G26A Maurine 85.71 339 ⇑P P 08 03 40.0 +0.2
baz=86
F28A McLaughlin 85.73 341 ⇑P P 08 03 40.2 +0.4
baz=86
H24A Dirks Ranch, A 85.79 338 ⇑P P 08 03 40.7 +0.4
baz=86
I21A Big Trails, Te 85.82 336 ⇓P P 08 03 40.9 +0.4
baz=86
E30A Jud 85.85 342 ⇓P P 08 03 41.2 +0.8
baz=86
G25A Newell 85.85 339 ⇓P P 08 03 41.2 +0.7
baz=86
H23A Clabaugh Cattl 85.88 337 ⇓P P 08 03 41.1 +0.4
baz=86
J19A Crowheart 85.93 334 ⇓P P 08 03 41.5 +0.4
baz=86
F27A Lemmon 86.08 340 ⇓P P 08 03 42.2 +0.6
baz=86
E29A Napoleon 86.09 342 ⇓P P 08 03 41.9 +0.3
baz=86
CMB Columbia Colle 86.20 324 eP P 08 03 43.8 +1.4
CMB e 08 03 53.4
CMB pmax pmax
comp=Z,20nm,1.1s
CMB Columbia Colle 86.20 324 eP P 08 03 43.8 +1.4
comp=Z,20nm,1.1s
CMB e 08 03 53.4
H22A Clearmont 86.21 337 ⇓P P 08 03 42.7 +0.4
baz=87
I20A Worland 86.22 335 ⇓P P 08 03 42.7 +0.2
baz=87

F26A Lodgepole 86.24 340 ⇓P P 08 03 42.7 +0.3
baz=87
G24A Alzada 86.27 338 ⇑P P 08 03 43.0 +0.4
baz=87
E28A Huff 86.37 341 ⇑P P 08 03 43.4 +0.4
baz=87
D30A Buchanan 86.38 343 ⇓P P 08 03 43.4 +0.4
baz=87
G23A Biddle 86.45 338 ⇑P P 08 03 43.8 +0.3
baz=87
H21A Big Horn, Sher 86.46 336 ⇓P P 08 03 43.8 +0.2
baz=87
E27A Carson 86.47 341 ⇑P P 08 03 44.2 +0.7
baz=87
F25A Bowman 86.53 339 ⇑P P 08 03 44.3 +0.4
baz=87
D29A Pettibone, Tap 86.54 342 ⇑P P 08 03 44.3 +0.5
baz=87
H20A Greybull 86.65 336 ⇓P P 08 03 45.1 +0.6
baz=87
F24A Ekalaka 86.75 338 ⇑P P 08 03 45.6 +0.7
baz=87
G22A Birney 86.75 337 ⇓P P 08 03 45.0 0.0
baz=87
E26A Carlson Angus 86.75 340 ⇓P P 08 03 45.0 +0.1
baz=87
AGMN Agassiz Nation 86.84 345 eP P 08 03 45.2 0.0
comp=Z,23nm,0.9s
AGMN e 08 03 54.5
AGMN Agassiz Nation 86.84 345 ⇓P P 08 03 45.5 +0.3
baz=87
C30A Mose, Pekin 86.87 343 ⇓P P 08 03 45.9 +0.5
baz=87
D28A Regan 86.91 341 ⇑P P 08 03 46.4 +0.7
baz=87
F23A Volborg 86.92 338 ⇓P P 08 03 46.2 +0.4
baz=87
E25A Miller Ranch, 87.04 339 ⇑P P 08 03 47.0 +0.7
baz=87
I17A Pilgrim Ck. 87.05 334 ⇓P P 08 03 47.0 +0.4
baz=87
D27A Center 87.08 341 ⇑P P 08 03 47.4 +1.0
baz=88
H19A Powell 87.14 335 ⇑P P 08 03 47.5 +0.6
baz=88
F22A Rosebud 87.24 337 ⇑P P 08 03 48.2 +0.9
baz=88
D26A Manning 87.26 340 ⇓P P 08 03 48.3 +1.0
baz=88
C28A Hausauer Farms 87.35 342 ⇑P P 08 03 48.9 +1.2
baz=88
E24A Baker 87.36 339 ⇑P P 08 03 48.9 +1.0
baz=88
B30A Myrvik Farm, E 87.54 343 ⇓P P 08 03 49.4 +0.9
baz=88
YFT Old Faithful 87.60 334 P P 08 03 51.1 +1.9
comp=Z,20nm,1.1s
D25A Fairfield 87.61 340 ⇓P P 08 03 50.0 +0.9
baz=88
C27A Sayler Ranch, 87.64 341 ⇓P P 08 03 50.1 +1.0
baz=88
B29A Wagenman Farm, 87.79 343 ⇑P P 08 03 50.4 +0.6
baz=88
D24A Glendive 87.86 339 ⇓P P 08 03 50.8 +0.5
baz=88
C26A Wahner Farm, P 87.89 341 ⇑P P 08 03 50.9 +0.6
baz=88
A30A Hoffart Farm, 87.99 343 ⇓P P 08 03 51.2 +0.5
baz=88
B28A Dugan Ranch, T 88.02 342 ⇓P P 08 03 51.5 +0.6
baz=88
C25A Freed Ranch, W 88.11 340 ⇓P P 08 03 52.5 +1.2
baz=88
HLID Hailey 88.17 331 eP P 08 03 53.0 +1.0
comp=Z,30nm,1.4s
HLID e 08 04 02.3
HLID Hailey 88.17 331 ⇑P P 08 03 52.9 +0.9
baz=89
D23A Lindsay 88.17 339 ⇑P P 08 03 52.7 +1.0
baz=89
E21A Keefer Ranch, 88.18 337 ⇑P P 08 03 52.5 +0.8
baz=89
A29A Manning Farm, 88.19 343 ⇓P P 08 03 52.5 +0.8
baz=89
B27A Peters Farms, 88.21 341 ⇑P P 08 03 52.6 +0.8
baz=89
C24A Savage 88.27 339 ⇓P P 08 03 52.8 +0.7
baz=89
A28A Rude Farm, Bot 88.43 342 ⇑P P 08 03 53.3 +0.4
baz=89
B26A Jensen Ranch, 88.44 341 ⇑P P 08 03 53.8 +0.9
baz=89
E19A Rath Farm, Rou 88.65 336 ⇓P P 08 03 54.3 +0.2
baz=89
ULM Lac du Bonnet 88.70 345 P P 08 03 53.5 -0.6
comp=Z,18nm,1.0s,baz=148,slow=2.6,SNR=7.0
ULM pP pP 08 04 03.1 -1.0
comp=Z,16nm,0.8s,baz=181,slow=3.5,SNR=7.4
ULM Lac du Bonnet 88.70 345 ePKKPdf P 08 03 53.6 -0.4
A27A Ledoux Ranch, 88.71 342 ⇑P P 08 03 54.7 +0.6
baz=89
C23A Lambert 88.73 339 ⇓P P 08 03 54.7 +0.4
baz=89
A26A Wade Farm, Ken 88.86 341 ⇑P P 08 03 55.7 +0.8
baz=89
WVOR Wild Horse Val 88.97 328 eP P 08 03 56.6 +0.9
WVOR e 08 04 06.3
WVOR pmax pmax
comp=Z,39nm,1.4s
WVOR Wild Horse Val 88.97 328 eP P 08 03 56.6 +0.9
comp=Z,39nm,1.4s
WVOR e 08 04 06.3
DGMT Dagmar 89.06 340 eP P 08 03 56.2 +0.4
comp=Z,30nm,1.0s
DGMT Dagmar 89.06 340 ⇑P P 08 03 57.1 +1.3
baz=90
A25A Svangstu Ranch 89.19 341 ⇓P P 08 03 57.8 +1.4
baz=90
MOD Modoc 89.26 327 eP P 08 03 58.0 +0.9
comp=Z,32nm,1.7s
MOD e 08 04 07.8
LSZ Lusaka 89.60 109 eP P 08 04 00.1 +0.7
LSZ pmax pmax
comp=Z,60nm,1.4s
LSZ Lusaka 89.60 109 eP P 08 04 00.1 +0.7
comp=Z,60nm,1.4s
M04C Macdoel 89.86 326 ⇑P P 08 04 01.8 +1.9
baz=90
A22A Carney Farms, 90.02 339 ⇓P P 08 04 01.2 +0.9
baz=90
HAWA Hanford 92.55 330 eP P 08 04 13.6 +1.4
comp=Z,49nm,1.6s
HAWA e 08 04 22.4
NEW Newport 93.14 332 ⇑P P 08 04 14.8 -0.1
baz=94
MDT Midelt 93.81 52 P P 08 04 18.1 -0.3
comp=Z,11nm,1.1s,baz=238,slow=6.2,SNR=5.1
FCC Fort Churchill 96.51 349 eP P 08 04 29.2 -0.6
FCC Fort Churchill 96.51 349 eP P 08 04 29.2 -0.6
comp=Z,0.2nm,1.0s
ESDC Sonseca Array 98.69 47 P P 08 04 39.2 -1.1
comp=Z,1.9nm,0.9s,baz=249,slow=4.1,SNR=4.4
GERES GERESS Array B 114.28 46 PKP PKPdf 08 09 39.6 -0.7
comp=Z,3.9nm,0.8s,baz=197,slow=1.4,SNR=13
GERES pPKP pPKiKP 08 09 50.0 +10
comp=Z,1.4nm,0.6s,baz=216,slow=1.1,SNR=4.1
CLL Collm 115.03 44 ePKiKP PKiKP 08 09 42.0 +0.5
MORC Moravsky Berou 116.95 47⇓iP PKPdf 08 09 45.0 -0.3
WRA Warramunga Arr 118.34 209 PKP PKPdf 08 09 47.5 -1.6
comp=Z,1.3nm,0.6s,baz=178,slow=1.7,SNR=4.6
NB2 NORSAR Subarra118.39 33 PKPdf PKPdf 08 09 47.8 +0.1
comp=Z,9.0nm,1.2s,baz=248,slow=1.9
NB2 NORSAR Subarra118.39 33 PKPdf PKPdf 08 09 47.8 +0.1
baz=248,slow=1.9
NOA NORSAR Array B 118.39 33 PKP PKPdf 08 09 47.9 +0.1
comp=Z,2.3nm,0.9s,baz=234,slow=20,SNR=3.2
HFS Hagfors 119.15 35 PKP PKPdf 08 09 47.4 -1.8
comp=Z,4.2nm,0.8s,baz=160,slow=4.6,SNR=3.9
TRPA Tarpa 119.28 50⇓iP PKPdf 08 09 49.9 +0.1
ARR Arges 119.52 53⇓iP PKPdf 08 09 50.2 -0.3
JMB Yambol 119.66 57⇑iP PKPdf 08 09 50.4 -0.3
VOIR 119.82 54⇓iP PKPdf 08 09 51.0 0.0
KWP Kalwaria Pacla 119.96 48⇑iP PKPdf 08 09 51.0 -0.1
MLR Muntele Rosu 120.42 54 PKP PKPdf 08 09 50.5 -1.8
comp=Z,2.1nm,1.0s,baz=91,slow=2.0,SNR=6.5
BUR08 Bucovina Ar. S 120.75 51 ePKPdf PKPdf 08 09 52.7 -0.1
BURAR Bucovina Array 120.75 51⇓iP PKPdf 08 09 53.0 +0.2

PLOR Plostina 121.01 54⇓iP PKPdf 08 09 52.1 -1.2
VRI Vrincioaia 121.07 54⇑iP PKPdf 08 09 52.7 -0.6
TESR Tescani 121.26 53⇑iP PKPdf 08 09 52.6 -1.1
TIRR Tirgusor 121.66 56⇓iP PKPdf 08 09 54.5 0.0
CFR Carcaliu 121.74 55⇓iP PKPdf 08 09 54.3 -0.3
SUW Suwalki 121.79 44 ePKIKP PKPdf 08 09 54.1 -0.3
SUW Suwalki 121.79 44 ePKPdf PKPdf 08 09 54.1 -0.3
TLCR 122.19 55⇑iP PKPdf 08 09 55.3 -0.1
BRTR Keskin Array B 123.52 63 PKP PKPdf 08 09 58.2 -0.2
comp=Z,7.7nm,0.8s,baz=197,slow=3.2,SNR=14
BRTR pPKP pPKPdf 08 10 08.2 -0.6
comp=Z,2.4nm,0.7s,baz=202,slow=2.4,SNR=3.8
AK01 Malin Array Si 124.25 49 ePKPdf PKPdf 08 09 57.9 -1.3
AKASG Malin Array Be 124.27 49 PKP PKPdf 08 09 58.2 -1.0
comp=Z,6.9nm,0.7s,baz=259,slow=2.9,SNR=19
AKASG PP PP 08 11 41.4 -4.0
comp=Z,1.9nm,0.8s,baz=254,slow=8.5,SNR=5.8
AKBB Malin Array Si 124.27 49 ePKIKP PKPdf 08 09 58.3 -1.0
AKBB Malin Array Si 124.27 49 ePKPdf PKPdf 08 09 58.3 -1.0
FINES FINESS Array B 125.33 36 PKP PKPdf 08 10 00.8 -0.2
comp=Z,6.8nm,1.0s,baz=106,slow=4.2,SNR=6.6
FIA1 FINESS Array S 125.33 36 ePKPdf PKPdf 08 09 59.8 -1.2
RAYN Ar Rayn 125.83 86 ePKPdf PKPdf 08 10 03.5 +0.3
ARCES ARCESS Array B 126.48 26 PKIKP PKPdf 08 10 03.0 0.0
ARCES ARCESS Array B 126.48 26 PKP PKPdf 08 10 03.0 0.0
comp=Z,7.2nm,1.0s,baz=235,slow=3.2,SNR=3.9
OBN Obninsk 129.61 45⇑iPKIKP PKPdf 08 10 09.8 +0.5
OBN pmax pmax
comp=Z,62nm,1.6s
KBZ Khabaz 131.35 60 PKP PKPdf 08 10 13.9 +0.9
comp=Z,7.3nm,1.0s,baz=230,slow=1.7,SNR=4.7
GNI Garni 131.71 66 PKP PKPdf 08 10 14.9 +0.9
comp=Z,2.1nm,0.3s,baz=212,slow=13,SNR=4.0
ZEI Tsey 131.82 62 ePKIKP PKPdf 08 10 13.0 -1.2
ZEI pmax pmax
comp=Z,15nm,1.2s
PRGR Permogore 134.65 36 ePKIKP PKPdf 08 10 17.2 -1.4
PRGR pmax pmax
comp=Z,50nm,0.9s
BILL Bilibino 134.75 333 ePKIKP PKPdf 08 10 18.2 -0.5
BILL pmax pmax
comp=Z,6.0nm,1.5s
GEYT Alibeck 141.21 73 PKP PKPdf 08 10 31.4 -0.1
comp=Z,3.5nm,0.7s,baz=239,slow=12,SNR=5.1
ABKAR Akbulak array 143.63 54 ePKPdf PKPab 08 10 32.3 +0.2
KSM Kuching 145.09 185 ePKPdf PKPbc 08 10 38.3 -0.2
PSI Prapat 145.66 165 PKPbc PKPdf 08 10 39.3 -1.0
comp=Z,100nm,0.9s,baz=180,slow=3.2,SNR=17
PSI pPKPbc pPKPbc 08 10 49.0 -1.8
comp=Z,61nm,0.8s,baz=224,slow=1.5,SNR=7.1
LHMI Lhok Sumawe 147.53 161 ePKPbc PKPbc 08 10 45.4 -0.4
IPM Ipoh 147.68 168 ePKPdf PKPbc 08 10 45.1 -1.2
HYB Hyderabad 148.36 119 iPKP PKPdf 08 10 46.0 +1.5
KULM Kulim 148.41 167 ePKPdf PKPbc 08 10 46.9 -1.2
KBL Kabul 148.98 82 ePKP2 PKPbc 08 10 48.0 -1.4
KBL Kabul 148.98 82 ePKPbc PKPbc 08 10 48.0 -1.4
BVAR Borovoye Array 149.45 45 PKPbc PKPbc 08 10 50.3 +0.7
comp=Z,26nm,0.8s,baz=299,slow=3.1,SNR=11
BVAR pPKPbc pPKPbc 08 11 00.2 +0.2
comp=Z,11nm,0.6s,baz=228,slow=1.8,SNR=4.2
YAK Yakutsk 150.80 338 ePKIKP PKPbc 08 10 51.0 -1.5
YAK pmax pmax
comp=N,16nm,1.5s
YAK pmax pmax
comp=Z,149nm,1.1s
YAK pmax pmax
comp=E,13nm,1.0s
YAK Yakutsk 150.80 338 ePKPbc PKPbc 08 10 52.2 -0.3
KKAR Karatay Array 151.18 65 ePKIKP PKPbc 08 10 53.6 -0.5
KKAR Karatay Array 151.18 65 ePKPbc PKPbc 08 10 53.6 -0.5
ASAJ Asahikawa 152.12 297 PKPbc PKPbc 08 10 55.0 -1.2
comp=E,22nm,0.9s,baz=217,slow=5.1,SNR=4.2
ASAJ pPKPbc PKPab 08 11 05.5 -0.4
comp=E,27nm,0.9s,baz=216,slow=5.1,SNR=4.3
AAK Ala-Archa 154.12 66 PKPbc PKPbc 08 11 01.1 +0.3
comp=E,23nm,1.0s,baz=145,slow=0.3,SNR=4.0
AAK PKPab PKPab 08 11 14.4 -0.3
comp=E,34nm,1.1s,baz=341,slow=1.1,SNR=3.7
KSH Kashi 155.24 73 ePKPbc PKPdf 08 10 54.5 +0.2
KSH epPKP pPKPdf 08 11 08.0 +3.3
ZALV Zalesovo Beam 156.59 35 PKP PKPdf 08 10 54.6 -0.8
comp=E,25nm,0.9s,baz=318,slow=2.0,SNR=8.0
ZALV PKPab PKPab 08 11 25.1 +0.5
comp=E,4.8nm,0.7s,baz=305,slow=5.2,SNR=5.4
BOD Bodaibo 158.15 350 ePKP2 PKPab 08 11 30.1 -1.0
BOD pmax pmax
comp=Z,27nm,1.2s
MK31 Makanchi Array 158.76 53 ePKIKP PKPdf 08 10 57.8 -0.7
MK31 e 08 11 34.1
MK31 Makanchi Array 158.76 53 ePKPdf PKPdf 08 10 57.8 -0.7
MK31 ePKPab PKPab 08 11 34.1 -0.2
MKAR Makanchi Array 158.76 53 PKP PKPdf 08 10 58.6 +0.2
comp=Z,14nm,1.0s,baz=318,slow=1.6,SNR=9.4
MKAR PKPab PKPab 08 11 34.6 +0.3
comp=Z,10nm,0.8s,baz=289,slow=3.7,SNR=6.3
CMAR Chiang Mai Arr 160.65 156 PKP PKPdf 08 11 01.8 +0.3
comp=Z,1.5nm,0.3s,baz=265,slow=2.5,SNR=6.8
CMAR PKPab PKPab 08 11 41.7 -1.3
comp=Z,11nm,1.1s,baz=227,slow=4.6,SNR=8.4
ZAK Zakamensk 165.78 10 ePKP2 PKPab 08 12 04.1 -0.8
ZAK pmax pmax
comp=Z,9.0nm,1.3s
SONM Songino Array 168.60 3 PKPab PKPab 08 12 16.8 -0.6
comp=Z,6.4nm,1.0s,baz=352,slow=4.2,SNR=8.2
NJ2 Nanjing 169.43 249 ePKP PKPdf 08 11 11.3 +2.8
GYA Guiyang 170.03 177 PKP PKPdf 08 11 09.0 -0.2
GYA pPKP pPKPdf 08 11 20.5 +0.9
GYA PKPab PKPab 08 12 27.3 +3.0
GYA PKS PKSdf 08 14 40.0 -1.8
GYA PP PP 08 16 16.8 +3.5
GYA SKKS 08 22 59.3
GYA SS SS 08 37 12.0 +2.1
GYA AMB AMB
comp=Z,160nm,8.4s
GYA LR LR
comp=Z,190nm,21.5s
GYA LR LR
comp=Z,160nm,21.2s
GYA LR LR
comp=Z,180nm,24.8s
CD2 Chengdu 173.77 151 PKP PKPdf 08 11 10.5 -0.2
CD2 pPKP pPKPdf 08 11 21.8 +0.6
CD2 sPKP 08 11 25.5
CD2 PKS PKSdf 08 14 41.3 -1.7
CD2 PP PP 08 16 35.0 +2.9
CD2 SKS SKSdf 08 18 08.0 -3.6
CD2 SKKS SKKSac 08 23 16.3 -0.5
CD2 SS SS 08 37 45.8 -1.3
CD2 AMB AMB
comp=Z,620nm,6.4s
HHC Hu-ho-hao-te 174.44 324 ePKP PKPdf 08 11 08.3 -2.4
HHC sPKP 08 11 22.5
HHC PP PP 08 16 33.5 -2.2
LZH Lanzhou 177.24 96 ePKP PKPdf 08 11 11.5 -0.1
LZH pPKP pPKPdf 08 11 23.5 +1.4
LZH sPKP 08 11 29.5
LZH PKPab PKPab 08 12 57.8 +1.3
LZH ePP PP 08 16 51.0 +0.8

IDC 27 07:52:01.8±1.2, 35.88S×73.35W, h0km, mb5.0/3, mb1 5.1/3, mb1mx4.4/35, mbtmp5.0/3, Error ellipse: s-maj=42.3km s-min=38.2km az=80.0

ISCJB 27 07:52:05.0±1.0, 35.8S±0.1×73.3W±0.3, h33km, mb5.0/5, Error ellipse: s-maj=36.8km s-min=15.7km az=160.9

NEIC 27 07:52:07.2±0.7, 35.83S×73.33W, h35km, mb5.2/3, Error ellipse: s-maj=31.6km s-min=14.5km az=75.0

ISC 27 07:52:07.3±0.9, 35.8S±0.1×73.3W±0.3, h35km, n11, σ1§00/11, mb5.1/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.37	157	ePn	Pn	07 53 25.1	0.0
BDFB	Brasilia	30.22	55	P	P	07 58 15.4	+0.5
	30nm,1.0s,baz=197,slow=13,SNR=2.2						
FDF	Fort de France	51.57	15	eP	P	08 01 10.0	-0.1
	23nm,0.8s						
TEIG	Tepich	57.51	343	P	P	08 01 52.2	-0.9
	19nm,0.6s,baz=146,slow=11,SNR=3.8						
TXAR	Lajitas Array	70.82	332	P	P	08 03 21.8	+1.4
	2.9nm,0.6s,baz=155,slow=8.6,SNR=3.9						
WVT	Waverly	72.84	348	eP	P	08 03 32.8	+0.5
ACSO	Alum Creek Sta	76.19	352	eP	P	08 03 50.5	-1.1
	14nm,0.7s						

WRA Warramunga Arr 118.68 210 PKP PKPdf 08 10 52.9 +0.7
1.0nm,0.6s,baz=156,slow=1.7,SNR=2.1
BRTR Keskin Array B 123.61 62 PKP PKPdf 08 11 01.9 +0.8
1.7nm,0.9s,baz=277,slow=1.4,SNR=2.5
PSI Prapat 146.38 166 PKPbc PKPdf 08 11 42.7 -1.3
8.2nm,0.6s,baz=152,slow=22,SNR=5.1
ZALV Zalesovo Beam 156.31 33 PKPab PKPab 08 12 25.1 -0.8
5.7nm,0.8s,baz=300,slow=4.1,SNR=2.7

IDC 27 07:53:55.6±0.7, 34.61S×73.83W, h0km, mb4.7/13, mb1 4.9/13, mb1mx4.6/37, mbtmp4.8/13, Error ellipse: s-maj=27.9km s-min=16.9km az=73.0
ISCJB 27 07:53:58.8±0.5, 34.60S±0.08×73.8W±0.2, h33km, mb4.8/20, Error ellipse: s-maj=19.4km s-min=10.6km az=165.1
NEIC 27 07:54:00.9±0.3, 34.61S×73.78W, h35km, mb5.0/10, Error ellipse: s-maj=14.0km s-min=7.4km az=76.0
ISC 27 07:54:01.0±0.6, 34.59S±0.10×73.8W±0.2, h35km, n34, σ0.69/33, mb4.8/20, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz 25nm,1.0s	18.92	17	eP	P	07 58 19.7	+0.3
USHA	Ushuaia 22nm,1.0s,baz=324,slow=8.1,SNR=2.7	20.58	171	P	P	07 58 36.0	-0.6
SIV	San Ignacio 26nm,0.8s,baz=222,slow=12,SNR=3.8	21.76	35	P	P	07 58 48.9	-0.7
NNA	Nana 19nm,0.9s	22.67	352	eP	P	07 59 01.4	+1.9
PAYG	Puerto Ayora 70nm,1.3s	37.10	332	eP	P	08 01 07.9	-0.3
SDV	Santo Domingo 14nm,0.8s	43.34	5	eP	P	08 01 59.8	-0.3
RCBR	Riachuelo 6.2nm,0.9s,baz=252,slow=13,SNR=3.4	45.18	59	P	P	08 02 15.2	+0.5
RCBR	Riachuelo 2µm,2.8s	45.18	59	eP	P	08 02 15.0	+0.3
FDF	Fort de France 42nm,1.1s	50.50	16	eP	P	08 02 54.8	-0.9
SNAA	Sanae 5.3nm,0.8s,baz=281,slow=6.3,SNR=5.5	51.59	158	P	P	08 03 03.8	+0.4
APG	El Apazote 4.4nm,0.6s,baz=139,slow=8.5,SNR=4.7	51.81	339	P	P	08 03 01.4	-4.4
GTBY	Guantanamo Bay	54.23	358	eP	P	08 03 22.9	-0.4
TEIG	Tepich 13nm,0.6s,baz=152,slow=11,SNR=5.2	56.23	344	P	P	08 03 37.0	-0.7
TEIG	Tepich 32nm,1.0s	56.23	344	eP	P	08 03 37.5	-0.2
TXAR	Lajitas Array 2.6nm,0.6s,baz=158,slow=8.2,SNR=6.2	69.56	332	P	P	08 05 06.8	+0.4
OXF	Oxford	70.28	346	eP	P	08 05 09.8	-0.7
ABTX	Abilene, Hawle 12nm,0.8s	71.14	337	eP	P	08 05 15.6	-0.3
MAW	Mawson 21nm,0.5s,baz=230,slow=7.9,SNR=6.7	73.02	164	P	P	08 05 26.7	0.0
ACSO	Alum Creek Sta 13nm,0.9s	74.94	353	eP	P	08 05 37.9	-0.3
DBIC	Dimbokro 15nm,0.6s,baz=203,slow=5.1,SNR=7.6	76.73	72	P	P	08 05 49.8	+0.7
DBIC	Dimbokro 22nm,0.8s	76.73	72	eP	P	08 05 49.5	+0.5
SDCO	Great Sand Dun 2.9nm,1.0s	77.77	335	eP	P	08 05 55.1	+0.4
TSUM	Tsumeb 7.2nm,1.0s,baz=180,slow=11,SNR=2.5	80.44	107	P	P	08 06 08.3	-1.3
LBTB	Lobatse 6.8nm,0.7s,baz=265,slow=9.2,SNR=3.0	83.36	116	P	P	08 06 25.3	+0.4
NVAR	Mina Array Bea 1.3nm,0.7s,baz=162,slow=6.5,SNR=2.7	83.56	326	P	P	08 06 26.3	+0.7
TORD	Torodi Ar. Bea 5.8nm,0.7s,baz=247,slow=4.0,SNR=3.8	85.77	71	P	P	08 06 37.1	+0.1
ULM	Lac du Bonnet 3.6nm,0.8s,baz=194,slow=8.1,SNR=2.5	86.71	346	P	P	08 06 39.5	-1.1
BRTR	Keskin Array B 1.5nm,0.8s,baz=170,slow=3.6,SNR=3.4	123.38	62	PKP	PKPdf	08 12 54.2	-0.2
PSI	Prapat 8.1nm,0.7s,baz=236,slow=2.0,SNR=2.7	147.65	166	PKPbc	PKPdf	08 13 40.6	+0.8
BVAR	Borovoye Array 11nm,0.5s,baz=296,slow=1.8,SNR=17	148.69	43	PKPbc	PKPbc	08 13 44.8	+0.9
HYB	Hyderabad	149.97	118	iP	PKPbc	08 13 48.0	-0.2
ZALV	Zalesovo Beam 3.9nm,0.6s,baz=292,slow=2.2,SNR=4.3	155.49	31	PKPbc	PKPdf	08 13 59.2	+9.0
ZALV	6.2nm,0.8s,baz=316,slow=4.0,SNR=3.6			PKPab	PKPab	08 14 16.6	+0.5
MKAR	Makanchi Array 2.5nm,0.7s,baz=309,slow=3.6,SNR=3.5	158.24	49	PKPab	PKPab	08 14 28.3	0.0
SONM	Songino Array 1.1nm,0.8s,baz=346,slow=4.8,SNR=3.9	166.77	359	PKPab	PKPab	08 15 06.0	+0.5

IDC 27 07:54:21.8±1.2, 34.71S×73.74W, h0km, mb4.8/7, mb1 4.9/8, mb1mx4.5/39, mbtmp4.8/8, ML4.6/1, Error ellipse: s-maj=38.0km s-min=28.7km az=60.0
NEIC 27 07:54:24.9±0.8, 35.09S×73.77W, h35km, mb5.0/5, Error ellipse: s-maj=26.7km s-min=15.3km az=71.0
ISCJB 27 07:54:27.1±0.7, 34.4S±0.1×73.6W±0.1, h33km, mb4.9/12, Error ellipse: s-maj=21.3km s-min=14.2km az=13.9
ISC 27 07:54:25.7±0.8, 35.1S±0.1×73.6W±0.2, h35km, n184, σ0.75/182, mb4.9/12, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.16	158	ePn	Pn	07 55 51.9	-2.3
LPAZ	La Paz 0.8nm,0.3s,baz=236,slow=5.3,SNR=3.1	19.32	16	P	P	07 58 46.3	-2.3
LPAZ	La Paz 16nm,0.7s	19.32	16	eP	P	07 58 46.8	-1.8
SIV	San Ignacio 24nm,0.8s,baz=224,slow=13,SNR=3.9	22.05	34	P	P	07 59 16.9	-0.6
RCBR	Riachuelo	45.28	59	eP	P	08 02 42.7	+2.5
FDF	Fort de France 17nm,0.8s	50.90	16	eP	P	08 03 20.8	-2.7
APG	El Apazote 4.4nm,0.6s,baz=228,slow=7.8,SNR=4.4	52.30	339	P	P	08 03 29.0	-5.1
TEIG	Tepich 18nm,0.6s,baz=186,slow=4.4,SNR=5.3	56.72	343	P	P	08 04 04.6	-1.3
834A	Tilden baz=67	67.12	336	P	P	08 05 16.5	+0.8
735A	Kenedy baz=68	67.55	337	P	P	08 05 19.2	+0.8
833A	Chaparral WMA, baz=68	67.59	335	P	P	08 05 19.3	+0.7
636A	Smothers Creek baz=68	67.90	338	P	P	08 05 21.3	+0.7
732A	Laxson Ranch, baz=68	68.16	335	P	P	08 05 22.6	+0.3
632A	Uvalde baz=69	68.81	336	P	P	08 05 26.9	+0.6
533A	Kerrville baz=69	69.08	336	P	P	08 05 28.4	+0.4
337A	Centerville baz=70	69.27	340	P	P	08 05 29.9	+0.7
435B	Jarrell baz=70	69.28	338	P	P	08 05 29.7	+0.5
532A	Rocksprings baz=70	69.42	336	P	P	08 05 30.9	+0.8
434A	Burnet baz=70	69.52	337	P	P	08 05 31.6	+0.9
239A	Gary baz=70	69.55	341	P	P	08 05 31.5	+0.7
531A	Rocksprings baz=70	69.67	335	P	P	08 05 32.1	+0.4
530A	J-C Ranch, Com baz=70	69.93	335	P	P	08 05 33.7	+0.4
TXAR	Lajitas Array 5.8nm,1.0s,baz=158,slow=7.8,SNR=3.4	70.05	332	P	P	08 05 33.5	-0.6
333A	Richland Sprin baz=70	70.22	337	P	P	08 05 34.5	-0.5
430A	Baggett Ranch, baz=71	70.47	335	P	P	08 05 37.1	+0.5
234A	Clairette baz=71	70.58	338	P	P	08 05 37.0	-0.2
331A	San Angelo baz=71	70.67	336	P	P	08 05 37.0	-0.8
233A	Rising Star baz=71	70.83	337	P	P	08 05 38.0	-0.7
SWET	Sewanee 8.1nm,1.0s	70.85	349	eP	P	08 05 38.0	-0.8
135A	Vickery Place, baz=71	70.88	339	P	P	08 05 38.5	-0.5
232A	Coleman baz=71	70.95	337	P	P	08 05 38.9	-0.6
330A	Mertzon baz=71	71.02	335	P	P	08 05 39.3	-0.6
231A	Bronte baz=72	71.21	336	P	P	08 05 40.6	-0.5
329A	Wagon Wheel Ra baz=72	71.37	335	P	P	08 05 42.0	-0.1
Z35A	Perchaven, San baz=72	71.55	339	P	P	08 05 43.1	+0.1
ABTX	Abilene, Hawle baz=72	71.63	337	P	P	08 05 43.1	-0.4
229A	Bryant Ranch, baz=72	71.75	335	P	P	08 05 44.3	0.0
Z34A	Collier Ranch, baz=72	71.79	339	P	P	08 05 44.7	+0.3
131A	Roby baz=72	71.92	336	P	P	08 05 45.2	-0.1
Z33A	Whitaker Ranch baz=72	71.97	338	P	P	08 05 45.8	+0.3
130A	Snyder baz=72	72.04	336	P	P	08 05 45.7	-0.3
WVT	Waverly 35nm,1.1s	72.05	348	eP	P	08 05 45.0	-0.9
228A	UT Block 9, Go baz=72	72.16	334	P	P	08 05 46.4	-0.4
Z32A	Haskell baz=72	72.21	337	P	P	08 05 47.0	0.0
Y34A	Reagan Ranch, baz=73	72.29	339	P	P	08 05 47.5	+0.1
Z31A	Sharp Cattle R baz=73	72.43	337	P	P	08 05 48.4	+0.1
128A	Castleberry Fa baz=73	72.58	335	P	P	08 05 49.1	-0.2
Y33A	Hilltop Ranch, baz=73	72.59	338	P	P	08 05 49.3	0.0
Z30A	Sanderson Ranc baz=73	72.72	336	P	P	08 05 50.1	0.0
Y32A	R-V Farms, Ver baz=73	72.84	338	P	P	08 05 50.5	-0.2
X34A	Smith Ranch, M baz=73	72.91	339	P	P	08 05 51.1	-0.1
X33A	Lawton baz=73	73.05	339	P	P	08 05 51.8	-0.2
TUL1	Tulsa baz=74	73.58	341	P	P	08 05 54.5	-0.5
X31A	McDonald Ranch baz=74	73.59	338	P	P	08 05 55.0	-0.2
W33A	Caddo, Fort Co baz=74	73.61	339	P	P	08 05 55.3	0.0
Z26A	Caprock baz=74	73.70	334	P	P	08 05 56.0	0.0
W32A	Sentinel baz=74	73.82	338	P	P	08 05 56.3	-0.2
MSTX	Muleshoe baz=74	73.90	335	P	P	08 05 57.3	+0.2
Y26A	Elida baz=74	74.23	334	P	P	08 05 59.9	+0.8
V32A	Arapaho baz=75	74.31	339	P	P	08 05 60.0	+0.6
AMTX	Amarillo baz=75	74.37	336	P	P	08 06 00.1	+0.4
121A	Cookes Peak, D baz=75	74.50	330	P	P	08 06 01.8	+1.1
X26A	CR and CF Fran baz=75	74.79	334	P	P	08 06 03.2	+0.9
Y23A	Lovelace Mesa, baz=75	75.06	332	P	P	08 06 04.7	+0.8
W26A	Owens Ranch, T baz=76	75.26	335	P	P	08 06 05.7	+0.7
T33A	Patterson Ranc baz=76	75.34	340	P	P	08 06 05.9	+0.7
ACSO	Alum Creek Sta	75.42	353	eP	P	08 06 04.3	-1.2
W25A	X Bar L Ranch, baz=76	75.62	334	P	P	08 06 08.2	+1.1
U27A	Thompson Grove baz=76	76.15	336	P	P	08 06 10.8	+0.7
W23A	Werner Place, baz=76	76.19	333	P	P	08 06 11.1	+0.7
T29A	Hugoton baz=77	76.32	338	P	P	08 06 11.9	+0.9
T27A	Campo baz=77	76.69	336	P	P	08 06 13.6	+0.5
DBIC	Dimbokro 12nm,0.8s,baz=213,slow=8.6,SNR=3.4	76.72	72	P	P	08 06 15.2	+1.5
R32A	Long Quarter, baz=77	76.73	340	P	P	08 06 14.0	+0.9
S28A	Manter baz=77	76.91	337	P	P	08 06 14.9	+0.6
U24A	Moreno Valley baz=77	76.98	334	P	P	08 06 15.5	+0.6
V22A	San Miguel Ran baz=77	77.14	333	P	P	08 06 16.8	+1.0
T25A	Trinidad baz=78	77.33	335	P	P	08 06 17.7	+0.9
S26A	Kim baz=78	77.45	336	P	P	08 06 18.2	+0.8
Q30A	Quinter baz=78	77.67	339	P	P	08 06 18.9	+0.4
S25A	Robets Cordova baz=78	77.81	335	P	P	08 06 20.0	+0.5
R27A	Eads baz=78	77.83	337	P	P	08 06 19.6	+0.2
GLA	Glamis baz=78	78.01	326	P	P	08 06 20.7	+0.2
R26A	Arlington baz=78	78.06	336	P	P	08 06 20.3	-0.5
S24A	Houchin Ranch, baz=78	78.06	335	P	P	08 06 21.2	+0.2
R24A	Sanders Place, baz=79	78.56	335	P	P	08 06 24.9	+1.3
O29A	4D Ranch, Culb baz=79	78.91	339	P	P	08 06 26.6	+1.3
P27A	Ficken Ranch, baz=79	78.92	338	P	P	08 06 27.5	+2.0
IRM	Iron Mountain baz=79	79.08	326	P	P	08 06 28.2	+1.8
Q24A	Divide baz=80	79.23	335	P	P	08 06 28.2	+0.8
P25A	Willow Gulch B baz=80	79.39	336	P	P	08 06 29.2	+1.1
O27A	Beecher Island baz=80	79.47	338	P	P	08 06 29.4	+1.0
MURC	Murrieta baz=80	79.58	324	P	P	08 06 30.8	+1.7
BFSC	Mount Baldy Ra baz=81	80.32	324	P	P	08 06 34.2	+1.0
L29A	Maesberg Ranch baz=81	80.61	340	P	P	08 06 35.1	+0.6
O23A	Lake Granby, G baz=81	80.61	335	P	P	08 06 35.6	+0.8
K30A	Basset baz=81	80.94	341	P	P	08 06 36.3	+0.1
ECSD	EROS Data Cent baz=82	81.17	343	P	P	08 06 37.3	-0.1
K29A	Lazy Trails An baz=82	81.21	340	P	P	08 06 38.0	+0.3
K28A	Ten Mile Ranch baz=82	81.46	340	P	P	08 06 40.4	+1.4
J29A	Okreek baz=82	81.81	341	P	P	08 06 41.0	+0.3
J28A	Allard Ranch, baz=82	82.08	340	P	P	08 06 42.9	+0.7
J27A	Elkhorn Farm, baz=82	82.14	339	P	P	08 06 43.4	+0.9
VES	Vestal, Richgr baz=82	82.30	324	P	P	08 06 45.0	+1.5
BRSD	Miller baz=83	82.41	342	P	P	08 06 43.9	0.0
I28A	Midland baz=83	82.59	340	P	P	08 06 45.5	+0.7
I27A	Quinn baz=83	82.90	340	P	P	08 06 47.1	+0.6
H29A	Onida baz=83	82.91	341	P	P	08 06 46.5	0.0
K22A	Casper baz=83	82.99	336	P	P	08 06 47.7	+0.6
J24A	Dixon Ranch, L baz=83	83.00	338	P	P	08 06 47.1	0.0
LBTB	Lobatse 6.7nm,0.7s,baz=263,slow=8.5,SNR=3.1	83.02	116	P	P	08 06 51.6	+3.8
I26A	New Underwood baz=83	83.10	339	P	P	08 06 48.0	+0.5
G30A	Faulkton baz=83	83.10	342	P	P	08 06 47.7	+0.3
K21A	Alcova baz=84	83.22	336	P	P	08 06 48.9	+0.6
I25A	Rochford baz=84	83.34	339	P	P	08 06 49.7	+0.7
G29A	Hoven baz=84	83.36	342	P	P	08 06 49.0	+0.2
I24A	Kuemmerle Ranc baz=84	83.47	338	P	P	08 06 50.0	+0.5
G28A	Parade baz=84	83.51	341	P	P	08 06 49.6	0.0
F30A	Leola baz=84	83.73	342	P	P	08 06 51.0	+0.3
F29A	Eureka baz=84	83.93	342	P	P	08 06 51.9	+0.2
G27A	Dupree baz=84	84.07	340	P	P	08 06 52.4	-0.1
I22A	9 Mile Ranch, baz=84	84.09	337	P	P	08 06 52.8	+0.1
J20A	Shoshoni baz=84	84.14	335	P	P	08 06 53.9	+0.9
F28A	McLaughlin baz=84	84.20	341	P	P	08 06 53.8	+0.7
G25A	Newell baz=85	84.32	339	P	P	08 06 54.3	+0.6
E30A	Jud baz=85	84.33	343	P	P	08 06 54.3	+0.6
F27A	Lemmon baz=85	84.55	340	P	P	08 06 54.9	+0.1
E29A	Napoleon baz=85	84.57	342	P	P	08 06 54.9	0.0
I20A	Worland baz=85	84.68	336	P	P	08 06 55.8	+0.1
E28A	Huff baz=85	84.84	342	P	P	08 06 56.7	+0.4
D30A	Buchanan baz=85	84.86	343	P	P	08 06 56.7	+0.3
G23A	Biddle baz=85	84.92	338	P	P	08 06 56.9	+0.1
H21A	Big Horn, Sher baz=85	84.92	337	P	P	08 06 56.9	0.0
E27A	Carson baz=85	84.94	341	P	P	08 06 57.2	+0.4
F25A	Bowman baz=85	85.00	340	P	P	08 06 57.5	+0.4
D29A	Pettibone, Tap baz=85	85.02	342	P	P	08 06 57.5	+0.4
I19A	Meeteetse baz=85	85.05	335	P	P	08 06 58.0	+0.3
H20A	Greybull baz=85	85.11	336	P	P	08 06 58.2	+0.4
C30A	Mose, Pekin baz=86	85.35	343	P	P	08 06 59.1	+0.3
D28A	Regan baz=86	85.39	342	P	P	08 06 58.9	-0.1
F23A	Volborg baz=86	85.39	338	P	P	08 06 59.3	+0.1
E25A	Miller Ranch, baz=86	85.51	340	P	P	08 06 59.9	+0.3
H19A	Powell baz=86	85.61	336	P	P	08 07 00.2	-0.2
TORD	Torodi Ar. Bea 4.2nm,0.7s,baz=244,slow=4.8,SNR=3.5	85.77	71	P	P	08 07 02.2	+0.5
E24A	Baker baz=86	85.82	339	P	P	08 07 02.0	+0.7
G20A	Bridger baz=86	85.83	336	P	P	08 07 01.3	-0.1
H18A	Shoshone NF, C baz=86	85.85	335	P	P	08 07 01.8	+0.1
B30A	Myrvik Farm, E baz=86	86.02	344	P	P	08 07 02.2	+0.1
D25A	Fairfield baz=86	86.08	340	P	P	08 07 03.2	+0.7
C27A	Sayler Ranch, baz=86	86.11	342	P	P	08 07 03.1	+0.5
B29A	Wagenman Farm, baz=87	86.27	343	P	P	08 07 03.5	+0.1
F20A	Billings baz=87	86.33	337	P	P	08 07 03.8	0.0
D24A	Glendive baz=87	86.33	340	P	P	08 07 04.2	+0.5
A30A	Hoffart Farm, baz=87	86.47	344	P	P	08 07 04.0	-0.4
B28A	Dugan Ranch, T baz=87	86.50	343	P	P	08 07 04.7	+0.2
C25A	Freed Ranch, W baz=87	86.58	340	P	P	08 07 05.3	+0.4
F19A	Roth Farm, Mol baz=87	86.63	336	P	P	08 07 05.4	0.0
HLID	Hailey baz=87	86.64	332	P	P	08 07 06.2	+0.8
D23A	Lindsay baz=87	86.64	339	P	P	08 07 05.6	+0.3
E21A	Keefer Ranch, baz=87	86.64	338	P	P	08 07 05.5	+0.2
C24A	Savage baz=87	86.74	340	P	P	08 07 06.2	+0.5
D22A	Cohagen baz=87	86.91	338	P	P	08 07 07.0	+0.4
E20A	Meyer Farm, Mu baz=87	86.94	337	P	P	08 07 06.9	+0.1
B25A	Knox Farm, Ray baz=87	87.06	341	P	P	08 07 08.0	+0.7
D21A	La Casta Ranch baz=87	87.08	338	P	P	08 07 07.6	+0.1
E19A	Rath Farm, Rou baz=87	87.12	336	P	P	08 07 07.8	+0.2
A27A	Ledoux Ranch, baz=88	87.19	342	P	P	08 07 08.5	+0.7
ULM	Lac du Bonnet 7.5nm,1.0s,baz=107,slow=5.7,SNR=3.4	87.19	346	P	P	08 07 07.0	-0.8
C23A	Lambert baz=88	87.20	339	P	P	08 07 08.2	+0.3
A26A	Wade Farm, Ken baz=88	87.34	342	P	P	08 07 08.9	+0.3
C22A	Vida baz=88	87.36	339	P	P	08 07 08.6	-0.1
D20A	Manuel Ranch, baz=88	87.46	337	P	P	08 07 09.2	-0.1
DGMT	Dagmar 26nm,1.2s	87.53	340	eP	P	08 07 09.5	+0.1
DGMT	Dagmar baz=88	87.53	340	P	P	08 07 09.8	+0.3
A25A	Svangstu Ranch baz=88	87.66	341	P	P	08 07 10.6	+0.5
A24A	Westby baz=88	87.89	340	P	P	08 07 11.5	+0.3
B22A	Reddig Ranch S baz=88	87.89	339	P	P	08 07 11.6	+0.3
M04C	Macdoel baz=89	88.34	326	P	P	08 07 14.6	+0.9
A22A	Carney Farms, baz=89	88.49	339	P	P	08 07 14.6	+0.6
B20A	Solberg Farm, baz=89	88.62	338	P	P	08 07 14.8	+0.1
A20A	Cobblestone Ra baz=89	88.98	338	P	P	08 07 16.2	-0.2
WRA	Warramunga Arr 0.4nm,0.6s,baz=172,slow=2.1,SNR=2.4	119.21	210	PKP	PKPdf	08 13 14.0	+2.4
MKAR	Makanchi Array 3.3nm,0.8s,baz=267,slow=4.4,SNR=4.4	158.42	50	PKPab	PKPab	08 14 54.1	+0.4
SONM	Songino Array 1.2nm,0.8s,baz=338,slow=3.7,SNR=3.4	167.23	0	PKPab	PKPab	08 15 33.0	+0.7

IDC 27 07:55:38.3±1.9, 33.35S×71.42W, h0km, mb4.3/3, mb1 4.6/4, mb1mx4.1/37, mbtmp4.4/4, ML4.4/1, Error ellipse: s-maj=74.8km s-min=34.0km az=50.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz 0.6nm,0.3s,baz=162,slow=13,SNR=2.9	17.25	11	P	Pn	07 59 41.5	0.0
TXAR	Lajitas Array 1.0nm,0.5s,baz=157,slow=8.7,SNR=7.7	69.43	330	P	P	08 06 48.4	0.0
BOSA	Boshof 4.2nm,0.9s,baz=231,slow=6.5,SNR=3.0	79.91	118	P	P	08 07 49.6	+0.1
TORD	Torodi Ar. Bea 1.2nm,0.7s,baz=250,slow=4.2,SNR=2.6	83.50	70	P	P	08 08 08.3	-0.1

IDC 27 07:56:30.9±0.5, 37.05S×73.31W, h0km, mb4.8/21, mb1 4.9/23, mb1mx4.8/39, mbtmp4.8/23, ML4.5/2, Error ellipse: s-maj=21.5km s-min=12.4km az=71.0
ISCJB 27 07:56:32.6±0.3, 36.91S±0.06×73.08W±0.08, h14km, mb5.0/80, Error ellipse: s-maj=10.9km s-min=7.4km az=140.2
NEIC 27 07:56:36.7±0.2, 37.03S×73.20W, h35km, mb5.1/62, Error ellipse: s-maj=6.5km s-min=5.2km az=96.0
ISC 27 07:56:33.5±0.4, 37.01S±0.07×73.3W±0.1, h14km, n452, σ1.09/465, mb5.1/80, 167C-162D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.28	151	Pn	Pn	07 57 38.5	+0.2
	12nm,0.3s,baz=342,slow=13,SNR=1.8						
PLCA	Paso Flores	4.28	151	Pn	Pn	07 57 40.6	+2.3
CFAA	Coronel Fontan	6.81	39	Pn	Pn	07 58 14.0	+1.0
	2.4nm,0.3s,baz=238,slow=15,SNR=2.8						
TRQA	Tornquist	9.03	100	ePn	Pn	07 58 47.6	+4.1
LPAZ	La Paz	21.14	14	P	P	08 01 19.8	+1.1
	21nm,0.7s,baz=195,slow=7.3,SNR=6.3						
LPAZ	La Paz	21.14	14	eP	P	08 01 19.8	+1.1
	48nm,0.8s						
SIV	San Ignacio	23.57	31	P	P	08 01 43.9	+0.2
	17nm,0.8s,baz=240,slow=14,SNR=4.3						
NNA	Nana	25.12	352	P	P	08 01 58.6	+0.5
	18nm,0.8s,baz=217,slow=12,SNR=6.7						
NNA	Nana	25.12	352	eP	P	08 01 57.5	-0.5
	21nm,0.8s						
SAML	Samuel	29.39	21	eP	P	08 02 36.1	-0.3
	55nm,1.9s						
ATAH	Atahualpa	30.10	350	P	P	08 02 41.3	-1.8
	6.1nm,0.8s,baz=177,slow=16,SNR=2.6						
BDFB	Brasilia	30.90	53	P	P	08 02 50.6	+0.7
	12nm,0.7s,baz=166,slow=12,SNR=2.5						
OTAV	Otavalo	37.37	351	eP	P	08 03 48.8	+2.5
	32nm,1.2s						
ROSC	El Rosal	41.66	358	P	P	08 04 20.6	-1.4
	6.2nm,0.8s,baz=300,slow=7.0,SNR=3.0						
ROSC	El Rosal	41.66	358	eP	P	08 04 25.8	+3.8
JTS	JuntasAbangare	48.31	345	P	P	08 05 16.0	+1.5
	11nm,0.9s,baz=226,slow=2.7,SNR=5.8						
JTS	JuntasAbangare	48.31	345	eP	P	08 05 15.6	+1.1
	38nm,1.3s						
SNAA	Sanae	49.20	157	P	P	08 05 20.4	-0.4
	7.1nm,0.9s,baz=263,slow=6.9,SNR=4.9						
SNAA	Sanae	49.20	157	eP	P	08 05 20.9	+0.1
	26nm,0.9s						
GRGR	Grenville	50.09	15	eP	P	08 05 29.2	+1.2
	163nm,0.9s						
QSPA	South Pole Qui	53.23	180	P	P	08 05 51.4	+0.2
	26nm,1.0s,baz=136,slow=3.5,SNR=6.6						
APG	El Apazote	54.21	339	P	P	08 05 56.2	-2.8
	19nm,0.8s,baz=173,slow=4.9,SNR=16						
CELP	Cerrillos	55.15	8	eP	P	08 06 04.5	-0.9
GTBY	Guantanamo Bay	56.65	358	eP	P	08 06 16.0	-0.2
	45nm,1.0s						
TEIG	Tepich	58.66	343	P	P	08 06 30.9	+0.6
	26nm,0.8s,baz=176,slow=4.8,SNR=7.4						
TEIG	Tepich	58.66	343	eP	P	08 06 30.5	+0.2
	39nm,0.8s						
035A	Encino	67.76	336	⇓P	P	08 07 31.9	+1.4
	baz=68						
936A	North Padre Is	67.96	337	⇑P	P	08 07 33.4	+1.6
	baz=68						
034A	Hebbronville	68.07	336	⇓P	P	08 07 34.1	+1.6
	baz=68						
934A	Benavides	68.51	336	⇑P	P	08 07 36.9	+1.6
	baz=69						
933A	Laredo	68.77	335	⇓P	P	08 07 38.1	+1.2
	baz=69						
TIGA	Tifton	68.77	351	⇓P	P	08 07 36.6	-0.3
	baz=69						
834A	Tilden	69.01	336	⇓P	P	08 07 39.6	+1.2
	baz=69						
735A	Kenedy	69.45	337	⇓P	P	08 07 42.5	+1.4
	baz=70						
833A	Chaparral WMA,	69.47	336	⇓P	P	08 07 42.3	+1.1
	baz=70						
832A	Faith Ranch, C	69.62	335	⇓P	P	08 07 43.1	+0.8
	baz=70						
733A	Divot King Ran	69.80	336	⇑P	P	08 07 44.6	+1.4
	baz=70						
636A	Smothers Creek	69.80	338	⇓P	P	08 07 45.0	+1.7
	baz=70						
635A	Leesville	69.94	337	⇑P	P	08 07 44.8	+0.7
	baz=70						
732A	Laxson Ranch,	70.03	335	⇑P	P	08 07 45.6	+0.9
	baz=70,SNR=7.6						
537A	Green Hill Far	70.15	339	⇑P	P	08 07 46.6	+1.2
	baz=70						
536A	Bastrop	70.36	338	⇓P	P	08 07 48.1	+1.4
	baz=71						
633A	Saathoff Ranch	70.44	336	⇑P	P	08 07 48.1	+0.9
	baz=71						
535A	Dale	70.47	338	⇑P	P	08 07 48.3	+0.9
	baz=71						
632A	Uvalde	70.69	336	⇓P	P	08 07 49.7	+1.0
	baz=71,SNR=5.6						
534A	Blanco	70.75	337	⇑P	P	08 07 50.5	+1.4
	baz=71						
339A	Huntington	70.84	341	⇑P	P	08 07 50.5	+0.9
	baz=71						
631A	Perdido Creek	70.86	335	⇓P	P	08 07 50.5	+0.7
	baz=71						
533A	Kerrville	70.97	337	⇓P	P	08 07 51.3	+0.8
	baz=71,SNR=7.2						
338A	Crockett	71.07	340	⇓P	P	08 07 52.3	+1.4
	baz=71						
435B	Jarrell	71.18	338	⇑P	P	08 07 52.6	+0.9
	baz=72						
337A	Centerville	71.19	340	⇑P	P	08 07 53.0	+1.3
	baz=72						
NATX	Nacogdoches	71.28	341	eP	P	08 07 52.6	+0.3
	60nm,1.0s						
532A	Rocksprings	71.30	336	⇓P	P	08 07 53.2	+0.7
	baz=72,SNR=7.4						
434A	Burnet	71.42	337	⇓P	P	08 07 53.4	+0.3
	baz=72						
336A	Riesel	71.53	339	⇓P	P	08 07 54.3	+0.6
	baz=72						
531A	Rocksprings	71.55	335	⇓P	P	08 07 54.2	+0.2
	baz=72,SNR=7.7						
JCT	Junction City	71.59	336	eP	P	08 07 55.0	+0.8
	38nm,1.1s						
JCT	Junction City	71.59	336	⇓P	P	08 07 54.7	+0.5
	baz=72,SNR=7.1						
335A	Moody	71.60	338	⇓P	P	08 07 54.5	+0.3
	baz=72						
433A	Art	71.62	337	⇓P	P	08 07 54.6	+0.2
	baz=72,SNR=7.1						
530A	J-C Ranch, Com	71.80	335	⇓P	P	08 07 56.0	+0.5
	baz=72,SNR=7.5						
334A	Lometa	71.89	338	⇓P	P	08 07 56.3	+0.3
	baz=72						
TXAR	Lajitas Array	71.89	332	P	P	08 07 56.9	+0.7
	5.0nm,0.8s,baz=152,slow=8.5,SNR=9.3						
432A	Menard	71.95	336	⇑P	P	08 07 56.7	+0.3
	baz=72						
431A	Sonora	72.04	335	⇑P	P	08 07 57.6	+0.7
	baz=72,SNR=6.5						
529A	Stev Forest Ra	72.08	334	⇑P	P	08 07 57.6	+0.4
	baz=72,SNR=5.2						
333A	Richland Sprin	72.11	337	⇑P	P	08 07 57.2	-0.1
	baz=72						
KMSC	Kings Mountain	72.17	353	eP	P	08 07 57.4	-0.2
	22nm,0.8s						
KMSC	Kings Mountain	72.17	353	⇑P	P	08 07 57.6	0.0
	baz=73						
WHTX	Lake Whitney	72.27	339	eP	P	08 07 58.6	+0.4
	7.4nm,0.7s						
WHTX	Lake Whitney	72.27	339	⇓P	P	08 07 58.3	+0.1
	baz=73						
430A	Baggett Ranch,	72.35	335	⇓P	P	08 07 59.1	+0.3
	baz=73,SNR=6.4						
332A	Millersview	72.41	336	⇑P	P	08 07 59.2	+0.1
	baz=73,SNR=7.9						
429A	Davenport Ranc	72.43	334	⇓P	P	08 07 59.4	+0.1
	baz=73,SNR=7.1						
234A	Clairette	72.48	338	⇓P	P	08 07 59.4	-0.1
	baz=73						
331A	San Angelo	72.56	336	⇓P	P	08 08 00.1	+0.1
	baz=73,SNR=9.5						
OXF	Oxford	72.72	346	eP	P	08 08 00.1	-0.8
	24nm,0.8s						
233A	Rising Star	72.73	337	⇑P	P	08 08 00.9	-0.1
	baz=73						
SWET	Sewanee	72.82	349	eP	P	08 08 01.3	-0.2
	50nm,0.8s						
232A	Coleman	72.84	337	⇓P	P	08 08 01.9	+0.2
	baz=73,SNR=6.0						
330A	Mertzon	72.90	335	⇓P	P	08 08 01.7	-0.3
	baz=73						
TKL	Tuckaleechee C	72.95	351	P	P	08 08 01.0	-1.2
	10.0nm,0.8s,baz=170,slow=6.3,SNR=6.8						
TKL	Tuckaleechee C	72.95	351	eP	P	08 08 01.6	-0.7
134A	White-Moore Ra	73.00	338	⇓P	P	08 08 02.4	-0.2
	baz=73						
231A	Bronte	73.10	336	⇑P	P	08 08 02.9	-0.3
	baz=74,SNR=6.4						
329A	Wagon Wheel Ra	73.24	335	⇓P	P	08 08 04.1	0.0
	baz=74,SNR=6.3						
133A	Hamilton Ranch	73.28	338	⇓P	P	08 08 04.3	0.0
	baz=74						
230A	Sterling City	73.32	335	⇑P	P	08 08 04.3	-0.2
	baz=74						
Z35A	Perchaven, San	73.47	339	⇑P	P	08 08 05.4	+0.1
	baz=74						
ABTX	Abilene, Hawle	73.52	337	eP	P	08 08 05.6	-0.1
	37nm,1.2s						
ABTX	Abilene, Hawle	73.52	337	⇑P	P	08 08 05.9	+0.3
	baz=74						
229A	Bryant Ranch,	73.62	335	⇓P	P	08 08 06.1	-0.2
	baz=74						
MIAR	Mount Ida	73.66	343	eP	P	08 08 06.3	-0.1
	33nm,1.6s						
Z34A	Collier Ranch,	73.70	339	⇑P	P	08 08 06.7	+0.1
	baz=74						
131A	Roby	73.81	336	⇑P	P	08 08 07.3	0.0
	baz=74						
Z33A	Whitaker Ranch	73.87	338	⇓P	P	08 08 07.6	-0.1
	baz=74						
130A	Snyder	73.92	336	⇓P	P	08 08 08.0	0.0
	baz=74						
WVT	Waverly	74.01	348	eP	P	08 08 08.1	-0.3
	66nm,1.3s						
228A	UT Block 9, Go	74.03	334	⇑P	P	08 08 08.7	0.0
	baz=74,SNR=6.3						
Z32A	Haskell	74.10	337	⇑P	P	08 08 08.9	-0.2
	baz=74						
Y34A	Reagan Ranch,	74.20	339	⇓P	P	08 08 09.7	+0.1
	baz=75						
Z31A	Sharp Cattle R	74.32	337	⇓P	P	08 08 10.4	0.0
	baz=75						
128A	Castleberry Fa	74.45	335	⇑P	P	08 08 10.8	-0.3
	baz=75,SNR=6.9						
Y33A	Hilltop Ranch,	74.50	338	⇑P	P	08 08 11.0	-0.3
	baz=75						
Z30A	Sanderson Ranc	74.61	336	⇓P	P	08 08 11.9	-0.2
	baz=75,SNR=7.8						
Y32A	R-V Farms, Ver	74.74	338	⇓P	P	08 08 12.9	+0.2
	baz=75						
Z29A	Hungry Hill Ra	74.77	336	⇓P	P	08 08 13.0	-0.1
	baz=75,SNR=8.6						
127A	Arkansas Junct	74.80	334	⇑P	P	08 08 13.5	+0.2
	baz=75						
X34A	Smith Ranch, M	74.82	339	⇓P	P	08 08 13.0	-0.1
	baz=75						
Y31A	Rekieta Farm,	74.95	337	⇓P	P	08 08 14.0	0.0
	baz=75						
X33A	Lawton	74.96	339	⇑P	P	08 08 13.8	-0.2
	baz=75						
Y30A	Stafford Cattl	75.08	336	⇑P	P	08 08 14.8	+0.1
	baz=76						
X32A	Elmer	75.08	338	⇑P	P	08 08 14.8	+0.1
	baz=76						
PBMO	Poplar Bluff	75.12	346	eP	P	08 08 14.7	-0.1
	20nm,0.8s						
Y29A	Porterfield Fa	75.31	336	⇑P	P	08 08 16.2	+0.1
	baz=76,SNR=5.6						
Z27A	Tatum	75.33	334	⇓P	P	08 08 16.3	0.0
	baz=76						
W34A	Bridge Creek,	75.40	339	eP	P	08 08 16.4	-0.2
	286nm,2.5s						
W34A	Bridge Creek,	75.40	339	⇑P	P	08 08 16.6	+0.1
	baz=76						
X31A	McDonald Ranch	75.49	337	⇑P	P	08 08 17.1	0.0
	baz=76,SNR=6.3						
TUL1	Tulsa	75.50	341	eP	P	08 08 16.7	-0.4
	28nm,0.8s						
TUL1	Tulsa	75.50	341	⇓P	P	08 08 17.2	+0.2
	baz=76						
W33A	Caddo, Fort Co	75.52	339	⇑P	P	08 08 17.8	+0.6
	baz=76						
Z26A	Caprock	75.56	334	⇑P	P	08 08 17.8	+0.2
	baz=76						
X30A	Coker Ranch, T	75.59	337	⇓P	P	08 08 18.4	+0.7
	baz=76						
W32A	Sentinel	75.72	338	⇑P	P	08 08 19.2	+0.8
	baz=76						
MSTX	Muleshoe	75.78	335	eP	P	08 08 19.1	+0.3
	24nm,0.9s						
MSTX	Muleshoe	75.78	335	⇓P	P	08 08 19.6	+0.8
	baz=76						
USIN	University of	75.78	348	eP	P	08 08 17.7	-0.8
	47nm,0.9s						
SIUC	Southern Illin	75.80	347	eP	P	08 08 18.4	-0.2
	11nm,0.8s						
Y27A	Causey	75.83	335	⇑P	P	08 08 19.7	+0.5
	baz=76						
Z25A	Roswell	75.83	333	⇑P	P	08 08 19.4	+0.2
	baz=76						
V34A	Guthrie	75.89	340	eP	P	08 08 19.2	-0.1
	53nm,1.2s						
V34A	Guthrie	75.89	340	⇑P	P	08 08 19.1	-0.2
	baz=76						
319A	Douglas	75.92	329	⇑P	P	08 08 20.2	+0.5
	baz=76						
W31A	Holland Ranch,	75.99	338	⇓P	P	08 08 19.6	-0.3
	baz=76						
X28A	Dimmitt	76.09	336	⇑P	P	08 08 20.7	+0.2
	baz=76						
V33A	Lossen Ranch,	76.09	339	⇑P	P	08 08 20.9	+0.5
	baz=76						
Y26A	Elida	76.10	334	⇑P	P	08 08 21.0	+0.3
	baz=76,SNR=7.0						
Z24A	Sheeppen Canyo	76.11	333	⇓P	P	08 08 21.7	+0.8
	baz=76						
V32A	Arapaho	76.22	339	⇓P	P	08 08 21.5	+0.3
	baz=77						
AMTX	Amarillo	76.25	336	eP	P	08 08 22.0	+0.5
	41nm,1.1s						
AMTX	Amarillo	76.25	336	⇑P	P	08 08 21.8	+0.3
	baz=77						
121A	Cookes Peak, D	76.33	330	eP	P	08 08 23.3	+1.2
	11nm,1.2s						
121A	Cookes Peak, D	76.33	330	⇑P	P	08 08 22.8	+0.7
	baz=77						
W29A	Amraillo	76.46	336	⇓P	P	08 08 22.9	+0.2
	baz=77,SNR=7.7						
U34A	Anderson Ranch	76.46	340	eP	P	08 08 22.8	+0.3
	40nm,1.1s						
U34A	Anderson Ranch	76.46	340	⇓P	P	08 08 22.8	+0.3
	baz=77						
V31A	Spring Creek L	76.50	338	⇑P	P	08 08 23.9	+1.0
	baz=77						
X27A	F and S Farms,	76.50	335	⇑P	P	08 08 22.8	-0.1
	baz=77						
U33A	Lingo Farm, Me	76.62	340	⇑P	P	08 08 23.8	+0.4
	baz=77						
Z22A	Elephant Butte	76.65	331	⇑P	P	08 08 25.2	+1.4
	baz=77						
X26A	CR and CF Fran	76.66	334	⇑P	P	08 08 25.0	+1.1
	baz=77						
Y24A	Capitan	76.67	333	⇓P	P	08 08 25.1	+1.1
	baz=77						
LIC	Lamto	76.68	72	eP	P	08 08 23.6	-0.7
	79nm,1.4s						
W28A	Vega	76.77	336	⇑P	P	08 08 25.1	+0.7
	baz=77						
U32A	Winter Ranch,	76.82	339	⇓P	P	08 08 25.3	+0.7
	baz=77						
W27A	Bowe Ranch, En	76.87	335	⇓P	P	08 08 25.7	+0.6
	baz=77						
Y23A	Lovelace Mesa,	76.91	332	⇓P	P	08 08 26.8	+1.5
	baz=77						
TIC	Toumodi	76.95	71	eP	P	08 08 25.5	-0.4
	9.2nm,0.3s						
KIC	Kosan Boka	76.98	72	eP	P	08 08 25.5	-0.5
	70nm,0.9s						
DBIC	Dimbokro	77.09	71	P	P	08 08 26.5	-0.1
	14nm,0.7s,baz=202,slow=6.2,SNR=8.7						
DBIC	Dimbokro	77.09	71	eP	P	08 08 26.3	-0.4
	15nm,0.8s						
W26A	Owens Ranch, T	77.13	335	⇓P	P	08 08 27.7	+1.2
	baz=78						
V28A	Channing	77.22	336	⇓P	P	08 08 27.9	+0.9
	baz=78,SNR=5.8						
X24A	Lazy VL Ranch,	77.25	333	⇑P	P	08 08 28.4	+1.1
	baz=78						
T33A	Patterson Ranc	77.26	340	⇑P	P	08 08 28.0	+1.0
	baz=78						
ACSO	Alum Creek Sta	77.38	352	eP	P	08 08 26.7	-0.9
	43nm,0.6s						
V27A	Dan Oppiter Fa	77.43	336	⇓P	P	08 08 29.3	+1.1
	baz=78						
U30A	WK&E Inc. Balk	77.45	338	⇑P	P	08 08 29.3	+1.1
	baz=78						
LPM	Los Pinos Moun	77.46	332	eP	P	08 08 29.7	+1.2
	7.6nm,1.0s						
W25A	X Bar L Ranch,	77.49	334	⇓P	P	08 08 29.2	+0.7
	baz=78						
T32A	Huddler Ranch,	77.54	339	⇓P	P	08 08 29.5	+0.8
	baz=78						
U29A	Oasis Ranch, S	77.57	337	⇓P	P	08 08 30.1	+1.2
	baz=78						
T31A	Randall Ranch,	77.68	339	⇓P	P	08 08 30.5	+1.1
	baz=78						
V26A	Tequesquite Ra	77.78	335	⇓P	P	08 08 31.1	+1.0
	baz=78						
U28A	Mallet	77.80	336	⇑P	P	08 08 31.0	+0.8
	baz=78						
W24A	Lazy 6 Ranch,	77.82	334	⇑P	P	08 08 31.4	+1.0
	baz=78						
214A	Organ Pipe Nat	77.93	326	⇓P	P	08 08 32.4	+1.5
	baz=78						
ANMO	Albuquerque	77.96	333	P	P	08 08 31.1	-0.1
	11nm,1.0s,baz=159,slow=8.7,SNR=11						
ANMO	Albuquerque	77.96	333	eP	P	08 08 32.0	+0.7
	22nm,1.2s						
U27A	Thompson Grove	78.03	336	⇑P	P	08 08 32.6	+1.1
	baz=78						
S32A	Newby Ranch, P	78.03	339	⇑P	P	08 08 32.3	+1.0
	baz=78						
W23A	Werner Place,	78.04	333	⇓P	P	08 08 33.1	+1.4
	baz=78						
V25A	Rancho No Teng	78.10	334	⇓P	P	08 08 32.6	+0.6
	baz=78						
S31A	Mullinville	78.11	339	⇓P	P	08 08 32.3	+0.4
	baz=78						
T29A	Hugoton	78.22	337	⇓P	P	08 08 33.5	+1.0
	baz=79						
V24A	Rampart Ranch,	78.23	334	⇑P	P	08 08 33.2	+0.4
	baz=79						
U26A	Atchley Ranch,	78.31	335	⇓P	P	08 08 33.9	+0.8
	baz=79						
R33A	Olander Ranch,	78.34	340	⇓P	P	08 08 33.5	+0.5
	baz=79						
S30A	Montezuma	78.42	338	⇑P	P	08 08 34.2	+0.6
	baz=79,SNR=6.4						
T28A	Walsh	78.44	337	⇑P	P	08 08 34.6	+0.8
	baz=79,SNR=8.1						
U25A	Circle Dot Ran	78.54	335	⇑P	P	08 08 35.6	+1.1
	baz=79						
V23A	Ortiz Mt. (NFS	78.57	333	⇓P	P	08 08 35.7	+1.1
	baz=79						
T27A	Campo	78.58	336	⇑P	P	08 08 35.3	+0.8
	baz=79						
S29A	Ulysses	78.60	338	⇓P	P	08 08 35.0	+0.5
	baz=79						
R32A	Long Quarter,	78.65	340	⇑P	P	08 08 35.2	+0.5
	baz=79						
KSU1	Kansas State U	78.73	342	eP	P	08 08 34.8	-0.4
	22nm,1.0s						
KSU1	Kansas State U	78.73	342	⇓P	P	08 08 35.4	+0.3
	baz=79						
R31A	Burdett	78.75	339	⇓P	P	08 08 35.5	+0.2
	baz=79						
S28A	Manter	78.81	337	⇑P	P	08 08 36.8	+1.1
	baz=79,SNR=5.3						
U24A	Moreno Valley	78.85	334	⇓P	P	08 08 37.0	+0.8
	baz=79						
X18A	Snowflake	78.94	330	⇓P	P	08 08 37.8	+1.2
	baz=79						
Q33A	Connelly Farm,	78.95	341	⇑P	P	08 08 37.0	+0.6
	baz=79						
R30A	Dighton	78.96	339	⇑P	P	08 08 37.0	+0.5
	baz=79						
T26A	Comanche Natio	78.97	336	⇑P	P	08 08 37.8	+1.0
	baz=79						
V22A	San Miguel Ran	78.99	333	⇓P	P	08 08 38.0	+1.0
	baz=79						
U23A	El Rito	79.10	333	⇑P	P	08 08 39.0	+1.4
	baz=80						
T25A	Trinidad	79.21	335	⇑P	P	08 08 39.6	+1.5
	baz=80,SNR=7.4						
P33A	Williams Farm,	79.32	341	⇓P	P	08 08 38.9	+0.5
	baz=80						
S26A	Kim	79.34	336	⇑P	P	08 08 39.9	+1.2
	baz=80,SNR=6.0						
R29A	Marienthal	79.34	338	⇑P	P	08 08 39.4	+0.7
	baz=80						
TSUM	Tsumeb	79.36	106	P	P	08 08 39.2	-0.2
	7.6nm,0.8s,baz=235,slow=8.8,SNR=6.1						
W18A	Petrified Fore	79.37	330	⇑P	P	08 08 40.6	+1.7
	baz=80						
Q31A	Ellis	79.38	340	⇓P	P	08 08 39.7	+0.9
	baz=80						
U22A	Llaves	79.38	333	⇓P	P	08 08 40.7	+1.7
	baz=80						
X16A	Lo Mia Camp, P	79.45	329	⇓P	P	08 08 40.9	+1.5
	baz=80						
R28A	Tribune	79.47	338	⇑P	P	08 08 40.3	+0.9
	baz=80,SNR=6.2						
T24B	San Luis	79.47	334	⇑P	P	08 08 40.4	+0.8
	baz=80						
BOSA	Boshof	79.56	118	P	P	08 08 39.9	-0.4
	6.5nm,0.7s,baz=217,slow=7.4,SNR=4.2						
Q30A	Quinter	79.59	339	⇑P	P	08 08 40.8	+0.9
	baz=80						
T23A	Casias Ranch,	79.68	334	⇓P	P	08 08 41.6	+0.9
	baz=80						
S25A	Robets Cordova	79.69	335	⇑P	P	08 08 41.9	+1.3
	baz=80						
Y14A	Wickenburg	79.70	327	⇑P	P	08 08 41.8	+1.1
	baz=80						
R27A	Eads	79.73	337	⇓P	P	08 08 41.4	+0.7
	baz=80,SNR=7.1						
Q29A	Oakley	79.73	338	⇓P	P	08 08 40.8	+0.1
	baz=80						
P32A	Huiting Farm,	79.74	340	⇑P	P	08 08 41.4	+0.7
	baz=80						
P31A	Stockton	79.86	340	⇓P	P	08 08 42.4	+1.1
	baz=80						
S24A	Houchin Ranch,	79.94	335	⇓P	P	08 08 43.3	+1.1
	baz=80						
R26A	Arlington	79.95	336	⇓P	P	08 08 43.6	+1.6
	baz=80,SNR=7.0						
P30A	Selden	80.12	339	⇑P	P	08 08 43.6	+0.8
	baz=80						
SDCO	Great Sand Dun	80.13	335	eP	P	08 08 43.9	+0.8
	5.6nm,0.9s						
Q28A	Sharon Springs	80.14	338	⇓P	P	08 08 43.9	+0.9
	baz=80						
O32A	Brockman Farm,	80.25	341	⇑P	P	08 08 44.5	+1.1
	baz=81						
S23A	Nye Farm, Mont	80.27	334	⇓P	P	08 08 45.2	+1.3
	baz=81						
KSCO	Kaye Shedlock'	80.34	337	eP	P	08 08 45.1	+1.1
	8.1nm,0.8s						
KSCO	Kaye Shedlock'	80.34	337	⇓P	P	08 08 45.6	+1.5
	baz=81						
MONP	Monument Peak	80.36	324	⇑P	P	08 08 45.6	+1.2
	baz=81						
WUAZ	Wupatki	80.37	329	⇓P	P	08 08 46.5	+2.1
	baz=81						
O31A	Woolen Ranch,	80.43	340	⇑P	P	08 08 45.2	+0.8
	baz=81						
R24A	Sanders Place,	80.43	335	⇓P	P	08 08 46.3	+1.6
	baz=81,SNR=10						
Q26A	Hugo	80.54	337	⇑P	P	08 08 45.8	+0.7
	baz=81						
P28A	Saint Francis	80.59	338	⇓P	P	08 08 46.8	+1.4
	baz=81						
S22A	4UR Ranch, Cre	80.59	334	⇑P	P	08 08 47.1	+1.5
	baz=81						
R23A	Moffat	80.64	335	⇑P	P	08 08 47.4	+1.5
	baz=81						
O30A	MW Ranch, Wils	80.66	340	⇑P	P	08 08 46.9	+1.3
	baz=81						
MVCO	Mesa Verde	80.73	332	eP	P	08 08 47.1	+0.7
	10.0nm,1.2s						
MVCO	Mesa Verde	80.73	332	⇑P	P	08 08 47.5	+1.1
	baz=81						
N32A	Stulken Farm,	80.73	341	⇑P	P	08 08 46.6	+0.6
	baz=81						
Q25A	Bedland, Calha	80.77	336	⇓P	P	08 08 47.7	+1.3
	baz=81						
O29A	4D Ranch, Culb	80.82	339	⇓P	P	08 08 48.0	+1.5
	baz=81						
IRM	Iron Mountain	80.84	326	⇑P	P	08 08 47.9	+1.2
	baz=81						
P26A	Davis Ranch, A	81.06	337	⇑P	P	08 08 49.4	+1.5
	baz=82						
W13A	Hualapai Mount	81.07	327	⇑P	P	08 08 50.1	+1.9
	baz=81						

BELC	Belle Mtn. Jos	81.09	325	⇓P	P	08 08 50.0	+1.8
	baz=81						
O28A	Krutsinger Ran	81.10	338	⇑P	P	08 08 48.9	+0.8
	baz=82,SNR=5.4						
Q24A	Divide	81.11	335	⇑P	P	08 08 49.2	+0.7
	baz=82,SNR=6.8						
P25A	Willow Gulch B	81.28	336	⇑P	P	08 08 50.5	+1.3
	baz=82,SNR=5.4						
O27A	Beecher Island	81.37	338	⇑P	P	08 08 50.3	+0.8
	baz=82						
N29A	Votaw Ranch, W	81.41	339	⇑P	P	08 08 50.6	+0.9
	baz=82						
M31A	Lambtecht Ranc	81.45	341	⇑P	P	08 08 51.0	+1.2
	baz=82						
P24A	Kohler Place,	81.52	336	⇑P	P	08 08 52.4	+1.9
	baz=82						
U15A	North Rim	81.53	329	⇓P	P	08 08 52.3	+1.6
	baz=82						
N28A	Pribbeno Ranch	81.55	339	⇓P	P	08 08 51.3	+0.8
	baz=82						
O26A	Horse Wrangler	81.68	337	⇓P	P	08 08 52.5	+1.4
	baz=82						
P23A	Jefferson	81.71	335	⇓P	P	08 08 53.2	+1.6
	baz=82						
PV04	Paradox Valley	81.92	332	eP	P	08 08 53.2	+0.7
SMCO	Snowmass	81.92	334	eP	P	08 08 54.9	+2.1
	17nm,1.0s						
LBTB	Lobatse	81.95	115	P	P	08 08 52.7	-0.5
	32nm,0.8s,baz=246,slow=5.4,SNR=13						
LBTB	Lobatse	81.95	115	eP	P	08 08 52.8	-0.5
	5.7nm,0.6s						
PV10	Paradox Valley	81.95	332	eP	P	08 08 53.5	+0.7
N27A	Anderson Farm,	81.96	338	⇓P	P	08 08 53.9	+1.3
	baz=82						
M29A	Burnside Ranch	82.01	340	⇑P	P	08 08 53.8	+1.0
	baz=82						
ISCO	Idaho Springs	82.02	335	eP	P	08 08 54.3	+1.1
	14nm,1.6s						
ISCO	Idaho Springs	82.02	335	⇓P	P	08 08 53.9	+0.7
	baz=82						
L31A	Butterfield Fa	82.19	341	⇓P	P	08 08 54.5	+0.8
	baz=83						
L30A	Spencer Herefo	82.21	340	⇑P	P	08 08 55.1	+1.3
	baz=83						
P22A	Eagle	82.22	335	⇑P	P	08 08 54.7	+0.6
	baz=83						
O23A	Lake Granby, G	82.49	335	⇓P	P	08 08 56.8	+1.1
	baz=83						
L29A	Maesberg Ranch	82.53	340	⇑P	P	08 08 56.8	+1.3
	baz=83						
GSC	Goldstone	82.54	325	⇑P	P	08 08 57.1	+1.4
	baz=83						
M27A	Reverse DX Ran	82.58	338	⇑P	P	08 08 57.2	+1.4
	baz=83						
O22A	Kremmling	82.65	335	⇓P	P	08 08 58.0	+1.5
	baz=83						
K30A	Basset	82.86	341	⇓P	P	08 08 58.1	+0.9
	baz=83						
CCUT	Cedar City	82.94	329	eP	P	08 08 59.5	+1.6
	49nm,1.8s						
M25A	Palm-Egli Farm	82.99	337	⇑P	P	08 08 59.1	+1.1
	baz=83						
LRMC	Laurel Mountai	83.09	325	⇑P	P	08 09 01.1	+2.4
	baz=83						
N23A	Red Feather La	83.11	336	⇓P	P	08 08 59.9	+1.0
	baz=84						
ECSD	EROS Data Cent	83.11	343	eP	P	08 08 58.0	-0.4
	41nm,0.8s						
ECSD	EROS Data Cent	83.11	343	⇓P	P	08 08 58.7	+0.3
	baz=84						
K29A	Lazy Trails An	83.13	340	⇑P	P	08 08 59.6	+1.0
	baz=84						
N22A	Wattenberg Ran	83.20	335	⇑P	P	08 09 00.8	+1.5
	baz=84						
O20A	White River Ci	83.22	334	⇓P	P	08 09 00.6	+1.3
	baz=84						
M24A	Cheyenne	83.27	337	⇓P	P	08 09 00.7	+1.2
	baz=84						
PHWY	Pilot Hill	83.32	336	eP	P	08 09 00.7	+0.7
	10nm,0.9s						
K28A	Ten Mile Ranch	83.37	340	⇑P	P	08 09 01.2	+1.3
	baz=84,SNR=6.6						
J30A	Dallas	83.44	341	⇓P	P	08 09 00.6	+0.4
	baz=84						
M23A	Laramie	83.55	336	⇑P	P	08 09 02.5	+1.4
	baz=84						
TMUT	Trail Mountain	83.58	331	eP	P	08 09 02.3	+1.0
	14nm,1.0s						
ISA	Isabella	83.60	324	eP	P	08 09 02.7	+1.4
	31nm,1.8s						
K27A	Flueckinger Fa	83.61	339	⇓P	P	08 09 02.5	+1.3
	baz=84,SNR=5.5						
J29A	Okreek	83.73	341	⇓P	P	08 09 02.5	+0.8
	baz=84,SNR=7.1						
SPMN	St. Paul	83.73	346	eP	P	08 09 00.9	-0.7
	25nm,1.0s						
SPMN	St. Paul	83.73	346	⇑P	P	08 09 01.5	-0.1
	baz=84						
N20A	Spence Gulch,	83.84	334	⇓P	P	08 09 04.0	+1.4
	baz=84						
I30A	Oacoma	83.97	341	⇑P	P	08 09 03.0	+0.2
	baz=84,SNR=7.4						
J28A	Allard Ranch,	84.00	340	⇑P	P	08 09 04.2	+1.1
	baz=84						
K25A	Mack Ranch, Ha	84.01	338	⇑P	P	08 09 04.1	+0.9
	baz=84						
J27A	Elkhorn Farm,	84.05	339	⇑P	P	08 09 04.3	+0.9
	baz=84,SNR=7.2						
L23A	Garrett	84.13	336	⇑P	P	08 09 04.4	+0.5
	baz=84						
BRSD	Miller	84.35	342	eP	P	08 09 04.8	0.0
	42nm,0.9s						
BRSD	Miller	84.35	342	⇓P	P	08 09 05.3	+0.6
	baz=85						
MPU	Maple Canyon	84.36	331	eP	P	08 09 06.1	+0.9
	20nm,1.5s						
K24A	Anderson Ranch	84.40	337	⇑P	P	08 09 06.3	+1.1
	baz=85						
J26A	Sides Ranch, S	84.41	339	⇓P	P	08 09 06.4	+1.2
	baz=85,SNR=5.3						
NLU	North Lily Min	84.48	331	eP	P	08 09 07.3	+1.5
	13nm,1.2s						
I28A	Midland	84.51	340	⇓P	P	08 09 06.3	+0.6
	baz=85,SNR=5.9						
R11A	Troy Canyon, C	84.54	328	eP	P	08 09 07.2	+1.2
	22nm,1.8s						
R11A	Troy Canyon, C	84.54	328	⇑P	P	08 09 07.3	+1.2
	baz=85						
K23A	Bowen Ranch, D	84.68	337	⇓P	P	08 09 07.3	+0.7
	baz=85						
J25A	Sunshine Ranch	84.70	338	⇓P	P	08 09 07.6	+0.9
	baz=85,SNR=8.4						
JLU	Jordanelle	84.80	332	eP	P	08 09 08.5	+1.1
	6.1nm,0.8s						
I27A	Quinn	84.82	340	⇓P	P	08 09 07.7	+0.5
	baz=85						
H29A	Onida	84.84	341	⇓P	P	08 09 07.4	+0.2
	baz=85,SNR=6.2						
K22A	Casper	84.88	336	eP	P	08 09 08.5	+0.9
	25nm,0.9s						
K22A	Casper	84.88	336	⇑P	P	08 09 08.6	+0.9
	baz=85						
J24A	Dixon Ranch, L	84.90	338	⇓P	P	08 09 08.7	+1.0
	baz=85,SNR=8.4						
DUG	Dugway	84.98	331	eP	P	08 09 09.0	+0.8
	26nm,1.2s						
DUG	Dugway	84.98	331	⇑P	P	08 09 09.4	+1.2
	baz=85						
CTU	Camp Tracy	85.00	332	eP	P	08 09 09.3	+0.9
	5.6nm,0.9s						
I26A	New Underwood	85.01	339	⇑P	P	08 09 08.3	+0.1
	baz=85						
TPH	Tonopah	85.02	327	eP	P	08 09 09.5	+1.0
	112nm,2.4s						
G30A	Faulkton	85.04	342	⇑P	P	08 09 08.4	+0.2
	baz=85						
H28A	Mission Ridge	85.10	341	⇑P	P	08 09 08.8	+0.3
	baz=86,SNR=5.2						
K21A	Alcova	85.10	336	⇓P	P	08 09 08.9	+0.1
	baz=86						
I25A	Rochford	85.25	338	⇑P	P	08 09 09.8	+0.3
	baz=86,SNR=6.7						
G29A	Hoven	85.29	341	⇑P	P	08 09 09.3	-0.2
	baz=86						
H27A	Howes	85.34	340	⇑P	P	08 09 10.0	+0.2
	baz=86,SNR=6.7						
I24A	Kuemmerle Ranc	85.37	338	⇓P	P	08 09 10.4	+0.4
	baz=86,SNR=6.4						
G28A	Parade	85.44	341	⇑P	P	08 09 10.5	+0.3
	baz=86,SNR=5.8						
J22A	Midwest	85.55	336	⇑P	P	08 09 10.6	-0.3
	baz=86						
F30A	Leola	85.67	342	⇑P	P	08 09 11.5	+0.2
	baz=86						
BGU	Big Grassy Mou	85.69	331	eP	P	08 09 11.8	0.0
	4.6nm,1.4s						
H25A	Fruitdale	85.76	339	⇑P	P	08 09 12.5	+0.6
	baz=86,SNR=7.3						
SPUT	South Promonto	85.79	331	eP	P	08 09 12.7	+0.4
	10nm,1.0s						
NVAR	Mina Array Bea	85.79	326	P	P	08 09 13.1	+0.6
	1.5nm,0.8s,baz=165,slow=7.4,SNR=3.6						
J21A	Lysite	85.80	336	⇓P	P	08 09 11.9	-0.4
	baz=86						
F29A	Eureka	85.86	342	⇓P	P	08 09 12.5	+0.2
	baz=86,SNR=6.0						
I22A	9 Mile Ranch,	85.98	337	⇓P	P	08 09 13.4	+0.3
	baz=86						
G27A	Dupree	85.99	340	⇑P	P	08 09 13.1	+0.1
	baz=86,SNR=6.3						
PDAR	Pinedale Array	86.00	334	P	P	08 09 13.1	-0.3
	4.5nm,1.0s,baz=160,slow=4.7,SNR=6.8						
BW06	Boulder Array	86.00	334	eP	P	08 09 12.9	-0.5
	8.4nm,1.3s						
J20A	Shoshoni	86.02	335	⇓P	P	08 09 13.8	+0.5
	baz=86						
G26A	Maurine	86.10	340	⇓P	P	08 09 13.6	+0.1
	baz=86,SNR=8.4						
F28A	McLaughlin	86.13	341	⇑P	P	08 09 14.0	+0.4
	baz=86,SNR=5.7						
H24A	Dirks Ranch, A	86.16	338	⇑P	P	08 09 13.9	0.0
	baz=86,SNR=5.1						
I21A	Big Trails, Te	86.17	336	⇑P	P	08 09 13.9	-0.1
	baz=87						
TORD	Torodi Ar. Bea	86.17	71	P	P	08 09 14.1	-0.4
	5.1nm,1.1s,baz=224,slow=4.8,SNR=4.4						
G25A	Newell	86.23	339	⇓P	P	08 09 14.6	+0.3
	baz=87,SNR=14						
E30A	Jud	86.27	343	⇑P	P	08 09 14.4	+0.1
	baz=87						
J19A	Crowheart	86.27	335	⇓P	P	08 09 15.1	+0.4
	baz=87						
CMB	Columbia Colle	86.42	325	eP	P	08 09 15.7	+0.4
	18nm,1.8s						
F27A	Lemmon	86.47	340	⇑P	P	08 09 15.5	+0.1
	baz=87,SNR=11						
E29A	Napoleon	86.50	342	⇓P	P	08 09 15.4	-0.1
	baz=87						
I20A	Worland	86.56	336	⇑P	P	08 09 16.1	+0.2
	baz=87						
F26A	Lodgepole	86.63	340	⇑P	P	08 09 16.0	-0.2
	baz=87,SNR=7.3						
G24A	Alzada	86.65	339	⇓P	P	08 09 16.8	+0.5
	baz=87						
E28A	Huff	86.78	341	⇑P	P	08 09 17.1	+0.3
	baz=87						
D30A	Buchanan	86.80	343	⇓P	P	08 09 16.8	-0.1
	baz=87						
H21A	Big Horn, Sher	86.82	337	⇑P	P	08 09 16.9	-0.3
	baz=87						
G23A	Biddle	86.82	338	⇑P	P	08 09 17.0	-0.1
	baz=87						
E27A	Carson	86.86	341	⇓P	P	08 09 17.5	+0.2
	baz=87						
F25A	Bowman	86.92	339	⇓P	P	08 09 17.9	+0.3
	baz=87,SNR=6.4						
I19A	Meeteetse	86.93	335	⇓P	P	08 09 18.1	+0.3
	baz=87						
D29A	Pettibone, Tap	86.95	342	⇑P	P	08 09 17.6	-0.1
	baz=87,SNR=6.3						
REDW	Red Top Meadow	86.98	334	eP	P	08 09 18.6	+0.4
	12nm,1.0s						
H20A	Greybull	87.00	336	⇑P	P	08 09 17.9	-0.2
	baz=87						
F24A	Ekalaka	87.12	339	⇑P	P	08 09 18.9	+0.3
	baz=88						
E26A	Carlson Angus	87.14	340	⇑P	P	08 09 18.6	0.0
	baz=88,SNR=10						
AGMN	Agassiz Nation	87.28	345	⇑P	P	08 09 19.0	-0.1
	baz=88,SNR=6.3						
C30A	Mose, Pekin	87.29	343	⇑P	P	08 09 19.6	+0.3
	baz=88,SNR=12						
F23A	Volborg	87.30	338	⇑P	P	08 09 19.0	-0.4
	baz=88						
D28A	Regan	87.32	342	⇓P	P	08 09 19.9	+0.5
	baz=88,SNR=7.7						
I17A	Pilgrim Ck.	87.37	334	⇑P	P	08 09 20.2	+0.2
	baz=88						
G21A	Lodge Grass	87.40	337	⇑P	P	08 09 18.8	-1.2
	baz=88						
E25A	Miller Ranch,	87.43	340	⇓P	P	08 09 20.3	+0.3
	baz=88,SNR=6.9						
D27A	Center	87.48	341	⇓P	P	08 09 20.3	+0.1
	baz=88						
H19A	Powell	87.49	335	⇑P	P	08 09 20.1	-0.4
	baz=88						
F22A	Rosebud	87.61	338	⇓P	P	08 09 20.8	-0.1
	baz=88						
D26A	Manning	87.65	341	⇓P	P	08 09 21.4	+0.3
	baz=88,SNR=9.3						
G20A	Bridger	87.72	336	⇓P	P	08 09 21.3	-0.3
	baz=88						
H18A	Shoshone NF, C	87.72	335	⇑P	P	08 09 21.9	+0.2
	baz=88						
E24A	Baker	87.74	339	⇓P	P	08 09 21.9	+0.4
	baz=88						
C28A	Hausauer Farms	87.76	342	⇓P	P	08 09 22.4	+0.9
	baz=88						
B30A	Myrvik Farm, E	87.96	344	⇑P	P	08 09 22.5	0.0
	baz=88,SNR=15						
D25A	Fairfield	88.00	340	⇑P	P	08 09 23.4	+0.7
	baz=88						
C27A	Sayler Ranch,	88.04	341	⇓P	P	08 09 23.2	+0.3
	baz=88,SNR=6.7						
E22A	Miles City	88.11	338	⇓P	P	08 09 23.8	+0.5
	baz=88						
YMR	Madison River	88.16	334	eP	P	08 09 24.3	+0.5
	3.9nm,0.6s						
B29A	Wagenman Farm,	88.21	343	⇓P	P	08 09 24.2	+0.5
	baz=89,SNR=8.5						
F20A	Billings	88.22	336	⇑P	P	08 09 24.0	+0.2
	baz=89						
D24A	Glendive	88.25	339	⇓P	P	08 09 24.4	+0.5
	baz=89						
C26A	Wahner Farm, P	88.30	341	⇓P	P	08 09 24.4	+0.3
	baz=89						
LAO	LASA Array	88.41	338	eP	P	08 09 24.4	-0.3
	46nm,1.3s						
A30A	Hoffart Farm,	88.42	344	⇑P	P	08 09 24.3	-0.3
	baz=89,SNR=5.8						
B28A	Dugan Ranch, T	88.44	342	⇑P	P	08 09 25.1	+0.4
	baz=89,SNR=8.1						
HLID	Hailey	88.47	331	eP	P	08 09 26.2	+0.9
	4.2nm,1.1s						
HLID	Hailey	88.47	331	⇑P	P	08 09 26.0	+0.8
	baz=89						
C25A	Freed Ranch, W	88.50	340	⇑P	P	08 09 25.4	+0.3
	baz=89						
D23A	Lindsay	88.55	339	⇓P	P	08 09 26.1	+0.7
	baz=89						
A29A	Manning Farm,	88.61	343	⇑P	P	08 09 25.7	+0.1
	baz=89,SNR=15						
C24A	Savage	88.65	339	⇑P	P	08 09 26.5	+0.7
	baz=89						
E20A	Meyer Farm, Mu	88.83	337	⇓P	P	08 09 26.5	-0.2
	baz=89						
B26A	Jensen Ranch,	88.84	341	⇑P	P	08 09 27.5	+0.8
	baz=89						
A28A	Rude Farm, Bot	88.84	343	⇓P	P	08 09 26.5	-0.1
	baz=89						
E19A	Rath Farm, Rou	89.01	336	⇑P	P	08 09 27.7	+0.2
	baz=89						
C23A	Lambert	89.12	339	⇑P	P	08 09 28.5	+0.5
	baz=90						
ULM	Lac du Bonnet	89.15	346	P	P	08 09 27.3	-0.6
	9.6nm,0.9s,baz=176,slow=3.4,SNR=7.2						
A26A	Wade Farm, Ken	89.27	341	⇓P	P	08 09 29.2	+0.6
	baz=90						
D20A	Manuel Ranch,	89.36	337	⇑P	P	08 09 29.4	+0.2
	baz=90						
C21A	Desert Coulee	89.70	338	⇓P	P	08 09 30.8	+0.1
	baz=90						
B22A	Reddig Ranch S	89.80	339	⇓P	P	08 09 31.4	+0.3
	baz=90						
B21A	Ellsworth Farm	90.21	338	⇑P	P	08 09 33.1	0.0
	baz=91						
A22A	Carney Farms,	90.40	339	⇓P	P	08 09 34.2	+0.3
	baz=91						
A20A	Cobblestone Ra	90.89	338	⇓P	P	08 09 36.0	-0.3
	baz=91						
FCC	Fort Churchill	96.98	349	eP	P	08 10 02.8	-1.1
	0.3nm,1.2s						
GERES	GERESS Array B	114.96	47	PKP	PKPdf	08 15 13.0	-0.5
	2.1nm,0.8s,baz=241,slow=1.4,SNR=8.9						
ILAR	Eielson Array	116.41	333	PKP	PKPdf	08 15 14.3	-1.3
	1.0nm,0.8s,baz=145,slow=1.5,SNR=5.4						
WRA	Warramunga Arr	117.65	209	PKP	PKPdf	08 15 18.6	-1.0
	1.6nm,0.7s,baz=168,slow=1.7,SNR=6.2						
HFS	Hagfors	119.85	35	PKP	PKPdf	08 15 21.3	-1.2
	1.9nm,0.7s,baz=165,slow=6.0,SNR=4.0						
BRTR	Keskin Array B	124.13	63	P	PKPdf	08 15 31.0	-0.6
BRTR	Keskin Array B	124.13	63	PKP	PKPdf	08 15 30.9	-0.6
	3.0nm,0.7s,baz=198,slow=3.5,SNR=12						
AKASG	Malin Array Be	124.94	49	PKP	PKPdf	08 15 31.3	-1.2
	0.6nm,0.5s,baz=256,slow=2.9,SNR=9.0						
GAMB	Gambell	126.09	327	ePKPdf	PKPdf	08 15 34.2	0.0
ARCES	ARCESS Array B	127.16	26	PKP	PKPdf	08 15 35.2	-1.0
	4.8nm,1.0s,baz=323,slow=3.2,SNR=6.1						
PETK	Petropavlovsk-	141.45	311	PKP	PKPdf	08 16 05.4	+2.0
	5.6nm,0.8s,baz=107,slow=8.2,SNR=3.8						
SEY	Seymchan	142.08	328	PKP	PKPdf	08 16 04.8	+0.6
	12nm,0.9s,baz=77,slow=2.3,SNR=14						
ABKAR	Akbulak array	144.28	55	ePKPdf	PKPab	08 16 06.1	-0.4
PSI	Prapat	145.21	166	PKPbc	PKPbc	08 16 09.8	-1.1
	34nm,0.9s,baz=196,slow=5.0,SNR=8.7						
HYB	Hyderabad	148.43	121	iPKP	PKPbc	08 16 18.5	-1.6
ASAJ	Asahikawa	152.00	296	PKPbc	PKPbc	08 16 27.2	-0.6
	11nm,0.9s,baz=55,slow=9.1,SNR=3.9						
AAK	Ala-Archa	154.71	67	PKPbc	PKPbc	08 16 33.8	-0.2
	6.3nm,0.7s,baz=190,slow=3.0,SNR=4.7						
AAK				PKPab	PKPab	08 16 48.8	-0.2
	3.5nm,0.7s,baz=194,slow=4.3,SNR=4.2						
KSH	Kashi	155.78	75	ePKP	PKPdf	08 16 27.5	+0.5
ZALV	Zalesovo Beam	157.28	35	PKP	PKPdf	08 16 27.1	-1.1
	5.9nm,0.8s,baz=287,slow=2.5,SNR=5.5						
ZALV				PKPab	PKPab	08 16 59.5	0.0
	7.1nm,0.7s,baz=304,slow=4.7,SNR=6.5						
MKAR	Makanchi Array	159.42	54	PKP	PKPdf	08 16 31.0	-0.2
	3.4nm,0.8s,baz=24,slow=0.7,SNR=5.2						
MKAR				PKPab	PKPab	08 17 08.2	-0.8
	4.8nm,0.9s,baz=284,slow=4.9,SNR=5.4						
CMAR	Chiang Mai Arr	160.29	158	PKP	PKPdf	08 16 32.7	-0.2
	1.7nm,0.3s,baz=234,slow=3.0,SNR=7.0						
CMAR				PKPab	PKPab	08 17 12.0	-1.3
	1.4nm,0.8s,baz=216,slow=4.5,SNR=4.7						
NJ2	Nanjing	168.84	247	ePKP	PKPdf	08 16 40.8	+0.7
SONM	Songino Array	169.18	1	PKPab	PKPab	08 17 52.4	+0.5
	3.8nm,0.8s,baz=336,slow=5.6,SNR=9.0						
GYA	Guiyang	169.48	180	PKP	PKPdf	08 16 40.0	-0.8
GYA				pPKP	pPKPdf	08 16 51.5	+5.9
GYA				PKPab	PKPab	08 17 56.0	+2.3
GYA				PKS	PKSdf	08 20 11.0	-2.5
GYA				PP	PP	08 21 45.8	+3.4
GYA				SKKS		08 28 27.5	
GYA				SS	SS	08 42 36.5	-1.6
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
GYA				LR	LR		
	comp=N,120nm,21.5s						
GYA				LR	LR		
	comp=E,110nm,21.2s						
GYA				LR	LR		
	comp=Z,130nm,24.8s						
CD2	Chengdu	173.44	157	PKP	PKPdf	08 16 42.5	0.0
CD2				pPKP	pPKPdf	08 16 53.8	+6.4
CD2				sPKP		08 16 57.5	
CD2				PKS	PKSdf	08 20 13.3	-1.6
CD2				PP	PP	08 22 06.3	+4.1
CD2				SKS	SKSdf	08 23 40.0	-5.4
CD2				SKKS	SKKSac	08 28 47.5	-1.5
CD2				SS	SS	08 43 16.0	-1.2
HHC	Hu-ho-hao-te	174.62	317	ePKP	PKPdf	08 16 38.5	-4.2
LZH	Lanzhou	177.50	111	ePKP	PKPdf	08 16 44.0	+0.4
LZH				pPKP	pPKPdf	08 16 55.3	+6.9
LZH				sPKP		08 16 59.5	

IDC **27** *07:57:16.3±0.7, 33.°85S×71.°43W, h0km, mb4.6/10, mb1 4.8/10, mb1mx4.5/37, mbtmp4.7/10, Error ellipse: s-maj=28.7km s-min=20.6km az=59.0*

ISCJB **27** *07:57:22.1±1.1, 33.°90S±0.°07×71.°47W±0.°09, h54km±8km, mb4.7/15, Error ellipse: s-maj=14.5km s-min=8.5km az=137.6*

NEIC **27** *07:57:23.8, 33.°83S×71.°46W, h27km, mb5.0/4, ML4.6(GUC), After GUC.*

GUC **27** *07:57:23.8±0.4, 33.°82S×71.°45W, h31km±12km, ML4.9*

ISC 27 07:57:22.5±1.8**, 33.°90S**±0.°09×**71.°49W**±0.°09**, h42**km±14km**, n45, σ0.s83**/55**, mb4.6**/15**, 4C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TACH	Talagante	0.52	63	eP	Pn	07 57 33.3	-0.3
TACH	Talagante	0.52	63	eP	Pn	07 57 33.3	-0.3
ANTU	Antumapu	0.78	66	⇓iP	Pn	07 57 37.5	+0.3
ANTU				iS	Sn	07 57 48.0	+0.2
ANTU				AML	AML	07 57 49.9	
	comp=N,81μm,0.4s						
ANTU	Antumapu	0.78	66	iS	Sn	07 57 48.0	+0.2
ANTU	Antumapu	0.78	66	⇓iP	Pn	07 57 37.5	+0.3
SAN	Santiago	0.82	58	⇑iP	Pn	07 57 37.9	+0.3
SAN				iS	Sn	07 57 48.4	-0.2
SAN	Santiago	0.82	58	⇑iP	Pn	07 57 37.9	+0.3
SAN				S	Sn	07 57 46.7	-1.9
PCH	Pirque	0.86	72	⇑iP	Pn	07 57 38.7	+0.5
PCH				iS	Sn	07 57 50.2	+0.6
PCH	Pirque	0.86	72	⇑iP	Pn	07 57 38.7	+0.5
PCH				iS	Sn	07 57 50.2	+0.6
IHA	Instituto Hidr	0.88	352	⇓iP	Pn	07 57 38.6	+0.2
IHA				iS	Sn	07 57 49.9	0.0
IHA	Instituto Hidr	0.88	352	⇓iP	Pn	07 57 38.6	+0.2
IHA				iS	Sn	07 57 49.9	0.0
ROCH	El Roble	1.00	24	⇓iP	Pn	07 57 40.6	+0.3
ROCH				iS	Sn	07 57 53.6	+0.2
ROCH	El Roble	1.00	24	iP	Pn	07 57 40.6	+0.3
PEL	Peldehue	1.01	42	eP	Pn	07 57 40.9	+0.7
PEL				iS	Sn	07 57 53.5	+0.3
PEL				AML	AML	07 57 56.5	
	comp=E,77μm,0.3s						
PEL	Peldehue	1.01	42	⇓iP	Pn	07 57 41.1	+0.9
PEL				iS	Sn	07 57 53.5	+0.3
TRQA	Tornquist	8.76	121	ePn	Pn	07 59 27.9	+1.4
USHA	Ushuaia	21.04	175	P	P	08 02 02.0	-0.6
	comp=E,13nm,0.8s,baz=327,slow=10,SNR=1.7						
BDFB	Brasilia	27.90	55	P	P	08 03 07.3	-1.4
	comp=E,6.5nm,0.5s,baz=205,slow=8.6,SNR=3.6						
OTAV	Otavalo	34.58	348	eP	P	08 04 07.9	0.0
	comp=E,6.2nm,0.8s						
ROSC	El Rosal	38.63	355	P	P	08 04 44.4	+2.1
	comp=E,6.9nm,0.5s,baz=103,slow=14,SNR=5.4						
RCBR	Riachuelo	43.20	58	P	P	08 05 18.4	-1.2
	comp=E,7.4nm,0.6s,baz=231,slow=11,SNR=4.1						
TEIG	Tepich	56.15	341	P	P	08 06 57.9	0.0
	comp=E,11nm,0.6s,baz=151,slow=2.7,SNR=5.6						
TXAR	Lajitas Array	69.87	330	P	P	08 08 30.2	+1.2
	comp=E,1.2nm,0.6s,baz=158,slow=8.2,SNR=4.5						
MIAR	Mount Ida	71.16	341	eP	P	08 08 36.5	-0.2
	comp=E,12nm,1.1s						
WVT	Waverly	71.32	346	eP	P	08 08 37.7	+0.1
	comp=E,26nm,0.8s						
ACSO	Alum Creek Sta	74.52	351	eP	P	08 08 54.8	-1.7
	comp=E,13nm,0.7s						
TSUM	Tsumeb	78.80	106	P	P	08 09 22.3	+0.8
	comp=E,5.4nm,0.8s,baz=143,slow=5.1,SNR=2.8						
BOSA	Boshof	79.72	117	P	P	08 09 26.8	+0.5
	comp=E,11nm,0.8s,baz=273,slow=5.3,SNR=2.6						
TORD	Torodi Ar. Bea	83.75	70	P	P	08 09 47.5	+0.1
	comp=E,8.1nm,0.7s,baz=298,slow=5.9,SNR=9.5						
PDAR	Pinedale Array	83.88	333	P	P	08 09 48.0	+0.2
	comp=E,1.7nm,0.7s,baz=162,slow=6.2,SNR=2.8						
ULM	Lac du Bonnet	86.52	345	P	P	08 10 00.5	+0.1
	comp=E,2.9nm,0.7s,baz=255,slow=1.3,SNR=3.4						
YKA	Yellowknife Ar	102.11	341	P	Pdif	08 11 11.4	-0.3
	comp=E,0.2nm,0.5s,baz=143,slow=4.5,SNR=3.7						
WRA	Warramunga Arr	121.07	209	PKP	PKPdf	08 16 11.0	-0.1
	comp=E,1.3nm,0.5s,baz=152,slow=1.8,SNR=8.8						
BRTR	Keskin Array B	121.38	61	PKP	PKPdf	08 16 11.4	+0.2
	comp=E,1.3nm,0.8s,baz=183,slow=2.7,SNR=3.2						
AKASG	Malin Array Be	121.78	47	PKP	PKPdf	08 16 10.5	-0.9
	comp=E,2.6nm,0.7s,baz=258,slow=3.0,SNR=6.1						

FINES FINESS Array B 122.64 34 PKP PKPdf 08 16 12.7 0.0
comp=E,1.7nm,0.7s,baz=222,slow=2.6,SNR=5.9
ARCES ARCESS Array B 123.73 25 PKP PKPdf 08 16 13.0 -1.6
comp=E,3.3nm,0.9s,baz=238,slow=4.1,SNR=12
SEY Seymchan 140.17 330 PKP PKPdf 08 16 46.6 +1.0
comp=E,3.4nm,0.8s,baz=180,slow=3.0,SNR=3.0
PSI Prapat 147.80 162 PKPbc PKPbc 08 17 03.0 -0.6
comp=E,7.6nm,0.5s,baz=232,slow=8.1,SNR=2.5
AAK Ala-Archa 152.05 62 PKPbc PKPbc 08 17 13.8 +0.6
comp=E,17nm,1.0s,baz=191,slow=3.5,SNR=6.9
AAK Ala-Archa 152.05 62 ePKPbc PKPbc 08 17 14.6 +1.3
KURK Kurchatov 152.49 43 ePKPbc PKPbc 08 17 14.1 +0.4
ZALV Zalesovo Beam 153.89 33 PKPbc PKPbc 08 17 16.9 +0.3
comp=E,8.6nm,0.5s,baz=314,slow=3.0,SNR=16
MKAR Makanchi Array 156.35 49 PKPab PKPab 08 17 40.5 -0.2
comp=E,1.5nm,0.5s,baz=302,slow=2.8,SNR=7.9
SONM Songino Array 165.98 6 PKPab PKPab 08 18 20.5 -2.3
comp=E,1.3nm,0.8s,baz=349,slow=2.6,SNR=3.1

IDC 27 07:57:27.7±0.7, 35.65S×71.97W, h0km, mb4.8/11, mb1 5.0/11, mb1mx4.6/35, mbtmp4.8/11, Error ellipse: s-maj=45.3km s-min=18.5km az=67.0
ISCJB 27 07:57:31.2±0.4, 35.67S±0.08×71.9W±0.2, h35km, mb5.0/62, Error ellipse: s-maj=23.9km s-min=9.0km az=163.8
NEIC 27 07:57:32.9±0.2, 35.75S×72.20W, h35km, mb5.1/51, Error ellipse: s-maj=13.3km s-min=5.8km az=75.0
ISC 27 07:57:32.9±0.5, 35.71S±0.10×72.1W±0.2, h35km, n78, σ0§65/77, mb5.0/62, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.16	167	Pn	Pn	07 58 47.1	-0.6
NNA	Nana	24.01	348	P	P	08 02 43.2	-1.3
	15nm,0.8s,baz=194,slow=14,SNR=3.5						
OTAV	Otavalo	36.25	349	eP	P	08 04 33.9	+0.5
	6.8nm,0.8s						
JTS	JuntasAbangare	47.34	343	eP	P	08 06 03.4	0.0
	12nm,1.0s						
SNAA	Sanae	50.02	157	P	P	08 06 22.7	-0.8
	5.8nm,1.0s,baz=319,slow=9.3,SNR=6.5						
FDF	Fort de France	51.22	14	eP	P	08 06 34.0	+0.9
	92nm,1.0s						
APG	El Apazote	53.36	338	P	P	08 06 44.7	-4.5
	9.3nm,0.8s,baz=153,slow=8.4,SNR=3.9						
LRS	Lares	53.93	6	eP	P	08 06 53.3	+0.3
ANWB	Willy Bob	53.97	12	eP	P	08 06 53.4	+0.1
	18nm,0.5s						
QSPA	South Pole Qui	54.53	180	P	P	08 06 57.8	+0.7
	21nm,0.9s,baz=147,slow=4.5,SNR=3.1						
TEIG	Tepich	57.71	342	P	P	08 07 19.3	-0.7
	36nm,0.7s,baz=171,slow=7.8,SNR=6.8						
TEIG	Tepich	57.71	342	eP	P	08 07 19.4	-0.7
	32nm,0.6s						
JCT	Junction City	70.81	335	eP	P	08 08 45.4	-0.5
	51nm,1.3s						
TXAR	Lajitas Array	71.21	331	P	P	08 08 48.0	-0.4
	2.7nm,0.6s,baz=158,slow=8.8,SNR=7.0						
WHTX	Lake Whitney	71.43	337	eP	P	08 08 49.0	-0.6
	60nm,1.4s						
OXF	Oxford	71.71	345	eP	P	08 08 50.4	-0.7
	32nm,0.9s						
SWET	Sewanee	71.74	348	eP	P	08 08 51.2	-0.1
	137nm,1.6s						
TKL	Tuckaleechee C	71.83	350	P	P	08 08 51.8	-0.1
	15nm,0.8s,baz=180,slow=8.0,SNR=7.1						
TKL	Tuckaleechee C	71.83	350	eP	P	08 08 51.6	-0.3
MIAR	Mount Ida	72.72	342	eP	P	08 08 58.1	+0.9
	6.6nm,0.8s						
WVT	Waverly	72.96	347	eP	P	08 08 57.9	-0.6
	71nm,1.0s						
MNTX	Cornudas Mount	73.98	331	eP	P	08 09 03.0	-1.7
	6.8nm,1.1s						
CPRX	Cap Rock	74.58	333	eP	P	08 09 07.3	-1.0
	3.4nm,0.8s						
SIUC	Southern Illin	74.77	346	eP	P	08 09 08.7	-0.4
	15nm,0.5s						
V34A	Guthrie	75.02	339	eP	P	08 09 09.9	-0.7
	51nm,1.5s						
AMTX	Amarillo	75.47	335	eP	P	08 09 13.1	-0.2
	102nm,1.7s						
U34A	Anderson Ranch	75.59	339	eP	P	08 09 12.9	-0.9
	43nm,1.3s						
121A	Cookes Peak, D	75.69	329	eP	P	08 09 14.8	+0.1
	24nm,1.1s						
ACSO	Alum Creek Sta	76.23	351	eP	P	08 09 17.3	-0.1
	27nm,0.6s						
LPM	Los Pinos Moun	76.78	331	eP	P	08 09 21.0	+0.1
	6.5nm,1.0s						
ANMO	Albuquerque	77.27	332	P	P	08 09 24.0	+0.3
	12nm,1.0s,baz=170,slow=7.0,SNR=6.2						
ANMO	Albuquerque	77.27	332	eP	P	08 09 23.6	-0.1
	13nm,1.1s						
214A	Organ Pipe Nat	77.40	325	eP	P	08 09 23.9	-0.4
	7.3nm,1.0s						
KSU1	Kansas State U	77.81	341	eP	P	08 09 25.8	-0.6
	12nm,0.8s						
CASY	Casey	78.32	181	eP	P	08 09 29.4	+0.5
	5.8nm,0.8s						
BOSA	Boshof	79.30	117	P	P	08 09 35.5	+0.2
	7.4nm,0.7s,baz=235,slow=5.6,SNR=3.1						
SDCO	Great Sand Dun	79.39	334	eP	P	08 09 35.4	-0.1
	11nm,1.1s						
KSCO	Kaye Shedlock'	79.53	336	eP	P	08 09 36.5	+0.5
	96nm,1.7s						
WUAZ	Wupatki	79.77	328	eP	P	08 09 37.8	+0.4
	16nm,1.1s						
JFWS	Jewell Farm	79.99	347	eP	P	08 09 38.1	-0.1
	33nm,1.0s						
ISCO	Idaho Springs	81.25	334	eP	P	08 09 45.6	+0.2
	27nm,1.7s						
PV10	Paradox Valley	81.27	331	eP	P	08 09 45.2	-0.3
ECSD	EROS Data Cent	82.16	342	eP	P	08 09 49.7	-0.1
	42nm,0.9s						
CCUT	Cedar City	82.34	328	eP	P	08 09 51.7	+0.6
	18nm,1.1s						
SPMN	St. Paul	82.72	345	eP	P	08 09 51.9	-0.7
	8.4nm,0.7s						
BRSD	Miller	83.43	341	eP	P	08 09 55.9	-0.4
	39nm,0.9s						
NLU	North Lily Min	83.83	330	eP	P	08 09 59.0	+0.2
	8.0nm,1.1s						
R11A	Troy Canyon, C	83.97	327	eP	P	08 09 60.0	+0.5
	39nm,2.0s						
K22A	Casper	84.10	335	eP	P	08 09 59.8	-0.2
	43nm,1.4s						
JLU	Jordanelle	84.13	331	eP	P	08 10 00.5	+0.1
	9.6nm,1.1s						
DUG	Dugway	84.33	330	eP	P	08 10 01.7	+0.5
	30nm,1.4s						
TPH	Tonopah	84.48	326	eP	P	08 10 02.0	-0.1
	9.8nm,1.0s						
TORD	Torodi Ar. Bea	84.81	70	P	P	08 10 03.0	-1.1
	3.8nm,0.9s,baz=238,slow=4.1,SNR=3.0						
BGU	Big Grassy Mou	85.04	330	eP	P	08 10 05.4	+0.6
	2.4nm,1.0s						
NVAR	Mina Array Bea	85.27	325	P	P	08 10 06.7	+0.6
	4.1nm,0.7s,baz=159,slow=5.9,SNR=6.6						
HVU	Hansel Valley	85.66	331	eP	P	08 10 07.8	0.0
	10nm,1.0s						
CMB	Columbia Colle	85.94	324	eP	P	08 10 08.9	-0.3
	7.2nm,1.1s						
RLMT	Red Lodge	87.22	335	eP	P	08 10 15.3	-0.2
	5.9nm,0.6s						
YMR	Madison River	87.43	333	eP	P	08 10 16.9	+0.3
	8.7nm,0.9s						
LAO	LASA Array	87.58	337	eP	P	08 10 16.8	-0.2
	23nm,1.4s						
HLID	Hailey	87.81	331	eP	P	08 10 18.9	+0.5
	20nm,1.6s						
ULM	Lac du Bonnet	88.14	345	P	P	08 10 19.6	+0.1
	18nm,0.8s,baz=180,slow=4.1,SNR=11						
DGMT	Dagmar	88.57	339	eP	P	08 10 21.8	+0.2
	72nm,1.0s						
WVOR	Wild Horse Val	88.65	327	eP	P	08 10 22.3	0.0
	23nm,1.6s						
MOD	Modoc	88.97	326	eP	P	08 10 24.0	+0.2
	29nm,1.2s						
PINOR	Pine Mountain	90.73	327	eP	P	08 10 33.0	+1.2
	40nm,1.6s						
WALA	Waterton Lakes	92.23	334	eP	P	08 10 38.8	0.0
	2.0nm,1.9s						
FCC	Fort Churchill	95.89	349	eP	P	08 10 55.5	+0.3
	0.1nm,0.8s						
YKA	Yellowknife Ar	103.66	341	Pdiff	Pdif	08 11 29.5	-0.4
	1.3nm,1.0s,baz=144,slow=4.1,SNR=4.3						
ILAR	Eielson Array	115.70	333	PKP	PKPdf	08 16 11.3	+0.8
	0.7nm,0.8s,baz=132,slow=1.4,SNR=2.9						
WRA	Warramunga Arr	119.26	209	PKP	PKPdf	08 16 18.9	0.0
	3.0nm,0.9s,baz=150,slow=1.9,SNR=3.8						
BRTR	Keskin Array B	122.67	62	PKP	PKPdf	08 16 26.6	+1.7
	1.1nm,0.8s,baz=203,slow=4.5,SNR=2.5						
AKASG	Malin Array Be	123.35	48	PKP	PKPdf	08 16 26.8	+1.2
	1.3nm,0.7s,baz=257,slow=2.9,SNR=3.4						
ARCES	ARCESS Array B	125.57	25	PKP	PKPdf	08 16 27.6	-1.7
	2.6nm,0.7s,baz=256,slow=3.6,SNR=3.6						
SEY	Seymchan	141.49	329	PKP	PKPdf	08 16 59.4	+0.1
	5.0nm,0.8s,baz=134,slow=3.4,SNR=5.2						
ABKAR	Akbulak array	142.73	54	ePKPdf	PKPdf	08 17 01.8	-0.1
BRVK	Borovoye	148.45	45	ePKPab	PKPab	08 17 18.9	+0.3
SONM	Songino Array	167.83	5	PKPab	PKPab	08 18 43.6	+1.5
	2.0nm,0.8s,baz=349,slow=4.9,SNR=3.9						

IDC 27 07:57:31.7±3.9, 33.40S×71.61W, h0km, mb4.5/5, mb1 4.8/6, mb1mx4.4/37, mbtmp4.5/6, ML4.7/1, Error ellipse: s-maj=112.7km s-min=29.9km az=176.0
ISC 27 07:57:38.8±3.0, 33.0S±0.5×71.5W±0.2, h35km, n7, σ0§71/7, mb4.4/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	San Ignacio	19.43	32	P	Pn	08 02 03.5	-0.1
	2.2nm,0.3s,baz=235,slow=14,SNR=4.0						
BDFB	Brasilia	27.44	57	P	P	08 03 21.9	+0.2
	20nm,1.0s,baz=227,slow=8.2,SNR=3.9						
RCBR	Riachuelo	42.77	59	P	P	08 05 33.2	0.0
	4.8nm,0.7s,baz=216,slow=10,SNR=3.1						
TXAR	Lajitas Array	69.10	330	P	P	08 08 41.8	+0.4
	1.1nm,0.6s,baz=163,slow=7.1,SNR=3.1						
PDAR	Pinedale Array	83.09	333	P	P	08 10 00.6	-0.3
	1.5nm,0.9s,baz=139,slow=5.6,SNR=2.8						
NVAR	Mina Array Bea	83.34	325	P	P	08 10 02.2	0.0
	4.1nm,0.7s,baz=158,slow=5.5,SNR=4.3						
YKA	Yellowknife Ar	101.28	341	P	Pdif	08 11 23.9	-1.3
	0.4nm,0.6s,baz=142,slow=4.7,SNR=5.4						

IDC 27 07:57:35.8±1.0, 35.97S×72.98W, h0km, mb5.1/5, mb1 5.0/5, mb1mx4.5/38, mbtmp5.1/5, MS7.1/1, Ms1 7.1/1, ms1mx5.8/38, Error ellipse: s-maj=48.2km s-min=32.1km az=77.0
ISCJB 27 07:57:39.3±2.0, 35.9S±0.2×72.8W±0.6, h28km, mb5.0/5, MS7.2/1, Error ellipse: s-maj=72.9km s-min=31.7km az=172.6
ISC 27 07:57:40.1±1.1, 36.0S±0.2×73.0W±0.3, h28km, n11, σ1§14/10, mb5.0/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	50.09	157	P	P	08 06 33.2	+1.0
	9.3nm,0.8s,baz=293,slow=5.2,SNR=5.9						
QSPA	South Pole Qui	54.28	180	LR	LR	08 30 15.9	
	comp=Z,172µm,18.4s,baz=204,slow=36						
DBIC	Dimbokro	76.58	71	P	P	08 09 27.8	-0.4
	28nm,0.9s,baz=209,slow=4.4,SNR=6.5						
BOSA	Boshof	79.88	118	P	P	08 09 46.4	-0.2
	12nm,0.8s,baz=252,slow=6.1,SNR=4.4						
TORD	Torodi Ar. Bea	85.64	70	P	P	08 10 16.6	+0.2
	9.6nm,1.0s,baz=254,slow=3.9,SNR=6.5						
SCHQ	Schefferville	90.58	4	P	P	08 10 39.5	+0.4
	8.4nm,1.1s,baz=230,slow=7.9,SNR=3.0						
ILAR	Eielson Array	115.56	333	PKP	PKPdf	08 16 20.1	+1.6
	3.7nm,0.9s,baz=161,slow=3.6,SNR=11						
WRA	Warramunga Arr	118.66	210	PKP	PKPdf	08 16 24.4	-1.6
	3.2nm,0.9s,baz=147,slow=2.2,SNR=5.8						
PSI	Prapat	146.18	165	PKPbc	PKPdf	08 17 16.9	-0.6
	27nm,0.9s,baz=236,slow=2.7,SNR=4.7						
ZALV	Zalesovo Beam	156.31	34	PKP	PKPdf	08 17 30.1	-1.4
	10nm,0.7s,baz=291,slow=4.6,SNR=6.7						
SONM	Songino Array	168.12	2	PKPab	PKPab	08 18 52.2	+0.6
	2.6nm,0.8s,baz=337,slow=4.6,SNR=4.4						

IDC 27 07:58:01.1±0.6, 33.53S×71.84W, h0km, mb5.0/12, mb1 5.1/14, mb1mx4.8/37, mbtmp5.0/14, ML4.4/3, Error ellipse: s-maj=23.4km s-min=17.1km az=76.0
ISCJB 27 07:58:05.2±0.4, 33.47S±0.06×72.04W±0.04, h33km, mb5.2/52, Error ellipse: s-maj=8.6km s-min=4.8km az=8.0
NEIC 27 07:58:05.9, 33.56S×72.00W, h15km, mb5.3/43, ML4.9(GUC), After GUC.
GUC 27 07:58:05.9±0.6, 33.56S×72.00W, h15km±32km, ML4.9
ISC 27 07:58:05.0±2.1, 33.48S±0.06×71.98W±0.1, h24km±14km, n93, σ0§99/99, mb5.3/52, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.53	33	⇓iP	Pn	07 58 17.2	+0.1
IHA				iS	Sn	07 58 26.0	+0.7
IHA	Instituto Hidr	0.53	33	⇓iP	Pn	07 58 17.2	+0.1
IHA				iS	Sn	07 58 26.0	+0.7
SAN	Santiago	1.10	89	⇓iP	Pb	07 58 25.8	+0.3
SAN				iS	Sn	07 58 40.3	+0.7
SAN				AML	AML	07 58 55.6	
	comp=N,24µm,0.6s						
SAN	Santiago	1.10	89	⇓iP	Pb	07 58 25.8	+0.3
ANTU	Antumapu	1.13	95	eP	Pb	07 58 25.8	-0.1
ANTU				iS	Sn	07 58 41.0	+0.8
ANTU				AML	AML	07 58 47.5	
	comp=E,64µm,0.4s						
ANTU	Antumapu	1.13	95	eP	Pb	07 58 25.8	-0.1
ANTU				iS	Sn	07 58 41.0	+0.8
PEL	Peldehue	1.14	73	⇑iP	Pb	07 58 26.7	+0.7
PEL				iS	Sn	07 58 42.6	+2.2
PEL				AML	AML	07 58 50.6	
	comp=E,130µm,0.3s						
PEL	Peldehue	1.14	73	⇑iP	Pb	07 58 26.7	+0.7
PEL				iS	Sn	07 58 42.6	+2.2
CFAA	Coronel Fontan	3.67	60	Pn	Pn	07 58 59.2	-1.2
	comp=E,8.7nm,0.3s,baz=280,slow=11,SNR=3.4						
TRQA	Tornquist	9.32	122	ePn	Pn	08 00 18.2	+0.2
LPAZ	La Paz	17.46	12	P	Pn	08 02 05.5	-2.2
	comp=E,1.3nm,0.3s,baz=152,slow=10,SNR=3.5						
LPAZ	La Paz	17.46	12	eP	Pn	08 02 06.0	-1.6
	comp=E,19nm,0.5s						
SIV	San Ignacio	20.00	32	P	P	08 02 35.1	-1.0
	comp=E,1.4nm,0.3s,baz=229,slow=12,SNR=5.9						
NNA	Nana	21.85	347	P	P	08 02 55.8	-0.2
	comp=E,46nm,1.0s,baz=183,slow=13,SNR=6.8						
NNA	Nana	21.85	347	eP	P	08 02 57.4	+1.4
	comp=E,156nm,1.4s						
BDFB	Brasilia	28.00	56	P	P	08 03 53.4	-0.9
	comp=E,20nm,0.9s,baz=140,slow=6.5,SNR=2.6						
OTAV	Otavalo	34.08	348	eP	P	08 04 42.2	-6.0
	comp=E,24nm,1.1s						
SDV	Santo Domingo	42.15	2	eP	P	08 05 55.0	-0.9
JTS	JuntasAbangare	45.24	342	eP	P	08 06 20.9	+0.3
GRGR	Grenville	46.41	14	eP	P	08 06 30.3	+0.6
	comp=E,143nm,1.0s						
FDF	Fort de France	49.04	14	eP	P	08 06 45.9	-4.3
	comp=E,56nm,0.8s						
APG	El Apazote	51.33	337	P	P	08 07 03.7	-4.1
	comp=E,10nm,0.9s,baz=227,slow=9.1,SNR=3.7						
CRPR	Cabo Rojo, PR	51.40	6	eP	P	08 07 07.5	-0.5
	comp=E,39nm,0.9s						
OBIP	Obispado Ponce	51.48	7	eP	P	08 07 09.0	+0.3
	comp=E,49nm,1.0s						
LRS	Lares	51.71	6	eP	P	08 07 09.3	-1.1
ANWB	Willy Bob	51.78	12	eP	P	08 07 09.5	-1.3
	comp=E,106nm,1.1s						
CBYP	Canovanas	51.79	7	eP	P	08 07 10.3	-0.6
	comp=E,71nm,1.3s						
SNAA	Sanae	52.05	158	P	P	08 07 12.2	-0.2
	comp=E,7.9nm,0.9s,baz=306,slow=6.3,SNR=4.5						
SNAA	Sanae	52.05	158	eP	P	08 07 12.6	+0.2
	comp=E,78nm,0.9s						
GTBY	Guantanamo Bay	53.19	356	eP	P	08 07 21.9	+0.7
	comp=E,70nm,1.2s						
TEIG	Tepich	55.62	341	P	P	08 07 39.1	+0.2
	comp=E,34nm,0.8s,baz=177,slow=4.6,SNR=4.3						
TEIG	Tepich	55.62	341	eP	P	08 07 40.0	+1.0
QSPA	South Pole Qui	56.76	180	P	P	08 07 47.1	+0.2
	comp=E,25nm,1.1s,baz=181,slow=15,SNR=4.0						
JCT	Junction City	68.83	334	eP	P	08 09 08.8	+1.3
	comp=E,44nm,1.3s						
TXAR	Lajitas Array	69.30	331	P	P	08 09 11.7	+1.2
	comp=E,5.2nm,0.6s,baz=156,slow=8.8,SNR=8.4						
WHTX	Lake Whitney	69.41	337	eP	P	08 09 12.3	+1.4
	comp=E,8.6nm,0.5s						
SWET	Sewanee	69.57	348	eP	P	08 09 11.8	-0.2
	comp=E,120nm,1.4s						
OXF	Oxford	69.58	345	eP	P	08 09 12.0	+0.1
	comp=E,81nm,1.0s						
TKL	Tuckaleechee C	69.66	350	P	P	08 09 12.0	-0.4
	comp=E,24nm,1.0s,baz=174,slow=9.2,SNR=6.1						
TKL	Tuckaleechee C	69.66	350	eP	P	08 09 12.3	-0.1
MIAR	Mount Ida	70.63	341	eP	P	08 09 18.9	+0.5
	comp=E,19nm,1.0s						
WVT	Waverly	70.81	346	eP	P	08 09 19.8	+0.4
	comp=E,44nm,0.8s						
GLAT	Glass	71.25	345	eP	P	08 09 23.0	+1.0
SIUC	Southern Illin	72.62	346	eP	P	08 09 30.1	-0.2
	comp=E,42nm,1.1s						
CPRX	Cap Rock	72.64	332	eP	P	08 09 32.1	+1.4
	comp=E,6.8nm,1.0s						
V34A	Guthrie	72.97	339	eP	P	08 09 32.6	+0.2
	comp=E,46nm,1.4s						
AMTX	Amarillo	73.48	335	eP	P	08 09 36.0	+0.4
	comp=E,62nm,1.1s						
U34A	Anderson Ranch	73.53	339	eP	P	08 09 36.5	+0.7
	comp=E,67nm,1.4s						
121A	Cookes Peak, D	73.81	329	eP	P	08 09 39.5	+1.8
	comp=E,28nm,1.0s						
ACSO	Alum Creek Sta	74.04	351	eP	P	08 09 39.0	+0.4
	comp=E,20nm,0.6s						
DBIC	Dimbokro	74.97	71	P	P	08 09 45.3	+0.7
	comp=E,20nm,0.8s,baz=196,slow=8.8,SNR=3.3						
DBIC	Dimbokro	74.97	71	eP	P	08 09 44.4	-0.2
	comp=E,40nm,1.1s						
ANMO	Albuquerque	75.35	331	P	P	08 09 48.7	+2.2
	comp=E,11nm,1.0s,baz=149,slow=8.8,SNR=4.6						
ANMO	Albuquerque	75.35	331	eP	P	08 09 48.0	+1.4
	comp=E,12nm,1.0s						
214A	Organ Pipe Nat	75.62	325	eP	P	08 09 49.2	+1.3
	comp=E,24nm,1.2s						
SCIA	State Center	77.51	344	eP	P	08 09 59.1	+0.7
	comp=E,27nm,0.8s						
KSCO	Kaye Shedlock'	77.52	336	eP	P	08 09 59.9	+1.2
	comp=E,56nm,1.6s						
ECSD	EROS Data Cent	80.06	342	eP	P	08 10 12.7	+0.3
	comp=E,22nm,0.8s						
CCUT	Cedar City	80.49	328	eP	P	08 10 16.6	+1.4
	comp=E,13nm,1.0s						
ISA	Isabella	81.38	323	eP	P	08 10 21.4	+1.7
	comp=E,18nm,1.1s						
R11A	Troy Canyon, C	82.14	327	eP	P	08 10 25.1	+1.2
	comp=E,70nm,1.9s						
LBTB	Lobatse	82.48	115	eP	P	08 10 26.1	0.0
	comp=E,26nm,1.0s						
RSSD	Black Hills	82.57	337	eP	P	08 10 27.0	+1.0
	comp=E,21nm,1.3s						
TPH	Tonopah	82.69	326	eP	P	08 10 27.8	+1.1
	comp=E,24nm,1.1s						
PDAR	Pinedale Array	83.32	333	P	P	08 10 29.9	0.0
	comp=E,5.9nm,1.0s,baz=160,slow=4.7,SNR=4.8						
NVAR	Mina Array Bea	83.48	325	P	P	08 10 32.2	+1.4
	comp=E,5.9nm,0.9s,baz=148,slow=5.0,SNR=5.4						
HVU	Hansel Valley	83.75	331	eP	P	08 10 32.5	+0.4
	comp=E,23nm,1.4s						
TOA0	Torodi Ar. Sit	83.99	70	eP	P	08 10 33.8	+0.1
TORD	Torodi Ar. Bea	83.99	70	P	P	08 10 34.4	+0.7
	comp=E,17nm,0.9s,baz=257,slow=4.5,SNR=5.6						
RLMT	Red Lodge	85.23	335	eP	P	08 10 40.5	+1.0
	comp=E,48nm,1.8s						
YMR	Madison River	85.47	333	eP	P	08 10 42.4	+1.6
	comp=E,36nm,1.0s						
LAO	LASA Array	85.56	337	eP	P	08 10 41.1	+0.1
	comp=E,25nm,1.1s						
HLID	Hailey	85.90	331	eP	P	08 10 44.3	+1.5
	comp=E,37nm,1.6s						
WVOR	Wild Horse Val	86.81	327	eP	P	08 10 48.0	+0.6
	comp=E,21nm,1.4s						
HAWA	Hanford	90.33	329	eP	P	08 11 04.6	+0.9
	comp=E,33nm,1.7s						
FCC	Fort Churchill	93.73	349	eP	P	08 11 19.0	-0.1
	comp=E,0.4nm,1.3s						
YKA	Yellowknife Ar	101.58	341	P	Pdif	08 11 54.3	-0.1
	comp=E,0.9nm,0.9s,baz=141,slow=5.0,SNR=3.7						
WRA	Warramunga Arr	121.24	209	PKP	PKPdf	08 16 56.0	-0.6
	comp=E,3.8nm,0.9s,baz=153,slow=1.7,SNR=5.5						
BRTR	Keskin Array B	121.54	61	PKP	PKPdf	08 16 55.0	-1.7
	comp=E,1.2nm,0.9s,baz=185,slow=4.6,SNR=3.7						
AKASG	Malin Array Be	121.80	47	PKP	PKPdf	08 16 54.9	-1.7
	comp=E,5.2nm,0.9s,baz=270,slow=2.5,SNR=4.2						
ARCES	ARCESS Array B	123.52	25	PKP	PKPdf	08 16 59.4	+0.1
	comp=E,5.5nm,1.0s,baz=233,slow=4.2,SNR=3.3						
ARU	Arti	139.32	40	ePKPdf	PKPdf	08 17 29.4	-0.1
SEY	Seymchan	139.60	330	PKP	PKPdf	08 17 30.8	+1.0
	comp=E,9.6nm,1.0s,baz=58,slow=3.5,SNR=3.9						
GEYT	Alibeck	139.62	69	PKP	PKPdf	08 17 31.7	+1.0
	comp=E,1.9nm,0.6s,baz=324,slow=2.7,SNR=3.2						
BRVK	Borovoye	146.79	42	ePKPbc	PKPbc	08 17 44.4	-0.1
HYB	Hyderabad	149.10	114	iPKP	PKPbc	08 17 52.0	+0.2
ASAJ	Asahikawa	151.22	302	PKPbc	PKPbc	08 17 56.0	-0.1
	comp=E,25nm,1.0s,baz=272,slow=10,SNR=4.2						
AAK	Ala-Archa	152.21	61	PKPbc	PKPbc	08 17 57.9	-0.8
	comp=E,5.6nm,0.6s,baz=320,slow=2.9,SNR=4.6						
AAK	Ala-Archa	152.21	61	ePKPdf	PKPdf	08 17 52.0	0.0
AAK				PKPbc	PKPbc	08 17 57.9	-0.8
KURK	Kurchatov	152.46	42	ePKPdf	PKPdf	08 17 52.3	+0.5
ZALV	Zalesovo Beam	153.76	32	PKPbc	PKPbc	08 18 00.1	-1.4
	comp=E,15nm,0.9s,baz=300,slow=3.3,SNR=6.0						
CMAR	Chiang Mai Arr	162.98	149	PKP	PKPdf	08 18 06.0	+0.2
	comp=E,2.3nm,0.9s,baz=271,slow=1.9,SNR=4.9						
CMAR				PKPab	PKPab	08 18 52.5	-2.7
	comp=E,6.1nm,0.5s,baz=238,slow=3.1,SNR=13						
SONM	Songino Array	165.60	4	PKPab	PKPab	08 19 05.7	-0.4
	comp=E,2.7nm,0.9s,baz=352,slow=5.3,SNR=4.1						

IDC 27 07:59:48.4±0.6, 36.21S×72.83W, h0km, mb5.1/21, mb1 5.2/23, mb1mx5.1/38, mbtmp5.1/23, ML4.5/1, Error ellipse: s-maj=21.6km s-min=12.8km az=74.0
ISCJB 27 07:59:51.6±0.2, 36.07S±0.05×72.68W±0.08, h28km, mb5.2/73, Error ellipse: s-maj=10.1km s-min=6.1km az=154.7
MOS 27 07:59:52.3±1.1, 36.11S×72.78W, h33km, mb5.4/16, Error ellipse: s-maj=26.8km s-min=9.9km az=100.9
NEIC 27 07:59:53.9±0.2, 36.12S×72.71W, h35km, mb5.3/57, Error ellipse: s-maj=8.5km s-min=4.8km az=73.0
BJI 27 07:59:55.6, 36.10S×72.60W, h35km, mB5.3/2, Ms5.1/1, Ms7 4.8/1
ISC 27 07:59:53.2±0.4, 36.08S±0.06×72.8W±0.1, h28km, n511, σ0§84/506, mb5.3/73, 172C-179D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.96	160	eP	Pn	08 01 07.3	+1.4
PLCA	Paso Flores	4.96	160	Pn	Pn	08 01 04.9	-1.0
	baz=304,slow=15,SNR=1.2						
PLCA	Paso Flores	4.96	160	ePn	Pn	08 01 07.3	+1.4
LVC	Limon Verde	13.83	15	ePn	Pn	08 03 07.2	-0.4
USHA	Ushuaia	18.99	172	P	P	08 04 10.8	-1.5
	1.5nm,0.3s,baz=6.1,slow=3.9,SNR=4.9						
LPAZ	La Paz	20.14	13	eP	Pn	08 04 27.4	-0.4
LPAZ				pmax			
	comp=Z,61nm,0.9s						
LPAZ	La Paz	20.14	13	P	Pn	08 04 27.7	-0.1
	comp=Z,50nm,1.1s,baz=154,slow=7.6,SNR=3.4						
LPAZ	La Paz	20.14	13	eP	Pn	08 04 27.4	-0.4
	comp=Z,61nm,0.9s						
SIV	San Ignacio	22.56	31	P	P	08 04 52.3	+1.0
	comp=Z,73nm,1.0s,baz=231,slow=12,SNR=8.9						
NNA	Nana	24.27	350	eP	P	08 05 09.4	+1.3
NNA				pmax	pmax		
	comp=Z,47nm,1.1s						
NNA	Nana	24.27	350	P	P	08 05 09.8	+1.7
	comp=Z,12nm,0.7s,baz=188,slow=12,SNR=3.1						
NNA	Nana	24.27	350	eP	P	08 05 09.4	+1.3
	comp=Z,47nm,1.1s						
ATAH	Atahualpa	29.27	349	P	P	08 05 55.5	+2.0
	comp=Z,8.4nm,0.9s,baz=90,slow=7.1,SNR=2.4						
BDFB	Brasilia	30.02	54	P	P	08 05 59.9	+0.1
	comp=Z,27nm,0.8s,baz=258,slow=4.8,SNR=3.1						
SDV	Santo Domingo	44.77	3	eP	P	08 08 04.7	+0.1
	comp=Z,18nm,0.8s						
RCBR	Riachuelo	45.26	57	P	P	08 08 09.1	+0.7
	comp=Z,15nm,0.8s,baz=222,slow=12,SNR=6.1						
JTS	JuntasAbangare	47.53	344	eP	P	08 08 26.5	+0.4
JTS				pmax	pmax		
	comp=Z,23nm,1.3s						
JTS	JuntasAbangare	47.53	344	eP	P	08 08 26.5	+0.4
	comp=Z,24nm,1.3s						

VNA3 Neumayer Olymp 47.67 157 P P 08 08 26.8 +0.2
VNA1 Neumayer--Stat 48.01 156 P P 08 08 29.4 +0.2
GRGR Grenville 49.09 14 eP P 08 08 36.6 -1.5
comp=Z,138nm,0.9s
SNAA Sanae 49.90 157 P P 08 08 43.3 -0.5
SNAA Sanae 49.90 157 P P 08 08 43.2 -0.6
comp=Z,26nm,0.9s,baz=290,slow=7.0,SNR=11
FDF Fort de France 51.72 14 eP P 08 09 01.1 +3.1
FDF pmax pmax
comp=Z,88nm,1.1s
FDF Fort de France 51.72 14 eP P 08 09 01.1 +3.1
comp=Z,88nm,1.1s
APG El Apazote 53.49 339 P P 08 09 08.1 -3.3
comp=Z,16nm,0.9s,baz=172,slow=8.5,SNR=7.5
ICMP Isla Caja de M 54.00 7 eP P 08 09 14.0 -0.8
OBIP Obispado Ponce 54.14 7 eP P 08 09 15.3 -0.5
comp=Z,75nm,0.9s
QSPA South Pole Qui 54.16 180 P P 08 09 15.2 -0.5
comp=Z,53nm,0.9s,baz=153,slow=3.0,SNR=8.9
CELP Cerrillos 54.18 7 eP P 08 09 15.2 -0.8
LRS Lares 54.36 7 eP P 08 09 16.6 -0.9
CBYP Canovanas 54.45 8 eP P 08 09 16.3 -1.9
comp=Z,26nm,0.9s
SDDR Presa de Saban 54.78 2 eP P 08 09 22.5 +2.0
comp=Z,26nm,1.0s
SMN1 Samana, DR 55.06 4 eP P 08 09 22.1 -0.5
TEIG Tepich 57.89 343 P P 08 09 42.4 -0.3
comp=Z,34nm,0.9s,baz=172,slow=8.9,SNR=4.3
TEIG Tepich 57.89 343 eP P 08 09 42.2 -0.4
comp=Z,46nm,1.0s
035A Encino 67.08 335 ⇓P P 08 10 45.7 +1.7
baz=68
034A Hebbronville 67.40 335 ⇑P P 08 10 47.0 +1.1
baz=68
934A Benavides 67.84 335 ⇑P P 08 10 50.2 +1.5
baz=68
TIGA Tifton 67.93 350 eP P 08 10 48.8 -0.3
comp=Z,222nm,2.0s
933A Laredo 68.11 335 ⇓P P 08 10 51.2 +0.8
baz=68
835A Beeville 68.24 336 ⇓P P 08 10 52.6 +1.4
baz=69
834A Tilden 68.33 336 ⇑P P 08 10 53.1 +1.3
baz=69,SNR=7.7
735A Kenedy 68.76 337 ⇓P P 08 10 55.6 +1.1
baz=69,SNR=7.9
833A Chaparral WMA, 68.80 335 ⇑P P 08 10 55.8 +1.1
baz=69
832A Faith Ranch, C 68.96 334 ⇑P P 08 10 56.6 +0.8
baz=69
734A La Parita Cree 69.00 336 ⇑P P 08 10 56.9 +1.0
baz=69
636A Smothers Creek 69.10 337 ⇑P P 08 10 57.8 +1.2
baz=70
733A Divot King Ran 69.13 335 ⇑P P 08 10 57.6 +0.9
baz=70
635A Leesville 69.24 337 ⇑P P 08 10 58.2 +0.8
baz=70
732A Laxson Ranch, 69.37 335 ⇑P P 08 10 58.6 +0.4
baz=70,SNR=7.0
537A Green Hill Far 69.44 338 ⇑P P 08 10 59.3 +0.7
baz=70
536A Bastrop 69.66 338 ⇑P P 08 11 00.4 +0.4
baz=70
633A Saathoff Ranch 69.77 336 ⇑P P 08 11 01.1 +0.4
baz=70
535A Dale 69.77 337 ⇑P P 08 11 01.1 +0.4
baz=70,SNR=7.2
GOGA Godfrey 69.85 350 eP P 08 11 00.8 -0.3
GOGA pmax pmax
comp=Z,27nm,1.1s
GOGA Godfrey 69.85 350 eP P 08 11 00.8 -0.3
comp=Z,26nm,1.1s
632A Uvalde 70.02 335 ⇑P P 08 11 02.9 +0.6
baz=70
339A Huntington 70.11 340 ⇓P P 08 11 04.0 +1.3
baz=70
533A Kerrville 70.28 336 ⇑P P 08 11 04.4 +0.4
baz=71,SNR=8.9
338A Crockett 70.34 340 ⇑P P 08 11 05.4 +1.2
baz=71,SNR=5.0
337A Centerville 70.47 339 ⇓P P 08 11 05.9 +0.9
baz=71,SNR=7.7
435B Jarrell 70.48 337 ⇓P P 08 11 05.5 +0.5
baz=71
532A Rocksprings 70.63 335 ⇓P P 08 11 06.8 +0.7
baz=71
434A Burnet 70.72 337 ⇑P P 08 11 06.6 +0.1
baz=71,SNR=8.3
336A Riesel 70.82 338 ⇓P P 08 11 07.3 +0.2
baz=71,SNR=8.1
531A Rocksprings 70.88 335 ⇑P P 08 11 07.7 +0.1
baz=71
335A Moody 70.89 338 ⇓P P 08 11 08.1 +0.6
baz=71
JCT Junction City 70.92 335 eP P 08 11 08.3 +0.5
JCT pmax pmax
comp=Z,36nm,1.0s
JCT Junction City 70.92 335 eP P 08 11 08.2 +0.5
comp=Z,36nm,1.0s
JCT Junction City 70.92 335 ⇑P P 08 11 08.3 +0.5
baz=71,SNR=6.2
433A Art 70.93 336 ⇓P P 08 11 07.8 0.0
baz=71,SNR=8.4
CNNC Cliffs of the 71.12 356 eP P 08 11 09.2 +0.5
comp=Z,51nm,1.1s
530A J-C Ranch, Com 71.14 334 ⇑P P 08 11 09.3 +0.2
baz=72,SNR=11
334A Lometa 71.19 337 ⇑P P 08 11 09.6 +0.2
baz=72,SNR=10.0
TXAR Lajitas Array 71.27 332 P P 08 11 10.2 +0.2
comp=Z,14nm,1.1s,baz=148,slow=7.4,SNR=8.2
432A Menard 71.28 336 ⇑P P 08 11 10.3 +0.3
baz=72
KMSC Kings Mountain 71.31 353 eP P 08 11 09.2 -0.8
comp=Z,35nm,1.3s
431A Sonora 71.38 335 ⇓P P 08 11 10.5 0.0
baz=72
333A Richland Sprin 71.42 336 ⇓P P 08 11 11.0 +0.2
baz=72,SNR=6.5
529A Stev Forest Ra 71.44 333 ⇓P P 08 11 11.1 +0.1
baz=72,SNR=7.7
WHTX Lake Whitney 71.56 338 eP P 08 11 11.4 -0.2
comp=Z,37nm,0.9s
WHTX Lake Whitney 71.56 338 ⇓P P 08 11 11.7 +0.1
baz=72,SNR=6.1
430A Baggett Ranch, 71.69 334 ⇑P P 08 11 12.4 -0.1
baz=72,SNR=9.7
332A Millersview 71.72 336 ⇑P P 08 11 12.6 0.0
baz=72,SNR=8.4
429A Davenport Ranc 71.77 334 ⇑P P 08 11 12.9 -0.1
baz=72,SNR=7.9
234A Clairette 71.78 337 ⇓P P 08 11 12.8 -0.1
baz=72,SNR=8.2
331A San Angelo 71.89 335 ⇑P P 08 11 13.2 -0.4
baz=72,SNR=11
OXF Oxford 71.93 346 eP P 08 11 12.7 -1.0
OXF pmax pmax
comp=Z,47nm,1.0s
OXF Oxford 71.93 346 eP P 08 11 12.7 -1.0
comp=Z,46nm,1.0s
SWET Sewanee 71.99 349 eP P 08 11 13.7 -0.4
comp=Z,56nm,1.0s
233A Rising Star 72.04 337 ⇓P P 08 11 14.1 -0.4
baz=72,SNR=6.2
135A Vickery Place, 72.08 338 ⇑P P 08 11 14.1 -0.5
baz=72
TKL Tuckaleechee C 72.11 351 eP P 08 11 14.2 -0.6
TKL Tuckaleechee C 72.11 351 P P 08 11 11.2 -3.5
comp=Z,15nm,1.1s,baz=228,slow=6.2,SNR=3.5
TKL Tuckaleechee C 72.11 351 eP P 08 11 14.2 -0.6
232A Coleman 72.16 336 ⇓P P 08 11 14.9 -0.4
baz=72,SNR=7.2
330A Mertzon 72.23 335 ⇓P P 08 11 15.2 -0.5
baz=73
134A White-Moore Ra 72.30 338 ⇑P P 08 11 15.6 -0.4
baz=73
231A Bronte 72.42 336 ⇑P P 08 11 15.9 -0.9
baz=73,SNR=8.5
329A Wagon Wheel Ra 72.59 334 ⇑P P 08 11 17.4 -0.4
baz=73,SNR=8.1
133A Hamilton Ranch 72.59 337 ⇑P P 08 11 17.3 -0.5
baz=73,SNR=8.3
230A Sterling City 72.65 335 ⇑P P 08 11 17.6 -0.6
baz=73
Z35A Perchaven, San 72.75 339 ⇑P P 08 11 18.6 -0.1
baz=73,SNR=8.7
ABTX Abilene, Hawle 72.83 336 ⇓P P 08 11 18.8 -0.4
baz=73,SNR=7.4
229A Bryant Ranch, 72.96 334 ⇓P P 08 11 19.3 -0.8
baz=73,SNR=6.5
Z34A Collier Ranch, 72.99 338 ⇓P P 08 11 19.6 -0.5
baz=73
131A Roby 73.12 336 ⇑P P 08 11 20.6 -0.4
baz=74
Z33A Whitaker Ranch 73.17 337 ⇓P P 08 11 20.9 -0.3
baz=74,SNR=8.7
WVT Waverly 73.20 347 eP P 08 11 20.9 -0.3
WVT pmax pmax
comp=Z,29nm,0.9s
WVT Waverly 73.20 347 eP P 08 11 20.9 -0.3
comp=Z,29nm,0.9s
BBTS Babate 73.24 57 P P 08 11 21.2 -0.7
comp=Z,28nm,0.9s,baz=211,slow=2.1,SNR=3.8
130A Snyder 73.25 335 ⇑P P 08 11 21.2 -0.5
baz=74
228A UT Block 9, Go 73.38 334 ⇓P P 08 11 21.8 -0.7
baz=74,SNR=9.3
Z32A Haskell 73.41 337 ⇓P P 08 11 22.6 0.0
baz=74,SNR=6.7
Y34A Reagan Ranch, 73.48 339 ⇑P P 08 11 22.8 -0.2
baz=74,SNR=7.6
129A Stewart Farms, 73.59 335 ⇓P P 08 11 23.0 -0.7
baz=74
Z31A Sharp Cattle R 73.64 336 ⇑P P 08 11 23.5 -0.4
baz=74,SNR=6.7
128A Castleberry Fa 73.79 334 ⇑P P 08 11 24.3 -0.7
baz=74,SNR=7.1
Y33A Hilltop Ranch, 73.79 339 ⇓P P 08 11 24.1 -0.7
baz=74,SNR=5.7
Z30A Sanderson Ranc 73.93 336 ⇓P P 08 11 25.2 -0.5
baz=74,SNR=8.5
Y32A R-V Farms, Ver 74.04 337 ⇑P P 08 11 25.9 -0.4
baz=74
Z29A Hungry Hill Ra 74.10 335 ⇑P P 08 11 26.2 -0.6
baz=74,SNR=11
X34A Smith Ranch, M 74.11 339 ⇓P P 08 11 26.4 -0.3
baz=74,SNR=5.9
127A Arkansas Junct 74.16 334 ⇓P P 08 11 26.9 -0.2
baz=74
X33A Lawton 74.25 338 ⇑P P 08 11 26.9 -0.6
baz=75
Y31A Rekieta Farm, 74.27 337 ⇓P P 08 11 27.5 -0.1
baz=75
X32A Elmer 74.38 337 ⇑P P 08 11 28.2 0.0
baz=75
Y30A Stafford Cattl 74.39 336 ⇓P P 08 11 27.6 -0.8
baz=75
Y29A Porterfield Fa 74.64 335 ⇓P P 08 11 29.3 -0.5
baz=75,SNR=7.0
Z27A Tatum 74.68 334 ⇑P P 08 11 29.2 -0.9
baz=75
W34A Bridge Creek, 74.68 339 eP P 08 11 29.5 -0.5
comp=Z,16nm,0.7s
W34A Bridge Creek, 74.68 339 ⇑P P 08 11 29.5 -0.5
baz=75
TUL1 Tulsa 74.76 341 eP P 08 11 29.1 -1.3
comp=Z,39nm,1.1s
TUL1 Tulsa 74.76 341 ⇑P P 08 11 30.4 +0.1
baz=75,SNR=6.6
X31A McDonald Ranch 74.79 337 ⇑P P 08 11 30.2 -0.4
baz=75,SNR=5.2
W33A Caddo, Fort Co 74.81 338 ⇓P P 08 11 30.4 -0.3
baz=75,SNR=8.9
X30A Coker Ranch, T 74.91 336 ⇑P P 08 11 31.6 +0.2
baz=75
Z26A Caprock 74.92 333 ⇓P P 08 11 31.1 -0.4
baz=75,SNR=7.5
USIN University of 74.96 348 eP P 08 11 30.9 -0.6
comp=Z,54nm,1.0s
SIUC Southern Illin 74.99 347 eP P 08 11 30.9 -0.8
comp=Z,60nm,1.3s
W32A Sentinel 75.02 338 ⇑P P 08 11 31.9 0.0
baz=75,SNR=9.1
MSTX Muleshoe 75.12 335 eP P 08 11 32.4 -0.2
comp=Z,26nm,1.1s
MSTX Muleshoe 75.12 335 ⇑P P 08 11 33.0 +0.4
baz=76
V34A Guthrie 75.17 339 eP P 08 11 32.6 -0.1
comp=Z,33nm,1.1s
V34A Guthrie 75.17 339 ⇑P P 08 11 32.4 -0.3
baz=76,SNR=6.9
Y27A Causey 75.17 334 ⇑P P 08 11 32.8 -0.2
baz=76
Z25A Roswell 75.19 333 ⇑P P 08 11 33.1 0.0
baz=76
W31A Holland Ranch, 75.29 337 ⇓P P 08 11 33.9 +0.3
baz=76
319A Douglas 75.34 328 ⇓P P 08 11 33.3 -0.7
baz=76
V33A Lossen Ranch, 75.38 339 ⇓P P 08 11 33.8 -0.1
baz=76,SNR=9.5
X28A Dimmitt 75.42 335 ⇑P P 08 11 34.7 +0.3
baz=76
Y26A Elida 75.45 334 ⇓P P 08 11 33.9 -0.7
baz=76,SNR=5.6
Z24A Sheeppen Canyo 75.48 332 ⇓P P 08 11 34.7 -0.2
baz=76
V32A Arapaho 75.51 338 ⇑P P 08 11 34.8 +0.1
baz=76
AMTX Amarillo 75.58 336 eP P 08 11 35.0 -0.2
comp=Z,40nm,1.2s
AMTX Amarillo 75.58 336 ⇓P P 08 11 35.2 0.0
baz=76
121A Cookes Peak, D 75.73 330 ⇑P P 08 11 36.0 -0.2
baz=76
U34A Anderson Ranch 75.73 340 eP P 08 11 35.4 -0.6
comp=Z,66nm,1.3s
U34A Anderson Ranch 75.73 340 ⇑P P 08 11 36.0 0.0
baz=76,SNR=7.1
Y25A Mesa, Roswell 75.76 333 ⇑P P 08 11 36.4 0.0
baz=76
W29A Amraillo 75.78 336 ⇑P P 08 11 36.1 -0.3
baz=76,SNR=7.4
V31A Spring Creek L 75.80 338 ⇓P P 08 11 36.9 +0.5
baz=76,SNR=7.3
X27A F and S Farms, 75.84 335 ⇓P P 08 11 37.1 +0.2
baz=76
U33A Lingo Farm, Me 75.90 339 ⇑P P 08 11 37.0 0.0
baz=76
X26A CR and CF Fran 76.01 334 ⇓P P 08 11 38.4 +0.7
baz=76
Z22A Elephant Butte 76.03 331 ⇓P P 08 11 38.7 +0.8
baz=76
Y24A Capitan 76.04 332 ⇓P P 08 11 38.9 +0.8
baz=76
V30A Spur Ranch, Mi 76.06 337 ⇓P P 08 11 39.1 +1.1
baz=76
W28A Vega 76.09 336 ⇑P P 08 11 39.0 +0.9
baz=76
U32A Winter Ranch, 76.11 338 ⇓P P 08 11 38.7 +0.6
baz=76,SNR=6.2
W27A Bowe Ranch, En 76.21 335 ⇓P P 08 11 39.2 +0.3
baz=77,SNR=6.0
X25A Clemmons Ranch 76.29 333 ⇑P P 08 11 39.5 +0.1
baz=77
U31A Nine Bar Ranch 76.35 338 ⇓P P 08 11 40.1 +0.5
baz=77
DBIC Dimbokro 76.41 71 eP P 08 11 40.7 +0.3
DBIC pmax pmax
comp=Z,40nm,0.8s
DBIC Dimbokro 76.41 71 P P 08 11 40.6 +0.3
comp=Z,30nm,0.7s,baz=214,slow=6.4,SNR=12
DBIC Dimbokro 76.41 71 eP P 08 11 40.7 +0.3
comp=Z,40nm,0.8s
V29A Stinnett 76.43 336 ⇓P P 08 11 40.9 +0.8
baz=77
W26A Owens Ranch, T 76.47 334 ⇓P P 08 11 41.1 +0.7
baz=77
ACSO Alum Creek Sta 76.52 352 eP P 08 11 40.0 -0.4
comp=Z,26nm,0.6s
T33A Patterson Ranc 76.54 339 ⇑P P 08 11 41.1 +0.6
baz=77,SNR=7.0
V28A Channing 76.55 336 ⇓P P 08 11 41.8 +1.0
baz=77
X24A Lazy VL Ranch, 76.61 333 ⇑P P 08 11 41.8 +0.5
baz=77
U30A WK&E Inc. Balk 76.75 337 ⇓P P 08 11 42.4 +0.6
baz=77
V27A Dan Oppiter Fa 76.76 335 ⇑P P 08 11 42.3 +0.3
baz=77
T32A Huddler Ranch, 76.83 339 ⇑P P 08 11 42.7 +0.5
baz=77
W25A X Bar L Ranch, 76.84 334 ⇑P P 08 11 42.8 +0.3
baz=77
U29A Oasis Ranch, S 76.88 337 ⇑P P 08 11 42.5 -0.1
baz=77
S33A Kaszmaul Farm, 76.95 340 ⇓P P 08 11 42.7 -0.2
baz=77
T31A Randall Ranch, 76.97 338 ⇑P P 08 11 43.5 +0.5
baz=77
LAZ Ladron 77.11 331 eP P 08 11 45.2 +1.1
comp=Z,8.0nm,1.1s
U28A Mallet 77.12 336 ⇓P P 08 11 44.6 +0.7
baz=78
V26A Tequesquite Ra 77.12 335 ⇑P P 08 11 44.2 +0.1
baz=78
W24A Lazy 6 Ranch, 77.17 333 ⇓P P 08 11 43.7 -0.7
baz=78
T30A Plains 77.19 338 ⇓P P 08 11 44.8 +0.5
baz=78
SFIN Scholer Farm 77.22 349 ⇑P P 08 11 45.8 +1.5
baz=78
S32A Newby Ranch, P 77.31 339 ⇓P P 08 11 45.5 +0.5
baz=78
ANMO Albuquerque 77.33 332 eP P 08 11 45.3 0.0
ANMO pmax pmax
comp=Z,14nm,1.1s
ANMO Albuquerque 77.33 332 P P 08 11 46.0 +0.6
comp=Z,12nm,1.1s,baz=151,slow=6.9,SNR=4.5
ANMO Albuquerque 77.33 332 eP P 08 11 45.3 0.0
comp=Z,14nm,1.1s
U27A Thompson Grove 77.36 336 ⇓P P 08 11 45.5 +0.1
baz=78
214A Organ Pipe Nat 77.39 326 ⇓P P 08 11 45.8 +0.3
baz=78
S31A Mullinville 77.40 339 ⇓P P 08 11 46.0 +0.6
baz=78,SNR=5.2
W23A Werner Place, 77.41 332 ⇓P P 08 11 45.5 -0.3
baz=78
V25A Rancho No Teng 77.45 334 ⇑P P 08 11 45.9 -0.1
baz=78
T29A Hugoton 77.53 337 ⇓P P 08 11 46.5 +0.3
baz=78
V24A Rampart Ranch, 77.58 333 ⇑P P 08 11 46.9 +0.2
baz=78
R33A Olander Ranch, 77.61 340 ⇓P P 08 11 46.9 +0.4
baz=78
U26A Atchley Ranch, 77.64 335 ⇓P P 08 11 47.0 0.0
baz=78
S30A Montezuma 77.71 338 ⇓P P 08 11 47.4 +0.1
baz=78,SNR=8.5
T28A Walsh 77.76 336 ⇑P P 08 11 47.8 +0.2
baz=78,SNR=8.6
S29A Ulysses 77.90 337 ⇑P P 08 11 48.8 +0.6
baz=78,SNR=5.5
T27A Campo 77.90 336 ⇓P P 08 11 48.7 +0.3
baz=78
R32A Long Quarter, 77.92 339 ⇓P P 08 11 48.6 +0.3
baz=78,SNR=8.3
CASY Casey 77.93 181 eP P 08 11 47.5 -0.7
comp=Z,57nm,1.3s
V23A Ortiz Mt. (NFS 77.94 333 ⇑P P 08 11 48.4 -0.3
baz=78
KSU1 Kansas State U 77.98 341 eP P 08 11 48.3 -0.3
comp=Z,10nm,0.8s
KSU1 Kansas State U 77.98 341 ⇓P P 08 11 48.2 -0.3
baz=78
R31A Burdett 78.03 339 ⇑P P 08 11 48.8 -0.1
baz=78
S28A Manter 78.12 337 ⇑P P 08 11 49.9 +0.4
baz=78,SNR=8.3
U24A Moreno Valley 78.20 334 ⇑P P 08 11 51.0 +0.8
baz=79
Q33A Connelly Farm, 78.21 340 ⇑P P 08 11 50.1 +0.2
baz=79
R30A Dighton 78.25 338 ⇑P P 08 11 50.4 +0.2
baz=79
T26A Comanche Natio 78.30 335 ⇑P P 08 11 51.3 +0.7
baz=79
V22A San Miguel Ran 78.36 332 ⇑P P 08 11 51.8 +0.7
baz=79
Q32A Meitler Ranch, 78.41 340 ⇓P P 08 11 52.1 +1.1
baz=79
U23A El Rito 78.46 333 ⇓P P 08 11 52.5 +0.9
baz=79
T25A Trinidad 78.55 335 ⇑P P 08 11 52.5 +0.4
baz=79,SNR=5.9
P33A Williams Farm, 78.58 341 ⇓P P 08 11 52.3 +0.4
baz=79
R29A Marienthal 78.64 338 ⇑P P 08 11 52.5 +0.1
baz=79
Q31A Ellis 78.66 339 ⇓P P 08 11 53.3 +0.9
baz=79
S26A Kim 78.66 336 ⇑P P 08 11 52.8 +0.3
baz=79,SNR=6.5
U22A Llaves 78.75 333 ⇑P P 08 11 53.4 +0.3
baz=79
R28A Tribune 78.78 337 ⇑P P 08 11 53.4 +0.3
baz=79,SNR=7.2
T24B San Luis 78.82 334 ⇑P P 08 11 54.2 +0.5
baz=79
Q30A Quinter 78.87 339 ⇓P P 08 11 54.0 +0.3
baz=79,SNR=6.2
P32A Huiting Farm, 79.01 340 ⇓P P 08 11 55.3 +1.0
baz=79
Q29A Oakley 79.02 338 ⇑P P 08 11 54.6 +0.2
baz=79
S25A Robets Cordova 79.02 335 ⇑P P 08 11 55.1 +0.5
baz=79
T23A Casias Ranch, 79.03 333 ⇓P P 08 11 55.1 +0.3
baz=79
R27A Eads 79.04 336 ⇑P P 08 11 55.0 +0.4
baz=79,SNR=6.2
P31A Stockton 79.13 339 ⇑P P 08 11 56.4 +1.4
baz=80
Y14A Wickenburg 79.15 327 ⇑P P 08 11 55.7 +0.5
baz=80
TSUM Tsumeb 79.22 106 P P 08 11 56.3 +0.1
comp=Z,21nm,1.1s,baz=235,slow=10,SNR=6.5
TSUM Tsumeb 79.22 106 eP P 08 11 56.6 +0.4
comp=Z,100nm,1.6s
GLA Glamis 79.23 325 ⇓P P 08 11 55.8 +0.1
baz=80
R26A Arlington 79.27 336 ⇑P P 08 11 56.9 +1.0
baz=80
S24A Houchin Ranch, 79.28 334 ⇓P P 08 11 57.1 +0.9
baz=80
P30A Selden 79.41 339 ⇓P P 08 11 57.5 +1.0
baz=80
R25A Fountain Ranch 79.41 335 ⇑P P 08 11 57.1 +0.5
baz=80
Q28A Sharon Springs 79.44 337 ⇑P P 08 11 57.3 +0.6
baz=80
SDCO Great Sand Dun 79.47 334 eP P 08 11 57.5 +0.3
comp=Z,8.0nm,1.1s
O32A Brockman Farm, 79.51 340 ⇓P P 08 11 57.8 +0.8
baz=80
SWSC Sam W. Stewart 79.60 324 ⇓P P 08 11 57.9 +0.3
baz=80
S23A Nye Farm, Mont 79.61 334 ⇑P P 08 11 57.8 -0.2
baz=80
BOSA Boshof 79.63 118 eP P 08 11 57.6 -0.8
BOSA pmax pmax
comp=Z,82nm,0.9s
BOSA Boshof 79.63 118 P P 08 11 57.9 -0.4
comp=Z,72nm,0.9s,baz=233,slow=4.9,SNR=21
BOSA Boshof 79.63 118 eP P 08 11 57.5 -0.8
comp=Z,82nm,0.9s
KSCO Kaye Shedlock' 79.65 337 ⇓P P 08 11 58.5 +0.6
baz=80
O31A Woolen Ranch, 79.70 340 ⇑P P 08 11 58.7 +0.6
baz=80
R24A Sanders Place, 79.77 335 ⇑P P 08 11 59.4 +0.7
baz=80,SNR=9.4
WUAZ Wupatki 79.79 329 ⇑P P 08 11 58.6 -0.2
baz=80
MONP Monument Peak 79.85 324 ⇑P P 08 11 58.9 -0.4
baz=80
Q26A Hugo 79.86 336 ⇑P P 08 11 59.9 +0.8
baz=80
P28A Saint Francis 79.89 338 ⇓P P 08 11 59.8 +0.6
baz=80
O30A MW Ranch, Wils 79.94 339 ⇓P P 08 12 00.0 +0.7
baz=80,SNR=7.5
S22A 4UR Ranch, Cre 79.95 333 ⇓P P 08 12 00.0 +0.2
baz=80
R23A Moffat 79.98 334 ⇓P P 08 12 00.4 +0.5
baz=80
N32A Stulken Farm, 79.99 341 ⇓P P 08 12 00.3 +0.7
baz=80
BC3 Big Chuckawall 80.03 325 ⇓P P 08 11 59.6 -0.5
baz=80
Q25A Bedland, Calha 80.09 336 ⇓P P 08 12 00.5 0.0

baz=80
MVCO Mesa Verde 80.10 332 ⇑P P 08 12 00.9 +0.3
baz=80
O29A 4D Ranch, Culb 80.10 339 ⇓P P 08 12 01.3 +1.0
baz=80
P27A Ficken Ranch, 80.13 337 ⇑P P 08 12 00.9 +0.4
baz=80
IRM Iron Mountain 80.30 325 ⇓P P 08 12 01.1 -0.3
baz=81
P26A Davis Ranch, A 80.38 336 ⇓P P 08 12 02.5 +0.6
baz=81
O28A Krutsinger Ran 80.40 338 ⇓P P 08 12 02.4 +0.5
baz=81,SNR=5.7
Q24A Divide 80.44 335 ⇓P P 08 12 03.1 +0.6
baz=81
PFO Pinyon Flat Ob 80.46 324 eP P 08 12 04.1 +1.7
PFO pmax pmax
comp=Z,29nm,1.2s
PFO Pinyon Flat Ob 80.46 324 eP P 08 12 04.1 +1.7
comp=Z,29nm,1.2s
PFO Pinyon Flat Ob 80.46 324 ⇑P P 08 12 02.4 0.0
baz=81
W13A Hualapai Mount 80.52 327 ⇓P P 08 12 02.5 -0.3
baz=81
BGNE Belgrade 80.55 341 ⇑P P 08 12 03.5 +0.8
baz=81
P25A Willow Gulch B 80.60 336 ⇑P P 08 12 04.2 +1.1
baz=81
O27A Beecher Island 80.67 337 ⇓P P 08 12 04.0 +0.6
baz=81
N29A Votaw Ranch, W 80.69 339 ⇓P P 08 12 04.2 +0.8
baz=81
M31A Lambtecht Ranc 80.71 340 ⇑P P 08 12 04.7 +1.1
baz=81
MURC Murrieta 80.81 324 ⇓P P 08 12 04.3 +0.2
baz=81
N28A Pribbeno Ranch 80.84 338 ⇑P P 08 12 05.4 +1.2
baz=81
P24A Kohler Place, 80.85 335 ⇑P P 08 12 05.4 +0.9
baz=81
PV01 Paradox Valley 80.94 332 eP P 08 12 05.3 +0.2
comp=Z,551nm,1.0s
U15A North Rim 80.95 329 ⇓P P 08 12 05.2 0.0
baz=81
O26A Horse Wrangler 80.98 337 ⇓P P 08 12 06.0 +0.9
baz=81
P23A Jefferson 81.04 335 ⇑P P 08 12 06.3 +0.6
baz=81
GMRC Granite Mounta 81.05 325 ⇑P P 08 12 06.1 +0.5
baz=81
N27A Anderson Farm, 81.25 338 ⇑P P 08 12 07.3 +0.9
baz=82
M29A Burnside Ranch 81.29 339 ⇓P P 08 12 07.5 +0.9
baz=82
PV10 Paradox Valley 81.33 332 eP P 08 12 07.2 +0.1
comp=Z,264nm,1.1s
ISCO Idaho Springs 81.35 335 ⇑P P 08 12 08.0 +0.8
baz=82
L31A Butterfield Fa 81.45 341 ⇑P P 08 12 08.2 +0.8
baz=82,SNR=12
L30A Spencer Herefo 81.48 340 ⇑P P 08 12 08.5 +0.9
baz=82
N26A Koester Ranch, 81.49 337 ⇑P P 08 12 08.5 +0.7
baz=82
BFSC Mount Baldy Ra 81.55 324 ⇑P P 08 12 08.4 +0.2
baz=82
L29A Maesberg Ranch 81.80 340 ⇑P P 08 12 10.6 +1.3
baz=82
O23A Lake Granby, G 81.82 335 ⇑P P 08 12 10.6 +0.9
baz=82
M27A Reverse DX Ran 81.87 338 ⇓P P 08 12 11.0 +1.3
baz=82
LBTB Lobatse 81.97 115 eP P 08 12 10.2 -0.6
LBTB pmax pmax
comp=Z,57nm,0.8s
LBTB Lobatse 81.97 115 P P 08 12 10.6 -0.2
comp=Z,47nm,0.8s,baz=250,slow=5.7,SNR=16
LBTB Lobatse 81.97 115 eP P 08 12 10.2 -0.6
comp=Z,57nm,0.8s
O22A Kremmling 81.99 335 ⇓P P 08 12 11.6 +1.0
baz=82
GSC Goldstone 82.01 325 ⇑P P 08 12 10.8 +0.2
baz=82
K30A Basset 82.12 340 ⇑P P 08 12 12.2 +1.3
baz=82,SNR=11
EDW2 Edwards Air Fo 82.23 324 ⇑P P 08 12 12.1 +0.5
baz=83
M25A Palm-Egli Farm 82.30 337 ⇓P P 08 12 13.2 +1.1
baz=83
ECSD EROS Data Cent 82.35 343 ⇓P P 08 12 11.9 -0.1
baz=83,SNR=11
CCUT Cedar City 82.36 329 eP P 08 12 14.0 +1.5
comp=Z,8.2nm,1.1s
K29A Lazy Trails An 82.40 340 ⇑P P 08 12 13.3 +0.9
baz=83
N23A Red Feather La 82.44 335 ⇓P P 08 12 13.2 +0.2
baz=83
N22A Wattenberg Ran 82.53 335 ⇓P P 08 12 13.8 +0.4
baz=83
LRMC Laurel Mountai 82.57 324 ⇑P P 08 12 13.4 -0.1
baz=83
K28A Ten Mile Ranch 82.65 339 ⇓P P 08 12 14.6 +0.9
baz=83
J30A Dallas 82.70 341 ⇓P P 08 12 14.6 +0.7
baz=83
M23A Laramie 82.88 336 ⇓P P 08 12 15.7 +0.6
baz=83
K27A Flueckinger Fa 82.90 339 ⇓P P 08 12 16.2 +1.2
baz=83
SPMN St. Paul 82.94 346 eP P 08 12 14.3 -0.7
comp=Z,14nm,0.9s
SPMN St. Paul 82.94 346 ⇓P P 08 12 14.8 -0.2
baz=83
J29A Okreek 83.00 340 ⇓P P 08 12 16.1 +0.7
baz=83,SNR=7.0
ISA Isabella 83.09 324 ⇑P P 08 12 16.4 +0.2
baz=83
K26A Motz Farm, Whi 83.18 338 ⇓P P 08 12 17.0 +0.5
baz=84
N20A Spence Gulch, 83.19 334 ⇓P P 08 12 16.7 -0.1
baz=84
I30A Oacoma 83.23 341 ⇓P P 08 12 16.4 -0.3
baz=84,SNR=6.4
J28A Allard Ranch, 83.27 340 ⇑P P 08 12 17.6 +0.7
baz=84
K25A Mack Ranch, Ha 83.31 337 ⇓P P 08 12 18.5 +1.3
baz=84
J27A Elkhorn Farm, 83.33 339 ⇑P P 08 12 18.4 +1.1
baz=84
VES Vestal, Richgr 83.53 324 ⇓P P 08 12 19.0 +0.7
baz=84
I29A Vivian Onida 83.56 340 ⇓P P 08 12 18.8 +0.4
baz=84
BRSD Miller 83.60 341 ⇓P P 08 12 18.9 +0.4
baz=84
GRAC Grapevine Rang 83.66 326 ⇑P P 08 12 19.3 +0.2
baz=84
J26A Sides Ranch, S 83.70 338 ⇑P P 08 12 20.0 +0.8
baz=84
I28A Midland 83.78 340 ⇑P P 08 12 20.1 +0.6
baz=84,SNR=9.2
NLU North Lily Min 83.87 331 eP P 08 12 21.4 +1.1
comp=Z,9.5nm,1.0s
RCTC Rector, Farmer 83.98 324 ⇑P P 08 12 20.8 +0.2
baz=84
R11A Troy Canyon, C 83.98 327 eP P 08 12 21.5 +0.7
comp=Z,8.9nm,1.0s
R11A Troy Canyon, C 83.98 327 ⇓P P 08 12 21.1 +0.2
baz=84
J25A Sunshine Ranch 84.00 338 ⇓P P 08 12 21.6 +0.9
baz=84
K23A Bowen Ranch, D 84.00 336 ⇓P P 08 12 21.9 +1.1
baz=84
I27A Quinn 84.09 339 ⇑P P 08 12 21.7 +0.6
baz=84
H29A Onida 84.10 341 ⇓P P 08 12 21.7 +0.6
baz=84,SNR=6.7
JLU Jordanelle 84.18 331 eP P 08 12 21.9 0.0
comp=Z,6.6nm,0.9s
K22A Casper 84.20 336 eP P 08 12 22.3 +0.5
comp=Z,19nm,1.0s
K22A Casper 84.20 336 ⇑P P 08 12 22.3 +0.5
baz=85,SNR=5.9
J24A Dixon Ranch, L 84.21 337 ⇑P P 08 12 22.9 +1.1
baz=85
G30A Faulkton 84.29 342 ⇑P P 08 12 22.0 +0.1
baz=85,SNR=6.2
H28A Mission Ridge 84.36 340 ⇑P P 08 12 23.0 +0.5
baz=85
DUG Dugway 84.37 330 ⇑P P 08 12 23.1 +0.4
baz=85
K21A Alcova 84.43 335 ⇓P P 08 12 22.5 -0.6
baz=85,SNR=6.0
TPH Tonopah 84.48 326 eP P 08 12 23.6 +0.2
TPH pmax pmax
comp=Z,37nm,1.2s
TPH Tonopah 84.48 326 eP P 08 12 23.6 +0.2
comp=Z,37nm,1.2s
I25A Rochford 84.55 338 ⇑P P 08 12 23.1 -0.4
baz=85,SNR=6.5
G29A Hoven 84.55 341 ⇑P P 08 12 23.6 +0.2
baz=85
H27A Howes 84.62 339 ⇓P P 08 12 23.8 +0.1
baz=85
I24A Kuemmerle Ranc 84.67 337 ⇑P P 08 12 24.5 +0.3
baz=85
G28A Parade 84.70 340 ⇓P P 08 12 24.1 -0.1
baz=85
RSSD Black Hills 84.73 338 eP P 08 12 23.7 -0.8
RSSD pmax pmax
comp=Z,22nm,1.1s
RSSD Black Hills 84.73 338 eP P 08 12 23.7 -0.8
comp=Z,22nm,1.1s
MLAC Mammoth Lakes 84.85 325 ⇓P P 08 12 25.3 0.0
baz=85
J22A Midwest 84.86 336 ⇓P P 08 12 24.4 -0.8
baz=85
F30A Leola 84.91 342 ⇑P P 08 12 25.2 +0.1
baz=85
H25A Fruitdale 85.05 338 ⇓P P 08 12 27.2 +1.2
baz=86,SNR=6.5
F29A Eureka 85.12 341 ⇓P P 08 12 26.7 +0.5
baz=86,SNR=6.6
J21A Lysite 85.13 335 ⇑P P 08 12 27.2 +0.7
baz=86
SPUT South Promonto 85.18 331 eP P 08 12 26.8 0.0
comp=Z,16nm,1.0s
NVAR Mina Array Bea 85.26 326 P P 08 12 27.8 +0.4
comp=Z,4.5nm,0.8s,baz=144,slow=5.5,SNR=5.9
G27A Dupree 85.26 340 ⇑P P 08 12 27.2 +0.2
baz=86
I22A 9 Mile Ranch, 85.30 336 ⇑P P 08 12 26.6 -0.6
baz=86,SNR=7.7
EYMN Ely 85.31 347 eP P 08 12 26.4 -0.6
comp=Z,24nm,1.1s
J20A Shoshoni 85.35 335 ⇓P P 08 12 27.7 +0.1
baz=86,SNR=5.4
BW06 Boulder Array 85.35 334 eP P 08 12 27.5 -0.2
comp=Z,5.7nm,1.1s
PDAR Pinedale Array 85.35 334 P P 08 12 27.1 -0.6
comp=Z,5.0nm,1.1s,baz=156,slow=4.0,SNR=4.6
G26A Maurine 85.37 339 ⇓P P 08 12 27.2 -0.3
baz=86,SNR=5.9
F28A McLaughlin 85.39 341 ⇓P P 08 12 28.0 +0.5
baz=86,SNR=6.1
H24A Dirks Ranch, A 85.45 338 ⇓P P 08 12 26.9 -1.1
baz=86
TOA0 Torodi Ar. Sit 85.47 70 eP P 08 12 27.9 -0.7
TORD Torodi Ar. Bea 85.47 70 P P 08 12 28.6 0.0
comp=Z,25nm,0.9s,baz=250,slow=4.2,SNR=9.0
I21A Big Trails, Te 85.49 336 ⇑P P 08 12 27.6 -0.7
baz=86,SNR=7.8
E30A Jud 85.51 342 ⇑P P 08 12 28.4 +0.3
baz=86
G25A Newell 85.52 339 ⇓P P 08 12 28.2 -0.1
baz=86,SNR=8.4
J19A Crowheart 85.61 334 ⇓P P 08 12 28.3 -0.6
baz=86
F27A Lemmon 85.74 340 ⇓P P 08 12 29.3 0.0
baz=86,SNR=8.9
E29A Napoleon 85.75 342 ⇓P P 08 12 29.3 -0.1
baz=86
H22A Clearmont 85.88 337 ⇑P P 08 12 29.3 -0.8
baz=86
I20A Worland 85.89 335 ⇓P P 08 12 30.0 -0.2
baz=86,SNR=7.3
F26A Lodgepole 85.90 340 ⇓P P 08 12 29.9 -0.3
baz=86,SNR=7.7
CMB Columbia Colle 85.91 324 eP P 08 12 31.7 +1.3
CMB Columbia Colle 85.91 324 eP P 08 12 31.7 +1.3
G24A Alzada 85.94 338 ⇑P P 08 12 30.1 -0.3
baz=86
E28A Huff 86.03 341 ⇑P P 08 12 30.7 0.0
baz=86
D30A Buchanan 86.04 343 ⇓P P 08 12 31.0 +0.2
baz=86,SNR=5.8
G23A Biddle 86.12 338 ⇓P P 08 12 30.4 -0.8
baz=86
E27A Carson 86.13 340 ⇓P P 08 12 30.8 -0.4
baz=86
H21A Big Horn, Sher 86.13 336 ⇓P P 08 12 30.7 -0.7
baz=86
F25A Bowman 86.20 339 ⇑P P 08 12 31.1 -0.5
baz=87,SNR=6.9
D29A Pettibone, Tap 86.20 342 ⇑P P 08 12 31.5 -0.1
baz=87,SNR=6.4
I19A Meeteetse 86.27 335 ⇑P P 08 12 30.6 -1.6
baz=87
H20A Greybull 86.32 336 ⇑P P 08 12 31.7 -0.6
baz=87,SNR=6.8
E26A Carlson Angus 86.41 340 ⇓P P 08 12 31.9 -0.7
baz=87,SNR=9.3
G22A Birney 86.42 337 ⇓P P 08 12 32.1 -0.7
baz=87
AGMN Agassiz Nation 86.50 345 eP P 08 12 32.3 -0.6
comp=Z,12nm,0.9s
AGMN Agassiz Nation 86.50 345 ⇑P P 08 12 32.1 -0.8
baz=87,SNR=5.6
C30A Mose, Pekin 86.53 343 ⇑P P 08 12 32.9 -0.2
baz=87,SNR=12
D28A Regan 86.57 341 ⇓P P 08 12 33.7 +0.4
baz=87,SNR=9.2
F23A Volborg 86.59 338 ⇓P P 08 12 32.8 -0.8
baz=87,SNR=5.4
E25A Miller Ranch, 86.70 339 ⇑P P 08 12 34.4 +0.3
baz=87,SNR=8.5
G21A Lodge Grass 86.72 336 ⇑P P 08 12 33.4 -0.8
baz=87
I17A Pilgrim Ck. 86.72 334 ⇓P P 08 12 34.8 +0.3
baz=87,SNR=5.4
D27A Center 86.74 341 ⇓P P 08 12 34.2 0.0
baz=87
H19A Powell 86.82 335 ⇓P P 08 12 34.1 -0.7
baz=87
F22A Rosebud 86.91 337 ⇓P P 08 12 34.8 -0.3
baz=87
D26A Manning 86.92 340 ⇓P P 08 12 35.5 +0.4
baz=87,SNR=12
C28A Hausauer Farms 87.01 342 ⇓P P 08 12 35.5 +0.1
baz=87
E24A Baker 87.02 339 ⇓P P 08 12 35.3 -0.3
baz=87,SNR=7.7
G20A Bridger 87.04 336 ⇓P P 08 12 35.1 -0.8
baz=87
H18A Shoshone NF, C 87.06 335 ⇓P P 08 12 35.4 -0.6
baz=87
B30A Myrvik Farm, E 87.19 343 ⇓P P 08 12 36.4 0.0
baz=88,SNR=12
D25A Fairfield 87.27 340 ⇑P P 08 12 36.9 +0.1
baz=88,SNR=7.5
C27A Sayler Ranch, 87.29 341 ⇑P P 08 12 37.2 +0.4
baz=88,SNR=6.2
E22A Miles City 87.40 338 ⇑P P 08 12 36.7 -0.8
baz=88
B29A Wagenman Farm, 87.45 343 ⇓P P 08 12 37.6 0.0
baz=88,SNR=10
C26A Wahner Farm, P 87.56 341 ⇓P P 08 12 38.2 +0.1
baz=88
A30A Hoffart Farm, 87.64 343 ⇑P P 08 12 38.3 -0.2
baz=88
B28A Dugan Ranch, T 87.68 342 ⇑P P 08 12 38.9 +0.2
baz=88,SNR=8.6
C25A Freed Ranch, W 87.77 340 ⇓P P 08 12 39.3 +0.1
baz=88,SNR=6.3
D23A Lindsay 87.84 339 ⇓P P 08 12 40.0 +0.5
baz=88,SNR=6.2
A29A Manning Farm, 87.85 343 ⇓P P 08 12 39.3 -0.1
baz=88,SNR=11
HLID Hailey 87.86 331 eP P 08 12 40.4 +0.5
comp=Z,16nm,1.4s
HLID Hailey 87.86 331 ⇑P P 08 12 39.6 -0.3
baz=88
C24A Savage 87.93 339 ⇑P P 08 12 40.3 +0.3
baz=88,SNR=7.9
A28A Rude Farm, Bot 88.08 342 ⇓P P 08 12 40.7 0.0
baz=88
D22A Cohagen 88.11 338 ⇑P P 08 12 40.8 0.0
baz=88
E20A Meyer Farm, Mu 88.15 336 ⇓P P 08 12 40.6 -0.4
baz=88
D21A La Casta Ranch 88.29 337 ⇓P P 08 12 42.1 +0.4
baz=89
E19A Rath Farm, Rou 88.33 336 ⇓P P 08 12 42.4 +0.5
baz=89
ULM Lac du Bonnet 88.35 345 P P 08 12 41.2 -0.5
comp=Z,16nm,0.9s,baz=172,slow=3.1,SNR=5.9
A27A Ledoux Ranch, 88.37 342 ⇓P P 08 12 42.2 +0.3
baz=89
C23A Lambert 88.40 339 ⇑P P 08 12 42.4 +0.3
baz=89
A26A Wade Farm, Ken 88.52 341 ⇑P P 08 12 42.7 0.0
baz=89
C22A Vida 88.56 338 ⇓P P 08 12 43.2 +0.3
baz=89
WVOR Wild Horse Val 88.66 328 eP P 08 12 44.4 +0.8
WVOR pmax pmax
comp=Z,92nm,2.3s
WVOR Wild Horse Val 88.66 328 eP P 08 12 44.4 +0.8
comp=Z,92nm,2.3s
D20A Manuel Ranch, 88.67 337 ⇑P P 08 12 43.5 0.0
baz=89
DGMT Dagmar 88.72 340 eP P 08 12 44.4 +0.8
comp=Z,42nm,1.2s
DGMT Dagmar 88.72 340 ⇓P P 08 12 43.9 +0.2
baz=89,SNR=5.1
A25A Svangstu Ranch 88.85 341 ⇑P P 08 12 44.8 +0.6
baz=89
C21A Desert Coulee 89.00 338 ⇓P P 08 12 45.2 +0.2
baz=89
A24A Westby 89.08 340 ⇓P P 08 12 45.7 +0.4
baz=90
B22A Reddig Ranch S 89.09 339 ⇓P P 08 12 45.7 +0.3
baz=90
A22A Carney Farms, 89.68 339 ⇑P P 08 12 48.3 +0.2
baz=90
B20A Solberg Farm, 89.83 337 ⇑P P 08 12 48.5 -0.3
baz=90
I07A Izee 90.37 328 eP P 08 12 52.6 +1.1
comp=Z,12nm,1.1s
MSO Missoula 90.44 333 ⇓P P 08 12 53.4 +1.5
baz=91
J05D Fort Rock, OR 90.48 327 ⇓P P 08 12 53.0 +0.8
baz=91
I05D Terrebonne, OR 91.36 327 ⇓P P 08 12 57.0 +0.8
baz=92
HAWA Hanford 92.25 330 eP P 08 13 00.9 +0.8
comp=Z,10.0nm,1.1s
NEW Newport 92.82 332 eP P 08 13 02.2 -0.6
NEW pmax pmax
comp=Z,4.0nm,1.1s
NEW Newport 92.82 332 eP P 08 13 02.2 -0.6
comp=Z,3.8nm,1.1s
MDT Midelt 93.58 52 P P 08 13 06.6 -0.2
comp=Z,36nm,0.3s,baz=210,slow=5.5,SNR=68
FCC Fort Churchill 96.15 349 eP P 08 13 17.1 -0.5
FCC Fort Churchill 96.15 349 eP P 08 13 17.1 -0.5
comp=Z,0.4nm,1.3s
WRA Warramunga Arr 118.66 209 PKP PKPdf 08 18 36.8 -2.2
comp=Z,2.3nm,0.9s,baz=152,slow=1.8,SNR=5.9
MMAI Mount Meron Ar 122.02 70 PKP PKPdf 08 18 43.6 -1.5
comp=Z,6.4nm,0.7s,baz=266,slow=2.3,SNR=3.8
BRTR Keskin Array B 123.34 62 PKhKP PKPpre 08 18 37.0
comp=Z,1.9nm,0.9s,baz=224,slow=6.6,SNR=3.7
BRTR PKP PKPdf 08 18 47.0 -0.5
comp=Z,3.6nm,0.8s,baz=204,slow=3.0,SNR=7.0
AKASG Malin Array Be 124.02 49 PKP PKPdf 08 18 46.5 -1.7
comp=Z,3.3nm,0.8s,baz=267,slow=2.6,SNR=5.8
FINES FINESS Array B 125.03 35 PKP PKPdf 08 18 47.7 -2.1
comp=Z,1.9nm,0.8s,baz=202,slow=3.0,SNR=3.3
RAYN Ar Rayn 125.79 85 ePKPdf PKPdf 08 18 52.6 +0.1
OBN Obninsk 129.34 45 iPKIKP PKPdf 08 18 58.8 +0.6
OBN pmax pmax
comp=Z,8.0nm,1.1s
BILL Bilibino 134.43 333 ePKIKP PKPdf 08 19 03.9 -3.6
BILL pmax pmax
comp=Z,4.0nm,1.4s
GEYT Alibeck 141.09 72 PKP PKPdf 08 19 19.5 -1.3
comp=Z,3.3nm,0.9s,baz=284,slow=5.8,SNR=3.5
SEY Seymchan 141.51 329 PKIKP PKPdf 08 19 20.0 -0.7
SEY Seymchan 141.51 329 PKP PKPdf 08 19 20.0 -0.7
comp=Z,8.7nm,1.0s,baz=35,slow=3.1,SNR=4.7
KSM Kuching 145.45 185 ePKPdf PKPbc 08 19 28.2 -0.9
HYB Hyderabad 148.53 119 iPKP PKPbc 08 19 37.0 +2.8
KULM Kulim 148.76 167 ePKPbc PKPdf 08 19 36.9 +2.2
KBL Kabul 148.92 81 ePKP2 PKPbc 08 19 37.9 -0.7
KBL Kabul 148.92 81 ePKPbc PKPbc 08 19 37.9 -0.7
YAK Yakutsk 150.47 339 ePKIKP PKPbc 08 19 40.6 -0.6
YAK Yakutsk 150.47 339 ePKPbc PKPbc 08 19 40.6 -0.6
KKAR Karatay Array 151.02 65 ePKIKP PKPbc 08 19 42.4 -0.8
KKAR Karatay Array 151.02 65 ePKPbc PKPbc 08 19 42.4 -0.8
EKS2 Erkin-Say 153.43 65 ePKIKP PKPbc 08 19 48.5 -0.3
EKS2 Erkin-Say 153.43 65 ePKPbc PKPbc 08 19 48.5 -0.3
TKM2 Tokmak 2 154.75 65 ePKP2 PKPab 08 20 06.5 -0.3
TKM2 Tokmak 2 154.75 65 ePKPab PKPab 08 20 06.5 -0.3
KSH Kashi 155.12 73 ePKPbc PKPdf 08 19 51.8 +8.2
ZALV Zalesovo Beam 156.29 34 PKP2 PKPab 08 20 13.0 +0.3
ZALV Zalesovo Beam 156.29 34 PKPab PKPab 08 20 13.0 +0.3
comp=Z,15nm,0.9s,baz=306,slow=5.0,SNR=4.5
KOLN Koldanda 158.33 106 eP PKPdf 08 19 57.1 +8.9
MKAR Makanchi Array 158.54 52 PKP PKPdf 08 19 47.0 -0.6
comp=Z,7.0nm,0.9s,baz=273,slow=2.3,SNR=5.7
MKAR PKPab PKPab 08 20 22.6 -0.2
comp=Z,11nm,0.9s,baz=273,slow=4.6,SNR=7.6
DANN Dangsing 158.73 105 eP PKPdf 08 19 58.1 +9.3
GKN Gorkha 159.25 106 eP PKPdf 08 19 59.3 +10
DMN Daman 159.42 108 eP PKPdf 08 19 58.9 +9.3
PKI Pulchoki 159.64 108 eP PKPdf 08 19 58.3 +8.4
KKN Kakani 159.65 108 eP PKPdf 08 19 58.0 +8.2
GUN Gumba 160.17 108 eP PKPdf 08 19 59.8 +9.3
RAMN Ramite 160.22 112 eP PKPdf 08 19 58.9 +8.4
CMAR Chiang Mai Arr 160.98 155 PKPab PKPab 08 20 32.5 -1.3
comp=Z,1.9nm,0.4s,baz=221,slow=5.3,SNR=4.5
TAPN Taplejung 161.27 112 eP PKPdf 08 19 59.8 +8.1
SONM Songino Array 168.24 3 PKPab PKPab 08 21 05.9 +0.7
comp=Z,3.5nm,0.9s,baz=346,slow=5.7,SNR=6.4
GYA Guiyang 170.40 177 PKP PKPdf 08 19 59.3 +0.5
GYA PKPab PKPab 08 21 18.5 +3.2
GYA PKS PKSdf 08 23 30.5 -0.9
GYA PP PP 08 25 08.8 +4.3
GYA AMB AMB
comp=Z,160nm,8.2s
GYA LR LR
comp=Z,190nm,21.8s
GYA LR LR
comp=Z,160nm,21.4s
GYA LR LR
comp=Z,180nm,24.6s
CD2 Chengdu 174.08 150 PKP PKPdf 08 20 00.5 +0.2
CD2 pPKP pPKPdf 08 20 12.0 +2.4
CD2 sPKP 08 20 15.8
CD2 PKS PKSdf 08 23 31.5 -1.1
CD2 PP PP 08 25 28.8 +5.7
CD2 SKS SKSdf 08 26 58.3 -3.2
CD2 SKKS SKKSac 08 32 09.5 +1.4
CD2 SS SS 08 46 42.5 +2.6
CD2 AMB AMB
comp=Z,360nm,6.8s
HHC Hu-ho-hao-te 174.15 326 ePKP PKPdf 08 19 57.0 -3.0
LZH Lanzhou 177.25 89 ePKP PKPdf 08 20 03.0 +2.0
LZH pPKP pPKPdf 08 20 14.5 +4.1
LZH sPKP 08 20 19.0

IDC 27 08:01:17.1±0.3, 37.°95S×75.°39W, h0km, mb6.1/28, mb1 6.2/31, mb1mx6.2/31, mbtmp6.1/31, ML6.1/3, MS7.3/10, Ms1 7.3/10, ms1mx6.9/29, Error ellipse: s-maj=11.2km s-min=8.5km az=124.0

BJI 27 08:01:21.3, 37.°64S×75.°58W, h31km, mB6.8/5, Ms7.3/21, Ms7 7.1/20

ISCJB 27 08:01:21.1±0.1, 37.°75S±0.°02×75.°12W±0.°03, h33km, mb6.7/293, MS7.2/14, Error ellipse: s-maj=3.8km s-min=3.2km az=164.5

MOS 27 08:01:22.0±1.7, 37.°74S×75.°19W, h33km, mb6.8/68, Error ellipse: s-maj=11.0km s-min=6.3km az=99.8

NEIC 27 08:01:23.0±0.1, 37.°77S×75.°05W, h35km, mb6.9/244, Error ellipse: s-maj=4.9km s-min=3.5km az=69.0

GCMT 27 08:01:23.9±0.4, 38.°09S×75.°41W, h20km±1km, MW7.4/64, Moment Tensor Solution. s64,c104; Duration: 6s6 Moment tensor: Scale 10^{20}Nm; Mrr-1.40±.12;

M$_{\theta\theta}$0.16±.06; M$_{\phi\phi}$1.24±.08; M$_{r\theta}$0.23±.13; M$_{\theta\phi}$0.23±.03; M$_{\phi r}$-0.04±.11; Best double couple: M$_0$1.36100×10^{20} NP1:ϕ_s200.00000°,δ46.00000°,λ-78.00000°. NP2: ϕ_s3.00000°,δ46.00000°,λ-102.00000°. Principal axes: T 1.2860, Plg0.0000°, Azm281.0000°; N 0.1530, Plg9.0000°, Azm11.0000°; P -1.4360, Plg81.0000°, Azm191.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=50s.

ISC 27 08:01:23.5±0.2**,37°.84S**±0°.04×**75°.21W**±0°.04**,h35**km**, n1625,**σ1s.48/1636**,mb6.8**/285**,MS7.3**/14**,270C-250D,Off coast of central Chile**

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

PLCA Paso Flores 4.63 130 P **Pn 08 02 29.7 -1.3**
PLCA 08 03 27.2
PLCA pmax pmax
comp=Z,173nm,0.3s
PLCA smax smax
comp=N,802nm,0.3s
PLCA Paso Flores 4.63 130 Pn **Pn 08 02 29.7 -1.3**
comp=N,173nm,0.3s,baz=305,slow=8.8,SNR=13
PLCA Sn **Sn 08 03 27.1 +3.7**
comp=N,802nm,0.3s,baz=210,slow=22,SNR=3.3
PLCA Paso Flores 4.63 130 *e*Pn **Pn 08 02 30.1 -0.9**
PLCA *e*Sn **Sn 08 03 29.0 +5.5**
CFAA Coronel Fontan 8.46 45 Pn **Pn 08 03 24.0 +0.4**
comp=N,103nm,0.3s,baz=350,slow=2.5,SNR=31
CFAA Sn **Sn 08 04 59.5 +1.6**
comp=N,45nm,0.3s,baz=126,slow=21,SNR=5.6
TRQA Tornquist 10.45 95 *e*Pn **Pn 08 03 48.3 -2.5**
LVC Limon Verde 16.12 21 *e*Pn **Pn 08 05 06.1 -1.5**
comp=N,2μm,1.1s
USHA Ushuaia 17.61 167 P **Pn 08 05 25.8 -0.1**
comp=N,4.9nm,0.3s,baz=307,slow=8.0,SNR=20
USHA S S 08 08 55.6 +8.1
comp=N,0.9nm,0.3s,baz=339,slow=14,SNR=4.3
CPUP Villa Florida 18.97 58 *e*P **P 08 05 41.4 -0.4**
CPUP pmax pmax
comp=Z,47nm,0.7s
CPUP Villa Florida 18.97 58 P **P 08 05 42.0 +0.2**
comp=Z,38nm,0.3s,baz=215,slow=11,SNR=14
CPUP S **S 08 09 21.7 +6.4**
comp=Z,6.0nm,0.3s,baz=163,slow=20,SNR=1.6
CPUP LR LR 08 13 15.7
comp=Z,1082μm,20.1s,baz=218,slow=38
CPUP Villa Florida 18.97 58 *e*P **P 08 05 41.4 -0.4**
comp=Z,47nm,0.7s
CPUP S **S 08 09 21.7 +6.4**
LPAZ La Paz 22.36 18 P **P 08 06 20.3 +1.1**
LPAZ pmax pmax
comp=Z,791nm,1.2s
LPAZ La Paz 22.36 18 P **P 08 06 20.3 +1.1**
comp=Z,791nm,1.2s,baz=181,slow=8.2,SNR=36
LPAZ S Sn 08 10 31.4 -5.6
comp=Z,30nm,0.8s,baz=204,slow=18,SNR=1.9
LPAZ La Paz 22.36 18 *e*P **P 08 06 20.3 +1.1**
comp=Z,2.9nm,1.4s
LPAZ S Sn 08 10 31.4 -5.6
SIV San Ignacio 25.09 34 P **P 08 06 45.1 +0.1**
comp=Z,340nm,0.9s,baz=228,slow=12,SNR=26
SIV S S 08 11 15.1 +7.9
comp=Z,36nm,0.9s,baz=256,slow=17,SNR=1.9
SIV LR LR 08 16 51.2
comp=Z,387μm,20.5s,baz=206,slow=37
NNA Nana 25.79 356 P **P 08 06 51.3 +0.1**
comp=Z,3μm,1.2s,SNR=12
NNA Nana 25.79 356 *i* P **P 08 06 51.5 +0.2**
NNA Nana 25.79 356 P **P 08 06 51.5 +0.2**
comp=Z,643nm,1.2s,baz=195,slow=12,SNR=10
NNA LR LR 08 14 51.0
comp=Z,336μm,19.1s,baz=184,slow=31
NNA Nana 25.79 356 *e*P **P 08 06 51.4 +0.2**
comp=Z,810nm,1.2s
PMSA Palmer Station 27.77 170 P **P 08 07 08.3 -0.3**
comp=Z,266nm,1.0s,baz=341,slow=6.5,SNR=12
PMSA Palmer Station 27.77 170 *e*P **P 08 07 08.5 -0.1**
comp=Z,9μm,2.4s
RPN Rapa Nui 30.55 280 P **P 08 07 35.3 +1.6**
comp=Z,2μm,1.6s,SNR=5.7
RPN Rapa Nui 30.55 280 P **P 08 07 33.6 -0.1**
RPN Rapa Nui 30.55 280 P **P 08 07 33.5 -0.1**
comp=Z,90nm,0.8s,baz=331,slow=4.6,SNR=6.0
RPN LR LR 08 15 42.8
comp=Z,285μm,21.9s,baz=114,slow=28
ATAH Atahualpa 30.70 354 P **P 08 07 36.2 +0.6**
comp=Z,102nm,1.1s,baz=166,slow=9.3,SNR=8.9
SAML Samuel 30.75 24 *e*P **P 08 07 33.9 -1.6**
comp=Z,1μm,1.9s
HOPE Hope Point 31.02 135 P **P 08 07 38.7 +1.2**
comp=Z,3μm,1.1s,SNR=10
HOPE Hope Point 31.02 135 *e*P **P 08 07 36.9 -0.6**
comp=Z,578nm,1.0s
BDFB Brasilia 32.63 55 P **P 08 07 52.6 +0.4**
BDFB pmax pmax
comp=Z,595nm,1.2s
BDFB Brasilia 32.63 55 P **P 08 07 52.6 +0.4**
comp=Z,531nm,1.1s,baz=212,slow=9.5,SNR=14
BDFB LR LR 08 20 53.1
comp=Z,890μm,18.4s,baz=220,slow=36
BDFB Brasilia 32.63 55 *e*P **P 08 07 52.1 -0.2**
OTAV Otavalo 38.01 355 *e*P **P 08 08 39.3 +0.5**
comp=Z,1μm,1.2s
PAYG Puerto Ayora 39.51 336 *e*P **P 08 08 52.4 +1.5**
comp=Z,752nm,1.1s
ROSC El Rosal 42.49 1 P **P 08 09 17.4 +1.6**
comp=Z,94nm,0.7s,baz=156,slow=2.2,SNR=14
ROSC El Rosal 42.49 1 *e*P **P 08 09 16.7 +0.9**
SDV Santo Domingo 46.68 6 *e*P **P 08 09 48.0 -1.0**
comp=Z,763nm,1.1s
BCIP Isla Barro Col 46.96 354 *e*P **P 08 09 50.5 -0.5**
comp=Z,3μm,1.9s
RCBR Riachuelo 47.85 58 P **P 08 09 57.9 -0.2**
comp=Z,311nm,1.1s,baz=209,slow=8.5,SNR=28
RCBR LR LR 08 29 44.3
comp=Z,1003μm,18.8s,baz=215,slow=36
RCBR Riachuelo 47.85 58 *e*P **P 08 09 58.4 +0.3**
comp=Z,914nm,1.2s
PTCN Pitcairn Islan 47.90 269 *e*P **P 08 09 60.0 +1.6**
comp=Z,886nm,0.9s
JTS JuntasAbangare 48.74 347 P **P 08 10 04.9 +0.1**
comp=Z,2μm,1.2s,SNR=24
JTS JuntasAbangare 48.74 347⇑*i*P **P 08 10 04.9 +0.1**
JTS pmax pmax
comp=Z,800nm,1.7s
JTS JuntasAbangare 48.74 347 P **P 08 10 04.6 -0.2**
comp=Z,171nm,1.3s,baz=171,slow=6.2,SNR=18
JTS JuntasAbangare 48.74 347 *e*P **P 08 10 04.5 -0.3**
comp=Z,2μm,1.7s
SNAA Sanae 49.05 156 *e*P **P 08 10 05.4 -1.3**
SNAA Sanae 49.05 156⇓*i*P **P 08 10 05.1 -1.6**
SNAA pmax pmax
comp=Z,3μm,1.5s
SNAA Sanae 49.05 156 P **P 08 10 04.8 -1.9**
comp=Z,291nm,1.1s,baz=273,slow=5.6,SNR=40
SNAA Sanae 49.05 156 *e*P **P 08 10 04.8 -1.9**
comp=Z,3μm,1.2s
TRIS Tristan da Cun 49.07 110 *e*P **P 08 10 07.8 +0.6**
comp=Z,578nm,1.1s
SIPA Siparia 49.43 18 *e* P 08 10 14.0 +4.0
TPP Pointe-a-Pierr 49.61 18 *e* **P 08 10 11.4 0.0**
TBH Brigand Hill 49.86 18 *e* **P 08 10 13.3 -0.1**
TRN Trinidad (W) 49.94 18 *e* **P 08 10 16.3 +2.4**
BOT Bacolet 50.61 19 *e* **P 08 10 18.5 -0.5**
TPR Prospect 50.61 18 *e* **P 08 10 19.1 +0.1**
TOSP Speyside 50.78 19 *e*P **P 08 10 22.1 +1.8**
GRGR Grenville 51.31 17 *e*P **P 08 10 22.9 -1.4**
comp=Z,4μm,1.0s
GRW Mount Saint Ca 51.33 17 *e* **P 08 10 23.3 -1.3**
FCV Fort Charlotte 52.39 17 *e* **P 08 10 31.4 -0.9**
QSPA South Pole Qui 52.40 180 P **P 08 10 30.8 -1.3**
comp=Z,316nm,0.9s,baz=144,slow=3.5,SNR=27
SVB Belmont 52.50 17 *e*P **P 08 10 33.9 +0.7**
BHS Barnard House 52.55 17 *e* **P 08 10 33.3 -0.2**
SVV Soufriere Volc 52.55 17 *e* **P 08 10 33.0 -0.5**
SSV Crater Summit 52.57 17 *e* **P 08 10 33.0 -0.8**
RKT Rikitea 52.73 268 *e*P **P 08 10 35.8 +0.9**
comp=Z,195nm,1.3s
RKT *e*S **S 08 17 59.5 -1.1**
comp=Z,341μm,26.8s
RKT *e*LR LR 08 25 47.3
comp=Z,1061μm,31.8s
RKT Rikitea 52.73 268 *e*T T 09 07 43.8
comp=Z,5.8nm,0.2s
BBGH Gun Hill 52.80 19 *e*P **P 08 10 36.9 +1.5**
comp=Z,6μm,1.7s

SLB Belfond 53.09 17 *e* **P 08 10 36.6 -0.9**
H05S1 Guadeloupe/Mar 53.71 17 P **P 08 10 41.5 -0.5**
NVL N'lazarevskaya 53.85 156 *e*P **P 08 10 40.9 -1.5**
NVL pmax pmax
comp=Z,1μm,1.1s
FDF Fort de France 53.94 17 *e*P **P 08 10 43.3 -0.4**
FDF pmax pmax
comp=Z,607nm,1.1s
FDF Fort de France 53.94 17 *e*P **P 08 10 42.7 -1.0**
FDF Fort de France 53.94 17 *e*P **P 08 10 43.3 -0.4**
comp=Z,607nm,1.1s
DSHT Scott's Head 54.35 17 *e* **P 08 10 44.4 -2.2**
DPMT Pointe Michel 54.40 16 *e* **P 08 10 46.6 -0.4**
APG El Apazote 54.48 342 P P 08 10 42.7 -5.2
comp=Z,244nm,1.2s,baz=184,slow=8.4,SNR=13
APG LR LR 08 29 38.6
comp=Z,207μm,19.1s,slow=31
BBL Barber's Block 54.63 16 *e*P **P 08 10 45.6 -3.1**
TBG Guadaloupe-3 54.91 16 *e*P **P 08 10 50.0 -0.7**
HMG Houelmont 55.02 16 *e*P **P 08 10 49.1 -2.5**
PHG Guadaloupe-2 55.07 16 *e*P **P 08 10 49.6 -2.4**
SCG Saint Claude 55.07 16 *e*P **P 08 10 49.3 -2.6**
ECG Echelle 55.09 16 *e*P **P 08 10 49.8 -2.4**
CRG Carmichael 55.10 16 *e*P **P 08 10 49.8 -2.5**
FNG Fond-Bernard 55.10 16 *e*P **P 08 10 49.5 -2.7**
SSG Sans Toucher 55.13 16 *e*P **P 08 10 50.1 -2.4**
PCJ Portland Cotta 55.31 358 *i* P **P 08 10 54.9 +1.3**
YHJ Yallahs 55.45 359 *i* P **P 08 10 54.4 -0.3**
SEG Port Louis 55.47 16 *e*P **P 08 10 51.7 -3.1**
MCJ Malvern 55.52 357 *i* P **P 08 10 56.9 +1.7**
HOJ Hope 55.56 358 *i* P **P 08 10 56.6 +1.2**
GWJ Greenwich 55.63 358 *i* P **P 08 10 56.6 +0.6**
STH Stony Hill 55.64 358 *i* P **P 08 10 56.5 +0.6**
CVJ Coleyville 55.81 357 *i* P **P 08 10 57.9 +0.6**
MTDJ Mount Denham 55.81 357 *e*P **P 08 10 57.8 +0.5**
comp=Z,2μm,1.7s
JAKH Jacmel 55.84 3 *e*P **P 08 10 59.8 +2.4**
ICMP Isla Caja de M 56.03 10 *e*P **P 08 10 55.8 -2.9**
CRPR Cabo Rojo, PR 56.07 9 *e*P **P 08 10 56.5 -2.5**
comp=Z,49nm,1.3s
PAPH Port-au-Prince 56.13 3 *e*P **P 08 11 00.2 +0.8**
OBIP Obispado Ponce 56.17 10 *e*P **P 08 10 58.0 -1.8**
comp=Z,2μm,1.4s
CELP Cerrillos 56.21 10 *e*P **P 08 10 57.9 -2.1**
LSP Las Mesas 56.24 9 *e*P **P 08 10 58.7 -1.6**
SABA Saba 56.30 14 *e*P **P 08 10 59.5 -1.2**
comp=Z,5μm,1.9s
HUMP Col San Antoni 56.38 11 *e*P **P 08 11 01.0 -0.2**
LRS Lares 56.38 10 *e*P **P 08 10 59.4 -1.9**
PCDR Punta Cana, DR 56.42 8 *e*P **P 08 11 02.5 +1.1**
AOPR Arecibo Observ 56.45 10 *e*P **P 08 11 01.1 -0.7**
comp=Z,4μm,2.0s
CBYP Canovanas 56.50 11 *e*P P 08 10 58.7 -3.5
comp=Z,3μm,1.6s
AGPR Aguadilla, PR 56.52 9 *e*P **P 08 11 03.6 +1.4**
comp=Z,453nm,1.0s
ANWB Willy Bob 56.64 15 *e*P **P 08 11 00.8 -2.3**
comp=Z,2μm,1.5s
SDDR Presa de Saban 56.64 4 *e*P **P 08 11 02.6 -0.5**
comp=Z,1μm,1.8s
STVI Saint Thomas 56.72 12 *e*P **P 08 11 03.5 -0.1**
comp=Z,4μm,2.6s
SMRT St. Maarten 56.75 14 *e*P **P 08 11 03.3 -0.6**
comp=Z,2μm,2.0s
SMN1 Samana, DR 57.00 7 *e*P **P 08 11 03.5 -2.1**
GTBY Guantanamo Bay 57.46 0 *e*P **P 08 11 07.4 -1.4**
comp=Z,1μm,1.1s
SBA Scott Base 58.79 193 *e*P **P 08 11 19.6 +2.0**
SBA pmax pmax
comp=Z,7μm,2.3s
SBA Scott Base 58.79 193 *e*P **P 08 11 19.6 +2.0**
comp=Z,7μm,2.3s
TEIG Tepich 59.05 346 P **P 08 11 18.3 -1.6**
comp=Z,64nm,0.7s,baz=149,slow=6.4,SNR=6.1
TEIG Tepich 59.05 346 *e*P **P 08 11 19.3 -0.7**
comp=Z,5μm,2.5s
GRTK Grand Turk 59.16 4 *e*P **P 08 11 21.0 +0.3**
comp=Z,7μm,2.1s
VNDA Vanda 59.83 192 P **P 08 11 24.1 -0.6**
VNDA pmax pmax
comp=Z,129nm,1.1s
VNDA Vanda 59.83 192 P **P 08 11 24.1 -0.6**
comp=Z,129nm,1.1s,baz=142,slow=5.8,SNR=13
VNDA LR LR 08 33 18.0
comp=Z,185μm,19.7s,baz=229,slow=32
VNDA Vanda 59.83 192 *e*P **P 08 11 25.6 +0.9**
comp=Z,3μm,2.1s
H10S3 ASCENSION HYDR61.38 79 P **P 08 11 38.0 +2.1**
baz=249,slow=7.9,SNR=25
H10S2 ASCENSION HYDR61.39 79 P **P 08 11 38.4 +2.4**
baz=249,slow=7.9,SNR=23
H10S1 ASCENSION HYDR61.40 79 P **P 08 11 38.2 +2.2**
baz=249,slow=7.9,SNR=28
H10N3 ASCENSION HYDR62.19 78 P **P 08 11 44.2 +2.9**
baz=217,slow=5.8,SNR=36
H10N1 ASCENSION HYDR62.20 78 P **P 08 11 43.9 +2.5**
baz=217,slow=5.8,SNR=38
H10N2 ASCENSION HYDR62.21 78 P **P 08 11 44.2 +2.8**
baz=217,slow=5.8,SNR=28
ASCN Ascension 62.24 78 P **P 08 11 44.5 +2.5**
comp=Z,4μm,0.8s,SNR=10
ASCN Ascension 62.24 78 *e*P **P 08 11 42.2 +0.2**
comp=Z,1μm,1.2s
TBI Tubuai 64.01 260 *e*P **P 08 11 54.7 +1.1**
comp=Z,2μm,1.3s
TBI Tubuai 64.01 260 *e*T T 09 21 43.4
comp=Z,15nm,0.2s
SHEL Horse Pasture 64.27 91 P **P 08 11 58.3 +2.8**
comp=Z,3μm,1.0s,SNR=9.7
SHEL Horse Pasture 64.27 91 *e*P **P 08 11 56.0 +0.5**
SHEL pmax pmax
comp=Z,566nm,0.9s
SHEL Horse Pasture 64.27 91 *e*P **P 08 11 56.0 +0.5**
comp=Z,566nm,0.9s
TAOE Nuku Hiva Isla 64.86 279 *e*P **P 08 12 01.0 +1.6**
comp=Z,626nm,0.9s
MEH Mehetia 65.88 266 *e*P **P 08 12 07.3 +1.4**
comp=Z,282nm,1.2s
MEH Mehetia 65.88 266 *e*T T 09 24 07.5
comp=Z,96nm,0.2s
TVO Taravao 66.87 265 *e*P **P 08 12 13.9 +1.6**
comp=Z,211nm,1.0s
TVO Taravao 66.87 265 *e*T T 09 25 20.9
comp=Z,6.0nm,0.3s
VAH Vaihoa 67.02 268 *e*P **P 08 12 14.4 +1.2**
comp=Z,946nm,1.1s
TIAR Tiarei 67.07 265 *e*P **P 08 12 14.9 +1.4**
comp=Z,421nm,0.9s
TIAR Tiarei 67.07 265 *e*T T 09 25 35.9
comp=Z,20nm,0.3s
PAE Paea 67.19 265 *e*P **P 08 12 15.7 +1.4**
comp=Z,533nm,1.3s
PAE Paea 67.19 265 *e*T T 09 25 45.7
comp=Z,2.9nm,0.2s
PPT2 Papeete2 67.23 265 *e*P **P 08 12 16.2 +1.6**
comp=Z,2μm,1.2s
PPT2 *e*S **S 08 21 05.3 -2.0**
comp=Z,573μm,27.5s
PPT2 Papeete2 67.23 265 *e*LR LR 08 32 36.9
comp=Z,903μm,30.2s
PPT2 Papeete2 67.23 265 *e*T T 09 25 47.8
comp=Z,5.2nm,0.3s
PPT Papeete 67.24 265 P **P 08 12 14.1 -0.5**
PPT Papeete 67.24 265 P **P 08 12 14.1 -0.5**
comp=Z,1μm,1.0s,baz=133,slow=2.5,SNR=55
PMOR Pomariorio Ree 67.36 268 *e*P **P 08 12 16.5 +1.1**
comp=Z,1μm,1.6s
035Z Hargill 67.47 338 ⇑P **P 08 12 15.4 -0.3**
baz=68
035A Encino 67.92 338 ⇓P **P 08 12 18.2 -0.3**
baz=68
034A Hebbronville 68.22 338 ⇓P **P 08 12 20.3 0.0**
baz=68
KVTX Kingsville 68.43 338 *e*P **P 08 12 23.0 +1.3**
comp=Z,2μm,1.5s
934A Benavides 68.67 338 ⇓P **P 08 12 23.4 +0.2**
baz=69
933A Laredo 68.91 337 ⇓P **P 08 12 24.4 -0.3**
baz=69
835A Beeville 69.11 339 ⇑P **P 08 12 26.2 +0.3**
baz=69
834A Tilden 69.17 338 ⇑P **P 08 12 26.4 +0.1**
baz=70
TIGA Tifton 69.36 352 *e*P **P 08 12 25.8 -1.6**
comp=Z,5μm,2.2s
TIGA Tifton 69.36 352 ⇓P **P 08 12 27.5 +0.1**

baz=70
BRAL Brewton 69.38 349 *e*P **P 08 12 27.5 -0.1**
comp=Z,13μm,2.7s
833A Chaparral WMA, 69.61 337 ⇑P **P 08 12 28.8 -0.3**
baz=70
735A Kenedy 69.64 339 ⇑P **P 08 12 29.2 0.0**
baz=70
832A Faith Ranch, C 69.75 337 ⇓P **P 08 12 29.4 -0.5**
baz=70
734A La Parita Cree 69.85 338 ⇓P **P 08 12 30.0 -0.5**
baz=70
LPIG La Paz 69.89 326 P **P 08 12 30.3 -0.4**
comp=Z,335nm,1.1s,baz=6.1,slow=1.0,SNR=29
733A Divot King Ran 69.95 338 ⇓P **P 08 12 30.7 -0.4**
baz=70
636A Smothers Creek 70.02 340 ⇓P **P 08 12 31.3 -0.2**
baz=70
635A Leesville 70.13 339 ⇑P **P 08 12 32.2 +0.1**
baz=70
HKT Hockley 70.14 341 *e*P **P 08 12 31.3 -0.9**
HKT pmax pmax
comp=Z,4μm,2.2s
HKT Hockley 70.14 341 *e*P **P 08 12 31.2 -0.9**
comp=Z,4μm,2.2s
732A Laxson Ranch, 70.17 337 ⇓P **P 08 12 31.4 -1.0**
baz=70
MAW Mawson 70.21 164 P **P 08 12 31.0 -1.3**
MAW pmax pmax
comp=Z,673nm,1.2s
MAW Mawson 70.21 164 P **P 08 12 31.0 -1.3**
comp=Z,165nm,0.9s,baz=184,slow=9.2,SNR=11
MAW Mawson 70.21 164 *e*P **P 08 12 31.3 -0.9**
comp=Z,293nm,1.3s
634A China Grove, S 70.29 339 ⇓P **P 08 12 32.6 -0.6**
baz=71
538A Harpers Horsep 70.31 341 ⇓P **P 08 12 33.1 -0.1**
baz=71
537A Green Hill Far 70.39 341 ⇓P **P 08 12 33.1 -0.6**
baz=71
BBSR BB Station 70.54 9 *e*P **P 08 12 35.8 +1.2**
comp=Z,791nm,1.3s
RGRS Roger Stewart 70.54 356 *e*P **P 08 12 36.0 +1.4**
536A Bastrop 70.59 340 ⇓P **P 08 12 34.5 -0.4**
baz=71
633A Saathoff Ranch 70.61 338 ⇑P **P 08 12 34.3 -0.9**
baz=71
535A Dale 70.68 340 ⇓P **P 08 12 34.5 -1.0**
baz=71
NHSC New Hope 70.74 356 *e*P **P 08 12 34.4 -1.4**
comp=Z,2μm,1.3s
632A Uvalde 70.84 337 ⇓P **P 08 12 35.6 -0.9**
baz=71
534A Blanco 70.94 339 ⇑P **P 08 12 35.8 -1.4**
baz=71
631A Perdido Creek 70.99 337 ⇓P **P 08 12 36.2 -1.3**
baz=71
340A Bronson 71.07 343 ⇑P **P 08 12 37.0 -0.8**
baz=71
533A Kerrville 71.14 338 ⇓P **P 08 12 37.4 -1.0**
baz=72
VBMS Vicksburg 71.15 346 *e*P **P 08 12 37.7 -0.6**
comp=Z,1μm,1.0s
339A Huntington 71.15 343 ⇑P **P 08 12 37.7 -0.6**
baz=72
436A Wall Ranch, Ga 71.17 340 ⇑P **P 08 12 38.1 -0.4**
baz=72
338A Crockett 71.35 342 ⇑P **P 08 12 39.3 -0.2**
baz=72
LRAL Lakeview Retre 71.36 350 *e*P **P 08 12 38.2 -1.3**
comp=Z,904nm,1.0s
435B Jarrell 71.40 340 ⇓P **P 08 12 39.2 -0.7**
baz=72
SACV Santiago Islan 71.43 53 P **P 08 12 40.1 -0.3**
comp=Z,1μm,1.0s,SNR=17
SACV Santiago Islan 71.43 53 *e*P **P 08 12 40.0 -0.5**
comp=Z,433nm,1.3s
532A Rocksprings 71.45 338 ⇓P **P 08 12 39.4 -0.9**
baz=72
337A Centerville 71.46 341 ⇓P **P 08 12 39.5 -0.7**
baz=72
NATX Nacogdoches 71.58 343 *e*P **P 08 12 40.2 -0.7**
comp=Z,1μm,1.0s
434A Burnet 71.62 339 ⇓P **P 08 12 40.0 -1.2**
baz=72
531A Rocksprings 71.68 337 ⇑P **P 08 12 40.5 -1.2**
baz=72
JCT Junction City 71.75 338 *e*P **P 08 12 40.9 -1.1**
JCT pmax pmax
comp=Z,2μm,1.5s
JCT Junction City 71.75 338 *e*P **P 08 12 40.9 -1.1**
comp=Z,2μm,1.5s
JCT Junction City 71.75 338 ⇑P **P 08 12 40.8 -1.3**
baz=72
336A Riesel 71.77 341 ⇑P **P 08 12 41.5 -0.6**
baz=72
433A Art 71.80 338 ⇑P **P 08 12 41.0 -1.3**
baz=72
335A Moody 71.83 340 ⇓P **P 08 12 41.2 -1.3**
baz=72
530A J-C Ranch, Com 71.92 336 ⇑P **P 08 12 41.8 -1.3**
baz=72
TXAR Lajitas Array 71.94 334 P **P 08 12 42.4 -0.9**
TXAR pmax pmax
comp=Z,121nm,1.0s
TXAR Lajitas Array 71.94 334 P **P 08 12 42.4 -0.9**
comp=Z,119nm,0.9s,baz=157,slow=7.9,SNR=52
334A Lometa 72.10 339 ⇓P **P 08 12 42.9 -1.2**
baz=72
432A Menard 72.12 338 ⇓P **P 08 12 43.3 -1.0**
baz=72
529A Stev Forest Ra 72.18 336 ⇓P **P 08 12 43.6 -1.1**
baz=72
431A Sonora 72.18 337 ⇓P **P 08 12 43.3 -1.4**
baz=72
333A Richland Sprin 72.30 339 ⇑P **P 08 12 43.7 -1.6**
baz=73
430A Baggett Ranch, 72.47 337 ⇓P **P 08 12 45.0 -1.4**
baz=73
WHTX Lake Whitney 72.51 340 *e*P **P 08 12 45.2 -1.3**
comp=Z,10μm,2.6s
WHTX Lake Whitney 72.51 340 ⇓P **P 08 12 45.1 -1.3**
baz=73
429A Davenport Ranc 72.53 336 ⇓P **P 08 12 45.2 -1.6**
baz=73
332A Millersview 72.58 338 ⇓P **P 08 12 45.4 -1.6**
baz=73
234A Clairette 72.70 340 ⇓P **P 08 12 46.1 -1.5**
baz=73
331A San Angelo 72.71 338 ⇓P **P 08 12 46.2 -1.6**
baz=73
CNNC Cliffs of the 72.75 358 *e*P **P 08 12 46.6 -1.3**
comp=Z,7μm,2.5s
KMSC Kings Mountain 72.84 355 *e*P **P 08 12 46.7 -1.7**
comp=Z,4μm,2.2s
KMSC Kings Mountain 72.84 355 ⇑P **P 08 12 46.7 -1.7**
baz=73
233A Rising Star 72.93 339 ⇑P **P 08 12 47.7 -1.3**
baz=73
232A Coleman 73.02 338 ⇑P **P 08 12 48.1 -1.5**
baz=73
135A Vickery Place, 73.03 341 ⇓P **P 08 12 48.0 -1.6**
baz=73
330A Mertzon 73.03 337 ⇑P **P 08 12 48.2 -1.5**
baz=73
RAR Rarotonga 73.16 256 *e*P **P 08 12 49.7 -1.1**
RAR pmax pmax
comp=Z,1μm,1.8s
RAR Rarotonga 73.16 256 P **P 08 12 49.9 -0.8**
comp=Z,52nm,0.4s,baz=69,slow=2.0,SNR=6.9
RAR Rarotonga 73.16 256 *e*P **P 08 12 49.6 -1.1**
comp=Z,1μm,1.8s
OXF Oxford 73.19 348 *e*P **P 08 12 48.4 -2.1**
OXF pmax pmax
comp=Z,1μm,1.0s
OXF Oxford 73.19 348 *e*P **P 08 12 48.4 -2.1**
comp=Z,1μm,1.0s
ELIM Elim 73.21 121 *e*P **P 08 12 50.4 -0.6**
ELIM AMB AMB 08 12 52.9
comp=Z,2μm,5.8s
ELIM Elim 73.21 121 P **P 08 12 50.4 -0.6**
comp=Z,2μm,5.8s
134A White-Moore Ra 73.22 340 ⇑P **P 08 12 49.1 -1.6**
baz=74
231A Bronte 73.26 338 ⇑P **P 08 12 49.6 -1.5**
baz=74
329A Wagon Wheel Ra 73.36 336 ⇑P **P 08 12 50.2 -1.4**
baz=74
SWET Sewanee 73.37 351 *e*P **P 08 12 50.3 -1.3**

comp=Z,2µm,1.0s
CPCT Cooper Cave 73.43 352 eP P 08 12 52.5 +0.6
230A Sterling City 73.46 337 ⇓P P 08 12 50.7 -1.5
baz=74
133A Hamilton Ranch 73.49 339 ⇓P P 08 12 51.2 -1.2
baz=74
TKL Tuckaleechee C 73.56 353 P P 08 12 50.4 -2.2
TKL pmax pmax
comp=Z,289nm,1.1s
TKL Tuckaleechee C 73.56 353 P P 08 12 50.4 -2.2
comp=Z,479nm,1.1s,baz=151,slow=7.6,SNR=15
TKL Tuckaleechee C 73.56 353 eP P 08 12 50.7 -2.0
CER Ceres 73.60 120 eP P 08 12 52.1 -1.1
CER AMB AMB 08 12 58.4
comp=Z,1µm,1.8s
CER Ceres 73.60 120 P P 08 12 52.1 -1.1
comp=Z,1µm,1.8s
ABTX Abilene, Hawle 73.71 339 eP P 08 12 52.3 -1.4
comp=Z,2µm,1.4s
ABTX Abilene, Hawle 73.71 339 ⇑P P 08 12 52.5 -1.2
baz=74
Z35A Perchaven, San 73.72 341 ⇓P P 08 12 52.6 -1.1
baz=74
229A Bryant Ranch, 73.75 337 ⇑P P 08 12 52.7 -1.3
baz=74
Z34A Collier Ranch, 73.94 340 ⇓P P 08 12 53.5 -1.4
baz=74
131A Roby 73.97 338 ⇑P P 08 12 53.7 -1.5
baz=74
UALR University of 73.98 345 eP P 08 12 53.4 -1.7
comp=Z,2µm,1.8s
MIAR Mount Ida 74.01 344 eP P 08 12 53.7 -1.6
MIAR pmax pmax
comp=Z,689nm,1.1s
MIAR Mount Ida 74.01 344 eP P 08 12 53.7 -1.6
comp=Z,689nm,1.1s
130A Snyder 74.07 338 ⇑P P 08 12 54.2 -1.6
baz=74
Z33A Whitaker Ranch 74.08 340 ⇓P P 08 12 54.5 -1.3
baz=74
228A UT Block 9, Go 74.14 336 ⇑P P 08 12 55.2 -1.1
baz=74
Z32A Haskell 74.30 339 ⇓P P 08 12 55.7 -1.4
baz=75
KOMG Komaggas 74.35 116 eP P 08 12 56.2 -1.5
KOMG AMB AMB 08 13 00.4
comp=Z,2µm,5.7s
KOMG Komaggas 74.35 116 P P 08 12 56.2 -1.5
comp=Z,2µm,5.7s
129A Stewart Farms, 74.38 337 ⇓P P 08 12 56.4 -1.3
baz=75
TZTN Tazewell 74.42 353 eP P 08 12 55.8 -1.8
comp=Z,9µm,2.6s
HBAR Harrisburg 74.42 347 eP P 08 12 57.5 -0.2
Y34A Reagan Ranch, 74.45 341 ⇓P P 08 12 56.5 -1.3
baz=75
Z31A Sharp Cattle R 74.50 339 ⇓P P 08 12 57.0 -1.3
baz=75
WVT Waverly 74.52 349 eP P 08 12 56.5 -1.7
WVT Waverly 74.52 349 eP P 08 12 56.5 -1.7
comp=Z,11µm,2.7s
128A Castleberry Fa 74.57 336 ⇑P P 08 12 57.3 -1.4
baz=75,SNR=37
MNTX Cornudas Mount 74.69 334 eP P 08 12 56.6 -2.7
comp=Z,114nm,0.9s
CLNB Carlsbad 74.69 335 eP P 08 13 00.5 +1.0
comp=Z,61nm,1.0s
Y33A Hilltop Ranch, 74.73 340 ⇓P P 08 12 57.9 -1.6
baz=75,SNR=44
Z30A Sanderson Ranc 74.77 338 ⇑P P 08 12 57.8 -2.0
baz=75,SNR=52
GDL2 Guadalupe Moun 74.80 335 eP P 08 13 00.4 +0.3
BLA Blacksburg 74.83 356 eP P 08 12 58.4 -1.7
BLA pmax pmax
comp=Z,358nm,1.0s
BLA Blacksburg 74.83 356 eP P 08 12 58.4 -1.7
comp=Z,358nm,1.0s
VWCC Virginia Weste 74.84 356 eP P 08 12 58.5 -1.6
127A Arkansas Junct 74.90 336 ⇑P P 08 12 59.7 -1.0
baz=75,SNR=47
Z29A Hungry Hill Ra 74.92 337 ⇓P P 08 12 59.0 -1.8
baz=75
Y32A R-V Farms, Ver 74.95 339 ⇑P P 08 12 59.2 -1.6
baz=75
X34A Smith Ranch, M 75.08 341 ⇓P P 08 13 00.2 -1.3
baz=75,SNR=53
PVMO Portageville 75.09 348 eP P 08 13 03.6 +2.1
comp=Z,3µm,1.4s
Y31A Rekieta Farm, 75.14 339 ⇓P P 08 13 00.3 -1.6
baz=76,SNR=48
Z28A Tucker Farm, M 75.15 337 ⇑P P 08 13 00.7 -1.4
baz=76,SNR=8.5
X33A Lawton 75.20 340 ⇓P P 08 13 00.6 -1.6
baz=76,SNR=49
JSRW J. Sargeant Re 75.20 358 eP P 08 13 00.8 -1.3
SUR Sutherland 75.21 120 P P 08 13 02.4 -0.4
comp=Z,3µm,1.5s,SNR=16
SUR Sutherland 75.21 120 eP P 08 13 02.4 -0.4
comp=Z,2µm,1.8s
Y30A Stafford Cattl 75.25 338 ⇓P P 08 13 01.1 -1.5
baz=76,SNR=52
X32A Elmer 75.30 340 ⇑P P 08 13 01.5 -1.2
baz=76,SNR=70
PARMO Parma 75.34 348 eP P 08 13 01.4 -1.5
CPRX Cap Rock 75.39 335 eP P 08 13 02.6 -0.9
comp=Z,248nm,1.7s
Z27A Tatum 75.44 336 ⇑P P 08 13 02.5 -1.3
baz=76,SNR=55
Y29A Porterfield Fa 75.46 337 ⇑P P 08 13 02.5 -1.4
baz=76,SNR=34
PBMO Poplar Bluff 75.57 347 eP P 08 13 02.4 -1.8
comp=Z,762nm,0.9s
Z26A Caprock 75.65 335 ⇓P P 08 13 03.6 -1.3
baz=76,SNR=39
W34A Bridge Creek, 75.66 341 eP P 08 13 03.4 -1.5
comp=Z,13µm,2.8s
W34A Bridge Creek, 75.66 341 ⇑P P 08 13 03.4 -1.5
baz=76,SNR=111
Y28A McKinney Farm, 75.69 337 ⇓P P 08 13 04.1 -1.0
baz=76,SNR=24
X31A McDonald Ranch 75.69 339 ⇓P P 08 13 03.8 -1.3
baz=76,SNR=77
CBN Corbin 75.70 358 eP P 08 13 03.7 -1.3
comp=Z,546nm,1.2s
W33A Caddo, Fort Co 75.76 340 ⇓P P 08 13 04.6 -0.8
baz=76,SNR=91
X30A Coker Ranch, T 75.77 338 ⇓P P 08 13 04.3 -1.3
baz=76,SNR=71
TUL1 Tulsa 75.82 343 eP P 08 13 04.2 -1.6
comp=Z,2µm,1.0s
TUL1 Tulsa 75.82 343 ⇑P P 08 13 04.6 -1.1
baz=76,SNR=118
BBTS Babate 75.84 59 P P 08 13 05.5 -0.8
comp=Z,502nm,1.0s,baz=228,slow=0.9,SNR=41
BBTS LR LR 08 44 59.7
comp=Z,163µm,21.0s,baz=231,slow=34
319A Douglas 75.85 330 ⇑P P 08 13 05.2 -1.0
baz=76,SNR=59
MSTX Muleshoe 75.90 337 ⇑P P 08 13 05.1 -1.3
baz=76,SNR=48
Z25A Roswell 75.90 335 ⇑P P 08 13 04.7 -1.7
baz=76,SNR=42
W32A Sentinel 75.95 340 ⇓P P 08 13 05.6 -0.9
baz=76,SNR=57
Y27A Causey 75.95 336 ⇓P P 08 13 05.2 -1.4
baz=76,SNR=37
X29A Tulia 76.02 338 ⇑P P 08 13 06.1 -0.9
baz=76,SNR=19
CASY Casey 76.11 182 eP P 08 13 05.9 -1.3
comp=Z,944nm,1.1s
V34A Guthrie 76.17 341 eP P 08 13 06.1 -1.6
comp=Z,3µm,1.6s
V34A Guthrie 76.17 341 ⇓P P 08 13 06.2 -1.6
baz=76,SNR=102
Z24A Sheeppen Canyo 76.17 334 ⇓P P 08 13 06.7 -1.3
baz=76,SNR=45
W31A Holland Ranch, 76.20 339 ⇑P P 08 13 06.6 -1.4
baz=76,SNR=88
Y26A Elida 76.20 336 ⇓P P 08 13 06.9 -1.2
baz=76,SNR=87
X28A Dimmitt 76.23 337 ⇑P P 08 13 07.5 -0.8
baz=77,SNR=28
SIUC Southern Illin 76.29 349 eP P 08 13 06.6 -1.7
comp=Z,1µm,1.0s
USIN University of 76.30 350 eP P 08 13 06.2 -2.2
comp=Z,2µm,1.1s
121A Cookes Peak, D 76.31 332 eP P 08 13 08.7 -0.2
comp=Z,3µm,1.9s
121A Cookes Peak, D 76.31 332 ⇑P P 08 13 08.0 -0.9
baz=77,SNR=36
V33A Lossen Ranch, 76.35 341 ⇓P P 08 13 07.2 -1.6
baz=77,SNR=97
W30A Crocket Farms 76.37 339 ⇓P P 08 13 07.7 -1.3
baz=77,SNR=29
WCI Wyandotte Cave 76.38 351 eP P 08 13 06.3 -2.6
WCI pmax pmax
comp=Z,1µm,1.9s
WCI Wyandotte Cave 76.38 351 eP P 08 13 06.3 -2.6
comp=Z,1µm,1.9s
AMTX Amarillo 76.42 338 eP P 08 13 08.2 -1.1
comp=Z,1µm,1.1s
AMTX Amarillo 76.42 338 ⇑P P 08 13 07.9 -1.4
baz=77
V32A Arapaho 76.45 340 ⇑P P 08 13 08.4 -1.0
baz=77,SNR=70
Y25A Mesa, Roswell 76.48 335 ⇑P P 08 13 08.5 -1.2
baz=77,SNR=40
W29A Amraillo 76.63 338 ⇑P P 08 13 09.2 -1.2
baz=77,SNR=72
X27A F and S Farms, 76.63 337 ⇑P P 08 13 09.9 -0.7
baz=77,SNR=43
Z22A Elephant Butte 76.66 333 ⇑P P 08 13 10.1 -0.7
baz=77,SNR=49
V31A Spring Creek L 76.72 340 ⇑P P 08 13 09.9 -1.0
baz=77,SNR=131
Y24A Capitan 76.74 335 ⇑P P 08 13 10.0 -1.2
baz=77,SNR=38
U34A Anderson Ranch 76.74 342 eP P 08 13 09.5 -1.4
comp=Z,1µm,1.1s
U34A Anderson Ranch 76.74 342 ⇓P P 08 13 09.7 -1.3
baz=77,SNR=58
X26A CR and CF Fran 76.77 336 ⇓P P 08 13 10.4 -1.0
baz=77,SNR=49
U33A Lingo Farm, Me 76.88 341 ⇓P P 08 13 10.7 -1.1
baz=77,SNR=62
SDMD Soldier's Deli 76.89 359 eP P 08 13 10.8 -0.9
comp=Z,767nm,1.2s
W28A Vega 76.92 338 ⇓P P 08 13 11.3 -0.9
baz=77,SNR=42
V30A Spur Ranch, Mi 76.95 339 ⇑P P 08 13 11.7 -0.6
baz=77,SNR=47
MCQ Macquarie Isla 76.95 209 eP P 08 13 13.3 +1.3
MCQ Macquarie Isla 76.95 209 eP P 08 13 13.3 +1.3
comp=Z,31µm,0.5s
Y23A Lovelace Mesa, 76.95 334 ⇑P P 08 13 11.8 -0.7
baz=77,SNR=34
W27A Bowe Ranch, En 77.00 337 ⇑P P 08 13 11.3 -1.3
baz=77,SNR=63
X25A Clemmons Ranch 77.03 335 ⇓P P 08 13 11.8 -1.0
baz=77,SNR=38
U32A Winter Ranch, 77.06 340 ⇑P P 08 13 11.8 -1.0
baz=77,SNR=79
OLIL Olney 77.12 350 eP P 08 13 11.7 -1.3
comp=Z,2µm,1.8s
W26A Owens Ranch, T 77.25 336 ⇑P P 08 13 13.3 -0.7
baz=78,SNR=47
TUC Tucson 77.27 330 eP P 08 13 13.8 -0.3
TUC pmax pmax
comp=Z,1µm,1.4s
TUC Tucson 77.27 330 eP P 08 13 13.8 -0.3
comp=Z,1µm,1.4s
U31A Nine Bar Ranch 77.28 340 ⇓P P 08 13 13.2 -0.9
baz=78,SNR=45
V29A Stinnett 77.29 338 ⇑P P 08 13 12.8 -1.3
baz=78,SNR=23
X24A Lazy VL Ranch, 77.32 335 ⇓P P 08 13 13.8 -0.7
baz=78,SNR=41
BLO Bloomington 77.34 351 eP P 08 13 11.9 -2.3
BLO pmax pmax
comp=Z,966nm,1.0s
BLO Bloomington 77.34 351 eP P 08 13 11.9 -2.3
comp=Z,966nm,1.0s
SLM Saint Louis 77.35 348 eP P 08 13 12.7 -1.6
SLM pmax pmax
comp=Z,2µm,1.2s
SLM Saint Louis 77.35 348 eP P 08 13 12.7 -1.6
comp=Z,2µm,1.2s
V28A Channing 77.39 338 ⇑P P 08 13 14.3 -0.4
baz=78,SNR=50
Y22D IRIS PASSCAL I 77.39 333 ⇓P P 08 13 14.3 -0.5
baz=78,SNR=18
MVL Millersville 77.47 359 eP P 08 13 14.1 -0.9
comp=Z,6µm,2.5s
LENM Lemitar 77.49 333 eP P 08 13 15.0 -0.4
LPM Los Pinos Moun 77.50 334 eP P 08 13 15.0 -0.5
T33A Patterson Ranc 77.53 341 ⇑P P 08 13 14.7 -0.7
baz=78,SNR=111
V27A Dan Oppiter Fa 77.58 337 ⇓P P 08 13 15.5 -0.3
baz=78,SNR=44
X23A Hourglass Bar 77.59 334 ⇑P P 08 13 15.9 -0.1
baz=78,SNR=30
W25A X Bar L Ranch, 77.59 336 ⇑P P 08 13 15.1 -0.8
baz=78,SNR=56
U30A WK&E Inc. Balk 77.66 339 ⇑P P 08 13 15.4 -0.8
baz=78,SNR=49
U29A Oasis Ranch, S 77.76 339 ⇓P P 08 13 16.3 -0.4
baz=78,SNR=37
LAZ Ladron 77.76 333 eP P 08 13 16.9 -0.1
comp=Z,1µm,1.8s
214A Organ Pipe Nat 77.79 328 eP P 08 13 16.4 -0.5
comp=Z,1µm,1.5s
214A Organ Pipe Nat 77.79 328 ⇓P P 08 13 16.5 -0.5
baz=78,SNR=113
T32A Huddler Ranch, 77.80 341 ⇓P P 08 13 16.4 -0.5
baz=78,SNR=59
UPI Upington 77.87 116 eP P 08 13 16.2 -1.6
UPI AMB AMB 08 13 19.9
comp=Z,2µm,5.8s
UPI Upington 77.87 116 P P 08 13 16.2 -1.6
comp=Z,2µm,5.8s
W24A Lazy 6 Ranch, 77.90 335 ⇑P P 08 13 17.0 -0.7
baz=78,SNR=94
V26A Tequesquite Ra 77.91 337 ⇓P P 08 13 16.9 -0.8
baz=78,SNR=50
T31A Randall Ranch, 77.92 340 ⇓P P 08 13 17.0 -0.6
baz=78,SNR=54
S33A Kaszmaul Farm, 77.95 342 ⇓P P 08 13 16.7 -1.0
baz=78,SNR=42
U28A Mallet 77.97 338 ⇓P P 08 13 17.1 -0.9
baz=78
ANMO Albuquerque 78.01 334⇑eP P 08 13 18.2 -0.2
ANMO pmax pmax
comp=Z,2µm,1.2s
ANMO Albuquerque 78.01 334 eP P 08 13 17.9 -0.5
comp=Z,976nm,1.3s
ACSO Alum Creek Sta 78.02 354 eP P 08 13 16.3 -1.8
comp=Z,2µm,1.4s
W23A Werner Place, 78.10 334 ⇓P P 08 13 18.2 -0.7
baz=78,SNR=95
T30A Plains 78.11 340 ⇑P P 08 13 18.1 -0.5
baz=78,SNR=40
SSPA Standing Stone 78.14 358 eP P 08 13 17.0 -1.6
comp=Z,2µm,1.7s
BRNJ Basking Ridge 78.15 1 eP P 08 13 20.8 +2.1
comp=Z,2µm,1.8s
BFZ Birch Farm 78.16 227 eP P 08 13 20.4 +1.3
comp=Z,2µm,1.8s
U27A Thompson Grove 78.19 338 ⇑P P 08 13 18.2 -1.0
baz=78,SNR=48
V25A Rancho No Teng 78.21 336 ⇑P P 08 13 18.0 -1.4
baz=78,SNR=94
WIN Windhoek 78.25 109 eP P 08 13 19.4 -0.8
WIN AMB AMB 08 13 39.9
comp=Z,477nm,11.7s
WIN Windhoek 78.25 109 P P 08 13 19.4 -0.8
WIN Windhoek 78.25 109 P P 08 13 19.4 -0.8
CPNY Central Park 78.26 1 eP P 08 13 20.7 +1.4
comp=Z,494nm,1.4s
S32A Newby Ranch, P 78.29 341 ⇓P P 08 13 18.9 -0.7
baz=79,SNR=49
V24A Rampart Ranch, 78.32 335 ⇑P P 08 13 18.6 -1.5
baz=79,SNR=50
S31A Mullinville 78.36 341 ⇑P P 08 13 19.0 -1.0
baz=79,SNR=76
ODZ Otahua Downs 78.39 221 eP P 08 13 20.1 -0.2
comp=Z,2µm,1.8s
ODZ Otahua Downs 78.39 221 ePN P 08 13 17.4 -2.9
LIC Lamto 78.40 73 eP P 08 13 18.9 -1.9
comp=Z,3µm,1.4s
T29A Hugoton 78.43 339 ⇓P P 08 13 19.6 -0.8
baz=79,SNR=50
U26A Atchley Ranch, 78.44 337 ⇑P P 08 13 19.7 -1.0
baz=79,SNR=43
PAL Palisades 78.48 1 eP P 08 13 22.3 +1.8
PAL pmax pmax
comp=Z,619nm,1.5s
PAL Palisades 78.48 1 eP P 08 13 22.3 +1.8
comp=Z,619nm,1.5s
GRM Grahamstown 78.50 123 eP P 08 13 19.2 -2.0
GRM AMB AMB 08 13 49.0
comp=Z,2µm,12.1s
GRM Grahamstown 78.50 123 P P 08 13 19.2 -2.0
GRM Grahamstown 78.50 123 P P 08 13 19.2 -2.0
ODNJ Ogdensburg 78.55 0 eP P 08 13 20.0 -0.9
comp=Z,3µm,1.9s
MRZ Mangatainoka R 78.56 227 PN P 08 13 20.0 -1.4
KHZ Kahutara 78.58 225 eP P 08 13 22.0 +0.6
comp=Z,2µm,1.8s
SFIN Scholer Farm 78.60 351 eP P 08 13 18.6 -2.6
comp=Z,2µm,1.8s
SFIN Scholer Farm 78.60 351 ⇑P P 08 13 19.6 -1.6
baz=79,SNR=24
PUZ Puketiti 78.62 231 ePN P 08 13 20.9 -0.9
T28A Walsh 78.62 338 ⇓P P 08 13 19.9 -1.7
baz=79,SNR=79
R33A Olander Ranch, 78.63 342 ⇑P P 08 13 20.0 -1.4
baz=79,SNR=115
S30A Montezuma 78.64 340 ⇑P P 08 13 20.5 -1.1
baz=79,SNR=79
SNZO South Karori 78.64 226 eP P 08 13 23.1 +1.4
comp=Z,1µm,1.9s
V23A Ortiz Mt. (NFS 78.64 335 ⇓P P 08 13 20.8 -1.1
baz=79,SNR=33
U25A Circle Dot Ran 78.66 336 ⇓P P 08 13 21.1 -0.8
baz=79,SNR=50
TIC Toumodi 78.68 72 eP P 08 13 20.3 -2.0
comp=Z,912nm,1.0s
WMGZ Waiomatatini S 78.68 231 ePN P 08 13 20.8 -1.2
KIC Kosan Boka 78.71 73 eP P 08 13 20.6 -1.9
comp=Z,4µm,1.5s
T27A Campo 78.75 338 ⇑P P 08 13 21.0 -1.3
baz=79,SNR=55
S29A Ulysses 78.80 339 ⇓P P 08 13 21.8 -0.7
baz=79,SNR=44
YLE Yale 78.81 2 eP P 08 13 22.9 +0.6
comp=Z,3µm,1.5s
DBIC Dimbokro 78.82 72 eP P 08 13 22.1 -1.0
DBIC Dimbokro 78.82 72 eP P 08 13 21.8 -1.3
DBIC pmax pmax
comp=Z,1µm,1.1s
DBIC Dimbokro 78.82 72 P P 08 13 22.5 -0.6
comp=Z,449nm,1.0s,baz=204,slow=6.2,SNR=55
DBIC Dimbokro 78.82 72 eP P 08 13 21.8 -1.3
comp=Z,1µm,1.1s
113A Mohawk Valley, 78.90 328 ⇓P P 08 13 22.2 -0.8
baz=79,SNR=36
X18A Snowflake 78.90 331 ⇓P P 08 13 22.4 -0.9
baz=79,SNR=83
R32A Long Quarter, 78.92 341 ⇓P P 08 13 22.5 -0.6
baz=79,SNR=109
U24A Moreno Valley 78.95 336 ⇓P P 08 13 22.6 -1.0
baz=79,SNR=35
EAZ Earnscleugh 78.95 221 PN P 08 13 23.7 +0.3
BKZ Black Stump Fm 78.99 229 eP P 08 13 24.8 +1.0
comp=Z,2µm,1.7s
BKZ Black Stump Fm 78.99 229 ePN P 08 13 24.7 +1.0
S28A Manter 79.00 339 ⇓P P 08 13 22.5 -1.1
baz=79,SNR=40
R31A Burdett 79.00 341 ⇓P P 08 13 22.6 -1.0
baz=79,SNR=61
KSPA Keystone Colle 79.02 360 eP P 08 13 22.9 -0.6
comp=Z,926nm,1.7s
LTZ Lake Taylor 79.04 224 PN P 08 13 25.0 +1.1
V22A San Miguel Ran 79.04 334 ⇑P P 08 13 23.2 -0.9
baz=79,SNR=90
KSU1 Kansas State U 79.06 343 eP P 08 13 22.2 -1.6
comp=Z,780nm,1.0s
KSU1 Kansas State U 79.06 343 ⇑P P 08 13 22.5 -1.2
baz=79,SNR=68
RPZ Rata Peaks 79.07 223 eP P 08 13 24.7 +0.5
comp=Z,2µm,1.6s
RPZ Rata Peaks 79.07 223 ePN P 08 13 24.6 +0.5
Z14A Wintersburg 79.07 329 ⇑P P 08 13 23.3 -0.7
baz=79,SNR=37
HAZ Te Kaha 79.11 231 ePN P 08 13 25.3 +1.0
T26A Comanche Natio 79.12 337 ⇓P P 08 13 23.7 -0.7
baz=79,SNR=59
U23A El Rito 79.18 335 ⇓P P 08 13 24.2 -0.6
baz=80,SNR=130
WHZ Wether Hill Ro 79.19 219 eP P 08 13 24.5 -0.2
comp=Z,3µm,1.8s
R30A Dighton 79.20 340 ⇑P P 08 13 23.5 -1.1
baz=80,SNR=36
URZ Urewera 79.20 230 P P 08 13 24.6 -0.3
comp=Z,75nm,1.1s,baz=113,slow=5.3,SNR=18
URZ Urewera 79.20 230 eP P 08 13 26.0 +1.1
comp=Z,1µm,1.7s
URZ Urewera 79.20 230 ePN P 08 13 24.4 -0.4
ALLY Alegheny Colle 79.24 356 eP P 08 13 22.1 -2.6
comp=Z,2µm,1.5s
Q33A Connelly Farm, 79.25 342 ⇓P P 08 13 23.9 -0.9
baz=80,SNR=80
T25A Trinidad 79.34 337 ⇑P P 08 13 24.8 -0.8
baz=80,SNR=102
W18A Petrified Fore 79.35 332 eP P 08 13 25.4 -0.3
comp=Z,2µm,1.5s
W18A Petrified Fore 79.35 332 ⇑P P 08 13 25.1 -0.6
baz=80,SNR=46
THZ Tophouse 79.36 225 PN P 08 13 23.7 -2.1
S27A Las Animas 79.38 338 ⇓P P 08 13 25.5 -0.3
baz=80,SNR=21
WKZ Wanaka 79.38 221 ePN P 08 13 25.5 -0.3
X16A Lo Mia Camp, P 79.38 330 ⇓P P 08 13 25.1 -0.8
baz=80,SNR=44
Q32A Meitler Ranch, 79.42 342 ⇑P P 08 13 25.0 -0.8
baz=80,SNR=74
U22A Llaves 79.44 334 ⇑P P 08 13 25.2 -1.1
baz=80,SNR=107
MLZ Mavora Lakes 79.45 220 ePN P 08 13 25.9 -0.3
HVD Gariep Dam 79.48 120 eP P 08 13 24.7 -2.1
HVD AMB AMB 08 13 29.9
comp=Z,2µm,3.3s
HVD Gariep Dam 79.48 120 P P 08 13 24.7 -2.1
HVD pmax pmax
comp=Z,2µm,3.3s
HVD Gariep Dam 79.48 120 P P 08 13 24.7 -2.1
comp=Z,2µm,3.3s
S26A Kim 79.49 338 ⇑P P 08 13 25.4 -0.9
baz=80,SNR=84
R29A Marienthal 79.56 340 ⇓P P 08 13 26.0 -0.7
baz=80,SNR=77
T24B San Luis 79.58 336 ⇑P P 08 13 26.3 -0.8
baz=80,SNR=78
Y14A Wickenburg 79.59 329 ⇑P P 08 13 26.1 -0.8
baz=80,SNR=83
GLA Glamis 79.59 327 eP P 08 13 26.2 -0.7
GLA pmax pmax
comp=Z,1µm,1.5s
GLA Glamis 79.59 327 eP P 08 13 26.2 -0.7
comp=Z,1µm,1.5s
GLA Glamis 79.59 327 ⇓P P 08 13 26.4 -0.5
baz=80,SNR=42
P33A Williams Farm, 79.63 342 ⇓P P 08 13 25.4 -1.5
baz=80,SNR=68
Q31A Ellis 79.64 341 ⇓P P 08 13 25.9 -1.1
baz=80,SNR=58
BINY Binghamton 79.67 359 eP P 08 13 25.7 -1.3
comp=Z,1µm,1.6s
R28A Tribune 79.67 339 ⇓P P 08 13 26.2 -1.1
baz=80,SNR=97
ERPA Erie 79.70 356 eP P 08 13 25.5 -1.7
comp=Z,1µm,1.3s
T23A Casias Ranch, 79.77 335 ⇓P P 08 13 27.2 -0.9
baz=80,SNR=91
S25A Robets Cordova 79.82 337 ⇓P P 08 13 27.0 -1.2
baz=80,SNR=98
Q30A Quinter 79.83 340 ⇑P P 08 13 27.2 -0.9
baz=80,SNR=92
DCZ Deep Cove 79.88 219 eP P 08 13 28.7 +0.3
comp=Z,498nm,1.2s
FOZ Fox Glacier 79.90 222 PN P 08 13 29.1 +0.6
R27A Eads 79.91 338 ⇑P P 08 13 27.4 -1.1
baz=80,SNR=70
SWSC Sam W. Stewart 79.92 326 ⇓P P 08 13 27.9 -0.7
baz=80,SNR=42
Q29A Oakley 79.95 340 ⇓P P 08 13 28.1 -0.6
baz=80,SNR=56
DSZ Denniston Nort 79.99 224 ePN P 08 13 28.2 -1.0
P32A Huiting Farm, 80.03 342 ⇑P P 08 13 28.1 -0.9
baz=80,SNR=93
JCZ Jackson Bay 80.04 221 ePN P 08 13 28.8 -0.6
HRV Adam Dziewonsk 80.04 3 eP P 08 13 28.6 -0.4
HRV pmax pmax

comp=Z,983nm,1.4s
HRV Adam Dziewonsk 80.04 3 eP P 08 13 28.6 -0.4
comp=Z,983nm,1.4s
S24A Houchin Ranch, 80.05 336 ⇑P P 08 13 28.9 -0.6
baz=80,SNR=125
BAR Barrett 80.09 325 eP P 08 13 29.4 -0.2
comp=Z,469nm,1.3s
R26A Arlington 80.11 338 ⇓P P 08 13 29.7 0.0
baz=80,SNR=135
P31A Stockton 80.12 341 ⇓P P 08 13 28.9 -0.7
baz=80,SNR=58
AAM Ann Arbor 80.13 354 eP P 08 13 27.5 -2.0
AAM pmax pmax
comp=Z,2µm,1.6s
AAM Ann Arbor 80.13 354 eP P 08 13 27.5 -2.0
comp=Z,2µm,1.6s
MONP Monument Peak 80.16 326 ⇓P P 08 13 29.8 -0.4
baz=80,SNR=32
QRZ Quartz Range 80.20 225 ePN P 08 13 29.4 -0.9
TRY Troy 80.20 1 eP P 08 13 29.4 -0.4
comp=Z,1µm,1.1s
R25A Fountain Ranch 80.22 337 ⇑P P 08 13 29.9 -0.4
baz=81,SNR=39
SDCO Great Sand Dun 80.24 336 eP P 08 13 29.7 -0.9
comp=Z,376nm,1.2s
WUAZ Wupatki 80.32 331 eP P 08 13 30.9 -0.1
comp=Z,1µm,1.5s
WUAZ Wupatki 80.32 331 ⇓P P 08 13 30.8 -0.1
baz=81,SNR=53
Q28A Sharon Springs 80.35 339 ⇓P P 08 13 30.6 -0.3
baz=81,SNR=66
S23A Nye Farm, Mont 80.36 336 ⇑P P 08 13 30.6 -0.6
baz=81,SNR=39
P30A Selden 80.37 341 ⇑P P 08 13 30.0 -1.0
baz=81,SNR=93
PDMCI Parker Dam,Lak 80.38 328 ⇓P P 08 13 30.7 -0.3
baz=81,SNR=40
BC3 Big Chuckawall 80.38 327 ⇓P P 08 13 30.8 -0.4
baz=81,SNR=40
HIZ Hauiti 80.38 228 ePN P 08 13 28.9 -2.4
109C Camp Elliot, M 80.46 325 ⇓P P 08 13 31.3 -0.3
baz=81,SNR=24
BOSA Boshof 80.53 119 eP P 08 13 30.5 -1.9
BOSA AMB AMB 08 13 56.0
comp=Z,1µm,1.7s
BOSA Boshof 80.53 119 P P 08 13 30.8 -1.6
BOSA pmax pmax
comp=Z,520nm,1.1s
BOSA Boshof 80.53 119 P P 08 13 30.8 -1.6
comp=Z,520nm,1.1s,baz=226,slow=5.6,SNR=18
BOSA Boshof 80.53 119 eP P 08 13 30.4 -2.0
comp=Z,55nm,1.2s
KSCO Kaye Shedlock' 80.53 339 eP P 08 13 31.3 -0.6
comp=Z,10µm,2.4s
KSCO Kaye Shedlock' 80.53 339 ⇑P P 08 13 32.0 +0.1
baz=81,SNR=92
O32A Brockman Farm, 80.55 342 ⇑P P 08 13 31.2 -0.7
baz=81,SNR=112
R24A Sanders Place, 80.56 337 ⇓P P 08 13 31.7 -0.5
baz=81,SNR=108
TSUM Tsumeb 80.61 107 eP P 08 13 31.6 -1.3
comp=Z,285nm,1.0s
P29A Atwood 80.61 340 ⇓P P 08 13 32.0 -0.3
baz=81,SNR=29
S22A 4UR Ranch, Cre 80.67 335 ⇓P P 08 13 32.2 -0.8
baz=81,SNR=116
IRM Iron Mountain 80.68 327 ⇑P P 08 13 32.2 -0.5
baz=81,SNR=93
O31A Woolen Ranch, 80.71 341 ⇑P P 08 13 32.3 -0.4
baz=81,SNR=67
Q26A Hugo 80.71 338 ⇓P P 08 13 32.1 -0.8
baz=81,SNR=94
R23A Moffat 80.75 336 ⇑P P 08 13 32.8 -0.5
baz=81,SNR=102
MVCO Mesa Verde 80.76 334 eP P 08 13 32.9 -0.5
comp=Z,6µm,2.5s
MVCO Mesa Verde 80.76 334 ⇑P P 08 13 32.9 -0.5
baz=81,SNR=55
PFO Pinyon Flat Ob 80.78 326 P P 08 13 33.9 +0.5
comp=Z,3µm,1.2s,SNR=50
PFO Pinyon Flat Ob 80.78 326 eP P 08 13 33.5 +0.1
PFO Pinyon Flat Ob 80.78 326 eP P 08 13 33.5 +0.1
PFO Pinyon Flat Ob 80.78 326 ⇑P P 08 13 33.4 0.0
baz=81,SNR=73
P28A Saint Francis 80.81 340 ⇓P P 08 13 32.6 -0.7
baz=81,SNR=82
ACCN Adirondack Com 80.86 1 eP P 08 13 32.5 -0.9
comp=Z,4µm,2.1s
BELC Belle Mtn. Jos 80.91 327 ⇓P P 08 13 33.3 -0.8
baz=81,SNR=45
O30A MW Ranch, Wils 80.92 341 ⇓P P 08 13 33.4 -0.5
baz=81,SNR=82
Q25A Bedland, Calha 80.92 337 ⇓P P 08 13 33.5 -0.6
baz=81,SNR=82
W13A Hualapai Mount 80.96 329 ⇑P P 08 13 34.0 -0.5
baz=81,SNR=91
NEE2 Needles Airpor 80.98 328 ⇓P P 08 13 33.7 -0.6
baz=81,SNR=32
P27A Ficken Ranch, 81.02 339 ⇓P P 08 13 34.0 -0.5
baz=81,SNR=107
N32A Stulken Farm, 81.03 342 ⇑P P 08 13 33.8 -0.7
baz=81,SNR=36
SCIA State Center 81.05 346 eP P 08 13 33.1 -1.4
comp=Z,2µm,1.4s
O29A 4D Ranch, Culb 81.06 340 ⇓P P 08 13 34.1 -0.5
baz=81,SNR=45
MURC Murrieta 81.10 326 ⇓P P 08 13 34.5 -0.5
baz=81,SNR=82
MKAZ Moumakai 81.11 230 ePN P 08 13 35.0 -0.2
SCI San Clemente I 81.20 324 ⇑P P 08 13 35.0 -0.4
baz=82,SNR=13
HNH Hanover 81.21 2 eP P 08 13 34.8 -0.4
comp=Z,865nm,1.3s
Q24A Divide 81.24 337 ⇑P P 08 13 34.9 -1.0
baz=82,SNR=111
P26A Davis Ranch, A 81.25 338 ⇑P P 08 13 34.9 -0.9
baz=82,SNR=98
N31A Bailey Ranch, 81.25 342 ⇑P P 08 13 34.8 -0.8
baz=82,SNR=24
O28A Krutsinger Ran 81.33 340 ⇑P P 08 13 35.3 -0.8
baz=82,SNR=121
Q23A Hartsel 81.40 336 ⇓P P 08 13 36.6 -0.2
baz=82,SNR=9.5
GMRC Granite Mounta 81.43 327 ⇓P P 08 13 36.2 -0.6
baz=82,SNR=35
NCB Newcomb 81.44 1 eP P 08 13 35.2 -1.3
comp=Z,2µm,2.0s
P25A Willow Gulch B 81.44 338 ⇑P P 08 13 36.6 -0.2
baz=82,SNR=82
LDFC Landfair 81.45 328 eP P 08 13 37.3 +0.4
comp=Z,2µm,1.4s
SWZ Schweizer 81.46 118 eP P 08 13 33.7 -3.7
SWZ AMB AMB 08 13 41.5
comp=Z,3µm,10.0s
SWZ Schweizer 81.46 118 P P 08 13 33.7 -3.7
U15A North Rim 81.48 331 ⇑P P 08 13 37.2 0.0
baz=82,SNR=99
MDV Middlebury 81.48 1 eP P 08 13 35.4 -1.2
CIS Catalina Islan 81.49 325 ⇓P P 08 13 36.8 -0.2
baz=82,SNR=16
N30A Hueftle Ranch, 81.51 341 ⇑P P 08 13 37.4 +0.4
baz=82,SNR=29
JFWS Jewell Farm 81.53 349 eP P 08 13 35.2 -1.8
JFWS pmax pmax
comp=Z,1µm,1.3s
JFWS Jewell Farm 81.53 349 eP P 08 13 35.2 -1.8
comp=Z,1µm,1.3s
BBRC Big Bear Solar 81.54 326 ⇑P P 08 13 37.6 +0.1
baz=82,SNR=12
O27A Beecher Island 81.58 339 ⇓P P 08 13 36.8 -0.7
baz=82,SNR=112
BGNE Belgrade 81.61 343 eP P 08 13 36.4 -1.1
comp=Z,2µm,1.1s
BGNE Belgrade 81.61 343 ⇑P P 08 13 36.9 -0.5
baz=82,SNR=64
PV01 Paradox Valley 81.62 334 eP P 08 13 37.5 -0.4
comp=Z,19µm,0.9s
N29A Votaw Ranch, W 81.67 341 ⇑P P 08 13 37.1 -0.7
baz=82,SNR=78
P24A Kohler Place, 81.67 337 ⇑P P 08 13 37.8 -0.2
baz=82,SNR=64
RAO Raoul Island 81.67 239 P P 08 13 39.3 +1.0
RAO pmax pmax
comp=Z,149nm,0.3s
RAO Raoul Island 81.67 239 P P 08 13 39.3 +1.0
comp=Z,148nm,0.3s,baz=134,slow=20,SNR=4.1
FMP Fort Macarthur 81.69 325 ⇓P P 08 13 37.4 -0.6
baz=82

M31A Lambtecht Ranc 81.75 342 ⇑P P 08 13 37.9 -0.3
baz=82,SNR=120
LBNH Lisbon 81.76 2 eP P 08 13 37.4 -0.7
LBNH pmax pmax
comp=Z,324nm,0.9s
LBNH Lisbon 81.76 2 eP P 08 13 37.4 -0.7
comp=Z,324nm,0.9s
HEC Hector,Ludlow 81.76 327 ⇓P P 08 13 38.3 -0.2
baz=82,SNR=41
N28A Pribbeno Ranch 81.79 340 ⇓P P 08 13 38.0 -0.5
baz=82,SNR=78
P23A Jefferson 81.83 336 ⇓P P 08 13 38.7 -0.4
baz=82,SNR=42
BFSC Mount Baldy Ra 81.84 326 ⇓P P 08 13 38.3 -0.7
baz=82,SNR=65
O26A Horse Wrangler 81.87 339 ⇑P P 08 13 38.5 -0.5
baz=82,SNR=75
PV04 Paradox Valley 81.97 334 eP P 08 13 39.1 -0.6
O25A Wiggins 81.98 338 ⇓P P 08 13 39.7 +0.1
baz=82,SNR=68
PV10 Paradox Valley 82.00 334 eP P 08 13 38.6 -1.3
comp=Z,7µm,0.9s
MWC Mount Wilson 82.01 325 eP P 08 13 39.9 -0.1
MWC pmax pmax
comp=Z,3µm,2.0s
MWC Mount Wilson 82.01 325 eP P 08 13 39.9 -0.1
comp=Z,3µm,2.0s
SMCO Snowmass 82.02 336 eP P 08 13 40.0 -0.2
comp=Z,5µm,2.2s
PASC Pasadena Art C 82.03 325 eP P 08 13 40.4 +0.6
comp=Z,2µm,2.0s
PTN Potsdam (NY) 82.03 0 eP P 08 13 38.5 -1.1
PTN pmax pmax
comp=Z,1µm,1.0s
PTN Potsdam (NY) 82.03 0 eP P 08 13 38.5 -1.1
comp=Z,1µm,1.0s
LONY Lake Ozonia 82.08 0 eP P 08 13 38.8 -1.0
comp=Z,830nm,1.1s
RRX Edison Barstow 82.09 326 ⇓P P 08 13 40.7 +0.6
baz=82,SNR=5.3
TUQ Turquoise Moun 82.10 327 ⇓P P 08 13 40.7 +0.4
baz=82,SNR=32
M30A Dale-Ortello V 82.15 342 ⇑P P 08 13 40.2 -0.1
baz=82,SNR=16
ISCO Idaho Springs 82.15 337 eP P 08 13 40.1 -0.6
ISCO pmax pmax
comp=Z,5µm,2.8s
ISCO Idaho Springs 82.15 337 eP P 08 13 40.1 -0.6
comp=Z,5µm,2.8s
ISCO Idaho Springs 82.15 337 ⇑P P 08 13 40.1 -0.6
baz=82,SNR=105
DECC Green Verdugo 82.16 325 ⇓P P 08 13 40.7 +0.2
baz=82,SNR=13
OGNE Ogallala 82.16 340 eP P 08 13 40.0 -0.4
comp=Z,5µm,1.8s
OGNE Ogallala 82.16 340 ⇓P P 08 13 39.8 -0.7
baz=82,SNR=37
KSD Kokstad 82.16 123 eP P 08 13 40.7 -0.4
KSD AMB AMB 08 13 57.9
comp=Z,869nm,16.2s
KSD Kokstad 82.16 123 P P 08 13 40.7 -0.4
N27A Anderson Farm, 82.17 339 ⇑P P 08 13 40.0 -0.6
baz=82,SNR=107
WVL Waterville 82.18 4 eP P 08 13 42.9 +2.6
comp=Z,845nm,1.3s
M29A Burnside Ranch 82.27 341 ⇓P P 08 13 40.2 -0.8
baz=83,SNR=68
O24A Longmont 82.28 337 ⇓P P 08 13 40.9 -0.3
baz=83,SNR=39
P22A Eagle 82.33 336 ⇓P P 08 13 40.9 -0.7
baz=83,SNR=81
SEK Senekal 82.34 120 eP P 08 13 40.1 -2.0
SEK AMB AMB 08 13 43.8
comp=Z,2µm,5.7s
SEK Senekal 82.34 120 P P 08 13 40.1 -2.0
comp=Z,2µm,5.7s
GSC Goldstone 82.37 327 eP P 08 13 41.6 -0.1
GSC pmax pmax
comp=Z,3µm,2.0s
GSC Goldstone 82.37 327 eP P 08 13 41.6 -0.1
comp=Z,3µm,2.0s
GSC Goldstone 82.37 327 ⇑P P 08 13 41.2 -0.5
baz=83,SNR=96
WCZ Waipu Caves 82.38 230 PN P 08 13 41.6 -0.3
N26A Koester Ranch, 82.38 339 ⇑P P 08 13 40.8 -0.8
baz=83,SNR=59
M28A Bar X Bar Ranc 82.40 340 ⇑P P 08 13 41.1 -0.7
baz=83,SNR=43
L30A Spencer Herefo 82.50 342 ⇑P P 08 13 41.5 -0.7
baz=83,SNR=105
L31A Butterfield Fa 82.50 343 ⇑P P 08 13 41.3 -0.8
baz=83,SNR=154
EDW2 Edwards Air Fo 82.53 326 ⇑P P 08 13 41.7 -0.8
baz=83
BSC Santa Cruz Isl 82.54 324 ⇑P P 08 13 42.0 -0.6
baz=83,SNR=12
N25A Grover 82.62 338 ⇓P P 08 13 42.5 -0.4
baz=83,SNR=23
O23A Lake Granby, G 82.62 337 ⇓P P 08 13 42.3 -0.9
baz=83,SNR=90
OSI Osito Adit 82.64 325 eP P 08 13 43.0 -0.1
comp=Z,678nm,1.1s
OSI Osito Adit 82.64 325 ⇓P P 08 13 42.8 -0.2
baz=83,SNR=35
SHOC Shoshone 82.65 327 ⇓P P 08 13 43.2 +0.1
baz=83,SNR=32
BFSD Buffelsfontein 82.67 118 eP P 08 13 40.9 -2.9
BFSD AMB AMB 08 13 45.3
comp=Z,2µm,5.6s
BFSD Buffelsfontein 82.67 118 P P 08 13 40.9 -2.9
comp=Z,2µm,5.6s
SHPR Sheep Range 82.69 329 eP P 08 13 43.5 +0.1
O22A Kremmling 82.77 336 ⇓P P 08 13 43.1 -0.9
baz=83,SNR=123
L29A Maesberg Ranch 82.80 341 ⇓P P 08 13 43.1 -0.6
baz=83,SNR=89
M27A Reverse DX Ran 82.80 340 ⇑P P 08 13 43.1 -0.7
baz=83,SNR=75
N24A Carr 82.87 338 ⇑P P 08 13 44.6 +0.3
baz=83,SNR=11
CCUT Cedar City 82.87 330 eP P 08 13 44.9 +0.4
comp=Z,2µm,1.7s
LRMC Laurel Mountai 82.90 326 ⇓P P 08 13 44.2 -0.3
baz=83,SNR=101
SBC Santa Barbara 82.95 324 ⇑P P 08 13 44.3 -0.3
baz=83
M26A McRoberts Ranc 82.95 339 ⇓P P 08 13 45.4 +0.8
baz=83,SNR=18
LBTB Lobatse 82.98 116 eP P 08 13 43.6 -1.7
LBTB AMB AMB 08 13 47.0
comp=Z,2µm,5.8s
LBTB Lobatse 82.98 116 eP P 08 13 43.0 -2.4
LBTB pmax pmax
comp=Z,2µm,1.3s
LBTB Lobatse 82.98 116 P P 08 13 43.6 -1.7
baz=251,slow=6.8
LBTB Lobatse 82.98 116 eP P 08 13 43.0 -2.4
comp=Z,2µm,1.3s
RUDU RUNDU 83.00 107 eP P 08 13 44.6 -1.0
RUDU AMB AMB 08 13 44.8
comp=Z,2µm,12.5s
RUDU RUNDU 83.00 107 P P 08 13 44.6 -1.0
L28A Connealy Angus 83.01 341 ⇓P P 08 13 45.7 +0.8
baz=83,SNR=9.3
PRYS Parys 83.03 119 eP P 08 13 43.2 -2.4
PRYS AMB AMB 08 13 46.9
comp=Z,931nm,5.8s
PRYS Parys 83.03 119 P P 08 13 43.2 -2.4
comp=Z,931nm,5.8s
ARUT Antelope Range 83.11 330 eP P 08 13 45.2 -0.4
ARUT Antelope Range 83.11 330 eP P 08 13 45.2 -0.4
comp=Z,52µm,2.0s
K30A Basset 83.16 342 ⇑P P 08 13 45.0 -0.6
baz=84,SNR=96
SRU San Rafael 83.18 333 eP P 08 13 45.2 -0.7
SRU pmax pmax
comp=Z,684nm,1.1s
SRU San Rafael 83.18 333 eP P 08 13 45.2 -0.7
comp=Z,684nm,1.1s
M25A Palm-Egli Farm 83.18 339 ⇑P P 08 13 44.8 -1.0
baz=84,SNR=93
N23A Red Feather La 83.25 337 ⇑P P 08 13 45.3 -1.1
baz=84,SNR=108
L27A T5 Ranch, Ells 83.30 340 ⇑P P 08 13 45.9 -0.4
baz=84,SNR=16
O20A White River Ci 83.30 335 eP P 08 13 45.4 -1.2
comp=Z,2µm,1.4s

O20A White River Ci 83.30 335 ⇑P P 08 13 45.0 -1.5
baz=84,SNR=96
OUZ Omahuta 83.32 230 eP P 08 13 47.1 +0.4
comp=Z,4µm,1.6s
OUZ Omahuta 83.32 230 PN P 08 13 47.2 +0.5
N22A Wattenberg Ran 83.33 337 ⇑P P 08 13 45.9 -0.8
baz=84,SNR=100
FURC Furnace Creek, 83.38 327 ⇑P P 08 13 46.1 -0.7
baz=84,SNR=48
KSR Koster 83.38 118 eP P 08 13 45.1 -2.4
KSR AMB AMB 08 13 52.1
comp=Z,833nm,1.7s
KSR Koster 83.38 118 P P 08 13 45.1 -2.4
comp=Z,833nm,1.7s
WDLM Western Deep L 83.39 118 eP P 08 13 46.8 -0.7
WDLM AMB AMB 08 13 49.1
comp=Z,922nm,5.9s
ISA Isabella 83.40 326 eP P 08 13 47.2 +0.2
ISA pmax pmax
comp=Z,576nm,1.0s
ISA Isabella 83.40 326 eP P 08 13 47.2 +0.2
comp=Z,576nm,1.0s
ISA Isabella 83.40 326 ⇑P P 08 13 46.8 -0.2
baz=84,SNR=102
K29A Lazy Trails An 83.41 342 ⇓P P 08 13 46.2 -0.7
baz=84,SNR=75
M24A Cheyenne 83.44 338 ⇓P P 08 13 46.2 -1.0
baz=84,SNR=98
L26A Underwood Farm 83.46 339 ⇓P P 08 13 47.1 -0.1
baz=84,SNR=43
PHWY Pilot Hill 83.47 338 eP P 08 13 46.7 -0.9
comp=Z,679nm,1.0s
ECSD EROS Data Cent 83.48 345 eP P 08 13 45.9 -1.3
comp=Z,2µm,1.3s
ECSD EROS Data Cent 83.48 345 ⇑P P 08 13 46.3 -0.9
baz=84,SNR=132
KLOF Kloof 83.57 118 eP P 08 13 45.8 -2.7
KLOF AMB AMB 08 13 52.8
comp=Z,1µm,9.6s
KLOF Kloof 83.57 118 P P 08 13 45.8 -2.7
TMUT Trail Mountain 83.59 333 eP P 08 13 48.0 -0.2
comp=Z,7µm,2.3s
K28A Ten Mile Ranch 83.63 341 ⇓P P 08 13 47.0 -1.0
baz=84,SNR=77
M23A Laramie 83.71 337 ⇓P P 08 13 47.5 -1.2
baz=84,SNR=63
J30A Dallas 83.74 342 ⇓P P 08 13 47.8 -0.7
baz=84,SNR=78
SMMC Simmler 83.80 325 ⇓P P 08 13 48.1 -1.0
baz=84,SNR=17
L25A Engebretsen Ra 83.82 339 ⇑P P 08 13 48.2 -0.9
baz=84,SNR=67
VES Vestal, Richgr 83.82 325 ⇓P P 08 13 48.3 -0.8
baz=84,SNR=31
K27A Flueckinger Fa 83.85 340 ⇑P P 08 13 47.9 -1.3
baz=84,SNR=135
M22A Cedar Creek Ra 83.92 337 ⇑P P 08 13 48.9 -0.8
baz=84,SNR=29
CRWM Crown Mines 83.92 118 eP P 08 13 48.7 -1.6
CRWM AMB AMB 08 13 51.7
comp=Z,2µm,5.9s
N20A Spence Gulch, 83.94 335 ⇑P P 08 13 48.6 -1.2
baz=84,SNR=96
OBSV Observatory 83.99 118 eP P 08 13 46.8 -3.9
OBSV AMB AMB 08 13 55.1
comp=Z,1µm,1.6s
L24A Wheatland 84.00 338 ⇓P P 08 13 49.5 -0.5
baz=84,SNR=21
ERPM east rand prop 84.01 119 eP P 08 13 49.8 -0.9
ERPM AMB AMB 08 13 55.5
comp=Z,2µm,1.9s
ERPM east rand prop 84.01 119 P P 08 13 49.8 -0.9
comp=Z,2µm,1.9s
J29A Okreek 84.02 342 ⇑P P 08 13 49.6 -0.3
baz=84,SNR=86
GRAC Grapevine Rang 84.04 327 ⇓P P 08 13 50.7 +0.4
baz=84,SNR=38
K26A Motz Farm, Whi 84.11 340 ⇓P P 08 13 50.2 -0.3
baz=84,SNR=42
SPMN St. Paul 84.19 348 eP P 08 13 48.8 -1.9
comp=Z,635nm,0.9s
SPMN St. Paul 84.19 348 ⇑P P 08 13 50.0 -0.7
baz=84,SNR=81
K25A Mack Ranch, Ha 84.22 339 ⇑P P 08 13 50.0 -1.1
baz=85,SNR=33
J28A Allard Ranch, 84.27 341 ⇓P P 08 13 50.1 -1.1
baz=85,SNR=92
I30A Oacoma 84.28 343 ⇓P P 08 13 50.1 -1.2
baz=85,SNR=69
RCTC Rector, Farmer 84.28 326 ⇑P P 08 13 50.0 -1.4
baz=85,SNR=54
L23A Garrett 84.29 338 ⇑P P 08 13 50.3 -1.3
baz=85,SNR=74
J27A Elkhorn Farm, 84.31 341 ⇓P P 08 13 50.7 -0.8
baz=85,SNR=127
MPU Maple Canyon 84.38 333 eP P 08 13 51.5 -0.5
comp=Z,2µm,1.6s
SLR Silverton 84.42 118 eP P 08 13 50.7 -2.1
SLR AMB AMB 08 13 55.3
comp=Z,2µm,3.6s
SLR Silverton 84.42 118 P P 08 13 50.7 -2.1
SLR pmax pmax
comp=Z,2µm,3.6s
SLR Silverton 84.42 118 P P 08 13 50.7 -2.1
comp=Z,2µm,3.6s
L22A Ellis Ranch, M 84.44 337 ⇓P P 08 13 51.4 -0.9
baz=85,SNR=56
R11A Troy Canyon, C 84.45 329 eP P 08 13 52.3 -0.1
comp=Z,949nm,1.3s
R11A Troy Canyon, C 84.45 329 ⇑P P 08 13 51.5 -0.9
baz=85,SNR=64
TIN Tinemaha 84.46 327 ⇑P P 08 13 51.9 -0.5
baz=85,SNR=54
NLU North Lily Min 84.48 332 eP P 08 13 52.3 -0.3
comp=Z,4µm,1.9s
K24A Anderson Ranch 84.59 339 ⇓P P 08 13 52.3 -0.7
baz=85,SNR=29
DAU Daniels Canyon 84.59 333 eP P 08 13 53.0 -0.3
DAU pmax pmax
comp=Z,3µm,1.8s
DAU Daniels Canyon 84.59 333 eP P 08 13 53.0 -0.3
comp=Z,3µm,1.8s
I29A Vivian Onida 84.59 342 ⇓P P 08 13 52.0 -0.8
baz=85,SNR=57
J26A Sides Ranch, S 84.64 340 ⇓P P 08 13 51.9 -1.3
baz=85,SNR=124
BRSD Miller 84.67 343 eP P 08 13 51.4 -1.9
comp=Z,1µm,0.9s
BRSD Miller 84.67 343 ⇑P P 08 13 52.3 -0.9
baz=85,SNR=61
I28A Midland 84.79 342 ⇑P P 08 13 52.5 -1.3
baz=85,SNR=138
JLU Jordanelle 84.83 333 eP P 08 13 53.7 -0.6
comp=Z,2µm,1.8s
K23A Bowen Ranch, D 84.86 338 ⇑P P 08 13 52.9 -1.4
baz=85,SNR=65
MTUM Tungsten Hills 84.86 327 eP P 08 13 54.3 -0.2
TPH Tonopah 84.89 328 eP P 08 13 54.6 -0.1
TPH pmax pmax
comp=Z,986nm,1.1s
TPH Tonopah 84.89 328 eP P 08 13 54.6 -0.1
comp=Z,986nm,1.1s
J25A Sunshine Ranch 84.92 339 ⇑P P 08 13 53.1 -1.5
baz=85,SNR=74
DUG Dugway 84.97 332 eP P 08 13 54.6 -0.3
comp=Z,2µm,1.4s
DUG Dugway 84.97 332 ⇑P P 08 13 54.0 -0.9
baz=85,SNR=120
CTU Camp Tracy 85.01 333 eP P 08 13 54.2 -1.0
comp=Z,897nm,1.6s
K22A Casper 85.03 337 eP P 08 13 54.4 -0.9
comp=Z,6µm,1.8s
K22A Casper 85.03 337 ⇑P P 08 13 53.5 -1.7
baz=85,SNR=138
I27A Quinn 85.08 341 ⇓P P 08 13 53.8 -1.5
baz=85,SNR=101
J24A Dixon Ranch, L 85.10 339 ⇓P P 08 13 54.0 -1.5
baz=85,SNR=68
XMAS Kiritimati 85.11 276 eP P 08 13 56.2 0.0
comp=Z,7µm,2.7s
H29A Onida 85.14 342 ⇑P P 08 13 55.3 -0.3
baz=86,SNR=113
MLAC Mammoth Lakes 85.20 327 ⇓P P 08 13 55.5 -0.8
baz=86,SNR=58
K21A Alcova 85.24 337 ⇑P P 08 13 55.1 -1.3
baz=86,SNR=122
I26A New Underwood 85.25 340 ⇓P P 08 13 55.2 -1.0
baz=86,SNR=72

TCUT	Toone Canyon	85.27	333	eP	P	08 13 55.5	-1.1
	comp=Z,4μm,1.7s						
G30A	Faulkton	85.37	343	⇓P	P	08 13 55.5	-1.2
	baz=86,SNR=119						
H28A	Mission Ridge	85.39	342	⇓P	P	08 13 55.6	-1.2
	baz=86,SNR=93						
J23A	Dilts Ranch, B	85.43	338	⇑P	P	08 13 55.5	-1.7
	baz=86,SNR=27						
I25A	Rochford	85.48	340	⇑P	P	08 13 55.9	-1.6
	baz=86,SNR=88						
I24A	Kuemmerle Ranc	85.58	339	⇑P	P	08 13 56.8	-1.1
	baz=86,SNR=40						
NV11	Mina Array Sit	85.58	328	eP	P	08 13 58.2	+0.1
G29A	Hoven	85.61	343	⇑P	P	08 13 57.1	-0.8
	baz=86,SNR=125						
H27A	Howes	85.61	341	⇑P	P	08 13 56.6	-1.4
	baz=86,SNR=88						
NVAR	Mina Array Bea	85.64	327	P	P	08 13 58.0	-0.5
	comp=Z,127nm,1.2s,baz=150,slow=4.6,SNR=60						
RSSD	Black Hills	85.66	340	eP	P	08 13 57.0	-1.4
RSSD				pmax	pmax		
	comp=Z,438nm,0.9s						
RSSD	Black Hills	85.66	340	eP	P	08 13 57.0	-1.4
	comp=Z,438nm,0.9s						
SAO	San Andreas Ge	85.66	324	eP	P	08 13 59.6	+1.3
SAO				pmax	pmax		
	comp=Z,967nm,1.8s						
SAO	San Andreas Ge	85.66	324	eP	P	08 13 59.6	+1.3
	comp=Z,967nm,1.8s						
BGU	Big Grassy Mou	85.68	332	eP	P	08 13 57.6	-0.9
	comp=Z,2μm,2.1s						
J22A	Midwest	85.71	338	⇓P	P	08 13 57.0	-1.6
	baz=86,SNR=53						
G28A	Parade	85.73	342	⇓P	P	08 13 57.4	-1.1
	baz=86,SNR=109						
H26A	Fairpoint	85.78	341	⇓P	P	08 13 57.3	-1.5
	baz=86,SNR=38						
SPUT	South Promonto	85.81	333	eP	P	08 13 58.2	-0.9
	comp=Z,1μm,1.2s						
I23A	Meade Ranch, G	85.91	339	⇓P	P	08 13 58.5	-1.0
	baz=86						
J21A	Lysite	85.94	337	⇓P	P	08 13 58.2	-1.6
	baz=86,SNR=113						
H25A	Fruitdale	86.00	340	⇑P	P	08 13 58.6	-1.3
	baz=86,SNR=122						
F30A	Leola	86.01	344	⇓P	P	08 13 58.4	-1.4
	baz=86,SNR=99						
BW06	Boulder Array	86.10	335	eP	P	08 13 59.0	-1.6
	comp=Z,1μm,1.4s						
PDAR	Pinedale Array	86.10	335	P	P	08 13 59.1	-1.5
	comp=Z,673nm,1.1s,baz=134,slow=4.3,SNR=99						
I22A	9 Mile Ranch,	86.15	338	⇑P	P	08 13 58.6	-2.2
	baz=86,SNR=57						
J20A	Shoshoni	86.15	337	⇑P	P	08 13 59.2	-1.6
	baz=86,SNR=176						
F29A	Eureka	86.19	343	⇓P	P	08 13 59.1	-1.7
	baz=86,SNR=145						
CMB	Columbia Colle	86.22	326	eP	P	08 14 00.7	-0.4
CMB				pmax	pmax		
	comp=Z,348nm,1.1s						
CMB	Columbia Colle	86.22	326	eP	P	08 14 00.7	-0.4
	comp=Z,348nm,1.1s						
G27A	Dupree	86.27	341	⇑P	P	08 13 59.7	-1.5
	baz=87,SNR=110						
I21A	Big Trails, Te	86.32	337	⇓P	P	08 14 00.2	-1.5
	baz=87,SNR=171						
HVU	Hansel Valley	86.34	333	eP	P	08 14 00.7	-1.0
HVU				pmax	pmax		
	comp=Z,3μm,1.7s						
HVU	Hansel Valley	86.34	333	eP	P	08 14 00.7	-1.0
	comp=Z,3μm,1.7s						
G26A	Maurine	86.36	341	⇓P	P	08 14 00.0	-1.6
	baz=87,SNR=129						
ELK	Elko	86.36	331	eP	P	08 14 01.3	-0.7
ELK				pmax	pmax		
	comp=Z,1μm,1.6s						
ELK	Elko	86.36	331	eP	P	08 14 01.3	-0.7
	comp=Z,1μm,1.6s						
H24A	Dirks Ranch, A	86.38	340	⇓P	P	08 14 00.1	-1.7
	baz=87,SNR=78						
J19A	Crowheart	86.38	336	⇑P	P	08 14 00.4	-1.5
	baz=87,SNR=127						
F28A	McLaughlin	86.43	342	⇓P	P	08 14 00.7	-1.2
	baz=87,SNR=144						
H23A	Clabaugh Cattl	86.44	339	⇓P	P	08 13 59.7	-2.5
	baz=87,SNR=12						
G25A	Newell	86.48	340	⇑P	P	08 14 01.0	-1.3
	baz=87,SNR=114						
AHID	Auburn Hatcher	86.61	334	eP	P	08 14 02.1	-1.0
	comp=Z,3μm,1.8s						
E30A	Jud	86.61	344	⇑P	P	08 14 01.5	-1.3
	baz=87,SNR=231						
EYMN	Ely	86.64	349	eP	P	08 14 00.9	-1.9
	comp=Z,2μm,1.8s						
AFI	Afiamalu	86.67	255	eP	P	08 14 04.5	+0.5
AFI	Afiamalu	86.67	255	eP	P	08 14 04.5	+0.5
	comp=Z,14μm,2.7s						
I20A	Worland	86.70	337	⇑P	P	08 14 02.3	-1.2
	baz=87,SNR=111						
H22A	Clearmont	86.75	338	⇑P	P	08 14 02.4	-1.3
	baz=87,SNR=17						
F27A	Lemmon	86.75	342	⇑P	P	08 14 02.2	-1.4
	baz=87,SNR=94						
H07S1	FLORES T-PHASE	86.83	33	eP	P	08 14 08.4	+4.4
H07S1	FLORES T-PHASE	86.83	33	P	P	08 14 05.0	+1.0
E29A	Napoleon	86.84	343	⇑P	P	08 14 02.5	-1.4
	baz=87,SNR=140						
G24A	Alzada	86.88	340	⇑P	P	08 14 02.6	-1.6
	baz=87,SNR=53						
BMN	Battle Mountai	86.88	329	eP	P	08 14 04.3	-0.1
BMN				pmax	pmax		
	comp=Z,3μm,3.0s						
BMN	Battle Mountai	86.88	329	eP	P	08 14 04.3	-0.1
	comp=Z,3μm,3.0s						
F26A	Lodgepole	86.90	341	⇓P	P	08 14 02.4	-1.9
	baz=87						
H21A	Big Horn, Sher	86.98	338	⇑P	P	08 14 02.8	-2.0
	baz=87,SNR=22						
G23A	Biddle	87.03	339	⇓P	P	08 14 03.1	-1.8
	baz=87,SNR=40						
I19A	Meeteetse	87.05	336	⇑P	P	08 14 04.1	-1.2
	baz=87,SNR=97						
REDW	Red Top Meadow	87.06	335	eP	P	08 14 04.3	-1.1
	comp=Z,1μm,1.4s						
E28A	Huff	87.09	343	⇓P	P	08 14 03.9	-1.2
	baz=87						
H20A	Greybull	87.15	337	⇑P	P	08 14 03.9	-1.7
	baz=88,SNR=86						
D30A	Buchanan	87.16	344	⇑P	P	08 14 03.8	-1.6
	baz=88,SNR=172						
E27A	Carson	87.16	342	⇑P	P	08 14 03.9	-1.6
	baz=88,SNR=59						
F25A	Bowman	87.17	341	⇓P	P	08 14 04.1	-1.5
	baz=88,SNR=48						
LOHW	Long Hollow	87.20	335	eP	P	08 14 04.8	-1.1
	comp=Z,557nm,1.1s						
TPAW	Teton Pass	87.21	335	eP	P	08 14 05.1	-1.0
	comp=Z,747nm,1.0s						
PCAN	Candelaria	87.27	35	eP	P	08 14 07.6	+1.4
	comp=Z,944nm,1.7s						
D29A	Pettibone, Tap	87.30	344	⇑P	P	08 14 04.8	-1.3
	baz=88,SNR=169						
G22A	Birney	87.30	339	⇓P	P	08 14 04.5	-1.7
	baz=88,SNR=33						
PCED	Cedros	87.31	35	eP	P	08 14 09.9	+3.6
	comp=Z,1μm,1.8s						
PICO	Pico	87.33	35	eP	P	08 14 10.6	+4.1
F24A	Ekalaka	87.36	340	⇑P	P	08 14 05.1	-1.5
	baz=88,SNR=22						
FXWY	Fox Creek	87.36	335	eP	P	08 14 05.7	-1.1
	comp=Z,1μm,1.5s						
E26A	Carlson Angus	87.42	342	⇓P	P	08 14 05.6	-1.1
	baz=88						
I17A	Pilgrim Ck.	87.46	335	⇓P	P	08 14 06.1	-1.1
	baz=88,SNR=97						
F23A	Volborg	87.51	339	⇓P	P	08 14 05.9	-1.3
	baz=88,SNR=54						
IMW	Indian Meadow	87.56	335	eP	P	08 14 06.9	-0.9
	comp=Z,788nm,1.1s						
G21A	Lodge Grass	87.58	338	⇓P	P	08 14 05.8	-1.8
	baz=88,SNR=34						
PMAN	Manadas	87.59	35	eP	P	08 14 11.3	+3.6
	comp=Z,1μm,1.6s						
ROSA	Rosais	87.59	35	eP	P	08 14 12.8	+5.1
	comp=Z,865nm,1.4s						
ROSA	Rosais	87.59	35	eP	P	08 14 11.5	+3.8
	comp=Z,937nm,2.1s						
ROSA	Rosais	87.59	35	eLQ	LQ	08 37 47.8	

H19A	Powell	87.62	337	⇓P	P	08 14 06.0	-1.8
	baz=88,SNR=74						
TOPO	Topo	87.63	35	eP	P	08 14 11.3	+3.3
D28A	Regan	87.64	343	⇑P	P	08 14 06.4	-1.3
	baz=88,SNR=238						
FLWY	Flagg Ranch	87.65	335	eP	P	08 14 07.1	-1.0
	comp=Z,906nm,0.9s						
C30A	Mose, Pekin	87.66	345	⇑P	P	08 14 06.5	-1.3
	baz=88,SNR=184						
PSMA	Santa Maria	87.67	38	eP	P	08 14 09.8	+1.7
	comp=Z,962nm,1.4s						
E25A	Miller Ranch,	87.69	341	⇑P	P	08 14 06.3	-1.8
	baz=88,SNR=34						
PSMN	Pico do Norte,	87.70	38	eP	P	08 14 12.1	+3.8
	comp=Z,979nm,1.2s						
PSMN	Pico do Norte,	87.70	38	eP	P	08 14 11.5	+3.2
	comp=Z,1μm,3.7s						
AGMN	Agassiz Nation	87.71	346	eP	P	08 14 06.3	-1.7
	comp=Z,1μm,1.0s						
AGMN	Agassiz Nation	87.71	346	⇑P	P	08 14 06.9	-1.1
	baz=88,SNR=150						
D27A	Center	87.79	342	⇓P	P	08 14 07.1	-1.4
	baz=88,SNR=69						
F22A	Rosebud	87.80	339	⇑P	P	08 14 06.9	-1.7
	baz=88,SNR=26						
MSNA	Messina	87.80	117	eP	P	08 14 09.2	-0.2
MSNA				AMB	AMB	08 14 14.6	
	comp=Z,2μm,10.1s						
MSNA	Messina	87.80	117	P	P	08 14 09.2	-0.2
H18A	Shoshone NF, C	87.84	336	⇓P	P	08 14 07.3	-1.7
	baz=88,SNR=65						
G20A	Bridger	87.87	337	⇑P	P	08 14 07.4	-1.7
	baz=88,SNR=59						
H17A	Grant Village	87.88	335	eP	P	08 14 08.8	-0.5
	comp=Z,317nm,1.0s						
H17A	Grant Village	87.88	335	⇑P	P	08 14 07.4	-1.9
	baz=88,SNR=40						
TOA0	Torodi Ar. Sit	87.90	72	eP	P	08 14 07.8	-2.0
TORD	Torodi Ar. Bea	87.90	72	P	P	08 14 07.8	-1.9
	comp=Z,160nm,1.0s,baz=235,slow=4.1,SNR=38						
TORD				PP	PP	08 17 36.9	+0.5
	comp=Z,40nm,1.0s,baz=232,slow=6.0,SNR=4.1						
TORD				LR	LR	08 52 55.4	
	comp=Z,145μm,18.1s,baz=220,slow=35						
D26A	Manning	87.94	342	⇓P	P	08 14 07.8	-1.4
	baz=88,SNR=81						
PAF	Port-aux-Franc	87.94	158	eP	P	08 14 11.0	+1.5
PAF	Port-aux-Franc	87.94	158	eP	P	08 14 11.0	+1.5
	comp=Z,9μm,2.6s						
PGRA	Graciosa	87.96	35	eP	P	08 14 11.9	+2.5
	comp=Z,275nm,1.5s						
PGRA	Graciosa	87.96	35	eP	P	08 14 10.8	+1.4
	comp=Z,456nm,1.6s						
PGRA	Graciosa	87.96	35	eLQ	LQ	08 37 52.3	
E24A	Baker	87.98	340	⇓P	P	08 14 08.3	-1.2
	baz=88,SNR=37						
ADH	Angra Heroismo	88.00	36	eP	P	08 14 13.2	+3.6
	comp=Z,291nm,1.3s						
PDA	Ponta Delgada	88.00	37	eP	P	08 14 11.9	+2.2
	comp=Z,682nm,2.1s						
MOPA	Mopani	88.01	118	eP	P	08 14 09.3	-1.0
MOPA				AMB	AMB	08 14 15.7	
	comp=Z,2μm,10.1s						
MOPA	Mopani	88.01	118	P	P	08 14 09.3	-1.0
YFT	Old Faithful	88.02	335	eP	P	08 14 10.5	+0.6
	comp=Z,1μm,1.4s						
PSET	Sete Cidades	88.04	37	eP	P	08 14 11.0	+1.1
	comp=Z,243nm,1.5s						
PSET	Sete Cidades	88.04	37	eP	P	08 14 11.5	+1.6
	comp=Z,657nm,1.8s						
PSET	Sete Cidades	88.04	37	eLQ	LQ	08 37 45.6	
C28A	Hausauer Farms	88.09	343	⇓P	P	08 14 08.7	-1.2
	baz=88,SNR=71						
F21A	Absaloka Mine,	88.09	338	⇓P	P	08 14 08.9	-1.1
	baz=88,SNR=29						
RLMT	Red Lodge	88.11	337	eP	P	08 14 09.1	-1.3
	comp=Z,678nm,1.1s						
DRLN	Deer Lake	88.13	12	eP	P	08 14 11.3	+1.3
E23A	Ismay	88.19	340	⇑P	P	08 14 09.2	-1.3
	baz=88,SNR=12						
YNR	Norris Junctio	88.20	336	eP	P	08 14 11.1	+0.3
	comp=Z,2μm,2.1s						
YMR	Madison River	88.25	335	eP	P	08 14 10.8	-0.3
	comp=Z,2μm,1.3s						
D25A	Fairfield	88.27	341	⇓P	P	08 14 09.0	-1.8
	baz=89,SNR=20						
E22A	Miles City	88.32	339	⇓P	P	08 14 09.0	-2.1
	baz=89,SNR=27						
B30A	Myrvik Farm, E	88.34	345	⇓P	P	08 14 09.4	-1.7
	baz=89,SNR=195						
C27A	Sayler Ranch,	88.35	343	⇑P	P	08 14 09.9	-1.2
	baz=89,SNR=103						
F20A	Billings	88.38	338	⇑P	P	08 14 09.8	-1.7
	baz=89,SNR=20						
HLID	Hailey	88.48	333	eP	P	08 14 11.8	-0.3
	comp=Z,2μm,1.8s						
HLID	Hailey	88.48	333	⇑P	P	08 14 10.7	-1.4
	baz=89,SNR=130						
D24A	Glendive	88.50	341	⇓P	P	08 14 10.6	-1.3
	baz=89,SNR=26						
QLMT	Earthquake Lak	88.55	335	eP	P	08 14 12.2	-0.2
B29A	Wagenman Farm,	88.57	344	⇓P	P	08 14 10.6	-1.5
	baz=89,SNR=155						
C26A	Wahner Farm, P	88.60	342	⇓P	P	08 14 11.1	-1.2
	baz=89,SNR=56						
LAO	LASA Array	88.62	339	eP	P	08 14 10.8	-1.7
	comp=Z,906nm,1.6s						
F19A	Roth Farm, Mol	88.67	337	⇓P	P	08 14 11.1	-1.7
	baz=89,SNR=69						
E21A	Keefer Ranch,	88.73	339	⇑P	P	08 14 11.4	-1.6
	baz=89,SNR=28						
C25A	Freed Ranch, W	88.78	341	⇑P	P	08 14 11.5	-1.6
	baz=89,SNR=26						
B28A	Dugan Ranch, T	88.78	344	⇑P	P	08 14 11.8	-1.3
	baz=89,SNR=142						
D23A	Lindsay	88.79	340	⇓P	P	08 14 11.7	-1.6
	baz=89,SNR=18						
A30A	Hoffart Farm,	88.80	345	⇓P	P	08 14 11.5	-1.7
	baz=89,SNR=107						
MFID	Camas Ranch	88.88	332	eP	P	08 14 13.0	-0.9
	comp=Z,863nm,1.3s						
C24A	Savage	88.91	341	⇑P	P	08 14 11.9	-1.9
	baz=89,SNR=22						
B27A	Peters Farms,	88.94	343	⇑P	P	08 14 12.7	-1.2
	baz=89,SNR=37						
A29A	Manning Farm,	88.98	344	⇓P	P	08 14 12.5	-1.5
	baz=89,SNR=131						
E20A	Meyer Farm, Mu	89.01	338	⇑P	P	08 14 12.7	-1.6
	baz=89,SNR=36						
KCPM	Cahto Peak	89.01	325	eP	P	08 14 15.5	+0.9
	comp=Z,1μm,1.4s						
MCMT	McKenzie Canyo	89.03	334	eP	P	08 14 14.4	-0.3
	comp=Z,559nm,1.4s						
D22A	Cohagen	89.03	339	⇓P	P	08 14 12.8	-1.6
	baz=89,SNR=21						
WVOR	Wild Horse Val	89.14	329	eP	P	08 14 14.7	-0.4
WVOR				pmax	pmax		
	comp=Z,2μm,1.9s						
WVOR	Wild Horse Val	89.14	329	eP	P	08 14 14.7	-0.4
	comp=Z,2μm,1.9s						
B26A	Jensen Ranch,	89.14	342	⇑P	P	08 14 13.4	-1.5
	baz=90,SNR=31						
E19A	Rath Farm, Rou	89.17	338	⇑P	P	08 14 13.6	-1.5
	baz=90,SNR=57						
D21A	La Casta Ranch	89.19	339	⇑P	P	08 14 13.4	-1.7
	baz=90,SNR=25						
A28A	Rude Farm, Bot	89.19	344	⇓P	P	08 14 14.0	-1.1
	baz=90,SNR=70						
WDC	Whiskeytown Da	89.26	326	eP	P	08 14 14.4	-1.2
WDC				pmax	pmax		
	comp=Z,2μm,1.7s						
WDC	Whiskeytown Da	89.26	326	eP	P	08 14 14.4	-1.2
	comp=Z,2μm,1.7s						
B25A	Knox Farm, Ray	89.27	342	⇓P	P	08 14 14.3	-1.1
	baz=90,SNR=14						
BOZ	Bozeman (W)	89.34	335	eP	P	08 14 14.8	-1.2
BOZ				pmax	pmax		
	comp=Z,353nm,1.2s						
BOZ	Bozeman (W)	89.34	335	eP	P	08 14 14.8	-1.2
	comp=Z,353nm,1.2s						
C23A	Lambert	89.36	340	⇑P	P	08 14 14.6	-1.3
	baz=90,SNR=23						
MOD	Modoc	89.38	328	eP	P	08 14 15.9	-0.4
	comp=Z,485nm,1.1s						
DLMT	Dillon	89.41	335	eP	P	08 14 15.9	-0.4
	comp=Z,5μm,2.5s						
A27A	Ledoux Ranch,	89.45	343	⇑P	P	08 14 14.9	-1.3
	baz=90						

C22A	Vida	89.50	340	⇓P	P	08 14 15.0	-1.5
	baz=90,SNR=24						
KMRM	Mail Ridge	89.50	325	eP	P	08 14 18.1	+1.3
	comp=Z,2μm,1.1s						
D20A	Manuel Ranch,	89.54	338	⇓P	P	08 14 15.1	-1.7
	baz=90,SNR=54						
A26A	Wade Farm, Ken	89.58	343	⇓P	P	08 14 15.4	-1.5
	baz=90,SNR=32						
ULM	Lac du Bonnet	89.59	347	P	P	08 14 14.9	-1.9
ULM				pmax	pmax		
	comp=Z,364nm,1.1s						
ULM	Lac du Bonnet	89.59	347	P	P	08 14 14.9	-1.9
	comp=Z,364nm,1.1s,baz=172,slow=3.8,SNR=64						
ULM				PKKPbc	PKKPbc	08 31 51.4	-1.0
	comp=Z,6.6nm,1.0s,baz=269,slow=2.4,SNR=2.5						
N02D	Trinity Center	89.66	326	⇑P	P	08 14 15.5	-2.0
	baz=90						
DGMT	Dagmar	89.72	341	eP	P	08 14 16.1	-1.4
	comp=Z,685nm,1.0s						
DGMT	Dagmar	89.72	341	⇑P	P	08 14 16.3	-1.2
	baz=90,SNR=24						
LRM	Limekiln Ridge	89.77	335	eP	P	08 14 17.1	-1.0
D19A	Cripps Ranch,	89.83	338	⇑P	P	08 14 17.0	-1.1
	baz=90,SNR=40						
A25A	Svangstu Ranch	89.88	342	⇑P	P	08 14 16.9	-1.3
	baz=90,SNR=38						
C21A	Desert Coulee	89.91	339	⇑P	P	08 14 17.0	-1.4
	baz=90,SNR=27						
B23A	Brockton	89.92	341	⇑P	P	08 14 16.6	-1.9
	baz=90,SNR=24						
M04C	Macdoel	89.94	327	⇑P	P	08 14 17.1	-1.8
	baz=90						
KHMM	Horse Mountain	90.03	325	eP	P	08 14 20.1	+0.7
	comp=Z,1μm,1.3s						
B22A	Reddig Ranch S	90.03	340	⇑P	P	08 14 17.1	-1.9
	baz=90,SNR=30						
M02C	Callahan	90.06	326	⇓P	P	08 14 17.5	-1.9
	baz=90						
C20A	Veseth Ranch,	90.06	339	⇑P	P	08 14 17.5	-1.7
	baz=90,SNR=36						
A24A	Westby	90.09	341	⇑P	P	08 14 17.8	-1.5
	baz=90,SNR=29						
HOG	Hogback Mounta	90.25	327	P	P	08 14 23.1	+2.7
YBH	Yreka Blue Hor	90.27	327	eP	P	08 14 20.0	-0.4
YBH				pmax	pmax		
	comp=Z,229nm,1.1s						
YBH	Yreka Blue Hor	90.27	327	eP	P	08 14 20.0	-0.4
	comp=Z,229nm,1.1s						
K05A	Summer Lake	90.31	328	eP	P	08 14 20.7	0.0
	comp=Z,2μm,1.8s						
A23A	Redstone	90.34	341	⇑P	P	08 14 18.7	-1.8
	baz=91,SNR=25						
HRY	Holter Researc	90.34	336	eP	P	08 14 19.9	-0.7
C19A	Slack Wire Ran	90.39	338	⇓P	P	08 14 19.1	-1.6
	baz=91,SNR=46						
B21A	Ellsworth Farm	90.43	339	⇓P	P	08 14 19.3	-1.5
	baz=91,SNR=28						
K04D	Chiloquin, OR	90.59	328	⇑P	P	08 14 20.6	-1.3
	baz=91						
A22A	Carney Farms,	90.65	340	⇓P	P	08 14 20.2	-1.7
	baz=91,SNR=39						
BMO	Blue Mountains	90.66	332	eP	P	08 14 21.1	-1.0
	comp=Z,1μm,2.0s						
KTRM	Thompson Ridge	90.71	326	P	P	08 14 22.6	+0.1
B20A	Solberg Farm,	90.72	339	⇓P	P	08 14 20.7	-1.6
	baz=91,SNR=48						
TAU	Tasmania Unive	90.81	210	P	P	08 14 23.5	+0.4
	comp=Z,2μm,1.3s,SNR=10						
TAU	Tasmania Unive	90.81	210	eP	P	08 14 23.9	+0.8
	comp=Z,998nm,1.4s						
EGMT	Eagleton	90.86	338	eP	P	08 14 21.3	-1.6
	comp=Z,403nm,1.3s						
EGMT	Eagleton	90.86	338	⇑P	P	08 14 21.2	-1.8
	baz=91,SNR=44						
I07A	Izee	90.87	330	eP	P	08 14 22.8	-0.4
	comp=Z,1μm,1.9s						
J05D	Fort Rock, OR	90.91	328	⇑P	P	08 14 21.1	-2.3
	baz=91						
A21A	Bergtoll Ranch	90.92	340	⇑P	P	08 14 21.0	-2.2
	baz=91,SNR=46						
LSZ	Lusaka	90.98	110	eP	P	08 14 24.1	-0.4
LSZ	Lusaka	90.98	110	eP	P	08 14 24.1	-0.4
	comp=Z,50μm,4.0s						
CHMT	Chamberlain Mo	90.99	335	eP	P	08 14 22.9	-0.8
B19A	Brinkman Farms	91.01	338	⇓P	P	08 14 22.2	-1.3
	baz=91,SNR=50						
L02D	Cave Junction,	91.01	326	⇓P	P	08 14 22.2	-1.6
	baz=91						
HUMO	Hull Mountain	91.09	327	eP	P	08 14 25.4	+1.4
	comp=Z,2μm,2.5s						
A20A	Cobblestone Ra	91.10	339	⇓P	P	08 14 22.5	-1.4
	baz=91,SNR=60						
MSO	Missoula	91.15	335	eP	P	08 14 23.8	-0.6
	comp=Z,5μm,3.0s						
MSO	Missoula	91.15	335	⇑P	P	08 14 22.1	-2.2
	baz=92,SNR=91						
PINOR	Pine Mountain	91.19	329	eP	P	08 14 24.8	+0.3
	comp=Z,1μm,2.0s						
J04D	Umpqua Nationa	91.24	328	⇓P	P	08 14 24.1	-0.9
	baz=92						
KBO	Bosley Butte	91.33	326	eP	P	08 14 24.3	-0.9
	comp=Z,2μm,1.8s						
SLMT	Seeley Lake	91.36	335	eP	P	08 14 24.0	-1.4
A19A	Klindworth Far	91.37	339	⇑P	P	08 14 24.1	-1.2
	baz=92,SNR=41						
F10A	Beach Ranch, E	91.58	332	eP	P	08 14 25.2	-1.2
	comp=Z,2μm,1.7s						
G08A	Pilot Rock	91.66	331	eP	P	08 14 26.2	-0.6
	comp=Z,1μm,1.9s						
SWMT	Swartz Lake	91.76	335	eP	P	08 14 26.2	-0.9
I04A	Tendick Farm,	91.82	328	⇑P	P	08 14 25.0	-2.4
	baz=92						
I05D	Terrebonne, OR	91.82	329	⇑P	P	08 14 27.3	-0.2
	baz=92						
MSVF	Nonsavu	91.86	246	P	P	08 14 29.4	+1.0
	comp=Z,752nm,1.8s,SNR=7.9						
MSVF	Nonsavu	91.86	246	eP	P	08 14 28.9	+0.5
MSVF				pmax	pmax		
	comp=Z,726nm,1.8s						
MSVF	Nonsavu	91.86	246	eP	P	08 14 28.9	+0.5
	comp=Z,726nm,1.8s						
KEBM	Edson Butte	91.90	326	eP	P	08 14 28.4	+0.5
	comp=Z,573nm,1.1s						
JTMT	Jette	92.06	335	eP	P	08 14 27.8	-0.8
YBMT	Yellow Bay	92.07	335	eP	P	08 14 27.8	-0.9
I03D	Drain, OR	92.14	327	⇑P	P	08 14 28.5	-0.4
	baz=92						
G06A	Carlson Farm,	92.27	330	eP	P	08 14 30.1	+0.6
	comp=Z,1μm,2.0s						
BLMT	Blacktail Moun	92.32	335	eP	P	08 14 29.1	-0.8
BSMT	Bassoo Peak	92.32	335	eP	P	08 14 28.9	-1.0
E09A	Wood Farm, Sta	92.38	332	eP	P	08 14 28.2	-1.7
	comp=Z,177nm,1.1s						
H04A	Detroit Lake	92.45	329	eP	P	08 14 30.2	-0.1
	comp=Z,172nm,1.1s						
G05D	Wamic, OR	92.55	329	⇓P	P	08 14 30.0	-0.7
	baz=93						
SCHQ	Schefferville	92.58	5	P	P	08 14 31.5	+0.9
	comp=Z,62nm,0.9s,baz=170,slow=3.4,SNR=16						
SCHQ				PKKP	PKKPdf	08 31 43.2	-0.5
	comp=Z,9.9nm,1.0s,baz=352,slow=2.6,SNR=4.1						
SCHQ	Schefferville	92.58	5	eP	P	08 14 28.5	-2.2
SCHQ				PKKP	PKKPdf	08 31 43.2	-0.5
WIW	Wooded Island	92.74	331	P	P	08 14 34.6	+3.0
HAWA	Hanford	92.80	331	eP	P	08 14 31.3	-0.6
	comp=Z,2μm,1.9s						
COR	Corvallis	92.84	328	eP	P	08 14 31.9	-0.1
COR				pmax	pmax		
	comp=Z,2μm,1.9s						
COR	Corvallis	92.84	328	eP	P	08 14 31.9	-0.1
	comp=Z,2μm,1.9s						
E07A	Sunnyside	93.06	331	eP	P	08 14 32.6	-0.5
	comp=Z,213nm,1.2s						
WALA	Waterton Lakes	93.08	336	eP	P	08 14 32.0	-1.3
TRW	Toppenish Ridg	93.10	330	P	P	08 14 35.8	+2.4
D08A	Wollman Farm,	93.12	332	eP	P	08 14 32.4	-1.0
	comp=Z,380nm,1.3s						
G03D	McMinnville, O	93.33	328	⇑P	P	08 14 34.6	+0.3
	baz=94						
NEW	Newport	93.49	333	eP	P	08 14 33.3	-1.8
NEW				pmax	pmax		
	comp=Z,261nm,1.0s						
NEW	Newport	93.49	333	eP	P	08 14 33.3	-1.8
	comp=Z,260nm,1.0s						
NEW	Newport	93.49	333	⇓P	P	08 14 33.1	-1.9
	baz=94,SNR=110						
F04A	Amboy	93.56	329	eP	P	08 14 37.3	+1.9

comp=Z,299nm,1.0s
F04D Rainier, OR 93.93 329 ⇓P P 08 14 35.0 -2.1
baz=94
LTY Liberty 93.96 331 eP P 08 14 38.1 +0.8
comp=Z,614nm,1.9s
LON Longmire 93.98 330 eP P 08 14 36.1 -1.3
LON pmax pmax
comp=Z,159nm,0.9s
LON Longmire 93.98 330 eP P 08 14 36.0 -1.3
comp=Z,159nm,0.9s
WTV Waterville 94.05 332 P P 08 14 39.4 +1.7
B08A Colville Reser 94.36 332 eP P 08 14 37.4 -1.7
comp=Z,1µm,2.3s
D05A Enumclaw 94.41 330 eP P 08 14 38.6 -0.7
comp=Z,405nm,1.0s
E03A Lebam 94.53 329 eP P 08 14 41.9 +2.1
comp=Z,325nm,1.0s
POHA Pohakuloa 94.58 291 eP P 08 14 43.5 +2.5
comp=Z,724nm,1.7s
FFC Flin Flon 95.02 345 P P 08 14 41.0 -0.9
comp=Z,894nm,1.0s,SNR=17
FFC Flin Flon 95.02 345 eP P 08 14 42.2 +0.3
FFC pmax pmax
comp=Z,152nm,1.0s
FFC Flin Flon 95.02 345 eP P 08 14 42.1 +0.3
comp=Z,152nm,1.0s
B06A Marblemount 95.31 331 eP P 08 14 43.1 -0.2
comp=Z,130nm,0.9s
NLWA Neilton Lookou 95.33 329 eP P 08 14 43.0 -0.5
comp=Z,212nm,1.3s
CMW Cultus Mountai 95.47 331 P P 08 14 45.9 +1.7
A05A Maple Falls 95.93 331 eP P 08 14 45.3 -0.8
comp=Z,3µm,2.9s
PGC Sidney 96.17 330 eP P 08 14 47.7 +0.5
MDT Midelt 96.20 53 P P 08 14 47.4 -0.5
comp=Z,44nm,1.1s,baz=254,slow=5.2,SNR=19
CAN Canberra 96.46 215 eP P 08 14 52.0 +2.7
CAN Canberra 96.46 215 eP P 08 14 52.0 +2.7
EDM Edmonton 96.53 338 eP P 08 14 45.7 -3.1
EDM Edmonton 96.53 338 eP P 08 14 45.7 -3.1
TAM Tamanrasset 96.76 67 eP P 08 14 49.7 -1.1
TAM pmax pmax
comp=Z,130nm,1.3s
TAM Tamanrasset 96.76 67 eP P 08 14 49.7 -1.1
comp=Z,130nm,1.3s
DZM Mont Dzumac 96.92 235 P P 08 14 52.5 +0.9
comp=Z,31nm,1.2s,baz=123,slow=10,SNR=5.7
DZM Mont Dzumac 96.92 235 eP P 08 14 51.5 -0.1
comp=Z,5µm,3.5s
PBDV Barranco-do-Ve 97.13 48 eP Pdif 08 14 54.1 +2.1
comp=Z,192nm,1.4s
PCVE Castro Verde 97.33 48 eP Pdif 08 14 55.0 +2.1
comp=Z,176nm,1.7s
PVAQ Vaqueiros 97.36 48 eP Pdif 08 14 54.9 +1.9
comp=Z,179nm,1.7s
MESJ Messejana 97.36 47 eP Pdif 08 14 54.9 +1.9
comp=Z,143nm,1.5s
PNCL Nicolau / Gran 97.37 47 eP Pdif 08 14 54.8 +1.8
comp=Z,145nm,2.0s
FCC Fort Churchill 97.53 350 eP P 08 14 51.9 -1.2
FCC Fort Churchill 97.53 350 eP P 08 14 51.9 -1.2
EVO Evora 97.95 47 eP Pdif 08 14 57.1 +1.5
comp=Z,77nm,1.9s
PBAR Barrancos 98.28 48 eP Pdif 08 14 58.8 +1.7
comp=Z,185nm,1.7s
PESTR Estremoz 98.42 47 eP Pdif 08 14 59.4 +1.7
comp=Z,133nm,1.5s
PMRV Marv??o 98.91 47 eP Pdif 08 15 01.2 +1.3
comp=Z,72nm,1.7s
ARMA Armidale 99.21 220 eP Pdif 08 15 02.2 +0.4
comp=Z,49nm,1.1s
MVO Moncorvo 100.28 45 eP Pdif 08 15 07.7 +1.7
comp=Z,136nm,2.4s
PBRG Braganca 100.86 45 eP Pdif 08 15 10.3 +1.7
ESDC Sonseca Array 101.07 48 P Pdif 08 15 11.2 +1.6
comp=Z,9.2nm,0.9s,baz=239,slow=4.4,SNR=16
ESDC PP PP 08 19 09.4 -10
comp=Z,6.7nm,0.9s,baz=232,slow=5.4,SNR=4.5
ESLA Sonseca Array 101.07 48 ePdif Pdif 08 15 11.0 +1.4
comp=Z,2µm,3.5s
ABPO Ambohimpanom 101.77 125 eP Pdif 08 15 15.0 +1.6
ABPO pmax pmax
comp=Z,53nm,1.5s
ABPO Ambohimpanom 101.77 125 ePdif Pdif 08 15 15.0 +1.6
comp=Z,53nm,1.5s
STKA Stephens Creek 102.61 211 P Pdif 08 15 16.5 -0.3
STKA 08 19 30.5
STKA pmax pmax
comp=Z,12nm,1.1s
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 102.61 211 P Pdif 08 15 16.4 -0.3
comp=Z,12nm,1.1s,baz=113,slow=6.6,SNR=6.4
STKA PP PP 08 19 30.4 +1.3
comp=Z,1.8nm,0.8s,baz=144,slow=8.7,SNR=4.7
STKA PKKP PKKPbc 08 31 17.2 +1.8
comp=Z,5.5nm,0.9s,baz=323,slow=5.1,SNR=3.7
STKA Stephens Creek 102.61 211 ePdif Pdif 08 15 16.9 +0.1
STKA PP PP 08 19 30.4 +1.3
STKA PKKP PKKPbc 08 31 17.2 +1.8
EIDS Eidsvold 103.57 222 ePdif Pdif 08 15 22.8 +1.7
comp=Z,82nm,1.5s
SJPF Ste Jean 104.84 47 eP Pdif 08 15 27.8 +1.6
comp=Z,115nm,1.4s
SJPF Ste Jean 104.84 47 eP Pdif 08 15 27.8 +1.6
SJPF pmax pmax
comp=Z,115nm,1.4s
SJPF Ste Jean 104.84 47 eP Pdif 08 15 27.8 +1.6
comp=Z,115nm,1.4s
YKA Yellowknife Ar 104.89 342 P Pdif 08 15 23.5 -2.4
YKA pmax pmax
comp=Z,11nm,0.9s
YKA Yellowknife Ar 104.89 342 Pdiff Pdif 08 15 23.5 -2.4
comp=Z,11nm,0.9s,baz=144,slow=4.2,SNR=42
YKA PKiKP PKiKP 08 19 40.2 -0.5
comp=Z,3.1nm,0.8s,baz=153,slow=1.6,SNR=6.4
YKA PKKPbc PKKPbc 08 30 59.9 -10
comp=Z,0.6nm,0.7s,baz=346,slow=4.6,SNR=4.0
ETSF Etsaut 105.09 47 eP Pdif 08 15 28.9 +1.5
comp=Z,236nm,1.8s
ETSF Etsaut 105.09 47 eP Pdif 08 15 28.9 +1.5
ETSF pmax pmax
comp=Z,236nm,1.8s
ETSF Etsaut 105.09 47 eP Pdif 08 15 28.9 +1.5
comp=Z,236nm,1.8s
DFRA Djebel Bou Aff 105.27 56 P PP 08 19 55.2 +4.7
CTEI Djebel Teioual 105.34 56 P PP 08 19 56.6 +5.6
CASM Ain Smara 105.51 56 P PP 08 19 55.8 +3.7
WRAK Wrangell Islan 105.61 331 ePdif Pdif 08 15 32.2 +3.0
EPF Esparros 105.69 48 eP Pdif 08 15 31.4 +1.4
comp=Z,246nm,1.9s
EPF Esparros 105.69 48 eP Pdif 08 15 31.4 +1.4
EPF pmax pmax
comp=Z,246nm,1.9s
EPF Esparros 105.69 48 eP Pdif 08 15 31.4 +1.4
comp=Z,246nm,1.9s
CKFL Kef-Lekhel 105.74 56 P PP 08 19 57.4 +3.5
CAEH 'Ain El Ouahch 106.05 56 P PP 08 19 58.0 +2.0
ABSA Djebel Ababsia 106.17 57 P PP 08 19 59.2 +2.2
DLBC Dease Lake 106.24 333 ePdif Pdif 08 15 34.1 +2.1
CMAH Djebel Manchou 106.33 56 P PP 08 20 00.1 +1.9
QUIF Quistinic 106.73 42 eP Pdif 08 15 33.5 -0.9
QUIF Quistinic 106.73 42 eP Pdif 08 15 33.5 -0.9
QUIF Quistinic 106.73 42 eP Pdif 08 15 33.5 -0.9
MTLF Montolieu 106.98 48 eP Pdif 08 15 36.6 +0.9
MTLF Montolieu 106.98 48 eP Pdif 08 15 36.6 +0.9
MTLF Montolieu 106.98 48 eP Pdif 08 15 36.6 +0.9
LFF La Frestale 107.07 46 eP Pdif 08 15 37.3 +1.3
comp=Z,366nm,1.9s
LFF La Frestale 107.07 46 eP Pdif 08 15 37.3 +1.3
LFF pmax pmax
comp=Z,366nm,1.9s
LFF La Frestale 107.07 46 eP Pdif 08 15 37.3 +1.3
comp=Z,366nm,1.9s
KEST Kesra 107.10 58 PP PP 08 20 04.0 0.0
comp=Z,12nm,1.1s,baz=48,slow=9.7,SNR=5.1
MFF Saint Martin d 107.56 44 eP Pdif 08 15 39.2 +1.0
comp=Z,296nm,1.7s
MFF Saint Martin d 107.56 44 eP Pdif 08 15 39.2 +1.0
MFF pmax pmax
comp=Z,296nm,1.7s
MFF Saint Martin d 107.56 44 eP Pdif 08 15 39.2 +1.0
comp=Z,296nm,1.7s
RJF Les Rejaudoux 107.73 46 eP Pdif 08 15 39.9 +0.9
comp=Z,182nm,1.7s
RJF Les Rejaudoux 107.73 46 eP Pdif 08 15 39.9 +0.9
RJF pmax pmax
comp=Z,182nm,1.7s
RJF Les Rejaudoux 107.73 46 eP Pdif 08 15 39.9 +0.9
comp=Z,182nm,1.7s
CAF Calviac 107.82 47 eP Pdif 08 15 40.7 +1.3
comp=Z,173nm,1.8s
CAF Calviac 107.82 47 eP Pdif 08 15 40.7 +1.3
CAF pmax pmax
comp=Z,173nm,1.8s
CAF Calviac 107.82 47 eP Pdif 08 15 40.7 +1.3
comp=Z,173nm,1.8s
LASF Ste Croix 108.38 48 eP Pdif 08 15 43.1 +1.2
LASF Ste Croix 108.38 48 eP Pdif 08 15 43.1 +1.2
TCF Toulx Ste Croi 108.70 46 eP Pdif 08 15 44.2 +0.9
comp=Z,69nm,1.5s
TCF Toulx Ste Croi 108.70 46 eP Pdif 08 15 44.2 +0.9
TCF pmax pmax
comp=Z,69nm,1.5s
TCF Toulx Ste Croi 108.70 46 eP Pdif 08 15 44.2 +0.9
comp=Z,69nm,1.5s
BGF Bois d'Agland 109.21 46 eP Pdif 08 15 46.7 +1.2
comp=Z,140nm,1.5s
BGF Bois d'Agland 109.21 46 eP Pdif 08 15 46.7 +1.2
BGF Bois d'Agland 109.21 46 eP Pdif 08 15 46.7 +1.2
VIVF Saint-Julien-l 109.30 48 eP Pdif 08 15 47.5 +1.5
comp=Z,51nm,1.4s
VIVF Saint-Julien-l 109.30 48 eP Pdif 08 15 47.5 +1.5
VIVF Saint-Julien-l 109.30 48 eP Pdif 08 15 47.5 +1.5
SMRF Simiane la Rot 109.34 49 eP Pdif 08 15 48.4 +2.2
comp=Z,107nm,1.6s
SMRF Simiane la Rot 109.34 49 eP Pdif 08 15 48.4 +2.2
HYF Humbligny 109.50 45 eP Pdif 08 15 47.8 +1.0
HYF Humbligny 109.50 45 eP Pdif 08 15 47.8 +1.0
LMR La Mourre 109.54 50 eP Pdif 08 15 48.7 +1.7
comp=Z,93nm,1.5s
LMR La Mourre 109.54 50 eP Pdif 08 15 48.7 +1.7
LMR La Mourre 109.54 50 eP Pdif 08 15 48.7 +1.7
AVF Avril sur Loir 109.63 46 eP Pdif 08 15 48.4 +1.1
comp=Z,204nm,1.8s
AVF Avril sur Loir 109.63 46 eP Pdif 08 15 48.4 +1.1
AVF Avril sur Loir 109.63 46 eP Pdif 08 15 48.4 +1.1
FRF La Foret Royal 109.75 50 eP Pdif 08 15 49.7 +1.7
comp=Z,133nm,1.8s
FRF La Foret Royal 109.75 50 eP Pdif 08 15 49.7 +1.7
FRF La Foret Royal 109.75 50 eP Pdif 08 15 49.7 +1.7
SMF Signal de Mont 109.83 46 eP Pdif 08 15 49.6 +1.3
comp=Z,356nm,1.9s
SMF Signal de Mont 109.83 46 eP Pdif 08 15 49.6 +1.3
SMF Signal de Mont 109.83 46 eP Pdif 08 15 49.6 +1.3
SSF Saint Saulge 109.87 45 eP Pdif 08 15 49.0 +0.6
SSF Saint Saulge 109.87 45 eP Pdif 08 15 49.0 +0.6
SSF Saint Saulge 109.87 45 eP Pdif 08 15 49.0 +0.6
ORIF Oris-en-Rattie 110.05 48 eP Pdif 08 15 51.4 +2.0
comp=Z,52nm,1.4s
ORIF Oris-en-Rattie 110.05 48 eP Pdif 08 15 51.4 +2.0
ORIF Oris-en-Rattie 110.05 48 eP Pdif 08 15 51.4 +2.0
LOR Lormes 110.19 45 eP Pdif 08 15 50.7 +0.8
comp=Z,200nm,1.9s
LOR Lormes 110.19 45 eP Pdif 08 15 50.7 +0.8
LOR Lormes 110.19 45 eP Pdif 08 15 50.7 +0.8
SBF Sospel 110.40 50 eP Pdif 08 15 52.5 +1.6
SBF Sospel 110.40 50 eP Pdif 08 15 52.5 +1.6
SBF Sospel 110.40 50 eP Pdif 08 15 52.5 +1.6
MBDF Montbardon 110.47 49 eP Pdif 08 15 53.3 +2.0
MBDF Montbardon 110.47 49 eP Pdif 08 15 53.3 +2.0
MBDF Montbardon 110.47 49 eP Pdif 08 15 53.3 +2.0
HYT Haines Junctio 110.62 332 ePdif Pdif 08 15 54.7 +3.1
LPL La Plagne 110.88 48 eP Pdif 08 15 55.1 +1.9
LPL La Plagne 110.88 48 eP Pdif 08 15 55.1 +1.9
LPL La Plagne 110.88 48 eP Pdif 08 15 55.1 +1.9
LPG La Plagne 110.88 48 eP Pdif 08 15 55.4 +2.1
comp=Z,81nm,1.7s
LPG La Plagne 110.88 48 eP Pdif 08 15 55.4 +2.1
LPG La Plagne 110.88 48 eP Pdif 08 15 55.4 +2.1
CABF La Chapelle 111.10 47 eP Pdif 08 15 55.4 +1.4
comp=Z,248nm,1.9s
CABF La Chapelle 111.10 47 eP Pdif 08 15 55.4 +1.4
CABF La Chapelle 111.10 47 eP Pdif 08 15 55.4 +1.4
MEZF Maizieres J'vi 111.54 45 eP Pdif 08 15 57.0 +1.2
MEZF Maizieres J'vi 111.54 45 eP Pdif 08 15 57.0 +1.2
SENIN Lac Senin/Sane 111.67 48 ePKiKP PKiKP 08 19 56.1 +1.9
HAU Haudompre 112.00 46 eP Pdif 08 15 59.0 +1.1
HAU Haudompre 112.00 46 eP Pdif 08 15 59.0 +1.1
HAU Haudompre 112.00 46 eP Pdif 08 15 59.0 +1.1
HINF Hinterfeld 112.19 46 eP Pdif 08 15 59.9 +1.1
HINF Hinterfeld 112.19 46 eP Pdif 08 15 59.9 +1.1
HINF Hinterfeld 112.19 46 eP Pdif 08 15 59.9 +1.1
CDF Champ du Feu 112.74 46 eP Pdif 08 16 02.4 +1.1
comp=Z,126nm,1.7s
CDF Champ du Feu 112.74 46 eP Pdif 08 16 02.4 +1.1
CDF Champ du Feu 112.74 46 eP Pdif 08 16 02.4 +1.1
KULLO Kullorsuaq 112.78 5 i PKiKP PKiKP 08 19 55.7 +0.6
KULLO Kullorsuaq 112.78 5 i P PKiKP 08 19 55.7 +0.6
RES Resolute Bay 113.01 354 ePKiKP PKiKP 08 19 56.0 +0.5
RES Resolute Bay 113.01 354 ePKPdf PKiKP 08 19 56.0 +0.5
BFO Black Forest 113.30 46 ePKKPab PKKPab 08 30 51.1 +3.7
DAWY Dawson 113.39 334 ePKPdf PKiKP 08 19 57.4 +0.7
DAVOX Davos/Dischmat 113.40 48 i PKiKP PKiKP 08 19 55.5 -1.9
DAVOX pmax pmax
comp=Z,10.0nm,1.0s
DAVOX Davos/Dischmat 113.40 48 PKiKP PKiKP 08 19 55.5 -1.9
comp=Z,10nm,1.0s,baz=180,slow=4.0,SNR=5.0
BMRM Bremner River 113.41 330 ePKiKP PKiKP 08 19 58.7 +1.9
DAVA Damuels 113.66 48⇑i PKiKP PKiKP 08 19 59.7 +1.8
comp=Z,52nm,1.8s
DIV Divide 113.97 330 ePKPdf PKiKP 08 19 59.2 +1.4
STU Stuttgart 114.02 46 ePKKPab PKKPab 08 30 48.0 +3.9
FETA Feichten 114.03 48⇑i PKiKP PKiKP 08 19 59.5 +1.0
comp=Z,39nm,1.2s
RETA Reutte 114.28 48⇑i PKiKP PKiKP 08 20 00.6 +1.7
comp=Z,44nm,1.5s,SNR=6.5
MOTA Moosalm 114.41 48⇓i PKiKP PKiKP 08 20 00.0 +0.7
comp=Z,26nm,0.8s
EGAK Eagle 114.44 335 ePdif Pdif 08 16 08.6 +0.3
EGAK ePKiKP PKiKP 08 19 59.8 +1.3
WTTA Wattenberg 114.69 48⇑i PKPdf PKPdf 08 19 58.4 -1.4
comp=Z,78nm,1.5s,SNR=5.1
DOT Dot Lake 114.78 333 ePdif Pdif 08 16 11.0 +1.1
DOT ePKiKP PKPdf 08 19 58.2 -1.1
PAX Paxson 114.91 332 eP Pdif 08 16 12.5 +1.9
PAX Paxson 114.91 332 ePdif Pdif 08 16 12.5 +1.9
FUR Furstenfeldbru 114.92 47 ePKKPab PKKPab 08 30 44.8 +4.5
ABTA Abfaltersbach 114.95 49⇑i PKiKP PKiKP 08 20 01.6 +1.4
comp=Z,24nm,1.0s
RC01 Rabbit Creek A 115.55 329 ePKiKP PKiKP 08 20 02.5 +1.7
PMR Palmer 115.57 329 ePKiKP PKPdf 08 20 01.6 +0.8
PMR Palmer 115.57 329 ePKPdf PKPdf 08 20 01.6 +0.8
PMR 08 20 01.9 +1.1
MYKA Terra Mystica 115.58 50⇑i PKiKP PKiKP 08 20 02.9 +1.4
comp=Z,51nm,1.6s,SNR=5.9
KBA Koelnbreinsper 115.61 49 i PKiKP PKiKP 08 20 02.5 +0.9
comp=Z,33nm,1.2s,SNR=5.3
GRF Grafenberg Arr 115.63 46 ePKKPab PKKPab 08 30 41.4 +4.3
OBKA Obir 116.07 50 i PKiKP PKiKP 08 20 03.7 +1.3
comp=Z,44nm,0.9s,SNR=7.4
WRA Warramunga Arr 116.16 211 PKiKP PKPdf 08 20 03.0 -0.4
WRA pmax pmax
comp=Z,9.0nm,0.8s
WRA Warramunga Arr 116.16 211 PKP PKPdf 08 20 03.0 -0.4
comp=Z,8.8nm,0.8s,baz=162,slow=1.4,SNR=11
WRAB Tennant Creek 116.16 211 i PKiKP PKPdf 08 20 03.4 0.0
WRAB Tennant Creek 116.16 211 ePKPdf PKPdf 08 20 02.3 -1.1
CLZ Clausthal 116.19 44 ePKKPab PKKPab 08 30 38.6 +4.1
MOX Moxa 116.31 45 ePKiKP PKiKP 08 20 04.2 +1.6
MOX ePKKPab PKKPab 08 30 38.0 +4.0
WET Wettzell 116.32 47 ePKiKP PKiKP 08 20 04.1 +1.4
NRDL Niedersach Rie 116.35 43 ePKiKP PKiKP 08 20 04.3 +1.8
ILAR Eielson Array 116.44 333 PKiKP PKPdf 08 20 01.7 -0.8
ILAR pmax pmax
comp=Z,15nm,0.9s
ILAR Eielson Array 116.44 333 PKP PKPdf 08 20 01.6 -0.8
comp=Z,15nm,0.9s,baz=124,slow=1.7,SNR=28
ILAR PKKPab PKKPbc 08 30 32.4 +0.3
comp=Z,6.5nm,0.9s,baz=299,slow=4.7,SNR=9.4
SOKA Soboth 116.44 50 i PKiKP PKiKP 08 20 04.7 +1.6
comp=Z,35nm,1.2s,SNR=7.1
RSO Redoubt South 116.49 327 ePKPdf PKPdf 08 20 03.8 +0.9
MOA Molln 116.53 49 i PKiKP PKiKP 08 20 04.1 +0.9
comp=Z,48nm,1.0s,SNR=8.1
WERN Wernitzgruen 116.57 46 ePKiKP PKiKP 08 20 04.8 +1.6
WERN ePKKPab PKKPab 08 30 37.1 +4.1
GUNZ Gunzen 116.58 46 ePKiKP PKiKP 08 20 04.7 +1.5
GUNZ ePKKPab PKKPab 08 30 37.0 +4.1
WERD Werda 116.60 46 ePKiKP PKiKP 08 20 04.7 +1.5
WERD ePKKPab PKKPab 08 30 36.7 +3.9
MCK McKinley 116.64 331 eP Pdif 08 16 19.7 +1.6
MCK e 08 20 04.5
MCK McKinley 116.64 331 ePdif Pdif 08 16 19.7 +1.6
MCK ePKPdf PKiKP 08 20 04.5 +1.6
GEC2 GERESS Array S 116.66 48 ePKiKP PKiKP 08 20 04.3 +0.8
GEC2 GERESS Array S 116.66 48 ePKiKP PKiKP 08 20 04.4 +0.9
GEC2 GERESS Array S 116.66 48 ePKPdf PKPdf 08 20 04.2 +0.8
GERES GERESS Array B 116.66 48 PKiKP PKPdf 08 20 01.1 -2.4
GERES pmax pmax
comp=Z,25nm,0.9s
GERES GERESS Array B 116.66 48 PKP PKPdf 08 20 01.1 -2.4
comp=Z,25nm,0.9s,baz=208,slow=1.3,SNR=36
GERES PKKPab PKKPbc 08 30 31.3 +0.3
comp=Z,6.7nm,1.1s,baz=62,slow=3.2,SNR=3.6
NEUB Neuenburg 116.66 45 ePKiKP PKiKP 08 20 04.8 +1.6
NEUB ePKKPab PKKPab 08 30 36.2 +3.8
TANN Tannenbergstha 116.68 46 ePKiKP PKiKP 08 20 04.8 +1.4
KHC Kasperske Hory 116.72 47 ePKiKP PKPdf 08 20 01.7 -1.8
KHC e 08 21 20.0
KHC Kasperske Hory 116.72 47 ePKP PKPdf 08 20 01.7 -1.8
KHC ex x 08 20 04.3
KHC ex x 08 21 20.0
KHC ePKKP PKKPab 08 30 31.6 -0.8
COLA College 116.84 333⇓i PKiKP PKPdf 08 20 03.2 +0.1
COLA College 116.84 333 ePKPdf PKPdf 08 20 03.5 +0.4
ARSA Arzberg 117.01 50 i PKiKP PKiKP 08 20 05.6 +1.5
comp=Z,41nm,1.1s,SNR=9.1
TRF Thorofare Moun 117.01 331 ePKPdf PKPdf 08 20 01.6 -2.2
COEN Coen 117.14 223 ePKPdf PKPdf 08 20 03.4 -2.0
BSEG Bad Segeberg 117.14 41 ePKiKP PKiKP 08 20 05.5 +1.5
KTH Kantishna Hill 117.31 331 ePKPdf PKPdf 08 20 05.6 +1.3
CLL Collm 117.39 45 i PKiKP PKPdf 08 20 05.7 +1.1
CLL e 08 21 20.0
CLL pmax pmax
comp=Z,111nm,1.6s
CLL Collm 117.39 45 ePKiKP PKiKP 08 20 06.0 +1.3
CLL Collm 117.39 45 i PKiKP PKPdf 08 20 05.7 +1.1
comp=Z,111nm,1.6s
CLL ePP PP 08 21 20.0 +3.0
CLL e 08 21 32.0
CLL Collm 117.39 45 e(P) PKKPab 08 30 33.0 +3.7
CLL e 08 34 16.0
CLL Collm 117.39 45 ePKPdf PKPdf 08 20 05.9 +1.2
PPLA Purkeypile 117.47 330 ePKPdf PKPdf 08 20 04.8 +0.2
CONA Conrad Observa 117.52 49 i PKiKP PKiKP 08 20 06.3 +1.1
comp=Z,86nm,1.8s,SNR=12
SNART Snartemo 117.64 36 ePKPdf PKPdf 08 20 06.1 +1.2
PRA Prague 117.64 47 PKP PKPdf 08 20 03.0 -2.2
PRU Pruhonice 117.67 47 ePKiKP PKPdf 08 20 02.9 -2.3
PRU Pruhonice 117.67 47 ePKP PKPdf 08 20 02.9 -2.3
PRU ex x 08 20 06.3
PRU ePKKP PKKPab 08 30 28.0 -0.1
CAST Castle Rocks 117.69 330 ePKPdf PKPdf 08 20 05.5 +0.6
IDI Anoyia 117.70 65 PKP PKPdf 08 20 03.8 -2.1
comp=Z,39nm,0.9s,baz=292,slow=5.4,SNR=2.5
MUD Monsted U'grnd 117.72 39 i PKiKP PKPdf 08 20 06.3 +1.2
MUD Monsted U'grnd 117.72 39 i P PKPdf 08 20 06.3 +1.2
BRG Berggiesshubel 117.72 46 i PKP PKPdf 08 20 06.6 +1.3
comp=Z,46nm,1.1s
BRG Berggiesshubel 117.72 46 ePKP PKKPab 08 30 28.7 +0.8
comp=Z,54nm,1.8s
BRG e 08 30 34.7
comp=Z,98nm,1.8s
BRG Berggiesshubel 117.72 46 i PKiKP PKPdf 08 20 06.6 +1.3
BRG pmax pmax
comp=Z,46nm,1.1s
BRG Berggiesshubel 117.72 46 ePKiKP PKiKP 08 20 06.8 +1.5
BLS5 Blasjo 117.80 35 ePKPdf PKPdf 08 20 06.7 +1.4
TREC Trest 117.91 48 ePKiKP PKPdf 08 20 04.3 -1.5
TREC Trest 117.91 48 ePKP PKPdf 08 20 04.3 -1.5
TREC ex x 08 20 07.4
PVCC Panska Ves 117.93 46 ePKP PKPdf 08 20 04.1 -1.6
PVCC ex x 08 20 07.3
ODD1 Odda 118.10 34 ePKPdf PKPdf 08 20 03.0 -2.8
FOO Floro 118.19 32 ePKPdf PKPdf 08 20 06.3 +0.5
RUE Ruedersdorf 118.34 44 ePKiKP PKiKP 08 20 07.8 +1.4
RUE Ruedersdorf 118.34 44 ePKPdf PKPdf 08 20 08.1 +1.7
PKSM Moragy 118.46 52⇑i P PKPdf 08 20 08.3 +1.4
PMG Port Moresby 118.55 229⇑i PKiKP PKPdf 08 20 08.4 +0.3
PMG Port Moresby 118.55 229 ePKPdf PKPdf 08 20 07.7 -0.4
VRAC Vranov 118.57 48⇑i P PKPdf 08 20 08.1 +1.1
SMOL Smolenice 118.72 49 ePKiKP PKPdf 08 20 08.6 +1.3
SMOL Smolenice 118.72 49 ePKP PKPdf 08 20 08.6 +1.3
UPC Upice 118.75 47 ePKiKP PKPdf 08 20 08.8 +1.5
UPC Upice 118.75 47 ePKP PKPdf 08 20 08.8 +1.5
LLD Lille Linde 118.75 41 i PKiKP PKPdf 08 20 13.0 +5.9
LLD Lille Linde 118.75 41 i P PKPdf 08 20 13.0 +5.9
VAY Valandovo 118.85 58 eP PKPdf 08 20 08.9 +1.2
DPC Dobruska-Polom 118.86 47 ePKiKP PKPdf 08 20 06.1 -1.5
DPC Dobruska-Polom 118.86 47 ePKP PKPdf 08 20 06.1 -1.5
DPC ex x 08 20 09.3
DPC ePKKP PKKPbc 08 30 24.5 +1.4
DPC Dobruska-Polom 118.86 47 ePKPdf PKPdf 08 20 06.2 -1.5
COLD Coldfoot 118.87 335 ePKPdf PKPdf 08 20 09.4 +2.3
APE Apeiranthos 118.99 64⇓i PKiKP PKPdf 08 20 08.6 +0.3
APE Apeiranthos 118.99 64⇑i P PKPdf 08 20 09.2 +0.9
KRLC Kraliky 119.01 47 ePKiKP PKPdf 08 20 06.7 -1.2
KRLC Kraliky 119.01 47 ePKP PKPdf 08 20 06.7 -1.2
KRLC ex x 08 20 09.9
KRLC ex x 08 21 16.2
KRLC ePKKP PKKPbc 08 30 25.0 +2.5
KSP Ksiaz 119.05 46⇓i PKiKP PKPdf 08 20 09.1 +1.2
AKN Aaknes 119.28 32 ePKPdf PKPdf 08 20 08.2 +0.2
MORC Moravsky Berou 119.33 48 ePKiKP PKPdf 08 20 08.6 +0.1
MORC Moravsky Berou 119.33 48⇑i P PKPdf 08 20 07.5 -1.0
MORC Moravsky Berou 119.33 48 ePKPdf PKPdf 08 20 08.6 +0.1
KONO Kongsberg 119.33 35 ePKiKP PKPdf 08 20 08.9 +0.8
KONO Kongsberg 119.33 35 ePKPdf PKPdf 08 20 09.0 +0.8
KONO Kongsberg 119.33 35 ePKPdf PKPdf 08 20 08.8 +0.8
VYHS Vyhne 119.56 50 ePKiKP PKPdf 08 20 07.1 -1.8
VYHS Vyhne 119.56 50 ePKP PKPdf 08 20 10.6 +1.7
VYHS Vyhne 119.56 50 ePKP PKKPab 08 30 24.5 +4.4
VYHS Vyhne 119.56 50 e PKPdf 08 20 07.1 -1.8
DAG Danmarks Havn 119.60 13 i PKiKP PKPdf 08 20 08.7 +0.5
DAG Danmarks Havn 119.60 13 i P PKPdf 08 20 08.7 +0.5
MBWA Marble Bar 119.66 196 ePKPdf PKPdf 08 20 10.3 +0.2
MOL Molde 119.68 32 ePKPdf PKPdf 08 20 08.3 -0.3
OKC Ostrava-Krasne 119.71 48 ePKiKP PKPdf 08 20 07.4 -1.8
OKC Ostrava-Krasne 119.71 48 ePKP PKPdf 08 20 07.4 -1.8
OKC ex x 08 20 11.0
OKC ePKKP PKKPab 08 30 19.3 0.0
MMB Musomiste 119.75 59 eP PKPdf 08 20 11.0 +1.4
PSZ Piszkesteto 119.96 51 ePKiKP PKPdf 08 20 11.1 +1.3
PSZ Piszkesteto 119.96 51⇑i P PKPdf 08 20 09.0 -0.8
PSZ Piszkesteto 119.96 51 ePKPdf PKPdf 08 20 11.1 +1.3
OSL Oslo 119.97 35 ePKPdf PKPdf 08 20 11.2 +1.9
BZS Buzias 120.08 54⇑i P PKPdf 08 20 11.6 +1.6
GKP Gorka Klasztor 120.58 44 i PKiKP PKPdf 08 20 12.6 +1.9
GKP Gorka Klasztor 120.58 44 ePKiKP PKPdf 08 20 12.5 +1.9
NB2 NORSAR Subarra 120.64 34 PKPdf PKPdf 08 20 08.4 -2.3
comp=Z,134nm,1.7s,baz=248,slow=1.9
NB2 NORSAR Subarra 120.64 34 PKPdf PKPdf 08 20 08.4 -2.3
baz=248,slow=1.9
NOA NORSAR Array B 120.64 34 PKiKP PKPdf 08 20 08.6 -2.1
NOA pmax pmax
comp=Z,20nm,0.9s
NOA NORSAR Array B 120.64 34 PKP PKPdf 08 20 08.6 -2.1
comp=Z,20nm,0.9s,baz=248,slow=2.0,SNR=36
NOA PKKPbc PKKPab 08 30 15.6 +0.8
comp=Z,6.7nm,1.0s,baz=68,slow=4.5,SNR=7.5
NC602 NORSAR Array S 120.67 35 ePKPdf PKPdf 08 20 08.2 -2.4
GZR Gura Zlata 120.73 54⇑i P PKPdf 08 20 12.6 +1.2
KDZ Kurdzhali 120.92 59⇑i P PKPdf 08 20 12.3 +0.5
DIM Dimitrovgrad 121.17 59 eP PKPdf 08 20 13.1 +0.9
DRGR 121.25 53⇑i P PKPdf 08 20 13.7 +1.4
CRVS Cervenica-Dubn 121.31 50 ePKiKP PKPdf 08 20 13.0 +0.7
CRVS Cervenica-Dubn 121.31 50 ePKP PKPdf 08 20 13.0 +0.7
CRVS Cervenica-Dubn 121.31 50 ePKP PKKPab 08 30 15.9 +3.4
STHS Stebnicka Huta 121.38 49 ePKiKP PKPdf 08 20 13.9 +1.5
STHS Stebnicka Huta 121.38 49 ePKP PKPdf 08 20 13.9 +1.5
STHS Stebnicka Huta 121.38 49 ePKP PKKPab 08 30 20.6 +8.4
LOT Lotru 121.39 55⇓i P PKPdf 08 20 13.4 +0.7
HFS Hagfors 121.42 36 PKiKP PKPdf 08 20 09.7 -2.4
HFS 08 21 41.9
HFS pmax pmax
comp=Z,38nm,0.8s
HFS pmax pmax
comp=Z,23nm,1.1s
HFS Hagfors 121.42 36 PKP PKPdf 08 20 09.7 -2.4

comp=Z,38nm,0.8s,baz=204,slow=3.3,SNR=32
HFS PP PP 08 21 41.9 -2.7
comp=Z,22nm,1.1s,baz=224,slow=3.8,SNR=2.7
HFS PKKPbc PKKPab 08 30 12.4 +1.1
comp=Z,12nm,0.9s,baz=46,slow=4.2,SNR=7.5
TRPA Tarpa 121.67 51⇑iP PKPdf 08 20 11.4 -1.6
UZH Uzhgorod 121.72 51 ePKIKP PKPdf 08 20 11.1 -1.9
UZH i 08 20 17.1
KOLS Kolonicke sedl 121.82 50 ePKIKP PKPdf 08 20 14.4 +1.1
KOLS Kolonicke sedl 121.82 50 ePKP PKPdf 08 20 14.4 +1.1
ARR Arges 121.92 55⇓iP PKPdf 08 20 12.1 -1.6
BEL Belsk 122.04 47 ePKIKP PKPdf 08 20 12.9 -0.6
BEL Belsk 122.04 47 ePKPdf PKPdf 08 20 12.9 -0.6
BEL ePKiKP PKiKP 08 20 15.3 +1.6
JMB Yambol 122.05 59 eP PKPdf 08 20 14.2 +0.3
JMB Yambol 122.05 59⇑iP PKPdf 08 20 11.8 -2.1
VOIR 122.22 55⇑iP PKPdf 08 20 13.4 -0.8
NSS Namsos 122.27 31 ePKPdf PKPdf 08 20 11.2 -2.4
KWP Kalwaria Pacla 122.35 50 ePKIKP PKPdf 08 20 13.4 -0.9
KWP Kalwaria Pacla 122.35 50 ePKPdf PKPdf 08 20 13.4 -0.9
KWP ePKiKP PKiKP 08 20 16.1 +1.7
KWP Kalwaria Pacla 122.35 50⇓iP PKPdf 08 20 12.9 -1.4
EIL Elat 122.57 76 PKP PKPdf 08 20 13.7 -1.6
comp=Z,64nm,0.9s,baz=311,slow=2.5,SNR=26
DOPR Dopca 122.64 55⇑iP PKPdf 08 20 16.3 +1.3
SULR 122.71 56⇑iP PKPdf 08 20 16.1 +1.0
MLR Muntele Rosu 122.82 55⇑iP PKPdf 08 20 16.6 +1.1
NEF NEVSHA 122.83 58 eP PKPdf 08 20 16.0 +0.6
ISP Isparta 122.89 65 ePKIKP PKPdf 08 20 16.4 +0.6
ISP Isparta 122.89 65⇑iP PKPdf 08 20 17.1 +1.3
ISP Isparta 122.89 65 ePKPdf PKPdf 08 20 16.4 +0.6
ISR Istrita 123.06 56⇓iP PKPdf 08 20 16.8 +0.9
BURAR Bucovina Array 123.15 53⇑iP PKPdf 08 20 14.5 -1.5
LVV L'vov 123.21 50 ePKIKP PKPdf 08 20 13.0 -2.9
STOK Stokkvaagen 123.30 29 ePKPdf PKPdf 08 20 19.6 +4.1
KONS Konsvik 123.39 29 ePKPdf PKPdf 08 20 15.7 0.0
PLOR Plostina 123.41 55⇑iP PKPdf 08 20 13.9 -2.6
VRI Vrincioaia 123.47 55⇑iP PKPdf 08 20 17.3 +0.8
MSAB Monastry St. A 123.52 57⇓iP PKPdf 08 20 17.8 +1.1
PSN Preselentsi 123.61 58 eP PKPdf 08 20 20.1 +3.3
TESR Tescani 123.65 54⇑iP PKPdf 08 20 14.3 -2.6
CSS Prodhromos 123.73 69 ePKPdf PKPdf 08 20 18.9 +1.5
PETR Petresti 123.74 55⇑iP PKPdf 08 20 18.0 +1.0
HARR Harsova 123.82 57⇑iP PKPdf 08 20 18.5 +1.3
TIRR Tirgusor 124.05 57 ePKIKP PKPdf 08 20 16.4 -1.3
TIRR Tirgusor 124.05 57⇑iP PKPdf 08 20 19.1 +1.5
TIRR Tirgusor 124.05 57 ePKPdf PKPdf 08 20 16.4 -1.3
LOF Lofoten 124.05 27 ePKPdf PKPdf 08 20 17.6 +0.6
CFR Carcaliu 124.13 56⇓iP PKPdf 08 20 16.8 -1.0
SUW Suwalki 124.15 45 ePKIKP PKPdf 08 20 15.8 -1.7
SUW Suwalki 124.15 45 ePKPdf PKPdf 08 20 16.0 -1.5
SUW ePKiKP PKiKP 08 20 18.8 +1.0
SUW Suwalki 124.15 45 ePKPdf PKPdf 08 20 15.8 -1.7
TLCR 124.58 56⇑iP PKPdf 08 20 19.7 +1.1
LEOM Leova 124.67 55⇑iP PKPdf 08 20 20.1 +1.3
TNA Tin City 124.83 330 ePKPdf PKPdf 08 20 17.9 -0.6
KIS Kishinev 125.22 54 ePKIKP PKPdf 08 20 17.0 -2.8
KIS i 08 22 09.0
KIS Kishinev 125.22 54 ePKP PKPdf 08 20 17.0 -2.8
ADK Adak 125.24 312 ePKPdf PKPdf 08 20 20.5 +0.8
ADK Adak 125.24 312 ePKPdf PKPdf 08 20 20.4 +0.8
ANTO Ankara 125.34 64 ePKIKP PKPdf 08 20 21.4 +1.0
ANTO Ankara 125.34 64⇓iP PKPdf 08 20 22.5 +2.1
ANTO Ankara 125.34 64 ePKPdf PKPdf 08 20 21.4 +1.0
DGAR Diego Garcia 125.81 139⇓iPKIKP PKPdf 08 20 22.7 +0.7
DGAR Diego Garcia 125.81 139 ePKPdf PKPdf 08 20 22.6 +0.5
BRTR Keskin Array B 125.88 64 PKIKP PKPdf 08 20 19.4 -2.2
BRTR pmax pmax
comp=Z,54nm,0.9s
BRTR Keskin Array B 125.88 64 PKP PKPdf 08 20 19.4 -2.2
comp=Z,56nm,0.9s,baz=186,slow=3.5,SNR=52
GAMB Gambell 125.95 327 ePKPdf PKPdf 08 20 19.2 -1.4
IIGN Ignalina 126.23 44 eP PKPdf 08 20 20.9 -0.6
IIGN AMB AMB 08 20 23.4
comp=Z,53nm,1.3s
IIGN ePP PP 08 22 14.4 -2.6
ISAL Salakas 126.24 44 eP PKPdf 08 20 21.6 +0.1
ISAL AMB AMB 08 20 24.1
comp=Z,36nm,1.2s
ISAL ePP PP 08 22 14.2 -2.9
KBS Kingsbay 126.28 14 ePKIKP PKPdf 08 20 20.7 -0.3
KBS Kingsbay 126.28 14 ePKPdf PKPdf 08 20 21.4 +0.4
KBS Kingsbay 126.28 14 ePKPdf PKPdf 08 20 20.7 -0.3
TRO Tromso 126.31 26 ePKPdf PKPdf 08 20 19.9 -1.3
NACGM Naroch 126.42 45 e PKPdf 08 20 17.0 -4.9
IDID Didziasalis 126.51 44 eP PKPdf 08 20 22.2 +0.2
IDID AMB AMB 08 20 24.3
comp=Z,33nm,1.3s
IDID ePP PP 08 22 16.2 -2.7
KIEV Kiev 126.64 50 ePKIKP PKPdf 08 20 19.8 -2.6
KIEV Kiev 126.64 50 ePKPdf PKPdf 08 20 19.8 -2.6
AKASG Malin Array Be 126.65 50 i PKHKP PKPpre 08 20 10.8
AKASG 08 20 19.9
AKASG 08 22 16.5
AKASG pmax pmax
comp=Z,41nm,0.9s
AKASG pmax pmax
comp=Z,14nm,1.0s
AKASG Malin Array Be 126.65 50 PKhKP PKPpre 08 20 10.8
comp=Z,2.9nm,0.9s,baz=262,slow=2.9,SNR=5.7
AKASG PKP PKPdf 08 20 19.9 -2.5
comp=Z,41nm,0.9s,baz=263,slow=2.9,SNR=19
AKASG PP PP 08 22 16.5 -3.5
comp=Z,14nm,1.0s,baz=255,slow=6.6,SNR=6.2
AKBB Malin Array Si 126.65 50 ePKIKP PKPdf 08 20 19.8 -2.6
AKBB Malin Array Si 126.65 50 ePKPdf PKPdf 08 20 19.8 -2.6
HSPB Hornsund (broa 126.68 16 ePKPdf PKPdf 08 20 25.1 +3.3
SPA0 Spitsbergen Ar 127.03 15 ePKPdf PKPdf 08 20 20.5 -2.0
SPITS Spitsbergen Ar 127.03 15 PKP PKPdf 08 20 20.5 -2.0
comp=Z,90nm,0.9s,baz=149,slow=6.7,SNR=22
VSU Vasula 127.29 40 ePKIKP PKPdf 08 20 22.6 -0.8
FINES FINESS Array B 127.60 36 PKIKP PKPdf 08 20 22.1 -1.8
FINES pmax pmax
comp=Z,9.0nm,1.0s
FINES FINESS Array B 127.60 36 PKP PKPdf 08 20 22.1 -1.8
comp=Z,45nm,0.9s,baz=151,slow=2.5,SNR=5.5
KTK1 Kautokeino 127.72 27 ePKPdf PKPdf 08 20 26.3 +2.3
KAF Kangasniemi 127.84 36 ePKIKP PKPdf 08 20 22.3 -2.1
KAF Kangasniemi 127.84 36 ep PKPdf 08 20 22.3 -2.1
RAYN Ar Rayn 127.85 88 ePKPdf PKPdf 08 20 24.1 -1.6
SIM Simferopol' 128.04 58 i PKIKP PKPdf 08 20 26.9 +1.6
SIM pmax pmax
comp=Z,124nm,1.0s
ARCES ARCESS Array B 128.58 26 PKIKP PKPdf 08 20 24.5 -1.1
ARCES pmax pmax
comp=Z,41nm,0.8s
ARCES ARCESS Array B 128.58 26 PKP PKPdf 08 20 24.5 -1.1
comp=Z,41nm,0.8s,baz=262,slow=2.5,SNR=34
ARE0 ARCESS Array S 128.58 26 ePKPdf PKPdf 08 20 26.3 +0.7
HOPEN Hopen 128.81 17 ePKPdf PKPdf 08 20 24.6 -1.3
MALT Malatya 128.82 68⇓iP PKPdf 08 20 29.5 +2.3
KEV Kevo 129.12 26 ePKIKP PKPdf 08 20 27.7 +1.1
KEV Kevo 129.12 26 ep PKPdf 08 20 27.7 +1.1
KEV Kevo 129.12 26 ePKPdf PKPdf 08 20 28.3 +1.7
SOEI Soe 129.27 205 ePKPdf PKPdf 08 20 30.4 +1.6
PUL Pulkovo 129.36 39⇑iPKIKP PKPdf 08 20 29.1 +1.8
ANN Anapa 130.24 59 i PKIKP PKPdf 08 20 30.4 +0.9
ANN e 08 22 42.9
ANN pmax pmax
comp=Z,306nm,1.4s
ANN MLR MLR
comp=Z,80μm,21.0s
JOF Joensuu 130.26 35 ePKIKP PKPdf 08 20 26.5 -2.4
JOF Joensuu 130.26 35 ep PKPdf 08 20 26.5 -2.4
ABTO Aybut 130.68 100 PKPdf PKPdf 08 20 33.0 +1.8
SNR=14
APA Apatity 131.38 29⇑iPKIKP PKPdf 08 20 33.2 +2.3
APA i 08 22 51.0
APA i 08 27 40.0
SOC Sochi 131.46 62 ePKIKP PKPdf 08 20 32.7 +0.9
SOC pmax pmax
comp=Z,201nm,1.1s
FX1 Attu Island--F 131.51 311 ePKIKP PKPdf 08 20 32.2 +0.6
FX1 Attu Island--F 131.51 311 ePKPdf PKPdf 08 20 32.2 +0.6
LVZ Lovozero 131.85 29⇑iPKIKP PKPdf 08 20 31.8 -0.1
LVZ Lovozero 131.85 29 ePKPdf PKPdf 08 20 31.1 -0.8
XMIS Christmas Isla 131.93 181 ePKPdf PKPdf 08 20 34.5 +0.8
OBN Obninsk 131.97 46⇓iPKIKP PKPdf 08 20 33.0 +0.6
OBN e 08 20 41.7
OBN e 08 20 49.3
OBN *PP PP 08 22 55.3 +0.8
OBN pmax pmax
comp=Z,464nm,1.5s
OBN MLR MLR
comp=Z,86μm,17.0s
OBN Obninsk 131.97 46 ePKPdf PKPdf 08 20 33.5 +1.2
MOS Moscow 132.65 45 ePKIKP PKPdf 08 20 30.8 -2.9
MOS pmax pmax
comp=Z,719nm,2.4s
VOR Voronezh 132.99 51 ePKIKP PKPdf 08 20 33.0 -1.4
VOR pmax pmax
comp=Z,850nm,2.6s
JAGI Jajag, Banyuwa 133.11 193 ePKPdf PKPdf 08 20 35.9 -0.1
TMCR Tamitsa 133.32 34 ePKIKP PKPdf 08 20 35.9 +1.2
TMCR e 08 23 07.9
TMCR pmax pmax
comp=Z,161nm,1.1s
IDHR Dehrash 133.47 75 eP PKPdf 08 20 35.0 -1.2
IGHG Ghaleghazi 133.47 76 eP PKPdf 08 20 27.7 -8.5
KIV Kislovodsk 133.63 62 ePKIKP PKPdf 08 20 36.8 +0.7
KIV Kislovodsk 133.63 62 ePKPdf PKPdf 08 20 36.8 +0.7
KBZ Khabaz 133.72 62 i PKIKP PKPpre 08 20 28.6
KBZ 08 20 37.0
KBZ Khabaz 133.72 62 PKhKP PKPpre 08 20 28.6
comp=Z,9.2nm,1.0s,baz=260,slow=2.5,SNR=7.4
KBZ PKP PKiKP 08 20 37.0 -0.4
comp=Z,40nm,1.0s,baz=180,slow=1.2,SNR=20
GNI Garni 134.05 68⇑ePKIKP PKPpre 08 20 33.1
GNI i 08 20 39.2
GNI Garni 134.05 68 ePKPdf PKPdf 08 20 37.6 +0.5
IKOM Komasi 134.14 76 eP PKPdf 08 20 38.4 +0.9
GOF Gofitskoye 134.15 60 ePKIKP PKPdf 08 20 32.1 -4.8
GOF pmax pmax
comp=Z,150nm,0.8s
NCK Nalchik 134.16 63 ePKIKP PKPdf 08 20 36.9 -0.1
ZEI Tsey 134.19 64 i PKIKP PKPdf 08 20 38.4 +1.1
ZEI pmax pmax
comp=Z,289nm,2.2s
IMRD Marand 134.32 70 eP PKPdf 08 20 32.3 -5.4
ITBZ Tabriz 134.50 71 eP PKPdf 08 20 29.4 -8.6
CISI Cisompet, Garu 134.75 184 ePKPdf PKPdf 08 20 39.0 -0.1
BILL Bilibino 135.09 332⇑iPKIKP PKPdf 08 20 40.2 +2.3
BILL e 08 20 45.1
BILL e 08 27 46.2
BILL pmax pmax
comp=Z,587nm,1.9s
BILL MLR MLR
comp=Z,83μm,20.0s
BILL Bilibino 135.09 332 ePKPdf PKPdf 08 20 39.5 +1.6
KAPI Kappang 135.15 201 ePKPdf PKPdf 08 20 38.0 -1.7
IHRS Heris 135.20 71 eP PKPdf 08 20 28.2 -11
ISRB Sarab 135.51 72 eP PKPdf 08 20 40.2 +0.2
ISRV Sarvestan 136.61 85 eP PKPdf 08 20 33.2 -9.2
ASHO Ashiyiah 136.78 93 PKPdf PKPdf 08 20 46.8 +4.3
SNR=8.0
PRGR Permogore 136.93 37⇓iPKHKP PKPpre 08 20 32.7
PRGR pmax pmax
comp=Z,626nm,1.6s
IGZV Ghazvin 136.98 75 eP PKPdf 08 20 43.3 +0.5
JMDO Jabal Madar 137.21 97 PKPdf PKPdf 08 20 43.2 -0.1
SNR=7.2
HOQ Hoqain 137.22 95 PKPdf PKPdf 08 20 37.3 -6.0
SNR=8.0
IZEF Zefreh 137.40 80 eP PKPdf 08 20 44.3 +0.6
SMDO Samad 137.53 97 PKPdf PKPdf 08 20 45.3 +1.3
SNR=12
IVRN Varamin 137.68 77 eP PKPdf 08 20 35.0 -8.9
WBK Wadi Bani Khal 138.02 98 PKPdf PKPdf 08 20 46.7 +1.9
SNR=18
IBAF Bafgh 139.44 84 eP PKPdf 08 20 48.1 +0.8
IANJ Anjilo 139.52 77 eP PKPdf 08 20 41.8 -5.7
PET Petropavlovsk 140.25 310 ePKHKP PKPpre 08 20 42.2
PET pmax pmax
comp=Z,116nm,0.8s
PET Petropavlovsk 140.25 310 ePKPdf PKPdf 08 20 47.9 +0.1
PETK Petropavlovsk- 140.83 310 i PKHKP PKPpre 08 20 38.9
PETK 08 20 48.6
PETK pmax pmax
comp=Z,132nm,1.0s
PETK Petropavlovsk- 140.83 310 PKhKP PKPpre 08 20 38.9
comp=Z,12nm,0.7s,baz=97,slow=10,SNR=6.4
PETK PKP PKPdf 08 20 48.6 -0.4
comp=Z,132nm,1.0s,baz=64,slow=6.6,SNR=27
SKR Severo-Kuril's 141.82 307 ePKHKP PKPpre 08 20 45.0
SKR pmax pmax
comp=E,1μm,1.8s
SKR pmax pmax
comp=Z,2μm,1.8s
SEY Seymchan 141.95 327 i PKHKP PKPpre 08 20 44.5
SEY 08 20 48.9
SEY pmax pmax
comp=Z,132nm,0.9s
SEY pmax pmax
comp=Z,132nm,0.9s
SEY Seymchan 141.95 327 PKhKP PKPpre 08 20 44.5
comp=Z,132nm,0.9s,baz=96,slow=4.6,SNR=16
SEY PKP PKPdf 08 20 48.9 -1.7
comp=Z,132nm,0.9s,baz=123,slow=6.0,SNR=27
ITEG Tejag 142.43 83 eP PKPdf 08 20 48.7 -4.1
IKOO Kooshah 142.46 84 eP PKPdf 08 20 47.6 -5.3
BKNI Bangkinang 142.51 174 ePKPdf PKPdf 08 20 53.5 +0.2
PALK Pallekele 142.55 138 ePKIKP PKPdf 08 20 50.0 -3.3
PALK Pallekele 142.55 138 ePKPdf PKPdf 08 20 50.0 -3.3
SOKR Solikamsk 142.69 39 ePKIKP PKPdf 08 20 48.0 -4.0
SOKR pmax pmax
comp=Z,550nm,2.8s
GSI Gunungsitoli 143.04 168 ePKPdf PKPbc 08 20 52.5 +1.5
ISHV Shirvan 143.05 76 eP PKPab 08 20 49.4 +0.3
ISFR Sfrayin 143.15 76 eP PKPbc 08 20 50.3 -0.7
IDAH Dahanechah 143.25 84 eP PKPbc 08 20 51.9 +0.5
KSM Kuching 143.46 189 ePKPdf PKPab 08 20 50.2 -0.9
GEYT Alibeck 143.47 75 PKhKP PKPpre 08 20 49.5
comp=Z,289nm,0.9s,baz=260,slow=4.4,SNR=102
GEYT PKP PKPdf 08 20 53.0 -1.2
comp=Z,283nm,0.9s,baz=252,slow=4.2,SNR=113
IKRD Kardeh 143.47 77 eP PKPdf 08 20 55.2 +0.7
IAKL Akhelmad 143.61 77 eP PKPbc 08 20 52.4 +0.1
TIXI Tiksi 143.94 347⇑ePKHKP PKPpre 08 20 49.2 -4.7
TIXI Tiksi 143.94 347 ePKPdf PKPab 08 20 48.8 -2.4
DAV Davao City (W) 144.03 217 ePKPdf PKPdf 08 20 57.2 +1.3
MYKOM Kota Tinggi 144.11 178 ePKPdf PKPab 08 20 51.8 -1.8
SBUM Sibu 144.12 193 ePKPdf PKPab 08 20 52.6 -1.1
ARU Arti 144.31 43 i PKIKP PKPbc 08 20 53.7 +0.3
ARU Arti 144.31 43 ePKPdf PKPdf 08 20 52.1 -0.9
IMYA Miami 144.58 78 eP PKPab 08 20 53.1 -1.8
GOA Goa 144.75 121 eP PKPab 08 20 54.8 -1.1
BUKP Musuan 144.98 217 eP PKPbc 08 20 57.2 +0.4
MYLDM Lahad Datu 145.17 204 ePKPdf PKPbc 08 20 56.4 -1.0
SVE Sverdlovsk 145.34 42 ePKIKP PKPbc 08 20 56.1 -0.6
SVE pmax pmax
comp=Z,3μm,3.0s
CGP Cagayan de Oro 145.66 217⇓eP PKPdf 08 20 58.1 -0.5
PAGZ Pagadian 145.72 214 eP PKPdf 08 20 58.2 -0.6
ABKAR Akbulak array 146.03 56 ePKPdf PKPdf 08 20 57.2 -1.0
IPM Ipoh 146.62 173 ePKPdf PKPdf 08 20 58.5 -1.9
BHJ Bhuj 146.65 106 eP PKPdf 08 20 59.7 -0.3
KKM Kota Kinabalu 146.69 201 ePKPdf PKPdf 08 21 01.4 +0.8
LHMI Lhok Sumawe 146.76 166 ePKPdf PKPdf 08 21 00.5 0.0
POO Poona 146.85 117 eP PKPdf 08 21 00.7 +0.1
CBIJ Chichi jima 146.88 262 ePKPab PKPbc 08 21 02.7 +0.5
JCJ Chichijima 146.88 262 PKPbc PKPdf 08 21 01.2 +0.9
comp=Z,206nm,0.8s,baz=55,slow=4.8,SNR=6.8
MSLP Maasin 147.03 218 eP PKPdf 08 21 01.5 +0.6
MDRS Chennai 147.04 132 eP PKPdf 08 21 00.3 -0.6
KUR Kuril'sk 147.24 297⇓iPKP2 PKPdf 08 21 02.2 -0.5
KULM Kulim 147.38 172 ePKPdf PKPdf 08 21 01.8 +0.2
LLP Lapu-Lapu 147.62 217 eP PKPbc 08 21 03.5 -1.1
CMBY CAMPBELL BAY 147.76 159 eP PKPdf 08 21 01.0 -1.2
OCLP Ormoc 147.94 219 eP PKPbc 08 21 06.2 +0.7
GUIM Jordan 148.54 215 eP PKPdf 08 21 03.1 -0.3
YUK Yuzh-Kuril'sk 148.61 295⇑iPKP2 PKPbc 08 21 07.7 +1.3
BATP Bataraza 148.79 205 eP PKPdf 08 21 05.0 +1.2
HYB Hyderabad 149.29 124 i PKP PKPdf 08 21 05.0 +0.4
HYB Hyderabad 149.29 124 eP PKPdf 08 21 05.1 +0.4
PPR Puerto Princes 149.37 208⇓eP PKPab 08 21 12.8 -1.0
PKDT Phuket 149.62 167 P PKPdf 08 21 06.5 +1.3
comp=Z,7μm,4.6s
OTRP Odiongan 150.32 216 eP PKPbc 08 21 09.2 -2.3
PVCP Virac 150.34 221 eP PKPbc 08 21 08.4 +2.2
ENPP El Nido 150.41 210 eP PKPbc 08 21 07.8 +1.4
ERM Erimo 150.45 290 ePKIKP PKPbc 08 21 10.2 -0.8
ERM Erimo 150.45 290 ePKPdf PKPbc 08 21 10.2 -0.8
SURT Suratani 150.74 168 P PKPdf 08 21 07.7 +0.7
comp=Z,2μm,2.4s
YSS Yuzh-Sakhalins 150.76 300⇑iPKIKP PKPdf 08 21 05.0 -1.0
YSS i 08 21 09.5
YSS Yuzh-Sakhalins 150.76 300 ePKPdf PKPdf 08 21 05.9 -0.1
SJMP San Jose 150.82 214 eP PKPbc 08 21 10.2 -2.4
ASAJ Asahikawa 150.96 295 PKIKP PKPdf 08 21 06.5 +0.1
ASAJ 08 21 10.6
ASAJ pmax pmax
comp=Z,63nm,0.8s
ASAJ pmax pmax
comp=Z,416nm,0.9s
ASAJ Asahikawa 150.96 295 PKP PKPdf 08 21 06.5 +0.1
comp=Z,63nm,0.8s,baz=217,slow=2.4,SNR=9.2
ASAJ PKPbc PKPbc 08 21 10.6 -1.6
comp=Z,416nm,0.9s,baz=57,slow=2.3,SNR=20
ASAJ Asahikawa 150.96 295 ePKPdf PKPdf 08 21 07.3 +1.0
KBL Kabul 151.07 86 ePKIKP PKPdf 08 21 08.7 +1.5
KBL Kabul 151.07 86 ePKPdf PKPdf 08 21 08.7 +1.5
YAK Yakutsk 151.32 336 ePKIKP PKPbc 08 21 10.7 -1.7
YAK e 08 21 17.3
YAK pmax pmax
comp=Z,2μm,0.9s
YAK pmax pmax
comp=E,142nm,1.1s
YAK pmax pmax
comp=N,193nm,1.5s
YAK Yakutsk 151.32 336 ePKPdf PKPdf 08 21 05.5 -0.8
BRVK Borovoye 151.75 46 ePKIKP PKPdf 08 21 09.2 +1.9
BRVK Borovoye 151.75 46 ePKPdf PKPdf 08 21 09.2 +1.9
PBA Port Blair 151.78 154 eP PKPdf 08 21 07.8 -0.7
AJM Ajmer 152.19 105 ex PKPbc 08 21 14.0 -1.6
NGP Nagpur 152.23 120 eP PKPdf 08 21 07.2 -1.8
NGP ex x 08 21 28.2
LUBP Lubang 152.33 214 eP PKPdf 08 21 11.4 +2.1
BHPL Bhopal 152.43 114 eP PKPdf 08 21 07.2 -2.1
VIS Vishakhapatnam 152.51 131 eP PKPdf 08 21 07.8 -1.7
DGPR DIGLIPUR 153.26 154 eP PKPdf 08 21 10.3 -0.3
MJAR Matsushiro Arr 153.42 278 PKIKP PKPdf 08 21 10.3 -0.1
MJAR pmax pmax
comp=Z,32nm,1.2s
MJAR Matsushiro Arr 153.42 278 PKP PKPdf 08 21 10.2 -0.1
comp=Z,29nm,1.2s,baz=223,slow=1.2,SNR=21
MAJO Matsushiro 153.42 278 ePKIKP PKPdf 08 21 10.4 +0.1
MAJO Matsushiro 153.42 278 ePKPdf PKPdf 08 21 10.4 +0.1
MAT Matsushiro 153.42 278 PKP PKPdf 08 21 07.8 -2.5
KKAR Karatay Array 153.52 68 ePKIKP PKPdf 08 21 11.9 +1.6
KKAR Karatay Array 153.52 68 ePKPdf PKPdf 08 21 11.9 +1.6
SCZP Santa Cruz 154.28 215 eP PKPdf 08 21 12.4 +0.3
CAUP Cauayan 154.35 220 eP PKPdf 08 21 15.4 +3.3
BOLP Bolinao 154.81 216 eP PKPdf 08 21 15.0 +2.2
PATY Pattaya 154.94 171 P PKPbc 08 21 18.5 -3.3
comp=Z,66nm,1.2s,comp=Z,2μm
BHK Bhakra 155.84 97 eP PKPdf 08 21 12.0 -1.9
BHK ex x 08 21 41.2
AML Almayashu 155.87 70 P PKPdf 08 21 15.9 +1.9
SNR=14
DLH Dalhousie 155.91 94 ex PKPdf 08 21 19.0 +4.8
EKS2 Erkin-Say 155.92 69 P PKPdf 08 21 15.8 +2.1
SNR=18
EKS2 Erkin-Say 155.92 69 ePKIKP PKPdf 08 21 13.4 -0.3
EKS2 Erkin-Say 155.92 69 ePKPdf PKPdf 08 21 13.4 -0.3
DHRM DHARAMSHALA 156.07 95 eP PKPdf 08 21 14.0 -0.4
SMLA Simla 156.32 98 eP PKPdf 08 21 13.2 -1.3
USP Ospenovka 156.43 67 P PKPdf 08 21 16.4 +2.2
SNR=15
AAK Ala-Archa 156.45 69 P PKPdf 08 21 16.9 +2.4
SNR=13
AAK Ala-Archa 156.45 69 ePKIKP PKPdf 08 21 16.7 +2.2
AAK Ala-Archa 156.45 69 ePKPdf PKPdf 08 21 16.7 +2.2
UCH Uchtor 156.47 70 P PKPdf 08 21 17.5 +2.6
SNR=18
FRU Bishkek 156.54 68 i PKIKP PKPdf 08 21 16.0 +1.6
FRU pmax pmax
comp=Z,300nm,1.1s
CHMS Chumysh 156.63 68 P PKPdf 08 21 14.0 -0.5
SNR=17
DDI Dehra Dun 156.68 101 eP PKPdf 08 21 13.4 -1.7
DDI AMS AMS 09 22 13.8
comp=Z,25μm,24.6s
KBK Karagaybulak 156.78 69 P PKPdf 08 21 16.7 +1.8
SNR=13
KZA Kyzart 157.02 70 P PKPdf 08 21 18.2 +2.6
SNR=14
TKM2 Tokmak 2 157.25 68 P PKPdf 08 21 17.1 +1.6
SNR=49
TKM2 Tokmak 2 157.25 68 ePKIKP PKPdf 08 21 14.7 -0.9
TKM2 Tokmak 2 157.25 68 ePKPdf PKPdf 08 21 14.7 -0.9
KURK Kurchatov 157.41 47 ePKIKP PKPdf 08 21 16.6 +1.4
KURK Kurchatov 157.41 47 ePKPdf PKPdf 08 21 16.6 +1.4
KSH Kashi 157.48 77 ePKP PKPdf 08 21 13.5 -2.4
KSH esPKP 08 21 27.8
KSH SKS SKSdf 08 28 15.0 -4.1
KSH SKKS SKKSac 08 32 11.0 -2.6
KSH SS SS 08 45 15.3 -6.5
KSH AMB AMB
comp=Z,327μm,13.8s
KSH LR LR
comp=Z,18μm,7.2s
NVS Novosibirsk 157.56 34 ePKIKP PKPdf 08 21 12.8 -2.4
NVS pmax pmax
comp=Z,1μm,2.5s
NVS pmax pmax
comp=N,66nm,1.6s
NVS pmax pmax
comp=E,165nm,1.6s
ULHL Ulahol 157.76 70 P PKPdf 08 21 18.2 +1.9
SNR=12
LGTI Lohaghat 157.97 105 eP PKPdf 08 21 15.6 -1.0
JNU Nakatsue 158.27 265 ePKPab PKPab 08 21 50.4 -0.8
USRK Ussuriysk Arra 158.57 296 PKP PKPdf 08 21 16.4 -0.4
comp=E,6.8nm,0.9s,baz=315,slow=0.3,SNR=15
USRK PKPab PKPab 08 21 53.6 +1.4
comp=E,39nm,0.9s,baz=87,slow=1.9,SNR=9.4
BOK Bokaro 158.62 126 eP PKPdf 08 21 16.1 -1.4
BOK AMS AMS 09 22 21.0
comp=Z,22μm,18.2s
ZAA0 Zalesovo Array 158.84 34 ePKPdf PKPdf 08 21 14.6 -2.3
ZALV Zalesovo Beam 158.84 34 PKIKP PKPdf 08 21 14.2 -2.6
ZALV 08 21 54.3
ZALV pmax pmax
comp=Z,93nm,1.1s
ZALV pmax pmax
comp=Z,337nm,1.0s
ZALV Zalesovo Beam 158.84 34 PKP PKPdf 08 21 14.2 -2.6
comp=Z,93nm,1.1s,baz=270,slow=2.8,SNR=27
ZALV PKPab PKPab 08 21 54.2 +1.3
comp=Z,337nm,1.0s,baz=298,slow=3.9,SNR=16
BOD Bodaibo 159.11 346 ePKIKP PKPdf 08 21 15.3 -1.7
BOD e 08 21 53.7
BOD pmax pmax
comp=Z,380nm,1.0s
BOD pmax pmax
comp=Z,2μm,0.9s
YOJ Yonaguni jima 159.53 235 ePKP2 PKPab 08 21 57.0 +0.3
YOJ Yonaguni jima 159.53 235 ePKPab PKPab 08 21 57.0 +0.3
KOLN Koldanda 159.59 113 eP PKPdf 08 21 16.8 -2.1
CMAR Chiang Mai Arr 160.02 164 PKIKP PKPdf 08 21 17.7 -1.7
CMAR 08 21 58.5
CMAR 08 25 40.1
CMAR pmax pmax
comp=Z,13nm,0.9s
CMAR pmax pmax
comp=Z,78nm,1.1s
CMAR pmax pmax
comp=Z,19nm,1.2s
CMAR Chiang Mai Arr 160.02 164 PKP PKPdf 08 21 17.6 -1.7
comp=Z,13nm,0.9s,baz=244,slow=2.8,SNR=15
CMAR PKPab PKPab 08 21 58.5 -0.4
comp=Z,78nm,1.1s,baz=213,slow=4.6,SNR=5.5
CMAR PP PP 08 25 40.1 +0.3
comp=Z,19nm,1.1s,baz=202,slow=3.8,SNR=4.2
DANN Dangsing 160.04 112 eP PKPdf 08 21 16.8 -2.7
MDJ Mudanjiang 160.20 298 PKP PKPdf 08 21 17.5 -1.2
MDJ pPKP pPKPdf 08 21 27.8 -2.4
MDJ sPKP 08 21 32.8
MDJ PKS PKSdf 08 24 53.3 +1.3
MDJ PP PP 08 25 41.3 -0.6
MDJ Mudanjiang 160.20 298 ePKPab PKPab 08 22 01.2 +2.0
CHTO Chiang Mai 160.37 163 P PKPab 08 21 58.3 -2.1
comp=Z,32μm,0.9s
GKN Gorkha 160.48 114 eP PKPdf 08 21 17.8 -2.0
DMN Daman 160.59 116 eP PKPdf 08 21 18.2 -1.8
PKIN Phulchoki 160.77 116 eP PKPdf 08 21 17.9 -2.4
PKI Pulchoki 160.78 117 eP PKPdf 08 21 18.0 -2.3
KKN Kakani 160.82 116 eP PKPdf 08 21 18.1 -2.1
TATO Taipei 160.87 233 ePKPab PKPab 08 22 03.0 +0.5

MKAR	Makanchi Array	161.16	55	PKIKP	PKPdf	08 21 17.8	-2.0
MKAR						08 25 46.4	
MKAR				pmax	pmax		
	comp=Z,78nm,1.1s						
MKAR				pmax	pmax		
	comp=Z,58nm,1.0s						
MKAR	Makanchi Array	161.16	55	PKP	PKPdf	08 21 17.8	-2.0
	comp=Z,78nm,1.1s,baz=318,slow=1.6,SNR=31						
MKAR				PKPab	PKPab	08 22 03.8	+0.4
	comp=Z,38nm,0.9s,baz=273,slow=2.9,SNR=7.4						
MKAR				PP	PP	08 25 46.4	-0.6
	comp=Z,58nm,0.9s,baz=264,slow=5.5,SNR=5.7						
MKAR	Makanchi Array	161.16	55	ePKPdf	PKPdf	08 21 18.4	-1.3
MKAR				PKPab	PKPab	08 22 03.8	+0.4
MKAR				PP	PP	08 25 46.4	-0.6
RAMN	Ramite	161.22	120	eP	PKPdf	08 21 18.9	-1.8
KSSKC	Sokcho	161.31	279	P	PKPdf	08 21 25.0	+4.9
	SNR=6.3						
GUN	Gumba	161.31	116	eP	PKPdf	08 21 18.7	-2.2
JIRN	Jiri	161.38	118	eP	PKPdf	08 21 19.2	-1.8
SEHB	SEOHWA	161.52	279	P	PKPdf	08 21 23.5	+3.1
	SNR=9.7						
KSIJA	INJE	161.60	278	P	PKPdf	08 21 21.3	+0.8
	SNR=8.2						
ODAN	Odare	161.70	122	eP	PKPdf	08 21 19.7	-1.5
KSCWO	Cheorwon	162.08	278	P	PKPdf	08 21 24.0	+3.0
	SNR=5.6						
TAPN	Taplejung	162.24	121	eP	PKPdf	08 21 20.0	-1.8
QZH	Quanzhou	162.59	226	iPKP	PKPdf	08 21 23.3	+1.5
QZH				PKPab	PKPab	08 22 11.5	+1.4
KSGAH	Ganghwa	162.88	276	P	PKPdf	08 21 23.8	+2.1
	SNR=5.5						
CN2	Changchun	163.28	297	ePKP	PKPdf	08 21 22.3	+0.4
CN2				epPKP	pPKPdf	08 21 33.0	-0.4
CN2				LR	LR		
	comp=Z,11µm,25.0s						
SHL	Shillong	163.58	134	eP	PKPdf	08 21 21.9	-1.1
SNY	Shenyang	165.03	291	⇑PKP	PKPab	08 22 22.3	+1.8
IRK	Irkutsk	165.59	1	ePKIKP	PKPdf	08 21 20.3	-3.4
IRK				pmax	pmax		
	comp=Z,1µm,3.1s						
WMQ	Urumqi	165.75	60	PKP	PKPdf	08 21 25.0	+0.8
WMQ				LR	LR		
	comp=Z,5µm,23.2s						
WMQ				LR	LR		
	comp=Z,7µm,24.8s						
WMQ				LR	LR		
	comp=Z,8µm,24.0s						
MOY	Mondy	165.92	10	ePKIKP	PKPdf	08 21 26.4	+2.3
MOY				e		08 26 09.7	
MOY				pmax	pmax		
	comp=Z,2µm,4.2s						
LSA	Lhasa	166.06	122	ePKP2	PKPab	08 22 24.6	-1.3
LSA	Lhasa	166.06	122	ePKPab	PKPab	08 22 24.6	-1.3
TLY	Talaya	166.14	3	ePKP2	PKPab	08 22 27.7	+2.8
TLY				pmax	pmax		
	comp=Z,426nm,1.8s						
DL2	Dalian	166.74	280	PKP	PKPdf	08 21 24.0	-1.0
DL2				PP	PP	08 26 19.5	+2.8
NJ2	Nanjing	167.10	248	ePKP	PKPdf	08 21 26.0	+0.5
NJ2				PKPab	PKPab	08 22 29.5	-0.4
NJ2				PP	PP	08 26 21.0	+2.6
KMI	Kunming	167.20	172	PKP	PKPdf	08 21 27.0	+0.9
ZAK	Zakamensk	167.41	4	ePKIKP	PKPdf	08 21 23.0	-2.3
ZAK				e		08 22 31.6	
ZAK				pmax	pmax		
	comp=Z,118nm,2.7s						
GYA	Guiyang	168.54	188	iPKP	PKPdf	08 21 26.0	-0.9
GYA				pPKP	pPKPdf	08 21 38.0	-0.4
GYA				PKPab	PKPab	08 22 37.0	+0.7
GYA				PKS	PKSdf	08 24 57.5	-2.1
GYA				PP	PP	08 26 27.0	+2.5
GYA				SKKS		08 33 10.0	
GYA				SS	SS	08 47 15.3	+1.8
GYA				AMB	AMB		
	comp=Z,15µm,11.8s						
GYA				LR	LR		
	comp=Z,9µm,21.0s						
GYA				LR	LR		
	comp=Z,7µm,21.5s						
GYA				LR	LR		
	comp=Z,10µm,24.8s						
WHN	Wuhan	169.25	230	⇓PKP	PKPdf	08 21 25.5	-1.5
WHN				PKPab	PKPab	08 22 39.0	-0.3
SONM	Songino Array	169.94	354	PKIKP	PKPdf	08 21 25.0	-2.1
SONM						08 22 42.3	
SONM				pmax	pmax		
	comp=Z,28nm,1.1s						
SONM				pmax	pmax		
	comp=Z,51nm,1.1s						
SONM	Songino Array	169.94	354	PKP	PKPdf	08 21 25.0	-2.1
	comp=Z,28nm,1.1s,baz=207,slow=0.3,SNR=29						
SONM				PKPab	PKPab	08 22 42.3	+0.3
	comp=Z,51nm,1.1s,baz=1.3,slow=3.3,SNR=5.7						
SONM				PP	PP	08 26 24.3	-7.2
	comp=Z,12nm,1.1s,baz=353,slow=10,SNR=4.5						
TIA	Tai'an	170.00	264	ePKP	PKPdf	08 21 26.8	-0.5
BJI	Beijing	170.86	287	PKP	PKPdf	08 21 27.3	-0.3
ENH	Enshi	171.51	209	ePKPdf	PKPdf	08 21 28.6	+0.3
ENH				ePKPab	PKPab	08 22 54.5	+5.2
CD2	Chengdu	173.03	173	PKP	PKPdf	08 21 28.8	-0.2
CD2				pPKP	pPKPdf	08 21 41.0	+0.5
CD2				sPKP		08 21 45.5	
CD2				PKS	PKSdf	08 24 59.5	-1.9
CD2				PP	PP	08 26 51.3	+4.5
CD2				SKS	SKSdf	08 28 26.0	-3.6
CD2				SKKS	SKKSac	08 33 32.3	+0.9
CD2				SS	SS	08 47 59.5	+1.9
CD2				AMB	AMB		
	comp=Z,12µm,7.6s						
CD2				LR	LR		
	comp=Z,96µm,30.4s						
TIY	Taiyuan	173.94	271	ePKP	PKPdf	08 21 30.8	+1.6
HHC	Hu-ho-hao-te	173.95	302	ePKP	PKPdf	08 21 28.5	-0.6
HHC				pPKP	pPKPdf	08 21 39.3	-1.3
HHC				sPKP		08 21 43.5	
XAN	Xi'an	174.94	223	PKP	PKPdf	08 21 28.5	-1.1
XAN				LR	LR		
	comp=Z,29µm,19.9s						
XAN				LR	LR		
	comp=Z,13µm,21.0s						
XAN				LR	LR		
	comp=Z,15µm,20.7s						
GTA	Gaotai	175.80	67	⇑PKP	PKPdf	08 21 28.5	-1.3
GTA				pPKP	pPKPdf	08 21 39.0	-2.3
GTA				sPKP		08 21 43.3	
GTA				PKPab	PKPab	08 23 09.3	+0.8
GTA				PP	PP	08 27 03.3	+1.6
GTA				SKS	SKSdf	08 28 27.0	-3.1
GTA				SKKS	SKKSac	08 33 44.3	-0.7
GTA				SS	SS	08 48 23.5	-3.5
GTA				LR	LR		
	comp=Z,24µm,21.9s						
GTA				LR	LR		
	comp=Z,46µm,19.0s						
GTA				LR	LR		
	comp=Z,56µm,22.8s						
LZH	Lanzhou	178.09	156	ePKP	PKPdf	08 21 29.0	-1.3
LZH				pPKP	pPKPdf	08 21 40.3	-1.5
LZH				sPKP		08 21 45.3	
LZH				PKPab		08 23 18.3	
LZH				PP	PP	08 27 11.3	-0.1

MAN 27 08:01:45,11.07N×124.60E,h12km,mb4.4,ML3.2,MS3.1, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OCLP	Ormoc	0.02	162	eP	Pg	08 01 46.5	-0.6
OCLP				eS	Sg	08 01 48.9	+0.3
MSLP	Maasin	0.96	165	eP	Pg	08 02 03.5	0.0
MSLP				eS	Sg	08 02 14.4	-1.7
LLP	Lapu-Lapu	0.97	220	eP	Pg	08 02 03.5	-0.3
LLP				eS	Sn	08 02 18.5	+0.2
TBP	Tagbilaran	1.55	208	eP	Pg	08 02 15.0	+0.2
TBP				eS	Sg	08 02 37.2	+2.2

IDC 27 08:05:31.4±1.4,25.94N×128.52E,h0km,mb4.1/6, mb1 4.1/7,mb1mx3.9/52,mbtmp4.1/7,ML3.1/1,Error ellipse: s-maj=57.7km s-min=20.7km az=79.0
ISCJB 27 08:05:33.5±1.1,25.96N±0.05×128.62E±0.04,h30km±7km, mb4.0/6,Error ellipse: s-maj=7.8km s-min=6.5km az=154.5
JMA 27 08:05:34.3±0.3,25.97N×128.59E,h35km,M3.5
ISC 27 08:05:33.1±1.6,25.95N±0.05×128.62E±0.04,h16km±9km, n19,σ1.49/30,mb4.1/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.78	317	P	Pg	08 05 48.1	-0.2
JNTH				S	Sg	08 05 58.2	-0.4
JJT2	Tamagusuku 2	0.80	284	P	Pb	08 05 48.9	+0.3
JJT2				S	Sb	08 06 00.0	+0.8
JOW	Kunigami	0.93	341	P	Pb	08 05 51.0	+0.1
JOW	Kunigami	0.93	341	Pn	Pg	08 05 51.2	0.0
	16nm,0.3s,baz=151,slow=20,SNR=188						
JOW				Sn	Sb	08 05 59.2	-3.8
	33nm,0.3s,baz=158,slow=15,SNR=28						
JIH	Iheya	1.23	332	P	Pn	08 05 55.6	+0.1
JIH				S	Sb	08 06 11.0	-0.5
JAGN	Aguni-jima	1.39	298	P	Pn	08 05 57.3	-0.4
JAGN				S	Sn	08 06 13.7	-2.0
JOKE	Okinoerabujima	1.41	358	P	Pn	08 05 58.2	+0.1
JOKE				S	Sn	08 06 15.1	-1.2
JKE	Kume jima 2	1.69	283	P	Pn	08 06 00.9	-0.9
JKE				S	Sn	08 06 20.0	-3.1
JTK	Tokunoshima	1.85	9	P	Pn	08 06 04.5	+0.3
JTK				S	Sn	08 06 25.9	-1.4
JAMN	Amaminishikomi	2.34	12	P	Pn	08 06 11.2	+0.4
JAMN				S	Sn	08 06 38.2	-1.0
JMZ	Minamidaito 2	2.35	93	P	Pn	08 06 10.3	-0.7
JMZ				S	Sn	08 06 35.8	-3.7
JAM	Amami Oshima	2.61	20	P	Pn	08 06 14.1	-0.4
JAM				eS	Sn	08 06 44.9	-0.9
JNU	Nakatsue	7.42	15	Pn	Pn	08 07 22.1	+1.4
	0.5nm,0.3s,baz=21,slow=14,SNR=2.8						
SONM	Songino Array	27.98	327	P	P	08 11 25.1	+2.1
	2.6nm,0.7s,baz=143,slow=11,SNR=14						
MKAR	Makanchi Array	41.98	312	P	P	08 13 23.5	+0.2
	1.2nm,0.6s,baz=91,slow=9.9,SNR=5.5						
WRA	Warramunga Arr	45.95	172	P	P	08 13 56.3	+0.9
	1.6nm,0.6s,baz=353,slow=8.3,SNR=7.6						
FINES	FINESS Array B	73.28	331	P	P	08 17 03.5	+0.1
	1.5nm,0.8s,baz=65,slow=3.7,SNR=3.9						
AKASG	Malin Array Be	75.97	320	P	P	08 17 19.9	+0.7
	3.1nm,0.9s,baz=59,slow=6.3,SNR=7.0						
BRTR	Keskin Array B	77.48	308	P	P	08 17 28.6	+0.5
	2.8nm,1.0s,baz=101,slow=3.9,SNR=5.0						

ISCJB 27 08:09:15.6±0.8,33.66S±0.10×73.0W±0.3,h19km,mb4.8/7, Error ellipse: s-maj=33.7km s-min=12.8km az=168.6
IDC 27 08:09:15.8±1.0,33.39S×72.69W,h0km,mb4.8/5, mb1 4.9/5,mb1mx4.5/29,mbtmp4.8/5,Error ellipse: s-maj=43.5km s-min=30.3km az=56.0
NEIC 27 08:09:20.7±0.7,33.60S×72.81W,h35km,mb5.1/2,Error ellipse: s-maj=33.1km s-min=13.7km az=79.0
ISC 27 08:09:18.2±0.8,33.6S±0.1×72.8W±0.2,h19km,n15, σ1.23/14,mb4.9/7,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	7.37	167	Pn	Pn	08 11 04.1	-0.8
LPAZ	La Paz	17.70	15	P	P	08 13 25.6	+0.4
	0.4nm,0.3s,baz=162,slow=9.6,SNR=2.2						
JTS	JuntasAbangare	45.13	343	eP	P	08 17 32.6	-0.9
	51nm,1.5s						
SNAA	Sanae	52.22	158	P	P	08 18 28.1	+0.5
	12nm,0.9s,baz=280,slow=7.1,SNR=5.4						
TEIG	Tepich	55.50	342	P	P	08 18 56.6	+4.7
	16nm,0.9s,baz=317,slow=2.8,SNR=6.2						
TEIG	Tepich	55.50	342	eP	P	08 18 52.9	+1.0
	12nm,0.6s						
TXAR	Lajitas Array	69.06	331	P	P	08 20 22.4	-0.4
	2.2nm,0.7s,baz=144,slow=6.7,SNR=4.1						
DBIC	Dimbokro	75.62	72	P	P	08 21 01.1	-1.1
	7.6nm,0.6s,baz=233,slow=11,SNR=3.6						
PDAR	Pinedale Array	83.10	334	P	P	08 21 41.1	-1.6
	8.3nm,1.1s,baz=131,slow=3.7,SNR=3.8						
TORD	Torodi Ar. Bea	84.64	71	P	P	08 21 50.5	-0.3
	13nm,0.7s,baz=249,slow=4.4,SNR=9.9						
WRA	Warramunga Arr	120.84	210	PKP	PKPdf	08 28 11.4	+1.7
	2.5nm,0.9s,baz=177,slow=1.8,SNR=4.0						
AKASG	Malin Array Be	122.34	47	PKP	PKPdf	08 28 12.7	+1.1
	0.9nm,0.5s,baz=259,slow=3.4,SNR=4.7						
BVAR	Borovoye Array	147.37	42	PKPbc	PKPab	08 29 01.5	-0.6
	baz=308,slow=2.8						
ZALV	Zalesovo Beam	154.18	31	PKPbc	PKPbc	08 29 18.1	+1.9
	7.4nm,0.7s,baz=312,slow=3.1,SNR=5.9						
MKAR	Makanchi Array	156.93	48	PKPab	PKPab	08 29 43.5	+1.3
	8.0nm,1.1s,baz=276,slow=3.0,SNR=4.2						

IDC 27 08:13:06.9±0.5,33.63S×71.93W,h0km,mb5.1/18, mb1 5.2/19,mb1mx5.0/32,mbtmp5.1/19,ML5.1/1,Error ellipse: s-maj=20.1km s-min=15.6km az=71.0
GUC 27 08:13:10.0±0.5,33.69S×72.08W,h15km±29km,ML5.6
MOS 27 08:13:13.6±1.1,32.85S×71.10W,h33km,mb5.6/34,Error ellipse: s-maj=25.9km s-min=9.3km az=106.1
NEIC 27 08:13:14.5±0.4,33.30S×71.58W,h35km,mb5.6/90,Error ellipse: s-maj=12.9km s-min=10.0km az=220.0
ISCJB 27 08:13:14.4±0.2,33.01S±0.06×71.49W±0.06,h33km, mb5.5/111,Error ellipse: s-maj=9.8km s-min=5.1km az=39.9
BJI 27 08:13:16.0,33.00S×71.60W,h35km,mB5.4/2,Ms5.2/1, Ms7 4.9/1
ISC 27 08:13:10.5±0.3,33.61S±0.05×71.90W±0.05,h19km,n628, σ1.72/626,mb5.6/112,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.62	21	eP	Pg	08 13 23.5	+0.7
TACH	Talagante	0.81	94	eP	Pn	08 13 27.0	+0.1
SAN	Santiago	1.05	82	eP	Pg	08 13 30.9	+0.1
ANTU	Antumapu	1.06	88	eP	Pg	08 13 31.2	+0.1
ANTU				eS	Sg	08 13 47.0	+2.0
ANTU				AML	AML	08 13 51.2	
	comp=E,155µm,0.6s						
PEL	Peldehue	1.12	66	eP	Pg	08 13 32.6	+0.4
PEL				eS	Sg	08 13 49.5	+2.7
PEL				AML	AML	08 13 54.0	
	comp=E,342µm,0.7s						
PCH	Pirque	1.16	91	eP	Pg	08 13 32.9	-0.1
CFAA	Coronel Fontan	3.68	58	Pn	Pn	08 14 10.2	+3.7
	comp=E,12nm,0.3s,baz=237,slow=13,SNR=5.6						
CFAA				Lg	Lg	08 15 03.6	
	comp=E,16nm,0.3s,baz=175,slow=7.8,SNR=3.5						
PLCA	Paso Flores	7.20	172	eP	Pb	08 15 08.1	-6.7
PLCA	Paso Flores	7.20	172	ePn	Pb	08 15 08.1	-6.7
TRQA	Tornquist	9.20	122	ePn	Pn	08 15 29.6	+7.5
CPUP	Villa Florida	14.55	64	P	P	08 16 39.8	-2.0
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CPUP	Villa Florida	14.55	64	Pn	P	08 16 39.8	-2.0
	comp=Z,2.9nm,0.3s,baz=286,slow=18,SNR=5.1						
CPUP				Sn	Sn	08 19 21.1	+4.8
	comp=Z,4.4nm,0.3s,baz=250,slow=9.5,SNR=3.0						
LPAZ	La Paz	17.58	12	P	Pn	08 17 15.2	+0.1
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
LPAZ	La Paz	17.58	12	P	Pn	08 17 15.2	+0.1
	comp=Z,2.8nm,0.3s,baz=185,slow=7.9,SNR=12						
LPAZ	La Paz	17.58	12	ePn	P	08 17 15.7	-0.4
	comp=Z,205nm,1.0s						
SIV	San Ignacio	20.08	32	P	P	08 17 42.4	-0.6
	comp=Z,42nm,0.8s,baz=229,slow=9.7,SNR=12						
USHA	Ushuaia	21.36	174	P	P	08 17 57.9	+1.5
	comp=Z,65nm,0.9s,baz=338,slow=12,SNR=7.9						
NNA	Nana	21.99	347	P	P	08 18 04.8	+1.2
NNA				pmax	pmax		
	comp=Z,80nm,1.2s						
NNA	Nana	21.99	347	P	P	08 18 04.8	+1.2
	comp=Z,80nm,1.2s,baz=204,slow=12,SNR=4.6						
NNA	Nana	21.99	347	eP	P	08 18 04.0	+0.5
SAML	Samuel	25.82	20	eP	P	08 18 40.5	-0.2
	comp=Z,79nm,1.0s						
BDFB	Brasilia	28.02	56	P	P	08 18 59.9	-0.7
BDFB				pmax	pmax		
	comp=Z,34nm,0.8s						
BDFB	Brasilia	28.02	56	P	P	08 18 59.9	-0.7
	comp=Z,34nm,0.8s,baz=208,slow=7.8,SNR=14						
HOPE	Hope Point	32.32	141	eP	P	08 19 38.7	+0.6
	comp=Z,208nm,1.4s						
OTAV	Otavalo	34.22	348	eP	P	08 19 57.2	+1.6
	comp=Z,18nm,1.2s						
SDV	Santo Domingo	42.27	2	eP	P	08 21 01.7	-1.4
RCBR	Riachuelo	43.34	58	P	P	08 21 11.2	-0.5
	comp=Z,33nm,1.0s,baz=224,slow=11,SNR=5.9						
GRGR	Grenville	46.52	14	eP	P	08 21 35.4	-1.4
	comp=Z,233nm,1.1s						
SVV	Soufriere Volc	47.76	14	e	P	08 21 46.3	-0.2
SSV	Crater Summit	47.77	14	e	P	08 21 43.4	-3.3
SLB	Belfond	48.29	14	e	P	08 21 50.1	-0.5
FDF	Fort de France	49.15	14	eP	P	08 21 53.9	-3.3
FDF	Fort de France	49.15	14	eP	P	08 21 53.9	-3.3
SABA	Saba	51.60	11	eP	P	08 22 14.8	-0.9
	comp=Z,328nm,0.8s						
LSP	Las Mesas	51.70	6	eP	P	08 22 15.8	-0.6
PAPH	Port-au-Prince	51.84	360	eP	P	08 22 18.9	+1.4
ANWB	Willy Bob	51.89	12	eP	P	08 22 15.7	-2.2
	comp=Z,116nm,0.9s						
SNAA	Sanae	51.91	158	P	P	08 22 16.9	-0.6
SNAA				pmax	pmax		
	comp=Z,30nm,1.1s						
SNAA	Sanae	51.91	158	P	P	08 22 16.9	-0.6
	comp=Z,30nm,1.1s,baz=270,slow=7.9,SNR=14						
SNAA	Sanae	51.91	158	eP	P	08 22 17.2	-0.3
	comp=Z,437nm,1.3s						
SDDR	Presa de Saban	52.30	1	eP	P	08 22 21.9	+0.9
	comp=Z,522nm,2.9s						
GTBY	Guantanamo Bay	53.32	356	eP	P	08 22 29.1	+0.7
	comp=Z,811nm,2.6s						
TEIG	Tepich	55.76	341	eP	P	08 22 45.8	-0.3
	comp=Z,60nm,0.7s						
QSPA	South Pole Qui	56.63	180	P	P	08 22 52.0	-0.1
	comp=Z,50nm,0.9s,baz=165,slow=4.2,SNR=11						
NVL	N'lazarevskaya	56.64	157	eP	P	08 22 51.5	-0.3
NVL				pmax	pmax		
	comp=Z,131nm,1.1s						
035A	Encino	65.15	334	P	P	08 23 52.3	+2.1
	baz=65						
034A	Hebbronville	65.48	334	P	P	08 23 54.6	+2.3
	baz=66						
934A	Benavides	65.91	334	P	P	08 23 57.0	+2.0
	baz=66						
SYO	Syowa Base	66.19	159	⇓eX	pP	08 24 04.4	+1.8
933A	Laredo	66.19	334	P	P	08 23 59.0	+2.1
	baz=66						
835A	Beeville	66.28	335	P	P	08 23 59.8	+2.4
	baz=66						
834A	Tilden	66.39	334	P	P	08 24 00.9	+2.7
	baz=66						
735A	Kenedy	66.80	335	P	P	08 24 03.1	+2.4
	baz=67						
833A	Chaparral WMA,	66.88	334	P	P	08 24 03.4	+2.0
	baz=67						
734A	La Parita Cree	67.05	335	P	P	08 24 04.1	+1.7
	baz=67						
832A	Faith Ranch, C	67.06	333	P	P	08 24 04.7	+2.2
	baz=67						
636A	Smothers Creek	67.11	336	P	P	08 24 03.9	+1.2
	baz=67						
733A	Divot King Ran	67.20	334	P	P	08 24 05.7	+2.4
	baz=67						
635A	Leesville	67.27	336	P	P	08 24 04.9	+1.1
	baz=67						
537A	Green Hill Far	67.42	337	P	P	08 24 05.8	+1.1
	baz=68						
732A	Laxson Ranch,	67.46	333	P	P	08 24 04.9	-0.1
	baz=68						
GOGA	Godfrey	67.55	350	eP	P	08 24 04.6	-0.8
GOGA				pmax	pmax		
	comp=Z,238nm,2.2s						
GOGA	Godfrey	67.55	350	eP	P	08 24 04.6	-0.8
	comp=Z,238nm,2.2s						
536A	Bastrop	67.66	337	P	P	08 24 06.9	+0.7
	baz=68						
VBMS	Vicksburg	67.78	343	eP	P	08 24 07.1	+0.1
	comp=Z,76nm,1.0s						
535A	Dale	67.79	336	P	P	08 24 07.5	+0.4
	baz=68						
633A	Saathoff Ranch	67.83	334	P	P	08 24 09.0	+1.7
	baz=68						
339A	Huntington	68.04	339	P	P	08 24 08.7	+0.1
	baz=68						
632A	Uvalde	68.09	334	P	P	08 24 10.8	+1.8
	baz=68						
534A	Blanco	68.10	335	P	P	08 24 09.1	0.0
	baz=68						
338A	Crockett	68.29	339	P	P	08 24 11.1	+1.0
	baz=68						
631A	Perdido Creek	68.30	333	P	P	08 24 10.7	+0.4
	baz=68						
533A	Kerrville	68.34	335	P	P	08 24 10.7	+0.1
	baz=68						
337A	Centerville	68.43	338	P	P	08 24 11.4	+0.4
	baz=68						
NATX	Nacogdoches	68.47	339	eP	P	08 24 12.8	+1.6
	comp=Z,21nm,1.0s						
435B	Jarrell	68.48	336	P	P	08 24 11.6	+0.2
	baz=68						
239A	Gary	68.66	340	P	P	08 24 12.8	+0.4
	baz=69						
532A	Rocksprings	68.70	334	P	P	08 24 13.2	+0.4
	baz=69						
CNNC	Cliffs of the	68.72	355	eP	P	08 24 13.1	+0.4
	comp=Z,435nm,2.5s						
434A	Burnet	68.75	336	P	P	08 24 13.1	0.0
	baz=69						
336A	Riesel	68.80	337	P	P	08 24 13.5	+0.1
	baz=69						
238A	Jacksonville	68.83	339	P	P	08 24 13.7	+0.2
	baz=69						
531A	Rocksprings	68.97	334	P	P	08 24 16.0	+1.5
	baz=69						
433A	Art	68.98	335	P	P	08 24 14.2	-0.3
	baz=69						
JCT	Junction City	68.98	334	eP	P	08 24 14.1	-0.5
JCT				pmax	pmax		
	comp=Z,78nm,1.1s						
JCT	Junction City	68.98	334	eP	P	08 24 14.1	-0.5
	comp=Z,78nm,1.1s						
JCT	Junction City	68.98	334	P	P	08 24 14.0	-0.6
	baz=69						
237A	Washetta, Mont	69.04	338	P	P	08 24 14.4	-0.4
	baz=69						
334A	Lometa	69.21	336	P	P	08 24 15.6	-0.3
	baz=69						
530A	J-C Ranch, Com	69.25	333	P	P	08 24 16.0	-0.2
	baz=69						
432A	Menard	69.34	335	P	P	08 24 16.5	-0.2
	baz=69						
138A	Matatall Enter	69.44	339	P	P	08 24 17.6	+0.3
	baz=70						
TXAR	Lajitas Array	69.45	331	P	P	08 24 17.2	-0.3
TXAR	Lajitas Array	69.45	331	P	P	08 24 17.2	-0.3
	comp=Z,5.0nm,0.7s,baz=152,slow=7.8,SNR=9.1						
431A	Sonora	69.46	334	P	P	08 24 19.1	+1.6
	baz=70						
333A	Richland Sprin	69.46	335	P	P	08 24 18.4	+0.9
	baz=70						
WHTX	Lake Whitney	69.55	337	eP	P	08 24 17.7	-0.3
	comp=Z,62nm,1.0s						
WHTX	Lake Whitney	69.55	337	P	P	08 24 18.5	+0.5
	baz=70						
529A	Stev Forest Ra	69.57	332	P	P	08 24 17.8	-0.4
	baz=70						
137A	Heron Place, G	69.58	339	P	P	08 24 17.9	-0.2
	baz=70						
SWET	Sewanee	69.71	348	eP	P	08 24 17.8	-1.2
	comp=Z,120nm,1.3s						
OXF	Oxford	69.72	345	eP	P	08 24 16.9	-2.1
OXF	Oxford	69.72	345	eP	P	08 24 16.9	-2.1
	comp=Z,1µm,1.1s						
332A	Millersview	69.78	335	P	P	08 24 18.9	-0.6
	baz=70						
430A	Baggett Ranch,	69.78	333	P	P	08 24 19.1	-0.4
	baz=70						
234A	Clairette	69.79	336	P	P	08 24 19.0	-0.5
	baz=70						
TKL	Tuckaleechee C	69.80	350	eP	P	08 24 18.7	-0.7
TKL	Tuckaleechee C	69.80	350	eP	P	08 24 18.7	-0.7
429A	Davenport Ranc	69.89	333	P	P	08 24 21.4	+1.2
	baz=70						
331A	San Angelo	69.96	334	P	P	08 24 21.8	+1.2
	baz=70						
135A	Vickery Place,	70.06	337	P	P	08 24 22.4	+1.2
	baz=70						
233A	Rising Star	70.06	336	P	P	08 24 22.4	+1.3
	baz=70						
232A	Coleman	70.20	335	P	P	08 24 23.7	+1.6
	baz=70						

134A White-Moore Ra 70.29 337 P P 08 24 24.0 +1.4
baz=70
330A Mertzon 70.32 334 P P 08 24 24.0 +1.2
baz=70
133A Hamilton Ranch 70.61 336 P P 08 24 25.7 +1.2
baz=71
UALR University of 70.67 342 eP P 08 24 25.6 +0.8
comp=Z,35nm,1.0s
329A Wagon Wheel Ra 70.69 333 P P 08 24 26.3 +1.2
baz=71
Z35A Perchaven, San 70.72 338 P P 08 24 26.3 +1.1
baz=71
230A Sterling City 70.73 334 P P 08 24 26.4 +1.1
baz=71
MIAR Mount Ida 70.78 341 eP P 08 24 25.7 +0.3
MIAR pmax pmax
comp=Z,37nm,1.1s
MIAR Mount Ida 70.78 341 eP P 08 24 25.7 +0.3
comp=Z,37nm,1.1s
ABTX Abilene, Hawle 70.87 335 eP P 08 24 25.6 -0.5
comp=Z,59nm,0.9s
ABTX Abilene, Hawle 70.87 335 P P 08 24 27.1 +1.0
baz=71
BLA Blacksburg 70.90 353 eP P 08 24 27.3 +1.1
BLA pmax pmax
comp=Z,135nm,1.6s
BLA Blacksburg 70.90 353 eP P 08 24 27.3 +1.1
comp=Z,135nm,1.6s
WVT Waverly 70.95 346 eP P 08 24 25.3 -1.2
WVT pmax pmax
comp=Z,114nm,0.9s
WVT Waverly 70.95 346 eP P 08 24 25.3 -1.2
comp=Z,114nm,0.9s
Z34A Collier Ranch, 70.97 337 P P 08 24 27.8 +1.1
baz=71
229A Bryant Ranch, 71.06 333 P P 08 24 28.5 +1.2
baz=71
JSRW J. Sargeant Re 71.16 355 eP P 08 24 27.6 0.0
Z33A Whitaker Ranch 71.17 336 P P 08 24 29.4 +1.4
baz=71
131A Roby 71.18 335 P P 08 24 29.4 +1.4
baz=71
BBTS Babate 71.31 57 P P 08 24 29.7 +0.6
comp=Z,14nm,0.3s,baz=309,slow=9.1,SNR=5.0
130A Snyder 71.31 334 P P 08 24 29.5 +0.6
baz=71
Z32A Haskell 71.43 336 P P 08 24 31.1 +1.6
baz=72
Y34A Reagan Ranch, 71.46 338 P P 08 24 30.8 +1.2
baz=72
228A UT Block 9, Go 71.49 333 P P 08 24 31.2 +1.2
baz=72
129A Stewart Farms, 71.67 334 P P 08 24 31.9 +0.9
baz=72
Z31A Sharp Cattle R 71.67 335 P P 08 24 32.2 +1.2
baz=72
Y33A Hilltop Ranch, 71.79 337 P P 08 24 32.5 +0.9
baz=72
PARMO Parma 71.87 345 eP P 08 24 31.4 -0.6
128A Castleberry Fa 71.90 333 P P 08 24 33.3 +0.9
baz=72
Z30A Sanderson Ranc 71.99 335 P P 08 24 33.7 +0.8
baz=72
Y32A R-V Farms, Ver 72.06 336 P P 08 24 34.0 +0.8
baz=72
X34A Smith Ranch, M 72.08 338 P P 08 24 34.3 +0.9
baz=72
PBMO Poplar Bluff 72.13 344 eP P 08 24 32.1 -1.4
comp=Z,59nm,1.0s
Z29A Hungry Hill Ra 72.18 334 P P 08 24 34.9 +0.9
baz=72
MNTX Cornudas Mount 72.22 330 eP P 08 24 32.8 -1.5
comp=Z,2µm,1.2s
X33A Lawton 72.24 337 P P 08 24 35.2 +1.0
baz=72
127A Arkansas Junct 72.28 332 P P 08 24 35.8 +1.1
baz=72
X32A Elmer 72.39 336 P P 08 24 36.3 +1.1
baz=72
Y30A Stafford Cattl 72.44 335 P P 08 24 36.8 +1.2
baz=72
W34A Bridge Creek, 72.64 338 eP P 08 24 37.7 +1.0
comp=Z,148nm,1.6s
W34A Bridge Creek, 72.64 338 P P 08 24 38.0 +1.3
baz=73
TUL1 Tulsa 72.68 340 eP P 08 24 36.0 -0.9
comp=Z,44nm,0.8s
TUL1 Tulsa 72.68 340 P P 08 24 37.6 +0.7
baz=73
USIN University of 72.70 347 eP P 08 24 35.6 -1.4
comp=Z,116nm,1.1s
Y29A Porterfield Fa 72.70 334 P P 08 24 38.3 +1.1
baz=73
SIUC Southern Illin 72.77 346 eP P 08 24 35.5 -1.9
comp=Z,56nm,0.9s
W33A Caddo, Fort Co 72.79 337 P P 08 24 39.0 +1.5
baz=73
X31A McDonald Ranch 72.81 336 P P 08 24 38.9 +1.1
baz=73
Y28A McKinney Farm, 72.96 334 P P 08 24 40.2 +1.4
baz=73
W32A Sentinel 73.01 337 P P 08 24 40.4 +1.5
baz=73
Z26A Caprock 73.05 332 P P 08 24 40.6 +1.3
baz=73
V34A Guthrie 73.12 338 eP P 08 24 41.1 +1.6
comp=Z,127nm,1.5s
V34A Guthrie 73.12 338 P P 08 24 40.9 +1.4
baz=73
MSTX Muleshoe 73.21 334 eP P 08 24 39.6 -0.6
comp=Z,69nm,1.0s
MSTX Muleshoe 73.21 334 P P 08 24 41.6 +1.4
baz=73
X29A Tulia 73.24 335 P P 08 24 41.9 +1.5
baz=73
Y27A Causey 73.28 333 P P 08 24 42.1 +1.5
baz=73
W31A Holland Ranch, 73.30 336 P P 08 24 42.2 +1.6
baz=73
Z25A Roswell 73.34 332 P P 08 24 42.6 +1.6
baz=73
V33A Lossen Ranch, 73.34 338 P P 08 24 42.4 +1.6
baz=73
X28A Dimmitt 73.49 334 P P 08 24 43.1 +1.2
baz=74
V32A Arapaho 73.49 337 P P 08 24 43.5 +1.7
baz=74
W30A Crocket Farms 73.51 336 P P 08 24 43.3 +1.4
baz=74
Y26A Elida 73.56 333 P P 08 24 44.1 +1.8
baz=74
AMTX Amarillo 73.63 335 eP P 08 24 43.9 +1.2
comp=Z,936nm,2.8s
AMTX Amarillo 73.63 335 P P 08 24 44.1 +1.5
baz=74
319A Douglas 73.63 327 P P 08 24 44.9 +2.1
baz=74
Z24A Sheeppen Canyo 73.64 331 P P 08 24 44.8 +1.9
baz=74
U34A Anderson Ranch 73.68 339 eP P 08 24 42.6 -0.2
comp=Z,57nm,1.0s
U34A Anderson Ranch 73.68 339 P P 08 24 43.7 +0.9
baz=74
V31A Spring Creek L 73.80 337 P P 08 24 44.9 +1.3
baz=74
W29A Amraillo 73.83 335 P P 08 24 45.1 +1.3
baz=74
U33A Lingo Farm, Me 73.85 338 P P 08 24 45.3 +1.5
baz=74
SLM Saint Louis 73.87 345 eP P 08 24 42.7 -1.1
SLM pmax pmax
comp=Z,73nm,0.9s
SLM Saint Louis 73.87 345 eP P 08 24 42.7 -1.1
comp=Z,73nm,0.9s
Y25A Mesa, Roswell 73.90 332 P P 08 24 46.2 +1.9
baz=74
X27A F and S Farms, 73.93 334 P P 08 24 46.3 +1.9
baz=74
121A Cookes Peak, D 73.96 329 eP P 08 24 45.2 +0.5
comp=Z,49nm,1.0s
121A Cookes Peak, D 73.96 329 P P 08 24 47.0 +2.3
baz=74
V30A Spur Ranch, Mi 74.08 336 P P 08 24 47.5 +2.2
baz=74
SSPA Standing Stone 74.08 355 eP P 08 24 44.4 -0.6
U32A Winter Ranch, 74.08 338 P P 08 24 46.7 +1.5
baz=74
X26A CR and CF Fran 74.11 333 P P 08 24 47.1 +1.6
baz=74
W28A Vega 74.15 335 P P 08 24 47.5 +1.8
baz=74
ACSO Alum Creek Sta 74.18 351 eP P 08 24 44.5 -1.1
comp=Z,122nm,1.4s
Y24A Capitan 74.19 331 P P 08 24 47.5 +1.3
baz=74
Z22A Elephant Butte 74.23 330 P P 08 24 47.2 +0.9
baz=74
W27A Bowe Ranch, En 74.29 334 P P 08 24 48.2 +1.6
baz=74
Y23A Lovelace Mesa, 74.45 331 P P 08 24 49.3 +1.7
baz=74
V29A Stinnett 74.46 335 P P 08 24 49.8 +2.3
baz=74
T33A Patterson Ranc 74.49 338 P P 08 24 49.4 +1.9
baz=74
LIC Lamto 74.54 72 eP P 08 24 46.9 -1.5
comp=Z,346nm,1.8s
W26A Owens Ranch, T 74.57 333 P P 08 24 50.1 +1.9
baz=75
V28A Channing 74.60 335 P P 08 24 50.3 +2.0
baz=75
X24A Lazy VL Ranch, 74.75 332 P P 08 24 51.4 +2.0
baz=75
U30A WK&E Inc. Balk 74.76 336 P P 08 24 51.2 +2.0
baz=75
T32A Huddler Ranch, 74.79 338 P P 08 24 51.3 +2.0
baz=75
TIC Toumodi 74.80 71 eP P 08 24 48.8 -1.1
comp=Z,98nm,1.2s
V27A Dan Oppiter Fa 74.83 334 P P 08 24 51.6 +2.0
baz=75
KIC Kosan Boka 74.85 72 eP P 08 24 48.8 -1.4
comp=Z,222nm,1.1s
S33A Kaszmaul Farm, 74.89 339 P P 08 24 51.7 +1.9
baz=75
SUR Sutherland 74.92 119 P P 08 24 51.2 +0.5
comp=Z,24nm,0.9s,baz=267,slow=3.5,SNR=6.7
SUR Sutherland 74.92 119 eP P 08 24 55.5 +4.9
comp=Z,129nm,1.2s
DBIC Dimbokro 74.94 71 eP P 08 24 50.4 -0.3
DBIC pmax pmax
comp=Z,53nm,0.8s
DBIC Dimbokro 74.94 71 P P 08 24 50.3 -0.4
comp=Z,42nm,0.8s,baz=210,slow=6.2,SNR=14
DBIC Dimbokro 74.94 71 eP P 08 24 50.4 -0.3
comp=Z,53nm,0.8s
W25A X Bar L Ranch, 74.95 333 P P 08 24 51.8 +1.4
baz=75
T31A Randall Ranch, 74.96 337 P P 08 24 52.1 +1.8
baz=75
LPM Los Pinos Moun 75.01 331 eP P 08 24 52.8 +1.9
comp=Z,11nm,0.9s
X23A Hourglass Bar 75.07 331 P P 08 24 53.0 +1.8
baz=75
U28A Mallet 75.17 335 P P 08 24 53.4 +1.8
baz=75
V26A Tequesquite Ra 75.21 334 P P 08 24 53.2 +1.4
baz=75
S32A Newby Ranch, P 75.28 338 P P 08 24 53.9 +1.9
baz=75
W24A Lazy 6 Ranch, 75.31 332 P P 08 24 54.1 +1.5
baz=75
U27A Thompson Grove 75.42 335 P P 08 24 54.9 +1.9
baz=76
ANMO Albuquerque 75.49 331 eP P 08 24 53.9 +0.3
ANMO pmax pmax
comp=Z,29nm,1.0s
ANMO Albuquerque 75.49 331 eP P 08 24 53.9 +0.3
comp=Z,29nm,1.0s
R33A Olander Ranch, 75.55 339 P P 08 24 54.8 +1.3
baz=76
T29A Hugoton 75.55 336 P P 08 24 55.2 +1.5
baz=76
V25A Rancho No Teng 75.56 333 P P 08 24 55.5 +1.6
baz=76
W23A Werner Place, 75.56 332 P P 08 24 55.7 +1.7
baz=76
S30A Montezuma 75.71 337 P P 08 24 56.4 +1.8
baz=76
V24A Rampart Ranch, 75.71 332 P P 08 24 56.6 +1.8
baz=76
U26A Atchley Ranch, 75.72 334 P P 08 24 56.7 +1.8
baz=76
214A Organ Pipe Nat 75.76 325 P P 08 24 57.5 +2.5
baz=76
T28A Walsh 75.79 335 P P 08 24 56.9 +1.8
baz=76
R32A Long Quarter, 75.87 339 P P 08 24 57.3 +1.9
baz=76
KSU1 Kansas State U 75.88 340 eP P 08 24 56.3 +0.8
comp=Z,34nm,0.9s
S29A Ulysses 75.91 336 P P 08 24 57.7 +2.0
baz=76
T27A Campo 75.95 335 P P 08 24 57.7 +1.6
baz=76
U25A Circle Dot Ran 75.97 333 P P 08 24 58.3 +2.0
baz=76
TRY Troy 75.98 359 eP P 08 24 56.7 +0.8
comp=Z,1µm,2.8s
V23A Ortiz Mt. (NFS 76.08 332 P P 08 24 58.9 +1.9
baz=76
S28A Manter 76.14 336 P P 08 24 58.7 +1.6
baz=76
R30A Dighton 76.23 337 P P 08 24 59.2 +1.6
baz=76
U24A Moreno Valley 76.31 333 P P 08 24 59.9 +1.6
baz=76
Q32A Meitler Ranch, 76.35 339 P P 08 24 59.7 +1.5
baz=76
T26A Comanche Natio 76.36 334 P P 08 24 59.9 +1.4
baz=76
P33A Williams Farm, 76.50 340 P P 08 25 00.6 +1.6
baz=77
V22A San Miguel Ran 76.52 331 P P 08 25 00.9 +1.4
baz=77
U23A El Rito 76.59 332 P P 08 25 01.9 +2.0
baz=77
X18A Snowflake 76.60 328 P P 08 25 01.6 +1.7
baz=77
Q31A Ellis 76.61 338 P P 08 25 01.3 +1.6
baz=77
T25A Trinidad 76.63 334 P P 08 25 01.7 +1.7
baz=77
ACCN Adirondack Com 76.64 359 eP P 08 25 00.8 +1.1
comp=Z,666nm,2.8s
R29A Marienthal 76.64 337 P P 08 25 01.8 +1.9
baz=77
S26A Kim 76.72 335 P P 08 25 02.2 +1.8
baz=77
R28A Tribune 76.79 336 P P 08 25 02.6 +1.8
baz=77
Q30A Quinter 76.85 338 P P 08 25 02.9 +1.9
baz=77
U22A Llaves 76.90 332 P P 08 25 03.8 +2.2
baz=77
T24B San Luis 76.92 333 P P 08 25 02.7 +0.9
baz=77
P32A Huiting Farm, 76.94 339 P P 08 25 03.2 +1.7
baz=77
W18A Petrified Fore 77.01 329 eP P 08 25 04.6 +2.4
comp=Z,44nm,1.0s
W18A Petrified Fore 77.01 329 P P 08 25 04.2 +2.0
baz=77
Q29A Oakley 77.01 337 P P 08 25 03.4 +1.4
baz=77
R27A Eads 77.08 336 P P 08 25 04.2 +1.8
baz=77
P31A Stockton 77.08 339 P P 08 25 04.3 +1.9
baz=77
S25A Robets Cordova 77.10 334 P P 08 25 04.6 +1.9
baz=77
T23A Casias Ranch, 77.15 333 P P 08 25 04.9 +1.8
baz=77
X16A Lo Mia Camp, P 77.17 327 P P 08 25 05.0 +1.9
baz=77
R26A Arlington 77.32 335 P P 08 25 05.1 +1.3
baz=77
S24A Houchin Ranch, 77.37 333 P P 08 25 04.8 +0.5
baz=77
P30A Selden 77.37 338 P P 08 25 05.4 +1.4
baz=77
O32A Brockman Farm, 77.44 340 P P 08 25 05.5 +1.2
baz=78
Q28A Sharon Springs 77.45 337 P P 08 25 06.1 +1.6
baz=78
LBNH Lisbon 77.48 360 eP P 08 25 04.2 -0.2
LBNH Lisbon 77.48 360 eP P 08 25 04.2 -0.2
comp=Z,2µm,2.5s
Y14A Wickenburg 77.49 326 P P 08 25 06.9 +2.2
baz=78
GLA Glamis 77.63 324 eP P 08 25 07.5 +2.0
GLA pmax pmax
comp=Z,117nm,1.9s
GLA Glamis 77.63 324 eP P 08 25 07.5 +2.0
comp=Z,117nm,1.9s
GLA Glamis 77.63 324 P P 08 25 07.2 +1.7
baz=78
O31A Woolen Ranch, 77.65 339 P P 08 25 07.0 +1.5
baz=78
SCIA State Center 77.66 344 eP P 08 25 07.1 +1.6
comp=Z,66nm,1.0s
KSCO Kaye Shedlock' 77.67 336 P P 08 25 07.8 +2.1
baz=78
S23A Nye Farm, Mont 77.72 333 P P 08 25 08.3 +2.0
baz=78
R24A Sanders Place, 77.85 334 P P 08 25 09.0 +2.1
baz=78
P28A Saint Francis 77.88 337 P P 08 25 08.8 +1.9
baz=78
LONY Lake Ozonia 77.89 358 eP P 08 25 06.4 -0.3
comp=Z,71nm,1.4s
O30A MW Ranch, Wils 77.89 338 P P 08 25 08.2 +1.4
baz=78
Q26A Hugo 77.90 335 P P 08 25 09.1 +2.1
baz=78
SWSC Sam W. Stewart 78.02 323 P P 08 25 09.9 +2.3
baz=78
WUAZ Wupatki 78.06 328 eP P 08 25 08.5 +0.5
WUAZ Wupatki 78.06 328 P P 08 25 10.6 +2.6
baz=78
O29A 4D Ranch, Culb 78.08 338 P P 08 25 09.7 +1.8
baz=78
S22A 4UR Ranch, Cre 78.08 332 P P 08 25 10.5 +2.3
baz=78
R23A Moffat 78.08 333 P P 08 25 10.4 +2.2
baz=78
P27A Ficken Ranch, 78.14 336 P P 08 25 10.7 +2.4
baz=78
Q25A Bedland, Calha 78.15 335 P P 08 25 09.9 +1.4
baz=78
BAR Barrett 78.25 323 eP P 08 25 11.0 +2.0
comp=Z,39nm,1.1s
MVCO Mesa Verde 78.28 331 P P 08 25 11.0 +1.7
baz=78
MONP Monument Peak 78.29 323 P P 08 25 11.3 +1.9
baz=78
PDMCI Parker Dam,Lak 78.32 325 P P 08 25 11.5 +2.2
baz=78
O28A Krutsinger Ran 78.39 337 P P 08 25 11.8 +2.1
baz=78
P26A Davis Ranch, A 78.41 336 P P 08 25 11.9 +2.0
baz=78
BC3 Big Chuckawall 78.43 324 P P 08 25 12.3 +2.2
baz=78
BGNE Belgrade 78.46 340 P P 08 25 12.2 +2.3
baz=78
Q24A Divide 78.52 334 P P 08 25 12.5 +1.8
baz=79
M31A Lambtecht Ranc 78.64 340 P P 08 25 12.6 +1.6
baz=79
P25A Willow Gulch B 78.65 335 P P 08 25 13.3 +2.1
baz=79
N29A Votaw Ranch, W 78.65 338 P P 08 25 12.6 +1.6
baz=79
O27A Beecher Island 78.68 337 P P 08 25 13.6 +2.3
baz=79
IRM Iron Mountain 78.69 325 P P 08 25 13.7 +2.3
baz=79
N28A Pribbeno Ranch 78.82 337 P P 08 25 14.2 +2.2
baz=79
W13A Hualapai Mount 78.85 326 P P 08 25 14.4 +1.9
baz=79
PFO Pinyon Flat Ob 78.88 323 eP P 08 25 15.1 +2.5
PFO Pinyon Flat Ob 78.88 323 P P 08 25 13.2 +0.6
comp=Z,9.2nm,0.8s,baz=121,slow=4.3,SNR=6.6
PFO Pinyon Flat Ob 78.88 323 eP P 08 25 15.1 +2.5
PFO Pinyon Flat Ob 78.88 323 P P 08 25 15.0 +2.5
baz=79
P24A Kohler Place, 78.91 335 P P 08 25 15.0 +2.3
baz=79
NEE2 Needles Airpor 78.93 325 P P 08 25 15.2 +2.6
baz=79
BELC Belle Mtn. Jos 78.97 324 P P 08 25 15.6 +2.5
baz=79
M30A Dale-Ortello V 79.08 339 P P 08 25 16.0 +2.6
baz=79
PV01 Paradox Valley 79.10 331 eP P 08 25 15.7 +1.9
comp=Z,2µm,1.1s
U15A North Rim 79.22 328 P P 08 25 17.0 +2.4
baz=79
MURC Murrieta 79.25 323 P P 08 25 17.1 +2.6
baz=79
N27A Anderson Farm, 79.25 337 P P 08 25 16.2 +1.8
baz=79
L31A Butterfield Fa 79.37 340 P P 08 25 16.9 +2.0
baz=79
SMCO Snowmass 79.38 333 eP P 08 25 18.6 +3.1
comp=Z,32nm,0.9s
LDFC Landfair 79.41 325 eP P 08 25 18.4 +3.0
comp=Z,62nm,1.3s
ISCO Idaho Springs 79.42 334 P P 08 25 17.6 +2.0
baz=80
GMRC Granite Mounta 79.44 325 P P 08 25 18.0 +2.4
baz=80
PV10 Paradox Valley 79.50 331 eP P 08 25 15.6 -0.4
comp=Z,432nm,0.8s
P22A Eagle 79.66 333 P P 08 25 19.2 +2.4
baz=80
CIS Catalina Islan 79.71 322 P P 08 25 19.6 +2.7
baz=80
HEC Hector,Ludlow 79.80 324 P P 08 25 20.4 +2.8
baz=80
O23A Lake Granby, G 79.89 334 P P 08 25 20.1 +1.9
baz=80
BFSC Mount Baldy Ra 79.99 323 P P 08 25 20.9 +2.3
baz=80
K30A Basset 80.05 340 P P 08 25 20.9 +2.3
baz=80
N24A Carr 80.07 335 P P 08 25 21.1 +2.2
baz=80
O22A Kremmling 80.08 334 P P 08 25 21.2 +2.0
baz=80
BOSA Boshof 80.15 118 P P 08 25 20.2 +0.4
BOSA pmax pmax
comp=Z,24nm,1.0s
BOSA Boshof 80.15 118 P P 08 25 20.2 +0.4
comp=Z,24nm,1.0s,baz=244,slow=3.6,SNR=5.9
BOSA Boshof 80.15 118 eP P 08 25 22.8 +2.9
comp=Z,132nm,1.3s
ECSD EROS Data Cent 80.21 342 eP P 08 25 18.6 -0.8
comp=Z,72nm,1.1s
GSC Goldstone 80.41 324 eP P 08 25 23.0 +2.2
GSC pmax pmax
comp=Z,138nm,2.0s
GSC Goldstone 80.41 324 eP P 08 25 23.0 +2.2
comp=Z,138nm,2.0s
GSC Goldstone 80.41 324 P P 08 25 23.4 +2.6
baz=80
N23A Red Feather La 80.50 335 P P 08 25 24.1 +2.7
baz=81
SHPR Sheep Range 80.60 326 eP P 08 25 23.9 +2.1
comp=Z,30nm,1.0s
K28A Ten Mile Ranch 80.61 338 P P 08 25 24.1 +2.4
baz=81
N22A Wattenberg Ran 80.61 334 P P 08 25 23.0 +1.0
baz=81
M24A Cheyenne 80.62 336 P P 08 25 23.8 +1.9
baz=81
CCUT Cedar City 80.63 328 eP P 08 25 24.7 +2.6
comp=Z,695nm,3.0s
SHOC Shoshone 80.64 325 P P 08 25 23.6 +1.6
baz=81
EDW2 Edwards Air Fo 80.66 323 P P 08 25 24.2 +2.1
baz=81
O20A White River Ci 80.69 333 P P 08 25 24.4 +2.0
baz=81
SPMN St. Paul 80.72 345 eP P 08 25 22.4 +0.3
comp=Z,20nm,0.8s
OSI Osito Adit 80.82 322 eP P 08 25 24.6 +1.7
comp=Z,14nm,0.6s
OSI Osito Adit 80.82 322 P P 08 25 25.4 +2.4
baz=81
ARUT Antelope Range 80.86 328 eP P 08 25 25.0 +1.7
ARUT Antelope Range 80.86 328 eP P 08 25 25.0 +1.7

comp=Z,342nm,1.0s
K27A Flueckinger Fa 80.87 338 P P 08 25 25.2 +2.1
baz=81
J29A Okreek 80.93 339 P P 08 25 25.0 +1.7
baz=81
M23A Laramie 80.93 335 P P 08 25 25.4 +1.8
baz=81
LRMC Laurel Mountai 80.99 324 P P 08 25 26.2 +2.3
baz=81
J28A Allard Ranch, 81.21 339 P P 08 25 26.7 +1.8
baz=81
J27A Elkhorn Farm, 81.29 338 P P 08 25 27.6 +2.2
baz=81
N20A Spence Gulch, 81.31 333 P P 08 25 28.0 +2.4
baz=81
K25A Mack Ranch, Ha 81.31 337 P P 08 25 27.8 +2.2
baz=81
FURC Furnace Creek, 81.37 325 P P 08 25 28.2 +2.4
baz=82
I29A Vivian Onida 81.48 340 P P 08 25 28.6 +2.4
baz=82
L23A Garrett 81.49 335 P P 08 25 28.7 +2.1
baz=82
ISA Isabella 81.52 323 eP P 08 25 28.4 +1.7
ISA pmax pmax
comp=Z,26nm,1.0s
ISA Isabella 81.52 323 eP P 08 25 28.4 +1.7
comp=Z,26nm,1.0s
ISA Isabella 81.52 323 P P 08 25 29.0 +2.3
baz=82
I28A Midland 81.72 339 P P 08 25 29.2 +1.7
baz=82
MPU Maple Canyon 81.95 330 eP P 08 25 30.8 +1.8
VES Vestal, Richgr 81.97 323 P P 08 25 31.3 +2.4
baz=82
J25A Sunshine Ranch 81.99 337 P P 08 25 30.8 +1.8
baz=82
H29A Onida 82.01 340 P P 08 25 30.1 +1.1
baz=82
K23A Bowen Ranch, D 82.03 336 P P 08 25 31.0 +1.7
baz=82
I27A Quinn 82.05 339 P P 08 25 30.9 +1.6
baz=82
NLU North Lily Min 82.08 330 eP P 08 25 30.8 +1.1
comp=Z,68nm,2.0s
G30A Faulkton 82.18 341 P P 08 25 31.7 +1.8
baz=82
J24A Dixon Ranch, L 82.22 337 P P 08 25 32.2 +2.0
baz=82
K22A Casper 82.25 335 eP P 08 25 31.8 +1.3
comp=Z,103nm,1.6s
K22A Casper 82.25 335 P P 08 25 32.3 +1.8
baz=82
I26A New Underwood 82.26 338 P P 08 25 32.3 +1.9
baz=82
H28A Mission Ridge 82.29 339 P P 08 25 32.0 +1.5
baz=82
R11A Troy Canyon, C 82.29 327 eP P 08 25 33.4 +2.5
comp=Z,17nm,0.9s
R11A Troy Canyon, C 82.29 327 P P 08 25 33.0 +2.1
baz=82
JLU Jordanelle 82.37 331 eP P 08 25 31.9 +0.6
comp=Z,112nm,2.2s
LBTB Lobatse 82.37 115 eP P 08 25 31.5 -0.2
LBTB Lobatse 82.37 115 eP P 08 25 31.5 -0.2
comp=Z,1μm,2.8s
RCTC Rector, Farmer 82.41 323 P P 08 25 33.6 +2.3
baz=82
G29A Hoven 82.45 340 P P 08 25 32.2 +0.9
baz=82
K21A Alcova 82.50 334 P P 08 25 33.4 +1.6
baz=83
I25A Rochford 82.53 337 P P 08 25 33.7 +1.8
baz=83
H27A Howes 82.56 339 P P 08 25 33.2 +1.2
baz=83
DUG Dugway 82.59 330 eP P 08 25 34.3 +2.0
DUG pmax pmax
comp=Z,115nm,1.9s
DUG Dugway 82.59 330 eP P 08 25 34.3 +2.0
comp=Z,115nm,1.9s
DUG Dugway 82.59 330 P P 08 25 33.9 +1.6
baz=83
G28A Parade 82.62 340 P P 08 25 33.8 +1.6
baz=83
RSSD Black Hills 82.72 337 eP P 08 25 32.8 -0.2
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 82.72 337 eP P 08 25 32.8 -0.2
comp=Z,4.9nm,0.8s
TCUT Toone Canyon 82.78 331 eP P 08 25 34.8 +1.4
comp=Z,26nm,0.8s
F30A Leola 82.80 341 P P 08 25 34.4 +1.3
baz=83
TPH Tonopah 82.83 326 eP P 08 25 36.0 +2.3
TPH pmax pmax
comp=Z,27nm,1.0s
TPH Tonopah 82.83 326 eP P 08 25 36.0 +2.3
comp=Z,27nm,1.0s
J22A Midwest 82.91 335 P P 08 25 35.1 +1.2
baz=83
F29A Eureka 83.01 341 P P 08 25 35.2 +1.1
baz=83
H25A Fruitdale 83.03 338 P P 08 25 35.4 +1.0
baz=83
EYMN Ely 83.06 347 eP P 08 25 33.6 -0.8
comp=Z,137nm,1.8s
G27A Dupree 83.20 339 P P 08 25 36.4 +1.2
baz=83
MLAC Mammoth Lakes 83.25 324 P P 08 25 37.9 +2.0
baz=83
F28A McLaughlin 83.30 340 P P 08 25 37.3 +1.6
baz=83
G26A Maurine 83.32 339 P P 08 25 37.4 +1.5
baz=83
I22A 9 Mile Ranch, 83.33 336 P P 08 25 37.3 +1.3
baz=83
E30A Jud 83.38 342 P P 08 25 37.4 +1.4
baz=83
J20A Shoshoni 83.42 334 P P 08 25 38.8 +2.2
baz=84
H24A Dirks Ranch, A 83.44 337 P P 08 25 38.8 +2.2
baz=84
PDAR Pinedale Array 83.46 333 P P 08 25 37.4 +0.5
comp=Z,2.4nm,0.7s,baz=153,slow=6.1,SNR=3.7
G25A Newell 83.48 338 P P 08 25 38.3 +1.6
baz=84
I21A Big Trails, Te 83.54 335 P P 08 25 39.0 +1.8
baz=84
NVAR Mina Array Bea 83.63 325 P P 08 25 37.9 +0.1
comp=Z,2.8nm,0.7s,baz=152,slow=6.1,SNR=5.4
E29A Napoleon 83.64 341 P P 08 25 38.9 +1.5
baz=84
F27A Lemmon 83.67 339 P P 08 25 39.0 +1.4
baz=84
J19A Croweheart 83.70 334 P P 08 25 39.1 +1.1
baz=84
F26A Lodgepole 83.85 339 P P 08 25 39.8 +1.3
baz=84
HVU Hansel Valley 83.90 331 eP P 08 25 38.8 -0.2
HVU pmax pmax
comp=Z,35nm,1.0s
HVU Hansel Valley 83.90 331 eP P 08 25 38.8 -0.2
comp=Z,35nm,1.0s
D30A Buchanan 83.90 342 P P 08 25 40.0 +1.3
baz=84
E28A Huff 83.93 340 P P 08 25 39.8 +0.9
baz=84
TORD Torodi Ar. Bea 83.97 70 P P 08 25 39.8 0.0
comp=Z,54nm,0.8s,baz=249,slow=4.3,SNR=23
RPZ Rata Peaks 84.02 220 eP P 08 25 41.7 +2.0
comp=Z,64nm,1.3s
E27A Carson 84.05 340 P P 08 25 40.4 +0.9
baz=84
D29A Pettibone, Tap 84.08 341 P P 08 25 40.6 +1.0
baz=84
ELK Elko 84.09 328 eP P 08 25 40.3 +0.2
ELK pmax pmax
comp=Z,16nm,0.9s
ELK Elko 84.09 328 eP P 08 25 40.3 +0.2
comp=Z,16nm,0.9s
G23A Biddle 84.12 337 P P 08 25 40.9 +0.9
baz=84
F25A Bowman 84.15 338 P P 08 25 41.2 +1.1
baz=84
AGMN Agassiz Nation 84.31 344 eP P 08 25 41.7 +1.0
comp=Z,131nm,1.9s
AGMN Agassiz Nation 84.31 344 P P 08 25 41.6 +0.9

baz=84
CMB Columbia Colle 84.33 324 eP P 08 25 43.6 +2.4
CMB pmax pmax
comp=Z,24nm,1.4s
CMB Columbia Colle 84.33 324 eP P 08 25 43.6 +2.4
comp=Z,24nm,1.4s
E26A Carlson Angus 84.34 339 P P 08 25 41.9 +0.8
baz=84
H20A Greybull 84.38 335 P P 08 25 42.2 +0.8
baz=84
C30A Mose, Pekin 84.38 342 P P 08 25 41.3 +0.2
baz=84
G22A Birney 84.43 336 P P 08 25 42.5 +0.9
baz=84
D28A Regan 84.46 341 P P 08 25 42.5 +0.9
baz=84
LOHW Long Hollow 84.58 333 eP P 08 25 43.9 +1.3
comp=Z,332nm,3.0s
F23A Volborg 84.58 337 P P 08 25 43.5 +1.2
baz=85
D27A Center 84.65 340 P P 08 25 43.8 +1.2
baz=85
E25A Miller Ranch, 84.65 339 P P 08 25 43.8 +1.2
baz=85
G21A Lodge Grass 84.75 336 P P 08 25 44.1 +1.0
baz=85
I17A Pilgrim Ck. 84.83 333 P P 08 25 44.4 +0.6
baz=85
D26A Manning 84.84 340 P P 08 25 44.8 +1.3
baz=85
H19A Powell 84.89 334 P P 08 25 44.8 +0.9
baz=85
F22A Rosebud 84.91 337 P P 08 25 46.9 +3.0
baz=85
IMW Indian Meadow 84.95 333 eP P 08 25 45.8 +1.3
comp=Z,26nm,1.0s
E24A Baker 84.98 338 P P 08 25 45.7 +1.5
baz=85
FLWY Flagg Ranch 85.02 333 eP P 08 25 44.9 +0.2
comp=Z,40nm,1.0s
B30A Myrvik Farm, E 85.04 343 P P 08 25 45.9 +1.4
baz=85
G20A Bridger 85.09 335 P P 08 25 45.9 +0.9
baz=85
H18A Shoshone NF, C 85.14 334 P P 08 25 46.1 +0.8
baz=85
C27A Sayler Ranch, 85.20 340 P P 08 25 46.3 +1.1
baz=85
D25A Fairfield 85.21 339 P P 08 25 46.8 +1.4
baz=85
H17A Grant Village 85.24 333 P P 08 25 47.1 +1.2
baz=85
F21A Absaloka Mine, 85.24 336 P P 08 25 47.1 +1.4
baz=85
B29A Wagenman Farm, 85.31 342 P P 08 25 47.0 +1.3
baz=85
RLMT Red Lodge 85.38 334 eP P 08 25 47.4 +0.9
comp=Z,50nm,1.3s
YFT Old Faithful 85.39 333 eP P 08 25 50.3 +3.7
comp=Z,561nm,3.0s
E22A Miles City 85.39 337 P P 08 25 47.9 +1.5
baz=86
C26A Wahner Farm, P 85.47 340 P P 08 25 48.1 +1.5
baz=86
D24A Glendive 85.48 338 P P 08 25 48.3 +1.5
baz=86
B28A Dugan Ranch, T 85.56 341 P P 08 25 48.2 +1.2
baz=86
YMR Madison River 85.62 333 eP P 08 25 48.2 +0.5
comp=Z,51nm,0.9s
C25A Freed Ranch, W 85.70 339 P P 08 25 49.3 +1.5
baz=86
LAO LASA Array 85.70 337 eP P 08 25 49.1 +1.3
comp=Z,34nm,1.0s
D23A Lindsay 85.81 338 P P 08 25 49.5 +1.1
baz=86
E21A Keefer Ranch, 85.86 337 P P 08 25 49.3 +0.7
baz=86
C24A Savage 85.89 339 P P 08 25 49.9 +1.2
baz=86
F19A Roth Farm, Mol 85.90 335 P P 08 25 49.9 +1.0
baz=86
QLMT Earthquake Lak 85.93 333 eP P 08 25 50.8 +1.5
A28A Rude Farm, Bot 85.96 342 P P 08 25 49.6 +0.6
baz=86
HLID Hailey 86.05 331 eP P 08 25 52.0 +2.2
comp=Z,271nm,2.6s
HLID Hailey 86.05 331 P P 08 25 51.8 +1.9
baz=86
D22A Cohagen 86.10 337 P P 08 25 51.3 +1.5
baz=86
ULM Lac du Bonnet 86.15 345 P P 08 25 48.4 -1.5
ULM pmax pmax
comp=Z,17nm,1.1s
ULM Lac du Bonnet 86.15 345 P P 08 25 48.4 -1.5
comp=Z,17nm,1.1s,baz=176,slow=3.1,SNR=5.7
ULM Lac du Bonnet 86.15 345 eP P 08 25 48.6 -1.3
E20A Meyer Farm, Mu 86.18 336 P P 08 25 51.2 +1.0
baz=86
A27A Ledoux Ranch, 86.26 341 P P 08 25 51.6 +1.1
baz=86
D21A La Casta Ranch 86.29 337 P P 08 25 52.0 +1.2
baz=86
C23A Lambert 86.36 338 P P 08 25 52.3 +1.2
baz=86
E19A Rath Farm, Rou 86.37 335 P P 08 25 52.3 +1.1
baz=86
A26A Wade Farm, Ken 86.42 341 P P 08 25 52.5 +1.2
baz=86
C22A Vida 86.53 338 P P 08 25 53.1 +1.2
baz=87
DGMT Dagmar 86.66 339 eP P 08 25 51.8 -0.6
comp=Z,63nm,0.8s
DGMT Dagmar 86.66 339 P P 08 25 53.9 +1.4
baz=87
D20A Manuel Ranch, 86.69 336 P P 08 25 53.7 +1.0
baz=87
BOZ Bozeman (W) 86.70 333 eP P 08 25 53.5 +0.6
BOZ pmax pmax
comp=Z,10.0nm,1.0s
BOZ Bozeman (W) 86.70 333 eP P 08 25 53.5 +0.6
comp=Z,10nm,1.0s
A25A Svangstu Ranch 86.76 340 P P 08 25 54.1 +1.1
baz=87
B23A Brockton 86.89 339 P P 08 25 54.7 +1.0
baz=87
WVOR Wild Horse Val 86.96 327 eP P 08 25 56.5 +2.3
WVOR pmax pmax
comp=Z,19nm,1.2s
WVOR Wild Horse Val 86.96 327 eP P 08 25 56.5 +2.3
comp=Z,18nm,1.2s
C21A Desert Coulee 86.99 337 P P 08 25 54.9 +0.7
baz=87
A24A Westby 87.01 339 P P 08 25 55.2 +1.0
baz=87
D19A Cripps Ranch, 87.01 336 P P 08 25 56.5 +2.2
baz=87
B22A Reddig Ranch S 87.06 338 P P 08 25 55.8 +1.3
baz=87
LRM Limekiln Ridge 87.15 333 eP P 08 25 57.0 +1.7
C20A Veseth Ranch, 87.19 337 P P 08 25 55.8 +0.7
baz=87
A23A Redstone 87.30 339 P P 08 25 56.6 +1.1
baz=87
MOD Modoc 87.30 326 eP P 08 25 57.9 +2.0
comp=Z,37nm,1.4s
WDC Whiskeytown Da 87.36 324 eP P 08 25 57.0 +1.0
WDC pmax pmax
comp=Z,133nm,2.0s
WDC Whiskeytown Da 87.36 324 eP P 08 25 57.0 +1.0
comp=Z,133nm,2.0s
B21A Ellsworth Farm 87.49 337 P P 08 25 57.6 +1.1
baz=88
C19A Slack Wire Ran 87.56 336 P P 08 25 57.9 +1.0
baz=88
A22A Carney Farms, 87.64 338 P P 08 25 58.2 +0.9
baz=88
N02D Trinity Center 87.73 324 P P 08 25 58.9 +0.9
baz=88
B20A Solberg Farm, 87.83 337 P P 08 25 58.9 +0.8
baz=88
M04C Macdoel 87.94 325 P P 08 26 00.6 +1.6
baz=88
A21A Bergtoll Ranch 87.96 338 P P 08 25 59.5 +0.8
baz=88
EGMT Eagleton 88.05 336 P P 08 26 00.5 +1.2
baz=88
M02C Callahan 88.13 324 P P 08 26 01.0 +1.2

baz=88
B19A Brinkman Farms 88.15 336 P P 08 26 00.9 +1.2
baz=88
A20A Cobblestone Ra 88.18 337 P P 08 26 01.0 +1.2
baz=88
SCHQ Schefferville 88.19 3 P P 08 25 59.2 -0.5
comp=Z,14nm,1.0s,baz=133,slow=4.0,SNR=6.5
SCHQ Schefferville 88.19 3 eP P 08 26 01.4 +1.7
K05A Summer Lake 88.22 326 eP P 08 26 03.2 +2.8
comp=Z,89nm,1.4s
BMO Blue Mountains 88.31 330 eP P 08 26 02.0 +1.4
BMO pmax pmax
comp=Z,11nm,1.1s
BMO Blue Mountains 88.31 330 eP P 08 26 02.0 +1.4
comp=Z,11nm,1.1s
YBH Yreka Blue Hor 88.31 325 eP P 08 26 02.4 +1.7
YBH pmax pmax
comp=Z,11nm,0.9s
YBH Yreka Blue Hor 88.31 325 eP P 08 26 02.4 +1.7
comp=Z,11nm,0.9s
A19A Klindworth Far 88.49 337 P P 08 26 03.1 +1.8
baz=88
J05D Fort Rock, OR 88.81 326 P P 08 26 04.9 +1.8
baz=89
WALA Waterton Lakes 90.40 334 eP P 08 26 10.9 +0.6
comp=Z,0.8nm,1.3s
KKH Kailua Kona 95.95 290 eP P 08 26 42.4 +5.9
KKH Kailua Kona 95.95 290 eP P 08 26 42.4 +5.9
ESDC Sonseca Array 96.22 46 P P 08 26 37.8 +0.4
comp=Z,2.6nm,0.8s,baz=216,slow=4.6,SNR=6.2
SJPF Ste Jean 99.96 45 eP Pdif 08 26 46.4 -7.6
comp=Z,37nm,1.2s
ETSF Etsaut 100.22 45 eP Pdif 08 26 46.1 -9.1
comp=Z,55nm,1.4s
EPF Esparros 100.83 45 eP Pdif 08 26 49.9 -8.0
YKA Yellowknife Ar 101.72 341 P Pdif 08 26 59.5 -1.8
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 101.72 341 P Pdif 08 26 59.5 -1.8
comp=Z,0.9nm,0.9s,baz=148,slow=3.6,SNR=2.7
LFF La Frestale 102.18 44 eP Pdif 08 26 53.5 -10
TCF Toulx Ste Croi 103.80 43 eP Pdif 08 27 03.0 -8.0
comp=Z,70nm,1.7s
LOR Lormes 105.28 43 eP Pdif 08 27 09.7 -7.9
comp=Z,48nm,1.6s
GERES GERESS Array B 111.80 45 PKiKP PKiKP 08 31 43.0 -0.8
comp=Z,2.7nm,0.8s,baz=169,slow=0.5,SNR=3.2
SUW Suwalki 119.23 42 ePKIKP PKPdf 08 31 57.2 -0.5
SUW Suwalki 119.23 42 ePKPdf PKPdf 08 31 57.2 -0.5
WRA Warramunga Arr 121.16 209 PKIKP PKPdf 08 32 01.7 -1.0
WRA pmax pmax
comp=Z,8.0nm,0.8s
WRA Warramunga Arr 121.16 209 PKP PKPdf 08 32 01.6 -1.0
comp=Z,8.1nm,0.8s,baz=154,slow=1.7,SNR=10.0
BRTR Keskin Array B 121.54 61 PKIKP PKPdf 08 32 01.5 -1.4
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 121.54 61 PKP PKPdf 08 32 01.5 -1.4
comp=Z,4.6nm,0.8s,baz=180,slow=2.9,SNR=8.7
AKASG Malin Array Be 121.84 47 PKIKP PKPdf 08 32 00.8 -2.0
AKASG 08 33 31.2
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 121.84 47 PKP PKPdf 08 32 00.8 -2.0
comp=Z,4.9nm,0.7s,baz=264,slow=2.9,SNR=17
AKASG PP PP 08 33 31.2 -5.8
comp=Z,2.2nm,0.8s,baz=254,slow=6.8,SNR=5.6
FINES FINESS Array B 122.60 34 PKIKP PKPdf 08 32 02.2 -1.8
FINES pmax pmax
comp=Z,8.0nm,1.0s
FINES FINESS Array B 122.60 34 PKP PKPdf 08 32 02.2 -1.8
comp=Z,8.0nm,1.0s,baz=54,slow=7.1,SNR=3.6
ARCES ARCESS Array B 123.61 25 PKIKP PKPdf 08 32 04.0 -1.7
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 123.61 25 PKP PKPdf 08 32 04.0 -1.7
comp=Z,1.3nm,0.5s,baz=240,slow=3.4,SNR=10
H11S2 WAKE ISLAND Hy125.89 269 T T 10 51 04.7
baz=118,slow=74,SNR=8.3
H11S1 WAKE ISLAND Hy125.90 269 T T 10 51 05.0
baz=118,slow=74,SNR=9.2
H11S3 WAKE ISLAND Hy125.91 269 T T 10 51 06.0
baz=118,slow=74,SNR=7.5
APA Apatity 126.39 27⇑ i PKIKP PKPdf 08 32 19.0 +7.9
OBN Obninsk 127.07 43 i PKIKP PKPdf 08 32 11.2 -1.5
OBN e 08 32 22.0
OBN pmax pmax
comp=Z,23nm,1.7s
KLMR Klimovskoe 129.02 36 ePKIKP PKPdf 08 32 14.3 -2.0
KLMR pmax pmax
comp=Z,67nm,1.3s
KBZ Khabaz 129.29 58 PKIKP PKPdf 08 32 16.7 -0.6
KBZ pmax pmax
comp=Z,11nm,0.9s
KBZ Khabaz 129.29 58 PKP PKPdf 08 32 16.6 -0.6
comp=Z,11nm,0.9s,baz=161,slow=3.6,SNR=5.9
PRGR Permogore 131.93 35 PKIKP PKPdf 08 32 19.5 -2.2
BILL Bilibino 132.53 334 ePKIKP PKPdf 08 32 20.5 -2.2
BILL pmax pmax
comp=Z,18nm,1.4s
GEYT Alibeck 139.60 69 PKP PKPdf 08 32 36.4 -0.5
comp=Z,7.7nm,0.8s,baz=276,slow=2.8,SNR=3.6
SEY Seymchan 139.75 330 PKIKP PKPdf 08 32 35.5 -0.8
SEY pmax pmax
comp=Z,22nm,1.0s
SEY Seymchan 139.75 330 PKP PKPdf 08 32 35.5 -0.8
comp=Z,22nm,1.0s,baz=124,slow=6.9,SNR=7.7
ABKAR Akbulak array 141.35 51 ePKPdf PKPdf 08 32 34.9 -4.7
PALK Pallekele 143.55 130 ePKPdf PKPab 08 32 40.6 -0.5
BRVK Borovoye 146.84 43 ePKP2 PKPbc 08 32 50.7 -0.3
BRVK Borovoye 146.84 43 ePKPdf PKPbc 08 32 50.7 -0.3
BVAR Borovoye Array 146.91 43 PKP2 PKPdf 08 32 49.5 +0.3
BVAR pmax pmax
comp=Z,26nm,0.8s
BVAR Borovoye Array 146.91 43 PKPbc PKPdf 08 32 49.5 +0.3
comp=Z,26nm,0.8s,baz=282,slow=2.3,SNR=16
KBL Kabul 147.77 77 ePKP2 PKPbc 08 32 53.3 -1.1
KBL Kabul 147.77 77 ePKPdf PKPbc 08 32 53.2 -1.1
KSM Kuching 147.97 184 ePKPdf PKPbc 08 32 55.5 +0.3
YAK Yakutsk 148.40 341 ePKIKP PKPdf 08 32 52.9 +1.6
YAK pmax pmax
comp=Z,77nm,1.1s
YAK pmax pmax
comp=E,19nm,1.1s
YAK pmax pmax
comp=N,17nm,1.6s
YAK Yakutsk 148.40 341 ePKPdf PKPbc 08 32 54.0 -0.9
HYB Hyderabad 148.99 114 i PKP PKPbc 08 32 57.0 -0.8
KKAR Karatay Array 149.26 61 ePKP2 PKPbc 08 32 57.5 -0.2
KKAR Karatay Array 149.26 61 ePKPdf PKPbc 08 32 57.5 -0.2
IPM Ipoh 150.28 166 ePKPdf PKPbc 08 32 59.3 -1.8
KULM Kulim 150.99 165 ePKPdf PKPbc 08 33 01.1 -1.6
ASAJ Asahikawa 151.35 302 PKIKP PKPbc 08 33 01.3 -1.4
ASAJ pmax pmax
comp=Z,26nm,0.9s
ASAJ Asahikawa 151.35 302 PKPbc PKPbc 08 33 01.3 -1.4
comp=Z,26nm,0.9s,baz=191,slow=6.9,SNR=6.5
EKS2 Erkin-Say 151.69 61 ePKIKP PKPdf 08 32 58.1 +0.7
EKS2 Erkin-Say 151.69 61 ePKPdf PKPdf 08 32 58.1 +0.7
AAK Ala-Archa 152.22 61 PKIKP PKPbc 08 33 04.3 -0.6
AAK pmax pmax
comp=Z,32nm,0.8s
AAK Ala-Archa 152.22 61 PKPbc PKPbc 08 33 04.3 -0.6
comp=Z,32nm,0.8s,baz=214,slow=4.0,SNR=17
AAK Ala-Archa 152.22 61 ePKPbc PKPbc 08 33 04.7 -0.2
FRU Bishkek 152.28 61 ePKIKP PKPbc 08 33 05.5 +0.6
FRU pmax pmax
comp=Z,60nm,1.3s
KURK Kurchatov 152.51 43 ePKIKP PKPbc 08 33 05.2 +0.1
KURK Kurchatov 152.51 43 ePKPdf PKPbc 08 33 05.2 +0.1
NVS Novosibirsk 152.55 32 ePKIKP PKPbc 08 33 03.2 -1.8
NVS pmax pmax
comp=N,12nm,1.0s
NVS pmax pmax
comp=Z,92nm,1.0s
NVS pmax pmax
comp=E,17nm,0.7s
TKM2 Tokmak 2 152.98 60 ePKIKP PKPbc 08 33 06.9 +0.2
TKM2 Tokmak 2 152.98 60 ePKPdf PKPbc 08 33 06.8 +0.2
KSH Kashi 153.62 68 ePKPbc PKPbc 08 33 03.5 +3.2
KSH esPKP 08 33 19.5
KSH eSKS SKSdf 08 40 04.3 -2.0
KSH eSKKS SKKSac 08 43 43.3 -1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KSH				eSS	SS	08 56 27.5	-3.5
ZAA0	Zalesovo Array	153.83	32	ePKPbc	PKPbc	08 33 06.6	-1.3
ZALV	Zalesovo Beam	153.83	32	PKIKP	PKPdf	08 32 59.3	-0.6
ZALV						08 33 06.8	
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZALV	Zalesovo Beam	153.83	32	PKP	PKPdf	08 32 59.3	-0.6
	comp=Z,8.2nm,0.9s,baz=282,slow=2.8,SNR=4.9						
ZALV				PKPbc	PKPbc	08 33 06.8	-1.1
	comp=Z,32nm,0.8s,baz=300,slow=2.6,SNR=18						
MK31	Makanchi Array	156.42	48	ePKIKP	PKPdf	08 33 04.1	+0.4
MK31	Makanchi Array	156.42	48	ePKPdf	PKPdf	08 33 04.1	+0.4
MKAR	Makanchi Array	156.42	48	PKIKP	PKPdf	08 33 03.5	-0.3
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MKAR	Makanchi Array	156.42	48	PKP	PKPdf	08 33 03.5	-0.3
	comp=Z,6.1nm,0.9s,baz=289,slow=1.9,SNR=5.0						
MKAR				PKPab	PKPab	08 33 31.9	-0.5
	comp=Z,12nm,0.8s,baz=291,slow=3.0,SNR=11						
TLY	Talaya	161.65	9	PKP2	PKPab	08 33 55.0	+0.3
TLY	Talaya	161.65	9	PKPab	PKPab	08 33 55.0	+0.3
	comp=Z,6.2nm,0.8s,baz=317,slow=3.7,SNR=5.8						
CMAR	Chiang Mai Arr	162.83	149	PKIKP	PKPdf	08 33 11.7	-0.2
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	Chiang Mai Arr	162.83	149	PKP	PKPdf	08 33 11.7	-0.2
	comp=Z,1.6nm,0.3s,baz=249,slow=2.9,SNR=5.7						
SONM	Songino Array	165.73	5	PKIKP	PKPdf	08 33 14.2	+0.4
SONM						08 34 11.6	
SONM				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	Songino Array	165.73	5	PKP	PKPdf	08 33 14.2	+0.4
	comp=Z,3.9nm,1.1s,baz=11,slow=2.9,SNR=2.2						
SONM				PKPab	PKPab	08 34 11.6	-1.3
	comp=Z,3.6nm,1.0s,baz=343,slow=4.3,SNR=4.0						
NJ2	Nanjing	170.82	263	ePKP	PKPdf	08 33 21.3	+3.8
GTA	Gaotai	171.17	47	ePKP	PKPdf	08 33 19.8	+2.1
GTA				pPKP	pPKPdf	08 33 30.5	+6.3
GTA				sPKP		08 33 34.5	
HHC	Hu-ho-hao-te	172.26	340	ePKP	PKPdf	08 33 18.5	+0.4
HHC				sPKP		08 33 32.5	
GYA	Guiyang	172.77	170	PKP	PKPdf	08 33 21.3	+2.5
GYA				PKPab	PKPab	08 34 51.8	+7.3
GYA				PKS	PKSdf	08 36 51.5	+0.2
GYA				PP	PP	08 38 43.0	+8.0
GYA				SKKS		08 45 25.0	
GYA				SS	SS	08 59 51.5	+5.3
GYA				AMB	AMB		
	comp=Z,180nm,8.0s						
GYA				LR	LR		
	comp=Z,230nm,21.4s						
GYA				LR	LR		
	comp=Z,190nm,21.0s						
GYA				LR	LR		
	comp=Z,240nm,24.4s						
CD2	Chengdu	175.44	125	PKP	PKPdf	08 33 22.0	+2.5
CD2				pPKP	pPKPdf	08 33 33.3	+7.3
CD2				sPKP		08 33 37.0	
CD2				PKS	PKSdf	08 36 52.8	+1.1
CD2				PP	PP	08 38 55.8	+6.6
CD2				SKS	SKSdf	08 40 19.5	-2.1
CD2				SKKS	SKKSac	08 45 36.5	+1.8
CD2				SS	SS	09 00 15.0	+0.9
CD2				AMB	AMB		
	comp=Z,460nm,6.8s						
LZH	Lanzhou	175.72	54	ePKP	PKPdf	08 33 22.5	+3.0
LZH				pPKP	pPKPdf	08 33 34.5	+8.4
LZH				sPKP		08 33 38.5	

IDC 27 08:16:04.8±12.0,34.89S×72.36W,h0km,mb4.4/3, mb1 4.8/3,mb1mx4.2/30,mbtmp4.4/3,Error ellipse: s-maj=383.7km s-min=264.6km az=9.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	70.38	331	P	P	08 27 20.8	+0.1
	1.4nm,0.5s,baz=159,slow=9.6,SNR=4.5						
NVAR	Mina Array Bea	84.46	325	P	P	08 28 39.3	-0.1
	1.5nm,0.7s,baz=148,slow=5.3,SNR=2.7						
ULM	Lac du Bonnet	87.28	345	P	P	08 28 52.9	0.0
	5.7nm,0.8s,baz=180,slow=6.1,SNR=3.3						

IDC 27 08:17:03.2±1.8,34.64S×178.93W,h0km,mb4.6/3, mb1 4.7/4,mb1mx4.3/39,mbtmp4.6/4,ML4.4/1,Error ellipse: s-maj=58.3km s-min=33.1km az=151.0

ISCJB 27 08:17:05.2±1.1,35.01S±0.07×178.7W±0.2,h46km, mb4.6/3,Error ellipse: s-maj=20.5km s-min=6.3km az=24.8

ISC 27 08:17:06.2±1.4,35.1S±0.1×178.5W±0.2,h46km,n37, σ1.75/45,mb4.6/3,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.55	225	PN	Pn	08 17 59.8	+1.0
MXZ				SN	Sn	08 18 40.0	+0.5
WMGZ	Waiomatatini S	3.67	221	ePN	Pn	08 18 02.9	+2.4
HAZ	Te Kaha	3.99	227	PN	Pn	08 18 06.6	+1.8
HAZ				SN	Sn	08 18 53.1	+2.9
TWGZ	Tauwhareparae	4.17	221	ePN	Pn	08 18 08.8	+1.6
TWGZ				eSN	Sn	08 18 57.7	+3.0
CNGZ	Carnagh Statio	4.28	217	ePN	Pn	08 18 11.0	+2.2
MWZ	Matawai	4.53	223	PN	Pn	08 18 13.1	+0.9
MWZ				eSN	Sn	08 19 04.1	+0.5
RIGZ	Rimuhau	4.67	218	PN	Pn	08 18 15.8	+1.6
RAGZ	Rawiri	4.71	222	PN	Pn	08 18 15.3	+0.6
RAGZ				eSN	Sn	08 19 09.3	+1.3
URZ	Urewera	4.72	227	Pn	Pn	08 18 15.6	+0.8
	16nm,0.3s,baz=272,slow=3.6,SNR=35						
URZ				Sn	Sn	08 19 08.8	+0.5
	27nm,0.3s,baz=142,slow=22,SNR=7.8						
URZ	Urewera	4.72	227	PN	Pn	08 18 15.4	+0.6
URZ				eSN	Sn	08 19 08.5	+0.3
OPRZ	Ohinepanea	4.82	234	PN	Pn	08 18 16.5	+0.4
OPRZ				SN	Sn	08 19 11.6	+0.9
SNGZ	Shannon Statio	4.95	221	PN	Pn	08 18 20.1	+2.1
KNZ	Kokohu	4.96	217	ePN	Pn	08 18 18.8	+0.7
KNZ				eSN	Sn	08 19 14.5	+0.4
ALRZ	Allen Road	5.38	228	PN	Pn	08 18 24.0	+0.2
NMHZ	Naumai	5.47	222	ePN	Pn	08 18 25.4	+0.2
NMHZ				SN	Sn	08 19 28.4	+1.6
BKZ	Black Stump Fm	5.69	223	PN	Pn	08 18 28.6	+0.4
BKZ				eSN	Sn	08 19 30.8	-1.4
MCHZ	McNeill Hill	5.78	220	PN	Pn	08 18 29.7	+0.4
PXZ	Pawanui	6.14	215	ePN	Pn	08 18 33.8	-0.5
PXZ				eSN	Sn	08 19 41.0	-2.3
MTVZ	Mangateitei	6.42	226	ePN	Pn	08 18 38.6	+0.3
TSZ	Takapari Road	6.61	220	SN	Sn	08 19 52.3	-2.6
MRZ	Mangatainoka R	7.25	218	ePN	Pn	08 18 47.1	-2.4
MRZ				eSN	Sn	08 20 06.5	-4.1
THZ	Tophouse	9.46	223	ePN	Pn	08 19 16.4	-3.4
THZ				eSN	Sn	08 20 57.8	-7.0
RMQ	Roma	29.27	278	P	P	08 23 05.5	+1.4
	baz=32,SNR=5.4						
QLP	Quilpie	32.92	275	P	P	08 23 36.3	+0.1
	baz=36,SNR=3.4						
STKA	Stephens Creek	33.26	264	P	P	08 23 41.4	+2.3
	5.7nm,0.9s,baz=101,slow=8.6,SNR=3.6						
CTA	Charters Tower	34.39	286	P	P	08 23 48.8	-0.3
	7.6nm,0.9s,baz=119,slow=12,SNR=4.4						
QIS	Mount Isa	39.45	280	P	P	08 24 31.8	-0.3
	baz=42,SNR=3.6						
WRA	Warramunga Arr	44.03	277	P	P	08 25 08.6	-1.0
	7.3nm,0.6s,baz=117,slow=7.6,SNR=23						
FORT	Forrest	44.59	260	P	P	08 25 13.2	-0.7
	baz=48,SNR=7.7						
WRKA	Warakurna	46.62	267	P	P	08 25 28.6	-1.5
	baz=50,SNR=3.7						
JAY	Jayapura	49.79	301	S	S	08 33 09.3	+8.3
	baz=52,SNR=4.4						
KNRA	Kununurra	50.77	278	P	P	08 25 58.8	-3.2
	baz=54,SNR=6.3						
WSI	Waingapu	60.96	279	P	P	08 27 07.0	-7.9
	baz=64,SNR=4.0						
FINES	FINESS Array B	149.32	337	PKPbc	PKPab	08 36 51.3	-2.5
	4.5nm,0.7s,baz=176,slow=0.9,SNR=10						
NB2	NORSAR Subarra	153.28	349	PKP	PKPab	08 37 03.1	-7.3
	comp=Z,1.5nm,0.6s,baz=15,slow=2.5						
NOA	NORSAR Array B	153.28	349	PKPbc	PKPbc	08 37 01.2	+2.9
	comp=Z,0.6nm,0.7s,baz=16,slow=4.2,SNR=3.5						
AKASG	Malin Array Be	154.57	316	PKPbc	PKPbc	08 37 04.6	+3.3
	comp=Z,1.2nm,0.5s,baz=53,slow=2.6,SNR=6.1						

IDC 27 08:17:47.5±1.0,35.03S×72.78W,h0km,mb4.6/9, mb1 4.8/10,mb1mx4.5/29,mbtmp4.6/10,ML4.6/1,Error ellipse: s-maj=35.2km s-min=24.5km az=52.0

ISCJB 27 08:17:49.5±0.8,34.6S±0.2×72.5W±0.2,h10km,mb4.7/16, Error ellipse: s-maj=27.6km s-min=16.2km az=28.1

NEIC 27 08:17:53.1±0.6,34.96S×72.71W,h35km,mb5.1/8,Error ellipse: s-maj=18.9km s-min=14.3km az=57.0

ISC 27 08:17:50.7±1.0,35.0S±0.2×72.7W±0.2,h18km,n178, σ0.64/177,mb4.6/16,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	19.05	14	P	Pn	08 22 14.3	+0.9
	0.8nm,0.3s,baz=208,slow=6.4,SNR=4.6						
SIV	San Ignacio	21.58	32	P	P	08 22 38.2	-1.3
	20nm,0.8s,baz=216,slow=13,SNR=3.8						
NNA	Nana	23.19	350	P	P	08 22 56.0	-0.7
	13nm,0.7s,baz=203,slow=14,SNR=3.9						
APG	El Apazote	52.48	338	P	P	08 26 58.1	-4.8
	7.0nm,0.9s,baz=163,slow=6.2,SNR=4.0						
TEIG	Tepich	56.85	342	P	P	08 27 33.6	-0.7
	32nm,0.8s,baz=196,slow=7.9,SNR=7.5						
TEIG	Tepich	56.85	342	eP	P	08 27 34.1	-0.1
	48nm,1.0s						
034A	Hebbronville	66.42	335	P	P	08 28 39.9	+1.1
	baz=67						
933A	Laredo	67.13	334	P	P	08 28 43.6	+0.3
	baz=67						
834A	Tilden	67.34	335	P	P	08 28 45.7	+1.0
	baz=68						
735A	Kenedy	67.77	336	P	P	08 28 48.0	+0.7
	baz=68						
833A	Chaparral WMA,	67.82	335	P	P	08 28 48.3	+0.7
	baz=68						
832A	Faith Ranch, C	67.99	334	P	P	08 28 48.7	0.0
	baz=68						
734A	La Parita Cree	68.01	336	P	P	08 28 49.5	+0.7
	baz=68						
636A	Smothers Creek	68.10	337	P	P	08 28 50.3	+0.9
	baz=68						
732A	Laxson Ranch,	68.39	334	P	P	08 28 51.6	+0.4
	baz=69						
537A	Green Hill Far	68.43	338	P	P	08 28 52.1	+0.7
	baz=69						
634A	China Grove, S	68.43	336	P	P	08 28 51.8	+0.4
	baz=69						
536A	Bastrop	68.66	337	P	P	08 28 53.2	+0.3
	baz=69						
535A	Dale	68.77	337	P	P	08 28 53.9	+0.3
	baz=69						
633A	Saathoff Ranch	68.78	335	P	P	08 28 54.0	+0.4
	baz=69						
632A	Uvalde	69.04	335	P	P	08 28 55.9	+0.6
	baz=69						
631A	Perdido Creek	69.23	334	P	P	08 28 56.7	+0.3
	baz=70						
533A	Kerrville	69.30	336	P	P	08 28 57.2	+0.3
	baz=70						
337A	Centerville	69.45	339	P	P	08 28 59.2	+1.4
	baz=70						
435B	Jarrell	69.48	337	P	P	08 28 58.5	+0.5
	baz=70						
532A	Rocksprings	69.65	335	P	P	08 28 59.6	+0.6
	baz=70						
434A	Burnet	69.73	337	P	P	08 28 59.7	+0.2
	baz=70						
336A	Riesel	69.81	338	P	P	08 29 00.2	+0.3
	baz=70						
531A	Rocksprings	69.90	334	P	P	08 29 01.4	+0.7
	baz=70						
JCT	Junction City	69.93	335	P	P	08 29 01.2	+0.4
	baz=70						
433A	Art	69.94	336	P	P	08 29 00.9	+0.1
	baz=70						
530A	J-C Ranch, Com	70.17	334	P	P	08 29 02.9	+0.6
	baz=70						
334A	Lometa	70.19	337	P	P	08 29 02.6	+0.2
	baz=70						
KMSC	Kings Mountain	70.21	352	P	P	08 29 02.0	-0.4
	baz=71						
432A	Menard	70.29	335	P	P	08 29 02.8	-0.2
	baz=71						
TXAR	Lajitas Array	70.32	331	P	P	08 29 03.3	0.0
	3.4nm,0.7s,baz=154,slow=7.9,SNR=7.9						
431A	Sonora	70.40	335	P	P	08 29 03.8	+0.1
	baz=71						
333A	Richland Sprin	70.43	336	P	P	08 29 03.8	0.0
	baz=71						
529A	Stev Forest Ra	70.48	333	P	P	08 29 04.2	0.0
	baz=71						
WHTX	Lake Whitney	70.56	338	P	P	08 29 04.7	+0.2
	baz=71						
137A	Heron Place, G	70.61	339	P	P	08 29 05.5	+0.7
	baz=71						
430A	Baggett Ranch,	70.71	334	P	P	08 29 06.0	+0.4
	baz=71						
332A	Millersview	70.74	336	P	P	08 29 05.3	-0.4
	baz=71						
234A	Clairette	70.78	337	P	P	08 29 06.0	+0.1
	baz=71						
429A	Davenport Ranc	70.81	334	P	P	08 29 06.3	+0.1
	baz=71						
331A	San Angelo	70.90	335	P	P	08 29 06.8	0.0
	baz=71						
233A	Rising Star	71.04	337	P	P	08 29 07.6	0.0
	baz=71						
135A	Vickery Place,	71.07	338	P	P	08 29 07.9	+0.3
	baz=71						
232A	Coleman	71.17	336	P	P	08 29 08.5	+0.1
	baz=72						
330A	Mertzon	71.25	334	P	P	08 29 08.9	0.0
	baz=72						
134A	White-Moore Ra	71.29	338	P	P	08 29 09.0	0.0
	baz=72						
231A	Bronte	71.44	335	P	P	08 29 09.9	-0.1
	baz=72						
133A	Hamilton Ranch	71.59	337	P	P	08 29 10.8	0.0
	baz=72						
329A	Wagon Wheel Ra	71.62	334	P	P	08 29 11.0	-0.1
	baz=72						
230A	Sterling City	71.67	335	P	P	08 29 11.3	-0.1
	baz=72						
Z35A	Perchaven, San	71.74	339	P	P	08 29 11.8	+0.1
	baz=72						
ABTX	Abilene, Hawle	71.84	336	eP	P	08 29 12.0	-0.3
	79nm,1.6s						
ABTX	Abilene, Hawle	71.84	336	P	P	08 29 12.4	+0.1
	baz=72						
Z34A	Collier Ranch,	71.98	338	P	P	08 29 13.1	0.0
	baz=72						
229A	Bryant Ranch,	71.99	334	P	P	08 29 13.4	+0.1
	baz=72						
131A	Roby	72.14	336	P	P	08 29 14.2	+0.1
	baz=72						
Z33A	Whitaker Ranch	72.17	337	P	P	08 29 14.3	+0.1
	baz=72						
130A	Snyder	72.26	335	P	P	08 29 14.9	0.0
	baz=73						
228A	UT Block 9, Go	72.41	334	P	P	08 29 15.8	0.0
	baz=73						
Z32A	Haskell	72.42	337	P	P	08 29 16.0	+0.3
	baz=73						
Y34A	Reagan Ranch,	72.47	338	P	P	08 29 15.9	-0.2
	baz=73						
129A	Stewart Farms,	72.61	334	P	P	08 29 16.7	-0.3
	baz=73						
Z31A	Sharp Cattle R	72.64	336	P	P	08 29 17.2	0.0
	baz=73						
Y33A	Hilltop Ranch,	72.79	338	P	P	08 29 18.1	+0.1
	baz=73						
128A	Castleberry Fa	72.82	334	P	P	08 29 18.2	-0.1
	baz=73						
Z30A	Sanderson Ranc	72.95	335	P	P	08 29 18.8	-0.1
	baz=73						
Y32A	R-V Farms, Ver	73.04	337	P	P	08 29 19.4	0.0
	baz=73						
X34A	Smith Ranch, M	73.10	339	P	P	08 29 19.9	+0.1
	baz=73						
Z29A	Hungry Hill Ra	73.12	335	P	P	08 29 19.9	-0.1
	baz=73						
Y31A	Rekieta Farm,	73.27	336	P	P	08 29 21.6	+0.7
	baz=74						
Y30A	Stafford Cattl	73.41	336	P	P	08 29 22.0	+0.3
	baz=74						
Y29A	Porterfield Fa	73.66	335	P	P	08 29 23.2	0.0
	baz=74						
X31A	McDonald Ranch	73.79	337	P	P	08 29 24.0	+0.2
	baz=74						
W33A	Caddo, Fort Co	73.80	338	P	P	08 29 24.4	+0.5
	baz=74						
Y28A	McKinney Farm,	73.90	335	P	P	08 29 24.9	+0.3
	baz=74						
Z26A	Caprock	73.95	333	P	P	08 29 25.2	+0.2
	baz=74						
W32A	Sentinel	74.01	338	P	P	08 29 25.3	+0.1
	baz=74						
MSTX	Muleshoe	74.14	334	P	P	08 29 26.2	+0.2
	baz=74						
X29A	Tulia	74.20	335	P	P	08 29 26.4	+0.1
	baz=74						
Y27A	Causey	74.20	334	P	P	08 29 26.2	-0.2
	baz=74						
Z25A	Roswell	74.24	333	P	P	08 29 27.0	+0.3
	baz=74						
V33A	Lossen Ranch,	74.36	339	P	P	08 29 27.4	+0.2
	baz=75						
319A	Douglas	74.43	328	P	P	08 29 27.8	0.0
	baz=75						
Y26A	Elida	74.48	333	P	P	08 29 28.3	+0.2
	baz=75						
Z24A	Sheeppen Canyo	74.53	332	P	P	08 29 28.5	+0.1
	baz=75						
AMTX	Amarillo	74.59	336	P	P	08 29 28.9	+0.3
	baz=75						
X26A	CR and CF Fran	75.03	334	P	P	08 29 31.6	+0.4
	baz=75						
Y24A	Capitan	75.08	332	P	P	08 29 32.0	+0.3
	baz=75						
Z22A	Elephant Butte	75.09	331	P	P	08 29 32.6	+0.9
	baz=75						
W27A	Bowe Ranch, En	75.23	335	P	P	08 29 32.7	+0.4
	baz=76						
Y23A	Lovelace Mesa,	75.33	332	P	P	08 29 34.1	+1.1
	baz=76						
W26A	Owens Ranch, T	75.50	334	P	P	08 29 34.5	+0.6
	baz=76						
T33A	Patterson Ranc	75.52	339	P	P	08 29 34.5	+0.7
	baz=76						
V28A	Channing	75.56	336	P	P	08 29 34.7	+0.5
	baz=76						
X24A	Lazy VL Ranch,	75.65	333	P	P	08 29 35.6	+0.7
	baz=76						
V27A	Dan Oppiter Fa	75.78	335	P	P	08 29 36.0	+0.6
	baz=76						
W25A	X Bar L Ranch,	75.87	334	P	P	08 29 36.0	0.0
	baz=76						
LPM	Los Pinos Moun	75.89	332	eP	P	08 29 36.4	+0.1
	4.1nm,0.8s						
DBIC	Dimbokro	76.00	71	P	P	08 29 37.3	+0.2
	5.2nm,0.7s,baz=186,slow=8.7,SNR=2.5						
DBIC	Dimbokro	76.00	71	eP	P	08 29 37.1	0.0
	7.4nm,0.9s						
W24A	Lazy 6 Ranch,	76.21	333	P	P	08 29 38.7	+0.6
	baz=76						
S32A	Newby Ranch, P	76.30	339	P	P	08 29 38.6	+0.3
	baz=77						
ANMO	Albuquerque	76.38	332	eP	P	08 29 39.2	+0.2
	14nm,1.2s						
S31A	Mullinville	76.39	338	P	P	08 29 39.4	+0.6
	baz=77						
W23A	Werner Place,	76.45	332	P	P	08 29 40.3	+0.8
	baz=77						
V25A	Rancho No Teng	76.48	334	P	P	08 29 40.0	+0.4
	baz=77						
T29A	Hugoton	76.53	337	P	P	08 29 40.0	+0.3
	baz=77						
S30A	Montezuma	76.71	338	P	P	08 29 41.1	+0.5
	baz=77						
T28A	Walsh	76.77	336	P	P	08 29 41.3	+0.2
	baz=77						
S29A	Ulysses	76.90	337	P	P	08 29 42.5	+0.8
	baz=77						
R32A	Long Quarter,	76.90	339	P	P	08 29 41.8	+0.1
	baz=77						
U25A	Circle Dot Ran	76.91	334	P	P	08 29 42.5	+0.5
	baz=77						
T27A	Campo	76.92	336	P	P	08 29 41.9	0.0
	baz=77						
KSU1	Kansas State U	76.95	341	eP	P	08 29 41.0	-0.9
	20nm,1.1s						
V23A	Ortiz Mt. (NFS	76.98	333	P	P	08 29 43.2	+0.8
	baz=77						
S28A	Manter	77.12	337	P	P	08 29 43.4	+0.4
	baz=77						
Q33A	Connelly Farm,	77.19	340	P	P	08 29 43.6	+0.4
	baz=78						
Q32A	Meitler Ranch,	77.39	340	P	P	08 29 44.6	+0.2
	baz=78						
V22A	San Miguel Ran	77.40	332	P	P	08 29 45.9	+1.1
	baz=78						
X18A	Snowflake	77.42	329	P	P	08 29 46.1	+1.2
	baz=78						
U23A	El Rito	77.50	333	P	P	08 29 46.5	+1.2
	baz=78						
T25A	Trinidad	77.57	335	P	P	08 29 46.9	+1.2
	baz=78						
R29A	Marienthal	77.64	337	P	P	08 29 46.3	+0.4
	baz=78						
Q31A	Ellis	77.64	339	P	P	08 29 46.3	+0.5
	baz=78						
S26A	Kim	77.68	335	P	P	08 29 46.7	+0.6
	baz=78						
R28A	Tribune	77.78	337	P	P	08 29 47.1	+0.4
	baz=78						
W18A	Petrified Fore	77.84	330	P	P	08 29 47.3	0.0
	baz=78						
T24B	San Luis	77.85	334	P	P	08 29 47.8	+0.5
	baz=78						
Q30A	Quinter	77.86	338	P	P	08 29 47.7	+0.6
	baz=78						
X16A	Lo Mia Camp, P	77.97	328	P	P	08 29 48.9	+1.0
	baz=78						
S25A	Robets Cordova	78.04	335	P	P	08 29 49.1	+0.8
	baz=78						
R27A	Eads	78.05	336	P	P	08 29 48.5	+0.3
	baz=78						
T23A	Casias Ranch,	78.06	333	P	P	08 29 49.2	+0.6
	baz=78						
P31A	Stockton	78.11	339	P	P	08 29 49.9	+1.4
	baz=78						
R26A	Arlington	78.28	336	P	P	08 29 50.8	+1.3
	baz=79						
S24A	Houchin Ranch,	78.30	334	P	P	08 29 50.9	+1.0
	baz=79						
R25A	Fountain Ranch	78.43	335	P	P	08 29 51.0	+0.6
	baz=79						
Q28A	Sharon Springs	78.44	337	P	P	08 29 50.9	+0.6
	baz=79						
P29A	Atwood	78.65	338	P	P	08 29 52.3	+0.9
	baz=79						
R24A	Sanders Place,	78.79	335	P	P	08 29 53.3	+0.9
	baz=79						
Q26A	Hugo	78.87	336	P	P	08 29 53.3	+0.5
	baz=79						
WUAZ	Wupatki	78.87	329	P	P	08 29 53.8	+0.9
	baz=79						
P28A	Saint Francis	78.88	338	P	P	08 29 53.5	+0.8
	baz=79						
S22A	4UR Ranch, Cre	78.99	333	P	P	08 29 54.6	+0.9
	baz=79						
Q25A	Bedland, Calha	79.10	335	P	P	08 29 54.8	+0.7
	baz=79						
BC3	Big Chuckawall	79.15	325	P	P	08 29 55.4	+1.0
	baz=79						
MVCO	Mesa Verde	79.15	332	P	P	08 29 55.2	+0.7
	baz=80						
P26A	Davis Ranch, A	79.38	336	P	P	08 29 56.4	+0.8
	baz=80						
O28A	Krutsinger Ran	79.39	338	P	P	08 29 56.2	+0.7
	baz=80						
Q24A	Divide	79.46	335	P	P	08 29 56.9	+0.7
	baz=80						
PFO	Pinyon Flat Ob	79.59	324	P	P	08 29 57.6	+0.8
	baz=80						
P25A	Willow Gulch B	79.61	336	P	P	08 29 58.1	+1.2
	baz=80						
W13A	Hualapai Mount	79.62	327	P	P	08 29 57.9	+0.8
	baz=80						
O27A	Beecher Island	79.67	337	P	P	08 29 58.4	+1.3
	baz=80						

O26A	Horse Wrangler	79.99	337	P	P	08 29 59.7	+0.9
	baz=80						
U15A	North Rim	80.04	329	P	P	08 30 00.4	+1.0
	baz=80						
BOSA	Boshof	80.09	118	P	P	08 30 00.3	+0.4
	4.5nm,0.7s,baz=224,slow=6.2,SNR=3.0						
N27A	Anderson Farm,	80.25	337	P	P	08 30 01.0	+0.8
	baz=81						
L29A	Maesberg Ranch	80.78	339	P	P	08 30 05.0	+2.1
	baz=81						
O23A	Lake Granby, G	80.84	335	P	P	08 30 04.9	+1.3
	baz=81						
ECSD	EROS Data Cent	81.31	343	eP	P	08 30 05.2	-0.5
	17nm,1.2s						
ECSD	EROS Data Cent	81.31	343	P	P	08 30 05.8	+0.1
	baz=82						
K29A	Lazy Trails An	81.38	340	P	P	08 30 06.5	+0.4
	baz=82						
M24A	Cheyenne	81.59	336	P	P	08 30 08.3	+0.9
	baz=82						
K28A	Ten Mile Ranch	81.64	339	P	P	08 30 09.0	+1.5
	baz=82						
J29A	Okreek	81.97	340	P	P	08 30 09.6	+0.4
	baz=82						
NVAR	Mina Array Bea	84.37	326	P	P	08 30 21.6	-0.3
	2.0nm,0.7s,baz=168,slow=6.7,SNR=4.3						
PDAR	Pinedale Array	84.39	334	P	P	08 30 22.8	+0.8
	1.5nm,0.9s,baz=142,slow=4.6,SNR=2.9						
TORD	Torodi Ar. Bea	85.04	70	P	P	08 30 26.2	+0.6
	2.3nm,0.7s,baz=273,slow=5.3,SNR=4.8						
DGMT	Dagmar	87.70	340	eP	P	08 30 37.5	-0.4
	29nm,1.0s						
WRA	Warramunga Arr	119.66	209	PKP	PKPdf	08 36 38.5	-1.6
	0.8nm,0.6s,baz=165,slow=1.7,SNR=2.9						
BRTR	Keskin Array B	122.77	62	PKP	PKPdf	08 36 44.4	-1.2
	0.7nm,0.7s,baz=188,slow=3.8,SNR=3.3						
BVAR	Borovoye Array	148.35	44	PKPbc	PKPbc	08 37 36.2	+0.8
	2.5nm,0.6s,baz=325,slow=2.3,SNR=2.7						

*IDC **27** 08:19:18.2±0.6, 33°.58S×72°.31W, h0km, mb4.9/14, mb1 5.0/16, mb1mx4.8/28, mbtmp4.9/16, ML4.3/2, Error ellipse: s-maj=23.2km s-min=17.0km az=76.0*

*ISCJB **27** 08:19:20.1±0.3, 33°.56S±0°.05×72°.17W±0°.07, h19km, mb5.1/59, Error ellipse: s-maj=9.2km s-min=6.3km az=144.3*

*MOS **27** 08:19:22.3±1.3, 33°.66S×71°.98W, h33km, mb5.4/16, Error ellipse: s-maj=25.7km s-min=10.4km az=100.9*

*NEIC **27** 08:19:24.2±0.3, 33°.62S×72°.02W, h35km, mb5.3/47, Error ellipse: s-maj=10.8km s-min=7.1km az=63.0*

ISC 27 08:19:21.6±0.4, **33°.60S**±0°.06×**72°.13W**±0°.09, **h19km, n400,** σ**0.97s**/394, **mb5.3**/60, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.84	60	Pn	Pn	08 20 20.5	+0.7
	4.5nm,0.3s,baz=37,slow=20,SNR=5.8						
CFAA				Lg	Lg	08 21 30.1	
	17nm,0.3s,baz=348,slow=14,SNR=5.9						
PLCA	Paso Flores	7.23	170	P	Pn	08 21 07.4	+1.0
PLCA	Paso Flores	7.23	170	Pn	Pn	08 21 07.4	+1.0
TRQA	Tornquist	9.37	121	ePn	Pn	08 21 35.0	-0.6
LPAZ	La Paz	17.61	13	eP	Pn	08 23 27.0	+0.3
LPAZ				pmax	pmax		
	comp=Z,179nm,1.3s						
LPAZ	La Paz	17.61	13	P	P	08 23 27.6	0.0
	comp=Z,1.1nm,0.3s,baz=179,slow=7.2,SNR=5.3						
LPAZ	La Paz	17.61	13	eP	Pn	08 23 27.0	+0.3
	comp=Z,179nm,1.3s						
SIV	San Ignacio	20.18	32	P	Pn	08 23 57.8	+0.7
	comp=Z,46nm,1.0s,baz=254,slow=16,SNR=5.9						
USHA	Ushuaia	21.39	174	P	P	08 24 09.3	+1.4
	comp=Z,21nm,0.8s,baz=296,slow=4.2,SNR=3.7						
NNA	Nana	21.94	348	eP	P	08 24 17.4	+3.2
NNA				pmax	pmax		
	comp=Z,194nm,1.4s						
NNA	Nana	21.94	348	P	P	08 24 15.5	+1.4
	comp=Z,26nm,1.0s,baz=182,slow=8.7,SNR=4.8						
NNA	Nana	21.94	348	eP	P	08 24 17.4	+3.2
	comp=Z,194nm,1.4s						
SAML	Samuel	25.88	21	eP	P	08 24 50.7	-1.7
BDFB	Brasilia	28.18	56	P	P	08 25 13.5	+0.4
	comp=Z,34nm,0.7s,baz=233,slow=9.3,SNR=11						
OTAV	Otavalo	34.18	349	eP	P	08 26 07.5	+1.2
	comp=Z,211nm,2.0s						
SDV	Santo Domingo	42.27	2	eP	P	08 27 15.2	+1.0
	comp=Z,12nm,0.8s						
RCBR	Riachuelo	43.50	59	eP	P	08 27 25.4	+1.3
	comp=Z,475nm,1.9s						
APG	El Apazote	51.40	337	P	P	08 28 21.6	-4.0
	comp=Z,19nm,1.1s,baz=135,slow=8.6,SNR=4.6						
SABA	Saba	51.63	11	eP	P	08 28 26.4	-0.7
CELP	Cerrillos	51.66	7	eP	P	08 28 26.8	-0.5
LRS	Lares	51.84	6	P	P	08 28 27.8	-0.9
ANWB	Willy Bob	51.93	13	eP	P	08 28 27.1	-2.1
	comp=Z,92nm,0.8s						
SNAA	Sanae	51.98	158	eP	P	08 28 28.3	-0.9
SNAA				pmax	pmax		
	comp=Z,72nm,1.0s						
SNAA	Sanae	51.98	158	P	P	08 28 29.5	+0.2
	comp=Z,7.6nm,1.0s,baz=289,slow=7.6,SNR=4.4						
SNAA	Sanae	51.98	158	eP	P	08 28 28.3	-0.9
	comp=Z,72nm,1.0s						
TEIG	Tepich	55.70	342	P	P	08 28 56.3	-0.5
	comp=Z,28nm,1.1s,baz=163,slow=9.1,SNR=4.8						
TEIG	Tepich	55.70	342	eP	P	08 28 56.5	-0.3
	comp=Z,37nm,1.0s						
QSPA	South Pole Qui	56.64	180	P	P	08 29 02.4	-0.8
	comp=Z,20nm,0.9s,baz=212,slow=3.9,SNR=3.8						
933A	Laredo	66.10	334	P	P	08 30 08.0	+0.5
	baz=66						
834A	Tilden	66.30	335	P	P	08 30 09.6	+0.9
	baz=67						
735A	Kenedy	66.71	336	P	P	08 30 12.2	+0.9
	baz=67						
833A	Chaparral WMA,	66.79	334	P	P	08 30 12.5	+0.7
	baz=67						
734A	La Parita Cree	66.96	335	P	P	08 30 13.2	+0.2
	baz=67						
832A	Faith Ranch, C	66.97	333	P	P	08 30 13.2	+0.2
	baz=67						
636A	Smothers Creek	67.03	336	P	P	08 30 13.6	+0.3
	baz=67						
732A	Laxson Ranch,	67.37	334	P	P	08 30 16.1	+0.5
	baz=68						
535A	Dale	67.70	336	P	P	08 30 17.4	-0.2
	baz=68						
633A	Saathoff Ranch	67.74	335	P	P	08 30 17.4	-0.4
	baz=68						
632A	Uvalde	68.00	334	P	P	08 30 19.7	+0.2
	baz=68						
534A	Blanco	68.01	335	P	P	08 30 19.5	-0.1
	baz=68						
631A	Perdido Creek	68.21	333	P	P	08 30 21.0	+0.2
	baz=69						
533A	Kerrville	68.25	335	P	P	08 30 21.1	0.0
	baz=69						
532A	Rocksprings	68.61	334	P	P	08 30 23.2	-0.2
	baz=69						
434A	Burnet	68.66	336	P	P	08 30 23.4	-0.3
	baz=69						
336A	Riesel	68.72	337	P	P	08 30 23.6	-0.3
	baz=69						
238A	Jacksonville	68.76	339	P	P	08 30 24.0	-0.2
	baz=69						
531A	Rocksprings	68.88	334	P	P	08 30 25.3	+0.3
	baz=69						
433A	Art	68.89	335	P	P	08 30 25.4	+0.4
	baz=69						
JCT	Junction City	68.89	335	eP	P	08 30 27.4	+2.3
JCT				pmax	pmax		
	comp=Z,32nm,1.0s						
JCT	Junction City	68.89	335	eP	P	08 30 27.4	+2.3
	comp=Z,32nm,1.0s						
JCT	Junction City	68.89	335	P	P	08 30 27.2	+2.1
	baz=69						
KMSC	Kings Mountain	68.92	352	P	P	08 30 27.1	+1.9
	baz=69						
530A	J-C Ranch, Com	69.16	333	P	P	08 30 28.1	+1.3
	baz=70						
432A	Menard	69.25	335	P	P	08 30 28.5	+1.1
	baz=70						
TXAR	Lajitas Array	69.35	331	P	P	08 30 28.1	0.0
	comp=Z,3.7nm,1.0s,baz=149,slow=9.3,SNR=5.5						
431A	Sonora	69.37	334	P	P	08 30 28.9	+0.8
	baz=70						
333A	Richland Sprin	69.37	336	P	P	08 30 29.1	+1.0
	baz=70						
529A	Stev Forest Ra	69.47	332	P	P	08 30 29.3	+0.6
	baz=70						
137A	Heron Place, G	69.50	339	P	P	08 30 29.6	+0.8
	baz=70						
OXF	Oxford	69.67	345	eP	P	08 30 29.1	-0.6
OXF				pmax	pmax		
	comp=Z,18nm,0.7s						
OXF	Oxford	69.67	345	eP	P	08 30 29.1	-0.6
	comp=Z,18nm,0.7s						
332A	Millersview	69.69	335	P	P	08 30 30.1	0.0
	baz=70						
430A	Baggett Ranch,	69.69	333	P	P	08 30 30.1	0.0
	baz=70						
234A	Clairette	69.71	337	P	P	08 30 30.0	-0.1
	baz=70						
429A	Davenport Ranc	69.79	333	P	P	08 30 31.7	+0.9
	baz=70						
331A	San Angelo	69.86	334	P	P	08 30 31.8	+0.7
	baz=70						
233A	Rising Star	69.97	336	P	P	08 30 32.8	+1.0
	baz=70						
232A	Coleman	70.11	335	P	P	08 30 33.5	+0.8
	baz=70						
134A	White-Moore Ra	70.21	337	P	P	08 30 33.8	+0.6
	baz=71						
330A	Mertzon	70.23	334	P	P	08 30 33.0	-0.4
	baz=71						
231A	Bronte	70.39	335	P	P	08 30 34.4	0.0
	baz=71						
133A	Hamilton Ranch	70.52	336	P	P	08 30 35.2	+0.1
	baz=71						
329A	Wagon Wheel Ra	70.60	333	P	P	08 30 35.6	-0.1
	baz=71						
230A	Sterling City	70.64	334	P	P	08 30 35.7	-0.2
	baz=71						
Z35A	Perchaven, San	70.64	338	P	P	08 30 35.1	-0.7
	baz=71						
ABTX	Abilene, Hawle	70.78	336	eP	P	08 30 38.6	+1.9
	comp=Z,68nm,1.4s						
ABTX	Abilene, Hawle	70.78	336	P	P	08 30 35.9	-0.8
	baz=71						
Z34A	Collier Ranch,	70.89	337	P	P	08 30 36.9	-0.4
	baz=71						
WVT	Waverly	70.90	347	eP	P	08 30 37.0	-0.3
WVT				pmax	pmax		
	comp=Z,77nm,1.3s						
WVT	Waverly	70.90	347	eP	P	08 30 37.0	-0.3
	comp=Z,77nm,1.3s						
229A	Bryant Ranch,	70.97	334	P	P	08 30 37.0	-0.9
	baz=71						
131A	Roby	71.09	335	P	P	08 30 37.8	-0.8
	baz=72						
Z33A	Whitaker Ranch	71.09	337	P	P	08 30 37.8	-0.7
	baz=72						
130A	Snyder	71.22	335	P	P	08 30 37.8	-1.6
	baz=72						
Z32A	Haskell	71.35	336	P	P	08 30 39.4	-0.7
	baz=72						
Y34A	Reagan Ranch,	71.38	338	P	P	08 30 39.9	-0.3
	baz=72						
228A	UT Block 9, Go	71.39	333	P	P	08 30 39.4	-1.1
	baz=72						
BBTS	Babate	71.47	57	P	P	08 30 42.9	+1.7
	comp=Z,25nm,0.9s,baz=282,slow=1.3,SNR=4.4						
129A	Stewart Farms,	71.58	334	P	P	08 30 40.6	-1.0
	baz=72						
Z31A	Sharp Cattle R	71.59	336	P	P	08 30 40.0	-1.6
	baz=72						
128A	Castleberry Fa	71.80	333	P	P	08 30 41.7	-1.2
	baz=72						
Z30A	Sanderson Ranc	71.90	335	P	P	08 30 42.8	-0.7
	baz=72						
Y32A	R-V Farms, Ver	71.97	336	P	P	08 30 43.4	-0.4
	baz=72						
X34A	Smith Ranch, M	72.00	338	P	P	08 30 43.1	-0.9
	baz=72						
Z29A	Hungry Hill Ra	72.09	334	P	P	08 30 43.3	-1.3
	baz=72						
MNTX	Cornudas Mount	72.12	331	eP	P	08 30 43.7	-1.1
	comp=Z,4.7nm,0.8s						
127A	Arkansas Junct	72.18	333	P	P	08 30 43.5	-1.7
	baz=73						
Y31A	Rekieta Farm,	72.21	336	P	P	08 30 43.7	-1.6
	baz=73						
X32A	Elmer	72.30	337	P	P	08 30 44.4	-1.4
	baz=73						
Y30A	Stafford Cattl	72.36	335	P	P	08 30 44.7	-1.5
	baz=73						
W34A	Bridge Creek,	72.56	338	P	P	08 30 46.8	-0.5
	baz=73						
TUL1	Tulsa	72.60	340	P	P	08 30 46.3	-1.3
	baz=73						
Y29A	Porterfield Fa	72.61	335	P	P	08 30 46.9	-0.9
	baz=73						
W33A	Caddo, Fort Co	72.71	338	P	P	08 30 46.7	-1.5
	baz=73						
SIUC	Southern Illin	72.71	346	eP	P	08 30 47.3	-0.8
	comp=Z,34nm,1.0s						
X31A	McDonald Ranch	72.72	336	P	P	08 30 46.6	-1.7
	baz=73						
X30A	Coker Ranch, T	72.86	335	P	P	08 30 48.1	-1.1
	baz=73						
Y28A	McKinney Farm,	72.87	334	P	P	08 30 48.1	-1.2
	baz=73						
W32A	Sentinel	72.93	337	P	P	08 30 48.5	-1.1
	baz=73						
Z26A	Caprock	72.95	332	P	P	08 30 48.5	-1.3
	baz=73						
MSTX	Muleshoe	73.11	334	eP	P	08 30 50.8	0.0
	comp=Z,46nm,1.3s						
MSTX	Muleshoe	73.11	334	P	P	08 30 49.5	-1.2
	baz=74						
Y27A	Causey	73.18	333	P	P	08 30 50.1	-1.1
	baz=74						
W31A	Holland Ranch,	73.22	336	P	P	08 30 50.3	-0.9
	baz=74						
Z25A	Roswell	73.24	332	P	P	08 30 50.8	-0.8
	baz=74						
V33A	Lossen Ranch,	73.27	338	P	P	08 30 51.0	-0.5
	baz=74						
X28A	Dimmitt	73.40	334	P	P	08 30 51.7	-0.7
	baz=74						
Y26A	Elida	73.47	333	P	P	08 30 52.2	-0.6
	baz=74						
319A	Douglas	73.52	327	P	P	08 30 52.8	-0.4
	baz=74						
AMTX	Amarillo	73.54	335	eP	P	08 30 52.9	-0.4
	comp=Z,39nm,1.3s						
AMTX	Amarillo	73.54	335	P	P	08 30 51.9	-1.3
	baz=74						
Z24A	Sheeppen Canyo	73.54	331	P	P	08 30 52.8	-0.6
	baz=74						
U34A	Anderson Ranch	73.60	339	eP	P	08 30 52.9	-0.5
	comp=Z,58nm,1.4s						
U34A	Anderson Ranch	73.60	339	P	P	08 30 52.8	-0.7
	baz=74						
V31A	Spring Creek L	73.72	337	P	P	08 30 53.6	-0.6
	baz=74						
W29A	Amraillo	73.74	335	P	P	08 30 54.1	-0.4
	baz=74						
Y25A	Mesa, Roswell	73.80	332	P	P	08 30 53.7	-1.1
	baz=74						
121A	Cookes Peak, D	73.85	329	P	P	08 30 55.4	+0.2
	baz=74						
X26A	CR and CF Fran	74.02	333	P	P	08 30 55.8	-0.3
	baz=74						
Y24A	Capitan	74.09	332	P	P	08 30 56.2	-0.4
	baz=74						
Z22A	Elephant Butte	74.13	330	P	P	08 30 56.6	-0.2
	baz=74						
ACSO	Alum Creek Sta	74.14	351	eP	P	08 30 56.1	-0.4
	comp=Z,61nm,1.3s						
W27A	Bowe Ranch, En	74.20	334	P	P	08 30 57.0	-0.1
	baz=75						
Y23A	Lovelace Mesa,	74.35	331	P	P	08 30 58.0	-0.1
	baz=75						
T33A	Patterson Ranc	74.42	339	P	P	08 30 58.5	+0.3
	baz=75						
W26A	Owens Ranch, T	74.48	333	P	P	08 30 58.7	-0.1
	baz=75						
V28A	Channing	74.51	335	P	P	08 30 58.9	-0.1
	baz=75						
X24A	Lazy VL Ranch,	74.66	332	P	P	08 30 59.6	-0.3
	baz=75						
U30A	WK&E Inc. Balk	74.68	337	P	P	08 30 60.0	+0.2
	baz=75						
T32A	Huddler Ranch,	74.72	338	P	P	08 31 00.1	+0.1
	baz=75						
W25A	X Bar L Ranch,	74.86	333	P	P	08 31 00.5	-0.5
	baz=75						
SUR	Sutherland	75.09	119	P	P	08 31 04.1	+1.3
	comp=Z,8.3nm,0.7s						
V26A	Tequesquite Ra	75.12	334	P	P	08 31 02.5	0.0
	baz=76						
DBIC	Dimbokro	75.13	71	eP	P	08 31 03.2	+0.3
DBIC				pmax	pmax		
	comp=Z,21nm,0.8s						
DBIC	Dimbokro	75.13	71	P	P	08 31 03.5	+0.6
	comp=Z,14nm,0.8s,baz=206,slow=5.9,SNR=6.2						
DBIC	Dimbokro	75.13	71	eP	P	08 31 03.2	+0.3
	comp=Z,21nm,0.8s						
W24A	Lazy 6 Ranch,	75.21	332	P	P	08 31 03.5	+0.4
	baz=76						
U27A	Thompson Grove	75.33	335	P	P	08 31 05.2	+1.5
	baz=76						
ANMO	Albuquerque	75.39	331	eP	P	08 31 04.4	+0.3
ANMO				pmax	pmax		
	comp=Z,13nm,1.1s						
ANMO	Albuquerque	75.39	331	eP	P	08 31 04.4	+0.3
	comp=Z,13nm,1.1s						
W23A	Werner Place,	75.46	332	P	P	08 31 05.2	+0.7
	baz=76						
T29A	Hugoton	75.46	336	P	P	08 31 05.3	+1.0
	baz=76						
V25A	Rancho No Teng	75.46	333	P	P	08 31 05.0	+0.4
	baz=76						
S30A	Montezuma	75.63	337	P	P	08 31 05.8	+0.5
	baz=76						
U26A	Atchley Ranch,	75.63	334	P	P	08 31 05.8	+0.3
	baz=76						
214A	Organ Pipe Nat	75.64	325	P	P	08 31 05.7	+0.3
	baz=76						
T28A	Walsh	75.71	336	P	P	08 31 05.9	+0.1
	baz=76						
R32A	Long Quarter,	75.79	339	P	P	08 31 06.4	+0.3
	baz=76						
S29A	Ulysses	75.82	337	P	P	08 31 06.7	+0.3
	baz=76						
T27A	Campo	75.86	335	P	P	08 31 06.6	-0.1
	baz=76						
U25A	Circle Dot Ran	75.88	334	P	P	08 31 07.5	+0.6
	baz=76						
R31A	Burdett	75.92	338	P	P	08 31 07.0	+0.1
	baz=76						
V23A	Ortiz Mt. (NFS	75.98	332	P	P	08 31 07.2	-0.3
	baz=76						
S28A	Manter	76.06	336	P	P	08 31 07.9	+0.1
	baz=76						
Q32A	Meitler Ranch,	76.27	339	P	P	08 31 09.0	+0.1
	baz=77						
V22A	San Miguel Ran	76.42	332	P	P	08 31 10.3	+0.3
	baz=77						
X18A	Snowflake	76.49	329	P	P	08 31 11.4	+1.0
	baz=77						
U23A	El Rito	76.50	332	P	P	08 31 12.1	+1.7
	baz=77						
Q31A	Ellis	76.54	338	P	P	08 31 10.8	+0.4
	baz=77						
T25A	Trinidad	76.54	334	P	P	08 31 11.2	+0.6
	baz=77						
R29A	Marienthal	76.56	337	P	P	08 31 10.4	-0.2
	baz=77						
S26A	Kim	76.63	335	P	P	08 31 10.9	-0.1
	baz=77						
R28A	Tribune	76.71	336	P	P	08 31 11.4	0.0
	baz=77						
Q30A	Quinter	76.77	338	P	P	08 31 11.7	0.0
	baz=77						
U22A	Llaves	76.80	332	P	P	08 31 12.0	-0.1
	baz=77						
T24B	San Luis	76.83	333	P	P	08 31 12.9	+0.5
	baz=77						
P32A	Huiting Farm,	76.87	339	P	P	08 31 12.6	+0.4
	baz=77						
W18A	Petrified Fore	76.90	329	eP	P	08 31 14.7	+2.0
	comp=Z,40nm,1.3s						
W18A	Petrified Fore	76.90	329	P	P	08 31 12.7	0.0
	baz=77						
Q29A	Oakley	76.93	337	P	P	08 31 12.7	0.0
	baz=77						
R27A	Eads	76.99	336	P	P	08 31 13.0	-0.1
	baz=77						
P31A	Stockton	77.01	339	P	P	08 31 13.2	+0.2
	baz=77						
S25A	Robets Cordova	77.01	334	P	P	08 31 13.1	-0.2
	baz=77						
T23A	Casias Ranch,	77.06	333	P	P	08 31 14.5	+0.8
	baz=77						
X16A	Lo Mia Camp, P	77.06	327	P	P	08 31 13.9	+0.3
	baz=77						
R26A	Arlington	77.23	335	P	P	08 31 15.4	+1.0
	baz=78						
S24A	Houchin Ranch,	77.28	334	P	P	08 31 15.7	+0.8
	baz=78						
Q28A	Sharon Springs	77.36	337	P	P	08 31 14.7	-0.4
	baz=78						
Y14A	Wickenburg	77.37	326	P	P	08 31 15.3	+0.1
	baz=78						
SDCO	Great Sand Dun	77.48	333	eP	P	08 31 17.0	+1.0
	comp=Z,11nm,1.1s						
GLA	Glamis	77.51	324	P	P	08 31 15.7	-0.3
	baz=78						
O31A	Woolen Ranch,	77.57	339	P	P	08 31 16.7	+0.6
	baz=78						
KSCO	Kaye Shedlock'	77.58	336	eP	P	08 31 18.0	+1.6
	comp=Z,42nm,1.2s						
KSCO	Kaye Shedlock'	77.58	336	P	P	08 31 17.3	+0.9
	baz=78						
R24A	Sanders Place,	77.76	334	P	P	08 31 17.6	+0.1
	baz=78						
P28A	Saint Francis	77.80	337	P	P	08 31 17.8	+0.3
	baz=78						
Q26A	Hugo	77.81	335	P	P	08 31 18.4	+0.7
	baz=78						
WUAZ	Wupatki	77.95	328	eP	P	08 31 18.5	0.0
	comp=Z,17nm,1.2s						
WUAZ	Wupatki	77.95	328	P	P	08 31 19.2	+0.6
	baz=78						
R23A	Moffat	77.99	333	P	P	08 31 19.3	+0.5
	baz=78						
O29A	4D Ranch, Culb	78.00	338	P	P	08 31 19.1	+0.5
	baz=78						
P27A	Ficken Ranch,	78.06	336	P	P	08 31 19.6	+0.6
	baz=78						
Q25A	Bedland, Calha	78.06	335	P	P	08 31 19.5	+0.4
	baz=78						
BAR	Barrett	78.13	323	eP	P	08 31 21.4	+2.0
	comp=Z,155nm,2.7s						
MVCO	Mesa Verde	78.18	331	eP	P	08 31 22.4	+2.5
	comp=Z,30nm,1.1s						
MVCO	Mesa Verde	78.18	331	P	P	08 31 20.3	+0.5
	baz=79						
BC3	Big Chuckawall	78.31	324	P	P	08 31 20.5	-0.1
	baz=79						
O28A	Krutsinger Ran	78.31	337	P	P	08 31 20.3	0.0
	baz=79						
P26A	Davis Ranch, A	78.32	336	P	P	08 31 20.2	-0.3
	baz=79						
BGNE	Belgrade	78.39	340	P	P	08 31 20.6	-0.1
	baz=79						
Q24A	Divide	78.42	334	P	P	08 31 21.2	-0.1
	baz=79						
P25A	Willow Gulch B	78.56	335	P	P	08 31 22.2	+0.3
	baz=79						
IRM	Iron Mountain	78.57	325	P	P	08 31 21.6	-0.3
	baz=79						
O27A	Beecher Island	78.60	337	P	P	08 31 22.4	+0.4
	baz=79						
W13A	Hualapai Mount	78.74	326	P	P	08 31 23.3	+0.3
	baz=79						
PFO	Pinyon Flat Ob	78.76	324	eP	P	08 31 24.8	+1.8
PFO	Pinyon Flat Ob	78.76	324	eP	P	08 31 24.8	+1.8
PFO	Pinyon Flat Ob	78.76	324	P	P	08 31 23.6	+0.6
	baz=79						
P24A	Kohler Place,	78.83	335	P	P	08 31 24.6	+1.2
	baz=79						
O26A	Horse Wrangler	78.92	336	P	P	08 31 24.5	+0.7
	baz=79						
PV01	Paradox Valley	79.00	332	eP	P	08 31 26.9	+2.6
U15A	North Rim	79.12	328	P	P	08 31 25.4	+0.3
	baz=80						
MURC	Murrieta	79.13	323	P	P	08 31 26.0	+1.1
	baz=80						
M29A	Burnside Ranch	79.17	339	P	P	08 31 25.0	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=80						
N27A	Anderson Farm,	79.17	337	P	P	08 31 25.3	+0.3
	baz=80						
L31A	Granite Fa	79.29	340	P	P	08 31 26.2	+0.6
	baz=80						
LDFC	Landfair	79.30	325	eP	P	08 31 28.0	+2.1
	comp=Z,52nm,1.4s						
GMRC	Granite Mounta	79.32	325	P	P	08 31 26.5	+0.4
	baz=80						
ISCO	Idaho Springs	79.33	334	eP	P	08 31 29.1	+2.9
ISCO				pmax	pmax		
	comp=Z,13nm,1.2s						
ISCO	Idaho Springs	79.33	334	eP	P	08 31 29.1	+2.9
	comp=Z,13nm,1.2s						
ISCO	Idaho Springs	79.33	334	P	P	08 31 26.0	-0.2
	baz=80						
PV04	Paradox Valley	79.36	331	eP	P	08 31 29.0	+2.8
PV10	Paradox Valley	79.40	331	eP	P	08 31 26.4	-0.2
TSUM	Tsumeb	79.40	106	eP	P	08 31 28.4	+1.4
HEC	Hector,Ludlow	79.68	324	P	P	08 31 28.4	+0.5
	baz=80						
O23A	Lake Granby, G	79.80	334	P	P	08 31 29.7	+0.9
	baz=80						
BFSC	Mount Baldy Ra	79.87	323	P	P	08 31 28.9	-0.1
	baz=80						
K30A	Basset	79.97	340	P	P	08 31 29.7	+0.4
	baz=80						
N24A	Carr	79.98	335	P	P	08 31 29.4	-0.2
	baz=80						
O22A	Kremmling	79.99	334	P	P	08 31 29.6	-0.2
	baz=80						
ECSD	EROS Data Cent	80.14	342	eP	P	08 31 30.1	0.0
	comp=Z,107nm,1.6s						
ECSD	EROS Data Cent	80.14	342	P	P	08 31 30.3	+0.1
	baz=80						
GSC	Goldstone	80.29	324	P	P	08 31 30.6	-0.7
	baz=81						
BOSA	Boshof	80.33	118	eP	P	08 31 32.0	+0.1
BOSA				pmax	pmax		
	comp=Z,27nm,1.3s						
BOSA	Boshof	80.33	118	P	P	08 31 32.0	+0.1
	comp=Z,10nm,0.8s,baz=254,slow=5.0,SNR=4.3						
BOSA	Boshof	80.33	118	eP	P	08 31 32.0	+0.1
	comp=Z,26nm,1.3s						
CASY	Casey	80.42	181	eP	P	08 31 33.5	+2.0
	comp=Z,16nm,1.1s						
N22A	Wattenberg Ran	80.52	334	P	P	08 31 32.2	-0.4
	baz=81						
SHOC	Shoshone	80.52	325	P	P	08 31 31.5	-0.9
	baz=81						
CCUT	Cedar City	80.52	328	eP	P	08 31 31.7	-1.0
	comp=Z,188nm,2.5s						
K28A	Ten Mile Ranch	80.53	339	P	P	08 31 32.7	+0.3
	baz=81						
M24A	Cheyenne	80.53	336	P	P	08 31 32.6	+0.1
	baz=81						
J30A	Dallas	80.54	340	P	P	08 31 32.4	+0.1
	baz=81						
EDW2	Edwards Air Fo	80.54	323	P	P	08 31 32.2	-0.4
	baz=81						
O20A	White River Ci	80.60	333	eP	P	08 31 32.4	-0.5
	comp=Z,59nm,1.6s						
O20A	White River Ci	80.60	333	P	P	08 31 31.5	-1.4
	baz=81						
PHWY	Pilot Hill	80.60	335	eP	P	08 31 32.2	-0.8
	comp=Z,230nm,2.8s						
SPMN	St. Paul	80.67	345	eP	P	08 31 30.9	-2.0
	comp=Z,22nm,1.2s						
SPMN	St. Paul	80.67	345	P	P	08 31 31.3	-1.6
	baz=81						
M23A	Laramie	80.84	335	P	P	08 31 34.8	+0.5
	baz=81						
J29A	Okreek	80.85	340	P	P	08 31 33.7	-0.3
	baz=81						
LRMC	Laurel Mountai	80.87	324	P	P	08 31 35.9	+1.5
	baz=81						
I30A	Oacoma	81.06	340	P	P	08 31 35.3	+0.2
	baz=82						
J28A	Allard Ranch,	81.14	339	P	P	08 31 35.4	-0.2
	baz=82						
J27A	Elkhorn Farm,	81.22	338	P	P	08 31 35.5	-0.5
	baz=82						
FURC	Furnace Creek,	81.26	325	P	P	08 31 36.5	+0.3
	baz=82						
ISA	Isabella	81.40	323	eP	P	08 31 37.5	+0.3
ISA				pmax	pmax		
	comp=Z,16nm,1.2s						
ISA	Isabella	81.40	323	eP	P	08 31 37.5	+0.3
	comp=Z,16nm,1.2s						
ISA	Isabella	81.40	323	P	P	08 31 36.1	-1.1
	baz=82						
BRSD	Miller	81.42	341	eP	P	08 31 36.7	-0.3
	comp=Z,43nm,1.1s						
BRSD	Miller	81.42	341	P	P	08 31 35.9	-1.1
	baz=82						
I28A	Midland	81.64	339	P	P	08 31 38.5	+0.3
	baz=82						
MPU	Maple Canyon	81.84	330	eP	P	08 31 40.0	+0.4
	comp=Z,26nm,1.2s						
VES	Vestal, Richgr	81.85	323	P	P	08 31 39.8	+0.3
	baz=82						
J25A	Sunshine Ranch	81.91	337	P	P	08 31 40.1	+0.4
	baz=82						
H29A	Onida	81.94	340	P	P	08 31 39.1	-0.6
	baz=82						
K23A	Bowen Ranch, D	81.94	336	P	P	08 31 38.6	-1.4
	baz=82						
I27A	Quinn	81.97	339	P	P	08 31 39.3	-0.7
	baz=82						
K22A	Casper	82.17	335	eP	P	08 31 42.0	+0.8
	comp=Z,75nm,1.6s						
K22A	Casper	82.17	335	P	P	08 31 40.6	-0.6
	baz=83						
R11A	Troy Canyon, C	82.18	327	eP	P	08 31 42.9	+1.6
	comp=Z,234nm,2.4s						
R11A	Troy Canyon, C	82.18	327	P	P	08 31 40.1	-1.3
	baz=82						
I26A	New Underwood	82.18	338	P	P	08 31 41.0	-0.1
	baz=83						
H28A	Mission Ridge	82.22	340	P	P	08 31 41.2	0.0
	baz=83						
G29A	Hoven	82.38	341	P	P	08 31 41.4	-0.6
	baz=83						
K21A	Alcova	82.41	335	P	P	08 31 41.5	-1.0
	baz=83						
I25A	Rochford	82.45	338	P	P	08 31 42.4	-0.2
	baz=83						
DUG	Dugway	82.49	330	eP	P	08 31 43.7	+0.8
DUG				pmax	pmax		
	comp=Z,22nm,1.2s						
DUG	Dugway	82.49	330	eP	P	08 31 43.7	+0.8
	comp=Z,22nm,1.2s						
DUG	Dugway	82.49	330	P	P	08 31 42.5	-0.3
	baz=83						
H27A	Howes	82.49	339	P	P	08 31 42.5	-0.2
	baz=83						
LBTB	Lobatse	82.54	115	eP	P	08 31 41.6	-2.1
LBTB				pmax	pmax		
	comp=Z,116nm,1.6s						
LBTB	Lobatse	82.54	115	eP	P	08 31 41.5	-2.1
	comp=Z,116nm,1.6s						
G28A	Parade	82.55	340	P	P	08 31 42.8	-0.2
	baz=83						
TPH	Tonopah	82.72	326	eP	P	08 31 46.4	+2.2
TPH				pmax	pmax		
	comp=Z,16nm,1.0s						
TPH	Tonopah	82.72	326	eP	P	08 31 46.4	+2.2
	comp=Z,16nm,1.0s						
F30A	Leola	82.73	341	P	P	08 31 43.0	-0.8
	baz=83						
J22A	Midwest	82.82	336	P	P	08 31 43.2	-1.4
	baz=83						
F29A	Eureka	82.94	341	P	P	08 31 43.8	-1.1
	baz=83						
G27A	Dupree	83.12	339	P	P	08 31 46.4	+0.5
	baz=84						
F28A	McLaughlin	83.22	340	P	P	08 31 46.3	-0.2
	baz=84						
G26A	Maurine	83.24	339	P	P	08 31 45.9	-0.7
	baz=84						
I22A	9 Mile Ranch,	83.24	336	P	P	08 31 45.5	-1.2
	baz=84						
E30A	Jud	83.31	342	P	P	08 31 46.2	-0.6
	baz=84						
BW06	Boulder Array	83.37	333	eP	P	08 31 49.8	+2.3
	comp=Z,534nm,3.0s						
PDAR	Pinedale Array	83.37	333	P	P	08 31 50.3	+2.8
	comp=Z,5.0nm,0.9s,baz=163,slow=2.9,SNR=6.5						
G25A	Newell	83.40	338	P	P	08 31 48.1	+0.7
	baz=84						
I21A	Big Trails, Te	83.45	335	P	P	08 31 48.5	+0.7
	baz=84						
NVAR	Mina Array Bea	83.51	325	P	P	08 31 49.5	+1.2
	comp=Z,3.5nm,0.8s,baz=156,slow=5.5,SNR=5.2						
E29A	Napoleon	83.57	341	P	P	08 31 47.8	-0.3
	baz=84						
F27A	Lemmon	83.60	339	P	P	08 31 47.7	-0.7
	baz=84						
F26A	Lodgepole	83.77	339	P	P	08 31 48.5	-0.7
	baz=84						
HVU	Hansel Valley	83.80	331	eP	P	08 31 49.1	-0.5
HVU				pmax	pmax		
	comp=Z,20nm,1.0s						
HVU	Hansel Valley	83.80	331	eP	P	08 31 49.1	-0.5
	comp=Z,20nm,1.0s						
D30A	Buchanan	83.83	342	P	P	08 31 47.4	-2.1
	baz=84						
I20A	Worland	83.87	335	P	P	08 31 48.5	-1.4
	baz=84						
E27A	Carson	83.97	340	P	P	08 31 49.7	-0.5
	baz=84						
D29A	Pettibone, Tap	84.01	342	P	P	08 31 49.4	-1.0
	baz=84						
G23A	Biddle	84.04	337	P	P	08 31 49.5	-1.1
	baz=84						
F25A	Bowman	84.07	339	P	P	08 31 50.2	-0.6
	baz=84						
H21A	Big Horn, Sher	84.08	336	P	P	08 31 49.1	-1.9
	baz=84						
TOA0	Torodi Ar. Sit	84.15	70	eP	P	08 31 52.0	+0.1
TORD	Torodi Ar. Bea	84.15	70	P	P	08 31 52.4	+0.5
	comp=Z,17nm,1.0s,baz=254,slow=4.5,SNR=8.8						
AGMN	Agassiz Nation	84.25	344	P	P	08 31 51.0	-0.6
	baz=85						
I19A	Meeteetse	84.25	334	P	P	08 31 50.8	-1.2
	baz=85						
E26A	Carlson Angus	84.27	339	P	P	08 31 51.2	-0.6
	baz=85						
H20A	Greybull	84.29	335	P	P	08 31 51.9	-0.1
	baz=85						
C30A	Mose, Pekin	84.32	342	P	P	08 31 51.5	-0.5
	baz=85						
D28A	Regan	84.39	341	P	P	08 31 52.7	+0.3
	baz=85						
E25A	Miller Ranch,	84.58	339	P	P	08 31 52.7	-0.6
	baz=85						
BMN	Battle Mountai	84.61	327	eP	P	08 31 55.0	+1.2
BMN				pmax	pmax		
	comp=Z,26nm,1.4s						
BMN	Battle Mountai	84.61	327	eP	P	08 31 55.0	+1.2
	comp=Z,26nm,1.4s						
D26A	Manning	84.77	340	P	P	08 31 54.5	+0.3
	baz=85						
H19A	Powell	84.80	335	P	P	08 31 54.7	0.0
	baz=85						
F22A	Rosebud	84.83	337	P	P	08 31 55.0	+0.3
	baz=85						
E24A	Baker	84.91	338	P	P	08 31 55.5	+0.5
	baz=85						
B30A	Myrvik Farm, E	84.97	343	P	P	08 31 55.4	+0.2
	baz=85						
G20A	Bridger	85.00	335	P	P	08 31 55.7	+0.1
	baz=85						
H18A	Shoshone NF, C	85.05	334	P	P	08 31 56.2	+0.2
	baz=85						
C27A	Sayler Ranch,	85.13	341	P	P	08 31 56.5	+0.4
	baz=86						
D25A	Fairfield	85.14	339	P	P	08 31 56.5	+0.4
	baz=86						
E23A	Ismay	85.16	338	P	P	08 31 56.5	+0.2
	baz=86						
B29A	Wagenman Farm,	85.24	342	P	P	08 31 56.3	-0.3
	baz=86						
B28A	Dugan Ranch, T	85.49	342	P	P	08 31 57.3	-0.5
	baz=86						
A29A	Manning Farm,	85.64	342	P	P	08 31 58.7	+0.2
	baz=86						
D23A	Lindsay	85.73	338	P	P	08 31 59.3	+0.2
	baz=86						
E21A	Keefer Ranch,	85.77	337	P	P	08 31 58.7	-0.7
	baz=86						
C24A	Savage	85.81	339	P	P	08 31 59.7	+0.2
	baz=86						
A28A	Rude Farm, Bot	85.89	342	P	P	08 32 00.1	+0.3
	baz=86						
ULM	Lac du Bonnet	86.09	345	P	P	08 31 58.9	-1.8
	comp=Z,7.0nm,0.8s,baz=142,slow=1.4,SNR=4.5						
E20A	Meyer Farm, Mu	86.09	336	P	P	08 32 01.1	+0.1
	baz=86						
E19A	Rath Farm, Rou	86.28	336	P	P	08 32 01.3	-0.6
	baz=87						
C23A	Lambert	86.28	338	P	P	08 32 01.3	-0.5
	baz=87						
MCMT	McKenzie Canyo	86.38	332	eP	P	08 32 03.3	+0.7
	comp=Z,13nm,1.2s						
C22A	Vida	86.45	338	P	P	08 32 02.2	-0.5
	baz=87						
DGMT	Dagmar	86.58	339	eP	P	08 32 02.4	-0.8
	comp=Z,73nm,1.0s						
DGMT	Dagmar	86.58	339	P	P	08 32 02.8	-0.4
	baz=87						
B22A	Reddig Ranch S	86.98	338	P	P	08 32 04.5	-0.7
	baz=87						
B21A	Ellsworth Farm	87.41	338	P	P	08 32 07.1	-0.2
	baz=88						
A22A	Carney Farms,	87.56	338	P	P	08 32 07.8	-0.2
	baz=88						
SCHQ	Schefferville	88.19	3	P	P	08 32 10.0	-0.8
	comp=Z,7.0nm,0.9s,baz=170,slow=3.5,SNR=4.3						
WALA	Waterton Lakes	90.31	334	eP	P	08 32 20.4	-0.7
	comp=Z,0.4nm,1.0s						
YKA	Yellowknife Ar	101.65	341	P	Pdif	08 33 10.4	-1.7
	comp=Z,1.5nm,0.9s,baz=144,slow=4.9,SNR=4.7						
BRG	Berggiesshubel	112.95	43	ePKP	Pdif	08 34 16.3	+14
	comp=Z,32nm,1.6s						
BRG				i		08 34 22.1	
	comp=Z,99nm,1.9s						
BRG	Berggiesshubel	112.95	43	eP	Pdif	08 34 16.3	+14
BRG				pmax	pmax		
	comp=Z,32nm,1.6s						
WRA	Warramunga Arr	121.07	209	PKP	PKPdf	08 38 12.8	-0.8
	comp=Z,2.7nm,1.0s,baz=158,slow=1.7,SNR=4.2						
BRTR	Keskin Array B	121.71	61	PKP	PKPdf	08 38 12.9	-1.4
	comp=Z,1.0nm,0.7s,baz=201,slow=1.1,SNR=2.8						
AKASG	Malin Array Be	121.98	47	PKIKP	PKPdf	08 38 13.0	-1.2
AKASG	Malin Array Be	121.98	47	PKP	PKPdf	08 38 13.0	-1.2
	comp=Z,2.0nm,0.7s,baz=261,slow=3.0,SNR=7.9						
OBN	Obninsk	127.20	43	i PKIKP	PKPdf	08 38 31.9	+7.8
OBN				pmax	pmax		
	comp=Z,23nm,1.2s						
KLMR	Klimovskoe	129.13	36	ePKIKP	PKPdf	08 38 26.3	-1.3
KLMR				pmax	pmax		
	comp=Z,39nm,1.3s						
SEY	Seymchan	139.64	330	PKP	PKPdf	08 38 46.4	-0.8
	comp=Z,4.1nm,0.8s,baz=139,slow=6.6,SNR=3.6						
GEYT	Alibeck	139.78	69	PKP	PKPdf	08 38 48.5	+0.1
	comp=Z,1.4nm,0.3s,baz=285,slow=5.5,SNR=4.5						
PALK	Pallekele	143.70	130	ePKIKP	PKPab	08 38 52.6	-0.2
PALK	Pallekele	143.70	130	ePKPdf	PKPab	08 38 52.5	-0.2
BVAR	Borovoye Array	147.04	42	PKPbc	PKPbc	08 39 01.6	-1.0
	comp=Z,7.7nm,0.7s,baz=290,slow=4.7,SNR=8.0						
KBL	Kabul	147.96	77	ePKP2	PKPdf	08 39 04.5	+1.5
KBL	Kabul	147.96	77	ePKPbc	PKPdf	08 39 04.5	+1.5
YAK	Yakutsk	148.33	341	ePKP2	PKPbc	08 39 06.8	+1.0
YAK	Yakutsk	148.33	341	ePKPbc	PKPbc	08 39 06.8	+1.0
HYB	Hyderabad	149.17	114	i PKP	PKPbc	08 39 08.0	-1.4
KKAR	Karatay Array	149.42	61	ePKP2	PKPbc	08 39 07.7	-1.5
KKAR	Karatay Array	149.42	61	ePKPbc	PKPbc	08 39 07.7	-1.5
KULM	Kulim	151.04	165	ePKPbc	PKPbc	08 39 12.4	-1.5
EKS2	Erkin-Say	151.86	61	ePKIKP	PKPbc	08 39 15.0	-0.2
EKS2	Erkin-Say	151.86	61	ePKPbc	PKPbc	08 39 15.0	-0.2
AAK	Ala-Archa	152.38	61	PKPbc	PKPbc	08 39 16.6	+0.2
	comp=Z,9.9nm,0.8s,baz=261,slow=1.5,SNR=4.4						
NVS	Novosibirsk	152.64	32	ePKIKP	PKPbc	08 39 15.4	-0.9
NVS				pmax	pmax		
	comp=Z,45nm,1.0s						
NVS				pmax	pmax		
	comp=N,8.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,14nm,0.7s						
KSH	Kashi	153.80	68	ePKPbc	PKPbc	08 39 17.5	-2.1
KSH				esPKP		08 39 32.3	
KSH				PP	PP	08 43 16.3	+8.8
KSH				SKS	SKSdf	08 46 29.0	+11
ZAA0	Zalesovo Array	153.93	32	ePKPbc	PKPbc	08 39 18.5	-0.6
ZALV	Zalesovo Beam	153.93	32	PKPbc	PKPbc	08 39 18.2	-1.0
	comp=E,14nm,0.7s,baz=295,slow=3.0,SNR=10						
BOD	Bodaibo	155.42	352	ePKP2	PKPab	08 39 37.1	-1.6
BOD				pmax	pmax		
	comp=Z,15nm,0.9s						
MK31	Makanchi Array	156.56	48	ePKP2	PKPab	08 39 43.9	-0.1
MK31	Makanchi Array	156.56	48	ePKPab	PKPab	08 39 43.9	-0.1
MKAR	Makanchi Array	156.56	48	ePKP2	PKPab	08 39 44.4	+0.3
MKAR	Makanchi Array	156.56	48	PKPab	PKPab	08 39 43.8	-0.3
	comp=Z,6.6nm,0.6s,baz=292,slow=2.9,SNR=13						
MKAR	Makanchi Array	156.56	48	ePKPab	PKPab	08 39 44.4	+0.3
ZAK	Zakamensk	162.89	10	ePKP2	PKPab	08 40 08.9	-2.5
ZAK				pmax	pmax		
	comp=Z,19nm,1.2s						
CMAR	Chiang Mai Arr	162.94	150	PKP	PKPdf	08 39 22.9	-0.2
	comp=Z,4.6nm,0.3s,baz=245,slow=1.5,SNR=4.4						
SONM	Songino Array	165.74	4	PKP	PKPdf	08 39 24.7	-0.2
	comp=Z,1.9nm,0.9s,baz=336,slow=3.2,SNR=3.1						
SONM				PKPab	PKPab	08 40 23.0	-1.1
	comp=Z,2.8nm,1.0s,baz=350,slow=5.9,SNR=3.6						

IDC 27 08:21:09.7±2.0, 35°.38S×72°.55W, h0km, mb4.6/6, mb1 4.8/6, mb1mx4.4/28, mbtmp4.6/6, Error ellipse: s-maj=93.3km s-min=29.6km az=34.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	70.74	331	P	P	08 32 26.3	-1.4
	1.7nm,0.6s,baz=162,slow=8.0,SNR=5.3						
DBIC	Dimbokro	76.02	71	P	P	08 32 59.5	+0.4
	6.9nm,0.8s,baz=198,slow=5.2,SNR=3.5						
BOSA	Boshof	79.80	118	P	P	08 33 20.2	0.0
	11nm,0.9s,baz=254,slow=3.3,SNR=3.8						
NVAR	Mina Array Bea	84.78	326	P	P	08 33 46.5	+0.5
	3.7nm,0.9s,baz=148,slow=5.3,SNR=3.0						
TORD	Torodi Ar. Bea	85.07	70	P	P	08 33 47.0	-0.7
	2.3nm,0.8s,baz=221,slow=4.8,SNR=2.5						
ULM	Lac du Bonnet	87.72	345	P	P	08 34 01.4	+1.6
	5.5nm,0.7s,baz=158,slow=3.4,SNR=4.2						

IDC 27 08:21:42.8±1.2, 34°.19S×72°.32W, h0km, mb4.6/3, mb1 4.8/4, mb1mx4.3/29, mbtmp4.6/4, ML4.9/1, Error ellipse: s-maj=52.1km s-min=37.1km az=63.0

ISCJB 27 08:21:44.4±1.9, 34°.0S±0°.3×72°.3W±0°.3, h19km, mb4.7/8, Error ellipse: s-maj=38.9km s-min=27.6km az=31.8

NEIC 27 08:21:48.5±0.9, 34°.05S×72°.21W, h35km, mb4.8/5, Error ellipse: s-maj=27.8km s-min=20.3km az=76.0

ISC 27 08:21:45.9±1.2, 34°.1S±0°.2×72°.2W±0°.2, h19km, n15, σ0s.93/15, mb4.7/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	18.11	13	P	Pn	08 25 56.9	-0.1
	1.7nm,0.3s,baz=186,slow=7.2,SNR=5.4						
LPAZ	La Paz	18.11	13	eP	P	08 25 57.2	-0.2
	14nm,0.6s						
OTAV	Otavalo	34.65	349	eP	P	08 28 35.5	+0.8
	51nm,1.6s						
RCBR	Riachuelo	43.81	58	eP	P	08 29 51.4	+0.6
	3.6nm,0.4s						
APG	El Apazote	51.83	337	P	P	08 30 49.5	-3.6
	2.0nm,0.6s,baz=110,slow=13,SNR=3.7						
MTDJ	Mount Denham	52.27	354	eP	P	08 30 56.1	-0.1
	8.9nm,0.8s						
ANWB	Willy Bob	52.42	13	eP	P	08 30 55.6	-1.6
	18nm,0.8s						
TEIG	Tepich	56.15	342	P	P	08 31 24.1	-0.2
	11nm,0.6s,baz=162,slow=6.4,SNR=5.0						
TXAR	Lajitas Array	69.75	331	P	P	08 32 55.9	+1.1
	1.2nm,0.5s,baz=154,slow=8.5,SNR=3.7						
TORD	Torodi Ar. Bea	84.37	70	P	P	08 34 18.2	+1.0
	4.1nm,0.8s,baz=293,slow=7.3,SNR=6.2						
WRA	Warramunga Arr	120.61	209	PKP	PKPdf	08 40 36.2	-0.8
	0.8nm,0.7s,baz=173,slow=1.5,SNR=2.8						
AKASG	Malin Array Be	122.36	48	PKP	PKPdf	08 40 37.6	-1.6
	1.3nm,0.7s,baz=261,slow=2.5,SNR=4.2						
BVAR	Borovoye Array	147.44	43	PKPbc	PKPab	08 41 29.5	-0.5
	4.3nm,0.5s,baz=281,slow=2.6,SNR=6.3						
ZALV	Zalesovo Beam	154.38	32	PKP	PKPdf	08 41 37.1	+1.0
	4.0nm,0.6s,baz=301,slow=0.8,SNR=3.0						
ZALV				PKPbc	PKPbc	08 41 44.2	-0.1
	6.8nm,0.5s,baz=289,slow=3.4,SNR=3.6						
MKAR	Makanchi Array	156.93	49	PKPab	PKPab	08 42 09.8	-0.1
	2.1nm,0.6s,baz=259,slow=2.8,SNR=5.7						

IDC 27 08:23:47.5±0.6, 34°.44S×72°.17W, h0km, mb4.7/14, mb1 4.8/15, mb1mx4.6/29, mbtmp4.7/15, ML4.4/1, Error ellipse: s-maj=29.8km s-min=15.2km az=71.0

ISCJB 27 08:23:48.6±0.3, 34°.46S±0°.07×72°.1W±0°.1, h16km, mb4.8/35, Error ellipse: s-maj=16.3km s-min=7.7km az=156.4

NEIC 27 08:23:51.0±2.8, 34°.49S×72°.13W, h22km±19km, mb5.2/21, Error ellipse: s-maj=15.2km s-min=6.3km az=72.0

ISC 27 08:23:49.9±0.5, 34°.52S±0°.09×72°.2W±0°.2, h16km, n387, σ0s.57/380, mb5.0/35, 150C-176D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.39	50	Lg	Lg	08 26 00.6	
	5.6nm,0.3s,baz=38,slow=19,SNR=2.9						
PLCA	Paso Flores	6.34	169	Pn	Pn	08 25 21.6	-1.0
LPAZ	La Paz	18.51	12	P	Pn	08 28 06.8	+0.5
	0.5nm,0.3s,baz=185,slow=8.2,SNR=2.9						
USHA	Ushuaia	20.48	174	P	Pn	08 28 27.9	-1.1
	17nm,0.9s,baz=341,slow=5.5,SNR=2.7						
NNA	Nana	22.83	348	P	P	08 28 53.1	+0.8
	16nm,0.8s,baz=197,slow=12,SNR=4.1						
OTAV	Otavalo	35.07	349	eP	P	08 30 44.4	+1.6
	9.5nm,0.7s						
FDF	Fort de France	50.08	14	eP	P	08 32 44.1	0.0
	7.7nm,0.7s						
SNAA	Sanae	51.15	158	P	P	08 32 52.3	+0.6
	5.5nm,0.9s,baz=289,slow=5.4,SNR=4.0						
APG	El Apazote	52.23	337	P	P	08 32 56.0	-4.5
	7.1nm,0.8s,baz=114,slow=6.3,SNR=5.6						
MTDJ	Mount Denham	52.70	354	eP	P	08 33 03.1	-0.7
	58nm,1.3s						
QSPA	South Pole Qui	55.72	180	P	P	08 33 26.9	+1.5
	30nm,0.9s,baz=153,slow=2.2,SNR=9.6						
TEIG	Tepich	56.56	342	P	P	08 33 31.1	-0.5
	18nm,0.9s,baz=183,slow=14,SNR=3.9						
TEIG	Tepich	56.56	342	eP	P	08 33 31.5	-0.1
TIGA	Tifton	66.48	349	⇓P	P	08 34 37.8	-0.7
	baz=67						
933A	Laredo	66.91	334	⇑P	P	08 34 41.9	+0.5
	baz=67						
835A	Beeville	67.02	335	⇑P	P	08 34 43.5	+1.5
	baz=67						
834A	Tilden	67.12	335	⇓P	P	08 34 43.9	+1.2
	baz=67						
735A	Kenedy	67.53	336	⇑P	P	08 34 46.5	+1.3
	baz=68						
833A	Chaparral WMA,	67.60	334	⇓P	P	08 34 46.6	+0.9
	baz=68						
832A	Faith Ranch, C	67.78	334	⇓P	P	08 34 47.2	+0.4
	baz=68						
734A	La Parita Cree	67.78	335	⇑P	P	08 34 47.5	+0.6
	baz=68						
636A	Smothers Creek	67.86	337	⇓P	P	08 34 48.3	+1.0
	baz=68						
733A	Divot King Ran	67.92	334	⇓P	P	08 34 48.2	+0.5
	baz=68						
635A	Leesville	68.01	336	⇓P	P	08 34 49.1	+0.8
	baz=68						
732A	Laxson Ranch,	68.18	334	⇓P	P	08 34 49.8	+0.4
	baz=68						
633A	Saathoff Ranch	68.56	335	⇓P	P	08 34 52.3	+0.6
	baz=69						
632A	Uvalde	68.82	334	⇑P	P	08 34 53.8	+0.4
	baz=69						
533A	Kerrville	69.07	335	⇓P	P	08 34 55.5	+0.6
	baz=69						
337A	Centerville	69.19	338	⇓P	P	08 34 56.1	+0.6
	baz=70						
532A	Rocksprings	69.42	334	⇓P	P	08 34 57.5	+0.4
	baz=70						
434A	Burnet	69.49	336	⇓P	P	08 34 57.9	+0.4
	baz=70						
336A	Riesel	69.55	338	⇑P	P	08 34 58.4	+0.5
	baz=70						

335A	Moody baz=70	69.64	337	⇓P	P	08 34 58.6	+0.2
JCT	Junction City baz=70	69.71	335	⇑P	P	08 34 59.0	+0.2
433A	Art baz=70,SNR=5.1	69.71	335	⇓P	P	08 34 59.0	+0.1
KMSC	Kings Mountain baz=70	69.83	352	⇓P	P	08 34 59.2	-0.2
334A	Lometa baz=70	69.95	336	⇓P	P	08 35 00.9	+0.5
530A	J-C Ranch, Com baz=70	69.96	333	⇑P	P	08 35 00.9	+0.4
432A	Menard baz=70	70.06	335	⇓P	P	08 35 01.6	+0.5
TXAR	Lajitas Array 0.9nm,0.5s,baz=153,slow=8.4,SNR=5.6	70.14	331	P	P	08 35 02.1	+0.5
333A	Richland Sprin baz=70	70.20	336	⇑P	P	08 35 02.2	+0.4
529A	Stev Forest Ra baz=71	70.27	333	⇑P	P	08 35 02.4	0.0
WHTX	Lake Whitney baz=71	70.31	337	⇓P	P	08 35 02.6	+0.1
430A	Baggett Ranch, baz=71	70.50	334	⇑P	P	08 35 03.8	+0.1
332A	Millersview baz=71	70.51	335	⇓P	P	08 35 04.1	+0.3
234A	Clairette baz=71	70.54	337	⇓P	P	08 35 04.5	+0.6
OXF	Oxford 32nm,1.0s	70.54	345	eP	P	08 35 02.3	-1.5
SWET	Sewanee 70nm,1.4s	70.56	348	eP	P	08 35 03.3	-0.7
429A	Davenport Ranc baz=71	70.60	333	⇓P	P	08 35 04.5	+0.1
331A	San Angelo baz=71	70.68	335	⇑P	P	08 35 04.7	-0.1
233A	Rising Star baz=71	70.80	336	⇑P	P	08 35 05.4	-0.1
135A	Vickery Place, baz=71	70.82	338	⇓P	P	08 35 05.4	-0.1
232A	Coleman baz=71	70.94	335	⇓P	P	08 35 06.2	-0.2
330A	Mertzon baz=71	71.04	334	⇑P	P	08 35 06.9	-0.2
134A	White-Moore Ra baz=71	71.04	337	⇑P	P	08 35 07.4	+0.5
231A	Bronte baz=72	71.21	335	⇓P	P	08 35 08.0	-0.1
133A	Hamilton Ranch baz=72	71.35	336	⇓P	P	08 35 09.0	+0.1
329A	Wagon Wheel Ra baz=72	71.41	333	⇑P	P	08 35 09.2	-0.1
230A	Sterling City baz=72	71.45	334	⇓P	P	08 35 09.7	+0.2
Z35A	Perchaven, San baz=72	71.48	338	⇑P	P	08 35 10.1	+0.5
ABTX	Abilene, Hawle baz=72	71.61	336	⇓P	P	08 35 10.7	+0.4
Z34A	Collier Ranch, baz=72	71.73	337	⇓P	P	08 35 11.5	+0.5
229A	Bryant Ranch, baz=72	71.78	334	⇑P	P	08 35 11.7	+0.2
WVT	Waverly 35nm,1.1s	71.79	347	eP	P	08 35 10.5	-0.8
131A	Roby baz=72	71.91	335	⇓P	P	08 35 12.3	0.0
Z33A	Whitaker Ranch baz=72	71.92	337	⇓P	P	08 35 12.6	+0.3
130A	Snyder baz=72	72.04	335	⇑P	P	08 35 12.7	-0.4
Z32A	Haskell baz=72	72.18	336	⇑P	P	08 35 13.8	0.0
228A	UT Block 9, Go baz=72	72.20	333	⇓P	P	08 35 13.8	-0.2
Y34A	Reagan Ranch, baz=72	72.22	338	⇓P	P	08 35 14.1	+0.1
129A	Stewart Farms, baz=73	72.39	334	⇓P	P	08 35 14.6	-0.6
Z31A	Sharp Cattle R baz=73	72.41	336	⇓P	P	08 35 15.0	-0.2
Y33A	Hilltop Ranch, baz=73	72.54	337	⇓P	P	08 35 15.8	-0.2
128A	Castleberry Fa baz=73	72.61	333	⇓P	P	08 35 16.5	0.0
Z30A	Sanderson Ranc baz=73	72.72	335	⇓P	P	08 35 16.7	-0.4
Y32A	R-V Farms, Ver baz=73	72.80	337	⇓P	P	08 35 17.3	-0.2
X34A	Smith Ranch, M baz=73	72.84	338	⇓P	P	08 35 17.7	0.0
Z29A	Hungry Hill Ra baz=73	72.90	334	⇑P	P	08 35 18.1	-0.1
X33A	Lawton baz=73	72.99	337	⇓P	P	08 35 18.3	-0.3
Y31A	Rekieta Farm, baz=73	73.04	336	⇓P	P	08 35 19.0	+0.1
X32A	Elmer baz=74	73.13	337	⇑P	P	08 35 19.9	+0.4
Y30A	Stafford Cattl baz=74	73.18	335	⇑P	P	08 35 19.9	+0.1
W34A	Bridge Creek, baz=74	73.41	338	⇓P	P	08 35 20.9	-0.1
Y29A	Porterfield Fa baz=74	73.43	335	⇑P	P	08 35 21.3	-0.1
TUL1	Tulsa 8.7nm,1.0s	73.46	340	eP	P	08 35 20.4	-0.9
TUL1	Tulsa baz=74	73.46	340	⇑P	P	08 35 20.9	-0.4
W33A	Caddo, Fort Co baz=74	73.55	338	⇓P	P	08 35 22.4	+0.6
X31A	McDonald Ranch baz=74	73.55	336	⇓P	P	08 35 21.8	-0.1
Y28A	McKinney Farm, baz=74	73.68	334	⇑P	P	08 35 23.2	+0.4
X30A	Coker Ranch, T baz=74	73.69	336	⇑P	P	08 35 23.5	+0.8
Z26A	Caprock baz=74	73.75	333	⇓P	P	08 35 23.5	+0.3
W32A	Sentinel baz=74	73.77	337	⇑P	P	08 35 23.5	+0.3
MSTX	Muleshoe baz=74	73.92	334	⇓P	P	08 35 24.1	-0.1
Y27A	Causey baz=74	73.99	334	⇑P	P	08 35 24.2	-0.4
Z25A	Roswell baz=74	74.04	332	⇑P	P	08 35 25.2	+0.2
W31A	Holland Ranch, baz=74	74.05	337	⇓P	P	08 35 24.7	-0.1
V33A	Lossen Ranch, baz=74	74.11	338	⇓P	P	08 35 25.2	+0.1
X28A	Dimmitt baz=74	74.21	335	⇓P	P	08 35 26.4	+0.5
V32A	Arapaho baz=75	74.25	338	⇑P	P	08 35 26.4	+0.4
Y26A	Elida baz=75	74.27	333	⇑P	P	08 35 27.1	+0.8
319A	Douglas baz=75	74.28	328	⇓P	P	08 35 26.6	+0.2
Z24A	Sheeppen Canyo baz=75	74.34	332	⇓P	P	08 35 27.4	+0.6
AMTX	Amarillo baz=75	74.36	335	⇑P	P	08 35 27.7	+1.0
U34A	Anderson Ranch baz=75	74.45	339	⇓P	P	08 35 26.9	-0.2
V31A	Spring Creek L baz=75	74.55	337	⇓P	P	08 35 28.5	+0.7
W29A	Amraillo baz=75	74.56	335	⇓P	P	08 35 28.1	+0.2
121A	Cookes Peak, D baz=75	74.63	329	⇓P	P	08 35 29.1	+0.6
SUR	Sutherland 10nm,0.8s,baz=298,slow=5.4,SNR=4.3	74.67	119	P	P	08 35 30.6	+1.6
X26A	CR and CF Fran baz=75	74.83	333	⇑P	P	08 35 29.7	+0.2
W28A	Vega baz=75	74.88	335	⇑P	P	08 35 30.4	+0.7
Y24A	Capitan baz=75	74.89	332	⇑P	P	08 35 30.5	+0.5
Z22A	Elephant Butte baz=75	74.91	330	⇓P	P	08 35 30.7	+0.6
W27A	Bowe Ranch, En baz=75	75.01	334	⇓P	P	08 35 30.9	+0.4
ACSO	Alum Creek Sta 25nm,0.7s	75.05	351	eP	P	08 35 29.7	-0.7
U31A	Nine Bar Ranch baz=75	75.10	337	⇑P	P	08 35 31.6	+0.6
X25A	Clemmons Ranch baz=75	75.12	333	⇑P	P	08 35 31.4	+0.1

Y23A	Lovelace Mesa, baz=75	75.14	331	⇑P	P	08 35 32.4	+1.0
T33A	Patterson Ranc baz=76	75.26	339	⇑P	P	08 35 32.3	+0.5
W26A	Owens Ranch, T baz=76	75.29	334	⇑P	P	08 35 32.6	+0.4
V28A	Channing baz=76	75.33	335	⇑P	P	08 35 33.0	+0.7
DBIC	Dimbokro 14nm,0.8s,baz=207,slow=5.2,SNR=6.4	75.44	71	P	P	08 35 33.4	+0.1
X24A	Lazy VL Ranch, baz=76	75.45	332	⇓P	P	08 35 33.7	+0.5
U30A	WK&E Inc. Balk baz=76	75.51	337	⇑P	P	08 35 34.1	+0.8
T32A	Huddler Ranch, baz=76	75.56	338	⇑P	P	08 35 34.1	+0.6
W25A	X Bar L Ranch, baz=76	75.66	333	⇓P	P	08 35 34.7	+0.4
V26A	Tequesquite Ra baz=76	75.93	334	⇓P	P	08 35 36.0	+0.2
LAZ	Ladron 6.3nm,1.3s	75.98	331	eP	P	08 35 36.8	+0.6
W24A	Lazy 6 Ranch, baz=76	76.01	332	⇑P	P	08 35 36.4	0.0
S32A	Newby Ranch, P baz=76	76.04	338	⇓P	P	08 35 36.3	+0.1
S31A	Mullinville baz=76	76.13	338	⇑P	P	08 35 37.2	+0.4
U27A	Thompson Grove baz=76	76.15	335	⇓P	P	08 35 36.9	-0.1
W23A	Werner Place, baz=77	76.25	332	⇑P	P	08 35 38.3	+0.5
V25A	Rancho No Teng baz=77	76.27	333	⇓P	P	08 35 38.0	+0.2
T29A	Hugoton baz=77	76.29	336	⇓P	P	08 35 38.4	+0.6
214A	Organ Pipe Nat 2.9nm,1.0s	76.38	325	eP	P	08 35 39.3	+1.0
214A	Organ Pipe Nat baz=77	76.38	325	⇑P	P	08 35 39.2	+0.8
V24A	Rampart Ranch, baz=77	76.42	333	⇓P	P	08 35 38.5	-0.3
U26A	Atchley Ranch, baz=77	76.45	334	⇑P	P	08 35 38.2	-0.6
S30A	Montezuma baz=77	76.46	337	⇑P	P	08 35 38.9	+0.2
T28A	Walsh baz=77,SNR=6.4	76.53	336	⇑P	P	08 35 39.3	+0.1
R32A	Long Quarter, baz=77	76.64	339	⇓P	P	08 35 40.0	+0.3
S29A	Ulysses baz=77	76.65	337	⇑P	P	08 35 40.2	+0.4
KSU1	Kansas State U baz=77	76.67	341	⇓P	P	08 35 39.9	+0.1
T27A	Campo baz=77	76.69	335	⇑P	P	08 35 40.6	+0.5
U25A	Circle Dot Ran baz=77	76.69	334	⇓P	P	08 35 40.0	-0.3
R31A	Burdett baz=77	76.76	338	⇑P	P	08 35 40.8	+0.4
S28A	Manter baz=77,SNR=6.3	76.88	336	⇑P	P	08 35 41.4	+0.2
R30A	Dighton baz=77	76.99	338	⇓P	P	08 35 42.5	+0.9
T26A	Comanche Natio baz=77	77.09	335	⇑P	P	08 35 42.9	+0.4
Q32A	Meitler Ranch, baz=77	77.12	339	⇓P	P	08 35 43.2	+0.8
V22A	San Miguel Ran baz=78	77.21	332	⇑P	P	08 35 44.1	+0.9
X18A	Snowflake baz=78	77.26	329	⇓P	P	08 35 44.1	+0.7
U23A	El Rito baz=78	77.30	332	⇓P	P	08 35 44.5	+0.8
T25A	Trinidad baz=78	77.35	334	⇓P	P	08 35 44.8	+0.8
Q31A	Ellis baz=78	77.38	339	⇑P	P	08 35 44.5	+0.7
R29A	Marienthal baz=78	77.39	337	⇓P	P	08 35 44.4	+0.4
S26A	Kim baz=78	77.45	335	⇑P	P	08 35 45.1	+0.7
R28A	Tribune baz=78	77.54	337	⇑P	P	08 35 45.2	+0.4
U22A	Llaves baz=78	77.59	332	⇑P	P	08 35 46.3	+0.9
Q30A	Quinter baz=78	77.61	338	⇑P	P	08 35 45.5	+0.4
T24B	San Luis baz=78	77.64	333	⇑P	P	08 35 46.7	+1.1
W18A	Petrified Fore baz=78	77.67	329	⇓P	P	08 35 46.7	+1.0
P32A	Huiting Farm, baz=78	77.72	339	⇑P	P	08 35 45.6	0.0
R27A	Eads baz=78,SNR=5.3	77.81	336	⇓P	P	08 35 46.5	+0.2
X16A	Lo Mia Camp, P baz=78,SNR=8.3	77.82	328	⇑P	P	08 35 47.8	+1.2
S25A	Robets Cordova baz=78	77.83	334	⇑P	P	08 35 47.2	+0.6
P31A	Stockton baz=78	77.85	339	⇑P	P	08 35 46.5	0.0
R26A	Arlington baz=78	78.05	335	⇑P	P	08 35 48.2	+0.5
S24A	Houchin Ranch, baz=78	78.09	334	⇓P	P	08 35 48.8	+0.7
Y14A	Wickenburg baz=78	78.12	326	⇑P	P	08 35 48.3	+0.2
P30A	Selden baz=78	78.14	338	⇓P	P	08 35 48.8	+0.7
Q28A	Sharon Springs baz=78	78.20	337	⇑P	P	08 35 49.2	+0.7
O32A	Brockman Farm, baz=78	78.21	340	⇑P	P	08 35 48.8	+0.4
SDCO	Great Sand Dun 3.0nm,0.8s	78.29	334	eP	P	08 35 49.2	0.0
P29A	Atwood baz=79	78.40	338	⇑P	P	08 35 50.5	+0.9
O31A	Woolen Ranch, baz=79	78.42	339	⇑P	P	08 35 50.6	+1.0
SWSC	Sam W. Stewart baz=79	78.62	324	⇓P	P	08 35 51.5	+0.7
Q26A	Hugo baz=79	78.63	336	⇓P	P	08 35 51.5	+0.6
P28A	Saint Francis baz=79	78.64	337	⇓P	P	08 35 51.5	+0.6
O30A	MW Ranch, Wils baz=79	78.66	339	⇓P	P	08 35 51.8	+0.9
WUAZ	Wupatki 35nm,1.7s	78.72	328	eP	P	08 35 52.0	+0.5
WUAZ	Wupatki baz=79,SNR=5.5	78.72	328	⇑P	P	08 35 52.1	+0.7
S22A	4UR Ranch, Cre baz=79	78.78	333	⇓P	P	08 35 52.5	+0.5
R23A	Moffat baz=79	78.80	334	⇓P	P	08 35 52.2	+0.2
O29A	4D Ranch, Culb baz=79	78.84	338	⇑P	P	08 35 52.4	+0.5
Q25A	Bedland, Calha baz=79	78.88	335	⇓P	P	08 35 52.6	+0.2
P27A	Ficken Ranch, baz=79	78.89	336	⇓P	P	08 35 52.8	+0.5
N31A	Bailey Ranch, baz=79	78.93	340	⇓P	P	08 35 52.7	+0.3
MVCO	Mesa Verde baz=79	78.97	331	⇓P	P	08 35 53.3	+0.4
BC3	Big Chuckawall baz=79	79.04	324	⇓P	P	08 35 54.0	+0.7
O28A	Krutsinger Ran baz=80	79.14	337	⇓P	P	08 35 54.1	+0.5
P26A	Davis Ranch, A baz=80	79.15	336	⇑P	P	08 35 54.0	+0.2
Q24A	Divide baz=80	79.24	334	⇑P	P	08 35 54.5	+0.1
BGNE	Belgrade baz=80	79.24	340	⇑P	P	08 35 54.3	+0.2
IRM	Iron Mountain baz=80	79.31	325	⇓P	P	08 35 54.7	+0.1
P25A	Willow Gulch B baz=80	79.38	335	⇓P	P	08 35 56.2	+1.1
M31A	Lambtecht Ranc baz=80	79.42	340	⇑P	P	08 35 55.5	+0.4
N29A	Votaw Ranch, W baz=80	79.42	338	⇓P	P	08 35 55.5	+0.4
O27A	Beecher Island baz=80	79.43	337	⇑P	P	08 35 56.0	+0.8
PFO	Pinyon Flat Ob baz=80	79.49	324	⇓P	P	08 35 56.9	+1.2

W13A	Hualapai Mount baz=80	79.49	326	⇓P	P	08 35 57.1	+1.3
N28A	Pribbeno Ranch baz=80	79.58	338	⇑P	P	08 35 56.6	+0.6
O26A	Horse Wrangler baz=80	79.75	336	⇓P	P	08 35 57.9	+0.9
MURC	Murrieta baz=80	79.85	323	⇑P	P	08 35 57.8	+0.2
M30A	Dale-Ortello V baz=80	79.85	339	⇑P	P	08 35 58.5	+1.1
U15A	North Rim baz=80,SNR=5.0	79.88	328	⇑P	P	08 35 59.1	+1.1
BOSA	Boshof 16nm,0.9s,baz=218,slow=6.5,SNR=6.6	79.92	118	P	P	08 35 58.7	+0.3
OGNE	Ogallala baz=80	79.97	337	⇓P	P	08 35 58.3	+0.2
N27A	Anderson Farm, baz=80	80.00	337	⇓P	P	08 35 59.3	+0.9
M29A	Burnside Ranch baz=80	80.01	339	⇓P	P	08 35 59.0	+0.7
GMRC	Granite Mounta baz=80	80.05	325	⇓P	P	08 35 59.9	+1.1
ISCO	Idaho Springs baz=80	80.15	334	⇓P	P	08 35 59.5	+0.2
L31A	Butterfield Fa baz=80	80.15	340	⇓P	P	08 35 59.9	+0.9
L30A	Spencer Herefo baz=80	80.19	339	⇓P	P	08 35 59.6	+0.4
N26A	Koester Ranch, baz=81	80.25	337	⇓P	P	08 36 00.4	+0.8
HEC	Hector,Ludlow baz=81	80.41	324	⇑P	P	08 36 01.4	+0.8
BFSC	Mount Baldy Ra baz=81	80.58	323	⇑P	P	08 36 02.6	+1.0
M27A	Reverse DX Ran baz=81	80.61	337	⇑P	P	08 36 02.5	+1.0
O23A	Lake Granby, G baz=81	80.62	334	⇑P	P	08 36 02.4	+0.5
O22A	Kremmling baz=81	80.80	334	⇑P	P	08 36 03.1	+0.3
K30A	Basset baz=81	80.83	340	⇑P	P	08 36 03.5	+0.9
ECSD	EROS Data Cent 34nm,1.1s	81.01	342	eP	P	08 36 02.7	-0.8
ECSD	EROS Data Cent baz=81	81.01	342	⇑P	P	08 36 03.1	-0.5
GSC	Goldstone 126nm,2.6s	81.02	324	eP	P	08 36 04.9	+1.0
GSC	Goldstone baz=81	81.02	324	⇑P	P	08 36 05.1	+1.2
M25A	Palm-Egli Farm baz=81	81.07	336	⇑P	P	08 36 04.4	+0.3
K29A	Lazy Trails An baz=81	81.11	339	⇓P	P	08 36 04.8	+0.7
N23A	Red Feather La baz=82	81.23	335	⇑P	P	08 36 05.6	+0.5
SHOC	Shoshone baz=82	81.26	325	⇑P	P	08 36 05.4	+0.3
EDW2	Edwards Air Fo baz=82	81.26	323	⇑P	P	08 36 05.6	+0.5
L26A	Underwood Farm baz=82	81.29	337	⇓P	P	08 36 05.8	+0.7
N22A	Wattenberg Ran baz=82	81.33	334	⇓P	P	08 36 06.7	+1.1
M24A	Cheyenne baz=82	81.36	336	⇑P	P	08 36 06.5	+0.9
K28A	Ten Mile Ranch baz=82,SNR=5.7	81.37	339	⇓P	P	08 36 06.6	+1.0
J30A	Dallas baz=82	81.39	340	⇑P	P	08 36 06.0	+0.4
O20A	White River Ci baz=82	81.40	333	⇑P	P	08 36 06.6	+0.7
SPMN	St. Paul baz=82	81.55	345	⇓P	P	08 36 05.6	-0.7
LRMC	Laurel Mountai baz=82	81.59	324	⇓P	P	08 36 07.5	+0.5
K27A	Flueckinger Fa baz=82	81.63	338	⇑P	P	08 36 08.0	+1.1
M23A	Laramie baz=82	81.66	335	⇑P	P	08 36 08.3	+1.0
J29A	Okreek baz=82,SNR=7.8	81.70	340	⇓P	P	08 36 07.4	+0.1
I30A	Oacoma baz=82,SNR=8.7	81.92	340	⇓P	P	08 36 08.3	-0.1
J28A	Allard Ranch, baz=82	81.98	339	⇑P	P	08 36 09.3	+0.5
N20A	Spence Gulch, baz=82	82.02	333	⇓P	P	08 36 09.5	+0.3
J27A	Elkhorn Farm, baz=82	82.06	338	⇑P	P	08 36 10.4	+1.2
ISA	Isabella 22nm,1.3s	82.12	324	eP	P	08 36 10.7	+1.0
ISA	Isabella baz=82	82.12	324	⇓P	P	08 36 10.9	+1.2
LBTB	Lobatse 21nm,1.1s	82.18	115	eP	P	08 36 10.4	-0.1
BRSD	Miller 15nm,0.8s	82.28	341	eP	P	08 36 09.6	-0.6
BRSD	Miller baz=83	82.28	341	⇓P	P	08 36 10.1	-0.1
J26A	Sides Ranch, S baz=83	82.44	338	⇓P	P	08 36 12.2	+1.1
I28A	Midland baz=83,SNR=7.6	82.49	339	⇑P	P	08 36 11.6	+0.2
VES	Vestal, Richgr baz=83	82.57	323	⇑P	P	08 36 12.8	+0.9
J25A	Sunshine Ranch baz=83	82.74	337	⇑P	P	08 36 13.4	+0.6
K23A	Bowen Ranch, D baz=83	82.77	336	⇓P	P	08 36 13.9	+0.9
H29A	Onida baz=83,SNR=8.2	82.79	340	⇓P	P	08 36 12.9	0.0
I27A	Quinn baz=83	82.81	339	⇓P	P	08 36 13.6	+0.5
R11A	Troy Canyon, C baz=83	82.93	327	⇑P	P	08 36 14.7	+0.7
J24A	Dixon Ranch, L baz=83	82.96	337	⇓P	P	08 36 14.6	+0.7
G30A	Faulkton baz=83	82.97	341	⇑P	P	08 36 13.9	+0.2
K22A	Casper baz=83	82.99	335	⇑P	P	08 36 14.6	+0.4
H28A	Mission Ridge baz=83,SNR=6.6	83.07	340	⇓P	P	08 36 14.4	+0.1
K21A	Alcova baz=84	83.22	335	⇑P	P	08 36 15.5	+0.1
G29A	Hoven baz=84	83.23	341	⇑P	P	08 36 15.2	0.0
DUG	Dugway 15nm,1.3s	83.27	330	eP	P	08 36 15.8	+0.2
DUG	Dugway baz=84,SNR=5.6	83.27	330	⇑P	P	08 36 15.7	0.0
I25A	Rochford baz=84	83.28	338	⇑P	P	08 36 15.8	+0.1
H27A	Howes baz=84	83.33	339	⇑P	P	08 36 15.9	+0.1
G28A	Parade baz=84,SNR=6.7	83.40	340	⇓P	P	08 36 16.4	+0.3
I24A	Kuemmerle Ranc baz=84	83.43	337	⇓P	P	08 36 16.5	+0.2
TPH	Tonopah	83.46	326	eP	P	08 36 17.3	+0.5
H26A	Fairpoint baz=84	83.53	339	⇓P	P	08 36 16.6	-0.2
F30A	Leola baz=84	83.59	341	⇑P	P	08 36 17.0	0.0
F29A	Eureka baz=84,SNR=7.3	83.80	341	⇓P	P	08 36 17.7	-0.4
G27A	Dupree baz=84	83.97	339	⇑P	P	08 36 18.6	-0.4
I22A	9 Mile Ranch, baz=84	84.07	336	⇓P	P	08 36 19.2	-0.4
F28A	McLaughlin baz=84,SNR=5.3	84.08	340	⇑P	P	08 36 19.9	+0.4
G26A	Maurine baz=84	84.09	339	⇓P	P	08 36 19.3	-0.3
J20A	Shoshoni baz=84	84.15	335	⇓P	P	08 36 20.8	+0.8
E30A	Jud baz=84	84.17	342	⇓P	P	08 36 19.5	-0.5
PDAR	Pinedale Array 2.5nm,0.7s,baz=163,slow=5.3,SNR=5.8	84.18	333	P	P	08 36 20.0	-0.3
H24A	Dirks Ranch, A baz=84	84.20	337	⇓P	P	08 36 19.8	-0.4
G25A	Newell baz=85	84.25	338	⇓P	P	08 36 20.2	-0.2
NVAR	Mina Array Bea 3.3nm,0.7s,baz=157,slow=6.2,SNR=7.9	84.25	325	P	P	08 36 21.7	+0.9
I21A	Big Trails, Te	84.28	335	⇓P	P	08 36 20.5	-0.2

baz=85
J19A Crowheart 84.42 334 ⇑P P 08 36 21.4 -0.1
baz=85
E29A Napoleon 84.43 341 ⇑P P 08 36 21.0 -0.3
baz=85
F27A Lemmon 84.45 340 ⇑P P 08 36 21.3 -0.1
baz=85,SNR=6.4
TORD Torodi Ar. Bea 84.48 70 P P 08 36 22.0 -0.2
6.8nm,1.0s,baz=276,slow=4.1,SNR=4.4
F26A Lodgepole 84.62 339 ⇑P P 08 36 22.1 -0.2
baz=85
H22A Clearmont 84.64 336 ⇓P P 08 36 22.3 -0.3
baz=85
I20A Worland 84.69 335 ⇓P P 08 36 22.7 -0.1
baz=85
D30A Buchanan 84.70 342 ⇑P P 08 36 22.4 -0.2
baz=85,SNR=9.0
E28A Huff 84.72 341 ⇑P P 08 36 22.3 -0.4
baz=85
E27A Carson 84.83 340 ⇓P P 08 36 23.0 -0.2
baz=85
G23A Biddle 84.87 337 ⇓P P 08 36 23.2 -0.4
baz=85
D29A Pettibone, Tap 84.87 342 ⇓P P 08 36 23.3 -0.1
baz=85
F25A Bowman 84.92 339 ⇑P P 08 36 23.5 -0.3
baz=85
I19A Meeteetse 85.07 334 ⇓P P 08 36 24.6 -0.2
baz=85
H20A Greybull 85.11 335 ⇑P P 08 36 24.7 -0.2
baz=85,SNR=5.7
E26A Carlson Angus 85.12 340 ⇓P P 08 36 24.7 0.0
baz=85
AGMN Agassiz Nation 85.12 344 ⇓P P 08 36 24.2 -0.5
baz=86,SNR=5.7
C30A Mose, Pekin 85.18 343 ⇓P P 08 36 24.9 -0.1
baz=86,SNR=9.8
D28A Regan 85.25 341 ⇑P P 08 36 25.2 -0.2
baz=86
F23A Volborg 85.34 337 ⇓P P 08 36 25.7 -0.2
baz=86
E25A Miller Ranch, 85.42 339 ⇓P P 08 36 26.2 -0.1
baz=86
D27A Center 85.43 340 ⇓P P 08 36 26.3 0.0
baz=86
G21A Lodge Grass 85.49 336 ⇓P P 08 36 26.3 -0.4
baz=86
I17A Pilgrim Ck. 85.55 333 ⇑P P 08 36 27.1 -0.1
baz=86
H19A Powell 85.62 335 ⇓P P 08 36 27.3 -0.1
baz=86,SNR=5.0
D26A Manning 85.62 340 ⇓P P 08 36 27.5 +0.2
baz=86
F22A Rosebud 85.66 337 ⇑P P 08 36 27.7 +0.2
baz=86
E24A Baker 85.75 338 ⇓P P 08 36 28.4 +0.5
baz=86
G20A Bridger 85.83 335 ⇑P P 08 36 28.5 0.0
baz=86,SNR=7.1
B30A Myrvik Farm, E 85.84 343 ⇓P P 08 36 28.2 -0.1
baz=86,SNR=10
H18A Shoshone NF, C 85.86 334 ⇓P P 08 36 28.6 -0.2
baz=86,SNR=9.5
C27A Sayler Ranch, 85.98 341 ⇑P P 08 36 29.5 +0.5
baz=86
D25A Fairfield 85.98 339 ⇑P P 08 36 29.5 +0.4
baz=86
B29A Wagenman Farm, 86.11 342 ⇓P P 08 36 29.9 +0.4
baz=86
E22A Miles City 86.15 337 ⇑P P 08 36 30.0 +0.1
baz=86
C26A Wahner Farm, P 86.25 340 ⇑P P 08 36 30.3 0.0
baz=87
D24A Glendive 86.25 339 ⇓P P 08 36 30.3 -0.1
baz=87
A30A Hoffart Farm, 86.29 343 ⇑P P 08 36 30.2 -0.2
baz=87
F20A Billings 86.31 336 ⇑P P 08 36 29.8 -0.9
baz=87
YMR Madison River 86.33 333 eP P 08 36 31.5 +0.4
15nm,0.9s
B28A Dugan Ranch, T 86.35 342 ⇓P P 08 36 30.7 0.0
baz=87
C25A Freed Ranch, W 86.47 340 ⇑P P 08 36 31.3 -0.2
baz=87
A29A Manning Farm, 86.50 342 ⇑P P 08 36 31.5 0.0
baz=87
B27A Peters Farms, 86.55 341 ⇓P P 08 36 32.0 +0.3
baz=87
D23A Lindsay 86.57 338 ⇑P P 08 36 32.3 +0.3
baz=87,SNR=12
E21A Keefer Ranch, 86.60 337 ⇑P P 08 36 32.0 -0.1
baz=87
F19A Roth Farm, Mol 86.63 335 ⇓P P 08 36 32.6 +0.3
baz=87
C24A Savage 86.65 339 ⇓P P 08 36 32.6 +0.3
baz=87,SNR=12
HLID Hailey 86.73 331 eP P 08 36 33.4 +0.3
897nm,3.9s
HLID Hailey 86.73 331 ⇑P P 08 36 33.3 +0.3
baz=87
A28A Rude Farm, Bot 86.75 342 ⇑P P 08 36 33.0 +0.3
baz=87
D22A Cohagen 86.85 338 ⇓P P 08 36 33.4 +0.1
baz=87
E20A Meyer Farm, Mu 86.92 336 ⇓P P 08 36 33.8 +0.1
baz=87,SNR=8.9
B25A Knox Farm, Ray 86.95 340 ⇑P P 08 36 33.9 +0.2
baz=87
ULM Lac du Bonnet 86.97 345 P P 08 36 32.8 -1.0
7.4nm,0.9s,baz=148,slow=2.8,SNR=5.3
ULM Lac du Bonnet 86.97 345 eP P 08 36 32.4 -1.3
43nm,1.8s
D21A La Casta Ranch 87.04 337 ⇑P P 08 36 34.3 0.0
baz=87
A27A Ledoux Ranch, 87.05 341 ⇑P P 08 36 34.6 +0.4
baz=87
E19A Rath Farm, Rou 87.10 336 ⇑P P 08 36 34.3 -0.3
baz=87,SNR=6.4
C23A Lambert 87.13 338 ⇓P P 08 36 34.5 -0.2
baz=88
A26A Wade Farm, Ken 87.21 341 ⇑P P 08 36 34.9 0.0
baz=88
C22A Vida 87.29 338 ⇓P P 08 36 35.4 -0.1
baz=88
DGMT Dagmar 87.43 339 eP P 08 36 35.5 -0.6
53nm,1.1s
DGMT Dagmar 87.43 339 ⇓P P 08 36 36.2 +0.1
baz=88,SNR=7.7
D20A Manuel Ranch, 87.44 336 ⇓P P 08 36 36.1 -0.1
baz=88,SNR=6.1
A25A Svangstu Ranch 87.54 340 ⇑P P 08 36 36.6 0.0
baz=88
B23A Brockton 87.66 339 ⇓P P 08 36 37.1 0.0
baz=88
C21A Desert Coulee 87.74 337 ⇓P P 08 36 37.1 -0.5
baz=88,SNR=5.6
D19A Cripps Ranch, 87.75 336 ⇓P P 08 36 37.2 -0.5
baz=88
A24A Westby 87.78 340 ⇓P P 08 36 37.6 -0.1
baz=88
B22A Reddig Ranch S 87.82 338 ⇓P P 08 36 38.1 +0.1
baz=88,SNR=5.1
C20A Veseth Ranch, 87.94 337 ⇓P P 08 36 38.0 -0.5
baz=88
A23A Redstone 88.07 339 ⇑P P 08 36 38.7 -0.4
baz=88
B21A Ellsworth Farm 88.25 338 ⇓P P 08 36 39.6 -0.4
baz=89
A22A Carney Farms, 88.41 339 ⇑P P 08 36 40.9 +0.1
baz=89
M04C Macdoel 88.56 325 ⇑P P 08 36 41.0 -0.8
baz=89
B20A Solberg Farm, 88.58 337 ⇓P P 08 36 41.6 +0.1
baz=89
A21A Bergtoll Ranch 88.72 338 ⇓P P 08 36 42.2 0.0
baz=89
M02C Callahan 88.74 324 ⇓P P 08 36 41.9 -0.6
baz=89
EGMT Eagleton 88.79 336 ⇑P P 08 36 42.0 -0.6
baz=89
A20A Cobblestone Ra 88.93 337 ⇑P P 08 36 43.1 -0.2
baz=89
SCHQ Schefferville 89.11 3 P P 08 36 42.5 -1.3
4.9nm,1.0s,baz=238,slow=13,SNR=2.7
I05D Terrebonne, OR 90.32 327 ⇑P P 08 36 50.0 +0.2
baz=91
FCC Fort Churchill 94.72 349 eP P 08 37 09.0 -0.6
0.2nm,0.7s
YKA Yellowknife Ar 102.51 341 P Pdif 08 37 43.5 -1.1
0.6nm,0.8s,baz=144,slow=5.0,SNR=5.2
WRA Warramunga Arr 120.26 209 PKP PKPdf 08 42 39.8 -1.0
1.3nm,0.6s,baz=164,slow=1.6,SNR=9.5
BRTR Keskin Array B 122.17 61 PKP PKPdf 08 42 43.3 -0.6
1.5nm,0.7s,baz=191,slow=3.5,SNR=4.9
AKASG Malin Array Be 122.61 48 PKP PKPdf 08 42 43.2 -1.0
0.4nm,0.5s,baz=255,slow=2.8,SNR=3.3
H11S2 WAKE ISLAND Hy 125.66 269 T T 11 01 13.3
baz=118,slow=75,SNR=5.7
H11S1 WAKE ISLAND Hy 125.67 269 T T 11 01 13.5
baz=118,slow=75,SNR=5.2
H11S3 WAKE ISLAND Hy 125.68 269 T T 11 01 14.1
baz=118,slow=75,SNR=4.7
H11N3 WAKE ISLAND Hy 126.09 270 T T 11 01 46.5
baz=114
H11N1 WAKE ISLAND Hy 126.10 270 T T 11 01 48.8
baz=114,SNR=7.2
H11N2 WAKE ISLAND Hy 126.11 270 T T 11 01 48.3
baz=114
SEY Seymchan 140.43 330 PKP PKPdf 08 43 17.6 +0.2
4.5nm,0.7s,baz=106,slow=3.5,SNR=7.8
BRVK Borovoye 147.65 43 ePKPbc PKPbc 08 43 33.7 +0.7
BVAR Borovoye Array 147.72 43 PKP PKPbc 08 43 30.0 -0.4
4.6nm,0.8s,baz=273,slow=5.5,SNR=5.0
BVAR PKPbc PKPbc 08 43 33.5 +0.3
4.9nm,0.8s,baz=267,slow=5.8,SNR=6.5
KBL Kabul 148.17 79 ePKPdf PKPdf 08 43 32.8 +0.7
AAK Ala-Archa 152.83 63 PKPbc PKPbc 08 43 46.6 +0.5
3.0nm,0.8s,baz=236,slow=2.7,SNR=4.2
ZALV Zalesovo Beam 154.71 33 PKPbc PKPbc 08 43 49.8 +0.3
7.3nm,0.8s,baz=325,slow=2.3,SNR=4.7
ZALV PKPab PKPab 08 44 04.7 +0.2
5.9nm,0.7s,baz=298,slow=4.4,SNR=4.4
MKAR Makanchi Array 157.17 50 PKPab PKPab 08 44 15.3 -0.1
1.6nm,0.7s,baz=289,slow=4.4,SNR=2.8
SONM Songino Array 166.65 4 PKPab PKPab 08 44 56.3 -0.5
1.8nm,0.9s,baz=318,slow=4.0,SNR=4.3

IDC 27 08:24:50.7±3.0, 37.14S×73.25W, h0km, mb4.3/4, mb1 4.6/4, mb1mx4.2/28, mbtmp4.3/4, Error ellipse: s-maj=149.7km s-min=38.6km az=24.0, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TXAR Lajitas Array 72.02 332 P P 08 36 15.4 -1.1
1.4nm,0.5s,baz=152,slow=8.1,SNR=5.4
DBIC Dimbokro 77.12 71 P P 08 36 47.3 +0.9
7.0nm,0.8s,baz=202,slow=6.1,SNR=3.6
NVAR Mina Array Bea 85.92 326 P P 08 37 34.2 +1.6
1.5nm,0.8s,baz=150,slow=4.2,SNR=2.5
TORD Torodi Ar. Bea 86.20 71 P P 08 37 33.9 -0.4
1.1nm,0.7s,baz=228,slow=4.2,SNR=2.6
BRTR Keskin Array B 124.18 63 PKP PKPdf 08 43 51.2 -0.1
0.8nm,0.6s,baz=199,slow=4.0,SNR=4.3
AKASG Malin Array Be 125.01 49 PKP PKPdf 08 43 50.9 -1.4
0.7nm,0.6s,baz=254,slow=3.0,SNR=4.3
BVAR Borovoye Array 150.21 46 PKPbc PKPbc 08 44 42.9 -0.2
4.2nm,0.6s,baz=338,slow=3.1,SNR=5.1

GUC 27 08:25:15.0±0.6, 34.49S×74.13W, h47km±999km, ML6.8
ISCJB 27 08:25:24.6±2.2, 34.67S±0.03×72.44W±0.05, h15km±15km, mb6.0/242, Error ellipse: s-maj=6.4km s-min=4.3km az=178.7
MOS 27 08:25:28.3±1.0, 34.70S×72.55W, h33km, mb6.2/66, Error ellipse: s-maj=12.5km s-min=6.3km az=96.6
IDC 27 08:25:28.5±0.8, 34.82S×72.58W, h28km±5km, mb5.5/26, mb1 5.6/30, mb1mx5.5/32, mbtmp5.6/30, ML5.4/4, Error ellipse: s-maj=14.5km s-min=9.7km az=84.0
BJI 27 08:25:28.2, 34.71S×72.99W, h38km, mB6.4/5, Ms6.6/11, Ms7 6.3/8
NEIC 27 08:25:29.6±0.1, 34.75S×72.43W, h35km, mb6.1/211, Error ellipse: s-maj=4.6km s-min=3.1km az=75.0
ISC 27 08:25:29.2±0.6, 34.81S±0.04×72.45W±0.05, h34km±2km, h35km:pP-P, n1242, σ0.99/1329, mb6.1/241, 302C-231D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TACH Talagante 1.70 48 eP Pn 08 25 57.1 +0.7
PCH Pirque 1.99 54 eP Pn 08 26 02.6 +2.0
SAN Santiago 2.00 48 eP Pn 08 26 01.7 +1.0
PEL Peldehue 2.21 42 eP Pn 08 26 02.9 -0.7
PEL eS Sb 08 26 39.4 +3.7
PEL AML AML 08 26 41.6
comp=N,196µm,0.6s
CFAA Coronel Fontan 4.76 49 Pn Pn 08 26 40.4 +1.8
comp=N,20nm,0.3s,baz=223,slow=12,SNR=19
CFAA Lg Lg 08 27 53.9
comp=N,31nm,0.3s,baz=125,slow=23,SNR=6.4
CFAA Coronel Fontan 4.76 49 Pn Pn 08 26 40.4 +1.8
CFAA Lg Lg 08 27 53.9
PLCA Paso Flores 6.11 166 Pn Pn 08 26 58.0 +0.9
comp=N,24nm,0.3s,baz=22,slow=22,SNR=3.1
PLCA Lg Lg 08 28 28.8
comp=N,17nm,0.3s,baz=14,slow=4.2,SNR=1.8
PLCA Paso Flores 6.11 166 ePn Pn 08 27 00.5 +3.4
PLCA Lg Lg 08 28 28.8
TRQA Tornquist 9.04 114 ePn Pn 08 27 38.7 +1.4
LVC Limon Verde 12.54 15 ePn Pn 08 28 28.3 +2.8
comp=N,846nm,1.4s
CPUP Villa Florida 15.51 61 Pn Pn 08 29 06.5 +1.1
comp=N,5.4nm,0.3s,baz=230,slow=11,SNR=4.0
CPUP Sn S 08 32 08.4 -2.5
comp=N,1.9nm,0.3s,baz=252,slow=15,SNR=4.1
CPUP Villa Florida 15.51 61 eP Pn 08 29 06.5 +1.1
comp=N,5.8nm,0.8s
CPUP Sn S 08 32 08.4 -2.5
LPAZ La Paz 18.84 13 eP Pn 08 29 48.3 +0.7
LPAZ pmax pmax
comp=Z,502nm,0.8s
LPAZ La Paz 18.84 13 P Pn 08 29 48.6 +1.0
comp=Z,9.5nm,0.3s,baz=189,slow=6.8,SNR=51
LPAZ La Paz 18.84 13 eP Pn 08 29 48.3 +0.7
comp=Z,502nm,0.8s
USHA Ushuaia 20.22 173 P P 08 30 01.3 +0.3
comp=Z,155nm,0.9s,baz=328,slow=4.8,SNR=19
USHA Ushuaia 20.22 173 P P 08 30 01.3 +0.3
SIV San Ignacio 21.34 31 P P 08 30 13.3 -0.1
comp=Z,395nm,0.9s,baz=228,slow=12,SNR=74
SIV San Ignacio 21.34 31 P P 08 30 13.3 -0.1
NNA Nana 23.06 349 P P 08 30 31.8 0.0
comp=Z,1µm,1.8s,SNR=11
NNA Nana 23.06 349 ceP P 08 30 32.0 +0.2
NNA Nana 23.06 349 P P 08 30 31.5 -0.3
comp=Z,72nm,0.8s,baz=190,slow=10,SNR=17
NNA Nana 23.06 349 eP P 08 30 31.5 -0.3
comp=Z,1µm,1.8s
SAML Samuel 27.10 20 eP P 08 31 08.7 -0.3
comp=Z,85nm,0.9s
ATAH Atahualpa 28.08 347 P P 08 31 19.6 +1.4
comp=Z,46nm,1.0s,baz=184,slow=7.9,SNR=6.9
ATAH PcP PcP 08 34 33.5 +1.2
comp=Z,24nm,0.9s,baz=249,slow=8.6,SNR=3.6
ATAH Atahualpa 28.08 347 P P 08 31 19.6 +1.4
ATAH PcP PcP 08 34 33.5 +1.2
BDFB Brasilia 29.07 55 P P 08 31 26.7 0.0
BDFB 08 34 34.8
BDFB pmax pmax
comp=Z,135nm,0.9s
BDFB Brasilia 29.07 55 P P 08 31 26.6 0.0
comp=Z,135nm,0.9s,baz=218,slow=8.5,SNR=18
BDFB PcP PcP 08 34 34.8 +0.5
comp=Z,80nm,0.9s,baz=176,slow=1.6,SNR=3.6
PMSA Palmer Station 30.43 173 P P 08 31 38.7 +0.6
comp=Z,189nm,1.1s,baz=6.5,slow=14,SNR=3.6
PMSA Palmer Station 30.43 173 eP P 08 31 38.1 0.0
comp=Z,572nm,1.4s
HOPE Hope Point 31.70 139 P P 08 31 49.5 +0.1
comp=Z,1µm,1.3s,SNR=10
OTAV Otavalo 35.31 350 eP P 08 32 23.1 +1.4
comp=Z,318nm,1.3s
PAYG Puerto Ayora 37.82 330 eP P 08 32 43.7 +1.0
comp=Z,314nm,1.3s
ROSC El Rosal 39.49 357 P P 08 32 59.3 +2.2
comp=Z,107nm,0.8s,baz=165,slow=3.8,SNR=36
ROSC El Rosal 39.49 357 eP P 08 32 59.1 +2.1
SDV Santo Domingo 43.49 3 eP P 08 33 28.8 -0.8
comp=Z,186nm,0.9s
BCIP Isla Barro Col 44.29 350 eP P 08 33 36.5 +0.7
comp=Z,1µm,2.1s
RCBR Riachuelo 44.36 58 P P 08 33 37.2 +0.7
comp=Z,62nm,0.7s,baz=225,slow=13,SNR=18
RCBR PcP PP 08 35 20.4 +0.1
comp=Z,66nm,0.9s,baz=242,slow=7.1,SNR=3.7
RCBR Riachuelo 44.36 58 eP P 08 33 36.9 +0.5
comp=Z,296nm,1.4s
TPP Pointe-a-Pierr 46.07 15 e P 08 33 51.2 +1.3
TBH Brigand Hill 46.31 16 e P 08 33 53.8 +2.0
JTS JuntasAbangare 46.39 343 P P 08 33 53.8 +1.4
comp=Z,415nm,1.4s,SNR=13
JTS JuntasAbangare 46.39 343 c iP P 08 33 53.1 +0.7
JTS pmax pmax
comp=Z,217nm,1.5s
JTS JuntasAbangare 46.39 343 P P 08 33 52.9 +0.5
comp=Z,88nm,1.2s,baz=164,slow=7.0,SNR=15
JTS PcP PcP 08 35 27.2 +0.2
comp=Z,17nm,0.8s,baz=94,slow=5.2,SNR=4.1
TRN Trinidad (W) 46.40 15 e P 08 33 52.9 +0.4
BOT Bacolet 47.05 16 e P 08 33 58.7 +1.1
TPR Prospect 47.06 16 e P 08 33 58.4 +0.8
GRGR Grenville 47.79 14 eP P 08 34 03.2 -0.1
comp=Z,4µm,1.9s
GRW Mount Saint Ca 47.81 14 e P 08 34 04.0 +0.4
VNA3 Neumayer Olymp 48.75 158 P P 08 34 10.5 +0.4
FCV Fort Charlotte 48.87 15 e P 08 34 11.8 +0.2
BHS Barnard House 49.03 15 e P 08 34 14.4 +1.5
SVV Soufriere Volc 49.03 15 e P 08 34 13.4 +0.5
SSV Crater Summit 49.05 15 e P 08 34 13.7 +0.6
VNA1 Neumayer--Stat 49.07 157 P P 08 34 13.6 +1.0
VNA2 Neumayer--Watz 49.41 157 P P 08 34 15.7 +0.5
SLB Belfond 49.56 15 e P 08 34 17.2 +0.2
H05S1 Guadeloupe/Mar 50.19 15 P P 08 34 20.8 -0.8
FDF Fort de France 50.42 14 eP P 08 34 21.8 -1.7
FDF pmax pmax
comp=Z,564nm,1.3s
FDF Fort de France 50.42 14 eP P 08 34 21.8 -1.7
comp=Z,564nm,1.3s
SNAA Sanae 50.97 158 P P 08 34 28.0 +0.9
SNAA Sanae 50.97 158 ⇑iP P 08 34 27.5 +0.3
SNAA pmax pmax
comp=Z,470nm,1.2s
SNAA Sanae 50.97 158 P P 08 34 27.4 +0.3
comp=Z,89nm,1.0s,baz=284,slow=6.2,SNR=40
SNAA Sanae 50.97 158 eP P 08 34 27.4 +0.3
comp=Z,644nm,1.1s
BBL Barber's Block 51.13 14 eP P 08 34 27.4 -1.4
TBG Guadalupe-3 51.41 13 eP P 08 34 29.3 -1.5
HMG Houelmont 51.53 13 eP P 08 34 30.3 -1.5
PHG Guadaloupe-2 51.57 13 eP P 08 34 30.9 -1.3
SCG Saint Claude 51.58 13 eP P 08 34 30.5 -1.7
DOG Dongo Capester 51.59 13 eP P 08 34 31.0 -1.3
ECG Echelle 51.60 13 eP P 08 34 31.1 -1.4
MLG Mont-d'or 51.60 13 eP P 08 34 31.1 -1.3
FNG Fond-Bernard 51.61 13 eP P 08 34 31.1 -1.4
SSG Sans Toucher 51.64 13 eP P 08 34 31.2 -1.5
DEG La Desirade 51.98 14 eP P 08 34 33.6 -1.5
SEG Port Louis 51.98 13 eP P 08 34 33.6 -1.5
H05N1 Guadeloupe/Mar 51.98 14 P P 08 34 33.6 -1.6
SNR=84
APG El Apazote 52.41 338 P P 08 34 34.6 -4.0
comp=Z,81nm,1.1s,baz=167,slow=8.1,SNR=24
APG El Apazote 52.41 338 P P 08 34 34.6 -4.0
ICMP Isla Caja de M 52.70 7 eP P 08 34 39.1 -1.3
CRPR Cabo Rojo, PR 52.76 6 eP P 08 34 39.5 -1.4
comp=Z,175nm,1.0s
SABA Saba 52.86 11 eP P 08 34 41.0 -0.6
comp=Z,363nm,0.8s
CELP Cerrillos 52.88 7 eP P 08 34 41.1 -0.7
LSP Las Mesas 52.93 6 eP P 08 34 41.1 -1.1
MTDJ Mount Denham 52.96 354 eP P 08 34 42.5 +0.1
HUMP Col San Antoni 53.03 8 eP P 08 34 43.4 +0.5
PAPH Port-au-Prince 53.03 0 eP P 08 34 43.8 +0.9
LRS Lares 53.07 7 eP P 08 34 41.1 -2.1
AOPR Arecibo Observ 53.13 7 eP P 08 34 42.3 -1.4
comp=Z,130nm,0.9s
ANWB Willy Bob 53.16 13 eP P 08 34 42.0 -1.9
comp=Z,336nm,0.8s
SMRT St. Maarten 53.31 11 eP P 08 34 43.4 -1.5
comp=Z,99nm,0.9s
STVI Saint Thomas 53.34 9 eP P 08 34 46.0 +0.9
comp=Z,119nm,1.2s
SDDR Presa de Saban 53.50 1 eP P 08 34 46.0 -0.4
comp=Z,65nm,1.0s
GTBY Guantanamo Bay 54.49 357 eP P 08 34 53.1 -0.4
comp=Z,157nm,0.8s
RKT Rikitea 55.15 264 eP P 08 34 58.1 -0.4
comp=Z,83nm,1.4s
QSPA South Pole Qui 55.43 180 P P 08 35 00.2 +0.1
comp=Z,36nm,0.8s,baz=136,slow=3.2,SNR=17
QSPA pP pP 08 35 08.9 -1.6
comp=Z,140nm,0.9s,baz=149,slow=3.2,SNR=22
QSPA South Pole Qui 55.43 180 P P 08 35 00.2 +0.1
QSPA pP pP 08 35 08.9 -1.6
TEIG Tepich 56.76 342 P P 08 35 09.2 -0.7
comp=Z,165nm,0.9s,baz=166,slow=1.2,SNR=24
TEIG Tepich 56.76 342 eP P 08 35 09.1 -0.7
comp=Z,180nm,0.9s
H10S3 ASCENSION HYDR 58.59 78 P P 08 35 23.6 +1.0
baz=154,slow=75,SNR=5.5
H10S2 ASCENSION HYDR 58.60 78 P P 08 35 24.2 +1.5
baz=154,slow=75,SNR=9.7
H10S1 ASCENSION HYDR 58.60 78 P P 08 35 24.6 +1.9
baz=154,slow=75,SNR=14
H10N3 ASCENSION HYDR 59.36 77 P P 08 35 29.1 +1.2
baz=210,slow=9.3,SNR=8.6
H10N1 ASCENSION HYDR 59.37 77 P P 08 35 28.6 +0.5
baz=210,slow=9.3,SNR=5.2
H10N2 ASCENSION HYDR 59.38 77 P P 08 35 30.3 +2.2
baz=210,slow=9.3,SNR=5.0
ASCN Ascension 59.42 78 P P 08 35 29.2 +0.5
comp=Z,1µm,0.8s,SNR=6.4
SHEL Horse Pasture 62.08 91 P P 08 35 48.1 +1.2
comp=Z,4µm,0.8s,SNR=7.8
SHEL Horse Pasture 62.08 91 eP P 08 35 48.5 +1.6
SHEL pmax pmax
comp=Z,540nm,0.8s
SHEL Horse Pasture 62.08 91 eP P 08 35 48.5 +1.6
comp=Z,540nm,0.8s
SBA Scott Base 62.22 192 eP P 08 35 49.3 +2.4
SBA pmax pmax
comp=Z,2µm,2.2s
SBA Scott Base 62.22 192 eP P 08 35 49.3 +2.4
comp=Z,2µm,2.2s
VNDA Vanda 63.25 191 P P 08 35 53.3 -0.4
VNDA pmax pmax
comp=Z,28nm,1.0s
VNDA Vanda 63.25 191 P P 08 35 53.2 -0.4
comp=Z,28nm,1.0s,baz=138,slow=5.1,SNR=7.1
VNDA Vanda 63.25 191 eP P 08 35 55.2 +1.5
comp=Z,475nm,1.8s
SYO Syowa Base 65.24 158 ⇓iP P 08 36 05.2 -1.7
035Z Hargill 65.59 335 ⇑P P 08 36 09.9 +0.4
baz=66
035A Encino 66.03 335 ⇓P P 08 36 12.8 +0.4
baz=66,SNR=5.2
034A Hebbronville 66.36 335 ⇓P P 08 36 14.8 +0.3
baz=67
KVTX Kingsville 66.52 335 eP P 08 36 16.9 +1.4
comp=Z,479nm,1.6s
TIGA Tifton 66.72 350 eP P 08 36 15.9 -0.8
comp=Z,112nm,0.8s
TIGA Tifton 66.72 350 ⇑P P 08 36 16.0 -0.8
baz=67,SNR=13
934A Benavides 66.79 335 ⇓P P 08 36 18.2 +0.9
baz=67
TBI Tubuai 66.80 257 eP P 08 36 17.4 -0.2
comp=Z,231nm,1.1s
BRAL Brewton 66.90 346 eP P 08 36 19.1 +1.3
comp=Z,860nm,1.9s
933A Laredo 67.07 334 ⇓P P 08 36 19.3 +0.3
baz=67,SNR=21
835A Beeville 67.18 336 ⇑P P 08 36 20.5 +0.8
baz=68,SNR=9.7
BBSR BB Station 67.22 7 eP P 08 36 20.5 +0.7
comp=Z,183nm,1.1s
834A Tilden 67.28 335 ⇑P P 08 36 20.8 +0.4
baz=68,SNR=30
735A Kenedy 67.70 336 ⇑P P 08 36 23.1 +0.1
baz=68,SNR=24
RGRS Roger Stewart 67.75 353 eP P 08 36 23.1 -0.1
833A Chaparral WMA, 67.76 334 ⇓P P 08 36 23.2 -0.2
baz=68,SNR=25
SACV Santiago Islan 67.82 52 P P 08 36 23.4 -0.6
comp=Z,1µm,0.8s,SNR=9.9
SACV Santiago Islan 67.82 52 eP P 08 36 23.3 -0.8
comp=Z,156nm,0.8s
832A Faith Ranch, C 67.93 334 ⇑P P 08 36 24.1 -0.4

baz=68,SNR=31
734A La Parita Cree 67.94 335 ⇓P P 08 36 24.5 -0.1
baz=68,SNR=12
NHSC New Hope 67.94 353 eP P 08 36 24.0 -0.4
comp=Z,290nm,1.1s
636A Smothers Creek 68.03 337 ⇓P P 08 36 25.5 +0.5
baz=68,SNR=24
HKT Hockley 68.08 338 eP P 08 36 26.1 +0.8
HKT pmax pmax
comp=Z,253nm,1.6s
HKT Hockley 68.08 338 eP P 08 36 26.1 +0.8
comp=Z,252nm,1.6s
733A Divot King Ran 68.08 335 ⇑P P 08 36 25.2 -0.2
baz=68,SNR=14
635A Leesville 68.18 336 ⇓P P 08 36 25.7 -0.3
baz=68,SNR=11
538A Harpers Horsep 68.23 339 ⇑P P 08 36 26.2 -0.1
baz=68
732A Laxson Ranch, 68.33 334 ⇓P P 08 36 27.0 0.0
baz=69,SNR=44
634A China Grove, S 68.36 336 ⇓P P 08 36 27.0 -0.2
baz=69
MEH Mehetia 68.41 263 eP P 08 36 27.9 0.0
comp=Z,51nm,1.1s
536A Bastrop 68.58 337 ⇓P P 08 36 28.6 +0.1
baz=69,SNR=12
GOGA Godfrey 68.64 350 eP P 08 36 28.0 -0.8
GOGA pmax pmax
comp=Z,398nm,1.8s
GOGA Godfrey 68.64 350 eP P 08 36 28.0 -0.8
comp=Z,398nm,1.8s
535A Dale 68.70 337 ⇑P P 08 36 29.4 +0.1
baz=69,SNR=19
633A Saathoff Ranch 68.72 335 ⇓P P 08 36 29.2 -0.2
baz=69,SNR=25
VBMS Vicksburg 68.80 344 eP P 08 36 30.2 +0.4
comp=Z,929nm,1.9s
LRAL Lakeview Retre 68.85 347 eP P 08 36 29.0 -1.1
comp=Z,108nm,1.3s
340A Bronson 68.89 340 ⇑P P 08 36 30.6 +0.2
baz=69
632A Uvalde 68.97 335 ⇑P P 08 36 30.9 -0.1
baz=69,SNR=33
339A Huntington 69.00 340 ⇓P P 08 36 31.3 +0.2
baz=69
534A Blanco 69.00 336 ⇓P P 08 36 30.8 -0.3
baz=69,SNR=17
436A Wall Ranch, Ga 69.14 338 ⇓P P 08 36 32.1 +0.1
baz=69,SNR=8.4
631A Perdido Creek 69.17 334 ⇑P P 08 36 32.0 -0.2
baz=69,SNR=24
533A Kerrville 69.23 335 ⇑P P 08 36 32.3 -0.3
baz=70,SNR=30
338A Crockett 69.24 339 ⇓P P 08 36 32.9 +0.3
baz=70,SNR=18
337A Centerville 69.37 339 ⇓P P 08 36 33.9 +0.5
baz=70,SNR=16
435B Jarrell 69.40 337 ⇓P P 08 36 33.8 +0.2
baz=70,SNR=18
VAH Vaihoa 69.42 265 eP P 08 36 33.9 -0.2
comp=Z,166nm,1.3s
TVO Taravao 69.42 262 eP P 08 36 34.0 -0.2
comp=Z,59nm,1.3s
NATX Nacogdoches 69.43 340 eP P 08 36 33.9 +0.1
comp=Z,244nm,1.1s
532A Rocksprings 69.58 335 ⇓P P 08 36 34.9 +0.1
baz=70,SNR=54
TIAR Tiarei 69.61 262 eP P 08 36 34.9 -0.5
comp=Z,40nm,1.0s
434A Burnet 69.66 336 ⇑P P 08 36 35.0 -0.2
baz=70,SNR=41
336A Riesel 69.73 338 ⇓P P 08 36 35.5 -0.1
baz=70,SNR=28
PAE Paea 69.75 262 eP P 08 36 36.1 -0.1
comp=Z,43nm,1.3s
PPT2 Papeete2 69.79 262 eP P 08 36 36.3 -0.2
comp=Z,308nm,1.3s
PPT Papeete 69.80 262 P P 08 36 36.9 +0.4
PPT pmax pmax
comp=Z,77nm,0.9s
PPT Papeete 69.80 262 P P 08 36 36.9 +0.4
comp=Z,77nm,0.9s,baz=173,slow=6.0,SNR=6.4
PPT Papeete 69.80 262 P P 08 36 36.9 +0.4
335A Moody 69.81 337 ⇓P P 08 36 36.0 -0.1
baz=70,SNR=29
531A Rocksprings 69.84 334 ⇓P P 08 36 36.5 +0.1
baz=70,SNR=23
JCT Junction City 69.87 335 eP P 08 36 36.5 -0.1
JCT pmax pmax
comp=Z,163nm,0.9s
JCT Junction City 69.87 335 eP P 08 36 36.5 -0.1
comp=Z,163nm,0.9s
JCT Junction City 69.87 335 ⇓P P 08 36 36.4 -0.1
baz=70,SNR=36
CNNC Cliffs of the 69.87 355 eP P 08 36 36.5 +0.1
comp=Z,205nm,0.9s
433A Art 69.87 336 ⇑P P 08 36 36.4 -0.2
baz=70,SNR=50
KMSC Kings Mountain 70.08 352 eP P 08 36 37.0 -0.7
comp=Z,104nm,0.9s
KMSC Kings Mountain 70.08 352 ⇓P P 08 36 37.6 -0.1
baz=70
530A J-C Ranch, Com 70.11 334 ⇑P P 08 36 38.3 +0.2
baz=70,SNR=42
334A Lometa 70.12 337 ⇑P P 08 36 38.1 +0.1
baz=70,SNR=30
432A Menard 70.22 335 ⇓P P 08 36 38.1 -0.6
baz=70,SNR=30
TXAR Lajitas Array 70.27 331 P P 08 36 39.1 0.0
TXAR pmax pmax
comp=Z,24nm,0.7s
TXAR Lajitas Array 70.27 331 P P 08 36 39.0 0.0
comp=Z,24nm,0.7s,baz=156,slow=9.0,SNR=49
TXAR Lajitas Array 70.27 331 P P 08 36 39.0 0.0
431A Sonora 70.33 334 ⇑P P 08 36 39.0 -0.4
baz=71,SNR=25
333A Richland Sprin 70.36 336 ⇑P P 08 36 39.2 -0.3
baz=71,SNR=37
529A Stev Forest Ra 70.42 333 ⇑P P 08 36 40.0 +0.1
baz=71,SNR=48
WHTX Lake Whitney 70.48 338 eP P 08 36 40.1 -0.1
comp=Z,187nm,1.0s
WHTX Lake Whitney 70.48 338 ⇓P P 08 36 40.1 -0.1
baz=71,SNR=26
430A Baggett Ranch, 70.65 334 ⇓P P 08 36 40.9 -0.5
baz=71,SNR=37
332A Millersview 70.67 335 ⇑P P 08 36 41.1 -0.3
baz=71,SNR=38
234A Clairette 70.71 337 ⇓P P 08 36 41.4 -0.3
baz=71,SNR=36
429A Davenport Ranc 70.75 333 ⇓P P 08 36 41.7 -0.3
baz=71,SNR=25
OXF Oxford 70.76 345 eP P 08 36 40.8 -1.0
OXF pmax pmax
comp=Z,278nm,1.1s
OXF Oxford 70.76 345 eP P 08 36 40.8 -1.0
comp=Z,278nm,1.1s
SWET Sewanee 70.79 348 eP P 08 36 41.4 -0.6
comp=Z,125nm,1.5s
331A San Angelo 70.84 335 ⇑P P 08 36 42.1 -0.3
baz=71,SNR=40
TKL Tuckaleechee C 70.89 350 eP P 08 36 41.8 -0.9
TKL Tuckaleechee C 70.89 350 eP P 08 36 41.8 -0.9
233A Rising Star 70.97 336 ⇑P P 08 36 42.8 -0.4
baz=71,SNR=40
135A Vickery Place, 70.99 338 ⇑P P 08 36 42.8 -0.5
baz=71,SNR=14
232A Coleman 71.10 336 ⇑P P 08 36 43.6 -0.5
baz=71,SNR=32
330A Mertzon 71.19 334 ⇓P P 08 36 44.0 -0.6
baz=72,SNR=39
134A White-Moore Ra 71.22 337 ⇑P P 08 36 44.2 -0.5
baz=72,SNR=27
231A Bronte 71.37 335 ⇓P P 08 36 45.0 -0.7
baz=72,SNR=45
133A Hamilton Ranch 71.52 337 ⇓P P 08 36 46.4 -0.1
baz=72,SNR=36
329A Wagon Wheel Ra 71.56 334 ⇓P P 08 36 46.7 -0.2
baz=72,SNR=35
230A Sterling City 71.61 335 ⇑P P 08 36 46.5 -0.6
baz=72,SNR=34
Z35A Perchaven, San 71.66 338 ⇑P P 08 36 47.4 0.0
baz=72,SNR=40
UALR University of 71.68 343 eP P 08 36 46.8 -0.6
comp=Z,76nm,1.1s
TZTN Tazewell 71.73 351 eP P 08 36 47.0 -0.7
comp=Z,113nm,1.0s
MIAR Mount Ida 71.77 342 eP P 08 36 47.4 -0.5
MIAR pmax pmax
comp=Z,162nm,1.5s
MIAR Mount Ida 71.77 342 eP P 08 36 47.4 -0.5
comp=Z,162nm,1.5s
ABTX Abilene, Hawle 71.77 336 eP P 08 36 47.9 -0.1
comp=Z,238nm,1.0s
ABTX Abilene, Hawle 71.77 336 ⇑P P 08 36 47.8 -0.3
baz=72,SNR=51
Z34A Collier Ranch, 71.90 338 ⇓P P 08 36 48.3 -0.5
baz=72,SNR=33
229A Bryant Ranch, 71.93 334 ⇑P P 08 36 48.5 -0.5
baz=72,SNR=23
WVT Waverly 72.01 347 eP P 08 36 48.4 -1.0
WVT pmax pmax
comp=Z,345nm,1.1s
WVT Waverly 72.01 347 eP P 08 36 48.4 -1.0
comp=Z,345nm,1.1s
VWCC Virginia Weste 72.03 354 eP P 08 36 49.1 -0.3
BLA Blacksburg 72.03 353 eP P 08 36 49.0 -0.5
BLA pmax pmax
comp=Z,81nm,1.0s
BLA Blacksburg 72.03 353 eP P 08 36 49.0 -0.5
comp=Z,81nm,1.0s
HBAR Harrisburg 72.03 344 eP P 08 36 49.5 0.0
131A Roby 72.07 335 ⇑P P 08 36 49.7 -0.2
baz=72,SNR=42
Z33A Whitaker Ranch 72.09 337 ⇓P P 08 36 49.4 -0.5
baz=72,SNR=39
130A Snyder 72.20 335 ⇑P P 08 36 50.2 -0.5
baz=72,SNR=32
JSRW J. Sargeant Re 72.31 355 eP P 08 36 51.2 +0.2
BBTS Babate 72.34 57 P P 08 36 53.1 +1.3
comp=Z,216nm,0.8s,baz=226,slow=1.4,SNR=50
BBTS Babate 72.34 57 P P 08 36 53.1 +1.3
Z32A Haskell 72.34 336 ⇑P P 08 36 51.1 -0.4
baz=73,SNR=44
228A UT Block 9, Go 72.35 333 ⇑P P 08 36 51.2 -0.4
baz=73,SNR=46
Y34A Reagan Ranch, 72.40 338 ⇓P P 08 36 51.0 -0.7
baz=73,SNR=27
MAW Mawson 72.51 164 P P 08 36 52.5 +0.5
MAW pmax pmax
comp=Z,178nm,0.9s
MAW Mawson 72.51 164 P P 08 36 52.5 +0.5
comp=Z,178nm,0.9s,baz=236,slow=9.0,SNR=14
MAW Mawson 72.51 164 P P 08 36 52.5 +0.5
129A Stewart Farms, 72.55 334 ⇑P P 08 36 52.4 -0.4
baz=73,SNR=25
Z31A Sharp Cattle R 72.58 336 ⇑P P 08 36 52.6 -0.3
baz=73,SNR=38
PVMO Portageville 72.66 345 eP P 08 36 52.7 -0.5
comp=Z,642nm,1.2s
Y33A Hilltop Ranch, 72.71 337 ⇑P P 08 36 53.3 -0.3
baz=73,SNR=30
128A Castleberry Fa 72.76 334 ⇓P P 08 36 53.9 -0.2
baz=73,SNR=53
CBN Corbin 72.79 356 eP P 08 36 54.0 +0.1
comp=Z,182nm,1.3s
Z30A Sanderson Ranc 72.88 335 ⇑P P 08 36 54.0 -0.7
baz=73,SNR=50
Y32A R-V Farms, Ver 72.97 337 ⇑P P 08 36 54.8 -0.4
baz=73,SNR=30
X34A Smith Ranch, M 73.02 338 ⇓P P 08 36 55.1 -0.3
baz=73,SNR=28
Z29A Hungry Hill Ra 73.06 335 ⇓P P 08 36 55.0 -0.8
baz=73,SNR=39
GDL2 Guadalupe Moun 73.09 332 eP P 08 36 56.1 0.0
127A Arkansas Junct 73.13 333 ⇓P P 08 36 55.7 -0.6
baz=73,SNR=36
PBMO Poplar Bluff 73.16 345 eP P 08 36 55.4 -0.8
comp=Z,158nm,1.1s
X33A Lawton 73.17 338 ⇓P P 08 36 55.8 -0.5
baz=74,SNR=18
Y31A Rekieta Farm, 73.20 336 ⇑P P 08 36 56.0 -0.5
baz=74,SNR=30
X32A Elmer 73.31 337 ⇑P P 08 36 56.8 -0.4
baz=74,SNR=21
Y30A Stafford Cattl 73.34 336 ⇓P P 08 36 57.2 -0.2
baz=74,SNR=28
W34A Bridge Creek, 73.59 339 eP P 08 36 58.3 -0.5
comp=Z,411nm,1.8s
W34A Bridge Creek, 73.59 339 ⇓P P 08 36 58.4 -0.3
baz=74,SNR=19
Y29A Porterfield Fa 73.59 335 ⇑P P 08 36 58.9 0.0
baz=74,SNR=44
CPRX Cap Rock 73.64 333 eP P 08 36 59.9 +0.6
comp=Z,30nm,0.9s
TUL1 Tulsa 73.65 340 eP P 08 36 58.4 -0.6
comp=Z,118nm,0.9s
TUL1 Tulsa 73.65 340 ⇑P P 08 36 58.4 -0.6
baz=74,SNR=25
Z27A Tatum 73.65 333 ⇓P P 08 36 58.9 -0.4
baz=74
W33A Caddo, Fort Co 73.72 338 ⇓P P 08 36 59.6 0.0
baz=74,SNR=31
X31A McDonald Ranch 73.72 337 ⇓P P 08 36 59.3 -0.3
baz=74,SNR=36
USIN University of 73.77 348 eP P 08 36 58.5 -1.2
comp=Z,199nm,0.9s
WCI Wyandotte Cave 73.79 349 eP P 08 36 59.0 -0.9
WCI pmax pmax
comp=Z,539nm,2.2s
WCI Wyandotte Cave 73.79 349 eP P 08 36 59.0 -0.9
comp=Z,539nm,2.2s
SIUC Southern Illin 73.82 346 eP P 08 36 59.3 -0.7
comp=Z,88nm,0.8s
Y28A McKinney Farm, 73.84 335 ⇑P P 08 37 00.1 -0.3
baz=74,SNR=26
X30A Coker Ranch, T 73.85 336 ⇑P P 08 36 59.8 -0.6
baz=74,SNR=12
Z26A Caprock 73.90 333 ⇑P P 08 37 00.6 -0.2
baz=74,SNR=58
W32A Sentinel 73.94 337 ⇓P P 08 37 00.4 -0.5
baz=74,SNR=48
SDMD Soldier's Deli 73.96 356 eP P 08 37 01.2 +0.4
comp=Z,418nm,1.7s
V34A Guthrie 74.07 339 eP P 08 37 00.9 -0.6
comp=Z,142nm,1.0s
V34A Guthrie 74.07 339 ⇑P P 08 37 01.1 -0.4
baz=74,SNR=18
MSTX Muleshoe 74.08 334 eP P 08 37 01.4 -0.4
comp=Z,175nm,1.0s
MSTX Muleshoe 74.08 334 ⇓P P 08 37 01.3 -0.5
baz=74,SNR=38
X29A Tulia 74.13 335 ⇑P P 08 37 01.5 -0.6
baz=74,SNR=28
Y27A Causey 74.14 334 ⇓P P 08 37 01.4 -0.8
baz=74,SNR=20
Z25A Roswell 74.18 332 ⇓P P 08 37 02.1 -0.3
baz=74,SNR=27
W31A Holland Ranch, 74.22 337 ⇑P P 08 37 02.0 -0.5
baz=74,SNR=24
V33A Lossen Ranch, 74.28 338 ⇓P P 08 37 02.4 -0.5
baz=75,SNR=34
X28A Dimmitt 74.37 335 ⇑P P 08 37 03.1 -0.4
baz=75,SNR=17
319A Douglas 74.40 328 ⇑P P 08 37 04.0 +0.3
baz=75
Y26A Elida 74.42 333 ⇓P P 08 37 03.4 -0.5
baz=75,SNR=30
W30A Crocket Farms 74.42 336 ⇓P P 08 37 03.5 -0.2
baz=75,SNR=8.1
V32A Arapaho 74.42 338 ⇑P P 08 37 03.4 -0.2
baz=75,SNR=24
Z24A Sheeppen Canyo 74.48 332 ⇓P P 08 37 04.2 -0.1
baz=75,SNR=40
MVL Millersville 74.52 357 eP P 08 37 04.5 +0.5
comp=Z,282nm,1.4s
AMTX Amarillo 74.52 335 eP P 08 37 04.1 -0.2
comp=Z,245nm,1.1s
AMTX Amarillo 74.52 335 ⇓P P 08 37 04.6 +0.3
baz=75
OLIL Olney 74.59 347 eP P 08 37 03.4 -1.1
comp=Z,271nm,1.6s
U34A Anderson Ranch 74.63 339 eP P 08 37 04.5 -0.4
comp=Z,445nm,1.6s
U34A Anderson Ranch 74.63 339 ⇑P P 08 37 04.7 -0.2
baz=75,SNR=19
V31A Spring Creek L 74.73 337 ⇓P P 08 37 05.8 +0.4
baz=75,SNR=31
W29A Amraillo 74.73 336 ⇓P P 08 37 05.2 -0.4
baz=75,SNR=24
SUR Sutherland 74.74 119 P P 08 37 07.4 +1.3
comp=Z,2µm,1.3s,SNR=24
SUR Sutherland 74.74 119 P P 08 37 07.4 +1.3
comp=Z,173nm,0.9s
SUR Sutherland 74.74 119 eP P 08 37 07.1 +1.1
comp=Z,8µm,2.8s
Y25A Mesa, Roswell 74.75 333 ⇑P P 08 37 05.1 -0.6
baz=75,SNR=23
BLO Bloomington 74.75 349 eP P 08 37 04.4 -1.0
BLO pmax pmax
comp=Z,115nm,1.1s
BLO Bloomington 74.75 349 eP P 08 37 04.4 -1.0
comp=Z,115nm,1.1s
121A Cookes Peak, D 74.75 330 eP P 08 37 06.4 +0.5
comp=Z,176nm,1.0s
121A Cookes Peak, D 74.75 330 ⇑P P 08 37 06.6 +0.8
baz=75,SNR=45
U33A Lingo Farm, Me 74.80 339 ⇓P P 08 37 05.4 -0.4
baz=75,SNR=19
X27A F and S Farms, 74.81 334 ⇓P P 08 37 05.6 -0.4
baz=75,SNR=19
SLM Saint Louis 74.91 346 eP P 08 37 05.8 -0.5
SLM pmax pmax
comp=Z,211nm,0.9s
SLM Saint Louis 74.91 346 eP P 08 37 05.8 -0.5
comp=Z,210nm,0.9s
X26A CR and CF Fran 74.98 334 ⇓P P 08 37 07.3 +0.3
baz=75,SNR=41
V30A Spur Ranch, Mi 74.99 337 ⇓P P 08 37 07.3 +0.3
baz=75,SNR=20
U32A Winter Ranch, 75.02 338 ⇓P P 08 37 07.2 +0.1
baz=75,SNR=9.6
Y24A Capitan 75.03 332 ⇑P P 08 37 07.4 -0.1
baz=75,SNR=33
W28A Vega 75.04 335 ⇓P P 08 37 07.2 -0.1
baz=75,SNR=10
Z22A Elephant Butte 75.05 331 ⇓P P 08 37 08.2 +0.7
baz=75,SNR=32
BRNJ Basking Ridge 75.14 358 eP P 08 37 08.9 +1.3
comp=Z,177nm,1.3s
W27A Bowe Ranch, En 75.17 334 ⇓P P 08 37 08.1 0.0
baz=76,SNR=36
SSPA Standing Stone 75.24 356 eP P 08 37 08.1 -0.1
comp=Z,263nm,1.6s
X25A Clemmons Ranch 75.27 333 ⇑P P 08 37 08.3 -0.5
baz=76,SNR=19
U31A Nine Bar Ranch 75.28 337 ⇓P P 08 37 08.6 0.0
baz=76,SNR=18
Y23A Lovelace Mesa, 75.28 332 ⇓P P 08 37 09.0 +0.2
baz=76,SNR=30
ACSO Alum Creek Sta 75.30 352 eP P 08 37 08.0 -0.6
comp=Z,2µm,2.0s
LIC Lamto 75.35 72 eP P 08 37 10.2 +0.7
comp=Z,324nm,0.8s
V29A Stinnett 75.37 336 ⇓P P 08 37 09.2 0.0
baz=76
T33A Patterson Ranc 75.44 339 ⇑P P 08 37 09.8 +0.3
baz=76,SNR=13
W26A Owens Ranch, T 75.44 334 ⇓P P 08 37 09.8 +0.1
baz=76,SNR=34
V28A Channing 75.49 335 ⇑P P 08 37 10.1 +0.1
baz=76,SNR=24
ODNJ Ogdensburg 75.54 358 eP P 08 37 10.5 +0.6
comp=Z,596nm,2.1s
X24A Lazy VL Ranch, 75.60 332 ⇑P P 08 37 11.0 +0.3
baz=76,SNR=22
TIC Toumodi 75.61 71 eP P 08 37 11.7 +0.6
comp=Z,289nm,1.0s
KIC Kosan Boka 75.66 72 eP P 08 37 12.1 +0.8
comp=Z,507nm,0.8s
U30A WK&E Inc. Balk 75.68 337 ⇑P P 08 37 10.9 -0.1
baz=76,SNR=21
V27A Dan Oppiter Fa 75.71 335 ⇑P P 08 37 11.4 +0.2
baz=76,SNR=45
T32A Huddler Ranch, 75.73 338 ⇓P P 08 37 11.1 -0.1
baz=76,SNR=20
YLE Yale 75.75 360 eP P 08 37 12.2 +1.1
comp=Z,302nm,0.9s
DBIC Dimbokro 75.76 71 P P 08 37 12.7 +0.8
DBIC pmax pmax
comp=Z,208nm,0.8s
DBIC Dimbokro 75.76 71 P P 08 37 12.7 +0.8
comp=Z,208nm,0.8s,baz=208,slow=6.4,SNR=86
DBIC Dimbokro 75.76 71 eP P 08 37 12.7 +0.8
comp=Z,241nm,0.9s
U29A Oasis Ranch, S 75.81 336 ⇓P P 08 37 11.6 -0.1
baz=76,SNR=7.3
W25A X Bar L Ranch, 75.81 333 ⇓P P 08 37 11.5 -0.3
baz=76,SNR=32
LPM Los Pinos Moun 75.84 331 eP P 08 37 12.6 +0.5
S33A Kaszmaul Farm, 75.84 339 ⇑P P 08 37 12.2 +0.4
baz=76
LENM Lemitar 75.85 331 eP P 08 37 12.9 +0.8
TUC Tucson 75.86 327 eP P 08 37 12.6 +0.5
TUC pmax pmax
comp=Z,605nm,2.4s
TUC Tucson 75.86 327 eP P 08 37 12.6 +0.5
comp=Z,605nm,2.4s
T31A Randall Ranch, 75.89 338 ⇑P P 08 37 12.0 -0.1
baz=76,SNR=28
X23A Hourglass Bar 75.90 332 ⇓P P 08 37 12.7 +0.3
baz=76
SFIN Scholer Farm 76.02 349 eP P 08 37 11.3 -1.4
comp=Z,118nm,1.3s
SFIN Scholer Farm 76.02 349 ⇑P P 08 37 11.3 -1.4
baz=76
KSPA Keystone Colle 76.05 357 eP P 08 37 13.5 +0.6
comp=Z,439nm,2.2s
U28A Mallet 76.06 336 ⇑P P 08 37 12.8 -0.4
baz=76
V26A Tequesquite Ra 76.08 334 ⇑P P 08 37 13.0 -0.3
baz=76,SNR=28
T30A Plains 76.12 337 ⇓P P 08 37 13.5 +0.1
baz=76,SNR=12
LAZ Ladron 76.12 331 eP P 08 37 13.9 +0.3
comp=Z,63nm,1.2s
W24A Lazy 6 Ranch, 76.16 333 ⇑P P 08 37 13.4 -0.4
baz=76,SNR=21
S32A Newby Ranch, P 76.22 339 ⇓P P 08 37 13.7 -0.2
baz=76,SNR=24
U27A Thompson Grove 76.31 335 ⇓P P 08 37 14.4 -0.2
baz=77,SNR=27
S31A Mullinville 76.31 338 ⇓P P 08 37 14.2 -0.2
baz=77,SNR=16
ANMO Albuquerque 76.33 332 ⇑iP P 08 37 15.4 +0.5
ANMO pmax pmax
comp=Z,644nm,1.7s
ANMO Albuquerque 76.33 332 eP P 08 37 15.3 +0.5
comp=Z,716nm,2.3s
W23A Werner Place, 76.40 332 ⇓P P 08 37 15.5 +0.3
baz=77,SNR=35
ALLY Alegheny Colle 76.41 354 eP P 08 37 14.1 -0.8
comp=Z,191nm,1.5s
V25A Rancho No Teng 76.42 334 ⇓P P 08 37 15.2 -0.2
baz=77,SNR=30
T29A Hugoton 76.46 337 ⇑P P 08 37 14.8 -0.6
baz=77,SNR=22
214A Organ Pipe Nat 76.48 326 eP P 08 37 15.8 +0.2
comp=Z,80nm,1.1s
214A Organ Pipe Nat 76.48 326 ⇓P P 08 37 15.8 +0.2
baz=77,SNR=22
R33A Olander Ranch, 76.50 340 ⇓P P 08 37 14.8 -0.7
baz=77,SNR=13
V24A Rampart Ranch, 76.56 333 ⇑P P 08 37 16.1 -0.1
baz=77,SNR=28
U26A Atchley Ranch, 76.60 334 ⇑P P 08 37 15.9 -0.5
baz=77,SNR=26
S30A Montezuma 76.63 337 ⇑P P 08 37 16.4 +0.1
baz=77,SNR=36
T28A Walsh 76.70 336 ⇑P P 08 37 16.6 -0.1
baz=77,SNR=48
BINY Binghamton 76.70 357 eP P 08 37 15.9 -0.6
comp=Z,98nm,1.0s
R32A Long Quarter, 76.82 339 ⇑P P 08 37 17.4 0.0
baz=77,SNR=34
S29A Ulysses 76.82 337 ⇓P P 08 37 17.7 +0.3
baz=77,SNR=43
U25A Circle Dot Ran 76.85 334 ⇑P P 08 37 18.0 +0.2
baz=77,SNR=34
T27A Campo 76.85 336 ⇑P P 08 37 17.7 +0.1
baz=77,SNR=63
KSU1 Kansas State U 76.86 341 eP P 08 37 16.8 -0.7
comp=Z,116nm,1.1s
KSU1 Kansas State U 76.86 341 ⇑P P 08 37 16.7 -0.7
baz=77,SNR=18
ERPA Erie 76.86 354 eP P 08 37 17.0 -0.5
comp=Z,230nm,1.2s
V23A Ortiz Mt. (NFS 76.92 332 ⇑P P 08 37 18.5 +0.3
baz=77,SNR=12
R31A Burdett 76.94 338 ⇑P P 08 37 17.9 -0.1
baz=77,SNR=34
HRV Adam Dziewonsk 76.94 1 eP P 08 37 18.4 +0.6
HRV pmax pmax
comp=Z,162nm,0.9s

HRV Adam Dziewonsk 76.94 1 eP P 08 37 18.4 +0.6
comp=Z,162nm,0.9s
S28A Manter 77.05 336 ⇑P P 08 37 18.8 0.0
baz=77,SNR=51
Q33A Connelly Farm, 77.10 340 ⇓P P 08 37 18.8 0.0
baz=77,SNR=24
R30A Dighton 77.17 338 ⇑P P 08 37 19.5 +0.2
baz=78,SNR=21
TRY Troy 77.17 359 eP P 08 37 19.9 +0.8
comp=Z,267nm,1.1s
U24A Moreno Valley 77.17 333 ⇑P P 08 37 20.4 +0.7
baz=78,SNR=23
T26A Comanche Natio 77.25 335 ⇑P P 08 37 20.1 +0.1
baz=78,SNR=38
Q32A Meitler Ranch, 77.30 339 ⇓P P 08 37 20.2 +0.2
baz=78,SNR=35
V22A San Miguel Ran 77.35 332 ⇑P P 08 37 21.5 +0.9
baz=78,SNR=57
X18A Snowflake 77.39 329 ⇑P P 08 37 21.5 +0.7
baz=78,SNR=38
AAM Ann Arbor 77.42 352 eP P 08 37 19.7 -0.8
AAM pmax pmax
comp=Z,472nm,1.6s
AAM Ann Arbor 77.42 352 eP P 08 37 19.7 -0.8
comp=Z,472nm,1.6s
U23A El Rito 77.44 333 ⇓P P 08 37 21.8 +0.7
baz=78,SNR=39
S27A Las Animas 77.47 336 ⇑P P 08 37 21.2 +0.1
baz=78
P33A Williams Farm, 77.47 340 ⇑P P 08 37 20.9 0.0
baz=78,SNR=15
T25A Trinidad 77.51 334 ⇑P P 08 37 22.4 +1.0
baz=78,SNR=59
Q31A Ellis 77.56 339 ⇑P P 08 37 22.0 +0.5
baz=78,SNR=20
R29A Marienthal 77.56 337 ⇓P P 08 37 22.0 +0.4
baz=78,SNR=33
113A Mohawk Valley, 77.61 325 ⇑P P 08 37 22.0 +0.2
baz=78,SNR=9.0
S26A Kim 77.61 335 ⇑P P 08 37 22.2 +0.3
baz=78,SNR=44
R28A Tribune 77.71 337 ⇑P P 08 37 22.4 0.0
baz=78,SNR=42
Z14A Wintersburg 77.72 326 ⇓P P 08 37 22.9 +0.4
baz=78
U22A Llaves 77.74 332 ⇑P P 08 37 23.7 +0.9
baz=78,SNR=30
Q30A Quinter 77.78 338 ⇓P P 08 37 22.9 +0.1
baz=78,SNR=39
T24B San Luis 77.79 334 ⇑P P 08 37 23.7 +0.6
baz=78,SNR=31
W18A Petrified Fore 77.80 329 eP P 08 37 23.8 +0.7
comp=Z,186nm,1.1s
W18A Petrified Fore 77.80 329 ⇓P P 08 37 23.7 +0.6
baz=78,SNR=30
ACCN Adirondack Com 77.83 359 eP P 08 37 23.1 +0.3
comp=Z,164nm,1.1s
P32A Huiting Farm, 77.90 340 ⇓P P 08 37 23.4 +0.1
baz=78,SNR=30
X16A Lo Mia Camp, P 77.93 328 ⇑P P 08 37 24.6 +0.7
baz=78
Q29A Oakley 77.94 338 ⇓P P 08 37 23.5 -0.2
baz=78,SNR=22
R27A Eads 77.98 336 ⇑P P 08 37 24.1 +0.1
baz=78,SNR=42
S25A Robets Cordova 77.98 335 ⇓P P 08 37 24.4 +0.4
baz=78,SNR=37
T23A Casias Ranch, 78.01 333 ⇑P P 08 37 25.1 +0.7
baz=78,SNR=22
P31A Stockton 78.03 339 ⇑P P 08 37 24.1 0.0
baz=78,SNR=32
HNH Hanover 78.14 0 eP P 08 37 25.5 +1.0
comp=Z,771nm,2.0s
R26A Arlington 78.21 336 ⇑P P 08 37 25.7 +0.5
baz=78,SNR=39
Y14A Wickenburg 78.23 326 ⇑P P 08 37 25.8 +0.5
baz=78
S24A Houchin Ranch, 78.24 334 ⇓P P 08 37 26.1 +0.5
baz=78,SNR=39
P30A Selden 78.31 338 ⇓P P 08 37 25.9 +0.2
baz=79,SNR=16
GLA Glamis 78.34 325 eP P 08 37 26.8 +0.9
GLA pmax pmax
comp=Z,474nm,2.0s
GLA Glamis 78.34 325 eP P 08 37 26.8 +0.9
comp=Z,474nm,2.0s
GLA Glamis 78.34 325 ⇑P P 08 37 26.4 +0.4
baz=79,SNR=18
R25A Fountain Ranch 78.36 335 ⇑P P 08 37 26.2 +0.1
baz=79,SNR=16
Q28A Sharon Springs 78.37 337 ⇑P P 08 37 26.1 0.0
baz=79,SNR=33
O32A Brockman Farm, 78.40 340 ⇓P P 08 37 26.2 +0.1
baz=79,SNR=24
NCB Newcomb 78.42 359 eP P 08 37 26.1 +0.1
comp=Z,455nm,2.0s
MDV Middlebury 78.43 359 eP P 08 37 26.4 +0.3
SDCO Great Sand Dun 78.44 334 eP P 08 37 26.8 +0.1
comp=Z,48nm,1.0s
P29A Atwood 78.58 338 ⇑P P 08 37 27.5 +0.3
baz=79,SNR=19
KSCO Kaye Shedlock' 78.58 336 eP P 08 37 27.8 +0.5
comp=Z,175nm,1.0s
KSCO Kaye Shedlock' 78.58 336 ⇑P P 08 37 27.6 +0.4
baz=79,SNR=23
S23A Nye Farm, Mont 78.59 333 ⇑P P 08 37 28.2 +0.8
baz=79
O31A Woolen Ranch, 78.60 339 ⇓P P 08 37 27.4 +0.2
baz=79,SNR=27
LBNH Lisbon 78.67 0 eP P 08 37 28.1 +0.6
LBNH pmax pmax
comp=Z,135nm,0.9s
LBNH Lisbon 78.67 0 eP P 08 37 28.1 +0.6
comp=Z,135nm,0.9s
SCIA State Center 78.68 344 eP P 08 37 27.2 -0.4
comp=Z,188nm,0.9s
SWSC Sam W. Stewart 78.71 324 ⇑P P 08 37 28.7 +0.7
baz=79,SNR=12
R24A Sanders Place, 78.73 334 ⇑P P 08 37 29.0 +0.8
baz=79,SNR=34
Q26A Hugo 78.80 336 ⇓P P 08 37 29.2 +0.7
baz=79,SNR=32
P28A Saint Francis 78.81 337 ⇓P P 08 37 29.0 +0.5
baz=79,SNR=28
WUAZ Wupatki 78.83 329 eP P 08 37 29.6 +0.9
comp=Z,29nm,1.1s
WUAZ Wupatki 78.83 329 ⇑P P 08 37 29.5 +0.8
baz=79,SNR=37
O30A MW Ranch, Wils 78.84 339 ⇓P P 08 37 29.1 +0.5
baz=79,SNR=26
N32A Stulken Farm, 78.88 340 ⇑P P 08 37 28.4 -0.3
baz=79
S22A 4UR Ranch, Cre 78.93 333 ⇑P P 08 37 29.9 +0.4
baz=79,SNR=34
BAR Barrett 78.93 323 eP P 08 37 29.9 +0.7
comp=Z,321nm,2.2s
R23A Moffat 78.95 334 ⇑P P 08 37 30.0 +0.5
baz=79,SNR=29
MONP Monument Peak 78.98 323 ⇑P P 08 37 30.0 +0.3
baz=79,SNR=9.6
O29A 4D Ranch, Culb 79.02 338 ⇑P P 08 37 30.0 +0.5
baz=79,SNR=20
PTN Potsdam (NY) 79.04 358 eP P 08 37 29.7 +0.3
PTN pmax pmax
comp=Z,2µm,2.3s
PTN Potsdam (NY) 79.04 358 eP P 08 37 29.7 +0.3
comp=Z,2µm,2.3s
Q25A Bedland, Calha 79.04 335 ⇓P P 08 37 30.0 +0.1
baz=79,SNR=30
WVL Waterville 79.04 2 eP P 08 37 30.5 +1.1
comp=Z,684nm,1.7s
JFWS Jewell Farm 79.04 347 eP P 08 37 28.9 -0.6
JFWS pmax pmax
comp=Z,164nm,1.0s
JFWS Jewell Farm 79.04 347 eP P 08 37 28.9 -0.6
comp=Z,164nm,1.0s
PDMCI Parker Dam,Lak 79.05 326 ⇑P P 08 37 30.4 +0.7
baz=79,SNR=11
P27A Ficken Ranch, 79.06 337 ⇑P P 08 37 30.5 +0.6
baz=79,SNR=22
LONY Lake Ozonia 79.08 358 eP P 08 37 29.9 +0.3
comp=Z,940nm,2.2s
MVCO Mesa Verde 79.10 331 eP P 08 37 30.7 +0.4
comp=Z,215nm,1.3s
MVCO Mesa Verde 79.10 331 ⇑P P 08 37 30.8 +0.4
baz=79,SNR=43
N31A Bailey Ranch, 79.11 340 ⇑P P 08 37 30.6 +0.5
baz=79

BC3 Big Chuckawall 79.13 325 ⇓P P 08 37 31.0 +0.6
baz=79,SNR=25
CASY Casey 79.21 181 eP P 08 37 30.7 +0.4
comp=Z,328nm,1.3s
109C Camp Elliot, M 79.31 323 ⇓P P 08 37 31.4 +0.2
baz=80
P26A Davis Ranch, A 79.31 336 ⇓P P 08 37 31.6 +0.3
baz=80,SNR=33
O28A Krutsinger Ran 79.32 338 ⇑P P 08 37 31.8 +0.6
baz=80,SNR=39
TSUM Tsumeb 79.32 106 eP P 08 37 33.1 +1.1
comp=Z,536nm,1.6s
Q24A Divide 79.40 335 ⇑P P 08 37 32.4 +0.5
baz=80,SNR=40
IRM Iron Mountain 79.40 325 ⇑P P 08 37 32.4 +0.7
baz=80,SNR=24
N30A Hueftle Ranch, 79.42 339 ⇑P P 08 37 32.1 +0.4
baz=80
BGNE Belgrade 79.43 341 eP P 08 37 31.6 -0.2
comp=Z,326nm,1.3s
BGNE Belgrade 79.43 341 ⇓P P 08 37 31.9 +0.2
baz=80,SNR=17
P25A Willow Gulch B 79.55 336 ⇑P P 08 37 33.7 +1.1
baz=80,SNR=55
PFO Pinyon Flat Ob 79.58 324 P P 08 37 33.9 +1.1
comp=Z,354nm,1.0s,SNR=19
PFO Pinyon Flat Ob 79.58 324 eP P 08 37 33.7 +0.9
PFO Pinyon Flat Ob 79.58 324 eP P 08 37 33.7 +0.9
PFO Pinyon Flat Ob 79.58 324 ⇑P P 08 37 34.2 +1.3
baz=80,SNR=20
W13A Hualapai Mount 79.59 327 ⇓P P 08 37 34.1 +1.1
baz=80
N29A Votaw Ranch, W 79.60 339 ⇑P P 08 37 33.1 +0.3
baz=80,SNR=25
O27A Beecher Island 79.60 337 ⇓P P 08 37 33.3 +0.5
baz=80,SNR=42
M31A Lambtecht Ranc 79.60 340 ⇓P P 08 37 33.1 +0.4
baz=80,SNR=32
NEE2 Needles Airpor 79.66 326 ⇑P P 08 37 33.6 +0.5
baz=80
BELC Belle Mtn. Jos 79.68 324 ⇓P P 08 37 34.2 +0.8
baz=80,SNR=14
N28A Pribbeno Ranch 79.76 338 ⇓P P 08 37 33.9 +0.3
baz=80,SNR=24
P24A Kohler Place, 79.80 335 ⇓P P 08 37 34.4 +0.4
baz=80,SNR=13
O26A Horse Wrangler 79.92 336 ⇓P P 08 37 35.3 +0.7
baz=80,SNR=38
MURC Murrieta 79.93 323 ⇓P P 08 37 35.8 +1.1
baz=80,SNR=20
PV01 Paradox Valley 79.94 332 eP P 08 37 35.1 +0.3
comp=Z,8µm,1.2s
BOSA Boshof 80.00 118 eP P 08 37 36.0 +0.6
BOSA pmax pmax
comp=Z,299nm,0.8s
BOSA Boshof 80.00 118 P P 08 37 36.1 +0.6
comp=Z,338nm,0.9s,baz=236,slow=5.4,SNR=119
BOSA Boshof 80.00 118 eP P 08 37 36.0 +0.6
comp=Z,299nm,0.8s
U15A North Rim 80.00 328 ⇓P P 08 37 36.1 +0.8
baz=80,SNR=42
P23A Jefferson 80.01 334 ⇑P P 08 37 36.6 +1.3
baz=80,SNR=14
M30A Dale-Ortello V 80.04 339 ⇓P P 08 37 35.5 +0.5
baz=80,SNR=13
O25A Wiggins 80.07 336 ⇑P P 08 37 36.2 +0.8
baz=80,SNR=9.8
LDFC Landfair 80.14 326 eP P 08 37 37.2 +1.4
comp=Z,611nm,2.1s
OGNE Ogallala 80.14 338 eP P 08 37 36.6 +0.9
comp=Z,503nm,1.7s
OGNE Ogallala 80.14 338 ⇑P P 08 37 36.1 +0.4
baz=80,SNR=6.8
GMRC Granite Mounta 80.15 325 ⇑P P 08 37 37.0 +1.1
baz=80,SNR=28
N27A Anderson Farm, 80.18 337 ⇓P P 08 37 36.2 +0.3
baz=80,SNR=32
M29A Burnside Ranch 80.19 339 ⇑P P 08 37 36.5 +0.6
baz=80,SNR=20
SMCO Snowmass 80.24 333 eP P 08 37 37.3 +0.7
comp=Z,798nm,2.0s
PV04 Paradox Valley 80.29 332 eP P 08 37 37.1 +0.5
ISCO Idaho Springs 80.30 335 eP P 08 37 37.1 +0.3
ISCO pmax pmax
comp=Z,75nm,1.2s
ISCO Idaho Springs 80.30 335 eP P 08 37 37.1 +0.3
comp=Z,75nm,1.2s
ISCO Idaho Springs 80.30 335 ⇑P P 08 37 36.9 +0.1
baz=81,SNR=29
PV10 Paradox Valley 80.33 332 eP P 08 37 36.8 -0.1
comp=Z,1µm,0.8s
L31A Butterfield Fa 80.34 340 ⇓P P 08 37 37.0 +0.4
baz=81,SNR=50
M28A Bar X Bar Ranc 80.35 338 ⇓P P 08 37 37.2 +0.4
baz=81,SNR=17
L30A Spencer Herefo 80.37 340 ⇑P P 08 37 37.1 +0.3
baz=81,SNR=19
CIS Catalina Islan 80.38 322 ⇓P P 08 37 36.8 -0.2
baz=81
O24A Longmont 80.40 335 ⇓P P 08 37 37.5 +0.3
baz=81,SNR=10
N26A Koester Ranch, 80.42 337 ⇑P P 08 37 37.9 +0.7
baz=81,SNR=21
HEC Hector,Ludlow 80.51 325 ⇓P P 08 37 38.7 +0.9
baz=81,SNR=28
P22A Eagle 80.53 334 ⇑P P 08 37 38.5 +0.5
baz=81,SNR=18
BFSC Mount Baldy Ra 80.67 323 ⇓P P 08 37 39.4 +0.6
baz=81,SNR=22
N25A Grover 80.69 336 ⇑P P 08 37 39.2 +0.6
baz=81
L29A Maesberg Ranch 80.70 339 ⇑P P 08 37 39.6 +1.0
baz=81
O23A Lake Granby, G 80.78 335 ⇓P P 08 37 39.8 +0.5
baz=81,SNR=29
M27A Reverse DX Ran 80.79 338 ⇑P P 08 37 40.0 +0.9
baz=81
TUQ Turquoise Moun 80.81 325 ⇓P P 08 37 40.4 +0.9
baz=81
MWC Mount Wilson 80.86 323 eP P 08 37 41.2 +1.4
MWC pmax pmax
comp=Z,493nm,2.2s
MWC Mount Wilson 80.86 323 eP P 08 37 41.2 +1.4
comp=Z,493nm,2.2s
RRX Edison Barstow 80.87 324 ⇓P P 08 37 40.4 +0.8
baz=81
PASC Pasadena Art C 80.88 323 eP P 08 37 40.6 +0.9
comp=Z,90nm,1.3s
O22A Kremmling 80.96 334 ⇓P P 08 37 41.0 +0.7
baz=81,SNR=41
N24A Carr 80.97 336 ⇑P P 08 37 41.1 +0.9
baz=81,SNR=24
M26A McRoberts Ranc 80.97 337 ⇓P P 08 37 40.6 +0.5
baz=81
DECC Green Verdugo 81.01 323 ⇓P P 08 37 41.2 +0.8
baz=81
K30A Basset 81.01 340 ⇓P P 08 37 40.9 +0.6
baz=81,SNR=35
GSC Goldstone 81.12 325 eP P 08 37 41.9 +0.9
GSC pmax pmax
comp=Z,374nm,2.1s
GSC Goldstone 81.12 325 eP P 08 37 41.9 +0.9
comp=Z,374nm,2.1s
GSC Goldstone 81.12 325 ⇑P P 08 37 41.6 +0.6
baz=81,SNR=20
ECSD EROS Data Cent 81.21 343 eP P 08 37 40.8 -0.4
comp=Z,205nm,0.9s
ECSD EROS Data Cent 81.21 343 ⇓P P 08 37 41.1 -0.2
baz=82,SNR=65
M25A Palm-Egli Farm 81.23 337 ⇓P P 08 37 41.9 +0.3
baz=82,SNR=13
L27A T5 Ranch, Ells 81.27 338 ⇓P P 08 37 42.3 +0.6
baz=82,SNR=19
K29A Lazy Trails An 81.29 340 ⇑P P 08 37 42.2 +0.5
baz=82,SNR=32
SHPR Sheep Range 81.34 326 eP P 08 37 43.2 +0.9
EDW2 Edwards Air Fo 81.35 324 ⇓P P 08 37 42.6 +0.4
baz=82,SNR=18
SHOC Shoshone 81.36 325 ⇓P P 08 37 42.5 +0.3
baz=82,SNR=11
N23A Red Feather La 81.39 335 ⇓P P 08 37 42.8 +0.3
baz=82,SNR=36
CCUT Cedar City 81.41 328 eP P 08 37 44.0 +1.3
comp=Z,137nm,1.1s
BSC Santa Cruz Isl 81.46 322 ⇑P P 08 37 42.3 -0.5
baz=82
L26A Underwood Farm 81.46 337 ⇑P P 08 37 43.1 +0.4
baz=82,SNR=12

N22A Wattenberg Ran 81.49 335 ⇓P P 08 37 43.7 +0.6
baz=82,SNR=31
OSI Osito Adit 81.50 323 eP P 08 37 44.1 +1.1
comp=Z,71nm,0.9s
OSI Osito Adit 81.50 323 ⇓P P 08 37 43.3 +0.2
baz=82
M24A Cheyenne 81.52 336 ⇓P P 08 37 43.5 +0.4
baz=82,SNR=30
SRU San Rafael 81.55 331 eP P 08 37 43.6 +0.3
SRU pmax pmax
comp=Z,93nm,1.1s
SRU San Rafael 81.55 331 eP P 08 37 43.6 +0.3
comp=Z,93nm,1.1s
O20A White River Ci 81.55 333 eP P 08 37 43.7 +0.3
comp=Z,273nm,1.6s
O20A White River Ci 81.55 333 ⇓P P 08 37 43.5 +0.2
baz=82,SNR=23
K28A Ten Mile Ranch 81.56 339 ⇓P P 08 37 43.7 +0.6
baz=82,SNR=44
J30A Dallas 81.58 340 ⇑P P 08 37 43.0 -0.2
baz=82,SNR=26
PHWY Pilot Hill 81.59 335 eP P 08 37 43.7 0.0
comp=Z,110nm,1.1s
ARUT Antelope Range 81.64 328 eP P 08 37 44.8 +0.9
ARUT Antelope Range 81.64 328 eP P 08 37 44.8 +0.9
comp=Z,2µm,1.3s
LRMC Laurel Mountai 81.69 324 ⇓P P 08 37 44.0 -0.1
baz=82,SNR=23
SPMN St. Paul 81.77 346 eP P 08 37 43.1 -1.0
comp=Z,100nm,0.9s
SPMN St. Paul 81.77 346 ⇓P P 08 37 43.2 -0.8
baz=82,SNR=25
K27A Flueckinger Fa 81.81 338 ⇑P P 08 37 45.1 +0.5
baz=82,SNR=34
M23A Laramie 81.82 335 ⇑P P 08 37 45.0 +0.2
baz=82,SNR=36
L25A Engebretsen Ra 81.85 337 ⇑P P 08 37 45.2 +0.3
baz=82,SNR=12
BFZ Birch Farm 81.86 226 eP P 08 37 47.2 +2.2
comp=Z,313nm,1.4s
J29A Okreek 81.89 340 ⇑P P 08 37 45.1 +0.3
baz=82,SNR=48
TMUT Trail Mountain 81.98 331 eP P 08 37 46.3 +0.6
comp=Z,460nm,2.0s
M22A Cedar Creek Ra 82.07 335 ⇓P P 08 37 47.0 +0.9
baz=82,SNR=6.9
L24A Wheatland 82.07 336 ⇑P P 08 37 46.3 +0.3
baz=82
FURC Furnace Creek, 82.09 325 ⇑P P 08 37 46.8 +0.8
baz=82,SNR=17
K26A Motz Farm, Whi 82.10 338 ⇑P P 08 37 46.7 +0.6
baz=82,SNR=7.7
PRWZ Pori Road 82.10 226 PN P 08 37 48.8 +2.5
I30A Oacoma 82.11 341 ⇓P P 08 37 45.9 -0.1
baz=82,SNR=41
WPHZ Waipukurau 82.14 226 ePN P 08 37 47.6 +1.1
ODZ Otahua Downs 82.14 220 eP P 08 37 46.9 +0.5
comp=Z,453nm,1.8s
DVHZ Dannevirke 82.15 226 PN P 08 37 49.0 +2.5
HOWZ Holdsworth Sta 82.15 225 PN P 08 37 48.7 +2.1
J28A Allard Ranch, 82.17 339 ⇑P P 08 37 46.4 +0.1
baz=82,SNR=45
N20A Spence Gulch, 82.17 333 ⇓P P 08 37 47.1 +0.5
baz=82,SNR=20
ISA Isabella 82.21 324 eP P 08 37 47.7 +0.9
ISA pmax pmax
comp=Z,741nm,2.6s
ISA Isabella 82.21 324 eP P 08 37 47.7 +0.9
comp=Z,741nm,2.6s
ISA Isabella 82.21 324 ⇓P P 08 37 47.5 +0.7
baz=82,SNR=24
K25A Mack Ranch, Ha 82.23 337 ⇑P P 08 37 47.0 +0.2
baz=82,SNR=9.4
J27A Elkhorn Farm, 82.24 339 ⇓P P 08 37 46.9 +0.2
baz=82,SNR=50
MRZ Mangatainoka R 82.27 225 ePN P 08 37 47.7 +0.6
LBTB Lobatse 82.27 115 eP P 08 37 48.0 +0.4
LBTB pmax pmax
comp=Z,378nm,1.1s
LBTB Lobatse 82.27 115 eP P 08 37 48.0 +0.4
comp=Z,378nm,1.1s
KHZ Kahutara 82.30 223 eP P 08 37 47.9 +0.6
comp=Z,566nm,1.9s
POWZ Post Office Ro 82.33 226 PN P 08 37 48.6 +1.1
PNHZ Pukenui 82.37 226 PN P 08 37 50.4 +2.6
MCHZ McNeill Hill 82.37 227 PN P 08 37 50.2 +2.5
L23A Garrett 82.39 336 ⇓P P 08 37 47.3 -0.4
baz=83,SNR=18
OGWZ Otaki Gorge 82.40 225 PN P 08 37 50.0 +2.1
TSZ Takapari Road 82.42 226 ePN P 08 37 48.9 +0.9
KRHZ Kereru 82.44 227 ePN P 08 37 50.2 +2.0
I29A Vivian Onida 82.45 340 ⇓P P 08 37 47.4 -0.3
baz=83,SNR=19
BRSD Miller 82.47 341 eP P 08 37 47.3 -0.5
comp=Z,226nm,0.8s
BRSD Miller 82.47 341 ⇑P P 08 37 47.3 -0.5
baz=83,SNR=39
NMHZ Naumai 82.53 227 ePN P 08 37 50.2 +1.6
L22A Ellis Ranch, M 82.57 335 ⇓P P 08 37 48.6 -0.1
baz=83,SNR=8.0
J26A Sides Ranch, S 82.62 338 ⇑P P 08 37 48.9 +0.2
baz=83,SNR=19
K24A Anderson Ranch 82.64 337 ⇑P P 08 37 49.5 +0.5
baz=83
VES Vestal, Richgr 82.65 323 ⇓P P 08 37 49.4 +0.4
baz=83,SNR=22
BKZ Black Stump Fm 82.67 227 eP P 08 37 50.5 +1.1
comp=Z,400nm,1.5s
I28A Midland 82.68 340 ⇓P P 08 37 49.1 +0.1
baz=83,SNR=46
SMMC Simmler 82.69 323 ⇑P P 08 37 49.8 +0.6
baz=83
BHHZ Black Hill Sta 82.72 227 PN P 08 37 51.4 +1.8
GRAC Grapevine Rang 82.76 325 ⇑P P 08 37 50.0 +0.4
baz=83
MPU Maple Canyon 82.76 331 eP P 08 37 50.2 +0.4
comp=Z,134nm,1.2s
HAZ Te Kaha 82.77 229 PN P 08 37 52.2 +2.4
RPZ Rata Peaks 82.81 221 eP P 08 37 50.5 +0.5
comp=Z,738nm,1.5s
URZ Urewera 82.87 228 eP P 08 37 51.7 +1.4
comp=Z,1µm,2.2s
NLU North Lily Min 82.89 330 eP P 08 37 51.0 +0.6
comp=Z,434nm,2.0s
J25A Sunshine Ranch 82.92 338 ⇓P P 08 37 50.0 -0.3
baz=83,SNR=17
K23A Bowen Ranch, D 82.94 336 ⇑P P 08 37 50.4 -0.1
baz=83,SNR=20
WHZ Wether Hill Ro 82.95 218 eP P 08 37 51.8 +1.2
comp=Z,923nm,2.0s
DAU Daniels Canyon 82.95 331 eP P 08 37 52.0 +1.2
DAU Daniels Canyon 82.95 331 eP P 08 37 52.0 +1.2
H29A Onida 82.98 340 ⇑P P 08 37 50.3 -0.2
baz=83,SNR=45
I27A Quinn 83.00 339 ⇓P P 08 37 50.6 0.0
baz=83,SNR=36
R11A Troy Canyon, C 83.05 327 eP P 08 37 52.1 +0.9
comp=Z,126nm,1.3s
R11A Troy Canyon, C 83.05 327 ⇓P P 08 37 51.9 +0.7
baz=83
THZ Tophouse 83.09 223 PN P 08 37 51.9 +0.4
RCTC Rector, Farmer 83.10 324 ⇑P P 08 37 52.1 +0.8
baz=83
WNVZ Wahianoa 83.11 226 PN P 08 37 54.1 +2.4
J24A Dixon Ranch, L 83.14 337 ⇑P P 08 37 51.5 +0.1
baz=83,SNR=20
K22A Casper 83.15 335 eP P 08 37 51.8 +0.1
comp=Z,329nm,1.4s
K22A Casper 83.15 335 ⇑P P 08 37 51.5 -0.1
baz=83,SNR=46
TRVZ Turoa 83.15 226 PN P 08 37 52.4 +0.3
G30A Faulkton 83.16 341 ⇑P P 08 37 51.1 -0.3
baz=84,SNR=28
NNZ Nelson 83.18 224 PN P 08 37 51.9 0.0
JLU Jordanelle 83.19 331 eP P 08 37 52.2 +0.2
comp=Z,498nm,2.3s
I26A New Underwood 83.20 338 ⇓P P 08 37 51.5 -0.2
baz=84,SNR=19
TIN Tinemaha 83.21 325 ⇑P P 08 37 51.8 -0.2
baz=84,SNR=8.4
H28A Mission Ridge 83.25 340 ⇓P P 08 37 51.7 -0.2
baz=84,SNR=41
K21A Alcova 83.38 335 ⇓P P 08 37 52.7 -0.2
baz=84,SNR=38
CTU Camp Tracy 83.39 331 eP P 08 37 52.8 -0.1
comp=Z,39nm,0.9s
DUG Dugway 83.40 330 eP P 08 37 53.3 +0.4

DUG pmax pmax
comp=Z,193nm,1.2s
DUG Dugway 83.40 330 eP P 08 37 53.3 +0.4
comp=Z,193nm,1.2s
DUG Dugway 83.40 330 ⇓P P 08 37 52.9 0.0
baz=84,SNR=60
G29A Hoven 83.43 341 ⇓P P 08 37 52.4 -0.3
baz=84,SNR=32
I25A Rochford 83.46 338 ⇑P P 08 37 53.2 0.0
baz=84,SNR=26
J23A Dilts Ranch, B 83.49 336 ⇑P P 08 37 53.1 -0.2
baz=84,SNR=6.8
H27A Howes 83.52 339 ⇓P P 08 37 52.8 -0.5
baz=84,SNR=32
TPH Tonopah 83.56 326 eP P 08 37 54.5 +0.6
TPH pmax pmax
comp=Z,164nm,1.4s
TPH Tonopah 83.56 326 eP P 08 37 54.5 +0.6
comp=Z,164nm,1.4s
G28A Parade 83.59 340 ⇑P P 08 37 53.6 0.0
baz=84,SNR=38
I24A Kuemmerle Ranc 83.60 337 ⇑P P 08 37 53.8 0.0
baz=84,SNR=16
MTUM Tungsten Hills 83.61 325 eP P 08 37 55.0 +0.8
DCZ Deep Cove 83.64 218 eP P 08 37 57.4 +3.2
comp=Z,921nm,2.3s
FOZ Fox Glacier 83.65 220 PN P 08 37 54.0 -0.2
RSSD Black Hills 83.65 338 eP P 08 37 53.8 -0.4
RSSD pmax pmax
comp=Z,39nm,0.8s
RSSD Black Hills 83.65 338 eP P 08 37 53.8 -0.4
comp=Z,39nm,0.8s
H26A Fairpoint 83.71 339 ⇓P P 08 37 54.2 -0.1
baz=84,SNR=6.3
VRZ Vera Road 83.73 226 ePN P 08 37 55.0 +0.2
F30A Leola 83.78 342 ⇑P P 08 37 54.3 -0.3
baz=84,SNR=30
J22A Midwest 83.81 336 ⇑P P 08 37 54.5 -0.5
baz=84,SNR=17
PMAN Manadas 83.83 33 eP P 08 37 56.5 +1.5
comp=Z,190nm,0.7s
ROSA Rosais 83.83 33 eP P 08 37 56.5 +1.5
comp=Z,449nm,1.2s
TOPO Topo 83.87 34 eP P 08 37 57.9 +2.6
QRZ Quartz Range 83.92 224 PN P 08 37 54.6 -1.1
MLAC Mammoth Lakes 83.96 325 ⇑P P 08 37 56.9 +0.9
baz=84,SNR=22
H25A Fruitdale 83.96 338 ⇓P P 08 37 55.5 -0.1
baz=84,SNR=20
F29A Eureka 83.99 341 ⇑P P 08 37 55.2 -0.5
baz=84,SNR=50
J21A Lysite 84.08 335 ⇓P P 08 37 56.1 -0.3
baz=84,SNR=27
BGU Big Grassy Mou 84.10 330 eP P 08 37 56.4 -0.1
comp=Z,95nm,1.5s
EYMN Ely 84.13 347 eP P 08 37 55.3 -1.0
comp=Z,124nm,1.1s
G27A Dupree 84.16 340 ⇑P P 08 37 56.0 -0.5
baz=84,SNR=26
PGRA Graciosa 84.20 33 eP P 08 37 58.3 +1.4
comp=Z,174nm,1.0s
I22A 9 Mile Ranch, 84.23 336 ⇓P P 08 37 56.5 -0.6
baz=84,SNR=30
F28A McLaughlin 84.27 341 ⇑P P 08 37 56.7 -0.4
baz=85,SNR=42
G26A Maurine 84.27 339 ⇑P P 08 37 57.0 -0.2
baz=85,SNR=29
NV11 Mina Array Sit 84.28 326 eP P 08 37 57.9 +0.4
J20A Shoshoni 84.31 335 ⇓P P 08 37 57.7 +0.2
baz=85,SNR=44
BW06 Boulder Array 84.33 333 eP P 08 37 56.8 -1.0
comp=Z,184nm,1.8s
PDAR Pinedale Array 84.33 333 P P 08 37 57.0 -0.8
comp=Z,21nm,0.9s,baz=155,slow=4.2,SNR=18
PDAR PKKPbc PKKPbc 08 56 08.8 -2.6
comp=Z,2.1nm,0.7s,baz=339,slow=0.2,SNR=6.5
PDAR Pinedale Array 84.33 333 P P 08 37 57.0 -0.8
PDAR PKKPbc PKKPbc 08 56 08.8 -2.6
NVAR Mina Array Bea 84.35 326 P P 08 37 58.5 +0.6
comp=Z,14nm,0.8s,baz=153,slow=6.3,SNR=22
NVAR PKKPbc PKKPbc 08 56 11.0 -0.1
comp=Z,2.1nm,0.7s,baz=285,slow=2.0,SNR=8.2
NVAR Mina Array Bea 84.35 326 P P 08 37 58.5 +0.6
NVAR PKKPbc PKKPbc 08 56 11.0 -0.1
H24A Dirks Ranch, A 84.37 338 ⇑P P 08 37 57.1 -0.6
baz=85,SNR=21
E30A Jud 84.38 342 ⇓P P 08 37 57.1 -0.5
baz=85,SNR=39
G25A Newell 84.43 339 ⇓P P 08 37 57.6 -0.3
baz=85,SNR=31
I21A Big Trails, Te 84.44 335 ⇓P P 08 37 57.5 -0.6
baz=85,SNR=42
J19A Crowheart 84.58 334 ⇑P P 08 37 58.3 -0.6
baz=85,SNR=30
E29A Napoleon 84.62 342 ⇑P P 08 37 58.2 -0.6
baz=85,SNR=28
F27A Lemmon 84.63 340 ⇑P P 08 37 58.5 -0.4
baz=85,SNR=35
HVU Hansel Valley 84.72 331 eP P 08 37 59.4 -0.2
HVU pmax pmax
comp=Z,770nm,2.2s
HVU Hansel Valley 84.72 331 eP P 08 37 59.4 -0.2
comp=Z,770nm,2.2s
DRLN Deer Lake 84.74 10 eP P 08 37 59.8 +0.4
F26A Lodgepole 84.80 339 ⇓P P 08 37 59.2 -0.6
baz=85,SNR=26
TOA0 Torodi Ar. Sit 84.80 70 eP P 08 38 01.0 +0.5
TORD Torodi Ar. Bea 84.80 70 P P 08 38 00.9 +0.5
comp=Z,189nm,0.8s,baz=250,slow=3.9,SNR=138
TORD Torodi Ar. Bea 84.80 70 P P 08 38 00.9 +0.5
H22A Clearmont 84.81 336 ⇑P P 08 37 59.3 -0.7
baz=85,SNR=26
I20A Worland 84.85 335 ⇓P P 08 37 59.9 -0.2
baz=85,SNR=46
G24A Alzada 84.85 338 ⇑P P 08 37 59.4 -0.8
baz=85,SNR=30
ELK Elko 84.87 329 eP P 08 38 00.6 +0.1
ELK pmax pmax
comp=Z,234nm,1.9s
ELK Elko 84.87 329 eP P 08 38 00.6 +0.1
comp=Z,234nm,1.9s
D30A Buchanan 84.90 342 ⇓P P 08 38 00.0 -0.2
baz=85,SNR=40
AHID Auburn Hatcher 84.90 332 eP P 08 38 00.3 -0.2
comp=Z,202nm,1.4s
E28A Huff 84.91 341 ⇑P P 08 37 59.8 -0.5
baz=85,SNR=15
E27A Carson 85.02 340 ⇑P P 08 38 00.2 -0.7
baz=85,SNR=24
CMB Columbia Colle 85.03 324 eP P 08 38 01.4 +0.3
CMB pmax pmax
comp=Z,224nm,2.0s
CMB Columbia Colle 85.03 324 eP P 08 38 01.4 +0.3
comp=Z,224nm,2.0s
G23A Biddle 85.04 337 ⇓P P 08 37 59.9 -1.1
baz=85,SNR=25
D29A Pettibone, Tap 85.07 342 ⇑P P 08 38 00.7 -0.4
baz=85,SNR=28
H21A Big Horn, Sher 85.07 336 ⇓P P 08 38 00.4 -0.8
baz=85,SNR=27
F25A Bowman 85.10 339 ⇓P P 08 38 01.1 -0.2
baz=85,SNR=23
I19A Meeteetse 85.23 334 ⇑P P 08 38 01.7 -0.5
baz=86,SNR=28
H20A Greybull 85.27 335 ⇑P P 08 38 01.7 -0.6
baz=86,SNR=62
E26A Carlson Angus 85.31 340 ⇓P P 08 38 02.1 -0.2
baz=86,SNR=18
REDW Red Top Meadow 85.32 333 eP P 08 38 03.0 +0.3
comp=Z,153nm,1.4s
F24A Ekalaka 85.33 338 ⇓P P 08 38 01.7 -0.8
baz=86,SNR=13
AGMN Agassiz Nation 85.34 345 eP P 08 38 01.7 -0.6
comp=Z,381nm,1.8s
AGMN Agassiz Nation 85.34 345 ⇓P P 08 38 01.9 -0.4
baz=86,SNR=35
G22A Birney 85.35 337 ⇓P P 08 38 02.1 -0.6
baz=86,SNR=16
C30A Mose, Pekin 85.39 343 ⇑P P 08 38 02.5 -0.1
baz=86,SNR=51
LOHW Long Hollow 85.44 333 eP P 08 38 03.0 -0.3
comp=Z,129nm,1.5s
D28A Regan 85.45 341 ⇑P P 08 38 02.8 -0.1
baz=86,SNR=27
TPAW Teton Pass 85.47 333 eP P 08 38 03.4 -0.1
comp=Z,123nm,1.3s
BMN Battle Mountai 85.48 327 eP P 08 38 03.4 -0.1
BMN pmax pmax
comp=Z,28nm,1.4s
BMN Battle Mountai 85.48 327 eP P 08 38 03.4 -0.1
comp=Z,28nm,1.4s
F23A Volborg 85.51 338 ⇑P P 08 38 02.9 -0.5
baz=86,SNR=49
E25A Miller Ranch, 85.60 339 ⇑P P 08 38 03.6 -0.2
baz=86,SNR=27
FXWY Fox Creek 85.62 333 eP P 08 38 03.9 -0.5
comp=Z,252nm,2.1s
D27A Center 85.63 341 ⇓P P 08 38 03.3 -0.5
baz=86,SNR=10.0
G21A Lodge Grass 85.65 336 ⇑P P 08 38 03.7 -0.4
baz=86,SNR=36
I17A Pilgrim Ck. 85.70 333 ⇓P P 08 38 04.6 +0.1
baz=86,SNR=30
H19A Powell 85.78 335 ⇓P P 08 38 04.2 -0.6
baz=86,SNR=25
D26A Manning 85.81 340 ⇓P P 08 38 04.7 0.0
baz=86,SNR=30
IMW Indian Meadow 85.81 333 eP P 08 38 05.1 -0.1
comp=Z,300nm,1.8s
F22A Rosebud 85.83 337 ⇑P P 08 38 04.7 -0.3
baz=86,SNR=52
C28A Hausauer Farms 85.88 342 ⇓P P 08 38 05.2 +0.1
baz=86,SNR=15
FLWY Flagg Ranch 85.88 333 eP P 08 38 05.7 +0.2
comp=Z,664nm,1.9s
E24A Baker 85.93 339 ⇓P P 08 38 05.6 +0.1
baz=86,SNR=41
G20A Bridger 85.99 336 ⇑P P 08 38 05.6 -0.2
baz=86,SNR=42
H18A Shoshone NF, C 86.02 334 ⇑P P 08 38 05.9 -0.3
baz=86,SNR=42
B30A Myrvik Farm, E 86.05 343 ⇑P P 08 38 06.0 +0.2
baz=86,SNR=36
H17A Grant Village 86.11 334 eP P 08 38 07.7 +1.1
comp=Z,56nm,1.2s
H17A Grant Village 86.11 334 ⇑P P 08 38 07.2 +0.5
baz=86,SNR=9.7
F21A Absaloka Mine, 86.16 337 ⇓P P 08 38 06.4 -0.2
baz=86,SNR=11
D25A Fairfield 86.17 339 ⇑P P 08 38 06.9 +0.3
baz=86,SNR=42
C27A Sayler Ranch, 86.17 341 ⇑P P 08 38 06.8 +0.2
baz=86,SNR=34
E23A Ismay 86.17 338 ⇑P P 08 38 06.4 -0.2
baz=86,SNR=14
YFT Old Faithful 86.25 334 eP P 08 38 08.9 +1.6
comp=Z,176nm,1.4s
RLMT Red Lodge 86.27 335 eP P 08 38 06.8 -0.5
comp=Z,139nm,1.2s
B29A Wagenman Farm, 86.31 342 ⇑P P 08 38 07.1 -0.1
baz=87,SNR=47
E22A Miles City 86.32 338 ⇑P P 08 38 06.9 -0.5
baz=87,SNR=11
YNR Norris Junctio 86.42 334 eP P 08 38 09.2 +1.1
comp=Z,109nm,1.6s
D24A Glendive 86.43 339 ⇑P P 08 38 08.0 +0.2
baz=87,SNR=40
C26A Wahner Farm, P 86.44 340 ⇑P P 08 38 07.7 -0.2
baz=87,SNR=24
F20A Billings 86.48 336 ⇑P P 08 38 07.6 -0.6
baz=87,SNR=12
YMR Madison River 86.48 334 eP P 08 38 09.0 +0.6
comp=Z,221nm,1.2s
A30A Hoffart Farm, 86.50 343 ⇓P P 08 38 07.9 -0.2
baz=87,SNR=24
B28A Dugan Ranch, T 86.55 342 ⇓P P 08 38 08.4 0.0
baz=87,SNR=54
OHCM Honcut 86.58 324 eP P 08 38 09.4 +0.7
LAO LASA Array 86.63 337 eP P 08 38 08.5 -0.4
comp=Z,166nm,1.1s
C25A Freed Ranch, W 86.66 340 ⇑P P 08 38 08.8 -0.2
baz=87,SNR=29
A29A Manning Farm, 86.71 343 ⇓P P 08 38 08.6 -0.5
baz=87,SNR=37
B27A Peters Farms, 86.74 341 ⇓P P 08 38 09.3 0.0
baz=87,SNR=21
D23A Lindsay 86.75 338 ⇓P P 08 38 09.4 0.0
baz=87,SNR=94
E21A Keefer Ranch, 86.77 337 ⇓P P 08 38 09.3 -0.3
baz=87,SNR=29
F19A Roth Farm, Mol 86.79 335 ⇑P P 08 38 09.0 -0.7
baz=87,SNR=27
QLMT Earthquake Lak 86.79 333 eP P 08 38 10.5 +0.6
C24A Savage 86.84 339 ⇑P P 08 38 10.2 +0.4
baz=87,SNR=84
HLID Hailey 86.87 331 eP P 08 38 10.7 +0.4
comp=Z,370nm,2.0s
HLID Hailey 86.87 331 ⇓P P 08 38 10.7 +0.4
baz=87,SNR=36
A28A Rude Farm, Bot 86.95 342 ⇓P P 08 38 10.3 0.0
baz=87,SNR=28
B26A Jensen Ranch, 86.98 341 ⇑P P 08 38 10.4 -0.1
baz=87,SNR=16
OUZ Omahuta 86.98 229 eP P 08 38 12.8 +1.8
comp=Z,468nm,1.5s
D22A Cohagen 87.03 338 ⇓P P 08 38 10.8 0.0
baz=87,SNR=31
E20A Meyer Farm, Mu 87.09 336 ⇓P P 08 38 10.9 -0.2
baz=87,SNR=79
B25A Knox Farm, Ray 87.14 340 ⇓P P 08 38 11.6 +0.3
baz=87,SNR=44
ULM Lac du Bonnet 87.19 345 P P 08 38 10.4 -0.9
comp=Z,83nm,1.1s,baz=164,slow=3.2,SNR=22
ULM PKKP PKKPdf 08 55 58.0 -1.3
comp=Z,4.4nm,0.8s,baz=315,slow=2.9,SNR=4.4
ULM Lac du Bonnet 87.19 345 eP P 08 38 10.5 -0.9
ULM PKKP PKKPdf 08 55 58.0 -1.3
D21A La Casta Ranch 87.21 337 ⇓P P 08 38 11.3 -0.4
baz=88,SNR=31
A27A Ledoux Ranch, 87.24 341 ⇑P P 08 38 12.1 +0.4
baz=88
E19A Rath Farm, Rou 87.27 336 ⇓P P 08 38 11.7 -0.3
baz=88,SNR=45
C23A Lambert 87.31 339 ⇑P P 08 38 12.2 +0.1
baz=88,SNR=52
MCMT McKenzie Canyo 87.32 333 eP P 08 38 12.7 +0.2
comp=Z,67nm,1.2s
A26A Wade Farm, Ken 87.40 341 ⇓P P 08 38 12.2 -0.3
baz=88,SNR=28
C22A Vida 87.47 338 ⇓P P 08 38 12.5 -0.4
baz=88,SNR=37
BOZ Bozeman (W) 87.56 334 eP P 08 38 13.1 -0.5
BOZ Bozeman (W) 87.56 334 eP P 08 38 13.1 -0.5
D20A Manuel Ranch, 87.60 336 ⇓P P 08 38 13.4 -0.2
baz=88,SNR=49
DGMT Dagmar 87.62 339 eP P 08 38 13.7 +0.1
comp=Z,384nm,1.0s
DGMT Dagmar 87.62 339 ⇑P P 08 38 13.6 +0.1
baz=88,SNR=70
DLMT Dillon 87.68 333 eP P 08 38 14.4 +0.3
comp=Z,201nm,1.4s
WVOR Wild Horse Val 87.72 328 eP P 08 38 14.7 +0.4
WVOR pmax pmax
comp=Z,356nm,2.0s
WVOR Wild Horse Val 87.72 328 eP P 08 38 14.7 +0.4
comp=Z,356nm,2.0s
A25A Svangstu Ranch 87.73 340 ⇓P P 08 38 14.2 0.0
baz=88,SNR=30
B23A Brockton 87.84 339 ⇑P P 08 38 14.3 -0.4
baz=88,SNR=35
D19A Cripps Ranch, 87.91 336 ⇑P P 08 38 14.4 -0.7
baz=88,SNR=19
C21A Desert Coulee 87.92 337 ⇑P P 08 38 14.5 -0.5
baz=88,SNR=42
A24A Westby 87.97 340 ⇓P P 08 38 15.1 -0.1
baz=88,SNR=29
B22A Reddig Ranch S 88.00 338 ⇓P P 08 38 15.1 -0.3
baz=88,SNR=51
LRM Limekiln Ridge 88.02 333 eP P 08 38 15.9 0.0
MOD Modoc 88.04 326 eP P 08 38 16.4 +0.5
comp=Z,85nm,1.0s
WDC Whiskeytown Da 88.06 324 eP P 08 38 15.2 -0.6
WDC pmax pmax
comp=Z,328nm,2.0s
WDC Whiskeytown Da 88.06 324 eP P 08 38 15.2 -0.6
comp=Z,328nm,2.0s
C20A Veseth Ranch, 88.11 337 ⇑P P 08 38 15.5 -0.4
baz=88,SNR=32
A23A Redstone 88.25 339 ⇑P P 08 38 16.1 -0.5
baz=88,SNR=16
KMRM Mail Ridge 88.35 323 eP P 08 38 18.8 +1.4
comp=Z,237nm,1.5s
B21A Ellsworth Farm 88.42 338 ⇑P P 08 38 17.0 -0.4
baz=89,SNR=35
N02D Trinity Center 88.44 324 ⇑P P 08 38 17.2 -0.5
baz=89
C19A Slack Wire Ran 88.47 336 ⇓P P 08 38 17.2 -0.5
baz=89,SNR=14
HRY Holter Researc 88.55 334 eP P 08 38 18.5 +0.4
A22A Carney Farms, 88.59 339 ⇓P P 08 38 17.9 -0.3
baz=89,SNR=44
M04C Macdoel 88.66 325 ⇓P P 08 38 18.8 -0.1
baz=89
B20A Solberg Farm, 88.75 337 ⇓P P 08 38 18.8 -0.2
baz=89,SNR=37
M02C Callahan 88.83 325 ⇓P P 08 38 19.5 -0.1
baz=89
KHMM Horse Mountain 88.86 324 eP P 08 38 21.5 +1.7
comp=Z,532nm,2.2s
A21A Bergtoll Ranch 88.89 338 ⇓P P 08 38 19.1 -0.5
baz=89,SNR=26
LAMM Antelope Mount 88.89 325 P P 08 38 20.0 0.0
EGMT Eagleton 88.95 336 eP P 08 38 19.1 -0.9
comp=Z,90nm,1.5s
EGMT Eagleton 88.95 336 ⇑P P 08 38 19.4 -0.6
baz=89,SNR=11
K05A Summer Lake 88.96 327 eP P 08 38 21.2 +0.9
comp=Z,876nm,2.1s
YBH Yreka Blue Hor 89.03 325 eP P 08 38 20.6 +0.1
YBH pmax pmax
comp=Z,50nm,1.1s
YBH Yreka Blue Hor 89.03 325 eP P 08 38 20.6 +0.1
comp=Z,50nm,1.1s
B19A Brinkman Farms 89.06 337 ⇑P P 08 38 20.4 -0.1
baz=89,SNR=39
A20A Cobblestone Ra 89.11 337 ⇑P P 08 38 20.5 -0.2
baz=89,SNR=30
BMO Blue Mountains 89.11 330 eP P 08 38 20.7 -0.1
BMO pmax pmax
comp=Z,216nm,2.1s
BMO Blue Mountains 89.11 330 eP P 08 38 20.6 -0.1
comp=Z,216nm,2.1s
CHMT Chamberlain Mo 89.23 333 eP P 08 38 21.6 +0.1
K04D Chiloquin, OR 89.28 326 ⇓P P 08 38 21.9 +0.2
baz=90
SCHQ Schefferville 89.41 3 P P 08 38 21.3 -0.5
comp=Z,24nm,0.8s,baz=175,slow=2.2,SNR=12
SCHQ Schefferville 89.41 3 eP P 08 38 21.2 -0.6
A19A Klindworth Far 89.41 337 ⇑P P 08 38 21.6 -0.5
baz=90,SNR=21
MSO Missoula 89.42 333 eP P 08 38 22.5 +0.3
comp=Z,110nm,1.7s
MSO Missoula 89.42 333 ⇑P P 08 38 22.5 +0.3
baz=90,SNR=17
I07A Izee 89.42 328 eP P 08 38 23.0 +0.7
comp=Z,294nm,2.0s
J05D Fort Rock, OR 89.56 327 ⇑P P 08 38 23.2 +0.2
baz=90
SLMT Seeley Lake 89.60 333 eP P 08 38 23.1 0.0
L02D Cave Junction, 89.78 325 ⇓P P 08 38 24.6 +0.7
baz=90
HUMO Hull Mountain 89.82 325 eP P 08 38 28.8 +4.7
comp=Z,72nm,1.5s
LSZ Lusaka 89.88 108 eP P 08 38 26.7 +1.4
LSZ pmax pmax
comp=Z,260nm,1.6s
LSZ Lusaka 89.88 108 eP P 08 38 26.7 +1.4
comp=Z,260nm,1.6s
J04D Umpqua Nationa 89.92 326 ⇑P P 08 38 25.2 +0.4
baz=90
F10A Beach Ranch, E 89.99 331 eP P 08 38 24.6 -0.3
comp=Z,213nm,1.9s
SWMT Swartz Lake 90.01 333 eP P 08 38 24.9 -0.1
KBO Bosley Butte 90.12 324 eP P 08 38 26.3 +0.7
comp=Z,195nm,1.5s
G08A Pilot Rock 90.15 329 eP P 08 38 25.9 +0.2
comp=Z,228nm,2.0s
YBMT Yellow Bay 90.31 333 eP P 08 38 26.3 -0.1
JTMT Jette 90.31 333 eP P 08 38 26.3 -0.1
I05D Terrebonne, OR 90.43 327 ⇑P P 08 38 27.4 +0.5
baz=91
I04A Tendick Farm, 90.49 326 ⇓P P 08 38 27.9 +0.7
baz=91
BLMT Blacktail Moun 90.57 333 eP P 08 38 28.1 +0.5
BSMT Bassoo Peak 90.59 333 eP P 08 38 28.1 +0.3
E09A Wood Farm, Sta 90.80 330 eP P 08 38 28.4 -0.1
comp=Z,36nm,1.4s
G06A Carlson Farm, 90.83 328 eP P 08 38 30.0 +1.2
comp=Z,443nm,2.1s
I03D Drain, OR 90.84 326 ⇑P P 08 38 29.7 +0.9
baz=91
H04A Detroit Lake 91.08 327 eP P 08 38 29.7 -0.3
comp=Z,142nm,1.8s
G05D Wamic, OR 91.13 328 ⇓P P 08 38 30.4 +0.3
baz=91
BLTW Bickleton 91.17 329 P P 08 38 31.0 +0.7
HAWA Hanford 91.28 330 eP P 08 38 31.6 +0.8
comp=Z,205nm,1.9s
WALA Waterton Lakes 91.28 334 eP P 08 38 30.6 -0.3
E07A Sunnyside 91.54 329 eP P 08 38 32.8 +0.8
comp=Z,29nm,1.0s
D08A Wollman Farm, 91.56 330 eP P 08 38 32.1 0.0
comp=Z,70nm,1.3s
OD2 Odessa Site #2 91.74 331 P P 08 38 32.9 0.0
NEW Newport 91.82 332 eP P 08 38 32.3 -1.0
NEW 08 55 51.0
NEW pmax pmax
comp=Z,62nm,1.4s
NEW Newport 91.82 332 P P 08 38 32.2 -1.0
comp=Z,18nm,1.1s,baz=149,slow=2.8,SNR=10
NEW PKKP PKKPdf 08 55 51.0 +0.2
comp=Z,4.4nm,1.0s,baz=343,slow=2.7,SNR=5.9
NEW Newport 91.82 332 eP P 08 38 32.3 -1.0
comp=Z,62nm,1.4s
NEW PKKP PKKPdf 08 55 51.0 +0.2
NEW Newport 91.82 332 ⇓P P 08 38 32.9 -0.4
baz=92
C09A Chrisman Ranch 91.89 331 eP P 08 38 34.1 +0.5
comp=Z,181nm,1.6s
F04A Amboy 92.15 328 eP P 08 38 35.2 +0.4
comp=Z,220nm,1.9s
TBM Table Mountain 92.34 329 P P 08 38 36.3 +0.5
LTY Liberty 92.44 329 eP P 08 38 35.8 -0.4
comp=Z,106nm,1.9s
WTV Waterville 92.49 330 P P 08 38 35.8 -0.7
LON Longmire 92.52 329 eP P 08 38 36.6 0.0
LON pmax pmax
comp=Z,128nm,2.0s
LON Longmire 92.52 329 eP P 08 38 36.6 0.0
comp=Z,128nm,2.0s
ETW Entiat 92.57 330 P P 08 38 36.5 -0.4
FFC Flin Flon 92.72 343 P P 08 38 36.8 -0.4
comp=Z,76nm,1.6s,SNR=5.1
FFC Flin Flon 92.72 343 eP P 08 38 35.9 -1.3
FFC pmax pmax
comp=Z,151nm,2.2s
FFC Flin Flon 92.72 343 eP P 08 38 35.9 -1.3
comp=Z,151nm,2.2s
B08A Colville Reser 92.77 331 eP P 08 38 36.9 -0.7
comp=Z,67nm,1.5s
D05A Enumclaw 92.94 329 eP P 08 38 38.7 +0.2
comp=Z,53nm,1.0s
E03A Lebam 93.13 327 eP P 08 38 38.1 -1.1
comp=Z,67nm,1.1s
PBDV Barranco-do-Ve 93.43 46 eP P 08 38 42.4 +1.4
comp=Z,122nm,1.3s
TAM Tamanrasset 93.47 65 eP P 08 38 42.5 +0.8
TAM pmax pmax
comp=Z,73nm,0.9s
TAM Tamanrasset 93.47 65 eP P 08 38 42.5 +0.8
comp=Z,73nm,0.9s
B06A Marblemount 93.77 330 eP P 08 38 41.9 -0.3
comp=Z,145nm,1.9s
NLWA Neilton Lookou 93.91 328 eP P 08 38 42.4 -0.6
comp=Z,57nm,1.4s
A05A Maple Falls 94.39 330 eP P 08 38 44.9 -0.1
comp=Z,35nm,1.1s
EDM Edmonton 94.59 337 eP P 08 38 44.4 -1.5
EDM Edmonton 94.59 337 eP P 08 38 44.4 -1.5
PESTR Estremoz 94.71 45 eP P 08 38 47.0 +0.2
comp=Z,56nm,1.7s
FCC Fort Churchill 94.95 349 eP P 08 38 46.9 -0.4
FCC Fort Churchill 94.95 349 eP P 08 38 46.9 -0.4
MVO Moncorvo 96.55 44 eP P 08 38 55.8 +0.6
comp=Z,50nm,1.3s
ESDC Sonseca Array 97.38 46 P Pdif 08 38 59.2 +0.1
comp=Z,6.3nm,0.8s,baz=249,slow=4.0,SNR=18
ESDC Sonseca Array 97.38 46 P Pdif 08 38 59.2 +0.1
ESLA Sonseca Array 97.38 46 eP P 08 38 58.8 -0.2
comp=Z,28nm,1.9s
SJPF Ste Jean 101.13 45⇑/P Pdif 08 39 16.4 +0.8
comp=Z,77nm,1.2s

SJPF Ste Jean 101.13 45⇑iP Pdif 08 39 16.4 +0.8
SJPF pmax pmax
comp=Z,77nm,1.2s
SJPF Ste Jean 101.13 45⇑iP Pdif 08 39 16.4 +0.8
comp=Z,77nm,1.2s
ETSF Etsaut 101.39 45⇑iP Pdif 08 39 17.6 +0.8
comp=Z,29nm,1.0s
ETSF Etsaut 101.39 45⇑iP Pdif 08 39 17.6 +0.8
ETSF pmax pmax
comp=Z,29nm,1.0s
ETSF Etsaut 101.39 45⇑iP Pdif 08 39 17.6 +0.8
comp=Z,29nm,1.0s
EPF Esparros 101.99 46⇑iP Pdif 08 39 20.2 +0.7
EPF Esparros 101.99 46⇑iP Pdif 08 39 20.2 +0.7
EPF Esparros 101.99 46⇑iP Pdif 08 39 20.2 +0.7
YKA Yellowknife Ar 102.71 341 Pdiff Pdif 08 39 20.9 -1.2
comp=Z,3.4nm,0.8s,baz=143,slow=4.5,SNR=20
YKA PKiKP PKiKP 08 43 41.7 -0.9
comp=Z,0.3nm,0.5s,baz=149,slow=1.8,SNR=5.7
YKA PKKPbc PKKPbc 08 55 19.7 -3.0
comp=Z,0.8nm,0.8s,baz=324,slow=3.0,SNR=5.9
YKA Yellowknife Ar 102.71 341 Pdif Pdif 08 39 20.9 -1.2
YKA PKiKP PKiKP 08 43 41.8 -0.9
YKA PKKPbc PKKPbc 08 55 19.8 -3.0
MTLF Montolieu 103.29 46⇑iP Pdif 08 39 25.4 +0.2
comp=Z,13nm,1.0s
MTLF Montolieu 103.29 46⇑iP Pdif 08 39 25.4 +0.2
MTLF pmax pmax
comp=Z,13nm,1.0s
MTLF Montolieu 103.29 46⇑iP Pdif 08 39 25.4 +0.2
comp=Z,13nm,1.0s
LFF La Frestale 103.36 44⇑iP Pdif 08 39 25.9 +0.5
comp=Z,29nm,0.9s
LFF La Frestale 103.36 44⇑iP Pdif 08 39 25.9 +0.5
LFF pmax pmax
comp=Z,29nm,0.9s
LFF La Frestale 103.36 44⇑iP Pdif 08 39 25.9 +0.5
comp=Z,29nm,0.9s
KEST Kesra 103.58 56 Pdiff Pdif 08 39 28.0 +1.2
comp=Z,2.3nm,0.9s,baz=236,slow=4.1,SNR=6.0
KEST Kesra 103.58 56 Pdif Pdif 08 39 28.0 +1.2
RJF Les Rejaudoux 104.01 44⇑iP Pdif 08 39 28.5 +0.1
RJF Les Rejaudoux 104.01 44⇑iP Pdif 08 39 28.5 +0.1
RJF Les Rejaudoux 104.01 44⇑iP Pdif 08 39 28.5 +0.1
LASF Ste Croix 104.68 46⇑iP Pdif 08 39 31.9 +0.5
comp=Z,30nm,1.2s
LASF Ste Croix 104.68 46⇑iP Pdif 08 39 31.9 +0.5
comp=Z,30nm,1.2s
KMBO Kilima Mbogo 105.44 102 PP PP 08 43 57.6 -0.1
comp=Z,1.0nm,0.5s,baz=230,slow=8.1,SNR=4.3
KMBO Kilima Mbogo 105.44 102 PP PP 08 43 57.6 -0.1
VIVF Saint-Julien-l 105.60 46⇑iP Pdif 08 39 36.3 +0.8
comp=Z,48nm,1.4s
VIVF Saint-Julien-l 105.60 46⇑iP Pdif 08 39 36.3 +0.8
VIVF pmax pmax
comp=Z,48nm,1.4s
VIVF Saint-Julien-l 105.60 46⇑iP Pdif 08 39 36.3 +0.8
comp=Z,48nm,1.4s
SMF Signal de Mont 106.11 44⇑iP Pdif 08 39 38.2 +0.5
comp=Z,42nm,1.4s
SMF Signal de Mont 106.11 44⇑iP Pdif 08 39 38.2 +0.5
SMF pmax pmax
comp=Z,42nm,1.4s
SMF Signal de Mont 106.11 44⇑iP Pdif 08 39 38.2 +0.5
comp=Z,42nm,1.4s
SSF Saint Saulge 106.15 44⇑iP Pdif 08 39 37.9 +0.1
SSF Saint Saulge 106.15 44⇑iP Pdif 08 39 37.9 +0.1
SSF Saint Saulge 106.15 44⇑iP Pdif 08 39 37.9 +0.1
STKA Stephens Creek 106.35 210 eP Pdif 08 39 38.2 -1.1
STKA Stephens Creek 106.35 210 PKKPbc PKKPbc 08 55 10.2 -0.3
comp=Z,4.8nm,0.9s,baz=330,slow=8.0,SNR=4.4
STKA PKKPab PKKPab 08 55 26.6 -3.4
comp=Z,8.7nm,0.8s,baz=335,slow=7.4,SNR=11
STKA Stephens Creek 106.35 210 eP Pdif 08 39 38.2 -1.1
STKA PKKPbc PKKPbc 08 55 10.2 -0.3
STKA PKKPab PKKPab 08 55 26.6 -3.4
ORIF Oris-en-Rattie 106.36 46⇑iP Pdif 08 39 40.0 +1.1
comp=Z,25nm,1.1s
ORIF Oris-en-Rattie 106.36 46⇑iP Pdif 08 39 40.0 +1.1
ORIF pmax pmax
comp=Z,25nm,1.1s
ORIF Oris-en-Rattie 106.36 46⇑iP Pdif 08 39 40.0 +1.1
comp=Z,25nm,1.1s
LOR Lormes 106.47 44⇑iP Pdif 08 39 39.2 0.0
LOR Lormes 106.47 44⇑iP Pdif 08 39 39.2 0.0
LOR Lormes 106.47 44⇑iP Pdif 08 39 39.2 0.0
MBDF Montbardon 106.79 47⇑iP Pdif 08 39 41.4 +0.5
MBDF Montbardon 106.79 47⇑iP Pdif 08 39 41.4 +0.5
MBDF Montbardon 106.79 47⇑iP Pdif 08 39 41.4 +0.5
GEC2 GERESS Array S 112.96 46 ePKIKP PKiKP 08 44 02.4 +0.1
GEC2 GERESS Array S 112.96 46 ePKIKP PKiKP 08 44 02.4 +0.1
GERES GERESS Array B 112.96 46 PKiKP PKiKP 08 44 02.2 -0.1
comp=Z,4.4nm,0.8s,baz=188,slow=2.0,SNR=12
GERES PKKPab PKKPab 08 54 58.5 +3.5
comp=Z,1.7nm,0.9s,baz=53,slow=8.8,SNR=4.8
GERES GERESS Array B 112.96 46 PKiKP PKiKP 08 44 02.2 -0.1
GERES PKKPab PKKPab 08 54 58.5 +3.5
KHC Kasperske Hory 113.02 45 ePKIKP PKiKP 08 44 01.1 -1.3
KHC e 08 44 15.0
KHC Kasperske Hory 113.02 45 ePKP PKiKP 08 44 01.1 -1.3
KHC epPKP pPKiKP 08 44 15.0 +1.4
KHC ePKKP PKKPbc 08 54 49.7 0.0
KHC ex x 08 55 00.9
DOT Dot Lake 113.12 333 ePKIKP PKiKP 08 44 02.6 +0.5
DOT ePP PP 08 45 00.4 +7.8
CLL Collm 113.66 43 i PKIKP PKiKP 08 44 03.9 +0.5
CLL e 08 44 56.0
CLL Collm 113.66 43 i PKIKP PKiKP 08 44 03.9 +0.5
CLL ePP PP 08 44 56.0 -0.7
PRA Prague 113.93 45 PKP PKiKP 08 44 05.0 +1.0
PRU Pruhonice 113.96 45 ePKIKP PKiKP 08 44 05.0 +0.9
PRU e 08 45 04.5
PRU Pruhonice 113.96 45 ePKP PKiKP 08 44 05.0 +0.9
PRU ex x 08 44 22.5
PRU ePP PP 08 45 04.5 +5.6
BRG Berggiesshubel 114.00 44 ePKP PKPdf 08 44 04.3 +0.2
comp=Z,5.6nm,0.7s
BRG ePP PP 08 44 56.7 -2.4
comp=Z,139nm,2.3s
BRG Berggiesshubel 114.00 44 ePKIKP PKPdf 08 44 04.3 +0.2
BRG e 08 44 56.7
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG pmax pmax
comp=Z,139nm,2.3s
PVCC Panska Ves 114.21 44 ePKP PKPdf 08 44 05.1 +0.6
ILAR Eielson Array 114.76 333 PKIKP PKPdf 08 44 04.7 -0.5
ILAR 08 44 14.2
ILAR 08 45 07.5
ILAR 08 54 42.0
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 114.76 333 PKP PKPdf 08 44 04.7 -0.5
comp=Z,3.0nm,0.8s,baz=168,slow=1.6,SNR=13
ILAR pPKP PKiKP 08 44 14.2 +9.0
comp=Z,3.5nm,0.8s,baz=180,slow=1.9,SNR=8.8
ILAR PP PP 08 45 07.5 +3.4
comp=Z,3.2nm,0.9s,baz=108,slow=5.6,SNR=4.0
ILAR PKKPbc PKKPbc 08 54 42.0 -2.2
comp=Z,0.8nm,0.7s,baz=320,slow=4.4,SNR=5.6
ILAR Eielson Array 114.76 333 PKP PKPdf 08 44 04.7 -0.5
ILAR pPKP PKiKP 08 44 14.2 +9.0
ILAR PP PP 08 45 07.5 +3.4
ILAR PKKPbc PKKPbc 08 54 42.0 -2.2
VRAC Vranov 114.87 46⇓iP PKPdf 08 44 05.5 -0.4
UPC Upice 115.04 45 ePKIKP PKPdf 08 44 05.9 -0.2
UPC e 08 54 48.6
UPC Upice 115.04 45 ePKP PKPdf 08 44 05.9 -0.2
UPC ex x 08 44 25.8
UPC ePKKP PKKPab 08 54 48.6 +2.9
MCK McKinley 115.04 331 ePKIKP PKPdf 08 44 05.3 -0.5
MCK McKinley 115.04 331 ePKPdf PKPdf 08 44 05.3 -0.5
DPC Dobruska-Polom 115.15 45 ePKIKP PKPdf 08 44 03.3 -3.1
DPC e 08 54 48.3
DPC Dobruska-Polom 115.15 45 ePKP PKPdf 08 44 03.3 -3.1
DPC ex x 08 44 26.7
DPC ePP PP 08 45 02.7 -4.6
DPC ePKKP PKKPab 08 54 48.3 +3.0
COLA College 115.17 333 i PKIKP PKPdf 08 44 04.7 -1.2
TRF Thorofare Moun 115.45 331 ePKIKP PKPdf 08 44 06.5 -0.3
APE Apeiranthos 115.62 61⇑iP PKPdf 08 44 07.6 -0.1
MORC Moravsky Berou 115.63 46⇓iP PKPdf 08 44 07.4 +0.1
KTH Kantishna Hill 115.75 331 ePKiKP PKiKP 08 44 07.2 0.0
VYHS Vyhne 115.88 48 ePKIKP PKPdf 08 44 07.9 +0.1
VYHS Vyhne 115.88 48 ePKP PKPdf 08 44 07.9 +0.1
PPLA Purkeypile 115.97 330 ePKiKP PKiKP 08 44 09.1 +1.3
OKC Ostrava-Krasne 116.01 46 ePKIKP PKPdf 08 44 07.6 -0.4
OKC Ostrava-Krasne 116.01 46 ePKP PKPdf 08 44 07.6 -0.4
DAG Danmarks Havn 116.17 12 i PKIKP PKPdf 08 44 07.0 -0.6
DAG Danmarks Havn 116.17 12 i P PKPdf 08 44 07.0 -0.6
MMB Musomiste 116.24 56⇑iP PKPdf 08 44 08.6 -0.2
PSZ Piszkesteto 116.30 49⇓iP PKPdf 08 44 09.1 +0.4
BZS Buzias 116.47 51⇑iP PKPdf 08 44 09.1 +0.1
GKP Gorka Klasztor 116.84 42 ePKIKP PKPdf 08 44 10.5 +1.0
GKP Gorka Klasztor 116.84 42 ePKP PKPdf 08 44 10.5 +1.0
NB2 NORSAR Subarra 116.88 33 PKPdf PKPdf 08 44 09.1 -0.3
comp=Z,7.7nm,1.1s,baz=248,slow=1.9
NB2 NORSAR Subarra 116.88 33 PKKP PKKPbc 08 54 37.8 +1.2
comp=Z,1.5nm,0.7s,baz=68,slow=4.8
NB2 NORSAR Subarra 116.88 33 PKPdf PP 08 45 08.1 -11
comp=Z,31nm,1.7s,baz=248,slow=1.9
NB2 NORSAR Subarra 116.88 33 PKPdf PKPdf 08 44 09.1 -0.3
baz=248,slow=1.9
NB2 NORSAR Subarra 116.88 33 PKKP PKKPbc 08 54 37.8 +1.2
baz=68,slow=4.8
NB2 NORSAR Subarra 116.88 33 PKPdf PP 08 45 08.1 -11
baz=248,slow=1.9
NOA NORSAR Array B 116.88 33 PKIKP PKPdf 08 44 09.0 -0.3
NOA 08 44 18.4
NOA 08 45 18.2
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 116.88 33 PKP PKPdf 08 44 08.9 -0.5
comp=Z,3.7nm,0.8s,baz=251,slow=2.0,SNR=11
NOA pPKP pPKPdf 08 44 18.4 -2.2
comp=Z,3.2nm,0.9s,baz=248,slow=1.9,SNR=4.9
NOA PP PP 08 45 18.2 -1.0
comp=Z,3.0nm,0.8s,baz=240,slow=7.1,SNR=4.1
NOA PKKPbc PKKPab 08 54 37.4 +0.3
comp=Z,2.1nm,0.8s,baz=68,slow=4.5,SNR=6.8
NOA NORSAR Array B 116.88 33 PKP PKPdf 08 44 08.9 -0.5
NOA pPKP pPKPdf 08 44 18.4 -2.3
NOA PP PP 08 45 18.2 -1.0
NOA PKKPbc PKKPab 08 54 37.4 +0.3
COLD Coldfoot 117.09 335 ePKPdf PKPdf 08 44 10.5 +0.9
GZR Gura Zlata 117.13 52⇑iP PKPdf 08 44 10.4 0.0
KDZ Kurdzhali 117.43 57⇑iP PKPdf 08 44 10.7 -0.3
DRGR 117.63 51⇑iP PKPdf 08 44 11.4 +0.1
HFS Hagfors 117.66 34 PKP PKPdf 08 44 09.4 -1.5
comp=Z,6.9nm,0.8s,baz=207,slow=3.0,SNR=8.1
HFS PP PP 08 45 20.0 -4.6
comp=Z,10nm,0.8s,baz=48,slow=2.1,SNR=6.5
HFS PKKPbc PKKPab 08 54 32.8 -0.9
comp=Z,5.2nm,0.8s,baz=72,slow=4.7,SNR=5.5
HFS Hagfors 117.66 34 PKP PKPdf 08 44 09.4 -1.5
HFS PP PP 08 45 20.0 -4.6
HFS PKKPbc PKKPab 08 54 32.8 -0.9
STHS Stebnicka Huta 117.70 47 ePKIKP PKPdf 08 44 11.9 +0.6
STHS Stebnicka Huta 117.70 47 ePKP PKPdf 08 44 11.9 +0.6
LOT Lotru 117.80 52⇓iP PKPdf 08 44 11.5 -0.3
TRPA Tarpa 118.02 49⇑iP PKPdf 08 44 12.1 +0.2
UZH Uzhgorod 118.05 49 ePKIKP PKPdf 08 44 10.1 -1.9
UZH e 08 44 16.7
KOLS Kolonicke sedl 118.15 48 ePKIKP PKPdf 08 44 12.0 -0.2
KOLS Kolonicke sedl 118.15 48 ePKP PKPdf 08 44 12.0 -0.2
ZIMR 118.17 55⇑iP PKPdf 08 44 13.3 +1.0
ARR Arges 118.33 53⇓iP PKPdf 08 44 12.8 +0.1
JMB Yambol 118.54 56⇓iP PKPdf 08 44 12.6 -0.5
VOIR 118.63 53⇑iP PKPdf 08 44 13.3 0.0
KWP Kalwaria Pacla 118.67 48 ePKIKP PKPdf 08 44 12.8 -0.4
KWP Kalwaria Pacla 118.67 48 ePKP PKPdf 08 44 12.7 -0.4
KWP Kalwaria Pacla 118.67 48⇓iP PKPdf 08 44 13.6 +0.4
DOPR Dopca 119.04 52⇓iP PKPdf 08 44 14.2 +0.2
MLR Muntele Rosu 119.23 53⇑iP PKPdf 08 44 13.8 -0.7
BURAR Bucovina Array 119.52 50⇓iP PKPdf 08 44 15.5 +0.5
LVV L'vov 119.54 48 ePKIKP PKPdf 08 44 12.2 -2.6
PLOR Plostina 119.82 53⇑iP PKPdf 08 44 14.9 -0.6
VRI Vrincioaia 119.88 53⇓iP PKPdf 08 44 14.9 -0.7
WRA Warramunga Arr 119.89 209 PKP PKPdf 08 44 15.2 -1.4
comp=Z,13nm,0.8s,baz=159,slow=1.7,SNR=36
WRA PKKPbc PKKPbc 08 54 25.9 +0.9
comp=Z,4.6nm,0.8s,baz=345,slow=4.3,SNR=13
WRA Warramunga Arr 119.89 209 PKP PKPdf 08 44 15.2 -1.4
WRA PKKPbc PKKPbc 08 54 25.9 +0.9
WRAB Tennant Creek 119.90 209⇑iPKIKP PKPdf 08 44 15.2 -1.4
WRAB pmax pmax
comp=Z,100nm,1.7s
MSAB Monastry St. A 119.98 55⇑iP PKPdf 08 44 15.8 0.0
TESR Tescani 120.05 52⇑iP PKPdf 08 44 15.2 -0.7
PSN Preselentsi 120.08 55⇑iP PKPdf 08 44 15.9 -0.1
HARR Harsova 120.27 54⇑iP PKPdf 08 44 16.7 +0.4
MANR Mangalia 120.40 55⇑iP PKPdf 08 44 16.9 +0.3
SUW Suwalki 120.42 43 ePKIKP PKPdf 08 44 15.9 -0.5
SUW Suwalki 120.42 43 ePKP PKPdf 08 44 15.8 -0.5
SUW Suwalki 120.42 43 ePKPdf PKPdf 08 44 15.9 -0.5
TIRR Tirgusor 120.51 55⇑iP PKPdf 08 44 16.8 0.0
CSS Prodhromos 120.53 67 ePKPdf PKPdf 08 44 17.3 +0.1
CFR Carcaliu 120.57 54⇑iP PKPdf 08 44 16.4 -0.5
TLCR 121.03 54⇓iP PKPdf 08 44 17.9 +0.1
KIS Kishinev 121.62 52 ePKIKP PKPdf 08 44 23.0 +4.1
KIS e 08 45 49.0
KIS Kishinev 121.62 52 ePKP PKPdf 08 44 23.0 +4.1
ANTO Ankara 121.96 61 ePKIKP PKPdf 08 44 19.9 0.0
ANTO Ankara 121.96 61⇑iP PKPdf 08 44 20.1 +0.2
ANTO Ankara 121.96 61 ePKPdf PKPdf 08 44 19.9 0.0
PMG Port Moresby 122.23 228⇑iPKIKP PKPdf 08 44 22.6 +1.5
PMG pmax pmax
comp=Z,40nm,1.7s
IIGN Ignalina 122.50 42 eP PKPdf 08 44 19.3 -1.0
IIGN AMB AMB 08 44 20.3
comp=Z,17nm,0.9s
ISAL Salakas 122.50 42 eP PKPdf 08 44 19.9 -0.4
ISAL AMB AMB 08 44 20.8
comp=Z,10nm,0.9s
BRTR Keskin Array B 122.52 61 PKIKP PKPdf 08 44 20.9 -0.2
BRTR 08 45 57.8
BRTR pmax pmax
comp=Z,27nm,0.8s
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 122.52 61 PKP PKPdf 08 44 20.9 -0.2
comp=Z,28nm,0.8s,baz=191,slow=2.9,SNR=75
BRTR PP PP 08 45 57.8 -0.9
comp=Z,6.9nm,0.9s,baz=220,slow=3.9,SNR=3.4
BRTR Keskin Array B 122.52 61 PKP PKPdf 08 44 20.9 -0.2
BRTR PP PP 08 45 57.8 -0.9
NACGM Naroch 122.69 43 e PKPdf 08 44 18.0 -2.7
KIEV Kiev 122.97 48⇑iPKIKP PKPdf 08 44 20.7 -0.6
AK01 Malin Array Si 122.97 48 ePKPdf PKPdf 08 44 20.2 -1.1
AKASG Malin Array Be 122.98 48 PKIKP PKPdf 08 44 20.3 -1.1
AKASG pmax pmax
comp=Z,18nm,0.8s
AKASG Malin Array Be 122.98 48 PKP PKPdf 08 44 20.3 -1.1
comp=Z,17nm,0.8s,baz=263,slow=2.6,SNR=49
AKASG PP PP 08 45 57.6 -3.7
comp=Z,11nm,0.9s,baz=252,slow=7.4,SNR=9.4
AKASG Malin Array Be 122.98 48 PKP PKPdf 08 44 20.3 -1.1
AKASG PP PP 08 45 57.6 -3.7
AKBB Malin Array Si 122.98 48 ePKIKP PKPdf 08 44 20.0 -1.4
AKBB Malin Array Si 122.98 48 ePKPdf PKPdf 08 44 20.0 -1.4
MBWA Marble Bar 123.15 194 ePKPdf PKPdf 08 44 21.3 -1.5
TNA Tin City 123.32 330 ePKPdf PKPdf 08 44 21.8 +0.2
VSU Vasula 123.53 38⇑iPKIKP PKPdf 08 44 22.1 -0.1
SPITS Spitsbergen Ar 123.54 14 PKIKP PKPdf 08 44 21.8 +0.1
SPITS pmax pmax
comp=Z,12nm,0.7s
SPITS Spitsbergen Ar 123.54 14 PKP PKPdf 08 44 21.8 +0.1
comp=Z,12nm,0.7s,baz=157,slow=4.5,SNR=8.8
SPITS Spitsbergen Ar 123.54 14 PKP PKPdf 08 44 21.8 +0.1
FINES FINESS Array B 123.84 35 PKIKP PKPdf 08 44 22.1 -0.6
FINES pmax pmax
comp=Z,14nm,0.9s
FINES FINESS Array B 123.84 35 PKP PKPdf 08 44 22.1 -0.6
comp=Z,14nm,0.8s,baz=126,slow=2.6,SNR=25
FINES FINESS Array B 123.84 35 PKP PKPdf 08 44 22.1 -0.6
FIA1 FINESS Array S 123.84 35 ePKPdf PKPdf 08 44 22.0 -0.6
KAF Kangasniemi 124.08 34 ePKIKP PKPdf 08 44 22.2 -0.9
KAF Kangasniemi 124.08 34 ep PKPdf 08 44 22.2 -0.9
SIM Simferopol' 124.52 56 i PKIKP PKPdf 08 44 25.0 +0.5
SIM pmax pmax
comp=Z,45nm,0.9s
GAMB Gambell 124.60 328 ePKPdf PKPdf 08 44 24.2 +0.2
ARCES ARCESS Array B 124.89 25 PKIKP PKPdf 08 44 24.3 -0.2
ARCES pmax pmax
comp=Z,11nm,0.8s
ARCES ARCESS Array B 124.89 25 PKP PKPdf 08 44 24.3 -0.2
comp=Z,11nm,0.8s,baz=235,slow=3.4,SNR=12
ARCES ARCESS Array B 124.89 25 PKP PKPdf 08 44 24.3 -0.2
RAYN Ar Rayn 125.42 84 ePKPdf PKPdf 08 44 27.4 +0.4
MALT Malatya 125.56 65⇑iP PKPdf 08 44 27.8 +0.9
PUL Pulkovo 125.60 37⇑iPKIKP PKPdf 08 44 27.0 +0.9
PUL pmax pmax
comp=Z,69nm,0.3s
JOF Joensuu 126.50 34 ePKIKP PKPdf 08 44 27.0 -0.7
JOF Joensuu 126.50 34 ep PKPdf 08 44 27.0 -0.7
ANN Anapa 126.75 57 i PKIKP PKPdf 08 44 28.6 -0.2
ANN e 08 46 28.0
ANN pmax pmax
comp=Z,114nm,1.7s
APA Apatity 127.66 28⇓iPKIKP PKPdf 08 44 30.0 +0.2
APA i 08 46 32.2
APA i 08 51 26.0
SOC Sochi 128.02 59 ePKIKP PKPdf 08 44 31.8 +0.5
SOC pmax pmax
comp=Z,66nm,0.7s
LVZ Lovozero 128.13 27⇑ePKIKP PKPdf 08 44 31.6 +0.8
LVZ pmax pmax
comp=Z,80nm,1.7s
LVZ Lovozero 128.13 27 ePKPdf PKPdf 08 44 31.1 +0.3
OBN Obninsk 128.25 44⇑iPKIKP PKPdf 08 44 31.0 -0.3
OBN e*PP PP 08 46 33.2 -3.0
OBN pmax pmax
comp=Z,125nm,1.7s
OBN Obninsk 128.25 44 PKP PKPdf 08 44 31.0 -0.3
comp=Z,14nm,0.4s,baz=253,slow=4.9,SNR=13
OBN Obninsk 128.25 44 ePKPdf PKPdf 08 44 31.0 -0.3
MOS Moscow 128.93 43 ePKIKP PKPdf 08 44 31.6 -1.0
MOS pmax pmax
comp=Z,106nm,1.5s
VSR Storozhevoye 129.23 49 ePKIKP PKPdf 08 44 31.7 -1.6
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 129.27 49 ePKIKP PKPdf 08 44 32.2 -1.2
VORD pmax pmax
comp=Z,20nm,1.3s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
TMCR Tamitsa 129.56 32 ePKIKP PKPdf 08 44 33.6 +0.1
TMCR pmax pmax
comp=Z,49nm,1.1s
KIV Kislovodsk 130.20 59 ePKIKP PKPdf 08 44 36.1 +0.5
KIV Kislovodsk 130.20 59 ePKPdf PKPdf 08 44 36.0 +0.5
KLMR Klimovskoe 130.25 37 ePKIKP PKPdf 08 44 32.2 -2.7
KLMR pmax pmax
comp=Z,239nm,1.8s
KBZ Khabaz 130.30 59 PKIKP PKPdf 08 44 35.3 -0.3
KBZ pmax pmax
comp=Z,27nm,0.9s
KBZ Khabaz 130.30 59 PKP PKPdf 08 44 35.3 -0.3
comp=Z,26nm,0.9s,baz=255,slow=2.9,SNR=28
KBZ Khabaz 130.30 59 PKP PKPdf 08 44 35.3 -0.3
GOF Gofitskoye 130.68 58 ePKIKP PKPdf 08 44 36.9 +0.6
GOF pmax pmax
comp=Z,90nm,0.9s
VRHR Novokhopersk 130.74 49 ePKIKP PKPdf 08 44 35.0 -1.2
VRHR pmax pmax
comp=Z,40nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
GNI Garni 130.78 64 i PKIKP PKPdf 08 44 36.9 0.0
GNI pmax pmax
comp=Z,79nm,1.7s
GNI Garni 130.78 64 ePKPdf PKPdf 08 44 38.1 +1.2
ZEI Tsey 130.80 61 i PKIKP PKPdf 08 44 35.6 -1.3
ZEI pmax pmax
comp=Z,106nm,2.2s
IMRD Marand 131.12 66 eP PKPdf 08 44 36.9 -0.7
ITBZ Tabriz 131.33 67 eP PKPdf 08 44 35.9 -2.0
IHRS Heris 132.03 67 eP PKPdf 08 44 38.5 -0.9
ISRB Sarab 132.37 68 eP PKPdf 08 44 39.7 -0.3
PRGR Permogore 133.17 35⇑iPKIKP PKPdf 08 44 40.4 0.0
PRGR pmax pmax
comp=Z,471nm,1.6s
BILL Bilibino 133.41 334 ePKHKP PKPpre 08 44 27.8
BILL e 08 44 40.7
BILL e 08 47 06.0
ISRV Sarvestan 134.03 81 eP PKPdf 08 44 43.3 -0.3
CISI Cisompet, Garu 137.87 180 ePKPdf PKPdf 08 44 52.1 +1.3
KAPI Kappang 138.76 199 ePKPdf PKPdf 08 44 52.5 +0.1
KAPI ePP PP 08 47 44.5 +2.2
SOKR Solikamsk 138.94 37 ePKIKP PKPdf 08 44 52.5 +1.3
SOKR pmax pmax
comp=Z,40nm,1.3s
PET Petropavlovsk 139.90 313 ePKIKP PKPdf 08 44 50.5 -2.7
PET i 08 44 59.8
PET pmax pmax
comp=Z,15nm,0.9s
GEYT Alibeck 140.44 71 PKhKP PKPpre 08 44 47.7
comp=Z,13nm,0.9s,baz=256,slow=4.4,SNR=10
GEYT PKP PKPdf 08 44 55.0 +0.2
comp=Z,23nm,0.8s,baz=268,slow=4.2,SNR=9.5
PETK Petropavlovsk- 140.47 313 i PKHKP PKPpre 08 44 46.1
PETK 08 44 54.6
PETK pmax pmax
comp=Z,4.0nm,0.7s
PETK pmax pmax
comp=Z,9.0nm,0.8s
PETK Petropavlovsk- 140.47 313 PKhKP PKPpre 08 44 46.1
comp=Z,4.0nm,0.7s,baz=99,slow=8.1,SNR=5.9
PETK PKP PKPdf 08 44 54.5 +0.3
comp=Z,8.9nm,0.8s,baz=106,slow=9.7,SNR=4.6
PETK Petropavlovsk- 140.47 313 PKPpre PKPpre 08 44 46.1
PETK PKP PKPdf 08 44 54.5 +0.3
SEY Seymchan 140.55 329 i PKHKP PKPpre 08 44 46.9
SEY 08 44 54.1
SEY pmax pmax
comp=Z,7.0nm,0.6s
SEY pmax pmax
comp=Z,28nm,0.9s
SEY Seymchan 140.55 329 PKhKP PKPpre 08 44 46.9
comp=Z,7.1nm,0.6s,baz=102,slow=5.6,SNR=15
SEY PKP PKPdf 08 44 54.1 +0.1
comp=Z,28nm,0.9s,baz=121,slow=3.9,SNR=20
SEY Seymchan 140.55 329 PKPpre PKPpre 08 44 46.9
SEY PKP PKPdf 08 44 54.1 +0.1
ARU Arti 140.57 41 i PKHKP PKPpre 08 44 46.1
AKTO Aktyubinsk 141.11 51 i PKHKP PKPpre 08 44 49.3
AKTO pmax pmax
comp=Z,23nm,0.8s
AKTO Aktyubinsk 141.11 51 PKhKP PKPpre 08 44 49.2
comp=Z,23nm,0.8s,baz=329,slow=2.8,SNR=6.0
AKTO Aktyubinsk 141.11 51 PKPpre PKPpre 08 44 49.2
SVE Sverdlovsk 141.60 40 ePKIKP PKPdf 08 44 55.0 -1.1
ABKAR Akbulak array 142.44 53 ePKPdf PKPdf 08 44 53.6 -4.3
PALK Pallekele 143.11 132 ePKIKP PKPbc 08 44 56.8 -0.3
PALK Pallekele 143.11 132 ePKPdf PKPbc 08 44 56.8 -0.3
GOA Goa 144.16 114 eP PKPbc 08 44 60.0 -0.1
BHJ Bhuj 145.11 99 eP PKPbc 08 45 02.3 -0.6
BKNI Bangkinang 145.16 169 ePKPdf PKPbc 08 45 02.6 -0.7
GSI Gunungsitoli 145.40 162 ePKPdf PKPab 08 45 04.7 +0.4
POO Poona 146.00 110 eP PKPdf 08 45 04.6 -0.5
KSM Kuching 146.74 185 ePKPdf PKPdf 08 45 05.1 -1.4
KSM ePKPbc PKPbc 08 45 07.8 -0.4
MYKOM Kota Tinggi 146.97 173 ePKPdf PKPdf 08 45 06.5 -0.4
MDRS Chennai 147.16 124 eP PKPdf 08 45 07.7 +0.6
SBUM Sibu 147.52 189 ePKPbc PKPbc 08 45 10.2 -0.1
KUR Kuril'sk 147.72 301⇓iPKP2 PKPbc 08 45 10.1 +0.2
BRVK Borovoye 148.03 44 ePKIKP PKPdf 08 45 07.8 +0.4
BRVK e 08 45 11.5
BRVK Borovoye 148.03 44 ePKPdf PKPdf 08 45 07.8 +0.4
BRVK ePKPbc PKiKP 08 45 11.5 -0.8
BVAR Borovoye Array 148.10 44 PKIKP PKPdf 08 45 07.8 +0.3
BVAR 08 45 12.0
BVAR pmax pmax
comp=Z,73nm,0.7s
BVAR pmax pmax
comp=Z,74nm,0.8s
BVAR Borovoye Array 148.10 44 PKP PKPdf 08 45 07.8 +0.3
comp=Z,73nm,0.7s,baz=280,slow=2.6,SNR=21

BVAR PKPbc PKiKP 08 45 12.0 -0.5
comp=Z,74nm,0.8s,baz=284,slow=4.5,SNR=43
BVAR Borovoye Array 148.10 44 PKP PKPdf 08 45 07.8 +0.3
BVAR PKPbc PKiKP 08 45 12.0 -0.5
KBL Kabul 148.46 79 ePKIKP PKPdf 08 45 09.7 +0.7
KBL Kabul 148.46 79 ePKPdf PKPdf 08 45 09.7 +0.7
MYLDM Lahad Datu 148.83 201 ePKPbc PKPbc 08 45 13.1 -0.7
HYB Hyderabad 148.89 116 iPKP PKPbc 08 45 13.0 -0.9
HYB Hyderabad 148.89 116 eP PKPdf 08 45 10.0 +0.1
LHMI Lhok Sumawe 148.98 159 ePKPbc PKPbc 08 45 14.2 0.0
IPM Ipoh 149.22 167 ePKPdf PKPdf 08 45 09.7 -0.9
IPM ePKPbc PKPbc 08 45 14.3 -0.5
YAK Yakutsk 149.37 340 ePKHKP PKPdf 08 45 11.7 +2.5
YAK pmax pmax
comp=Z,200nm,1.6s
YAK pmax pmax
comp=N,26nm,1.8s
YAK pmax pmax
comp=E,38nm,1.3s
YAK Yakutsk 149.37 340 ePKPdf PKPdf 08 45 10.0 +0.8
YAK ePKPbc PKPbc 08 45 13.1 -0.6
CMBY CAMPBELL BAY 149.62 152 eP PKPdf 08 45 11.1 0.0
KULM Kulim 149.94 166 ePKPdf PKPdf 08 45 10.7 -1.0
KULM ePKPbc PKPbc 08 45 15.5 -1.1
KKAR Karatay Array 150.22 63 ePKIKP PKPdf 08 45 11.9 +0.6
KKAR e 08 45 16.4
KKAR Karatay Array 150.22 63 ePKPdf PKPdf 08 45 11.9 +0.6
KKAR ePKPbc PKPbc 08 45 16.4 0.0
KKM Kota Kinabalu 150.28 198 ePKPbc PKPbc 08 45 16.2 -1.3
YSS Yuzh-Sakhalins 150.99 305⇑ePKIKP PKPdf 08 45 15.0 +2.7
YSS e 08 45 28.0
YSS pmax pmax
comp=Z,260nm,1.4s
YSS Yuzh-Sakhalins 150.99 305 ePKPdf PKPdf 08 45 13.3 +1.0
YSS ePKPbc PKPbc 08 45 17.3 -0.7
ERM Erimo 151.34 295c iPKIKP PKPbc 08 45 21.6 +2.6
ERM pmax pmax
comp=Z,191nm,1.7s
ERM Erimo 151.34 295 ePKPbc PKPbc 08 45 19.9 +0.9
BHPL Bhopal 151.35 106 eP PKPdf 08 45 14.0 +0.4
ASAJ Asahikawa 151.57 300 ePKPbc PKPbc 08 45 18.0 -1.5
GUIM Jordan 152.29 213 eP PKPdf 08 45 16.8 +1.5
VIS Vishakhapatnam 152.52 122 eP PKPdf 08 45 15.1 -0.4
AML Almayashu 152.63 64 P PKPdf 08 45 16.0 +0.5
SNR=10.0
EKS2 Erkin-Say 152.65 63 P PKPdf 08 45 16.0 +0.9
SNR=8.3
EKS2 Erkin-Say 152.65 63 ePKIKP PKPdf 08 45 16.0 +0.9
EKS2 e 08 45 22.6
EKS2 Erkin-Say 152.65 63 ePKPdf PKPdf 08 45 16.0 +0.9
EKS2 ePKPbc PKiKP 08 45 22.6 +0.1
USP Ospenovka 153.11 62 P PKPdf 08 45 16.0 +0.4
SNR=6.8
AAK Ala-Archa 153.18 63 P PKPdf 08 45 16.9 +1.0
SNR=7.1
AAK Ala-Archa 153.18 63 PKIKP PKPdf 08 45 16.6 +0.7
AAK 08 45 24.4
AAK 08 49 08.7
AAK pmax pmax
comp=Z,14nm,0.7s
AAK pmax pmax
comp=Z,23nm,1.0s
AAK Ala-Archa 153.18 63 PKP PKPdf 08 45 16.6 +0.7
comp=Z,14nm,0.7s,baz=174,slow=2.4,SNR=10
AAK PKPbc PKiKP 08 45 24.4 +0.8
comp=Z,124nm,0.8s,baz=166,slow=2.8,SNR=45
AAK PP PP 08 49 08.7 -0.6
comp=Z,23nm,1.0s,baz=251,slow=5.7,SNR=3.9
AAK Ala-Archa 153.18 63 PKP PKPdf 08 45 16.6 +0.7
AAK ePKPdf PKPbc 08 45 17.1 -6.3
AAK ePKPbc PKiKP 08 45 24.4 +0.8
AAK PP PP 08 49 08.7 -0.6
UCH Uchtor 153.23 64 P PKPdf 08 45 17.5 +1.0
SNR=12
FRU Bishkek 153.25 63 ePKIKP PKPbc 08 45 24.0 +0.6
FRU pmax pmax
comp=Z,100nm,1.0s
PBA Port Blair 153.31 146 eP PKPdf 08 45 13.9 -2.8
PBA ⇑ex x 08 51 34.0
CHMS Chumysh 153.33 62 P PKPbc 08 45 24.6 +1.0
SNR=8.4
KBK Karagaybulak 153.51 63 P PKPdf 08 45 17.1 +0.7
SNR=8.9
KURK Kurchatov 153.69 44 ePKIKP PKPdf 08 45 16.2 0.0
KURK Kurchatov 153.69 44 ePKPdf PKPdf 08 45 16.2 0.0
DHRM DHARAMSHALA 153.88 87 eP PKPdf 08 45 17.4 0.0
TKM2 Tokmak 2 153.95 62 P PKPdf 08 45 17.3 +0.1
SNR=17
TKM2 Tokmak 2 153.95 62 ePKIKP PKPdf 08 45 17.2 +0.1
TKM2 Tokmak 2 153.95 62 ePKPdf PKPdf 08 45 17.2 +0.1
SMLA Simla 154.29 90 eP PKPdf 08 45 16.9 -0.7
KSH Kashi 154.47 70 ePKPbc PKPdf 08 45 18.0 +0.2
KSH esPKP 08 45 33.3
KSH eSKS SKSdf 08 52 19.5 -2.5
KSH eSKKS SKKSac 08 56 00.3 -3.4
KSH eSS SS 09 08 49.0 -6.4
KSH AMB AMB
comp=Z,24µm,12.3s
KSH LR LR
comp=Z,2µm,4.5s
KSH LR LR
comp=Z,2µm,7.7s
DGPR DIGLIPUR 154.72 145 eP PKPdf 08 45 17.3 -1.4
DDI Dehra Dun 154.79 92 eP PKPdf 08 45 16.3 -2.2
MJAR Matsushiro Arr 155.08 283 PKIKP PKPdf 08 45 18.9 +0.3
MJAR pmax pmax
comp=Z,5.0nm,1.1s
MJAR Matsushiro Arr 155.08 283 PKP PKPdf 08 45 18.9 +0.3
comp=Z,4.9nm,1.1s,baz=221,slow=1.8,SNR=5.7
MJAR Matsushiro Arr 155.08 283 PKP PKPdf 08 45 18.9 +0.3
MAT Matsushiro 155.08 283 ePKP PKPdf 08 45 16.7 -1.9
ZAA0 Zalesovo Array 155.09 33 ePKPdf PKPdf 08 45 17.0 -1.0
ZAA0 ePKPbc PKPbc 08 45 27.1
ZALV Zalesovo Beam 155.09 33 PKIKP PKPdf 08 45 17.4 -0.6
ZALV 08 45 42.1
ZALV pmax pmax
comp=Z,32nm,0.8s
ZALV pmax pmax
comp=Z,65nm,0.8s
ZALV Zalesovo Beam 155.09 33 PKP PKPdf 08 45 17.4 -0.6
comp=Z,32nm,0.8s,baz=280,slow=2.4,SNR=27
ZALV PKPab PKPab 08 45 42.1 -0.6
comp=Z,65nm,0.8s,baz=302,slow=3.3,SNR=5.6
ZALV Zalesovo Beam 155.09 33 PKP PKPdf 08 45 17.4 -0.6
ZALV PKPab PKPab 08 45 42.1 -0.6
MK31 Makanchi Array 157.54 50 ePKIKP PKPdf 08 45 20.9 -0.6
MK31 Makanchi Array 157.54 50 ePKPdf PKPdf 08 45 20.9 -0.6
MK31 ePKPab PKPab 08 45 54.0 +0.4
MKAR Makanchi Array 157.54 50 PKIKP PKPdf 08 45 21.2 -0.3
MKAR 08 49 29.9
MKAR pmax pmax
comp=Z,11nm,0.8s
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 157.54 50 PKP PKPdf 08 45 21.1 -0.3
comp=Z,11nm,0.8s,baz=329,slow=0.6,SNR=18
MKAR PKPab PKPab 08 45 54.4 +0.8
comp=Z,30nm,0.8s,baz=306,slow=4.2,SNR=9.5
MKAR PP PP 08 49 29.9 -3.2
comp=Z,5.1nm,0.9s,baz=305,slow=5.2,SNR=2.7
MKAR Makanchi Array 157.54 50 PKP PKPdf 08 45 21.1 -0.3
MKAR ePKPdf PKPdf 08 45 21.3 -0.3
MKAR PKPab PKPab 08 45 54.4 +0.8
MKAR PP PP 08 49 29.9 -3.2
BOK Bokaro 158.20 114 eP PKPdf 08 45 22.5 -0.5
KOLN Koldanda 158.39 102 eP PKPdf 08 45 22.8 -0.6
DANN Dangsing 158.76 101 eP PKPdf 08 45 23.8 -0.1
USRK Ussuriysk Arra 159.00 304 PKP PKPdf 08 45 21.6 -1.7
comp=Z,1.5nm,0.8s,baz=43,slow=8.6,SNR=4.2
USRK PKPab PKPab 08 45 59.0 -1.0
comp=Z,4.4nm,0.8s,baz=66,slow=4.6,SNR=5.8
GKN Gorkha 159.32 103 eP PKPdf 08 45 23.9 -0.5
DMN Daman 159.53 104 eP PKPdf 08 45 24.5 -0.3
KKN Kakani 159.75 104 eP PKPdf 08 45 24.5 -0.5
PKIN Phulchoki 159.75 105 eP PKPdf 08 45 25.3 +0.2
PKI Pulchoki 159.75 105 eP PKPdf 08 45 24.5 -0.7
GUN Gumba 160.28 104 eP PKPdf 08 45 25.1 -0.7
RAMN Ramite 160.41 108 eP PKPdf 08 45 25.6 -0.2
JIRN Jiri 160.41 105 eP PKPdf 08 45 25.3 -0.7
MDJ Mudanjiang 160.47 307 PKP PKPdf 08 45 22.8 -2.2
MDJ pPKP pPKPdf 08 45 35.5 -0.7
MDJ sPKP 08 45 38.8
MDJ PKS PKSdf 08 48 59.5 +1.3
MDJ Mudanjiang 160.47 307 ePKPdf PKPdf 08 45 23.6 -1.4
ODAN Odare 160.98 109 eP PKPdf 08 45 26.2 -0.2
TAPN Taplejung 161.47 108 eP PKPdf 08 45 26.6 -0.4
CMAR Chiang Mai Arr 162.01 153 PKIKP PKPdf 08 45 27.2 -0.2
CMAR 08 46 12.6
CMAR 08 49 55.2
CMAR pmax pmax
comp=Z,12nm,0.8s
CMAR pmax pmax
comp=Z,12nm,1.0s
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 162.01 153 PKP PKPdf 08 45 27.1 -0.2
comp=Z,13nm,0.9s,baz=255,slow=2.9,SNR=28
CMAR PKPab PKPab 08 46 12.6 -1.0
comp=Z,12nm,1.0s,baz=225,slow=4.6,SNR=4.4
CMAR PP PP 08 49 55.2 -1.3
comp=Z,1.9nm,0.6s,baz=183,slow=4.5,SNR=4.3
CMAR Chiang Mai Arr 162.01 153 PKP PKPdf 08 45 27.1 -0.2
CMAR PKPab PKPab 08 46 12.6 -1.0
CMAR PP PP 08 49 55.2 -1.3
WMQ Urumqi 162.23 54 PKP PKPdf 08 45 26.8 -0.2
WMQ LR LR
comp=Z,3µm,23.4s
WMQ LR LR
comp=Z,5µm,22.8s
WMQ LR LR
comp=Z,5µm,24.4s
MOY Mondy 162.50 14 ePKIKP PKPdf 08 45 27.9 +0.9
TLY Talaya 162.90 8 PKP PKPdf 08 45 31.4 +4.1
comp=Z,52nm,0.5s,baz=229,slow=12,SNR=36
TLY PKPab PKPab 08 46 17.8 +1.2
comp=Z,6.9nm,0.6s,baz=314,slow=5.8,SNR=3.6
TLY PP PP 08 50 00.3 -0.7
comp=Z,2.1nm,0.5s,baz=17,slow=4.9,SNR=5.3
TLY Talaya 162.90 8 PKP PKPdf 08 45 31.4 +4.1
TLY PKPab PKPab 08 46 17.8 +1.2
TLY PP PP 08 50 00.3 -0.7
SHL Shillong 163.64 120 eP PKPdf 08 45 28.2 -0.8
ZAK Zakamensk 164.12 10 ePKIKP PKPdf 08 45 27.8 -0.8
ZAK pmax pmax
comp=Z,14nm,2.2s
QIZ Qiongzhong 164.16 188 PKP PKPdf 08 45 29.5 0.0
QIZ PP PP 08 50 09.8 +2.3
QIZ SS SS 09 10 39.0 +4.3
LSA Lhasa 165.22 106 ePKIKP PKPdf 08 45 30.3 -0.4
LSA Lhasa 165.22 106 ePKPdf PKPdf 08 45 30.3 -0.4
LSA ePKPab PKPab 08 46 29.7 +1.4
ULN Ulaanbaatar 166.95 1 ePKIKP PKPdf 08 45 30.6 -0.5
ULN Ulaanbaatar 166.95 1 ePKPdf PKPdf 08 45 30.6 -0.5
ULN ePKPab PKPab 08 46 35.7 +1.0
SONM Songino Array 166.95 3 PKIKP PKPdf 08 45 29.8 -1.3
SONM 08 46 35.1
SONM 08 50 18.1
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM pmax pmax
comp=Z,13nm,0.8s
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 166.95 3 PKP PKPdf 08 45 29.8 -1.3
comp=Z,8.0nm,0.9s,baz=220,slow=0.6,SNR=17
SONM PKPab PKPab 08 46 35.1 +0.4
comp=Z,13nm,0.8s,baz=338,slow=4.0,SNR=12
SONM PP PP 08 50 18.1 -4.2
comp=Z,3.3nm,0.8s,baz=341,slow=6.3,SNR=3.5
SONM Songino Array 166.95 3 PKP PKPdf 08 45 29.8 -1.3
SONM PKPab PKPab 08 46 35.1 +0.4
SONM PP PP 08 50 18.1 -4.2
KMI Kunming 169.49 155 PKP PKPdf 08 45 33.5 -0.1
NJ2 Nanjing 170.16 257 ePKP PKPdf 08 45 33.5 0.0
BJI Beijing 171.38 310 PKP PKPdf 08 45 34.3 +0.4
GYA Guiyang 171.65 175 iPKP PKPdf 08 45 34.0 -0.6
GYA pPKP pPKPdf 08 45 46.5 +0.6
GYA PKPab PKPab 08 46 55.0 -1.0
GYA PKS PKSdf 08 49 05.0 -2.1
GYA SKKS 08 57 30.5
GYA SS SS 09 11 51.5 +1.4
GYA AMB AMB
comp=Z,4µm,10.4s
GYA LR LR
comp=Z,5µm,21.6s
GYA LR LR
comp=Z,4µm,21.4s
GYA LR LR
comp=Z,4µm,24.8s
GTA Gaotai 172.30 51 ⇑PKP PKPdf 08 45 34.5 0.0
GTA pPKP pPKPdf 08 45 45.5 -0.3
GTA sPKP 08 45 49.3
GTA PKPab PKPab 08 47 00.0 +1.2
GTA SKS SKSdf 08 52 33.0 -2.3
GTA SKKS SKKSac 08 57 35.3 +1.0
GTA AMB AMB
comp=Z,151µm,15.2s
GTA LR LR
comp=Z,14µm,18.5s
GTA LR LR
comp=Z,12µm,17.6s
GTA LR LR
comp=Z,23µm,27.6s
WHN Wuhan 172.87 235 ⇓PKP PKPdf 08 45 35.0 +0.2
WHN PKPab PKPab 08 47 02.0 +0.6
WHN PP PP 08 50 50.3 -2.6
HHC Hu-ho-hao-te 173.18 333 ePKP PKPdf 08 45 34.3 -0.5
HHC pPKP pPKPdf 08 45 44.8 -1.3
HHC sPKP 08 45 50.0
CD2 Chengdu 174.97 140 PKP PKPdf 08 45 34.8 -0.9
CD2 pPKP pPKPdf 08 45 46.0 -0.9
CD2 sPKP 08 45 50.0
CD2 PKS PKSdf 08 49 05.5 -2.4
CD2 PP PP 08 51 05.5 +2.7
CD2 SKS SKSdf 08 52 32.5 -3.7
CD2 SKKS SKKSac 08 57 46.3 -0.7
CD2 SS SS 09 12 22.3 -1.3
CD2 AMB AMB
comp=Z,3µm,6.4s
ENH Enshi 175.19 200 ePKPdf PKPdf 08 45 34.9 -0.8
LZH Lanzhou 176.72 66 ⇑PKP PKPdf 08 45 36.3 +0.2
LZH pPKP pPKPdf 08 45 46.3 -1.1
LZH sPKP 08 45 51.0
LZH PKPab PKPab 08 47 20.0 +1.3
LZH PP PP 08 51 13.0 +0.9

IDC **27** *08:28:14.5±0.7, 34°.98S×74°.32W, h0km, mb5.1/15, mb1 5.2/16, mb1mx5.0/34, mbtmp5.1/16, ML5.1/1, Error ellipse: s-maj=24.9km s-min=18.9km az=54.0*
ISCJB **27** *08:28:19.1±0.5, 34°.7S±0°.1×74°.05W±0°.09, h33km, mb5.2/29, Error ellipse: s-maj=15.4km s-min=9.9km az=15.3*
NEIC **27** *08:28:19.8±0.4, 34°.89S×74°.12W, h35km, mb5.4/12, Error ellipse: s-maj=11.9km s-min=8.5km az=224.0*
ISC 27 08:28:20.1±0.6, 34°.9S±0°.1×74°.1W±0°.1, h35km, n316, $\sigma 0^{s}60$/309, mb5.3/29, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
TRQA Tornquist 10.23 112 Pn Pn 08 30 43.0 -1.5
CPUP Villa Florida 16.71 64 eP Pn 08 32 09.7 -1.8
LPAZ La Paz 19.25 18 P Pn 08 32 43.8 +0.4
56nm,1.3s
2.4nm,0.3s,baz=202,slow=7.6,SNR=5.4
SIV San Ignacio 22.11 35 P P 08 33 12.7 +0.1
76nm,1.0s,baz=253,slow=14,SNR=5.8
BDFB Brasilia 30.20 57 P P 08 34 27.9 +0.4
42nm,0.8s,baz=284,slow=4.2,SNR=4.6
OTAV Otavalo 35.16 352 eP P 08 35 11.7 +0.5
12nm,0.7s
ROSC El Rosal 39.51 360 P P 08 35 49.9 +1.9
26nm,0.7s,baz=101,slow=11,SNR=5.3
GRGR Grenville 48.20 16 eP P 08 36 56.8 -0.5
734nm,1.5s
FDF Fort de France 50.83 16 eP P 08 37 17.8 +0.4
127nm,1.2s
SNAA Sanae 51.42 157 P P 08 37 21.6 +0.3
15nm,0.9s,baz=276,slow=9.1,SNR=4.5
APG El Apazote 51.99 340 P P 08 37 20.6 -5.7
19nm,0.9s,baz=136,slow=7.9,SNR=4.4
ANWB Willy Bob 53.53 15 eP P 08 37 36.3 -1.0
22nm,0.5s
GTBY Guantanamo Bay 54.50 359 eP P 08 37 43.2 -1.1
39nm,0.7s
TEIG Tepich 56.43 344 eP P 08 37 57.2 -1.1
40nm,0.7s
035A Encino 65.55 336 P P 08 39 00.5 +0.4
baz=66
934A Benavides 66.30 336 P P 08 39 06.4 +1.5
baz=67
933A Laredo 66.56 336 P P 08 39 06.9 +0.3
baz=67
835A Beeville 66.71 337 P P 08 39 08.6 +1.1
baz=67
834A Tilden 66.80 337 P P 08 39 09.0 +1.0
baz=67
735A Kenedy 67.23 337 P P 08 39 11.8 +1.0
baz=68
833A Chaparral WMA, 67.26 336 P P 08 39 11.6 +0.6
baz=68
832A Faith Ranch, C 67.42 335 P P 08 39 12.1 0.0
baz=68
734A La Parita Cree 67.47 337 P P 08 39 12.4 +0.1
baz=68
636A Smothers Creek 67.58 338 P P 08 39 13.7 +0.7
baz=68
733A Divot King Ran 67.59 336 P P 08 39 13.2 +0.1
baz=68
732A Laxson Ranch, 67.83 336 P P 08 39 14.6 +0.1
baz=68
536A Bastrop 68.14 339 P P 08 39 16.6 0.0
baz=68
633A Saathoff Ranch 68.23 337 P P 08 39 17.1 -0.1
baz=69
535A Dale 68.25 338 P P 08 39 17.3 0.0
baz=69
632A Uvalde 68.48 336 P P 08 39 18.5 -0.2
baz=69
534A Blanco 68.53 337 P P 08 39 18.5 -0.6
baz=69
339A Huntington 68.62 341 P P 08 39 20.0 +0.5
baz=69
436A Wall Ranch, Ga 68.71 339 P P 08 39 20.7 +0.6
baz=69
533A Kerrville 68.75 337 P P 08 39 20.6 +0.2
baz=69
338A Crockett 68.84 341 P P 08 39 21.8 +0.9
baz=69
435B Jarrell 68.96 338 P P 08 39 22.1 +0.4
baz=69
337A Centerville 68.96 340 P P 08 39 22.1 +0.5
baz=69
NATX Nacogdoches 69.05 341 eP P 08 39 21.8 -0.4
532A Rocksprings 69.09 336 P P 08 39 22.3 -0.2
baz=69
434A Burnet 69.20 338 P P 08 39 22.8 -0.4
baz=70
239A Gary 69.25 342 P P 08 39 23.8 +0.4
baz=70
336A Riesel 69.31 339 P P 08 39 23.8 +0.1
baz=70
531A Rocksprings 69.34 336 P P 08 39 25.1 +1.0
baz=70
335A Moody 69.38 339 P P 08 39 24.3 0.0
baz=70
JCT Junction City 69.38 336 P P 08 39 24.5 +0.2
baz=70
433A Art 69.40 337 P P 08 39 24.1 -0.3
baz=70
530A J-C Ranch, Com 69.60 335 P P 08 39 25.9 +0.2
baz=70
334A Lometa 69.67 338 P P 08 39 25.9 -0.1
baz=70
TXAR Lajitas Array 69.70 333 P P 08 39 25.6 -0.8
7.0nm,0.7s,baz=154,slow=6.7,SNR=7.0
432A Menard 69.74 337 P P 08 39 26.3 -0.2
baz=70
529A Stev Forest Ra 69.89 334 P P 08 39 27.0 -0.4
baz=70
333A Richland Sprin 69.90 337 P P 08 39 27.2 -0.3
baz=70
KMSC Kings Mountain 69.98 354 P P 08 39 27.3 -0.5
baz=70
138A Matatall Enter 70.02 341 P P 08 39 28.4 +0.3
baz=70
WHTX Lake Whitney 70.05 339 eP P 08 39 26.9 -1.4
WHTX Lake Whitney 70.05 339 P P 08 39 28.2 -0.2
baz=70
137A Heron Place, G 70.14 341 P P 08 39 29.4 +0.5
baz=70
430A Baggett Ranch, 70.14 335 P P 08 39 28.6 -0.4
baz=70
332A Millersview 70.19 337 P P 08 39 28.9 -0.4
baz=70
429A Davenport Ranc 70.22 335 P P 08 39 29.6 +0.1
baz=70
234A Clairette 70.27 338 P P 08 39 29.3 -0.4
baz=71
331A San Angelo 70.35 336 P P 08 39 29.8 -0.5
baz=71
233A Rising Star 70.51 338 P P 08 39 30.8 -0.4
baz=71
135A Vickery Place, 70.57 339 P P 08 39 30.3 -1.2
baz=71
SWET Sewanee 70.60 350 eP P 08 39 30.8 -0.9
62nm,1.0s
232A Coleman 70.63 337 P P 08 39 31.5 -0.4
baz=71
330A Mertzon 70.69 336 P P 08 39 32.0 -0.4
baz=71
134A White-Moore Ra 70.78 339 P P 08 39 32.5 -0.3
baz=71
231A Bronte 70.89 337 P P 08 39 32.3 -1.2
baz=71
329A Wagon Wheel Ra 71.04 335 P P 08 39 34.1 -0.4
baz=71
133A Hamilton Ranch 71.07 338 P P 08 39 34.3 -0.2
baz=71
Z35A Perchaven, San 71.25 340 P P 08 39 35.4 -0.2
baz=72
ABTX Abilene, Hawle 71.31 337 P P 08 39 35.8 -0.3
baz=72
229A Bryant Ranch, 71.42 335 P P 08 39 35.9 -0.9
baz=72
Z34A Collier Ranch, 71.47 339 P P 08 39 36.7 -0.3
baz=72
131A Roby 71.59 337 P P 08 39 37.2 -0.6
baz=72
Z33A Whitaker Ranch 71.65 338 P P 08 39 37.5 -0.6
baz=72
130A Snyder 71.71 336 P P 08 39 37.8 -0.7
baz=72
228A UT Block 9, Go 71.83 335 P P 08 39 38.6 -0.7
baz=72
Z32A Haskell 71.89 338 P P 08 39 39.0 -0.5
baz=72
Y34A Reagan Ranch, 71.98 339 P P 08 39 39.3 -0.7
baz=72
129A Stewart Farms, 72.04 336 P P 08 39 39.6 -0.9
baz=72
Z31A Sharp Cattle R 72.11 337 P P 08 39 40.7 -0.1
baz=72
128A Castleberry Fa 72.25 335 P P 08 39 41.4 -0.4
baz=73
Y33A Hilltop Ranch, 72.28 339 P P 08 39 41.4 -0.4
baz=73
Z30A Sanderson Ranc 72.40 336 P P 08 39 42.0 -0.6
baz=73
Y32A R-V Farms, Ver 72.52 338 P P 08 39 42.4 -0.9
baz=73
Z29A Hungry Hill Ra 72.56 336 P P 08 39 42.7 -0.9
baz=73
X34A Smith Ranch, M 72.60 340 P P 08 39 43.3 -0.4
baz=73
127A Arkansas Junct 72.60 334 P P 08 39 43.6 -0.3
baz=73
X33A Lawton 72.74 339 P P 08 39 43.6 -0.9
baz=73
Y31A Rekieta Farm, 72.74 337 P P 08 39 44.6 0.0
baz=73
X32A Elmer 72.86 338 P P 08 39 44.6 -0.7
baz=73
Y29A Porterfield Fa 73.10 336 P P 08 39 46.2 -0.6
baz=73
W34A Bridge Creek, 73.18 340 P P 08 39 46.6 -0.5
baz=74
X31A McDonald Ranch 73.27 338 P P 08 39 47.1 -0.6
baz=74
TUL1 Tulsa 73.28 342 eP P 08 39 46.6 -1.1
TUL1 Tulsa 73.28 342 P P 08 39 47.2 -0.5
baz=74
W33A Caddo, Fort Co 73.30 339 P P 08 39 47.8 0.0
baz=74

Y28A McKinney Farm, 73.34 336 P P 08 39 48.0 -0.3
baz=74
Z26A Caprock 73.36 334 P P 08 39 48.3 -0.1
baz=74
BBTS Babate 73.49 58 P P 08 39 51.2 +1.9
83nm,1.0s,baz=280,slow=0.5,SNR=4.9
W32A Sentinel 73.50 339 P P 08 39 48.9 -0.2
baz=74
MSTX Muleshoe 73.57 335 P P 08 39 49.1 -0.6
baz=74
SIUC Southern Illin 73.58 348 eP P 08 39 48.4 -1.0
48nm,1.0s
X29A Tulia 73.65 336 P P 08 39 49.7 -0.4
baz=74
V34A Guthrie 73.67 340 P P 08 39 49.5 -0.5
baz=74
W31A Holland Ranch, 73.77 338 P P 08 39 49.9 -0.8
baz=74
V33A Lossen Ranch, 73.87 340 P P 08 39 51.0 -0.2
baz=74
Y26A Elida 73.90 335 P P 08 39 51.5 -0.1
baz=74
Z24A Sheeppen Canyo 73.92 333 P P 08 39 52.1 +0.3
baz=74
AMTX Amarillo 74.04 337 P P 08 39 52.4 0.0
baz=74
V31A Spring Creek L 74.28 338 P P 08 39 53.6 -0.1
baz=75
X27A F and S Farms, 74.30 335 P P 08 39 53.8 -0.1
baz=75
U33A Lingo Farm, Me 74.39 340 P P 08 39 53.6 -0.7
baz=75
X26A CR and CF Fran 74.46 335 P P 08 39 54.7 -0.1
baz=75
Z22A Elephant Butte 74.46 332 P P 08 39 55.1 +0.2
baz=75
Y24A Capitan 74.48 333 P P 08 39 55.0 -0.1
baz=75
U32A Winter Ranch, 74.60 339 P P 08 39 55.6 +0.2
baz=75
W27A Bowe Ranch, En 74.67 336 P P 08 39 56.0 0.0
baz=75
X25A Clemmons Ranch 74.74 334 P P 08 39 55.6 -0.9
baz=75
W26A Owens Ranch, T 74.93 335 P P 08 39 57.5 -0.1
baz=75
V28A Channing 75.01 337 P P 08 39 57.8 -0.1
baz=75
T33A Patterson Ranc 75.04 340 P P 08 39 58.1 +0.1
baz=75
ACSO Alum Creek Sta 75.18 353 eP P 08 39 57.4 -1.3
100nm,1.2s
T32A Huddler Ranch, 75.32 340 P P 08 39 59.2 -0.4
baz=76
U28A Mallet 75.59 337 P P 08 40 01.3 0.0
baz=76
ANMO Albuquerque 75.77 333 eP P 08 40 01.7 -0.8
28nm,1.3s
214A Organ Pipe Nat 75.80 327 P P 08 40 03.1 +0.6
baz=76
S32A Newby Ranch, P 75.81 340 P P 08 40 02.4 0.0
baz=76
W23A Werner Place, 75.85 333 P P 08 40 03.4 +0.5
baz=76
V25A Rancho No Teng 75.90 335 P P 08 40 03.1 0.0
baz=76
S30A Montezuma 76.20 339 P P 08 40 04.5 -0.1
baz=76
T28A Walsh 76.23 337 P P 08 40 04.7 -0.2
baz=77
T27A Campo 76.37 337 P P 08 40 05.5 -0.3
baz=77
S29A Ulysses 76.38 338 P P 08 40 05.7 0.0
baz=77
R32A Long Quarter, 76.42 340 P P 08 40 05.6 -0.3
baz=77
R31A Burdett 76.53 340 P P 08 40 05.9 -0.6
baz=77
S28A Manter 76.59 338 P P 08 40 06.7 -0.2
baz=77
Q33A Connelly Farm, 76.72 341 P P 08 40 07.4 -0.1
baz=77
X18A Snowflake 76.77 330 P P 08 40 08.2 +0.1
baz=77
V22A San Miguel Ran 76.80 333 P P 08 40 09.3 +1.0
baz=77
U23A El Rito 76.90 334 P P 08 40 09.0 +0.2
baz=77
Q32A Meitler Ranch, 76.91 341 P P 08 40 08.3 -0.3
baz=77
T25A Trinidad 77.00 336 P P 08 40 09.8 +0.4
baz=77
DBIC Dimbokro 77.03 72 P P 08 40 11.4 +1.5
89nm,0.8s,baz=204,slow=5.9,SNR=11
P33A Williams Farm, 77.10 341 P P 08 40 09.4 -0.2
baz=78
R29A Marienthal 77.12 338 P P 08 40 10.1 +0.2
baz=78
S26A Kim 77.13 336 P P 08 40 10.3 +0.4
baz=78
Q31A Ellis 77.16 340 P P 08 40 10.1 +0.1
baz=78
W18A Petrified Fore 77.19 331 P P 08 40 11.0 +0.5
baz=78
R28A Tribune 77.25 338 P P 08 40 10.8 +0.2
baz=78
X16A Lo Mia Camp, P 77.29 329 P P 08 40 11.9 +0.8
baz=78
Q30A Quinter 77.36 339 P P 08 40 11.1 -0.1
baz=78
T23A Casias Ranch, 77.48 334 P P 08 40 11.6 -0.5
baz=78
S25A Robets Cordova 77.48 336 P P 08 40 11.6 -0.5
baz=78
Q29A Oakley 77.51 339 P P 08 40 11.9 -0.1
baz=78
P32A Huiting Farm, 77.51 341 P P 08 40 11.7 -0.3
baz=78
R27A Eads 77.51 337 P P 08 40 12.1 0.0
baz=78
P31A Stockton 77.63 340 P P 08 40 12.5 -0.2
baz=78
GLA Glamis 77.64 326 P P 08 40 13.3 +0.5
baz=78
S24A Houchin Ranch, 77.73 335 P P 08 40 13.9 +0.4
baz=78
R26A Arlington 77.73 337 P P 08 40 13.5 +0.1
baz=78
Q28A Sharon Springs 77.92 338 P P 08 40 14.7 +0.3
baz=78
SDCO Great Sand Dun 77.92 335 eP P 08 40 14.8 +0.2
10nm,1.0s
P29A Atwood 78.15 339 P P 08 40 16.4 +0.8
baz=78
O31A Woolen Ranch, 78.20 340 P P 08 40 16.0 +0.2
baz=79
R24A Sanders Place, 78.22 335 P P 08 40 16.9 +0.7
baz=79
Q26A Hugo 78.33 337 P P 08 40 17.8 +1.1
baz=79
PDMCI Parker Dam,Lak 78.37 327 P P 08 40 18.6 +1.8
baz=79
BC3 Big Chuckawall 78.43 326 P P 08 40 17.6 +0.2
baz=79
O30A MW Ranch, Wils 78.43 340 P P 08 40 17.5 +0.4
baz=79
MVCO Mesa Verde 78.54 333 P P 08 40 18.5 +0.5
baz=79
Q25A Bedland, Calha 78.55 336 P P 08 40 17.9 -0.1
baz=79
P26A Davis Ranch, A 78.85 337 P P 08 40 20.5 +1.0
baz=79
PFO Pinyon Flat Ob 78.86 325 P P 08 40 20.4 +0.7
16nm,1.1s,baz=135,slow=5.7,SNR=3.8
PFO Pinyon Flat Ob 78.86 325 P P 08 40 20.8 +1.1
baz=79
Q24A Divide 78.90 336 P P 08 40 20.1 +0.1
baz=79
W13A Hualapai Mount 78.93 328 P P 08 40 19.8 -0.3
baz=79
P25A Willow Gulch B 79.07 337 P P 08 40 21.5 +0.7
baz=79
O27A Beecher Island 79.16 338 P P 08 40 22.0 +0.8
baz=80
N29A Votaw Ranch, W 79.19 340 P P 08 40 21.0 -0.2
baz=80
M31A Lambtecht Ranc 79.22 341 P P 08 40 21.2 -0.2
baz=80
P24A Kohler Place, 79.31 336 P P 08 40 22.4 +0.3
baz=80
N28A Pribbeno Ranch 79.33 339 P P 08 40 22.0 0.0
baz=80
PV01 Paradox Valley 79.38 333 eP P 08 40 21.5 -1.1
O26A Horse Wrangler 79.46 338 P P 08 40 23.5 +0.6
baz=80
O25A Wiggins 79.60 337 P P 08 40 23.8 +0.2
baz=80
N27A Anderson Farm, 79.74 338 P P 08 40 24.2 -0.1
baz=80
PV10 Paradox Valley 79.77 333 eP P 08 40 23.8 -0.9
HEC Hector,Ludlow 79.81 326 P P 08 40 25.2 +0.4
baz=80
BFSC Mount Baldy Ra 79.95 325 P P 08 40 26.0 +0.4
baz=80
P22A Eagle 80.02 335 P P 08 40 26.3 +0.3
baz=80
O23A Lake Granby, G 80.28 336 P P 08 40 28.2 +0.8
baz=81
GSC Goldstone 80.42 326 P P 08 40 28.6 +0.5
baz=81
O22A Kremmling 80.45 335 P P 08 40 28.1 -0.3
baz=81
N24A Carr 80.49 337 P P 08 40 27.9 -0.6
baz=81
K30A Basset 80.63 341 P P 08 40 29.2 +0.2
baz=81
M25A Palm-Egli Farm 80.78 338 P P 08 40 30.2 +0.2
baz=81
L27A T5 Ranch, Ells 80.84 339 P P 08 40 30.9 +0.7
baz=81
ECSD EROS Data Cent 80.89 344 P P 08 40 30.2 -0.1
baz=81
N23A Red Feather La 80.90 336 P P 08 40 30.7 -0.1
baz=81
BOSA Boshof 81.13 119 P P 08 40 33.2 +0.8
42nm,0.8s,baz=244,slow=3.9,SNR=4.9
K28A Ten Mile Ranch 81.15 340 P P 08 40 31.9 +0.1
baz=82
K27A Flueckinger Fa 81.39 339 P P 08 40 33.2 +0.1
baz=82
J29A Okreek 81.50 341 P P 08 40 33.9 +0.3
baz=82
J26A Sides Ranch, S 82.19 339 P P 08 40 38.0 +0.7
baz=82
I28A Midland 82.28 341 P P 08 40 37.9 +0.2
baz=83
R11A Troy Canyon, C 82.39 328 P P 08 40 38.6 0.0
baz=83
K23A Bowen Ranch, D 82.47 337 P P 08 40 39.1 +0.3
baz=83
J25A Sunshine Ranch 82.48 339 P P 08 40 39.2 +0.4
baz=83
TIN Tinemaha 82.51 326 P P 08 40 39.6 +0.5
baz=83
H29A Onida 82.61 341 P P 08 40 39.5 +0.1
baz=83
K22A Casper 82.67 336 P P 08 40 39.6 -0.2
baz=83
J24A Dixon Ranch, L 82.69 338 P P 08 40 40.4 +0.5
baz=83
DUG Dugway 82.80 331 P P 08 40 41.3 +0.6
baz=83
G30A Faulkton 82.81 342 P P 08 40 39.8 -0.5
baz=83
K21A Alcova 82.89 336 P P 08 40 41.1 -0.1
baz=83
I25A Rochford 83.03 339 P P 08 40 42.0 +0.2
baz=83
I24A Kuemmerle Ranc 83.15 338 P P 08 40 42.5 +0.1
baz=84
G28A Parade 83.21 341 P P 08 40 42.5 0.0
baz=84
MLAC Mammoth Lakes 83.26 326 P P 08 40 43.3 +0.2
baz=84
F30A Leola 83.44 343 P P 08 40 43.1 -0.5
baz=84
F29A Eureka 83.64 342 P P 08 40 44.2 -0.4
baz=84
NVAR Mina Array Bea 83.66 327 P P 08 40 44.9 -0.3
2.8nm,0.7s,baz=144,slow=4.7,SNR=4.6
G27A Dupree 83.77 341 P P 08 40 45.0 -0.4
baz=84
PDAR Pinedale Array 83.80 335 P P 08 40 46.2 +0.4
9.9nm,1.1s,baz=144,slow=6.3,SNR=3.3
J20A Shoshoni 83.81 336 P P 08 40 46.1 +0.4
baz=84
G26A Maurine 83.87 340 P P 08 40 45.1 -0.8
baz=84
F28A McLaughlin 83.90 342 P P 08 40 45.8 -0.2
baz=84
G25A Newell 84.01 340 P P 08 40 46.6 0.0
baz=84
E30A Jud 84.04 343 P P 08 40 46.6 0.0
baz=84
J19A Crowheart 84.06 335 P P 08 40 46.9 -0.2
baz=84
F27A Lemmon 84.25 341 P P 08 40 47.4 -0.4
baz=85
ELK Elko 84.25 330 P P 08 40 47.8 -0.3
4.4nm,0.9s,baz=141,slow=13,SNR=2.7
E29A Napoleon 84.28 343 P P 08 40 47.6 -0.3
baz=85
I20A Worland 84.36 336 P P 08 40 48.1 -0.4
baz=85
E28A Huff 84.55 342 P P 08 40 48.7 -0.6
baz=85
D30A Buchanan 84.57 343 P P 08 40 48.7 -0.6
baz=85
G23A Biddle 84.60 338 P P 08 40 49.0 -0.6
baz=85
F25A Bowman 84.69 340 P P 08 40 49.1 -0.9
baz=85
D29A Pettibone, Tap 84.73 343 P P 08 40 49.3 -0.8
baz=85
H20A Greybull 84.79 336 P P 08 40 49.5 -1.1
baz=85
AGMN Agassiz Nation 85.06 346 P P 08 40 51.1 -0.6
baz=85
C30A Mose, Pekin 85.06 344 P P 08 40 51.7 -0.1
baz=85
F23A Volborg 85.08 339 P P 08 40 51.5 -0.5
baz=85
D28A Regan 85.09 342 P P 08 40 51.9 -0.1
baz=85
G21A Lodge Grass 85.19 337 P P 08 40 52.2 -0.4
baz=86
E25A Miller Ranch, 85.20 340 P P 08 40 52.3 -0.3
baz=86
H19A Powell 85.28 336 P P 08 40 52.9 -0.3
baz=86
F22A Rosebud 85.39 338 P P 08 40 52.9 -0.6
baz=86
D26A Manning 85.42 341 P P 08 40 53.4 -0.3
baz=86
G20A Bridger 85.51 337 P P 08 40 53.4 -0.9
baz=86
E24A Baker 85.51 340 P P 08 40 54.0 -0.2
baz=86
H18A Shoshone NF, C 85.52 335 P P 08 40 53.9 -0.5
baz=86
C28A Hausauer Farms 85.53 343 P P 08 40 54.2 +0.1
baz=86
F21A Absaloka Mine, 85.69 338 P P 08 40 55.1 0.0
baz=86
B30A Myrvik Farm, E 85.73 344 P P 08 40 54.7 -0.4
baz=86
E23A Ismay 85.75 339 P P 08 40 54.5 -0.8
baz=86
D25A Fairfield 85.78 340 P P 08 40 55.4 0.0
baz=86
C27A Sayler Ranch, 85.81 342 P P 08 40 55.6 0.0
baz=86
B29A Wagenman Farm, 85.98 343 P P 08 40 56.6 +0.2
baz=86
D24A Glendive 86.02 340 P P 08 40 56.7 +0.1
baz=86
C26A Wahner Farm, P 86.07 341 P P 08 40 56.8 0.0
baz=86
TOA0 Torodi Ar. Sit 86.07 71 eP P 08 40 57.8 +0.2
TORD Torodi Ar. Bea 86.07 71 P P 08 40 58.4 +0.8
42nm,1.0s,baz=241,slow=4.4,SNR=5.6
A30A Hoffart Farm, 86.19 344 P P 08 40 56.4 -0.9
baz=86
B28A Dugan Ranch, T 86.21 343 P P 08 40 56.9 -0.6
baz=87
C25A Freed Ranch, W 86.27 341 P P 08 40 57.8 0.0
baz=87
HLID Hailey 86.29 332 eP P 08 40 58.6 +0.4
53nm,1.4s
HLID Hailey 86.29 332 P P 08 40 58.3 0.0
baz=87
E21A Keefer Ranch, 86.32 338 P P 08 40 58.1 0.0
baz=87
D23A Lindsay 86.33 339 P P 08 40 58.0 -0.2
baz=87
A29A Manning Farm, 86.38 344 P P 08 40 57.9 -0.4
baz=87
B27A Peters Farms, 86.39 342 P P 08 40 58.2 -0.2
baz=87
C24A Savage 86.43 340 P P 08 40 58.5 -0.2
baz=87
B26A Jensen Ranch, 86.61 342 P P 08 40 59.4 -0.1
baz=87
E20A Meyer Farm, Mu 86.62 337 P P 08 40 59.3 -0.3
baz=87
B25A Knox Farm, Ray 86.76 341 P P 08 41 00.5 +0.2
baz=87
E19A Rath Farm, Rou 86.79 337 P P 08 40 59.9 -0.6
baz=87
A27A Ledoux Ranch, 86.89 342 P P 08 41 00.5 -0.3
baz=87
C23A Lambert 86.89 340 P P 08 41 00.4 -0.5
baz=87
ULM Lac du Bonnet 86.92 346 P P 08 40 59.9 -1.0
16nm,0.8s,baz=115,slow=4.8,SNR=5.1
A26A Wade Farm, Ken 87.04 342 P P 08 41 01.1 -0.5
baz=87
C22A Vida 87.04 339 P P 08 41 01.0 -0.6
baz=87
DGMT Dagmar 87.22 340 P P 08 41 02.0 -0.4
baz=88
A25A Svangstu Ranch 87.36 341 P P 08 41 03.1 0.0
baz=88
B22A Reddig Ranch S 87.58 339 P P 08 41 03.9 -0.3
baz=88
M04C Macdoel 87.97 326 P P 08 41 07.0 +0.6
baz=88
I05D Terrebonne, OR 89.78 328 P P 08 41 15.3 +0.6
baz=90
NEW Newport 91.26 333 P P 08 41 20.5 -1.0
4.5nm,0.9s,baz=56,slow=3.6,SNR=3.5
FCC Fort Churchill 94.77 350 eP P 08 41 36.2 -1.0
0.2nm,0.6s
YKA Yellowknife Ar 102.35 342 P Pdif 08 42 09.9 -1.4
0.9nm,0.7s,baz=137,slow=4.0,SNR=3.6
GERES GERESS Array B 113.95 46 PKP PKiKP 08 46 55.4 +0.4
2.6nm,0.8s,baz=222,slow=1.8,SNR=4.8
WRA Warramunga Arr 119.18 211 PKP PKPdf 08 47 04.4 -1.6
1.0nm,0.6s,baz=161,slow=1.6,SNR=2.6
BRTR Keskin Array B 123.71 62 PKP PKPdf 08 47 14.2 +0.1
7.2nm,0.8s,baz=237,slow=3.8,SNR=6.6
AK01 Malin Array Si 124.00 48 ePKPdf PKPdf 08 47 12.8 -1.3
AKASG Malin Array Be 124.01 48 PKP PKPdf 08 47 13.0 -1.1
5.3nm,0.8s,baz=261,slow=2.9,SNR=5.8
H11S2 WAKE ISLAND Hy 124.09 270 T T 11 02 11.9
baz=130
H11S1 WAKE ISLAND Hy 124.11 270 T T 11 02 06.9
baz=130,slow=74,SNR=5.8
H11S3 WAKE ISLAND Hy 124.11 270 T T 11 02 08.7
baz=130,slow=74,SNR=3.8
H11N3 WAKE ISLAND Hy 124.53 271 T T 11 02 38.5
baz=121,slow=76,SNR=5.3
H11N1 WAKE ISLAND Hy 124.54 271 T T 11 02 38.0
baz=121,slow=76,SNR=6.2
H11N2 WAKE ISLAND Hy 124.55 271 T T 11 02 40.5
baz=121,slow=76,SNR=3.7
FINES FINESS Array B 124.65 35 PKP PKPdf 08 47 14.4 -0.6
4.5nm,0.9s,baz=270,slow=1.4,SNR=3.5
ARCES ARCESS Array B 125.50 25 PKP PKPdf 08 47 16.0 -0.5
2.1nm,0.6s,baz=299,slow=1.9,SNR=3.9
ABKAR Akbulak array 143.53 52 ePKPdf PKPbc 08 47 48.6 +0.6
BRVK Borovoye 148.98 43 ePKPbc PKPbc 08 48 04.9 +1.1
BVAR Borovoye Array 149.05 43 PKP PKPbc 08 48 01.1 +1.2
18nm,0.6s,baz=298,slow=3.1,SNR=7.4
BVAR PKPbc PKPbc 08 48 04.5 +0.5
18nm,0.6s,baz=301,slow=2.6,SNR=12
KBL Kabul 149.77 80 ePKPbc PKPbc 08 48 06.4 -0.2
HYB Hyderabad 150.04 118 iPKP PKPbc 08 48 08.0 +0.5
KULM Kulim 150.16 169 ePKPbc PKPbc 08 48 07.4 -0.5
AAK Ala-Archa 154.38 63 ePKPbc PKPbc 08 48 17.9 +1.1
KURK Kurchatov 154.65 43 ePKPbc PKPbc 08 48 16.7 -0.1
ZALV Zalesovo Beam 155.84 31 PKPab PKPab 08 48 37.3 +0.6
20nm,0.8s,baz=317,slow=5.1,SNR=3.7
SONM Songino Array 167.04 359 PKPab PKPab 08 49 26.5 +0.7
4.2nm,1.0s,baz=354,slow=3.4,SNR=4.1

IDC 27 08:28:58.1±0.9, 37°.19S×74°.17W, h0km, mb4.8/6, mb1 5.0/6, mb1mx4.6/33, mbtmp4.8/6, Error ellipse: s-maj=40.1km s-min=26.3km az=87.0
ISCJB 27 08:29:02.0±0.8, 37°.2S±0°.1×74°.1W±0°.3, h33km, mb4.9/13, Error ellipse: s-maj=30.7km s-min=18.8km az=169.6
NEIC 27 08:29:03.3±0.8, 37°.25S×74°.10W, h35km, mb5.2/6, Error ellipse: s-maj=33.0km s-min=19.8km az=81.0
ISC 27 08:29:02.6±1.3, 37°.4S±0°.2×74°.2W±0°.2, h35km, n19, σ1§34/16, mb5.0/13, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	21.69	16	P	P	08 33 50.5	-0.6
	32nm,0.8s,baz=172,slow=6.7,SNR=3.4						
OTAV	Otavalo	37.64	353	eP	P	08 36 15.0	+0.2
	30nm,1.2s						
ROSC	El Rosal	42.02	360	P	P	08 36 55.5	+4.4
	10nm,0.6s,baz=110,slow=18,SNR=5.1						
GRGR	Grenville	50.65	16	eP	P	08 37 59.5	+1.1
QSPA	South Pole Qui	52.86	180	P	P	08 38 18.0	+3.4
	17nm,0.7s,baz=99,slow=6.5,SNR=6.0						
APG	El Apazote	54.31	341	P	P	08 38 21.0	-4.8
	15nm,0.9s,baz=193,slow=10,SNR=4.2						
TEIG	Tepich	58.81	345	eP	P	08 38 55.8	-1.6
	34nm,1.1s						
TXAR	Lajitas Array	71.89	333	P	P	08 40 22.0	-0.1
	3.3nm,0.9s,baz=153,slow=8.1,SNR=2.2						
SWET	Sewanee	73.05	350	eP	P	08 40 26.6	-2.2
	42nm,0.8s						
WVT	Waverly	74.23	349	eP	P	08 40 37.9	+2.3
	24nm,0.9s						
ACSO	Alum Creek Sta	77.66	353	eP	P	08 40 56.3	+1.2
	19nm,0.8s						
DBIC	Dimbokro	77.92	72	P	P	08 40 58.1	+0.9
	12nm,0.7s,baz=230,slow=7.1,SNR=3.6						
DBIC	Dimbokro	77.92	72	eP	P	08 40 58.1	+0.9
	17nm,0.8s						
NVAR	Mina Array Bea	85.69	327	P	P	08 41 38.9	+1.1
	3.7nm,0.8s,baz=148,slow=5.3,SNR=3.9						
TORD	Torodi Ar. Bea	87.00	71	P	P	08 41 45.2	+0.7
	7.8nm,1.0s,baz=221,slow=6.4,SNR=2.0						
TAM	Tamanrasset	95.84	66	eP	P	08 42 23.9	-1.8
WRA	Warramunga Arr	116.96	210	PKP	PKPdf	08 47 44.2	+0.1
	0.8nm,0.6s,baz=155,slow=1.6,SNR=5.0						
BRTR	Keskin Array B	124.97	64	PKP	PKPdf	08 47 57.7	-1.2
	1.7nm,0.8s,baz=186,slow=4.2,SNR=2.2						
ABKAR	Akbulak array	145.11	55	ePKPbc	PKPbc	08 48 35.0	-0.3

IDC 27 08:30:24.3±1.4, 35°.76S×73°.88W, h0km, mb4.7/3, mb1 4.9/3, mb1mx4.3/37, mbtmp4.7/3, Error ellipse: s-maj=77.1km s-min=39.7km az=42.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	70.57	333	P	P	08 41 41.6	+0.3
	3.8nm,0.7s,baz=156,slow=7.7,SNR=3.1						
BOSA	Boshof	80.58	118	P	P	08 42 39.8	+0.8
	18nm,0.9s,baz=223,slow=5.1,SNR=3.1						
TORD	Torodi Ar. Bea	86.22	71	P	P	08 43 07.6	-0.4
	2.4nm,0.7s,baz=247,slow=3.7,SNR=2.8						
WRA	Warramunga Arr	118.48	210	PKP	PKPdf	08 49 13.9	-0.6
	0.9nm,0.7s,baz=165,slow=1.7,SNR=2.9						
AKASG	Malin Array Be	124.49	49	PKP	PKPdf	08 49 24.4	-0.5
	1.3nm,0.7s,baz=256,slow=3.0,SNR=4.1						

ISCJB 27 08:31:01.0±2.7, 34°.81S±0°.03×72°.46W±0°.07, h26km±18km, mb5.6/164, Error ellipse: s-maj=9.2km s-min=5.7km az=170.0
MOS 27 08:31:02.7±1.0, 34°.75S×72°.51W, h33km, mb5.8/45, Error ellipse: s-maj=19.8km s-min=7.3km az=102.2
IDC 27 08:31:02.2±0.5, 34°.87S×72°.53W, h24km±3km, mb5.1/29,

mb1 5.1/30,mb1mx5.1/38,mbtmp5.2/30,ML5.2/1,Error
ellipse: s-maj=14.7km s-min=10.6km az=72.0
NEIC 27 08:31:04.0±0.1,34.87S×72.43W,h35km,mb5.7/136,
Error ellipse: s-maj=6.2km s-min=4.0km az=74.0
BJI 27 08:31:05.6,34.80S×72.50W,h35km,mB5.7/2,Ms5.9/3,
Ms7 5.8/3
ISC 27 08:31:02.6±0.5,34.88S±0.05×72.52W±0.08,h27km±2km,
h26km:pP-P,n818,σ0.85/841,mb5.7/164,196C-241D,
Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 6.04 166 eP Pn 08 32 34.3 +4.0
PLCA Paso Flores 6.04 166 ePn Pn 08 32 34.3 +4.0
TRQA Tornquist 9.06 114 ePn Pn 08 33 13.4 +1.7
LVC Limon Verde 12.63 15 ePn Pn 08 34 01.9 +1.2
LPAZ La Paz 18.93 13 P P 08 35 22.3 +0.1
LPAZ pmax pmax
comp=Z,3.0nm,0.3s
LPAZ La Paz 18.93 13 P P 08 35 22.2 +0.1
comp=Z,3.1nm,0.3s,baz=177,slow=7.4,SNR=7.1
LPAZ La Paz 18.93 13 ePn Pn 08 35 24.8 +2.0
comp=Z,154nm,0.8s
USHA Ushuaia 20.15 173 P P 08 35 35.3 +0.8
comp=Z,105nm,0.9s,baz=321,slow=7.5,SNR=8.3
SIV San Ignacio 21.43 32 P P 08 35 47.7 -1.0
comp=Z,138nm,0.9s,baz=222,slow=13,SNR=10
NNA Nana 23.13 349 eP P 08 36 07.6 +0.9
NNA e 08 36 15.7
NNA pmax pmax
comp=Z,206nm,1.4s
NNA Nana 23.13 349 P P 08 36 07.7 +0.9
comp=Z,22nm,0.8s,baz=183,slow=12,SNR=3.9
NNA Nana 23.13 349 eP P 08 36 07.6 +0.9
comp=Z,206nm,1.4s
NNA e 08 36 15.7
BDFB Brasilia 29.16 55 P P 08 37 02.4 +0.6
BDFB pmax pmax
comp=Z,80nm,1.1s
BDFB Brasilia 29.16 55 P P 08 37 02.4 +0.6
comp=Z,80nm,1.1s,baz=216,slow=10,SNR=3.1
PMSA Palmer Station 30.36 173 P P 08 37 12.1 +0.3
comp=Z,38nm,0.9s,baz=8.1,slow=7.1,SNR=3.9
PMSA Palmer Station 30.36 173 eP P 08 37 12.1 +0.3
comp=Z,305nm,1.4s
HOPE Hope Point 31.68 139 P P 08 37 23.8 +0.3
comp=Z,515nm,0.7s,SNR=5.0
OTAV Otavalo 35.38 350 eP P 08 37 58.1 +1.6
comp=Z,141nm,1.4s
OTAV e 08 38 06.3
ROSC El Rosal 39.56 357 eP P 08 38 32.2 +0.3
comp=Z,7.6nm,0.5s,baz=82,slow=18,SNR=2.1
ROSC El Rosal 39.56 357 eP P 08 38 34.1 +2.2
SDV Santo Domingo 43.57 3 eP P 08 39 03.7 -0.8
BCIP Isla Barro Col 44.35 350 eP P 08 39 12.7 +2.0
comp=Z,93nm,1.3s
RCBR Riachuelo 44.45 58 P P 08 39 11.0 -0.6
comp=Z,26nm,0.7s,baz=220,slow=12,SNR=5.8
RCBR Riachuelo 44.45 58 eP P 08 39 11.2 -0.3
comp=Z,169nm,1.5s
JTS JuntasAbangare 46.45 343 eP P 08 39 29.4 +2.1
JTS pmax pmax
comp=Z,96nm,1.4s
JTS JuntasAbangare 46.45 343 P P 08 39 28.8 +1.5
comp=Z,14nm,1.0s,baz=95,slow=3.8,SNR=3.9
JTS JuntasAbangare 46.45 343 eP P 08 39 29.4 +2.1
comp=Z,96nm,1.4s
GRGR Grenville 47.88 14 eP P 08 39 38.3 -0.1
comp=Z,189nm,1.0s
VNA3 Neumayer Olymp 48.70 157 P P 08 39 44.5 +0.4
VNA1 Neumayer--Stat 49.02 157 P P 08 39 47.4 +0.8
VNA2 Neumayer--Watz 49.36 157 P P 08 39 49.4 +0.2
FDF Fort de France 50.51 14 eP P 08 39 57.3 -1.2
comp=Z,262nm,1.4s
SNAA Sanae 50.92 158 P P 08 40 00.9 -0.2
SNAA Sanae 50.92 158 eP P 08 40 00.8 -0.3
SNAA pmax pmax
comp=Z,150nm,1.0s
SNAA Sanae 50.92 158 P P 08 40 01.1 0.0
comp=Z,47nm,1.1s,baz=282,slow=6.4,SNR=12
SNAA Sanae 50.92 158 eP P 08 40 00.8 -0.3
comp=Z,150nm,1.0s
APG El Apazote 52.46 338 P P 08 40 08.7 -4.6
comp=Z,9.0nm,0.7s,baz=110,slow=3.2,SNR=4.7
ICMP Isla Caja de M 52.79 7 eP P 08 40 15.1 -0.4
CRPR Cabo Rojo, PR 52.85 6 eP P 08 40 15.1 -0.8
comp=Z,109nm,1.2s
OBIP Obispado Ponce 52.93 7 eP P 08 40 16.3 -0.2
comp=Z,72nm,0.9s
SABA Saba 52.95 11 eP P 08 40 17.3 +0.6
comp=Z,168nm,1.0s
CELP Cerrillos 52.97 7 eP P 08 40 16.6 -0.1
CPD Cerro la Pandu 53.00 8 eP P 08 40 16.1 -1.0
CPD pmax pmax
comp=Z,112nm,1.5s
CPD Cerro la Pandu 53.00 8 eP P 08 40 16.1 -1.0
comp=Z,112nm,1.5s
LRS Lares 53.16 7 eP P 08 40 16.6 -1.6
ANWB Willy Bob 53.25 13 eP P 08 40 16.9 -1.9
comp=Z,102nm,0.9s
SDDR Presa de Saban 53.58 1 eP P 08 40 22.0 +0.6
comp=Z,24nm,1.0s
GTBY Guantanamo Bay 54.56 357 eP P 08 40 29.5 +1.1
RKT Rikitea 55.09 265 eP P 08 40 33.2 +0.8
comp=Z,54nm,1.4s
QSPA South Pole Qui 55.35 180 P P 08 40 33.9 0.0
comp=Z,36nm,0.9s,baz=97,slow=0.7,SNR=7.2
TEIG Tepich 56.81 342 P P 08 40 44.1 -0.5
comp=Z,27nm,0.6s,baz=136,slow=4.6
TEIG Tepich 56.81 342 eP P 08 40 43.9 -0.7
comp=Z,87nm,1.0s
035A Encino 66.08 335 ⇑P P 08 41 47.6 +0.4
baz=66
034A Hebbronville 66.40 335 ⇑P P 08 41 49.6 +0.4
baz=67
TBI Tubuai 66.73 257 eP P 08 41 51.7 +0.2
comp=Z,243nm,1.1s
TIGA Tifton 66.79 350 eP P 08 41 50.6 -1.0
comp=Z,50nm,0.9s
TIGA Tifton 66.79 350 ⇓P P 08 41 50.7 -0.9
baz=67
934A Benavides 66.83 335 ⇑P P 08 41 52.8 +0.8
baz=67
933A Laredo 67.11 334 ⇑P P 08 41 54.0 +0.3
baz=67
835A Beeville 67.23 336 ⇑P P 08 41 55.5 +1.1
baz=68
834A Tilden 67.33 335 ⇑P P 08 41 55.6 +0.6
baz=68,SNR=5.9
735A Kenedy 67.75 336 ⇓P P 08 41 58.4 +0.7
baz=68
833A Chaparral WMA, 67.80 335 ⇑P P 08 41 58.4 +0.3
baz=68,SNR=5.8
832A Faith Ranch, C 67.97 334 ⇑P P 08 41 59.4 +0.3
baz=68
734A La Parita Cree 67.99 335 ⇓P P 08 41 59.6 +0.3
baz=68
NHSC New Hope 68.01 353 eP P 08 41 59.1 -0.1
comp=Z,162nm,1.1s
636A Smothers Creek 68.08 337 ⇓P P 08 42 00.8 +1.0
baz=68
733A Divot King Ran 68.13 335 ⇑P P 08 42 00.3 +0.2
baz=68
635A Leesville 68.22 336 ⇓P P 08 42 00.8 +0.1
baz=69
MEH Mehetia 68.34 263 eP P 08 42 01.5 -0.3
comp=Z,52nm,1.2s
732A Laxson Ranch, 68.38 334 ⇓P P 08 42 02.0 +0.3
baz=69,SNR=8.5
634A China Grove, S 68.41 336 ⇓P P 08 42 02.5 +0.6
baz=69
536A Bastrop 68.63 337 ⇑P P 08 42 03.6 +0.4
baz=69
GOGA Godfrey 68.71 350 eP P 08 42 02.8 -0.8
GOGA pmax pmax
comp=Z,124nm,1.6s
GOGA Godfrey 68.71 350 eP P 08 42 02.8 -0.8
comp=Z,124nm,1.6s
535A Dale 68.75 337 ⇓P P 08 42 04.3 +0.4
baz=69
633A Saathoff Ranch 68.76 335 ⇓P P 08 42 04.4 +0.3
baz=69
LRAL Lakeview Retre 68.91 347 eP P 08 42 04.3 -0.6
comp=Z,57nm,1.3s
632A Uvalde 69.02 335 ⇑P P 08 42 05.9 +0.2
baz=69,SNR=6.3
534A Blanco 69.05 336 ⇑P P 08 42 06.1 +0.2
baz=69
339A Huntington 69.05 340 ⇓P P 08 42 06.1 +0.3
baz=69
436A Wall Ranch, Ga 69.19 338 ⇓P P 08 42 07.2 +0.5
baz=70
631A Perdido Creek 69.22 334 ⇓P P 08 42 06.9 +0.1
baz=70
533A Kerrville 69.28 336 ⇑P P 08 42 07.2 -0.1
baz=70,SNR=6.1
338A Crockett 69.29 339 ⇓P P 08 42 08.1 +0.8
baz=70
VAH Vaihoa 69.35 265 eP P 08 42 08.1 0.0
comp=Z,105nm,1.3s
TVO Taravao 69.35 262 eP P 08 42 08.4 +0.2
comp=Z,59nm,1.4s
337A Centerville 69.42 339 ⇑P P 08 42 08.5 +0.4
baz=70
435B Jarrell 69.45 337 ⇑P P 08 42 08.6 +0.3
baz=70
NATX Nacogdoches 69.48 340 eP P 08 42 08.4 0.0
comp=Z,97nm,1.1s
TIAR Tiarei 69.54 262 eP P 08 42 09.3 0.0
comp=Z,34nm,1.2s
532A Rocksprings 69.63 335 ⇓P P 08 42 09.5 0.0
baz=70,SNR=8.9
PAE Paea 69.68 262 eP P 08 42 10.4 +0.3
comp=Z,38nm,1.4s
434A Burnet 69.70 337 ⇓P P 08 42 10.0 +0.1
baz=70,SNR=7.0
PPT2 Papeete2 69.72 262 eP P 08 42 10.8 +0.3
comp=Z,183nm,1.4s
PPT Papeete 69.73 262 P P 08 42 11.2 +0.7
PPT pmax pmax
comp=Z,97nm,1.0s
PPT Papeete 69.73 262 P P 08 42 11.2 +0.7
comp=Z,97nm,1.0s,baz=168,slow=3.9,SNR=6.0
336A Riesel 69.78 338 ⇓P P 08 42 10.5 +0.2
baz=70
335A Moody 69.86 337 ⇓P P 08 42 11.0 +0.1
baz=70
531A Rocksprings 69.89 334 ⇓P P 08 42 11.2 +0.1
baz=70
JCT Junction City 69.91 335 eP P 08 42 11.4 +0.2
JCT pmax pmax
comp=Z,125nm,1.1s
JCT Junction City 69.91 335 eP P 08 42 11.4 +0.2
comp=Z,125nm,1.1s
JCT Junction City 69.91 335 ⇓P P 08 42 11.3 0.0
baz=70,SNR=9.1
433A Art 69.92 336 ⇓P P 08 42 11.0 -0.3
baz=70,SNR=7.8
CNNC Cliffs of the 69.94 355 eP P 08 42 11.5 +0.3
KMSC Kings Mountain 70.15 352 eP P 08 42 12.3 -0.2
comp=Z,58nm,0.9s
KMSC Kings Mountain 70.15 352 ⇑P P 08 42 11.9 -0.6
baz=70
530A J-C Ranch, Com 70.16 334 ⇓P P 08 42 12.6 -0.1
baz=70,SNR=8.2
334A Lometa 70.17 337 ⇓P P 08 42 12.4 -0.4
baz=70,SNR=6.0
432A Menard 70.27 335 ⇑P P 08 42 12.7 -0.7
baz=71
TXAR Lajitas Array 70.31 331 P P 08 42 13.9 +0.1
TXAR pmax pmax
comp=Z,9.0nm,0.7s
TXAR Lajitas Array 70.31 331 P P 08 42 13.9 +0.1
comp=Z,8.5nm,0.7s,baz=151,slow=6.0,SNR=16
431A Sonora 70.38 334 ⇓P P 08 42 13.5 -0.6
baz=71
333A Richland Sprin 70.41 336 ⇓P P 08 42 13.8 -0.4
baz=71
529A Stev Forest Ra 70.46 333 ⇓P P 08 42 14.6 0.0
baz=71,SNR=7.0
WHTX Lake Whitney 70.53 338 eP P 08 42 15.0 0.0
comp=Z,114nm,1.1s
WHTX Lake Whitney 70.53 338 ⇓P P 08 42 15.0 0.0
baz=71,SNR=7.0
430A Baggett Ranch, 70.70 334 ⇑P P 08 42 15.6 -0.5
baz=71,SNR=7.4
332A Millersview 70.72 336 ⇑P P 08 42 15.6 -0.5
baz=71
234A Clairette 70.76 337 ⇓P P 08 42 16.2 -0.1
baz=71
429A Davenport Ranc 70.79 333 ⇓P P 08 42 16.6 0.0
baz=71,SNR=7.3
OXF Oxford 70.82 345 eP P 08 42 15.0 -1.6
OXF pmax pmax
comp=Z,127nm,1.0s
OXF Oxford 70.82 345 eP P 08 42 15.0 -1.6
comp=Z,127nm,1.0s
SWET Sewanee 70.86 348 eP P 08 42 16.3 -0.5
comp=Z,100nm,0.9s
331A San Angelo 70.89 335 ⇓P P 08 42 16.8 -0.3
baz=71,SNR=8.4
TKL Tuckaleechee C 70.96 350 eP P 08 42 17.0 -0.5
TKL Tuckaleechee C 70.96 350 P P 08 42 16.5 -0.9
comp=Z,15nm,0.9s,baz=169,slow=7.2,SNR=5.2
TKL Tuckaleechee C 70.96 350 eP P 08 42 17.0 -0.5
233A Rising Star 71.02 336 ⇑P P 08 42 17.6 -0.3
baz=71
135A Vickery Place, 71.04 338 ⇑P P 08 42 17.6 -0.5
baz=71
232A Coleman 71.15 336 ⇓P P 08 42 18.3 -0.4
baz=72,SNR=6.2
330A Mertzon 71.24 334 ⇑P P 08 42 18.8 -0.5
baz=72,SNR=6.6
134A White-Moore Ra 71.27 337 ⇓P P 08 42 18.5 -0.8
baz=72
231A Bronte 71.42 335 ⇓P P 08 42 19.8 -0.6
baz=72,SNR=11
133A Hamilton Ranch 71.57 337 ⇓P P 08 42 21.0 -0.2
baz=72
329A Wagon Wheel Ra 71.60 334 ⇓P P 08 42 20.9 -0.6
baz=72,SNR=10
230A Sterling City 71.65 335 ⇓P P 08 42 21.0 -0.8
baz=72
Z35A Perchaven, San 71.71 338 ⇓P P 08 42 21.9 -0.2
baz=72,SNR=7.6
UALR University of 71.73 343 eP P 08 42 22.6 +0.5
comp=Z,31nm,1.0s
TZTN Tazewell 71.80 351 eP P 08 42 23.7 +1.2
comp=Z,47nm,0.9s
ABTX Abilene, Hawle 71.82 336 eP P 08 42 22.8 0.0
comp=Z,111nm,1.0s
ABTX Abilene, Hawle 71.82 336 ⇓P P 08 42 22.2 -0.5
baz=72,SNR=7.0
MIAR Mount Ida 71.82 342 eP P 08 42 21.8 -0.9
MIAR pmax pmax
comp=Z,49nm,1.3s
MIAR Mount Ida 71.82 342 eP P 08 42 21.8 -0.9
comp=Z,49nm,1.3s
Z34A Collier Ranch, 71.95 338 ⇑P P 08 42 23.0 -0.5
baz=72
229A Bryant Ranch, 71.97 334 ⇓P P 08 42 23.0 -0.7
baz=72,SNR=6.3
WVT Waverly 72.08 347 eP P 08 42 23.6 -0.6
WVT pmax pmax
comp=Z,179nm,1.1s
WVT Waverly 72.08 347 eP P 08 42 23.6 -0.6
comp=Z,179nm,1.1s
VWCC Virginia Weste 72.10 354 eP P 08 42 26.0 +1.7
BLA Blacksburg 72.10 353 eP P 08 42 24.1 -0.2
BLA pmax pmax
comp=Z,17nm,0.6s
BLA Blacksburg 72.10 353 eP P 08 42 24.1 -0.2
comp=Z,17nm,0.6s
131A Roby 72.12 336 ⇓P P 08 42 24.0 -0.5
baz=72,SNR=7.5
Z33A Whitaker Ranch 72.14 337 ⇓P P 08 42 24.0 -0.6
baz=72,SNR=5.6
130A Snyder 72.24 335 ⇓P P 08 42 24.9 -0.4
baz=73,SNR=7.1
JSRW J. Sargeant Re 72.38 356 eP P 08 42 26.5 +0.6
228A UT Block 9, Go 72.39 334 ⇓P P 08 42 25.9 -0.4
baz=73,SNR=9.6
Z32A Haskell 72.39 337 ⇓P P 08 42 25.8 -0.4
baz=73,SNR=5.7
BBTS Babate 72.43 57 P P 08 42 27.1 +0.4
comp=Z,127nm,1.1s,baz=188,slow=1.4,SNR=10
Y34A Reagan Ranch, 72.45 338 ⇓P P 08 42 26.3 -0.2
baz=73
MAW Mawson 72.45 164 P P 08 42 26.4 +0.3
MAW pmax pmax
comp=Z,53nm,0.9s
MAW Mawson 72.45 164 P P 08 42 26.4 +0.3
comp=Z,53nm,0.9s,baz=257,slow=6.8,SNR=4.0
129A Stewart Farms, 72.59 334 ⇓P P 08 42 27.1 -0.4
baz=73
Z31A Sharp Cattle R 72.62 336 ⇓P P 08 42 27.1 -0.4
baz=73
Y33A Hilltop Ranch, 72.76 338 ⇓P P 08 42 27.9 -0.5
baz=73
128A Castleberry Fa 72.81 334 ⇑P P 08 42 28.2 -0.5
baz=73,SNR=6.7
CBN Corbin 72.86 356 eP P 08 42 29.1 +0.4
comp=Z,51nm,1.0s
Z30A Sanderson Ranc 72.93 335 ⇑P P 08 42 29.1 -0.3
baz=73,SNR=7.0
Y32A R-V Farms, Ver 73.02 337 ⇓P P 08 42 29.1 -0.7
baz=73
X34A Smith Ranch, M 73.07 338 ⇓P P 08 42 29.6 -0.6
baz=73
MNTX Cornudas Mount 73.08 331 eP P 08 42 29.1 -1.2
comp=Z,26nm,0.9s
Z29A Hungry Hill Ra 73.10 335 ⇑P P 08 42 29.9 -0.6
baz=73,SNR=8.9
GDL2 Guadalupe Moun 73.13 332 eP P 08 42 31.0 +0.3
127A Arkansas Junct 73.18 333 ⇑P P 08 42 30.4 -0.6
baz=74
X33A Lawton 73.22 338 ⇑P P 08 42 30.2 -0.8
baz=74
Y31A Rekieta Farm, 73.25 336 ⇓P P 08 42 30.5 -0.8
baz=74,SNR=6.2
X32A Elmer 73.35 337 ⇑P P 08 42 31.1 -0.7
baz=74
Y30A Stafford Cattl 73.39 336 ⇓P P 08 42 31.4 -0.7
baz=74
Y29A Porterfield Fa 73.64 335 ⇓P P 08 42 32.9 -0.7
baz=74,SNR=9.1
W34A Bridge Creek, 73.64 339 eP P 08 42 35.8 +2.3
comp=Z,120nm,1.3s
W34A Bridge Creek, 73.64 339 ⇑P P 08 42 33.0 -0.4
baz=74
Z27A Tatum 73.69 334 ⇑P P 08 42 33.3 -0.7
baz=74
TUL1 Tulsa 73.70 340 eP P 08 42 33.2 -0.6
comp=Z,82nm,1.0s
TUL1 Tulsa 73.70 340 ⇑P P 08 42 33.2 -0.6
baz=74
X31A McDonald Ranch 73.77 337 ⇑P P 08 42 33.8 -0.5
baz=74,SNR=6.5
W33A Caddo, Fort Co 73.77 338 ⇑P P 08 42 34.2 -0.1
baz=74,SNR=7.4
USIN University of 73.83 348 eP P 08 42 33.4 -1.1
comp=Z,109nm,1.0s
WCI Wyandotte Cave 73.86 349 eP P 08 42 32.9 -1.8
WCI pmax pmax
comp=Z,25nm,0.8s
WCI Wyandotte Cave 73.86 349 eP P 08 42 32.9 -1.8
comp=Z,25nm,0.8s
SIUC Southern Illin 73.88 346 eP P 08 42 34.0 -0.7
comp=Z,74nm,1.0s
Y28A McKinney Farm, 73.88 335 ⇓P P 08 42 34.7 -0.4
baz=74
X30A Coker Ranch, T 73.90 336 ⇓P P 08 42 34.4 -0.7
baz=74
Z26A Caprock 73.94 333 ⇓P P 08 42 35.0 -0.4
baz=74,SNR=13
W32A Sentinel 73.99 337 ⇑P P 08 42 35.1 -0.5
baz=74,SNR=14
SDMD Soldier's Deli 74.03 357 eP P 08 42 36.8 +1.1
comp=Z,52nm,0.9s
V34A Guthrie 74.12 339 eP P 08 42 35.7 -0.5
comp=Z,99nm,1.0s
V34A Guthrie 74.12 339 ⇓P P 08 42 36.0 -0.3
baz=74
MSTX Muleshoe 74.12 334 eP P 08 42 36.3 -0.2
comp=Z,102nm,1.0s
MSTX Muleshoe 74.12 334 ⇓P P 08 42 36.1 -0.4
baz=74,SNR=7.1
X29A Tulia 74.18 335 ⇓P P 08 42 36.4 -0.4
baz=74
Y27A Causey 74.19 334 ⇓P P 08 42 36.6 -0.3
baz=74
Z25A Roswell 74.22 332 ⇓P P 08 42 36.8 -0.3
baz=75
W31A Holland Ranch, 74.27 337 ⇑P P 08 42 37.2 0.0
baz=75
V33A Lossen Ranch, 74.34 338 ⇑P P 08 42 37.0 -0.6
baz=75,SNR=6.4
X28A Dimmitt 74.42 335 ⇓P P 08 42 38.0 -0.1
baz=75
319A Douglas 74.43 328 ⇓P P 08 42 38.4 +0.1
baz=75,SNR=6.5
Y26A Elida 74.46 333 ⇓P P 08 42 38.3 -0.2
baz=75,SNR=8.0
W30A Crocket Farms 74.47 336 ⇑P P 08 42 37.9 -0.5
baz=75
V32A Arapaho 74.47 338 ⇓P P 08 42 38.5 +0.2
baz=75
Z24A Sheeppen Canyo 74.52 332 ⇓P P 08 42 38.6 -0.3
baz=75,SNR=6.4
AMTX Amarillo 74.57 335 eP P 08 42 39.0 0.0
comp=Z,117nm,1.1s
AMTX Amarillo 74.57 335 ⇑P P 08 42 39.0 0.0
baz=75
OLIL Olney 74.66 347 eP P 08 42 39.2 -0.1
comp=Z,63nm,1.2s
U34A Anderson Ranch 74.69 339 ⇓P P 08 42 39.0 -0.6
U34A Anderson Ranch 74.69 339 ⇓P P 08 42 39.4 -0.2
baz=75
SUR Sutherland 74.75 119 P P 08 42 41.9 +1.3
comp=Z,827nm,0.9s,SNR=7.1
SUR Sutherland 74.75 119 P P 08 42 41.5 +0.9
comp=Z,77nm,1.0s,baz=246,slow=4.8,SNR=8.1
SUR Sutherland 74.75 119 eP P 08 42 41.0 +0.5
SUR e 08 42 49.0
W29A Amraillo 74.77 336 ⇑P P 08 42 40.0 -0.2
baz=75
V31A Spring Creek L 74.78 337 ⇓P P 08 42 40.5 +0.4
baz=75
Y25A Mesa, Roswell 74.79 333 ⇓P P 08 42 39.7 -0.7
baz=75
121A Cookes Peak, D 74.79 330 eP P 08 42 41.1 +0.6
comp=Z,78nm,1.1s
121A Cookes Peak, D 74.79 330 ⇑P P 08 42 40.9 +0.4
baz=75,SNR=9.6
BLO Bloomington 74.82 349 eP P 08 42 41.2 +1.0
BLO pmax pmax
comp=Z,69nm,1.0s
BLO Bloomington 74.82 349 eP P 08 42 41.2 +1.0
comp=Z,69nm,1.0s
X27A F and S Farms, 74.85 334 ⇓P P 08 42 40.7 0.0
baz=75
U33A Lingo Farm, Me 74.85 339 ⇑P P 08 42 40.5 0.0
baz=75
X26A CR and CF Fran 75.02 334 ⇑P P 08 42 41.5 -0.2
baz=75,SNR=9.8
V30A Spur Ranch, Mi 75.04 337 ⇑P P 08 42 41.6 -0.1
baz=75
U32A Winter Ranch, 75.07 338 ⇑P P 08 42 42.2 +0.4
baz=75
Y24A Capitan 75.07 332 ⇑P P 08 42 42.1 0.0
baz=75,SNR=7.5
Z22A Elephant Butte 75.08 331 ⇑P P 08 42 42.5 +0.3
baz=75
W28A Vega 75.09 335 ⇑P P 08 42 42.5 +0.5
baz=75
W27A Bowe Ranch, En 75.21 334 ⇓P P 08 42 42.4 -0.4
baz=76,SNR=8.5
SSPA Standing Stone 75.31 356 eP P 08 42 45.5 +2.5
comp=Z,56nm,1.0s
X25A Clemmons Ranch 75.31 333 ⇑P P 08 42 43.3 -0.1
baz=76
Y23A Lovelace Mesa, 75.32 332 ⇓P P 08 42 43.7 +0.2
baz=76
U31A Nine Bar Ranch 75.32 337 ⇑P P 08 42 43.3 0.0
baz=76
ACSO Alum Creek Sta 75.36 352 eP P 08 42 42.8 -0.6
comp=Z,180nm,0.9s
V29A Stinnett 75.41 336 ⇑P P 08 42 43.7 -0.2
baz=76
W26A Owens Ranch, T 75.49 334 ⇓P P 08 42 44.4 +0.1
baz=76
T33A Patterson Ranc 75.49 339 ⇓P P 08 42 44.3 +0.1
baz=76
V28A Channing 75.54 335 ⇑P P 08 42 44.6 0.0
baz=76
X24A Lazy VL Ranch, 75.64 332 ⇑P P 08 42 45.2 -0.2
baz=76
U30A WK&E Inc. Balk 75.73 337 ⇑P P 08 42 45.7 +0.1
baz=76
V27A Dan Oppiter Fa 75.76 335 ⇓P P 08 42 46.0 +0.1
baz=76
Y22D IRIS PASSCAL I 75.78 331 ⇑P P 08 42 45.9 -0.3

baz=76
T32A Huddler Ranch, 75.79 339 ⇓P P 08 42 46.2 +0.3
baz=76
DBIC Dimbokro 75.84 71 P P 08 42 46.6 -0.1
DBIC pmax pmax
comp=Z,47nm,0.9s
DBIC Dimbokro 75.84 71 eP P 08 42 46.6 -0.1
comp=Z,47nm,0.9s,baz=208,slow=7.1,SNR=9.4
DBIC Dimbokro 75.84 71 eP P 08 42 46.6 -0.1
comp=Z,84nm,1.0s
W25A X Bar L Ranch, 75.85 333 ⇑P P 08 42 45.9 -0.6
baz=76,SNR=8.4
U29A Oasis Ranch, S 75.86 336 ⇓P P 08 42 46.5 +0.1
baz=76
LPM Los Pinos Moun 75.88 331 eP P 08 42 47.5 +0.8
LENM Lemitar 75.89 331 eP P 08 42 47.7 +1.0
TUC Tucson 75.89 327 eP P 08 42 46.8 +0.1
TUC pmax pmax
comp=Z,37nm,1.2s
TUC Tucson 75.89 327 eP P 08 42 46.8 +0.1
comp=Z,37nm,1.2s
S33A Kaszmaul Farm, 75.90 339 ⇓P P 08 42 47.1 +0.6
baz=76
T31A Randall Ranch, 75.94 338 ⇑P P 08 42 47.1 +0.3
baz=76
X23A Hourglass Bar 75.94 332 ⇑P P 08 42 47.4 +0.3
baz=76
SFIN Scholer Farm 76.09 349 ⇑P P 08 42 46.3 -1.1
baz=76
U28A Mallet 76.11 336 ⇓P P 08 42 47.8 -0.1
baz=76
V26A Tequesquite Ra 76.13 334 ⇑P P 08 42 48.0 0.0
baz=76
LAZ Ladron 76.16 331 eP P 08 42 48.8 +0.5
T30A Plains 76.17 337 ⇑P P 08 42 48.0 -0.1
baz=76
W24A Lazy 6 Ranch, 76.20 333 ⇓P P 08 42 48.5 0.0
baz=76
S32A Newby Ranch, P 76.27 339 ⇑P P 08 42 49.0 +0.3
baz=77
U27A Thompson Grove 76.35 335 ⇓P P 08 42 49.1 -0.1
baz=77
S31A Mullinville 76.36 338 ⇓P P 08 42 49.2 0.0
baz=77
ANMO Albuquerque 76.37 332 eP P 08 42 49.4 -0.1
ANMO pmax pmax
comp=Z,94nm,1.3s
ANMO Albuquerque 76.37 332 P P 08 42 49.1 -0.4
comp=Z,20nm,0.9s,baz=161,slow=8.2,SNR=11
ANMO Albuquerque 76.37 332 eP P 08 42 49.4 -0.1
comp=Z,94nm,1.3s
W23A Werner Place, 76.44 332 ⇑P P 08 42 50.1 +0.2
baz=77,SNR=7.4
V25A Rancho No Teng 76.46 334 ⇑P P 08 42 50.0 0.0
baz=77,SNR=6.8
ALLY Alegheny Colle 76.48 354 eP P 08 42 49.3 -0.4
T29A Hugoton 76.51 337 ⇓P P 08 42 49.9 -0.2
baz=77,SNR=5.8
214A Organ Pipe Nat 76.51 326 eP P 08 42 50.7 +0.5
comp=Z,34nm,1.1s
214A Organ Pipe Nat 76.51 326 ⇑P P 08 42 50.4 +0.2
baz=77,SNR=6.7
R33A Olander Ranch, 76.56 340 ⇓P P 08 42 50.1 -0.2
baz=77
V24A Rampart Ranch, 76.61 333 ⇓P P 08 42 50.0 -0.8
baz=77
U26A Atchley Ranch, 76.65 335 ⇓P P 08 42 49.9 -1.1
baz=77
S30A Montezuma 76.68 338 ⇑P P 08 42 50.9 -0.1
baz=77,SNR=7.1
T28A Walsh 76.74 336 ⇓P P 08 42 51.2 -0.2
baz=77,SNR=9.0
BINY Binghamton 76.78 357 eP P 08 42 51.7 +0.3
comp=Z,299nm,1.9s
R32A Long Quarter, 76.87 339 ⇓P P 08 42 51.6 -0.4
baz=77
S29A Ulysses 76.87 337 ⇓P P 08 42 51.8 -0.3
baz=77,SNR=5.9
U25A Circle Dot Ran 76.89 334 ⇑P P 08 42 51.9 -0.5
baz=77
T27A Campo 76.89 336 ⇑P P 08 42 52.1 -0.3
baz=77,SNR=7.1
KSU1 Kansas State U 76.92 341 eP P 08 42 51.5 -0.7
KSU1 Kansas State U 76.92 341 ⇓P P 08 42 51.6 -0.6
baz=77
ERPA Erie 76.93 354 eP P 08 42 52.5 +0.2
comp=Z,99nm,1.0s
V23A Ortiz Mt. (NFS 76.97 332 ⇓P P 08 42 52.6 -0.3
baz=77
R31A Burdett 76.99 338 ⇓P P 08 42 52.5 -0.2
baz=77
HRV Adam Dziewonsk 77.02 1 eP P 08 42 53.4 +0.7
HRV pmax pmax
comp=Z,108nm,1.2s
HRV Adam Dziewonsk 77.02 1 eP P 08 42 53.4 +0.7
comp=Z,108nm,1.2s
S28A Manter 77.10 336 ⇑P P 08 42 53.1 -0.3
baz=78,SNR=9.7
Q33A Connelly Farm, 77.16 340 ⇓P P 08 42 53.9 +0.4
baz=78
U24A Moreno Valley 77.22 333 ⇓P P 08 42 54.5 +0.1
baz=78
R30A Dighton 77.22 338 ⇑P P 08 42 53.9 -0.1
baz=78
TRY Troy 77.25 359 eP P 08 42 55.8 +1.9
comp=Z,98nm,0.9s
T26A Comanche Natio 77.30 335 ⇑P P 08 42 54.6 -0.1
baz=78,SNR=6.0
Q32A Meitler Ranch, 77.36 339 ⇓P P 08 42 54.2 -0.5
baz=78,SNR=5.5
V22A San Miguel Ran 77.39 332 ⇓P P 08 42 55.9 +0.7
baz=78,SNR=11
X18A Snowflake 77.42 329 ⇓P P 08 42 55.7 +0.3
baz=78,SNR=5.7
U23A El Rito 77.48 333 ⇑P P 08 42 56.2 +0.4
baz=78
AAM Ann Arbor 77.49 352 eP P 08 42 56.4 +1.1
AAM pmax pmax
comp=Z,154nm,1.4s
AAM Ann Arbor 77.49 352 eP P 08 42 56.4 +1.1
comp=Z,154nm,1.4s
P33A Williams Farm, 77.53 340 ⇑P P 08 42 55.8 +0.1
baz=78
T25A Trinidad 77.55 334 ⇑P P 08 42 56.6 +0.5
baz=78,SNR=7.0
Q31A Ellis 77.61 339 ⇓P P 08 42 56.4 +0.2
baz=78
R29A Marienthal 77.61 337 ⇓P P 08 42 56.1 -0.2
baz=78,SNR=5.9
113A Mohawk Valley, 77.64 325 ⇓P P 08 42 56.7 +0.3
baz=78
S26A Kim 77.66 335 ⇑P P 08 42 56.8 +0.2
baz=78,SNR=6.8
Z14A Wintersburg 77.75 326 ⇓P P 08 42 57.2 +0.2
baz=78
R28A Tribune 77.75 337 ⇓P P 08 42 56.9 -0.2
baz=78,SNR=6.6
U22A Llaves 77.78 332 ⇓P P 08 42 57.8 +0.4
baz=78
T24B San Luis 77.83 334 ⇑P P 08 42 58.2 +0.4
baz=78
Q30A Quinter 77.83 338 ⇑P P 08 42 57.3 -0.1
baz=78,SNR=5.9
W18A Petrified Fore 77.84 330 eP P 08 42 58.5 +0.8
comp=Z,147nm,1.3s
W18A Petrified Fore 77.84 330 ⇑P P 08 42 58.1 +0.4
baz=78,SNR=7.5
ACCN Adirondack Com 77.90 359 eP P 08 42 57.8 +0.2
comp=Z,70nm,1.0s
P32A Huiting Farm, 77.95 340 ⇓P P 08 42 57.9 -0.2
baz=78
X16A Lo Mia Camp, P 77.97 328 ⇓P P 08 42 58.7 +0.2
baz=78,SNR=12
Q29A Oakley 77.99 338 ⇓P P 08 42 58.4 +0.1
baz=78
R27A Eads 78.03 336 ⇑P P 08 42 58.3 -0.3
baz=78,SNR=8.4
S25A Robets Cordova 78.03 335 ⇓P P 08 42 58.6 -0.1
baz=78
T23A Casias Ranch, 78.05 331 ⇓P P 08 42 59.1 +0.1
baz=78
P31A Stockton 78.08 339 ⇓P P 08 42 59.5 +0.7
baz=78
R26A Arlington 78.26 336 ⇓P P 08 43 00.5 +0.6
baz=79
Y14A Wickenburg 78.26 327 ⇑P P 08 43 00.6 +0.6
baz=79,SNR=6.5
S24A Houchin Ranch, 78.29 334 ⇑P P 08 43 01.0 +0.7
baz=79,SNR=9.1
P30A Selden 78.36 338 ⇓P P 08 43 00.9 +0.5
baz=79
GLA Glamis 78.37 325 eP P 08 43 01.7 +1.1
GLA pmax pmax
comp=Z,27nm,1.1s
GLA Glamis 78.37 325 eP P 08 43 01.7 +1.1
comp=Z,27nm,1.1s
GLA Glamis 78.37 325 ⇑P P 08 43 01.1 +0.6
baz=79
R25A Fountain Ranch 78.41 335 ⇓P P 08 43 01.6 +0.8
baz=79
Q28A Sharon Springs 78.42 337 ⇑P P 08 43 01.4 +0.7
baz=79
O32A Brockman Farm, 78.45 340 ⇑P P 08 43 01.1 +0.3
baz=79
SDCO Great Sand Dun 78.48 334 eP P 08 43 01.2 -0.1
comp=Z,23nm,1.0s
MDV Middlebury 78.51 360 eP P 08 43 01.0 +0.1
P29A Atwood 78.63 338 ⇓P P 08 43 02.4 +0.6
baz=79
KSCO Kaye Shedlock' 78.63 337 eP P 08 43 02.5 +0.6
comp=Z,130nm,1.1s
KSCO Kaye Shedlock' 78.63 337 ⇑P P 08 43 02.4 +0.5
baz=79
S23A Nye Farm, Mont 78.63 333 ⇓P P 08 43 02.6 +0.4
baz=79
O31A Woolen Ranch, 78.65 339 ⇑P P 08 43 02.1 +0.2
baz=79
SCIA State Center 78.74 344 eP P 08 43 03.0 +0.6
comp=Z,149nm,1.1s
SWSC Sam W. Stewart 78.74 324 ⇑P P 08 43 02.4 -0.1
baz=79
LBNH Lisbon 78.75 0 eP P 08 43 02.8 +0.5
LBNH pmax pmax
comp=Z,108nm,1.1s
LBNH Lisbon 78.75 0 eP P 08 43 02.8 +0.5
comp=Z,108nm,1.1s
R24A Sanders Place, 78.77 334 ⇑P P 08 43 03.7 +0.9
baz=79,SNR=7.4
Q26A Hugo 78.84 336 ⇓P P 08 43 03.7 +0.6
baz=79,SNR=5.5
P28A Saint Francis 78.86 337 ⇑P P 08 43 03.7 +0.6
baz=79
WUAZ Wupatki 78.87 329 eP P 08 43 04.5 +1.1
comp=Z,91nm,1.3s
WUAZ Wupatki 78.87 329 ⇓P P 08 43 03.9 +0.5
baz=79,SNR=7.0
O30A MW Ranch, Wils 78.89 339 ⇑P P 08 43 03.8 +0.5
baz=79
N32A Stulken Farm, 78.93 340 ⇓P P 08 43 03.1 -0.3
baz=79
BAR Barrett 78.96 323 eP P 08 43 04.7 +0.9
comp=Z,28nm,1.0s
S22A 4UR Ranch, Cre 78.97 333 ⇑P P 08 43 04.4 +0.3
baz=79
R23A Moffat 79.00 334 ⇓P P 08 43 04.2 0.0
baz=79
MONP Monument Peak 79.00 324 ⇓P P 08 43 04.5 +0.2
baz=79
O29A 4D Ranch, Culb 79.06 338 ⇑P P 08 43 04.3 +0.1
baz=79
PDMCI Parker Dam,Lak 79.08 326 ⇑P P 08 43 04.4 +0.1
baz=79
Q25A Bedland, Calha 79.08 335 ⇓P P 08 43 04.8 +0.2
baz=79
JFWS Jewell Farm 79.10 347 eP P 08 43 03.7 -0.6
JFWS pmax pmax
comp=Z,174nm,1.2s
JFWS Jewell Farm 79.10 347 eP P 08 43 03.7 -0.6
comp=Z,174nm,1.2s
P27A Ficken Ranch, 79.11 337 ⇑P P 08 43 04.9 +0.4
baz=80
CASY Casey 79.13 181 eP P 08 43 04.8 +0.5
comp=Z,176nm,1.2s
MVCO Mesa Verde 79.14 331 eP P 08 43 05.6 +0.6
comp=Z,102nm,1.3s
MVCO Mesa Verde 79.14 331 ⇑P P 08 43 05.3 +0.4
baz=80,SNR=6.3
LONY Lake Ozonia 79.15 359 eP P 08 43 04.9 +0.4
comp=Z,106nm,1.1s
BC3 Big Chuckawall 79.16 325 ⇑P P 08 43 05.1 +0.1
baz=80,SNR=6.8
TSUM Tsumeb 79.36 106 eP P 08 43 06.7 +0.2
TSUM e 08 43 14.9
P26A Davis Ranch, A 79.36 336 ⇑P P 08 43 06.3 +0.3
baz=80
O28A Krutsinger Ran 79.37 338 ⇓P P 08 43 06.4 +0.5
baz=80
IRM Iron Mountain 79.43 325 ⇓P P 08 43 06.2 -0.2
baz=80
Q24A Divide 79.44 335 ⇓P P 08 43 06.5 -0.1
baz=80
BGNE Belgrade 79.49 341 ⇑P P 08 43 06.4 0.0
baz=80
P25A Willow Gulch B 79.59 336 ⇓P P 08 43 08.1 +0.8
baz=80,SNR=6.5
PFO Pinyon Flat Ob 79.61 324 eP P 08 43 08.4 +1.0
PFO Pinyon Flat Ob 79.61 324 P P 08 43 08.1 +0.7
comp=Z,24nm,1.0s,baz=114,slow=3.7,SNR=5.6
PFO Pinyon Flat Ob 79.61 324 eP P 08 43 08.4 +1.0
PFO Pinyon Flat Ob 79.61 324 ⇑P P 08 43 08.1 +0.7
baz=80,SNR=7.0
W13A Hualapai Mount 79.63 327 ⇓P P 08 43 08.3 +0.7
baz=80
O27A Beecher Island 79.65 337 ⇓P P 08 43 07.9 +0.4
baz=80
N29A Votaw Ranch, W 79.65 339 ⇑P P 08 43 07.9 +0.5
baz=80
M31A Lambtecht Ranc 79.66 340 ⇑P P 08 43 07.8 +0.4
baz=80
NEE2 Needles Airpor 79.69 326 ⇑P P 08 43 08.0 +0.3
baz=80
BELC Belle Mtn. Jos 79.70 324 ⇑P P 08 43 08.2 +0.2
baz=80
N28A Pribbeno Ranch 79.81 338 ⇑P P 08 43 08.7 +0.5
baz=80
P24A Kohler Place, 79.85 335 ⇓P P 08 43 09.2 +0.5
baz=80
MURC Murrieta 79.96 323 ⇓P P 08 43 10.1 +0.9
baz=80,SNR=5.8
O26A Horse Wrangler 79.97 337 ⇓P P 08 43 10.1 +0.9
baz=80,SNR=5.9
PV01 Paradox Valley 79.97 332 eP P 08 43 09.7 +0.2
BOSA Boshof 80.01 118 P P 08 43 09.6 -0.4
BOSA *PP pP 08 43 18.1 -0.5
BOSA pmax pmax
comp=Z,73nm,0.8s
BOSA pmax pmax
comp=Z,216nm,0.9s
BOSA Boshof 80.01 118 P P 08 43 09.6 -0.4
comp=Z,73nm,0.8s,baz=238,slow=4.7,SNR=19
BOSA pP pP 08 43 18.1 -0.5
comp=Z,216nm,0.9s,baz=256,slow=2.6,SNR=26
BOSA Boshof 80.01 118 eP P 08 43 09.9 -0.1
comp=Z,213nm,0.9s
U15A North Rim 80.04 328 ⇑P P 08 43 10.5 +0.6
baz=80,SNR=7.3
P23A Jefferson 80.05 334 ⇑P P 08 43 10.3 +0.3
baz=80
M30A Dale-Ortello V 80.09 340 ⇓P P 08 43 10.0 +0.3
baz=80
O25A Wiggins 80.12 336 ⇓P P 08 43 10.3 +0.2
baz=80
SCI San Clemente I 80.13 322 ⇑P P 08 43 10.1 -0.1
baz=80
LDFC Landfair 80.17 326 eP P 08 43 11.5 +1.1
comp=Z,45nm,1.0s
GMRC Granite Mounta 80.18 325 ⇑P P 08 43 11.3 +0.7
baz=80,SNR=7.2
OGNE Ogallala 80.19 338 ⇓P P 08 43 11.3 +0.9
baz=81
N27A Anderson Farm, 80.23 337 ⇓P P 08 43 11.0 +0.4
baz=81
M29A Burnside Ranch 80.24 339 ⇓P P 08 43 11.3 +0.7
baz=81
SMCO Snowmass 80.29 334 eP P 08 43 12.3 +1.0
comp=Z,145nm,1.1s
PV04 Paradox Valley 80.33 332 eP P 08 43 11.3 0.0
ISCO Idaho Springs 80.35 335 eP P 08 43 12.0 +0.5
ISCO pmax pmax
comp=Z,50nm,1.1s
ISCO Idaho Springs 80.35 335 eP P 08 43 11.9 +0.5
comp=Z,50nm,1.1s
ISCO Idaho Springs 80.35 335 ⇓P P 08 43 11.7 +0.2
baz=81
PV10 Paradox Valley 80.37 332 eP P 08 43 11.0 -0.5
comp=Z,684nm,0.9s
L31A Butterfield Fa 80.39 340 ⇓P P 08 43 11.5 +0.2
baz=81
M28A Bar X Bar Ranc 80.40 338 ⇓P P 08 43 11.7 +0.2
baz=81
L30A Spencer Herefo 80.43 340 ⇓P P 08 43 11.8 +0.3
baz=81
O24A Longmont 80.45 335 ⇓P P 08 43 12.3 +0.4
baz=81
N26A Koester Ranch, 80.47 337 ⇓P P 08 43 12.4 +0.5
baz=81
HEC Hector,Ludlow 80.54 325 ⇑P P 08 43 12.9 +0.5
baz=81,SNR=7.0
P22A Eagle 80.58 334 ⇑P P 08 43 13.4 +0.8
baz=81,SNR=5.3
BFSC Mount Baldy Ra 80.70 323 ⇑P P 08 43 13.6 +0.3
baz=81,SNR=9.3
O23A Lake Granby, G 80.82 335 ⇑P P 08 43 14.5 +0.5
baz=81
TUQ Turquoise Moun 80.84 325 ⇑P P 08 43 14.5 +0.5
baz=81
RRX Edison Barstow 80.90 324 ⇓P P 08 43 15.9 +1.7
baz=81
PASC Pasadena Art C 80.91 323 eP P 08 43 14.4 +0.2
comp=Z,42nm,1.1s
O22A Kremmling 81.00 334 ⇓P P 08 43 16.0 +1.0
baz=81
N24A Carr 81.01 336 ⇓P P 08 43 15.7 +0.8
baz=81
DECC Green Verdugo 81.04 323 ⇓P P 08 43 16.1 +1.1
baz=81
K30A Basset 81.07 340 ⇑P P 08 43 15.6 +0.7
baz=81
GSC Goldstone 81.15 325 eP P 08 43 16.4 +0.8
GSC pmax pmax
comp=Z,246nm,2.5s
GSC Goldstone 81.15 325 eP P 08 43 16.4 +0.8
comp=Z,246nm,2.5s
GSC Goldstone 81.15 325 ⇓P P 08 43 16.1 +0.5
baz=82
ECSD EROS Data Cent 81.27 343 eP P 08 43 15.3 -0.6
comp=Z,151nm,1.0s
ECSD EROS Data Cent 81.27 343 ⇓P P 08 43 15.6 -0.4
baz=82,SNR=7.7
M25A Palm-Egli Farm 81.28 337 ⇑P P 08 43 16.7 +0.4
baz=82
L27A T5 Ranch, Ells 81.32 338 ⇓P P 08 43 16.7 +0.3
baz=82
K29A Lazy Trails An 81.35 340 ⇓P P 08 43 16.8 +0.4
baz=82
SHPR Sheep Range 81.37 326 eP P 08 43 18.0 +1.2
EDW2 Edwards Air Fo 81.38 324 ⇓P P 08 43 17.0 +0.2
baz=82,SNR=5.7
SHOC Shoshone 81.39 325 ⇓P P 08 43 16.9 +0.1
baz=82
N23A Red Feather La 81.44 335 ⇑P P 08 43 17.4 +0.1
baz=82
CCUT Cedar City 81.44 328 eP P 08 43 18.8 +1.5
comp=Z,72nm,1.1s
L26A Underwood Farm 81.51 337 ⇓P P 08 43 18.1 +0.6
baz=82
OSI Osito Adit 81.53 323 ⇓P P 08 43 17.8 +0.3
baz=82
N22A Wattenberg Ran 81.53 335 ⇑P P 08 43 18.0 +0.3
baz=82
M24A Cheyenne 81.57 336 ⇓P P 08 43 18.3 +0.5
baz=82
SRU San Rafael 81.59 331 eP P 08 43 18.3 +0.3
SRU pmax pmax
comp=Z,69nm,1.1s
SRU San Rafael 81.59 331 eP P 08 43 18.3 +0.3
comp=Z,68nm,1.1s
O20A White River Ci 81.59 333 ⇓P P 08 43 18.5 +0.4
baz=82
K28A Ten Mile Ranch 81.61 339 ⇑P P 08 43 18.4 +0.6
baz=82,SNR=5.2
PHWY Pilot Hill 81.63 336 eP P 08 43 18.5 +0.2
comp=Z,86nm,1.2s
J30A Dallas 81.64 340 ⇓P P 08 43 18.4 +0.4
baz=82
ARUT Antelope Range 81.67 328 eP P 08 43 19.4 +0.9
ARUT Antelope Range 81.67 328 eP P 08 43 19.4 +0.9
comp=Z,1μm,1.3s
LRMC Laurel Mountai 81.71 324 ⇓P P 08 43 18.7 +0.1
baz=82,SNR=5.5
BFZ Birch Farm 81.76 226 eP P 08 43 20.1 +1.1
comp=Z,84nm,1.2s
SPMN St. Paul 81.83 346 eP P 08 43 17.8 -1.0
comp=Z,80nm,1.0s
SPMN St. Paul 81.83 346 ⇓P P 08 43 18.4 -0.5
baz=82
K27A Flueckinger Fa 81.86 338 ⇓P P 08 43 19.3 +0.1
baz=82
M23A Laramie 81.87 335 ⇑P P 08 43 19.4 -0.1
baz=82
L25A Engebretsen Ra 81.90 337 ⇓P P 08 43 19.7 +0.2
baz=82
J29A Okreek 81.94 340 ⇑P P 08 43 19.6 0.0
baz=82,SNR=8.1
TMUT Trail Mountain 82.02 331 eP P 08 43 20.7 +0.3
comp=Z,70nm,1.2s
L24A Wheatland 82.12 336 ⇓P P 08 43 20.1 -0.5
baz=82
FURC Furnace Creek, 82.12 325 ⇓P P 08 43 21.0 +0.4
baz=82
K26A Motz Farm, Whi 82.15 338 ⇓P P 08 43 20.3 -0.5
baz=82
I30A Oacoma 82.16 341 ⇓P P 08 43 20.2 -0.4
baz=82,SNR=6.5
KHZ Kahutara 82.20 223 eP P 08 43 21.7 +0.5
comp=Z,257nm,2.0s
N20A Spence Gulch, 82.21 333 ⇓P P 08 43 20.4 -0.8
baz=83
J28A Allard Ranch, 82.22 339 ⇑P P 08 43 21.4 +0.4
baz=83
ISA Isabella 82.24 324 eP P 08 43 22.6 +1.2
ISA pmax pmax
comp=Z,26nm,0.9s
ISA Isabella 82.24 324 eP P 08 43 22.6 +1.2
comp=Z,26nm,0.9s
ISA Isabella 82.24 324 ⇓P P 08 43 21.5 +0.1
baz=83,SNR=6.9
K25A Mack Ranch, Ha 82.28 337 ⇑P P 08 43 21.7 +0.2
baz=83
J27A Elkhorn Farm, 82.29 339 ⇑P P 08 43 21.5 +0.1
baz=83
LBTB Lobatse 82.30 115 eP P 08 43 22.2 +0.1
LBTB pmax pmax
comp=Z,101nm,0.9s
LBTB Lobatse 82.30 115 eP P 08 43 22.2 +0.1
comp=Z,101nm,0.9s
L23A Garrett 82.44 336 ⇑P P 08 43 22.3 -0.2
baz=83
I29A Vivian Onida 82.50 340 ⇑P P 08 43 22.3 -0.2
baz=83
BRSD Miller 82.53 341 eP P 08 43 22.1 -0.5
comp=Z,95nm,0.8s
BRSD Miller 82.53 341 ⇓P P 08 43 22.5 -0.1
baz=83
BKZ Black Stump Fm 82.57 227 eP P 08 43 24.6 +1.3
comp=Z,49nm,1.1s
L22A Ellis Ranch, M 82.61 335 ⇑P P 08 43 22.8 -0.5
baz=83
J26A Sides Ranch, S 82.67 338 ⇓P P 08 43 23.2 -0.2
baz=83
VES Vestal, Richgr 82.68 324 ⇓P P 08 43 23.5 0.0
baz=83,SNR=6.6
K24A Anderson Ranch 82.69 337 ⇑P P 08 43 23.7 +0.1
baz=83
SMMC Simmler 82.71 323 ⇑P P 08 43 23.4 -0.4
baz=83
RPZ Rata Peaks 82.72 221 eP P 08 43 24.5 +0.6
comp=Z,129nm,1.2s
I28A Midland 82.73 340 ⇓P P 08 43 23.7 0.0
baz=83
URZ Urewera 82.77 228 P P 08 43 24.5 +0.3
comp=Z,18nm,0.7s,baz=112,slow=3.9,SNR=9.2
URZ Urewera 82.77 228 eP P 08 43 25.0 +0.7
comp=Z,26nm,0.8s
GRAC Grapevine Rang 82.79 325 ⇓P P 08 43 23.7 -0.5
baz=83
MPU Maple Canyon 82.80 331 eP P 08 43 24.9 +0.5
comp=Z,103nm,1.1s
NLU North Lily Min 82.93 330 eP P 08 43 26.2 +1.2
comp=Z,112nm,1.4s
J25A Sunshine Ranch 82.96 338 ⇑P P 08 43 24.4 -0.6
baz=83
K23A Bowen Ranch, D 82.98 336 ⇑P P 08 43 24.7 -0.5
baz=83

H29A Onida 83.04 340 ⇑P P 08 43 24.6 -0.6
baz=83,SNR=8.3
I27A Quinn 83.05 339 ⇑P P 08 43 25.1 -0.3
baz=83
R11A Troy Canyon, C 83.08 327 eP P 08 43 26.5 +0.7
comp=Z,54nm,1.2s
R11A Troy Canyon, C 83.08 327 ⇑P P 08 43 26.0 +0.2
baz=83,SNR=7.5
RCTC Rector, Farmer 83.13 324 ⇑P P 08 43 25.2 -0.6
baz=84
J24A Dixon Ranch, L 83.18 337 ⇓P P 08 43 26.0 -0.1
baz=84
K22A Casper 83.19 335 eP P 08 43 26.5 +0.3
comp=Z,118nm,1.2s
K22A Casper 83.19 335 ⇓P P 08 43 26.2 -0.1
baz=84
G30A Faulkton 83.22 341 ⇓P P 08 43 26.1 -0.1
baz=84,SNR=6.8
JLU Jordanelle 83.23 331 eP P 08 43 27.0 +0.4
comp=Z,143nm,1.7s
I26A New Underwood 83.25 338 ⇑P P 08 43 26.2 -0.2
baz=84
H28A Mission Ridge 83.31 340 ⇑P P 08 43 26.4 -0.2
baz=84
CTU Camp Tracy 83.43 331 eP P 08 43 27.9 +0.4
comp=Z,19nm,0.8s
K21A Alcova 83.43 335 ⇑P P 08 43 26.9 -0.7
baz=84,SNR=6.4
DUG Dugway 83.43 330 eP P 08 43 28.3 +0.7
DUG pmax pmax
comp=Z,160nm,1.3s
DUG Dugway 83.43 330 eP P 08 43 28.3 +0.7
comp=Z,160nm,1.3s
DUG Dugway 83.43 330 ⇓P P 08 43 26.8 -0.7
baz=84,SNR=9.1
G29A Hoven 83.48 341 ⇓P P 08 43 27.0 -0.5
baz=84,SNR=7.5
I25A Rochford 83.51 338 ⇑P P 08 43 27.9 0.0
baz=84
H27A Howes 83.57 339 ⇓P P 08 43 27.6 -0.4
baz=84
TPH Tonopah 83.59 326 eP P 08 43 29.4 +0.9
TPH pmax pmax
comp=Z,89nm,1.2s
TPH Tonopah 83.59 326 eP P 08 43 29.4 +0.9
comp=Z,89nm,1.2s
G28A Parade 83.64 340 ⇓P P 08 43 28.2 -0.1
baz=84,SNR=6.0
I24A Kuemmerle Ranc 83.65 337 ⇑P P 08 43 28.0 -0.5
baz=84
TCUT Toone Canyon 83.65 331 eP P 08 43 29.0 +0.2
comp=Z,131nm,1.2s
RSSD Black Hills 83.70 338 eP P 08 43 28.8 -0.1
RSSD pmax pmax
comp=Z,30nm,0.9s
RSSD Black Hills 83.70 338 eP P 08 43 28.8 -0.1
comp=Z,30nm,0.9s
F30A Leola 83.84 342 ⇓P P 08 43 28.9 -0.5
baz=84,SNR=7.4
J22A Midwest 83.85 336 ⇑P P 08 43 29.0 -0.6
baz=84
MLAC Mammoth Lakes 83.99 325 ⇓P P 08 43 30.1 -0.5
baz=84,SNR=7.9
H25A Fruitdale 84.01 338 ⇓P P 08 43 30.0 -0.3
baz=84
F29A Eureka 84.05 341 ⇑P P 08 43 30.2 -0.2
baz=84,SNR=9.3
J21A Lysite 84.12 335 ⇓P P 08 43 30.8 -0.3
baz=84
BGU Big Grassy Mou 84.14 330 eP P 08 43 31.9 +0.8
comp=Z,45nm,1.4s
EYMN Ely 84.19 347 eP P 08 43 31.0 0.0
comp=Z,76nm,1.1s
G27A Dupree 84.21 340 ⇓P P 08 43 30.9 -0.4
baz=85
I22A 9 Mile Ranch, 84.28 336 ⇓P P 08 43 30.9 -0.8
baz=85
NV11 Mina Array Sit 84.31 326 eP P 08 43 32.2 +0.1
F28A McLaughlin 84.32 341 ⇑P P 08 43 31.3 -0.5
baz=85,SNR=6.7
G26A Maurine 84.33 339 ⇑P P 08 43 31.1 -0.8
baz=85
J20A Shoshoni 84.35 335 ⇓P P 08 43 31.7 -0.5
baz=85,SNR=7.0
PDAR Pinedale Array 84.37 334 P P 08 43 31.8 -0.6
comp=Z,8.1nm,1.0s,baz=136,slow=4.6,SNR=5.7
BW06 Boulder Array 84.37 334 eP P 08 43 31.3 -1.0
comp=Z,52nm,1.3s
NVAR Mina Array Bea 84.38 326 P P 08 43 33.2 +0.7
comp=Z,7.2nm,0.8s,baz=159,slow=6.7,SNR=10
H24A Dirks Ranch, A 84.42 338 ⇑P P 08 43 31.2 -1.2
baz=85
E30A Jud 84.43 342 ⇓P P 08 43 32.0 -0.3
baz=85,SNR=8.3
G25A Newell 84.48 339 ⇓P P 08 43 32.1 -0.6
baz=85,SNR=6.6
I21A Big Trails, Te 84.48 335 ⇓P P 08 43 31.8 -1.0
baz=85
H23A Clabaugh Cattl 84.52 337 ⇓P P 08 43 32.2 -0.8
baz=85
J19A Crowheart 84.62 334 ⇓P P 08 43 32.9 -0.7
baz=85
E29A Napoleon 84.68 342 ⇑P P 08 43 32.8 -0.7
baz=85
F27A Lemmon 84.69 340 ⇓P P 08 43 33.0 -0.7
baz=85,SNR=6.3
HVU Hansel Valley 84.76 331 eP P 08 43 34.3 0.0
HVU pmax pmax
comp=Z,74nm,1.0s
HVU Hansel Valley 84.76 331 eP P 08 43 34.2 0.0
comp=Z,74nm,1.0s
DRLN Deer Lake 84.83 10 eP P 08 43 34.5 +0.3
F26A Lodgepole 84.85 339 ⇓P P 08 43 33.7 -0.8
baz=85
H22A Clearmont 84.86 336 ⇑P P 08 43 34.0 -0.7
baz=85,SNR=5.1
TOA0 Torodi Ar. Sit 84.89 70 eP P 08 43 34.6 -0.7
TORD Torodi Ar. Bea 84.89 70 P P 08 43 34.8 -0.6
comp=Z,57nm,1.1s,baz=247,slow=4.5,SNR=16
I20A Worland 84.89 335 ⇑P P 08 43 34.0 -0.8
baz=85,SNR=5.8
G24A Alzada 84.90 338 ⇑P P 08 43 33.8 -1.0
baz=85
ELK Elko 84.91 329 eP P 08 43 35.2 0.0
ELK pmax pmax
comp=Z,47nm,1.1s
ELK Elko 84.91 329 P P 08 43 34.9 -0.2
comp=Z,8.2nm,0.9s,baz=166,slow=2.0,SNR=8.0
ELK Elko 84.91 329 eP P 08 43 35.2 0.0
comp=Z,47nm,1.1s
AHID Auburn Hatcher 84.94 333 eP P 08 43 36.2 +1.0
comp=Z,121nm,1.4s
D30A Buchanan 84.96 342 ⇑P P 08 43 34.6 -0.3
baz=85,SNR=6.7
E28A Huff 84.96 341 ⇑P P 08 43 33.9 -1.1
baz=85
CMB Columbia Colle 85.05 324 eP P 08 43 36.3 +0.6
CMB pmax pmax
comp=Z,29nm,1.2s
CMB Columbia Colle 85.05 324 eP P 08 43 36.3 +0.6
comp=Z,30nm,1.2s
E27A Carson 85.07 340 ⇓P P 08 43 34.8 -0.8
baz=85
G23A Biddle 85.09 337 ⇓P P 08 43 35.0 -0.8
baz=85
H21A Big Horn, Sher 85.12 336 ⇑P P 08 43 34.5 -1.5
baz=86
D29A Pettibone, Tap 85.12 342 ⇓P P 08 43 35.1 -0.7
baz=86
F25A Bowman 85.15 339 ⇑P P 08 43 35.2 -0.8
baz=86
I19A Meeteetse 85.27 335 ⇑P P 08 43 35.9 -1.0
baz=86
H20A Greybull 85.32 335 ⇓P P 08 43 36.0 -0.9
baz=86,SNR=8.7
E26A Carlson Angus 85.36 340 ⇑P P 08 43 36.0 -1.0
baz=86
F24A Ekalaka 85.38 338 ⇑P P 08 43 36.3 -0.9
baz=86
G22A Birney 85.40 337 ⇓P P 08 43 36.4 -0.9
baz=86
AGMN Agassiz Nation 85.40 345 eP P 08 43 36.6 -0.5
comp=Z,62nm,1.0s
AGMN Agassiz Nation 85.40 345 ⇑P P 08 43 36.3 -0.8
baz=86
C30A Mose, Pekin 85.44 343 ⇓P P 08 43 36.8 -0.6
baz=86,SNR=7.1
LOHW Long Hollow 85.49 333 eP P 08 43 39.8 +1.8
comp=Z,46nm,1.2s
D28A Regan 85.50 341 ⇑P P 08 43 36.8 -0.9
baz=86
BMN Battle Mountai 85.51 327 eP P 08 43 37.9 -0.2
BMN Battle Mountai 85.51 327 eP P 08 43 37.9 -0.2
TPAW Teton Pass 85.51 333 eP P 08 43 38.5 +0.4
comp=Z,59nm,1.1s
F23A Volborg 85.56 338 ⇑P P 08 43 37.3 -0.7
baz=86,SNR=6.7
E25A Miller Ranch, 85.66 339 ⇑P P 08 43 37.4 -1.1
baz=86
D27A Center 85.68 341 ⇓P P 08 43 37.9 -0.6
baz=86
G21A Lodge Grass 85.70 336 ⇓P P 08 43 38.1 -0.7
baz=86,SNR=5.8
I17A Pilgrim Ck. 85.74 333 ⇓P P 08 43 38.7 -0.5
baz=86
H19A Powell 85.82 335 ⇓P P 08 43 38.6 -0.9
baz=86,SNR=5.6
IMW Indian Meadow 85.85 333 eP P 08 43 39.6 -0.3
comp=Z,95nm,1.3s
D26A Manning 85.86 340 ⇓P P 08 43 39.3 -0.2
baz=86,SNR=6.9
F22A Rosebud 85.88 337 ⇑P P 08 43 39.0 -0.6
baz=86,SNR=8.2
FLWY Flagg Ranch 85.93 333 eP P 08 43 40.5 +0.4
comp=Z,49nm,0.9s
C28A Hausauer Farms 85.94 342 ⇓P P 08 43 39.2 -0.6
baz=86
E24A Baker 85.98 339 ⇑P P 08 43 39.6 -0.5
baz=86,SNR=6.5
G20A Bridger 86.03 336 ⇑P P 08 43 39.4 -1.1
baz=86,SNR=9.4
H18A Shoshone NF, C 86.06 334 ⇓P P 08 43 39.8 -1.0
baz=86,SNR=9.3
B30A Myrvik Farm, E 86.10 343 ⇓P P 08 43 40.0 -0.6
baz=86,SNR=7.4
H17A Grant Village 86.15 334 eP P 08 43 42.3 +1.0
comp=Z,50nm,1.5s
H17A Grant Village 86.15 334 ⇓P P 08 43 40.7 -0.6
baz=86
F21A Absaloka Mine, 86.20 337 ⇓P P 08 43 40.7 -0.5
baz=87
D25A Fairfield 86.22 340 ⇓P P 08 43 41.0 -0.3
baz=87,SNR=9.4
E23A Ismay 86.22 338 ⇑P P 08 43 40.8 -0.5
baz=87
C27A Sayler Ranch, 86.23 341 ⇑P P 08 43 41.0 -0.3
baz=87,SNR=6.6
YFT Old Faithful 86.29 334 eP P 08 43 42.5 +0.5
comp=Z,33nm,1.0s
RLMT Red Lodge 86.31 335 eP P 08 43 41.6 -0.4
B29A Wagenman Farm, 86.37 342 ⇑P P 08 43 41.3 -0.6
baz=87
E22A Miles City 86.37 338 ⇑P P 08 43 41.2 -0.8
baz=87
D24A Glendive 86.48 339 ⇑P P 08 43 42.1 -0.4
baz=87,SNR=8.3
C26A Wahner Farm, P 86.49 341 ⇓P P 08 43 41.9 -0.7
baz=87
F20A Billings 86.52 336 ⇓P P 08 43 42.0 -0.8
baz=87
YMR Madison River 86.53 334 eP P 08 43 43.8 +0.7
comp=Z,110nm,1.1s
A30A Hoffart Farm, 86.56 343 ⇓P P 08 43 42.2 -0.6
baz=87
B28A Dugan Ranch, T 86.61 342 ⇑P P 08 43 42.6 -0.5
baz=87,SNR=8.9
OHCM Honcut 86.61 324 eP P 08 43 44.0 +0.7
LAO LASA Array 86.68 338 eP P 08 43 43.3 -0.3
comp=Z,108nm,1.1s
C25A Freed Ranch, W 86.71 340 ⇓P P 08 43 43.0 -0.7
baz=87
A29A Manning Farm, 86.76 343 ⇓P P 08 43 43.4 -0.5
baz=87,SNR=9.7
B27A Peters Farms, 86.80 341 ⇓P P 08 43 43.9 -0.1
baz=87
D23A Lindsay 86.80 338 ⇑P P 08 43 43.8 -0.4
baz=87,SNR=12
E21A Keefer Ranch, 86.82 337 ⇓P P 08 43 44.1 -0.1
baz=87,SNR=8.8
QLMT Earthquake Lak 86.84 333 eP P 08 43 46.8 +2.3
F19A Roth Farm, Mol 86.84 335 ⇓P P 08 43 43.8 -0.6
baz=87
C24A Savage 86.89 339 ⇓P P 08 43 44.3 -0.2
baz=87,SNR=12
HLID Hailey 86.91 331 eP P 08 43 45.6 +0.7
comp=Z,80nm,1.3s
HLID Hailey 86.91 331 ⇓P P 08 43 44.4 -0.5
baz=87,SNR=6.2
A28A Rude Farm, Bot 87.01 342 ⇓P P 08 43 44.7 -0.4
baz=87
B26A Jensen Ranch, 87.03 341 ⇑P P 08 43 44.5 -0.7
baz=87
D22A Cohagen 87.08 338 ⇓P P 08 43 44.7 -0.7
baz=87
E20A Meyer Farm, Mu 87.13 336 ⇓P P 08 43 45.4 -0.4
baz=88,SNR=13
B25A Knox Farm, Ray 87.19 340 ⇓P P 08 43 45.5 -0.4
baz=88,SNR=7.0
ULM Lac du Bonnet 87.25 345 P P 08 43 44.7 -1.4
ULM pmax pmax
comp=Z,29nm,1.1s
ULM Lac du Bonnet 87.25 345 P P 08 43 44.7 -1.4
comp=Z,29nm,1.1s,baz=176,slow=2.8,SNR=7.7
D21A La Casta Ranch 87.26 337 ⇑P P 08 43 45.5 -0.9
baz=88
A27A Ledoux Ranch, 87.30 342 ⇓P P 08 43 46.3 -0.1
baz=88
E19A Rath Farm, Rou 87.31 336 ⇑P P 08 43 46.1 -0.6
baz=88,SNR=8.8
C23A Lambert 87.36 339 ⇓P P 08 43 46.4 -0.3
baz=88,SNR=9.7
MFID Camas Ranch 87.36 330 eP P 08 43 49.0 +2.0
comp=Z,55nm,1.2s
MCMT McKenzie Canyo 87.36 333 eP P 08 43 47.5 +0.3
comp=Z,62nm,1.2s
A26A Wade Farm, Ken 87.46 341 ⇑P P 08 43 46.7 -0.5
baz=88
C22A Vida 87.52 338 ⇑P P 08 43 46.7 -0.9
baz=88
D20A Manuel Ranch, 87.65 337 ⇓P P 08 43 47.3 -0.9
baz=88,SNR=8.4
DGMT Dagmar 87.67 340 eP P 08 43 48.0 -0.2
comp=Z,372nm,1.3s
DGMT Dagmar 87.67 340 ⇓P P 08 43 47.8 -0.5
baz=88,SNR=11
DLMT Dillon 87.72 333 eP P 08 43 50.9 +2.2
comp=Z,102nm,1.3s
A25A Svangstu Ranch 87.79 340 ⇓P P 08 43 48.4 -0.4
baz=88
B23A Brockton 87.89 339 ⇓P P 08 43 48.7 -0.6
baz=88,SNR=6.6
D19A Cripps Ranch, 87.96 336 ⇑P P 08 43 49.0 -0.7
baz=88
C21A Desert Coulee 87.97 338 ⇑P P 08 43 48.6 -1.1
baz=88,SNR=7.2
A24A Westby 88.02 340 ⇑P P 08 43 49.2 -0.7
baz=88
B22A Reddig Ranch S 88.05 338 ⇑P P 08 43 49.5 -0.6
baz=88,SNR=11
LRM Limekiln Ridge 88.06 333 eP P 08 43 50.3 -0.2
comp=Z,490nm,1.3s
MOD Modoc 88.08 326 eP P 08 43 50.3 -0.2
comp=Z,89nm,1.2s
C20A Veseth Ranch, 88.16 337 ⇑P P 08 43 49.1 -1.5
baz=88,SNR=5.3
A23A Redstone 88.31 339 ⇓P P 08 43 50.0 -1.2
baz=89
N02D Trinity Center 88.47 324 ⇓P P 08 43 50.8 -1.5
baz=89
B21A Ellsworth Farm 88.47 338 ⇑P P 08 43 51.2 -0.9
baz=89
C19A Slack Wire Ran 88.51 336 ⇑P P 08 43 51.1 -1.2
baz=89
A22A Carney Farms, 88.64 339 ⇓P P 08 43 52.0 -0.9
baz=89,SNR=7.5
M04C Macdoel 88.69 325 ⇑P P 08 43 52.0 -1.4
baz=89
B20A Solberg Farm, 88.80 337 ⇓P P 08 43 52.1 -1.5
baz=89
M02C Callahan 88.86 325 ⇑P P 08 43 52.8 -1.4
baz=89
A21A Bergtoll Ranch 88.94 338 ⇑P P 08 43 52.8 -1.5
baz=89
K05A Summer Lake 88.99 327 eP P 08 43 56.0 +1.1
comp=Z,138nm,1.1s
EGMT Eagleton 89.00 336 eP P 08 43 53.4 -1.2
comp=Z,47nm,1.4s
EGMT Eagleton 89.00 336 ⇑P P 08 43 53.2 -1.5
baz=89
YBH Yreka Blue Hor 89.06 325 eP P 08 43 54.9 -0.2
YBH pmax pmax
comp=Z,32nm,1.1s
YBH Yreka Blue Hor 89.06 325 eP P 08 43 54.9 -0.2
comp=Z,32nm,1.1s
B19A Brinkman Farms 89.11 337 ⇓P P 08 43 54.2 -0.9
baz=90,SNR=5.5
BMO Blue Mountains 89.15 330 eP P 08 43 57.3 +1.9
BMO pmax pmax
comp=Z,32nm,1.4s
BMO Blue Mountains 89.15 330 eP P 08 43 57.3 +1.9
comp=Z,32nm,1.4s
A20A Cobblestone Ra 89.16 338 ⇑P P 08 43 54.3 -1.0
baz=90
K04D Chiloquin, OR 89.31 326 ⇑P P 08 43 54.8 -1.5
baz=90
I07A Izee 89.45 328 eP P 08 43 59.7 +2.8
comp=Z,52nm,1.3s
A19A Klindworth Far 89.46 337 ⇑P P 08 43 55.6 -1.2
baz=90,SNR=5.3
MSO Missoula 89.46 333 ⇑P P 08 43 55.7 -1.2
baz=90
J05D Fort Rock, OR 89.59 327 ⇓P P 08 43 56.5 -1.1
baz=90
PINOR Pine Mountain 89.84 327 eP P 08 43 59.7 +1.2
comp=Z,58nm,1.2s
LSZ Lusaka 89.91 109 eP P 08 44 01.2 +1.4
LSZ Lusaka 89.91 109 eP P 08 44 01.2 +1.4
SWMT Swartz Lake 90.05 333 eP P 08 43 59.5 -0.1
JTMT Jette 90.36 333 eP P 08 44 01.4 +0.3
I05D Terrebonne, OR 90.46 327 ⇑P P 08 44 00.2 -1.4
baz=91
I04A Tendick Farm, 90.52 326 ⇓P P 08 44 00.5 -1.3
baz=91
G05D Wamic, OR 91.16 328 ⇓P P 08 44 03.4 -1.3
baz=92
HAWA Hanford 91.31 330 eP P 08 44 07.8 +2.4
comp=Z,55nm,1.3s
WALA Waterton Lakes 91.32 334 eP P 08 44 05.5 -0.1
comp=Z,1.5nm,1.2s
E07A Sunnyside 91.58 329 eP P 08 44 07.5 +0.8
comp=Z,21nm,1.1s
D08A Wollman Farm, 91.59 330 eP P 08 44 06.8 +0.1
comp=Z,42nm,1.2s
NEW Newport 91.86 332 eP P 08 44 06.8 -1.1
NEW pmax pmax
comp=Z,31nm,1.3s
NEW Newport 91.86 332 P P 08 44 07.0 -0.9
comp=Z,3.6nm,0.9s,baz=117,slow=3.7,SNR=3.5
NEW Newport 91.86 332 eP P 08 44 06.8 -1.1
comp=Z,31nm,1.3s
NEW Newport 91.86 332 ⇓P P 08 44 07.0 -0.9
baz=92
D05A Enumclaw 92.98 329 eP P 08 44 13.8 +0.8
comp=Z,39nm,1.1s
EDM Edmonton 94.64 337 eP P 08 44 18.5 -2.1
EDM Edmonton 94.64 337 eP P 08 44 18.5 -2.1
FCC Fort Churchill 95.02 349 eP P 08 44 21.5 -0.6
FCC e 08 44 30.3
FCC Fort Churchill 95.02 349 eP P 08 44 21.5 -0.6
comp=Z,1.9nm,1.2s
FCC e 08 44 30.3
ESDC Sonseca Array 97.47 46 P P 08 44 33.1 -0.7
comp=Z,1.2nm,0.7s,baz=242,slow=3.4,SNR=3.3
YKA Yellowknife Ar 102.76 341 P Pdif 08 44 55.6 -1.2
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 102.76 341 P Pdif 08 44 55.6 -1.2
comp=Z,1.1nm,0.8s,baz=146,slow=4.6,SNR=5.7
YKA PKKP PKKPdf 09 01 03.1 -2.3
comp=Z,0.4nm,0.8s,baz=318,slow=3.5,SNR=4.3
GERES GERESS Array B 113.06 46 PKiKP PKiKP 08 49 36.6 -0.4
comp=Z,2.3nm,1.0s,baz=270,slow=1.3,SNR=4.5
GERES pPKiKP pPKiKP 08 49 45.0 -0.9
comp=Z,2.9nm,1.0s,baz=188,slow=0.9,SNR=4.6
CLL Collm 113.76 43 iPKiKP PKiKP 08 49 38.9 +0.8
ILAR Eielson Array 114.80 333 PKIKP PKPdf 08 49 38.9 -0.8
ILAR 08 49 46.3
ILAR 09 00 21.0
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 114.80 333 PKP PKPdf 08 49 38.9 -0.9
comp=Z,1.8nm,1.0s,baz=184,slow=1.5,SNR=4.5
ILAR pPKP PKiKP 08 49 46.2 +6.5
comp=Z,3.1nm,0.9s,baz=186,slow=1.3,SNR=7.6
ILAR PKKPab PKKPab 09 00 20.9 +0.5
comp=Z,2.2nm,1.0s,baz=290,slow=4.2,SNR=6.3
VYHS Vyhne 115.98 48 ePKIKP PKPdf 08 49 42.1 -0.4
VYHS e 08 49 50.9
VYHS Vyhne 115.98 48 ePKP PKPdf 08 49 42.1 -0.4
VYHS e 08 49 50.9
BZS Buzias 116.56 52 ⇑iP PKPdf 08 49 43.1 -0.6
NB2 NORSAR Subarra 116.98 33 PKKP PKKPab 09 00 18.0 +6.8
comp=Z,3.7nm,1.1s,baz=66,slow=1.9
NOA NORSAR Array B 116.98 33 PKKPab PKKPab 09 00 20.7 +10
comp=Z,3.3nm,0.8s,baz=68,slow=4.5,SNR=7.9
DRGR 117.72 51 ⇑iP PKPdf 08 49 45.9 -0.1
HFS Hagfors 117.76 34 PKKPab PKKPab 09 00 08.2 +0.5
comp=Z,3.4nm,0.9s,baz=90,slow=3.3,SNR=4.2
TRPA Tarpa 118.12 49 ⇑iP PKPdf 08 49 46.8 +0.2
KOLS Kolonicke sedl 118.25 48 ePKIKP PKPdf 08 49 47.0 +0.1
KOLS Kolonicke sedl 118.25 48 ePKP PKPdf 08 49 47.0 +0.1
VOIR 118.72 53 ⇓iP PKPdf 08 49 44.8 -3.2
KWP Kalwaria Pacla 118.77 48 ePKIKP PKPdf 08 49 47.9 +0.1
KWP Kalwaria Pacla 118.77 48 ⇓iP PKPdf 08 49 47.8 0.0
KWP Kalwaria Pacla 118.77 48 ePKPdf PKPdf 08 49 47.9 +0.1
BURAR Bucovina Array 119.61 50 ⇓iP PKPdf 08 49 49.6 0.0
WRA Warramunga Arr 119.80 209 PKIKP PKPdf 08 49 49.4 -1.4
WRA 08 49 58.4
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRA Warramunga Arr 119.80 209 PKP PKPdf 08 49 49.4 -1.4
comp=Z,4.7nm,0.9s,baz=164,slow=1.6,SNR=8.8
WRA pPKP pPKPdf 08 49 58.4 -1.4
comp=Z,5.0nm,0.7s,baz=158,slow=1.6,SNR=6.9
VRI Vrincioaia 119.97 53 ⇓iP PKPdf 08 49 49.4 -0.9
TESR Tescani 120.15 52 ⇑iP PKPdf 08 49 48.9 -1.7
TIRR Tirgusor 120.60 55 ⇑iP PKPdf 08 49 48.9 -2.6
BRTR Keskin Array B 122.61 62 PKIKP PKPdf 08 49 54.8 -0.9
BRTR 08 50 03.5
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 122.61 62 PKP PKPdf 08 49 54.8 -0.9
comp=Z,4.6nm,0.8s,baz=184,slow=2.6,SNR=7.7
BRTR pPKP pPKPdf 08 50 03.5 -1.2
comp=Z,6.6nm,0.8s,baz=198,slow=3.5,SNR=9.6
AKASG Malin Array Be 123.08 48 PKIKP PKPdf 08 49 54.7 -1.4
AKASG 08 50 03.3
AKASG pmax pmax
comp=Z,7.0nm,1.0s
AKASG Malin Array Be 123.08 48 PKP PKPdf 08 49 54.6 -1.4
comp=Z,6.9nm,1.0s,baz=266,slow=2.6,SNR=6.2
AKASG pPKP pPKPdf 08 50 03.2 -1.7
comp=Z,7.4nm,0.9s,baz=267,slow=2.7,SNR=6.7
AKBB Malin Array Si 123.08 48 ePKIKP PKPdf 08 49 54.7 -1.3
AKBB Malin Array Si 123.08 48 ePKPdf PKPdf 08 49 54.7 -1.3
TNA Tin City 123.36 330 ePKPdf PKPdf 08 49 55.6 -0.5
SPITS Spitsbergen Ar 123.63 14 PKIKP PKPdf 08 49 56.0 -0.4
SPITS pmax pmax
comp=Z,10.0nm,1.0s
SPITS Spitsbergen Ar 123.63 14 PKP PKPdf 08 49 56.0 -0.4
comp=Z,10nm,1.0s,baz=194,slow=5.5,SNR=4.2
GAMB Gambell 124.63 328 ePKPdf PKPdf 08 49 58.9 +0.3
ARCES ARCESS Array B 124.98 25 PKIKP PKPdf 08 49 58.6 -0.6
ARCES ARCESS Array B 124.98 25 PKP PKPdf 08 49 58.6 -0.6
comp=Z,1.9nm,0.8s,baz=294,slow=2.9,SNR=3.1
RAYN Ar Rayn 125.49 84 ePKPdf PKPdf 08 50 02.3 +0.7
MALT Malatya 125.64 65 ⇑iP PKPdf 08 50 01.7 +0.2
APA Apatity 127.76 28 ⇓iPKIKP PKPdf 08 50 07.0 +2.5
OBN Obninsk 128.35 44 iPKIKP PKPdf 08 50 06.0 +0.1
OBN e 08 50 13.8
OBN e 08 52 09.3
OBN pmax pmax
comp=Z,59nm,1.2s
KIV Kislovodsk 130.29 59 ePKIKP PKPdf 08 50 11.2 +1.0
KIV Kislovodsk 130.29 59 ePKPdf PKPdf 08 50 11.2 +1.0
KBZ Khabaz 130.39 59 PKIKP PKPdf 08 50 10.7 +0.5
KBZ pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 130.39 59 PKP PKPdf 08 50 10.7 +0.5
comp=Z,7.9nm,1.1s,baz=218,slow=1.6,SNR=3.6
ITBZ Tabriz 131.41 67 eP PKPdf 08 50 11.0 -1.6

IHRS Heris 132.11 67 eP PKPdf 08 50 12.0 -2.1
KAPI Kappang 138.66 199 ePKPdf PKPdf 08 50 27.0 +0.3
PETK Petropavlovsk- 140.47 313 PKIKP PKPdf 08 50 29.1 +0.4
PETK pmax pmax
comp=Z,7.0nm,0.8s
PETK Petropavlovsk- 140.47 313 PKP PKPdf 08 50 29.1 +0.4
comp=Z,8.1nm,0.9s,baz=116,slow=3.4,SNR=4.5
SEY Seymchan 140.59 329 PKIKP PKPdf 08 50 27.9 -0.7
SEY 08 50 36.2
SEY pmax pmax
comp=Z,12nm,0.8s
SEY Seymchan 140.59 329 PKP PKPdf 08 50 27.9 -0.7
comp=Z,12nm,0.8s,baz=61,slow=3.1,SNR=7.9
SEY pPKP pPKPdf 08 50 36.2 -1.4
comp=Z,16nm,0.9s,baz=57,slow=0.9,SNR=7.7
AKTO Aktyubinsk 141.21 51 PKIKP PKPdf 08 50 29.3 -0.9
AKTO pmax pmax
comp=Z,77nm,1.1s
AKTO Aktyubinsk 141.21 51 PKP PKPdf 08 50 29.3 -0.9
comp=Z,77nm,1.1s,baz=30,slow=0.2,SNR=46
PALK Pallekele 143.10 132 PKHKP PKPpre 08 50 30.5
PALK pmax pmax
comp=Z,20nm,1.1s
PALK Pallekele 143.10 132 PKhKP PKPpre 08 50 30.5
comp=Z,20nm,1.1s,baz=223,slow=5.1,SNR=3.8
PALK Pallekele 143.10 132 PKPpre PKPpre 08 50 30.5
PALK ePKPdf PKPdf 08 50 35.2 +0.4
GOA Goa 144.19 114 eP PKPab 08 50 34.1 -0.1
BHJ Bhuj 145.16 99 eP PKPbc 08 50 37.2 -0.4
POO Poona 146.03 110 eP PKPbc 08 50 39.3 -0.3
KSM Kuching 146.66 185 ePKPdf PKPdf 08 50 41.4 +0.5
MDRS Chennai 147.16 125 eP PKPbc 08 50 39.0 -2.5
SBUM Sibu 147.43 189 ePKPdf PKPbc 08 50 44.3 -0.3
BRVK Borovoye 148.12 44 ePKP2 PKPbc 08 50 45.4 +0.1
BRVK Borovoye 148.12 44 ePKPbc PKPbc 08 50 45.4 +0.1
BVAR Borovoye Array 148.20 44 PKIKP PKPdf 08 50 43.1 +1.0
BVAR 08 50 46.3
BVAR pmax pmax
comp=Z,18nm,0.9s
BVAR pmax pmax
comp=Z,19nm,0.9s
BVAR Borovoye Array 148.20 44 PKP PKPdf 08 50 43.1 +1.0
comp=Z,18nm,0.9s,baz=318,slow=1.9,SNR=6.1
BVAR PKPbc PKPbc 08 50 46.3 +0.8
comp=Z,18nm,0.9s,baz=305,slow=5.2,SNR=5.5
KBL Kabul 148.53 79 ePKP2 PKPbc 08 50 46.9 -0.4
KBL Kabul 148.53 79 ePKPbc PKPbc 08 50 46.9 -0.4
HYB Hyderabad 148.91 117 i PKP PKPbc 08 50 48.0 -0.4
HYB Hyderabad 148.91 117 eP PKPdf 08 50 43.2 -1.2
LHMI Lhok Sumawe 148.93 159 ePKPbc PKPbc 08 50 48.1 -0.4
IPM Ipoh 149.16 167 ePKPbc PKPbc 08 50 48.3 -0.9
YAK Yakutsk 149.42 339 ePKHKP PKPdf 08 50 46.8 +3.0
YAK pmax pmax
comp=Z,76nm,1.1s
YAK Yakutsk 149.42 339 ePKPbc PKPbc 08 50 47.5 -0.7
CMBY CAMPBELL BAY 149.58 153 ex PKPbc 08 50 47.0 -3.2
KULM Kulim 149.88 166 ePKPbc PKPbc 08 50 50.2 -0.7
KKM Kota Kinabalu 150.19 198 ePKPbc PKPbc 08 50 50.8 -0.5
KKAR Karatay Array 150.31 63 ePKIKP PKPbc 08 50 50.8 -0.3
KKAR Karatay Array 150.31 63 ePKPbc PKPbc 08 50 50.8 -0.3
YSS Yuzh-Sakhalins 150.99 305 ePKIKP PKPab 08 51 01.0 +0.9
YSS Yuzh-Sakhalins 150.99 305 ePKPbc PKPbc 08 50 53.4 +0.9
ERM Erimo 151.32 295 ePKIKP PKPab 08 51 02.7 +1.0
ERM Erimo 151.32 295 ePKPab PKPab 08 51 02.7 +1.0
BHPL Bhopal 151.39 106 ex PKPdf 08 50 44.6 -3.6
ASAJ Asahikawa 151.56 300 PKPbc PKPbc 08 50 53.6 -0.3
comp=Z,30nm,1.0s,baz=270,slow=11,SNR=5.7
ASAJ pPKPbc PKPab 08 51 01.0 -1.6
comp=Z,117nm,1.0s,baz=272,slow=12,SNR=15
VIS Vishakhapatnam 152.53 122 eP PKPbc 08 50 48.1 -1.9
EKS2 Erkin-Say 152.74 63 ePKPbc PKPbc 08 50 56.9 +0.1
AAK Ala-Archa 153.27 63 PKIKP PKPbc 08 50 57.7 -0.4
AAK 08 51 09.9
AAK pmax pmax
comp=Z,36nm,1.0s
AAK pmax pmax
comp=Z,33nm,0.8s
AAK Ala-Archa 153.27 63 PKPbc PKPbc 08 50 57.7 -0.4
comp=Z,36nm,1.0s,baz=190,slow=3.5,SNR=6.8
AAK PKPab PKPab 08 51 09.9 -0.2
comp=Z,33nm,0.8s,baz=199,slow=4.3,SNR=7.5
AAK Ala-Archa 153.27 63 ePKPbc PKPbc 08 50 58.2 +0.1
AAK PKPab PKPab 08 51 09.9 -0.2
PBA Port Blair 153.28 146 eP PKPdf 08 50 51.0 -0.2
NVS Novosibirsk 153.90 33 ePKIKP PKPbc 08 50 57.4 -1.4
NVS pmax pmax
comp=Z,111nm,1.4s
NVS pmax pmax
comp=N,12nm,0.7s
NVS pmax pmax
comp=E,9.0nm,0.7s
DHRM DHARAMSHALA 153.94 87 eP PKPdf 08 50 51.9 0.0
SMLA Simla 154.35 90 eP PKPdf 08 50 52.8 +0.6
KSH Kashi 154.56 70 ePKPbc PKPbc 08 50 58.8 -2.1
KSH esPKP 08 51 12.3
KSH PP PP 08 54 57.0 +5.4
KSH eSS SS 09 14 32.5 +1.1
DGPR DIGLIPUR 154.69 145 ex PKPdf 08 50 55.0 +1.9
DDI Dehra Dun 154.85 92 eP PKPdf 08 50 51.3 -1.7
MJAR Matsushiro Arr 155.04 283 PKIKP PKPbc 08 51 00.3
MJAR pmax pmax
comp=Z,5.0nm,1.0s
MJAR Matsushiro Arr 155.04 283 PKPbc PKPbc 08 51 00.3
comp=Z,5.4nm,1.0s,baz=199,slow=0.9,SNR=6.5
ZAA0 Zalesovo Array 155.18 33 ePKPdf PKPdf 08 50 52.2 -0.4
ZAA0 ePKPbc PKPbc 08 51 00.7
ZALV Zalesovo Beam 155.18 33 PKIKP PKPdf 08 50 52.0 -0.6
ZALV 08 51 00.7
ZALV pmax pmax
comp=Z,14nm,1.0s
ZALV pmax pmax
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 155.18 33 PKP PKPdf 08 50 52.0 -0.6
comp=Z,14nm,1.0s,baz=336,slow=3.3,SNR=4.3
ZALV pPKP pPKPdf 08 51 00.7 -1.0
comp=Z,16nm,0.9s,baz=282,slow=2.9,SNR=4.8
ZALV PKPab PKPab 08 51 17.9 +0.3
comp=Z,12nm,0.8s,baz=292,slow=3.9,SNR=3.4
MKAR Makanchi Array 157.64 50 PKIKP PKPdf 08 50 56.4 +0.3
MKAR 08 51 04.2
MKAR pmax pmax
comp=Z,34nm,1.3s
MKAR Makanchi Array 157.64 50 PKP PKPdf 08 50 56.4 +0.3
comp=Z,18nm,1.2s,baz=17,slow=0.8,SNR=3.7
MKAR pPKP pPKPdf 08 51 04.2 -0.9
comp=Z,16nm,1.0s,baz=343,slow=1.3,SNR=4.7
MKAR PKPab PKPab 08 51 28.1 -0.4
comp=Z,12nm,0.9s,baz=273,slow=4.3,SNR=4.1
MKAR pPKPab pPKPab 08 51 36.3 -0.9
comp=Z,12nm,0.9s,baz=289,slow=3.4,SNR=3.5
BOK Bokaro 158.22 115 eP PKPdf 08 50 53.9 -3.6
USRK Ussuriysk Arra 159.00 304 PKPab PKPab 08 51 34.3 -0.1
comp=Z,4.0nm,0.9s,baz=43,slow=3.0,SNR=3.6
MDJ Mudanjiang 160.47 306 PKP PKPdf 08 50 59.0 -0.5
CMAR Chiang Mai Arr 161.97 153 PKIKP PKPdf 08 51 01.9 0.0
CMAR 08 51 10.1
CMAR 08 51 47.4
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR pmax pmax
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 161.97 153 PKP PKPdf 08 51 01.9 0.0
comp=Z,2.1nm,0.5s,baz=240,slow=2.9,SNR=4.2
CMAR pPKP pPKPdf 08 51 10.1 -0.8
comp=Z,6.2nm,0.9s,baz=271,slow=2.8,SNR=2.7
CMAR PKPab PKPab 08 51 47.4 -0.4
comp=Z,7.1nm,0.9s,baz=222,slow=4.3,SNR=5.9
CMAR pPKPab pPKPab 08 51 55.2 -1.4
comp=Z,16nm,1.0s,baz=227,slow=4.8,SNR=5.7
WMQ Urumqi 162.32 54 PKP PKPdf 08 51 01.5 0.0
WMQ LR LR
comp=Z,800nm,22.6s
WMQ LR LR
comp=Z,1µm,21.4s
WMQ LR LR
comp=Z,1µm,20.5s
SHL Shillong 163.65 120 eP PKPdf 08 51 02.9 -0.6
SONM Songino Array 167.03 3 PKP2 PKPab 08 52 09.9 +0.4
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 167.03 3 PKPab PKPab 08 52 09.9 +0.4
comp=Z,5.4nm,0.9s,baz=333,slow=3.4,SNR=3.8
SONM pPKPab pPKPab 08 52 19.3 +1.0
comp=Z,11nm,0.8s,baz=335,slow=3.6,SNR=8.0

NJ2 Nanjing 170.09 257 ePKP PKPdf 08 51 09.0 +1.1
GYA Guiyang 171.57 175 i PKP PKPdf 08 51 09.0 -0.1
GYA pPKP pPKPdf 08 51 20.8 +2.7
GYA PKPab PKPab 08 52 32.5 +2.4
GYA PKS PKSdf 08 54 40.0 -1.6
GYA PP PP 08 56 23.5 +3.5
GYA SKKS 09 03 06.3
GYA SS SS 09 17 24.8 +0.3
GYA AMB AMB
comp=Z,180nm,8.5s
GYA LR LR
comp=Z,210nm,21.5s
GYA LR LR
comp=Z,190nm,21.0s
GYA LR LR
comp=Z,230nm,24.1s
GTA Gaotai 172.40 51 ePKP PKPdf 08 51 09.8 +0.7
GTA pPKP pPKPdf 08 51 20.3 +2.2
GTA sPKP 08 51 24.5
HHC Hu-ho-hao-te 173.22 333 ePKP PKPdf 08 51 06.5 -2.8
CD2 Chengdu 174.95 141 PKP PKPdf 08 51 09.8 -0.3
CD2 pPKP pPKPdf 08 51 21.0 +1.8
CD2 sPKP 08 51 25.0
CD2 PKS PKSdf 08 54 40.5 -1.9
CD2 PP PP 08 56 40.5 +3.4
CD2 SKS SKSdf 08 58 07.5 -4.0
CD2 SKKS SKKSac 09 03 21.3 -0.8
CD2 SS SS 09 17 57.0 -1.5
CD2 AMB AMB
comp=Z,2µm,6.4s
LZH Lanzhou 176.80 67 ePKP PKPdf 08 51 11.3 +0.7
LZH pPKP pPKPdf 08 51 20.1 +1.4
LZH sPKP 08 51 26.3
LZH PKPab PKPab 08 52 54.5 +1.0

*IDC **27** 08:31:53.4±1.1, 32.°95S×72.°39W, h0km, mb5.5/7, mb1 5.5/9, mb1mx4.9/39, mbtmp5.4/9, ML5.1/2, Error ellipse: s-maj=47.8km s-min=21.9km az=113.0*
*ISCJB **27** 08:31:54.4±0.8, 33.°0S±0.°1×72.°1W±0.°2, h10km, mb5.4/12, Error ellipse: s-maj=25.8km s-min=13.7km az=14.2*
*NEIC **27** 08:31:58.9±0.5, 33.°03S×72.°44W, h35km, mb5.5/6, Error ellipse: s-maj=18.7km s-min=11.9km az=123.0*
ISC 27 08:31:56.0±0.7, 33.°0S±0.°1×72.°4W±0.°1, h14km, n28, σ1§22/28, mb5.5/12, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 3.83 69 Pn Pn 08 32 57.0 +2.5
83nm,0.3s,baz=231,slow=12,SNR=14
CFAA Lg Lg 08 33 48.8
20nm,0.3s,baz=89,slow=13,SNR=5.1
CPUP Villa Florida 14.72 67 Pn Pn 08 35 22.4 -1.4
4.4nm,0.3s,baz=229,slow=18,SNR=2.7
CPUP Villa Florida 14.72 67 ePn Pn 08 35 25.8 +2.0
SIV San Ignacio 19.84 34 P P 08 36 25.4 -1.1
1.8nm,0.3s,baz=218,slow=14,SNR=2.1
SAML Samuel 25.45 22 eP P 08 37 24.2 +0.7
57nm,0.8s
BDFB Brasilia 28.08 58 P P 08 37 45.5 -1.9
75nm,0.9s,baz=256,slow=9.7,SNR=4.6
SNAA Sanae 52.60 158 P P 08 41 08.8 -0.1
17nm,0.8s,baz=264,slow=11,SNR=4.3
TEIG Tepich 55.09 342 eP P 08 41 29.6 +2.0
35nm,0.6s
QSPA South Pole Qui 57.20 180 P P 08 41 43.6 +1.2
60nm,1.0s,baz=160,slow=6.1,SNR=3.0
BBTS Babate 71.38 58 P P 08 43 15.0 -0.8
78nm,1.0s,baz=334,slow=3.8,SNR=4.2
DBIC Dimbokro 75.19 72 eP P 08 43 38.0 -0.4
49nm,0.9s
TSUM Tsumeb 79.79 106 eP P 08 44 04.7 +0.4
BOSA Boshof 80.81 118 P P 08 44 09.1 -0.5
72nm,1.0s,baz=226,slow=5.7,SNR=2.1
BOSA Boshof 80.81 118 eP P 08 44 08.7 -0.9
63nm,1.1s
CASY Casey 80.97 181 eP P 08 44 10.2 +0.6
39nm,1.0s
LBTB Lobatse 83.01 115 eP P 08 44 20.3 -1.0
131nm,1.1s
TORD Torodi Ar. Bea 84.19 70 P P 08 44 26.9 -0.3
62nm,0.9s,baz=251,slow=4.9,SNR=8.8
ESDC Sonseca Array 96.15 46 P P 08 45 22.9 -0.4
0.5nm,0.5s,baz=237,slow=5.1,SNR=4.3
WRA Warramunga Arr 121.44 210 PKP PKPdf 08 50 47.6 -1.9
4.0nm,0.9s,baz=154,slow=1.8,SNR=5.4
AKASG Malin Array Be 121.78 47 PKP PKPdf 08 50 49.1 0.0
3.2nm,0.8s,baz=264,slow=2.4,SNR=2.9
PALK Pallekele 144.25 130 PKP PKPbc 08 51 30.4 0.0
60nm,1.0s,baz=214,slow=5.6,SNR=6.7
PALK Pallekele 144.25 130 PKP PKPbc 08 51 30.4 0.0
PALK ePKPdf PKPab 08 51 30.8 +0.7
BVAR Borovoye Array 146.79 42 PKPbc PKPdf 08 51 35.3 0.0
15nm,0.8s,baz=303,slow=6.3,SNR=3.7
KBL Kabul 148.07 76 ePKPdf PKPdf 08 51 39.3 +0.9
PSI Prapat 148.85 163 PKPbc PKPbc 08 51 43.8 -0.2
64nm,0.9s,baz=0.0,slow=0.0,SNR=4.1
AAK Ala-Archa 152.33 60 PKPbc PKPbc 08 51 51.7 +0.2
32nm,0.8s,baz=215,slow=1.8,SNR=4.5
AAK PKPab PKPab 08 51 59.7 -1.8
33nm,0.9s,baz=177,slow=2.0,SNR=3.8
ZALV Zalesovo Beam 153.58 31 PKPab PKPab 08 52 04.9 -1.3
26nm,0.9s,baz=290,slow=2.9,SNR=3.8
MKAR Makanchi Array 156.36 47 PKPab PKPab 08 52 18.2 -0.2
12nm,0.8s,baz=278,slow=4.8,SNR=4.2

*IDC **27** 08:35:20.9±0.8, 37.°03S×72.°93W, h0km, mb4.6/10, mb1 4.8/10, mb1mx4.5/33, mbtmp4.6/10, Error ellipse: s-maj=38.5km s-min=21.5km az=79.0*
*NEIC **27** 08:35:26.1±0.5, 36.°95S×72.°87W, h35km, mb5.2/12, Error ellipse: s-maj=27.0km s-min=14.8km az=73.0*
*ISCJB **27** 08:35:27.2±0.7, 36.°4S±0.°1×72.°6W±0.°2, h33km, mb4.8/22, Error ellipse: s-maj=22.3km s-min=15.6km az=38.6*
ISC 27 08:35:26.3±0.7, 37.°0S±0.°1×72.°9W±0.°2, h35km, n234, σ0§65/227, mb4.9/23, Central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 21.06 13 P P 08 40 07.6 -0.5
16nm,0.8s,baz=207,slow=5.3,SNR=3.3
LPAZ La Paz 21.06 13 eP P 08 40 03.1 -4.9
261nm,1.9s
ROSC El Rosal 41.67 358 P P 08 43 14.7 +2.7
4.2nm,0.4s,baz=256,slow=19,SNR=4.8
SDV Santo Domingo 45.70 3 eP P 08 43 43.6 -0.5
6.5nm,0.7s
BCIP Isla Barro Col 46.40 350 eP P 08 43 49.7 +0.3
38nm,1.1s
GRGR Grenville 50.00 14 eP P 08 44 16.1 -1.1
36nm,0.5s
FDF Fort de France 52.63 14 eP P 08 44 35.3 -1.7
31nm,1.1s
QSPA South Pole Qui 53.23 180 P P 08 44 41.2 +0.1
6.4nm,0.7s,baz=331,slow=3.5,SNR=3.5
APG El Apazote 54.33 339 P P 08 44 46.0 -3.7
9.4nm,0.9s,baz=72,slow=2.8,SNR=7.8
TEIG Tepich 58.76 343 P P 08 45 20.3 -0.5
6.2nm,0.5s,baz=90,slow=1.0,SNR=5.2
TEIG Tepich 58.76 343 eP P 08 45 20.0 -0.9
18nm,0.9s
035A Encino 67.90 336 P P 08 46 22.6 +1.4
baz=68
936A North Padre Is 68.09 337 P P 08 46 23.6 +1.2
baz=68
933A Laredo 68.92 335 P P 08 46 28.0 +0.5
baz=69
835A Beeville 69.06 336 P P 08 46 29.3 +0.9
baz=69
834A Tilden 69.15 336 P P 08 46 29.8 +0.8
baz=69
735A Kenedy 69.58 337 P P 08 46 32.3 +0.7
baz=70
833A Chaparral WMA, 69.61 335 P P 08 46 31.9 0.0
baz=70
832A Faith Ranch, C 69.77 335 P P 08 46 33.0 +0.1
baz=70
734A La Parita Cree 69.82 336 P P 08 46 33.9 +0.8
baz=70
636A Smothers Creek 69.93 338 P P 08 46 34.6 +0.8
baz=70
732A Laxson Ranch, 70.18 335 P P 08 46 35.3 -0.1
baz=70
633A Saathoff Ranch 70.58 336 P P 08 46 38.1 +0.3
baz=71

535A Dale 70.60 337 P P 08 46 38.4 +0.5
baz=71
632A Uvalde 70.83 335 P P 08 46 39.4 0.0
baz=71
339A Huntington 70.96 340 P P 08 46 40.9 +0.9
baz=71
533A Kerrville 71.10 336 P P 08 46 41.7 +0.7
baz=71
338A Crockett 71.19 340 P P 08 46 42.5 +1.1
baz=72
337A Centerville 71.31 339 P P 08 46 42.7 +0.5
baz=72
532A Rocksprings 71.44 335 P P 08 46 43.2 +0.1
baz=72
434A Burnet 71.55 337 P P 08 46 43.3 -0.4
baz=72
336A Riesel 71.65 339 P P 08 46 44.5 +0.3
baz=72
531A Rocksprings 71.69 335 P P 08 46 44.9 +0.3
baz=72
335A Moody 71.73 338 P P 08 46 44.5 -0.2
baz=72
JCT Junction City 71.73 336 P P 08 46 44.7 -0.1
baz=72
433A Art 71.75 336 P P 08 46 44.6 -0.3
baz=72
530A J-C Ranch, Com 71.95 334 P P 08 46 46.8 +0.7
baz=72
334A Lometa 72.02 337 P P 08 46 46.2 -0.2
baz=72
TXAR Lajitas Array 72.05 332 P P 08 46 46.9 +0.1
2.8nm,0.7s,baz=158,slow=9.0,SNR=8.1
431A Sonora 72.19 335 P P 08 46 47.8 +0.2
baz=72
KMSC Kings Mountain 72.22 353 P P 08 46 47.4 -0.1
baz=72
529A Stev Forest Ra 72.24 334 P P 08 46 48.2 +0.3
baz=72
333A Richland Sprin 72.25 337 P P 08 46 48.2 +0.3
baz=72
WHTX Lake Whitney 72.40 338 P P 08 46 48.3 -0.4
baz=73
137A Heron Place, G 72.48 340 P P 08 46 50.4 +1.2
baz=73
430A Baggett Ranch, 72.50 335 P P 08 46 50.2 +0.8
baz=73
332A Millersview 72.54 336 P P 08 46 50.3 +0.7
baz=73
429A Davenport Ranc 72.58 334 P P 08 46 50.5 +0.6
baz=73
234A Clairette 72.61 338 P P 08 46 49.7 -0.3
baz=73
331A San Angelo 72.70 335 P P 08 46 50.0 -0.5
baz=73
OXF Oxford 72.81 346 eP P 08 46 48.9 -2.1
28nm,1.2s
233A Rising Star 72.86 337 P P 08 46 51.3 -0.3
baz=73
SWET Sewanee 72.88 349 eP P 08 46 51.0 -0.5
21nm,0.6s
TKL Tuckaleechee C 73.01 351 P P 08 46 51.3 -1.0
3.8nm,0.5s,baz=146,slow=7.0,SNR=4.7
330A Mertzon 73.04 335 P P 08 46 52.4 -0.2
baz=73
134A White-Moore Ra 73.13 338 P P 08 46 52.8 -0.2
baz=73
231A Bronte 73.24 336 P P 08 46 53.5 -0.3
baz=74
329A Wagon Wheel Ra 73.39 334 P P 08 46 54.4 -0.3
baz=74
133A Hamilton Ranch 73.42 337 P P 08 46 54.6 -0.1
baz=74
Z35A Perchaven, San 73.59 339 P P 08 46 55.8 +0.1
baz=74
ABTX Abilene, Hawle 73.66 337 P P 08 46 56.5 +0.3
baz=74
229A Bryant Ranch, 73.77 335 P P 08 46 57.5 +0.6
baz=74
Z34A Collier Ranch, 73.82 338 P P 08 46 56.5 -0.6
baz=74
131A Roby 73.94 336 P P 08 46 58.2 +0.3
baz=74
Z33A Whitaker Ranch 74.00 338 P P 08 46 57.8 -0.3
baz=74
228A UT Block 9, Go 74.18 334 P P 08 46 59.2 -0.2
baz=74
Z32A Haskell 74.24 337 P P 08 46 59.6 0.0
baz=74
Y34A Reagan Ranch, 74.32 339 P P 08 46 59.6 -0.4
baz=75
129A Stewart Farms, 74.39 335 P P 08 47 00.6 0.0
baz=75
Z31A Sharp Cattle R 74.46 337 P P 08 47 00.8 0.0
baz=75
128A Castleberry Fa 74.60 334 P P 08 47 01.5 -0.3
baz=75
Y33A Hilltop Ranch, 74.63 338 P P 08 47 01.6 -0.2
baz=75
Z30A Sanderson Ranc 74.75 336 P P 08 47 02.0 -0.5
baz=75
Y32A R-V Farms, Ver 74.87 337 P P 08 47 02.2 -1.0
baz=75
Z29A Hungry Hill Ra 74.92 335 P P 08 47 02.3 -1.2
baz=75
Y31A Rekieta Farm, 75.09 337 P P 08 47 04.7 +0.2
baz=75
X32A Elmer 75.21 338 P P 08 47 04.7 -0.4
baz=76
TUL1 Tulsa 75.62 341 P P 08 47 07.5 0.0
baz=76
X31A McDonald Ranch 75.62 337 P P 08 47 08.0 +0.5
baz=76
W33A Caddo, Fort Co 75.64 339 P P 08 47 08.7 +1.1
baz=76
Y28A McKinney Farm, 75.69 335 P P 08 47 07.9 -0.1
baz=76
Z26A Caprock 75.71 333 P P 08 47 08.1 -0.1
baz=76
X30A Coker Ranch, T 75.73 336 P P 08 47 09.2 +1.0
baz=76
W32A Sentinel 75.85 338 P P 08 47 08.9 0.0
baz=76
319A Douglas 76.09 328 P P 08 47 10.6 +0.2
baz=76
V33A Lossen Ranch, 76.22 339 P P 08 47 10.4 -0.5
baz=76
X28A Dimmitt 76.23 335 P P 08 47 11.3 +0.2
baz=76
Y26A Elida 76.25 334 P P 08 47 11.4 +0.1
baz=76
Z24A Sheeppen Canyo 76.27 332 P P 08 47 11.6 +0.1
baz=76
V32A Arapaho 76.34 338 P P 08 47 12.5 +0.9
baz=76
AMTX Amarillo 76.39 336 P P 08 47 12.1 +0.1
baz=77
121A Cookes Peak, D 76.49 330 P P 08 47 13.4 +0.7
baz=77
Y25A Mesa, Roswell 76.56 333 P P 08 47 13.2 +0.2
baz=77
U34A Anderson Ranch 76.58 340 P P 08 47 13.5 +0.6
baz=77
W29A Amraillo 76.60 336 P P 08 47 13.1 -0.1
baz=77
V31A Spring Creek L 76.63 338 P P 08 47 13.4 +0.1
baz=77
DBIC Dimbokro 76.78 71 P P 08 47 15.7 +1.2
8.3nm,0.6s,baz=202,slow=6.0,SNR=6.8
X26A CR and CF Fran 76.81 334 P P 08 47 15.1 +0.7
baz=77
Y24A Capitan 76.83 333 P P 08 47 14.7 0.0
baz=77
W27A Bowe Ranch, En 77.02 335 P P 08 47 15.6 +0.1
baz=77
Y23A Lovelace Mesa, 77.06 332 P P 08 47 16.5 +0.6
baz=77
V28A Channing 77.36 336 P P 08 47 17.7 +0.2
baz=78
X24A Lazy VL Ranch, 77.40 333 P P 08 47 18.4 +0.6
baz=78
V27A Dan Oppiter Fa 77.57 335 P P 08 47 19.0 +0.3
baz=78
W25A X Bar L Ranch, 77.64 334 P P 08 47 18.4 -0.7
baz=78
V26A Tequesquite Ra 77.93 335 P P 08 47 19.9 -0.7
baz=78
SFIN Scholer Farm 78.12 349 P P 08 47 21.9 +0.6
baz=78

ANMO Albuquerque 78.12 332 P P 08 47 22.4 +0.6
10nm,1.1s,baz=151,slow=7.3,SNR=3.6
214A Organ Pipe Nat 78.12 326 P P 08 47 22.8 +1.1
baz=78
W23A Werner Place, 78.19 333 P P 08 47 22.8 +0.6
baz=78
V25A Rancho No Teng 78.25 334 P P 08 47 22.6 +0.1
baz=78
T29A Hugoton 78.36 337 P P 08 47 23.1 +0.2
baz=79
S30A Montezuma 78.55 338 P P 08 47 24.1 +0.1
baz=79
T28A Walsh 78.58 337 P P 08 47 24.1 -0.1
baz=79
U25A Circle Dot Ran 78.69 334 P P 08 47 25.9 +1.0
baz=79
T27A Campo 78.72 336 P P 08 47 25.0 0.0
baz=79
S28A Manter 78.94 337 P P 08 47 26.4 +0.3
baz=79
V22A San Miguel Ran 79.15 332 P P 08 47 28.6 +1.1
baz=79
U23A El Rito 79.25 333 P P 08 47 29.0 +0.9
baz=80
BOSA Boshof 79.26 118 P P 08 47 32.9 +4.5
6.2nm,0.8s,baz=244,slow=4.1,SNR=2.5
T25A Trinidad 79.35 335 P P 08 47 29.1 +0.5
baz=80
R29A Marienthal 79.47 338 P P 08 47 29.5 +0.4
baz=80
S26A Kim 79.48 336 P P 08 47 29.7 +0.5
baz=80
W18A Petrified Fore 79.54 330 P P 08 47 30.7 +1.1
baz=80
U22A Llaves 79.54 333 P P 08 47 30.9 +1.2
baz=80
R28A Tribune 79.60 337 P P 08 47 30.0 +0.3
baz=80
T24B San Luis 79.62 334 P P 08 47 31.1 +1.0
baz=80
X16A Lo Mia Camp, P 79.63 328 P P 08 47 31.3 +1.2
baz=80
R27A Eads 79.86 336 P P 08 47 31.0 -0.2
baz=80
Y14A Wickenburg 79.89 327 P P 08 47 32.3 +1.0
baz=80
P31A Stockton 79.97 339 P P 08 47 31.7 +0.1
baz=80
S24A Houchin Ranch, 80.08 334 P P 08 47 33.3 +0.6
baz=80
R26A Arlington 80.09 336 P P 08 47 33.4 +1.0
baz=80
SWSC Sam W. Stewart 80.31 324 P P 08 47 34.8 +1.2
baz=81
WUAZ Wupatki 80.55 329 P P 08 47 36.5 +1.4
baz=81
R24A Sanders Place, 80.58 335 P P 08 47 36.1 +1.0
baz=81
S22A 4UR Ranch, Cre 80.75 333 P P 08 47 37.5 +1.3
baz=81
MVCO Mesa Verde 80.89 332 P P 08 47 37.7 +0.9
baz=81
IRM Iron Mountain 81.03 326 P P 08 47 38.2 +0.8
baz=81
Q24A Divide 81.25 335 P P 08 47 39.4 +0.5
baz=82
W13A Hualapai Mount 81.26 327 P P 08 47 39.2 +0.3
baz=82
P25A Willow Gulch B 81.42 336 P P 08 47 40.4 +0.8
baz=82
LBTB Lobatse 81.64 115 eP P 08 47 41.8 +0.6
U15A North Rim 81.71 329 P P 08 47 41.6 +0.3
baz=82
GMRC Granite Mounta 81.78 326 P P 08 47 41.9 +0.4
baz=82
O26A Horse Wrangler 81.81 337 P P 08 47 42.2 +0.7
baz=82
P23A Jefferson 81.85 335 P P 08 47 41.5 -0.6
baz=82
N27A Anderson Farm, 82.08 338 P P 08 47 43.2 +0.3
baz=82
ISCO Idaho Springs 82.16 335 P P 08 47 44.3 +0.6
baz=82
L31A Butterfield Fa 82.31 341 P P 08 47 44.2 +0.2
baz=83
L30A Spencer Herefo 82.33 340 P P 08 47 44.9 +0.7
baz=83
O23A Lake Granby, G 82.63 335 P P 08 47 47.4 +1.3
baz=83
O22A Kremmling 82.80 335 P P 08 47 47.7 +0.7
baz=83
N24A Carr 82.84 336 P P 08 47 48.0 +1.1
baz=83
K30A Basset 82.97 340 P P 08 47 48.1 +0.6
baz=83
ECSD EROS Data Cent 83.22 343 eP P 08 47 47.9 -0.8
100nm,1.8s
ECSD EROS Data Cent 83.22 343 P P 08 47 48.8 +0.2
baz=84
K29A Lazy Trails An 83.25 340 P P 08 47 50.0 +1.1
baz=84
N23A Red Feather La 83.25 335 P P 08 47 49.7 +0.5
baz=84
K28A Ten Mile Ranch 83.50 339 P P 08 47 51.0 +0.8
baz=84
K27A Flueckinger Fa 83.74 339 P P 08 47 52.0 +0.5
baz=84
L25A Engebretsen Ra 83.75 337 P P 08 47 52.6 +1.0
baz=84
ISA Isabella 83.80 324 P P 08 47 52.2 +0.3
baz=84
J29A Okreek 83.85 340 P P 08 47 52.8 +0.9
baz=84
N20A Spence Gulch, 84.00 334 P P 08 47 53.7 +0.7
baz=84
J27A Elkhorn Farm, 84.17 339 P P 08 47 54.9 +1.2
baz=84
VES Vestal, Richgr 84.23 324 P P 08 47 54.9 +0.9
baz=84
L23A Garrett 84.27 336 P P 08 47 55.1 +0.7
baz=84
J26A Sides Ranch, S 84.54 338 P P 08 47 56.6 +1.1
baz=85
I28A Midland 84.63 340 P P 08 47 56.3 +0.4
baz=85
R11A Troy Canyon, C 84.72 328 P P 08 47 57.1 +0.4
baz=85
K23A Bowen Ranch, D 84.82 336 P P 08 47 57.1 0.0
baz=85
J25A Sunshine Ranch 84.83 338 P P 08 47 57.2 +0.3
baz=85
H29A Onida 84.95 341 P P 08 47 57.8 +0.3
baz=85
K22A Casper 85.02 336 P P 08 47 58.3 +0.2
baz=85
J24A Dixon Ranch, L 85.03 337 P P 08 47 58.6 +0.6
baz=85
DUG Dugway 85.14 330 eP P 08 47 58.9 +0.2
12nm,1.3s
DUG Dugway 85.14 330 P P 08 47 59.2 +0.5
baz=85
TPH Tonopah 85.21 326 eP P 08 47 59.2 0.0
13nm,1.3s
K21A Alcova 85.24 335 P P 08 47 59.2 -0.1
baz=86
I25A Rochford 85.38 338 P P 08 48 00.1 +0.3
baz=86
G29A Hoven 85.40 341 P P 08 48 00.4 +0.7
baz=86
H27A Howes 85.46 340 P P 08 48 00.1 0.0
baz=86
MLAC Mammoth Lakes 85.57 325 P P 08 48 02.2 +1.2
baz=86
H25A Fruitdale 85.89 339 P P 08 48 02.1 -0.1
baz=86
J21A Lysite 85.94 335 P P 08 48 02.3 -0.4
baz=86
F29A Eureka 85.97 341 P P 08 48 02.5 0.0
baz=86
NVAR Mina Array Bea 85.98 326 P P 08 48 04.6 +1.5
1.5nm,0.8s,baz=154,slow=5.0,SNR=3.5
G27A Dupree 86.11 340 P P 08 48 03.3 0.0
baz=86
I22A 9 Mile Ranch, 86.12 336 P P 08 48 02.9 -0.5
baz=86
PDAR Pinedale Array 86.16 334 P P 08 48 04.9 +1.1
1.9nm,0.8s,baz=189,slow=5.2,SNR=3.8
J20A Shoshoni 86.16 335 P P 08 48 03.6 -0.1
baz=86
G26A Maurine 86.22 339 P P 08 48 04.0 +0.2
baz=86
H24A Dirks Ranch, A 86.29 338 P P 08 48 03.4 -0.8
baz=87
I21A Big Trails, Te 86.31 336 P P 08 48 04.0 -0.5
baz=87
G25A Newell 86.36 339 P P 08 48 04.1 -0.4
baz=87
E30A Jud 86.37 342 P P 08 48 04.3 -0.1
baz=87
J19A Crowheart 86.42 334 P P 08 48 04.9 -0.1
baz=87
ELK Elko 86.59 329 P P 08 48 06.2 +0.2
2.8nm,1.0s,baz=180,slow=8.1,SNR=2.6
F27A Lemmon 86.59 340 P P 08 48 05.3 -0.3
baz=87
E29A Napoleon 86.61 342 P P 08 48 05.3 -0.4
baz=87
I20A Worland 86.71 335 P P 08 48 05.7 -0.6
baz=87
F26A Lodgepole 86.75 340 P P 08 48 06.2 -0.2
baz=87
G24A Alzada 86.77 338 P P 08 48 06.3 -0.3
baz=87
D30A Buchanan 86.90 343 P P 08 48 06.8 -0.2
baz=87
G23A Biddle 86.95 338 P P 08 48 06.8 -0.7
baz=87
E27A Carson 86.98 341 P P 08 48 07.0 -0.4
baz=87
F25A Bowman 87.04 339 P P 08 48 07.3 -0.5
baz=87
D29A Pettibone, Tap 87.06 342 P P 08 48 07.5 -0.4
baz=87
F24A Ekalaka 87.25 338 P P 08 48 08.7 -0.2
baz=88
E26A Carlson Angus 87.26 340 P P 08 48 08.7 -0.1
baz=88
C30A Mose, Pekin 87.39 343 P P 08 48 09.3 -0.1
baz=88
F23A Volborg 87.42 338 P P 08 48 09.7 0.0
baz=88
D28A Regan 87.43 341 P P 08 48 09.7 +0.1
baz=88
I17A Pilgrim Ck. 87.52 334 P P 08 48 10.6 +0.2
baz=88
G21A Lodge Grass 87.54 336 P P 08 48 10.4 +0.1
baz=88
E25A Miller Ranch, 87.55 339 P P 08 48 10.4 +0.2
baz=88
F22A Rosebud 87.74 337 P P 08 48 11.1 -0.1
baz=88
D26A Manning 87.77 340 P P 08 48 11.2 0.0
baz=88
B30A Myrvik Farm, E 88.06 343 P P 08 48 12.4 -0.1
baz=88
D25A Fairfield 88.12 340 P P 08 48 12.9 0.0
baz=88
C27A Sayler Ranch, 88.15 341 P P 08 48 13.3 +0.3
baz=88
B29A Wagenman Farm, 88.31 343 P P 08 48 14.1 +0.3
baz=89
D24A Glendive 88.37 339 P P 08 48 14.5 +0.4
baz=89
C26A Wahner Farm, P 88.41 341 P P 08 48 14.5 +0.2
baz=89
B28A Dugan Ranch, T 88.54 342 P P 08 48 14.8 0.0
baz=89
A29A Manning Farm, 88.71 343 P P 08 48 15.5 -0.1
baz=89
C24A Savage 88.78 339 P P 08 48 16.6 +0.5
baz=89
MFID Camas Ranch 89.07 330 eP P 08 48 16.2 -1.4
38nm,1.2s
ILAR Eielson Array 116.56 333 PKP PKPdf 08 54 03.8 -1.7
1.4nm,1.1s,baz=170,slow=2.4,SNR=4.5
WRA Warramunga Arr 117.81 209 PKP PKPdf 08 54 08.0 -1.4
0.7nm,0.5s,baz=162,slow=1.4,SNR=24
ABKAR Akbulak array 144.01 55 ePKPdf PKPab 08 54 55.8 +0.7
PSI Prapat 145.12 166 PKPbc PKPbc 08 54 59.7 -0.5
10nm,0.7s,baz=90,slow=1.0,SNR=5.4
ZALV Zalesovo Beam 157.09 35 PKPab PKPab 08 55 47.9 -0.3
3.8nm,0.6s,baz=293,slow=4.0,SNR=2.9

WEL 27 08:36:44.9±0.3, 36.86S×177.44E, h146km±2km, ML3.6/11, 1C, Error ellipse: s-maj=2.9km s-min=2.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.93	163	⇑PN	Pn	08 37 08.8	+0.1
HAZ				SN	Sn	08 37 26.9	0.0
MXZ	Matakaoa Point	0.98	136	ePN	Pn	08 37 08.5	-0.5
MXZ				SN	Sn	08 37 28.4	+0.8
WMGZ	Waiomatatini S	1.23	141	PN	Pn	08 37 11.3	-0.1
PUZ	Puketiti	1.37	152	PN	Pn	08 37 12.7	-0.1
PUZ				SN	Sn	08 37 33.1	-1.1
TWGZ	Tauwhareparae	1.38	162	SN	Sn	08 37 34.7	+0.2
URZ	Urewera	1.42	191	PN	Pn	08 37 13.4	+0.2
URZ				SN	Sn	08 37 35.2	+0.2
MWZ	Matawai	1.47	177	PN	Pn	08 37 13.8	-0.1
RAGZ	Rawiri	1.63	181	PN	Pn	08 37 16.0	+0.4
CNGZ	Carnagh Statio	1.73	160	PN	Pn	08 37 16.8	+0.2
RIGZ	Rimuhau	1.86	172	PN	Pn	08 37 17.8	-0.4
RAHZ	Arahi	2.07	188	PN	Pn	08 37 20.3	-0.3
PRGZ	Paritu Road	2.09	170	PN	Pn	08 37 20.1	-0.7
KNZ	Kokohu	2.17	175	PN	Pn	08 37 20.8	-0.8
KNZ				eSN	Sn	08 37 48.8	-1.2
NMHZ	Naumai	2.29	192	PN	Pn	08 37 23.2	-0.1
MHGZ	Mahia Peninsul	2.32	171	PN	Pn	08 37 22.8	-0.7
BKZ	Black Stump Fm	2.42	198	PN	Pn	08 37 23.8	-1.1
MCHZ	McNeill Hill	2.65	193	PN	Pn	08 37 27.0	-0.6
CKHZ	Cape Kidnapper	2.81	186	PN	Pn	08 37 28.1	-1.5
BHHZ	Black Hill Sta	2.84	202	PN	Pn	08 37 28.8	-1.3
TRVZ	Turoa	2.86	211	PN	Pn	08 37 29.9	-0.7
WNVZ	Wahianoa	2.86	210	PN	Pn	08 37 29.8	-0.7
KRHZ	Kereru	2.91	197	PN	Pn	08 37 29.1	-1.8
KAHZ	Kahuranaki	2.96	188	PN	Pn	08 37 30.1	-1.5
PXZ	Pawanui	3.20	188	PN	Pn	08 37 32.3	-2.2
PNHZ	Pukenui	3.20	197	PN	Pn	08 37 32.4	-2.3
WPHZ	Waipukurau	3.29	193	PN	Pn	08 37 33.9	-1.9
TSZ	Takapari Road	3.40	200	PN	Pn	08 37 34.5	-2.7
PRHZ	Porangahau	3.46	190	PN	Pn	08 37 35.5	-2.4
DVHZ	Dannevirke	3.58	196	PN	Pn	08 37 37.0	-2.5
ANWZ	Angora Road	3.67	192	PN	Pn	08 37 38.2	-2.5
POWZ	Post Office Ro	3.76	200	PN	Pn	08 37 39.1	-2.8
PRWZ	Pori Road	3.87	197	PN	Pn	08 37 40.5	-2.7
BFZ	Birch Farm	3.93	193	PN	Pn	08 37 41.0	-3.0
MRZ	Mangatainoka R	4.07	200	PN	Pn	08 37 42.2	-3.6
MRZ				AML	AML	08 38 04.6	
MRZ				SN	Sn	08 38 28.4	-4.9
TIWZ	Tintock	4.09	197	PN	Pn	08 37 42.9	-3.3
CPWZ	Castlepoint	4.16	193	PN	Pn	08 37 44.4	-2.6
HOWZ	Holdsworth Sta	4.30	200	PN	Pn	08 37 45.0	-4.0
OGWZ	Otaki Gorge	4.33	203	PN	Pn	08 37 45.8	-3.5
KIW	Kapiti Island	4.46	206	PN	Pn	08 37 47.2	-3.7
CAW	Cannon Point	4.63	203	PN	Pn	08 37 48.9	-4.3
TCW	Tory Channel	5.00	209	ePN	Pn	08 37 53.5	-4.6

ISCJB 27 08:36:57.2±0.7, 36.1S±0.1×73.5W±0.2, h33km, mb4.7/26, Error ellipse: s-maj=19.5km s-min=16.2km az=144.0
NEIC 27 08:36:58.9±0.5, 36.18S×73.51W, h35km, mb5.1/15, Error ellipse: s-maj=16.2km s-min=12.7km az=68.0
IDC 27 08:36:58.2±0.6, 36.06S×73.41W, h29km±3km, mb4.3/16, mb1 4.4/16, mb1mx4.3/34, mbtmp4.5/16, Error ellipse: s-maj=27.2km s-min=15.5km az=61.0
ISC 27 08:36:58.4±0.7, 36.2S±0.1×73.6W±0.2, h35km, n39, σ1.16/44, mb4.7/26, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	20.38	15	P	Pn	08 41 34.6	-0.6
	15nm,0.7s,baz=194,slow=4.7,SNR=2.9						
LPAZ	La Paz	20.38	15	eP	Pn	08 41 34.9	-0.3
	21nm,0.8s						
SIV	San Ignacio	22.98	32	P	P	08 41 58.8	-1.2
	16nm,0.9s,baz=201,slow=15,SNR=2.6						
NNA	Nana	24.25	352	P	P	08 42 11.7	-0.5
	15nm,0.8s,baz=194,slow=10,SNR=4.7						
RCBR	Riachuelo	45.87	58	P	P	08 45 17.5	0.0
	12nm,0.8s,baz=202,slow=14,SNR=3.5						
RCBR	Riachuelo	45.87	58	eP	P	08 45 18.9	+1.4
	7.5nm,0.9s						
JTS	JuntasAbangare	47.42	345	P	P	08 45 30.3	+0.7
	3.2nm,0.8s,baz=320,slow=19,SNR=2.3						
JTS	JuntasAbangare	47.42	345	eP	P	08 45 30.7	+1.2
	37nm,1.3s						
GRGR	Grenville	49.34	15	eP	P	08 45 44.4	+0.2
	124nm,1.1s						
SNAA	Sanae	50.09	157	P	P	08 45 49.7	+0.2
	4.4nm,0.9s,baz=270,slow=8.6,SNR=3.6						
SNAA				pP	pP	08 45 58.9	-1.1
	6.1nm,0.8s,baz=313,slow=7.6,SNR=4.8						
FDF	Fort de France	51.97	15	eP	P	08 46 06.7	+2.5
APG	El Apazote	53.33	340	P	P	08 46 10.2	-4.2
	4.0nm,0.7s,baz=163,slow=12,SNR=3.8						
CELP	Cerrillos	54.35	8	eP	P	08 46 28.7	+7.2
TEIG	Tepich	57.77	344	P	P	08 46 45.3	-0.7
	15nm,0.7s,baz=316,slow=20,SNR=4.3						
TEIG				pP	pP	08 46 55.1	-1.6
	20nm,0.7s,baz=161,slow=6.0,SNR=5.5						
TEIG	Tepich	57.77	344	eP	P	08 46 46.4	+0.4
	20nm,0.7s						
TXAR	Lajitas Array	71.02	332	P	P	08 48 13.5	+0.8
	1.9nm,0.6s,baz=152,slow=8.7,SNR=4.8						
TXAR				pP	pP	08 48 23.4	-0.2
	3.7nm,0.8s,baz=150,slow=8.7,SNR=6.0						
SWET	Sewanee	71.94	349	eP	P	08 48 17.9	-0.1
	16nm,0.8s						
TKL	Tuckaleechee C	72.08	351	P	P	08 48 18.0	-0.8
	5.9nm,0.9s,baz=180,slow=6.1,SNR=3.0						
TKL				pP	pP	08 48 26.8	-2.9
	8.9nm,0.9s,baz=174,slow=7.8,SNR=3.6						
ABTX	Abilene, Hawle	72.64	337	eP	P	08 48 22.7	+0.4
	19nm,1.1s						
WVT	Waverly	73.13	348	eP	P	08 48 26.2	+1.2
	36nm,0.9s						
ACSO	Alum Creek Sta	76.51	353	eP	P	08 48 43.9	-0.6
	15nm,0.5s						
DBIC	Dimbokro	77.08	72	P	P	08 48 48.5	+0.2
	4.2nm,0.7s,baz=192,slow=9.3,SNR=2.4						
DBIC	Dimbokro	77.08	72	eP	P	08 48 48.0	-0.3
	20nm,1.2s						
ANMO	Albuquerque	77.09	333	P	P	08 48 49.5	+1.3
	2.2nm,0.8s,baz=129,slow=6.5,SNR=2.3						
ANMO				pP	pP	08 48 59.2	+0.1
	7.7nm,1.0s,baz=158,slow=7.5,SNR=7.2						
ECSD	EROS Data Cent	82.23	343	eP	P	08 49 15.7	+0.1
	26nm,0.8s						
R11A	Troy Canyon, C	83.69	328	eP	P	08 49 25.2	+1.7
	4.2nm,1.1s						
DUG	Dugway	84.11	331	eP	P	08 49 27.4	+1.8
	14nm,1.1s						
TPH	Tonopah	84.17	327	eP	P	08 49 27.6	+1.6
	13nm,1.1s						
NVAR	Mina Array Bea	84.94	326	P	P	08 49 31.6	+1.6
	1.5nm,0.6s,baz=152,slow=6.0,SNR=3.8						
NVAR				pP	pP	08 49 41.4	+0.4
	4.6nm,0.8s,baz=147,slow=6.3,SNR=8.5						
PDAR	Pinedale Array	85.13	334	P	P	08 49 32.1	+1.3
	1.1nm,0.7s,baz=198,slow=5.4,SNR=2.8						
ELK	Elko	85.55	330	P	P	08 49 33.8	+0.9
	1.7nm,0.8s,baz=0.0,slow=9.4,SNR=2.3						
ELK				pP	pP	08 49 43.5	-0.5
	4.1nm,1.0s,baz=213,slow=3.6,SNR=4.5						
TORD	Torodi Ar. Bea	86.14	71	P	P	08 49 36.4	+0.3
	1.9nm,0.8s,baz=211,slow=3.3,SNR=2.1						
ULM	Lac du Bonnet	88.26	346	P	P	08 49 45.2	-0.3
	5.0nm,0.7s,baz=179,slow=2.8,SNR=6.5						
ULM				pP	pP	08 49 54.6	-2.1
	13nm,0.9s,baz=197,slow=3.8,SNR=7.8						
ULM	Lac du Bonnet	88.26	346	eP	P	08 49 45.7	+0.2
	6.0nm,0.8s						
NEW	Newport	92.58	333	P	P	08 50 05.8	0.0
	1.0nm,0.7s,baz=52,slow=12,SNR=3.3						
NEW				pP	pP	08 50 15.1	-1.9
	1.0nm,0.6s,baz=102,slow=9.3,SNR=1.7						
PSI	Prapat	146.09	167	PKPbc	PKPbc	08 56 35.9	+0.4
	14nm,0.8s,baz=218,slow=3.4,SNR=4.9						
PSI				pPKPbc	pPKPbc	08 56 44.5	-2.3
	26nm,0.9s,baz=189,slow=7.8,SNR=7.5						
BRVK	Borovoye	149.65	45	ePKPbc	PKPbc	08 56 44.6	+0.9
BVAR	Borovoye Array	149.72	45	PKPbc	PKPbc	08 56 42.5	-1.3
	3.1nm,0.7s,baz=270,slow=6.8,SNR=3.3						
YAK	Yakutsk	150.29	338	ePKPbc	PKPbc	08 56 45.1	+0.2

IDC 27 08:37:28.0±0.8, 33.92S×72.06W, h0km, mb4.6/8, mb1 4.8/8, mb1mx4.4/36, mbtmp4.6/8, Error ellipse: s-maj=35.9km s-min=25.8km az=57.0
ISCJB 27 08:37:30.9±0.9, 33.55S±0.1×72.17W±0.05, h19km, mb4.8/13, Error ellipse: s-maj=18.7km s-min=6.1km az=2.0
NEIC 27 08:37:34.3±0.5, 33.64S×71.98W, h35km, mb5.2/6, Error ellipse: s-maj=20.7km s-min=14.5km az=53.0
GUC 27 08:37:34.4±0.6, 33.42S×72.00W, h20km±22km, ML5.0
ISC 27 08:37:32.0±0.8, 33.6S±0.1×72.04W±0.06, h19km, n32, σ0.67/32, mb4.9/13, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.65	31	eP	Pb	08 37 43.9	-0.9
TACH	Talagante	0.92	94	eP	Pn	08 37 50.6	+0.6
ROCH	El Roble	1.06	55	eP	Pb	08 37 52.0	+0.1
SAN	Santiago	1.16	84	eP	Pg	08 37 54.5	0.0
SAN				eS	Sg	08 38 10.0	+0.2
PEL	Peldehue	1.22	69	eP	Pb	08 37 54.4	-0.1
PEL				eS	Sn	08 38 10.1	0.0
PEL				AML	AML	08 38 14.8	
	comp=E,67μm,0.5s						
JACH	Jahuel	1.52	54	eP	Pb	08 37 59.3	-0.3
CFAA	Coronel Fontan	3.77	59	Lg	Lg	08 39 24.7	
	comp=E,16nm,0.3s,baz=331,slow=15,SNR=3.6						
OTAV	Otavalo	34.18	349	P	P	08 44 18.4	+1.5
GRGR	Grenville	46.53	14	eP	P	08 45 57.9	-0.6
	comp=E,18nm,0.7s						
FDF	Fort de France	49.16	14	P	P	08 46 19.2	+0.3
	comp=E,5.9nm,0.6s						
TEIG	Tepich	55.71	341	eP	P	08 47 07.1	-0.2
	comp=E,40nm,1.2s						
QSPA	South Pole Qui	56.65	180	P	P	08 47 10.2	-3.6
	comp=E,11nm,0.9s,baz=188,slow=8.9,SNR=2.1						
TXAR	Lajitas Array	69.38	331	P	P	08 48 39.6	+1.0
	comp=E,2.6nm,0.5s,baz=153,slow=9.0,SNR=8.1						
OXF	Oxford	69.68	345	eP	P	08 48 39.8	-0.4
	comp=E,20nm,0.5s						
ACSO	Alum Creek Sta	74.15	351	eP	P	08 49 06.6	-0.3
	comp=E,22nm,0.5s						
DBIC	Dimbokro	75.05	71	P	P	08 49 12.8	0.0
	comp=E,6.9nm,0.8s,baz=207,slow=8.2,SNR=4.2						
DBIC	Dimbokro	75.05	71	eP	P	08 49 12.9	0.0
	comp=E,13nm,0.9s						
PFO	Pinyon Flat Ob	78.80	323	P	P	08 49 34.7	+1.0
	comp=E,5.3nm,0.7s,baz=131,slow=5.1,SNR=5.7						
PDAR	Pinedale Array	83.39	333	P	P	08 49 58.5	+0.5
	comp=E,1.7nm,0.7s,baz=142,slow=5.6,SNR=3.5						
NVAR	Mina Array Bea	83.55	325	P	P	08 49 59.6	+0.7
	comp=E,3.4nm,0.8s,baz=157,slow=6.2,SNR=4.7						
ELK	Elko	84.01	328	P	P	08 50 00.6	-0.6
	comp=E,3.4nm,0.8s,baz=195,slow=2.5,SNR=4.5						
TORD	Torodi Ar. Bea	84.07	70	P	P	08 50 01.1	-0.7
	comp=E,5.9nm,0.8s,baz=280,slow=6.5,SNR=5.4						
WRA	Warramunga Arr	121.12	209	PKP	PKPdf	08 56 23.1	-1.0
	comp=E,2.3nm,0.8s,baz=161,slow=1.5,SNR=6.5						
WRAB	Tennant Creek	121.12	209	ePKPdf	PKPdf	08 56 24.0	-0.2
AKASG	Malin Array Be	121.92	47	PKP	PKPdf	08 56 22.8	-1.7
	comp=E,0.3nm,0.4s,baz=254,slow=1.9,SNR=2.4						
BRVK	Borovoye	146.91	43	ePKPbc	PKPab	08 57 13.8	-0.3
BVAR	Borovoye Array	146.98	43	PKPbc	PKPab	08 57 13.3	+0.4
	comp=E,5.0nm,0.6s,baz=285,slow=3.3,SNR=5.4						
AAK	Ala-Archa	152.31	61	PKPbc	PKPbc	08 57 26.8	+0.2
	comp=E,5.9nm,0.7s,baz=342,slow=0.5,SNR=4.6						
AAK	Ala-Archa	152.31	61	ePKPbc	PKPbc	08 57 27.4	+0.8
KURK	Kurchatov	152.58	43	ePKPdf	PKPdf	08 57 19.3	-0.4
ZALV	Zalesovo Beam	153.88	32	PKPbc	PKPbc	08 57 29.3	-0.2
	comp=E,8.3nm,0.7s,baz=304,slow=3.1,SNR=7.1						
MKAR	Makanchi Array	156.50	48	PKPab	PKPab	08 57 54.0	-0.2
	comp=E,1.4nm,0.6s,baz=300,slow=3.7,SNR=4.6						

NNC 27 08:39:16.5±1.4, 54.44N×77.10E, h0km, mb3.7, mpv3.3, 10C-4D, Error ellipse: s-maj=14.0km s-min=4.4km az=19.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	3.85	165	⇑Pn	Pn	08 40 16.5	-0.4
	8.5nm,1.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK				⇓Pg	Pb	08 40 26.8	+1.6
	1.4nm,0.7s						
KURK				⇑Lg	Lg	08 41 20.0	
	2.9nm,0.4s						
KURBB	Kurchatov Arra	3.93	167	⇑Pn	Pn	08 40 17.2	-0.8
	5.9nm,1.0s						
KURBB				⇓Pg	Pb	08 40 27.8	+1.2
	13nm,1.0s						
KURBB				⇑Lg	Lg	08 41 22.6	
	5.3nm,0.5s						
VOSK	Vostochnaya	4.03	247	⇓Pn	Pn	08 40 20.2	+0.8
	19nm,1.4s						
VOSK				⇑Sn	Sn	08 41 09.0	+1.6
	8.7nm,1.1s						
VOSK				⇑Lg	Lg	08 41 25.3	
	12nm,0.7s						
BVA0	Borovoye Array	4.23	253	Pn	Pn	08 40 22.8	+0.7
	4.1nm,0.9s,baz=62,slow=14,SNR=22						
BVA0				⇑Sn	Sn	08 41 12.9	+0.7
	8.5nm,1.2s,baz=70,slow=30,SNR=2.8						
BVA0				⇓Lg	Lg	08 41 29.2	
	7.1nm,0.8s						
BRVK	Borovoye	4.28	254	⇑Pn	Pn	08 40 22.9	+0.2
	19nm,1.4s						
BRVK				⇑Sn	Sn	08 41 13.8	+0.4
	5.5nm,0.8s						
BRVK				⇑Lg	Lg	08 41 30.3	
	22nm,1.3s						

IDC **27** *08:39:25.4±3.9, 38°.34S×74°.72W, h0km, mb4.4/6, mb1 4.5/6, mb1mx4.2/35, mbtmp4.4/6, Error ellipse: s-maj=160.1km s-min=34.5km az=29.0*

ISC 27 08:39:30.8±3.6, 38°.3S±0°.8×74°.7W±0°.5, h35km, n7, σ0§85/7, mb4.3/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEIG	Tepich	59.61	345	P	P	08 49 31.2	0.0
	7.1nm,0.7s,baz=117,slow=2.3,SNR=3.1						
TXAR	Lajitas Array	72.54	334	P	P	08 50 55.2	+1.0
	0.9nm,0.6s,baz=148,slow=7.5,SNR=4.0						
ANMO	Albuquerque	78.61	334	P	P	08 51 29.3	+0.3
	3.5nm,1.1s,baz=153,slow=4.5,SNR=3.1						
DBIC	Dimbokro	78.61	72	P	P	08 51 28.9	-0.4
	5.1nm,0.6s,baz=192,slow=7.3,SNR=4.3						
PDAR	Pinedale Array	86.69	335	P	P	08 52 09.7	-1.2
	1.0nm,0.8s,baz=153,slow=7.0,SNR=2.1						
TORD	Torodi Ar. Bea	87.70	71	P	P	08 52 16.5	+0.4
	1.7nm,0.8s,baz=232,slow=4.4,SNR=4.0						
AKTO	Aktyubinsk	144.71	54	PKP	PKPdf	08 59 03.6	+0.4
	2.5nm,0.8s,baz=303,slow=3.1,SNR=3.4						

IDC **27** *08:39:59.9±0.9, 37°.54S×73°.82W, h18km±4km, mb4.4/12, mb1 4.5/12, mb1mx4.4/31, mbtmp4.5/12, Error ellipse: s-maj=28.8km s-min=17.0km az=73.0*

ISCJB **27** *08:40:00.8±0.5, 37°.40S±0°.08×73°.7W±0°.2, h33km, mb4.8/25, Error ellipse: s-maj=18.6km s-min=9.4km az=155.5*

NEIC **27** *08:40:02.4±0.3, 37°.48S×73°.82W, h35km, mb4.9/14, Error ellipse: s-maj=14.0km s-min=7.6km az=68.0*

ISC 27 08:40:02.1±0.5, 37°.57S±0°.09×73°.8W±0°.1, h35km, n50, σ1§36/51, mb4.7/25, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.03	143	ePn	Pn	08 41 05.7	+4.4
TRQA	Tornquist	9.34	97	ePn	Pn	08 42 13.9	-0.3
LPAZ	La Paz	21.78	15	P	P	08 44 52.7	+1.2
	22nm,0.9s,baz=182,slow=5.0,SNR=5.4						
LPAZ	La Paz	21.78	15	eP	P	08 44 52.5	+1.0
	18nm,0.7s						
NNA	Nana	25.62	353	P	P	08 45 26.6	-1.7
	11nm,0.8s,baz=66,slow=1.8,SNR=3.9						
PMSA	Palmer Station	27.85	171	eP	P	08 45 44.7	-3.2
	256nm,1.7s						
OTAV	Otavalo	37.87	352	eP	P	08 47 16.2	0.0
	17nm,1.2s						
ROSC	El Rosal	42.21	359	P	P	08 47 54.6	+2.5
	8.0nm,0.6s,baz=95,slow=8.2,SNR=4.3						
SDV	Santo Domingo	46.30	4	eP	P	08 48 24.7	0.0
	15nm,1.0s						
JTS	JuntasAbangare	48.75	345	P	P	08 48 44.6	+1.1
	4.1nm,0.9s,baz=218,slow=12,SNR=3.1						
JTS	JuntasAbangare	48.75	345	eP	P	08 48 43.7	+0.2
	6.1nm,0.9s						
SNAA	Sanae	48.84	157	P	P	08 48 44.8	+1.1
	5.1nm,0.8s,baz=278,slow=7.8,SNR=5.8						
GRGR	Grenville	50.73	15	eP	P	08 48 58.5	+0.1
	145nm,1.1s						
QSPA	South Pole Qui	52.67	180	P	P	08 49 14.1	+1.4
	13nm,0.8s,baz=272,slow=1.7,SNR=7.2						
FDF	Fort de France	53.36	15	eP	P	08 49 17.4	-0.7
	9.0nm,0.6s						
APG	El Apazote	54.60	340	P	P	08 49 22.9	-4.5
	5.9nm,0.8s,baz=117,slow=6.8,SNR=3.1						
SDDR	Presa de Saban	56.30	3	eP	P	08 49 39.1	-0.2
	4.6nm,0.6s						
GTBY	Guantanamo Bay	57.20	358	eP	P	08 49 44.9	-0.8
	24nm,0.9s						
TXAR	Lajitas Array	72.21	333	P	P	08 51 23.8	+0.3
	1.2nm,0.7s,baz=158,slow=9.7,SNR=3.6						
SWET	Sewanee	73.30	350	eP	P	08 51 28.6	-1.1
	18nm,0.6s						
TKL	Tuckaleechee C	73.45	352	P	P	08 51 29.8	-0.8
	5.3nm,0.8s,baz=165,slow=6.9,SNR=4.1						
CASY	Casey	76.42	182	eP	P	08 51 49.1	+1.6
	5.9nm,0.8s						
DBIC	Dimbokro	77.64	72	P	P	08 51 55.8	+0.6
	10nm,0.7s,baz=191,slow=11,SNR=5.3						
DBIC	Dimbokro	77.64	72	eP	P	08 51 55.4	+0.3
	8.2nm,0.6s						
ACSO	Alum Creek Sta	77.89	353	eP	P	08 51 55.0	-0.8
	16nm,0.7s						
BOSA	Boshof	79.64	118	P	P	08 52 06.6	+0.4
	4.6nm,0.7s,baz=246,slow=5.4,SNR=3.9						
LBTB	Lobatse	82.06	115	eP	P	08 52 19.4	+0.2
	8.0nm,0.5s						
NVAR	Mina Array Bea	86.05	326	P	P	08 52 39.4	+0.4
	1.6nm,0.7s,baz=162,slow=5.8,SNR=3.7						
ELK	Elko	86.70	330	P	P	08 52 42.2	0.0
	1.6nm,0.8s,baz=180,slow=9.6,SNR=3.5						
TORD	Torodi Ar. Bea	86.72	71	P	P	08 52 42.7	+0.1
	2.4nm,0.6s,baz=223,slow=4.4,SNR=6.6						
GERES	GERESS Array B	115.63	47	PKP	PKPdf	08 58 39.4	-0.7
	1.1nm,0.7s,baz=222,slow=1.6,SNR=3.9						
WRA	Warramunga Arr	116.97	210	PKP	PKPdf	08 58 42.4	-1.2
	0.9nm,0.8s,baz=158,slow=1.7,SNR=3.1						
NOA	NORSAR Array B	119.77	34	PKP	PKPdf	08 58 48.2	+0.6
	0.7nm,0.9s,baz=255,slow=2.3,SNR=2.4						
HFS	Hagfors	120.53	35	PKP	PKPdf	08 58 47.6	-1.3
	1.7nm,0.7s,baz=245,slow=5.7,SNR=4.6						
MMAI	Mount Meron Ar	123.26	72	PKP	PKPdf	08 58 56.3	+1.1
	1.0nm,0.4s,baz=113,slow=3.3,SNR=4.8						
BRTR	Keskin Array B	124.73	64	PKP	PKPdf	08 58 58.0	0.0
	2.4nm,0.7s,baz=187,slow=2.5,SNR=9.3						
BRTR				pPKP	pPKPdf	08 59 04.8	-4.6
	1.8nm,0.6s,baz=204,slow=3.5,SNR=5.4						
AKASG	Malin Array Be	125.60	50	PKP	PKPdf	08 58 59.1	+0.1
	0.5nm,0.5s,baz=258,slow=3.1,SNR=4.0						
AKASG				pPKP	pPKPdf	08 59 05.8	-4.7
	0.6nm,0.4s,baz=255,slow=2.9,SNR=3.7						
FINES	FINESS Array B	126.71	36	PKP	PKPdf	08 59 01.2	+0.4
	0.6nm,0.4s,baz=186,slow=1.7,SNR=5.2						
AKTO	Aktyubinsk	143.64	54	PKhKP	PKPpre	08 59 29.4	
	4.1nm,0.6s,baz=303,slow=3.0,SNR=8.9						
PSI	Prapat	144.75	167	PKP	PKPab	08 59 34.4	-0.3
	12nm,0.7s,baz=155,slow=5.5,SNR=5.6						
ABKAR	Akbulak array	144.93	56	ePKPdf	PKPab	08 59 34.2	+0.1
KBL	Kabul	149.90	84	ePKPbc	PKPbc	08 59 50.0	+1.3
BRVK	Borovoye	150.73	46	ePKPbc	PKPbc	08 59 50.4	+0.5
BVAR	Borovoye Array	150.80	46	PKPbc	PKPbc	08 59 50.4	+0.3
	7.7nm,0.6s,baz=290,slow=3.6,SNR=11						
BVAR				pPKPbc	PKPab	08 59 56.0	-1.4
	5.9nm,0.6s,baz=316,slow=4.1,SNR=6.6						
YAK	Yakutsk	151.54	337	ePKPbc	PKPbc	08 59 51.4	-0.1
MJAR	Matsushiro Arr	154.53	278	PKPab	PKPab	09 00 13.8	+0.2
	1.2nm,0.6s,baz=137,slow=4.4,SNR=5.2						
AAK	Ala-Archa	155.28	68	PKPab	PKPab	09 00 17.3	+0.5
	5.2nm,0.5s,baz=137,slow=2.8,SNR=7.8						
AAK	Ala-Archa	155.28	68	ePKPab	PKPab	09 00 17.6	+0.7
ZALV	Zalesovo Beam	157.97	35	PKP	PKPdf	08 59 53.6	-0.7
	2.8nm,0.8s,baz=240,slow=1.1,SNR=3.9						
ZALV				PKPab	PKPab	09 00 29.1	+1.4
	9.7nm,0.8s,baz=307,slow=5.2,SNR=7.6						
MKAR	Makanchi Array	160.07	55	PKPab	PKPab	09 00 36.7	-0.5
	2.2nm,0.7s,baz=273,slow=3.0,SNR=4.5						

IDC **27** *08:40:22.4±1.2, 38°.30S×73°.22W, h0km, mb4.8/7, mb1 4.8/7, mb1mx4.4/32, mbtmp4.8/7, Error ellipse: s-maj=96.4km s-min=26.6km az=81.0*

ISCJB **27** *08:40:25.3±1.5, 38°.3S±0°.2×7°2W±°, h33km, mb4.7/8, Error ellipse: s-maj=121.8km s-min=24.0km az=173.7*

ISC 27 08:40:26.2±1.2, 38°.3S±0°.2×72°.8W±0°.7, h25km, n9, σ1§43/9, mb4.6/8, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	42.93	358	P	P	08 48 23.4	0.0
	6.1nm,0.5s,baz=93,slow=19,SNR=3.2						
QSPA	South Pole Qui	51.97	180	P	P	08 49 32.3	-0.7
	12nm,0.9s,baz=172,slow=0.2,SNR=5.6						
TEIG	Tepich	59.99	343	P	P	08 50 28.3	-2.2
	20nm,0.7s,baz=185,slow=2.6,SNR=6.9						
TXAR	Lajitas Array	73.20	332	P	P	08 51 54.8	-0.1
	4.2nm,0.7s,baz=153,slow=8.6,SNR=7.6						
ANMO	Albuquerque	79.27	332	P	P	08 52 29.4	0.0
	7.5nm,1.0s,baz=167,slow=7.9,SNR=5.9						
NVAR	Mina Array Bea	87.07	326	P	P	08 53 11.9	+2.3
	1.7nm,0.8s,baz=152,slow=5.8,SNR=3.4						
PDAR	Pinedale Array	87.32	334	P	P	08 53 11.1	+0.4
	2.3nm,0.9s,baz=134,slow=6.4,SNR=4.1						
ULM	Lac du Bonnet	90.47	345	P	P	08 53 25.2	+0.1
	3.8nm,0.8s,baz=142,slow=3.2,SNR=3.7						
AKASG	Malin Array Be	125.45	50	PKP	PKPdf	08 59 25.6	+1.2
	0.1nm,0.2s,baz=268,slow=2.3,SNR=2.2						

IDC **27** *08:42:14.9±1.0, 36°.03S×73°.09W, h0km, mb4.6/8, mb1 4.7/8, mb1mx4.3/33, mbtmp4.6/8, Error ellipse: s-maj=36.8km s-min=25.1km az=64.0*

ISCJB **27** *08:42:17.8±1.0, 36°.0S±0°.2×73°.0W±0°.3, h28km, mb4.5/8, Error ellipse: s-maj=33.5km s-min=25.3km az=156.4*

ISC 27 08:42:19.5±1.0, 36°.0S±0°.2×73°.0W±0°.2, h28km, n8, σ1§50/8, mb4.5/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIV	San Ignacio	22.59	31	P	P	08 47 16.7	-1.1
	19nm,0.8s,baz=224,slow=14,SNR=3.4						
TXAR	Lajitas Array	71.08	332	P	P	08 53 35.7	+0.5
	1.3nm,0.8s,baz=152,slow=9.8,SNR=2.5						
MAW	Mawson	71.52	164	P	P	08 53 35.5	-1.7
	41nm,0.9s,baz=210,slow=12,SNR=3.7						
DBIC	Dimbokro	76.58	71	P	P	08 54 08.7	+1.0
	4.4nm,0.6s,baz=230,slow=2.6,SNR=2.7						
BOSA	Boshof	79.87	118	P	P	08 54 27.9	+2.0
	3.3nm,0.7s,baz=240,slow=6.9,SNR=2.1						
NVAR	Mina Array Bea	85.05	326	P	P	08 54 53.0	+0.4
	1.0nm,0.7s,baz=159,slow=7.1,SNR=5.2						
TORD	Torodi Ar. Bea	85.65	70	P	P	08 54 54.6	-1.2
	2.7nm,0.8s,baz=219,slow=5.4,SNR=2.6						
ULM	Lac du Bonnet	88.20	346	P	P	08 55 07.0	-0.4
	5.2nm,0.8s,baz=154,slow=2.6,SNR=4.4						

IDC **27** *08:43:34.4±1.4, 36°.05S×73°.20W, h0km, mb4.5/5, mb1 4.6/6, mb1mx4.2/34, mbtmp4.5/6, ML4.5/1, MS6.4/1, Ms1 6.4/1, ms1mx5.6/39, Error ellipse: s-maj=72.7km s-min=28.4km az=61.0*

ISCJB **27** *08:43:36.1±1.0, 36°.2S±0°.2×73°.4W±0°.5, h28km, mb4.4/5, Error ellipse: s-maj=61.1km s-min=9.6km az=157.5*

ISC 27 08:43:38.3±1.1, 36°.2S±0°.2×73°.2W±0°.4, h28km, n8, σ1§19/8, mb4.3/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.03	156	Pn	Pn	08 44 52.6	+0.6
	3.9nm,0.3s,baz=331,slow=10,SNR=1.9						
PLCA				Sn	Sn	08 45 48.3	-0.9
	8.6nm,0.3s,baz=254,slow=18,SNR=1.9						
CPUP	Villa Florida	16.72	59	LR	LR	08 53 56.7	
	comp=Z,121μm,19.2s,baz=24,slow=37						
ROSC	El Rosal	40.80	358	P	P	08 51 18.0	+0.2
	7.3nm,0.5s,baz=99,slow=22,SNR=4.9						
TEIG	Tepich	57.85	343	P	P	08 53 26.3	-1.1
	8.3nm,0.6s,baz=90,slow=7.1,SNR=4.0						
TXAR	Lajitas Array	71.16	332	P	P	08 54 56.1	+1.7
	1.6nm,0.6s,baz=158,slow=9.2,SNR=7.4						
ANMO	Albuquerque	77.22	332	P	P	08 55 28.6	-1.1
	3.0nm,0.9s,baz=79,slow=10,SNR=3.6						
TORD	Torodi Ar. Bea	85.84	71	P	P	08 56 15.6	0.0
	1.8nm,0.9s,baz=244,slow=3.9,SNR=4.0						
ARCES	ARCESS Array B	126.37	26	PKP	PKPdf	09 02 38.0	+0.7
	4.1nm,1.0s,baz=264,slow=2.7,SNR=3.6						

IDC **27** *08:45:35.6±0.9, 35°.01S×72°.60W, h0km, mb4.6/12, mb1 4.7/13, mb1mx4.5/30, mbtmp4.6/13, ML4.5/1, Error ellipse: s-maj=29.8km s-min=21.8km az=46.0*

ISCJB **27** *08:45:41.1±0.5, 34°.6S±0°.1×72°.5W±0°.1, h33km, mb4.8/40, Error ellipse: s-maj=16.1km s-min=10.7km az=31.5*

NEIC **27** *08:45:41.9±0.4, 34°.82S×72°.51W, h35km, mb5.0/29, Error ellipse: s-maj=15.1km s-min=9.6km az=50.0*

ISC 27 08:45:39.0±0.6, 34°.9S±0°.1×72°.6W±0°.1, h18km, n289, σ0§95/287, mb5.0/40, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	18.93	13	P	Pn	08 50 01.1	+0.8
	0.7nm,0.3s,baz=139,slow=11,SNR=3.8						
LPAZ	La Paz	18.93	13	eP	P	08 49 56.0	-3.6
	30nm,1.1s						
SIV	San Ignacio	21.45	32	P	P	08 50 26.1	-0.3
	21nm,0.8s,baz=217,slow=12,SNR=4.9						
NNA	Nana	23.11	349	P	P	08 50 44.0	-0.2
	3.7nm,0.4s,baz=180,slow=9.7,SNR=3.7						
BDFB	Brasilia	29.19	55	P	P	08 51 39.0	-0.6
	6.2nm,0.7s,baz=223,slow=7.4,SNR=3.3						
ROSC	El Rosal	39.55	357	P	P	08 53 12.7	+3.2
	7.8nm,0.7s,baz=103,slow=19,SNR=5.3						
SDV	Santo Domingo	43.56	3	eP	P	08 53 41.9	-0.3
	357nm,2.2s						
RCBR	Riachuelo	44.47	58	eP	P	08 53 51.0	+1.6
	28nm,1.1s						
SNAA	Sanae	50.94	158	eP	P	08 54 41.3	+2.3
	75nm,1.4s						
APG	El Apazote	52.44	338	P	P	08 54 46.4	-4.4
	7.6nm,1.1s,baz=139,slow=4.7,SNR=5.2						
TEIG	Tepich	56.80	342	P	P	08 55 21.9	-0.3
	7.3nm,0.7s,baz=112,slow=5.4,SNR=3.5						
738A	Farr-Stevens R	67.02	338	P	P	08 56 34.3	+3.5
	baz=67						
735A	Kenedy	67.72	336	P	P	08 56 36.4	+1.2
	baz=68						
832A	Faith Ranch, C	67.95	334	P	P	08 56 37.2	+0.4
	baz=68						
636A	Smothers Creek	68.06	337	P	P	08 56 38.8	+1.5
	baz=68						
732A	Laxson Ranch,	68.36	334	P	P	08 56 39.6	+0.3
	baz=69						
633A	Saathoff Ranch	68.74	335	P	P	08 56 43.1	+1.4
	baz=69						
632A	Uvalde	69.00	335	P	P	08 56 44.0	+0.7
	baz=69						
631A	Perdido Creek	69.19	334	P	P	08 56 46.0	+1.5
	baz=70						
533A	Kerrville	69.25	336	P	P	08 56 45.5	+0.6
	baz=70						
532A	Rocksprings	69.61	335	P	P	08 56 47.9	+0.8
	baz=70						
434A	Burnet	69.68	337	P	P	08 56 48.0	+0.5
	baz=70						
336A	Riesel	69.76	338	P	P	08 56 48.2	+0.3
	baz=70						
335A	Moody	69.84	337	P	P	08 56 48.8	+0.4
	baz=70						
531A	Rocksprings	69.86	334	P	P	08 56 49.1	+0.4
	baz=70						
JCT	Junction City	69.89	335	eP	P	08 56 49.0	+0.2
	40nm,1.4s						
JCT	Junction City	69.89	335	P	P	08 56 49.2	+0.4
	baz=70						
433A	Art	69.90	336	P	P	08 56 49.2	+0.3
	baz=70						
530A	J-C Ranch, Com	70.14	334	P	P	08 56 50.5	+0.1
	baz=70						
334A	Lometa	70.15	337	P	P	08 56 50.6	+0.2
	baz=70						
432A	Menard	70.25	335	P	P	08 56 51.4	+0.4
	baz=70						
TXAR	Lajitas Array	70.29	331	P	P	08 56 51.0	-0.4
	1.5nm,0.6s,baz=146,slow=8.5,SNR=5.0						
431A	Sonora	70.36	335	P	P	08 56 52.8	+1.1
	baz=71						
333A	Richland Sprin	70.39	336	P	P	08 56 52.2	+0.4
	baz=71						
529A	Stev Forest Ra	70.44	333	P	P	08 56 52.6	+0.4
	baz=71						
137A	Heron Place, G	70.56	339	P	P	08 56 53.5	+0.7
	baz=71						
430A	Baggett Ranch,	70.68	334	P	P	08 56 53.6	0.0
	baz=71						
332A	Millersview	70.70	336	P	P	08 56 53.6	-0.1
	baz=71						
234A	Clairette	70.74	337	P	P	08 56 53.6	-0.3
	baz=71						
429A	Davenport Ranc	70.77	333	P	P	08 56 54.5	+0.2
	baz=71						
331A	San Angelo	70.86	335	P	P	08 56 54.1	-0.6
	baz=71						
TKL	Tuckaleechee C	70.95	350	P	P	08 56 54.8	-0.3
	4.3nm,1.0s,baz=140,slow=7.9,SNR=3.3						
233A	Rising Star	71.00	337	P	P	08 56 55.2	-0.3
	baz=71						
232A	Coleman	71.13	336	P	P	08 56 56.0	-0.4
	baz=71						
330A	Mertzon	71.22	334	P	P	08 56 56.4	-0.5
	baz=72						
231A	Bronte	71.40	335	P	P	08 56 57.7	-0.2
	baz=72						
133A	Hamilton Ranch	71.55	337	P	P	08 56 58.4	-0.4
	baz=72						
329A	Wagon Wheel Ra	71.58	334	P	P	08 56 58.0	-1.1
	baz=72						
230A	Sterling City	71.63	335	P	P	08 56 58.5	-0.9
	baz=72						
Z35A	Perchaven, San	71.69	338	P	P	08 56 59.5	-0.1
	baz=72						
ABTX	Abilene, Hawle	71.80	336	eP	P	08 57 00.3	0.0
	21nm,1.1s						
ABTX	Abilene, Hawle	71.80	336	P	P	08 57 00.2	-0.2
	baz=72						
Z34A	Collier Ranch,	71.93	338	P	P	08 57 01.3	+0.2
	baz=72						
229A	Bryant Ranch,	71.95	334	P	P	08 57 01.2	-0.1
	baz=72						
WVT	Waverly	72.06	347	eP	P	08 57 01.2	-0.6
	2μm,3.4s						
131A	Roby	72.09	336	P	P	08 57 01.9	-0.2
	baz=72						
Z33A	Whitaker Ranch	72.12	337	P	P	08 57 02.1	-0.1
	baz=72						
130A	Snyder	72.22	335	P	P	08 57 02.7	-0.2
	baz=72						
228A	UT Block 9, Go	72.37	334	P	P	08 57 03.5	-0.3
	baz=73						
Z32A	Haskell	72.37	337	P	P	08 57 03.7	0.0
	baz=73						
Y34A	Reagan Ranch,	72.43	338	P	P	08 57 04.1	0.0
	baz=73						
129A	Stewart Farms,	72.57	334	P	P	08 57 04.2	-0.8
	baz=73						
Z31A	Sharp Cattle R	72.60	336	P	P	08 57 05.5	+0.4
	baz=73						
Y33A	Hilltop Ranch,	72.74	338	P	P	08 57 05.8	-0.1
	baz=73						
128A	Castleberry Fa	72.78	334	P	P	08 57 06.1	-0.2
	baz=73						
Z30A	Sanderson Ranc	72.91	335	P	P	08 57 06.6	-0.4
	baz=73						
X34A	Smith Ranch, M	73.05	338	P	P	08 57 07.4	-0.4
	baz=73						
MNTX	Cornudas Mount	73.06	331	eP	P	08 57 07.2	-0.7
	3.0nm,0.8s						
Z29A	Hungry Hill Ra	73.08	335	P	P	08 57 07.4	-0.7
	baz=73						
127A	Arkansas Junct	73.15	333	P	P	08 57 08.2	-0.3
	baz=73						
X33A	Lawton	73.20	338	P	P	08 57 08.1	-0.5
	baz=74						
Y31A	Rekieta Farm,	73.23	336	P	P	08 57 08.7	-0.2
	baz=74						
X32A	Elmer	73.33	337	P	P	08 57 08.8	-0.7
	baz=74						
Y30A	Stafford Cattl	73.36	336	P	P	08 57 09.7	0.0
	baz=74						
Y29A	Porterfield Fa	73.61	335	P	P	08 57 10.9	-0.3
	baz=74						
W34A	Bridge Creek,	73.62	339	P	P	08 57 10.9	-0.2
	baz=74						
Z27A	Tatum	73.67	334	P	P	08 57 11.1	-0.5
	baz=74						
TUL1	Tulsa	73.68	341	eP	P	08 57 11.0	-0.4
	24nm,1.2s						
TUL1	Tulsa	73.68	341	P	P	08 57 10.8	-0.6
	baz=74						
X31A	McDonald Ranch	73.75	337	P	P	08 57 11.7	-0.2
	baz=74						
W33A	Caddo, Fort Co	73.75	338	P	P	08 57 12.2	+0.3
	baz=74						
Y28A	McKinney Farm,	73.86	335	P	P	08 57 12.8	+0.1
	baz=74						
Z26A	Caprock	73.92	333	P	P	08 57 13.2	+0.2
	baz=74						
W32A	Sentinel	73.97	337	P	P	08 57 13.7	+0.5
	baz=74						
MSTX	Muleshoe	74.10	334	eP	P	08 57 14.0	-0.1
	12nm,0.8s						
MSTX	Muleshoe	74.10	334	P	P	08 57 14.0	-0.1
	baz=74						
X29A	Tulia	74.16	335	P	P	08 57 14.2	-0.1
	baz=74						
Y27A	Causey	74.17	334	P	P	08 57 14.8	+0.3
	baz=74						
V33A	Lossen Ranch,	74.32	339	P	P	08 57 15.3	+0.2
	baz=75						
Y26A	Elida	74.44	333	P	P	08 57 16.5	+0.4
	baz=75						
Z24A	Sheeppen Canyo	74.50	332	P	P	08 57 16.8	+0.3
	baz=75						
AMTX	Amarillo	74.55	335	eP	P	08 57 16.9	+0.3
	16nm,1.0s						
AMTX	Amarillo	74.55	335	P	P	08 57 17.0	+0.4
	baz=75						
W29A	Amraillo	74.75	336	P	P	08 57 18.0	+0.1
	baz=75						
V31A	Spring Creek L	74.75	337	P	P	08 57 18.1	+0.4
	baz=75						
121A	Cookes Peak, D	74.77	330	eP	P	08 57 17.3	-0.8
	27nm,1.5s						
121A	Cookes Peak, D	74.77	330	P	P	08 57 18.0	-0.1
	baz=75						
U33A	Lingo Farm, Me	74.83	339	P	P	08 57 18.5	+0.3
	baz=75						
X26A	CR and CF Fran	75.00	334	P	P	08 57 19.6	+0.3
	baz=75						
V30A	Spur Ranch, Mi	75.02	337	P	P	08 57 19.8	+0.5
	baz=75						
U32A	Winter Ranch,	75.05	338	P	P	08 57 20.1	+0.7
	baz=75						
Y24A	Capitan	75.05	332	P	P	08 57 19.9	+0.2
	baz=75						
Z22A	Elephant Butte	75.06	331	P	P	08 57 20.8	+1.0
	baz=75						
W27A	Bowe Ranch, En	75.19	334	P	P	08 57 20.9	+0.5
	baz=76						
T33A	Patterson Ranc	75.47	339	P	P	08 57 22.5	+0.7
	baz=76						
U30A	WK&E Inc. Balk	75.71	337	P	P	08 57 24.4	+1.2
	baz=76						
W25A	X Bar L Ranch,	75.83	334	P	P	08 57 24.7	+0.6
	baz=76						
DBIC	Dimbokro	75.87	71	P	P	08 57 25.1	+0.4
	12nm,0.7s,baz=215,slow=5.1,SNR=6.9						
DBIC	Dimbokro	75.87	71	eP	P	08 57 25.7	+1.1
	19nm,0.9s						
SFIN	Scholer Farm	76.07	349	P	P	08 57 26.6	+1.4
	baz=76						
U28A	Mallet	76.09	336	P	P	08 57 26.2	+0.7
	baz=76						
W24A	Lazy 6 Ranch,	76.18	333	P	P	08 57 27.2	+1.0
	baz=76						
U27A	Thompson Grove	76.33	335	P	P	08 57 28.2	+1.3
	baz=77						
ANMO	Albuquerque	76.34	332	eP	P	08 57 27.1	0.0
	6.9nm,0.9s						

W23A Werner Place, 76.42 332 P P 08 57 28.5 +1.0
baz=77
V25A Rancho No Teng 76.44 334 P P 08 57 27.6 0.0
baz=77
T29A Hugoton 76.49 337 P P 08 57 28.6 +0.9
baz=77
214A Organ Pipe Nat 76.49 326 eP P 08 57 29.9 +2.1
16nm,1.2s
V24A Rampart Ranch, 76.58 333 P P 08 57 28.7 +0.2
baz=77
S30A Montezuma 76.66 338 P P 08 57 29.2 +0.5
baz=77
T28A Walsh 76.72 336 P P 08 57 29.5 +0.4
baz=77
S29A Ulysses 76.85 337 P P 08 57 30.2 +0.5
baz=77
U25A Circle Dot Ran 76.87 334 P P 08 57 30.1 +0.1
baz=77
T27A Campo 76.87 336 P P 08 57 30.2 +0.2
baz=77
KSU1 Kansas State U 76.90 341 P P 08 57 30.4 +0.5
baz=77
R31A Burdett 76.97 339 P P 08 57 30.9 +0.5
baz=77
S28A Manter 77.08 336 P P 08 57 31.6 +0.6
baz=77
U24A Moreno Valley 77.19 333 P P 08 57 33.0 +1.1
baz=78
R30A Dighton 77.20 338 P P 08 57 31.9 +0.2
baz=78
Q32A Meitler Ranch, 77.34 340 P P 08 57 32.7 +0.3
baz=78
V22A San Miguel Ran 77.37 332 P P 08 57 33.7 +0.8
baz=78
U23A El Rito 77.46 333 P P 08 57 34.4 +1.0
baz=78
T25A Trinidad 77.53 334 P P 08 57 35.3 +1.6
baz=78
Q31A Ellis 77.59 339 P P 08 57 34.8 +1.0
baz=78
R29A Marienthal 77.59 337 P P 08 57 34.8 +0.9
baz=78
113A Mohawk Valley, 77.61 325 P P 08 57 37.3 +3.3
baz=78
S26A Kim 77.64 335 P P 08 57 34.8 +0.6
baz=78
R28A Tribune 77.73 337 P P 08 57 34.7 0.0
baz=78
T24B San Luis 77.81 334 P P 08 57 36.2 +0.8
baz=78
X16A Lo Mia Camp, P 77.94 328 P P 08 57 37.8 +1.7
baz=78
S25A Robets Cordova 78.00 335 P P 08 57 37.4 +1.1
baz=78
R27A Eads 78.01 336 P P 08 57 36.2 0.0
baz=78
T23A Casias Ranch, 78.03 333 P P 08 57 37.5 +0.9
baz=78
P31A Stockton 78.06 339 P P 08 57 38.1 +1.6
baz=78
Y14A Wickenburg 78.23 327 P P 08 57 38.9 +1.3
baz=78
R26A Arlington 78.24 336 P P 08 57 39.0 +1.5
baz=78
S24A Houchin Ranch, 78.26 334 P P 08 57 39.0 +1.1
baz=79
R25A Fountain Ranch 78.39 335 P P 08 57 39.7 +1.3
baz=79
SDCO Great Sand Dun 78.46 334 eP P 08 57 39.4 +0.4
3.7nm,0.9s
P29A Atwood 78.61 338 P P 08 57 41.4 +2.0
baz=79
R24A Sanders Place, 78.75 334 P P 08 57 41.5 +1.0
baz=79
P28A Saint Francis 78.84 337 P P 08 57 41.6 +0.8
baz=79
WUAZ Wupatki 78.85 329 P P 08 57 42.2 +1.2
baz=79
S22A 4UR Ranch, Cre 78.95 333 P P 08 57 42.6 +0.9
baz=79
R23A Moffat 78.97 334 P P 08 57 42.5 +0.7
baz=79
Q25A Bedland, Calha 79.06 335 P P 08 57 42.6 +0.4
baz=79
MVCO Mesa Verde 79.12 332 P P 08 57 43.2 +0.7
baz=79
BC3 Big Chuckawall 79.14 325 P P 08 57 43.8 +1.2
baz=79
P26A Davis Ranch, A 79.34 336 P P 08 57 45.0 +1.4
baz=80
O28A Krutsinger Ran 79.35 338 P P 08 57 45.3 +1.8
baz=80
IRM Iron Mountain 79.41 325 P P 08 57 45.5 +1.5
baz=80
Q24A Divide 79.42 335 P P 08 57 45.2 +0.9
baz=80
P25A Willow Gulch B 79.57 336 P P 08 57 46.7 +1.8
baz=80
O27A Beecher Island 79.63 337 P P 08 57 45.9 +0.8
baz=80
M31A Lambtecht Ranc 79.64 340 P P 08 57 46.5 +1.5
baz=80
O26A Horse Wrangler 79.94 337 P P 08 57 47.9 +1.0
baz=80
U15A North Rim 80.01 328 P P 08 57 49.0 +1.5
baz=80
BOSA Boshof 80.05 118 P P 08 57 46.4 -1.5
8.1nm,0.9s,baz=234,slow=6.9,SNR=3.9
BOSA Boshof 80.05 118 eP P 08 57 46.9 -1.1
42nm,1.4s
GMRC Granite Mounta 80.16 325 P P 08 57 49.8 +1.7
baz=80
ISCO Idaho Springs 80.33 335 eP P 08 57 50.0 +0.9
10nm,1.3s
ISCO Idaho Springs 80.33 335 P P 08 57 51.1 +2.0
baz=81
PV10 Paradox Valley 80.34 332 eP P 08 57 49.5 +0.3
135nm,0.8s
HEC Hector,Ludlow 80.51 325 P P 08 57 50.3 +0.3
baz=81
P22A Eagle 80.55 334 P P 08 57 52.3 +2.1
baz=81
O23A Lake Granby, G 80.80 335 P P 08 57 52.7 +1.1
baz=81
O22A Kremmling 80.98 334 P P 08 57 53.0 +0.4
baz=81
K30A Basset 81.05 340 P P 08 57 52.6 0.0
baz=81
ECSD EROS Data Cent 81.25 343 eP P 08 57 52.9 -0.7
18nm,0.9s
ECSD EROS Data Cent 81.25 343 P P 08 57 53.5 -0.1
baz=82
EDW2 Edwards Air Fo 81.35 324 P P 08 57 55.2 +0.8
baz=82
N23A Red Feather La 81.42 335 P P 08 57 56.2 +1.4
baz=82
N22A Wattenberg Ran 81.51 335 P P 08 57 56.5 +1.1
baz=82
O20A White River Ci 81.57 333 P P 08 57 56.6 +1.0
baz=82
J30A Dallas 81.62 340 P P 08 57 56.1 +0.6
baz=82
SPMN St. Paul 81.81 346 P P 08 57 57.2 +0.7
baz=82
K27A Flueckinger Fa 81.84 338 P P 08 57 57.4 +0.6
baz=82
M23A Laramie 81.85 335 P P 08 57 57.4 +0.3
baz=82
J29A Okreek 81.92 340 P P 08 57 57.7 +0.5
baz=82
M22A Cedar Creek Ra 82.09 335 P P 08 58 00.2 +1.8
baz=82
J28A Allard Ranch, 82.20 339 P P 08 57 59.6 +0.9
baz=82
ISA Isabella 82.22 324 P P 08 58 00.6 +1.6
baz=82
J27A Elkhorn Farm, 82.27 339 P P 08 58 00.1 +1.0
baz=83
LBTB Lobatse 82.33 115 eP P 08 57 59.2 -0.9
16nm,0.8s
I29A Vivian Onida 82.48 340 P P 08 58 00.7 +0.5
baz=83
I28A Midland 82.71 340 P P 08 58 01.8 +0.5
baz=83
H29A Onida 83.02 340 P P 08 58 03.3 +0.4
baz=83
I27A Quinn 83.03 339 P P 08 58 04.1 +1.1
baz=83

R11A Troy Canyon, C 83.05 327 eP P 08 58 04.1 +0.6
7.4nm,1.1s
R11A Troy Canyon, C 83.05 327 P P 08 58 04.0 +0.6
baz=83
K22A Casper 83.17 335 eP P 08 58 06.2 +2.3
22nm,1.4s
K22A Casper 83.17 335 P P 08 58 05.5 +1.6
baz=84
G30A Faulkton 83.20 341 P P 08 58 03.7 -0.1
baz=84
H28A Mission Ridge 83.29 340 P P 08 58 04.1 -0.2
baz=84
DUG Dugway 83.41 330 eP P 08 58 06.2 +1.0
19nm,1.3s
DUG Dugway 83.41 330 P P 08 58 06.1 +1.0
baz=84
I25A Rochford 83.49 338 P P 08 58 05.9 +0.4
baz=84
H27A Howes 83.55 339 P P 08 58 06.8 +1.2
baz=84
G28A Parade 83.63 340 P P 08 58 06.8 +0.8
baz=84
F30A Leola 83.82 342 P P 08 58 08.1 +1.1
baz=84
F29A Eureka 84.03 341 P P 08 58 08.7 +0.7
baz=84
HWUT Hardware Ranch 84.11 332 eP P 08 58 08.5 -0.3
42nm,1.4s
G27A Dupree 84.19 340 P P 08 58 09.5 +0.6
baz=84
F28A McLaughlin 84.31 341 P P 08 58 10.2 +0.8
baz=85
G26A Maurine 84.31 339 P P 08 58 10.6 +1.1
baz=85
J20A Shoshoni 84.33 335 P P 08 58 10.3 +0.5
baz=85
PDAR Pinedale Array 84.35 334 P P 08 58 10.6 +0.5
2.1nm,0.9s,baz=143,slow=5.2,SNR=4.6
NVAR Mina Array Bea 84.36 326 P P 08 58 10.8 +0.6
1.6nm,0.8s,baz=155,slow=5.7,SNR=4.3
H24A Dirks Ranch, A 84.40 338 P P 08 58 10.6 +0.5
baz=85
E30A Jud 84.41 342 P P 08 58 10.5 +0.5
baz=85
G25A Newell 84.46 339 P P 08 58 10.6 +0.3
baz=85
I21A Big Trails, Te 84.46 336 P P 08 58 10.4 0.0
baz=85
J19A Crowheart 84.60 334 P P 08 58 11.2 0.0
baz=85
F27A Lemmon 84.67 340 P P 08 58 11.1 -0.2
baz=85
I20A Worland 84.87 335 P P 08 58 11.9 -0.5
baz=85
TOA0 Torodi Ar. Sit 84.92 70 eP P 08 58 14.7 +1.5
TORD Torodi Ar. Bea 84.92 70 P P 08 58 14.1 +0.9
7.0nm,0.6s,baz=276,slow=5.3,SNR=16
D30A Buchanan 84.94 342 P P 08 58 12.7 +0.1
baz=85
E27A Carson 85.05 340 P P 08 58 13.7 +0.5
baz=85
D29A Pettibone, Tap 85.11 342 P P 08 58 13.8 +0.4
baz=85
H20A Greybull 85.30 335 P P 08 58 13.4 -1.2
baz=86
AGMN Agassiz Nation 85.38 345 P P 08 58 14.7 -0.1
baz=86
C30A Mose, Pekin 85.42 343 P P 08 58 14.7 -0.3
baz=86
D28A Regan 85.48 341 P P 08 58 15.4 +0.1
baz=86
F23A Volborg 85.54 338 P P 08 58 15.6 -0.2
baz=86
G21A Lodge Grass 85.68 336 P P 08 58 16.5 0.0
baz=86
I17A Pilgrim Ck. 85.72 333 P P 08 58 17.6 +0.8
baz=86
D26A Manning 85.84 340 P P 08 58 18.3 +1.1
baz=86
F22A Rosebud 85.86 337 P P 08 58 17.1 -0.2
baz=86
G20A Bridger 86.01 336 P P 08 58 17.2 -1.0
baz=86
H18A Shoshone NF, C 86.04 334 P P 08 58 18.8 +0.4
baz=86
B30A Myrvik Farm, E 86.09 343 P P 08 58 18.3 0.0
baz=86
D25A Fairfield 86.20 340 P P 08 58 18.7 -0.3
baz=86
C27A Sayler Ranch, 86.21 341 P P 08 58 19.0 +0.1
baz=86
RLMT Red Lodge 86.29 335 eP P 08 58 20.1 +0.5
4.3nm,0.7s
E22A Miles City 86.35 338 P P 08 58 20.8 +1.1
baz=87
D24A Glendive 86.46 339 P P 08 58 20.8 +0.6
baz=87
YMR Madison River 86.50 334 eP P 08 58 21.7 +1.0
25nm,1.2s
A30A Hoffart Farm, 86.54 343 P P 08 58 20.1 -0.4
baz=87
B28A Dugan Ranch, T 86.59 342 P P 08 58 21.3 +0.5
baz=87
D23A Lindsay 86.78 338 P P 08 58 21.9 +0.1
baz=87
C24A Savage 86.87 339 P P 08 58 22.6 +0.4
baz=87
HLID Hailey 86.89 331 eP P 08 58 23.3 +0.7
9.2nm,1.4s
HLID Hailey 86.89 331 P P 08 58 22.8 +0.2
baz=87
E20A Meyer Farm, Mu 87.11 336 P P 08 58 23.9 +0.5
baz=87
B25A Knox Farm, Ray 87.17 340 P P 08 58 23.9 +0.3
baz=88
ULM Lac du Bonnet 87.23 345 P P 08 58 24.4 +0.6
5.4nm,0.9s,baz=167,slow=3.2,SNR=3.6
E19A Rath Farm, Rou 87.29 336 P P 08 58 24.2 -0.1
baz=88
C23A Lambert 87.34 339 P P 08 58 24.3 -0.2
baz=88
D20A Manuel Ranch, 87.63 337 P P 08 58 25.8 -0.1
baz=88
DGMT Dagmar 87.65 340 eP P 08 58 26.3 +0.4
31nm,1.1s
DGMT Dagmar 87.65 340 P P 08 58 25.9 0.0
baz=88
B23A Brockton 87.87 339 P P 08 58 26.8 -0.2
baz=88
C21A Desert Coulee 87.94 338 P P 08 58 27.3 -0.1
baz=88
A24A Westby 88.00 340 P P 08 58 27.9 +0.3
baz=88
B22A Reddig Ranch S 88.03 338 P P 08 58 28.1 +0.3
baz=88
MOD Modoc 88.05 326 eP P 08 58 28.6 +0.4
8.9nm,1.1s
C19A Slack Wire Ran 88.49 336 P P 08 58 31.0 +1.0
baz=89
A22A Carney Farms, 88.62 339 P P 08 58 31.2 +0.6
baz=89
M04C Macdoel 88.66 325 P P 08 58 31.2 +0.2
baz=89
YKA Yellowknife Ar 102.75 341 P Pdif 08 59 33.4 -1.1
0.3nm,0.8s,baz=148,slow=4.4,SNR=3.9
ILAR Eielson Array 114.78 333 PKhKP PKPpre 09 04 14.3
0.7nm,0.9s,baz=203,slow=3.5,SNR=4.1
WRA Warramunga Arr 119.79 209 PKP PKPdf 09 04 28.2 -0.4
1.4nm,0.7s,baz=164,slow=1.6,SNR=5.7
BRTR Keskin Array B 122.64 62 PKP PKPdf 09 04 31.1 -2.5
1.0nm,0.8s,baz=197,slow=2.6,SNR=4.0
AKASG Malin Array Be 123.10 48 PKP PKPdf 09 04 31.1 -2.8
0.7nm,0.6s,baz=256,slow=2.6,SNR=4.3
ARCES ARCESS Array B 124.99 25 PKP PKPdf 09 04 36.5 -0.5
4.1nm,0.9s,baz=36,slow=6.3,SNR=4.0
SEY Seymchan 140.57 329 PKP PKPdf 09 05 05.8 -0.6
1.2nm,0.5s,baz=105,slow=4.9,SNR=4.3
TIXI Tiksi 141.47 349 ePKPdf PKPdf 09 05 03.6 -4.2
ABKAR Akbulak array 142.56 53 ePKPdf PKPdf 09 05 06.8 -3.6
BVAR Borovoye Array 148.21 44 PKPbc PKPbc 09 05 24.3 +1.0
8.4nm,1.0s,baz=313,slow=3.6,SNR=3.0
IPM Ipoh 149.18 167 ePKPbc PKPbc 09 05 28.1 +1.1
KULM Kulim 149.90 166 ePKPbc PKPbc 09 05 28.8 0.0
EKS2 Erkin-Say 152.76 63 ePKPbc PKPbc 09 05 35.7 +1.0
AAK Ala-Archa 153.29 63 PKPbc PKPbc 09 05 34.0 -2.0
2.6nm,0.7s,baz=188,slow=7.0,SNR=2.3
AAK Ala-Archa 153.29 63 ePKPbc PKPbc 09 05 34.2 -1.8
ZALV Zalesovo Beam 155.20 33 PKP PKPdf 09 05 31.8 +1.3

1.8nm,0.2s,baz=56,slow=9.6,SNR=9.6
ZALV PKPab PKPab 09 05 57.1 +1.8
8.1nm,0.8s,baz=318,slow=2.0,SNR=6.2
MK31 Makanchi Array 157.66 50 ePKPdf PKPdf 09 05 35.2 +1.2
MKAR Makanchi Array 157.66 50 PKP PKPdf 09 05 34.5 +0.5
1.1nm,0.7s,baz=341,slow=0.5,SNR=3.6
MKAR PKPab PKPab 09 06 06.0 -0.3
1.4nm,0.9s,baz=318,slow=1.9,SNR=3.0
SONM Songino Array 167.03 3 PKPab PKPab 09 06 48.4 +1.1
1.5nm,0.9s,baz=330,slow=3.9,SNR=4.2

IDC 27 08:47:59.9±0.4, 38.56S×75.49W, h0km, mb5.0/19, mb1 5.0/22, mb1mx5.0/30, mbtmp5.0/22, ML4.7/3, Error ellipse: s-maj=17.6km s-min=13.2km az=70.0
ISCJB 27 08:48:04.5±0.2, 38.31S±0.05×75.20W±0.06, h33km, mb5.4/95, MS6.8/1, Error ellipse: s-maj=7.7km s-min=5.6km az=31.1
MOS 27 08:48:04.7±0.9, 38.39S×75.42W, h33km, mb5.7/20, Error ellipse: s-maj=16.6km s-min=9.7km az=101.0
NEIC 27 08:48:05.5±0.2, 38.50S×75.33W, h35km, mb5.6/73, Error ellipse: s-maj=7.8km s-min=5.4km az=51.0
ISC 27 08:48:05.4±0.3, 38.48S±0.06×75.35W±0.07, h35km, n626, σ0s87/648, mb5.5/97, 201C-185D, Off coast of central Chile

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

PLCA Paso Flores 4.34 123 eP Pn 08 49 11.4 +2.5
PLCA 08 50 03.6
PLCA Paso Flores 4.34 123 Pn Pn 08 49 09.6 +0.7
4.6nm,0.3s,baz=320,slow=16,SNR=1.3
PLCA Sn Sn 08 49 49.5 -8.9
14nm,0.3s,baz=263,slow=17,SNR=2.6
PLCA Lg Lg 08 50 03.6
46nm,0.3s,baz=29,slow=22,SNR=4.4
PLCA Paso Flores 4.34 123 ePn Pn 08 49 11.3 +2.5
PLCA Lg Lg 08 50 03.6
CFAA Coronel Fontan 9.00 43 Pn Pn 08 50 10.9 -1.9
6.1nm,0.3s,baz=195,slow=15,SNR=8.1
CFAA Sn Sn 08 51 51.7 -1.3
2.6nm,0.3s,baz=132,slow=15,SNR=2.9
TRQA Tornquist 10.53 92 ePn Pn 08 50 32.6 -1.2
717nm,1.4s
CPUP Villa Florida 19.41 57 eP Pn 08 52 30.4 +0.6
CPUP pmax pmax
comp=Z,6.0nm,0.9s
CPUP Villa Florida 19.41 57 P P 08 52 28.8 +0.3
comp=Z,1.5nm,0.3s,baz=196,slow=14,SNR=4.5
CPUP Villa Florida 19.41 57 eP Pn 08 52 30.4 +0.6
comp=Z,6.0nm,0.9s
LPAZ La Paz 23.00 18 eP P 08 53 09.3 +1.5
LPAZ pmax pmax
comp=Z,71nm,1.4s
LPAZ La Paz 23.00 18 P P 08 53 08.4 +0.7
comp=Z,20nm,1.1s,baz=205,slow=7.0,SNR=4.4
LPAZ La Paz 23.00 18 eP P 08 53 09.3 +1.5
comp=Z,71nm,1.4s
SIV San Ignacio 25.68 33 P P 08 53 33.8 +1.6
comp=Z,11nm,0.8s,baz=231,slow=15,SNR=3.5
NNA Nana 26.41 357 eP P 08 53 38.4 -0.4
NNA pmax pmax
comp=Z,33nm,1.1s
NNA Nana 26.41 357 eP P 08 53 38.4 -0.4
comp=Z,33nm,1.1s
ATAH Atahualpa 31.32 354 P P 08 54 25.1 +2.2
comp=Z,21nm,0.9s,baz=157,slow=2.0,SNR=6.2
SAML Samuel 31.37 24 eP P 08 54 22.9 0.0
comp=Z,132nm,1.8s
BDFB Brasilia 33.09 54 P P 08 54 38.1 0.0
comp=Z,25nm,1.0s,baz=177,slow=9.0,SNR=4.6
OTAV Otavalo 38.63 355 eP P 08 55 28.4 +2.5
comp=Z,103nm,1.5s
ROSC El Rosal 43.12 1 P P 08 56 02.8 0.0
comp=Z,19nm,0.8s,baz=128,slow=4.5,SNR=9.8
SDV Santo Domingo 47.32 6 eP P 08 56 35.5 -0.4
comp=Z,24nm,0.8s
RCBR Riachuelo 48.28 58 P P 08 56 44.3 +1.0
comp=Z,16nm,0.8s,baz=208,slow=11,SNR=5.4
SNAA Sanae 48.52 156 P P 08 56 45.3 +0.8
SNAA Sanae 48.52 156 eP P 08 56 45.0 +0.5
SNAA pmax pmax
comp=Z,104nm,1.1s
SNAA Sanae 48.52 156 P P 08 56 45.0 +0.5
comp=Z,24nm,0.9s,baz=283,slow=6.4,SNR=18
SNAA Sanae 48.52 156 eP P 08 56 45.0 +0.5
comp=Z,104nm,1.1s
JTS JuntasAbangare 49.33 348 eP P 08 56 52.2 +0.9
JTS JuntasAbangare 49.33 348 P P 08 56 51.8 +0.6
comp=Z,7.7nm,0.8s,baz=126,slow=3.2,SNR=6.0
JTS JuntasAbangare 49.33 348 eP P 08 56 52.2 +0.9
QSPA South Pole Qui 51.77 180 P P 08 57 08.7 -0.5
comp=Z,46nm,1.0s,baz=146,slow=3.7,SNR=11
NVL N'lazarevskaya 53.32 156 eP P 08 57 21.6 +1.2
NVL pmax pmax
comp=Z,55nm,0.9s
APG El Apazote 55.05 342 P P 08 57 30.4 -3.5
comp=Z,27nm,1.0s,baz=179,slow=7.7,SNR=16
CELP Cerrillos 56.85 10 eP P 08 57 45.9 -0.5
GTBY Guantanamo Bay 58.09 0 eP P 08 57 55.2 0.0
comp=Z,73nm,0.9s
TEIG Tepich 59.64 346 P P 08 58 05.8 -0.1
comp=Z,6.2nm,0.7s,baz=89,slow=0.8,SNR=3.9
SYO Syowa Base 62.70 158⇑eP P 08 58 24.2 -1.9
SYO Syowa Base 62.70 158⇓epP P 08 58 31.2 +5.1
035A Encino 68.47 338 ⇓P P 08 59 04.9 +1.0
baz=69
034A Hebbronville 68.76 338 ⇓P P 08 59 06.7 +1.0
baz=69
934A Benavides 69.22 338 ⇓P P 08 59 09.7 +1.3
baz=70
933A Laredo 69.45 337 ⇑P P 08 59 10.9 +1.0
baz=70
835A Beeville 69.66 339 ⇑P P 08 59 12.8 +1.6
baz=70
834A Tilden 69.72 338 ⇑P P 08 59 12.2 +0.7
baz=70,SNR=7.1
TIGA Tifton 69.98 353 ⇑P P 08 59 11.9 -1.1
baz=70
833A Chaparral WMA, 70.15 338 ⇓P P 08 59 14.6 +0.4
baz=70,SNR=7.7
735A Kenedy 70.19 339 ⇓P P 08 59 15.2 +0.7
baz=70
832A Faith Ranch, C 70.29 337 ⇑P P 08 59 15.2 +0.1
baz=71,SNR=6.2
LPIG La Paz 70.35 326 P P 08 59 16.6 +1.1
comp=Z,40nm,1.0s,baz=69,slow=8.6,SNR=5.2
734A La Parita Cree 70.40 338 ⇑P P 08 59 15.9 +0.2
baz=71
733A Divot King Ran 70.49 338 ⇑P P 08 59 16.8 +0.5
baz=71
636A Smothers Creek 70.58 340 ⇓P P 08 59 17.4 +0.6
baz=71
635A Leesville 70.69 339 ⇓P P 08 59 17.7 +0.2
baz=71
732A Laxson Ranch, 70.71 337 ⇑P P 08 59 17.7 +0.1
baz=71,SNR=14
537A Green Hill Far 70.95 341 ⇓P P 08 59 19.4 +0.4
baz=71
536A Bastrop 71.15 340 ⇓P P 08 59 20.7 +0.5
baz=72
633A Saathoff Ranch 71.15 338 ⇓P P 08 59 20.3 0.0
baz=72,SNR=6.1
535A Dale 71.24 340 ⇑P P 08 59 21.1 +0.3
baz=72
632A Uvalde 71.38 338 ⇑P P 08 59 21.9 +0.2
baz=72,SNR=8.6
534A Blanco 71.49 339 ⇓P P 08 59 22.9 +0.5
baz=72
631A Perdido Creek 71.53 337 ⇓P P 08 59 23.0 +0.4
baz=72
533A Kerrville 71.69 338 ⇓P P 08 59 24.1 +0.5
baz=72,SNR=8.5
339A Huntington 71.72 343 ⇓P P 08 59 24.2 +0.5
baz=72
338A Crockett 71.92 342 ⇑P P 08 59 25.3 +0.4
baz=72
435B Jarrell 71.95 340 ⇑P P 08 59 25.3 +0.2
baz=72
LRAL Lakeview Retre 71.97 350 eP P 08 59 25.0 -0.1
comp=Z,32nm,1.0s
532A Rocksprings 72.00 338 ⇓P P 08 59 25.6 +0.2
baz=72,SNR=12
337A Centerville 72.02 342 ⇓P P 08 59 26.5 +1.0
baz=72,SNR=6.4
NATX Nacogdoches 72.15 343 eP P 08 59 27.2 +1.0

comp=Z,78nm,1.3s
434A Burnet 72.17 339 ⇓P P 08 59 26.5 0.0
baz=72,SNR=14
531A Rocksprings 72.22 337 ⇑P P 08 59 27.0 +0.2
baz=73,SNR=9.5
JCT Junction City 72.29 338 eP P 08 59 27.7 +0.5
JCT pmax pmax
comp=Z,84nm,1.5s
JCT Junction City 72.29 338 eP P 08 59 27.7 +0.5
comp=Z,84nm,1.5s
JCT Junction City 72.29 338 ⇑P P 08 59 27.4 +0.2
baz=73,SNR=10
336A Riesel 72.33 341 ⇓P P 08 59 28.0 +0.6
baz=73,SNR=8.7
433A Art 72.35 339 ⇑P P 08 59 27.4 -0.1
baz=73,SNR=10
335A Moody 72.39 340 ⇓P P 08 59 27.9 +0.2
baz=73
530A J-C Ranch, Com 72.45 337 ⇑P P 08 59 28.1 -0.1
baz=73,SNR=12
TXAR Lajitas Array 72.46 334 P P 08 59 28.9 +0.6
comp=Z,6.4nm,0.8s,baz=153,slow=8.4,SNR=16
334A Lometa 72.65 340 ⇓P P 08 59 29.2 -0.1
baz=73,SNR=18
432A Menard 72.66 338 ⇓P P 08 59 29.1 -0.3
baz=73
529A Stev Forest Ra 72.71 336 ⇓P P 08 59 29.9 +0.2
baz=73,SNR=6.6
431A Sonora 72.72 337 ⇓P P 08 59 30.0 +0.2
baz=73,SNR=9.8
333A Richland Sprin 72.85 339 ⇓P P 08 59 30.4 -0.1
baz=73,SNR=10
430A Baggett Ranch, 73.01 337 ⇓P P 08 59 31.2 -0.3
baz=73,SNR=12
WHTX Lake Whitney 73.07 340 eP P 08 59 31.8 +0.1
comp=Z,56nm,1.3s
WHTX Lake Whitney 73.07 340 ⇓P P 08 59 31.5 -0.1
baz=73,SNR=6.4
429A Davenport Ranc 73.07 336 ⇑P P 08 59 31.7 -0.1
baz=73,SNR=9.2
332A Millersview 73.12 338 ⇓P P 08 59 32.0 -0.1
baz=74,SNR=17
331A San Angelo 73.25 338 ⇓P P 08 59 33.0 +0.1
baz=74,SNR=14
234A Clairette 73.26 340 ⇑P P 08 59 32.7 -0.2
baz=74,SNR=13
KMSC Kings Mountain 73.46 355 eP P 08 59 33.8 -0.1
comp=Z,24nm,1.0s
KMSC Kings Mountain 73.46 355 ⇓P P 08 59 33.8 -0.1
baz=74
233A Rising Star 73.48 339 ⇑P P 08 59 34.0 -0.2
baz=74,SNR=9.2
232A Coleman 73.57 339 ⇓P P 08 59 34.2 -0.5
baz=74,SNR=5.4
330A Mertzon 73.57 337 ⇓P P 08 59 34.2 -0.6
baz=74,SNR=5.9
135A Vickery Place, 73.59 341 ⇓P P 08 59 34.4 -0.4
baz=74
OXF Oxford 73.78 348 eP P 08 59 35.0 -0.8
OXF pmax pmax
comp=Z,54nm,1.1s
OXF Oxford 73.78 348 eP P 08 59 35.0 -0.8
comp=Z,54nm,1.1s
134A White-Moore Ra 73.78 340 ⇓P P 08 59 35.6 -0.3
baz=74,SNR=6.7
231A Bronte 73.81 338 ⇑P P 08 59 35.9 -0.3
baz=74,SNR=9.3
329A Wagon Wheel Ra 73.89 337 ⇑P P 08 59 36.5 -0.2
baz=74,SNR=9.1
SWET Sewanee 73.97 351 eP P 08 59 36.9 -0.1
comp=Z,135nm,1.4s
230A Sterling City 74.00 337 ⇑P P 08 59 36.9 -0.4
baz=74
133A Hamilton Ranch 74.04 339 ⇓P P 08 59 37.4 -0.1
baz=74,SNR=15
ABTX Abilene, Hawle 74.26 339 eP P 08 59 38.9 +0.2
comp=Z,62nm,1.3s
ABTX Abilene, Hawle 74.26 339 ⇑P P 08 59 38.9 +0.2
baz=75,SNR=9.5
Z35A Perchaven, San 74.28 341 ⇓P P 08 59 38.6 -0.3
baz=75,SNR=11
229A Bryant Ranch, 74.29 337 ⇓P P 08 59 38.8 -0.2
baz=75,SNR=6.9
Z34A Collier Ranch, 74.50 341 ⇓P P 08 59 39.9 -0.2
baz=75,SNR=5.3
131A Roby 74.52 338 ⇓P P 08 59 40.0 -0.3
baz=75,SNR=8.7
MIAR Mount Ida 74.59 344 eP P 08 59 40.6 0.0
MIAR pmax pmax
comp=Z,39nm,1.3s
MIAR Mount Ida 74.59 344 eP P 08 59 40.6 0.0
comp=Z,39nm,1.3s
130A Snyder 74.62 338 ⇑P P 08 59 40.8 0.0
baz=75,SNR=6.7
Z33A Whitaker Ranch 74.64 340 ⇑P P 08 59 40.7 -0.2
baz=75,SNR=8.1
228A UT Block 9, Go 74.67 336 ⇓P P 08 59 41.4 +0.1
baz=75,SNR=7.7
Z32A Haskell 74.86 339 ⇓P P 08 59 42.1 -0.1
baz=75,SNR=9.8
129A Stewart Farms, 74.92 337 ⇓P P 08 59 42.4 -0.2
baz=75,SNR=7.2
SUR Sutherland 74.99 119 P P 08 59 44.7 +1.2
comp=Z,10.0nm,0.8s,baz=215,slow=2.6,SNR=3.8
Y34A Reagan Ranch, 75.01 341 ⇑P P 08 59 42.7 -0.3
baz=75,SNR=8.4
Z31A Sharp Cattle R 75.05 339 ⇓P P 08 59 43.2 -0.1
baz=75,SNR=9.1
128A Castleberry Fa 75.10 337 ⇓P P 08 59 43.7 0.0
baz=76,SNR=9.2
MNTX Cornudas Mount 75.21 334 eP P 08 59 43.8 -0.5
comp=Z,4.9nm,1.0s
Y33A Hilltop Ranch, 75.28 340 ⇓P P 08 59 44.6 0.0
baz=76,SNR=7.0
Z30A Sanderson Ranc 75.31 338 ⇑P P 08 59 45.0 +0.2
baz=76,SNR=9.7
127A Arkansas Junct 75.43 336 ⇑P P 08 59 45.8 +0.2
baz=76
Z29A Hungry Hill Ra 75.46 337 ⇑P P 08 59 45.4 -0.3
baz=76,SNR=11
CASY Casey 75.48 182 eP P 08 59 45.6 +0.2
comp=Z,66nm,1.1s
Y32A R-V Farms, Ver 75.50 339 ⇓P P 08 59 45.9 +0.1
baz=76,SNR=8.0
X34A Smith Ranch, M 75.64 341 ⇑P P 08 59 46.6 0.0
baz=76,SNR=7.4
Y31A Rekieta Farm, 75.69 339 ⇓P P 08 59 46.9 -0.1
baz=76,SNR=5.4
X33A Lawton 75.75 340 ⇑P P 08 59 47.0 -0.3
baz=76,SNR=6.8
Y30A Stafford Cattl 75.79 338 ⇓P P 08 59 47.6 0.0
baz=76
JSRW J. Sargeant Re 75.83 358 eP P 08 59 48.0 +0.4
X32A Elmer 75.85 340 ⇓P P 08 59 48.0 +0.2
baz=76,SNR=8.4
Z27A Tatum 75.97 336 ⇓P P 08 59 48.8 +0.1
baz=76,SNR=6.9
Y29A Porterfield Fa 76.01 338 ⇑P P 08 59 48.6 -0.2
baz=76
PBMO Poplar Bluff 76.17 348 eP P 08 59 49.3 -0.2
comp=Z,32nm,1.0s
Z26A Caprock 76.18 336 ⇓P P 08 59 50.0 +0.1
baz=76,SNR=8.8
Y28A McKinney Farm, 76.22 337 ⇓P P 08 59 49.6 -0.5
baz=77
W34A Bridge Creek, 76.23 341 ⇑P P 08 59 49.9 0.0
baz=77,SNR=7.1
X31A McDonald Ranch 76.24 339 ⇑P P 08 59 50.0 -0.1
baz=77,SNR=8.9
X30A Coker Ranch, T 76.32 339 ⇓P P 08 59 50.8 +0.2
baz=77,SNR=7.4
W33A Caddo, Fort Co 76.33 341 ⇑P P 08 59 51.1 +0.6
baz=77,SNR=13
319A Douglas 76.35 331 ⇑P P 08 59 51.7 +0.8
baz=77,SNR=10
TUL1 Tulsa 76.39 343 eP P 08 59 50.8 -0.1
comp=Z,75nm,1.1s
TUL1 Tulsa 76.39 343 ⇓P P 08 59 51.1 +0.3
baz=77,SNR=14
Z25A Roswell 76.43 335 ⇑P P 08 59 51.5 +0.2
baz=77,SNR=5.9
MSTX Muleshoe 76.44 337 eP P 08 59 51.6 +0.2
comp=Z,37nm,1.2s
MSTX Muleshoe 76.44 337 ⇓P P 08 59 51.8 +0.5
baz=77,SNR=7.9
Y27A Causey 76.48 336 ⇓P P 08 59 51.8 +0.2
baz=77,SNR=6.2
W32A Sentinel 76.50 340 ⇑P P 08 59 51.7 +0.2
baz=77,SNR=14
X29A Tulia 76.56 338 ⇓P P 08 59 52.0 0.0
baz=77,SNR=6.1
Z24A Sheeppen Canyo 76.69 335 ⇑P P 08 59 53.3 +0.4
baz=77,SNR=7.9
Y26A Elida 76.73 336 ⇑P P 08 59 52.8 -0.2
baz=77,SNR=6.6
V34A Guthrie 76.73 342 eP P 08 59 52.9 0.0
comp=Z,52nm,1.1s
V34A Guthrie 76.73 342 ⇑P P 08 59 52.8 0.0
baz=77
W31A Holland Ranch, 76.75 340 ⇑P P 08 59 52.8 -0.2
baz=77
X28A Dimmitt 76.78 337 ⇓P P 08 59 53.2 0.0
baz=77
121A Cookes Peak, D 76.82 332 eP P 08 59 54.6 +1.0
comp=Z,18nm,1.1s
121A Cookes Peak, D 76.82 332 ⇑P P 08 59 54.1 +0.5
baz=77,SNR=5.2
SIUC Southern Illin 76.89 349 eP P 08 59 53.5 -0.1
comp=Z,531nm,2.6s
USIN University of 76.91 350 eP P 08 59 53.0 -0.7
comp=Z,48nm,0.9s
V33A Lossen Ranch, 76.91 341 ⇑P P 08 59 54.0 +0.2
baz=77,SNR=14
AMTX Amarillo 76.96 338 eP P 08 59 54.8 +0.5
comp=Z,974nm,3.0s
AMTX Amarillo 76.96 338 ⇓P P 08 59 54.4 +0.2
baz=77
Y25A Mesa, Roswell 77.01 335 ⇓P P 08 59 54.6 0.0
baz=77
V32A Arapaho 77.01 340 ⇓P P 08 59 55.0 +0.5
baz=77
X27A F and S Farms, 77.17 337 ⇓P P 08 59 55.6 +0.1
baz=78
W29A Amraillo 77.17 338 ⇓P P 08 59 55.8 +0.4
baz=78,SNR=7.3
Z22A Elephant Butte 77.18 333 ⇑P P 08 59 56.3 +0.7
baz=78,SNR=8.8
Y24A Capitan 77.26 335 ⇑P P 08 59 56.5 +0.5
baz=78,SNR=7.4
V31A Spring Creek L 77.28 340 ⇑P P 08 59 56.8 +0.9
baz=78,SNR=12
X26A CR and CF Fran 77.30 336 ⇑P P 08 59 56.4 +0.2
baz=78
U34A Anderson Ranch 77.31 342 eP P 08 59 59.2 +3.2
comp=Z,544nm,2.7s
U34A Anderson Ranch 77.31 342 ⇑P P 08 59 56.3 +0.2
baz=78
U33A Lingo Farm, Me 77.45 341 ⇓P P 08 59 56.7 -0.2
baz=78
W28A Vega 77.47 338 ⇓P P 08 59 57.6 +0.5
baz=78
Y23A Lovelace Mesa, 77.47 334 ⇑P P 08 59 58.1 +0.8
baz=78,SNR=5.1
V30A Spur Ranch, Mi 77.50 339 ⇓P P 08 59 57.9 +0.7
baz=78,SNR=8.4
W27A Bowe Ranch, En 77.55 337 ⇑P P 08 59 58.0 +0.5
baz=78,SNR=11
X25A Clemmons Ranch 77.56 336 ⇓P P 08 59 57.6 -0.1
baz=78
U32A Winter Ranch, 77.62 341 ⇓P P 08 59 58.1 +0.3
baz=78,SNR=5.2
W26A Owens Ranch, T 77.79 336 ⇓P P 08 59 59.2 +0.3
baz=78,SNR=5.4
U31A Nine Bar Ranch 77.84 340 ⇓P P 09 00 00.1 +1.0
baz=78
X24A Lazy VL Ranch, 77.84 335 ⇑P P 09 00 00.5 +1.2
baz=78
V28A Channing 77.93 338 ⇑P P 09 00 00.3 +0.6
baz=78,SNR=6.4
BLO Bloomington 77.95 351 eP P 08 59 58.3 -1.2
BLO Bloomington 77.95 351 eP P 08 59 58.3 -1.2
comp=Z,970nm,2.8s
T33A Patterson Ranc 78.10 341 ⇑P P 09 00 00.9 +0.5
baz=78,SNR=12
X23A Hourglass Bar 78.11 334 ⇑P P 09 00 01.5 +0.7
baz=78,SNR=7.2
V27A Dan Oppiter Fa 78.12 337 ⇓P P 09 00 01.1 +0.4
baz=78
W25A X Bar L Ranch, 78.12 336 ⇓P P 09 00 01.1 +0.3
baz=78,SNR=8.7
U30A WK&E Inc. Balk 78.21 339 ⇑P P 09 00 01.8 +0.7
baz=79,SNR=6.4
214A Organ Pipe Nat 78.27 328 eP P 09 00 03.0 +1.4
comp=Z,8.5nm,0.4s
214A Organ Pipe Nat 78.27 328 ⇑P P 09 00 02.5 +1.0
baz=79
LAZ Ladron 78.28 334 eP P 09 00 03.1 +1.4
comp=Z,20nm,1.4s
U29A Oasis Ranch, S 78.31 339 ⇑P P 09 00 02.6 +0.9
baz=79
T32A Huddler Ranch, 78.36 341 ⇑P P 09 00 02.2 +0.3
baz=79,SNR=6.3
W24A Lazy 6 Ranch, 78.42 335 ⇑P P 09 00 03.0 +0.4
baz=79,SNR=9.8
V26A Tequesquite Ra 78.44 337 ⇑P P 09 00 02.6 +0.1
baz=79,SNR=7.4
T31A Randall Ranch, 78.48 340 ⇑P P 09 00 03.0 +0.4
baz=79,SNR=5.7
U28A Mallet 78.51 338 ⇑P P 09 00 03.5 +0.6
baz=79
S33A Kaszmaul Farm, 78.52 342 ⇑P P 09 00 03.8 +1.1
baz=79
ANMO Albuquerque 78.53 334 eP P 09 00 03.8 +0.7
ANMO pmax pmax
comp=Z,36nm,1.2s
ANMO Albuquerque 78.53 334 eP P 09 00 03.8 +0.7
comp=Z,36nm,1.2s
W23A Werner Place, 78.63 335 ⇑P P 09 00 04.4 +0.8
baz=79,SNR=10
ACSO Alum Creek Sta 78.64 354 eP P 09 00 02.4 -0.9
comp=Z,35nm,0.9s
T30A Plains 78.66 340 ⇓P P 09 00 04.2 +0.6
baz=79
LIC Lamto 78.70 73 eP P 09 00 04.7 +0.4
comp=Z,114nm,1.1s
U27A Thompson Grove 78.73 338 ⇓P P 09 00 04.7 +0.6
baz=79
V25A Rancho No Teng 78.74 336 ⇑P P 09 00 05.0 +0.7
baz=79,SNR=8.0
V24A Rampart Ranch, 78.85 336 ⇑P P 09 00 05.6 +0.6
baz=79,SNR=5.7
S32A Newby Ranch, P 78.86 341 ⇑P P 09 00 05.5 +0.9
baz=79
S31A Mullinville 78.92 341 ⇑P P 09 00 05.8 +0.8
baz=79
T29A Hugoton 78.97 339 ⇑P P 09 00 06.0 +0.7
baz=79
TIC Toumodi 78.98 72 eP P 09 00 06.3 +0.4
comp=Z,52nm,0.9s
U26A Atchley Ranch, 78.98 337 ⇑P P 09 00 05.8 +0.2
baz=79
KIC Kosan Boka 79.00 73 eP P 09 00 06.4 +0.4
comp=Z,89nm,0.9s
DBIC Dimbokro 79.12 72 eP P 09 00 07.3 +0.7
DBIC pmax pmax
comp=Z,69nm,1.4s
DBIC Dimbokro 79.12 72 P P 09 00 07.7 +1.1
comp=Z,25nm,0.8s,baz=210,slow=6.1,SNR=12
DBIC Dimbokro 79.12 72 eP P 09 00 07.3 +0.7
comp=Z,69nm,1.4s
V23A Ortiz Mt. (NFS 79.17 335 ⇑P P 09 00 07.8 +1.2
baz=80
T28A Walsh 79.17 339 ⇑P P 09 00 07.1 +0.6
baz=80,SNR=14
U25A Circle Dot Ran 79.19 336 ⇑P P 09 00 07.6 +0.8
baz=80,SNR=8.7
R33A Olander Ranch, 79.20 342 ⇑P P 09 00 06.8 +0.3
baz=80,SNR=5.8
S30A Montezuma 79.20 340 ⇓P P 09 00 07.3 +0.7
baz=80,SNR=14
T27A Campo 79.29 338 ⇓P P 09 00 07.6 +0.5
baz=80,SNR=8.3
S29A Ulysses 79.36 339 ⇑P P 09 00 08.0 +0.6
baz=80,SNR=6.3
113A Mohawk Valley, 79.38 328 ⇓P P 09 00 08.3 +0.8
baz=80
X18A Snowflake 79.41 332 ⇓P P 09 00 08.5 +0.6
baz=80,SNR=5.4
U24A Moreno Valley 79.48 336 ⇑P P 09 00 09.5 +1.1
baz=80,SNR=6.6
R32A Long Quarter, 79.48 342 ⇓P P 09 00 08.4 +0.3
baz=80,SNR=12
S28A Manter 79.55 339 ⇑P P 09 00 09.0 +0.5
baz=80,SNR=8.2
Z14A Wintersburg 79.55 329 ⇑P P 09 00 09.0 +0.5
baz=80
R31A Burdett 79.56 341 ⇓P P 09 00 08.9 +0.4
baz=80,SNR=6.7
V22A San Miguel Ran 79.57 334 ⇑P P 09 00 09.9 +1.1
baz=80,SNR=10.0
KSU1 Kansas State U 79.63 343 eP P 09 00 08.4 -0.4
comp=Z,399nm,2.8s
KSU1 Kansas State U 79.63 343 ⇑P P 09 00 08.8 0.0
baz=80,SNR=6.5
T26A Comanche Natio 79.66 337 ⇓P P 09 00 10.0 +0.7
baz=80,SNR=7.5
U23A El Rito 79.70 335 ⇑P P 09 00 10.8 +1.3
baz=80,SNR=14
R30A Dighton 79.75 340 ⇑P P 09 00 10.0 +0.5
baz=80
Q33A Connelly Farm, 79.82 342 ⇑P P 09 00 10.4 +0.6
baz=80
W18A Petrified Fore 79.85 332 eP P 09 00 11.8 +1.5
comp=Z,58nm,1.3s
W18A Petrified Fore 79.85 332 ⇑P P 09 00 11.5 +1.2
baz=80,SNR=6.2
T25A Trinidad 79.88 337 ⇓P P 09 00 11.9 +1.4
baz=80,SNR=16
X16A Lo Mia Camp, P 79.88 330 ⇓P P 09 00 11.7 +1.2
baz=80,SNR=12
U22A Llaves 79.97 335 ⇑P P 09 00 12.6 +1.6
baz=80,SNR=8.5
Q32A Meitler Ranch, 79.98 342 ⇑P P 09 00 11.5 +0.8
baz=80,SNR=10
S26A Kim 80.03 338 ⇓P P 09 00 12.0 +0.8
baz=80,SNR=11
GLA Glamis 80.07 327 eP P 09 00 13.0 +1.7
GLA pmax pmax
comp=Z,68nm,1.8s
GLA Glamis 80.07 327 eP P 09 00 13.0 +1.7
comp=Z,68nm,1.8s
GLA Glamis 80.07 327 ⇓P P 09 00 12.6 +1.3
baz=80
Y14A Wickenburg 80.08 329 ⇑P P 09 00 12.3 +0.9
baz=80
T24B San Luis 80.11 336 ⇓P P 09 00 12.6 +0.8
baz=80,SNR=6.7
R29A Marienthal 80.12 340 ⇑P P 09 00 12.1 +0.6
baz=80,SNR=6.9
P33A Williams Farm, 80.20 343 ⇑P P 09 00 12.6 +0.7
baz=81
Q31A Ellis 80.20 341 ⇓P P 09 00 12.7 +0.8
baz=81,SNR=5.1
R28A Tribune 80.22 339 ⇑P P 09 00 12.5 +0.4
baz=81,SNR=16
T23A Casias Ranch, 80.30 336 ⇑P P 09 00 13.2 +0.5
baz=81
BOSA Boshof 80.32 119 eP P 09 00 13.2 0.0
BOSA pmax pmax
comp=Z,54nm,1.3s
BOSA Boshof 80.32 119 P P 09 00 13.8 +0.6
comp=Z,38nm,0.8s,baz=220,slow=6.3,SNR=9.7
BOSA Boshof 80.32 119 eP P 09 00 13.2 0.0
comp=Z,54nm,1.3s
S25A Robets Cordova 80.36 337 ⇑P P 09 00 14.1 +1.1
baz=81,SNR=8.6
SWSC Sam W. Stewart 80.39 326 ⇑P P 09 00 14.1 +1.1
baz=81
Q30A Quinter 80.39 341 ⇓P P 09 00 13.6 +0.6
baz=81
R27A Eads 80.45 338 ⇓P P 09 00 14.0 +0.6
baz=81,SNR=11
Q29A Oakley 80.51 340 ⇓P P 09 00 13.8 +0.2
baz=81
TSUM Tsumeb 80.53 107 eP P 09 00 15.5 +1.1
S24A Houchin Ranch, 80.59 336 ⇑P P 09 00 15.5 +1.2
baz=81,SNR=8.7
P32A Huiting Farm, 80.59 342 ⇑P P 09 00 14.3 +0.3
baz=81,SNR=5.6
R26A Arlington 80.66 338 ⇓P P 09 00 15.2 +0.7
baz=81,SNR=13
P31A Stockton 80.69 341 ⇓P P 09 00 15.2 +0.6
baz=81,SNR=6.2
R25A Fountain Ranch 80.77 337 ⇓P P 09 00 15.8 +0.7
baz=81
SDCO Great Sand Dun 80.77 336 eP P 09 00 16.0 +0.7
comp=Z,24nm,1.5s
WUAZ Wupatki 80.82 331 eP P 09 00 16.8 +1.3
comp=Z,304nm,2.5s
WUAZ Wupatki 80.82 331 ⇑P P 09 00 16.6 +1.1
baz=81,SNR=5.8
BC3 Big Chuckawall 80.85 327 ⇓P P 09 00 16.5 +0.9
baz=81
PDMCI Parker Dam,Lak 80.86 328 ⇓P P 09 00 16.5 +1.0
baz=81
S23A Nye Farm, Mont 80.90 336 ⇑P P 09 00 16.4 +0.5
baz=81
Q28A Sharon Springs 80.90 339 ⇑P P 09 00 16.4 +0.6
baz=81,SNR=6.1
P30A Selden 80.93 341 ⇑P P 09 00 16.3 +0.5
baz=81,SNR=6.9
KSCO Kaye Shedlock' 81.08 339 eP P 09 00 17.8 +1.1
comp=Z,61nm,1.1s
KSCO Kaye Shedlock' 81.08 339 ⇓P P 09 00 17.9 +1.2
baz=82,SNR=9.9
R24A Sanders Place, 81.09 337 ⇑P P 09 00 18.2 +1.3
baz=82,SNR=10
O32A Brockman Farm, 81.12 342 ⇑P P 09 00 17.7 +0.9
baz=82
IRM Iron Mountain 81.16 328 ⇓P P 09 00 17.9 +0.7
baz=82
S22A 4UR Ranch, Cre 81.20 335 ⇑P P 09 00 18.8 +1.2
baz=82,SNR=8.7
PFO Pinyon Flat Ob 81.24 326 ⇓P P 09 00 19.4 +1.6
baz=82
Q26A Hugo 81.25 338 ⇓P P 09 00 18.6 +0.9
baz=82,SNR=7.7
O31A Woolen Ranch, 81.27 342 ⇑P P 09 00 18.1 +0.5
baz=82,SNR=5.0
MVCO Mesa Verde 81.28 334 eP P 09 00 18.6 +0.6
comp=Z,249nm,2.4s
MVCO Mesa Verde 81.28 334 ⇑P P 09 00 19.2 +1.2
baz=82,SNR=5.7
R23A Moffat 81.28 336 ⇓P P 09 00 18.9 +0.8
baz=82,SNR=6.0
P28A Saint Francis 81.36 340 ⇓P P 09 00 18.9 +0.8
baz=82,SNR=7.3
BELC Belle Mtn. Jos 81.38 327 ⇓P P 09 00 19.2 +0.7
baz=82
W13A Hualapai Mount 81.44 329 ⇑P P 09 00 20.1 +1.2
baz=82
Q25A Bedland, Calha 81.46 338 ⇑P P 09 00 19.1 +0.2
baz=82,SNR=7.5
O30A MW Ranch, Wils 81.48 341 ⇓P P 09 00 19.1 +0.3
baz=82,SNR=8.9
MURC Murrieta 81.56 326 ⇑P P 09 00 20.0 +0.7
baz=82
P27A Ficken Ranch, 81.57 339 ⇑P P 09 00 19.8 +0.5
baz=82
N32A Stulken Farm, 81.60 343 ⇓P P 09 00 19.9 +0.5
baz=82
O29A 4D Ranch, Culb 81.62 341 ⇑P P 09 00 20.6 +1.1
baz=82,SNR=6.3
SCI San Clemente I 81.65 324 ⇑P P 09 00 19.9 +0.2
baz=82
Q24A Divide 81.78 337 ⇓P P 09 00 21.5 +0.8
baz=82,SNR=7.2
P26A Davis Ranch, A 81.79 338 ⇓P P 09 00 21.6 +1.0
baz=82,SNR=8.9
O28A Krutsinger Ran 81.88 340 ⇑P P 09 00 22.2 +1.3
baz=82,SNR=12
GMRC Granite Mounta 81.90 327 ⇓P P 09 00 22.5 +1.3
baz=82
U15A North Rim 81.97 331 ⇑P P 09 00 23.1 +1.4
baz=82,SNR=7.2
P25A Willow Gulch B 81.99 338 ⇑P P 09 00 22.8 +1.2
baz=82,SNR=8.7
O27A Beecher Island 82.13 339 ⇓P P 09 00 23.1 +0.8
baz=82,SNR=9.5
PV01 Paradox Valley 82.14 334 eP P 09 00 23.5 +1.0
comp=Z,6μm,1.9s
BGNE Belgrade 82.18 343 eP P 09 00 23.0 +0.6
comp=Z,56nm,1.0s
BGNE Belgrade 82.18 343 ⇑P P 09 00 23.1 +0.8
baz=83,SNR=6.1
P24A Kohler Place, 82.21 337 ⇑P P 09 00 24.0 +1.2
baz=83
N29A Votaw Ranch, W 82.23 341 ⇓P P 09 00 23.5 +0.8
baz=83,SNR=5.9
HEC Hector,Ludlow 82.23 327 ⇓P P 09 00 23.9 +1.1
baz=83
BFSC Mount Baldy Ra 82.31 326 ⇑P P 09 00 24.0 +0.7
baz=83
M31A Lambtecht Ranc 82.31 342 ⇓P P 09 00 23.8 +0.7

baz=83,SNR=5.9
N28A Pribbeno Ranch 82.34 340 ⇓P P 09 00 24.1 +0.8
baz=83
P23A Jefferson 82.37 337 ⇑P P 09 00 25.0 +1.2
baz=83
O26A Horse Wrangler 82.42 339 ⇑P P 09 00 24.8 +1.0
baz=83,SNR=13
PASC Pasadena Art C 82.48 325 eP P 09 00 26.4 +2.3
comp=Z,247nm,2.0s
PV04 Paradox Valley 82.48 334 eP P 09 00 25.1 +0.9
PV10 Paradox Valley 82.52 334 eP P 09 00 25.1 +0.6
comp=Z,105nm,0.7s
SMCO Snowmass 82.55 336 eP P 09 00 26.4 +1.6
comp=Z,65nm,1.4s
ISCO Idaho Springs 82.69 337 eP P 09 00 24.5 -0.9
ISCO pmax pmax
comp=Z,28nm,1.4s
ISCO Idaho Springs 82.69 337 eP P 09 00 24.5 -0.9
comp=Z,28nm,1.4s
ISCO Idaho Springs 82.69 337 ⇓P P 09 00 26.7 +1.3
baz=83
OGNE Ogallala 82.72 340 eP P 09 00 25.7 +0.5
comp=Z,296nm,2.0s
LONY Lake Ozonia 82.72 1 eP P 09 00 24.9 -0.2
comp=Z,365nm,2.5s
N27A Anderson Farm, 82.72 340 ⇑P P 09 00 26.0 +0.7
baz=83,SNR=7.5
LBTB Lobatse 82.80 116 eP P 09 00 26.6 +0.3
LBTB pmax pmax
comp=Z,42nm,1.2s
LBTB Lobatse 82.80 116 eP P 09 00 26.6 +0.3
comp=Z,42nm,1.2s
O24A Longmont 82.82 337 ⇑P P 09 00 27.0 +1.1
baz=83
GSC Goldstone 82.83 327 eP P 09 00 27.7 +1.7
GSC pmax pmax
comp=Z,220nm,2.3s
GSC Goldstone 82.83 327 eP P 09 00 27.7 +1.7
comp=Z,220nm,2.3s
GSC Goldstone 82.83 327 ⇓P P 09 00 27.0 +1.0
baz=83
P22A Eagle 82.86 336 ⇓P P 09 00 27.3 +1.1
baz=83
EDW2 Edwards Air Fo 82.99 326 ⇓P P 09 00 28.0 +1.2
baz=83
L30A Spencer Herefo 83.07 342 ⇓P P 09 00 27.7 +0.7
baz=84,SNR=5.7
L31A Butterfield Fa 83.07 343 ⇓P P 09 00 28.0 +1.0
baz=84,SNR=11
OSI Osito Adit 83.09 325 ⇑P P 09 00 28.3 +1.0
baz=83
SHOC Shoshone 83.12 328 ⇓P P 09 00 28.4 +1.0
baz=84
O23A Lake Granby, G 83.16 337 ⇑P P 09 00 28.7 +0.9
baz=84,SNR=9.7
O22A Kremmling 83.31 336 ⇓P P 09 00 29.4 +0.8
baz=84,SNR=6.8
L29A Maesberg Ranch 83.36 341 ⇓P P 09 00 29.3 +0.8
baz=84,SNR=9.1
LRMC Laurel Mountai 83.36 326 ⇑P P 09 00 29.2 +0.4
baz=84
N24A Carr 83.41 338 ⇓P P 09 00 29.5 +0.6
baz=84,SNR=6.2
SRU San Rafael 83.69 333 eP P 09 00 31.4 +0.9
SRU pmax pmax
comp=Z,42nm,1.5s
SRU San Rafael 83.69 333 eP P 09 00 31.4 +0.9
comp=Z,42nm,1.5s
K30A Basset 83.73 342 ⇑P P 09 00 31.2 +0.8
baz=84,SNR=8.3
M25A Palm-Egli Farm 83.73 339 ⇑P P 09 00 31.1 +0.5
baz=84
N23A Red Feather La 83.79 337 ⇑P P 09 00 32.1 +1.1
baz=84,SNR=5.9
O20A White River Ci 83.83 335 eP P 09 00 32.1 +1.0
comp=Z,218nm,2.1s
O20A White River Ci 83.83 335 ⇓P P 09 00 32.1 +1.0
baz=84,SNR=5.4
FURC Furnace Creek, 83.85 328 ⇑P P 09 00 32.0 +0.9
baz=84
L27A T5 Ranch, Ells 83.86 340 ⇓P P 09 00 32.3 +1.2
baz=84
ISA Isabella 83.86 326 eP P 09 00 29.4 -1.9
ISA pmax pmax
comp=Z,408nm,2.6s
ISA Isabella 83.86 326 eP P 09 00 29.4 -1.9
comp=Z,408nm,2.6s
ISA Isabella 83.86 326 ⇓P P 09 00 32.3 +1.0
baz=84
N22A Wattenberg Ran 83.86 337 ⇑P P 09 00 32.6 +1.2
baz=84,SNR=9.2
K29A Lazy Trails An 83.98 342 ⇓P P 09 00 32.1 +0.4
baz=84
M24A Cheyenne 83.98 338 ⇓P P 09 00 32.6 +0.7
baz=84,SNR=5.3
PHWY Pilot Hill 84.02 338 eP P 09 00 32.8 +0.6
comp=Z,33nm,1.2s
ECSD EROS Data Cent 84.06 345 eP P 09 00 30.8 -1.3
comp=Z,48nm,0.9s
ECSD EROS Data Cent 84.06 345 ⇑P P 09 00 32.2 +0.1
baz=84,SNR=11
TMUT Trail Mountain 84.10 333 eP P 09 00 33.9 +1.2
comp=Z,136nm,1.8s
K28A Ten Mile Ranch 84.20 341 ⇑P P 09 00 33.0 +0.2
baz=85,SNR=5.8
M23A Laramie 84.25 338 ⇑P P 09 00 33.8 +0.5
baz=85
VES Vestal, Richgr 84.28 326 ⇑P P 09 00 33.8 +0.5
baz=85
J30A Dallas 84.31 343 ⇓P P 09 00 33.6 +0.3
baz=85,SNR=6.5
L25A Engebretsen Ra 84.37 339 ⇑P P 09 00 34.5 +0.8
baz=85
K27A Flueckinger Fa 84.41 340 ⇓P P 09 00 34.7 +0.8
baz=85,SNR=8.9
M22A Cedar Creek Ra 84.46 337 ⇑P P 09 00 35.1 +0.7
baz=85
N20A Spence Gulch, 84.47 336 ⇓P P 09 00 35.3 +0.9
baz=85,SNR=6.1
J29A Okreek 84.59 342 ⇑P P 09 00 35.0 +0.3
baz=85,SNR=9.1
K26A Motz Farm, Whi 84.66 340 ⇑P P 09 00 36.1 +0.9
baz=85
RCTC Rector, Farmer 84.74 326 ⇓P P 09 00 36.4 +0.8
baz=85
K25A Mack Ranch, Ha 84.77 339 ⇓P P 09 00 36.8 +1.0
baz=85
SPMN St. Paul 84.79 348 ⇑P P 09 00 35.3 -0.3
baz=85,SNR=8.9
J28A Allard Ranch, 84.83 341 ⇓P P 09 00 36.2 +0.3
baz=85
L23A Garrett 84.84 338 ⇑P P 09 00 34.7 -1.5
baz=85
I30A Oacoma 84.86 343 ⇓P P 09 00 36.0 0.0
baz=85,SNR=7.9
J27A Elkhorn Farm, 84.87 341 ⇓P P 09 00 36.6 +0.5
baz=85,SNR=7.9
MPU Maple Canyon 84.89 333 eP P 09 00 37.8 +1.3
comp=Z,92nm,1.6s
TIN Tinemaha 84.93 327 ⇓P P 09 00 37.8 +1.1
baz=85
R11A Troy Canyon, C 84.93 329 eP P 09 00 37.2 +0.5
comp=Z,48nm,1.5s
R11A Troy Canyon, C 84.93 329 ⇓P P 09 00 37.6 +0.8
baz=85
NLU North Lily Min 84.99 333 eP P 09 00 37.9 +0.8
comp=Z,160nm,2.2s
I29A Vivian Onida 85.16 342 ⇑P P 09 00 38.0 +0.4
baz=86
J26A Sides Ranch, S 85.20 340 ⇑P P 09 00 38.4 +0.6
baz=86
BRSD Miller 85.25 343 eP P 09 00 38.0 +0.1
comp=Z,39nm,0.9s
BRSD Miller 85.25 343 ⇓P P 09 00 38.1 +0.1
baz=86,SNR=6.9
MTUM Tungsten Hills 85.32 327 eP P 09 00 40.9 +2.1
I28A Midland 85.35 342 ⇑P P 09 00 39.0 +0.4
baz=86,SNR=7.2
TPH Tonopah 85.37 328 eP P 09 00 40.6 +1.6
TPH pmax pmax
comp=Z,366nm,2.8s
TPH Tonopah 85.37 328 eP P 09 00 40.5 +1.6
comp=Z,366nm,2.8s
K23A Bowen Ranch, D 85.40 338 ⇑P P 09 00 39.4 +0.4
baz=86
DUG Dugway 85.47 332 eP P 09 00 40.8 +1.4
DUG pmax pmax
comp=Z,50nm,1.3s
DUG Dugway 85.47 332 eP P 09 00 40.8 +1.4
comp=Z,50nm,1.3s
DUG Dugway 85.47 332 ⇓P P 09 00 39.8 +0.4
baz=86
K22A Casper 85.57 337 eP P 09 00 38.8 -1.1
comp=Z,109nm,1.5s
K22A Casper 85.57 337 ⇓P P 09 00 40.1 +0.3
baz=86
J24A Dixon Ranch, L 85.65 339 ⇓P P 09 00 40.8 +0.6
baz=86
MLAC Mammoth Lakes 85.67 327 ⇑P P 09 00 41.6 +1.0
baz=86
H29A Onida 85.71 342 ⇑P P 09 00 40.1 -0.2
baz=86,SNR=7.5
K21A Alcova 85.78 337 ⇑P P 09 00 41.1 +0.2
baz=86
G30A Faulkton 85.94 343 ⇑P P 09 00 40.9 -0.5
baz=86,SNR=8.1
H28A Mission Ridge 85.95 342 ⇓P P 09 00 41.5 0.0
baz=86
I25A Rochford 86.04 340 ⇓P P 09 00 41.9 -0.2
baz=86
NVAR Mina Array Bea 86.12 328 P P 09 00 44.0 +1.3
comp=Z,8.4nm,1.0s,baz=163,slow=4.4,SNR=13
G29A Hoven 86.18 343 ⇓P P 09 00 42.1 -0.4
baz=87,SNR=5.9
G28A Parade 86.30 342 ⇓P P 09 00 42.5 -0.7
baz=87
J21A Lysite 86.48 337 ⇓P P 09 00 44.7 +0.3
baz=87
H25A Fruitdale 86.56 340 ⇓P P 09 00 44.7 +0.2
baz=87
F30A Leola 86.59 344 ⇑P P 09 00 44.9 +0.3
baz=87
PDAR Pinedale Array 86.63 336 P P 09 00 45.4 +0.3
comp=Z,12nm,1.1s,baz=145,slow=5.4,SNR=14
BW06 Boulder Array 86.63 336 eP P 09 00 45.4 +0.3
comp=Z,296nm,2.3s
J20A Shoshoni 86.69 337 ⇓P P 09 00 45.8 +0.5
baz=87
I22A 9 Mile Ranch, 86.69 338 ⇑P P 09 00 45.5 +0.2
baz=87
F29A Eureka 86.76 343 ⇓P P 09 00 45.4 -0.1
baz=87,SNR=12
G27A Dupree 86.84 342 ⇑P P 09 00 46.1 +0.2
baz=87
HVU Hansel Valley 86.85 333 eP P 09 00 46.3 +0.1
HVU pmax pmax
comp=Z,57nm,1.3s
HVU Hansel Valley 86.85 333 eP P 09 00 46.3 +0.1
comp=Z,57nm,1.3s
I21A Big Trails, Te 86.86 337 ⇑P P 09 00 46.0 -0.1
baz=87,SNR=10
J19A Crowheart 86.91 336 ⇑P P 09 00 46.8 +0.3
baz=87
G26A Maurine 86.92 341 ⇑P P 09 00 46.4 +0.1
baz=87
F28A McLaughlin 87.00 342 ⇓P P 09 00 46.4 -0.2
baz=87
G25A Newell 87.04 341 ⇓P P 09 00 46.0 -0.8
baz=87
E30A Jud 87.19 344 ⇓P P 09 00 47.4 -0.1
baz=88,SNR=5.3
EYMN Ely 87.24 349 eP P 09 00 46.4 -1.2
comp=Z,1μm,3.0s
I20A Worland 87.24 337 ⇑P P 09 00 48.2 +0.3
baz=88
H22A Clearmont 87.30 338 ⇓P P 09 00 47.9 -0.3
baz=88
F27A Lemmon 87.32 342 ⇑P P 09 00 47.9 -0.3
baz=88
E29A Napoleon 87.42 343 ⇓P P 09 00 48.2 -0.4
baz=88,SNR=5.4
G24A Alzada 87.43 340 ⇑P P 09 00 47.5 -1.3
baz=88
F26A Lodgepole 87.46 341 ⇓P P 09 00 48.5 -0.3
baz=88
H21A Big Horn, Sher 87.53 338 ⇓P P 09 00 49.3 0.0
baz=88
REDW Red Top Meadow 87.58 335 eP P 09 00 50.8 +1.1
comp=Z,141nm,1.9s
I19A Meeteetse 87.59 336 ⇓P P 09 00 49.5 -0.2
baz=88
E28A Huff 87.66 343 ⇑P P 09 00 49.8 0.0
baz=88
H20A Greybull 87.69 337 ⇑P P 09 00 49.8 -0.2
baz=88
E27A Carson 87.73 342 ⇓P P 09 00 49.9 -0.2
baz=88
F25A Bowman 87.73 341 ⇓P P 09 00 50.1 -0.1
baz=88
D30A Buchanan 87.74 344 ⇓P P 09 00 50.1 0.0
baz=88,SNR=7.0
D29A Pettibone, Tap 87.87 344 ⇑P P 09 00 50.5 -0.3
baz=88
E26A Carlson Angus 87.99 342 ⇓P P 09 00 51.3 -0.1
baz=88
F23A Volborg 88.06 339 ⇓P P 09 00 51.4 -0.4
baz=88
H19A Powell 88.16 337 ⇑P P 09 00 51.7 -0.7
baz=88
TOA0 Torodi Ar. Sit 88.20 72 eP P 09 00 52.9 -0.2
TORD Torodi Ar. Bea 88.20 72 P P 09 00 52.7 -0.4
comp=Z,7.4nm,0.9s,baz=234,slow=2.2,SNR=6.7
D28A Regan 88.22 343 ⇑P P 09 00 52.2 -0.2
baz=89
C30A Mose, Pekin 88.24 345 ⇑P P 09 00 53.0 +0.5
baz=89,SNR=9.1
AGMN Agassiz Nation 88.30 346 eP P 09 00 52.6 -0.1
comp=Z,93nm,1.3s
AGMN Agassiz Nation 88.30 346 ⇓P P 09 00 52.9 +0.2
baz=89
D27A Center 88.36 342 ⇑P P 09 00 53.4 +0.3
baz=89
H18A Shoshone NF, C 88.37 336 ⇑P P 09 00 53.3 -0.2
baz=89
H17A Grant Village 88.41 336 eP P 09 00 51.6 -2.1
comp=Z,86nm,2.1s
D26A Manning 88.50 342 ⇓P P 09 00 53.8 +0.1
baz=89
YNR Norris Junctio 88.73 336 eP P 09 00 56.3 +1.1
comp=Z,89nm,2.0s
YMR Madison River 88.78 335 eP P 09 00 56.8 +1.4
comp=Z,55nm,1.1s
C27A Sayler Ranch, 88.92 343 ⇑P P 09 00 56.2 +0.5
baz=89
B30A Myrvik Farm, E 88.92 345 ⇓P P 09 00 56.1 +0.4
baz=89,SNR=11
HLID Hailey 89.00 333 eP P 09 00 54.4 -2.0
comp=Z,120nm,1.9s
HLID Hailey 89.00 333 ⇑P P 09 00 57.3 +0.9
baz=89
B29A Wagenman Farm, 89.15 344 ⇑P P 09 00 57.2 +0.5
baz=90,SNR=6.3
C26A Wahner Farm, P 89.17 342 ⇓P P 09 00 57.3 +0.4
baz=90
B28A Dugan Ranch, T 89.36 344 ⇑P P 09 00 58.4 +0.7
baz=90
A30A Hoffart Farm, 89.39 345 ⇑P P 09 00 58.0 +0.1
baz=90
C24A Savage 89.47 341 ⇑P P 09 00 58.3 0.0
baz=90
E20A Meyer Farm, Mu 89.55 338 ⇓P P 09 00 58.9 +0.2
baz=90
A29A Manning Farm, 89.56 345 ⇓P P 09 00 58.7 0.0
baz=90,SNR=7.2
E19A Rath Farm, Rou 89.71 338 ⇑P P 09 00 59.8 +0.3
baz=90
WDC Whiskeytown Da 89.73 326 eP P 09 01 00.7 +1.1
WDC pmax pmax
comp=Z,81nm,1.8s
WDC Whiskeytown Da 89.73 326 eP P 09 01 00.7 +1.1
comp=Z,81nm,1.8s
A28A Rude Farm, Bot 89.77 344 ⇓P P 09 01 00.2 +0.6
baz=90
DLMT Dillon 89.94 335 eP P 09 00 56.1 -4.6
comp=Z,144nm,2.2s
ULM Lac du Bonnet 90.18 347 eP P 09 01 01.3 -0.2
ULM Lac du Bonnet 90.18 347 P P 09 01 00.5 -1.0
comp=Z,17nm,1.0s,baz=164,slow=4.2,SNR=8.9
ULM Lac du Bonnet 90.18 347 eP P 09 01 01.3 -0.2
A23A Redstone 90.91 341 ⇑P P 09 01 04.6 -0.3
baz=91
A22A Carney Farms, 91.21 340 ⇑P P 09 01 06.8 +0.4
baz=92
B20A Solberg Farm, 91.28 339 ⇑P P 09 01 07.1 +0.3
baz=92
WALA Waterton Lakes 93.61 336 eP P 09 01 17.7 +0.1
comp=Z,0.8nm,1.1s
NEW Newport 94.00 334 eP P 09 01 19.1 -0.2
NEW pmax pmax
comp=Z,9.0nm,1.2s
NEW Newport 94.00 334 eP P 09 01 19.1 -0.2
comp=Z,8.7nm,1.2s
NEW Newport 94.00 334 ⇓P P 09 01 19.1 -0.2
baz=94
YKA Yellowknife Ar 105.46 342 Pdiff Pdif 09 02 08.5 -1.8
comp=Z,0.8nm,0.8s,baz=145,slow=4.3,SNR=6.2
YKA PKKPbc PKKPbc 09 17 47.5 -2.6
comp=Z,0.3nm,0.8s,baz=318,slow=3.0,SNR=4.0
DOT Dot Lake 115.30 333 ePKiKP PKiKP 09 06 42.7 +0.5
WRA Warramunga Arr 115.56 211 PKP PKPdf 09 06 43.1 -1.0
comp=Z,1.7nm,0.7s,baz=163,slow=1.6,SNR=6.2
ILAR Eielson Array 116.95 333 PKiKP PKPdf 09 06 44.0 -1.3
ILAR Eielson Array 116.95 333 PKP PKPdf 09 06 44.0 -1.3
comp=Z,2.4nm,0.9s,baz=182,slow=1.4,SNR=14
ILAR PKKPab PKKPab 09 17 13.1 +0.8
comp=Z,0.5nm,0.9s,baz=296,slow=7.7,SNR=4.1
MCK McKinley 117.14 331 ePKiKP PKPdf 09 06 46.2 +0.5
MCK McKinley 117.14 331 ePKPdf PKPdf 09 06 46.2 +0.5
GEC2 GERESS Array S 117.17 48 ePKiKP PKPdf 09 06 46.5 +0.1
GEC2 GERESS Array S 117.17 48 ePKPdf PKPdf 09 06 46.5 +0.1
GERES GERESS Array B 117.17 48 PKP PKPdf 09 06 46.4 0.0
comp=Z,5.2nm,0.8s,baz=214,slow=1.4,SNR=22
GERES PKKPab PKKPbc 09 17 10.4 -0.6
comp=Z,0.6nm,0.6s,baz=47,slow=1.9,SNR=2.6
KTH Kantishna Hill 117.80 331 ePKPdf PKPdf 09 06 47.3 +0.3
CLL Collm 117.92 45 i PKiKP PKPdf 09 06 48.4 +0.9
CLL Collm 117.92 45 i PKiKP PKPdf 09 06 48.4 +0.9
BRG Berggiesshubel 118.25 46 eP PKPdf 09 06 48.4 +0.2
comp=Z,11nm,1.2s
BRG Berggiesshubel 118.25 46 ePKiKP PKPdf 09 06 48.4 +0.2
BRG pmax pmax
comp=Z,11nm,1.2s
VRAC Vranov 119.07 48 ⇑PKiKP PKPdf 09 06 50.1 +0.2
VRAC Vranov 119.07 48⇑iP PKPdf 09 06 50.0 +0.2
COLD Coldfoot 119.40 334 ePKPdf PKPdf 09 06 50.7 +0.8
KSP Ksiaz 119.57 47 ePKP PKPdf 09 06 51.6 +0.9
MORC Moravsky Berou 119.83 48 ⇑PKiKP PKPdf 09 06 51.8 +0.4
MORC Moravsky Berou 119.83 48⇑iP PKPdf 09 06 51.8 +0.4
VYHS Vyhne 120.05 50 ePKiKP PKPdf 09 06 52.4 +0.4
VYHS Vyhne 120.05 50 ePKP PKPdf 09 06 52.1 +0.3
MMB Musomiste 120.18 59 ⇓PKiKP PKPdf 09 06 52.2 -0.1
MMB Musomiste 120.18 59⇓iP PKPdf 09 06 52.2 -0.1
PSZ Piszkesteto 120.45 51 ⇑PKiKP PKPdf 09 06 53.0 +0.4
PSZ Piszkesteto 120.45 51⇑iP PKPdf 09 06 53.0 +0.4
BZS Buzias 120.54 54 ⇑PKiKP PKPdf 09 06 52.9 +0.1
BZS Buzias 120.54 54⇑iP PKPdf 09 06 52.9 +0.1
GZR Gura Zlata 121.19 55 ⇑PKiKP PKPdf 09 06 54.3 +0.2
GZR Gura Zlata 121.19 55⇑iP PKPdf 09 06 54.3 +0.2
NB2 NORSAR Subarra121.22 35 PKPdf PKPdf 09 06 53.2 -0.5
comp=Z,15nm,1.4s,baz=248,slow=1.9
NB2 NORSAR Subarra121.22 35 PKPdf PKPdf 09 06 53.2 -0.5
baz=248,slow=1.9
NOA NORSAR Array B 121.22 35 PKP PKPdf 09 06 52.5 -1.2
comp=Z,3.9nm,1.1s,baz=247,slow=2.2,SNR=4.8
KDZ Kurdzhali 121.34 60 ⇓PKiKP PKPdf 09 06 54.6 +0.1
KDZ Kurdzhali 121.34 60⇓iP PKPdf 09 06 54.6 +0.1
DRGR 121.72 53 ⇑PKiKP PKPdf 09 06 55.7 +0.6
DRGR 121.72 53⇑iP PKPdf 09 06 55.7 +0.6
LOT Lotru 121.85 55⇑iP PKPdf 09 06 55.2 -0.3
HFS Hagfors 122.00 36 PKP PKPdf 09 06 54.1 -1.0
comp=Z,4.1nm,0.8s,baz=222,slow=2.0,SNR=5.6
TRPA Tarpa 122.16 52⇑iP PKPdf 09 06 56.2 +0.4
UZH Uzhgorod 122.20 51 ePKiKP PKPdf 09 06 54.5 -1.4
JMB Yambol 122.47 59 ⇑PKiKP PKPdf 09 06 56.9 +0.3
JMB Yambol 122.47 59⇑iP PKPdf 09 06 56.9 +0.3
VOIR 122.67 55 ⇑PKiKP PKPdf 09 06 57.3 +0.3
VOIR 122.67 55⇑iP PKPdf 09 06 57.3 +0.3
KWP Kalwaria Pacla 122.84 50 ⇑PKiKP PKPdf 09 06 57.9 +0.8
KWP Kalwaria Pacla 122.84 50 ePKP PKPdf 09 06 57.8 +0.7
KWP Kalwaria Pacla 122.84 50⇑iP PKPdf 09 06 57.9 +0.8
MLR Muntele Rosu 123.27 56⇓iP PKPdf 09 06 57.9 -0.3
MLR Muntele Rosu 123.27 56 PKP PKPdf 09 06 57.9 -0.3
comp=Z,2.4nm,0.9s,baz=357,slow=2.9,SNR=5.7
PRD Provadia 123.32 59 ⇑PKiKP PKPdf 09 06 58.6 +0.4
BURAR Bucovina Array 123.62 53 ⇓PKiKP PKPdf 09 06 59.7 +0.9
BURAR Bucovina Array 123.62 53⇓iP PKPdf 09 06 59.7 +0.9
PLOR Plostina 123.86 55 ⇓PKiKP PKPdf 09 06 58.5 -0.7
PLOR Plostina 123.86 55⇓iP PKPdf 09 06 58.5 -0.7
VRI Vrincioaia 123.92 55 ⇑PKiKP PKPdf 09 06 58.8 -0.5
VRI Vrincioaia 123.92 55⇑iP PKPdf 09 06 58.8 -0.5
TESR Tescani 124.11 55⇓iP PKPdf 09 06 59.5 -0.1
TIRR Tirgusor 124.49 58 ⇑PKiKP PKPdf 09 07 00.5 +0.1
TIRR Tirgusor 124.49 58⇑iP PKPdf 09 07 00.5 +0.1
CFR Carcaliu 124.58 57 ⇑PKiKP PKPdf 09 07 00.6 +0.1
CFR Carcaliu 124.58 57⇑iP PKPdf 09 07 00.6 +0.1
SUW Suwalki 124.67 45 ePKiKP PKPdf 09 07 00.5 0.0
SUW Suwalki 124.67 45 ePKP PKPdf 09 07 00.4 0.0
SUW Suwalki 124.67 45 ePKPdf PKPdf 09 07 00.8 +0.4
MMAI Mount Meron Ar 124.73 73 PKP PKPdf 09 07 01.4 0.0
comp=Z,6.2nm,0.8s,baz=56,slow=0.5,SNR=4.1
TNA Tin City 125.32 329 ePKPdf PKPdf 09 07 01.8 +0.6
BRTR Keskin Array B 126.26 65 PKP PKPdf 09 07 04.5 +0.3
comp=Z,6.1nm,0.8s,baz=190,slow=3.1,SNR=24
GAMB Gambell 126.42 327 ePKPdf PKPdf 09 07 03.8 +0.4
AKASG Malin Array Be 127.14 51 PKP PKPdf 09 07 04.6 -0.6
comp=Z,3.3nm,0.6s,baz=263,slow=2.7,SNR=15
AKBB Malin Array Si 127.14 51 ePKiKP PKPdf 09 07 04.7 -0.6
AKBB Malin Array Si 127.14 51 ePKPdf PKPdf 09 07 04.7 -0.6
FINES FINESS Array B 128.18 37 PKP PKPdf 09 07 06.7 -0.2
comp=Z,7.2nm,0.9s,baz=126,slow=2.6,SNR=13
MALT Malatya 129.16 68 ⇓PKiKP PKPdf 09 07 10.7 +1.0
MALT Malatya 129.16 68⇓iP PKPdf 09 07 10.7 +1.0
ARCES ARCESS Array B 129.20 26 PKP PKPdf 09 07 08.9 +0.2
comp=Z,1.6nm,0.7s,baz=268,slow=2.4,SNR=3.7
APA Apatity 131.99 29⇑iPKiKP PKPdf 09 07 08.0 -6.0
APA MLR MLR
comp=Z,21μm,21.0s
OBN Obninsk 132.49 46 i PKiKP PKPdf 09 07 15.4 +0.2
OBN pmax pmax
comp=Z,54nm,1.7s
KBZ Khabaz 134.12 63 PKP PKPdf 09 07 19.5 +0.8
comp=Z,4.4nm,0.9s,baz=239,slow=3.6,SNR=7.2
GNI Garni 134.40 68 PKP PKPdf 09 07 20.8 +1.2
comp=Z,3.4nm,0.3s,baz=85,slow=12,SNR=4.1
BILL Bilibino 135.60 332 ePKiKP PKPdf 09 07 21.9 +1.2
BILL pmax pmax
comp=Z,15nm,1.2s
BILL Bilibino 135.60 332 ePKPdf PKPdf 09 07 21.8 +1.0
PEA0B Petropavlovsk- 141.15 310 ePKPdf PKPdf 09 07 31.6 +0.2
PETK Petropavlovsk- 141.15 310 PKhKP PKPpre 09 07 24.9
comp=Z,20nm,1.0s,baz=45,slow=6.7,SNR=5.1
PETK PKP PKPdf 09 07 32.6 +1.2
comp=Z,16nm,0.9s,baz=103,slow=6.4,SNR=9.4
SEY Seymchan 142.42 326 PKP PKPdf 09 07 31.9 -1.5
comp=Z,14nm,0.9s,baz=68,slow=2.1,SNR=15
SOKR Solikamsk 143.26 39 ePKiKP PKPbc 09 07 31.7 -0.3
SOKR pmax pmax
comp=Z,10.0nm,1.0s
GEYT Alibeck 143.73 76 PKP PKPbc 09 07 34.8 +0.6
comp=Z,51nm,0.8s,baz=267,slow=5.9,SNR=57
TIXI Tiksi 144.53 347 ePKPdf PKPab 09 07 34.3 -1.0
ARU Arti 144.85 44 PKiKP PKPdf 09 07 37.4 -0.4
ARU Arti 144.85 44 ePKPdf PKPbc 09 07 37.3 +0.3
AKTO Aktyubinsk 145.19 55 PKPbc PKPab 09 07 38.3 -0.1
comp=Z,29nm,0.9s,baz=269,slow=1.9,SNR=45
SVE Sverdlovsk 145.88 43 ePKP2 PKPab 09 07 40.7 -0.1
SVE pmax pmax
comp=Z,92nm,1.3s
IPM Ipoh 146.00 174 ePKPdf PKPdf 09 07 40.9 -0.3
ABKAR Akbulak array 146.47 57 ePKPab PKPbc 09 07 41.5 -0.7
KULM Kulim 146.77 173 ePKPdf PKPdf 09 07 43.0 +0.5
HYB Hyderabad 149.02 125 i PKP PKPdf 09 07 49.0 -1.1
YSS Yuzh-Sakhalins 150.98 299 ⇑PKiKP PKPbc 09 07 54.0 0.0
YSS pmax pmax
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 150.98 299 ePKPbc PKPbc 09 07 54.0 0.0
ASAJ Asahikawa 151.12 293 PKPbc PKPbc 09 07 53.7 -0.7
comp=Z,59nm,1.1s,baz=99,slow=0.3,SNR=12
ASAJ Asahikawa 151.12 293 ePKPbc PKPbc 09 07 54.1 -0.3
KBL Kabul 151.23 87 ePKiKP PKPbc 09 07 55.0 -0.2
KBL Kabul 151.23 87 ePKPbc PKPbc 09 07 55.0 -0.2
YAK Yakutsk 151.85 335 ePKiKP PKPbc 09 07 54.3 -1.2
YAK pmax pmax
comp=Z,217nm,1.1s
YAK pmax pmax
comp=E,13nm,1.0s
YAK pmax pmax
comp=N,16nm,1.4s
YAK Yakutsk 151.85 335 ePKPbc PKPbc 09 07 55.1 -0.3
BRVK Borovoye 152.26 47 ePKiKP PKPbc 09 07 57.6 +0.9

BRVK	**Borovoye**	**152.26**	**47**	*e*PKPbc	**PKPbc**	**09 07 57.6**	**+0.9**
BVAR	**Borovoye Array**	**152.33**	**47**	PKP	**PKPdf**	**09 07 50.5**	**+0.5**
	comp=N,3.7nm,0.8s,baz=266,slow=3.3,SNR=4.7						
BVAR				PKPbc	**PKiKP**	**09 07 57.8**	**+0.6**
	comp=N,17nm,0.7s,baz=287,slow=3.4,SNR=20						
MJAR	**Matsushiro Arr**	**153.39**	**276**	PKPbc	**PKPbc**	**09 07 58.9**	**-0.9**
	comp=N,5.9nm,1.1s,baz=156,slow=2.6,SNR=7.2						
MAT	**Matsushiro**	**153.39**	**276**	PKPbc	**PKPbc**	**09 07 59.1**	**-0.7**
CHBT	**CHBT**	**154.30**	**175**	PKP	**PKPbc**	**09 08 02.9**	**+0.6**
EKS2	**Erkin-Say**	**156.25**	**70**	*e*PKIKP	**PKPdf**	**09 07 56.9**	**+0.8**
EKS2	**Erkin-Say**	**156.25**	**70**	*e*PKPdf	**PKPdf**	**09 07 56.9**	**+0.8**
EKS2				*e*PKPab	**PKPab**	**09 08 24.6**	**+0.3**
AAK	**Ala-Archa**	**156.78**	**70**	PKP	**PKPdf**	**09 07 56.7**	**-0.1**
	comp=N,4.2nm,0.9s,baz=291,slow=1.4,SNR=3.8						
AAK				PKPab	**PKPab**	**09 08 27.2**	**+0.6**
	comp=N,26nm,1.1s,baz=230,slow=4.0,SNR=9.9						
TKM2	**Tokmak 2**	**157.59**	**69**	*e*PKIKP	**PKPdf**	**09 07 58.4**	**+0.5**
TKM2	**Tokmak 2**	**157.59**	**69**	*e*PKPdf	**PKPdf**	**09 07 58.4**	**+0.5**
KSH	**Kashi**	**157.72**	**78**	*e*PKP	**PKPdf**	**09 07 58.5**	**+0.5**
KSH				*e*sPKP		09 08 13.8	
KSH				*e*SKS	**SKSdf**	**09 14 59.8**	**-1.4**
KSH				*e*SKKS	**SKKSac**	**09 18 56.3**	**-0.5**
KSH				*e*SS	**SS**	**09 32 02.0**	**-4.3**
KURK	**Kurchatov**	**157.92**	**48**	*e*PKIKP	**PKPdf**	**09 07 58.0**	**+0.3**
KURK	**Kurchatov**	**157.92**	**48**	*e*PKPdf	**PKPdf**	**09 07 58.0**	**+0.3**
PBKT	**Sadao Pong**	**157.94**	**171**	PKP	**PKPdf**	**09 08 02.1**	**+3.4**
PBKT				PKP	PKPab	09 08 23.8	-7.9
NVS	**Novosibirsk**	**158.14**	**35**	*e*PKIKP	**PKPdf**	**09 07 55.2**	**-2.6**
NVS				pmax	pmax		
	comp=N,5.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.6s						
NVS				pmax	pmax		
	comp=Z,23nm,1.6s						
USRK	**Ussuriysk Arra**	**158.74**	**294**	PKPab	**PKPab**	**09 08 34.6**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=94,slow=3.1,SNR=7.4						
ZALV	**Zalesovo Beam**	**159.43**	**35**	PKP	**PKPdf**	**09 07 58.7**	**-0.7**
	comp=Z,7.9nm,0.9s,baz=270,slow=2.4,SNR=7.0						
ZALV				PKPab	**PKPab**	**09 08 38.1**	**+0.7**
	comp=Z,9.3nm,0.8s,baz=300,slow=5.0,SNR=7.7						
CMAR	**Chiang Mai Arr**	**159.44**	**164**	PKP	**PKPdf**	**09 08 00.9**	**+0.4**
	comp=Z,4.9nm,0.7s,baz=233,slow=2.2,SNR=14						
CMAR				PKPab	**PKPab**	**09 08 37.1**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=232,slow=4.6,SNR=4.2						
MDJ	**Mudanjiang**	**160.39**	**296**	PKP	**PKPdf**	**09 07 59.8**	**-1.0**
CRAI	**Chiangrai**	**161.44**	**167**	PKP	**PKPdf**	**09 08 03.4**	**+0.7**
MK31	**Makanchi Array**	**161.61**	**56**	*e*PKIKP	**PKPdf**	**09 08 02.1**	**0.0**
MK31	**Makanchi Array**	**161.61**	**56**	*e*PKPdf	**PKPdf**	**09 08 02.1**	**0.0**
MKAR	**Makanchi Array**	**161.61**	**56**	PKP	**PKPdf**	**09 08 00.8**	**-1.3**
	comp=Z,5.1nm,0.9s,baz=298,slow=2.6,SNR=9.2						
MKAR				PKPab	**PKPab**	**09 08 46.6**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=276,slow=3.0,SNR=6.2						
WMQ	**Urumqi**	**166.16**	**62**	PKP	**PKPdf**	**09 08 06.3**	**-0.1**
WMQ				LR	LR		
	comp=Z,400nm,21.6s						
WMQ				LR	LR		
	comp=Z,440nm,20.2s						
WMQ				LR	LR		
	comp=Z,480nm,22.8s						
NJ2	**Nanjing**	**166.75**	**245**	*e*PKP	**PKPdf**	**09 08 07.3**	**+0.2**
GYA	**Guiyang**	**167.90**	**189**	PKP	**PKPdf**	**09 08 06.8**	**-1.5**
GYA				pPKP	**pPKPdf**	**09 08 18.5**	**-1.3**
GYA				PKPab	**PKPab**	**09 09 16.0**	**+0.7**
GYA				PKS	**PKSdf**	**09 11 37.5**	**-3.6**
GYA				PP	**PP**	**09 13 04.8**	**+1.7**
GYA				SKKS		09 19 47.5	
GYA				SS	**SS**	**09 33 48.3**	**-0.6**
GYA				AMB	AMB		
	comp=Z,180nm,8.6s						
GYA				LR	LR		
	comp=Z,180nm,21.5s						
GYA				LR	LR		
	comp=Z,170nm,21.0s						
WHN	**Wuhan**	**168.75**	**228**	PKP	**PKPdf**	**09 08 11.5**	**+2.9**
ULN	**Ulaanbaatar**	**170.45**	**350**	*e*PKIKP	**PKPdf**	**09 08 08.7**	**-0.6**
ULN	**Ulaanbaatar**	**170.45**	**350**	*e*PKPdf	**PKPdf**	**09 08 08.7**	**-0.6**
SONM	**Songino Array**	**170.56**	**353**	PKP	**PKPdf**	**09 08 08.4**	**-0.9**
	comp=Z,3.5nm,0.9s,baz=170,slow=0.4,SNR=9.3						
SONM				PKPab	**PKPab**	**09 09 26.9**	**+0.3**
	comp=Z,4.4nm,1.0s,baz=353,slow=3.9,SNR=8.8						
CD2	**Chengdu**	**172.42**	**174**	PKP	**PKPdf**	**09 08 10.0**	**-0.7**
CD2				pPKP	**pPKPdf**	**09 08 21.3**	**-0.9**
CD2				sPKP		09 08 25.0	
CD2				PKS	**PKSdf**	**09 11 41.0**	**-2.0**
CD2				PP	**PP**	**09 13 28.3**	**+2.7**
CD2				SKS	**SKSdf**	**09 15 07.8**	**-3.5**
CD2				SKKS	**SKKSac**	**09 20 10.0**	**-0.3**
CD2				SS	**SS**	**09 34 32.5**	**-1.0**
CD2				AMB	AMB		
	comp=Z,620nm,6.6s						
HHC	**Hu-ho-hao-te**	**174.16**	**296**	*e*PKP	**PKPdf**	**09 08 06.8**	**-4.3**
GTA	**Gaotai**	**176.12**	**75**	*e*PKP	**PKPdf**	**09 08 12.3**	**+0.6**
GTA				pPKP	**pPKPdf**	**09 08 23.0**	**-0.2**
GTA				sPKP		09 08 27.3	
GTA				PKPab	**PKPab**	**09 09 52.8**	**+1.0**
LZH	**Lanzhou**	**177.53**	**165**	*e*PKP	**PKPdf**	**09 08 11.3**	**-0.8**
LZH				pPKP	**pPKPdf**	**09 08 22.0**	**-1.6**
LZH				sPKP		09 08 26.8	
LZH				PKPab	PKPab	09 09 59.0	+1.1
LZH				*e*PP	**PP**	**09 13 51.0**	**+0.5**

*IDC **27** 08:50:52.3±0.8, 35.°97S×73.°24W, h0km, mb4.5/9, mb1 4.6/9, mb1mx4.4/28, mbtmp4.5/9, Error ellipse: s-maj=34.4km s-min=22.2km az=75.0*

*ISCJB **27** 08:50:55.3±0.5, 36.°01S±0.°08×73.°0W±0.°2, h28km, mb4.7/22, Error ellipse: s-maj=23.3km s-min=10.2km az=162.4*

*NEIC **27** 08:50:57.8±0.4, 36.°01S×73.°04W, h35km, mb4.9/14, Error ellipse: s-maj=21.4km s-min=10.1km az=72.0*

ISC 27 08:50:56.9±0.6, 36.°00S±0.°10×73.°1W±0.°2, h28km, n33, σ1.°23/32, mb4.8/22, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.15**	**158**	Pn	**Pn**	**08 52 11.0**	**-1.1**
SIV	**San Ignacio**	**22.64**	**31**	P	**P**	**08 55 54.5**	**-1.3**
	12nm,0.8s,baz=215,slow=14,SNR=4.2						
SDV	**Santo Domingo**	**44.70**	**4**	*e*P	**P**	**08 59 06.9**	**-0.9**
	11nm,0.9s						
JTS	**JuntasAbangare**	**47.37**	**344**	*e*P	**P**	**08 59 27.3**	**-1.3**
	23nm,1.6s						
SNAA	**Sanae**	**50.09**	**157**	P	**P**	**08 59 49.2**	**+0.3**
	6.2nm,1.0s,baz=287,slow=7.4,SNR=4.1						
SNAA	**Sanae**	**50.09**	**157**	*e*P	**P**	**08 59 49.8**	**+0.9**
	15nm,1.2s						
QSPA	**South Pole Qui**	**54.24**	**180**	P	**P**	**09 00 19.5**	**-0.5**
	9.6nm,1.1s,baz=135,slow=8.1,SNR=4.0						
TXAR	**Lajitas Array**	**71.05**	**332**	P	**P**	**09 02 13.5**	**+1.1**
	1.2nm,0.6s,baz=153,slow=8.4,SNR=4.9						
OXF	**Oxford**	**71.77**	**346**	*e*P	**P**	**09 02 15.8**	**-0.6**
	40nm,1.1s						
SWET	**Sewanee**	**71.85**	**349**	*e*P	**P**	**09 02 17.6**	**+0.7**
	12nm,0.7s						
ACSO	**Alum Creek Sta**	**76.40**	**352**	*e*P	**P**	**09 02 44.1**	**+0.8**
	18nm,0.8s						
DBIC	**Dimbokro**	**76.67**	**72**	P	**P**	**09 02 46.0**	**+0.5**
	6.5nm,0.7s,baz=205,slow=7.9,SNR=3.6						
DBIC	**Dimbokro**	**76.67**	**72**	*e*P	**P**	**09 02 45.9**	**+0.4**
LAZ	**Ladron**	**76.89**	**332**	*e*P	**P**	**09 02 47.8**	**+1.3**
	10nm,1.7s						
ANMO	**Albuquerque**	**77.12**	**332**	*e*P	**P**	**09 02 47.9**	**+0.1**
	8.8nm,1.5s						
CASY	**Casey**	**78.01**	**182**	*e*P	**P**	**09 02 51.9**	**-0.3**
	12nm,1.0s						
BOSA	**Boshof**	**79.94**	**118**	P	**P**	**09 03 04.1**	**+0.4**
	4.4nm,0.7s,baz=282,slow=3.3,SNR=3.2						
ECSD	**EROS Data Cent**	**82.18**	**343**	*e*P	**P**	**09 03 15.3**	**+0.4**
	6.6nm,0.8s						
NVAR	**Mina Array Bea**	**85.02**	**326**	P	**P**	**09 03 28.2**	**-1.6**
	1.9nm,0.8s,baz=146,slow=5.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**85.73**	**71**	P	**P**	**09 03 33.7**	**+0.1**
	3.0nm,1.0s,baz=226,slow=4.9,SNR=2.9						
YMR	**Madison River**	**87.30**	**334**	*e*P	**P**	**09 03 41.7**	**+0.8**
	7.7nm,1.1s						
HLID	**Hailey**	**87.64**	**331**	*e*P	**P**	**09 03 43.8**	**+1.3**
	7.4nm,1.5s						
ULM	**Lac du Bonnet**	**88.20**	**346**	P	**P**	**09 03 44.9**	**+0.2**
	5.6nm,0.8s,baz=104,slow=2.1,SNR=3.9						
DGMT	**Dagmar**	**88.54**	**340**	*e*P	**P**	**09 03 47.9**	**+1.5**
	8.3nm,0.8s						
MOD	**Modoc**	**88.73**	**327**	*e*P	**P**	**09 03 48.7**	**+1.1**
	8.3nm,1.2s						
SEY	**Seymchan**	**141.29**	**329**	PKP	**PKPdf**	**09 10 22.2**	**-1.7**
	2.1nm,0.9s,baz=61,slow=10,SNR=2.6						
ABKAR	**Akbulak array**	**143.60**	**54**	*e*PKPdf	PKPbc	09 10 25.7	-0.2
BRVK	**Borovoye**	**149.27**	**45**	*e*PKPbc	**PKPbc**	**09 10 41.9**	**-0.4**
BVAR	**Borovoye Array**	**149.34**	**45**	PKPbc	**PKPbc**	**09 10 41.5**	**-1.0**
	2.4nm,0.7s,baz=304,slow=2.8,SNR=4.3						
KURK	**Kurchatov**	**154.94**	**45**	*e*PKPbc	**PKPbc**	**09 10 54.2**	**-1.0**
MK31	**Makanchi Array**	**158.73**	**52**	*e*PKPdf	**PKPdf**	**09 10 55.3**	**+3.8**
MKAR	**Makanchi Array**	**158.73**	**52**	PKPab	**PKPab**	**09 11 28.8**	**+1.6**
	1.4nm,0.7s,baz=281,slow=2.3,SNR=3.6						
SONM	**Songino Array**	**168.16**	**2**	PKPab	**PKPab**	**09 12 07.0**	**-1.6**
	1.1nm,0.8s,baz=333,slow=2.2,SNR=3.7						

*IDC **27** 08:51:33.0±0.5, 34.°72S×72.°76W, h0km, mb4.7/13, mb1 4.8/13, mb1mx4.6/28, mbtmp4.7/13, Error ellipse: s-maj=24.6km s-min=16.3km az=86.0*

*ISCJB **27** 08:51:36.3±0.4, 34.°74S±0.°07×72.°7W±0.°2, h33km, mb4.7/24, Error ellipse: s-maj=18.5km s-min=8.8km az=168.3*

*NEIC **27** 08:51:38.4±1.3, 34.°73S×72.°73W, h36km±11km, mb5.0/14, Error ellipse: s-maj=12.4km s-min=6.8km az=83.0*

ISC 27 08:51:38.3±0.5, 34.°73S±0.°08×72.°7W±0.°2, h35km, n53, σ0.°73/53, mb4.9/24, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.24**	**165**	Pn	**Pn**	**08 53 07.9**	**-0.1**
USHA	**Ushuaia**	**20.32**	**173**	P	**P**	**08 56 10.7**	**-0.5**
	32nm,0.9s,baz=326,slow=3.8,SNR=5.3						
SIV	**San Ignacio**	**21.39**	**32**	P	**P**	**08 56 22.5**	**-0.6**
	23nm,0.8s,baz=239,slow=14,SNR=5.2						
SDV	**Santo Domingo**	**43.42**	**3**	*e*P	**P**	**08 59 39.5**	**+1.5**
	11nm,0.9s						
RCBR	**Riachuelo**	**44.51**	**58**	P	**P**	**08 59 46.6**	**-0.1**
	10.0nm,0.9s,baz=125,slow=7.3,SNR=3.3						
RCBR	**Riachuelo**	**44.51**	**58**	*e*P	**P**	**08 59 46.7**	**+0.1**
	52nm,1.3s						
SNAA	**Sanae**	**51.13**	**158**	P	**P**	**09 00 37.1**	**-0.2**
	6.9nm,0.8s,baz=323,slow=5.0,SNR=5.4						
SNAA	**Sanae**	**51.13**	**158**	*e*P	**P**	**09 00 37.7**	**+0.4**
	85nm,1.8s						
APG	**El Apazote**	**52.25**	**338**	P	P	09 00 41.5	-4.9
	3.6nm,0.7s,baz=136,slow=4.7,SNR=4.8						
QSPA	**South Pole Qui**	**55.51**	**180**	P	**P**	**09 01 09.6**	**0.0**
	21nm,1.1s,baz=168,slow=6.3,SNR=4.2						
TEIG	**Tepich**	**56.62**	**342**	P	**P**	**09 01 17.5**	**-0.3**
	17nm,0.7s,baz=219,slow=23,SNR=6.3						
TEIG	**Tepich**	**56.62**	**342**	*e*P	**P**	**09 01 17.4**	**-0.5**
	24nm,0.9s						
VNDA	**Vanda**	**63.28**	**191**	P	**P**	**09 02 04.1**	**+1.2**
	5.5nm,0.8s,baz=113,slow=11,SNR=2.8						
TXAR	**Lajitas Array**	**70.10**	**331**	P	**P**	**09 02 47.4**	**+0.3**
	1.1nm,0.6s,baz=150,slow=9.2,SNR=4.1						
OXF	**Oxford**	**70.63**	**345**	*e*P	**P**	**09 02 49.1**	**-1.0**
	30nm,1.3s						
SWET	**Sewanee**	**70.67**	**349**	*e*P	**P**	**09 02 49.6**	**-0.8**
	11nm,0.8s						
WVT	**Waverly**	**71.89**	**347**	*e*P	**P**	**09 02 57.1**	**-0.5**
ACSO	**Alum Creek Sta**	**75.19**	**352**	*e*P	**P**	**09 03 16.1**	**-0.8**
	8.8nm,0.6s						
DBIC	**Dimbokro**	**75.95**	**72**	P	**P**	**09 03 22.3**	**+0.4**
	15nm,0.8s,baz=194,slow=6.7,SNR=6.9						
DBIC	**Dimbokro**	**75.95**	**72**	*e*P	**P**	**09 03 21.7**	**-0.2**
	7.6nm,0.9s						
ANMO	**Albuquerque**	**76.15**	**332**	*e*P	**P**	**09 03 22.9**	**+0.1**
	3.0nm,0.8s						
SDCO	**Great Sand Dun**	**78.27**	**334**	*e*P	**P**	**09 03 34.7**	**-0.1**
	2.9nm,0.7s						
CASY	**Casey**	**79.28**	**181**	*e*P	**P**	**09 03 40.0**	**+0.2**
	30nm,1.1s						
BOSA	**Boshof**	**80.23**	**118**	P	**P**	**09 03 46.0**	**+0.3**
	24nm,1.0s,baz=223,slow=5.0,SNR=6.9						
LBTB	**Lobatse**	**82.51**	**115**	*e*P	**P**	**09 03 57.6**	**-0.2**
	20nm,1.0s						
PDAR	**Pinedale Array**	**84.16**	**334**	P	**P**	**09 04 05.5**	**-0.4**
	1.0nm,0.7s,baz=151,slow=3.9,SNR=3.3						
NVAR	**Mina Array Bea**	**84.16**	**326**	P	**P**	**09 04 06.8**	**+0.8**
	1.7nm,0.7s,baz=150,slow=6.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**84.99**	**70**	P	**P**	**09 04 10.7**	**+0.3**
	11nm,0.7s,baz=290,slow=6.3,SNR=16						
HLID	**Hailey**	**86.69**	**331**	*e*P	**P**	**09 04 19.4**	**+1.0**
	1.3nm,0.6s						
MOD	**Modoc**	**87.86**	**327**	*e*P	**P**	**09 04 24.5**	**+0.4**
	5.6nm,0.8s						
FCC	**Fort Churchill**	**94.83**	**349**	*e*P	**P**	**09 04 55.2**	**-0.6**
	0.1nm,0.7s						
YKA	**Yellowknife Ar**	**102.57**	**341**	P	**Pdif**	**09 05 29.7**	**-0.8**
	0.2nm,0.6s,baz=148,slow=4.2,SNR=4.3						
ILAR	**Eielson Array**	**114.59**	**333**	PKP	PKPdf	09 10 13.0	-0.8
	0.8nm,1.2s,baz=160,slow=2.9,SNR=4.3						
WRA	**Warramunga Arr**	**119.85**	**210**	PKP	**PKPdf**	**09 10 24.5**	**-1.0**
	2.2nm,0.7s,baz=167,slow=1.5,SNR=13						
WRAB	**Tennant Creek**	**119.85**	**210**	*e*PKPdf	**PKPdf**	**09 10 24.0**	**-1.5**
BRTR	**Keskin Array B**	**122.68**	**62**	PKP	**PKPdf**	**09 10 30.1**	**-0.2**
	2.2nm,0.8s,baz=191,slow=4.1,SNR=9.3						
AKASG	**Malin Array Be**	**123.10**	**48**	PKP	**PKPdf**	**09 10 29.5**	**-1.1**
	0.7nm,0.5s,baz=265,slow=2.6,SNR=6.6						
GAMB	**Gambell**	**124.41**	**328**	*e*PKPdf	**PKPdf**	**09 10 32.9**	**+0.2**
ARCES	**ARCESS Array B**	**124.91**	**25**	PKP	**PKPdf**	**09 10 32.9**	**-0.7**
	3.8nm,0.9s,baz=316,slow=5.1,SNR=4.4						
KBZ	**Khabaz**	**130.45**	**59**	PKP	**PKPdf**	**09 10 45.2**	**+0.3**
	3.9nm,0.9s,baz=208,slow=1.3,SNR=4.1						
SEY	**Seymchan**	**140.38**	**329**	PKP	**PKPdf**	**09 11 03.5**	**+0.8**
	3.9nm,0.8s,baz=123,slow=3.6,SNR=4.7						
ABKAR	**Akbulak array**	**142.58**	**52**	*e*PKPdf	**PKPdf**	**09 11 08.1**	**+0.9**
BRVK	**Borovoye**	**148.13**	**43**	*e*PKPbc	**PKPbc**	**09 11 20.5**	**+0.7**
BVAR	**Borovoye Array**	**148.20**	**43**	PKPbc	**PKPbc**	**09 11 20.8**	**+0.7**
	6.6nm,0.6s,baz=289,slow=4.2,SNR=8.7						
IPM	**Ipoh**	**149.35**	**168**	*e*PKPbc	**PKPbc**	**09 11 23.9**	**-0.3**
KULM	**Kulim**	**150.07**	**167**	*e*PKPbc	**PKPbc**	**09 11 25.1**	**-0.8**
EKS2	**Erkin-Say**	**152.82**	**63**	*e*PKPbc	**PKPbc**	**09 11 32.1**	**+0.6**
AAK	**Ala-Archa**	**153.34**	**63**	PKPbc	**PKPbc**	**09 11 33.6**	**+0.8**
	11nm,0.8s,baz=214,slow=1.2,SNR=7.2						
KURK	**Kurchatov**	**153.80**	**44**	*e*PKPbc	**PKPbc**	**09 11 33.2**	**0.0**
ZALV	**Zalesovo Beam**	**155.14**	**32**	PKP	**PKPdf**	**09 11 24.6**	**-2.4**
	3.7nm,0.8s,baz=304,slow=5.7,SNR=3.9						
ZALV				PKPab	**PKPab**	**09 11 52.4**	**+0.5**
	12nm,0.7s,baz=305,slow=5.2,SNR=9.7						
MK31	**Makanchi Array**	**157.67**	**50**	*e*PKPdf	**PKPdf**	**09 11 30.4**	**-0.2**
MKAR	**Makanchi Array**	**157.67**	**50**	PKPab	**PKPab**	**09 12 02.8**	**-0.3**
	2.1nm,0.8s,baz=306,slow=4.2,SNR=3.7						
SONM	**Songino Array**	**166.89**	**3**	PKP	**PKPdf**	**09 11 39.6**	**-0.4**
	0.6nm,0.8s,baz=314,slow=0.5,SNR=2.3						
SONM				PKPab	**PKPab**	**09 12 44.2**	**+0.8**
	1.9nm,0.8s,baz=331,slow=3.6,SNR=4.9						

GUC 27 08:52:05.3, 35.°00S×71.°75W, h22km, ML5.1, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**1.50**	**27**	*e*P	Pn	08 52 31.5	+0.5
PCH	**Pirque**	**1.71**	**37**	*e*P	Pn	08 52 34.6	+0.6
SAN	**Santiago**	**1.79**	**30**	*e*P	Pn	08 52 35.2	+0.3
SAN				*e*S	Sb	08 52 58.3	-1.1
PEL	**Peldehue**	**2.05**	**26**	*e*P	Pn	08 52 39.9	+1.3
PEL				*e*S	Sb	08 53 06.2	-0.9
PEL				AML	AML	08 53 12.8	
	comp=N,22μm,0.4s						
ROCH	**El Roble**	**2.12**	**17**	*e*P	Pn	08 52 40.7	+1.0

*IDC **27** 08:53:21.2±0.7, 35.°61S×73.°26W, h0km, mb4.7/11, mb1 4.9/12, mb1mx4.6/28, mbtmp4.8/12, ML4.3/1, Error ellipse: s-maj=32.4km s-min=17.7km az=74.0*

*ISCJB **27** 08:53:25.4±0.3, 35.°50S±0.°06×72.°9W±0.°1, h33km, mb4.8/48, Error ellipse: s-maj=17.3km s-min=6.7km az=159.5*

*BJI **27** 08:53:26.0, 35.°10S×71.°80W, h35km, mB5.4/1, Ms5.0/1, Ms7 5.0/1*

*NEIC **27** 08:53:26.8±0.3, 35.°45S×72.°87W, h35km, mb5.0/39, Error ellipse: s-maj=22.3km s-min=6.7km az=74.0*

ISC 27 08:53:23.5±0.4, 35.°64S±0.°08×73.°2W±0.°2, h17km, n349, σ1.°16/354, mb5.0/48, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.49**	**159**	P	Pn	08 54 49.7	+5.0
TRQA	**Tornquist**	**9.30**	**108**	Pn	Pn	08 55 26.1	-11
USHA	**Ushuaia**	**19.47**	**172**	P	**P**	**08 57 51.8**	**+1.2**
	0.9nm,0.3s,baz=302,slow=4.7,SNR=5.6						
LPAZ	**La Paz**	**19.79**	**14**	P	**Pn**	**08 57 56.5**	**+1.2**
	baz=187,slow=5.2,SNR=3.1						
SIV	**San Ignacio**	**22.36**	**32**	P	**P**	**08 58 22.3**	**+1.4**
	13nm,0.8s,baz=219,slow=14,SNR=3.2						
NNA	**Nana**	**23.78**	**351**	*e*P	**P**	**08 58 33.8**	**-1.6**
	4.1nm,0.6s						
OTAV	**Otavalo**	**36.03**	**351**	*e*P	**P**	**09 00 24.5**	**0.0**
	52nm,1.7s						
JTS	**JuntasAbangare**	**47.01**	**344**	*e*P	**P**	**09 01 54.3**	**+0.2**
	5.4nm,0.8s						
VNA3	**Neumayer Olymp**	**48.21**	**157**	P	**P**	**09 02 03.9**	**+1.2**
VNA2	**Neumayer--Watz**	**48.88**	**157**	P	**P**	**09 02 09.1**	**+1.2**
SNAA	**Sanae**	**50.44**	**157**	P	**P**	**09 02 20.7**	**+0.9**
SNAA	**Sanae**	**50.44**	**157**	P	**P**	**09 02 20.0**	**+0.1**
	11nm,0.9s,baz=286,slow=6.7,SNR=7.2						
SNAA	**Sanae**	**50.44**	**157**	*e*P	**P**	**09 02 20.9**	**+1.1**
	92nm,1.4s						
FDF	**Fort de France**	**51.38**	**15**	*e*P	**P**	**09 02 26.4**	**-1.0**
	20nm,0.7s						
APG	**El Apazote**	**52.96**	**339**	P	P	09 02 34.8	-4.7
	3.2nm,0.7s,baz=141,slow=7.6,SNR=6.1						
QSPA	**South Pole Qui**	**54.60**	**180**	P	**P**	**09 02 52.0**	**+1.1**
	20nm,0.8s,baz=110,slow=2.6,SNR=6.0						
TEIG	**Tepich**	**57.37**	**343**	P	**P**	**09 03 10.1**	**-0.8**
	21nm,0.7s,baz=139,slow=7.2,SNR=7.4						
TEIG	**Tepich**	**57.37**	**343**	*e*P	**P**	**09 03 10.5**	**-0.5**
	31nm,1.0s						
834A	**Tilden**	**67.79**	**336**	P	**P**	**09 04 22.2**	**+1.8**
	baz=68						
735A	**Kenedy**	**68.22**	**337**	P	**P**	**09 04 24.5**	**+1.4**
	baz=68						
833A	**Chaparral WMA,**	**68.25**	**335**	P	**P**	**09 04 24.4**	**+1.1**
	baz=68						
832A	**Faith Ranch, C**	**68.42**	**335**	P	**P**	**09 04 25.0**	**+0.7**
	baz=69						
734A	**La Parita Cree**	**68.45**	**336**	P	**P**	**09 04 25.7**	**+1.1**
	baz=69						
636A	**Smothers Creek**	**68.56**	**338**	P	**P**	**09 04 26.4**	**+1.2**
	baz=69						
GOGA	**Godfrey**	**69.36**	**351**	*e*P	**P**	**09 04 29.0**	**-1.1**
	6.5nm,0.9s						
632A	**Uvalde**	**69.47**	**335**	P	**P**	**09 04 32.0**	**+1.1**
	baz=70						
338A	**Crockett**	**69.81**	**340**	P	**P**	**09 04 35.2**	**+2.3**
	baz=70						
NATX	**Nacogdoches**	**70.01**	**341**	*e*P	**P**	**09 04 33.5**	**-0.6**
	51nm,1.1s						
532A	**Rocksprings**	**70.08**	**336**	P	**P**	**09 04 35.5**	**+0.8**
	baz=70						
434A	**Burnet**	**70.18**	**337**	P	**P**	**09 04 36.0**	**+0.7**
	baz=70						
336A	**Riesel**	**70.28**	**339**	P	**P**	**09 04 36.7**	**+1.0**
	baz=70						
531A	**Rocksprings**	**70.33**	**335**	P	**P**	**09 04 37.2**	**+1.0**
	baz=71						
JCT	**Junction City**	**70.37**	**336**	*e*P	**P**	**09 04 36.9**	**+0.4**
	15nm,1.1s						
JCT	**Junction City**	**70.37**	**336**	P	**P**	**09 04 37.3**	**+0.9**
	baz=71						
433A	**Art**	**70.39**	**336**	P	**P**	**09 04 37.2**	**+0.6**
	baz=71						
530A	**J-C Ranch, Com**	**70.60**	**334**	P	**P**	**09 04 38.7**	**+0.9**
	baz=71						
334A	**Lometa**	**70.65**	**337**	P	**P**	**09 04 39.1**	**+1.0**
	baz=71						
TXAR	**Lajitas Array**	**70.72**	**332**	P	**P**	**09 04 39.4**	**+0.7**
	2.3nm,0.6s,baz=155,slow=7.7,SNR=5.8						
KMSC	**Kings Mountain**	**70.83**	**353**	P	**P**	**09 04 39.3**	**+0.2**
	baz=71						
431A	**Sonora**	**70.83**	**335**	P	**P**	**09 04 39.8**	**+0.5**
	baz=71						
333A	**Richland Sprin**	**70.88**	**337**	P	**P**	**09 04 39.7**	**+0.2**
	baz=71						
529A	**Stev Forest Ra**	**70.89**	**334**	P	**P**	**09 04 40.4**	**+0.8**
	baz=71						
WHTX	**Lake Whitney**	**71.03**	**338**	*e*P	**P**	**09 04 40.0**	**-0.3**
	11nm,0.8s						
WHTX	**Lake Whitney**	**71.03**	**338**	P	**P**	**09 04 40.7**	**+0.4**
	baz=71						
137A	**Heron Place, G**	**71.10**	**340**	P	**P**	**09 04 41.9**	**+1.1**
	baz=71						
430A	**Baggett Ranch,**	**71.14**	**335**	P	**P**	**09 04 42.0**	**+0.9**
	baz=71						
429A	**Davenport Ranc**	**71.23**	**334**	P	**P**	**09 04 42.5**	**+0.8**
	baz=72						
234A	**Clairette**	**71.25**	**338**	P	**P**	**09 04 42.1**	**+0.4**
	baz=72						
331A	**San Angelo**	**71.34**	**336**	P	**P**	**09 04 42.6**	**+0.3**
	baz=72						
OXF	**Oxford**	**71.42**	**346**	*e*P	**P**	**09 04 42.5**	**-0.1**
SWET	**Sewanee**	**71.49**	**349**	*e*P	**P**	**09 04 42.8**	**-0.3**
	18nm,0.7s						
233A	**Rising Star**	**71.50**	**337**	P	**P**	**09 04 45.1**	**+1.8**
	baz=72						
232A	**Coleman**	**71.62**	**336**	P	**P**	**09 04 44.3**	**+0.4**
	baz=72						
330A	**Mertzon**	**71.69**	**335**	P	**P**	**09 04 44.8**	**+0.3**
	baz=72						
231A	**Bronte**	**71.88**	**336**	P	**P**	**09 04 45.6**	**0.0**
	baz=72						
329A	**Wagon Wheel Ra**	**72.04**	**334**	P	**P**	**09 04 46.8**	**+0.2**
	baz=72						
133A	**Hamilton Ranch**	**72.05**	**337**	P	**P**	**09 04 46.8**	**+0.3**
	baz=72						
230A	**Sterling City**	**72.10**	**335**	P	**P**	**09 04 47.0**	**+0.1**
	baz=72						
Z35A	**Perchaven, San**	**72.22**	**339**	P	**P**	**09 04 47.8**	**+0.3**
	baz=72						
ABTX	**Abilene, Hawle**	**72.29**	**337**	*e*P	**P**	**09 04 47.9**	**-0.1**
	11nm,0.7s						
ABTX	**Abilene, Hawle**	**72.29**	**337**	P	**P**	**09 04 48.4**	**+0.4**
	baz=73						
229A	**Bryant Ranch,**	**72.42**	**335**	P	**P**	**09 04 49.1**	**+0.2**
	baz=73						
Z34A	**Collier Ranch,**	**72.45**	**338**	P	**P**	**09 04 49.4**	**+0.5**
	baz=73						
131A	**Roby**	**72.58**	**336**	P	**P**	**09 04 50.3**	**+0.6**
	baz=73						
Z33A	**Whitaker Ranch**	**72.63**	**338**	P	**P**	**09 04 50.5**	**+0.5**
	baz=73						
WVT	**Waverly**	**72.69**	**348**	*e*P	**P**	**09 04 50.1**	**-0.1**
	54nm,1.3s						
130A	**Snyder**	**72.70**	**336**	P	**P**	**09 04 50.8**	**+0.4**
	baz=73						
228A	**UT Block 9, Go**	**72.83**	**334**	P	**P**	**09 04 51.8**	**+0.5**
	baz=73						
Z32A	**Haskell**	**72.87**	**337**	P	**P**	**09 04 52.1**	**+0.7**
	baz=73						
Y34A	**Reagan Ranch,**	**72.95**	**339**	P	**P**	**09 04 52.4**	**+0.6**
	baz=73						
129A	**Stewart Farms,**	**73.04**	**335**	P	**P**	**09 04 52.9**	**+0.4**
	baz=73						
Z31A	**Sharp Cattle R**	**73.09**	**337**	P	**P**	**09 04 53.4**	**+0.7**
	baz=73						
128A	**Castleberry Fa**	**73.25**	**334**	P	**P**	**09 04 54.3**	**+0.6**
	baz=74						
Y33A	**Hilltop Ranch,**	**73.26**	**338**	P	**P**	**09 04 54.3**	**+0.6**
	baz=74						
Z30A	**Sanderson Ranc**	**73.39**	**336**	P	**P**	**09 04 54.7**	**+0.2**
	baz=74						
Y32A	**R-V Farms, Ver**	**73.50**	**337**	P	**P**	**09 04 55.3**	**+0.1**
	baz=74						
Z29A	**Hungry Hill Ra**	**73.56**	**335**	P	**P**	**09 04 55.3**	**-0.2**
	baz=74						
X34A	**Smith Ranch, M**	**73.57**	**339**	P	**P**	**09 04 56.0**	**+0.5**
	baz=74						
127A	**Arkansas Junct**	**73.61**	**334**	P	**P**	**09 04 56.7**	**+0.8**
	baz=74						
X33A	**Lawton**	**73.71**	**338**	P	**P**	**09 04 56.4**	**0.0**
	baz=74						
Y31A	**Rekieta Farm,**	**73.72**	**337**	P	**P**	**09 04 57.0**	**+0.6**
	baz=74						
X32A	**Elmer**	**73.84**	**338**	P	**P**	**09 04 57.3**	**+0.2**
	baz=74						
Y30A	**Stafford Cattl**	**73.85**	**336**	P	**P**	**09 04 57.7**	**+0.4**
	baz=74						
Y29A	**Porterfield Fa**	**74.09**	**336**	P	**P**	**09 04 59.0**	**+0.3**
	baz=74						
W34A	**Bridge Creek,**	**74.15**	**339**	P	**P**	**09 04 59.2**	**+0.3**
	baz=74						
TUL1	**Tulsa**	**74.23**	**341**	P	**P**	**09 04 59.3**	**0.0**
	baz=74						
X31A	**McDonald Ranch**	**74.25**	**337**	P	**P**	**09 04 59.6**	**+0.1**
	baz=74						
W33A	**Caddo, Fort Co**	**74.27**	**339**	P	**P**	**09 05 00.7**	**+1.0**
	baz=74						
Y28A	**McKinney Farm,**	**74.33**	**335**	P	**P**	**09 05 00.2**	**+0.1**
	baz=75						
Z26A	**Caprock**	**74.37**	**334**	P	**P**	**09 05 01.1**	**+0.8**
	baz=75						

W32A Sentinel 74.48 338 P P 09 05 01.5 +0.7
baz=75
SIUC Southern Illin 74.48 347 eP P 09 05 00.7 -0.1
26nm,0.9s
MSTX Muleshoe 74.57 335 P P 09 05 02.1 +0.6
baz=75
Y27A Causey 74.63 334 P P 09 05 02.0 +0.1
baz=75
V34A Guthrie 74.63 340 P P 09 05 02.2 +0.5
baz=75
X29A Tulia 74.64 336 P P 09 05 02.0 +0.1
baz=75
W31A Holland Ranch, 74.75 338 P P 09 05 02.5 +0.1
baz=75
SDMD Soldier's Deli 74.75 357 eP P 09 05 02.4 +0.1
48nm,1.5s
319A Douglas 74.78 329 P P 09 05 04.0 +1.2
baz=75
V33A Lossen Ranch, 74.84 339 P P 09 05 03.5 +0.6
baz=75
Y26A Elida 74.90 334 P P 09 05 04.3 +0.9
baz=75
Z24A Sheeppen Canyo 74.93 333 P P 09 05 05.0 +1.3
baz=75
V32A Arapaho 74.97 338 P P 09 05 04.7 +1.0
baz=75
AMTX Amarillo 75.03 336 eP P 09 05 04.5 +0.3
9.9nm,0.8s
AMTX Amarillo 75.03 336 P P 09 05 04.9 +0.8
baz=75
121A Cookes Peak, D 75.17 330 P P 09 05 06.5 +1.4
baz=76
W29A Amrallo 75.24 336 P P 09 05 06.3 +1.0
baz=76
X27A F and S Farms, 75.30 335 P P 09 05 06.5 +0.8
baz=76
X26A CR and CF Fran 75.46 334 P P 09 05 07.7 +1.0
baz=76
Y24A Capitan 75.49 333 P P 09 05 07.7 +0.8
baz=76
U32A Winter Ranch, 75.57 339 P P 09 05 08.1 +0.9
baz=76
W27A Bowe Ranch, En 75.66 335 P P 09 05 08.6 +0.8
baz=76
Y23A Lovelace Mesa, 75.73 332 P P 09 05 09.7 +1.4
baz=76
X25A Clemmons Ranch 75.74 334 P P 09 05 09.0 +0.7
baz=76
W26A Owens Ranch, T 75.93 335 P P 09 05 10.5 +1.2
baz=76
V28A Channing 76.00 336 P P 09 05 10.8 +1.1
baz=76
T33A Patterson Ranc 76.01 340 P P 09 05 10.8 +1.2
baz=76
ACSO Alum Creek Sta 76.04 352 eP P 09 05 09.1 -0.5
26nm,0.7s
U30A WK&E Inc. Balk 76.21 338 P P 09 05 11.7 +0.9
baz=76
W25A X Bar L Ranch, 76.29 334 P P 09 05 12.4 +1.0
baz=77
T32A Huddler Ranch, 76.29 339 P P 09 05 12.4 +1.2
baz=77
X23A Hourglass Bar 76.35 332 P P 09 05 13.1 +1.2
baz=77
T31A Randall Ranch, 76.44 338 P P 09 05 12.8 +0.8
baz=77
V26A Tequesquite Ra 76.57 335 P P 09 05 13.5 +0.6
baz=77
U28A Mallet 76.58 336 P P 09 05 13.5 +0.6
baz=77
DBIC Dimbokro 76.60 72 P P 09 05 14.4 +1.0
12nm,0.9s,baz=215,slow=8.0,SNR=4.7
DBIC Dimbokro 76.60 72 eP P 09 05 13.6 +0.2
11nm,0.8s
W24A Lazy 6 Ranch, 76.62 333 P P 09 05 14.4 +1.0
baz=77
ANMO Albuquerque 76.78 332 eP P 09 05 15.4 +1.1
8.6nm,1.1s
U27A Thompson Grove 76.81 336 P P 09 05 15.3 +1.0
baz=77
214A Organ Pipe Nat 76.83 326 P P 09 05 15.7 +1.3
baz=77
W23A Werner Place, 76.86 333 P P 09 05 15.6 +0.9
baz=77
S31A Mullinville 76.86 339 P P 09 05 15.8 +1.3
baz=77
V25A Rancho No Teng 76.90 334 P P 09 05 15.8 +0.9
baz=77
T29A Hugoton 76.99 337 P P 09 05 16.3 +1.1
baz=77
S30A Montezuma 77.18 338 P P 09 05 17.1 +0.9
baz=77
T28A Walsh 77.22 337 P P 09 05 17.2 +0.7
baz=78
U25A Circle Dot Ran 77.33 335 P P 09 05 18.4 +1.1
baz=78
S29A Ulysses 77.36 338 P P 09 05 18.5 +1.3
baz=78
T27A Campo 77.36 336 P P 09 05 18.3 +0.9
baz=78
R32A Long Quarter, 77.39 340 P P 09 05 18.2 +0.9
baz=78
V23A Ortiz Mt. (NFS 77.39 333 P P 09 05 18.8 +1.1
baz=78
KSU1 Kansas State U 77.45 342 eP P 09 05 16.8 -0.9
9.3nm,0.7s
S28A Manter 77.58 337 P P 09 05 19.2 +0.7
baz=78
T26A Comanche Natio 77.75 336 P P 09 05 21.0 +1.3
baz=78
X18A Snowflake 77.79 330 P P 09 05 21.7 +1.8
baz=78
V22A San Miguel Ran 77.81 333 P P 09 05 21.7 +1.7
baz=78
U23A El Rito 77.91 333 P P 09 05 22.5 +1.9
baz=78
113A Mohawk Valley, 77.95 326 P P 09 05 22.0 +1.4
baz=78
T25A Trinidad 78.00 335 P P 09 05 22.6 +1.6
baz=78
R29A Marienthal 78.10 338 P P 09 05 22.4 +1.0
baz=78
S26A Kim 78.12 336 P P 09 05 22.9 +1.3
baz=78
Q31A Ellis 78.12 339 P P 09 05 22.4 +0.9
baz=78
W18A Petrified Fore 78.22 330 P P 09 05 23.8 +1.5
baz=78
R28A Tribune 78.24 337 P P 09 05 23.1 +0.9
baz=78
T24B San Luis 78.27 334 P P 09 05 24.0 +1.4
baz=78
X16A Lo Mia Camp, P 78.32 328 P P 09 05 24.3 +1.4
baz=79
CASY Casey 78.36 182 eP P 09 05 23.4 +0.9
11nm,0.8s
S25A Robets Cordova 78.48 335 P P 09 05 24.7 +1.0
baz=79
T23A Casias Ranch, 78.48 334 P P 09 05 25.1 +1.3
baz=79
Q29A Oakley 78.48 338 P P 09 05 24.2 +0.7
baz=79
R27A Eads 78.50 337 P P 09 05 24.5 +0.9
baz=79
Y14A Wickenburg 78.59 327 P P 09 05 25.7 +1.5
baz=79
P31A Stockton 78.60 340 P P 09 05 25.0 +0.9
baz=79
GLA Glamis 78.67 325 P P 09 05 26.1 +1.5
baz=79
R26A Arlington 78.72 336 P P 09 05 26.3 +1.4
baz=79
S24A Houchin Ranch, 78.73 335 P P 09 05 26.7 +1.5
baz=79
Q28A Sharon Springs 78.90 338 P P 09 05 27.2 +1.3
baz=79
SDCO Great Sand Dun 78.92 334 eP P 09 05 26.9 +0.6
7.7nm,1.3s
R24A Sanders Place, 79.22 335 P P 09 05 29.0 +1.3
baz=80
Q26A Hugo 79.31 336 P P 09 05 29.6 +1.4
baz=80
P28A Saint Francis 79.35 338 P P 09 05 29.7 +1.4
baz=80
S22A 4UR Ranch, Cre 79.40 333 P P 09 05 30.2 +1.4
baz=80
O30A MW Ranch, Wils 79.40 339 P P 09 05 29.9 +1.4
baz=80
R23A Moffat 79.44 334 P P 09 05 30.5 +1.4
baz=80
BC3 Big Chuckawall 79.47 325 P P 09 05 30.6 +1.6
baz=80
Q25A Bedland, Calha 79.55 336 P P 09 05 30.4 +0.9
baz=80
MVCO Mesa Verde 79.55 332 eP P 09 05 30.6 +1.0
5.6nm,0.7s
MVCO Mesa Verde 79.55 332 P P 09 05 30.6 +1.0
baz=80
O29A 4D Ranch, Culb 79.57 339 P P 09 05 30.5 +1.1
baz=80
IRM Iron Mountain 79.75 326 P P 09 05 32.0 +1.5
baz=80
P26A Davis Ranch, A 79.83 337 P P 09 05 32.3 +1.3
baz=80
O28A Krutsinger Ran 79.86 338 P P 09 05 32.3 +1.2
baz=80
Q24A Divide 79.89 335 P P 09 05 32.9 +1.4
baz=80
PFO Pinyon Flat Ob 79.90 324 P P 09 05 33.1 +1.6
baz=80
W13A Hualapai Mount 79.96 327 P P 09 05 33.4 +1.5
baz=80
P25A Willow Gulch B 80.06 336 P P 09 05 33.7 +1.5
baz=80
O27A Beecher Island 80.14 338 P P 09 05 34.1 +1.6
baz=80
BOSA Boshof 80.14 118 P P 09 05 33.6 +0.5
10nm,0.8s,baz=252,slow=4.4,SNR=5.4
BOSA Boshof 80.14 118 eP P 09 05 32.9 -0.2
9.8nm,0.8s
N29A Votaw Ranch, W 80.16 339 P P 09 05 33.7 +1.1
baz=80
M31A Lambtecht Ranc 80.18 341 P P 09 05 33.8 +1.1
baz=80
MURC Murrieta 80.25 324 P P 09 05 34.6 +1.4
baz=80
N28A Pribbeno Ranch 80.31 339 P P 09 05 34.2 +0.8
baz=81
PV01 Paradox Valley 80.39 332 eP P 09 05 35.3 +1.2
U15A North Rim 80.40 329 P P 09 05 35.7 +1.4
baz=81
O26A Horse Wrangler 80.44 337 P P 09 05 35.8 +1.5
baz=81
GMRC Granite Mounta 80.49 326 P P 09 05 36.5 +1.9
baz=81
N27A Anderson Farm, 80.72 338 P P 09 05 37.2 +1.6
baz=81
PV04 Paradox Valley 80.74 332 eP P 09 05 37.7 +1.7
M29A Burnside Ranch 80.75 339 P P 09 05 37.2 +1.4
baz=81
PV10 Paradox Valley 80.78 332 eP P 09 05 37.2 +1.0
100nm,0.7s
ISCO Idaho Springs 80.80 335 eP P 09 05 37.6 +1.2
ISCO Idaho Springs 80.80 335 P P 09 05 37.5 +1.2
baz=81
HEC Hector,Ludlow 80.84 325 P P 09 05 38.3 +1.9
baz=81
L31A Butterfield Fa 80.92 341 P P 09 05 37.8 +1.2
baz=81
L30A Spencer Herefo 80.95 340 P P 09 05 37.8 +1.0
baz=81
P22A Eagle 81.02 334 P P 09 05 38.7 +1.2
baz=81
O23A Lake Granby, G 81.27 335 P P 09 05 40.5 +1.6
baz=82
GSC Goldstone 81.45 325 P P 09 05 41.6 +1.9
baz=82
N24A Carr 81.48 336 P P 09 05 41.3 +1.5
baz=82
K30A Basset 81.59 341 P P 09 05 41.2 +1.0
baz=82
EDW2 Edwards Air Fo 81.67 324 P P 09 05 41.8 +1.1
baz=82
ECSD EROS Data Cent 81.83 343 eP P 09 05 41.2 -0.1
8.8nm,0.6s
ECSD EROS Data Cent 81.83 343 P P 09 05 41.9 +0.6
baz=82
K29A Lazy Trails An 81.87 340 P P 09 05 42.6 +1.0
baz=82
M24A Cheyenne 82.04 337 P P 09 05 44.1 +1.4
baz=82
K28A Ten Mile Ranch 82.12 339 P P 09 05 44.3 +1.3
baz=82
J29A Okreek 82.47 340 P P 09 05 45.6 +0.8
baz=83
ISA Isabella 82.53 324 eP P 09 05 47.0 +1.7
7.8nm,1.1s
ISA Isabella 82.53 324 P P 09 05 47.3 +1.9
baz=83
I30A Oacoma 82.70 341 P P 09 05 46.3 +0.4
baz=83
J28A Allard Ranch, 82.74 340 P P 09 05 47.0 +0.9
baz=83
J27A Elkhorn Farm, 82.80 339 P P 09 05 47.9 +1.4
baz=83
VES Vestal, Richgr 82.97 324 P P 09 05 49.1 +1.6
baz=83
I28A Midland 83.25 340 P P 09 05 50.0 +1.2
baz=84
R11A Troy Canyon, C 83.42 328 P P 09 05 51.7 +1.7
baz=84
K23A Bowen Ranch, D 83.46 337 P P 09 05 51.5 +1.5
baz=84
I27A Quinn 83.56 340 P P 09 05 51.0 +0.6
baz=84
H29A Onida 83.57 341 P P 09 05 50.7 +0.3
baz=84
K22A Casper 83.66 336 P P 09 05 52.2 +1.1
baz=84
J24A Dixon Ranch, L 83.67 337 P P 09 05 52.2 +1.2
baz=84
G30A Faulkton 83.76 342 P P 09 05 52.2 +0.8
baz=84
I26A New Underwood 83.76 339 P P 09 05 52.2 +0.8
baz=84
DUG Dugway 83.82 331 eP P 09 05 52.2 +0.3
28nm,1.5s
DUG Dugway 83.82 331 P P 09 05 53.0 +1.0
baz=84
H28A Mission Ridge 83.83 340 P P 09 05 52.2 +0.4
baz=84
K21A Alcova 83.89 335 P P 09 05 53.2 +0.9
baz=84
TPH Tonopah 83.92 327 eP P 09 05 54.0 +1.4
41nm,1.8s
I25A Rochford 84.01 338 P P 09 05 53.7 +0.8
baz=84
G29A Hoven 84.02 341 P P 09 05 52.8 +0.2
baz=84
H27A Howes 84.09 340 P P 09 05 53.4 +0.3
baz=84
G28A Parade 84.17 341 P P 09 05 54.3 +0.8
baz=84
F30A Leola 84.39 342 P P 09 05 55.1 +0.5
baz=85
H25A Fruitdale 84.52 339 P P 09 05 55.7 +0.4
baz=85
HWUT Hardware Ranch 84.54 332 eP P 09 05 56.3 +0.6
17nm,1.3s
J21A Lysite 84.58 336 P P 09 05 56.8 +1.0
baz=85
F29A Eureka 84.59 342 P P 09 05 56.0 +0.4
baz=85
NVAR Mina Array Bea 84.70 326 P P 09 05 58.1 +1.6
3.2nm,0.7s,baz=154,slow=6.2,SNR=9.3
G27A Dupree 84.73 340 P P 09 05 56.6 +0.3
baz=85
I22A 9 Mile Ranch, 84.75 337 P P 09 05 56.7 +0.1
baz=85
BW06 Boulder Array 84.81 334 eP P 09 05 56.8 -0.2
8.6nm,1.4s
PDAR Pinedale Array 84.81 334 P P 09 05 56.9 -0.1
0.7nm,0.6s,baz=143,slow=6.3,SNR=3.2
J20A Shoshoni 84.81 335 P P 09 05 57.7 +0.8
baz=85
G26A Maurine 84.84 340 P P 09 05 57.1 +0.2
baz=85
H24A Dirks Ranch, A 84.92 338 P P 09 05 57.4 +0.1
baz=85
I21A Big Trails, Te 84.95 336 P P 09 05 57.6 0.0
baz=85
E30A Jud 84.98 342 P P 09 05 57.7 +0.1
baz=85
G25A Newell 84.98 339 P P 09 05 58.0 +0.4
baz=85
J19A Crowheart 85.06 335 P P 09 05 58.8 +0.6
baz=85
F27A Lemmon 85.21 340 P P 09 05 59.1 +0.4
baz=86
E29A Napoleon 85.23 342 P P 09 05 59.1 +0.3
baz=86
CMB Columbia Colle 85.35 324 eP P 09 06 00.8 +1.1
6.0nm,1.2s
I20A Worland 85.35 335 P P 09 06 00.1 +0.5
baz=86
F26A Lodgepole 85.37 340 P P 09 06 00.1 +0.6
baz=86
G24A Alzada 85.40 338 P P 09 05 60.0 +0.2
baz=86
D30A Buchanan 85.51 343 P P 09 06 00.5 +0.3
baz=86
G23A Biddle 85.58 338 P P 09 06 00.7 +0.1
baz=86
H21A Big Horn, Sher 85.59 336 P P 09 06 01.0 +0.2
baz=86
E27A Carson 85.60 341 P P 09 06 00.9 +0.3
baz=86
TORD Torodi Ar. Bea 85.65 71 P P 09 06 02.1 +0.5
4.8nm,1.0s,baz=241,slow=5.1,SNR=4.4
F25A Bowman 85.66 339 P P 09 06 01.6 +0.6
baz=86
D29A Pettibone, Tap 85.67 342 P P 09 06 01.3 +0.3
baz=86
I19A Meeteetse 85.72 335 P P 09 06 01.9 +0.4
baz=86
H20A Greybull 85.78 336 P P 09 06 01.8 +0.1
baz=86
F24A Ekalaka 85.88 339 P P 09 06 02.2 +0.1
baz=86
G22A Birney 85.88 337 P P 09 06 01.9 -0.2
baz=86
E26A Carlson Angus 85.88 340 P P 09 06 02.2 +0.1
baz=86
AGMN Agassiz Nation 85.98 345 eP P 09 06 01.9 -0.6
6.3nm,0.6s
AGMN Agassiz Nation 85.98 345 P P 09 06 02.4 0.0
baz=86
C30A Mose, Pekin 86.00 343 P P 09 06 03.0 +0.4
baz=86
D28A Regan 86.04 342 P P 09 06 03.4 +0.6
baz=86
F23A Volborg 86.05 338 P P 09 06 02.9 0.0
baz=86
E25A Miller Ranch, 86.17 340 P P 09 06 04.0 +0.5
baz=86
G21A Lodge Grass 86.17 337 P P 09 06 04.0 +0.4
baz=86
I17A Pilgrim Ck. 86.17 334 P P 09 06 05.1 +1.3
baz=86
H19A Powell 86.28 335 P P 09 06 04.6 +0.5
baz=86
F22A Rosebud 86.37 338 P P 09 06 04.5 0.0
baz=87
D26A Manning 86.39 340 P P 09 06 05.0 +0.5
baz=87
E24A Baker 86.48 339 P P 09 06 05.6 +0.5
baz=87
G20A Bridger 86.50 336 P P 09 06 05.2 0.0
baz=87
H18A Shoshone NF, C 86.51 335 P P 09 06 05.9 +0.4
baz=87
B30A Myrvik Farm, E 86.67 344 P P 09 06 06.2 +0.4
baz=87
D25A Fairfield 86.74 340 P P 09 06 07.1 +0.8
baz=87
C27A Sayler Ranch, 86.77 341 P P 09 06 07.3 +0.9
baz=87
B29A Wagenman Farm, 86.92 343 P P 09 06 07.7 +0.6
baz=87
YMR Madison River 86.96 334 eP P 09 06 07.6 -0.1
11nm,1.0s
D24A Glendive 86.99 339 P P 09 06 08.4 +0.9
baz=87
C26A Wahner Farm, P 87.03 341 P P 09 06 08.0 +0.4
baz=87
A30A Hoffart Farm, 87.12 344 P P 09 06 08.2 +0.2
baz=87
B28A Dugan Ranch, T 87.16 342 P P 09 06 08.6 +0.4
baz=87
C25A Freed Ranch, W 87.23 340 P P 09 06 09.2 +0.6
baz=88
F19A Roth Farm, Mol 87.30 336 P P 09 06 09.3 +0.2
baz=88
D23A Lindsay 87.30 339 P P 09 06 09.6 +0.6
baz=88
E21A Keefer Ranch, 87.31 337 P P 09 06 09.7 +0.6
baz=88
HLID Hailey 87.31 331 eP P 09 06 09.9 +0.6
10nm,1.5s
HLID Hailey 87.31 331 P P 09 06 09.6 +0.3
baz=88
A29A Manning Farm, 87.32 343 P P 09 06 09.4 +0.4
baz=88
B27A Peters Farms, 87.34 342 P P 09 06 09.6 +0.5
baz=88
C24A Savage 87.40 339 P P 09 06 10.3 +0.8
baz=88
A28A Rude Farm, Bot 87.56 343 P P 09 06 10.8 +0.6
baz=88
B26A Jensen Ranch, 87.57 341 P P 09 06 10.7 +0.4
baz=88
D22A Cohagen 87.57 338 P P 09 06 10.7 +0.4
baz=88
E20A Meyer Farm, Mu 87.61 337 P P 09 06 10.8 +0.3
baz=88
B25A Knox Farm, Ray 87.72 340 P P 09 06 12.1 +1.2
baz=88
D21A La Casta Ranch 87.75 338 P P 09 06 11.6 +0.4
baz=88
E19A Rath Farm, Rou 87.78 336 P P 09 06 11.8 +0.4
baz=88
ULM Lac du Bonnet 87.84 346 P P 09 06 11.5 +0.1
9.6nm,0.8s,baz=183,slow=3.3,SNR=8.6
ULM Lac du Bonnet 87.84 346 eP P 09 06 11.0 -0.4
7.4nm,0.8s
A27A Ledoux Ranch, 87.84 342 P P 09 06 12.1 +0.6
baz=88
C23A Lambert 87.86 339 P P 09 06 12.0 +0.3
baz=88
A26A Wade Farm, Ken 88.00 341 P P 09 06 12.6 +0.4
baz=88
D20A Manuel Ranch, 88.13 337 P P 09 06 13.2 +0.2
baz=88
DGMT Dagmar 88.19 340 eP P 09 06 13.6 +0.4
122nm,2.0s
DGMT Dagmar 88.19 340 P P 09 06 13.9 +0.7
baz=88
A25A Svangstu Ranch 88.32 341 P P 09 06 14.2 +0.4
baz=89
WDC Whiskeytown Da 88.38 325 eP P 09 06 14.2 0.0
4.5nm,0.8s
MOD Modoc 88.41 327 eP P 09 06 15.8 +1.2
4.1nm,0.6s
D19A Cripps Ranch, 88.43 337 P P 09 06 15.4 +0.9
baz=89
C21A Desert Coulee 88.46 338 P P 09 06 14.5 0.0
baz=89
A24A Westby 88.55 340 P P 09 06 15.6 +0.7
baz=89
M04C Macdoel 89.00 326 P P 09 06 18.4 +1.1
baz=89
A20A Cobblestone Ra 89.65 338 P P 09 06 20.0 -0.1
baz=90
WALA Waterton Lakes 91.77 335 eP P 09 06 30.4 +0.3
0.2nm,1.1s
NEW Newport 92.27 332 eP P 09 06 32.3 0.0
FCC Fort Churchill 95.65 349 eP P 09 06 47.3 -0.1
0.2nm,1.0s
YKA Yellowknife Ar 103.31 342 Pdiff Pdif 09 07 21.8 +0.1
0.3nm,0.7s,baz=142,slow=4.5,SNR=4.0
WRA Warramunga Arr 118.87 210 PKP PKPdf 09 12 10.7 -0.9
0.6nm,0.6s,baz=177,slow=1.5,SNR=4.3
ARCES ARCESS Array B 125.90 25 PKP PKPdf 09 12 22.2 -1.2
3.1nm,0.8s,baz=270,slow=4.9,SNR=3.6
SEY Seymchan 140.96 329 PKP PKPdf 09 12 50.3 -1.5
3.9nm,0.9s,baz=231,slow=19,SNR=3.1
ABKAR Akbulak array 143.43 53 ePKPdf PKPbc 09 12 53.6 -0.3
BVAR Borovoye Array 149.12 44 PKPbc PKPbc 09 13 11.4 +1.1
4.1nm,0.7s,baz=286,slow=2.8,SNR=5.4
KSH Kashi 155.32 72 ePKPbc PKPdf 09 13 15.0 -1.0
KSH epPKP pPKPdf 09 13 25.0 +3.2
KSH esPKP 09 13 29.5
KSH eSKS SKSdf 09 20 16.5 -5.3
KSH eSKKS SKKSac 09 23 57.5 -9.5

KSH eSS SS 09 36 46.0 -17
ZALV Zalesovo Beam 156.11 33 PKP PKPdf 09 13 15.7 -0.6
4.4nm,0.9s,baz=270,slow=3.9,SNR=3.6
WMQ Urumqi 163.20 55 ePKP PKPdf 09 13 23.3 -1.6
WMQ LR LR
comp=N,110nm,20.0s
WMQ LR LR
comp=E,93nm,20.8s
WMQ LR LR
comp=Z,210nm,20.8s
NJ2 Nanjing 169.37 254 ePKP PKPdf 09 13 30.3 +0.3
GTA Gaotai 173.29 54 ePKP PKPdf 09 13 32.5 +0.6
GTA pPKP pPKPdf 09 13 43.0 +5.2
GTA sPKP 09 13 47.0
HHC Hu-ho-hao-te 173.59 326 ePKP PKPdf 09 13 28.5 -3.5
CD2 Chengdu 174.63 151 PKP PKPdf 09 13 31.5 -1.1
CD2 pPKP pPKPdf 09 13 43.0 +4.6
CD2 sPKP 09 13 46.8
CD2 PKS PKSdf 09 17 02.5 -2.3
CD2 PP PP 09 18 59.8 +2.0
CD2 SKS SKSdf 09 20 29.3 -5.7
CD2 SKKS SKKSac 09 25 40.5 -3.5
CD2 SS SS 09 40 13.5 -4.9
CD2 AMB AMB
comp=Z,240nm,6.2s

ISCJB 27 08:53:54.5±0.2, 34°.41S±0°.04×73°.44W±0°.05, h28km, mb5.3/85, Error ellipse: s-maj=6.8km s-min=5.8km az=141.4
BJI 27 08:53:54.0, 34°.20S×73°.72W, h30km, mB5.5/4, Ms5.1/2, Ms7 5.0/3
IDC 27 08:53:55.9±0.5, 34°.47S×73°.53W, h28km±3km, mb5.1/21, mb1 5.1/23, mb1mx5.0/29, mbtmp5.2/23, ML5.1/2, Error ellipse: s-maj=16.6km s-min=11.2km az=77.0
MOS 27 08:53:55.5±0.9, 34°.37S×73°.50W, h33km, mb5.4/29, Error ellipse: s-maj=24.1km s-min=9.9km az=101.9
NEIC 27 08:53:56.5±0.2, 34°.47S×73°.51W, h35km, mb5.4/60, Error ellipse: s-maj=5.6km s-min=4.5km az=64.0
ISC 27 08:53:55.9±0.5, 34°.48S±0°.06×73°.51W±0°.08, h31km±3km, h31km:pP-P, n649, σ0.87/664, mb5.4/85, 208C-216D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CFAA Coronel Fontan 5.27 59 Sn Sn 08 56 13.2 +0.9
5.6nm,0.3s,baz=142,slow=19,SNR=4.9
PLCA Paso Flores 6.67 160 Pn Pn 08 55 32.6 +0.8
TRQA Tornquist 9.97 114 ePn Pn 08 56 16.5 -0.5
CPUP Villa Florida 16.14 64 Pn P 08 57 42.0 -1.3
1.5nm,0.3s,baz=240,slow=11,SNR=3.7
LPAZ La Paz 18.75 16 P Pn 08 58 14.4 +0.9
LPAZ pmax pmax
comp=Z,3.0nm,0.3s
LPAZ La Paz 18.75 16 P Pn 08 58 14.3 +0.9
comp=Z,3.4nm,0.3s,baz=195,slow=6.3,SNR=8.2
USHA Ushuaia 20.66 172 P Pn 08 58 36.9 +1.6
comp=Z,47nm,0.8s,baz=326,slow=8.7,SNR=4.7
SIV San Ignacio 21.54 34 P P 08 58 42.2 -0.4
comp=Z,61nm,0.8s,baz=226,slow=12,SNR=10
NNA Nana 22.59 351 P P 08 58 54.5 +0.6
comp=Z,61nm,0.8s,baz=191,slow=9.0,SNR=19
NNA Nana 22.59 351 eP P 08 58 53.8 -0.1
comp=Z,85nm,0.8s
SAML Samuel 27.12 23 eP P 08 59 36.0 -0.1
comp=Z,30nm,1.2s
ATAH Atahualpa 27.58 349 P P 08 59 39.5 -1.2
comp=Z,16nm,0.9s,baz=138,slow=16,SNR=3.5
OTAV Otavalo 34.84 351 eP P 09 00 45.6 +0.9
comp=Z,104nm,1.3s
ROSC El Rosal 39.13 359 P P 09 01 23.0 +2.0
comp=Z,23nm,0.6s,baz=149,slow=2.3,SNR=12
ROSC El Rosal 39.13 359 eP P 09 01 22.6 +1.6
SDV Santo Domingo 43.21 4 eP P 09 01 53.8 -0.6
comp=Z,54nm,1.0s
BCIP Isla Barro Col 43.81 351 eP P 09 01 59.7 +0.7
comp=Z,27nm,0.7s
JTS JuntasAbangare 45.82 344 eP P 09 02 15.5 +0.4
JTS pmax pmax
comp=Z,64nm,1.4s
JTS JuntasAbangare 45.82 344 P P 09 02 16.3 +1.3
comp=Z,29nm,1.1s,baz=129,slow=2.0,SNR=8.7
JTS JuntasAbangare 45.82 344 eP P 09 02 15.5 +0.4
comp=Z,64nm,1.4s
GRGR Grenville 47.70 16 eP P 09 02 29.6 -0.1
comp=Z,126nm,0.8s
FDF Fort de France 50.33 16 eP P 09 02 48.6 -1.2
FDF Fort de France 50.33 16 eP P 09 02 48.6 -1.2
SNAA Sanae 51.61 158 eP P 09 02 59.3 +0.3
SNAA Sanae 51.61 158 P P 09 02 59.7 +0.7
comp=Z,10nm,0.7s,baz=283,slow=8.2,SNR=9.9
SNAA pP pP 09 03 08.3 -0.1
comp=Z,22nm,0.8s,baz=278,slow=7.1,SNR=6.6
SNAA Sanae 51.61 158 eP P 09 02 59.3 +0.3
APG El Apazote 51.78 339 P P 09 02 57.5 -3.5
comp=Z,43nm,0.9s,baz=151,slow=5.2,SNR=22
MTDJ Mount Denham 52.55 355 eP P 09 03 06.5 0.0
comp=Z,47nm,1.0s
ANWB Willy Bob 53.04 14 eP P 09 03 08.3 -1.7
comp=Z,83nm,0.8s
SDDR Presa de Saban 53.20 3 eP P 09 03 10.5 -0.7
comp=Z,19nm,1.1s
GTBY Guantanamo Bay 54.12 358 eP P 09 03 17.9 0.0
comp=Z,115nm,1.1s
QSPA South Pole Qui 55.76 180 P P 09 03 30.5 +1.0
comp=Z,54nm,0.9s,baz=293,slow=0.8,SNR=14
QSPA pP pP 09 03 39.2 +0.2
comp=Z,46nm,0.9s,baz=168,slow=2.8,SNR=4.9
TEIG Tepich 56.18 343 P P 09 03 32.9 +0.1
comp=Z,101nm,0.6s,baz=153,slow=2.1,SNR=34
TEIG Tepich 56.18 343 eP P 09 03 32.6 -0.1
comp=Z,76nm,0.6s
035A Encino 65.37 336 ⇓P P 09 04 36.3 +1.1
baz=66
034A Hebbronville 65.69 335 ⇓P P 09 04 38.4 +1.2
baz=66
SYO Syowa Base 65.87 159⇓eX P 09 04 32.0 -6.0
934A Benavides 66.12 336 ⇓P P 09 04 41.1 +1.0
baz=66
TIGA Tifton 66.25 351 ⇑P P 09 04 40.6 -0.2
baz=67,SNR=7.4
933A Laredo 66.39 335 ⇓P P 09 04 42.9 +1.0
baz=67
835A Beeville 66.53 337 ⇓P P 09 04 43.8 +1.2
baz=67
834A Tilden 66.62 336 ⇓P P 09 04 44.5 +1.3
baz=67,SNR=6.7
735A Kenedy 67.05 337 ⇓P P 09 04 47.2 +1.2
baz=67,SNR=8.4
833A Chaparral WMA, 67.09 335 ⇑P P 09 04 47.1 +0.9
baz=67,SNR=8.8
832A Faith Ranch, C 67.25 335 ⇑P P 09 04 47.7 +0.4
baz=68,SNR=7.3
734A La Parita Cree 67.29 336 ⇓P P 09 04 48.4 +1.0
baz=68,SNR=6.6
636A Smothers Creek 67.39 338 ⇓P P 09 04 49.3 +1.2
baz=68,SNR=8.0
733A Divot King Ran 67.42 336 ⇑P P 09 04 49.1 +0.8
baz=68,SNR=6.5
HKT Hockley 67.46 339 P P 09 04 46.5 -1.9
HKT pmax pmax
comp=Z,19nm,1.1s
HKT Hockley 67.46 339 P P 09 04 46.5 -1.9
comp=Z,19nm,1.1s
635A Leesville 67.53 337 ⇑P P 09 04 50.0 +1.0
baz=68
732A Laxson Ranch, 67.66 335 ⇑P P 09 04 50.4 +0.6
baz=68,SNR=9.0
537A Green Hill Far 67.72 339 ⇑P P 09 04 51.3 +1.1
baz=68
536A Bastrop 67.94 338 ⇓P P 09 04 52.5 +0.9
baz=68,SNR=7.4
633A Saathoff Ranch 68.06 336 ⇓P P 09 04 53.3 +0.9
baz=68,SNR=6.7
535A Dale 68.06 338 ⇓P P 09 04 53.1 +0.7
baz=68,SNR=7.8
GOGA Godfrey 68.17 351 eP P 09 04 52.7 -0.3
GOGA Godfrey 68.17 351 eP P 09 04 52.6 -0.3
340A Bronson 68.30 341 ⇓P P 09 04 54.6 +0.8
baz=69
632A Uvalde 68.31 335 ⇓P P 09 04 54.8 +0.9
baz=69,SNR=6.6
LRAL Lakeview Retre 68.34 348 eP P 09 04 53.7 -0.3
comp=Z,42nm,1.4s
534A Blanco 68.35 337 ⇓P P 09 04 55.1 +0.9
baz=69
339A Huntington 68.39 341 ⇓P P 09 04 55.4 +1.1
baz=69
631A Perdido Creek 68.50 335 ⇓P P 09 04 55.8 +0.7
baz=69
VAH Vaihoa 68.57 266 eP P 09 04 55.8 -0.1
comp=Z,112nm,1.0s
533A Kerrville 68.57 336 ⇓P P 09 04 56.3 +0.7
baz=69,SNR=5.9
338A Crockett 68.63 340 ⇓P P 09 04 56.9 +1.0
baz=69,SNR=5.4
337A Centerville 68.75 340 ⇓P P 09 04 58.0 +1.4
baz=69,SNR=5.5
435B Jarrell 68.76 338 ⇑P P 09 04 57.5 +0.7
baz=69,SNR=5.6
TIAR Tiarei 68.79 263 eP P 09 04 56.3 -1.0
comp=Z,24nm,1.0s
NATX Nacogdoches 68.83 341 eP P 09 04 58.0 +0.9
532A Rocksprings 68.92 336 ⇑P P 09 04 58.6 +0.9
baz=69,SNR=6.1
PAE Paea 68.93 263 eP P 09 04 57.0 -1.1
comp=Z,19nm,1.1s
PPT2 Papeete2 68.96 263 eP P 09 04 57.6 -0.9
comp=Z,110nm,1.0s
PPT Papeete 68.97 263 P P 09 05 00.0 +1.5
PPT pmax pmax
comp=Z,99nm,0.9s
PPT Papeete 68.97 263 P P 09 04 60.0 +1.5
comp=Z,99nm,0.9s,baz=181,slow=3.7,SNR=8.1
434A Burnet 69.01 337 ⇓P P 09 04 59.0 +0.7
baz=69,SNR=11
336A Riesel 69.10 339 ⇑P P 09 04 59.6 +0.8
baz=69,SNR=6.9
531A Rocksprings 69.17 335 ⇓P P 09 05 00.2 +0.9
baz=70,SNR=5.8
335A Moody 69.18 338 ⇓P P 09 04 59.8 +0.5
baz=70
JCT Junction City 69.20 336 eP P 09 04 59.6 +0.1
JCT Junction City 69.20 336 eP P 09 04 59.6 +0.1
JCT Junction City 69.20 336 ⇑P P 09 05 00.2 +0.7
baz=70,SNR=7.3
433A Art 69.22 337 ⇓P P 09 05 00.0 +0.4
baz=70,SNR=12
530A J-C Ranch, Com 69.44 334 ⇑P P 09 05 01.7 +0.7
baz=70,SNR=5.7
334A Lometa 69.48 338 ⇑P P 09 05 01.4 +0.2
baz=70,SNR=7.3
432A Menard 69.56 336 ⇓P P 09 05 01.9 +0.2
baz=70,SNR=6.2
TXAR Lajitas Array 69.57 332 P P 09 05 02.6 +0.7
TXAR pmax pmax
comp=Z,21nm,0.9s
TXAR Lajitas Array 69.57 332 P P 09 05 02.6 +0.7
comp=Z,20nm,0.9s,baz=152,slow=8.5,SNR=20
KMSC Kings Mountain 69.64 353 ⇓P P 09 05 02.3 +0.3
baz=70,SNR=5.6
431A Sonora 69.67 335 ⇓P P 09 05 02.8 +0.4
baz=70
333A Richland Sprin 69.71 337 ⇑P P 09 05 03.1 +0.5
baz=70,SNR=5.5
529A Stev Forest Ra 69.73 334 ⇑P P 09 05 03.5 +0.7
baz=70,SNR=8.1
WHTX Lake Whitney 69.85 338 eP P 09 05 03.4 0.0
comp=Z,146nm,1.4s
WHTX Lake Whitney 69.85 338 ⇑P P 09 05 03.9 +0.5
baz=70,SNR=8.0
430A Baggett Ranch, 69.98 335 ⇑P P 09 05 04.7 +0.4
baz=70,SNR=8.2
332A Millersview 70.01 336 ⇓P P 09 05 05.0 +0.6
baz=70,SNR=6.5
429A Davenport Ranc 70.07 334 ⇓P P 09 05 05.7 +0.8
baz=70,SNR=6.5
234A Clairette 70.07 338 ⇓P P 09 05 05.3 +0.5
baz=70,SNR=9.3
331A San Angelo 70.17 336 ⇑P P 09 05 06.0 +0.5
baz=70,SNR=7.0
OXF Oxford 70.22 346 eP P 09 05 05.3 -0.4
OXF pmax pmax
comp=Z,250nm,1.5s
OXF Oxford 70.22 346 eP P 09 05 05.3 -0.4
comp=Z,250nm,1.5s
SWET Sewanee 70.30 349 eP P 09 05 06.0 -0.1
comp=Z,71nm,0.9s
233A Rising Star 70.32 337 ⇓P P 09 05 06.9 +0.6
baz=71,SNR=7.6
135A Vickery Place, 70.36 339 ⇓P P 09 05 06.9 +0.4
baz=71
232A Coleman 70.45 337 ⇓P P 09 05 07.4 +0.3
baz=71,SNR=8.3
330A Mertzon 70.52 335 ⇓P P 09 05 07.9 +0.3
baz=71,SNR=7.9
134A White-Moore Ra 70.58 338 ⇓P P 09 05 08.4 +0.5
baz=71,SNR=5.6
231A Bronte 70.71 336 ⇑P P 09 05 08.9 +0.2
baz=71,SNR=8.9
133A Hamilton Ranch 70.87 337 ⇑P P 09 05 10.2 +0.5
baz=71,SNR=9.1
329A Wagon Wheel Ra 70.88 334 ⇑P P 09 05 10.3 +0.5
baz=71,SNR=9.0
230A Sterling City 70.94 335 ⇑P P 09 05 10.3 +0.1
baz=71,SNR=6.3
Z35A Perchaven, San 71.04 339 ⇑P P 09 05 11.1 +0.4
baz=71,SNR=11
ABTX Abilene, Hawle 71.12 337 eP P 09 05 10.8 -0.4
comp=Z,102nm,1.3s
ABTX Abilene, Hawle 71.12 337 ⇑P P 09 05 11.8 +0.6
baz=71,SNR=11
MIAR Mount Ida 71.19 343 eP P 09 05 11.6 +0.1
MIAR pmax pmax
comp=Z,19nm,1.2s
MIAR Mount Ida 71.19 343 eP P 09 05 11.6 +0.1
comp=Z,19nm,1.2s
229A Bryant Ranch, 71.25 335 ⇑P P 09 05 12.3 +0.2
baz=72,SNR=7.1
Z34A Collier Ranch, 71.27 339 ⇑P P 09 05 12.5 +0.4
baz=72,SNR=7.3
131A Roby 71.41 336 ⇑P P 09 05 13.5 +0.6
baz=72,SNR=9.2
Z33A Whitaker Ranch 71.45 338 ⇑P P 09 05 13.6 +0.4
baz=72,SNR=9.6
WVT Waverly 71.50 348 eP P 09 05 13.2 -0.2
WVT pmax pmax
comp=Z,93nm,1.0s
WVT Waverly 71.50 348 eP P 09 05 13.2 -0.2
comp=Z,93nm,1.0s
130A Snyder 71.53 336 ⇑P P 09 05 13.8 0.0
baz=72,SNR=8.0
VWCC Virginia Weste 71.61 355 eP P 09 05 14.0 0.0
228A UT Block 9, Go 71.67 334 ⇑P P 09 05 15.1 +0.5
baz=72,SNR=10
Z32A Haskell 71.70 337 ⇓P P 09 05 15.3 +0.6
baz=72,SNR=12
Y34A Reagan Ranch, 71.77 339 ⇑P P 09 05 15.3 +0.3
baz=72,SNR=8.7
129A Stewart Farms, 71.88 335 ⇓P P 09 05 16.4 +0.6
baz=72,SNR=8.2
Z31A Sharp Cattle R 71.92 337 ⇓P P 09 05 16.6 +0.6
baz=72,SNR=9.6
Y33A Hilltop Ranch, 72.08 338 ⇑P P 09 05 17.2 +0.3
baz=72,SNR=8.2
128A Castleberry Fa 72.08 335 ⇓P P 09 05 17.6 +0.5
baz=72,SNR=9.9
Z30A Sanderson Ranc 72.22 336 ⇓P P 09 05 18.1 +0.3
baz=72,SNR=9.5
Y32A R-V Farms, Ver 72.33 338 ⇓P P 09 05 18.6 +0.1
baz=73,SNR=8.6
MNTX Cornudas Mount 72.34 332 eP P 09 05 17.9 -0.7
comp=Z,23nm,1.0s
Z29A Hungry Hill Ra 72.39 335 ⇓P P 09 05 19.0 +0.1
baz=73,SNR=8.5
X34A Smith Ranch, M 72.39 339 ⇑P P 09 05 19.1 +0.3
baz=73,SNR=10
127A Arkansas Junct 72.45 334 ⇑P P 09 05 19.7 +0.4
baz=73,SNR=8.2
X33A Lawton 72.54 339 ⇑P P 09 05 19.2 -0.5
baz=73,SNR=7.7
Y31A Rekieta Farm, 72.55 337 ⇑P P 09 05 19.6 -0.2
baz=73,SNR=8.3
X32A Elmer 72.67 338 ⇑P P 09 05 20.3 -0.1
baz=73,SNR=8.1
Y30A Stafford Cattl 72.68 336 ⇑P P 09 05 20.8 +0.2
baz=73,SNR=5.7
BBTS Babate 72.90 58 P P 09 05 22.5 +0.4
comp=Z,27nm,1.0s,baz=230,slow=3.9,SNR=4.2
Y29A Porterfield Fa 72.93 336 ⇓P P 09 05 22.1 0.0
baz=73,SNR=8.7
W34A Bridge Creek, 72.97 339 ⇑P P 09 05 22.1 -0.1
baz=73,SNR=7.8
Z27A Tatum 72.97 334 ⇑P P 09 05 22.3 -0.1
baz=73,SNR=5.2
TUL1 Tulsa 73.05 341 ⇑P P 09 05 22.7 +0.1
baz=73,SNR=7.2
MAW Mawson 73.07 164 P P 09 05 23.3 +0.9
MAW pmax pmax
comp=Z,58nm,1.2s
MAW Mawson 73.07 164 P P 09 05 23.3 +0.9
comp=Z,51nm,0.8s,baz=247,slow=7.7,SNR=4.8
X31A McDonald Ranch 73.08 337 ⇓P P 09 05 23.0 +0.1
baz=73,SNR=8.5
W33A Caddo, Fort Co 73.09 339 ⇓P P 09 05 24.0 +1.0
baz=73,SNR=11
Y28A McKinney Farm, 73.17 335 ⇓P P 09 05 23.9 +0.3
baz=74,SNR=8.2
X30A Coker Ranch, T 73.20 337 ⇓P P 09 05 23.6 -0.1
baz=74
Z26A Caprock 73.21 334 ⇑P P 09 05 24.2 +0.4
baz=74,SNR=13
SIUC Southern Illin 73.29 347 eP P 09 05 23.4 -0.6
comp=Z,42nm,0.9s
W32A Sentinel 73.30 338 ⇑P P 09 05 24.9 +0.7
baz=74,SNR=10
WCI Wyandotte Cave 73.31 350 eP P 09 05 23.3 -0.8
comp=Z,9.6nm,0.8s
MSTX Muleshoe 73.41 335 ⇓P P 09 05 25.3 +0.3
baz=74,SNR=12
V34A Guthrie 73.45 340 ⇓P P 09 05 25.0 -0.1
baz=74,SNR=6.1
Y27A Causey 73.47 335 ⇑P P 09 05 25.5 +0.2
baz=74,SNR=6.1
X29A Tulia 73.47 336 ⇓P P 09 05 25.7 +0.4
baz=74,SNR=6.2
Z25A Roswell 73.49 333 ⇑P P 09 05 25.7 +0.3
baz=74,SNR=6.5
W31A Holland Ranch, 73.58 338 ⇓P P 09 05 25.9 +0.1
baz=74,SNR=8.8
SDMD Soldier's Deli 73.58 357 eP P 09 05 26.2 +0.5
319A Douglas 73.66 329 ⇑P P 09 05 27.5 +1.0
baz=74,SNR=7.9
V33A Lossen Ranch, 73.66 339 ⇑P P 09 05 26.6 +0.3
baz=74,SNR=10
X28A Dimmitt 73.70 336 ⇓P P 09 05 27.0 +0.3
baz=74,SNR=6.4
Y26A Elida 73.74 334 ⇑P P 09 05 27.3 +0.4
baz=74,SNR=10
W30A Crocket Farms 73.78 337 ⇑P P 09 05 27.8 +0.8
baz=74
Z24A Sheeppen Canyo 73.78 333 ⇓P P 09 05 27.9 +0.7
baz=74,SNR=6.2
V32A Arapaho 73.79 339 ⇑P P 09 05 27.7 +0.6
baz=74,SNR=6.7
AMTX Amarillo 73.86 336 eP P 09 05 27.8 +0.3
comp=Z,76nm,1.0s
AMTX Amarillo 73.86 336 ⇑P P 09 05 28.0 +0.4
baz=74
U34A Anderson Ranch 74.02 340 ⇓P P 09 05 28.7 +0.3
baz=74,SNR=7.1
121A Cookes Peak, D 74.03 330 ⇑P P 09 05 29.8 +1.0
baz=74,SNR=9.2
Y25A Mesa, Roswell 74.06 333 ⇑P P 09 05 28.9 +0.1
baz=74,SNR=5.6
W29A Amraillo 74.07 336 ⇑P P 09 05 28.8 0.0
baz=74,SNR=9.0
V31A Spring Creek L 74.09 338 ⇓P P 09 05 29.9 +1.1
baz=74,SNR=8.4
X27A F and S Farms, 74.13 335 ⇓P P 09 05 29.3 +0.1
baz=74
U33A Lingo Farm, Me 74.18 340 ⇑P P 09 05 29.1 -0.2
baz=74,SNR=5.3
X26A CR and CF Fran 74.30 334 ⇓P P 09 05 31.2 +1.0
baz=75,SNR=9.1
Z22A Elephant Butte 74.33 331 ⇑P P 09 05 31.8 +1.3
baz=75,SNR=5.2
Y24A Capitan 74.34 333 ⇓P P 09 05 31.3 +0.8
baz=75,SNR=7.9
V30A Spur Ranch, Mi 74.34 337 ⇑P P 09 05 31.4 +1.0
baz=75,SNR=8.6
W28A Vega 74.38 336 ⇑P P 09 05 31.2 +0.6
baz=75
U32A Winter Ranch, 74.39 339 ⇑P P 09 05 31.2 +0.6
baz=75
W27A Bowe Ranch, En 74.50 335 ⇑P P 09 05 31.8 +0.5
baz=75,SNR=7.6
Y23A Lovelace Mesa, 74.58 332 ⇑P P 09 05 32.7 +0.8
baz=75,SNR=6.9
X25A Clemmons Ranch 74.58 334 ⇓P P 09 05 31.9 0.0
baz=75,SNR=5.2
U31A Nine Bar Ranch 74.64 338 ⇓P P 09 05 32.7 +0.7
baz=75
V29A Stinnett 74.71 337 ⇓P P 09 05 33.2 +0.7
baz=75
W26A Owens Ranch, T 74.77 335 ⇑P P 09 05 34.1 +1.2
baz=75,SNR=8.7
T33A Patterson Ranc 74.83 340 ⇑P P 09 05 33.8 +0.8
baz=75,SNR=8.3
V28A Channing 74.83 336 ⇓P P 09 05 33.8 +0.6
baz=75,SNR=7.8
ACSO Alum Creek Sta 74.85 353 eP P 09 05 33.0 0.0
comp=Z,47nm,0.9s
X24A Lazy VL Ranch, 74.90 333 ⇑P P 09 05 35.1 +1.3
baz=75
U30A WK&E Inc. Balk 75.04 338 ⇑P P 09 05 35.0 +0.7
baz=75,SNR=5.1
V27A Dan Oppiter Fa 75.05 336 ⇓P P 09 05 35.4 +1.0
baz=75,SNR=5.8
T32A Huddler Ranch, 75.11 339 ⇑P P 09 05 35.6 +0.9
baz=75,SNR=5.9
W25A X Bar L Ranch, 75.13 334 ⇑P P 09 05 35.3 +0.3
baz=75,SNR=6.4
U29A Oasis Ranch, S 75.16 337 ⇓P P 09 05 35.9 +0.8
baz=76
X23A Hourglass Bar 75.20 333 ⇓P P 09 05 36.7 +1.2
baz=76,SNR=7.8
S33A Kaszmaul Farm, 75.23 340 ⇓P P 09 05 36.0 +0.7
baz=76
T31A Randall Ranch, 75.26 339 ⇑P P 09 05 36.3 +0.8
baz=76,SNR=6.3
U28A Mallet 75.41 336 ⇑P P 09 05 37.4 +0.9
baz=76
V26A Tequesquite Ra 75.41 335 ⇑P P 09 05 37.0 +0.4
baz=76,SNR=8.6
W24A Lazy 6 Ranch, 75.47 333 ⇑P P 09 05 37.8 +0.8
baz=76
T30A Plains 75.48 338 ⇑P P 09 05 37.8 +1.0
baz=76
S32A Newby Ranch, P 75.60 339 ⇓P P 09 05 38.6 +1.1
baz=76
ANMO Albuquerque 75.63 333 eP P 09 05 39.0 +1.1
ANMO pmax pmax
comp=Z,32nm,1.2s
ANMO Albuquerque 75.63 333 eP P 09 05 39.0 +1.1
comp=Z,32nm,1.2s
U27A Thompson Grove 75.64 336 ⇑P P 09 05 38.5 +0.6
baz=76,SNR=5.3
SUR Sutherland 75.66 119 P P 09 05 40.0 +1.6
comp=Z,14nm,0.8s,baz=247,slow=6.2,SNR=4.0
S31A Mullinville 75.69 339 ⇑P P 09 05 38.7 +0.7
baz=76
W23A Werner Place, 75.70 333 ⇑P P 09 05 39.8 +1.4
baz=76,SNR=5.9
214A Organ Pipe Nat 75.72 326 ⇑P P 09 05 39.7 +1.4
baz=76,SNR=6.9
V25A Rancho No Teng 75.74 334 ⇓P P 09 05 39.3 +0.7
baz=76,SNR=8.0
T29A Hugoton 75.81 337 ⇑P P 09 05 39.0 +0.2
baz=76,SNR=5.3
V24A Rampart Ranch, 75.88 334 ⇓P P 09 05 39.8 +0.4
baz=76,SNR=7.6
R33A Olander Ranch, 75.89 340 ⇑P P 09 05 39.3 +0.2
baz=76,SNR=5.1
U26A Atchley Ranch, 75.93 335 ⇑P P 09 05 40.1 +0.5
baz=76
S30A Montezuma 76.00 338 ⇓P P 09 05 40.0 +0.2
baz=76,SNR=8.2
T28A Walsh 76.05 337 ⇑P P 09 05 40.4 +0.3
baz=76,SNR=9.4
U25A Circle Dot Ran 76.17 335 ⇓P P 09 05 41.2 +0.2
baz=76,SNR=5.0
S29A Ulysses 76.18 338 ⇑P P 09 05 41.0 +0.1
baz=76,SNR=9.1
T27A Campo 76.19 336 ⇑P P 09 05 41.5 +0.5
baz=76,SNR=11
R32A Long Quarter, 76.21 340 ⇓P P 09 05 41.2 +0.3
baz=76,SNR=8.2
V23A Ortiz Mt. (NFS 76.23 333 ⇓P P 09 05 42.8 +1.4
baz=76
KSU1 Kansas State U 76.27 342 eP P 09 05 40.8 -0.5

comp=Z,16nm,0.8s
KSU1 Kansas State U 76.27 342 ⇑P P 09 05 41.0 -0.3
baz=77
R31A Burdett 76.32 339 ⇓P P 09 05 42.0 +0.4
baz=77,SNR=7.0
S28A Manter 76.40 337 ⇑P P 09 05 42.7 +0.5
baz=77,SNR=8.5
DBIC Dimbokro 76.49 72 eP P 09 05 43.6 +0.6
DBIC pmax pmax
comp=Z,42nm,0.7s
DBIC Dimbokro 76.49 72 P P 09 05 43.9 +0.8
comp=Z,46nm,0.7s,baz=210,slow=5.3,SNR=21
DBIC pP pP 09 05 52.6 -0.3
comp=Z,48nm,0.7s,baz=206,slow=6.3,SNR=11
DBIC Dimbokro 76.49 72 eP P 09 05 43.6 +0.6
comp=Z,42nm,0.7s
U24A Moreno Valley 76.49 334 ⇓P P 09 05 44.5 +1.6
baz=77,SNR=5.7
Q33A Connelly Farm, 76.50 341 ⇑P P 09 05 42.9 +0.3
baz=77
R30A Dighton 76.54 339 ⇑P P 09 05 43.4 +0.6
baz=77,SNR=7.2
T26A Comanche Natio 76.59 336 ⇑P P 09 05 44.3 +1.0
baz=77,SNR=5.4
V22A San Miguel Ran 76.65 333 ⇑P P 09 05 44.8 +1.0
baz=77,SNR=6.4
X18A Snowflake 76.66 330 ⇑P P 09 05 44.9 +1.1
baz=77
Q32A Meitler Ranch, 76.69 340 ⇓P P 09 05 44.1 +0.4
baz=77,SNR=8.7
U23A El Rito 76.75 333 ⇑P P 09 05 45.7 +1.4
baz=77,SNR=5.8
T25A Trinidad 76.84 335 ⇑P P 09 05 46.0 +1.2
baz=77,SNR=9.1
113A Mohawk Valley, 76.84 326 ⇑P P 09 05 45.3 +0.7
baz=77,SNR=5.9
P33A Williams Farm, 76.87 341 ⇑P P 09 05 45.1 +0.4
baz=77,SNR=5.5
R29A Marienthal 76.93 338 ⇑P P 09 05 45.8 +0.7
baz=77,SNR=8.9
Q31A Ellis 76.94 340 ⇓P P 09 05 45.6 +0.5
baz=77,SNR=7.9
S26A Kim 76.95 336 ⇓P P 09 05 46.1 +0.8
baz=77,SNR=9.2
AAM Ann Arbor 76.97 352 eP P 09 05 44.3 -0.8
AAM pmax pmax
comp=Z,60nm,1.3s
AAM Ann Arbor 76.97 352 eP P 09 05 44.3 -0.8
comp=Z,60nm,1.3s
U22A Llaves 77.04 333 ⇓P P 09 05 47.5 +1.5
baz=77,SNR=5.7
R28A Tribune 77.06 338 ⇓P P 09 05 46.1 +0.3
baz=77,SNR=8.2
W18A Petrified Fore 77.08 330 ⇓P P 09 05 47.0 +0.9
baz=77,SNR=5.0
T24B San Luis 77.11 334 ⇑P P 09 05 47.4 +1.0
baz=77,SNR=6.1
Q30A Quinter 77.16 339 ⇓P P 09 05 47.2 +0.8
baz=78
X16A Lo Mia Camp, P 77.19 329 ⇑P P 09 05 48.2 +1.3
baz=78,SNR=9.7
P32A Huiting Farm, 77.29 340 ⇓P P 09 05 47.3 +0.3
baz=78,SNR=7.7
Q29A Oakley 77.31 338 ⇓P P 09 05 47.6 +0.4
baz=78,SNR=6.8
S25A Robets Cordova 77.31 335 ⇑P P 09 05 48.4 +1.0
baz=78,SNR=7.2
T23A Casias Ranch, 77.32 334 ⇓P P 09 05 48.4 +0.9
baz=78,SNR=5.1
R27A Eads 77.33 337 ⇓P P 09 05 48.4 +1.0
baz=78,SNR=9.7
P31A Stockton 77.42 340 ⇑P P 09 05 48.4 +0.6
baz=78,SNR=8.9
Y14A Wickenburg 77.47 327 ⇑P P 09 05 49.2 +1.0
baz=78,SNR=6.9
R26A Arlington 77.56 336 ⇓P P 09 05 50.0 +1.3
baz=78,SNR=7.9
S24A Houchin Ranch, 77.57 335 ⇓P P 09 05 49.9 +1.0
baz=78,SNR=8.6
GLA Glamis 77.57 325 ⇓P P 09 05 49.7 +0.9
baz=78
P30A Selden 77.69 339 ⇓P P 09 05 50.3 +1.0
baz=78,SNR=5.0
R25A Fountain Ranch 77.70 336 ⇓P P 09 05 50.5 +1.1
baz=78,SNR=5.5
Q28A Sharon Springs 77.73 338 ⇑P P 09 05 50.5 +0.9
baz=78,SNR=7.7
SDCO Great Sand Dun 77.76 335 eP P 09 05 50.7 +0.7
comp=Z,24nm,1.4s
O32A Brockman Farm, 77.80 341 ⇑P P 09 05 50.5 +0.7
baz=78
S23A Nye Farm, Mont 77.91 334 ⇑P P 09 05 51.8 +1.0
baz=78
KSCO Kaye Shedlock' 77.93 337 eP P 09 05 51.8 +1.1
comp=Z,179nm,1.5s
KSCO Kaye Shedlock' 77.93 337 ⇑P P 09 05 52.0 +1.2
baz=78,SNR=8.1
SWSC Sam W. Stewart 77.94 325 ⇓P P 09 05 52.4 +1.6
baz=78
P29A Atwood 77.95 339 ⇑P P 09 05 51.8 +1.1
baz=78
O31A Woolen Ranch, 77.99 340 ⇑P P 09 05 51.6 +0.6
baz=78,SNR=7.4
R24A Sanders Place, 78.06 335 ⇑P P 09 05 53.2 +1.6
baz=78,SNR=7.5
WUAZ Wupatki 78.10 329 eP P 09 05 53.2 +1.3
comp=Z,42nm,1.4s
WUAZ Wupatki 78.10 329 ⇓P P 09 05 53.1 +1.3
baz=78,SNR=5.3
SCIA State Center 78.13 345 eP P 09 05 51.6 0.0
comp=Z,79nm,1.1s
Q26A Hugo 78.14 337 ⇓P P 09 05 53.4 +1.4
baz=78
P28A Saint Francis 78.17 338 ⇑P P 09 05 53.1 +1.0
baz=78,SNR=7.8
MONP Monument Peak 78.19 324 ⇓P P 09 05 53.8 +1.3
baz=78
O30A MW Ranch, Wils 78.22 340 ⇓P P 09 05 53.2 +1.0
baz=79,SNR=6.5
S22A 4UR Ranch, Cre 78.24 334 ⇑P P 09 05 53.9 +1.2
baz=79
R23A Moffat 78.28 335 ⇓P P 09 05 54.1 +1.2
baz=79,SNR=6.6
PDMCI Parker Dam,Lak 78.29 327 ⇑P P 09 05 54.0 +1.3
baz=79,SNR=9.7
BC3 Big Chuckawall 78.36 325 ⇓P P 09 05 54.6 +1.3
baz=79,SNR=9.7
Q25A Bedland, Calha 78.38 336 ⇓P P 09 05 54.2 +0.8
baz=79,SNR=7.9
O29A 4D Ranch, Culb 78.39 339 ⇑P P 09 05 54.3 +1.1
baz=79,SNR=5.4
MVCO Mesa Verde 78.40 332 eP P 09 05 54.1 +0.5
MVCO Mesa Verde 78.40 332 ⇑P P 09 05 54.3 +0.7
baz=79,SNR=6.2
P27A Ficken Ranch, 78.41 337 ⇓P P 09 05 54.6 +1.2
baz=79,SNR=7.6
109C Camp Elliot, M 78.53 324 ⇓P P 09 05 55.2 +1.2
baz=79
IRM Iron Mountain 78.64 326 ⇑P P 09 05 55.7 +1.1
baz=79,SNR=6.5
P26A Davis Ranch, A 78.66 337 ⇑P P 09 05 56.1 +1.3
baz=79,SNR=6.4
O28A Krutsinger Ran 78.68 338 ⇑P P 09 05 56.1 +1.3
baz=79,SNR=7.0
Q24A Divide 78.73 335 ⇑P P 09 05 56.5 +1.1
baz=79,SNR=7.4
PFO Pinyon Flat Ob 78.80 325 P P 09 05 57.6 +1.9
comp=Z,169nm,1.4s,SNR=6.6
PFO Pinyon Flat Ob 78.80 325 ⇑P P 09 05 56.9 +1.2
baz=79,SNR=5.3
BGNE Belgrade 78.84 341 ⇓P P 09 05 56.6 +1.0
baz=79
W13A Hualapai Mount 78.84 327 ⇓P P 09 05 56.9 +0.9
baz=79,SNR=5.2
P25A Willow Gulch B 78.89 336 ⇑P P 09 05 57.2 +1.1
baz=79,SNR=9.5
BELC Belle Mtn. Jos 78.90 325 ⇑P P 09 05 56.9 +0.7
baz=79,SNR=5.4
O27A Beecher Island 78.96 338 ⇑P P 09 05 57.4 +1.0
baz=79,SNR=10
N29A Votaw Ranch, W 78.98 339 ⇓P P 09 05 57.6 +1.2
baz=79,SNR=6.0
M31A Lambtecht Ranc 79.00 341 ⇓P P 09 05 58.2 +1.7
baz=79
N28A Pribbeno Ranch 79.13 339 ⇑P P 09 05 57.9 +0.7
baz=80,SNR=6.5
P24A Kohler Place, 79.14 336 ⇓P P 09 05 59.2 +1.7
baz=80

MURC Murrieta 79.15 324 ⇓P P 09 05 58.4 +0.9
baz=79,SNR=7.6
PV01 Paradox Valley 79.24 333 eP P 09 05 59.0 +0.9
comp=Z,3μm,1.4s
U15A North Rim 79.27 329 ⇓P P 09 05 59.6 +1.2
baz=80,SNR=6.0
O26A Horse Wrangler 79.27 337 ⇓P P 09 05 59.2 +1.1
baz=80,SNR=8.5
SCI San Clemente I 79.31 323 ⇑P P 09 05 59.3 +0.9
baz=80
P23A Jefferson 79.33 335 ⇓P P 09 06 00.3 +1.5
baz=80
GMRC Granite Mounta 79.39 326 ⇑P P 09 06 00.1 +1.2
baz=80,SNR=7.4
O25A Wiggins 79.42 337 ⇓P P 09 06 00.2 +1.3
baz=80,SNR=5.6
M30A Dale-Ortello V 79.43 340 ⇑P P 09 06 00.4 +1.6
baz=80
OGNE Ogallala 79.51 338 ⇑P P 09 06 00.6 +1.3
baz=80
CASY Casey 79.52 182 eP P 09 05 58.8 -0.3
comp=Z,52nm,1.3s
N27A Anderson Farm, 79.54 338 ⇑P P 09 06 00.5 +1.0
baz=80,SNR=8.2
M29A Burnside Ranch 79.57 340 ⇓P P 09 06 01.2 +1.6
baz=80
PV04 Paradox Valley 79.59 332 eP P 09 06 00.7 +0.8
PV10 Paradox Valley 79.63 332 eP P 09 06 00.8 +0.6
comp=Z,482nm,1.2s
ISCO Idaho Springs 79.64 335 eP P 09 06 01.5 +1.1
ISCO Idaho Springs 79.64 335 eP P 09 06 01.5 +1.1
ISCO Idaho Springs 79.64 335 ⇓P P 09 06 01.2 +0.8
baz=80,SNR=5.3
M28A Bar X Bar Ranc 79.73 339 ⇑P P 09 06 02.0 +1.5
baz=80
L31A Butterfield Fa 79.74 341 ⇓P P 09 06 01.9 +1.4
baz=80,SNR=7.0
HEC Hector,Ludlow 79.74 325 ⇓P P 09 06 02.1 +1.4
baz=80,SNR=8.1
O24A Longmont 79.74 336 ⇑P P 09 06 01.7 +1.0
baz=80
L30A Spencer Herefo 79.77 340 ⇑P P 09 06 01.5 +0.9
baz=80,SNR=5.7
N26A Koester Ranch, 79.78 338 ⇑P P 09 06 01.9 +1.1
baz=80,SNR=5.1
P22A Eagle 79.86 335 ⇑P P 09 06 03.1 +1.6
baz=80
BFSC Mount Baldy Ra 79.89 324 ⇓P P 09 06 02.6 +1.0
baz=80,SNR=5.5
N25A Grover 80.04 337 ⇑P P 09 06 04.2 +1.9
baz=80
TUQ Turquoise Moun 80.05 326 ⇓P P 09 06 04.3 +1.8
baz=80
L29A Maesberg Ranch 80.08 340 ⇑P P 09 06 03.6 +1.2
baz=80,SNR=6.7
RRX Edison Barstow 80.10 325 ⇓P P 09 06 04.4 +1.8
baz=80
O23A Lake Granby, G 80.11 335 ⇓P P 09 06 04.2 +1.3
baz=80,SNR=6.2
M27A Reverse DX Ran 80.15 338 ⇓P P 09 06 03.7 +0.9
baz=80
DECC Green Verdugo 80.23 324 ⇓P P 09 06 05.0 +1.7
baz=80
TSUM Tsumeb 80.25 107 eP P 09 06 05.6 +1.6
comp=Z,39nm,1.3s
O22A Kremmling 80.28 335 ⇓P P 09 06 05.0 +1.2
baz=81,SNR=9.4
N24A Carr 80.31 336 ⇓P P 09 06 04.9 +1.1
baz=81,SNR=7.6
GSC Goldstone 80.35 325 ⇑P P 09 06 05.2 +1.2
baz=81,SNR=6.9
K30A Basset 80.41 341 ⇓P P 09 06 05.2 +1.1
baz=81,SNR=7.6
EDW2 Edwards Air Fo 80.57 324 ⇑P P 09 06 06.1 +0.9
baz=81,SNR=6.6
M25A Palm-Egli Farm 80.59 337 ⇓P P 09 06 06.4 +1.1
baz=81
SHOC Shoshone 80.59 326 ⇓P P 09 06 06.5 +1.3
baz=81
ECSD EROS Data Cent 80.64 343 eP P 09 06 04.8 -0.4
comp=Z,94nm,1.1s
ECSD EROS Data Cent 80.64 343 ⇓P P 09 06 05.4 +0.2
baz=81,SNR=8.2
L27A T5 Ranch, Ells 80.64 339 ⇑P P 09 06 06.8 +1.4
baz=81
K29A Lazy Trails An 80.69 340 ⇓P P 09 06 06.3 +0.7
baz=81,SNR=8.3
OSI Osito Adit 80.71 324 ⇑P P 09 06 07.0 +1.1
baz=81
N23A Red Feather La 80.73 336 ⇓P P 09 06 07.1 +1.0
baz=81,SNR=6.4
N22A Wattenberg Ran 80.82 335 ⇑P P 09 06 08.0 +1.3
baz=81,SNR=6.6
L26A Underwood Farm 80.83 338 ⇓P P 09 06 07.9 +1.5
baz=81
O20A White River Ci 80.87 334 ⇓P P 09 06 08.1 +1.3
baz=81,SNR=6.0
M24A Cheyenne 80.87 337 ⇑P P 09 06 08.4 +1.6
baz=81,SNR=7.6
ARUT Antelope Range 80.90 329 eP P 09 06 07.6 +0.6
ARUT Antelope Range 80.90 329 eP P 09 06 07.6 +0.6
comp=Z,808nm,1.4s
LRMC Laurel Mountai 80.91 325 ⇑P P 09 06 08.6 +1.5
baz=81,SNR=6.8
BOSA Boshof 80.92 118 eP P 09 06 07.6 0.0
BOSA pmax pmax
comp=Z,60nm,1.0s
BOSA Boshof 80.92 118 P P 09 06 08.0 +0.4
comp=Z,34nm,0.9s,baz=231,slow=5.3,SNR=10
BOSA pP pP 09 06 17.2 -0.3
comp=Z,37nm,0.8s,baz=228,slow=6.0,SNR=8.3
BOSA Boshof 80.92 118 eP P 09 06 07.6 0.0
comp=Z,60nm,1.0s
K28A Ten Mile Ranch 80.94 340 ⇓P P 09 06 08.5 +1.5
baz=81,SNR=8.7
J30A Dallas 80.98 341 ⇑P P 09 06 07.5 +0.4
baz=81,SNR=6.9
M23A Laramie 81.17 336 ⇑P P 09 06 09.3 +0.9
baz=82
K27A Flueckinger Fa 81.18 339 ⇓P P 09 06 09.4 +1.1
baz=82,SNR=6.0
L25A Engebretsen Ra 81.21 338 ⇓P P 09 06 09.8 +1.3
baz=82,SNR=5.5
SPMN St. Paul 81.23 346 ⇑P P 09 06 07.7 -0.6
baz=82,SNR=9.2
J29A Okreek 81.28 341 ⇓P P 09 06 09.6 +0.9
baz=82,SNR=9.4
FURC Furnace Creek, 81.33 326 ⇑P P 09 06 10.5 +1.4
baz=82
M22A Cedar Creek Ra 81.40 335 ⇓P P 09 06 11.1 +1.4
baz=82
ISA Isabella 81.43 324 eP P 09 06 10.7 +0.9
ISA pmax pmax
comp=Z,30nm,1.4s
ISA Isabella 81.43 324 eP P 09 06 10.7 +0.9
comp=Z,30nm,1.4s
ISA Isabella 81.43 324 ⇓P P 09 06 11.1 +1.3
baz=82,SNR=5.4
K26A Motz Farm, Whi 81.46 338 ⇓P P 09 06 10.8 +1.0
baz=82
N20A Spence Gulch, 81.49 334 ⇓P P 09 06 11.0 +0.9
baz=82,SNR=6.0
I30A Oacoma 81.51 341 ⇓P P 09 06 10.2 +0.3
baz=82,SNR=8.7
J28A Allard Ranch, 81.56 340 ⇑P P 09 06 10.8 +0.6
baz=82,SNR=7.6
K25A Mack Ranch, Ha 81.60 338 ⇑P P 09 06 11.4 +0.8
baz=82
J27A Elkhorn Farm, 81.62 339 ⇑P P 09 06 11.9 +1.3
baz=82,SNR=9.4
L23A Garrett 81.74 336 ⇑P P 09 06 12.0 +0.5
baz=82
I29A Vivian Onida 81.85 341 ⇑P P 09 06 12.1 +0.4
baz=82,SNR=5.4
VES Vestal, Richgr 81.87 324 ⇓P P 09 06 12.9 +0.9
baz=82,SNR=7.3
BRSD Miller 81.88 342 ⇓P P 09 06 12.3 +0.4
baz=82,SNR=5.1
SMMC Simmler 81.90 323 ⇑P P 09 06 12.8 +0.6
baz=82
L22A Ellis Ranch, M 81.91 336 ⇑P P 09 06 13.1 +0.8
baz=82,SNR=5.1
J26A Sides Ranch, S 81.99 339 ⇓P P 09 06 13.5 +1.0
baz=82,SNR=10
K24A Anderson Ranch 81.99 337 ⇓P P 09 06 14.1 +1.4
baz=82,SNR=8.7
I28A Midland 82.07 340 ⇓P P 09 06 13.8 +1.0
baz=82,SNR=9.3

J25A Sunshine Ranch 82.28 338 ⇓P P 09 06 15.7 +1.6
baz=83
K23A Bowen Ranch, D 82.28 337 ⇓P P 09 06 15.1 +0.9
baz=83,SNR=7.8
R11A Troy Canyon, C 82.30 328 ⇑P P 09 06 15.7 +1.3
baz=83,SNR=8.9
RCTC Rector, Farmer 82.32 324 ⇓P P 09 06 15.3 +0.9
baz=83
I27A Quinn 82.38 340 ⇑P P 09 06 15.0 +0.4
baz=83,SNR=7.5
H29A Onida 82.38 341 ⇓P P 09 06 14.5 0.0
baz=83,SNR=7.6
TIN Tinemaha 82.44 325 ⇓P P 09 06 16.0 +0.9
baz=83
K22A Casper 82.49 336 ⇓P P 09 06 15.9 +0.6
baz=83,SNR=6.4
J24A Dixon Ranch, L 82.49 338 ⇓P P 09 06 16.0 +0.8
baz=83,SNR=7.4
G30A Faulkton 82.57 342 ⇓P P 09 06 15.6 +0.1
baz=83,SNR=7.5
I26A New Underwood 82.58 339 ⇑P P 09 06 15.9 +0.3
baz=83
H28A Mission Ridge 82.65 341 ⇓P P 09 06 16.2 +0.3
baz=83,SNR=8.2
DUG Dugway 82.68 331 eP P 09 06 17.3 +1.0
DUG pmax pmax
comp=Z,99nm,1.4s
DUG Dugway 82.68 331 eP P 09 06 17.3 +1.0
comp=Z,99nm,1.4s
DUG Dugway 82.68 331 ⇑P P 09 06 17.2 +0.9
baz=83,SNR=8.5
K21A Alcova 82.72 336 ⇓P P 09 06 16.9 +0.4
baz=83,SNR=10
TPH Tonopah 82.81 327 eP P 09 06 17.9 +0.8
TPH pmax pmax
comp=Z,62nm,1.3s
TPH Tonopah 82.81 327 eP P 09 06 17.9 +0.8
comp=Z,62nm,1.3s
I25A Rochford 82.83 339 ⇓P P 09 06 17.8 +0.7
baz=83,SNR=9.4
G29A Hoven 82.83 342 ⇓P P 09 06 17.1 +0.2
baz=83,SNR=7.3
H27A Howes 82.91 340 ⇓P P 09 06 17.3 +0.1
baz=83,SNR=7.3
I24A Kuemmerle Ranc 82.96 338 ⇓P P 09 06 18.1 +0.4
baz=83
G28A Parade 82.99 341 ⇓P P 09 06 18.1 +0.5
baz=83,SNR=7.2
J22A Midwest 83.15 336 ⇑P P 09 06 18.6 -0.1
baz=84,SNR=7.5
MLAC Mammoth Lakes 83.19 325 ⇓P P 09 06 19.8 +0.6
baz=84
F30A Leola 83.20 342 ⇑P P 09 06 19.0 +0.2
baz=84,SNR=7.6
LBTB Lobatse 83.21 116 eP P 09 06 19.8 +0.2
LBTB pmax pmax
comp=Z,38nm,0.8s
LBTB Lobatse 83.21 116 eP P 09 06 19.8 +0.2
comp=Z,38nm,0.8s
H25A Fruitdale 83.34 339 ⇓P P 09 06 19.9 +0.4
baz=84,SNR=6.7
HWUT Hardware Ranch 83.39 332 eP P 09 06 20.4 +0.4
comp=Z,52nm,1.1s
F29A Eureka 83.40 342 ⇑P P 09 06 20.4 +0.6
baz=84,SNR=9.4
J21A Lysite 83.42 336 ⇑P P 09 06 20.3 +0.2
baz=84,SNR=6.0
G27A Dupree 83.55 340 ⇓P P 09 06 20.7 +0.2
baz=84,SNR=6.9
I22A 9 Mile Ranch, 83.58 337 ⇓P P 09 06 21.0 +0.1
baz=84,SNR=6.1
NVAR Mina Array Bea 83.59 326 P P 09 06 22.4 +1.3
comp=Z,5.0nm,0.8s,baz=147,slow=5.0,SNR=10.0
EYMN Ely 83.62 348 eP P 09 06 19.5 -1.2
comp=Z,62nm,1.4s
J20A Shoshoni 83.64 335 ⇓P P 09 06 22.2 +1.0
baz=84,SNR=10
BW06 Boulder Array 83.65 334 eP P 09 06 21.1 -0.2
comp=Z,14nm,1.2s
PDAR Pinedale Array 83.65 334 P P 09 06 21.5 +0.2
comp=Z,7.6nm,1.0s,baz=145,slow=5.4,SNR=11
G26A Maurine 83.66 340 ⇓P P 09 06 21.4 +0.3
baz=84,SNR=6.1
F28A McLaughlin 83.67 341 ⇑P P 09 06 21.7 +0.6
baz=84
H24A Dirks Ranch, A 83.74 338 ⇓P P 09 06 21.7 +0.1
baz=84,SNR=5.8
I21A Big Trails, Te 83.78 336 ⇓P P 09 06 22.0 +0.1
baz=84,SNR=7.4
E30A Jud 83.80 343 ⇓P P 09 06 22.4 +0.6
baz=84,SNR=10
G25A Newell 83.80 339 ⇓P P 09 06 22.4 +0.5
baz=84,SNR=9.1
J19A Crowheart 83.90 335 ⇓P P 09 06 23.0 +0.4
baz=84,SNR=8.9
F27A Lemmon 84.03 340 ⇓P P 09 06 23.5 +0.5
baz=84,SNR=7.1
E29A Napoleon 84.04 342 ⇑P P 09 06 23.1 +0.1
baz=84
H22A Clearmont 84.17 337 ⇓P P 09 06 23.8 0.0
baz=84
I20A Worland 84.18 336 ⇑P P 09 06 24.4 +0.5
baz=84,SNR=5.3
F26A Lodgepole 84.19 340 ⇓P P 09 06 24.1 +0.3
baz=84,SNR=5.1
AHID Auburn Hatcher 84.21 333 eP P 09 06 24.7 +0.5
comp=Z,37nm,1.2s
G24A Alzada 84.22 339 ⇑P P 09 06 24.4 +0.3
baz=85
CMB Columbia Colle 84.25 325 eP P 09 06 24.7 +0.4
CMB pmax pmax
comp=Z,17nm,1.2s
CMB Columbia Colle 84.25 325 eP P 09 06 24.7 +0.4
comp=Z,17nm,1.2s
E28A Huff 84.32 342 ⇓P P 09 06 24.6 +0.2
baz=85,SNR=5.7
D30A Buchanan 84.33 343 ⇑P P 09 06 24.9 +0.5
baz=85,SNR=11
G23A Biddle 84.41 338 ⇓P P 09 06 25.0 +0.1
baz=85,SNR=6.6
E27A Carson 84.41 341 ⇓P P 09 06 25.2 +0.3
baz=85,SNR=6.1
H21A Big Horn, Sher 84.42 337 ⇓P P 09 06 24.9 -0.3
baz=85
F25A Bowman 84.48 340 ⇑P P 09 06 25.6 +0.2
baz=85,SNR=5.3
D29A Pettibone, Tap 84.49 342 ⇑P P 09 06 25.7 +0.5
baz=85,SNR=11
I19A Meeteetse 84.56 335 ⇓P P 09 06 26.0 +0.1
baz=85
H20A Greybull 84.61 336 ⇓P P 09 06 26.4 +0.4
baz=85,SNR=8.9
E26A Carlson Angus 84.70 340 ⇑P P 09 06 26.6 +0.3
baz=85
F24A Ekalaka 84.70 339 ⇑P P 09 06 26.6 +0.2
baz=85
G22A Birney 84.70 337 ⇑P P 09 06 26.7 +0.2
baz=85
AGMN Agassiz Nation 84.79 345 eP P 09 06 26.5 -0.2
comp=Z,22nm,0.6s
AGMN Agassiz Nation 84.79 345 ⇓P P 09 06 26.9 +0.2
baz=85,SNR=10
C30A Mose, Pekin 84.81 343 ⇓P P 09 06 27.5 +0.6
baz=85,SNR=14
D28A Regan 84.86 342 ⇑P P 09 06 27.7 +0.6
baz=85,SNR=8.2
F23A Volborg 84.88 338 ⇓P P 09 06 27.4 +0.1
baz=85,SNR=6.2
E25A Miller Ranch, 84.99 340 ⇑P P 09 06 28.5 +0.6
baz=85
G21A Lodge Grass 85.00 337 ⇑P P 09 06 28.1 +0.1
baz=85,SNR=6.7
I17A Pilgrim Ck. 85.02 334 ⇑P P 09 06 28.4 +0.2
baz=85
D27A Center 85.03 341 ⇓P P 09 06 28.4 +0.4
baz=85
H19A Powell 85.11 335 ⇓P P 09 06 29.0 +0.4
baz=85,SNR=6.1
F22A Rosebud 85.19 338 ⇓P P 09 06 29.1 +0.2
baz=86,SNR=7.4
D26A Manning 85.20 341 ⇑P P 09 06 29.3 +0.4
baz=86
C28A Hausauer Farms 85.30 342 ⇑P P 09 06 30.0 +0.7
baz=86
E24A Baker 85.31 339 ⇓P P 09 06 29.9 +0.5
baz=86
G20A Bridger 85.33 336 ⇑P P 09 06 29.6 0.0
baz=86,SNR=9.7

H18A Shoshone NF, C 85.35 335 ⇓P P 09 06 30.1 +0.2
baz=86,SNR=7.8
B30A Myrvik Farm, E 85.48 344 ⇓P P 09 06 30.7 +0.5
baz=86,SNR=10
F21A Absaloka Mine, 85.51 337 ⇓P P 09 06 30.8 +0.3
baz=86,SNR=5.9
TOA0 Torodi Ar. Sit 85.52 71 eP P 09 06 31.2 +0.1
TORD Torodi Ar. Bea 85.52 71 P P 09 06 31.5 +0.3
comp=Z,22nm,0.8s,baz=283,slow=4.5,SNR=21
TORD pP pP 09 06 40.4 -0.7
comp=Z,17nm,0.8s,baz=260,slow=3.6,SNR=7.8
E23A Ismay 85.55 339 ⇑P P 09 06 30.7 +0.1
baz=86
D25A Fairfield 85.56 340 ⇑P P 09 06 31.7 +1.0
baz=86,SNR=6.5
YFT Old Faithful 85.57 334 eP P 09 06 32.7 +1.6
comp=Z,34nm,1.2s
C27A Sayler Ranch, 85.58 341 ⇓P P 09 06 31.3 +0.6
baz=86,SNR=5.2
E22A Miles City 85.69 338 ⇓P P 09 06 31.3 0.0
baz=86,SNR=6.9
B29A Wagenman Farm, 85.74 343 ⇑P P 09 06 31.8 +0.3
baz=86
YMR Madison River 85.80 334 eP P 09 06 32.9 +0.7
comp=Z,38nm,0.9s
D24A Glendive 85.81 339 ⇓P P 09 06 32.5 +0.6
baz=86,SNR=7.0
F20A Billings 85.82 337 ⇑P P 09 06 32.1 0.0
baz=86
C26A Wahner Farm, P 85.84 341 ⇓P P 09 06 32.4 +0.4
baz=86
A30A Hoffart Farm, 85.94 344 ⇑P P 09 06 32.4 0.0
baz=86,SNR=10
B28A Dugan Ranch, T 85.97 342 ⇓P P 09 06 32.8 +0.2
baz=86,SNR=5.9
LAO LASA Array 86.00 338 eP P 09 06 32.3 -0.6
comp=Z,42nm,1.1s
C25A Freed Ranch, W 86.05 340 ⇑P P 09 06 33.7 +0.6
baz=86,SNR=5.4
D23A Lindsay 86.12 339 ⇓P P 09 06 34.2 +0.7
baz=86,SNR=9.3
E21A Keefer Ranch, 86.13 338 ⇑P P 09 06 33.6 +0.1
baz=86,SNR=8.7
F19A Roth Farm, Mol 86.13 336 ⇑P P 09 06 33.5 -0.1
baz=86,SNR=7.2
A29A Manning Farm, 86.14 343 ⇓P P 09 06 33.4 0.0
baz=86
B27A Peters Farms, 86.16 342 ⇑P P 09 06 34.0 +0.4
baz=86
HLID Hailey 86.16 332 eP P 09 06 34.4 +0.5
comp=Z,47nm,1.6s
HLID Hailey 86.16 332 ⇓P P 09 06 34.8 +0.9
baz=86,SNR=8.8
C24A Savage 86.22 340 ⇑P P 09 06 34.5 +0.6
baz=87,SNR=9.4
A28A Rude Farm, Bot 86.37 343 ⇑P P 09 06 35.2 +0.5
baz=87
B26A Jensen Ranch, 86.38 341 ⇓P P 09 06 35.2 +0.5
baz=87,SNR=5.9
D22A Cohagen 86.40 338 ⇑P P 09 06 35.4 +0.6
baz=87,SNR=6.8
E20A Meyer Farm, Mu 86.44 337 ⇑P P 09 06 35.4 +0.4
baz=87,SNR=16
B25A Knox Farm, Ray 86.54 341 ⇓P P 09 06 36.3 +0.9
baz=87,SNR=10.0
D21A La Casta Ranch 86.57 338 ⇑P P 09 06 35.7 +0.1
baz=87
E19A Rath Farm, Rou 86.61 336 ⇓P P 09 06 36.2 +0.3
baz=87,SNR=15
ULM Lac du Bonnet 86.65 346 P P 09 06 35.3 -0.6
ULM pmax pmax
comp=Z,29nm,1.0s
ULM Lac du Bonnet 86.65 346 P P 09 06 35.3 -0.6
comp=Z,28nm,1.0s,baz=165,slow=3.5,SNR=11
ULM Lac du Bonnet 86.65 346 eP P 09 06 35.0 -0.9
comp=Z,11nm,0.9s
A27A Ledoux Ranch, 86.66 342 ⇓P P 09 06 36.3 +0.3
baz=87
C23A Lambert 86.69 339 ⇓P P 09 06 36.5 +0.4
baz=87,SNR=14
A26A Wade Farm, Ken 86.81 342 ⇑P P 09 06 37.2 +0.4
baz=87,SNR=7.0
C22A Vida 86.84 339 ⇑P P 09 06 37.0 +0.1
baz=87,SNR=9.3
D20A Manuel Ranch, 86.96 337 ⇓P P 09 06 37.7 +0.2
baz=87,SNR=11
WVOR Wild Horse Val 86.98 328 eP P 09 06 38.1 +0.2
WVOR pmax pmax
comp=Z,56nm,1.7s
WVOR Wild Horse Val 86.98 328 eP P 09 06 38.1 +0.2
comp=Z,56nm,1.7s
DGMT Dagmar 87.00 340 eP P 09 06 38.0 +0.3
comp=Z,94nm,0.7s
DGMT Dagmar 87.00 340 ⇑P P 09 06 38.2 +0.5
baz=87,SNR=11
A25A Svangstu Ranch 87.13 341 ⇓P P 09 06 39.1 +0.8
baz=88,SNR=8.0
B23A Brockton 87.22 340 ⇑P P 09 06 39.0 +0.2
baz=88,SNR=7.1
D19A Cripps Ranch, 87.26 337 ⇓P P 09 06 39.1 0.0
baz=88,SNR=7.5
C21A Desert Coulee 87.28 338 ⇑P P 09 06 39.3 +0.2
baz=88,SNR=9.5
WDC Whiskeytown Da 87.28 325 eP P 09 06 38.9 -0.3
WDC Whiskeytown Da 87.28 325 eP P 09 06 38.9 -0.3
MOD Modoc 87.29 327 eP P 09 06 39.9 +0.5
A24A Westby 87.36 340 ⇓P P 09 06 39.8 +0.4
baz=88,SNR=12
B22A Reddig Ranch S 87.37 339 ⇑P P 09 06 39.8 +0.3
baz=88
C20A Veseth Ranch, 87.46 337 ⇑P P 09 06 39.6 -0.3
baz=88
A23A Redstone 87.64 340 ⇑P P 09 06 40.7 0.0
baz=88
N02D Trinity Center 87.67 325 ⇑P P 09 06 41.6 +0.5
baz=88
B21A Ellsworth Farm 87.79 338 ⇑P P 09 06 41.8 +0.3
baz=88,SNR=8.4
C19A Slack Wire Ran 87.82 337 ⇓P P 09 06 41.8 +0.1
baz=88
M04C Macdoel 87.89 326 ⇓P P 09 06 43.2 +0.9
baz=88
A22A Carney Farms, 87.97 339 ⇑P P 09 06 42.8 +0.4
baz=88
M02C Callahan 88.06 325 ⇑P P 09 06 43.7 +0.7
baz=88
YBH Yreka Blue Hor 88.26 325 eP P 09 06 43.4 -0.6
YBH pmax pmax
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 88.26 325 eP P 09 06 43.4 -0.6
comp=Z,20nm,1.0s
A21A Bergtoll Ranch 88.27 339 ⇑P P 09 06 43.7 -0.1
baz=89,SNR=8.5
EGMT Eagleton 88.30 337 ⇓P P 09 06 43.6 -0.4
baz=89
BMO Blue Mountains 88.39 330 eP P 09 06 44.8 +0.3
BMO pmax pmax
comp=Z,38nm,1.8s
BMO Blue Mountains 88.39 330 eP P 09 06 44.8 +0.3
comp=Z,38nm,1.8s
B19A Brinkman Farms 88.42 337 ⇑P P 09 06 44.4 -0.1
baz=89,SNR=6.1
A20A Cobblestone Ra 88.47 338 ⇓P P 09 06 44.6 -0.1
baz=89,SNR=8.4
K04D Chiloquin, OR 88.52 327 ⇑P P 09 06 46.3 +1.1
baz=89
MSO Missoula 88.73 334 ⇑P P 09 06 47.5 +1.4
baz=89
A19A Klindworth Far 88.77 338 ⇓P P 09 06 46.3 +0.1
baz=89
J05D Fort Rock, OR 88.80 327 ⇑P P 09 06 47.6 +1.0
baz=89
PINOR Pine Mountain 89.06 328 eP P 09 06 48.9 +1.3
comp=Z,16nm,0.7s
SCHQ Schefferville 89.13 4 P P 09 06 46.9 -0.7
comp=Z,9.6nm,0.7s,baz=183,slow=3.9,SNR=12
J04D Umpqua Nationa 89.16 327 ⇑P P 09 06 49.5 +1.2
baz=90
I05D Terrebonne, OR 89.68 328 ⇑P P 09 06 52.0 +1.4
baz=90
I04A Tendick Farm, 89.73 327 ⇑P P 09 06 51.8 +1.0
baz=90
HAWA Hanford 90.55 330 eP P 09 06 55.1 +0.6
comp=Z,18nm,1.3s
WALA Waterton Lakes 90.61 335 eP P 09 06 54.8 -0.1
comp=Z,0.4nm,0.9s
NEW Newport 91.12 333 eP P 09 06 56.5 -0.6
NEW pmax pmax
comp=Z,9.0nm,1.2s
NEW Newport 91.12 333 eP P 09 06 56.5 -0.6
comp=Z,9.0nm,1.2s
NEW Newport 91.12 333 ⇑P P 09 06 57.0 -0.1
baz=91,SNR=6.1
FCC Fort Churchill 94.46 349 eP P 09 07 11.9 -0.3
FCC Fort Churchill 94.46 349 eP P 09 07 11.9 -0.3
comp=Z,0.4nm,0.9s
ESDC Sonseca Array 97.79 47 P P 09 07 27.8 -0.2
comp=Z,1.1nm,0.7s,baz=280,slow=6.0,SNR=5.1
YKA Yellowknife Ar 102.12 342 P Pdif 09 07 45.9 -0.7
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 102.12 342 P Pdif 09 07 45.9 -0.7
comp=Z,1.8nm,0.9s,baz=143,slow=4.3,SNR=10
GERES GERESS Array B 113.36 46 PKiKP PKiKP 09 12 29.4 -0.8
comp=Z,0.7nm,0.6s,baz=183,slow=4.7,SNR=4.7
ILAR Eielson Array 114.07 333 PKP PKPdf 09 12 30.5 -0.4
comp=Z,1.8nm,0.8s,baz=185,slow=2.0,SNR=10
ILAR pPKP PKiKP 09 12 39.5 +8.6
comp=Z,1.0nm,0.7s,baz=160,slow=3.6,SNR=4.6
VYHS Vyhne 116.31 48 ePKP PKPdf 09 12 36.0 +0.2
VYHS e 09 18 56.8
VYHS sPDIF 09 36 42.2
NOA NORSAR Array B 117.08 33 PKKPab PKKPab 09 23 03.5 +0.1
comp=Z,1.0nm,0.8s,baz=59,slow=2.1,SNR=3.6
HFS Hagfors 117.88 34 PKIKP PKPdf 09 12 37.2 -1.2
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 117.88 34 PKP PKPdf 09 12 37.2 -1.2
comp=Z,1.9nm,0.7s,baz=224,slow=6.0,SNR=3.0
WRA Warramunga Arr 119.75 210 PKIKP PKPdf 09 12 42.3 -1.1
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 119.75 210 PKP PKPdf 09 12 42.3 -1.1
comp=Z,2.8nm,0.6s,baz=160,slow=1.8,SNR=15
MMAI Mount Meron Ar 122.04 70 PKP PKPdf 09 12 47.8 +0.4
comp=Z,5.7nm,0.9s,baz=64,slow=3.4,SNR=4.8
TNA Tin City 122.60 331 ePKPdf PKPdf 09 12 47.3 0.0
BRTR Keskin Array B 123.13 62 PKIKP PKPdf 09 12 49.3 -0.1
BRTR 09 12 58.6
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 123.13 62 PKP PKPdf 09 12 49.3 -0.1
comp=Z,2.4nm,0.8s,baz=202,slow=4.2,SNR=9.4
BRTR pPKP pPKPdf 09 12 58.5 -1.1
comp=Z,2.3nm,0.8s,baz=220,slow=3.2,SNR=6.4
AKASG Malin Array Be 123.41 48 PKIKP PKPdf 09 12 48.4 -0.9
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 123.41 48 PKP PKPdf 09 12 48.4 -0.9
comp=Z,3.0nm,0.7s,baz=270,slow=2.6,SNR=7.7
SPITS Spitsbergen Ar 123.44 14 PKIKP PKPdf 09 12 48.8 +0.1
SPITS pmax pmax
comp=Z,3.0nm,0.5s
SPITS Spitsbergen Ar 123.44 14 PKP PKPdf 09 12 48.8 +0.1
comp=Z,2.9nm,0.5s,baz=134,slow=3.6,SNR=8.2
FINES FINESS Array B 124.07 35 PKIKP PKPdf 09 12 49.0 -1.3
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 124.07 35 PKP PKPdf 09 12 49.0 -1.3
comp=Z,2.1nm,0.9s,baz=46,slow=5.5,SNR=6.5
ARCES ARCESS Array B 124.96 25 PKIKP PKPdf 09 12 51.6 -0.2
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 124.96 25 PKP PKPdf 09 12 51.6 -0.2
comp=Z,4.6nm,0.7s,baz=246,slow=3.5,SNR=12
OBN Obninsk 128.62 44⇓iPKIKP PKPdf 09 12 59.4 +0.3
OBN pmax pmax
comp=Z,43nm,1.6s
KLMR Klimovskoe 130.51 36 ePKIKP PKPdf 09 13 01.8 -0.7
KLMR pmax pmax
comp=Z,52nm,1.5s
KBZ Khabaz 130.88 59 PKIKP PKPdf 09 13 05.0 +1.2
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KBZ Khabaz 130.88 59 PKP PKPdf 09 13 05.0 +1.2
comp=Z,5.2nm,1.1s,baz=68,slow=1.4,SNR=4.8
BILL Bilibino 132.72 334 ePKIKP PKPdf 09 13 07.2 +0.6
BILL pmax pmax
comp=Z,14nm,1.2s
BILL Bilibino 132.72 334 ePKPdf PKPdf 09 13 06.9 +0.4
PETK Petropavlovsk- 139.60 314 PKIKP PKPdf 09 13 20.3 +0.5
PETK pmax pmax
comp=Z,9.0nm,0.9s
PETK Petropavlovsk- 139.60 314 PKP PKPdf 09 13 20.3 +0.5
comp=Z,8.5nm,0.8s,baz=113,slow=5.5,SNR=5.3
SEY Seymchan 139.83 329 PKIKP PKPdf 09 13 20.5 +0.6
SEY pmax pmax
comp=Z,18nm,0.9s
SEY Seymchan 139.83 329 PKP PKPdf 09 13 20.5 +0.6
comp=Z,18nm,0.9s,baz=76,slow=1.5,SNR=4.8
GEYT Alibeck 141.16 70 PKhKP PKPpre 09 13 18.8
comp=Z,1.4nm,0.5s,baz=169,slow=1.5,SNR=3.5
AKTO Aktyubinsk 141.58 50 PKHKP PKPpre 09 13 18.3
AKTO pmax pmax
comp=Z,3.0nm,0.9s
AKTO Aktyubinsk 141.58 50 PKhKP PKPpre 09 13 18.3
comp=Z,3.0nm,0.9s,baz=27,slow=4.5,SNR=3.6
ABKAR Akbulak array 142.94 52 ePKPdf PKPdf 09 13 23.2 -2.7
PALK Pallekele 143.98 133 PKIKP PKPbc 09 13 26.7 -0.1
PALK pmax pmax
comp=Z,17nm,0.8s
PALK Pallekele 143.98 133 PKP PKPbc 09 13 26.7 0.0
comp=Z,16nm,0.8s,baz=217,slow=6.6,SNR=5.7
PALK Pallekele 143.98 133 ePKPdf PKPbc 09 13 26.5 -0.3
PALK PKP PKPab 09 13 26.7 +0.5
BRVK Borovoye 148.39 43 ePKP2 PKPbc 09 13 39.6 +1.0
BRVK Borovoye 148.39 43 ePKPbc PKPbc 09 13 39.6 +1.0
BVAR Borovoye Array 148.46 43 PKIKP PKPdf 09 13 35.9 +0.7
BVAR 09 13 39.9
BVAR pmax pmax
comp=Z,17nm,0.7s
BVAR pmax pmax
comp=Z,17nm,0.7s
BVAR Borovoye Array 148.46 43 PKP PKPdf 09 13 35.9 +0.7
comp=Z,17nm,0.7s,baz=280,slow=3.8,SNR=5.9
BVAR PKPbc PKiKP 09 13 39.9 -0.5
comp=Z,17nm,0.7s,baz=308,slow=2.3,SNR=12
YAK Yakutsk 148.75 339 ePKP2 PKPbc 09 13 38.3 -0.9
YAK pmax pmax
comp=Z,126nm,0.8s
YAK Yakutsk 148.75 339 ePKPbc PKPbc 09 13 39.1 -0.2
KBL Kabul 149.26 79 ePKP2 PKPbc 09 13 43.1 +1.4
KBL Kabul 149.26 79 ePKPbc PKPbc 09 13 43.1 +1.4
IPM Ipoh 149.73 169 ePKPbc PKPbc 09 13 42.6 -0.6
HYB Hyderabad 149.82 117 i PKP PKPbc 09 13 41.0 -2.3
YSS Yuzh-Sakhalins 150.09 306 ePKIKP PKPbc 09 13 42.5 -0.5
YSS Yuzh-Sakhalins 150.09 306 ePKPdf PKPdf 09 13 38.4 +0.4
KULM Kulim 150.46 168 ePKPbc PKPbc 09 13 44.2 -0.8
ASAJ Asahikawa 150.65 300 PKIKP PKPbc 09 13 43.6 -0.9
ASAJ pmax pmax
comp=Z,20nm,0.9s
ASAJ Asahikawa 150.65 300 PKPbc PKPbc 09 13 43.6 -0.9
comp=Z,20nm,0.9s,baz=250,slow=10,SNR=5.9
EKS2 Erkin-Say 153.28 62 ePKIKP PKPbc 09 13 51.6 +0.9
EKS2 Erkin-Say 153.28 62 ePKPbc PKPbc 09 13 51.6 +0.9
AAK Ala-Archa 153.81 62 PKIKP PKPbc 09 13 52.6 +0.7
AAK 09 14 05.9
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 153.81 62 PKPbc PKPbc 09 13 52.6 +0.7
comp=Z,8.4nm,0.9s,baz=278,slow=5.0,SNR=4.4
AAK PKPab PKPab 09 14 05.9 +0.9
comp=Z,3.4nm,0.5s,baz=149,slow=2.2,SNR=7.1
NVS Novosibirsk 153.99 31 ePKIKP PKPpre 09 13 37.1
NVS pmax pmax
comp=N,5.0nm,1.1s
NVS pmax pmax
comp=Z,36nm,1.1s
NVS pmax pmax
comp=E,12nm,1.5s
MJAR Matsushiro Arr 154.16 284 PKP2 PKPab 09 14 06.4 -0.1
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 154.16 284 PKPab PKPab 09 14 06.4 -0.1
comp=Z,2.1nm,0.9s,baz=144,slow=3.8,SNR=4.4
TKM2 Tokmak 2 154.57 61 ePKIKP PKPdf 09 13 45.2 +0.1
TKM2 Tokmak 2 154.57 61 ePKPdf PKPdf 09 13 45.2 +0.1
KSH Kashi 155.18 69 PKPbc PKPdf 09 13 40.3 -5.6
KSH esPKP 09 13 56.5
KSH eSKS SKSdf 09 20 41.5 -8.7
KSH eSKKS SKKSac 09 24 27.3 -7.6
KSH AMB AMB
comp=Z,22µm,15.1s
ZAA0 Zalesovo Array 155.27 31 ePKPdf PKPdf 09 13 45.5 +0.1
ZAA0 ePKPbc PKPbc 09 13 54.2
ZALV Zalesovo Beam 155.27 31 PKIKP PKPdf 09 13 45.8 +0.4
ZALV 09 13 54.6
ZALV pmax pmax
comp=Z,12nm,1.0s
ZALV Zalesovo Beam 155.27 31 PKP PKPdf 09 13 45.8 +0.4
comp=Z,12nm,1.0s,baz=294,slow=1.5,SNR=9.3
ZALV pPKP pPKPdf 09 13 54.6 -1.1
comp=Z,17nm,0.7s,baz=303,slow=3.3,SNR=12
BOD Bodaibo 156.11 350 ePKIKP PKPdf 09 13 48.4 +2.0
BOD e 09 14 13.1
BOD pmax pmax
comp=Z,13nm,1.1s
BOD pmax pmax
comp=Z,35nm,1.0s
MK31 Makanchi Array 157.99 49 ePKIKP PKPdf 09 13 49.3 +0.1
MK31 Makanchi Array 157.99 49 ePKPdf PKPdf 09 13 49.3 +0.1
MKAR Makanchi Array 157.99 49 PKP PKPdf 09 13 49.2 0.0
comp=Z,5.2nm,0.9s,baz=302,slow=0.5,SNR=6.3
MKAR PKPab PKPab 09 14 23.1 +0.4
comp=Z,9.3nm,0.6s,baz=282,slow=3.2,SNR=20
MKAR pPKPab pPKPab 09 14 32.3 -0.4
comp=Z,6.4nm,0.7s,baz=297,slow=4.7,SNR=6.2
USRK Ussuriysk Arra 158.09 304 PKPab PKPab 09 14 21.5 -1.6
comp=Z,2.5nm,0.6s,baz=61,slow=5.8,SNR=5.2
TLY Talaya 162.68 6 PKIKP PKPdf 09 13 54.0 -0.2
TLY Talaya 162.68 6 PKP PKPdf 09 13 54.0 -0.2
comp=Z,0.9nm,0.5s,baz=246,slow=20,SNR=4.2
TLY PKPab PKPab 09 14 43.8 +1.0
comp=Z,2.2nm,0.6s,baz=328,slow=4.7,SNR=4.1
CMAR Chiang Mai Arr 162.69 155 PKIKP PKPdf 09 13 54.7 -0.5
CMAR 09 14 42.2
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 162.69 155 PKP PKPdf 09 13 54.6 -0.5
comp=Z,3.1nm,0.3s,baz=277,slow=3.3,SNR=7.2
CMAR PKPab PKPab 09 14 42.2 -1.4
comp=Z,1.3nm,0.3s,baz=211,slow=5.1,SNR=4.2
WMQ Urumqi 162.72 52 PKP PKPdf 09 13 55.5 +0.9
WMQ LR LR
comp=Z,160nm,19.4s
WMQ LR LR
comp=Z,150nm,20.6s
WMQ LR LR
comp=Z,220nm,20.4s
ZAK Zakamensk 163.93 7 ePKIKP PKPdf 09 13 54.4 -1.2
ZAK e 09 14 48.7
ZAK pmax pmax
comp=Z,4.0nm,1.5s
ZAK pmax pmax
comp=Z,10.0nm,1.2s
SONM Songino Array 166.65 0 PKP PKPdf 09 13 57.5 -0.5
comp=Z,1.7nm,0.9s,baz=270,slow=0.6,SNR=3.9
SONM PKPab PKPab 09 15 01.3 +0.8
comp=Z,6.4nm,0.8s,baz=333,slow=4.1,SNR=14
SONM pPKPab pPKPab 09 15 10.3 -0.2
comp=Z,2.7nm,0.8s,baz=343,slow=3.7,SNR=4.0
NJ2 Nanjing 169.37 260 ePKP PKPdf 09 14 01.0 +0.9
GYA Guiyang 172.01 181 PKP PKPdf 09 14 01.3 -0.6
GYA pPKP pPKPdf 09 14 12.8 +0.6
GYA PKPab PKPab 09 15 23.5 -1.2
GYA PKS PKSdf 09 17 32.0 -2.4
GYA PP PP 09 19 18.0 +3.3
GYA SKKS 09 26 01.8
GYA SS SS 09 40 20.5 -0.5
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=Z,140nm,21.6s
GYA LR LR
comp=Z,120nm,21.8s
GYA LR LR
comp=Z,130nm,24.3s
GTA Gaotai 172.73 45 ePKP PKPdf 09 14 02.5 +0.7
GTA pPKP pPKPdf 09 14 13.5 +1.3
GTA sPKP 09 14 17.0
CD2 Chengdu 175.76 146 PKP PKPdf 09 14 02.0 -1.0
CD2 pPKP pPKPdf 09 14 13.3 0.0
CD2 sPKP 09 14 17.0
CD2 PKS PKSdf 09 17 32.8 -2.4
CD2 PP PP 09 19 36.3 +2.8
CD2 SKS SKSdf 09 20 59.5 -4.3
CD2 SKKS SKKSac 09 26 17.0 -1.1
CD2 SS SS 09 40 56.0 -2.2
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 177.30 53 ePKP PKPdf 09 14 04.3 +1.0
LZH pPKP pPKPdf 09 14 13.0 -0.6
LZH sPKP 09 14 17.5
LZH PKPab PKPab 09 15 51.0 +2.7

IDC 27 08:56:13.3±0.9, 36.̊12S×73.̊14W, h0km, mb4.8/8, mb1 4.8/9, mb1mx4.5/30, mbtmp4.8/9, ML4.4/1, Error ellipse: s-maj=39.0km s-min=22.5km az=75.0
ISCJB 27 08:56:16.9±0.6, 36.̊12S±0.̊08×73.̊3W±0.̊2, h35km, mb4.8/14, Error ellipse: s-maj=29.6km s-min=9.9km az=165.8
NEIC 27 08:56:18.2±0.4, 36.̊10S×73.̊31W, h35km, mb5.0/6, Error ellipse: s-maj=24.0km s-min=9.1km az=75.0
ISC 27 08:56:17.9±0.7, 36.̊1S±0.̊1×73.̊4W±0.̊2, h35km, n26, σ0§75/25, mb5.0/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.15	155	Pn	Pn	08 57 32.6	0.0
USHA	Ushuaia	19.06	171	P	Pn	09 00 37.5	-0.4
	1.3nm,0.3s,baz=342,slow=12,SNR=5.0						
NNA	Nana	24.20	352	eP	P	09 01 32.8	+1.6
	4.6nm,0.3s						
OTAV	Otavalo	36.44	351	eP	P	09 03 18.6	-1.5
	19nm,1.0s						
VNA3	Neumayer Olymp	47.87	157	P	P	09 04 52.4	+0.5
VNA1	Neumayer--Stat	48.21	156	P	P	09 04 56.0	+1.5
VNA2	Neumayer--Watz	48.54	156	P	P	09 04 57.9	+0.8
SNAA	Sanae	50.09	157	P	P	09 05 09.6	+0.5
SNAA	Sanae	50.09	157	P	P	09 05 09.4	+0.4
	18nm,0.9s,baz=294,slow=6.4,SNR=7.1						
QSPA	South Pole Qui	54.15	180	P	P	09 05 38.9	-0.5
	32nm,1.1s,baz=211,slow=4.5,SNR=3.9						
TXAR	Lajitas Array	71.03	332	P	P	09 07 35.1	+2.7
	1.1nm,0.6s,baz=153,slow=7.8,SNR=3.2						
SUR	Sutherland	74.80	119	P	P	09 07 55.1	+0.1
	11nm,0.8s,baz=232,slow=0.9,SNR=3.6						
ACSO	Alum Creek Sta	76.46	352	eP	P	09 08 04.2	+0.5
	25nm,1.1s						
DBIC	Dimbokro	76.90	72	P	P	09 08 07.0	+0.1
	11nm,0.8s,baz=214,slow=7.0,SNR=4.3						
DBIC	Dimbokro	76.90	72	eP	P	09 08 07.5	+0.6
	16nm,0.8s						
CASY	Casey	77.91	182	eP	P	09 08 12.3	+0.5
	21nm,1.4s						
BOSA	Boshof	80.08	118	P	P	09 08 24.6	+0.1
	19nm,1.1s,baz=258,slow=5.6,SNR=3.0						
LBTB	Lobatse	82.43	115	eP	P	09 08 36.8	-0.2
	34nm,1.5s						
PDAR	Pinedale Array	85.13	334	P	P	09 08 54.8	+4.5
	1.5nm,0.7s,baz=122,slow=7.7,SNR=4.6						
TORD	Torodi Ar. Bea	85.96	71	P	P	09 08 53.9	-1.0
	5.6nm,1.0s,baz=228,slow=4.2,SNR=4.7						
ULM	Lac du Bonnet	88.23	346	P	P	09 09 05.7	+0.7
	4.4nm,0.8s,baz=180,slow=4.5,SNR=3.5						
WRA	Warramunga Arr	118.40	210	PKP	PKPdf	09 15 01.6	-0.7
	1.0nm,0.7s,baz=159,slow=1.7,SNR=3.7						
BRTR	Keskin Array B	123.80	63	PKP	PKPdf	09 15 12.2	+0.1
	1.1nm,0.9s,baz=194,slow=6.9,SNR=2.8						
KSM	Kuching	145.39	187	ePKPdf	PKPdf	09 15 52.0	-0.7
HYB	Hyderabad	148.98	119	i PKP	PKPbc	09 16 02.0	-0.7
YAK	Yakutsk	150.28	338	ePKPbc	PKPbc	09 16 04.5	0.0
YAK				ePKPab	PKPab	09 16 10.7	0.0

ISCJB 27 08:58:16.5±0.5, 37.̊50S±0.̊08×73.̊6W±0.̊2, h23km, mb4.5/23, Error ellipse: s-maj=21.4km s-min=6.9km az=153.0
IDC 27 08:58:18.1±0.7, 37.̊61S×73.̊51W, h27km±3km, mb4.2/14, mb1 4.4/15, mb1mx4.2/36, mbtmp4.4/15, ML4.1/1, Error ellipse: s-maj=27.5km s-min=16.4km az=58.0
NEIC 27 08:58:19.5±0.4, 37.̊52S×73.̊57W, h35km, mb5.0/9, Error ellipse: s-maj=20.4km s-min=8.6km az=67.0

ISC 27 08:58:17.9±0.6, 37°.5S±0°.1×73°.6W±0°.2, h23km, n43, σ1§14/46, mb4.5/23, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.04 145 Sn **Sn 09 00 06.5 +1.5**
67nm,0.3s,baz=0.0,slow=20,SNR=2.8
PLCA Paso Flores 4.04 145 Pn **Pn 08 59 20.3 +2.0**
PLCA Sn **Sn 09 00 06.5 +1.5**
USHA Ushuaia 17.72 170 P **Pn 09 02 22.7 -0.2**
0.7nm,0.3s,baz=310,slow=9.5,SNR=4.9
LPAZ La Paz 21.66 14 P **P 09 03 09.8 +2.4**
7.2nm,0.8s,baz=204,slow=11,SNR=2.3
SIV San Ignacio 24.11 31 P **P 09 03 32.0 +0.1**
9.7nm,0.8s,baz=230,slow=14,SNR=4.2
NNA Nana 25.54 353 P **P 09 03 45.4 +0.4**
8.2nm,0.7s,baz=183,slow=9.9,SNR=2.8
OTAV Otavalo 37.79 352 *e*P **P 09 05 34.9 +1.9**
36nm,1.5s
SNAA Sanae 48.89 157 P **P 09 06 59.9 -1.5**
6.8nm,0.9s,baz=298,slow=7.7,SNR=3.8
APG El Apazote 54.55 340 P P 09 07 39.9 -4.6
4.3nm,0.9s,baz=168,slow=23,SNR=5.3
TEIG Tepich 59.03 344 *e*P **P 09 08 13.8 -2.1**
123nm,1.7s
TXAR Lajitas Array 72.18 333 P **P 09 09 41.7 +0.9**
1.2nm,0.7s,baz=159,slow=7.2,SNR=4.4
TXAR pP **pP 09 09 50.0 +1.7**
3.0nm,0.8s,baz=160,slow=7.8,SNR=7.6
SWET Sewanee 73.22 349 *e*P **P 09 09 46.4 -0.4**
17nm,0.9s
WVT Waverly 74.41 348 *e*P **P 09 09 52.4 -1.3**
16nm,1.2s
SIUC Southern Illin 76.19 347 *e*P **P 09 10 03.8 -0.1**
DBIC Dimbokro 77.51 72 P **P 09 10 10.5 -1.5**
8.4nm,0.6s,baz=190,slow=6.8,SNR=6.3
DBIC pP **pP 09 10 19.8 +0.4**
16nm,0.9s,baz=218,slow=8.9,SNR=6.5
DBIC Dimbokro 77.51 72 *e*P **P 09 10 10.4 -1.5**
28nm,1.1s
ACSO Alum Creek Sta 77.81 353 *e*P **P 09 10 13.1 +0.1**
214A Organ Pipe Nat 78.17 327 *e*P **P 09 10 17.0 +1.8**
6.2nm,1.2s
ANMO Albuquerque 78.25 333 P **P 09 10 16.3 +0.5**
1.3nm,0.8s,baz=158,slow=2.9,SNR=4.0
ANMO pP **PcP 09 10 25.5 +0.4**
3.2nm,0.9s,baz=182,slow=8.7,SNR=4.8
BOSA Boshof 79.59 118 P **P 09 10 22.4 -1.1**
3.1nm,0.8s,baz=282,slow=7.7,SNR=2.3
LBTB Lobatse 82.00 115 *e*P **P 09 10 35.6 -0.8**
5.0nm,0.6s
ECSD EROS Data Cent 83.48 343 *e*P **P 09 10 43.1 -0.2**
12nm,1.0s
TPH Tonopah 85.26 327 *e*P **P 09 10 53.6 +0.9**
13nm,1.3s
NVAR Mina Array Bea 86.03 326 P **P 09 10 58.0 +1.4**
1.6nm,0.8s,baz=162,slow=5.6,SNR=4.7
PDAR Pinedale Array 86.30 334 P **P 09 10 58.0 +0.2**
1.5nm,0.9s,baz=151,slow=3.4,SNR=3.4
TORD Torodi Ar. Bea 86.59 71 P **P 09 10 59.1 -0.5**
2.6nm,0.6s,baz=230,slow=4.9,SNR=7.4
ELK Elko 86.67 330 P **P 09 10 59.9 +0.2**
1.2nm,0.7s,baz=187,slow=7.4,SNR=3.0
ELK pP **pP 09 11 07.8 +0.6**
2.3nm,0.9s,baz=13,slow=1.1,SNR=4.5
ULM Lac du Bonnet 89.53 346 P **P 09 11 13.8 +1.0**
2.0nm,0.8s,baz=139,slow=2.7,SNR=3.2
NEW Newport 93.73 333 P **P 09 11 31.7 -0.6**
0.7nm,0.6s,baz=326,slow=3.6,SNR=3.3
GERES GERESS Array B 115.49 47 PKP **PKPdf 09 16 55.3 -2.1**
0.9nm,0.7s,baz=0.0,slow=0.1,SNR=3.3
BRTR Keskin Array B 124.59 63 PKP **PKPdf 09 17 14.6 -0.7**
1.2nm,0.6s,baz=202,slow=3.0,SNR=5.6
AKASG Malin Array Be 125.45 50 PKP **PKPdf 09 17 14.9 -1.4**
0.8nm,0.5s,baz=268,slow=2.1,SNR=3.5
AKTO Aktyubinsk 143.50 53 PKP PKPab 09 17 46.9 +0.5
2.0nm,0.7s,baz=236,slow=3.6,SNR=4.1
TIXI Tiksi 143.85 348 *e*PKPdf PKPab 09 17 46.8 -0.3
ABKAR Akbulak array 144.78 55 *e*PKPdf **PKPab 09 17 50.8 -0.5**
HYB Hyderabad 148.43 122 *i* PKP **PKPbc 09 18 02.0 -0.9**
KBL Kabul 149.78 84 *e*PKPbc **PKPbc 09 18 05.8 -0.3**
BRVK Borovoye 150.58 46 *e*PKPbc **PKPbc 09 18 07.9 +0.8**
BVAR Borovoye Array 150.65 46 PKPbc **PKPbc 09 18 07.2 -0.2**
6.3nm,0.7s,baz=291,slow=3.8,SNR=9.1
BVAR pPKPbc **pPKPbc 09 18 15.8 +0.7**
5.1nm,0.7s,baz=243,slow=0.7,SNR=6.5
AAK Ala-Archa 155.15 68 PKPab **PKPab 09 18 33.8 0.0**
6.6nm,0.7s,baz=251,slow=2.5,SNR=7.8
AAK Ala-Archa 155.15 68 *e*PKPbc PKPdf 09 18 19.1 +10
AAK PKPab **PKPab 09 18 33.8 0.0**
AAK PKPab PKPab 09 18 34.3 +0.4
ZALV Zalesovo Beam 157.83 35 PKPab **PKPab 09 18 45.1 +0.4**
2.5nm,0.6s,baz=308,slow=4.7,SNR=3.9
MKAR Makanchi Array 159.92 55 PKPab **PKPab 09 18 53.7 -0.4**
1.9nm,0.8s,baz=284,slow=4.3,SNR=3.8

SJA 27 08:59:51.4±0.9, 34°.28S×74°.16W, h0km±82km, ML5.2
GUC 27 09:00:05.5±0.6, 33°.96S×72°.72W, h26km±14km, ML5.4
IDC 27 09:00:08.6±0.5, 33°.67S×71°.95W, h0km, mb4.7/22, mb1 4.8/23, mb1mx4.7/37, mbtmp4.7/23, ML4.0/2, Error ellipse: s-maj=19.4km s-min=13.2km az=65.0
ISCJB 27 09:00:10.6±0.2, 33°.81S±0°.04×72°.13W±0°.05, h19km, mb5.4/142, Error ellipse: s-maj=6.6km s-min=5.2km az=136.1
MOS 27 09:00:14.0±1.8, 33°.61S×71°.90W, h33km, mb5.7/22, Error ellipse: s-maj=22.5km s-min=9.2km az=104.3
NEIC 27 09:00:16.7±0.3, 33°.44S×71°.53W, h35km, mb5.6/117, Error ellipse: s-maj=11.1km s-min=8.6km az=224.0
BJI 27 09:00:19.7, 33°.40S×71°.60W, h35km, mB5.6/3, Ms6.0/4, Ms7 5.9/2

ISC 27 09:00:13.1±0.3, 33°.62S±0°.05×72°.03W±0°.06, h19km, n657, σ1§69/635, mb5.6/142, 209C-159D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IHA Instituto Hidr 0.68 29 *e*P **Pn 09 00 27.9 +0.3**
IHA *e*S Sn 09 00 45.4 +7.7
TACH Talagante 0.91 92 *e*P **Pg 09 00 31.6 +0.7**
ROCH El Roble 1.07 53 *e*P **Pg 09 00 35.3 +1.3**
SAN Santiago 1.15 82 *e*P **Pg 09 00 36.4 +0.9**
SAN *e*S Sg 09 00 59.0 +8.4
PEL Peldehue 1.22 67 *e*P **Pg 09 00 37.6 +0.9**
PEL *e*S Sg 09 01 01.7 +9.0
PEL AML AML 09 01 12.6
comp=E,51μm,0.3s
AUSP Uspallata 2.62 59 *i* P **Pg 09 01 04.8 +1.4**
ARCO CERRO ARCO 2.71 74 *i* P **Pg 09 01 06.5 +1.4**
ARCO *i* S Sg 09 02 00.8 +20
ARCO AML AML 09 02 01.6
comp=Z,2μm,0.5s
AAGR Agrelo 2.73 80⇓*i*P **Pg 09 01 06.8 +1.3**
AAGR ⇓*i*P **Pg 09 01 06.8 +1.3**
ASAL Salagasta 2.87 70 *i* P **Pg 09 01 07.7 -0.4**
RTCV Cerro Valdivia 3.42 60 *i* P **Pb 09 01 15.4 +2.2**
CFAA Coronel Fontan 3.78 59 Pn Pn 09 01 06.3 -4.1
comp=Z,2.6nm,0.3s,baz=246,slow=16,SNR=3.2
CFAA Coronel Fontan 3.78 59 *i* P **Pb 09 01 20.8 +1.6**
CFAA *i* S Sg 09 02 27.2 +13
ACAN Cantantal 4.28 73 *i* P **Pb 09 01 27.3 -0.6**
TRQA Tornquist 9.28 121 *e*Pn **Pn 09 02 26.6 +0.8**
LVC Limon Verde 11.31 15 Pn **Pn 09 02 51.4 -2.5**
comp=Z,38nm,0.6s
LPAZ La Paz 17.61 12 *e*P **P 09 04 20.1 +1.0**
LPAZ pmax pmax
comp=Z,470nm,1.8s
LPAZ La Paz 17.61 12 P **Pn 09 04 17.1 -1.1**
comp=Z,0.7nm,0.3s,baz=180,slow=10,SNR=2.8
LPAZ La Paz 17.61 12 *e*P **P 09 04 20.1 +1.0**
comp=Z,470nm,1.8s
SIV San Ignacio 20.15 32 P **P 09 04 44.8 -1.5**
comp=Z,8.0nm,0.9s,baz=233,slow=16,SNR=1.6
USHA Ushuaia 21.36 174 P **P 09 04 57.9 -1.1**
comp=Z,28nm,0.9s,baz=344,slow=11,SNR=3.9
NNA Nana 21.98 347 *e*P **P 09 05 05.9 -0.2**
NNA pmax pmax
comp=Z,329nm,1.3s
NNA Nana 21.98 347 P **P 09 05 05.4 -0.7**
comp=Z,12nm,0.8s,baz=195,slow=13,SNR=3.1
NNA Nana 21.98 347 *e*P **P 09 05 05.9 -0.2**
comp=Z,329nm,1.3s
SAML Samuel 25.87 20 *e*P **P 09 05 43.7 -0.1**
comp=Z,45nm,1.2s
BDFB Brasilia 28.11 56 P **P 09 06 03.7 -0.4**
comp=Z,11nm,0.5s,baz=232,slow=5.3,SNR=7.6
BDFB Brasilia 28.11 56 *e*P **P 09 06 03.8 -0.2**
HOPE Hope Point 32.37 140 P **P 09 06 40.8 -0.4**
comp=Z,331nm,1.4s,SNR=6.2
OTAV Otavalo 34.22 349 *e*P P 09 07 01.9 +3.6
comp=Z,173nm,1.8s
ROSC El Rosal 38.33 356 *e*P **P 09 07 31.4 -1.9**
BCIP Isla Barro Col 43.20 349 *e*P **P 09 08 12.7 -0.3**
comp=Z,352nm,2.0s
RCBR Riachuelo 43.44 59 *e*P **P 09 08 13.4 -1.6**
comp=Z,669nm,2.8s
JTS JuntasAbangare 45.37 342 P **P 09 08 29.9 -0.5**
comp=Z,5.5nm,1.1s,baz=258,slow=20,SNR=2.0
VNA3 Neumayer Olymp 49.70 158 P **P 09 09 03.3 -0.2**
VNA1 Neumayer--Stat 50.02 157 P **P 09 09 05.7 -0.1**
VNA2 Neumayer--Watz 50.35 157 P **P 09 09 07.9 -0.5**
APG El Apazote 51.45 337 P **P 09 09 15.6 -1.9**
comp=Z,16nm,0.9s,baz=182,slow=5.2,SNR=7.7
SABA Saba 51.64 11 *e*P **P 09 09 19.0 +0.4**
comp=Z,146nm,0.9s
CELP Cerrillos 51.67 7 *e*P **P 09 09 18.1 -0.7**
CELP *e*PP **PP 09 11 16.3 -0.4**
SNAA Sanae 51.93 158 *e*P **P 09 09 19.7 -0.6**
SNAA Sanae 51.93 158 *e*P **P 09 09 19.6 -0.6**
SNAA pmax pmax
comp=Z,344nm,1.6s
SNAA Sanae 51.93 158 P **P 09 09 18.2 -2.1**
comp=Z,12nm,0.8s,baz=289,slow=6.2,SNR=10
SNAA Sanae 51.93 158 *e*P **P 09 09 19.6 -0.6**
comp=Z,344nm,1.6s
ANWB Willy Bob 51.93 12 *e*P **P 09 09 19.5 -1.3**
comp=Z,88nm,0.8s
RKT Rikitea 55.63 263 *e*P **P 09 09 46.5 -1.5**
comp=Z,72nm,1.4s
QSPA South Pole Qui 56.61 180 P **P 09 09 52.7 -1.8**
comp=Z,26nm,1.0s,baz=130,slow=2.9,SNR=6.2
NVL N'lazarevskaya 56.66 157 *e*P **P 09 09 54.2 -0.4**
NVL pmax pmax
comp=Z,49nm,1.2s
034A Hebbronville 65.45 334 ⇑P **P 09 10 57.5 +2.7**
baz=66
934A Benavides 65.88 334 ⇑P **P 09 11 00.0 +2.6**
baz=66
933A Laredo 66.16 334 ⇑P **P 09 11 02.3 +2.9**
baz=66
SYO Syowa Base 66.21 159⇓*e*sP sP 09 11 13.6 +6.0
835A Beeville 66.25 335 ⇓P **P 09 11 02.6 +2.7**
baz=67
834A Tilden 66.36 334 ⇓P **P 09 11 03.0 +2.4**
baz=67
735A Kenedy 66.77 335 ⇓P **P 09 11 05.9 +2.7**
baz=67
833A Chaparral WMA, 66.85 334 ⇑P **P 09 11 05.9 +2.2**
baz=67,SNR=8.9
734A La Parita Cree 67.02 335 ⇑P **P 09 11 07.2 +2.4**
baz=67
832A Faith Ranch, C 67.03 333 ⇓P **P 09 11 06.7 +1.8**
baz=67,SNR=9.7
636A Smothers Creek 67.09 336 ⇑P **P 09 11 07.4 +2.2**
baz=67
733A Divot King Ran 67.17 334 ⇓P **P 09 11 08.0 +2.2**
baz=68
635A Leesville 67.24 336 ⇓P **P 09 11 08.2 +2.0**
baz=68
732A Laxson Ranch, 67.43 334 ⇑P **P 09 11 09.2 +1.9**
baz=68,SNR=8.2
536A Bastrop 67.64 337 ⇑P **P 09 11 10.9 +2.2**
baz=68
535A Dale 67.76 336 ⇓P **P 09 11 11.5 +2.0**
baz=68
VBMS Vicksburg 67.77 343 *e*P **P 09 11 12.0 +2.6**
comp=Z,488nm,2.2s
633A Saathoff Ranch 67.80 335 ⇑P **P 09 11 11.6 +1.8**
baz=68
339A Huntington 68.02 339 ⇑P **P 09 11 13.5 +2.4**
baz=68
632A Uvalde 68.06 334 ⇑P **P 09 11 14.3 +2.9**
baz=68
534A Blanco 68.07 335 ⇓P **P 09 11 14.5 +3.0**
baz=68
338A Crockett 68.27 339 ⇑P **P 09 11 14.7 +2.1**
baz=69
631A Perdido Creek 68.27 333 ⇓P **P 09 11 14.7 +2.0**
baz=69
533A Kerrville 68.31 335 ⇑P **P 09 11 14.6 +1.7**
baz=69
532A Rocksprings 68.67 334 ⇓P **P 09 11 17.3 +2.0**
baz=69
434A Burnet 68.72 336 ⇑P **P 09 11 16.6 +1.1**
baz=69
336A Riesel 68.77 337 ⇑P **P 09 11 17.7 +1.9**
baz=69
335A Moody 68.87 337 ⇓P **P 09 11 17.5 +1.1**
baz=69
MEH Mehetia 68.91 262 *e*P **P 09 11 15.3 -1.8**
comp=Z,19nm,0.9s
531A Rocksprings 68.94 334 ⇓P **P 09 11 19.0 +2.1**
baz=69,SNR=7.7
433A Art 68.95 335 ⇓P **P 09 11 18.1 +1.2**
baz=69
JCT Junction City 68.95 334 *e*P **P 09 11 16.9 -0.1**
JCT pmax pmax
comp=Z,159nm,1.4s
JCT Junction City 68.95 334 *e*P **P 09 11 16.9 -0.1**
comp=Z,159nm,1.4s
JCT Junction City 68.95 334 ⇑P **P 09 11 19.2 +2.3**
baz=69
334A Lometa 69.18 336 ⇓P **P 09 11 19.4 +1.1**
baz=70
530A J-C Ranch, Com 69.22 333 ⇑P **P 09 11 20.6 +2.0**
baz=70
432A Menard 69.31 335 ⇑P **P 09 11 22.1 +2.9**
baz=70
TXAR Lajitas Array 69.41 331 P **P 09 11 18.7 -1.2**
comp=Z,2.1nm,0.6s,baz=154,slow=8.7,SNR=8.8
431A Sonora 69.43 334 ⇑P **P 09 11 21.7 +1.7**
baz=70
333A Richland Sprin 69.43 336 ⇑P **P 09 11 21.7 +1.8**
baz=70
WHTX Lake Whitney 69.53 337 *e*P **P 09 11 19.8 -0.7**
comp=Z,176nm,1.4s
WHTX Lake Whitney 69.53 337 ⇓P **P 09 11 22.4 +1.9**
baz=70
529A Stev Forest Ra 69.54 332 ⇑P **P 09 11 22.9 +2.3**
baz=70
CPCT Cooper Cave 69.70 349 *e*P **P 09 11 23.1 +1.6**
SWET Sewanee 69.71 348 *e*P **P 09 11 21.0 -0.5**
comp=Z,50nm,1.1s
OXF Oxford 69.71 345 *e*P **P 09 11 21.7 +0.2**
OXF pmax pmax
comp=Z,117nm,1.1s
OXF Oxford 69.71 345 *e*P **P 09 11 21.7 +0.2**
comp=Z,117nm,1.1s
332A Millersview 69.75 335 ⇓P **P 09 11 23.5 +1.6**
baz=70
430A Baggett Ranch, 69.75 333 ⇑P **P 09 11 23.7 +1.7**
baz=70
234A Clairette 69.76 337 ⇑P **P 09 11 23.8 +1.9**
baz=70
TKL Tuckaleechee C 69.79 350 *e*P **P 09 11 21.6 -0.4**
TKL Tuckaleechee C 69.79 350 P **P 09 11 21.3 -0.7**
comp=Z,6.1nm,0.9s,baz=101,slow=8.4,SNR=3.2
TKL Tuckaleechee C 69.79 350 *e*P **P 09 11 21.6 -0.4**
429A Davenport Ranc 69.86 333 ⇓P **P 09 11 24.5 +1.9**
baz=70,SNR=8.3
VAH Vaihoa 69.87 265 *e*P **P 09 11 21.0 -2.0**
comp=Z,93nm,1.1s
331A San Angelo 69.93 334 ⇑P **P 09 11 24.4 +1.4**
baz=70,SNR=6.7
233A Rising Star 70.03 336 ⇓P **P 09 11 25.3 +1.7**
baz=70
232A Coleman 70.17 335 ⇑P **P 09 11 25.8 +1.3**
baz=70
PAE Paea 70.27 262 *e*P **P 09 11 23.5 -1.9**
comp=Z,21nm,1.2s
134A White-Moore Ra 70.27 337 ⇓P **P 09 11 25.8 +0.8**
baz=71
330A Mertzon 70.29 334 ⇓P **P 09 11 26.7 +1.5**
baz=71
PPT2 Papeete2 70.30 262 *e*P **P 09 11 24.1 -1.6**
comp=Z,112nm,1.4s
231A Bronte 70.45 335 ⇑P **P 09 11 27.6 +1.4**
baz=71
133A Hamilton Ranch 70.58 336 ⇓P **P 09 11 27.7 +0.7**
baz=71
UALR University of 70.66 342 *e*P **P 09 11 26.3 -1.0**
comp=Z,59nm,1.4s
329A Wagon Wheel Ra 70.66 333 ⇑P **P 09 11 27.9 +0.4**
baz=71
230A Sterling City 70.70 334 ⇓P **P 09 11 27.7 0.0**
baz=71
Z35A Perchaven, San 70.70 338 ⇓P **P 09 11 29.3 +1.7**
baz=71
MIAR Mount Ida 70.76 341 *e*P **P 09 11 28.2 +0.3**
MIAR pmax pmax
comp=Z,88nm,1.4s
MIAR Mount Ida 70.76 341 *e*P **P 09 11 28.2 +0.3**
comp=Z,88nm,1.4s
ABTX Abilene, Hawle 70.84 336 ⇑P **P 09 11 30.1 +1.5**
baz=71,SNR=7.3
Z34A Collier Ranch, 70.95 337 ⇓P **P 09 11 30.2 +1.1**
baz=71
229A Bryant Ranch, 71.03 333 ⇑P **P 09 11 31.8 +2.0**
baz=71
131A Roby 71.15 335 ⇓P **P 09 11 32.2 +1.7**
baz=72
Z33A Whitaker Ranch 71.15 337 ⇑P **P 09 11 32.2 +1.8**
baz=72
JSRW J. Sargeant Re 71.16 355 *e*P **P 09 11 30.3 0.0**
130A Snyder 71.28 334 ⇓P **P 09 11 32.6 +1.4**
baz=72
Z32A Haskell 71.41 336 ⇑P **P 09 11 34.1 +2.1**
baz=72
Y34A Reagan Ranch, 71.44 338 ⇑P **P 09 11 32.8 +0.8**
baz=72
228A UT Block 9, Go 71.46 333 ⇑P **P 09 11 34.6 +2.3**
baz=72,SNR=8.3
129A Stewart Farms, 71.64 334 ⇓P **P 09 11 36.0 +2.6**
baz=72
Z31A Sharp Cattle R 71.65 335 ⇑P **P 09 11 34.7 +1.3**
baz=72
Y33A Hilltop Ranch, 71.76 337 ⇓P **P 09 11 35.6 +1.5**
baz=72
128A Castleberry Fa 71.86 333 ⇓P **P 09 11 35.7 +0.9**
baz=72,SNR=6.8
Z30A Sanderson Ranc 71.96 335 ⇑P **P 09 11 36.9 +1.6**
baz=72,SNR=7.4
Y32A R-V Farms, Ver 72.03 336 ⇑P **P 09 11 37.3 +1.6**
baz=72
X34A Smith Ranch, M 72.06 338 ⇑P **P 09 11 36.9 +1.1**
baz=72
PBMO Poplar Bluff 72.11 345 *e*P **P 09 11 38.4 +2.4**
comp=Z,62nm,1.3s
Z29A Hungry Hill Ra 72.15 334 ⇑P **P 09 11 38.0 +1.5**
baz=72,SNR=7.9
MNTX Cornudas Mount 72.19 331 *e*P **P 09 11 36.3 -0.4**
comp=Z,21nm,1.2s
X33A Lawton 72.21 337 ⇓P **P 09 11 36.2 -0.5**
baz=72
GDL2 Guadalupe Moun 72.22 332 *e*P **P 09 11 39.9 +2.9**
127A Arkansas Junct 72.25 333 ⇑P **P 09 11 37.0 -0.1**
baz=73
Y31A Rekieta Farm, 72.27 336 ⇓P **P 09 11 37.8 +0.7**
baz=73
X32A Elmer 72.36 337 ⇑P **P 09 11 38.0 +0.4**
baz=73
Y30A Stafford Cattl 72.42 335 ⇓P **P 09 11 38.0 0.0**
baz=73
W34A Bridge Creek, 72.62 338 *e*P **P 09 11 40.3 +1.1**
comp=Z,111nm,1.4s
W34A Bridge Creek, 72.62 338 ⇑P **P 09 11 40.3 +1.1**
baz=73
TUL1 Tulsa 72.66 340 *e*P **P 09 11 40.1 +0.7**
comp=Z,67nm,0.9s
TUL1 Tulsa 72.66 340 ⇑P **P 09 11 39.3 0.0**
baz=73
Y29A Porterfield Fa 72.67 334 ⇑P **P 09 11 41.1 +1.5**
baz=73
CPRX Cap Rock 72.75 332 *e*P **P 09 11 42.8 +2.6**
comp=Z,20nm,0.6s
SIUC Southern Illin 72.76 346 *e*P **P 09 11 37.8 -2.0**
comp=Z,35nm,0.9s
Z27A Tatum 72.76 333 ⇓P **P 09 11 42.5 +2.3**
baz=73
W33A Caddo, Fort Co 72.76 338 ⇓P **P 09 11 42.5 +2.5**
baz=73
X31A McDonald Ranch 72.78 336 ⇑P **P 09 11 41.8 +1.7**
baz=73
X30A Coker Ranch, T 72.92 335 ⇑P **P 09 11 42.8 +1.8**
baz=73
Y28A McKinney Farm, 72.93 334 ⇓P **P 09 11 42.7 +1.5**
baz=73
W32A Sentinel 72.99 337 ⇑P **P 09 11 42.9 +1.5**
baz=73
Z26A Caprock 73.01 332 ⇓P **P 09 11 41.8 +0.1**
baz=73,SNR=7.1
V34A Guthrie 73.10 339 *e*P P 09 11 45.2 +3.3
comp=Z,226nm,1.6s
V34A Guthrie 73.10 339 ⇓P **P 09 11 42.5 +0.6**
baz=73
MSTX Muleshoe 73.17 334 *e*P **P 09 11 42.9 +0.3**
comp=Z,61nm,1.1s
MSTX Muleshoe 73.17 334 ⇓P **P 09 11 42.0 -0.6**
baz=74
X29A Tulia 73.21 335 ⇑P **P 09 11 42.6 -0.2**
baz=74
Y27A Causey 73.25 333 ⇓P **P 09 11 43.1 +0.1**
baz=74
W31A Holland Ranch, 73.28 336 ⇓P **P 09 11 43.8 +0.7**
baz=74
Z25A Roswell 73.31 332 ⇓P **P 09 11 45.1 +1.7**
baz=74,SNR=7.1
V33A Lossen Ranch, 73.32 338 ⇑P **P 09 11 43.7 +0.4**
baz=74
X28A Dimmitt 73.46 334 ⇑P **P 09 11 46.5 +2.3**
baz=74
V32A Arapaho 73.47 337 ⇓P **P 09 11 46.0 +1.8**
baz=74
Y26A Elida 73.53 333 ⇑P **P 09 11 45.9 +1.2**
baz=74
319A Douglas 73.59 327 ⇓P **P 09 11 46.4 +1.3**
baz=74
AMTX Amarillo 73.60 335 *e*P **P 09 11 46.2 +1.2**
comp=Z,185nm,1.6s
AMTX Amarillo 73.60 335 ⇑P **P 09 11 47.6 +2.5**
baz=74
Z24A Sheeppen Canyo 73.61 331 ⇑P **P 09 11 45.7 +0.4**
baz=74,SNR=7.4
U34A Anderson Ranch 73.66 339 *e*P P 09 11 48.5 +3.3
comp=Z,112nm,1.3s
U34A Anderson Ranch 73.66 339 ⇓P **P 09 11 45.8 +0.6**
baz=74
V31A Spring Creek L 73.78 337 ⇑P **P 09 11 46.4 +0.4**
baz=74
W29A Amraillo 73.80 335 ⇑P **P 09 11 46.4 +0.1**
baz=74
U33A Lingo Farm, Me 73.83 338 ⇑P **P 09 11 47.3 +1.0**
baz=74
Y25A Mesa, Roswell 73.86 332 ⇓P **P 09 11 47.0 +0.3**
baz=74
X27A F and S Farms, 73.90 334 ⇑P **P 09 11 46.6 -0.3**
baz=74
121A Cookes Peak, D 73.92 329 *e*P **P 09 11 48.5 +1.4**
comp=Z,74nm,1.3s
121A Cookes Peak, D 73.92 329 ⇑P **P 09 11 47.5 +0.4**
baz=74,SNR=8.4
V30A Spur Ranch, Mi 74.05 336 ⇑P **P 09 11 48.9 +1.2**
baz=74
U32A Winter Ranch, 74.06 338 ⇑P **P 09 11 48.7 +1.1**
baz=74
X26A CR and CF Fran 74.08 333 ⇑P **P 09 11 48.8 +0.8**
baz=74
W28A Vega 74.12 335 ⇓P **P 09 11 49.0 +0.8**
baz=74
Y24A Capitan 74.16 332 ⇑P **P 09 11 48.7 +0.2**
baz=74
Z22A Elephant Butte 74.20 330 ⇓P **P 09 11 49.5 +0.8**
baz=75,SNR=5.9
W27A Bowe Ranch, En 74.26 334 ⇓P **P 09 11 49.8 +0.8**
baz=75
U31A Nine Bar Ranch 74.33 337 ⇓P **P 09 11 50.8 +1.6**
baz=75
X25A Clemmons Ranch 74.39 332 ⇑P **P 09 11 51.1 +1.4**
baz=75
Y23A Lovelace Mesa, 74.41 331 ⇑P **P 09 11 50.7 +0.8**
baz=75,SNR=9.3
V29A Stinnett 74.44 335 ⇑P **P 09 11 51.5 +1.6**
baz=75
T33A Patterson Ranc 74.47 338 ⇓P **P 09 11 50.9 +0.9**
baz=75
W26A Owens Ranch, T 74.54 333 ⇑P **P 09 11 52.0 +1.4**
baz=75
V28A Channing 74.57 335 ⇑P **P 09 11 51.4 +0.7**
baz=75
X24A Lazy VL Ranch, 74.72 332 ⇑P **P 09 11 52.7 +0.9**
baz=75

U30A WK&E Inc. Balk 74.73 336 ⇑P P 09 11 53.2 +1.6
baz=75
T32A Huddler Ranch, 74.77 338 ⇓P P 09 11 52.7 +0.9
baz=75
W25A X Bar L Ranch, 74.92 333 ⇑P P 09 11 53.8 +1.0
baz=75
T31A Randall Ranch, 74.93 337 ⇑P P 09 11 55.0 +2.3
baz=75
LPM Los Pinos Moun 74.98 331 eP P 09 11 52.7 -0.5
LENM Lemitar 74.99 331 eP P 09 11 55.3 +2.0
SUR Sutherland 75.00 119 P P 09 11 51.6 -2.1
comp=Z,12nm,0.9s,baz=345,slow=4.7,SNR=3.3
X23A Hourglass Bar 75.03 331 ⇑P P 09 11 54.1 +0.6
baz=75
DBIC Dimbokro 75.05 71 P P 09 11 51.1 -2.8
comp=Z,11nm,0.7s,baz=228,slow=4.8,SNR=3.2
U28A Mallet 75.14 335 ⇑P P 09 11 55.0 +1.0
baz=76
V26A Tequesquite Ra 75.18 334 ⇑P P 09 11 55.7 +1.4
baz=76
LAZ Ladron 75.26 331 eP P 09 11 54.5 -0.4
comp=Z,35nm,1.5s
W24A Lazy 6 Ranch, 75.28 332 ⇑P P 09 11 55.7 +0.7
baz=76
S31A Mullinville 75.35 338 ⇑P P 09 11 55.5 +0.3
baz=76
U27A Thompson Grove 75.39 335 ⇓P P 09 11 55.9 +0.5
baz=76
ANMO Albuquerque 75.46 331 eP P 09 11 58.2 +2.2
ANMO pmax pmax
comp=Z,63nm,1.4s
ANMO Albuquerque 75.46 331 P P 09 11 56.5 +0.5
comp=Z,8.5nm,1.1s,baz=142,slow=4.9,SNR=6.6
ANMO Albuquerque 75.46 331 eP P 09 11 58.2 +2.2
comp=Z,63nm,1.4s
T29A Hugoton 75.52 336 ⇑P P 09 11 57.4 +1.3
baz=76
W23A Werner Place, 75.52 332 ⇓P P 09 11 58.0 +1.6
baz=76,SNR=7.6
R33A Olander Ranch, 75.52 339 ⇓P P 09 11 58.6 +2.5
baz=76
V25A Rancho No Teng 75.53 333 ⇑P P 09 11 56.0 -0.3
baz=76,SNR=8.7
V24A Rampart Ranch, 75.67 333 ⇓P P 09 11 57.1 -0.2
baz=76
S30A Montezuma 75.68 337 ⇑P P 09 11 56.3 -0.8
baz=76
U26A Atchley Ranch, 75.69 334 ⇑P P 09 11 57.3 0.0
baz=76
214A Organ Pipe Nat 75.72 325 eP P 09 11 59.5 +2.1
comp=Z,116nm,1.8s
214A Organ Pipe Nat 75.72 325 ⇓P P 09 11 58.1 +0.7
baz=76
T28A Walsh 75.77 336 ⇓P P 09 11 57.2 -0.4
baz=76
R32A Long Quarter, 75.85 339 ⇑P P 09 11 57.4 -0.5
baz=76
KSU1 Kansas State U 75.86 340 eP P 09 11 57.3 -0.7
comp=Z,19nm,0.9s
KSU1 Kansas State U 75.86 340 ⇑P P 09 11 57.4 -0.5
baz=76
S29A Ulysses 75.88 337 ⇓P P 09 11 57.8 -0.4
baz=76
T27A Campo 75.92 335 ⇓P P 09 11 57.9 -0.6
baz=76
U25A Circle Dot Ran 75.94 334 ⇓P P 09 11 58.2 -0.5
baz=76
R31A Burdett 75.98 338 ⇑P P 09 11 58.5 -0.2
baz=76
V23A Ortiz Mt. (NFS 76.05 332 ⇓P P 09 11 59.4 0.0
baz=76
S28A Manter 76.11 336 ⇑P P 09 11 59.3 -0.2
baz=76
Q33A Connelly Farm, 76.12 340 ⇓P P 09 11 59.5 0.0
baz=76
R30A Dighton 76.21 337 ⇑P P 09 11 59.7 -0.4
baz=76
U24A Moreno Valley 76.28 333 ⇑P P 09 12 00.7 -0.1
baz=77
Q32A Meitler Ranch, 76.33 339 ⇑P P 09 12 00.3 -0.4
baz=77
T26A Comanche Natio 76.33 335 ⇓P P 09 12 00.4 -0.5
baz=77
V22A San Miguel Ran 76.48 331 ⇑P P 09 12 02.0 +0.2
baz=77,SNR=7.3
P33A Williams Farm, 76.48 340 ⇑P P 09 12 01.3 -0.2
baz=77
U23A El Rito 76.56 332 ⇓P P 09 12 02.6 +0.4
baz=77,SNR=6.2
X18A Snowflake 76.56 329 ⇑P P 09 12 02.5 +0.2
baz=77
Q31A Ellis 76.59 338 ⇑P P 09 12 02.0 -0.2
baz=77
T25A Trinidad 76.60 334 ⇑P P 09 12 01.6 -0.9
baz=77,SNR=13
R29A Marienthal 76.62 337 ⇓P P 09 12 01.8 -0.6
baz=77
S26A Kim 76.69 335 ⇓P P 09 12 02.2 -0.6
baz=77
R28A Tribune 76.76 336 ⇑P P 09 12 02.6 -0.6
baz=77
113A Mohawk Valley, 76.84 325 ⇓P P 09 12 04.3 +0.7
baz=77,SNR=9.4
U22A Llaves 76.86 332 ⇑P P 09 12 06.4 +2.4
baz=77,SNR=9.6
T24B San Luis 76.89 333 ⇑P P 09 12 04.7 +0.4
baz=77,SNR=7.6
P32A Huiting Farm, 76.92 339 ⇑P P 09 12 04.0 0.0
baz=77
Z14A Wintersburg 76.94 326 ⇓P P 09 12 04.5 +0.3
baz=77
W18A Petrified Fore 76.97 329 eP P 09 12 07.4 +2.8
comp=Z,104nm,1.4s
W18A Petrified Fore 76.97 329 ⇓P P 09 12 04.3 -0.3
baz=77
Q29A Oakley 76.99 337 ⇓P P 09 12 04.0 -0.4
baz=77
R27A Eads 77.05 336 ⇑P P 09 12 04.4 -0.4
baz=77
P31A Stockton 77.06 339 ⇑P P 09 12 06.0 +1.2
baz=77
S25A Robets Cordova 77.07 334 ⇑P P 09 12 04.8 -0.3
baz=77,SNR=7.0
T23A Casias Ranch, 77.12 333 ⇑P P 09 12 04.5 -1.0
baz=78
X16A Lo Mia Camp, P 77.12 327 ⇓P P 09 12 05.4 -0.1
baz=78,SNR=8.5
R26A Arlington 77.29 335 ⇓P P 09 12 05.4 -0.8
baz=78
S24A Houchin Ranch, 77.34 334 ⇓P P 09 12 05.5 -1.2
baz=78,SNR=7.3
P30A Selden 77.35 338 ⇑P P 09 12 05.5 -0.9
baz=78
O32A Brockman Farm, 77.42 340 ⇓P P 09 12 05.7 -1.1
baz=78
Q28A Sharon Springs 77.42 337 ⇑P P 09 12 06.1 -0.8
baz=78
Y14A Wickenburg 77.44 326 ⇓P P 09 12 06.8 -0.3
baz=78
R25A Fountain Ranch 77.45 334 ⇓P P 09 12 06.5 -0.7
baz=78
SDCO Great Sand Dun 77.54 333 eP P 09 12 07.3 -0.6
comp=Z,120nm,1.9s
GLA Glamis 77.58 324 ⇑P P 09 12 07.2 -0.7
baz=78
O31A Woolen Ranch, 77.62 339 ⇑P P 09 12 07.2 -0.7
baz=78
KSCO Kaye Shedlock' 77.64 336 eP P 09 12 07.6 -0.6
comp=Z,91nm,1.4s
KSCO Kaye Shedlock' 77.64 336 ⇓P P 09 12 07.4 -0.8
baz=78
S23A Nye Farm, Mont 77.69 333 ⇑P P 09 12 08.1 -0.6
baz=78
R24A Sanders Place, 77.82 334 ⇓P P 09 12 08.9 -0.4
baz=78,SNR=8.5
P28A Saint Francis 77.86 337 ⇓P P 09 12 08.7 -0.6
baz=78
Q26A Hugo 77.87 335 ⇓P P 09 12 09.5 +0.1
baz=78
O30A MW Ranch, Wils 77.87 338 ⇑P P 09 12 08.8 -0.6
baz=78
N32A Stulken Farm, 77.89 340 ⇓P P 09 12 09.2 -0.2
baz=78
SWSC Sam W. Stewart 77.97 324 ⇓P P 09 12 10.7 +0.7
baz=78,SNR=5.7
JFWS Jewell Farm 77.97 346 eP P 09 12 09.1 -0.7
JFWS pmax pmax
comp=Z,99nm,1.4s

JFWS Jewell Farm 77.97 346 eP P 09 12 09.1 -0.7
comp=Z,99nm,1.4s
WUAZ Wupatki 78.02 328 eP P 09 12 12.4 +2.0
comp=Z,86nm,1.4s
WUAZ Wupatki 78.02 328 ⇑P P 09 12 10.5 +0.1
baz=78,SNR=9.1
S22A 4UR Ranch, Cre 78.05 332 ⇓P P 09 12 10.6 -0.1
baz=78
O29A 4D Ranch, Culb 78.05 338 ⇑P P 09 12 10.3 0.0
baz=78
R23A Moffat 78.05 333 ⇓P P 09 12 10.0 -0.6
baz=78
P27A Ficken Ranch, 78.12 336 ⇓P P 09 12 10.0 -0.8
baz=78
BAR Barrett 78.20 323 eP P 09 12 12.9 +1.6
comp=Z,129nm,1.3s
MVCO Mesa Verde 78.24 331 eP P 09 12 13.2 +1.5
comp=Z,56nm,1.1s
MVCO Mesa Verde 78.24 331 ⇓P P 09 12 14.0 +2.3
baz=79,SNR=8.0
MONP Monument Peak 78.24 323 ⇓P P 09 12 14.0 +2.2
baz=79
PDMCI Parker Dam,Lak 78.27 325 ⇑P P 09 12 13.1 +1.5
baz=79
O28A Krutsinger Ran 78.36 337 ⇑P P 09 12 11.3 -0.8
baz=79
BC3 Big Chuckawall 78.38 324 ⇓P P 09 12 12.3 -0.1
baz=79,SNR=8.9
P26A Davis Ranch, A 78.38 336 ⇓P P 09 12 14.7 +2.4
baz=79
BGNE Belgrade 78.44 340 eP P 09 12 15.9 +3.5
comp=Z,60nm,1.0s
BGNE Belgrade 78.44 340 ⇑P P 09 12 11.8 -0.6
baz=79
Q24A Divide 78.48 334 ⇓P P 09 12 11.7 -1.4
baz=79
109C Camp Elliot, M 78.59 323 ⇑P P 09 12 13.0 -0.4
baz=79
M31A Lambtecht Ranc 78.62 340 ⇓P P 09 12 12.3 -1.1
baz=79
P25A Willow Gulch B 78.62 335 ⇑P P 09 12 13.1 -0.5
baz=79
N29A Votaw Ranch, W 78.63 338 ⇑P P 09 12 12.6 -1.0
baz=79
IRM Iron Mountain 78.64 325 ⇓P P 09 12 13.2 -0.5
baz=79,SNR=9.3
O27A Beecher Island 78.65 337 ⇑P P 09 12 13.1 -0.6
baz=79
N28A Pribbeno Ranch 78.80 338 ⇑P P 09 12 13.7 -0.8
baz=79
W13A Hualapai Mount 78.81 326 ⇑P P 09 12 14.7 -0.2
baz=79,SNR=7.2
PFO Pinyon Flat Ob 78.84 323 eP P 09 12 18.5 +3.6
PFO Pinyon Flat Ob 78.84 323 P P 09 12 15.3 +0.4
comp=Z,8.2nm,1.0s,baz=123,slow=4.3,SNR=8.8
PFO Pinyon Flat Ob 78.84 323 eP P 09 12 18.5 +3.6
PFO Pinyon Flat Ob 78.84 323 ⇑P P 09 12 15.4 +0.5
baz=79,SNR=9.6
P24A Kohler Place, 78.89 335 ⇑P P 09 12 15.1 0.0
baz=79
BELC Belle Mtn. Jos 78.92 324 ⇓P P 09 12 15.3 -0.1
baz=79
O26A Horse Wrangler 78.98 336 ⇓P P 09 12 15.3 -0.3
baz=79
PV01 Paradox Valley 79.06 331 eP P 09 12 17.9 +1.7
comp=Z,4μm,1.5s
P23A Jefferson 79.10 334 ⇑P P 09 12 16.5 0.0
baz=79
O25A Wiggins 79.14 335 ⇓P P 09 12 16.5 +0.1
baz=80
U15A North Rim 79.19 328 ⇑P P 09 12 16.0 -1.0
baz=80,SNR=7.1
OGNE Ogallala 79.19 337 ⇑P P 09 12 16.4 -0.3
baz=80
MURC Murrieta 79.20 323 ⇑P P 09 12 16.3 -0.5
baz=80
M29A Burnside Ranch 79.22 338 ⇑P P 09 12 16.0 -0.8
baz=80
N27A Anderson Farm, 79.23 337 ⇓P P 09 12 16.1 -0.8
baz=80
L31A Butterfield Fa 79.35 340 ⇑P P 09 12 16.4 -0.9
baz=80
SMCO Snowmass 79.35 333 eP P 09 12 19.6 +1.7
comp=Z,67nm,1.3s
LDFC Landfair 79.37 325 eP P 09 12 20.3 +2.5
comp=Z,54nm,1.2s
GMRC Granite Mounta 79.39 325 ⇑P P 09 12 17.2 -0.8
baz=80,SNR=7.6
ISCO Idaho Springs 79.39 334 eP P 09 12 17.4 -0.6
ISCO pmax pmax
comp=Z,36nm,1.4s
ISCO Idaho Springs 79.39 334 eP P 09 12 17.4 -0.6
comp=Z,36nm,1.4s
ISCO Idaho Springs 79.39 334 ⇓P P 09 12 16.6 -1.4
baz=80
L30A Spencer Herefo 79.39 339 ⇑P P 09 12 16.5 -1.1
baz=80
PV04 Paradox Valley 79.42 331 eP P 09 12 20.2 +2.1
P22A Eagle 79.63 333 ⇓P P 09 12 18.3 -1.0
baz=80
L29A Maesberg Ranch 79.72 339 ⇑P P 09 12 18.9 -0.6
baz=80
HEC Hector,Ludlow 79.75 324 ⇑P P 09 12 19.9 0.0
baz=80,SNR=11
O23A Lake Granby, G 79.86 334 ⇑P P 09 12 20.1 -0.5
baz=80
BFSC Mount Baldy Ra 79.94 323 ⇓P P 09 12 21.0 +0.1
baz=80
N24A Carr 80.04 335 ⇑P P 09 12 19.4 -2.0
baz=80
O22A Kremmling 80.05 334 ⇓P P 09 12 20.5 -1.1
baz=80,SNR=6.7
RRX Edison Barstow 80.12 324 ⇑P P 09 12 21.6 -0.2
baz=80
MWC Mount Wilson 80.13 323 eP P 09 12 16.4 -5.7
MWC Mount Wilson 80.13 323 eP P 09 12 16.4 -5.7
PASC Pasadena Art C 80.15 323 eP P 09 12 23.6 +1.6
comp=Z,187nm,1.9s
ECSD EROS Data Cent 80.19 342 eP P 09 12 20.8 -1.1
ECSD EROS Data Cent 80.19 342 ⇑P P 09 12 20.9 -1.0
baz=80
BOSA Boshof 80.24 118 eP P 09 12 23.0 +0.1
BOSA pmax pmax
comp=Z,15nm,0.7s
BOSA Boshof 80.24 118 P P 09 12 21.5 -1.4
comp=Z,8.5nm,0.8s,baz=209,slow=1.3,SNR=5.7
BOSA Boshof 80.24 118 eP P 09 12 23.0 +0.1
comp=Z,15nm,0.7s
K29A Lazy Trails An 80.31 339 ⇓P P 09 12 20.4 -2.2
baz=81
GSC Goldstone 80.36 324 eP P 09 12 21.7 -1.5
GSC pmax pmax
comp=Z,71nm,1.7s
GSC Goldstone 80.36 324 eP P 09 12 21.7 -1.5
comp=Z,71nm,1.7s
GSC Goldstone 80.36 324 ⇑P P 09 12 22.0 -1.1
baz=81
CASY Casey 80.40 181 eP P 09 12 21.1 -1.8
comp=Z,47nm,1.1s
SHPR Sheep Range 80.55 326 eP P 09 12 23.6 -0.7
N22A Wattenberg Ran 80.58 334 ⇑P P 09 12 24.0 -0.4
baz=81
K28A Ten Mile Ranch 80.58 339 ⇓P P 09 12 23.7 -0.5
baz=81
M24A Cheyenne 80.59 336 ⇓P P 09 12 23.2 -1.2
baz=81
J30A Dallas 80.59 340 ⇑P P 09 12 25.1 +1.0
baz=81
SHOC Shoshone 80.59 325 ⇓P P 09 12 23.0 -1.2
baz=81
CCUT Cedar City 80.59 328 eP P 09 12 24.6 +0.1
comp=Z,84nm,1.4s
EDW2 Edwards Air Fo 80.61 323 ⇑P P 09 12 23.2 -1.3
baz=81,SNR=7.1
PHWY Pilot Hill 80.66 335 eP P 09 12 26.7 +1.8
comp=Z,217nm,2.3s
O20A White River Ci 80.66 333 eP P 09 12 27.2 +2.5
comp=Z,76nm,1.5s
O20A White River Ci 80.66 333 ⇓P P 09 12 23.5 -1.3
baz=81
SRU San Rafael 80.69 331 eP P 09 12 26.1 +1.2
SRU pmax pmax
comp=Z,24nm,1.0s
SRU San Rafael 80.69 331 eP P 09 12 26.1 +1.2
comp=Z,24nm,1.0s
SPMN St. Paul 80.71 345 eP P 09 12 23.2 -1.4
comp=Z,31nm,1.2s
SPMN St. Paul 80.71 345 ⇓P P 09 12 22.8 -1.9

baz=81
OSI Osito Adit 80.77 323 eP P 09 12 25.7 +0.4
comp=Z,37nm,0.9s
ARUT Antelope Range 80.82 328 eP P 09 12 27.2 +1.5
ARUT Antelope Range 80.82 328 eP P 09 12 27.1 +1.5
comp=Z,1μm,1.3s
K27A Flueckinger Fa 80.84 338 ⇑P P 09 12 24.4 -1.2
baz=81
M23A Laramie 80.90 335 ⇑P P 09 12 24.2 -1.9
baz=81
J29A Okreek 80.91 340 ⇓P P 09 12 24.5 -1.3
baz=81
L25A Engebretsen Ra 80.91 337 ⇑P P 09 12 25.1 -0.9
baz=81
LRMC Laurel Mountai 80.94 324 ⇓P P 09 12 25.1 -1.2
baz=81
I30A Oacoma 81.11 340 ⇑P P 09 12 25.6 -1.3
baz=81
TMUT Trail Mountain 81.13 330 eP P 09 12 29.1 +1.7
comp=Z,289nm,2.3s
J28A Allard Ranch, 81.19 339 ⇑P P 09 12 25.9 -1.5
baz=82
J27A Elkhorn Farm, 81.27 338 ⇑P P 09 12 27.0 -0.8
baz=82
N20A Spence Gulch, 81.28 333 ⇑P P 09 12 27.6 -0.5
baz=82
I29A Vivian Onida 81.46 340 ⇓P P 09 12 26.3 -2.4
baz=82
L23A Garrett 81.47 335 ⇑P P 09 12 27.0 -2.1
baz=82
BRSD Miller 81.47 341 eP P 09 12 28.7 0.0
comp=Z,31nm,0.9s
BRSD Miller 81.47 341 ⇑P P 09 12 26.5 -2.2
baz=82
ISA Isabella 81.47 323 ⇓P P 09 12 26.8 -2.2
baz=82,SNR=6.8
J26A Sides Ranch, S 81.66 338 ⇑P P 09 12 27.6 -2.3
baz=82
I28A Midland 81.70 339 ⇑P P 09 12 28.3 -1.7
baz=82
MPU Maple Canyon 81.91 330 eP P 09 12 34.0 +2.6
comp=Z,68nm,1.3s
VES Vestal, Richgr 81.92 323 ⇓P P 09 12 28.8 -2.5
baz=82,SNR=6.3
H29A Onida 81.99 340 ⇑P P 09 12 28.4 -3.1
baz=82
I27A Quinn 82.03 339 ⇓P P 09 12 31.1 -0.6
baz=82
NLU North Lily Min 82.04 330 eP P 09 12 34.4 +2.3
comp=Z,81nm,1.6s
G30A Faulkton 82.16 341 ⇑P P 09 12 30.8 -1.5
baz=82
J24A Dixon Ranch, L 82.19 337 ⇓P P 09 12 31.2 -1.5
baz=82
K22A Casper 82.22 335 eP P 09 12 35.1 +2.2
comp=Z,125nm,1.4s
K22A Casper 82.22 335 ⇑P P 09 12 30.0 -2.9
baz=83
I26A New Underwood 82.24 338 ⇑P P 09 12 31.5 -1.4
baz=83
R11A Troy Canyon, C 82.25 327 eP P 09 12 35.1 +1.9
comp=Z,58nm,1.4s
R11A Troy Canyon, C 82.25 327 ⇓P P 09 12 32.7 -0.5
baz=83
H28A Mission Ridge 82.27 340 ⇑P P 09 12 30.9 -2.1
baz=83
JLU Jordanelle 82.33 331 eP P 09 12 34.6 +0.9
comp=Z,38nm,1.2s
G29A Hoven 82.43 341 ⇓P P 09 12 32.1 -1.7
baz=83
K21A Alcova 82.47 335 ⇓P P 09 12 32.9 -1.3
baz=83
I25A Rochford 82.50 338 ⇓P P 09 12 33.4 -1.0
baz=83
CTU Camp Tracy 82.53 331 eP P 09 12 36.7 +2.1
comp=Z,40nm,1.4s
H27A Howes 82.54 339 ⇑P P 09 12 33.6 -0.8
baz=83
DUG Dugway 82.55 330 eP P 09 12 36.2 +1.5
DUG Dugway 82.55 330 eP P 09 12 36.2 +1.5
DUG Dugway 82.55 330 ⇓P P 09 12 34.0 -0.7
baz=83
G28A Parade 82.60 340 ⇑P P 09 12 33.9 -0.8
baz=83
I24A Kuemmerle Ranc 82.65 337 ⇑P P 09 12 33.3 -1.8
baz=83
RSSD Black Hills 82.69 337 eP P 09 12 34.4 -1.0
RSSD pmax pmax
comp=Z,18nm,1.0s
RSSD Black Hills 82.69 337 eP P 09 12 34.4 -1.0
comp=Z,18nm,1.0s
H26A Fairpoint 82.74 338 ⇑P P 09 12 34.1 -1.4
baz=83
F30A Leola 82.78 341 ⇑P P 09 12 33.7 -1.9
baz=83
MTUM Tungsten Hills 82.85 324 eP P 09 12 40.0 +3.6
J22A Midwest 82.88 335 ⇑P P 09 12 34.7 -1.6
baz=83
BFZ Birch Farm 82.94 225 eP P 09 12 43.3 +6.5
comp=Z,95nm,1.5s
F29A Eureka 82.99 341 ⇑P P 09 12 35.5 -1.2
baz=83
EYMN Ely 83.06 347 eP P 09 12 36.2 -0.7
comp=Z,52nm,1.3s
J21A Lysite 83.16 335 ⇑P P 09 12 36.0 -1.9
baz=84
G27A Dupree 83.18 339 ⇓P P 09 12 36.0 -1.7
baz=84
BGU Big Grassy Mou 83.25 330 eP P 09 12 41.0 +2.7
comp=Z,33nm,1.6s
G26A Maurine 83.30 339 ⇑P P 09 12 36.4 -1.9
baz=84
I22A 9 Mile Ranch, 83.30 336 ⇓P P 09 12 36.5 -2.0
baz=84
E30A Jud 83.36 342 ⇓P P 09 12 36.9 -1.7
baz=84
J20A Shoshoni 83.39 334 ⇑P P 09 12 37.2 -1.8
baz=84
H24A Dirks Ranch, A 83.42 337 ⇑P P 09 12 37.2 -1.8
baz=84
BW06 Boulder Array 83.43 333 eP P 09 12 39.9 +0.6
comp=Z,36nm,1.3s
PDAR Pinedale Array 83.43 333 P P 09 12 37.4 -1.9
comp=Z,1.7nm,0.7s,baz=159,slow=4.5,SNR=6.3
G25A Newell 83.46 338 ⇑P P 09 12 37.8 -1.4
baz=84
I21A Big Trails, Te 83.51 335 ⇑P P 09 12 37.6 -2.0
baz=84
NVAR Mina Array Bea 83.58 325 P P 09 12 37.8 -2.4
comp=Z,1.2nm,0.5s,baz=141,slow=5.8,SNR=3.9
E29A Napoleon 83.62 341 ⇓P P 09 12 38.5 -1.4
baz=84
F27A Lemmon 83.65 339 ⇓P P 09 12 38.2 -1.9
baz=84
J19A Crowheart 83.67 334 ⇓P P 09 12 38.6 -1.9
baz=84,SNR=6.3
BKZ Black Stump Fm 83.73 227 eP P 09 12 48.4 +7.3
comp=Z,170nm,1.9s
F26A Lodgepole 83.82 339 ⇓P P 09 12 39.6 -1.4
baz=84
HVU Hansel Valley 83.86 331 eP P 09 12 40.8 -0.6
HVU pmax pmax
comp=Z,59nm,1.1s
HVU Hansel Valley 83.86 331 eP P 09 12 40.8 -0.6
comp=Z,59nm,1.1s
D30A Buchanan 83.89 342 ⇓P P 09 12 39.7 -1.5
baz=84
G24A Alzada 83.89 338 ⇑P P 09 12 39.3 -2.2
baz=84
E28A Huff 83.91 341 ⇓P P 09 12 39.5 -1.9
baz=84
URZ Urewera 83.92 228 eP P 09 12 45.4 +3.5
comp=Z,72nm,1.5s
I20A Worland 83.93 335 ⇑P P 09 12 39.5 -2.2
baz=84
RPZ Rata Peaks 83.94 221 eP P 09 12 47.1 +5.2
comp=Z,234nm,1.6s
AHID Auburn Hatcher 84.02 332 eP P 09 12 43.5 +1.2
comp=Z,118nm,1.6s
E27A Carson 84.03 340 ⇑P P 09 12 39.7 -2.3
baz=84
ELK Elko 84.05 328 eP P 09 12 42.2 -0.3
ELK pmax pmax
comp=Z,39nm,1.2s
ELK Elko 84.05 328 P P 09 12 41.8 -0.7
comp=Z,6.9nm,1.0s,baz=152,slow=3.4,SNR=5.5
ELK Elko 84.05 328 eP P 09 12 42.2 -0.3
comp=Z,39nm,1.2s

D29A Pettibone, Tap 84.06 341 ⇑P P 09 12 40.6 -1.6
baz=84
TOA0 Torodi Ar. Sit 84.07 70 eP P 09 12 42.4 -0.5
TORD Torodi Ar. Bea 84.07 70 P P 09 12 41.5 -1.4
comp=Z,8.9nm,0.8s,baz=265,slow=4.0,SNR=11
G23A Biddle 84.09 337 ⇑P P 09 12 40.6 -1.8
baz=84
F25A Bowman 84.13 339 ⇓P P 09 12 41.1 -1.4
baz=84
CMB Columbia Colle 84.28 324 eP P 09 12 47.2 +3.7
CMB pmax pmax
comp=Z,244nm,2.5s
CMB Columbia Colle 84.28 324 eP P 09 12 47.2 +3.7
comp=Z,244nm,2.5s
AGMN Agassiz Nation 84.30 344 eP P 09 12 41.2 -2.0
comp=Z,89nm,1.6s
AGMN Agassiz Nation 84.30 344 ⇑P P 09 12 40.1 -3.2
baz=85
I19A Meeteetse 84.32 334 ⇑P P 09 12 40.6 -3.2
baz=85,SNR=7.4
E26A Carlson Angus 84.32 339 ⇑P P 09 12 42.9 -0.7
baz=85
H20A Greybull 84.35 335 ⇑P P 09 12 41.1 -2.7
baz=85,SNR=7.4
F24A Ekalaka 84.36 338 ⇓P P 09 12 40.9 -2.9
baz=85
C30A Mose, Pekin 84.37 342 ⇑P P 09 12 40.7 -3.0
baz=85
G22A Birney 84.41 336 ⇓P P 09 12 41.3 -2.7
baz=85
REDW Red Top Meadow 84.43 333 eP P 09 12 46.2 +1.8
comp=Z,246nm,2.5s
D28A Regan 84.44 341 ⇓P P 09 12 41.3 -2.8
baz=85
LOHW Long Hollow 84.55 333 eP P 09 12 43.9 -1.1
comp=Z,33nm,1.5s
F23A Volborg 84.56 337 ⇓P P 09 12 41.6 -3.2
baz=85
TPAW Teton Pass 84.58 333 eP P 09 12 47.0 +1.8
comp=Z,29nm,1.1s
E25A Miller Ranch, 84.63 339 ⇓P P 09 12 43.5 -1.6
baz=85
D27A Center 84.63 340 ⇓P P 09 12 41.7 -3.4
baz=85
BMN Battle Mountai 84.68 327 eP P 09 12 48.9 +3.3
BMN pmax pmax
comp=Z,8.0nm,1.0s
BMN Battle Mountai 84.68 327 eP P 09 12 48.9 +3.3
comp=Z,7.8nm,1.0s
G21A Lodge Grass 84.72 336 ⇑P P 09 12 43.7 -2.0
baz=85
FXWY Fox Creek 84.73 333 eP P 09 12 48.4 +2.5
comp=Z,61nm,1.8s
I17A Pilgrim Ck. 84.80 333 ⇓P P 09 12 44.1 -2.1
baz=85
D26A Manning 84.82 340 ⇓P P 09 12 44.1 -1.9
baz=85
H19A Powell 84.86 334 ⇑P P 09 12 44.6 -1.8
baz=85
C28A Hausauer Farms 84.88 341 ⇑P P 09 12 44.1 -2.1
baz=85
F22A Rosebud 84.89 337 ⇓P P 09 12 44.7 -1.8
baz=85
IMW Indian Meadow 84.92 333 eP P 09 12 47.6 +0.7
comp=Z,34nm,1.1s
FLWY Flagg Ranch 84.99 333 eP P 09 12 46.6 -0.6
comp=Z,57nm,1.4s
B30A Myrvik Farm, E 85.02 343 ⇑P P 09 12 45.2 -1.8
baz=85
G20A Bridger 85.06 335 ⇓P P 09 12 44.8 -2.6
baz=85
H18A Shoshone NF, C 85.11 334 ⇓P P 09 12 45.3 -2.5
baz=86
C27A Sayler Ranch, 85.18 341 ⇓P P 09 12 45.1 -2.7
baz=86
D25A Fairfield 85.19 339 ⇓P P 09 12 45.8 -2.1
baz=86
H17A Grant Village 85.21 333 P P 09 12 45.5 -2.8
comp=Z,49nm,1.7s
H17A Grant Village 85.21 333 ⇑P P 09 12 45.6 -2.8
baz=86
B29A Wagenman Farm, 85.29 342 ⇑P P 09 12 46.0 -2.3
baz=86
RLMT Red Lodge 85.35 335 eP P 09 12 47.7 -1.3
comp=Z,60nm,1.4s
YFT Old Faithful 85.35 333 eP P 09 12 49.1 +0.1
comp=Z,40nm,1.6s
E22A Miles City 85.37 337 ⇓P P 09 12 46.1 -2.7
baz=86
C26A Wahner Farm, P 85.45 340 ⇑P P 09 12 45.9 -3.2
baz=86
D24A Glendive 85.46 339 ⇑P P 09 12 46.6 -2.7
baz=86
A30A Hoffart Farm, 85.47 343 ⇓P P 09 12 46.3 -2.8
baz=86
YNR Norris Junctio 85.52 333 eP P 09 12 52.2 +2.4
comp=Z,86nm,2.1s
B28A Dugan Ranch, T 85.54 342 ⇓P P 09 12 46.9 -2.6
baz=86
F20A Billings 85.55 336 ⇓P P 09 12 47.2 -2.5
baz=86
YMR Madison River 85.59 333 eP P 09 12 49.5 -0.6
comp=Z,243nm,1.9s
LAO LASA Array 85.68 337 eP P 09 12 51.2 +0.9
comp=Z,59nm,1.3s
A29A Manning Farm, 85.69 342 ⇑P P 09 12 48.0 -2.3
baz=86
D23A Lindsay 85.79 338 ⇑P P 09 12 49.1 -1.8
baz=86
E21A Keefer Ranch, 85.83 337 ⇑P P 09 12 49.1 -1.9
baz=86
OHCM Honcut 85.83 324 eP P 09 12 55.0 +3.8
C24A Savage 85.86 339 ⇓P P 09 12 49.5 -1.8
baz=86
F19A Roth Farm, Mol 85.87 335 ⇓P P 09 12 48.8 -2.5
baz=86
QLMT Earthquake Lak 85.90 333 eP P 09 12 55.5 +3.8
A28A Rude Farm, Bot 85.94 342 ⇑P P 09 12 49.2 -2.3
baz=86
HLID Hailey 86.01 331 eP P 09 12 52.4 +0.2
comp=Z,102nm,1.7s
HLID Hailey 86.01 331 ⇑P P 09 12 51.5 -0.8
baz=86
D22A Cohagen 86.07 337 ⇑P P 09 12 51.3 -1.0
baz=86
ULM Lac du Bonnet 86.14 345 eP P 09 12 51.4 -1.0
ULM Lac du Bonnet 86.14 345 P P 09 12 49.6 -2.8
comp=Z,14nm,1.2s,baz=182,slow=6.2,SNR=5.8
ULM Lac du Bonnet 86.14 345 eP P 09 12 51.4 -1.0
E20A Meyer Farm, Mu 86.15 336 ⇓P P 09 12 50.6 -2.1
baz=86,SNR=7.3
B25A Knox Farm, Ray 86.16 340 ⇑P P 09 12 49.8 -2.9
baz=86
D21A La Casta Ranch 86.26 337 ⇑P P 09 12 49.8 -3.4
baz=87
C23A Lambert 86.34 338 ⇑P P 09 12 50.5 -3.0
baz=87
E19A Rath Farm, Rou 86.34 336 ⇑P P 09 12 50.4 -3.3
baz=87,SNR=9.2
A26A Wade Farm, Ken 86.41 341 ⇑P P 09 12 51.0 -2.9
baz=87
MCMT McKenzie Canyo 86.44 332 eP P 09 12 54.2 -0.2
comp=Z,42nm,1.5s
MFID Camas Ranch 86.48 330 eP P 09 12 57.6 +3.1
comp=Z,306nm,2.6s
C22A Vida 86.51 338 ⇑P P 09 12 51.3 -3.0
baz=87
DGMT Dagmar 86.64 339 eP P 09 12 53.6 -1.4
comp=Z,140nm,1.2s
DGMT Dagmar 86.64 339 ⇑P P 09 12 52.1 -2.9
baz=87
D20A Manuel Ranch, 86.66 336 ⇑P P 09 12 52.7 -2.5
baz=87,SNR=7.0
BOZ Bozeman (W) 86.67 333 eP P 09 12 54.3 -1.1
BOZ pmax pmax
comp=Z,77nm,2.0s
BOZ Bozeman (W) 86.67 333 eP P 09 12 54.3 -1.1
comp=Z,77nm,2.0s
A25A Svangstu Ranch 86.74 340 ⇓P P 09 12 53.5 -1.9
baz=87
DLMT Dillon 86.79 333 eP P 09 12 59.2 +3.3
comp=Z,77nm,1.5s
B23A Brockton 86.87 339 ⇓P P 09 12 53.6 -2.5
baz=87
WVOR Wild Horse Val 86.92 327 eP P 09 12 59.8 +3.2
WVOR pmax pmax
comp=Z,50nm,1.3s
WVOR Wild Horse Val 86.92 327 eP P 09 12 59.8 +3.2
comp=Z,50nm,1.3s
C21A Desert Coulee 86.96 337 ⇑P P 09 12 53.9 -2.7
baz=87,SNR=14
D19A Cripps Ranch, 86.98 336 ⇓P P 09 12 54.2 -2.5
baz=87
A24A Westby 86.99 340 ⇑P P 09 12 53.6 -3.1
baz=87
B22A Reddig Ranch S 87.03 338 ⇓P P 09 12 54.6 -2.3
baz=87
LRM Limekiln Ridge 87.12 333 eP P 09 12 58.9 +1.2
comp=Z,385nm,1.5s
C20A Veseth Ranch, 87.16 337 ⇓P P 09 12 55.6 -2.0
baz=88
MOD Modoc 87.26 326 eP P 09 12 59.6 +1.3
comp=Z,82nm,1.4s
WDC Whiskeytown Da 87.31 324 eP P 09 12 56.8 -1.6
WDC pmax pmax
comp=Z,27nm,0.9s
WDC Whiskeytown Da 87.31 324 eP P 09 12 56.8 -1.6
comp=Z,27nm,0.9s
B21A Ellsworth Farm 87.47 338 ⇑P P 09 12 57.6 -1.4
baz=88
C19A Slack Wire Ran 87.53 336 ⇓P P 09 12 57.6 -1.8
baz=88
KMRM Mail Ridge 87.61 323 eP P 09 13 05.8 +5.8
comp=Z,165nm,1.4s
A22A Carney Farms, 87.62 338 ⇑P P 09 12 57.8 -2.0
baz=88
N02D Trinity Center 87.69 324 ⇑P P 09 12 58.5 -1.8
baz=88
M04C Macdoel 87.89 325 ⇑P P 09 12 58.5 -2.8
baz=88
A21A Bergtoll Ranch 87.93 338 ⇓P P 09 12 58.5 -2.7
baz=88
EGMT Eagleton 88.02 336 eP P 09 13 02.6 +0.9
comp=Z,47nm,1.3s
EGMT Eagleton 88.02 336 ⇑P P 09 12 58.8 -3.0
baz=88
M02C Callahan 88.08 324 ⇑P P 09 13 01.4 -0.8
baz=88
KHMM Horse Mountain 88.12 323 eP P 09 13 07.5 +5.0
comp=Z,90nm,1.2s
B19A Brinkman Farms 88.12 336 ⇑P P 09 12 59.8 -2.4
baz=88
A20A Cobblestone Ra 88.15 337 ⇑P P 09 13 01.0 -1.4
baz=88,SNR=6.2
K05A Summer Lake 88.17 326 eP P 09 13 03.1 +0.3
comp=Z,200nm,1.4s
SCHQ Schefferville 88.21 3 P P 09 13 00.4 -2.0
comp=Z,6.4nm,0.9s,baz=150,slow=5.2,SNR=4.4
SCHQ Schefferville 88.21 3 eP P 09 13 04.0 +1.6
BMO Blue Mountains 88.27 330 eP P 09 13 05.9 +2.9
comp=Z,97nm,2.0s
YBH Yreka Blue Hor 88.27 325 eP P 09 13 03.6 +0.5
YBH pmax pmax
comp=Z,29nm,1.0s
YBH Yreka Blue Hor 88.27 325 eP P 09 13 03.6 +0.5
comp=Z,30nm,1.0s
CHMT Chamberlain Mo 88.34 333 eP P 09 13 06.0 +2.6
MSO Missoula 88.53 333 eP P 09 13 07.3 +3.1
comp=Z,44nm,1.6s
I07A Izee 88.61 328 eP P 09 13 08.0 +3.4
comp=Z,56nm,1.4s
SLMT Seeley Lake 88.70 333 eP P 09 13 06.8 +1.7
comp=Z,50nm,1.7s
J05D Fort Rock, OR 88.77 326 ⇑P P 09 13 05.6 +0.1
baz=89
PINOR Pine Mountain 89.01 327 eP P 09 13 09.9 +3.6
comp=Z,118nm,1.6s
SWMT Swartz Lake 89.12 333 eP P 09 13 09.8 +2.9
F10A Beach Ranch, E 89.14 330 eP P 09 13 10.4 +3.4
comp=Z,76nm,1.6s
G08A Pilot Rock 89.32 329 eP P 09 13 11.8 +3.8
comp=Z,62nm,1.7s
YBMT Yellow Bay 89.42 333 eP P 09 13 14.8 +6.4
JTMT Jette 89.42 333 eP P 09 13 07.4 -1.0
BLMT Blacktail Moun 89.67 333 eP P 09 13 12.3 +2.6
BSMT Bassoo Peak 89.70 333 eP P 09 13 11.7 +1.9
comp=Z,34nm,1.6s
E09A Wood Farm, Sta 89.95 330 eP P 09 13 22.6 +12
G06A Carlson Farm, 90.01 328 eP P 09 13 14.8 +3.7
comp=Z,175nm,2.0s
H04A Detroit Lake 90.28 327 eP P 09 13 19.1 +6.7
comp=Z,43nm,1.3s
WALA Waterton Lakes 90.37 334 eP P 09 13 15.4 +2.6
comp=Z,0.5nm,1.0s
HAWA Hanford 90.44 329 eP P 09 13 14.8 +1.8
D08A Wollman Farm, 90.71 330 eP P 09 13 16.9 +2.6
comp=Z,76nm,1.9s
E07A Sunnyside 90.71 329 eP P 09 13 21.7 +7.4
comp=Z,19nm,1.2s
LTY Liberty 91.60 329 eP P 09 13 24.4 +5.9
comp=Z,103nm,2.1s
LON Longmire 91.70 328 eP P 09 13 29.6 +11
LON pmax pmax
comp=Z,173nm,2.8s
LON Longmire 91.70 328 eP P 09 13 29.6 +11
comp=Z,172nm,2.8s
B08A Colville Reser 91.91 331 eP P 09 13 22.7 +2.9
comp=Z,58nm,1.7s
TAM Tamanrasset 92.65 64 eP P 09 13 24.7 +0.6
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM Tamanrasset 92.65 64 eP P 09 13 24.7 +0.6
comp=Z,7.1nm,0.9s
EDM Edmonton 93.65 337 eP P 09 13 32.7 +4.9
EDM Edmonton 93.65 337 eP P 09 13 32.7 +4.9
ESDC Sonseca Array 96.31 46 P P 09 13 38.0 -2.3
comp=Z,0.2nm,0.4s,baz=225,slow=1.0,SNR=3.4
YKA Yellowknife Ar 101.70 341 P Pdif 09 14 00.8 -3.0
comp=Z,0.4nm,0.6s,baz=144,slow=4.5,SNR=7.6
YKA PP PP 09 18 16.6 +1.7
comp=Z,0.8nm,0.9s,baz=144,slow=7.4,SNR=4.6
CLL Collm 112.56 43 ePP PP 09 19 35.0 +0.1
ILAR Eielson Array 113.86 333 PP PP 09 19 50.0 +6.2
comp=Z,1.3nm,1.1s,baz=124,slow=7.0,SNR=4.3
UZH Uzhgorod 117.01 48 ePKIKP PKPdf 09 19 03.3 +7.1
MMAI Mount Meron Ar 120.59 69 PKP PKPdf 09 19 01.0 -2.7
comp=Z,6.1nm,0.8s,baz=50,slow=2.6,SNR=4.2
WRA Warramunga Arr 121.09 209 PKP PKPdf 09 19 01.9 -3.2
comp=Z,1.5nm,0.8s,baz=158,slow=1.6,SNR=6.0
BRTR Keskin Array B 121.64 61 PKP PKPdf 09 19 03.0 -2.6
comp=Z,1.8nm,0.8s,baz=60,slow=3.2,SNR=7.5
AKASG Malin Array Be 121.93 47 PKP PKPdf 09 19 03.0 -2.6
comp=Z,1.6nm,0.6s,baz=260,slow=3.0,SNR=6.4
FINES FINESS Array B 122.67 34 PKP PKPdf 09 19 06.5 -0.2
comp=Z,2.4nm,0.9s,baz=46,slow=4.0,SNR=3.8
ARCES ARCESS Array B 123.67 25 PKP PKPdf 09 19 08.8 +0.3
comp=Z,3.3nm,0.9s,baz=352,slow=2.7,SNR=3.5
APA Apatity 126.45 27 ⇑/PKIKP PKPdf 09 19 25.4 +12
OBN Obninsk 127.15 43 i PKIKP PKPdf 09 19 16.8 +1.4
OBN e 09 19 25.5
OBN i 09 19 30.3
OBN pmax pmax
comp=Z,38nm,1.4s
KLMR Klimovskoe 129.09 36 ePKIKP PKPdf 09 19 17.1 -1.9
KLMR pmax pmax
comp=Z,82nm,1.3s
KBZ Khabaz 129.39 58 PKP PKPdf 09 19 20.4 +0.4
comp=Z,3.3nm,1.1s,baz=198,slow=6.4,SNR=2.8
BILL Bilibino 132.50 334 ePKIKP PKPdf 09 19 26.5 +1.2
BILL pmax pmax
comp=Z,7.0nm,1.5s
GEYT Alibeck 139.71 69 PKP PKPdf 09 19 38.6 -1.1
comp=Z,2.5nm,0.7s,baz=0.0,slow=2.0,SNR=4.5
SEY Seymchan 139.71 330 PKP PKPdf 09 19 38.9 +0.1
comp=Z,5.1nm,0.9s,baz=162,slow=3.9,SNR=5.4
PETK Petropavlovsk- 139.90 314 PKIKP PKPdf 09 19 40.0 +0.5
PETK Petropavlovsk- 139.90 314 PKP PKPdf 09 19 40.0 +0.5
comp=Z,4.5nm,0.9s,baz=117,slow=12,SNR=2.4
PALK Pallekele 143.62 130 PKhKP PKPpre 09 19 42.9
comp=Z,44nm,1.2s,baz=232,slow=6.6,SNR=4.7
POO Poona 146.04 108 ⇓iP PKPdf 09 19 51.0 -0.4
comp=Z,40nm,1.0s
BRVK Borovoye 146.93 43 ePKIKP PKPdf 09 19 50.9 -0.9
BRVK Borovoye 146.93 43 ePKPdf PKPdf 09 19 50.9 -0.9
BVAR Borovoye Array 147.00 43 PKPbc PKPdf 09 19 52.4 +0.5
comp=Z,8.0nm,0.6s,baz=284,slow=4.1,SNR=9.9
KBL Kabul 147.88 77 ePKIKP PKPdf 09 19 54.5 +0.2
KBL Kabul 147.88 77 ePKPdf PKPdf 09 19 54.5 +0.2
YAK Yakutsk 148.38 341 ePKIKP PKPdf 09 19 54.9 +1.0
YAK pmax pmax
comp=Z,38nm,1.2s
YAK Yakutsk 148.38 341 ePKPdf PKPdf 09 19 55.6 +1.7
SBUM Sibu 148.73 188 ePKPdf PKPdf 09 19 57.9 +1.8
HYB Hyderabad 149.08 114 i PKP PKPbc 09 19 59.0 -1.6
LHMI Lhok Sumawe 149.94 158 ePKPdf PKPdf 09 19 59.4 +1.4
IPM Ipoh 150.29 166 ePKPdf PKPbc 09 20 01.5 -2.2
YSS Yuzh-Sakhalins 150.57 307 ePKIKP PKPbc 09 20 05.0 +1.7
YSS e 09 20 18.0
YSS Yuzh-Sakhalins 150.57 307 ePKPdf PKPdf 09 20 00.6 +2.7
YSS ePKPbc PKiKP 09 20 06.3 +2.3
YSS ePKPab PKPab 09 20 11.6 +1.4
KULM Kulim 151.00 165 ePKPdf PKPdf 09 20 02.5 +2.9
EKS2 Erkin-Say 151.79 61 ePKIKP PKPdf 09 20 00.4 +0.3
EKS2 e 09 20 06.9
EKS2 Erkin-Say 151.79 61 ePKPdf PKPdf 09 20 00.4 +0.3
EKS2 ePKPbc PKiKP 09 20 06.9 0.0
AAK Ala-Archa 152.32 61 ePKIKP PKPbc 09 20 07.3 -0.4
AAK Ala-Archa 152.32 61 PKPbc PKPbc 09 20 06.2 -1.6
comp=Z,8.9nm,0.7s,baz=189,slow=3.1,SNR=7.1
AAK Ala-Archa 152.32 61 ePKPbc PKPbc 09 20 07.3 -0.4
KURK Kurchatov 152.60 43 ePKIKP PKPdf 09 19 59.3 -1.6
KURK e 09 20 10.1
KURK Kurchatov 152.60 43 ePKPdf PKPdf 09 19 59.2 -1.6
KURK ePKPbc PKiKP 09 20 10.1 +2.1
NVS Novosibirsk 152.62 32 ePKIKP PKPbc 09 20 05.6 -2.1
NVS e 09 23 49.4
NVS pmax pmax
comp=Z,92nm,1.5s
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=E,20nm,1.4s
TKM2 Tokmak 2 153.08 60 ePKIKP PKPdf 09 20 03.6 +1.5
TKM2 e 09 20 10.4
TKM2 e 09 20 20.0
TKM2 Tokmak 2 153.08 60 ePKPdf PKPdf 09 20 03.6 +1.5
TKM2 ePKPbc PKiKP 09 20 10.4 +0.8
TKM2 ePKPab PKPab 09 20 19.9 -1.1
KSH Kashi 153.72 68 ePKPbc PKPbc 09 20 09.8 -1.1
KSH epPKP PKPab 09 20 20.8 -3.0
KSH esPKP 09 20 24.0
KSH ePP PP 09 24 01.3 +2.7
KSH eSKS SKSdf 09 27 11.0 +1.9
ZAA0 Zalesovo Array 153.90 32 ePKPdf PKPdf 09 20 01.2 -1.4
ZAA0 ePKPbc PKPbc 09 20 10.2 -0.4
ZALV Zalesovo Beam 153.90 32 PKP PKPdf 09 19 59.8 -2.9
comp=E,3.8nm,0.8s,baz=305,slow=2.3,SNR=4.1
ZALV PKPbc PKPbc 09 20 08.7 -1.9
comp=E,11nm,0.6s,baz=302,slow=3.1,SNR=15
MJAR Matsushiro Arr 155.13 285 PKPbc PKPdf 09 20 14.1 +9.1
comp=E,5.0nm,1.2s,baz=77,slow=3.7,SNR=5.2
MJAR PKPab PKPab 09 20 27.1 -2.7
comp=E,1.9nm,0.8s,baz=142,slow=3.1,SNR=4.5
MAT Matsushiro 155.14 285 ePKP PKPdf 09 20 07.0 +2.0
BOD Bodaibo 155.46 352 ePKIKP PKPdf 09 20 12.9 +8.2
BOD pmax pmax
comp=Z,28nm,1.4s
MKAR Makanchi Array 156.51 48 PKPbc PKPdf 09 20 16.9 +10
comp=Z,2.1nm,0.7s,baz=338,slow=1.3,SNR=3.8
MKAR PKPab PKPab 09 20 34.3 -1.0
comp=Z,6.0nm,0.6s,baz=282,slow=2.4,SNR=6.8
USRK Ussuriysk Arra 158.61 307 PKPab PKPab 09 20 44.7 +0.3
comp=Z,0.5nm,0.4s,baz=144,slow=3.5,SNR=4.7
IRK Irkutsk 161.20 7 ePKP2 PKPab 09 20 56.7 +1.4
IRK pmax pmax
comp=Z,77nm,2.1s
WMQ Urumqi 161.23 51 ePKP PKPdf 09 20 13.8 +1.6
WMQ LR LR
comp=Z,400nm,21.6s
WMQ LR LR
comp=Z,390nm,20.8s
WMQ LR LR
comp=Z,480nm,22.8s
MOY Mondy 161.27 14 ePKP2 PKPab 09 21 06.9 +11
CMAR Chiang Mai Arr 162.87 150 PKP PKPdf 09 20 13.8 -0.7
comp=Z,1.6nm,0.3s,baz=300,slow=6.5,SNR=5.7
ZAK Zakamensk 162.90 10 ePKIKP PKPdf 09 20 17.4 +3.7
ZAK e 09 21 02.6
ZAK pmax pmax
comp=Z,4.0nm,2.0s
SONM Songino Array 165.75 4 PKP PKPdf 09 20 14.5 -1.9
comp=Z,0.8nm,0.8s,baz=64,slow=3.4,SNR=2.6
SONM PKPab PKPab 09 21 15.8 +0.2
comp=Z,2.5nm,0.9s,baz=336,slow=2.6,SNR=5.3
NJ2 Nanjing 170.71 263 ePKP PKPdf 09 20 22.5 +2.5
GTA Gaotai 171.26 46 ePKP PKPdf 09 20 22.3 +2.0
GTA pPKP pPKPdf 09 20 33.0 +6.1
GTA sPKP 09 20 36.8
GTA PKPab PKPab 09 21 42.8 +2.5
HHC Hu-ho-hao-te 172.24 339 ePKP PKPdf 09 20 24.3 +3.6
HHC pPKP pPKPdf 09 20 31.5 +4.2
HHC sPKP 09 20 37.5
GYA Guiyang 172.77 171 PKP PKPdf 09 20 22.8 +1.4
GYA pPKP pPKPdf 09 20 34.5 +6.6
GYA PKPab PKPab 09 21 51.0 +3.9
GYA PKS PKSdf 09 23 54.0 +0.1
GYA PP PP 09 25 42.5 +4.9
GYA SKKS 09 32 24.0
GYA SS SS 09 46 51.5 +2.7
GYA AMB AMB
comp=Z,180nm,8.5s
GYA LR LR
comp=Z,180nm,21.5s
GYA LR LR
comp=Z,170nm,21.8s
CD2 Chengdu 175.52 126 PKP PKPdf 09 20 23.0 +0.9
CD2 pPKP pPKPdf 09 20 34.3 +5.7
CD2 sPKP 09 20 38.0
CD2 PKS PKSdf 09 23 53.8 -0.5
CD2 PP PP 09 25 55.5 +3.4
CD2 SKS SKSdf 09 27 20.5 -3.8
CD2 SKKS SKKSac 09 32 36.3 -1.3
CD2 SS SS 09 47 13.8 -3.6
CD2 AMB AMB
comp=Z,420nm,6.5s
LZH Lanzhou 175.81 53 ePKP PKPdf 09 20 31.8 +10
LZH pPKP pPKPdf 09 20 41.5 +13
LZH sPKP 09 20 46.5

*IDC **27** 09:04:35.1±0.8, 33°.97S×72°.76W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.1/35, mbtmp4.2/9, ML3.5/1, MS4.8/1, Ms1 4.8/1, ms1mx4.1/42, Error ellipse: s-maj=29.7km s-min=23.5km az=76.0*

*ISCJB **27** 09:04:37.6±0.8, 33°.6S±0°.1×72°.43W±0°.06, h12km, mb4.2/8, Error ellipse: s-maj=15.1km s-min=6.9km az=170.4*

*NEIC **27** 09:04:40.8±0.7, 33°.94S×72°.59W, h35km, mb4.5/1, Error ellipse: s-maj=19.9km s-min=16.9km az=137.0*

*GUC **27** 09:04:45.2±0.5, 33°.53S×72°.06W, h15km±22km, ML4.6*

ISC 27 09:04:38.4±0.9, 33°.75S±0°.1×72°.34W±0°.07, h12km, n17, σ1§35/18, mb4.5/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.87	42	eP	Pb	09 04 56.7	+1.2
IHA				eS	Sg	09 05 05.2	-1.5
TACH	Talagante	1.17	89	eP	Pg	09 05 01.8	+0.9
ROCH	El Roble	1.31	58	eP	Pn	09 05 03.6	+0.8
SAN	Santiago	1.42	81	eP	Pg	09 05 05.6	-0.1
SAN				eS	Sn	09 05 21.1	-1.6
PEL	Peldehue	1.48	69	eP	Pb	09 05 06.6	+0.7
PEL				eS	Sn	09 05 22.4	-1.9
PEL				AML	AML	09 05 27.8	
	comp=N,26μm,0.6s						
CFAA	Coronel Fontan	4.03	60	Pn	Pn	09 05 44.3	+4.3
	comp=N,2.2nm,0.3s,baz=193,slow=14,SNR=2.4						
CFAA				LR	LR	09 07 18.5	
	comp=N,11μm,21.7s,baz=71,slow=36						
SIV	San Ignacio	20.33	33	P	P	09 09 16.1	+1.5
	comp=N,4.1nm,0.6s,baz=209,slow=8.2,SNR=5.6						
QSPA	South Pole Qui	56.56	180	P	P	09 14 16.5	-4.2
	comp=N,7.4nm,1.0s,baz=193,slow=0.8,SNR=5.3						
TXAR	Lajitas Array	69.33	331	P	P	09 15 44.7	-1.2
	comp=N,0.8nm,0.9s,baz=141,slow=5.8,SNR=2.8						
ANMO	Albuquerque	75.38	332	eP	P	09 16 23.0	+1.0
	comp=N,6.9nm,1.4s						
BOSA	Boshof	80.44	118	P	P	09 16 50.2	-0.3
	comp=N,6.3nm,1.1s,baz=239,slow=5.7,SNR=3.2						
PDAR	Pinedale Array	83.36	333	P	P	09 17 04.7	-0.7
	comp=N,0.7nm,0.9s,baz=117,slow=3.1,SNR=2.2						
NVAR	Mina Array Bea	83.47	325	P	P	09 17 05.2	-0.9
	comp=N,1.0nm,0.7s,baz=160,slow=5.6,SNR=3.7						
TORD	Torodi Ar. Bea	84.33	70	P	P	09 17 11.9	+1.1
	comp=N,2.3nm,0.8s,baz=290,slow=6.3,SNR=5.0						
ULM	Lac du Bonnet	86.12	345	P	P	09 17 18.8	-0.1
	comp=N,3.3nm,0.9s,baz=166,slow=5.9,SNR=3.0						
WRA	Warramunga Arr	120.92	209	PKP	PKPdf	09 23 28.7	-2.6
	comp=N,0.5nm,0.5s,baz=154,slow=1.7,SNR=6.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
ZALV	Zalesovo Beam	154.08	32	PKPbc	PKPbc	09 24 38.7	+1.2
	comp=N,1.8nm,0.6s,baz=319,slow=4.2,SNR=4.9						

IDC **27** *09:06:10.8±0.4, 34.°04S×72.°28W, h0km, mb4.9/22, mb1 5.0/24, mb1mx4.8/35, mbtmp4.9/24, ML4.6/2, Error ellipse: s-maj=16.6km s-min=13.9km az=64.0*

ISCJB **27** *09:06:12.6±0.2, 34.°00S±0.°04×72.°38W±0.°04, h17km, mb5.1/72, Error ellipse: s-maj=6.2km s-min=4.5km az=163.6*

MOS **27** *09:06:15.9±1.0, 33.°75S×72.°25W, h33km, mb5.5/13, Error ellipse: s-maj=29.7km s-min=12.3km az=111.9*

NEIC **27** *09:06:16.5±0.2, 34.°00S×72.°20W, h35km, mb5.3/50, Error ellipse: s-maj=7.2km s-min=5.4km az=64.0*

GUC **27** *09:06:16.2±0.6, 33.°88S×72.°47W, h15km±62km, ML5.3*

ISC 27 09:06:13.7±0.3, **34.°00S**±0.°06×**72.°26W**±0.°06, **h17km, n540,** σ0.72/546, **mb5.2**/72, **193C-201D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.09	28	eP	Pb	09 06 33.7	-0.5
IHA				eS	Sb	09 06 47.6	-0.6
SAN	Santiago	1.43	68	eP	Pg	09 06 41.6	+0.3
SAN				eS	Sg	09 07 00.7	+0.6
ROCH	El Roble	1.46	46	eP	Pg	09 06 41.6	-0.2
PCH	Pirque	1.50	76	eP	Pg	09 06 43.1	+0.6
PEL	Peldehue	1.56	57	eP	Pg	09 06 43.2	-0.6
PEL				eS	Sg	09 07 03.8	-0.4
PEL				AML	AML	09 07 13.6	
	comp=E,65µm,0.3s						
CFAA	Coronel Fontan	4.14	56	Pn	Pn	09 07 17.5	+1.3
	baz=211,slow=18,SNR=2.0						
PLCA	Paso Flores	6.86	169	eP	Pn	09 07 54.8	+1.2
PLCA	Paso Flores	6.86	169	ePn	Pn	09 07 54.8	+1.2
TRQA	Tornquist	9.26	119	ePn	Pn	09 08 27.3	+0.8
CPUP	Villa Florida	14.99	63	Pn	Pn	09 09 45.4	+0.6
	comp=E,0.7nm,0.3s,baz=234,slow=18,SNR=2.1						
LPAZ	La Paz	18.02	13	P	P	09 10 24.9	+0.4
	comp=E,0.6nm,0.3s,baz=192,slow=7.3,SNR=4.2						
SIV	San Ignacio	20.57	32	P	P	09 10 51.0	-0.8
	comp=E,43nm,0.9s,baz=234,slow=14,SNR=7.5						
NNA	Nana	22.30	348	P	P	09 11 09.4	-1.1
	comp=E,34nm,1.0s,baz=167,slow=13,SNR=5.6						
SAML	Samuel	26.29	21	eP	P	09 11 49.6	+1.2
	comp=E,38nm,1.1s						
BDFB	Brasilia	28.48	56	P	P	09 12 07.4	-0.9
	comp=E,14nm,0.7s,baz=220,slow=7.6,SNR=4.5						
OTAV	Otavalo	34.55	349	eP	P	09 13 04.4	+2.4
	comp=E,51nm,1.6s						
RCBR	Riachuelo	43.79	58	P	P	09 14 18.3	-0.5
	comp=E,12nm,1.1s,baz=49,slow=9.3,SNR=2.2						
JTS	JuntasAbangare	45.66	342	P	P	09 14 33.4	-0.3
	comp=E,2.9nm,0.7s,baz=199,slow=6.2,SNR=4.5						
SNAA	Sanae	51.66	158	P	P	09 15 18.1	-1.1
	comp=E,19nm,1.1s,baz=278,slow=5.6,SNR=8.8						
APG	El Apazote	51.72	337	P	P	09 15 17.8	-2.7
	comp=E,7.0nm,1.0s,baz=196,slow=5.9,SNR=4.1						
CELP	Cerrillos	52.06	7	eP	P	09 15 22.2	-0.5
LRS	Lares	52.25	7	eP	P	09 15 24.0	-0.1
ANWB	Willy Bob	52.34	13	eP	P	09 15 22.8	-1.9
	comp=E,46nm,0.8s						
QSPA	South Pole Qui	56.24	180	P	P	09 15 51.9	-1.0
	comp=E,26nm,0.9s,baz=303,slow=1.2,SNR=9.5						
035A	Encino	65.37	335	⇓P	P	09 16 55.9	+0.7
	baz=66						
936A	North Padre Is	65.54	336	⇑P	P	09 16 57.1	+0.8
	baz=66						
034A	Hebbronville	65.70	334	⇑P	P	09 16 58.0	+0.7
	baz=66						
TIGA	Tifton	65.96	349	⇑P	P	09 16 59.0	+0.2
	baz=66,SNR=5.8						
934A	Benavides	66.13	335	⇑P	P	09 17 00.5	+0.4
	baz=66						
933A	Laredo	66.41	334	⇓P	P	09 17 03.1	+1.2
	baz=67,SNR=6.5						
835A	Beeville	66.51	335	⇑P	P	09 17 03.4	+0.9
	baz=67						
834A	Tilden	66.62	335	⇑P	P	09 17 04.8	+1.6
	baz=67,SNR=12						
735A	Kenedy	67.03	336	⇑P	P	09 17 07.1	+1.4
	baz=67,SNR=9.8						
833A	Chaparral WMA,	67.10	334	⇑P	P	09 17 07.3	+1.0
	baz=67,SNR=21						
832A	Faith Ranch, C	67.28	334	⇓P	P	09 17 07.7	+0.3
	baz=68,SNR=11						
734A	La Parita Cree	67.28	335	⇓P	P	09 17 07.9	+0.5
	baz=68,SNR=6.3						
636A	Smothers Creek	67.35	337	⇓P	P	09 17 08.6	+0.8
	baz=68,SNR=9.2						
733A	Divot King Ran	67.42	334	⇑P	P	09 17 08.9	+0.6
	baz=68,SNR=8.3						
635A	Leesville	67.50	336	⇑P	P	09 17 09.1	+0.3
	baz=68						
538A	Harpers Horsep	67.54	338	⇓P	P	09 17 09.5	+0.5
	baz=68						
732A	Laxson Ranch,	67.68	334	⇓P	P	09 17 10.2	+0.2
	baz=68,SNR=16						
GOGA	Godfrey	67.87	350	eP	P	09 17 11.2	+0.2
GOGA				pmax	pmax		
	comp=Z,20nm,0.9s						
GOGA	Godfrey	67.87	350	eP	P	09 17 11.2	+0.2
	comp=Z,20nm,0.9s						
536A	Bastrop	67.90	337	⇑P	P	09 17 11.9	+0.7
	baz=68,SNR=6.5						
535A	Dale	68.03	336	⇑P	P	09 17 12.6	+0.5
	baz=68,SNR=13						
633A	Saathoff Ranch	68.05	335	⇑P	P	09 17 12.3	0.0
	baz=68,SNR=9.5						
LRAL	Lakeview Retre	68.10	347	eP	P	09 17 11.8	-0.7
	comp=Z,14nm,1.1s						
339A	Huntington	68.30	340	⇓P	P	09 17 14.2	+0.4
	baz=69						
632A	Uvalde	68.31	334	⇓P	P	09 17 14.0	0.0
	baz=69,SNR=16						
534A	Blanco	68.33	336	⇑P	P	09 17 13.8	-0.3
	baz=69						
631A	Perdido Creek	68.52	334	⇓P	P	09 17 15.6	+0.4
	baz=69,SNR=9.2						
338A	Crockett	68.54	339	⇑P	P	09 17 16.2	+0.9
	baz=69						
533A	Kerrville	68.56	335	⇓P	P	09 17 15.5	0.0
	baz=69,SNR=14						
337A	Centerville	68.68	338	⇓P	P	09 17 16.8	+0.7
	baz=69						
435B	Jarrell	68.72	337	⇑P	P	09 17 17.0	+0.6
	baz=69						
NATX	Nacogdoches	68.73	340	eP	P	09 17 17.9	+1.4
	comp=Z,43nm,0.8s						
532A	Rocksprings	68.92	334	⇓P	P	09 17 17.8	+0.1
	baz=69,SNR=22						
434A	Burnet	68.98	336	⇑P	P	09 17 18.0	-0.1
	baz=69,SNR=19						
336A	Riesel	69.04	338	⇑P	P	09 17 18.5	+0.1
	baz=69,SNR=13						
CNNC	Cliffs of the	69.08	355	eP	P	09 17 18.9	+0.4
	comp=Z,18nm,0.6s						
335A	Moody	69.13	337	⇓P	P	09 17 18.7	-0.3
	baz=70,SNR=8.4						
531A	Rocksprings	69.19	334	⇓P	P	09 17 19.4	0.0
	baz=70,SNR=11						
JCT	Junction City	69.20	335	eP	P	09 17 19.1	-0.4
JCT				pmax	pmax		
	comp=Z,62nm,1.0s						
JCT	Junction City	69.20	335	eP	P	09 17 19.1	-0.4
	comp=Z,62nm,1.0s						
JCT	Junction City	69.20	335	⇓P	P	09 17 19.6	+0.1
	baz=70,SNR=17						
433A	Art	69.21	335	⇑P	P	09 17 19.7	+0.2
	baz=70,SNR=25						
KMSC	Kings Mountain	69.30	352	⇓P	P	09 17 20.1	+0.1
	baz=70						
334A	Lometa	69.45	336	⇑P	P	09 17 20.7	-0.2
	baz=70,SNR=12						
530A	J-C Ranch, Com	69.47	333	⇓P	P	09 17 21.6	+0.5
	baz=70,SNR=17						
432A	Menard	69.56	335	⇑P	P	09 17 21.3	-0.5
	baz=70,SNR=12						
TXAR	Lajitas Array	69.64	331	P	P	09 17 22.1	-0.3
	comp=Z,10nm,0.8s,baz=154,slow=6.8,SNR=20						
431A	Sonora	69.68	334	⇓P	P	09 17 21.9	-0.6
	baz=70,SNR=9.3						
333A	Richland Sprin	69.69	336	⇑P	P	09 17 22.5	0.0
	baz=70,SNR=16						
529A	Stev Forest Ra	69.78	333	⇑P	P	09 17 23.2	+0.1
	baz=70,SNR=6.2						
WHTX	Lake Whitney	69.80	337	⇓P	P	09 17 22.9	-0.2
	baz=70,SNR=15						
430A	Baggett Ranch,	70.00	334	⇑P	P	09 17 24.1	-0.3
	baz=70,SNR=15						
332A	Millersview	70.00	335	⇑P	P	09 17 24.3	-0.1
	baz=70,SNR=12						
OXF	Oxford	70.02	345	eP	P	09 17 23.4	-1.0
OXF				pmax	pmax		
	comp=Z,66nm,0.9s						
OXF	Oxford	70.02	345	eP	P	09 17 23.4	-1.0
	comp=Z,66nm,0.9s						
234A	Clairette	70.03	337	⇑P	P	09 17 24.0	-0.5
	baz=70,SNR=16						
SWET	Sewanee	70.03	348	eP	P	09 17 23.4	-1.1
	comp=Z,56nm,0.9s						
PPT	Papeete	70.07	262	P	P	09 17 25.3	+0.1
	comp=Z,50nm,0.9s,baz=158,slow=4.8,SNR=3.6						
429A	Davenport Ranc	70.10	333	⇓P	P	09 17 24.9	-0.2
	baz=70,SNR=11						
TKL	Tuckaleechee C	70.12	350	P	P	09 17 24.1	-0.9
	comp=Z,17nm,0.8s,baz=167,slow=7.6,SNR=11						
331A	San Angelo	70.18	335	⇓P	P	09 17 24.9	-0.6
	baz=70,SNR=20						
233A	Rising Star	70.30	336	⇑P	P	09 17 26.1	-0.1
	baz=71,SNR=17						
135A	Vickery Place,	70.31	338	⇓P	P	09 17 25.8	-0.4
	baz=71						
232A	Coleman	70.43	335	⇓P	P	09 17 27.0	0.0
	baz=71,SNR=15						
134A	White-Moore Ra	70.53	337	⇑P	P	09 17 27.5	-0.1
	baz=71						
330A	Mertzon	70.54	334	⇓P	P	09 17 27.6	-0.1
	baz=71,SNR=11						
231A	Bronte	70.71	335	⇓P	P	09 17 28.6	-0.1
	baz=71,SNR=17						
133A	Hamilton Ranch	70.84	336	⇑P	P	09 17 29.3	-0.1
	baz=71,SNR=14						
329A	Wagon Wheel Ra	70.91	333	⇑P	P	09 17 30.0	0.0
	baz=71,SNR=17						
230A	Sterling City	70.95	334	⇓P	P	09 17 29.9	-0.3
	baz=71,SNR=9.3						
Z35A	Perchaven, San	70.97	338	⇑P	P	09 17 30.1	-0.2
	baz=71,SNR=18						
MIAR	Mount Ida	71.05	342	eP	P	09 17 31.4	+0.7
MIAR				pmax	pmax		
	comp=Z,18nm,0.9s						
MIAR	Mount Ida	71.05	342	eP	P	09 17 31.4	+0.7
	comp=Z,18nm,0.9s						
ABTX	Abilene, Hawle	71.10	336	eP	P	09 17 30.6	-0.5
	comp=Z,52nm,0.9s						
ABTX	Abilene, Hawle	71.10	336	⇓P	P	09 17 30.8	-0.3
	baz=71,SNR=20						
Z34A	Collier Ranch,	71.22	337	⇓P	P	09 17 31.2	-0.5
	baz=72,SNR=14						
WVT	Waverly	71.27	347	eP	P	09 17 31.0	-0.9
WVT				pmax	pmax		
	comp=Z,102nm,0.8s						
WVT	Waverly	71.27	347	eP	P	09 17 31.0	-0.9
	comp=Z,102nm,0.8s						
229A	Bryant Ranch,	71.27	334	⇓P	P	09 17 32.0	-0.1
	baz=72,SNR=8.4						
131A	Roby	71.40	335	⇓P	P	09 17 32.5	-0.4
	baz=72,SNR=14						
Z33A	Whitaker Ranch	71.41	337	⇓P	P	09 17 32.4	-0.5
	baz=72,SNR=14						
JSRW	J. Sargeant Re	71.52	355	eP	P	09 17 34.1	+0.8
130A	Snyder	71.54	335	⇓P	P	09 17 33.2	-0.5
	baz=72,SNR=9.6						
Z32A	Haskell	71.67	336	⇑P	P	09 17 34.0	-0.4
	baz=72,SNR=16						
228A	UT Block 9, Go	71.70	333	⇑P	P	09 17 34.1	-0.7
	baz=72,SNR=17						
Y34A	Reagan Ranch,	71.71	338	⇑P	P	09 17 34.2	-0.4
	baz=72,SNR=10.0						
129A	Stewart Farms,	71.89	334	⇓P	P	09 17 35.6	-0.3
	baz=72,SNR=7.8						
Z31A	Sharp Cattle R	71.91	336	⇓P	P	09 17 35.3	-0.6
	baz=72,SNR=12						
Y33A	Hilltop Ranch,	72.03	337	⇓P	P	09 17 35.9	-0.7
	baz=72,SNR=12						
128A	Castleberry Fa	72.11	333	⇑P	P	09 17 36.9	-0.3
	baz=72,SNR=15						
Z30A	Sanderson Ranc	72.22	335	⇑P	P	09 17 37.0	-0.8
	baz=73,SNR=11						
Y32A	R-V Farms, Ver	72.29	337	⇓P	P	09 17 37.6	-0.6
	baz=73,SNR=8.1						
X34A	Smith Ranch, M	72.33	338	⇑P	P	09 17 38.1	-0.2
	baz=73						
Z29A	Hungry Hill Ra	72.40	334	⇓P	P	09 17 38.2	-0.7
	baz=73,SNR=18						
MNTX	Cornudas Mount	72.42	331	eP	P	09 17 37.6	-1.4
	comp=Z,18nm,0.9s						
GDL2	Guadalupe Moun	72.45	332	eP	P	09 17 40.6	+1.2
	comp=Z,12nm,1.0s						
X33A	Lawton	72.48	337	⇑P	P	09 17 38.5	-0.9
	baz=73,SNR=6.3						
127A	Arkansas Junct	72.49	333	⇓P	P	09 17 39.2	-0.4
	baz=73,SNR=5.4						
Y31A	Rekieta Farm,	72.53	336	⇑P	P	09 17 39.2	-0.5
	baz=73,SNR=12						
X32A	Elmer	72.62	337	⇓P	P	09 17 39.8	-0.4
	baz=73,SNR=7.4						
Y30A	Stafford Cattl	72.67	335	⇓P	P	09 17 40.1	-0.4
	baz=73,SNR=6.7						
W34A	Bridge Creek,	72.89	338	⇓P	P	09 17 41.1	-0.7
	baz=73						
Y29A	Porterfield Fa	72.93	335	⇓P	P	09 17 41.7	-0.4
	baz=73,SNR=11						
TUL1	Tulsa	72.94	340	eP	P	09 17 41.7	-0.3
	comp=Z,44nm,1.1s						
TUL1	Tulsa	72.94	340	⇑P	P	09 17 41.4	-0.5
	baz=73,SNR=8.2						
CPRX	Cap Rock	73.00	333	eP	P	09 17 43.0	+0.5
	comp=Z,7.3nm,1.0s						
Z27A	Tatum	73.00	333	⇓P	P	09 17 42.3	-0.3
	baz=73,SNR=5.9						
W33A	Caddo, Fort Co	73.03	338	⇑P	P	09 17 42.4	-0.1
	baz=73,SNR=13						
X31A	McDonald Ranch	73.05	336	⇓P	P	09 17 42.5	-0.1
	baz=73,SNR=11						
Y28A	McKinney Farm,	73.18	334	⇓P	P	09 17 43.8	+0.2
	baz=74,SNR=5.8						
X30A	Coker Ranch, T	73.18	336	⇓P	P	09 17 43.0	-0.5
	baz=74						
Z26A	Caprock	73.25	333	⇓P	P	09 17 44.0	0.0
	baz=74,SNR=28						
W32A	Sentinel	73.26	337	⇓P	P	09 17 44.0	+0.1
	baz=74,SNR=17						
V34A	Guthrie	73.37	339	⇓P	P	09 17 44.5	0.0
	baz=74						
MSTX	Muleshoe	73.42	334	eP	P	09 17 44.5	-0.5
	comp=Z,54nm,1.0s						
MSTX	Muleshoe	73.42	334	⇓P	P	09 17 44.7	-0.3
	baz=74,SNR=14						
X29A	Tulia	73.47	335	⇓P	P	09 17 44.9	-0.3
	baz=74,SNR=11						
Y27A	Causey	73.49	334	⇓P	P	09 17 45.0	-0.4
	baz=74,SNR=5.6						
W31A	Holland Ranch,	73.54	337	⇓P	P	09 17 45.2	-0.4
	baz=74,SNR=7.1						
Z25A	Roswell	73.55	332	⇑P	P	09 17 45.6	-0.1
	baz=74,SNR=6.6						
V33A	Lossen Ranch,	73.59	338	⇓P	P	09 17 45.7	-0.2
	baz=74,SNR=8.9						
X28A	Dimmitt	73.71	335	⇓P	P	09 17 46.6	-0.1
	baz=74						
V32A	Arapaho	73.74	338	⇑P	P	09 17 46.8	+0.1
	baz=74						
W30A	Crocket Farms	73.75	336	⇓P	P	09 17 47.0	+0.2
	baz=74						
Y26A	Elida	73.77	333	⇓P	P	09 17 47.4	+0.3
	baz=74,SNR=6.3						
319A	Douglas	73.80	328	⇑P	P	09 17 47.6	+0.3
	baz=74,SNR=8.2						
Z24A	Sheeppen Canyo	73.84	332	⇑P	P	09 17 47.8	+0.1
	baz=74,SNR=12						
AMTX	Amarillo	73.86	335	eP	P	09 17 48.4	+0.9
	comp=Z,32nm,1.0s						
AMTX	Amarillo	73.86	335	⇓P	P	09 17 47.6	0.0
	baz=74						
U34A	Anderson Ranch	73.94	339	⇓P	P	09 17 47.8	-0.1
	baz=74,SNR=5.7						
V31A	Spring Creek L	74.05	337	⇑P	P	09 17 48.2	-0.3
	baz=74,SNR=6.2						
W29A	Amraillo	74.06	335	⇑P	P	09 17 48.1	-0.6
	baz=74,SNR=11						
Y25A	Mesa, Roswell	74.10	332	⇓P	P	09 17 48.6	-0.5
	baz=74						
U33A	Lingo Farm, Me	74.11	339	⇑P	P	09 17 47.8	-1.1
	baz=74,SNR=5.2						
121A	Cookes Peak, D	74.14	329	eP	P	09 17 50.0	+0.6
	comp=Z,41nm,1.0s						
121A	Cookes Peak, D	74.14	329	⇓P	P	09 17 49.8	+0.5
	baz=74,SNR=18						
X27A	F and S Farms,	74.15	334	⇓P	P	09 17 48.9	-0.4
	baz=74,SNR=5.7						
X26A	CR and CF Fran	74.33	333	⇑P	P	09 17 50.7	+0.4
	baz=75,SNR=12						
U32A	Winter Ranch,	74.33	338	⇓P	P	09 17 50.3	+0.2
	baz=75						
W28A	Vega	74.38	335	⇑P	P	09 17 50.5	-0.1
	baz=75						
Y24A	Capitan	74.39	332	⇑P	P	09 17 51.3	+0.5
	baz=75,SNR=13						
Z22A	Elephant Butte	74.42	330	⇓P	P	09 17 51.8	+0.8
	baz=75,SNR=11						
W27A	Bowe Ranch, En	74.51	334	⇓P	P	09 17 51.6	+0.2
	baz=75,SNR=12						
ACSO	Alum Creek Sta	74.52	351	eP	P	09 17 50.3	-0.8
	comp=Z,44nm,0.8s						
X25A	Clemmons Ranch	74.63	333	⇓P	P	09 17 52.2	+0.1
	baz=75						
Y23A	Lovelace Mesa,	74.64	331	⇑P	P	09 17 53.1	+0.9
	baz=75,SNR=7.3						
V29A	Stinnett	74.69	336	⇓P	P	09 17 52.6	+0.2
	baz=75						
T33A	Patterson Ranc	74.75	339	⇓P	P	09 17 52.8	+0.3
	baz=75,SNR=11						
W26A	Owens Ranch, T	74.79	334	⇑P	P	09 17 53.5	+0.5
	baz=75,SNR=12						
V28A	Channing	74.83	335	⇑P	P	09 17 53.5	+0.3
	baz=75,SNR=9.9						
X24A	Lazy VL Ranch,	74.96	332	⇑P	P	09 17 54.6	+0.5
	baz=75						
SUR	Sutherland	74.99	119	P	P	09 17 53.5	-1.1
	comp=Z,9.5nm,1.0s,baz=240,slow=24,SNR=2.8						
U30A	WK&E Inc. Balk	75.00	337	⇑P	P	09 17 54.5	+0.3
	baz=75						
T32A	Huddler Ranch,	75.04	338	⇑P	P	09 17 54.4	+0.1
	baz=75						
Y22D	IRIS PASSCAL I	75.12	331	⇓P	P	09 17 55.5	+0.5
	baz=76						
U29A	Oasis Ranch, S	75.14	336	⇓P	P	09 17 55.6	+0.7
	baz=76						
W25A	X Bar L Ranch,	75.16	333	⇓P	P	09 17 55.1	0.0
	baz=76,SNR=9.2						
T31A	Randall Ranch,	75.20	338	⇑P	P	09 17 55.2	0.0
	baz=76						
X23A	Hourglass Bar	75.27	332	⇓P	P	09 17 56.1	+0.2
	baz=76,SNR=5.4						
DBIC	Dimbokro	75.35	71	P	P	09 17 57.1	+0.5
	comp=Z,11nm,0.8s,baz=194,slow=5.0,SNR=6.9						
U28A	Mallet	75.39	335	⇓P	P	09 17 56.6	+0.2
	baz=76						
V26A	Tequesquite Ra	75.43	334	⇓P	P	09 17 56.6	-0.1
	baz=76,SNR=6.5						
W24A	Lazy 6 Ranch,	75.52	332	⇑P	P	09 17 57.1	-0.2
	baz=76,SNR=6.2						
S32A	Newby Ranch, P	75.53	338	⇑P	P	09 17 56.9	-0.2
	baz=76						
S31A	Mullinville	75.62	338	⇑P	P	09 17 57.7	+0.1
	baz=76,SNR=5.1						
U27A	Thompson Grove	75.64	335	⇑P	P	09 17 58.1	+0.2
	baz=76,SNR=5.6						
ANMO	Albuquerque	75.69	332	P	P	09 17 58.6	+0.3
	comp=Z,12nm,1.0s,baz=160,slow=8.2,SNR=14						
W23A	Werner Place,	75.76	332	⇓P	P	09 17 59.0	+0.3
	baz=76,SNR=11						
V25A	Rancho No Teng	75.77	333	⇓P	P	09 17 58.5	-0.3
	baz=76,SNR=8.7						
T29A	Hugoton	75.78	336	⇑P	P	09 17 58.5	-0.1
	baz=76,SNR=5.1						
R33A	Olander Ranch,	75.80	339	⇓P	P	09 17 58.2	-0.4
	baz=76						
214A	Organ Pipe Nat	75.91	325	eP	P	09 18 00.7	+1.3
	comp=Z,49nm,1.5s						
214A	Organ Pipe Nat	75.91	325	⇑P	P	09 18 00.0	+0.6
	baz=76,SNR=10						
V24A	Rampart Ranch,	75.92	333	⇓P	P	09 17 59.8	+0.2
	baz=76,SNR=6.3						
U26A	Atchley Ranch,	75.94	334	⇓P	P	09 18 00.2	+0.5
	baz=76,SNR=6.3						
S30A	Montezuma	75.95	337	⇓P	P	09 17 59.6	0.0
	baz=76,SNR=6.8						
T28A	Walsh	76.03	336	⇓P	P	09 18 00.2	+0.2
	baz=76,SNR=14						
R32A	Long Quarter,	76.12	339	⇓P	P	09 18 00.8	+0.3
	baz=76,SNR=6.8						
S29A	Ulysses	76.14	337	⇓P	P	09 18 01.1	+0.4
	baz=76,SNR=7.9						
KSU1	Kansas State U	76.15	341	⇓P	P	09 18 00.4	-0.2
	baz=76						
T27A	Campo	76.18	335	⇑P	P	09 18 01.5	+0.5
	baz=76,SNR=13						
U25A	Circle Dot Ran	76.19	334	⇓P	P	09 18 01.3	+0.2
	baz=76,SNR=6.9						
R31A	Burdett	76.25	338	⇑P	P	09 18 01.1	-0.1
	baz=77,SNR=5.5						
V23A	Ortiz Mt. (NFS	76.28	332	⇑P	P	09 18 01.9	+0.2
	baz=77						
S28A	Manter	76.38	336	⇓P	P	09 18 02.2	+0.1
	baz=77,SNR=12						
Q33A	Connelly Farm,	76.40	340	⇓P	P	09 18 01.9	-0.1
	baz=77						
R30A	Dighton	76.48	338	⇓P	P	09 18 02.7	+0.2
	baz=77						
U24A	Moreno Valley	76.52	333	⇑P	P	09 18 03.5	+0.3
	baz=77						
T26A	Comanche Natio	76.59	335	⇓P	P	09 18 04.0	+0.7
	baz=77,SNR=6.4						
Q32A	Meitler Ranch,	76.61	339	⇑P	P	09 18 03.2	0.0
	baz=77,SNR=7.6						
V22A	San Miguel Ran	76.72	332	⇑P	P	09 18 05.2	+1.1
	baz=77,SNR=21						
P33A	Williams Farm,	76.77	340	⇓P	P	09 18 04.7	+0.6
	baz=77						
X18A	Snowflake	76.78	329	⇓P	P	09 18 05.2	+0.7
	baz=77,SNR=6.3						
U23A	El Rito	76.80	332	⇑P	P	09 18 05.3	+0.7
	baz=77,SNR=8.7						
T25A	Trinidad	76.85	334	⇑P	P	09 18 05.6	+0.8
	baz=77,SNR=12						
Q31A	Ellis	76.87	339	⇑P	P	09 18 05.1	+0.4
	baz=77,SNR=7.2						
R29A	Marienthal	76.88	337	⇑P	P	09 18 05.1	+0.2
	baz=77,SNR=7.4						
S26A	Kim	76.94	335	⇓P	P	09 18 05.5	+0.2
	baz=77,SNR=12						
R28A	Tribune	77.03	337	⇑P	P	09 18 06.2	+0.5
	baz=77,SNR=10						
113A	Mohawk Valley,	77.03	325	⇓P	P	09 18 06.7	+1.0
	baz=77,SNR=6.9						
Q30A	Quinter	77.10	338	⇑P	P	09 18 06.4	+0.4
	baz=78,SNR=7.3						
U22A	Llaves	77.10	332	⇑P	P	09 18 07.5	+1.2
	baz=77,SNR=8.3						
T24B	San Luis	77.14	333	⇑P	P	09 18 07.6	+1.0
	baz=78,SNR=7.3						
Z14A	Wintersburg	77.14	326	⇓P	P	09 18 07.1	+0.8
	baz=78						
W18A	Petrified Fore	77.19	329	⇓P	P	09 18 07.2	+0.4
	baz=78						
P32A	Huiting Farm,	77.20	339	⇑P	P	09 18 06.9	+0.4
	baz=78						
Q29A	Oakley	77.26	337	⇑P	P	09 18 07.3	+0.4
	baz=78						
R27A	Eads	77.31	336	⇑P	P	09 18 07.4	+0.1
	baz=78,SNR=10						
S25A	Robets Cordova	77.32	334	⇑P	P	09 18 08.2	+0.8
	baz=78,SNR=7.6						
X16A	Lo Mia Camp, P	77.34	328	⇓P	P	09 18 08.5	+0.9
	baz=78,SNR=14						
P31A	Stockton	77.34	339	⇑P	P	09 18 07.4	+0.1
	baz=78						
T23A	Casias Ranch,	77.36	333	⇑P	P	09 18 08.4	+0.6
	baz=78,SNR=5.5						
R26A	Arlington	77.55	335	⇑P	P	09 18 09.3	+0.7
	baz=78,SNR=8.1						
S24A	Houchin Ranch,	77.59	334	⇑P	P	09 18 10.1	+1.0
	baz=78,SNR=13						
NCB	Newcomb	77.62	359	eP	P	09 18 03.5	-5.3
	comp=Z,43nm,0.3s						
P30A	Selden	77.62	338	⇑P	P	09 18 09.4	+0.5
	baz=78						
Y14A	Wickenburg	77.64	326	⇓P	P	09 18 09.6	+0.5
	baz=78,SNR=8.3						

Q28A Sharon Springs 77.69 337 ⇑P P 09 18 09.8 +0.4
baz=78
O32A Brockman Farm, 77.70 340 ⇓P P 09 18 09.6 +0.3
baz=78
R25A Fountain Ranch 77.70 335 ⇑P P 09 18 10.0 +0.4
baz=78
GLA Glamis 77.78 324 ⇑P P 09 18 10.8 +0.9
baz=78
SDCO Great Sand Dun 77.79 334 eP P 09 18 10.4 +0.3
comp=Z,6.9nm,0.9s
O31A Woolen Ranch, 77.90 339 ⇑P P 09 18 11.2 +0.7
baz=78
KSCO Kaye Shedlock' 77.91 336 eP P 09 18 12.0 +1.4
comp=Z,102nm,1.5s
KSCO Kaye Shedlock' 77.91 336 ⇑P P 09 18 11.4 +0.8
baz=78,SNR=7.6
S23A Nye Farm, Mont 77.94 333 ⇓P P 09 18 12.1 +1.1
baz=78
R24A Sanders Place, 78.07 334 ⇓P P 09 18 12.6 +1.0
baz=78,SNR=12
P28A Saint Francis 78.13 337 ⇑P P 09 18 12.4 +0.7
baz=78,SNR=5.3
Q26A Hugo 78.13 336 ⇓P P 09 18 12.6 +0.8
baz=78
O30A MW Ranch, Wils 78.15 339 ⇑P P 09 18 12.9 +1.1
baz=78
SWSC Sam W. Stewart 78.16 324 ⇓P P 09 18 13.6 +1.6
baz=78
N32A Stulken Farm, 78.17 340 ⇑P P 09 18 12.5 +0.6
baz=78
WUAZ Wupatki 78.23 328 eP P 09 18 13.2 +0.7
comp=Z,32nm,1.1s
WUAZ Wupatki 78.23 328 ⇑P P 09 18 13.6 +1.1
baz=79,SNR=10.0
S22A 4UR Ranch, Cre 78.29 333 ⇑P P 09 18 13.4 +0.4
baz=79,SNR=7.3
R23A Moffat 78.30 334 ⇓P P 09 18 13.3 +0.3
baz=79,SNR=7.0
O29A 4D Ranch, Culb 78.33 338 ⇑P P 09 18 13.1 +0.3
baz=79
Q25A Bedland, Calha 78.37 335 ⇑P P 09 18 13.5 +0.2
baz=79,SNR=7.5
MONP Monument Peak 78.42 323 ⇓P P 09 18 14.6 +0.8
baz=79
PDMCI Parker Dam,Lak 78.47 326 ⇓P P 09 18 14.6 +0.9
baz=79
MVCO Mesa Verde 78.47 331 eP P 09 18 15.0 +1.1
comp=Z,25nm,1.1s
MVCO Mesa Verde 78.47 331 ⇑P P 09 18 14.4 +0.5
baz=79,SNR=7.3
BC3 Big Chuckawall 78.57 324 ⇓P P 09 18 15.4 +1.0
baz=79,SNR=6.9
O28A Krutsinger Ran 78.63 337 ⇑P P 09 18 15.0 +0.4
baz=79,SNR=5.8
P26A Davis Ranch, A 78.64 336 ⇓P P 09 18 15.3 +0.6
baz=79
BGNE Belgrade 78.73 340 ⇑P P 09 18 15.4 +0.4
baz=79
Q24A Divide 78.74 334 ⇓P P 09 18 16.0 +0.5
baz=79,SNR=9.3
IRM Iron Mountain 78.83 325 ⇑P P 09 18 16.7 +0.9
baz=79,SNR=8.3
P25A Willow Gulch B 78.88 335 ⇑P P 09 18 17.1 +1.1
baz=79,SNR=11
M31A Lambtecht Ranc 78.90 340 ⇓P P 09 18 16.5 +0.5
baz=79
N29A Votaw Ranch, W 78.91 338 ⇓P P 09 18 15.7 -0.4
baz=79
O27A Beecher Island 78.92 337 ⇓P P 09 18 17.0 +0.9
baz=79,SNR=8.3
W13A Hualapai Mount 79.01 326 ⇑P P 09 18 17.8 +0.9
baz=79,SNR=8.4
PFO Pinyon Flat Ob 79.02 324 P P 09 18 17.0 +0.1
PFO Pinyon Flat Ob 79.02 324 P P 09 18 17.0 +0.1
comp=Z,12nm,0.9s,baz=135,slow=4.2,SNR=9.7
PFO Pinyon Flat Ob 79.02 324 ⇓P P 09 18 18.1 +1.2
baz=79,SNR=5.9
N28A Pribbeno Ranch 79.07 338 ⇓P P 09 18 16.8 -0.1
baz=79
BELC Belle Mtn. Jos 79.11 324 ⇑P P 09 18 18.3 +0.8
baz=79
P24A Kohler Place, 79.14 335 ⇑P P 09 18 17.9 +0.4
baz=80
O26A Horse Wrangler 79.24 336 ⇑P P 09 18 18.7 +0.7
baz=80,SNR=9.0
MURC Murrieta 79.38 323 ⇑P P 09 18 19.6 +0.9
baz=80,SNR=5.8
O25A Wiggins 79.40 336 ⇓P P 09 18 19.7 +0.8
baz=80
U15A North Rim 79.40 328 ⇑P P 09 18 20.2 +1.1
baz=80,SNR=12
OGNE Ogallala 79.46 338 ⇑P P 09 18 20.1 +1.0
baz=80
N27A Anderson Farm, 79.50 337 ⇑P P 09 18 19.9 +0.6
baz=80
M29A Burnside Ranch 79.50 339 ⇑P P 09 18 20.2 +1.0
baz=80
GMRC Granite Mounta 79.58 325 ⇑P P 09 18 20.8 +0.8
baz=80,SNR=10
L31A Butterfield Fa 79.63 340 ⇓P P 09 18 20.8 +0.9
baz=80,SNR=6.3
ISCO Idaho Springs 79.64 334 eP P 09 18 20.8 +0.4
ISCO pmax pmax
comp=Z,10.0nm,0.9s
ISCO Idaho Springs 79.64 334 eP P 09 18 20.8 +0.4
comp=Z,9.5nm,0.9s
ISCO Idaho Springs 79.64 334 ⇓P P 09 18 20.8 +0.4
baz=80,SNR=7.3
M28A Bar X Bar Ranc 79.66 338 ⇑P P 09 18 20.5 +0.3
baz=80
L30A Spencer Herefo 79.67 340 ⇑P P 09 18 20.4 +0.2
baz=80
O24A Longmont 79.74 335 ⇓P P 09 18 21.3 +0.6
baz=80
P22A Eagle 79.88 334 ⇓P P 09 18 21.8 +0.2
baz=80,SNR=7.9
HEC Hector,Ludlow 79.94 324 ⇑P P 09 18 23.1 +1.2
baz=80,SNR=8.7
L29A Maesberg Ranch 80.00 339 ⇓P P 09 18 22.5 +0.6
baz=80
CASY Casey 80.02 181 eP P 09 18 21.9 0.0
comp=Z,28nm,1.1s
M27A Reverse DX Ran 80.10 338 ⇓P P 09 18 23.0 +0.4
baz=80
O23A Lake Granby, G 80.12 334 ⇓P P 09 18 23.3 +0.4
baz=80,SNR=8.4
BFSC Mount Baldy Ra 80.12 323 ⇓P P 09 18 23.5 +0.6
baz=80
BOSA Boshof 80.23 118 P P 09 18 24.4 +0.5
comp=Z,14nm,1.0s,baz=226,slow=5.1,SNR=5.6
TUQ Turquoise Moun 80.24 325 ⇓P P 09 18 24.6 +1.1
baz=81
N24A Carr 80.30 335 ⇑P P 09 18 24.5 +0.8
baz=81,SNR=5.2
O22A Kremmling 80.30 334 ⇓P P 09 18 24.8 +0.9
baz=81,SNR=11
K30A Basset 80.31 340 ⇓P P 09 18 24.3 +0.7
baz=81,SNR=6.7
RRX Edison Barstow 80.31 324 ⇑P P 09 18 24.0 +0.3
baz=81
ECSD EROS Data Cent 80.49 342 eP P 09 18 23.8 -0.7
comp=Z,28nm,0.9s
ECSD EROS Data Cent 80.49 342 ⇑P P 09 18 24.7 +0.2
baz=81,SNR=9.3
GSC Goldstone 80.56 324 eP P 09 18 26.0 +0.9
GSC pmax pmax
comp=Z,6.0nm,0.8s
GSC Goldstone 80.56 324 eP P 09 18 26.0 +0.9
comp=Z,6.2nm,0.8s
GSC Goldstone 80.56 324 ⇓P P 09 18 26.1 +0.9
baz=81,SNR=7.4
K29A Lazy Trails An 80.59 339 ⇑P P 09 18 25.3 +0.2
baz=81
N23A Red Feather La 80.73 335 ⇓P P 09 18 26.5 +0.4
baz=81
SHOC Shoshone 80.79 325 ⇑P P 09 18 27.1 +0.9
baz=81
EDW2 Edwards Air Fo 80.80 323 ⇑P P 09 18 26.9 +0.5
baz=81,SNR=5.1
N22A Wattenberg Ran 80.83 334 ⇓P P 09 18 27.7 +1.0
baz=81,SNR=8.0
M24A Cheyenne 80.85 336 ⇓P P 09 18 27.4 +0.7
baz=81
K28A Ten Mile Ranch 80.86 339 ⇑P P 09 18 27.5 +0.9
baz=81,SNR=7.8
J30A Dallas 80.88 340 ⇑P P 09 18 26.9 +0.3
baz=81,SNR=5.1
O20A White River Ci 80.91 333 ⇓P P 09 18 27.2 +0.1
baz=81
OSI Osito Adit 80.95 323 ⇑P P 09 18 28.4 +1.2
baz=81
SPMN St. Paul 81.02 345 ⇓P P 09 18 27.1 -0.2
baz=81
K27A Flueckinger Fa 81.12 338 ⇑P P 09 18 28.6 +0.6
baz=82,SNR=5.2
LRMC Laurel Mountai 81.12 324 ⇑P P 09 18 29.0 +0.8
baz=81,SNR=5.4
M23A Laramie 81.16 335 ⇓P P 09 18 28.9 +0.5
baz=82
J29A Okreek 81.19 340 ⇑P P 09 18 28.8 +0.6
baz=82,SNR=10
I30A Oacoma 81.40 341 ⇓P P 09 18 29.5 +0.2
baz=82,SNR=6.8
K26A Motz Farm, Whi 81.41 337 ⇑P P 09 18 29.8 +0.3
baz=82
J28A Allard Ranch, 81.47 339 ⇑P P 09 18 30.3 +0.5
baz=82,SNR=6.9
N20A Spence Gulch, 81.52 333 ⇓P P 09 18 31.4 +1.0
baz=82
FURC Furnace Creek, 81.52 325 ⇑P P 09 18 31.4 +1.3
baz=82
J27A Elkhorn Farm, 81.55 338 ⇓P P 09 18 31.3 +1.1
baz=82,SNR=8.3
ISA Isabella 81.66 324 eP P 09 18 32.9 +1.9
ISA pmax pmax
comp=Z,67nm,1.8s
ISA Isabella 81.66 324 eP P 09 18 32.9 +1.9
comp=Z,67nm,1.8s
ISA Isabella 81.66 324 ⇑P P 09 18 32.4 +1.4
baz=82,SNR=8.3
L23A Garrett 81.72 336 ⇓P P 09 18 31.9 +0.5
baz=82
I29A Vivian Onida 81.75 340 ⇓P P 09 18 31.5 +0.3
baz=82
BRSD Miller 81.76 341 ⇑P P 09 18 31.5 +0.3
baz=82
L22A Ellis Ranch, M 81.90 335 ⇑P P 09 18 32.9 +0.6
baz=82
J26A Sides Ranch, S 81.93 338 ⇓P P 09 18 33.2 +1.0
baz=82,SNR=5.8
K24A Anderson Ranch 81.96 336 ⇓P P 09 18 33.6 +1.1
baz=82
I28A Midland 81.98 339 ⇑P P 09 18 32.9 +0.5
baz=82,SNR=10
VES Vestal, Richgr 82.10 323 ⇑P P 09 18 34.4 +1.2
baz=82,SNR=5.6
SMMC Simmler 82.14 322 ⇓P P 09 18 34.9 +1.4
baz=82
K23A Bowen Ranch, D 82.27 336 ⇑P P 09 18 34.9 +0.8
baz=83
H29A Onida 82.28 340 ⇑P P 09 18 34.0 0.0
baz=83,SNR=8.8
I27A Quinn 82.30 339 ⇓P P 09 18 34.9 +0.7
baz=83,SNR=6.1
G30A Faulkton 82.45 341 ⇓P P 09 18 35.7 +0.9
baz=83
R11A Troy Canyon, C 82.45 327 eP P 09 18 36.5 +1.2
comp=Z,64nm,1.8s
R11A Troy Canyon, C 82.45 327 ⇓P P 09 18 36.4 +1.1
baz=83,SNR=14
J24A Dixon Ranch, L 82.46 337 ⇑P P 09 18 36.0 +0.9
baz=83
LBTB Lobatse 82.47 115 eP P 09 18 36.3 +0.6
LBTB pmax pmax
comp=Z,17nm,0.9s
LBTB Lobatse 82.47 115 eP P 09 18 36.3 +0.6
comp=Z,17nm,0.9s
K22A Casper 82.48 335 eP P 09 18 36.2 +1.0
comp=Z,62nm,1.6s
K22A Casper 82.48 335 ⇓P P 09 18 35.7 +0.4
baz=83,SNR=5.5
I26A New Underwood 82.51 338 ⇓P P 09 18 35.6 +0.4
baz=83
H28A Mission Ridge 82.55 340 ⇓P P 09 18 35.7 +0.3
baz=83,SNR=7.0
G29A Hoven 82.72 341 ⇑P P 09 18 37.0 +0.7
baz=83,SNR=6.1
K21A Alcova 82.72 335 ⇑P P 09 18 37.1 +0.5
baz=83,SNR=7.4
I25A Rochford 82.77 338 ⇑P P 09 18 37.2 +0.5
baz=83,SNR=6.1
DUG Dugway 82.78 330 eP P 09 18 38.1 +1.3
DUG pmax pmax
comp=Z,39nm,1.4s
DUG Dugway 82.78 330 eP P 09 18 38.1 +1.3
comp=Z,39nm,1.4s
DUG Dugway 82.78 330 ⇑P P 09 18 37.7 +0.8
baz=83,SNR=9.5
H27A Howes 82.82 339 ⇓P P 09 18 37.1 +0.2
baz=83,SNR=7.0
G28A Parade 82.89 340 ⇑P P 09 18 37.4 +0.2
baz=83,SNR=8.3
TPH Tonopah 82.99 326 eP P 09 18 39.5 +1.5
TPH pmax pmax
comp=Z,37nm,1.3s
TPH Tonopah 82.99 326 eP P 09 18 39.5 +1.5
comp=Z,37nm,1.3s
F30A Leola 83.07 342 ⇓P P 09 18 38.4 +0.3
baz=83,SNR=6.8
J22A Midwest 83.14 336 ⇓P P 09 18 38.3 -0.3
baz=84
H25A Fruitdale 83.27 338 ⇑P P 09 18 40.4 +1.2
baz=84,SNR=6.4
F29A Eureka 83.28 341 ⇑P P 09 18 39.4 +0.2
baz=84,SNR=10.0
MLAC Mammoth Lakes 83.40 325 ⇑P P 09 18 41.3 +1.1
baz=84,SNR=5.9
J21A Lysite 83.42 335 ⇑P P 09 18 40.7 +0.6
baz=84
G27A Dupree 83.46 339 ⇑P P 09 18 40.3 +0.2
baz=84,SNR=6.5
URZ Urewera 83.53 228 P P 09 18 41.2 +0.3
comp=Z,6.9nm,1.0s,baz=170,slow=7.5,SNR=3.6
RPZ Rata Peaks 83.53 221 eP P 09 18 39.7 -1.1
comp=Z,59nm,1.1s
I22A 9 Mile Ranch, 83.56 336 ⇓P P 09 18 40.8 0.0
baz=84
G26A Maurine 83.58 339 ⇓P P 09 18 41.0 +0.3
baz=84,SNR=5.7
J20A Shoshoni 83.65 335 ⇑P P 09 18 41.9 +0.7
baz=84,SNR=7.0
E30A Jud 83.66 342 ⇓P P 09 18 41.4 +0.3
baz=84,SNR=6.0
PDAR Pinedale Array 83.68 333 P P 09 18 42.0 +0.5
comp=Z,3.9nm,1.0s,baz=144,slow=3.2,SNR=8.2
H24A Dirks Ranch, A 83.69 337 ⇓P P 09 18 41.3 -0.1
baz=84
G25A Newell 83.73 338 ⇓P P 09 18 41.8 +0.3
baz=84,SNR=6.6
I21A Big Trails, Te 83.77 335 ⇓P P 09 18 41.8 -0.1
baz=84
NVAR Mina Array Bea 83.78 325 P P 09 18 42.1 0.0
comp=Z,5.3nm,0.8s,baz=157,slow=6.8,SNR=13
E29A Napoleon 83.91 341 ⇑P P 09 18 42.9 +0.6
baz=84,SNR=5.3
J19A Crowheart 83.92 334 ⇑P P 09 18 43.1 +0.4
baz=84,SNR=7.5
F27A Lemmon 83.93 340 ⇑P P 09 18 42.9 +0.4
baz=84,SNR=9.8
F26A Lodgepole 84.10 339 ⇓P P 09 18 44.1 +0.7
baz=84,SNR=6.5
G24A Alzada 84.16 338 ⇓P P 09 18 44.0 +0.3
baz=84
D30A Buchanan 84.18 342 ⇑P P 09 18 44.0 +0.3
baz=84,SNR=9.9
I20A Worland 84.18 335 ⇑P P 09 18 44.3 +0.4
baz=84
E28A Huff 84.20 341 ⇑P P 09 18 44.3 +0.4
baz=85
ELK Elko 84.27 329 P P 09 18 44.8 +0.2
comp=Z,9.2nm,0.9s,baz=203,slow=1.6,SNR=14
E27A Carson 84.31 340 ⇑P P 09 18 44.8 +0.4
baz=85
D29A Pettibone, Tap 84.35 342 ⇓P P 09 18 45.0 +0.4
baz=85,SNR=7.1
G23A Biddle 84.36 337 ⇓P P 09 18 45.0 +0.3
baz=85
TOA0 Torodi Ar. Sit 84.38 70 eP P 09 18 45.8 +0.3
TORD Torodi Ar. Bea 84.38 70 P P 09 18 45.2 -0.2
comp=Z,14nm,0.9s,baz=278,slow=6.5,SNR=14
H21A Big Horn, Sher 84.40 336 ⇓P P 09 18 44.7 -0.4
baz=85
F25A Bowman 84.41 339 ⇓P P 09 18 45.1 +0.1
baz=85
I19A Meeteetse 84.57 334 ⇓P P 09 18 45.9 -0.1
baz=85
AGMN Agassiz Nation 84.60 344 eP P 09 18 45.3 -0.5
comp=Z,22nm,1.3s
AGMN Agassiz Nation 84.60 344 ⇓P P 09 18 46.1 +0.3
baz=85,SNR=6.3
E26A Carlson Angus 84.61 340 ⇓P P 09 18 45.9 0.0
baz=85
H20A Greybull 84.61 335 ⇓P P 09 18 46.2 +0.2
baz=85,SNR=8.2
F24A Ekalaka 84.64 338 ⇑P P 09 18 45.8 -0.4
baz=85
C30A Mose, Pekin 84.66 343 ⇑P P 09 18 46.7 +0.5
baz=85,SNR=10
G22A Birney 84.67 337 ⇑P P 09 18 46.2 -0.1
baz=85
D28A Regan 84.73 341 ⇑P P 09 18 47.0 +0.5
baz=85,SNR=7.5
F23A Volborg 84.83 337 ⇑P P 09 18 47.1 0.0
baz=85
E25A Miller Ranch, 84.91 339 ⇑P P 09 18 47.6 +0.1
baz=85
D27A Center 84.92 340 ⇑P P 09 18 47.5 0.0
baz=85
G21A Lodge Grass 84.98 336 ⇑P P 09 18 48.3 +0.4
baz=85
I17A Pilgrim Ck. 85.05 333 ⇓P P 09 18 48.8 +0.4
baz=85,SNR=5.1
D26A Manning 85.11 340 ⇓P P 09 18 48.8 +0.4
baz=86,SNR=6.1
H19A Powell 85.11 335 ⇑P P 09 18 49.1 +0.5
baz=86,SNR=5.2
F22A Rosebud 85.16 337 ⇑P P 09 18 49.0 +0.3
baz=86
E24A Baker 85.23 338 ⇓P P 09 18 49.2 +0.1
baz=86
G20A Bridger 85.32 335 ⇓P P 09 18 50.0 +0.3
baz=86,SNR=9.2
B30A Myrvik Farm, E 85.32 343 ⇓P P 09 18 49.9 +0.5
baz=86,SNR=17
H18A Shoshone NF, C 85.36 334 ⇓P P 09 18 50.4 +0.4
baz=86,SNR=9.7
H17A Grant Village 85.45 334 ⇑P P 09 18 51.1 +0.6
baz=86
C27A Sayler Ranch, 85.47 341 ⇑P P 09 18 50.7 +0.5
baz=86
D25A Fairfield 85.47 339 ⇑P P 09 18 50.9 +0.6
baz=86,SNR=5.5
F21A Absaloka Mine, 85.48 336 ⇑P P 09 18 51.1 +0.8
baz=86
B29A Wagenman Farm, 85.59 342 ⇑P P 09 18 50.8 0.0
baz=86,SNR=8.3
RLMT Red Lodge 85.61 335 eP P 09 18 51.2 0.0
comp=Z,4.3nm,0.7s
E22A Miles City 85.64 337 ⇓P P 09 18 51.1 0.0
baz=86
C26A Wahner Farm, P 85.73 340 ⇓P P 09 18 51.6 +0.1
baz=86
D24A Glendive 85.74 339 ⇓P P 09 18 52.0 +0.4
baz=86
A30A Hoffart Farm, 85.77 343 ⇓P P 09 18 51.5 -0.1
baz=86,SNR=6.2
F20A Billings 85.81 336 ⇑P P 09 18 52.2 +0.2
baz=86
YMR Madison River 85.83 333 eP P 09 18 52.7 +0.4
comp=Z,85nm,1.7s
B28A Dugan Ranch, T 85.83 342 ⇑P P 09 18 52.3 +0.4
baz=86,SNR=6.9
C25A Freed Ranch, W 85.96 340 ⇓P P 09 18 52.8 +0.1
baz=86
A29A Manning Farm, 85.98 343 ⇑P P 09 18 52.8 +0.1
baz=86,SNR=6.6
D23A Lindsay 86.06 338 ⇑P P 09 18 53.9 +0.7
baz=86,SNR=13
E21A Keefer Ranch, 86.09 337 ⇓P P 09 18 53.6 +0.3
baz=86
F19A Roth Farm, Mol 86.12 335 ⇓P P 09 18 53.7 +0.1
baz=86,SNR=6.2
C24A Savage 86.14 339 ⇑P P 09 18 53.9 +0.4
baz=86,SNR=9.8
A28A Rude Farm, Bot 86.23 342 ⇑P P 09 18 54.3 +0.3
baz=87
HLID Hailey 86.24 331 eP P 09 18 55.6 +1.3
comp=Z,42nm,1.6s
HLID Hailey 86.24 331 ⇑P P 09 18 55.1 +0.7
baz=87,SNR=9.7
D22A Cohagen 86.34 338 ⇓P P 09 18 55.1 +0.5
baz=87,SNR=7.2
E20A Meyer Farm, Mu 86.41 336 ⇑P P 09 18 55.2 +0.2
baz=87,SNR=11
B25A Knox Farm, Ray 86.44 340 ⇓P P 09 18 55.7 +0.7
baz=87,SNR=5.3
ULM Lac du Bonnet 86.45 345 P P 09 18 54.1 -0.8
comp=Z,9.6nm,0.9s,baz=158,slow=3.4,SNR=6.6
A27A Ledoux Ranch, 86.53 341 ⇓P P 09 18 55.7 +0.4
baz=87
D21A La Casta Ranch 86.53 337 ⇑P P 09 18 56.1 +0.6
baz=87,SNR=5.1
E19A Rath Farm, Rou 86.60 336 ⇓P P 09 18 56.1 +0.2
baz=87,SNR=9.5
C23A Lambert 86.61 338 ⇑P P 09 18 56.0 +0.1
baz=87,SNR=6.3
A26A Wade Farm, Ken 86.69 341 ⇑P P 09 18 56.5 +0.3
baz=87
C22A Vida 86.78 338 ⇓P P 09 18 56.7 0.0
baz=87
DGMT Dagmar 86.92 339 eP P 09 18 58.0 +0.7
comp=Z,72nm,1.2s
DGMT Dagmar 86.92 339 ⇓P P 09 18 57.7 +0.3
baz=87,SNR=9.0
D20A Manuel Ranch, 86.93 336 ⇑P P 09 18 57.9 +0.5
baz=87,SNR=8.4
A25A Svangstu Ranch 87.03 340 ⇑P P 09 18 58.7 +0.8
baz=87
WVOR Wild Horse Val 87.12 328 eP P 09 19 00.3 +1.7
WVOR pmax pmax
comp=Z,57nm,2.0s
WVOR Wild Horse Val 87.12 328 eP P 09 19 00.3 +1.7
comp=Z,57nm,2.0s
B23A Brockton 87.15 339 ⇑P P 09 18 59.0 +0.6
baz=88
C21A Desert Coulee 87.23 337 ⇓P P 09 18 59.2 +0.3
baz=88,SNR=11
D19A Cripps Ranch, 87.24 336 ⇑P P 09 18 59.3 +0.3
baz=88
A24A Westby 87.27 340 ⇑P P 09 18 59.6 +0.6
baz=88,SNR=5.1
B22A Reddig Ranch S 87.31 338 ⇓P P 09 18 59.4 +0.2
baz=88
C20A Veseth Ranch, 87.43 337 ⇓P P 09 19 00.0 +0.2
baz=88
MOD Modoc 87.46 326 eP P 09 19 01.5 +1.2
comp=Z,66nm,1.8s
WDC Whiskeytown Da 87.50 324 eP P 09 18 59.8 -0.5
WDC pmax pmax
comp=Z,14nm,0.9s
WDC Whiskeytown Da 87.50 324 eP P 09 18 59.8 -0.5
comp=Z,14nm,0.9s
A23A Redstone 87.56 339 ⇑P P 09 19 00.8 +0.4
baz=88
B21A Ellsworth Farm 87.74 338 ⇑P P 09 19 01.3 +0.1
baz=88,SNR=6.5
C19A Slack Wire Ran 87.79 336 ⇑P P 09 19 02.0 +0.4
baz=88
N02D Trinity Center 87.88 324 ⇑P P 09 19 02.9 +0.7
baz=88
A22A Carney Farms, 87.90 339 ⇓P P 09 19 02.7 +0.6
baz=88
B20A Solberg Farm, 88.07 337 ⇑P P 09 19 03.0 +0.2
baz=88
M04C Macdoel 88.08 325 ⇓P P 09 19 03.8 +0.6
baz=88
A21A Bergtoll Ranch 88.20 338 ⇓P P 09 19 03.4 -0.1
baz=89,SNR=6.4
M02C Callahan 88.27 324 ⇓P P 09 19 04.9 +0.8
baz=89
EGMT Eagleton 88.28 336 ⇓P P 09 19 04.0 0.0
baz=89
B19A Brinkman Farms 88.38 337 ⇑P P 09 19 04.5 +0.2
baz=89
A20A Cobblestone Ra 88.42 337 ⇓P P 09 19 05.0 +0.4
baz=89,SNR=6.7
YBH Yreka Blue Hor 88.46 325 eP P 09 19 05.4 +0.4
YBH pmax pmax
comp=Z,55nm,1.8s
YBH Yreka Blue Hor 88.46 325 eP P 09 19 05.4 +0.4
comp=Z,55nm,1.8s
BMO Blue Mountains 88.49 330 eP P 09 19 05.8 +0.7
BMO pmax pmax
comp=Z,6.0nm,1.3s

BMO	Blue Mountains	88.49	330	eP	P	09 19 05.8	+0.7
	comp=Z,6.5nm,1.3s						
SCHQ	Schefferville	88.59	3	P	P	09 19 04.8	-0.3
	comp=Z,4.9nm,0.9s,baz=122,slow=3.9,SNR=3.2						
A19A	Klindworth Far	88.73	337	⇑P	P	09 19 05.8	-0.3
	baz=89						
MSO	Missoula	88.77	333	⇑P	P	09 19 06.9	+0.5
	baz=89						
J05D	Fort Rock, OR	88.97	327	⇓P	P	09 19 08.0	+0.6
	baz=89						
PINOR	Pine Mountain	89.22	327	eP	P	09 19 10.5	+2.2
	comp=Z,74nm,1.9s						
J04D	Umpqua Nationa	89.34	326	⇓P	P	09 19 08.9	-0.3
	baz=90						
I05D	Terrebonne, OR	89.84	327	⇓P	P	09 19 10.7	-0.6
	baz=90						
HAWA	Hanford	90.66	329	eP	P	09 19 13.3	-1.7
	comp=Z,42nm,2.1s						
YKA	Yellowknife Ar	102.00	341	P	Pdif	09 20 05.0	-1.1
	comp=Z,0.5nm,0.8s,baz=144,slow=4.4,SNR=3.7						
YKA				PP	PP	09 24 21.4	+3.3
	comp=Z,0.4nm,1.0s,baz=143,slow=6.8,SNR=3.8						
ILAR	Eielson Array	114.11	333	PKP	PKPdf	09 24 50.4	-0.8
	comp=Z,0.7nm,0.9s,baz=186,slow=2.5,SNR=4.7						
TRF	Thorofare Moun	114.82	331	ePKPdf	PKPdf	09 24 43.3	-9.5
SUW	Suwalki	119.72	43	ePKIKP	PKPdf	09 25 01.7	-0.5
SUW	Suwalki	119.72	43	ePKPdf	PKPdf	09 25 01.7	-0.5
WRA	Warramunga Arr	120.68	209	PKP	PKPdf	09 25 04.6	-0.7
	comp=Z,2.3nm,0.7s,baz=169,slow=1.5,SNR=10.0						
BRTR	Keskin Array B	121.99	61	PKP	PKPdf	09 25 07.2	-0.1
	comp=Z,4.4nm,0.8s,baz=195,slow=3.1,SNR=16						
KIEV	Kiev	122.31	48	ePKIKP	PKPdf	09 25 05.4	-1.9
KIEV	Kiev	122.31	48	ePKPdf	PKPdf	09 25 05.4	-1.9
AKASG	Malin Array Be	122.32	48	PKP	PKPdf	09 25 06.4	-0.9
	comp=Z,4.3nm,0.8s,baz=264,slow=2.7,SNR=13						
AKBB	Malin Array Si	122.32	48	ePKIKP	PKPdf	09 25 07.3	0.0
AKBB	Malin Array Si	122.32	48	ePKPdf	PKPdf	09 25 07.3	0.0
FINES	FINESS Array B	123.09	35	PKP	PKPdf	09 25 08.5	0.0
	comp=Z,2.0nm,0.9s,baz=339,slow=3.1,SNR=3.5						
ARCES	ARCESS Array B	124.09	25	PKP	PKPdf	09 25 10.3	+0.1
	comp=Z,3.3nm,0.9s,baz=306,slow=4.2,SNR=5.2						
RAYN	Ar Rayn	125.17	84	ePKPdf	PKPdf	09 25 15.2	+1.5
KLMR	Klimovskoe	129.51	36	ePKIKP	PKPdf	09 25 21.4	+0.6
KLMR				pmax	pmax		
	comp=Z,34nm,1.5s						
KBZ	Khabaz	129.74	59	PKP	PKPdf	09 25 22.9	+1.1
	comp=Z,4.6nm,1.0s,baz=105,slow=3.9,SNR=5.7						
SEY	Seymchan	139.94	330	PKP	PKPdf	09 25 39.3	-0.9
	comp=Z,6.3nm,0.8s,baz=27,slow=4.8,SNR=10						
GEYT	Alibeck	140.02	70	PKP	PKPdf	09 25 41.4	+0.2
	comp=Z,3.7nm,0.8s,baz=29,slow=3.4,SNR=4.5						
AKTO	Aktyubinsk	140.47	50	PKP	PKPdf	09 25 42.4	+0.8
	comp=Z,2.1nm,0.8s,baz=324,slow=3.7,SNR=5.0						
ABKAR	Akbulak array	141.82	52	ePKPdf	PKPdf	09 25 39.3	-4.8
BRVK	Borovoye	147.33	43	ePKP2	PKPab	09 25 57.2	-0.6
BRVK	Borovoye	147.33	43	ePKPbc	PKPab	09 25 57.2	-0.6
BVAR	Borovoye Array	147.40	43	PKPbc	PKPdf	09 25 54.9	+1.3
	comp=Z,14nm,0.7s,baz=304,slow=2.6,SNR=8.4						
KSM	Kuching	147.56	185	ePKPbc	PKPbc	09 25 57.4	-0.2
YAK	Yakutsk	148.66	340	ePKP2	PKPbc	09 25 58.5	-0.6
YAK				pmax	pmax		
	comp=Z,43nm,0.8s						
YAK	Yakutsk	148.66	340	ePKPbc	PKPbc	09 25 58.7	-0.4
YAK				ePKPab	PKPab	09 26 03.8	+1.0
IPM	Ipoh	149.97	167	ePKPbc	PKPbc	09 26 04.0	+0.1
KULM	Kulim	150.69	165	ePKPbc	PKPbc	09 26 04.9	-0.7
ASAJ	Asahikawa	151.30	301	PKPbc	PKPbc	09 26 05.8	-0.4
	comp=Z,10nm,0.8s,baz=202,slow=8.4,SNR=5.1						
EKS2	Erkin-Say	152.13	62	ePKIKP	PKPbc	09 26 09.1	+0.8
EKS2	Erkin-Say	152.13	62	ePKPbc	PKPbc	09 26 09.1	+0.8
AAK	Ala-Archa	152.66	62	PKIKP	PKPbc	09 26 09.0	-0.5
AAK	Ala-Archa	152.66	62	PKPbc	PKPbc	09 26 09.0	-0.5
	comp=Z,20nm,0.8s,baz=211,slow=2.5,SNR=17						
NVS	Novosibirsk	153.03	32	ePKIKP	PKPbc	09 26 09.3	-0.3
NVS				pmax	pmax		
	comp=Z,18nm,0.9s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.3s						
KSH	Kashi	154.04	68	ePKPbc	PKPbc	09 26 12.3	-0.2
ZAA0	Zalesovo Array	154.32	32	ePKPdf	PKPdf	09 26 04.7	+0.5
ZAA0				ePKPbc	PKiKP	09 26 12.8	+0.2
ZAA0				ePKPab	PKPab	09 26 25.8	-0.7
ZALV	Zalesovo Beam	154.32	32	PKP	PKPdf	09 26 03.6	-0.6
	comp=E,3.9nm,0.8s,baz=269,slow=2.9,SNR=4.0						
ZALV				PKPbc	PKiKP	09 26 13.3	+0.8
	comp=E,14nm,0.8s,baz=293,slow=3.2,SNR=13						
BOD	Bodaibo	155.80	352	ePKP2	PKPab	09 26 33.1	+0.4
BOD				pmax	pmax		
	comp=Z,17nm,1.0s						
MKAR	Makanchi Array	156.90	49	PKPbc	PKPdf	09 26 17.6	+10
	comp=Z,2.4nm,0.8s,baz=278,slow=2.5,SNR=5.2						
MKAR				PKPab	PKPab	09 26 38.7	+0.7
	comp=Z,4.3nm,0.6s,baz=291,slow=4.0,SNR=9.2						
CMAR	Chiang Mai Arr	162.64	151	PKP	PKPdf	09 26 15.2	0.0
	comp=Z,4.9nm,1.0s,baz=269,slow=3.4,SNR=6.1						
SONM	Songino Array	166.14	4	PKP	PKPdf	09 26 17.1	-0.6
	comp=Z,1.0nm,0.8s,baz=132,slow=2.1,SNR=2.7						
SONM				PKPab	PKPab	09 27 19.0	+0.8
	comp=Z,3.1nm,0.9s,baz=325,slow=3.0,SNR=7.3						

IDC 27 09:09:31.3±0.9, 25.°96N×128.°48E, h0km, mb4.1/15, mb1 4.2/18, mb1mx4.1/50, mbtmp4.1/18, ML3.1/2, Error ellipse: s-maj=24.3km s-min=18.3km az=96.0
ISCJB 27 09:09:32.5±0.5, 25.°91N±0.°04×128.°59E±0.°04, h27km, mb4.1/17, Error ellipse: s-maj=6.1km s-min=4.0km az=139.4
JMA 27 09:09:33.9±0.4, 25.°98N×128.°60E, h34km, M4.5
NEIC 27 09:09:36.3±0.9, 25.°93N×128.°36E, h35km, mb4.3/1, Error ellipse: s-maj=21.3km s-min=9.4km az=137.0
ISC 27 09:09:35.2±0.7, 25.°99N±0.°06×128.°50E±0.°06, h27km, n43, σ1§39/49, mb4.2/17, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.69	321	P	Pb	09 09 47.6	-1.0
JJT2	Tamagusuku 2	0.70	283	P	Pn	09 09 48.7	-0.6
JJT2				S	Sn	09 09 59.2	0.0
JOW	Kunigami	0.87	346	P	Pn	09 09 50.5	-1.2
JOW				S	Sb	09 10 02.1	-0.9
JOW	Kunigami	0.87	346	Pn	Pn	09 09 50.6	-1.2
	44nm,0.3s,baz=150,slow=19,SNR=40						
JIH	Iheya	1.15	335	P	Pn	09 09 55.2	-0.4
JIH				S	Sn	09 10 10.1	-0.3
JAGN	Aguni-jima	1.28	298	P	Pn	09 09 57.2	-0.2
JOKE	Okinoerabujima	1.37	3	P	Pn	09 09 57.5	-1.1
JKE	Kume jima 2	1.58	283	P	Pn	09 10 00.6	-0.9
JKE				S	Sn	09 10 21.0	0.0
JTK	Tokunoshima	1.84	12	P	Pn	09 10 03.6	-1.4
JTK				S	Sn	09 10 25.1	-2.3
JAMN	Amaminishikomi	2.33	15	P	Pn	09 10 10.3	-1.4
JMZ	Minamidaito 2	2.45	93	P	Pn	09 10 09.1	-4.4
JMZ				S	Sn	09 10 34.7	-7.9
JAM	Amami Oshima	2.61	22	P	Pn	09 10 13.6	-2.0
JAM				S	Sn	09 10 45.1	-1.3
JZK	Kikaishima	2.66	29	P	Pn	09 10 15.6	-0.8
JOGS	Gusukube	3.06	247	P	Pn	09 10 21.0	-0.8
JOGS				S	Sn	09 10 56.4	-1.1
JTJ	Tarama	3.69	250	P	Pn	09 10 29.3	-1.2
JTJ				S	Sn	09 11 10.0	-3.1
JISG	Ishigakijimahi	4.04	251	P	Pn	09 10 33.3	-2.0
JIJ	Ishigaki jima	4.27	249	P	Pn	09 10 36.2	-2.2
NACB	Ninganchiao	6.52	255	ePn	Pn	09 11 06.3	-3.1
YHNB	Yeheng	6.58	260	ePn	Pn	09 11 10.0	-0.3
YULB	Yu-li	7.04	250	ePn	Pn	09 11 12.1	-4.6
SSLB	Suanglung	7.20	254	ePn	Pn	09 11 15.7	-3.1
JNU	Nakatsue	7.41	16	Pn	Pn	09 11 21.6	0.0
	baz=187,slow=7.6						
TPUB	Ta-pu	7.64	251	ePn	Pn	09 11 22.5	-2.4
MJAR	Matsushiro Arr	13.39	36	Pn	Pn	09 12 43.8	+0.3
	0.2nm,0.3s,baz=247,slow=8.8,SNR=2.8						
USRK	Ussuriysk Arra	18.39	8	P	Pn	09 13 47.9	-0.3
	0.3nm,0.3s,baz=185,slow=8.0,SNR=7.4						
KMI	Kunming	23.25	274	P	P	09 14 42.8	+2.0
KMI				pmax	pmax		
	comp=Z,18nm,1.0s						
SONM	Songino Array	27.89	327	P	P	09 15 24.9	+1.9
	comp=Z,2.6nm,0.5s,baz=143,slow=11,SNR=33						
CMAR	Chiang Mai Arr	28.33	261	P	P	09 15 27.9	+1.0
	comp=Z,1.0nm,0.4s,baz=52,slow=7.3,SNR=5.4						
MKAR	Makanchi Array	41.88	312	P	P	09 17 22.9	-0.2
	comp=Z,1.4nm,0.6s,baz=96,slow=10,SNR=16						
ZALV	Zalesovo Beam	42.59	323	P	P	09 17 27.6	-1.2
	comp=Z,1.0nm,0.6s,baz=90,slow=10,SNR=2.3						
KURK	Kurchatov	45.17	317	P	P	09 17 50.0	+0.5
	comp=Z,4.2nm,0.9s						
WRA	Warramunga Arr	46.00	172	P	P	09 17 55.8	-0.7
	comp=Z,2.5nm,0.8s,baz=353,slow=8.6,SNR=9.7						
BVAR	Borovoye Array	50.62	318	P	P	09 18 32.1	+0.3
	comp=Z,4.1nm,0.8s,baz=90,slow=4.3,SNR=3.6						
ILAR	Eielson Array	64.54	28	P	P	09 20 10.5	+1.0
	comp=Z,0.4nm,0.8s,baz=270,slow=6.8,SNR=5.1						
KBZ	Khabaz	69.50	309	P	P	09 20 42.0	+0.6
	comp=Z,4.6nm,0.9s,baz=127,slow=2.8,SNR=4.0						
FINES	FINESS Array B	73.20	331	P	P	09 21 03.3	-0.1
	comp=Z,2.0nm,0.7s,baz=72,slow=6.8,SNR=8.6						
AKASG	Malin Array Be	75.88	320	P	P	09 21 18.6	-0.6
	comp=Z,1.5nm,0.5s,baz=55,slow=6.1,SNR=7.4						
BRTR	Keskin Array B	77.38	308	P	P	09 21 28.4	+0.4
	comp=Z,3.4nm,0.9s,baz=95,slow=5.7,SNR=7.6						
YKA	Yellowknife Ar	78.64	25	P	P	09 21 35.3	+0.9
	comp=Z,0.4nm,0.6s,baz=302,slow=5.7,SNR=7.7						
HFS	Hagfors	79.15	332	P	P	09 21 37.3	0.0
	comp=Z,1.8nm,0.7s,baz=73,slow=2.0,SNR=5.1						
NB2	NORSAR Subarra	79.64	334	P	P	09 21 39.7	-0.3
	comp=Z,1.6nm,0.7s,baz=56,slow=5.6						
NOA	NORSAR Array B	79.64	334	P	P	09 21 40.1	+0.1
	comp=Z,0.4nm,0.7s,baz=62,slow=7.7,SNR=4.3						
DAVOX	Davos/Dischmat	88.84	323	P	P	09 22 29.4	+2.2
	comp=Z,2.8nm,0.6s,baz=252,slow=1.2,SNR=3.9						

IDC 27 09:11:04.4±1.2, 33.°07S×71.°60W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/36, mbtmp4.3/4, Error ellipse: s-maj=71.5km s-min=33.8km az=38.0
ISCJB 27 09:11:06.6±2.2, 33.°25S±0.°7×71.°8W±0.°6, h30km, mb4.2/4, Error ellipse: s-maj=119.1km s-min=32.0km az=36.6
ISC 27 09:11:09.1±1.3, 33.°1S±0.°4×71.°6W±0.°4, h30km, n7, σ1§52/7, mb4.2/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	69.09	330	P	P	09 22 12.7	+0.3
	1.2nm,0.6s,baz=156,slow=8.2,SNR=6.0						
BOSA	Boshof	80.19	118	P	P	09 23 16.2	-0.9
	5.1nm,0.7s,baz=24,slow=4.4,SNR=5.1						
NVAR	Mina Array Bea	83.32	325	P	P	09 23 31.8	-1.4
	1.2nm,0.8s,baz=147,slow=5.1,SNR=4.4						
TORD	Torodi Ar. Bea	83.54	70	P	P	09 23 34.4	-0.2
	1.4nm,0.7s,baz=265,slow=4.0,SNR=4.1						
BRTR	Keskin Array B	121.05	60	PKP	PKPdf	09 30 00.8	+1.9
	0.4nm,0.6s,baz=200,slow=3.2,SNR=2.8						
WRA	Warramunga Arr	121.77	209	PKP	PKPdf	09 30 00.6	-0.2
	0.6nm,0.9s,baz=153,slow=1.7,SNR=3.0						
SONM	Songino Array	165.15	5	PKP	PKPdf	09 31 11.8	+1.6
	0.9nm,0.9s,baz=26,slow=3.8,SNR=3.8						

IDC 27 09:11:30.0±0.6, 36.°24S×73.°09W, h0km, mb4.5/18, mb1 4.7/19, mb1mx4.5/38, mbtmp4.5/19, ML3.7/1, Error ellipse: s-maj=27.6km s-min=14.7km az=70.0
ISCJB 27 09:11:35.4±0.5, 36.°14S±0.°09×72.°9W±0.°1, h33km, mb4.7/34, Error ellipse: s-maj=16.3km s-min=11.6km az=144.1
NEIC 27 09:11:35.8±0.3, 36.°25S×72.°92W, h35km, mb4.7/9, Error ellipse: s-maj=16.5km s-min=8.8km az=74.0
ISC 27 09:11:34.4±0.5, 36.°30S±0.°09×73.°0W±0.°2, h25km, n402, σ0§86/401, mb4.8/35, 171C-178D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TRQA	Tornquist	8.94	105	ePn	Pn	09 13 51.6	+10
USHA	Ushuaia	18.79	172	P	Pn	09 15 52.7	+0.4
	0.2nm,0.3s,baz=356,slow=16,SNR=2.9						
LPAZ	La Paz	20.39	13	P	P	09 16 07.9	-2.2
	7.0nm,1.0s,baz=174,slow=6.8,SNR=4.6						
SIV	San Ignacio	22.83	31	P	P	09 16 34.6	-1.1
	9.6nm,0.9s,baz=240,slow=9.1,SNR=3.5						
NNA	Nana	24.46	351	P	P	09 16 51.3	-0.2
	4.6nm,0.3s,baz=237,slow=16,SNR=3.7						
OTAV	Otavalo	36.71	351	eP	P	09 18 42.9	+2.8
	5.7nm,1.1s						
SDV	Santo Domingo	45.00	3	eP	P	09 19 43.5	-4.6
	26nm,1.0s						
JTS	JuntasAbangare	47.70	344	P	P	09 20 08.1	-1.0
	3.4nm,0.7s,baz=97,slow=5.6,SNR=4.0						
SNAA	Sanae	49.75	157	P	P	09 20 23.4	-0.9
	3.6nm,1.1s,baz=269,slow=9.3,SNR=5.2						
SNAA	Sanae	49.75	157	eP	P	09 20 24.4	+0.1
APG	El Apazote	53.65	339	P	P	09 20 51.5	-2.6
	3.7nm,0.6s,baz=104,slow=6.3,SNR=6.4						
QSPA	South Pole Qui	53.94	180	P	P	09 20 55.8	+0.1
	4.0nm,0.7s,baz=174,slow=1.9,SNR=5.4						
CELP	Cerrillos	54.42	7	eP	P	09 20 59.6	+0.2
TEIG	Tepich	58.06	343	P	P	09 21 23.5	-1.9
	11nm,0.7s,baz=306,slow=2.7,SNR=3.8						
TEIG	Tepich	58.06	343	P	P	09 21 23.5	-1.9
	4.6nm,0.9s						
TIGA	Tifton	68.12	350	⇑P	P	09 22 32.5	+0.5
	baz=68						
933A	Laredo	68.24	335	⇓P	P	09 22 33.3	+0.4
	baz=68						
834A	Tilden	68.47	336	⇓P	P	09 22 34.6	+0.3
	baz=69						
735A	Kenedy	68.90	337	⇓P	P	09 22 37.7	+0.7
	baz=69						
833A	Chaparral WMA,	68.93	335	⇑P	P	09 22 38.0	+0.8
	baz=69						
832A	Faith Ranch, C	69.10	335	⇑P	P	09 22 39.0	+0.8
	baz=69						
734A	La Parita Cree	69.14	336	⇑P	P	09 22 39.4	+0.9
	baz=69						
636A	Smothers Creek	69.25	338	⇑P	P	09 22 40.1	+1.0
	baz=70						
733A	Divot King Ran	69.26	335	⇑P	P	09 22 40.3	+1.1
	baz=70						
635A	Leesville	69.39	337	⇑P	P	09 22 40.8	+0.8
	baz=70						
732A	Laxson Ranch,	69.50	335	⇓P	P	09 22 41.0	+0.3
	baz=70						
536A	Bastrop	69.81	338	⇑P	P	09 22 43.4	+0.9
	baz=70						
633A	Saathoff Ranch	69.91	336	⇓P	P	09 22 44.0	+0.8
	baz=70						
535A	Dale	69.92	337	⇓P	P	09 22 44.2	+1.0
	baz=70						
632A	Uvalde	70.15	335	⇓P	P	09 22 45.9	+1.2
	baz=70						
340A	Bronson	70.17	341	⇓P	P	09 22 45.8	+1.1
	baz=70						
631A	Perdido Creek	70.34	335	⇓P	P	09 22 46.8	+0.9
	baz=71						
533A	Kerrville	70.42	336	⇑P	P	09 22 47.2	+0.8
	baz=71						
338A	Crockett	70.50	340	⇓P	P	09 22 47.7	+0.9
	baz=71						
532A	Rocksprings	70.76	335	⇑P	P	09 22 49.1	+0.6
	baz=71						
434A	Burnet	70.87	337	⇓P	P	09 22 49.6	+0.6
	baz=71						
336A	Riesel	70.97	339	⇓P	P	09 22 50.4	+0.8
	baz=71						
531A	Rocksprings	71.02	335	⇑P	P	09 22 50.9	+0.9
	baz=71						
335A	Moody	71.04	338	⇓P	P	09 22 51.2	+1.1
	baz=71						
JCT	Junction City	71.05	336	eP	P	09 22 50.9	+0.7
	18nm,1.1s						
JCT	Junction City	71.05	336	⇑P	P	09 22 50.9	+0.7
	baz=71						
433A	Art	71.07	336	⇑P	P	09 22 51.0	+0.7
	baz=71						
530A	J-C Ranch, Com	71.28	334	⇓P	P	09 22 52.7	+1.1
	baz=72						
334A	Lometa	71.34	337	⇓P	P	09 22 52.5	+0.6
	baz=72						
TXAR	Lajitas Array	71.39	332	P	P	09 22 50.3	-2.1
	2.9nm,0.6s,baz=153,slow=8.4,SNR=12						
432A	Menard	71.42	336	⇑P	P	09 22 53.1	+0.7
	baz=72						
KMSC	Kings Mountain	71.51	353	⇑P	P	09 22 53.8	+1.0
	baz=72						
431A	Sonora	71.51	335	⇑P	P	09 22 53.5	+0.5
	baz=72						
333A	Richland Sprin	71.57	337	⇓P	P	09 22 53.8	+0.5
	baz=72						
WHTX	Lake Whitney	71.71	338	⇓P	P	09 22 54.6	+0.5
	baz=72						
430A	Baggett Ranch,	71.82	335	⇑P	P	09 22 55.8	+0.9
	baz=72,SNR=5.5						
332A	Millersview	71.86	336	⇓P	P	09 22 55.7	+0.6
	baz=72,SNR=6.6						
429A	Davenport Ranc	71.91	334	⇓P	P	09 22 56.4	+1.0
	baz=72						
234A	Clairette	71.93	338	⇓P	P	09 22 55.8	+0.4
	baz=72,SNR=6.7						
331A	San Angelo	72.02	335	⇑P	P	09 22 56.6	+0.6
	baz=72,SNR=6.9						
233A	Rising Star	72.18	337	⇑P	P	09 22 57.4	+0.5
	baz=72,SNR=5.6						
232A	Coleman	72.30	336	⇑P	P	09 22 58.0	+0.3
	baz=73,SNR=5.3						
TKL	Tuckaleechee C	72.30	351	P	P	09 22 57.0	-0.6
	9.3nm,0.8s,baz=155,slow=8.0,SNR=7.2						
330A	Mertzon	72.37	335	⇑P	P	09 22 58.4	+0.3
	baz=73						
134A	White-Moore Ra	72.44	338	⇑P	P	09 22 59.0	+0.5
	baz=73						
231A	Bronte	72.56	336	⇑P	P	09 22 59.3	+0.1
	baz=73,SNR=5.3						
329A	Wagon Wheel Ra	72.72	334	⇓P	P	09 23 00.6	+0.4
	baz=73						
133A	Hamilton Ranch	72.73	337	⇓P	P	09 23 01.1	+0.9
	baz=73						
230A	Sterling City	72.78	335	⇑P	P	09 23 01.3	+0.7
	baz=73						
Z35A	Perchaven, San	72.90	339	⇑P	P	09 23 02.1	+0.9
	baz=73,SNR=7.2						
ABTX	Abilene, Hawle	72.98	337	eP	P	09 23 01.6	-0.1
	36nm,1.2s						
ABTX	Abilene, Hawle	72.98	337	⇑P	P	09 23 02.3	+0.6
	baz=73,SNR=5.7						
229A	Bryant Ranch,	73.10	335	⇓P	P	09 23 03.4	+0.9
	baz=73						
Z34A	Collier Ranch,	73.14	338	⇑P	P	09 23 03.6	+1.0
	baz=73						
131A	Roby	73.26	336	⇓P	P	09 23 04.4	+1.0
	baz=74						
Z33A	Whitaker Ranch	73.31	338	⇑P	P	09 23 03.9	+0.3
	baz=74,SNR=6.7						
130A	Snyder	73.38	336	⇓P	P	09 23 04.6	+0.4
	baz=74						
228A	UT Block 9, Go	73.51	334	⇓P	P	09 23 05.3	+0.4
	baz=74						
Z32A	Haskell	73.56	337	⇓P	P	09 23 05.6	+0.5
	baz=74,SNR=5.2						
Y34A	Reagan Ranch,	73.64	339	⇑P	P	09 23 05.8	+0.3
	baz=74						
Z31A	Sharp Cattle R	73.78	337	⇓P	P	09 23 06.5	+0.1
	baz=74,SNR=5.1						
128A	Castleberry Fa	73.93	334	⇑P	P	09 23 07.5	+0.1
	baz=74						
Y33A	Hilltop Ranch,	73.94	338	⇑P	P	09 23 07.4	+0.1
	baz=74,SNR=6.0						
Z30A	Sanderson Ranc	74.07	336	⇓P	P	09 23 08.4	+0.2
	baz=74						
Y32A	R-V Farms, Ver	74.19	337	⇓P	P	09 23 09.3	+0.5
	baz=74						
Z29A	Hungry Hill Ra	74.24	335	⇓P	P	09 23 09.3	+0.2
	baz=74,SNR=5.5						
X34A	Smith Ranch, M	74.26	339	⇑P	P	09 23 09.6	+0.5
	baz=75						
127A	Arkansas Junct	74.28	334	⇑P	P	09 23 09.5	0.0
	baz=75						
X33A	Lawton	74.40	338	⇑P	P	09 23 10.2	+0.2
	baz=75						
Y31A	Rekieta Farm,	74.41	337	⇓P	P	09 23 10.6	+0.5
	baz=75						
Y30A	Stafford Cattl	74.53	336	⇑P	P	09 23 11.3	+0.5
	baz=75						
Y29A	Porterfield Fa	74.78	336	⇑P	P	09 23 12.8	+0.5
	baz=75						
Z27A	Tatum	74.81	334	⇓P	P	09 23 12.9	+0.4
	baz=75						
W34A	Bridge Creek,	74.83	339	⇓P	P	09 23 13.1	+0.6
	baz=75						
TUL1	Tulsa	74.92	341	⇑P	P	09 23 13.5	+0.5
	baz=75,SNR=7.1						
X31A	McDonald Ranch	74.94	337	⇑P	P	09 23 13.5	+0.4
	baz=75,SNR=5.3						
W33A	Caddo, Fort Co	74.96	339	⇑P	P	09 23 13.9	+0.7
	baz=75,SNR=6.7						
Z26A	Caprock	75.05	333	⇓P	P	09 23 14.1	+0.2
	baz=75						
X30A	Coker Ranch, T	75.05	336	⇓P	P	09 23 14.3	+0.5
	baz=75						
W32A	Sentinel	75.17	338	⇑P	P	09 23 14.9	+0.4
	baz=76,SNR=5.6						
MSTX	Muleshoe	75.25	335	⇑P	P	09 23 15.3	+0.3
	baz=76						
Y27A	Causey	75.31	334	⇑P	P	09 23 15.6	+0.2
	baz=76						
X29A	Tulia	75.32	336	⇑P	P	09 23 16.0	+0.6
	baz=76						
V34A	Guthrie	75.32	340	⇑P	P	09 23 15.3	0.0
	baz=76						
Z25A	Roswell	75.32	333	⇑P	P	09 23 15.8	+0.3
	baz=76						
W31A	Holland Ranch,	75.44	337	⇑P	P	09 23 16.2	+0.2
	baz=76						
319A	Douglas	75.45	328	⇓P	P	09 23 16.8	+0.5
	baz=76						
V33A	Lossen Ranch,	75.53	339	⇓P	P	09 23 17.3	+0.9
	baz=76,SNR=5.6						
X28A	Dimmitt	75.55	335	⇓P	P	09 23 17.8	+1.0
	baz=76						
Y26A	Elida	75.58	334	⇑P	P	09 23 17.4	+0.5
	baz=76						
Z24A	Sheeppen Canyo	75.61	332	⇑P	P	09 23 17.8	+0.6
	baz=76						
V32A	Arapaho	75.66	338	⇑P	P	09 23 17.6	+0.3
	baz=76						
AMTX	Amarillo	75.71	336	eP	P	09 23 17.9	+0.3
	11nm,0.8s						
AMTX	Amarillo	75.71	336	⇑P	P	09 23 18.5	+0.8
	baz=76						
121A	Cookes Peak, D	75.84	330	⇑P	P	09 23 19.3	+0.7
	baz=76						
U34A	Anderson Ranch	75.89	340	⇓P	P	09 23 19.2	+0.6
	baz=76						
Y25A	Mesa, Roswell	75.89	333	⇑P	P	09 23 19.5	+0.7
	baz=76						
W29A	Amraillo	75.92	336	⇓P	P	09 23 19.4	+0.6
	baz=76						
V31A	Spring Creek L	75.95	338	⇑P	P	09 23 20.3	+1.4
	baz=76						
X27A	F and S Farms,	75.98	335	⇑P	P	09 23 19.9	+0.6
	baz=76						
U33A	Lingo Farm, Me	76.05	339	⇓P	P	09 23 20.1	+0.6
	baz=76						
X26A	CR and CF Fran	76.14	334	⇓P	P	09 23 21.3	+1.1
	baz=76						
Z22A	Elephant Butte	76.15	331	⇓P	P	09 23 21.2	+0.9
	baz=76						
Y24A	Capitan	76.17	333	⇑P	P	09 23 20.9	+0.5
	baz=76						
U32A	Winter Ranch,	76.26	339	⇓P	P	09 23 22.0	+1.3
	baz=77						
W27A	Bowe Ranch, En	76.34	335	⇑P	P	09 23 21.6	+0.3
	baz=77						
Y23A	Lovelace Mesa,	76.40	332	⇑P	P	09 23 23.0	+1.3
	baz=77						
X25A	Clemmons Ranch	76.42	333	⇓P	P	09 23 22.2	+0.5
	baz=77						
W26A	Owens Ranch, T	76.61	334	⇓P	P	09 23 23.4	+0.6
	baz=77						
DBIC	Dimbokro	76.63	71	P	P	09 23 24.5	+1.2
	6.4nm,0.6s,baz=203,slow=4.8,SNR=9.0						
V28A	Channing	76.69	336	⇓P	P	09 23 24.3	+1.1
	baz=77						
T33A	Patterson Ranc	76.69	339	⇑P	P	09 23 24.1	+1.0
	baz=77,SNR=8.1						
ACSO	Alum Creek Sta	76.72	352	eP	P	09 23 23.0	-0.1
	29nm,1.0s						
X24A	Lazy VL Ranch,	76.73	333	⇑P	P	09 23 24.8	+1.1
	baz=77						
U30A	WK&E Inc. Balk	76.90	337	⇓P	P	09 23 25.6	+1.3
	baz=77						
W25A	X Bar L Ranch,	76.97	334	⇓P	P	09 23 25.8	+1.0
	baz=77						
T32A	Huddler Ranch,	76.98	339	⇑P	P	09 23 25.7	+1.0
	baz=77						
T31A	Randall Ranch,	77.12	338	⇑P	P	09 23 26.0	+0.5
	baz=77						
V26A	Tequesquite Ra	77.25	335	⇑P	P	09 23 26.9	+0.5
	baz=77						
U28A	Mallet	77.26	336	⇑P	P	09 23 27.0	+0.6
	baz=78						

W24A Lazy 6 Ranch, 77.30 333 ⇑P P 09 23 27.2 +0.4
baz=78
ANMO Albuquerque 77.45 332 P P 09 23 28.7 +1.1
10nm,1.1s,baz=170,slow=6.3,SNR=9.6
ANMO Albuquerque 77.45 332 eP P 09 23 28.4 +0.8
14nm,1.1s
S32A Newby Ranch, P 77.47 339 ⇓P P 09 23 28.5 +1.1
baz=78
214A Organ Pipe Nat 77.49 326 ⇑P P 09 23 28.5 +0.8
baz=78
U27A Thompson Grove 77.49 336 ⇓P P 09 23 28.3 +0.5
baz=78
W23A Werner Place, 77.53 333 ⇓P P 09 23 29.1 +1.0
baz=78
S31A Mullinville 77.55 339 ⇓P P 09 23 28.8 +0.8
baz=78
V25A Rancho No Teng 77.58 334 ⇓P P 09 23 28.9 +0.6
baz=78
T29A Hugoton 77.67 337 ⇓P P 09 23 29.6 +0.9
baz=78
V24A Rampart Ranch, 77.71 334 ⇑P P 09 23 29.9 +0.7
baz=78
R33A Olander Ranch, 77.77 340 ⇓P P 09 23 30.0 +0.9
baz=78
U26A Atchley Ranch, 77.78 335 ⇑P P 09 23 30.0 +0.6
baz=78
S30A Montezuma 77.86 338 ⇑P P 09 23 30.2 +0.6
baz=78
T28A Walsh 77.90 337 ⇓P P 09 23 30.3 +0.4
baz=78
U25A Circle Dot Ran 78.01 335 ⇑P P 09 23 31.6 +0.8
baz=78
S29A Ulysses 78.04 337 ⇓P P 09 23 31.5 +0.8
baz=78
T27A Campo 78.04 336 ⇓P P 09 23 31.6 +0.8
baz=78
V23A Ortiz Mt. (NFS 78.06 333 ⇓P P 09 23 31.9 +0.9
baz=78
R32A Long Quarter, 78.07 340 ⇑P P 09 23 31.4 +0.6
baz=78
KSU1 Kansas State U 78.14 341 ⇑P P 09 23 32.0 +0.8
baz=78
R31A Burdett 78.18 339 ⇑P P 09 23 31.9 +0.5
baz=78
S28A Manter 78.26 337 ⇑P P 09 23 32.7 +0.8
baz=79
U24A Moreno Valley 78.33 334 ⇑P P 09 23 32.7 +0.1
baz=79
Q33A Connelly Farm, 78.37 340 ⇓P P 09 23 32.8 +0.4
baz=79
R30A Dighton 78.40 338 ⇓P P 09 23 33.5 +0.8
baz=79
T26A Comanche Natio 78.44 335 ⇑P P 09 23 33.9 +0.8
baz=79
X18A Snowflake 78.46 330 ⇑P P 09 23 33.9 +0.6
baz=79
V22A San Miguel Ran 78.48 332 ⇑P P 09 23 34.3 +0.9
baz=79
Q32A Meitler Ranch, 78.56 340 ⇓P P 09 23 34.0 +0.5
baz=79
U23A El Rito 78.58 333 ⇓P P 09 23 34.8 +0.9
baz=79
113A Mohawk Valley, 78.61 326 ⇓P P 09 23 34.9 +1.1
baz=79
T25A Trinidad 78.68 335 ⇑P P 09 23 35.4 +0.9
baz=79
P33A Williams Farm, 78.74 341 ⇑P P 09 23 35.1 +0.7
baz=79
R29A Marienthal 78.79 338 ⇑P P 09 23 35.4 +0.5
baz=79
S26A Kim 78.80 336 ⇓P P 09 23 35.8 +0.8
baz=79
Q31A Ellis 78.81 339 ⇑P P 09 23 36.0 +1.1
baz=79
U22A Llaves 78.87 333 ⇑P P 09 23 36.3 +0.8
baz=79
R28A Tribune 78.92 337 ⇓P P 09 23 36.3 +0.8
baz=79
T24B San Luis 78.95 334 ⇓P P 09 23 37.1 +1.1
baz=79
X16A Lo Mia Camp, P 78.98 328 ⇓P P 09 23 37.0 +0.9
baz=79
Q30A Quinter 79.02 339 ⇓P P 09 23 36.9 +0.8
baz=79
S25A Robets Cordova 79.16 335 ⇓P P 09 23 37.9 +0.9
baz=80
T23A Casias Ranch, 79.16 334 ⇑P P 09 23 37.6 +0.5
baz=80
P32A Huiting Farm, 79.16 340 ⇑P P 09 23 37.6 +0.8
baz=80
Q29A Oakley 79.17 338 ⇓P P 09 23 37.3 +0.4
baz=80
R27A Eads 79.18 337 ⇑P P 09 23 37.5 +0.5
baz=80
Y14A Wickenburg 79.25 327 ⇑P P 09 23 38.0 +0.5
baz=80
P31A Stockton 79.28 339 ⇓P P 09 23 38.1 +0.6
baz=80
TSUM Tsumeb 79.31 106 P P 09 23 40.2 +1.8
2.7nm,1.1s,baz=287,slow=6.1,SNR=3.3
R26A Arlington 79.41 336 ⇓P P 09 23 39.2 +1.0
baz=80
S24A Houchin Ranch, 79.41 334 ⇓P P 09 23 39.5 +1.0
baz=80
R25A Fountain Ranch 79.55 335 ⇑P P 09 23 39.7 +0.7
baz=80
P30A Selden 79.56 339 ⇑P P 09 23 39.9 +1.0
baz=80
Q28A Sharon Springs 79.59 338 ⇓P P 09 23 39.8 +0.6
baz=80
SDCO Great Sand Dun 79.60 334 eP P 09 23 40.8 +1.2
5.5nm,1.0s
SWSC Sam W. Stewart 79.69 324 ⇑P P 09 23 40.2 +0.5
baz=80
KSCO Kaye Shedlock' 79.79 337 ⇑P P 09 23 40.8 +0.5
baz=80
P29A Atwood 79.81 338 ⇑P P 09 23 41.3 +0.9
baz=80
O31A Woolen Ranch, 79.86 340 ⇑P P 09 23 41.4 +0.9
baz=80
WUAZ Wupatki 79.90 329 eP P 09 23 41.6 +0.6
4.0nm,0.9s
WUAZ Wupatki 79.90 329 ⇓P P 09 23 42.0 +0.9
baz=80
R24A Sanders Place, 79.90 335 ⇓P P 09 23 42.3 +1.2
baz=80
MONP Monument Peak 79.94 324 ⇓P P 09 23 41.9 +0.5
baz=80
Q26A Hugo 80.00 336 ⇓P P 09 23 42.2 +0.7
baz=80
P28A Saint Francis 80.03 338 ⇑P P 09 23 42.5 +0.9
baz=80
PDMCI Parker Dam,Lak 80.06 326 ⇑P P 09 23 42.5 +0.8
baz=80
S22A 4UR Ranch, Cre 80.08 333 ⇓P P 09 23 42.6 +0.4
baz=80
O30A MW Ranch, Wils 80.09 339 ⇑P P 09 23 42.2 +0.4
baz=80
R23A Moffat 80.12 334 ⇓P P 09 23 42.3 0.0
baz=80
BC3 Big Chuckawall 80.12 325 ⇓P P 09 23 42.5 +0.3
baz=80
MVCO Mesa Verde 80.22 332 P P 09 23 40.9 -2.0
11nm,1.2s
MVCO Mesa Verde 80.22 332 ⇑P P 09 23 43.2 +0.4
baz=80
Q25A Bedland, Calha 80.23 336 ⇑P P 09 23 43.8 +1.0
baz=80
O29A 4D Ranch, Culb 80.25 339 ⇓P P 09 23 43.7 +1.0
baz=81
P27A Ficken Ranch, 80.27 337 ⇑P P 09 23 43.5 +0.6
baz=81
IRM Iron Mountain 80.40 326 ⇓P P 09 23 44.0 +0.4
baz=81
P26A Davis Ranch, A 80.52 337 ⇑P P 09 23 45.5 +1.2
baz=81
O28A Krutsinger Ran 80.55 338 ⇓P P 09 23 44.5 +0.2
baz=81
Q24A Divide 80.58 335 ⇑P P 09 23 45.0 +0.2
baz=81
W13A Hualapai Mount 80.62 327 ⇓P P 09 23 46.0 +0.9
baz=81
BELC Belle Mtn. Jos 80.66 325 ⇑P P 09 23 46.4 +1.3
baz=81
BGNE Belgrade 80.71 341 ⇓P P 09 23 46.8 +1.7
baz=81
P25A Willow Gulch B 80.74 336 ⇓P P 09 23 46.5 +1.0
baz=81

O27A Beecher Island 80.82 338 ⇓P P 09 23 47.0 +1.1
baz=81
N29A Votaw Ranch, W 80.84 339 ⇓P P 09 23 47.0 +1.1
baz=81
M31A Lambtecht Ranc 80.87 340 ⇓P P 09 23 47.4 +1.4
baz=81
MURC Murrieta 80.89 324 ⇓P P 09 23 47.8 +1.5
baz=81
P24A Kohler Place, 80.99 336 ⇓P P 09 23 48.2 +1.4
baz=81
N28A Pribbeno Ranch 80.99 338 ⇑P P 09 23 47.8 +1.1
baz=81
U15A North Rim 81.06 329 ⇑P P 09 23 48.6 +1.1
baz=81
O26A Horse Wrangler 81.13 337 ⇓P P 09 23 49.0 +1.5
baz=81
GMRC Granite Mounta 81.15 326 ⇓P P 09 23 49.2 +1.4
baz=81
P23A Jefferson 81.18 335 ⇓P P 09 23 49.0 +0.9
baz=82
O25A Wiggins 81.27 336 ⇓P P 09 23 49.5 +1.2
baz=82
N27A Anderson Farm, 81.40 338 ⇑P P 09 23 49.8 +0.9
baz=82
M29A Burnside Ranch 81.44 339 ⇓P P 09 23 50.4 +1.3
baz=82
ISCO Idaho Springs 81.48 335 ⇑P P 09 23 50.2 +0.6
baz=82
HEC Hector,Ludlow 81.50 325 ⇓P P 09 23 50.9 +1.4
baz=82
L31A Butterfield Fa 81.61 341 ⇑P P 09 23 51.2 +1.3
baz=82
L30A Spencer Herefo 81.64 340 ⇑P P 09 23 51.2 +1.1
baz=82
P22A Eagle 81.70 334 ⇓P P 09 23 51.7 +1.1
baz=82
L29A Maesberg Ranch 81.95 340 ⇑P P 09 23 52.2 +0.5
baz=82
O23A Lake Granby, G 81.95 335 ⇓P P 09 23 52.7 +0.6
baz=82
GSC Goldstone 82.11 325 ⇑P P 09 23 53.6 +0.8
baz=82
O22A Kremmling 82.13 335 ⇑P P 09 23 54.1 +1.1
baz=82
N24A Carr 82.16 336 ⇑P P 09 23 54.4 +1.4
baz=82
K30A Basset 82.28 340 ⇓P P 09 23 55.1 +1.7
baz=83
EDW2 Edwards Air Fo 82.31 324 ⇑P P 09 23 54.8 +1.0
baz=83
SHOC Shoshone 82.36 326 ⇑P P 09 23 54.6 +0.7
baz=83
M25A Palm-Egli Farm 82.45 337 ⇑P P 09 23 55.3 +0.8
baz=83
ECSD EROS Data Cent 82.52 343 eP P 09 23 54.3 -0.3
22nm,1.0s
ECSD EROS Data Cent 82.52 343 ⇑P P 09 23 54.7 +0.1
baz=83
K29A Lazy Trails An 82.56 340 ⇓P P 09 23 55.5 +0.6
baz=83
N23A Red Feather La 82.58 335 ⇑P P 09 23 56.2 +0.9
baz=83
LRMC Laurel Mountai 82.66 325 ⇓P P 09 23 57.1 +1.4
baz=83
N22A Wattenberg Ran 82.67 335 ⇑P P 09 23 57.3 +1.5
baz=83
L26A Underwood Farm 82.69 338 ⇑P P 09 23 56.6 +0.9
baz=83
O20A White River Ci 82.70 333 ⇓P P 09 23 56.3 +0.5
baz=83
M24A Cheyenne 82.72 336 ⇑P P 09 23 56.8 +0.9
baz=83
K28A Ten Mile Ranch 82.81 339 ⇓P P 09 23 57.3 +1.1
baz=83
J30A Dallas 82.86 341 ⇓P P 09 23 57.3 +0.9
baz=83
K27A Flueckinger Fa 83.05 339 ⇓P P 09 23 58.8 +1.3
baz=83
SPMN St. Paul 83.11 346 ⇑P P 09 23 59.0 +1.4
baz=83
J29A Okreek 83.16 340 ⇓P P 09 23 59.0 +1.1
baz=84
M22A Cedar Creek Ra 83.25 335 ⇑P P 09 24 00.2 +1.4
baz=84
L24A Wheatland 83.28 337 ⇑P P 09 24 00.1 +1.3
baz=84
N20A Spence Gulch, 83.33 334 ⇑P P 09 23 59.8 +0.7
baz=84
I30A Oacoma 83.39 341 ⇓P P 09 23 59.9 +0.8
baz=84
J28A Allard Ranch, 83.42 340 ⇓P P 09 24 00.6 +1.3
baz=84
J27A Elkhorn Farm, 83.48 339 ⇑P P 09 24 00.9 +1.2
baz=84
L23A Garrett 83.59 336 ⇓P P 09 24 01.0 +0.6
baz=84
VES Vestal, Richgr 83.61 324 ⇑P P 09 24 01.2 +0.8
baz=84
I29A Vivian Onida 83.72 341 ⇓P P 09 24 01.5 +0.7
baz=84
L22A Ellis Ranch, M 83.76 336 ⇑P P 09 24 02.1 +0.9
baz=84
BRSD Miller 83.76 342 ⇓P P 09 24 02.0 +1.0
baz=84
K24A Anderson Ranch 83.85 337 ⇑P P 09 24 02.6 +1.0
baz=84
J26A Sides Ranch, S 83.85 338 ⇑P P 09 24 03.2 +1.6
baz=84
I28A Midland 83.94 340 ⇑P P 09 24 03.6 +1.7
baz=84
R11A Troy Canyon, C 84.08 328 ⇓P P 09 24 04.3 +1.3
baz=84
K23A Bowen Ranch, D 84.14 336 ⇓P P 09 24 03.8 +0.7
baz=84
J25A Sunshine Ranch 84.14 338 ⇓P P 09 24 03.6 +0.5
baz=84
I27A Quinn 84.25 339 ⇓P P 09 24 04.2 +0.6
baz=85
H29A Onida 84.26 341 ⇑P P 09 24 04.2 +0.7
baz=85
K22A Casper 84.34 336 eP P 09 24 04.2 0.0
24nm,1.2s
K22A Casper 84.34 336 ⇑P P 09 24 04.7 +0.6
baz=85,SNR=7.0
J24A Dixon Ranch, L 84.35 337 ⇑P P 09 24 05.4 +1.3
baz=85
G30A Faulkton 84.45 342 ⇓P P 09 24 05.5 +1.0
baz=85
DUG Dugway 84.49 330 eP P 09 24 05.5 +0.6
19nm,1.1s
DUG Dugway 84.49 330 ⇑P P 09 24 05.6 +0.6
baz=85,SNR=7.1
H28A Mission Ridge 84.52 340 ⇓P P 09 24 05.5 +0.7
baz=85
K21A Alcova 84.57 335 ⇑P P 09 24 05.9 +0.5
baz=85,SNR=6.1
TPH Tonopah 84.58 326 eP P 09 24 06.9 +1.3
6.4nm,0.9s
I25A Rochford 84.69 338 ⇓P P 09 24 06.7 +0.7
baz=85,SNR=7.1
G29A Hoven 84.71 341 ⇓P P 09 24 06.6 +0.8
baz=85
H27A Howes 84.77 340 ⇑P P 09 24 06.6 +0.4
baz=85
I24A Kuemmerle Ranc 84.82 338 ⇑P P 09 24 07.2 +0.6
baz=85
G28A Parade 84.86 341 ⇑P P 09 24 07.4 +0.8
baz=85
RSSD Black Hills 84.88 338 eP P 09 24 07.4 +0.5
291nm,3.0s
J22A Midwest 85.00 336 ⇓P P 09 24 07.8 +0.3
baz=85
F30A Leola 85.08 342 ⇑P P 09 24 08.4 +0.7
baz=85
H25A Fruitdale 85.20 339 ⇑P P 09 24 09.2 +0.9
baz=86,SNR=7.4
J21A Lysite 85.27 336 ⇓P P 09 24 09.4 +0.5
baz=86
F29A Eureka 85.28 342 ⇑P P 09 24 09.1 +0.5
baz=86,SNR=5.4
NVAR Mina Array Bea 85.35 326 P P 09 24 09.2 -0.2
2.1nm,0.7s,baz=154,slow=5.5,SNR=6.9
G27A Dupree 85.42 340 ⇑P P 09 24 10.0 +0.7
baz=86,SNR=6.6
I22A 9 Mile Ranch, 85.44 336 ⇓P P 09 24 09.7 +0.1
baz=86,SNR=7.0
PDAR Pinedale Array 85.48 334 P P 09 24 09.4 -0.6
3.9nm,0.8s,baz=160,slow=4.7,SNR=12

J20A Shoshoni 85.49 335 ⇓P P 09 24 10.6 +0.7
baz=86,SNR=6.9
G26A Maurine 85.53 340 ⇓P P 09 24 11.0 +1.0
baz=86,SNR=7.8
H24A Dirks Ranch, A 85.60 338 ⇓P P 09 24 10.4 +0.1
baz=86
I21A Big Trails, Te 85.63 336 ⇓P P 09 24 11.1 +0.4
baz=86,SNR=5.6
G25A Newell 85.67 339 ⇓P P 09 24 11.2 +0.5
baz=86,SNR=7.4
E30A Jud 85.67 342 ⇑P P 09 24 11.4 +0.9
baz=86
TOA0 Torodi Ar. Sit 85.70 70 eP P 09 24 13.0 +1.6
TORD Torodi Ar. Bea 85.70 70 P P 09 24 10.9 -0.6
3.7nm,0.9s,baz=248,slow=4.6,SNR=7.8
J19A Crowheart 85.74 334 ⇑P P 09 24 11.9 +0.6
baz=86,SNR=6.0
F27A Lemmon 85.90 340 ⇓P P 09 24 12.3 +0.6
baz=86,SNR=8.1
E29A Napoleon 85.92 342 ⇓P P 09 24 12.3 +0.5
baz=86
ELK Elko 85.94 329 P P 09 24 11.5 -0.8
4.1nm,0.9s,baz=118,slow=2.5,SNR=8.7
H22A Clearmont 86.02 337 ⇑P P 09 24 12.9 +0.4
baz=86
I20A Worland 86.03 335 ⇓P P 09 24 12.9 +0.4
baz=86,SNR=5.6
F26A Lodgepole 86.06 340 ⇑P P 09 24 12.7 +0.2
baz=86,SNR=6.7
G24A Alzada 86.09 338 ⇑P P 09 24 12.8 +0.1
baz=86,SNR=5.1
E28A Huff 86.19 341 ⇑P P 09 24 13.6 +0.5
baz=86
D30A Buchanan 86.20 343 ⇑P P 09 24 13.8 +0.7
baz=86,SNR=6.0
G23A Biddle 86.27 338 ⇓P P 09 24 13.6 0.0
baz=87,SNR=5.1
H21A Big Horn, Sher 86.27 336 ⇑P P 09 24 13.5 -0.2
baz=87
E27A Carson 86.28 341 ⇑P P 09 24 14.3 +0.7
baz=87
F25A Bowman 86.35 339 ⇓P P 09 24 14.8 +0.8
baz=87
D29A Pettibone, Tap 86.36 342 ⇑P P 09 24 14.8 +0.9
baz=87
I19A Meeteetse 86.40 335 ⇓P P 09 24 14.9 +0.4
baz=87
H20A Greybull 86.46 336 ⇑P P 09 24 15.0 +0.4
baz=87,SNR=5.5
G22A Birney 86.56 337 ⇑P P 09 24 15.2 +0.1
baz=87
F24A Ekalaka 86.56 339 ⇓P P 09 24 15.3 +0.2
baz=87
E26A Carlson Angus 86.57 340 ⇓P P 09 24 15.7 +0.7
baz=87,SNR=8.3
AGMN Agassiz Nation 86.67 345 ⇓P P 09 24 15.9 +0.5
baz=87
C30A Mose, Pekin 86.69 343 ⇑P P 09 24 16.5 +0.9
baz=87,SNR=6.8
D28A Regan 86.73 342 ⇓P P 09 24 16.4 +0.6
baz=87,SNR=7.6
F23A Volborg 86.74 338 ⇑P P 09 24 16.3 +0.4
baz=87,SNR=5.8
I17A Pilgrim Ck. 86.85 334 ⇓P P 09 24 17.4 +0.7
baz=87,SNR=8.1
E25A Miller Ranch, 86.86 339 ⇓P P 09 24 16.9 +0.4
baz=87,SNR=7.0
G21A Lodge Grass 86.86 337 ⇑P P 09 24 16.5 -0.1
baz=87
D27A Center 86.90 341 ⇓P P 09 24 16.8 +0.2
baz=87
H19A Powell 86.96 335 ⇑P P 09 24 17.3 +0.2
baz=87
F22A Rosebud 87.05 337 ⇓P P 09 24 17.9 +0.5
baz=87
D26A Manning 87.07 340 ⇓P P 09 24 18.2 +0.7
baz=87,SNR=9.8
C28A Hausauer Farms 87.17 342 ⇓P P 09 24 19.1 +1.2
baz=88
E24A Baker 87.17 339 ⇓P P 09 24 18.3 +0.3
baz=88
G20A Bridger 87.18 336 ⇑P P 09 24 18.4 +0.2
baz=88
H18A Shoshone NF, C 87.19 335 ⇓P P 09 24 19.3 +0.9
baz=88
B30A Myrvik Farm, E 87.36 343 ⇑P P 09 24 19.8 +1.0
baz=88
D25A Fairfield 87.43 340 ⇑P P 09 24 19.9 +0.7
baz=88,SNR=5.9
C27A Sayler Ranch, 87.45 341 ⇓P P 09 24 20.2 +0.9
baz=88
B29A Wagenman Farm, 87.61 343 ⇑P P 09 24 21.4 +1.4
baz=88
YMR Madison River 87.64 334 eP P 09 24 22.3 +1.8
19nm,1.0s
F20A Billings 87.67 336 ⇓P P 09 24 20.7 +0.2
baz=88
D24A Glendive 87.68 339 ⇑P P 09 24 21.0 +0.6
baz=88
C26A Wahner Farm, P 87.71 341 ⇑P P 09 24 21.2 +0.7
baz=88
A30A Hoffart Farm, 87.81 344 ⇓P P 09 24 21.7 +0.8
baz=88
B28A Dugan Ranch, T 87.84 342 ⇓P P 09 24 22.5 +1.4
baz=88
C25A Freed Ranch, W 87.92 340 ⇓P P 09 24 22.3 +0.7
baz=88
HLID Hailey 87.98 331 eP P 09 24 23.1 +1.0
60nm,2.3s
HLID Hailey 87.98 331 ⇑P P 09 24 22.7 +0.6
baz=88
F19A Roth Farm, Mol 87.98 336 ⇓P P 09 24 22.4 +0.5
baz=88
D23A Lindsay 87.99 339 ⇓P P 09 24 22.7 +0.8
baz=88
E21A Keefer Ranch, 87.99 337 ⇑P P 09 24 22.8 +0.9
baz=88
A29A Manning Farm, 88.01 343 ⇓P P 09 24 23.0 +1.1
baz=88
C24A Savage 88.08 339 ⇓P P 09 24 23.8 +1.5
baz=88
A28A Rude Farm, Bot 88.25 342 ⇑P P 09 24 23.9 +0.8
baz=89
D22A Cohagen 88.26 338 ⇓P P 09 24 24.6 +1.4
baz=89
E20A Meyer Farm, Mu 88.29 337 ⇑P P 09 24 24.5 +1.1
baz=89
B25A Knox Farm, Ray 88.41 340 ⇓P P 09 24 24.4 +0.5
baz=89
D21A La Casta Ranch 88.43 337 ⇑P P 09 24 25.2 +1.2
baz=89
E19A Rath Farm, Rou 88.47 336 ⇑P P 09 24 24.6 +0.4
baz=89
ULM Lac du Bonnet 88.53 346 P P 09 24 23.6 -0.7
8.9nm,1.0s,baz=165,slow=3.6,SNR=5.9
ULM Lac du Bonnet 88.53 346 P P 09 24 23.6 -0.7
5.6nm,1.5s
A27A Ledoux Ranch, 88.53 342 ⇓P P 09 24 25.0 +0.6
baz=89
C23A Lambert 88.55 339 ⇓P P 09 24 24.8 +0.2
baz=89
A26A Wade Farm, Ken 88.68 341 ⇓P P 09 24 26.2 +1.1
baz=89
C22A Vida 88.70 338 ⇑P P 09 24 25.7 +0.5
baz=89
WVOR Wild Horse Val 88.77 328 eP P 09 24 26.4 +0.6
4.8nm,0.9s
D20A Manuel Ranch, 88.81 337 ⇑P P 09 24 26.0 +0.2
baz=89
DGMT Dagmar 88.87 340 eP P 09 24 26.5 +0.4
14nm,1.1s
DGMT Dagmar 88.87 340 ⇓P P 09 24 26.5 +0.4
baz=89
A25A Svangstu Ranch 89.00 341 ⇓P P 09 24 27.1 +0.5
baz=89
B23A Brockton 89.09 339 ⇓P P 09 24 28.0 +0.9
baz=89
D19A Cripps Ranch, 89.12 336 ⇓P P 09 24 27.8 +0.6
baz=89
C21A Desert Coulee 89.14 338 ⇑P P 09 24 27.8 +0.5
baz=89
A24A Westby 89.23 340 ⇓P P 09 24 28.4 +0.7
baz=90
B22A Reddig Ranch S 89.24 339 ⇑P P 09 24 28.8 +1.0
baz=90
C20A Veseth Ranch, 89.32 337 ⇓P P 09 24 28.5 +0.4
baz=90
M04C Macdoel 89.66 326 ⇓P P 09 24 31.1 +1.1

	baz=90						
C19A	Slack Wire Ran	89.67	337	⇓P	P	09 24 30.3	+0.5
	baz=90						
A22A	Carney Farms,	89.83	339	⇓P	P	09 24 31.3	+0.7
	baz=90						
A21A	Bergtoll Ranch	90.13	338	⇓P	P	09 24 31.9	0.0
	baz=90						
A19A	Klindworth Far	90.63	337	⇑P	P	09 24 34.6	+0.3
	baz=91						
NEW	Newport	92.95	332	⇑P	P	09 24 45.7	+0.7
	baz=93						
BRTR	Keskin Array B	123.58	63	PKP	PKPdf	09 30 28.6	-1.0
	0.9nm,0.8s,baz=195,slow=4.0,SNR=4.4						
AKASG	Malin Array Be	124.29	49	PKP	PKPdf	09 30 28.9	-1.5
	1.2nm,0.6s,baz=261,slow=2.6,SNR=4.1						
ARCES	ARCESS Array B	126.42	26	PKP	PKPdf	09 30 34.5	+0.6
	2.8nm,0.9s,baz=267,slow=2.4,SNR=3.6						
KSM	Kuching	145.21	186	ePKPbc	PKPbc	09 31 09.2	-0.8
PSI	Prapat	145.83	165	PKPbc	PKPbc	09 31 10.2	-1.5
	13nm,0.6s,baz=128,slow=4.6,SNR=8.3						
BVAR	Borovoye Array	149.46	45	PKPbc	PKPbc	09 31 19.3	-1.5
	2.4nm,0.5s,baz=306,slow=3.7,SNR=7.2						
YAK	Yakutsk	150.62	338	ePKPbc	PKPbc	09 31 22.7	-0.5
ZALV	Zalesovo Beam	156.56	34	PKP	PKPdf	09 31 25.1	-1.4
	2.3nm,0.7s,baz=298,slow=3.2,SNR=5.3						
MKAR	Makanchi Array	158.80	53	PKP	PKPdf	09 31 29.1	-0.5
	1.0nm,0.9s,baz=253,slow=1.3,SNR=3.6						
MKAR				PKPab	PKPab	09 32 04.2	-1.4
	2.3nm,0.7s,baz=279,slow=2.3,SNR=8.2						

IDC 27 09:12:00.0±0.8,36.27S×73.11W,h0km,mb4.7/8, mb1 4.7/8,mb1mx4.4/36,mbtmp4.7/8,Error ellipse: s-maj=37.9km s-min=23.0km az=67.0
ISCJB 27 09:12:02.2±0.7,36.25S±0.1×73.3W±0.2,h33km,mb4.6/11, Error ellipse: s-maj=26.1km s-min=13.6km az=138.4
NEIC 27 09:12:05.0±0.5,36.27S×73.28W,h35km,mb4.6/2,Error ellipse: s-maj=20.3km s-min=12.0km az=48.0
ISC 27 09:12:04.7±0.7,36.3S±0.2×73.3W±0.2,h35km,n19, σ1§19/18,mb4.7/11,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRQA	Tornquist	9.23	105	ePn	Pn	09 14 15.0	-0.3
SNAA	Sanae	49.92	157	P	P	09 20 54.1	-0.4
	4.8nm,0.8s,baz=288,slow=7.7,SNR=3.6						
APG	El Apazote	53.49	339	P	P	09 21 19.4	-2.4
	7.4nm,0.8s,baz=135,slow=5.3,SNR=7.9						
QSPA	South Pole Qui	53.99	180	P	P	09 21 24.9	-0.1
	19nm,1.0s,baz=140,slow=6.2,SNR=4.0						
TEIG	Tepich	57.92	343	P	P	09 21 52.6	-0.7
	19nm,0.8s,baz=194,slow=15,SNR=3.7						
JCT	Junction City	70.88	336	eP	P	09 23 17.9	-0.1
	3.1nm,0.6s						
TXAR	Lajitas Array	71.20	332	P	P	09 23 20.1	0.0
	1.3nm,0.6s,baz=147,slow=7.3,SNR=5.1						
ABTX	Abilene, Hawle	72.81	337	eP	P	09 23 30.0	+0.4
	5.6nm,0.7s						
DBIC	Dimbokro	76.89	72	P	P	09 23 52.5	-1.0
	6.7nm,1.0s,baz=246,slow=7.8,SNR=2.6						
BOSA	Boshof	79.95	118	P	P	09 24 09.7	-0.8
	4.5nm,0.9s,baz=225,slow=4.1,SNR=3.7						
TORD	Torodi Ar. Bea	85.95	71	P	P	09 24 42.7	+1.2
	5.5nm,0.9s,baz=258,slow=4.3,SNR=5.0						
YBH	Yreka Blue Hor	89.80	325	P	P	09 25 02.8	+3.3
	4.7nm,0.9s,baz=153,slow=2.3,SNR=3.4						
WRA	Warramunga Arr	118.29	210	PKP	PKPdf	09 30 50.4	+1.6
	0.8nm,0.6s,baz=160,slow=1.7,SNR=5.1						
KBZ	Khabaz	131.64	60	PKP	PKPdf	09 31 14.0	+0.7
	2.6nm,1.0s,baz=12,slow=4.8,SNR=3.7						
AKTO	Aktyubinsk	142.56	52	PKP	PKPdf	09 31 34.2	+0.8
	1.3nm,0.7s,baz=339,slow=2.7,SNR=2.8						
HYB	Hyderabad	148.84	120	iPKP	PKPdf	09 31 43.5	-1.6
BVAR	Borovoye Array	149.62	45	PKPbc	PKPbc	09 31 51.1	+1.2
	3.8nm,0.7s,baz=284,slow=5.3,SNR=5.6						
MKAR	Makanchi Array	159.00	52	PKPab	PKPab	09 32 36.5	+1.3
	1.4nm,0.7s,baz=276,slow=2.3,SNR=4.0						
SONM	Songino Array	168.42	1	PKPab	PKPab	09 33 17.8	+1.3
	1.2nm,0.8s,baz=325,slow=2.3,SNR=3.6						

IDC 27 09:13:07.5±1.0,36.58S×72.32W,h0km,mb4.6/10, mb1 4.7/10,mb1mx4.4/37,mbtmp4.6/10,Error ellipse: s-maj=36.1km s-min=24.8km az=36.0
ISCJB 27 09:13:12.1±1.1,36.5S±0.2×72.2W±0.2,h35km,mb4.6/10, Error ellipse: s-maj=32.6km s-min=22.2km az=36.1
ISC 27 09:13:13.9±1.2,36.4S±0.2×72.2W±0.2,h35km,n12, σ1§70/10,mb4.7/10,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIV	San Ignacio	22.64	29	P	P	09 18 11.6	-0.4
	24nm,0.7s,baz=186,slow=11,SNR=4.5						
RCBR	Riachuelo	45.07	56	P	P	09 21 26.7	0.0
	7.0nm,0.6s,baz=234,slow=12,SNR=5.1						
TXAR	Lajitas Array	71.79	331	P	P	09 24 32.3	-0.6
	2.1nm,0.8s,baz=157,slow=7.8,SNR=3.3						
SUR	Sutherland	73.79	118	P	P	09 24 45.2	+0.1
	12nm,1.0s,baz=180,slow=9.1,SNR=4.0						
DBIC	Dimbokro	76.10	71	P	P	09 24 58.5	+0.2
	7.9nm,0.6s,baz=193,slow=4.3,SNR=5.5						
BOSA	Boshof	79.07	117	P	P	09 25 13.6	-1.5
	12nm,0.9s,baz=258,slow=5.3,SNR=5.1						
TORD	Torodi Ar. Bea	85.17	70	P	P	09 25 46.0	-0.9
	3.2nm,0.8s,baz=242,slow=4.5,SNR=2.9						
NVAR	Mina Array Bea	85.80	325	P	P	09 25 50.4	+0.6
	1.7nm,0.7s,baz=157,slow=6.1,SNR=3.8						
PDAR	Pinedale Array	85.86	333	P	P	09 25 50.1	+0.2
	0.6nm,0.6s,baz=151,slow=4.0,SNR=2.0						
ULM	Lac du Bonnet	88.80	345	P	P	09 26 02.3	-1.3
	2.7nm,0.6s,baz=183,slow=6.6,SNR=3.3						
WRA	Warramunga Arr	118.58	209	PKP	PKPdf	09 31 56.3	-2.2
	0.7nm,0.6s,baz=169,slow=1.6,SNR=3.0						
BVAR	Borovoye Array	149.11	46	PKPbc	PKPdf	09 32 57.4	+3.7
	2.8nm,0.7s,baz=289,slow=4.4,SNR=2.5						

ISCJB 27 09:17:08.0±0.6,34.34S±0.09×72.3W±0.1,h10km, mb4.5/26,Error ellipse: s-maj=15.0km s-min=13.3km az=23.0
IDC 27 09:17:08.0±0.7,34.29S×72.32W,h0km,mb4.4/13, mb1 4.6/14,mb1mx4.3/34,mbtmp4.4/14,ML3.7/2,Error ellipse: s-maj=21.7km s-min=17.7km az=105.0
NEIC 27 09:17:13.4±0.5,34.29S×72.25W,h35km,mb4.5/10,Error ellipse: s-maj=13.4km s-min=11.4km az=98.0
ISC 27 09:17:09.5±0.7,34.3S±0.1×72.3W±0.1,h10km,n34, σ1§13/33,mb4.5/26,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.37	53	Pn	Pn	09 18 16.8	+0.9
	0.8nm,0.3s,baz=223,slow=18,SNR=2.2						
CFAA				Lg	Lg	09 19 26.1	
	2.5nm,0.3s,baz=151,slow=23,SNR=4.0						
LPAZ	La Paz	18.32	13	P	P	09 21 26.0	+1.5
	0.4nm,0.3s,baz=189,slow=7.6,SNR=4.7						
SIV	San Ignacio	20.85	32	P	P	09 21 52.0	+0.4
	10nm,0.8s,baz=223,slow=14,SNR=4.0						
NNA	Nana	22.58	348	P	P	09 22 11.2	+1.0
	8.2nm,0.7s,baz=201,slow=11,SNR=5.6						
SAML	Samuel	26.59	21	eP	P	09 22 50.5	+2.6
	2.5nm,0.6s						
BDFB	Brasilia	28.70	56	P	P	09 23 05.9	-1.1
	12nm,0.9s,baz=183,slow=15,SNR=3.3						
SDV	Santo Domingo	42.97	2	eP	P	09 25 09.0	-0.1
	8.0nm,0.9s						
SNAA	Sanae	51.41	158	P	P	09 26 13.5	-0.8
	2.7nm,0.8s,baz=283,slow=4.7,SNR=5.3						
APG	El Apazote	51.97	338	P	P	09 26 15.2	-3.9
	5.2nm,0.9s,baz=65,slow=10,SNR=6.4						
QSPA	South Pole Qui	55.95	180	P	P	09 26 49.2	+1.6
	5.7nm,0.8s,baz=125,slow=3.2,SNR=4.2						
TEIG	Tepich	56.30	342	P	P	09 26 49.4	-1.0
	20nm,0.8s,baz=138,slow=4.2,SNR=6.9						
BBSR	BB Station	66.70	7	eP	P	09 27 57.7	-2.8
	34nm,1.1s						
JCT	Junction City	69.44	335	eP	P	09 28 18.8	+0.9
	6.7nm,1.1s						
TXAR	Lajitas Array	69.86	331	P	P	09 28 21.6	+1.0
	1.5nm,0.8s,baz=154,slow=8.3,SNR=5.1						
ABTX	Abilene, Hawle	71.34	336	eP	P	09 28 29.6	+0.2
	5.4nm,0.8s						
MSTX	Muleshoe	73.66	334	eP	P	09 28 43.6	+0.3
	5.2nm,0.9s						
121A	Cookes Peak, D	74.36	329	eP	P	09 28 48.6	+1.1
	6.1nm,0.9s						
ACSO	Alum Creek Sta	74.80	352	eP	P	09 28 49.6	-0.1
	15nm,1.0s						
ANMO	Albuquerque	75.92	332	P	P	09 28 57.4	+0.9
	4.0nm,1.0s,baz=165,slow=8.0,SNR=7.0						
SDCO	Great Sand Dun	78.02	334	eP	P	09 29 09.2	+0.8
	3.3nm,1.0s						
WUAZ	Wupatki	78.44	328	eP	P	09 29 10.1	-0.6
	1.8nm,0.7s						
R11A	Troy Canyon, C	82.66	327	eP	P	09 29 35.1	+1.9
	3.4nm,1.2s						
PDAR	Pinedale Array	83.91	333	P	P	09 29 39.2	-0.4
	1.0nm,0.8s,baz=135,slow=2.7,SNR=5.6						
NVAR	Mina Array Bea	83.98	325	P	P	09 29 40.7	+0.7
	1.6nm,0.7s,baz=160,slow=5.7,SNR=7.3						
TORD	Torodi Ar. Bea	84.54	70	P	P	09 29 43.7	+0.5
	1.9nm,0.7s,baz=271,slow=4.1,SNR=4.7						
ULM	Lac du Bonnet	86.71	345	P	P	09 29 52.4	-0.7
	3.9nm,0.9s,baz=199,slow=4.0,SNR=4.3						
MFID	Camas Ranch	86.92	330	eP	P	09 29 54.9	+0.4
	24nm,1.3s						
DGMT	Dagmar	87.17	339	eP	P	09 29 55.5	0.0
	22nm,1.0s						
SCHQ	Schefferville	88.89	3	P	P	09 30 03.0	-0.5
	2.5nm,0.8s,baz=222,slow=16,SNR=2.5						
YKA	Yellowknife Ar	102.25	341	P	Pdif	09 31 03.4	-0.8
	0.3nm,0.7s,baz=139,slow=4.8,SNR=3.3						
WRA	Warramunga Arr	120.39	209	PKP	PKPdf	09 36 01.2	-0.5
	0.3nm,0.5s,baz=151,slow=1.8,SNR=5.8						
ABKAR	Akbulak array	142.06	52	ePKPdf	PKPdf	09 36 40.9	-0.4
BVAR	Borovoye Array	147.66	43	PKPbc	PKPbc	09 36 54.9	+1.2
	1.6nm,0.5s,baz=29,slow=3.4,SNR=3.6						
ZALV	Zalesovo Beam	154.60	32	PKPbc	PKPbc	09 37 08.9	-1.1
	2.2nm,0.6s,baz=309,slow=2.8,SNR=4.6						

IDC 27 09:17:44.6±2.2,35.82S×72.68W,h0km,mb4.3/7, mb1 4.6/8,mb1mx4.3/34,mbtmp4.3/8,ML4.2/1,Error ellipse: s-maj=70.4km s-min=31.6km az=13.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.59	43	Pn	Pn	09 19 07.9	-1.2
	7.7nm,0.3s,baz=51,slow=20,SNR=6.3						
TXAR	Lajitas Array	71.07	332	P	P	09 29 05.2	+0.7
	1.4nm,0.8s,baz=156,slow=7.3,SNR=4.8						
TKL	Tuckaleechee C	71.86	351	P	P	09 29 09.7	+0.6
	4.6nm,0.8s,baz=165,slow=11,SNR=4.2						
DBIC	Dimbokro	76.26	71	P	P	09 29 37.4	+2.0
	5.6nm,0.6s,baz=207,slow=8.9,SNR=5.3						
ANMO	Albuquerque	77.13	332	P	P	09 29 40.4	+0.4
	2.8nm,0.9s,baz=167,slow=7.9,SNR=5.3						
NVAR	Mina Array Bea	85.08	326	P	P	09 30 20.9	-1.4
	1.4nm,0.8s,baz=158,slow=5.4,SNR=4.5						
PDAR	Pinedale Array	85.15	334	P	P	09 30 22.4	-0.2
	2.1nm,1.0s,baz=121,slow=8.7,SNR=6.6						
TORD	Torodi Ar. Bea	85.32	70	P	P	09 30 22.0	-1.8
	1.7nm,0.8s,baz=215,slow=5.2,SNR=3.6						

IDC 27 09:17:48.3±0.7,38.97S×75.87W,h0km,mb4.6/15, mb1 4.8/16,mb1mx4.6/34,mbtmp4.6/16,ML4.6/1,Error ellipse: s-maj=27.2km s-min=17.3km az=50.0
ISCJB 27 09:17:52.8±0.5,38.83S±0.09×75.5W±0.1,h33km, mb4.7/34,Error ellipse: s-maj=14.8km s-min=9.3km az=37.9
NEIC 27 09:17:54.5±0.3,38.80S×75.61W,h35km,mb4.8/21,Error ellipse: s-maj=11.0km s-min=7.8km az=49.0
ISC 27 09:17:54.4±0.5,38.80S±0.09×75.6W±0.1,h35km,n65, σ1§02/66,mb4.7/34,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.36	118	Pn	Pn	09 18 57.2	-0.9
	6.7nm,0.3s,baz=4.4,slow=13,SNR=2.4						
PLCA				Pg		09 19 06.5	
	21nm,0.3s,baz=313,slow=16,SNR=5.1						
PLCA				Lg	Lg	09 19 55.0	
	24nm,0.3s,baz=34,slow=23,SNR=5.2						
TRQA	Tornquist	10.73	90	ePn	Pn	09 20 24.8	-0.7
LVC	Limon Verde	17.12	21	ePn	Pn	09 21 51.5	+0.3
	14nm,0.8s						
CPUP	Villa Florida	19.76	56	P	Pn	09 22 23.4	+0.5
	11nm,0.6s,baz=207,slow=12,SNR=4.7						
CPUP	Villa Florida	19.76	56	P	Pn	09 22 23.4	+0.5
	27nm,0.7s						
LPAZ	La Paz	23.37	18	eP	P	09 23 01.2	+0.7
	5.6nm,0.6s						
ATAH	Atahualpa	31.62	355	P	P	09 24 14.7	+0.1
	8.5nm,0.8s,baz=301,slow=5.6,SNR=3.7						
SAML	Samuel	31.75	24	eP	P	09 24 11.2	-4.1
	20nm,1.3s						
OTAV	Otavalo	38.93	355	eP	P	09 25 17.6	+0.2
	20nm,1.3s						
ROSC	El Rosal	43.45	2	P	P	09 25 55.2	+0.7
	5.8nm,0.5s,baz=150,slow=4.1,SNR=5.3						
SDV	Santo Domingo	47.66	7	eP	P	09 26 25.5	-2.1
	6.0nm,0.6s						
SNAA	Sanae	48.30	156	P	P	09 26 30.0	-1.8
	7.4nm,0.9s,baz=283,slow=6.7,SNR=3.6						
RCBR	Riachuelo	48.63	58	P	P	09 26 35.6	+0.7
	11nm,0.8s,baz=214,slow=10,SNR=4.4						
JTS	JuntasAbangare	49.60	348	P	P	09 26 42.4	+0.1
	5.5nm,1.0s,baz=168,slow=3.8,SNR=3.5						
APG	El Apazote	55.30	342	P	P	09 27 20.8	-3.9
	10nm,0.9s,baz=212,slow=3.7,SNR=9.5						
LRAL	Lakeview Retre	72.25	350	eP	P	09 29 15.1	-0.7
	8.7nm,0.9s						
JCT	Junction City	72.52	338	eP	P	09 29 17.6	0.0
	18nm,1.2s						
TXAR	Lajitas Array	72.66	335	P	P	09 29 17.8	-0.7
	4.1nm,0.8s,baz=151,slow=8.6,SNR=9.1						
TKL	Tuckaleechee C	74.47	353	P	P	09 29 27.1	-1.8
	5.8nm,0.8s,baz=197,slow=4.6,SNR=3.7						
ABTX	Abilene, Hawle	74.49	339	eP	P	09 29 28.4	-0.7
	21nm,1.4s						
CASY	Casey	75.14	183	eP	P	09 29 35.4	+2.9
	39nm,1.4s						
BBTS	Babate	76.61	59	P	P	09 29 42.1	+0.6
	9.7nm,0.4s,baz=302,slow=3.1,SNR=3.6						
214A	Organ Pipe Nat	78.44	328	eP	P	09 29 52.8	+1.3
	11nm,1.2s						
ANMO	Albuquerque	78.74	335	P	P	09 29 53.5	+0.2
	8.0nm,1.0s,baz=159,slow=7.1,SNR=7.1						
DBIC	Dimbokro	79.41	73	P	P	09 29 57.6	+0.4
	12nm,1.0s,baz=201,slow=7.0,SNR=5.6						
BOSA	Boshof	80.34	119	P	P	09 30 02.0	-0.3
	15nm,0.9s,baz=227,slow=9.2,SNR=8.4						
BOSA	Boshof	80.34	119	eP	P	09 30 02.0	-0.3
	20nm,1.5s						
SDCO	Great Sand Dun	80.99	336	eP	P	09 30 05.7	+0.2
	5.1nm,1.3s						
MVCO	Mesa Verde	81.48	334	eP	P	09 30 08.6	+0.5
	6.3nm,1.0s						
ISCO	Idaho Springs	82.91	337	eP	P	09 30 16.2	+0.6
	2.4nm,0.9s						
ISA	Isabella	84.02	326	eP	P	09 30 22.6	+1.6
	6.9nm,1.0s						
R11A	Troy Canyon, C	85.11	330	eP	P	09 30 28.1	+1.5
	5.9nm,1.3s						
DUG	Dugway	85.66	332	eP	P	09 30 26.7	-2.6
	10nm,1.0s						
NVAR	Mina Array Bea	86.28	328	P	P	09 30 33.1	+0.6
	2.5nm,0.9s,baz=166,slow=5.8,SNR=6.7						
BW06	Boulder Array	86.84	336	eP	P	09 30 35.3	+0.1
	18nm,1.5s						
PDAR	Pinedale Array	86.84	336	P	P	09 30 35.3	+0.1
	4.8nm,1.1s,baz=151,slow=6.4,SNR=8.6						
TORD	Torodi Ar. Bea	88.50	72	P	P	09 30 44.8	+1.3
	3.1nm,1.0s,baz=244,slow=4.1,SNR=3.6						
AGMN	Agassiz Nation	88.57	347	eP	P	09 30 42.6	-0.4
	14nm,1.0s						
YMR	Madison River	88.99	336	eP	P	09 30 46.8	+1.4
	35nm,1.8s						
HLID	Hailey	89.19	333	eP	P	09 30 47.6	+1.3
	11nm,1.5s						
WRA	Warramunga Arr	115.17	211	PKP	PKPdf	09 36 29.6	-2.8
	0.5nm,0.8s,baz=155,slow=1.7,SNR=2.7						
ILAR	Eielson Array	117.15	333	PKP	PKPdf	09 36 34.4	-0.3
	1.1nm,0.9s,baz=175,slow=1.7,SNR=7.5						
GERES	GERESS Array B	117.54	48	PKP	PKPdf	09 36 35.9	-0.1
	1.9nm,0.7s,baz=214,slow=1.0,SNR=6.2						
MLR	Muntele Rosu	123.62	56	PKP	PKPdf	09 36 47.4	-0.5
	0.8nm,0.8s,baz=88,slow=3.5,SNR=4.3						
BRTR	Keskin Array B	126.58	65	PKP	PKPdf	09 36 54.5	+0.7
	1.6nm,0.8s,baz=190,slow=4.3,SNR=8.6						
AKASG	Malin Array Be	127.51	51	PKP	PKPdf	09 36 54.7	-0.2
	2.1nm,0.7s,baz=273,slow=2.0,SNR=7.3						
FINES	FINESS Array B	128.56	37	PKP	PKPdf	09 36 57.2	+0.6
	1.6nm,0.8s,baz=134,slow=5.5,SNR=5.2						
KBZ	Khabaz	134.45	63	PKP	PKPdf	09 37 10.3	+2.0
	2.8nm,0.9s,baz=172,slow=5.7,SNR=4.6						
PETK	Petropavlovsk-	141.20	310	PKP	PKPdf	09 37 21.1	+0.7
	6.7nm,0.9s,baz=144,slow=5.5,SNR=4.5						
PALK	Pallekele	142.04	140	PKP	PKPdf	09 37 23.6	+0.4
	3.2nm,0.4s,baz=178,slow=7.9,SNR=3.7						
SEY	Seymchan	142.57	326	PKP	PKPdf	09 37 23.0	+0.4
	4.8nm,0.8s,baz=91,slow=1.8,SNR=10						
GEYT	Alibeck	144.01	76	PKP	PKPbc	09 37 24.3	+0.3
	20nm,0.8s,baz=267,slow=5.9,SNR=26						
TIXI	Tiksi	144.80	347	ePKPdf	PKPab	09 37 24.7	-0.6
ARU	Arti	145.22	44	ePKPbc	PKPdf	09 37 27.6	+0.2
AKTO	Aktyubinsk	145.54	55	PKPbc	PKPbc	09 37 28.4	0.0
	9.8nm,0.8s,baz=277,slow=3.0,SNR=28						
IPM	Ipoh	145.70	174	ePKPbc	PKPab	09 37 31.0	+0.7
ABKAR	Akbulak array	146.82	57	ePKPbc	PKPbc	09 37 32.7	+0.5
YAK	Yakutsk	152.05	335	ePKPbc	PKPbc	09 37 45.4	+0.5
BVAR	Borovoye Array	152.70	47	PKPbc	PKPbc	09 37 46.2	-0.5
	9.8nm,0.8s,baz=285,slow=2.9,SNR=12						
AAK	Ala-Archa	157.08	71	PKPab	PKPab	09 38 17.2	+0.3
	5.8nm,0.8s,baz=222,slow=5.5,SNR=5.5						
CMAR	Chiang Mai Arr	159.19	165	PKP	PKPdf	09 37 48.8	-0.5
	1.6nm,0.7s,baz=231,slow=2.7,SNR=6.2						
ZAA0	Zalesovo Array	159.81	35	ePKPdf	PKPdf	09 37 48.9	0.0
ZAA0				ePKPab	PKPab	09 38 28.1	+0.1
ZALV	Zalesovo Beam	159.81	35	PKP	PKPdf	09 37 48.9	+0.1
	4.5nm,0.8s,baz=283,slow=2.6,SNR=8.7						
ZALV				PKPab	PKPab	09 38 27.8	-0.3
	2.9nm,0.8s,baz=319,slow=6.1,SNR=4.2						
MKAR	Makanchi Array	161.97	57	PKP	PKPdf	09 37 50.9	-0.6
	3.3nm,1.1s,baz=306,slow=2.7,SNR=6.7						
MKAR				PKPab	PKPab	09 38 36.5	-1.3
	0.8nm,0.6s,baz=354,slow=2.9,SNR=6.0						
SONM	Songino Array	170.85	351	PKP	PKPdf	09 37 57.6	-0.9
	1.2nm,0.8s,baz=73,slow=0.3,SNR=5.2						
SONM				PKPab	PKPab	09 39 15.5	-1.4
	1.4nm,0.9s,baz=101,slow=0.8,SNR=4.4						

IDC 27 09:19:46.5±2.2,34.77S×73.36W,h0km,mb4.2/6, mb1 4.4/6,mb1mx4.0/35,mbtmp4.2/6,Error ellipse: s-maj=125.3km s-min=30.3km az=39.0
ISCJB 27 09:19:50.6±2.2,34.7S±0.7×73.3W±0.7,h33km,mb4.1/6, Error ellipse: s-maj=123.5km s-min=30.3km az=38.8
ISC 27 09:19:52.7±2.4,34.7S±0.7×73.3W±0.6,h35km,n6,σ0§90/6, mb4.2/6,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	69.84	332	P	P	09 31 00.2	+0.9
	1.3nm,0.6s,baz=157,slow=8.5,SNR=5.8						
BOSA	Boshof	80.67	118	P	P	09 32 01.9	-0.1
	3.1nm,0.7s,baz=231,slow=4.4,SNR=2.9						
NVAR	Mina Array Bea	83.87	326	P	P	09 32 18.6	+0.3
	0.7nm,0.8s,baz=157,slow=4.9,SNR=3.4						
PDAR	Pinedale Array	83.92	334	P	P	09 32 18.0	-0.5
	0.8nm,1.0s,baz=149,slow=8.9,SNR=2.4						
TORD	Torodi Ar. Bea	85.44	71	P	P	09 32 26.9	+0.4
	1.7nm,0.9s,baz=233,slow=4.2,SNR=3.0						
ULM	Lac du Bonnet	86.91	346	P	P	09 32 31.9	-1.1
	2.6nm,0.7s,baz=180,slow=2.0,SNR=3.4						

IDC 27 09:21:11.0±1.6,33.86S×72.07W,h0km,mb4.4/8, mb1 4.5/9,mb1mx4.2/35,mbtmp4.4/9,ML3.4/1,Error ellipse: s-maj=51.6km s-min=27.6km az=4.0
ISCJB 27 09:21:13.2±0.7,33.67S±0.08×72.17W±0.06,h19km, mb4.4/10,Error ellipse: s-maj=12.1km s-min=6.5km az=170.6
NEIC 27 09:21:16.8±0.9,33.73S×72.01W,h35km,mb4.6/3,Error ellipse: s-maj=24.8km s-min=13.3km az=174.0
GUC 27 09:21:16.0±0.5,33.58S×71.98W,h32km±6km,ML4.8
ISC 27 09:21:14.7±0.9,33.66S±0.09×72.07W±0.07,h19km,n22, σ0§75/25,mb4.5/10,1C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.73	30	eP	Pb	09 21 28.3	-0.4
IHA				eS	Sb	09 21 38.4	+0.1
TACH	Talagante	0.95	90⇓	eP	Pb	09 21 32.6	+0.1
ROCH	El Roble	1.12	53⇑	eP	Pn	09 21 35.6	0.0
SAN	Santiago	1.20	81	eP	Pb	09 21 36.6	-0.1
SAN				eS	Sn	09 21 52.2	+0.1
PEL	Peldehue	1.27	67	eP	Pn	09 21 37.6	+0.1
PEL				eS	Sb	09 21 53.5	-0.4
PEL				AML	AML	09 22 02.2	
	comp=N,35µm,0.4s						
PCH	Pirque	1.30	89	eP	Pb	09 21 38.5	-0.1
JACH	Jahuel	1.58	52	eP	Pn	09 21 42.4	+0.6
CFAA	Coronel Fontan	3.83	59	Pn	Pn	09 22 14.2	+1.5
	comp=N,2.4nm,0.3s,baz=130,slow=19,SNR=2.7						
CFAA				Lg	Lg	09 23 11.3	
	comp=N,6.2nm,0.3s,baz=161,slow=11,SNR=3.6						
SIV	San Ignacio	20.20	32	P	P	09 25 48.7	+0.2
	comp=N,6.5nm,0.6s,baz=191,slow=16,SNR=5.1						
SAML	Samuel	25.92	20	eP	P	09 26 45.2	-0.5
	comp=N,15nm,0.9s						
BDFB	Brasilia	28.17	56	P	P	09 27 05.5	-0.6
	comp=N,3.2nm,0.4s,baz=157,slow=6.9,SNR=3.1						
JCT	Junction City	68.96	335	eP	P	09 32 19.6	+1.0
	comp=N,6.1nm,0.9s						
TXAR	Lajitas Array	69.42	331	P	P	09 32 22.7	+1.1
	comp=N,1.5nm,0.7s,baz=157,slow=8.6,SNR=4.9						
ABTX	Abilene, Hawle	70.86	336	eP	P	09 32 31.1	+1.0
	comp=N,5.6nm,0.7s						
DBIC	Dimbokro	75.10	71	P	P	09 32 55.4	-0.4
	comp=N,5.4nm,0.6s,baz=217,slow=4.1,SNR=4.8						
ANMO	Albuquerque	75.47	331	P	P	09 32 59.0	+1.4
	comp=N,2.5nm,1.0s,baz=320,slow=4.8,SNR=3.2						
ANMO	Albuquerque	75.47	331	eP	P	09 32 58.4	+0.8
	comp=N,1.8nm,0.8s						
ELK	Elko	84.06	328	P	P	09 33 43.5	-0.6
	comp=N,1.9nm,1.0s,baz=105,slow=3.8,SNR=4.3						
TORD	Torodi Ar. Bea	84.12	70	P	P	09 33 45.1	+0.4
	comp=N,7.3nm,0.9s,baz=269,slow=4.6,SNR=12						
ULM	Lac du Bonnet	86.16	345	P	P	09 33 53.8	-0.3
	comp=N,1.4nm,0.6s,baz=196,slow=3.9,SNR=4.2						
BRTR	Keskin Array B	121.69	61	PKP	PKPdf	09 40 06.0	-1.3
	comp=N,0.6nm,0.8s,baz=188,slow=2.9,SNR=3.8						
BVAR	Borovoye Array	147.05	43	PKPbc	PKPbc	09 40 55.6	-0.1
	comp=N,3.4nm,0.7s,baz=279,slow=2.8,SNR=9.1						

IDC 27 09:21:19.1±0.4,36.66S×73.48W,h0km,mb4.9/23, mb1 5.0/27,mb1mx4.9/38,mbtmp4.9/27,ML4.7/4,Error ellipse: s-maj=17.4km s-min=12.2km az=73.0
ISCJB 27 09:21:22.7±0.3,36.55S±0.05×73.17W±0.07,h27km, mb5.1/81,Error ellipse: s-maj=8.6km s-min=6.4km az=43.1
MOS 27 09:21:23.3±0.9,36.62S×73.34W,h33km,mb5.4/15,Error ellipse: s-maj=19.2km s-min=9.0km az=102.3
NEIC 27 09:21:24.7±0.2,36.67S×73.26W,h35km,mb5.2/53,Error ellipse: s-maj=6.8km s-min=4.9km az=60.0
BJI 27 09:21:24.7,36.60S×73.20W,h35km,mB5.2/2,Ms5.1/3, Ms7 4.7/2
ISC 27 09:21:23.7±0.3,36.64S±0.06×73.34W±0.07,h27km,n554, σ0§98/576,mb5.1/81,199C-186D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.63	153	Pn	Pn	09 22 31.3	-0.6
	17nm,0.3s,baz=259,slow=19,SNR=3.1						
PLCA				Lg	Lg	09 23 48.1	
	15nm,0.3s,baz=290,slow=16,SNR=3.8						
CFAA	Coronel Fontan	6.57	42	Pn	Pn	09 22 56.7	-1.9
	3.4nm,0.3s,baz=240,slow=8.4,SNR=3.1						
CFAA				Lg	Lg	09 24 44.5	
	14nm,0.3s,baz=82,slow=22,SNR=3.6						
TRQA	Tornquist	9.16	102	ePn	Pn	09 23 32.5	-1.5
CPUP	Villa Florida	17.07	57	eP	P	09 25 21.8	-0.2
CPUP				eS	Sn	09 28 31.2	+1.8
CPUP	Villa Florida	17.07	57	P	Pn	09 25 19.4	-1.0
	2.2nm,0.3s,baz=220,slow=9.6,SNR=3.8						
CPUP	Villa Florida	17.07	57	eP	P	09 25 21.8	-0.2
CPUP				eS	Sn	09 28 31.2	+1.8
USHA	Ushuaia	18.50	171	P	Pn	09 25 38.0	+0.2
	0.3nm,0.3s,baz=197,slow=17,SNR=3.2						
LPAZ	La Paz	20.80	14	P	P	09 26 03.1	-0.4

26nm,1.0s,baz=181,slow=8.8,SNR=7.0
SIV San Ignacio 23.28 31 P P 09 26 28.7 -0.7
32nm,0.9s,baz=238,slow=15,SNR=10
NNA Nana 24.75 352 P P 09 26 42.7 -0.4
33nm,0.9s,baz=191,slow=10,SNR=9.4
SAML Samuel 29.07 21 eP P 09 27 22.2 +0.3
11nm,1.0s
ATAH Atahualpa 29.73 350 P P 09 27 28.9 +0.6
10nm,1.1s,baz=197,slow=8.1,SNR=6.5
BDFB Brasilia 30.73 54 P P 09 27 37.4 +0.7
9.9nm,0.9s,baz=222,slow=9.2,SNR=4.1
OTAV Otavalo 37.00 351 eP P 09 28 32.6 +1.1
68nm,1.5s
ROSC El Rosal 41.30 359 P P 09 29 08.7 +1.4
30nm,0.9s,baz=160,slow=2.3,SNR=12
SDV Santo Domingo 45.36 4 eP P 09 29 39.7 -0.2
68nm,0.9s
RCBR Riachuelo 45.95 57 P P 09 29 44.0 -0.6
23nm,1.1s,baz=289,slow=16,SNR=4.2
JTS JuntasAbangare 47.95 345 P P 09 29 58.6 -1.4
11nm,1.1s,baz=180,slow=3.2,SNR=6.1
SNAA Sanae 49.56 157 P P 09 30 12.4 +0.6
4.3nm,1.0s,baz=262,slow=7.0,SNR=7.7
GRGR Grenville 49.75 15 eP P 09 30 14.1 +0.3
313nm,0.9s
SSV Crater Summit 51.01 15 e P 09 30 25.6 +2.2
SLB Belfond 51.52 15 e P 09 30 28.5 +1.3
QSPA South Pole Qui 53.60 180 P P 09 30 42.2 0.0
15nm,0.8s,baz=143,slow=1.9,SNR=11
QSPA South Pole Qui 53.60 180 eP P 09 30 42.1 -0.2
30nm,1.0s
APG El Apazote 53.85 339 P P 09 30 40.4 -4.3
15nm,1.0s,baz=164,slow=7.1,SNR=11
CELP Cerrillos 54.80 8 eP P 09 30 51.1 -0.1
LRS Lares 54.98 8 eP P 09 30 51.7 -0.9
TEIG Tepich 58.30 343 P P 09 31 15.7 -0.4
40nm,0.9s,baz=177,slow=9.3,SNR=11
035A Encino 67.41 336 ⇑P P 09 32 17.7 +1.1
baz=68
034A Hebbronville 67.72 336 ⇑P P 09 32 19.7 +1.2
baz=68
934A Benavides 68.16 336 ⇓P P 09 32 22.5 +1.1
baz=68
TIGA Tifton 68.41 351 ⇑P P 09 32 22.6 -0.2
baz=69,SNR=5.5
933A Laredo 68.42 335 ⇑P P 09 32 23.9 +0.9
baz=69
834A Tilden 68.65 336 ⇑P P 09 32 25.2 +0.7
baz=69
735A Kenedy 69.09 337 ⇑P P 09 32 27.7 +0.5
baz=70
833A Chaparral WMA, 69.11 336 ⇓P P 09 32 28.1 +0.8
baz=70
832A Faith Ranch, C 69.27 335 ⇓P P 09 32 28.8 +0.5
baz=70
734A La Parita Cree 69.32 336 ⇓P P 09 32 29.3 +0.7
baz=70
636A Smothers Creek 69.45 338 ⇓P P 09 32 30.2 +0.8
baz=70,SNR=5.9
732A Laxson Ranch, 69.68 335 ⇓P P 09 32 31.2 +0.4
baz=70,SNR=5.7
537A Green Hill Far 69.79 339 ⇑P P 09 32 31.5 0.0
baz=70
536A Bastrop 70.01 338 ⇑P P 09 32 33.1 +0.3
baz=70,SNR=5.3
633A Saathoff Ranch 70.09 336 ⇑P P 09 32 34.1 +0.7
baz=70,SNR=5.7
535A Dale 70.11 338 ⇓P P 09 32 33.8 +0.4
baz=70,SNR=6.5
632A Uvalde 70.34 336 ⇑P P 09 32 35.4 +0.5
baz=71
340A Bronson 70.39 341 ⇑P P 09 32 35.2 +0.1
baz=71
534A Blanco 70.39 337 ⇑P P 09 32 35.5 +0.3
baz=71
339A Huntington 70.48 341 ⇑P P 09 32 36.0 +0.4
baz=71
LRAL Lakeview Retre 70.48 348 eP P 09 32 35.3 -0.3
29nm,1.0s
631A Perdido Creek 70.51 335 ⇑P P 09 32 36.3 +0.4
baz=71
533A Kerrville 70.61 337 ⇑P P 09 32 36.8 +0.3
baz=71,SNR=5.5
338A Crockett 70.71 340 ⇑P P 09 32 38.0 +0.9
baz=71,SNR=5.9
435B Jarrell 70.82 338 ⇑P P 09 32 38.5 +0.7
baz=71
337A Centerville 70.83 340 ⇑P P 09 32 38.6 +0.8
baz=71,SNR=7.5
532A Rocksprings 70.95 336 ⇑P P 09 32 39.1 +0.5
baz=71,SNR=6.7
434A Burnet 71.06 337 ⇑P P 09 32 39.1 -0.1
baz=71,SNR=12
336A Riesel 71.17 339 ⇓P P 09 32 40.0 +0.2
baz=72,SNR=9.7
531A Rocksprings 71.19 335 ⇑P P 09 32 40.4 +0.3
baz=72,SNR=6.0
JCT Junction City 71.24 336 eP P 09 32 40.7 +0.4
JCT pmax pmax
comp=Z,43nm,1.2s
JCT Junction City 71.24 336 eP P 09 32 40.7 +0.4
comp=Z,43nm,1.2s
JCT Junction City 71.24 336 ⇑P P 09 32 40.7 +0.4
baz=72,SNR=7.4
335A Moody 71.24 338 ⇓P P 09 32 40.6 +0.3
baz=72
433A Art 71.26 337 ⇓P P 09 32 40.8 +0.3
baz=72,SNR=5.6
530A J-C Ranch, Com 71.45 335 ⇓P P 09 32 42.4 +0.7
baz=72,SNR=10
334A Lometa 71.53 338 ⇑P P 09 32 42.4 +0.4
baz=72,SNR=12
TXAR Lajitas Array 71.55 332 P P 09 32 42.6 +0.3
comp=Z,7.8nm,0.8s,baz=151,slow=8.9,SNR=20
432A Menard 71.60 336 ⇓P P 09 32 42.7 +0.2
baz=72
431A Sonora 71.69 335 ⇑P P 09 32 43.2 +0.2
baz=72,SNR=9.1
529A Stev Forest Ra 71.74 334 ⇓P P 09 32 43.9 +0.6
baz=72
333A Richland Sprin 71.76 337 ⇓P P 09 32 43.4 -0.1
baz=72
KMSC Kings Mountain 71.81 353 ⇓P P 09 32 43.2 -0.4
baz=72
WHTX Lake Whitney 71.91 339 ⇓P P 09 32 44.5 +0.2
baz=72,SNR=10
430A Baggett Ranch, 72.00 335 ⇓P P 09 32 45.5 +0.6
baz=72,SNR=9.8
332A Millersview 72.05 336 ⇓P P 09 32 45.6 +0.3
baz=72,SNR=9.6
429A Davenport Ranc 72.08 334 ⇑P P 09 32 45.8 +0.4
baz=72,SNR=8.4
234A Clairette 72.13 338 ⇑P P 09 32 45.7 +0.1
baz=72,SNR=8.5
331A San Angelo 72.21 336 ⇓P P 09 32 46.2 0.0
baz=73,SNR=10
OXF Oxford 72.36 346 eP P 09 32 46.5 -0.4
OXF pmax pmax
comp=Z,70nm,1.0s
OXF Oxford 72.36 346 eP P 09 32 46.5 -0.4
comp=Z,70nm,1.0s
233A Rising Star 72.37 337 ⇓P P 09 32 47.1 0.0
baz=73,SNR=6.7
135A Vickery Place, 72.43 339 ⇓P P 09 32 47.5 +0.1
baz=73
232A Coleman 72.49 337 ⇑P P 09 32 47.8 -0.1
baz=73,SNR=7.9
330A Mertzon 72.55 335 ⇑P P 09 32 48.0 -0.2
baz=73,SNR=6.1
134A White-Moore Ra 72.64 338 ⇑P P 09 32 48.4 -0.3
baz=73,SNR=5.3
231A Bronte 72.75 336 ⇑P P 09 32 49.2 -0.1
baz=73,SNR=8.4
329A Wagon Wheel Ra 72.89 335 ⇓P P 09 32 50.6 +0.4
baz=73,SNR=5.9
133A Hamilton Ranch 72.93 338 ⇑P P 09 32 50.3 -0.1
baz=73,SNR=9.2
230A Sterling City 72.97 336 ⇓P P 09 32 50.5 -0.2
baz=73
Z35A Perchaven, San 73.11 339 ⇑P P 09 32 51.6 +0.2
baz=74,SNR=9.7
ABTX Abilene, Hawle 73.17 337 eP P 09 32 51.9 +0.1
comp=Z,44nm,1.0s
ABTX Abilene, Hawle 73.17 337 ⇑P P 09 32 51.9 +0.1
baz=74,SNR=8.4
229A Bryant Ranch, 73.27 335 ⇓P P 09 32 52.7 +0.2
baz=74,SNR=6.3
MIAR Mount Ida 73.29 343 eP P 09 32 52.1 -0.3
MIAR pmax pmax
comp=Z,20nm,1.2s
MIAR Mount Ida 73.29 343 eP P 09 32 52.1 -0.3
comp=Z,20nm,1.2s
Z34A Collier Ranch, 73.34 339 ⇑P P 09 32 52.9 +0.1
baz=74,SNR=5.1
131A Roby 73.45 336 ⇓P P 09 32 53.4 -0.1
baz=74,SNR=6.6
Z33A Whitaker Ranch 73.51 338 ⇑P P 09 32 53.7 -0.1
baz=74,SNR=6.8
130A Snyder 73.57 336 ⇓P P 09 32 54.1 -0.1
baz=74
WVT Waverly 73.65 348 eP P 09 32 54.6 +0.1
WVT pmax pmax
comp=Z,72nm,1.1s
WVT Waverly 73.65 348 eP P 09 32 54.6 +0.1
comp=Z,72nm,1.1s
228A UT Block 9, Go 73.68 334 ⇓P P 09 32 54.9 0.0
baz=74,SNR=5.2
Z32A Haskell 73.75 337 ⇑P P 09 32 55.2 -0.1
baz=74,SNR=8.7
Y34A Reagan Ranch, 73.84 339 ⇑P P 09 32 55.4 -0.3
baz=74,SNR=7.5
129A Stewart Farms, 73.90 335 ⇑P P 09 32 56.2 +0.1
baz=74
BBTS Babate 73.94 57 P P 09 32 57.9 +1.3
comp=Z,20nm,0.9s,baz=215,slow=3.1,SNR=4.7
Z31A Sharp Cattle R 73.97 337 ⇑P P 09 32 56.5 0.0
baz=74,SNR=6.2
JSRW J. Sargeant Re 74.09 356 eP P 09 32 57.5 +0.5
128A Castleberry Fa 74.10 335 ⇓P P 09 32 57.0 -0.4
baz=74,SNR=5.8
Y33A Hilltop Ranch, 74.14 338 ⇑P P 09 32 57.2 -0.2
baz=74,SNR=7.1
Z30A Sanderson Ranc 74.25 336 ⇓P P 09 32 58.0 -0.2
baz=75,SNR=9.5
MNTX Cornudas Mount 74.31 332 eP P 09 32 57.7 -0.8
comp=Z,11nm,1.0s
Y32A R-V Farms, Ver 74.38 338 ⇓P P 09 32 58.6 -0.3
baz=75,SNR=6.2
GDL2 Guadalupe Moun 74.39 333 eP P 09 32 59.7 +0.6
comp=Z,0.8nm,0.2s
Z29A Hungry Hill Ra 74.42 336 ⇓P P 09 32 59.1 -0.1
baz=75,SNR=8.2
127A Arkansas Junct 74.45 334 ⇓P P 09 32 59.5 0.0
baz=75
X34A Smith Ranch, M 74.47 339 ⇑P P 09 32 59.0 -0.3
baz=75
Y31A Rekieta Farm, 74.60 337 ⇓P P 09 33 00.4 +0.2
baz=75,SNR=6.7
X33A Lawton 74.60 339 ⇑P P 09 32 59.9 -0.3
baz=75,SNR=5.3
Y30A Stafford Cattl 74.72 336 ⇑P P 09 33 00.8 -0.1
baz=75
X32A Elmer 74.72 338 ⇓P P 09 33 00.8 -0.1
baz=75,SNR=5.2
CPRX Cap Rock 74.95 334 eP P 09 33 02.8 +0.4
comp=Z,3.3nm,0.8s
Y29A Porterfield Fa 74.96 336 ⇓P P 09 33 02.3 0.0
baz=75
Z27A Tatum 74.98 334 ⇓P P 09 33 03.0 +0.5
baz=75
W34A Bridge Creek, 75.04 339 ⇑P P 09 33 02.9 +0.2
baz=75,SNR=6.6
X31A McDonald Ranch 75.13 338 ⇓P P 09 33 03.1 -0.2
baz=76,SNR=8.8
TUL1 Tulsa 75.14 341 ⇑P P 09 33 03.1 -0.2
baz=76,SNR=11
W33A Caddo, Fort Co 75.16 339 ⇑P P 09 33 04.0 +0.6
baz=76,SNR=9.8
Z26A Caprock 75.21 334 ⇓P P 09 33 04.3 +0.4
baz=76,SNR=6.1
X30A Coker Ranch, T 75.24 337 ⇓P P 09 33 04.3 +0.4
baz=76,SNR=5.0
W32A Sentinel 75.36 338 ⇑P P 09 33 05.1 +0.5
baz=76,SNR=9.0
MSTX Muleshoe 75.43 335 eP P 09 33 05.0 -0.1
comp=Z,8.6nm,1.0s
MSTX Muleshoe 75.43 335 ⇓P P 09 33 05.2 +0.2
baz=76
WCI Wyandotte Cave 75.46 349 eP P 09 33 03.9 -1.1
WCI pmax pmax
comp=Z,7.0nm,0.8s
WCI Wyandotte Cave 75.46 349 eP P 09 33 03.9 -1.1
comp=Z,7.1nm,0.8s
Y27A Causey 75.48 335 ⇑P P 09 33 05.5 +0.1
baz=76
Z25A Roswell 75.48 333 ⇓P P 09 33 06.0 +0.6
baz=76
X29A Tulia 75.50 336 ⇑P P 09 33 05.7 +0.2
baz=76
V34A Guthrie 75.53 340 eP P 09 33 05.2 -0.2
comp=Z,31nm,1.0s
V34A Guthrie 75.53 340 ⇑P P 09 33 05.3 -0.2
baz=76,SNR=5.7
319A Douglas 75.58 329 ⇓P P 09 33 07.0 +1.0
baz=76,SNR=6.0
W31A Holland Ranch, 75.63 338 ⇓P P 09 33 06.3 +0.2
baz=76,SNR=5.5
X28A Dimmitt 75.73 336 ⇑P P 09 33 07.1 +0.3
baz=76
V33A Lossen Ranch, 75.74 339 ⇓P P 09 33 06.9 +0.2
baz=76,SNR=8.0
Y26A Elida 75.75 334 ⇓P P 09 33 06.9 0.0
baz=76,SNR=5.8
Z24A Sheeppen Canyo 75.77 333 ⇓P P 09 33 07.6 +0.4
baz=76,SNR=6.8
W30A Crocket Farms 75.82 337 ⇓P P 09 33 07.3 +0.1
baz=76
V32A Arapaho 75.86 339 ⇓P P 09 33 07.4 0.0
baz=76,SNR=5.3
AMTX Amarillo 75.90 336 eP P 09 33 08.0 +0.2
comp=Z,53nm,1.1s
AMTX Amarillo 75.90 336 ⇑P P 09 33 08.2 +0.5
baz=76
121A Cookes Peak, D 75.98 330 eP P 09 33 09.3 +0.9
comp=Z,8.0nm,0.9s
121A Cookes Peak, D 75.98 330 ⇑P P 09 33 08.7 +0.3
baz=76,SNR=5.0
Y25A Mesa, Roswell 76.06 334 ⇓P P 09 33 08.8 +0.1
baz=76
U34A Anderson Ranch 76.10 340 ⇓P P 09 33 08.4 -0.3
baz=76,SNR=5.9
W29A Amraillo 76.11 336 ⇑P P 09 33 08.9 0.0
baz=76,SNR=7.1
V31A Spring Creek L 76.15 338 ⇑P P 09 33 09.8 +0.8
baz=76,SNR=8.0
X27A F and S Farms, 76.15 335 ⇑P P 09 33 09.2 -0.1
baz=76,SNR=5.6
U33A Lingo Farm, Me 76.26 340 ⇓P P 09 33 09.6 0.0
baz=77,SNR=5.4
Z22A Elephant Butte 76.30 331 ⇑P P 09 33 11.1 +1.0
baz=77,SNR=6.2
X26A CR and CF Fran 76.31 334 ⇑P P 09 33 10.6 +0.5
baz=77,SNR=5.1
Y24A Capitan 76.33 333 ⇓P P 09 33 11.0 +0.7
baz=77,SNR=6.7
V30A Spur Ranch, Mi 76.39 337 ⇓P P 09 33 11.3 +0.8
baz=77
W28A Vega 76.41 336 ⇓P P 09 33 11.2 +0.5
baz=77
U32A Winter Ranch, 76.46 339 ⇑P P 09 33 11.3 +0.5
baz=77
W27A Bowe Ranch, En 76.52 336 ⇑P P 09 33 12.1 +0.8
baz=77,SNR=9.7
Y23A Lovelace Mesa, 76.56 332 ⇑P P 09 33 12.2 +0.6
baz=77,SNR=5.2
X25A Clemmons Ranch 76.59 334 ⇓P P 09 33 11.7 0.0
baz=77
LIC Lamto 76.61 72 eP P 09 33 12.9 +0.7
comp=Z,101nm,1.2s
V29A Stinnett 76.76 337 ⇑P P 09 33 13.2 +0.6
baz=77
W26A Owens Ranch, T 76.78 335 ⇓P P 09 33 13.1 +0.4
baz=77,SNR=5.5
V28A Channing 76.87 336 ⇑P P 09 33 13.8 +0.6
baz=77,SNR=5.7
TIC Toumodi 76.89 71 eP P 09 33 14.5 +0.8
comp=Z,45nm,0.9s
X24A Lazy VL Ranch, 76.90 333 ⇓P P 09 33 14.3 +0.8
baz=77
T33A Patterson Ranc 76.90 340 ⇑P P 09 33 13.7 +0.5
baz=77,SNR=7.6
KIC Kosan Boka 76.92 72 eP P 09 33 14.9 +1.0
comp=Z,94nm,1.0s
ACSO Alum Creek Sta 77.01 352 eP P 09 33 13.4 -0.4
comp=Z,87nm,1.3s
TUC Tucson 77.02 328 eP P 09 33 14.7 +0.6
TUC pmax pmax
comp=Z,22nm,1.4s
TUC Tucson 77.02 328 eP P 09 33 14.7 +0.6
comp=Z,22nm,1.4s
DBIC Dimbokro 77.03 71 P P 09 33 15.1 +0.6
comp=Z,28nm,0.9s,baz=196,slow=5.4,SNR=14
V27A Dan Oppiter Fa 77.08 336 ⇑P P 09 33 14.7 +0.3
baz=78
U30A WK&E Inc. Balk 77.09 338 ⇑P P 09 33 14.8 +0.4
baz=78,SNR=6.4
W25A X Bar L Ranch, 77.14 334 ⇓P P 09 33 15.3 +0.5
baz=78,SNR=7.7
T32A Huddler Ranch, 77.19 339 ⇓P P 09 33 15.0 +0.1
baz=78
U29A Oasis Ranch, S 77.21 337 ⇓P P 09 33 15.4 +0.3
baz=78
S33A Kaszmaul Farm, 77.32 340 ⇓P P 09 33 15.8 +0.2
baz=78
T31A Randall Ranch, 77.33 339 ⇑P P 09 33 15.8 +0.2
baz=78
LAZ Ladron 77.39 332 eP P 09 33 17.1 +0.9
comp=Z,37nm,1.7s
V26A Tequesquite Ra 77.43 335 ⇓P P 09 33 16.5 +0.1
baz=78,SNR=5.1
U28A Mallet 77.45 336 ⇓P P 09 33 16.6 +0.1
baz=78
W24A Lazy 6 Ranch, 77.47 334 ⇑P P 09 33 17.3 +0.6
baz=78,SNR=7.3
T30A Plains 77.54 338 ⇓P P 09 33 16.9 +0.1
baz=78
214A Organ Pipe Nat 77.60 326 eP P 09 33 18.3 +1.0
comp=Z,19nm,1.3s
214A Organ Pipe Nat 77.60 326 ⇑P P 09 33 19.0 +1.7
baz=78
ANMO Albuquerque 77.61 333 P P 09 33 17.7 +0.2
comp=Z,18nm,1.0s,baz=161,slow=7.7,SNR=19
S32A Newby Ranch, P 77.67 339 ⇓P P 09 33 17.9 +0.4
baz=78,SNR=8.0
U27A Thompson Grove 77.68 336 ⇑P P 09 33 18.3 +0.5
baz=78,SNR=5.6
W23A Werner Place, 77.69 333 ⇑P P 09 33 18.8 +0.8
baz=78,SNR=7.9
V25A Rancho No Teng 77.75 334 ⇓P P 09 33 19.0 +0.7
baz=78,SNR=8.2
S31A Mullinville 77.76 339 ⇑P P 09 33 18.4 +0.4
baz=78
T29A Hugoton 77.87 337 ⇑P P 09 33 19.2 +0.5
baz=78
V24A Rampart Ranch, 77.88 334 ⇑P P 09 33 19.6 +0.6
baz=78,SNR=6.1
U26A Atchley Ranch, 77.96 335 ⇓P P 09 33 19.5 +0.1
baz=78
R33A Olander Ranch, 77.98 340 ⇓P P 09 33 19.2 -0.1
baz=78,SNR=5.4
S30A Montezuma 78.06 338 ⇑P P 09 33 20.6 +0.8
baz=78,SNR=8.5
T28A Walsh 78.09 337 ⇑P P 09 33 20.7 +0.7
baz=78,SNR=12
U25A Circle Dot Ran 78.19 335 ⇓P P 09 33 21.6 +0.9
baz=79,SNR=7.7
V23A Ortiz Mt. (NFS 78.23 333 ⇓P P 09 33 21.6 +0.7
baz=79
T27A Campo 78.23 336 ⇓P P 09 33 21.4 +0.6
baz=79,SNR=6.2
S29A Ulysses 78.24 338 ⇑P P 09 33 21.5 +0.7
baz=79,SNR=5.6
R32A Long Quarter, 78.29 340 ⇑P P 09 33 21.8 +0.8
baz=79,SNR=7.2
KSU1 Kansas State U 78.37 342 eP P 09 33 20.9 -0.5
comp=Z,18nm,0.9s
KSU1 Kansas State U 78.37 342 ⇑P P 09 33 21.1 -0.2
baz=79
R31A Burdett 78.39 339 ⇓P P 09 33 22.1 +0.5
baz=79,SNR=5.3
S28A Manter 78.45 337 ⇑P P 09 33 22.6 +0.6
baz=79,SNR=7.0
U24A Moreno Valley 78.50 334 ⇓P P 09 33 23.5 +1.0
baz=79,SNR=5.2
Q33A Connelly Farm, 78.59 341 ⇓P P 09 33 23.0 +0.4
baz=79
X18A Snowflake 78.60 330 ⇑P P 09 33 24.1 +1.2
baz=79
R30A Dighton 78.60 339 ⇓P P 09 33 23.3 +0.5
baz=79
T26A Comanche Natio 78.62 336 ⇑P P 09 33 23.9 +0.8
baz=79,SNR=9.3
V22A San Miguel Ran 78.64 333 ⇑P P 09 33 24.6 +1.3
baz=79,SNR=9.6
113A Mohawk Valley, 78.71 326 ⇓P P 09 33 24.5 +1.1
baz=79
U23A El Rito 78.75 333 ⇑P P 09 33 25.0 +1.1
baz=79,SNR=9.1
Q32A Meitler Ranch, 78.78 340 ⇓P P 09 33 23.7 +0.1
baz=79
Z14A Wintersburg 78.86 327 ⇑P P 09 33 26.1 +2.0
baz=79
T25A Trinidad 78.86 335 ⇓P P 09 33 25.4 +1.0
baz=79,SNR=8.8
P33A Williams Farm, 78.96 341 ⇓P P 09 33 24.8 +0.2
baz=79
S26A Kim 78.98 336 ⇓P P 09 33 25.6 +0.6
baz=79,SNR=7.7
R29A Marienthal 78.99 338 ⇓P P 09 33 25.6 +0.7
baz=79,SNR=8.6
Q31A Ellis 79.02 340 ⇑P P 09 33 25.6 +0.6
baz=79
W18A Petrified Fore 79.03 330 eP P 09 33 26.1 +0.7
comp=Z,17nm,1.0s
W18A Petrified Fore 79.03 330 ⇓P P 09 33 26.4 +1.1
baz=79
U22A Llaves 79.03 333 ⇑P P 09 33 26.8 +1.4
baz=79,SNR=6.7
X16A Lo Mia Camp, P 79.11 329 ⇓P P 09 33 26.7 +0.9
baz=80
R28A Tribune 79.12 338 ⇑P P 09 33 26.1 +0.5
baz=80,SNR=9.2
T24B San Luis 79.12 334 ⇓P P 09 33 26.8 +0.8
baz=80,SNR=7.4
Q30A Quinter 79.23 339 ⇑P P 09 33 26.6 +0.4
baz=80,SNR=6.4
T23A Casias Ranch, 79.33 334 ⇑P P 09 33 28.0 +0.9
baz=80,SNR=7.3
S25A Robets Cordova 79.34 335 ⇓P P 09 33 27.9 +0.9
baz=80,SNR=7.0
Y14A Wickenburg 79.37 327 ⇑P P 09 33 28.2 +1.1
baz=80
Q29A Oakley 79.37 338 ⇓P P 09 33 27.4 +0.4
baz=80,SNR=5.8
R27A Eads 79.37 337 ⇓P P 09 33 27.5 +0.5
baz=80,SNR=6.5
P32A Huiting Farm, 79.38 340 ⇓P P 09 33 27.2 +0.2
baz=80
GLA Glamis 79.43 326 eP P 09 33 28.5 +1.1
GLA pmax pmax
comp=Z,26nm,1.4s
GLA Glamis 79.43 326 eP P 09 33 28.5 +1.1
comp=Z,26nm,1.4s
GLA Glamis 79.43 326 ⇑P P 09 33 28.7 +1.3
baz=80
P31A Stockton 79.50 340 ⇓P P 09 33 28.1 +0.5
baz=80
S24A Houchin Ranch, 79.58 335 ⇑P P 09 33 29.6 +1.2
baz=80,SNR=8.6
R26A Arlington 79.59 336 ⇑P P 09 33 29.5 +1.3
baz=80,SNR=9.9
R25A Fountain Ranch 79.73 336 ⇑P P 09 33 30.0 +0.9
baz=80,SNR=5.7
P30A Selden 79.76 339 ⇓P P 09 33 29.5 +0.4
baz=80,SNR=6.3
SDCO Great Sand Dun 79.78 335 eP P 09 33 29.3 -0.2
comp=Z,12nm,1.1s
BOSA Boshof 79.78 118 P P 09 33 29.6 -0.1
comp=Z,16nm,1.1s,baz=241,slow=5.9,SNR=5.7
SWSC Sam W. Stewart 79.78 325 ⇓P P 09 33 30.6 +1.4
baz=80
Q28A Sharon Springs 79.78 338 ⇑P P 09 33 30.1 +0.8
baz=80
O32A Brockman Farm, 79.89 341 ⇑P P 09 33 30.4 +0.7
baz=80
S23A Nye Farm, Mont 79.92 334 ⇑P P 09 33 31.0 +0.8
baz=80
KSCO Kaye Shedlock' 79.98 337 eP P 09 33 31.3 +0.9
comp=Z,80nm,1.6s
KSCO Kaye Shedlock' 79.98 337 ⇑P P 09 33 30.9 +0.6
baz=80,SNR=5.2
P29A Atwood 80.02 339 ⇓P P 09 33 31.1 +0.7
baz=80,SNR=6.4
MONP Monument Peak 80.03 324 ⇑P P 09 33 32.1 +1.2

baz=80
WUAZ Wupatki 80.03 329 eP P 09 33 31.8 +1.1
comp=Z,15nm,1.0s
WUAZ Wupatki 80.03 329 ⇑P P 09 33 32.0 +1.3
baz=80
O31A Woolen Ranch, 80.07 340 ⇑P P 09 33 31.2 +0.5
baz=80
R24A Sanders Place, 80.08 335 ⇑P P 09 33 31.8 +0.8
baz=80,SNR=10
PDMCI Parker Dam,Lak 80.17 327 ⇑P P 09 33 32.9 +1.6
baz=80
Q26A Hugo 80.18 337 ⇑P P 09 33 32.3 +0.9
baz=81,SNR=7.0
BC3 Big Chuckawall 80.22 325 ⇓P P 09 33 33.2 +1.4
baz=81
P28A Saint Francis 80.23 338 ⇑P P 09 33 32.5 +0.8
baz=81,SNR=6.3
S22A 4UR Ranch, Cre 80.24 334 ⇓P P 09 33 33.1 +1.1
baz=81,SNR=10
SCIA State Center 80.26 345 eP P 09 33 31.2 -0.4
comp=Z,7.7nm,0.5s
R23A Moffat 80.29 335 ⇓P P 09 33 32.7 +0.5
baz=81,SNR=7.8
O30A MW Ranch, Wils 80.30 340 ⇓P P 09 33 32.7 +0.8
baz=81,SNR=7.9
N32A Stulken Farm, 80.37 341 ⇑P P 09 33 32.5 +0.2
baz=81
MVCO Mesa Verde 80.38 332 eP P 09 33 33.1 +0.4
comp=Z,26nm,1.2s
MVCO Mesa Verde 80.38 332 ⇑P P 09 33 33.5 +0.8
baz=81,SNR=7.8
Q25A Bedland, Calha 80.41 336 ⇑P P 09 33 33.5 +0.7
baz=81
IRM Iron Mountain 80.51 326 ⇓P P 09 33 34.6 +1.4
baz=81
PFO Pinyon Flat Ob 80.64 325 eP P 09 33 34.8 +0.7
PFO Pinyon Flat Ob 80.64 325 P P 09 33 33.0 -1.0
comp=Z,16nm,1.1s,baz=130,slow=1.6,SNR=7.3
PFO Pinyon Flat Ob 80.64 325 eP P 09 33 34.8 +0.7
PFO Pinyon Flat Ob 80.64 325 ⇓P P 09 33 35.3 +1.2
baz=81
P26A Davis Ranch, A 80.71 337 ⇑P P 09 33 34.8 +0.5
baz=81,SNR=6.5
W13A Hualapai Mount 80.74 327 ⇓P P 09 33 35.9 +1.3
baz=81
O28A Krutsinger Ran 80.75 338 ⇑P P 09 33 35.2 +0.8
baz=81,SNR=6.9
Q24A Divide 80.75 335 ⇑P P 09 33 35.6 +0.9
baz=81,SNR=8.4
BELC Belle Mtn. Jos 80.76 325 ⇑P P 09 33 36.3 +1.6
baz=81
NEE2 Needles Airpor 80.78 327 ⇑P P 09 33 36.1 +1.5
baz=81
P25A Willow Gulch B 80.93 336 ⇑P P 09 33 36.6 +1.1
baz=81,SNR=9.2
BGNE Belgrade 80.93 341 ⇓P P 09 33 35.9 +0.6
baz=81
MURC Murrieta 80.99 324 ⇓P P 09 33 37.3 +1.5
baz=81
O27A Beecher Island 81.02 338 ⇓P P 09 33 37.0 +1.1
baz=81,SNR=5.6
N29A Votaw Ranch, W 81.05 339 ⇑P P 09 33 36.6 +0.7
baz=81,SNR=5.2
M31A Lambtecht Ranc 81.09 341 ⇓P P 09 33 36.9 +0.7
baz=82,SNR=5.5
P24A Kohler Place, 81.17 336 ⇓P P 09 33 37.5 +0.6
baz=82
U15A North Rim 81.19 329 ⇑P P 09 33 38.5 +1.4
baz=82
N28A Pribbeno Ranch 81.19 339 ⇑P P 09 33 37.2 +0.4
baz=82
PV01 Paradox Valley 81.22 333 eP P 09 33 38.0 +0.8
comp=Z,1µm,1.0s
GMRC Granite Mounta 81.25 326 ⇓P P 09 33 38.5 +1.2
baz=82
O26A Horse Wrangler 81.32 337 ⇑P P 09 33 38.2 +0.7
baz=82,SNR=7.8
O25A Wiggins 81.46 337 ⇑P P 09 33 39.0 +0.8
baz=82,SNR=8.5
OGNE Ogallala 81.58 338 ⇓P P 09 33 39.9 +1.1
baz=82
HEC Hector,Ludlow 81.60 325 ⇓P P 09 33 40.6 +1.6
baz=82
N27A Anderson Farm, 81.60 338 ⇑P P 09 33 39.7 +0.7
baz=82,SNR=8.2
M29A Burnside Ranch 81.65 340 ⇑P P 09 33 39.7 +0.5
baz=82,SNR=5.3
ISCO Idaho Springs 81.66 335 eP P 09 33 40.0 +0.5
ISCO pmax pmax
comp=Z,16nm,1.3s
ISCO Idaho Springs 81.66 335 eP P 09 33 40.0 +0.5
comp=Z,16nm,1.3s
ISCO Idaho Springs 81.66 335 ⇑P P 09 33 40.1 +0.5
baz=82,SNR=6.5
BFSC Mount Baldy Ra 81.73 324 ⇓P P 09 33 41.7 +1.9
baz=82
O24A Longmont 81.78 336 ⇓P P 09 33 40.4 +0.4
baz=82
M28A Bar X Bar Ranc 81.80 339 ⇓P P 09 33 40.4 +0.4
baz=82
N26A Koester Ranch, 81.83 338 ⇑P P 09 33 40.8 +0.6
baz=82
L31A Butterfield Fa 81.83 341 ⇓P P 09 33 40.6 +0.6
baz=82,SNR=9.6
L30A Spencer Herefo 81.85 340 ⇓P P 09 33 40.7 +0.5
baz=82
P22A Eagle 81.87 335 ⇓P P 09 33 41.1 +0.6
baz=82,SNR=5.6
TUQ Turquoise Moun 81.92 326 ⇓P P 09 33 42.7 +1.9
baz=82
O23A Lake Granby, G 82.13 335 ⇑P P 09 33 42.7 +0.7
baz=82,SNR=7.4
LBTB Lobatse 82.15 115 eP P 09 33 42.6 +0.2
LBTB pmax pmax
comp=Z,46nm,1.2s
LBTB Lobatse 82.15 115 eP P 09 33 42.6 +0.2
comp=Z,46nm,1.2s
L29A Maesberg Ranch 82.17 340 ⇓P P 09 33 42.5 +0.7
baz=83
GSC Goldstone 82.21 325 eP P 09 33 43.6 +1.4
GSC pmax pmax
comp=Z,10.0nm,1.2s
GSC Goldstone 82.21 325 eP P 09 33 43.6 +1.4
comp=Z,9.6nm,1.2s
GSC Goldstone 82.21 325 ⇓P P 09 33 43.7 +1.4
baz=83
O22A Kremmling 82.30 335 ⇑P P 09 33 43.9 +1.0
baz=83,SNR=9.0
N24A Carr 82.35 336 ⇓P P 09 33 43.6 +0.7
baz=83,SNR=6.5
EDW2 Edwards Air Fo 82.41 324 ⇑P P 09 33 44.5 +1.2
baz=83
SHOC Shoshone 82.47 326 ⇓P P 09 33 45.3 +1.8
baz=83
K30A Basset 82.50 341 ⇓P P 09 33 43.9 +0.4
baz=83,SNR=12
OSI Osito Adit 82.54 324 ⇓P P 09 33 46.3 +2.3
baz=83
M25A Palm-Egli Farm 82.64 337 ⇓P P 09 33 45.1 +0.6
baz=83
L27A T5 Ranch, Ells 82.71 339 ⇑P P 09 33 45.7 +1.0
baz=83
ECSD EROS Data Cent 82.75 343 eP P 09 33 44.9 +0.1
comp=Z,57nm,0.9s
ECSD EROS Data Cent 82.75 343 ⇑P P 09 33 45.2 +0.4
baz=83,SNR=11
N23A Red Feather La 82.76 336 ⇑P P 09 33 45.8 +0.6
baz=83,SNR=8.2
LRMC Laurel Mountai 82.76 325 ⇑P P 09 33 46.7 +1.6
baz=83
K29A Lazy Trails An 82.77 340 ⇑P P 09 33 45.4 +0.4
baz=83,SNR=6.5
ARUT Antelope Range 82.83 329 eP P 09 33 46.9 +1.3
ARUT Antelope Range 82.83 329 eP P 09 33 46.9 +1.3
comp=Z,251nm,1.4s
N22A Wattenberg Ran 82.84 335 ⇑P P 09 33 46.5 +0.9
baz=83,SNR=11
O20A White River Ci 82.87 334 ⇓P P 09 33 46.3 +0.6
baz=83,SNR=5.9
L26A Underwood Farm 82.89 338 ⇑P P 09 33 46.5 +0.9
baz=83
M24A Cheyenne 82.91 337 ⇓P P 09 33 46.8 +0.9
baz=83,SNR=8.3
K28A Ten Mile Ranch 83.02 340 ⇑P P 09 33 46.7 +0.4
baz=83,SNR=5.4
J30A Dallas 83.08 341 ⇓P P 09 33 46.3 -0.2
baz=84,SNR=5.4
FURC Furnace Creek, 83.20 326 ⇑P P 09 33 49.4 +2.2
baz=84
M23A Laramie 83.20 336 ⇓P P 09 33 48.4 +1.0
baz=84
K27A Flueckinger Fa 83.25 339 ⇑P P 09 33 48.2 +0.7
baz=84,SNR=5.8
L25A Engebretsen Ra 83.27 338 ⇓P P 09 33 48.0 +0.4
baz=84
ISA Isabella 83.28 324 eP P 09 33 48.7 +0.9
ISA pmax pmax
comp=Z,7.0nm,0.9s
ISA Isabella 83.28 324 eP P 09 33 48.7 +0.9
comp=Z,7.5nm,0.9s
ISA Isabella 83.28 324 ⇑P P 09 33 49.5 +1.7
baz=84
SPMN St. Paul 83.37 346 ⇓P P 09 33 48.0 +0.1
baz=84
J29A Okreek 83.37 341 ⇓P P 09 33 49.0 +0.9
baz=84,SNR=8.1
M22A Cedar Creek Ra 83.43 335 ⇓P P 09 33 49.2 +0.5
baz=84
L24A Wheatland 83.47 337 ⇓P P 09 33 49.6 +0.9
baz=84
N20A Spence Gulch, 83.50 334 ⇓P P 09 33 49.9 +0.9
baz=84,SNR=8.7
K26A Motz Farm, Whi 83.53 338 ⇓P P 09 33 50.1 +1.1
baz=84
I30A Oacoma 83.61 341 ⇑P P 09 33 49.3 0.0
baz=84,SNR=6.5
J28A Allard Ranch, 83.64 340 ⇑P P 09 33 50.0 +0.6
baz=84
K25A Mack Ranch, Ha 83.65 338 ⇑P P 09 33 49.8 +0.1
baz=84
J27A Elkhorn Farm, 83.69 339 ⇑P P 09 33 50.6 +0.8
baz=84,SNR=7.2
VES Vestal, Richgr 83.71 324 ⇓P P 09 33 51.3 +1.5
baz=84
L23A Garrett 83.78 336 ⇓P P 09 33 50.4 0.0
baz=84
GRAC Grapevine Rang 83.87 326 ⇑P P 09 33 52.0 +1.3
baz=84
I29A Vivian Onida 83.94 341 ⇓P P 09 33 50.9 0.0
baz=84
L22A Ellis Ranch, M 83.94 336 ⇓P P 09 33 51.8 +0.6
baz=84
BRSD Miller 83.98 342 ⇑P P 09 33 51.0 -0.1
baz=84,SNR=7.9
K24A Anderson Ranch 84.04 337 ⇑P P 09 33 52.5 +0.9
baz=84,SNR=5.3
J26A Sides Ranch, S 84.06 339 ⇑P P 09 33 52.2 +0.7
baz=84,SNR=8.4
I28A Midland 84.15 340 ⇓P P 09 33 52.2 +0.2
baz=84,SNR=6.8
R11A Troy Canyon, C 84.21 328 eP P 09 33 53.1 +0.5
comp=Z,50nm,1.8s
R11A Troy Canyon, C 84.21 328 ⇓P P 09 33 53.8 +1.2
baz=85
K23A Bowen Ranch, D 84.33 337 ⇓P P 09 33 53.4 +0.3
baz=85,SNR=6.8
J25A Sunshine Ranch 84.34 338 ⇑P P 09 33 53.4 +0.3
baz=85
I27A Quinn 84.46 340 ⇓P P 09 33 53.8 +0.3
baz=85,SNR=7.0
H29A Onida 84.48 341 ⇓P P 09 33 53.8 +0.2
baz=85,SNR=5.6
K22A Casper 84.52 336 eP P 09 33 54.5 +0.4
comp=Z,43nm,1.1s
K22A Casper 84.52 336 ⇓P P 09 33 54.7 +0.6
baz=85,SNR=12
J24A Dixon Ranch, L 84.55 338 ⇑P P 09 33 55.0 +0.8
baz=85,SNR=12
DUG Dugway 84.63 331 eP P 09 33 55.5 +0.8
DUG pmax pmax
comp=Z,36nm,1.3s
DUG Dugway 84.63 331 eP P 09 33 55.5 +0.8
comp=Z,36nm,1.3s
DUG Dugway 84.63 331 ⇓P P 09 33 55.7 +1.0
baz=85
I26A New Underwood 84.65 339 ⇑P P 09 33 55.0 +0.4
baz=85,SNR=6.2
G30A Faulkton 84.67 342 ⇑P P 09 33 54.8 +0.2
baz=85,SNR=6.8
TPH Tonopah 84.69 327 eP P 09 33 55.6 +0.5
TPH pmax pmax
comp=Z,32nm,1.4s
TPH Tonopah 84.69 327 eP P 09 33 55.6 +0.5
comp=Z,32nm,1.4s
H28A Mission Ridge 84.74 341 ⇑P P 09 33 55.1 +0.1
baz=85
K21A Alcova 84.75 336 ⇑P P 09 33 55.8 +0.5
baz=85,SNR=8.4
I25A Rochford 84.90 339 ⇑P P 09 33 56.3 +0.3
baz=85,SNR=10
G29A Hoven 84.93 341 ⇑P P 09 33 55.8 0.0
baz=85,SNR=5.8
H27A Howes 84.98 340 ⇑P P 09 33 56.2 0.0
baz=85,SNR=8.9
I24A Kuemmerle Ranc 85.02 338 ⇑P P 09 33 56.8 +0.3
baz=85,SNR=6.2
MLAC Mammoth Lakes 85.05 325 ⇓P P 09 33 58.6 +1.6
baz=85
RSSD Black Hills 85.08 338 eP P 09 33 57.0 +0.1
RSSD pmax pmax
comp=Z,30nm,1.0s
RSSD Black Hills 85.08 338 eP P 09 33 57.0 +0.1
comp=Z,30nm,1.0s
G28A Parade 85.08 341 ⇑P P 09 33 56.6 0.0
baz=86
H26A Fairpoint 85.17 339 ⇓P P 09 33 57.2 0.0
baz=86
J22A Midwest 85.19 336 ⇓P P 09 33 57.3 -0.1
baz=86,SNR=5.4
F30A Leola 85.31 342 ⇓P P 09 33 57.8 0.0
baz=86,SNR=5.5
H25A Fruitdale 85.41 339 ⇓P P 09 33 58.9 +0.6
baz=86,SNR=14
J21A Lysite 85.45 336 ⇑P P 09 33 59.1 +0.4
baz=86,SNR=5.6
NVAR Mina Array Bea 85.46 326 P P 09 33 58.4 -0.6
comp=Z,4.3nm,0.8s,baz=162,slow=6.3,SNR=14
F29A Eureka 85.50 342 ⇓P P 09 33 58.6 -0.2
baz=86,SNR=5.7
I22A 9 Mile Ranch, 85.62 337 ⇑P P 09 33 59.6 0.0
baz=86,SNR=10
G27A Dupree 85.63 340 ⇓P P 09 33 59.3 -0.1
baz=86,SNR=8.8
BW06 Boulder Array 85.66 334 eP P 09 33 59.9 +0.1
comp=Z,22nm,1.3s
PDAR Pinedale Array 85.66 334 P P 09 33 59.1 -0.8
comp=Z,11nm,1.1s,baz=145,slow=5.4,SNR=24
J20A Shoshoni 85.67 335 ⇑P P 09 34 00.1 +0.4
baz=86,SNR=11
G26A Maurine 85.74 340 ⇑P P 09 34 00.1 +0.2
baz=86,SNR=15
F28A McLaughlin 85.77 341 ⇓P P 09 34 00.1 0.0
baz=86,SNR=5.9
H24A Dirks Ranch, A 85.80 338 ⇓P P 09 34 00.4 +0.1
baz=86,SNR=12
I21A Big Trails, Te 85.81 336 ⇑P P 09 34 00.4 -0.1
baz=86,SNR=11
G25A Newell 85.88 339 ⇓P P 09 34 00.9 +0.2
baz=86,SNR=11
E30A Jud 85.90 343 ⇓P P 09 34 01.0 +0.3
baz=86,SNR=7.5
J19A Crowheart 85.92 335 ⇑P P 09 34 01.4 +0.4
baz=86,SNR=12
ELK Elko 86.08 329 P P 09 34 01.6 -0.4
comp=Z,6.1nm,0.9s,baz=159,slow=2.8,SNR=11
TOA0 Torodi Ar. Sit 86.10 71 eP P 09 34 02.9 +0.5
TORD Torodi Ar. Bea 86.10 71 P P 09 34 02.2 -0.2
comp=Z,9.7nm,0.8s,baz=236,slow=4.5,SNR=13
F27A Lemmon 86.11 340 ⇓P P 09 34 01.9 +0.2
baz=86,SNR=11
E29A Napoleon 86.14 342 ⇑P P 09 34 02.0 +0.1
baz=86,SNR=5.2
I20A Worland 86.21 336 ⇑P P 09 34 02.9 +0.5
baz=87,SNR=10
H22A Clearmont 86.21 337 ⇓P P 09 34 02.2 -0.2
baz=87,SNR=7.4
F26A Lodgepole 86.27 340 ⇑P P 09 34 02.5 -0.1
baz=87,SNR=9.4
G24A Alzada 86.29 339 ⇓P P 09 34 02.8 +0.1
baz=87,SNR=11
E28A Huff 86.41 341 ⇑P P 09 34 03.4 +0.1
baz=87,SNR=5.2
D30A Buchanan 86.44 343 ⇑P P 09 34 03.5 +0.2
baz=87,SNR=6.0
H21A Big Horn, Sher 86.46 337 ⇑P P 09 34 03.2 -0.4
baz=87,SNR=6.0
G23A Biddle 86.46 338 ⇓P P 09 34 03.5 -0.1
baz=87,SNR=8.1
E27A Carson 86.50 341 ⇑P P 09 34 03.9 +0.1
baz=87,SNR=7.8
F25A Bowman 86.56 339 ⇓P P 09 34 04.3 +0.3
baz=87,SNR=11
I19A Meeteetse 86.58 335 ⇑P P 09 34 04.7 +0.3
baz=87,SNR=5.5
D29A Pettibone, Tap 86.59 342 ⇑P P 09 34 04.1 0.0
baz=87,SNR=7.2
H20A Greybull 86.65 336 ⇑P P 09 34 04.9 +0.4
baz=87,SNR=6.8
G22A Birney 86.76 337 ⇓P P 09 34 04.6 -0.4
baz=87,SNR=6.7
F24A Ekalaka 86.77 339 ⇑P P 09 34 05.0 0.0
baz=87,SNR=11
E26A Carlson Angus 86.78 340 ⇓P P 09 34 05.0 -0.1
baz=87,SNR=12
AGMN Agassiz Nation 86.92 345 eP P 09 34 05.2 -0.4
comp=Z,8.9nm,0.7s
AGMN Agassiz Nation 86.92 345 ⇑P P 09 34 05.6 0.0
baz=87,SNR=6.9
C30A Mose, Pekin 86.93 343 ⇑P P 09 34 06.3 +0.6
baz=87,SNR=8.0
F23A Volborg 86.94 338 ⇓P P 09 34 05.7 -0.2
baz=87,SNR=10.0
D28A Regan 86.96 342 ⇓P P 09 34 06.4 +0.5
baz=87,SNR=11
I17A Pilgrim Ck. 87.02 334 ⇓P P 09 34 07.3 +0.8
baz=87,SNR=8.9
G21A Lodge Grass 87.05 337 ⇑P P 09 34 06.9 +0.5
baz=87,SNR=5.2
E25A Miller Ranch, 87.07 340 ⇑P P 09 34 06.4 0.0
baz=88,SNR=11
D27A Center 87.12 341 ⇓P P 09 34 07.2 +0.5
baz=88,SNR=6.0
H19A Powell 87.14 335 ⇓P P 09 34 07.2 +0.3
baz=88
F22A Rosebud 87.25 338 ⇑P P 09 34 08.4 +1.0
baz=88,SNR=6.6
D26A Manning 87.29 341 ⇑P P 09 34 08.1 +0.6
baz=88,SNR=16
G20A Bridger 87.37 336 ⇑P P 09 34 08.1 0.0
baz=88
H18A Shoshone NF, C 87.37 335 ⇑P P 09 34 08.8 +0.6
baz=88,SNR=5.7
E24A Baker 87.38 339 ⇓P P 09 34 08.2 +0.3
baz=88,SNR=8.8
C28A Hausauer Farms 87.40 342 ⇑P P 09 34 08.0 0.0
baz=88
H17A Grant Village 87.44 334 P P 09 34 09.5 +0.9
comp=Z,7.0nm,1.2s
YFT Old Faithful 87.58 334 eP P 09 34 08.9 -0.3
comp=Z,27nm,1.2s
B30A Myrvik Farm, E 87.60 344 ⇓P P 09 34 09.3 +0.3
baz=88,SNR=6.2
RLMT Red Lodge 87.63 335 eP P 09 34 09.5 +0.1
comp=Z,8.6nm,1.1s
D25A Fairfield 87.64 340 ⇓P P 09 34 10.1 +0.9
baz=88,SNR=7.3
C27A Sayler Ranch, 87.68 341 ⇓P P 09 34 10.0 +0.7
baz=88,SNR=13
E22A Miles City 87.75 338 ⇑P P 09 34 09.5 -0.3
baz=88
YMR Madison River 87.81 334 eP P 09 34 11.4 +1.0
comp=Z,35nm,1.2s
B29A Wagenman Farm, 87.85 343 ⇑P P 09 34 10.6 +0.5
baz=88,SNR=12
D24A Glendive 87.89 339 ⇓P P 09 34 11.1 +0.7
baz=88,SNR=6.3
C26A Wahner Farm, P 87.93 341 ⇓P P 09 34 11.0 +0.5
baz=88,SNR=10.0
A30A Hoffart Farm, 88.05 344 ⇑P P 09 34 11.2 +0.1
baz=88,SNR=6.1
B28A Dugan Ranch, T 88.08 342 ⇑P P 09 34 11.4 +0.2
baz=88,SNR=13
QLMT Earthquake Lak 88.12 334 eP P 09 34 12.4 +0.7
comp=Z,0.7nm,0.9s
HLID Hailey 88.13 331 eP P 09 34 13.0 +1.2
comp=Z,73nm,2.0s
HLID Hailey 88.13 331 ⇑P P 09 34 13.1 +1.2
baz=88,SNR=8.0
C25A Freed Ranch, W 88.14 340 ⇑P P 09 34 12.1 +0.5
baz=88,SNR=7.1
D23A Lindsay 88.19 339 ⇓P P 09 34 12.7 +0.8
baz=89
A29A Manning Farm, 88.25 343 ⇓P P 09 34 12.4 +0.4
baz=89,SNR=11
B27A Peters Farms, 88.25 342 ⇓P P 09 34 12.6 +0.6
baz=89
C24A Savage 88.30 340 ⇑P P 09 34 12.9 +0.6
baz=89,SNR=6.6
D22A Cohagen 88.46 338 ⇓P P 09 34 13.7 +0.6
baz=89
B26A Jensen Ranch, 88.48 341 ⇑P P 09 34 13.7 +0.6
baz=89
A28A Rude Farm, Bot 88.48 343 ⇓P P 09 34 13.5 +0.4
baz=89,SNR=8.6
MCMT McKenzie Canyo 88.62 333 eP P 09 34 15.2 +1.0
comp=Z,8.1nm,1.2s
B25A Knox Farm, Ray 88.63 341 ⇑P P 09 34 14.7 +0.9
baz=89,SNR=6.5
E19A Rath Farm, Rou 88.65 336 ⇑P P 09 34 14.8 +0.7
baz=89
C23A Lambert 88.76 339 ⇑P P 09 34 15.2 +0.7
baz=89
A27A Ledoux Ranch, 88.76 342 ⇑P P 09 34 15.0 +0.6
baz=89
ULM Lac du Bonnet 88.78 346 P P 09 34 13.3 -1.1
comp=Z,12nm,0.9s,baz=163,slow=4.3,SNR=9.0
WVOR Wild Horse Val 88.89 328 eP P 09 34 16.1 +0.7
WVOR pmax pmax
comp=Z,58nm,2.0s
WVOR Wild Horse Val 88.89 328 eP P 09 34 16.1 +0.7
comp=Z,58nm,2.0s
A26A Wade Farm, Ken 88.91 342 ⇑P P 09 34 15.5 +0.4
baz=89
C22A Vida 88.91 339 ⇓P P 09 34 15.6 +0.4
baz=89
D20A Manuel Ranch, 89.00 337 ⇓P P 09 34 16.4 +0.7
baz=89
DGMT Dagmar 89.09 340 eP P 09 34 16.1 +0.1
comp=Z,31nm,1.1s
DGMT Dagmar 89.09 340 ⇑P P 09 34 16.6 +0.6
baz=90
MOD Modoc 89.18 327 eP P 09 34 17.5 +0.8
comp=Z,21nm,1.4s
A25A Svangstu Ranch 89.22 341 ⇑P P 09 34 17.3 +0.7
baz=90
C21A Desert Coulee 89.34 338 ⇑P P 09 34 17.4 +0.2
baz=90
A23A Redstone 89.72 340 ⇑P P 09 34 19.7 +0.7
baz=90
A22A Carney Farms, 90.04 339 ⇑P P 09 34 20.7 +0.2
baz=90
A21A Bergtoll Ranch 90.33 339 ⇓P P 09 34 22.2 +0.4
baz=91
EGMT Eagleton 90.34 337 ⇓P P 09 34 22.3 +0.4
baz=91
B19A Brinkman Farms 90.47 337 ⇓P P 09 34 22.8 +0.4
baz=91
MSO Missoula 90.73 333 ⇓P P 09 34 25.3 +1.4
baz=91
HAWA Hanford 92.50 330 eP P 09 34 32.5 +0.7
comp=Z,7.7nm,1.1s
NEW Newport 93.10 332 P P 09 34 33.9 -0.8
comp=Z,1.5nm,0.8s,baz=195,slow=7.4,SNR=3.1
NEW Newport 93.10 332 ⇑P P 09 34 34.7 0.0
baz=94
YKA Yellowknife Ar 104.22 342 Pdiff Pdif 09 35 22.6 -1.7
comp=Z,0.2nm,0.6s,baz=144,slow=5.8,SNR=3.6
YKA PP PP 09 39 43.9 +0.7
comp=Z,0.6nm,0.9s,baz=135,slow=6.3,SNR=5.5
KEST Kesra 105.20 57 Pdiff Pdif 09 35 27.4 -2.1
comp=Z,0.4nm,0.4s,baz=16,slow=2.7,SNR=4.1
GERES GERESS Array B 114.75 47 PKP PKPdf 09 40 00.2 -1.1
comp=Z,1.7nm,0.7s,baz=183,slow=2.4,SNR=7.2
CLL Collm 115.49 44 iPKiKP PKPdf 09 40 03.2 +0.8
CLL Collm 115.49 44 iPKiKP PKPdf 09 40 03.2 +0.8
VYHS Vyhne 117.65 49 ePKP PKPdf 09 40 07.5 +0.8
WRA Warramunga Arr 117.94 210 PKP PKPdf 09 40 06.9 -1.4
comp=Z,0.8nm,0.6s,baz=158,slow=1.7,SNR=13
NOA NORSAR Array B 118.81 34 PKP PKPdf 09 40 07.8 -0.8
comp=Z,1.0nm,0.9s,baz=243,slow=1.2,SNR=3.2
MLR Muntele Rosu 120.91 54 PKP PKPdf 09 40 12.8 -0.4
comp=Z,0.5nm,0.7s,baz=38,slow=2.5,SNR=4.6
MMAI Mount Meron Ar 122.64 71 PKP PKPdf 09 40 16.6 -0.3
comp=Z,0.9nm,0.4s,baz=86,slow=1.1,SNR=4.5

BRTR Keskin Array B 124.02 63 PKP PKPdf 09 40 19.4 -0.1
comp=Z,3.1nm,0.8s,baz=180,slow=3.0,SNR=13
AKASG Malin Array Be 124.74 49 PKP PKPdf 09 40 19.5 -0.7
comp=Z,2.5nm,0.7s,baz=269,slow=2.8,SNR=12
FINES FINESS Array B 125.76 36 PKP PKPdf 09 40 21.3 -0.5
comp=Z,1.3nm,0.8s,baz=259,slow=1.9,SNR=3.3
RAYN Ar Rayn 126.30 86 ePKPdf PKPdf 09 40 24.1 -0.1
OBN Obninsk 130.07 45 i PKIKP PKPdf 09 40 30.5 +0.3
OBN pmax pmax
comp=Z,11nm,1.3s
BILL Bilibino 134.72 333 eP Pdif 09 37 47.9 +8.0
BILL pmax pmax
comp=Z,4.0nm,1.7s
GEYT Alibeck 141.70 73 PKhKP PKPpre 09 40 47.4
comp=Z,1.5nm,0.3s,baz=254,slow=9.1,SNR=5.2
SEY Seymchan 141.75 328 PKhKP PKPpre 09 40 42.8
comp=Z,3.2nm,0.9s,baz=124,slow=1.8,SNR=5.5
SEY PKP PKPdf 09 40 51.1 -0.6
comp=Z,7.1nm,1.0s,baz=57,slow=1.4,SNR=6.6
AKTO Aktyubinsk 142.82 53 PKhKP PKPpre 09 40 48.0
comp=Z,3.6nm,0.9s,baz=292,slow=2.9,SNR=5.3
AKTO PKP PKPdf 09 40 55.0 +1.0
comp=Z,4.2nm,0.8s,baz=126,slow=1.4,SNR=5.2
TIXI Tiksi 143.08 349 PKPdf PKPab 09 40 48.5 -0.8
ABKAR Akbulak array 144.12 54 ePKPdf PKPbc 09 40 54.7 +0.3
KSM Kuching 144.84 186 ePKPdf PKPab 09 40 57.5 -0.2
PSI Prapat 145.57 166 PKPbc PKPdf 09 40 59.2 -1.0
comp=Z,27nm,0.9s,baz=185,slow=6.4,SNR=20
IPM Ipoh 147.57 169 ePKPdf PKPdf 09 41 03.7 +0.3
KULM Kulim 148.31 169 ePKPbc PKPbc 09 41 07.1 -0.8
HYB Hyderabad 148.66 120 i PKP PKPbc 09 41 09.0 +0.2
BRVK Borovoye 149.84 45 ePKP2 PKPbc 09 41 11.9 +1.3
BRVK Borovoye 149.84 45 ePKPbc PKPbc 09 41 11.9 +1.3
BVAR Borovoye Array 149.91 45 PKPbc PKPbc 09 41 10.6 -0.2
comp=Z,13nm,0.9s,baz=290,slow=2.3,SNR=17
YAK Yakutsk 150.82 338 ePKIKP PKPbc 09 41 11.0 -1.6
YAK pmax pmax
comp=Z,31nm,1.0s
KKAR Karatay Array 151.67 66 ePKIKP PKPbc 09 41 15.6 +0.3
KKAR e 09 41 24.8
KKAR Karatay Array 151.67 66 ePKPbc PKPbc 09 41 15.6 +0.3
KKAR ePKPab PKPab 09 41 24.8 +0.6
ASAJ Asahikawa 151.80 297 PKPbc PKPbc 09 41 14.8 -0.7
comp=Z,14nm,0.9s,baz=330,slow=8.7,SNR=4.7
AAK Ala-Archa 154.62 66 PKP PKPdf 09 41 10.5 -3.0
comp=Z,4.8nm,0.7s,baz=200,slow=4.3,SNR=6.2
AAK PKPbc PKiKP 09 41 23.0 +1.0
comp=Z,7.7nm,0.8s,baz=196,slow=3.8,SNR=8.4
AAK PKPab PKPab 09 41 38.4 +1.6
comp=Z,12nm,0.7s,baz=235,slow=5.6,SNR=13
AAK Ala-Archa 154.62 66 PKP PKPdf 09 41 10.5 -3.0
AAK PKPbc PKiKP 09 41 23.0 +1.0
AAK ePKPab PKPab 09 41 37.9 +1.1
AAK PKPab PKPab 09 41 38.4 +1.6
MJAR Matsushiro Arr 154.72 279 PKPab PKPab 09 41 36.0 -1.3
comp=Z,7.5nm,0.8s,baz=216,slow=9.3,SNR=20
MJAR Matsushiro Arr 154.72 279 PKPab PKPab 09 41 36.0 -1.3
TKM2 Tokmak 2 155.41 66 ePKP2 PKPab 09 41 40.8 +0.5
TKM2 Tokmak 2 155.41 66 ePKPab PKPab 09 41 40.8 +0.5
KSH Kashi 155.73 74 ePKP PKPdf 09 41 13.0 -2.1
KSH epPKP pPKPdf 09 41 23.5 -0.6
KSH esPKP 09 41 27.5
KSH eSKS SKSdf 09 48 14.3 -5.3
KSH eSKKS SKKSac 09 52 02.0 -4.6
NVS Novosibirsk 155.73 34 ePKIKP PKPdf 09 41 09.0 -5.3
NVS e 09 41 39.7
NVS pmax pmax
comp=Z,16nm,1.3s
NVS pmax pmax
comp=N,2.0nm,1.1s
NVS pmax pmax
comp=E,3.0nm,1.1s
ZAA0 Zalesovo Array 157.01 34 ePKPab PKPab 09 41 47.3 +0.8
ZALV Zalesovo Beam 157.01 34 PKIKP PKPdf 09 41 13.0 -3.1
ZALV Zalesovo Beam 157.01 34 PKP PKPdf 09 41 13.0 -3.1
comp=E,8.8nm,0.9s,baz=281,slow=2.3,SNR=12
ZALV PKPab PKPab 09 41 47.5 +1.0
comp=E,12nm,0.8s,baz=305,slow=5.2,SNR=9.6
BOD Bodaibo 158.26 349 ePKP2 PKPab 09 41 50.5 -1.2
BOD pmax pmax
comp=Z,14nm,1.2s
MKAR Makanchi Array 159.25 53 PKP PKPdf 09 41 19.1 0.0
comp=Z,4.1nm,0.9s,baz=324,slow=1.6,SNR=11
MKAR PKPab PKPab 09 41 56.8 +0.3
comp=Z,7.2nm,0.9s,baz=296,slow=3.4,SNR=10
WMQ Urumqi 163.86 58 ePKP PKPdf 09 41 24.3 +0.3
WMQ LR LR
comp=Z,120nm,20.8s
WMQ LR LR
comp=Z,150nm,21.2s
WMQ LR LR
comp=Z,120nm,20.4s
TLY Talaya 164.81 7 PKPab PKPab 09 42 20.4 -0.1
comp=Z,0.7nm,0.2s,baz=326,slow=5.1,SNR=5.5
ZAK Zakamensk 166.05 9 ePKP2 PKPab 09 42 25.8 -0.3
ZAK pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 168.81 1 PKP PKPdf 09 41 26.4 -1.5
comp=Z,0.9nm,0.9s,baz=117,slow=1.7,SNR=4.8
SONM PKPab PKPab 09 42 38.1 -0.4
comp=Z,2.9nm,0.9s,baz=330,slow=3.1,SNR=10
NJ2 Nanjing 168.93 249 ePKP PKPdf 09 41 31.5 +3.3
GYA Guiyang 169.84 180 PKP PKPdf 09 41 29.0 -0.2
GYA pPKP pPKPdf 09 41 40.3 +2.1
GYA PKPab PKPab 09 42 45.8 +2.3
GYA PKS PKSdf 09 45 00.3 -1.5
GYA PP PP 09 46 36.0 +3.6
GYA SKKS 09 53 17.8
GYA SS SS 10 07 29.5 +1.0
GYA AMB AMB
comp=Z,120nm,8.0s
GYA LR LR
comp=Z,120nm,21.1s
GYA LR LR
comp=Z,110nm,21.4s
GYA LR LR
comp=Z,130nm,24.6s
CD2 Chengdu 173.79 156 PKP PKPdf 09 41 30.5 -0.3
CD2 pPKP pPKPdf 09 41 41.8 +2.0
CD2 sPKP 09 41 45.5
CD2 PKS PKSdf 09 45 01.3 -1.8
CD2 PP PP 09 46 55.5 +3.4
CD2 SKS SKSdf 09 48 28.0 -4.2
CD2 SKKS SKKSac 09 53 36.5 -0.9
CD2 SS SS 10 08 06.5 -1.1
CD2 AMB AMB
comp=Z,280nm,6.4s
GTA Gaotai 173.93 61 ePKP PKPdf 09 41 31.0 +0.3
GTA pPKP pPKPdf 09 41 41.8 +2.1
GTA sPKP 09 41 46.0
GTA PKPab PKPab 09 43 02.8 +1.2
HHC Hu-ho-hao-te 174.32 319 ePKP PKPdf 09 41 26.8 -3.9

IDC **27** *09:21:59.4±1.5, 26°.00N×128°.57E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/52, mbtmp3.7/3, Error ellipse: s-maj=41.4km s-min=18.1km az=75.0*
ISCJB **27** *09:22:01.8±0.9, 25°.93N±0°.06×128°.64E±0°.04, h33km±13km, mb3.6/3, Error ellipse: s-maj=9.3km s-min=6.6km az=3.2*
JMA **27** *09:22:02.4±0.3, 25°.95N×128°.62E, h36km, M3.4*
ISC 27 09:22:01.5±1.7**, 25°.98N**±0°.06×**128°.62E**±0°.05**, h17km**±11km**, n15,** σ**1**^{s}**15**/21**, mb3.7**/3**, Ryukyu Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
JNTH Nagotoyohara 0.76 315 P Pg 09 22 16.6 +0.2
JNTH S Sg 09 22 27.2 +0.8
JJT2 Tamagusuku 2 0.80 282 P Pg 09 22 17.4 +0.3
JJT2 S Sg 09 22 28.6 +0.9
JOW Kunigami 0.90 340 P Pg 09 22 19.5 +0.4
JOW S Sg 09 22 31.0 0.0
JOW Kunigami 0.90 340 Pn Pg 09 22 19.4 +0.3
12nm,0.3s,baz=160,slow=21,SNR=154
JOW Sn Sg 09 22 31.4 +0.4
baz=151,slow=19
JIH Iheya 1.20 331 P Pg 09 22 24.0 -0.8
JIH S Sg 09 22 38.7 -1.8
JOKE Okinoerabujima 1.38 358 P Pn 09 22 26.6 +0.7
JOKE S Sg 09 22 43.4 -2.6
JAGN Aguni-jima 1.38 296 P Pn 09 22 26.0 +0.1
JKE Kume jima 2 1.68 282 P Pn 09 22 29.4 -0.7
JKE S Sn 09 22 49.0 -2.3
JTK Tokunoshima 1.82 9 P Pn 09 22 32.9 +0.8
JAMN Amaminishikomi 2.31 12 P Pn 09 22 39.5 +0.8
JMZ Minamidaito 2 2.35 93 P Pn 09 22 38.6 -0.7
JMZ S Sn 09 23 04.2 -3.5
JAM Amami Oshima 2.58 20 S Sn 09 23 13.2 -0.1
SONM Songino Array 27.95 327 P P 09 27 52.4 +1.3
0.6nm,0.4s,baz=135,slow=11,SNR=5.1
MKAR Makanchi Array 41.96 312 P P 09 29 51.1 -0.3
0.5nm,0.7s,baz=86,slow=11,SNR=6.3
WRA Warramunga Arr 45.99 173 P P 09 30 24.3 +0.4
1.2nm,0.8s,baz=351,slow=8.4,SNR=5.0

IDC 27 09:22:49.1±1.6**, 35°.90S**×**73°.07W, h0km, mb4.3**/2**, mb1 4.6**/2**, mb1mx4.0**/35**, mbtmp4.3**/2**, Error ellipse: s-maj=72.0km s-min=52.0km az=34.0, Off coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
TXAR Lajitas Array 70.99 332 P P 09 34 08.7 0.0
1.0nm,0.7s,baz=149,slow=7.4,SNR=2.4
TORD Torodi Ar. Bea 85.65 70 P P 09 35 29.6 -0.4
5.0nm,0.9s,baz=246,slow=4.8,SNR=3.6
WRA Warramunga Arr 118.70 210 PKP PKPdf 09 41 39.0 -0.7
0.8nm,0.9s,baz=148,slow=1.5,SNR=3.5
BVAR Borovoye Array 149.23 45 PKPbc PKPbc 09 42 40.1 +1.0
1.9nm,0.5s,baz=289,slow=4.4,SNR=4.3
ZALV Zalesovo Beam 156.28 34 PKPab PKPab 09 43 11.8 -1.3
4.4nm,0.8s,baz=299,slow=2.3,SNR=3.6

IDC **27** *09:25:07.2±0.8, 37°.55S×73°.47W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/31, mbtmp4.3/9, Error ellipse: s-maj=31.7km s-min=22.1km az=64.0*
ISCJB **27** *09:25:09.3±0.8, 37°.6S±0°.1×73°.5W±0°.2, h23km, mb4.4/11, Error ellipse: s-maj=28.4km s-min=8.9km az=154.7*
ISC 27 09:25:11.1±0.8**, 37°.6S**±0°.1×**73°.4W**±0°.2**, h23km, n23,** σ**1**^{s}**34**/22**, mb4.4**/11**, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PLCA Paso Flores 3.84 146 Pn Pn 09 26 06.5 -2.4
PLCA Sn Sn 09 26 55.2 +1.8
LPAZ La Paz 21.72 14 P P 09 30 01.5 +0.1
5.0nm,0.6s,baz=181,slow=10.0,SNR=5.7
SIV San Ignacio 24.12 30 P P 09 30 24.9 -0.3
8.4nm,0.8s,baz=234,slow=13,SNR=5.4
SNAA Sanae 48.71 157 P P 09 33 54.4 +1.1
2.6nm,0.9s,baz=270,slow=7.1,SNR=3.7
APG El Apazote 54.72 340 P P 09 34 34.8 -4.1
6.1nm,0.9s,baz=166,slow=6.5,SNR=5.8
TXAR Lajitas Array 72.36 332 P P 09 36 35.0 -0.2
1.3nm,0.5s,baz=160,slow=9.1,SNR=11
DBIC Dimbokro 77.38 71 P P 09 37 04.2 -0.2
5.9nm,0.6s,baz=209,slow=6.1,SNR=5.6
BOSA Boshof 79.38 118 P P 09 37 15.4 -0.1
2.2nm,0.7s,baz=230,slow=4.7,SNR=3.4
BOSA Boshof 79.38 118 P P 09 37 15.2 -0.3
32nm,1.2s
LBTB Lobatse 81.80 115 eP P 09 37 28.6 +0.1
32nm,1.2s
NVAR Mina Array Bea 86.22 326 P P 09 37 50.5 -0.2
0.8nm,0.8s,baz=134,slow=6.4,SNR=3.5
TOA0 Torodi Ar. Sit 86.46 71 eP P 09 37 52.3 +0.2
TORD Torodi Ar. Bea 86.46 71 P P 09 37 51.8 -0.4
1.4nm,0.6s,baz=217,slow=4.6,SNR=4.7
PDAR Pinedale Array 86.48 334 P P 09 37 50.8 -1.1
0.8nm,0.9s,baz=156,slow=0.9,SNR=3.4
SFJD Kangerlussuaq 105.70 9 ePKPdf PKiKP 09 43 35.8 +4.3
BRTR Keskin Array B 124.48 63 PKP PKPdf 09 44 07.2 -1.1
1.6nm,0.8s,baz=203,slow=2.7,SNR=6.4
AKASG Malin Array Be 125.39 50 PKP PKPdf 09 44 08.5 -0.9
0.9nm,0.5s,baz=262,slow=2.7,SNR=5.6
FINES FINESS Array B 126.55 36 PKP PKPdf 09 44 11.8 +0.5
0.9nm,0.8s,baz=209,slow=3.5,SNR=4.7
PSI Prapat 144.67 167 PKP PKPab 09 44 45.0 -0.2
20nm,0.7s,baz=174,slow=10,SNR=8.0
ABKAR Akbulak array 144.70 56 ePKPdf PKPbc 09 44 44.5 +0.2
BVAR Borovoye Array 150.60 47 PKPbc PKPbc 09 45 01.1 +0.7
4.3nm,0.6s,baz=309,slow=2.3,SNR=6.4
MJAR Matsushiro Arr 154.81 277 PKPab PKPab 09 45 24.9 -0.7
1.6nm,0.7s,baz=107,slow=4.2,SNR=4.8
AAK Ala-Archa 155.02 68 PKPab PKPab 09 45 26.9 +0.4
4.7nm,0.7s,baz=260,slow=1.7,SNR=5.1

NEIC **27** *09:25:18.6±0.4, 37°.70S×71°.84W, h35km, mb4.9/6, Error ellipse: s-maj=21.7km s-min=8.4km az=65.0*
IDC **27** *09:25:26.0±0.6, 36°.51S×73°.30W, h0km, mb4.7/13, mb1 4.8/15, mb1mx4.6/34, mbtmp4.7/15, ML4.6/2, Error ellipse: s-maj=25.0km s-min=16.4km az=79.0*
ISCJB **27** *09:25:27.2±0.5, 36°.44S±0°.08×73°.6W±0°.1, h27km, mb4.8/27, Error ellipse: s-maj=15.9km s-min=10.7km az=167.1*
ISC 27 09:25:29.2±0.6**, 36°.44S**±0°.09×**73°.5W**±0°.1**, h27km, n45,** σ**1**^{s}**56**/41**, mb5.0**/27**, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CPUP Villa Florida 17.09 58 Pn Pn 09 29 25.1 -1.1
1.2nm,0.3s,baz=298,slow=14,SNR=2.9
USHA Ushuaia 18.72 171 P P 09 29 45.2 -0.3
0.4nm,0.3s,baz=318,slow=12,SNR=3.3
SIV San Ignacio 23.18 32 P P 09 30 33.8 -0.1
22nm,0.9s,baz=236,slow=13,SNR=8.0
NNA Nana 24.53 352 P P 09 30 48.7 +2.0
13nm,0.7s,baz=222,slow=7.8,SNR=4.2
NNA Nana 24.53 352 P P 09 30 48.7 +2.0
BDFB Brasilia 30.73 54 P P 09 31 42.8 +0.6
8.4nm,0.8s,baz=247,slow=7.6,SNR=3.0
OTAV Otavalo 36.78 352 eP P 09 32 35.2 0.0
28nm,1.8s
GRGR Grenville 49.59 15 P P 09 34 13.3 -4.8
157nm,0.8s
SNAA Sanae 49.80 157 P P 09 34 19.9 +0.7
6.6nm,0.8s,baz=293,slow=6.9,SNR=7.6
APG El Apazote 53.61 340 P P 09 34 50.3 +1.8
4.2nm,0.8s,baz=59,slow=5.0,SNR=3.8
APG El Apazote 53.61 340 P P 09 34 50.3 +1.8
QSPA South Pole Qui 53.80 180 P P 09 34 49.8 +0.6
13nm,0.9s,baz=138,slow=5.1,SNR=6.6
CELP Cerrillos 54.62 8 eP P 09 34 54.7 -0.7
LRS Lares 54.80 8 eP P 09 34 52.8 -4.1
LRAL Lakeview Retre 70.26 348 eP P 09 36 36.7 -3.1
20nm,1.3s
TXAR Lajitas Array 71.30 332 P P 09 36 48.9 +2.6
0.9nm,0.6s,baz=165,slow=5.2,SNR=4.5
TXAR Lajitas Array 71.30 332 P P 09 36 48.9 +2.6
ABTX Abilene, Hawle 72.93 337 eP P 09 36 53.9 -2.0
13nm,0.9s
WVT Waverly 73.42 348 eP P 09 36 56.9 -1.8
30nm,1.1s
AMTX Amarillo 75.66 336 P P 09 37 08.9 -3.0
32nm,1.4s
ACSO Alum Creek Sta 76.80 353 eP P 09 37 18.6 +0.5
6.4nm,0.6s
DBIC Dimbokro 77.10 72 P P 09 37 21.1 +0.6
20nm,0.8s,baz=208,slow=5.7,SNR=11
KSCO Kaye Shedlock' 79.74 337 P P 09 37 29.9 -4.7
40nm,1.5s
BOSA Boshof 80.00 118 P P 09 37 36.2 -0.3
16nm,1.0s,baz=212,slow=4.5,SNR=6.8
ISCO Idaho Springs 81.42 336 eP P 09 37 41.5 -2.3
ECSD EROS Data Cent 82.52 343 eP P 09 37 50.2 +1.1
15nm,0.8s
K22A Casper 84.28 336 eP P 09 37 54.3 -4.1
33nm,1.4s
NVAR Mina Array Bea 85.22 326 P P 09 38 05.8 +2.5
1.0nm,0.8s,baz=148,slow=5.3,SNR=4.2
BW06 Boulder Array 85.41 334 eP P 09 38 05.2 +1.1
7.5nm,1.4s
PDAR Pinedale Array 85.41 334 P P 09 38 06.2 +2.1
3.2nm,1.1s,baz=158,slow=4.8,SNR=6.7
AHID Auburn Hatcher 85.96 333 eP P 09 38 03.8 -3.0
13nm,1.1s
TORD Torodi Ar. Bea 86.17 71 P P 09 38 08.4 +0.1
5.7nm,0.8s,baz=251,slow=3.9,SNR=7.9
RLMT Red Lodge 87.39 336 eP P 09 38 10.6 -3.2
21nm,1.6s
HLID Hailey 87.88 332 eP P 09 38 15.4 -0.8
18nm,1.7s
ULM Lac du Bonnet 88.55 346 P P 09 38 18.9 0.0
5.9nm,0.9s,baz=210,slow=6.9,SNR=5.1
ULM Lac du Bonnet 88.55 346 P P 09 38 18.9 0.0
BRTR Keskin Array B 124.05 63 PKP PKPdf 09 44 24.9 -0.2
1.4nm,0.7s,baz=185,slow=3.4,SNR=6.9
AKASG Malin Array Be 124.72 49 PKP PKPdf 09 44 25.2 -0.6
1.2nm,0.7s,baz=263,slow=2.5,SNR=5.0
AKASG Malin Array Be 124.72 49 PKP PKPdf 09 44 25.2 -0.6
PSI Prapat 145.80 166 PKPbc PKPdf 09 45 05.6 -0.5
26nm,0.8s,baz=96,slow=17,SNR=9.6
HYB Hyderabad 148.88 120 eP PKPbc 09 45 13.0 -1.9
BVAR Borovoye Array 149.88 45 PKPbc PKPbc 09 45 17.8 +1.5
1.9nm,0.6s,baz=286,slow=5.4,SNR=2.5
ZALV Zalesovo Beam 156.93 34 PKP PKPdf 09 45 21.3 -0.1
2.3nm,0.7s,baz=267,slow=3.7,SNR=4.0
ZALV PKPbc PKPbc 09 45 35.6
3.0nm,0.9s,baz=319,slow=5.0,SNR=3.6
ZALV PKPab PKPab 09 45 51.9 +0.3
4.3nm,0.7s,baz=316,slow=4.9,SNR=4.5
MKAR Makanchi Array 159.25 53 PKP PKPdf 09 45 25.0 +0.4
0.5nm,0.6s,baz=276,slow=2.0,SNR=4.0
MKAR PKPbc PKPbc 09 45 37.0
3.3nm,0.9s,baz=295,slow=3.7,SNR=8.2
MKAR PKPab PKPab 09 46 02.5 +0.5
3.8nm,0.8s,baz=328,slow=4.3,SNR=8.3
SONM Songino Array 168.62 0 PKPab PKPab 09 46 44.8 +1.7
1.3nm,0.9s,baz=337,slow=3.3,SNR=4.3

ISCJB **27** *09:29:00.6±0.4, 34°.11S±0°.08×72°.02W±0°.09, h33km, mb4.7/27, Error ellipse: s-maj=13.0km s-min=9.7km az=38.4*
NEIC **27** *09:29:01.6±0.3, 34°.24S×72°.26W, h35km, mb4.7/10, Error ellipse: s-maj=9.4km s-min=8.3km az=54.0*
IDC **27** *09:29:05.4±0.6, 34°.14S×72°.14W, h66km±4km, mb4.3/17, mb1 4.5/19, mb1mx4.3/37, mbtmp4.6/19, Error ellipse: s-maj=19.2km s-min=12.4km az=67.0*
ISC 27 09:29:01.6±0.6**, 34°.25S**±0°.10×**72°.3W**±0°.1**, h35km, n391,** σ**0**^{s}**88**/393**, mb4.7**/27**, 175C-167D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CFAA Coronel Fontan 4.31 53 P Pn 09 30 07.3 +2.6
3.5nm,0.3s,baz=80,slow=6.1,SNR=2.8
CPUP Villa Florida 15.13 63 Pn Pn 09 32 32.1 -0.6
LPAZ La Paz 18.27 13 P P 09 33 12.9 -0.1
1.5nm,0.3s,baz=209,slow=3.7,SNR=6.2
LPAZ La Paz 18.27 13 eP P 09 33 12.6 -0.3
21nm,0.8s
SIV San Ignacio 20.79 32 P P 09 33 37.7 -2.2
19nm,0.8s,baz=200,slow=7.9,SNR=7.4
NNA Nana 22.54 348 P P 09 33 57.4 -1.4
12nm,0.7s,baz=205,slow=11,SNR=5.1
NNA Nana 22.54 348 P P 09 33 58.5 -0.2
51nm,1.4s
RCBR Riachuelo 43.95 58 P P 09 37 04.7 -0.8
10nm,0.7s,baz=209,slow=12,SNR=5.4
SNAA Sanae 51.44 158 P P 09 38 02.4 -0.5
1.8nm,0.7s,baz=238,slow=9.5,SNR=4.8
APG El Apazote 51.94 337 P P 09 38 03.5 -4.0
4.9nm,0.7s,baz=152,slow=2.9,SNR=6.5
QSPA South Pole Qui 55.99 180 P P 09 38 37.1 +0.7
10nm,0.8s,baz=284,slow=0.9,SNR=6.3
QSPA pP pP 09 38 55.2 +8.2
13nm,0.9s,baz=140,slow=6.6,SNR=4.6
TEIG Tepich 56.27 342 P P 09 38 37.6 -1.0
16nm,0.5s,baz=162,slow=0.6,SNR=12
035A Encino 65.59 335 ⇑P P 09 39 43.6 +1.7
baz=66
034A Hebbronville 65.91 334 ⇓P P 09 39 45.4 +1.4
baz=66
834A Tilden 66.83 335 ⇑P P 09 39 50.6 +0.7
baz=67
735A Kenedy 67.24 336 ⇓P P 09 39 53.8 +1.4
baz=68
833A Chaparral WMA, 67.31 334 ⇓P P 09 39 54.2 +1.3
baz=68
832A Faith Ranch, C 67.49 334 ⇓P P 09 39 55.3 +1.3
baz=68
636A Smothers Creek 67.57 337 ⇓P P 09 39 55.4 +1.0
baz=68
732A Laxson Ranch, 67.89 334 ⇓P P 09 39 57.2 +0.7
baz=68
GOGA Godfrey 68.12 350 eP P 09 39 56.9 -0.9
536A Bastrop 68.12 337 ⇑P P 09 39 59.0 +1.1
baz=68
535A Dale 68.25 336 ⇑P P 09 39 59.0 +0.2
baz=69
633A Saathoff Ranch 68.27 335 ⇑P P 09 39 59.8 +0.9
baz=69
632A Uvalde 68.53 334 ⇓P P 09 40 01.7 +1.1
baz=69
631A Perdido Creek 68.73 334 ⇓P P 09 40 02.5 +0.7
baz=69
533A Kerrville 68.78 335 ⇓P P 09 40 02.7 +0.5
baz=69
435B Jarrell 68.94 337 ⇑P P 09 40 03.5 +0.5
baz=69
532A Rocksprings 69.14 335 ⇑P P 09 40 05.3 +1.0
baz=70
434A Burnet 69.20 336 ⇓P P 09 40 05.3 +0.6
baz=70
336A Riesel 69.27 338 ⇑P P 09 40 06.1 +1.0
baz=70
335A Moody 69.35 337 ⇓P P 09 40 06.3 +0.7
baz=70
531A Rocksprings 69.40 334 ⇑P P 09 40 07.0 +1.0
baz=70
JCT Junction City 69.42 335 eP P 09 40 06.7 +0.7
24nm,1.4s
JCT Junction City 69.42 335 ⇓P P 09 40 06.8 +0.7
baz=70
433A Art 69.42 336 ⇓P P 09 40 06.7 +0.7
baz=70,SNR=5.3
KMSC Kings Mountain 69.55 352 ⇑P P 09 40 06.2 -0.5
baz=70
334A Lometa 69.67 336 ⇓P P 09 40 08.0 +0.5
baz=70
530A J-C Ranch, Com 69.68 333 ⇓P P 09 40 08.6 +0.9
baz=70
432A Menard 69.78 335 ⇓P P 09 40 08.9 +0.6
baz=70
TXAR Lajitas Array 69.85 331 P P 09 40 08.8 -0.1
2.5nm,0.7s,baz=152,slow=8.4,SNR=6.6
TXAR pP PcP 09 40 28.2 -3.0
0.6nm,0.5s,baz=158,slow=9.3,SNR=2.2
TXAR sP sP 09 40 33.9 +10
1.3nm,0.6s,baz=153,slow=7.9,SNR=3.8
431A Sonora 69.89 334 ⇓P P 09 40 10.0 +1.0
baz=70
333A Richland Sprin 69.91 336 ⇓P P 09 40 09.6 +0.5
baz=70
529A Stev Forest Ra 69.99 333 ⇓P P 09 40 10.7 +1.1
baz=70
WHTX Lake Whitney 70.02 337 ⇑P P 09 40 10.5 +0.8
baz=70
430A Baggett Ranch, 70.21 334 ⇓P P 09 40 11.8 +0.8
baz=70
332A Millersview 70.22 335 ⇑P P 09 40 11.4 +0.4
baz=70
234A Clairette 70.25 337 ⇓P P 09 40 11.7 +0.6
baz=71
OXF Oxford 70.26 345 eP P 09 40 10.4 -0.7
30nm,0.9s
429A Davenport Ranc 70.31 333 ⇑P P 09 40 12.7 +1.1
baz=71
TKL Tuckaleechee C 70.37 350 P P 09 40 10.4 -1.4
8.9nm,0.7s,baz=167,slow=7.5,SNR=11
331A San Angelo 70.39 335 ⇓P P 09 40 12.8 +0.7
baz=71
233A Rising Star 70.51 336 ⇑P P 09 40 13.5 +0.7
baz=71
232A Coleman 70.65 336 ⇓P P 09 40 14.4 +0.8
baz=71
330A Mertzon 70.75 334 ⇓P P 09 40 14.8 +0.5
baz=71
134A White-Moore Ra 70.75 337 ⇓P P 09 40 14.5 +0.3
baz=71
231A Bronte 70.92 335 ⇑P P 09 40 15.5 +0.2
baz=71,SNR=6.4
133A Hamilton Ranch 71.06 336 ⇑P P 09 40 16.7 +0.6
baz=71
329A Wagon Wheel Ra 71.12 333 ⇑P P 09 40 17.3 +0.8
baz=71
230A Sterling City 71.16 334 ⇓P P 09 40 17.9 +1.1
baz=72
Z35A Perchaven, San 71.19 338 ⇑P P 09 40 17.3 +0.5
baz=72
ABTX Abilene, Hawle 71.32 336 eP P 09 40 17.6 -0.1

5.2nm,0.9s
ABTX Abilene, Hawle 71.32 336 ⇑P P 09 40 18.5 +0.9
baz=72
Z34A Collier Ranch, 71.44 338 ⇓P P 09 40 18.8 +0.5
baz=72
229A Bryant Ranch, 71.49 334 ⇑P P 09 40 19.4 +0.6
baz=72
WVT Waverly 71.50 347 eP P 09 40 18.3 -0.3
17nm,0.8s
131A Roby 71.62 335 ⇓P P 09 40 20.2 +0.7
baz=72
Z33A Whitaker Ranch 71.63 337 ⇑P P 09 40 20.0 +0.5
baz=72
130A Snyder 71.75 335 ⇑P P 09 40 20.5 +0.2
baz=72
Z32A Haskell 71.89 336 ⇓P P 09 40 21.8 +0.8
baz=72
228A UT Block 9, Go 71.91 333 ⇑P P 09 40 21.8 +0.5
baz=72
Y34A Reagan Ranch, 71.93 338 ⇓P P 09 40 21.5 +0.3
baz=72
Z31A Sharp Cattle R 72.12 336 ⇑P P 09 40 23.0 +0.5
baz=72,SNR=5.4
Y33A Hilltop Ranch, 72.25 337 ⇓P P 09 40 23.4 +0.2
baz=73
128A Castleberry Fa 72.32 334 ⇓P P 09 40 24.1 +0.4
baz=73
Z30A Sanderson Ranc 72.43 335 ⇑P P 09 40 24.5 +0.2
baz=73
Y32A R-V Farms, Ver 72.51 337 ⇑P P 09 40 25.2 +0.5
baz=73
X34A Smith Ranch, M 72.55 338 ⇓P P 09 40 25.4 +0.5
baz=73
Z29A Hungry Hill Ra 72.61 334 ⇑P P 09 40 25.3 -0.2
baz=73
X33A Lawton 72.70 338 ⇓P P 09 40 25.7 -0.2
baz=73
Y31A Rekieta Farm, 72.75 336 ⇑P P 09 40 26.7 +0.5
baz=73
Y30A Stafford Cattl 72.89 335 ⇓P P 09 40 27.1 0.0
baz=73
W34A Bridge Creek, 73.12 338 ⇑P P 09 40 28.5 +0.2
baz=74
Y29A Porterfield Fa 73.14 335 ⇑P P 09 40 29.1 +0.5
baz=74
TUL1 Tulsa 73.17 340 ⇓P P 09 40 28.6 +0.1
baz=74
Z27A Tatum 73.21 333 ⇓P P 09 40 29.4 +0.4
baz=74
W33A Caddo, Fort Co 73.26 338 ⇑P P 09 40 30.0 +0.9
baz=74
X31A McDonald Ranch 73.27 336 ⇑P P 09 40 29.8 +0.6
baz=74
Y28A McKinney Farm, 73.39 334 ⇓P P 09 40 30.9 +0.8
baz=74
X30A Coker Ranch, T 73.40 336 ⇓P P 09 40 30.8 +0.8
baz=74
Z26A Caprock 73.46 333 ⇑P P 09 40 31.1 +0.6
baz=74
W32A Sentinel 73.48 337 ⇓P P 09 40 30.7 +0.3
baz=74
V34A Guthrie 73.60 339 ⇑P P 09 40 31.2 +0.1
baz=74
MSTX Muleshoe 73.64 334 ⇑P P 09 40 32.0 +0.5
baz=74
X29A Tulia 73.68 335 ⇑P P 09 40 32.0 +0.3
baz=74
Y27A Causey 73.70 334 ⇑P P 09 40 32.0 +0.1
baz=74
Z25A Roswell 73.75 332 ⇑P P 09 40 32.8 +0.6
baz=74
W31A Holland Ranch, 73.76 337 ⇓P P 09 40 32.2 +0.1
baz=74
V33A Lossen Ranch, 73.82 338 ⇑P P 09 40 32.9 +0.5
baz=74
X28A Dimmitt 73.92 335 ⇑P P 09 40 34.2 +1.0
baz=74
V32A Arapaho 73.96 338 ⇑P P 09 40 33.8 +0.5
baz=74
Y26A Elida 73.98 333 ⇓P P 09 40 34.1 +0.5
baz=74
319A Douglas 74.00 328 ⇑P P 09 40 34.9 +1.2
baz=74
Z24A Sheeppen Canyo 74.05 332 ⇑P P 09 40 34.5 +0.4
baz=74
AMTX Amarillo 74.07 335 ⇓P P 09 40 34.8 +0.8
baz=74
U34A Anderson Ranch 74.16 339 ⇑P P 09 40 34.4 0.0
baz=74
W29A Amraillo 74.28 335 ⇓P P 09 40 35.6 +0.4
baz=75
Y25A Mesa, Roswell 74.31 332 ⇓P P 09 40 36.3 +0.8
baz=75
U33A Lingo Farm, Me 74.33 339 ⇑P P 09 40 35.6 +0.2
baz=75
121A Cookes Peak, D 74.34 329 ⇑P P 09 40 37.1 +1.4
baz=75
X27A F and S Farms, 74.36 334 ⇓P P 09 40 36.0 +0.2
baz=75
X26A CR and CF Fran 74.54 333 ⇓P P 09 40 37.8 +1.0
baz=75
U32A Winter Ranch, 74.55 338 ⇓P P 09 40 37.2 +0.5
baz=75
Y24A Capitan 74.60 332 ⇓P P 09 40 38.2 +0.9
baz=75
Z22A Elephant Butte 74.63 330 ⇓P P 09 40 38.8 +1.4
baz=75
W27A Bowe Ranch, En 74.72 334 ⇑P P 09 40 38.4 +0.6
baz=75
Y23A Lovelace Mesa, 74.85 331 ⇓P P 09 40 39.5 +0.8
baz=75
T33A Patterson Ranc 74.97 339 ⇑P P 09 40 40.0 +0.9
baz=75
W26A Owens Ranch, T 75.00 334 ⇑P P 09 40 40.6 +1.1
baz=75
V28A Channing 75.04 335 ⇓P P 09 40 40.7 +1.0
baz=75
U30A WK&E Inc. Balk 75.22 337 ⇑P P 09 40 41.9 +1.3
baz=76
T32A Huddler Ranch, 75.27 338 ⇓P P 09 40 41.7 +0.8
baz=76
W25A X Bar L Ranch, 75.37 333 ⇓P P 09 40 42.5 +0.8
baz=76
T31A Randall Ranch, 75.42 338 ⇑P P 09 40 42.1 +0.4
baz=76
DBIC Dimbokro 75.45 71 P P 09 40 42.0 -0.4
4.1nm,0.6s,baz=188,slow=5.3,SNR=3.6
V26A Tequesquite Ra 75.64 334 ⇑P P 09 40 44.1 +0.9
baz=76
W24A Lazy 6 Ranch, 75.72 333 ⇓P P 09 40 44.4 +0.7
baz=76
S32A Newby Ranch, P 75.75 338 ⇓P P 09 40 44.0 +0.4
baz=76
U27A Thompson Grove 75.86 335 ⇑P P 09 40 45.1 +0.7
baz=76
ANMO Albuquerque 75.90 332 P P 09 40 45.5 +0.8
4.0nm,0.9s,baz=161,slow=7.7,SNR=5.4
W23A Werner Place, 75.97 332 ⇑P P 09 40 46.2 +1.1
baz=76
V25A Rancho No Teng 75.98 333 ⇓P P 09 40 45.9 +0.8
baz=76
T29A Hugoton 76.00 336 ⇑P P 09 40 46.1 +1.0
baz=76
R33A Olander Ranch, 76.03 339 ⇑P P 09 40 45.9 +0.8
baz=76
214A Organ Pipe Nat 76.10 325 ⇑P P 09 40 47.5 +1.8
baz=76
V24A Rampart Ranch, 76.13 333 ⇓P P 09 40 47.1 +1.0
baz=76
U26A Atchley Ranch, 76.16 334 ⇓P P 09 40 47.1 +0.9
baz=76
S30A Montezuma 76.17 337 ⇓P P 09 40 46.8 +0.7
baz=76
T28A Walsh 76.24 336 ⇓P P 09 40 47.2 +0.7
baz=77,SNR=5.1
R32A Long Quarter, 76.35 339 ⇑P P 09 40 47.9 +0.9
baz=77
S29A Ulysses 76.36 337 ⇑P P 09 40 47.8 +0.6
baz=77,SNR=5.4
T27A Campo 76.40 335 ⇑P P 09 40 48.1 +0.7
baz=77,SNR=5.2
U25A Circle Dot Ran 76.41 334 ⇑P P 09 40 48.3 +0.7
baz=77
R31A Burdett 76.47 338 ⇑P P 09 40 48.5 +0.8
baz=77
V23A Ortiz Mt. (NFS 76.49 332 ⇑P P 09 40 49.9 +1.8
baz=77
S28A Manter 76.59 336 ⇓P P 09 40 49.3 +0.8
baz=77,SNR=5.8
Q33A Connelly Farm, 76.63 340 ⇓P P 09 40 48.9 +0.4
baz=77
R30A Dighton 76.70 338 ⇑P P 09 40 49.6 +0.6
baz=77
T26A Comanche Natio 76.80 335 ⇑P P 09 40 50.2 +0.4
baz=77
Q32A Meitler Ranch, 76.83 339 ⇓P P 09 40 50.1 +0.4
baz=77
V22A San Miguel Ran 76.92 332 ⇓P P 09 40 52.0 +1.5
baz=77
X18A Snowflake 76.98 329 ⇓P P 09 40 52.1 +1.2
baz=77
U23A El Rito 77.01 332 ⇓P P 09 40 52.2 +1.2
baz=77
T25A Trinidad 77.06 334 ⇓P P 09 40 52.2 +0.9
baz=77
Q31A Ellis 77.09 339 ⇑P P 09 40 51.8 +0.7
baz=77
R29A Marienthal 77.10 337 ⇓P P 09 40 51.9 +0.6
baz=77
S26A Kim 77.16 335 ⇑P P 09 40 52.8 +1.1
baz=78,SNR=6.5
113A Mohawk Valley, 77.22 325 ⇑P P 09 40 53.5 +1.5
baz=78
R28A Tribune 77.25 337 ⇑P P 09 40 52.8 +0.6
baz=78
U22A Llaves 77.31 332 ⇓P P 09 40 54.0 +1.3
baz=78
Q30A Quinter 77.32 338 ⇓P P 09 40 53.4 +0.9
baz=78
T24B San Luis 77.35 333 ⇑P P 09 40 54.3 +1.3
baz=78
Q29A Oakley 77.48 337 ⇑P P 09 40 53.7 +0.4
baz=78,SNR=6.3
R27A Eads 77.53 336 ⇓P P 09 40 54.4 +0.7
baz=78,SNR=5.5
X16A Lo Mia Camp, P 77.53 328 ⇑P P 09 40 55.6 +1.7
baz=78
S25A Robets Cordova 77.54 334 ⇓P P 09 40 55.2 +1.3
baz=78
P31A Stockton 77.56 339 ⇓P P 09 40 54.1 +0.3
baz=78
T23A Casias Ranch, 77.57 333 ⇓P P 09 40 55.5 +1.3
baz=78
R26A Arlington 77.76 335 ⇑P P 09 40 56.0 +0.9
baz=78
S24A Houchin Ranch, 77.80 334 ⇑P P 09 40 56.6 +1.1
baz=78
Y14A Wickenburg 77.84 326 ⇓P P 09 40 56.8 +1.3
baz=78
P30A Selden 77.85 338 ⇓P P 09 40 55.8 +0.4
baz=78
Q28A Sharon Springs 77.91 337 ⇑P P 09 40 56.7 +0.9
baz=78
R25A Fountain Ranch 77.92 335 ⇑P P 09 40 57.0 +1.1
baz=78
P29A Atwood 78.11 338 ⇑P P 09 40 57.7 +0.8
baz=78,SNR=5.3
KSCO Kaye Shedlock' 78.12 336 eP P 09 40 57.6 +0.5
12nm,1.1s
KSCO Kaye Shedlock' 78.12 336 ⇑P P 09 40 57.8 +0.7
baz=78
O31A Woolen Ranch, 78.13 339 ⇓P P 09 40 57.2 +0.3
baz=78
R24A Sanders Place, 78.29 334 ⇓P P 09 40 59.4 +1.3
baz=79
SWSC Sam W. Stewart 78.34 324 ⇑P P 09 41 00.0 +1.8
baz=79
Q26A Hugo 78.35 336 ⇓P P 09 40 58.9 +0.6
baz=79
P28A Saint Francis 78.35 337 ⇓P P 09 40 59.1 +0.8
baz=79
WUAZ Wupatki 78.43 328 eP P 09 41 00.1 +1.2
2.3nm,0.8s
WUAZ Wupatki 78.43 328 ⇓P P 09 41 00.3 +1.4
baz=79
S22A 4UR Ranch, Cre 78.50 333 ⇑P P 09 41 00.5 +1.2
baz=79
R23A Moffat 78.51 334 ⇑P P 09 41 00.3 +0.9
baz=79
Q25A Bedland, Calha 78.59 335 ⇓P P 09 41 00.8 +1.1
baz=79
P27A Ficken Ranch, 78.60 337 ⇓P P 09 41 00.6 +1.0
baz=79
N31A Bailey Ranch, 78.64 340 ⇑P P 09 40 59.9 +0.2
baz=79
BC3 Big Chuckawall 78.76 324 ⇑P P 09 41 02.3 +1.6
baz=79
O28A Krutsinger Ran 78.86 337 ⇑P P 09 41 01.3 +0.3
baz=79
P26A Davis Ranch, A 78.86 336 ⇑P P 09 41 01.7 +0.6
baz=79
Q24A Divide 78.95 334 ⇓P P 09 41 02.7 +0.9
baz=79
BGNE Belgrade 78.95 340 ⇑P P 09 41 02.1 +0.7
baz=79
IRM Iron Mountain 79.02 325 ⇓P P 09 41 03.5 +1.5
baz=79
P25A Willow Gulch B 79.10 335 ⇑P P 09 41 03.4 +1.0
baz=79,SNR=6.9
M31A Lambtecht Ranc 79.13 340 ⇑P P 09 41 03.1 +0.7
baz=80
N29A Votaw Ranch, W 79.13 338 ⇓P P 09 41 03.4 +0.9
baz=80
O27A Beecher Island 79.14 337 ⇓P P 09 41 03.8 +1.2
baz=80
W13A Hualapai Mount 79.20 326 ⇑P P 09 41 04.5 +1.3
baz=80
N28A Pribbeno Ranch 79.29 338 ⇑P P 09 41 03.8 +0.4
baz=80
BELC Belle Mtn. Jos 79.30 324 ⇑P P 09 41 05.1 +1.4
baz=80
P24A Kohler Place, 79.36 335 ⇓P P 09 41 04.8 +0.9
baz=80
O26A Horse Wrangler 79.46 336 ⇑P P 09 41 05.5 +1.1
baz=80
P23A Jefferson 79.56 334 ⇓P P 09 41 06.2 +1.0
baz=80
M30A Dale-Ortello V 79.56 339 ⇑P P 09 41 05.6 +0.8
baz=80
MURC Murrieta 79.57 323 ⇑P P 09 41 06.7 +1.7
baz=80
U15A North Rim 79.60 328 ⇓P P 09 41 06.8 +1.4
baz=80
O25A Wiggins 79.62 336 ⇑P P 09 41 06.2 +1.0
baz=80
N27A Anderson Farm, 79.72 337 ⇑P P 09 41 06.4 +0.7
baz=80,SNR=5.0
M29A Burnside Ranch 79.72 339 ⇑P P 09 41 06.4 +0.7
baz=80
GMRC Granite Mounta 79.77 325 ⇑P P 09 41 07.7 +1.5
baz=80,SNR=5.4
ISCO Idaho Springs 79.86 335 ⇓P P 09 41 07.4 +0.6
baz=80
L31A Butterfield Fa 79.86 340 ⇑P P 09 41 07.0 +0.7
baz=80
L30A Spencer Herefo 79.90 340 ⇑P P 09 41 07.3 +0.7
baz=80
O24A Longmont 79.95 335 ⇑P P 09 41 07.7 +0.7
baz=80
P22A Eagle 80.09 334 ⇑P P 09 41 09.0 +1.0
baz=80
BOSA Boshof 80.14 118 P P 09 41 08.1 -0.5
3.2nm,0.6s,baz=135,slow=6.5,SNR=4.1
BOSA pP pP 09 41 26.3 +6.8
9.9nm,0.8s,baz=234,slow=5.9,SNR=5.7
BFSC Mount Baldy Ra 80.31 323 ⇓P P 09 41 10.6 +1.5
baz=81
O23A Lake Granby, G 80.33 335 ⇑P P 09 41 10.3 +1.0
baz=81
O22A Kremmling 80.51 334 ⇑P P 09 41 11.4 +1.1
baz=81
N24A Carr 80.52 336 ⇓P P 09 41 11.2 +1.1
baz=81
K30A Basset 80.54 340 ⇓P P 09 41 11.2 +1.2
baz=81
ECSD EROS Data Cent 80.72 342 ⇓P P 09 41 11.1 +0.1
baz=81
GSC Goldstone 80.74 324 ⇓P P 09 41 13.2 +1.8
baz=81
M25A Palm-Egli Farm 80.78 336 ⇑P P 09 41 12.5 +1.0
baz=81
K29A Lazy Trails An 80.82 339 ⇑P P 09 41 12.1 +0.6
baz=81
N23A Red Feather La 80.94 335 ⇓P P 09 41 12.7 +0.1
baz=81
EDW2 Edwards Air Fo 80.98 323 ⇑P P 09 41 14.2 +1.6
baz=81
N22A Wattenberg Ran 81.04 334 ⇓P P 09 41 14.3 +1.3
baz=81
M24A Cheyenne 81.07 336 ⇑P P 09 41 13.8 +0.8
baz=81
K28A Ten Mile Ranch 81.08 339 ⇑P P 09 41 13.9 +1.0
baz=81,SNR=5.8
J30A Dallas 81.10 340 ⇑P P 09 41 13.3 +0.3
baz=81
O20A White River Ci 81.12 333 ⇑P P 09 41 14.1 +0.7
baz=81
LRMC Laurel Mountai 81.31 324 ⇓P P 09 41 16.0 +1.5
baz=82
K27A Flueckinger Fa 81.34 338 ⇑P P 09 41 15.2 +0.9
baz=82
M23A Laramie 81.38 335 ⇓P P 09 41 15.8 +1.0
baz=82
L25A Engebretsen Ra 81.39 337 ⇑P P 09 41 15.6 +0.9
baz=82
J29A Okreek 81.41 340 ⇑P P 09 41 15.1 +0.4
baz=82,SNR=8.3
I30A Oacoma 81.63 341 ⇓P P 09 41 15.8 0.0
baz=82,SNR=8.4
J28A Allard Ranch, 81.69 339 ⇑P P 09 41 17.0 +0.8
baz=82
N20A Spence Gulch, 81.73 333 ⇑P P 09 41 18.1 +1.4
baz=82
J27A Elkhorn Farm, 81.77 339 ⇓P P 09 41 17.7 +1.1
baz=82,SNR=5.7
ISA Isabella 81.84 324 ⇑P P 09 41 18.9 +1.7
baz=82
L23A Garrett 81.94 336 ⇓P P 09 41 18.3 +0.6
baz=82
I29A Vivian Onida 81.97 340 ⇑P P 09 41 18.1 +0.6
baz=82
BRSD Miller 81.99 341 ⇑P P 09 41 17.7 +0.1
baz=82
L22A Ellis Ranch, M 82.12 335 ⇑P P 09 41 19.7 +1.1
baz=82
J26A Sides Ranch, S 82.15 338 ⇑P P 09 41 19.6 +1.0
baz=82
K24A Anderson Ranch 82.18 336 ⇑P P 09 41 19.8 +0.9
baz=82
I28A Midland 82.20 339 ⇑P P 09 41 19.2 +0.5
baz=82,SNR=5.1
VES Vestal, Richgr 82.29 323 ⇓P P 09 41 21.0 +1.6
baz=83
LBTB Lobatse 82.39 115 P P 09 41 20.5 0.0
4.9nm,0.5s,baz=220,slow=7.2,SNR=6.3
K23A Bowen Ranch, D 82.48 336 ⇑P P 09 41 21.5 +1.0
baz=83
H29A Onida 82.50 340 ⇑P P 09 41 20.5 +0.2
baz=83,SNR=9.7
I27A Quinn 82.53 339 ⇓P P 09 41 21.1 +0.6
baz=83
R11A Troy Canyon, C 82.65 327 eP P 09 41 22.6 +1.2
R11A Troy Canyon, C 82.65 327 ⇑P P 09 41 23.0 +1.5
baz=83,SNR=5.3
G30A Faulkton 82.68 341 ⇑P P 09 41 21.8 +0.6
baz=83
J24A Dixon Ranch, L 82.68 337 ⇑P P 09 41 22.3 +0.9
baz=83
K22A Casper 82.70 335 ⇓P P 09 41 22.7 +1.1
baz=83
I26A New Underwood 82.74 338 ⇑P P 09 41 22.0 +0.4
baz=83
H28A Mission Ridge 82.78 340 ⇑P P 09 41 21.9 +0.2
baz=83,SNR=7.4
K21A Alcova 82.94 335 ⇑P P 09 41 23.3 +0.4
baz=83
G29A Hoven 82.94 341 ⇑P P 09 41 22.7 +0.1
baz=83,SNR=5.4
DUG Dugway 82.98 330 ⇓P P 09 41 24.3 +1.2
baz=83
I25A Rochford 83.00 338 ⇑P P 09 41 23.9 +0.7
baz=83
H27A Howes 83.05 339 ⇑P P 09 41 23.6 +0.5
baz=83
G28A Parade 83.11 340 ⇓P P 09 41 23.9 +0.4
baz=84,SNR=9.1
I24A Kuemmerle Ranc 83.14 337 ⇓P P 09 41 24.4 +0.6
baz=84
RSSD Black Hills 83.18 338 eP P 09 41 24.0 -0.1
9.7nm,1.4s
F30A Leola 83.30 342 ⇓P P 09 41 24.4 -0.1
baz=84
J22A Midwest 83.36 336 ⇑P P 09 41 25.1 +0.2
baz=84
H25A Fruitdale 83.50 338 ⇓P P 09 41 26.0 +0.5
baz=84
F29A Eureka 83.51 341 ⇓P P 09 41 25.5 0.0
baz=84
J21A Lysite 83.63 335 ⇓P P 09 41 27.3 +0.9
baz=84
G27A Dupree 83.68 339 ⇑P P 09 41 26.9 +0.4
baz=84
I22A 9 Mile Ranch, 83.78 336 ⇓P P 09 41 27.3 +0.2
baz=84
F28A McLaughlin 83.79 340 ⇑P P 09 41 27.3 +0.4
baz=84,SNR=5.2
G26A Maurine 83.80 339 ⇓P P 09 41 27.4 +0.3
baz=84
J20A Shoshoni 83.86 335 ⇓P P 09 41 28.7 +1.1
baz=84
E30A Jud 83.89 342 ⇓P P 09 41 27.7 +0.3
baz=84
PDAR Pinedale Array 83.89 333 P P 09 41 27.8 -0.1
1.9nm,0.7s,baz=162,slow=5.3,SNR=7.4
H24A Dirks Ranch, A 83.91 338 ⇓P P 09 41 27.8 +0.1
baz=84
G25A Newell 83.96 338 ⇓P P 09 41 28.3 +0.5
baz=84,SNR=6.0
NVAR Mina Array Bea 83.97 325 P P 09 41 29.4 +1.1
0.9nm,0.5s,baz=151,slow=6.2,SNR=13
I21A Big Trails, Te 83.99 335 ⇑P P 09 41 28.9 +0.7
baz=84
J19A Crowheart 84.14 334 ⇓P P 09 41 29.7 +0.7
baz=84
E29A Napoleon 84.14 341 ⇓P P 09 41 29.1 +0.4
baz=84
F27A Lemmon 84.16 340 ⇓P P 09 41 29.1 +0.3
baz=84,SNR=8.0
F26A Lodgepole 84.33 339 ⇑P P 09 41 29.9 +0.2
baz=85
H22A Clearmont 84.36 336 ⇓P P 09 41 30.0 0.0
baz=85
G24A Alzada 84.39 338 ⇑P P 09 41 30.5 +0.5
baz=85
I20A Worland 84.40 335 ⇓P P 09 41 30.9 +0.6
baz=85
D30A Buchanan 84.41 342 ⇓P P 09 41 30.2 +0.1
baz=85,SNR=8.5
E28A Huff 84.43 341 ⇑P P 09 41 30.4 +0.2
baz=85
ELK Elko 84.47 329 P P 09 41 30.9 +0.1
3.2nm,0.7s,baz=161,slow=4.7,SNR=7.3
TORD Torodi Ar. Bea 84.49 70 P P 09 41 31.0 -0.2
7.8nm,0.8s,baz=258,slow=4.3,SNR=10
TORD pP pP 09 41 48.8 +6.5
6.8nm,0.8s,baz=255,slow=4.5,SNR=6.1
E27A Carson 84.54 340 ⇑P P 09 41 31.0 +0.2
baz=85
G23A Biddle 84.58 337 ⇑P P 09 41 31.2 +0.1
baz=85
D29A Pettibone, Tap 84.58 342 ⇓P P 09 41 31.3 +0.4
baz=85
H21A Big Horn, Sher 84.62 336 ⇓P P 09 41 31.7 +0.4
baz=85
F25A Bowman 84.63 339 ⇑P P 09 41 31.6 +0.3
baz=85
I19A Meeteetse 84.78 334 ⇑P P 09 41 33.1 +0.8
baz=85
H20A Greybull 84.82 335 ⇓P P 09 41 32.5 +0.1
baz=85,SNR=6.3
E26A Carlson Angus 84.83 340 ⇑P P 09 41 32.4 +0.1
baz=85
AGMN Agassiz Nation 84.84 344 eP P 09 41 31.7 -0.5
6.5nm,0.6s
AGMN Agassiz Nation 84.84 344 ⇓P P 09 41 32.0 -0.2
baz=85,SNR=5.9
F24A Ekalaka 84.86 338 ⇑P P 09 41 33.0 +0.6
baz=85
C30A Mose, Pekin 84.89 343 ⇓P P 09 41 32.9 +0.5
baz=85,SNR=12
D28A Regan 84.96 341 ⇑P P 09 41 33.3 +0.4
baz=85,SNR=7.1
F23A Volborg 85.05 337 ⇑P P 09 41 33.5 +0.1
baz=85
E25A Miller Ranch, 85.13 339 ⇑P P 09 41 33.9 +0.2

	baz=86						
D27A	Center	85.15	340	⇓P	P	09 41 33.9	+0.1
	baz=86						
G21A	Lodge Grass	85.20	336	⇑P	P	09 41 34.8	+0.6
	baz=86						
I17A	Pilgrim Ck.	85.26	333	⇑P	P	09 41 35.8	+1.1
	baz=86						
H19A	Powell	85.33	335	⇓P	P	09 41 35.4	+0.5
	baz=86						
D26A	Manning	85.33	340	⇓P	P	09 41 35.3	+0.6
	baz=86						
F22A	Rosebud	85.38	337	⇓P	P	09 41 35.1	+0.1
	baz=86						
E24A	Baker	85.46	338	⇑P	P	09 41 36.0	+0.6
	baz=86						
G20A	Bridger	85.54	335	⇓P	P	09 41 36.0	+0.1
	baz=86,SNR=7.7						
B30A	Myrvik Farm, E	85.55	343	⇓P	P	09 41 35.9	+0.2
	baz=86,SNR=12						
H18A	Shoshone NF, C	85.58	334	⇑P	P	09 41 36.4	+0.1
	baz=86,SNR=12						
H17A	Grant Village	85.67	334	⇓P	P	09 41 37.4	+0.6
	baz=86						
C27A	Sayler Ranch,	85.69	341	⇑P	P	09 41 36.9	+0.4
	baz=86,SNR=5.7						
D25A	Fairfield	85.70	339	⇓P	P	09 41 37.6	+1.0
	baz=86						
B29A	Wagenman Farm,	85.82	342	⇑P	P	09 41 37.1	0.0
	baz=86,SNR=6.6						
C26A	Wahner Farm, P	85.96	340	⇓P	P	09 41 38.3	+0.5
	baz=86						
D24A	Glendive	85.96	339	⇓P	P	09 41 38.3	+0.4
	baz=86						
A30A	Hoffart Farm,	86.00	343	⇓P	P	09 41 37.9	-0.1
	baz=86,SNR=6.1						
F20A	Billings	86.02	336	⇑P	P	09 41 38.5	+0.2
	baz=86						
B28A	Dugan Ranch, T	86.06	342	⇓P	P	09 41 38.3	0.0
	baz=86,SNR=5.6						
C25A	Freed Ranch, W	86.19	340	⇑P	P	09 41 39.9	+1.0
	baz=86						
A29A	Manning Farm,	86.22	343	⇓P	P	09 41 39.2	+0.2
	baz=87						
D23A	Lindsay	86.28	338	⇓P	P	09 41 40.3	+0.8
	baz=87,SNR=12						
E21A	Keefer Ranch,	86.31	337	⇓P	P	09 41 40.1	+0.4
	baz=87						
F19A	Roth Farm, Mol	86.34	335	⇓P	P	09 41 40.3	+0.5
	baz=87						
C24A	Savage	86.36	339	⇓P	P	09 41 40.4	+0.6
	baz=87,SNR=12						
HLID	Hailey	86.45	331	eP	P	09 41 41.4	+0.8
	3.4nm,0.8s						
HLID	Hailey	86.45	331	⇑P	P	09 41 41.7	+1.1
	baz=87						
A28A	Rude Farm, Bot	86.46	342	⇑P	P	09 41 40.6	+0.3
	baz=87						
D22A	Cohagen	86.56	338	⇓P	P	09 41 41.5	+0.6
	baz=87,SNR=5.3						
E20A	Meyer Farm, Mu	86.63	336	⇑P	P	09 41 41.5	+0.3
	baz=87,SNR=9.2						
B25A	Knox Farm, Ray	86.66	340	⇑P	P	09 41 41.9	+0.6
	baz=87						
ULM	Lac du Bonnet	86.68	345	P	P	09 41 40.8	-0.4
	7.3nm,0.9s,baz=198,slow=2.4,SNR=5.7						
D21A	La Casta Ranch	86.75	337	⇓P	P	09 41 41.8	0.0
	baz=87,SNR=5.5						
A27A	Ledoux Ranch,	86.76	341	⇓P	P	09 41 42.3	+0.7
	baz=87						
E19A	Rath Farm, Rou	86.82	336	⇑P	P	09 41 42.2	+0.1
	baz=87,SNR=12						
C23A	Lambert	86.84	338	⇓P	P	09 41 42.2	+0.1
	baz=87,SNR=7.3						
MCMT	McKenzie Canyo	86.89	332	eP	P	09 41 43.1	+0.3
	4.7nm,1.0s						
A26A	Wade Farm, Ken	86.92	341	⇓P	P	09 41 42.5	0.0
	baz=87						
C22A	Vida	87.00	338	⇓P	P	09 41 43.2	+0.2
	baz=87						
DGMT	Dagmar	87.14	339	⇓P	P	09 41 44.0	+0.4
	baz=88,SNR=7.9						
D20A	Manuel Ranch,	87.15	336	⇓P	P	09 41 43.9	+0.2
	baz=88,SNR=7.5						
A25A	Svangstu Ranch	87.25	340	⇑P	P	09 41 44.3	+0.2
	baz=88						
B23A	Brockton	87.37	339	⇑P	P	09 41 44.6	-0.1
	baz=88						
C21A	Desert Coulee	87.45	337	⇓P	P	09 41 45.4	+0.2
	baz=88,SNR=8.6						
D19A	Cripps Ranch,	87.46	336	⇓P	P	09 41 45.4	+0.1
	baz=88						
A24A	Westby	87.49	340	⇑P	P	09 41 45.4	+0.1
	baz=88						
B22A	Reddig Ranch S	87.53	338	⇓P	P	09 41 45.8	+0.3
	baz=88,SNR=5.4						
C20A	Veseth Ranch,	87.65	337	⇑P	P	09 41 46.3	+0.3
	baz=88						
A23A	Redstone	87.78	339	⇓P	P	09 41 46.4	-0.3
	baz=88						
B21A	Ellsworth Farm	87.96	338	⇑P	P	09 41 47.6	+0.1
	baz=88						
C19A	Slack Wire Ran	88.01	336	⇓P	P	09 41 48.0	+0.1
	baz=88						
A22A	Carney Farms,	88.12	339	⇓P	P	09 41 48.5	+0.2
	baz=88						
M04C	Macdoel	88.28	325	⇑P	P	09 41 50.2	+0.8
	baz=89						
B20A	Solberg Farm,	88.29	337	⇑P	P	09 41 49.3	+0.2
	baz=89,SNR=5.4						
A21A	Bergtoll Ranch	88.43	338	⇑P	P	09 41 49.8	0.0
	baz=89						
M02C	Callahan	88.46	324	⇑P	P	09 41 51.1	+0.9
	baz=89						
EGMT	Eagleton	88.50	336	⇑P	P	09 41 50.0	-0.1
	baz=89						
B19A	Brinkman Farms	88.60	337	⇑P	P	09 41 50.7	+0.1
	baz=89						
A20A	Cobblestone Ra	88.64	337	⇑P	P	09 41 50.9	+0.1
	baz=89,SNR=5.7						
K04D	Chiloquin, OR	88.89	326	⇑P	P	09 41 53.2	+1.0
	baz=89						
A19A	Klindworth Far	88.95	337	⇑P	P	09 41 52.2	0.0
	baz=89						
J05D	Fort Rock, OR	89.16	327	⇑P	P	09 41 54.2	+0.7
	baz=90						
J04D	Umpqua Nationa	89.53	326	⇓P	P	09 41 56.3	+1.0
	baz=90						
SWMT	Swartz Lake	89.57	333	eP	P	09 41 55.2	0.0
NEW	Newport	91.39	332	⇓P	P	09 42 04.4	+0.8
	baz=92						
YKA	Yellowknife Ar	102.22	341	P	Pdif	09 42 51.6	-0.6
	0.5nm,0.6s,baz=144,slow=4.6,SNR=9.1						
YKA				pP		09 43 09.6	
	0.4nm,0.9s,baz=138,slow=4.3,SNR=3.0						
WRA	Warramunga Arr	120.44	209	PKP	PKPdf	09 47 49.6	-0.3
	1.5nm,0.5s,baz=154,slow=1.7,SNR=8.5						
BRTR	Keskin Array B	122.13	61	PKP	PKPdf	09 47 51.9	-0.7
	1.0nm,0.8s,baz=214,slow=3.1,SNR=4.6						
BRTR				pPKP	pPKPdf	09 48 10.4	+6.4
	0.8nm,0.7s,baz=348,slow=1.8,SNR=3.8						
AKASG	Malin Array Be	122.51	48	PKP	PKPdf	09 47 51.5	-1.3
	0.3nm,0.3s,baz=258,slow=2.3,SNR=5.8						
AKASG	Malin Array Be	122.51	48	PKP	PKPdf	09 47 51.5	-1.3
FINES	FINESS Array B	123.31	35	PKP	PKPdf	09 47 52.9	-1.1
	1.2nm,0.7s,baz=135,slow=0.3,SNR=4.8						
ARCES	ARCESS Array B	124.33	25	PKP	PKPdf	09 47 55.0	-0.8
	2.3nm,0.7s,baz=244,slow=3.9,SNR=9.7						
BRVK	Borovoye	147.53	43	ePKPbc	PKPbc	09 48 42.1	+0.6
PSI	Prapat	147.66	163	ePKPbc	PKPbc	09 48 42.9	-0.3
	5.2nm,0.6s,baz=200,slow=7.1,SNR=3.5						
AAK	Ala-Archa	152.81	62	PKPbc	PKPbc	09 48 55.8	+0.9
	5.3nm,0.7s,baz=224,slow=6.7,SNR=5.1						
ZALV	Zalesovo Beam	154.54	32	PKPbc	PKPbc	09 48 58.2	+0.2
	8.1nm,0.6s,baz=306,slow=2.8,SNR=11						
ZALV				PKPab	PKPab	09 49 12.7	0.0
	7.4nm,0.6s,baz=299,slow=5.0,SNR=6.6						
MKAR	Makanchi Array	157.08	49	PKPab	PKPab	09 49 23.5	-0.4
	2.1nm,0.7s,baz=303,slow=4.2,SNR=4.7						
SONM	Songino Array	166.39	4	PKPab	PKPab	09 50 05.3	+0.7
	0.9nm,0.8s,baz=325,slow=2.7,SNR=3.7						

*ISCJB **27** 09:34:08.5±0.7, 35.8S±0.1×71.8W±0.2, h35km, mb4.1/9, Error ellipse: s-maj=24.5km s-min=15.5km az=11.5*
*IDC **27** 09:34:09.7±0.9, 35.84S×71.84W, h28km±6km, mb3.9/8, mb1 4.1/9, mb1mx3.9/41, mbtmp4.1/9, ML3.0/1, Error ellipse: s-maj=34.0km s-min=21.6km az=86.0*
*NEIC **27** 09:34:10.4±0.5, 35.82S×71.83W, h35km, mb4.6/1, Error ellipse: s-maj=19.6km s-min=12.7km az=101.0*
ISC 27 09:34:10.1±0.7, 35.8S±0.1×71.9W±0.2, h35km, n13, σ0s94/17, mb4.1/9, Central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.18	37	Pn	Pn	09 35 24.9	-0.3
	0.6nm,0.3s,baz=231,slow=16,SNR=3.0						
SIV	San Ignacio	21.97	29	P	P	09 39 01.0	0.0
	3.3nm,0.6s,baz=244,slow=12,SNR=3.1						
SNAA	Sanae	49.88	157	P	P	09 43 00.1	+0.4
	2.0nm,0.8s,baz=304,slow=6.7,SNR=6.0						
QSPA	South Pole Qui	54.44	180	P	P	09 43 32.8	-0.9
	4.4nm,0.8s,baz=131,slow=2.8,SNR=4.0						
JCT	Junction City	70.95	335	eP	P	09 45 23.1	-0.8
	1.7nm,0.3s						
TXAR	Lajitas Array	71.36	331	P	P	09 45 27.0	+0.5
	0.6nm,0.6s,baz=157,slow=8.3,SNR=3.9						
TXAR				pP	pP	09 45 35.6	-1.7
	0.9nm,0.5s,baz=153,slow=8.9,SNR=4.8						
TORD	Torodi Ar. Bea	84.72	70	P	P	09 46 40.8	0.0
	0.8nm,0.7s,baz=218,slow=4.1,SNR=2.2						
PDAR	Pinedale Array	85.42	333	P	P	09 46 44.4	+0.5
	0.8nm,0.9s,baz=184,slow=2.7,SNR=2.6						
PDAR				pP	pP	09 46 54.4	-0.6
	1.2nm,0.9s,baz=157,slow=5.6,SNR=3.6						
NVAR	Mina Array Bea	85.42	325	P	P	09 46 45.3	+1.2
	0.7nm,0.6s,baz=142,slow=5.6,SNR=4.3						
NVAR				pP	pP	09 46 54.7	-0.4
	1.8nm,0.8s,baz=154,slow=6.6,SNR=5.6						
ULM	Lac du Bonnet	88.26	345	P	P	09 46 57.1	-0.2
	1.8nm,0.6s,baz=188,slow=3.1,SNR=3.8						
ZALV	Zalesovo Beam	155.66	35	PKP	PKPdf	09 54 00.9	+1.3
	0.6nm,0.5s,baz=298,slow=3.1,SNR=1.5						
MKAR	Makanchi Array	157.81	52	PKPab	PKPab	09 54 35.2	-0.3
	0.3nm,0.5s,baz=283,slow=3.3,SNR=4.4						
MKAR				pPKPab	pPKPab	09 54 46.4	-0.3
	1.4nm,0.8s,baz=321,slow=1.6,SNR=5.1						
SONM	Songino Array	167.91	5	PKPab	PKPab	09 55 21.4	+1.7
	0.8nm,0.9s,baz=318,slow=1.9,SNR=3.2						

*ISCJB **27** 09:34:30.0±0.6, 35.96S±0.09×71.7W±0.2, h35km, mb4.4/10, Error ellipse: s-maj=19.4km s-min=11.3km az=158.6*
*IDC **27** 09:34:31.9±0.7, 35.92S×71.78W, h29km±4km, mb4.2/7, mb1 4.4/8, mb1mx4.0/40, mbtmp4.3/8, ML4.3/1, Error ellipse: s-maj=28.4km s-min=17.7km az=77.0*
*NEIC **27** 09:34:32.1±0.6, 35.95S×71.72W, h35km, mb4.4/1, Error ellipse: s-maj=19.7km s-min=11.7km az=69.0*
ISC 27 09:34:31.9±0.7, 35.99S±0.10×71.8W±0.1, h35km, n16, σ1s22/21, mb4.5/10, Central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.83	169	Pn	Pn	09 35 40.9	-1.3
TRQA	Tornquist	8.12	108	ePn	Pn	09 36 26.6	-0.7
LPAZ	La Paz	19.89	10	P	P	09 38 59.8	-1.2
	0.4nm,0.3s,baz=194,slow=6.0,SNR=3.8						
SIV	San Ignacio	22.09	28	P	P	09 39 22.8	-1.4
	12nm,0.7s,baz=177,slow=7.9,SNR=6.1						
QSPA	South Pole Qui	54.25	180	P	P	09 43 55.2	+1.1
	6.3nm,0.7s,baz=318,slow=2.4,SNR=9.3						
QSPA				pP	pP	09 44 03.1	-1.5
	9.4nm,0.8s,baz=250,slow=0.7,SNR=4.7						
JCT	Junction City	71.17	335	eP	P	09 45 47.4	+0.4
	33nm,2.1s						
TXAR	Lajitas Array	71.57	331	P	P	09 45 49.4	-0.2
	0.7nm,0.5s,baz=152,slow=8.5,SNR=6.2						
TXAR				pP	pP	09 45 58.8	-1.6
	1.8nm,0.8s,baz=154,slow=8.1,SNR=4.2						
ABTX	Abilene, Hawle	73.07	336	eP	P	09 45 58.5	+0.2
	2.5nm,0.5s						
U34A	Anderson Ranch	75.93	339	eP	P	09 46 13.9	-1.0
	47nm,2.1s						
ANMO	Albuquerque	77.62	331	pP	pP	09 46 34.3	-1.3
	1.6nm,0.7s,baz=162,slow=9.5,SNR=3.6						
BOSA	Boshof	78.97	117	P	P	09 46 32.0	-0.5
	4.7nm,0.7s,baz=215,slow=6.0,SNR=4.2						
LBTB	Lobatse	81.29	114	P	P	09 46 45.1	+0.1
	2.5nm,0.6s,baz=258,slow=4.2,SNR=4.2						
LBTB				pP	pP	09 46 56.0	0.0
	5.7nm,0.5s,baz=257,slow=6.5,SNR=4.5						
TORD	Torodi Ar. Bea	84.70	70	P	P	09 47 04.3	+1.8
	1.6nm,0.9s,baz=88,slow=36,SNR=2.6						
TORD				pP	pP	09 47 13.4	-0.2
	1.4nm,0.8s,baz=256,slow=2.2,SNR=2.2						
NVAR	Mina Array Bea	85.63	325	P	P	09 47 06.8	-0.1
	1.2nm,0.9s,baz=153,slow=6.1,SNR=2.7						
NVAR				pP	pP	09 47 17.4	-0.5
	1.7nm,0.7s,baz=158,slow=5.3,SNR=5.6						
WRA	Warramunga Arr	119.12	208	PKP	PKPdf	09 53 20.2	+2.6
	1.0nm,0.6s,baz=163,slow=1.3,SNR=6.9						
SONM	Songino Array	168.09	6	PKPab	PKPab	09 55 44.1	+1.8
	0.3nm,0.8s,baz=307,slow=3.1,SNR=2.3						
SONM				pPKPab	pPKPab	09 55 53.4	0.0
	0.9nm,0.9s,baz=2.9,slow=2.9,SNR=4.0						

*IDC **27** 09:34:48.8±0.7, 35.71S×70.95W, h0km, mb4.7/10, mb1 4.7/11, mb1mx4.4/42, mbtmp4.7/11, ML4.2/1, MS6.4/1, Ms1 6.4/1, ms1mx5.1/32, Error ellipse: s-maj=39.2km s-min=17.3km az=68.0*
*ISCJB **27** 09:34:52.0±0.5, 35.71S±0.08×71.1W±0.2, h35km, mb4.5/14, MS6.3/1, Error ellipse: s-maj=25.8km s-min=10.8km az=168.9*
*NEIC **27** 09:34:53.9±0.4, 35.71S×71.11W, h35km, mb4.3/4, Error ellipse: s-maj=23.2km s-min=9.7km az=79.0*
ISC 27 09:34:53.9±0.6, 35.73S±0.09×71.1W±0.2, h35km, n22, σ1s06/21, mb4.6/14, Central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LVC	Limon Verde	13.21	9	ePn	Pn	09 37 58.9	-0.3
USHA	Ushuaia	19.18	175	P	Pn	09 39 14.8	-0.6
	0.7nm,0.3s,baz=136,slow=1.5,SNR=3.8						
NNA	Nana	24.21	346	P	P	09 40 08.9	+1.4
	3.9nm,0.3s,baz=264,slow=19,SNR=2.1						
SAML	Samuel	27.61	17	eP	P	09 40 38.2	+0.1
	1.9nm,0.7s						
RPN	Rapa Nui	33.60	274	LR	LR	09 51 55.6	
	comp=Z,58µm,20.6s,baz=34,slow=30						
SNAA	Sanae	49.68	157	P	P	09 43 43.3	+1.4
	4.0nm,0.8s,baz=292,slow=8.3,SNR=4.4						
QSPA	South Pole Qui	54.51	180	P	P	09 44 18.0	0.0
	17nm,0.9s,baz=126,slow=4.3,SNR=5.6						
QSPA	South Pole Qui	54.51	180	P	P	09 44 18.0	0.0
TEIG	Tepich	58.00	341	P	P	09 44 44.0	+0.9
	14nm,0.8s,baz=71,slow=18,SNR=4.2						
JCT	Junction City	71.19	334	eP	P	09 46 07.2	-2.0
	7.3nm,0.8s						
TXAR	Lajitas Array	71.64	330	P	P	09 46 11.8	-0.2
	1.9nm,0.6s,baz=152,slow=8.6,SNR=6.5						
ABTX	Abilene, Hawle	73.09	335	eP	P	09 46 19.9	-0.6
	4.2nm,0.7s						
DBIC	Dimbokro	74.99	70	P	P	09 46 31.1	-0.8
	4.9nm,0.7s,baz=191,slow=8.4,SNR=3.5						
BOSA	Boshof	78.56	117	P	P	09 46 52.1	-0.1
	9.4nm,1.0s,baz=244,slow=5.2,SNR=5.0						
SDCO	Great Sand Dun	79.78	333	eP	P	09 46 56.3	-2.3
	1.7nm,0.9s						
LBTB	Lobatse	80.85	114	P	P	09 47 04.5	-0.1
	13nm,0.6s,baz=255,slow=5.0,SNR=10						
ELK	Elko	86.26	328	P	P	09 47 31.8	-0.2
	1.7nm,0.8s,baz=231,slow=3.1,SNR=4.3						
ULM	Lac du Bonnet	88.38	344	P	P	09 47 42.4	+0.7
	3.7nm,0.7s,baz=189,slow=4.4,SNR=4.6						
WRA	Warramunga Arr	119.62	208	PKP	PKPdf	09 53 39.0	-1.6
	0.5nm,0.6s,baz=159,slow=1.9,SNR=4.9						
BRTR	Keskin Array B	121.96	62	PKP	PKPdf	09 53 45.0	+0.5
	1.0nm,0.7s,baz=170,slow=4.2,SNR=3.6						
SEY	Seymchan	141.93	329	PKP	PKPdf	09 54 22.1	+1.1
	3.3nm,1.0s,baz=11,slow=2.7,SNR=4.3						
PSI	Prapat	145.94	162	PKPbc	PKPab	09 54 30.7	-0.3
	16nm,0.7s,baz=241,slow=1.7,SNR=7.3						

*BJI **27** 09:38:14.0, 25.82N×128.95E, h22km, mb4.7/19*
*IDC **27** 09:38:15.3±0.7, 25.95N×128.65E, h0km, mb4.6/26, mb1 4.6/29, mb1mx4.5/55, mbtmp4.5/29, ML3.8/3, Error ellipse: s-maj=17.1km s-min=15.1km az=99.0*
*ISCJB **27** 09:38:16.9±0.8, 25.94N±0.03×128.69E±0.03, h20km±5km, mb4.8/76, Error ellipse: s-maj=5.7km s-min=3.7km az=40.7*
*JMA **27** 09:38:17.7±0.3, 25.93N×128.75E, h39km, M4.6*
*MOS **27** 09:38:18.6±1.2, 25.92N×128.63E, h33km, mb5.0/46, Error ellipse: s-maj=10.2km s-min=6.1km az=104.1*
*NEIC **27** 09:38:20.5±0.4, 25.92N×128.55E, h35km, mb4.8/16, Error ellipse: s-maj=9.7km s-min=5.4km az=146.0*
ISC 27 09:38:20.1±0.7, 25.98N±0.05×128.65E±0.05, h30km±3km, h30km:pP-P, n200, σ1s21/216, mb4.9/76, 18C-8D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.78	314	P	Pn	09 38 33.5	-1.4
JJT2	Tamagusuku 2	0.82	281	P	Pn	09 38 34.7	-0.9
JJT2				S	Sn	09 38 46.8	0.0
JOW	Kunigami	0.91	338	P	Pn	09 38 35.7	-1.1
JOW				S	Sb	09 38 48.7	-0.4
JOW	Kunigami	0.91	338	Pn	Pn	09 38 35.8	-1.1
	77nm,0.3s,baz=146,slow=19,SNR=377						
JOW				Sn	Sn	09 38 47.7	-1.3
	115nm,0.3s,baz=122,slow=17,SNR=29						
JIH	Iheya	1.21	330	P	Pn	09 38 40.4	-0.6
JIH				S	Sn	09 38 56.0	-0.4
JOKE	Okinoerabujima	1.37	357	P	Pn	09 38 42.3	-0.9
JOKE				S	Sn	09 38 59.2	-1.2
JAGN	Aguni-jima	1.40	296	P	Pn	09 38 43.1	-0.4
JAGN				S	Sn	09 38 59.9	-1.1
JKE	Kume jima 2	1.71	282	P	Pn	09 38 46.6	-1.2
JKE				S	Sn	09 39 07.4	-1.2
JTK	Tokunoshima	1.81	8	P	Pn	09 38 48.1	-1.2
JAMN	Amaminishikomi	2.30	12	P	Pn	09 38 55.0	-0.9
JAMN				S	Sn	09 39 22.4	-0.8
JMZ	Minamidaito 2	2.32	93	P	Pn	09 38 52.5	-3.7
JMZ				S	Sn	09 39 17.4	-6.4
JAM	Amami Oshima	2.56	19	P	Pn	09 38 57.9	-1.7
JAM				S	Sn	09 39 28.0	-1.7
JZK	Kikaishima	2.60	27	P	Pn	09 38 59.3	-0.8
JZK				S	Sn	09 39 30.4	-0.3
JOGS	Gusukube	3.18	248	P	Pn	09 39 07.2	-0.8
JTAJ	Takarajima	3.20	9	P	Pn	09 39 07.8	-0.4
JIKM	Ikemajima	3.25	252	P	Pn	09 39 07.8	-1.2
JMJ	Miyako jima 2	3.25	250	P	Pn	09 39 07.7	-1.3
JTJ	Tarama	3.81	250	P	Pn	09 39 14.7	-2.0
JISG	Ishigakijimahi	4.17	251	P	Pn	09 39 19.1	-2.5
JIJ	Ishigaki jima	4.39	249	P	Pn	09 39 21.9	-2.8
IRIF	Iriomote-Funau	4.75	251	P	Pn	09 39 27.1	-2.5
YOJ	Yonaguni jima	5.33	255	eP	Pn	09 39 35.4	-2.2
YOJ	Yonaguni jima	5.33	255	ePn	Pn	09 39 35.4	-2.2
TATO	Taipei	6.55	263	ePn	Pn	09 39 53.8	-0.5
NACB	Ninganchiao	6.64	256	ePn	Pn	09 39 52.4	-3.3
	38nm,0.3s						
YHNB	Yeheng	6.71	260	ePn	Pn	09 39 56.3	-0.4
	72nm,0.8s						
YULB	Yu-li	7.17	250	ePn	Pn	09 39 58.7	-4.2
	12nm,0.3s						
SSLB	Suanglung	7.32	254	ePn	Pn	09 40 02.0	-3.0
	37nm,0.6s						
JNU	Nakatsue	7.37	15	Pn	Pn	09 40 06.1	+0.4
	6.1nm,0.3s,baz=176,slow=2.1,SNR=53						
JNU				Sn	Sn	09 41 25.9	-2.4
	1.5nm,0.3s,baz=340,slow=14,SNR=4.4						
TPUB	Ta-pu	7.77	252	ePn	Pn	09 40 08.3	-2.8
	26nm,0.4s						
MJAR	Matsushiro Arr	13.32	35	Pn	Pn	09 41 26.7	-0.4
	0.2nm,0.3s,baz=239,slow=14,SNR=5.0						
WHN	Wuhan	13.39	293	⇑PKP	P	09 41 37.5	+0.3
VLA	Vladivostok	17.30	8	⇑eP	P	09 42 19.4	+0.1
VLA				S	Sn	09 45 31.8	+1.0
VLA				pmax	pmax		
	comp=Z,22nm,0.6s						
BJT	Baijiatuau	17.45	326	eP	P	09 42 22.6	+0.4
BJT				pmax	pmax		
	comp=Z,23nm,0.6s						
BJT	Baijiatuau	17.45	326	eP	P	09 42 22.6	+0.4
	comp=Z,23nm,0.6s						
CN2	Changchun	17.97	352	eP	P	09 42 28.0	+0.1
USRK	Ussuriysk Arra	18.38	8	P	Pn	09 42 32.8	+0.2
	comp=Z,0.3nm,0.3s,baz=183,slow=8.6,SNR=19						
XAN	Xi'an	18.86	300	P	P	09 42 37.5	-0.3
XAN				pP	pP	09 42 47.0	+1.2
XAN				pmax	pmax		
	comp=Z,8.0nm,1.4s						
ASAJ	Asahikawa	21.34	28	P	P	09 43 05.2	+0.6
ASAJ				pmax	pmax		
	comp=Z,13nm,0.7s						
ASAJ	Asahikawa	21.34	28	P	P	09 43 05.2	+0.6
	comp=Z,13nm,0.7s,baz=188,slow=12,SNR=11						
YUK	Yuzh-Kuril'sk	22.79	33	P	P	09 43 21.0	+0.9
HABR	Khabarovsk	23.00	11	eP	P	09 43 21.4	-0.9
HABR				e*PP	pP	09 43 30.2	-0.3
HABR				e*SP	sP	09 43 34.8	+0.5
HABR				e		09 43 46.8	
HABR				eS	S	09 47 31.1	+0.4
HABR				eSSS	SSS	09 48 20.5	
HABR				pmax	pmax		
	comp=Z,57nm,1.9s						
KMI	Kunming	23.38	274	P	P	09 43 27.0	+0.4
KMI				pmax	pmax		
	comp=Z,47nm,1.4s						
YSS	Yuzh-Sakhalins	23.73	25	⇑eP	P	09 43 30.0	+0.5
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	Yuzh-Sakhalins	23.73	25	eP	P	09 43 30.3	+0.8
	comp=Z,51nm,0.8s						
UBPT	Khong Chiam	24.12	248	P	P	09 43 35.2	+1.8
	comp=Z,653nm,1.7s						
CRAI	Chiangrai	26.60	263	P	P	09 43 58.4	+2.5
	comp=Z,364nm,2.0s						
PBKT	Sadao Pong	27.39	256	P	P	09 44 05.1	+2.1
	comp=Z,138nm,1.3s						
GTA	Gaotai	27.58	306	eP	P	09 44 03.5	-1.2
GTA				pP	pP	09 44 12.5	-0.9
GTA				sP	sP	09 44 17.3	+0.2
GTA				pmax	pmax		
	comp=Z,30nm,1.1s						
ULN	Ulaanbaatar	27.67	328	⇑iP	P	09 44 04.2	-1.2
ULN				pmax	pmax		
	comp=Z,44nm,1.7s						
ULN	Ulaanbaatar	27.67	328	eP	P	09 44 04.1	-1.2
	comp=Z,2µm,3.4s						
LAMP	Lampang	27.82	260	P	P	09 44 08.4	+1.5
	comp=Z,9.6nm,0.5s,comp=Z,244nm						
CMAI	Chiengmai2	27.88	264	P	P	09 44 12.3	+4.7
	comp=Z,60nm,1.8s						
SONM	Songino Array	27.96	327	P	P	09 44 09.6	+1.6
SONM				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SONM	Songino Array	27.96	327	P	P	09 44 09.6	+1.6
	comp=Z,5.9nm,0.6s,baz=143,slow=10,SNR=33						
CMMT	Chiang Mai	28.33	262	P	P	09 44 12.4	+1.0
	comp=Z,189nm,1.2s						
CHTO	Chiang Mai	28.33	262	eP	P	09 44 11.7	+0.3
CHTO				pmax	pmax		
	comp=Z,13nm,1.1s						
CHTO	Chiang Mai	28.33	262	P	P	09 44 12.4	+1.0
	comp=Z,1µm,1.2s						
CHTO	Chiang Mai	28.33	262	eP	P	09 44 11.7	+0.3
	comp=Z,13nm,1.1s						
CMAR	Chiang Mai Arr	28.45	261	P	P	09 44 12.9	+0.3
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	Chiang Mai Arr	28.45	261	P	P	09 44 12.8	+0.3
	comp=Z,1.8nm,0.3s,baz=62,slow=7.7,SNR=9.9						
SRDT	SRDT	29.96	253	P	P	09 44 26.0	+0.1
SURT	Suratani	33.00	245	P	P	09 44 55.1	+2.4
	comp=Z,347nm,3.7s						
BOD	Bodaibo	33.48	346	eP	P	09 45 03.3	+7.0
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PETK	Petropavlovsk-	34.71	31	P	P	09 45 06.9	-0.2
PETK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PETK	Petropavlovsk-	34.71	31	P	P	09 45 06.9	-0.2
	comp=Z,7.5nm,1.0s,baz=255,slow=5.8,SNR=3.6						
PET	Petropavlovsk	35.11	32	eP	P	09 45 10.8	+0.3
PET				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK	Yakutsk	36.05	1	eP	P	09 45 17.5	-0.9
YAK				pmax	pmax		
	comp=Z,103nm,1.0s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,38nm,1.0s						

YAK Yakutsk 36.05 1 eP P 09 45 18.5 +0.1
comp=N,100nm,0.8s
HVS Khovu-Aksy 36.56 323⇑eP P 09 45 23.0 -0.2
HVS pmax pmax
comp=Z,81nm,1.9s
SEY Seymchan 40.15 17 P P 09 45 51.6 -1.4
SEY pmax pmax
comp=Z,4.0nm,0.8s
SEY Seymchan 40.15 17 P P 09 45 51.6 -1.4
comp=Z,3.9nm,0.8s,baz=196,slow=18,SNR=4.4
MKAR Makanchi Array 41.98 312 P P 09 46 07.1 -1.3
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 41.98 312 P P 09 46 07.1 -1.3
comp=Z,5.2nm,0.7s,baz=97,slow=10,SNR=9.9
ZALV Zalesovo Beam 42.67 323 P P 09 46 11.8 -2.1
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 42.67 323 P P 09 46 11.8 -2.1
comp=Z,3.3nm,0.7s,baz=101,slow=3.8,SNR=3.9
KURK Kurchatov 45.26 317 eP P 09 46 35.6 +1.0
KURK pmax pmax
comp=Z,8.0nm,1.1s
KURK Kurchatov 45.26 317 eP P 09 46 35.6 +1.0
comp=Z,7.8nm,1.1s
TIXI Tiksi 45.70 0⇑eP P 09 46 37.6 -0.2
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 45.70 0 eP P 09 46 36.6 -1.2
comp=Z,8.5nm,1.0s
WRAB Tennant Creek 45.98 173ceP P 09 46 39.6 -1.0
WRAB pmax pmax
comp=Z,37nm,1.1s
WRA Warramunga Arr 45.98 173 P P 09 46 40.1 -0.6
WRA pmax pmax
comp=Z,8.0nm,0.7s
WRA Warramunga Arr 45.98 173 P P 09 46 40.0 -0.6
comp=Z,7.9nm,0.7s,baz=354,slow=8.6,SNR=40
BILL Bilibino 47.79 18⇑iP P 09 46 55.0 +0.8
BILL e 09 47 07.1
BILL e 09 48 48.4
BILL pmax pmax
comp=Z,21nm,1.5s
BILL Bilibino 47.79 18 eP P 09 46 55.0 +0.8
comp=Z,20nm,1.2s
AS31 Alice Springs 49.62 174 eP P 09 47 08.9 +0.1
BRVK Borovoye 50.78 318⇓iP P 09 47 18.0 +0.7
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 50.78 318 eP P 09 47 16.9 -0.4
comp=Z,12nm,1.0s
GAMB Gambell 53.67 28 eP P 09 47 39.6 +1.1
comp=Z,9.2nm,1.7s
TNA Tin City 55.69 27 eP P 09 47 53.6 +0.5
comp=Z,20nm,1.2s
ARU Arti 57.82 322c iP P 09 48 08.1 -0.4
ARU 09 50 15.1
ARU S S 09 56 05.6 -0.2
ARU SS SS 10 00 04.2 +7.9
ARU pmax pmax
comp=Z,7.0nm,1.2s
AKTO Aktyubinsk 58.27 315 P P 09 48 11.9 +0.1
AKTO pmax pmax
comp=Z,3.0nm,0.9s
AKTO Aktyubinsk 58.27 315 P P 09 48 11.8 +0.1
comp=Z,2.7nm,0.9s,baz=77,slow=10.0,SNR=3.8
STKA Stephens Creek 58.85 167 P P 09 48 15.1 -0.8
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 58.85 167 P P 09 48 15.1 -0.8
comp=Z,3.3nm,0.8s,baz=6.2,slow=11,SNR=3.8
GEYT Alibeck 59.74 300 P P 09 48 23.4 +1.1
comp=Z,5.3nm,0.7s,baz=72,slow=4.7,SNR=7.8
RSO Redoubt South 62.18 33 eP P 09 48 40.2 +1.6
comp=Z,32nm,0.8s
PPLA Purkeypile 62.30 31 eP P 09 48 41.3 +2.0
comp=Z,36nm,1.4s
COLD Coldfoot 62.92 26 eP P 09 48 43.9 +0.8
comp=Z,14nm,1.5s
COLA College 64.05 28deP P 09 48 51.7 +1.0
COLA pmax pmax
comp=Z,22nm,1.2s
COLA College 64.05 28 eP P 09 48 52.4 +1.7
comp=Z,4.4nm,0.6s
PRGR Permogore 64.21 328 P P 09 48 48.7 -3.1
ILAR Eielson Array 64.47 28 P P 09 48 53.2 -0.3
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 64.47 28 P P 09 48 53.1 -0.3
comp=Z,1.1nm,0.7s,baz=269,slow=3.3,SNR=10
DIV Divide 65.50 32 eP P 09 48 60.0 -0.3
comp=Z,19nm,1.0s
MENT Mentasta 66.14 30 eP P 09 49 05.2 +0.9
EGAK Eagle 66.90 28 eP P 09 49 09.0 -0.1
TMCR Tamitsa 67.20 332 eP P 09 49 11.0 0.0
TMCR pmax pmax
comp=Z,45nm,1.2s
KLMR Klimovskoe 67.25 328 eP P 09 49 10.2 -1.2
KLMR pmax pmax
comp=Z,24nm,1.5s
VRHR Novokhopersk 68.43 317 eP P 09 49 17.2 -1.8
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
ZEI Tsey 69.17 308 eP P 09 49 22.1 -2.0
ZEI pmax pmax
comp=Z,29nm,1.5s
GNI Garni 69.32 305⇓iP P 09 49 27.6 +2.6
GNI pmax pmax
comp=Z,24nm,1.2s
KBZ Khabaz 69.61 310 P P 09 49 26.2 -0.2
KBZ pmax pmax
comp=Z,19nm,0.9s
KBZ Khabaz 69.61 310 P P 09 49 26.2 -0.2
comp=Z,19nm,0.9s,baz=87,slow=3.9,SNR=32
KIV Kislovodsk 69.69 310 eP P 09 49 28.4 +1.3
KIV Kislovodsk 69.69 310 eP P 09 49 28.4 +1.3
comp=Z,258nm,2.0s
VSR Storozhevoye 69.89 318 eP P 09 49 26.6 -1.4
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.8s
OBN Obninsk 70.25 322⇑iP P 09 49 30.4 +0.2
OBN e 09 49 39.2
OBN 09 49 45.8
OBN pmax pmax
comp=Z,48nm,1.7s
OBN Obninsk 70.25 322 P P 09 49 29.9 -0.2
comp=Z,12nm,0.4s,baz=53,slow=13,SNR=5.0
ARCES ARCESS Array B 70.37 339 P P 09 49 30.1 -0.6
ARCES pmax pmax
comp=Z,8.0nm,0.9s
ARCES ARCESS Array B 70.37 339 P P 09 49 30.1 -0.6
comp=Z,7.1nm,0.9s,baz=350,slow=14,SNR=3.9
JOF Joensuu 70.44 331 eP P 09 49 30.8 -0.4
JOF pmax pmax
comp=Z,12nm,0.9s
JOF Joensuu 70.44 331 ep P 09 49 30.8 -0.4
comp=Z,12nm,0.9s
KAF Kangasniemi 72.90 331 eP P 09 49 45.3 -0.7
KAF pmax pmax
comp=Z,10.0nm,0.8s
KAF Kangasniemi 72.90 331 ep P 09 49 45.3 -0.7
comp=Z,9.7nm,0.8s
ANN Anapa 73.00 312 eP P 09 49 46.3 -0.6
ANN pmax pmax
comp=Z,59nm,1.3s
FINES FINESS Array B 73.26 331 P P 09 49 48.3 +0.2
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 73.26 331 P P 09 49 48.3 +0.2
comp=Z,5.8nm,0.7s,baz=85,slow=6.5,SNR=16
RAYN Ar Rayn 74.25 289 eP P 09 49 55.5 +0.8
comp=Z,19nm,1.0s
MALT Malatya 74.56 305⇑iP P 09 49 58.5 +2.1
DAG Danmarks Havn 75.55 353 iP P 09 50 00.9 -0.3
DAG Danmarks Havn 75.55 353 iP P 09 50 00.9 -0.3
AKASG Malin Array Be 75.96 320 P P 09 50 03.9 -0.1
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKASG Malin Array Be 75.96 320 P P 09 50 03.9 -0.1
comp=Z,9.3nm,0.7s,baz=57,slow=6.5,SNR=39
AKBB Malin Array Si 75.96 320 eP P 09 50 03.9 -0.1
AKBB Malin Array Si 75.96 320 eP P 09 50 03.9 -0.1
AK01 Malin Array Si 75.97 320 eP P 09 50 03.7 -0.4
KIEV Kiev 75.97 320 eP P 09 50 03.9 -0.2
KIEV pmax pmax
comp=Z,8.0nm,0.7s
KIEV Kiev 75.97 320 eP P 09 50 03.9 -0.2
comp=Z,8.1nm,0.7s
AK02 Malin Array Si 75.99 320 eP P 09 50 04.3 +0.1
BRTR Keskin Array B 77.48 308 P P 09 50 13.9 +0.8
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 77.48 308 P P 09 50 13.8 +0.8
comp=Z,9.2nm,0.9s,baz=96,slow=5.1,SNR=34
SUW Suwalki 77.87 324 eP P 09 50 15.2 +0.5
SUW Suwalki 77.87 324 eP P 09 50 15.1 +0.4
YKA Yellowknife Ar 78.59 25 P P 09 50 19.0 +0.5
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 78.59 25 P P 09 50 19.0 +0.5
comp=Z,2.2nm,0.8s,baz=301,slow=5.5,SNR=36
CFR Carcaliu 78.94 315⇑iP P 09 50 21.2 +0.4
HFS Hagfors 79.21 332 P P 09 50 21.6 -0.4
HFS pmax pmax
comp=Z,5.0nm,0.9s
HFS Hagfors 79.21 332 P P 09 50 21.6 -0.4
comp=Z,4.9nm,0.9s,baz=77,slow=6.7,SNR=6.2
TESR Tescani 79.29 317⇑iP P 09 50 23.2 +0.5
VRI Vrincioaia 79.53 316⇑iP P 09 50 25.9 +1.9
PLOR Plostina 79.58 316⇑iP P 09 50 25.5 +1.1
BURAR Bucovina Array 79.67 318⇓iP P 09 50 25.7 +0.8
NB2 NORSAR Subarra 79.70 334 P P 09 50 24.2 -0.5
comp=Z,6.1nm,0.8s,baz=52,slow=5.9
NOA NORSAR Array B 79.70 334 P P 09 50 24.6 -0.1
NOA pmax pmax
comp=Z,8.0nm,1.0s
NOA NORSAR Array B 79.70 334 P P 09 50 24.6 -0.1
comp=Z,5.4nm,0.8s,baz=52,slow=5.6,SNR=14
MLR Muntele Rosu 80.18 316⇑iP P 09 50 29.7 +1.9
KWP Kalwaria Pacla 80.19 321 eP P 09 50 28.8 +1.2
KWP Kalwaria Pacla 80.19 321 eP P 09 50 28.8 +1.2
KWP Kalwaria Pacla 80.19 321⇑iP P 09 50 29.1 +1.5
DOPR Dopca 80.31 316⇓iP P 09 50 30.3 +2.0
VOIR 80.77 316⇑iP P 09 50 32.2 +1.4
KOLS Kolonicke sedl 80.78 320 eP P 09 50 32.2 +1.5
KOLS pmax pmax
comp=Z,234nm,4.2s
KOLS Kolonicke sedl 80.78 320 eP P 09 50 32.2 +1.5
UZH Uzhgorod 80.92 320 eP P 09 50 30.1 -1.3
TRPA Tarpa 81.01 319⇓iP P 09 50 33.4 +1.5
ARR Arges 81.06 316⇓iP P 09 50 33.7 +1.3
CRVS Cervenica-Dubn 81.26 320 eP P 09 50 34.9 +1.6
CRVS pmax pmax
comp=Z,22nm,1.9s
CRVS Cervenica-Dubn 81.26 320 eP P 09 50 34.9 +1.6
SUMG Summit 81.31 356 iP P 09 50 34.6 +1.0
SUMG Summit 81.31 356 iP P 09 50 34.6 +1.0
VYHS Vyhne 82.97 321 eP P 09 50 43.6 +1.3
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 82.97 321 eP P 09 50 43.6 +1.3
MMB Musomiste 83.44 313⇓iP P 09 50 46.1 +1.3
VRAC Vranov 83.79 322 P P 09 50 47.5 +1.1
VRAC pmax pmax
comp=Z,4.0nm,0.8s
VRAC Vranov 83.79 322 P P 09 50 47.5 +1.1
comp=Z,3.3nm,0.7s,baz=26,slow=7.3,SNR=5.4
BRG Berggiesshubel 84.33 325 ePKP P 09 50 50.1 +0.9
comp=Z,24nm,1.8s
BRG e 09 50 59.1
comp=Z,7.2nm,1.2s
BRG Berggiesshubel 84.33 325 eP P 09 50 50.1 +0.9
BRG e 09 50 59.1
BRG pmax pmax
comp=Z,24nm,1.8s
BRG pmax pmax
comp=Z,7.0nm,1.2s
TREC Trest 84.40 323 eP P 09 50 50.7 +1.1
TREC Trest 84.40 323 eP P 09 50 50.7 +1.1
PRU Pruhonice 84.52 324 eP P 09 50 52.0 +1.9
PRU Pruhonice 84.52 324 eP P 09 50 52.0 +1.9
CLL Collm 84.57 325 iP P 09 50 50.8 +0.5
CLL i 09 51 00.3
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 84.57 325 iP P 09 50 50.8 +0.5
comp=Z,9.0nm,0.9s
CLL ipP pP 09 51 00.3 +0.3
NEW Newport 85.56 38 P P 09 50 56.5 +1.0
NEW pmax pmax
comp=Z,3.0nm,1.0s
NEW Newport 85.56 38 P P 09 50 56.5 +1.0
comp=Z,3.2nm,1.0s,baz=240,slow=5.0,SNR=5.1
GERES GERESS Array B 85.62 323 P P 09 50 57.2 +1.4
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 85.62 323 P P 09 50 57.2 +1.4
comp=Z,1.5nm,0.7s,baz=14,slow=3.3,SNR=5.4
SFJD Kangerlussuaq 87.31 360 P P 09 51 03.6 0.0
SFJD pmax pmax
comp=Z,9.0nm,0.8s
SFJD Kangerlussuaq 87.31 360 P P 09 51 03.6 0.0
comp=Z,8.5nm,0.8s,baz=108,slow=2.5,SNR=3.8
SLMT Seeley Lake 88.14 37 eP P 09 51 09.0 +0.8
comp=Z,3.7nm,0.8s
FCC Fort Churchill 88.43 21 eP P 09 51 09.1 0.0
FCC Fort Churchill 88.43 21 eP P 09 51 09.1 0.0
comp=Z,0.3nm,1.1s
NVAR Mina Array Bea 90.40 46 P P 09 51 20.1 +1.0
comp=Z,0.3nm,0.7s,baz=311,slow=8.2,SNR=4.1
TPH Tonopah 91.31 46 eP P 09 51 24.1 +0.8
TPH pmax pmax
comp=Z,3.0nm,0.3s
TPH Tonopah 91.31 46 eP P 09 51 24.1 +0.8
comp=Z,3.0nm,0.3s
H17A Grant Village 91.51 38 eP P 09 51 23.9 -0.2
comp=Z,3.6nm,1.1s
R11A Troy Canyon, C 92.20 45 eP P 09 51 25.6 -1.7
comp=Z,18nm,1.8s
DUG Dugway 92.82 42 P P 09 51 27.7 -2.5
DUG pmax pmax
comp=Z,13nm,1.3s
DUG Dugway 92.82 42 P P 09 51 27.7 -2.5
comp=Z,14nm,1.3s

ISCJB 27 09:38:50.8±0.5, 35.44S±0.07×73.5W±0.1, h33km, mb4.5/20, Error ellipse: s-maj=14.1km s-min=9.8km az=156.5
NEIC 27 09:38:53.0±0.3, 35.42S×73.56W, h35km, mb4.5/7, Error ellipse: s-maj=10.7km s-min=7.7km az=71.0
IDC 27 09:38:53.2±0.7, 35.46S×73.73W, h32km±4km, mb4.2/9, mb1 4.3/11, mb1mx4.1/38, mbtmp4.4/11, ML4.1/2, Error ellipse: s-maj=27.3km s-min=16.6km az=77.0
ISC 27 09:38:53.1±0.6, 35.39S±0.09×73.5W±0.1, h35km, n35, σ1.05/38, mb4.6/26, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TRQA Tornquist 9.59 109 ePn Pn 09 41 09.0 +0.4
CPUP Villa Florida 16.51 61 ePn P 09 42 43.7 -0.6
0.5nm,0.6s
LPAZ La Paz 19.61 15 P Pn 09 43 21.5 +0.9
0.3nm,0.3s,baz=183,slow=8.0,SNR=4.6
USHA Ushuaia 19.75 171 P P 09 43 19.9 +0.3
0.5nm,0.3s,baz=340,slow=5.0,SNR=3.9
SIV San Ignacio 22.27 33 P P 09 43 46.7 -0.5
22nm,1.0s,baz=222,slow=10,SNR=4.4
SAML Samuel 27.95 22 eP P 09 44 40.7 +0.5
2.0nm,0.6s
SDV Santo Domingo 44.12 4 eP P 09 46 57.3 -1.0
12nm,1.2s
SNAA Sanae 50.75 157 P P 09 47 48.2 -0.9
2.9nm,0.8s,baz=272,slow=7.9,SNR=9.2
SDDR Presa de Saban 54.11 3 eP P 09 48 14.6 0.0
65nm,2.1s
QSPA South Pole Qui 54.85 180 P P 09 48 20.0 +0.4
5.2nm,0.9s,baz=174,slow=3.0,SNR=3.8
QSPA South Pole Qui 54.85 180 P P 09 48 20.0 +0.4
JCT Junction City 70.06 336 P P 09 49 59.8 -1.6
10nm,1.1s
TXAR Lajitas Array 70.40 332 P P 09 50 05.2 +1.7
0.4nm,0.5s,baz=157,slow=8.4,SNR=4.1
TXAR pP pP 09 50 16.3 +1.9
3.3nm,0.9s,baz=149,slow=9.0,SNR=9.8
ABTX Abilene, Hawle 71.98 337 eP P 09 50 12.9 -0.1
7.9nm,0.9s
WVT Waverly 72.41 348 eP P 09 50 15.2 -0.2
5.8nm,0.8s
MNTX Cornudas Mount 73.17 332 P P 09 50 20.5 +0.4
2.4nm,1.0s
AMTX Amarillo 74.72 336 P P 09 50 36.5 +7.3
17nm,1.1s
TUC Tucson 75.91 328 eP P 09 50 36.0 0.0
ANMO Albuquerque 76.46 333 P P 09 50 36.8 -2.5
6.8nm,1.2s
214A Organ Pipe Nat 76.51 326 eP P 09 50 39.5 +0.1
8.0nm,1.3s
DBIC Dimbokro 76.72 72 P P 09 50 41.2 +0.2
7.4nm,0.7s,baz=212,slow=5.9,SNR=7.0
BOSA Boshof 80.45 118 P P 09 51 01.4 -0.3
5.7nm,0.7s,baz=244,slow=4.1,SNR=7.2
BOSA pP pP 09 51 12.2 -0.4
2.1nm,0.6s,baz=244,slow=4.6,SNR=1.9
ECSD EROS Data Cent 81.53 343 eP P 09 51 07.9 +1.3
9.0nm,0.9s
LBTB Lobatse 82.77 115 P P 09 51 14.8 +0.9
4.4nm,0.9s,baz=240,slow=10,SNR=3.9
NVAR Mina Array Bea 84.37 326 pP pP 09 51 31.6 -1.2
1.3nm,0.7s,baz=161,slow=4.5,SNR=5.1
PDAR Pinedale Array 84.49 334 P P 09 51 21.9 -0.3
0.7nm,0.9s,baz=194,slow=1.9,SNR=3.1
PDAR pP pP 09 51 31.6 -1.7
1.4nm,0.9s,baz=157,slow=2.5,SNR=6.3
TORD Torodi Ar. Bea 85.77 71 P P 09 51 28.9 -0.1
2.8nm,0.8s,baz=238,slow=4.3,SNR=6.0
TORD pP pP 09 51 38.8 -1.3
1.9nm,0.8s,baz=263,slow=3.0,SNR=3.8
NOA NORSAR Array B 117.82 33 PKP PKPdf 09 57 33.5 -1.4
0.7nm,0.8s,baz=66,slow=4.5,SNR=3.4
WRA Warramunga Arr 118.98 210 PKP PKPdf 09 57 38.1 -0.4
0.3nm,0.8s,baz=152,slow=1.6,SNR=4.6
BRTR Keskin Array B 123.52 62 PKP PKPdf 09 57 45.7 -1.0
0.8nm,0.9s,baz=188,slow=3.7,SNR=3.9
AKASG Malin Array Be 123.99 48 PKP PKPdf 09 57 46.9 -0.1
0.1nm,0.3s,baz=266,slow=2.6,SNR=4.4
ARCES ARCESS Array B 125.77 25 PKP PKPdf 09 57 52.2 +2.4
2.2nm,0.7s,baz=56,slow=3.1,SNR=4.6
BVAR Borovoye Array 149.09 44 PKPbc PKPbc 09 58 38.1 +1.1
3.7nm,0.5s,baz=291,slow=2.5,SNR=12
ZALV Zalesovo Beam 156.02 33 PKPbc PKPdf 09 58 52.9 +10
2.4nm,0.8s,baz=316,slow=4.1,SNR=3.5
ZALV PKPab PKPab 09 59 11.5 +1.1
3.8nm,0.8s,baz=320,slow=4.4,SNR=5.9
MKAR Makanchi Array 158.55 51 PKP PKPdf 09 58 46.3 -0.2
0.6nm,0.9s,baz=262,slow=2.9,SNR=3.8
MKAR PKPbc PKPbc 09 58 57.2
0.7nm,0.9s,baz=268,slow=2.5,SNR=3.6
MKAR PKPab PKPab 09 59 22.6 +0.9
0.9nm,0.6s,baz=287,slow=3.2,SNR=6.5

ISCJB 27 09:40:00.4±0.2, 61.86N±0.02×150.96W±0.04, h80km±2km, mb4.0/14, Error ellipse: s-maj=3.5km s-min=2.6km az=21.0
NEIC 27 09:40:02.6, 61.85N×150.99W, h62km, ML3.6(AEIC), After AEIC.
IDC 27 09:40:03.5±4.0, 62.05N×150.87W, h84km±31km, mb3.7/11, mb1 3.9/13, mb1mx3.5/57, mbtmp4.0/13, Error ellipse: s-maj=30.4km s-min=15.4km az=51.0
ISC 27 09:40:01.3±0.7, 61.86N±0.03×151.00W±0.03, h71km±6km, n109, σ0.85/128, mb4.1/14, Southern Alaska

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SKT Skwentna 0.28 296 P Pn 09 40 12.0 -0.4
SKT S Sn 09 40 20.3 -0.3
SUA Susitna One 0.42 163 P Pn 09 40 13.2 -0.4
SUA S Sn 09 40 22.6 +0.1
STLK Strandline Lak 0.54 228 P Pn 09 40 14.3 -0.3
CUT Chulitna 0.64 32 P Pn 09 40 15.8 +0.3
CGLM Capps Glacier 0.74 221 P Pn 09 40 16.6 -0.2
FIB Fire Island 0.80 150 P Pn 09 40 18.4 +1.1
FIB S Sn 09 40 31.4 +2.2
CRP Crater Peak 0.81 223 P Pn 09 40 17.5 -0.2
CRP S Sn 09 40 29.9 +0.1
SPU Mount Spurr 0.85 217 P Pn 09 40 17.9 -0.1
SPBG Spurr Blockage 0.89 228 P Pn 09 40 18.5 -0.1
BGL Barrier Glacie 0.90 229 P Pn 09 40 18.8 +0.2
CKL Chakachamna La 0.93 224 P Pn 09 40 18.9 -0.1
PMR Palmer 0.93 106 P Pn 09 40 18.6 -0.3
PMR S Sn 09 40 32.7 +0.8
RC01 Rabbit Creek A 0.98 141 P Pn 09 40 19.5 0.0
RC01 S Sn 09 40 34.1 +0.9
PPLA Purkeypile 1.18 332 P Pn 09 40 22.1 -0.1
PPLA S Sn 09 40 37.4 -0.3
HUR Hurricane 1.29 29 P Pn 09 40 24.2 +0.7
HUR S Sn 09 40 41.2 +1.1
SLKM Skilak Lake 1.41 164 P Pn 09 40 25.0 0.0
DFR Drift River 1.51 213 P Pn 09 40 27.1 +0.6
RDN Redoubt North 1.60 213 P Pn 09 40 28.2 +0.6
NCT North Crescent 1.60 216 P Pn 09 40 28.3 +0.6
TRF Thorofare Moun 1.63 11 P Pn 09 40 28.6 +0.6
TRF S Sn 09 40 49.6 +1.2
PWL Port Wells 1.63 127 P Pn 09 40 27.7 -0.3
CAST Castle Rocks 1.64 343 P Pn 09 40 28.6 +0.5
RDWB Redoubt West 1.64 214 P Pn 09 40 29.0 +0.8
RDWB S Sn 09 40 48.3 -0.3
RSO Redoubt South 1.64 212 ePn Pn 09 40 28.7 +0.4
KTH Kantishna Hill 1.70 1 P Pn 09 40 29.8 +0.8
KTH S Sn 09 40 50.9 +1.1
SCM Sheep Creek Mo 1.74 89 P Pn 09 40 29.6 +0.1
RND Reindeer 1.84 32 P Pn 09 40 31.1 +0.2
RND S Sn 09 40 53.7 +0.5
SEW Seward 1.92 156 P Pn 09 40 31.9 +0.2
SEW S Sn 09 40 54.7 -0.3
DHY Denali Highway 2.08 53 P Pn 09 40 33.5 -0.6
ILW Iliamna West 2.09 211 P Pn 09 40 34.9 +0.6
MCK McKinley 2.10 26 P Pn 09 40 34.8 +0.5
MCK S Sn 09 41 00.7 +1.2
BRLK Bradley Lake 2.11 178 P Pn 09 40 34.4 +0.1
CHUM Lake Minchumin 2.12 344 P Pn 09 40 34.8 +0.4
CHUM S Sn 09 40 59.9 +0.2
GLI Glacier Island 2.12 116 P Pn 09 40 33.6 -1.0
JPK Jack Peak 2.26 109 P Pn 09 40 35.9 -0.6
SVW2 Sparrevohn 2.33 253 P Pn 09 40 36.9 -0.4
SVW2 S Sn 09 41 04.0 -0.9
VLZ Valdez 2.35 106 P Pn 09 40 36.7 -0.9
BWN Browne 2.42 16 P Pn 09 40 39.4 +0.9
KLU Klutina 2.45 96 P Pn 09 40 38.5 -0.5
OPT Oil Point 2.47 207 P Pn 09 40 40.3 +1.0
TT01 Tatalina 2.56 296 P Pn 09 40 40.5 0.0
DIV Divide 2.61 104 P Pn 09 40 40.3 -1.0
PS11 TAPS Pump St11 2.62 83 P Pn 09 40 42.1 +0.9
HIN Hinchinbrook I 2.63 122 P Pn 09 40 40.6 -0.8
AUP Augustine Pinn 2.78 207 P Pn 09 40 44.5 +1.0
HARP HAARP 2.80 76 P Pn 09 40 44.8 +1.1
PAX Paxson 2.80 64 P Pn 09 40 44.8 +0.9
PS12 TAPS Pump St12 2.82 95 P Pn 09 40 43.1 -0.8
EYAK Cordova Ski Ar 2.86 115 P Pn 09 40 43.3 -1.2
PS10 TAPS Pump St10 2.88 55 P Pn 09 40 46.8 +1.9
WRH Wood River Hil 2.93 25 P Pn 09 40 45.6 +0.1
DDM Donnelly Dome 3.05 48 P Pn 09 40 47.1 0.0
SGAM Sherman Glacie 3.12 113 P Pn 09 40 46.6 -1.4
HDA Harding Lake 3.15 34 P Pn 09 40 48.7 +0.3
CCB Clear Creek Bu 3.15 26 P Pn 09 40 48.4 0.0
MLY Manley 3.18 2 P Pn 09 40 49.1 +0.2
BMRM Bremner River 3.20 103 P Pn 09 40 47.9 -1.3
PS08 TAPS Pump Stn8 3.29 33 P Pn 09 40 50.5 +0.2
GOAT Goat Mountain 3.29 110 P Pn 09 40 49.4 -1.1
COLA College 3.34 24 P Pn 09 40 50.9 0.0
MDM Murphy Dome 3.35 21 P Pn 09 40 51.3 +0.1
RAGM Ragged Mountai 3.41 113 P Pn 09 40 50.6 -1.4
GLB Gilahina Butte 3.46 94 P Pn 09 40 51.1 -1.5
ILAR Eielson Array 3.46 31 P Pn 09 40 52.6 0.0
5.5nm,0.3s,baz=219,slow=14,SNR=278
ILAR S Sn 09 41 30.8 -1.6
31nm,0.3s,baz=231,slow=18,SNR=14
ILB Eielson Array 3.46 31 P Pn 09 40 52.9 +0.3
GLM Gilmore Dome 3.53 26 P Pn 09 40 54.1 +0.4
MENT Mentasta 3.56 69 ePn Pn 09 40 54.5 +0.5
DOT Dot Lake 3.66 58 P Pn 09 40 55.9 +0.5
KAHC Katmai Hardscr 3.79 214 P Pn 09 40 58.4 +1.1
SCRK Sand Creek 3.84 53 P Pn 09 40 58.5 +0.4

GCSA	Galena City Sc	3.93	320	P	Pn	09 40 58.3	-0.7
PS06	TAPS Pump Stn6	4.05	7	P	Pn	09 41 01.4	+0.8
KVTA	Katmai Vly 10	4.10	214	P	Pn	09 41 02.7	+1.3
KAKN	Katmai Knife C	4.11	211	P	Pn	09 41 02.6	+1.0
KDAK	Kodiak Island	4.17	192	ePn	Pn	09 41 03.3	+1.0
KDAK				eSn	Sn	09 41 52.4	+2.7
KCE	Katmai Mt Cerb	4.19	212	P	Pn	09 41 03.9	+1.2
KABR	Katmai Barrier	4.24	210	P	Pn	09 41 04.4	+1.0
IM04	Indian Mountai	4.31	345	ePn	Pn	09 41 04.4	+0.1
IM3	Indian Mountai	4.31	345	P	Pn	09 41 04.7	+0.4
BCA3	Beaver Creek A	4.45	70	P	Pn	09 41 06.3	+0.2
OHAK	Old Harbor	4.80	195	P	Pn	09 41 10.2	-0.7
PLK4	Peulik 4	5.03	215	P	Pn	09 41 15.3	+1.1
EGAK	Eagle	5.31	52	P	Pn	09 41 18.0	+0.1
COLD	Coldfoot	5.40	3	P	Pn	09 41 19.8	+0.7
SII	Sitkinak Islan	5.56	198	P	Pn	09 41 22.3	+0.9
DAWY	Dawson	5.74	62	P	Pn	09 41 23.9	+0.1
BM3	Burnt Mountain	6.21	23	P	Pn	09 41 30.9	+0.6
HYT	Haines Junctio	6.58	93	P	Pn	09 41 35.0	-0.3
TNA	Tin City	8.37	304	ePn	Pn	09 42 00.7	+1.2
	18nm,0.5s						
TNA				eSn	Sn	09 43 29.1	-3.2
YKA	Yellowknife Ar	16.86	72	P	Pn	09 43 51.2	-1.1
	0.1nm,0.3s,baz=283,slow=11,SNR=16						
NVAR	Mina Array Bea	30.87	124	P	P	09 46 12.4	+1.6
	1.3nm,0.9s,baz=310,slow=8.3,SNR=6.5						
PDAR	Pinedale Array	30.98	109	P	P	09 46 13.2	+1.5
	0.7nm,0.8s,baz=343,slow=5.1,SNR=4.4						
SPITS	Spitsbergen Ar	39.99	4	P	P	09 47 27.6	-0.6
	6.9nm,1.0s,baz=17,slow=6.1,SNR=12						
SCHQ	Schefferville	41.75	60	P	P	09 47 43.0	0.0
	2.5nm,0.8s,baz=319,slow=6.9,SNR=6.2						
TXAR	Lajitas Array	44.79	114	P	P	09 48 08.3	+0.5
	0.7nm,0.7s,baz=7.6,slow=2.7,SNR=2.6						
SONM	Songino Array	54.48	306	P	P	09 49 22.5	+1.2
	1.5nm,0.9s,baz=44,slow=6.7,SNR=5.2						
FINES	FINESS Array B	57.00	2	P	P	09 49 37.6	-1.3
	2.0nm,0.9s,baz=3.1,slow=10,SNR=3.2						
EKA	Eskdalemuir Ar	60.44	20	P	P	09 50 02.7	-0.1
	1.8nm,0.6s,baz=339,slow=5.6,SNR=7.0						
MKAR	Makanchi Array	63.57	322	P	P	09 50 23.7	-0.3
	0.5nm,0.5s,baz=33,slow=7.6,SNR=7.5						
AKASG	Malin Array Be	67.79	360	P	P	09 50 50.1	-0.8
	0.9nm,0.4s,baz=359,slow=6.2,SNR=7.0						
LOR	Lormes	69.36	18	eP	P	09 51 00.9	0.0
	9.6nm,0.8s						
LOR	Lormes	69.36	18	eP	P	09 51 00.9	0.0
	9.6nm,0.8s						
SSF	Saint Saulge	69.51	18	eP	P	09 51 01.9	+0.1
	13nm,0.8s						
SSF	Saint Saulge	69.51	18	eP	P	09 51 01.9	+0.1
	13nm,0.8s						
AVF	Avril sur Loir	69.75	18	eP	P	09 51 02.6	-0.6
	5.4nm,0.7s						
AVF	Avril sur Loir	69.75	18	eP	P	09 51 02.6	-0.6
	5.4nm,0.7s						
MTLF	Montolieu	72.94	20	eP	P	09 51 22.4	-0.1
MTLF	Montolieu	72.94	20	eP	P	09 51 22.4	-0.1
ESDC	Sonseca Array	75.35	26	P	P	09 51 37.1	+0.4
	1.6nm,0.7s,baz=343,slow=6.2,SNR=6.9						

IDC **27** *09:42:22.7±0.5, 38.23S×74.01W, h0km, mb4.8/22, mb1 4.8/25, mb1mx4.7/41, mbtmp4.8/25, ML4.7/3, Error ellipse: s-maj=19.6km s-min=10.5km az=63.0*

ISCJB **27** *09:42:24.9±0.2, 38.13S±0.05×73.76W±0.08, h18km, mb4.9/35, Error ellipse: s-maj=10.3km s-min=5.7km az=146.3*

NEIC **27** *09:42:28.2±0.2, 38.22S×73.88W, h35km, mb4.8/3, Error ellipse: s-maj=9.8km s-min=5.5km az=74.0*

ISC 27 09:42:26.2±0.4, 38.19S±0.07×73.9W±0.1, h18km, n374, σ0.76/374, mb4.9/35, 161C-144D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.61	136	Pn	Pn	09 43 21.2	-0.1
	9.0nm,0.3s,baz=299,slow=19,SNR=2.8						
PLCA				Pg	Pb	09 43 30.4	+0.9
	125nm,0.3s,baz=330,slow=18,SNR=12						
PLCA				Lg	Lg	09 44 21.1	
	141nm,0.3s,baz=244,slow=19,SNR=10						
USHA	Ushuaia	17.05	169	P	Pn	09 46 23.0	-0.5
	0.7nm,0.3s,baz=328,slow=11,SNR=9.6						
CPUP	Villa Florida	18.27	55	P	P	09 46 39.2	+0.3
	2.0nm,0.3s,baz=222,slow=10,SNR=7.2						
CPUP	Villa Florida	18.27	55	P	P	09 46 39.2	+0.3
CPUP				ePn	Pn	09 46 39.9	+1.1
LPAZ	La Paz	22.39	15	P	P	09 47 25.3	+1.0
	38nm,0.8s,baz=201,slow=5.3,SNR=18						
SIV	San Ignacio	24.81	30	P	P	09 47 46.9	-0.5
	9.3nm,0.8s,baz=245,slow=15,SNR=5.4						
NNA	Nana	26.23	353	P	P	09 47 59.6	-0.6
	20nm,1.0s,baz=208,slow=12,SNR=6.1						
SAML	Samuel	30.66	21	eP	P	09 48 39.2	-0.5
	5.4nm,0.8s						
ATAH	Atahualpa	31.18	351	P	P	09 48 45.7	+0.9
	11nm,0.9s,baz=184,slow=7.4,SNR=5.1						
BDFB	Brasilia	31.98	52	P	P	09 48 51.9	+0.5
	10nm,0.8s,baz=225,slow=6.5,SNR=6.0						
OTAV	Otavalo	38.47	353	eP	P	09 49 48.9	+1.2
	137nm,1.4s						
ROSC	El Rosal	42.83	359	P	P	09 50 24.8	+1.2
	12nm,0.9s,baz=69,slow=10,SNR=5.4						
VNA3	Neumayer Olymp	46.09	156	P	P	09 50 49.3	+0.6
VNA1	Neumayer--Stat	46.45	155	P	P	09 50 53.3	+1.8
VNA2	Neumayer--Watz	46.47	156	P	P	09 50 54.5	+0.5
SDV	Santo Domingo	46.92	4	eP	P	09 50 54.9	-1.1
	50nm,1.2s						
RCBR	Riachuelo	47.13	57	P	P	09 50 58.9	+1.3
	12nm,0.9s,baz=221,slow=11,SNR=5.6						
SNAA	Sanae	48.31	156	P	P	09 51 06.4	+0.3
SNAA	Sanae	48.31	156	P	P	09 51 05.0	-1.0
	7.6nm,1.0s,baz=284,slow=5.8,SNR=8.8						
JTS	JuntasAbangare	49.33	346	P	P	09 51 15.3	+1.0
	11nm,1.0s,baz=88,slow=0.8,SNR=6.1						
QSPA	South Pole Qui	52.06	180	P	P	09 51 35.0	+0.4
	33nm,0.9s,baz=174,slow=1.0,SNR=19						
QSPA	South Pole Qui	52.06	180	eP	P	09 51 34.7	0.0
	48nm,1.0s						
APG	El Apazote	55.16	340	P	P	09 51 53.3	-4.6
	10nm,0.7s,baz=162,slow=13,SNR=11						
TEIG	Tepich	59.66	344	P	P	09 52 28.2	-1.1
	16nm,0.8s,baz=234,slow=7.2,SNR=5.5						
035A	Encino	68.65	337	⇓P	P	09 53 29.4	+1.1
	baz=69						
034A	Hebbronville	68.95	336	⇓P	P	09 53 31.1	+1.0
	baz=69						
934A	Benavides	69.40	337	⇑P	P	09 53 33.9	+1.0
	baz=70						
933A	Laredo	69.65	336	⇓P	P	09 53 34.9	+0.4
	baz=70						
834A	Tilden	69.90	337	⇓P	P	09 53 36.4	+0.4
	baz=70						
833A	Chaparral WMA,	70.35	336	⇑P	P	09 53 39.2	+0.5
	baz=71						
735A	Kenedy	70.36	338	⇑P	P	09 53 38.7	0.0
	baz=71						
832A	Faith Ranch, C	70.50	336	⇑P	P	09 53 39.8	+0.1
	baz=71						
734A	La Parita Cree	70.58	337	⇓P	P	09 53 40.6	+0.5
	baz=71						
733A	Divot King Ran	70.69	336	⇓P	P	09 53 41.4	+0.6
	baz=71						
636A	Smothers Creek	70.73	339	⇑P	P	09 53 41.7	+0.7
	baz=71						
635A	Leesville	70.85	338	⇓P	P	09 53 42.2	+0.4
	baz=71						
732A	Laxson Ranch,	70.91	336	⇓P	P	09 53 42.6	+0.5
	baz=71,SNR=7.1						
536A	Bastrop	71.29	339	⇑P	P	09 53 44.2	-0.2
	baz=72						
633A	Saathoff Ranch	71.34	337	⇑P	P	09 53 44.8	0.0
	baz=72,SNR=7.2						
535A	Dale	71.39	338	⇑P	P	09 53 44.9	-0.1
	baz=72						
632A	Uvalde	71.57	336	⇑P	P	09 53 46.8	+0.6
	baz=72,SNR=6.4						
534A	Blanco	71.66	338	⇑P	P	09 53 46.3	-0.4
	baz=72						
631A	Perdido Creek	71.74	336	⇑P	P	09 53 47.7	+0.5
	baz=72						
339A	Huntington	71.81	341	⇓P	P	09 53 47.4	-0.1
	baz=72						
533A	Kerrville	71.86	337	⇓P	P	09 53 48.1	+0.2
	baz=72,SNR=9.4						
338A	Crockett	72.02	341	⇑P	P	09 53 49.4	+0.6
	baz=72						
435B	Jarrell	72.10	339	⇓P	P	09 53 49.6	+0.3
	baz=72						
337A	Centerville	72.14	340	⇑P	P	09 53 49.8	+0.3
	baz=72						
532A	Rocksprings	72.19	336	⇓P	P	09 53 50.0	+0.1
	baz=72,SNR=10						
NATX	Nacogdoches	72.24	341	eP	P	09 53 49.7	-0.4
	157nm,1.4s						
434A	Burnet	72.33	338	⇑P	P	09 53 51.0	+0.3
	baz=73,SNR=12						
531A	Rocksprings	72.43	336	⇑P	P	09 53 51.6	+0.3
	baz=73,SNR=6.4						
336A	Riesel	72.46	339	⇓P	P	09 53 51.1	-0.3
	baz=73,SNR=8.7						
JCT	Junction City	72.48	337	⇓P	P	09 53 51.7	+0.1
	baz=73,SNR=12						
433A	Art	72.52	337	⇑P	P	09 53 51.6	-0.2
	baz=73,SNR=11						
335A	Moody	72.53	339	⇑P	P	09 53 52.0	+0.2
	baz=73						
530A	J-C Ranch, Com	72.67	335	⇑P	P	09 53 53.3	+0.6
	baz=73,SNR=6.7						
TXAR	Lajitas Array	72.72	333	P	P	09 53 53.0	-0.1
	4.5nm,0.7s,baz=153,slow=7.9,SNR=19						
334A	Lometa	72.81	338	⇑P	P	09 53 53.3	-0.2
	baz=73,SNR=14						
432A	Menard	72.85	337	⇑P	P	09 53 53.7	-0.1
	baz=73,SNR=7.4						
431A	Sonora	72.92	336	⇑P	P	09 53 54.8	+0.5
	baz=73,SNR=6.6						
529A	Stev Forest Ra	72.94	334	⇑P	P	09 53 55.4	+1.0
	baz=73						
333A	Richland Sprin	73.02	338	⇑P	P	09 53 54.6	-0.2
	baz=73,SNR=8.5						
WHTX	Lake Whitney	73.20	339	⇓P	P	09 53 55.5	-0.3
	baz=74,SNR=7.7						
430A	Baggett Ranch,	73.22	336	⇑P	P	09 53 56.4	+0.4
	baz=74,SNR=7.9						
KMSC	Kings Mountain	73.29	354	⇓P	P	09 53 53.8	-2.4
	baz=74						
429A	Davenport Ranc	73.29	335	⇑P	P	09 53 56.6	+0.1
	baz=74,SNR=7.0						
332A	Millersview	73.30	337	⇓P	P	09 53 56.5	0.0
	baz=74,SNR=12						
234A	Clairette	73.41	339	⇑P	P	09 53 56.7	-0.4
	baz=74,SNR=10						
331A	San Angelo	73.45	336	⇓P	P	09 53 57.0	-0.4
	baz=74,SNR=12						
233A	Rising Star	73.64	338	⇑P	P	09 53 58.1	-0.4
	baz=74,SNR=10						
135A	Vickery Place,	73.72	339	⇓P	P	09 53 58.4	-0.5
	baz=74						
232A	Coleman	73.74	337	⇑P	P	09 53 58.7	-0.4
	baz=74,SNR=10						
330A	Mertzon	73.78	336	⇓P	P	09 53 59.3	0.0
	baz=74						
134A	White-Moore Ra	73.92	339	⇓P	P	09 54 00.1	0.0
	baz=74						
231A	Bronte	73.99	337	⇑P	P	09 54 00.4	-0.2
	baz=74,SNR=8.0						
SUR	Sutherland	74.11	119	P	P	09 54 01.6	-0.1
	11nm,0.8s,baz=247,slow=5.0,SNR=5.3						
329A	Wagon Wheel Ra	74.11	335	⇑P	P	09 54 01.5	+0.2
	baz=74,SNR=6.5						
133A	Hamilton Ranch	74.20	338	⇓P	P	09 54 01.3	-0.4
	baz=75,SNR=9.1						
230A	Sterling City	74.20	336	⇑P	P	09 54 01.9	+0.2
	baz=75						
Z35A	Perchaven, San	74.41	340	⇑P	P	09 54 02.7	-0.1
	baz=75,SNR=7.8						
ABTX	Abilene, Hawle	74.43	338	⇓P	P	09 54 03.0	0.0
	baz=75,SNR=8.0						
229A	Bryant Ranch,	74.50	336	⇑P	P	09 54 03.7	+0.2
	baz=75						
Z34A	Collier Ranch,	74.63	339	⇑P	P	09 54 04.3	+0.2
	baz=75						
131A	Roby	74.70	337	⇓P	P	09 54 04.3	-0.3
	baz=75,SNR=6.1						
Z33A	Whitaker Ranch	74.79	339	⇑P	P	09 54 04.7	-0.4
	baz=75,SNR=8.8						
130A	Snyder	74.81	337	⇓P	P	09 54 05.4	+0.1
	baz=75						
228A	UT Block 9, Go	74.89	335	⇑P	P	09 54 06.3	+0.5
	baz=75						
Z32A	Haskell	75.02	338	⇑P	P	09 54 06.0	-0.4
	baz=75,SNR=10						
129A	Stewart Farms,	75.13	336	⇓P	P	09 54 07.3	+0.1
	baz=76						
Y34A	Reagan Ranch,	75.14	340	⇓P	P	09 54 06.9	-0.2
	baz=76						
Z31A	Sharp Cattle R	75.23	337	⇓P	P	09 54 07.2	-0.5
	baz=76,SNR=8.8						
128A	Castleberry Fa	75.32	335	⇓P	P	09 54 08.2	0.0
	baz=76,SNR=7.3						
Y33A	Hilltop Ranch,	75.43	339	⇓P	P	09 54 08.4	-0.3
	baz=76						
Z30A	Sanderson Ranc	75.50	337	⇑P	P	09 54 08.8	-0.5
	baz=76,SNR=8.5						
Y32A	R-V Farms, Ver	75.66	338	⇓P	P	09 54 09.4	-0.7
	baz=76,SNR=6.4						
Z29A	Hungry Hill Ra	75.66	336	⇑P	P	09 54 10.0	-0.2
	baz=76,SNR=12						
127A	Arkansas Junct	75.66	335	⇓P	P	09 54 10.6	+0.3
	baz=76						
X34A	Smith Ranch, M	75.76	340	⇓P	P	09 54 10.3	-0.3
	baz=76						
CASY	Casey	75.81	182	eP	P	09 54 11.1	+0.5
	20nm,0.9s						
Y31A	Rekieta Farm,	75.86	338	⇑P	P	09 54 11.4	+0.1
	baz=76						
X33A	Lawton	75.89	339	⇑P	P	09 54 11.2	-0.2
	baz=76						
Y30A	Stafford Cattl	75.97	337	⇑P	P	09 54 11.9	0.0
	baz=76						
X32A	Elmer	76.00	339	⇑P	P	09 54 11.5	-0.5
	baz=76						
Z27A	Tatum	76.20	335	⇑P	P	09 54 13.8	+0.5
	baz=77						
Y29A	Porterfield Fa	76.20	336	⇓P	P	09 54 13.4	+0.2
	baz=77						
W34A	Bridge Creek,	76.34	340	⇓P	P	09 54 13.8	-0.1
	baz=77						
X31A	McDonald Ranch	76.40	338	⇑P	P	09 54 14.1	-0.2
	baz=77,SNR=6.9						
Z26A	Caprock	76.42	334	⇑P	P	09 54 14.7	+0.2
	baz=77,SNR=5.9						
Y28A	McKinney Farm,	76.43	336	⇓P	P	09 54 14.4	-0.1
	baz=77						
W33A	Caddo, Fort Co	76.45	339	⇑P	P	09 54 14.5	-0.1
	baz=77,SNR=12						
TUL1	Tulsa	76.47	342	⇑P	P	09 54 13.8	-0.9
	baz=77,SNR=8.2						
X30A	Coker Ranch, T	76.50	337	⇑P	P	09 54 14.7	-0.2
	baz=77,SNR=5.7						
W32A	Sentinel	76.65	339	⇑P	P	09 54 15.4	-0.3
	baz=77,SNR=10						
MSTX	Muleshoe	76.65	336	⇑P	P	09 54 15.9	+0.1
	baz=77						
Z25A	Roswell	76.68	334	⇓P	P	09 54 16.3	+0.3
	baz=77,SNR=5.1						
319A	Douglas	76.69	329	⇑P	P	09 54 16.9	+0.8
	baz=77						
Y27A	Causey	76.70	335	⇑P	P	09 54 16.0	-0.1
	baz=77						
X29A	Tulia	76.75	337	⇑P	P	09 54 16.3	-0.1
	baz=77						
V34A	Guthrie	76.84	340	⇑P	P	09 54 16.2	-0.5
	baz=77,SNR=7.4						
W31A	Holland Ranch,	76.91	338	⇑P	P	09 54 16.5	-0.7
	baz=77						
Z24A	Sheeppen Canyo	76.95	333	⇑P	P	09 54 18.6	+0.9
	baz=77,SNR=5.4						
Y26A	Elida	76.96	335	⇑P	P	09 54 17.4	-0.2
	baz=77						
X28A	Dimmitt	76.97	336	⇓P	P	09 54 17.6	-0.1
	baz=77						
V33A	Lossen Ranch,	77.03	340	⇑P	P	09 54 17.4	-0.4
	baz=77,SNR=7.2						
121A	Cookes Peak, D	77.13	331	⇓P	P	09 54 20.0	+1.3
	baz=78						
AMTX	Amarillo	77.15	337	⇓P	P	09 54 18.9	+0.3
	baz=78						
V32A	Arapaho	77.15	339	⇑P	P	09 54 18.6	0.0
	baz=78						
Y25A	Mesa, Roswell	77.25	334	⇑P	P	09 54 19.4	+0.1
	baz=78						
W29A	Amraillo	77.36	337	⇓P	P	09 54 20.0	+0.2
	baz=78						
X27A	F and S Farms,	77.38	336	⇓P	P	09 54 19.8	-0.2
	baz=78						
U34A	Anderson Ranch	77.41	341	⇑P	P	09 54 19.7	-0.3
	baz=78						
V31A	Spring Creek L	77.42	339	⇓P	P	09 54 21.1	+1.0
	baz=78,SNR=7.1						
Z22A	Elephant Butte	77.46	332	⇓P	P	09 54 21.7	+1.2
	baz=78						
LIC	Lamto	77.49	72	eP	P	09 54 20.5	-0.4
	114nm,1.3s						
Y24A	Capitan	77.52	334	⇑P	P	09 54 21.2	+0.4
	baz=78						
X26A	CR and CF Fran	77.53	335	⇓P	P	09 54 20.6	-0.2
	baz=78						
U33A	Lingo Farm, Me	77.56	340	⇑P	P	09 54 19.8	-0.9
	baz=78						
V30A	Spur Ranch, Mi	77.66	338	⇓P	P	09 54 21.3	-0.2
	baz=78						
Y23A	Lovelace Mesa,	77.74	333	⇑P	P	09 54 22.9	+0.8
	baz=78						
W27A	Bowe Ranch, En	77.75	336	⇑P	P	09 54 21.9	-0.1
	baz=78,SNR=7.6						
U32A	Winter Ranch,	77.75	339	⇑P	P	09 54 21.7	-0.2
	baz=78						
TIC	Toumodi	77.77	71	eP	P	09 54 22.1	-0.4
	45nm,0.8s						
KIC	Kosan Boka	77.79	72	eP	P	09 54 23.3	+0.7
	51nm,0.8s						
DBIC	Dimbokro	77.91	72	P	P	09 54 23.1	-0.2
	19nm,0.9s,baz=215,slow=6.2,SNR=14						
DBIC	Dimbokro	77.91	72	eP	P	09 54 22.9	-0.4
	64nm,1.4s						
W26A	Owens Ranch, T	78.00	335	⇑P	P	09 54 23.7	+0.3
	baz=78,SNR=5.7						
V28A	Channing	78.12	337	⇑P	P	09 54 24.3	+0.3
	baz=78						
T33A	Patterson Ranc	78.21	340	⇑P	P	09 54 24.3	-0.1
	baz=79						
V27A	Dan Oppiter Fa	78.31	336	⇓P	P	09 54 25.9	+0.7
	baz=79						
W25A	X Bar L Ranch,	78.35	335	⇑P	P	09 54 25.8	+0.5
	baz=79						
U30A	WK&E Inc. Balk	78.36	338	⇑P	P	09 54 25.6	+0.3
	baz=79						
U29A	Oasis Ranch, S	78.47	338	⇑P	P	09 54 25.7	-0.2
	baz=79						
T32A	Huddler Ranch,	78.48	340	⇓P	P	09 54 25.5	-0.4
	baz=79						
T31A	Randall Ranch,	78.61	339	⇑P	P	09 54 26.5	-0.1
	baz=79						
V26A	Tequesquite Ra	78.66	336	⇓P	P	09 54 27.3	+0.2
	baz=79						
214A	Organ Pipe Nat	78.66	327	⇓P	P	09 54 28.5	+1.5
	baz=79						
W24A	Lazy 6 Ranch,	78.67	334	⇑P	P	09 54 27.8	+0.6
	baz=79						
U28A	Mallet	78.70	337	⇑P	P	09 54 27.3	+0.1
	baz=79						
ANMO	Albuquerque	78.80	333	P	P	09 54 26.6	-1.3
	8.9nm,1.1s,baz=164,slow=7.2,SNR=13						
T30A	Plains	78.81	339	⇓P	P	09 54 27.8	+0.1
	baz=79						
W23A	Werner Place,	78.88	334	⇓P	P	09 54 28.9	+0.5
	baz=79						
U27A	Thompson Grove	78.92	337	⇓P	P	09 54 28.5	+0.1
	baz=79						
V25A	Rancho No Teng	78.97	335	⇓P	P	09 54 28.7	-0.1
	baz=79						
S32A	Newby Ranch, P	78.98	340	⇓P	P	09 54 28.6	0.0
	baz=79						
S31A	Mullinville	79.05	340	⇑P	P	09 54 28.6	-0.4
	baz=79						
V24A	Rampart Ranch,	79.09	334	⇑P	P	09 54 30.0	+0.4
	baz=79						
T29A	Hugoton	79.14	338	⇑P	P	09 54 29.8	+0.3
	baz=80						
U26A	Atchley Ranch,	79.19	336	⇑P	P	09 54 30.6	+0.6
	baz=80						
R33A	Olander Ranch,	79.30	341	⇓P	P	09 54 30.0	-0.4
	baz=80						
S30A	Montezuma	79.34	339	⇓P	P	09 54 30.6	-0.1
	baz=80						
T28A	Walsh	79.35	337	⇓P	P	09 54 30.9	+0.1
	baz=80						
U25A	Circle Dot Ran	79.41	335	⇑P	P	09 54 31.4	+0.2
	baz=80,SNR=8.7						
V23A	Ortiz Mt. (NFS	79.42	334	⇓P	P	09 54 32.5	+1.2
	baz=80						
BOSA	Boshof	79.42	118	P	P	09 54 31.4	-0.3
	16nm,0.8s,baz=231,slow=6.0,SNR=14						
T27A	Campo	79.48	337	⇓P	P	09 54 31.8	+0.3
	baz=80						
TSUM	Tsumeb	79.48	106	P	P	09 54 32.2	+0.1
	3.7nm,0.8s,baz=210,slow=4.6,SNR=5.0						
S29A	Ulysses	79.51	338	⇑P	P	09 54 32.0	+0.4
	baz=80						
R32A	Long Quarter,	79.59	340	⇑P	P	09 54 32.2	+0.2
	baz=80						
R31A	Burdett	79.69	340	⇑P	P	09 54 32.7	+0.2
	baz=80						
KSU1	Kansas State U	79.70	342	⇑P	P	09 54 32.4	-0.2
	baz=80						
U24A	Moreno Valley	79.71	335	⇑P	P	09 54 33.6	+0.6
	baz=80						
S28A	Manter	79.72	338	⇑P	P	09 54 33.1	+0.3
	baz=80						
X18A	Snowflake	79.73	330	⇑P	P	09 54 34.1	+1.1
	baz=80						
113A	Mohawk Valley,	79.77	327	⇓P	P	09 54 34.9	+1.9
	baz=80						
V22A	San Miguel Ran	79.83	333	⇑P	P	09 54 33.8	+0.3
	baz=80						
T26A	Comanche Natio	79.86	336	⇓P	P	09 54 33.8	+0.2
	baz=80,SNR=6.1						
R30A	Dighton	79.89	339	⇓P	P	09 54 33.5	-0.1
	baz=80						
Q33A	Connelly Farm,	79.91	341	⇓P	P	09 54 33.5	-0.1
	baz=80						
U23A	El Rito	79.95	334	⇑P	P	09 54 34.7	+0.5
	baz=80						
T25A	Trinidad	80.09	336	⇑P	P	09 54 35.8	+0.9
	baz=80,SNR=8.3						
Q32A	Meitler Ranch,	80.09	341	⇑P	P	09 54 34.7	+0.1
	baz=80						
W18A	Petrified Fore	80.16	331	⇓P	P	09 54 37.3	+1.9
	baz=80						
X16A	Lo Mia Camp, P	80.22	329	⇑P	P	09 54 36.8	+1.1
	baz=81						
U22A	Llaves	80.22	334	⇑P	P	09 54 37.1	+1.4
	baz=81						
S26A	Kim	80.23	337	⇑P	P	09 54 35.8	+0.2
	baz=81,SNR=7.8						
R29A	Marienthal	80.27	339	⇑P	P	09 54 35.8	+0.1
	baz=81						
P33A	Williams Farm,	80.29	341	⇑P	P	09 54 35.0	-0.7
	baz=81						
Q31A	Ellis	80.32	340	⇑P	P	09 54 36.1	+0.1
	baz=81						
T24B	San Luis	80.34	335	⇑P	P	09 54 36.9	+0.6
	baz=81						
R28A	Tribune	80.39	338	⇑P	P	09 54 36.1	-0.2
	baz=81,SNR=6.5						
Y14A	Wickenburg	80.45	328	⇓P	P	09 54 37.9	+1.2
	baz=81						
GLA	Glamis	80.47	326	eP	P	09 54 37.5	+0.6
	17nm,1.1s						
GLA	Glamis	80.47	326	⇑P	P	09 54 38.3	+1.4
	baz=81						
T23A	Casias Ranch,	80.53	334	⇑P	P	09 54 38.0	+0.6
	baz=81						
S25A	Robets Cordova	80.57	336	⇑P	P	09 54 37.5	0.0
	baz=81						
R27A	Eads	80.63	337	⇑P	P	09 54 37.6	-0.1
	baz=81,SNR=5.9						
Q29A	Oakley	80.65	339	⇓P	P	09 54 37.3	-0.4
	baz=81						
P32A	Huiting Farm,	80.69	341	⇓P	P	09 54 37.2	-0.7
	baz=81						
P31A	Stockton	80.80	340	⇓P	P	09 54 38.6	+0.1
	baz=81						
S24A	Houchin Ranch,	80.81	335	⇑P	P	09 54 39.4	+0.5
	baz=81						
R26A	Arlington	80.84	337	⇓P	P	09 54 39.3	+0.5
	baz=81,SNR=7.1						
R25A	Fountain Ranch	80.97	336	⇓P	P	09 54 40.4	+0.9
	baz=81						

MONP Monument Peak 81.05 325 ⇑P P 09 54 43.3 +3.1
baz=81
P30A Selden 81.06 340 ⇓P P 09 54 39.8 0.0
baz=81
Q28A Sharon Springs 81.06 338 ⇑P P 09 54 40.1 +0.1
baz=81
S23A Nye Farm, Mont 81.13 335 ⇑P P 09 54 41.7 +1.2
baz=82
WUAZ Wupatki 81.15 330 ⇓P P 09 54 42.3 +1.7
baz=82
O32A Brockman Farm, 81.21 341 ⇓P P 09 54 41.0 +0.4
baz=82
KSCO Kaye Shedlock' 81.25 338 ⇑P P 09 54 41.5 +0.6
baz=82
BC3 Big Chuckawall 81.26 326 ⇓P P 09 54 42.8 +1.6
baz=82
P29A Atwood 81.30 339 ⇑P P 09 54 42.0 +0.8
baz=82
R24A Sanders Place, 81.31 336 ⇓P P 09 54 41.9 +0.5
baz=82,SNR=8.0
O31A Woolen Ranch, 81.38 341 ⇑P P 09 54 41.9 +0.4
baz=82
Q26A Hugo 81.44 337 ⇑P P 09 54 42.6 +0.5
baz=82
S22A 4UR Ranch, Cre 81.44 334 ⇑P P 09 54 42.7 +0.5
baz=82
R23A Moffat 81.51 335 ⇓P P 09 54 43.0 +0.5
baz=82
P28A Saint Francis 81.51 339 ⇓P P 09 54 42.9 +0.6
baz=82
MVCO Mesa Verde 81.55 333 ⇓P P 09 54 43.2 +0.4
baz=82
IRM Iron Mountain 81.56 326 ⇓P P 09 54 44.2 +1.6
baz=82
O30A MW Ranch, Wils 81.60 340 ⇓P P 09 54 43.2 +0.5
baz=82
Q25A Bedland, Calha 81.65 336 ⇓P P 09 54 42.8 -0.4
baz=82
PFO Pinyon Flat Ob 81.67 325 ⇓P P 09 54 45.3 +1.9
baz=82
P27A Ficken Ranch, 81.73 338 ⇓P P 09 54 43.7 +0.2
baz=82
W13A Hualapai Mount 81.81 328 ⇓P P 09 54 45.3 +1.1
baz=82
LBTB Lobatse 81.87 115 P P 09 54 43.9 -0.9
9.6nm,0.8s,baz=228,slow=6.8,SNR=8.0
P26A Davis Ranch, A 81.97 337 ⇓P P 09 54 44.6 -0.2
baz=82
Q24A Divide 81.99 336 ⇓P P 09 54 45.3 +0.2
baz=82
O28A Krutsinger Ran 82.03 339 ⇓P P 09 54 44.6 -0.4
baz=82
P25A Willow Gulch B 82.18 337 ⇓P P 09 54 46.6 +0.7
baz=82
BGNE Belgrade 82.26 342 ⇑P P 09 54 45.6 -0.5
baz=83
O27A Beecher Island 82.29 338 ⇓P P 09 54 46.6 +0.2
baz=83
GMRC Granite Mounta 82.30 326 ⇓P P 09 54 49.4 +2.8
baz=83
U15A North Rim 82.31 330 ⇓P P 09 54 48.2 +1.3
baz=83
N29A Votaw Ranch, W 82.35 340 ⇓P P 09 54 46.4 -0.2
baz=83
M31A Lambtecht Ranc 82.41 341 ⇓P P 09 54 46.8 -0.2
baz=83
P24A Kohler Place, 82.41 336 ⇑P P 09 54 48.2 +1.0
baz=83
N28A Pribbeno Ranch 82.48 339 ⇓P P 09 54 47.5 +0.1
baz=83
P23A Jefferson 82.58 336 ⇑P P 09 54 49.0 +0.7
baz=83
O26A Horse Wrangler 82.58 338 ⇑P P 09 54 48.9 +0.9
baz=83
ISCO Idaho Springs 82.89 336 ⇓P P 09 54 50.7 +0.8
baz=83
M29A Burnside Ranch 82.95 340 ⇓P P 09 54 50.2 +0.4
baz=83
P22A Eagle 83.09 335 ⇑P P 09 54 51.8 +1.1
baz=83
L31A Butterfield Fa 83.16 342 ⇓P P 09 54 51.4 +0.6
baz=84
L30A Spencer Herefo 83.17 341 ⇑P P 09 54 51.3 +0.4
baz=84
GSC Goldstone 83.25 326 ⇑P P 09 54 53.5 +2.1
baz=84
O23A Lake Granby, G 83.37 336 ⇓P P 09 54 52.5 +0.3
baz=84
EDW2 Edwards Air Fo 83.42 325 ⇑P P 09 54 54.0 +1.6
baz=84
O22A Kremmling 83.53 335 ⇑P P 09 54 53.3 +0.2
baz=84
N24A Carr 83.60 337 ⇓P P 09 54 53.5 +0.3
baz=84
K30A Basset 83.82 341 ⇓P P 09 54 54.0 -0.2
baz=84
N23A Red Feather La 83.99 336 ⇑P P 09 54 55.9 +0.5
baz=84
O20A White River Ci 84.07 334 ⇓P P 09 54 56.3 +0.6
baz=84
N22A Wattenberg Ran 84.08 336 ⇑P P 09 54 56.4 +0.6
baz=84
ECSD EROS Data Cent 84.11 344 ⇑P P 09 54 55.1 -0.5
baz=84,SNR=7.6
M24A Cheyenne 84.17 337 ⇓P P 09 54 57.0 +0.8
baz=84
K28A Ten Mile Ranch 84.32 340 ⇓P P 09 54 57.3 +0.6
baz=85
K27A Flueckinger Fa 84.55 339 ⇑P P 09 54 58.3 +0.4
baz=85
J29A Okreek 84.69 341 ⇓P P 09 54 58.6 0.0
baz=85
N20A Spence Gulch, 84.70 334 ⇓P P 09 54 59.7 +0.7
baz=85
VES Vestal, Richgr 84.72 325 ⇓P P 09 55 01.3 +2.5
baz=85
SPMN St. Paul 84.77 347 ⇑P P 09 54 58.4 -0.5
baz=85
I30A Oacoma 84.94 342 ⇓P P 09 54 59.7 -0.1
baz=85
J27A Elkhorn Farm, 84.99 340 ⇓P P 09 55 00.4 +0.2
baz=85,SNR=6.7
L23A Garrett 85.02 337 ⇑P P 09 55 00.7 +0.1
baz=85
I29A Vivian Onida 85.26 341 ⇓P P 09 55 01.4 0.0
baz=86
R11A Troy Canyon, C 85.30 328 ⇑P P 09 55 03.0 +1.0
baz=86
BRSD Miller 85.32 342 ⇑P P 09 55 01.3 -0.4
baz=86
J26A Sides Ranch, S 85.34 339 ⇓P P 09 55 02.3 +0.4
baz=86
I28A Midland 85.46 341 ⇑P P 09 55 02.8 +0.3
baz=86
K23A Bowen Ranch, D 85.58 337 ⇓P P 09 55 02.9 -0.3
baz=86
J25A Sunshine Ranch 85.62 339 ⇑P P 09 55 03.5 +0.2
baz=86
I27A Quinn 85.76 340 ⇓P P 09 55 03.6 -0.3
baz=86
K22A Casper 85.77 336 ⇑P P 09 55 04.8 +0.7
baz=86
DUG Dugway 85.78 331 ⇑P P 09 55 05.1 +0.8
baz=86
H29A Onida 85.80 341 ⇓P P 09 55 03.7 -0.4
baz=86
J24A Dixon Ranch, L 85.82 338 ⇓P P 09 55 05.1 +0.7
baz=86
I26A New Underwood 85.95 339 ⇑P P 09 55 04.6 -0.3
baz=86
K21A Alcova 85.98 336 ⇑P P 09 55 05.2 0.0
baz=86
G30A Faulkton 86.01 342 ⇓P P 09 55 05.0 -0.1
baz=86
H28A Mission Ridge 86.05 341 ⇑P P 09 55 05.0 -0.3
baz=86
MLAC Mammoth Lakes 86.09 326 ⇓P P 09 55 07.4 +1.4
baz=86
I25A Rochford 86.18 339 ⇑P P 09 55 05.9 -0.3
baz=87
G29A Hoven 86.26 342 ⇓P P 09 55 06.1 -0.3
baz=87
H27A Howes 86.29 340 ⇓P P 09 55 06.2 -0.3
baz=87
G28A Parade 86.40 341 ⇓P P 09 55 06.9 -0.2
baz=87
J22A Midwest 86.44 337 ⇑P P 09 55 08.1 +0.7
baz=87

NVAR Mina Array Bea 86.52 327 P P 09 55 06.6 -1.4
1.0nm,0.8s,baz=170,slow=5.5,SNR=4.7
J21A Lysite 86.69 336 ⇑P P 09 55 09.6 +0.8
baz=87
H25A Fruitdale 86.70 339 ⇑P P 09 55 08.9 +0.3
baz=87
F29A Eureka 86.84 342 ⇑P P 09 55 08.8 -0.4
baz=87
PDAR Pinedale Array 86.86 335 P P 09 55 08.6 -1.0
3.9nm,1.0s,baz=145,slow=5.4,SNR=9.5
I22A 9 Mile Ranch, 86.88 337 ⇓P P 09 55 10.5 +0.9
baz=87
J20A Shoshoni 86.90 336 ⇑P P 09 55 10.4 +0.7
baz=87
G27A Dupree 86.94 341 ⇑P P 09 55 09.8 0.0
baz=87
TOA0 Torodi Ar. Sit 87.00 71 eP P 09 55 09.8 -0.9
TORD Torodi Ar. Bea 87.00 71 P P 09 55 09.6 -1.1
3.6nm,0.9s,baz=234,slow=3.1,SNR=8.6
G26A Maurine 87.04 340 ⇓P P 09 55 10.2 0.0
baz=87
I21A Big Trails, Te 87.06 336 ⇓P P 09 55 10.3 -0.1
baz=87
H24A Dirks Ranch, A 87.08 339 ⇑P P 09 55 10.3 -0.1
baz=88
F28A McLaughlin 87.09 342 ⇑P P 09 55 10.1 -0.3
baz=88
J19A Crowheart 87.14 335 ⇑P P 09 55 10.7 -0.2
baz=88
G25A Newell 87.17 340 ⇓P P 09 55 10.2 -0.7
baz=88
E30A Jud 87.25 343 ⇑P P 09 55 10.9 -0.2
baz=88
F27A Lemmon 87.43 341 ⇓P P 09 55 11.5 -0.6
baz=88
I20A Worland 87.45 336 ⇑P P 09 55 12.6 +0.3
baz=88
E29A Napoleon 87.48 343 ⇑P P 09 55 11.4 -0.9
baz=88
F26A Lodgepole 87.58 340 ⇑P P 09 55 12.6 -0.1
baz=88
E28A Huff 87.75 342 ⇓P P 09 55 13.1 -0.4
baz=88
D30A Buchanan 87.79 343 ⇑P P 09 55 13.1 -0.6
baz=88
I19A Meeteetse 87.80 335 ⇑P P 09 55 14.0 -0.1
baz=88
E27A Carson 87.83 341 ⇓P P 09 55 13.6 -0.4
baz=88
H20A Greybull 87.89 336 ⇓P P 09 55 13.9 -0.5
baz=88
D29A Pettibone, Tap 87.94 343 ⇓P P 09 55 13.7 -0.8
baz=88
F24A Ekalaka 88.06 339 ⇑P P 09 55 14.6 -0.5
baz=88
E26A Carlson Angus 88.10 341 ⇑P P 09 55 14.7 -0.5
baz=88
F23A Volborg 88.22 338 ⇓P P 09 55 15.4 -0.5
baz=89
I17A Pilgrim Ck. 88.23 334 ⇓P P 09 55 16.6 +0.4
baz=89
C30A Mose, Pekin 88.29 344 ⇓P P 09 55 15.2 -0.8
baz=89
D28A Regan 88.29 342 ⇑P P 09 55 15.6 -0.6
baz=89
AGMN Agassiz Nation 88.31 346 eP P 09 55 15.2 -0.9
18nm,1.1s
AGMN Agassiz Nation 88.31 346 ⇑P P 09 55 15.2 -0.9
baz=89
H19A Powell 88.37 336 ⇓P P 09 55 17.1 +0.4
baz=89
H18A Shoshone NF, C 88.59 335 ⇓P P 09 55 18.4 +0.5
baz=89
D26A Manning 88.61 341 ⇓P P 09 55 17.4 -0.3
baz=89
G20A Bridger 88.61 336 ⇑P P 09 55 18.8 +1.0
baz=89
E24A Baker 88.67 340 ⇑P P 09 55 18.6 +0.6
baz=89
D25A Fairfield 88.95 340 ⇓P P 09 55 19.7 +0.4
baz=89
B30A Myrvik Farm, E 88.96 344 ⇑P P 09 55 18.9 -0.4
baz=89
C27A Sayler Ranch, 89.01 342 ⇓P P 09 55 19.4 -0.1
baz=89
B29A Wagenman Farm, 89.20 343 ⇓P P 09 55 20.0 -0.4
baz=90
HLID Hailey 89.29 332 ⇑P P 09 55 22.0 +0.9
baz=90
A30A Hoffart Farm, 89.42 344 ⇓P P 09 55 21.0 -0.4
baz=90
B28A Dugan Ranch, T 89.42 343 ⇑P P 09 55 21.3 0.0
baz=90
C25A Freed Ranch, W 89.45 341 ⇓P P 09 55 22.0 +0.4
baz=90
D23A Lindsay 89.48 339 ⇑P P 09 55 22.6 +0.8
baz=90
C24A Savage 89.59 340 ⇑P P 09 55 22.4 +0.2
baz=90
A29A Manning Farm, 89.61 344 ⇑P P 09 55 22.1 -0.2
baz=90
LSZ Lusaka 89.86 109 P P 09 55 25.3 +0.8
3.2nm,0.7s,baz=93,slow=5.3,SNR=3.1
LSZ Lusaka 89.86 109 eP P 09 55 23.9 -0.6
36nm,1.7s
BSMT Bassoo Peak 93.10 334 eP P 09 55 39.0 +0.3
6.1nm,1.3s
WALA Waterton Lakes 93.84 335 eP P 09 55 41.8 -0.2
0.1nm,1.1s
YKA Yellowknife Ar 105.55 342 Pdiff Pdif 09 56 38.2 +4.1
0.1nm,0.6s,baz=137,slow=4.3,SNR=3.6
SEW Seward 115.76 327 ePKPdf PKPdf 10 01 10.5 +4.0
GERES GERESS Array B 116.10 47 PKP PKPdf 10 01 06.3 -1.4
0.9nm,0.7s,baz=332,slow=3.3,SNR=3.6
WRA Warramunga Arr 116.40 210 PKP PKPdf 10 01 08.3 -0.9
1.0nm,0.5s,baz=156,slow=1.7,SNR=15
H11S2 WAKE ISLAND Hy 124.17 267 T T 12 17 34.1
baz=126,slow=75,SNR=7.0
H11S1 WAKE ISLAND Hy 124.18 267 T T 12 17 35.6
baz=126,slow=75,SNR=7.0
H11S3 WAKE ISLAND Hy 124.19 267 T T 12 17 38.7
baz=126,slow=75,SNR=5.6
BRTR Keskin Array B 125.07 64 PKP PKPdf 10 01 24.8 -0.6
1.7nm,0.8s,baz=186,slow=2.8,SNR=11
AKASG Malin Array Be 126.05 50 PKP PKPdf 10 01 25.1 -1.5
0.5nm,0.4s,baz=260,slow=2.6,SNR=4.6
GEYT Alibeck 142.52 75 PKhKP PKPpre 10 01 51.4
1.8nm,0.6s,baz=268,slow=7.4,SNR=3.6
AKTO Aktyubinsk 144.06 54 PKP PKPab 10 01 57.5 -0.2
6.6nm,0.7s,baz=264,slow=3.6,SNR=12
ABKAR Akbulak array 145.33 56 ePKPdf PKPbc 10 02 01.8 -0.4
KULM Kulim 146.88 170 ePKPbc PKPbc 10 02 06.4 +0.3
HYB Hyderabad 148.21 123 i PKP PKPbc 10 02 10.0 -1.5
BVAR Borovoye Array 151.27 47 PKPbc PKPbc 10 02 17.6 -0.3
4.1nm,0.6s,baz=287,slow=3.9,SNR=14
KKAR Karatay Array 152.66 68 ePKPbc PKPbc 10 02 21.2 -0.2
AAK Ala-Archa 155.57 69 PKPbc PKPdf 10 02 27.7 +9.0
1.9nm,0.6s,baz=188,slow=2.5,SNR=6.0
AAK PKPab PKPab 10 02 44.7 -0.1
8.8nm,0.8s,baz=186,slow=2.7,SNR=9.9
ZALV Zalesovo Beam 158.51 36 PKP PKPdf 10 02 21.1 -0.7
2.1nm,0.8s,baz=325,slow=1.8,SNR=3.8
ZALV PKPab PKPab 10 02 56.1 -0.6
5.2nm,0.7s,baz=296,slow=5.8,SNR=7.5
CMAR Chiang Mai Arr 159.36 160 PKPab PKPab 10 03 01.8 +0.5
2.5nm,0.3s,baz=145,slow=2.2,SNR=5.7
MK31 Makanchi Array 160.48 56 ePKPdf PKPdf 10 02 24.4 0.0
MKAR Makanchi Array 160.48 56 PKP PKPdf 10 02 24.1 -0.3
1.8nm,1.1s,baz=289,slow=3.7,SNR=3.6
MKAR PKPab PKPab 10 03 04.4 -1.3
3.9nm,0.7s,baz=289,slow=4.1,SNR=14
SONM Songino Array 170.35 359 PKP PKPdf 10 02 31.0 -1.6
0.5nm,0.9s,baz=80,slow=1.6,SNR=3.4
SONM PKPab PKPab 10 03 48.6 -0.5
3.7nm,1.1s,baz=329,slow=3.3,SNR=7.5

*IDC **27** 09:43:24.6±0.6, 37.°19S×73.°47W, h0km, mb5.0/21, mb1 5.0/23, mb1mx4.9/41, mbtmp4.9/23, ML4.6/2, Error ellipse: s-maj=19.8km s-min=15.5km az=69.0*
*ISCJB **27** 09:43:29.7±0.4, 36.°83S±0.°08×73.°07W±0.°09, h33km, mb5.2/63, Error ellipse: s-maj=13.1km s-min=8.6km az=40.2*
*NEIC **27** 09:43:30.4±0.2, 37.°11S×73.°32W, h35km, mb5.0/11, Error ellipse: s-maj=8.1km s-min=6.7km az=51.0*
ISC 27 09:43:26.9±0.4, 37.°19S±0.°08×73.°4W±0.°1, h14km, n501, σ0.69/501, mb5.2/64, 198C-205D, Near coast of central Chile

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

CFAA Coronel Fontan 7.02 39 Pn Pn 09 45 10.3 +1.0
2.2nm,0.3s,baz=209,slow=10,SNR=2.8
TRQA Tornquist 9.11 99 Pn Pn 09 45 37.9 -0.1
CPUP Villa Florida 17.41 56 P P 09 47 30.9 +0.2
1.7nm,0.3s,baz=241,slow=8.2,SNR=2.8
LPAZ La Paz 21.34 14 P P 09 48 15.0 +0.7
52nm,1.0s,baz=169,slow=11,SNR=4.6
SIV San Ignacio 23.78 31 P P 09 48 38.0 -1.1
37nm,0.8s,baz=216,slow=11,SNR=8.2
NNA Nana 25.28 352 P P 09 48 51.4 -1.6
20nm,0.9s,baz=206,slow=8.9,SNR=3.8
ATAH Atahualpa 30.26 350 P P 09 49 37.7 -0.2
21nm,0.9s,baz=182,slow=9.5,SNR=6.9
ROSC El Rosal 41.84 359 P P 09 51 18.0 +1.1
9.0nm,0.5s,baz=235,slow=8.0,SNR=6.2
ROSC El Rosal 41.84 359 eP P 09 51 20.0 +3.1
RCBR Riachuelo 46.29 57 P P 09 51 52.7 +0.3
9.9nm,0.7s,baz=198,slow=9.3,SNR=5.3
JTS JuntasAbangare 48.46 345 P P 09 52 09.5 +0.5
24nm,1.1s,baz=149,slow=4.1,SNR=8.0
SNAA Sanae 49.08 157 P P 09 52 14.9 +1.6
8.6nm,1.1s,baz=284,slow=5.5,SNR=3.5
APG El Apazote 54.34 340 P P 09 52 49.5 -3.9
baz=160,slow=4.5
CELP Cerrillos 55.34 8 eP P 09 52 59.2 -1.2
LRS Lares 55.53 8 eP P 09 52 59.5 -2.2
TEIG Tepich 58.80 344 P P 09 53 23.8 -0.9
48nm,1.0s,baz=180,slow=8.9,SNR=6.9
TEIG Tepich 58.80 344 eP P 09 53 24.2 -0.6
73nm,1.1s
SYO Syowa Base 63.32 158 ⇑eP P 09 53 45.9 -9.0
SYO Syowa Base 63.32 158 ⇑eP P 09 53 53.2 -1.7
035Z Hargill 67.43 336 ⇓P P 09 54 22.7 +0.7
baz=68
035A Encino 67.88 336 ⇑P P 09 54 26.4 +1.6
baz=68
936A North Padre Is 68.08 337 ⇓P P 09 54 27.5 +1.5
baz=68
034A Hebbronville 68.19 336 ⇓P P 09 54 27.7 +1.0
baz=68
934A Benavides 68.63 336 ⇓P P 09 54 31.4 +1.9
baz=69
933A Laredo 68.89 335 ⇓P P 09 54 32.0 +0.8
baz=69,SNR=6.1
TIGA Tifton 68.93 351 ⇓P P 09 54 30.7 -0.6
baz=69
835A Beeville 69.05 337 ⇓P P 09 54 33.1 +1.0
baz=69
834A Tilden 69.13 336 ⇑P P 09 54 33.6 +1.0
baz=69,SNR=6.3
735A Kenedy 69.58 337 ⇓P P 09 54 36.0 +0.7
baz=70,SNR=5.6
833A Chaparral WMA, 69.59 336 ⇓P P 09 54 35.8 +0.3
baz=70,SNR=8.5
832A Faith Ranch, C 69.74 335 ⇑P P 09 54 36.4 0.0
baz=70,SNR=6.8
734A La Parita Cree 69.80 337 ⇓P P 09 54 37.1 +0.4
baz=70
733A Divot King Ran 69.92 336 ⇓P P 09 54 37.9 +0.4
baz=70
636A Smothers Creek 69.93 338 ⇓P P 09 54 37.7 +0.2
baz=70,SNR=5.8
635A Leesville 70.06 337 ⇑P P 09 54 38.7 +0.4
baz=70
732A Laxson Ranch, 70.15 335 ⇑P P 09 54 39.0 +0.1
baz=70,SNR=7.7
536A Bastrop 70.49 338 ⇓P P 09 54 40.7 -0.3
baz=71,SNR=5.2
633A Saathoff Ranch 70.57 336 ⇓P P 09 54 41.8 +0.3
baz=71,SNR=5.7
535A Dale 70.60 338 ⇓P P 09 54 41.2 -0.4
baz=71,SNR=7.2
632A Uvalde 70.81 336 ⇑P P 09 54 42.5 -0.5
baz=71
GOGA Godfrey 70.86 351 eP P 09 54 42.0 -1.2
163nm,1.8s
534A Blanco 70.87 337 ⇑P P 09 54 43.3 0.0
baz=71
339A Huntington 70.98 341 ⇓P P 09 54 43.3 -0.6
baz=71
631A Perdido Creek 70.98 335 ⇑P P 09 54 44.4 +0.4
baz=71
LRAL Lakeview Retre 71.01 348 eP P 09 54 43.1 -0.9
135nm,1.8s
436A Wall Ranch, Ga 71.06 339 ⇓P P 09 54 44.5 +0.1
baz=71
533A Kerrville 71.09 337 ⇑P P 09 54 44.4 -0.2
baz=71,SNR=7.3
338A Crockett 71.20 340 ⇓P P 09 54 45.2 -0.1
baz=72
435B Jarrell 71.31 338 ⇓P P 09 54 46.2 +0.3
baz=72
337A Centerville 71.32 340 ⇓P P 09 54 45.9 0.0
baz=72,SNR=5.3
NATX Nacogdoches 71.41 341 eP P 09 54 47.0 +0.5
30nm,0.8s
532A Rocksprings 71.42 336 ⇑P P 09 54 47.0 +0.3
baz=72,SNR=5.9
434A Burnet 71.54 338 ⇑P P 09 54 47.2 -0.2
baz=72,SNR=7.0
336A Riesel 71.66 339 ⇓P P 09 54 47.5 -0.5
baz=72,SNR=6.3
531A Rocksprings 71.67 335 ⇓P P 09 54 48.1 0.0
baz=72
JCT Junction City 71.71 336 ⇓P P 09 54 48.3 -0.1
baz=72,SNR=5.3
335A Moody 71.73 338 ⇓P P 09 54 48.3 -0.2
baz=72
433A Art 71.74 337 ⇓P P 09 54 48.4 -0.1
baz=72,SNR=6.7
530A J-C Ranch, Com 71.92 335 ⇓P P 09 54 49.9 +0.2
baz=72,SNR=7.3
TXAR Lajitas Array 72.00 332 P P 09 54 50.5 +0.2
16nm,1.0s,baz=148,slow=7.4,SNR=12
334A Lometa 72.02 338 ⇑P P 09 54 50.1 -0.1
baz=72,SNR=6.3
432A Menard 72.08 336 ⇓P P 09 54 50.3 -0.2
baz=72
431A Sonora 72.16 336 ⇓P P 09 54 51.3 +0.2
baz=72,SNR=5.7
529A Stev Forest Ra 72.20 334 ⇓P P 09 54 51.5 +0.1
baz=72,SNR=8.4
333A Richland Sprin 72.24 337 ⇑P P 09 54 51.2 -0.3
baz=72,SNR=5.2
KMSC Kings Mountain 72.34 353 ⇑P P 09 54 50.7 -1.3
baz=73
WHTX Lake Whitney 72.40 339 ⇓P P 09 54 52.2 -0.2
baz=73,SNR=7.6
430A Baggett Ranch, 72.47 335 ⇑P P 09 54 53.0 0.0
baz=73,SNR=7.1
332A Millersview 72.53 337 ⇑P P 09 54 53.0 -0.3
baz=73,SNR=6.4
429A Davenport Ranc 72.54 334 ⇓P P 09 54 53.6 +0.2
baz=73,SNR=6.0
234A Clairette 72.61 338 ⇓P P 09 54 53.7 0.0
baz=73,SNR=5.7
331A San Angelo 72.68 336 ⇑P P 09 54 54.1 -0.1
baz=73,SNR=7.4
233A Rising Star 72.86 338 ⇓P P 09 54 55.1 -0.1
baz=73
OXF Oxford 72.88 346 eP P 09 54 54.6 -0.6
55nm,1.0s
135A Vickery Place, 72.92 339 ⇑P P 09 54 55.2 -0.4
baz=73
232A Coleman 72.97 337 ⇑P P 09 54 55.6 -0.3
baz=73,SNR=7.2
330A Mertzon 73.02 335 ⇓P P 09 54 55.9 -0.3
baz=73,SNR=5.6
TKL Tuckaleechee C 73.12 351 P P 09 54 55.2 -1.4
27nm,1.1s,baz=157,slow=4.3,SNR=7.8
TKL Tuckaleechee C 73.12 351 eP P 09 54 55.6 -1.0
134A White-Moore Ra 73.13 338 ⇓P P 09 54 56.4 -0.3
baz=73,SNR=5.8
231A Bronte 73.22 336 ⇑P P 09 54 57.3 -0.1
baz=74,SNR=6.9
329A Wagon Wheel Ra 73.36 335 ⇓P P 09 54 58.3 0.0
baz=74,SNR=7.4
133A Hamilton Ranch 73.41 338 ⇓P P 09 54 58.2 -0.3
baz=74,SNR=7.2
230A Sterling City 73.44 336 ⇓P P 09 54 58.5 -0.2
baz=74
Z35A Perchaven, San 73.60 339 ⇑P P 09 54 59.2 -0.3
baz=74,SNR=8.7
ABTX Abilene, Hawle 73.65 337 ⇓P P 09 54 59.5 -0.3

Sta	Name	Dist	Az	Phase		Time	Res
	baz=74,SNR=7.1						
229A	Bryant Ranch, baz=74,SNR=5.7	73.74	335	⇑P	P	09 55 00.4	0.0
MIAR	Mount Ida 55nm,1.9s	73.80	343	eP	P	09 55 00.5	-0.2
Z34A	Collier Ranch, baz=74	73.83	339	⇓P	P	09 55 00.4	-0.5
131A	Roby baz=74,SNR=6.0	73.93	337	⇑P	P	09 55 01.2	-0.3
Z33A	Whitaker Ranch baz=74,SNR=5.7	74.00	338	⇑P	P	09 55 01.4	-0.4
130A	Snyder baz=74,SNR=6.2	74.04	336	⇓P	P	09 55 01.8	-0.4
228A	UT Block 9, Go baz=74,SNR=8.2	74.15	335	⇑P	P	09 55 02.7	-0.1
Z32A	Haskell baz=74,SNR=8.3	74.23	338	⇓P	P	09 55 03.1	-0.1
Y34A	Reagan Ranch, baz=75,SNR=5.4	74.33	339	⇓P	P	09 55 03.3	-0.5
129A	Stewart Farms, baz=75,SNR=6.6	74.37	335	⇓P	P	09 55 03.7	-0.5
Z31A	Sharp Cattle R baz=75,SNR=6.1	74.45	337	⇑P	P	09 55 04.3	-0.2
128A	Castleberry Fa baz=75,SNR=8.5	74.57	335	⇓P	P	09 55 05.3	0.0
Y33A	Hilltop Ranch, baz=75,SNR=5.3	74.63	338	⇓P	P	09 55 05.2	-0.3
Z30A	Sanderson Ranc baz=75,SNR=9.6	74.73	336	⇓P	P	09 55 05.9	-0.3
MNTX	Cornudas Mount 17nm,1.1s	74.77	332	eP	P	09 55 05.2	-1.2
Y32A	R-V Farms, Ver baz=75	74.87	338	⇑P	P	09 55 06.4	-0.5
Z29A	Hungry Hill Ra baz=75,SNR=8.6	74.89	336	⇑P	P	09 55 06.7	-0.5
127A	Arkansas Junct baz=75	74.92	334	⇓P	P	09 55 07.7	+0.3
X34A	Smith Ranch, M baz=75	74.95	339	⇑P	P	09 55 07.3	-0.1
Y31A	Rekieta Farm, baz=75,SNR=5.4	75.08	337	⇑P	P	09 55 07.9	-0.2
X33A	Lawton baz=75	75.09	339	⇓P	P	09 55 07.8	-0.4
Y30A	Stafford Cattl baz=76	75.20	337	⇑P	P	09 55 08.5	-0.4
X32A	Elmer baz=76	75.21	338	⇑P	P	09 55 08.6	-0.3
Y29A	Porterfield Fa baz=76,SNR=6.3	75.43	336	⇓P	P	09 55 09.9	-0.4
Z27A	Tatum baz=76	75.45	335	⇑P	P	09 55 10.5	+0.1
W34A	Bridge Creek, baz=76,SNR=5.3	75.53	340	⇑P	P	09 55 10.7	0.0
X31A	McDonald Ranch baz=76,SNR=7.3	75.61	338	⇑P	P	09 55 11.0	-0.2
TUL1	Tulsa baz=76,SNR=6.1	75.64	341	⇑P	P	09 55 10.9	-0.4
W33A	Caddo, Fort Co baz=76,SNR=7.5	75.65	339	⇓P	P	09 55 11.4	-0.1
Y28A	McKinney Farm, baz=76,SNR=5.9	75.67	336	⇓P	P	09 55 11.1	-0.5
Z26A	Caprock baz=76,SNR=11	75.68	334	⇑P	P	09 55 11.8	0.0
X30A	Coker Ranch, T baz=76	75.72	337	⇑P	P	09 55 12.5	+0.7
W32A	Sentinel baz=76,SNR=9.9	75.85	338	⇑P	P	09 55 12.7	+0.1
MSTX	Muleshoe baz=76,SNR=5.9	75.90	335	⇑P	P	09 55 12.4	-0.6
Z25A	Roswell baz=76,SNR=7.0	75.95	333	⇑P	P	09 55 13.8	+0.5
Y27A	Causey baz=76,SNR=5.7	75.95	335	⇑P	P	09 55 12.9	-0.4
X29A	Tulia baz=76	75.98	336	⇑P	P	09 55 13.0	-0.5
319A	Douglas baz=76	76.02	329	⇑P	P	09 55 14.7	+0.9
V34A	Guthrie 161nm,1.7s	76.03	340	eP	P	09 55 12.9	-0.7
V34A	Guthrie baz=76,SNR=6.6	76.03	340	⇓P	P	09 55 12.8	-0.7
W31A	Holland Ranch, baz=76,SNR=6.3	76.12	338	⇑P	P	09 55 13.8	-0.3
X28A	Dimmitt baz=76	76.21	336	⇑P	P	09 55 14.6	-0.2
Y26A	Elida baz=76,SNR=6.9	76.21	334	⇑P	P	09 55 15.1	+0.3
V33A	Lossen Ranch, baz=76,SNR=8.3	76.23	339	⇓P	P	09 55 14.6	0.0
Z24A	Sheeppen Canyo baz=76,SNR=7.6	76.23	333	⇑P	P	09 55 15.2	+0.2
V32A	Arapaho baz=77	76.35	339	⇑P	P	09 55 15.1	-0.3
AMTX	Amarillo 183nm,1.6s	76.38	336	eP	P	09 55 15.4	-0.2
AMTX	Amarillo baz=77	76.38	336	⇑P	P	09 55 15.5	-0.1
121A	Cookes Peak, D baz=77	76.43	331	⇑P	P	09 55 17.0	+0.9
Y25A	Mesa, Roswell baz=77,SNR=6.5	76.52	334	⇓P	P	09 55 16.7	+0.2
W29A	Amraillo baz=77,SNR=6.5	76.58	336	⇑P	P	09 55 16.6	-0.2
U34A	Anderson Ranch baz=77	76.60	340	⇓P	P	09 55 16.3	-0.4
X27A	F and S Farms, baz=77,SNR=5.5	76.62	335	⇓P	P	09 55 16.9	-0.2
V31A	Spring Creek L baz=77,SNR=6.4	76.63	338	⇓P	P	09 55 17.6	+0.6
Z22A	Elephant Butte baz=77,SNR=7.9	76.75	332	⇓P	P	09 55 19.1	+1.2
X26A	CR and CF Fran baz=77,SNR=8.0	76.78	335	⇑P	P	09 55 18.2	+0.2
Y24A	Capitan baz=77,SNR=6.6	76.79	333	⇓P	P	09 55 18.8	+0.6
CASY	Casey 15nm,0.9s	76.81	182	eP	P	09 55 19.8	+2.1
V30A	Spur Ranch, Mi baz=77	76.88	337	⇑P	P	09 55 18.8	+0.4
W28A	Vega baz=77	76.89	336	⇑P	P	09 55 18.4	-0.2
U32A	Winter Ranch, baz=77	76.95	339	⇓P	P	09 55 18.5	-0.2
W27A	Bowe Ranch, En baz=77,SNR=10	76.99	335	⇑P	P	09 55 19.0	-0.2
Y23A	Lovelace Mesa, baz=77	77.02	333	⇓P	P	09 55 19.9	+0.5
X25A	Clemmons Ranch baz=77	77.05	334	⇑P	P	09 55 19.5	-0.1
U31A	Nine Bar Ranch baz=78	77.19	338	⇓P	P	09 55 20.0	-0.2
V29A	Stinnett baz=78	77.24	337	⇓P	P	09 55 20.3	-0.2
W26A	Owens Ranch, T baz=78,SNR=6.2	77.25	335	⇑P	P	09 55 20.8	+0.2
V28A	Channing baz=78	77.35	336	⇓P	P	09 55 21.6	+0.5
X24A	Lazy VL Ranch, baz=78	77.36	333	⇑P	P	09 55 21.7	+0.4
T33A	Patterson Ranc baz=78	77.40	340	⇑P	P	09 55 21.6	+0.4
V27A	Dan Oppiter Fa baz=78	77.55	336	⇓P	P	09 55 22.5	+0.2
LENM	Lemitar 3.2nm,0.8s	77.57	332	eP	P	09 55 23.3	+0.8
U30A	WK&E Inc. Balk baz=78,SNR=5.3	77.58	338	⇑P	P	09 55 22.1	-0.3
W25A	X Bar L Ranch, baz=78,SNR=7.3	77.61	334	⇑P	P	09 55 22.9	+0.3
X23A	Hourglass Bar baz=78	77.65	333	⇑P	P	09 55 23.6	+0.7
T32A	Huddler Ranch, baz=78	77.68	339	⇓P	P	09 55 22.9	+0.1
U29A	Oasis Ranch, S baz=78	77.69	337	⇓P	P	09 55 23.0	0.0
S33A	Kaszmaul Farm, baz=78	77.81	340	⇓P	P	09 55 23.7	+0.2
T31A	Randall Ranch, baz=78,SNR=5.1	77.81	339	⇑P	P	09 55 23.6	0.0
LAZ	Ladron 42nm,1.6s	77.84	332	eP	P	09 55 25.3	+1.2
V26A	Tequesquite Ra baz=78,SNR=6.1	77.90	335	⇑P	P	09 55 24.4	+0.1
U28A	Mallet baz=78	77.92	337	⇑P	P	09 55 24.4	+0.1
W24A	Lazy 6 Ranch, baz=78,SNR=6.9	77.93	334	⇓P	P	09 55 24.8	+0.3
T30A	Plains baz=78	78.02	338	⇑P	P	09 55 24.7	-0.1
214A	Organ Pipe Nat baz=78	78.02	327	⇓P	P	09 55 26.0	+1.1
ANMO	Albuquerque 21nm,1.1s,baz=156,slow=7.9,SNR=12	78.07	333	P	P	09 55 26.5	+1.2
W23A	Werner Place, baz=78,SNR=7.2	78.15	333	⇓P	P	09 55 26.6	+0.8
U27A	Thompson Grove baz=78,SNR=5.4	78.15	336	⇓P	P	09 55 25.6	0.0
S32A	Newby Ranch, P baz=78,SNR=5.6	78.17	340	⇓P	P	09 55 25.4	-0.1
SFIN	Scholer Farm baz=78	78.21	349	⇓P	P	09 55 24.6	-1.0
V25A	Rancho No Teng baz=78,SNR=7.6	78.22	335	⇑P	P	09 55 26.4	+0.2
S31A	Mullinville baz=78	78.25	339	⇓P	P	09 55 26.3	+0.3
V24A	Rampart Ranch, baz=79	78.35	334	⇑P	P	09 55 26.7	-0.2
T29A	Hugoton baz=79,SNR=6.6	78.35	338	⇑P	P	09 55 26.6	0.0
U26A	Atchley Ranch, baz=79	78.43	335	⇑P	P	09 55 27.3	0.0
R33A	Olander Ranch, baz=79	78.48	340	⇑P	P	09 55 27.0	-0.2
S30A	Montezuma baz=79,SNR=5.8	78.55	338	⇑P	P	09 55 27.9	+0.2
T28A	Walsh baz=79,SNR=9.4	78.57	337	⇑P	P	09 55 27.4	-0.4
U25A	Circle Dot Ran baz=79,SNR=7.1	78.66	335	⇓P	P	09 55 28.7	+0.2
V23A	Ortiz Mt. (NFS baz=79	78.69	333	⇓P	P	09 55 29.3	+0.6
T27A	Campo baz=79,SNR=7.9	78.71	336	⇓P	P	09 55 28.8	+0.1
S29A	Ulysses baz=79,SNR=8.1	78.72	338	⇓P	P	09 55 28.6	-0.1
R32A	Long Quarter, baz=79,SNR=6.4	78.78	340	⇑P	P	09 55 29.1	+0.2
KSU1	Kansas State U 19nm,1.1s	78.87	342	eP	P	09 55 27.9	-1.4
KSU1	Kansas State U baz=79	78.87	342	⇑P	P	09 55 29.3	0.0
R31A	Burdett baz=79	78.88	339	⇑P	P	09 55 29.5	0.0
S28A	Manter baz=79,SNR=7.7	78.93	337	⇑P	P	09 55 30.0	+0.1
U24A	Moreno Valley baz=79	78.97	334	⇑P	P	09 55 31.0	+0.6
X18A	Snowflake baz=79	79.04	330	⇓P	P	09 55 31.6	+1.0
Q33A	Connelly Farm, baz=79	79.08	341	⇑P	P	09 55 30.4	-0.1
R30A	Dighton baz=79	79.09	339	⇑P	P	09 55 30.8	+0.1
T26A	Comanche Natio baz=79	79.09	336	⇑P	P	09 55 30.8	0.0
V22A	San Miguel Ran baz=79,SNR=7.8	79.10	333	⇑P	P	09 55 32.1	+1.1
113A	Mohawk Valley, baz=79	79.14	326	⇑P	P	09 55 32.6	+1.7
U23A	El Rito baz=80,SNR=6.9	79.21	334	⇑P	P	09 55 32.8	+1.2
Q32A	Meitler Ranch, baz=80,SNR=5.2	79.27	340	⇓P	P	09 55 31.5	-0.1
Z14A	Wintersburg baz=80	79.28	327	⇑P	P	09 55 32.9	+1.2
T25A	Trinidad baz=80,SNR=9.5	79.33	335	⇓P	P	09 55 33.0	+0.8
TSUM	Tsumeb 6.5nm,1.0s,baz=234,slow=7.9,SNR=3.1	79.41	106	P	P	09 55 33.3	+0.1
S26A	Kim baz=80,SNR=7.1	79.46	336	⇑P	P	09 55 33.6	+0.8
P33A	Williams Farm, baz=80	79.46	341	⇓P	P	09 55 32.6	0.0
W18A	Petrified Fore baz=80	79.47	330	⇑P	P	09 55 33.9	+0.9
R29A	Marienthal baz=80,SNR=6.6	79.47	338	⇑P	P	09 55 33.0	+0.2
U22A	Llaves baz=80,SNR=7.2	79.49	333	⇑P	P	09 55 34.0	+0.8
Q31A	Ellis baz=80,SNR=6.2	79.51	340	⇓P	P	09 55 33.1	+0.2
X16A	Lo Mia Camp, P baz=80	79.55	329	⇓P	P	09 55 34.6	+1.1
T24B	San Luis baz=80	79.59	334	⇑P	P	09 55 34.4	+0.7
R28A	Tribune baz=80,SNR=6.3	79.60	338	⇑P	P	09 55 33.9	+0.4
Q30A	Quinter baz=80	79.72	339	⇑P	P	09 55 34.1	+0.1
T23A	Casias Ranch, baz=80,SNR=5.6	79.79	334	⇓P	P	09 55 34.8	0.0
Y14A	Wickenburg baz=80	79.80	327	⇓P	P	09 55 35.9	+1.3
S25A	Robets Cordova baz=80,SNR=7.1	79.81	335	⇑P	P	09 55 35.3	+0.5
GLA	Glamis 93nm,1.9s	79.85	326	eP	P	09 55 36.2	+1.3
GLA	Glamis baz=80	79.85	326	⇑P	P	09 55 36.6	+1.7
R27A	Eads baz=80,SNR=7.0	79.85	337	⇑P	P	09 55 34.8	0.0
Q29A	Oakley baz=80	79.86	338	⇑P	P	09 55 34.8	-0.1
P32A	Huiting Farm, baz=80,SNR=6.1	79.87	340	⇓P	P	09 55 35.0	+0.1
P31A	Stockton baz=80	79.99	340	⇓P	P	09 55 35.4	-0.1
S24A	Houchin Ranch, baz=80,SNR=9.4	80.05	335	⇓P	P	09 55 36.6	+0.4
R26A	Arlington baz=80,SNR=8.1	80.07	336	⇓P	P	09 55 36.8	+0.7
SWSC	Sam W. Stewart baz=80	80.20	325	⇑P	P	09 55 38.5	+1.8
R25A	Fountain Ranch baz=80	80.20	336	⇑P	P	09 55 37.3	+0.5
SDCO	Great Sand Dun 24nm,1.4s	80.25	335	eP	P	09 55 37.7	+0.5
P30A	Selden baz=81	80.25	339	⇓P	P	09 55 37.1	+0.2
Q28A	Sharon Springs baz=81,SNR=5.8	80.27	338	⇑P	P	09 55 37.3	+0.2
S23A	Nye Farm, Mont baz=81	80.38	334	⇑P	P	09 55 38.7	+0.8
BAR	Barrett 30nm,1.0s	80.39	324	eP	P	09 55 39.1	+1.3
O32A	Brockman Farm, baz=81	80.39	341	⇓P	P	09 55 38.0	+0.4
MONP	Monument Peak baz=81	80.44	324	⇓P	P	09 55 40.1	+1.7
KSCO	Kaye Shedlock' baz=81,SNR=5.3	80.46	337	⇑P	P	09 55 38.6	+0.4
WUAZ	Wupatki 131nm,2.2s	80.47	329	eP	P	09 55 39.8	+1.4
WUAZ	Wupatki baz=81	80.47	329	⇓P	P	09 55 39.8	+1.4
P29A	Atwood baz=81,SNR=5.6	80.50	339	⇓P	P	09 55 38.7	+0.4
R24A	Sanders Place, baz=81,SNR=8.4	80.55	335	⇓P	P	09 55 39.5	+0.8
O31A	Woolen Ranch, baz=81	80.56	340	⇓P	P	09 55 38.8	+0.2
PDMCI	Parker Dam,Lak baz=81	80.60	327	⇑P	P	09 55 40.2	+1.3
BC3	Big Chuckawall baz=81	80.64	326	⇑P	P	09 55 40.7	+1.4
Q26A	Hugo baz=81,SNR=7.4	80.66	337	⇓P	P	09 55 39.8	+0.5
URZ	Urewera 12nm,1.1s,baz=123,slow=7.4,SNR=4.1	80.71	229	P	P	09 55 39.4	-0.2
S22A	4UR Ranch, Cre baz=81,SNR=6.7	80.71	334	⇓P	P	09 55 40.4	+0.7
P28A	Saint Francis baz=81,SNR=5.3	80.72	338	⇓P	P	09 55 39.9	+0.4
R23A	Moffat baz=81,SNR=6.5	80.76	335	⇓P	P	09 55 40.5	+0.6
109C	Camp Elliot, M baz=81	80.76	324	⇓P	P	09 55 41.6	+1.8
O30A	MW Ranch, Wils baz=81,SNR=6.5	80.79	340	⇑P	P	09 55 40.2	+0.3
MVCO	Mesa Verde 44nm,1.3s	80.84	332	eP	P	09 55 40.7	+0.4
MVCO	Mesa Verde baz=81	80.84	332	⇓P	P	09 55 41.1	+0.7
Q25A	Bedland, Calha baz=81,SNR=6.7	80.89	336	⇑P	P	09 55 40.8	+0.2
IRM	Iron Mountain baz=81	80.93	326	⇑P	P	09 55 42.1	+1.4
P27A	Ficken Ranch, baz=81,SNR=6.3	80.95	338	⇓P	P	09 55 41.1	+0.4
PFO	Pinyon Flat Ob baz=81,SNR=5.3	81.06	325	⇓P	P	09 55 41.3	-0.2
W13A	Hualapai Mount baz=82	81.17	327	⇑P	P	09 55 43.3	+1.2
BELC	Belle Mtn. Jos baz=82	81.17	325	⇑P	P	09 55 43.4	+1.3
JFWS	Jewell Farm 79nm,1.4s	81.19	348	eP	P	09 55 40.8	-1.0
P26A	Davis Ranch, A baz=82,SNR=6.7	81.19	337	⇑P	P	09 55 42.6	+0.5
Q24A	Divide baz=82,SNR=7.9	81.23	335	⇑P	P	09 55 43.1	+0.5
O28A	Krutsinger Ran baz=82,SNR=6.2	81.23	338	⇑P	P	09 55 42.9	+0.7
MURC	Murrieta baz=82,SNR=5.2	81.40	324	⇑P	P	09 55 43.1	0.0
P25A	Willow Gulch B baz=82,SNR=12	81.41	336	⇑P	P	09 55 44.1	+0.8
BGNE	Belgrade baz=82	81.43	341	⇓P	P	09 55 43.2	0.0
O27A	Beecher Island baz=82,SNR=8.7	81.50	338	⇑P	P	09 55 44.4	+0.7
N29A	Votaw Ranch, W baz=82	81.54	339	⇓P	P	09 55 43.9	+0.1
M31A	Lambtecht Ranc baz=82	81.59	341	⇓P	P	09 55 44.3	+0.3
U15A	North Rim baz=82	81.63	329	⇓P	P	09 55 45.9	+1.3
P24A	Kohler Place, baz=82	81.65	336	⇑P	P	09 55 45.3	+0.7
GMRC	Granite Mounta baz=82	81.67	326	⇓P	P	09 55 46.3	+1.6
N28A	Pribbeno Ranch baz=82,SNR=5.4	81.68	339	⇓P	P	09 55 45.0	+0.4
O26A	Horse Wrangler baz=82,SNR=6.2	81.80	337	⇑P	P	09 55 45.6	+0.3
CIS	Catalina Islan baz=82	81.80	323	⇓P	P	09 55 47.5	+2.2
P23A	Jefferson baz=82	81.83	335	⇓P	P	09 55 46.2	+0.5
O25A	Wiggins baz=82,SNR=9.7	81.94	337	⇓P	P	09 55 46.8	+0.8
LBTB	Lobatse 17nm,0.8s,baz=248,slow=5.8,SNR=7.7	81.97	115	P	P	09 55 47.3	+0.6
HEC	Hector,Ludlow baz=82,SNR=5.7	82.02	326	⇑P	P	09 55 47.4	+0.9
OGNE	Ogallala baz=82	82.06	339	⇑P	P	09 55 47.0	+0.4
N27A	Anderson Farm, baz=82,SNR=5.4	82.08	338	⇓P	P	09 55 47.3	+0.5
ISCO	Idaho Springs 46nm,1.5s	82.14	336	eP	P	09 55 48.1	+0.8
ISCO	Idaho Springs baz=82,SNR=9.0	82.14	336	⇑P	P	09 55 47.9	+0.6
BFSC	Mount Baldy Ra baz=82	82.14	324	⇓P	P	09 55 49.2	+2.0
M29A	Burnside Ranch baz=82	82.14	340	⇓P	P	09 55 47.3	+0.3
O24A	Longmont baz=83	82.25	336	⇓P	P	09 55 48.2	+0.6
M28A	Bar X Bar Ranc baz=83	82.29	339	⇑P	P	09 55 48.2	+0.5
N26A	Koester Ranch, baz=83	82.31	338	⇑P	P	09 55 48.5	+0.6
L31A	Butterfield Fa baz=83,SNR=7.0	82.33	341	⇑P	P	09 55 48.1	+0.3
P22A	Eagle baz=83,SNR=5.9	82.34	335	⇑P	P	09 55 48.9	+0.6
TUQ	Turquoise Moun baz=83	82.34	326	⇑P	P	09 55 50.0	+1.8
L30A	Spencer Herefo baz=83,SNR=8.0	82.35	341	⇓P	P	09 55 48.6	+0.6
O23A	Lake Granby, G baz=83,SNR=6.7	82.61	335	⇓P	P	09 55 50.2	+0.5
GSC	Goldstone baz=83	82.62	325	⇓P	P	09 55 51.3	+1.6
M27A	Reverse DX Ran baz=83	82.70	338	⇑P	P	09 55 50.5	+0.5
O22A	Kremmling baz=83,SNR=10.0	82.77	335	⇑P	P	09 55 51.3	+0.7
EDW2	Edwards Air Fo baz=83	82.82	324	⇓P	P	09 55 52.2	+1.6
N24A	Carr baz=83,SNR=6.4	82.83	336	⇓P	P	09 55 51.3	+0.6
K30A	Basset baz=83,SNR=7.6	83.00	341	⇑P	P	09 55 51.9	+0.5
M25A	Palm-Egli Farm baz=83,SNR=5.4	83.12	337	⇓P	P	09 55 53.0	+0.8
LRMC	Laurel Mountai baz=84	83.17	325	⇑P	P	09 55 54.1	+1.5
N23A	Red Feather La baz=84,SNR=5.8	83.23	336	⇓P	P	09 55 53.6	+0.7
ECSD	EROS Data Cent baz=84,SNR=9.0	83.26	343	⇑P	P	09 55 52.9	+0.3
K29A	Lazy Trails An baz=84,SNR=6.8	83.27	340	⇑P	P	09 55 53.1	+0.3
ARUT	Antelope Range 769nm,1.5s	83.27	329	eP	P	09 55 54.7	+1.6
N22A	Wattenberg Ran baz=84,SNR=7.3	83.32	335	⇓P	P	09 55 53.9	+0.6
O20A	White River Ci baz=84	83.33	334	⇓P	P	09 55 54.2	+0.8
L26A	Underwood Farm baz=84	83.38	338	⇓P	P	09 55 53.9	+0.5
M24A	Cheyenne baz=84,SNR=5.7	83.39	337	⇓P	P	09 55 54.0	+0.4
ARVC	Arvin baz=84	83.41	324	⇑P	P	09 55 55.3	+1.7
K28A	Ten Mile Ranch baz=84,SNR=5.1	83.51	340	⇓P	P	09 55 54.8	+0.8
J30A	Dallas baz=84,SNR=6.1	83.57	341	⇓P	P	09 55 54.0	-0.3
ISA	Isabella baz=84	83.69	325	⇑P	P	09 55 57.0	+1.9
K27A	Flueckinger Fa baz=84,SNR=5.5	83.74	339	⇑P	P	09 55 56.1	+0.8
L25A	Engebretsen Ra baz=84	83.75	338	⇓P	P	09 55 56.3	+0.9
J29A	Okreek baz=84,SNR=8.2	83.87	341	⇑P	P	09 55 56.0	+0.2
SPMN	St. Paul baz=84	83.89	346	⇓P	P	09 55 55.3	-0.5
M22A	Cedar Creek Ra baz=84	83.90	336	⇓P	P	09 55 57.3	+1.0
N20A	Spence Gulch, baz=84	83.96	334	⇑P	P	09 55 57.5	+0.9
K26A	Motz Farm, Whi baz=84	84.01	338	⇑P	P	09 55 57.2	+0.5
I30A	Oacoma baz=84	84.11	341	⇑P	P	09 55 57.0	0.0
SMMC	Simmler baz=84	84.12	323	⇓P	P	09 55 59.1	+1.8
VES	Vestal, Richgr baz=84	84.12	324	⇓P	P	09 55 58.8	+1.6
J28A	Allard Ranch, baz=84	84.13	340	⇑P	P	09 55 57.3	+0.2
J27A	Elkhorn Farm, baz=84,SNR=6.9	84.18	339	⇑P	P	09 55 58.0	+0.5
L23A	Garrett baz=85,SNR=5.3	84.25	336	⇓P	P	09 55 58.0	-0.1
L22A	Ellis Ranch, M baz=85	84.41	336	⇓P	P	09 55 59.2	+0.4
BRSD	Miller baz=85	84.48	342	⇑P	P	09 55 58.7	-0.2
K24A	Anderson Ranch baz=85	84.53	337	⇓P	P	09 55 59.9	+0.6
J26A	Sides Ranch, S baz=85,SNR=8.6	84.54	339	⇓P	P	09 56 00.0	+0.7
RCTC	Rector, Farmer baz=85	84.57	324	⇓P	P	09 56 00.8	+1.3
R11A	Troy Canyon, C baz=85	84.64	328	⇓P	P	09 56 01.2	+1.2
I28A	Midland baz=85	84.64	340	⇓P	P	09 56 00.4	+0.7
K23A	Bowen Ranch, D baz=85,SNR=5.7	84.81	337	⇓P	P	09 56 01.1	+0.3
J25A	Sunshine Ranch baz=85	84.83	338	⇑P	P	09 56 01.2	+0.4
I27A	Quinn baz=85,SNR=7.5	84.95	340	⇑P	P	09 56 01.6	+0.3
H29A	Onida baz=85,SNR=5.8	84.97	341	⇓P	P	09 56 01.4	+0.1
K22A	Casper baz=85,SNR=8.3	85.00	336	⇑P	P	09 56 02.1	+0.3
J24A	Dixon Ranch, L baz=85,SNR=8.4	85.03	338	⇑P	P	09 56 02.7	+0.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUG	Dugway	85.08	331	*e*P	P	09 56 02.9	+0.7
	93nm,1.6s						
DUG	Dugway	85.08	331	⇑P	P	09 56 03.5	+1.3
	baz=85,SNR=10						
TPH	Tonopah	85.11	327	*e*P	P	09 56 03.6	+1.1
	75nm,1.5s						
I26A	New Underwood	85.14	339	⇑P	P	09 56 02.4	+0.1
	baz=85,SNR=6.2						
G30A	Faulkton	85.18	342	⇑P	P	09 56 02.4	0.0
	baz=86,SNR=5.4						
K21A	Alcova	85.22	336	⇓P	P	09 56 03.2	+0.3
	baz=86,SNR=6.9						
H28A	Mission Ridge	85.23	341	⇓P	P	09 56 02.3	-0.4
	baz=86						
J23A	Dilts Ranch, B	85.37	337	⇓P	P	09 56 03.7	+0.2
	baz=86						
I25A	Rochford	85.38	339	⇑P	P	09 56 03.7	+0.1
	baz=86,SNR=10						
G29A	Hoven	85.43	342	⇓P	P	09 56 03.4	-0.2
	baz=86,SNR=5.8						
H27A	Howes	85.48	340	⇓P	P	09 56 04.0	+0.1
	baz=86,SNR=6.9						
I24A	Kuemmerle Ranc	85.50	338	⇓P	P	09 56 03.8	-0.3
	baz=86,SNR=5.3						
RSSD	Black Hills	85.56	338	*e*P	P	09 56 04.4	-0.2
	30nm,1.1s						
G28A	Parade	85.58	341	⇓P	P	09 56 04.0	-0.4
	baz=86,SNR=6.1						
H26A	Fairpoint	85.66	339	⇓P	P	09 56 04.7	-0.2
	baz=86						
J22A	Midwest	85.67	336	⇑P	P	09 56 04.6	-0.4
	baz=86,SNR=5.3						
F30A	Leola	85.81	342	⇑P	P	09 56 05.4	-0.1
	baz=86,SNR=7.6						
NVAR	Mina Array Bea	85.89	326	P	P	09 56 07.4	+1.0
	6.0nm,1.0s,baz=149,slow=6.5,SNR=9.2						
H25A	Fruitdale	85.89	339	⇓P	P	09 56 06.4	+0.4
	baz=86,SNR=10						
J21A	Lysite	85.92	336	⇓P	P	09 56 06.8	+0.5
	baz=86,SNR=5.2						
F29A	Eureka	86.00	342	⇓P	P	09 56 06.1	-0.4
	baz=86,SNR=6.4						
I22A	9 Mile Ranch,	86.10	337	⇑P	P	09 56 06.8	-0.4
	baz=86,SNR=7.4						
PDAR	Pinedale Array	86.12	334	P	P	09 56 07.5	+0.1
	15nm,1.1s,baz=142,slow=5.1,SNR=11						
G27A	Dupree	86.13	340	⇑P	P	09 56 06.6	-0.5
	baz=86,SNR=7.5						
J20A	Shoshoni	86.14	335	⇓P	P	09 56 07.6	+0.3
	baz=86,SNR=7.8						
G26A	Maurine	86.23	340	⇑P	P	09 56 07.2	-0.4
	baz=86,SNR=9.5						
F28A	McLaughlin	86.26	341	⇑P	P	09 56 08.2	+0.4
	baz=87,SNR=6.6						
H24A	Dirks Ranch, A	86.29	338	⇓P	P	09 56 07.5	-0.5
	baz=87,SNR=8.4						
I21A	Big Trails, Te	86.29	336	⇓P	P	09 56 08.0	-0.1
	baz=87,SNR=8.8						
TORD	Torodi Ar. Bea	86.33	71	P	P	09 56 08.7	-0.1
	10nm,1.2s,baz=246,slow=4.3,SNR=4.6						
G25A	Newell	86.37	339	⇑P	P	09 56 08.2	-0.1
	baz=87,SNR=11						
J19A	Crowheart	86.39	335	⇓P	P	09 56 09.1	+0.5
	baz=87,SNR=8.5						
E30A	Jud	86.41	343	⇑P	P	09 56 07.9	-0.5
	baz=87,SNR=6.5						
F27A	Lemmon	86.61	340	⇓P	P	09 56 09.6	+0.1
	baz=87,SNR=9.1						
E29A	Napoleon	86.64	342	⇓P	P	09 56 10.0	+0.4
	baz=87,SNR=6.9						
AHID	Auburn Hatcher	86.67	333	*e*P	P	09 56 10.2	+0.1
	96nm,1.9s						
I20A	Worland	86.69	336	⇑P	P	09 56 10.0	0.0
	baz=87,SNR=6.1						
H22A	Clearmont	86.69	337	⇓P	P	09 56 09.6	-0.4
	baz=87						
F26A	Lodgepole	86.76	340	⇑P	P	09 56 10.0	-0.2
	baz=87,SNR=8.8						
G24A	Alzada	86.78	339	⇓P	P	09 56 09.8	-0.6
	baz=87,SNR=7.6						
E28A	Huff	86.91	342	⇓P	P	09 56 10.9	0.0
	baz=87,SNR=7.0						
D30A	Buchanan	86.94	343	⇓P	P	09 56 11.1	+0.1
	baz=87,SNR=5.8						
H21A	Big Horn, Sher	86.94	337	⇓P	P	09 56 10.6	-0.7
	baz=87						
G23A	Biddle	86.95	338	⇓P	P	09 56 10.6	-0.6
	baz=87,SNR=7.4						
E27A	Carson	87.00	341	⇓P	P	09 56 11.0	-0.4
	baz=87,SNR=5.9						
F25A	Bowman	87.05	340	⇑P	P	09 56 12.1	+0.4
	baz=87,SNR=7.7						
I19A	Meeteetse	87.05	335	⇑P	P	09 56 12.0	+0.1
	baz=87						
D29A	Pettibone, Tap	87.09	342	⇓P	P	09 56 11.4	-0.4
	baz=87,SNR=6.2						
H20A	Greybull	87.12	336	⇑P	P	09 56 11.9	-0.2
	baz=87,SNR=9.6						
G22A	Birney	87.24	337	⇓P	P	09 56 11.9	-0.7
	baz=88						
F24A	Ekalaka	87.25	339	⇑P	P	09 56 12.6	-0.1
	baz=88,SNR=8.5						
E26A	Carlson Angus	87.28	340	⇓P	P	09 56 12.9	+0.2
	baz=88,SNR=8.7						
F23A	Volborg	87.42	338	⇑P	P	09 56 13.3	-0.2
	baz=88,SNR=7.2						
AGMN	Agassiz Nation	87.43	345	*e*P	P	09 56 12.7	-0.6
	84nm,1.5s						
AGMN	Agassiz Nation	87.43	345	⇑P	P	09 56 12.9	-0.4
	baz=88,SNR=5.9						
C30A	Mose, Pekin	87.44	343	⇓P	P	09 56 13.4	-0.1
	baz=88,SNR=5.7						
D28A	Regan	87.46	342	⇑P	P	09 56 13.3	-0.2
	baz=88,SNR=9.4						
I17A	Pilgrim Ck.	87.49	334	⇓P	P	09 56 14.5	+0.4
	baz=88,SNR=5.8						
G21A	Lodge Grass	87.53	337	⇓P	P	09 56 13.9	-0.2
	baz=88						
E25A	Miller Ranch,	87.56	340	⇓P	P	09 56 14.3	+0.2
	baz=88,SNR=9.3						
H19A	Powell	87.61	335	⇑P	P	09 56 14.3	-0.2
	baz=88						
D27A	Center	87.62	341	⇓P	P	09 56 14.4	+0.1
	baz=88						
F22A	Rosebud	87.73	338	⇑P	P	09 56 14.4	-0.5
	baz=88,SNR=5.5						
D26A	Manning	87.79	341	⇑P	P	09 56 15.2	+0.1
	baz=88,SNR=8.7						
H18A	Shoshone NF, C	87.84	335	⇓P	P	09 56 16.0	+0.2
	baz=88,SNR=6.9						
G20A	Bridger	87.84	336	⇓P	P	09 56 15.7	+0.1
	baz=88						
E24A	Baker	87.87	339	⇑P	P	09 56 15.4	-0.2
	baz=88,SNR=8.0						
C28A	Hausauer Farms	87.90	342	⇑P	P	09 56 16.2	+0.5
	baz=88						
H17A	Grant Village	87.90	334	*e*P	P	09 56 17.1	+1.1
	22nm,1.7s						
YFT	Old Faithful	88.04	334	*e*P	P	09 56 18.3	+1.6
	15nm,1.0s						
RLMT	Red Lodge	88.10	335	*e*P	P	09 56 17.7	+0.7
	59nm,1.8s						
B30A	Myrvik Farm, E	88.11	344	⇑P	P	09 56 16.7	+0.1
	baz=88,SNR=8.3						
D25A	Fairfield	88.14	340	⇑P	P	09 56 17.1	+0.2
	baz=88,SNR=10						
C27A	Sayler Ranch,	88.18	341	⇑P	P	09 56 17.3	+0.4
	baz=88,SNR=8.9						
YNR	Norris Junctio	88.22	334	*e*P	P	09 56 18.4	+0.8
	27nm,1.6s						
YMR	Madison River	88.28	334	*e*P	P	09 56 18.6	+0.8
	132nm,1.9s						
F20A	Billings	88.34	336	⇓P	P	09 56 18.1	+0.2
	baz=89						
B29A	Wagenman Farm,	88.35	343	⇓P	P	09 56 17.6	-0.2
	baz=89,SNR=8.2						
D24A	Glendive	88.38	339	⇑P	P	09 56 17.8	-0.2
	baz=89,SNR=7.9						
C26A	Wahner Farm, P	88.43	341	⇑P	P	09 56 18.2	+0.1
	baz=89,SNR=6.0						
A30A	Hoffart Farm,	88.56	344	⇓P	P	09 56 18.1	-0.7
	baz=89,SNR=5.7						
B28A	Dugan Ranch, T	88.58	342	⇑P	P	09 56 18.9	+0.1
	baz=89,SNR=12						
HLID	Hailey	88.58	332	*e*P	P	09 56 19.6	+0.4
	54nm,1.5s						
HLID	Hailey	88.58	332	⇑P	P	09 56 20.0	+0.8
	baz=89,SNR=8.9						
QLMT	Earthquake Lak	88.58	334	*e*P	P	09 56 20.5	+1.3
	0.4nm,0.8s						
C25A	Freed Ranch, W	88.63	340	⇓P	P	09 56 18.9	-0.2
	baz=89,SNR=7.0						
F19A	Roth Farm, Mol	88.64	336	⇑P	P	09 56 19.6	+0.3
	baz=89						
E21A	Keefer Ranch,	88.67	337	⇑P	P	09 56 19.3	0.0
	baz=89						
D23A	Lindsay	88.68	339	⇑P	P	09 56 19.4	0.0
	baz=89,SNR=6.8						
A29A	Manning Farm,	88.75	343	⇓P	P	09 56 19.5	-0.1
	baz=89,SNR=8.4						
B27A	Peters Farms,	88.75	342	⇓P	P	09 56 19.8	+0.1
	baz=89,SNR=5.9						
C24A	Savage	88.79	340	⇓P	P	09 56 19.8	0.0
	baz=89,SNR=9.4						
D22A	Cohagen	88.94	338	⇓P	P	09 56 20.5	-0.1
	baz=89						
E20A	Meyer Farm, Mu	88.96	337	⇓P	P	09 56 19.8	-0.9
	baz=89						
B26A	Jensen Ranch,	88.98	341	⇓P	P	09 56 20.6	-0.2
	baz=89						
A28A	Rude Farm, Bot	88.98	343	⇑P	P	09 56 20.7	0.0
	baz=89,SNR=7.0						
MCMT	McKenzie Canyo	89.08	333	*e*P	P	09 56 22.8	+1.2
	9.5nm,1.3s						
D21A	La Casta Ranch	89.11	338	⇑P	P	09 56 21.1	-0.3
	baz=89						
B25A	Knox Farm, Ray	89.12	341	⇑P	P	09 56 21.3	-0.1
	baz=89						
E19A	Rath Farm, Rou	89.13	336	⇑P	P	09 56 21.2	-0.4
	baz=89						
C23A	Lambert	89.25	339	⇓P	P	09 56 21.9	-0.2
	baz=90,SNR=5.8						
A27A	Ledoux Ranch,	89.26	342	⇓P	P	09 56 22.1	0.0
	baz=90						
ULM	Lac du Bonnet	89.30	346	P	P	09 56 21.3	-0.8
	34nm,1.2s,baz=160,slow=3.6,SNR=12						
WVOR	Wild Horse Val	89.33	328	*e*P	P	09 56 23.2	+0.5
	64nm,1.6s						
C22A	Vida	89.40	339	⇑P	P	09 56 22.5	-0.2
	baz=90						
A26A	Wade Farm, Ken	89.41	342	⇑P	P	09 56 23.2	+0.5
	baz=90						
D20A	Manuel Ranch,	89.48	337	⇑P	P	09 56 22.6	-0.6
	baz=90						
DGMT	Dagmar	89.58	340	⇓P	P	09 56 23.1	-0.5
	baz=90,SNR=5.5						
A25A	Svangstu Ranch	89.72	341	⇓P	P	09 56 24.1	-0.1
	baz=90,SNR=8.3						
D19A	Cripps Ranch,	89.78	337	⇓P	P	09 56 24.2	-0.4
	baz=90						
B23A	Brockton	89.79	340	⇑P	P	09 56 24.2	-0.4
	baz=90						
LRM	Limekiln Ridge	89.80	334	*e*P	P	09 56 25.8	+0.8
	338nm,1.8s						
C21A	Desert Coulee	89.83	338	⇓P	P	09 56 24.2	-0.6
	baz=90						
LSZ	Lusaka	89.85	109	P	P	09 56 26.2	+0.4
	3.0nm,0.7s,baz=67,slow=13,SNR=4.3						
B22A	Reddig Ranch S	89.93	339	⇓P	P	09 56 24.8	-0.4
	baz=90						
A24A	Westby	89.94	340	⇓P	P	09 56 24.8	-0.5
	baz=90						
C20A	Veseth Ranch,	90.00	337	⇑P	P	09 56 25.2	-0.3
	baz=90						
M04C	Macdoel	90.19	326	⇑P	P	09 56 27.3	+0.6
	baz=90						
C19A	Slack Wire Ran	90.34	337	⇓P	P	09 56 26.8	-0.4
	baz=91						
HRY	Holter Researc	90.36	335	*e*P	P	09 56 27.9	+0.5
	2.9nm,0.4s						
A22A	Carney Farms,	90.53	339	⇓P	P	09 56 27.6	-0.4
	baz=91						
B20A	Solberg Farm,	90.65	338	⇑P	P	09 56 28.3	-0.3
	baz=91						
BMO	Blue Mountains	90.79	330	*e*P	P	09 56 29.7	+0.3
	11nm,1.4s						
EGMT	Eagleton	90.82	337	*e*P	P	09 56 29.5	0.0
	28nm,1.8s						
EGMT	Eagleton	90.82	337	⇑P	P	09 56 29.1	-0.4
	baz=91						
B19A	Brinkman Farms	90.95	337	⇑P	P	09 56 30.0	0.0
	baz=91						
A20A	Cobblestone Ra	91.02	338	⇓P	P	09 56 30.2	-0.1
	baz=91						
J05D	Fort Rock, OR	91.13	327	⇓P	P	09 56 32.0	+0.9
	baz=91						
MSO	Missoula	91.19	333	⇑P	P	09 56 31.7	+0.5
	baz=92						
L02D	Cave Junction,	91.28	325	⇓P	P	09 56 32.1	+0.4
	baz=92						
A19A	Klindworth Far	91.31	338	⇑P	P	09 56 31.1	-0.6
	baz=92						
JTMT	Jette	92.10	334	*e*P	P	09 56 35.9	+0.5
	41nm,2.0s						
YBMT	Yellow Bay	92.10	334	*e*P	P	09 56 35.8	+0.4
	13nm,1.3s						
BSMT	Bassoo Peak	92.37	334	*e*P	P	09 56 36.8	+0.1
	9.8nm,1.4s						
HAWA	Hanford	92.94	330	*e*P	P	09 56 40.2	+1.0
	29nm,1.4s						
WALA	Waterton Lakes	93.09	335	*e*P	P	09 56 40.1	+0.2
	4.1nm,2.3s						
NEW	Newport	93.56	332	P	P	09 56 41.2	-0.9
	5.8nm,1.1s,baz=167,slow=6.0,SNR=5.4						
NEW	Newport	93.56	332	*e*P	P	09 56 41.2	-0.9
	15nm,1.3s						
NEW	Newport	93.56	332	⇑P	P	09 56 42.1	0.0
	baz=94						
YKA	Yellowknife Ar	104.72	342	Pdiff	Pdif	09 57 30.3	-1.4
	0.6nm,0.9s,baz=135,slow=4.9,SNR=5.4						
PAX	Paxson	115.03	331	*e*PKPdf	PKPdf	10 02 07.2	+0.5
ILAR	Eielson Array	116.52	333	PKP	PKPdf	10 02 08.9	-0.4
	2.9nm,1.2s,baz=170,slow=1.7,SNR=6.2						
WRA	Warramunga Arr	117.44	210	PKP	PKPdf	10 02 11.4	-1.3
	1.1nm,0.5s,baz=160,slow=1.9,SNR=6.0						
BRTR	Keskin Array B	124.31	63	PKP	PKPdf	10 02 24.9	-0.4
	1.2nm,0.8s,baz=191,slow=2.5,SNR=4.0						
AKASG	Malin Array Be	125.14	49	PKP	PKPdf	10 02 24.7	-1.6
	2.4nm,0.9s,baz=269,slow=2.6,SNR=6.4						
GAMB	Gambell	126.19	327	*e*PKPdf	PKPdf	10 02 28.4	+0.6
BILL	Bilibino	135.18	333	*e*PKPdf	PKPdf	10 02 45.0	+0.1
GEYT	Alibeck	141.91	74	PKP	PKPdf	10 02 58.6	+0.4
	2.8nm,0.6s,baz=75,slow=1.7,SNR=5.5						
KSM	Kuching	144.29	186	*e*PKPdf	PKPdf	10 03 02.8	-0.4
KSM	Kuching	144.29	186	P	PKPdf	10 03 02.7	-0.4
	baz=8.8,SNR=17						
PSI	Prapat	145.06	167	PKP	PKPab	10 03 04.0	+0.1
	30nm,1.0s,baz=197,slow=10						
KKM	Kota Kinabalu	147.78	198	*e*PKPbc	PKPbc	10 03 12.1	+0.2
HYB	Hyderabad	148.43	121	*i* PKP	PKPbc	10 03 13.0	-0.5
BVAR	Borovoye Array	150.33	46	PKPbc	PKPbc	10 03 17.0	-0.1
	3.5nm,0.7s,baz=282,slow=2.9,SNR=6.7						
YAK	Yakutsk	151.30	337	*e*PKPbc	PKPbc	10 03 19.0	-0.1
MJAR	Matsushiro Arr	154.75	278	PKPab	PKPab	10 03 42.4	-0.3
	9.7nm,1.1s,baz=140,slow=3.1,SNR=8.7						
ZALV	Zalesovo Beam	157.50	35	PKPab	PKPab	10 03 54.1	+0.3
	7.0nm,0.9s,baz=313,slow=3.3,SNR=5.2						
USRK	Ussuriysk Arra	159.56	298	PKPab	PKPab	10 04 02.6	-0.5
	3.2nm,1.0s,baz=118,slow=1.6,SNR=5.7						
MK31	Makanchi Array	159.62	54	*e*PKPdf	PKPdf	10 03 25.8	+1.0
MKAR	Makanchi Array	159.62	54	PKPab	PKPab	10 04 03.1	-0.3
	3.6nm,0.8s,baz=286,slow=4.9,SNR=4.4						
LSA	Lhasa	165.11	116	*e*PKPdf	PKPdf	10 03 30.7	-0.7
LSA				*e*PKPab	PKPab	10 04 28.5	0.0
TLY	Talaya	165.36	7	PKPab	PKPab	10 04 28.2	0.0
	2.3nm,0.7s,baz=348,slow=4.7,SNR=5.4						
SONM	Songino Array	169.36	1	PKP	PKPdf	10 03 32.1	-1.4
	3.2nm,1.2s,baz=173,slow=0.3,SNR=6.6						
SONM				PKPab	PKPab	10 04 46.4	+0.3
	5.1nm,0.9s,baz=344,slow=3.0,SNR=8.7						

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*ISCJB **27** 09:45:28.9±0.9, 34°.4S±0°.1×72°.2W±0°.2, h10^{km}, mb4.3/7, Error ellipse: s-maj=21.5km s-min=17.9km az=39.9*

*IDC **27** 09:45:29.0±1.0, 34°.34S×72°.26W, h0^{km}, mb4.4/8, mb1 4.6/10, mb1mx4.3/38, mbtmp4.4/10, ML4.4/2, Error ellipse: s-maj=26.9km s-min=25.5km az=67.0*

ISC 27 09:45:30.5±1.1**, 34°.3S**±0°.2×**72°.3W**±0°.2**, h10^{km}, n11, σ0^{s}.82**/11**, mb4.3**/7**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.34	52	Pn	Pn	09 46 37.3	+0.6
	3.6nm,0.3s,baz=106,slow=18,SNR=2.9						
LPAZ	La Paz	18.35	13	P	Pn	09 49 45.2	-0.6
	1.6nm,0.3s,baz=195,slow=16,SNR=3.8						
SIV	San Ignacio	20.86	32	P	P	09 50 11.1	-1.6
	26nm,0.9s,baz=206,slow=13,SNR=3.4						
BDFB	Brasilia	28.68	56	P	P	09 51 28.5	+0.6
	15nm,0.8s,baz=209,slow=13,SNR=3.0						
SNAA	Sanae	51.35	158	P	P	09 54 34.3	-0.5
	2.6nm,0.9s,baz=283,slow=10,SNR=2.9						
TXAR	Lajitas Array	69.93	331	P	P	09 56 42.0	0.0
	0.6nm,0.5s,baz=164,slow=7.0,SNR=2.5						
PDAR	Pinedale Array	83.97	333	P	P	09 58 00.7	-0.3
	1.0nm,0.7s,baz=160,slow=2.9,SNR=2.7						
NVAR	Mina Array Bea	84.05	325	P	P	09 58 02.4	+0.9
	1.4nm,0.7s,baz=153,slow=6.1,SNR=3.2						
TORD	Torodi Ar. Bea	84.50	70	P	P	09 58 03.7	-0.3
	5.2nm,0.9s,baz=252,slow=5.0,SNR=3.5						
YBH	Yreka Blue Hor	88.73	325	P	P	09 58 24.4	+0.2
	3.5nm,0.9s,baz=152,slow=5.0,SNR=3.6						
BVAR	Borovoye Array	147.65	43	PKPbc	PKPbc	10 05 15.3	+0.6
	1.5nm,0.5s,baz=301,slow=2.7,SNR=4.1						

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*IDC **27** 09:47:27.6±2.4, 34°.73S×72°.41W, h0^{km}, mb4.5/7, mb1 4.8/7, mb1mx4.3/33, mbtmp4.5/7, Error ellipse: s-maj=128.8km s-min=30.6km az=36.0*

*ISCJB **27** 09:47:28.2±2.1, 34°.7S±0°.7×72°.4W±0°.6, h10^{km}, mb4.5/7, Error ellipse: s-maj=117.1km s-min=27.9km az=37.9*

ISC 27 09:47:29.7±2.2**, 34°.7S**±0°.7×**72°.4W**±0°.6**, h10^{km}, n8, σ0^{s}.60**/8**, mb4.6**/7**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	70.16	331	P	P	09 58 42.8	+0.2
	2.9nm,0.7s,baz=152,slow=8.4,SNR=7.2						
ANMO	Albuquerque	76.22	332	P	P	09 59 18.9	+0.5
	5.2nm,1.0s,baz=168,slow=8.4,SNR=4.1						
BOSA	Boshof	80.04	118	P	P	09 59 39.6	-0.3
	5.8nm,0.7s,baz=231,slow=4.5,SNR=3.3						
PDAR	Pinedale Array	84.22	333	P	P	10 00 01.0	-0.4
	3.6nm,1.1s,baz=144,slow=5.5,SNR=4.3						
NVAR	Mina Array Bea	84.25	325	P	P	10 00 01.5	-0.1
	3.8nm,0.7s,baz=154,slow=6.2,SNR=12						
TORD	Torodi Ar. Bea	84.73	70	P	P	10 00 04.4	+0.1
	2.5nm,1.1s,baz=260,slow=3.3,SNR=2.2						
ULM	Lac du Bonnet	87.06	345	P	P	10 00 14.5	-0.5
	4.8nm,0.8s,baz=158,slow=2.1,SNR=4.4						
BVAR	Borovoye Array	147.98	44	PKPbc	PKPdf	10 07 12.7	+1.0
	1.6nm,0.6s,baz=287,slow=5.4,SNR=2.9						

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*IDC **27** 09:48:13.3±0.9, 37°.04S×72°.55W, h0^{km}, mb4.3/9, mb1 4.5/10, mb1mx4.3/33, mbtmp4.3/10, ML4.7/1, Error ellipse: s-maj=33.5km s-min=22.2km az=51.0*

*ISCJB **27** 09:48:20.6±0.7, 37°.2S±0°.1×72°.4W±0°.2, h69^{km}, mb4.1/9, Error ellipse: s-maj=28.5km s-min=14.4km az=157.7*

ISC 27 09:48:22.0±0.8**, 37°.2S**±0°.1×**72°.5W**±0°.2**, h69^{km}, n15, σ0^{s}.85**/15**, mb4.3**/9**, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.83	157	Pn	Pn	09 49 17.4	-1.1
	13nm,0.3s,baz=16,slow=15,SNR=2.2						
BDFB	Brasilia	30.52	52	P	P	09 54 27.7	-1.3
	4.1nm,0.6s,baz=210,slow=18,SNR=2.1						
SNAA	Sanae	48.77	157	P	P	09 57 00.4	+0.9
	3.6nm,0.9s,baz=278,slow=7.8,SNR=3.6						
TXAR	Lajitas Array	72.37	332	P	P	09 59 39.5	-1.2
	0.9nm,0.5s,baz=155,slow=8.7,SNR=4.5						
DBIC	Dimbokro	76.56	71	P	P	10 00 06.2	+1.0
	7.5nm,0.5s,baz=198,slow=5.2,SNR=9.6						
ANMO	Albuquerque	78.43	332	P	P	10 00 15.3	-0.1
	1.7nm,0.9s,baz=42,slow=3.0,SNR=2.7						
TORD	Torodi Ar. Bea	85.64	70	P	P	10 00 53.7	+0.3
	2.9nm,0.9s,baz=215,slow=5.2,SNR=5.5						
NVAR	Mina Array Bea	86.32	326	P	P	10 00 57.0	+0.5
	0.6nm,0.6s,baz=171,slow=6.3,SNR=2.0						
PDAR	Pinedale Array	86.47	334	P	P	10 00 57.7	+0.6
	0.7nm,0.8s,baz=166,slow=12,SNR=2.4						
ULM	Lac du Bonnet	89.50	345	P	P	10 01 10.4	-0.6
	3.4nm,0.9s,baz=173,slow=3.9,SNR=3.1						
BRTR	Keskin Array B	123.66	63	PKP	PKPdf	10 07 11.9	+0.3
	1.2nm,0.7s,baz=216,slow=4.5,SNR=4.3						
PSI	Prapat	144.85	165	PKP	PKPab	10 07 50.8	-0.2
	11nm,0.6s,baz=167,slow=2.5,SNR=4.1						
BVAR	Borovoye Array	149.81	46	PKPbc	PKPbc	10 08 04.3	+0.8
	3.3nm,0.8s,baz=304,slow=3.3,SNR=4.1						
AAK	Ala-Archa	154.21	68	PKPab	PKPab	10 08 29.1	+0.9
	4.0nm,0.5s,baz=123,slow=1.2,SNR=8.0						
MKAR	Makanchi Array	159.03	55	PKPab	PKPab	10 08 48.8	+0.1
	2.8nm,0.8s,baz=286,slow=3.8,SNR=5.6						

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*IDC **27** 09:48:25.3±1.0, 37°.60S×73°.41W, h0^{km}, mb4.4/10, mb1 4.6/10, mb1mx4.4/32, mbtmp4.5/10, Error ellipse: s-maj=42.8km s-min=23.0km az=57.0*

*ISCJB **27** 09:48:27.3±0.8, 37°.6S±0°.2×73°.4W±0°.3, h23^{km}, mb4.4/10, Error ellipse: s-maj=35.3km s-min=19.0km az=151.3*

ISC 27 09:48:29.0±1.0**, 37°.6S**±0°.2×**73°.4W**±0°.3**, h23^{km}, n12, σ1^{s}.01**/12**, mb4.5**/10**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	21.73	14	P	P	09 53 20.2	+0.9
	16nm,0.7s,baz=152,slow=3.0,SNR=4.3						
SNAA	Sanae	48.70	157	P	P	09 57 11.7	+0.6
	2.0nm,0.5s,baz=310,slow=7.9,SNR=7.2						
TXAR	Lajitas Array	72.38	332	P	P	09 59 52.6	-0.5
	2.1nm,0.7s,baz=156,slow=8.6,SNR=6.8						
DBIC	Dimbokro	77.37	71	P	P	10 00 22.8	+0.5
	8.9nm,0.7s,baz=192,slow=3.8,SNR=4.5						
ANMO	Albuquerque	78.44	333	P	P	10 00 28.4	+0.4
	2.4nm,0.9s,baz=164,slow=6.9,SNR=4.0						
BOSA	Boshof	79.37	118	P	P	10 00 32.5	-0.9
	3.2nm,0.6s,baz=266,slow=4.1,SNR=3.6						
NVAR	Mina Array Bea	86.23	326	P	P	10 01 09.8	+1.1
	0.5nm,0.6s,baz=146,slow=5.6,SNR=3.5						
TORD	Torodi Ar. Bea	86.45	71	P	P	10 01 09.1	-0.9
	2.8nm,0.8s,baz=219,slow=4.4,SNR=4.2						
PDAR	Pinedale Array	86.50	334	P	P	10 01 09.7	-0.2
	0.9nm,0.7s,baz=190,slow=4.5,SNR=3.8						
ULM	Lac du Bonnet	89.70	346	P	P	10 01 22.9	-1.7
	2.6nm,0.7s,baz=33,slow=9.7,SNR=3.1						
MKAR	Makanchi Array	159.84	55	PKPab	PKPab	10 09 06.0	+1.1
	1.6nm,0.6s,baz=266,slow=3.6,SNR=4.7						
SONM	Songino Array	169.77	1	PKP	PKPdf	10 08 35.1	+0.8
	1.9nm,1.1s,baz=345,slow=5.1,SNR=3.6						

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*IDC **27** 09:50:10.8±1.4, 37°.40S×74°.26W, h0^{km}, mb4.4/8, mb1 4.6/9, mb1mx4.3/30, mbtmp4.4/9, Error ellipse: s-maj=71.5km s-min=22.4km az=44.0*

*ISCJB **27** 09:50:12.9±0.6, 37°.9S±0°.2×74°.8W±0°.3, h33^{km}, mb4.5/18, Error ellipse: s-maj=35.2km s-min=12.0km az=141.7*

*NEIC **27** 09:50:14.7±0.6, 37°.82S×74°.67W, h35^{km}, mb4.4/6, Error ellipse: s-maj=32.1km s-min=11.6km az=52.0*

ISC 27 09:50:14.4±0.8**, 37°.9S**±0°.2×**74°.7W**±0°.2**, h35^{km}, n28, σ1^{s}.22**/28**, mb4.5**/18**, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.33	133	Pn	Pn	09 51 18.9	+1.1
	baz=337,slow=16,SNR=1.1						
QSPA	South Pole Qui	52.38	180	*e*P	P	09 59 21.7	-1.1
	16nm,1.1s						
TEIG	Tepich	59.17	345	P	P	10 00 10.2	-1.4
	24nm,0.3s,baz=204,slow=1.2,SNR=7.1						
JCT	Junction City	71.91	337	*e*P	P	10 01 34.6	+0.7
	1.6nm,0.4s						
TXAR	Lajitas Array	72.12	334	P	P	10 01 35.4	+0.1
	1.4nm,0.8s,baz=153,slow=8.8,SNR=4.0						
ABTX	Abilene, Hawle	73.87	338	*e*P	P	10 01 45.7	+0.3
	4.7nm,0.8s						
U34A	Anderson Ranch	76.88	341	*e*P	P	10 02 03.5	+0.9
	7.4nm,0.6s						
TUC	Tucson	77.48	329	*e*P	P	10 02 07.3	+1.1
ANMO	Albuquerque	78.20	334	P	P	10 02 10.7	+0.5
	2.9nm,0.9s,baz=165,slow=8.4,SNR=5.5						
ANMO	Albuquerque	78.20	334	P	P	10 02 10.7	+0.5
	8.2nm,1.0s						
DBIC	Dimbokro	78.47	72	P	P	10 02 11.0	-1.0
	6.6nm,0.8s,baz=187,slow=4.3,SNR=4.1						
BOSA	Boshof	80.19	119	P	P	10 02 22.3	+0.8
	4.0nm,0.8s,baz=236,slow=6.0,SNR=3.2						
SDCO	Great Sand Dun	80.41	336	*e*P	P	10 02 20.3	-2.1
	1.2nm,0.9s						
ISCO	Idaho Springs	82.32	336	*e*P	P	10 02 33.4	+0.9

	16nm,1.6s						
ECSD	EROS Data Cent	83.61	344	eP	P	10 02 39.0	+0.4
	12nm,1.0s						
DUG	Dugway	85.16	332	eP	P	10 02 47.6	+0.8
	5.1nm,1.0s						
NVAR	Mina Array Bea	85.87	327	P	P	10 02 51.9	+1.5
	0.9nm,0.7s,baz=150,slow=6.1,SNR=4.8						
BW06	Boulder Array	86.28	335	eP	P	10 02 53.0	+0.6
	2.3nm,0.9s						
PDAR	Pinedale Array	86.28	335	P	P	10 02 52.9	+0.5
	1.7nm,0.8s,baz=143,slow=6.8,SNR=7.6						
TORD	Torodi Ar. Bea	87.55	71	P	P	10 02 59.2	+0.3
	1.8nm,0.8s,baz=246,slow=4.0,SNR=4.6						
ULM	Lac du Bonnet	89.70	347	P	P	10 03 08.4	+0.3
	2.9nm,0.8s,baz=354,slow=1.6,SNR=3.5						
BRTR	Keskin Array B	125.56	64	PKP	PKPdf	10 09 12.7	+0.9
	0.9nm,0.8s,baz=298,slow=2.7,SNR=3.9						
GEYT	Alibeck	143.11	75	PKP	PKPdf	10 09 42.7	-1.7
	2.9nm,0.6s,baz=251,slow=4.5,SNR=4.0						
AKTO	Aktyubinsk	144.44	54	PKP	PKPdf	10 09 46.2	0.0
	3.5nm,0.9s,baz=257,slow=5.2,SNR=6.6						
HYB	Hyderabad	148.96	124	iPKP	PKPbc	10 09 57.0	-2.0
BVAR	Borovoye Array	151.56	46	PKPbc	PKPbc	10 10 05.5	+1.4
	2.1nm,0.6s,baz=305,slow=4.4,SNR=4.1						
ZALV	Zalesovo Beam	158.65	35	PKPab	PKPab	10 10 40.3	-2.7
	2.2nm,0.5s,baz=277,slow=2.4,SNR=3.9						
SONM	Songino Array	170.00	356	PKPab	PKPab	10 11 34.7	+1.5
	0.8nm,0.9s,baz=4.2,slow=2.2,SNR=3.3						

IDC 27 09:50:33.3±2.8, 36.69S×73.78W, h0km, mb4.7/6, mb1 4.7/6, mb1mx4.2/31, mbtmp4.7/6, Error ellipse: s-maj=94.0km s-min=33.0km az=22.0

ISC 27 09:50:38.7±2.5, 36.7S±0.5×73.8W±0.3, h35km, n8, σ1§27/8, mb4.7/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	Brasilia	31.02	54	P	P	09 56 53.7	+0.4
	6.3nm,0.7s,baz=180,slow=15,SNR=3.0						
TEIG	Tepich	58.20	344	P	P	10 00 28.2	-1.1
	9.6nm,0.3s,baz=170,slow=19,SNR=3.5						
TXAR	Lajitas Array	71.39	333	P	P	10 01 56.2	+1.1
	1.2nm,0.4s,baz=156,slow=9.2,SNR=13						
DBIC	Dimbokro	77.37	72	P	P	10 02 28.9	-1.3
	4.9nm,0.6s,baz=202,slow=7.5,SNR=3.3						
TORD	Torodi Ar. Bea	86.44	71	P	P	10 03 17.9	0.0
	2.8nm,0.7s,baz=246,slow=3.7,SNR=5.7						
ULM	Lac du Bonnet	88.70	346	P	P	10 03 27.6	-0.3
	5.0nm,0.9s,baz=191,slow=4.6,SNR=4.4						
BVAR	Borovoye Array	150.17	45	PKPbc	PKPbc	10 10 25.2	0.0
	2.6nm,0.6s,baz=290,slow=1.9,SNR=5.0						
MKAR	Makanchi Array	159.54	53	PKPab	PKPab	10 11 13.4	+1.9
	0.5nm,0.8s,baz=268,slow=3.9,SNR=3.0						

IDC 27 09:52:53.6±1.1, 36.08S×73.24W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/32, mbtmp3.9/5, Error ellipse: s-maj=58.4km s-min=26.7km az=70.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	50.04	157	P	P	10 01 50.0	+0.3
	1.6nm,0.5s,baz=263,slow=9.6,SNR=6.8						
QSPA	South Pole Qui	54.16	180	P	P	10 02 19.8	-0.7
	1.3nm,0.4s,baz=219,slow=10,SNR=3.3						
TXAR	Lajitas Array	71.09	332	P	P	10 04 13.4	-0.3
	0.4nm,0.6s,baz=147,slow=8.5,SNR=4.5						
NVAR	Mina Array Bea	85.04	326	P	P	10 05 32.0	+0.8
	0.6nm,0.6s,baz=152,slow=5.8,SNR=3.5						
TORD	Torodi Ar. Bea	85.84	71	P	P	10 05 35.3	-0.1
	0.6nm,0.8s,baz=231,slow=2.7,SNR=2.7						

IDC 27 09:53:04.9±0.8, 36.02S×73.13W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.2/32, mbtmp4.3/10, Error ellipse: s-maj=49.2km s-min=20.7km az=69.0
ISCJB 27 09:53:07.3±0.7, 36.0S±0.2×73.1W±0.4, h28km, mb4.4/14, Error ellipse: s-maj=46.1km s-min=16.5km az=158.3
NEIC 27 09:53:10.0±0.4, 36.03S×73.08W, h35km, mb4.3/2, Error ellipse: s-maj=30.4km s-min=11.4km az=65.0

ISC 27 09:53:08.9±0.7, 36.0S±0.2×73.1W±0.3, h28km, n17, σ0§67/18, mb4.3/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	50.06	157	P	P	10 02 00.7	-0.1
	3.1nm,0.9s,baz=277,slow=6.1,SNR=5.7						
QSPA	South Pole Qui	54.21	180	P	P	10 02 32.0	+0.2
	3.2nm,0.8s,baz=137,slow=2.2,SNR=6.6						
TEIG	Tepich	57.76	343	P	P	10 02 57.2	-0.3
	5.7nm,0.4s,baz=121,slow=8.8,SNR=3.7						
JCT	Junction City	70.75	336	eP	P	10 04 22.9	+0.5
	6.1nm,1.2s						
TXAR	Lajitas Array	71.08	332	P	P	10 04 24.8	+0.1
	1.7nm,0.7s,baz=150,slow=9.0,SNR=8.5						
MNTX	Cornudas Mount	73.85	332	eP	P	10 04 39.8	-1.1
	2.0nm,1.0s						
AMTX	Amarillo	75.41	336	eP	P	10 04 49.8	-0.2
	86nm,2.1s						
ANMO	Albuquerque	77.15	332	P	P	10 05 00.8	+0.8
	3.3nm,1.0s,baz=166,slow=7.1,SNR=5.6						
PFO	Pinyon Flat Ob	80.25	324	P	P	10 05 18.1	+1.0
	1.6nm,0.9s,baz=118,slow=2.3,SNR=3.6						
DUG	Dugway	84.18	331	eP	P	10 05 37.8	+0.2
	9.4nm,1.3s						
NVAR	Mina Array Bea	85.05	326	P	P	10 05 42.5	+0.4
	0.9nm,0.4s,baz=152,slow=7.9,SNR=9.6						
PDAR	Pinedale Array	85.18	334	P	P	10 05 42.9	+0.3
	0.8nm,0.9s,baz=130,slow=6.0,SNR=3.7						
TORD	Torodi Ar. Bea	85.74	71	P	P	10 05 45.9	+0.1
	1.3nm,0.9s,baz=245,slow=3.6,SNR=4.1						
ULM	Lac du Bonnet	88.23	346	P	P	10 05 56.4	-0.5
	1.4nm,0.9s,baz=172,slow=1.8,SNR=5.2						
KMBO	Kilima Mbogo	105.71	103	ePKPdf	PKiKP	10 11 29.3	-1.3
	4.8nm,0.9s						
BVAR	Borovoye Array	149.36	45	PKPbc	PKPbc	10 12 55.5	+1.0
	1.6nm,0.7s,baz=39,slow=0.9,SNR=4.8						
ZALV	Zalesovo Beam	156.41	34	PKP	PKPdf	10 13 00.1	-0.3
	0.9nm,0.7s,baz=270,slow=4.3,SNR=3.3						
ZALV				PKPab	PKPab	10 13 29.4	+0.4
	0.5nm,0.5s,baz=275,slow=5.2,SNR=3.6						

IDC 27 09:54:14.0±1.3, 35.06S×72.71W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/29, mbtmp4.0/6, Error ellipse: s-maj=77.6km s-min=31.1km az=43.0

ISC 27 09:54:17.2±1.4, 35.0S±0.5×72.7W±0.4, h18km, n7, σ1§04/7, mb3.9/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	70.38	331	P	P	10 05 29.9	-0.2
	0.6nm,0.8s,baz=150,slow=9.3,SNR=2.9						
ANMO	Albuquerque	76.44	332	P	P	10 06 05.2	-0.6
	1.2nm,0.8s,baz=153,slow=4.5,SNR=3.6						
BOSA	Boshof	80.04	118	P	P	10 06 26.6	+0.5
	3.1nm,0.8s,baz=212,slow=8.2,SNR=3.8						
NVAR	Mina Array Bea	84.44	326	P	P	10 06 50.1	+1.4
	0.5nm,0.7s,baz=156,slow=6.8,SNR=2.6						
PDAR	Pinedale Array	84.45	334	P	P	10 06 47.9	-0.8
	0.3nm,0.6s,baz=150,slow=7.3,SNR=2.2						
TORD	Torodi Ar. Bea	85.03	70	P	P	10 06 51.8	-0.2
	1.5nm,0.7s,baz=212,slow=5.0,SNR=4.8						
WRA	Warramunga Arr	119.62	209	PKP	PKPdf	10 13 05.5	-1.0
	0.7nm,0.9s,baz=157,slow=1.5,SNR=2.8						

IDC 27 09:54:46.3±1.4, 36.89S×72.97W, h0km, mb4.1/4, mb1 4.5/5, mb1mx4.0/32, mbtmp4.2/5, ML4.3/1, Error ellipse: s-maj=157.3km s-min=34.0km az=60.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.28	155	Pn	Pn	09 55 52.5	-0.2
	3.7nm,0.3s,baz=294,slow=20,SNR=3.7						
TXAR	Lajitas Array	71.91	332	P	P	10 06 11.4	+0.1
	1.7nm,0.8s,baz=152,slow=9.0,SNR=6.3						
ANMO	Albuquerque	77.97	332	P	P	10 06 46.8	+0.4
	2.9nm,1.0s,baz=160,slow=7.4,SNR=4.6						
NVAR	Mina Array Bea	85.83	326	P	P	10 07 28.1	+0.3
	0.8nm,0.7s,baz=149,slow=5.8,SNR=3.6						
PDAR	Pinedale Array	86.01	334	P	P	10 07 27.6	-0.9
	1.0nm,0.9s,baz=146,slow=6.6,SNR=4.6						
BVAR	Borovoye Array	149.87	46	PKPbc	PKPbc	10 14 37.6	-0.1
	0.8nm,0.5s,baz=266,slow=3.9,SNR=3.5						

ISCJB 27 09:55:48.6±0.3, 37.77S±0.06×73.36W±0.08, h22km, mb4.8/37, Error ellipse: s-maj=9.8km s-min=8.0km az=41.1
IDC 27 09:55:49.3±0.6, 37.85S×73.64W, h22km±3km, mb4.5/16, mb1 4.5/18, mb1mx4.5/33, mbtmp4.6/18, ML3.6/2, Error ellipse: s-maj=21.3km s-min=11.2km az=61.0
NEIC 27 09:55:51.2±0.3, 37.81S×73.44W, h35km, mb4.9/23, Error ellipse: s-maj=9.0km s-min=7.0km az=69.0

ISC 27 09:55:49.5±0.5, 37.81S±0.08×73.5W±0.1, h22km, n363, σ0§93/366, mb4.8/37, 145C-144D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.71	143	Pg	Pb	09 56 57.7	+3.3
	32nm,0.3s,baz=315,slow=13,SNR=8.1						
PLCA				Lg	Lg	09 57 49.1	
	43nm,0.3s,baz=227,slow=18,SNR=6.1						
PLCA	Paso Flores	3.71	143	Pn	Pb	09 56 50.2	-4.1
PLCA				Lg	Lg	09 57 49.1	
CFAA	Coronel Fontan	7.56	37	Pn	Pn	09 57 37.2	-1.2
	1.0nm,0.3s,baz=230,slow=13,SNR=2.6						
TRQA	Tornquist	9.11	95	ePn	Pn	09 57 59.7	0.0
	120nm,1.1s						
LVC	Limon Verde	15.66	16	ePn	Pn	09 59 29.3	+0.2
	29nm,0.9s						
USHA	Ushuaia	17.37	170	P	Pn	09 59 49.8	-0.5
	0.2nm,0.3s,baz=297,slow=2.3,SNR=1.8						
CPUP	Villa Florida	17.83	55	ePn	Pn	09 59 55.5	-0.7
	2.6nm,1.1s						
LPAZ	La Paz	21.96	14	P	P	10 00 43.2	+0.8
	13nm,0.8s,baz=177,slow=13,SNR=6.9						
SIV	San Ignacio	24.35	30	P	P	10 01 06.3	+0.3
	14nm,0.9s,baz=208,slow=10.0,SNR=4.8						
SDV	Santo Domingo	46.53	4	eP	P	10 04 14.3	-1.4
	16nm,0.8s						
RCBR	Riachuelo	46.70	57	P	P	10 04 17.4	+0.5
	23nm,1.1s,baz=180,slow=5.6,SNR=4.4						
SNAA	Sanae	48.54	157	P	P	10 04 30.2	-0.4
	5.7nm,0.9s,baz=282,slow=7.0,SNR=8.2						
JTS	JuntasAbangare	49.04	345	P	P	10 04 34.6	-0.3
	7.1nm,1.0s,baz=73,slow=14,SNR=3.4						
QSPA	South Pole Qui	52.43	180	P	P	10 05 00.1	0.0
	7.9nm,1.0s,baz=135,slow=8.7,SNR=4.4						
QSPA	South Pole Qui	52.43	180	eP	P	10 05 01.2	+1.1
	8.6nm,1.0s						
APG	El Apazote	54.90	340	P	P	10 05 18.8	0.0
	19nm,0.9s,baz=165,slow=20,SNR=4.9						
TEIG	Tepich	59.38	344	P	P	10 05 49.8	-0.3
	7.7nm,0.7s,baz=107,slow=11,SNR=3.4						
934A	Benavides	69.17	336	⇓P	P	10 06 55.6	+1.5
	baz=70						
933A	Laredo	69.42	336	⇑P	P	10 06 57.9	+2.2
	baz=70						
834A	Tilden	69.67	336	⇓P	P	10 06 59.1	+1.8
	baz=70						
735A	Kenedy	70.12	337	⇓P	P	10 07 01.6	+1.6
	baz=70						
833A	Chaparral WMA,	70.12	336	⇑P	P	10 07 01.6	+1.6
	baz=70						
832A	Faith Ranch, C	70.28	335	⇑P	P	10 07 02.7	+1.7
	baz=71						
734A	La Parita Cree	70.34	337	⇓P	P	10 07 03.3	+2.0
	baz=71						
636A	Smothers Creek	70.48	338	⇓P	P	10 07 03.7	+1.5
	baz=71						
732A	Laxson Ranch,	70.69	335	⇓P	P	10 07 05.0	+1.6
	baz=71,SNR=5.8						
633A	Saathoff Ranch	71.11	336	⇓P	P	10 07 06.7	+0.7
	baz=72						
535A	Dale	71.14	338	⇓P	P	10 07 07.1	+0.9
	baz=72						
632A	Uvalde	71.34	336	⇑P	P	10 07 08.3	+0.8
	baz=72,SNR=5.6						
GOGA	Godfrey	71.47	351	eP	P	10 07 07.8	-0.2
	18nm,1.2s						
LRAL	Lakeview Retre	71.60	348	eP	P	10 07 09.4	+0.5
	15nm,1.0s						
533A	Kerrville	71.63	337	⇓P	P	10 07 10.0	+0.8
	baz=72						
337A	Centerville	71.88	340	⇓P	P	10 07 11.4	+0.8
	baz=72						
532A	Rocksprings	71.96	336	⇑P	P	10 07 12.0	+0.7
	baz=72,SNR=6.0						
434A	Burnet	72.09	338	⇑P	P	10 07 12.2	+0.2
	baz=72,SNR=5.9						
531A	Rocksprings	72.20	336	⇑P	P	10 07 13.1	+0.5
	baz=72						
336A	Riesel	72.21	339	⇓P	P	10 07 12.5	-0.1
	baz=73						
JCT	Junction City	72.25	336	eP	P	10 07 12.4	-0.6
	20nm,1.0s						
JCT	Junction City	72.25	336	⇑P	P	10 07 13.2	+0.3
	baz=73,SNR=5.6						
335A	Moody	72.28	339	⇓P	P	10 07 13.9	+0.9
	baz=73						
433A	Art	72.28	337	⇑P	P	10 07 13.9	+0.8
	baz=73						
530A	J-C Ranch, Com	72.45	335	⇑P	P	10 07 15.3	+1.2
	baz=73,SNR=5.4						
TXAR	Lajitas Array	72.52	333	P	P	10 07 13.7	-1.0
	2.1nm,0.9s,baz=150,slow=7.5,SNR=7.3						
TXAR				pP	pP	10 07 21.4	-0.4
	5.3nm,0.9s,baz=148,slow=4.4,SNR=12						
334A	Lometa	72.56	338	⇓P	P	10 07 15.7	+1.0
	baz=73,SNR=14						
432A	Menard	72.61	336	⇓P	P	10 07 16.1	+1.0
	baz=73						
431A	Sonora	72.70	336	⇑P	P	10 07 16.4	+0.7
	baz=73						
529A	Stev Forest Ra	72.73	334	⇑P	P	10 07 16.7	+0.9
	baz=73						
333A	Richland Sprin	72.78	337	⇑P	P	10 07 16.8	+0.7
	baz=73						
KMSC	Kings Mountain	72.95	353	⇑P	P	10 07 18.1	+1.2
	baz=73						
WHTX	Lake Whitney	72.95	339	⇑P	P	10 07 17.8	+0.8
	baz=73						
430A	Baggett Ranch,	73.00	335	⇓P	P	10 07 17.6	+0.2
	baz=73						
332A	Millersview	73.07	337	⇓P	P	10 07 18.7	+0.9
	baz=73,SNR=13						
429A	Davenport Ranc	73.07	335	⇑P	P	10 07 18.4	+0.5
	baz=73						
234A	Clairette	73.16	338	⇓P	P	10 07 18.7	+0.4
	baz=74						
331A	San Angelo	73.22	336	⇑P	P	10 07 19.2	+0.5
	baz=74,SNR=14						
233A	Rising Star	73.40	338	⇓P	P	10 07 19.2	-0.6
	baz=74						
232A	Coleman	73.51	337	⇑P	P	10 07 20.5	+0.2
	baz=74,SNR=5.2						
330A	Mertzon	73.55	336	⇑P	P	10 07 20.9	+0.2
	baz=74						
SWET	Sewanee	73.57	349	eP	P	10 07 21.0	+0.3
	40nm,0.9s						
134A	White-Moore Ra	73.68	339	⇑P	P	10 07 21.6	+0.3
	baz=74						
231A	Bronte	73.76	336	⇑P	P	10 07 22.5	+0.6
	baz=74,SNR=13						
329A	Wagon Wheel Ra	73.89	335	⇓P	P	10 07 22.7	0.0
	baz=74						
133A	Hamilton Ranch	73.96	338	⇑P	P	10 07 23.3	+0.3
	baz=74,SNR=5.2						
230A	Sterling City	73.97	336	⇓P	P	10 07 23.2	+0.1
	baz=74						
Z35A	Perchaven, San	74.15	339	⇑P	P	10 07 24.2	+0.2
	baz=74						
ABTX	Abilene, Hawle	74.19	337	⇑P	P	10 07 24.4	+0.1
	baz=74						
229A	Bryant Ranch,	74.28	335	⇓P	P	10 07 25.0	+0.1
	baz=75						
131A	Roby	74.47	337	⇑P	P	10 07 26.2	+0.3
	baz=75						
Z33A	Whitaker Ranch	74.54	338	⇑P	P	10 07 26.7	+0.4
	baz=75						
130A	Snyder	74.58	336	⇑P	P	10 07 26.9	+0.2
	baz=75						
228A	UT Block 9, Go	74.67	335	⇓P	P	10 07 27.6	+0.4
	baz=75						
Z32A	Haskell	74.78	338	⇓P	P	10 07 28.0	+0.3
	baz=75,SNR=5.2						
Y34A	Reagan Ranch,	74.88	339	⇓P	P	10 07 28.6	+0.3
	baz=75						
129A	Stewart Farms,	74.90	335	⇑P	P	10 07 28.7	+0.2
	baz=75						
Z31A	Sharp Cattle R	74.99	337	⇑P	P	10 07 29.3	+0.3
	baz=75						
128A	Castleberry Fa	75.10	335	⇑P	P	10 07 29.8	+0.1
	baz=76						
Y33A	Hilltop Ranch,	75.18	339	⇑P	P	10 07 30.0	0.0
	baz=76						
Z30A	Sanderson Ranc	75.27	336	⇑P	P	10 07 31.0	+0.4
	baz=76,SNR=9.7						
MNTX	Cornudas Mount	75.28	332	eP	P	10 07 29.7	-1.0
	4.0nm,1.0s						
Y32A	R-V Farms, Ver	75.41	338	⇑P	P	10 07 31.7	+0.3
	baz=76						
Z29A	Hungry Hill Ra	75.43	336	⇑P	P	10 07 31.8	+0.2
	baz=76,SNR=12						
X34A	Smith Ranch, M	75.51	339	⇑P	P	10 07 32.5	+0.6
	baz=76						
Y31A	Rekieta Farm,	75.62	337	⇓P	P	10 07 32.8	+0.2
	baz=76						
X33A	Lawton	75.64	339	⇑P	P	10 07 32.9	+0.2
	baz=76						
Y30A	Stafford Cattl	75.74	337	⇓P	P	10 07 33.9	+0.6
	baz=76						
X32A	Elmer	75.76	338	⇓P	P	10 07 34.0	+0.7
	baz=76						
Y29A	Porterfield Fa	75.97	336	⇑P	P	10 07 35.2	+0.5
	baz=76						
W34A	Bridge Creek,	76.09	340	⇓P	P	10 07 35.7	+0.5
	baz=76						
X31A	McDonald Ranch	76.16	338	⇑P	P	10 07 35.8	+0.2
	baz=76						
Y28A	McKinney Farm,	76.20	336	⇑P	P	10 07 36.3	+0.3
	baz=77						
Z26A	Caprock	76.20	334	⇓P	P	10 07 36.0	0.0
	baz=77						
W33A	Caddo, Fort Co	76.20	339	⇑P	P	10 07 37.0	+1.1
	baz=77						
X30A	Coker Ranch, T	76.26	337	⇑P	P	10 07 36.7	+0.5
	baz=77						
W32A	Sentinel	76.40	339	⇓P	P	10 07 37.4	+0.5
	baz=77,SNR=11						
MSTX	Muleshoe	76.43	335	⇓P	P	10 07 37.5	+0.2
	baz=77						
Z25A	Roswell	76.47	333	⇑P	P	10 07 37.8	+0.3
	baz=77						
Y27A	Causey	76.48	335	⇓P	P	10 07 38.3	+0.7
	baz=77						
319A	Douglas	76.51	329	⇑P	P	10 07 38.0	+0.1
	baz=77						
X29A	Tulia	76.52	336	⇓P	P	10 07 37.8	0.0
	baz=77						
V34A	Guthrie	76.58	340	⇓P	P	10 07 38.4	+0.4
	baz=77						
W31A	Holland Ranch,	76.66	338	⇑P	P	10 07 38.8	+0.3
	baz=77						
Y26A	Elida	76.74	334	⇑P	P	10 07 39.4	+0.3
	baz=77						
Z24A	Sheeppen Canyo	76.74	333	⇑P	P	10 07 39.4	+0.2
	baz=77						
X28A	Dimmitt	76.74	336	⇓P	P	10 07 39.6	+0.5
	baz=77						
V33A	Lossen Ranch,	76.78	340	⇓P	P	10 07 39.7	+0.6
	baz=77						
V32A	Arapaho	76.90	339	⇑P	P	10 07 40.3	+0.5
	baz=77						
AMTX	Amarillo	76.92	337	eP	P	10 07 40.1	+0.1
	28nm,0.9s						
AMTX	Amarillo	76.92	337	⇓P	P	10 07 40.7	+0.7
	baz=77						
121A	Cookes Peak, D	76.93	331	⇑P	P	10 07 41.1	+0.9
	baz=77						
Y25A	Mesa, Roswell	77.04	334	⇑P	P	10 07 41.1	+0.3
	baz=77						
W29A	Amraillo	77.12	337	⇑P	P	10 07 41.6	+0.4
	baz=78						
U34A	Anderson Ranch	77.16	340	⇓P	P	10 07 41.5	+0.3
	baz=78						
V31A	Spring Creek L	77.18	338	⇑P	P	10 07 42.6	+1.1
	baz=78						
Z22A	Elephant Butte	77.26	332	⇑P	P	10 07 42.8	+0.7
	baz=78						
X26A	CR and CF Fran	77.31	335	⇓P	P	10 07 43.4	+1.2
	baz=78						
Y24A	Capitan	77.31	333	⇑P	P	10 07 43.5	+1.2
	baz=78						
V30A	Spur Ranch, Mi	77.42	338	⇑P	P	10 07 44.4	+1.6
	baz=78						
U32A	Winter Ranch,	77.50	339	⇑P	P	10 07 44.6	+1.4
	baz=78						
W27A	Bowe Ranch, En	77.53	336	⇓P	P	10 07 44.3	+0.8
	baz=78,SNR=8.8						
DBIC	Dimbokro	77.53	71	P	P	10 07 45.1	+1.3
	13nm,0.9s,baz=204,slow=6.4,SNR=9.0						
Y23A	Lovelace Mesa,	77.53	333	⇓P	P	10 07 45.0	+1.4
	baz=78						
X25A	Clemmons Ranch	77.58	334	⇑P	P	10 07 44.6	+0.8
	baz=78						
U31A	Nine Bar Ranch	77.74	338	⇑P	P	10 07 46.3	+1.8
	baz=78						
W26A	Owens Ranch, T	77.78	335	⇓P	P	10 07 46.3	+1.4
	baz=78						
V28A	Channing	77.89	336	⇑P	P	10 07 47.3	+1.9
	baz=78						
TUC	Tucson	77.94	328	eP	P	10 07 46.9	+1.1
	8.4nm,1.2s						
V27A	Dan Oppiter Fa	78.09	336	⇑P	P	10 07 47.8	+1.2
	baz=78						
U30A	WK&E Inc. Balk	78.12	338	⇑P	P	10 07 47.5	+0.8
	baz=78						
W25A	X Bar L Ranch,	78.13	335	⇓P	P	10 07 47.5	+0.6
	baz=78						
X23A	Hourglass Bar	78.17	333	⇓P	P	10 07 48.4	+1.3
	baz=78						
T32A	Huddler Ranch,	78.23	340	⇑P	P	10 07 48.5	+1.3
	baz=79						
U29A	Oasis Ranch, S	78.23	337	⇑P	P	10 07 48.5	+1.2
	baz=79						
T31A	Randall Ranch,	78.37	339	⇓P	P	10 07 49.5	+1.5
	baz=79						
V26A	Tequesquite Ra	78.43	335	⇓P	P	10 07 49.4	+0.9
	baz=79						
W24A	Lazy 6 Ranch,	78.45	334	⇑P	P	10 07 49.8	+1.0
	baz=79						
U28A	Mallet	78.46	337	⇑P	P	10 07 49.6	+1.0
	baz=79						
214A	Organ Pipe Nat	78.50	327	eP	P	10 07 49.9	+1.0
	4.6nm,1.0s						
214A	Organ Pipe Nat	78.50	327	⇓P	P	10 07 50.2	+1.4
	baz=79						
T30A	Plains	78.57	338	⇑P	P	10 07 50.4	+1.2
	baz=79						
ANMO	Albuquerque	78.59	333	P	P	10 07 49.8	+0.4
	4.8nm,1.0s,baz=170,slow=6.6,SNR=9.9						
ANMO				pP	pP	10 07 56.3	-0.3
	13nm,1.1s,baz=164,slow=7.9,SNR=13						
W23A	Werner Place,	78.67	333	⇓P	P	10 07 51.1	+1.1
	baz=79						
U27A	Thompson Grove	78.69	336	⇓P	P	10 07 50.9	+1.0
	baz=79						
S32A	Newby Ranch, P	78.72	340	⇑P	P	10 07 51.2	+1.3
	baz=79						
V25A	Rancho No Teng	78.75	335	⇓P	P	10 07 51.3	+0.9
	baz=79						
S31A	Mullinville	78.80	339	⇓P	P	10 07 51.6	+1.3
	baz=79						
V24A	Rampart Ranch,	78.87	334	⇑P	P	10 07 51.7	+0.6
	baz=79						
T29A	Hugoton	78.89	338	⇓P	P	10 07 51.4	+0.4
	baz=79						
U26A	Atchley Ranch,	78.96	336	⇓P	P	10 07 52.1	+0.6
	baz=79						
R33A	Olander Ranch,	79.03	341	⇓P	P	10 07 52.3	+0.7
	baz=79						
S30A	Montezuma	79.10	338	⇓P	P	10 07 52.6	+0.6
	baz=80						
T28A	Walsh	79.11	337	⇑P	P	10 07 52.7	+0.5
	baz=80,SNR=9.5						
U25A	Circle Dot Ran	79.19	335	⇓P	P	10 07 53.1	+0.3
	baz=80						
T27A	Campo	79.25	337	⇓P	P	10 07 54.0	+1.1
	baz=80						
S29A	Ulysses	79.27	338	⇑P	P	10 07 53.7	+0.7
	baz=80						
R32A	Long Quarter,	79.34	340	⇑P	P	10 07 54.1	+0.8
	baz=80						
BOSA	Boshof	79.35	118	P	P	10 07 54.6	+0.7
	5.2nm,0.8s,baz=28,slow=1.0,SNR=4.5						

BOSA pP pP 10 08 01.4 +0.2
22nm,0.9s,baz=214,slow=6.0,SNR=12
KSU1 Kansas State U 79.43 342 eP P 10 07 51.7 -2.0
20nm,1.3s
R31A Burdett 79.44 339 ⇓P P 10 07 54.4 +0.5
baz=80
S28A Manter 79.48 337 ⇑P P 10 07 54.5 +0.4
baz=80
U24A Moreno Valley 79.49 334 ⇓P P 10 07 55.3 +0.8
baz=80
V22A San Miguel Ran 79.62 333 ⇓P P 10 07 55.7 +0.6
baz=80
T26A Comanche Natio 79.63 336 ⇓P P 10 07 56.2 +1.1
baz=80,SNR=7.1
R30A Dighton 79.64 339 ⇓P P 10 07 55.5 +0.5
baz=80
Q33A Connelly Farm, 79.65 341 ⇓P P 10 07 55.4 +0.5
baz=80
U23A El Rito 79.74 334 ⇓P P 10 07 56.8 +1.1
baz=80
Q32A Meitler Ranch, 79.83 340 ⇑P P 10 07 57.0 +1.1
baz=80
T25A Trinidad 79.86 335 ⇓P P 10 07 58.3 +1.9
baz=80,SNR=12
S26A Kim 80.00 336 ⇓P P 10 07 57.8 +0.8
baz=80,SNR=9.0
U22A Llaves 80.01 333 ⇓P P 10 07 58.1 +0.8
baz=80
R29A Marienthal 80.02 338 ⇑P P 10 07 58.0 +0.9
baz=80
X16A Lo Mia Camp, P 80.04 329 ⇓P P 10 07 58.5 +1.1
baz=80
Q31A Ellis 80.07 340 ⇓P P 10 07 58.3 +1.0
baz=80
T24B San Luis 80.12 335 ⇓P P 10 07 58.8 +0.9
baz=80
R28A Tribune 80.14 338 ⇑P P 10 07 58.8 +1.0
baz=80
Q30A Quinter 80.27 339 ⇑P P 10 07 58.5 +0.1
baz=81
Y14A Wickenburg 80.28 328 ⇓P P 10 07 59.0 +0.5
baz=81
T23A Casias Ranch, 80.32 334 ⇓P P 10 07 59.4 +0.4
baz=81
S25A Robets Cordova 80.34 336 ⇓P P 10 07 59.4 +0.4
baz=81
R27A Eads 80.39 337 ⇑P P 10 07 59.9 +0.8
baz=81,SNR=9.9
Q29A Oakley 80.41 339 ⇓P P 10 08 00.3 +1.2
baz=81
P32A Huiting Farm, 80.43 341 ⇑P P 10 07 60.0 +0.8
baz=81
P31A Stockton 80.55 340 ⇓P P 10 08 00.6 +0.8
baz=81
S24A Houchin Ranch, 80.58 335 ⇓P P 10 08 01.4 +1.0
baz=81,SNR=10.0
R26A Arlington 80.61 337 ⇑P P 10 08 01.6 +1.3
baz=81
SWSC Sam W. Stewart 80.66 325 ⇓P P 10 08 01.3 +0.8
baz=81
R25A Fountain Ranch 80.74 336 ⇓P P 10 08 02.4 +1.4
baz=81
SDCO Great Sand Dun 80.78 335 eP P 10 08 01.2 -0.2
5.3nm,0.9s
P30A Selden 80.81 339 ⇓P P 10 08 02.6 +1.3
baz=81
Q28A Sharon Springs 80.81 338 ⇑P P 10 08 02.7 +1.4
baz=81
MONP Monument Peak 80.90 325 ⇓P P 10 08 03.4 +1.3
baz=81
S23A Nye Farm, Mont 80.91 334 ⇑P P 10 08 03.4 +1.3
baz=81
O32A Brockman Farm, 80.95 341 ⇓P P 10 08 02.7 +0.8
baz=81
WUAZ Wupatki 80.97 330 eP P 10 08 01.9 -0.5
13nm,1.3s
WUAZ Wupatki 80.97 330 ⇑P P 10 08 04.1 +1.8
baz=81
KSCO Kaye Shedlock' 81.01 337 ⇓P P 10 08 04.0 +1.6
baz=81
PDMCI Parker Dam,Lak 81.08 327 ⇑P P 10 08 04.2 +1.5
baz=81
R24A Sanders Place, 81.08 335 ⇓P P 10 08 03.9 +1.0
baz=81,SNR=9.8
BC3 Big Chuckawall 81.11 326 ⇑P P 10 08 04.3 +1.3
baz=81
O31A Woolen Ranch, 81.12 340 ⇓P P 10 08 04.4 +1.5
baz=82
Q26A Hugo 81.20 337 ⇓P P 10 08 04.7 +1.3
baz=82
S22A 4UR Ranch, Cre 81.23 334 ⇑P P 10 08 04.9 +1.1
baz=82
P28A Saint Francis 81.27 338 ⇑P P 10 08 05.2 +1.5
baz=82
R23A Moffat 81.29 335 ⇓P P 10 08 05.1 +1.0
baz=82
O30A MW Ranch, Wils 81.35 340 ⇑P P 10 08 05.2 +1.1
baz=82
MVCO Mesa Verde 81.35 332 eP P 10 08 04.8 +0.3
8.7nm,1.3s
MVCO Mesa Verde 81.35 332 ⇓P P 10 08 05.4 +1.0
baz=82
IRM Iron Mountain 81.40 326 ⇓P P 10 08 05.5 +1.0
baz=82
Q25A Bedland, Calha 81.42 336 ⇓P P 10 08 05.8 +1.0
baz=82
P27A Ficken Ranch, 81.49 338 ⇑P P 10 08 06.0 +1.1
baz=82
PFO Pinyon Flat Ob 81.52 325 ⇑P P 10 08 06.6 +1.4
baz=82
W13A Hualapai Mount 81.65 328 ⇑P P 10 08 07.6 +1.6
baz=82
Q24A Divide 81.76 336 ⇓P P 10 08 07.5 +0.9
baz=82
O28A Krutsinger Ran 81.78 338 ⇑P P 10 08 07.7 +1.3
baz=82
BGNE Belgrade 82.00 342 ⇑P P 10 08 09.2 +1.8
baz=82
O27A Beecher Island 82.05 338 ⇑P P 10 08 09.5 +1.7
baz=82
U15A North Rim 82.13 329 ⇑P P 10 08 10.3 +1.7
baz=82
GMRC Granite Mounta 82.15 326 ⇑P P 10 08 10.1 +1.5
baz=82
M31A Lambtecht Ranc 82.15 341 ⇓P P 10 08 09.7 +1.5
baz=82
P24A Kohler Place, 82.18 336 ⇓P P 10 08 10.3 +1.7
baz=82
PV01 Paradox Valley 82.20 333 eP P 10 08 09.2 +0.3
O26A Horse Wrangler 82.35 337 ⇑P P 10 08 11.3 +1.9
baz=83
O25A Wiggins 82.48 337 ⇓P P 10 08 11.6 +1.5
baz=83
HEC Hector,Ludlow 82.49 326 ⇓P P 10 08 11.5 +1.3
baz=83
M30A Dale-Ortello V 82.56 340 ⇓P P 10 08 12.0 +1.6
baz=83
N27A Anderson Farm, 82.63 338 ⇑P P 10 08 12.5 +1.6
baz=83
ISCO Idaho Springs 82.67 336 eP P 10 08 10.5 -0.8
9.5nm,1.3s
ISCO Idaho Springs 82.67 336 ⇓P P 10 08 12.5 +1.1
baz=83
M29A Burnside Ranch 82.70 340 ⇑P P 10 08 12.8 +1.7
baz=83
M28A Bar X Bar Ranc 82.84 339 ⇓P P 10 08 13.1 +1.1
baz=83
N26A Koester Ranch, 82.86 338 ⇑P P 10 08 13.4 +1.3
baz=83
P22A Eagle 82.87 335 ⇓P P 10 08 13.3 +1.0
baz=83
L31A Butterfield Fa 82.89 341 ⇑P P 10 08 13.6 +1.5
baz=83
L30A Spencer Herefo 82.91 341 ⇑P P 10 08 13.9 +1.7
baz=83
GSC Goldstone 83.09 326 ⇓P P 10 08 14.8 +1.4
baz=83
O23A Lake Granby, G 83.14 336 ⇓P P 10 08 14.5 +0.7
baz=84
L29A Maesberg Ranch 83.22 340 ⇓P P 10 08 14.6 +0.8
baz=84
EDW2 Edwards Air Fo 83.28 325 ⇓P P 10 08 14.6 +0.3
baz=84
O22A Kremmling 83.30 335 ⇓P P 10 08 16.0 +1.3
baz=84
N24A Carr 83.37 337 ⇑P P 10 08 15.9 +1.2
baz=84
K30A Basset 83.56 341 ⇓P P 10 08 17.0 +1.4
baz=84
ARUT Antelope Range 83.76 329 eP P 10 08 18.1 +1.3
N23A Red Feather La 83.77 336 ⇑P P 10 08 18.0 +1.0
baz=84
ECSD EROS Data Cent 83.83 343 eP P 10 08 16.5 -0.4
39nm,1.1s
ECSD EROS Data Cent 83.83 343 ⇓P P 10 08 18.0 +1.2
baz=84
N22A Wattenberg Ran 83.85 335 ⇑P P 10 08 18.1 +0.7
baz=84
O20A White River Ci 83.86 334 ⇑P P 10 08 18.4 +1.0
baz=84
ARVC Arvin 83.87 324 ⇓P P 10 08 18.0 +0.7
baz=84
M24A Cheyenne 83.93 337 ⇑P P 10 08 19.5 +1.9
baz=84
K28A Ten Mile Ranch 84.06 340 ⇑P P 10 08 19.9 +1.7
baz=84
J30A Dallas 84.14 341 ⇓P P 10 08 19.2 +0.7
baz=84
ISA Isabella 84.15 325 ⇓P P 10 08 20.5 +1.7
baz=84
K27A Flueckinger Fa 84.30 339 ⇓P P 10 08 21.2 +1.8
baz=85
J29A Okreek 84.43 341 ⇑P P 10 08 20.7 +0.8
baz=85,SNR=6.1
SPMN St. Paul 84.47 346 ⇓P P 10 08 20.4 +0.4
baz=85
N20A Spence Gulch, 84.49 334 ⇑P P 10 08 21.4 +0.9
baz=85
VES Vestal, Richgr 84.58 324 ⇑P P 10 08 21.3 +0.4
baz=85
I30A Oacoma 84.67 342 ⇓P P 10 08 21.7 +0.6
baz=85
J28A Allard Ranch, 84.69 340 ⇓P P 10 08 20.9 -0.4
baz=85
J27A Elkhorn Farm, 84.74 340 ⇓P P 10 08 22.5 +0.9
baz=85
L23A Garrett 84.79 337 ⇓P P 10 08 22.9 +0.8
baz=85
I29A Vivian Onida 85.00 341 ⇑P P 10 08 24.5 +1.7
baz=85
BRSD Miller 85.05 342 ⇓P P 10 08 23.6 +0.6
baz=85
J26A Sides Ranch, S 85.09 339 ⇑P P 10 08 24.0 +0.7
baz=86
R11A Troy Canyon, C 85.12 328 ⇑P P 10 08 24.7 +0.9
baz=86
I28A Midland 85.20 340 ⇑P P 10 08 24.6 +0.8
baz=86,SNR=9.5
K23A Bowen Ranch, D 85.35 337 ⇑P P 10 08 25.0 +0.3
baz=86
I27A Quinn 85.51 340 ⇑P P 10 08 26.1 +0.7
baz=86
H29A Onida 85.54 341 ⇓P P 10 08 25.8 +0.3
baz=86
K22A Casper 85.54 336 ⇓P P 10 08 26.2 +0.5
baz=86
J24A Dixon Ranch, L 85.58 338 ⇑P P 10 08 26.8 +1.0
baz=86
DUG Dugway 85.59 331 eP P 10 08 26.6 +0.6
17nm,1.1s
DUG Dugway 85.59 331 ⇓P P 10 08 26.3 +0.3
baz=86
I26A New Underwood 85.69 339 ⇑P P 10 08 27.0 +0.7
baz=86
G30A Faulkton 85.74 342 ⇓P P 10 08 27.3 +0.8
baz=86
K21A Alcova 85.75 336 ⇑P P 10 08 27.4 +0.5
baz=86
H28A Mission Ridge 85.79 341 ⇓P P 10 08 27.8 +1.0
baz=86
J23A Dilts Ranch, B 85.91 337 ⇑P P 10 08 28.3 +0.8
baz=86
I25A Rochford 85.93 339 ⇓P P 10 08 28.4 +0.8
baz=86
G29A Hoven 85.99 342 ⇑P P 10 08 28.6 +0.9
baz=86
H27A Howes 86.03 340 ⇑P P 10 08 28.6 +0.6
baz=86
G28A Parade 86.14 341 ⇑P P 10 08 29.0 +0.5
baz=86
J22A Midwest 86.21 337 ⇑P P 10 08 29.4 +0.4
baz=87
NVAR Mina Array Bea 86.36 326 P P 10 08 30.0 0.0
1.7nm,0.8s,baz=150,slow=5.4,SNR=8.0
NVAR pP pP 10 08 37.8 +0.6
2.3nm,0.8s,baz=140,slow=5.8,SNR=7.5
F30A Leola 86.38 342 ⇓P P 10 08 29.5 -0.1
baz=87
H25A Fruitdale 86.45 339 ⇓P P 10 08 29.9 -0.1
baz=87
J21A Lysite 86.46 336 ⇓P P 10 08 29.9 -0.3
baz=87
F29A Eureka 86.57 342 ⇑P P 10 08 30.7 +0.2
baz=87
TOA0 Torodi Ar. Sit 86.61 71 eP P 10 08 31.5 +0.1
TORD Torodi Ar. Bea 86.61 71 P P 10 08 32.1 +0.6
3.2nm,0.9s,baz=238,slow=4.6,SNR=6.9
I22A 9 Mile Ranch, 86.64 337 ⇑P P 10 08 31.1 0.0
baz=87
BW06 Boulder Array 86.65 334 eP P 10 08 30.6 -0.7
13nm,1.2s
PDAR Pinedale Array 86.65 334 P P 10 08 31.1 -0.1
3.0nm,1.0s,baz=145,slow=5.4,SNR=8.4
J20A Shoshoni 86.67 336 ⇑P P 10 08 31.2 -0.1
baz=87
G27A Dupree 86.69 340 ⇓P P 10 08 31.1 0.0
baz=87
G26A Maurine 86.79 340 ⇓P P 10 08 31.7 +0.1
baz=87
F28A McLaughlin 86.83 341 ⇑P P 10 08 32.7 +0.9
baz=87
H24A Dirks Ranch, A 86.84 338 ⇑P P 10 08 32.4 +0.5
baz=87
J19A Crowheart 86.92 335 ⇓P P 10 08 33.3 +0.7
baz=87
G25A Newell 86.92 339 ⇓P P 10 08 32.2 -0.1
baz=87,SNR=7.4
E30A Jud 86.98 343 ⇑P P 10 08 33.3 +0.8
baz=87
F27A Lemmon 87.17 340 ⇑P P 10 08 33.4 -0.1
baz=88,SNR=6.9
E29A Napoleon 87.21 342 ⇓P P 10 08 33.9 +0.2
baz=88
I20A Worland 87.22 336 ⇓P P 10 08 34.1 +0.2
baz=88
F26A Lodgepole 87.32 340 ⇓P P 10 08 34.4 +0.1
baz=88
E28A Huff 87.48 342 ⇑P P 10 08 35.5 +0.6
baz=88
G23A Biddle 87.50 338 ⇓P P 10 08 35.8 +0.7
baz=88
D30A Buchanan 87.51 343 ⇑P P 10 08 36.1 +1.0
baz=88
E27A Carson 87.56 341 ⇓P P 10 08 36.0 +0.7
baz=88
I19A Meeteetse 87.58 335 ⇑P P 10 08 36.0 +0.3
baz=88
F25A Bowman 87.60 340 ⇑P P 10 08 36.5 +0.8
baz=88
H20A Greybull 87.66 336 ⇑P P 10 08 36.4 +0.4
baz=88
D29A Pettibone, Tap 87.66 342 ⇑P P 10 08 36.5 +0.7
baz=88
G22A Birney 87.78 337 ⇓P P 10 08 37.3 +0.7
baz=88
F24A Ekalaka 87.81 339 ⇓P P 10 08 37.0 +0.4
baz=88
E26A Carlson Angus 87.84 340 ⇑P P 10 08 37.2 +0.5
baz=88,SNR=5.7
F23A Volborg 87.97 338 ⇑P P 10 08 37.4 0.0
baz=88
C30A Mose, Pekin 88.01 343 ⇓P P 10 08 37.9 +0.5
baz=88,SNR=9.1
AGMN Agassiz Nation 88.01 345 eP P 10 08 37.4 -0.1
20nm,1.1s
AGMN Agassiz Nation 88.01 345 ⇑P P 10 08 38.1 +0.7
baz=88
I17A Pilgrim Ck. 88.01 334 ⇑P P 10 08 38.6 +0.7
baz=88
D28A Regan 88.02 342 ⇑P P 10 08 37.9 +0.3
baz=88,SNR=8.9
E25A Miller Ranch, 88.12 340 ⇑P P 10 08 37.9 -0.2
baz=88
D27A Center 88.18 341 ⇑P P 10 08 38.5 +0.2
baz=89
F22A Rosebud 88.28 338 ⇓P P 10 08 39.1 +0.3
baz=89
H18A Shoshone NF, C 88.37 335 ⇑P P 10 08 39.4 -0.1
baz=89
B30A Myrvik Farm, E 88.68 344 ⇑P P 10 08 41.1 +0.5
baz=89,SNR=11
YMR Madison River 88.80 334 eP P 10 08 42.6 +1.1
12nm,1.1s
B29A Wagenman Farm, 88.92 343 ⇑P P 10 08 42.3 +0.6
baz=89
HLID Hailey 89.09 332 eP P 10 08 44.0 +1.1
11nm,1.3s
HLID Hailey 89.09 332 ⇑P P 10 08 43.6 +0.7
baz=89
QLMT Earthquake Lak 89.11 334 eP P 10 08 42.9 -0.1
A30A Hoffart Farm, 89.14 344 ⇑P P 10 08 43.0 +0.2
baz=90
B28A Dugan Ranch, T 89.15 342 ⇓P P 10 08 43.5 +0.7
baz=90,SNR=5.7
A29A Manning Farm, 89.33 343 ⇑P P 10 08 43.7 +0.1
baz=90,SNR=9.8
C24A Savage 89.34 340 ⇓P P 10 08 43.5 -0.3
baz=90
E19A Rath Farm, Rou 89.67 336 ⇓P P 10 08 45.1 -0.3
baz=90
WVOR Wild Horse Val 89.81 328 P P 10 08 47.9 +1.7
15nm,1.5s
ULM Lac du Bonnet 89.88 346 P P 10 08 46.5 +0.3
2.6nm,0.9s,baz=153,slow=6.7,SNR=2.7
GERES GERESS Array B 115.65 47 PKP PKPdf 10 14 29.1 -0.4
0.9nm,0.7s,baz=216,slow=6.6,SNR=3.5
BRTR Keskin Array B 124.66 64 PKP PKPdf 10 14 46.9 -0.3
1.5nm,0.8s,baz=209,slow=3.0,SNR=7.8
BRTR pPKP pPKPdf 10 14 54.4 -0.4
2.4nm,0.8s,baz=193,slow=2.9,SNR=9.9
AKASG Malin Array Be 125.60 50 PKP PKPdf 10 14 47.5 -1.0
2.5nm,1.0s,baz=265,slow=2.6,SNR=6.3
GEYT Alibeck 142.16 74 PKP PKPdf 10 15 17.1 -2.7
2.3nm,0.8s,baz=256,slow=9.0,SNR=4.6
AKTO Aktyubinsk 143.62 54 PKP PKPbc 10 15 19.7 +0.2
4.6nm,0.9s,baz=277,slow=4.1,SNR=8.0
TIXI Tiksi 144.20 348 ePKPdf PKPab 10 15 19.5 -0.7
PSI Prapat 144.47 167 PKP PKPab 10 15 22.5 -0.5
14nm,0.7s,baz=193,slow=3.5,SNR=8.9
ABKAR Akbulak array 144.89 56 ePKPbc PKPab 10 15 23.8 +0.4
KULM Kulim 147.19 169 ePKPbc PKPdf 10 15 30.8 +1.5
HYB Hyderabad 148.17 122 i PKP PKPbc 10 15 34.0 -0.1
BVAR Borovoye Array 150.82 47 PKPbc PKPbc 10 15 39.8 +0.2
9.3nm,0.9s,baz=298,slow=3.2,SNR=16
MJAR Matsushiro Arr 154.76 277 PKPab PKPab 10 16 00.4 -3.5
1.9nm,1.0s,baz=247,slow=2.6,SNR=4.0
ZALV Zalesovo Beam 158.05 36 PKPab PKPab 10 16 15.8 -1.7
1.1nm,0.3s,baz=284,slow=5.8,SNR=5.0
KOLN Koldanda 158.35 111 eP PKPab 10 16 19.3 -0.6
DANN Dangsing 158.78 110 eP PKPab 10 16 22.4 +0.5
GKN Gorkha 159.25 112 eP PKPab 10 16 24.0 +0.3
DMN Daman 159.37 113 eP PKPab 10 16 25.0 +0.6
PKI Pulchoki 159.57 114 eP PKPab 10 16 25.5 +0.2
CMAR Chiang Mai Arr 159.62 159 PKPab PKPab 10 16 24.4 -0.7
1.6nm,0.3s,baz=229,slow=4.1,SNR=4.4
MKAR Makanchi Array 160.04 56 PKP PKPdf 10 15 47.5 +0.9
0.8nm,0.9s,baz=57,slow=5.3,SNR=3.4
MKAR PKPab PKPab 10 16 25.1 -1.3
3.0nm,0.9s,baz=289,slow=3.7,SNR=7.8
RAMN Ramite 160.05 117 eP PKPab 10 16 27.1 -0.2
GUN Gumba 160.10 114 eP PKPab 10 16 28.2 +0.5
JIRN Jiri 160.18 115 eP PKPab 10 16 28.5 +0.5
ODAN Odare 160.55 119 eP PKPab 10 16 28.8 -0.7
SONM Songino Array 169.98 0 PKPab PKPab 10 17 10.2 0.0
1.4nm,1.0s,baz=17,slow=2.0,SNR=4.8

IDC **27** *09:58:00.7±1.3, 33.98S×72.08W, h0km, mb4.4/5, mb1 4.6/5, mb1mx4.1/31, mbtmp4.4/5, Error ellipse: s-maj=52.4km s-min=32.1km az=9.0*

ISC 27 09:58:04.0±1.5, 33.9S±0.4×72.0W±0.2, h19km, n9, σ0.52/10, mb4.4/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	Brasilia	28.28	56	P	P	10 03 55.7	-0.7
	5.9nm,0.7s,baz=231,slow=15,SNR=3.3						
TXAR	Lajitas Array	69.66	331	P	P	10 09 12.3	-0.1
	1.6nm,0.5s,baz=153,slow=8.7,SNR=11						
DBIC	Dimbokro	75.14	71	P	P	10 09 45.9	+0.6
	2.7nm,0.6s,baz=199,slow=7.9,SNR=3.2						
NVAR	Mina Array Bea	83.82	325	P	P	10 10 32.4	+0.1
	0.7nm,0.7s,baz=144,slow=6.3,SNR=2.5						
TORD	Torodi Ar. Bea	84.17	70	P	P	10 10 34.5	+0.1
	3.9nm,0.7s,baz=260,slow=4.4,SNR=5.5						
WRA	Warramunga Arr	120.84	209	PKP	PKPdf	10 16 54.6	-0.9
	0.8nm,0.6s,baz=160,slow=1.8,SNR=12						
BRTR	Keskin Array B	121.78	61	PKP	PKPdf	10 16 57.1	+0.3
	0.7nm,0.7s,baz=200,slow=4.3,SNR=3.8						
ZALV	Zalesovo Beam	154.15	32	PKPbc	PKPbc	10 18 02.3	+0.3
	3.5nm,0.5s,baz=295,slow=2.9,SNR=7.1						
ZALV				PKPab	PKPab	10 18 16.1	+0.3
	3.0nm,0.6s,baz=298,slow=5.7,SNR=4.6						
MKAR	Makanchi Array	156.70	49	PKPab	PKPab	10 18 27.1	0.0
	1.2nm,0.6s,baz=293,slow=3.1,SNR=6.5						

IDC **27** *09:58:35.8±1.3, 34.08S×72.13W, h0km, mb4.0/2, mb1 4.4/4, mb1mx4.0/33, mbtmp4.2/4, ML4.8/1, Error ellipse: s-maj=44.7km s-min=38.2km az=153.0*

ISCJB **27** *09:58:37.3±2.2, 34.0S±0.3×72.1W±0.2, h19km, mb4.0/2, Error ellipse: s-maj=38.8km s-min=28.3km az=168.0*

ISC 27 09:58:39.1±1.4, 34.0S±0.3×72.1W±0.2, h19km, n8, σ0.53/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.03	55	Pn	Pn	09 59 39.9	+0.1
	0.7nm,0.3s,baz=270,slow=10,SNR=2.3						
LPAZ	La Paz	17.98	12	P	P	10 02 48.5	-0.6
	1.3nm,0.3s,baz=196,slow=7.7,SNR=7.6						
TXAR	Lajitas Array	69.69	331	P	P	10 09 47.9	+0.3
	0.4nm,0.5s,baz=154,slow=8.4,SNR=2.8						
TORD	Torodi Ar. Bea	84.25	70	P	P	10 11 09.7	-0.1
	1.6nm,0.5s,baz=264,slow=5.7,SNR=8.9						
WRA	Warramunga Arr	120.75	209	PKP	PKPdf	10 17 29.7	-0.7
	0.2nm,0.4s,baz=155,slow=1.7,SNR=5.8						
ARCES	ARCESS Array B	124.02	25	PKP	PKPdf	10 17 35.0	0.0
	4.1nm,1.0s,baz=310,slow=4.6,SNR=3.9						
ZALV	Zalesovo Beam	154.24	32	PKPbc	PKPbc	10 18 37.9	+0.6
	2.9nm,0.5s,baz=319,slow=4.1,SNR=6.0						
MKAR	Makanchi Array	156.79	49	PKPab	PKPab	10 19 02.8	+0.3
	0.5nm,0.5s,baz=271,slow=3.8,SNR=5.0						

IDC **27** *09:59:14.8±0.4, 38.23S×73.81W, h0km, mb5.5/25, mb1 5.5/29, mb1mx5.5/34, mbtmp5.5/29, ML4.9/4, MS6.1/1, Ms1 6.1/1, ms1mx4.9/37, Error ellipse: s-maj=15.1km s-min=10.8km az=73.0*

ISCJB **27** *09:59:18.5±0.2, 38.16S±0.03×73.68W±0.06, h33km, mb5.7/113, Error ellipse: s-maj=6.3km s-min=4.6km az=171.6*

MOS **27** *09:59:19.5±1.1, 38.05S×73.76W, h33km, mb6.0/30, Error ellipse: s-maj=15.3km s-min=7.9km az=97.2*

NEIC **27** *09:59:20.4±0.1, 38.16S×73.65W, h35km, mb5.8/83, Error ellipse: s-maj=5.9km s-min=4.0km az=67.0*

BJI **27** *09:59:21.0, 38.00S×73.50W, h35km, mB6.2/11, Ms6.6/14, Ms7 6.4/13*

ISC 27 09:59:20.1±0.6, 38.18S±0.05×73.68W±0.06, h34km±2km, h36km:pP-P, n807, σ0.87/849, mb5.7/115, 258C-213D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.52	137	Pn	Pn	10 00 13.3	+0.9
	19nm,0.3s,baz=284,slow=12,SNR=4.8						
PLCA				Pg	Pb	10 00 20.3	-1.4
	92nm,0.3s,baz=308,slow=12,SNR=14						
PLCA				Lg	Lg	10 01 06.1	
	140nm,0.3s,baz=262,slow=13,SNR=3.5						
CFAA	Coronel Fontan	7.94	36	Pn	Pn	10 01 14.5	+1.3
	8.7nm,0.3s,baz=225,slow=14,SNR=3.4						
TRQA	Tornquist	9.22	93	Pn	Pn	10 01 29.2	-1.5
LVC	Limon Verde	16.05	16	ePn	Pn	10 03 02.0	-1.4
	731nm,1.6s						
USHA	Ushuaia	17.04	170	P	Pn	10 03 15.4	-0.1
	2.4nm,0.3s,baz=322,slow=9.9,SNR=27						
CPUP	Villa Florida	18.16	54	P	Pn	10 03 28.4	-1.1
CPUP				pmax	pmax		
	comp=Z,137nm,0.8s						

CPUP Villa Florida 18.16 54 P Pn 10 03 28.4 -1.1
comp=Z,3.1nm,0.3s,baz=228,slow=9.3,SNR=14
CPUP Villa Florida 18.16 54 P Pn 10 03 28.4 -1.1
comp=Z,137nm,0.8s
LPAZ La Paz 22.35 14 eP P 10 04 16.9 +1.1
LPAZ La Paz 22.35 14 P P 10 04 15.9 +0.1
comp=Z,344nm,1.1s,baz=185,slow=8.9,SNR=49
LPAZ La Paz 22.35 14 eP P 10 04 16.9 +1.1
SIV San Ignacio 24.74 30 P P 10 04 38.8 +0.3
comp=Z,86nm,1.1s,baz=226,slow=13,SNR=24
NNA Nana 26.24 353 P P 10 04 51.6 -0.5
comp=Z,599nm,1.4s,SNR=13
NNA Nana 26.24 353 eP P 10 04 51.6 -0.5
NNA Nana 26.24 353 P P 10 04 50.7 -1.4
comp=Z,253nm,1.4s,baz=196,slow=12,SNR=8.7
NNA Nana 26.24 353 eP P 10 04 51.6 -0.5
HOPE Hope Point 29.92 135 P P 10 05 25.4 +0.9
comp=Z,983nm,1.0s,SNR=6.5
HOPE Hope Point 29.92 135 eP P 10 05 25.3 +0.8
comp=Z,123nm,1.1s
SAML Samuel 30.60 21 eP P 10 05 30.2 -0.8
comp=Z,138nm,1.4s
ATAH Atahualpa 31.20 351 P P 10 05 38.0 +1.3
comp=Z,100nm,1.2s,baz=174,slow=6.9,SNR=42
BDFB Brasilia 31.87 52 P P 10 05 42.1 -0.1
comp=Z,50nm,1.2s,baz=217,slow=10,SNR=9.7
ROSC El Rosal 42.82 359 P P 10 07 16.4 +1.1
comp=Z,32nm,1.0s,baz=215,slow=2.3,SNR=23
VNA3 Neumayer Olymp 46.04 156 P P 10 07 40.1 +0.1
VNA1 Neumayer--Stat 46.40 155 P P 10 07 43.2 +0.5
VNA2 Neumayer--Watz 46.72 156 P P 10 07 45.1 -0.2
SDV Santo Domingo 46.91 4 eP P 10 07 46.5 -1.0
RCBR Riachuelo 47.02 56 P P 10 07 50.3 +1.9
comp=Z,140nm,1.2s,baz=195,slow=9.0,SNR=20
RCBR Riachuelo 47.02 56 eP P 10 07 49.1 +0.8
comp=Z,238nm,1.5s
SNAA Sanae 48.26 156 P P 10 07 57.3 0.0
SNAA Sanae 48.26 156 eP P 10 07 57.7 +0.4
SNAA Sanae 48.26 156 P P 10 07 56.1 -1.2
comp=Z,33nm,1.0s,baz=280,slow=6.5,SNR=20
SNAA Sanae 48.26 156 eP P 10 07 57.7 +0.4
JTS JuntasAbangare 49.36 345 P P 10 08 06.0 -0.3
comp=Z,599nm,1.1s,SNR=18
JTS JuntasAbangare 49.36 345 P P 10 08 06.5 +0.3
comp=Z,100nm,1.1s,baz=153,slow=6.6,SNR=38
TPP Pointe-a-Pierr 49.58 16 e P 10 08 10.2 +2.2
TBH Brigand Hill 49.83 16 e P 10 08 11.4 +1.6
GRGR Grenville 51.30 15 eP P 10 08 20.8 -0.1
comp=Z,1µm,1.2s
QSPA South Pole Qui 52.06 180 P P 10 08 25.1 -1.2
comp=Z,79nm,1.0s,baz=133,slow=3.3,SNR=31
QSPA South Pole Qui 52.06 180 eP P 10 08 25.6 -0.7
comp=Z,110nm,1.0s
FCV Fort Charlotte 52.38 15 e P 10 08 26.3 -2.7
BHS Barnard House 52.54 15 e P 10 08 27.4 -2.7
SVV Soufriere Volc 52.54 15 e P 10 08 29.5 -0.7
SSV Crater Summit 52.56 15 e P 10 08 31.2 +0.8
NVL N'lazarevskaya 53.04 156 eP P 10 08 33.8 +0.5
NVL pmax pmax
comp=Z,58nm,0.8s
SLB Belfond 53.07 15 e P 10 08 34.9 +0.8
RKT Rikitea 53.92 267 eP P 10 08 40.3 -0.1
comp=Z,41nm,1.2s
RKT Rikitea 53.92 267 eT T 11 06 15.8
comp=Z,11nm,0.2s
FDF Fort de France 53.93 15 eP P 10 08 40.3 -0.1
FDF pmax pmax
comp=Z,146nm,1.3s
FDF Fort de France 53.93 15 eP P 10 08 40.3 -0.1
comp=Z,146nm,1.3s
APG El Apazote 55.20 340 P P 10 08 45.7 -4.2
comp=Z,102nm,1.1s,baz=187,slow=7.0,SNR=42
CELP Cerrillos 56.35 8 eP P 10 08 57.7 -0.1
LSP Las Mesas 56.40 8 eP P 10 08 57.5 -0.7
LRS Lares 56.54 8 eP P 10 08 58.3 -0.8
ANWB Willy Bob 56.66 14 eP P 10 08 58.5 -1.5
comp=Z,397nm,1.4s
SDDR Presa de Saban 56.90 3 eP P 10 09 01.4 -0.4
comp=Z,28nm,0.9s
TEIG Tepich 59.69 344 P P 10 09 20.2 -1.0
comp=Z,102nm,1.1s,baz=202,slow=4.8,SNR=14
TEIG LR LR 10 30 01.1
comp=Z,15µm,21.1s,baz=106,slow=31
TEIG Tepich 59.69 344 eP P 10 09 20.4 -0.8
VNDA Vanda 59.75 192 P P 10 09 21.5 +0.5
comp=Z,22nm,1.1s,baz=182,slow=9.2,SNR=3.9
SYO Syowa Base 62.48 158⇓eP P 10 09 37.7 -1.8
SYO Syowa Base 62.48 158⇓esP sP 10 09 50.0 -4.0
TBI Tubuai 65.13 259 eP P 10 09 55.5 -2.2
comp=Z,238nm,1.1s
TBI Tubuai 65.13 259 eT T 11 20 15.6
comp=Z,35nm,0.2s
MEH Mehetia 67.06 265 eP P 10 10 09.8 -0.4
comp=Z,46nm,1.1s
MEH Mehetia 67.06 265 eT T 11 22 39.9
comp=Z,165nm,0.2s
TVO Taravao 68.04 264 eP P 10 10 15.8 -0.6
comp=Z,28nm,1.1s
TVO Taravao 68.04 264 eT T 11 23 53.5
comp=Z,7.4nm,0.2s
VAH Vaihoa 68.21 267 eT T 11 24 06.8
comp=Z,17nm,0.2s
TIAR Tiarei 68.24 264 eP P 10 10 16.9 -0.8
comp=Z,22nm,0.9s
TIAR Tiarei 68.24 264 eT T 11 24 08.6
comp=Z,41nm,0.3s
035Z Hargill 68.25 337 ⇑P P 10 10 17.8 +0.5
baz=69
PAE Paea 68.36 264 eP P 10 10 17.8 -0.6
comp=Z,12nm,1.0s
PAE Paea 68.36 264 eT T 11 24 17.8
comp=Z,4.4nm,0.3s
PPT2 Papeete2 68.40 264 eP P 10 10 18.3 -0.4
comp=Z,129nm,1.1s
PPT2 Papeete2 68.40 264 eT T 11 24 20.1
comp=Z,6.2nm,0.2s
PPT Papeete 68.42 264 P P 10 10 19.2 +0.5
comp=Z,129nm,1.0s,baz=157,slow=2.2,SNR=7.2
035A Encino 68.70 337 ⇓P P 10 10 20.7 +0.5
baz=69,SNR=6.9
034A Hebbronville 69.00 336 ⇓P P 10 10 22.7 +0.7
baz=69,SNR=10.0
934A Benavides 69.45 337 ⇑P P 10 10 25.3 +0.5
baz=70,SNR=17
933A Laredo 69.70 336 ⇑P P 10 10 26.5 +0.2
baz=70,SNR=32
TIGA Tifton 69.88 351 ⇓P P 10 10 27.2 -0.1
baz=70,SNR=9.2
835A Beeville 69.88 337 ⇓P P 10 10 28.2 +0.8
baz=70,SNR=11
834A Tilden 69.95 337 ⇑P P 10 10 28.6 +0.8
baz=70,SNR=47
833A Chaparral WMA, 70.40 336 ⇓P P 10 10 30.8 +0.2
baz=71,SNR=58
735A Kenedy 70.41 338 ⇓P P 10 10 31.6 +1.0
baz=71,SNR=36
832A Faith Ranch, C 70.55 336 ⇑P P 10 10 31.5 -0.1
baz=71,SNR=42
734A La Parita Cree 70.62 337 ⇑P P 10 10 32.0 +0.1
baz=71,SNR=19
733A Divot King Ran 70.74 336 ⇓P P 10 10 33.1 +0.4
baz=71,SNR=22
636A Smothers Creek 70.77 339 ⇑P P 10 10 33.3 +0.5
baz=71,SNR=23
LPIG La Paz 70.85 325 P P 10 10 33.9 +0.5
comp=Z,84nm,1.1s,baz=147,slow=2.5,SNR=8.2
HKT Hockley 70.87 340 eP P 10 10 34.0 +0.7
HKT pmax pmax
comp=Z,159nm,1.7s
HKT Hockley 70.87 340 eP P 10 10 34.0 +0.7
comp=Z,159nm,1.7s
635A Leesville 70.89 338 ⇑P P 10 10 33.3 -0.3
baz=71,SNR=13
732A Laxson Ranch, 70.96 336 ⇑P P 10 10 34.0 -0.1
baz=71,SNR=54
538A Harpers Horsep 71.03 340 ⇓P P 10 10 34.8 +0.4
baz=71
634A China Grove, S 71.06 337 ⇑P P 10 10 34.3 -0.3
baz=71,SNR=10
537A Green Hill Far 71.12 339 ⇓P P 10 10 35.2 +0.2
baz=71,SNR=22
NHSC New Hope 71.18 354 eP P 10 10 36.3 +1.1
comp=Z,361nm,1.2s
536A Bastrop 71.33 339 ⇑P P 10 10 36.2 0.0
baz=72,SNR=37
633A Saathoff Ranch 71.39 337 ⇓P P 10 10 36.8 +0.2
baz=72,SNR=55
535A Dale 71.44 338 ⇓P P 10 10 36.7 -0.2
baz=72,SNR=36
632A Uvalde 71.62 336 ⇓P P 10 10 38.0 -0.1
baz=72,SNR=54
534A Blanco 71.70 337 ⇑P P 10 10 38.2 -0.3
baz=72,SNR=19
340A Bronson 71.76 342 ⇑P P 10 10 38.8 0.0
baz=72,SNR=5.9
631A Perdido Creek 71.79 335 ⇓P P 10 10 38.5 -0.6
baz=72,SNR=35
GOGA Godfrey 71.81 351 eP P 10 10 37.9 -1.1
GOGA pmax pmax
comp=Z,122nm,1.3s
GOGA Godfrey 71.81 351 eP P 10 10 37.9 -1.1
comp=Z,122nm,1.3s
339A Huntington 71.85 341 ⇑P P 10 10 39.4 +0.1
baz=72,SNR=15
436A Wall Ranch, Ga 71.91 339 ⇓P P 10 10 39.8 +0.1
baz=72,SNR=6.4
533A Kerrville 71.91 337 ⇓P P 10 10 39.6 -0.2
baz=72,SNR=88
LRAL Lakeview Retre 71.93 348 eP P 10 10 39.3 -0.5
comp=Z,165nm,1.2s
338A Crockett 72.06 341 ⇑P P 10 10 41.3 +0.7
baz=72,SNR=46
435B Jarrell 72.15 339 ⇑P P 10 10 41.1 0.0
baz=72,SNR=16
337A Centerville 72.18 340 ⇑P P 10 10 42.1 +0.9
baz=72,SNR=41
532A Rocksprings 72.24 336 ⇓P P 10 10 41.8 0.0
baz=73,SNR=72
NATX Nacogdoches 72.28 341 eP P 10 10 41.9 0.0
comp=Z,311nm,1.1s
434A Burnet 72.38 338 ⇓P P 10 10 42.3 -0.2
baz=73,SNR=128
531A Rocksprings 72.48 336 ⇓P P 10 10 43.5 +0.3
baz=73,SNR=56
336A Riesel 72.50 339 ⇑P P 10 10 43.1 -0.1
baz=73,SNR=96
JCT Junction City 72.53 337 eP P 10 10 43.3 -0.2
JCT pmax pmax
comp=Z,275nm,1.1s
JCT Junction City 72.53 337 eP P 10 10 43.3 -0.2
comp=Z,275nm,1.1s
JCT Junction City 72.53 337 ⇑P P 10 10 43.7 +0.2
baz=73,SNR=95
433A Art 72.57 337 ⇑P P 10 10 43.1 -0.5
baz=73,SNR=66
335A Moody 72.57 339 ⇑P P 10 10 43.5 -0.1
baz=73,SNR=33
530A J-C Ranch, Com 72.72 335 ⇑P P 10 10 44.7 0.0
baz=73,SNR=88
TXAR Lajitas Array 72.78 333 P P 10 10 44.9 -0.2
comp=Z,31nm,0.9s,baz=152,slow=8.7,SNR=57
334A Lometa 72.85 338 ⇑P P 10 10 45.3 0.0
baz=73,SNR=139
432A Menard 72.90 337 ⇑P P 10 10 45.1 -0.6
baz=73,SNR=31
431A Sonora 72.98 336 ⇑P P 10 10 45.5 -0.6
baz=73,SNR=64
529A Stev Forest Ra 73.00 334 ⇑P P 10 10 45.8 -0.5
baz=73,SNR=49
333A Richland Sprin 73.07 338 ⇑P P 10 10 46.1 -0.5
baz=73,SNR=76
WHTX Lake Whitney 73.25 339 eP P 10 10 47.1 -0.5
comp=Z,255nm,1.1s
WHTX Lake Whitney 73.25 339 ⇓P P 10 10 47.1 -0.5
baz=74,SNR=70
430A Baggett Ranch, 73.28 335 ⇓P P 10 10 47.6 -0.3
baz=74,SNR=86
KMSC Kings Mountain 73.30 353 ⇓P P 10 10 47.3 -0.6
baz=74,SNR=22
429A Davenport Ranc 73.34 335 ⇓P P 10 10 48.1 -0.2
baz=74,SNR=56
332A Millersview 73.35 337 ⇓P P 10 10 48.0 -0.3
baz=74,SNR=163
234A Clairette 73.45 338 ⇑P P 10 10 48.3 -0.5
baz=74,SNR=37
331A San Angelo 73.50 336 ⇓P P 10 10 48.6 -0.6
baz=74,SNR=108
233A Rising Star 73.69 338 ⇑P P 10 10 49.9 -0.4
baz=74,SNR=72
135A Vickery Place, 73.77 339 ⇓P P 10 10 49.8 -0.9
baz=74,SNR=10
OXF Oxford 73.78 347 eP P 10 10 49.9 -0.8
OXF pmax pmax
comp=Z,308nm,1.2s
OXF Oxford 73.78 347 eP P 10 10 49.9 -0.8
comp=Z,308nm,1.2s
232A Coleman 73.79 337 ⇑P P 10 10 50.4 -0.6
baz=74,SNR=68
330A Mertzon 73.83 336 ⇓P P 10 10 50.6 -0.6
baz=74,SNR=40
SWET Sewanee 73.91 350 eP P 10 10 50.9 -0.6
comp=Z,496nm,1.3s
134A White-Moore Ra 73.97 339 ⇑P P 10 10 51.1 -0.7
baz=74,SNR=50
SUR Sutherland 73.99 119 eP P 10 10 53.6 +1.1
comp=Z,100nm,1.3s
231A Bronte 74.04 337 ⇑P P 10 10 51.5 -0.9
baz=74,SNR=67
TKL Tuckaleechee C 74.06 351 eP P 10 10 52.4 +0.1
TKL Tuckaleechee C 74.06 351 eP P 10 10 52.4 +0.1
329A Wagon Wheel Ra 74.17 335 ⇓P P 10 10 52.5 -0.6
baz=74,SNR=59
133A Hamilton Ranch 74.25 338 ⇑P P 10 10 53.0 -0.5
baz=75,SNR=114
230A Sterling City 74.25 336 ⇓P P 10 10 52.7 -0.9
baz=75,SNR=24
Z35A Perchaven, San 74.45 340 ⇑P P 10 10 54.3 -0.3
baz=75,SNR=75
ABTX Abilene, Hawle 74.48 337 eP P 10 10 54.4 -0.5
comp=Z,286nm,1.2s
ABTX Abilene, Hawle 74.48 337 ⇑P P 10 10 54.3 -0.5
baz=75,SNR=52
229A Bryant Ranch, 74.55 335 ⇑P P 10 10 55.0 -0.3
baz=75,SNR=48
UALR University of 74.63 344 eP P 10 10 54.8 -0.8
comp=Z,65nm,1.1s
Z34A Collier Ranch, 74.67 339 ⇓P P 10 10 55.6 -0.4
baz=75,SNR=40
MIAR Mount Ida 74.68 343 eP P 10 10 55.9 -0.1
MIAR pmax pmax
comp=Z,101nm,1.2s
MIAR Mount Ida 74.68 343 eP P 10 10 55.9 -0.1
comp=Z,101nm,1.2s
131A Roby 74.75 337 ⇑P P 10 10 55.8 -0.7
baz=75,SNR=22
Z33A Whitaker Ranch 74.83 338 ⇑P P 10 10 56.4 -0.5
baz=75,SNR=69
130A Snyder 74.86 336 ⇓P P 10 10 56.2 -0.9
baz=75,SNR=34
228A UT Block 9, Go 74.95 335 ⇑P P 10 10 57.8 +0.1
baz=75,SNR=51
Z32A Haskell 75.06 338 ⇑P P 10 10 58.1 -0.1
baz=75,SNR=94
WVT Waverly 75.09 348 eP P 10 10 57.4 -0.9
WVT pmax pmax
comp=Z,233nm,1.3s
WVT Waverly 75.09 348 eP P 10 10 57.4 -0.9
comp=Z,232nm,1.3s
HALT Halls 75.13 347 eP P 10 10 59.5 +1.0
Y34A Reagan Ranch, 75.18 339 ⇑P P 10 10 58.1 -0.7
baz=76,SNR=50
129A Stewart Farms, 75.18 336 ⇑P P 10 10 58.3 -0.7
baz=76,SNR=24
Z31A Sharp Cattle R 75.27 337 ⇑P P 10 10 59.1 -0.4
baz=76,SNR=61
VWCC Virginia Weste 75.28 355 eP P 10 10 59.7 +0.3
128A Castleberry Fa 75.37 335 ⇓P P 10 10 59.7 -0.5
baz=76,SNR=66
Y33A Hilltop Ranch, 75.47 339 ⇓P P 10 10 59.9 -0.6
baz=76,SNR=45
GLAT Glass 75.47 347 eP P 10 11 01.6 +1.1
CLNB Carlsbad 75.52 334 eP P 10 11 02.2 +1.2
comp=Z,13nm,1.3s
MNTX Cornudas Mount 75.54 332 eP P 10 10 60.0 -1.1
comp=Z,29nm,1.1s
Z30A Sanderson Ranc 75.55 337 ⇑P P 10 11 00.5 -0.5
baz=76,SNR=94
JSRW J. Sargeant Re 75.60 357 eP P 10 11 01.3 +0.2
Y32A R-V Farms, Ver 75.70 338 ⇑P P 10 11 01.4 -0.5
baz=76,SNR=45
Z29A Hungry Hill Ra 75.71 336 ⇑P P 10 11 01.3 -0.7
baz=76,SNR=131
127A Arkansas Junct 75.72 334 ⇓P P 10 11 02.0 -0.1
baz=76,SNR=17
X34A Smith Ranch, M 75.81 340 ⇑P P 10 11 02.2 -0.2
baz=76,SNR=53
Y31A Rekieta Farm, 75.91 337 ⇑P P 10 11 02.8 -0.2
baz=76,SNR=39
X33A Lawton 75.94 339 ⇓P P 10 11 02.5 -0.7
baz=76,SNR=38
PARMO Parma 75.94 347 eP P 10 11 02.9 -0.2
Z28A Tucker Farm, M 75.95 335 ⇓P P 10 11 03.0 -0.5
baz=76
Y30A Stafford Cattl 76.02 337 ⇓P P 10 11 03.1 -0.7
baz=76,SNR=28
X32A Elmer 76.05 338 ⇑P P 10 11 03.4 -0.5
baz=76,SNR=50
CPRX Cap Rock 76.21 334 eP P 10 11 05.4 +0.4
comp=Z,21nm,1.1s
Y29A Porterfield Fa 76.25 336 ⇓P P 10 11 04.4 -0.7
baz=77,SNR=29
Z27A Tatum 76.25 335 ⇓P P 10 11 04.8 -0.4
baz=77,SNR=26
W34A Bridge Creek, 76.39 340 eP P 10 11 05.1 -0.6
comp=Z,234nm,1.2s
W34A Bridge Creek, 76.39 340 ⇑P P 10 11 05.4 -0.3
baz=77,SNR=33
X31A McDonald Ranch 76.45 338 ⇑P P 10 11 05.5 -0.6
baz=77,SNR=69
Z26A Caprock 76.47 334 ⇑P P 10 11 06.2 -0.2
baz=77,SNR=51
Y28A McKinney Farm, 76.48 336 ⇑P P 10 11 06.0 -0.5
baz=77,SNR=22
W33A Caddo, Fort Co 76.50 339 ⇓P P 10 11 06.8 +0.4
baz=77,SNR=91
TUL1 Tulsa 76.51 342 eP P 10 11 05.7 -0.8
comp=Z,261nm,1.0s
TUL1 Tulsa 76.51 342 ⇓P P 10 11 05.6 -0.8
baz=77,SNR=104
X30A Coker Ranch, T 76.54 337 ⇓P P 10 11 06.4 -0.3
baz=77,SNR=48
W32A Sentinel 76.69 339 ⇑P P 10 11 07.5 0.0
baz=77,SNR=126
MSTX Muleshoe 76.70 335 ⇑P P 10 11 07.5 -0.2
baz=77,SNR=45
Z25A Roswell 76.73 334 ⇓P P 10 11 07.8 -0.1
baz=77,SNR=29
319A Douglas 76.75 329 ⇓P P 10 11 07.9 -0.2
baz=77,SNR=44
Y27A Causey 76.76 335 ⇓P P 10 11 07.6 -0.4
baz=77,SNR=29
X29A Tulia 76.80 336 ⇓P P 10 11 07.5 -0.7
baz=77,SNR=34
USIN University of 76.86 349 eP P 10 11 07.3 -1.0
comp=Z,310nm,1.2s
V34A Guthrie 76.88 340 eP P 10 11 07.8 -0.7
comp=Z,257nm,1.2s
V34A Guthrie 76.88 340 ⇑P P 10 11 07.8 -0.7
baz=77,SNR=65
WCI Wyandotte Cave 76.92 350 eP P 10 11 08.2 -0.5
WCI pmax pmax
comp=Z,50nm,1.2s
WCI Wyandotte Cave 76.92 350 eP P 10 11 08.2 -0.5
comp=Z,50nm,1.2s
W31A Holland Ranch, 76.95 338 ⇓P P 10 11 08.1 -0.9
baz=77,SNR=30
Z24A Sheeppen Canyo 77.01 333 ⇓P P 10 11 09.1 -0.5
baz=77,SNR=35
Y26A Elida 77.01 335 ⇓P P 10 11 09.0 -0.5
baz=77,SNR=40
X28A Dimmitt 77.02 336 ⇑P P 10 11 08.6 -0.8
baz=77,SNR=15
V33A Lossen Ranch, 77.08 340 ⇓P P 10 11 09.3 -0.3
baz=77,SNR=81
W30A Crocket Farms 77.14 338 ⇑P P 10 11 09.5 -0.5
baz=78,SNR=7.7
121A Cookes Peak, D 77.19 331 eP P 10 11 12.2 +1.7
comp=Z,47nm,1.1s
121A Cookes Peak, D 77.19 331 ⇑P P 10 11 10.6 0.0
baz=78,SNR=16
V32A Arapaho 77.19 339 ⇓P P 10 11 10.1 -0.2
baz=78,SNR=35
AMTX Amarillo 77.20 337 eP P 10 11 10.1 -0.3
comp=Z,265nm,1.1s
AMTX Amarillo 77.20 337 ⇓P P 10 11 10.4 -0.1
baz=78
Y25A Mesa, Roswell 77.31 334 ⇑P P 10 11 10.1 -1.0
baz=78,SNR=22
W29A Amraillo 77.41 337 ⇓P P 10 11 11.2 -0.4
baz=78,SNR=64
X27A F and S Farms, 77.43 335 ⇓P P 10 11 11.3 -0.5
baz=78,SNR=25
U34A Anderson Ranch 77.45 340 eP P 10 11 11.2 -0.5
comp=Z,245nm,1.2s
U34A Anderson Ranch 77.45 340 ⇓P P 10 11 11.5 -0.2
baz=78,SNR=36
V31A Spring Creek L 77.47 338 ⇓P P 10 11 13.0 +1.1
baz=78,SNR=67
Z22A Elephant Butte 77.52 332 ⇑P P 10 11 13.1 +0.7
baz=78,SNR=35
Y24A Capitan 77.57 333 ⇑P P 10 11 12.8 +0.2
baz=78,SNR=38
X26A CR and CF Fran 77.58 335 ⇓P P 10 11 12.4 -0.3
baz=78,SNR=29
U33A Lingo Farm, Me 77.61 340 ⇓P P 10 11 12.7 +0.2
baz=78,SNR=9.1
W28A Vega 77.71 336 ⇓P P 10 11 13.3 0.0
baz=78,SNR=8.8
V30A Spur Ranch, Mi 77.71 338 ⇑P P 10 11 13.3 +0.1
baz=78,SNR=27
DBIC Dimbokro 77.78 71 P P 10 11 15.0 +0.9
DBIC Dimbokro 77.78 71 P P 10 11 14.9 +0.9
comp=Z,78nm,1.0s,baz=201,slow=6.0,SNR=28
Y23A Lovelace Mesa, 77.80 333 ⇑P P 10 11 14.2 +0.3
baz=78,SNR=31
U32A Winter Ranch, 77.80 339 ⇑P P 10 11 13.4 -0.2
baz=78,SNR=25
W27A Bowe Ranch, En 77.80 336 ⇑P P 10 11 13.5 -0.3
baz=78,SNR=73
X25A Clemmons Ranch 77.85 334 ⇓P P 10 11 13.6 -0.5
baz=78,SNR=8.3
BLO Bloomington 77.88 350 eP P 10 11 13.2 -0.8
BLO pmax pmax
comp=Z,207nm,1.2s
BLO Bloomington 77.88 350 eP P 10 11 13.2 -0.8
comp=Z,207nm,1.2s
SLM Saint Louis 77.94 347 eP P 10 11 13.9 -0.5
SLM pmax pmax
comp=Z,354nm,1.2s
SLM Saint Louis 77.94 347 eP P 10 11 13.8 -0.5
comp=Z,354nm,1.2s
U31A Nine Bar Ranch 78.03 339 ⇓P P 10 11 14.9 -0.1
baz=78,SNR=17
W26A Owens Ranch, T 78.06 335 ⇓P P 10 11 15.3 0.0
baz=78,SNR=34
V29A Stinnett 78.06 337 ⇓P P 10 11 15.1 -0.2
baz=78,SNR=7.0
X24A Lazy VL Ranch, 78.15 334 ⇑P P 10 11 16.3 +0.4
baz=78
V28A Channing 78.17 337 ⇑P P 10 11 15.9 0.0
baz=78,SNR=29
TUC Tucson 78.18 329 eP P 10 11 16.3 +0.3
TUC pmax pmax
comp=Z,74nm,1.1s
TUC Tucson 78.18 329 eP P 10 11 16.3 +0.3
comp=Z,74nm,1.1s
Y22D IRIS PASSCAL I 78.24 332 ⇑P P 10 11 17.0 +0.7
baz=79
T33A Patterson Ranc 78.25 340 ⇓P P 10 11 16.3 +0.2
baz=79,SNR=51
LENM Lemitar 78.34 332 eP P 10 11 17.1 +0.2
comp=Z,125nm,1.9s
LPM Los Pinos Moun 78.35 333 eP P 10 11 17.2 +0.3
comp=Z,44nm,1.2s
V27A Dan Oppiter Fa 78.37 336 ⇓P P 10 11 17.0 0.0
baz=79,SNR=21
W25A X Bar L Ranch, 78.41 335 ⇓P P 10 11 17.2 0.0
baz=79,SNR=36
U30A WK&E Inc. Balk 78.41 338 ⇑P P 10 11 17.1 0.0
baz=79,SNR=43
X23A Hourglass Bar 78.43 333 ⇓P P 10 11 17.5 0.0
baz=79,SNR=16
U29A Oasis Ranch, S 78.52 338 ⇓P P 10 11 17.6 -0.2
baz=79,SNR=7.2
T32A Huddler Ranch, 78.53 340 ⇑P P 10 11 17.6 -0.1
baz=79,SNR=29
SSPA Standing Stone 78.53 357 eP P 10 11 18.1 +0.6
comp=Z,90nm,1.4s
LAZ Ladron 78.61 332 eP P 10 11 19.0 +0.6
comp=Z,41nm,1.2s
T31A Randall Ranch, 78.66 339 ⇑P P 10 11 18.0 -0.5
baz=79,SNR=26
S33A Kaszmaul Farm, 78.67 341 ⇓P P 10 11 18.2 -0.2

baz=79,SNR=12
V26A Tequesquite Ra 78.71 335 ⇓P P 10 11 18.6 -0.2
baz=79,SNR=14
W24A Lazy 6 Ranch, 78.72 334 ⇑P P 10 11 19.2 +0.2
baz=79,SNR=34
214A Organ Pipe Nat 78.73 327 eP P 10 11 19.6 +0.7
comp=Z,126nm,1.1s
214A Organ Pipe Nat 78.73 327 ⇓P P 10 11 19.6 +0.7
baz=79,SNR=72
U28A Mallet 78.75 337 ⇓P P 10 11 18.7 -0.3
baz=79
ANMO Albuquerque 78.85 333 P P 10 11 20.1 +0.4
comp=Z,82nm,1.1s,baz=162,slow=6.9,SNR=52
T30A Plains 78.86 338 ⇑P P 10 11 19.8 +0.2
baz=79,SNR=13
W23A Werner Place, 78.94 333 ⇓P P 10 11 20.5 +0.3
baz=79,SNR=44
U27A Thompson Grove 78.97 336 ⇓P P 10 11 20.1 -0.2
baz=79,SNR=26
S32A Newby Ranch, P 79.02 340 ⇓P P 10 11 20.4 0.0
baz=79,SNR=35
V25A Rancho No Teng 79.02 335 ⇓P P 10 11 20.3 -0.3
baz=79,SNR=29
KAHZ Kahuranaki 79.03 228 ePN P 10 11 19.7 -1.0
S31A Mullinville 79.09 339 ⇑P P 10 11 20.6 -0.2
baz=79,SNR=35
WPHZ Waipukurau 79.10 227 PN P 10 11 21.2 +0.1
V24A Rampart Ranch, 79.14 334 ⇓P P 10 11 21.4 0.0
baz=80,SNR=18
SFIN Scholer Farm 79.14 350 ⇑P P 10 11 20.5 -0.4
baz=80
T29A Hugoton 79.18 338 ⇓P P 10 11 21.2 -0.2
baz=80,SNR=18
RIGZ Rimuhau 79.22 229 ePN P 10 11 22.0 +0.2
U26A Atchley Ranch, 79.24 336 ⇑P P 10 11 21.7 -0.2
baz=80,SNR=16
BOSA Boshof 79.30 118 P P 10 11 22.9 +0.4
comp=Z,78nm,1.0s,baz=234,slow=4.8,SNR=36
BOSA SKKPbc SKKPbc 10 33 39.3 -3.3
comp=Z,13nm,0.7s,baz=247,slow=2.6,SNR=4.5
R33A Olander Ranch, 79.34 341 ⇑P P 10 11 22.1 +0.1
baz=80,SNR=26
PNHZ Pukenui 79.34 227 PN P 10 11 23.1 +0.7
TSUM Tsumeb 79.35 106 eP P 10 11 24.3 +1.3
comp=Z,181nm,1.8s
MCHZ McNeill Hill 79.36 228 PN P 10 11 22.1 -0.5
S30A Montezuma 79.39 339 ⇑P P 10 11 22.1 -0.4
baz=80,SNR=49
T28A Walsh 79.39 337 ⇓P P 10 11 22.1 -0.4
baz=80,SNR=47
U25A Circle Dot Ran 79.46 335 ⇓P P 10 11 23.6 +0.6
baz=80,SNR=28
V23A Ortiz Mt. (NFS 79.47 334 ⇑P P 10 11 23.6 +0.4
baz=80,SNR=14
T27A Campo 79.53 337 ⇑P P 10 11 23.8 +0.5
baz=80,SNR=13
S29A Ulysses 79.56 338 ⇑P P 10 11 23.2 -0.2
baz=80,SNR=22
R32A Long Quarter, 79.64 340 ⇑P P 10 11 23.9 +0.2
baz=80,SNR=58
BKZ Black Stump Fm 79.66 228 ePN P 10 11 24.1 -0.1
BHHZ Black Hill Sta 79.70 228 ePN P 10 11 25.0 +0.6
R31A Burdett 79.73 340 ⇓P P 10 11 24.2 -0.1
baz=80,SNR=28
KSU1 Kansas State U 79.74 342 eP P 10 11 23.6 -0.7
comp=Z,92nm,1.0s
KSU1 Kansas State U 79.74 342 ⇓P P 10 11 23.8 -0.4
baz=80,SNR=20
S28A Manter 79.76 338 ⇓P P 10 11 24.4 -0.2
baz=80,SNR=34
U24A Moreno Valley 79.76 335 ⇓P P 10 11 25.4 +0.6
baz=80,SNR=15
X18A Snowflake 79.79 330 ⇑P P 10 11 25.3 +0.4
baz=80,SNR=28
113A Mohawk Valley, 79.84 327 ⇑P P 10 11 25.5 +0.6
baz=80,SNR=7.0
V22A San Miguel Ran 79.88 333 ⇑P P 10 11 26.3 +0.9
baz=80,SNR=52
URZ Urewera 79.89 229 ePN P 10 11 26.0 +0.6
T26A Comanche Natio 79.91 336 ⇑P P 10 11 25.6 +0.2
baz=80,SNR=35
R30A Dighton 79.94 339 ⇑P P 10 11 25.3 -0.1
baz=80,SNR=24
Q33A Connelly Farm, 79.95 341 ⇑P P 10 11 25.1 -0.3
baz=80,SNR=29
Z14A Wintersburg 80.00 327 ⇓P P 10 11 25.9 +0.1
baz=80,SNR=17
U23A El Rito 80.00 334 ⇓P P 10 11 26.5 +0.5
baz=80,SNR=40
Q32A Meitler Ranch, 80.13 341 ⇓P P 10 11 26.3 -0.1
baz=80,SNR=24
T25A Trinidad 80.14 336 ⇓P P 10 11 27.1 +0.4
baz=80,SNR=72
W18A Petrified Fore 80.22 331 ⇑P P 10 11 27.9 +0.7
baz=80,SNR=17
S26A Kim 80.28 336 ⇑P P 10 11 28.0 +0.6
baz=81,SNR=36
U22A Llaves 80.28 333 ⇑P P 10 11 28.0 +0.5
baz=81,SNR=23
X16A Lo Mia Camp, P 80.29 329 ⇓P P 10 11 28.6 +1.0
baz=81,SNR=68
R29A Marienthal 80.31 338 ⇑P P 10 11 27.4 0.0
baz=81,SNR=30
P33A Williams Farm, 80.33 341 ⇓P P 10 11 27.2 -0.2
baz=81,SNR=23
Q31A Ellis 80.36 340 ⇓P P 10 11 27.6 -0.1
baz=81,SNR=32
T24B San Luis 80.39 335 ⇑P P 10 11 28.5 +0.3
baz=81,SNR=25
R28A Tribune 80.43 338 ⇑P P 10 11 28.1 -0.1
baz=81,SNR=50
FOZ Fox Glacier 80.45 221 ePN P 10 11 26.7 -1.5
Y14A Wickenburg 80.52 328 ⇓P P 10 11 28.8 +0.2
baz=81,SNR=39
GLA Glamis 80.55 326 ⇓P P 10 11 28.6 -0.2
baz=81,SNR=12
Q30A Quinter 80.57 339 ⇓P P 10 11 28.9 +0.1
baz=81,SNR=30
JCZ Jackson Bay 80.57 220 ePN P 10 11 29.0 -0.1
T23A Casias Ranch, 80.59 334 ⇑P P 10 11 29.4 +0.2
baz=81,SNR=25
S25A Robets Cordova 80.62 336 ⇓P P 10 11 29.6 +0.3
baz=81,SNR=33
R27A Eads 80.68 337 ⇑P P 10 11 29.4 -0.1
baz=81,SNR=40
Q29A Oakley 80.70 339 ⇓P P 10 11 29.4 -0.1
baz=81,SNR=23
P32A Huiting Farm, 80.73 341 ⇑P P 10 11 29.2 -0.4
baz=81,SNR=31
QRZ Quartz Range 80.81 225 ePN P 10 11 28.3 -2.0
P31A Stockton 80.84 340 ⇑P P 10 11 29.9 -0.3
baz=81,SNR=30
S24A Houchin Ranch, 80.86 335 ⇓P P 10 11 31.0 +0.3
baz=81,SNR=51
SWSC Sam W. Stewart 80.88 325 ⇑P P 10 11 30.9 +0.4
baz=81,SNR=12
R26A Arlington 80.89 337 ⇑P P 10 11 31.2 +0.5
baz=81,SNR=63
R25A Fountain Ranch 81.02 336 ⇑P P 10 11 31.6 +0.2
baz=81,SNR=20
SDCO Great Sand Dun 81.05 335 eP P 10 11 31.8 +0.1
comp=Z,40nm,1.1s
HIZ Hauiti 81.05 228 ePN P 10 11 30.5 -1.2
P30A Selden 81.10 340 ⇓P P 10 11 32.0 +0.4
baz=81,SNR=28
Q28A Sharon Springs 81.11 338 ⇑P P 10 11 32.3 +0.6
baz=81,SNR=25
S23A Nye Farm, Mont 81.18 335 ⇑P P 10 11 33.2 +0.8
baz=82,SNR=12
WUAZ Wupatki 81.22 330 eP P 10 11 33.1 +0.7
comp=Z,85nm,1.1s
WUAZ Wupatki 81.22 330 ⇑P P 10 11 33.3 +0.8
baz=82,SNR=40
O32A Brockman Farm, 81.25 341 ⇑P P 10 11 33.4 +1.0
baz=82,SNR=36
KSCO Kaye Shedlock' 81.29 338 ⇑P P 10 11 33.5 +0.8
baz=82,SNR=27
PDMCI Parker Dam,Lak 81.31 327 ⇑P P 10 11 33.7 +0.9
baz=82,SNR=11
BC3 Big Chuckawall 81.33 326 ⇓P P 10 11 33.8 +0.7
baz=82,SNR=13
P29A Atwood 81.35 339 ⇓P P 10 11 33.7 +0.7
baz=82,SNR=22
R24A Sanders Place, 81.36 335 ⇑P P 10 11 33.9 +0.7
baz=82,SNR=56
O31A Woolen Ranch, 81.42 340 ⇑P P 10 11 34.1 +0.8
baz=82,SNR=18
109C Camp Elliot, M 81.44 324 ⇑P P 10 11 34.7 +1.2
baz=82
Q26A Hugo 81.48 337 ⇓P P 10 11 34.4 +0.6
baz=82,SNR=23
S22A 4UR Ranch, Cre 81.50 334 ⇑P P 10 11 34.4 +0.3
baz=82,SNR=20
P28A Saint Francis 81.56 338 ⇓P P 10 11 34.8 +0.7
baz=82,SNR=26
R23A Moffat 81.56 335 ⇓P P 10 11 34.9 +0.6
baz=82,SNR=19
MVCO Mesa Verde 81.61 333 eP P 10 11 34.7 +0.1
comp=Z,95nm,1.2s
MVCO Mesa Verde 81.61 333 ⇑P P 10 11 35.2 +0.6
baz=82,SNR=32
IRM Iron Mountain 81.63 326 ⇑P P 10 11 35.2 +0.7
baz=82,SNR=25
O30A MW Ranch, Wils 81.64 340 ⇑P P 10 11 35.0 +0.5
baz=82,SNR=29
Q25A Bedland, Calha 81.70 336 ⇑P P 10 11 35.3 +0.3
baz=82,SNR=28
N32A Stulken Farm, 81.73 341 ⇑P P 10 11 35.3 +0.4
baz=82,SNR=10
PFO Pinyon Flat Ob 81.74 325 P P 10 11 36.1 +0.8
comp=Z,334nm,1.1s,SNR=13
PFO Pinyon Flat Ob 81.74 325 P P 10 11 34.9 -0.4
comp=Z,56nm,1.1s,baz=132,slow=3.3,SNR=26
PFO Pinyon Flat Ob 81.74 325 ⇓P P 10 11 35.8 +0.6
baz=82,SNR=27
P27A Ficken Ranch, 81.78 338 ⇓P P 10 11 35.8 +0.5
baz=82,SNR=19
O29A 4D Ranch, Culb 81.80 339 ⇑P P 10 11 35.7 +0.4
baz=82,SNR=12
MDV Middlebury 81.80 0 eP P 10 11 35.1 +0.1
BELC Belle Mtn. Jos 81.87 326 ⇓P P 10 11 36.5 +0.5
baz=82,SNR=10
W13A Hualapai Mount 81.88 328 ⇓P P 10 11 36.7 +0.6
baz=82,SNR=34
N31A Bailey Ranch, 81.95 341 ⇑P P 10 11 36.6 +0.5
baz=82
P26A Davis Ranch, A 82.02 337 ⇑P P 10 11 36.8 +0.2
baz=82,SNR=14
Q24A Divide 82.04 336 ⇑P P 10 11 37.7 +0.8
baz=82,SNR=38
MURC Murrieta 82.07 325 ⇓P P 10 11 37.5 +0.6
baz=82,SNR=9.6
O28A Krutsinger Ran 82.07 339 ⇑P P 10 11 37.5 +0.7
baz=82,SNR=38
JFWS Jewell Farm 82.11 348 eP P 10 11 37.2 +0.4
JFWS pmax pmax
comp=Z,150nm,1.2s
JFWS Jewell Farm 82.11 348 eP P 10 11 37.2 +0.4
comp=Z,150nm,1.2s
P25A Willow Gulch B 82.23 337 ⇓P P 10 11 38.5 +0.8
baz=83,SNR=38
BGNE Belgrade 82.30 342 eP P 10 11 37.6 -0.3
comp=Z,182nm,1.1s
BGNE Belgrade 82.30 342 ⇓P P 10 11 37.9 0.0
baz=83,SNR=18
O27A Beecher Island 82.34 338 ⇓P P 10 11 38.6 +0.4
baz=83,SNR=23
U15A North Rim 82.37 329 ⇑P P 10 11 39.6 +0.9
baz=83,SNR=53
GMRC Granite Mounta 82.38 326 ⇑P P 10 11 38.6 +0.1
baz=83,SNR=26
N29A Votaw Ranch, W 82.39 340 ⇑P P 10 11 38.8 +0.4
baz=83,SNR=21
M31A Lambtecht Ranc 82.45 341 ⇓P P 10 11 39.4 +0.8
baz=83,SNR=11
PV01 Paradox Valley 82.46 333 eP P 10 11 39.4 +0.4
comp=Z,4µm,1.1s
P24A Kohler Place, 82.46 336 ⇑P P 10 11 39.1 +0.2
baz=83,SNR=17
N28A Pribbeno Ranch 82.53 339 ⇑P P 10 11 39.8 +0.7
baz=83,SNR=20
O26A Horse Wrangler 82.63 338 ⇑P P 10 11 40.0 +0.3
baz=83,SNR=9.2
P23A Jefferson 82.64 335 ⇓P P 10 11 40.4 +0.4
baz=83,SNR=14
HEC Hector,Ludlow 82.71 326 ⇓P P 10 11 41.2 +1.0
baz=83,SNR=12
O25A Wiggins 82.76 337 ⇑P P 10 11 40.9 +0.5
baz=83,SNR=23
BFSC Mount Baldy Ra 82.81 325 ⇓P P 10 11 41.3 +0.4
baz=83,SNR=23
M30A Dale-Ortello V 82.86 340 ⇓P P 10 11 40.7 -0.1
baz=83,SNR=15
OGNE Ogallala 82.91 339 ⇓P P 10 11 41.2 +0.1
baz=83,SNR=8.1
N27A Anderson Farm, 82.92 338 ⇑P P 10 11 41.5 +0.3
baz=83,SNR=17
ISCO Idaho Springs 82.95 336 eP P 10 11 41.6 0.0
ISCO pmax pmax
comp=Z,68nm,1.4s
ISCO Idaho Springs 82.95 336 eP P 10 11 41.6 0.0
comp=Z,68nm,1.4s
ISCO Idaho Springs 82.95 336 ⇑P P 10 11 41.8 +0.2
baz=83,SNR=31
M29A Burnside Ranch 82.99 340 ⇑P P 10 11 41.5 0.0
baz=83,SNR=23
TUQ Turquoise Moun 83.04 326 ⇓P P 10 11 42.6 +0.6
baz=83,SNR=8.6
O24A Longmont 83.07 336 ⇑P P 10 11 42.2 +0.1
baz=83
DECC Green Verdugo 83.13 324 ⇑P P 10 11 42.7 +0.3
baz=83,SNR=7.0
M28A Bar X Bar Ranc 83.14 339 ⇓P P 10 11 42.9 +0.6
baz=84,SNR=10.0
P22A Eagle 83.14 335 ⇑P P 10 11 42.9 +0.4
baz=84,SNR=17
N26A Koester Ranch, 83.14 338 ⇓P P 10 11 42.8 +0.4
baz=84,SNR=5.1
L31A Butterfield Fa 83.20 341 ⇓P P 10 11 43.3 +0.8
baz=84,SNR=68
L30A Spencer Herefo 83.21 341 ⇑P P 10 11 43.0 +0.4
baz=84,SNR=34
GSC Goldstone 83.32 326 ⇑P P 10 11 43.9 +0.5
baz=84,SNR=13
O23A Lake Granby, G 83.42 336 ⇑P P 10 11 44.2 +0.2
baz=84,SNR=29
EDW2 Edwards Air Fo 83.50 325 ⇑P P 10 11 44.4 +0.1
baz=84,SNR=20
L29A Maesberg Ranch 83.52 340 ⇓P P 10 11 44.4 +0.2
baz=84,SNR=34
O22A Kremmling 83.58 335 ⇑P P 10 11 44.9 0.0
baz=84,SNR=43
SHOC Shoshone 83.59 326 ⇑P P 10 11 45.2 +0.6
baz=84
OSI Osito Adit 83.62 324 ⇓P P 10 11 45.5 +0.6
baz=84,SNR=8.5
SHPR Sheep Range 83.62 328 eP P 10 11 45.8 +0.8
comp=Z,134nm,1.6s
N24A Carr 83.65 337 ⇑P P 10 11 45.3 +0.2
baz=84,SNR=18
M26A McRoberts Ranc 83.71 338 ⇑P P 10 11 46.3 +1.0
baz=84
LRMC Laurel Mountai 83.86 325 ⇑P P 10 11 46.7 +0.5
baz=84,SNR=10.0
K30A Basset 83.86 341 ⇑P P 10 11 46.4 +0.5
baz=84,SNR=51
M25A Palm-Egli Farm 83.95 338 ⇓P P 10 11 46.8 +0.2
baz=84,SNR=15
ARUT Antelope Range 84.01 329 eP P 10 11 48.3 +1.4
ARUT Antelope Range 84.01 329 eP P 10 11 48.3 +1.4
comp=Z,735nm,1.0s
N23A Red Feather La 84.05 336 ⇓P P 10 11 47.3 +0.1
baz=84,SNR=30
ARVC Arvin 84.09 324 ⇑P P 10 11 47.9 +0.7
baz=84
K29A Lazy Trails An 84.12 341 ⇑P P 10 11 47.5 +0.2
baz=84,SNR=17
O20A White River Ci 84.13 334 ⇑P P 10 11 47.4 -0.1
baz=84,SNR=17
N22A Wattenberg Ran 84.13 336 ⇑P P 10 11 47.7 +0.1
baz=84,SNR=33
ECSD EROS Data Cent 84.14 344 eP P 10 11 46.8 -0.5
comp=Z,224nm,1.1s
ECSD EROS Data Cent 84.14 344 ⇓P P 10 11 47.0 -0.3
baz=84,SNR=87
L26A Underwood Farm 84.21 338 ⇑P P 10 11 48.0 +0.2
baz=85
M24A Cheyenne 84.21 337 ⇓P P 10 11 47.7 -0.2
baz=84,SNR=18
FURC Furnace Creek, 84.32 326 ⇓P P 10 11 48.8 +0.5
baz=85,SNR=9.3
K28A Ten Mile Ranch 84.36 340 ⇓P P 10 11 49.0 +0.5
baz=85,SNR=20
ISA Isabella 84.37 325 ⇓P P 10 11 48.7 0.0
baz=85,SNR=27
J30A Dallas 84.44 341 ⇑P P 10 11 48.4 -0.5
baz=85,SNR=22
M23A Laramie 84.49 336 ⇑P P 10 11 48.5 -0.9
baz=85,SNR=10
L25A Engebretsen Ra 84.58 338 ⇑P P 10 11 49.7 0.0
baz=85
K27A Flueckinger Fa 84.59 339 ⇑P P 10 11 49.7 +0.1
baz=85,SNR=34
M22A Cedar Creek Ra 84.72 336 ⇓P P 10 11 50.5 0.0
baz=85,SNR=6.1
J29A Okreek 84.73 341 ⇓P P 10 11 49.9 -0.3
baz=85,SNR=36
N20A Spence Gulch, 84.76 334 ⇑P P 10 11 50.6 -0.1
baz=85,SNR=23
SMMC Simmler 84.78 324 ⇑P P 10 11 51.5 +0.8
baz=85,SNR=6.7
VES Vestal, Richgr 84.80 324 ⇑P P 10 11 51.1 +0.3
baz=85,SNR=14
SPMN St. Paul 84.80 347 ⇓P P 10 11 50.1 -0.4
baz=85,SNR=16
K26A Motz Farm, Whi 84.85 339 ⇓P P 10 11 51.2 +0.2
baz=85,SNR=12
K25A Mack Ranch, Ha 84.97 338 ⇑P P 10 11 51.8 +0.1
baz=85,SNR=6.1
I30A Oacoma 84.98 342 ⇓P P 10 11 51.2 -0.3
baz=85,SNR=24
J28A Allard Ranch, 84.98 340 ⇓P P 10 11 51.7 +0.1
baz=85,SNR=24
GRAC Grapevine Rang 84.99 326 ⇓P P 10 11 52.5 +0.7
baz=85,SNR=7.0
J27A Elkhorn Farm, 85.03 340 ⇑P P 10 11 52.2 +0.3
baz=85,SNR=52
L23A Garrett 85.07 337 ⇓P P 10 11 51.9 -0.4
baz=85,SNR=14
L22A Ellis Ranch, M 85.23 336 ⇓P P 10 11 53.0 -0.1
baz=86,SNR=6.9
RCTC Rector, Farmer 85.25 325 ⇑P P 10 11 53.1 +0.1
baz=86
I29A Vivian Onida 85.30 341 ⇓P P 10 11 53.0 -0.1
baz=86,SNR=17
K24A Anderson Ranch 85.36 338 ⇓P P 10 11 53.6 0.0
baz=86,SNR=6.5
BRSD Miller 85.36 342 ⇑P P 10 11 52.9 -0.5
baz=86,SNR=15
R11A Troy Canyon, C 85.36 328 ⇑P P 10 11 54.0 +0.2
baz=86,SNR=38
J26A Sides Ranch, S 85.39 339 ⇓P P 10 11 53.7 +0.1
baz=86,SNR=34
TIN Tinemaha 85.41 326 ⇑P P 10 11 54.2 +0.2
baz=86,SNR=5.5
DAU Daniels Canyon 85.45 332 eP P 10 11 55.1 +0.8
DAU pmax pmax
comp=Z,569nm,2.3s
DAU Daniels Canyon 85.45 332 eP P 10 11 55.1 +0.8
comp=Z,569nm,2.3s
I28A Midland 85.50 340 ⇑P P 10 11 53.9 -0.2
baz=86,SNR=72
K23A Bowen Ranch, D 85.63 337 ⇓P P 10 11 54.2 -0.8
baz=86,SNR=17
J25A Sunshine Ranch 85.67 338 ⇑P P 10 11 54.5 -0.6
baz=86,SNR=7.7
I27A Quinn 85.80 340 ⇓P P 10 11 55.0 -0.6
baz=86,SNR=26
K22A Casper 85.82 336 ⇓P P 10 11 55.4 -0.5
baz=86,SNR=43
DUG Dugway 85.84 331 eP P 10 11 56.3 +0.2
DUG pmax pmax
comp=Z,96nm,1.2s
DUG Dugway 85.84 331 eP P 10 11 56.3 +0.2
comp=Z,96nm,1.2s
DUG Dugway 85.84 331 ⇑P P 10 11 56.6 +0.6
baz=86,SNR=55
H29A Onida 85.84 341 ⇑P P 10 11 55.3 -0.5
baz=86,SNR=28
J24A Dixon Ranch, L 85.86 338 ⇓P P 10 11 56.1 0.0
baz=86,SNR=18
I26A New Underwood 85.99 339 ⇑P P 10 11 56.2 -0.4
baz=86,SNR=16
K21A Alcova 86.03 336 ⇑P P 10 11 56.9 -0.1
baz=86,SNR=38
G30A Faulkton 86.05 342 ⇑P P 10 11 56.6 -0.2
baz=86,SNR=30
H28A Mission Ridge 86.09 341 ⇓P P 10 11 56.5 -0.6
baz=86,SNR=38
MLAC Mammoth Lakes 86.16 326 ⇑P P 10 11 57.9 0.0
baz=86,SNR=10
I25A Rochford 86.22 339 ⇑P P 10 11 57.7 -0.2
baz=87,SNR=27
G29A Hoven 86.30 342 ⇓P P 10 11 58.2 +0.2
baz=87,SNR=38
H27A Howes 86.33 340 ⇑P P 10 11 58.0 -0.2
baz=87,SNR=37
I24A Kuemmerle Ranc 86.34 338 ⇑P P 10 11 58.2 -0.2
baz=87,SNR=7.7
RSSD Black Hills 86.41 339 eP P 10 11 57.8 -1.1
RSSD pmax pmax
comp=Z,43nm,1.1s
RSSD Black Hills 86.41 339 eP P 10 11 57.8 -1.1
comp=Z,42nm,1.1s
G28A Parade 86.44 341 ⇑P P 10 11 58.4 -0.4
baz=87,SNR=43
J22A Midwest 86.49 337 ⇑P P 10 11 59.1 -0.2
baz=87,SNR=8.4
H26A Fairpoint 86.51 340 ⇓P P 10 11 59.0 -0.1
baz=87,SNR=10
NVAR Mina Array Bea 86.59 326 P P 10 12 00.1 +0.2
comp=Z,13nm,1.0s,baz=153,slow=5.4,SNR=23
HWUT Hardware Ranch 86.60 333 eP P 10 11 59.7 -0.2
comp=Z,382nm,1.7s
F30A Leola 86.69 343 ⇑P P 10 11 59.6 -0.3
baz=87,SNR=20
J21A Lysite 86.74 336 ⇑P P 10 12 00.4 -0.1
baz=87,SNR=21
H25A Fruitdale 86.74 339 ⇓P P 10 12 00.4 +0.1
baz=87,SNR=40
TOA0 Torodi Ar. Sit 86.86 71 eP P 10 12 01.6 0.0
TORD Torodi Ar. Bea 86.86 71 P P 10 12 01.9 +0.4
comp=Z,9.8nm,0.7s,baz=222,slow=4.3,SNR=16
F29A Eureka 86.88 342 ⇓P P 10 12 00.5 -0.3
baz=87,SNR=45
BW06 Boulder Array 86.92 334 eP P 10 12 00.7 -0.8
comp=Z,62nm,1.2s
PDAR Pinedale Array 86.92 334 P P 10 12 00.6 -0.9
comp=Z,36nm,1.1s,baz=153,slow=5.0,SNR=49
I22A 9 Mile Ranch, 86.93 337 ⇓P P 10 12 00.9 -0.4
baz=87,SNR=13
J20A Shoshoni 86.95 336 ⇑P P 10 12 01.8 +0.3
baz=87,SNR=65
G27A Dupree 86.98 340 ⇑P P 10 12 00.7 -0.8
baz=87,SNR=27
G26A Maurine 87.08 340 ⇓P P 10 12 01.3 -0.6
baz=87,SNR=45
I21A Big Trails, Te 87.11 336 ⇓P P 10 12 01.8 -0.4
baz=87,SNR=36
H24A Dirks Ranch, A 87.13 339 ⇓P P 10 12 01.1 -1.1
baz=88,SNR=20
F28A McLaughlin 87.13 341 ⇑P P 10 12 01.7 -0.4
baz=88,SNR=41
WAKR Walker 87.15 326 eP P 10 12 03.5 +0.9
comp=Z,91nm,1.5s
J19A Crowheart 87.19 335 ⇓P P 10 12 02.3 -0.3
baz=88,SNR=70
G25A Newell 87.22 339 ⇑P P 10 12 02.2 -0.4
baz=88,SNR=28
E30A Jud 87.29 343 ⇑P P 10 12 02.5 -0.3
baz=88,SNR=39
AHID Auburn Hatcher 87.45 333 eP P 10 12 04.3 +0.3
comp=Z,124nm,1.5s
F27A Lemmon 87.47 341 ⇓P P 10 12 03.1 -0.6
baz=88,SNR=47
I20A Worland 87.50 336 ⇓P P 10 12 03.9 -0.1
baz=88,SNR=29
E29A Napoleon 87.52 342 ⇑P P 10 12 03.5 -0.5
baz=88,SNR=34
H22A Clearmont 87.52 337 ⇑P P 10 12 03.6 -0.5
baz=88,SNR=11
F26A Lodgepole 87.62 340 ⇑P P 10 12 04.2 -0.3
baz=88,SNR=26
G24A Alzada 87.62 339 ⇓P P 10 12 04.1 -0.5
baz=88,SNR=14
E28A Huff 87.78 342 ⇑P P 10 12 04.8 -0.4
baz=88,SNR=31
G23A Biddle 87.78 338 ⇓P P 10 12 05.2 -0.1
baz=88,SNR=8.9
D30A Buchanan 87.82 343 ⇑P P 10 12 05.3 -0.1
baz=88,SNR=50
I19A Meeteetse 87.86 335 ⇑P P 10 12 05.5 -0.4
baz=88,SNR=20
E27A Carson 87.87 341 ⇓P P 10 12 05.1 -0.5

baz=88,SNR=16
F25A Bowman 87.90 340 ⇓P P 10 12 05.9 +0.1
baz=88,SNR=14
H20A Greybull 87.94 336 ⇑P P 10 12 06.4 +0.2
baz=88,SNR=26
D29A Pettibone, Tap 87.97 343 ⇑P P 10 12 05.9 -0.2
baz=88,SNR=30
G22A Birney 88.07 338 ⇑P P 10 12 06.2 -0.5
baz=88,SNR=8.0
F24A Ekalaka 88.10 339 ⇑P P 10 12 06.4 -0.5
baz=88,SNR=14
E26A Carlson Angus 88.14 341 ⇓P P 10 12 06.5 -0.4
baz=88,SNR=30
F23A Volborg 88.26 338 ⇑P P 10 12 07.4 -0.2
baz=89,SNR=11
I17A Pilgrim Ck. 88.28 334 ⇓P P 10 12 08.1 +0.2
baz=89,SNR=25
C30A Mose, Pekin 88.32 344 ⇑P P 10 12 08.5 +0.8
baz=89,SNR=57
D28A Regan 88.33 342 ⇑P P 10 12 07.5 -0.3
baz=89,SNR=70
AGMN Agassiz Nation 88.33 345 eP P 10 12 07.1 -0.6
comp=Z,72nm,1.2s
AGMN Agassiz Nation 88.33 345 ⇑P P 10 12 07.4 -0.3
baz=89,SNR=30
G21A Lodge Grass 88.35 337 ⇓P P 10 12 08.2 +0.1
baz=89
E25A Miller Ranch, 88.41 340 ⇑P P 10 12 08.8 +0.6
baz=89,SNR=24
H19A Powell 88.42 336 ⇓P P 10 12 08.6 +0.2
baz=89,SNR=17
D27A Center 88.49 341 ⇑P P 10 12 09.0 +0.5
baz=89,SNR=13
F22A Rosebud 88.56 338 ⇓P P 10 12 09.1 +0.1
baz=89,SNR=7.9
H18A Shoshone NF, C 88.65 335 ⇑P P 10 12 09.3 -0.3
baz=89,SNR=21
D26A Manning 88.65 341 ⇑P P 10 12 09.2 -0.1
baz=89,SNR=39
G20A Bridger 88.66 336 ⇓P P 10 12 09.1 -0.4
baz=89,SNR=16
H17A Grant Village 88.70 335 ⇑P P 10 12 10.2 +0.3
baz=89,SNR=7.2
E24A Baker 88.72 339 ⇑P P 10 12 09.6 -0.1
baz=89,SNR=9.5
C28A Hausauer Farms 88.78 342 ⇑P P 10 12 09.9 0.0
baz=89,SNR=7.7
YFT Old Faithful 88.84 334 eP P 10 12 11.4 +0.8
comp=Z,128nm,1.5s
RLMT Red Lodge 88.91 336 eP P 10 12 12.1 +1.2
comp=Z,68nm,1.3s
D25A Fairfield 88.99 340 ⇑P P 10 12 10.8 -0.2
baz=89,SNR=18
B30A Myrvik Farm, E 88.99 344 ⇓P P 10 12 10.9 0.0
baz=89,SNR=75
YNR Norris Junctio 89.02 335 eP P 10 12 12.5 +1.1
comp=Z,24nm,1.2s
C27A Sayler Ranch, 89.05 342 ⇑P P 10 12 11.2 0.0
baz=89,SNR=27
YMR Madison River 89.08 334 eP P 10 12 12.0 +0.3
comp=Z,84nm,1.2s
D24A Glendive 89.23 340 ⇓P P 10 12 12.2 +0.1
baz=90,SNR=11
B29A Wagenman Farm, 89.24 343 ⇓P P 10 12 12.0 0.0
baz=90,SNR=45
C26A Wahner Farm, P 89.30 341 ⇑P P 10 12 12.3 0.0
baz=90,SNR=13
HLID Hailey 89.35 332 eP P 10 12 13.3 +0.4
comp=Z,65nm,1.3s
HLID Hailey 89.35 332 ⇑P P 10 12 13.1 +0.2
baz=90,SNR=50
QLMT Earthquake Lak 89.38 334 eP P 10 12 13.8 +0.8
comp=Z,7.1nm,1.3s
A30A Hoffart Farm, 89.45 344 ⇓P P 10 12 12.5 -0.5
baz=90,SNR=26
B28A Dugan Ranch, T 89.45 343 ⇓P P 10 12 13.6 +0.5
baz=90,SNR=52
F19A Roth Farm, Mol 89.46 336 ⇑P P 10 12 13.1 -0.1
baz=90,SNR=14
C25A Freed Ranch, W 89.49 341 ⇑P P 10 12 13.0 -0.3
baz=90,SNR=16
E21A Keefer Ranch, 89.50 338 ⇑P P 10 12 13.4 +0.1
baz=90,SNR=5.8
D23A Lindsay 89.53 339 ⇑P P 10 12 13.3 -0.2
baz=90,SNR=17
B27A Peters Farms, 89.63 342 ⇓P P 10 12 13.6 -0.2
baz=90,SNR=10.0
C24A Savage 89.64 340 ⇓P P 10 12 13.9 0.0
baz=90,SNR=24
A29A Manning Farm, 89.64 343 ⇓P P 10 12 14.0 +0.1
baz=90,SNR=65
LSZ Lusaka 89.73 109 eP P 10 12 17.1 +1.7
LSZ pmax pmax
comp=Z,156nm,1.9s
LSZ Lusaka 89.73 109 eP P 10 12 17.1 +1.7
comp=Z,156nm,1.9s
D22A Cohagen 89.78 338 ⇑P P 10 12 14.7 +0.1
baz=90,SNR=6.8
E20A Meyer Farm, Mu 89.78 337 ⇑P P 10 12 14.5 -0.2
baz=90,SNR=13
B26A Jensen Ranch, 89.84 341 ⇓P P 10 12 14.9 0.0
baz=90,SNR=7.2
A28A Rude Farm, Bot 89.86 343 ⇑P P 10 12 14.6 -0.4
baz=90,SNR=16
MCMT McKenzie Canyo 89.87 333 eP P 10 12 15.8 +0.4
comp=Z,27nm,1.2s
D21A La Casta Ranch 89.95 338 ⇑P P 10 12 15.3 -0.2
baz=90
E19A Rath Farm, Rou 89.95 337 ⇓P P 10 12 14.9 -0.6
baz=90,SNR=21
WVOR Wild Horse Val 90.06 328 eP P 10 12 17.0 +0.8
WVOR pmax pmax
comp=Z,110nm,1.5s
WVOR Wild Horse Val 90.06 328 eP P 10 12 17.0 +0.8
comp=Z,110nm,1.5s
C23A Lambert 90.10 339 ⇓P P 10 12 15.9 -0.2
baz=90,SNR=9.1
A27A Ledoux Ranch, 90.14 342 ⇑P P 10 12 16.1 -0.1
baz=90
ULM Lac du Bonnet 90.20 346 P P 10 12 16.5 +0.1
comp=Z,26nm,1.0s,baz=161,slow=3.0,SNR=13
WDC Whiskeytown Da 90.23 325 eP P 10 12 17.7 +0.9
WDC pmax pmax
comp=Z,89nm,1.7s
WDC Whiskeytown Da 90.23 325 eP P 10 12 17.7 +0.9
comp=Z,89nm,1.7s
C22A Vida 90.24 339 ⇓P P 10 12 16.7 0.0
baz=91,SNR=8.0
A26A Wade Farm, Ken 90.28 342 ⇑P P 10 12 17.0 +0.1
baz=91,SNR=10
D20A Manuel Ranch, 90.31 337 ⇑P P 10 12 17.1 -0.1
baz=91,SNR=15
DGMT Dagmar 90.44 340 ⇑P P 10 12 17.5 -0.1
baz=91,SNR=16
A25A Svangstu Ranch 90.59 341 ⇓P P 10 12 18.3 0.0
baz=91,SNR=13
LRM Limekiln Ridge 90.59 334 eP P 10 12 19.2 +0.4
comp=Z,339nm,1.2s
D19A Cripps Ranch, 90.61 337 ⇓P P 10 12 18.3 -0.2
baz=91,SNR=11
B23A Brockton 90.65 340 ⇑P P 10 12 18.7 +0.1
baz=91,SNR=5.9
C21A Desert Coulee 90.66 338 ⇑P P 10 12 18.8 +0.1
baz=91,SNR=6.2
B22A Reddig Ranch S 90.78 339 ⇓P P 10 12 19.1 -0.2
baz=91,SNR=7.4
A24A Westby 90.80 341 ⇓P P 10 12 19.1 -0.3
baz=91,SNR=5.5
C20A Veseth Ranch, 90.83 338 ⇑P P 10 12 19.4 -0.2
baz=91,SNR=11
M04C Macdoel 90.89 326 ⇓P P 10 12 20.2 +0.1
baz=91
M02C Callahan 91.02 325 ⇓P P 10 12 20.9 +0.3
baz=91
HRY Holter Researc 91.16 335 eP P 10 12 22.9 +1.7
comp=Z,54nm,1.5s
C19A Slack Wire Ran 91.17 337 ⇑P P 10 12 20.9 -0.2
baz=92,SNR=8.1
A22A Carney Farms, 91.38 339 ⇓P P 10 12 21.6 -0.4
baz=92,SNR=12
BMO Blue Mountains 91.54 331 eP P 10 12 24.2 +1.2
comp=Z,78nm,1.8s
EGMT Eagleton 91.64 337 eP P 10 12 23.8 +0.5
comp=Z,28nm,1.2s
EGMT Eagleton 91.64 337 ⇑P P 10 12 23.4 0.0
baz=92,SNR=8.7
A21A Bergtoll Ranch 91.66 339 ⇓P P 10 12 21.8 -1.5
baz=92,SNR=8.0
CHMT Chamberlain Mo 91.82 334 eP P 10 12 26.1 +1.7
comp=Z,21nm,1.3s
J05D Fort Rock, OR 91.84 327 ⇓P P 10 12 24.3 -0.1
baz=92
A20A Cobblestone Ra 91.85 338 ⇑P P 10 12 24.1 -0.2
baz=92,SNR=12
MSO Missoula 91.98 334 ⇑P P 10 12 25.1 +0.1
baz=92,SNR=20
A19A Klindworth Far 92.14 338 ⇓P P 10 12 24.9 -0.7
baz=92,SNR=12
J04D Umpqua Nationa 92.18 327 ⇓P P 10 12 25.9 -0.2
baz=92
SLMT Seeley Lake 92.18 334 eP P 10 12 26.6 +0.6
comp=Z,33nm,1.2s
SWMT Swartz Lake 92.59 334 eP P 10 12 27.7 -0.1
comp=Z,23nm,1.2s
I05D Terrebonne, OR 92.74 328 ⇑P P 10 12 28.8 +0.4
baz=93
I04A Tendick Farm, 92.76 327 ⇑P P 10 12 28.7 +0.1
baz=93
SCHQ Schefferville 92.83 4 P P 10 12 28.0 -0.6
comp=Z,21nm,1.1s,baz=172,slow=3.6,SNR=9.9
JTMT Jette 92.89 334 eP P 10 12 29.2 +0.1
comp=Z,19nm,1.2s
BLMT Blacktail Moun 93.14 334 eP P 10 12 30.7 +0.2
comp=Z,60nm,1.1s
BSMT Bassoo Peak 93.16 334 eP P 10 12 30.3 -0.2
comp=Z,29nm,1.2s
HAWA Hanford 93.69 330 eP P 10 12 33.5 +0.8
comp=Z,126nm,1.8s
NEW Newport 94.34 333 eP P 10 12 36.0 +0.3
NEW pmax pmax
comp=Z,32nm,1.2s
NEW Newport 94.34 333 eP P 10 12 36.0 +0.3
comp=Z,32nm,1.2s
NEW Newport 94.34 333 ⇓P P 10 12 34.6 -1.1
baz=95,SNR=22
MDT Midelt 95.45 52 P P 10 12 42.7 +1.4
comp=Z,14nm,1.0s,baz=237,slow=5.7,SNR=12
ESDC Sonseca Array 100.40 47 P Pdif 10 13 03.9 +0.6
comp=Z,3.8nm,1.0s,baz=205,slow=16,SNR=4.0
YKA Yellowknife Ar 105.59 342 Pdiff Pdif 10 13 24.6 -1.1
comp=Z,0.4nm,0.6s,baz=143,slow=4.1,SNR=8.6
YKA PP PP 10 17 47.5 -1.3
comp=Z,0.7nm,0.8s,baz=138,slow=7.9,SNR=5.7
FETA Feichten 113.36 48⇓iPKiKP PKiKP 10 17 55.5 +1.5
comp=Z,7.9nm,1.0s
GERES GERESS Array B 116.00 47 PKP PKPdf 10 17 58.5 -0.4
comp=Z,6.9nm,0.8s,baz=187,slow=2.2,SNR=18
ARSA Arzberg 116.31 49⇑iPKPdf PKPdf 10 17 59.3 -0.2
comp=Z,5.4nm,0.8s
WRA Warramunga Arr 116.47 210 PKP PKPdf 10 17 59.8 -1.0
comp=Z,5.2nm,0.9s,baz=157,slow=1.5,SNR=12
WRA PP PP 10 19 04.3 -2.2
comp=Z,6.0nm,1.4s,baz=160,slow=6.7,SNR=7.7
CLL Collm 116.78 45 ePKiKP PKPdf 10 18 03.0 +2.8
CLL e 10 18 12.0
CLL pmax pmax
comp=Z,16nm,1.2s
CLL Collm 116.78 45 ePKiKP PKPdf 10 18 03.0 +2.8
comp=Z,16nm,1.2s
CLL epPKiKP pPKiKP 10 18 12.0 +0.6
CONA Conrad Observa 116.83 49⇑iPKPdf PKPdf 10 18 00.3 -0.3
comp=Z,8.7nm,0.8s
BRG Berggiesshubel 117.10 45 ePKP PKPdf 10 18 01.9 +1.0
comp=Z,5.3nm,0.9s
BRG e 10 19 15.8
comp=Z,9.4nm,1.4s
BRG Berggiesshubel 117.10 45 ePKiKP PKPdf 10 18 01.9 +1.0
BRG e 10 19 15.9
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,1.4s
ILAR Eielson Array 117.30 333 PKP PKPdf 10 18 00.5 -0.4
comp=Z,4.4nm,1.0s,baz=175,slow=2.0,SNR=15
ILAR PP PP 10 19 16.1 +3.3
comp=Z,5.2nm,1.2s,baz=105,slow=3.6,SNR=6.3
ILAR PKKPbc PKKPbc 10 28 26.5 +0.7
comp=Z,0.6nm,0.9s,baz=289,slow=5.1,SNR=5.4
PKSM Moragy 117.72 52⇑PKIKP PKPdf 10 18 03.0 +0.8
PKSM Moragy 117.72 52⇑iP PKPdf 10 18 03.0 +0.8
TRF Thorofare Moun 117.90 330 ePKPdf PKPdf 10 18 02.4 +0.1
VRAC Vranov 117.90 48 ⇑PKIKP PKPdf 10 18 02.4 -0.1
VRAC Vranov 117.90 48⇑iP PKPdf 10 18 02.4 -0.1
VRAC Vranov 117.90 48 PKP PKPdf 10 18 01.7 -0.8
comp=Z,7.0nm,0.8s,baz=289,slow=0.7,SNR=5.7
KSP Ksiaz 118.41 46 ePKP PKPdf 10 18 03.7 +0.3
MORC Moravsky Berou 118.66 48⇑PKIKP PKPdf 10 18 04.5 +0.5
MORC Moravsky Berou 118.66 48⇑iP PKPdf 10 18 04.5 +0.5
VYHS Vyhne 118.86 49 ePKIKP PKPdf 10 18 04.6 +0.2
VYHS Vyhne 118.86 49 ePKP PKPdf 10 18 04.6 +0.2
MMB Musomiste 118.90 58 ⇓PKIKP PKPdf 10 18 05.2 +0.5
MMB Musomiste 118.90 58⇓iP PKPdf 10 18 05.2 +0.5
BZS Buzias 119.31 53 ⇓PKIKP PKPdf 10 18 05.5 +0.2
BZS Buzias 119.31 53⇓iP PKPdf 10 18 05.5 +0.2
DAG Danmarks Havn 119.67 13 iPKIKP PKPdf 10 18 03.7 -1.4
DAG Danmarks Havn 119.67 13 iP PKPdf 10 18 03.7 -1.4
GZR Gura Zlata 119.95 54 ⇓PKIKP PKPdf 10 18 07.5 +0.9
GZR Gura Zlata 119.95 54⇓iP PKPdf 10 18 07.5 +0.9
KDZ Kurdzhali 120.06 59 ⇓PKIKP PKPdf 10 18 06.5 -0.4
KDZ Kurdzhali 120.06 59⇓iP PKPdf 10 18 06.5 -0.4
NB2 NORSAR Subarra 120.24 34 PKPdf PKPdf 10 18 06.5 -0.2
comp=Z,24nm,1.7s,baz=248,slow=1.9
NB2 NORSAR Subarra 120.24 34 PKPdf PKPdf 10 18 06.5 -0.2
baz=248,slow=1.9
NOA NORSAR Array B 120.24 34 PKP PKPdf 10 18 06.3 -0.4
comp=Z,4.6nm,1.0s,baz=251,slow=2.1,SNR=6.2
NOA PKKPbc PKKPbc 10 28 15.7 +0.7
comp=Z,1.3nm,0.9s,baz=70,slow=4.5,SNR=3.5
CRVS Cervenica-Dubn 120.61 50 ePKIKP PKPdf 10 18 08.4 +0.7
CRVS Cervenica-Dubn 120.61 50 ePKP PKPdf 10 18 08.4 +0.7
LOT Lotru 120.61 54⇑iP PKPdf 10 18 08.1 +0.1
TRPA Tarpa 120.95 51⇑iP PKPdf 10 18 08.7 +0.4
UZH Uzhgorod 121.00 50 ePKIKP PKPdf 10 18 09.5 +1.1
KOLS Kolonicke sedl 121.11 50 ePKIKP PKPdf 10 18 09.9 +1.2
KOLS Kolonicke sedl 121.11 50 ePKP PKPdf 10 18 09.9 +1.2
KOLS e 10 28 48.9
JMB Yambol 121.20 58 ⇑PKIKP PKPdf 10 18 08.2 -0.8
JMB Yambol 121.20 58⇑iP PKPdf 10 18 08.2 -0.8
VOIR 121.42 55 ⇑PKIKP PKPdf 10 18 09.7 +0.2
VOIR 121.42 55⇑iP PKPdf 10 18 09.7 +0.2
KWP Kalwaria Pacla 121.65 49 ⇑PKIKP PKPdf 10 18 10.7 +1.0
KWP Kalwaria Pacla 121.65 49 ePKP PKPdf 10 18 11.2 +1.5
KWP Kalwaria Pacla 121.65 49⇑iP PKPdf 10 18 10.7 +1.0
MLR Muntele Rosu 122.02 55 ⇓PKIKP PKPdf 10 18 11.6 +0.9
MLR Muntele Rosu 122.02 55⇓iP PKPdf 10 18 11.6 +0.9
PRD Provadia 122.05 58 ⇓PKIKP PKPdf 10 18 11.3 +0.7
BURAR Bucovina Array 122.40 52 ⇑PKIKP PKPdf 10 18 11.4 +0.1
BURAR Bucovina Array 122.40 52⇑iP PKPdf 10 18 11.4 +0.1
BUR08 Bucovina Ar. S 122.40 52 ePKPdf PKPdf 10 18 11.5 +0.2
LVV L'vov 122.51 50 ePKIKP PKPdf 10 18 12.0 +0.7
PLOR Plostina 122.62 55 ⇑PKIKP PKPdf 10 18 11.7 0.0
PLOR Plostina 122.62 55⇑iP PKPdf 10 18 11.7 0.0
VRI Vrincioaia 122.67 55 ⇓PKIKP PKPdf 10 18 11.1 -0.7
VRI Vrincioaia 122.67 55⇓iP PKPdf 10 18 11.1 -0.7
PSN Preselentsi 122.77 58 ⇑PKIKP PKPdf 10 18 12.7 +0.7
PSN Preselentsi 122.77 58⇑iP PKPdf 10 18 12.7 +0.7
TESR Tescani 122.87 54⇑iP PKPdf 10 18 11.8 -0.3
TIRR Tirgusor 123.22 57 ⇑PKIKP PKPdf 10 18 13.6 +0.8
TIRR Tirgusor 123.22 57⇑iP PKPdf 10 18 13.6 +0.8
TIRR Tirgusor 123.22 57 ePKPdf PKPdf 10 18 12.6 -0.3
CFR Carcaliu 123.32 56 ⇑PKIKP PKPdf 10 18 12.4 -0.6
CFR Carcaliu 123.32 56⇑iP PKPdf 10 18 12.4 -0.6
MMAI Mount Meron Ar 123.39 72 PKP PKPdf 10 18 13.9 +0.3
comp=Z,9.2nm,0.9s,baz=313,slow=7.8,SNR=3.6
SUW Suwalki 123.54 45 ePKIKP PKPdf 10 18 13.6 +0.5
SUW Suwalki 123.54 45 ePKP PKPdf 10 18 13.6 +0.5
SUW Suwalki 123.54 45 ePKPdf PKPdf 10 18 13.6 +0.5
TLCR 123.77 56 ⇓PKIKP PKPdf 10 18 14.1 +0.3
TLCR 123.77 56⇓iP PKPdf 10 18 14.1 +0.3
ASF Jabal al Asfar 124.13 74 PKP PKPdf 10 18 15.1 0.0
comp=Z,3.2nm,0.6s,baz=249,slow=6.3,SNR=3.9
ANTO Ankara 124.41 63 ePKIKP PKPdf 10 18 16.4 +1.0
ANTO Ankara 124.41 63 ePKPdf PKPdf 10 18 16.4 +1.0
KIS Kishinev 124.44 54 ePKIKP PKPdf 10 18 16.0 +0.9
KIS Kishinev 124.44 54 ePKP PKPdf 10 18 16.0 +0.9
BRTR Keskin Array B 124.94 64 PKP PKPdf 10 18 16.7 +0.2
comp=Z,11nm,0.9s,baz=195,slow=3.0,SNR=34
TNA Tin City 125.73 329 ePKPdf PKPdf 10 18 17.8 +0.8
NACGM Naroch 125.81 44 e PKPdf 10 18 15.0 -2.5
AK02 Malin Array Si 125.92 50 ePKPdf PKPdf 10 18 17.2 -0.6
AK02 ePP PP 10 20 09.6 -2.3
KIEV Kiev 125.93 50 ePKIKP PKPdf 10 18 17.9 +0.1
KIEV Kiev 125.93 50 ePKPdf PKPdf 10 18 17.9 +0.1
AK01 Malin Array Si 125.94 50 ePKPdf PKPdf 10 18 17.9 +0.1
AKASG Malin Array Be 125.94 50 PKP PKPdf 10 18 17.1 -0.8
comp=Z,14nm,1.0s,baz=263,slow=2.5,SNR=17
AKASG PP PP 10 20 09.7 -2.3
comp=Z,2.1nm,0.8s,baz=262,slow=3.8,SNR=7.6
GAMB Gambell 126.89 327 ePKPdf PKPdf 10 18 19.1 -0.1
FINES FINESS Array B 127.16 36 PKP PKPdf 10 18 20.3 +0.5
comp=Z,11nm,1.0s,baz=70,slow=2.2,SNR=14
SIM Simferopol' 127.19 58 iPKIKP PKPdf 10 18 21.9 +1.5
SIM pmax pmax
comp=Z,27nm,0.8s
MALT Malatya 127.83 67 ⇑PKIKP PKPdf 10 18 23.3 +1.3
MALT Malatya 127.83 67⇑iP PKPdf 10 18 23.3 +1.3
ARCES ARCESS Array B 128.35 26 PKP PKPdf 10 18 22.5 +0.6
comp=Z,6.1nm,0.9s,baz=237,slow=4.0,SNR=5.5
SOEI Soe 129.45 203 ePKPdf PKPdf 10 18 24.9 -1.0
APA Apatity 131.09 29⇓iPKIKP PKPdf 10 18 26.0 -1.2
APA MLR MLR
comp=Z,14μm,24.0s
OBN Obninsk 131.34 46 iPKIKP PKPdf 10 18 30.9 +3.0
OBN pmax pmax
comp=Z,90nm,1.7s
MOS Moscow 132.04 45 ePKIKP PKPdf 10 18 26.1 -3.2
KIV Kislovodsk 132.73 62 ePKIKP PKPdf 10 18 31.8 +0.7
KIV Kislovodsk 132.73 62 ePKPdf PKPdf 10 18 31.8 +0.7
KBZ Khabaz 132.81 62 PKP PKPdf 10 18 31.3 +0.2
comp=Z,9.6nm,0.9s,baz=270,slow=6.4,SNR=11
GNI Garni 133.07 67 ePKIKP PKPdf 10 18 31.9 -0.1
GNI Garni 133.07 67 ePKPdf PKPdf 10 18 31.9 -0.1
ZEI Tsey 133.26 64 iPKIKP PKPdf 10 18 32.4 +0.1
ZEI pmax pmax
comp=Z,50nm,2.2s
GOF Gofitskoye 133.27 60 ePKIKP PKPdf 10 18 32.1 +0.1
GOF pmax pmax
comp=Z,60nm,1.3s
KLMR Klimovskoe 133.53 38 ePKIKP PKPdf 10 18 29.3 -2.6
KLMR pmax pmax
comp=Z,111nm,1.9s
CISI Cisompet, Garu 134.48 182 ePKPdf PKPdf 10 18 36.6 +1.3
KAPI Kappang 135.25 199 ePKPdf PKPdf 10 18 37.1 +0.4
BILL Bilibino 135.96 332 ePKIKP PKPdf 10 18 39.8 +3.5
BILL i 10 18 52.0
BILL pmax pmax
comp=Z,16nm,1.6s
BILL Bilibino 135.96 332 ePKPdf PKPdf 10 18 36.9 +0.6
PRGR Permogore 136.47 37 ePKIKP PKPdf 10 18 38.2 +0.8
PRGR pmax pmax
comp=Z,237nm,1.8s
PET Petropavlovsk 141.40 310 ePKHKP PKPpre 10 18 41.6
PET i 10 18 48.6
PET pmax pmax
comp=Z,19nm,0.7s
PETK Petropavlovsk- 141.97 310 PKhKP PKPpre 10 18 41.5
comp=Z,17nm,1.0s,baz=93,slow=7.4,SNR=7.3
PETK PKP PKPdf 10 18 47.6 -0.1
comp=Z,32nm,1.0s,baz=98,slow=6.6,SNR=9.3
IKRD Kardeh 142.37 77 ePn PKPdf 10 18 47.7 -1.7
GEYT Alibeck 142.39 75 PKP PKPdf 10 18 46.5 -2.6
comp=Z,15nm,0.9s,baz=270,slow=4.4,SNR=12
ISRO Mashad 142.97 78 ePn PKPdf 10 18 47.1 -3.1
KSM Kuching 143.29 187 ePKPdf PKPbc 10 18 48.3 0.0
IMYA Miami 143.46 78 ePn PKPbc 10 18 48.7 +0.2
ARU Arti 143.72 44 ePKIKP PKPdf 10 18 49.7 -1.0
ARU Arti 143.72 44 ePKPdf PKPbc 10 18 49.1 +0.8
AKTO Aktyubinsk 143.95 54 PKP PKPbc 10 18 49.3 0.0
comp=Z,38nm,0.6s,baz=198,slow=2.4,SNR=83
PSI Prapat 144.14 167 PKIKP PKPab 10 18 50.0 -0.6
PSI Prapat 144.14 167 PKP PKPab 10 18 50.0 -0.6
comp=Z,64nm,0.9s,baz=181,slow=5.6,SNR=31
TIXI Tiksi 144.53 348 ePKIKP PKPab 10 18 48.9 -1.3
TIXI Tiksi 144.53 348 ePKPdf PKPab 10 18 48.9 -1.3
SVE Sverdlovsk 144.78 43 ePKIKP PKPdf 10 18 53.9 +1.4
SVE pmax pmax
comp=Z,202nm,1.3s
KAD Karad 145.04 118 ex PKPbc 10 18 53.1 -0.6
ABKAR Akbulak array 145.21 56 ePKPdf PKPdf 10 18 53.6 0.0
POO Poona 145.62 116⇑iP PKPdf 10 18 52.0 -3.2
LHMI Lhok Sumawe 146.11 163 ePKPdf PKPbc 10 18 56.9 -0.2
LHMI ePKPbc PKPab 10 18 57.6 -0.1
IPM Ipoh 146.11 171 ePKPdf PKPbc 10 18 55.7 -0.6
IPM ePKPbc PKPbc 10 18 57.1 -0.1
KKM Kota Kinabalu 146.77 198 ePKPdf PKPdf 10 18 57.8 +0.4
KULM Kulim 146.86 170 ePKPdf PKPdf 10 18 57.6 +0.2
HYB Hyderabad 148.09 123 iPKP PKPdf 10 19 00.0 +0.6
KBL Kabul 149.90 85 ePKPdf PKPdf 10 19 03.2 +1.1
KBL ePKPbc PKiKP 10 19 07.8 -0.1
BRVK Borovoye 151.10 47 ePKIKP PKPdf 10 19 03.3 +0.3
BRVK Borovoye 151.10 47 ePKPdf PKPdf 10 19 03.3 +0.3
ERM Erimo 151.70 290 ePKPdf PKPbc 10 19 11.8 +1.1
ERM Erimo 151.70 290 ePKPbc PKPbc 10 19 11.8 +1.1
YSS Yuzh-Sakhalins 151.98 300 ePKIKP PKPdf 10 19 05.4 +0.8
YSS e 10 19 11.4
YSS e 10 19 21.9
YSS Yuzh-Sakhalins 151.98 300 ePKPdf PKPdf 10 19 05.4 +0.8
YSS ePKPbc PKiKP 10 19 11.3 -0.1
YSS ePKPab PKPab 10 19 21.9 +1.3
YAK Yakutsk 152.12 336 ePKIKP PKPbc 10 19 08.2 -2.7
YAK pmax pmax
comp=Z,223nm,1.1s
YAK pmax pmax
comp=E,14nm,1.0s
YAK Yakutsk 152.12 336 ePKPdf PKPdf 10 19 03.7 -0.6
YAK ePKPbc PKiKP 10 19 11.5 +0.2
ASAJ Asahikawa 152.20 294 ePKPdf PKPdf 10 19 04.3 -0.7
ASAJ ePKPbc PKiKP 10 19 12.2 +0.1
KKAR Karatay Array 152.53 68 ePKIKP PKPdf 10 19 05.4 -0.2
KKAR Karatay Array 152.53 68 ePKPdf PKPdf 10 19 05.4 -0.2
NDI New Delhi 154.02 103 ex PKPdf 10 19 07.0 -1.2
MJAR Matsushiro Arr 154.66 276 PKP PKPdf 10 19 07.6 -1.2
comp=E,5.8nm,1.0s,baz=151,slow=1.8,SNR=8.1
MAT Matsushiro 154.66 276 ePKP PKPdf 10 19 07.2 -1.6
AAK Ala-Archa 155.44 69 ePKIKP PKPdf 10 19 11.1 +1.2
AAK Ala-Archa 155.44 69 ePKPdf PKPdf 10 19 11.1 +1.2
AAK ePKPab PKPab 10 19 36.9 +1.2
KSH Kashi 156.38 77 PKP PKPdf 10 19 11.5 +0.3
KSH epPKP pPKPdf 10 19 21.8 -0.6
KSH esPKP 10 19 26.0
KSH eSKS SKSdf 10 26 13.0 -1.8
KSH eSKKS SKKSac 10 30 02.5 -2.1
KSH eSS SS 10 43 01.3 -5.6
KSH AMB AMB
comp=E,3μm,11.3s
NVS Novosibirsk 157.15 36 ePKIKP PKPdf 10 19 10.2 -1.3
NVS e 10 23 26.1
NVS pmax pmax
comp=Z,126nm,2.3s
NVS pmax pmax
comp=N,7.0nm,1.4s
NVS pmax pmax
comp=E,16nm,1.6s
CLNS Chul'man 157.64 333 ePKP2 PKPab 10 19 40.6 -3.9
CLNS pmax pmax
comp=Z,22nm,1.2s
CLNS pmax pmax
comp=N,8.0nm,1.3s
CLNS pmax pmax
comp=E,11nm,1.3s
ZALV Zalesovo Beam 158.43 36 PKP PKPdf 10 19 12.7 -0.4
comp=E,15nm,0.8s,baz=275,slow=1.8,SNR=16
ZALV PKPab PKPab 10 19 48.2 +0.3
comp=E,37nm,0.9s,baz=305,slow=5.2,SNR=15
CMAR Chiang Mai Arr 159.32 160 PKP PKPdf 10 19 16.4 +1.2
comp=E,1.9nm,0.3s,baz=247,slow=2.8,SNR=11
CMAR PKPab PKPab 10 19 53.0 +0.4
comp=E,3.0nm,0.6s,baz=222,slow=3.8,SNR=4.7
CHTO Chiang Mai 159.66 160 ePKIKP PKPdf 10 19 14.6 -1.1
CHTO e 10 19 53.1
CHTO Chiang Mai 159.66 160 ePKPdf PKPdf 10 19 14.6 -1.1
CHTO ePKPab PKPab 10 19 53.1 -1.0
BOD Bodaibo 159.71 348 ePKIKP PKPdf 10 19 13.4 -1.1
BOD e 10 19 51.7
BOD pmax pmax
comp=Z,14nm,2.1s
BOD pmax pmax
comp=Z,30nm,2.1s
USRK Ussuriysk Arra 159.81 295 PKP PKPdf 10 19 14.2 -0.9
comp=Z,3.6nm,1.0s,baz=276,slow=1.4,SNR=7.0
USRK PKPab PKPab 10 19 53.8 -0.5
comp=Z,8.3nm,0.9s,baz=91,slow=4.4,SNR=10
MK31 Makanchi Array 160.36 56 ePKIKP PKPdf 10 19 16.1 +0.5
MK31 e 10 19 56.8
MK31 Makanchi Array 160.36 56 ePKPdf PKPdf 10 19 16.1 +0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
MK31				ePKPab	PKPab	10 19 56.8	+0.2
MKAR	Makanchi Array	160.36	56	PKP	PKPdf	10 19 16.0	+0.4
	comp=Z,20nm,1.1s,baz=321,slow=1.6,SNR=27						
MKAR				PKPab	PKPab	10 19 56.1	-0.5
	comp=Z,14nm,0.7s,baz=271,slow=3.2,SNR=17						
MDJ	Mudanjiang	161.43	298	PKP	PKPdf	10 19 17.5	+0.7
MDJ				pPKP	pPKPdf	10 19 27.5	-0.5
MDJ				sPKP		10 19 31.5	
MDJ				PKS	PKSdf	10 22 51.5	+1.6
MDJ				SKS	SKSdf	10 26 21.0	+2.0
MDJ				SS	SS	10 44 03.0	+3.4
MDJ				AMB	AMB		
	comp=Z,1μm,7.8s						
CN2	Changchun	164.51	297	ePKP	PKPdf	10 19 17.5	-2.3
WMQ	Urumqi	164.86	62	PKP	PKPdf	10 19 19.8	-0.4
WMQ				LR	LR		
	comp=Z,7μm,23.8s						
WMQ				LR	LR		
	comp=Z,8μm,24.4s						
WMQ				LR	LR		
	comp=Z,9μm,24.4s						
MOY	Mondy	166.00	14	ePKIKP	PKPdf	10 19 21.6	+0.6
MOY				pmax	pmax		
	comp=Z,133nm,3.3s						
TLY	Talaya	166.37	7	ePKP2	PKPab	10 20 25.0	+2.3
TLY				pmax	pmax		
	comp=Z,53nm,1.5s						
KMI	Kunming	166.63	166	PKP	PKPdf	10 19 23.0	+0.5
ZAK	Zakamensk	167.61	9	⇓ePKIKP	PKPdf	10 19 21.2	-1.0
ZAK				i		10 20 29.3	
ZAK				pmax	pmax		
	comp=Z,12nm,2.8s						
ZAK				pmax	pmax		
	comp=Z,26nm,1.3s						
NJ2	Nanjing	168.06	243	ePKP	PKPdf	10 19 24.3	+1.3
GYA	Guiyang	168.31	182	iPKP	PKPdf	10 19 23.0	-0.5
GYA				pPKP	pPKPdf	10 19 35.5	+0.8
GYA				PKPab	PKPab	10 20 31.0	-1.0
GYA				PKS	PKSdf	10 22 54.5	-1.7
GYA				PP	PP	10 24 22.3	+2.3
GYA				SKKS		10 31 06.5	
GYA				SS	SS	10 45 11.0	+3.1
GYA				AMB	AMB		
	comp=Z,240nm,8.5s						
WHN	Wuhan	169.90	223	PKP	PKPdf	10 19 24.8	+0.6
WHN				PKPab	PKPab	10 20 47.5	+8.6
ULN	Ulaanbaatar	170.31	357	ePKIKP	PKPdf	10 19 23.0	-1.1
ULN	Ulaanbaatar	170.31	357	ePKPdf	PKPdf	10 19 23.0	-1.1
SONM	Songino Array	170.35	360	PKP	PKPdf	10 19 23.6	-0.4
	comp=Z,3.7nm,0.9s,baz=162,slow=0.8,SNR=12						
SONM				PKPab	PKPab	10 20 41.3	+0.7
	comp=Z,23nm,1.1s,baz=342,slow=3.4,SNR=18						
ENH	Enshi	171.69	199	ePKPdf	PKPdf	10 19 25.4	+0.2
ENH				ePKPab	PKPab	10 20 45.9	-0.9
BJI	Beijing	172.12	287	PKP	PKPdf	10 19 26.3	+1.3
BJI				PKS	PKSdf	10 22 55.3	-1.9
BJI				SKS	SKSdf	10 26 27.5	+1.9
BJI				SS	SS	10 45 48.0	-0.1
BJI				LR	LR		
	comp=Z,6μm,22.2s						
BJI				LR	LR		
	comp=Z,9μm,22.2s						
CD2	Chengdu	172.45	163	PKP	PKPdf	10 19 26.0	+0.5
CD2				pPKP	pPKPdf	10 19 37.3	+0.5
CD2				sPKP		10 19 41.0	
CD2				PKS	PKSdf	10 22 57.0	-0.9
CD2				PP	PP	10 24 45.5	+4.7
CD2				SKS	SKSdf	10 26 23.8	-2.5
CD2				SKKS	SKSac	10 31 27.3	+1.8
CD2				SS	SS	10 45 51.3	+2.4
CD2				AMB	AMB		
	comp=Z,860nm,6.4s						
GTA	Gaotai	174.77	74	⇑PKP	PKPdf	10 19 26.8	+0.6
GTA				pPKP	pPKPdf	10 19 37.8	+0.3
GTA				sPKP		10 19 41.0	
GTA				PKPab	PKPab	10 21 02.3	+1.6
GTA				PP	PP	10 24 55.8	+2.1
GTA				SKS	SKSdf	10 26 24.5	-2.2
GTA				SKKS	SKSac	10 31 37.8	+0.8
GTA				AMB	AMB		
	comp=Z,6μm,10.0s						
GTA				LR	LR		
	comp=Z,6μm,20.4s						
GTA				LR	LR		
	comp=Z,6μm,20.4s						
GTA				LR	LR		
	comp=Z,9μm,22.3s						
HHC	Hu-ho-hao-te	175.15	305	ePKP	PKPdf	10 19 26.0	-0.3
HHC				pPKP	pPKPdf	10 19 36.3	-1.2
HHC				sPKP		10 19 41.0	
HHC				PP	PP	10 24 54.0	-1.0
XAN	Xi'an	175.36	208	PKP	PKPdf	10 19 26.8	+0.3
XAN				pPKP	pPKPdf	10 19 40.3	+2.6
LZH	Lanzhou	177.12	136	ePKP	PKPdf	10 19 28.3	+1.4
LZH				pPKP	pPKPdf	10 19 39.3	+1.1
LZH				sPKP		10 19 44.5	
LZH				PKPab	PKPab	10 21 11.5	+0.4
LZH				PP	PP	10 25 07.3	+3.1

*UPP **27** 09:59:51.7, 64.41N×31.27E, h0km, ML1.7, Suspected Mining explosion.*
*ISCJB **27** 09:59:55.0±0.5, 64.74N±0.03×30.48E±0.10, h0km, Error ellipse: s-maj=6.0km s-min=3.4km az=12.3*
*IDC **27** 09:59:55.6±2.5, 64.65N×30.96E, h0km, mb1 2.9/3, mb1mx2.8/48, mbtmp2.8/3, ML2.5/4, Error ellipse: s-maj=36.2km s-min=8.7km az=102.0*
*HEL **27** 09:59:55.9±0.1, 64.73N×30.66E, h0km, ML1.8, ML1.7(UPP), Explosion*
*CSEM **27** 09:59:56.5±0.3, 64.68N×30.42E, h2km, ML1.8, Error ellipse: s-maj=7.4km s-min=4.6km az=102.0, Mining explosion.*
*NAO **27** 09:59:56.3±0.7, 64.66N×30.64E, ML2.0*
*BER **27** 09:59:57.9±3.3, 64.58N×30.45E, h0km, ML2.0(NAO)*
*KOLA **27** 09:59:58.9, 64.78N×30.36E, h0km*
ISC 27 09:59:54.4±0.6, 64.69N±0.02×30.47E±0.03, h0km, n71, σ1°73/83, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
KJN	Kajaani	1.34	244	eP	Pn	10 00 21.2	+0.9
KJN				eS	Sn	10 00 40.4	+1.6
KJN	Kajaani	1.34	244	P	Pn	10 00 21.2	+0.9
KJN				S	Sn	10 00 40.4	+1.6
KU6	Riekki	1.36	350	eP	Pg	10 00 20.1	-0.4
KU6				eS	Sg	10 00 36.8	-1.4
KU6				MSG		10 00 44.8	
	comp=Z,7.6nm,0.2s						
MSF	Maaselka	1.37	335	eP	Pg	10 00 20.4	-0.1
MSF				eS	Sg	10 00 37.5	-0.7
MSF	Maaselka	1.37	335	P	Pg	10 00 20.4	-0.1
JOF	Joensuu	1.82	168	eP	Pn	10 00 27.9	+1.1
JOF				eS	Sb	10 00 52.5	+0.7
JOF				MSG		10 01 01.6	
	comp=Z,10nm,0.2s						
JOF	Joensuu	1.82	168	P	Pn	10 00 27.9	+1.1
JOF				S	Sb	10 00 52.4	+0.7
OUL	Oulu	1.99	284	ePB	Pg	10 00 32.1	-0.4
OUL				eSB	Sg	10 00 58.2	-0.1
OUL	Oulu	1.99	284	Pb	Pg	10 00 32.1	-0.4
OUL				Sb	Sg	10 00 58.1	-0.1
SUF	Sumiainen	2.76	226	eP	Pb	10 00 43.1	-1.3
SUF				eSG	Sg	10 01 23.1	+0.2
SUF				MSG		10 01 29.6	
	comp=Z,3.9nm,0.2s						
SUF	Sumiainen	2.76	226	P	Pb	10 00 43.1	-1.3
SUF				Sg	Sg	10 01 23.0	+0.2
VRF	Varrio	3.09	354	eP	Pn	10 00 45.4	+1.0
VRF				eSG	Sb	10 01 30.1	+1.7
VRF				MSG		10 01 31.8	
	comp=Z,2.6nm,0.2s						
VRF	Varrio	3.09	354	P	Pn	10 00 45.4	+1.0
APA0	Apatity Array	3.10	18	Pn	Pn	10 00 47.7	+3.2
	baz=189,slow=16						
APA0				Sn	Sb	10 01 27.1	-1.7
	baz=199,slow=28						
APA0				Lg	Lg	10 01 36.8	
	baz=189,slow=28						
APA0	Apatity Array	3.10	18	Pn	Pn	10 00 47.7	+3.2
	baz=189,slow=16						
APA0				Sn	Sb	10 01 27.1	-1.7
	baz=199,slow=28						
APA0				Lg	Lg	10 01 36.8	
	baz=189,slow=28						
APA0	Apatity Array	3.10	18	Pn	Pn	10 00 47.7	+3.2
	baz=189,slow=14,SNR=50						
APA0				Sn	Sb	10 01 27.0	-1.7
	baz=199,slow=27,SNR=50						
APA0				Lg	Lg	10 01 36.8	
	baz=189,slow=27,SNR=7.6						
APA0	Apatity Array	3.10	18	P	Pn	10 00 47.4	+2.9
APA0				S	Sn	10 01 23.8	+1.6
APA	Apatity	3.13	21	P	Pn	10 00 47.9	+3.1
APA				S	Sn	10 01 24.5	+1.7
FIA0	FINESS Array S	3.82	214	Pn	Pn	10 00 56.5	+2.2
	baz=42,slow=14						
FIA0				Pg	Pb	10 01 02.8	+0.2
	baz=29,slow=16						
FIA0				Lg	Lg	10 01 54.4	
	baz=36,slow=28						
FIA0	FINESS Array S	3.82	214	Pn	Pn	10 00 56.5	+2.2
	baz=42,slow=14						
FIA0				Pg	Pb	10 01 02.8	+0.2
	baz=29,slow=16						
FIA0				Lg	Lg	10 01 54.4	
	baz=36,slow=28						
FIA0	FINESS Array S	3.82	214	Pn	Pn	10 00 56.5	+2.2
	baz=42,slow=13,SNR=50						
FIA0				Lg	Lg	10 01 54.4	
	SNR=6.0						
FINES	FINESS Array B	3.82	214	Pn	Pn	10 00 56.8	+2.4
	comp=Z,0.2nm,0.3s,baz=36,slow=13,SNR=7.3						
FINES				Pg	Pb	10 01 02.9	+0.3
	comp=Z,0.4nm,0.3s,baz=35,slow=14,SNR=11						
FINES				Lg	Lg	10 01 57.4	
	comp=Z,0.8nm,0.3s,baz=34,slow=29,SNR=6.9						
SJUU	Sjulsmark	3.84	286	eP	Pn	10 00 56.7	+2.1
SJUU	Sjulsmark	3.84	286	P	Pn	10 00 56.6	+2.1
SJUU	Sjulsmark	3.84	286	P	Pn	10 00 56.7	+2.1
ERTU	Ertsjaerv	3.91	302	eP	Pn	10 00 57.9	+2.3
ERTU	Ertsjaerv	3.91	302	P	Pn	10 00 57.8	+2.3
ERTU	Ertsjaerv	3.91	302	P	Pn	10 00 57.9	+2.3
HARU	Harads	4.23	295	eP	Pn	10 01 02.8	+2.8
HARU	Harads	4.23	295	P	Pn	10 01 02.8	+2.8
HARU	Harads	4.23	295	P	Pn	10 01 02.8	+2.8
MASU	Masugnsbyn	4.43	313	eP	Pn	10 01 06.0	+3.2
MASU	Masugnsbyn	4.43	313	P	Pn	10 01 05.9	+3.2
MASU	Masugnsbyn	4.43	313	P	Pn	10 01 06.0	+3.2
LILU	Lilltraesk	4.55	282	eP	Pn	10 01 06.1	+1.8
LILU	Lilltraesk	4.55	282	P	Pn	10 01 06.1	+1.8
LILU	Lilltraesk	4.55	282	P	Pn	10 01 06.1	+1.8
DUNU	Dundret	4.74	305	eP	Pn	10 01 10.1	+3.2
DUNU	Dundret	4.74	305	P	Pn	10 01 10.1	+3.2
DUNU	Dundret	4.74	305	P	Pn	10 01 10.1	+3.2
LANU	Lannavaara	4.80	318	eP	Pn	10 01 08.8	+1.0
LANU	Lannavaara	4.80	318	P	Pn	10 01 08.8	+1.0
LANU	Lannavaara	4.80	318	P	Pn	10 01 08.8	+1.0
KTK1	Kautokeino	5.19	330	eP	Pn	10 01 14.7	+1.5
KUA	Kurravaara	5.23	313	eP	Pn	10 01 16.0	+2.3
KUA	Kurravaara	5.23	313	P	Pn	10 01 16.0	+2.3
KUA	Kurravaara	5.23	313	P	Pn	10 01 16.0	+2.3
ARA0	ARCESS Array S	5.24	341	Pn	Pn	10 01 14.3	+0.5
	baz=154,slow=14						
ARA0				Sn	Sn	10 02 15.6	+0.8
	baz=158,slow=28						
ARA0				Lg	Lg	10 02 32.2	
	baz=150,slow=28						
ARA0	ARCESS Array S	5.24	341	Pn	Pn	10 01 14.3	+0.5
	baz=154,slow=14						
ARA0				Sn	Sn	10 02 15.6	+0.8
	baz=158,slow=28						
ARA0				Lg4	Lg	10 02 32.2	
	baz=150,slow=28						
ARA0	ARCESS Array S	5.24	341	Pn	Pn	10 01 14.3	+0.5
	baz=154,slow=13,SNR=50						
ARA0				Sn	Sn	10 02 15.6	+0.8
	baz=158,slow=25,SNR=50						
ARA0				Lg	Lg	10 02 32.2	
	SNR=7.6						
ARCES	ARCESS Array B	5.24	341	Pn	Pn	10 01 14.2	+0.4
	comp=Z,0.4nm,0.3s,baz=154,slow=13,SNR=18						
ARCES				Sn	Sn	10 02 12.4	-2.3
	comp=Z,0.3nm,0.3s,baz=159,slow=26,SNR=3.1						
ARCES				Lg	Lg	10 02 35.9	
	comp=Z,0.5nm,0.3s,baz=150,slow=31,SNR=5.5						
BREU	Bredtraesk	5.24	267	eP	Pn	10 01 14.8	+1.0
BREU	Bredtraesk	5.24	267	P	Pn	10 01 14.8	+1.0
BREU	Bredtraesk	5.24	267	P	Pn	10 01 14.8	+1.0
SALU	Saltoluokta	5.57	304	eP	Pn	10 01 20.7	+2.3
SALU	Saltoluokta	5.57	304	P	Pn	10 01 20.7	+2.3
SALU	Saltoluokta	5.57	304	P	Pn	10 01 20.7	+2.3
NIKU	Nikkaluokta	5.61	310	eP	Pn	10 01 21.1	+2.2
NIKU	Nikkaluokta	5.61	310	P	Pn	10 01 21.1	+2.2
NIKU	Nikkaluokta	5.61	310	P	Pn	10 01 21.1	+2.2
MOR8	Moi Rana	6.84	290	eP	Pn	10 01 35.4	-0.5
HFS	Hagfors	9.01	247	Pn	Pn	10 02 05.6	+0.1
	baz=43,slow=14						
HFS				Sn	Sn	10 03 42.7	-4.9
HFS	Hagfors	9.01	247	Pn	Pn	10 02 05.6	+0.1
	baz=43,slow=14						
HFS				Sn	Sn	10 03 42.7	-4.9
HFS	Hagfors	9.01	247	Pn	Pn	10 02 05.2	-0.4
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=3.2						
HFS	Hagfors	9.01	247	Pn	Pn	10 02 05.6	+0.1
	baz=43,slow=13,SNR=50						
NB2	NORSAR Subarra	9.51	256	Pn	Pn	10 02 14.7	+2.3
	baz=59,slow=16						
NB2	NORSAR Subarra	9.51	256	Pn	Pn	10 02 14.7	+2.3
	baz=59,slow=16						
NB2	NORSAR Subarra	9.51	256	Pn	Pn	10 02 14.7	+2.3
	baz=59,slow=15,SNR=50						
NOA	NORSAR Array B	9.51	256	Pn	Pn	10 02 13.3	+0.8
	comp=Z,0.1nm,0.3s,baz=95,slow=17,SNR=2.7						
SPA0	Spitsbergen Ar	14.20	348	Pn	Pn	10 03 14.1	-2.3
	baz=158,slow=22						
SPA0	Spitsbergen Ar	14.20	348	P	Pn	10 03 14.1	-2.3
	baz=158,slow=22						

*IDC **27** 10:03:32.9±0.8, 37.56S×73.50W, h0km, mb4.5/10, mb1 4.7/10, mb1mx4.5/27, mbtmp4.5/10, Error ellipse: s-maj=35.9km s-min=21.6km az=63.0*
*ISCJB **27** 10:03:35.2±0.6, 37.55S±0.1×73.75W±0.2, h23km, mb4.6/15, Error ellipse: s-maj=24.3km s-min=14.2km az=167.9*
*NEIC **27** 10:03:38.4±0.4, 37.49S×73.39W, h35km, mb4.8/5, Error ellipse: s-maj=19.0km s-min=10.8km az=80.0*
ISC 27 10:03:36.8±0.7, 37.55S±0.1×73.4W±0.2, h23km, n23, σ0°80/22, mb4.6/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
LPAZ	La Paz	21.61	14	P	P	10 08 27.2	+1.4
	16nm,1.0s,baz=180,slow=5.1,SNR=3.1						
SIV	San Ignacio	24.01	30	P	P	10 08 50.4	+0.4
	21nm,0.8s,baz=212,slow=11,SNR=6.4						
SAML	Samuel	29.86	21	eP	P	10 09 40.9	-1.7
	9.0nm,0.9s						
SNAA	Sanae	48.81	157	P	P	10 12 19.6	-0.2
	7.3nm,1.1s,baz=284,slow=7.1,SNR=3.5						
QSPA	South Pole Qui	52.77	180	eP	P	10 12 50.2	+0.4
	8.6nm,1.0s						
APG	El Apazote	54.61	340	P	P	10 13 03.7	-0.2
	8.8nm,0.9s,baz=147,slow=8.8,SNR=4.4						
TXAR	Lajitas Array	72.26	332	P	P	10 15 00.5	+0.3
	2.4nm,0.9s,baz=154,slow=9.0,SNR=3.9						
SWET	Sewanee	73.25	349	eP	P	10 15 05.7	-0.3
	25nm,0.8s						
DBIC	Dimbokro	77.33	71	P	P	10 15 30.3	+0.4
	20nm,1.1s,baz=205,slow=7.2,SNR=4.2						
ANMO	Albuquerque	78.33	333	eP	P	10 15 36.1	+0.9
	8.2nm,1.0s						
BOSA	Boshof	79.43	118	P	P	10 15 42.0	+0.4
	4.1nm,0.7s,baz=235,slow=6.0,SNR=4.1						
ECSD	EROS Data Cent	83.53	343	eP	P	10 16 02.1	-0.3
	15nm,1.0s						
NVAR	Mina Array Bea	86.13	326	P	P	10 16 15.8	-0.2
	0.8nm,0.7s,baz=150,slow=6.2,SNR=2.8						
PDAR	Pinedale Array	86.38	334	P	P	10 16 17.3	+0.2
	0.9nm,0.8s,baz=160,slow=6.4,SNR=2.3						
TORD	Torodi Ar. Bea	86.42	71	P	P	10 16 17.4	-0.3
	5.5nm,0.9s,baz=244,slow=4.1,SNR=3.8						
GERES	GERESS Array B	115.35	47	PKP	PKPdf	10 22 15.1	-1.0
	0.4nm,0.4s,baz=156,slow=2.7,SNR=2.3						
BRTR	Keskin Array B	124.43	63	PKP	PKPdf	10 22 33.9	0.0
	1.3nm,0.8s,baz=212,slow=4.9,SNR=4.0						
AKASG	Malin Array Be	125.31	50	PKP	PKPdf	10 22 34.2	-0.8
	0.3nm,0.4s,baz=252,slow=3.4,SNR=3.0						
ABKAR	Akbulak array	144.63	55	ePKPdf	PKPbc	10 23 10.1	+0.4
PSI	Prapat	144.78	167	PKP	PKPab	10 23 10.3	-1.0
	17nm,0.9s,baz=190,slow=5.7,SNR=4.9						
BVAR	Borovoye Array	150.52	46	PKPbc	PKPbc	10 23 26.1	+0.1
	7.5nm,0.8s,baz=276,slow=4.3,SNR=7.5						
ZALV	Zalesovo Beam	157.72	35	PKPab	PKPab	10 24 03.7	+0.5
	2.6nm,0.6s,baz=294,slow=5.7,SNR=3.1						
MKAR	Makanchi Array	159.77	55	PKP	PKPdf	10 23 34.9	+1.6
	1.3nm,0.8s,baz=291,slow=2.0,SNR=3.2						

*IDC **27** 10:05:05.8±1.0, 33.81S×71.86W, h0km, mb4.4/5, mb1 4.6/5, mb1mx4.2/27, mbtmp4.4/5, Error ellipse: s-maj=49.6km s-min=32.3km az=29.0*
*ISCJB **27** 10:05:07.7±0.6, 33.64S±0.06×72.18W±0.05, h17km, mb4.5/14, Error ellipse: s-maj=9.4km s-min=5.7km az=171.8*
*GUC **27** 10:05:10.6±0.5, 33.59S×71.95W, h20km±18km, ML4.8*
*NEIC **27** 10:05:11.5±0.6, 33.73S×72.22W, h35km, mb4.7/9, Error ellipse: s-maj=19.4km s-min=17.6km az=57.0*
ISC 27 10:05:09.3±0.6, 33.62S±0.07×72.05W±0.06, h17km, n46, σ1°22/47, mb4.6/14, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
LNV	Longovilo	0.63	123	eP	Pg	10 05 22.3	+0.5
IHA	Instituto Hidr	0.68	30	⇓iP	Pb	10 05 23.0	+0.3
IHA				iS	Sb	10 05 32.6	+0.8
TACH	Talagante	0.93	93	eP	Pb	10 05 26.8	-0.2
ROCH	El Roble	1.08	54	eP	Pn	10 05 29.9	0.0
SAN	Santiago	1.17	82	eP	Pn	10 05 31.2	+0.2
SAN				eS	Sb	10 05 46.7	+0.7
PEL	Peldehue	1.24	68	eP	Pn	10 05 32.3	+0.5
PEL				eS	Sn	10 05 48.1	0.0
PEL				AML	AML	10 05 57.4	
	comp=N,42μm,0.8s						
CFAA	Coronel Fontan	3.79	59	Pn	Pb	10 06 13.1	-2.7
	comp=N,3.9nm,0.3s,baz=238,slow=13,SNR=3.4						
CFAA	Coronel Fontan	3.79	59	Pn	Pb	10 06 13.1	-2.7
NNA	Nana	21.97	347	eP	P	10 10 04.2	+1.7
	comp=N,8.4nm,0.6s						
SAML	Samuel	25.88	20	eP	P	10 10 39.5	-0.7
	comp=N,16nm,1.1s						
QSPA	South Pole Qui	56.62	180	eP	P	10 14 52.6	+1.5
	comp=N,14nm,1.0s						
JCT	Junction City	68.93	334	eP	P	10 16 14.1	+0.7
	comp=N,8.8nm,0.9s						
TXAR	Lajitas Array	69.39	331	P	P	10 16 17.0	+0.7
	comp=N,1.6nm,0.6s,baz=153,slow=8.7,SNR=6.0						
TXAR	Lajitas Array	69.39	331	P	P	10 16 17.0	+0.7
OXF	Oxford	69.70	345	eP	P	10 16 16.6	-1.3
	comp=N,9.7nm,0.6s						
ABTX	Abilene, Hawle	70.83	336	eP	P	10 16 25.7	+0.7
	comp=N,9.3nm,0.6s						
U34A	Anderson Ranch	73.64	339	eP	P	10 16 41.4	-0.2
	comp=N,5.9nm,0.8s						
DBIC	Dimbokro	75.07	71	P	P	10 16 49.9	-0.6
	comp=N,5.8nm,0.8s,baz=211,slow=6.0,SNR=2.4						
DBIC	Dimbokro	75.07	71	P	P	10 16 49.9	-0.6
ANMO	Albuquerque	75.44	331	eP	P	10 16 52.5	+0.1
	comp=N,3.3nm,0.9s						
SDCO	Great Sand Dun	77.52	333	P	P	10 17 02.3	-1.9
	comp=N,3.4nm,1.0s						
PDAR	Pinedale Array	83.42	333	P	P	10 17 37.2	+1.5
	comp=N,1.8nm,0.9s,baz=134,slow=5.2,SNR=3.5						
PDAR	Pinedale Array	83.42	333	P	P	10 17 37.2	+1.5
NVAR	Mina Array Bea	83.56	325	P	P	10 17 36.6	+0.1
	comp=N,1.7nm,0.8s,baz=157,slow=6.4,SNR=3.6						
NVAR	Mina Array Bea	83.56	325	P	P	10 17 36.6	+0.1
TOA0	Torodi Ar. Sit	84.09	70	eP	P	10 17 39.2	-0.3
TORD	Torodi Ar. Bea	84.09	70	P	P	10 17 38.6	-0.9
	comp=N,3.5nm,0.8s,baz=226,slow=4.5,SNR=5.8						
TORD	Torodi Ar. Bea	84.09	70	P	P	10 17 38.6	-0.9
WRA	Warramunga Arr	121.09	209	PKP	PKPdf	10 24 00.5	-1.2
	comp=N,2.0nm,0.9s,baz=158,slow=1.7,SNR=6.4						
WRA	Warramunga Arr	121.09	209	PKP	PKPdf	10 24 00.5	-1.2
BRTR	Keskin Array B	121.66	61	PKP	PKPdf	10 24 01.0	-1.2
	comp=N,0.8nm,0.9s,baz=318,slow=1.9,SNR=2.7						
BRTR	Keskin Array B	121.66	61	PKP	PKPdf	10 24 01.0	-1.2
AKASG	Malin Array Be	121.94	47	PKP	PKPdf	10 24 01.1	-1.1
	comp=N,0.2nm,0.4s,baz=254,slow=3.4,SNR=4.5						
AKASG	Malin Array Be	121.94	47	PKP	PKPdf	10 24 01.1	-1.1
SEY	Seymchan	139.69	330	PKP	PKPdf	10 24 35.4	+0.2
	comp=N,3.2nm,0.9s,baz=129,slow=5.7,SNR=4.0						
SEY	Seymchan	139.69	330	PKP	PKPdf	10 24 35.4	+0.2
POO	Poona	146.07	108	eP	PKPab	10 24 52.0	+2.6
BVAR	Borovoye Array	147.01	43	PKPbc	PKPdf	10 24 49.9	+1.4
	comp=N,2.4nm,0.6s,baz=253,slow=1.5,SNR=3.8						
BVAR	Borovoye Array	147.01	43	PKPbc	PKPdf	10 24 49.9	+1.4
PSI	Prapat	148.20	163	PKPbc	PKPdf	10 24 53.0	+1.1
	comp=N,7.7nm,0.9s,baz=207,slow=14,SNR=2.4						
PSI	Prapat	148.20	163	PKPbc	PKPdf	10 24 53.0	+1.1
HYB	Hyderabad	149.10	114	iPKP	PKPbc	10 24 56.0	-1.2
ZALV	Zalesovo Beam	153.91	32	PKPbc	PKPbc	10 25 07.1	0.0
	comp=N,3.0nm,0.5s,baz=301,slow=2.9,SNR=5.0						
ZALV	Zalesovo Beam	153.91	32	PKPbc	PKPbc	10 25 07.1	0.0
MKAR	Makanchi Array	156.52	48	PKPab	PKPab	10 25 28.5	-3.3
	comp=N,1.8nm,0.7s,baz=293,slow=1.7,SNR=4.1						
MKAR	Makanchi Array	156.52	48	PKPab	PKPab	10 25 28.5	-3.3

*IDC **27** 10:05:14.2±0.6, 34.00S×72.25W, h0km, mb4.6/13, mb1 4.8/14, mb1mx4.6/28, mbtmp4.7/14, ML4.6/1, Error ellipse: s-maj=25.9km s-min=17.0km az=81.0*
*ISCJB **27** 10:05:15.4±0.5, 33.97S±0.06×72.1W±0.1, h19km, mb4.5/17, Error ellipse: s-maj=15.3km s-min=8.4km az=165.6*
*NEIC **27** 10:05:19.5±0.3, 33.96S×72.17W, h35km, mb4.5/6, Error ellipse: s-maj=12.2km s-min=6.8km az=77.0*
ISC 27 10:05:17.0±0.5, 33.94S±0.07×72.2W±0.1, h19km, n61, σ0°89/57, mb4.6/17, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
PLCA	Paso Flores	6.91	169	ePn	Pn	10 06 58.2	+0.9
TRQA	Tornquist	9.26	119	ePn	Pn	10 07 29.0	-0.5
LPAZ	La Paz	17.96	13	P	Pn	10 09 26.3	0.0
	0.9nm,0.3s,baz=193,slow=8.0,SNR=4.2						
LPAZ	La Paz	17.96	13	P	Pn	10 09 26.3	0.0
SIV	San Ignacio	20.50	32	P	P	10 09 54.9	+0.9
	18nm,0.6s,baz=214,slow=12,SNR=7.8						
SIV	San Ignacio	20.50	32	P	P	10 09 54.9	+0.9
USHA	Ushuaia	21.06	174	P	P	10 09 58.4	-1.3
	18nm,0.8s,baz=348,slow=11,SNR=2.7						
USHA	Ushuaia	21.06	174	P	P	10 09 58.4	-1.3
SAML	Samuel	26.23	21	eP	P	10 10 50.5	-0.3
	14nm,0.6s						
BDFB	Brasilia	28.42	56	P	P	10 11 10.7	-0.1
	16nm,0.6s,baz=225,slow=6.7,SNR=8.1						
BDFB	Brasilia	28.42	56	P	P	10 11 10.7	-0.1
OTAV	Otavalo	34.50	349	eP	P	10 12 03.6	-0.9
	2.2nm,0.6s						
APG	El Apazote	51.68	337	P	P	10 14 24.4	+1.2
	2.1nm,0.6s,baz=64,slow=2.1,SNR=4.2						
APG	El Apazote	51.68	337	P	P	10 14 24.4	+1.2
SNAA	Sanae	51.70	158	P	P	10 14 22.4	-0.1
	7.6nm,0.9s,baz=293,slow=8.4,SNR=6.9						
SNAA	Sanae	51.70	158	P	P	10 14 22.4	-0.1
CELP	Cerrillos	52.00	7	eP	P	10 14 23.5	-1.7
LRS	Lares	52.19	6	eP	P	10 14 23.2	-3.4
QSPA	South Pole Qui	56.30	180	P	P	10 14 56.0	-0.2
	15nm,1.0s,baz=128,slow=4.9,SNR=3.0						
QSPA	South Pole Qui	56.30	180	P	P	10 14 56.0	-0.2
	8.7nm,0.9s						
TXAR	Lajitas Array	69.61	331	P	P	10 16 24.9	-0.2
	1.6nm,0.8s,baz=159,slow=7.7,SNR=3.9						
TXAR	Lajitas Array	69.61	331	P	P	10 16 24.9	-0.2
OXF	Oxford	69.97	345	eP	P	10 16 26.8	-0.2
	9.7nm,0.6s						
DBIC	Dimbokro	75.30	71	P	P	10 16 59.6	+0.4
	10nm,0.7s,baz=211,slow=5.9,SNR=5.4						
DBIC	Dimbokro	75.30	71	P	P	10 16 59.6	+0.4
ANMO	Albuquerque	75.66	332	eP	P	10 17 02.0	+0.9
	2.7nm,0.8s						
SDCO	Great Sand Dun	77.75	334	eP	P	10 17 14.1	+1.2
	3.4nm,1.0s						
BOSA	Boshof	80.23	118	P	P	10 17 27.6	+0.8
	8.9nm,0.8s,baz=239,slow=4.3,SNR=5.6						
BOSA	Boshof	80.23	118	P	P	10 17 27.6	+0.8
PDAR	Pinedale Array	83.64	333	P	P	10 17 45.9	+1.6
	1.7nm,0.9s,baz=158,slow=5.8,SNR=3.4						
PDAR	Pinedale Array	83.64	333	P	P	10 17 45.9	+1.6

NVAR Mina Array Bea 83.75 325 P P 10 17 46.0 +1.1
2.9nm,0.9s,baz=161,slow=6.0,SNR=5.0
NVAR Mina Array Bea 83.75 325 P P 10 17 46.0 +1.1
TOA0 Torodi Ar. Sit 84.33 70 eP P 10 17 49.0 +0.9
TORD Torodi Ar. Bea 84.33 70 P P 10 17 48.9 +0.8
7.5nm,0.8s,baz=268,slow=3.9,SNR=7.9
TORD Torodi Ar. Bea 84.33 70 P P 10 17 49.0 +0.8
ULM Lac du Bonnet 86.40 345 P P 10 17 57.0 -0.6
5.6nm,0.9s,baz=149,slow=1.9,SNR=4.9
ULM Lac du Bonnet 86.40 345 P P 10 17 57.0 -0.6
LRM Limekiln Ridge 87.33 333 eP P 10 18 03.0 +0.4
YKA Yellowknife Ar 101.95 341 P Pdif 10 19 06.9 -1.9
0.4nm,0.7s,baz=141,slow=4.0,SNR=2.9
YKA Yellowknife Ar 101.95 341 P Pdif 10 19 07.0 -1.9
WRA Warramunga Arr 120.74 209 PKP PKPdf 10 24 07.6 -0.8
0.9nm,0.5s,baz=164,slow=11.6,SNR=6.9
WRA Warramunga Arr 120.74 209 PKP PKPdf 10 24 07.6 -0.8
BRTR Keskin Array B 121.94 61 PKP PKPdf 10 24 10.2 0.0
1.0nm,0.8s,baz=229,slow=1.5,SNR=4.0
BRTR Keskin Array B 121.94 61 PKP PKPdf 10 24 10.2 0.0
AKASG Malin Array Be 122.26 47 PKP PKPdf 10 24 09.4 -0.8
0.3nm,0.3s,baz=263,slow=3.1,SNR=3.7
AKASG Malin Array Be 122.26 47 PKP PKPdf 10 24 09.3 -0.8
H11S2 WAKE ISLAND Hy125.62 269 T T 12 43 01.3
baz=118,slow=76,SNR=4.9
H11S1 WAKE ISLAND Hy125.63 269 T T 12 43 00.1
baz=118,slow=76,SNR=13
H11S3 WAKE ISLAND Hy125.64 269 T T 12 43 01.0
baz=118,slow=76,SNR=5.4
SEY Seymchan 139.90 330 PKP PKPdf 10 24 42.4 -0.6
1.9nm,0.8s,baz=180,slow=1.0,SNR=2.9
SEY Seymchan 139.90 330 PKP PKPdf 10 24 42.4 -0.6
BVAR Borovoye Array 147.34 43 PKPbc PKPab 10 24 59.8 -0.9
4.8nm,0.6s,baz=281,slow=3.1,SNR=6.6
BVAR Borovoye Array 147.34 43 PKPbc PKPab 10 24 59.8 -0.9
PSI Prapat 147.94 163 PKPbc PKPbc 10 25 02.3 +0.5
8.2nm,0.7s,baz=236,slow=3.6,SNR=4.1
PSI Prapat 147.94 163 PKPbc PKPbc 10 25 02.3 +0.5
KKAR Karatay Array 149.65 61 ePKPbc PKPbc 10 25 06.2 +1.0
ZALV Zalesovo Beam 154.25 32 PKPbc PKPbc 10 25 15.7 +0.5
9.5nm,0.6s,baz=302,slow=3.1,SNR=12
ZALV Zalesovo Beam 154.25 32 PKPbc PKPbc 10 25 15.7 +0.5
MKAR Makanchi Array 156.84 49 PKPab PKPab 10 25 41.5 +0.8
4.1nm,0.6s,baz=290,slow=3.6,SNR=12
MKAR Makanchi Array 156.84 49 PKPab PKPab 10 25 41.5 +0.8

SJA 27 10:09:46.4±0.7, 33.98S×75.09W, h184km±133km, ML6.0
GUC 27 10:10:05.2±0.6, 33.88S×72.91W, h43km±7km, ML5.8
IDC 27 10:10:09.1±0.4, 33.71S×72.37W, h0km, mb5.3/20, mb1 5.3/21, mb1mx5.3/21, mbtmp5.3/21, ML4.9/1, MS5.9/3, Ms1 5.9/3, ms1mx5.4/38, Error ellipse: s-maj=17.4km s-min=12.6km az=81.0
ISCJB 27 10:10:10.9±0.2, 33.73S±0.04×72.44W±0.04, h17km, mb5.4/92, MS6.1/4, Error ellipse: s-maj=5.6km s-min=4.4km az=26.9
MOS 27 10:10:13.9±1.4, 33.71S×72.41W, h33km, mb5.9/32, Error ellipse: s-maj=14.5km s-min=8.3km az=92.5
NEIC 27 10:10:14.7±0.1, 33.72S×72.16W, h35km, mb5.6/73, Error ellipse: s-maj=6.6km s-min=3.8km az=69.0
ISC 27 10:10:11.9±0.2, 33.76S±0.05×72.42W±0.05, h17km, n781, σ1.16/804, mb5.6/92, MS6.2/4, 257C-205D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LCCH Las Cruces 0.76 68 eP Pg 10 10 26.6 -0.2
IHA Instituto Hidr 0.98 42⇑iP Pb 10 10 29.7 -0.7
TACH Talagante 1.24 85 eP Pn 10 10 33.9 -0.6
TACH iS Sg 10 10 55.6 +3.7
ROCH El Roble 1.42 57 eP Pn 10 10 36.6 -0.4
SAN Santiago 1.50 79 eP Pn 10 10 38.1 +0.1
SAN iS Sg 10 11 04.0 +3.7
PEL Peldehue 1.57 67 eP Pn 10 10 38.9 -0.1
PEL eS Sg 10 11 04.4 +1.8
PEL AML AML 10 11 12.7
comp=E,120μm,0.6s
AUSP Uspallata 2.97 60 iP Pb 10 11 02.7 -1.9
ARCO CERRO ARCO 3.06 74 iP Pb 10 11 05.0 -1.0
ARCO iS Sg 10 12 02.6 +12
ARCO AML AML 10 12 04.5
comp=Z,7μm,0.6s
AAGR Agrelo 3.08 78 iP Pb 10 11 05.1 -1.2
ASAL Salagasta 3.22 70 iP Pb 10 11 07.0 -1.7
AVIZ Vizcacheras 3.27 86 iP Pb 10 11 08.2 -1.3
RTCV Cerro Valdivia 3.77 61 iP Pb 10 11 13.8 -4.6
RTCV iS Sg 10 12 17.3 +4.2
RTLL Cerro Villicun 4.12 55 iP Pn 10 11 15.7 +1.6
CFAA Coronel Fontan 4.13 60 Pn Pn 10 11 16.4 +2.2
comp=Z,11nm,0.3s,baz=235,slow=14,SNR=10
CFAA Lg Lg 10 12 22.1
comp=Z,15nm,0.3s,baz=180,slow=20,SNR=5.9
ACAN Cantantal 4.63 73 iP Pn 10 11 24.2 +3.0
ACAN iP Pn 10 11 24.2 +3.0
PLCA Paso Flores 7.12 168 eP Pn 10 11 57.2 +1.9
PLCA Paso Flores 7.12 168 Pn Pn 10 11 59.0 +3.7
comp=Z,11nm,0.3s,baz=340,slow=11,SNR=3.3
PLCA LR LR 10 14 50.3
comp=Z,56μm,20.9s,baz=356,slow=39
PLCA Paso Flores 7.12 168 ePn Pn 10 11 57.2 +1.9
TRQA Tornquist 9.49 120 ePn Pn 10 12 27.1 -0.6
CPUP Villa Florida 15.01 64 Pn Pn 10 13 47.6 -1.0
comp=Z,2.5nm,0.3s,baz=209,slow=15,SNR=3.0
LPAZ La Paz 17.82 14 P P 10 14 19.5 -1.0
comp=Z,1.6nm,0.3s,baz=194,slow=12,SNR=12
SIV San Ignacio 20.44 33 P P 10 14 47.6 -1.0
comp=Z,33nm,0.7s,baz=221,slow=11,SNR=16
SIV LR LR 10 24 07.7
comp=Z,66μm,18.8s,baz=218,slow=41
USHA Ushuaia 21.25 174 P P 10 14 58.2 +1.2
comp=Z,46nm,1.1s,baz=346,slow=11,SNR=9.1
NNA Nana 22.05 348 P P 10 15 07.4 +1.5
comp=Z,913nm,1.2s,SNR=6.8
NNA Nana 22.05 348ceP P 10 15 07.6 +1.7
NNA Nana 22.05 348 P P 10 15 06.2 +0.3
comp=Z,204nm,1.2s,baz=193,slow=13,SNR=12
SAML Samuel 26.12 21 eP P 10 15 44.5 -0.5
comp=Z,0.6nm,0.9s
ATAH Atahualpa 27.07 347 P P 10 15 55.8 +1.7
comp=Z,4.9nm,0.6s,baz=170,slow=7.9,SNR=3.4
BDFB Brasilia 28.46 57 P P 10 16 05.0 -1.3
BDFB Brasilia 28.46 57 P P 10 16 05.0 -1.3
comp=Z,108nm,0.9s,baz=234,slow=8.7,SNR=13
PMSA Palmer Station 31.46 173 P P 10 16 33.1 +0.9
comp=Z,72nm,1.0s,baz=345,slow=14,SNR=3.8
RPN Rapa Nui 32.38 272 LR LR 10 26 30.7
comp=Z,24μm,20.3s,baz=91,slow=30
HOPE Hope Point 32.48 140 P P 10 16 42.4 +1.2
comp=Z,954nm,1.2s,SNR=11
HOPE Hope Point 32.48 140 eP P 10 16 42.1 +0.9
comp=Z,173nm,1.2s
ROSC El Rosal 38.45 357 P P 10 17 35.7 +2.3
comp=Z,5.6nm,0.4s,baz=215,slow=3.1,SNR=5.7
SDV Santo Domingo 42.45 3 eP P 10 18 03.6 -2.6
comp=Z,60nm,1.1s
RCBR Riachuelo 43.79 59 P P 10 18 17.1 +0.1
comp=Z,55nm,1.2s,baz=220,slow=8.3
RCBR Riachuelo 43.79 59 eP P 10 18 14.3 -2.6
comp=Z,188nm,1.4s
JTS JuntasAbangare 45.40 343⇑iP P 10 18 31.7 +2.0
JTS pmax pmax
comp=Z,145nm,2.1s
JTS JuntasAbangare 45.40 343 P P 10 18 30.2 +0.4
comp=Z,16nm,1.1s,baz=196,slow=7.4,SNR=4.9
GRGR Grenville 46.77 15 eP P 10 18 40.4 -0.1
comp=Z,376nm,1.2s
VNA3 Neumayer Olymp 49.70 158 P P 10 19 03.7 +1.2
VNA1 Neumayer--Stat 50.02 157 P P 10 19 06.5 +1.6
VNA2 Neumayer--Watz 50.35 157 P P 10 19 08.4 +0.9
ICMP Isla Caja de M 51.66 7 eP P 10 19 17.6 -0.3
CRPR Cabo Rojo, PR 51.73 6 eP P 10 19 17.8 -0.5
comp=Z,112nm,1.2s
OBIP Obispado Ponce 51.81 7 eP P 10 19 19.3 +0.4
comp=Z,124nm,1.1s
OBIP ePcP PcP 10 20 30.7 -1.2
CELP Cerrillos 51.84 7 eP P 10 19 19.1 -0.1
LSP Las Mesas 51.90 6 P P 10 19 19.2 -0.5
SNAA Sanae 51.92 158 P P 10 19 20.2 +0.9
SNAA Sanae 51.92 158⇑iP P 10 19 19.7 +0.4
SNAA pmax pmax
comp=Z,275nm,1.2s
SNAA Sanae 51.92 158 P P 10 19 19.8 +0.4
comp=Z,75nm,1.3s,baz=278,slow=8.0,SNR=30
SNAA Sanae 51.92 158 eP P 10 19 19.7 +0.4
comp=Z,313nm,1.3s
LRS Lares 52.03 7 eP P 10 19 20.0 -0.7
ANWB Willy Bob 52.14 13 eP P 10 19 19.6 -1.8
comp=Z,592nm,1.3s
SDDR Presa de Saban 52.46 1 eP P 10 19 24.3 +0.5
comp=Z,32nm,1.0s
TEIG Tepich 55.77 342 eP P 10 19 47.8 -0.1
comp=Z,101nm,1.0s
QSPA South Pole Qui 56.47 180 P P 10 19 53.3 +0.6
comp=Z,79nm,1.0s,baz=150,slow=5.8,SNR=15
QSPA South Pole Qui 56.47 180 eP P 10 19 53.3 +0.6
comp=Z,99nm,1.0s
NVL N'lazarevskaya 56.66 157 eP P 10 19 54.4 +0.7
NVL pmax pmax
comp=Z,65nm,1.0s
035A Encino 65.10 335 ⇓P P 10 20 53.5 +1.9
baz=66
034A Hebbronville 65.43 334 ⇓P P 10 20 55.4 +1.7
baz=66
TIGA Tifton 65.70 350 ⇓P P 10 20 56.2 +0.9
baz=66
934A Benavides 65.86 335 ⇑P P 10 20 57.8 +1.4
baz=66
933A Laredo 66.14 334 ⇓P P 10 20 59.8 +1.5
baz=66
SYO Syowa Base 66.20 159⇓eP P 10 20 55.2 -3.0
835A Beeville 66.24 336 ⇑P P 10 21 00.3 +1.4
baz=67
834A Tilden 66.35 335 ⇑P P 10 21 01.0 +1.4
baz=67
735A Kenedy 66.76 336 ⇑P P 10 21 03.4 +1.1
baz=67
833A Chaparral WMA, 66.83 334 ⇑P P 10 21 03.8 +1.1
baz=67,SNR=10
832A Faith Ranch, C 67.01 334 ⇑P P 10 21 04.2 +0.4
baz=67,SNR=15
734A La Parita Cree 67.01 335 ⇑P P 10 21 04.7 +0.9
baz=67
636A Smothers Creek 67.08 337 ⇑P P 10 21 05.4 +1.2
baz=67
HKT Hockley 67.12 338 eP P 10 21 05.5 +1.1
HKT pmax pmax
comp=Z,189nm,2.1s
HKT Hockley 67.12 338 eP P 10 21 05.5 +1.1
comp=Z,189nm,2.1s
733A Divot King Ran 67.15 334 ⇑P P 10 21 06.0 +1.2
baz=68
635A Leesville 67.23 336 ⇑P P 10 21 06.6 +1.4
baz=68
537A Green Hill Far 67.40 338 ⇑P P 10 21 07.3 +1.0
baz=68
732A Laxson Ranch, 67.41 334 ⇑P P 10 21 07.0 +0.6
baz=68,SNR=14
634A China Grove, S 67.43 336 ⇑P P 10 21 07.6 +1.1
baz=68
536A Bastrop 67.63 337 ⇑P P 10 21 08.8 +1.0
baz=68
535A Dale 67.76 337 ⇑P P 10 21 09.4 +0.9
baz=68
633A Saathoff Ranch 67.79 335 ⇑P P 10 21 09.9 +1.1
baz=68,SNR=14
LRAL Lakeview Retre 67.84 347 eP P 10 21 09.2 +0.2
comp=Z,68nm,1.5s
339A Huntington 68.03 340 ⇑P P 10 21 11.7 +1.4
baz=68
632A Uvalde 68.05 334 ⇑P P 10 21 11.4 +1.0
baz=68,SNR=13
534A Blanco 68.06 336 ⇑P P 10 21 11.7 +1.2
baz=68
631A Perdido Creek 68.25 334 ⇑P P 10 21 12.6 +1.0
baz=69
338A Crockett 68.28 339 ⇑P P 10 21 12.9 +1.2
baz=69,SNR=8.8
533A Kerrville 68.30 335 ⇑P P 10 21 12.7 +0.7
baz=69,SNR=19
337A Centerville 68.41 338 ⇓P P 10 21 14.4 +1.8
baz=69
435B Jarrell 68.46 337 ⇓P P 10 21 13.9 +1.0
baz=69
532A Rocksprings 68.65 335 ⇑P P 10 21 15.0 +0.8
baz=69,SNR=18
434A Burnet 68.71 336 ⇓P P 10 21 15.0 +0.5
baz=69,SNR=26
336A Riesel 68.78 338 ⇑P P 10 21 15.4 +0.5
baz=69,SNR=18
335A Moody 68.87 337 ⇑P P 10 21 15.9 +0.4
baz=69
531A Rocksprings 68.92 334 ⇓P P 10 21 16.9 +1.1
baz=69,SNR=13
JCT Junction City 68.94 335 eP P 10 21 16.5 +0.5
JCT pmax pmax
comp=Z,225nm,1.4s
JCT Junction City 68.94 335 eP P 10 21 16.5 +0.5
comp=Z,225nm,1.4s
JCT Junction City 68.94 335 ⇑P P 10 21 16.3 +0.3
baz=69,SNR=28
433A Art 68.94 336 ⇓P P 10 21 16.1 +0.1
baz=69,SNR=27
KMSC Kings Mountain 69.05 352 ⇓P P 10 21 16.5 0.0
baz=69
334A Lometa 69.18 336 ⇑P P 10 21 17.9 +0.5
baz=70,SNR=16
530A J-C Ranch, Com 69.19 333 ⇓P P 10 21 17.9 +0.3
baz=70,SNR=18
432A Menard 69.29 335 ⇓P P 10 21 18.4 +0.2
baz=70,SNR=18
TXAR Lajitas Array 69.37 331 P P 10 21 18.6 -0.2
comp=Z,4.8nm,1.0s,baz=151,slow=8.0,SNR=14
431A Sonora 69.41 334 ⇑P P 10 21 19.1 +0.2
baz=70,SNR=7.0
333A Richland Sprin 69.42 336 ⇓P P 10 21 19.2 +0.2
baz=70,SNR=13
529A Stev Forest Ra 69.51 333 ⇓P P 10 21 20.2 +0.7
baz=70,SNR=18
WHTX Lake Whitney 69.53 337 ⇑P P 10 21 20.0 +0.4
baz=70,SNR=15
430A Baggett Ranch, 69.73 334 ⇓P P 10 21 21.1 +0.2
baz=70,SNR=17
332A Millersview 69.74 335 ⇓P P 10 21 21.4 +0.5
baz=70,SNR=20
OXF Oxford 69.76 345 eP P 10 21 21.1 +0.2
OXF pmax pmax
comp=Z,167nm,1.1s
OXF Oxford 69.76 345 eP P 10 21 21.1 +0.2
comp=Z,167nm,1.1s
234A Clairette 69.76 337 ⇓P P 10 21 21.8 +0.8
baz=70,SNR=14
SWET Sewanee 69.78 348 eP P 10 21 21.3 +0.3
comp=Z,48nm,0.9s
429A Davenport Ranc 69.83 333 ⇓P P 10 21 22.1 +0.5
baz=70,SNR=16
TKL Tuckaleechee C 69.87 350 eP P 10 21 21.4 -0.2
TKL Tuckaleechee C 69.87 350 eP P 10 21 21.4 -0.2
331A San Angelo 69.91 335 ⇓P P 10 21 22.2 +0.2
baz=70,SNR=19
PAE Paea 69.92 262 eP P 10 21 23.3 +0.9
comp=Z,27nm,1.2s
PPT2 Papeete2 69.96 262 eP P 10 21 25.1 +2.4
comp=Z,155nm,1.3s
PPT Papeete 69.97 262 P P 10 21 23.8 +1.0
comp=Z,86nm,1.1s,baz=103,slow=2.0,SNR=4.6
233A Rising Star 70.03 336 ⇑P P 10 21 23.3 +0.6
baz=70,SNR=15
135A Vickery Place, 70.04 338 ⇓P P 10 21 24.0 +1.3
baz=70
232A Coleman 70.16 336 ⇑P P 10 21 24.0 +0.5
baz=70,SNR=16
134A White-Moore Ra 70.27 337 ⇓P P 10 21 25.1 +1.0
baz=71,SNR=6.5
330A Mertzon 70.27 334 ⇓P P 10 21 24.4 +0.2
baz=71,SNR=11
231A Bronte 70.44 335 ⇓P P 10 21 25.8 +0.6
baz=71,SNR=14
133A Hamilton Ranch 70.57 336 ⇓P P 10 21 26.5 +0.5
baz=71,SNR=24
329A Wagon Wheel Ra 70.64 333 ⇑P P 10 21 27.0 +0.5
baz=71,SNR=17
230A Sterling City 70.68 334 ⇓P P 10 21 27.3 +0.6
baz=71,SNR=8.6
Z35A Perchaven, San 70.70 338 ⇑P P 10 21 27.4 +0.7
baz=71,SNR=15
MIAR Mount Ida 70.79 342 eP P 10 21 27.6 +0.4
MIAR pmax pmax
comp=Z,107nm,1.5s
MIAR Mount Ida 70.79 342 eP P 10 21 27.6 +0.4
comp=Z,107nm,1.5s
ABTX Abilene, Hawle 70.83 336 ⇓P P 10 21 28.1 +0.5
baz=71,SNR=17
Z34A Collier Ranch, 70.95 338 ⇑P P 10 21 28.8 +0.5
baz=71,SNR=11
VWCC Virginia Weste 71.00 354 eP P 10 21 29.2 +0.8
229A Bryant Ranch, 71.01 334 ⇑P P 10 21 29.1 +0.4
baz=71
WVT Waverly 71.01 347 eP P 10 21 28.8 +0.3
WVT pmax pmax
comp=Z,85nm,0.8s
WVT Waverly 71.01 347 eP P 10 21 28.8 +0.3
comp=Z,85nm,0.8s
131A Roby 71.14 335 ⇓P P 10 21 29.7 +0.2
baz=72,SNR=11
Z33A Whitaker Ranch 71.15 337 ⇑P P 10 21 30.0 +0.5
baz=72,SNR=18
130A Snyder 71.27 335 ⇓P P 10 21 30.1 -0.2
baz=72
JSRW J. Sargeant Re 71.27 355 eP P 10 21 30.6 +0.6
Z32A Haskell 71.40 336 ⇓P P 10 21 31.4 +0.4
baz=72,SNR=24
GLAT Glass 71.43 346 eP P 10 21 32.0 +0.9
228A UT Block 9, Go 71.43 333 ⇓P P 10 21 31.7 +0.4
baz=72,SNR=12
Y34A Reagan Ranch, 71.44 338 ⇓P P 10 21 31.6 +0.4
baz=72
129A Stewart Farms, 71.62 334 ⇓P P 10 21 32.8 +0.4
baz=72,SNR=12
Z31A Sharp Cattle R 71.64 336 ⇓P P 10 21 32.8 +0.4
baz=72,SNR=16
Y33A Hilltop Ranch, 71.76 337 ⇓P P 10 21 33.4 +0.3
baz=72,SNR=16
128A Castleberry Fa 71.84 334 ⇓P P 10 21 33.9 +0.1
baz=72,SNR=13
Z30A Sanderson Ranc 71.95 335 ⇓P P 10 21 34.4 +0.1
baz=72,SNR=17
Y32A R-V Farms, Ver 72.03 337 ⇑P P 10 21 34.4 -0.4
baz=72,SNR=13
X34A Smith Ranch, M 72.06 338 ⇑P P 10 21 34.3 -0.6
baz=72,SNR=14
Z29A Hungry Hill Ra 72.13 334 ⇓P P 10 21 34.7 -0.8
baz=72,SNR=16
MNTX Cornudas Mount 72.15 331 eP P 10 21 34.9 -0.7
comp=Z,27nm,1.0s
GDL2 Guadalupe Moun 72.18 332 eP P 10 21 36.8 +0.9
comp=Z,36nm,1.3s
X33A Lawton 72.21 338 ⇑P P 10 21 34.9 -1.0
baz=73
127A Arkansas Junct 72.22 333 ⇑P P 10 21 35.3 -0.8
baz=73,SNR=6.6
Y31A Rekieta Farm, 72.26 336 ⇑P P 10 21 35.9 -0.2
baz=73,SNR=11
X32A Elmer 72.36 337 ⇑P P 10 21 36.7 0.0
baz=73,SNR=8.4
Z28A Tucker Farm, M 72.40 334 ⇑P P 10 21 36.6 -0.5
baz=73
Y30A Stafford Cattl 72.40 335 ⇓P P 10 21 36.6 -0.4
baz=73
W34A Bridge Creek, 72.63 338 ⇓P P 10 21 38.1 -0.2
baz=73
Y29A Porterfield Fa 72.66 335 ⇓P P 10 21 38.8 +0.2
baz=73,SNR=9.2
TUL1 Tulsa 72.68 340 ⇑P P 10 21 39.1 +0.6
baz=73,SNR=17
CPRX Cap Rock 72.73 333 eP P 10 21 39.8 +0.7
comp=Z,11nm,1.0s
Z27A Tatum 72.73 333 ⇑P P 10 21 39.7 +0.6
baz=73,SNR=11
W33A Caddo, Fort Co 72.77 338 ⇓P P 10 21 39.9 +0.8
baz=73,SNR=12
X31A McDonald Ranch 72.78 336 ⇑P P 10 21 39.7 +0.5
baz=73,SNR=21
Y28A McKinney Farm, 72.91 334 ⇑P P 10 21 40.3 +0.1
baz=73
X30A Coker Ranch, T 72.91 336 ⇓P P 10 21 40.4 +0.3
baz=73
Z26A Caprock 72.98 333 ⇑P P 10 21 41.0 +0.4
baz=73,SNR=25
W32A Sentinel 72.99 337 ⇑P P 10 21 41.0 +0.5
baz=73,SNR=28
V34A Guthrie 73.11 339 ⇑P P 10 21 41.7 +0.5
baz=74,SNR=23
MSTX Muleshoe 73.16 334 ⇑P P 10 21 41.7 +0.1
baz=74,SNR=13
X29A Tulia 73.20 335 ⇑P P 10 21 41.4 -0.5
baz=74
Y27A Causey 73.22 334 ⇓P P 10 21 41.6 -0.4
baz=74
W31A Holland Ranch, 73.27 337 ⇑P P 10 21 42.5 +0.4
baz=74,SNR=11
Z25A Roswell 73.28 332 ⇓P P 10 21 42.6 +0.2
baz=74,SNR=8.6
V33A Lossen Ranch, 73.33 338 ⇓P P 10 21 42.6 +0.2
baz=74,SNR=16
X28A Dimmitt 73.44 335 ⇑P P 10 21 43.5 +0.3
baz=74
V32A Arapaho 73.47 338 ⇑P P 10 21 43.8 +0.5
baz=74
W30A Crocket Farms 73.48 336 ⇑P P 10 21 43.8 +0.3
baz=74
Y26A Elida 73.50 333 ⇑P P 10 21 44.0 +0.3
baz=74,SNR=11
319A Douglas 73.53 328 ⇑P P 10 21 44.7 +0.8
baz=74,SNR=11
Z24A Sheeppen Canyo 73.57 332 ⇓P P 10 21 44.9 +0.7
baz=74,SNR=17
OLIL Olney 73.58 347 eP P 10 21 43.5 -0.3
comp=Z,72nm,1.3s
AMTX Amarillo 73.59 335 eP P 10 21 44.8 +0.7
comp=Z,169nm,1.4s
AMTX Amarillo 73.59 335 ⇑P P 10 21 44.8 +0.7
baz=74
U34A Anderson Ranch 73.67 339 ⇓P P 10 21 45.0 +0.5
baz=74,SNR=15
V31A Spring Creek L 73.78 337 ⇓P P 10 21 46.1 +1.0
baz=74,SNR=13
W29A Amraillo 73.79 335 ⇓P P 10 21 45.7 +0.4
baz=74,SNR=15
Y25A Mesa, Roswell 73.83 332 ⇓P P 10 21 46.1 +0.4
baz=74
U33A Lingo Farm, Me 73.84 339 ⇑P P 10 21 46.0 +0.5
baz=74
121A Cookes Peak, D 73.87 329 ⇑P P 10 21 45.0 -0.9
baz=74,SNR=8.8
X27A F and S Farms, 73.88 334 ⇑P P 10 21 45.2 -0.6
baz=74
X26A CR and CF Fran 74.06 333 ⇑P P 10 21 47.3 +0.3
baz=74,SNR=16
U32A Winter Ranch, 74.06 338 ⇑P P 10 21 46.9 +0.1
baz=74
W28A Vega 74.11 335 ⇓P P 10 21 47.4 +0.3
baz=74
Y24A Capitan 74.13 332 ⇑P P 10 21 47.9 +0.5
baz=74,SNR=19
Z22A Elephant Butte 74.15 330 ⇑P P 10 21 47.9 +0.4
baz=74,SNR=19
SSPA Standing Stone 74.20 356 eP P 10 21 47.5 +0.1
comp=Z,478nm,2.4s
W27A Bowe Ranch, En 74.24 334 ⇓P P 10 21 48.2 +0.2
baz=75,SNR=14
X25A Clemmons Ranch 74.36 333 ⇓P P 10 21 49.2 +0.6
baz=75
Y23A Lovelace Mesa, 74.38 331 ⇓P P 10 21 49.1 +0.2
baz=75,SNR=18
V29A Stinnett 74.43 336 ⇓P P 10 21 49.3 +0.3
baz=75
T33A Patterson Ranc 74.48 339 ⇓P P 10 21 49.3 +0.2
baz=75,SNR=12
W26A Owens Ranch, T 74.52 334 ⇓P P 10 21 49.4 -0.2
baz=75,SNR=15
V28A Channing 74.56 335 ⇑P P 10 21 50.0 +0.3
baz=75
X24A Lazy VL Ranch, 74.69 332 ⇑P P 10 21 50.7 0.0
baz=75
U30A WK&E Inc. Balk 74.73 337 ⇓P P 10 21 50.8 +0.1
baz=75
T32A Huddler Ranch, 74.78 338 ⇑P P 10 21 51.9 +1.0
baz=75,SNR=6.5
V27A Dan Oppiter Fa 74.78 335 ⇓P P 10 21 51.3 +0.2
baz=75
U29A Oasis Ranch, S 74.87 336 ⇑P P 10 21 51.6 +0.1
baz=75
S33A Kaszmaul Farm, 74.88 339 ⇓P P 10 21 51.6 +0.2
baz=75
W25A X Bar L Ranch, 74.89 333 ⇑P P 10 21 52.0 +0.2
baz=75,SNR=13
T31A Randall Ranch, 74.94 338 ⇑P P 10 21 52.6 +0.7
baz=75,SNR=7.9
LPM Los Pinos Moun 74.94 331 eP P 10 21 52.9 +0.8

comp=Z,56nm,1.3s
LENM Lemitar 74.95 331 eP P 10 21 53.6 +1.4
comp=Z,44nm,1.4s
LIC Lamto 75.00 72 ⇑iP P 10 21 52.4 -0.3
comp=Z,220nm,1.4s,baz=241
LIC Lamto 75.00 72 ⇑iP P 10 21 52.4 -0.3
comp=Z,220nm,1.4s
SFIN Scholer Farm 75.01 348 ⇑P P 10 21 52.9 +0.8
baz=75
U28A Mallet 75.13 335 ⇑P P 10 21 53.6 +0.5
baz=76
V26A Tequesquite Ra 75.16 334 ⇑P P 10 21 53.6 +0.3
baz=76,SNR=8.6
SUR Sutherland 75.22 119 P P 10 21 55.1 +1.0
comp=Z,255nm,1.4s,SNR=5.7
LAZ Ladron 75.22 331 eP P 10 21 54.7 +0.9
comp=Z,40nm,1.3s
W24A Lazy 6 Ranch, 75.25 333 ⇑P P 10 21 54.6 +0.7
baz=76,SNR=6.2
S32A Newby Ranch, P 75.26 339 ⇑P P 10 21 54.4 +0.8
baz=76
S31A Mullinville 75.36 338 ⇓P P 10 21 54.7 +0.5
baz=76
U27A Thompson Grove 75.37 335 ⇓P P 10 21 55.2 +0.7
baz=76,SNR=7.9
DBIC Dimbokro 75.40 72 eP P 10 21 54.8 -0.2
DBIC pmax pmax
comp=Z,163nm,1.3s
DBIC Dimbokro 75.40 72 P P 10 21 55.0 0.0
comp=Z,88nm,1.2s,baz=203,slow=6.0,SNR=18
DBIC Dimbokro 75.40 72 eP P 10 21 54.8 -0.2
comp=Z,163nm,1.3s
ANMO Albuquerque 75.42 332 ⇑iP P 10 21 56.4 +1.5
ANMO pmax pmax
comp=Z,141nm,1.2s
ANMO Albuquerque 75.42 332 eP P 10 21 55.8 +0.9
comp=Z,1.2nm,0.7s
W23A Werner Place, 75.49 332 ⇓P P 10 21 56.3 +1.0
baz=76,SNR=7.9
V25A Rancho No Teng 75.50 333 ⇓P P 10 21 55.6 +0.2
baz=76,SNR=16
T29A Hugoton 75.51 337 ⇑P P 10 21 55.8 +0.6
baz=76
R33A Olander Ranch, 75.54 339 ⇑P P 10 21 55.7 +0.4
baz=76
214A Organ Pipe Nat 75.64 325 ⇓P P 10 21 56.9 +0.8
baz=76,SNR=15
V24A Rampart Ranch, 75.65 333 ⇑P P 10 21 57.3 +1.1
baz=76,SNR=8.8
U26A Atchley Ranch, 75.68 334 ⇑P P 10 21 57.1 +0.8
baz=76,SNR=10
S30A Montezuma 75.68 337 ⇑P P 10 21 57.0 +0.8
baz=76,SNR=13
T28A Walsh 75.76 336 ⇑P P 10 21 58.0 +1.4
baz=76,SNR=28
R32A Long Quarter, 75.86 339 ⇑P P 10 21 58.4 +1.3
baz=76,SNR=20
S29A Ulysses 75.88 337 ⇑P P 10 21 58.3 +1.1
baz=76,SNR=14
KSU1 Kansas State U 75.89 341 eP P 10 21 57.9 +0.7
comp=Z,42nm,1.0s
KSU1 Kansas State U 75.89 341 ⇓P P 10 21 57.4 +0.2
baz=76
T27A Campo 75.91 335 ⇓P P 10 21 58.8 +1.2
baz=76,SNR=16
U25A Circle Dot Ran 75.92 334 ⇑P P 10 21 58.6 +0.9
baz=76,SNR=13
R31A Burdett 75.98 338 ⇑P P 10 21 58.6 +0.7
baz=76,SNR=15
V23A Ortiz Mt. (NFS 76.02 332 ⇑P P 10 21 58.4 +0.1
baz=76
S28A Manter 76.11 336 ⇑P P 10 21 59.7 +1.0
baz=76,SNR=22
Q33A Connelly Farm, 76.13 340 ⇓P P 10 21 59.0 +0.4
baz=76
R30A Dighton 76.21 338 ⇓P P 10 21 59.9 +0.7
baz=77,SNR=11
U24A Moreno Valley 76.25 333 ⇑P P 10 22 00.6 +0.9
baz=77,SNR=6.0
T26A Comanche Natio 76.32 335 ⇓P P 10 22 00.7 +0.8
baz=77,SNR=16
Q32A Meitler Ranch, 76.34 339 ⇑P P 10 22 00.8 +1.0
baz=77,SNR=10
V22A San Miguel Ran 76.45 332 ⇑P P 10 22 02.3 +1.5
baz=77,SNR=20
P33A Williams Farm, 76.50 340 ⇑P P 10 22 01.2 +0.5
baz=77
X18A Snowflake 76.51 329 ⇓P P 10 22 02.3 +1.2
baz=77,SNR=12
U23A El Rito 76.53 333 ⇑P P 10 22 02.7 +1.4
baz=77,SNR=23
T25A Trinidad 76.58 334 ⇑P P 10 22 03.1 +1.6
baz=77,SNR=36
Q31A Ellis 76.60 339 ⇑P P 10 22 02.8 +1.5
baz=77,SNR=8.0
R29A Marienthal 76.61 337 ⇓P P 10 22 02.6 +1.2
baz=77,SNR=18
S26A Kim 76.68 335 ⇑P P 10 22 02.9 +1.0
baz=77,SNR=30
R28A Tribune 76.76 337 ⇑P P 10 22 03.2 +0.9
baz=77,SNR=24
113A Mohawk Valley, 76.77 325 ⇓P P 10 22 02.7 +0.4
baz=77
Q30A Quinter 76.83 338 ⇑P P 10 22 03.7 +1.1
baz=77,SNR=8.8
U22A Llaves 76.83 332 ⇓P P 10 22 04.4 +1.4
baz=77,SNR=15
T24B San Luis 76.87 333 ⇓P P 10 22 04.5 +1.2
baz=77,SNR=15
Z14A Wintersburg 76.87 326 ⇑P P 10 22 04.1 +1.1
baz=77
W18A Petrified Fore 76.92 329 ⇑P P 10 22 04.6 +1.2
baz=77,SNR=11
P32A Huiting Farm, 76.94 340 ⇑P P 10 22 03.7 +0.5
baz=77,SNR=13
Q29A Oakley 76.99 337 ⇓P P 10 22 04.4 +0.8
baz=77,SNR=13
R27A Eads 77.04 336 ⇑P P 10 22 05.0 +1.1
baz=77,SNR=30
S25A Robets Cordova 77.05 334 ⇓P P 10 22 05.2 +1.1
baz=77,SNR=34
X16A Lo Mia Camp, P 77.07 328 ⇓P P 10 22 05.3 +1.1
baz=77,SNR=26
P31A Stockton 77.07 339 ⇑P P 10 22 05.2 +1.2
baz=77,SNR=12
T23A Casias Ranch, 77.09 333 ⇓P P 10 22 05.2 +0.8
baz=78,SNR=13
R26A Arlington 77.28 335 ⇓P P 10 22 06.1 +0.9
baz=78,SNR=20
S24A Houchin Ranch, 77.32 334 ⇓P P 10 22 06.6 +0.9
baz=78,SNR=24
P30A Selden 77.36 338 ⇑P P 10 22 05.8 +0.2
baz=78
Y14A Wickenburg 77.38 326 ⇑P P 10 22 06.5 +0.7
baz=78,SNR=13
MDV Middlebury 77.39 359 eP P 10 22 05.3 -0.3
Q28A Sharon Springs 77.42 337 ⇑P P 10 22 06.7 +0.6
baz=78,SNR=20
O32A Brockman Farm, 77.43 340 ⇑P P 10 22 06.5 +0.5
baz=78,SNR=11
R25A Fountain Ranch 77.43 335 ⇓P P 10 22 07.2 +1.1
baz=78,SNR=9.1
GLA Glamis 77.51 325 ⇓P P 10 22 07.4 +0.8
baz=78
SDCO Great Sand Dun 77.52 334 eP P 10 22 07.5 +0.7
comp=Z,34nm,1.2s
P29A Atwood 77.62 338 ⇑P P 10 22 08.3 +1.2
baz=78,SNR=12
KSCO Kaye Shedlock' 77.64 336 ⇑P P 10 22 08.6 +1.3
baz=78,SNR=18
O31A Woolen Ranch, 77.64 339 ⇓P P 10 22 08.5 +1.4
baz=78,SNR=11
S23A Nye Farm, Mont 77.67 333 ⇓P P 10 22 08.3 +0.7
baz=78
R24A Sanders Place, 77.80 334 ⇓P P 10 22 09.3 +1.0
baz=78,SNR=31
P28A Saint Francis 77.86 337 ⇓P P 10 22 09.6 +1.1
baz=78,SNR=14
Q26A Hugo 77.86 336 ⇑P P 10 22 09.7 +1.2
baz=78
O30A MW Ranch, Wils 77.88 339 ⇓P P 10 22 10.2 +1.7
baz=78,SNR=12
SWSC Sam W. Stewart 77.89 324 ⇓P P 10 22 09.4 +0.7
baz=78
N32A Stulken Farm, 77.90 340 ⇓P P 10 22 09.6 +1.0
baz=78
WUAZ Wupatki 77.96 328 eP P 10 22 10.6 +1.3
comp=Z,77nm,1.2s
WUAZ Wupatki 77.96 328 ⇑P P 10 22 10.3 +1.1
baz=78,SNR=12
S22A 4UR Ranch, Cre 78.02 333 ⇑P P 10 22 10.5 +0.8
baz=78,SNR=12
R23A Moffat 78.03 334 ⇓P P 10 22 11.0 +1.4
baz=78,SNR=18
O29A 4D Ranch, Culb 78.06 338 ⇓P P 10 22 10.3 +0.8
baz=78
Q25A Bedland, Calha 78.11 335 ⇓P P 10 22 10.7 +0.7
baz=78,SNR=12
P27A Ficken Ranch, 78.11 337 ⇑P P 10 22 10.9 +1.0
baz=78,SNR=15
N31A Bailey Ranch, 78.15 340 ⇑P P 10 22 11.1 +1.1
baz=78
MONP Monument Peak 78.16 323 ⇑P P 10 22 11.9 +1.4
baz=78
MVCO Mesa Verde 78.20 331 eP P 10 22 11.4 +0.8
comp=Z,40nm,1.1s
MVCO Mesa Verde 78.20 331 ⇓P P 10 22 11.6 +1.0
baz=79,SNR=15
BC3 Big Chuckawall 78.30 324 ⇓P P 10 22 12.5 +1.5
baz=79,SNR=11
O28A Krutsinger Ran 78.37 337 ⇓P P 10 22 12.6 +1.4
baz=79,SNR=13
P26A Davis Ranch, A 78.37 336 ⇑P P 10 22 12.3 +0.9
baz=79
N30A Hueftle Ranch, 78.46 339 ⇑P P 10 22 12.8 +1.1
baz=79
BGNE Belgrade 78.46 341 ⇓P P 10 22 12.9 +1.2
baz=79,SNR=9.6
Q24A Divide 78.47 335 ⇑P P 10 22 13.6 +1.5
baz=79,SNR=19
109C Camp Elliot, M 78.50 323 ⇓P P 10 22 13.2 +1.2
baz=79
IRM Iron Mountain 78.57 325 ⇑P P 10 22 13.1 +0.7
baz=79,SNR=13
P25A Willow Gulch B 78.61 335 ⇑P P 10 22 13.4 +0.6
baz=79,SNR=22
M31A Lambtecht Ranc 78.64 340 ⇓P P 10 22 13.5 +0.8
baz=79,SNR=8.4
N29A Votaw Ranch, W 78.64 339 ⇓P P 10 22 13.6 +0.9
baz=79,SNR=9.0
O27A Beecher Island 78.65 337 ⇓P P 10 22 14.0 +1.1
baz=79,SNR=18
W13A Hualapai Mount 78.74 326 ⇓P P 10 22 14.7 +1.1
baz=79,SNR=13
PFO Pinyon Flat Ob 78.75 324 P P 10 22 15.9 +2.3
comp=Z,181nm,1.0s,SNR=7.6
PFO Pinyon Flat Ob 78.75 324 ⇑P P 10 22 15.0 +1.4
baz=79,SNR=8.2
N28A Pribbeno Ranch 78.80 338 ⇑P P 10 22 14.8 +1.2
baz=79,SNR=11
BELC Belle Mtn. Jos 78.84 324 ⇑P P 10 22 14.9 +0.8
baz=79
P24A Kohler Place, 78.87 335 ⇓P P 10 22 15.5 +1.4
baz=79,SNR=7.4
O26A Horse Wrangler 78.97 336 ⇑P P 10 22 15.8 +1.2
baz=79,SNR=7.2
PV01 Paradox Valley 79.03 332 eP P 10 22 16.1 +1.0
comp=Z,3μm,1.3s
M30A Dale-Ortello V 79.07 339 ⇑P P 10 22 16.6 +1.6
baz=79,SNR=11
P23A Jefferson 79.08 334 ⇓P P 10 22 16.9 +1.4
baz=80,SNR=13
MURC Murrieta 79.11 323 ⇓P P 10 22 16.1 +0.6
baz=80
U15A North Rim 79.13 328 ⇑P P 10 22 16.8 +1.0
baz=80,SNR=19
O25A Wiggins 79.13 336 ⇓P P 10 22 16.7 +1.2
baz=80
N27A Anderson Farm, 79.23 337 ⇓P P 10 22 17.2 +1.2
baz=80,SNR=9.8
M29A Burnside Ranch 79.23 339 ⇑P P 10 22 17.1 +1.2
baz=80,SNR=11
GMRC Granite Mounta 79.31 325 ⇓P P 10 22 17.5 +0.8
baz=80,SNR=20
L31A Butterfield Fa 79.36 340 ⇓P P 10 22 18.2 +1.6
baz=80,SNR=33
ISCO Idaho Springs 79.38 335 eP P 10 22 17.9 +0.8
ISCO pmax pmax
comp=Z,52nm,1.3s
ISCO Idaho Springs 79.38 335 eP P 10 22 17.9 +0.8
comp=Z,52nm,1.3s
ISCO Idaho Springs 79.38 335 ⇓P P 10 22 17.7 +0.6
baz=80,SNR=20
L30A Spencer Herefo 79.41 340 ⇓P P 10 22 17.9 +1.1
baz=80,SNR=13
O24A Longmont 79.47 335 ⇓P P 10 22 18.4 +1.0
baz=80
N26A Koester Ranch, 79.47 337 ⇑P P 10 22 18.5 +1.2
baz=80
CIS Catalina Islan 79.57 322 ⇑P P 10 22 19.1 +1.1
baz=80
TSUM Tsumeb 79.58 106 eP P 10 22 17.6 -1.0
comp=Z,136nm,1.3s
HEC Hector,Ludlow 79.68 325 ⇓P P 10 22 19.5 +1.0
baz=80
L29A Maesberg Ranch 79.73 339 ⇓P P 10 22 19.8 +1.2
baz=80,SNR=16
M27A Reverse DX Ran 79.83 338 ⇑P P 10 22 20.2 +1.0
baz=80
O23A Lake Granby, G 79.85 335 ⇑P P 10 22 20.5 +0.8
baz=80,SNR=20
BFSC Mount Baldy Ra 79.85 323 ⇑P P 10 22 20.7 +1.1
baz=80
O22A Kremmling 80.03 334 ⇑P P 10 22 20.9 +0.3
baz=80,SNR=19
K30A Basset 80.05 340 ⇑P P 10 22 20.9 +0.6
baz=80,SNR=35
ECSD EROS Data Cent 80.23 342 eP P 10 22 21.0 -0.2
comp=Z,60nm,1.0s
ECSD EROS Data Cent 80.23 342 ⇓P P 10 22 21.3 +0.1
baz=81,SNR=30
GSC Goldstone 80.29 325 ⇑P P 10 22 22.1 +0.2
baz=81,SNR=11
M25A Palm-Egli Farm 80.29 336 ⇑P P 10 22 21.2 -0.6
baz=81
K29A Lazy Trails An 80.33 340 ⇓P P 10 22 22.5 +0.7
baz=81,SNR=15
BOSA Boshof 80.46 118 eP P 10 22 22.9 -0.3
BOSA pmax pmax
comp=Z,78nm,1.2s
BOSA Boshof 80.46 118 P P 10 22 23.1 -0.1
comp=Z,64nm,1.2s,baz=241,slow=5.1,SNR=16
BOSA Boshof 80.46 118 eP P 10 22 22.9 -0.3
comp=Z,78nm,1.2s
N23A Red Feather La 80.46 335 ⇓P P 10 22 23.6 +0.7
baz=81,SNR=13
SHPR Sheep Range 80.48 326 eP P 10 22 24.1 +1.2
comp=Z,76nm,1.2s
SHOC Shoshone 80.52 325 ⇑P P 10 22 23.2 +0.2
baz=81
EDW2 Edwards Air Fo 80.53 323 ⇑P P 10 22 23.7 +0.6
baz=81
N22A Wattenberg Ran 80.56 334 ⇑P P 10 22 23.8 +0.4
baz=81,SNR=16
M24A Cheyenne 80.58 336 ⇓P P 10 22 24.1 +0.7
baz=81,SNR=14
K28A Ten Mile Ranch 80.59 339 ⇓P P 10 22 24.7 +1.4
baz=81,SNR=15
J30A Dallas 80.61 340 ⇑P P 10 22 23.6 +0.3
baz=81,SNR=13
O20A White River Ci 80.64 333 ⇑P P 10 22 24.2 +0.4
baz=81,SNR=11
SPMN St. Paul 80.76 346 ⇑P P 10 22 24.3 +0.3
baz=81,SNR=8.3
ARUT Antelope Range 80.77 328 eP P 10 22 25.9 +1.4
ARUT Antelope Range 80.77 328 eP P 10 22 25.9 +1.4
comp=Z,2μm,1.4s
K27A Flueckinger Fa 80.85 338 ⇑P P 10 22 25.3 +0.6
baz=81,SNR=17
LRMC Laurel Mountai 80.86 324 ⇓P P 10 22 24.8 -0.1
baz=81
M23A Laramie 80.89 335 ⇑P P 10 22 26.1 +1.0
baz=81,SNR=19
J29A Okreek 80.92 340 ⇑P P 10 22 25.9 +0.9
baz=81,SNR=42
I30A Oacoma 81.14 341 ⇑P P 10 22 26.8 +0.7
baz=82,SNR=22
M22A Cedar Creek Ra 81.14 335 ⇓P P 10 22 26.2 -0.2
baz=82
K26A Motz Farm, Whi 81.14 338 ⇑P P 10 22 27.5 +1.2
baz=82
J28A Allard Ranch, 81.20 339 ⇓P P 10 22 26.8 +0.3
baz=82,SNR=20
N20A Spence Gulch, 81.25 333 ⇑P P 10 22 26.8 -0.2
baz=82,SNR=6.8
FURC Furnace Creek, 81.25 325 ⇑P P 10 22 27.9 +1.1
baz=82
J27A Elkhorn Farm, 81.28 339 ⇓P P 10 22 27.7 +0.7
baz=82,SNR=42
ISA Isabella 81.39 324 ⇑P P 10 22 28.4 +0.7
baz=82,SNR=10
L23A Garrett 81.45 336 ⇓P P 10 22 28.4 +0.3
baz=82
I29A Vivian Onida 81.48 340 ⇑P P 10 22 28.2 +0.3
baz=82,SNR=12
BRSD Miller 81.50 341 ⇑P P 10 22 28.2 +0.2
baz=82,SNR=11
L22A Ellis Ranch, M 81.64 335 ⇑P P 10 22 29.6 +0.5
baz=82
J26A Sides Ranch, S 81.66 338 ⇓P P 10 22 30.2 +1.2
baz=82,SNR=18
K24A Anderson Ranch 81.70 336 ⇓P P 10 22 30.1 +0.9
baz=82
I28A Midland 81.71 339 ⇑P P 10 22 30.1 +0.9
baz=82,SNR=29
VES Vestal, Richgr 81.83 323 ⇑P P 10 22 30.9 +0.9
baz=82,SNR=10
SMMC Simmler 81.88 322 ⇑P P 10 22 31.5 +1.2
baz=82
GRAC Grapevine Rang 81.92 325 ⇓P P 10 22 31.6 +1.1
baz=82
J25A Sunshine Ranch 81.96 337 ⇓P P 10 22 31.4 +0.8
baz=82
K23A Bowen Ranch, D 82.00 336 ⇑P P 10 22 30.8 0.0
baz=82,SNR=9.1
H29A Onida 82.01 340 ⇑P P 10 22 31.0 +0.3
baz=82,SNR=37
I27A Quinn 82.03 339 ⇓P P 10 22 31.2 +0.3
baz=82,SNR=17
DAU Daniels Canyon 82.05 331 eP P 10 22 32.6 +1.2
DAU pmax pmax
comp=Z,41nm,1.1s
DAU Daniels Canyon 82.05 331 eP P 10 22 32.6 +1.2
comp=Z,41nm,1.1s
G30A Faulkton 82.18 341 ⇓P P 10 22 31.9 +0.3
baz=83,SNR=23
R11A Troy Canyon, C 82.19 327 ⇓P P 10 22 32.1 +0.1
baz=83,SNR=26
J24A Dixon Ranch, L 82.19 337 ⇑P P 10 22 32.1 +0.3
baz=83,SNR=11
K22A Casper 82.21 335 ⇑P P 10 22 32.5 +0.5
baz=83,SNR=24
I26A New Underwood 82.25 338 ⇓P P 10 22 32.6 +0.6
baz=83,SNR=15
RCTC Rector, Farmer 82.28 324 ⇓P P 10 22 32.4 +0.2
baz=83
H28A Mission Ridge 82.28 340 ⇓P P 10 22 31.5 -0.7
baz=83,SNR=15
G29A Hoven 82.45 341 ⇓P P 10 22 32.8 -0.2
baz=83,SNR=27
K21A Alcova 82.45 335 ⇑P P 10 22 33.3 0.0
baz=83,SNR=15
I25A Rochford 82.51 338 ⇓P P 10 22 33.5 0.0
baz=83,SNR=17
DUG Dugway 82.51 330 eP P 10 22 34.2 +0.6
DUG pmax pmax
comp=Z,86nm,1.4s
DUG Dugway 82.51 330 eP P 10 22 34.2 +0.6
comp=Z,86nm,1.4s
DUG Dugway 82.51 330 ⇓P P 10 22 34.0 +0.4
baz=83,SNR=32
H27A Howes 82.56 339 ⇑P P 10 22 34.2 +0.6
baz=83,SNR=25
G28A Parade 82.62 340 ⇑P P 10 22 34.1 +0.2
baz=83,SNR=28
I24A Kuemmerle Ranc 82.65 337 ⇓P P 10 22 34.4 +0.2
baz=83
RSSD Black Hills 82.69 338 eP P 10 22 34.4 -0.1
RSSD pmax pmax
comp=Z,24nm,1.0s
RSSD Black Hills 82.69 338 eP P 10 22 34.4 -0.1
comp=Z,24nm,1.0s
F30A Leola 82.81 342 ⇓P P 10 22 35.3 +0.4
baz=83,SNR=26
J22A Midwest 82.87 336 ⇑P P 10 22 35.1 -0.3
baz=83
H25A Fruitdale 83.01 338 ⇑P P 10 22 36.9 +1.0
baz=83,SNR=26
F29A Eureka 83.02 341 ⇓P P 10 22 35.5 -0.4
baz=83,SNR=39
J21A Lysite 83.15 335 ⇓P P 10 22 36.2 -0.7
baz=84,SNR=9.4
G27A Dupree 83.19 340 ⇓P P 10 22 36.5 -0.4
baz=84,SNR=29
I22A 9 Mile Ranch, 83.30 336 ⇑P P 10 22 37.2 -0.4
baz=84,SNR=9.0
F28A McLaughlin 83.30 340 ⇑P P 10 22 36.9 -0.5
baz=84,SNR=40
G26A Maurine 83.31 339 ⇑P P 10 22 37.4 -0.1
baz=84,SNR=25
J20A Shoshoni 83.38 335 ⇓P P 10 22 38.2 +0.2
baz=84,SNR=18
E30A Jud 83.39 342 ⇑P P 10 22 38.3 +0.4
baz=84,SNR=26
BW06 Boulder Array 83.41 333 eP P 10 22 38.1 -0.2
comp=Z,24nm,1.1s
PDAR Pinedale Array 83.41 333 P P 10 22 38.3 0.0
comp=Z,15nm,1.2s,baz=140,slow=7.1,SNR=21
H24A Dirks Ranch, A 83.42 338 ⇑P P 10 22 37.9 -0.2
baz=84,SNR=6.6
G25A Newell 83.47 338 ⇑P P 10 22 38.4 +0.1
baz=84,SNR=22
I21A Big Trails, Te 83.50 335 ⇑P P 10 22 38.5 -0.2
baz=84,SNR=18
NVAR Mina Array Bea 83.51 325 P P 10 22 39.2 +0.3
comp=Z,7.9nm,1.0s,baz=151,slow=5.9,SNR=17
E29A Napoleon 83.65 341 ⇑P P 10 22 39.1 -0.1
baz=84,SNR=18
J19A Crowheart 83.65 334 ⇓P P 10 22 39.7 +0.3
baz=84,SNR=21
F27A Lemmon 83.67 340 ⇑P P 10 22 39.7 +0.4
baz=84,SNR=30
F26A Lodgepole 83.84 339 ⇑P P 10 22 39.9 -0.3
baz=84,SNR=16
H22A Clearmont 83.87 336 ⇑P P 10 22 40.0 -0.5
baz=84
G24A Alzada 83.90 338 ⇓P P 10 22 40.1 -0.5
baz=84
I20A Worland 83.92 335 ⇑P P 10 22 40.6 -0.1
baz=84,SNR=20
D30A Buchanan 83.92 342 ⇑P P 10 22 40.8 +0.3
baz=84,SNR=32
E28A Huff 83.94 341 ⇓P P 10 22 40.8 +0.2
baz=84,SNR=19
AHID Auburn Hatcher 83.99 332 eP P 10 22 41.4 +0.2
comp=Z,48nm,1.1s
E27A Carson 84.04 340 ⇓P P 10 22 41.1 -0.1
baz=84,SNR=14
D29A Pettibone, Tap 84.09 342 ⇓P P 10 22 41.5 +0.2
baz=84,SNR=24
WAKR Walker 84.11 325 eP P 10 22 43.6 +1.7
comp=Z,144nm,1.8s
H21A Big Horn, Sher 84.13 336 ⇓P P 10 22 41.3 -0.5
baz=84
F25A Bowman 84.14 339 ⇑P P 10 22 41.6 -0.2
baz=84,SNR=6.9
I19A Meeteetse 84.30 334 ⇑P P 10 22 42.4 -0.4
baz=85,SNR=11
H20A Greybull 84.34 335 ⇓P P 10 22 42.7 -0.1
baz=85,SNR=22
E26A Carlson Angus 84.34 340 ⇑P P 10 22 42.2 -0.5
baz=85,SNR=12
AGMN Agassiz Nation 84.34 345 ⇑P P 10 22 42.2 -0.4
baz=85,SNR=15
F24A Ekalaka 84.37 338 ⇓P P 10 22 42.4 -0.6
baz=85,SNR=9.1
C30A Mose, Pekin 84.40 343 ⇓P P 10 22 42.7 -0.2
baz=85,SNR=23
G22A Birney 84.40 337 ⇑P P 10 22 41.9 -1.2
baz=85
TOA0 Torodi Ar. Sit 84.42 70 eP P 10 22 43.2 -0.6
TORD Torodi Ar. Bea 84.42 70 P P 10 22 43.5 -0.3
comp=Z,87nm,1.2s,baz=242,slow=3.7,SNR=45
D28A Regan 84.47 341 ⇑P P 10 22 43.2 -0.1
baz=85,SNR=32
F23A Volborg 84.56 337 ⇑P P 10 22 43.7 -0.2
baz=85,SNR=12
E25A Miller Ranch, 84.64 339 ⇑P P 10 22 44.7 +0.4
baz=85,SNR=11
D27A Center 84.65 341 ⇓P P 10 22 44.9 +0.6
baz=85
G21A Lodge Grass 84.71 336 ⇓P P 10 22 44.3 -0.4
baz=85,SNR=8.8
I17A Pilgrim Ck. 84.78 333 ⇑P P 10 22 45.3 +0.1

baz=85,SNR=15
D26A Manning 84.84 340 ⇓P P 10 22 45.4 +0.2
baz=85,SNR=8.6
H19A Powell 84.84 335 ⇑P P 10 22 45.3 -0.2
baz=85,SNR=12
F22A Rosebud 84.89 337 ⇓P P 10 22 45.7 +0.2
baz=85,SNR=14
C28A Hausauer Farms 84.90 341 ⇓P P 10 22 45.6 +0.1
baz=85
E24A Baker 84.97 339 ⇑P P 10 22 46.1 +0.2
baz=85,SNR=8.4
G20A Bridger 85.05 335 ⇑P P 10 22 46.0 -0.4
baz=85,SNR=18
B30A Myrvik Farm, E 85.06 343 ⇑P P 10 22 46.0 -0.2
baz=85,SNR=45
H18A Shoshone NF, C 85.09 334 ⇑P P 10 22 46.7 -0.1
baz=86,SNR=33
H17A Grant Village 85.19 334 ⇑P P 10 22 47.1 -0.2
baz=86
C27A Sayler Ranch, 85.20 341 ⇑P P 10 22 47.0 0.0
baz=86
D25A Fairfield 85.20 339 ⇑P P 10 22 47.5 +0.4
baz=86,SNR=16
F21A Absaloka Mine, 85.21 336 ⇓P P 10 22 47.4 +0.3
baz=86
B29A Wagenman Farm, 85.33 342 ⇓P P 10 22 47.7 +0.1
baz=86,SNR=32
YFT Old Faithful 85.33 333 eP P 10 22 49.1 +1.1
comp=Z,43nm,1.2s
RLMT Red Lodge 85.34 335 eP P 10 22 47.9 -0.1
comp=Z,71nm,1.4s
C26A Wahner Farm, P 85.47 340 ⇑P P 10 22 48.2 -0.1
baz=86
D24A Glendive 85.47 339 ⇑P P 10 22 48.5 +0.1
baz=86,SNR=20
YNR Norris Junctio 85.50 334 eP P 10 22 50.6 +1.8
comp=Z,23nm,1.4s
A30A Hoffart Farm, 85.51 343 ⇓P P 10 22 48.1 -0.4
baz=86,SNR=19
F20A Billings 85.54 336 ⇓P P 10 22 48.4 -0.4
baz=86
YMR Madison River 85.56 334 eP P 10 22 49.8 +0.6
comp=Z,102nm,1.1s
B28A Dugan Ranch, T 85.57 342 ⇑P P 10 22 48.9 +0.1
baz=86,SNR=36
C25A Freed Ranch, W 85.69 340 ⇑P P 10 22 49.7 +0.2
baz=86,SNR=9.8
A29A Manning Farm, 85.72 343 ⇑P P 10 22 49.9 +0.4
baz=86,SNR=27
B27A Peters Farms, 85.77 341 ⇑P P 10 22 50.2 +0.4
baz=86,SNR=9.3
D23A Lindsay 85.79 338 ⇓P P 10 22 50.4 +0.4
baz=86,SNR=38
E21A Keefer Ranch, 85.83 337 ⇑P P 10 22 50.2 0.0
baz=86,SNR=19
F19A Roth Farm, Mol 85.86 335 ⇑P P 10 22 50.1 -0.3
baz=86,SNR=18
C24A Savage 85.87 339 ⇑P P 10 22 50.8 +0.5
baz=86,SNR=53
QLMT Earthquake Lak 85.88 333 eP P 10 22 51.5 +0.9
comp=Z,4.8nm,1.2s
A28A Rude Farm, Bot 85.97 342 ⇓P P 10 22 50.8 0.0
baz=86,SNR=9.4
HLID Hailey 85.97 331 eP P 10 22 52.0 +0.8
comp=Z,72nm,1.4s
HLID Hailey 85.97 331 ⇓P P 10 22 51.6 +0.4
baz=86,SNR=36
B26A Jensen Ranch, 86.01 341 ⇑P P 10 22 51.0 0.0
baz=86
D22A Cohagen 86.08 338 ⇑P P 10 22 51.6 +0.2
baz=86,SNR=19
E20A Meyer Farm, Mu 86.14 336 ⇑P P 10 22 51.9 +0.1
baz=86,SNR=29
B25A Knox Farm, Ray 86.17 340 ⇓P P 10 22 52.4 +0.6
baz=86
ULM Lac du Bonnet 86.19 345 P P 10 22 51.0 -0.7
comp=Z,26nm,0.9s,baz=169,slow=5.7,SNR=13
D21A La Casta Ranch 86.26 337 ⇑P P 10 22 51.7 -0.6
baz=87,SNR=12
A27A Ledoux Ranch, 86.26 341 ⇓P P 10 22 53.0 +0.7
baz=87
E19A Rath Farm, Rou 86.33 336 ⇓P P 10 22 52.6 -0.1
baz=87,SNR=41
C23A Lambert 86.35 339 ⇓P P 10 22 53.1 +0.4
baz=87,SNR=21
MCMT McKenzie Canyo 86.41 332 eP P 10 22 54.3 +0.9
comp=Z,26nm,1.1s
A26A Wade Farm, Ken 86.43 341 ⇑P P 10 22 52.9 -0.1
baz=87,SNR=12
C22A Vida 86.51 338 ⇑P P 10 22 53.3 -0.2
baz=87,SNR=15
DGMT Dagmar 86.65 339 eP P 10 22 54.4 +0.2
comp=Z,137nm,1.1s
DGMT Dagmar 86.65 339 ⇓P P 10 22 54.1 -0.1
baz=87,SNR=31
D20A Manuel Ranch, 86.66 336 ⇑P P 10 22 54.1 -0.2
baz=87,SNR=38
A25A Svangstu Ranch 86.76 340 ⇓P P 10 22 54.4 -0.3
baz=87,SNR=18
WVOR Wild Horse Val 86.86 328 eP P 10 22 56.6 +1.1
WVOR pmax pmax
comp=Z,57nm,1.3s
WVOR Wild Horse Val 86.86 328 eP P 10 22 56.6 +1.1
comp=Z,56nm,1.3s
B23A Brockton 86.88 339 ⇑P P 10 22 54.9 -0.4
baz=87,SNR=18
C21A Desert Coulee 86.97 337 ⇓P P 10 22 55.4 -0.4
baz=87,SNR=44
D19A Cripps Ranch, 86.97 336 ⇑P P 10 22 55.6 -0.3
baz=87,SNR=23
A24A Westby 87.00 340 ⇓P P 10 22 55.3 -0.6
baz=87,SNR=14
B22A Reddig Ranch S 87.04 338 ⇓P P 10 22 55.9 -0.2
baz=87,SNR=35
LRM Limekiln Ridge 87.10 333 eP P 10 22 56.5 -0.1
comp=Z,199nm,1.1s
C20A Veseth Ranch, 87.16 337 ⇑P P 10 22 56.6 -0.1
baz=88,SNR=24
A23A Redstone 87.29 339 ⇑P P 10 22 57.6 +0.3
baz=88
B21A Ellsworth Farm 87.47 338 ⇓P P 10 22 58.4 +0.3
baz=88,SNR=22
C19A Slack Wire Ran 87.53 336 ⇑P P 10 22 58.8 +0.3
baz=88,SNR=18
N02D Trinity Center 87.61 324 ⇓P P 10 22 59.1 0.0
baz=88
HRY Holter Researc 87.62 334 eP P 10 22 59.0 -0.1
comp=Z,40nm,1.4s
A22A Carney Farms, 87.63 339 ⇑P P 10 22 59.3 +0.4
baz=88,SNR=37
B20A Solberg Farm, 87.80 337 ⇑P P 10 22 59.7 0.0
baz=88,SNR=19
M04C Macdoel 87.82 325 ⇓P P 10 22 60.0 -0.2
baz=88
A21A Bergtoll Ranch 87.94 338 ⇑P P 10 23 00.3 -0.1
baz=88,SNR=18
M02C Callahan 88.00 325 ⇑P P 10 23 00.6 -0.4
baz=88
EGMT Eagleton 88.01 336 eP P 10 23 00.4 -0.5
comp=Z,51nm,1.4s
EGMT Eagleton 88.01 336 ⇓P P 10 23 00.4 -0.5
baz=88,SNR=15
B19A Brinkman Farms 88.12 337 ⇓P P 10 23 01.0 -0.3
baz=88,SNR=25
A20A Cobblestone Ra 88.16 337 ⇑P P 10 23 01.3 -0.2
baz=88,SNR=31
BMO Blue Mountains 88.22 330 eP P 10 23 02.2 +0.2
BMO pmax pmax
comp=Z,21nm,1.2s
BMO Blue Mountains 88.22 330 eP P 10 23 02.1 +0.2
comp=Z,21nm,1.2s
CHMT Chamberlain Mo 88.32 333 eP P 10 23 03.1 +0.6
comp=Z,14nm,1.2s
SCHQ Schefferville 88.36 3 P P 10 23 01.5 -0.7
comp=Z,48nm,1.2s,baz=171,slow=4.8,SNR=11
A19A Klindworth Far 88.46 337 ⇑P P 10 23 02.9 -0.1
baz=89,SNR=28
MSO Missoula 88.50 333 ⇓P P 10 23 03.8 +0.6
baz=89
KTRM Thompson Ridge 88.65 325 P P 10 23 06.4 +2.4
SLMT Seeley Lake 88.68 333 eP P 10 23 04.8 +0.6
comp=Z,27nm,1.2s
J05D Fort Rock, OR 88.70 327 ⇑P P 10 23 04.9 +0.6
baz=89
L02D Cave Junction, 88.95 325 ⇑P P 10 23 06.1 +0.8
baz=89
J04D Umpqua Nationa 89.07 326 ⇑P P 10 23 06.3 +0.2
baz=89
SWMT Swartz Lake 89.09 333 eP P 10 23 06.8 +0.8
comp=Z,13nm,1.1s
YBMT Yellow Bay 89.39 333 eP P 10 23 08.1 +0.7
comp=Z,13nm,1.1s
JTMT Jette 89.40 333 eP P 10 23 07.9 +0.5
comp=Z,40nm,1.6s
I05D Terrebonne, OR 89.57 327 ⇑P P 10 23 09.0 +0.8
baz=90
I04A Tendick Farm, 89.64 326 ⇑P P 10 23 09.0 +0.5
baz=90
BLMT Blacktail Moun 89.65 333 eP P 10 23 09.1 +0.4
comp=Z,26nm,1.0s
BSMT Bassoo Peak 89.67 333 eP P 10 23 09.4 +0.6
comp=Z,17nm,1.2s
LSZ Lusaka 90.18 108 P P 10 23 12.1 +0.2
LSZ pmax pmax
comp=Z,139nm,1.4s
LSZ Lusaka 90.18 108 P P 10 23 12.1 +0.2
comp=Z,139nm,1.4s
H2OWA Water 90.35 330 P P 10 23 13.6 +1.9
HAWA Hanford 90.39 330 eP P 10 23 12.8 +0.9
comp=Z,62nm,1.4s
NEW Newport 90.91 332 P P 10 23 14.2 -0.2
comp=Z,7.1nm,1.0s,baz=143,slow=4.3
NEW Newport 90.91 332 P P 10 23 14.2 -0.2
comp=Z,0.6nm,1.2s
NEW Newport 90.91 332 ⇑P P 10 23 14.1 -0.2
baz=91,SNR=7.0
EBG Ellensburg 91.24 329 P P 10 23 17.1 +1.1
WTV Waterville 91.60 330 P P 10 23 18.4 +0.8
ETW Entiat 91.69 330 P P 10 23 18.8 +0.7
TAM Tamanrasset 93.00 65 eP P 10 23 24.9 +0.1
TAM pmax pmax
comp=Z,47nm,1.3s
TAM Tamanrasset 93.00 65 eP P 10 23 24.9 +0.1
comp=Z,47nm,1.3s
ESDC Sonseca Array 96.64 46 P P 10 23 41.1 +0.2
comp=Z,2.8nm,0.9s,baz=237,slow=4.4,SNR=11
SJPF Ste Jean 100.37 45 eP Pdif 10 23 54.8 -2.7
comp=Z,31nm,1.1s
SJPF Ste Jean 100.37 45 eP Pdif 10 23 54.8 -2.7
SJPF pmax pmax
comp=Z,31nm,1.1s
SJPF Ste Jean 100.37 45 eP Pdif 10 23 54.8 -2.7
comp=Z,31nm,1.1s
ETSF Etsaut 100.64 45 eP Pdif 10 23 57.7 -1.1
comp=Z,52nm,1.4s
ETSF Etsaut 100.64 45 eP Pdif 10 23 57.7 -1.1
ETSF pmax pmax
comp=Z,52nm,1.4s
ETSF Etsaut 100.64 45 eP Pdif 10 23 57.7 -1.1
comp=Z,52nm,1.4s
YKA Yellowknife Ar 101.73 341 P Pdif 10 24 02.2 -0.8
comp=Z,1.7nm,0.7s,baz=143,slow=4.5,SNR=12
RJF Les Rejaudoux 103.25 44 eP Pdif 10 24 08.3 -2.0
comp=Z,91nm,1.5s
RJF Les Rejaudoux 103.25 44 eP Pdif 10 24 08.3 -2.0
RJF pmax pmax
comp=Z,91nm,1.5s
RJF Les Rejaudoux 103.25 44 eP Pdif 10 24 08.3 -2.0
comp=Z,91nm,1.5s
SMF Signal de Mont 105.34 44 eP Pdif 10 24 17.5 -2.1
comp=Z,71nm,1.6s
SMF Signal de Mont 105.34 44 eP Pdif 10 24 17.5 -2.1
SMF pmax pmax
comp=Z,71nm,1.6s
SMF Signal de Mont 105.34 44 eP Pdif 10 24 17.5 -2.1
comp=Z,71nm,1.6s
SSF Saint Saulge 105.38 43 eP Pdif 10 24 17.6 -2.1
SSF Saint Saulge 105.38 43 eP Pdif 10 24 17.6 -2.1
SSF Saint Saulge 105.38 43 eP Pdif 10 24 17.6 -2.1
ORIF Oris-en-Rattie 105.62 46 eP Pdif 10 24 18.4 -2.5
comp=Z,48nm,1.4s
ORIF Oris-en-Rattie 105.62 46 eP Pdif 10 24 18.4 -2.5
ORIF pmax pmax
comp=Z,48nm,1.4s
ORIF Oris-en-Rattie 105.62 46 eP Pdif 10 24 18.4 -2.5
comp=Z,48nm,1.4s
LPG La Plagne 106.45 46 eP Pdif 10 24 23.1 -1.7
comp=Z,64nm,1.5s
LPG La Plagne 106.45 46 eP Pdif 10 24 23.1 -1.7
LPG pmax pmax
comp=Z,64nm,1.5s
LPG La Plagne 106.45 46 eP Pdif 10 24 23.1 -1.7
comp=Z,64nm,1.5s
GERES GERESS Array B 112.21 45 PKiKP PKiKP 10 28 45.4 -0.8
comp=Z,1.1nm,0.8s,baz=162,slow=0.6,SNR=5.4
KHC Kasperske Hory 112.26 45 ePKIKP PKiKP 10 28 47.7 +1.4
KHC e 10 29 29.8
KHC Kasperske Hory 112.26 45 ePKP PKiKP 10 28 47.7 +1.4
KHC ePP PP 10 29 29.8 -2.2
CLL Collm 112.88 43 ePKiKP PKiKP 10 28 49.0 +1.7
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 112.88 43 ePKiKP PKiKP 10 28 49.0 +1.7
comp=Z,10.0nm,1.2s
PRU Pruhonice 113.20 45 ePKIKP PKiKP 10 28 52.1 +4.1
PRU Pruhonice 113.20 45 ePKP PKiKP 10 28 52.1 +4.1
ILAR Eielson Array 113.84 333 PKiKP PKiKP 10 28 48.9 +0.1
comp=Z,0.9nm,0.9s,baz=188,slow=0.5,SNR=4.4
PKSM Moragy 114.12 50 ⇑PKIKP PKPdf 10 28 53.8 +3.9
PKSM Moragy 114.12 50⇑iP PKPdf 10 28 53.8 +3.9
UPC Upice 114.28 44 ePKIKP PKPdf 10 28 52.6 +2.6
UPC Upice 114.28 44 ePKP PKPdf 10 28 52.6 +2.6
DPC Dobruska-Polom 114.39 45 ePKIKP PKPdf 10 28 51.3 +1.0
DPC Dobruska-Polom 114.39 45 ePKP PKPdf 10 28 51.3 +1.0
VYHS Vyhne 115.16 47 ePKIKP PKPdf 10 28 51.2 -0.6
VYHS Vyhne 115.16 47 ePKP PKPdf 10 28 51.2 -0.6
OKC Ostrava-Krasne 115.27 46 ePKIKP PKPdf 10 28 52.9 +0.9
OKC Ostrava-Krasne 115.27 46 ePKP PKPdf 10 28 52.9 +0.9
BZS Buzias 115.80 51 ⇓PKIKP PKPdf 10 28 53.2 +0.1
BZS Buzias 115.80 51⇓iP PKPdf 10 28 53.2 +0.1
NOA NORSAR Array B 115.99 33 PKiKP PKiKP 10 28 53.1 0.0
comp=Z,2.8nm,1.1s,baz=242,slow=1.8,SNR=2.4
GZR Gura Zlata 116.46 52 ⇑PKIKP PKPdf 10 28 58.2 +3.7
GZR Gura Zlata 116.46 52⇑iP PKPdf 10 28 58.2 +3.7
KDZ Kurdzhali 116.83 56 ⇑PKIKP PKPdf 10 28 55.6 +0.3
KDZ Kurdzhali 116.83 56⇑iP PKPdf 10 28 55.6 +0.3
CRVS Cervenica-Dubn 116.92 48 ePKIKP PKPdf 10 28 55.3 +0.1
CRVS e 10 30 03.8
CRVS Cervenica-Dubn 116.92 48 ePKP PKPdf 10 28 55.3 +0.1
CRVS ePP PP 10 30 03.8 -1.1
TRPA Tarpa 117.32 49⇑iP PKPdf 10 28 56.2 +0.3
UZH Uzhgorod 117.34 48 ePKIKP PKPdf 10 28 55.1 -0.9
ARR Arges 117.67 52⇑iP PKPdf 10 28 57.0 +0.2
KWP Kalwaria Pacla 117.95 47 ePKIKP PKPdf 10 28 58.2 +1.1
KWP Kalwaria Pacla 117.95 47 ePKP PKPdf 10 28 58.2 +1.1
KWP Kalwaria Pacla 117.95 47⇑iP PKPdf 10 28 58.0 +0.9
VOIR 117.97 52 ⇓PKIKP PKPdf 10 28 54.5 -2.9
VOIR 117.97 52⇓iP PKPdf 10 28 54.5 -2.9
MLR Muntele Rosu 118.58 52 ⇑PKIKP PKPdf 10 28 58.6 -0.1
MLR Muntele Rosu 118.58 52⇑iP PKPdf 10 28 58.6 -0.1
MLR Muntele Rosu 118.58 52 PKP PKPdf 10 28 58.4 -0.3
comp=Z,5.1nm,1.3s,baz=278,slow=2.3,SNR=5.2
PRD Provadia 118.76 55 ⇓PKIKP PKPdf 10 28 53.6 -5.3
LVV L'vov 118.82 47 ePKIKP PKPdf 10 28 57.4 -1.4
BUR08 Bucovina Ar. S 118.83 50 ePKPdf PKPdf 10 28 58.8 -0.3
BURAR Bucovina Array 118.83 50 ⇑PKIKP PKPdf 10 29 00.0 +1.0
BURAR Bucovina Array 118.83 50⇑iP PKPdf 10 29 00.0 +1.0
PLOR Plostina 119.17 52 ⇑PKIKP PKPdf 10 28 59.4 -0.3
PLOR Plostina 119.17 52⇑iP PKPdf 10 28 59.4 -0.3
VRI Vrincioaia 119.22 52 ⇓PKIKP PKPdf 10 29 00.3 +0.6
VRI Vrincioaia 119.22 52⇓iP PKPdf 10 29 00.3 +0.6
TESR Tescani 119.39 52⇑iP PKPdf 10 29 00.0 0.0
PSN Preselentsi 119.46 55 ⇓PKIKP PKPdf 10 29 01.1 +0.9
PSN Preselentsi 119.46 55⇓iP PKPdf 10 29 01.1 +0.9
SUW Suwalki 119.64 43 ePKIKP PKPdf 10 29 00.6 +0.4
SUW Suwalki 119.64 43 ePKP PKPdf 10 29 00.6 +0.4
SUW Suwalki 119.64 43 ePKPdf PKPdf 10 28 60.0 -0.2
TIRR Tirgusor 119.88 54 ⇓PKIKP PKPdf 10 28 58.4 -2.6
TIRR Tirgusor 119.88 54⇓iP PKPdf 10 28 58.4 -2.6
CFR Carcaliu 119.93 53 ⇓PKIKP PKPdf 10 29 00.9 -0.2
CFR Carcaliu 119.93 53⇓iP PKPdf 10 29 00.9 -0.2
WRA Warramunga Arr 120.81 210 PKP PKPdf 10 29 02.8 -0.9
comp=Z,6.2nm,1.0s,baz=160,slow=1.6,SNR=12
WRAB Tennant Creek 120.82 210⇓iPKIKP PKPdf 10 29 05.8 +2.1
KIS Kishinev 120.95 52 ePKIKP PKPdf 10 29 05.0 +2.0
KIS e 10 30 35.0
KIS Kishinev 120.95 52 ePKP PKPdf 10 29 05.0 +2.0
NACGM Naroch 121.90 42 e PKPdf 10 29 01.0 -3.5
BRTR Keskin Array B 121.99 61 PKIKP PKPdf 10 29 05.0 -0.4
BRTR Keskin Array B 121.99 61 PKP PKPdf 10 29 05.0 -0.4
comp=Z,3.9nm,0.9s,baz=204,slow=3.2,SNR=12
AK02 Malin Array Si 122.24 47 ePKPdf PKPdf 10 29 04.3 -1.0
KIEV Kiev 122.25 47⇓ePKIKP PKPdf 10 29 04.7 -0.6
KIEV Kiev 122.25 47 eP PKPdf 10 29 04.6 -0.8
AK01 Malin Array Si 122.25 47 ePKPdf PKPdf 10 29 04.6 -0.8
AKASG Malin Array Be 122.25 47 PKP PKPdf 10 29 04.2 -1.2
comp=Z,7.5nm,1.0s,baz=264,slow=2.4,SNR=15
VSU Vasula 122.70 38⇓ePKIKP PKPdf 10 29 06.7 +0.8
PMG Port Moresby 122.94 229⇓ePKIKP PKPdf 10 29 08.3 +0.4
PMG pmax pmax
comp=Z,43nm,2.5s
PMG Port Moresby 122.94 229 PKP PKPdf 10 29 08.0 +0.1
comp=Z,11nm,1.0s,baz=241,slow=6.5,SNR=4.3
FINES FINESS Array B 122.97 35 PKP PKPdf 10 29 05.5 -0.9
comp=Z,16nm,1.2s,baz=183,slow=2.5,SNR=9.5
GAMB Gambell 123.73 328 ePKPdf PKPdf 10 29 08.7 +0.9
SIM Simferopol' 123.91 55 iPKIKP PKPdf 10 29 10.1 +1.4
SIM pmax pmax
comp=Z,18nm,1.2s
MALT Malatya 125.08 64 ⇑PKIKP PKPdf 10 29 11.6 +0.2
MALT Malatya 125.08 64⇑iP PKPdf 10 29 11.6 +0.2
ANN Anapa 126.15 56 iPKIKP PKPdf 10 29 11.4 -1.6
ANN pmax pmax
comp=Z,78nm,1.3s
APA Apatity 126.72 27⇓iPKIKP PKPdf 10 29 18.0 +4.6
APA MLR MLR
comp=Z,9µm,25.0s
LVZ Lovozero 127.20 27⇓ePKIKP PKPdf 10 29 16.1 +1.7
LVZ pmax pmax
comp=Z,45nm,1.2s
OBN Obninsk 127.48 43d iPKIKP PKPdf 10 29 15.4 +0.2
OBN e 10 29 31.6
OBN e*PP PP 10 31 16.7 +0.4
OBN pmax pmax
comp=Z,71nm,1.2s
OBN Obninsk 127.48 43 PKP PKPdf 10 29 15.0 -0.2
comp=Z,14nm,0.3s,baz=224,slow=1.8,SNR=6.3
MOS Moscow 128.15 42 ePKIKP PKPdf 10 29 15.2 -1.3
MOS e 10 31 21.9
MOS pmax pmax
comp=Z,70nm,1.1s
VSR Storozhevoye 128.52 48 ePKIKP PKPdf 10 29 16.0 -1.3
VSR pmax pmax
comp=Z,30nm,1.3s
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.2s
VORD Divnogorie 128.56 49 ePKIKP PKPdf 10 29 16.0 -1.4
VORD pmax pmax
comp=Z,20nm,1.4s
VORD pmax pmax
comp=N,9.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.8s
TMCR Tamitsa 128.67 32 ePKIKP PKPdf 10 29 17.5 +0.3
TMCR e 10 31 22.1
TMCR pmax pmax
comp=Z,39nm,1.2s
KLMR Klimovskoe 129.40 36 ePKIKP PKPdf 10 29 17.5 -1.2
KLMR pmax pmax
comp=Z,197nm,1.5s
KBZ Khabaz 129.74 58 PKP PKPdf 10 29 19.8 -0.1
comp=Z,35nm,1.4s,baz=180,slow=2.0,SNR=6.7
VRHR Novokhopersk 130.04 49 ePKIKP PKPdf 10 29 19.9 -0.3
VRHR pmax pmax
comp=Z,30nm,1.4s
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.6s
GOF Gofitskoye 130.09 57 ePKIKP PKPdf 10 29 20.0 -0.6
GOF pmax pmax
comp=Z,80nm,1.3s
ZEI Tsey 130.26 60 iPKIKP PKPdf 10 29 20.2 -1.0
ZEI pmax pmax
comp=Z,27nm,1.3s
GNI Garni 130.29 63c iPKIKP PKPdf 10 29 22.8 +1.5
GNI pmax pmax
comp=Z,47nm,1.2s
GNI Garni 130.29 63 PKP PKPdf 10 29 22.0 +0.7
comp=Z,3.0nm,0.3s,baz=193,slow=10,SNR=5.9
PRGR Permogore 132.30 35⇓iPKIKP PKPdf 10 29 23.6 -0.6
PRGR e 10 31 44.3
PRGR pmax pmax
comp=Z,77nm,1.0s
BILL Bilibino 132.48 334⇑iPKIKP PKPdf 10 29 25.4 +1.0
BILL e 10 31 49.6
BILL pmax pmax
comp=Z,18nm,1.2s
BILL MLR MLR
comp=Z,7µm,21.0s
BILL Bilibino 132.48 334 ePKPdf PKPdf 10 29 25.0 +0.6
SOKR Solikamsk 138.08 36 ePKIKP PKPdf 10 29 36.6 +1.6
SOKR pmax pmax
comp=Z,60nm,1.3s
CISI Cisompet, Garu 138.91 180 PKPdf PKPdf 10 29 37.6 -0.5
SEY Seymchan 139.67 330 PKP PKPdf 10 29 38.4 +0.6
comp=Z,33nm,1.2s,baz=88,slow=3.1,SNR=7.4
PETK Petropavlovsk- 139.76 314 PKhKP PKPpre 10 29 35.1
comp=Z,8.9nm,1.0s,baz=46,slow=4.2,SNR=2.9
ARU Arti 139.77 40 iPKIKP PKPdf 10 29 39.3 +1.1
GEYT Alibeck 140.06 69 PKhKP PKPpre 10 29 32.9
comp=Z,5.2nm,0.9s,baz=281,slow=0.7,SNR=8.8
TIXI Tiksi 140.40 350cePKIKP PKPdf 10 29 40.3 +1.4
TIXI Tiksi 140.40 350 ePKPdf PKPdf 10 29 35.3 -3.6
AKTO Aktyubinsk 140.42 50 PKhKP PKPpre 10 29 32.9
comp=Z,5.0nm,1.1s,baz=270,slow=1.0,SNR=3.7
SVE Sverdlovsk 140.78 39 ePKIKP PKPdf 10 29 38.0 -2.1
SVE pmax pmax
comp=Z,43nm,1.8s
ABKAR Akbulak array 141.78 51 ePKPdf PKPdf 10 29 38.9 -3.3
PALK Pallekele 143.78 131 PKhKP PKPpre 10 29 43.5
comp=Z,124nm,1.2s,baz=208,slow=4.0,SNR=15
KAD Karad 145.89 110 ex PKPdf 10 29 50.3 0.0
BKNI Bangkinang 146.18 168 ePKPdf PKPdf 10 29 50.7 -0.2
POO Poona 146.31 108⇓iP PKPdf 10 29 51.0 0.0
comp=Z,393nm,1.5s
GSI Gunungsitoli 146.38 162 ePKPbc PKPab 10 29 53.2 0.0
BRVK Borovoye 147.25 43⇑ePKP2 PKPbc 10 29 52.9 -0.9
BVAR Borovoye Array 147.32 43 PKPbc PKPbc 10 29 52.5 -1.5
comp=Z,53nm,1.2s,baz=279,slow=2.5,SNR=28
KSM Kuching 147.78 185 ePKPbc PKPab 10 29 57.4 -1.3
PSI Prapat 148.15 163 PKPbc PKPbc 10 29 55.7 -1.9
comp=Z,56nm,1.0s,baz=270,slow=2.0,SNR=24
YAK Yakutsk 148.40 340 ePKIKP PKPbc 10 29 54.5 -2.1
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,155nm,1.4s
YAK pmax pmax
comp=N,21nm,1.5s
YAK Yakutsk 148.40 340 ePKPdf PKPdf 10 29 53.0 -0.1
HYB Hyderabad 149.32 115 iPKP PKPbc 10 29 54.5 -1.5
KKAR Karatay Array 149.71 61 ePKP2 PKPbc 10 30 00.6 0.0
KKAR Karatay Array 149.71 61 ePKPbc PKPbc 10 30 00.6 0.0
LHMI Lhok Sumawe 149.94 158 ePKPbc PKPbc 10 30 02.8 +0.8
IPM Ipoh 150.23 167 ePKPdf PKPdf 10 29 57.3 -0.3
YSS Yuzh-Sakhalins 150.40 307 ePKIKP PKPbc 10 30 01.0 -1.0
YSS e 10 30 09.0
YSS pmax pmax
comp=Z,50nm,1.2s
YSS Yuzh-Sakhalins 150.40 307 ePKPbc PKPbc 10 30 01.1 -0.9
KULM Kulim 150.95 166 ePKPdf PKPdf 10 29 57.8 -0.9
KULM ePKPbc PKiKP 10 30 04.2 -0.8
ASAJ Asahikawa 151.06 301 PKPbc PKPbc 10 30 01.6 -2.1
comp=Z,33nm,1.1s,baz=190,slow=2.4,SNR=2.8
KKM Kota Kinabalu 151.28 198 ePKPdf PKPdf 10 29 59.6 +0.3
EKS2 Erkin-Say 152.14 61 P PKPdf 10 30 01.0 +1.2
SNR=10.0
AML Almayashu 152.14 63 P PKPdf 10 30 01.0 +0.9
SNR=9.8
USP Ospenovka 152.58 60 P PKPdf 10 30 01.0 +0.7
SNR=8.5
AAK Ala-Archa 152.67 61 P PKPbc 10 30 08.7 +1.0
SNR=9.7
AAK Ala-Archa 152.67 61⇑iPKIKP PKPdf 10 30 01.1 +0.5
AAK i 10 30 08.7
AAK Ala-Archa 152.67 61 PKP PKPdf 10 30 00.6 0.0
comp=Z,9.1nm,1.1s,baz=180,slow=3.2,SNR=4.9
AAK PKPbc PKiKP 10 30 07.3 -0.6
comp=Z,54nm,1.1s,baz=192,slow=3.6,SNR=17
AAK Ala-Archa 152.67 61 PKP PKPdf 10 30 00.6 0.0
AAK ePKPdf PKPdf 10 30 00.8 +0.2
AAK PKPbc PKiKP 10 30 07.3 -0.6
AAK ePKPbc PKPbc 10 30 08.6 +0.9
FRU Bishkek 152.73 61 ePKIKP PKPbc 10 30 08.5 +0.9

Code	Station	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
FRU				pmax	pmax		
	comp=Z,80nm,1.4s						
UCH	Uchtor	152.74	62	P	PKPdf	10 30 02.5	+1.4
	SNR=12						
CHMS	Chumysh	152.80	60	P	PKPbc	10 30 08.4	+0.6
	SNR=9.8						
CHMS	Chumysh	152.80	60	i PKIKP	PKPbc	10 30 08.4	+0.6
NVS	Novosibirsk	152.90	32	ePKIKP	PKPdf	10 29 59.6	-0.7
NVS				pmax	pmax		
	comp=N,16nm,1.4s						
NVS				pmax	pmax		
	comp=E,45nm,1.4s						
NVS				pmax	pmax		
	comp=Z,138nm,1.4s						
KBK	Karagaybulak	153.00	61	P	PKPbc	10 30 09.5	+1.1
	SNR=11						
KZA	Kyzart	153.30	62	P	PKPbc	10 30 11.1	+1.7
	SNR=8.2						
KZA	Kyzart	153.30	62	i PKIKP	PKPbc	10 30 11.1	+1.7
TKM2	Tokmak 2	153.43	60	P	PKPdf	10 30 02.9	+1.1
	SNR=5.9						
NDI	New Delhi	153.60	93	ex	PKPdf	10 30 02.5	+0.3
CLNS	Chul'man	154.06	338	ePKIKP	PKPdf	10 30 00.4	-1.6
CLNS				pmax	pmax		
	comp=N,9.0nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,17nm,1.5s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.5s						
KSH	Kashi	154.07	68	ePKPbc	PKPdf	10 30 04.0	+1.3
ZAA0	Zalesovo Array	154.19	32	ePKPdf	PKPdf	10 30 01.6	-0.5
ZAA0				ePKPbc	PKiKP	10 30 11.8	+1.4
ZAA0				ePKPab	PKPab	10 30 25.1	+0.9
ZALV	Zalesovo Beam	154.19	32	PKP	PKPdf	10 30 01.4	-0.8
	comp=E,30nm,1.2s,baz=298,slow=3.1,SNR=15						
ZALV				PKPbc	PKiKP	10 30 10.4	0.0
	comp=E,15nm,0.6s,baz=314,slow=2.8,SNR=13						
MJAR	Matsushiro Arr	154.86	285	PKP	PKPdf	10 30 03.2	-0.5
	comp=E,4.2nm,1.1s,baz=96,slow=0.9,SNR=5.9						
MJAR				PKPbc	PKiKP	10 30 11.8	-0.6
	comp=E,4.7nm,0.3s,baz=215,slow=1.5,SNR=5.6						
BOD	Bodaibo	155.55	352	ePKIKP	PKPdf	10 30 07.2	+3.3
BOD				e		10 30 29.7	
BOD				pmax	pmax		
	comp=Z,12nm,1.7s						
BOD				pmax	pmax		
	comp=Z,35nm,1.8s						
MK31	Makanchi Array	156.84	48	ePKIKP	PKPdf	10 30 05.6	-0.5
MK31	Makanchi Array	156.84	48	ePKPdf	PKPdf	10 30 05.6	-0.5
MK31				ePKPab	PKPab	10 30 36.8	+0.9
MKAR	Makanchi Array	156.84	48	PKP	PKPdf	10 30 05.6	-0.4
	comp=Z,8.5nm,1.2s,baz=276,slow=1.8,SNR=9.7						
MKAR				PKPbc	PKPbc	10 30 15.1	
	comp=Z,7.8nm,1.1s,baz=301,slow=2.6,SNR=6.8						
MKAR				PKPab	PKPab	10 30 33.8	-2.0
	comp=Z,13nm,0.8s,baz=298,slow=3.9,SNR=13						
MKAR				PP	PP	10 34 11.2	-3.2
	comp=Z,15nm,1.2s,baz=284,slow=5.8,SNR=2.8						
USRK	Ussuriysk Arra	158.43	306	PKPab	PKPab	10 30 42.0	-0.8
	comp=Z,1.6nm,0.9s,baz=69,slow=4.8,SNR=4.3						
KOLN	Koldanda	158.57	100	eP	PKPdf	10 30 08.3	-0.7
	comp=Z,137nm,1.5s						
DANN	Dangsing	158.91	98	eP	PKPdf	10 30 09.0	-0.5
	comp=Z,144nm,1.2s						
GKN	Gorkha	159.50	100	eP	PKPdf	10 30 09.3	-0.7
	comp=Z,92nm,1.4s						
DMN	Daman	159.74	102	eP	PKPdf	10 30 09.4	-1.1
MDJ	Mudanjiang	159.85	309	PKP	PKPdf	10 30 08.5	-1.2
MDJ	Mudanjiang	159.85	309	ePKPdf	PKPdf	10 30 09.0	-0.7
KKN	Kakani	159.95	101	eP	PKPdf	10 30 09.9	-0.7
PKIN	Phulchoki	159.96	102	eP	PKPdf	10 30 09.5	-1.2
PKI	Pulchoki	159.97	102	eP	PKPdf	10 30 09.8	-1.0
	comp=Z,112nm,1.5s						
GUN	Gumba	160.49	102	eP	PKPdf	10 30 11.1	-0.3
	comp=Z,151nm,1.5s						
JIRN	Jiri	160.64	103	eP	PKPdf	10 30 11.0	-0.6
	comp=Z,96nm,1.5s						
RAMN	Ramite	160.68	105	eP	PKPdf	10 30 11.5	0.0
	comp=Z,216nm,1.5s						
ODAN	Odare	161.27	106	eP	PKPdf	10 30 12.2	+0.1
	comp=Z,80nm,1.3s						
MOY	Mondy	161.48	13	ePKIKP	PKPdf	10 30 14.3	+2.9
TAPN	Taplejung	161.74	105	eP	PKPdf	10 30 12.2	-0.5
	comp=Z,85nm,1.4s						
TLY	Talaya	161.86	8	PKP	PKPdf	10 30 12.3	+0.6
	comp=Z,1.0nm,0.4s,baz=176,slow=5.0,SNR=5.7						
TLY				PKPab	PKPab	10 30 57.5	+0.1
	comp=Z,5.5nm,0.8s,baz=350,slow=3.4,SNR=6.3						
CMAR	Chiang Mai Arr	162.91	151	PKP	PKPdf	10 30 13.7	-0.1
	comp=Z,1.9nm,0.4s,baz=244,slow=2.3,SNR=17						
CMAR				PKPab	PKPab	10 31 02.6	-0.2
	comp=Z,5.4nm,1.0s,baz=226,slow=4.2,SNR=6.0						
ZAK	Zakamensk	163.09	10	ePKIKP	PKPdf	10 30 21.4	+8.4
ZAK				e		10 31 04.1	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
ZAK				pmax	pmax		
	comp=Z,13nm,1.3s						
CHTO	Chiang Mai	163.23	150	ePKIKP	PKPdf	10 30 11.6	-2.4
CHTO	Chiang Mai	163.23	150	ePKPdf	PKPdf	10 30 11.6	-2.4
LSA	Lhasa	165.44	102	ePKIKP	PKPdf	10 30 14.8	-1.5
LSA	Lhasa	165.44	102	ePKPdf	PKPdf	10 30 14.8	-1.5
SONM	Songino Array	165.91	3	PKP	PKPdf	10 30 15.1	-0.6
	comp=Z,2.1nm,1.0s,baz=0.0,slow=2.9,SNR=3.3						
SONM				PKPab	PKPab	10 31 15.4	-0.1
	comp=Z,12nm,1.1s,baz=340,slow=3.0,SNR=11						
NJ2	Nanjing	170.37	263	ePKP	PKPdf	10 30 20.3	+1.3
GTA	Gaotai	171.59	46	⇑PKP	PKPdf	10 30 19.5	-0.1
GTA				pPKP	pPKPdf	10 30 30.0	+4.5
GTA				sPKP		10 30 34.3	
GTA				PKPab	PKPab	10 31 41.5	+0.6
GTA				PP	PP	10 35 34.0	+2.2
GTA				SS	SS	10 56 32.0	-6.3
GTA				AMB	AMB		
	comp=Z,5μm,10.9s						
GTA				LR	LR		
	comp=Z,5μm,20.4s						
TIA	Tai'an	171.80	290	ePKP	PKPdf	10 30 19.8	+0.2
GYA	Guiyang	172.68	174	i PKP	PKPdf	10 30 20.0	-0.5
GYA				pPKP	pPKPdf	10 30 31.3	+5.0
GYA				PKPab	PKPab	10 31 48.0	+2.2
GYA				PKS	PKSdf	10 33 50.0	-3.0
GYA				PP	PP	10 35 38.8	+2.6
GYA				SKKS		10 42 21.0	
GYA				SS	SS	10 56 45.8	-1.4
GYA				AMB	AMB		
	comp=Z,190nm,8.3s						
CD2	Chengdu	175.69	130	PKP	PKPdf	10 30 21.0	-0.3
CD2				pPKP	pPKPdf	10 30 32.3	+5.2
CD2				sPKP		10 30 36.0	
CD2				PKS	PKSdf	10 33 51.8	-1.7
CD2				PP	PP	10 35 54.5	+2.6
CD2				SKS	SKSdf	10 37 18.5	-5.2
CD2				SKKS	SKKSac	10 42 35.3	-2.4
CD2				SS	SS	10 57 13.8	-4.3
CD2				AMB	AMB		
	comp=Z,480nm,6.4s						
LZH	Lanzhou	176.15	52	ePKP	PKPdf	10 30 21.8	+0.4
LZH				pPKP	pPKPdf	10 30 33.3	+6.1
LZH				sPKP		10 30 37.3	
LZH				PKPab	PKPab	10 32 03.0	+1.6
LZH				ePP	PP	10 35 58.0	+3.7
XAN	Xi'an	178.85	284	PKP	PKPdf	10 30 23.0	+1.3
XAN				sPKP		10 30 38.0	

IDC ***27*** *10:15:36.4±0.8, 37°.27S×73°.21W, h0km, mb4.4/9, mb1 4.6/10, mb1mx4.3/31, mbtmp4.5/10, ML3.0/1, Error ellipse: s-maj=36.9km s-min=20.3km az=64.0*

ISCJB ***27*** *10:15:40.2±0.7, 37°.3S±0°.1×72°.9W±0°.3, h33km, mb4.5/11, Error ellipse: s-maj=30.0km s-min=13.5km az=164.5*

ISC 27 10:15:41.3±0.7, 37°.4S±0°.1×73°.0W±0°.2, h33km, n21, σ1.41/22, mb4.6/11, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.83	151	Pn	Pb	10 16 45.6	-2.7
	4.6nm,0.3s,baz=334,slow=11,SNR=1.7						
USHA	Ushuaia	17.72	171	P	P	10 19 48.1	+2.3
	0.1nm,0.3s,baz=344,slow=15,SNR=2.2						
LPAZ	La Paz	21.46	13	P	P	10 20 27.6	0.0
	17nm,0.7s,baz=196,slow=10,SNR=5.2						
SNAA	Sanae	48.76	157	P	P	10 24 25.1	+2.6
	7.2nm,1.2s,baz=270,slow=4.5,SNR=4.1						
TXAR	Lajitas Array	72.34	332	P	P	10 27 04.2	+0.4
	1.4nm,0.8s,baz=147,slow=7.5,SNR=4.1						
TKL	Tuckaleechee C	73.37	351	P	P	10 27 07.3	-2.3
	6.5nm,1.0s,baz=203,slow=7.7						
SUR	Sutherland	73.88	118	P	P	10 27 13.6	+0.4
	6.3nm,0.8s,baz=90,slow=2.9,SNR=3.5						
DBIC	Dimbokro	77.00	71	P	P	10 27 32.5	+1.4
	12nm,0.8s,baz=186,slow=6.4,SNR=7.2						
BOSA	Boshof	79.18	118	P	P	10 27 42.4	-0.8
	11nm,0.8s,baz=235,slow=5.7,SNR=9.1						
LBTB	Lobatse	81.58	115	P	P	10 27 54.1	-2.1
	12nm,0.9s,baz=227,slow=6.4,SNR=5.0						
TORD	Torodi Ar. Bea	86.08	70	P	P	10 28 19.1	+0.1
	4.1nm,1.1s,baz=229,slow=4.7,SNR=3.0						
NVAR	Mina Array Bea	86.24	326	P	P	10 28 18.9	-0.7
	1.4nm,1.0s,baz=157,slow=4.9,SNR=3.5						
PDAR	Pinedale Array	86.45	334	P	P	10 28 20.1	-0.4
	1.7nm,1.1s,baz=181,slow=4.5,SNR=3.6						
GERES	GERESS Array B	115.06	47	PKP	PKPdf	10 34 18.6	+0.1
	0.7nm,0.6s,baz=316,slow=2.7,SNR=3.4						
ILAR	Eielson Array	116.85	333	PKP	PKPdf	10 34 20.8	-0.5
	1.5nm,1.2s,baz=169,slow=1.8,SNR=3.8						
BRTR	Keskin Array B	124.10	63	PKP	PKPdf	10 34 36.3	+0.1
	1.7nm,0.7s,baz=177,slow=3.7,SNR=5.9						
AKASG	Malin Array Be	125.02	49	PKP	PKPdf	10 34 37.0	-0.4
	0.3nm,0.4s,baz=258,slow=2.8,SNR=4.5						
PSI	Prapat	144.78	166	PKP	PKPab	10 35 13.7	-0.6
	21nm,0.9s,baz=170,slow=4.1,SNR=7.0						
BVAR	Borovoye Array	150.23	47	PKP	PKPdf	10 35 22.7	-0.4
	2.6nm,1.0s,baz=298,slow=3.1,SNR=2.4						
BVAR				PKPbc	PKiKP	10 35 29.2	+0.1
	8.1nm,0.9s,baz=294,slow=4.4,SNR=7.7						
AAK	Ala-Archa	154.65	68	PKPab	PKPab	10 35 55.7	+2.0
	4.9nm,0.6s,baz=270,slow=2.0,SNR=4.7						
ZALV	Zalesovo Beam	157.47	36	PKPab	PKPab	10 36 06.0	+0.9
	3.7nm,0.8s,baz=320,slow=3.8,SNR=4.3						

ISCJB ***27*** *10:18:18.5±0.5, 34°.53S±0°.09×72°.7W±0°.2, h10km, mb4.4/16, Error ellipse: s-maj=20.9km s-min=12.5km az=162.1*

IDC ***27*** *10:18:18.6±0.6, 34°.42S×72°.31W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.3/35, mbtmp4.5/13, Error ellipse: s-maj=37.0km s-min=16.8km az=68.0*

NEIC ***27*** *10:18:23.8±0.5, 34°.52S×72°.66W, h35km, mb4.7/3, Error ellipse: s-maj=18.6km s-min=12.5km az=74.0*

ISC 27 10:18:19.8±0.7, 34°.6S±0°.1×72°.8W±0°.1, h10km, n22, σ1.35/20, mb4.5/16, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.81	54	Pn	Pn	10 19 34.4	+1.9
	1.3nm,0.3s,baz=219,slow=13,SNR=3.2						
USHA	Ushuaia	20.50	173	P	Pn	10 22 59.4	-0.5
	24nm,1.0s,baz=335,slow=13,SNR=3.2						
SNAA	Sanae	51.30	158	P	P	10 27 23.5	-0.2
	1.8nm,0.8s,baz=268,slow=7.5,SNR=3.8						
APG	El Apazote	52.08	338	P	P	10 27 27.8	-2.5
	2.1nm,0.6s,baz=24,slow=5.8,SNR=4.3						
QSPA	South Pole Qui	55.68	180	P	P	10 27 57.8	+1.7
	8.3nm,0.8s,baz=153,slow=6.8,SNR=5.3						
TEIG	Tepich	56.44	342	P	P	10 28 02.2	+0.4
	14nm,0.7s,baz=144,slow=8.7,SNR=5.3						
JCT	Junction City	69.53	335	eP	P	10 29 28.6	-0.1
	15nm,1.4s						
TXAR	Lajitas Array	69.93	331	P	P	10 29 32.8	+1.6
	1.6nm,0.6s,baz=155,slow=9.1,SNR=8.6						
TKL	Tuckaleechee C	70.61	351	P	P	10 29 34.9	-0.3
	5.0nm,0.9s,baz=158,slow=10,SNR=3.9						
MNTX	Cornudas Mount	72.70	331	eP	P	10 29 47.2	-0.7
	7.1nm,1.2s						
DBIC	Dimbokro	75.93	72	P	P	10 30 05.0	-2.1
	2.8nm,0.7s,baz=239,slow=7.8,SNR=3.0						
BOSA	Boshof	80.35	118	P	P	10 30 31.5	-0.2
	2.6nm,0.8s,baz=259,slow=5.2,SNR=2.4						
DUG	Dugway	83.05	330	eP	P	10 30 47.3	+1.9
	6.6nm,1.1s						
PDAR	Pinedale Array	83.99	334	P	P	10 30 51.8	+1.5
	1.0nm,0.7s,baz=186,slow=4.8,SNR=4.6						
NVAR	Mina Array Bea	84.00	326	P	P	10 30 50.9	+0.4
	2.2nm,0.8s,baz=155,slow=6.0,SNR=7.2						
ELK	Elko	84.52	329	P	P	10 30 54.2	+1.1
	3.1nm,0.9s,baz=159,slow=4.6,SNR=5.7						
TORD	Torodi Ar. Bea	84.97	70	P	P	10 30 53.9	-1.7
	2.5nm,0.7s,baz=268,slow=4.2,SNR=4.4						
ULM	Lac du Bonnet	86.88	345	P	P	10 31 04.5	+0.2
	4.2nm,0.9s,baz=160,slow=5.0,SNR=3.7						
YKA	Yellowknife Ar	102.39	342	P	Pdif	10 32 15.0	-0.1
	0.2nm,0.6s,baz=139,slow=4.3,SNR=4.8						
WRA	Warramunga Arr	119.98	210	PKP	PKPdf	10 37 10.7	-0.5
	1.1nm,0.5s,baz=156,slow=1.7,SNR=15						
BVAR	Borovoye Array	148.10	43	PKP	PKPdf	10 38 02.2	+0.1
	1.9nm,0.5s,baz=263,slow=1.2,SNR=4.5						
ZALV	Zalesovo Beam	155.02	32	PKPbc		10 38 19.8	
	2.7nm,0.8s,baz=298,slow=3.2,SNR=4.2						

IDC ***27*** *10:19:41.8±0.5, 35°.10S×72°.23W, h0km, mb4.9/21, mb1 5.0/24, mb1mx4.9/36, mbtmp4.9/24, ML4.9/3, Error ellipse: s-maj=22.3km s-min=11.1km az=71.0*

ISCJB ***27*** *10:19:45.2±0.2, 35°.08S±0°.06×72°.09W±0°.03, h29km, mb5.0/42, Error ellipse: s-maj=12.2km s-min=6.4km az=148.7*

NEIC ***27*** *10:19:47.2±0.2, 35°.12S×72°.17W, h35km, mb4.7/6, Error ellipse: s-maj=9.6km s-min=4.6km az=72.0*

ISC 27 10:19:46.4±0.4, 35°.11S±0°.07×72°.2W±0°.1, h29km, n433, σ0.67/426, mb5.1/42, 170C-189D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.76	168	Pn	Pn	10 21 09.3	-0.6
	21nm,0.3s,baz=356,slow=15,SNR=2.4						
LPAZ	La Paz	19.09	12	P	P	10 24 07.7	+0.2
	1.1nm,0.3s,baz=198,slow=12,SNR=4.6						
USHA	Ushuaia	19.89	174	P	P	10 24 14.9	-0.3
	0.7nm,0.3s,baz=332,slow=8.3,SNR=7.4						
SIV	San Ignacio	21.48	30	P	P	10 24 32.5	-0.3
	85nm,1.0s,baz=209,slow=8.3,SNR=16						
NNA	Nana	23.41	348	P	P	10 24 52.8	-0.3
	10.0nm,0.7s,baz=230,slow=14,SNR=2.3						
PMSA	Palmer Station	30.10	173	P	P	10 25 52.8	-0.2
	121nm,0.4s,baz=297,slow=6.8,SNR=26						
ROSC	El Rosal	39.80	357	P	P	10 27 17.6	+0.1
	13nm,0.5s,baz=30,slow=1.3,SNR=4.1						
JTS	JuntasAbangare	46.74	343	P	P	10 28 12.7	-0.4
	3.8nm,0.7s,baz=98,slow=5.4,SNR=3.1						
SNAA	Sanae	50.60	157	P	P	10 28 42.3	0.0
	18nm,0.9s,baz=275,slow=7.7,SNR=13						
APG	El Apazote	52.78	338	P	P	10 28 55.1	-4.1
	5.3nm,0.7s,baz=165,slow=3.4,SNR=6.7						
CRPR	Cabo Rojo, PR	53.04	6	eP	P	10 28 59.5	-1.3
	15nm,0.6s						
QSPA	South Pole Qui	55.13	180	P	P	10 29 16.1	+0.3
	25nm,0.9s,baz=150,slow=5.5,SNR=7.3						
TEIG	Tepich	57.12	342	P	P	10 29 29.8	-0.4
	15nm,0.6s,baz=172,slow=7.1,SNR=5.6						
034A	Hebbronville	66.73	334	⇓P	P	10 30 36.4	+1.6
	baz=67						
TIGA	Tifton	67.06	349	⇓P	P	10 30 36.8	0.0
	baz=67						
933A	Laredo	67.44	334	⇓P	P	10 30 40.4	+1.1
	baz=68						
834A	Tilden	67.65	335	⇑P	P	10 30 41.6	+1.0
	baz=68						
735A	Kenedy	68.07	336	⇑P	P	10 30 44.5	+1.2
	baz=68						
833A	Chaparral WMA,	68.13	334	⇓P	P	10 30 44.7	+1.1
	baz=68						
832A	Faith Ranch, C	68.30	334	⇑P	P	10 30 45.7	+1.0
	baz=69						
734A	La Parita Cree	68.31	335	⇓P	P	10 30 45.9	+1.1
	baz=69						
636A	Smothers Creek	68.40	337	⇓P	P	10 30 46.6	+1.4
	baz=69						
733A	Divot King Ran	68.45	335	⇑P	P	10 30 46.3	+0.6
	baz=69						
732A	Laxson Ranch,	68.70	334	⇑P	P	10 30 48.1	+0.9
	baz=69						
537A	Green Hill Far	68.72	338	⇓P	P	10 30 47.8	+0.5
	baz=69						
536A	Bastrop	68.95	337	⇑P	P	10 30 49.2	+0.5
	baz=69						
535A	Dale	69.07	337	⇑P	P	10 30 50.3	+0.9
	baz=69						
633A	Saathoff Ranch	69.09	335	⇓P	P	10 30 50.7	+1.1
	baz=69						
632A	Uvalde	69.35	334	⇑P	P	10 30 52.3	+1.1
	baz=70						
631A	Perdido Creek	69.54	334	⇓P	P	10 30 53.3	+0.8
	baz=70						
533A	Kerrville	69.60	335	⇑P	P	10 30 53.9	+1.1
	baz=70						
338A	Crockett	69.61	339	⇓P	P	10 30 53.4	+0.6
	baz=70						
532A	Rocksprings	69.95	335	⇓P	P	10 30 55.6	+0.5
	baz=70						
434A	Burnet	70.03	336	⇑P	P	10 30 55.9	+0.5
	baz=70						
336A	Riesel	70.10	338	⇑P	P	10 30 56.4	+0.6
	baz=70						
335A	Moody	70.18	337	⇓P	P	10 30 56.9	+0.6
	baz=70						
531A	Rocksprings	70.22	334	⇑P	P	10 30 57.3	+0.7
	baz=70						
JCT	Junction City	70.24	335	eP	P	10 30 56.9	+0.2
	32nm,1.1s						
JCT	Junction City	70.24	335	⇓P	P	10 30 57.1	+0.3
	baz=71						
433A	Art	70.25	336	⇑P	P	10 30 56.7	0.0
	baz=71						
KMSC	Kings Mountain	70.41	352	⇑P	P	10 30 57.8	+0.1
	baz=71						
530A	J-C Ranch, Com	70.49	333	⇑P	P	10 30 58.8	+0.6
	baz=71						
334A	Lometa	70.49	336	⇑P	P	10 30 58.6	+0.4
	baz=71						
432A	Menard	70.60	335	⇑P	P	10 30 59.1	+0.2
	baz=71						
TXAR	Lajitas Array	70.65	331	P	P	10 30 59.2	-0.1
	2.6nm,0.6s,baz=158,slow=8.0,SNR=11						
431A	Sonora	70.71	334	⇓P	P	10 31 00.5	+0.9
	baz=71						
333A	Richland Sprin	70.73	336	⇑P	P	10 30 59.9	+0.2
	baz=71						
529A	Stev Forest Ra	70.80	333	⇓P	P	10 31 00.7	+0.5
	baz=71						
WHTX	Lake Whitney	70.85	337	⇓P	P	10 31 00.2	-0.1
	baz=71						
430A	Baggett Ranch,	71.03	334	⇑P	P	10 31 01.7	+0.2
	baz=71						
332A	Millersview	71.04	335	⇑P	P	10 31 01.8	+0.2
	baz=71						
234A	Clairette	71.08	337	⇓P	P	10 31 01.9	+0.1
	baz=71						
429A	Davenport Ranc	71.12	333	⇓P	P	10 31 02.6	+0.4
	baz=71						
331A	San Angelo	71.21	335	⇓P	P	10 31 02.6	0.0
	baz=72						
TKL	Tuckaleechee C	71.23	350	P	P	10 31 01.5	-1.1
	7.9nm,0.9s,baz=162,slow=6.4,SNR=3.0						
TKL	Tuckaleechee C	71.23	350	eP	P	10 31 01.7	-0.9
233A	Rising Star	71.34	336	⇑P	P	10 31 03.4	0.0
	baz=72						
232A	Coleman	71.47	336	⇓P	P	10 31 04.0	-0.2
	baz=72						
330A	Mertzon	71.57	334	⇑P	P	10 31 04.6	-0.2
	baz=72						
134A	White-Moore Ra	71.58	337	⇓P	P	10 31 04.7	-0.1
	baz=72						
231A	Bronte	71.74	335	⇓P	P	10 31 05.7	-0.2
	baz=72						
133A	Hamilton Ranch	71.89	336	⇓P	P	10 31 06.6	0.0
	baz=72						
329A	Wagon Wheel Ra	71.93	333	⇑P	P	10 31 06.9	-0.1
	baz=72						
230A	Sterling City	71.98	334	⇑P	P	10 31 07.2	-0.1
	baz=72						
Z35A	Perchaven, San	72.03	338	⇓P	P	10 31 07.6	+0.1
	baz=72						
ABTX	Abilene, Hawle	72.14	336	⇓P	P	10 31 08.3	+0.1
	baz=72						
Z34A	Collier Ranch,	72.27	338	⇑P	P	10 31 09.3	+0.4
	baz=73						
229A	Bryant Ranch,	72.30	334	⇑P	P	10 31 09.5	+0.3
	baz=73						
131A	Roby	72.44	335	⇓P	P	10 31 10.1	+0.1
	baz=73						
Z33A	Whitaker Ranch	72.46	337	⇑P	P	10 31 10.1	0.0
	baz=73						
130A	Snyder	72.57	335	⇑P	P	10 31 10.7	0.0
	baz=73						
Z32A	Haskell	72.71	336	⇑P	P	10 31 11.3	-0.2
	baz=73						
228A	UT Block 9, Go	72.72	333	⇓P	P	10 31 12.0	+0.3
	baz=73						
129A	Stewart Farms,	72.92	334	⇓P	P	10 31 12.9	+0.1
	baz=73						
Z31A	Sharp Cattle R	72.95	336	⇑P	P	10 31 13.1	+0.1
	baz=73						
Y33A	Hilltop Ranch,	73.08	337	⇓P	P	10 31 13.7	0.0
	baz=73						
128A	Castleberry Fa	73.14	334	⇑P	P	10 31 14.3	+0.2
	baz=74,SNR=5.4						
Z30A	Sanderson Ranc	73.25	335	⇑P	P	10 31 14.7	-0.2
	baz=74						
PARMO	Parma	73.26	345	eP	P	10 31 15.0	+0.4
Y32A	R-V Farms, Ver	73.34	337	⇑P	P	10 31 15.0	-0.2
	baz=74						
X34A	Smith Ranch, M	73.38	338	⇑P	P	10 31 15.3	-0.2
	baz=74						
MNTX	Cornudas Mount	73.42	331	eP	P	10 31 14.9	-0.9
	5.1nm,0.6s						
Z29A	Hungry Hill Ra	73.43	334	⇑P	P	10 31 15.5	-0.5
	baz=74,SNR=5.8						
GDL2	Guadalupe Moun	73.47	332	eP	P	10 31 16.2	0.0
	37nm,0.8s						
127A	Arkansas Junct	73.51	333	⇓P	P	10 31 16.5	+0.1
	baz=74						
Y31A	Rekieta Farm,	73.57	336	⇓P	P	10 31 16.8	+0.1
	baz=74						
X32A	Elmer	73.67	337	⇑P	P	10 31 17.2	0.0
	baz=74						
Y30A	Stafford Cattl	73.71	335	⇓P	P	10 31 17.8	+0.3
	baz=74						
W34A	Bridge Creek,	73.95	338	⇓P	P	10 31 19.2	+0.4
	baz=74						
Y29A	Porterfield Fa	73.96	335	⇑P	P	10 31 19.2	+0.2
	baz=74						
TUL1	Tulsa	74.01	340	⇓P	P	10 31 19.4	+0.3
	baz=74						
CPRX	Cap Rock	74.02	333	eP	P	10 31 19.9	+0.5
Z27A	Tatum	74.03	333	⇑P	P	10 31 19.7	+0.3
	baz=74						
W33A	Caddo, Fort Co	74.09	338	⇓P	P	10 31 19.9	+0.3
	baz=74						
X31A	McDonald Ranch	74.09	336	⇑P	P	10 31 19.6	-0.1
	baz=74						
Y28A	McKinney Farm,	74.21	334	⇓P	P	10 31 20.8	+0.3
	baz=74						
X30A	Coker Ranch, T	74.22	336	⇓P	P	10 31 21.1	+0.6
	baz=75						
Z26A	Caprock	74.27	333	⇓P	P	10 31 21.3	+0.4
	baz=75,SNR=7.2						
W32A	Sentinel	74.31	337	⇑P	P	10 31 21.2	+0.3
	baz=75						
SUR	Sutherland	74.39	119	P	P	10 31 22.9	+0.9
	30nm,0.9s,baz=237,slow=5.7,SNR=9.3						
V34A	Guthrie	74.43	339	⇓P	P	10 31 21.4	-0.2
	baz=75						
MSTX	Muleshoe	74.45	334	⇓P	P	10 31 22.2	+0.3
	baz=75						
X29A	Tulia	74.50	335	⇑P	P	10 31 22.5	+0.3
	baz=75						
Y27A	Causey	74.52	334	⇑P	P	10 31 22.6	+0.3
	baz=75						
Z25A	Roswell	74.56	332	⇓P	P	10 31 22.7	+0.1
	baz=75						
W31A	Holland Ranch,	74.59	337	⇑P	P	10 31 22.7	+0.1
	baz=75						
V33A	Lossen Ranch,	74.65	338	⇑P	P	10 31 23.0	+0.1
	baz=75						
X28A	Dimmitt	74.74	335	⇑P	P	10 31 23.5	-0.1
	baz=75						
319A	Douglas	74.78	328	⇑P	P	10 31 25.5	+1.6
	baz=75						
V32A	Arapaho	74.79	338	⇓P	P	10 31 23.9	+0.1
	baz=75						
W30A	Crocket Farms	74.79	336	⇓P	P	10 31 24.7	+0.9
	baz=75						
Y26A	Elida	74.80	333	⇑P	P	10 31 24.5	+0.6
	baz=75						
Z24A	Sheeppen Canyo	74.85	332	⇓P	P	10 31 25.0	+0.7
	baz=75,SNR=5.2						

Code	Station	Info	Dist	Az	Phase		Time	Res
AMTX	Amarillo	baz=75	74.89	335	⇑P	P	10 31 24.8	+0.4
U34A	Anderson Ranch	baz=75	75.00	339	⇓P	P	10 31 25.4	+0.5
V31A	Spring Creek L	baz=75	75.09	337	⇑P	P	10 31 26.0	+0.5
W29A	Amraillo	baz=75	75.10	335	⇑P	P	10 31 26.0	+0.4
Y25A	Mesa, Roswell	baz=76	75.12	332	⇑P	P	10 31 26.7	+0.9
121A	Cookes Peak, D	baz=76	75.13	329	⇑P	P	10 31 26.8	+0.8
U33A	Lingo Farm, Me	baz=76	75.17	339	⇓P	P	10 31 25.6	-0.2
X27A	F and S Farms,	baz=76	75.18	334	⇓P	P	10 31 26.5	+0.4
LIC	Lamto	161nm,1.3s	75.23	71	eP	P	10 31 26.9	+0.1
X26A	CR and CF Fran	baz=76	75.35	333	⇓P	P	10 31 27.7	+0.6
Y24A	Capitan	baz=76	75.41	332	⇓P	P	10 31 28.1	+0.5
Z22A	Elephant Butte	baz=76	75.42	330	⇓P	P	10 31 28.2	+0.6
TIC	Toumodi	62nm,1.0s	75.50	71	eP	P	10 31 28.5	+0.2
W27A	Bowe Ranch, En	baz=76	75.54	334	⇑P	P	10 31 28.6	+0.4
KIC	Kosan Boka	220nm,1.2s	75.54	71	eP	P	10 31 28.8	+0.3
DBIC	Dimbokro	37nm,0.9s,baz=210,slow=6.1,SNR=14	75.64	71	P	P	10 31 29.5	+0.4
Y23A	Lovelace Mesa,	baz=76	75.65	331	⇓P	P	10 31 29.9	+0.9
T33A	Patterson Ranc	baz=76	75.81	339	⇓P	P	10 31 30.3	+0.8
W26A	Owens Ranch, T	baz=76	75.81	334	⇓P	P	10 31 30.4	+0.6
V28A	Channing	baz=76	75.86	335	⇓P	P	10 31 30.5	+0.5
U30A	WK&E Inc. Balk	baz=76	76.05	337	⇑P	P	10 31 31.6	+0.6
V27A	Dan Oppiter Fa	baz=76	76.08	335	⇓P	P	10 31 31.9	+0.6
T32A	Huddler Ranch,	baz=76	76.10	338	⇓P	P	10 31 32.1	+0.9
U29A	Oasis Ranch, S	baz=76	76.18	336	⇑P	P	10 31 32.3	+0.6
W25A	X Bar L Ranch,	baz=76	76.19	333	⇑P	P	10 31 32.2	+0.4
TUC	Tucson	13nm,1.3s	76.24	327	eP	P	10 31 32.6	+0.4
T31A	Randall Ranch,	baz=77	76.26	338	⇓P	P	10 31 32.1	0.0
V26A	Tequesquite Ra	baz=77	76.45	334	⇓P	P	10 31 33.6	+0.3
T30A	Plains	baz=77	76.48	337	⇑P	P	10 31 33.9	+0.5
LAZ	Ladron	15nm,1.6s	76.50	331	eP	P	10 31 33.5	-0.2
W24A	Lazy 6 Ranch,	baz=77	76.53	333	⇓P	P	10 31 33.7	-0.2
S32A	Newby Ranch, P	baz=77	76.59	338	⇓P	P	10 31 34.5	+0.5
U27A	Thompson Grove	baz=77	76.68	335	⇓P	P	10 31 35.3	+0.6
S31A	Mullinville	baz=77	76.68	338	⇓P	P	10 31 34.9	+0.4
ANMO	Albuquerque	3.7nm,0.9s,baz=163,slow=6.7,SNR=4.7	76.70	332	P	P	10 31 35.5	+0.6
W23A	Werner Place,	baz=77	76.77	332	⇓P	P	10 31 36.1	+0.8
V25A	Rancho No Teng	baz=77	76.79	333	⇑P	P	10 31 35.6	+0.2
T29A	Hugoton	baz=77	76.83	336	⇓P	P	10 31 35.3	0.0
214A	Organ Pipe Nat	baz=77	76.86	325	⇑P	P	10 31 36.8	+1.2
R33A	Olander Ranch,	baz=77	76.87	339	⇓P	P	10 31 35.8	+0.3
V24A	Rampart Ranch,	baz=77	76.94	333	⇑P	P	10 31 37.1	+0.9
U26A	Atchley Ranch,	baz=77	76.98	334	⇑P	P	10 31 36.8	+0.4
S30A	Montezuma	baz=77	77.00	337	⇑P	P	10 31 37.2	+0.8
T28A	Walsh	baz=77,SNR=6.1	77.07	336	⇓P	P	10 31 36.8	0.0
R32A	Long Quarter,	baz=78	77.19	330	⇑P	P	10 31 37.7	+0.4
S29A	Ulysses	baz=78	77.19	337	⇑P	P	10 31 38.0	+0.6
T27A	Campo	baz=78	77.22	335	⇑P	P	10 31 38.2	+0.5
U25A	Circle Dot Ran	baz=78	77.22	334	⇓P	P	10 31 38.7	+0.9
V23A	Ortiz Mt. (NFS	baz=78	77.30	332	⇑P	P	10 31 39.5	+1.3
R31A	Burdett	baz=78	77.31	338	⇑P	P	10 31 38.6	+0.6
S28A	Manter	baz=78,SNR=5.7	77.42	336	⇓P	P	10 31 39.3	+0.6
Q33A	Connelly Farm,	baz=78	77.47	340	⇓P	P	10 31 39.1	+0.3
R30A	Dighton	baz=78	77.53	338	⇓P	P	10 31 39.8	+0.5
U24A	Moreno Valley	baz=78	77.55	333	⇓P	P	10 31 41.3	+1.6
T26A	Comanche Natio	baz=78	77.62	335	⇑P	P	10 31 40.8	+0.8
Q32A	Meitler Ranch,	baz=78	77.67	339	⇑P	P	10 31 40.4	+0.4
V22A	San Miguel Ran	baz=78	77.73	332	⇑P	P	10 31 41.9	+1.2
X18A	Snowflake	baz=78	77.76	329	⇑P	P	10 31 41.9	+1.1
U23A	El Rito	baz=78	77.82	332	⇓P	P	10 31 42.0	+0.9
P33A	Williams Farm,	baz=78	77.83	340	⇑P	P	10 31 41.3	+0.4
T25A	Trinidad	baz=78	77.88	334	⇓P	P	10 31 42.4	+0.9
Q31A	Ellis	baz=78	77.93	339	⇓P	P	10 31 42.5	+1.0
R29A	Marienthal	baz=78	77.93	337	⇑P	P	10 31 42.3	+0.7
S26A	Kim	baz=78	77.98	335	⇓P	P	10 31 42.4	+0.5
113A	Mohawk Valley,	baz=78	77.98	325	⇑P	P	10 31 42.9	+1.1
R28A	Tribune	baz=78	78.08	337	⇑P	P	10 31 43.3	+0.9
U22A	Llaves	baz=78	78.11	332	⇑P	P	10 31 43.7	+0.9
Q30A	Quinter	baz=78	78.15	338	⇑P	P	10 31 43.5	+0.7
T24B	San Luis	baz=78	78.16	333	⇑P	P	10 31 44.3	+1.2
W18A	Petrified Fore	baz=78	78.18	329	⇓P	P	10 31 44.4	+1.3
P32A	Huiting Farm,	baz=79	78.27	339	⇑P	P	10 31 43.8	+0.5
Q29A	Oakley	baz=79	78.31	337	⇑P	P	10 31 44.3	+0.7
X16A	Lo Mia Camp, P	baz=79	78.31	328	⇓P	P	10 31 45.3	+1.4
R27A	Eads	baz=79	78.35	336	⇑P	P	10 31 43.7	-0.2
S25A	Robets Cordova	baz=79	78.35	334	⇑P	P	10 31 44.9	+0.8
T23A	Casias Ranch,	baz=79	78.38	333	⇑P	P	10 31 44.8	+0.5
P31A	Stockton	baz=79	78.40	339	⇓P	P	10 31 45.3	+1.2
R26A	Arlington	baz=79	78.58	335	⇓P	P	10 31 46.1	+0.9
Y14A	Wickenburg	baz=79	78.61	326	⇑P	P	10 31 46.8	+1.5
S24A	Houchin Ranch,	baz=79	78.61	334	⇓P	P	10 31 46.7	+1.0
P30A	Selden	baz=79	78.68	338	⇓P	P	10 31 46.6	+1.0
Q28A	Sharon Springs	baz=79	78.74	337	⇑P	P	10 31 47.1	+1.0
R25A	Fountain Ranch	baz=79	78.74	335	⇓P	P	10 31 46.7	+0.6
O32A	Brockman Farm,	baz=79	78.77	340	⇓P	P	10 31 46.8	+0.8
SDCO	Great Sand Dun	4.3nm,0.8s	78.81	334	eP	P	10 31 47.5	+0.8
P29A	Atwood	baz=79	78.94	338	⇑P	P	10 31 48.3	+1.2
KSCO	Kaye Shedlock'	baz=79	78.95	336	⇑P	P	10 31 48.2	+1.0
S23A	Nye Farm, Mont	baz=79	78.96	333	⇑P	P	10 31 48.4	+1.0
TSUM	Tsumeb	23nm,1.1s,baz=244,slow=4.8,SNR=12	79.02	106	P	P	10 31 49.0	+0.8
SWSC	Sam W. Stewart	baz=79	79.09	324	⇓P	P	10 31 49.1	+1.1
R24A	Sanders Place,	baz=79,SNR=5.2	79.10	334	⇑P	P	10 31 49.1	+0.9
Q26A	Hugo	baz=80	79.17	336	⇑P	P	10 31 49.3	+0.9
P28A	Saint Francis	baz=80	79.18	337	⇓P	P	10 31 49.1	+0.7
O30A	MW Ranch, Wils	baz=80	79.21	339	⇓P	P	10 31 49.2	+0.7
WUAZ	Wupatki	baz=80	79.21	328	⇑P	P	10 31 49.6	+0.8
N32A	Stulken Farm,	baz=80	79.24	340	⇑P	P	10 31 49.1	+0.5
S22A	4UR Ranch, Cre	baz=80	79.31	333	⇓P	P	10 31 50.2	+0.8
R23A	Moffat	baz=80	79.33	334	⇓P	P	10 31 50.1	+0.6
MONP	Monument Peak	baz=80	79.36	323	⇑P	P	10 31 50.4	+0.7
O29A	4D Ranch, Culb	baz=80	79.38	338	⇓P	P	10 31 50.3	+0.8
Q25A	Bedland, Calha	baz=80	79.41	335	⇓P	P	10 31 50.2	+0.4
P27A	Ficken Ranch,	baz=80	79.43	337	⇓P	P	10 31 50.4	+0.6
PDMCI	Parker Dam,Lak	baz=80	79.43	326	⇓P	P	10 31 50.7	+1.0
N31A	Bailey Ranch,	baz=80	79.48	340	⇑P	P	10 31 50.8	+0.9
MVCO	Mesa Verde	baz=80	79.48	331	⇓P	P	10 31 51.2	+0.9
BC3	Big Chuckawall	baz=80	79.51	324	⇓P	P	10 31 51.5	+1.1
BOSA	Boshof	59nm,0.8s,baz=239,slow=4.5,SNR=25	79.66	118	P	P	10 31 52.0	+0.4
P26A	Davis Ranch, A	baz=80	79.68	336	⇑P	P	10 31 51.6	+0.4
O28A	Krutsinger Ran	baz=80	79.69	337	⇑P	P	10 31 52.0	+0.8
Q24A	Divide	baz=80	79.77	334	⇑P	P	10 31 52.7	+0.8
IRM	Iron Mountain	baz=80	79.78	325	⇓P	P	10 31 52.6	+0.9
BGNE	Belgrade	baz=80	79.80	340	⇑P	P	10 31 51.4	-0.2
P25A	Willow Gulch B	baz=80	79.92	335	⇑P	P	10 31 53.7	+1.2
N29A	Votaw Ranch, W	baz=80	79.97	338	⇓P	P	10 31 53.8	+1.2
M31A	Lambtecht Ranc	baz=80	79.97	340	⇓P	P	10 31 53.6	+1.0
O27A	Beecher Island	baz=80	79.97	337	⇑P	P	10 31 54.0	+1.3
W13A	Hualapai Mount	baz=80	79.97	326	⇑P	P	10 31 54.4	+1.4
BELC	Belle Mtn. Jos	baz=80	80.06	324	⇑P	P	10 31 54.6	+1.3
N28A	Pribbeno Ranch	baz=80	80.12	338	⇓P	P	10 31 54.6	+1.1
P24A	Kohler Place,	baz=80	80.17	335	⇑P	P	10 31 54.9	+0.9
O26A	Horse Wrangler	baz=81	80.29	336	⇓P	P	10 31 55.8	+1.4
P23A	Jefferson	baz=81	80.38	334	⇑P	P	10 31 56.0	+0.7
U15A	North Rim	baz=81	80.38	328	⇓P	P	10 31 56.2	+0.9
GMRC	Granite Mounta	baz=81	80.53	325	⇓P	P	10 31 57.1	+1.2
N27A	Anderson Farm,	baz=81	80.55	337	⇓P	P	10 31 56.3	+0.5
M29A	Burnside Ranch	baz=81	80.56	339	⇓P	P	10 31 56.4	+0.6
ISCO	Idaho Springs	17nm,1.6s	80.68	335	eP	P	10 31 57.7	+0.9
ISCO	Idaho Springs	baz=81	80.68	335	⇑P	P	10 31 57.4	+0.7
L31A	Butterfield Fa	baz=81,SNR=7.7	80.70	340	⇑P	P	10 31 57.5	+1.0
M28A	Bar X Bar Ranc	baz=81	80.72	338	⇑P	P	10 31 57.5	+0.8
L30A	Spencer Herefo	baz=81	80.74	340	⇑P	P	10 31 58.2	+1.5
BFSC	Mount Baldy Ra	baz=81	81.05	323	⇑P	P	10 32 00.1	+1.4
L29A	Maesberg Ranch	baz=81	81.06	339	⇑P	P	10 31 59.9	+1.5
O23A	Lake Granby, G	baz=82	81.15	334	⇓P	P	10 32 00.6	+1.3
TUQ	Turquoise Moun	baz=82	81.19	325	⇑P	P	10 32 00.3	+0.9
O22A	Kremmling	baz=82	81.33	334	⇑P	P	10 32 01.0	+0.8
N24A	Carr	baz=82	81.34	335	⇑P	P	10 32 00.8	+0.7
K30A	Basset	baz=82,SNR=5.2	81.38	340	⇓P	P	10 32 01.0	+0.9
GSC	Goldstone	baz=82	81.50	324	⇓P	P	10 32 02.1	+1.1
ECSD	EROS Data Cent	34nm,1.0s	81.57	342	eP	P	10 32 00.4	-0.6
ECSD	EROS Data Cent	baz=82,SNR=7.1	81.57	342	⇓P	P	10 32 01.3	+0.3
K29A	Lazy Trails An	baz=82	81.66	339	⇓P	P	10 32 02.6	+1.0
SHPR	Sheep Range	35nm,1.9s	81.72	326	eP	P	10 32 03.4	+1.2
EDW2	Edwards Air Fo	baz=82	81.73	323	⇓P	P	10 32 02.4	+0.2
N23A	Red Feather La	baz=82	81.76	335	⇑P	P	10 32 03.1	+0.6
N22A	Wattenberg Ran	baz=82	81.86	334	⇓P	P	10 32 03.9	+0.9
OSI	Osito Adit	baz=82	81.88	323	⇓P	P	10 32 04.0	+1.0
M24A	Cheyenne	baz=82	81.89	336	⇓P	P	10 32 03.6	+0.6
K28A	Ten Mile Ranch	baz=82	81.92	339	⇓P	P	10 32 04.1	+1.1
O20A	White River Ci	baz=82	81.93	333	⇓P	P	10 32 03.4	+0.2
LBTB	Lobatse	28nm,0.8s,baz=253,slow=6.0,SNR=11	81.94	115	P	P	10 32 03.9	0.0
J30A	Dallas	baz=82	81.94	340	⇑P	P	10 32 03.5	+0.4
ARUT	Antelope Range	552nm,1.7s	82.02	328	eP	P	10 32 05.0	+1.2
LRMC	Laurel Mountai	baz=82	82.06	324	⇓P	P	10 32 03.0	-1.0
SPMN	St. Paul	baz=82	82.12	345	⇓P	P	10 32 03.3	-0.5
K27A	Flueckinger Fa	baz=82	82.17	338	⇑P	P	10 32 05.4	+1.0
M23A	Laramie	baz=82	82.19	335	⇑P	P	10 32 05.4	+0.7
J29A	Okreek	baz=83,SNR=7.2	82.25	340	⇓P	P	10 32 05.2	+0.5
FURC	Furnace Creek,	baz=83	82.47	325	⇑P	P	10 32 06.9	+1.0
I30A	Oacoma	baz=83	82.47	340	⇓P	P	10 32 06.3	+0.5
J28A	Allard Ranch,	baz=83	82.53	339	⇑P	P	10 32 07.3	+1.1
N20A	Spence Gulch,	baz=83	82.54	333	⇓P	P	10 32 07.1	+0.6
ISA	Isabella	baz=83	82.59	324	⇓P	P	10 32 07.9	+1.2
J27A	Elkhorn Farm,	baz=83	82.61	338	⇑P	P	10 32 07.8	+1.2
L23A	Garrett	baz=83	82.76	336	⇑P	P	10 32 08.3	+0.6
I29A	Vivian Onida	baz=83	82.81	340	⇑P	P	10 32 08.0	+0.4
BRSD	Miller	baz=83	82.83	341	⇓P	P	10 32 08.0	+0.3
J26A	Sides Ranch, S	baz=83	82.98	338	⇑P	P	10 32 10.0	+1.4
VES	Vestal, Richgr	baz=83	83.03	323	⇑P	P	10 32 09.6	+0.7
I28A	Midland	baz=83,SNR=6.4	83.04	339	⇓P	P	10 32 09.2	+0.4
J25A	Sunshine Ranch	baz=84	83.28	337	⇑P	P	10 32 11.0	+0.9
K23A	Bowen Ranch, D	baz=84	83.31	336	⇑P	P	10 32 10.7	+0.3
H29A	Onida	baz=84	83.35	340	⇓P	P	10 32 10.8	+0.5
I27A	Quinn	baz=84	83.36	339	⇓P	P	10 32 11.2	+0.7
R11A	Troy Canyon, C	baz=84	83.42	327	⇑P	P	10 32 11.8	+0.7
J24A	Dixon Ranch, L	baz=84	83.50	337	⇑P	P	10 32 12.2	+0.9
K22A	Casper	baz=84	83.52	335	⇓P	P	10 32 11.9	+0.4
G30A	Faulkton	baz=84	83.52	341	⇑P	P	10 32 12.0	+0.8
I26A	New Underwood	baz=84	83.57	338	⇓P	P	10 32 12.1	+0.6
H28A	Mission Ridge	baz=84	83.62	340	⇑P	P	10 32 12.4	+0.6
K21A	Alcova	baz=84	83.76	335	⇓P	P	10 32 13.2	+0.5
DUG	Dugway	44nm,1.6s	83.77	330	eP	P	10 32 12.9	+0.1
DUG	Dugway	baz=84,SNR=6.6	83.77	330	⇓P	P	10 32 13.3	+0.5
G29A	Hoven	baz=84,SNR=5.4	83.79	341	⇑P	P	10 32 12.8	+0.3
I25A	Rochford	baz=84	83.83	338	⇑P	P	10 32 13.7	+0.7
H27A	Howes	baz=84	83.88	339	⇓P	P	10 32 14.0	+0.9
G28A	Parade	baz=84	83.95	340	⇓P	P	10 32 14.2	+0.7
I24A	Kuemmerle Ranc	baz=84	83.97	337	⇓P	P	10 32 14.2	+0.5
RSSD	Black Hills	7.9nm,0.9s	84.02	338	eP	P	10 32 14.1	+0.1
F30A	Leola	baz=84	84.14	341	⇑P	P	10 32 14.9	+0.5
J22A	Midwest	baz=84	84.18	336	⇓P	P	10 32 14.7	0.0
H25A	Fruitdale	baz=85	84.33	338	⇓P	P	10 32 16.1	+0.7
F29A	Eureka	baz=85	84.36	341	⇑P	P	10 32 15.5	0.0
J21A	Lysite	baz=85	84.45	335	⇑P	P	10 32 16.5	+0.3
G27A	Dupree	baz=85	84.52	339	⇓P	P	10 32 16.6	+0.2
I22A	9 Mile Ranch,	baz=85,SNR=5.1	84.61	336	⇓P	P	10 32 17.1	+0.2
F28A	McLaughlin	baz=85	84.63	340	⇓P	P	10 32 17.1	+0.2
G26A	Maurine	baz=85	84.64	339	⇑P	P	10 32 17.3	+0.3
J20A	Shoshoni	baz=85,SNR=7.0	84.68	335	⇑P	P	10 32 17.8	+0.5
TOA0	Torodi Ar. Sit		84.69	70	eP	P	10 32 17.6	-0.3
TORD	Torodi Ar. Bea	24nm,1.1s,baz=246,slow=4.6,SNR=15	84.69	70	P	P	10 32 17.8	0.0
PDAR	Pinedale Array	3.0nm,1.1s,baz=126,slow=5.9,SNR=4.5	84.70	333	P	P	10 32 17.4	-0.2
NVAR	Mina Array Bea	2.7nm,0.9s,baz=149,slow=5.3,SNR=4.9	84.73	325	P	P	10 32 17.9	+0.1
E30A	Jud	baz=85	84.73	342	⇓P	P	10 32 17.4	0.0
H24A	Dirks Ranch, A	baz=85	84.74	337	⇓P	P	10 32 17.5	0.0
G25A	Newell	baz=85	84.79	338	⇓P	P	10 32 18.0	+0.3
I21A	Big Trails, Te	baz=85,SNR=6.0	84.81	335	⇓P	P	10 32 18.2	+0.2
J19A	Crowheart	baz=85	84.95	334	⇓P	P	10 32 18.8	0.0
E29A	Napoleon	baz=85	84.98	341	⇑P	P	10 32 18.6	0.0
F27A	Lemmon	baz=85	85.00	340	⇑P	P	10 32 19.1	+0.3
F26A	Lodgepole	baz=86	85.17	339	⇓P	P	10 32 19.8	+0.2
H22A	Clearmont	baz=86	85.18	336	⇓P	P	10 32 20.0	+0.3
G24A	Alzada	baz=86	85.22	338	⇑P	P	10 32 20.2	+0.3
I20A	Worland	baz=86,SNR=8.6	85.22	335	⇑P	P	10 32 19.8	-0.1
ELK	Elko	3.2nm,1.1s,baz=172,slow=7.1,SNR=3.8	85.25	329	P	P	10 32 20.4	+0.1
D30A	Buchanan	baz=86	85.26	342	⇑P	P	10 32 20.3	+0.4
E28A	Huff	baz=86	85.27	341	⇓P	P	10 32 20.4	+0.4
WAKR	Walker	52nm,2.0s	85.32	325	eP	P	10 32 20.8	+0.1
E27A	Carson	baz=86	85.38	340	⇑P	P	10 32 20.8	+0.2
G23A	Biddle	baz=86	85.41	337	⇑P	P	10 32 21.1	+0.3
D29A	Pettibone, Tap	baz=86	85.43	342	⇑P	P	10 32 21.4	+0.6
H21A	Big Horn, Sher	baz=86	85.44	336	⇓P	P	10 32 21.4	+0.4
F25A	Bowman	baz=86	85.47	339	⇑P	P	10 32 21.4	+0.3
I19A	Meeteetse	baz=86	85.60	334	⇓P	P	10 32 22.2	+0.3
H20A	Greybull	baz=86,SNR=8.5	85.64	335	⇓P	P	10 32 21.9	-0.1
E26A	Carlson Angus	baz=86	85.67	340	⇑P	P	10 32 22.3	+0.2
AGMN	Agassiz Nation	baz=86	85.69	344	⇑P	P	10 32 22.4	+0.3
F24A	Ekalaka	baz=86,SNR=5.6	85.69	338	⇑P	P	10 32 22.4	+0.2
G22A	Birney	baz=86	85.72	337	⇓P	P	10 32 22.7	+0.3
C30A	Mose, Pekin	baz=86	85.74	343	⇑P	P	10 32 22.9	+0.5
D28A	Regan	baz=86	85.81	341	⇓P	P	10 32 23.2	+0.5
F23A	Volborg	baz=86,SNR=5.1	85.88	337	⇑P	P	10 32 23.5	+0.3
E25A	Miller Ranch,	baz=86	85.97	339	⇓P	P	10 32 24.0	+0.4
G21A	Lodge Grass	baz=86,SNR=5.9	86.02	336	⇑P	P	10 32 24.1	+0.1
I17A	Pilgrim Ck.	baz=86	86.07	333	⇑P	P	10 32 24.4	+0.1
H19A	Powell	baz=86	86.15	335	⇓P	P	10 32 25.2	+0.6
D26A	Manning	baz=86	86.17	340	⇓P	P	10 32 25.0	+0.5
F22A	Rosebud	baz=87,SNR=7.2	86.20	337	⇑P	P	10 32 24.9	+0.2
C28A	Hausauer Farms	baz=87	86.24	341	⇑P	P	10 32 25.3	+0.5
E24A	Baker	baz=87	86.29	338	⇑P	P	10 32 26.0	+0.8
G20A	Bridger	baz=87,SNR=6.8	86.36	335	⇑P	P	10 32 25.3	-0.3
H18A	Shoshone NF, C	baz=87,SNR=6.5	86.39	334	⇑P	P	10 32 26.1	+0.2
B30A	Myrvik Farm, E	baz=87	86.40	343	⇑P	P	10 32 26.1	+0.5
F21A	Absaloka Mine,	baz=87	86.52	336	⇓P	P	10 32 26.8	+0.4
D25A	Fairfield	baz=87,SNR=5.2	86.53	339	⇓P	P	10 32 26.9	+0.6
C27A	Sayler Ranch,	baz=87	86.54	341	⇓P	P	10 32 26.5	+0.2
E23A	Ismay	baz=87	86.54	338	⇓P	P	10 32 26.5	+0.1
B29A	Wagenman Farm,	baz=87	86.67	342	⇓P	P	10 32 27.4	+0.5
D24A	Glendive	baz=87,SNR=6.7	86.80	339	⇑P	P	10 32 27.9	+0.3
C26A	Wahner Farm, P	baz=87	86.80	340	⇓P	P	10 32 28.2	+0.6
B28A	Dugan Ranch, T	baz=87,SNR=6.4	86.91	342	⇑P	P	10 32 28.6	+0.5
C25A	Freed Ranch, W	baz=87	87.03	340	⇓P	P	10 32 29.2	+0.5
A29A	Manning Farm,		87.06	343	⇓P	P	10 32 28.8	0.0

baz=87
B27A Peters Farms, 87.11 341 ⇓P P 10 32 29.3 +0.3
baz=88
D23A Lindsay 87.12 338 ⇓P P 10 32 29.7 +0.6
baz=88,SNR=11
E21A Keefer Ranch, 87.14 337 ⇑P P 10 32 29.5 +0.2
baz=88,SNR=6.0
F19A Roth Farm, Mol 87.16 335 ⇓P P 10 32 29.4 -0.1
baz=88
C24A Savage 87.20 339 ⇓P P 10 32 30.1 +0.6
baz=88,SNR=9.4
HLID Hailey 87.25 331 eP P 10 32 30.4 +0.4
77nm,2.4s
HLID Hailey 87.25 331 ⇓P P 10 32 30.6 +0.5
baz=88
A28A Rude Farm, Bot 87.31 342 ⇓P P 10 32 30.3 +0.2
baz=88
B26A Jensen Ranch, 87.34 340 ⇑P P 10 32 30.8 +0.6
baz=88
D22A Cohagen 87.40 338 ⇑P P 10 32 31.1 +0.6
baz=88,SNR=5.9
E20A Meyer Farm, Mu 87.46 336 ⇓P P 10 32 31.0 +0.2
baz=88,SNR=5.6
B25A Knox Farm, Ray 87.50 340 ⇓P P 10 32 31.6 +0.6
baz=88
ULM Lac du Bonnet 87.54 345 P P 10 32 30.9 -0.1
6.7nm,0.8s,baz=194,slow=6.6,SNR=5.3
D21A La Casta Ranch 87.58 337 ⇑P P 10 32 31.5 0.0
baz=88
A27A Ledoux Ranch, 87.60 341 ⇓P P 10 32 31.8 +0.4
baz=88
E19A Rath Farm, Rou 87.64 336 ⇓P P 10 32 31.6 -0.1
baz=88
C23A Lambert 87.67 338 ⇑P P 10 32 32.1 +0.3
baz=88,SNR=7.4
A26A Wade Farm, Ken 87.76 341 ⇓P P 10 32 32.4 +0.2
baz=88
C22A Vida 87.83 338 ⇓P P 10 32 32.8 +0.2
baz=88
D20A Manuel Ranch, 87.97 336 ⇓P P 10 32 33.2 -0.1
baz=88,SNR=5.7
DGMT Dagmar 87.98 339 ⇓P P 10 32 33.7 +0.5
baz=88,SNR=8.0
A25A Svangstu Ranch 88.10 340 ⇑P P 10 32 34.1 +0.3
baz=88
B23A Brockton 88.21 339 ⇓P P 10 32 34.5 +0.2
baz=89
C21A Desert Coulee 88.28 337 ⇓P P 10 32 35.0 +0.3
baz=89
D19A Cripps Ranch, 88.28 336 ⇑P P 10 32 35.2 +0.4
baz=89
A24A Westby 88.33 340 ⇓P P 10 32 35.5 +0.6
baz=89
B22A Reddig Ranch S 88.36 338 ⇓P P 10 32 35.3 +0.2
baz=89
C20A Veseth Ranch, 88.48 337 ⇓P P 10 32 35.8 +0.2
baz=89
N02D Trinity Center 88.82 324 ⇑P P 10 32 38.1 +0.6
baz=89
A22A Carney Farms, 88.95 339 ⇑P P 10 32 37.9 0.0
baz=89,SNR=7.8
M04C Macdoel 89.04 325 ⇓P P 10 32 38.7 +0.2
baz=89
B20A Solberg Farm, 89.12 337 ⇑P P 10 32 38.7 +0.1
baz=90
A21A Bergtoll Ranch 89.26 338 ⇑P P 10 32 39.4 +0.1
baz=90
EGMT Eagleton 89.32 336 ⇑P P 10 32 39.9 +0.3
baz=90
B19A Brinkman Farms 89.43 337 ⇓P P 10 32 40.7 +0.6
baz=90
A20A Cobblestone Ra 89.47 337 ⇑P P 10 32 40.6 +0.3
baz=90
LSZ Lusaka 89.56 108 P P 10 32 43.5 +1.7
44nm,2.1s
A19A Klindworth Far 89.78 337 ⇑P P 10 32 42.2 +0.4
baz=90
J05D Fort Rock, OR 89.93 327 ⇓P P 10 32 43.3 +0.5
baz=90
I05D Terrebonne, OR 90.81 327 ⇑P P 10 32 47.7 +1.0
baz=91
NEW Newport 92.19 332 ⇓P P 10 32 52.5 -0.5
baz=92
ESDC Sonseca Array 97.42 46 P P 10 33 17.0 -0.2
0.9nm,0.8s,baz=235,slow=4.5,SNR=3.3
YKA Yellowknife Ar 103.07 341 Pdiff Pdif 10 33 41.0 -0.7
0.4nm,0.8s,baz=143,slow=4.1,SNR=3.7
YKA Yellowknife Ar 103.07 341 Pdif Pdif 10 33 41.0 -0.7
ILAR Eielson Array 115.13 333 PKP PKPdf 10 38 24.0 +0.2
0.6nm,0.9s,baz=260,slow=0.5,SNR=2.9
WRA Warramunga Arr 119.74 209 PKP PKPdf 10 38 32.8 -1.4
0.6nm,0.6s,baz=159,slow=1.6,SNR=4.3
BRTR Keskin Array B 122.47 62 PKP PKPdf 10 38 38.6 -0.3
1.8nm,0.9s,baz=171,slow=3.8,SNR=5.3
AKASG Malin Array Be 123.02 48 PKP PKPdf 10 38 38.5 -0.9
0.5nm,0.4s,baz=266,slow=2.3,SNR=4.9
GAMB Gambell 124.98 328 ePKPdf PKPdf 10 38 43.1 +0.4
H11S2 WAKE ISLAND Hy125.64 268 T T 12 56 42.6
baz=118,slow=74,SNR=5.2
H11S1 WAKE ISLAND Hy125.65 268 T T 12 56 41.9
baz=118,slow=74,SNR=6.6
H11S3 WAKE ISLAND Hy125.65 268 T T 12 56 42.9
baz=118,slow=74,SNR=5.4
H11N3 WAKE ISLAND Hy126.08 270 T T 12 57 15.9
baz=115,slow=78,SNR=12
H11N1 WAKE ISLAND Hy126.09 270 T T 12 57 15.2
baz=115,slow=78,SNR=14
H11N2 WAKE ISLAND Hy126.09 270 T T 12 57 15.4
baz=115,slow=78,SNR=14
SEY Seymchan 140.93 329 PKP PKPdf 10 39 13.2 +0.5
2.5nm,0.7s,baz=92,slow=3.6,SNR=6.1
KSM Kuching 146.45 184 ePKPbc PKPbc 10 39 25.2 -0.1
PSI Prapat 146.81 164 PKPbc PKPdf 10 39 24.6 -0.1
25nm,0.9s,baz=198,slow=7.4,SNR=8.8
BVAR Borovoye Array 148.16 44 PKPbc PKPbc 10 39 28.2 -0.7
4.7nm,1.0s,baz=323,slow=2.2,SNR=2.8
HYB Hyderabad 148.55 117 i PKP PKPdf 10 39 29.0 +1.7
KULM Kulim 149.59 166 ePKPbc PKPbc 10 39 32.0 -1.6
ASAJ Asahikawa 151.92 299 PKPbc PKPbc 10 39 38.4 +0.1
12nm,0.8s,baz=2.0,slow=2.1,SNR=4.1
AAK Ala-Archa 153.11 64 PKPbc PKPbc 10 39 41.6 +0.3
13nm,1.0s,baz=227,slow=3.6,SNR=6.8
ZALV Zalesovo Beam 155.22 33 PKPab PKPab 10 40 00.9 -0.3
6.9nm,0.8s,baz=305,slow=5.2,SNR=6.1
MKAR Makanchi Array 157.56 51 PKPbc PKPdf 10 39 48.3 +8.8
1.5nm,0.8s,baz=297,slow=3.3,SNR=4.2
MKAR PKPab PKPab 10 40 09.9 -1.7
4.6nm,0.9s,baz=298,slow=2.8,SNR=6.8
TLY Talaya 163.16 9 PKPab PKPab 10 40 35.5 -0.3
0.5nm,0.3s,baz=342,slow=4.7,SNR=4.7
SONM Songino Array 167.24 4 PKPab PKPab 10 40 53.8 -0.2
2.8nm,1.0s,baz=337,slow=5.0,SNR=6.5

IDC 27 10:21:19.9±1.2, 34.°58S×71.°82W, h0km, mb4.3/6, mb1 4.5/6, mb1mx4.1/36, mbtmp4.4/6, Error ellipse: s-maj=47.2km s-min=29.7km az=34.0
ISCJB 27 10:21:22.3±1.4, 34.°3S±0.°2×71.°6W±0.°3, h16km, mb4.3/5, Error ellipse: s-maj=38.4km s-min=29.4km az=38.7
ISC 27 10:21:22.8±1.3, 34.°5S±0.°3×71.°8W±0.°2, h16km, n10, σ1§07/10, mb4.5/5, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SIV San Ignacio 20.80 30 P P 10 26 02.9 -0.6
12nm,0.8s,baz=212,slow=12,SNR=2.0
TXAR Lajitas Array 70.30 331 P P 10 32 35.1 -0.5
0.6nm,0.5s,baz=153,slow=8.1,SNR=3.4
DBIC Dimbokro 75.13 71 P P 10 33 05.1 +0.6
5.7nm,0.8s,baz=227,slow=7.6,SNR=3.4
BOSA Boshof 79.63 117 P P 10 33 29.8 -0.1
4.0nm,0.6s,baz=246,slow=4.8,SNR=3.7
TORD Torodi Ar. Bea 84.17 70 P P 10 33 54.6 +0.9
2.9nm,0.8s,baz=245,slow=4.9,SNR=2.6
NVAR Mina Array Bea 84.44 325 P P 10 33 56.2 +1.4
0.9nm,0.6s,baz=163,slow=6.6,SNR=2.3
BRTR Keskin Array B 121.88 61 PKP PKPdf 10 40 15.5 -0.8
0.9nm,0.8s,baz=224,slow=4.0,SNR=3.5
AKASG Malin Array Be 122.37 48 PKP PKPdf 10 40 15.2 -1.5
0.2nm,0.2s,baz=251,slow=3.2,SNR=3.5
ARCES ARCESS Array S 124.39 25 PKP PKPdf 10 40 18.9 -1.1
3.0nm,0.9s,baz=245,slow=3.9,SNR=2.3
MKAR Makanchi Array 156.92 50 PKPab PKPab 10 41 47.5 +0.2
1.2nm,0.8s,baz=284,slow=3.8,SNR=2.8

ISCJB 27 10:21:42.7±0.9, 67.°65N±0.°04×34.°5E±0.°1, h0km, Error ellipse: s-maj=7.1km s-min=5.3km az=176.1
HEL 27 10:21:46.7±0.5, 67.°66N×34.°21E, h0km, ML2.8, ML1.8(UPP), Explosion
CSEM 27 10:21:46.2±0.7, 67.°68N×34.°19E, h1km, ML2.6, Error ellipse: s-maj=13.4km s-min=8.0km az=88.0, Mining explosion.
NAO 27 10:21:48.6±1.1, 67.°71N×34.°08E, ML3.1
KOLA 27 10:21:50.2, 67.°60N×34.°08E, h0km
IDC 27 10:21:50.6±1.6, 67.°74N×33.°58E, h0km, mb1 3.4/5, mb1mx3.2/30, mbtmp3.5/5, ML3.3/5, Error ellipse: s-maj=18.6km s-min=8.8km az=86.0
UPP 27 10:21:52.1, 67.°70N×33.°18E, h0km, ML1.8, Suspected Mining explosion.
ISC 27 10:21:46.7±1.4, 67.°70N±0.°03×34.°07E±0.°07, h0km, n82, σ1§29/110, Baltic States - Belarus - Northwestern Russia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
APA Apatity 0.28 244 P Pb 10 21 54.8 +0.2
APA S Sg 10 21 58.2 +2.5
APA0 Apatity Array 0.42 258 Pg Pg 10 21 54.3 -0.4
APA0 Pg Pb 10 21 57.3 +0.3
baz=90,slow=12
APA0 Lg Lg 10 21 58.5
APA0 Lg Lg 10 22 03.5
baz=76,slow=28
APA0 Rg Rg 10 22 04.9
baz=84,slow=37
APA0 Apatity Array 0.42 258 Pg Pb 10 21 57.3 +0.3
baz=90,slow=12
APA0 Sg Sb 10 22 03.5 -0.3
baz=76,slow=28
APA0 Rg Rg 10 22 04.9
baz=84,slow=37
APA0 Apatity Array 0.42 258 Pg Pb 10 21 57.3 +0.3
SNR=90
APA0 Lg Lg 10 21 58.5
APA0 Sg Sb 10 22 03.5 -0.3
SNR=90
APA0 Apatity Array 0.42 258 P Pb 10 21 57.6 +0.6
APA0 S Sb 10 22 03.0 -0.8
VRF Varrio 1.70 274 eP Pb 10 22 18.4 -0.3
VRF eS Sn 10 22 39.9 -0.1
VRF MSG 10 22 40.6
comp=Z,87nm,0.2s
VRF Varrio 1.70 274 P Pb 10 22 18.4 -0.3
VRF S Sn 10 22 39.9 -0.1
KU6 Riekki 2.35 226 eP Pn 10 22 27.5 +1.0
KU6 eSB Sn 10 22 57.8 +1.8
KU6 MSG 10 23 00.3
comp=Z,23nm,0.2s
KU6 Riekki 2.35 226 P Pn 10 22 27.5 +1.0
KU6 Sb Sn 10 22 57.8 +1.8
MSF Maaselka 2.68 230 eP Pn 10 22 32.8 +1.8
MSF eSB Sb 10 23 07.4 -1.3
MSF Maaselka 2.68 230 P Pn 10 22 32.8 +1.8
MSF Sb Sb 10 23 07.4 -1.3
SGF Sodankyl 2.90 268 eP Pn 10 22 34.9 +0.8
SGF eS Sn 10 23 10.4 +0.8
SGF Sodankyl 2.90 268 P Pn 10 22 34.8 +0.8
SGF S Sn 10 23 10.4 +0.8
KEV Kevo 3.30 312 eP Pn 10 22 41.5 +2.0
KEV eS Sn 10 23 21.1 +1.7
KEV MSG 10 23 31.9
comp=Z,55nm,0.3s
KEV Kevo 3.30 312 P Pn 10 22 41.5 +2.0
KEV S Sn 10 23 21.0 +1.7
ARA0 ARCESS Array S 3.64 304 Pn Pn 10 22 45.0 +0.8
baz=122,slow=16
ARA0 Pg Pg 10 22 54.5 -1.8
baz=116,slow=16
ARA0 Sn Sn 10 23 27.9 +0.1
baz=121,slow=28
ARA0 Lg Lg 10 23 38.0
baz=122,slow=37
ARA0 ARCESS Array S 3.64 304 Pn Pn 10 22 45.0 +0.8
baz=122,slow=16
ARA0 Pg Pg 10 22 54.5 -1.8
baz=116,slow=16
ARA0 Sn Sn 10 23 27.9 +0.1
baz=121,slow=28
ARA0 Lg4 10 23 38.0
baz=122,slow=37
ARA0 ARCESS Array S 3.64 304 eSB Sb 10 23 38.3 +1.9
ARA0 MSG 10 23 44.1
comp=Z,34nm,0.3s
ARA0 ARCESS Array S 3.64 304 Pn Pn 10 22 45.0 +0.8
SNR=50
ARA0 ARCESS Array S 3.64 304 Pg Pg 10 22 54.5 -1.8
SNR=8.4
ARA0 Sn Sn 10 23 27.9 +0.1
SNR=50
ARA0 Lg Lg 10 23 38.0
SNR=5.4
ARCES ARCESS Array B 3.64 304 Pn Pn 10 22 45.8 +1.6
comp=Z,14nm,0.3s,baz=121,slow=16,SNR=731
ARCES Sn Sn 10 23 27.7 0.0
comp=Z,7.7nm,0.3s,baz=120,slow=24,SNR=15
ARCES Lg Lg 10 23 36.9
comp=Z,15nm,0.3s,baz=113,slow=30,SNR=5.5
HEF Hetta 3.97 285 eSB Sb 10 23 47.0 +1.0
HEF MSG 10 23 54.6
comp=Z,25nm,0.3s
HEF Hetta 3.97 285 Sb Sb 10 23 47.0 +1.0
OUL Oulu 4.20 235 eSG Sb 10 23 56.8 +4.3
KTK1 Kautokeino 4.22 293 eP Pn 10 22 53.5 +1.3
KTK1 eS Sn 10 23 43.0 +0.9
KTK1 IAML 10 23 58.9
comp=N,44nm,0.2s
LANU Lannavaara 4.58 280 eP Pn 10 22 57.0 -0.1
LANU Lannavaara 4.58 280 P Pn 10 22 57.0 -0.1
LANU Lannavaara 4.58 280 P Pn 10 22 57.0 -0.1
MASU Masugnsbyn 4.63 273 eP Pn 10 22 58.0 +0.2
MASU Masugnsbyn 4.63 273 P Pn 10 22 58.0 +0.2
MASU Masugnsbyn 4.63 273 P Pn 10 22 58.0 +0.2
ERTU Ertsjaerv 4.78 262 eP Pn 10 22 59.6 -0.1
ERTU eS Sn 10 23 54.4 -1.3
ERTU Ertsjaerv 4.78 262 P Pn 10 22 59.6 -0.1
ERTU S Sn 10 23 54.4 -1.3
ERTU Ertsjaerv 4.78 262 P Pn 10 22 59.6 -0.1
ERTU S Sn 10 23 54.4 -1.3
JOF Joensuu 4.94 195 eSG Sb 10 24 18.6 +4.9
JOF MSG 10 24 23.6
comp=Z,8.1nm,0.2s
KUA Kurravaara 5.21 279 eP Pn 10 23 06.0 +0.4
KUA Kurravaara 5.21 279 P Pn 10 23 06.1 +0.4
KUA Kurravaara 5.21 279 P Pn 10 23 06.0 +0.4
DUNU Dundret 5.24 270 eP Pn 10 23 06.4 +0.3
DUNU Dundret 5.24 270 P Pn 10 23 06.4 +0.3
DUNU Dundret 5.24 270 P Pn 10 23 06.4 +0.3
HARU Harads 5.37 259 eP Pn 10 23 06.9 -1.1
HARU Harads 5.37 259 P Pn 10 23 06.9 -1.1
HARU Harads 5.37 259 P Pn 10 23 06.9 -1.1
SJUU Sjulsmark 5.43 252 eP Pn 10 23 08.4 -0.3
SJUU Sjulsmark 5.43 252 P Pn 10 23 08.4 -0.3
SJUU Sjulsmark 5.43 252 P Pn 10 23 08.4 -0.3
NIKU Nikkaluokta 5.71 279 eP Pn 10 23 13.0 +0.5
NIKU Nikkaluokta 5.71 279 P Pn 10 23 13.0 +0.5
NIKU Nikkaluokta 5.71 279 P Pn 10 23 13.0 +0.5
SALU Saltoluokta 5.97 274 eP Pn 10 23 16.6 +0.4
SALU Saltoluokta 5.97 274 P Pn 10 23 16.6 +0.4
SALU Saltoluokta 5.97 274 P Pn 10 23 16.6 +0.4
BURU Burvik 6.02 245 eP Pn 10 23 17.4 +0.6
BURU Burvik 6.02 245 P Pn 10 23 17.4 +0.6
BURU Burvik 6.02 245 P Pn 10 23 17.4 +0.6
LILU Lilltraesk 6.18 254 eP Pn 10 23 18.0 -1.0
LILU Lilltraesk 6.18 254 P Pn 10 23 18.0 -1.0
LILU Lilltraesk 6.18 254 P Pn 10 23 18.0 -1.0
UMAU Umeaa 6.70 241 eP Pn 10 23 26.6 +0.5
UMAU Umeaa 6.70 241 P Pn 10 23 26.6 +0.5
UMAU Umeaa 6.70 241 P Pn 10 23 26.6 +0.5
FIA0 FINESS Array S 7.15 212 Pn Pn 10 23 32.5 +0.1
baz=28,slow=12
FIA0 Sn Sn 10 24 51.2 -3.0
baz=26,slow=22
FIA0 Lg Lg 10 25 24.0
baz=23,slow=22
FIA0 FINESS Array S 7.15 212 P Pn 10 23 32.5 +0.1
baz=28,slow=12
FIA0 Sn Sn 10 24 51.2 -3.0
baz=26,slow=22
FIA0 Lg4 10 25 24.0
baz=23,slow=22
FIA0 FINESS Array S 7.15 212 P Pn 10 23 32.5 +0.1
SNR=47
FIA0 Sn Sn 10 24 51.2 -3.0
SNR=50
FINES FINESS Array B 7.15 212 Pn Pn 10 23 32.4 0.0
comp=Z,0.3nm,0.3s,baz=26,slow=12,SNR=12
FINES Sn Sn 10 24 52.2 -2.0
comp=Z,0.5nm,0.3s,baz=33,slow=21,SNR=5.4
FINES Lg Lg 10 25 22.4
comp=Z,1.1nm,0.3s,baz=30,slow=20,SNR=4.5
BREU Bredtraesk 7.41 246 eP Pn 10 23 35.6 -0.3
BREU Bredtraesk 7.41 246 P Pn 10 23 35.6 -0.3
BREU Bredtraesk 7.41 246 P Pn 10 23 35.6 -0.3
MOR8 Moi Rana 7.85 268 eS Sn 10 25 03.6 -7.7
MOR8 IAML 10 25 10.4
comp=Z,4.0nm,0.4s
SPA0 Spitsbergen Ar 11.65 342 Pn Pn 10 24 32.9 -0.9
baz=143,slow=16
SPA0 Spitsbergen Ar 11.65 342 P Pn 10 24 32.9 -0.9
baz=143,slow=16
SPA0 Spitsbergen Ar 11.65 342 P Pn 10 24 32.9 -0.9
SNR=47
SPITS Spitsbergen Ar 11.65 342 Pn Pn 10 24 33.2 -0.6
baz=140,slow=19,SNR=16
SPITS Sn Sn 10 26 37.5 -6.9
baz=137,slow=28,SNR=1.8
HFS Hagfors 11.68 239 Pn Pn 10 24 32.8 -1.6
baz=28,slow=10
HFS Sn Sn 10 26 38.1 -7.2
baz=38,slow=22
HFS Hagfors 11.68 239 P Pn 10 24 32.8 -1.6
baz=28,slow=10
HFS Sn Sn 10 26 38.1 -7.2
baz=38,slow=22
HFS Hagfors 11.68 239 Pn Pn 10 24 33.0 -1.4
comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=6.7
HFS Hagfors 11.68 239 P Pn 10 24 32.8 -1.6
SNR=47
NB2 NORSAR Subarra 11.87 247 Pn Pn 10 24 35.7 -1.3
baz=47,slow=12
NB2 NORSAR Subarra 11.87 247 P Pn 10 24 35.7 -1.3
baz=47,slow=12
NB2 NORSAR Subarra 11.87 247 P Pn 10 24 35.7 -1.3
SNR=47
NOA NORSAR Array B 11.87 247 Pn Pn 10 24 34.6 -2.4
comp=Z,0.2nm,0.3s,baz=45,slow=11,SNR=6.1
NOA Sn Sn 10 26 41.3 -8.6
comp=Z,0.2nm,0.3s,baz=43,slow=12,SNR=2.6

IDC 27 10:22:41.1±0.8, 36.°39S×73.°14W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.2/34, mbtmp4.3/10, Error ellipse: s-maj=30.8km s-min=22.7km az=66.0
ISCJB 27 10:22:44.1±0.6, 36.°3S±0.°1×73.°1W±0.°2, h25km, mb4.3/11, Error ellipse: s-maj=26.1km s-min=13.3km az=159.7
NEIC 27 10:22:46.9±0.5, 36.°31S×73.°10W, h35km, mb4.2/1, Error ellipse: s-maj=19.9km s-min=10.8km az=72.0
ISC 27 10:22:45.3±0.8, 36.°3S±0.°1×73.°1W±0.°2, h25km, n22, σ0§91/15, mb4.2/11, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.88 156 Pn Pn 10 23 58.5 +1.3
11nm,0.3s,baz=341,slow=14,SNR=4.4
LVC Limon Verde 14.12 16 Pn Pn 10 25 59.4 -4.5
228nm,1.0s
SIV San Ignacio 22.90 31 P P 10 27 47.3 0.0
6.3nm,0.8s,baz=210,slow=14,SNR=2.7
QSPA South Pole Qui 53.95 180 P P 10 32 05.6 -1.1
7.7nm,0.9s,baz=173,slow=3.1,SNR=3.0
TXAR Lajitas Array 71.31 332 P P 10 34 03.7 +0.9
1.2nm,0.7s,baz=154,slow=8.7,SNR=4.7
DBIC Dimbokro 76.77 71 P P 10 34 34.7 -0.3
5.3nm,0.9s,baz=228,slow=6.0,SNR=2.9
ANMO Albuquerque 77.37 332 eP P 10 34 39.9 +1.8
3.1nm,1.1s
BOSA Boshof 79.80 118 P P 10 34 52.1 +0.3
8.0nm,1.0s,baz=217,slow=4.5,SNR=3.4
NVAR Mina Array Bea 85.26 326 P P 10 35 20.3 +0.4
0.8nm,0.7s,baz=151,slow=5.4,SNR=3.2
PDAR Pinedale Array 85.41 334 P P 10 35 20.8 +0.2
1.8nm,1.1s,baz=143,slow=9.1,SNR=4.9
TORD Torodi Ar. Bea 85.83 71 P P 10 35 22.7 -0.3
4.0nm,1.1s,baz=235,slow=5.1,SNR=3.5
ELK Elko 85.85 329 P P 10 35 23.1 +0.3
0.9nm,0.6s,baz=180,slow=6.2,SNR=2.9
ULM Lac du Bonnet 88.48 346 P P 10 35 34.7 -0.3
2.1nm,0.7s,baz=165,slow=6.4,SNR=2.3
WRA Warramunga Arr 118.33 210 PKP PKPdf 10 41 29.7 -1.3
0.3nm,0.7s,baz=155,slow=1.9,SNR=2.8
H11S2 WAKE ISLAND Hy124.81 268 T T 12 58 15.3
baz=118,slow=75,SNR=7.6
H11S1 WAKE ISLAND Hy124.83 268 T T 12 58 15.8
baz=118,slow=75,SNR=14
H11S3 WAKE ISLAND Hy124.83 268 T T 12 58 16.0
baz=118,slow=75,SNR=10
H11N3 WAKE ISLAND Hy125.28 270 T T 12 58 45.9
baz=116,slow=78,SNR=6.0
H11N1 WAKE ISLAND Hy125.30 270 T T 12 58 47.5
baz=116,slow=78,SNR=5.9
H11N2 WAKE ISLAND Hy125.30 270 T T 12 58 46.5
baz=116,slow=78,SNR=5.5
HYB Hyderabad 148.70 119 i PKP PKPbc 10 42 30.0 -0.8
BVAR Borovoye Array 149.55 45 PKPbc PKPbc 10 42 31.6 -0.3
1.2nm,0.7s,baz=292,slow=3.9,SNR=2.5

IDC 27 10:24:08.7±0.8, 37.°25S×74.°00W, h0km, mb4.4/11, mb1 4.5/11, mb1mx4.3/32, mbtmp4.4/11, Error ellipse: s-maj=28.0km s-min=22.2km az=64.0
ISCJB 27 10:24:12.0±0.8, 37.°3S±0.°1×74.°1W±0.°2, h33km, mb4.4/16, Error ellipse: s-maj=18.8km s-min=17.5km az=27.2
NEIC 27 10:24:13.9±0.4, 37.°23S×74.°17W, h35km, mb4.6/5, Error ellipse: s-maj=14.6km s-min=12.4km az=95.0
ISC 27 10:24:13.6±0.7, 37.°3S±0.°1×74.°2W±0.°2, h35km, n30, σ1§06/29, mb4.4/16, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 7.50 43 Pn Pn 10 26 02.1 +1.5
0.7nm,0.3s,baz=225,slow=19,SNR=2.2
LPAZ La Paz 21.58 16 P P 10 28 59.6 -1.4
4.1nm,0.8s,baz=208,slow=12,SNR=1.5
SIV San Ignacio 24.18 32 P P 10 29 25.9 -0.9
6.1nm,0.8s,baz=223,slow=13,SNR=2.2
SDV Santo Domingo 46.04 5 eP P 10 32 33.6 -0.5
16nm,0.8s
SNAA Sanae 49.26 157 P P 10 32 58.6 +0.2
6.0nm,0.9s,baz=286,slow=6.9,SNR=4.9
APG El Apazote 54.20 341 P P 10 33 33.1 -2.9
8.4nm,0.8s,baz=68,slow=12,SNR=8.1
TEIG Tepich 58.71 345 P P 10 34 08.1 +0.4
12nm,0.9s,baz=231,slow=6.5,SNR=3.5
JCT Junction City 71.53 337 eP P 10 35 32.1 +1.2
9.3nm,1.0s
TXAR Lajitas Array 71.78 333 P P 10 35 34.0 +1.5
3.8nm,0.8s,baz=159,slow=8.5,SNR=9.2
MNTX Cornudas Mount 74.54 333 eP P 10 35 49.0 +0.4
3.8nm,1.2s
ANMO Albuquerque 77.85 333 P P 10 36 09.2 +1.5
3.5nm,0.9s,baz=150,slow=6.4,SNR=5.3
ANMO Albuquerque 77.85 333 eP P 10 36 08.9 +1.2
3.9nm,1.2s
DBIC Dimbokro 77.89 72 P P 10 36 07.8 -0.3
4.6nm,0.8s,baz=216,slow=5.1,SNR=2.3
ECSD EROS Data Cent 83.15 344 eP P 10 36 35.8 +0.2
7.8nm,0.9s
NVAR Mina Array Bea 85.60 327 P P 10 36 48.1 -0.3
0.9nm,0.8s,baz=153,slow=6.4,SNR=3.7
PDAR Pinedale Array 85.92 335 P P 10 36 50.0 +0.1
1.3nm,0.9s,baz=124,slow=7.4,SNR=3.8
ELK Elko 86.26 330 P P 10 36 52.4 +0.7
2.4nm,1.0s,baz=238,slow=5.6,SNR=4.2
TORD Torodi Ar. Bea 86.97 71 P P 10 36 54.7 -0.7
1.5nm,0.6s,baz=222,slow=5.4,SNR=3.6
YKA Yellowknife Ar 104.60 342 Pdiff Pdif 10 38 16.1 +1.4
0.3nm,0.8s,baz=140,slow=3.0,SNR=4.0
WRA Warramunga Arr 117.05 210 PKP PKPdf 10 42 55.1 -0.2
1.7nm,0.8s,baz=169,slow=1.6,SNR=7.4
BRTR Keskin Array B 124.92 64 PKP PKPdf 10 43 09.8 0.0
1.4nm,0.8s,baz=180,slow=1.4,SNR=5.6
ABKAR Akbulak array 145.05 55 ePKPbc PKPab 10 43 46.2 0.0
PSI Prapat 145.12 168 PKP PKPdf 10 43 48.0 -0.1
34nm,0.9s,baz=227,slow=2.8,SNR=11

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYB	Hyderabad	148.93	122	*i* PKP	PKPbc	10 43 57.0	-1.2
BVAR	Borovoye Array	150.85	46	PKPbc	PKPbc	10 44 02.7	+0.9
	4.4nm,0.8s,baz=298,slow=3.2,SNR=6.7						
YAK	Yakutsk	151.12	337	*e*PKPbc	PKPbc	10 44 02.0	0.0
MJAR	Matsushiro Arr	154.13	278	PKPab	PKPab	10 44 24.8	+1.3
	1.3nm,0.8s,baz=114,slow=4.0,SNR=3.3						
AAK	Ala-Archa	155.50	68	PKPbc	PKPdf	10 44 13.4	+10
	2.8nm,0.6s,baz=231,slow=2.4,SNR=3.3						
ZALV	Zalesovo Beam	157.93	34	PKPab	PKPab	10 44 39.4	+0.2
	3.2nm,0.6s,baz=316,slow=4.2,SNR=4.8						
MKAR	Makanchi Array	160.19	54	PKPab	PKPab	10 44 48.6	-0.7
	1.7nm,0.8s,baz=285,slow=4.9,SNR=3.1						

IDC 27 10:24:35.6±1.6, 34.96S×72.84W, h0km, mb4.2/2, mb1 4.5/2, mb1mx3.9/34, mbtmp4.2/2, Error ellipse: s-maj=89.5km s-min=58.2km az=19.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	84.29	326	P	P	10 37 09.4	0.0
	1.2nm,0.8s,baz=161,slow=5.7,SNR=3.8						
TORD	Torodi Ar. Bea	85.16	70	P	P	10 37 13.9	-0.1
	2.2nm,0.7s,baz=244,slow=4.5,SNR=5.0						
WRA	Warramunga Arr	119.61	210	PKP	PKPdf	10 43 27.7	-0.3
	0.5nm,0.6s,baz=163,slow=1.5,SNR=5.2						
AKASG	Malin Array Be	123.32	48	PKP	PKPdf	10 43 33.9	0.0
	0.2nm,0.2s,baz=261,slow=3.1,SNR=4.9						

ISCJB 27 10:25:25.2±0.7, 2.3N±0.1×125.7E±0.3, h10km, mb4.1/9, Error ellipse: s-maj=40.9km s-min=14.8km az=163.0
IDC 27 10:25:25.1±0.8, 2.25N×125.69E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/47, mbtmp4.1/9, ML6.4/1, Error ellipse: s-maj=44.5km s-min=17.1km az=76.0
ISC 27 10:25:26.3±0.7, 2.20N±0.07×125.71E±0.06, h10km, n17, σ1.05/14, mb4.1/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.49	353	P	Pg	10 25 59.2	+4.3
TNTI	Ternate	2.18	131	P	Pg	10 26 07.0	-1.1
KMSI	Cibinong	2.37	227	P	Sn	10 26 36.3	+2.0
	3.9nm14µm597nm,0.7s						
MRSI	Marisa	4.14	246	P	Pg	10 26 44.3	-1.4
	133nm,0.5s						
TTSI	Tana Toraja	7.86	229	P	Pb	10 27 37.2	-5.6
	19nm,1.1s,4µm						
BATI	Baumata	12.49	189	P	Pn	10 28 23.2	-1.1
	667nm,0.5s,10µm						
BATI	Baumata	12.49	189	Pn	Pn	10 28 23.4	-0.9
	231nm,0.3s,baz=205,slow=4.6,SNR=37						
WSI	Waingapu	12.96	205	P	Pn	10 28 25.7	-5.0
	3µm,0.5s,51µm						
WRA	Warramunga Arr	23.57	159	P	P	10 30 38.6	+1.2
	2.3nm,0.4s,baz=337,slow=10,SNR=38						
STKA	Stephens Creek	37.09	157	P	P	10 32 37.9	+0.9
	2.8nm,0.8s,baz=339,slow=9.1,SNR=7.3						
USRK	Ussuriysk Arra	42.19	7	P	P	10 33 19.4	+0.1
	1.3nm,0.6s,baz=185,slow=6.5,SNR=8.2						
SONM	Songino Array	48.43	343	P	P	10 34 09.1	+0.2
	0.6nm,0.5s,baz=151,slow=7.6,SNR=3.8						
PETK	Petropavlovsk-	57.22	22	P	P	10 35 13.8	+0.1
	3.1nm,0.9s,baz=196,slow=5.5,SNR=4.3						
MKAR	Makanchi Array	58.24	326	P	P	10 35 20.9	-0.1
	1.0nm,0.4s,baz=121,slow=7.1,SNR=21						
AKTO	Aktyubinsk	74.23	322	P	P	10 37 04.0	+0.5
	1.1nm,0.5s,baz=108,slow=7.7,SNR=5.1						
ILAR	Eielson Array	86.91	25	P	P	10 38 10.7	-0.6
	0.5nm,1.0s,baz=254,slow=5.2,SNR=3.4						
FINES	FINESS Array B	92.69	332	P	P	10 38 38.2	-0.2
	1.6nm,0.8s,baz=66,slow=3.5,SNR=5.2						

IDC 27 10:28:18.2±1.2, 35.96S×73.23W, h0km, mb4.4/8, mb1 4.6/8, mb1mx4.2/35, mbtmp4.4/8, Error ellipse: s-maj=71.0km s-min=25.8km az=47.0
NEIC 27 10:28:25.4±0.9, 35.35S×72.74W, h35km, mb4.4/3, Error ellipse: s-maj=44.3km s-min=16.7km az=224.0
ISC 27 10:28:21.3±1.1, 35.7S±0.3×73.0W±0.3, h17km, n19, σ1.19/18, mb4.4/13, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	44.35	3	*e*P	P	10 36 29.0	-2.0
	11nm,0.8s						
APG	El Apazote	53.02	339	P	P	10 37 33.9	-3.8
	1.8nm,0.7s,baz=153,slow=7.0,SNR=4.1						
TEIG	Tepich	57.42	343	P	P	10 38 08.8	-0.3
	14nm,0.8s,baz=168,slow=9.3,SNR=5.6						
TXAR	Lajitas Array	70.79	332	P	P	10 39 37.8	+0.9
	2.1nm,0.7s,baz=153,slow=8.7,SNR=10.0						
MNTX	Cornudas Mount	73.56	332	*e*P	P	10 39 53.0	-0.3
	2.1nm,1.1s						
MSTX	Muleshoe	74.64	335	*e*P	P	10 39 59.9	+0.2
	5.3nm,0.6s						
AMTX	Amarillo	75.10	336	*e*P	P	10 40 02.7	+0.4
	11nm,1.1s						
ANMO	Albuquerque	76.85	332	P	P	10 40 14.0	+1.6
	4.8nm,1.0s,baz=161,slow=7.4,SNR=8.8						
ANMO	Albuquerque	76.85	332	*e*P	P	10 40 12.9	+0.5
	3.7nm,1.0s						
BOSA	Boshof	80.01	118	P	P	10 40 30.1	-0.1
	2.5nm,0.6s,baz=244,slow=5.1,SNR=2.8						
NVAR	Mina Array Bea	84.78	326	P	P	10 40 56.1	+1.3
	1.5nm,0.9s,baz=146,slow=6.6,SNR=5.4						
PDAR	Pinedale Array	84.88	334	P	P	10 40 56.3	+1.1
	1.2nm,0.8s,baz=137,slow=5.8,SNR=5.4						
TORD	Torodi Ar. Bea	85.52	70	P	P	10 40 59.9	+1.2
	2.2nm,0.9s,baz=240,slow=4.6,SNR=4.1						
ULM	Lac du Bonnet	87.88	346	P	P	10 41 09.5	+0.1
	3.0nm,0.8s,baz=170,slow=4.1,SNR=5.8						
WRA	Warramunga Arr	118.94	210	PKP	PKPdf	10 47 07.5	-2.0
	0.7nm,1.0s,baz=157,slow=1.9,SNR=2.7						
BRTR	Keskin Array B	123.32	62	PKP	PKPdf	10 47 18.0	+0.6
	0.8nm,1.0s,baz=236,slow=4.4,SNR=4.1						
AKASG	Malin Array Be	123.89	48	PKP	PKPdf	10 47 18.3	+0.4
	0.2nm,0.3s,baz=266,slow=2.4,SNR=5.7						
ZALV	Zalesovo Beam	156.04	33	PKP	PKPdf	10 48 12.1	-2.0
	1.4nm,0.7s,baz=264,slow=2.9,SNR=3.7						
SONM	Songino Array	167.81	2	PKPab	PKPab	10 49 34.2	+1.0
	1.1nm,1.0s,baz=340,slow=3.3,SNR=3.6						

IDC 27 10:30:06.9±0.5, 37.86S×73.54W, h0km, mb5.0/14, mb1 5.2/15, mb1mx5.0/35, mbtmp5.0/15, ML4.4/1, Error ellipse: s-maj=32.4km s-min=12.4km az=58.0
ISCJB 27 10:30:13.0±0.3, 37.1S±0.1×72.7W±0.2, h33km, mb5.6/94, Error ellipse: s-maj=22.4km s-min=6.6km az=138.4
ISC 27 10:30:10.3±0.5, 37.87S±0.10×73.6W±0.1, h22km, n550, σ0.86/536, mb5.8/94, 207C-191D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.69	142	Pn	Pn	10 31 07.6	+1.6
	8.2nm,0.3s,baz=287,slow=18,SNR=3.2						
PLCA				Pg	Pb	10 31 13.2	-1.5
	40nm,0.3s,baz=310,slow=14,SNR=13						
PLCA				Lg	Lg	10 32 04.3	
	70nm,0.3s,baz=229,slow=15,SNR=4.7						
USHA	Ushuaia	17.32	170	P	Pn	10 34 10.1	-0.3
	1.5nm,0.3s,baz=327,slow=10,SNR=17						
SNAA	Sanae	48.50	157	P	P	10 38 51.4	+0.4
	17nm,0.9s,baz=285,slow=6.2,SNR=21						
QSPA	South Pole Qui	52.37	180	P	P	10 39 20.7	+0.2
	16nm,0.8s,baz=161,slow=6.3,SNR=8.2						
SYO	Syowa Base	62.73	158	⇑*e*P	PcP	10 41 07.9	-3.6
934A	Benavides	69.21	336	⇓P	P	10 41 15.7	+0.5
	baz=66						
933A	Laredo	69.46	336	⇑P	P	10 41 17.4	+0.6
	baz=67						
835A	Beeville	69.63	337	⇑P	P	10 41 18.2	+0.4
	baz=67						
833A	Chaparral WMA,	70.16	336	⇑P	P	10 41 21.8	+0.7
	baz=67,SNR=14						
832A	Faith Ranch, C	70.31	335	⇑P	P	10 41 22.4	+0.4
	baz=68,SNR=10						
733A	Divot King Ran	70.50	336	⇑P	P	10 41 23.5	+0.4
	baz=68						
636A	Smothers Creek	70.52	338	⇑P	P	10 41 24.1	+0.9
	baz=68,SNR=8.5						
HKT	Hockley	70.62	340	*e*P	P	10 41 19.2	-4.5
HKT				pmax	pmax		
	comp=Z,239nm,1.7s						
HKT	Hockley	70.62	340	*e*P	P	10 41 19.2	-4.5
	comp=Z,239nm,1.7s						
635A	Leesville	70.65	338	⇓P	P	10 41 24.0	+0.1
	baz=68						
LPIG	La Paz	70.66	325	P	P	10 41 24.5	+0.4
	comp=Z,13nm,0.5s,baz=110,slow=3.5,SNR=4.6						
732A	Laxson Ranch,	70.72	336	⇓P	P	10 41 25.0	+0.5
	baz=68,SNR=17						
537A	Green Hill Far	70.87	339	⇑P	P	10 41 25.5	+0.2
	baz=68						
536A	Bastrop	71.08	339	⇑P	P	10 41 27.0	+0.4
	baz=68						
633A	Saathoff Ranch	71.14	337	⇓P	P	10 41 27.2	+0.2
	baz=68,SNR=12						
535A	Dale	71.19	338	⇑P	P	10 41 27.2	0.0
	baz=68,SNR=11						
632A	Uvalde	71.38	336	⇑P	P	10 41 28.9	+0.4
	baz=68,SNR=16						
534A	Blanco	71.46	337	⇑P	P	10 41 28.6	-0.3
	baz=69						
631A	Perdido Creek	71.55	335	⇑P	P	10 41 29.5	0.0
	baz=69,SNR=11						
533A	Kerrville	71.67	337	⇓P	P	10 41 30.3	+0.1
	baz=69,SNR=19						
435B	Jarrell	71.90	338	⇑P	P	10 41 31.7	+0.1
	baz=69						
337A	Centerville	71.92	340	⇑P	P	10 41 32.5	+0.9
	baz=69						
532A	Rocksprings	72.00	336	⇑P	P	10 41 32.6	+0.3
	baz=69,SNR=20						
ELIM	Elim	72.06	120	*e*P	P	10 41 43.7	+11
ELIM				AMB	AMB	10 42 19.3	
	comp=Z,174nm,2.2s						
434A	Burnet	72.13	338	⇓P	P	10 41 33.0	0.0
	baz=69,SNR=25						
531A	Rocksprings	72.24	336	⇑P	P	10 41 34.2	+0.5
	baz=69,SNR=15						
336A	Riesel	72.25	339	⇑P	P	10 41 33.9	+0.3
	baz=69,SNR=15						
JCT	Junction City	72.29	336	*e*P	P	10 41 34.1	+0.2
JCT				pmax	pmax		
	comp=Z,286nm,1.2s						
JCT	Junction City	72.29	336	*e*P	P	10 41 34.1	+0.2
	comp=Z,286nm,1.2s						
JCT	Junction City	72.29	336	⇓P	P	10 41 34.2	+0.3
	baz=69,SNR=21						
335A	Moody	72.32	339	⇓P	P	10 41 34.1	0.0
	baz=69,SNR=7.6						
433A	Art	72.32	337	⇓P	P	10 41 33.9	-0.2
	baz=69,SNR=18						
530A	J-C Ranch, Com	72.48	335	⇑P	P	10 41 35.8	+0.6
	baz=70,SNR=23						
TXAR	Lajitas Array	72.56	333	P	P	10 41 36.0	+0.4
	comp=Z,14nm,0.8s,baz=154,slow=8.6,SNR=37						
334A	Lometa	72.60	338	⇑P	P	10 41 36.0	+0.2
	baz=70,SNR=30						
432A	Menard	72.65	337	⇓P	P	10 41 36.2	+0.1
	baz=70,SNR=12						
431A	Sonora	72.74	336	⇓P	P	10 41 36.6	0.0
	baz=70,SNR=18						
529A	Stev Forest Ra	72.76	334	⇑P	P	10 41 37.2	+0.4
	baz=70,SNR=14						
333A	Richland Sprin	72.82	337	⇓P	P	10 41 37.1	+0.1
	baz=70,SNR=19						
WHTX	Lake Whitney	72.99	339	*e*P	P	10 41 37.7	-0.4
	comp=Z,100nm,0.8s						
WHTX	Lake Whitney	72.99	339	⇑P	P	10 41 38.1	+0.1
	baz=70,SNR=12						
430A	Baggett Ranch,	73.04	335	⇓P	P	10 41 38.6	+0.2
	baz=70,SNR=23						
332A	Millersview	73.11	337	⇓P	P	10 41 38.9	+0.1
	baz=70,SNR=26						
429A	Davenport Ranc	73.11	335	⇑P	P	10 41 39.5	+0.6
	baz=70,SNR=19						
234A	Clairette	73.20	338	⇓P	P	10 41 39.4	+0.1
	baz=70,SNR=16						
331A	San Angelo	73.26	336	⇑P	P	10 41 39.6	-0.1
	baz=70,SNR=31						
233A	Rising Star	73.44	338	⇑P	P	10 41 40.6	-0.1
	baz=70,SNR=16						
135A	Vickery Place,	73.51	339	⇑P	P	10 41 40.5	-0.6
	baz=71						
232A	Coleman	73.55	337	⇓P	P	10 41 41.3	-0.1
	baz=71,SNR=18						
330A	Mertzon	73.59	336	⇓P	P	10 41 41.6	-0.1
	baz=71,SNR=12						
134A	White-Moore Ra	73.72	339	⇓P	P	10 41 42.4	+0.1
	baz=71,SNR=11						
TKL	Tuckaleechee C	73.77	351	P	P	10 41 42.2	-0.4
	comp=Z,32nm,0.9s,baz=163,slow=6.7,SNR=28						
231A	Bronte	73.80	336	⇓P	P	10 41 42.5	-0.4
	baz=71,SNR=24						
329A	Wagon Wheel Ra	73.93	335	⇑P	P	10 41 44.0	+0.4
	baz=71,SNR=18						
133A	Hamilton Ranch	74.00	338	⇓P	P	10 41 43.7	-0.2
	baz=71,SNR=19						
230A	Sterling City	74.01	336	⇓P	P	10 41 43.8	-0.3
	baz=71,SNR=13						
Z35A	Perchaven, San	74.20	340	⇓P	P	10 41 45.0	-0.1
	baz=71,SNR=22						
ABTX	Abilene, Hawle	74.23	337	*e*P	P	10 41 45.3	-0.1
	comp=Z,251nm,1.2s						
ABTX	Abilene, Hawle	74.23	337	⇑P	P	10 41 45.2	-0.1
	baz=71,SNR=16						
229A	Bryant Ranch,	74.31	335	⇓P	P	10 41 45.9	0.0
	baz=72,SNR=12						
Z34A	Collier Ranch,	74.42	339	⇓P	P	10 41 46.1	-0.3
	baz=72,SNR=18						
131A	Roby	74.51	337	⇑P	P	10 41 47.1	+0.1
	baz=72,SNR=19						
Z33A	Whitaker Ranch	74.59	338	⇓P	P	10 41 47.2	-0.1
	baz=72,SNR=18						
130A	Snyder	74.62	336	⇑P	P	10 41 47.5	-0.1
	baz=72,SNR=14						
228A	UT Block 9, Go	74.71	335	⇑P	P	10 41 48.6	+0.4
	baz=72,SNR=14						
Z32A	Haskell	74.82	338	⇑P	P	10 41 48.8	0.0
	baz=72,SNR=22						
Y34A	Reagan Ranch,	74.93	339	⇑P	P	10 41 48.9	-0.4
	baz=72,SNR=9.1						
129A	Stewart Farms,	74.94	336	⇑P	P	10 41 49.5	0.0
	baz=72,SNR=14						
Z31A	Sharp Cattle R	75.03	337	⇓P	P	10 41 50.0	+0.1
	baz=72,SNR=19						
128A	Castleberry Fa	75.14	335	⇑P	P	10 41 50.8	+0.2
	baz=72,SNR=17						
Y33A	Hilltop Ranch,	75.22	339	⇓P	P	10 41 51.1	+0.1
	baz=72,SNR=11						
CLNB	Carlsbad	75.29	334	*e*P	P	10 41 52.5	+0.9
	comp=Z,8.8nm,1.0s						
Z30A	Sanderson Ranc	75.31	336	⇓P	P	10 41 51.4	-0.2
	baz=72,SNR=26						
MNTX	Cornudas Mount	75.32	332	*e*P	P	10 41 50.8	-0.9
	comp=Z,58nm,1.0s						
GDL2	Guadalupe Moun	75.40	333	*e*P	P	10 41 51.9	-0.4
	comp=Z,49nm,1.1s						
Y32A	R-V Farms, Ver	75.45	338	⇑P	P	10 41 52.3	-0.1
	baz=72,SNR=13						
Z29A	Hungry Hill Ra	75.47	336	⇓P	P	10 41 52.2	-0.3
	baz=73,SNR=40						
127A	Arkansas Junct	75.48	334	⇑P	P	10 41 52.8	+0.1
	baz=73						
X34A	Smith Ranch, M	75.55	339	⇑P	P	10 41 53.0	+0.1
	baz=73,SNR=13						
Y31A	Rekieta Farm,	75.66	337	⇓P	P	10 41 53.7	+0.1
	baz=73,SNR=12						
X33A	Lawton	75.68	339	⇑P	P	10 41 52.8	-0.8
	baz=73						
Z28A	Tucker Farm, M	75.72	335	⇑P	P	10 41 54.0	0.0
	baz=73						
Y30A	Stafford Cattl	75.78	337	⇓P	P	10 41 54.1	-0.2
	baz=73,SNR=8.7						
X32A	Elmer	75.80	338	⇑P	P	10 41 54.0	-0.3
	baz=73,SNR=9.4						
CPRX	Cap Rock	75.98	334	*e*P	P	10 41 56.4	+0.8
	comp=Z,16nm,0.8s						
Y29A	Porterfield Fa	76.01	336	⇓P	P	10 41 56.2	+0.5
	baz=73,SNR=16						
Z27A	Tatum	76.02	335	⇑P	P	10 41 56.3	+0.6
	baz=73,SNR=7.9						
W34A	Bridge Creek,	76.13	340	*e*P	P	10 41 56.5	+0.2
	comp=Z,262nm,1.4s						
W34A	Bridge Creek,	76.13	340	⇑P	P	10 41 56.2	0.0
	baz=73,SNR=8.6						
X31A	McDonald Ranch	76.20	338	⇓P	P	10 41 56.4	-0.2
	baz=73,SNR=13						
Y28A	McKinney Farm,	76.24	336	⇓P	P	10 41 57.0	0.0
	baz=73,SNR=8.2						
Z26A	Caprock	76.24	334	⇑P	P	10 41 57.5	+0.5
	baz=74,SNR=18						
W33A	Caddo, Fort Co	76.25	339	⇑P	P	10 41 57.4	+0.5
	baz=73,SNR=27						
TUL1	Tulsa	76.25	342	*e*P	P	10 41 56.5	-0.3
	comp=Z,82nm,0.8s						
TUL1	Tulsa	76.25	342	⇓P	P	10 41 56.6	-0.2
	baz=73,SNR=18						
X30A	Coker Ranch, T	76.30	337	⇓P	P	10 41 58.0	+0.8
	baz=73,SNR=12						
W32A	Sentinel	76.44	339	⇑P	P	10 41 58.2	+0.2
	baz=74,SNR=31						
MSTX	Muleshoe	76.47	335	*e*P	P	10 41 58.4	+0.2
	comp=Z,202nm,1.0s						
MSTX	Muleshoe	76.47	335	⇓P	P	10 41 58.4	+0.2
	baz=74,SNR=12						
Z25A	Roswell	76.50	334	⇓P	P	10 41 59.1	+0.6
	baz=74,SNR=9.8						
Y27A	Causey	76.52	335	⇑P	P	10 41 58.7	+0.1
	baz=74,SNR=8.9						
319A	Douglas	76.54	329	⇓P	P	10 42 00.1	+1.3
	baz=74,SNR=13						
X29A	Tulia	76.56	336	⇓P	P	10 41 58.7	0.0
	baz=74,SNR=16						
USIN	University of	76.58	349	*e*P	P	10 41 57.7	-0.9
	comp=Z,333nm,1.2s						
V34A	Guthrie	76.63	340	*e*P	P	10 41 58.7	-0.3
	comp=Z,154nm,1.1s						
V34A	Guthrie	76.63	340	⇑P	P	10 41 58.7	-0.3
	baz=74,SNR=15						
UPI	Upington	76.67	116	*e*P	P	10 42 00.0	+0.2
UPI				AMB	AMB	10 42 33.0	
	comp=Z,135nm,5.9s						
W31A	Holland Ranch,	76.70	338	⇑P	P	10 41 59.6	+0.1
	baz=74,SNR=11						
Y26A	Elida	76.78	334	⇓P	P	10 42 00.5	+0.4
	baz=74,SNR=18						
Z24A	Sheeppen Canyo	76.78	333	⇓P	P	10 42 00.6	+0.4
	baz=74,SNR=11						
X28A	Dimmitt	76.78	336	⇓P	P	10 42 00.3	+0.2
	baz=74,SNR=6.7						
V33A	Lossen Ranch,	76.82	340	⇑P	P	10 42 00.2	+0.1
	baz=74,SNR=21						
W30A	Crocket Farms	76.89	338	⇓P	P	10 42 00.4	-0.2
	baz=74						
V32A	Arapaho	76.94	339	⇑P	P	10 42 01.5	+0.7
	baz=74,SNR=8.8						
AMTX	Amarillo	76.95	337	*e*P	P	10 42 01.1	+0.1
	comp=Z,306nm,1.3s						
AMTX	Amarillo	76.95	337	⇑P	P	10 42 01.0	0.0
	baz=74						
121A	Cookes Peak, D	76.97	331	*e*P	P	10 42 02.2	+1.0
	comp=Z,164nm,1.1s						
121A	Cookes Peak, D	76.97	331	⇑P	P	10 42 02.3	+1.0
	baz=74,SNR=6.2						
WIN	Windhoek	77.00	108	*e*P	P	10 42 09.7	+7.9
WIN				AMB	AMB	10 42 34.9	
	comp=Z,40nm,1.5s						
Y25A	Mesa, Roswell	77.08	334	⇑P	P	10 42 01.8	0.0
	baz=74,SNR=8.4						
LIC	Lamto	77.16	72	*e*P	P	10 42 03.6	+1.1
	comp=Z,404nm,1.4s,baz=242						
LIC				*e*R			
	comp=Z,59µm,18.2s						
LIC	Lamto	77.16	72	*e*P	P	10 42 03.6	+1.1
	comp=Z,404nm,1.4s						
W29A	Amraillo	77.16	337	⇓P	P	10 42 02.6	+0.4
	baz=74,SNR=20						
X27A	F and S Farms,	77.19	335	⇓P	P	10 42 02.5	+0.1
	baz=74,SNR=8.6						
U34A	Anderson Ranch	77.20	340	*e*P	P	10 42 02.5	+0.3
	comp=Z,156nm,1.1s						
U34A	Anderson Ranch	77.20	340	⇓P	P	10 42 02.4	+0.2
	baz=74,SNR=11						
V31A	Spring Creek L	77.22	338	⇓P	P	10 42 03.6	+1.1
	baz=74,SNR=16						
Z22A	Elephant Butte	77.30	332	⇓P	P	10 42 04.2	+1.2
	baz=75,SNR=10.0						
Y24A	Capitan	77.34	333	⇓P	P	10 42 03.7	+0.4
	baz=75,SNR=16						
X26A	CR and CF Fran	77.34	335	⇓P	P	10 42 03.5	+0.2
	baz=74,SNR=11						
U33A	Lingo Farm, Me	77.35	340	⇑P	P	10 42 02.6	-0.5
	baz=74,SNR=7.1						
GRM	Grahamstown	77.38	122	*e*P	P	10 42 06.1	+2.4
V30A	Spur Ranch, Mi	77.46	338	⇑P	P	10 42 04.6	+0.8
	baz=75,SNR=5.1						
W28A	Vega	77.47	336	⇓P	P	10 42 04.2	+0.3
	baz=75						
U32A	Winter Ranch,	77.55	339	⇑P	P	10 42 04.3	+0.1
	baz=75,SNR=7.6						
W27A	Bowe Ranch, En	77.56	336	⇑P	P	10 42 04.7	+0.3
	baz=75,SNR=18						
Y23A	Lovelace Mesa,	77.57	333	⇑P	P	10 42 05.5	+0.9
	baz=75,SNR=9.6						
DBIC	Dimbokro	77.58	71	P	P	10 42 05.4	+0.5
	comp=Z,10nm,0.8s,baz=204,slow=4.3,SNR=6.2						
X25A	Clemmons Ranch	77.61	334	⇓P	P	10 42 04.8	+0.1
	baz=75						
U31A	Nine Bar Ranch	77.78	339	⇓P	P	10 42 05.4	-0.1
	baz=75						
V29A	Stinnett	77.82	337	⇓P	P	10 42 06.0	+0.2
	baz=75						
W26A	Owens Ranch, T	77.82	335	⇑P	P	10 42 06.4	+0.6
	baz=75,SNR=8.7						
X24A	Lazy VL Ranch,	77.92	334	⇑P	P	10 42 07.2	+0.7
	baz=75						
V28A	Channing	77.92	336	⇑P	P	10 42 06.7	+0.3
	baz=75,SNR=5.7						
TUC	Tucson	77.97	328	*e*P	P	10 42 07.4	+0.7
TUC				pmax	pmax		
	comp=Z,82nm,1.4s						
TUC	Tucson	77.97	328	*e*P	P	10 42 07.4	+0.7
	comp=Z,82nm,1.4s						
T33A	Patterson Ranc	78.00	340	⇓P	P	10 42 07.1	+0.4
	baz=75,SNR=23						
Y22D	IRIS PASSCAL I	78.01	332	⇓P	P	10 42 07.6	+0.6
	baz=75						
LENM	Lemitar	78.11	332	*e*P	P	10 42 08.6	+1.0
	comp=Z,63nm,1.4s						
LPM	Los Pinos Moun	78.12	333	*e*P	P	10 42 08.3	+0.6
	comp=Z,29nm,0.8s						
V27A	Dan Oppiter Fa	78.12	336	⇑P	P	10 42 08.0	+0.4
	baz=75,SNR=7.3						
U30A	WK&E Inc. Balk	78.16	338	⇑P	P	10 42 08.0	+0.3
	baz=75,SNR=9.5						
W25A	X Bar L Ranch,	78.17	335	⇓P	P	10 42 08.1	+0.2
	baz=75,SNR=17						
X23A	Hourglass Bar	78.20	333	⇑P	P	10 42 08.8	+0.7
	baz=76						
T32A	Huddler Ranch,	78.27	340	⇑P	P	10 42 08.6	+0.3
	baz=75,SNR=7.5						
U29A	Oasis Ranch, S	78.28	337	⇑P	P	10 42 08.4	+0.1
	baz=75						
HVD	Gariep Dam	78.32	120	*e*P	P	10 42 09.2	+0.1
HVD				AMB	AMB	10 43 05.0	
	comp=Z,137nm,1.1s						
LAZ	Ladron	78.39	332	*e*P	P	10 42 10.3	+1.1
	comp=Z,84nm,1.4s						
T31A	Randall Ranch,	78.41	339	⇓P	P	10 42 09.1	+0.1
	baz=76,SNR=6.9						
S33A	Kaszmaul Farm,	78.41	340	⇑P	P	10 42 08.7	-0.3
	baz=75						
V26A	Tequesquite Ra	78.47	335	⇑P	P	10 42 09.4	-0.1
	baz=76,SNR=9.2						
W24A	Lazy 6 Ranch,	78.49	334	⇓P	P	10 42 10.2	+0.5
	baz=76,SNR=12						
U28A	Mallet	78.50	337	⇑P	P	10 42 09.3	-0.4
	baz=76						
214A	Organ Pipe Nat	78.53	327	*e*P	P	10 42 11.0	+1.2
	comp=Z,213nm,1.1s						
214A	Organ Pipe Nat	78.53	327	⇑P	P	10 42 11.3	+1.5
	baz=76						
T30A	Plains	78.61	338	⇓P	P	10 42 10.0	-0.1
	baz=76						
ANMO	Albuquerque	78.62	333	P	P	10 42 10.9	+0.5
	comp=Z,24nm,1.0s,baz=162,slow=7.7,SNR=36						
ANMO	Albuquerque	78.62	333	*e*P	P	10 42 11.3	+0.9
W23A	Werner Place,	78.71	333	⇓P	P	10 42 11.5	+0.6
	baz=76,SNR=16						
U27A	Thompson Grove	78.73	336	⇑P	P	10 42 11.3	+0.4
	baz=76,SNR=8.0						
S32A	Newby Ranch, P	78.76	340	⇑P	P	10 42 11.2	+0.3
	baz=76,SNR=10.0						
V25A	Rancho No Teng	78.79	335	⇓P	P	10 42 11.9	+0.5
	baz=76,SNR=21						
SFIN	Scholer Farm	78.86	349	⇑P	P	10 42 09.0	-2.3
	baz=76						

V24A Rampart Ranch, 78.91 334 ⇑P P 10 42 12.7 +0.6
baz=76,SNR=10.0
T29A Hugoton 78.94 338 ⇑P P 10 42 12.1 +0.2
baz=76,SNR=7.0
U26A Atchley Ranch, 79.00 336 ⇑P P 10 42 13.0 +0.5
baz=76,SNR=7.1
R33A Olander Ranch, 79.08 341 ⇑P P 10 42 12.5 -0.1
baz=76,SNR=6.5
S30A Montezuma 79.14 339 ⇓P P 10 42 13.7 +0.7
baz=76,SNR=14
T28A Walsh 79.15 337 ⇑P P 10 42 13.9 +0.7
baz=76
U25A Circle Dot Ran 79.23 335 ⇑P P 10 42 14.6 +0.9
baz=76,SNR=15
V23A Ortiz Mt. (NFS 79.25 333 ⇓P P 10 42 15.0 +1.2
baz=76,SNR=5.9
T27A Campo 79.28 337 ⇓P P 10 42 14.8 +0.8
baz=76,SNR=9.0
S29A Ulysses 79.31 338 ⇓P P 10 42 14.3 +0.4
baz=76,SNR=7.3
BOSA Boshof 79.35 118 eP P 10 42 14.8 0.0
BOSA AMB AMB 10 43 00.8
comp=Z,138nm,3.8s
BOSA Boshof 79.35 118 P P 10 42 15.1 +0.3
comp=Z,13nm,0.8s,baz=232,slow=5.7,SNR=9.5
R32A Long Quarter, 79.38 340 ⇑P P 10 42 14.7 +0.4
baz=76,SNR=13
R31A Burdett 79.48 339 ⇓P P 10 42 15.4 +0.5
baz=76,SNR=7.3
KSU1 Kansas State U 79.48 342 eP P 10 42 14.7 0.0
comp=Z,59nm,0.8s
KSU1 Kansas State U 79.48 342 ⇑P P 10 42 14.4 -0.4
baz=76
S28A Manter 79.52 337 ⇓P P 10 42 15.8 +0.6
baz=77,SNR=13
U24A Moreno Valley 79.53 334 ⇑P P 10 42 17.0 +1.5
baz=77,SNR=6.1
X18A Snowflake 79.57 330 ⇓P P 10 42 16.8 +1.2
baz=77,SNR=9.3
113A Mohawk Valley, 79.64 326 ⇑P P 10 42 17.1 +1.3
baz=77
V22A San Miguel Ran 79.66 333 ⇓P P 10 42 17.8 +1.7
baz=77,SNR=25
T26A Comanche Natio 79.67 336 ⇓P P 10 42 17.1 +1.0
baz=77,SNR=17
R30A Dighton 79.68 339 ⇑P P 10 42 16.2 +0.2
baz=77
Q33A Connelly Farm, 79.69 341 ⇑P P 10 42 16.1 +0.2
baz=77,SNR=6.5
U23A El Rito 79.77 334 ⇑P P 10 42 18.1 +1.4
baz=77,SNR=19
Z14A Wintersburg 79.79 327 ⇓P P 10 42 18.1 +1.5
baz=77
Q32A Meitler Ranch, 79.87 340 ⇑P P 10 42 17.4 +0.5
baz=77,SNR=12
T25A Trinidad 79.90 335 ⇑P P 10 42 18.9 +1.5
baz=77,SNR=22
W18A Petrified Fore 80.01 331 eP P 10 42 19.0 +1.0
comp=Z,329nm,1.4s
W18A Petrified Fore 80.01 331 ⇓P P 10 42 19.3 +1.3
baz=77,SNR=12
S26A Kim 80.03 336 ⇓P P 10 42 19.0 +1.0
baz=77,SNR=22
U22A Llaves 80.05 333 ⇓P P 10 42 19.6 +1.4
baz=77,SNR=11
R29A Marienthal 80.06 338 ⇑P P 10 42 18.5 +0.5
baz=77,SNR=10.0
P33A Williams Farm, 80.07 341 ⇓P P 10 42 17.9 -0.1
baz=77,SNR=5.8
X16A Lo Mia Camp, P 80.08 329 ⇑P P 10 42 19.6 +1.2
baz=78,SNR=18
Q31A Ellis 80.11 340 ⇓P P 10 42 18.6 +0.4
baz=77,SNR=7.2
T24B San Luis 80.16 335 ⇓P P 10 42 20.4 +1.5
baz=77,SNR=14
R28A Tribune 80.19 338 ⇓P P 10 42 19.5 +0.7
baz=77,SNR=14
Y14A Wickenburg 80.31 328 ⇑P P 10 42 21.0 +1.6
baz=78
Q30A Quinter 80.31 339 ⇑P P 10 42 20.0 +0.7
baz=77,SNR=19
GLA Glamis 80.35 326 ⇓P P 10 42 21.1 +1.4
baz=78
T23A Casias Ranch, 80.36 334 ⇓P P 10 42 20.8 +0.8
baz=78,SNR=10
S25A Robets Cordova 80.38 336 ⇑P P 10 42 20.8 +0.9
baz=78,SNR=14
R27A Eads 80.43 337 ⇑P P 10 42 20.8 +0.7
baz=78,SNR=17
Q29A Oakley 80.45 339 ⇑P P 10 42 20.3 +0.2
baz=78,SNR=7.4
P32A Huiting Farm, 80.48 341 ⇓P P 10 42 20.5 +0.4
baz=78,SNR=7.8
P31A Stockton 80.59 340 ⇓P P 10 42 21.3 +0.5
baz=78,SNR=7.2
S24A Houchin Ranch, 80.62 335 ⇑P P 10 42 22.4 +1.1
baz=78,SNR=23
R26A Arlington 80.65 337 ⇓P P 10 42 22.2 +1.0
baz=78,SNR=23
SWSC Sam W. Stewart 80.69 325 ⇓P P 10 42 23.5 +2.0
baz=78
R25A Fountain Ranch 80.78 336 ⇓P P 10 42 22.5 +0.5
baz=78
SDCO Great Sand Dun 80.81 335 eP P 10 42 22.8 +0.5
comp=Z,192nm,1.7s
P30A Selden 80.85 339 ⇓P P 10 42 22.4 +0.2
baz=78,SNR=7.8
Q28A Sharon Springs 80.86 338 ⇓P P 10 42 23.2 +0.9
baz=78,SNR=7.5
MONP Monument Peak 80.93 325 ⇑P P 10 42 25.0 +1.9
baz=78
S23A Nye Farm, Mont 80.95 334 ⇓P P 10 42 24.1 +1.1
baz=78,SNR=6.9
O32A Brockman Farm, 80.99 341 ⇑P P 10 42 22.7 -0.2
baz=78,SNR=8.5
WUAZ Wupatki 81.00 330 eP P 10 42 24.3 +1.1
comp=Z,85nm,1.0s
WUAZ Wupatki 81.00 330 ⇑P P 10 42 24.7 +1.5
baz=78,SNR=13
KSCO Kaye Shedlock' 81.05 337 eP P 10 42 24.4 +1.0
comp=Z,246nm,1.3s
KSCO Kaye Shedlock' 81.05 337 ⇑P P 10 42 24.5 +1.1
baz=78,SNR=8.3
P29A Atwood 81.09 339 ⇓P P 10 42 24.2 +0.7
baz=78,SNR=8.8
PDMCI Parker Dam,Lak 81.11 327 ⇑P P 10 42 25.1 +1.5
baz=79
R24A Sanders Place, 81.12 335 ⇑P P 10 42 25.1 +1.2
baz=78,SNR=21
BC3 Big Chuckawall 81.14 326 ⇑P P 10 42 25.8 +1.8
baz=79
O31A Woolen Ranch, 81.17 340 ⇑P P 10 42 23.8 0.0
baz=78,SNR=8.6
Q26A Hugo 81.24 337 ⇑P P 10 42 25.2 +0.8
baz=78
109C Camp Elliot, M 81.25 324 ⇑P P 10 42 26.3 +1.9
baz=79
S22A 4UR Ranch, Cre 81.27 334 ⇓P P 10 42 25.5 +0.7
baz=78,SNR=12
P28A Saint Francis 81.31 338 ⇓P P 10 42 25.3 +0.6
baz=78,SNR=8.9
R23A Moffat 81.32 335 ⇓P P 10 42 25.9 +0.8
baz=78,SNR=11
MVCO Mesa Verde 81.39 332 eP P 10 42 26.0 +0.7
comp=Z,88nm,1.0s
MVCO Mesa Verde 81.39 332 ⇓P P 10 42 26.4 +1.0
baz=79,SNR=13
O30A MW Ranch, Wils 81.39 340 ⇑P P 10 42 25.2 +0.1
baz=78
SCIA State Center 81.40 345 eP P 10 42 25.1 +0.1
comp=Z,139nm,1.0s
IRM Iron Mountain 81.43 326 ⇓P P 10 42 26.8 +1.4
baz=79
Q25A Bedland, Calha 81.46 336 ⇑P P 10 42 26.2 +0.5
baz=79,SNR=12
NCB Newcomb 81.46 360 eP P 10 42 22.8 -2.5
comp=Z,103nm,1.2s
BFSD Buffelsfontein 81.49 117 eP P 10 42 25.5 -0.8
BFSD AMB AMB 10 43 17.8
comp=Z,144nm,2.8s
P27A Ficken Ranch, 81.53 338 ⇓P P 10 42 26.3 +0.3
baz=79,SNR=6.4
O29A 4D Ranch, Culb 81.54 339 ⇓P P 10 42 26.4 +0.5
baz=79,SNR=6.1
PFO Pinyon Flat Ob 81.55 325 P P 10 42 27.9 +1.7
comp=Z,163nm,1.0s,SNR=8.0
PFO Pinyon Flat Ob 81.55 325 eP P 10 42 27.4 +1.2
PFO pmax pmax
comp=Z,69nm,1.0s
PFO Pinyon Flat Ob 81.55 325 P P 10 42 27.3 +1.1
comp=Z,21nm,0.9s,baz=150,slow=4.6,SNR=16
PFO Pinyon Flat Ob 81.55 325 eP P 10 42 27.4 +1.2
comp=Z,69nm,1.0s
PFO Pinyon Flat Ob 81.55 325 ⇓P P 10 42 28.4 +2.2
baz=79
BELC Belle Mtn. Jos 81.67 325 ⇓P P 10 42 28.5 +1.7
baz=79
W13A Hualapai Mount 81.68 328 ⇓P P 10 42 28.5 +1.6
baz=79
N31A Bailey Ranch, 81.70 341 ⇓P P 10 42 25.1 -1.6
baz=79
NEE2 Needles Airpor 81.71 327 ⇑P P 10 42 28.4 +1.5
baz=79
RUDU RUNDU 81.73 106 eP P 10 42 35.5 +7.9
RUDU AMB AMB 10 42 59.7
comp=Z,278nm,1.2s
P26A Davis Ranch, A 81.77 337 ⇓P P 10 42 27.7 +0.5
baz=79,SNR=6.4
LBTB Lobatse 81.78 115 eP P 10 42 27.7 -0.1
LBTB AMB AMB 10 43 03.3
comp=Z,245nm,1.4s
Q24A Divide 81.80 336 ⇓P P 10 42 28.2 +0.6
baz=79,SNR=11
O28A Krutsinger Ran 81.82 339 ⇓P P 10 42 27.1 -0.3
baz=79
JFWS Jewell Farm 81.83 348 eP P 10 42 27.1 -0.1
JFWS pmax pmax
comp=Z,289nm,1.3s
JFWS Jewell Farm 81.83 348 eP P 10 42 27.1 -0.1
comp=Z,289nm,1.3s
PRYS Parys 81.86 118 eP P 10 42 24.0 -4.2
PRYS AMB AMB 10 43 00.6
comp=Z,61nm,6.2s
MURC Murrieta 81.88 324 ⇓P P 10 42 29.5 +1.6
baz=80
P25A Willow Gulch B 81.98 337 ⇑P P 10 42 29.5 +1.1
baz=79,SNR=7.3
BGNE Belgrade 82.04 342 eP P 10 42 28.7 +0.3
comp=Z,286nm,1.2s
BGNE Belgrade 82.04 342 ⇑P P 10 42 28.1 -0.4
baz=79
O27A Beecher Island 82.09 338 ⇓P P 10 42 29.5 +0.7
baz=79,SNR=7.6
N29A Votaw Ranch, W 82.14 340 ⇓P P 10 42 29.9 +0.8
baz=79,SNR=6.7
U15A North Rim 82.16 329 ⇓P P 10 42 31.2 +1.6
baz=80,SNR=16
GMRC Granite Mounta 82.18 326 ⇑P P 10 42 30.7 +1.3
baz=80
LDFC Landfair 82.19 327 eP P 10 42 31.2 +1.7
comp=Z,124nm,1.2s
M31A Lambtecht Ranc 82.19 341 ⇑P P 10 42 30.1 +0.9
baz=79,SNR=8.9
KSR Koster 82.19 117 eP P 10 42 31.3 +1.2
KSR AMB AMB 10 43 14.9
comp=Z,76nm,1.4s
WDLM Western Deep L 82.21 117 eP P 10 42 26.9 -3.3
WDLM AMB AMB 10 43 04.7
comp=Z,74nm,4.1s
P24A Kohler Place, 82.22 336 ⇑P P 10 42 30.5 +0.9
baz=79
PV01 Paradox Valley 82.23 333 eP P 10 42 30.5 +0.7
comp=Z,11µm,1.5s
N28A Pribbeno Ranch 82.28 339 ⇑P P 10 42 30.4 +0.6
baz=79,SNR=5.1
O26A Horse Wrangler 82.39 337 ⇑P P 10 42 31.4 +1.0
baz=80
P23A Jefferson 82.40 335 ⇑P P 10 42 31.4 +0.7
baz=80
HEC Hector,Ludlow 82.52 326 ⇑P P 10 42 33.1 +1.9
baz=80
O25A Wiggins 82.52 337 ⇓P P 10 42 32.0 +0.9
baz=80,SNR=6.9
BFSC Mount Baldy Ra 82.62 324 ⇑P P 10 42 33.1 +1.3
baz=80
OGNE Ogallala 82.66 339 eP P 10 42 32.8 +1.1
comp=Z,303nm,1.5s
N27A Anderson Farm, 82.67 338 ⇑P P 10 42 32.9 +1.1
baz=80,SNR=5.3
ISCO Idaho Springs 82.71 336 ⇑P P 10 42 33.2 +0.8
baz=80,SNR=9.9
M29A Burnside Ranch 82.74 340 ⇓P P 10 42 32.6 +0.5
baz=80,SNR=6.5
CRWM Crown Mines 82.74 117 eP P 10 42 34.9 +2.0
CRWM AMB AMB 10 43 30.3
comp=Z,110nm,27.1s
PASC Pasadena Art C 82.81 324 eP P 10 42 34.6 +2.0
comp=Z,135nm,1.4s
OBSV Observatory 82.82 117 eP P 10 42 29.4 -3.9
OBSV AMB AMB 10 43 02.8
comp=Z,92nm,3.7s
O24A Longmont 82.83 336 ⇓P P 10 42 33.3 +0.6
baz=80,SNR=5.3
ERPM east rand prop 82.84 118 eP P 10 42 28.4 -5.0
ERPM AMB AMB 10 43 04.6
comp=Z,128nm,10.8s
TUQ Turquoise Moun 82.84 326 ⇑P P 10 42 34.4 +1.5
baz=80
RRX Edison Barstow 82.86 325 ⇓P P 10 42 34.9 +2.0
baz=80
M28A Bar X Bar Ranc 82.88 339 ⇓P P 10 42 33.6 +0.7
baz=80
N26A Koester Ranch, 82.90 338 ⇓P P 10 42 34.1 +1.1
baz=80,SNR=6.6
P22A Eagle 82.90 335 ⇑P P 10 42 34.2 +0.9
baz=80
L31A Butterfield Fa 82.94 341 ⇑P P 10 42 33.7 +0.6
baz=80,SNR=17
DECC Green Verdugo 82.94 324 ⇑P P 10 42 35.7 +2.4
baz=81
L30A Spencer Herefo 82.95 341 ⇓P P 10 42 33.6 +0.4
baz=80,SNR=5.7
GSC Goldstone 83.12 326 ⇑P P 10 42 36.2 +1.9
baz=81
O23A Lake Granby, G 83.18 336 ⇓P P 10 42 35.6 +0.9
baz=80,SNR=12
SLR Silverton 83.24 117 eP P 10 42 34.9 -0.6
SLR AMB AMB 10 43 16.5
comp=Z,156nm,3.4s
L29A Maesberg Ranch 83.26 340 ⇑P P 10 42 35.0 +0.2
baz=80
EDW2 Edwards Air Fo 83.31 325 ⇓P P 10 42 37.0 +1.8
baz=81
O22A Kremmling 83.34 335 ⇑P P 10 42 36.5 +0.8
baz=80,SNR=12
SHOC Shoshone 83.39 326 ⇓P P 10 42 37.1 +1.5
baz=81
N24A Carr 83.41 337 ⇓P P 10 42 36.9 +1.1
baz=80,SNR=6.1
SHPR Sheep Range 83.42 327 eP P 10 42 37.2 +1.3
comp=Z,168nm,1.4s
OSI Osito Adit 83.43 324 eP P 10 42 37.5 +1.7
comp=Z,22nm,1.1s
OSI Osito Adit 83.43 324 ⇓P P 10 42 37.6 +1.7
baz=81
K30A Basset 83.60 341 ⇑P P 10 42 36.8 +0.3
baz=81,SNR=14
LRMC Laurel Mountai 83.67 325 ⇑P P 10 42 38.8 +1.6
baz=81
M25A Palm-Egli Farm 83.70 337 ⇓P P 10 42 37.5 +0.3
baz=81
ARUT Antelope Range 83.80 329 eP P 10 42 39.2 +1.4
ARUT Antelope Range 83.80 329 eP P 10 42 39.2 +1.4
comp=Z,2µm,1.4s
N23A Red Feather La 83.81 336 ⇑P P 10 42 38.5 +0.6
baz=81,SNR=6.3
K29A Lazy Trails An 83.87 341 ⇑P P 10 42 38.3 +0.4
baz=81,SNR=5.1
ECSD EROS Data Cent 83.88 343 eP P 10 42 37.8 0.0
comp=Z,109nm,0.8s
ECSD EROS Data Cent 83.88 343 ⇑P P 10 42 38.0 +0.1
baz=81,SNR=32
N22A Wattenberg Ran 83.89 335 ⇑P P 10 42 39.4 +1.1
baz=81,SNR=7.0
O20A White River Ci 83.89 334 ⇑P P 10 42 39.2 +0.9
baz=81
M24A Cheyenne 83.97 337 ⇑P P 10 42 39.2 +0.6
baz=81,SNR=6.6
K28A Ten Mile Ranch 84.11 340 ⇑P P 10 42 39.7 +0.6
baz=81,SNR=8.8
FURC Furnace Creek, 84.12 326 ⇓P P 10 42 41.1 +1.9
baz=82
ISA Isabella 84.18 325 ⇑P P 10 42 41.3 +1.7
baz=82
J30A Dallas 84.18 341 ⇓P P 10 42 38.8 -0.6
baz=81,SNR=7.7
TMUT Trail Mountain 84.23 332 eP P 10 42 41.0 +0.8
comp=Z,120nm,0.7s
M23A Laramie 84.25 336 ⇑P P 10 42 40.7 +0.6
baz=81,SNR=6.2
L25A Engebretsen Ra 84.33 338 ⇑P P 10 42 40.6 +0.2
baz=81
K27A Flueckinger Fa 84.34 339 ⇓P P 10 42 41.0 +0.6
baz=81,SNR=8.8
J29A Okreek 84.47 341 ⇓P P 10 42 41.2 +0.3
baz=82,SNR=12
SPMN St. Paul 84.52 346 eP P 10 42 39.7 -1.3
comp=Z,69nm,0.8s
SPMN St. Paul 84.52 346 ⇑P P 10 42 40.2 -0.9
baz=81,SNR=11
N20A Spence Gulch, 84.52 334 ⇑P P 10 42 42.3 +0.8
baz=82,SNR=6.3
SMMC Simmler 84.60 323 ⇑P P 10 42 43.8 +2.0
baz=82
K26A Motz Farm, Whi 84.60 339 ⇓P P 10 42 42.2 +0.5
baz=82
VES Vestal, Richgr 84.60 324 ⇓P P 10 42 43.4 +1.7
baz=82,SNR=6.2
I30A Oacoma 84.72 342 ⇓P P 10 42 42.0 -0.1
baz=82,SNR=8.8
K25A Mack Ranch, Ha 84.72 338 ⇑P P 10 42 41.1 -1.2
baz=82
J28A Allard Ranch, 84.73 340 ⇑P P 10 42 43.0 +0.7
baz=82,SNR=7.5
J27A Elkhorn Farm, 84.78 340 ⇑P P 10 42 43.5 +0.9
baz=82,SNR=13
GRAC Grapevine Rang 84.79 326 ⇓P P 10 42 44.0 +1.3
baz=82
L23A Garrett 84.83 337 ⇑P P 10 42 42.8 -0.2
baz=82
L22A Ellis Ranch, M 84.99 336 ⇑P P 10 42 44.2 +0.3
baz=82
I29A Vivian Onida 85.04 341 ⇓P P 10 42 44.0 +0.2
baz=82,SNR=6.3
RCTC Rector, Farmer 85.06 325 ⇑P P 10 42 45.5 +1.5
baz=83
BRSD Miller 85.10 342 eP P 10 42 43.6 -0.4
comp=Z,85nm,0.8s
BRSD Miller 85.10 342 ⇓P P 10 42 43.8 -0.2
baz=82,SNR=7.1
J26A Sides Ranch, S 85.14 339 ⇑P P 10 42 44.7 +0.4
baz=82,SNR=9.5
R11A Troy Canyon, C 85.16 328 ⇓P P 10 42 46.4 +1.6
baz=83,SNR=16
TIN Tinemaha 85.22 326 ⇑P P 10 42 46.9 +2.0
baz=83
DAU Daniels Canyon 85.22 332 eP P 10 42 46.3 +1.1
DAU pmax pmax
comp=Z,88nm,1.4s
DAU Daniels Canyon 85.22 332 eP P 10 42 46.2 +1.1
comp=Z,88nm,1.4s
I28A Midland 85.25 340 ⇓P P 10 42 45.2 +0.3
baz=82,SNR=17
K23A Bowen Ranch, D 85.39 337 ⇓P P 10 42 46.3 +0.6
baz=82,SNR=7.4
J25A Sunshine Ranch 85.42 338 ⇑P P 10 42 46.3 +0.5
baz=82,SNR=10
I27A Quinn 85.55 340 ⇑P P 10 42 46.6 +0.2
baz=83,SNR=8.3
K22A Casper 85.58 336 ⇓P P 10 42 47.3 +0.6
baz=83,SNR=12
H29A Onida 85.58 341 ⇓P P 10 42 46.9 +0.4
baz=83,SNR=11
J24A Dixon Ranch, L 85.62 338 ⇓P P 10 42 47.3 +0.5
baz=83,SNR=9.7
DUG Dugway 85.62 331 eP P 10 42 47.7 +0.8
DUG pmax pmax
comp=Z,286nm,1.2s
DUG Dugway 85.62 331 eP P 10 42 47.7 +0.8
comp=Z,286nm,1.2s
DUG Dugway 85.62 331 ⇑P P 10 42 47.9 +0.9
baz=83,SNR=10
I26A New Underwood 85.74 339 ⇓P P 10 42 47.3 0.0
baz=83,SNR=5.3
G30A Faulkton 85.79 342 ⇑P P 10 42 47.4 0.0
baz=83,SNR=9.1
K21A Alcova 85.79 336 ⇓P P 10 42 48.2 +0.4
baz=83,SNR=10.0
H28A Mission Ridge 85.83 341 ⇓P P 10 42 47.9 +0.2
baz=83,SNR=10
I25A Rochford 85.97 339 ⇓P P 10 42 49.2 +0.5
baz=83,SNR=11
G29A Hoven 86.04 342 ⇓P P 10 42 48.6 -0.2
baz=83,SNR=6.5
H27A Howes 86.08 340 ⇑P P 10 42 48.9 0.0
baz=83,SNR=12
I24A Kuemmerle Ranc 86.09 338 ⇓P P 10 42 49.3 +0.1
baz=83
RSSD Black Hills 86.16 339 eP P 10 42 49.4 -0.2
RSSD pmax pmax
comp=Z,37nm,0.8s
RSSD Black Hills 86.16 339 eP P 10 42 49.4 -0.2
comp=Z,37nm,0.8s
G28A Parade 86.18 341 ⇑P P 10 42 49.8 +0.4
baz=83,SNR=13
J22A Midwest 86.25 337 ⇓P P 10 42 50.2 +0.3
baz=83,SNR=10
H26A Fairpoint 86.25 340 ⇓P P 10 42 49.9 +0.1
baz=83
HWUT Hardware Ranch 86.38 332 eP P 10 42 51.0 +0.3
NVAR Mina Array Bea 86.39 326 P P 10 42 51.5 +0.6
comp=Z,5.1nm,0.8s,baz=162,slow=6.3,SNR=20
F30A Leola 86.42 342 ⇑P P 10 42 50.9 +0.3
baz=83,SNR=7.2
H25A Fruitdale 86.49 339 ⇓P P 10 42 51.4 +0.4
baz=84,SNR=12
J21A Lysite 86.50 336 ⇓P P 10 42 51.5 +0.3
baz=84
MSNA Messina 86.61 116 eP P 10 42 53.1 +0.8
MSNA AMB AMB 10 43 28.1
comp=Z,94nm,1.3s
F29A Eureka 86.61 342 ⇑P P 10 42 51.4 -0.2
baz=84,SNR=13
TORD Torodi Ar. Bea 86.66 71 P P 10 42 52.8 +0.3
comp=Z,4.0nm,1.0s,baz=235,slow=5.6,SNR=5.6
I22A 9 Mile Ranch, 86.68 337 ⇓P P 10 42 52.2 +0.1
baz=84,SNR=5.6
PDAR Pinedale Array 86.68 334 P P 10 42 52.2 0.0
comp=Z,6.5nm,0.9s,baz=154,slow=5.7,SNR=19
J20A Shoshoni 86.71 336 ⇓P P 10 42 52.7 +0.5
baz=84,SNR=12
G27A Dupree 86.73 340 ⇓P P 10 42 52.2 +0.1
baz=84,SNR=12
G26A Maurine 86.83 340 ⇓P P 10 42 52.5 -0.2
baz=84,SNR=13
MOPA Mopani 86.83 117 eP P 10 42 52.2 -1.2
MOPA AMB AMB 10 43 37.3
comp=Z,77nm,3.8s
I21A Big Trails, Te 86.87 336 ⇑P P 10 42 52.9 -0.1
baz=84,SNR=6.3
F28A McLaughlin 86.87 341 ⇑P P 10 42 53.0 +0.2
baz=84,SNR=11
H24A Dirks Ranch, A 86.88 338 ⇓P P 10 42 52.7 -0.2
baz=84,SNR=6.6
EYMN Ely 86.92 348 eP P 10 42 53.0 0.0
comp=Z,82nm,1.0s
WAKR Walker 86.95 326 eP P 10 42 54.6 +1.0
comp=Z,122nm,1.5s
J19A Crowheart 86.95 335 ⇓P P 10 42 54.1 +0.6
baz=84,SNR=11
G25A Newell 86.96 339 ⇑P P 10 42 53.4 +0.1
baz=84,SNR=14
HVU Hansel Valley 86.98 332 eP P 10 42 54.0 +0.4
HVU pmax pmax
comp=Z,89nm,0.9s
HVU Hansel Valley 86.98 332 eP P 10 42 54.0 +0.4
comp=Z,89nm,0.9s
E30A Jud 87.02 343 ⇑P P 10 42 53.6 +0.1
baz=84,SNR=10
ELK Elko 87.05 330 P P 10 42 53.9 -0.1
comp=Z,10nm,0.9s,baz=192,slow=3.3,SNR=18
F27A Lemmon 87.21 341 ⇑P P 10 42 54.4 0.0
baz=84,SNR=18
E29A Napoleon 87.26 342 ⇓P P 10 42 54.5 -0.2
baz=84,SNR=7.9
I20A Worland 87.26 336 ⇑P P 10 42 55.0 +0.1
baz=84,SNR=7.3
H22A Clearmont 87.28 337 ⇓P P 10 42 54.8 -0.1
baz=84,SNR=7.9
F26A Lodgepole 87.36 340 ⇑P P 10 42 55.3 +0.1
baz=84,SNR=10
G24A Alzada 87.37 339 ⇓P P 10 42 55.2 -0.1
baz=84,SNR=7.3
H21A Big Horn, Sher 87.52 337 ⇓P P 10 42 56.0 -0.1

baz=85,SNR=7.7
E28A Huff 87.52 342 ⇑P P 10 42 55.9 0.0
baz=84,SNR=8.0
G23A Biddle 87.54 338 ⇓P P 10 42 55.4 -0.7
baz=85,SNR=7.6
D30A Buchanan 87.56 343 ⇑P P 10 42 56.0 -0.1
baz=84,SNR=7.8
E27A Carson 87.61 341 ⇓P P 10 42 56.2 -0.1
baz=85,SNR=6.0
I19A Meeteetse 87.62 335 ⇑P P 10 42 56.5 -0.2
baz=85
F25A Bowman 87.65 340 ⇓P P 10 42 56.4 -0.2
baz=85,SNR=5.1
H20A Greybull 87.70 336 ⇑P P 10 42 57.2 +0.3
baz=85,SNR=11
D29A Pettibone, Tap 87.71 343 ⇓P P 10 42 56.4 -0.4
baz=85,SNR=11
G22A Birney 87.82 338 ⇓P P 10 42 57.1 -0.4
baz=85
F24A Ekalaka 87.85 339 ⇓P P 10 42 57.6 0.0
baz=85,SNR=8.6
E26A Carlson Angus 87.88 340 ⇑P P 10 42 57.6 -0.1
baz=85,SNR=12
F23A Volborg 88.01 338 ⇓P P 10 42 57.9 -0.5
baz=85,SNR=9.2
I17A Pilgrim Ck. 88.05 334 ⇑P P 10 42 59.7 +0.9
baz=85,SNR=8.5
C30A Mose, Pekin 88.05 343 ⇑P P 10 42 58.7 +0.3
baz=85,SNR=20
AGMN Agassiz Nation 88.06 345 eP P 10 42 58.0 -0.4
comp=Z,60nm,0.9s
AGMN Agassiz Nation 88.06 345 ⇓P P 10 42 58.4 0.0
baz=85,SNR=11
D28A Regan 88.07 342 ⇓P P 10 42 59.0 +0.5
baz=85,SNR=15
G21A Lodge Grass 88.11 337 ⇑P P 10 42 59.4 +0.5
baz=85,SNR=10
E25A Miller Ranch, 88.16 340 ⇓P P 10 42 59.3 +0.3
baz=85,SNR=11
H19A Powell 88.18 336 ⇓P P 10 43 00.4 +1.1
baz=85,SNR=11
D27A Center 88.23 341 ⇑P P 10 42 59.3 0.0
baz=85,SNR=7.0
F22A Rosebud 88.32 338 ⇑P P 10 43 00.3 +0.5
baz=85,SNR=10
D26A Manning 88.39 341 ⇓P P 10 43 00.2 +0.2
baz=85,SNR=11
H18A Shoshone NF, C 88.41 335 ⇑P P 10 43 01.1 +0.7
baz=86,SNR=5.9
G20A Bridger 88.42 336 ⇓P P 10 43 01.9 +1.6
baz=86,SNR=26
E24A Baker 88.46 339 ⇓P P 10 43 01.2 +0.8
baz=86,SNR=8.9
H17A Grant Village 88.47 334 ⇑P P 10 43 02.7 +1.9
baz=86,SNR=11
C28A Hausauer Farms 88.51 342 ⇓P P 10 43 01.4 +0.8
baz=86
YFT Old Faithful 88.61 334 eP P 10 43 03.5 +2.0
comp=Z,58nm,0.9s
F21A Absaloka Mine, 88.62 337 ⇑P P 10 43 03.1 +1.9
baz=86,SNR=7.0
RLMT Red Lodge 88.67 336 eP P 10 43 02.9 +1.2
comp=Z,110nm,1.3s
B30A Myrvik Farm, E 88.73 344 ⇑P P 10 43 02.3 +0.7
baz=86,SNR=22
D25A Fairfield 88.73 340 ⇑P P 10 43 02.9 +1.2
baz=86,SNR=18
C27A Sayler Ranch, 88.78 342 ⇑P P 10 43 02.4 +0.5
baz=86,SNR=7.3
YMR Madison River 88.84 334 eP P 10 43 03.7 +1.2
comp=Z,118nm,0.9s
F20A Billings 88.92 337 ⇑P P 10 43 03.7 +1.1
baz=86,SNR=8.6
B29A Wagenman Farm, 88.97 343 ⇑P P 10 43 03.8 +1.1
baz=86,SNR=10
D24A Glendive 88.98 340 ⇓P P 10 43 03.7 +0.9
baz=86,SNR=8.2
C26A Wahner Farm, P 89.04 341 ⇑P P 10 43 03.6 +0.5
baz=86,SNR=8.0
HLID Hailey 89.12 332 eP P 10 43 05.2 +1.3
comp=Z,63nm,1.1s
HLID Hailey 89.12 332 ⇑P P 10 43 05.0 +1.2
baz=86
LAO LASA Array 89.13 338 eP P 10 43 04.1 +0.5
comp=Z,88nm,1.0s
QLMT Earthquake Lak 89.14 334 eP P 10 43 05.3 +1.4
comp=Z,0.1nm,0.2s
A30A Hoffart Farm, 89.18 344 ⇓P P 10 43 03.6 -0.1
baz=86,SNR=7.4
B28A Dugan Ranch, T 89.19 343 ⇓P P 10 43 04.2 +0.4
baz=86,SNR=15
F19A Roth Farm, Mol 89.22 336 ⇑P P 10 43 04.7 +0.6
baz=86,SNR=23
C25A Freed Ranch, W 89.23 340 ⇓P P 10 43 05.0 +0.9
baz=86,SNR=8.2
E21A Keefer Ranch, 89.25 338 ⇑P P 10 43 05.4 +1.3
baz=86,SNR=23
D23A Lindsay 89.28 339 ⇑P P 10 43 05.6 +1.3
baz=86,SNR=33
B27A Peters Farms, 89.37 342 ⇑P P 10 43 05.1 +0.5
baz=86,SNR=5.0
A29A Manning Farm, 89.37 343 ⇓P P 10 43 04.8 +0.2
baz=86,SNR=14
C24A Savage 89.38 340 ⇑P P 10 43 05.5 +0.7
baz=86,SNR=26
D22A Cohagen 89.53 338 ⇑P P 10 43 05.4 0.0
baz=87,SNR=19
E20A Meyer Farm, Mu 89.54 337 ⇓P P 10 43 05.6 +0.1
baz=87
B26A Jensen Ranch, 89.58 341 ⇓P P 10 43 06.0 +0.4
baz=87,SNR=8.7
A28A Rude Farm, Bot 89.60 343 ⇑P P 10 43 05.4 -0.3
baz=86,SNR=7.9
E19A Rath Farm, Rou 89.71 336 ⇓P P 10 43 05.9 -0.4
baz=87
WVOR Wild Horse Val 89.85 328 eP P 10 43 08.4 +1.3
WVOR pmax pmax
comp=Z,86nm,1.3s
WVOR Wild Horse Val 89.85 328 eP P 10 43 08.4 +1.3
comp=Z,86nm,1.3s
A27A Ledoux Ranch, 89.87 342 ⇓P P 10 43 07.7 +0.8
baz=87
ULM Lac du Bonnet 89.93 346 P P 10 43 06.8 -0.3
comp=Z,8.4nm,1.0s,baz=170,slow=5.8,SNR=6.1
C22A Vida 89.99 339 ⇑P P 10 43 07.3 -0.2
baz=87
A26A Wade Farm, Ken 90.02 342 ⇑P P 10 43 07.7 +0.1
baz=87,SNR=8.3
WDC Whiskeytown Da 90.03 325 eP P 10 43 12.9 +5.0
WDC pmax pmax
comp=Z,100nm,1.1s
WDC Whiskeytown Da 90.03 325 eP P 10 43 12.9 +5.0
comp=Z,100nm,1.1s
D20A Manuel Ranch, 90.07 337 ⇑P P 10 43 07.8 -0.2
baz=87
DGMT Dagmar 90.18 340 eP P 10 43 08.7 +0.2
comp=Z,182nm,0.8s
DGMT Dagmar 90.18 340 ⇓P P 10 43 08.8 +0.4
baz=87,SNR=30
A25A Svangstu Ranch 90.33 341 ⇑P P 10 43 09.5 +0.4
baz=87
LRM Limekiln Ridge 90.36 334 eP P 10 43 10.5 +0.9
comp=Z,131nm,1.6s
D19A Cripps Ranch, 90.36 337 ⇓P P 10 43 09.7 +0.3
baz=88
B23A Brockton 90.39 340 ⇑P P 10 43 09.9 +0.5
baz=87
C21A Desert Coulee 90.41 338 ⇓P P 10 43 09.5 0.0
baz=88
N02D Trinity Center 90.42 325 ⇓P P 10 43 11.7 +1.9
baz=88
A24A Westby 90.55 340 ⇑P P 10 43 10.8 +0.6
baz=88
M04C Macdoel 90.69 326 ⇑P P 10 43 13.1 +2.0
baz=88
C19A Slack Wire Ran 90.92 337 ⇑P P 10 43 11.7 -0.2
baz=88
HRY Holter Researc 90.92 335 eP P 10 43 13.0 +0.9
comp=Z,22nm,0.7s
A22A Carney Farms, 91.13 339 ⇓P P 10 43 12.6 -0.2
baz=88
B20A Solberg Farm, 91.24 338 ⇑P P 10 43 12.7 -0.7
baz=88
BMO Blue Mountains 91.32 331 eP P 10 43 14.5 +0.6
BMO pmax pmax
comp=Z,41nm,0.9s
BMO Blue Mountains 91.32 331 eP P 10 43 14.5 +0.6
comp=Z,41nm,0.9s

A21A Bergtoll Ranch 91.41 339 ⇑P P 10 43 14.3 +0.2
baz=88,SNR=28
B19A Brinkman Farms 91.53 337 ⇑P P 10 43 14.5 -0.2
baz=89,SNR=28
CHMT Chamberlain Mo 91.58 334 eP P 10 43 16.2 +1.0
comp=Z,55nm,1.4s
J05D Fort Rock, OR 91.64 327 ⇑P P 10 43 17.7 +2.2
baz=89
MSO Missoula 91.75 334 ⇓P P 10 43 16.9 +1.0
baz=89
A19A Klindworth Far 91.89 338 ⇓P P 10 43 16.5 +0.1
baz=89,SNR=17
PINOR Pine Mountain 91.91 328 P P 10 43 21.5 +5.0
comp=Z,100nm,1.3s
SLMT Seeley Lake 91.95 334 eP P 10 43 17.4 +0.6
comp=Z,6.5nm,1.3s
SWMT Swartz Lake 92.36 334 eP P 10 43 19.3 +0.6
comp=Z,12nm,1.8s
I05D Terrebonne, OR 92.54 328 ⇓P P 10 43 21.3 +1.8
baz=90
JTMT Jette 92.66 334 eP P 10 43 19.9 -0.2
comp=Z,24nm,1.0s
YBMT Yellow Bay 92.67 334 eP P 10 43 20.9 +0.8
comp=Z,4.8nm,1.1s
BLMT Blacktail Moun 92.91 334 eP P 10 43 21.7 +0.3
comp=Z,56nm,1.0s
BSMT Bassoo Peak 92.92 334 eP P 10 43 20.9 -0.5
comp=Z,37nm,1.2s
WALA Waterton Lakes 93.66 335 eP P 10 43 24.8 +0.2
comp=Z,2.5nm,0.7s
NEW Newport 94.11 332 ⇑P P 10 43 26.7 +0.1
baz=91,SNR=5.7
TAM Tamanrasset 95.57 66 eP P 10 43 35.5 +1.4
TAM pmax pmax
comp=Z,56nm,1.3s
TAM Tamanrasset 95.57 66 eP P 10 43 35.5 +1.4
comp=Z,56nm,1.3s
EDM Edmonton 97.06 337 P P 10 43 38.0 -1.9
EDM Edmonton 97.06 337 P P 10 43 38.0 -1.9
GERES GERESS Array B 115.71 47 PKP PKPdf 10 48 50.5 +0.1
comp=Z,1.8nm,0.8s,baz=194,slow=3.6,SNR=5.5
PRA Prague 116.71 46 PKP PKiKP 10 48 59.0 +6.8
PRU Pruhonice 116.73 46 ePKIKP PKiKP 10 48 59.2 +7.0
PRU Pruhonice 116.73 46 ePKP PKiKP 10 48 59.2 +7.0
WRA Warramunga Arr 116.80 210 PKP PKPdf 10 48 52.6 -0.8
comp=Z,0.7nm,0.7s,baz=158,slow=1.8,SNR=4.6
ILAR Eielson Array 117.07 333 PKP PKPdf 10 48 51.9 -0.5
comp=Z,0.9nm,0.9s,baz=148,slow=1.9,SNR=4.3
VRAC Vranov 117.61 48 PKP PKPdf 10 48 54.4 +0.4
comp=Z,1.9nm,0.7s,baz=315,slow=4.3,SNR=3.6
UPC Upice 117.81 46 ePKIKP PKiKP 10 49 03.6 +9.3
UPC e 10 50 08.0
UPC Upice 117.81 46 ePKP PKiKP 10 49 03.6 +9.3
UPC ePP PP 10 50 08.0 -0.6
DPC Dobruska-Polom 117.92 46 ePKIKP PKiKP 10 49 00.8 +6.2
DPC Dobruska-Polom 117.92 46 ePKP PKiKP 10 49 00.8 +6.2
NOA NORSAR Array B 119.92 34 PKP PKPdf 10 48 58.0 0.0
comp=Z,1.2nm,0.8s,baz=207,slow=2.0,SNR=3.3
MLR Muntele Rosu 121.76 55 PKP PKPdf 10 49 01.9 -0.3
comp=Z,0.9nm,0.9s,baz=252,slow=3.2,SNR=4.3
BRTR Keskin Array B 124.71 64 PKP PKPdf 10 49 08.2 +0.1
comp=Z,2.7nm,0.8s,baz=191,slow=2.3,SNR=11
BRTR PP PP 10 50 56.0 -0.2
comp=Z,4.0nm,0.8s,baz=230,slow=5.2,SNR=3.0
AKASG Malin Array Be 125.66 50 PKP PKPdf 10 49 08.6 -0.7
comp=Z,1.5nm,0.7s,baz=268,slow=2.6,SNR=8.5
AKASG PP PP 10 50 59.4 -2.6
comp=Z,3.4nm,0.8s,baz=250,slow=5.5,SNR=6.3
FINES FINESS Array B 126.85 36 PKP PKPdf 10 49 11.5 +0.3
comp=Z,2.0nm,1.0s,baz=264,slow=2.8,SNR=3.7
PETK Petropavlovsk- 141.85 310 PKP PKPdf 10 49 39.9 +0.3
comp=Z,8.5nm,1.0s,baz=97,slow=4.9,SNR=3.7
GEYT Alibeck 142.21 75 PKP PKPdf 10 49 41.4 +0.7
comp=Z,4.2nm,0.8s,baz=252,slow=0.9,SNR=6.8
HYB Hyderabad 148.17 122 eP PKPdf 10 49 53.0 +1.4
HYB Hyderabad 148.17 122 eP PKPdf 10 49 53.0 +1.4
YSS Yuzh-Sakhalins 151.91 301⇑ePKIKP PKPbc 10 50 02.7 -0.3
YSS e 10 50 12.2
YSS e 10 50 19.0
MJAR Matsushiro Arr 154.73 277 PKP PKPdf 10 49 59.2 -1.7
comp=Z,3.1nm,1.1s,baz=197,slow=2.6,SNR=4.1
ZALV Zalesovo Beam 158.11 36 PKP PKPdf 10 50 04.1 -0.7
comp=Z,0.9nm,0.4s,baz=318,slow=2.0,SNR=5.0
CMAR Chiang Mai Arr 159.57 159 PKP PKPdf 10 50 07.8 +0.2
comp=Z,0.9nm,0.3s,baz=252,slow=1.6,SNR=4.7
MKAR Makanchi Array 160.10 56 PKP PKPdf 10 50 07.8 +0.4
comp=Z,5.4nm,1.2s,baz=285,slow=2.4,SNR=7.9
SONM Songino Array 170.04 0 PKP PKPdf 10 50 15.1 -0.8
comp=Z,1.1nm,1.1s,baz=27,slow=0.3,SNR=3.7
SONM PP PP 10 55 21.6 +0.8
comp=Z,4.5nm,0.9s,baz=356,slow=4.8,SNR=3.8

SJA **27** *10:30:19.0±1.0, 33.°65S×73.°78W, h34km±96km, ML6.3*
IDC **27** *10:30:31.7±0.4, 33.°55S×72.°15W, h0km, mb5.5/25, mb1 5.5/27, mb1mx5.5/32, mbtmp5.4/27, ML5.1/3, MS6.5/14, Ms1 6.5/14, ms1mx6.1/30, Error ellipse: s-maj=15.4km s-min=11.9km az=75.0*
GUC **27** *10:30:36.4±0.6, 33.°28S×71.°96W, h35km±26km, ML6.1*
NEIC **27** *10:30:36.4, 33.°28S×71.°96W, h35km, mb6.0/96, ML6.1(GUC), After GUC.*
BJI **27** *10:30:37.0, 34.°00S×72.°90W, h35km, mB6.2/13, Ms6.5/15, Ms7 6.3/13*
ISCJB **27** *10:30:37.5±0.2, 32.°96S±0.°03×71.°90W±0.°04, h33km, mb5.7/103, MS6.5/11, Error ellipse: s-maj=4.7km s-min=4.3km az=13.5*
MOS **27** *10:30:37.6±1.3, 32.°89S×71.°93W, h33km, mb5.9/52, Error ellipse: s-maj=10.8km s-min=8.6km az=75.1*
ISC 27 10:30:34.7±0.2, **33.°23S**±0.°04×**71.°97W**±0.°03, **h15km, n687, σ1.°71**/640, **mb5.9**/103, **MS6.5**/11, **41C-30D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IHA Instituto Hidr 0.34 54 eP Pn 10 30 45.0 -0.2
IHA Instituto Hidr 0.34 54 eP Pn 10 30 45.0 -0.2
ROCH El Roble 0.85 73 i P Pn 10 30 52.1 -0.2
ROCH El Roble 0.85 73 i P Pn 10 30 52.1 -0.2
PEL Peldehue 1.08 86 eP Pg 10 30 56.0 +0.4
PEL i S Sn 10 31 10.3 +0.1
PEL Peldehue 1.08 86 eP Pg 10 30 56.0 +0.4
PEL i S Sn 10 31 10.3 +0.1
PEL AML AML 10 31 25.1
comp=E,869μm,0.6s
PEL Peldehue 1.08 86 eP Pg 10 30 56.0 +0.4
PEL i S Sn 10 31 10.3 +0.1
SAN Santiago 1.12 102⇑iP Pb 10 30 55.8 0.0
SAN Santiago 1.12 102⇑iP Pb 10 30 55.8 0.0
SAN Santiago 1.12 102⇑iP Pb 10 30 55.8 0.0
PCH Pirque 1.28 108 eP Pb 10 30 58.6 0.0
PCH Pirque 1.28 108 eP Pb 10 30 58.6 0.0
AUSP Uspallata 2.40 66⇓iP Pg 10 31 20.7 0.0
ARCO CERRO ARCO 2.58 82 i P Pg 10 31 24.4 +0.2
ARCO i S Sg 10 32 11.0 +13
ARCO AML AML 10 32 14.6
comp=Z,39μm,0.6s
AAGR Agrelo 2.64 88 i P Pb 10 31 23.5 +1.7
ASAL Salagasta 2.71 77 i P Pg 10 31 25.2 -1.6
RTCV Cerro Valdivia 3.20 66 i P Pb 10 31 32.8 +1.5
RTLL Cerro Villicun 3.52 58 i P Pb 10 31 36.0 -0.6
CFAA Coronel Fontan 3.55 64 Pn Pn 10 31 32.7 +3.4
comp=Z,32nm,0.3s,baz=217,slow=12,SNR=29
CFAA Lg Lg 10 32 29.8
comp=Z,120nm,0.3s,baz=226,slow=23,SNR=5.8
CFAA LR LR 10 33 27.3
comp=Z,129μm,20.6s,baz=263,slow=46
CFAA Coronel Fontan 3.55 64 Pn Pn 10 31 32.7 +3.4
CFAA Lg Lg 10 32 29.8
CFAA Coronel Fontan 3.55 64 i P Pb 10 31 36.5 -0.7
AMOG MOGNA 3.73 53 i P Pb 10 31 38.2 -2.2
ACAN Cantantal 4.14 78 i P Pb 10 31 44.2 -3.1
AGUA GUANDACOL 4.77 40 i P Pn 10 31 51.0 +4.8
AGUA i P Pn 10 31 51.0 +4.8
PLCA Paso Flores 7.58 172 LR LR 10 34 30.6
comp=Z,65μm,18.2s,baz=349,slow=33
PLCA Paso Flores 7.58 172 ePn Pn 10 32 08.4 -16
TRQA Tornquist 9.45 123 ePn Pn 10 32 47.4 -2.9
comp=Z,16nm,1.4s
TRQA eSn Sn 10 34 40.1 +3.8
LVC Limon Verde 10.91 15 Pn Pn 10 33 20.0 +9.4
comp=Z,755nm,0.9s
LVC eSn Sn 10 35 23.4 +10
CPUP Villa Florida 14.45 65 P Pn 10 34 00.4 +1.7

CPUP pmax pmax
comp=Z,3.0nm,0.3s
CPUP Villa Florida 14.45 65 Pn Pn 10 34 00.3 +1.7
comp=Z,2.9nm,0.3s,baz=218,slow=10,SNR=10.0
CPUP LR LR 10 40 06.1
comp=Z,629μm,18.9s,baz=226,slow=39
CPUP Villa Florida 14.45 65 Pn Pn 10 34 00.3 +1.7
CPUP eSn Sn 10 36 35.3 -3.3
LPAZ La Paz 17.22 13 eP P 10 34 39.2 +2.3
LPAZ pmax pmax
comp=Z,2μm,1.6s
LPAZ La Paz 17.22 13 P P 10 34 38.5 +1.5
comp=Z,5.3nm,0.3s,baz=191,slow=6.9,SNR=35
LPAZ La Paz 17.22 13 ePn P 10 34 39.2 +2.3
comp=Z,2μm,1.6s
SIV San Ignacio 19.79 32 P Pn 10 35 07.2 +1.1
comp=Z,171nm,0.8s,baz=222,slow=11,SNR=40
SIV LR LR 10 44 18.4
comp=Z,418μm,19.2s,baz=228,slow=41
SIV San Ignacio 19.79 32 P Pn 10 35 07.2 +1.1
NNA Nana 21.61 347 P P 10 35 26.9 +2.6
comp=Z,947nm,1.0s,SNR=13
NNA Nana 21.61 347 i P P 10 35 27.3 +3.0
NNA Nana 21.61 347 P P 10 35 26.7 +2.4
comp=Z,112nm,0.9s,baz=184,slow=13,SNR=24
NNA Nana 21.61 347 P P 10 35 26.7 +2.4
comp=Z,62nm,1.9s
USHA Ushuaia 21.74 174 P P 10 35 24.6 -0.8
comp=Z,103nm,0.8s,baz=333,slow=7.1,SNR=11
USHA LR LR 10 44 54.1
comp=Z,195μm,18.0s,baz=336,slow=40
USHA Ushuaia 21.74 174 P P 10 35 24.6 -0.8
SAML Samuel 25.49 21 eP P 10 36 05.2 +2.7
comp=Z,2.8nm,1.6s
ATAH Atahualpa 26.64 346 P P 10 36 15.9 +2.6
comp=Z,21nm,0.8s,baz=216,slow=5.2,SNR=9.7
ATAH Atahualpa 26.64 346 P P 10 36 15.9 +2.6
BDFB Brasilia 27.86 57 P P 10 36 25.2 +1.2
BDFB pmax pmax
comp=Z,321nm,1.1s
BDFB Brasilia 27.86 57 P P 10 36 25.2 +1.2
comp=Z,321nm,1.1s,baz=224,slow=8.6,SNR=45
BDFB LR LR 10 49 17.8
comp=Z,300μm,19.9s,baz=225,slow=40
BDFB Brasilia 27.86 57 P P 10 36 25.2 +1.2
PMSA Palmer Station 31.95 174 P P 10 36 55.3 -4.3
comp=Z,61nm,1.2s,baz=315,slow=7.1,SNR=2.0
PMSA LR LR 10 49 38.4
comp=Z,168μm,19.9s,baz=343,slow=36
PMSA Palmer Station 31.95 174 P P 10 36 55.3 -4.3
HOPE Hope Point 32.65 141 P P 10 37 06.0 +0.2
comp=Z,2μm,0.8s,SNR=8.3
HOPE Hope Point 32.65 141 P P 10 36 57.8 -8.0
comp=Z,187nm,0.8s
RPN Rapa Nui 32.74 271 LR LR 10 46 50.8
comp=Z,71μm,19.2s,baz=96,slow=30
OTAV Otavalo 33.84 348 eP P 10 37 18.8 +1.6
comp=Z,198nm,1.3s
PAYG Puerto Ayora 36.67 328 eP P 10 37 43.6 +2.6
comp=Z,181nm,1.2s
ROSC El Rosal 37.94 356 P P 10 37 56.4 +4.2
comp=Z,38nm,0.7s,baz=130,slow=4.9,SNR=12
ROSC LR LR 10 54 51.7
comp=Z,38μm,18.5s,baz=192,slow=38
ROSC El Rosal 37.94 356 eP P 10 37 56.5 +4.2
SDV Santo Domingo 41.90 2 eP P 10 38 24.4 -0.5
comp=Z,363nm,1.0s
BCIP Isla Barro Col 42.82 349 P P 10 38 32.5 +0.4
comp=Z,241nm,1.4s
RCBR Riachuelo 43.19 59 P P 10 38 37.3 +2.0
comp=Z,384nm,1.3s,baz=214,slow=7.3,SNR=17
RCBR Riachuelo 43.19 59 P P 10 38 37.3 +2.0
TPP Pointe-a-Pierr 44.45 15 e P 10 38 49.1 +3.9
TBH Brigand Hill 44.69 15 e P 10 38 51.2 +4.0
JTS JuntasAbangare 45.01 342 P P 10 38 51.8 +2.0
comp=Z,206nm,1.6s,SNR=6.4
JTS JuntasAbangare 45.01 342⇑iP P 10 38 51.2 +1.4
JTS pmax pmax
comp=Z,140nm,1.9s
JTS JuntasAbangare 45.01 342 P P 10 38 50.9 +1.2
comp=Z,14nm,0.7s,baz=234,slow=2.8,SNR=14
JTS JuntasAbangare 45.01 342 P P 10 38 48.2 -1.5
comp=Z,79nm,1.0s
BOT Bacolet 45.43 16 e P 10 38 55.1 +2.0
TPR Prospect 45.44 16 e P 10 38 56.8 +3.6
GRGR Grenville 46.17 14 eP P 10 39 00.6 +1.7
comp=Z,766nm,0.9s
GRW Mount Saint Ca 46.19 14 e P 10 39 02.3 +3.2
FCV Fort Charlotte 47.25 14 e P 10 39 10.9 +3.6
BHS Barnard House 47.41 14 e P 10 39 13.0 +4.4
SVV Soufriere Volc 47.41 14 e P 10 39 08.8 +0.2
SSV Crater Summit 47.42 14 e P 10 39 09.5 +0.7
SLB Belfond 47.94 14 e P 10 39 12.7 -0.1
TRIS Tristan da Cun 48.24 112 eP P 10 39 15.6 +0.7
comp=Z,132nm,0.6s
FDF Fort de France 48.80 14 eP P 10 39 19.1 -0.3
FDF pmax pmax
comp=Z,258nm,0.9s
FDF Fort de France 48.80 14 eP P 10 39 19.1 -0.3
comp=Z,258nm,0.9s
VNA3 Neumayer Olymp 50.05 158 P P 10 39 29.8 +1.5
VNA1 Neumayer--Stat 50.36 157 P P 10 39 31.2 +0.6
VNA2 Neumayer--Watz 50.70 157 P P 10 39 29.9 -3.4
ICMP Isla Caja de M 51.10 7 eP P 10 39 37.8 +1.1
APG El Apazote 51.11 337 P P 10 39 34.6 -2.6
comp=Z,51nm,0.9s,baz=169,slow=10,SNR=40
APG El Apazote 51.11 337 P P 10 39 34.6 -2.6
CRPR Cabo Rojo, PR 51.16 6 eP P 10 39 37.9 +0.7
comp=Z,344nm,1.0s
OBIP Obispado Ponce 51.24 7 eP P 10 39 38.3 +0.5
comp=Z,468nm,1.0s
CELP Cerrillos 51.27 7 eP P 10 39 38.0 -0.1
LSP Las Mesas 51.33 6 eP P 10 39 37.6 -0.9
MTDJ Mount Denham 51.44 353 P P 10 39 39.4 0.0
comp=Z,193nm,1.2s
LRS Lares 51.46 6 eP P 10 39 40.1 +0.5
ANWB Willy Bob 51.54 12 eP P 10 39 38.9 -1.1
comp=Z,621nm,1.0s
CBYP Canovanas 51.54 7 eP P 10 39 40.5 +0.4
comp=Z,317nm,0.4s
STVI Saint Thomas 51.73 8 eP P 10 39 40.4 -1.1
comp=Z,112nm,1.0s
SDDR Presa de Saban 51.92 1 eP P 10 39 44.2 +1.2
comp=Z,111nm,1.0s
SMN1 Samana, DR 52.19 3 eP P 10 39 45.7 +0.8
SNAA Sanae 52.28 158 P P 10 39 45.2 +0.1
SNAA Sanae 52.28 158⇑iP P 10 39 42.8 -2.3
SNAA pmax pmax
comp=Z,150nm,0.7s
SNAA Sanae 52.28 158 P P 10 39 42.5 -2.6
comp=Z,28nm,0.8s,baz=277,slow=9.2,SNR=16
SNAA LR LR 11 00 39.9
comp=Z,13μm,19.8s,baz=292,slow=35
SNAA Sanae 52.28 158 P P 10 39 42.5 -2.6
GTBY Guantanamo Bay 52.94 356 eP P 10 39 50.2 -0.3
comp=Z,110nm,0.8s
GRTK Grand Turk 54.44 1 P P 10 40 01.7 +0.4
comp=Z,340nm,1.0s
TEIG Tepich 55.39 341 P P 10 40 09.3 +1.0
comp=Z,153nm,0.8s,baz=182,slow=0.6,SNR=46
TEIG Tepich 55.39 341 eP P 10 40 07.4 -0.9
comp=Z,172nm,0.7s
RKT Rikitea 55.72 263 eP P 10 40 16.3 +5.4
comp=Z,60nm,1.2s
RKT eS S 10 47 56.3 -0.8
comp=Z,39μm,32.5s
RKT eLR LR 10 56 23.4
comp=Z,43μm,28.8s
RKT Rikitea 55.72 263 eT T 11 39 59.7
comp=Z,7.7nm,0.3s
NVL N'lazarevskaya 57.01 157 eP P 10 40 21.4 +2.1
NVL eS S 10 48 08.9 -3.9
NVL pmax pmax
comp=Z,131nm,0.9s
QSPA South Pole Qui 57.01 180 P P 10 40 16.6 -3.0
comp=Z,39nm,0.8s,baz=142,slow=5.5,SNR=4.3
QSPA LR LR 11 05 13.5
comp=Z,24μm,18.4s,baz=174,slow=37
QSPA South Pole Qui 57.01 180 P P 10 40 18.5 -1.1
H10S3 ASCENSION HYDR 57.89 79 P P 10 40 29.4 +3.3
baz=251,slow=10,SNR=14
H10S2 ASCENSION HYDR 57.90 79 P P 10 40 28.5 +2.3
baz=251,slow=10,SNR=14
H10S1 ASCENSION HYDR 57.91 79 P P 10 40 29.1 +2.9
baz=251,slow=10,SNR=29
ASCN Ascension 58.70 78 eP P 10 40 33.6 +1.6

comp=Z,413nm,1.1s
SHEL Horse Pasture 61.70 91 eP P 10 40 53.8 +1.1
SHEL pmax pmax
comp=Z,164nm,0.8s
SHEL Horse Pasture 61.70 91 eP P 10 40 53.8 +1.1
comp=Z,164nm,0.8s
035A Encino 64.78 334 ⇑P P 10 41 11.7 -1.0
baz=66
VNDA Vanda 64.87 191 P P 10 41 12.4 -0.3
VNDA pmax pmax
comp=Z,15nm,1.1s
VNDA Vanda 64.87 191 P P 10 41 12.4 -0.3
comp=Z,14nm,1.1s,baz=79,slow=5.2,SNR=3.1
VNDA Vanda 64.87 191 P P 10 41 12.4 -0.3
034A Hebbronville 65.11 334 ⇓P P 10 41 13.1 -1.7
baz=66
TIGA Tifton 65.25 349 eP P 10 41 14.1 -1.5
comp=Z,138nm,0.9s
TIGA Tifton 65.25 349 ⇑P P 10 41 15.7 +0.1
baz=66
KVTX Kingsville 65.26 335 P P 10 41 14.9 -0.9
comp=Z,26nm,0.5s
BRAL Brewton 65.47 346 eP P 10 41 16.9 -0.1
comp=Z,250nm,1.1s
BBSR BB Station 65.61 7 P P 10 41 20.8 +2.9
comp=Z,241nm,1.1s
834A Tilden 66.03 334 ⇑P P 10 41 19.6 -1.1
baz=67,SNR=7.6
RGRS Roger Stewart 66.24 352 eP P 10 41 23.2 +1.3
735A Kenedy 66.43 335 ⇑P P 10 41 22.0 -1.3
baz=67
NHSC New Hope 66.43 352 eP P 10 41 24.6 +1.4
comp=Z,354nm,1.1s
SACV Santiago Islan 66.53 52 eP P 10 41 25.9 +1.7
comp=Z,150nm,1.0s
734A La Parita Cree 66.69 335 ⇓P P 10 41 22.8 -2.1
baz=68
GOGA Godfrey 67.16 350 eP P 10 41 27.4 -0.4
GOGA pmax pmax
comp=Z,62nm,0.8s
GOGA Godfrey 67.16 350 eP P 10 41 27.4 -0.4
comp=Z,62nm,0.8s
LRAL Lakeview Retre 67.41 346 eP P 10 41 29.4 -0.1
comp=Z,77nm,1.1s
TBI Tubuai 67.55 256 eT T 11 54 44.2
comp=Z,51nm,0.2s
339A Huntington 67.67 339 ⇑P P 10 41 29.3 -1.7
baz=69
LPIG La Paz 67.71 322 P P 10 41 34.9 +3.4
comp=Z,12nm,0.3s,baz=102,slow=3.3,SNR=3.5
LPIG La Paz 67.71 322 P P 10 41 34.9 +3.4
NATX Nacogdoches 68.10 339 eP P 10 41 27.9 -5.8
comp=Z,13nm,0.9s
NATX ePP PP 10 44 03.4 -1.0
CNNC Cliffs of the 68.34 355 eP P 10 41 35.3 +0.1
comp=Z,87nm,0.3s
KMSC Kings Mountain 68.58 352 eP P 10 41 36.4 -0.3
comp=Z,92nm,0.9s
KMSC Kings Mountain 68.58 352 ⇓P P 10 41 36.4 -0.3
baz=70
MEH Mehetia 69.01 262 eP P 10 41 44.4 +4.4
comp=Z,54nm,1.2s
MEH Mehetia 69.01 262 eT T 11 56 35.7
comp=Z,87nm,0.2s
TXAR Lajitas Array 69.09 331 P P 10 41 41.3 +1.1
TXAR pmax pmax
comp=Z,5.0nm,0.5s
TXAR Lajitas Array 69.09 331 P P 10 41 41.3 +1.1
comp=Z,5.1nm,0.5s,baz=156,slow=8.9,SNR=16
TXAR PKP2bc 11 09 55.3
comp=Z,3.4nm,1.1s,baz=256,slow=2.7,SNR=4.9
TXAR Lajitas Array 69.09 331 P P 10 41 41.3 +1.1
TXAR ⇑e 11 09 55.3
CPCT Cooper Cave 69.33 349 eP P 10 41 39.0 -2.4
OXF Oxford 69.35 345 eP P 10 41 40.2 -1.3
OXF pmax pmax
comp=Z,487nm,1.1s
OXF Oxford 69.35 345 eP P 10 41 40.2 -1.3
comp=Z,487nm,1.1s
TKL Tuckaleechee C 69.41 350 eP P 10 41 40.6 -1.3
TKL Tuckaleechee C 69.41 350 eP P 10 41 40.6 -1.3
VAH Vaihoa 69.95 265 eP P 10 41 50.2 +4.5
comp=Z,193nm,1.3s
TVO Taravao 70.04 261 eP P 10 41 51.0 +4.6
comp=Z,75nm,1.4s
TVO Taravao 70.04 261 eT T 11 57 52.6
comp=Z,3.6nm,0.3s
TIAR Tiarei 70.23 262 eP P 10 41 52.0 +4.5
comp=Z,42nm,1.2s
TIAR Tiarei 70.23 262 eT T 11 58 06.8
comp=Z,12nm,0.2s
UALR University of 70.30 342 eP P 10 41 45.6 -1.7
comp=Z,70nm,1.0s
PAE Paea 70.37 261 eP P 10 41 52.9 +4.6
comp=Z,50nm,1.2s
PAE Paea 70.37 261 eT T 11 58 17.5
comp=Z,1.9nm,0.3s
PPT2 Papeete2 70.40 261 eP P 10 41 53.3 +4.7
comp=Z,233nm,1.3s
PPT2 eS S 10 51 00.9 -0.2
comp=Z,40µm,24.2s
PPT2 Papeete2 70.40 261 eLR LR 11 03 17.2
comp=Z,68µm,31.2s,baz=117
PPT2 Papeete2 70.40 261 eT T 11 58 19.1
comp=Z,4.6nm,0.3s
MIAR Mount Ida 70.40 341 eP P 10 41 46.0 -2.0
MIAR pmax pmax
comp=Z,81nm,1.1s
MIAR Mount Ida 70.40 341 eP P 10 41 46.0 -2.0
comp=Z,81nm,1.1s
PPT Papeete 70.41 261 P P 10 41 46.6 -2.0
PPT pmax pmax
comp=Z,15nm,0.5s
PPT Papeete 70.41 261 P P 10 41 46.6 -2.0
comp=Z,15nm,0.5s,baz=14,slow=6.7,SNR=3.4
PPT Papeete 70.41 261 P P 10 41 46.6 -2.0
VWCC Virginia Weste 70.51 353 eP P 10 41 47.5 -1.1
WVT Waverly 70.58 346 eP P 10 41 47.9 -1.2
WVT pmax pmax
comp=Z,404nm,1.0s
WVT Waverly 70.58 346 eP P 10 41 47.9 -1.2
comp=Z,404nm,1.0s
HBAR Harrisburg 70.63 344 eP P 10 41 47.5 -1.9
HALT Halls 70.67 345 eP P 10 41 48.5 -1.1
JSRW J. Sargeant Re 70.78 355 eP P 10 41 51.1 +0.9
GLAT Glass 71.01 345 eP P 10 41 50.8 -0.9
PVMO Portageville 71.24 345 eP P 10 41 52.0 -1.0
comp=Z,592nm,0.9s
CBN Corbin 71.25 356 eP P 10 41 53.5 +0.4
comp=Z,147nm,1.0s
PARMO Parma 71.49 345 eP P 10 41 53.0 -1.6
WCI Wyandotte Cave 72.33 348 eP P 10 41 57.5 -2.2
WCI pmax pmax
comp=Z,57nm,0.9s
WCI Wyandotte Cave 72.33 348 eP P 10 41 57.5 -2.2
comp=Z,57nm,0.9s
SIUC Southern Illin 72.39 346 eP P 10 41 58.4 -1.5
comp=Z,155nm,1.0s
SDMD Soldier's Deli 72.42 356 eP P 10 41 58.0 -2.0
comp=Z,147nm,1.1s
OLIL Olney 73.15 347 eP P 10 42 02.1 -2.3
comp=Z,128nm,1.1s
SLM Saint Louis 73.49 345 eP P 10 42 03.9 -2.5
SLM pmax pmax
comp=Z,154nm,0.9s
SLM Saint Louis 73.49 345 eP P 10 42 03.9 -2.5
comp=Z,154nm,0.9s
SSPA Standing Stone 73.70 355 eP P 10 42 05.9 -1.7
comp=Z,95nm,1.0s
ACSO Alum Creek Sta 73.80 351 eP P 10 42 05.6 -2.7
comp=Z,150nm,0.7s
MAW Mawson 73.90 164 P P 10 42 06.2 -2.4
MAW pmax pmax
comp=Z,57nm,0.9s
MAW Mawson 73.90 164 P P 10 42 06.2 -2.4
comp=Z,57nm,0.9s,baz=225,slow=5.7,SNR=3.2
MAW LR LR 11 17 16.7
comp=Z,74µm,18.6s,baz=232,slow=38
MAW Mawson 73.90 164 P P 10 42 06.2 -2.4
DBIC Dimbokro 74.88 71 P P 10 42 16.4 +1.2
DBIC pmax pmax
comp=Z,100nm,1.0s
DBIC Dimbokro 74.88 71 P P 10 42 16.4 +1.2
comp=Z,100nm,1.0s,baz=215,slow=7.2,SNR=24
DBIC Dimbokro 74.88 71 P P 10 42 16.4 +1.2
comp=Z,70nm,1.1s
ALLY Alegheny Colle 74.89 354 eP P 10 42 13.8 -0.8

comp=Z,158nm,1.2s
ANMO Albuquerque 75.13 331 P P 10 42 17.4 +1.0
ANMO pmax pmax
comp=Z,29nm,1.2s
ANMO Albuquerque 75.13 331 P P 10 42 17.4 +1.0
comp=Z,29nm,1.2s,baz=156,slow=6.5,SNR=9.6
BINY Binghamton 75.15 357 eP P 10 42 14.6 -1.4
comp=Z,76nm,1.0s
SUR Sutherland 75.15 119 P P 10 42 18.6 +1.8
comp=Z,753nm,0.8s,SNR=7.0
SUR Sutherland 75.15 119 P P 10 42 18.0 +1.2
comp=Z,124nm,0.9s
ERPA Erie 75.34 354 eP P 10 42 15.7 -1.4
comp=Z,83nm,0.8s
HRV Adam Dziewonsk 75.37 0 eP P 10 42 18.5 +1.2
HRV pmax pmax
comp=Z,138nm,1.0s
HRV Adam Dziewonsk 75.37 0 eP P 10 42 18.5 +1.2
comp=Z,138nm,1.0s
AAM Ann Arbor 75.92 351 eP P 10 42 18.4 -2.1
AAM pmax pmax
comp=Z,76nm,0.9s
AAM Ann Arbor 75.92 351 eP P 10 42 18.4 -2.1
comp=Z,76nm,0.9s
ACCN Adirondack Com 76.26 359 eP P 10 42 21.4 -1.0
comp=Z,125nm,1.1s
MDV Middlebury 76.87 359 eP P 10 42 25.5 -0.2
LBNH Lisbon 77.10 0 eP P 10 42 26.0 -1.1
LBNH pmax pmax
comp=Z,75nm,0.8s
LBNH Lisbon 77.10 0 eP P 10 42 25.9 -1.1
comp=Z,75nm,0.8s
LONY Lake Ozonia 77.52 358 eP P 10 42 28.8 -0.6
comp=Z,105nm,1.0s
BOSA Boshof 80.38 118 P P 10 42 46.3 +0.4
BOSA pmax pmax
comp=Z,51nm,0.9s
BOSA Boshof 80.38 118 P P 10 42 46.3 +0.4
comp=Z,51nm,0.8s,baz=239,slow=3.9,SNR=16
BOSA Boshof 80.38 118 eP P 10 42 45.3 -0.6
comp=Z,218nm,1.1s
PDAR Pinedale Array 83.10 333 P P 10 43 00.6 +0.8
comp=Z,16nm,0.9s,baz=155,slow=3.4,SNR=18
PDAR PKKPbc PKKPbc 11 01 20.9 -2.1
comp=Z,1.4nm,0.6s,baz=119,slow=1.1,SNR=9.6
PDAR Pinedale Array 83.10 333 P P 10 43 00.6 +0.8
PDAR PKKPbc PKKPbc 11 01 20.9 -2.1
BFZ Birch Farm 83.25 225 ePN P 10 43 01.4 +0.5
NVAR Mina Array Bea 83.28 325 P P 10 43 01.4 +0.5
comp=Z,12nm,0.8s,baz=159,slow=5.4,SNR=4.2
NVAR PKKPbc PKKPbc 11 01 21.6 -0.6
comp=Z,0.8nm,0.8s,baz=323,slow=2.8,SNR=2.7
NVAR Mina Array Bea 83.28 325 P P 10 43 01.4 +0.5
NVAR PKKPbc PKKPbc 11 01 21.6 -0.6
WPHZ Waipukurau 83.51 226 PN P 10 43 05.7 +3.7
PMOZ Porto Moniz, M 83.52 44 eLR LR 11 16 40.2
comp=Z,34µm,15.1s
DVHZ Dannevirke 83.53 226 ePN P 10 43 05.4 +3.3
HOWZ Holdsworth Sta 83.54 225 ePN P 10 43 04.7 +2.5
MRZ Mangatainoka R 83.65 225 ePN P 10 43 05.5 +2.7
CAW Cannon Point 83.67 224 ePN P 10 43 05.3 +2.4
ELK Elko 83.74 328 P P 10 43 03.7 +0.5
ELK pmax pmax
comp=Z,31nm,1.0s
ELK Elko 83.74 328 P P 10 43 03.7 +0.5
comp=Z,31nm,1.0s,baz=176,slow=1.5,SNR=24
ELK Elko 83.74 328 P P 10 43 03.7 +0.5
PNHZ Pukenui 83.75 226 ePN P 10 43 06.8 +3.5
OGWZ Otaki Gorge 83.80 225 PN P 10 43 06.6 +3.1
KRHZ Kereru 83.81 226 PN P 10 43 07.0 +3.3
TORD Torodi Ar. Bea 83.89 70 P P 10 43 03.4 -0.9
comp=Z,89nm,1.0s,baz=261,slow=6.5,SNR=54
TORD Torodi Ar. Bea 83.89 70 P P 10 43 03.4 -0.9
MWZ Matawai 83.91 228 ePN P 10 43 07.4 +3.2
BKZ Black Stump Fm 84.04 227 ePN P 10 43 07.9 +3.1
TCW Tory Channel 84.07 224 PN P 10 43 06.9 +2.0
BHHZ Black Hill Sta 84.10 226 PN P 10 43 06.6 +1.5
URZ Urewera 84.22 228 ePN P 10 43 08.2 +2.5
MOVZ Moawhango 84.33 226 ePN P 10 43 08.0 +1.6
WNVZ Wahianoa 84.48 226 PN P 10 43 09.8 +2.6
MTVZ Mangateitei 84.52 226 ePN P 10 43 10.5 +3.2
TRVZ Turoa 84.53 226 ePN P 10 43 09.3 +1.8
OTVZ Oturere 84.54 226 PN P 10 43 09.6 +2.1
FWVZ Far West T-bar 84.55 226 ePN P 10 43 10.2 +2.5
NGZ Ngauruhoe 84.57 226 PN P 10 43 10.8 +3.1
WPVZ Whakapapa 84.59 226 PN P 10 43 09.7 +2.0
COVZ Chateau Observ 84.59 226 PN P 10 43 10.6 +2.9
KRVZ Karewarewa 84.60 226 PN P 10 43 11.1 +3.3
WTVZ West Tongariro 84.62 226 PN P 10 43 10.8 +2.9
KATZ Kakaramea 84.64 226 PN P 10 43 11.4 +3.4
PKVZ Pokaka 84.65 226 PN P 10 43 10.8 +2.8
TWVZ Taurewa 84.74 226 PN P 10 43 11.1 +2.7
QRZ Quartz Range 85.33 223 PN P 10 43 11.4 +0.2
HIZ Hauiti 85.44 226 ePN P 10 43 12.7 +0.9
ULM Lac du Bonnet 85.77 345 P P 10 43 12.8 -0.1
ULM pmax pmax
comp=Z,57nm,0.9s
ULM Lac du Bonnet 85.77 345 P P 10 43 12.8 -0.1
comp=Z,57nm,0.9s,baz=163,slow=4.0,SNR=30
ULM Lac du Bonnet 85.77 345 P P 10 43 12.8 -0.1
MCMT McKenzie Canyo 86.11 332 P P 10 43 16.5 +1.4
comp=Z,1.6nm,1.3s
EGMT Eagleton 87.68 336 eP P 10 43 19.8 -2.6
comp=Z,3µm,1.1s
SCHQ Schefferville 87.81 3 P P 10 43 22.4 -0.4
comp=Z,70nm,1.0s,baz=188,slow=4.3,SNR=27
SCHQ Schefferville 87.81 3 P P 10 43 22.4 -0.4
YBH Yreka Blue Hor 87.97 325 eP P 10 43 24.0 0.0
YBH pmax pmax
comp=Z,57nm,1.0s
YBH Yreka Blue Hor 87.97 325 LR LR 11 16 20.4
comp=Z,9µm,19.7s,baz=138,slow=31
YBH Yreka Blue Hor 87.97 325 eP P 10 43 24.0 0.0
comp=Z,57nm,1.0s
BBOR Butler Butte 88.84 325 P P 10 43 29.7 +1.6
WRD Warden 90.28 330 P P 10 43 38.8 +4.2
VLL Laurance Lake 90.34 328 P P 10 43 38.1 +3.1
NEW Newport 90.62 332 P P 10 43 36.7 +0.5
NEW pmax pmax
comp=Z,16nm,1.0s
NEW Newport 90.62 332 P P 10 43 36.7 +0.5
comp=Z,16nm,1.0s,baz=152,slow=4.5,SNR=14
NEW Newport 90.62 332 P P 10 43 36.7 +0.5
comp=Z,1.0nm,1.2s
TBM Table Mountain 91.19 329 P P 10 43 42.3 +3.4
MDT Midelt 91.29 51 P P 10 43 40.8 +1.0
comp=Z,34nm,1.1s,baz=222,slow=4.2,SNR=14
MDT Midelt 91.29 51 P P 10 43 40.8 +1.0
PBDV Barranco-do-Ve 92.06 46 eP P 10 43 47.5 +4.4
comp=Z,201nm,1.5s
PNCL Nicolau / Gran 92.27 45 eP P 10 43 47.8 +3.8
comp=Z,141nm,1.6s
MESJ Messejana 92.28 45 eP P 10 43 44.2 +0.2
MESJ AMS AMS 11 26 49.9
comp=Z,35µm,16.6s
MESJ Messejana 92.28 45 eP P 10 43 48.1 +4.1
MESJ Messejana 92.28 45 eP P 10 43 44.2 +0.2
PVAQ Vaqueiros 92.29 46 eP P 10 43 47.3 +3.2
comp=Z,124nm,1.7s
PVAQ Vaqueiros 92.29 46 eLR LR 11 17 59.0
comp=Z,29µm,22.6s
PBAR Barrancos 93.20 46 eP P 10 43 51.8 +3.5
comp=Z,116nm,1.7s
PBAR Barrancos 93.20 46 eLR LR 11 17 57.0
comp=Z,61µm,18.8s
VDB Vedder Mountai 93.26 330 P P 10 43 49.7 +1.3
PESTR Estremoz 93.32 45 eP P 10 43 52.4 +3.5
comp=Z,61nm,1.4s
PMRV Marv??o 93.80 45 eP P 10 43 53.9 +2.8
comp=Z,64nm,1.4s
MTE Manteigas 94.35 44 eLR LR 11 18 20.1
comp=Z,34µm,22.6s
MVO Moncorvo 95.14 43 eP P 10 44 00.6 +3.3
comp=Z,84nm,1.2s
MVO Moncorvo 95.14 43 eLR LR 11 18 12.4
comp=Z,31µm,18.8s
PAB San Pablo 95.69 46 eP P 10 44 02.0 +2.2
PAB San Pablo 95.69 46 eP P 10 44 02.0 +2.2
comp=Z,472nm,2.6s
ESDC Sonseca Array 96.00 46 P P 10 44 01.8 +0.6
comp=Z,12nm,0.9s,baz=240,slow=4.1,SNR=20
ESDC LR LR 11 26 56.1
comp=Z,20µm,18.6s,baz=225,slow=35
ESDC Sonseca Array 96.00 46 P P 10 44 01.8 +0.6
ETRT Tiaret 96.74 52 P P 10 44 08.5 +3.7

EMHD Djebel Mahouad 98.30 52 P Pdif 10 44 15.5 +3.7
SJPF Ste Jean 99.73 45 eP Pdif 10 44 17.2 -0.7
comp=Z,80nm,1.0s
SJPF Ste Jean 99.73 45 eP Pdif 10 44 17.2 -0.7
SJPF pmax pmax
comp=Z,80nm,1.0s
SJPF Ste Jean 99.73 45 eP Pdif 10 44 17.2 -0.7
comp=Z,80nm,1.0s
ETSF Etsaut 100.00 45 eP Pdif 10 44 19.8 +0.7
comp=Z,50nm,1.0s
ETSF Etsaut 100.00 45 eP Pdif 10 44 19.8 +0.7
ETSF pmax pmax
comp=Z,50nm,1.0s
ETSF Etsaut 100.00 45 eP Pdif 10 44 19.8 +0.7
comp=Z,50nm,1.0s
EPF Esparros 100.61 45 eP Pdif 10 44 21.2 -0.6
comp=Z,75nm,1.5s
EPF Esparros 100.61 45 eP Pdif 10 44 21.2 -0.6
EPF pmax pmax
comp=Z,75nm,1.5s
EPF Esparros 100.61 45 eP Pdif 10 44 21.2 -0.6
comp=Z,75nm,1.5s
YKA Yellowknife Ar 101.35 341 P Pdif 10 44 24.4 -0.1
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 101.35 341 P Pdif 10 44 24.4 -0.1
comp=Z,3.8nm,0.9s,baz=144,slow=4.6,SNR=32
YKA PKKPbc PKKPbc 11 00 32.2 -3.2
comp=Z,0.6nm,0.6s,baz=339,slow=2.8,SNR=10
YKA Yellowknife Ar 101.35 341 P Pdif 10 44 24.4 -0.1
YKA PKKPbc PKKPbc 11 00 32.2 -3.2
QUIF Quistinic 101.52 40 eP Pdif 10 44 25.6 0.0
comp=Z,274nm,1.8s
QUIF Quistinic 101.52 40 eP Pdif 10 44 25.6 0.0
QUIF pmax pmax
comp=Z,274nm,1.8s
QUIF Quistinic 101.52 40 eP Pdif 10 44 25.6 0.0
comp=Z,274nm,1.8s
ROSF Rostrenen 101.72 39 eP Pdif 10 44 26.3 -0.2
comp=Z,166nm,1.4s
ROSF Rostrenen 101.72 39 eP Pdif 10 44 26.3 -0.2
ROSF pmax pmax
comp=Z,166nm,1.4s
ROSF Rostrenen 101.72 39 eP Pdif 10 44 26.3 -0.2
comp=Z,166nm,1.4s
DZM Mont Dzumac 101.74 234 eLR LR 11 17 47.9
comp=Z,37µm,27.1s
MTLF Montolieu 101.91 46 eP Pdif 10 44 27.9 +0.4
comp=Z,68nm,1.4s
MTLF Montolieu 101.91 46 eP Pdif 10 44 27.9 +0.4
MTLF pmax pmax
comp=Z,68nm,1.4s
MTLF Montolieu 101.91 46 eP Pdif 10 44 27.9 +0.4
comp=Z,68nm,1.4s
LFF La Frestale 101.95 44 eP Pdif 10 44 27.3 -0.3
comp=Z,66nm,1.0s
LFF La Frestale 101.95 44 eP Pdif 10 44 27.3 -0.3
LFF pmax pmax
comp=Z,66nm,1.0s
LFF La Frestale 101.95 44 eP Pdif 10 44 27.3 -0.3
comp=Z,66nm,1.0s
SGMF Saint Gilles 102.05 40 eP Pdif 10 44 27.5 -0.5
SGMF Saint Gilles 102.05 40 eP Pdif 10 44 27.5 -0.5
SGMF Saint Gilles 102.05 40 eP Pdif 10 44 27.5 -0.5
MFF Saint Martin d 102.40 42 eP Pdif 10 44 29.3 -0.3
MFF Saint Martin d 102.40 42 eP Pdif 10 44 29.3 -0.3
MFF Saint Martin d 102.40 42 eP Pdif 10 44 29.3 -0.3
RJF Les Rejaudoux 102.61 44 eP Pdif 10 44 30.2 -0.4
comp=Z,70nm,1.4s
RJF eR
comp=Z,55µm,20.8s
RJF Les Rejaudoux 102.61 44 eP Pdif 10 44 30.2 -0.4
RJF pmax pmax
comp=Z,70nm,1.4s
RJF Les Rejaudoux 102.61 44 eP Pdif 10 44 30.2 -0.4
comp=Z,70nm,1.4s
CAF Calviac 102.72 44 eP Pdif 10 44 31.7 +0.6
comp=Z,34nm,1.1s
CAF Calviac 102.72 44 eP Pdif 10 44 31.7 +0.6
CAF pmax pmax
comp=Z,34nm,1.1s
CAF Calviac 102.72 44 eP Pdif 10 44 31.7 +0.6
comp=Z,34nm,1.1s
LASF Ste Croix 103.31 46 eP Pdif 10 44 32.9 -0.9
LASF Ste Croix 103.31 46 eP Pdif 10 44 32.9 -0.9
TCF Toulx Ste Croi 103.56 43 eP Pdif 10 44 34.8 0.0
comp=Z,65nm,1.4s
TCF Toulx Ste Croi 103.56 43 eP Pdif 10 44 34.8 0.0
TCF pmax pmax
comp=Z,65nm,1.4s
TCF Toulx Ste Croi 103.56 43 eP Pdif 10 44 34.8 0.0
comp=Z,65nm,1.4s
BGF Bois d'Agland 104.08 43 eP Pdif 10 44 36.9 -0.2
comp=Z,54nm,1.3s
BGF Bois d'Agland 104.08 43 eP Pdif 10 44 36.9 -0.2
BGF pmax pmax
comp=Z,54nm,1.3s
BGF Bois d'Agland 104.08 43 eP Pdif 10 44 36.9 -0.2
comp=Z,54nm,1.3s
VIVF Saint-Julien-l 104.22 46 eP Pdif 10 44 37.0 -0.8
comp=Z,48nm,1.4s
VIVF Saint-Julien-l 104.22 46 eP Pdif 10 44 37.0 -0.8
VIVF pmax pmax
comp=Z,48nm,1.4s
VIVF Saint-Julien-l 104.22 46 eP Pdif 10 44 37.0 -0.8
comp=Z,48nm,1.4s
SMRF Simiane la Rot 104.29 47 eP Pdif 10 44 37.6 -0.6
comp=Z,50nm,1.4s
SMRF Simiane la Rot 104.29 47 eP Pdif 10 44 37.6 -0.6
comp=Z,50nm,1.4s
AVF Avril sur Loir 104.50 43 eP Pdif 10 44 38.8 -0.1
comp=Z,49nm,1.2s
AVF Avril sur Loir 104.50 43 eP Pdif 10 44 38.8 -0.1
AVF pmax pmax
comp=Z,49nm,1.2s
AVF Avril sur Loir 104.50 43 eP Pdif 10 44 38.8 -0.1
comp=Z,49nm,1.2s
LMR La Mourre 104.53 48 eP Pdif 10 44 39.0 -0.1
LMR La Mourre 104.53 48 eP Pdif 10 44 39.0 -0.1
LMR La Mourre 104.53 48 eP Pdif 10 44 39.0 -0.1
SMF Signal de Mont 104.70 44 eP Pdif 10 44 38.9 -1.0
comp=Z,116nm,1.6s
SMF Signal de Mont 104.70 44 eP Pdif 10 44 38.9 -1.0
SMF pmax pmax
comp=Z,116nm,1.6s
SMF Signal de Mont 104.70 44 eP Pdif 10 44 38.9 -1.0
comp=Z,116nm,1.6s
FRF La Foret Royal 104.73 47 eP Pdif 10 44 39.2 -0.9
comp=Z,40nm,1.3s
FRF La Foret Royal 104.73 47 eP Pdif 10 44 39.2 -0.9
FRF pmax pmax
comp=Z,40nm,1.3s
FRF La Foret Royal 104.73 47 eP Pdif 10 44 39.2 -0.9
comp=Z,40nm,1.3s
SSF Saint Saulge 104.73 43 eP Pdif 10 44 40.5 +0.5
comp=Z,45nm,1.3s
SSF Saint Saulge 104.73 43 eP Pdif 10 44 40.5 +0.5
SSF pmax pmax
comp=Z,45nm,1.3s
SSF Saint Saulge 104.73 43 eP Pdif 10 44 40.5 +0.5
comp=Z,45nm,1.3s
ORIF Oris-en-Rattie 104.98 46 eP Pdif 10 44 40.7 -0.6
comp=Z,39nm,1.2s
ORIF eR
comp=Z,39µm,21.8s
ORIF Oris-en-Rattie 104.98 46 eP Pdif 10 44 40.7 -0.6
ORIF pmax pmax
comp=Z,39nm,1.2s
ORIF Oris-en-Rattie 104.98 46 eP Pdif 10 44 40.7 -0.6
comp=Z,39nm,1.2s
LOR Lormes 105.05 43 eP Pdif 10 44 41.2 -0.2
comp=Z,48nm,1.3s
LOR eR
comp=Z,44µm,22.5s
LOR Lormes 105.05 43 eP Pdif 10 44 41.2 -0.2
LOR pmax pmax
comp=Z,49nm,1.3s
LOR Lormes 105.05 43 eP Pdif 10 44 41.2 -0.2
comp=Z,48nm,1.3s
MBDF Montbardon 105.42 46 eP Pdif 10 44 42.9 -0.4
MBDF Montbardon 105.42 46 eP Pdif 10 44 42.9 -0.4
MBDF Montbardon 105.42 46 eP Pdif 10 44 42.9 -0.4
LPL La Plagne 105.81 46 eP Pdif 10 44 46.3 +1.2
comp=Z,43nm,1.3s
LPL La Plagne 105.81 46 eP Pdif 10 44 46.3 +1.2
LPL pmax pmax

comp=Z,43nm,1.3s
LPL La Plagne 105.81 46 eP Pdif 10 44 46.3 +1.2
comp=Z,43nm,1.3s
LPG La Plagne 105.81 46 eP Pdif 10 44 46.0 +0.8
comp=Z,31nm,1.1s
LPG La Plagne 105.81 46 eP Pdif 10 44 46.0 +0.8
LPG pmax pmax
comp=Z,31nm,1.1s
LPG La Plagne 105.81 46 eP Pdif 10 44 46.0 +0.8
comp=Z,31nm,1.1s
HAU Haudompre 106.87 43 eP Pdif 10 44 49.4 -0.1
HAU eR
comp=Z,42µm,21.8s
HAU Haudompre 106.87 43 eP Pdif 10 44 49.4 -0.1
HAU Haudompre 106.87 43 eP Pdif 10 44 49.4 -0.1
DAVOX Davos/Dischmat 108.33 46 PKiKP PKiKP 10 49 03.3 +1.0
comp=Z,1.4nm,0.5s,baz=118,slow=6.4,SNR=2.8
DAVOX Davos/Dischmat 108.33 46 PKiKP PKiKP 10 49 03.3 +1.0
GRF Grafenberg Arr 110.50 44 ePP PP 10 49 40.2 -2.3
GERES GERESS Array B 111.57 45 i PKiKP PKiKP 10 49 08.5 +0.3
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES GERESS Array B 111.57 45 PKiKP PKiKP 10 49 08.5 +0.3
comp=Z,5.7nm,0.8s,baz=215,slow=1.2,SNR=6.7
GERES GERESS Array B 111.57 45 PKiKP PKiKP 10 49 08.5 +0.3
KHC Kasperske Hory 111.62 45 ePKiKP PKiKP 10 49 02.2 -6.1
KHC e 10 49 13.3
KHC e 10 49 49.2
KHC Kasperske Hory 111.62 45 ePKP PKiKP 10 49 02.2 -6.1
KHC ex x 10 49 13.3
KHC ePP PP 10 49 49.2 -1.4
KHC AMS AMS 11 46 50.0
comp=Z,29µm,17.8s
CLL Collm 112.24 42 ePKiKP PKiKP 10 49 11.0 +1.7
CLL e 10 50 02.0
CLL pmax pmax
comp=Z,12nm,1.0s
CLL pmax pmax
comp=Z,25nm,1.5s
CLL Collm 112.24 42 ePKiKP PKiKP 10 49 11.0 +1.7
comp=Z,12nm,1.0s
CLL e(PP) 10 50 02.0
comp=Z,25nm,1.5s
CLL i 10 50 35.7
PRU Pruhonice 112.56 44 ePP PP 10 49 55.5 -1.7
PRU AMS AMS 11 37 20.0
comp=Z,31µm,19.9s
BRG Berggiesshubel 112.59 43 ePKP PKiKP 10 49 12.7 +2.7
comp=Z,7.5nm,1.0s
BRG e 10 49 54.4
comp=Z,29nm,1.5s
BRG e 10 50 14.0
comp=Z,34nm,1.7s
BRG Berggiesshubel 112.59 43 ePKiKP PKiKP 10 49 12.7 +2.7
BRG e 10 49 54.4
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG pmax pmax
comp=Z,29nm,1.5s
TREC Trest 112.83 45 ePKiKP PKiKP 10 49 07.5 -3.0
TREC e 10 49 56.1
TREC Trest 112.83 45 ePKP PKiKP 10 49 07.5 -3.0
TREC ePP PP 10 49 56.1 -3.1
TREC AMS AMS 11 37 20.0
comp=Z,20µm,19.9s
IDI Anoyia 113.30 62 PKiKP PKiKP 10 49 12.5 +0.5
comp=Z,9.6nm,1.0s,baz=56,slow=7.3,SNR=1.9
IDI Anoyia 113.30 62 PKiKP PKiKP 10 49 12.5 +0.5
VRAC Vranov 113.49 46 ⇑PKiKP PKiKP 10 49 14.5 +2.7
VRAC Vranov 113.49 46 ⇑iP PKiKP 10 49 14.5 +2.7
PKSM Moragy 113.50 49 ⇑PKiKP PKiKP 10 49 11.9 +0.1
PKSM Moragy 113.50 49 ⇑iP PKiKP 10 49 11.9 +0.1
ILAR Eielson Array 113.53 333 i PKiKP PKiKP 10 49 11.0 -0.3
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 113.53 333 PKiKP PKiKP 10 49 11.0 -0.3
comp=Z,2.4nm,0.9s,baz=127,slow=1.6,SNR=9.0
ILAR PKKPbc PKKPbc 10 59 53.9 -3.0
comp=Z,1.1nm,0.8s,baz=297,slow=3.2,SNR=4.5
ILAR Eielson Array 113.53 333 PKiKP PKiKP 10 49 11.0 -0.3
ILAR PKKPbc PKKPbc 10 59 53.9 -3.0
DPC Dobruska-Polom 113.75 44 e PKiKP 10 49 13.1 +0.8
DPC Dobruska-Polom 113.75 44 ex PKiKP 10 49 13.1 +0.8
KSP Ksiaz 113.94 44 ePKP PKiKP 10 49 15.9 +3.4
MORC Moravsky Berou 114.25 45 ⇑PKiKP PKPdf 10 49 14.0 +0.8
MORC Moravsky Berou 114.25 45 ⇑iP PKPdf 10 49 14.0 +0.8
VYHS Vyhne 114.53 47 ePKiKP PKPdf 10 49 15.1 +1.3
VYHS Vyhne 114.53 47 e PKPdf 10 49 15.1 +1.3
DAG Danmarks Havn 114.55 12 ePKiKP PKPdf 10 49 14.7 +1.7
DAG Danmarks Havn 114.55 12 i P PKPdf 10 49 14.7 +1.7
OKC Ostrava-Krasne 114.63 45 ePKiKP PKPpre 10 49 03.5
OKC e 10 49 16.7
OKC Ostrava-Krasne 114.63 45 ePKP PKPpre 10 49 03.5
OKC ex x 10 49 16.7
OKC AMS AMS 11 38 40.0
comp=Z,15µm,20.0s
MMB Musomiste 115.03 55 ⇓PKiKP PKPdf 10 49 15.8 +0.8
MMB Musomiste 115.03 55 ⇓iP PKPdf 10 49 15.8 +0.8
BZS Buzias 115.17 51 ⇑PKiKP PKPdf 10 49 18.3 +3.2
BZS Buzias 115.17 51 ⇑iP PKPdf 10 49 18.3 +3.2
NB2 NORSAR Subarra 115.34 32 PKPdf PKPdf 10 49 15.8 +0.8
comp=Z,6.3nm,1.1s,baz=248,slow=1.9
NB2 NORSAR Subarra 115.34 32 PKPdf PKPdf 10 49 15.8 +0.8
baz=248,slow=1.9
NOA NORSAR Array B 115.34 32 PKiKP PKPdf 10 49 15.0 0.0
NOA 10 59 50.7
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 115.34 32 PKP PKPdf 10 49 15.0 0.0
comp=Z,2.5nm,0.8s,baz=251,slow=2.2,SNR=6.2
NOA PKKPbc PKKPbc 10 59 50.7 +0.1
comp=Z,1.9nm,0.8s,baz=69,slow=4.6,SNR=2.8
NOA NORSAR Array B 115.34 32 PKP PKPdf 10 49 15.0 0.0
NOA PKKPbc PKKPbc 10 59 50.7 +0.1
CTA Charters Tower 115.64 220 PKiKP PKPdf 10 49 16.9 0.0
CTA pmax pmax
comp=Z,3.0nm,0.8s
CTA Charters Tower 115.64 220 PKP PKPdf 10 49 16.9 0.0
comp=Z,3.5nm,0.8s,baz=64,slow=2.3,SNR=3.6
CTA Charters Tower 115.64 220 PKP PKPdf 10 49 16.9 0.0
KDZ Kurdzhali 116.22 56 ⇓PKiKP PKPdf 10 49 19.7 +2.4
KDZ Kurdzhali 116.22 56 ⇓iP PKPdf 10 49 19.7 +2.4
CRVS Cervenica-Dubn 116.29 47 ePKiKP PKPdf 10 49 19.3 +2.1
CRVS e 10 50 22.7
CRVS Cervenica-Dubn 116.29 47 e PKPdf 10 49 19.3 +2.1
CRVS ePP PP 10 50 22.7 -0.9
STHS Stebnicka Huta 116.34 47 ePKiKP PKPdf 10 49 17.6 +0.3
STHS Stebnicka Huta 116.34 47 ePKP PKPdf 10 49 17.6 +0.3
TRPA Tarpa 116.69 48 ⇑iP PKPdf 10 49 18.3 +0.4
UZH Uzhgorod 116.71 48 ePKiKP PKPdf 10 49 19.0 +1.1
UZH e 10 49 23.3
UZH i 10 50 23.9
KOLS Kolonicke sedl 116.80 47 ePKiKP PKPdf 10 49 21.1 +3.0
KOLS e 10 50 26.0
KOLS Kolonicke sedl 116.80 47 e PKPdf 10 49 21.1 +3.0
KOLS ePP PP 10 50 26.0 -1.2
ARR Arges 117.05 52 ⇑iP PKPdf 10 49 21.1 +2.3
KWP Kalwaria Pacla 117.31 47 ⇓PKiKP PKPdf 10 49 21.3 +2.2
KWP Kalwaria Pacla 117.31 47 ePKP PKPdf 10 49 22.1 +3.0
KWP Kalwaria Pacla 117.31 47 ⇓iP PKPdf 10 49 21.3 +2.2
KWP Kalwaria Pacla 117.31 47 ePKPdf PKPdf 10 49 15.0 -4.1
JMB Yambol 117.33 55 ⇓PKiKP PKPdf 10 49 19.6 +0.3
JMB Yambol 117.33 55 ⇓iP PKPdf 10 49 19.6 +0.3
VOIR 117.35 52 ⇓PKiKP PKPdf 10 49 20.8 +1.4
VOIR 117.35 52 ⇓iP PKPdf 10 49 20.8 +1.4
DOPR Dopca 117.76 51 ⇓iP PKPdf 10 49 22.9 +2.8
MLR Muntele Rosu 117.96 52 PKiKP PKPdf 10 49 20.0 -0.7
MLR pmax pmax
comp=Z,3.0nm,1.0s
MLR Muntele Rosu 117.96 52 ⇓iP PKPdf 10 49 22.4 +1.8
MLR Muntele Rosu 117.96 52 PKP PKPdf 10 49 20.0 -0.7
comp=Z,2.8nm,0.9s,baz=236,slow=3.6,SNR=8.8
MLR Muntele Rosu 117.96 52 PKP PKPdf 10 49 20.0 -0.7
PRD Provadia 118.15 55 ⇓PKiKP PKPdf 10 49 24.1 +3.2
LVV L'vov 118.18 47 ePKiKP PKPdf 10 49 20.6 -0.2
BURAR Bucovina Array 118.20 50 ⇑PKiKP PKPdf 10 49 23.4 +2.4
BURAR Bucovina Array 118.20 50 ⇑iP PKPdf 10 49 23.4 +2.4
ISR Istrita 118.23 53 ⇑PKiKP PKPdf 10 49 18.7 -2.4
ISR Istrita 118.23 53 ⇑iP PKPdf 10 49 18.6 -2.5
AS31 Alice Springs 118.28 207 ePKPdf PKPdf 10 49 21.1 -0.8
PLOR Plostina 118.55 52 ⇓PKiKP PKPdf 10 49 23.9 +2.3
PLOR Plostina 118.55 52 ⇓iP PKPdf 10 49 23.9 +2.3
VRI Vrincioaia 118.60 52 ⇑PKiKP PKPdf 10 49 22.5 +0.8
VRI Vrincioaia 118.60 52 ⇑iP PKPdf 10 49 22.5 +0.8
EIL Elat 118.75 72 PKP PKPdf 10 49 23.0 +0.5
comp=Z,12nm,0.8s,baz=315,slow=2.9,SNR=7.4
EIL Elat 118.75 72 PKP PKPdf 10 49 23.0 +0.5
TESR Tescani 118.76 51 ⇓iP PKPdf 10 49 24.0 +2.0
PSN Preselentsi 118.85 55 ⇑PKiKP PKPdf 10 49 23.7 +1.5
PSN Preselentsi 118.85 55 ⇑iP PKPdf 10 49 23.6 +1.4
SUW Suwalki 118.99 42 ePKiKP PKPdf 10 49 23.3 +1.2
SUW Suwalki 118.99 42 ePKP PKPdf 10 49 23.3 +1.2
SUW Suwalki 118.99 42 PKPdf PKPdf 10 49 17.9 -4.3
HARR Harsova 119.02 53 ⇓PKiKP PKPdf 10 49 17.9 -4.6
HARR Harsova 119.02 53 ⇓iP PKPdf 10 49 17.9 -4.6
TIRR Tirgusor 119.27 54 ⇑PKiKP PKPdf 10 49 23.1 +0.1
TIRR Tirgusor 119.27 54 ⇑iP PKPdf 10 49 23.1 +0.1
TIRR Tirgusor 119.27 54 ePKPdf PKPdf 10 49 23.9 +0.9
CFR Carcaliu 119.31 53 ⇓PKiKP PKPdf 10 49 23.2 +0.2
CFR Carcaliu 119.31 53 ⇓iP PKPdf 10 49 23.2 +0.2
TLCR 119.77 53 ⇑PKiKP PKPdf 10 49 23.5 -0.4
TLCR 119.77 53 ⇑iP PKPdf 10 49 23.5 -0.4
MMAI Mount Meron Ar 120.40 68 PKP PKPdf 10 49 26.1 +0.5
comp=Z,14nm,0.7s,baz=294,slow=1.4,SNR=8.2
MMAI Mount Meron Ar 120.40 68 PKP PKPdf 10 49 26.1 +0.5
ANTO Ankara 120.84 60 ⇓PKiKP PKPdf 10 49 27.6 +1.3
ANTO Ankara 120.84 60 ⇓iP PKPdf 10 49 27.6 +1.3
IIGN Ignalina 121.06 41 eP PKPdf 10 49 25.3 -0.8
IIGN AMB AMB 10 49 31.3
comp=Z,12nm,0.9s
ISAL Salakas 121.06 41 eP PKPdf 10 49 24.0 -2.1
ISAL AMB AMB 10 49 30.1
comp=Z,14nm,1.2s
ASF Jabal al Asfar 121.26 70 PKiKP PKPdf 10 49 27.9 +0.5
ASF pmax pmax
comp=Z,8.0nm,0.8s
ASF Jabal al Asfar 121.26 70 PKP PKPdf 10 49 27.9 +0.5
comp=Z,7.5nm,0.9s,baz=192,slow=1.6,SNR=8.9
ASF Jabal al Asfar 121.26 70 PKP PKPdf 10 49 27.9 +0.5
NACGM Naroch 121.26 42 e PKPdf 10 49 25.0 -1.5
IDID Didziasalis 121.34 41 AMB AMB 10 49 31.2
comp=Z,15nm,1.0s
BRTR Keskin Array B 121.41 60 PKiKP PKPdf 10 49 26.9 -0.6
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 121.41 60 PKP PKPdf 10 49 26.9 -0.6
comp=Z,6.3nm,0.8s,baz=220,slow=3.1,SNR=12
BRTR Keskin Array B 121.41 60 PKP PKPdf 10 49 26.9 -0.6
WRA Warramunga Arr 121.46 209 PKiKP PKPdf 10 49 26.6 -1.5
WRA pmax pmax
comp=Z,15nm,0.9s
WRA Warramunga Arr 121.46 209 PKP PKPdf 10 49 26.6 -1.5
comp=Z,15nm,0.9s,baz=160,slow=1.6,SNR=32
WRA PKKPbc PKKPbc 10 59 29.5 +1.7
comp=Z,1.6nm,0.8s,baz=344,slow=4.5,SNR=5.1
WRA Warramunga Arr 121.46 209 PKP PKPdf 10 49 26.6 -1.5
WRA PKKPbc PKKPbc 10 59 29.5 +1.7
WRAB Tennant Creek 121.46 209 ⇑iPKP PKPdf 10 49 24.3 -3.8
WRAB Tennant Creek 121.46 209 PKPdf PKPpre 10 49 18.9
KIEV Kiev 121.62 47 ⇓iPKP PKPdf 10 49 26.5 -0.8
KIEV Kiev 121.62 47 ePKPdf PKPdf 10 49 23.8 -3.5
KIEV ePP PP 10 50 57.8 -2.5
AKASG Malin Array Be 121.63 47 PKiKP PKPdf 10 49 26.6 -0.8
AKASG pmax pmax
comp=Z,18nm,0.8s
AKASG Malin Array Be 121.63 47 PKP PKPdf 10 49 26.6 -0.8
comp=Z,18nm,0.8s,baz=267,slow=2.5,SNR=20
AKASG Malin Array Be 121.63 47 PKP PKPdf 10 49 26.6 -0.8
VSU Vasula 122.05 38 ⇓iPKiKP PKPdf 10 49 26.9 -1.0
FINES FINESS Array B 122.32 34 PKiKP PKPdf 10 49 28.3 0.0
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 122.32 34 PKP PKPdf 10 49 28.3 0.0
comp=Z,8.3nm,0.8s,baz=219,slow=2.4,SNR=14
FINES PKKPbc PKKPab 10 59 23.5 +1.4
comp=Z,1.7nm,0.7s,baz=86,slow=5.7,SNR=3.2
FINES FINESS Array B 122.32 34 PKP PKPdf 10 49 28.3 0.0
FINES PKKPbc PKKPab 10 59 23.5 +1.4
ARCES ARCESS Array B 123.29 25 PKiKP PKPdf 10 49 30.8 +0.8
ARCES pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 123.29 25 PKP PKPdf 10 49 30.8 +0.8
comp=Z,8.2nm,0.8s,baz=259,slow=2.8,SNR=24
ARCES ARCESS Array B 123.29 25 PKP PKPdf 10 49 30.8 +0.8
SIM Simferopol' 123.30 55 i PKiKP PKPdf 10 49 34.1 +3.4
SIM pmax pmax
comp=Z,26nm,1.1s
GAMB Gambell 123.47 328 PKPdf PKPdf 10 49 31.4 +1.0
PMG Port Moresby 123.57 228 PKiKP PKPdf 10 49 31.6 -0.6
PMG pmax pmax
comp=Z,7.0nm,0.7s
PMG Port Moresby 123.57 228 PKP PKPdf 10 49 37.6 +5.3
PMG Port Moresby 123.57 228 PKP PKPdf 10 49 31.6 -0.6
comp=Z,7.1nm,0.7s,baz=207,slow=2.3,SNR=4.8
PMG Port Moresby 123.57 228 PKP PKPdf 10 49 31.6 -0.6
MALT Malatya 124.51 63 ⇑PKiKP PKPdf 10 49 34.6 +1.2
MALT Malatya 124.51 63 ⇑iP PKPdf 10 49 34.6 +1.2
MBWA Marble Bar 124.78 193 PKPdf PKPdf 10 49 33.5 -1.0
ANN Anapa 125.54 56 i PKiKP PKPdf 10 49 36.7 +1.7
ANN e 10 51 29.4
ANN e 10 56 38.2
ANN pmax pmax
comp=Z,55nm,1.0s
H11S2 WAKE ISLAND Hy125.83 270 T T 13 08 29.8
baz=118,slow=74,SNR=110
H11S1 WAKE ISLAND Hy125.85 270 T T 13 08 21.6
baz=118,slow=74,SNR=144
H11S3 WAKE ISLAND Hy125.85 270 T T 13 08 29.4
baz=118,slow=74,SNR=93
APA Apatity 126.08 27 ⇓iPKIKP PKPdf 10 49 35.8 +0.4
APA i 10 51 39.4
APA i 10 56 38.0
APA i SS SS 11 08 30.0 -1.3
H11N3 WAKE ISLAND Hy126.23 271 T T 13 08 46.6
baz=115,slow=76,SNR=16
H11N1 WAKE ISLAND Hy126.24 271 T T 13 08 57.5
baz=115,slow=76,SNR=24
H11N2 WAKE ISLAND Hy126.25 271 T T 13 09 01.9
baz=115,slow=76,SNR=37
LVZ Lovozero 126.55 27 ⇓iPKIKP PKPdf 10 49 36.4 +0.1
LVZ Lovozero 126.55 27 ePKIKP PKPdf 10 49 36.5 +0.2
OBN Obninsk 126.84 43 ⇑iPKIKP PKPdf 10 49 37.5 +0.4
OBN i 10 49 47.9
OBN e 10 49 53.2
OBN *PP PP 10 51 35.6 +0.4
OBN pmax pmax
comp=Z,93nm,1.7s
OBN Obninsk 126.84 43 PKPdf PKPdf 10 49 38.0 +0.8
MOS Moscow 127.50 42 ePKIKP PKPpre 10 49 28.5
MOS e 10 51 35.8
VSR Storozhevoye 127.89 48 ePKIKP PKPdf 10 49 38.4 -0.9
VSR pmax pmax
comp=Z,40nm,1.7s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 127.93 48 ePKIKP PKPdf 10 49 38.6 -0.8
VORD pmax pmax
comp=Z,20nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
TMCR Tamitsa 128.02 32 ePKIKP PKPdf 10 49 40.7 +1.6
TMCR pmax pmax
comp=Z,44nm,0.7s
KLMR Klimovskoe 128.75 36 ePKIKP PKPdf 10 49 40.1 -0.5
KLMR pmax pmax
comp=Z,184nm,1.4s
KIV Kislovodsk 129.03 58 PKIKP PKPdf 10 49 43.1 +1.2
KIV Kislovodsk 129.03 58 PKPdf PKPdf 10 49 43.1 +1.2
KBZ Khabaz 129.14 58 PKIKP PKPdf 10 49 42.8 +0.9
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 129.14 58 PKP PKPdf 10 49 42.8 +0.9
comp=Z,10nm,1.0s,baz=305,slow=0.8,SNR=4.8
KBZ Khabaz 129.14 58 PKP PKPdf 10 49 42.8 +0.9
VRHR Novokhopersk 129.41 48 ePKIKP PKPdf 10 49 42.3 +0.1
VRHR pmax pmax
comp=Z,30nm,1.5s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.8s
GOF Gofitskoye 129.49 56 ePKIKP PKPdf 10 49 43.6 +1.0
GOF pmax pmax
comp=Z,70nm,1.0s
IGHG Ghaleghazi 129.61 71 eP PKPdf 10 49 44.2 +0.7
ZEI Tsey 129.67 59 i PKIKP PKPdf 10 49 43.3 0.0
ZEI pmax pmax
comp=Z,28nm,1.2s
GNI Garni 129.72 63 PKIKP PKPdf 10 49 43.7 +0.3
GNI pmax pmax
comp=Z,4.0nm,0.3s
GNI Garni 129.72 63 PKP PKPdf 10 49 43.7 +0.3
comp=Z,3.7nm,0.3s,baz=0.0,slow=2.0,SNR=8.9
GNI Garni 129.72 63 PKP PKPdf 10 49 43.7 +0.3
IMRD Marand 130.11 65 eP PKPdf 10 49 42.9 -1.3
IKOM Komasi 130.31 71 eP PKPdf 10 49 45.2 +0.5
IHRS Heris 131.04 66 eP PKPdf 10 49 44.0 -2.0
PRGR Permogore 131.65 34 ⇑iPKIKP PKPdf 10 49 46.4 +0.3
PRGR 10 52 04.0
BILL Bilibino 132.17 334 i PKIKP PKPdf 10 49 46.6 -0.4
BILL pmax pmax
comp=Z,28nm,1.1s
IRAZ Razeghan 132.56 70 eP PKPdf 10 49 48.1 -0.9
IPIR Pirpir 132.59 74 eP PKPdf 10 49 46.4 -2.8
IGZV Ghazvin 133.04 69 eP PKPdf 10 49 44.4 -5.5
GENI Genyem 133.20 227 PKP PKPdf 10 49 52.9 +2.3
IKLH Kolahrood 133.32 74 eP PKPdf 10 49 50.0 -0.6
ISRV Sarvestan 133.37 79 eP PKPdf 10 49 51.5 +0.6
IZEF Zefreh 133.81 74 eP PKPdf 10 49 50.8 -0.7
IVRN Varamin 133.88 71 eP PKPdf 10 49 51.1 -0.2
BATI Baumata 134.31 202 PKP PKPdf 10 49 58.4 +5.7
SOKR Solikamsk 137.43 36 i PKIKP PKPdf 10 49 59.2 +2.2
SOKR pmax pmax
comp=Z,80nm,1.3s
MTNI Mataram 137.65 192 PKP PKPdf 10 50 01.4 +2.5
SRBI Singaraja 138.35 191 PKP PKPdf 10 50 04.9 +4.7
BLJI Banyuglugur 138.91 188 PKP PKPdf 10 50 05.6 +4.4
PET Petropavlovsk 139.10 315 i PKIKP PKPdf 10 50 05.1 +4.8
PET pmax pmax
comp=Z,13nm,0.8s
SJI Sawahan 139.11 186 PKP PKPdf 10 50 04.4 +2.7
ARU Arti 139.12 40 i PKIKP PKPdf 10 50 01.5 +1.3
ARU 10 52 53.4
CISI Cisompet, Garu 139.44 180 ePKPdf PKPdf 10 49 56.1 -6.2
GEYT Alibeck 139.52 69 PKP PKPdf 10 50 01.3 -0.3
comp=Z,23nm,0.7s,baz=270,slow=4.4,SNR=19
KMMI Kalianget 139.55 189 PKP PKPdf 10 50 05.8 +3.4
SWI Sorong 139.64 218 PKP PKPdf 10 50 09.9 +7.3
PETK Petropavlovsk- 139.66 315 PKIKP PKPdf 10 50 00.7 -0.7
PETK Petropavlovsk- 139.66 315 PKhKP PKPpre 10 49 49.9
comp=Z,3.9nm,0.9s,baz=74,slow=3.8,SNR=3.1
PETK PKP PKPdf 10 50 00.7 -0.7
comp=Z,13nm,0.8s,baz=150,slow=6.2,SNR=6.1
PETK Petropavlovsk- 139.66 315 PKP PKPdf 10 50 00.7 -0.7
BKSI Bulukumba 139.98 199 PKP PKPdf 10 50 18.6 +15
KAPI Kappang 140.38 199 ePKPdf PKPdf 10 49 56.2 -7.7
SPSI Sidrap Palu 141.37 199 PKP PKPdf 10 50 02.1 -3.6
BBKI Banjar Baru 142.94 191 PKP PKPdf 10 50 11.8 +3.3
MASI Maura Aman, Be 143.41 170 PKP PKPdf 10 50 08.8 -0.6
GAMI Galela, Maluku 143.69 215 PKP PKPdf 10 50 16.0 +6.2
PALK Pallekele 143.84 129 ePKPdf PKPdf 10 50 03.5 -3.5
GOA Goa 144.40 111 eP PKPab 10 50 07.8 -1.2
BKB Balikpapan 144.69 195 PKP PKPdf 10 50 13.9 +2.3
MRSI Marisa 144.89 205 PKP PKPbc 10 50 11.3 +0.3
BHJ Bhuj 144.93 96 eP PKPab 10 50 08.7 -2.1
PDSI Padang 145.30 167 PKP PKPbc 10 50 10.8 -1.5
MTKI Muara Teweh, K 145.31 203 PKP PKPab 10 50 14.5 +1.7
MPSI Mapaga 145.43 201 PKP PKPbc 10 50 11.6 -1.1
SDSI Sungai Dareh 145.46 168 PKP PKPab 10 50 14.8 +1.8
KAD Karad 145.72 109 eP PKPbc 10 50 10.6 -2.6
POO Poona 146.12 107 eP PKPbc 10 50 11.6 -2.2
BRVK Borovoye 146.60 42 c iPKP2 PKPab 10 50 17.9 +1.7
BRVK pmax pmax
comp=Z,154nm,1.0s
BKNI Bangkinang 146.62 167 PKP PKPbc 10 50 16.2 -0.1
BKNI Bangkinang 146.62 167 ePKPdf PKPdf 10 50 14.8 -0.1
GSI Gunungsitoli 146.76 161 PKP PKPab 10 50 18.1 +0.2
MNSI Mandailing Nat 146.77 164 PKP PKPbc 10 50 16.8 0.0
STKI Sintang 146.85 186 PKP PKPdf 10 50 09.8 -5.5
STKI PKP PKPbc 10 50 16.3 -0.7
KUR Kuril'sk 147.21 303 PKP2 PKPab 10 50 18.9 +0.1
SNSI Sinabang, Aceh 147.44 158 PKP PKPab 10 50 20.2 -0.3
MDRS Chennai 147.69 122 eP PKPdf 10 50 12.8 -3.7
MDRS eP PKPbc 10 50 14.5 -4.8
YAK Yakutsk 148.02 341 ePKP2 PKPbc 10 50 18.4 -0.4
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,47nm,1.1s
YAK pmax pmax
comp=Z,307nm,1.0s
YAK Yakutsk 148.02 341 ePKPab PKPbc 10 50 19.9 +1.2
KSM Kuching 148.34 184 PKP PKPbc 10 50 21.9 +0.8
MYKOM Kota Tinggi 148.48 172 PKP PKPbc 10 50 19.9 -1.6
KCSI Kotacane, Aceh 148.93 160 PKP PKPbc 10 50 22.6 0.0
TSI Tuntungan 149.13 161 PKP PKPbc 10 50 23.9 +0.8
SBUM Sibu 149.13 188 PKP PKPbc 10 50 22.5 -0.6
HYB Hyderabad 149.19 113 i PKP PKPbc 10 50 21.0 +2.0
HYB Hyderabad 149.19 113 ex PKPbc 10 50 19.1 -4.1
LHMI Lhok Sumawe 150.29 157 PKP PKPbc 10 50 27.6 +1.6
AJM Ajmer 150.36 94 eP PKPbc 10 50 18.8 -1.8
MYLDM Lahad Datu 150.44 202 PKP PKPbc 10 50 27.3 +1.0
IPM Ipoh 150.66 166 PKP PKPbc 10 50 22.8 +1.4
CMBY CAMPBELL BAY 150.81 150 ex PKPdf 10 50 15.0 -6.6
ERM Erimo 150.99 298 c iPKIKP PKPab 10 50 30.7 -3.6
ERM pmax pmax
comp=Z,151nm,1.7s
BHPL Bhopal 151.35 102 eP PKPdf 10 50 19.0 -3.3
KULM Kulim 151.37 165 PKP PKPbc 10 50 24.7 +2.2
FRU Bishkek 152.15 60 i PKIKP PKPbc 10 50 28.5 -1.0
FRU pmax pmax
comp=Z,120nm,1.0s
NVS Novosibirsk 152.26 31 ⇑iPKIKP PKPdf 10 50 21.5 -1.0
NVS pmax pmax
comp=N,46nm,1.1s
NVS pmax pmax
comp=Z,231nm,1.1s
NVS pmax pmax
comp=E,45nm,1.3s
VIS Vishakhapatnam 152.97 119 eP PKPdf 10 50 21.7 -3.0
DLH Dalhousie 153.12 83 ex PKPbc 10 50 34.0 +1.8
NDI New Delhi 153.24 91 ex PKPbc 10 50 28.0 -4.3
BHK Bhakra 153.28 85 ex PKPdf 10 50 36.0 +11
DHRM DHARAMSHALA 153.34 83 eP PKPdf 10 50 23.1 -2.1
KSH Kashi 153.53 67 ePKPbc PKPdf 10 50 25.0 -0.1
KSH epPKP PKiKP 10 50 35.5 +2.6
KSH esPKP 10 50 38.8
KSH eSKS SKSdf 10 57 25.8 -5.8
KSH eSKKS SKKSac 11 01 07.3 -1.9
KSH eSS SS 11 13 56.8 +1.5
KSH AMB AMB
comp=E,2µm,8.8s
ZALV Zalesovo Beam 153.54 32 PKIKP PKPdf 10 50 24.5 +0.1
ZALV pmax pmax
comp=Z,47nm,0.9s
ZALV Zalesovo Beam 153.54 32 PKP PKPdf 10 50 24.5 +0.1
comp=Z,47nm,0.9s,baz=277,slow=2.6,SNR=20
ZALV Zalesovo Beam 153.54 32 PKP PKPdf 10 50 24.5 +0.1
CLNS Chul'man 153.70 339 ePKIKP PKPdf 10 50 26.5 +1.9
CLNS pmax pmax
comp=Z,28nm,1.0s
CLNS pmax pmax
comp=N,15nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,1.1s
SDNR Sundarnagar 153.75 85 eP PKPdf 10 50 23.5 -2.0
SMLA Simla 153.84 86 eP PKPdf 10 50 25.2 -0.4
PBA Port Blair 154.36 143 eP PKPdf 10 50 22.2 -4.6
DDI Dehra Dun 154.40 88 ex PKPdf 10 50 27.2 +0.7
MJAR Matsushiro Arr 155.07 286 PKIKP PKPdf 10 50 24.9 -2.3
MJAR pmax pmax
comp=Z,8.0nm,1.1s
MJAR Matsushiro Arr 155.07 286 PKP PKPdf 10 50 24.9 -2.3
comp=Z,6.1nm,1.0s,baz=134,slow=3.2,SNR=7.6
MJAR Matsushiro Arr 155.07 286 PKP PKPdf 10 50 24.9 -2.3
BOD Bodaibo 155.07 352 ePKIKP PKPdf 10 50 22.0 -4.4
BOD e 10 50 49.4
BOD pmax pmax
comp=Z,29nm,1.7s
BOD pmax pmax
comp=Z,66nm,1.2s
DGPR DIGLIPUR 155.75 142 ex PKPdf 10 50 21.3 -7.4
MKAR Makanchi Array 156.21 48 PKIKP PKPdf 10 50 27.2 -1.2
MKAR 10 50 56.2
MKAR pmax pmax

	comp=Z,14nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,49nm,0.7s						
MKAR	Makanchi Array	156.21	48	PKP	PKPdf	10 50 27.1	-1.2
	comp=Z,14nm,0.9s,baz=333,slow=1.4,SNR=24						
MKAR				PKPab	PKPab	10 50 56.2	-0.1
	comp=Z,49nm,0.7s,baz=286,slow=2.6,SNR=25						
MKAR	Makanchi Array	156.21	48	PKP	PKPdf	10 50 27.1	-1.2
MKAR				PKPab	PKPab	10 50 56.2	-0.1
KOLN	Koldanda	158.28	98	eP	PKPdf	10 50 30.7	-1.1
	comp=Z,81nm,1.0s						
USRK	Ussuriysk Arra	158.41	307	PKP	PKPdf	10 50 30.1	-1.1
	comp=Z,1.6nm,0.8s,baz=177,slow=3.8,SNR=5.3						
USRK				PKPab	PKPab	10 51 04.4	-1.5
	comp=Z,6.0nm,0.7s,baz=68,slow=3.4,SNR=11						
BOK	Bokaro	158.43	110	eP	PKPdf	10 50 30.2	-1.6
DANN	Dangsing	158.61	97	eP	PKPdf	10 50 31.9	-0.4
	comp=Z,234nm,1.0s						
GKN	Gorkha	159.22	98	eP	PKPdf	10 50 32.0	-0.9
	comp=Z,127nm,1.1s						
DMN	Daman	159.47	100	eP	PKPdf	10 50 32.4	-0.9
SRDT	SRDT	159.53	155	PKP	PKPdf	10 50 35.9	+2.5
KKN	Kakani	159.68	99	eP	PKPdf	10 50 32.6	-0.9
	comp=Z,111nm,1.1s						
PKIN	Phulchoki	159.70	100	eP	PKPdf	10 50 32.7	-0.9
	comp=Z,90nm,1.2s						
PKI	Pulchoki	159.71	100	eP	PKPdf	10 50 32.6	-1.1
	comp=Z,95nm,1.1s						
MDJ	Mudanjiang	159.80	311	PKP	PKPdf	10 50 32.3	-0.5
GUN	Gumba	160.22	100	eP	PKPdf	10 50 32.3	-2.0
	comp=Z,200nm,1.5s						
JIRN	Jiri	160.38	101	eP	PKPdf	10 50 32.0	-2.5
	comp=Z,150nm,1.3s						
RAMN	Ramite	160.45	103	eP	PKPdf	10 50 32.0	-2.4
	comp=Z,232nm,1.3s						
IRK	Irkutsk	160.80	7	ePKP2	PKPab	10 51 16.8	+0.9
IRK				e		10 54 57.6	
IRK				pmax	pmax		
	comp=Z,187nm,1.6s						
MOY	Mondy	160.87	13	ePKIKP	PKPdf	10 50 36.7	+2.8
WMQ	Urumqi	160.94	50	PKP	PKPdf	10 50 31.0	-3.2
WMQ				LR	LR		
	comp=Z,12µm,22.2s						
ODAN	Odare	161.05	104	eP	PKPdf	10 50 32.8	-2.3
	comp=Z,154nm,1.2s						
TLY	Talaya	161.28	9	ePKIKP	PKPdf	10 50 33.4	-0.8
TLY				pmax	pmax		
	comp=Z,26nm,1.4s						
TLY	Talaya	161.28	9	PKP	PKPdf	10 50 34.3	0.0
	comp=Z,2.6nm,0.5s,baz=156,slow=3.2,SNR=10						
TLY	Talaya	161.28	9	PKP	PKPdf	10 50 34.3	0.0
TAPN	Taplejung	161.51	103	eP	PKPdf	10 50 33.1	-2.5
	comp=Z,152nm,1.4s						
UBPT	Khong Chiam	161.98	172	PKP	PKPdf	10 50 38.0	+2.0
PBKT	Sadao Pong	162.23	157	PKP	PKPdf	10 50 37.4	+1.2
ZAK	Zakamensk	162.50	10	ePKIKP	PKPdf	10 50 33.7	-1.9
ZAK				e		10 55 09.8	
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.7s						
CN2	Changchun	162.79	313	ePKP	PKPdf	10 50 34.8	-1.2
CMAR	Chiang Mai Arr	163.18	149	PKIKP	PKPdf	10 50 36.0	-1.1
CMAR				pmax	pmax		
	comp=Z,14nm,1.0s						
CMAR	Chiang Mai Arr	163.18	149	PKP	PKPdf	10 50 36.0	-1.1
	comp=Z,3.0nm,0.4s,baz=232,slow=2.3,SNR=17						
CMAR	Chiang Mai Arr	163.18	149	PKP	PKPdf	10 50 36.0	-1.1
CHTO	Chiang Mai	163.50	148	ePKIKP	PKPdf	10 50 36.2	-1.2
CHTO	Chiang Mai	163.50	148	ePKPdf	PKPdf	10 50 36.2	-1.2
CMMT	Chiang Mai	163.50	148	PKP	PKPdf	10 50 39.0	+1.6
SHL	Shillong	164.00	114	eP	PKPdf	10 50 37.1	-0.9
LSA	Lhasa	165.17	99	ePKIKP	PKPdf	10 50 37.7	-1.5
LSA				e		10 51 38.6	
LSA	Lhasa	165.17	99	ePKPdf	PKPdf	10 50 37.7	-1.5
LSA				ePKPab	PKPab	10 51 38.6	+2.1
SONM	Songino Array	165.36	4	PKIKP	PKPdf	10 50 37.5	-0.9
SONM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	Songino Array	165.36	4	PKP	PKPdf	10 50 37.5	-0.9
	comp=Z,3.7nm,0.8s,baz=214,slow=1.1,SNR=14						
SONM				PKPab	PKPab	10 51 37.3	+1.2
	comp=Z,22nm,0.8s,baz=336,slow=4.9,SNR=18						
SONM	Songino Array	165.36	4	PKP	PKPdf	10 50 37.5	-0.9
SONM				PKPab	PKPab	10 51 37.3	+1.2
BJI	Beijing	170.57	318	PKP	PKPdf	10 50 39.3	-2.7
BJI				PKS	PKSdf	10 54 13.8	-0.5
BJI				PP	PP	10 55 46.5	-3.0
BJI				SKS	SKSdf	10 57 39.5	-5.4
BJI				SS	SS	11 16 50.0	-1.0
BJI				LR	LR		
	comp=Z,9µm,18.6s						
BJI				LR	LR		
	comp=Z,16µm,20.5s						
KMI	Kunming	170.70	149	PKP	PKPdf	10 50 45.0	+2.1
NJ2	Nanjing	170.79	266	ePKP	PKPdf	10 50 39.0	-3.4
GTA	Gaotai	170.95	45	ePKP	PKPdf	10 50 41.0	-1.5
GTA				pPKP	pPKPdf	10 50 51.5	+3.9
GTA				PKPab	PKPab	10 52 04.5	+3.2
GTA				PP	PP	10 55 57.5	+5.7
GTA				SKS	SKSdf	10 57 42.8	-2.6
GTA				SKKS	SKKSac	11 02 37.3	-1.0
GTA				SS	SS	11 17 01.0	+5.7
GTA				AMB	AMB		
	comp=Z,6µm,11.4s						
HHC	Hu-ho-hao-te	171.89	341	ePKP	PKPdf	10 50 42.5	-0.3
HHC				pPKP	pPKPdf	10 50 51.5	+3.5
HHC				SKKS		11 02 41.5	
HHC				AMB	AMB		
	comp=Z,6µm,4.4s						
TIA	Tai'an	171.94	294	ePKP	PKPdf	10 50 43.5	+0.6
GYA	Guiyang	173.15	170	iPKP	PKPdf	10 50 37.0	-6.8
GYA				pPKP	pPKPdf	10 50 49.5	+0.5
GYA				PKPab	PKPab	10 52 11.0	-0.1
GYA				PKS	PKSdf	10 54 08.8	-7.5
GYA				PP	PP	10 55 58.8	-5.9
GYA				SKKS		11 02 38.3	
GYA				SS	SS	11 17 02.0	-13
GYA				AMB	AMB		
	comp=Z,2µm,10.3s						
GYA				LR	LR		
	comp=Z,4µm,21.3s						
GYA				LR	LR		
	comp=Z,2µm,21.0s						
GYA				LR	LR		
	comp=Z,4µm,24.2s						
WHN	Wuhan	173.99	245	PKP	PKPdf	10 50 40.3	-3.5
LZH	Lanzhou	175.53	49	ePKP	PKPdf	10 50 47.0	+2.6
LZH				PKPab	PKPab	10 52 23.3	+1.6
LZH				ePP	PP	10 56 25.3	+11
CD2	Chengdu	175.70	121	PKP	PKPdf	10 50 40.0	-4.4
CD2				pPKP	pPKPdf	10 50 51.5	+1.9
CD2				sPKP		10 50 55.3	
CD2				PKS	PKSdf	10 54 10.8	-5.9
CD2				PP	PP	10 56 15.5	+0.1
CD2				SKS	SKSdf	10 57 37.5	-10
CD2				SKKS	SKKSac	11 02 56.3	-5.0
CD2				SS	SS	11 17 36.3	-5.8
CD2				AMB	AMB		
	comp=Z,1µm,6.6s						
XAN	Xi'an	178.90	318	PKP	PKPdf	10 50 46.0	+1.2
XAN				pPKP	pPKPdf	10 50 55.0	+5.0

IDC 27 10:33:25.8±2.5,9°.03S×110°.66E,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.6/44,mbtmp3.9/3,MS4.5/1,Ms1 4.5/1, ms1mx3.8/54,Error ellipse: s-maj=130.8km s-min=26.5km az=50.0

ISCJB 27 10:33:31.9±0.9,9°.20S±0°.06×110°.59E±0°.07,h51km, mb4.0/3,MS4.5/1,Error ellipse: s-maj=10.5km s-min=8.8km az=150.3

DJA 27 10:33:33.3±0.9,9°S±4°×11°1E±°,h17km±10km,M4.2/12, MLv4.2/12

ISC 27 10:33:32.8±1.1,9°.13S±0°.09×110°.60E±0°.06,h51km,n14, σ1s.94/15,mb4.0/3,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	Wanagama	1.21	356	P	Pn	10 33 53.4	-0.1
UGM				S	Sn	10 34 09.1	+0.2
WOJI	Wonogiri, Jawa	1.32	14	P	Pn	10 33 56.0	+1.0
WOJI				S	Sn	10 34 11.7	+0.2
PWJI	Pagerwojo	1.62	47	P	Pn	10 33 59.6	+0.6
PWJI				S	Sn	10 34 14.6	-4.1
NGJI	Ngawi	1.95	26	P	Pn	10 34 05.1	+1.6
NGJI				S	Sn	10 34 34.9	+8.1
SMRI	Semarang	2.07	356	P	Pn	10 34 07.8	+2.5
KPJI	Karang Pucung	2.44	317	P	Pn	10 34 12.5	+2.3
CMJI	Cimerak	2.52	302	P	Pn	10 34 11.3	0.0
GMJI	Gumukmas	2.94	73	P	Pn	10 34 20.2	+3.2
CISI	Cisompet, Garu	3.17	299	P	Pn	10 34 21.2	+0.9
BLJI	Banyuglugur	3.26	65	P	Pn	10 34 29.7	+8.2
WRA	Warramunga Arr	25.33	118	P	P	10 38 54.2	-0.9
	3.7nm,0.8s,baz=291,slow=11,SNR=10.0						
STKA	Stephens Creek	36.58	133	P	P	10 40 34.0	0.0
	5.7nm,1.2s,baz=322,slow=9.4,SNR=4.6						
JOW	Kunigami	39.65	25	LR	LR	10 58 08.4	
	comp=Z,688nm,19.7s,baz=340,slow=38						
MKAR	Makanchi Array	61.13	338	P	P	10 43 41.4	-0.5
	0.5nm,0.7s,baz=147,slow=7.5,SNR=3.0						

IDC 27 10:35:25.8±0.6,35°.66S×73°.37W,h0km,mb4.7/16, mb1 4.8/17,mb1mx4.7/35,mbtmp4.7/17,ML4.4/1,Error ellipse: s-maj=28.2km s-min=14.5km az=70.0

ISCJB 27 10:35:29.2±0.5,35°.72S±0°.07×73°.4W±0°.2,h33km, mb4.7/16,Error ellipse: s-maj=22.1km s-min=9.4km az=168.8

ISC 27 10:35:31.2±0.6,35°.68S±0°.10×73°.4W±0°.2,h35km,n33, σ0s.82/33,mb4.8/16,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	Ushuaia	19.46	171	P	P	10 39 54.6	0.0
	1.2nm,0.3s,baz=351,slow=14,SNR=3.4						
SIV	San Ignacio	22.49	32	P	P	10 40 26.6	-1.1
	35nm,1.0s,baz=204,slow=18,SNR=3.3						
NNA	Nana	23.80	352	P	P	10 40 39.8	-1.0
	7.4nm,0.6s,baz=206,slow=10,SNR=2.5						
JTS	JuntasAbangare	47.01	344	P	P	10 43 57.5	-1.6
	1.6nm,0.5s,baz=221,slow=9.3,SNR=2.3						
VNA3	Neumayer Olymp	48.24	157	P	P	10 44 07.9	-0.2
VNA2	Neumayer--Watz	48.91	157	P	P	10 44 13.3	+0.1
BHS	Barnard House	50.08	16	e	P	10 44 22.7	0.0
SVV	Soufriere Volc	50.08	16	e	P	10 44 24.9	+2.2
SSV	Crater Summit	50.09	16	e	P	10 44 23.9	+1.0
SNAA	Sanae	50.46	157	P	P	10 44 24.6	-0.5
SNAA	Sanae	50.46	157	P	P	10 44 24.7	-0.5
	13nm,0.9s,baz=274,slow=7.2,SNR=6.2						
SLB	Belfond	50.61	16	e	P	10 44 28.0	+1.2
APG	El Apazote	52.94	339	P	P	10 44 44.8	+0.4
	9.1nm,0.7s,baz=184,slow=8.5,SNR=2.4						
QSPA	South Pole Qui	54.56	180	P	P	10 44 55.5	-0.1
	27nm,0.9s,baz=142,slow=3.9,SNR=6.2						
TEIG	Tepich	57.36	343	P	P	10 45 14.3	-1.6
	7.6nm,0.6s,baz=225,slow=4.3,SNR=4.6						
TXAR	Lajitas Array	70.67	332	P	P	10 46 43.5	+0.1
	2.8nm,0.6s,baz=148,slow=7.3,SNR=6.9						
ANMO	Albuquerque	76.74	333	P	P	10 47 18.9	-0.1
	4.6nm,1.2s,baz=156,slow=10.0,SNR=1.6						
DBIC	Dimbokro	76.78	72	P	P	10 47 19.4	0.0
	24nm,0.7s,baz=205,slow=5.9,SNR=8.4						
BOSA	Boshof	80.28	118	P	P	10 47 38.7	-0.1
	9.9nm,0.7s,baz=225,slow=4.8,SNR=4.9						
NVAR	Mina Array Bea	84.64	326	P	P	10 48 01.5	+0.2
	3.1nm,0.7s,baz=152,slow=6.1,SNR=4.8						
PDAR	Pinedale Array	84.77	334	P	P	10 48 02.7	+0.9
	1.8nm,0.9s,baz=132,slow=7.5,SNR=2.5						
ELK	Elko	85.22	329	P	P	10 48 05.5	+1.4
	4.0nm,0.9s,baz=186,slow=5.2,SNR=3.7						
TORD	Torodi Ar. Bea	85.83	71	P	P	10 48 07.6	+0.2
	4.5nm,0.7s,baz=216,slow=4.8,SNR=4.3						
ULM	Lac du Bonnet	87.84	346	P	P	10 48 16.1	-0.2
	4.1nm,0.7s,baz=146,slow=3.6,SNR=3.9						
WRA	Warramunga Arr	118.75	210	PKP	PKPdf	10 54 15.8	-0.4
	1.4nm,0.7s,baz=158,slow=1.7,SNR=3.0						
BRTR	Keskin Array B	123.62	62	PKP	PKPdf	10 54 25.1	+0.1
	0.8nm,0.7s,baz=180,slow=1.4,SNR=1.9						
AKASG	Malin Array Be	124.15	49	PKP	PKPdf	10 54 24.9	-0.5
	0.6nm,0.5s,baz=260,slow=2.8,SNR=3.4						
FINES	FINESS Array B	125.01	35	PKP	PKPdf	10 54 27.0	+0.3
	1.6nm,0.9s,baz=260,slow=3.8,SNR=2.0						
ARCES	ARCESS Array B	126.01	25	PKP	PKPdf	10 54 28.4	-0.1
	3.9nm,0.8s,baz=290,slow=2.7,SNR=3.8						
PSI	Prapat	146.52	166	PKPbc	PKPdf	10 55 08.4	+0.3
	15nm,0.7s,baz=216,slow=2.2,SNR=3.1						
BVAR	Borovoye Array	149.27	44	PKPbc	PKPbc	10 55 15.7	+0.1
	5.0nm,0.6s,baz=316,slow=4.0,SNR=6.3						
ZALV	Zalesovo Beam	156.25	33	PKPab	PKPab	10 55 49.9	+0.4
	8.9nm,0.6s,baz=305,slow=4.4,SNR=4.2						
SONM	Songino Array	167.86	1	PKPab	PKPab	10 56 41.5	+1.0
	4.7nm,1.1s,baz=1.9,slow=4.3,SNR=2.4						

IDC 27 10:36:56.6±0.7,35°.38S×72°.73W,h0km,mb4.8/12, mb1 5.0/13,mb1mx4.8/33,mbtmp4.9/13,ML4.9/1,MS6.2/2, Ms1 6.2/2,ms1mx5.1/33,Error ellipse: s-maj=30.0km s-min=19.1km az=58.0

NEIC 27 10:37:03.1±0.4,35°.15S×72°.58W,h35km,mb4.8/3,Error ellipse: s-maj=14.6km s-min=9.4km az=62.0

ISCJB 27 10:37:06.4±1.0,34°.0S±0°.2×72°.1W±0°.2,h33km,mb4.9/20, MS6.1/2,Error ellipse: s-maj=34.1km s-min=18.2km az=24.8

ISC 27 10:37:00.3±0.7,35°.2S±0°.1×72°.5W±0°.2,h18km,n326, σ0s.71/323,mb4.9/21,148C-141D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	19.27	13	P	Pn	10 41 25.2	-0.5
	1.5nm,0.3s,baz=204,slow=10.0,SNR=3.8						
SIV	San Ignacio	21.74	31	P	P	10 41 50.9	+0.1
	91nm,1.0s,baz=249,slow=11,SNR=3.7						
ATAH	Atahualpa	28.48	348	LR	LR	10 52 15.9	
	comp=Z,32µm,20.0s,baz=152,slow=32						
SNAA	Sanae	50.60	157	P	P	10 45 55.3	-2.3
	2.3nm,0.5s,baz=278,slow=6.7,SNR=5.8						
SNAA	Sanae	50.60	157	eP	P	10 45 57.7	+0.1
TEIG	Tepich	57.15	342	P	P	10 46 44.4	-1.5
	28nm,0.7s,baz=113,slow=4.1,SNR=8.6						
TEIG				LR	LR	11 08 04.6	
	comp=Z,27µm,19.4s,baz=127,slow=33						
034A	Hebbronville	66.72	335	⇑P	P	10 47 51.0	+0.8
	baz=67						
TIGA	Tifton	67.13	350	⇓P	P	10 47 51.3	-1.5
	baz=67						
933A	Laredo	67.43	334	⇑P	P	10 47 55.5	+0.8
	baz=68						
835A	Beeville	67.55	336	⇓P	P	10 47 55.9	+0.5
	baz=68						
834A	Tilden	67.64	335	⇓P	P	10 47 56.7	+0.6
	baz=68						
735A	Kenedy	68.06	336	⇑P	P	10 47 59.1	+0.4
	baz=68						
833A	Chaparral WMA,	68.12	335	⇓P	P	10 47 59.5	+0.4
	baz=68						
832A	Faith Ranch, C	68.29	334	⇑P	P	10 48 00.3	+0.2
	baz=68						
734A	La Parita Cree	68.31	336	⇓P	P	10 48 00.2	0.0
	baz=68						
636A	Smothers Creek	68.40	337	⇑P	P	10 48 00.6	-0.1
	baz=69						
635A	Leesville	68.55	336	⇓P	P	10 48 00.9	-0.7
	baz=69						
732A	Laxson Ranch,	68.69	334	⇑P	P	10 48 00.3	+0.3
	baz=69,SNR=7.5						
537A	Green Hill Far	68.72	338	⇑P	P	10 48 01.8	-1.0
	baz=69						
535A	Dale	69.07	337	⇓P	P	10 48 04.2	-0.8
	baz=69						
632A	Uvalde	69.33	335	⇓P	P	10 48 06.5	-0.1
	baz=70,SNR=5.7						
339A	Huntington	69.38	340	⇓P	P	10 48 05.7	-1.1
	baz=70						
631A	Perdido Creek	69.53	334	⇓P	P	10 48 07.5	-0.3
	baz=70						
533A	Kerrville	69.59	336	⇑P	P	10 48 08.2	0.0
	baz=70,SNR=6.0						
435B	Jarrell	69.77	337	⇑P	P	10 48 08.8	-0.5
	baz=70						
532A	Rocksprings	69.94	335	⇓P	P	10 48 10.4	0.0
	baz=70,SNR=7.3						
434A	Burnet	70.02	337	⇓P	P	10 48 10.6	-0.3
	baz=70						
336A	Riesel	70.10	338	⇓P	P	10 48 10.6	-0.7
	baz=70						
335A	Moody	70.19	337	⇑P	P	10 48 11.3	-0.5
	baz=70						
531A	Rocksprings	70.20	334	⇑P	P	10 48 11.8	-0.2
	baz=70						
JCT	Junction City	70.23	335	eP	P	10 48 11.9	-0.2
	41nm,1.2s						
JCT	Junction City	70.23	335	⇓P	P	10 48 12.1	-0.1
	baz=70						
433A	Art	70.24	336	⇓P	P	10 48 12.0	-0.2
	baz=70,SNR=5.2						
530A	J-C Ranch, Com	70.47	334	⇓P	P	10 48 14.2	+0.6
	baz=71						
334A	Lometa	70.49	337	⇑P	P	10 48 13.5	-0.2
	baz=71						
432A	Menard	70.59	335	⇑P	P	10 48 14.4	0.0
	baz=71						
TXAR	Lajitas Array	70.62	331	P	P	10 48 14.4	-0.2
	4.1nm,0.7s,baz=153,slow=8.1,SNR=5.7						
431A	Sonora	70.69	335	⇑P	P	10 48 15.2	+0.2
	baz=71						
333A	Richland Sprin	70.73	336	⇓P	P	10 48 14.9	-0.2
	baz=71						
529A	Stev Forest Ra	70.77	333	⇓P	P	10 48 16.0	+0.5
	baz=71						
WHTX	Lake Whitney	70.85	338	⇓P	P	10 48 15.9	0.0
	baz=71						
430A	Baggett Ranch,	71.01	334	⇑P	P	10 48 17.4	+0.4
	baz=71						
332A	Millersview	71.03	336	⇓P	P	10 48 17.3	+0.3
	baz=71						
234A	Clairette	71.08	337	⇑P	P	10 48 17.3	0.0
	baz=71						
429A	Davenport Ranc	71.10	333	⇑P	P	10 48 18.1	+0.6
	baz=71						
331A	San Angelo	71.20	335	⇑P	P	10 48 18.1	0.0
	baz=71,SNR=6.3						
TKL	Tuckaleechee C	71.31	350	P	P	10 48 17.2	-1.4
	8.8nm,0.9s,baz=177,slow=8.3,SNR=4.1						
233A	Rising Star	71.34	337	⇑P	P	10 48 18.9	0.0
	baz=72,SNR=5.5						
135A	Vickery Place,	71.37	338	⇑P	P	10 48 18.8	-0.2
	baz=72						
232A	Coleman	71.47	336	⇑P	P	10 48 19.7	0.0
	baz=72						
330A	Mertzon	71.55	334	⇑P	P	10 48 20.3	+0.1
	baz=72						
231A	Bronte	71.73	335	⇑P	P	10 48 20.7	-0.6
	baz=72,SNR=6.7						
133A	Hamilton Ranch	71.89	337	⇓P	P	10 48 21.8	-0.3
	baz=72						
329A	Wagon Wheel Ra	71.91	334	⇓P	P	10 48 22.5	+0.1
	baz=72						
230A	Sterling City	71.97	335	⇓P	P	10 48 22.5	-0.2
	baz=72						
Z35A	Perchaven, San	72.04	338	⇑P	P	10 48 22.6	-0.4
	baz=72						
ABTX	Abilene, Hawle	72.14	336	eP	P	10 48 23.1	-0.6
	42nm,1.0s						
ABTX	Abilene, Hawle	72.14	336	⇓P	P	10 48 23.2	-0.4
	baz=72						
Z34A	Collier Ranch,	72.28	338	⇑P	P	10 48 23.8	-0.7
	baz=72						
229A	Bryant Ranch,	72.29	334	⇓P	P	10 48 24.6	-0.1
	baz=72						
WVT	Waverly	72.42	347	eP	P	10 48 24.5	-0.7
	34nm,0.9s						
131A	Roby	72.43	336	⇓P	P	10 48 25.2	-0.3
	baz=73,SNR=5.0						
Z33A	Whitaker Ranch	72.46	337	⇓P	P	10 48 25.2	-0.4
	baz=73						
130A	Snyder	72.56	335	⇓P	P	10 48 26.3	+0.1
	baz=73						
228A	UT Block 9, Go	72.70	334	⇓P	P	10 48 27.3	+0.2
	baz=73						
Z32A	Haskell	72.71	337	⇑P	P	10 48 27.1	+0.1
	baz=73						
Y34A	Reagan Ranch,	72.77	338	⇓P	P	10 48 27.1	-0.3
	baz=73						
129A	Stewart Farms,	72.91	334	⇑P	P	10 48 28.1	-0.2
	baz=73						
Z31A	Sharp Cattle R	72.94	336	⇓P	P	10 48 27.9	-0.6
	baz=73						
Y33A	Hilltop Ranch,	73.09	338	⇓P	P	10 48 28.5	-0.8
	baz=73						
128A	Castleberry Fa	73.12	334	⇑P	P	10 48 29.7	+0.1
	baz=73						
Z30A	Sanderson Ranc	73.25	335	⇑P	P	10 48 30.0	-0.3
	baz=74						
Y32A	R-V Farms, Ver	73.34	337	⇓P	P	10 48 29.9	-0.9
	baz=74						
X34A	Smith Ranch, M	73.39	338	⇑P	P	10 48 30.2	-0.9
	baz=74						
Z29A	Hungry Hill Ra	73.42	335	⇓P	P	10 48 30.7	-0.7
	baz=74						
127A	Arkansas Junct	73.49	333	⇓P	P	10 48 31.4	-0.4
	baz=74						
Y31A	Rekieta Farm,	73.57	336	⇑P	P	10 48 31.5	-0.6
	baz=74						
X32A	Elmer	73.68	337	⇑P	P	10 48 31.3	-1.4
	baz=74						
Y30A	Stafford Cattl	73.70	336	⇓P	P	10 48 32.0	-0.9
	baz=74						
Y29A	Porterfield Fa	73.95	335	⇓P	P	10 48 33.5	-0.9
	baz=74						
CPRX	Cap Rock	73.99	333	eP	P	10 48 34.4	-0.4
	7.3nm,1.0s						
TUL1	Tulsa	74.03	341	⇑P	P	10 48 33.4	-1.4
	baz=74						
X31A	McDonald Ranch	74.09	337	⇑P	P	10 48 33.9	-1.3
	baz=74						
W33A	Caddo, Fort Co	74.10	338	⇓P	P	10 48 34.4	-0.7
	baz=74						
Y28A	McKinney Farm,	74.20	335	⇑P	P	10 48 35.3	-0.6
	baz=74						
Z26A	Caprock	74.25	333	⇑P	P	10 48 35.9	-0.4
	baz=74						
W32A	Sentinel	74.31	337	⇑P	P	10 48 35.8	-0.6
	baz=75						
MSTX	Muleshoe	74.44	334	eP	P	10 48 36.4	-0.9
	34nm,0.9s						
MSTX	Muleshoe	74.44	334	⇓P	P	10 48 37.1	-0.2
	baz=75,SNR=6.3						
V34A	Guthrie	74.45	339	⇓P	P	10 48 36.1	-1.1
	baz=75						
X29A	Tulia	74.49	335	⇑P	P	10 48 36.7	-0.9
	baz=75						
Y27A	Causey	74.50	334	⇑P	P	10 48 37.2	-0.5
	baz=75						
W31A	Holland Ranch,	74.59	337	⇑P	P	10 48 36.9	-1.1
	baz=75						
V33A	Lossen Ranch,	74.66	339	⇑P	P	10 48 37.2	-1.2
	baz=75						
X28A	Dimmitt	74.73	335	⇑P	P	10 48 39.1	0.0
	baz=75						
Y26A	Elida	74.78	333	⇑P	P	10 48 39.4	+0.1
	baz=75						
V32A	Arapaho	74.80	338	⇓P	P	10 48 39.3	0.0
	baz=75						
Z24A	Sheeppen Canyo	74.83	332	⇑P	P	10 48 40.0	+0.3
	baz=75						
AMTX	Amarillo	74.89	335	⇓P	P	10 48 39.2	-0.6
	baz=75						
W29A	Amraillo	75.09	336	⇑P	P	10 48 40.9	-0.1
	baz=75,SNR=6.7						
121A	Cookes Peak, D	75.09	330	⇑P	P	10 48 42.1	+0.9
	baz=75						
V31A	Spring Creek L	75.10	337	⇑P	P	10 48 41.5	+0.5
	baz=75						
X27A	F and S Farms,	75.16	334	⇓P	P	10 48 41.4	-0.2
	baz=75						
X26A	CR and CF Fran	75.33	334	⇑P	P	10 48 42.9	+0.3
	baz=76						
V30A	Spur Ranch, Mi	75.36	337	⇑P	P	10 48 42.3	-0.3
	baz=76						
Y24A	Capitan	75.38	332	⇓P	P	10 48 43.7	+0.8
	baz=76						
Z22A	Elephant Butte	75.39	331	⇓P	P	10 48 44.0	+1.1
	baz=76						
U32A	Winter Ranch,	75.39	338	⇑P	P	10 48 42.1	-0.6
	baz=76						
W28A	Vega	75.40	335	⇑P	P	10 48 43.0	+0.1
	baz=76						
W27A	Bowe Ranch, En	75.53	335	⇓P	P	10 48 43.7	+0.1
	baz=76,SNR=5.1						
Y23A	Lovelace Mesa,	75.62	332	⇑P	P	10 48 45.6	+1.3
	baz=76						
ACSO	Alum Creek Sta	75.71	352	eP	P	10 48 43.1	-1.2
	34nm,0.8s						
W26A	Owens Ranch, T	75.80	334	⇓P	P	10 48 45.8	+0.6
	baz=76						
T33A	Patterson Ranc	75.82	339	⇑P	P	10 48 45.3	+0.2
	baz=76						

V28A	Channing	75.86	335	⇑P	P	10 48 45.6	+0.1
	baz=76						
DBIC	Dimbokro	75.96	71	P	P	10 48 47.1	+0.7
	5.5nm,0.6s,baz=226,slow=5.8,SNR=3.3						
U30A	WK&E Inc. Balk	76.05	337	⇑P	P	10 48 46.5	0.0
	baz=76						
V27A	Dan Oppiter Fa	76.07	335	⇑P	P	10 48 46.7	0.0
	baz=76						
T32A	Huddler Ranch,	76.11	339	⇓P	P	10 48 46.6	-0.2
	baz=76						
W25A	X Bar L Ranch,	76.17	334	⇓P	P	10 48 47.5	+0.2
	baz=76						
U29A	Oasis Ranch, S	76.18	336	⇑P	P	10 48 46.9	-0.4
	baz=76						
LPM	Los Pinos Moun	76.19	331	eP	P	10 48 47.7	+0.3
	12nm,1.0s						
S33A	Kaszmaul Farm,	76.22	339	⇑P	P	10 48 46.6	-0.8
	baz=76						
X23A	Hourglass Bar	76.25	332	⇑P	P	10 48 48.3	+0.5
	baz=76						
U28A	Mallet	76.43	336	⇓P	P	10 48 49.1	+0.4
	baz=77						
V26A	Tequesquite Ra	76.44	334	⇓P	P	10 48 49.4	+0.6
	baz=77						
LAZ	Ladron	76.46	331	eP	P	10 48 49.5	+0.5
	18nm,1.4s						
W24A	Lazy 6 Ranch,	76.51	333	⇑P	P	10 48 49.8	+0.5
	baz=77						
S32A	Newby Ranch, P	76.60	339	⇑P	P	10 48 49.5	0.0
	baz=77						
U27A	Thompson Grove	76.67	335	⇑P	P	10 48 50.4	+0.3
	baz=77						
ANMO	Albuquerque	76.67	332	P	P	10 48 50.1	-0.1
	13nm,0.9s,baz=156,slow=9.8,SNR=7.6						
W23A	Werner Place,	76.75	332	⇑P	P	10 48 51.6	+1.0
	baz=77						
V25A	Rancho No Teng	76.78	334	⇑P	P	10 48 51.5	+0.7
	baz=77						
214A	Organ Pipe Nat	76.80	326	⇑P	P	10 48 53.0	+2.2
	baz=77						
T29A	Hugoton	76.83	337	⇓P	P	10 48 50.8	-0.1
	baz=77,SNR=5.7						
R33A	Olander Ranch,	76.88	340	⇓P	P	10 48 51.1	0.0
	baz=77						
V24A	Rampart Ranch,	76.92	333	⇓P	P	10 48 52.4	+0.8
	baz=77						
U26A	Atchley Ranch,	76.96	335	⇓P	P	10 48 52.3	+0.4
	baz=77						
S30A	Montezuma	77.01	338	⇑P	P	10 48 52.5	+0.6
	baz=77						
T28A	Walsh	77.06	336	⇑P	P	10 48 52.4	+0.2
	baz=77						
S29A	Ulysses	77.19	337	⇑P	P	10 48 53.0	+0.1
	baz=77						
R32A	Long Quarter,	77.20	339	⇑P	P	10 48 53.2	+0.3
	baz=77						
U25A	Circle Dot Ran	77.20	334	⇓P	P	10 48 54.1	+0.9
	baz=77						
T27A	Campo	77.21	336	⇓P	P	10 48 53.5	+0.4
	baz=78						
KSU1	Kansas State U	77.25	341	⇑P	P	10 48 53.3	+0.2
	baz=78						
R31A	Burdett	77.32	339	⇑P	P	10 48 53.8	+0.3
	baz=78						
S28A	Manter	77.42	336	⇑P	P	10 48 54.5	+0.3
	baz=78,SNR=8.4						
Q33A	Connelly Farm,	77.48	340	⇓P	P	10 48 54.7	+0.2
	baz=78						
U24A	Moreno Valley	77.53	333	⇑P	P	10 48 56.1	+1.0
	baz=78						
R30A	Dighton	77.54	338	⇑P	P	10 48 55.7	+0.9
	baz=78						
T26A	Comanche Natio	77.61	335	⇓P	P	10 48 55.9	+0.4
	baz=78						
Q32A	Meitler Ranch,	77.68	340	⇓P	P	10 48 56.0	+0.4
	baz=78						
V22A	San Miguel Ran	77.70	332	⇓P	P	10 48 57.0	+1.0
	baz=78						
X18A	Snowflake	77.72	329	⇑P	P	10 48 57.9	+1.8
	baz=78						
U23A	El Rito	77.79	333	⇓P	P	10 48 57.5	+1.0
	baz=78						
P33A	Williams Farm,	77.85	340	⇑P	P	10 48 56.5	0.0
	baz=78						
T25A	Trinidad	77.87	334	⇓P	P	10 48 57.8	+0.9
	baz=78						
R29A	Marienthal	77.94	337	⇑P	P	10 48 57.6	+0.5
	baz=78						
Q31A	Ellis	77.94	339	⇓P	P	10 48 57.3	+0.3
	baz=78						
S26A	Kim	77.97	335	⇑P	P	10 48 58.0	+0.6
	baz=78,SNR=5.8						
R28A	Tribune	78.08	337	⇓P	P	10 48 58.2	+0.3
	baz=78,SNR=6.1						
W18A	Petrified Fore	78.14	330	⇑P	P	10 48 59.9	+1.5
	baz=78						
Q30A	Quinter	78.16	338	⇑P	P	10 48 58.2	-0.1
	baz=78						
X16A	Lo Mia Camp, P	78.26	328	⇑P	P	10 49 00.5	+1.4
	baz=78						
Q29A	Oakley	78.31	338	⇑P	P	10 48 59.4	+0.2
	baz=79						
S25A	Robets Cordova	78.34	335	⇑P	P	10 48 60.0	+0.5
	baz=79						
R27A	Eads	78.35	336	⇑P	P	10 48 59.7	+0.3
	baz=79,SNR=8.1						
T23A	Casias Ranch,	78.36	333	⇑P	P	10 49 00.2	+0.4
	baz=79						
Y14A	Wickenburg	78.55	327	⇑P	P	10 49 02.0	+1.5
	baz=79						
R26A	Arlington	78.58	336	⇑P	P	10 49 01.9	+1.2
	baz=79						
S24A	Houchin Ranch,	78.60	334	⇑P	P	10 49 01.7	+0.6
	baz=79						
P30A	Selden	78.69	338	⇑P	P	10 49 01.1	-0.1
	baz=79						
R25A	Fountain Ranch	78.73	335	⇓P	P	10 49 02.0	+0.4
	baz=79						
Q28A	Sharon Springs	78.74	337	⇑P	P	10 49 01.4	-0.1
	baz=79						
O32A	Brockman Farm,	78.78	340	⇑P	P	10 49 01.9	+0.2
	baz=79						
S23A	Nye Farm, Mont	78.94	334	⇓P	P	10 49 03.3	+0.5
	baz=79						
KSCO	Kaye Shedlock'	78.95	337	P	P	10 49 03.8	+1.1
	71nm,1.4s						
KSCO	Kaye Shedlock'	78.95	337	⇓P	P	10 49 03.0	+0.3
	baz=79						
P29A	Atwood	78.95	338	⇓P	P	10 49 03.2	+0.5
	baz=79,SNR=5.5						
O31A	Woolen Ranch,	78.98	339	⇓P	P	10 49 02.4	-0.4
	baz=79						
R24A	Sanders Place,	79.09	334	⇓P	P	10 49 04.5	+0.9
	baz=79						
WUAZ	Wupatki	79.17	329	⇓P	P	10 49 05.1	+1.0
	baz=79						
P28A	Saint Francis	79.18	337	⇓P	P	10 49 04.1	+0.1
	baz=79						
S22A	4UR Ranch, Cre	79.28	333	⇓P	P	10 49 05.5	+0.7
	baz=80						
R23A	Moffat	79.31	334	⇑P	P	10 49 05.3	+0.4
	baz=80						
Q25A	Bedland, Calha	79.40	335	⇑P	P	10 49 05.4	+0.1
	baz=80						
P27A	Ficken Ranch,	79.43	337	⇓P	P	10 49 05.4	+0.1
	baz=80						
BC3	Big Chuckawall	79.45	325	⇑P	P	10 49 06.7	+1.1
	baz=80						
P26A	Davis Ranch, A	79.68	336	⇑P	P	10 49 06.9	+0.2
	baz=80						
O28A	Krutsinger Ran	79.69	338	⇑P	P	10 49 06.6	-0.1
	baz=80						
IRM	Iron Mountain	79.72	325	⇓P	P	10 49 08.1	+1.2
	baz=80						
Q24A	Divide	79.76	335	⇓P	P	10 49 07.3	-0.1
	baz=80						
BGNE	Belgrade	79.82	341	⇑P	P	10 49 06.6	-0.7
	baz=80						
BOSA	Boshof	79.85	118	P	P	10 49 08.2	+0.1
	12nm,0.9s,baz=244,slow=6.4,SNR=2.9						
P25A	Willow Gulch B	79.91	336	⇓P	P	10 49 08.5	+0.4
	baz=80,SNR=5.5						
O27A	Beecher Island	79.97	337	⇓P	P	10 49 08.1	-0.1
	baz=80,SNR=5.7						
N29A	Votaw Ranch, W	79.98	339	⇑P	P	10 49 08.2	0.0
	baz=80						
M31A	Lambtecht Ranc	79.99	340	⇓P	P	10 49 08.1	-0.1
	baz=80						
MURC	Murrieta	80.24	323	⇑P	P	10 49 12.3	+2.6
	baz=80						
O26A	Horse Wrangler	80.29	337	⇓P	P	10 49 09.7	-0.2
	baz=80,SNR=5.3						
U15A	North Rim	80.33	328	⇑P	P	10 49 11.8	+1.3
	baz=80						
O25A	Wiggins	80.44	336	⇑P	P	10 49 11.4	+0.6
	baz=81						
N27A	Anderson Farm,	80.55	337	⇓P	P	10 49 11.7	+0.3
	baz=81,SNR=5.5						
ISCO	Idaho Springs	80.67	335	⇓P	P	10 49 12.6	+0.4
	baz=81						
M28A	Bar X Bar Ranc	80.73	338	⇑P	P	10 49 12.4	+0.1
	baz=81						
L30A	Spencer Herefo	80.75	340	⇓P	P	10 49 12.2	-0.2
	baz=81						
N26A	Koester Ranch,	80.79	337	⇑P	P	10 49 12.8	+0.2
	baz=81						
HEC	Hector,Ludlow	80.82	325	⇑P	P	10 49 14.8	+1.9
	baz=81						
BFSC	Mount Baldy Ra	80.98	324	⇓P	P	10 49 16.1	+2.3
	baz=81						
TUQ	Turquoise Moun	81.13	325	⇓P	P	10 49 16.8	+2.2
	baz=81						
O23A	Lake Granby, G	81.14	335	⇓P	P	10 49 15.2	+0.5
	baz=81						
O22A	Kremmling	81.31	334	⇓P	P	10 49 16.0	+0.3
	baz=82						
K30A	Basset	81.40	340	⇑P	P	10 49 16.1	+0.4
	baz=82						
ECSD	EROS Data Cent	81.60	343	⇓P	P	10 49 16.2	-0.6
	baz=82						
K29A	Lazy Trails An	81.67	340	⇓P	P	10 49 17.7	+0.5
	baz=82						
N22A	Wattenberg Ran	81.85	335	⇑P	P	10 49 19.6	+1.2
	baz=82						
K28A	Ten Mile Ranch	81.93	339	⇑P	P	10 49 19.2	+0.6
	baz=82						
SPMN	St. Paul	82.17	346	⇓P	P	10 49 18.9	-0.7
	baz=82						
J29A	Okreek	82.27	340	⇑P	P	10 49 20.8	+0.5
	baz=82						
I30A	Oacoma	82.49	341	⇓P	P	10 49 20.7	-0.7
	baz=83						
N20A	Spence Gulch,	82.53	333	⇓P	P	10 49 23.2	+1.3
	baz=83						
J28A	Allard Ranch,	82.55	339	⇓P	P	10 49 22.5	+0.7
	baz=83						
K25A	Mack Ranch, Ha	82.61	337	⇓P	P	10 49 23.4	+1.1
	baz=83						
BRSD	Miller	82.86	341	⇑P	P	10 49 23.7	+0.4
	baz=83						
I28A	Midland	83.06	340	⇑P	P	10 49 25.8	+1.4
	baz=83						
J25A	Sunshine Ranch	83.29	338	⇓P	P	10 49 26.3	+0.6
	baz=84						
K23A	Bowen Ranch, D	83.30	336	⇓P	P	10 49 27.1	+1.3
	baz=84						
H29A	Onida	83.37	340	⇓P	P	10 49 26.0	+0.1
	baz=84,SNR=5.5						
R11A	Troy Canyon, C	83.37	327	⇑P	P	10 49 28.3	+2.0
	baz=84						
I27A	Quinn	83.38	339	⇓P	P	10 49 26.8	+0.7
	baz=84						
J24A	Dixon Ranch, L	83.50	337	⇓P	P	10 49 27.7	+0.9
	baz=84						
K22A	Casper	83.51	335	⇑P	P	10 49 28.2	+1.3
	baz=84						
G30A	Faulkton	83.55	341	⇓P	P	10 49 27.6	+0.8
	baz=84						
H28A	Mission Ridge	83.64	340	⇑P	P	10 49 28.2	+0.8
	baz=84						
DUG	Dugway	83.74	330	⇑P	P	10 49 29.5	+1.3
	baz=84						
K21A	Alcova	83.75	335	⇑P	P	10 49 29.0	+0.9
	baz=84						
G29A	Hoven	83.81	341	⇓P	P	10 49 28.3	+0.1
	baz=84						
I25A	Rochford	83.83	338	⇑P	P	10 49 29.1	+0.6
	baz=84						
G28A	Parade	83.97	340	⇓P	P	10 49 29.3	+0.2
	baz=84						
F30A	Leola	84.17	342	⇑P	P	10 49 29.6	-0.4
	baz=84						
J22A	Midwest	84.17	336	⇑P	P	10 49 29.9	-0.4
	baz=84						
F29A	Eureka	84.38	341	⇑P	P	10 49 31.0	-0.1
	baz=85,SNR=6.0						
G27A	Dupree	84.54	340	⇑P	P	10 49 32.2	+0.2
	baz=85						
I22A	9 Mile Ranch,	84.60	336	⇑P	P	10 49 32.8	+0.4
	baz=85						
G26A	Maurine	84.65	339	⇓P	P	10 49 32.6	+0.1
	baz=85						
F28A	McLaughlin	84.65	341	⇓P	P	10 49 32.8	+0.3
	baz=85						
J20A	Shoshoni	84.67	335	⇑P	P	10 49 33.8	+1.0
	baz=85						
NVAR	Mina Array Bea	84.67	326	P	P	10 49 33.0	0.0
	5.9nm,0.8s,baz=156,slow=5.7,SNR=5.7						
PDAR	Pinedale Array	84.68	334	P	P	10 49 33.0	0.0
	3.9nm,0.9s,baz=161,slow=5.7,SNR=3.7						
H24A	Dirks Ranch, A	84.75	338	⇑P	P	10 49 33.7	+0.6
	baz=85						
E30A	Jud	84.76	342	⇑P	P	10 49 33.2	+0.2
	baz=85						
I21A	Big Trails, Te	84.80	336	⇑P	P	10 49 34.3	+0.9
	baz=85						
G25A	Newell	84.80	339	⇑P	P	10 49 34.0	+0.7
	baz=85						
J19A	Crowheart	84.93	334	⇓P	P	10 49 35.4	+1.2
	baz=85						
TORD	Torodi Ar. Bea	85.01	70	P	P	10 49 35.3	+0.3
	4.7nm,0.6s,baz=224,slow=6.0,SNR=10						
E29A	Napoleon	85.01	342	⇑P	P	10 49 34.4	+0.1
	baz=85						
F27A	Lemmon	85.02	340	⇓P	P	10 49 34.8	+0.4
	baz=85						
F26A	Lodgepole	85.18	339	⇓P	P	10 49 35.8	+0.6
	baz=85						
ELK	Elko	85.20	329	P	P	10 49 35.2	-0.4
	baz=169,slow=5.2						
I20A	Worland	85.21	335	⇑P	P	10 49 36.0	+0.6
	baz=85						
G24A	Alzada	85.22	338	⇑P	P	10 49 36.0	+0.5
	baz=86						
D30A	Buchanan	85.29	342	⇓P	P	10 49 36.0	+0.4
	baz=86						
E28A	Huff	85.29	341	⇑P	P	10 49 36.1	+0.4
	baz=86						
E27A	Carson	85.40	340	⇓P	P	10 49 36.8	+0.6
	baz=86						
H21A	Big Horn, Sher	85.44	336	⇓P	P	10 49 37.0	+0.4
	baz=86						
D29A	Pettibone, Tap	85.46	342	⇑P	P	10 49 36.7	+0.2
	baz=86						
F25A	Bowman	85.48	339	⇓P	P	10 49 36.8	+0.1
	baz=86						
I19A	Meeteetse	85.59	335	⇓P	P	10 49 37.9	+0.5
	baz=86						
H20A	Greybull	85.64	335	⇑P	P	10 49 38.0	+0.5
	baz=86						
F24A	Ekalaka	85.70	338	⇓P	P	10 49 38.1	+0.3
	baz=86						
AGMN	Agassiz Nation	85.73	345	⇓P	P	10 49 37.8	0.0
	baz=86						
C30A	Mose, Pekin	85.78	343	⇓P	P	10 49 38.2	+0.2
	baz=86						
D28A	Regan	85.83	341	⇑P	P	10 49 38.7	+0.3
	baz=86						
F23A	Volborg	85.88	338	⇓P	P	10 49 38.6	-0.1
	baz=86						
E25A	Miller Ranch,	85.98	339	⇑P	P	10 49 39.3	+0.2
	baz=86						
G21A	Lodge Grass	86.02	336	⇑P	P	10 49 39.4	-0.1
	baz=86						
H19A	Powell	86.14	335	⇓P	P	10 49 40.4	+0.4
	baz=86						
D26A	Manning	86.19	340	⇑P	P	10 49 40.6	+0.5
	baz=86						
F22A	Rosebud	86.20	337	⇑P	P	10 49 40.5	+0.3
	baz=86						
E24A	Baker	86.30	339	⇑P	P	10 49 40.5	-0.2
	baz=87						
G20A	Bridger	86.35	336	⇑P	P	10 49 40.9	-0.2
	baz=87						
H18A	Shoshone NF, C	86.38	334	⇑P	P	10 49 41.7	+0.3
	baz=87						
B30A	Myrvik Farm, E	86.44	343	⇓P	P	10 49 41.2	-0.1
	baz=87						
F21A	Absaloka Mine,	86.52	337	⇓P	P	10 49 41.7	-0.1
	baz=87						
D25A	Fairfield	86.55	340	⇓P	P	10 49 42.0	+0.1
	baz=87						
E23A	Ismay	86.55	338	⇓P	P	10 49 42.4	+0.5
	baz=87						
C27A	Sayler Ranch,	86.56	341	⇓P	P	10 49 42.3	+0.4
	baz=87						
E22A	Miles City	86.69	338	⇓P	P	10 49 43.1	+0.4
	baz=87						
D24A	Glendive	86.81	339	⇑P	P	10 49 43.8	+0.6
	baz=87						
B28A	Dugan Ranch, T	86.94	342	⇑P	P	10 49 44.1	+0.3
	baz=87						
C25A	Freed Ranch, W	87.04	340	⇓P	P	10 49 44.5	+0.2
	baz=87						
A29A	Manning Farm,	87.10	343	⇓P	P	10 49 44.3	-0.2
	baz=87						
D23A	Lindsay	87.12	338	⇑P	P	10 49 44.9	+0.1
	baz=87						
B27A	Peters Farms,	87.13	341	⇑P	P	10 49 44.9	+0.2
	baz=87						
E21A	Keefer Ranch,	87.14	337	⇓P	P	10 49 45.0	+0.2
	baz=87						
F19A	Roth Farm, Mol	87.16	335	⇑P	P	10 49 44.8	-0.1
	baz=87						
C24A	Savage	87.21	339	⇑P	P	10 49 45.1	-0.1
	baz=88						
E20A	Meyer Farm, Mu	87.45	336	⇓P	P	10 49 47.1	+0.7
	baz=88						
B25A	Knox Farm, Ray	87.52	340	⇓P	P	10 49 46.9	+0.2
	baz=88						
D21A	La Casta Ranch	87.58	337	⇑P	P	10 49 46.6	-0.4
	baz=88						
ULM	Lac du Bonnet	87.58	345	P	P	10 49 46.4	-0.4
	14nm,0.9s,baz=183,slow=3.9,SNR=4.7						
A27A	Ledoux Ranch,	87.63	342	⇓P	P	10 49 47.3	+0.3
	baz=88						
E19A	Rath Farm, Rou	87.63	336	⇓P	P	10 49 47.3	0.0
	baz=88						
C23A	Lambert	87.68	339	⇑P	P	10 49 47.5	+0.1
	baz=88						
A26A	Wade Farm, Ken	87.79	341	⇓P	P	10 49 47.6	-0.3
	baz=88						
C22A	Vida	87.84	338	⇓P	P	10 49 48.3	+0.2
	baz=88						
D20A	Manuel Ranch,	87.97	337	⇓P	P	10 49 49.2	+0.4
	baz=88						
DGMT	Dagmar	88.00	340	⇑P	P	10 49 48.7	-0.2
	baz=88						
A25A	Svangstu Ranch	88.12	340	⇑P	P	10 49 49.8	+0.4
	baz=88						
D19A	Cripps Ranch,	88.28	336	⇑P	P	10 49 51.4	+1.1
	baz=88						
C21A	Desert Coulee	88.29	338	⇑P	P	10 49 50.6	+0.3
	baz=88						
B22A	Reddig Ranch S	88.37	338	⇓P	P	10 49 51.0	+0.4
	baz=89						
C20A	Veseth Ranch,	88.48	337	⇑P	P	10 49 51.7	+0.5
	baz=89						
B21A	Ellsworth Farm	88.80	338	⇓P	P	10 49 53.3	+0.7
	baz=89						
YKA	Yellowknife Ar	103.10	341	Pdiff	Pdif	10 50 57.3	0.0
	1.3nm,0.9s,baz=139,slow=3.7,SNR=3.2						
WRA	Warramunga Arr	119.49	209	PKP	PKPdf	10 55 46.6	-2.7
	2.0nm,0.6s,baz=158,slow=1.9,SNR=13						
BRTR	Keskin Array B	122.78	62	PKP	PKPdf	10 55 55.4	+0.3
	2.2nm,0.8s,baz=230,slow=2.3,SNR=4.6						
AKASG	Malin Array Be	123.32	48	PKP	PKPdf	10 55 55.7	+0.2
	1.7nm,0.7s,baz=263,slow=2.6,SNR=4.7						
BVAR	Borovoye Array	148.45	44	PKPbc	PKPab	10 56 47.5	-1.1
	3.4nm,0.6s,baz=299,slow=3.8,SNR=4.2						
HYB	Hyderabad	148.75	117	iPKP	PKPbc	10 56 48.0	+0.9
YAK	Yakutsk	149.75	339	ePKPbc	PKPbc	10 56 49.2	+1.0
MJAR	Matsushiro Arr	155.11	282	PKPbc	PKPdf	10 57 01.2	+9.0
	1.8nm,0.9s,baz=112,slow=2.0,SNR=2.7						
ZALV	Zalesovo Beam	155.48	33	PKPab	PKPab	10 57 18.2	+0.3
	6.7nm,0.8s,baz=317,slow=3.6,SNR=2.4						
CMAR	Chiang Mai Arr	161.65	153	PKPab	PKPab	10 57 47.2	+1.8
	0.8nm,0.4s,baz=228,slow=4.3,SNR=2.4						
SONM	Songino Array	167.38	3	PKPab	PKPab	10 58 11.1	+1.0
	4.1nm,1.0s,baz=321,slow=3.7,SNR=3.7						
KMI	Kunming	169.12	157	PKP	PKPab	10 58 23.8	+5.3

IDC ***27*** *10:38:29.7±0.3, 38.°22S×73.°84W, h0km, mb5.5/27, mb1 5.5/29, mb1mx5.5/35, mbtmp5.5/29, ML5.0/2, Error ellipse: s-maj=14.4km s-min=12.1km az=85.0*

ISCJB ***27*** *10:38:31.5±0.3, 38.°11S±0.°05×73.°61W±0.°07, h18km, mb5.8/99, MS6.7/2, Error ellipse: s-maj=8.3km s-min=7.0km az=168.6*

MOS ***27*** *10:38:34.8±0.9, 37.°86S×73.°74W, h33km, mb5.9/43, Error ellipse: s-maj=19.4km s-min=10.1km az=100.2*

NEIC ***27*** *10:38:35.0±0.1, 38.°19S×73.°69W, h35km, mb5.9/72, Error ellipse: s-maj=6.9km s-min=4.4km az=70.0*

BJI ***27*** *10:38:35.4, 38.°00S×73.°60W, h35km, mB5.9/10, Ms6.3/9, Ms7 6.1/7*

ISC 27 10:38:32.6±0.2**, 38.°17S**±0.°06×**73.°82W**±0.°07**, h18km, n861,** σ1s07/882**, mb5.8**/98**, 267C-248D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.60	136	Pn	Pn	10 39 30.6	+2.9
	35nm,0.3s,baz=318,slow=16,SNR=3.5						
PLCA				Lg	Lg	10 40 22.9	
	132nm,0.3s,baz=21,slow=19,SNR=6.1						
PLCA	Paso Flores	3.60	136	ePn	Pn	10 39 26.1	-1.5
PLCA				eSn	Sb	10 40 22.2	+3.0
USHA	Ushuaia	17.07	169	P	Pn	10 42 29.9	-0.2
	1.4nm,0.3s,baz=325,slow=10,SNR=6.7						
CPUP	Villa Florida	18.24	54	P	P	10 42 45.6	+0.6
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CPUP	Villa Florida	18.24	54	P	P	10 42 45.5	+0.6
	comp=Z,2.5nm,0.3s,baz=210,slow=16,SNR=3.3						
LPAZ	La Paz	22.37	14	eP	P	10 43 31.2	+0.7
LPAZ	La Paz	22.37	14	P	P	10 43 30.9	+0.5
	comp=Z,76nm,0.8s,baz=181,slow=11,SNR=5.9						
LPAZ	La Paz	22.37	14	eP	P	10 43 31.2	+0.7
	comp=Z,256nm,1.2s						
SIV	San Ignacio	24.79	30	P	P	10 43 53.8	+0.2
	comp=Z,68nm,1.1s,baz=203,slow=13,SNR=2.9						
NNA	Nana	26.21	353	iP	P	10 44 06.5	0.0
NNA	Nana	26.21	353	P	P	10 44 05.5	-1.0
	comp=Z,46nm,0.7s,baz=197,slow=13,SNR=6.7						
NNA	Nana	26.21	353	eP	P	10 44 06.2	-0.3
	comp=Z,164nm,1.3s						
SAML	Samuel	30.63	21	eP	P	10 44 45.6	-0.3
	comp=Z,84nm,1.3s						
ATAH	Atahualpa	31.17	351	P	P	10 44 52.9	+1.8
	comp=Z,53nm,1.1s,baz=153,slow=8.0,SNR=5.8						
BDFB	Brasilia	31.95	52	P	P	10 44 59.6	+1.9
BDFB				pmax	pmax		
	comp=Z,68nm,1.0s						
BDFB	Brasilia	31.95	52	P	P	10 44 59.6	+1.9
	comp=Z,68nm,1.0s,baz=194,slow=4.2,SNR=2.6						
OTAV	Otavalo	38.45	353	eP	P	10 45 54.8	+0.8
ROSC	El Rosal	42.81	359	P	P	10 46 31.3	+1.4
	comp=Z,26nm,0.7s,baz=129,slow=6.5,SNR=6.2						
ROSC	El Rosal	42.81	359	eP	P	10 46 33.5	+3.6
SDV	Santo Domingo	46.90	4	eP	P	10 47 01.3	-1.0
	comp=Z,92nm,0.9s						
RCBR	Riachuelo	47.10	57	P	P	10 47 04.4	+0.6
	comp=Z,94nm,1.2s,baz=222,slow=12,SNR=6.7						
SNAA	Sanae	48.31	156	⇑iP	P	10 47 11.7	-0.8
SNAA				pmax	pmax		
	comp=Z,254nm,1.4s						
SNAA	Sanae	48.31	156	P	P	10 47 12.2	-0.3
	comp=Z,22nm,1.0s,baz=261,slow=7.5,SNR=7.1						
SNAA	Sanae	48.31	156	eP	P	10 47 12.6	+0.1
	comp=Z,241nm,1.3s						
JTS	JuntasAbangare	49.32	345	P	P	10 47 22.5	+1.8
	comp=Z,452nm,1.1s,SNR=6.5						
JTS	JuntasAbangare	49.32	345	P	P	10 47 21.4	+0.6
JTS				pmax	pmax		
	comp=Z,46nm,0.9s						
JTS	JuntasAbangare	49.32	345	P	P	10 47 21.4	+0.6
	comp=Z,46nm,0.9s,baz=144,slow=7.4,SNR=12						
JTS	JuntasAbangare	49.32	345	eP	P	10 47 21.2	+0.5
	comp=Z,152nm,1.4s						
JTS				ePcP	PcP	10 48 43.9	+0.5
GRGR	Grenville	51.32	15	eP	P	10 47 35.1	-0.8
	comp=Z,568nm,1.0s						

QSPA South Pole Qui 52.08 180 P P 10 47 40.8 -0.4
comp=Z,74nm,0.9s,baz=142,slow=5.1,SNR=10
RKT Rikitea 53.81 268 eT T 11 45 30.8
comp=Z,7.2nm,0.3s
FDF Fort de France 53.95 15 eP P 10 47 54.5 -0.9
FDF Fort de France 53.95 15 eP P 10 47 54.5 -0.9
APG El Apazote 55.15 340 P P 10 48 00.6 -3.7
comp=Z,69nm,0.7s,baz=154,slow=4.5,SNR=43
OBIP Obispado Ponce 56.32 8 eP P 10 48 11.2 -1.2
comp=Z,125nm,1.2s
CELP Cerrillos 56.36 8 eP P 10 48 11.5 -1.1
LRS Lares 56.54 8 eP P 10 48 12.2 -1.7
CBYP Canovanas 56.64 9 eP P 10 48 12.5 -2.2
comp=Z,146nm,1.4s
GTBY Guantanamo Bay 57.80 359 eP P 10 48 22.1 -0.7
comp=Z,55nm,0.7s
TEIG Tepich 59.65 344 P P 10 48 35.3 -0.4
comp=Z,121nm,1.1s,baz=180,slow=7.3,SNR=12
TEIG Tepich 59.65 344 eP P 10 48 35.2 -0.5
comp=Z,95nm,0.9s
TBI Tubuai 65.03 259 eT T 11 59 35.1
comp=Z,36nm,0.3s
MEH Mehetia 66.95 265 eT T 12 01 59.1
comp=Z,98nm,0.3s
TVO Taravao 67.93 264 eP P 10 49 30.2 -0.4
comp=Z,20nm,1.1s
TVO Taravao 67.93 264 eT T 12 03 07.6
comp=Z,6.2nm,0.3s
VAH Vaihoa 68.10 268 eP P 10 49 31.4 -0.2
comp=Z,191nm,1.1s
TIAR Tiarei 68.13 264 eP P 10 49 31.8 0.0
comp=Z,42nm,1.0s
TIAR Tiarei 68.13 264 eT T 12 03 28.5
comp=Z,30nm,0.3s
035Z Hargill 68.19 337 ⇑P P 10 49 32.7 +0.9
baz=69
PAE Paea 68.25 264 eT T 12 03 33.3
comp=Z,2.7nm,0.3s
PPT2 Papeete2 68.29 264 eP P 10 49 33.1 +0.2
comp=Z,214nm,1.2s
PPT Papeete 68.31 264 P P 10 49 33.9 +1.0
PPT pmax pmax
comp=Z,148nm,1.0s
PPT Papeete 68.31 264 P P 10 49 33.9 +1.0
comp=Z,148nm,1.0s,baz=181,slow=5.3,SNR=9.1
PMOR Pomariorio Ree 68.45 268 eP P 10 49 33.6 -0.2
comp=Z,93nm,1.1s
035A Encino 68.65 337 ⇓P P 10 49 35.9 +1.2
baz=69,SNR=8.5
936A North Padre Is 68.86 338 ⇑P P 10 49 37.1 +1.2
baz=69
034A Hebbronville 68.95 336 ⇓P P 10 49 37.5 +1.0
baz=69,SNR=12
KVTX Kingsville 69.15 337 eP P 10 49 39.1 +1.3
comp=Z,63nm,0.8s
934A Benavides 69.40 337 ⇑P P 10 49 41.0 +1.7
baz=70
933A Laredo 69.65 336 ⇑P P 10 49 41.9 +1.1
baz=70,SNR=20
835A Beeville 69.83 338 ⇓P P 10 49 43.6 +1.7
baz=70,SNR=11
TIGA Tifton 69.85 351 eP P 10 49 41.4 -0.6
comp=Z,484nm,1.8s
TIGA Tifton 69.85 351 ⇓P P 10 49 41.6 -0.4
baz=70,SNR=7.7
834A Tilden 69.89 337 ⇑P P 10 49 43.9 +1.5
baz=70,SNR=21
BRAL Brewton 69.92 348 eP P 10 49 43.0 +0.6
comp=Z,744nm,2.0s
833A Chaparral WMA, 70.34 336 ⇓P P 10 49 45.9 +0.8
baz=71,SNR=27
735A Kenedy 70.35 338 ⇑P P 10 49 46.4 +1.2
baz=71,SNR=25
832A Faith Ranch, C 70.50 336 ⇓P P 10 49 46.5 +0.5
baz=71,SNR=17
734A La Parita Cree 70.57 337 ⇓P P 10 49 47.2 +0.7
baz=71,SNR=20
733A Divot King Ran 70.68 336 ⇓P P 10 49 48.2 +1.0
baz=71,SNR=14
636A Smothers Creek 70.72 339 ⇓P P 10 49 48.7 +1.3
baz=71,SNR=26
LPIG La Paz 70.78 325 P P 10 49 48.7 +0.8
comp=Z,75nm,0.8s,baz=197,slow=4.4,SNR=13
HKT Hockley 70.82 340 eP P 10 49 47.5 -0.4
HKT pmax pmax
comp=Z,174nm,1.6s
HKT Hockley 70.82 340 eP P 10 49 47.5 -0.4
comp=Z,174nm,1.6s
635A Leesville 70.84 338 ⇓P P 10 49 48.6 +0.5
baz=71,SNR=12
732A Laxson Ranch, 70.91 336 ⇑P P 10 49 49.0 +0.5
baz=71,SNR=31
RGRS Roger Stewart 70.96 354 eP P 10 49 49.3 +0.6
538A Harpers Horsep 70.98 340 ⇓P P 10 49 50.2 +1.2
baz=71
634A China Grove, S 71.01 337 ⇑P P 10 49 49.5 +0.4
baz=71,SNR=8.2
537A Green Hill Far 71.08 339 ⇑P P 10 49 50.7 +1.2
baz=72,SNR=22
536A Bastrop 71.28 339 ⇑P P 10 49 51.3 +0.5
baz=72,SNR=18
633A Saathoff Ranch 71.33 337 ⇓P P 10 49 52.0 +0.9
baz=72,SNR=21
535A Dale 71.38 338 ⇓P P 10 49 51.9 +0.5
baz=72,SNR=18
632A Uvalde 71.57 336 ⇓P P 10 49 53.5 +0.9
baz=72,SNR=21
534A Blanco 71.65 338 ⇑P P 10 49 53.4 +0.4
baz=72,SNR=15
340A Bronson 71.72 342 ⇓P P 10 49 54.0 +0.6
baz=72,SNR=8.0
631A Perdido Creek 71.73 336 ⇑P P 10 49 54.0 +0.4
baz=72,SNR=14
339A Huntington 71.80 341 ⇓P P 10 49 54.4 +0.5
baz=72,SNR=13
436A Wall Ranch, Ga 71.86 339 ⇑P P 10 49 54.7 +0.5
baz=72
533A Kerrville 71.86 337 ⇑P P 10 49 54.9 +0.6
baz=72,SNR=44
LRAL Lakeview Retre 71.89 348 eP P 10 49 54.3 -0.1
comp=Z,177nm,1.2s
338A Crockett 72.02 341 ⇑P P 10 49 56.5 +1.3
baz=72,SNR=20
435B Jarrell 72.09 339 ⇑P P 10 49 56.3 +0.6
baz=72,SNR=16
337A Centerville 72.13 340 ⇑P P 10 49 57.4 +1.5
baz=72,SNR=32
532A Rocksprings 72.18 336 ⇓P P 10 49 57.0 +0.7
baz=73,SNR=28
NATX Nacogdoches 72.23 341 eP P 10 49 57.0 +0.6
comp=Z,546nm,1.3s
434A Burnet 72.32 338 ⇑P P 10 49 57.3 +0.2
baz=73,SNR=38
531A Rocksprings 72.42 336 ⇑P P 10 49 58.4 +0.7
baz=73,SNR=21
336A Riesel 72.45 339 ⇓P P 10 49 58.3 +0.5
baz=73,SNR=43
JCT Junction City 72.48 337 eP P 10 49 58.2 +0.2
JCT pmax pmax
comp=Z,317nm,1.1s
JCT Junction City 72.48 337 eP P 10 49 58.2 +0.2
comp=Z,317nm,1.1s
JCT Junction City 72.48 337 ⇓P P 10 49 58.4 +0.4
baz=73,SNR=23
433A Art 72.51 337 ⇓P P 10 49 58.4 +0.2
baz=73,SNR=33
335A Moody 72.52 339 ⇑P P 10 49 58.5 +0.3
baz=73,SNR=25
530A J-C Ranch, Com 72.66 335 ⇓P P 10 49 59.8 +0.7
baz=73,SNR=25
TXAR Lajitas Array 72.72 333 P P 10 49 59.9 +0.3
TXAR pmax pmax
comp=Z,44nm,0.7s
TXAR Lajitas Array 72.72 333 P P 10 49 59.9 +0.3
comp=Z,44nm,0.7s,baz=152,slow=8.6,SNR=53
334A Lometa 72.80 338 ⇑P P 10 50 00.3 +0.4
baz=73,SNR=58
432A Menard 72.84 337 ⇓P P 10 50 00.3 +0.1
baz=73,SNR=17
431A Sonora 72.92 336 ⇓P P 10 50 00.8 +0.1
baz=73,SNR=23
529A Stev Forest Ra 72.94 334 ⇑P P 10 50 01.8 +0.9
baz=73,SNR=17
333A Richland Sprin 73.01 338 ⇓P P 10 50 01.0 -0.2
baz=73,SNR=24
CNNC Cliffs of the 73.14 357 eP P 10 50 01.8 0.0
comp=Z,119nm,1.0s
WHTX Lake Whitney 73.19 339 ⇑P P 10 50 02.1 -0.1
baz=74,SNR=29
430A Baggett Ranch, 73.22 336 ⇑P P 10 50 02.9 +0.4
baz=74,SNR=37
KMSC Kings Mountain 73.28 354 eP P 10 50 02.1 -0.5
comp=Z,151nm,1.3s
KMSC Kings Mountain 73.28 354 ⇑P P 10 50 02.4 -0.2
baz=74,SNR=14
429A Davenport Ranc 73.29 335 ⇓P P 10 50 03.7 +0.8
baz=74,SNR=26
332A Millersview 73.30 337 ⇓P P 10 50 02.9 +0.1
baz=74,SNR=40
234A Clairette 73.40 339 ⇑P P 10 50 03.4 -0.1
baz=74,SNR=35
331A San Angelo 73.44 336 ⇑P P 10 50 03.8 +0.1
baz=74,SNR=39
233A Rising Star 73.64 338 ⇓P P 10 50 05.1 +0.2
baz=74,SNR=30
135A Vickery Place, 73.72 339 ⇑P P 10 50 05.0 -0.3
baz=74,SNR=12
232A Coleman 73.74 337 ⇑P P 10 50 05.5 0.0
baz=74,SNR=29
OXF Oxford 73.75 347 eP P 10 50 04.7 -0.7
OXF pmax pmax
comp=Z,236nm,1.1s
OXF Oxford 73.75 347 eP P 10 50 04.7 -0.7
comp=Z,236nm,1.1s
330A Mertzon 73.77 336 ⇑P P 10 50 05.9 +0.2
baz=74,SNR=19
SWET Sewanee 73.88 350 eP P 10 50 05.9 -0.3
comp=Z,548nm,1.2s
134A White-Moore Ra 73.92 339 ⇓P P 10 50 06.6 +0.1
baz=74,SNR=19
231A Bronte 73.99 337 ⇓P P 10 50 06.7 -0.3
baz=74,SNR=33
TKL Tuckaleechee C 74.03 352 P P 10 50 06.0 -1.1
TKL pmax pmax
comp=Z,53nm,0.9s
TKL Tuckaleechee C 74.03 352 P P 10 50 06.0 -1.1
comp=Z,53nm,0.9s,baz=165,slow=7.1,SNR=15
TKL Tuckaleechee C 74.03 352 eP P 10 50 06.4 -0.7
329A Wagon Wheel Ra 74.11 335 ⇑P P 10 50 08.1 +0.4
baz=74,SNR=32
133A Hamilton Ranch 74.19 338 ⇑P P 10 50 08.4 +0.3
baz=75,SNR=34
230A Sterling City 74.19 336 ⇓P P 10 50 08.0 -0.2
baz=75,SNR=15
Z35A Perchaven, San 74.40 340 ⇑P P 10 50 09.3 0.0
baz=75,SNR=43
ABTX Abilene, Hawle 74.42 338 eP P 10 50 09.3 -0.2
comp=Z,352nm,1.2s
ABTX Abilene, Hawle 74.42 338 ⇓P P 10 50 09.7 +0.3
baz=75,SNR=31
229A Bryant Ranch, 74.49 336 ⇑P P 10 50 10.3 +0.4
baz=75,SNR=30
Z34A Collier Ranch, 74.62 339 ⇑P P 10 50 10.7 +0.2
baz=75,SNR=19
MIAR Mount Ida 74.64 343 eP P 10 50 10.8 +0.2
MIAR pmax pmax
comp=Z,123nm,1.3s
MIAR Mount Ida 74.64 343 eP P 10 50 10.8 +0.2
comp=Z,123nm,1.3s
131A Roby 74.70 337 ⇑P P 10 50 11.1 +0.1
baz=75,SNR=33
Z33A Whitaker Ranch 74.78 339 ⇑P P 10 50 11.7 +0.3
baz=75,SNR=30
130A Snyder 74.80 336 ⇓P P 10 50 11.6 -0.1
baz=75,SNR=27
228A UT Block 9, Go 74.89 335 ⇑P P 10 50 12.3 +0.1
baz=75,SNR=34
Z32A Haskell 75.01 338 ⇓P P 10 50 13.1 +0.3
baz=75,SNR=38
WVT Waverly 75.06 348 eP P 10 50 12.4 -0.5
WVT pmax pmax
comp=Z,512nm,1.7s
WVT Waverly 75.06 348 eP P 10 50 12.4 -0.5
comp=Z,512nm,1.7s
BBTS Babate 75.08 57 P P 10 50 14.2 +0.7
comp=Z,33nm,0.9s,baz=319,slow=2.3,SNR=4.4
HALT Halls 75.10 347 eP P 10 50 13.1 -0.1
129A Stewart Farms, 75.12 336 ⇓P P 10 50 13.5 -0.1
baz=76,SNR=22
Y34A Reagan Ranch, 75.13 340 ⇓P P 10 50 13.5 +0.1
baz=76,SNR=23
Z31A Sharp Cattle R 75.22 337 ⇑P P 10 50 14.3 +0.3
baz=76,SNR=34
VWCC Virginia Weste 75.26 355 eP P 10 50 13.9 -0.2
128A Castleberry Fa 75.32 335 ⇓P P 10 50 15.0 +0.3
baz=76,SNR=27
Y33A Hilltop Ranch, 75.42 339 ⇓P P 10 50 15.2 +0.1
baz=76,SNR=24
GLAT Glass 75.44 347 eP P 10 50 15.1 0.0
CLNB Carlsbad 75.46 334 eP P 10 50 15.8 +0.3
comp=Z,74nm,0.8s
Z30A Sanderson Ranc 75.49 337 ⇑P P 10 50 15.6 -0.1
baz=76,SNR=33
GDL2 Guadalupe Moun 75.57 334 eP P 10 50 16.5 +0.3
comp=Z,36nm,0.8s
JSRW J. Sargeant Re 75.58 357 eP P 10 50 16.2 +0.3
Y32A R-V Farms, Ver 75.65 338 ⇓P P 10 50 16.8 +0.4
baz=76,SNR=26
PVMO Portageville 75.65 347 eP P 10 50 16.4 0.0
comp=Z,584nm,1.4s
Z29A Hungry Hill Ra 75.65 336 ⇓P P 10 50 16.4 -0.2
baz=76,SNR=57
127A Arkansas Junct 75.66 335 ⇑P P 10 50 17.4 +0.7
baz=76,SNR=12
X34A Smith Ranch, M 75.75 340 ⇑P P 10 50 17.0 -0.1
baz=76,SNR=26
CASY Casey 75.83 182 eP P 10 50 15.8 -1.4
comp=Z,170nm,1.2s
Y31A Rekieta Farm, 75.85 338 ⇓P P 10 50 17.9 +0.2
baz=76,SNR=18
X33A Lawton 75.88 339 ⇑P P 10 50 17.4 -0.4
baz=76,SNR=20
Z28A Tucker Farm, M 75.90 336 ⇑P P 10 50 17.9 -0.1
baz=76
PARMO Parma 75.90 347 eP P 10 50 17.2 -0.6
Y30A Stafford Cattl 75.97 337 ⇓P P 10 50 18.3 -0.1
baz=76,SNR=19
X32A Elmer 76.00 339 ⇑P P 10 50 18.5 +0.1
baz=76,SNR=25
CPRX Cap Rock 76.16 334 eP P 10 50 19.7 +0.2
comp=Z,75nm,1.0s
Y29A Porterfield Fa 76.19 336 ⇑P P 10 50 20.0 +0.3
baz=77,SNR=17
Z27A Tatum 76.19 335 ⇑P P 10 50 20.0 +0.3
baz=77,SNR=13
W34A Bridge Creek, 76.34 340 eP P 10 50 20.4 +0.1
comp=Z,213nm,1.1s
W34A Bridge Creek, 76.34 340 ⇑P P 10 50 20.5 +0.1
baz=77,SNR=21
X31A McDonald Ranch 76.39 338 ⇑P P 10 50 21.0 +0.3
baz=77,SNR=35
Z26A Caprock 76.41 334 ⇑P P 10 50 21.5 +0.5
baz=77,SNR=20
Y28A McKinney Farm, 76.42 336 ⇓P P 10 50 21.2 +0.2
baz=77,SNR=15
W33A Caddo, Fort Co 76.45 339 ⇑P P 10 50 22.0 +1.0
baz=77,SNR=43
TUL1 Tulsa 76.47 342 eP P 10 50 20.5 -0.5
comp=Z,8.5nm,0.9s
TUL1 Tulsa 76.47 342 ⇓P P 10 50 20.7 -0.3
baz=77,SNR=51
X30A Coker Ranch, T 76.49 337 ⇓P P 10 50 21.6 +0.3
baz=77,SNR=24
W32A Sentinel 76.64 339 ⇓P P 10 50 22.4 +0.3
baz=77,SNR=44
MSTX Muleshoe 76.65 336 eP P 10 50 22.0 -0.3
comp=Z,179nm,1.2s
MSTX Muleshoe 76.65 336 ⇑P P 10 50 22.3 0.0
baz=77,SNR=26
Z25A Roswell 76.67 334 ⇓P P 10 50 22.9 +0.4
baz=77,SNR=14
319A Douglas 76.69 329 ⇑P P 10 50 24.0 +1.5
baz=77,SNR=22
Y27A Causey 76.70 335 ⇓P P 10 50 22.7 +0.2
baz=77,SNR=14
X29A Tulia 76.74 337 ⇓P P 10 50 23.2 +0.4
baz=77,SNR=29
USIN University of 76.83 349 eP P 10 50 22.0 -1.0
comp=Z,307nm,1.3s
V34A Guthrie 76.83 340 eP P 10 50 22.8 -0.3
comp=Z,219nm,1.0s
V34A Guthrie 76.83 340 ⇓P P 10 50 23.0 -0.1
baz=77,SNR=38
SIUC Southern Illin 76.83 348 eP P 10 50 22.4 -0.6
comp=Z,75nm,0.8s
WCI Wyandotte Cave 76.89 350 eP P 10 50 22.7 -0.7
WCI pmax pmax
comp=Z,14nm,0.6s
WCI Wyandotte Cave 76.89 350 eP P 10 50 22.7 -0.7
comp=Z,14nm,0.6s
W31A Holland Ranch, 76.90 338 ⇓P P 10 50 23.8 +0.2
baz=77,SNR=22
Z24A Sheeppen Canyo 76.95 333 ⇑P P 10 50 24.6 +0.5
baz=77,SNR=16
Y26A Elida 76.95 335 ⇑P P 10 50 24.2 +0.2
baz=77,SNR=29
X28A Dimmitt 76.97 336 ⇓P P 10 50 24.4 +0.3
baz=77,SNR=15
V33A Lossen Ranch, 77.03 340 ⇑P P 10 50 24.5 +0.3
baz=77,SNR=36
W30A Crocket Farms 77.08 338 ⇑P P 10 50 25.2 +0.5
baz=78,SNR=7.9
121A Cookes Peak, D 77.12 331 ⇓P P 10 50 26.3 +1.3
baz=78
V32A Arapaho 77.14 339 ⇑P P 10 50 25.6 +0.7
baz=78,SNR=21
AMTX Amarillo 77.14 337 eP P 10 50 25.0 0.0
comp=Z,400nm,1.2s
AMTX Amarillo 77.14 337 ⇓P P 10 50 25.3 +0.3
baz=78
Y25A Mesa, Roswell 77.25 334 ⇑P P 10 50 25.9 +0.2
baz=78,SNR=9.7
W29A Amraillo 77.35 337 ⇑P P 10 50 26.4 +0.2
baz=78,SNR=38
X27A F and S Farms, 77.38 336 ⇑P P 10 50 26.5 +0.1
baz=78,SNR=17
U34A Anderson Ranch 77.41 341 eP P 10 50 26.2 -0.1
comp=Z,305nm,1.3s
U34A Anderson Ranch 77.41 341 ⇓P P 10 50 26.2 -0.1
baz=78,SNR=19
V31A Spring Creek L 77.42 339 ⇑P P 10 50 27.7 +1.2
baz=78,SNR=29
Z22A Elephant Butte 77.46 332 ⇓P P 10 50 28.6 +1.7
baz=78,SNR=14
Y24A Capitan 77.51 333 ⇑P P 10 50 27.9 +0.7
baz=78,SNR=13
X26A CR and CF Fran 77.52 335 ⇑P P 10 50 27.8 +0.6
baz=78,SNR=18
U33A Lingo Farm, Me 77.56 340 ⇑P P 10 50 27.3 +0.1
baz=78,SNR=23
W28A Vega 77.65 337 ⇑P P 10 50 28.5 +0.7
baz=78,SNR=7.4
V30A Spur Ranch, Mi 77.66 338 ⇑P P 10 50 29.0 +1.1
baz=78,SNR=11
Y23A Lovelace Mesa, 77.74 333 ⇓P P 10 50 29.8 +1.4
baz=78,SNR=13
W27A Bowe Ranch, En 77.75 336 ⇑P P 10 50 28.9 +0.5
baz=78,SNR=29
U32A Winter Ranch, 77.75 339 ⇓P P 10 50 28.6 +0.3
baz=78,SNR=18
X25A Clemmons Ranch 77.79 334 ⇓P P 10 50 29.0 +0.3
baz=78,SNR=12
BLO Bloomington 77.84 350 eP P 10 50 27.6 -1.1
BLO pmax pmax
comp=Z,215nm,1.3s
BLO Bloomington 77.84 350 eP P 10 50 27.6 -1.1
comp=Z,215nm,1.3s
DBIC Dimbokro 77.88 71 P P 10 50 29.7 +0.2
DBIC pmax pmax
comp=Z,77nm,0.8s
DBIC Dimbokro 77.88 71 P P 10 50 29.7 +0.2
comp=Z,77nm,0.8s,baz=206,slow=5.3,SNR=17
DBIC Dimbokro 77.88 71 eP P 10 50 29.7 +0.2
comp=Z,126nm,0.9s
SLM Saint Louis 77.91 347 eP P 10 50 28.8 -0.2
SLM pmax pmax
comp=Z,540nm,1.4s
SLM Saint Louis 77.91 347 eP P 10 50 28.8 -0.2
comp=Z,540nm,1.4s
U31A Nine Bar Ranch 77.98 339 ⇑P P 10 50 29.9 +0.3
baz=78
W26A Owens Ranch, T 78.00 335 ⇑P P 10 50 30.4 +0.5
baz=78,SNR=12
V29A Stinnett 78.01 337 ⇓P P 10 50 29.9 +0.1
baz=78,SNR=7.0
X24A Lazy VL Ranch, 78.09 334 ⇑P P 10 50 31.3 +0.8
baz=78,SNR=5.8
V28A Channing 78.11 337 ⇑P P 10 50 31.2 +0.7
baz=78,SNR=15
TUC Tucson 78.11 329 eP P 10 50 31.8 +1.3
TUC pmax pmax
comp=Z,149nm,1.4s
TUC Tucson 78.11 329 eP P 10 50 31.8 +1.3
comp=Z,149nm,1.4s
Y22D IRIS PASSCAL I 78.18 332 ⇑P P 10 50 32.7 +1.8
baz=79
T33A Patterson Ranc 78.20 340 ⇑P P 10 50 31.3 +0.5
baz=79,SNR=46
LENM Lemitar 78.28 332 eP P 10 50 32.3 +0.8
comp=Z,100nm,1.7s
LPM Los Pinos Moun 78.28 333 eP P 10 50 32.5 +1.0
comp=Z,123nm,1.5s
V27A Dan Oppiter Fa 78.31 336 ⇓P P 10 50 32.5 +1.0
baz=79,SNR=12
W25A X Bar L Ranch, 78.35 335 ⇓P P 10 50 32.2 +0.4
baz=79,SNR=19
U30A WK&E Inc. Balk 78.36 338 ⇓P P 10 50 32.5 +0.7
baz=79,SNR=18
X23A Hourglass Bar 78.37 333 ⇑P P 10 50 33.6 +1.5
baz=79
U29A Oasis Ranch, S 78.47 338 ⇑P P 10 50 32.9 +0.6
baz=79,SNR=11
ACSO Alum Creek Sta 78.47 353 eP P 10 50 31.6 -0.6
comp=Z,340nm,1.4s
T32A Huddler Ranch, 78.48 340 ⇓P P 10 50 32.8 +0.5
baz=79,SNR=20
LAZ Ladron 78.55 332 eP P 10 50 34.2 +1.2
comp=Z,123nm,1.6s
T31A Randall Ranch, 78.61 339 ⇑P P 10 50 33.6 +0.5
baz=79,SNR=17
S33A Kaszmaul Farm, 78.62 341 ⇑P P 10 50 33.6 +0.5
baz=79,SNR=8.0
V26A Tequesquite Ra 78.65 336 ⇑P P 10 50 33.7 +0.2
baz=79
214A Organ Pipe Nat 78.66 327 ⇓P P 10 50 35.1 +1.6
baz=79,SNR=40
W24A Lazy 6 Ranch, 78.66 334 ⇑P P 10 50 34.5 +0.9
baz=79,SNR=15
U28A Mallet 78.69 337 ⇑P P 10 50 34.3 +0.7
baz=79
ANMO Albuquerque 78.79 333 diP P 10 50 35.3 +1.0
ANMO Albuquerque 78.79 333 P P 10 50 35.0 +0.7
comp=Z,78nm,1.0s,baz=161,slow=6.5,SNR=31
ANMO Albuquerque 78.79 333 eP P 10 50 35.2 +0.9
comp=Z,137nm,1.1s
T30A Plains 78.81 339 ⇓P P 10 50 35.0 +0.8
baz=79,SNR=9.1
W23A Werner Place, 78.88 333 ⇓P P 10 50 36.0 +1.2
baz=79,SNR=21
U27A Thompson Grove 78.92 337 ⇑P P 10 50 35.4 +0.5
baz=79,SNR=14
V25A Rancho No Teng 78.96 335 ⇑P P 10 50 35.5 +0.2
baz=79,SNR=18
S32A Newby Ranch, P 78.97 340 ⇑P P 10 50 35.6 +0.6
baz=79,SNR=28
S31A Mullinville 79.04 339 ⇑P P 10 50 35.8 +0.4
baz=79,SNR=16
V24A Rampart Ranch, 79.08 334 ⇑P P 10 50 37.0 +1.1
baz=80,SNR=11
SFIN Scholer Farm 79.11 350 ⇓P P 10 50 34.6 -1.1
baz=80
T29A Hugoton 79.13 338 ⇑P P 10 50 36.4 +0.4
baz=80,SNR=12
U26A Atchley Ranch, 79.19 336 ⇓P P 10 50 36.9 +0.4
baz=80,SNR=11
R33A Olander Ranch, 79.29 341 ⇓P P 10 50 37.2 +0.5
baz=80,SNR=16
S30A Montezuma 79.34 339 ⇑P P 10 50 37.7 +0.6
baz=80,SNR=22
T28A Walsh 79.34 337 ⇑P P 10 50 37.6 +0.5
baz=80
BOSA Boshof 79.41 118 P P 10 50 38.1 +0.1
BOSA pmax pmax
comp=Z,64nm,0.8s
BOSA Boshof 79.41 118 P P 10 50 38.1 +0.1
comp=Z,64nm,0.8s,baz=231,slow=3.8,SNR=12
BOSA Boshof 79.41 118 eP P 10 50 37.8 -0.2
comp=Z,180nm,1.3s
U25A Circle Dot Ran 79.41 335 ⇓P P 10 50 39.0 +1.3
baz=80,SNR=22
V23A Ortiz Mt. (NFS 79.42 334 ⇓P P 10 50 39.2 +1.5
baz=80,SNR=9.4
T27A Campo 79.47 337 ⇓P P 10 50 38.6 +0.7
baz=80,SNR=13

S29A Ulysses 79.51 338 ⇑P P 10 50 38.7 +0.7
baz=80,SNR=13
R32A Long Quarter, 79.59 340 ⇓P P 10 50 38.6 +0.3
baz=80,SNR=22
R31A Burdett 79.68 340 ⇑P P 10 50 39.0 +0.1
baz=80,SNR=13
KSU1 Kansas State U 79.69 342 eP P 10 50 37.9 -1.0
comp=Z,94nm,1.0s
KSU1 Kansas State U 79.69 342 ⇓P P 10 50 39.1 +0.2
baz=80,SNR=13
U24A Moreno Valley 79.70 335 ⇑P P 10 50 41.2 +1.8
baz=80,SNR=10
S28A Manter 79.71 338 ⇓P P 10 50 39.7 +0.6
baz=80,SNR=18
X18A Snowflake 79.72 330 ⇑P P 10 50 41.2 +1.8
baz=80,SNR=24
113A Mohawk Valley, 79.77 327 ⇑P P 10 50 41.0 +1.6
baz=80,SNR=30
URZ Urewera 79.82 229 P P 10 50 40.2 +0.3
comp=Z,29nm,1.0s,baz=81,slow=6.6,SNR=4.1
V22A San Miguel Ran 79.82 333 ⇑P P 10 50 41.6 +1.6
baz=80,SNR=22
T26A Comanche Natio 79.85 336 ⇓P P 10 50 40.9 +0.8
baz=80,SNR=21
R30A Dighton 79.88 339 ⇑P P 10 50 40.5 +0.5
baz=80,SNR=6.9
Q33A Connelly Farm, 79.90 341 ⇑P P 10 50 40.6 +0.6
baz=80,SNR=13
Z14A Wintersburg 79.93 328 ⇑P P 10 50 41.6 +1.3
baz=80,SNR=12
U23A El Rito 79.94 334 ⇓P P 10 50 42.4 +1.8
baz=80,SNR=18
Q32A Meitler Ranch, 80.08 341 ⇑P P 10 50 41.2 +0.2
baz=80,SNR=17
T25A Trinidad 80.08 336 ⇓P P 10 50 42.7 +1.4
baz=80,SNR=31
S27A Las Animas 80.10 337 ⇓P P 10 50 42.0 +0.7
baz=80
ERPA Erie 80.11 355 eP P 10 50 40.6 -0.4
comp=Z,37nm,0.7s
W18A Petrified Fore 80.16 331 ⇑P P 10 50 43.3 +1.5
baz=81,SNR=13
U22A Llaves 80.22 333 ⇓P P 10 50 43.9 +1.8
baz=81,SNR=13
X16A Lo Mia Camp, P 80.22 329 ⇓P P 10 50 43.8 +1.7
baz=81,SNR=26
S26A Kim 80.22 337 ⇓P P 10 50 43.2 +1.3
baz=81,SNR=22
R29A Marienthal 80.26 339 ⇑P P 10 50 42.9 +0.8
baz=81,SNR=22
P33A Williams Farm, 80.28 341 ⇑P P 10 50 42.3 +0.2
baz=81,SNR=11
Q31A Ellis 80.32 340 ⇓P P 10 50 43.0 +0.7
baz=81,SNR=9.9
HRV Adam Dziewonsk 80.32 2 eP P 10 50 42.9 +0.7
HRV pmax pmax
comp=Z,64nm,0.9s
HRV Adam Dziewonsk 80.32 2 eP P 10 50 42.9 +0.7
comp=Z,64nm,0.9s
T24B San Luis 80.33 335 ⇑P P 10 50 44.2 +1.4
baz=81,SNR=17
R28A Tribune 80.38 338 ⇓P P 10 50 43.3 +0.5
baz=81,SNR=28
Y14A Wickenburg 80.45 328 ⇓P P 10 50 44.5 +1.3
baz=81,SNR=24
GLA Glamis 80.47 326 eP P 10 50 44.3 +1.0
GLA pmax pmax
comp=Z,175nm,1.5s
GLA Glamis 80.47 326 eP P 10 50 44.2 +1.0
comp=Z,175nm,1.5s
GLA Glamis 80.47 326 ⇑P P 10 50 44.7 +1.4
baz=81,SNR=16
Q30A Quinter 80.52 339 ⇑P P 10 50 44.3 +0.9
baz=81,SNR=29
T23A Casias Ranch, 80.53 334 ⇓P P 10 50 45.1 +1.3
baz=81,SNR=14
S25A Robets Cordova 80.56 336 ⇓P P 10 50 45.1 +1.2
baz=81,SNR=16
AAM Ann Arbor 80.59 353 eP P 10 50 43.1 -0.5
AAM pmax pmax
comp=Z,164nm,1.2s
AAM Ann Arbor 80.59 353 eP P 10 50 43.1 -0.5
comp=Z,164nm,1.2s
R27A Eads 80.62 337 ⇑P P 10 50 44.6 +0.5
baz=81,SNR=26
Q29A Oakley 80.65 339 ⇓P P 10 50 44.5 +0.3
baz=81,SNR=13
P32A Huiting Farm, 80.69 341 ⇑P P 10 50 44.7 +0.5
baz=81,SNR=14
P31A Stockton 80.80 340 ⇓P P 10 50 45.4 +0.6
baz=81,SNR=12
S24A Houchin Ranch, 80.80 335 ⇑P P 10 50 46.7 +1.4
baz=81,SNR=30
SWSC Sam W. Stewart 80.81 325 ⇓P P 10 50 47.0 +1.9
baz=81
R26A Arlington 80.84 337 ⇑P P 10 50 46.0 +0.7
baz=81,SNR=31
R25A Fountain Ranch 80.96 336 ⇓P P 10 50 46.7 +0.8
baz=81,SNR=11
MONP Monument Peak 81.05 325 ⇑P P 10 50 48.4 +1.8
baz=81
P30A Selden 81.05 340 ⇓P P 10 50 47.0 +0.7
baz=82,SNR=13
Q28A Sharon Springs 81.05 338 ⇑P P 10 50 47.0 +0.6
baz=82,SNR=8.3
S23A Nye Farm, Mont 81.12 335 ⇓P P 10 50 47.8 +0.9
baz=82,SNR=7.8
WUAZ Wupatki 81.15 330 eP P 10 50 48.4 +1.3
comp=Z,110nm,1.2s
WUAZ Wupatki 81.15 330 ⇑P P 10 50 48.6 +1.5
baz=82,SNR=16
O32A Brockman Farm, 81.20 341 ⇓P P 10 50 47.4 +0.3
baz=82,SNR=15
PDMCI Parker Dam,Lak 81.24 327 ⇑P P 10 50 49.0 +1.7
baz=82,SNR=11
KSCO Kaye Shedlock' 81.24 338 ⇓P P 10 50 48.4 +1.0
baz=82,SNR=18
BC3 Big Chuckawall 81.26 326 ⇑P P 10 50 49.0 +1.4
baz=82,SNR=12
P29A Atwood 81.30 339 ⇓P P 10 50 48.5 +0.9
baz=82,SNR=18
R24A Sanders Place, 81.30 336 ⇑P P 10 50 49.2 +1.4
baz=82,SNR=30
109C Camp Elliot, M 81.36 324 ⇑P P 10 50 49.7 +1.7
baz=82
O31A Woolen Ranch, 81.37 341 ⇑P P 10 50 48.5 +0.5
baz=82,SNR=18
Q26A Hugo 81.43 337 ⇓P P 10 50 49.3 +0.9
baz=82,SNR=14
S22A 4UR Ranch, Cre 81.44 334 ⇑P P 10 50 50.2 +1.5
baz=82,SNR=20
R23A Moffat 81.50 335 ⇑P P 10 50 50.0 +1.1
baz=82,SNR=12
P28A Saint Francis 81.50 339 ⇓P P 10 50 49.5 +0.8
baz=82,SNR=13
MVCO Mesa Verde 81.55 333 ⇓P P 10 50 50.3 +1.1
baz=82,SNR=16
IRM Iron Mountain 81.56 326 ⇑P P 10 50 50.4 +1.3
baz=82,SNR=17
O30A MW Ranch, Wils 81.59 340 ⇓P P 10 50 49.4 +0.3
baz=82,SNR=7.1
SCIA State Center 81.64 345 eP P 10 50 49.0 -0.3
comp=Z,201nm,1.4s
Q25A Bedland, Calha 81.65 336 ⇑P P 10 50 50.3 +0.6
baz=82,SNR=14
PFO Pinyon Flat Ob 81.67 325 P P 10 50 51.6 +1.9
comp=Z,490nm,1.2s,SNR=20
PFO Pinyon Flat Ob 81.67 325 eP P 10 50 51.2 +1.4
PFO pmax pmax
comp=Z,277nm,1.6s
PFO Pinyon Flat Ob 81.67 325 eP P 10 50 51.2 +1.4
comp=Z,277nm,1.6s
PFO Pinyon Flat Ob 81.67 325 ⇓P P 10 50 51.7 +1.9
baz=82,SNR=12
N32A Stulken Farm, 81.68 341 ⇓P P 10 50 49.8 +0.2
baz=82,SNR=7.6
P27A Ficken Ranch, 81.73 338 ⇓P P 10 50 50.6 +0.7
baz=82,SNR=14
O29A 4D Ranch, Culb 81.75 339 ⇓P P 10 50 50.8 +0.9
baz=82,SNR=6.5
BELC Belle Mtn. Jos 81.79 326 ⇓P P 10 50 52.7 +2.2
baz=82
W13A Hualapai Mount 81.81 328 ⇑P P 10 50 52.4 +1.7
baz=82,SNR=20
NEE2 Needles Airpor 81.84 327 ⇑P P 10 50 51.6 +1.2
baz=82
N31A Bailey Ranch, 81.91 341 ⇑P P 10 50 51.3 +0.5
baz=82,SNR=5.9
P26A Davis Ranch, A 81.96 337 ⇓P P 10 50 51.9 +0.7
baz=82,SNR=13
Q24A Divide 81.98 336 ⇓P P 10 50 52.4 +0.8
baz=82,SNR=22
MURC Murrieta 82.00 325 ⇑P P 10 50 53.1 +1.7
baz=82,SNR=13
O28A Krutsinger Ran 82.02 339 ⇓P P 10 50 52.5 +1.1
baz=82,SNR=5.2
JFWS Jewell Farm 82.07 348 eP P 10 50 51.1 -0.4
JFWS pmax pmax
comp=Z,120nm,1.2s
JFWS Jewell Farm 82.07 348 eP P 10 50 51.1 -0.4
comp=Z,120nm,1.2s
SCI San Clemente I 82.11 323 ⇑P P 10 50 53.3 +1.4
baz=82
Q23A Hartsel 82.15 335 ⇑P P 10 50 53.2 +0.8
baz=83
P25A Willow Gulch B 82.17 337 ⇑P P 10 50 53.3 +1.0
baz=83,SNR=11
N30A Hueftle Ranch, 82.18 340 ⇓P P 10 50 53.2 +1.0
baz=83
BGNE Belgrade 82.26 342 ⇓P P 10 50 53.0 +0.4
baz=83,SNR=11
O27A Beecher Island 82.28 338 ⇑P P 10 50 53.6 +0.8
baz=83,SNR=16
GMRC Granite Mounta 82.30 326 ⇑P P 10 50 54.9 +1.8
baz=83,SNR=17
U15A North Rim 82.31 330 ⇓P P 10 50 54.7 +1.4
baz=83,SNR=20
N29A Votaw Ranch, W 82.34 340 ⇓P P 10 50 53.8 +0.7
baz=83,SNR=12
CIS Catalina Islan 82.39 324 ⇑P P 10 50 54.4 +1.0
baz=83
M31A Lambtecht Ranc 82.40 341 ⇓P P 10 50 54.2 +0.9
baz=83,SNR=20
P24A Kohler Place, 82.41 336 ⇑P P 10 50 54.6 +1.0
baz=83,SNR=9.5
LONY Lake Ozonia 82.41 359 eP P 10 50 53.2 -0.1
comp=Z,168nm,1.3s
BBRC Big Bear Solar 82.43 325 ⇑P P 10 50 55.4 +1.6
baz=83
N28A Pribbeno Ranch 82.47 339 ⇑P P 10 50 54.2 +0.5
baz=83,SNR=9.9
P23A Jefferson 82.58 336 ⇓P P 10 50 55.8 +1.1
baz=83,SNR=8.2
O26A Horse Wrangler 82.58 338 ⇑P P 10 50 55.1 +0.7
baz=83,SNR=17
FMP Fort Macarthur 82.60 324 ⇓P P 10 50 56.6 +2.1
baz=83
HEC Hector,Ludlow 82.64 326 ⇓P P 10 50 56.6 +1.8
baz=83,SNR=13
O25A Wiggins 82.70 337 ⇓P P 10 50 56.0 +1.0
baz=83,SNR=18
BFSC Mount Baldy Ra 82.74 325 ⇑P P 10 50 56.9 +1.5
baz=83,SNR=15
M30A Dale-Ortello V 82.81 341 ⇓P P 10 50 56.1 +0.6
baz=83
OGNE Ogallala 82.85 339 eP P 10 50 56.9 +1.2
comp=Z,301nm,1.6s
OGNE Ogallala 82.85 339 ⇑P P 10 50 56.7 +0.9
baz=83
N27A Anderson Farm, 82.87 338 ⇓P P 10 50 56.9 +1.0
baz=83,SNR=13
ISCO Idaho Springs 82.89 336 ⇑P P 10 50 57.1 +0.9
baz=83,SNR=18
M29A Burnside Ranch 82.94 340 ⇓P P 10 50 56.9 +0.7
baz=83,SNR=9.0
TUQ Turquoise Moun 82.97 327 ⇑P P 10 50 58.2 +1.6
baz=83,SNR=9.5
RRX Edison Barstow 82.98 325 ⇑P P 10 50 58.2 +1.8
baz=83,SNR=8.0
O24A Longmont 83.01 336 ⇑P P 10 50 57.2 +0.5
baz=83,SNR=7.3
DECC Green Verdugo 83.06 324 ⇓P P 10 50 58.7 +1.8
baz=83
P22A Eagle 83.08 335 ⇑P P 10 50 58.2 +1.0
baz=84,SNR=8.0
M28A Bar X Bar Ranc 83.09 339 ⇑P P 10 50 57.7 +0.8
baz=84,SNR=6.9
N26A Koester Ranch, 83.09 338 ⇓P P 10 50 58.0 +1.0
baz=84,SNR=7.7
L31A Butterfield Fa 83.15 342 ⇓P P 10 50 57.7 +0.5
baz=84,SNR=33
L30A Spencer Herefo 83.16 341 ⇑P P 10 50 57.9 +0.6
baz=84,SNR=15
GSC Goldstone 83.25 326 ⇓P P 10 50 59.1 +1.2
baz=84,SNR=16
N25A Grover 83.34 337 ⇑P P 10 50 59.8 +1.5
baz=84
O23A Lake Granby, G 83.36 336 ⇓P P 10 50 59.6 +0.9
baz=84,SNR=17
EDW2 Edwards Air Fo 83.42 325 ⇓P P 10 51 00.0 +1.2
baz=84,SNR=16
BSC Santa Cruz Isl 83.46 323 ⇓P P 10 51 00.8 +1.8
baz=84
L29A Maesberg Ranch 83.47 340 ⇓P P 10 50 59.7 +0.9
baz=84
M27A Reverse DX Ran 83.49 339 ⇓P P 10 50 59.8 +0.7
baz=84
SHOC Shoshone 83.52 327 ⇑P P 10 51 00.4 +1.1
baz=84,SNR=5.7
O22A Kremmling 83.52 335 ⇓P P 10 51 00.5 +1.0
baz=84,SNR=20
OSI Osito Adit 83.54 324 ⇑P P 10 51 01.1 +1.7
baz=84,SNR=6.5
SHPR Sheep Range 83.55 328 eP P 10 51 00.8 +1.3
comp=Z,235nm,1.7s
N24A Carr 83.59 337 ⇓P P 10 51 00.7 +1.0
baz=84,SNR=8.3
L28A Connealy Angus 83.69 340 ⇑P P 10 51 00.6 +0.5
baz=84
LRMC Laurel Mountai 83.79 325 ⇓P P 10 51 02.3 +1.5
baz=84,SNR=7.9
K30A Basset 83.81 341 ⇑P P 10 51 00.8 +0.3
baz=84,SNR=15
M25A Palm-Egli Farm 83.90 338 ⇑P P 10 51 02.2 +1.0
baz=84,SNR=12
ARUT Antelope Range 83.94 329 eP P 10 51 02.5 +1.0
ARUT Antelope Range 83.94 329 eP P 10 51 02.5 +1.0
comp=Z,3μm,1.7s
L27A T5 Ranch, Ells 83.99 339 ⇑P P 10 51 02.5 +0.9
baz=84,SNR=9.3
N23A Red Feather La 83.99 336 ⇓P P 10 51 02.9 +1.0
baz=84,SNR=13
ARVC Arvin 84.01 324 ⇓P P 10 51 03.9 +2.1
baz=84
O20A White River Ci 84.07 334 ⇓P P 10 51 02.8 +0.7
baz=84,SNR=12
N22A Wattenberg Ran 84.07 336 ⇓P P 10 51 03.3 +1.1
baz=84,SNR=12
K29A Lazy Trails An 84.08 341 ⇓P P 10 51 02.5 +0.6
baz=84,SNR=9.6
ECSD EROS Data Cent 84.10 344 eP P 10 51 01.8 -0.1
comp=Z,309nm,1.2s
ECSD EROS Data Cent 84.10 344 ⇓P P 10 51 01.9 -0.1
baz=84,SNR=38
M24A Cheyenne 84.16 337 ⇓P P 10 51 03.5 +1.0
baz=85,SNR=10.0
L26A Underwood Farm 84.16 339 ⇑P P 10 51 03.1 +0.7
baz=85
FURC Furnace Creek, 84.25 326 ⇑P P 10 51 04.8 +1.9
baz=85,SNR=13
ISA Isabella 84.30 325 eP P 10 51 04.7 +1.4
ISA pmax pmax
comp=Z,290nm,1.8s
ISA Isabella 84.30 325 eP P 10 51 04.7 +1.4
comp=Z,290nm,1.8s
ISA Isabella 84.30 325 ⇑P P 10 51 05.4 +2.2
baz=85
K28A Ten Mile Ranch 84.31 340 ⇑P P 10 51 04.2 +1.0
baz=85,SNR=14
J30A Dallas 84.39 341 ⇓P P 10 51 03.8 +0.2
baz=85,SNR=7.3
M23A Laramie 84.44 336 ⇑P P 10 51 04.6 +0.6
baz=85
L25A Engebretsen Ra 84.53 338 ⇓P P 10 51 05.2 +0.8
baz=85,SNR=6.9
K27A Flueckinger Fa 84.54 339 ⇓P P 10 51 05.1 +0.8
baz=85,SNR=13
M22A Cedar Creek Ra 84.66 336 ⇑P P 10 51 06.1 +0.9
baz=85
J29A Okreek 84.68 341 ⇓P P 10 51 05.4 +0.4
baz=85,SNR=15
N20A Spence Gulch, 84.70 334 ⇓P P 10 51 06.5 +1.1
baz=85,SNR=10
SMMC Simmler 84.71 324 ⇓P P 10 51 07.3 +1.9
baz=85,SNR=10
L24A Wheatland 84.72 337 ⇓P P 10 51 06.1 +0.8
baz=85
VES Vestal, Richgr 84.72 325 ⇑P P 10 51 06.6 +1.3
baz=85,SNR=13
SPMN St. Paul 84.76 347 ⇑P P 10 51 04.9 -0.4
baz=85,SNR=15
K26A Motz Farm, Whi 84.80 339 ⇓P P 10 51 06.6 +1.0
baz=85,SNR=6.8
GRAC Grapevine Rang 84.92 326 ⇑P P 10 51 08.3 +2.0
baz=85,SNR=5.3
K25A Mack Ranch, Ha 84.92 338 ⇑P P 10 51 07.1 +0.8
baz=85,SNR=8.8
I30A Oacoma 84.93 342 ⇓P P 10 51 06.0 -0.2
baz=85,SNR=12
J28A Allard Ranch, 84.94 340 ⇓P P 10 51 06.8 +0.5
baz=85,SNR=10
J27A Elkhorn Farm, 84.98 340 ⇑P P 10 51 07.6 +1.1
baz=85,SNR=17
L23A Garrett 85.02 337 ⇑P P 10 51 06.9 -0.1
baz=85
L22A Ellis Ranch, M 85.17 336 ⇓P P 10 51 08.9 +1.2
baz=86
RCTC Rector, Farmer 85.18 325 ⇓P P 10 51 08.8 +1.2
baz=86
I29A Vivian Onida 85.25 341 ⇑P P 10 51 07.7 -0.1
baz=86,SNR=11
R11A Troy Canyon, C 85.30 328 ⇑P P 10 51 09.9 +1.6
baz=86,SNR=24
K24A Anderson Ranch 85.30 338 ⇓P P 10 51 08.8 +0.6
baz=86,SNR=6.6
BRSD Miller 85.31 342 ⇓P P 10 51 08.1 0.0
baz=86,SNR=9.6
J26A Sides Ranch, S 85.34 339 ⇑P P 10 51 09.3 +0.9
baz=86,SNR=16
TIN Tinemaha 85.34 326 ⇓P P 10 51 10.2 +1.7
baz=86,SNR=7.8
I28A Midland 85.45 341 ⇑P P 10 51 09.1 +0.3
baz=86,SNR=27
K23A Bowen Ranch, D 85.58 337 ⇓P P 10 51 10.2 +0.6
baz=86,SNR=12
J25A Sunshine Ranch 85.61 339 ⇓P P 10 51 10.0 +0.3
baz=86,SNR=10
I27A Quinn 85.75 340 ⇑P P 10 51 10.5 +0.2
baz=86,SNR=12
TPH Tonopah 85.75 327 eP P 10 51 11.8 +1.1
TPH pmax pmax
comp=Z,92nm,1.1s
TPH Tonopah 85.75 327 eP P 10 51 11.8 +1.1
comp=Z,92nm,1.1s
K22A Casper 85.76 336 ⇓P P 10 51 11.0 +0.4
baz=86,SNR=13
DUG Dugway 85.78 331 eP P 10 51 11.6 +0.9
DUG pmax pmax
comp=Z,182nm,1.4s
DUG Dugway 85.78 331 eP P 10 51 11.6 +0.9
comp=Z,182nm,1.4s
DUG Dugway 85.78 331 ⇓P P 10 51 11.7 +0.9
baz=86,SNR=23
H29A Onida 85.79 341 ⇓P P 10 51 10.0 -0.5
baz=86,SNR=17
J24A Dixon Ranch, L 85.81 338 ⇓P P 10 51 11.4 +0.7
baz=86,SNR=13
I26A New Underwood 85.94 339 ⇑P P 10 51 11.6 +0.3
baz=86,SNR=9.0
K21A Alcova 85.98 336 ⇑P P 10 51 11.9 +0.2
baz=86,SNR=16
G30A Faulkton 86.00 342 ⇓P P 10 51 11.0 -0.5
baz=86,SNR=14
H28A Mission Ridge 86.05 341 ⇓P P 10 51 11.9 +0.1
baz=86,SNR=15
MLAC Mammoth Lakes 86.09 326 ⇑P P 10 51 14.9 +2.5
baz=86
J23A Dilts Ranch, B 86.14 337 ⇑P P 10 51 13.0 +0.6
baz=87
I25A Rochford 86.17 339 ⇑P P 10 51 12.9 +0.3
baz=87,SNR=15
G29A Hoven 86.25 342 ⇑P P 10 51 12.8 +0.1
baz=87,SNR=17
H27A Howes 86.28 340 ⇓P P 10 51 13.1 +0.2
baz=87,SNR=12
I24A Kuemmerle Ranc 86.28 338 ⇑P P 10 51 12.9 -0.1
baz=87,SNR=6.7
RSSD Black Hills 86.35 339 eP P 10 51 13.0 -0.5
RSSD pmax pmax
comp=Z,30nm,0.9s
RSSD Black Hills 86.35 339 eP P 10 51 13.0 -0.5
comp=Z,30nm,0.9s
G28A Parade 86.39 341 ⇓P P 10 51 13.5 +0.1
baz=87,SNR=20
J22A Midwest 86.44 337 ⇑P P 10 51 13.7 -0.1
baz=87
H26A Fairpoint 86.46 340 ⇑P P 10 51 13.3 -0.5
baz=87
NVAR Mina Array Bea 86.52 327 P P 10 51 15.3 +0.8
comp=Z,12nm,0.7s,baz=153,slow=6.0,SNR=16
F30A Leola 86.64 343 ⇓P P 10 51 14.8 +0.2
baz=87,SNR=16
J21A Lysite 86.68 336 ⇓P P 10 51 15.5 +0.4
baz=87
H25A Fruitdale 86.69 339 ⇓P P 10 51 14.8 -0.1
baz=87,SNR=18
F29A Eureka 86.83 342 ⇑P P 10 51 15.4 -0.2
baz=87,SNR=20
PDAR Pinedale Array 86.86 334 P P 10 51 16.0 0.0
comp=Z,47nm,1.1s,baz=145,slow=5.4,SNR=22
I22A 9 Mile Ranch, 86.87 337 ⇑P P 10 51 15.7 -0.3
baz=87,SNR=6.6
J20A Shoshoni 86.89 336 ⇓P P 10 51 17.0 +0.9
baz=87,SNR=26
G27A Dupree 86.94 341 ⇑P P 10 51 16.0 -0.1
baz=87,SNR=18
TORD Torodi Ar. Bea 86.97 71 P P 10 51 17.2 +0.2
comp=Z,20nm,1.0s,baz=223,slow=5.1,SNR=10
G26A Maurine 87.03 340 ⇑P P 10 51 16.6 0.0
baz=87,SNR=20
I21A Big Trails, Te 87.05 336 ⇓P P 10 51 16.8 -0.1
baz=88,SNR=19
H24A Dirks Ranch, A 87.08 339 ⇑P P 10 51 16.9 0.0
baz=88,SNR=7.2
F28A McLaughlin 87.08 341 ⇑P P 10 51 16.9 +0.1
baz=88,SNR=27
J19A Crowheart 87.13 335 ⇑P P 10 51 17.6 +0.3
baz=88,SNR=29
G25A Newell 87.17 340 ⇓P P 10 51 17.1 -0.2
baz=88,SNR=17
E30A Jud 87.24 343 ⇑P P 10 51 17.8 +0.2
baz=88,SNR=24
F27A Lemmon 87.42 341 ⇑P P 10 51 18.4 -0.1
baz=88,SNR=26
I20A Worland 87.44 336 ⇑P P 10 51 19.0 +0.3
baz=88,SNR=12
H22A Clearmont 87.47 337 ⇑P P 10 51 18.6 -0.2
baz=88
E29A Napoleon 87.48 342 ⇓P P 10 51 18.7 +0.1
baz=88,SNR=18
G24A Alzada 87.57 339 ⇓P P 10 51 18.8 -0.4
baz=88,SNR=7.2
F26A Lodgepole 87.57 340 ⇑P P 10 51 19.0 -0.2
baz=88,SNR=14
H21A Big Horn, Sher 87.71 337 ⇓P P 10 51 20.4 +0.4
baz=88
G23A Biddle 87.73 338 ⇓P P 10 51 19.9 -0.1
baz=88
E28A Huff 87.74 342 ⇓P P 10 51 19.9 0.0
baz=88,SNR=19
D30A Buchanan 87.78 343 ⇑P P 10 51 20.0 -0.1
baz=88,SNR=17
I19A Meeteetse 87.80 335 ⇑P P 10 51 21.0 +0.5
baz=88,SNR=7.8
E27A Carson 87.82 341 ⇑P P 10 51 20.2 -0.2
baz=88,SNR=13
F25A Bowman 87.85 340 ⇑P P 10 51 20.4 -0.2
baz=88,SNR=9.2
H20A Greybull 87.88 336 ⇑P P 10 51 20.6 -0.1
baz=88,SNR=13
D29A Pettibone, Tap 87.93 343 ⇑P P 10 51 20.8 -0.1
baz=88,SNR=20
G22A Birney 88.02 338 ⇓P P 10 51 21.4 0.0
baz=88
F24A Ekalaka 88.05 339 ⇑P P 10 51 21.0 -0.5
baz=88,SNR=5.5
E26A Carlson Angus 88.09 341 ⇑P P 10 51 21.2 -0.4
baz=88,SNR=17
F23A Volborg 88.21 338 ⇓P P 10 51 22.2 -0.1
baz=89
I17A Pilgrim Ck. 88.22 334 ⇓P P 10 51 23.1 +0.5
baz=89,SNR=16
C30A Mose, Pekin 88.28 344 ⇑P P 10 51 22.7 +0.2
baz=89,SNR=27

D28A	Regan	88.28	342	⇓P	P	10 51 22.6	+0.1
	baz=89,SNR=30						
AGMN	Agassiz Nation	88.29	345	eP	P	10 51 22.1	-0.4
	comp=Z,83nm,1.1s						
AGMN	Agassiz Nation	88.29	345	⇑P	P	10 51 22.4	-0.1
	baz=89,SNR=22						
G21A	Lodge Grass	88.30	337	⇓P	P	10 51 23.0	+0.2
	baz=89						
H19A	Powell	88.36	336	⇓P	P	10 51 23.9	+0.8
	baz=89						
E25A	Miller Ranch,	88.36	340	⇑P	P	10 51 23.1	+0.1
	baz=89,SNR=10						
D27A	Center	88.44	341	⇓P	P	10 51 23.4	+0.1
	baz=89						
F22A	Rosebud	88.51	338	⇑P	P	10 51 23.9	+0.2
	baz=89						
H18A	Shoshone NF, C	88.59	335	⇓P	P	10 51 24.5	+0.2
	baz=89,SNR=13						
D26A	Manning	88.60	341	⇑P	P	10 51 24.4	+0.3
	baz=89,SNR=13						
G20A	Bridger	88.61	336	⇑P	P	10 51 25.0	+0.8
	baz=89						
H17A	Grant Village	88.64	335	⇑P	P	10 51 26.5	+1.9
	baz=89						
E24A	Baker	88.67	340	⇓P	P	10 51 24.6	+0.3
	baz=89,SNR=6.9						
C28A	Hausauer Farms	88.73	342	⇑P	P	10 51 24.6	0.0
	baz=89,SNR=12						
YFT	Old Faithful	88.78	334	eP	P	10 51 27.2	+2.0
	comp=Z,122nm,1.5s						
F21A	Absaloka Mine,	88.81	337	⇑P	P	10 51 25.9	+0.8
	baz=89						
D25A	Fairfield	88.94	340	⇓P	P	10 51 25.8	+0.1
	baz=89,SNR=10						
B30A	Myrvik Farm, E	88.95	344	⇑P	P	10 51 25.8	+0.1
	baz=89,SNR=26						
C27A	Sayler Ranch,	89.00	342	⇓P	P	10 51 26.0	+0.1
	baz=89,SNR=24						
E22A	Miles City	89.02	338	⇑P	P	10 51 26.2	+0.1
	baz=89						
F20A	Billings	89.11	337	⇓P	P	10 51 26.9	+0.4
	baz=90						
D24A	Glendive	89.18	340	⇓P	P	10 51 27.0	+0.3
	baz=90,SNR=8.5						
B29A	Wagenman Farm,	89.19	343	⇓P	P	10 51 26.7	-0.1
	baz=90,SNR=26						
C26A	Wahner Farm, P	89.25	341	⇓P	P	10 51 27.5	+0.4
	baz=90,SNR=9.4						
HLID	Hailey	89.28	332	eP	P	10 51 28.7	+1.1
	comp=Z,310nm,1.8s						
HLID	Hailey	89.28	332	⇓P	P	10 51 29.2	+1.7
	baz=90,SNR=26						
QLMT	Earthquake Lak	89.32	334	eP	P	10 51 28.3	+0.6
	comp=Z,11nm,1.4s						
F19A	Roth Farm, Mol	89.40	336	⇓P	P	10 51 27.8	-0.1
	baz=90,SNR=9.5						
A30A	Hoffart Farm,	89.41	344	⇓P	P	10 51 27.8	0.0
	baz=90,SNR=16						
B28A	Dugan Ranch, T	89.41	343	⇑P	P	10 51 27.8	0.0
	baz=90,SNR=26						
C25A	Freed Ranch, W	89.44	341	⇑P	P	10 51 28.0	0.0
	baz=90,SNR=5.9						
E21A	Keefer Ranch,	89.44	338	⇑P	P	10 51 27.8	-0.3
	baz=90,SNR=6.4						
D23A	Lindsay	89.48	339	⇑P	P	10 51 28.6	+0.4
	baz=90,SNR=6.5						
B27A	Peters Farms,	89.58	342	⇑P	P	10 51 28.5	-0.1
	baz=90,SNR=7.9						
C24A	Savage	89.59	340	⇓P	P	10 51 28.8	+0.1
	baz=90,SNR=9.5						
A29A	Manning Farm,	89.60	344	⇑P	P	10 51 28.3	-0.4
	baz=90,SNR=21						
E20A	Meyer Farm, Mu	89.73	337	⇑P	P	10 51 29.5	+0.2
	baz=90,SNR=5.7						
D22A	Cohagen	89.73	339	⇑P	P	10 51 29.7	+0.3
	baz=90						
B26A	Jensen Ranch,	89.80	342	⇑P	P	10 51 29.5	-0.2
	baz=90						
MCMT	McKenzie Canyo	89.81	333	P	P	10 51 30.9	+0.8
A28A	Rude Farm, Bot	89.82	343	⇑P	P	10 51 29.7	0.0
	baz=90,SNR=8.4						
D21A	La Casta Ranch	89.89	338	⇑P	P	10 51 30.4	+0.3
	baz=90						
E19A	Rath Farm, Rou	89.89	337	⇑P	P	10 51 30.1	0.0
	baz=90,SNR=11						
B25A	Knox Farm, Ray	89.94	341	⇑P	P	10 51 31.2	+0.9
	baz=90						
WVOR	Wild Horse Val	89.99	329	eP	P	10 51 32.0	+1.2
WVOR				pmax	pmax		
	comp=Z,176nm,1.8s						
WVOR	Wild Horse Val	89.99	329	eP	P	10 51 32.0	+1.2
	comp=Z,176nm,1.8s						
C23A	Lambert	90.05	339	⇓P	P	10 51 30.6	-0.2
	baz=90						
A27A	Ledoux Ranch,	90.09	342	⇓P	P	10 51 31.8	+0.9
	baz=90						
ULM	Lac du Bonnet	90.16	346	P	P	10 51 31.1	-0.1
ULM				pmax	pmax		
	comp=Z,24nm,0.9s						
ULM	Lac du Bonnet	90.16	346	P	P	10 51 31.1	-0.1
	comp=Z,24nm,0.9s,baz=179,slow=4.6,SNR=9.6						
C22A	Vida	90.19	339	⇑P	P	10 51 31.1	-0.4
	baz=91						
A26A	Wade Farm, Ken	90.23	342	⇑P	P	10 51 31.2	-0.4
	baz=91,SNR=7.1						
D20A	Manuel Ranch,	90.26	337	⇑P	P	10 51 31.7	-0.1
	baz=91,SNR=9.2						
DGMT	Dagmar	90.39	340	⇑P	P	10 51 32.1	-0.2
	baz=91,SNR=8.8						
A25A	Svangstu Ranch	90.54	341	⇓P	P	10 51 32.6	-0.4
	baz=91,SNR=9.1						
N02D	Trinity Center	90.55	325	⇓P	P	10 51 35.0	+1.6
	baz=91						
D19A	Cripps Ranch,	90.55	337	⇓P	P	10 51 33.3	+0.1
	baz=91						
B23A	Brockton	90.60	340	⇑P	P	10 51 32.7	-0.7
	baz=91						
C21A	Desert Coulee	90.61	338	⇓P	P	10 51 32.9	-0.6
	baz=91,SNR=6.0						
B22A	Reddig Ranch S	90.72	339	⇓P	P	10 51 33.5	-0.4
	baz=91,SNR=8.3						
A24A	Westby	90.75	341	⇑P	P	10 51 33.5	-0.6
	baz=91,SNR=5.1						
C20A	Veseth Ranch,	90.78	338	⇓P	P	10 51 33.9	-0.3
	baz=91,SNR=5.8						
M04C	Macdoel	90.81	326	⇑P	P	10 51 36.6	+1.9
	baz=91						
M02C	Callahan	90.95	325	⇓P	P	10 51 37.3	+2.1
	baz=91						
C19A	Slack Wire Ran	91.11	337	⇑P	P	10 51 35.9	+0.1
	baz=92,SNR=5.8						
B21A	Ellsworth Farm	91.13	339	⇓P	P	10 51 35.6	-0.2
	baz=92,SNR=6.8						
A22A	Carney Farms,	91.33	340	⇑P	P	10 51 36.4	-0.4
	baz=92,SNR=8.5						
B20A	Solberg Farm,	91.43	338	⇑P	P	10 51 36.9	-0.4
	baz=92						
K04D	Chiloquin, OR	91.46	327	⇓P	P	10 51 39.4	+1.8
	baz=92						
BMO	Blue Mountains	91.48	331	eP	P	10 51 38.2	+0.6
BMO				pmax	pmax		
	comp=Z,63nm,1.8s						
BMO	Blue Mountains	91.48	331	eP	P	10 51 38.2	+0.6
	comp=Z,63nm,1.8s						
EGMT	Eagleton	91.59	337	⇓P	P	10 51 37.8	-0.2
	baz=92						
A21A	Bergtoll Ranch	91.61	339	⇑P	P	10 51 36.3	-1.7
	baz=92						
B19A	Brinkman Farms	91.72	337	⇓P	P	10 51 38.4	-0.1
	baz=92,SNR=6.0						
J05D	Fort Rock, OR	91.77	327	⇑P	P	10 51 41.0	+1.9
	baz=92						
A20A	Cobblestone Ra	91.80	338	⇑P	P	10 51 38.7	-0.3
	baz=92,SNR=7.8						
L02D	Cave Junction,	91.90	325	⇑P	P	10 51 41.5	+1.9
	baz=92						
MSO	Missoula	91.92	334	⇑P	P	10 51 40.2	+0.6
	baz=92,SNR=13						
A19A	Klindworth Far	92.08	338	⇓P	P	10 51 39.7	-0.6
	baz=92,SNR=7.2						
J04D	Umpqua Nationa	92.11	327	⇑P	P	10 51 42.2	+1.4
	baz=92						
I05D	Terrebonne, OR	92.67	328	⇓P	P	10 51 45.0	+1.9
	baz=93						
I04A	Tendick Farm,	92.69	327	⇓P	P	10 51 44.1	+0.9
	baz=93						
SCHQ	Schefferville	92.83	4	P	P	10 51 42.9	-0.6
	comp=Z,14nm,0.9s,baz=191,slow=3.8,SNR=9.4						
I03D	Drain, OR	93.01	326	⇓P	P	10 51 45.8	+1.3
	baz=93						
G05D	Wamic, OR	93.40	329	⇑P	P	10 51 48.1	+1.7
	baz=94						
TRW	Toppenish Ridg	93.94	330	P	P	10 51 50.2	+1.3
OD2	Odessa Site #2	94.14	331	P	P	10 51 50.1	+0.4
NEW	Newport	94.28	333	eP	P	10 51 49.9	-0.5
NEW				pmax	pmax		
	comp=Z,32nm,1.1s						
NEW	Newport	94.28	333	eP	P	10 51 49.9	-0.5
	comp=Z,32nm,1.1s						
NEW	Newport	94.28	333	⇓P	P	10 51 50.1	-0.2
	baz=95,SNR=11						
EBG	Ellensburg	94.46	330	P	P	10 51 52.4	+1.2
SAW	Saint Andrews	94.66	331	P	P	10 51 52.8	+0.7
LON	Longmire	94.82	329	P	P	10 51 53.5	+0.6
LON	Longmire	94.82	329	P	P	10 51 53.5	+0.6
WTV	Waterville	94.86	331	P	P	10 51 53.8	+0.7
ETW	Entiat	94.93	330	P	P	10 51 54.2	+0.6
MDT	Midelt	95.53	52	P	P	10 51 56.7	+0.1
	comp=Z,16nm,0.8s,baz=240,slow=3.7,SNR=15						
TAM	Tamanrasset	95.89	66	P	P	10 51 58.7	+0.2
TAM	Tamanrasset	95.89	66	P	P	10 51 58.7	+0.2
DZM	Mont Dzumac	97.63	234	P	Pdif	10 52 07.0	+0.5
	comp=Z,12nm,1.0s,baz=126,slow=7.1,SNR=4.0						
ESDC	Sonseca Array	100.48	47	P	Pdif	10 52 18.7	0.0
	comp=Z,2.4nm,0.7s,baz=250,slow=4.4,SNR=7.7						
YKA	Yellowknife Ar	105.54	342	Pdiff	Pdif	10 52 39.6	-0.8
	comp=Z,0.7nm,0.7s,baz=150,slow=4.6,SNR=5.2						
YKA				PKiKP	PKiKP	10 56 53.0	-0.6
	comp=Z,0.6nm,0.9s,baz=151,slow=1.7,SNR=3.4						
YKA				PKKPbc	PKKPbc	11 08 16.9	-2.8
	comp=Z,0.4nm,0.7s,baz=324,slow=3.6,SNR=7.1						
DAVOX	Davos/Dischmat	112.81	48	PKiKP	PKiKP	10 57 07.5	-0.5
	comp=Z,4.0nm,0.8s,baz=313,slow=0.7,SNR=3.9						
SUMG	Summit	113.15	11	iP	PP	10 57 52.6	-6.2
	comp=Z,5.0nm,1.0s						
FETA	Feichten	113.43	48	⇑iPKiKP	PKiKP	10 57 09.5	+0.3
	comp=Z,11nm,1.2s						
MOTA	Moosalm	113.82	48	⇑iPKPdf	PKiKP	10 57 09.8	-0.1
	comp=Z,7.1nm,0.8s						
ABTA	Abfaltersbach	114.34	49	⇑iPKPdf	PKPdf	10 57 11.1	+0.2
	comp=Z,11nm,1.0s						
KBA	Koelnbreinsper	115.00	49	⇑iPKPdf	PKPdf	10 57 12.0	-0.2
	comp=Z,8.0nm,1.4s						
MOA	Molln	115.92	48	⇑iPKPdf	PKPdf	10 57 13.8	+0.1
	comp=Z,14nm,1.0s						
GERES	GERESS Array B	116.07	47	PKIKP	PKPdf	10 57 13.8	-0.3
GERES				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GERES	GERESS Array B	116.07	47	PKP	PKPdf	10 57 13.8	-0.3
	comp=Z,9.5nm,0.8s,baz=236,slow=1.1,SNR=27						
KHC	Kasperske Hory	116.14	47	ePKIKP	PKPdf	10 57 14.2	0.0
KHC	Kasperske Hory	116.14	47	ePKP	PKPdf	10 57 14.2	0.0
KHC				ex	x	10 57 31.5	
ARSA	Arzberg	116.38	50	⇑iPKiKP	PKiKP	10 57 15.1	+0.4
	comp=Z,12nm,0.8s						
WRA	Warramunga Arr	116.43	210	PKP	PKPdf	10 57 14.9	-0.8
	comp=Z,0.4nm,0.3s,baz=168,slow=1.6,SNR=16						
IDI	Anoyia	116.85	65	PKP	PKPdf	10 57 16.5	+0.5
	comp=Z,15nm,1.0s,baz=18,slow=6.4,SNR=4.0						
CLL	Collm	116.85	45	⇑iPKIKP	PKPdf	10 57 15.8	+0.4
CLL				pmax	pmax		
	comp=Z,131nm,1.0s						
CLL				MLR	MLR		
	comp=Z,39μm,20.2s						
CLL	Collm	116.85	45	⇑iPKiKP	PKPdf	10 57 15.8	+0.4
	comp=Z,13nm,1.0s						
CONA	Conrad Observa	116.91	49	⇑iPKPdf	PKPdf	10 57 15.0	-0.7
	comp=Z,12nm,0.8s						
PRA	Prague	117.08	46	PKP	PKPdf	10 57 16.0	+0.2
PRU	Pruhonice	117.10	46	ePKIKP	PKPdf	10 57 15.6	-0.3
PRU	Pruhonice	117.10	46	ePKP	PKPdf	10 57 15.6	-0.3
BRG	Berggiesshubel	117.17	45	ePKP	PKPdf	10 57 15.8	-0.2
	comp=Z,12nm,1.0s						
BRG	Berggiesshubel	117.17	45	ePKIKP	PKPdf	10 57 15.8	-0.2
BRG				pmax	pmax		
	comp=Z,12nm,1.0s						
ILAR	Eielson Array	117.23	333	PKIKP	PKPdf	10 57 15.4	-0.3
ILAR						10 58 26.9	
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ILAR	Eielson Array	117.23	333	PKP	PKPdf	10 57 15.4	-0.3
	comp=Z,5.2nm,0.9s,baz=161,slow=2.9,SNR=13						
ILAR				PP	PP	10 58 26.9	-0.3
	comp=Z,3.8nm,1.2s,baz=140,slow=3.6,SNR=4.5						
ILAR				PKKPbc	PKKPbc	11 07 37.5	-3.4
	comp=Z,0.9nm,1.0s,baz=262,slow=5.0,SNR=4.4						
TREC	Trest	117.32	47	ePKIKP	PKPdf	10 57 16.5	+0.1
TREC	Trest	117.32	47	ePKP	PKPdf	10 57 16.5	+0.1
PVCC	Panska Ves	117.36	46	ePKP	PKPdf	10 57 17.2	+0.8
PKSM	Moragy	117.80	52	⇓PKIKP	PKPdf	10 57 18.2	+0.8
PKSM	Moragy	117.80	52	⇓iP	PKPdf	10 57 18.2	+0.8
VRAC	Vranov	117.97	48	⇓PKIKP	PKPdf	10 57 18.4	+0.8
VRAC	Vranov	117.97	48	⇓iP	PKPdf	10 57 18.4	+0.8
VRAC	Vranov	117.97	48	PKP	PKPdf	10 57 17.5	-0.1
	comp=Z,6.2nm,0.8s,baz=285,slow=2.5,SNR=7.9						
UPC	Upice	118.17	46	ePKIKP	PKPdf	10 57 18.3	+0.3
UPC	Upice	118.17	46	ePKP	PKPdf	10 57 18.3	+0.3
DPC	Dobruska-Polom	118.28	47	ePKIKP	PKPdf	10 57 18.8	+0.6
DPC	Dobruska-Polom	118.28	47	ePKP	PKPdf	10 57 18.8	+0.6
KRLC	Kraliky	118.42	47	ePKIKP	PKPdf	10 57 19.5	+1.0
KRLC	Kraliky	118.42	47	ePKP	PKPdf	10 57 19.5	+1.0
KSP	Ksiaz	118.48	46	ePKP	PKPdf	10 57 18.5	-0.1
MORC	Moravsky Berou	118.73	48	⇑PKIKP	PKPdf	10 57 19.4	+0.3
MORC	Moravsky Berou	118.73	48	⇑iP	PKPdf	10 57 19.4	+0.3
MMB	Musomiste	118.99	58	⇓PKIKP	PKPdf	10 57 19.6	-0.3
MMB	Musomiste	118.99	58	⇓iP	PKPdf	10 57 19.6	-0.3
OKC	Ostrava-Krasne	119.11	48	ePKIKP	PKPdf	10 57 19.9	+0.1
OKC	Ostrava-Krasne	119.11	48	ePKP	PKPdf	10 57 19.9	+0.1
PSZ	Piszkesteto	119.32	50	⇓PKIKP	PKPdf	10 57 20.9	+0.5
PSZ	Piszkesteto	119.32	50	⇓iP	PKPdf	10 57 20.9	+0.5
BZS	Buzias	119.39	53	⇓PKIKP	PKPdf	10 57 20.2	-0.3
BZS	Buzias	119.39	53	⇓iP	PKPdf	10 57 20.2	-0.3
DAG	Danmarks Havn	119.68	13	iPKIKP	PKPdf	10 57 19.0	-1.1
DAG	Danmarks Havn	119.68	13	iP	PKPdf	10 57 19.0	-1.1
GZR	Gura Zlata	120.03	54	⇑PKIKP	PKPdf	10 57 21.8	0.0
GZR	Gura Zlata	120.03	54	⇑iP	PKPdf	10 57 21.8	0.0
KDZ	Kurdzhali	120.15	59	⇓PKIKP	PKPdf	10 57 22.5	+0.4
KDZ	Kurdzhali	120.15	59	⇓iP	PKPdf	10 57 22.5	+0.4
NB2	NORSAR Subarra	120.29	34	PKPdf	PKPdf	10 57 21.1	-0.7
	comp=Z,16nm,1.1s,baz=248,slow=1.9						
NB2	NORSAR Subarra	120.29	34	PKPdf	PKPdf	10 57 21.1	-0.7
	baz=248,slow=1.9						
NOA	NORSAR Array B	120.29	34	PKP	PKPdf	10 57 21.3	-0.4
	comp=Z,5.4nm,0.9s,baz=248,slow=2.0,SNR=11						
CRVS	Cervenica-Dubn	120.69	50	ePKIKP	PKPdf	10 57 23.0	+0.1
CRVS	Cervenica-Dubn	120.69	50	ePKP	PKPdf	10 57 23.0	+0.1
LOT	Lotru	120.69	54	⇑iP	PKPdf	10 57 23.5	+0.4
STHS	Stebnicka Huta	120.76	49	ePKIKP	PKPdf	10 57 23.7	+0.7
STHS	Stebnicka Huta	120.76	49	ePKP	PKPdf	10 57 23.7	+0.7
TRPA	Tarpa	121.03	51	⇓iP	PKPdf	10 57 23.5	0.0
HFS	Hagfors	121.04	36	PKP	PKPdf	10 57 22.4	-0.8
	comp=Z,11nm,0.8s,baz=174,slow=3.0,SNR=13						
HFS				PKKPbc	PKKPbc	11 07 26.4	-0.4
	comp=Z,7.9nm,1.0s,baz=28,slow=3.4,SNR=6.3						
UZH	Uzhgorod	121.08	50	ePKIKP	PKPdf	10 57 20.7	-2.9
UZH				e		10 57 27.1	
KOLS	Kolonicke sedl	121.19	50	ePKIKP	PKPdf	10 57 24.0	+0.2
KOLS	Kolonicke sedl	121.19	50	ePKP	PKPdf	10 57 24.0	+0.2
ARR	Arges	121.21	55	⇓iP	PKPdf	10 57 24.4	+0.3
JMB	Yambol	121.29	58	⇓PKIKP	PKPdf	10 57 24.5	+0.3
JMB	Yambol	121.29	58	⇓iP	PKPdf	10 57 24.5	+0.3
VOIR		121.51	55	⇑PKIKP	PKPdf	10 57 24.5	-0.2
VOIR		121.51	55	⇑iP	PKPdf	10 57 24.5	-0.2
EIL	Elat	121.59	75	PKP	PKPdf	10 57 24.9	-0.3
	comp=Z,7.4nm,0.9s,baz=101,slow=5.2,SNR=3.9						
KWP	Kalwaria Pacla	121.72	49	⇑PKIKP	PKPdf	10 57 25.8	+1.0
KWP	Kalwaria Pacla	121.72	49	ePKP	PKPdf	10 57 25.4	+0.6
KWP	Kalwaria Pacla	121.72	49	⇑iP	PKPdf	10 57 25.8	+1.0
DOPR	Dopca	121.94	54	⇓iP	PKPdf	10 57 26.0	+0.6
MLR	Muntele Rosu	122.11	55	⇓PKIKP	PKPdf	10 57 26.0	+0.1
MLR	Muntele Rosu	122.11	55	⇓iP	PKPdf	10 57 26.0	+0.1
MLR	Muntele Rosu	122.11	55	PKP	PKPdf	10 57 25.7	-0.2
	comp=Z,3.9nm,0.8s,baz=246,slow=0.8,SNR=18						
PRD	Provadia	122.14	58	⇓PKIKP	PKPdf	10 57 26.4	+0.6
BURAR	Bucovina Array	122.48	52	⇑PKIKP	PKPdf	10 57 27.5	+1.0
BURAR	Bucovina Array	122.48	52	⇑iP	PKPdf	10 57 27.5	+1.0
BUR08	Bucovina Ar. S	122.48	52	ePKPdf	PKPdf	10 57 26.7	+0.2
LVV	L'vov	122.59	50	ePKIKP	PKPdf	10 57 25.0	-1.5
PLOR	Plostina	122.70	55	⇑PKIKP	PKPdf	10 57 26.0	-0.9
PLOR	Plostina	122.70	55	⇑iP	PKPdf	10 57 26.0	-0.9
VRI	Vrincioaia	122.76	55	⇓PKIKP	PKPdf	10 57 26.6	-0.4
VRI	Vrincioaia	122.76	55	⇓iP	PKPdf	10 57 26.6	-0.4
PSN	Preselentsi	122.85	58	⇓PKIKP	PKPdf	10 57 27.8	+0.6
PSN	Preselentsi	122.85	58	⇓iP	PKPdf	10 57 27.8	+0.6
TESR	Tescani	122.96	54	⇑iP	PKPdf	10 57 27.4	+0.1
TIRR	Tirgusor	123.31	57	⇓PKIKP	PKPdf	10 57 28.7	+0.7
TIRR	Tirgusor	123.31	57	⇓iP	PKPdf	10 57 28.7	+0.7
CFR	Carcaliu	123.41	56	⇑PKIKP	PKPdf	10 57 28.8	+0.6
CFR	Carcaliu	123.41	56	⇑iP	PKPdf	10 57 28.8	+0.6
MMAI	Mount Meron Ar	123.49	72	PKP	PKPdf	10 57 28.5	-0.4
	comp=Z,6.9nm,0.8s,baz=318,slow=1.9,SNR=3.6						
SUW	Suwalki	123.61	45	ePKIKP	PKPdf	10 57 27.7	-0.6
SUW	Suwalki	123.61	45	ePKP	PKPdf	10 57 27.7	-0.6
SUW	Suwalki	123.61	45	ePKPdf	PKPdf	10 57 27.5	-0.8
TLCR		123.85	56	⇑PKIKP	PKPdf	10 57 28.9	-0.1
TLCR		123.85	56	⇑iP	PKPdf	10 57 28.9	-0.1
H11S2	WAKE ISLAND Hy	124.20	267	T	T	13 13 42.9	
	baz=130						
H11S1	WAKE ISLAND Hy	124.21	267	T	T	13 13 42.3	
	baz=130						
H11S3	WAKE ISLAND Hy	124.21	267	T	T	13 13 42.9	
	baz=130						
ANTO	Ankara	124.50	63	⇓PKIKP	PKPdf	10 57 31.6	+1.0
ANTO	Ankara	124.50	63	⇓iP	PKPdf	10 57 31.6	+1.0
ANTO	Ankara	124.50	63	ePKPdf	PKPdf	10 57 31.2	+0.7
KIS	Kishinev	124.52	54	ePKIKP	PKPdf	10 57 30.0	-0.3
KIS				e		10 59 15.0	
KIS	Kishinev	124.52	54	ePKP	PKPdf	10 57 30.0	-0.3
KIS				LRM	MLR	11 45 12.0	
	comp=Z,54μm,20.0s						
H11N3	WAKE ISLAND Hy	124.71	269	T	T	13 14 26.0	
	baz=121						
H11N1	WAKE ISLAND Hy	124.72	269	T	T	13 14 22.5	
	baz=121						
H11N2	WAKE ISLAND Hy	124.73	269	T	T	13 14 31.6	
	baz=121						
BRTR	Keskin Array B	125.04	64	PKIKP	PKPdf	10 57 31.5	-0.2
BRTR				pmax	pmax		
	comp=Z,15nm,0.8s						
BRTR	Keskin Array B	125.04	64	PKP	PKPdf	10 57 31.5	-0.2
	comp=Z,15nm,0.8s,baz=192,slow=3.2,SNR=27						
TNA	Tin City	125.67	329	eP	PKPdf	10 57 32.0	+0.1
IIGN	Ignalina	125.71	44	eP	PKPdf	10 57 32.0	-0.3
IIGN				AMB	AMB	10 57 32.9	
	comp=Z,16nm,0.8s						
ISAL	Salakas	125.72	44	eP	PKPdf	10 57 32.6	+0.3
ISAL				AMB	AMB	10 57 33.5	
	comp=Z,8.3nm,0.8s						
NACGM	Naroch	125.88	44	e	PKPdf	10 57 29.0	-3.6
IDID	Didziasalis	125.98	44	eP	PKPdf	10 57 33.3	+0.5
IDID				AMB	AMB	10 57 33.8	
	comp=Z,13nm,0.9s						
AK02	Malin Array Si	126.00	50	ePKPdf	PKPdf	10 57 32.1	-0.9
KIEV	Kiev	126.01	50	ePKIKP	PKPdf	10 57 32.2	-0.8
KIEV	Kiev	126.01	50	ePKPdf	PKPdf	10 57 32.2	-0.8
AK01	Malin Array Si	126.01	50	ePKPdf	PKPdf	10 57 31.9	-1.1
AK01				ePP	PP	10 59 27.9	+0.6
AKASG	Malin Array Be	126.02	50	PKIKP	PKPdf	10 57 31.5	-1.5
AKASG						10 59 28.1	
AKASG				pmax	pmax		
	comp=Z,12nm,0.8s						
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKASG	Malin Array Be	126.02	50	PKP	PKPdf	10 57 31.5	-1.5
	comp=Z,12nm,0.8s,baz=261,slow=2.6,SNR=20						
AKASG				PP	PP	10 59 28.1	+0.7
	comp=Z,2.8nm,0.9s,baz=258,slow=6.6,SNR=5.1						
GAMB	Gambell	126.82	327	ePKPdf	PKPdf	10 57 34.0	-0.1
SPITS	Spitsbergen Ar	127.07	15	PKIKP	PKPdf	10 57 34.3	0.0
SPITS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SPITS	Spitsbergen Ar	127.07	15	PKP	PKPdf	10 57 34.3	0.0
	comp=Z,8.4nm,0.8s,baz=90,slow=1.4,SNR=6.3						
FINES	FINESS Array B	127.22	36	PKIKP	PKPdf	10 57 34.8	-0.1
FINES				pmax	pmax		
	comp=Z,16nm,1.0s						
FINES	FINESS Array B	127.22	36	PKP	PKPdf	10 57 34.8	-0.1
	comp=Z,16nm,1.0s,baz=172,slow=2.8,SNR=16						
SIM	Simferopol'	127.28	58	iPKIKP	PKPdf	10 57 36.3	+0.7
SIM				pmax	pmax		
	comp=Z,27nm,1.0s						
MALT	Malatya	127.93	67	⇑PKIKP	PKPdf	10 57 38.1	+0.9
MALT	Malatya	127.93	67	⇑iP	PKPdf	10 57 38.1	+0.9
ARCES	ARCESS Array B	128.39	26	PKIKP	PKPdf	10 57 36.9	-0.1
ARCES				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ARCES	ARCESS Array B	128.39	26	PKP	PKPdf	10 57 36.9	-0.1
	comp=Z,8.8nm,0.8s,baz=279,slow=2.3,SNR=10.0						
ANN	Anapa	129.47	59	iPKIKP	PKPdf	10 57 38.9	-0.9
ANN				pmax	pmax		
	comp=Z,107nm,1.9s						
SOC	Sochi	130.66	61	ePKIKP	PKPdf	10 57 41.7	-0.4
SOC				pmax	pmax		
	comp=Z,69nm,1.1s						
APA	Apatity	131.14	29	⇓iPKIKP	PKPdf	10 57 42.6	+0.3
OBN	Obninsk	131.41	46	PKP	PKPdf	10 57 43.1	0.0
	comp=Z,14nm,0.5s,baz=290,slow=2.0,SNR=7.1						
MOS	Moscow	132.11	45	ePKIKP	PKPdf	10 57 42.0	-2.4
VSR	Storozhevoye	132.23	51	ePKIKP	PKPdf	10 57 44.6	-0.2
VSR				pmax	pmax		
	comp=Z,20nm,1.2s						
VSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.8s						
VORD	Divnogorie	132.25	52	ePKIKP	PKPdf	10 57 44.2	-0.6
VORD				pmax	pmax		
	comp=N,7.0nm,0.7s						
VORD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.9s						
IDHR	Dehrash	132.49	75	eP	PKPdf	10 57 47.9	+1.8
KBZ	Khabaz	132.91	62	PKIKP	PKPdf	10 57 45.9	-0.4
KBZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KBZ	Khabaz	132.91	62	PKP	PKPdf	10 57 45.9	-0.4
	comp=Z,10.0nm,1.0s,baz=289,slow=3.9,SNR=9.4						
TMCR	Tamitsa	132.98	34	ePKIKP	PKPdf	10 57 45.5	-0.3
TMCR				pmax	pmax		
	comp=Z,65nm,1.5s						
ZEI	Tsey	133.35	64	iPKIKP	PKPdf	10 57 46.1	-1.4
ZEI				pmax	pmax		
	comp=Z,44nm,1.9s						
KLMR	Klimovskoe	133.59	38	ePKIKP	PKPdf	10 57 45.1	-2.0
KLMR				pmax	pmax		
	comp=Z,70nm,1.1s						
VRHR	Novokhopersk	133.72	52	ePKIKP	PKPdf	10 57 47.4	-0.2
VRHR				pmax	pmax		
	comp=Z,30nm,0.9s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
IHRS	Heris	134.27	71	eP	PKPdf	10 57 45.4	-4.0
BILL	Bilibino	135.89	332	ePKP	PKPdf	10 57 50.9	-0.3
BILL				e		11 00 26.7	
BILL				e		11 04 57.3	
BILL				pmax	pmax		
	comp=Z,24nm,1.6s						
BILL				MLR	MLR		
	comp=Z,8μm,19.0s						
PRGR	Permogore	136.53	37	ePKIKP	PKPdf	10 57 50.9	-1.6
PET	Petropavlovsk	141.30	310	iPKIKP	PKPdf	10 58 01.8	+0.3
PET				pmax	pmax		
	comp=Z,21nm,0.8s						
PETK	Petropavlovsk-	141.88	310	PKHKP	PKPpre	10 57 57.0	
PETK				pmax	pmax		
	comp=Z,23nm,0.9s						
PETK	Petropavlovsk-	141.88	310	PKhKP	PKPpre	10 57 57.0	
	comp=Z,23nm,0.9s,baz=115,slow=4.1,SNR=11						
ISHV	Shirvan	142.07	76	eP	PKPdf	10 57 59.9	-3.8
IKRD	Kardeh	142.47	77	eP	PKPdf	10 57 57.3	-7.2
GEYT	Alibeck	142.49	75	PKhKP	PKPpre	10 58 00.0	
	comp=Z,12nm,0.6s,baz=259,slow=3.9,SNR=12						
SEY	Seymchan	142.82	327	PKhKP	PKPpre	10 58 00.0	
	baz=111,slow=4.8						
ISRO	Mashad	143.07	78	eP	PKPab	10 57 60.0	-0.8
KSM	Kuching	143.28	187	ePKPdf	PKPab	10 58 02.5	+0.4
IMYA	Miami	143.57	78	eP	PKPab	10 58 03.2	+0.3
ARU	Arti	143.79	44	iPKIKP	PKPab	10 58 02.9	+0.1
ARU	Arti	143.79	44	ePKPdf	PKPbc	10 58 04.1	+0.5
AKTO	Aktyubinsk	144.03	54	PKhKP	PKPpre	10 58 03.9	
	baz=288,slow=2.8						
PSI	Prapat	144.18	168	PKHKP	PKPpre	10 58 05.0	

PSI pmax pmax
comp=Z,86nm,0.9s
PSI Prapat 144.18 168 PKhKP PKPpre 10 58 05.0
comp=Z,86nm,0.9s,baz=222,slow=4.9,SNR=13
TIXI Tiksi 144.50 348 *e*PKIKP **PKPab 10 58 03.8 -1.2**
TIXI Tiksi 144.50 348 *e*PKPdf **PKPab 10 58 03.8 -1.2**
SVE Sverdlovsk 144.84 43 *e*PKIKP PKPbc 10 58 07.2 +0.4
SVE pmax pmax
comp=Z,250nm,1.3s
ABKAR Akbulak array 145.30 56 *e*PKPbc **PKPbc 10 58 08.5 0.0**
POO Poona 145.72 116 ⇓*i*P **PKPdf 10 58 09.0 -1.4**
comp=Z,429nm,1.5s
LHMI Lhok Sumawe 146.15 163 *e*PKPbc **PKPbc 10 58 12.4 +0.2**
HYB Hyderabad 148.19 123 *i* PKP **PKPdf 10 58 14.0 -0.6**
KUR Kuril'sk 148.36 296 ⇓*i*PKP2 **PKPbc 10 58 16.9 -0.5**
KBL Kabul 150.00 85 *e*PKIKP **PKPdf 10 58 17.2 -0.1**
KBL *e* 10 58 22.1
KBL *e* 10 58 27.1
KBL Kabul 150.00 85 *e*PKPdf **PKPdf 10 58 17.2 -0.1**
KBL *e*PKPbc **PKPbc 10 58 22.1 -0.1**
KBL *e*PKPab **PKPab 10 58 27.1 -1.0**
BRVK Borovoye 151.17 47 *e*PKIKP **PKPdf 10 58 18.6 +0.4**
BRVK *e* 10 58 24.8
BRVK Borovoye 151.17 47 *e*PKPdf **PKPdf 10 58 18.6 +0.4**
BRVK *e*PKPbc **PKiKP 10 58 24.8 +0.1**
BVAR Borovoye Array 151.24 47 PKIKP **PKPdf 10 58 18.3 0.0**
BVAR 10 58 24.6
BVAR pmax pmax
comp=Z,12nm,0.9s
BVAR Borovoye Array 151.24 47 PKP **PKPdf 10 58 18.3 0.0**
comp=Z,12nm,0.8s,baz=287,slow=2.4,SNR=5.2
BVAR PKPbc **PKiKP 10 58 24.6 -0.2**
comp=Z,72nm,0.7s,baz=298,slow=3.2,SNR=30
YSS Yuzh-Sakhalins 151.88 300 ⇑*i*PKIKP **PKPdf 10 58 18.8 -0.6**
YSS *i* 10 58 25.0
YSS *e* 10 58 35.8
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 151.88 300 *e*PKPdf **PKPdf 10 58 19.1 -0.3**
YSS *e*PKPbc **PKPbc 10 58 26.1 +0.2**
YSS *e*PKPab **PKPab 10 58 36.2 +1.1**
YAK Yakutsk 152.07 336 *e*PKIKP **PKPdf 10 58 23.8 -2.0**
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=Z,269nm,1.1s
YAK pmax pmax
comp=N,18nm,1.4s
YAK Yakutsk 152.07 336 *e*PKPbc **PKPbc 10 58 26.1 +0.2**
YAK *e*PKPab **PKPab 10 58 36.1 +0.7**
ASAJ Asahikawa 152.10 294 PKIKP **PKPdf 10 58 19.5 -0.4**
ASAJ 10 58 26.5
ASAJ pmax pmax
comp=Z,28nm,1.0s
ASAJ Asahikawa 152.10 294 PKP **PKPdf 10 58 19.4 -0.4**
comp=Z,28nm,1.0s,baz=266,slow=1.6,SNR=4.0
ASAJ PKPbc **PKPbc 10 58 26.5 0.0**
comp=Z,88nm,0.9s,baz=211,slow=2.3,SNR=15
ASAJ Asahikawa 152.10 294 *e*PKPdf **PKPdf 10 58 19.8 -0.1**
ASAJ *e*PKPbc **PKPbc 10 58 26.4 -0.1**
ASAJ *e*PKPab **PKPab 10 58 37.3 +1.1**
KKAR Karatay Array 152.63 68 *e*PKIKP **PKPdf 10 58 21.5 +0.8**
KKAR *e* 10 58 28.2
KKAR *e* 10 58 38.5
KKAR Karatay Array 152.63 68 *e*PKPdf **PKPdf 10 58 21.5 +0.8**
KKAR *e*PKPbc **PKiKP 10 58 28.2 +0.2**
KKAR *e*PKPab **PKPab 10 58 38.5 0.0**
MJAR Matsushiro Arr 154.55 276 PKIKP **PKPdf 10 58 23.2 -0.5**
MJAR 10 58 32.0
MJAR 10 58 46.5
MJAR pmax pmax
comp=Z,10.0nm,1.1s
MJAR pmax pmax
comp=Z,13nm,0.7s
MJAR Matsushiro Arr 154.55 276 PKP **PKPdf 10 58 23.2 -0.5**
comp=Z,10nm,1.1s,baz=165,slow=2.3,SNR=7.3
MJAR PKPbc **PKPbc 10 58 32.0 -0.1**
comp=Z,12nm,1.0s,baz=139,slow=3.1,SNR=11
MJAR PKPab **PKPab 10 58 46.5 -0.4**
comp=Z,13nm,0.7s,baz=136,slow=3.4,SNR=9.7
MAT Matsushiro 154.55 276 PKP **PKPdf 10 58 22.2 -1.5**
AML Almayashu 154.94 71 P **PKPdf 10 58 25.0 +0.5**
SNR=5.1
EKS2 Erkin-Say 155.02 69 P **PKPdf 10 58 25.4 +1.0**
SNR=5.5
USP Ospenovka 155.54 68 P **PKPdf 10 58 25.8 +0.9**
SNR=6.5
AAK Ala-Archa 155.54 69 PKIKP **PKPdf 10 58 24.2 -0.9**
AAK 10 58 34.2
AAK 10 58 50.9
AAK pmax pmax
comp=Z,14nm,0.8s
AAK pmax pmax
comp=Z,26nm,0.8s
AAK Ala-Archa 155.54 69 PKP **PKPdf 10 58 24.2 -0.9**
comp=Z,14nm,0.8s,baz=260,slow=3.1,SNR=5.1
AAK PKPbc PKPbc 10 58 34.2
comp=Z,30nm,1.0s,baz=222,slow=3.4,SNR=3.6
AAK PKPab **PKPab 10 58 50.9 -0.2**
comp=Z,26nm,0.8s,baz=224,slow=1.4,SNR=7.0
UCH Uchtor 155.55 70 P **PKPdf 10 58 26.7 +1.2**
SNR=7.3
TKM2 Tokmak 2 156.35 69 P **PKPdf 10 58 26.8 +0.6**
SNR=9.8
KSH Kashi 156.48 77 *e*PKP **PKPdf 10 58 26.8 +0.4**
KSH *e*pPKP **pPKPdf 10 58 37.5 +4.9**
KSH *e*sPKP 10 58 41.0
KSH *e*SKS **SKSdf 11 05 28.3 -3.4**
KSH *e*SS **SS 11 22 18.5 -6.0**
HABR Khabarovsk 156.73 306 *e*PKP2 **PKPab 10 58 54.7 -1.0**
HABR pmax pmax
comp=E,95nm,1.9s
HABR pmax pmax
comp=Z,390nm,1.9s
HABR pmax pmax
comp=N,65nm,2.3s
NVS Novosibirsk 157.20 36 *e*PKIKP **PKPdf 10 58 24.6 -2.0**
NVS pmax pmax
comp=Z,44nm,1.2s
NVS pmax pmax
comp=N,12nm,1.7s
NVS pmax pmax
comp=E,27nm,1.7s
ZAA0 Zalesovo Array 158.48 36 *e*PKPdf **PKPdf 10 58 27.4 -0.8**
ZALV Zalesovo Beam 158.48 36 PKIKP **PKPdf 10 58 27.1 -1.1**
ZALV 10 59 02.7
ZALV pmax pmax
comp=Z,24nm,0.9s
ZALV pmax pmax
comp=Z,45nm,0.8s
ZALV Zalesovo Beam 158.48 36 PKP **PKPdf 10 58 27.1 -1.1**
comp=Z,24nm,0.9s,baz=312,slow=1.9,SNR=8.1
ZALV PKPab **PKPab 10 59 02.7 -0.4**
comp=Z,45nm,0.8s,baz=301,slow=5.4,SNR=13
KLR Kul'dur 158.56 309 *e*PKP2 PKPab 10 59 10.6 +7.0
CMAR Chiang Mai Arr 159.37 160 PKIKP **PKPdf 10 58 30.5 +0.1**
CMAR 10 59 07.3
CMAR pmax pmax
comp=Z,15nm,1.1s
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 159.37 160 PKP **PKPdf 10 58 30.5 +0.1**
comp=Z,15nm,1.1s,baz=234,slow=2.8,SNR=6.9
CMAR PKPab **PKPab 10 59 07.3 -0.5**
comp=Z,6.3nm,0.9s,baz=216,slow=4.1,SNR=5.8
BOD Bodaibo 159.68 348 *e*PKP2 **PKPab 10 59 07.0 -1.1**
BOD pmax pmax
comp=Z,4.0nm,1.2s
USRK Ussuriysk Arra 159.70 295 PKPab **PKPab 10 59 08.4 -0.3**
comp=Z,11nm,0.9s,baz=95,slow=4.3,SNR=11
MKAR Makanchi Array 160.44 56 PKIKP **PKPdf 10 58 30.6 -0.2**
MKAR 10 59 11.6
MKAR pmax pmax
comp=Z,25nm,1.1s
MKAR pmax pmax
comp=Z,24nm,0.7s
MKAR Makanchi Array 160.44 56 PKP **PKPdf 10 58 30.6 -0.2**
comp=Z,25nm,1.1s,baz=294,slow=1.4,SNR=9.5
MKAR PKPab **PKPab 10 59 11.6 -0.4**
comp=Z,24nm,0.7s,baz=277,slow=3.4,SNR=17
MDJ Mudanjiang 161.32 298 PKP **PKPdf 10 58 29.5 -2.2**
WMQ Urumqi 164.96 62 PKP **PKPdf 10 58 35.0 -0.3**
WMQ LR LR
comp=Z,5µm,21.0s
MOY Mondy 166.02 13 *e*PKP2 **PKPab 10 59 37.3 +1.1**
TLY Talaya 166.37 7 *e*PKIKP **PKPdf 10 58 38.8 +2.6**
TLY pmax pmax
comp=Z,29nm,2.0s
TLY Talaya 166.37 7 PKPab **PKPab 10 59 38.6 +1.0**
comp=Z,2.9nm,0.3s,baz=326,slow=4.8,SNR=6.8
ZAK Zakamensk 167.62 9 ⇓*i*PKP2 **PKPab 10 59 43.8 +0.5**
ZAK pmax pmax
comp=Z,27nm,1.3s
NJ2 Nanjing 167.96 243 *e*PKP **PKPdf 10 58 36.8 -1.1**
GYA Guiyang 168.32 182 *i* PKP **PKPdf 10 58 38.3 -0.2**
GYA pPKP **pPKPdf 10 58 50.5 +5.8**
GYA PKPab **PKPab 10 59 46.5 -0.5**
GYA PKS **PKSdf 11 02 09.3 -2.0**
GYA PP **PP 11 03 39.0 +4.0**
GYA SKKS 11 10 21.5
GYA SS **SS 11 24 25.5 +1.0**
GYA AMB AMB
comp=Z,1µm,10.8s
GYA LR LR
comp=Z,3µm,21.4s
GYA LR LR
comp=Z,1µm,21.6s
GYA LR LR
comp=Z,2µm,24.8s
WHN Wuhan 169.83 224 PKP **PKPdf 10 58 39.0 -0.2**
SONM Songino Array 170.34 359 PKIKP **PKPdf 10 58 38.6 -0.5**
SONM 10 59 55.1
SONM 11 03 45.1
SONM pmax pmax
comp=Z,6.0nm,1.0s
SONM pmax pmax
comp=Z,24nm,0.9s
SONM pmax pmax
comp=Z,6.0nm,1.1s
SONM Songino Array 170.34 359 PKP **PKPdf 10 58 38.6 -0.5**
comp=Z,7.2nm,1.1s,baz=38,slow=0.9,SNR=3.8
SONM PKPab **PKPab 10 59 55.1 -0.4**
comp=Z,24nm,0.9s,baz=353,slow=2.6,SNR=18
SONM PP **PP 11 03 45.1 -0.1**
comp=Z,6.3nm,1.1s,baz=355,slow=3.8,SNR=6.3
BJI Beijing 172.00 287 PKP **PKPdf 10 58 39.5 -0.5**
BJI PKS **PKSdf 11 02 15.0 +2.8**
BJI SKS **SKSdf 11 05 41.8 -0.5**
CD2 Chengdu 172.49 164 PKP **PKPdf 10 58 40.0 -0.6**
CD2 pPKP **pPKPdf 10 58 51.3 +4.5**
CD2 sPKP 10 58 55.0
CD2 PKS **PKSdf 11 02 11.0 -2.0**
CD2 PP **PP 11 03 59.5 +3.6**
CD2 SKS **SKSdf 11 05 37.8 -5.2**
CD2 SKKS **SKKSac 11 10 41.3 -1.1**
CD2 SS **SS 11 25 05.3 -0.5**
CD2 AMB AMB
comp=Z,660nm,6.4s
GTA Gaotai 174.88 74 ⇑PKP **PKPdf 10 58 42.0 +0.7**
GTA pPKP **pPKPdf 10 58 52.3 +4.8**
GTA sPKP 10 58 56.5
GTA PKPab **PKPab 11 00 17.0 +0.9**
GTA PP **PP 11 04 11.0 +1.9**
GTA SKS **SKSdf 11 05 41.0 -2.5**
GTA SKKS **SKKSac 11 10 51.8 -2.4**
GTA SS **SS 11 25 26.0 -5.8**
GTA AMB AMB
comp=Z,7µm,11.9s
HHC Hu-ho-hao-te 175.05 304 *e*PKP **PKPdf 10 58 40.5 -0.8**
HHC pPKP **pPKPdf 10 58 50.5 +3.0**
HHC sPKP 10 58 55.5
HHC AMB AMB
comp=Z,5µm,9.1s
LZH Lanzhou 177.21 137 *e*PKP **PKPdf 10 58 42.8 +0.8**
LZH pPKP **pPKPdf 10 58 55.3 +7.1**
LZH sPKP 10 58 59.0
LZH PKPab PKPab 11 00 23.0 -3.5
LZH *e*PP **PP 11 04 21.8 +2.3**

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*ISCJB **27** 10:40:56.0±0.6, 34°.4S±0°.1×73°.4W±0°.3, h33km, mb4.9/15, Error ellipse: s-maj=32.9km s-min=12.9km az=157.8*
*NEIC **27** 10:40:57.8±0.3, 34°.39S×73°.41W, h35km, mb4.5/1, Error ellipse: s-maj=18.9km s-min=8.0km az=70.0*
*IDC **27** 10:40:57.1±0.9, 34°.39S×73°.43W, h29km±5km, mb4.6/12, mb1 4.8/12, mb1mx4.6/31, mbtmp4.8/12, Error ellipse: s-maj=32.6km s-min=15.8km az=63.0*
ISC 27 10:40:57.6±0.7, 34°.4S±0°.1×73°.4W±0°.2, h35km, n26, σ0s.75/26, mb4.9/15, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TRQA Tornquist 9.93 115 *e*Pn Pn 10 43 33.7 +16
USHA Ushuaia 20.76 172 P **P 10 45 35.7 +0.5**
23nm,0.8s,baz=349,slow=5.2,SNR=2.2
NNA Nana 22.50 351 P **P 10 45 54.5 +0.3**
22nm,0.8s,baz=180,slow=5.1,SNR=3.3
SNAA Sanae 51.67 158 P **P 10 50 01.2 +0.6**
9.0nm,1.0s,baz=211,slow=1.2,SNR=7.1
APG El Apazote 51.71 339 P P 10 49 58.2 -3.5
20nm,1.0s,baz=153,slow=10,SNR=4.1
TEIG Tepich 56.11 343 P **P 10 50 33.6 +0.1**
44nm,0.8s,baz=125,slow=4.2,SNR=7.9
JCT Junction City 69.14 336 *e*P **P 10 52 00.7 +0.3**
16nm,0.8s
TXAR Lajitas Array 69.52 332 P **P 10 52 03.3 +0.5**
8.3nm,0.7s,baz=158,slow=8.1,SNR=6.3
TXAR pP **pP 10 52 12.2 -1.4**
4.8nm,0.7s,baz=152,slow=8.4,SNR=4.2
WVT Waverly 71.42 348 *e*P **P 10 52 13.7 -0.4**
44nm,1.1s
DBIC Dimbokro 76.35 72 P **P 10 52 44.4 +0.8**
19nm,0.8s,baz=195,slow=4.6,SNR=3.5
DBIC pP **pP 10 52 53.7 -0.8**
16nm,0.6s,baz=201,slow=7.0,SNR=4.9
SDCO Great Sand Dun 77.71 334 *e*P **P 10 52 51.9 +1.0**
4.0nm,0.8s
BOSA Boshof 80.89 118 P **P 10 53 08.3 -0.3**
9.2nm,0.9s,baz=217,slow=5.1,SNR=2.8
NVAR Mina Array Bea 83.55 326 P **P 10 53 23.0 +0.8**
3.8nm,1.0s,baz=153,slow=6.1,SNR=3.0
PDAR Pinedale Array 83.59 334 P **P 10 53 23.1 +0.9**
3.9nm,1.0s,baz=152,slow=5.9,SNR=2.9
TORD Torodi Ar. Bea 85.38 71 P **P 10 53 32.1 +0.4**
7.0nm,0.8s,baz=253,slow=4.4,SNR=4.5
TORD pP **pP 10 53 41.4 -1.4**
9.0nm,0.8s,baz=254,slow=4.5,SNR=5.2
ULM Lac du Bonnet 86.56 346 P **P 10 53 36.2 -0.4**
12nm,1.0s,baz=115,slow=2.3,SNR=4.3
SCHQ Schefferville 89.01 4 P **P 10 53 48.2 -0.1**
4.6nm,0.7s,baz=177,slow=10,SNR=3.6
YKA Yellowknife Ar 102.05 342 P **Pdif 10 54 46.8 -0.6**
0.9nm,0.9s,baz=138,slow=3.9,SNR=4.3
WRA Warramunga Arr 119.89 210 PKP **PKPdf 10 59 43.7 -1.5**
2.4nm,0.8s,baz=155,slow=1.7,SNR=4.9
AKASG Malin Array Be 123.26 48 PKP **PKPdf 10 59 49.7 -0.5**
0.8nm,0.7s,baz=258,slow=3.7,SNR=3.2
SEY Seymchan 139.78 329 PKP **PKPdf 11 00 21.5 +0.5**
7.1nm,0.8s,baz=117,slow=4.5,SNR=4.0
PSI Prapat 147.79 165 PKPbc **PKPbc 11 00 38.5 -1.0**
12nm,0.9s,baz=225,slow=2.9,SNR=2.9
BVAR Borovoye Array 148.31 43 PKPbc **PKPbc 11 00 39.5 -0.1**
6.5nm,0.7s,baz=315,slow=3.1,SNR=4.3
ZALV Zalesovo Beam 155.12 31 PKPbc PKPdf 11 00 54.3 +7.9
6.5nm,0.8s,baz=329,slow=1.7,SNR=3.7
MKAR Makanchi Array 157.84 49 PKPab **PKPab 11 01 24.0 +0.8**
4.5nm,0.7s,baz=308,slow=3.8,SNR=3.7
SONM Songino Array 166.54 1 PKPab **PKPab 11 02 01.5 +0.3**
2.1nm,0.8s,baz=357,slow=5.8,SNR=3.6

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*ISCJB **27** 10:42:29.7±0.6, 34°.5S±0°.1×72°.6W±0°.4, h10km, mb4.4/11, Error ellipse: s-maj=45.9km s-min=11.6km az=163.2*
*IDC **27** 10:42:29.6±0.7, 34°.46S×72°.52W, h0km, mb4.4/8, mb1 4.6/8, mb1mx4.3/32, mbtmp4.4/8, Error ellipse: s-maj=44.2km s-min=19.4km az=72.0*
*NEIC **27** 10:42:34.9±0.3, 34°.47S×72°.54W, h35km, mb4.5/4, Error ellipse: s-maj=24.7km s-min=8.1km az=74.0*
ISC 27 10:42:31.3±0.7, 34°.4S±0°.1×72°.5W±0°.3, h10km, n18, σ0s.73/18, mb4.5/11, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 6.48 167 *e*Pn **Pn 10 44 07.2 +0.4**
NNA Nana 22.69 349 P **P 10 47 33.8 +0.6**
3.3nm,0.3s,baz=188,slow=11,SNR=3.7
NNA Nana 22.69 349 *e*P **P 10 47 33.7 +0.6**
9.2nm,0.6s
SNAA Sanae 51.33 158 P **P 10 51 35.6 +0.2**
3.4nm,0.7s,baz=263,slow=8.1,SNR=4.8
QSPA South Pole Qui 55.81 180 P **P 10 52 08.6 +0.2**
3.7nm,0.7s,baz=201,slow=3.6,SNR=3.3
TEIG Tepich 56.39 342 P **P 10 52 12.8 -0.1**
13nm,0.7s,baz=101,slow=10,SNR=7.0
JCT Junction City 69.51 335 *e*P **P 10 53 39.5 -0.6**
9.3nm,0.9s
TXAR Lajitas Array 69.92 331 P **P 10 53 43.0 +0.3**
2.2nm,0.6s,baz=160,slow=8.4,SNR=6.5
ANMO Albuquerque 75.98 332 *e*P **P 10 54 19.0 +0.4**
4.8nm,1.0s
SDCO Great Sand Dun 78.09 334 *e*P **P 10 54 30.1 -0.5**
8.9nm,1.7s
PDAR Pinedale Array 83.97 333 P **P 10 55 02.1 +0.3**
0.8nm,0.7s,baz=141,slow=5.8,SNR=2.7
NVAR Mina Array Bea 84.02 326 P **P 10 55 02.6 +0.6**
1.3nm,0.7s,baz=152,slow=6.0,SNR=3.3
TORD Torodi Ar. Bea 84.71 70 P **P 10 55 05.9 +0.1**
3.7nm,0.8s,baz=249,slow=4.8,SNR=3.9
WRA Warramunga Arr 120.20 209 PKP **PKPdf 11 01 20.8 -2.3**
0.5nm,0.6s,baz=157,slow=1.6,SNR=6.3
ARCES ARCESS Array B 124.56 25 PKP **PKPdf 11 01 29.6 -0.2**
3.7nm,0.9s,baz=264,slow=0.9,SNR=3.5
BVAR Borovoye Array 147.85 43 PKPbc **PKPbc 11 02 15.4 -0.6**
3.5nm,0.6s,baz=306,slow=1.7,SNR=5.3
ZALV Zalesovo Beam 154.79 32 PKPbc **PKPbc 11 02 32.3 +0.2**
3.5nm,0.8s,baz=321,slow=3.7,SNR=3.3
MKAR Makanchi Array 157.33 49 PKPab **PKPab 11 02 58.4 -0.1**
4.4nm,0.8s,baz=297,slow=3.4,SNR=4.5

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*IDC **27** 10:44:49.6±1.2, 36°.53S×73°.49W, h0km, mb4.4/6, mb1 4.5/6, mb1mx4.3/18, mbtmp4.4/6, Error ellipse: s-maj=40.6km s-min=29.4km az=77.0*
*ISCJB **27** 10:44:51.6±1.0, 36°.5S±0°.2×73°.8W±0°.3, h27km, mb4.4/7, Error ellipse: s-maj=34.4km s-min=23.5km az=177.7*
ISC 27 10:44:53.8±1.1, 36°.5S±0°.2×73°.5W±0°.3, h27km, n8, σ0s.46/7, mb4.4/7, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SIV San Ignacio 23.25 32 P **P 10 49 59.4 +0.3**
7.9nm,0.9s,baz=225,slow=14,SNR=3.1
APG El Apazote 53.69 340 P P 10 54 09.8 -3.8
2.7nm,0.8s,baz=138,slow=13,SNR=3.5
QSPA South Pole Qui 53.72 180 P **P 10 54 13.3 +0.1**
5.4nm,0.9s,baz=196,slow=1.1,SNR=3.4
TEIG Tepich 58.14 344 P **P 10 54 44.6 -0.6**
9.9nm,0.8s,baz=142,slow=2.5,SNR=5.9
TXAR Lajitas Array 71.38 332 P **P 10 56 12.0 +0.5**
1.0nm,0.5s,baz=157,slow=8.5,SNR=12
DBIC Dimbokro 77.12 72 P **P 10 56 45.3 +0.2**
4.8nm,0.7s,baz=227,slow=5.7,SNR=4.1
TORD Torodi Ar. Bea 86.19 71 P **P 10 57 32.6 -0.3**
1.9nm,0.8s,baz=234,slow=5.4,SNR=3.4
BVAR Borovoye Array 149.92 45 PKPbc **PKPbc 11 04 40.8 -0.2**
1.2nm,0.8s,baz=270,slow=2.9,SNR=2.6

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*IDC **27** 10:46:37.4±0.5, 35°.36S×72°.82W, h0km, mb4.7/11, mb1 4.9/12, mb1mx4.6/32, mbtmp4.7/12, ML3.9/1, Error ellipse: s-maj=27.5km s-min=17.5km az=81.0*
*ISCJB **27** 10:46:39.7±0.3, 35°.19S±0°.06×72°.6W±0°.1, h20km, mb4.9/36, Error ellipse: s-maj=15.5km s-min=7.4km az=156.6*
*NEIC **27** 10:46:42.8±0.2, 35°.37S×72°.72W, h35km, mb4.8/9, Error ellipse: s-maj=11.5km s-min=6.7km az=70.0*
ISC 27 10:46:40.8±0.5, 35°.27S±0°.09×72°.7W±0°.2, h20km, n394, σ0s.62/393, mb5.0/37, 148C-168D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 19.35 13 P **Pn 10 51 07.0 +0.2**
0.2nm,0.3s,baz=180,slow=8.3,SNR=1.5
USHA Ushuaia 19.79 173 P **Pn 10 51 13.8 +2.6**
0.7nm,0.3s,baz=332,slow=9.4,SNR=5.6
SIV San Ignacio 21.85 31 P **P 10 51 32.4 +0.1**
55nm,1.1s,baz=217,slow=11,SNR=7.5
SDV Santo Domingo 43.96 3 *e*P **P 10 54 46.8 0.0**
26nm,1.1s
VNA3 Neumayer Olymp 48.41 157 P **P 10 55 21.6 +0.6**
VNA1 Neumayer--Stat 48.74 156 P **P 10 55 25.2 +1.7**
VNA2 Neumayer--Watz 49.07 157 P **P 10 55 26.8 +0.6**
SNAA Sanae 50.63 157 P **P 10 55 38.2 +0.1**
SNAA Sanae 50.63 157 P **P 10 55 37.4 -0.6**
12nm,0.9s,baz=288,slow=7.5,SNR=14
APG El Apazote 52.75 338 P P 10 55 51.0 -3.7
4.6nm,0.8s,baz=171,slow=7.8,SNR=4.3
QSPA South Pole Qui 54.97 180 P **P 10 56 10.4 +0.1**
17nm,0.9s,baz=144,slow=4.6,SNR=7.8
834A Tilden 67.60 335 ⇑P **P 10 57 37.1 +1.2**
baz=68
735A Kenedy 68.03 336 ⇑P **P 10 57 39.8 +1.2**
baz=68
833A Chaparral WMA, 68.08 335 ⇓P **P 10 57 39.9 +0.9**
baz=68
832A Faith Ranch, C 68.25 334 ⇓P **P 10 57 40.7 +0.7**
baz=69
734A La Parita Cree 68.27 336 ⇑P **P 10 57 40.9 +0.7**
baz=69
636A Smothers Creek 68.37 337 ⇓P **P 10 57 41.5 +0.7**
baz=69
732A Laxson Ranch, 68.65 334 ⇓P **P 10 57 43.3 +0.8**
baz=69
537A Green Hill Far 68.69 338 ⇑P **P 10 57 43.4 +0.7**
baz=69
536A Bastrop 68.92 337 ⇓P **P 10 57 45.2 +1.1**
baz=69
535A Dale 69.04 337 ⇑P **P 10 57 45.6 +0.7**
baz=70
632A Uvalde 69.30 335 ⇓P **P 10 57 47.0 +0.4**
baz=70
533A Kerrville 69.56 336 ⇓P **P 10 57 48.6 +0.4**
baz=70
338A Crockett 69.59 339 ⇓P **P 10 57 49.2 +0.9**
baz=70
532A Rocksprings 69.90 335 ⇓P **P 10 57 51.2 +0.8**
baz=70
434A Burnet 69.99 337 ⇓P **P 10 57 51.3 +0.5**
baz=70
336A Riesel 70.07 338 ⇓P **P 10 57 52.0 +0.7**
baz=70
335A Moody 70.16 338 ⇓P **P 10 57 52.4 +0.6**
baz=70
531A Rocksprings 70.16 335 ⇓P **P 10 57 52.6 +0.7**
baz=71
JCT Junction City 70.19 335 ⇓P **P 10 57 52.3 +0.2**
baz=71
433A Art 70.20 336 ⇑P **P 10 57 52.4 +0.3**
baz=71
530A J-C Ranch, Com 70.43 334 ⇓P **P 10 57 54.7 +1.1**
baz=71
334A Lometa 70.46 337 ⇑P **P 10 57 54.3 +0.6**
baz=71
KMSC Kings Mountain 70.51 353 ⇓P **P 10 57 53.6 -0.2**
baz=71
432A Menard 70.55 335 ⇓P **P 10 57 54.3 0.0**
baz=71
TXAR Lajitas Array 70.57 332 P **P 10 57 54.8 +0.3**
2.0nm,0.9s,baz=157,slow=6.8,SNR=4.5
431A Sonora 70.65 335 ⇓P **P 10 57 55.4 +0.5**
baz=71
333A Richland Sprin 70.69 336 ⇓P **P 10 57 55.5 +0.3**
baz=71
529A Stev Forest Ra 70.73 333 ⇓P **P 10 57 56.0 +0.6**
baz=71
WHTX Lake Whitney 70.82 338 ⇓P **P 10 57 56.0 +0.2**
baz=71
430A Baggett Ranch, 70.97 334 ⇓P **P 10 57 57.2 +0.3**
baz=71
332A Millersview 71.00 336 ⇑P **P 10 57 57.0 0.0**
baz=71
234A Clairette 71.05 337 ⇓P **P 10 57 57.6 +0.4**
baz=72
429A Davenport Ranc 71.06 334 ⇓P **P 10 57 57.7 +0.3**
baz=72
331A San Angelo 71.16 335 ⇓P **P 10 57 58.4 +0.4**
baz=72
233A Rising Star 71.30 337 ⇓P **P 10 57 59.2 +0.4**
baz=72
232A Coleman 71.43 336 ⇓P **P 10 58 00.0 +0.4**
baz=72
330A Mertzon 71.51 335 ⇑P **P 10 58 00.6 +0.5**
baz=72
134A White-Moore Ra 71.56 338 ⇑P **P 10 58 00.7 +0.4**

	baz=72						
231A	Bronte	71.70	336	⇑P	P	10 58 01.5	+0.3
	baz=72						
133A	Hamilton Ranch	71.85	337	⇓P	P	10 58 02.2	+0.1
	baz=72						
329A	Wagon Wheel Ra	71.87	334	⇑P	P	10 58 02.8	+0.5
	baz=72						
230A	Sterling City	71.93	335	⇓P	P	10 58 03.1	+0.4
	baz=72						
Z35A	Perchaven, San	72.01	339	⇓P	P	10 58 03.3	+0.3
	baz=72						
ABTX	Abilene, Hawle	72.10	336	eP	P	10 58 04.2	+0.5
	17nm,1.0s						
ABTX	Abilene, Hawle	72.10	336	⇓P	P	10 58 04.1	+0.5
	baz=72						
229A	Bryant Ranch,	72.25	334	⇑P	P	10 58 05.0	+0.4
	baz=73						
Z34A	Collier Ranch,	72.25	338	⇑P	P	10 58 05.0	+0.5
	baz=73						
131A	Roby	72.40	336	⇓P	P	10 58 05.9	+0.5
	baz=73						
Z33A	Whitaker Ranch	72.43	337	⇓P	P	10 58 05.6	+0.1
	baz=73						
130A	Snyder	72.52	335	⇑P	P	10 58 06.3	+0.1
	baz=73						
228A	UT Block 9, Go	72.66	334	⇓P	P	10 58 07.6	+0.6
	baz=73						
Z32A	Haskell	72.68	337	⇓P	P	10 58 07.6	+0.6
	baz=73						
Y34A	Reagan Ranch,	72.74	338	⇓P	P	10 58 07.8	+0.4
	baz=73						
BBTS	Babate	72.78	57	P	P	10 58 09.7	+1.7
	7.6nm,0.4s,baz=229,slow=4.6,SNR=3.6						
129A	Stewart Farms,	72.87	335	⇑P	P	10 58 08.6	+0.4
	baz=73						
Z31A	Sharp Cattle R	72.91	336	⇑P	P	10 58 08.5	+0.1
	baz=73						
Y33A	Hilltop Ranch,	73.06	338	⇓P	P	10 58 09.4	+0.1
	baz=74						
128A	Castleberry Fa	73.08	334	⇓P	P	10 58 09.9	+0.4
	baz=74						
Z30A	Sanderson Ranc	73.21	335	⇑P	P	10 58 10.4	+0.2
	baz=74						
Y32A	R-V Farms, Ver	73.31	337	⇑P	P	10 58 10.6	-0.1
	baz=74						
X34A	Smith Ranch, M	73.36	339	⇑P	P	10 58 10.7	-0.3
	baz=74						
Z29A	Hungry Hill Ra	73.38	335	⇓P	P	10 58 10.8	-0.4
	baz=74						
127A	Arkansas Junct	73.44	333	⇑P	P	10 58 11.8	+0.1
	baz=74						
X33A	Lawton	73.51	338	⇓P	P	10 58 11.5	-0.4
	baz=74						
Y31A	Rekieta Farm,	73.53	336	⇑P	P	10 58 11.9	-0.2
	baz=74						
X32A	Elmer	73.64	337	⇓P	P	10 58 12.4	-0.2
	baz=74						
Y29A	Porterfield Fa	73.91	335	⇑P	P	10 58 14.5	+0.1
	baz=74						
W34A	Bridge Creek,	73.94	339	⇓P	P	10 58 14.4	0.0
	baz=74						
Z27A	Tatum	73.97	334	⇑P	P	10 58 14.7	-0.1
	baz=74						
TUL1	Tulsa	74.01	341	eP	P	10 58 14.5	-0.3
	11nm,0.9s						
TUL1				e		11 06 01.6	
TUL1	Tulsa	74.01	341	⇑P	P	10 58 14.7	0.0
	baz=74						
X31A	McDonald Ranch	74.06	337	⇑P	P	10 58 15.2	+0.1
	baz=74						
W33A	Caddo, Fort Co	74.07	338	⇓P	P	10 58 15.6	+0.4
	baz=74						
Z26A	Caprock	74.21	333	⇑P	P	10 58 16.1	0.0
	baz=75						
SIUC	Southern Illin	74.21	346	eP	P	10 58 15.8	-0.1
	19nm,1.1s						
W32A	Sentinel	74.28	338	⇓P	P	10 58 16.2	-0.2
	baz=75						
MSTX	Muleshoe	74.40	334	eP	P	10 58 09.5	-7.8
	13nm,0.8s						
MSTX	Muleshoe	74.40	334	⇓P	P	10 58 17.1	-0.1
	baz=75						
V34A	Guthrie	74.42	339	eP	P	10 58 17.4	+0.2
	190nm,2.8s						
V34A	Guthrie	74.42	339	⇓P	P	10 58 16.9	-0.3
	baz=75						
X29A	Tulia	74.46	335	⇑P	P	10 58 17.4	-0.2
	baz=75						
Z25A	Roswell	74.49	333	⇓P	P	10 58 17.7	-0.1
	baz=75						
W31A	Holland Ranch,	74.56	337	⇓P	P	10 58 18.0	-0.1
	baz=75						
V33A	Lossen Ranch,	74.63	339	⇓P	P	10 58 18.2	-0.2
	baz=75						
319A	Douglas	74.67	328	⇑P	P	10 58 19.6	+0.7
	baz=75						
X28A	Dimmitt	74.69	335	⇑P	P	10 58 18.8	-0.2
	baz=75						
Y26A	Elida	74.73	334	⇓P	P	10 58 19.4	+0.1
	baz=75						
V32A	Arapaho	74.77	338	⇑P	P	10 58 19.4	+0.1
	baz=75						
Z24A	Sheeppen Canyo	74.78	332	⇑P	P	10 58 19.5	-0.1
	baz=75						
AMTX	Amarillo	74.85	336	eP	P	10 58 20.4	+0.6
	202nm,2.7s						
AMTX	Amarillo	74.85	336	⇑P	P	10 58 19.5	-0.3
	baz=75						
U34A	Anderson Ranch	74.99	339	⇑P	P	10 58 20.8	+0.3
	baz=75						
121A	Cookes Peak, D	75.04	330	⇓P	P	10 58 21.8	+0.7
	baz=75						
Y25A	Mesa, Roswell	75.05	333	⇓P	P	10 58 21.4	+0.3
	baz=76						
W29A	Amraillo	75.05	336	⇓P	P	10 58 21.5	+0.5
	baz=76						
V31A	Spring Creek L	75.06	337	⇑P	P	10 58 21.6	+0.6
	baz=76						
X26A	CR and CF Fran	75.29	334	⇓P	P	10 58 23.0	+0.6
	baz=76						
Y24A	Capitan	75.33	332	⇓P	P	10 58 23.4	+0.6
	baz=76						
Z22A	Elephant Butte	75.34	331	⇓P	P	10 58 23.9	+1.1
	baz=76						
W27A	Bowe Ranch, En	75.49	335	⇓P	P	10 58 24.4	+0.9
	baz=76						
Y23A	Lovelace Mesa,	75.58	332	⇑P	P	10 58 25.0	+0.9
	baz=76						
X25A	Clemmons Ranch	75.58	333	⇑P	P	10 58 24.6	+0.5
	baz=76						
ACSO	Alum Creek Sta	75.72	352	eP	P	10 58 24.6	0.0
	20nm,0.9s						
W26A	Owens Ranch, T	75.76	334	⇓P	P	10 58 25.8	+0.7
	baz=76						
T33A	Patterson Ranc	75.79	339	⇓P	P	10 58 25.6	+0.5
	baz=76						
V28A	Channing	75.82	336	⇓P	P	10 58 25.6	+0.2
	baz=76						
U30A	WK&E Inc. Balk	76.02	337	⇓P	P	10 58 26.4	-0.1
	baz=76						
V27A	Dan Oppiter Fa	76.03	335	⇑P	P	10 58 26.9	+0.2
	baz=76						
TUC	Tucson	76.12	327	eP	P	10 58 27.7	+0.5
	8.0nm,1.3s						
W25A	X Bar L Ranch,	76.12	334	⇓P	P	10 58 27.5	+0.3
	baz=76						
DBIC	Dimbokro	76.13	71	P	P	10 58 27.7	+0.1
	14nm,1.1s,baz=199,slow=6.2,SNR=5.1						
U29A	Oasis Ranch, S	76.14	337	⇑P	P	10 58 27.5	+0.3
	baz=77						
T31A	Randall Ranch,	76.23	338	⇓P	P	10 58 28.2	+0.6
	baz=77						
U28A	Mallet	76.39	336	⇑P	P	10 58 29.3	+0.7
	baz=77						
V26A	Tequesquite Ra	76.40	334	⇑P	P	10 58 29.2	+0.5
	baz=77						
W24A	Lazy 6 Ranch,	76.47	333	⇓P	P	10 58 29.5	+0.2
	baz=77						
S32A	Newby Ranch, P	76.57	339	⇑P	P	10 58 29.8	+0.3
	baz=77						
ANMO	Albuquerque	76.63	332	eP	P	10 58 28.1	-2.0
	10nm,1.2s						
U27A	Thompson Grove	76.63	335	⇓P	P	10 58 30.5	+0.4
	baz=77						
W23A	Werner Place,	76.70	332	⇑P	P	10 58 31.1	+0.5
	baz=77						
V25A	Rancho No Teng	76.73	334	⇓P	P	10 58 31.1	+0.4
	baz=77						

214A	Organ Pipe Nat	76.74	326	⇑P	P	10 58 31.5	+0.9
	baz=77						
T29A	Hugoton	76.79	337	⇓P	P	10 58 31.1	+0.3
	baz=77						
R33A	Olander Ranch,	76.86	340	⇑P	P	10 58 31.2	+0.1
	baz=77						
V24A	Rampart Ranch,	76.87	333	⇓P	P	10 58 31.5	-0.1
	baz=77						
U26A	Atchley Ranch,	76.92	335	⇑P	P	10 58 32.4	+0.6
	baz=77						
S30A	Montezuma	76.97	338	⇓P	P	10 58 32.5	+0.6
	baz=77						
T28A	Walsh	77.03	336	⇑P	P	10 58 32.6	+0.4
	baz=78						
S29A	Ulysses	77.16	337	⇓P	P	10 58 33.4	+0.5
	baz=78						
U25A	Circle Dot Ran	77.16	334	⇑P	P	10 58 33.5	+0.4
	baz=78						
R32A	Long Quarter,	77.17	339	⇓P	P	10 58 33.0	+0.1
	baz=78						
T27A	Campo	77.18	336	⇓P	P	10 58 33.5	+0.4
	baz=78						
V23A	Ortiz Mt. (NFS	77.23	333	⇑P	P	10 58 33.9	+0.3
	baz=78						
R31A	Burdett	77.29	339	⇑P	P	10 58 33.8	+0.2
	baz=78						
S28A	Manter	77.38	337	⇑P	P	10 58 35.2	+1.0
	baz=78						
Q33A	Connelly Farm,	77.46	340	⇑P	P	10 58 35.0	+0.5
	baz=78						
R30A	Dighton	77.51	338	⇑P	P	10 58 35.2	+0.3
	baz=78						
T26A	Comanche Natio	77.57	335	⇓P	P	10 58 35.8	+0.4
	baz=78						
V22A	San Miguel Ran	77.65	332	⇓P	P	10 58 36.7	+0.8
	baz=78						
Q32A	Meitler Ranch,	77.66	340	⇑P	P	10 58 36.0	+0.4
	baz=78						
X18A	Snowflake	77.67	329	⇓P	P	10 58 36.7	+0.7
	baz=78						
U23A	El Rito	77.75	333	⇑P	P	10 58 37.3	+0.9
	baz=78						
T25A	Trinidad	77.83	335	⇑P	P	10 58 37.6	+0.8
	baz=78						
R29A	Marienthal	77.90	338	⇓P	P	10 58 37.6	+0.6
	baz=78						
Q31A	Ellis	77.91	339	⇓P	P	10 58 37.6	+0.5
	baz=78						
S26A	Kim	77.94	335	⇓P	P	10 58 38.2	+0.8
	baz=78						
U22A	Llaves	78.04	332	⇓P	P	10 58 38.7	+0.7
	baz=78						
R28A	Tribune	78.04	337	⇓P	P	10 58 38.3	+0.4
	baz=78						
W18A	Petrified Fore	78.08	330	⇑P	P	10 58 38.7	+0.4
	baz=78						
T24B	San Luis	78.10	334	⇑P	P	10 58 39.3	+0.9
	baz=78						
Q30A	Quinter	78.13	338	⇓P	P	10 58 38.8	+0.5
	baz=79						
X16A	Lo Mia Camp, P	78.20	328	⇓P	P	10 58 39.7	+0.8
	baz=79,SNR=5.4						
Q29A	Oakley	78.28	338	⇑P	P	10 58 39.3	+0.2
	baz=79						
R27A	Eads	78.31	336	⇓P	P	10 58 39.7	+0.3
	baz=79						
T23A	Casias Ranch,	78.32	333	⇑P	P	10 58 40.0	+0.4
	baz=79						
P31A	Stockton	78.38	339	⇑P	P	10 58 39.8	+0.1
	baz=79						
Y14A	Wickenburg	78.49	327	⇑P	P	10 58 41.3	+0.9
	baz=79						
R26A	Arlington	78.54	336	⇓P	P	10 58 41.1	+0.4
	baz=79						
S24A	Houchin Ranch,	78.56	334	⇑P	P	10 58 41.4	+0.4
	baz=79						
R25A	Fountain Ranch	78.69	335	⇓P	P	10 58 42.2	+0.7
	baz=79						
Q28A	Sharon Springs	78.70	337	⇑P	P	10 58 42.4	+0.9
	baz=79						
S23A	Nye Farm, Mont	78.90	334	⇑P	P	10 58 43.7	+0.9
	baz=79						
KSCO	Kaye Shedlock'	78.91	337	eP	P	10 58 44.0	+1.3
	20nm,1.1s						
KSCO	Kaye Shedlock'	78.91	337	⇑P	P	10 58 43.4	+0.7
	baz=79						
P29A	Atwood	78.92	338	⇓P	P	10 58 43.1	+0.5
	baz=79						
O31A	Woolen Ranch,	78.95	340	⇓P	P	10 58 43.1	+0.4
	baz=79						
R24A	Sanders Place,	79.05	335	⇑P	P	10 58 44.3	+0.7
	baz=80						
WUAZ	Wupatki	79.11	329	eP	P	10 58 44.9	+1.0
	11nm,1.1s						
WUAZ	Wupatki	79.11	329	⇑P	P	10 58 45.1	+1.2
	baz=80						
P28A	Saint Francis	79.15	338	⇑P	P	10 58 44.4	+0.5
	baz=80						
S22A	4UR Ranch, Cre	79.24	333	⇓P	P	10 58 45.1	+0.3
	baz=80						
R23A	Moffat	79.27	334	⇑P	P	10 58 45.5	+0.7
	baz=80						
PDMCI	Parker Dam,Lak	79.30	326	⇓P	P	10 58 46.0	+1.3
	baz=80						
Q25A	Bedland, Calha	79.36	335	⇑P	P	10 58 46.1	+0.8
	baz=80						
P27A	Ficken Ranch,	79.39	337	⇓P	P	10 58 46.1	+0.8
	baz=80						
MVCO	Mesa Verde	79.40	332	eP	P	10 58 45.7	+0.1
	54nm,2.1s						
MVCO	Mesa Verde	79.40	332	⇑P	P	10 58 46.0	+0.5
	baz=80						
P26A	Davis Ranch, A	79.64	336	⇑P	P	10 58 47.0	+0.3
	baz=80						
Q24A	Divide	79.72	335	⇓P	P	10 58 47.4	+0.1
	baz=80						
W13A	Hualapai Mount	79.85	327	⇑P	P	10 58 48.9	+0.9
	baz=80						
P25A	Willow Gulch B	79.88	336	⇑P	P	10 58 48.9	+0.9
	baz=80						
O27A	Beecher Island	79.94	337	⇓P	P	10 58 49.2	+0.9
	baz=80						
N29A	Votaw Ranch, W	79.95	339	⇓P	P	10 58 48.7	+0.5
	baz=80						
M31A	Lambtecht Ranc	79.96	340	⇓P	P	10 58 49.0	+0.8
	baz=80						
BOSA	Boshof	79.99	118	P	P	10 58 49.0	-0.1
	10nm,0.8s,baz=238,slow=7.7,SNR=2.4						
N28A	Pribbeno Ranch	80.10	338	⇑P	P	10 58 49.2	+0.2
	baz=80						
P24A	Kohler Place,	80.13	335	⇓P	P	10 58 49.7	+0.3
	baz=81						
O26A	Horse Wrangler	80.25	337	⇓P	P	10 58 50.7	+0.8
	baz=81						
U15A	North Rim	80.28	329	⇓P	P	10 58 51.8	+1.4
	baz=81,SNR=5.8						
O25A	Wiggins	80.40	336	⇑P	P	10 58 51.8	+1.1
	baz=81						
GMRC	Granite Mounta	80.40	325	⇑P	P	10 58 52.0	+1.1
	baz=81						
N27A	Anderson Farm,	80.52	338	⇓P	P	10 58 52.0	+0.6
	baz=81						
M29A	Burnside Ranch	80.54	339	⇓P	P	10 58 52.0	+0.6
	baz=81						
SMCO	Snowmass	80.56	334	eP	P	10 58 53.5	+1.5
	13nm,1.2s						
ISCO	Idaho Springs	80.62	335	⇑P	P	10 58 52.6	+0.4
	baz=81						
L31A	Butterfield Fa	80.70	341	⇓P	P	10 58 52.8	+0.6
	baz=81						
L30A	Spencer Herefo	80.73	340	⇓P	P	10 58 53.1	+0.7
	baz=81						
HEC	Hector,Ludlow	80.75	325	⇓P	P	10 58 54.0	+1.3
	baz=81						
O23A	Lake Granby, G	81.10	335	⇓P	P	10 58 55.6	+0.9
	baz=82						
O22A	Kremmling	81.27	334	⇑P	P	10 58 56.4	+0.8
	baz=82						
N24A	Carr	81.30	336	⇑P	P	10 58 55.9	+0.4
	baz=82						
GSC	Goldstone	81.36	325	⇑P	P	10 58 56.8	+0.9
	baz=82						
K30A	Basset	81.37	340	⇓P	P	10 58 56.3	+0.6
	baz=82						
M25A	Palm-Egli Farm	81.57	337	⇓P	P	10 58 57.4	+0.4
	baz=82						
ECSD	EROS Data Cent	81.58	343	eP	P	10 58 56.8	-0.1
	21nm,1.0s						

ECSD	EROS Data Cent	81.58	343	⇑P	P	10 58 56.5	-0.3
	baz=82						
SHPR	Sheep Range	81.60	327	eP	P	10 58 58.8	+1.6
L27A	T5 Ranch, Ells	81.61	338	⇑P	P	10 58 57.8	+0.7
	baz=82						
K29A	Lazy Trails An	81.65	340	⇓P	P	10 58 58.3	+1.1
	baz=82						
N23A	Red Feather La	81.72	335	⇑P	P	10 58 58.5	+0.6
	baz=82						
N22A	Wattenberg Ran	81.81	335	⇑P	P	10 58 59.7	+1.3
	baz=82						
SRU	San Rafael	81.84	331	eP	P	10 58 58.7	+0.2
	27nm,1.8s						
M24A	Cheyenne	81.85	336	⇑P	P	10 58 59.2	+0.7
	baz=82						
O20A	White River Ci	81.86	333	⇓P	P	10 58 59.2	+0.6
	baz=82						
K28A	Ten Mile Ranch	81.91	339	⇑P	P	10 58 59.3	+0.7
	baz=82						
PHWY	Pilot Hill	81.91	336	eP	P	10 58 59.8	+0.8
	77nm,2.5s						
J30A	Dallas	81.94	341	⇑P	P	10 58 59.4	+0.7
	baz=82						
K27A	Flueckinger Fa	82.15	339	⇑P	P	10 59 00.5	+0.6
	baz=83						
SPMN	St. Paul	82.16	346	⇑P	P	10 58 59.5	-0.3
	baz=83						
L25A	Engebretsen Ra	82.19	337	⇓P	P	10 59 00.5	+0.3
	baz=83						
J29A	Okreek	82.25	340	⇑P	P	10 59 00.7	+0.3
	baz=83						
FURC	Furnace Creek,	82.34	326	⇓P	P	10 59 02.2	+1.3
	baz=83						
ISA	Isabella	82.45	324	⇑P	P	10 59 02.8	+1.2
	baz=83						
I30A	Oacoma	82.47	341	⇑P	P	10 59 01.6	+0.2
	baz=83						
N20A	Spence Gulch,	82.48	334	⇑P	P	10 59 02.2	+0.4
	baz=83						
J27A	Elkhorn Farm,	82.59	339	⇑P	P	10 59 02.6	+0.4
	baz=83						
I29A	Vivian Onida	82.81	340	⇑P	P	10 59 03.5	+0.3
	baz=83						
BRSD	Miller	82.84	341	eP	P	10 59 03.5	+0.1
	15nm,1.0s						
BRSD	Miller	82.84	341	⇑P	P	10 59 03.5	+0.1
	baz=83						
VES	Vestal, Richgr	82.89	324	⇑P	P	10 59 05.5	+1.6
	baz=83						
J26A	Sides Ranch, S	82.96	338	⇑P	P	10 59 04.4	+0.3
	baz=83						
I28A	Midland	83.03	340	⇓P	P	10 59 04.9	+0.5
	baz=84						
K23A	Bowen Ranch, D	83.27	336	⇓P	P	10 59 06.1	+0.3
	baz=84						
R11A	Troy Canyon, C	83.31	327	⇑P	P	10 59 07.1	+0.9
	baz=84						
H29A	Onida	83.34	341	⇑P	P	10 59 06.3	+0.3
	baz=84						
I27A	Quinn	83.35	339	⇓P	P	10 59 05.8	-0.2
	baz=84						
J24A	Dixon Ranch, L	83.47	337	⇑P	P	10 59 07.2	+0.4
	baz=84						
K22A	Casper	83.47	336	⇑P	P	10 59 07.3	+0.4
	baz=84						
G30A	Faulkton	83.53	342	⇑P	P	10 59 07.3	+0.4
	baz=84						
I26A	New Underwood	83.55	339	⇓P	P	10 59 07.5	+0.4
	baz=84						
H28A	Mission Ridge	83.61	340	⇓P	P	10 59 07.9	+0.5
	baz=84						
DUG	Dugway	83.68	330	eP	P	10 59 08.2	+0.2
	14nm,1.2s						
DUG	Dugway	83.68	330	⇓P	P	10 59 08.6	+0.6
	baz=84,SNR=6.2						
K21A	Alcova	83.71	335	⇑P	P	10 59 08.3	+0.1
	baz=84						
G29A	Hoven	83.79	341	⇓P	P	10 59 08.3	0.0
	baz=84						
I25A	Rochford	83.80	338	⇑P	P	10 59 08.6	0.0
	baz=84						
H27A	Howes	83.87	339	⇑P	P	10 59 08.9	+0.1
	baz=84						
G28A	Parade	83.95	340	⇑P	P	10 59 09.5	+0.4
	baz=84						
RSSD	Black Hills	83.99	338	eP	P	10 59 09.5	-0.1
	5.2nm,1.0s						
J22A	Midwest	84.14	336	⇓P	P	10 59 10.1	-0.1
	baz=85						
F30A	Leola	84.15	342	⇓P	P	10 59 10.4	+0.3
	baz=85						
H25A	Fruitdale	84.31	338	⇑P	P	10 59 11.6	+0.6
	baz=85						
F29A	Eureka	84.36	341	⇓P	P	10 59 11.2	+0.1
	baz=85						
J21A	Lysite	84.40	335	⇓P	P	10 59 11.5	-0.1
	baz=85						
G27A	Dupree	84.51	340	⇑P	P	10 59 12.1	+0.1
	baz=85						
I22A	9 Mile Ranch,	84.56	336	⇑P	P	10 59 12.6	+0.3
	baz=85						
NVAR	Mina Array Bea	84.60	326	P	P	10 59 13.7	+0.8
	2.9nm,0.9s,baz=149,slow=6.9,SNR=7.7						
G26A	Maurine	84.62	339	⇑P	P	10 59 12.9	+0.3
	baz=85						
J20A	Shoshoni	84.63	335	⇑P	P	10 59 13.3	+0.6
	baz=85						
F28A	McLaughlin	84.63	341	⇑P	P	10 59 12.4	-0.2
	baz=85,SNR=5.2						
PDAR	Pinedale Array	84.64	334	P	P	10 59 13.2	+0.2
	2.3nm,0.9s,baz=149,slow=6.2,SNR=5.5						
H24A	Dirks Ranch, A	84.71	338	⇑P	P	10 59 13.3	+0.2
	baz=85						
E30A	Jud	84.75	342	⇓P	P	10 59 13.5	+0.4
	baz=85						
I21A	Big Trails, Te	84.76	336	⇓P	P	10 59 13.2	-0.3
	baz=85,SNR=5.3						
G25A	Newell	84.77	339	⇓P	P	10 59 13.3	0.0
	baz=85						
J19A	Crowheart	84.89	334	⇑P	P	10 59 14.3	+0.2
	baz=85						
F27A	Lemmon	84.99	340	⇓P	P	10 59 14.6	+0.2
	baz=85						
E29A	Napoleon	84.99	342	⇓P	P	10 59 14.5	+0.2
	baz=85						
H22A	Clearmont	85.15	337	⇓P	P	10 59 15.1	-0.1
	baz=86						
F26A	Lodgepole	85.15	340	⇑P	P	10 59 15.0	-0.2
	baz=86						
I20A	Worland	85.17	335	⇓P	P	10 59 15.7	+0.3
	baz=86						
TORD	Torodi Ar. Bea	85.18	70	P	P	10 59 16.1	+0.1
	4.6nm,0.9s,baz=263,slow=4.1,SNR=6.9						
G24A	Alzada	85.19	338	⇑P	P	10 59 15.5	+0.1
	baz=86						
D30A	Buchanan	85.27	342	⇑P	P	10 59 15.9	+0.2
	baz=86						
E28A	Huff	85.27	341	⇑P	P	10 59 15.8	+0.1
	baz=86						
E27A	Carson	85.37	340	⇑P	P	10 59 16.1	-0.2
	baz=86						
G23A	Biddle	85.38	337	⇓P	P	10 59 15.5	-0.9
	baz=86						
H21A	Big Horn, Sher	85.40	336	⇑P	P	10 59 16.4	-0.1
	baz=86						
D29A	Pettibone, Tap	85.44	342	⇓P	P	10 59 16.4	-0.1
	baz=86						
F25A	Bowman	85.45	339	⇓P	P	10 59 16.6	-0.1
	baz=86						
I19A	Meeteetse	85.55	335	⇓P	P	10 59 17.6	+0.2
	baz=86						
H20A	Greybull	85.60	336	⇑P	P	10 59 17.2	-0.3
	baz=86,SNR=7.5						
E26A	Carlson Angus	85.66	340	⇓P	P	10 59 17.9	+0.2
	baz=86						
F24A	Ekalaka	85.67	338	⇑P	P	10 59 18.0	+0.2
	baz=86						
G22A	Birney	85.68	337	⇓P	P	10 59 17.5	-0.4
	baz=86						
AGMN	Agassiz Nation	85.72	345	⇓P	P	10 59 18.0	+0.1
	baz=86						
C30A	Mose, Pekin	85.76	343	⇓P	P	10 59 18.0	-0.1
	baz=86,SNR=5.0						
D28A	Regan	85.81	341	⇓P	P	10 59 18.7	+0.3
	baz=86						
F23A	Volborg	85.85	338	⇑P	P	10 59 18.7	0.0
	baz=86						
E25A	Miller Ranch,	85.96	339	⇓P	P	10 59 19.4	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=86,SNR=5.1						
G21A	Lodge Grass	85.99	336	⇑P	P	10 59 19.2	-0.3
	baz=86						
I17A	Pilgrim Ck.	86.01	334	⇑P	P	10 59 20.1	+0.4
	baz=86						
H19A	Powell	86.10	335	⇑P	P	10 59 20.4	+0.4
	baz=86						
D26A	Manning	86.17	340	⇓P	P	10 59 20.7	+0.5
	baz=87						
F22A	Rosebud	86.17	337	⇑P	P	10 59 19.6	-0.6
	baz=87,SNR=5.7						
E24A	Baker	86.28	339	⇑P	P	10 59 21.0	+0.2
	baz=87,SNR=5.0						
G20A	Bridger	86.32	336	⇓P	P	10 59 20.4	-0.6
	baz=87,SNR=5.8						
H18A	Shoshone NF, C	86.34	335	⇓P	P	10 59 21.1	-0.3
	baz=87,SNR=5.8						
B30A	Myrvik Farm, E	86.42	343	⇑P	P	10 59 21.4	0.0
	baz=87,SNR=7.9						
F21A	Absaloka Mine,	86.49	337	⇓P	P	10 59 21.9	0.0
	baz=87						
D25A	Fairfield	86.52	340	⇑P	P	10 59 22.0	+0.1
	baz=87,SNR=6.7						
C27A	Sayler Ranch,	86.54	341	⇑P	P	10 59 21.5	-0.5
	baz=87,SNR=6.4						
E22A	Miles City	86.66	338	⇓P	P	10 59 22.5	-0.1
	baz=87						
B29A	Wagenman Farm,	86.68	343	⇓P	P	10 59 22.4	-0.2
	baz=87,SNR=6.0						
D24A	Glendive	86.78	339	⇓P	P	10 59 23.4	+0.2
	baz=87,SNR=6.1						
YMR	Madison River	86.80	334	eP	P	10 59 24.9	+1.3
	13nm,1.0s						
C26A	Wahner Farm, P	86.80	341	⇑P	P	10 59 23.8	+0.5
	baz=87						
A30A	Hoffart Farm,	86.88	343	⇓P	P	10 59 23.7	+0.1
	baz=87						
B28A	Dugan Ranch, T	86.92	342	⇓P	P	10 59 23.1	-0.7
	baz=87,SNR=7.0						
LAO	LASA Array	86.97	338	eP	P	10 59 24.3	+0.1
	11nm,1.0s						
C25A	Freed Ranch, W	87.02	340	⇓P	P	10 59 24.6	+0.3
	baz=88						
A29A	Manning Farm,	87.08	343	⇑P	P	10 59 24.2	-0.4
	baz=88,SNR=9.7						
D23A	Lindsay	87.10	338	⇓P	P	10 59 24.7	0.0
	baz=88,SNR=8.2						
B27A	Peters Farms,	87.11	341	⇑P	P	10 59 24.9	+0.1
	baz=88						
E21A	Keefer Ranch,	87.11	337	⇓P	P	10 59 25.3	+0.5
	baz=88						
F19A	Roth Farm, Mol	87.12	336	⇓P	P	10 59 25.4	+0.5
	baz=88						
HLID	Hailey	87.16	331	eP	P	10 59 26.6	+1.2
	95nm,3.0s						
HLID	Hailey	87.16	331	⇓P	P	10 59 25.8	+0.5
	baz=88						
C24A	Savage	87.19	339	⇓P	P	10 59 24.8	-0.3
	baz=88,SNR=12						
A28A	Rude Farm, Bot	87.32	342	⇑P	P	10 59 25.6	-0.2
	baz=88						
B26A	Jensen Ranch,	87.34	341	⇑P	P	10 59 26.1	+0.2
	baz=88						
D22A	Cohagen	87.37	338	⇓P	P	10 59 26.4	+0.3
	baz=88						
E20A	Meyer Farm, Mu	87.42	336	⇓P	P	10 59 26.4	+0.1
	baz=88						
B25A	Knox Farm, Ray	87.50	340	⇓P	P	10 59 27.1	+0.4
	baz=88,SNR=5.4						
D21A	La Casta Ranch	87.55	337	⇓P	P	10 59 26.8	-0.2
	baz=88						
ULM	Lac du Bonnet	87.58	345	P	P	10 59 26.5	-0.4
	10.0nm,0.9s,baz=185,slow=3.2,SNR=11						
E19A	Rath Farm, Rou	87.60	336	⇑P	P	10 59 26.8	-0.4
	baz=88,SNR=6.2						
A27A	Ledoux Ranch,	87.61	342	⇑P	P	10 59 27.0	-0.1
	baz=88						
C23A	Lambert	87.66	339	⇑P	P	10 59 27.0	-0.4
	baz=88,SNR=6.3						
A26A	Wade Farm, Ken	87.77	341	⇑P	P	10 59 28.2	+0.3
	baz=88						
C22A	Vida	87.81	338	⇓P	P	10 59 28.3	+0.2
	baz=88						
D20A	Manuel Ranch,	87.94	337	⇓P	P	10 59 29.0	+0.2
	baz=88						
DGMT	Dagmar	87.97	340	eP	P	10 59 29.6	+0.7
	45nm,1.0s						
DGMT	Dagmar	87.97	340	⇓P	P	10 59 28.9	0.0
	baz=88,SNR=9.8						
WVOR	Wild Horse Val	87.99	328	eP	P	10 59 24.3	-5.0
A25A	Svangstu Ranch	88.09	341	⇑P	P	10 59 29.4	0.0
	baz=88						
B23A	Brockton	88.19	339	⇑P	P	10 59 30.2	+0.2
	baz=89						
D19A	Cripps Ranch,	88.25	336	⇓P	P	10 59 30.4	+0.1
	baz=89						
C21A	Desert Coulee	88.26	338	⇓P	P	10 59 30.3	0.0
	baz=89						
MOD	Modoc	88.30	327	eP	P	10 59 30.6	-0.2
	12nm,0.9s						
A24A	Westby	88.33	340	⇑P	P	10 59 31.0	+0.5
	baz=89						
B22A	Reddig Ranch S	88.34	339	⇓P	P	10 59 30.4	-0.3
	baz=89,SNR=5.6						
M04C	Macdoel	88.91	326	⇑P	P	10 59 34.8	+1.1
	baz=89						
A22A	Carney Farms,	88.94	339	⇑P	P	10 59 33.8	+0.4
	baz=89						
A21A	Bergtoll Ranch	89.24	338	⇓P	P	10 59 34.5	-0.4
	baz=90						
B19A	Brinkman Farms	89.40	337	⇑P	P	10 59 35.5	-0.2
	baz=90						
A20A	Cobblestone Ra	89.45	338	⇓P	P	10 59 35.7	-0.2
	baz=90						
A19A	Klindworth Far	89.75	337	⇓P	P	10 59 37.2	-0.1
	baz=90						
J05D	Fort Rock, OR	89.82	327	⇑P	P	10 59 39.0	+1.1
	baz=90						
NEW	Newport	92.12	332	⇓P	P	10 59 48.1	-0.2
	baz=92						
ILAR	Eielson Array	115.06	333	PKP	PKPdf	11 05 18.9	-0.5
	0.4nm,0.8s,baz=145,slow=3.3,SNR=3.3						
WRA	Warramunga Arr	119.38	209	PKP	PKPdf	11 05 27.3	-2.0
	1.7nm,0.9s,baz=161,slow=7.1						
BRTR	Keskin Array B	122.94	62	PKP	PKPdf	11 05 35.0	-0.5
	1.3nm,0.7s,baz=192,slow=1.9,SNR=5.7						
AKASG	Malin Array Be	123.47	48	PKP	PKPdf	11 05 35.2	-0.8
	0.9nm,0.4s,baz=262,slow=2.9,SNR=9.6						
FINES	FINESS Array B	124.36	35	PKP	PKPdf	11 05 37.3	-0.1
	2.2nm,0.8s,baz=117,slow=1.6,SNR=4.4						
ARCES	ARCESS Array B	125.41	25	PKP	PKPdf	11 05 39.6	+0.4
	2.1nm,0.8s,baz=228,slow=1.1,SNR=3.4						
OBN	Obninsk	128.75	44	PKP	PKPdf	11 05 46.5	+0.5
	16nm,0.4s,baz=17,slow=4.1,SNR=3.2						
ABKAR	Akbulak array	142.91	53	ePKPdf	PKPdf	11 06 08.7	-3.7
BKNI	Bangkinang	144.75	169	ePKPbc	PKPab	11 06 14.7	-0.9
GSI	Gunungsitoli	145.02	163	ePKPdf	PKPdf	11 06 17.2	-0.1
PSI	Prapat	146.78	165	PKPbc	PKPdf	11 06 20.8	+0.4
	21nm,0.8s,baz=198,slow=3.2,SNR=8.8						
BVAR	Borovoye Array	148.59	44	PKP	PKPdf	11 06 21.6	-0.4
	3.8nm,0.8s,baz=289,slow=4.4,SNR=3.8						
BVAR				PKPbc	PKPbc	11 06 26.3	+0.5
	7.2nm,0.8s,baz=289,slow=4.4,SNR=10						
HYB	Hyderabad	148.89	117	i PKP	PKPbc	11 06 26.5	-1.1
KULM	Kulim	149.55	167	ePKPbc	PKPbc	11 06 28.7	-0.6
YAK	Yakutsk	149.72	339	ePKPdf	PKPbc	11 06 28.1	-0.1
KKM	Kota Kinabalu	149.77	198	ePKPbc	PKPbc	11 06 29.3	-0.7
KKAR	Karatay Array	150.64	63	ePKPbc	PKPbc	11 06 30.9	-0.2
ASAJ	Asahikawa	151.59	299	PKPbc	PKPbc	11 06 32.9	-0.3
	14nm,0.9s,baz=270,slow=4.0,SNR=4.8						
AAK	Ala-Archa	153.59	64	PKPbc	PKPbc	11 06 37.8	-0.2
	5.9nm,0.8s,baz=179,slow=2.4,SNR=6.5						
ZAA0	Zalesovo Array	155.60	33	ePKPdf	PKPdf	11 06 31.3	-1.2
ZAA0				ePKPbc	PKPbc	11 06 41.9	
ZALV	Zalesovo Beam	155.60	33	PKP	PKPdf	11 06 31.9	-0.6
	3.3nm,0.9s,baz=277,slow=2.5,SNR=5.1						
ZALV				PKPbc	PKPbc	11 06 41.4	
	6.0nm,0.8s,baz=290,slow=2.4,SNR=7.1						
ZALV				PKPab	PKPab	11 06 58.4	-0.2
	4.8nm,0.8s,baz=323,slow=4.9,SNR=4.7						
MKAR	Makanchi Array	158.02	51	PKP	PKPdf	11 06 35.2	-0.6
	1.9nm,1.0s,baz=27,slow=1.6,SNR=3.4						
DMN	Daman	159.63	106	eP	PKPab	11 07 17.3	+0.1
	59nm,1.0s						
PKIN	Phulchoki	159.85	106	eP	PKPab	11 07 18.0	-0.1
	29nm,0.9s						
KKN	Kakani	159.85	106	eP	PKPab	11 07 17.9	-0.2
	41nm,1.1s						
PKI	Pulchoki	159.85	106	eP	PKPab	11 07 18.1	-0.1
	40nm,0.9s						
GUN	Gumba	160.38	106	eP	PKPab	11 07 20.3	-0.2
	45nm,1.1s						
RAMN	Ramite	160.48	109	eP	PKPab	11 07 21.0	+0.1
	27nm,1.0s						
JIRN	Jiri	160.51	107	eP	PKPab	11 07 20.9	-0.2
	65nm,1.2s						
ODAN	Odare	161.04	111	eP	PKPab	11 07 23.2	-0.1
TAPN	Taplejung	161.54	110	eP	PKPab	11 07 23.2	-2.3
CMAR	Chiang Mai Arr	161.70	154	PKPab	PKPab	11 07 25.2	-0.6
	1.1nm,0.8s,baz=225,slow=4.4,SNR=4.3						
SONM	Songino Array	167.43	3	PKPab	PKPab	11 07 50.9	+0.5
	2.9nm,0.9s,baz=349,slow=3.8,SNR=7.2						

SJA 27 10:49:50.0±1.1, 31.14S×67.47W, h114km±6km, MD3.9, ML4.3, San Juan Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AVFE	Valle Fertil	0.48	1	i P	Pn	10 50 08.3	+1.1
AVFE				i S	Sn	10 50 21.1	+0.9
AVFE				AML	AML	10 50 22.4	
	comp=Z,5µm,0.2s						
ACHE	Chepes	0.69	92	i P	Pn	10 50 09.8	+0.9
ACHE				i P	Pn	10 50 09.8	+0.9
CFAA	Coronel Fontan	0.81	235	i P	Pn	10 50 10.2	+0.5
CFAA				i S	Sn	10 50 25.0	+0.5
RTLL	Cerro Villicun	0.88	257	i P	Pn	10 50 11.0	+0.6
SJA	San Juan	1.01	247	i P	Pn	10 50 12.6	+1.0
SJA				i S	Sn	10 50 29.2	+1.2
APLL	PUNTA DE LOS L	1.10	48	i P	Pn	10 50 13.8	+1.2
ACAN	Cantantal	1.16	168	i P	Pn	10 50 13.9	+0.7
RTCV	Cerro Valdivia	1.17	232	i P	Pn	10 50 13.9	+0.6
RTCV				i S	Sn	10 50 31.3	+0.4
RTLS	Leoncito	1.69	247	i P	Pn	10 50 22.0	+2.3
ASAL	Salagasta	1.86	218	i P	Pn	10 50 22.2	+0.8
AUSP	Uspallata	1.96	236	i P	Pn	10 50 24.2	+1.1
ARCO	CERRO ARCO	2.10	216	i P	Pn	10 50 25.9	+1.2
ARCO				i S	Sn	10 50 52.2	+1.0
ARCO				AML	AML	10 50 53.6	
	comp=Z,2µm,0.7s						
CYA	Choya	3.05	29	i P	Pn	10 50 37.3	+0.4
CYA				i S	Sn	10 51 13.2	+0.1

GUC 27 10:51:38.7±0.6, 33.38S×72.19W, h30km±11km, ML5.1
IDC 27 10:51:38.2±0.7, 33.43S×71.66W, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.2/39, mbtmp4.3/14, ML4.3/2, Error ellipse: s-maj=25.8km s-min=17.2km az=69.0
ISCJB 27 10:51:39.4±0.6, 33.46S±0.07×72.15W±0.06, h19km, mb4.2/13, Error ellipse: s-maj=10.7km s-min=7.6km az=178.7
NEIC 27 10:51:43.3±0.7, 33.44S×71.93W, h35km, mb4.4/1, Error ellipse: s-maj=19.9km s-min=15.2km az=89.0
ISC 27 10:51:40.9±0.6, 33.38S±0.08×71.95W±0.06, h19km, n34, σ1§30/34, mb4.4/13, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IHA	Instituto Hidr	0.44	36	⇓eP	Pn	10 51 50.8	-1.4
TACH	Talagante	0.89	108	⇑iP	Pn	10 51 58.5	+0.1
ROCH	El Roble	0.89	63	⇑iP	Pn	10 51 58.6	+0.1
SAN	Santiago	1.08	94	eP	Pg	10 52 01.9	+0.1
PEL	Peldehue	1.08	78	⇑iP	Pg	10 52 02.2	+0.2
PEL				eS	Sg	10 52 19.8	+3.6
PEL				AML	AML	10 52 26.1	
	comp=E,67µm,0.4s						
PCH	Pirque	1.22	102	eP	Pg	10 52 04.6	0.0
JACH	Jahuel	1.34	59	⇑iP	Pb	10 52 05.7	+0.3
CFAA	Coronel Fontan	3.60	62	Pn	Pb	10 52 41.4	-2.6
	comp=E,9.3nm,0.3s,baz=234,slow=14,SNR=5.1						
CFAA				Lg	Lg	10 53 33.3	
	comp=E,17nm,0.3s,baz=126,slow=22,SNR=7.3						
LPAZ	La Paz	17.37	12	P	Pn	10 55 42.2	-0.7
	comp=E,0.4nm,0.3s,baz=198,slow=12,SNR=4.8						
SIV	San Ignacio	19.91	32	P	P	10 56 10.5	-1.0
	comp=E,0.9nm,0.3s,baz=215,slow=12,SNR=5.5						
NNA	Nana	21.76	347	P	P	10 56 32.4	+0.9
	comp=E,6.8nm,0.5s,baz=185,slow=12,SNR=2.8						
SAML	Samuel	25.63	20	eP	P	10 57 10.4	+1.1
	comp=E,8.0nm,0.7s						
BDFB	Brasilia	27.93	57	P	P	10 57 29.2	-1.0
	comp=E,5.5nm,0.5s,baz=238,slow=7.5,SNR=3.8						
SNAA	Sanae	52.13	158	P	P	11 00 49.7	+0.1
	comp=E,2.3nm,0.7s,baz=286,slow=8.8,SNR=5.6						
TEIG	Tepich	55.54	341	P	P	11 01 16.4	+1.5
	comp=E,4.2nm,0.6s,baz=198,slow=9.6,SNR=3.6						
QSPA	South Pole Qui	56.85	180	P	P	11 01 24.4	+0.4
	comp=E,4.6nm,0.8s,baz=117,slow=9.0,SNR=5.7						
TXAR	Lajitas Array	69.23	331	P	P	11 02 48.8	+2.2
	comp=E,0.5nm,0.6s,baz=155,slow=8.8,SNR=4.0						
DBIC	Dimbokro	74.91	71	P	P	11 03 19.5	-1.3
	comp=E,2.5nm,0.6s,baz=184,slow=4.7,SNR=4.2						
TSUM	Tsumeb	79.31	106	P	P	11 03 45.4	-0.4
	comp=E,3.0nm,0.8s,baz=227,slow=5.2,SNR=6.7						
BOSA	Boshof	80.29	118	P	P	11 03 50.9	-0.1
	comp=E,3.0nm,0.7s,baz=244,slow=6.0,SNR=4.3						
PDAR	Pinedale Array	83.25	333	P	P	11 04 08.1	+2.0
	comp=E,0.3nm,0.6s,baz=138,slow=5.9,SNR=2.7						
NVAR	Mina Array Bea	83.42	325	P	P	11 04 08.8	+1.7
	comp=E,0.4nm,0.7s,baz=148,slow=5.3,SNR=2.9						
TORD	Torodi Ar. Bea	83.93	70	P	P	11 04 09.6	-0.4
	comp=E,4.6nm,0.7s,baz=290,slow=5.4,SNR=19						
YKA	Yellowknife Ar	101.50	341	P	Pdif	11 05 29.2	-1.5
	comp=E,0.2nm,0.6s,baz=143,slow=4.8,SNR=4.0						
WRA	Warramunga Arr	121.33	209	PKP	PKPdf	11 10 31.7	-1.7
	comp=E,0.4nm,0.6s,baz=162,slow=1.6,SNR=3.0						
H11S2	WAKE ISLAND Hy	125.85	270	T	T	13 29 27.2	
	baz=118,slow=74,SNR=5.6						
H11S1	WAKE ISLAND Hy	125.87	270	T	T	13 29 27.5	
	baz=118,slow=74,SNR=7.3						
H11S3	WAKE ISLAND Hy	125.87	270	T	T	13 29 27.2	
	baz=118,slow=74,SNR=5.3						
BVAR	Borovoye Array	146.78	42	PKPbc	PKPbc	11 11 20.7	-0.5
	comp=E,2.9nm,0.7s,baz=264,slow=1.4,SNR=7.5						
HYB	Hyderabad	149.11	114	i PKP	PKPbc	11 11 27.5	-1.0
AAK	Ala-Archa	152.15	61	PKPbc	PKPbc	11 11 34.9	-0.2
	comp=E,5.0nm,0.8s,baz=184,slow=3.4,SNR=8.1						
AAK				PKPab	PKPab	11 11 44.2	-0.7
	comp=E,2.6nm,0.5s,baz=216,slow=6.6,SNR=5.6						
ZALV	Zalesovo Beam	153.66	32	PKP	PKPdf	11 11 29.6	-0.5
	comp=E,0.4nm,0.3s,baz=337,slow=1.9,SNR=2.9						
ZALV				PKPbc	PKPbc	11 11 36.2	-1.7
	comp=E,3.2nm,0.6s,baz=293,slow=2.8,SNR=7.5						
MKAR	Makanchi Array	156.30	48	PKPab	PKPab	11 12 01.6	-0.5
	comp=E,2.9nm,0.6s,baz=289,slow=4.3,SNR=21						
SONM	Songino Array	165.51	4	PKPab	PKPab	11 12 42.5	+0.2
	comp=E,0.2nm,0.6s,baz=328,slow=4.4,SNR=3.5						

IDC 27 10:53:12.9±2.8, 33.75S×71.78W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.1/37, mbtmp4.2/6, MS5.1/1, Ms1 5.1/1, ms1mx4.8/34, Error ellipse: s-maj=132.0km s-min=35.6km az=33.0
ISCJB 27 10:53:15.1±0.8, 33.73S±0.08×72.06W±0.06, h19km, mb4.2/6, Error ellipse: s-maj=11.8km s-min=7.1km az=168.5
GUC 27 10:53:18.0±0.3, 33.63S×71.83W, h16km±4km, ML4.6
ISC 27 10:53:16.1±1.0, 33.72S±0.08×71.91W±0.06, h19km, n17, σ0§57/19, mb4.2/6, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IHA	Instituto Hidr	0.73	18	eP	Pg	10 53 30.5	0.0
IHA				i S	Sg	10 53 40.0	-0.1
TACH	Talagante	0.82	86	⇑iP	Pn	10 53 32.8	+0.2
ROCH	El Roble	1.06	46	⇓eP	Pg	10 53 36.8	0.0
SAN	Santiago	1.08	76	eP	Pg	10 53 36.9	-0.1
SAN				eS	Sg	10 53 51.7	+0.4
PCH	Pirque	1.17	86	eP	Pg	10 53 39.1	+0.2
PEL	Peldehue	1.18	61	eP	Pg	10 53 38.5	-0.5
PEL				eS	Sg	10 53 53.9	-0.5
PEL				AML	AML	10 53 58.9	
	comp=N,28µm,0.5s						
JACH	Jahuel	1.51	47	⇓iP	Pb	10 53 44.1	+0.5
PLCA	Paso Flores	7.09	172	LR	LR	10 56 58.5	
	comp=N,16µm,21.3s,baz=254,slow=32						
TEIG	Tepich	55.87	341	P	P	11 02 52.1	-0.4
	comp=N,13nm,1.0s,baz=99,slow=13,SNR=3.9						
TXAR	Lajitas Array	69.54	331	P	P	11 04 24.2	+0.4
	comp=N,1.3nm,0.6s,baz=153,slow=8.4,SNR=8.0						
ANMO	Albuquerque	75.59	331	P	P	11 05 01.2	+1.4
	comp=N,1.6nm,0.9s,baz=161,slow=8.5,SNR=4.0						
PDAR	Pinedale Array	83.56	333	P	P	11 05 42.9	-0.1
	comp=N,0.6nm,0.8s,baz=154,slow=7.0,SNR=3.1						
NVAR	Mina Array Bea	83.71	325	P	P	11 05 44.4	+0.5
	comp=N,0.8nm,0.7s,baz=168,slow=5.5,SNR=3.7						
TORD	Torodi Ar. Bea	84.02	70	P	P	11 05 45.3	-0.4
	comp=N,2.0nm,0.7s,baz=286,slow=5.6,SNR=5.3						
BRTR	Keskin Array B	121.61	61	PKP	PKPdf	11 12 07.5	-1.1
	comp=N,0.7nm,0.8s,baz=338,slow=1.6,SNR=4.2						
BVAR	Borovoye Array	147.00	43	PKPbc	PKPbc	11 12 56.9	-0.2
	comp=N,1.6nm,0.6s,baz=302,slow=3.2,SNR=3.5						
ZALV	Zalesovo Beam	153.93	32	PKPbc	PKPbc	11 13 13.2	-0.5
	comp=N,2.5nm,0.6s,baz=295,slow=3.7,SNR=3.6						

IDC 27 10:54:18.3±0.5, 36.80S×73.48W, h0km, mb4.9/23, mb1 5.0/25, mb1mx4.9/38, mbtmp4.9/25, ML4.5/2, MS5.0/2, Ms1 5.0/2, ms1mx4.9/36, Error ellipse: s-maj=19.7km s-min=12.2km az=71.0
ISCJB 27 10:54:19.3±0.2, 36.74S±0.05×73.37W±0.07, h14km, mb5.2/54, MS6.3/1, Error ellipse: s-maj=9.4km s-min=4.3km az=140.4
MOS 27 10:54:22.8±0.9, 36.64S×73.38W, h33km, mb5.6/19, Error ellipse: s-maj=17.7km s-min=10.5km az=93.6
BJI 27 10:54:23.0, 36.80S×73.30W, h35km, mB5.5/5, Ms5.5/2
NEIC 27 10:54:23.5±0.2, 36.80S×73.40W, h35km, mb5.4/30, Error ellipse: s-maj=8.9km s-min=4.9km az=61.0
ISC 27 10:54:20.5±0.3, 36.80S±0.06×73.40W±0.09, h14km, n488, σ1§11/504, mb5.3/54, 161C-148D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLCA	Paso Flores	4.52	151	eP	Pn	10 55 27.9	-0.6
PLCA	Paso Flores	4.52	151	Pn	Pn	10 55 33.4	+4.8
	11nm,0.3s,baz=317,slow=11,SNR=3.7						
PLCA				Lg	Lg	10 56 43.0	
	61nm,0.3s,baz=277,slow=11,SNR=5.5						
PLCA	Paso Flores	4.52	151	ePn	Pn	10 55 27.9	-0.6
PLCA				Lg	Lg	10 56 43.0	
CFAA	Coronel Fontan	6.71	41	LR	LR	10 58 39.6	
	comp=Z,3µm,18.4s,baz=194,slow=39						
TRQA	Tornquist	9.17	101	eP	Pn	10 56 32.7	+0.3
	496nm,1.1s						
CPUP	Villa Florida	17.19	57	eP	P	10 58 21.0	-0.8
CPUP				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CPUP	Villa Florida	17.19	57	P	P	10 58 21.3	-0.5
	comp=Z,0.8nm,0.3s,baz=227,slow=14,SNR=4.7						
CPUP				LR	LR	11 04 48.7	
	comp=Z,16µm,18.5s,baz=166,slow=36						
CPUP	Villa Florida	17.19	57	eP	P	10 58 21.0	-0.8
	comp=Z,9.8nm,1.2s						
USHA	Ushuaia	18.36	171	P	P	10 58 35.1	+0.7
	comp=Z,0.6nm,0.3s,baz=310,slow=12,SNR=8.3						
LPAZ	La Paz	20.95	14	P	P	10 59 03.9	+0.2
	comp=Z,34nm,1.0s,baz=179,slow=8.5,SNR=12						
SIV	San Ignacio	23.43	31	P	P	10 59 29.5	+0.1
	comp=Z,43nm,1.1s,baz=205,slow=8.9,SNR=14						
NNA	Nana	24.89	352	P	P	10 59 42.5	-0.5
	comp=Z,6.3nm,0.6s,baz=193,slow=9.1,SNR=3.9						
ATAH	Atahualpa	29.87	350	P	P	11 00 29.6	+1.6
	comp=Z,4.4nm,0.6s,baz=188,slow=7.1,SNR=4.6						
BDFB	Brasilia	30.86	54	P	P	11 00 37.0	+0.6
	comp=Z,11nm,0.9s,baz=227,slow=7.6,SNR=3.7						
OTAV	Otavalo	37.14	352	eP	P	11 01 32.4	+1.0
	comp=Z,59nm,1.4s						
ROSC	El Rosal	41.44	359	P	P	11 02 08.6	+1.4
	comp=Z,13nm,0.6s,baz=97,slow=19,SNR=3.8						
ROSC	El Rosal	41.44	359	eP	P	11 02 10.0	+2.8
SDV	Santo Domingo	45.51	4	eP	P	11 02 38.1	-1.7
	comp=Z,51nm,1.1s						
RCBR	Riachuelo	46.07	57	P	P	11 02 44.7	+0.5
	comp=Z,47nm,1.2s,baz=175,slow=8.4,SNR=4.7						
VNA3	Neumayer Olymp	47.22	157	P	P	11 02 53.9	+1.4
VNA1	Neumayer--Stat	47.56	156	P	P	11 02 57.4	+2.4
VNA2	Neumayer--Watz	47.89	156	P	P	11 02 57.3	-0.4
JTS	JuntasAbangare	48.08	345	P	P	11 03 00.5	+0.8
	comp=Z,2.6nm,0.9s,baz=169,slow=5.9,SNR=6.1						
SNAA	Sanae	49.44	157	P	P	11 03 10.6	+0.9
SNAA	Sanae	49.44	157	eP	P	11 03 10.4	+0.8
SNAA	Sanae	49.44	157	eP	P	11 03 09.9	+0.3
SNAA				pmax	pmax		
	comp=Z,131nm,1.3s						
SNAA	Sanae	49.44	157	P	P	11 03 10.5	+0.9
	comp=Z,47nm,1.3s,baz=281,slow=6.3,SNR=27						
SNAA	Sanae	49.44	157	eP	P	11 03 09.9	+0.3
	comp=Z,131nm,1.3s						
GRGR	Grenville	49.91	15	eP	P	11 03 13.9	+0.2
	comp=Z,282nm,1.0s						
FDF	Fort de France	52.54	15	eP	P	11 03 33.3	-0.2
FDF				pmax	pmax		
	comp=Z,74nm,1.1s						
FDF	Fort de France	52.54	15	eP	P	11 03 33.3	-0.2
	comp=Z,74nm,1.1s						
QSPA	South Pole Qui	53.45	180	P	P	11 03 40.5	+0.7
	comp=Z,18nm,0.7s,baz=128,slow=1.3,SNR=12						
APG	El Apazote	53.98	339	P	P	11 03 40.4	-3.9
	comp=Z,6.6nm,1.1s,baz=166,slow=8.3,SNR=5.5						
NVL	N'lazarevskaya	54.21	156	eP	P	11 03 46.8	+1.7
NVL				pmax	pmax		
	comp=Z,65nm,1.2s						
LRS	Lares	55.14	8	eP	P	11 03 51.5	-0.9
CBYP	Canovanas	55.23	9	eP	P	11 03 51.3	-1.8
	comp=Z,49nm,1.3s						
TEIG	Tepich	58.43	344	P	P	11 04 15.6	-0.1
	comp=Z,14nm,0.7s,baz=176,slow=6.2,SNR=5.4						
SYO	Syowa Base	63.68	158	⇑eP	P	11 04 47.5	-3.3
SYO	Syowa Base	63.68	158	⇓ePP	pP	11 04 56.6	+1.2
034A	Hebbronville	67.83	336	⇑P	P	11 05 19.4	+1.3
	baz=68						
933A	Laredo	68.53	335	⇑P	P	11 05 23.2	+0.7
	baz=69						
TIGA	Tifton	68.55	351	⇓P	P	11 05 22.4	0.0
	baz=69						
834A	Tilden	68.77	336	⇑P	P	11 05 25.0	+1.1
	baz=69						
735A	Kenedy	69.21	337	⇓P	P	11 05 27.5	+0.9
	baz=70						
833A	Chaparral WMA,	69.23	336	⇑P	P	11 05 27.4	+0.6
	baz=70						
832A	Faith Ranch, C	69.39	335	⇑P	P	11 05 28.3	+0.6
	baz=70						
733A	Divot King Ran	69.56	336	⇑P	P	11 05 29.3	+0.5
	baz=70						
636A	Smothers Creek	69.57	338	⇓P	P	11 05 29.4	+0.6
	baz=70						
HKT	Hockley	69.65	339	eP	P	11 05 29.1	-0.2
HKT				pmax	pmax		
	comp=Z,37nm,1.6s						
HKT	Hockley	69.65	339	eP	P	11 05 29.1	-0.2
	comp=Z,38nm,1.6s						
635A	Leesville	69.70	337	⇓P	P	11 05 30.5	+0.9
	baz=70						
732A	Laxson Ranch,	69.80	335	⇓P	P	11 05 30.9	+0.6
	baz=70,SNR=7.4						
537A	Green Hill Far	69.91	339	⇓P	P	11 05 32.0	+1.1
	baz=70						
536A	Bastrop	70.13	338	⇓P	P	11 05 33.1	+0.8
	baz=70						
633A	Saathoff Ranch	70.21	336	⇑P	P	11 05 33.7	+0.9
	baz=70						
535A	Dale	70.23	338	⇑P	P	11 05 33.8	+0.9
	baz=71						
632A	Uvalde	70.45	336	⇓P	P	11 05 35.1	+0.8
	baz=71						
631A	Perdido Creek	70.63	335	⇓P	P	11 05 36.1	+0.7
	baz=71						
533A	Kerrville	70.73	337	⇑P	P	11 05 36.3	+0.3
	baz=71						
532A	Rocksprings	71.06	336	⇑P	P	11 05 38.2	+0.2
	baz=71,SNR=7.2						
434A	Burnet	71.18	338	⇓P	P	11 05 38.8	+0.1
	baz=72,SNR=8.1						
336A	Riesel	71.29	339	⇑P	P	11 05 39.8	+0.5
	baz=72						
531A	Rocksprings	71.31	335	⇓P	P	11 05 39.7	+0.2
	baz=72						
JCT	Junction City	71.35	336	⇓P	P	11 05 40.1	+0.3
	baz=72						
335A	Moody	71.36	338	⇑P	P	11 05 39.8	+0.1
	baz=72						
433A	Art	71.38	337	⇑P	P	11 05 39.9	0.0
	baz=72,SNR=6.2						
530A	J-C Ranch, Com	71.56	335	⇓P	P	11 05 41.5	+0.4

baz=72,SNR=8.2
334A Lometa 71.65 338 ⇑P P 11 05 41.4 -0.1
baz=72,SNR=6.9
TXAR Lajitas Array 71.66 332 P P 11 05 41.2 -0.5
comp=Z,1.8nm,0.5s,baz=152,slow=8.3,SNR=10.0
432A Menard 71.72 336 ⇓P P 11 05 41.8 -0.2
baz=72
431A Sonora 71.81 336 ⇓P P 11 05 42.3 -0.2
baz=72
529A Stev Forest Ra 71.85 334 ⇑P P 11 05 42.7 -0.1
baz=72
333A Richland Sprin 71.88 337 ⇓P P 11 05 42.4 -0.5
baz=72
KMSC Kings Mountain 71.95 353 ⇑P P 11 05 43.1 -0.1
baz=72
WHTX Lake Whitney 72.04 339 ⇓P P 11 05 43.6 -0.2
baz=72
430A Baggett Ranch, 72.11 335 ⇓P P 11 05 44.2 -0.2
baz=72,SNR=6.7
332A Millersview 72.17 337 ⇓P P 11 05 44.0 -0.7
baz=72
429A Davenport Ranc 72.19 334 ⇓P P 11 05 44.2 -0.6
baz=72
234A Clairette 72.25 338 ⇑P P 11 05 44.1 -1.0
baz=73
331A San Angelo 72.32 336 ⇑P P 11 05 45.3 -0.3
baz=73,SNR=8.2
233A Rising Star 72.49 337 ⇑P P 11 05 45.8 -0.8
baz=73
232A Coleman 72.61 337 ⇑P P 11 05 46.7 -0.5
baz=73
330A Mertzon 72.66 335 ⇓P P 11 05 46.8 -0.8
baz=73
TKL Tuckaleechee C 72.73 351 P P 11 05 47.0 -0.8
comp=Z,9.7nm,0.9s,baz=168,slow=8.0,SNR=4.4
134A White-Moore Ra 72.76 338 ⇑P P 11 05 47.5 -0.7
baz=73
CER Ceres 72.85 119 eP P 11 05 49.8 +0.8
CER AMB AMB 11 07 17.5
comp=Z,138nm,18.0s
CER Ceres 72.85 119 P P 11 05 49.8 +0.8
231A Bronte 72.86 336 ⇑P P 11 05 48.5 -0.3
baz=73,SNR=7.8
329A Wagon Wheel Ra 73.01 335 ⇑P P 11 05 49.1 -0.6
baz=73
133A Hamilton Ranch 73.05 338 ⇑P P 11 05 49.0 -0.9
baz=73
230A Sterling City 73.08 336 ⇑P P 11 05 49.0 -1.1
baz=73
ABTX Abilene, Hawle 73.29 337 ⇑P P 11 05 50.9 -0.4
baz=74,SNR=5.7
ABTX Abilene, Hawle 73.29 337 e P 11 05 50.5 -0.8
229A Bryant Ranch, 73.39 335 ⇑P P 11 05 51.1 -0.9
baz=74
Z34A Collier Ranch, 73.46 339 ⇓P P 11 05 51.7 -0.6
baz=74
KOMG Komaggas 73.50 115 eP P 11 05 53.8 +1.0
KOMG AMB AMB 11 06 22.5
comp=Z,89nm,12.3s
KOMG Komaggas 73.50 115 P P 11 05 53.8 +1.0
131A Roby 73.57 336 ⇑P P 11 05 52.2 -0.8
baz=74
Z33A Whitaker Ranch 73.63 338 ⇓P P 11 05 52.4 -0.8
baz=74
130A Snyder 73.68 336 ⇑P P 11 05 52.7 -0.9
baz=74
WVT Waverly 73.78 348 eP P 11 05 53.5 -0.6
WVT pmax pmax
comp=Z,61nm,1.3s
WVT Waverly 73.78 348 eP P 11 05 53.5 -0.6
comp=Z,61nm,1.3s
228A UT Block 9, Go 73.79 334 ⇓P P 11 05 54.2 -0.2
baz=74
Z32A Haskell 73.87 337 ⇑P P 11 05 54.2 -0.5
baz=74,SNR=6.3
Y34A Reagan Ranch, 73.96 339 ⇓P P 11 05 54.6 -0.5
baz=74
BBTS Babate 74.06 57 P P 11 05 56.8 +0.7
comp=Z,121nm,1.3s,baz=247,slow=1.0,SNR=7.9
Z31A Sharp Cattle R 74.09 337 ⇑P P 11 05 55.5 -0.5
baz=74
128A Castleberry Fa 74.22 335 ⇓P P 11 05 56.2 -0.6
baz=75
JSRW J. Sargeant Re 74.23 356 eP P 11 05 56.6 0.0
Y33A Hilltop Ranch, 74.26 338 ⇑P P 11 05 56.5 -0.4
baz=75
Z30A Sanderson Ranc 74.37 336 ⇓P P 11 05 57.1 -0.6
baz=75
SUR Sutherland 74.46 119 P P 11 05 59.1 +0.4
comp=Z,32nm,1.1s,baz=228,slow=7.3,SNR=6.0
Y32A R-V Farms, Ver 74.50 338 ⇓P P 11 05 57.9 -0.5
baz=75
Z29A Hungry Hill Ra 74.54 336 ⇑P P 11 05 57.7 -1.0
baz=75,SNR=7.4
127A Arkansas Junct 74.57 334 ⇓P P 11 05 58.3 -0.6
baz=75
X34A Smith Ranch, M 74.59 339 ⇓P P 11 05 58.3 -0.6
baz=75
Y31A Rekieta Farm, 74.72 337 ⇑P P 11 05 59.2 -0.4
baz=75
X33A Lawton 74.72 339 ⇓P P 11 05 59.5 -0.1
baz=75
Y30A Stafford Cattl 74.84 337 ⇓P P 11 06 00.1 -0.3
baz=75
X32A Elmer 74.84 338 ⇑P P 11 05 59.7 -0.6
baz=75
Y29A Porterfield Fa 75.08 336 ⇑P P 11 06 01.4 -0.4
baz=75
Z27A Tatum 75.10 334 ⇓P P 11 06 01.4 -0.6
baz=75
W34A Bridge Creek, 75.17 340 ⇓P P 11 06 01.9 -0.3
baz=76
X31A McDonald Ranch 75.25 338 ⇑P P 11 06 02.3 -0.4
baz=76
TUL1 Tulsa 75.27 341 ⇓P P 11 06 02.2 -0.5
baz=76,SNR=5.9
W33A Caddo, Fort Co 75.28 339 ⇓P P 11 06 02.5 -0.3
baz=76
Z26A Caprock 75.33 334 ⇑P P 11 06 02.6 -0.7
baz=76
X30A Coker Ranch, T 75.36 337 ⇑P P 11 06 02.9 -0.4
baz=76
W32A Sentinel 75.49 338 ⇓P P 11 06 03.9 -0.1
baz=76,SNR=8.8
MSTX Muleshoe 75.54 335 ⇓P P 11 06 03.7 -0.8
baz=76
Z25A Roswell 75.60 333 ⇓P P 11 06 04.1 -0.7
baz=76
Y27A Causey 75.60 335 ⇓P P 11 06 04.5 -0.3
baz=76
X29A Tulia 75.62 336 ⇑P P 11 06 04.9 0.0
baz=76
V34A Guthrie 75.66 340 ⇓P P 11 06 05.0 +0.1
baz=76
319A Douglas 75.68 329 ⇑P P 11 06 05.6 +0.3
baz=76
W31A Holland Ranch, 75.75 338 ⇓P P 11 06 05.6 0.0
baz=76
X28A Dimmitt 75.85 336 ⇑P P 11 06 06.2 0.0
baz=76
V33A Lossen Ranch, 75.86 339 ⇓P P 11 06 06.3 +0.2
baz=76
Y26A Elida 75.86 334 ⇑P P 11 06 06.5 +0.1
baz=76
Z24A Sheeppen Canyo 75.88 333 ⇓P P 11 06 06.4 -0.1
baz=76
V32A Arapaho 75.98 339 ⇑P P 11 06 07.2 +0.4
baz=76
AMTX Amarillo 76.02 336 ⇑P P 11 06 07.0 -0.1
baz=76
121A Cookes Peak, D 76.09 331 ⇑P P 11 06 08.0 +0.2
baz=76
Y25A Mesa, Roswell 76.17 334 ⇓P P 11 06 08.0 -0.1
baz=76
W29A Amraillo 76.22 336 ⇓P P 11 06 08.6 +0.3
baz=77
U34A Anderson Ranch 76.23 340 ⇓P P 11 06 09.0 +0.8
baz=77
V31A Spring Creek L 76.27 338 ⇑P P 11 06 09.4 +0.8
baz=77
X27A F and S Farms, 76.27 335 ⇑P P 11 06 09.3 +0.7
baz=77
Z22A Elephant Butte 76.41 332 ⇓P P 11 06 10.1 +0.5
baz=77
X26A CR and CF Fran 76.42 335 ⇑P P 11 06 10.1 +0.5
baz=77
Y24A Capitan 76.44 333 ⇓P P 11 06 10.0 +0.3
baz=77
U32A Winter Ranch, 76.58 339 ⇓P P 11 06 10.9 +0.6
baz=77
W27A Bowe Ranch, En 76.64 335 ⇑P P 11 06 10.5 -0.2
baz=77,SNR=7.0
SLM Saint Louis 76.65 347 eP P 11 06 09.9 -0.6
SLM pmax pmax
comp=Z,73nm,1.2s
SLM Saint Louis 76.65 347 eP P 11 06 09.8 -0.6
comp=Z,73nm,1.2s
Y23A Lovelace Mesa, 76.67 333 ⇓P P 11 06 11.3 +0.3
baz=77
X25A Clemmons Ranch 76.70 334 ⇑P P 11 06 11.5 +0.4
baz=77
LIC Lamto 76.71 72 eP P 11 06 12.4 +0.9
comp=Z,164nm,1.4s
W26A Owens Ranch, T 76.90 335 ⇓P P 11 06 12.7 +0.5
baz=77
TIC Toumodi 76.98 71 eP P 11 06 13.9 +0.8
comp=Z,105nm,1.2s
V28A Channing 76.99 336 ⇑P P 11 06 13.3 +0.6
baz=77
KIC Kosan Boka 77.02 72 eP P 11 06 14.2 +1.0
comp=Z,207nm,1.3s
T33A Patterson Ranc 77.03 340 ⇑P P 11 06 12.9 +0.2
baz=77,SNR=6.1
UPI Upington 77.03 116 eP P 11 06 13.9 +0.6
UPI AMB AMB 11 07 09.5
comp=Z,55nm,6.2s
UPI Upington 77.03 116 P P 11 06 13.9 +0.6
comp=Z,55nm,6.2s
DBIC Dimbokro 77.12 72 eP P 11 06 14.2 +0.3
DBIC Dimbokro 77.12 72 eP P 11 06 14.8 +1.0
DBIC pmax pmax
comp=Z,113nm,1.4s
DBIC Dimbokro 77.12 72 P P 11 06 14.8 +1.0
comp=Z,33nm,1.0s,baz=208,slow=6.2,SNR=18
DBIC Dimbokro 77.12 72 eP P 11 06 14.8 +1.0
comp=Z,113nm,1.4s
ACSO Alum Creek Sta 77.16 352 eP P 11 06 12.8 -0.5
comp=Z,67nm,1.3s
V27A Dan Oppiter Fa 77.19 336 ⇓P P 11 06 14.8 +1.0
baz=78
U30A WK&E Inc. Balk 77.21 338 ⇓P P 11 06 14.5 +0.7
baz=78
LENM Lemitar 77.22 332 eP P 11 06 15.0 +0.9
LPM Los Pinos Moun 77.22 332 eP P 11 06 13.8 -0.3
comp=Z,18nm,1.4s
WIN Windhoek 77.23 109 eP P 11 06 15.2 +0.6
WIN AMB AMB 11 06 16.8
comp=Z,19nm,1.4s
WIN Windhoek 77.23 109 P P 11 06 15.2 +0.6
WIN pmax pmax
comp=Z,19nm,1.4s
WIN Windhoek 77.23 109 P P 11 06 15.2 +0.6
comp=Z,19nm,1.4s
W25A X Bar L Ranch, 77.25 334 ⇓P P 11 06 14.6 +0.4
baz=78
T32A Huddler Ranch, 77.31 339 ⇓P P 11 06 14.6 +0.3
baz=78
T31A Randall Ranch, 77.45 339 ⇑P P 11 06 15.9 +0.8
baz=78
V26A Tequesquite Ra 77.55 335 ⇓P P 11 06 16.2 +0.4
baz=78
U28A Mallet 77.56 337 ⇓P P 11 06 16.5 +0.6
baz=78
W24A Lazy 6 Ranch, 77.58 334 ⇑P P 11 06 17.0 +0.9
baz=78
214A Organ Pipe Nat 77.70 326 ⇑P P 11 06 17.7 +1.0
baz=78
ANMO Albuquerque 77.72 333 eP P 11 06 17.8 +0.9
ANMO pmax pmax
comp=Z,24nm,1.2s
ANMO Albuquerque 77.72 333 P P 11 06 17.4 +0.5
comp=Z,5.7nm,1.1s,baz=175,slow=7.9,SNR=8.4
ANMO Albuquerque 77.72 333 eP P 11 06 17.8 +0.9
comp=Z,24nm,1.2s
U27A Thompson Grove 77.80 336 ⇓P P 11 06 17.4 +0.2
baz=78
S32A Newby Ranch, P 77.80 340 ⇑P P 11 06 17.3 +0.3
baz=78
W23A Werner Place, 77.80 333 ⇓P P 11 06 17.8 +0.4
baz=78
GRM Grahamstown 77.86 122 eP P 11 06 15.7 -2.1
GRM AMB AMB 11 07 52.7
comp=Z,107nm,3.3s
GRM Grahamstown 77.86 122 P P 11 06 15.7 -2.1
GRM pmax pmax
comp=Z,107nm,3.3s
GRM Grahamstown 77.86 122 P P 11 06 15.7 -2.1
comp=Z,107nm,3.3s
V25A Rancho No Teng 77.87 334 ⇑P P 11 06 17.5 -0.2
baz=78,SNR=8.0
V24A Rampart Ranch, 78.00 334 ⇓P P 11 06 18.5 0.0
baz=78
U26A Atchley Ranch, 78.08 335 ⇑P P 11 06 18.8 0.0
baz=78
R33A Olander Ranch, 78.11 340 ⇑P P 11 06 19.2 +0.4
baz=78
S30A Montezuma 78.18 338 ⇓P P 11 06 19.8 +0.6
baz=78
T28A Walsh 78.21 337 ⇑P P 11 06 19.7 +0.2
baz=79
U25A Circle Dot Ran 78.30 335 ⇑P P 11 06 20.9 +0.8
baz=79
V23A Ortiz Mt. (NFS 78.34 333 ⇓P P 11 06 21.1 +0.8
baz=79
T27A Campo 78.35 336 ⇑P P 11 06 21.1 +0.8
baz=79
S29A Ulysses 78.36 338 ⇑P P 11 06 21.1 +0.9
baz=79
R32A Long Quarter, 78.41 340 ⇑P P 11 06 21.5 +1.0
baz=79
R31A Burdett 78.51 339 ⇑P P 11 06 21.9 +0.9
baz=79
S28A Manter 78.57 337 ⇑P P 11 06 22.2 +0.8
baz=79
U24A Moreno Valley 78.61 334 ⇑P P 11 06 22.5 +0.6
baz=79
X18A Snowflake 78.70 330 ⇓P P 11 06 23.2 +0.8
baz=79
Q33A Connelly Farm, 78.71 341 ⇓P P 11 06 23.1 +1.1
baz=79
R30A Dighton 78.72 339 ⇓P P 11 06 23.0 +0.8
baz=79
T26A Comanche Natio 78.73 336 ⇑P P 11 06 23.0 +0.6
baz=79
HVD Gariep Dam 78.75 120 eP P 11 06 23.9 +1.0
HVD AMB AMB 11 06 24.6
comp=Z,86nm,1.4s
HVD Gariep Dam 78.75 120 P P 11 06 23.9 +1.0
HVD pmax pmax
comp=Z,86nm,1.4s
HVD Gariep Dam 78.75 120 P P 11 06 23.9 +1.0
comp=Z,86nm,1.4s
V22A San Miguel Ran 78.75 333 ⇑P P 11 06 23.6 +1.0
baz=79
113A Mohawk Valley, 78.81 326 ⇑P P 11 06 23.4 +0.7
baz=79
U23A El Rito 78.86 334 ⇓P P 11 06 23.8 +0.6
baz=79
Q32A Meitler Ranch, 78.90 340 ⇓P P 11 06 23.5 +0.4
baz=79
T25A Trinidad 78.97 335 ⇓P P 11 06 24.2 +0.4
baz=79,SNR=9.2
S26A Kim 79.10 336 ⇓P P 11 06 24.4 0.0
baz=79,SNR=6.1
W18A Petrified Fore 79.13 330 ⇓P P 11 06 24.5 -0.2
baz=80
Q31A Ellis 79.14 340 ⇑P P 11 06 24.7 +0.2
baz=80
U22A Llaves 79.14 333 ⇑P P 11 06 24.6 -0.2
baz=80
X16A Lo Mia Camp, P 79.22 329 ⇓P P 11 06 25.7 +0.5
baz=80
R28A Tribune 79.24 338 ⇑P P 11 06 25.7 +0.6
baz=80
Q30A Quinter 79.35 339 ⇑P P 11 06 26.5 +0.8
baz=80
T23A Casias Ranch, 79.44 334 ⇓P P 11 06 26.9 +0.4
baz=80
S25A Robets Cordova 79.45 335 ⇑P P 11 06 26.8 +0.4
baz=80
Y14A Wickenburg 79.47 327 ⇑P P 11 06 27.0 +0.6
baz=80
R27A Eads 79.49 337 ⇓P P 11 06 26.7 +0.2
baz=80
Q29A Oakley 79.49 338 ⇑P P 11 06 26.8 +0.4
baz=80
P32A Huiting Farm, 79.50 340 ⇑P P 11 06 26.9 +0.5
baz=80
TSUM Tsumeb 79.52 106 P P 11 06 27.8 +0.5
comp=Z,32nm,1.3s,baz=230,slow=6.5,SNR=12
TSUM Tsumeb 79.52 106 eP P 11 06 28.9 +1.6
comp=Z,56nm,1.4s
GLA Glamis 79.53 326 ⇑P P 11 06 26.8 +0.1
baz=80
P31A Stockton 79.62 340 ⇑P P 11 06 27.7 +0.6
baz=80
S24A Houchin Ranch, 79.70 335 ⇑P P 11 06 28.1 +0.3
baz=80,SNR=7.5
R26A Arlington 79.71 336 ⇓P P 11 06 28.2 +0.6
baz=80
BOSA Boshof 79.75 118 eP P 11 06 28.6 +0.2
BOSA AMB AMB 11 06 30.4
comp=Z,78nm,4.3s
BOSA Boshof 79.75 118 P P 11 06 28.4 0.0
comp=Z,56nm,1.2s,baz=229,slow=6.1,SNR=11
R25A Fountain Ranch 79.84 336 ⇑P P 11 06 29.2 +0.8
baz=80
P30A Selden 79.89 339 ⇓P P 11 06 29.3 +0.8
baz=80
Q28A Sharon Springs 79.91 338 ⇓P P 11 06 29.2 +0.5
baz=80
O32A Brockman Farm, 80.02 341 ⇑P P 11 06 30.6 +1.4
baz=80
S23A Nye Farm, Mont 80.03 334 ⇓P P 11 06 30.4 +0.8
baz=80
KSCO Kaye Shedlock' 80.10 337 ⇓P P 11 06 30.7 +0.9
baz=80
P29A Atwood 80.14 339 ⇓P P 11 06 30.9 +1.0
baz=80
WUAZ Wupatki 80.14 329 ⇓P P 11 06 31.0 +0.9
baz=80
O31A Woolen Ranch, 80.19 340 ⇑P P 11 06 31.3 +1.1
baz=81
R24A Sanders Place, 80.20 335 ⇓P P 11 06 31.1 +0.7
baz=80,SNR=6.5
P28A Saint Francis 80.35 338 ⇑P P 11 06 32.1 +1.0
baz=81
S22A 4UR Ranch, Cre 80.36 334 ⇓P P 11 06 32.3 +0.9
baz=81
R23A Moffat 80.40 335 ⇓P P 11 06 32.4 +0.8
baz=81
O30A MW Ranch, Wils 80.42 340 ⇑P P 11 06 32.5 +1.1
baz=81
MVCO Mesa Verde 80.49 332 ⇑P P 11 06 32.9 +0.8
baz=81
Q25A Bedland, Calha 80.53 336 ⇓P P 11 06 33.1 +0.9
baz=81
O29A 4D Ranch, Culb 80.58 339 ⇑P P 11 06 33.1 +0.8
baz=81
P27A Ficken Ranch, 80.59 338 ⇑P P 11 06 33.3 +0.9
baz=81
IRM Iron Mountain 80.60 326 ⇑P P 11 06 33.4 +1.0
baz=81
SWZ Schweizer 80.65 117 eP P 11 06 32.4 -0.9
SWZ AMB AMB 11 06 34.2
comp=Z,71nm,1.7s
SWZ Schweizer 80.65 117 P P 11 06 32.4 -0.9
comp=Z,71nm,1.7s
P26A Davis Ranch, A 80.83 337 ⇑P P 11 06 34.6 +0.9
baz=81
O28A Krutsinger Ran 80.87 338 ⇑P P 11 06 34.7 +0.9
baz=81
Q24A Divide 80.87 335 ⇓P P 11 06 34.6 +0.4
baz=81
P25A Willow Gulch B 81.05 336 ⇑P P 11 06 35.9 +1.0
baz=81
MURC Murrieta 81.08 324 ⇑P P 11 06 35.7 +0.7
baz=81
O27A Beecher Island 81.14 338 ⇑P P 11 06 36.0 +0.7
baz=82
N29A Votaw Ranch, W 81.18 339 ⇓P P 11 06 36.0 +0.5
baz=82
M31A Lambtecht Ranc 81.22 341 ⇑P P 11 06 36.3 +0.7
baz=82
P24A Kohler Place, 81.29 336 ⇓P P 11 06 37.1 +0.9
baz=82
U15A North Rim 81.30 329 ⇑P P 11 06 37.0 +0.5
baz=82
N28A Pribbeno Ranch 81.32 339 ⇑P P 11 06 37.3 +1.1
baz=82
PV01 Paradox Valley 81.33 333 eP P 11 06 36.8 +0.3
GMRC Granite Mounta 81.35 326 ⇑P P 11 06 37.3 +0.7
baz=82
O26A Horse Wrangler 81.44 337 ⇑P P 11 06 38.0 +1.0
baz=82
P23A Jefferson 81.47 335 ⇓P P 11 06 38.3 +1.0
baz=82
O25A Wiggins 81.58 337 ⇑P P 11 06 38.5 +0.9
baz=82
SEK Senekal 81.60 119 eP P 11 06 35.8 -2.5
SEK AMB AMB 11 06 39.5
comp=Z,65nm,1.7s
SEK Senekal 81.60 119 P P 11 06 35.8 -2.5
comp=Z,65nm,1.7s
N27A Anderson Farm, 81.72 338 ⇓P P 11 06 38.9 +0.6
baz=82
M29A Burnside Ranch 81.77 340 ⇓P P 11 06 39.2 +0.7
baz=82
ISCO Idaho Springs 81.78 335 ⇑P P 11 06 39.2 +0.3
baz=82
BFSC Mount Baldy Ra 81.82 324 ⇓P P 11 06 39.4 +0.3
baz=82
RUDU RUNDU 81.92 106 eP P 11 06 41.2 +1.2
RUDU AMB AMB 11 06 42.4
comp=Z,93nm,1.6s
RUDU RUNDU 81.92 106 P P 11 06 41.2 +1.2
comp=Z,93nm,1.6s
L31A Butterfield Fa 81.96 341 ⇓P P 11 06 40.3 +0.8
baz=82
L30A Spencer Herefo 81.98 340 ⇑P P 11 06 40.1 +0.4
baz=82
LBTB Lobatse 82.13 115 eP P 11 06 40.2 -0.9
LBTB AMB AMB 11 07 16.8
comp=Z,82nm,18.2s
LBTB Lobatse 82.13 115 eP P 11 06 41.5 +0.3
LBTB pmax pmax
comp=Z,29nm,0.8s
LBTB Lobatse 82.13 115 eP P 11 06 41.5 +0.3
comp=Z,29nm,0.8s
O23A Lake Granby, G 82.25 335 ⇑P P 11 06 41.5 +0.1
baz=83
PRYS Parys 82.25 118 eP P 11 06 40.5 -1.3
PRYS AMB AMB 11 07 22.2
comp=Z,34nm,15.0s
PRYS Parys 82.25 118 P P 11 06 40.5 -1.3
GSC Goldstone 82.30 325 ⇑P P 11 06 41.9 +0.4
baz=83
O22A Kremmling 82.42 335 ⇓P P 11 06 42.8 +0.5
baz=83
SHPR Sheep Range 82.58 327 eP P 11 06 43.8 +0.8
comp=Z,20nm,1.2s
WDLM Western Deep L 82.60 117 eP P 11 06 42.6 -1.1
WDLM AMB AMB 11 07 48.5
comp=Z,32nm,4.8s
K30A Basset 82.63 341 ⇑P P 11 06 43.4 +0.4
baz=83
N23A Red Feather La 82.87 336 ⇑P P 11 06 44.7 0.0
baz=83
ECSD EROS Data Cent 82.88 343 ⇓P P 11 06 44.5 +0.3
baz=83
K29A Lazy Trails An 82.89 340 ⇑P P 11 06 44.9 +0.5
baz=83
ARUT Antelope Range 82.93 329 eP P 11 06 46.0 +1.1
ARUT Antelope Range 82.93 329 eP P 11 06 46.0 +1.1
N22A Wattenberg Ran 82.96 335 ⇑P P 11 06 45.7 +0.7
baz=83
O20A White River Ci 82.98 334 ⇓P P 11 06 45.8 +0.7
baz=83
M24A Cheyenne 83.03 337 ⇓P P 11 06 46.0 +0.7
baz=83
K28A Ten Mile Ranch 83.14 340 ⇓P P 11 06 46.7 +1.0
baz=84
J30A Dallas 83.20 341 ⇓P P 11 06 46.9 +1.0
baz=84
OBSV Observatory 83.21 118 eP P 11 06 46.5 -0.4
OBSV AMB AMB 11 06 49.3
comp=Z,59nm,10.5s
ERPM east rand prop 83.23 118 eP P 11 06 46.9 0.0
ERPM AMB AMB 11 06 49.2
comp=Z,78nm,12.5s
ERPM east rand prop 83.23 118 P P 11 06 46.9 0.0
ISA Isabella 83.37 325 ⇓P P 11 06 47.8 +0.7
baz=84
K27A Flueckinger Fa 83.38 339 ⇑P P 11 06 47.8 +0.8

baz=84
J29A Okreek 83.50 341 ⇓P P 11 06 48.0 +0.6
baz=84
M22A Cedar Creek Ra 83.55 336 ⇑P P 11 06 48.8 +0.8
baz=84
SLR Silverton 83.63 117 eP P 11 06 49.1 +0.1
SLR AMB AMB 11 06 50.5
comp=Z,92nm,5.4s
SLR Silverton 83.63 117 P P 11 06 49.1 +0.1
SLR pmax pmax
comp=Z,93nm,5.4s
SLR Silverton 83.63 117 P P 11 06 49.1 +0.1
comp=Z,92nm,5.4s
I30A Oacoma 83.74 341 ⇓P P 11 06 48.7 +0.1
baz=84
J28A Allard Ranch, 83.76 340 ⇑P P 11 06 49.2 +0.4
baz=84
K25A Mack Ranch, Ha 83.77 338 ⇑P P 11 06 49.4 +0.4
baz=84
J27A Elkhorn Farm, 83.82 339 ⇓P P 11 06 49.8 +0.6
baz=84
L23A Garrett 83.89 336 ⇑P P 11 06 50.2 +0.5
baz=84
I29A Vivian Onida 84.06 341 ⇑P P 11 06 50.5 +0.2
baz=84
BRSD Miller 84.11 342 ⇓P P 11 06 50.6 +0.1
baz=84
MPU Maple Canyon 84.13 331 eP P 11 06 51.7 +0.7
comp=Z,27nm,1.2s
J26A Sides Ranch, S 84.18 339 ⇑P P 11 06 51.1 +0.1
baz=84
I28A Midland 84.28 340 ⇑P P 11 06 51.8 +0.4
baz=85
R11A Troy Canyon, C 84.31 328 ⇓P P 11 06 51.8 -0.1
baz=85
K23A Bowen Ranch, D 84.45 337 ⇓P P 11 06 52.4 -0.1
baz=85
I27A Quinn 84.58 340 ⇓P P 11 06 53.1 +0.1
baz=85
H29A Onida 84.60 341 ⇓P P 11 06 53.5 +0.4
baz=85
K22A Casper 84.64 336 eP P 11 06 54.1 +0.6
comp=Z,66nm,1.5s
K22A Casper 84.64 336 ⇑P P 11 06 53.7 +0.3
baz=85
J24A Dixon Ranch, L 84.67 338 ⇑P P 11 06 53.9 +0.4
baz=85
DUG Dugway 84.74 331 eP P 11 06 54.0 0.0
DUG pmax pmax
comp=Z,36nm,1.4s
DUG Dugway 84.74 331 eP P 11 06 54.0 0.0
comp=Z,36nm,1.4s
DUG Dugway 84.74 331 ⇓P P 11 06 54.2 +0.2
baz=85
I26A New Underwood 84.78 339 ⇑P P 11 06 54.1 +0.1
baz=85
G30A Faulkton 84.80 342 ⇑P P 11 06 54.1 +0.1
baz=85
H28A Mission Ridge 84.86 341 ⇓P P 11 06 54.4 0.0
baz=85
K21A Alcova 84.86 336 ⇑P P 11 06 54.4 -0.3
baz=85
I25A Rochford 85.02 339 ⇓P P 11 06 55.3 -0.1
baz=85,SNR=7.5
G29A Hoven 85.06 342 ⇑P P 11 06 55.4 0.0
baz=85
H27A Howes 85.11 340 ⇑P P 11 06 55.5 -0.1
baz=86
I24A Kuemmerle Ranc 85.14 338 ⇑P P 11 06 56.4 +0.5
baz=86
RSSD Black Hills 85.20 338 eP P 11 06 56.2 -0.1
RSSD pmax pmax
comp=Z,15nm,1.1s
RSSD Black Hills 85.20 338 eP P 11 06 56.2 -0.1
comp=Z,15nm,1.1s
G28A Parade 85.20 341 ⇓P P 11 06 56.5 +0.4
baz=86
J22A Midwest 85.31 336 ⇑P P 11 06 57.0 +0.1
baz=86
F30A Leola 85.43 342 ⇓P P 11 06 57.3 +0.1
baz=86
H25A Fruitdale 85.53 339 ⇓P P 11 06 58.1 +0.3
baz=86,SNR=8.8
NVAR Mina Array Bea 85.56 326 P P 11 06 58.6 +0.3
comp=Z,1.2nm,0.7s,baz=156,slow=6.8,SNR=5.6
J21A Lysite 85.56 336 ⇑P P 11 06 58.2 +0.1
baz=86
F29A Eureka 85.63 342 ⇑P P 11 06 58.2 0.0
baz=86
I22A 9 Mile Ranch, 85.74 337 ⇑P P 11 06 59.0 0.0
baz=86
G27A Dupree 85.76 340 ⇓P P 11 06 58.8 0.0
baz=86
PDAR Pinedale Array 85.77 334 P P 11 06 59.2 0.0
comp=Z,6.7nm,1.1s,baz=158,slow=5.6,SNR=8.8
J20A Shoshoni 85.78 335 ⇓P P 11 06 59.4 +0.3
baz=86
G26A Maurine 85.86 340 ⇓P P 11 06 59.1 -0.3
baz=86,SNR=8.5
F28A McLaughlin 85.89 341 ⇓P P 11 06 59.5 0.0
baz=86,SNR=6.2
H24A Dirks Ranch, A 85.92 338 ⇓P P 11 06 59.6 -0.1
baz=86
I21A Big Trails, Te 85.93 336 ⇑P P 11 06 59.6 -0.3
baz=86
G25A Newell 86.00 339 ⇓P P 11 07 00.0 -0.1
baz=86,SNR=10
E30A Jud 86.03 343 ⇓P P 11 07 00.4 +0.3
baz=86
J19A Crowheart 86.03 335 ⇓P P 11 07 00.4 -0.1
baz=86
TORD Torodi Ar. Bea 86.20 71 P P 11 07 01.6 -0.1
comp=Z,19nm,1.1s,baz=232,slow=5.3,SNR=31
F27A Lemmon 86.24 340 ⇓P P 11 07 00.9 -0.3
baz=87,SNR=9.3
E29A Napoleon 86.27 342 ⇑P P 11 07 01.6 +0.3
baz=87
I20A Worland 86.33 336 ⇑P P 11 07 01.8 0.0
baz=87
H22A Clearmont 86.33 337 ⇑P P 11 07 01.1 -0.7
baz=87
F26A Lodgepole 86.39 340 ⇓P P 11 07 01.7 -0.3
baz=87,SNR=7.1
G24A Alzada 86.41 339 ⇓P P 11 07 01.5 -0.6
baz=87
E28A Huff 86.54 342 ⇑P P 11 07 02.4 -0.2
baz=87
D30A Buchanan 86.56 343 ⇑P P 11 07 02.7 -0.1
baz=87
H21A Big Horn, Sher 86.58 337 ⇓P P 11 07 02.6 -0.5
baz=87
G23A Biddle 86.58 338 ⇓P P 11 07 02.5 -0.5
baz=87
E27A Carson 86.63 341 ⇓P P 11 07 03.0 -0.1
baz=87
F25A Bowman 86.68 340 ⇓P P 11 07 02.8 -0.6
baz=87,SNR=5.8
I19A Meeteetse 86.69 335 ⇓P P 11 07 03.4 -0.4
baz=87
D29A Pettibone, Tap 86.72 342 ⇓P P 11 07 03.5 0.0
baz=87
H20A Greybull 86.76 336 ⇑P P 11 07 03.4 -0.5
baz=87
G22A Birney 86.88 337 ⇓P P 11 07 03.8 -0.7
baz=87
F24A Ekalaka 86.89 339 ⇑P P 11 07 04.3 -0.1
baz=87
E26A Carlson Angus 86.91 340 ⇑P P 11 07 04.3 -0.2
baz=87,SNR=7.6
MSNA Messina 86.97 116 eP P 11 07 05.9 +0.4
MSNA AMB AMB 11 07 08.2
comp=Z,42nm,5.0s
MSNA Messina 86.97 116 P P 11 07 05.9 +0.4
comp=Z,42nm,5.0s
AGMN Agassiz Nation 87.05 345 ⇓P P 11 07 05.0 0.0
baz=87
C30A Mose, Pekin 87.06 343 ⇓P P 11 07 05.2 0.0
baz=87,SNR=13
F23A Volborg 87.06 338 ⇑P P 11 07 05.0 -0.3
baz=87
D28A Regan 87.08 342 ⇑P P 11 07 05.0 -0.3
baz=87,SNR=9.8
I17A Pilgrim Ck. 87.14 334 ⇓P P 11 07 05.6 -0.3
baz=88
E25A Miller Ranch, 87.19 340 ⇑P P 11 07 05.9 0.0
baz=88
MOPA Mopani 87.22 117 eP P 11 07 04.4 -2.4
MOPA AMB AMB 11 07 09.2
comp=Z,56nm,1.5s
MOPA Mopani 87.22 117 P P 11 07 04.4 -2.4
comp=Z,56nm,1.5s
H19A Powell 87.25 335 ⇓P P 11 07 06.5 +0.2
baz=88
F22A Rosebud 87.37 338 ⇑P P 11 07 06.9 +0.1
baz=88
D26A Manning 87.42 341 ⇑P P 11 07 07.0 +0.1
baz=88
G20A Bridger 87.48 336 ⇓P P 11 07 07.3 -0.2
baz=88
H18A Shoshone NF, C 87.48 335 ⇑P P 11 07 07.3 -0.3
baz=88
E24A Baker 87.50 339 ⇓P P 11 07 07.8 +0.4
baz=88
C28A Hausauer Farms 87.53 342 ⇓P P 11 07 08.1 +0.7
baz=88
YFT Old Faithful 87.69 334 eP P 11 07 07.7 -0.9
comp=Z,21nm,1.3s
B30A Myrvik Farm, E 87.73 344 ⇑P P 11 07 08.1 -0.2
baz=88,SNR=12
D25A Fairfield 87.77 340 ⇓P P 11 07 08.3 -0.4
baz=88
C27A Sayler Ranch, 87.80 341 ⇑P P 11 07 08.6 -0.2
baz=88,SNR=11
B29A Wagenman Farm, 87.98 343 ⇑P P 11 07 09.3 -0.3
baz=88,SNR=8.8
D24A Glendive 88.01 339 ⇓P P 11 07 09.3 -0.5
baz=88
C26A Wahner Farm, P 88.06 341 ⇑P P 11 07 09.7 -0.3
baz=88
A30A Hoffart Farm, 88.18 344 ⇓P P 11 07 10.5 0.0
baz=88
B28A Dugan Ranch, T 88.20 342 ⇑P P 11 07 10.3 -0.3
baz=89,SNR=12
QLMT Earthquake Lak 88.23 334 eP P 11 07 11.7 +0.6
comp=Z,1.4nm,1.1s
HLID Hailey 88.24 331 ⇓P P 11 07 10.8 -0.4
baz=89
C25A Freed Ranch, W 88.26 340 ⇑P P 11 07 10.7 -0.2
baz=89
F19A Roth Farm, Mol 88.28 336 ⇑P P 11 07 10.8 -0.4
baz=89
D23A Lindsay 88.32 339 ⇓P P 11 07 11.1 -0.2
baz=89
PAF Port-aux-Franc 88.36 157 R 11 13 00.0
PAF Port-aux-Franc 88.36 157 R 11 13 00.0
PAF Port-aux-Franc 88.36 157 R 11 13 00.0
A29A Manning Farm, 88.38 343 ⇑P P 11 07 10.9 -0.5
baz=89,SNR=10
B27A Peters Farms, 88.38 342 ⇑P P 11 07 11.4 0.0
baz=89
C24A Savage 88.42 340 ⇑P P 11 07 11.7 0.0
baz=89
A28A Rude Farm, Bot 88.61 343 ⇑P P 11 07 12.6 +0.1
baz=89
B25A Knox Farm, Ray 88.75 341 ⇓P P 11 07 13.9 +0.7
baz=89
E19A Rath Farm, Rou 88.77 336 ⇑P P 11 07 13.3 -0.1
baz=89
C23A Lambert 88.88 339 ⇓P P 11 07 14.2 +0.4
baz=89
ULM Lac du Bonnet 88.92 346 P P 11 07 12.7 -1.2
comp=Z,5.2nm,0.8s,baz=170,slow=5.1,SNR=6.0
C22A Vida 89.03 339 ⇓P P 11 07 15.3 +0.7
baz=89
D20A Manuel Ranch, 89.12 337 ⇓P P 11 07 15.1 +0.1
baz=90
LRM Limekiln Ridge 89.45 334 eP P 11 07 16.5 -0.4
comp=Z,144nm,1.6s
LSZ Lusaka 89.97 109 eP P 11 07 21.5 +1.5
LSZ pmax pmax
comp=Z,70nm,1.7s
LSZ Lusaka 89.97 109 eP P 11 07 21.5 +1.5
comp=Z,70nm,1.7s
TAM Tamanrasset 95.01 65 eP P 11 07 43.7 +0.6
TAM pmax pmax
comp=Z,11nm,1.1s
TAM Tamanrasset 95.01 65 eP P 11 07 43.7 +0.6
comp=Z,11nm,1.1s
YKA Yellowknife Ar 104.35 342 PP PP 11 12 42.2 -0.7
comp=Z,0.4nm,1.0s,baz=137,slow=7.7,SNR=3.1
GERES GERESS Array B 114.89 47 PKP PKPdf 11 12 59.8 -0.6
comp=Z,1.0nm,0.8s,baz=187,slow=2.6,SNR=5.3
ILAR Eielson Array 116.17 333 PKP PKPdf 11 13 02.2 0.0
comp=Z,0.4nm,1.0s,baz=149,slow=2.1,SNR=2.7
WRA Warramunga Arr 117.79 210 PKP PKPdf 11 13 06.0 -0.9
comp=Z,0.8nm,0.9s,baz=160,slow=1.9,SNR=4.0
MLR Muntele Rosu 121.04 54 PKP PKPdf 11 13 12.2 -0.2
comp=Z,0.8nm,1.0s,baz=16,slow=3.4,SNR=3.7
MMAI Mount Meron Ar 122.74 71 PKP PKPdf 11 13 15.9 -0.1
comp=Z,2.5nm,0.8s,baz=232,slow=1.6,SNR=3.0
BRTR Keskin Array B 124.13 63 PKP PKPdf 11 13 18.2 -0.3
comp=Z,1.7nm,0.9s,baz=209,slow=2.6,SNR=7.1
KIEV Kiev 124.87 49 ePKIKP PKPdf 11 13 18.3 -1.0
KIEV Kiev 124.87 49 ePKIKP PKPdf 11 13 18.3 -1.0
AKASG Malin Array Be 124.88 49 PKP PKPdf 11 13 18.3 -1.1
comp=Z,1.3nm,0.6s,baz=266,slow=2.9,SNR=7.9
AKASG PP PP 11 15 04.7 -3.5
comp=Z,0.6nm,0.6s,baz=250,slow=8.3,SNR=9.3
SPITS Spitsbergen Ar 125.65 15 PKP PKPdf 11 13 20.1 -0.1
comp=Z,7.4nm,1.0s,baz=186,slow=1.4,SNR=3.1
FINES FINESS Array B 125.91 36 PKP PKPdf 11 13 20.5 -0.5
comp=Z,4.8nm,1.1s,baz=14,slow=1.7,SNR=4.2
OBN Obninsk 130.21 45 ⇑iPKIKP PKPdf 11 13 30.1 +0.7
OBN e 11 13 35.7
OBN e 11 13 42.7
OBN e 11 20 27.2
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN MLR MLR
comp=Z,7μm,20.0s
OBN Obninsk 130.21 45 PKP PKPdf 11 13 29.3 0.0
comp=Z,8.2nm,0.2s,baz=258,slow=2.9,SNR=4.8
KLMR Klimovskoe 132.30 38 ePKIKP PKPdf 11 13 31.8 -1.4
KLMR pmax pmax
comp=Z,22nm,0.9s
IHRS Heris 133.49 69 eP PKPdf 11 13 31.9 -4.6
BILL Bilibino 134.83 333 ePKIKP PKPdf 11 13 37.8 0.0
BILL pmax pmax
comp=Z,4.0nm,1.4s
GEYT Alibeck 141.79 73 PKhKP PKPpre 11 13 46.5
comp=Z,1.8nm,0.6s,baz=251,slow=4.5,SNR=8.8
SEY Seymchan 141.85 328 PKHKP PKPpre 11 13 46.0
SEY Seymchan 141.85 328 PKhKP PKPpre 11 13 46.0
comp=Z,0.4nm,0.3s,baz=127,slow=2.6,SNR=2.1
ISRO Mashad 142.44 76 eP PKPdf 11 13 47.3 -5.6
ARU Arti 142.56 43 PKIKP PKPdf 11 13 53.7 +1.5
AKTO Aktyubinsk 142.95 53 PKhKP PKPpre 11 13 48.8
comp=Z,3.0nm,0.8s,baz=278,slow=3.4,SNR=14
TIXI Tiksi 143.22 348 ePKPdf PKPab 11 13 47.5 -1.2
ABKAR Akbulak array 144.25 55 ePKPdf PKPab 11 13 53.4 0.0
KSM Kuching 144.69 186 ePKPdf PKPbc 11 13 56.5 +0.3
IPM Ipoh 147.44 170 ePKPdf PKPdf 11 14 01.7 -0.4
IPM ePKPbc PKPbc 11 14 03.9 -0.6
IPM ePKPab PKPab 11 14 06.2 -0.1
HYB Hyderabad 148.63 120 iPKP PKPbc 11 14 06.0 -1.6
BVAR Borovoye Array 150.05 46 PKP PKPdf 11 14 05.5 +0.5
comp=Z,1.7nm,0.8s,baz=281,slow=0.7,SNR=4.0
BVAR PKPbc PKiKP 11 14 10.5 -0.4
comp=Z,7.5nm,0.8s,baz=289,slow=4.4,SNR=18
YAK Yakutsk 150.94 338 ePKIKP PKPbc 11 14 11.9 +0.1
YAK pmax pmax
comp=Z,41nm,1.4s
YAK Yakutsk 150.94 338 ePKPdf PKPdf 11 14 04.5 -1.5
YAK ePKPbc PKPbc 11 14 11.6 -0.2
KKAR Karatay Array 151.78 66 ePKIKP PKPdf 11 14 08.1 +0.1
KKAR e 11 14 14.6
KKAR e 11 14 23.4
KKAR Karatay Array 151.78 66 ePKPdf PKPdf 11 14 08.1 +0.1
KKAR ePKPbc PKiKP 11 14 14.6 -0.2
KKAR ePKPab PKPab 11 14 23.4 0.0
EKS2 Erkin-Say 154.19 67 ePKIKP PKPdf 11 14 12.3 +0.6
EKS2 e 11 14 34.0
EKS2 Erkin-Say 154.19 67 ePKPdf PKPdf 11 14 12.3 +0.6
EKS2 ePKPab PKPab 11 14 34.0 +0.2
AAK Ala-Archa 154.72 67 PKP PKPdf 11 14 13.2 +0.7
comp=Z,1.6nm,0.6s,baz=219,slow=4.1,SNR=5.3
AAK PKPab PKPab 11 14 36.2 +0.1
comp=Z,35nm,1.2s,baz=232,slow=5.3,SNR=15
KSH Kashi 155.82 74 ePKP PKPdf 11 14 14.3 +0.2
KSH epPKP pPKPdf 11 14 25.5 +6.6
KSH esPKP 11 14 28.8
KSH eSKS SKSdf 11 21 15.5 -4.5
KSH eSKKS SKKSac 11 25 05.0 -2.4
KSH eSS SS 11 38 02.5 -3.7
KSH AMB AMB
comp=Z,3μm,16.9s
NVS Novosibirsk 155.88 34 ePKIKP PKPdf 11 14 11.8 -1.6
NVS e 11 14 40.1
NVS pmax pmax
comp=Z,30nm,1.7s
NVS pmax pmax
comp=E,13nm,1.6s
ZALV Zalesovo Beam 157.17 34 PKP PKPdf 11 14 14.6 -0.6
comp=E,7.0nm,1.0s,baz=321,slow=2.0,SNR=8.2
BOD Bodaibo 158.40 349 ePKP2 PKPab 11 14 49.4 -1.7
BOD pmax pmax
comp=Z,12nm,1.3s
MK31 Makanchi Array 159.38 53 ePKIKP PKPdf 11 14 17.4 -0.7
MK31 e 11 14 56.1
MK31 Makanchi Array 159.38 53 ePKPdf PKPdf 11 14 17.4 -0.7
MK31 ePKPab PKPab 11 14 56.1 +0.2
MKAR Makanchi Array 159.38 53 PKP PKPdf 11 14 17.9 -0.2
comp=Z,4.2nm,1.1s,baz=318,slow=1.9,SNR=10.0
MKAR PKPab PKPab 11 14 55.4 -0.4
comp=Z,4.2nm,0.8s,baz=278,slow=3.6,SNR=8.6
MKAR PP PP 11 18 36.5 -1.0
comp=Z,6.9nm,1.2s,baz=286,slow=4.9,SNR=7.1
CMAR Chiang Mai Arr 160.53 158 PKP PKPdf 11 14 20.0 -0.3
comp=Z,0.6nm,0.4s,baz=238,slow=1.7,SNR=4.9
CMAR PKPab PKPab 11 15 01.2 -0.1
comp=Z,0.5nm,0.3s,baz=209,slow=4.4,SNR=4.6
MDJ Mudanjiang 160.94 301 PKP PKPdf 11 14 20.3 +0.4
WMQ Urumqi 163.98 58 PKP PKPdf 11 14 22.5 -0.5
MOY Mondy 164.61 13 ePKP2 PKPab 11 15 19.5 +0.9
ZAK Zakamensk 166.21 9 ⇑ePKIKP PKPdf 11 14 22.9 -1.8
ZAK i 11 15 25.3
ZAK pmax pmax
comp=Z,2.0nm,1.7s
ZAK pmax pmax
comp=Z,6.0nm,1.4s
SONM Songino Array 168.97 1 PKP PKPdf 11 14 25.9 -1.0
comp=Z,1.4nm,1.1s,baz=5.7,slow=1.4,SNR=5.2
SONM PKPab PKPab 11 15 38.0 +0.1
comp=Z,1.0nm,0.8s,baz=358,slow=5.4,SNR=4.7
GYA Guiyang 169.69 180 PKP PKPdf 11 14 27.0 -0.9
GYA pPKP pPKPdf 11 14 37.8 +5.0
GYA PKPab PKPab 11 15 43.5 +1.9
GYA PKS PKSdf 11 17 58.5 -2.1
GYA PP PP 11 19 33.5 +3.1
GYA SKKS 11 26 15.0
GYA SS SS 11 40 24.3 -2.9
GYA AMB AMB
comp=Z,140nm,8.2s
GYA LR LR
comp=Z,180nm,21.5s
GYA LR LR
comp=Z,170nm,21.6s
CD2 Chengdu 173.67 157 PKP PKPdf 11 14 28.5 -1.1
CD2 pPKP pPKPdf 11 14 39.8 +5.3
CD2 sPKP 11 14 43.5
CD2 PKS PKSdf 11 17 59.3 -2.6
CD2 PP PP 11 19 52.8 +2.5
CD2 SKS SKSdf 11 21 26.0 -6.5
CD2 SKKS SKKSac 11 26 33.8 -3.3
CD2 SS SS 11 41 03.0 -3.5
CD2 AMB AMB
comp=Z,230nm,6.6s
GTA Gaotai 174.05 62 ePKP PKPdf 11 14 30.3 +0.7
GTA pPKP pPKPdf 11 14 41.0 +6.6
GTA sPKP 11 14 44.5
GTA PKPab PKPab 11 16 02.0 +1.1
GTA PP PP 11 19 56.5 +3.1
GTA SS SS 11 41 08.5 -3.9
GTA AMB AMB
comp=Z,2μm,10.5s
HHC Hu-ho-hao-te 174.40 318 ePKP PKPdf 11 14 22.8 -6.8
LZH Lanzhou 177.67 107 ePKP PKPdf 11 14 30.0 -0.6
LZH pPKP pPKPdf 11 14 40.8 +5.4
LZH sPKP 11 14 46.0
LZH PKPab PKPab 11 16 17.8 +0.6
LZH ePP PP 11 20 13.5 +2.5

IDC **27** *10:59:31.4±0.9, 34°30S×73°32W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.1/35, mbtmp4.2/6, Error ellipse: s-maj=41.0km s-min=25.8km az=65.0*
ISCJB **27** *10:59:34.9±1.1, 34°3S±0°2×73°2W±0°3, h33km, mb4.2/6, Error ellipse: s-maj=36.1km s-min=23.4km az=164.3*
ISC 27 10:59:36.6±1.0, 34°3S±0°2×73°2W±0°3, h35km, n8, σ0°80/8, mb4.2/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	San Ignacio	21.23	34	P	P	11 04 20.1	+0.6
	5.9nm,0.7s,baz=225,slow=13,SNR=3.6						
SNAA	Sanae	51.72	158	P	P	11 08 40.7	+0.7
	2.7nm,0.8s,baz=286,slow=8.2,SNR=6.8						
TXAR	Lajitas Array	69.48	332	P	P	11 10 41.4	-0.1
	1.1nm,0.9s,baz=153,slow=8.1,SNR=3.3						
BOSA	Boshof	80.83	118	P	P	11 11 46.5	-0.6
	7.7nm,0.8s,baz=257,slow=7.5,SNR=6.1						
NVAR	Mina Array Bea	83.53	326	P	P	11 12 01.4	+0.4
	0.3nm,0.3s,baz=162,slow=7.4,SNR=3.1						
TORD	Torodi Ar. Bea	85.23	71	P	P	11 12 10.2	+0.3
	4.4nm,0.8s,baz=247,slow=5.3,SNR=7.0						
WRA	Warramunga Arr	120.05	210	PKP	PKPdf	11 18 23.7	-0.4
	2.0nm,1.3s,baz=155,slow=1.9,SNR=2.9						
BVAR	Borovoye Array	148.15	43	PKPbc	PKPab	11 19 19.8	-1.3
	2.2nm,0.7s,baz=289,slow=4.4,SNR=5.1						

IDC **27** *11:02:27.7±1.0, 37°20S×73°33W, h0km, mb4.4/10, mb1 4.6/12, mb1mx4.3/34, mbtmp4.4/12, ML4.8/1, Error ellipse: s-maj=32.9km s-min=24.0km az=58.0*
ISCJB **27** *11:02:31.3±0.7, 37°20S±0°10×72°9W±0°2, h35km, mb4.5/13, Error ellipse: s-maj=21.6km s-min=13.7km az=172.1*
NEIC **27** *11:02:33.0±0.7, 37°21S×73°05W, h35km, mb4.2/2, Error ellipse: s-maj=22.3km s-min=14.2km az=76.0*
ISC 27 11:02:33.1±0.8, 37°2S±0°1×73°1W±0°2, h35km, n25, σ1°27/22, mb4.4/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.03	152	Pn	Pn	11 03 31.1	-1.2
	13nm,0.3s,baz=310,slow=14,SNR=6.4						
PLCA				Lg	Lg	11 04 23.4	
	24nm,0.3s,baz=38,slow=16,SNR=7.6						
CFAA	Coronel Fontan	6.85	37	Pn	Pn	11 04 10.1	-1.0
	0.6nm,0.3s,baz=227,slow=18,SNR=2.5						
LPAZ	La Paz	21.28	13	P	P	11 07 16.6	-0.5
	12nm,0.7s,baz=158,slow=5.9,SNR=6.9						
SIV	San Ignacio	23.64	30	P	P	11 07 41.0	-0.2
	6.3nm,0.9s,baz=70,slow=18,SNR=3.0						
ROSC	El Rosal	41.86	358	P	P	11 10 20.6	+0.3
	5.2nm,0.3s,baz=80,slow=21,SNR=4.1						
APG	El Apazote	54.46	339	P	P	11 11 52.1	-5.2
	4.5nm,0.8s,baz=148,slow=6.8,SNR=6.0						
CELP	Cerrillos	55.31	7	eP	P	11 12 01.9	-1.3
TEIG	Tepich	58.90	343	P	P	11 12 26.3	-2.2
	20nm,0.7s,baz=149,slow=7.5,SNR=7.7						
BRAL	Brewton	69.11	347	P	P	11 13 37.7	+2.2
	73nm,0.4s						
TXAR	Lajitas Array	72.15	332	P	P	11 13 53.6	-0.5
	2.3nm,0.6s,baz=151,slow=8.5,SNR=15						
ANMO	Albuquerque	78.22	332	P	P	11 14 28.3	-0.7
	3.5nm,0.9s,baz=170,slow=8.5,SNR=10						
ANMO	Albuquerque	78.22	332	eP	P	11 14 29.0	-0.1
	3.2nm,0.8s						
SDCO	Great Sand Dun	80.38	334	eP	P	11 14 40.7	-0.2
	1.6nm,0.8s						
NVAR	Mina Array Bea	86.06	326	P	P	11 15 10.7	+0.6
	0.8nm,0.7s,baz=157,slow=4.9,SNR=3.2						
TORD	Torodi Ar. Bea	86.06	70	P	P	11 15 13.0	+2.6
	1.8nm,0.9s,baz=241,slow=4.2,SNR=3.9						
PDAR	Pinedale Array	86.26	334	P	P	11 15 11.1	0.0
	0.9nm,0.8s,baz=148,slow=6.3,SNR=6.0						
ULM	Lac du Bonnet	89.38	346	P	P	11 15 25.0	-0.4
	2.6nm,0.7s,baz=73,slow=0.8,SNR=4.8						
BRTR	Keskin Array B	124.06	63	PKP	PKPdf	11 21 27.0	-0.7
	0.7nm,0.8s,baz=135,slow=0.4,SNR=3.6						
AKASG	Malin Array Be	124.93	49	PKP	PKPdf	11 21 28.8	0.0
	0.2nm,0.3s,baz=262,slow=2.5,SNR=3.7						
TIXI	Tiksi	143.68	348	ePKPdf	PKPab	11 21 58.8	-1.0
ABKAR	Akbulak array	144.25	55	ePKPdf	PKPbc	11 22 03.2	+0.1
BVAR	Borovoye Array	150.13	46	PKPbc	PKPbc	11 22 18.7	-0.8
	3.6nm,0.8s,baz=302,slow=2.8,SNR=7.6						
ZALV	Zalesovo Beam	157.34	35	PKPab	PKPab	11 22 57.9	+1.9

	2.5nm,0.7s,baz=302,slow=6.8,SNR=5.0						
MKAR	Makanchi Array	159.39	55	PKPab	PKPab	11 23 06.8	+1.6
	1.7nm,0.8s,baz=293,slow=3.6,SNR=8.3						
SONM	Songino Array	169.37	2	PKPab	PKPab	11 23 50.0	+1.0
	0.6nm,0.7s,baz=343,slow=3.0,SNR=3.4						

IDC 27 11:03:02.6±2.8, 54.27N×86.10E, h0km, mb1 3.2/1, mb1mx2.9/50, mbtmp3.2/1, ML3.1/1, Error ellipse: s-maj=20.9km s-min=13.0km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.82	247	i		11 08 48.6	
	baz=67,slow=342						
ZALV	Zalesovo Beam	0.82	247	Pg	Pg	11 03 17.2	-1.1
	1.2nm,0.3s,baz=65,slow=16,SNR=13						
ZALV				Lg	Lg	11 03 30.5	
	4.8nm,0.3s,baz=71,slow=29,SNR=20						
MKAR	Makanchi Array	7.87	199	Pn	Pn	11 04 59.6	+1.3
	0.3nm,0.3s,baz=22,slow=13,SNR=14						

IDC 27 11:03:18.4±1.6, 34.31S×69.54W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.0/31, mbtmp4.1/5, Error ellipse: s-maj=70.1km s-min=42.6km az=33.0

ISC 27 11:03:19.9±1.8, 34.4S±0.5×69.5W±0.4, h10km, n6, σ0§79/6, mb4.1/5, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	71.08	329	P	P	11 14 39.1	+0.7
	0.9nm,0.5s,baz=158,slow=7.8,SNR=5.5						
TORD	Torodi Ar. Bea	82.40	69	P	P	11 15 42.5	-0.1
	1.0nm,0.8s,baz=238,slow=4.4,SNR=2.9						
PDAR	Pinedale Array	85.03	332	P	P	11 15 55.0	-0.8
	1.0nm,0.8s,baz=136,slow=5.7,SNR=3.6						
NVAR	Mina Array Bea	85.37	324	P	P	11 15 56.7	-0.8
	0.9nm,0.8s,baz=146,slow=6.6,SNR=2.5						
ULM	Lac du Bonnet	87.40	343	P	P	11 16 07.2	+0.4
	1.7nm,0.6s,baz=180,slow=12,SNR=2.0						
WRA	Warramunga Arr	121.42	207	PKP	PKPdf	11 22 14.3	+0.2
	0.4nm,0.5s,baz=162,slow=1.6,SNR=8.1						

CASC 27 11:05:56.0±1.3, 13.28N×90.46W, h20km±5km, MD3.5, 7C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBLS	San Blas	0.98	55	⇑eP	Pb	11 06 14.1	-0.6
SBLS				eS	Sn	11 06 28.8	+0.2
RTR	El Retiro	1.00	52	⇑eP	Pb	11 06 14.5	-0.5
SNJE	San Jose	1.02	55	eP	Pb	11 06 14.6	-0.6
RBDL	Robledal	1.12	42	⇑eP	Pn	11 06 16.2	-0.6
BOQS	Boqueron	1.23	68	⇑eP	Pn	11 06 17.9	-0.5
NBG	Las Nubes	1.30	5	eP	Pb	11 06 19.9	-0.4
NBG				eS	Sb	11 06 37.7	+0.9
LFU	La Fuente	1.39	70	⇑eP	Pn	11 06 20.5	+0.1
LFRS	El Faro	1.40	76	⇑eP	Pn	11 06 20.8	+0.2
LFRS				eS	Sn	11 06 38.7	+0.1
LBRS	Las Brisas	1.45	71	⇑eP	Pn	11 06 21.2	0.0
JAT	Jato	1.54	312	eP	Pn	11 06 21.3	-1.0
MRL	Marmol	1.93	23	⇓eP	Pn	11 06 28.1	+0.2
MRL				eP	Pb	11 06 28.9	-1.8

IDC 27 11:06:48.5±1.6, 34.88S×72.67W, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/32, mbtmp4.1/9, ML4.2/1, Error ellipse: s-maj=46.8km s-min=31.4km az=19.0

NEIC 27 11:06:54.2±1.0, 34.83S×72.61W, h35km, mb4.0/1, Error ellipse: s-maj=24.8km s-min=21.2km az=2.0

ISC 27 11:06:51.4±1.4, 34.9S±0.2×72.7W±0.2, h18km, n12, σ0§78/13, mb4.2/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	18.93	13	P	Pn	11 11 13.3	+0.6
	0.3nm,0.3s,baz=201,slow=4.5,SNR=2.9						
SIV	San Ignacio	21.47	32	P	P	11 11 39.0	-0.1
	4.5nm,0.7s,baz=246,slow=8.8,SNR=4.4						
APG	El Apazote	52.39	338	P	P	11 16 01.7	-1.3
	2.5nm,0.9s,baz=129,slow=14,SNR=3.5						
TXAR	Lajitas Array	70.24	331	P	P	11 18 03.4	-0.1
	0.5nm,0.7s,baz=155,slow=8.8,SNR=3.5						
DBIC	Dimbokro	75.93	71	P	P	11 18 38.1	+0.7
	2.6nm,0.7s,baz=191,slow=7.7,SNR=3.2						
ANMO	Albuquerque	76.30	332	eP	P	11 18 39.6	+0.4
	1.3nm,0.8s						
PDAR	Pinedale Array	84.30	334	P	P	11 19 22.9	+0.7
	1.4nm,1.0s,baz=140,slow=6.2,SNR=4.5						
NVAR	Mina Array Bea	84.30	326	P	P	11 19 23.1	+0.7
	0.4nm,0.5s,baz=168,slow=6.5,SNR=3.3						
TORD	Torodi Ar. Bea	84.97	70	P	P	11 19 24.6	-1.4
	3.1nm,1.1s,baz=240,slow=5.5,SNR=4.1						
ULM	Lac du Bonnet	87.19	345	P	P	11 19 36.0	0.0
	2.3nm,0.7s,baz=298,slow=3.6,SNR=3.7						
MKAR	Makanchi Array	157.70	50	PKP	PKPdf	11 26 47.1	+0.6
	0.8nm,0.9s,baz=327,slow=2.0,SNR=3.5						
MKAR				PKPab	PKPab	11 27 19.0	+0.1
	0.6nm,0.8s,baz=292,slow=5.3,SNR=3.9						
SONM	Songino Array	167.01	3	PKPab	PKPab	11 27 59.9	+0.3
	0.6nm,0.9s,baz=344,slow=4.8,SNR=3.2						

IDC 27 11:07:45.0±0.9, 35.22S×72.49W, h0km, mb4.4/10, mb1 4.5/10, mb1mx4.3/19, mbtmp4.4/10, Error ellipse: s-maj=35.7km s-min=22.8km az=80.0

ISCJB 27 11:07:46.3±0.7, 35.3S±0.1×72.6W±0.2, h18km, mb4.3/11, Error ellipse: s-maj=22.2km s-min=15.2km az=8.3

NEIC 27 11:07:50.4±0.4, 35.26S×72.54W, h35km, mb4.0/1, Error ellipse: s-maj=15.6km s-min=11.0km az=100.0

ISC 27 11:07:47.8±0.8, 35.3S±0.1×72.6W±0.2, h18km, n17, σ0§84/17, mb4.5/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.17	46	Pn	Pn	11 09 05.6	+1.3
	2.3nm,0.3s,baz=207,slow=12,SNR=2.6						
SIV	San Ignacio	21.80	31	P	P	11 12 38.2	-0.8
	13nm,0.8s,baz=236,slow=14,SNR=6.6						
SNAA	Sanae	50.59	157	P	P	11 16 45.6	+0.6
	2.4nm,0.8s,baz=287,slow=8.3,SNR=4.7						
QSPA	South Pole Qui	54.97	180	P	P	11 17 18.4	+0.8
	4.6nm,0.8s,baz=142,slow=1.9,SNR=3.6						
TXAR	Lajitas Array	70.62	331	P	P	11 19 02.8	+0.6
	0.4nm,0.7s,baz=143,slow=7.9,SNR=3.5						
DBIC	Dimbokro	76.03	71	P	P	11 19 33.1	-1.2
	5.5nm,0.7s,baz=249,slow=4.9,SNR=5.0						
ANMO	Albuquerque	76.67	332	eP	P	11 19 38.7	+1.0
	1.4nm,0.8s						
TSUM	Tsumeb	79.32	106	P	P	11 19 53.2	+0.3
	3.2nm,0.9s,baz=262,slow=3.1,SNR=4.0						
BOSA	Boshof	79.90	118	P	P	11 19 55.6	-0.3
	4.4nm,0.8s,baz=108,slow=15,SNR=4.9						
LBTB	Lobatse	82.20	115	P	P	11 20 07.9	-0.2
	5.2nm,1.0s,baz=223,slow=5.4,SNR=3.3						
TORD	Torodi Ar. Bea	85.08	70	P	P	11 20 22.2	-0.6
	2.9nm,0.8s,baz=247,slow=5.1,SNR=7.7						
ULM	Lac du Bonnet	87.60	345	P	P	11 20 33.9	-0.4
	2.5nm,0.8s,baz=110,slow=1.0,SNR=4.2						
WRA	Warramunga Arr	119.42	209	PKP	PKPdf	11 26 35.5	-1.2
	0.8nm,0.9s,baz=148,slow=1.6,SNR=3.2						
BRTR	Keskin Array B	122.86	62	PKP	PKPdf	11 26 41.7	-1.1
	0.6nm,0.8s,baz=151,slow=2.8,SNR=3.7						
BVAR	Borovoye Array	148.53	44	PKPbc	PKPbc	11 27 33.6	+0.7
	0.7nm,0.4s,baz=336,slow=3.2,SNR=3.5						
AAK	Ala-Archa	153.50	64	PKPbc	PKPbc	11 27 45.1	0.0
	2.3nm,0.7s,baz=173,slow=3.8,SNR=3.9						
SONM	Songino Array	167.42	3	PKPab	PKPab	11 28 57.8	+0.1
	0.6nm,0.9s,baz=324,slow=3.6,SNR=4.2						

IDC 27 11:08:25.0±0.7, 35.27S×72.81W, h0km, mb4.4/10, mb1 4.6/14, mb1mx4.4/34, mbtmp4.5/14, ML4.7/3, Error ellipse: s-maj=28.2km s-min=16.0km az=78.0

ISCJB 27 11:08:26.0±0.5, 35.25S±0.07×72.7W±0.1, h18km, mb4.6/20, Error ellipse: s-maj=16.2km s-min=9.2km az=169.1

NEIC 27 11:08:30.2±0.3, 35.24S×72.69W, h35km, mb4.7/8, Error ellipse: s-maj=13.5km s-min=7.7km az=79.0

ISC 27 11:08:27.7±0.6, 35.22S±0.08×72.7W±0.1, h18km, n37, σ0§83/36, mb4.7/20, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.21	47	Pn	Pn	11 09 44.0	-0.9
	1.3nm,0.3s,baz=219,slow=13,SNR=2.8						
CFAA				Lg	Lg	11 10 59.6	
	8.4nm,0.3s,baz=212,slow=9.1,SNR=6.5						
PLCA	Paso Flores	5.77	163	Pn	Pn	11 09 52.2	-0.2
	9.5nm,0.3s,baz=321,slow=14,SNR=2.9						
PLCA				Lg	Lg	11 11 24.4	
	9.1nm,0.3s,baz=45,slow=17,SNR=3.5						
LPAZ	La Paz	19.30	13	P	Pn	11 12 53.9	+0.4
	1.3nm,0.3s,baz=150,slow=10.0,SNR=12						
USHA	Ushuaia	19.84	173	P	P	11 12 56.4	-1.0
	0.5nm,0.3s,baz=333,slow=2.3,SNR=2.6						
SIV	San Ignacio	21.81	32	P	P	11 13 19.1	+0.1
	63nm,1.1s,baz=214,slow=9.5,SNR=11						
NNA	Nana	23.43	350	P	P	11 13 36.6	+0.6
	8.9nm,0.7s,baz=204,slow=11,SNR=4.1						
OTAV	Otavalo	35.68	350	eP	P	11 15 24.4	-1.2
	22nm,1.4s						
SDV	Santo Domingo	43.91	3	eP	P	11 16 32.9	-0.8
	26nm,1.0s						
SNAA	Sanae	50.68	157	P	P	11 17 26.4	+0.7
	7.2nm,0.8s,baz=279,slow=6.7,SNR=11						
APG	El Apazote	52.71	338	P	P	11 17 42.2	+0.6
	3.4nm,0.9s,baz=201,slow=17,SNR=3.1						
QSPA	South Pole Qui	55.02	180	eP	P	11 18 06.2	+8.2
TXAR	Lajitas Array	70.53	332	P	P	11 19 42.0	+0.5
	0.9nm,0.5s,baz=155,slow=8.8,SNR=4.5						
WVT	Waverly	72.37	347	eP	P	11 19 52.2	-0.2
	14nm,0.8s						
MNTX	Cornudas Mount	73.30	331	eP	P	11 19 57.0	-1.1
	3.5nm,0.9s						
AMTX	Amarillo	74.80	336	eP	P	11 20 06.3	-0.5
	12nm,0.9s						
ACSO	Alum Creek Sta	75.67	352	eP	P	11 20 11.6	0.0
	24nm,0.8s						
LPM	Los Pinos Moun	76.09	332	eP	P	11 20 15.9	+1.5
	5.4nm,1.0s						
DBIC	Dimbokro	76.11	71	P	P	11 20 15.0	+0.3
	3.6nm,0.6s,baz=205,slow=6.2,SNR=4.7						
ANMO	Albuquerque	76.58	332	eP	P	11 20 18.0	+0.8
	7.0nm,1.0s						
BOSA	Boshof	80.01	118	P	P	11 20 36.9	+0.4
	4.6nm,0.7s,baz=232,slow=3.1,SNR=3.7						
DUG	Dugway	83.64	330	eP	P	11 20 56.3	+1.2
	5.6nm,0.9s						
NVAR	Mina Array Bea	84.56	326	P	P	11 20 59.9	0.0
	2.1nm,1.0s,baz=152,slow=6.7,SNR=4.3						
PDAR	Pinedale Array	84.59	334	P	P	11 20 59.6	-0.4
	1.0nm,0.7s,baz=145,slow=5.4,SNR=5.5						
TORD	Torodi Ar. Bea	85.17	70	P	P	11 21 03.5	+0.3
	1.7nm,0.7s,baz=267,slow=4.4,SNR=4.7						
MCMT	McKenzie Canyo	87.58	333	eP	P	11 21 15.3	+0.6
	5.2nm,1.1s						
YKA	Yellowknife Ar	103.03	341	Pdiff	Pdif	11 22 24.2	-0.3
	0.2nm,0.7s,baz=144,slow=4.7,SNR=5.8						
HFS	Hagfors	118.14	35	PKP	PKPdf	11 27 11.8	-1.0
	0.9nm,0.6s,baz=111,slow=1.9,SNR=3.0						
WRA	Warramunga Arr	119.42	209	PKP	PKPdf	11 27 15.6	-1.1
	1.2nm,0.8s,baz=164,slow=1.3,SNR=6.1						
BRTR	Keskin Array B	122.92	62	PKP	PKPdf	11 27 22.2	-0.6
	0.8nm,0.7s,baz=210,slow=3.5,SNR=4.7						
FINES	FINESS Array B	124.32	35	PKP	PKPdf	11 27 24.3	-0.3
	1.1nm,0.8s,baz=180,slow=3.6,SNR=3.3						
ARCES	ARCESS Array B	125.36	25	PKP	PKPdf	11 27 26.4	0.0
	3.2nm,0.9s,baz=48,slow=3.8,SNR=3.7						
BVAR	Borovoye Array	148.56	44	PKPbc	PKPbc	11 28 13.9	+0.9
	1.9nm,0.7s,baz=325,slow=1.8,SNR=4.5						
HYB	Hyderabad	148.91	117	i PKP	PKPbc	11 28 15.0	0.0
AAK	Ala-Archa	153.57	64	PKPbc	PKPbc	11 28 24.9	-0.4
	2.8nm,0.6s,baz=171,slow=3.5,SNR=4.6						
ZALV	Zalesovo Beam	155.56	33	PKPab	PKPab	11 28 46.1	+0.4
	2.8nm,0.8s,baz=300,slow=4.4,SNR=3.6						
MKAR	Makanchi Array	157.99	51	PKPab	PKPab	11 28 58.9	+2.4
	1.0nm,0.8s,baz=302,slow=2.7,SNR=3.5						
SONM	Songino Array	167.38	3	PKPab	PKPab	11 29 38.5	+1.0
	0.9nm,0.7s,baz=335,slow=4.3,SNR=0.1						

IDC 27 11:09:37.3±1.0, 34.59S×73.03W, h0km, mb4.2/5, mb1 4.5/5, mb1mx4.2/31, mbtmp4.2/5, Error ellipse: s-maj=58.7km s-min=29.9km az=58.0

ISCJB 27 11:09:40.8±1.0, 34.6S±0.3×73.0W±0.5, h33km, mb4.2/5, Error ellipse: s-maj=64.0km s-min=25.9km az=148.8

ISC 27 11:09:42.7±1.0, 34.6S±0.3×73.0W±0.4, h35km, n8, σ0§67/8, mb4.2/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	51.35	158	P	P	11 18 43.6	+0.3
	4.4nm,0.8s,baz=278,slow=8.1,SNR=3.1						
TXAR	Lajitas Array	69.86	332	P	P	11 20 50.0	0.0
	1.2nm,0.6s,baz=158,slow=9.0,SNR=5.6						
NVAR	Mina Array Bea	83.92	326	P	P	11 22 08.9	-0.2
	1.6nm,0.8s,baz=163,slow=6.6,SNR=3.3						
PDAR	Pinedale Array	83.93	334	P	P	11 22 08.8	-0.2
	0.7nm,0.7s,baz=130,slow=8.4,SNR=2.1						
TORD	Torodi Ar. Bea	85.14	71	P	P	11 22 15.2	-0.4
	2.1nm,0.7s,baz=235,slow=6.8,SNR=3.6						
WRA	Warramunga Arr	119.87	210	PKP	PKPdf	11 28 29.2	-0.6
	1.1nm,0.7s,baz=154,slow=1.7,SNR=5.3						
BVAR	Borovoye Array	148.24	43	PKPbc	PKPbc	11 29 24.3	-0.2
	3.6nm,0.7s,baz=318,slow=1.9,SNR=2.6						
SONM	Songino Array	166.75	2	PKPab	PKPab	11 30 48.4	+1.2
	1.0nm,0.9s,baz=336,slow=3.2,SNR=3.1						

IDC 27 11:09:53.3±0.7, 33.34S×72.06W, h0km, mb4.9/14, mb1 5.0/16, mb1mx4.8/30, mbtmp5.0/16, ML4.9/2, Error ellipse: s-maj=26.9km s-min=16.3km az=90.0

ISCJB 27 11:09:54.5±0.5, 33.29S±0.07×72.1W±0.1, h19km, mb4.8/31, Error ellipse: s-maj=15.2km s-min=8.6km az=160.8

NEIC 27 11:09:58.5±0.3, 33.30S×72.07W, h35km, mb4.8/13, Error ellipse: s-maj=11.6km s-min=6.4km az=75.0

ISC 27 11:09:56.0±0.5, 33.31S±0.08×72.1W±0.1, h19km, n58, σ0§93/56, mb5.0/31, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRQA	Tornquist	9.53	123	ePn	Pn	11 12 12.5	+0.3
	283nm,1.0s						
LPAZ	La Paz	17.33	13	P	Pn	11 13 57.8	+0.3
	1.8nm,0.3s,baz=200,slow=4.9,SNR=7.9						
SIV	San Ignacio	19.93	33	P	P	11 14 26.8	-0.1
	2.7nm,0.3s,baz=227,slow=11,SNR=8.1						
NNA	Nana	21.65	347	P	P	11 14 47.2	+1.8
	28nm,1.0s,baz=189,slow=11,SNR=5.7						
USHA	Ushuaia	21.68	174	P	P	11 14 46.9	+1.5
	21nm,0.9s,baz=334,slow=14,SNR=3.9						
SAML	Samuel	25.61	21	ePn	P	11 15 25.1	+0.9
	75nm,0.8s						
BDFB	Brasilia	28.02	57	P	P	11 15 45.3	-0.9
	35nm,0.9s,baz=220,slow=9.0,SNR=9.0						
OTAV	Otavalo	33.89	349	eP	P	11 16 37.3	-1.0
	11nm,1.0s						
SDV	Santo Domingo	41.98	2	eP	P	11 17 45.8	-0.4
	23nm,0.8s						
RCBR	Riachuelo	43.36	59	P	P	11 17 57.8	+0.5
	26nm,1.2s,baz=191,slow=12,SNR=4.1						
APG	El Apazote	51.12	337	P	P	11 18 56.1	-1.8
	5.8nm,0.7s,baz=159,slow=9.0,SNR=4.8						
CRPR	Cabo Rojo, PR	51.25	6	eP	P	11 18 59.1	+0.5
CELP	Cerrillos	51.37	7	eP	P	11 18 59.0	-0.5
LRS	Lares	51.56	6	eP	P	11 19 00.6	-0.2
SNAA	Sanae	52.26	158	P	P	11 19 05.1	-0.5
	8.7nm,0.9s,baz=280,slow=8.4,SNR=4.7						
QSPA	South Pole Qui	56.93	180	P	P	11 19 39.9	+0.2
	27nm,1.0s,baz=136,slow=3.7,SNR=4.6						
OXF	Oxford	69.38	345	eP	P	11 20 58.8	-3.6
	46nm,1.0s						
TKL	Tuckaleechee C	69.46	350	eP	P	11 21 04.0	+1.1
JSRW	J. Sargeant Re	70.84	355	eP	P	11 21 11.7	+0.5
MNTX	Cornudas Mount	71.86	331	eP	P	11 21 12.4	-5.2
	5.2nm,0.7s						
AMTX	Amarillo	73.27	335	eP	P	11 21 22.1	-3.9
	20nm,1.0s						
ACSO	Alum Creek Sta	73.86	351	eP	P	11 21 30.0	+0.8
	34nm,0.8s						
DBIC	Dimbokro	75.04	72	P	P	11 21 37.1	+0.4
	14nm,0.8s,baz=207,slow=6.4,SNR=6.1						
TSUM	Tsumeb	79.49	106	P	P	11 22 02.0	+0.2
	11nm,0.9s,baz=217,slow=5.2,SNR=11						
TSUM	Tsumeb	79.49	106	eP	P	11 22 01.9	0.0
	31nm,1.3s						
O20A	White River Ci	80.34	333	eP	P	11 22 01.1	-4.8
	43nm,1.9s						
BOSA	Boshof	80.47	118	P	P	11 22 07.5	+0.5
	11nm,0.9s,baz=253,slow=5.5,SNR=3.7						
DUG	Dugway	82.23	330	eP	P	11 22 12.0	-3.9
	23nm,1.5s						
LBTB	Lobatse	82.68	115	P	P	11 22 18.9	+0.1
	27nm,0.9s,baz=263,slow=4.9,SNR=8.7						
TORD	Torodi Ar. Bea	84.06	70	P	P	11 22 25.8	+0.1
	19nm,0.8s,baz=263,slow=4.4,SNR=16						
QLMT	Earthquake Lak	85.57	333	eP	P	11 22 29.7	-3.3
	1.1nm,1.0s						
ULM	Lac du Bonnet	85.81	345	P	P	11 22 34.4	+0.7
	8.5nm,0.8s,baz=166,slow=4.0,SNR=7.1						
MCMT	McKenzie Canyo	86.11	332	eP	P	11 22 31.6	-4.0
	6.9nm,1.2s						
LRM	Limekiln Ridge	86.80	333	eP	P	11 22 34.8	-4.2
	23nm,0.9s						
SCHQ	Schefferville	87.90	3	P	P	11 22 44.2	+0.4
	8.0nm,0.8s,baz=197,slow=3.0,SNR=8.5						
CHMT	Chamberlain Mo	88.01	333	eP	P	11 22 46.2	+1.4
	3.5nm,1.1s						
SWMT	Swartz Lake	88.79	333	eP	P	11 22 48.9	+0.5
	6.1nm,1.2s						
JTMT	Jette	89.09	333	eP	P	11 22 50.8	+1.0
	8.2nm,1.4s						
WALA	Waterton Lakes	90.05	334	eP	P	11 22 55.1	+0.9
	1.2nm,1.8s						
ESDC	Sonseca Array	96.16	46	P	P	11 23 22.3	-0.2
	0.2nm,0.3s,baz=274,slow=4.9,SNR=4.1						
YKA	Yellowknife Ar	101.37	341	P	Pdif	11 23 45.6	+0.4
	0.7nm,0.6s,baz=144,slow=4.6,SNR=11						
WRA	Warramunga Arr	121.32	209	PKP	PKPdf	11 28 47.3	-1.2
	2.3nm,0.9s,baz=155,slow=1.5,SNR=7.6						
BRTR	Keskin Array B	121.57	61	PKP	PKPdf	11 28 48.4	-0.1
	1.8nm,0.8s,baz=175,slow=2.0,SNR=6.3						
AKASG	Malin Array Be	121.79	47	PKP	PKPdf	11 28 47.1	-1.1
	2.9nm,0.7s,baz=264,slow=2.6,SNR=6.4						
GEYT	Alibeck	139.69	69	PKP	PKPdf	11 29 21.1	-1.5
	2.7nm,0.6s,baz=318,slow=2.0,SNR=4.4						
KAD	Karad	145.83	109	eP	PKPbc	11 29 34.4	-0.1
POO	Poona	146.23	107	⇓iP	PKPdf	11 29 35.0	+0.3
	50nm,1.0s						
BRVK	Borovoye	146.76	42	ePKPdf	PKPdf	11 29 31.1	-3.3
BVAR	Borovoye Array	146.83	42	PKPbc	PKPab	11 29 38.0	+0.2
	15nm,0.7s,baz=295,slow=3.4,SNR=10						
KKAR	Karatay Array	149.29	60	ePKPdf	PKPdf	11 29 36.8	-2.1
KKAR				ePKPbc	PKiKP	11 29 44.0	-0.4
HYB	Hyderabad	149.29	114	i PKP	PKPbc	11 29 43.0	-1.1
IPM	Ipoh	150.62	166	ePKPbc	PKPbc	11 29 47.4	0.0
AAK	Ala-Archa	152.25	61	PKP	PKPdf	11 29 43.2	-0.6
	11nm,1.0s,baz=228,slow=4.7,SNR=5.5						
AAK				PKPbc	PKiKP	11 29 50.7	-0.1
	22nm,0.9s,baz=198,slow=3.7,SNR=11						
ZALV	Zalesovo Beam	153.69	31	PKP	PKPdf	11 29 45.6	+0.4
	6.7nm,0.8s,baz=292,slow=2.9,SNR=5.4						
ZALV				PKPbc	PKiKP	11 29 53.8	+0.7
	12nm,0.6s,baz=293,slow=2.8,SNR=9.9						
ZALV				PKPab	PKPab	11 30 05.2	-0.6
	12nm,0.7s,baz=295,slow=3.4,SNR=7.7						
MK31	Makanchi Array	156.37	48	ePKPdf	PKPdf	11 29 49.6	+0.4
MK31				ePKPab	PKPab	11 30 18.5	+0.9
MKAR	Makanchi Array	156.37	48	PKP	PKPdf	11 29 48.6	-0.6
	3.2nm,0.9s,baz=330,slow=1.7,SNR=7.2						
MKAR				PKPab	PKPab	11 30 17.8	+0.2
	13nm,0.7s,baz=290,slow=2.7,SNR=4.5						
CMAR	Chiang Mai Arr	163.19	149	PKP	PKPdf	11 29 58.0	+0.3
	0.6nm,0.3s,baz=250,slow=2.6,SNR=3.5						
SONM	Songino Array	165.44	4	PKPab	PKPab	11 30 58.2	+1.0
	2.8nm,0.9s,baz=338,slow=3.7,SNR=4.7						

ISCJB 27 11:13:35.7±0.2, 35.26S±0.05×72.72W±0.08, h17km, mb5.0/36, Error ellipse: s-maj=9.5km s-min=6.0km az=152.3

IDC 27 11:13:37.7±0.7, 35.32S×72.81W, h24km±4km, mb4.7/19, mb1 4.8/24, mb1mx4.7/36, mbtmp4.9/24, ML5.0/4, Error ellipse: s-maj=16.1km s-min=12.3km az=78.0

NEIC 27 11:13:39.3±0.2, 35.34S×72.81W, h35km, mb4.9/9, Error ellipse: s-maj=8.6km s-min=6.2km az=80.0

ISC 27 11:13:36.6±0.3, 35.31S±0.06×72.86W±0.09, h17km, n502, σ0§90/511, mb4.9/36, 206C-205D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.34	48	Pn	Pn	11 14 57.2	+1.6
	1.4nm,0.3s,baz=240,slow=12,SNR=1.9						
CFAA				Lg	Lg	11 16 13.3	
	6.0nm,0.3s,baz=273,slow=23,SNR=3.8						
PLCA	Paso Flores	5.71	162	Pn	Pn	11 15 01.5	+0.8
	13nm,0.3s,baz=328,slow=19,SNR=3.9						
PLCA				Lg	Lg	11 16 26.8	
	9.9nm,0.3s,baz=259,slow=16,SNR=2.4						
CPUP	Villa Florida	16.05	60	Pn	P	11 17 23.5	-1.3
	1.8nm,0.3s,baz=286,slow=15,SNR=2.6						
LPAZ	La Paz	19.41	14	P	Pn	11 18 04.2	+0.5
	1.6nm,0.3s,baz=180,slow=9.0,SNR=7.7						
USHA	Ushuaia	19.77	172	P	Pn	11 18 06.7	-0.4
	1.5nm,0.3s,baz=332,slow=6.7,SNR=9.0						
SIV	San Ignacio	21.94	32	P	P	11 18 28.9	-0.5
	31nm,0.6s,baz=233,slow=13,SNR=9.7						
NNA	Nana	23.50	350	P	P	11 18 45.6	-0.1
	23nm,0.7s,baz=190,slow=10,SNR=8.0						
BDFB	Brasilia	29.63	55	P	P	11 19 40.6	-0.7
	9.5nm,0.7s,baz=251,slow=9.8,SNR=3.2						
OTAV	Otavalo	35.75	350	eP	P	11 20 36.9	+1.7
	15nm,1.0s						
ROSC	El Rosal	39.97	358	P	P	11 21 12.6	+1.8
	13nm,0.6s,baz=206,slow=5.8,SNR=5.4						
ROSC	El Rosal	39.97	358	P	P	11 21 12.6	+1.8
ROSC				eP	P	11 21 12.9	+2.1
SDV	Santo Domingo	44.00	3	eP	P	11 21 43.1	-0.4
	57nm,0.9s						
RCBR	Riachuelo	44.90	58	P	P	11 21 51.7	+1.1
	7.0nm,0.6s,baz=208,slow=9.2,SNR=7.0						
VNA3	Neumayer Olymp	48.41	157	P	P	11 22 18.2	+0.8
VNA2	Neumayer--Watz	49.08	157	P	P	11 22 23.0	+0.6
SNAA	Sanae	50.64	157	P	P	11 22 34.9	+0.5
SNAA	Sanae	50.64	157	P	P	11 22 35.0	+0.6
	9.6nm,0.8s,baz=278,slow=7.4,SNR=14						
APG	El Apazote	52.75	338	P	P	11 22 47.9	-3.1
	11nm,0.8s,baz=154,slow=10.0,SNR=12						
CELP	Cerrillos	53.42	7	eP	P	11 22 54.9	-0.7
LRS	Lares	53.61	7	eP	P	11 22 56.3	-0.7
QSPA	South Pole Qui	54.93	180	P	P	11 23 06.7	+0.4
	10nm,0.6s,baz=248,slow=0.8,SNR=5.8						
035A	Encino	66.35	335	⇑P	P	11 24 26.1	+1.8
	baz=67						
034A	Hebbronville	66.67	335	⇑P	P	11 24 28.0	+1.6
	baz=67						
TIGA	Tifton	67.16	350	⇓P	P	11 24 29.1	-0.2
	baz=68						
933A	Laredo	67.38	335	⇓P	P	11 24 32.0	+1.2
	baz=68,SNR=6.2						
835A	Beeville	67.50	336	⇓P	P	11 24 33.4	+1.8
	baz=68						
834A	Tilden	67.60	336	⇑P	P	11 24 34.0	+1.8
	baz=68,SNR=9.1						
735A	Kenedy	68.02	336	⇓P	P	11 24 36.5	+1.6
	baz=68,SNR=7.5						
833A	Chaparral WMA,	68.07	335	⇓P	P	11 24 36.1	+0.8
	baz=68						
832A	Faith Ranch, C	68.23	334	⇓P	P	11 24 37.0	+0.7
	baz=69,SNR=8.4						
734A	La Parita Cree	68.26	336	⇓P	P	11 24 37.2	+0.8
	baz=69,SNR=5.5						
636A	Smothers Creek	68.36	337	⇑P	P	11 24 38.5	+1.5
	baz=69,SNR=12						
733A	Divot King Ran	68.39	335	⇑P	P	11 24 38.2	+0.9
	baz=69						
635A	Leesville	68.50	337	⇓P	P	11 24 38.7	+0.7
	baz=69						
732A	Laxson Ranch,	68.64	335	⇑P	P	11 24 39.7	+0.9
	baz=69,SNR=17						
537A	Green Hill Far	68.69	338	⇑P	P	11 24 40.1	+1.1
	baz=69,SNR=5.0						
536A	Bastrop	68.92	338	⇑P	P	11 24 41.3	+0.8
	baz=69,SNR=5.8						
535A	Dale	69.03	337	⇓P	P	11 24 41.9	+0.7
	baz=69,SNR=5.0						
633A	Saathoff Ranch	69.03	336	⇓P	P	11 24 41.8	+0.6
	baz=69,SNR=6.6						
340A	Bronson	69.25	341	⇑P	P	11 24 43.4	+0.8
	baz=70						

632A	Uvalde baz=70,SNR=11	69.29	335	⇓P	P	11 24 43.6	+0.8
534A	Blanco baz=70	69.33	336	⇓P	P	11 24 43.2	+0.1
339A	Huntington baz=70	69.36	340	⇓P	P	11 24 44.0	+0.8
631A	Perdido Creek baz=70,SNR=6.4	69.48	334	⇑P	P	11 24 44.7	+0.7
436A	Wall Ranch, Ga baz=70	69.48	338	⇑P	P	11 24 44.9	+1.0
533A	Kerrville baz=70,SNR=11	69.55	336	⇑P	P	11 24 45.2	+0.7
338A	Crockett baz=70	69.59	340	⇓P	P	11 24 45.9	+1.3
337A	Centerville baz=70,SNR=9.2	69.72	339	⇑P	P	11 24 46.7	+1.3
435B	Jarrell baz=70	69.74	337	⇑P	P	11 24 46.3	+0.7
532A	Rocksprings baz=70,SNR=15	69.90	335	⇑P	P	11 24 47.6	+0.9
434A	Burnet baz=70,SNR=14	69.98	337	⇓P	P	11 24 47.6	+0.5
336A	Riesel baz=70,SNR=12	70.07	338	⇓P	P	11 24 48.4	+0.8
335A	Moody baz=70,SNR=6.8	70.15	338	⇑P	P	11 24 48.7	+0.7
531A	Rocksprings baz=70,SNR=9.4	70.15	335	⇓P	P	11 24 49.1	+0.9
JCT	Junction City baz=70,SNR=13	70.18	335	⇑P	P	11 24 49.3	+0.9
433A	Art baz=71,SNR=18	70.20	336	⇓P	P	11 24 49.1	+0.7
530A	J-C Ranch, Com baz=71,SNR=14	70.42	334	⇑P	P	11 24 50.9	+1.1
334A	Lometa baz=71,SNR=13	70.45	337	⇑P	P	11 24 50.8	+0.9
KMSC	Kings Mountain baz=71,SNR=5.1	70.53	353	⇑P	P	11 24 50.4	+0.1
432A	Menard baz=71,SNR=6.4	70.54	336	⇓P	P	11 24 50.9	+0.4
TXAR	Lajitas Array 6.2nm,0.7s,baz=151,slow=8.4,SNR=17	70.55	332	P	P	11 24 51.5	+0.8
431A	Sonora baz=71,SNR=9.1	70.64	335	⇓P	P	11 24 51.7	+0.5
333A	Richland Sprin baz=71,SNR=13	70.69	336	⇑P	P	11 24 51.8	+0.4
529A	Stev Forest Ra baz=71,SNR=14	70.72	333	⇑P	P	11 24 52.3	+0.7
WHTX	Lake Whitney baz=71,SNR=12	70.82	338	⇓P	P	11 24 53.1	+1.0
430A	Baggett Ranch, baz=71,SNR=14	70.96	334	⇑P	P	11 24 53.6	+0.5
332A	Millersview baz=71,SNR=12	70.99	336	⇑P	P	11 24 53.7	+0.5
234A	Clairette baz=71,SNR=14	71.04	337	⇓P	P	11 24 54.1	+0.6
429A	Davenport Ranc baz=71,SNR=8.3	71.05	334	⇓P	P	11 24 54.4	+0.7
331A	San Angelo baz=72,SNR=17	71.15	335	⇑P	P	11 24 54.8	+0.6
OXF	Oxford 55nm,0.9s	71.16	346	eP	P	11 24 53.8	-0.4
233A	Rising Star baz=72,SNR=15	71.30	337	⇓P	P	11 24 55.6	+0.5
135A	Vickery Place, baz=72	71.33	338	⇓P	P	11 24 55.8	+0.5
232A	Coleman baz=72,SNR=12	71.42	336	⇓P	P	11 24 56.3	+0.4
330A	Mertzon baz=72,SNR=14	71.50	335	⇓P	P	11 24 56.8	+0.4
134A	White-Moore Ra baz=72,SNR=7.3	71.55	338	⇓P	P	11 24 56.7	+0.1
231A	Bronte baz=72,SNR=19	71.69	336	⇓P	P	11 24 58.0	+0.5
133A	Hamilton Ranch baz=72,SNR=17	71.85	337	⇓P	P	11 24 59.0	+0.6
329A	Wagon Wheel Ra baz=72,SNR=12	71.86	334	⇑P	P	11 24 59.2	+0.6
230A	Sterling City baz=72,SNR=6.6	71.92	335	⇓P	P	11 24 59.1	+0.2
Z35A	Perchaven, San baz=72,SNR=18	72.01	339	⇓P	P	11 25 00.0	+0.7
ABTX	Abilene, Hawle baz=72,SNR=17	72.10	336	⇓P	P	11 25 00.4	+0.5
229A	Bryant Ranch, baz=73,SNR=7.9	72.23	334	⇑P	P	11 25 01.4	+0.6
Z34A	Collier Ranch, baz=73	72.24	338	⇑P	P	11 25 01.3	+0.6
131A	Roby baz=73,SNR=16	72.39	336	⇑P	P	11 25 02.4	+0.7
Z33A	Whitaker Ranch baz=73,SNR=16	72.43	337	⇓P	P	11 25 02.5	+0.7
WVT	Waverly 28nm,0.8s	72.43	347	eP	P	11 25 01.3	-0.4
130A	Snyder baz=73	72.51	335	⇑P	P	11 25 02.6	+0.2
228A	UT Block 9, Go baz=73,SNR=14	72.65	334	⇑P	P	11 25 04.1	+0.8
Z32A	Haskell baz=73,SNR=19	72.67	337	⇑P	P	11 25 04.1	+0.8
Y34A	Reagan Ranch, baz=73,SNR=14	72.74	339	⇑P	P	11 25 03.9	+0.3
129A	Stewart Farms, baz=73,SNR=8.7	72.86	335	⇑P	P	11 25 05.0	+0.5
Z31A	Sharp Cattle R baz=73,SNR=14	72.90	336	⇑P	P	11 25 05.4	+0.8
Y33A	Hilltop Ranch, baz=73,SNR=13	73.05	338	⇓P	P	11 25 05.9	+0.4
128A	Castleberry Fa baz=73,SNR=14	73.07	334	⇓P	P	11 25 06.3	+0.5
Z30A	Sanderson Ranc baz=74,SNR=16	73.20	336	⇑P	P	11 25 06.8	+0.4
Y32A	R-V Farms, Ver baz=74,SNR=14	73.30	337	⇓P	P	11 25 07.5	+0.5
X34A	Smith Ranch, M baz=74,SNR=12	73.36	339	⇓P	P	11 25 07.9	+0.6
Z29A	Hungry Hill Ra baz=74,SNR=21	73.37	335	⇓P	P	11 25 07.6	+0.1
127A	Arkansas Junct baz=74,SNR=5.8	73.43	333	⇑P	P	11 25 08.7	+0.7
Y31A	Rekieta Farm, baz=74,SNR=12	73.53	336	⇓P	P	11 25 08.8	+0.5
X32A	Elmer baz=74,SNR=8.6	73.64	337	⇑P	P	11 25 09.3	+0.3
Y30A	Stafford Cattl baz=74,SNR=6.8	73.66	336	⇑P	P	11 25 09.5	+0.3
Y29A	Porterfield Fa baz=74,SNR=15	73.91	335	⇓P	P	11 25 11.2	+0.5
W34A	Bridge Creek, baz=74,SNR=5.1	73.93	339	⇑P	P	11 25 10.7	0.0
Z27A	Tatum baz=74,SNR=6.4	73.95	334	⇓P	P	11 25 11.4	+0.4
TUL1	Tulsa baz=74,SNR=14	74.01	341	⇓P	P	11 25 11.2	+0.1
X31A	McDonald Ranch baz=74,SNR=13	74.05	337	⇑P	P	11 25 11.7	+0.3
W33A	Caddo, Fort Co baz=74,SNR=15	74.06	338	⇑P	P	11 25 12.5	+1.0
Y28A	McKinney Farm, baz=74,SNR=8.6	74.15	335	⇓P	P	11 25 12.5	+0.4
X30A	Coker Ranch, T baz=74	74.17	336	⇓P	P	11 25 12.5	+0.4
Z26A	Caprock baz=75,SNR=28	74.19	333	⇑P	P	11 25 13.0	+0.6
W32A	Sentinel baz=75,SNR=24	74.28	338	⇑P	P	11 25 13.5	+0.7
MSTX	Muleshoe baz=75,SNR=16	74.39	335	⇑P	P	11 25 14.1	+0.6
V34A	Guthrie baz=75,SNR=9.7	74.42	339	⇑P	P	11 25 13.7	+0.2
X29A	Tulia baz=75,SNR=11	74.45	336	⇑P	P	11 25 14.3	+0.4
Y27A	Causey baz=75	74.45	334	⇑P	P	11 25 14.2	+0.3
Z25A	Roswell baz=75,SNR=6.9	74.47	333	⇓P	P	11 25 14.8	+0.8
W31A	Holland Ranch, baz=75,SNR=8.5	74.55	337	⇓P	P	11 25 14.7	+0.3
V33A	Lossen Ranch, baz=75,SNR=14	74.63	339	⇑P	P	11 25 15.3	+0.6
319A	Douglas baz=75,SNR=8.6	74.65	328	⇓P	P	11 25 16.7	+1.6
X28A	Dimmitt baz=75,SNR=6.5	74.68	335	⇑P	P	11 25 16.1	+0.9
Y26A	Elida baz=75,SNR=11	74.72	334	⇓P	P	11 25 16.2	+0.7
W30A	Crocket Farms baz=75	74.75	337	⇓P	P	11 25 16.2	+0.7
V32A	Arapaho baz=75,SNR=5.8	74.76	338	⇓P	P	11 25 16.2	+0.7
Z24A	Sheeppen Canyo baz=75,SNR=18	74.77	332	⇑P	P	11 25 16.9	+1.0
SUR	Sutherland 8.5nm,0.9s,baz=203,slow=8.2,SNR=3.1	74.79	119	P	P	11 25 17.7	+1.5
AMTX	Amarillo baz=75	74.84	336	⇓P	P	11 25 17.1	+1.0
U34A	Anderson Ranch baz=75,SNR=6.8	74.99	340	⇑P	P	11 25 17.3	+0.5
121A	Cookes Peak, D baz=75,SNR=9.7	75.02	330	⇓P	P	11 25 19.1	+1.8
Y25A	Mesa, Roswell baz=75,SNR=5.8	75.04	333	⇑P	P	11 25 17.6	+0.3
W29A	Amraillo baz=75,SNR=19	75.05	336	⇑P	P	11 25 17.7	+0.4
V31A	Spring Creek L baz=75,SNR=9.2	75.06	338	⇓P	P	11 25 18.4	+1.1
X27A	F and S Farms, baz=76,SNR=6.1	75.11	335	⇓P	P	11 25 18.2	+0.5
U33A	Lingo Farm, Me baz=76	75.15	339	⇑P	P	11 25 18.0	+0.3
X26A	CR and CF Fran baz=76,SNR=7.8	75.28	334	⇑P	P	11 25 19.4	+0.7
Y24A	Capitan baz=76,SNR=11	75.32	332	⇓P	P	11 25 19.9	+0.8
Z22A	Elephant Butte baz=76,SNR=10	75.32	331	⇓P	P	11 25 20.7	+1.7
W28A	Vega baz=76	75.36	336	⇓P	P	11 25 20.1	+1.0
U32A	Winter Ranch, baz=76,SNR=8.3	75.36	338	⇑P	P	11 25 19.6	+0.6
W27A	Bowe Ranch, En baz=76,SNR=24	75.48	335	⇓P	P	11 25 20.5	+0.7
Y23A	Lovelace Mesa, baz=76,SNR=6.6	75.56	332	⇑P	P	11 25 21.6	+1.2
X25A	Clemmons Ranch baz=76,SNR=5.3	75.57	333	⇑P	P	11 25 20.7	+0.3
U31A	Nine Bar Ranch baz=76	75.61	338	⇓P	P	11 25 21.3	+0.8
V29A	Stinnett baz=76	75.69	336	⇑P	P	11 25 21.1	+0.2
W26A	Owens Ranch, T baz=76,SNR=10.0	75.75	334	⇑P	P	11 25 22.2	+0.8
T33A	Patterson Ranc baz=76,SNR=8.7	75.79	339	⇓P	P	11 25 22.2	+0.8
V28A	Channing baz=76	75.81	336	⇑P	P	11 25 23.0	+1.3
X24A	Lazy VL Ranch, baz=76	75.89	333	⇑P	P	11 25 23.4	+1.2
U30A	WK&E Inc. Balk baz=76,SNR=9.7	76.01	337	⇓P	P	11 25 23.9	+1.2
V27A	Dan Oppiter Fa baz=76,SNR=6.4	76.03	335	⇓P	P	11 25 23.8	+0.9
T32A	Huddler Ranch, baz=76,SNR=5.9	76.08	339	⇓P	P	11 25 24.0	+0.9
W25A	X Bar L Ranch, baz=76,SNR=10	76.11	334	⇓P	P	11 25 24.1	+0.7
LPM	Los Pinos Moun 16nm,1.1s	76.12	332	eP	P	11 25 24.6	+1.0
U29A	Oasis Ranch, S baz=76,SNR=5.2	76.14	337	⇓P	P	11 25 24.0	+0.5
X23A	Hourglass Bar baz=77,SNR=5.6	76.19	332	⇑P	P	11 25 25.3	+1.3
S33A	Kaszmaul Farm, baz=77	76.20	340	⇑P	P	11 25 24.5	+0.8
T31A	Randall Ranch, baz=77,SNR=5.2	76.23	338	⇓P	P	11 25 24.4	+0.4
DBIC	Dimbokro 8.1nm,0.8s,baz=211,slow=8.7,SNR=5.3	76.23	71	P	P	11 25 24.6	+0.2
DBIC	18nm,0.8s,baz=207,slow=5.8,SNR=8.9			pP	pP	11 25 31.7	+1.7
U28A	Mallet baz=77	76.38	336	⇓P	P	11 25 26.1	+1.1
V26A	Tequesquite Ra baz=77,SNR=7.6	76.39	335	⇑P	P	11 25 25.4	+0.4
LAZ	Ladron 18nm,1.3s	76.40	331	eP	P	11 25 25.8	+0.7
SFIN	Scholer Farm baz=77	76.45	349	⇑P	P	11 25 24.0	-1.1
T30A	Plains baz=77	76.45	338	⇑P	P	11 25 25.9	+0.6
W24A	Lazy 6 Ranch, baz=77,SNR=14	76.45	333	⇓P	P	11 25 26.1	+0.6
S32A	Newby Ranch, P baz=77	76.57	339	⇑P	P	11 25 26.8	+1.0
ANMO	Albuquerque 22nm,1.0s	76.61	332	eP	P	11 25 27.2	+0.9
U27A	Thompson Grove baz=77,SNR=12	76.62	336	⇑P	P	11 25 27.1	+0.8
S31A	Mullinville baz=77,SNR=7.9	76.65	339	⇑P	P	11 25 27.1	+0.7
W23A	Werner Place, baz=77,SNR=12	76.69	332	⇑P	P	11 25 28.0	+1.2
214A	Organ Pipe Nat baz=77	76.71	326	⇑P	P	11 25 28.5	+1.7
V25A	Rancho No Teng baz=77,SNR=19	76.72	334	⇓P	P	11 25 28.0	+1.0
T29A	Hugoton baz=77,SNR=10.0	76.79	337	⇑P	P	11 25 27.9	+0.7
R33A	Olander Ranch, baz=77	76.86	340	⇓P	P	11 25 27.8	+0.3
V24A	Rampart Ranch, baz=77,SNR=8.0	76.86	333	⇑P	P	11 25 28.8	+1.0
U26A	Atchley Ranch, baz=77,SNR=7.5	76.91	335	⇓P	P	11 25 29.0	+1.0
S30A	Montezuma baz=77,SNR=15	76.97	338	⇓P	P	11 25 29.4	+1.2
T28A	Walsh baz=77	77.02	336	⇑P	P	11 25 29.3	+0.8
U25A	Circle Dot Ran baz=78,SNR=12	77.15	334	⇓P	P	11 25 30.8	+1.4
S29A	Ulysses baz=78,SNR=15	77.16	337	⇓P	P	11 25 30.2	+0.9
T27A	Campo baz=78,SNR=14	77.17	336	⇓P	P	11 25 30.1	+0.8
R32A	Long Quarter, baz=78,SNR=11	77.17	339	⇓P	P	11 25 29.9	+0.7
V23A	Ortiz Mt. (NFS baz=78,SNR=6.6	77.22	333	⇑P	P	11 25 31.3	+1.5
KSU1	Kansas State U baz=78,SNR=6.8	77.23	341	⇓P	P	11 25 29.4	-0.1
R31A	Burdett baz=78,SNR=9.1	77.29	339	⇓P	P	11 25 30.6	+0.7
S28A	Manter baz=78,SNR=24	77.38	337	⇑P	P	11 25 31.4	+0.9
Q33A	Connelly Farm, baz=78	77.46	340	⇓P	P	11 25 31.1	+0.3
R30A	Dighton baz=78,SNR=8.9	77.51	338	⇓P	P	11 25 32.0	+0.9
T26A	Comanche Natio baz=78,SNR=12	77.57	335	⇓P	P	11 25 32.7	+1.1
V22A	San Miguel Ran baz=78,SNR=23	77.64	332	⇑P	P	11 25 34.0	+1.9
X18A	Snowflake baz=78,SNR=7.1	77.64	329	⇑P	P	11 25 33.8	+1.7
Q32A	Meitler Ranch, baz=78,SNR=11	77.66	340	⇓P	P	11 25 32.6	+0.7
U23A	El Rito baz=78,SNR=10.0	77.74	333	⇓P	P	11 25 34.3	+1.6
T25A	Trinidad baz=78,SNR=20	77.82	335	⇑P	P	11 25 34.6	+1.5
P33A	Williams Farm, baz=78	77.83	341	⇓P	P	11 25 32.9	0.0
R29A	Marienthal baz=78,SNR=8.9	77.90	338	⇓P	P	11 25 34.1	+0.7
Q31A	Ellis baz=78,SNR=11	77.91	339	⇓P	P	11 25 34.4	+1.0
S26A	Kim baz=78,SNR=13	77.93	336	⇑P	P	11 25 35.0	+1.3
U22A	Llaves baz=78,SNR=8.7	78.03	333	⇓P	P	11 25 35.8	+1.4
R28A	Tribune baz=78,SNR=18	78.04	337	⇓P	P	11 25 35.0	+0.8
W18A	Petrified Fore baz=78,SNR=7.3	78.06	330	⇑P	P	11 25 35.7	+1.2
T24B	San Luis baz=78,SNR=11	78.09	334	⇑P	P	11 25 36.2	+1.4
Q30A	Quinter baz=78,SNR=28	78.13	339	⇑P	P	11 25 35.4	+0.8
X16A	Lo Mia Camp, P baz=78	78.18	328	⇑P	P	11 25 36.8	+1.7
P32A	Huiting Farm, baz=79,SNR=6.8	78.26	340	⇑P	P	11 25 35.5	+0.2
Q29A	Oakley baz=79,SNR=14	78.28	338	⇑P	P	11 25 36.0	+0.6
S25A	Robets Cordova baz=79,SNR=10	78.29	335	⇓P	P	11 25 36.6	+0.9
R27A	Eads baz=79,SNR=18	78.31	336	⇑P	P	11 25 36.5	+0.8
T23A	Casias Ranch, baz=79,SNR=7.4	78.31	333	⇑P	P	11 25 37.1	+1.2
P31A	Stockton baz=79,SNR=7.5	78.38	339	⇓P	P	11 25 36.5	+0.6
Y14A	Wickenburg baz=79	78.46	327	⇓P	P	11 25 37.9	+1.4
R26A	Arlington baz=79,SNR=8.4	78.53	336	⇓P	P	11 25 38.2	+1.3
S24A	Houchin Ranch, baz=79,SNR=22	78.55	334	⇓P	P	11 25 38.5	+1.2
GLA	Glamis baz=79	78.56	325	⇓P	P	11 25 38.7	+1.6
P30A	Selden baz=79,SNR=6.0	78.66	339	⇑P	P	11 25 38.2	+0.7
R25A	Fountain Ranch baz=79,SNR=6.3	78.68	335	⇓P	P	11 25 38.8	+1.0
Q28A	Sharon Springs baz=79,SNR=6.5	78.70	337	⇑P	P	11 25 39.0	+1.1
O32A	Brockman Farm, baz=79	78.76	340	⇑P	P	11 25 38.6	+0.5
S23A	Nye Farm, Mont baz=79,SNR=6.3	78.89	334	⇑P	P	11 25 40.1	+1.0
KSCO	Kaye Shedlock' baz=79	78.91	337	⇑P	P	11 25 40.0	+1.0
P29A	Atwood baz=79,SNR=20	78.92	338	⇑P	P	11 25 40.1	+1.1
O31A	Woolen Ranch, baz=79,SNR=6.7	78.95	340	⇑P	P	11 25 39.6	+0.5
R24A	Sanders Place, baz=79,SNR=26	79.04	335	⇓P	P	11 25 41.4	+1.6
WUAZ	Wupatki baz=79,SNR=10	79.09	329	⇑P	P	11 25 41.6	+1.4
Q26A	Hugo baz=80,SNR=7.6	79.12	336	⇓P	P	11 25 41.1	+0.9
P28A	Saint Francis baz=80,SNR=10	79.14	338	⇑P	P	11 25 41.3	+1.1
MONP	Monument Peak baz=80	79.18	324	⇓P	P	11 25 42.1	+1.4
O30A	MW Ranch, Wils baz=80,SNR=7.2	79.19	339	⇑P	P	11 25 40.9	+0.5
S22A	4UR Ranch, Cre baz=80,SNR=11	79.23	333	⇑P	P	11 25 42.1	+1.1
N32A	Stulken Farm, baz=80	79.24	341	⇑P	P	11 25 41.1	+0.5
R23A	Moffat baz=80,SNR=11	79.26	334	⇑P	P	11 25 42.2	+1.1
PDMCI	Parker Dam,Lak baz=80	79.28	326	⇑P	P	11 25 42.2	+1.3
BC3	Big Chuckawall baz=80	79.35	325	⇓P	P	11 25 43.3	+1.8
Q25A	Bedland, Calha baz=80,SNR=11	79.36	336	⇓P	P	11 25 42.4	+0.9
O29A	4D Ranch, Culb baz=80	79.36	339	⇓P	P	11 25 42.7	+1.4
MVCO	Mesa Verde baz=80,SNR=6.7	79.39	332	⇓P	P	11 25 42.9	+1.1
P27A	Ficken Ranch, baz=80,SNR=6.1	79.39	337	⇓P	P	11 25 42.5	+0.9
N31A	Bailey Ranch, baz=80	79.47	340	⇓P	P	11 25 42.9	+1.0
TSUM	Tsumeb 4.8nm,1.0s,baz=242,slow=18,SNR=3.5	79.50	106	P	P	11 25 43.4	+0.6
IRM	Iron Mountain baz=80	79.63	325	⇓P	P	11 25 44.7	+1.8
P26A	Davis Ranch, A baz=80,SNR=7.8	79.64	336	⇓P	P	11 25 44.0	+1.0
O28A	Krutsinger Ran baz=80,SNR=8.2	79.66	338	⇑P	P	11 25 43.8	+0.8
Q24A	Divide baz=80,SNR=15	79.71	335	⇓P	P	11 25 44.7	+1.1
PFO	Pinyon Flat Ob baz=80	79.79	324	⇓P	P	11 25 46.0	+2.1
BGNE	Belgrade baz=80	79.80	341	⇓P	P	11 25 44.2	+0.6
W13A	Hualapai Mount baz=80	79.83	327	⇓P	P	11 25 45.6	+1.4
P25A	Willow Gulch B baz=80	79.87	336	⇑P	P	11 25 45.9	+1.6
BELC	Belle Mtn. Jos baz=80	79.89	325	⇓P	P	11 25 45.8	+1.3
O27A	Beecher Island baz=80,SNR=8.1	79.93	337	⇑P	P	11 25 45.8	+1.3
N29A	Votaw Ranch, W baz=80,SNR=5.4	79.95	339	⇑P	P	11 25 45.1	+0.5
M31A	Lambtecht Ranc baz=80,SNR=10	79.96	340	⇓P	P	11 25 45.2	+0.7
BOSA	Boshof 19nm,0.7s,baz=258,slow=3.3,SNR=7.3	80.06	118	P	P	11 25 45.2	-0.5
N28A	Pribbeno Ranch baz=80,SNR=5.7	80.10	338	⇓P	P	11 25 45.9	+0.5
P24A	Kohler Place, baz=80	80.12	335	⇑P	P	11 25 46.9	+1.2
MURC	Murrieta baz=80	80.14	324	⇓P	P	11 25 47.3	+1.6
PV01	Paradox Valley 1μm,0.9s	80.22	332	eP	P	11 25 47.3	+1.0
O26A	Horse Wrangler baz=81	80.25	337	⇑P	P	11 25 47.5	+1.2
U15A	North Rim baz=81,SNR=18	80.25	329	⇓P	P	11 25 48.0	+1.5
P23A	Jefferson baz=81	80.31	335	⇑P	P	11 25 47.9	+1.0
GMRC	Granite Mounta baz=81	80.37	325	⇑P	P	11 25 48.7	+1.7
M30A	Dale-Ortello V baz=81	80.39	340	⇑P	P	11 25 47.8	+0.9
O25A	Wiggins baz=81,SNR=7.4	80.39	336	⇑P	P	11 25 48.1	+1.1
N27A	Anderson Farm, baz=81,SNR=11	80.51	338	⇓P	P	11 25 48.7	+1.1
M29A	Burnside Ranch baz=81,SNR=6.0	80.54	339	⇑P	P	11 25 48.4	+0.7
PV04	Paradox Valley	80.58	332	eP	P	11 25 49.0	+0.9
ISCO	Idaho Springs baz=81,SNR=9.3	80.62	335	⇓P	P	11 25 49.4	+0.9
M28A	Bar X Bar Ranc baz=81	80.70	339	⇑P	P	11 25 49.5	+1.0
L31A	Butterfield Fa baz=81,SNR=13	80.70	341	⇓P	P	11 25 49.1	+0.6
O24A	Longmont baz=81	80.72	336	⇑P	P	11 25 50.0	+1.2
HEC	Hector,Ludlow baz=81	80.73	325	⇑P	P	11 25 50.6	+1.7
L30A	Spencer Herefo baz=81,SNR=7.5	80.73	340	⇓P	P	11 25 49.4	+0.7
N26A	Koester Ranch, baz=81	80.75	337	⇑P	P	11 25 50.2	+1.3
P22A	Eagle baz=81,SNR=7.1	80.84	334	⇑P	P	11 25 50.9	+1.4
BFSC	Mount Baldy Ra baz=81	80.88	324	⇓P	P	11 25 51.3	+1.6
TUQ	Turquoise Moun baz=81	81.04	326	⇓P	P	11 25 52.4	+1.8
L29A	Maesberg Ranch baz=81,SNR=12	81.05	340	⇓P	P	11 25 51.6	+1.2
O23A	Lake Granby, G baz=82,SNR=18	81.09	335	⇑P	P	11 25 52.1	+1.1
M27A	Reverse DX Ran baz=82	81.12	338	⇓P	P	11 25 52.2	+1.3
O22A	Kremmling baz=82,SNR=13	81.26	335	⇑P	P	11 25 53.0	+1.1
N24A	Carr baz=82,SNR=5.2	81.29	336	⇑P	P	11 25 52.8	+1.0
GSC	Goldstone baz=82	81.34	325	⇓P	P	11 25 54.0	+1.9
K30A	Basset baz=82,SNR=13	81.37	340	⇑P	P	11 25 53.3	+1.2
EDW2	Edwards Air Fo baz=82	81.56	324	⇑P	P	11 25 54.5	+1.2
M25A	Palm-Egli Farm baz=82,SNR=5.2	81.56	337	⇑P	P	11 25 54.2	+1.0
SHPR	Sheep Range 9.2nm,0.8s	81.57	327	eP	P	11 25 54.8	+1.4
SHOC	Shoshone baz=82	81.58	326	⇑P	P	11 25 54.5	+1.2
ECSD	EROS Data Cent baz=82,SNR=29	81.59	343	⇑P	P	11 25 53.3	+0.2
K29A	Lazy Trails An baz=82,SNR=12	81.65	340	⇓P	P	11 25 54.5	+0.9
OSI	Osito Adit baz=82	81.70	323	⇑P	P	11 25 55.8	+1.7
N23A	Red Feather La baz=82,SNR=7.3	81.71	335	⇑P	P	11 25 55.2	+1.0
N22A	Wattenberg Ran baz=82,SNR=9.7	81.80	335	⇓P	P	11 25 55.9	+1.2
M24A	Cheyenne	81.84	336	⇓P	P	11 25 56.0	+1.2

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time	Res
	baz=82,SNR=5.9						
O20A	White River Ci	81.85	333	⇓P	P	11 25 55.5	+0.6
	baz=82,SNR=5.8						
ARUT	Antelope Range	81.89	329	eP	P	11 25 56.7	+1.6
	133nm,0.7s						
K28A	Ten Mile Ranch	81.91	339	⇑P	P	11 25 56.4	+1.5
	baz=82,SNR=13						
J30A	Dallas	81.94	341	⇑P	P	11 25 55.3	+0.3
	baz=82,SNR=7.7						
M23A	Laramie	82.14	336	⇓P	P	11 25 57.3	+0.9
	baz=82,SNR=5.0						
K27A	Flueckinger Fa	82.15	339	⇓P	P	11 25 57.1	+0.8
	baz=82,SNR=6.6						
SPMN	St. Paul	82.17	346	⇓P	P	11 25 55.4	-0.8
	baz=83,SNR=8.7						
L25A	Engebretsen Ra	82.19	337	⇑P	P	11 25 58.0	+1.5
	baz=83						
J29A	Okreek	82.25	340	⇓P	P	11 25 57.5	+0.9
	baz=83,SNR=15						
URZ	Urewera	82.28	228	P	P	11 25 58.0	+0.7
	9.3nm,0.8s,baz=283,slow=8.0,SNR=3.7						
FURC	Furnace Creek,	82.32	326	⇑P	P	11 25 58.9	+1.8
	baz=83						
LBTB	Lobatse	82.36	115	P	P	11 25 58.1	+0.1
	7.0nm,0.7s,baz=259,slow=5.8,SNR=6.9						
M22A	Cedar Creek Ra	82.38	335	⇑P	P	11 25 58.9	+1.2
	baz=83						
L24A	Wheatland	82.40	336	⇓P	P	11 25 58.7	+1.1
	baz=83						
ISA	Isabella	82.42	324	⇑P	P	11 25 59.6	+1.7
	baz=83						
K26A	Motz Farm, Whi	82.44	338	⇑P	P	11 25 58.2	+0.4
	baz=83						
N20A	Spence Gulch,	82.47	334	⇓P	P	11 25 58.7	+0.5
	baz=83,SNR=6.0						
I30A	Oacoma	82.47	341	⇑P	P	11 25 57.8	0.0
	baz=83,SNR=13						
J28A	Allard Ranch,	82.52	340	⇑P	P	11 25 58.7	+0.6
	baz=83,SNR=7.8						
K25A	Mack Ranch, Ha	82.57	337	⇑P	P	11 25 59.7	+1.2
	baz=83						
J27A	Elkhorn Farm,	82.59	339	⇑P	P	11 25 59.7	+1.2
	baz=83,SNR=10						
L23A	Garrett	82.71	336	⇑P	P	11 25 59.9	+0.5
	baz=83,SNR=6.1						
I29A	Vivian Onida	82.81	340	⇓P	P	11 25 59.5	-0.1
	baz=83,SNR=7.3						
BRSD	Miller	82.84	341	⇑P	P	11 25 59.9	+0.2
	baz=83,SNR=15						
VES	Vestal, Richgr	82.86	324	⇓P	P	11 26 01.2	+1.2
	baz=83						
SMMC	Simmler	82.88	323	⇑P	P	11 26 01.7	+1.5
	baz=83						
L22A	Ellis Ranch, M	82.89	335	⇑P	P	11 26 01.3	+1.1
	baz=83						
J26A	Sides Ranch, S	82.96	338	⇓P	P	11 26 01.7	+1.3
	baz=83						
K24A	Anderson Ranch	82.97	337	⇓P	P	11 26 02.0	+1.4
	baz=83						
GRAC	Grapevine Rang	82.98	326	⇓P	P	11 26 02.3	+1.6
	baz=83						
I28A	Midland	83.03	340	⇑P	P	11 26 01.5	+0.8
	baz=83,SNR=16						
J25A	Sunshine Ranch	83.25	338	⇓P	P	11 26 02.9	+0.9
	baz=84,SNR=7.1						
K23A	Bowen Ranch, D	83.26	336	⇓P	P	11 26 03.1	+1.0
	baz=84,SNR=8.3						
R11A	Troy Canyon, C	83.29	328	⇑P	P	11 26 04.0	+1.6
	baz=84						
RCTC	Rector, Farmer	83.31	324	⇑P	P	11 26 03.6	+1.3
	baz=84						
H29A	Onida	83.34	341	⇑P	P	11 26 02.7	+0.4
	baz=84,SNR=17						
I27A	Quinn	83.35	339	⇑P	P	11 26 02.8	+0.4
	baz=84,SNR=7.1						
J24A	Dixon Ranch, L	83.47	337	⇑P	P	11 26 04.2	+1.1
	baz=84,SNR=10						
K22A	Casper	83.47	336	⇑P	P	11 26 03.8	+0.6
	baz=84,SNR=10						
G30A	Faulkton	83.53	342	⇓P	P	11 26 03.6	+0.4
	baz=84,SNR=13						
I26A	New Underwood	83.55	339	⇑P	P	11 26 03.9	+0.5
	baz=84,SNR=5.2						
H28A	Mission Ridge	83.61	340	⇑P	P	11 26 04.3	+0.6
	baz=84,SNR=12						
DUG	Dugway	83.67	330	eP	P	11 26 05.0	+0.7
	55nm,1.4s						
DUG	Dugway	83.67	330	⇑P	P	11 26 05.1	+0.9
	baz=84,SNR=13						
K21A	Alcova	83.70	335	⇑P	P	11 26 05.3	+0.9
	baz=84,SNR=17						
G29A	Hoven	83.79	341	⇓P	P	11 26 04.7	+0.1
	baz=84,SNR=13						
I25A	Rochford	83.80	338	⇓P	P	11 26 05.5	+0.6
	baz=84,SNR=11						
H27A	Howes	83.87	339	⇓P	P	11 26 05.3	+0.2
	baz=84,SNR=8.6						
I24A	Kuemmerle Ranc	83.93	337	⇓P	P	11 26 05.8	+0.3
	baz=84,SNR=6.8						
G28A	Parade	83.95	340	⇓P	P	11 26 05.9	+0.5
	baz=84,SNR=17						
J22A	Midwest	84.13	336	⇓P	P	11 26 06.6	0.0
	baz=84,SNR=6.8						
F30A	Leola	84.16	342	⇓P	P	11 26 06.5	+0.1
	baz=84,SNR=17						
H25A	Fruitdale	84.31	338	⇓P	P	11 26 07.9	+0.6
	baz=85,SNR=6.9						
F29A	Eureka	84.36	341	⇓P	P	11 26 07.7	+0.2
	baz=85,SNR=19						
J21A	Lysite	84.39	335	⇑P	P	11 26 08.2	+0.2
	baz=85,SNR=6.9						
G27A	Dupree	84.51	340	⇑P	P	11 26 08.5	+0.2
	baz=85,SNR=11						
I22A	9 Mile Ranch,	84.56	336	⇓P	P	11 26 08.9	+0.3
	baz=85,SNR=12						
NVAR	Mina Array Bea	84.58	326	P	P	11 26 10.4	+1.4
	8.5nm,0.8s,baz=149,slow=6.1,SNR=20						
J20A	Shoshoni	84.62	335	⇓P	P	11 26 09.9	+0.9
	baz=85,SNR=24						
G26A	Maurine	84.62	339	⇓P	P	11 26 09.0	+0.2
	baz=85,SNR=11						
PDAR	Pinedale Array	84.63	334	P	P	11 26 09.2	-0.1
	4.4nm,0.7s,baz=151,slow=5.7,SNR=10.0						
F28A	McLaughlin	84.63	341	⇓P	P	11 26 09.3	+0.4
	baz=85,SNR=15						
H24A	Dirks Ranch, A	84.71	338	⇑P	P	11 26 09.4	0.0
	baz=85,SNR=6.6						
E30A	Jud	84.75	342	⇓P	P	11 26 09.7	+0.3
	baz=85,SNR=10						
I21A	Big Trails, Te	84.76	336	⇑P	P	11 26 09.8	+0.1
	baz=85,SNR=12						
G25A	Newell	84.77	339	⇓P	P	11 26 10.2	+0.5
	baz=85,SNR=17						
J19A	Crowheart	84.88	334	⇑P	P	11 26 11.0	+0.6
	baz=85,SNR=15						
F27A	Lemmon	84.99	340	⇑P	P	11 26 11.2	+0.5
	baz=85,SNR=16						
E29A	Napoleon	85.00	342	⇓P	P	11 26 10.7	0.0
	baz=85,SNR=10						
H22A	Clearmont	85.14	337	⇓P	P	11 26 11.8	+0.2
	baz=86,SNR=8.5						
F26A	Lodgepole	85.15	340	⇑P	P	11 26 11.6	+0.1
	baz=86,SNR=12						
I20A	Worland	85.16	335	⇑P	P	11 26 12.2	+0.5
	baz=86,SNR=20						
WAKR	Walker	85.16	325	eP	P	11 26 13.1	+1.1
	9.8nm,0.9s						
G24A	Alzada	85.19	338	⇓P	P	11 26 11.9	+0.1
	baz=86,SNR=5.8						
E28A	Huff	85.28	341	⇑P	P	11 26 12.6	+0.5
	baz=86,SNR=11						
D30A	Buchanan	85.28	343	⇑P	P	11 26 12.4	+0.4
	baz=86,SNR=8.6						
TOA0	Torodi Ar. Sit	85.28	70	eP	P	11 26 12.4	-0.5
TORD	Torodi Ar. Bea	85.28	70	P	P	11 26 12.7	-0.2
	5.5nm,0.8s,baz=255,slow=4.3,SNR=7.0						
TORD				pP	pP	11 26 19.1	+0.6
	16nm,1.1s,baz=244,slow=3.3,SNR=11						
E27A	Carson	85.38	341	⇑P	P	11 26 12.7	+0.1
	baz=86,SNR=7.3						
G23A	Biddle	85.38	338	⇓P	P	11 26 12.7	0.0
	baz=86,SNR=8.6						
H21A	Big Horn, Sher	85.40	336	⇓P	P	11 26 12.8	-0.1
	baz=86,SNR=11						
D29A	Pettibone, Tap	85.44	342	⇑P	P	11 26 13.0	+0.1
	baz=86,SNR=10						
F25A	Bowman	85.45	339	⇓P	P	11 26 13.4	+0.3
	baz=86,SNR=11						
I19A	Meeteetse	85.54	335	⇑P	P	11 26 13.8	+0.1
	baz=86,SNR=7.8						
H20A	Greybull	85.59	336	⇓P	P	11 26 14.3	+0.5
	baz=86,SNR=26						
E26A	Carlson Angus	85.66	340	⇑P	P	11 26 14.4	+0.3
	baz=86,SNR=10						
F24A	Ekalaka	85.67	338	⇑P	P	11 26 14.3	+0.2
	baz=86,SNR=13						
G22A	Birney	85.68	337	⇓P	P	11 26 14.3	+0.1
	baz=86,SNR=7.3						
AGMN	Agassiz Nation	85.73	345	⇓P	P	11 26 14.5	+0.2
	baz=86,SNR=11						
C30A	Mose, Pekin	85.77	343	⇑P	P	11 26 15.1	+0.6
	baz=86,SNR=21						
D28A	Regan	85.81	341	⇑P	P	11 26 15.0	+0.2
	baz=86,SNR=12						
F23A	Volborg	85.85	338	⇑P	P	11 26 15.0	0.0
	baz=86,SNR=14						
E25A	Miller Ranch,	85.95	339	⇓P	P	11 26 16.1	+0.6
	baz=86,SNR=16						
G21A	Lodge Grass	85.98	336	⇑P	P	11 26 16.2	+0.4
	baz=86,SNR=15						
D27A	Center	85.99	341	⇓P	P	11 26 15.8	+0.2
	baz=86						
I17A	Pilgrim Ck.	86.00	334	⇓P	P	11 26 17.2	+1.2
	baz=86,SNR=10						
H19A	Powell	86.09	335	⇓P	P	11 26 16.6	+0.3
	baz=86,SNR=16						
D26A	Manning	86.17	340	⇑P	P	11 26 16.9	+0.4
	baz=87,SNR=18						
F22A	Rosebud	86.17	337	⇓P	P	11 26 16.5	0.0
	baz=86,SNR=14						
C28A	Hausauer Farms	86.25	342	⇑P	P	11 26 17.1	+0.2
	baz=87,SNR=7.4						
E24A	Baker	86.27	339	⇑P	P	11 26 17.4	+0.3
	baz=87,SNR=13						
G20A	Bridger	86.31	336	⇓P	P	11 26 17.1	-0.2
	baz=87,SNR=17						
H18A	Shoshone NF, C	86.33	335	⇓P	P	11 26 17.9	+0.3
	baz=87,SNR=18						
H17A	Grant Village	86.41	334	⇓P	P	11 26 18.7	+0.6
	baz=87						
B30A	Myrvik Farm, E	86.43	343	⇑P	P	11 26 18.0	+0.3
	baz=87,SNR=25						
F21A	Absaloka Mine,	86.48	337	⇓P	P	11 26 18.2	0.0
	baz=87						
E23A	Ismay	86.52	338	⇓P	P	11 26 18.2	-0.1
	baz=87,SNR=9.6						
D25A	Fairfield	86.52	340	⇑P	P	11 26 18.9	+0.6
	baz=87,SNR=22						
C27A	Sayler Ranch,	86.54	341	⇓P	P	11 26 19.0	+0.7
	baz=87,SNR=14						
E22A	Miles City	86.66	338	⇑P	P	11 26 18.9	-0.1
	baz=87,SNR=11						
B29A	Wagenman Farm,	86.69	343	⇑P	P	11 26 19.4	+0.4
	baz=87,SNR=19						
D24A	Glendive	86.78	339	⇓P	P	11 26 20.2	+0.6
	baz=87,SNR=16						
F20A	Billings	86.80	336	⇓P	P	11 26 19.6	-0.1
	baz=87,SNR=8.4						
C26A	Wahner Farm, P	86.80	341	⇑P	P	11 26 19.9	+0.2
	baz=87,SNR=11						
A30A	Hoffart Farm,	86.88	344	⇑P	P	11 26 20.0	+0.1
	baz=87,SNR=14						
B28A	Dugan Ranch, T	86.92	342	⇓P	P	11 26 20.7	+0.5
	baz=87,SNR=17						
C25A	Freed Ranch, W	87.02	340	⇑P	P	11 26 21.0	+0.4
	baz=87,SNR=9.6						
A29A	Manning Farm,	87.09	343	⇓P	P	11 26 21.3	+0.3
	baz=88,SNR=22						
D23A	Lindsay	87.09	339	⇑P	P	11 26 21.7	+0.6
	baz=88,SNR=30						
QLMT	Earthquake Lak	87.09	334	eP	P	11 26 22.2	+0.9
	1.6nm,1.0s						
E21A	Keefer Ranch,	87.11	337	⇑P	P	11 26 21.4	+0.2
	baz=88,SNR=9.3						
F19A	Roth Farm, Mol	87.11	336	⇓P	P	11 26 21.2	0.0
	baz=88,SNR=7.8						
B27A	Peters Farms,	87.11	341	⇑P	P	11 26 21.4	+0.4
	baz=88,SNR=9.9						
HLID	Hailey	87.15	331	⇓P	P	11 26 22.6	+1.0
	baz=88,SNR=9.0						
C24A	Savage	87.19	339	⇓P	P	11 26 22.0	+0.5
	baz=88,SNR=37						
A28A	Rude Farm, Bot	87.33	342	⇓P	P	11 26 22.0	-0.1
	baz=88,SNR=12						
B26A	Jensen Ranch,	87.34	341	⇓P	P	11 26 22.5	+0.3
	baz=88						
D22A	Cohagen	87.37	338	⇑P	P	11 26 23.1	+0.7
	baz=88,SNR=12						
E20A	Meyer Farm, Mu	87.41	336	⇑P	P	11 26 23.1	+0.5
	baz=88,SNR=22						
B25A	Knox Farm, Ray	87.50	340	⇓P	P	11 26 23.9	+0.9
	baz=88,SNR=25						
D21A	La Casta Ranch	87.55	337	⇑P	P	11 26 23.6	+0.3
	baz=88,SNR=9.5						
ULM	Lac du Bonnet	87.59	345	P	P	11 26 23.2	-0.1
	26nm,0.8s,baz=173,slow=3.3,SNR=26						
E19A	Rath Farm, Rou	87.59	336	⇑P	P	11 26 23.8	+0.3
	baz=88,SNR=21						
A27A	Ledoux Ranch,	87.61	342	⇑P	P	11 26 24.0	+0.6
	baz=88						
MCMT	McKenzie Canyo	87.61	333	eP	P	11 26 24.8	+0.9
C23A	Lambert	87.65	339	⇑P	P	11 26 24.2	+0.4
	baz=88,SNR=20						
A26A	Wade Farm, Ken	87.77	341	⇓P	P	11 26 24.5	+0.3
	baz=88,SNR=16						
C22A	Vida	87.81	338	⇑P	P	11 26 24.4	-0.1
	baz=88,SNR=14						
D20A	Manuel Ranch,	87.93	337	⇓P	P	11 26 25.2	+0.1
	baz=88,SNR=13						
DGMT	Dagmar	87.97	340	eP	P	11 26 25.6	+0.4
	97nm,1.0s						
DGMT	Dagmar	87.97	340	⇑P	P	11 26 25.6	+0.4
	baz=88,SNR=23						
A25A	Svangstu Ranch	88.09	341	⇑P	P	11 26 25.9	+0.2
	baz=88,SNR=9.1						
B23A	Brockton	88.19	339	⇑P	P	11 26 26.2	-0.1
	baz=89,SNR=6.7						
D19A	Cripps Ranch,	88.24	336	⇓P	P	11 26 26.4	-0.2
	baz=89,SNR=6.2						
C21A	Desert Coulee	88.25	338	⇓P	P	11 26 26.5	-0.1
	baz=89,SNR=10						
LRM	Limekiln Ridge	88.31	334	eP	P	11 26 27.2	0.0
	207nm,1.5s						
A24A	Westby	88.33	340	⇑P	P	11 26 26.8	-0.1
	baz=89,SNR=8.5						
B22A	Reddig Ranch S	88.34	339	⇓P	P	11 26 27.0	0.0
	baz=89,SNR=17						
C20A	Veseth Ranch,	88.44	337	⇓P	P	11 26 27.1	-0.3
	baz=89,SNR=7.0						
A23A	Redstone	88.61	340	⇑P	P	11 26 28.0	-0.2
	baz=89,SNR=5.5						
N02D	Trinity Center	88.65	325	⇓P	P	11 26 29.0	+0.3
	baz=89						
B21A	Ellsworth Farm	88.76	338	⇑P	P	11 26 29.0	0.0
	baz=89,SNR=5.5						
C19A	Slack Wire Ran	88.79	337	⇑P	P	11 26 29.0	-0.2
	baz=89						
M04C	Macdoel	88.88	326	⇑P	P	11 26 30.8	+0.9
	baz=89						
A22A	Carney Farms,	88.94	339	⇓P	P	11 26 29.8	0.0
	baz=89,SNR=14						
M02C	Callahan	89.05	325	⇓P	P	11 26 31.5	+0.9
	baz=89						
B20A	Solberg Farm,	89.08	337	⇓P	P	11 26 30.3	-0.2
	baz=90,SNR=6.6						
A21A	Bergtoll Ranch	89.24	338	⇑P	P	11 26 30.8	-0.4
	baz=90,SNR=6.9						
EGMT	Eagleton	89.28	336	eP	P	11 26 30.8	-0.7
	7.3nm,1.0s						
B19A	Brinkman Farms	89.39	337	⇑P	P	11 26 31.8	-0.1
	baz=90,SNR=6.2						
A20A	Cobblestone Ra	89.44	338	⇑P	P	11 26 32.1	-0.1
	baz=90,SNR=7.1						
K04D	Chiloquin, OR	89.51	326	⇓P	P	11 26 33.7	+1.0
	baz=90						
MSO	Missoula	89.72	333	⇓P	P	11 26 34.4	+0.8
	baz=90						
A19A	Klindworth Far	89.74	337	⇑P	P	11 26 33.2	-0.4
	baz=90,SNR=6.5						
J05D	Fort Rock, OR	89.79	327	⇑P	P	11 26 35.5	+1.5
	baz=90						
SCHQ	Schefferville	89.93	3	P	P	11 26 33.3	-0.9
	5.3nm,0.8s,baz=193,slow=9.3,SNR=4.6						
J04D	Umpqua Nationa	90.15	326	⇓P	P	11 26 36.9	+1.0
	baz=90						
I05D	Terrebonne, OR	90.67	327	⇑P	P	11 26 39.0	+0.9
	baz=91						
NEW	Newport	92.11	332	⇑P	P	11 26 44.0	-0.5
	baz=92						
YKA	Yellowknife Ar	103.08	341	Pdiff	Pdif	11 27 33.2	-0.5
	1.8nm,0.9s,baz=140,slow=4.3,SNR=15						
GERES	GERESS Array B	113.55	46	PKiKP	PKiKP	11 32 12.8	-0.7
	1.1nm,0.9s,baz=173,slow=3.4,SNR=5.8						
ILAR	Eielson Array	115.05	333	PKP	PKPdf	11 32 15.1	-0.7
	0.5nm,0.7s,baz=186,slow=2.0,SNR=5.9						
NB2	NORSAR Subarra	117.48	33	PKPdf	PKPdf	11 32 19.7	-0.9
	comp=Z,1.7nm,1.0s,baz=248,slow=1.9						
NOA	NORSAR Array B	117.48	33	PKP	PKPdf	11 32 20.2	-0.4
	comp=Z,1.2nm,0.7s,baz=252,slow=2.0,SNR=5.3						
NOA				PKKPbc	PKKPab	11 42 44.5	0.0
	comp=Z,0.9nm,0.7s,baz=66,slow=4.2,SNR=3.7						
HFS	Hagfors	118.26	35	PKP	PKPdf	11 32 20.0	-2.1
	comp=Z,3.1nm,0.8s,baz=160,slow=4.7,SNR=6.7						
WRA	Warramunga Arr	119.29	210	PKP	PKPdf	11 32 23.4	-2.1
	comp=Z,2.0nm,0.7s,baz=152,slow=1.8,SNR=10						
MLR	Muntele Rosu	119.80	53	PKP	PKPdf	11 32 23.8	-1.9
	comp=Z,0.5nm,0.7s,baz=242,slow=5.8,SNR=4.4						
BRTR	Keskin Array B	123.05	62	PKP	PKPdf	11 32 31.6	-0.5
	comp=Z,1.6nm,0.7s,baz=179,slow=3.3,SNR=9.4						
AKASG	Malin Array Be	123.57	48	PKP	PKPdf	11 32 31.2	-1.3
	comp=Z,2.4nm,0.6s,baz=265,slow=2.6,SNR=8.5						
SPITS	Spitsbergen Ar	124.11	14	PKP	PKPdf	11 32 31.8	-1.1
	comp=Z,4.6nm,0.8s,baz=106,slow=6.2,SNR=6.9						
FINES	FINESS Array B	124.45	35	PKP	PKPdf	11 32 33.2	-0.6
	comp=Z,3.8nm,0.8s,baz=45,slow=0.8,SNR=8.5						
ARCES	ARCESS Array B	125.48	25	PKP	PKPdf	11 32 34.8	-0.9
	comp=Z,1.1nm,0.5s,baz=277,slow=2.1,SNR=8.4						
PETK	Petropavlovsk-	140.56	313	PKP	PKPdf	11 33 04.0	-0.4
	comp=Z,4.4nm,0.8s,baz=86,slow=5.9,SNR=3.3						
SEY	Seymchan	140.81	329	PKhKP	PKPpre	11 32 56.8	
	comp=Z,2.8nm,0.7s,baz=138,slow=4.9,SNR=5.4						
SEY				PKP	PKPdf	11 33 05.2	+0.6
	comp=Z,7.5nm,0.7s,baz=112,slow=5.9,SNR=13						
TIXI	Tiksi	141.85	349	PKPdf	PKPdf	11 32 59.3	-6.9
ABKAR	Akbulak array	143.01	53	ePKPdf	PKPab	11 33 04.5	+0.3
BRVK	Borovoye	148.62	44	ePKPdf	PKPdf	11 33 17.7	-0.7
BRVK				ePKPbc	PKPbc	11 33 22.3	+0.1
IPM	Ipoh	148.81	168	ePKPbc	PKPbc	11 33 22.6	-1.3
HYB	Hyderabad	148.96	118	iPKP	PKPdf	11 33 22.0	+1.9
YAK	Yakutsk	149.72	339	ePKPbc	PKPbc	11 33 24.4	-0.2
KKAR	Karatay Array	150.75	63	ePKPbc	PKPbc	11 33 27.3	-0.4
ASAJ	Asahikawa	151.52	299	PKPbc	PKPbc	11 33 29.8	+0.3
	comp=Z,23nm,0.9s,baz=261,slow=7.0,SNR=8.1						
ASAJ				pPKPbc	PKPab	11 33 38.8	+0.8
	comp=Z,20nm,0.9s,baz=353,slow=3.6,SNR=4.7						
AAK	Ala-Archa	153.70	64	PKPbc	PKPbc	11 33 34.1	-0.4
	comp=Z,6.1nm,0.7s,baz=232,slow=0.9,SNR=5.9						
MJAR	Matsushiro Arr	154.86	282	PKPbc	PKPbc	11 33 36.7	-0.4
	comp=Z,2.3nm,1.0s,baz=146,slow=2.8,SNR=3.0						
MJAR				PKPab	PKPab	11 33 52.3	-0.1
	comp=Z,2.3nm,0.7s,baz=116,slow=2.9,SNR=5.4						
ZALV	Zalesovo Beam	155.69	33	PKP	PKPdf	11 33 27.4	-1.5
	comp=Z,4.1nm,0.8s,baz=289,slow=4.4,SNR=4.7						
ZALV				PKPbc	PKPbc	11 33 38.0	
	comp=Z,8.2nm,0.8s,baz=308,slow=2.4,SNR=6.7						
ZALV				PKPab	PKPab	11 33 54.6	-0.6
	comp=Z,5.0nm,0.7s,baz=311,slow=4.5,SNR=3.8						
MKAR	Makanchi Array	158.12	51	PKP	PKPdf	11 33 30.4	-1.9
	comp=Z,1.0nm,0.8s,baz=236,slow=1.6,SNR=3.0						
MKAR				PKPab	PKPab	11 34 05.6	-0.5
	comp=Z,2.0nm,0.8s,baz=294,slow=3.9,SNR=3.5						
KOLN	Koldanda	158.60	104	eP	PKPab	11 34 08.1	-0.9
	comp=Z,12nm,0.8s						
USRK	Ussuriysk Arra	159.00	303	PKPab	PKPab	11 34 10.2	+0.2
	comp=Z,3.2nm,0.9s,baz=129,slow=2.7,SNR=5.1						
DMN	Daman	159.72	106	eP	PKPab	11 34 13.5	-0.4
	comp=Z,49nm,1.0s						
PKIN	Phulchoki	159.93	107	eP	PKPab	11 34 14.1	-0.7
	comp=Z,42nm,1.0s						
KKN	Kakani	159.94	106	eP	PKPab	11 34 14.4	-0.4
	comp=Z,42nm,0.9s						
PKI	Pulchoki	159.94	107	eP	PKPab	11 34 14.4	-0.5
	comp=Z,31nm,0.8s						
JNU	Nakatsue	160.26	270	ePKPdf	PKPdf	11 33 36.4	+1.1
JNU				ePKPab	PKPab	11 34 17.4	+1.6
GUN	Gumba	160.47	106	eP	PKPab	11 34 16.8	-0.4
	comp=Z,29nm,0.9s						
RAMN	Ramite	160.56	110	eP	PKPab	11 34 17.1	-0.5
	comp=Z,28nm,0.8s						
JIRN	Jiri	160.59	107	eP	PKPab	11 34 17.5	-0.3
	comp=Z,25nm,0.8s						
ODAN	Odare	161.12	111	eP	PKPab	11 34 19.5	-0.5
	comp=Z,27nm,0.9s						
CMAR	Chiang Mai Arr	161.71	154	PKP	PKPdf	11 33 37.0	-0.2
	comp=Z,1.4nm,0.7s,baz=251,slow=3.0,SNR=4.6						
CMAR				PKPab	PKPab	11 34 21.1	-1.1
	comp=Z,1.6nm,0.9s,baz=213,slow=4.2,SNR=4.7						
TLY	Talaya	163.44	8	PKPab	PKPab	11 34 29.9	+0.9
	comp=Z,4.2nm,0.7s,baz=15,slow=3.7,SNR=5.7						
SONM	Songino Array	167.47	2	PKPab	PKPab	11 34 47.6	+0.7
	comp=Z,6.1nm,0.8s,baz=333,slow=4.0,SNR=15						

KRSC 27 11:15:04.6±2.1, 50.32N×157.09E, h30km±12km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.72	301	iP	Pb	11 15 17.8	-0.9
SKR				iS	Sb	11 15 27.4	-0.8
PAU	Pauzhetka	1.17	352	iP	Pb	11 15 26.1	-0.1
PAU				eS	Sb	11 15 41.7	+0.8
MIPR	Malaya Ipel'ka	1.97	354	P	Pb	11 15 38.3	-1.6
ASAK	Asacha	2.13	14	eP	Pb	11 15 41.1	-1.6
ASAK				S	Sb	11 16 07.6	-1.2
MTVR	Mutnovka	2.28	17	eP	Pn	11 15 42.5	+2.2
MTVR				eS	Sb	11 16 10.4	-2.7
RUS	Russkaya	2.30	22	eP	Pn	11 15 42.0	+1.6
RUS				eS	Sn	11 16 09.5	+1.8
APC	Apacha	2.61	1	P	Pn	11 15 47.5	+2.8
PET	Petropavlovsk	2.88	19	eP	Pn	11 15 51.4	+3.0
PET				eS	Sn	11 16 25.9	+3.9
UGLR	Uglovaya	3.09	20	eP	Pn	11 15 54.9	+3.4
AVH	Avacha	3.13	19	eP	Pb	11 15 56.1	-3.5
AVH				S	Sb	11 16 33.4	-3.9
KOK	Koryaka	3.13	17	eP	Pb	11 15 55.9	-3.8
SMAR	Somma	3.14	19	eP	Pn	11 15 55.9	+3.7
KRER	Koryakskii	3.17	18	eP	Pn	11 15 56.1	+3.5
KRER				S	Sb	11 16 34.5	-4.2
SDLR	Sedlovina	3.17	20	eP	Pn	11 15 55.2	+2.6
NLC	Nalytchevo	3.19	25	S	Sn	11 16 30.1	+0.6
KRX	Arik	3.20	17	eP	Pn	11 15 56.7	+3.7
KRX				S	Sn	11 16 34.6	+4.4
GNL	Ganaly	3.42	9	P	Pb	11 16 00.6	-4.1

IDC 27 11:16:40.0±0.7, 35.60S×72.28W, h0km, mb4.5/10, mb1 4.7/12, mb1mx4.4/37, mbtmp4.5/12, ML4.7/2, Error ellipse: s-maj=35.5km s-min=18.6km az=76.0

NEIC 27 11:16:44.5±0.3, 35.64S×71.88W, h35km, mb4.5/4, Error ellipse: s-maj=16.4km s-min=7.0km az=89.0

ISCJB 27 11:16:45.1±0.8, 35.6S±0.1×71.8W±0.3, h52km, mb4.7/19, Error ellipse: s-maj=31.0km s-min=15.2km az=12.0

ISC 27 11:16:46.3±0.7, 35.7S±0.1×71.9W±0.3, h52km, n28, σ0.98/25, mb4.7/19, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.10	169	Pn	Pn	11 17 58.9	-1.3
	14nm,0.3s,baz=0.0,slow=11,SNR=1.8						
PLCA				Lg	Lg	11 19 10.6	
	17nm,0.3s,baz=258,slow=18,SNR=3.2						
LVC	Limon Verde	13.33	12	ePn	Pn	11 19 49.3	-3.8
	55nm,0.9s						
LPAZ	La Paz	19.66	11	P	P	11 21 09.8	-1.7
	0.2nm,0.3s,baz=187,slow=6.8,SNR=3.1						
SIV	San Ignacio	21.91	29	P	P	11 21 34.6	-0.6
	3.1nm,0.6s,baz=215,slow=15,SNR=2.6						
SDV	Santo Domingo	44.40	2	eP	P	11 24 52.1	0.0
	39nm,1.4s						
CELP	Cerrillos	53.75	6	eP	P	11 26 05.6	+2.2
QSPA	South Pole Qui	54.50	180	P	P	11 26 10.4	+1.8
	10.0nm,0.9s,baz=144,slow=2.4,SNR=4.3						
TEIG	Tepich	57.78	342	P	P	11 26 31.9	-0.3
	9.9nm,0.7s,baz=299,slow=3.1,SNR=4.4						
TXAR	Lajitas Array	71.31	331	P	P	11 27 59.7	-0.8
	2.4nm,0.7s,baz=151,slow=8.9,SNR=6.1						
TKL	Tuckaleechee C	71.89	350	P	P	11 28 03.3	-0.4
	4.3nm,0.7s,baz=156,slow=7.6,SNR=4.1						
AMTX	Amarillo	75.56	335	eP	P	11 28 24.8	-0.5
	11nm,0.9s						

LPM	Los Pinos Moun	76.88	331	eP	P	11 28 32.2	-0.8
	1.5nm,0.5s						
ANMO	Albuquerque	77.36	331	eP	P	11 28 35.3	-0.4
	3.5nm,1.0s						
TSUM	Tsumeb	78.62	105	P	P	11 28 47.6	+4.5
	2.4nm,0.8s,baz=256,slow=8.3,SNR=2.4						
PFO	Pinyon Flat Ob	80.60	324	P	P	11 28 54.0	+0.6
	3.0nm,0.8s,baz=127,slow=0.3,SNR=4.3						
PV01	Paradox Valley	80.97	332	eP	P	11 28 55.2	-0.2
	245nm,0.9s						
SHPR	Sheep Range	82.37	326	eP	P	11 29 02.2	-0.5
	54nm,2.1s						
BRSD	Miller	83.50	341	eP	P	11 29 07.5	-0.7
	9.1nm,0.8s						
PDAR	Pinedale Array	85.36	333	P	P	11 29 17.8	-0.2
	2.2nm,0.8s,baz=135,slow=6.1,SNR=6.9						
NVAR	Mina Array Bea	85.38	325	P	P	11 29 17.7	-0.4
	2.8nm,0.7s,baz=156,slow=6.2,SNR=9.0						
ULM	Lac du Bonnet	88.20	345	P	P	11 29 31.1	-0.1
	4.2nm,0.9s,baz=237,slow=4.1,SNR=3.3						
MCMT	McKenzie Canyo	88.36	332	eP	P	11 29 32.5	0.0
	6.0nm,1.3s						
DGMT	Dagmar	88.65	339	eP	P	11 29 33.1	-0.3
	11nm,0.8s						
WRA	Warramunga Arr	119.31	208	PKhKP	PKPpre	11 35 25.6	
	0.4nm,0.6s,baz=161,slow=1.7,SNR=4.0						
BRTR	Keskin Array B	122.55	62	PKP	PKPdf	11 35 36.6	+0.6
	0.6nm,0.7s,baz=238,slow=3.8,SNR=3.3						
SPITS	Spitsbergen Ar	124.32	14	PKP	PKPdf	11 35 37.5	-0.6
	4.1nm,0.8s,baz=286,slow=5.4,SNR=2.7						
HYB	Hyderabad	148.06	117	i PKP	PKPbc	11 36 26.0	-0.6
SONM	Songino Array	167.84	6	PKPab	PKPab	11 37 55.4	+1.8
	1.5nm,0.8s,baz=340,slow=4.8,SNR=5.0						

GUC 27 11:20:41.7±0.8,33°.39S×72°.37W,h36km±4km,ML4.2,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.71	59	eP	Pn	11 20 55.4	+0.2
IHA				eS	Sn	11 21 05.4	+0.5
ROCH	El Roble	1.21	70	eP	Pn	11 21 03.1	+0.8
TACH	Talagante	1.22	103	eP	Pn	11 21 03.5	+1.2
SAN	Santiago	1.43	93	eP	Pn	11 21 06.6	+1.5
SAN				eS	Sn	11 21 24.8	+2.2
PEL	Peldehue	1.43	81	eP	Pn	11 21 06.7	+1.6
PEL				eS	Sn	11 21 25.8	+3.0
PEL				AML	AML	11 21 34.5	
	comp=N,7μm,0.5s						
JACH	Jahuel	1.65	65	eP	Pn	11 21 09.4	+1.2
JACH				eS	Sn	11 21 31.3	+3.1

IDC 27 11:20:58.7±0.7,36°.51S×73°.46W,h0km,mb4.4/10, mb1 4.6/10,mb1mx4.3/32,mbtmp4.4/10,Error ellipse: s-maj=37.8km s-min=19.5km az=64.0
ISCJB 27 11:21:02.9±0.8,36°.2S±0°.1×73°.1W±0°.2,h33km,mb4.4/14, Error ellipse: s-maj=29.4km s-min=16.4km az=156.8
NEIC 27 11:21:05.9±0.7,35°.93S×72°.86W,h35km,mb4.5/1,Error ellipse: s-maj=22.6km s-min=16.6km az=70.0
ISC 27 11:21:04.5±0.7,36°.2S±0°.1×73°.2W±0°.2,h35km,n38, σ1s62/36,mb4.4/14,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	20.29	14	P	P	11 25 35.0	-2.9
	4.4nm,0.7s,baz=179,slow=9.4,SNR=5.3						
LPAZ	La Paz	20.29	14	P	P	11 25 35.0	-2.9
SIV	San Ignacio	22.80	31	P	P	11 26 02.5	-1.8
	10nm,0.8s,baz=229,slow=13,SNR=7.3						
SIV	San Ignacio	22.80	31	P	P	11 26 02.5	-1.8
OTAV	Otavalo	36.53	351	eP	P	11 28 06.4	-0.9
	154nm,2.6s						
SDV	Santo Domingo	44.86	4	eP	P	11 29 16.1	+0.5
	4.7nm,0.7s						
SNAA	Sanae	49.97	157	P	P	11 29 53.1	-1.7
	1.4nm,0.8s,baz=250,slow=7.5,SNR=4.8						
SNAA	Sanae	49.97	157	P	P	11 29 53.1	-1.7
APG	El Apazote	53.43	339	P	P	11 30 18.4	-2.9
	3.1nm,0.7s,baz=222,slow=22,SNR=3.8						
APG	El Apazote	53.43	339	P	P	11 30 18.4	-2.9
QSPA	South Pole Qui	54.09	180	P	P	11 30 21.5	-4.0
	2.9nm,0.7s,baz=160,slow=1.8,SNR=6.5						
QSPA	South Pole Qui	54.09	180	P	P	11 30 21.6	-4.0
TEIG	Tepich	57.86	343	P	P	11 30 52.5	-0.2
	12nm,0.7s,baz=77,slow=1.4,SNR=9.1						
TEIG	Tepich	57.86	343	P	P	11 30 52.5	-0.2
TXAR	Lajitas Array	71.16	332	P	P	11 32 21.7	+2.0
	2.0nm,0.6s,baz=158,slow=8.1,SNR=19						
TXAR	Lajitas Array	71.16	332	P	P	11 32 21.7	+2.0
DBIC	Dimbokro	76.76	72	P	P	11 32 53.6	+0.9
	4.1nm,0.6s,baz=202,slow=6.0,SNR=6.4						
DBIC	Dimbokro	76.76	72	P	P	11 32 53.6	+0.9
LBTB	Lobatse	82.25	115	P	P	11 33 22.8	+0.1
	3.5nm,0.6s,baz=245,slow=5.5,SNR=6.7						
LBTB	Lobatse	82.25	115	P	P	11 33 22.8	+0.1
NVAR	Mina Array Bea	85.12	326	P	P	11 33 38.4	+1.5
	0.7nm,0.6s,baz=151,slow=2.1,SNR=3.5						
NVAR	Mina Array Bea	85.12	326	P	P	11 33 38.4	+1.5
PDAR	Pinedale Array	85.26	334	P	P	11 33 39.0	+1.4
	1.3nm,1.0s,baz=139,slow=3.7,SNR=4.8						
PDAR	Pinedale Array	85.26	334	P	P	11 33 39.0	+1.4
TORD	Torodi Ar. Bea	85.82	71	P	P	11 33 42.7	+2.0
	1.6nm,0.7s,baz=216,slow=4.9,SNR=6.4						
TORD	Torodi Ar. Bea	85.82	71	P	P	11 33 42.7	+2.0
ULM	Lac du Bonnet	88.33	346	P	P	11 33 52.7	+0.7
	4.0nm,1.0s,baz=23,slow=15,SNR=3.5						
ULM	Lac du Bonnet	88.33	346	P	P	11 33 52.7	+0.7
WRA	Warramunga Arr	118.43	210	PKP	PKPdf	11 39 46.5	-2.4
	0.6nm,0.8s,baz=150,slow=1.7,SNR=3.5						
WRA	Warramunga Arr	118.43	210	PKP	PKPdf	11 39 46.5	-2.4
BRTR	Keskin Array B	123.68	63	PKP	PKPdf	11 39 58.6	+0.1
	0.4nm,0.7s,baz=193,slow=5.9,SNR=3.0						
BRTR	Keskin Array B	123.68	63	PKP	PKPdf	11 39 58.6	+0.1
ZALV	Zalesovo Beam	156.54	34	PKP	PKPdf	11 40 55.4	+0.3
	0.9nm,0.7s,baz=248,slow=1.6,SNR=3.6						
ZALV	Zalesovo Beam	156.54	34	PKP	PKPdf	11 40 55.4	+0.3
MKAR	Makanchi Array	158.85	52	PKP	PKPdf	11 40 58.5	+0.3
	0.8nm,0.9s,baz=344,slow=2.5,SNR=3.3						
MKAR	Makanchi Array	158.85	52	PKP	PKPdf	11 40 58.5	+0.3
SONM	Songino Array	168.32	1	PKPab	PKPab	11 42 16.5	+0.6
	0.5nm,0.8s,baz=2.4,slow=3.5,SNR=2.7						
SONM	Songino Array	168.32	1	PKPab	PKPab	11 42 16.5	+0.6

IDC 27 11:21:33.3±0.7,35°.96S×72°.86W,h0km,mb4.4/8, mb1 4.6/8,mb1mx4.3/36,mbtmp4.4/8,MS5.1/1,Ms1 5.1/1, ms1mx4.3/32,Error ellipse: s-maj=47.4km s-min=20.6km az=72.0
ISCJB 27 11:21:36.7±0.6,35°.9S±0°.1×72°.7W±0°.1,h33km,mb4.5/12, MS5.1/1,Error ellipse: s-maj=18.5km s-min=12.7km az=44.2
NEIC 27 11:21:38.6±0.5,35°.88S×72°.59W,h35km,mb4.5/2,Error ellipse: s-maj=18.0km s-min=12.8km az=46.0
ISC 27 11:21:38.8±0.6,35°.9S±0°.1×72°.6W±0°.1,h35km,n36, σ1s22/37,mb4.6/12,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRQA	Tornquist	8.79	107	ePn	Pn	11 23 43.2	-0.1
CPUP	Villa Florida	16.18	58	ePn	Pn	11 25 21.9	-1.5
	0.4nm,0.7s						
SDV	Santo Domingo	44.57	3	P	P	11 29 47.5	-0.1
	15nm,0.8s						
JTS	JuntasAbangare	47.38	343	LR	LR	11 45 16.1	
	comp=Z,2μm,21.4s,baz=4.5,slow=30						
SNAA	Sanae	50.03	157	P	P	11 30 30.0	+0.6
	4.7nm,0.7s,baz=277,slow=8.3,SNR=11						
SNAA	Sanae	50.03	157	P	P	11 30 30.0	+0.6
QSPA	South Pole Qui	54.35	180	P	P	11 31 01.3	-0.4
	5.4nm,0.6s,baz=321,slow=0.8,SNR=7.5						
QSPA	South Pole Qui	54.35	180	P	P	11 31 01.3	-0.4
TEIG	Tepich	57.74	343	P	P	11 31 27.6	+1.4
	16nm,0.8s,baz=163,slow=9.6,SNR=5.8						
TEIG	Tepich	57.74	343	P	P	11 31 27.6	+1.4
JCT	Junction City	70.79	335	eP	P	11 32 52.0	+0.4
	20nm,1.3s						
TXAR	Lajitas Array	71.15	332	P	P	11 32 54.7	+0.8
	2.1nm,0.7s,baz=153,slow=8.7,SNR=7.1						
TXAR	Lajitas Array	71.15	332	P	P	11 32 54.7	+0.8
ABTX	Abilene, Hawle	72.70	336	eP	P	11 33 01.6	-1.4
	6.3nm,0.7s						
SDCO	Great Sand Dun	79.35	334	eP	P	11 33 41.1	0.0
	3.7nm,1.1s						
NVAR	Mina Array Bea	85.16	326	P	P	11 34 10.3	-1.1
	0.7nm,0.7s,baz=144,slow=6.5,SNR=3.8						
NVAR	Mina Array Bea	85.16	326	P	P	11 34 10.3	-1.1
PDAR	Pinedale Array	85.23	334	P	P	11 34 10.8	-0.8
	1.7nm,0.9s,baz=151,slow=6.4,SNR=5.3						
PDAR	Pinedale Array	85.23	334	P	P	11 34 10.8	-0.8
TORD	Torodi Ar. Bea	85.30	70	P	P	11 34 14.5	+2.1
	2.0nm,0.9s,baz=232,slow=3.9,SNR=3.6						
TORD	Torodi Ar. Bea	85.30	70	P	P	11 34 14.5	+2.1
ULM	Lac du Bonnet	88.19	345	P	P	11 34 24.9	-0.7
	2.9nm,0.8s,baz=123,slow=9.4,SNR=3.5						
ULM	Lac du Bonnet	88.19	345	P	P	11 34 24.9	-0.7
GERES	GERESS Array B	113.81	46	PKP	PKiKP	11 40 12.3	-1.1
	0.5nm,0.6s,baz=267,slow=3.8,SNR=3.0						
GERES	GERESS Array B	113.81	46	PKP	PKiKP	11 40 12.2	-1.1
WRA	Warramunga Arr	118.88	209	PKP	PKPdf	11 40 24.5	+0.5
	1.1nm,1.0s,baz=166,slow=1.6,SNR=3.9						
WRA	Warramunga Arr	118.88	209	PKP	PKPdf	11 40 24.5	+0.5
BRTR	Keskin Array B	123.15	62	PKP	PKPdf	11 40 30.9	-0.8
	1.0nm,0.8s,baz=232,slow=1.4,SNR=4.4						
BRTR	Keskin Array B	123.15	62	PKP	PKPdf	11 40 30.9	-0.8
AKASG	Malin Array Be	123.81	49	PKP	PKPdf	11 40 30.6	-1.7
	0.9nm,0.5s,baz=275,slow=3.3,SNR=5.1						
AKASG	Malin Array Be	123.81	49	PKP	PKPdf	11 40 30.6	-1.7
HYB	Hyderabad	148.52	118	i PKP	PKPdf	11 41 20.0	+1.3
MKAR	Makanchi Array	158.33	52	PKP	PKPdf	11 41 30.2	-1.7
	1.1nm,0.9s,baz=267,slow=2.1,SNR=3.6						
MKAR				PKPab	PKPab	11 42 07.9	+1.5
	2.4nm,0.9s,baz=296,slow=3.9,SNR=5.5						
MKAR	Makanchi Array	158.33	52	PKP	PKPdf	11 41 30.2	-1.7
MKAR				PKPab	PKPab	11 42 07.9	+1.5
SONM	Songino Array	168.04	3	PKPab	PKPab	11 42 50.4	+1.5
	0.7nm,0.9s,baz=39,slow=1.2,SNR=4.0						
SONM	Songino Array	168.04	3	PKPab	PKPab	11 42 50.4	+1.5

IDC 27 11:26:12.1±0.9,35°.06S×72°.59W,h0km,mb4.4/9, mb1 4.4/11,mb1mx4.2/31,mbtmp4.4/11,ML4.1/2,Error ellipse: s-maj=29.6km s-min=21.8km az=107.0
ISCJB 27 11:26:13.8±0.8,35°.1S±0°.1×72°.5W±0°.2,h18km,mb4.4/10, Error ellipse: s-maj=19.2km s-min=15.1km az=26.7
NEIC 27 11:26:17.6±0.5,35°.05S×72°.48W,h35km,mb4.5/1,Error ellipse: s-maj=15.1km s-min=11.0km az=123.0
ISC 27 11:26:14.8±0.8,35°.1S±0°.1×72°.6W±0°.1,h18km,n21, σ1s37/22,mb4.5/10,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.01	47	Pn	Pn	11 27 29.9	+0.8
	1.1nm,0.3s,baz=215,slow=16,SNR=2.7						
CPUP	Villa Florida	15.73	60	Pn	Pn	11 29 54.7	-0.8
LPAZ	La Paz	19.13	13	P	Pn	11 30 39.1	+0.6
	0.9nm,0.3s,baz=175,slow=11,SNR=12						
SIV	San Ignacio	21.62	31	P	P	11 31 04.0	-0.1
	12nm,0.6s,baz=215,slow=8.1,SNR=24						
BDFB	Brasilia	29.30	55	P	P	11 32 16.6	+0.1
	4.1nm,0.7s,baz=212,slow=12,SNR=3.1						
OTAV	Otavalo	35.56	350	eP	P	11 33 12.4	+0.8
	9.1nm,1.4s						
RCBR	Riachuelo	44.58	58	P	P	11 34 26.4	+0.3
	12nm,1.1s,baz=208,slow=14,SNR=4.9						
QSPA	South Pole Qui	55.16	180	P	P	11 35 47.5	+1.5
	4.7nm,1.0s,baz=130,slow=4.0,SNR=3.6						
H06S1	SOCORRO T	64.75	319	T	T	12 47 27.9	
	SNR=6.5						
TXAR	Lajitas Array	70.47	331	P	P	11 37 28.1	-0.2
	0.5nm,0.5s,baz=155,slow=7.8,SNR=4.9						
DBIC	Dimbokro	75.94	71	P	P	11 38 01.3	+0.5
	5.2nm,0.7s,baz=213,slow=6.5,SNR=6.4						
BOSA	Boshof	79.95	118	P	P	11 38 23.3	+0.1
	5.9nm,0.6s,baz=235,slow=4.0,SNR=15						
TORD	Torodi Ar. Bea	84.98	70	P	P	11 38 49.6	+0.3
	1.8nm,0.7s,baz=271,slow=3.6,SNR=6.7						
ULM	Lac du Bonnet	87.43	345	P	P	11 39 01.4	+0.8
	1.5nm,0.9s,baz=164,slow=6.8,SNR=2.9						
WRA	Warramunga Arr	119.61	209	PKP	PKPdf	11 45 05.2	+1.1
	0.7nm,0.9s,baz=167,slow=1.5,SNR=3.1						
BRTR	Keskin Array B	122.73	62	PKP	PKPdf	11 45 09.0	-0.6
	0.7nm,0.6s,baz=194,slow=3.1,SNR=4.7						
ABKAR	Akbulak array	142.69	53	ePKPdf	PKPdf	11 45 41.6	-4.8
KKAR	Karatay Array	150.43	63	ePKPdf	PKPdf	11 46 00.3	+0.6
KKAR				ePKPbc	PKPbc	11 46 04.6	-0.4
ZALV	Zalesovo Beam	155.37	33	PKP	PKPdf	11 46 04.9	-1.6
	0.9nm,0.6s,baz=194,slow=5.5,SNR=3.9						
ZALV				PKPab	PKPab	11 46 32.0	+0.1
	2.7nm,0.6s,baz=304,slow=4.4,SNR=7.5						
MKAR	Makanchi Array	157.79	51	PKPab	PKPab	11 46 41.5	-1.2
	0.8nm,0.9s,baz=301,slow=2.2,SNR=5.5						
SONM	Songino Array	167.23	3	PKPab	PKPab	11 47 22.9	-1.1
	1.1nm,1.0s,baz=337,slow=1.7,SNR=4.4						

IDC 27 11:26:53.3±0.6,38°.36S×73°.95W,h0km,mb4.7/18, mb1 4.8/21,mb1mx4.7/31,mbtmp4.7/21,ML4.5/3,Error ellipse: s-maj=21.6km s-min=14.1km az=81.0
ISCJB 27 11:26:56.8±0.3,38°.09S±0°.06×73°.59W±0°.06,h18km, mb5.0/43,Error ellipse: s-maj=8.5km s-min=7.3km az=175.1
NEIC 27 11:26:59.2±0.3,38°.27S×73°.72W,h35km,mb5.2/29,Error ellipse: s-maj=9.1km s-min=6.4km az=66.0
BJI 27 11:27:00.4,38°.10S×73°.60W,h35km,mB5.4/3,Ms5.6/2, Ms7 5.3/2
ISC 27 11:26:57.0±0.4,38°.25S±0°.06×73°.70W±0°.09,h18km,n355, σ1s30/370,mb5.0/43,124C-152D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.47	137	Pn	Pb	11 27 54.2	-3.8
	9.7nm,0.3s,baz=314,slow=11,SNR=2.8						
PLCA				Lg	Lg	11 28 48.4	
	34nm,0.3s,baz=37,slow=7.3,SNR=6.3						
PLCA	Paso Flores	3.47	137	Pn	Pn	11 27 53.0	+2.8
PLCA				Lg	Lg	11 28 48.4	
CFAA	Coronel Fontan	8.00	36	Pn	Pn	11 28 53.9	+1.5
	1.6nm,0.3s,baz=48,slow=19,SNR=4.4						
CFAA				Sn	Sn	11 30 21.8	-0.7
	2.3nm,0.3s,baz=0.0,slow=17,SNR=2.6						
TRQA	Tornquist	9.23	92	ePn	Pn	11 29 09.6	+0.3
USHA	Ushuaia	16.97	170	Pn	Pn	11 30 53.0	-0.2
	0.7nm,0.3s,baz=337,slow=8.1,SNR=5.5						
CPUP	Villa Florida	18.21	54	P	Pn	11 31 09.1	+0.3
	1.4nm,0.3s,baz=214,slow=8.7,SNR=7.3						
CPUP	Villa Florida	18.21	54	eP	Pn	11 31 07.6	-1.2
	1.0nm,0.7s						
LPAZ	La Paz	22.42	14	P	P	11 31 57.2	+1.8
	62nm,0.9s,baz=180,slow=7.6,SNR=15						
LPAZ	La Paz	22.42	14	eP	P	11 31 56.1	+0.7
	174nm,1.3s						
SIV	San Ignacio	24.81	30	P	P	11 32 17.6	-0.5
	5.1nm,0.6s,baz=226,slow=8.3,SNR=2.6						
NNA	Nana	26.31	353	P	P	11 32 30.4	-1.2
	24nm,1.1s,baz=201,slow=14,SNR=4.0						
NNA	Nana	26.31	353	eP	P	11 32 30.5	-1.2
	10nm,0.5s						
SAML	Samuel	30.68	21	eP	P	11 33 09.5	-1.1
	4.3nm,0.6s						
ATAH	Atahualpa	31.27	351	P	P	11 33 17.0	+0.7
	7.7nm,0.8s,baz=191,slow=6.5,SNR=6.5						
BDFB	Brasilia	31.92	52	P	P	11 33 22.7	+1.0
	11nm,0.9s,baz=188,slow=7.1,SNR=3.1						
OTAV	Otavalo	38.55	352	eP	P	11 34 20.4	+1.2
	52nm,1.4s						
ROSC	El Rosal	42.89	359	P	P	11 34 55.1	+0.2
	4.1nm,0.3s,baz=129,slow=12,SNR=4.5						
SDV	Santo Domingo	46.98	4	eP	P	11 35 26.9	-0.3
	21nm,0.8s						
RCBR	Riachuelo	47.07	56	P	P	11 35 28.4	+0.5
	6.4nm,0.7s,baz=214,slow=10,SNR=4.3						
SNAA	Sanae	48.20	156	P	P	11 35 34.6	-1.4
	6.5nm,1.0s,baz=269,slow=7.7,SNR=8.9						
SNAA	Sanae	48.20	156	eP	P	11 35 36.7	+0.7
	50nm,1.3s						
JTS	JuntasAbangare	49.42	345	P	P	11 35 44.6	-1.3
	16nm,1.1s,baz=148,slow=3.3,SNR=7.5						
JTS	JuntasAbangare	49.42	345	eP	P	11 35 46.3	+0.4
	20nm,1.1s						
QSPA	South Pole Qui	51.99	180	P	P	11 36 03.0	-2.0
	34nm,1.1s,baz=149,slow=5.4,SNR=3.5						
APG	El Apazote	55.26	340	P	P	11 36 24.5	-5.0
	9.2nm,0.7s,baz=134,slow=4.1,SNR=8.2						
TEIG	Tepich	59.76	344	P	P	11 36 59.4	-1.4
	7.5nm,0.3s,baz=99,slow=1.3,SNR=5.3						
TEIG	Tepich	59.76	344	eP	P	11 37 01.3	+0.5
	26nm,0.9s						
SYO	Syowa Base	62.42	158	⇑eP	P	11 37 16.2	-2.1
SYO	Syowa Base	62.42	158	⇑epP	pP	11 37 28.0	+3.9
035Z	Hargill	68.31	337	⇑P	P	11 37 58.3	+1.5
	baz=69						
035A	Encino	68.76	337	⇓P	P	11 38 01.1	+1.4
	baz=69						
034A	Hebbronville	69.06	336	⇓P	P	11 38 03.2	+1.6
	baz=69						
934A	Benavides	69.51	337	⇓P	P	11 38 06.2	+1.9
	baz=70						
933A	Laredo	69.76	336	⇑P	P	11 38 07.1	+1.2
	baz=70,SNR=5.6						
835A	Beeville	69.94	337	⇓P	P	11 38 08.3	+1.3
	baz=70						
834A	Tilden	70.01	337	⇑P	P	11 38 09.2	+1.8
	baz=70,SNR=6.7						
833A	Chaparral WMA,	70.46	336	⇓P	P	11 38 11.3	+1.1
	baz=71,SNR=6.5						
735A	Kenedy	70.47	338	⇓P	P	11 38 11.4	+1.2
	baz=71						
832A	Faith Ranch, C	70.61	336	⇓P	P	11 38 12.3	+1.2
	baz=71,SNR=7.1						
734A	La Parita Cree	70.69	337	⇓P	P	11 38 12.8	+1.2
	baz=71						
733A	Divot King Ran	70.80	336	⇓P	P	11 38 13.5	+1.2
	baz=71						
636A	Smothers Creek	70.83	339	⇓P	P	11 38 13.7	+1.3
	baz=71						
HKT	Hockley	70.93	340	eP	P	11 38 12.8	-0.2
	46nm,1.7s						
635A	Leesville	70.95	338	⇓P	P	11 38 14.9	+1.7
	baz=71						
732A	Laxson Ranch,	71.02	336	⇓P	P	11 38 14.2	+0.6
	baz=71,SNR=12						
537A	Green Hill Far	71.19	339	⇑P	P	11 38 16.3	+1.7
	baz=72,SNR=5.9						
536A	Bastrop	71.39	339	⇓P	P	11 38 16.4	+0.6
	baz=72						
633A	Saathoff Ranch	71.45	337	⇓P	P	11 38 16.7	+0.6
	baz=72						
535A	Dale	71.50	338	⇑P	P	11 38 17.2	+0.7
	baz=72						
632A	Uvalde	71.69	336	⇑P	P	11 38 18.2	+0.5
	baz=72,SNR=9.6						
534A	Blanco	71.76	337	⇓P	P	11 38 18.4	+0.3
	baz=72						
631A	Perdido Creek	71.85	335	⇓P	P	11 38 19.3	+0.7
	baz=72						
533A	Kerrville	71.97	337	⇓P	P	11 38 19.9	+0.5
	baz=72,SNR=12						
338A	Crockett	72.13	341	⇓P	P	11 38 21.1	+0.9
	baz=72						
435B	Jarrell	72.21	339	⇓P	P	11 38 21.5	+0.7
	baz=72						
337A	Centerville	72.24	340	⇓P	P	11 38 21.6	+0.8
	baz=73,SNR=9.8						
532A	Rocksprings	72.30	336	⇓P	P	11 38 21.7	+0.4
	baz=73,SNR=15						
434A	Burnet	72.44	338	⇑P	P	11 38 21.4	-0.7
	baz=73,SNR=18						
531A	Rocksprings	72.54	336	⇓P	P	11 38 23.0	+0.2
	baz=73,SNR=14						
336A	Riesel	72.57	339	⇑P	P	11 38 23.1	+0.2
	baz=73,SNR=9.9						
JCT	Junction City	72.59	337	eP	P	11 38 23.2	+0.1
	47nm,1.3s						
JCT	Junction City	72.59	337	⇑P	P	11 38 23.6	+0.5
	baz=73,SNR=14						
433A	Art	72.63	337	⇑P	P	11 38 22.9	-0.4
	baz=73,SNR=14						
335A	Moody	72.63	339	⇓P	P	11 38 23.8	+0.6
	baz=73,SNR=6.4						
530A	J-C Ranch, Com	72.78	335	⇓P	P	11 38 25.4	+1.2
	baz=73,SNR=12						
TXAR	Lajitas Array	72.84	333	P	P	11 38 24.1	-0.5
	2.9nm,0.5s,baz=155,slow=8.7,SNR=28						
334A	Lometa	72.91	338	⇑P	P	11 38 25.7	+0.7
	baz=73,SNR=17						
432A	Menard	72.96	337	⇓P	P	11 38 24.9	-0.3
	baz=73,SNR=7.9						
431A	Sonora	73.04	336	⇑P	P	11 38 26.1	+0.4
	baz=73,SNR=11						
529A	Stev Forest Ra	73.06	334	⇓P	P	11 38 26.2	+0.3
	baz=73,SNR=6.7						
333A	Richland Sprin	73.13	338	⇑P	P	11 38 26.2	0.0
	baz=74,SNR=12						
WHTX	Lake Whitney	73.31	339	eP	P	11 38 27.0	-0.2
	34nm,0.9s						
WHTX	Lake Whitney	73.31	339	⇓P	P	11 38 27.6	+0.4
	baz=74,SNR=9.2						
430A	Baggett Ranch,	73.34	335	⇓P	P	11 38 27.7	+0.2
	baz=74,SNR=14						
429A	Davenport Ranc	73.41	335	⇑P	P	11 38 28.9	+1.0
	baz=74,SNR=10.0						
332A	Millersview	73.41	337	⇓P	P	11 38 27.8	-0.1
	baz=74,SNR=16						
234A	Clairette	73.51	338	⇑P	P	11 38 27.7	-0.8
	baz=74,SNR=12						
331A	San Angelo	73.56	336	⇑P	P	11 38 28.5	-0.3
	baz=74,SNR=15						
233A	Rising Star	73.75	338	⇑P	P	11 38 29.5	-0.4
	baz=74,SNR=8.5						
232A	Coleman	73.85	337	⇑P	P	11 38 30.5	0.0
	baz=74,SNR=18						
330A	Mertzon	73.89	336	⇑P	P	11 38 30.7	0.0
	baz=74,SNR=7.2						
SWET	Sewanee	73.97	350	eP	P	11 38 30.1	-1.0
	62nm,1.1s						
134A	White-Moore Ra	74.03	339	⇓P	P	11 38 32.1	+0.6
	baz=74						
231A	Bronte	74.10	337	⇑P	P	11 38 32.1	+0.1
	baz=74,SNR=10						
329A	Wagon Wheel Ra	74.23	335	⇑P	P	11 38 33.2	+0.5
	baz=75,SNR=9.2						
133A	Hamilton Ranch	74.31	338	⇑P	P	11 38 33.3	+0.2
	baz=75,SNR=11						
230A	Sterling City	74.31	336	⇑P	P	11 38 33.3	+0.1
	baz=75						
Z35A	Perchaven, San	74.51	340	⇓P	P	11 38 34.9	+0.7
	baz=75,SNR=8.4						
ABTX	Abilene, Hawle	74.54	337	⇑P	P	11 38 34.9	+0.4
	baz=75,SNR=7.3						
229A	Bryant Ranch,	74.61	335	⇑P	P	11 38 35.3	+0.4
	baz=75,SNR=7.8						
131A	Roby	74.81	337	⇑P	P	11 38 36.1	0.0
	baz=75,SNR=11						
Z33A	Whitaker Ranch	74.90	338	⇓P	P	11 38 36.3	-0.2
	baz=75,SNR=8.4						
130A	Snyder	74.92	336	⇑P	P	11 38 36.7	0.0
	baz=75						
228A	UT Block 9, Go	75.01	335	⇑P	P	11 38 37.7	+0.5
	baz=75,SNR=8.0						
Z32A	Haskell	75.12	338	⇑P	P	11 38 37.6	-0.2
	baz=76,SNR=15						
WVT	Waverly	75.16	348	eP	P	11 38 37.9	0.0
	112nm,1.8s						
129A	Stewart Farms,	75.24	336	⇑P	P	11 38 38.9	+0.4
	baz=76,SNR=5.8						
Y34A	Reagan Ranch,	75.24	339	⇓P	P	11 38 39.2	+0.8
	baz=76,SNR=6.9						
Z31A	Sharp Cattle R	75.33	337	⇑P	P	11 38 38.7	-0.4
	baz=76,SNR=12						
128A	Castleberry Fa	75.43	335	⇑P	P	11 38 39.8	+0.1
	baz=76,SNR=6.6						
Y33A	Hilltop Ranch,	75.53	339	⇓P	P	11 38 39.7	-0.5
	baz=76,SNR=7.6						
Z30A	Sanderson Ranc	75.61	337	⇑P	P	11 38 40.9	+0.3
	baz=76,SNR=11						
Y32A	R-V Farms, Ver	75.76	338	⇓P	P	11 38 41.4	-0.1
	baz=76,SNR=8.7						
Z29A	Hungry Hill Ra	75.77	336	⇓P	P	11 38 42.0	+0.4
	baz=76,SNR=14						
127A	Arkansas Junct	75.78	334	⇑P	P	11 38 42.6	+0.9
	baz=76						
X34A	Smith Ranch, M	75.87	340	⇑P	P	11 38 42.6	+0.5
	baz=76,SNR=7.5						
Y31A	Rekieta Farm,	75.97	337	⇑P	P	11 38 43.0	+0.3
	baz=76,SNR=9.5						
Y30A	Stafford Cattl	76.08	337	⇑P	P	11 38 43.4	0.0
	baz=76						
X32A	Elmer	76.11	338	⇓P	P	11 38 43.6	+0.2
	baz=76,SNR=8.1						
Y29A	Porterfield Fa	76.31	336	⇑P	P	11 38 45.2	+0.5
	baz=77						
Z27A	Tatum	76.31	335	⇑P	P	11 38 45.3	+0.6
	baz=77						
W34A	Bridge Creek,	76.45	340	⇓P	P	11 38 45.4	+0.1

	baz=77						
X31A	McDonald Ranch	76.51	338	⇑P	P	11 38 46.0	+0.3
	baz=77,SNR=10						
Z26A	Caprock	76.53	334	⇑P	P	11 38 46.3	+0.3
	baz=77,SNR=8.1						
Y28A	McKinney Farm,	76.54	336	⇓P	P	11 38 46.5	+0.5
	baz=77,SNR=5.5						
W33A	Caddo, Fort Co	76.56	339	⇑P	P	11 38 46.8	+0.8
	baz=77,SNR=14						
TUL1	Tulsa	76.58	342	eP	P	11 38 46.0	0.0
	39nm,0.8s						
TUL1	Tulsa	76.58	342	⇑P	P	11 38 45.7	-0.3
	baz=77,SNR=12						
X30A	Coker Ranch, T	76.61	337	⇑P	P	11 38 46.9	+0.6
	baz=77,SNR=9.9						
W32A	Sentinel	76.75	339	⇓P	P	11 38 47.2	+0.1
	baz=77,SNR=14						
MSTX	Muleshoe	76.77	335	⇓P	P	11 38 47.9	+0.6
	baz=77,SNR=7.8						
Z25A	Roswell	76.79	334	⇓P	P	11 38 48.2	+0.7
	baz=77						
319A	Douglas	76.81	329	⇓P	P	11 38 47.8	+0.2
	baz=77,SNR=8.2						
Y27A	Causey	76.81	335	⇑P	P	11 38 47.9	+0.3
	baz=77						
X29A	Tulia	76.86	337	⇑P	P	11 38 47.6	-0.2
	baz=77,SNR=10						
V34A	Guthrie	76.94	340	eP	P	11 38 48.3	+0.2
	33nm,0.9s						
V34A	Guthrie	76.94	340	⇓P	P	11 38 48.2	+0.2
	baz=77,SNR=8.0						
W31A	Holland Ranch,	77.01	338	⇑P	P	11 38 49.2	+0.6
	baz=77						
Z24A	Sheeppen Canyo	77.07	333	⇑P	P	11 38 49.0	-0.1
	baz=77,SNR=7.4						
Y26A	Elida	77.07	335	⇓P	P	11 38 49.6	+0.6
	baz=77						
X28A	Dimmitt	77.08	336	⇓P	P	11 38 49.8	+0.8
	baz=77						
V33A	Lossen Ranch,	77.14	340	⇓P	P	11 38 49.6	+0.4
	baz=78,SNR=12						
121A	Cookes Peak, D	77.24	331	⇓P	P	11 38 51.1	+1.0
	baz=78						
V32A	Arapaho	77.25	339	⇑P	P	11 38 50.4	+0.5
	baz=78						
AMTX	Amarillo	77.26	337	eP	P	11 38 49.6	-0.4
	43nm,1.1s						
AMTX	Amarillo	77.26	337	⇓P	P	11 38 50.7	+0.7
	baz=78						
Y25A	Mesa, Roswell	77.37	334	⇓P	P	11 38 50.7	0.0
	baz=78						
W29A	Amraillo	77.47	337	⇑P	P	11 38 51.3	+0.1
	baz=78,SNR=8.4						
X27A	F and S Farms,	77.49	336	⇓P	P	11 38 51.7	+0.3
	baz=78						
U34A	Anderson Ranch	77.52	340	⇑P	P	11 38 51.9	+0.5
	baz=78,SNR=6.4						
V31A	Spring Creek L	77.53	338	⇑P	P	11 38 52.5	+1.0
	baz=78,SNR=8.5						
Z22A	Elephant Butte	77.58	332	⇓P	P	11 38 53.1	+1.2
	baz=78						
Y24A	Capitan	77.63	333	⇑P	P	11 38 53.0	+0.8
	baz=78,SNR=5.4						
X26A	CR and CF Fran	77.64	335	⇑P	P	11 38 52.1	-0.1
	baz=78						
U33A	Lingo Farm, Me	77.67	340	⇓P	P	11 38 52.1	0.0
	baz=78						
V30A	Spur Ranch, Mi	77.77	338	⇓P	P	11 38 52.8	0.0
	baz=78						
DBIC	Dimbokro	77.81	71	P	P	11 38 54.1	+0.6
	11nm,0.8s,baz=204,slow=6.0,SNR=8.2						
Y23A	Lovelace Mesa,	77.86	333	⇑P	P	11 38 54.1	+0.6
	baz=78						
W27A	Bowe Ranch, En	77.86	336	⇓P	P	11 38 53.4	-0.1
	baz=78,SNR=9.7						
X25A	Clemmons Ranch	77.91	334	⇑P	P	11 38 54.1	+0.4
	baz=78						
BLO	Bloomington	77.94	350	eP	P	11 38 53.3	-0.3
	38nm,1.3s						
SLM	Saint Louis	78.01	347	eP	P	11 38 53.5	-0.5
	29nm,0.8s						
W26A	Owens Ranch, T	78.12	335	⇓P	P	11 38 55.3	+0.5
	baz=78,SNR=5.8						
T33A	Patterson Ranc	78.31	340	⇑P	P	11 38 56.4	+0.7
	baz=79						
LPM	Los Pinos Moun	78.41	333	eP	P	11 38 57.0	+0.4
	19nm,1.4s						
W25A	X Bar L Ranch,	78.47	335	⇓P	P	11 38 57.5	+0.7
	baz=79,SNR=7.3						
U30A	WK&E Inc. Balk	78.47	338	⇑P	P	11 38 57.6	+0.8
	baz=79						
U29A	Oasis Ranch, S	78.58	338	⇑P	P	11 38 59.5	+2.2
	baz=79						
T32A	Huddler Ranch,	78.59	340	⇑P	P	11 38 58.8	+1.5
	baz=79						
LAZ	Ladron	78.67	332	eP	P	11 38 58.7	+0.7
	41nm,1.7s						
T31A	Randall Ranch,	78.72	339	⇑P	P	11 38 59.5	+1.5
	baz=79						
V26A	Tequesquite Ra	78.77	335	⇓P	P	11 38 59.2	+0.7
	baz=79						
W24A	Lazy 6 Ranch,	78.78	334	⇑P	P	11 38 59.0	+0.3
	baz=79,SNR=7.2						
214A	Organ Pipe Nat	78.78	327	⇓P	P	11 38 59.5	+1.0
	baz=79						
W23A	Werner Place,	79.00	333	⇓P	P	11 39 01.0	+1.1
	baz=79,SNR=7.0						
U27A	Thompson Grove	79.03	336	⇓P	P	11 39 00.5	+0.6
	baz=79						
S32A	Newby Ranch, P	79.08	340	⇓P	P	11 39 01.2	+1.2
	baz=79,SNR=6.5						
V25A	Rancho No Teng	79.08	335	⇓P	P	11 39 01.3	+1.0
	baz=79,SNR=7.6						
S31A	Mullinville	79.16	339	⇑P	P	11 39 01.4	+1.0
	baz=80						
V24A	Rampart Ranch,	79.20	334	⇓P	P	11 39 01.8	+0.8
	baz=80						
T29A	Hugoton	79.24	338	⇓P	P	11 39 02.2	+1.2
	baz=80						
BOSA	Boshof	79.28	118	P	P	11 39 02.2	+0.5
	10nm,0.9s,baz=229,slow=4.6,SNR=6.1						
BOSA	Boshof	79.28	118	eP	P	11 39 02.2	+0.5
	24nm,1.0s						
U26A	Atchley Ranch,	79.30	336	⇑P	P	11 39 01.9	+0.5
	baz=80						
R33A	Olander Ranch,	79.40	341	⇓P	P	11 39 02.6	+0.9
	baz=80						
S30A	Montezuma	79.45	339	⇑P	P	11 39 02.7	+0.7
	baz=80,SNR=8.0						
T28A	Walsh	79.46	337	⇓P	P	11 39 02.7	+0.5
	baz=80,SNR=8.5						
U25A	Circle Dot Ran	79.52	335	⇑P	P	11 39 03.5	+0.9
	baz=80,SNR=7.2						
V23A	Ortiz Mt. (NFS	79.53	334	⇑P	P	11 39 03.5	+0.8
	baz=80						
T27A	Campo	79.59	337	⇑P	P	11 39 03.7	+0.8
	baz=80						
S29A	Ulysses	79.62	338	⇓P	P	11 39 04.0	+1.0
	baz=80						
R32A	Long Quarter,	79.70	340	⇓P	P	11 39 04.2	+0.9
	baz=80,SNR=6.5						
KSU1	Kansas State U	79.81	342	⇑P	P	11 39 04.9	+1.0
	baz=80						
U24A	Moreno Valley	79.82	335	⇓P	P	11 39 05.7	+1.3
	baz=80						
S28A	Manter	79.83	338	⇓P	P	11 39 04.9	+0.8
	baz=80,SNR=7.5						
X18A	Snowflake	79.85	330	⇑P	P	11 39 05.5	+1.1
	baz=80						
113A	Mohawk Valley,	79.89	327	⇑P	P	11 39 05.5	+1.1
	baz=80						
V22A	San Miguel Ran	79.94	333	⇑P	P	11 39 06.1	+1.1
	baz=80,SNR=10						
T26A	Comanche Natio	79.97	336	⇓P	P	11 39 05.6	+0.6
	baz=80,SNR=6.5						
R30A	Dighton	80.00	339	⇓P	P	11 39 06.4	+1.4
	baz=80						
U23A	El Rito	80.06	334	⇑P	P	11 39 06.9	+1.3
	baz=80,SNR=6.9						
Q32A	Meitler Ranch,	80.19	341	⇓P	P	11 39 07.4	+1.4
	baz=81						
T25A	Trinidad	80.20	336	⇑P	P	11 39 07.4	+1.1
	baz=80,SNR=15						
S26A	Kim	80.34	336	⇓P	P	11 39 08.1	+1.2
	baz=81,SNR=9.9						
U22A	Llaves	80.34	333	⇓P	P	11 39 08.3	+1.2
	baz=81						
X16A	Lo Mia Camp, P	80.34	329	⇑P	P	11 39 08.2	+1.1
	baz=81						

R29A	Marienthal	80.37	338	⇓P	P	11 39 08.3	+1.3
	baz=81						
P33A	Williams Farm,	80.39	341	⇑P	P	11 39 08.6	+1.6
	baz=81						
Q31A	Ellis	80.43	340	⇓P	P	11 39 08.4	+1.1
	baz=81						
T24B	San Luis	80.45	335	⇓P	P	11 39 09.0	+1.3
	baz=81						
R28A	Tribune	80.49	338	⇓P	P	11 39 08.8	+1.1
	baz=81,SNR=10						
Y14A	Wickenburg	80.57	328	⇑P	P	11 39 09.1	+0.9
	baz=81						
GLA	Glamis	80.60	326	⇑P	P	11 39 09.2	+0.9
	baz=81						
Q30A	Quinter	80.63	339	⇑P	P	11 39 09.5	+1.1
	baz=81,SNR=9.4						
T23A	Casias Ranch,	80.65	334	⇑P	P	11 39 09.4	+0.6
	baz=81						
S25A	Robets Cordova	80.68	336	⇓P	P	11 39 09.6	+0.7
	baz=81,SNR=8.7						
R27A	Eads	80.74	337	⇑P	P	11 39 09.8	+0.7
	baz=81,SNR=9.7						
Q29A	Oakley	80.76	339	⇓P	P	11 39 10.4	+1.3
	baz=81						
P32A	Huiting Farm,	80.80	341	⇑P	P	11 39 10.6	+1.4
	baz=81						
S24A	Houchin Ranch,	80.92	335	⇑P	P	11 39 12.1	+1.8
	baz=81,SNR=11						
SWSC	Sam W. Stewart	80.94	325	⇓P	P	11 39 12.4	+2.4
	baz=81						
R26A	Arlington	80.95	337	⇓P	P	11 39 11.7	+1.5
	baz=81,SNR=8.8						
R25A	Fountain Ranch	81.08	336	⇓P	P	11 39 12.7	+1.8
	baz=81						
P30A	Selden	81.17	340	⇑P	P	11 39 13.0	+1.7
	baz=82						
Q28A	Sharon Springs	81.17	338	⇑P	P	11 39 12.8	+1.5
	baz=82						
MONP	Monument Peak	81.17	325	⇑P	P	11 39 13.3	+1.7
	baz=82						
WUAZ	Wupatki	81.27	330	⇓P	P	11 39 13.8	+1.8
	baz=82						
KSCO	Kaye Shedlock'	81.36	338	⇑P	P	11 39 14.2	+1.9
	baz=82						
PDMCI	Parker Dam,Lak	81.36	327	⇓P	P	11 39 14.1	+1.8
	baz=82						
BC3	Big Chuckawall	81.39	326	⇓P	P	11 39 14.6	+2.0
	baz=82						
P29A	Atwood	81.41	339	⇓P	P	11 39 14.1	+1.5
	baz=82,SNR=5.8						
R24A	Sanders Place,	81.42	335	⇑P	P	11 39 14.1	+1.3
	baz=82,SNR=16						
O31A	Woolen Ranch,	81.48	340	⇑P	P	11 39 14.6	+1.7
	baz=82						
Q26A	Hugo	81.55	337	⇓P	P	11 39 15.0	+1.6
	baz=82						
S22A	4UR Ranch, Cre	81.56	334	⇓P	P	11 39 15.2	+1.5
	baz=82,SNR=10						
P28A	Saint Francis	81.62	338	⇓P	P	11 39 15.3	+1.6
	baz=82						
R23A	Moffat	81.62	335	⇓P	P	11 39 15.5	+1.5
	baz=82						
MVCO	Mesa Verde	81.67	333	⇓P	P	11 39 15.2	+1.0
	baz=82,SNR=5.9						
IRM	Iron Mountain	81.68	326	⇓P	P	11 39 16.0	+2.0
	baz=82						
O30A	MW Ranch, Wils	81.71	340	⇓P	P	11 39 15.6	+1.6
	baz=82						
Q25A	Bedland, Calha	81.77	336	⇑P	P	11 39 16.1	+1.4
	baz=82						
PFO	Pinyon Flat Ob	81.79	325	eP	P	11 39 13.6	-1.2
	50nm,1.5s						
P27A	Ficken Ranch,	81.84	338	⇓P	P	11 39 16.7	+1.8
	baz=82						
O29A	4D Ranch, Culb	81.86	339	⇓P	P	11 39 16.7	+1.8
	baz=82						
MDV	Middlebury	81.87	0	eP	P	11 39 13.8	-0.9
W13A	Hualapai Mount	81.94	328	⇑P	P	11 39 16.9	+1.3
	baz=82						
N31A	Bailey Ranch,	82.02	341	⇓P	P	11 39 17.6	+1.9
	baz=82						
P26A	Davis Ranch, A	82.08	337	⇑P	P	11 39 17.6	+1.4
	baz=82						
Q24A	Divide	82.10	336	⇓P	P	11 39 17.6	+1.1
	baz=82						
MURC	Murrieta	82.12	325	⇓P	P	11 39 18.4	+2.0
	baz=82						
O28A	Krutsinger Ran	82.14	339	⇓P	P	11 39 17.6	+1.2
	baz=82,SNR=6.3						
P25A	Willow Gulch B	82.29	337	⇓P	P	11 39 18.6	+1.3
	baz=83						
N30A	Hueftle Ranch,	82.29	340	⇑P	P	11 39 18.7	+1.6
	baz=83						
GMRC	Granite Mounta	82.43	326	⇑P	P	11 39 19.7	+1.6
	baz=83						
U15A	North Rim	82.43	330	⇓P	P	11 39 19.9	+1.6
	baz=83						
N29A	Votaw Ranch, W	82.46	340	⇑P	P	11 39 19.5	+1.5
	baz=83						
M31A	Lambtecht Ranc	82.51	341	⇓P	P	11 39 19.7	+1.5
	baz=83						
PV01	Paradox Valley	82.52	333	eP	P	11 39 19.6	+1.0
	799nm,1.0s						
P24A	Kohler Place,	82.52	336	⇑P	P	11 39 20.4	+1.8
	baz=83						
N28A	Pribbeno Ranch	82.59	339	⇑P	P	11 39 20.4	+1.6
	baz=83						
P23A	Jefferson	82.69	335	⇑P	P	11 39 20.9	+1.3
	baz=83						
HEC	Hector,Ludlow	82.77	326	⇓P	P	11 39 21.1	+1.3
	baz=83						
N27A	Anderson Farm,	82.98	338	⇓P	P	11 39 22.3	+1.5
	baz=83						
ISCO	Idaho Springs	83.01	336	⇓P	P	11 39 22.7	+1.5
	baz=83						
M29A	Burnside Ranch	83.06	340	⇑P	P	11 39 22.6	+1.5
	baz=83						
TUQ	Turquoise Moun	83.10	326	⇓P	P	11 39 22.9	+1.4
	baz=83						
L31A	Butterfield Fa	83.26	341	⇓P	P	11 39 24.1	+2.0
	baz=84,SNR=10.0						
L30A	Spencer Herefo	83.27	341	⇓P	P	11 39 23.9	+1.8
	baz=84						
GSC	Goldstone	83.37	326	⇓P	P	11 39 24.4	+1.5
	baz=84						
O23A	Lake Granby, G	83.48	336	⇑P	P	11 39 25.1	+1.4
	baz=84						
O22A	Kremmling	83.64	335	⇓P	P	11 39 25.8	+1.4
	baz=84						
SHPR	Sheep Range	83.67	328	eP	P	11 39 25.5	+1.0
	44nm,1.6s						
K30A	Basset	83.92	341	⇓P	P	11 39 27.1	+1.6
	baz=84,SNR=6.4						
N23A	Red Feather La	84.11	336	⇓P	P	11 39 28.0	+1.2
	baz=84						
O20A	White River Ci	84.19	334	⇑P	P	11 39 28.6	+1.5
	baz=84						
ECSD	EROS Data Cent	84.21	344	⇓P	P	11 39 27.4	+0.5
	baz=85,SNR=9.2						
ISA	Isabella	84.42	325	⇓P	P	11 39 29.7	+1.5
	baz=85						
M23A	Laramie	84.56	336	⇑P	P	11 39 30.4	+1.4
	baz=85						
K27A	Flueckinger Fa	84.65	339	⇑P	P	11 39 30.4	+1.1
	baz=85						
J29A	Okreek	84.79	341	⇓P	P	11 39 31.5	+1.6
	baz=85,SNR=5.4						
N20A	Spence Gulch,	84.82	334	⇓P	P	11 39 31.6	+1.2
	baz=85						
VES	Vestal, Richgr	84.85	324	⇑P	P	11 39 31.7	+1.4
	baz=85						
I30A	Oacoma	85.04	342	⇑P	P	11 39 32.8	+1.7
	baz=85						
J28A	Allard Ranch,	85.05	340	⇓P	P	11 39 32.8	+1.6
	baz=85						
J27A	Elkhorn Farm,	85.10	340	⇑P	P	11 39 33.0	+1.6
	baz=86,SNR=7.5						
R11A	Troy Canyon, C	85.42	328	⇓P	P	11 39 34.5	+1.1
	baz=86						
I28A	Midland	85.57	340	⇓P	P	11 39 34.5	+0.8
	baz=86,SNR=9.6						
I27A	Quinn	85.87	340	⇑P	P	11 39 36.2	+0.9
	baz=86						
K22A	Casper	85.88	336	⇑P	P	11 39 36.7	+1.2
	baz=86						
H29A	Onida	85.91	341	⇑P	P	11 39 35.8	+0.4
	baz=86,SNR=5.6						
K21A	Alcova	86.09	336	⇓P	P	11 39 37.9	+1.3

	baz=86						
H28A	Mission Ridge	86.16	341	⇓P	P	11 39 37.3	+0.7
	baz=86						
I25A	Rochford	86.29	339	⇑P	P	11 39 38.4	+0.9
	baz=87						
G29A	Hoven	86.36	342	⇑P	P	11 39 38.7	+1.1
	baz=87						
H27A	Howes	86.40	340	⇓P	P	11 39 39.0	+1.1
	baz=87,SNR=6.3						
G28A	Parade	86.50	341	⇑P	P	11 39 39.7	+1.4
	baz=87						
NVAR	Mina Array Bea	86.64	326	P	P	11 39 38.8	-0.6
	1.0nm,0.8s,baz=153,slow=6.2,SNR=4.1						
F30A	Leola	86.75	343	⇓P	P	11 39 40.7	+1.1
	baz=87						
J21A	Lysite	86.80	336	⇓P	P	11 39 41.0	+0.9
	baz=87						
H25A	Fruitdale	86.80	339	⇓P	P	11 39 41.0	+1.1
	baz=87						
TORD	Torodi Ar. Bea	86.90	71	P	P	11 39 41.4	+0.5
	3.6nm,0.9s,baz=211,slow=5.3,SNR=5.7						
F29A	Eureka	86.94	342	⇓P	P	11 39 41.2	+0.8
	baz=87,SNR=6.6						
PDAR	Pinedale Array	86.98	334	P	P	11 39 40.6	-0.4
	2.9nm,0.8s,baz=160,slow=4.7,SNR=12						
J20A	Shoshoni	87.01	336	⇑P	P	11 39 42.1	+1.1
	baz=87,SNR=9.3						
G26A	Maurine	87.15	340	⇓P	P	11 39 42.4	+0.9
	baz=88,SNR=6.8						
I21A	Big Trails, Te	87.17	336	⇓P	P	11 39 42.3	+0.5
	baz=88,SNR=5.8						
H24A	Dirks Ranch, A	87.19	339	⇓P	P	11 39 42.7	+0.9
	baz=88						
F28A	McLaughlin	87.19	341	⇑P	P	11 39 42.4	+0.8
	baz=88,SNR=8.3						
J19A	Crowheart	87.25	335	⇓P	P	11 39 42.8	+0.6
	baz=88						
G25A	Newell	87.28	339	⇓P	P	11 39 42.8	+0.7
	baz=88						
E30A	Jud	87.35	343	⇑P	P	11 39 43.0	+0.6
	baz=88,SNR=6.9						
F27A	Lemmon	87.53	341	⇓P	P	11 39 44.2	+0.9
	baz=88						
I20A	Worland	87.56	336	⇓P	P	11 39 44.2	+0.6
	baz=88						
E29A	Napoleon	87.59	342	⇑P	P	11 39 44.1	+0.6
	baz=88,SNR=6.1						
F26A	Lodgepole	87.68	340	⇑P	P	11 39 45.0	+0.9
	baz=88						
E28A	Huff	87.85	342	⇓P	P	11 39 45.7	+0.9
	baz=88						
D29A	Pettibone, Tap	88.04	343	⇓P	P	11 39 46.7	+1.0
	baz=88						
F24A	Ekalaka	88.16	339	⇓P	P	11 39 47.3	+0.9
	baz=88						
E26A	Carlson Angus	88.20	341	⇑P	P	11 39 47.5	+1.0
	baz=89						
I17A	Pilgrim Ck.	88.34	334	⇑P	P	11 39 48.1	+0.6
	baz=89						
C30A	Mose, Pekin	88.39	344	⇑P	P	11 39 48.3	+1.0
	baz=89,SNR=5.3						
D28A	Regan	88.39	342	⇓P	P	11 39 48.2	+0.8
	baz=89,SNR=8.0						
AGMN	Agassiz Nation	88.40	345	eP	P	11 39 47.5	+0.2
	14nm,1.1s						
AGMN	Agassiz Nation	88.40	345	⇓P	P	11 39 48.4	+1.0
	baz=89						
H18A	Shoshone NF, C	88.71	335	⇓P	P	11 39 49.7	+0.5
	baz=89						
D26A	Manning	88.71	341	⇑P	P	11 39 49.7	+0.8
	baz=89						
B30A	Myrvik Farm, E	89.06	344	⇓P	P	11 39 51.6	+1.1
	baz=89						
B29A	Wagenman Farm,	89.30	343	⇑P	P	11 39 52.4	+0.8
	baz=90						
HLID	Hailey	89.41	332	⇓P	P	11 39 53.0	+0.6
	baz=90						
QLMT	Earthquake Lak	89.44	334	eP	P	11 39 53.8	+1.2
	0.5nm,0.7s						
A30A	Hoffart Farm,	89.52	344	⇑P	P	11 39 53.6	+1.0
	baz=90						
F19A	Roth Farm, Mol	89.52	336	⇓P	P	11 39 53.4	+0.6
	baz=90						
B28A	Dugan Ranch, T	89.52	343	⇓P	P	11 39 53.5	+0.8
	baz=90,SNR=8.3						
A29A	Manning Farm,	89.70	343	⇓P	P	11 39 54.6	+1.1
	baz=90,SNR=7.0						
E20A	Meyer Farm, Mu	89.84	337	⇓P	P	11 39 55.2	+0.9
	baz=90						
MCMT	McKenzie Canyo	89.93	333	eP	P	11 39 55.5	+0.5
	13nm,1.6s						
A28A	Rude Farm, Bot	89.93	343	⇓P	P	11 39 55.2	+0.7
	baz=90						
E19A	Rath Farm, Rou	90.01	337	⇓P	P	11 39 55.9	+0.8
	baz=90						
A27A	Ledoux Ranch,	90.20	342	⇓P	P	11 39 56.8	+1.0
	baz=91						
ULM	Lac du Bonnet	90.27	346	P	P	11 39 55.9	-0.2
	1.8nm,0.6s,baz=187,slow=8.5,SNR=2.9						
LRM	Limekiln Ridge	90.65	334	eP	P	11 39 58.9	+0.6
	110nm,1.5s						
CHMT	Chamberlain Mo	91.88	334	eP	P	11 40 04.1	+0.2
	5.1nm,1.4s						
JTMT	Jette	92.95	334	eP	P	11 40 09.2	+0.4
	9.6nm,1.5s						
GERES	GERESS Array B	116.06	47	PKP	PKPdf	11 45 36.9	-1.5
	0.5nm,0.5s,baz=48,slow=2.0,SNR=3.9						
WRA	Warramunga Arr	116.41	210	PKP	PKPdf	11 45 37.8	-2.2
	0.6nm,0.6s,baz=174,slow=1.7,SNR=3.7						
ILAR	Eielson Array	117.35	332	PKP	PKPdf	11 45 38.4	-1.9
	0.3nm,0.7s,baz=168,slow=4.1,SNR=4.2						
BRTR	Keskin Array B	124.99	64	PKP	PKPdf	11 45 55.8	-0.2
	1.0nm,0.8s,baz=197,slow=3.2,SNR=3.9						
FINES	FINESS Array B	127.22	36	PKP	PKPdf	11 45 58.8	-0.5
	0.8nm,0.8s,baz=289,slow=8.5,SNR=2.4						
GEYT	Alibeck	142.42	75	PKhKP	PKPpre	11 46 24.4	
	3.0nm,0.8s,baz=233,slow=7.0,SNR=3.8						
SEY	Seymchan	142.95	327	PKhKP	PKPpre	11 46 24.2	
	2.1nm,0.6s,baz=25,slow=1.4,SNR=7.5						
TIXI	Tiksi	144.60	348	ePKPdf	PKPab	11 46 28.3	-1.5
ABKAR	Akbulak array	145.26	56	ePKPdf	PKPbc	11 46 32.5	-0.2
HYB	Hyderabad	148.06	123	iPKP	PKPbc	11 46 41.0	-0.9
KSH	Kashi	156.41	77	ePKP	PKPdf	11 46 48.5	-2.1
KSH				epPKP	pPKPdf	11 46 59.0	+2.2
KSH				esPKP		11 47 03.5	
KSH				eSKS	SKSdf	11 53 49.5	-6.5
KSH				eSKKS	SKSac	11 57 40.8	-5.0
KSH				eSS	SS	12 10 40.5	-7.5
KSH				AMB	AMB		
	comp=Z,820nm,12.3s						
ZALV	Zalesovo Beam	158.49	36	PKPab	PKPab	11 47 27.1	-0.4
	4.0nm,0.9s,baz=306,slow=5.0,SNR=4.0						
CMAR	Chiang Mai Arr	159.26	160	PKP	PKPdf	11 46 53.8	-0.8
	0.5nm,0.6s,baz=241,slow=1.9,SNR=4.6						
CMAR				PKPab	PKPab	11 47 30.9	-0.8
	0.3nm,0.3s,baz=225,slow=4.0,SNR=4.2						
MKAR	Makanchi Array	160.41	56	PKP	PKPdf	11 46 54.8	-0.3
	0.9nm,0.9s,baz=304,slow=1.1,SNR=5.3						
MKAR				PKPab	PKPab	11 47 36.1	0.0
	1.9nm,0.6s,baz=285,slow=3.9,SNR=12						
WMQ	Urumqi	164.91	62	PKP	PKPdf	11 47 00.3	+0.7
WMQ				LR	LR		
	comp=Z,2μm,24.0s						
NJ2	Nanjing	168.02	243	ePKP	PKPdf	11 47 03.8	+1.5
GYA	Guiyang	168.24	182	PKP	PKPdf	11 47 02.5	-0.3
GYA				pPKP	pPKPdf	11 47 14.8	+5.8
GYA				PKPab	PKPab	11 48 13.0	+2.0
GYA				PKS	PKSdf	11 50 33.3	-2.3
GYA				SKKS		11 58 45.3	
GYA				SS	SS	12 12 49.8	+1.8
GYA				AMB	AMB		
	comp=Z,140nm,8.5s						
GYA				LR	LR		
	comp=N,160nm,21.8s						
GYA				LR	LR		
	comp=E,140nm,21.9s						
GYA				LR	LR		
	comp=Z,160nm,24.5s						
SONM	Songino Array	170.42	360	PKP	PKPdf	11 47 01.7	-1.8
	0.8nm,1.1s,baz=209,slow=1.5,SNR=3.7						
SONM				PKPab	PKPab	11 48 21.0	+0.8
	2.0nm,1.1s,baz=332,slow=4.6,SNR=5.5						
CD2	Chengdu	172.38	163	PKP	PKPdf	11 47 05.0	+0.1
CD2				pPKP	pPKPdf	11 47 16.3	+5.2
CD2				sPKP		11 47 20.0	
CD2				PKS	PKSdf	11 50 36.0	-1.3
CD2				PP	PP	11 52 24.3	+4.6

CD2				SKS	SKSdf	11 54 02.8	-4.6
CD2				SKKS	SKKSac	11 59 06.0	-0.2
CD2				SS	SS	12 13 29.5	+0.3
CD2				AMB	AMB		
	comp=Z,260nm,6.4s						
GTA	Gaotai	174.80	75	ePKP	PKPdf	11 47 05.8	+0.2
GTA				pPKP	pPKPdf	11 47 16.5	+4.7
GTA				sPKP		11 47 20.0	
HHC	Hu-ho-hao-te	175.18	304	ePKP	PKPdf	11 47 03.8	-1.9
HHC				pPKP	pPKPdf	11 47 13.8	+1.9
HHC				sPKP		11 47 18.3	
LZH	Lanzhou	177.08	137	ePKP	PKPdf	11 47 06.5	+0.2
LZH				pPKP	pPKPdf	11 47 17.3	+4.8
LZH				sPKP		11 47 22.5	

*IDC **27** 11:31:29.2±0.7, 36°.12S×73°.44W, h0km, mb4.3/11, mb1 4.5/13, mb1mx4.4/28, mbtmp4.4/13, ML4.5/2, Error ellipse: s-maj=24.2km s-min=16.6km az=85.0*
*ISCJB **27** 11:31:32.8±0.5, 36°.11S±0°.07×73°.3W±0°.1, h33km, mb4.5/17, Error ellipse: s-maj=15.8km s-min=9.3km az=173.4*
*NEIC **27** 11:31:34.8±0.4, 36°.07S×73°.34W, h35km, mb4.3/4, Error ellipse: s-maj=14.0km s-min=8.4km az=84.0*
ISC 27 11:31:34.5±0.6, 36°.09S±0°.08×73°.4W±0°.1, h35km, n26, σ0^{s}95/26, mb4.4/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.14	155	Pn	Pn	11 32 48.9	-0.2
	7.1nm,0.3s,baz=60,slow=20,SNR=2.7						
PLCA				Lg	Lg	11 34 09.8	
	13nm,0.3s,baz=72,slow=20,SNR=2.6						
CFAA	Coronel Fontan	6.18	45	Pn	Pn	11 33 03.3	-0.1
	3.7nm,0.3s,baz=206,slow=13,SNR=3.5						
USHA	Ushuaia	19.06	171	P	Pn	11 35 55.5	+1.0
	0.4nm,0.3s,baz=321,slow=14,SNR=2.8						
LPAZ	La Paz	20.26	15	P	P	11 36 07.4	-0.2
	4.0nm,0.8s,baz=202,slow=6.2,SNR=2.7						
LPAZ	La Paz	20.26	15	eS	P	11 36 07.8	+0.2
SIV	San Ignacio	22.82	32	P	P	11 36 34.5	0.0
	6.8nm,0.8s,baz=235,slow=14,SNR=4.6						
NNA	Nana	24.20	352	P	P	11 36 48.3	+0.5
	7.9nm,0.6s,baz=236,slow=13,SNR=3.5						
SNAA	Sanae	50.09	157	P	P	11 40 25.1	-0.5
	5.5nm,1.1s,baz=209,slow=19,SNR=6.2						
QSPA	South Pole Qui	54.16	180	P	P	11 40 55.2	-0.8
	7.0nm,1.1s,baz=144,slow=14,SNR=5.3						
TEIG	Tepich	57.75	343	P	P	11 41 21.0	-0.9
	13nm,0.9s,baz=86,slow=15,SNR=3.3						
PPT	Papeete	68.88	263	P	P	11 42 35.7	-0.2
	32nm,0.8s,baz=138,slow=19,SNR=2.9						
TXAR	Lajitas Array	71.04	332	P	P	11 42 49.5	+0.6
	2.2nm,0.8s,baz=152,slow=9.0,SNR=7.2						
LAZ	Ladron	76.88	332	eP	P	11 43 24.5	+1.4
	3.5nm,1.3s						
DBIC	Dimbokro	76.88	72	P	P	11 43 23.4	+0.1
	5.6nm,0.8s,baz=202,slow=6.4,SNR=3.7						
ANMO	Albuquerque	77.10	333	eP	P	11 43 25.1	+0.8
	7.1nm,1.1s						
SDCO	Great Sand Dun	79.26	335	eP	P	11 43 36.7	+0.4
	2.5nm,1.1s						
PV01	Paradox Valley	80.71	333	eP	P	11 43 45.1	+1.0
	2μm,2.2s						
NVAR	Mina Array Bea	84.98	326	P	P	11 44 07.6	+1.4
	1.2nm,0.6s,baz=123,slow=6.3,SNR=5.9						
PDAR	Pinedale Array	85.14	334	P	P	11 44 07.0	0.0
	1.0nm,1.0s,baz=160,slow=4.7,SNR=4.1						
TORD	Torodi Ar. Bea	85.94	71	P	P	11 44 11.7	+0.4
	1.1nm,0.9s,baz=236,slow=1.6,SNR=3.0						
MCMT	McKenzie Canyo	88.11	333	eP	P	11 44 22.2	+0.8
	1.5nm,0.9s						
ULM	Lac du Bonnet	88.23	346	P	P	11 44 19.5	-2.0
	2.6nm,0.6s,baz=194,slow=6.3,SNR=4.4						
YKA	Yellowknife Ar	103.68	342	Pdiff	Pdif	11 45 30.6	-0.9
	0.5nm,1.0s,baz=139,slow=8.1,SNR=5.0						
SPITS	Spitsbergen Ar	124.96	15	PKP	PKPdf	11 50 30.9	+1.3
	19nm,1.1s,baz=40,slow=14,SNR=15						
MKAR	Makanchi Array	158.94	52	PKP	PKPdf	11 51 29.8	+1.5
	1.0nm,0.8s,baz=291,slow=3.4,SNR=5.0						
SONM	Songino Array	168.26	1	PKPab	PKPab	11 52 44.1	-1.5
	0.6nm,0.5s,baz=294,slow=1.5,SNR=3.9						

IDC 27 11:32:15.2±12.0, 36°.00S×71°.52W, h0km, mb4.2/4, mb1 4.5/4, mb1mx4.2/4, mbtmp4.2/4, Error ellipse: s-maj=419.3km s-min=263.3km az=13.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	71.69	331	P	P	11 43 39.0	+0.1
	0.8nm,0.6s,baz=162,slow=9.1,SNR=3.7						
PDAR	Pinedale Array	85.74	333	P	P	11 44 55.8	-0.3
	0.7nm,0.9s,baz=128,slow=5.8,SNR=2.6						
NVAR	Mina Array Bea	85.77	325	P	P	11 44 56.5	+0.1
	1.5nm,0.8s,baz=159,slow=6.1,SNR=4.0						
ULM	Lac du Bonnet	88.54	345	P	P	11 45 09.3	+0.1
	3.7nm,0.7s,baz=179,slow=4.0,SNR=4.4						

*IDC **27** 11:37:10.3±0.7, 36°.87S×73°.53W, h0km, mb4.3/13, mb1 4.4/16, mb1mx4.4/29, mbtmp4.3/16, ML4.3/3, Error ellipse: s-maj=22.0km s-min=16.1km az=101.0*
*ISCJB **27** 11:37:11.0±0.5, 36°.82S±0°.06×73°.5W±0°.1, h14km, mb4.5/15, Error ellipse: s-maj=12.9km s-min=9.1km az=172.5*
*NEIC **27** 11:37:15.7±0.4, 36°.82S×73°.45W, h35km, mb4.7/3, Error ellipse: s-maj=10.8km s-min=7.9km az=82.0*
ISC 27 11:37:12.3±0.6, 36°.81S±0°.08×73°.5W±0°.1, h14km, n33, σ0^{s}97/32, mb4.4/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.56	150	Pn	Pn	11 38 21.1	+0.2
	3.2nm,0.3s,baz=336,slow=11,SNR=2.6						
PLCA				Lg	Lg	11 39 25.5	
	22nm,0.3s,baz=258,slow=19,SNR=2.1						
CFAA	Coronel Fontan	6.79	42	Pn	Pn	11 38 52.8	+1.2
	1.0nm,0.3s,baz=189,slow=15,SNR=2.4						
CFAA				Lg	Lg	11 40 48.0	
	1.9nm,0.3s,baz=142,slow=16,SNR=4.7						
TRQA	Tornquist	9.27	101	ePn	Pn	11 39 25.7	0.0
	80nm,1.0s						
CPUP	Villa Florida	17.29	57	P	Pn	11 41 12.2	-1.1
	0.7nm,0.3s,baz=174,slow=19,SNR=3.0						
CPUP	Villa Florida	17.29	57	ePn	Pn	11 41 12.2	-1.1
	4.4nm,0.3s						
USHA	Ushuaia	18.36	171	P	Pn	11 41 27.6	+1.3
	0.5nm,0.3s,baz=325,slow=6.2,SNR=5.9						
LPAZ	La Paz	21.00	15	P	Pn	11 41 57.9	-0.8
	5.9nm,0.9s,baz=179,slow=7.6,SNR=6.0						
SIV	San Ignacio	23.50	31	P	P	11 42 22.7	+0.8
	6.7nm,0.8s,baz=232,slow=10,SNR=7.1						
BDFB	Brasilia	30.95	54	P	P	11 43 29.1	-0.1
	1.7nm,0.3s,baz=256,slow=16,SNR=2.6						
SDV	Santo Domingo	45.53	4	eP	P	11 45 30.5	-1.3
	8.0nm,0.8s						
RCBR	Riachuelo	46.17	57	P	P	11 45 37.1	+0.3
	8.7nm,0.8s,baz=193,slow=9.7,SNR=3.6						
SNAA	Sanae	49.47	157	P	P	11 46 01.4	-0.3
	3.0nm,1.1s,baz=241,slow=8.7,SNR=4.5						
QSPA	South Pole Qui	53.43	180	P	P	11 46 31.2	-0.4
	5.2nm,0.8s,baz=137,slow=3.3,SNR=8.6						
TXAR	Lajitas Array	71.62	332	P	P	11 48 34.1	+0.7
	1.3nm,0.7s,baz=152,slow=7.5,SNR=11						
DBIC	Dimbokro	77.23	72	P	P	11 49 06.9	+0.6
	7.2nm,0.7s,baz=205,slow=5.2,SNR=8.0						
BOSA	Boshof	79.84	118	P	P	11 49 20.4	-0.3
	5.8nm,0.9s,baz=256,slow=6.3,SNR=3.8						
PV01	Paradox Valley	81.30	333	eP	P	11 49 29.1	+0.8
NVAR	Mina Array Bea	85.52	326	P	P	11 49 50.6	+0.7
	1.1nm,0.7s,baz=157,slow=5.5,SNR=5.9						
PDAR	Pinedale Array	85.74	334	P	P	11 49 50.9	-0.1
	0.7nm,0.8s,baz=169,slow=5.9,SNR=4.4						
TORD	Torodi Ar. Bea	86.30	71	P	P	11 49 53.5	-0.5
	1.4nm,0.7s,baz=224,slow=4.1,SNR=5.7						
AGMN	Agassiz Nation	87.04	345	eP	P	11 49 56.7	-0.2
	42nm,0.4s						
YMR	Madison River	87.89	334	eP	P	11 50 01.0	-0.4
	13nm,1.2s						
ULM	Lac du Bonnet	88.90	346	P	P	11 50 04.6	-1.1
	1.6nm,0.7s,baz=213,slow=6.4,SNR=2.9						
GERES	GERESS Array B	114.98	47	PKP	PKPdf	11 55 52.2	-0.2
	0.3nm,0.5s,baz=328,slow=3.5,SNR=3.4						
MMAI	Mount Meron Ar	122.84	71	PKP	PKPdf	11 56 08.5	+0.5
	2.4nm,0.7s,baz=321,slow=11,SNR=3.2						
BRTR	Keskin Array B	124.23	63	PKP	PKPdf	11 56 11.2	+0.6
	0.5nm,0.7s,baz=343,slow=3.0,SNR=2.9						
SEY	Seymchan	141.81	328	PKP	PKPdf	11 56 42.3	-0.2
	1.1nm,0.6s,baz=154,slow=5.3,SNR=5.5						
AKTO	Aktyubinsk	143.04	53	PKhKP	PKPpre	11 56 38.3	
	1.0nm,0.6s,baz=352,slow=12,SNR=3.2						
AKTO				PKP	PKiKP	11 56 47.1	-1.3
	2.0nm,0.7s,baz=292,slow=3.4,SNR=6.4						
HYB	Hyderabad	148.71	121	iPKP	PKPbc	11 56 58.5	-1.1
BRVK	Borovoye	150.07	46	ePKPab	PKPab	11 57 10.6	+2.8
ZALV	Zalesovo Beam	157.24	34	PKP	PKPdf	11 57 06.0	-1.1
	1.2nm,0.7s,baz=303,slow=2.9,SNR=3.7						
ZALV				PKPab	PKPab	11 57 37.5	-0.6
	1.6nm,0.6s,baz=296,slow=4.8,SNR=3.8						
MKAR	Makanchi Array	159.47	53	PKP	PKPdf	11 57 10.7	+0.6
	0.3nm,0.7s,baz=307,slow=0.6,SNR=3.7						
SONM	Songino Array	168.98	0	PKPab	PKPab	11 58 31.1	+1.2
	0.6nm,0.8s,baz=122,slow=1.9,SNR=4.4						

*IDC **27** 11:38:46.3±0.7, 36°.22S×73°.36W, h0km, mb4.5/12, mb1 4.6/12, mb1mx4.4/26, mbtmp4.5/12, Error ellipse: s-maj=28.6km s-min=19.0km az=79.0*
*ISCJB **27** 11:38:50.1±0.6, 36°.2S±0°.1×73°.3W±0°.2, h33km, mb4.5/15, Error ellipse: s-maj=22.6km s-min=14.9km az=161.4*
*NEIC **27** 11:38:51.7±0.4, 36°.20S×73°.30W, h35km, mb4.1/2, Error ellipse: s-maj=15.5km s-min=10.5km az=75.0*
ISC 27 11:38:51.7±0.7, 36°.2S±0°.1×73°.3W±0°.2, h35km, n20, σ0^{s}65/20, mb4.6/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	San Ignacio	22.90	32	P	P	11 43 51.6	-0.9
	8.0nm,0.9s,baz=208,slow=15,SNR=2.4						
NNA	Nana	24.32	352	P	P	11 44 05.3	-0.9
	14nm,0.8s,baz=209,slow=12,SNR=4.6						
PMSA	Palmer Station	29.15	172	eP	P	11 44 41.0	-8.1
	62nm,0.4s						
RCBR	Riachuelo	45.70	58	P	P	11 47 10.2	+0.7
	6.4nm,0.7s,baz=229,slow=11,SNR=3.7						
SNAA	Sanae	49.96	157	P	P	11 47 41.7	-0.1
	3.8nm,0.6s,baz=282,slow=7.5,SNR=6.9						
QSPA	South Pole Qui	54.04	180	P	P	11 48 12.4	0.0
	6.3nm,0.6s,baz=206,slow=0.7,SNR=6.0						
TXAR	Lajitas Array	71.16	332	P	P	11 50 07.8	+0.9
	1.5nm,0.6s,baz=153,slow=8.0,SNR=3.6						
DBIC	Dimbokro	76.88	72	P	P	11 50 40.4	-0.1
	6.3nm,0.6s,baz=196,slow=7.1,SNR=4.3						
ANMO	Albuquerque	77.23	333	P	P	11 50 42.7	+0.4
	3.9nm,1.0s						
SDCO	Great Sand Dun	79.38	335	eP	P	11 50 54.3	0.0
	1.2nm,1.0s						
BOSA	Boshof	79.98	118	P	P	11 50 57.8	+0.1
	5.6nm,0.8s,baz=263,slow=5.6,SNR=3.2						
NVAR	Mina Array Bea	85.10	326	P	P	11 51 25.1	+1.0
	1.1nm,0.6s,baz=142,slow=6.3,SNR=4.5						
PDAR	Pinedale Array	85.26	334	P	P	11 51 24.9	+0.2
	0.9nm,0.7s,baz=138,slow=7.8,SNR=4.2						
TORD	Torodi Ar. Bea	85.94	71	P	P	11 51 28.9	+0.4
	1.2nm,0.6s,baz=213,slow=4.8,SNR=6.4						
ULM	Lac du Bonnet	88.36	346	P	P	11 51 38.8	-0.6
	3.1nm,0.6s,baz=135,slow=3.9,SNR=4.8						
WRA	Warramunga Arr	118.33	210	PKP	PKPdf	11 57 34.4	-1.5
	0.5nm,0.9s,baz=162,slow=1.5,SNR=3.9						
BRTR	Keskin Array B	123.80	63	PKP	PKPdf	11 57 45.6	-0.2
	0.6nm,0.7s,baz=197,slow=3.1,SNR=3.7						
HYB	Hyderabad	148.87	119	iPKP	PKPbc	11 58 36.5	+0.3
ZALV	Zalesovo Beam	156.64	34	PKP	PKPdf	11 58 42.4	0.0
	1.6nm,0.7s,baz=320,slow=3.8,SNR=2.7						
ZALV				PKPab	PKPab	11 59 12.1	+0.4
	2.3nm,0.7s,baz=315,slow=4.8,SNR=3.8						
SONM	Songino Array	168.37	1	PKPab	PKPab	12 00 03.4	0.0
	0.9nm,0.8s,baz=345,slow=3.4,SNR=2.9						

*IDC **27** 11:43:01.5±3.8, 36°.93N×137°.04E, h213km±22km, mb3.0/6, mb1 3.4/7, mb1mx3.0/50, mbtmp3.6/7, MS3.7/1, Ms1 3.7/1, ms1mx3.6/10, Error ellipse: s-maj=104.5km s-min=15.8km az=107.0*
*ISCJB **27** 11:43:02.8±0.5, 36°.78N±0°.06×137°.57E±0°.08, h230km±4km, mb3.2/6, Error ellipse: s-maj=11.4km s-min=8.8km az=27.6*
*JMA **27** 11:43:02.8±0.1, 36°.75N×137°.62E, h235km±2km, M3.2*
ISC 27 11:43:03.7±0.8, 36°.77N±0°.09×137°.59E±0°.07, h226km±6km, n24, σ0^{s}64/31, mb3.2/6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	Ttatey	0.26	231	P	Pn	11 43 33.6	+0.3
MAT	Matsushiro	0.55	114	P	Pn	11 43 34.1	+0.1
MAT				S	S	11 43 57.6	-0.1
MAT	Matsushiro	0.55	114	P	Pn	11 43 34.1	+0.1
MAT				eS	S	11 43 58.0	+0.3
MJAR	Matsushiro Arr	0.55	114	P	Pn	11 43 34.2	+0.1
	baz=291,slow=3.7						
MJAR				S	S	11 43 57.7	-0.1
	1.1nm,0.3s,baz=270,slow=27,SNR=4.5						
JSZ	Suzu	0.70	345	P	Pn	11 43 34.7	+0.2
JKG	Kaga	1.12	244	P	Pn	11 43 37.0	+0.1
JHG	Hegura jima	1.20	334	P	Pn	11 43 37.9	+0.5
JRY	Ryogami san	1.30	125	P	Pn	11 43 37.8	-0.5
JRY				eS	S	11 44 04.5	-0.7
JSD	Sado	1.37	23	P	Pn	11 43 39.1	+0.4
JSD				eS	S	11 44 05.9	-0.2
JYN	Shimob	1.49	148	P	Pn	11 43 39.7	-0.1
JYN				S	S	11 44 08.6	+0.7
JAG	Ashikaga	1.54	102	P	Pn	11 43 39.5	-0.6
JNS	Sasagawa	1.73	52	P	Pn	11 43 42.1	+0.4
JOD2	Odawara 2	1.94	141	P	Pn	11 43 43.8	+0.1
JOD2				eS	S	11 44 15.6	+0.8
JWT	Wachi	2.31	231	P	Pn	11 43 47.3	0.0
JWT				eS	S	11 44 20.7	-0.6
JFT	Otama	2.32	70	P	Pn	11 43 48.0	+0.6
JIE	Ise	2.48	197	P	Pn	11 43 49.0	-0.1
ASAJ	Asahikawa	8.27	26	P	Pn	11 44 58.0	-2.2
	1.5nm,0.3s,baz=249,slow=11,SNR=22						
PETK	Petropavlovsk-	21.55	34	P	P	11 47 34.7	-0.4
	4.2nm,1.0s,baz=205,slow=6.4,SNR=2.7						
TGY	Tagaytay City	27.04	218	LR	LR	11 59 24.8	
	comp=Z,169nm,21.0s,baz=121,slow=37						
ILAR	Eielson Array	51.35	32	P	P	11 51 44.4	-0.3
	0.4nm,0.7s,baz=283,slow=6.8,SNR=6.6						
WRA	Warramunga Arr	56.49	184	P	P	11 52 21.9	-0.4
	0.3nm,0.6s,baz=0.7,slow=7.5,SNR=11						
YKA	Yellowknife Ar	65.55	29	P	P	11 53 22.6	0.0
	0.1nm,0.6s,baz=307,slow=6.5,SNR=4.2						
NVAR	Mina Array Bea	77.57	51	P	P	11 54 36.2	+1.2
	0.7nm,0.6s,baz=285,slow=4.5,SNR=3.6						
PDAR	Pinedale Array	80.00	44	P	P	11 54 48.5	+0.4
	0.5nm,0.7s,baz=337,slow=2.1,SNR=3.3						

*IDC **27** 11:43:54.8±1.9, 38°.92S×73°.26W, h0km, mb4.2/4, mb1 4.3/5, mb1mx4.0/33, mbtmp4.2/5, ML4.3/1, Error ellipse: s-maj=63.3km s-min=31.1km az=40.0*
*ISCJB **27** 11:43:58.4±1.9, 38°.9S±0°.2×73°.2W±0°.4, h33km, mb4.1/4, Error ellipse: s-maj=51.7km s-min=20.9km az=144.6*
ISC 27 11:43:60.0±1.8, 39°.0S±0°.3×73°.3W±0°.3, h35km, n7, σ0^{s}64/7, mb4.3/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	2.72	131	Pn	Pn	11 44 41.5	+0.2
	10nm,0.3s,baz=234,slow=19,SNR=2.1						
BDFB	Brasilia	32.11	51	P	P	11 50 24.6	+0.5
	2.8nm,0.5s,baz=194,slow=3.9,SNR=3.4						
TXAR	Lajitas Array	73.64	333	P	P	11 55 30.2	+0.3
	0.6nm,0.8s,baz=153,slow=8.1,SNR=3.9						
DBIC	Dimbokro	77.72	71	P	P	11 55 53.5	0.0
	3.0nm,0.7s,baz=202,slow=6.3,SNR=3.7						
TORD	Torodi Ar. Bea	86.82	70	P	P	11 56 40.4	-0.6
	1.0nm,0.7s,baz=235,slow=5.1,SNR=3.6						
BVAR	Borovoye Array	151.46	49	PKPbc	PKPbc	12 03 49.7	+0.2
	2.8nm,0.6s,baz=282,slow=2.3,SNR=9.0						
MKAR	Makanchi Array	160.51	58	PKPab	PKPab	12 04 36.1	-0.9
	0.6nm,0.7s,baz=288,slow=4.9,SNR=4.3						

*ISCJB **27** 11:45:01.2±0.2, 36°.25S±0°.05×73°.07W±0°.06, h29km, mb5.2/76, MS5.8/5, Error ellipse: s-maj=7.8km s-min=5.7km az=141.0*
*MOS **27** 11:45:01.5±1.0, 36°.27S×73°.18W, h33km, mb5.5/18, Error ellipse: s-maj=19.9km s-min=9.9km az=93.1*
*IDC **27** 11:45:01.8±0.8, 36°.40S×73°.32W, h27km±4km, mb4.9/23, mb1 5.0/25, mb1mx4.9/34, mbtmp5.1/25, ML4.8/2, MS5.7/5, Ms1 5.7/5, ms1mx5.2/27, Error ellipse: s-maj=17.0km s-min=11.0km az=70.0*
*NEIC **27** 11:45:02.9±0.2, 36°.33S×73°.19W, h35km, mb5.4/55, Error ellipse: s-maj=7.5km s-min=5.4km az=74.0*
*BJI **27** 11:45:02.8, 36°.30S×73°.20W, h35km, mB5.6/3, Ms5.6/3, Ms7 5.4/2*
ISC 27 11:45:02.1±0.6, 36°.33S±0°.06×73°.30W±0°.09, h30km±3km, h30km:pP-P, n572, σ1^{s}16/578, mb5.3/76, MS5.7/5, 198C-189D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.90	155	Pn	Pn	11 46 03.8	-10
	38nm,0.3s,baz=297,slow=13,SNR=4.4						
PLCA				Lg	Lg	11 47 33.4	
	20nm,0.3s,baz=244,slow=21,SNR=3.1						
CFAA	Coronel Fontan	6.31	43	Pn	Pn	11 46 30.6	-2.5
	7.9nm,0.3s,baz=228,slow=8.0,SNR=14						
CFAA				Lg	Lg	11 48 09.7	
	3.4nm,0.3s,baz=325,slow=17,SNR=6.8						
TRQA	Tornquist	9.20	104	ePn	Pn	11 47 14.4	+1.7
	222nm,1.1s						
LVC	Limon Verde	14.19	17	ePn	Pn	11 48 17.8	-3.4
	85nm,1.0s						
CPUP	Villa Florida	16.87	58	Pn	Pn	11 48 55.4	-0.6
	2.3nm,0.3s,baz=222,slow=10.0,SNR=6.9						
USHA	Ushuaia	18.81	171	P	Pn	11 49 19.8	+0.2
	0.6nm,0.3s,baz=314,slow=10,SNR=7.3						
LPAZ	La Paz	20.48	14	P	Pn	11 49 39.7	-0.9
LPAZ				pmax	pmax		
	comp=Z,53nm,1.0s						
LPAZ	La Paz	20.48	14	P	Pn	11 49 39.7	-0.9
	comp=Z,44nm,0.9s,baz=233,slow=5.5,SNR=5.4						
LPAZ	La Paz	20.48	14	P	Pn	11 49 39.7	-0.9
	comp=Z,53nm,1.0s						
SIV	San Ignacio	22.99	31	P	P	11 50 05.1	+0.7
	comp=Z,93nm,1.0s,baz=229,slow=12,SNR=24						
NNA	Nana	24.45	352	P	P	11 50 19.8	+1.5
	comp=Z,327nm,1.1s,SNR=5.6						
NNA	Nana	24.45	352	eP	P	11 50 18.9	+0.6
NNA				pmax	pmax		
	comp=Z,46nm,0.8s						
NNA	Nana	24.45	352	P	P	11 50 18.9	+0.6
	comp=Z,43nm,0.9s,baz=177,slow=10.0,SNR=12						
NNA	Nana	24.45	352	eP	P	11 50 18.9	+0.6
	comp=Z,46nm,0.8s						
SAML	Samuel	28.77	21	eP	P	11 50 57.0	-0.1
	comp=Z,32nm,1.2s						
PMSA	Palmer Station	29.02	172	P	P	11 50 56.6	-2.3
	comp=Z,20nm,0.8s,baz=151,slow=19,SNR=4.5						
ATAH	Atahualpa	29.43	350	P	P	11 51 04.9	+1.4
	comp=Z,6.6nm,0.7s,baz=307,slow=5.1,SNR=2.9						
BDFB	Brasilia	30.51	54	P	P	11 51 12.9	+0.1
	comp=Z,34nm,1.0s,baz=225,slow=6.4,SNR=16						
BDFB				LR	LR	12 04 40.8	
	comp=Z,19μm,20.7s,baz=216,slow=39						
RPN	Rapa Nui	31.84	276	LR	LR	12 00 46.4	
	comp=Z,9μm,18.8s,baz=152,slow=30						
ROSC	El Rosal	40.98	358	P	P	11 52 44.5	+1.8
	comp=Z,12nm,0.7s,baz=191,slow=3.8,SNR=5.8						
RCBR	Riachuelo	45.75	58	P	P	11 53 21.2	+0.3
	comp=Z,7.9nm,0.8s,baz=232,slow=9.9,SNR=5.4						
RCBR				LR	LR	12 14 30.3	
	comp=Z,20μm,18.3s,baz=197,slow=39						
RCBR	Riachuelo	45.75	58	eP	P	11 53 20.9	0.0
	comp=Z,87nm,1.5s						
VNA3	Neumayer Olymp	47.61	157	P	P	11 53 35.0	+0.2
JTS	JuntasAbangare	47.65	344	eP	P	11 53 36.4	+0.7
JTS				pmax	pmax		
	comp=Z,28nm,1.1s						
JTS	JuntasAbangare	47.65	344	eP	P	11 53 36.4	+0.7
	comp=Z,28nm,1.1s						
VNA1	Neumayer--Stat	47.96	156	P	P	11 53 38.1	+0.7
VNA2	Neumayer--Watz	48.29	156	P	P	11 53 40.2	+0.3
GRGR	Grenville	49.43	15	eP	P	11 53 50.0	+0.7
	comp=Z,539nm,0.9s						
SNAA	Sanae	49.84	157	P	P	11 53 52.0	+0.1
SNAA	Sanae	49.84	157	eP	P	11 53 51.6	-0.3
SNAA				pmax	pmax		
	comp=Z,54nm,1.0s						
SNAA	Sanae	49.84	157	P	P	11 53 51.6	-0.3
	comp=Z,17nm,0.9s,baz=287,slow=6.3,SNR=25						
SNAA	Sanae	49.84	157	eP	P	11 53 51.6	-0.3
	comp=Z,54nm,1.0s						
FCV	Fort Charlotte	50.52	15	e	P	11 53 59.6	+2.0
BHS	Barnard House	50.67	15	e	P	11 54 01.4	+2.7
SVV	Soufriere Volc	50.68	15	e	P	11 54 00.2	+1.4
SSV	Crater Summit	50.69	15	e	P	11 54 00.2	+1.2
SLB	Belfond	51.21	15	e	P	11 54 03.0	+0.2
FDF	Fort de France	52.06	15	eP	P	11 54 08.6	-0.6
FDF				pmax	pmax		
	comp=Z,149nm,1.0s						
FDF	Fort de France	52.06	15	eP	P	11 54 08.6	-0.6
	comp=Z,149nm,1.0s						
APG	El Apazote	53.57	339	P	P	11 54 17.3	-3.3
	comp=Z,7.5nm,0.9s,baz=171,slow=6.1,SNR=8.0						
QSPA	South Pole Qui	53.91	180	P	P	11 54 22.5	0.0
	comp=Z,28nm,0.9s,baz=164,slow=6.6,SNR=15						
QSPA	South Pole Qui	53.91	180	eP	P	11 54 22.5	0.0
	comp=Z,31nm,0.9s						
ICMP	Isla Caja de M	54.30	8	eP	P	11 54 25.5	0.0
CRPR	Cabo Rojo, PR	54.35	7	eP	P	11 54 25.5	-0.4
	comp=Z,93nm,1.0s						
OBIP	Obispado Ponce	54.44	8	eP	P	11 54 26.5	0.0
	comp=Z,102nm,0.9s						
CELP	Cerrillos	54.48	8	eP	P	11 54 27.2	+0.4
LSP	Las Mesas	54.52	7	P	P	11 54 26.5	-0.8
NVL	N'lazarevskaya	54.60	156	eP	P	11 54 27.8	+0.6
NVL				pmax	pmax		
	comp=Z,60nm,1.1s						
LRS	Lares	54.66	8	eP	P	11 54 27.8	-0.4
CBYP	Canovanas	54.76	9	eP	P	11 54 27.8	-1.1
	comp=Z,62nm,1.0s						
SMN1	Samana, DR	55.34	5	eP	P	11 54 33.5	+0.4
GTBY	Guantanamo Bay	55.97	358	eP	P	11 54 37.6	0.0
	comp=Z,40nm,0.9s						
TEIG	Tepich	58.00	343	P	P	11 54 51.5	-0.5
	comp=Z,23nm,1.0s,baz=106,slow=4.6,SNR=5.1						
TEIG				pP	pP	11 54 59.9	-1.4
	comp=Z,35nm,0.8s,baz=108,slow=1.4,SNR=7.2						
TEIG	Tepich	58.00	343	eP	P	11 54 51.9	-0.1
TEIG				pP	pP	11 54 60.0	-1.4
SYO	Syowa Base	64.09	158	⇑eP	P	11 55 30.0	-2.7
SYO	Syowa Base	64.09	158	⇓esP	sP	11 55 44.6	-1.1
034A	Hebbronville	67.44	336	⇓P	P	11 55 56.7	+1.9
	baz=68						
934A	Benavides	67.88	336	⇑P	P	11 55 59.5	+1.9
	baz=68						
TIGA	Tifton	68.10	351	eP	P	11 55 58.5	-0.3
	comp=Z,37nm,0.9s						
933A	Laredo	68.15	335	⇓P	P	11 56 00.7	+1.5
	baz=68						
835A	Beeville	68.30	337	⇓P	P	11 56 02.3	+2.2
	baz=69						
834A	Tilden	68.38	336	⇓P	P	11 56 02.5	+1.9
	baz=69						
735A	Kenedy	68.82	337	⇓P	P	11 56 05.3	+1.9
	baz=69						
833A	Chaparral WMA,	68.84	335	⇓P	P	11 56 04.9	+1.3
	baz=69						
832A	Faith Ranch, C	69.00	335	⇑P	P	11 56 05.5	+0.9
	baz=69						
734A	La Parita Cree	69.05	336	⇓P	P	11 56 06.3	+1.5
	baz=69						
636A	Smothers Creek	69.17	338	⇑P	P	11 56 07.2	+1.6
	baz=70						
733A	Divot King Ran	69.17	336	⇓P	P	11 56 06.8	+1.3
	baz=70						
635A	Leesville	69.30	337	⇓P	P	11 56 07.7	+1.3
	baz=70						
732A	Laxson Ranch,	69.41	335	⇓P	P	11 56 08.1	+1.0
	baz=70,SNR=7.8						
537A	Green Hill Far	69.51	339	⇓P	P	11 56 09.2	+1.5
	baz=70,SNR=5.2						
536A	Bastrop	69.72	338	⇑P	P	11 56 10.4	+1.4
	baz=70						
633A	Saathoff Ranch	69.82	336	⇑P	P	11 56 10.9	+1.3
	baz=70						
535A	Dale	69.83	338	⇓P	P	11 56 10.6	+0.9
	baz=70						
GOGA	Godfrey	70.03	351	eP	P	11 56 10.4	-0.3
GOGA				pmax	pmax		
	comp=Z,13nm,0.8s						

GOGA Godfrey 70.03 351 eP P 11 56 10.4 -0.3
comp=Z,13nm,0.8s
632A Uvalde 70.06 336 ⇓P P 11 56 12.5 +1.4
baz=70
534A Blanco 70.12 337 ⇑P P 11 56 13.3 +1.8
baz=70
339A Huntington 70.20 341 ⇓P P 11 56 13.5 +1.7
baz=71
631A Perdido Creek 70.24 335 ⇑P P 11 56 13.5 +1.3
baz=71
436A Wall Ranch, Ga 70.30 339 ⇑P P 11 56 14.5 +2.0
baz=71
533A Kerrville 70.34 336 ⇑P P 11 56 13.9 +1.1
baz=71,SNR=6.1
338A Crockett 70.42 340 ⇓P P 11 56 15.1 +1.9
baz=71,SNR=7.1
435B Jarrell 70.54 338 ⇑P P 11 56 15.8 +1.8
baz=71
337A Centerville 70.55 340 ⇓P P 11 56 15.9 +2.0
baz=71,SNR=6.4
NATX Nacogdoches 70.63 341 eP P 11 56 16.1 +1.6
comp=Z,68nm,1.0s
532A Rocksprings 70.67 336 ⇓P P 11 56 16.0 +1.1
baz=71,SNR=10.0
434A Burnet 70.78 337 ⇑P P 11 56 16.4 +0.9
baz=71,SNR=12
336A Riesel 70.89 339 ⇑P P 11 56 17.1 +1.0
baz=71,SNR=10.0
531A Rocksprings 70.92 335 ⇓P P 11 56 17.6 +1.2
baz=71,SNR=7.2
335A Moody 70.96 338 ⇓P P 11 56 17.8 +1.3
baz=71
JCT Junction City 70.96 336 eP P 11 56 17.1 +0.5
JCT pmax pmax
comp=Z,58nm,1.2s
JCT Junction City 70.96 336 eP P 11 56 17.1 +0.5
comp=Z,58nm,1.2s
JCT Junction City 70.96 336 ⇓P P 11 56 17.2 +0.6
baz=71,SNR=8.0
433A Art 70.99 337 ⇑P P 11 56 17.2 +0.5
baz=71,SNR=12
530A J-C Ranch, Com 71.18 335 ⇓P P 11 56 19.1 +1.2
baz=72,SNR=11
334A Lometa 71.25 338 ⇓P P 11 56 19.4 +1.1
baz=72,SNR=12
TXAR Lajitas Array 71.28 332 P P 11 56 19.7 +1.0
comp=Z,6.0nm,0.9s,baz=150,slow=8.2,SNR=19
432A Menard 71.33 336 ⇓P P 11 56 19.4 +0.6
baz=72
431A Sonora 71.42 335 ⇓P P 11 56 20.8 +1.4
baz=72,SNR=8.6
529A Stev Forest Ra 71.47 334 ⇓P P 11 56 20.8 +1.1
baz=72,SNR=5.4
333A Richland Sprin 71.48 337 ⇓P P 11 56 20.6 +0.9
baz=72,SNR=11
KMSC Kings Mountain 71.50 353 eP P 11 56 19.7 0.0
comp=Z,33nm,1.1s
KMSC Kings Mountain 71.50 353 ⇓P P 11 56 20.2 +0.5
baz=72
WHTX Lake Whitney 71.63 339 eP P 11 56 20.9 +0.3
comp=Z,57nm,1.2s
WHTX Lake Whitney 71.63 339 ⇓P P 11 56 21.5 +0.9
baz=72,SNR=9.5
430A Baggett Ranch, 71.73 335 ⇑P P 11 56 22.1 +0.9
baz=72,SNR=10.0
332A Millersview 71.78 336 ⇓P P 11 56 22.6 +1.1
baz=72,SNR=11
429A Davenport Ranc 71.81 334 ⇑P P 11 56 22.8 +1.1
baz=72,SNR=10.0
234A Clairette 71.85 338 ⇑P P 11 56 22.6 +0.7
baz=72,SNR=11
331A San Angelo 71.93 336 ⇓P P 11 56 23.4 +0.9
baz=72,SNR=12
OXF Oxford 72.06 346 eP P 11 56 23.1 0.0
OXF pmax pmax
comp=Z,50nm,0.9s
OXF Oxford 72.06 346 eP P 11 56 23.1 0.0
comp=Z,50nm,0.9s
233A Rising Star 72.10 337 ⇓P P 11 56 24.2 +0.8
baz=72,SNR=14
232A Coleman 72.21 337 ⇓P P 11 56 24.9 +0.7
baz=73,SNR=8.2
330A Mertzon 72.27 335 ⇑P P 11 56 25.0 +0.5
baz=73,SNR=7.1
TKL Tuckaleechee C 72.28 351 P P 11 56 24.4 0.0
comp=Z,19nm,0.9s,baz=166,slow=8.0,SNR=12
134A White-Moore Ra 72.36 338 ⇑P P 11 56 25.6 +0.6
baz=73
231A Bronte 72.47 336 ⇑P P 11 56 26.1 +0.4
baz=73,SNR=13
329A Wagon Wheel Ra 72.62 335 ⇑P P 11 56 27.2 +0.6
baz=73,SNR=9.0
133A Hamilton Ranch 72.65 338 ⇑P P 11 56 26.9 +0.2
baz=73,SNR=14
230A Sterling City 72.69 335 ⇑P P 11 56 27.6 +0.6
baz=73
Z35A Perchaven, San 72.83 339 ⇓P P 11 56 28.1 +0.5
baz=73,SNR=16
ABTX Abilene, Hawle 72.89 337 ⇑P P 11 56 29.0 +0.9
baz=73,SNR=10.0
229A Bryant Ranch, 73.00 335 ⇑P P 11 56 29.9 +1.1
baz=73,SNR=6.6
Z34A Collier Ranch, 73.06 339 ⇓P P 11 56 29.9 +0.8
baz=73,SNR=8.0
131A Roby 73.17 336 ⇑P P 11 56 30.2 +0.3
baz=74,SNR=9.0
Z33A Whitaker Ranch 73.23 338 ⇓P P 11 56 30.7 +0.6
baz=74,SNR=14
130A Snyder 73.29 336 ⇑P P 11 56 31.1 +0.6
baz=74,SNR=6.3
WVT Waverly 73.35 348 eP P 11 56 30.3 -0.4
WVT pmax pmax
comp=Z,29nm,0.9s
WVT Waverly 73.35 348 eP P 11 56 30.3 -0.4
comp=Z,29nm,0.9s
228A UT Block 9, Go 73.41 334 ⇑P P 11 56 31.8 +0.5
baz=74
VWCC Virginia Weste 73.47 354 eP P 11 56 31.6 +0.2
Z32A Haskell 73.47 337 ⇓P P 11 56 32.1 +0.6
baz=74,SNR=11
Y34A Reagan Ranch, 73.56 339 ⇓P P 11 56 32.5 +0.6
baz=74,SNR=9.0
129A Stewart Farms, 73.63 335 ⇓P P 11 56 33.0 +0.5
baz=74
Z31A Sharp Cattle R 73.69 337 ⇓P P 11 56 33.7 +0.9
baz=74,SNR=9.9
JSRW J. Sargeant Re 73.77 356 eP P 11 56 33.2 +0.1
128A Castleberry Fa 73.83 335 ⇑P P 11 56 34.4 +0.7
baz=74,SNR=9.3
Y33A Hilltop Ranch, 73.86 338 ⇑P P 11 56 34.4 +0.6
baz=74,SNR=7.9
Z30A Sanderson Ranc 73.98 336 ⇓P P 11 56 35.3 +0.7
baz=74,SNR=12
Y32A R-V Farms, Ver 74.11 338 ⇑P P 11 56 35.7 +0.5
baz=74,SNR=5.8
Z29A Hungry Hill Ra 74.15 336 ⇑P P 11 56 36.0 +0.5
baz=74,SNR=12
X34A Smith Ranch, M 74.18 339 ⇑P P 11 56 36.2 +0.5
baz=75,SNR=9.1
127A Arkansas Junct 74.19 334 ⇑P P 11 56 36.7 +0.9
baz=74
X33A Lawton 74.32 339 ⇓P P 11 56 36.7 +0.2
baz=75,SNR=5.5
Y31A Rekieta Farm, 74.32 337 ⇓P P 11 56 37.3 +0.8
baz=75,SNR=9.4
X32A Elmer 74.44 338 ⇑P P 11 56 37.7 +0.5
baz=75
Y30A Stafford Cattl 74.45 336 ⇓P P 11 56 37.6 +0.3
baz=75,SNR=5.0
SUR Sutherland 74.61 119 P P 11 56 40.2 +1.5
comp=Z,31nm,0.9s,baz=229,slow=4.9,SNR=11
SUR Sutherland 74.61 119 eP P 11 56 39.8 +1.1
comp=Z,31nm,1.0s
Y29A Porterfield Fa 74.68 336 ⇑P P 11 56 39.2 +0.5
baz=75,SNR=9.4
Z27A Tatum 74.71 334 ⇑P P 11 56 39.5 +0.6
baz=75
W34A Bridge Creek, 74.76 339 ⇑P P 11 56 39.6 +0.6
baz=75,SNR=5.5
X31A McDonald Ranch 74.85 337 ⇓P P 11 56 40.2 +0.7
baz=75,SNR=13
TUL1 Tulsa 74.86 341 eP P 11 56 39.3 -0.2
comp=Z,40nm,0.9s
TUL1 Tulsa 74.86 341 ⇑P P 11 56 39.5 0.0
baz=75,SNR=15
W33A Caddo, Fort Co 74.88 339 ⇓P P 11 56 40.8 +1.1
baz=75,SNR=12
Y28A McKinney Farm, 74.92 335 ⇓P P 11 56 40.7 +0.7
baz=75,SNR=6.0
Z26A Caprock 74.94 334 ⇓P P 11 56 41.3 +1.1
baz=75,SNR=13
X30A Coker Ranch, T 74.96 337 ⇑P P 11 56 41.7 +1.4
baz=75
W32A Sentinel 75.08 338 ⇓P P 11 56 41.6 +0.7
baz=76,SNR=22
USIN University of 75.11 348 eP P 11 56 40.6 -0.3
comp=Z,54nm,0.9s
SIUC Southern Illin 75.13 347 eP P 11 56 40.9 -0.1
comp=Z,35nm,0.9s
MSTX Muleshoe 75.15 335 ⇑P P 11 56 41.9 +0.4
baz=76
Y27A Causey 75.21 335 ⇑P P 11 56 42.8 +1.0
baz=76
Z25A Roswell 75.22 333 ⇓P P 11 56 42.3 +0.5
baz=76
X29A Tulia 75.23 336 ⇓P P 11 56 42.2 +0.4
baz=76,SNR=7.2
V34A Guthrie 75.25 340 eP P 11 56 42.0 +0.3
comp=Z,38nm,1.1s
V34A Guthrie 75.25 340 ⇑P P 11 56 42.6 +0.8
baz=76
319A Douglas 75.33 329 ⇑P P 11 56 42.8 +0.3
baz=76
W31A Holland Ranch, 75.35 338 ⇑P P 11 56 43.1 +0.7
baz=76,SNR=6.0
V33A Lossen Ranch, 75.45 339 ⇑P P 11 56 43.8 +0.8
baz=76,SNR=12
X28A Dimmitt 75.46 336 ⇑P P 11 56 44.1 +1.0
baz=76
Y26A Elida 75.48 334 ⇓P P 11 56 44.3 +1.0
baz=76,SNR=6.9
Z24A Sheeppen Canyo 75.50 333 ⇓P P 11 56 44.8 +1.3
baz=76,SNR=9.7
V32A Arapaho 75.58 339 ⇓P P 11 56 44.8 +1.1
baz=76
AMTX Amarillo 75.62 336 eP P 11 56 44.3 +0.2
comp=Z,48nm,1.1s
AMTX Amarillo 75.62 336 ⇓P P 11 56 44.7 +0.6
baz=76
121A Cookes Peak, D 75.72 330 ⇑P P 11 56 45.9 +1.0
baz=76
Y25A Mesa, Roswell 75.79 333 ⇑P P 11 56 45.7 +0.6
baz=76
U34A Anderson Ranch 75.82 340 ⇓P P 11 56 45.7 +0.7
baz=76,SNR=5.1
W29A Amraillo 75.83 336 ⇑P P 11 56 45.8 +0.5
baz=76
V31A Spring Creek L 75.87 338 ⇓P P 11 56 46.9 +1.5
baz=76,SNR=8.9
X27A F and S Farms, 75.88 335 ⇑P P 11 56 46.6 +1.0
baz=76
U33A Lingo Farm, Me 75.97 340 ⇓P P 11 56 46.4 +0.5
baz=76,SNR=7.8
X26A CR and CF Fran 76.04 334 ⇓P P 11 56 47.7 +1.2
baz=76
Z22A Elephant Butte 76.04 331 ⇓P P 11 56 48.4 +1.8
baz=76,SNR=8.4
Y24A Capitan 76.06 333 ⇑P P 11 56 48.2 +1.5
baz=76,SNR=7.9
BLO Bloomington 76.11 349 eP P 11 56 46.1 -0.5
BLO pmax pmax
comp=Z,43nm,1.1s
BLO Bloomington 76.11 349 eP P 11 56 46.1 -0.5
comp=Z,43nm,1.1s
V30A Spur Ranch, Mi 76.12 337 ⇓P P 11 56 48.6 +1.7
baz=76
W28A Vega 76.14 336 ⇑P P 11 56 49.1 +2.1
baz=76
U32A Winter Ranch, 76.18 339 ⇑P P 11 56 48.3 +1.1
baz=77,SNR=8.9
SLM Saint Louis 76.22 346 eP P 11 56 47.5 +0.3
SLM pmax pmax
comp=Z,52nm,0.9s
SLM Saint Louis 76.22 346 eP P 11 56 47.5 +0.3
comp=Z,52nm,0.9s
W27A Bowe Ranch, En 76.25 335 ⇓P P 11 56 48.7 +1.0
baz=77,SNR=12
Y23A Lovelace Mesa, 76.30 332 ⇓P P 11 56 49.5 +1.5
baz=77,SNR=5.5
LIC Lamto 76.48 72 eP P 11 56 49.6 +0.2
comp=Z,121nm,1.1s
W26A Owens Ranch, T 76.51 335 ⇑P P 11 56 50.3 +1.1
baz=77
V28A Channing 76.59 336 ⇑P P 11 56 51.0 +1.4
baz=77,SNR=5.7
T33A Patterson Ranc 76.62 340 ⇓P P 11 56 51.2 +1.7
baz=77
X24A Lazy VL Ranch, 76.63 333 ⇑P P 11 56 51.6 +1.7
baz=77,SNR=11
ACSO Alum Creek Sta 76.70 352 eP P 11 56 49.7 -0.3
comp=Z,44nm,0.9s
TIC Toumodi 76.75 71 eP P 11 56 51.3 +0.4
comp=Z,37nm,0.2s
KIC Kosan Boka 76.79 72 eP P 11 56 51.6 +0.5
comp=Z,130nm,1.0s
V27A Dan Oppiter Fa 76.80 336 ⇓P P 11 56 51.9 +1.1
baz=77
U30A WK&E Inc. Balk 76.81 338 ⇑P P 11 56 52.2 +1.4
baz=77,SNR=9.1
LENM Lemitar 76.85 332 P P 11 56 52.0 +0.8
LPM Los Pinos Moun 76.85 332 eP P 11 56 52.4 +1.3
comp=Z,15nm,1.2s
W25A X Bar L Ranch, 76.87 334 ⇑P P 11 56 52.2 +1.0
baz=77,SNR=8.0
DBIC Dimbokro 76.90 72 eP P 11 56 52.1 +0.4
DBIC pmax pmax
comp=Z,55nm,1.0s
DBIC Dimbokro 76.90 72 P P 11 56 52.8 +1.1
comp=Z,44nm,1.0s,baz=202,slow=6.3,SNR=21
DBIC Dimbokro 76.90 72 eP P 11 56 52.1 +0.4
comp=Z,55nm,1.0s
T32A Huddler Ranch, 76.90 339 ⇑P P 11 56 52.5 +1.3
baz=77
T31A Randall Ranch, 77.05 339 ⇓P P 11 56 53.1 +1.1
baz=77
LAZ Ladron 77.12 332 eP P 11 56 53.9 +1.2
comp=Z,14nm,1.3s
V26A Tequesquite Ra 77.16 335 ⇓P P 11 56 53.7 +0.9
baz=78
U28A Mallet 77.17 336 ⇑P P 11 56 54.6 +1.8
baz=78
W24A Lazy 6 Ranch, 77.20 333 ⇓P P 11 56 54.3 +1.2
baz=78
T30A Plains 77.26 338 ⇓P P 11 56 54.4 +1.2
baz=78
ANMO Albuquerque 77.35 333 P P 11 56 55.5 +1.5
comp=Z,12nm,1.0s,baz=162,slow=7.7,SNR=19
214A Organ Pipe Nat 77.36 326 ⇑P P 11 56 55.9 +2.0
baz=78
S32A Newby Ranch, P 77.39 339 ⇑P P 11 56 55.0 +1.0
baz=78,SNR=9.3
U27A Thompson Grove 77.40 336 ⇑P P 11 56 54.8 +0.6
baz=78
W23A Werner Place, 77.43 333 ⇓P P 11 56 55.6 +1.1
baz=78,SNR=9.1
S31A Mullinville 77.47 339 ⇑P P 11 56 55.4 +1.0
baz=78,SNR=8.3
V25A Rancho No Teng 77.48 334 ⇓P P 11 56 55.4 +0.7
baz=78,SNR=13
T29A Hugoton 77.59 337 ⇑P P 11 56 56.4 +1.3
baz=78
V24A Rampart Ranch, 77.61 334 ⇓P P 11 56 56.1 +0.6
baz=78,SNR=5.5
U26A Atchley Ranch, 77.69 335 ⇑P P 11 56 56.8 +0.9
baz=78
R33A Olander Ranch, 77.69 340 ⇑P P 11 56 56.4 +0.8
baz=78,SNR=5.3
S30A Montezuma 77.78 338 ⇓P P 11 56 56.9 +0.8
baz=78,SNR=11
T28A Walsh 77.81 337 ⇑P P 11 56 57.1 +0.7
baz=78,SNR=11
U25A Circle Dot Ran 77.92 335 ⇑P P 11 56 57.9 +0.8
baz=78,SNR=8.4
V23A Ortiz Mt. (NFS 77.96 333 ⇑P P 11 56 58.9 +1.5
baz=78
S29A Ulysses 77.96 338 ⇑P P 11 56 58.1 +0.9
baz=78,SNR=7.5
R32A Long Quarter, 78.00 340 ⇑P P 11 56 58.3 +0.9
baz=78,SNR=9.2
KSU1 Kansas State U 78.08 342 eP P 11 56 57.3 -0.4
comp=Z,26nm,1.0s
KSU1 Kansas State U 78.08 342 ⇑P P 11 56 58.0 +0.3
baz=78,SNR=5.6
R31A Burdett 78.11 339 ⇑P P 11 56 58.5 +0.6
baz=78,SNR=7.5
S28A Manter 78.17 337 ⇑P P 11 56 59.0 +0.6
baz=78,SNR=11
U24A Moreno Valley 78.23 334 ⇓P P 11 57 00.3 +1.3
baz=79,SNR=6.2
Q33A Connelly Farm, 78.30 341 ⇓P P 11 56 59.9 +1.0
baz=79
R30A Dighton 78.32 339 ⇑P P 11 57 00.3 +1.2
baz=79
T26A Comanche Natio 78.34 336 ⇑P P 11 57 00.4 +0.9
baz=79,SNR=10
V22A San Miguel Ran 78.38 333 ⇓P P 11 57 01.2 +1.5
baz=79,SNR=15
113A Mohawk Valley, 78.47 326 ⇓P P 11 57 01.6 +1.6
baz=79
U23A El Rito 78.48 333 ⇑P P 11 57 02.1 +1.8
baz=79,SNR=9.1
Q32A Meitler Ranch, 78.49 340 ⇓P P 11 57 01.0 +0.9
baz=79,SNR=7.2
T25A Trinidad 78.58 335 ⇑P P 11 57 02.1 +1.3
baz=79,SNR=16
R29A Marienthal 78.71 338 ⇑P P 11 57 02.3 +1.0
baz=79,SNR=5.4
S26A Kim 78.71 336 ⇑P P 11 57 02.4 +1.0
baz=79,SNR=13
Q31A Ellis 78.74 340 ⇓P P 11 57 02.4 +1.0
baz=79,SNR=5.8
W18A Petrified Fore 78.77 330 ⇑P P 11 57 03.2 +1.3
baz=79,SNR=6.6
U22A Llaves 78.77 333 ⇑P P 11 57 03.4 +1.5
baz=79,SNR=7.1
R28A Tribune 78.84 338 ⇓P P 11 57 03.0 +1.0
baz=79,SNR=9.7
T24B San Luis 78.85 334 ⇓P P 11 57 03.6 +1.2
baz=79,SNR=8.7
X16A Lo Mia Camp, P 78.86 329 ⇑P P 11 57 03.5 +1.1
baz=79
Q30A Quinter 78.95 339 ⇑P P 11 57 03.9 +1.4
baz=79,SNR=12
T23A Casias Ranch, 79.06 334 ⇓P P 11 57 04.6 +1.1
baz=79,SNR=8.6
S25A Robets Cordova 79.06 335 ⇑P P 11 57 04.4 +0.9
baz=79,SNR=5.5
Q29A Oakley 79.09 338 ⇑P P 11 57 03.9 +0.6
baz=80,SNR=6.2
P32A Huiting Farm, 79.09 340 ⇓P P 11 57 04.0 +0.6
baz=80,SNR=6.1
R27A Eads 79.10 337 ⇓P P 11 57 03.9 +0.5
baz=80,SNR=9.1
Y14A Wickenburg 79.12 327 ⇑P P 11 57 04.9 +1.2
baz=80
GLA Glamis 79.19 325 ⇑P P 11 57 05.5 +1.5
baz=80
P31A Stockton 79.21 340 ⇑P P 11 57 04.6 +0.6
baz=80,SNR=8.5
S24A Houchin Ranch, 79.31 335 ⇓P P 11 57 06.6 +1.7
baz=80,SNR=13
R26A Arlington 79.32 336 ⇓P P 11 57 05.9 +1.2
baz=80,SNR=11
R25A Fountain Ranch 79.45 336 ⇓P P 11 57 07.3 +1.8
baz=80
P30A Selden 79.48 339 ⇑P P 11 57 06.1 +0.7
baz=80,SNR=5.5
Q28A Sharon Springs 79.50 338 ⇑P P 11 57 07.6 +1.9
baz=80
TSUM Tsumeb 79.57 106 P P 11 57 07.9 +1.2
comp=Z,10nm,1.1s,baz=237,slow=4.5,SNR=7.7
TSUM Tsumeb 79.57 106 eP P 11 57 07.4 +0.7
comp=Z,33nm,1.5s
S23A Nye Farm, Mont 79.65 334 ⇑P P 11 57 08.6 +1.9
baz=80
KSCO Kaye Shedlock' 79.70 337 ⇑P P 11 57 08.3 +1.5
baz=80
P29A Atwood 79.73 339 ⇓P P 11 57 08.4 +1.5
baz=80,SNR=12
WUAZ Wupatki 79.78 329 ⇓P P 11 57 09.3 +2.0
baz=80,SNR=6.8
O31A Woolen Ranch, 79.78 340 ⇑P P 11 57 08.0 +0.9
baz=80,SNR=6.2
R24A Sanders Place, 79.81 335 ⇓P P 11 57 09.1 +1.6
baz=80,SNR=15
BOSA Boshof 79.90 118 eP P 11 57 07.8 -0.5
BOSA pmax pmax
comp=Z,75nm,1.3s
BOSA Boshof 79.90 118 P P 11 57 07.9 -0.4
comp=Z,35nm,1.0s,baz=241,slow=5.8,SNR=16
BOSA Boshof 79.90 118 eP P 11 57 07.8 -0.5
comp=Z,74nm,1.3s
Q26A Hugo 79.91 336 ⇑P P 11 57 09.3 +1.4
baz=80,SNR=7.3
P28A Saint Francis 79.95 338 ⇓P P 11 57 09.4 +1.3
baz=80,SNR=7.4
S22A 4UR Ranch, Cre 79.98 334 ⇑P P 11 57 10.1 +1.5
baz=80,SNR=9.4
BC3 Big Chuckawall 79.98 325 ⇑P P 11 57 10.0 +1.6
baz=80
O30A MW Ranch, Wils 80.02 339 ⇓P P 11 57 10.2 +1.9
baz=80
R23A Moffat 80.02 335 ⇑P P 11 57 10.0 +1.3
baz=80,SNR=7.8
MVCO Mesa Verde 80.12 332 ⇑P P 11 57 10.6 +1.4
baz=80,SNR=11
Q25A Bedland, Calha 80.14 336 ⇑P P 11 57 10.3 +1.0
baz=80,SNR=7.7
O29A 4D Ranch, Culb 80.18 339 ⇑P P 11 57 11.6 +2.4
baz=81
IRM Iron Mountain 80.26 326 ⇓P P 11 57 11.8 +1.9
baz=81
PFO Pinyon Flat Ob 80.41 325 ⇓P P 11 57 12.4 +1.6
baz=81
P26A Davis Ranch, A 80.43 337 ⇑P P 11 57 12.3 +1.6
baz=81
O28A Krutsinger Ran 80.47 338 ⇓P P 11 57 12.5 +1.7
baz=81,SNR=8.9
Q24A Divide 80.48 335 ⇑P P 11 57 12.8 +1.6
baz=81,SNR=6.4
W13A Hualapai Mount 80.49 327 ⇑P P 11 57 13.0 +1.8
baz=81
BELC Belle Mtn. Jos 80.52 325 ⇓P P 11 57 13.1 +1.8
baz=81
BGNE Belgrade 80.64 341 eP P 11 57 12.3 +0.6
comp=Z,31nm,1.0s
P25A Willow Gulch B 80.65 336 ⇓P P 11 57 13.1 +1.1
baz=81,SNR=13
O27A Beecher Island 80.74 338 ⇓P P 11 57 13.9 +1.6
baz=81
MURC Murrieta 80.75 324 ⇑P P 11 57 14.3 +1.9
baz=81
N29A Votaw Ranch, W 80.77 339 ⇓P P 11 57 13.6 +1.2
baz=81
M31A Lambtecht Ranc 80.80 341 ⇑P P 11 57 13.5 +1.0
baz=81,SNR=6.7
P24A Kohler Place, 80.90 336 ⇓P P 11 57 15.1 +1.8
baz=81
N28A Pribbeno Ranch 80.91 339 ⇑P P 11 57 14.4 +1.2
baz=81,SNR=5.9
U15A North Rim 80.94 329 ⇓P P 11 57 15.2 +1.5
baz=81
PV01 Paradox Valley 80.96 333 eP P 11 57 14.8 +1.1
comp=Z,1μm,0.9s
GMRC Granite Mounta 81.01 326 ⇑P P 11 57 15.4 +1.5
baz=81
O26A Horse Wrangler 81.04 337 ⇑P P 11 57 15.3 +1.3
baz=81
P23A Jefferson 81.08 335 ⇓P P 11 57 15.8 +1.3
baz=82
O25A Wiggins 81.18 337 ⇓P P 11 57 16.8 +2.1
baz=82
N27A Anderson Farm, 81.32 338 ⇓P P 11 57 16.6 +1.2
baz=82,SNR=11
URZ Urewera 81.34 229 LR LR 12 24 29.4
comp=Z,5μm,20.1s,baz=210,slow=29
HEC Hector,Ludlow 81.36 325 ⇑P P 11 57 17.3 +1.6
baz=82
M29A Burnside Ranch 81.37 340 ⇓P P 11 57 17.3 +1.7
baz=82
ISCO Idaho Springs 81.39 335 eP P 11 57 16.9 +0.8
ISCO pmax pmax
comp=Z,23nm,1.5s
ISCO Idaho Springs 81.39 335 eP P 11 57 16.9 +0.8
comp=Z,23nm,1.5s
ISCO Idaho Springs 81.39 335 ⇓P P 11 57 17.0 +1.0
baz=82,SNR=6.7
BFSC Mount Baldy Ra 81.49 324 ⇓P P 11 57 18.2 +1.7
baz=82
O24A Longmont 81.50 336 ⇑P P 11 57 18.2 +1.8
baz=82
L31A Butterfield Fa 81.54 341 ⇓P P 11 57 17.5 +1.0
baz=82,SNR=12
N26A Koester Ranch, 81.55 337 ⇓P P 11 57 18.4 +1.7

baz=82
L30A Spencer Herefo 81.57 340 ⇑P P 11 57 18.2 +1.6
baz=82
P22A Eagle 81.60 334 ⇓P P 11 57 18.7 +1.6
baz=82
TUQ Turquoise Moun 81.68 326 ⇓P P 11 57 19.5 +2.0
baz=82
O23A Lake Granby, G 81.86 335 ⇑P P 11 57 20.0 +1.5
baz=82,SNR=11
L29A Maesberg Ranch 81.88 340 ⇑P P 11 57 19.4 +1.1
baz=82,SNR=7.0
M27A Reverse DX Ran 81.94 338 ⇓P P 11 57 20.4 +1.8
baz=82
GSC Goldstone 81.97 325 ⇑P P 11 57 20.5 +1.6
baz=82
O22A Kremmling 82.03 335 ⇓P P 11 57 20.4 +0.9
baz=82,SNR=9.6
N24A Carr 82.07 336 ⇑P P 11 57 21.1 +1.6
baz=82
EDW2 Edwards Air Fo 82.17 324 ⇓P P 11 57 21.8 +1.8
baz=82
K30A Basset 82.21 341 ⇑P P 11 57 21.1 +1.1
baz=83,SNR=14
SHOC Shoshone 82.22 326 ⇑P P 11 57 22.0 +1.9
baz=83
SHPR Sheep Range 82.23 327 eP P 11 57 21.8 +1.5
comp=Z,23nm,1.3s
M25A Palm-Egli Farm 82.36 337 ⇑P P 11 57 22.7 +1.8
baz=83
ECSD EROS Data Cent 82.46 343 eP P 11 57 21.1 -0.1
comp=Z,39nm,0.8s
ECSD EROS Data Cent 82.46 343 ⇑P P 11 57 21.5 +0.3
baz=83,SNR=27
K29A Lazy Trails An 82.48 340 ⇑P P 11 57 22.8 +1.4
baz=83,SNR=7.6
N23A Red Feather La 82.48 336 ⇓P P 11 57 23.3 +1.6
baz=83,SNR=7.0
N22A Wattenberg Ran 82.57 335 ⇓P P 11 57 23.7 +1.5
baz=83,SNR=7.4
ARUT Antelope Range 82.58 329 eP P 11 57 23.9 +1.8
ARUT Antelope Range 82.58 329 eP P 11 57 23.9 +1.8
comp=Z,273nm,1.1s
O20A White River Ci 82.60 334 ⇑P P 11 57 23.7 +1.4
baz=83,SNR=8.9
M24A Cheyenne 82.63 337 ⇑P P 11 57 24.5 +2.1
baz=83
K28A Ten Mile Ranch 82.73 340 ⇑P P 11 57 24.2 +1.5
baz=83,SNR=12
J30A Dallas 82.79 341 ⇑P P 11 57 23.5 +0.6
baz=83,SNR=7.4
M23A Laramie 82.92 336 ⇓P P 11 57 25.2 +1.2
baz=83,SNR=8.4
FURC Furnace Creek, 82.96 326 ⇑P P 11 57 25.6 +1.7
baz=83
K27A Flueckinger Fa 82.97 339 ⇑P P 11 57 25.5 +1.5
baz=83,SNR=9.8
L25A Engebretsen Ra 82.99 338 ⇓P P 11 57 25.7 +1.6
baz=83
ISA Isabella 83.04 324 ⇑P P 11 57 25.3 +0.9
baz=83
SPMN St. Paul 83.07 346 ⇑P P 11 57 24.2 -0.1
baz=84
J29A Okreek 83.08 341 ⇓P P 11 57 25.7 +1.2
baz=84,SNR=16
M22A Cedar Creek Ra 83.16 335 ⇑P P 11 57 26.4 +1.2
baz=84
N20A Spence Gulch, 83.23 334 ⇓P P 11 57 26.8 +1.3
baz=84,SNR=12
I30A Oacoma 83.32 341 ⇑P P 11 57 26.3 +0.6
baz=84,SNR=12
J28A Allard Ranch, 83.35 340 ⇓P P 11 57 27.0 +1.1
baz=84,SNR=6.0
K25A Mack Ranch, Ha 83.37 338 ⇑P P 11 57 27.8 +1.7
baz=84
J27A Elkhorn Farm, 83.41 339 ⇑P P 11 57 27.8 +1.6
baz=84,SNR=11
VES Vestal, Richgr 83.47 324 ⇓P P 11 57 28.2 +1.7
baz=84
L23A Garrett 83.50 336 ⇑P P 11 57 27.5 +0.6
baz=84
I29A Vivian Onida 83.65 341 ⇓P P 11 57 28.2 +0.8
baz=84
L22A Ellis Ranch, M 83.67 336 ⇑P P 11 57 28.8 +1.1
baz=84
BRSD Miller 83.69 342 eP P 11 57 27.5 -0.1
comp=Z,36nm,0.8s
BRSD Miller 83.69 342 ⇑P P 11 57 28.3 +0.7
baz=84,SNR=12
K24A Anderson Ranch 83.77 337 ⇑P P 11 57 28.7 +0.6
baz=84
J26A Sides Ranch, S 83.77 339 ⇑P P 11 57 29.5 +1.4
baz=84
I28A Midland 83.86 340 ⇑P P 11 57 28.9 +0.5
baz=84,SNR=10
DAU Daniels Canyon 83.96 332 eP P 11 57 30.3 +0.9
DAU pmax pmax
comp=Z,52nm,1.3s
DAU Daniels Canyon 83.96 332 eP P 11 57 30.3 +0.9
comp=Z,52nm,1.3s
R11A Troy Canyon, C 83.96 328 ⇓P P 11 57 30.9 +1.6
baz=84
K23A Bowen Ranch, D 84.05 337 ⇑P P 11 57 30.6 +1.0
baz=84,SNR=9.5
TIN Tinemaha 84.06 325 ⇑P P 11 57 31.6 +1.8
baz=84
J25A Sunshine Ranch 84.06 338 ⇓P P 11 57 30.5 +0.9
baz=84
I27A Quinn 84.17 340 ⇓P P 11 57 30.9 +0.8
baz=85
H29A Onida 84.19 341 ⇓P P 11 57 30.2 +0.1
baz=85,SNR=15
K22A Casper 84.25 336 ⇓P P 11 57 31.1 +0.5
baz=85,SNR=9.5
J24A Dixon Ranch, L 84.27 338 ⇑P P 11 57 32.0 +1.3
baz=85,SNR=8.9
I26A New Underwood 84.37 339 ⇓P P 11 57 31.7 +0.6
baz=85
DUG Dugway 84.38 331 ⇓P P 11 57 32.8 +1.5
baz=85,SNR=16
G30A Faulkton 84.38 342 ⇑P P 11 57 31.4 +0.3
baz=85,SNR=11
H28A Mission Ridge 84.45 341 ⇑P P 11 57 32.0 +0.6
baz=85,SNR=8.0
K21A Alcova 84.47 336 ⇑P P 11 57 32.7 +0.8
baz=85,SNR=14
I25A Rochford 84.61 338 ⇑P P 11 57 33.4 +0.9
baz=85,SNR=13
TCUT Toone Canyon 84.62 332 eP P 11 57 33.3 +0.6
comp=Z,48nm,1.2s
G29A Hoven 84.64 341 ⇓P P 11 57 32.7 +0.3
baz=85,SNR=11
H27A Howes 84.70 340 ⇑P P 11 57 33.3 +0.6
baz=85,SNR=7.1
I24A Kuemmerle Ranc 84.74 338 ⇓P P 11 57 33.9 +0.9
baz=85,SNR=5.6
G28A Parade 84.79 341 ⇓P P 11 57 33.8 +0.6
baz=85,SNR=8.5
RSSD Black Hills 84.80 338 eP P 11 57 33.3 -0.1
RSSD pmax pmax
comp=Z,17nm,1.0s
RSSD Black Hills 84.80 338 eP P 11 57 33.3 -0.1
comp=Z,16nm,1.0s
H26A Fairpoint 84.88 339 ⇓P P 11 57 34.7 +1.1
baz=85
J22A Midwest 84.92 336 ⇑P P 11 57 34.0 0.0
baz=85,SNR=6.6
F30A Leola 85.02 342 ⇑P P 11 57 34.6 +0.4
baz=85,SNR=8.2
H25A Fruitdale 85.12 339 ⇓P P 11 57 35.2 +0.4
baz=86,SNR=14
J21A Lysite 85.17 336 ⇓P P 11 57 35.7 +0.3
baz=86,SNR=7.0
F29A Eureka 85.21 342 ⇓P P 11 57 35.5 +0.3
baz=86,SNR=12
NVAR Mina Array Bea 85.22 326 P P 11 57 37.4 +1.7
comp=Z,4.7nm,0.9s,baz=152,slow=6.0,SNR=15
G27A Dupree 85.35 340 ⇑P P 11 57 36.4 +0.4
baz=86,SNR=5.5
I22A 9 Mile Ranch, 85.35 337 ⇑P P 11 57 36.3 +0.2
baz=86,SNR=15
PDAR Pinedale Array 85.39 334 P P 11 57 36.5 0.0
comp=Z,6.4nm,0.9s,baz=150,slow=3.8,SNR=21
PDAR pP pP 11 57 46.1 0.0
comp=Z,2.6nm,0.7s,baz=143,slow=3.2,SNR=4.9
J20A Shoshoni 85.39 335 ⇓P P 11 57 37.5 +1.1
baz=86,SNR=12
G26A Maurine 85.45 340 ⇑P P 11 57 36.5 0.0
baz=86,SNR=12
F28A McLaughlin 85.48 341 ⇑P P 11 57 36.9 +0.4
baz=86,SNR=9.4
H24A Dirks Ranch, A 85.52 338 ⇑P P 11 57 36.8 -0.1
baz=86,SNR=16
I21A Big Trails, Te 85.54 336 ⇑P P 11 57 37.0 -0.1
baz=86,SNR=13
G25A Newell 85.59 339 ⇑P P 11 57 37.5 +0.3
baz=86,SNR=24
E30A Jud 85.61 343 ⇑P P 11 57 37.4 +0.2
baz=86,SNR=6.9
J19A Crowheart 85.65 335 ⇓P P 11 57 38.0 +0.3
baz=86,SNR=15
F27A Lemmon 85.83 340 ⇑P P 11 57 38.7 +0.4
baz=86,SNR=19
E29A Napoleon 85.85 342 ⇓P P 11 57 39.0 +0.6
baz=86
H22A Clearmont 85.94 337 ⇑P P 11 57 39.1 +0.2
baz=86,SNR=12
I20A Worland 85.94 336 ⇓P P 11 57 39.4 +0.4
baz=86,SNR=15
TORD Torodi Ar. Bea 85.96 71 P P 11 57 39.5 -0.1
comp=Z,27nm,1.1s,baz=239,slow=4.4,SNR=39
TORD pP pP 11 57 49.4 0.0
comp=Z,13nm,0.9s,baz=257,slow=2.6,SNR=8.6
F26A Lodgepole 85.98 340 ⇓P P 11 57 39.4 +0.3
baz=86,SNR=18
G24A Alzada 86.01 339 ⇑P P 11 57 39.3 0.0
baz=86,SNR=11
E28A Huff 86.12 341 ⇓P P 11 57 40.2 +0.5
baz=86,SNR=9.3
D30A Buchanan 86.14 343 ⇑P P 11 57 40.0 +0.2
baz=86,SNR=15
G23A Biddle 86.18 338 ⇓P P 11 57 40.4 +0.2
baz=87,SNR=13
H21A Big Horn, Sher 86.19 337 ⇑P P 11 57 40.2 -0.1
baz=87,SNR=8.3
E27A Carson 86.22 341 ⇓P P 11 57 40.7 +0.5
baz=87,SNR=7.6
F25A Bowman 86.27 339 ⇓P P 11 57 41.2 +0.7
baz=87,SNR=13
D29A Pettibone, Tap 86.30 342 ⇑P P 11 57 41.4 +0.8
baz=87,SNR=7.6
I19A Meeteetse 86.31 335 ⇓P P 11 57 41.5 +0.6
baz=87,SNR=6.0
H20A Greybull 86.37 336 ⇑P P 11 57 41.6 +0.4
baz=87,SNR=22
G22A Birney 86.48 337 ⇑P P 11 57 42.1 +0.5
baz=87,SNR=7.3
F24A Ekalaka 86.48 339 ⇓P P 11 57 41.8 +0.2
baz=87,SNR=15
E26A Carlson Angus 86.50 340 ⇓P P 11 57 42.7 +1.1
baz=87,SNR=19
AGMN Agassiz Nation 86.62 345 eP P 11 57 42.4 +0.2
comp=Z,13nm,0.8s
AGMN Agassiz Nation 86.62 345 ⇑P P 11 57 42.3 +0.2
baz=87,SNR=11
C30A Mose, Pekin 86.64 343 ⇑P P 11 57 43.1 +0.9
baz=87,SNR=24
F23A Volborg 86.66 338 ⇑P P 11 57 42.5 0.0
baz=87,SNR=19
D28A Regan 86.67 342 ⇓P P 11 57 42.9 +0.5
baz=87,SNR=14
I17A Pilgrim Ck. 86.75 334 ⇓P P 11 57 44.0 +0.8
baz=87,SNR=19
G21A Lodge Grass 86.77 337 ⇑P P 11 57 43.5 +0.5
baz=87,SNR=5.4
E25A Miller Ranch, 86.78 340 ⇓P P 11 57 43.7 +0.7
baz=87,SNR=22
D27A Center 86.83 341 ⇑P P 11 57 43.7 +0.5
baz=87,SNR=6.4
H19A Powell 86.86 335 ⇓P P 11 57 44.2 +0.7
baz=87,SNR=8.0
F22A Rosebud 86.97 338 ⇑P P 11 57 44.3 +0.3
baz=87,SNR=8.4
D26A Manning 87.00 341 ⇓P P 11 57 44.8 +0.7
baz=87,SNR=21
G20A Bridger 87.09 336 ⇓P P 11 57 44.6 0.0
baz=88,SNR=13
E24A Baker 87.10 339 ⇑P P 11 57 45.1 +0.5
baz=88,SNR=11
H18A Shoshone NF, C 87.10 335 ⇑P P 11 57 45.5 +0.6
baz=88,SNR=17
C28A Hausauer Farms 87.11 342 ⇓P P 11 57 45.1 +0.5
baz=88,SNR=5.8
H17A Grant Village 87.17 334 ⇓P P 11 57 45.7 +0.5
baz=88
F21A Absaloka Mine, 87.28 337 ⇓P P 11 57 46.1 +0.7
baz=88
B30A Myrvik Farm, E 87.30 344 ⇑P P 11 57 46.3 +0.9
baz=88,SNR=33
E23A Ismay 87.33 338 ⇓P P 11 57 45.9 +0.2
baz=88
D25A Fairfield 87.36 340 ⇓P P 11 57 47.0 +1.2
baz=88,SNR=12
C27A Sayler Ranch, 87.39 341 ⇑P P 11 57 46.8 +0.9
baz=88,SNR=15
E22A Miles City 87.47 338 ⇑P P 11 57 46.6 +0.2
baz=88,SNR=5.8
B29A Wagenman Farm, 87.56 343 ⇓P P 11 57 47.5 +0.8
baz=88,SNR=20
F20A Billings 87.59 336 ⇓P P 11 57 47.1 +0.1
baz=88
D24A Glendive 87.61 339 ⇑P P 11 57 47.7 +0.7
baz=88,SNR=18
C26A Wahner Farm, P 87.65 341 ⇓P P 11 57 48.2 +1.1
baz=88,SNR=13
A30A Hoffart Farm, 87.76 344 ⇑P P 11 57 48.2 +0.5
baz=88,SNR=11
B28A Dugan Ranch, T 87.78 342 ⇑P P 11 57 48.5 +0.7
baz=88,SNR=26
QLMT Earthquake Lak 87.85 334 eP P 11 57 49.5 +1.1
comp=Z,1.7nm,1.0s
C25A Freed Ranch, W 87.85 340 ⇓P P 11 57 49.0 +0.9
baz=88,SNR=8.0
HLID Hailey 87.87 331 ⇓P P 11 57 49.7 +1.2
baz=88,SNR=9.6
F19A Roth Farm, Mol 87.89 336 ⇓P P 11 57 48.5 +0.1
baz=88
E21A Keefer Ranch, 87.91 337 ⇓P P 11 57 49.1 +0.7
baz=88,SNR=5.4
D23A Lindsay 87.91 339 ⇑P P 11 57 49.4 +1.0
baz=88,SNR=20
A29A Manning Farm, 87.96 343 ⇑P P 11 57 48.6 0.0
baz=88,SNR=38
B27A Peters Farms, 87.97 342 ⇓P P 11 57 49.0 +0.4
baz=88,SNR=9.8
C24A Savage 88.01 339 ⇓P P 11 57 49.2 +0.3
baz=88,SNR=26
D22A Cohagen 88.18 338 ⇓P P 11 57 50.0 +0.3
baz=89,SNR=9.2
A28A Rude Farm, Bot 88.19 343 ⇑P P 11 57 50.4 +0.7
baz=89,SNR=9.3
B26A Jensen Ranch, 88.19 341 ⇑P P 11 57 50.6 +0.9
baz=89,SNR=7.2
B25A Knox Farm, Ray 88.34 341 ⇑P P 11 57 51.4 +1.0
baz=89,SNR=9.2
D21A La Casta Ranch 88.35 338 ⇑P P 11 57 51.0 +0.5
baz=89
MCMT McKenzie Canyo 88.36 333 eP P 11 57 52.0 +1.2
comp=Z,7.4nm,0.9s
E19A Rath Farm, Rou 88.38 336 ⇓P P 11 57 51.1 +0.4
baz=89,SNR=12
A27A Ledoux Ranch, 88.47 342 ⇓P P 11 57 52.1 +1.1
baz=89
C23A Lambert 88.47 339 ⇓P P 11 57 51.5 +0.4
baz=89,SNR=10
ULM Lac du Bonnet 88.48 346 P P 11 57 51.0 0.0
ULM Lac du Bonnet 88.48 346 P P 11 57 51.0 0.0
comp=Z,15nm,0.9s,baz=174,slow=3.6,SNR=18
A26A Wade Farm, Ken 88.62 341 ⇓P P 11 57 52.5 +0.8
baz=89,SNR=5.4
C22A Vida 88.63 339 ⇓P P 11 57 52.2 +0.4
baz=89,SNR=6.1
D20A Manuel Ranch, 88.73 337 ⇑P P 11 57 52.7 +0.4
baz=89,SNR=7.5
DGMT Dagmar 88.80 340 eP P 11 57 52.7 +0.1
comp=Z,38nm,1.0s
DGMT Dagmar 88.80 340 ⇑P P 11 57 53.3 +0.8
baz=89,SNR=13
A25A Svangstu Ranch 88.94 341 ⇑P P 11 57 54.4 +1.2
baz=89,SNR=8.4
B23A Brockton 89.02 340 ⇑P P 11 57 54.5 +0.9
baz=89
D19A Cripps Ranch, 89.03 337 ⇓P P 11 57 54.0 +0.2
baz=89
C21A Desert Coulee 89.06 338 ⇓P P 11 57 53.7 -0.1
baz=89
LRM Limekiln Ridge 89.07 334 eP P 11 57 54.5 +0.3
comp=Z,43nm,0.9s
B22A Reddig Ranch S 89.16 339 ⇑P P 11 57 54.7 +0.4
baz=90,SNR=14
A24A Westby 89.16 340 ⇑P P 11 57 54.7 +0.5
baz=90
C20A Veseth Ranch, 89.24 337 ⇓P P 11 57 54.8 +0.1
baz=90
M04C Macdoel 89.52 326 ⇑P P 11 57 57.1 +0.8
baz=90
B21A Ellsworth Farm 89.57 338 ⇓P P 11 57 57.0 +0.8
baz=90
C19A Slack Wire Ran 89.58 337 ⇑P P 11 57 57.0 +0.6
baz=90
A22A Carney Farms, 89.76 339 ⇓P P 11 57 57.4 +0.3
baz=90,SNR=11
LSZ Lusaka 90.04 109 eP P 11 58 00.6 +1.1
LSZ pmax pmax
comp=Z,16nm,1.3s
LSZ Lusaka 90.04 109 eP P 11 58 00.6 +1.1
comp=Z,16nm,1.3s
A21A Bergtoll Ranch 90.05 339 ⇓P P 11 57 58.5 0.0
baz=90,SNR=6.1
EGMT Eagleton 90.07 336 ⇓P P 11 57 58.0 -0.6
baz=90
A20A Cobblestone Ra 90.25 338 ⇓P P 11 57 59.1 -0.3
baz=91,SNR=6.9
CHMT Chamberlain Mo 90.29 334 eP P 11 58 00.5 +0.7
comp=Z,6.6nm,1.5s
J05D Fort Rock, OR 90.45 327 ⇑P P 11 58 01.6 +1.0
baz=91
MSO Missoula 90.46 333 ⇓P P 11 58 01.1 +0.6
baz=91
A19A Klindworth Far 90.54 338 ⇑P P 11 58 00.9 +0.2
baz=91
J04D Umpqua Nationa 90.80 327 ⇑P P 11 58 02.6 +0.3
baz=91
SCHQ Schefferville 90.96 4 P P 11 58 02.1 -0.4
comp=Z,7.6nm,1.0s,baz=212,slow=16,SNR=4.3
SWMT Swartz Lake 91.06 334 eP P 11 58 03.1 -0.2
comp=Z,4.2nm,1.0s
JTMT Jette 91.37 334 eP P 11 58 05.1 +0.4
comp=Z,7.8nm,1.2s
YBMT Yellow Bay 91.37 334 eP P 11 58 05.3 +0.6
comp=Z,8.2nm,1.1s
BLMT Blacktail Moun 91.62 334 eP P 11 58 06.8 +0.8
comp=Z,5.8nm,0.2s
BSMT Bassoo Peak 91.64 333 eP P 11 58 07.0 +0.9
comp=Z,5.6nm,0.9s
NEW Newport 92.84 332 ⇓P P 11 58 11.6 +0.2
baz=93
ESDC Sonseca Array 98.92 47 LR LR 12 42 12.6
comp=Z,2μm,20.1s,baz=200,slow=35
YKA Yellowknife Ar 103.93 342 Pdiff Pdif 11 59 00.2 -0.7
comp=Z,0.5nm,0.9s,baz=142,slow=4.9,SNR=6.5
GERES GERESS Array B 114.51 46 PKP PKPdf 12 03 37.8 -0.9
comp=Z,1.4nm,1.0s,baz=270,slow=0.6,SNR=4.6
CLL Collm 115.24 44 ePP PP 12 04 41.0 -0.3
ILAR Eielson Array 115.79 333 PKP PKPdf 12 03 39.6 -1.0
comp=Z,0.3nm,0.8s,baz=253,slow=2.5,SNR=5.0
WRA Warramunga Arr 118.23 210 PKP PKPdf 12 03 45.9 -0.9
comp=Z,0.6nm,0.7s,baz=157,slow=1.7,SNR=5.2
MLR Muntele Rosu 120.69 54 PKP PKPdf 12 03 49.4 -1.4
comp=Z,0.9nm,0.9s,baz=126,slow=5.4,SNR=5.7
BUR08 Bucovina Ar. S 121.01 51 ePKPdf PKPdf 12 03 52.1 +0.9
BRTR Keskin Array B 123.84 63 PKP PKPdf 12 03 55.8 -1.3
comp=Z,2.4nm,0.8s,baz=189,slow=2.6,SNR=10
AKASG Malin Array Be 124.51 49 PKP PKPdf 12 03 55.6 -2.1
comp=Z,2.7nm,0.8s,baz=261,slow=2.6,SNR=7.1
SPITS Spitsbergen Ar 125.18 15 PKP PKPdf 12 03 57.4 -0.9
comp=Z,14nm,1.1s,baz=260,slow=2.5,SNR=4.4
ARCES ARCESS Array B 126.56 26 PKP PKPdf 12 04 00.9 -0.2
comp=Z,2.9nm,0.8s,baz=322,slow=5.7,SNR=3.7
OBN Obninsk 129.82 45⇑iPKIKP PKPdf 12 04 07.8 +0.1
OBN e 12 04 17.3
OBN pmax pmax
comp=Z,13nm,0.8s
OBN Obninsk 129.82 45 PKP PKPdf 12 04 08.4 +0.7
comp=Z,18nm,0.4s,baz=182,slow=15,SNR=4.1
KBZ Khabaz 131.66 61 PKP PKPdf 12 04 11.4 -0.1
comp=Z,2.6nm,0.8s,baz=243,slow=16,SNR=3.1
ZEI Tsey 132.14 62 ePKIKP PKPdf 12 04 11.8 -1.0
ZEI pmax pmax
comp=Z,9.0nm,1.3s
BILL Bilibino 134.46 333 ePKIKP PKPdf 12 04 17.8 +1.7
BILL pmax pmax
comp=Z,3.0nm,1.5s
SEY Seymchan 141.50 328 PKhKP PKPpre 12 04 23.1
comp=Z,1.1nm,0.5s,baz=30,slow=22,SNR=3.5
GEYT Alibeck 141.58 73 PKhKP PKPpre 12 04 23.8
comp=Z,1.5nm,0.4s,baz=238,slow=8.5,SNR=4.0
ARU Arti 142.16 42 PKIKP PKPdf 12 04 28.1 -2.5
AKTO Aktyubinsk 142.60 52 PKhKP PKPpre 12 04 26.4
comp=Z,2.5nm,0.5s,baz=272,slow=2.0,SNR=6.3
TIXI Tiksi 142.78 349 ePKHKP PKPpre 12 04 25.2
TIXI Tiksi 142.78 349 ePKPdf PKPpre 12 04 25.2
ABKAR Akbulak array 143.91 54 PKPdf PKPab 12 04 30.6 -0.5
KSM Kuching 145.16 186 ePKPbc PKPbc 12 04 36.5 -0.2
POO Poona 146.09 113⇓iP PKPdf 12 04 38.0 -0.7
comp=Z,40nm,1.0s
IPM Ipoh 147.88 169 ePKPbc PKPbc 12 04 44.0 -0.8
HYB Hyderabad 148.79 120 iPKP PKPdf 12 04 45.0 +1.8
BVAR Borovoye Array 149.67 45 PKP PKPdf 12 04 40.7 -2.8
comp=Z,1.8nm,0.6s,baz=289,slow=4.2,SNR=4.3
BVAR PKPbc PKPbc 12 04 46.8 -1.3
comp=Z,4.5nm,0.6s,baz=207,slow=0.7,SNR=11
YAK Yakutsk 150.54 338 ePKIKP PKPbc 12 04 48.8 -1.1
YAK pmax pmax
comp=Z,75nm,0.9s
YAK Yakutsk 150.54 338 ePKPbc PKPbc 12 04 49.8 -0.1
YSS Yuzh-Sakhalins 151.28 303⇑ePKIKP PKPbc 12 04 54.1 +2.0
YSS e 12 05 00.0
KKAR Karatay Array 151.51 65 PKIKP PKPdf 12 04 41.5 -5.2
KKAR Karatay Array 151.51 65 PKPdf PKPdf 12 04 41.5 -5.2
ASAJ Asahikawa 151.68 297 PKPab PKPab 12 05 01.4 -0.7
comp=Z,9.5nm,0.8s,baz=285,slow=4.9,SNR=4.9
AAK Ala-Archa 154.46 66 ePKIKP PKPdf 12 04 51.7 +0.5
AAK e 12 04 59.8
AAK 12 05 00.3
AAK Ala-Archa 154.46 66 PKPbc PKPbc 12 05 00.3 +0.7
comp=Z,5.0nm,0.9s,baz=176,slow=2.7,SNR=5.7
AAK PKPab PKPab 12 05 14.7 +0.6
comp=Z,28nm,1.1s,baz=217,slow=3.1,SNR=16
AAK Ala-Archa 154.46 66 ePKPdf PKPdf 12 04 51.7 +0.5
AAK ePKPbc PKiKP 12 04 59.8 +0.2
AAK PKPbc PKPbc 12 05 00.3 +0.7
AAK ePKPab PKPab 12 05 14.7 +0.6
MJAR Matsushiro Arr 154.71 280 PKPab PKPab 12 05 16.5 +1.4
comp=Z,2.0nm,0.9s,baz=127,slow=6.9,SNR=4.1
NVS Novosibirsk 155.45 34 ePKIKP PKPdf 12 04 50.5 -1.4
NVS pmax pmax
comp=Z,21nm,1.5s
KSH Kashi 155.61 73 ePKP PKPdf 12 05 00.0 +7.2
KSH epPKP pPKPdf 12 05 10.3 +7.4
KSH esPKP 12 05 14.0
KSH ePP PP 12 09 09.3 +13
KSH eSKS SKSdf 12 12 00.5 +3.4
ZALV Zalesovo Beam 156.73 34 PKIKP PKPdf 12 04 53.0 -0.6
ZALV Zalesovo Beam 156.73 34 PKP PKPdf 12 04 53.0 -0.6
comp=Z,9.4nm,0.9s,baz=285,slow=2.3,SNR=14
ZALV PKPab PKPab 12 05 23.1 0.0
comp=Z,9.9nm,0.8s,baz=300,slow=2.7,SNR=6.2
KLR Kul'dur 157.67 313 ePKP2 PKPab 12 05 41.7 +14
BOD Bodaibo 157.96 350 ePKP2 PKPab 12 05 26.8 -1.5
BOD pmax pmax
comp=Z,12nm,1.2s
MK31 Makanchi Array 159.03 53 ePKIKP PKPdf 12 04 56.5 -0.2
MK31 Makanchi Array 159.03 53 ePKPdf PKPdf 12 04 56.5 -0.2
MKAR Makanchi Array 159.03 53 PKP PKPdf 12 04 56.6 -0.2
comp=Z,3.6nm,0.8s,baz=318,slow=1.6,SNR=12
MKAR PKPab PKPab 12 05 33.9 +0.4
comp=Z,4.6nm,0.8s,baz=294,slow=3.5,SNR=7.4
CMAR Chiang Mai Arr 160.93 157 PKP PKPdf 12 04 59.4 -0.3
comp=Z,0.6nm,0.3s,baz=244,slow=1.1,SNR=5.3
ZAK Zakamensk 165.74 9⇑ePKIKP PKPdf 12 05 09.7 +6.3
ZAK i 12 06 02.9
ZAK pmax pmax
comp=Z,2.0nm,1.8s
ZAK pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 168.50 1 PKP PKPdf 12 05 04.3 -1.3
comp=Z,0.7nm,0.7s,baz=197,slow=0.9,SNR=5.1
SONM PKPab PKPab 12 06 15.5 +0.6
comp=Z,4.6nm,0.9s,baz=332,slow=2.5,SNR=14
NJ2 Nanjing 169.07 251 ePKP PKPdf 12 05 08.0 +1.8
GYA Guiyang 170.16 180 PKP PKPdf 12 05 06.5 -0.7
GYA pPKP pPKPdf 12 05 18.5 +1.2

GYA				PKPab	PKPab	12 06 25.0	+2.2
GYA				PKS	PKSdf	12 08 35.5	-4.4
GYA				PP	PP	12 10 15.5	+3.6
GYA				SKKS		12 16 57.0	
GYA				SS	SS	12 31 09.5	+0.2
GYA				AMB	AMB		
	comp=Z,140nm,8.3s						
GYA				LR	LR		
	comp=Z,160nm,21.4s						
GYA				LR	LR		
	comp=Z,140nm,21.5s						
GYA				LR	LR		
	comp=Z,160nm,24.0s						
GTA	**Gaotai**	**173.74**	**58**	*e*PKP	**PKPdf**	**12 05 08.5**	**0.0**
GTA				pPKP	**pPKPdf**	**12 05 19.0**	**+0.4**
GTA				sPKP		12 05 22.8	
GTA				PKPab	**PKPab**	**12 06 39.5**	**+0.8**
CD2	**Chengdu**	**174.06**	**155**	PKP	**PKPdf**	**12 05 08.5**	**-0.3**
CD2				pPKP	**pPKPdf**	**12 05 20.0**	**+1.1**
CD2				sPKP		12 05 23.8	
CD2				PKS	**PKSdf**	**12 08 39.5**	**-1.6**
CD2				PP	**PP**	**12 10 35.0**	**+3.6**
CD2				SKS	**SKSdf**	**12 12 06.3**	**-3.5**
CD2				SKKS	**SKKSac**	**12 17 15.8**	**-0.5**
CD2				SS	**SS**	**12 31 47.0**	**-0.9**
CD2				AMB	AMB		
	comp=Z,420nm,6.2s						
HHC	**Hu-ho-hao-te**	**174.09**	**321**	*e*PKP	**PKPdf**	**12 05 03.8**	**-4.8**
HHC				sPKP		12 05 18.5	
LZH	**Lanzhou**	**177.68**	**95**	*e*PKP	**PKPdf**	**12 05 09.5**	**-0.2**
LZH				pPKP	**pPKPdf**	**12 05 19.5**	**-0.2**
LZH				sPKP		12 05 25.5	
LZH				*e*PKPab	PKPab	12 06 58.3	+1.9

JMA 27 11:46:38.1±0.4, 26.03N×128.70E, h35km, M2.1, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.78**	**309**	P	Pn	11 46 52.3	-0.3
JJT2	**Tamagusuku 2**	**0.86**	**277**	P	Pn	11 46 54.1	+0.4
JOW	**Kunigami**	**0.89**	**335**	P	Pn	11 46 54.4	+0.3
JOW	**Kunigami**	**0.89**	**335**	*e*PKPdf	Pn	11 46 54.5	+0.4
JIH	**Iheya**	**1.20**	**327**	P	Pn	11 46 59.1	+0.8
JIH				S	Sn	11 47 13.9	+0.5
JOKE	**Okinoerabujima**	**1.33**	**355**	P	Pn	11 47 01.2	+1.0
JOKE				S	Sn	11 47 17.8	+1.1
JAGN	**Aguni-jima**	**1.42**	**293**	P	Pn	11 47 02.4	+1.0
JAGN				S	Sn	11 47 19.4	+0.5
JKE	**Kume jima 2**	**1.75**	**280**	P	Pn	11 47 06.0	+0.1
JKE				S	Sn	11 47 26.2	-0.7
JTK	**Tokunoshima**	**1.76**	**7**	P	Pn	11 47 07.1	+0.9
JTK				S	Sn	11 47 27.8	+0.4
JMZ	**Minamidaito 2**	**2.28**	**95**	P	Pn	11 47 13.4	+0.2

*SKHL **27** 11:48:59.5±0.1, 48.75N×156.12E, h70km±9km, mb4.4/3*
*KRSC **27** 11:49:00.9±2.2, 49.07N×156.67E, h6km±5km, ML4.6*
*ISCJB **27** 11:49:01.8±0.8, 48.99N±0.06×155.6E±0.1, h65km±8km, mb3.8/10, Error ellipse: s-maj=13.8km s-min=4.9km az=39.7*
*MOS **27** 11:49:01.7±1.3, 49.03N×155.59E, h65km, mb4.2/6, Error ellipse: s-maj=20.0km s-min=8.0km az=73.9*
*IDC **27** 11:49:06.0±2.3, 49.08N×155.33E, h82km±19km, mb3.5/10, mb1 3.8/15, mb1mx3.5/54, mbtmp3.9/15, Error ellipse: s-maj=24.1km s-min=12.5km az=133.0*
ISC 27 11:49:01.9±1.2, 48.92N±0.08×155.71E±0.08, h50km±11km, n71, σ1.73/85, mb3.9/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.79**	**8**	*e*PN	Pn	11 49 24.5	-5.8
SKR				*i* S	**Sn**	**11 49 48.5**	**-3.3**
SKR				pmax	pmax		
	comp=N,130nm,0.4s						
SKR				pmax	pmax		
	comp=Z,160nm,0.4s						
SKR				smax	smax		
	comp=N,2μm,0.3s						
SKR				smax	smax		
	comp=E,790nm,0.3s						
SKR	**Severo-Kuril's**	**1.79**	**8**	P	**Pn**	**11 49 28.9**	**-1.4**
SKR				*e*S	**Sn**	**11 49 50.0**	**-1.8**
SKR	**Severo-Kuril's**	**1.79**	**8**	*e*P	**Pn**	**11 49 27.5**	**-2.8**
SKR				AMB	AMB	11 49 28.0	
	comp=E,130nm,0.4s						
SKR				AMB	AMB	11 49 28.0	
	comp=E,160nm,0.4s						
SKR				*e*rx	rx	11 49 29.2	
SKR				*e*rx	rx	11 49 31.4	
SKR				*i* S	**Sn**	**11 49 48.5**	**-3.3**
SKR				A	A	11 49 51.5	
	comp=E,2μm,0.3s						
SKR				A	A	11 49 51.5	
	comp=E,790nm,0.3s						
SKR				A	A	11 49 51.5	
	comp=E,630nm,0.3s						
PAU	**Pauzhetka**	**2.65**	**15**	PN	**Pn**	**11 49 41.4**	**-0.6**
PAU				S	**Sn**	**11 50 10.8**	**-2.1**
PAU	**Pauzhetka**	**2.65**	**15**	P	**Pn**	**11 49 41.4**	**-0.6**
PAU				*e*S	**Sn**	**11 50 10.8**	**-2.1**
PAU	**Pauzhetka**	**2.65**	**15**	*e*P	**Pn**	**11 49 41.5**	**-0.6**
PAU				*e*S	**Sn**	**11 50 13.0**	**+0.1**
MIPR	**Malaya Ipel'ka**	**3.43**	**11**	*e*P	**Pn**	**11 49 54.1**	**+1.3**
MIPR				S	**Sn**	**11 50 33.6**	**+1.5**
ASAK	**Asacha**	**3.74**	**21**	*e*P	**Pn**	**11 49 57.5**	**+0.4**
ASAK				S	**Sn**	**11 50 39.0**	**-0.9**
MTVR	**Mutnovka**	**3.90**	**23**	*e*P	**Pn**	**11 50 00.2**	**+0.8**
MTVR				*e*S	**Sn**	**11 50 44.3**	**+0.4**
RUS	**Russkaya**	**3.94**	**26**	PN	**Pn**	**11 49 59.4**	**-0.4**
RUS				S	**Sn**	**11 50 42.1**	**-2.7**
RUS	**Russkaya**	**3.94**	**26**	*e*P	**Pn**	**11 49 59.4**	**-0.4**
RUS				*e*S	**Sn**	**11 50 42.1**	**-2.7**
RUS	**Russkaya**	**3.94**	**26**	*e*P	**Pn**	**11 49 59.4**	**-0.4**
APC	**Apacha**	**4.12**	**12**	*e*P	**Pn**	**11 50 05.0**	**+2.8**
APC				*e*S	**Sn**	**11 50 52.2**	**+3.2**
PETK	**Petropavlovsk-**	**4.38**	**16**	PN	**Pn**	**11 50 07.5**	**+1.7**
PETK				S	**Sn**	**11 50 58.3**	**+2.8**
PETK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.38**	**16**	P	**Pn**	**11 50 07.5**	**+1.7**
	comp=Z,6.8nm,0.3s,baz=180,slow=13,SNR=139						
PETK				S	**Sn**	**11 50 58.3**	**+2.8**
	baz=189,slow=26,SNR=2.1						
PET	**Petropavlovsk**	**4.51**	**23**	*e*PN	**Pn**	**11 50 08.7**	**+1.1**
PET				*e*S	**Sn**	**11 51 00.5**	**+1.8**
PET				pmax	pmax		
	comp=Z,31nm,0.6s						
PET				smax	smax		
	comp=E,221nm,0.6s						
PET				smax	smax		
	comp=N,182nm,0.6s						
PET	**Petropavlovsk**	**4.51**	**23**	*e*P	**Pn**	**11 50 08.0**	**+0.4**
PET				*e*S	**Sn**	**11 50 57.6**	**-1.1**
PET	**Petropavlovsk**	**4.51**	**23**	*e*P	**Pn**	**11 50 08.7**	**+1.1**
PET				AMB	AMB	11 50 12.5	
	comp=N,30nm,0.6s						
PET				*e*S	**Sn**	**11 51 00.5**	**+1.8**
PET				A	A	11 51 10.8	
	comp=N,180nm,0.6s						
PET				A	A	11 51 10.8	
	comp=N,220nm,0.6s						
UGLR	**Uglovaya**	**4.72**	**23**	*e*P	**Pn**	**11 50 12.1**	**+1.5**
UGLR				*e*S	**Sn**	**11 51 04.3**	**+0.2**
AVH	**Avacha**	**4.75**	**22**	*e*P	**Pn**	**11 50 13.1**	**+2.1**
AVH				S	**Sn**	**11 51 05.9**	**+1.1**
KOK	**Koryaka**	**4.75**	**22**	*e*P	**Pn**	**11 50 13.2**	**+2.2**
KOK				S	**Sn**	**11 51 06.2**	**+1.4**
SMAR	**Somma**	**4.77**	**23**	*e*P	**Pn**	**11 50 12.8**	**+1.5**
KRER	**Koryakskii**	**4.79**	**22**	*e*P	**Pn**	**11 50 13.3**	**+1.7**
KRER				S	**Sn**	**11 51 06.9**	**+1.0**
SDLR	**Sedlovina**	**4.80**	**23**	*e*P	**Pn**	**11 50 12.5**	**+0.8**
SDLR				*e*S	**Sn**	**11 51 04.6**	**-1.4**
KRX	**Arik**	**4.82**	**21**	*e*P	**Pn**	**11 50 13.7**	**+1.8**
KRX				*e*S	**Sn**	**11 51 06.9**	**+0.5**
NLC	**Nalytchevo**	**4.84**	**27**	S	**Sn**	**11 51 04.5**	**-2.2**
GNL	**Ganaly**	**4.98**	**15**	*e*P	**Pn**	**11 50 16.6**	**+2.4**
GNL				S	**Sn**	**11 51 11.8**	**+1.3**
KUR	**Kuril'sk**	**6.50**	**238**	*e*S	**Sn**	**11 51 48.0**	**+0.3**
KUR				A	A	11 52 09.9	
	comp=N,140nm,0.7s						
KUR				A	A	11 52 09.9	
	comp=N,110nm,0.7s						
TUMR	**Tumrok**	**6.93**	**21**	*e*P	**Pn**	**11 50 42.6**	**+1.7**
KBTR	**Krutoberegovo**	**8.48**	**28**	PN	**Pn**	**11 51 02.9**	**+0.9**
KBTR	**Krutoberegovo**	**8.48**	**28**	P	**Pn**	**11 51 02.9**	**+0.9**
YSS	**Yuzh-Sakhalins**	**8.92**	**262**	*e*PN	Pn	11 51 21.0	+13
YSS	**Yuzh-Sakhalins**	**8.92**	**262**	*e*rx	rx	11 51 21.0	
JKA	**Kamikawa-asahi**	**10.23**	**247**	*e*P	**Pn**	**11 51 28.1**	**+2.2**
ASAJ	**Asahikawa**	**10.23**	**247**	PN	**Pn**	**11 51 28.1**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**10.23**	**247**	P	**Pn**	**11 51 28.1**	**+2.1**
	comp=Z,1.5nm,0.3s,baz=67,slow=13,SNR=13						
NKL	**Nikolayevsk**	**10.37**	**300**	*e*rx	rx	11 51 21.8	
FX1	**Attu Island--F**	**11.71**	**64**	P	**Pn**	**11 51 46.5**	**+0.5**
	comp=Z,7.8nm,0.3s,baz=242,slow=4.8,SNR=16						
FX1				S	**Sn**	**11 53 49.6**	**-5.5**
	comp=Z,9.0nm,0.3s,baz=12,slow=14,SNR=8.9						
SEY	**Seymchan**	**14.17**	**354**	P	**Pn**	**11 52 20.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=136,slow=11,SNR=4.7						
EKMR	**Ekimchan**	**14.90**	**295**	*e*P	**Pn**	**11 52 27.6**	**-1.6**
EKMR				AMB	AMB	11 52 33.5	
	comp=Z,12nm,0.8s						
KLR	**Kul'dur**	**15.70**	**280**	*e*rx	rx	11 52 57.8	
USRK	**Ussuriysk Arra**	**16.96**	**263**	P	**Pn**	**11 52 55.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=45,slow=19,SNR=6.0						
MJAR	**Matsushiro Arr**	**17.79**	**232**	P	**P**	**11 53 07.0**	**+1.0**
MJAR	**Matsushiro Arr**	**17.79**	**232**	P	**P**	**11 53 07.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=39,slow=11,SNR=4.5						
MJAR	**Matsushiro Arr**	**17.79**	**232**	*e*P	**P**	**11 53 07.0**	**+1.0**
BILL	**Bilibino**	**19.90**	**12**	*e*P	**P**	**11 53 28.8**	**0.0**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.2s						
BILL	**Bilibino**	**19.90**	**12**	*e*P	**P**	**11 53 28.8**	**0.0**
CLNS	**Chul'man**	**20.08**	**305**	*e*P	**P**	**11 53 31.4**	**+0.5**
CLNS				pmax	pmax		
	comp=Z,15nm,0.9s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.2s						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.2s						
CLNS	**Chul'man**	**20.08**	**305**	*e*P	**P**	**11 53 31.4**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**30.48**	**159**	T	T	12 27 33.0	
	baz=345,slow=77,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**30.49**	**159**	T	T	12 27 33.5	
	baz=345,slow=77,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**30.49**	**159**	T	T	12 27 32.6	
	baz=345,slow=77,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**31.61**	**160**	T	T	12 28 56.2	
	baz=346,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**31.62**	**160**	T	T	12 28 54.6	
	baz=346,slow=76,SNR=65						
H11S2	**WAKE ISLAND Hy**	**31.63**	**160**	T	T	12 28 46.0	
	baz=346,slow=76,SNR=55						
ILAR	**Eielson Array**	**33.76**	**41**	P	**P**	**11 55 39.7**	**+1.4**
	comp=N,0.4nm,0.7s,baz=252,slow=7.3,SNR=7.1						
MKAR	**Makanchi Array**	**47.52**	**297**	P	**P**	**11 57 30.7**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.52**	**297**	P	**P**	**11 57 30.7**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=62,slow=5.6,SNR=7.6						
YKA	**Yellowknife Ar**	**48.14**	**39**	P	**P**	**11 57 38.0**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=194,slow=7.3,SNR=4.8						
CMAR	**Chiang Mai Arr**	**54.58**	**257**	P	**P**	**11 58 25.3**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**54.58**	**257**	P	**P**	**11 58 25.3**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=35,slow=6.3,SNR=6.3						
ARCES	**ARCESS Array B**	**56.37**	**341**	P	**P**	**11 58 36.3**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	**ARCESS Array B**	**56.37**	**341**	P	**P**	**11 58 36.3**	**-1.0**
	comp=Z,5.9nm,1.0s,baz=44,slow=7.8,SNR=3.7						
FINES	**FINESS Array B**	**62.81**	**335**	P	**P**	**11 59 19.6**	**-2.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**62.81**	**335**	P	**P**	**11 59 19.6**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=42,slow=6.2,SNR=5.3						
WRA	**Warramunga Arr**	**71.15**	**201**	P	**P**	**12 00 14.8**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**71.15**	**201**	P	**P**	**12 00 14.8**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=18,slow=6.6,SNR=12						
TXAR	**Lajitas Array**	**74.92**	**63**	P	**P**	**12 00 39.7**	**+2.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**74.92**	**63**	P	**P**	**12 00 39.7**	**+2.1**
	comp=Z,0.8nm,0.5s,baz=301,slow=4.3,SNR=11						
GERES	**GERESS Array B**	**77.25**	**335**	P	**P**	**12 00 48.1**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=358,slow=6.4,SNR=3.2						
MMAI	**Mount Meron Ar**	**82.65**	**313**	P	**P**	**12 01 19.2**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=46,slow=6.4,SNR=3.5						

*ISCJB **27** 11:49:37.4±0.3, 37.63S±0.07×72.8W±0.1, h30km, mb4.5/21, Error ellipse: s-maj=15.7km s-min=8.5km az=150.3*
*IDC **27** 11:49:37.8±0.7, 37.79S×73.11W, h28km±4km, mb4.4/15, mb1 4.4/17, mb1mx4.3/33, mbtmp4.5/17, ML4.0/2, Error ellipse: s-maj=24.2km s-min=11.9km az=63.0*
*NEIC **27** 11:49:38.6±0.3, 37.80S×73.10W, h35km, mb4.5/5, Error ellipse: s-maj=14.9km s-min=8.2km az=70.0*
ISC 27 11:49:38.3±0.5, 37.78S±0.09×73.0W±0.1, h33km, n291, σ1.04/294, mb4.6/21, 90C-121D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.52**	**148**	Pn	**Pn**	**11 50 31.7**	**+1.0**
	4.2nm,0.3s,baz=288,slow=18,SNR=2.7						
PLCA				Lg	Lg	11 51 31.2	
	29nm,0.3s,baz=124,slow=9.2,SNR=4.2						
CFAA	**Coronel Fontan**	**7.32**	**34**	Pn	**Pn**	**11 51 24.0**	**+1.1**
	0.9nm,0.3s,baz=236,slow=11,SNR=2.2						
LPAZ	**La Paz**	**21.84**	**13**	P	**P**	**11 54 29.9**	**+1.1**
	4.3nm,0.8s,baz=194,slow=11,SNR=3.0						
LPAZ	**La Paz**	**21.84**	**13**	*e*P	**P**	**11 54 29.5**	**+0.8**
	10nm,0.7s						
SIV	**San Ignacio**	**24.14**	**29**	P	**P**	**11 54 47.7**	**-3.7**
	8.1nm,0.8s,baz=240,slow=9.5,SNR=3.8						
NNA	**Nana**	**25.91**	**351**	P	**P**	**11 55 07.2**	**-0.3**
	6.3nm,0.4s,baz=214,slow=11,SNR=4.3						
SNAA	**Sanae**	**48.42**	**157**	P	**P**	**11 58 17.9**	**+1.0**
	4.4nm,0.9s,baz=295,slow=7.4,SNR=6.6						
JTS	**JuntasAbangare**	**49.11**	**344**	P	**P**	**11 58 23.6**	**+0.9**
	4.1nm,0.6s,baz=156,slow=6.4,SNR=3.6						
QSPA	**South Pole Qui**	**52.46**	**180**	P	**P**	**11 58 48.4**	**+0.8**
	11nm,0.8s,baz=308,slow=1.5,SNR=7.6						
APG	**El Apazote**	**55.00**	**339**	P	P	11 59 03.2	-3.6
	4.1nm,0.7s,baz=180,slow=9.5,SNR=9.2						
TEIG	**Tepich**	**59.46**	**343**	P	**P**	**11 59 36.5**	**-1.4**
	8.1nm,0.7s,baz=131,slow=5.1,SNR=5.6						
934A	**Benavides**	**69.30**	**336**	P	**P**	**12 00 44.7**	**+2.5**
	baz=70						
834A	**Tilden**	**69.79**	**336**	P	**P**	**12 00 46.9**	**+1.6**
	baz=70						
833A	**Chaparral WMA,**	**70.25**	**335**	⇓P	**P**	**12 00 48.2**	**+0.1**
	baz=71						
832A	**Faith Ranch, C**	**70.41**	**335**	⇑P	**P**	**12 00 49.2**	**+0.2**
	baz=71						
734A	**La Parita Cree**	**70.47**	**336**	P	**P**	**12 00 50.4**	**+1.1**
	baz=71						
636A	**Smothers Creek**	**70.59**	**338**	P	**P**	**12 00 51.5**	**+1.4**
	baz=71						
732A	**Laxson Ranch,**	**70.82**	**335**	⇑P	**P**	**12 00 52.1**	**+0.6**
	baz=71						
537A	**Green Hill Far**	**70.94**	**339**	P	**P**	**12 00 54.0**	**+1.8**
	baz=71						
632A	**Uvalde**	**71.47**	**336**	⇓P	**P**	**12 00 55.8**	**+0.3**
	baz=72						
631A	**Perdido Creek**	**71.65**	**335**	⇓P	**P**	**12 00 56.9**	**+0.3**
	baz=72						
533A	**Kerrville**	**71.75**	**336**	⇑P	**P**	**12 00 57.4**	**+0.2**
	baz=72						
532A	**Rocksprings**	**72.08**	**336**	⇑P	**P**	**12 01 00.2**	**+0.9**
	baz=72,SNR=7.9						
434A	**Burnet**	**72.20**	**337**	⇓P	**P**	**12 01 00.2**	**+0.3**
	baz=72,SNR=6.3						
336A	**Riesel**	**72.32**	**339**	⇓P	**P**	**12 01 01.1**	**+0.6**
	baz=73,SNR=5.3						
531A	**Rocksprings**	**72.33**	**335**	⇑P	**P**	**12 01 01.8**	**+1.2**
	baz=73,SNR=5.2						
JCT	**Junction City**	**72.38**	**336**	⇓P	**P**	**12 01 01.5**	**+0.6**
	baz=73,SNR=8.1						
433A	**Art**	**72.40**	**337**	⇑P	**P**	**12 01 01.6**	**+0.5**
	baz=73,SNR=5.3						
530A	**J-C Ranch, Com**	**72.58**	**335**	⇓P	**P**	**12 01 03.3**	**+1.1**
	baz=73,SNR=8.8						
TXAR	**Lajitas Array**	**72.67**	**332**	P	**P**	**12 01 03.4**	**+0.7**
	3.9nm,0.7s,baz=151,slow=9.0,SNR=16						
334A	**Lometa**	**72.68**	**338**	⇑P	**P**	**12 01 03.4**	**+0.7**
	baz=73,SNR=7.1						
432A	**Menard**	**72.74**	**336**	⇑P	**P**	**12 01 03.5**	**+0.4**
	baz=73						
431A	**Sonora**	**72.83**	**335**	⇓P	**P**	**12 01 04.2**	**+0.6**
	baz=73,SNR=6.9						
529A	**Stev Forest Ra**	**72.86**	**334**	⇓P	**P**	**12 01 04.8**	**+0.9**
	baz=73						
333A	**Richland Sprin**	**72.90**	**337**	⇓P	**P**	**12 01 04.4**	**+0.4**
	baz=73,SNR=5.2						
WHTX	**Lake Whitney**	**73.06**	**338**	⇓P	**P**	**12 01 05.3**	**+0.4**
	baz=73						
430A	**Baggett Ranch,**	**73.13**	**335**	⇓P	**P**	**12 01 06.1**	**+0.7**
	baz=73,SNR=10.0						
332A	**Millersview**	**73.19**	**336**	⇑P	**P**	**12 01 05.9**	**+0.2**
	baz=74,SNR=6.0						
429A	**Davenport Ranc**	**73.21**	**334**	⇓P	**P**	**12 01 06.8**	**+0.9**
	baz=74,SNR=8.2						
234A	**Clairette**	**73.28**	**338**	⇑P	**P**	**12 01 06.4**	**+0.2**
	baz=74,SNR=5.6						
331A	**San Angelo**	**73.34**	**336**	⇑P	**P**	**12 01 06.9**	**+0.2**
	baz=74,SNR=11						
233A	**Rising Star**	**73.52**	**337**	⇑P	**P**	**12 01 07.6**	**0.0**
	baz=74,SNR=6.0						
232A	**Coleman**	**73.63**	**337**	⇑P	**P**	**12 01 08.8**	**+0.5**
	baz=74,SNR=6.5						
330A	**Mertzon**	**73.68**	**335**	⇑P	**P**	**12 01 09.2**	**+0.6**
	baz=74						
231A	**Bronte**	**73.89**	**336**	⇓P	**P**	**12 01 10.3**	**+0.5**
	baz=74,SNR=10						
329A	**Wagon Wheel Ra**	**74.03**	**335**	⇓P	**P**	**12 01 11.3**	**+0.6**
	baz=74,SNR=7.6						
133A	**Hamilton Ranch**	**74.07**	**337**	⇓P	**P**	**12 01 11.3**	**+0.5**
	baz=74,SNR=5.1						
230A	**Sterling City**	**74.10**	**335**	P	**P**	**12 01 11.5**	**+0.4**
	baz=74						
Z35A	**Perchaven, San**	**74.26**	**339**	P	**P**	**12 01 12.4**	**+0.5**
	baz=75						
ABTX	**Abilene, Hawle**	**74.31**	**337**	⇓P	**P**	**12 01 12.6**	**+0.4**
	baz=75,SNR=5.7						
229A	**Bryant Ranch,**	**74.41**	**335**	⇑P	**P**	**12 01 13.5**	**+0.6**
	baz=75,SNR=5.7						
Z34A	**Collier Ranch,**	**74.49**	**339**	P	**P**	**12 01 14.1**	**+0.9**
	baz=75						
131A	**Roby**	**74.59**	**336**	⇓P	**P**	**12 01 14.3**	**+0.4**
	baz=75,SNR=7.2						
Z33A	**Whitaker Ranch**	**74.66**	**338**	⇓P	**P**	**12 01 14.3**	**0.0**
	baz=75						
130A	**Snyder**	**74.70**	**336**	⇑P	**P**	**12 01 14.7**	**+0.1**
	baz=75						
228A	**UT Block 9, Go**	**74.81**	**334**	⇓P	**P**	**12 01 16.1**	**+0.8**
	baz=75						
WVT	**Waverly**	**74.81**	**348**	*e*P	**P**	**12 01 14.2**	**-0.8**
	4.3nm,0.7s						
Z32A	**Haskell**	**74.89**	**337**	P	**P**	**12 01 16.2**	**+0.6**
	baz=75						
Y34A	**Reagan Ranch,**	**74.99**	**339**	P	**P**	**12 01 16.3**	**+0.1**
	baz=75						
129A	**Stewart Farms,**	**75.03**	**335**	⇓P	**P**	**12 01 16.7**	**+0.2**
	baz=75						
Z31A	**Sharp Cattle R**	**75.11**	**337**	⇓P	**P**	**12 01 17.2**	**+0.3**
	baz=75,SNR=7.5						
128A	**Castleberry Fa**	**75.23**	**335**	⇓P	**P**	**12 01 18.2**	**+0.5**
	baz=76,SNR=6.3						
Y33A	**Hilltop Ranch,**	**75.29**	**338**	P	**P**	**12 01 18.2**	**+0.3**
	baz=76						
Z30A	**Sanderson Ranc**	**75.39**	**336**	⇑P	**P**	**12 01 18.9**	**+0.3**
	baz=76,SNR=6.3						
Y32A	**R-V Farms, Ver**	**75.53**	**338**	⇑P	**P**	**12 01 19.6**	**+0.3**
	baz=76						
Z29A	**Hungry Hill Ra**	**75.56**	**335**	⇓P	**P**	**12 01 19.9**	**+0.3**
	baz=76,SNR=11						
127A	**Arkansas Junct**	**75.58**	**334**	⇓P	**P**	**12 01 20.8**	**+1.1**
	baz=76						
X34A	**Smith Ranch, M**	**75.61**	**339**	⇓P	**P**	**12 01 19.4**	**-0.3**
	baz=76						
Y31A	**Rekieta Farm,**	**75.74**	**337**	⇑P	**P**	**12 01 21.2**	**+0.7**
	baz=76						
Y30A	**Stafford Cattl**	**75.86**	**336**	⇑P	**P**	**12 01 21.9**	**+0.7**
	baz=76						
X32A	**Elmer**	**75.87**	**338**	⇑P	**P**	**12 01 21.4**	**+0.2**
	baz=76						
Y29A	**Porterfield Fa**	**76.10**	**336**	⇓P	**P**	**12 01 23.0**	**+0.4**
	baz=76						
Z27A	**Tatum**	**76.11**	**334**	⇑P	**P**	**12 01 23.7**	**+0.9**
	baz=76						
W34A	**Bridge Creek,**	**76.19**	**339**	⇑P	**P**	**12 01 23.3**	**+0.2**
	baz=76						
X31A	**McDonald Ranch**	**76.27**	**337**	⇓P	**P**	**12 01 24.1**	**+0.6**
	baz=77,SNR=7.2						
TUL1	**Tulsa**	**76.30**	**341**	⇓P	**P**	**12 01 23.1**	**-0.4**
	baz=77						
W33A	**Caddo, Fort Co**	**76.31**	**339**	⇓P	**P**	**12 01 23.8**	**+0.1**
	baz=77,SNR=6.4						
Y28A	**McKinney Farm,**	**76.33**	**335**	⇑P	**P**	**12 01 25.1**	**+1.2**
	baz=77						
Z26A	**Caprock**	**76.34**	**334**	⇓P	**P**	**12 01 24.7**	**+0.6**
	baz=77,SNR=8.8						
X30A	**Coker Ranch, T**	**76.38**	**337**	⇓P	**P**	**12 01 24.9**	**+0.7**
	baz=77						
W32A	**Sentinel**	**76.51**	**338**	⇓P	**P**	**12 01 25.2**	**+0.3**
	baz=77,SNR=10						
MSTX	**Muleshoe**	**76.56**	**335**	⇓P	**P**	**12 01 26.3**	**+1.0**
	baz=77						
Y27A	**Causey**	**76.61**	**335**	⇑P	**P**	**12 01 25.7**	**+0.2**
	baz=77						
X29A	**Tulia**	**76.64**	**336**	⇓P	**P**	**12 01 26.4**	**+0.7**
	baz=77,SNR=6.9						
319A	**Douglas**	**76.68**	**329**	P	**P**	**12 01 26.8**	**+0.8**
	baz=77						
V34A	**Guthrie**	**76.69**	**340**	⇓P	**P**	**12 01 25.7**	**-0.1**
	baz=77						
W31A	**Holland Ranch,**	**76.78**	**338**	⇓P	**P**	**12 01 26.8**	**+0.4**
	baz=77						
X28A	**Dimmitt**	**76.87**	**336**	P	**P**	**12 01 28.0**	**+0.9**
	baz=77						
Y26A	**Elida**	**76.88**	**334**	⇓P	**P**	**12 01 27.8**	**+0.7**
	baz=77						
V33A	**Lossen Ranch,**	**76.89**	**339**	⇓P	**P**	**12 01 27.1**	**+0.1**
	baz=77						
Z24A	**Sheeppen Canyo**	**76.89**	**333**	⇑P	**P**	**12 01 28.4**	**+1.1**
	baz=77						
V32A	**Arapaho**	**77.01**	**339**	⇓P	**P**	**12 01 28.3**	**+0.6**
	baz=77						
AMTX	**Amarillo**	**77.04**	**336**	*e*P	**P**	**12 01 28.1**	**+0.1**
	11nm,0.7s						
AMTX	**Amarillo**	**77.04**	**336**	⇓P	**P**	**12 01 28.5**	**+0.5**
	baz=77						
121A	**Cookes Peak, D**	**77.09**	**330**	P	**P**	**12 01 29.4**	**+1.0**
	baz=77						
DBIC	**Dimbokro**	**77.16**	**71**	P	**P**	**12 01 29.2**	**+0.3**
	4.5nm,0.7s,baz=218,slow=6.8,SNR=6.6						
DBIC				pP	**pP**	**12 01 38.5**	**-0.9**
	8.3nm,0.9s,baz=198,slow=5.1,SNR=4.3						
Y25A	**Mesa, Roswell**	**77.18**	**333**	⇓P	**P**	**12 01 29.2**	**+0.4**
	baz=78						
W29A	**Amraillo**	**77.25**	**336**	⇓P	**P**	**12 01 29.4**	**+0.3**
	baz=78						
X27A	**F and S Farms,**	**77.29**	**335**	⇓P	**P**	**12 01 29.5**	**+0.2**
	baz=78						
V31A	**Spring Creek L**	**77.29**	**338**	⇑P	**P**	**12 01 29.9**	**+0.6**
	baz=78						
U33A	**Lingo Farm, Me**	**77.41**	**339**	⇑P	**P**	**12 01 30.1**	**+0.3**
	baz=78						
Z22A	**Elephant Butte**	**77.42**	**331**	⇑P	**P**	**12 01 32.4**	**+2.3**
	baz=78						
X26A	**CR and CF Fran**	**77.44**	**334**	⇑P	**P**	**12 01 31.3**	**+1.0**
	baz=78						
Y24A	**Capitan**	**77.45**	**333**	⇑P	**P**	**12 01 31.8**	**+1.4**
	baz=78						
U32A	**Winter Ranch,**	**77.61**	**339**	P	**P**	**12 01 31.8**	**+0.8**
	baz=78						
W27A	**Bowe Ranch, En**	**77.66**	**335**	⇑P	**P**	**12 01 32.6**	**+1.2**
	baz=78,SNR=9.4						
Y23A	**Lovelace Mesa,**	**77.68**	**332**	⇑P	**P**	**12 01 33.4**	**+1.7**
	baz=78						
W26A	**Owens Ranch, T**	**77.92**	**335**	⇑P	**P**	**12 01 34.0**	**+1.2**
	baz=78						
V28A	**Channing**	**78.01**	**336**	⇑P	**P**	**12 01 34.3**	**+1.0**
	baz=78						
X24A	**Lazy VL Ranch,**	**78.02**	**333**	⇑P	**P**	**12 01 34.8**	**+1.3**
	baz=78						
V27A	**Dan Oppiter Fa**	**78.21**	**336**	⇓P	**P**	**12 01 35.3**	**+0.8**
	baz=78						

U30A WK&E Inc. Balk 78.24 338 ⇓P P 12 01 35.5 +0.9
baz=79
W25A X Bar L Ranch, 78.27 334 ⇓P P 12 01 35.7 +0.8
baz=79,SNR=5.4
X23A Hourglass Bar 78.31 333 P P 12 01 36.5 +1.3
baz=79
LAZ Ladron 78.50 332 *e*P P 12 01 37.5 +1.3
V26A Tequesquite Ra 78.56 335 ⇓P P 12 01 37.4 +1.0
baz=79
W24A Lazy 6 Ranch, 78.59 333 ⇑P P 12 01 37.9 +1.2
baz=79,SNR=8.2
214A Organ Pipe Nat 78.68 326 ⇓P P 12 01 38.9 +1.9
baz=79
ANMO Albuquerque 78.74 333 P P 12 01 38.2 +0.7
7.3nm,0.9s,baz=166,slow=7.6,SNR=17
W23A Werner Place, 78.82 333 ⇓P P 12 01 39.6 +1.6
baz=79,SNR=6.0
U27A Thompson Grove 78.82 336 ⇑P P 12 01 38.9 +1.0
baz=79
V25A Rancho No Teng 78.89 334 ⇓P P 12 01 39.2 +0.9
baz=79,SNR=8.5
S31A Mullinville 78.91 339 P P 12 01 38.7 +0.5
baz=79
TSUM Tsumeb 78.96 106 P P 12 01 40.0 +0.8
1.5nm,0.8s,baz=248,slow=18,SNR=3.4
TSUM pP pP 12 01 49.1 -0.5
2.9nm,0.7s,baz=212,slow=8.4,SNR=3.3
T29A Hugoton 79.01 337 ⇑P P 12 01 39.5 +0.7
baz=79
V24A Rampart Ranch, 79.01 334 ⇑P P 12 01 40.5 +1.4
baz=79
BOSA Boshof 79.03 118 P P 12 01 39.2 -0.2
7.6nm,1.0s,baz=266,slow=5.0,SNR=4.4
BOSA pP pP 12 01 49.4 -0.4
7.5nm,0.8s,baz=248,slow=3.5,SNR=5.7
S30A Montezuma 79.21 338 ⇓P P 12 01 40.8 +1.0
baz=80
T28A Walsh 79.23 337 ⇓P P 12 01 41.0 +0.9
baz=80
U25A Circle Dot Ran 79.32 335 ⇓P P 12 01 42.1 +1.5
baz=80
V23A Ortiz Mt. (NFS 79.35 333 ⇑P P 12 01 42.7 +1.9
baz=80
S29A Ulysses 79.39 338 ⇓P P 12 01 42.1 +1.3
baz=80
R32A Long Quarter, 79.44 340 ⇑P P 12 01 41.7 +0.6
baz=80
KSU1 Kansas State U 79.53 342 P P 12 01 40.8 -0.7
baz=80
R31A Burdett 79.54 339 ⇓P P 12 01 41.8 +0.2
baz=80
S28A Manter 79.60 337 ⇓P P 12 01 42.9 +0.9
baz=80
T26A Comanche Natio 79.75 336 ⇓P P 12 01 44.6 +1.6
baz=80,SNR=5.7
V22A San Miguel Ran 79.77 333 ⇓P P 12 01 45.3 +2.2
baz=80,SNR=7.8
U23A El Rito 79.88 333 ⇑P P 12 01 45.5 +1.7
baz=80
Q32A Meitler Ranch, 79.93 340 ⇑P P 12 01 44.4 +0.8
baz=80
T25A Trinidad 79.99 335 ⇑P P 12 01 46.2 +1.9
baz=80,SNR=6.7
S26A Kim 80.12 336 ⇑P P 12 01 46.4 +1.5
baz=80,SNR=6.3
R29A Marienthal 80.13 338 ⇑P P 12 01 45.5 +0.7
baz=80
U22A Llaves 80.16 333 ⇓P P 12 01 47.4 +2.2
baz=80
Q31A Ellis 80.17 339 ⇓P P 12 01 45.5 +0.5
baz=80
X16A Lo Mia Camp, P 80.21 329 ⇑P P 12 01 48.0 +2.5
baz=80,SNR=6.2
T24B San Luis 80.25 334 ⇓P P 12 01 47.3 +1.4
baz=81
R28A Tribune 80.26 337 ⇑P P 12 01 46.7 +1.2
baz=81,SNR=5.9
Q30A Quinter 80.38 339 ⇓P P 12 01 47.1 +0.9
baz=81
T23A Casias Ranch, 80.46 334 ⇓P P 12 01 48.5 +1.6
baz=81
Y14A Wickenburg 80.46 327 ⇓P P 12 01 48.6 +1.9
baz=81
S25A Robets Cordova 80.47 335 ⇑P P 12 01 48.3 +1.4
baz=81,SNR=5.4
R27A Eads 80.52 337 ⇓P P 12 01 47.8 +0.9
baz=81
Q29A Oakley 80.52 338 ⇓P P 12 01 47.7 +0.8
baz=81
P32A Huiting Farm, 80.53 340 ⇓P P 12 01 47.5 +0.6
baz=81
S24A Houchin Ranch, 80.72 335 ⇓P P 12 01 50.3 +2.0
baz=81,SNR=7.0
R26A Arlington 80.73 336 ⇓P P 12 01 49.5 +1.4
baz=81,SNR=7.1
P30A Selden 80.91 339 ⇓P P 12 01 50.1 +1.1
baz=81
Q28A Sharon Springs 80.93 338 P P 12 01 49.9 +0.7
baz=81
KSCO Kaye Shedlock' 81.13 337 P P 12 01 51.4 +1.1
baz=82
WUAZ Wupatki 81.14 329 ⇓P P 12 01 52.7 +2.3
baz=81
P29A Atwood 81.16 339 ⇓P P 12 01 51.8 +1.4
baz=82
R24A Sanders Place, 81.22 335 ⇓P P 12 01 52.6 +1.7
baz=82,SNR=6.9
O31A Woolen Ranch, 81.22 340 P P 12 01 51.6 +1.0
baz=82
BC3 Big Chuckawall 81.30 325 P P 12 01 52.8 +1.5
baz=82
Q26A Hugo 81.33 336 ⇑P P 12 01 52.5 +1.2
baz=82
S22A 4UR Ranch, Cre 81.37 334 ⇓P P 12 01 53.4 +1.6
baz=82
P28A Saint Francis 81.38 338 ⇓P P 12 01 52.8 +1.3
baz=82
R23A Moffat 81.42 334 ⇓P P 12 01 53.8 +1.8
baz=82
MVCO Mesa Verde 81.50 332 ⇓P P 12 01 54.0 +1.6
baz=82
Q25A Bedland, Calha 81.55 336 ⇓P P 12 01 53.5 +0.9
baz=82
PFO Pinyon Flat Ob 81.72 325 P P 12 01 54.4 +0.9
baz=82
W13A Hualapai Mount 81.83 327 P P 12 01 55.6 +1.5
baz=82
BELC Belle Mtn. Jos 81.83 325 P P 12 01 55.5 +1.4
baz=82
P26A Davis Ranch, A 81.85 337 P P 12 01 54.9 +0.8
baz=82
Q24A Divide 81.89 335 ⇓P P 12 01 55.9 +1.3
baz=82
O28A Krutsinger Ran 81.89 338 ⇓P P 12 01 55.3 +1.1
baz=82
P25A Willow Gulch B 82.07 336 ⇓P P 12 01 56.9 +1.6
baz=82
BGNE Belgrade 82.09 341 ⇓P P 12 01 55.6 +0.4
baz=82
O27A Beecher Island 82.16 338 P P 12 01 57.3 +1.7
baz=82
N29A Votaw Ranch, W 82.20 339 P P 12 01 56.8 +1.0
baz=82
M31A Lambtecht Ranc 82.24 341 ⇑P P 12 01 56.9 +0.9
baz=82
U15A North Rim 82.30 329 P P 12 01 58.0 +1.4
baz=83
GMRC Granite Mounta 82.33 326 ⇓P P 12 01 58.5 +1.8
baz=83
O26A Horse Wrangler 82.47 337 P P 12 01 58.7 +1.4
baz=83
HEC Hector,Ludlow 82.68 325 P P 12 01 59.7 +1.3
baz=83
N27A Anderson Farm, 82.75 338 P P 12 01 59.9 +1.2
baz=83
ISCO Idaho Springs 82.80 335 P P 12 02 00.3 +1.0
baz=83
L31A Butterfield Fa 82.99 341 ⇑P P 12 02 00.8 +1.0
baz=83
O23A Lake Granby, G 83.27 335 ⇑P P 12 02 03.0 +1.3
baz=84
L29A Maesberg Ranch 83.32 340 ⇑P P 12 02 02.5 +0.9
baz=84
O22A Kremmling 83.44 335 ⇑P P 12 02 04.0 +1.5
baz=84
N24A Carr 83.49 336 ⇑P P 12 02 04.2 +1.6
baz=84
K30A Basset 83.66 341 ⇓P P 12 02 04.3 +1.1
baz=84,SNR=5.8
N23A Red Feather La 83.89 336 ⇓P P 12 02 06.5 +1.7
baz=84
ECSD EROS Data Cent 83.91 343 ⇑P P 12 02 04.6 +0.2
baz=84
N22A Wattenberg Ran 83.98 335 ⇓P P 12 02 07.0 +1.8
baz=84
O20A White River Ci 84.00 334 P P 12 02 06.0 +0.7
baz=84
M24A Cheyenne 84.05 337 ⇑P P 12 02 06.7 +1.2
baz=84
K28A Ten Mile Ranch 84.17 339 ⇓P P 12 02 07.6 +1.7
baz=84,SNR=5.4
J30A Dallas 84.23 341 ⇓P P 12 02 06.7 +0.6
baz=85
M23A Laramie 84.34 336 ⇑P P 12 02 08.4 +1.4
baz=85
ISA Isabella 84.34 324 P P 12 02 08.6 +1.6
baz=85
TMUT Trail Mountain 84.35 331 *e*P P 12 02 08.2 +1.0
4.8nm,0.8s
K27A Flueckinger Fa 84.40 339 ⇑P P 12 02 08.0 +0.9
baz=85
L25A Engebretsen Ra 84.41 337 ⇓P P 12 02 08.5 +1.3
baz=85
J29A Okreek 84.53 340 ⇑P P 12 02 08.7 +1.0
baz=85,SNR=6.3
N20A Spence Gulch, 84.62 334 P P 12 02 09.0 +0.6
baz=85
I30A Oacoma 84.77 341 ⇓P P 12 02 09.3 +0.5
baz=85
J28A Allard Ranch, 84.79 340 P P 12 02 10.2 +1.2
baz=85
J27A Elkhorn Farm, 84.84 339 ⇓P P 12 02 10.9 +1.6
baz=85
L23A Garrett 84.92 336 ⇓P P 12 02 10.9 +1.0
baz=85
I29A Vivian Onida 85.09 341 ⇑P P 12 02 11.6 +1.1
baz=85
BRSD Miller 85.14 342 ⇑P P 12 02 10.9 +0.2
baz=86
K24A Anderson Ranch 85.19 337 P P 12 02 12.4 +1.3
baz=86
J26A Sides Ranch, S 85.20 338 ⇑P P 12 02 12.6 +1.5
baz=86
R11A Troy Canyon, C 85.30 328 ⇑P P 12 02 13.9 +2.1
baz=86,SNR=5.6
I28A Midland 85.30 340 ⇑P P 12 02 12.7 +1.2
baz=86,SNR=6.5
K23A Bowen Ranch, D 85.47 337 ⇑P P 12 02 13.7 +1.1
baz=86
J25A Sunshine Ranch 85.49 338 ⇑P P 12 02 13.8 +1.2
baz=86
I27A Quinn 85.61 339 P P 12 02 13.0 -0.1
baz=86
H29A Onida 85.63 341 ⇓P P 12 02 13.8 +0.7
baz=86,SNR=5.3
K22A Casper 85.66 336 ⇓P P 12 02 14.6 +1.1
baz=86
J24A Dixon Ranch, L 85.69 337 ⇓P P 12 02 14.8 +1.2
baz=86
DUG Dugway 85.75 331 ⇓P P 12 02 15.9 +1.9
baz=86
I26A New Underwood 85.80 339 ⇑P P 12 02 14.9 +0.8
baz=86
G30A Faulkton 85.83 342 ⇓P P 12 02 14.5 +0.4
baz=86
K21A Alcova 85.89 335 ⇑P P 12 02 15.4 +0.7
baz=86
H28A Mission Ridge 85.89 340 ⇓P P 12 02 14.4 0.0
baz=86,SNR=5.8
I25A Rochford 86.04 338 ⇓P P 12 02 15.8 +0.4
baz=86
G29A Hoven 86.09 341 ⇓P P 12 02 15.1 -0.3
baz=86
H27A Howes 86.14 340 ⇓P P 12 02 16.0 +0.3
baz=86
I24A Kuemmerle Ranc 86.16 338 ⇓P P 12 02 16.6 +0.7
baz=86
G28A Parade 86.23 341 ⇓P P 12 02 16.7 +0.5
baz=87,SNR=5.8
TORD Torodi Ar. Bea 86.25 70 P P 12 02 16.9 +0.1
4.5nm,0.8s,baz=220,slow=5.0,SNR=17
F30A Leola 86.46 342 ⇑P P 12 02 17.4 +0.1
baz=87
NVAR Mina Array Bea 86.54 326 P P 12 02 18.8 +0.8
1.7nm,0.8s,baz=156,slow=6.9,SNR=7.5
H25A Fruitdale 86.56 339 ⇑P P 12 02 18.6 +0.8
baz=87
F29A Eureka 86.66 342 ⇑P P 12 02 18.4 +0.2
baz=87,SNR=5.3
I22A 9 Mile Ranch, 86.77 336 P P 12 02 18.3 -0.6
baz=87
PDAR Pinedale Array 86.78 334 P P 12 02 19.1 0.0
1.8nm,0.8s,baz=155,slow=7.0,SNR=7.8
PDAR pP pP 12 02 28.9 -0.8
2.4nm,0.9s,baz=159,slow=5.7,SNR=6.0
G27A Dupree 86.79 340 ⇑P P 12 02 19.4 +0.6
baz=87,SNR=5.7
J20A Shoshoni 86.80 335 ⇑P P 12 02 19.8 +0.7
baz=87
G26A Maurine 86.89 340 ⇓P P 12 02 19.7 +0.4
baz=87,SNR=6.0
F28A McLaughlin 86.92 341 ⇑P P 12 02 20.4 +1.0
baz=87,SNR=5.1
H24A Dirks Ranch, A 86.95 338 P P 12 02 19.6 -0.1
baz=87
G25A Newell 87.03 339 ⇑P P 12 02 20.9 +0.9
baz=87,SNR=5.4
J19A Crowheart 87.05 335 ⇑P P 12 02 21.3 +0.9
baz=87
E30A Jud 87.06 342 ⇑P P 12 02 20.6 +0.5
baz=87
F27A Lemmon 87.27 340 ⇑P P 12 02 21.6 +0.5
baz=88,SNR=6.6
E29A Napoleon 87.30 342 ⇓P P 12 02 21.5 +0.2
baz=88
F26A Lodgepole 87.42 340 ⇑P P 12 02 21.6 -0.3
baz=88
G24A Alzada 87.44 338 ⇓P P 12 02 22.6 +0.5
baz=88
E28A Huff 87.57 341 ⇓P P 12 02 22.9 +0.3
baz=88
D30A Buchanan 87.59 343 ⇓P P 12 02 22.5 -0.2
baz=88,SNR=5.5
G23A Biddle 87.61 338 ⇑P P 12 02 23.2 +0.3
baz=88
E27A Carson 87.66 341 ⇑P P 12 02 23.3 +0.2
baz=88
F25A Bowman 87.71 339 ⇓P P 12 02 24.3 +1.0
baz=88
D29A Pettibone, Tap 87.75 342 ⇓P P 12 02 23.2 -0.3
baz=88
F24A Ekalaka 87.92 339 ⇓P P 12 02 24.4 +0.1
baz=88
E26A Carlson Angus 87.94 340 ⇓P P 12 02 24.7 +0.3
baz=88
AGMN Agassiz Nation 88.08 345 ⇓P P 12 02 25.0 +0.1
baz=88
C30A Mose, Pekin 88.09 343 ⇑P P 12 02 25.1 +0.1
baz=88,SNR=6.6
D28A Regan 88.11 342 ⇓P P 12 02 25.8 +0.6
baz=88,SNR=5.2
I17A Pilgrim Ck. 88.15 334 ⇑P P 12 02 26.8 +1.1
baz=88
E25A Miller Ranch, 88.22 340 ⇓P P 12 02 26.8 +1.1
baz=89
D27A Center 88.28 341 ⇑P P 12 02 26.6 +0.7
baz=89
H18A Shoshone NF, C 88.50 335 ⇓P P 12 02 27.9 +0.5
baz=89
B30A Myrvik Farm, E 88.76 343 ⇑P P 12 02 28.8 +0.7
baz=89,SNR=9.2
C27A Sayler Ranch, 88.83 341 ⇓P P 12 02 28.9 +0.4
baz=89
B29A Wagenman Farm, 89.01 343 ⇑P P 12 02 29.5 +0.2
baz=89,SNR=5.0
D24A Glendive 89.04 339 ⇓P P 12 02 30.1 +0.5
baz=89
A30A Hoffart Farm, 89.21 344 ⇑P P 12 02 30.5 +0.2
baz=90
B28A Dugan Ranch, T 89.23 342 ⇓P P 12 02 31.0 +0.6
baz=90
A29A Manning Farm, 89.41 343 ⇑P P 12 02 31.6 +0.4
baz=90,SNR=10.0
MCMT McKenzie Canyo 89.75 333 *e*P P 12 02 34.2 +1.0
1.3nm,0.8s
ULM Lac du Bonnet 89.94 346 P P 12 02 32.7 -0.9
3.9nm,0.8s,baz=187,slow=2.7,SNR=4.4
GERES GERESS Array B 115.35 47 PKP PKPdf 12 08 15.7 -0.4
0.9nm,0.8s,baz=270,slow=1.8,SNR=3.5
WRA Warramunga Arr 117.07 209 PKP PKPdf 12 08 18.6 -1.7
0.7nm,0.5s,baz=156,slow=1.6,SNR=16
WRA pPKP pPKPdf 12 08 28.6 -2.6
1.2nm,0.7s,baz=162,slow=1.6,SNR=4.5
ILAR Eielson Array 117.18 332 PKP PKPdf 12 08 18.2 -0.8
0.5nm,0.7s,baz=159,slow=1.7,SNR=6.7
ILAR pPKP pPKPdf 12 08 27.2 -2.6
0.4nm,0.7s,baz=168,slow=2.2,SNR=2.9
BRTR Keskin Array B 124.31 63 PKP PKPdf 12 08 33.5 -0.2
1.2nm,0.7s,baz=210,slow=4.9,SNR=7.2
AKASG Malin Array Be 125.30 50 PKP PKPdf 12 08 34.1 -0.8
0.2nm,0.3s,baz=264,slow=3.4,SNR=5.2
GEYT Alibeck 141.79 74 PKhKP PKPpre 12 09 02.9
1.7nm,0.6s,baz=280,slow=2.6,SNR=2.4
SEY Seymchan 142.84 327 PKhKP PKPpre 12 09 03.9
2.8nm,0.6s,baz=104,slow=6.2,SNR=8.9
TIXI Tiksi 144.25 348 *e*PKPdf PKPab 12 09 07.0 -0.5
HYB Hyderabad 147.87 121 *i* PKP PKPbc 12 09 19.5 -0.9
BVAR Borovoye Array 150.52 47 PKPbc PKPbc 12 09 26.9 +0.9
4.8nm,0.7s,baz=300,slow=4.3,SNR=12
YAK Yakutsk 151.96 337 *e*PKPbc PKPbc 12 09 28.5 -0.5
ZALV Zalesovo Beam 157.80 36 PKP PKPdf 12 09 29.9 -0.8
2.3nm,0.8s,baz=309,slow=0.9,SNR=4.3
MKAR Makanchi Array 159.71 56 PKPab PKPab 12 10 12.1 -0.1
2.2nm,0.9s,baz=259,slow=3.2,SNR=5.0
SONM Songino Array 169.94 2 PKPab PKPab 12 10 57.4 +0.3
1.0nm,0.8s,baz=329,slow=2.8,SNR=4.5

MEX 27 11:49:44.3±0.6, 17.°97N×100.°34W, h62km±7km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.31	358	*e*P	Pn	11 49 53.4	-1.4
ARIG				*i* S	Sn	11 50 00.5	-2.0
MEIG	Mezcala	0.68	93	*e*P	Pn	11 49 57.0	-1.6
MEIG				*e*S	Sn	11 50 07.0	-2.1
PLIG	Platanillo	0.90	62	*e*P	Pn	11 49 59.8	-1.5
PLIG				*e*S	Sn	11 50 12.5	-1.3
CAIG	El Cayaco	0.92	176	*e*P	Pn	11 49 59.8	-1.6
CAIG				*e*S	Sn	11 50 12.8	-1.2
ZIIG	Zihuatanejo	1.13	252	*e*P	Pn	11 50 03.4	-0.8
ZIIG				*i* S	Sn	11 50 17.0	-2.0

IDC 27 11:51:15.6±3.4, 36.°51S×73.°28W, h0km, mb4.2/5, mb1 4.5/5, mb1mx4.1/33, mbtmp4.2/5, Error ellipse: s-maj=153.3km s-min=34.1km az=23.0

ISC 27 11:51:20.1±3.8, 36°S±1°×73.°2W±0.°5, h27km, n8, σ0.s52/8, mb4.3/5, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
TXAR Lajitas Array 71.41 332 P P 12 02 38.0 +0.1
0.9nm,0.6s,baz=154,slow=9.6,SNR=5.1
DBIC Dimbokro 76.88 71 P P 12 03 10.5 +0.4
4.7nm,0.7s,baz=158,slow=1.6,SNR=3.1
NVAR Mina Array Bea 85.34 326 P P 12 03 55.3 +0.5
0.9nm,0.6s,baz=147,slow=5.4,SNR=3.0
PDAR Pinedale Array 85.51 334 P P 12 03 54.9 -0.7
2.2nm,1.0s,baz=148,slow=6.0,SNR=5.2
TORD Torodi Ar. Bea 85.94 71 P P 12 03 57.6 -0.5
0.9nm,0.5s,baz=227,slow=4.6,SNR=4.1
BRTR Keskin Array B 123.84 63 PKP PKPdf 12 10 15.3 -0.3
0.3nm,0.4s,baz=195,slow=2.8,SNR=3.2
BVAR Borovoye Array 149.70 45 PKPbc PKPbc 12 11 06.8 +0.1
1.5nm,0.6s,baz=299,slow=4.1,SNR=4.7
MKAR Makanchi Array 159.05 53 PKPab PKPab 12 11 52.3 +0.3
0.9nm,0.8s,baz=292,slow=2.8,SNR=3.0

IDC 27 11:53:48.7±0.8, 33.°58S×71.°92W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/33, mbtmp4.0/8, ML3.8/1, Error ellipse: s-maj=43.6km s-min=21.0km az=74.0

ISCJB 27 11:53:49.9±0.8, 33.°6S±0.°1×71.°9W±0.°3, h19km, mb4.0/7, Error ellipse: s-maj=36.4km s-min=16.6km az=172.6

ISC 27 11:53:51.7±0.9, 33.°6S±0.°1×71.°8W±0.°3, h19km, n10, σ0.s44/11, mb3.9/7, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LPAZ La Paz 17.51 12 P Pn 11 57 55.0 -0.5
0.1nm,0.3s,baz=172,slow=9.2,SNR=2.0
SNAA Sanae 51.93 158 P P 12 02 58.8 0.0
1.4nm,0.8s,baz=264,slow=10,SNR=3.1
QSPA South Pole Qui 56.68 180 P P 12 03 33.4 -0.2
4.2nm,1.0s,baz=44,slow=0.9,SNR=3.3
TXAR Lajitas Array 69.43 331 P P 12 04 58.7 +0.1
0.7nm,0.7s,baz=152,slow=8.8,SNR=3.6
ANMO Albuquerque 75.48 331 P P 12 05 35.1 +0.4
1.1nm,0.9s,baz=140,slow=12,SNR=3.2
PDAR Pinedale Array 83.45 333 P P 12 06 17.2 -0.7
0.7nm,0.9s,baz=128,slow=5.8,SNR=3.4
NVAR Mina Array Bea 83.62 325 P P 12 06 19.3 +0.4
0.5nm,0.6s,baz=161,slow=5.7,SNR=2.0
TORD Torodi Ar. Bea 83.89 70 P P 12 06 21.1 +0.5
2.4nm,0.8s,baz=225,slow=5.7,SNR=5.6
BVAR Borovoye Array 146.83 43 PKPbc PKPab 12 13 33.1 -0.3
1.4nm,0.7s,baz=309,slow=4.7,SNR=3.9
ZALV Zalesovo Beam 153.75 32 PKPbc PKPbc 12 13 48.6 -0.2
2.0nm,0.7s,baz=285,slow=2.9,SNR=4.5
ZALV PKPab PKPab 12 14 01.9 +0.1
1.9nm,0.6s,baz=306,slow=5.1,SNR=4.5

IDC 27 11:55:22.6±0.8, 35.°60S×73.°08W, h0km, mb4.6/11, mb1 4.7/13, mb1mx4.5/32, mbtmp4.6/13, ML3.4/1, Error ellipse: s-maj=27.2km s-min=18.4km az=74.0

ISCJB 27 11:55:23.8±0.6, 35.°63S±0.°08×73.°1W±0.°2, h17km, mb4.5/12, Error ellipse: s-maj=19.1km s-min=11.1km az=176.7

NEIC 27 11:55:28.1±0.5, 35.°63S×73.°03W, h35km, mb4.1/1, Error ellipse: s-maj=15.9km s-min=9.5km az=86.0

ISC 27 11:55:25.5±0.8, 35.°61S±0.°09×73.°1W±0.°2, h17km, n19, σ0.s84/19, mb4.8/12, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PLCA Paso Flores 5.49 160 Pn Pn 11 56 47.1 +0.6
baz=350,slow=6.1,SNR=1.5
PLCA Lg Lg 11 58 13.0
14nm,0.3s,baz=86,slow=22,SNR=5.4
CFAA Coronel Fontan 5.67 47 Pn Pn 11 56 50.0 +0.9
1.2nm,0.3s,baz=207,slow=4.5,SNR=1.9
LPAZ La Paz 19.74 14 P Pn 11 59 57.4 +0.7
0.1nm,0.3s,baz=171,slow=8.9,SNR=4.2
SIV San Ignacio 22.28 32 P P 12 00 22.2 +0.1
33nm,1.0s,baz=227,slow=14,SNR=11
BDFB Brasilia 29.94 55 P P 12 01 31.5 -1.5
19nm,1.0s,baz=192,slow=0.6,SNR=5.8
SNAA Sanae 50.42 157 P P 12 04 21.3 -0.5
5.7nm,0.9s,baz=280,slow=6.3,SNR=7.6
CELP Cerrillos 53.74 8 *e*P P 12 04 46.8 0.0
TXAR Lajitas Array 70.74 332 P P 12 06 38.8 -2.0
0.4nm,0.5s,baz=150,slow=9.3,SNR=2.9
MAW Mawson 71.88 164 P P 12 06 47.7 +0.6
38nm,0.9s,baz=188,slow=8.6,SNR=3.7
DBIC Dimbokro 76.49 72 P P 12 07 14.7 -0.2
14nm,1.1s,baz=207,slow=4.2,SNR=5.2
ANMO Albuquerque 76.80 332 P P 12 07 17.6 +1.3
3.0nm,1.0s,baz=165,slow=7.3,SNR=5.4
SDCO Great Sand Dun 78.94 334 *e*P P 12 07 28.0 -0.3
2.0nm,1.0s
BOSA Boshof 80.07 118 P P 12 07 34.2 -0.5
12nm,1.0s,baz=220,slow=3.9,SNR=8.4
PDAR Pinedale Array 84.82 334 P P 12 07 58.9 -0.2
1.2nm,1.1s,baz=140,slow=4.8,SNR=4.4
TORD Torodi Ar. Bea 85.55 71 P P 12 08 03.0 -0.1
5.7nm,1.0s,baz=243,slow=4.8,SNR=9.5
ULM Lac du Bonnet 87.83 346 P P 12 08 13.2 -0.1
5.3nm,0.8s,baz=193,slow=5.8,SNR=7.0
YKA Yellowknife Ar 103.31 342 Pdiff Pdif 12 09 23.6 0.0
0.3nm,0.8s,baz=131,slow=3.5,SNR=3.6
BVAR Borovoye Array 149.03 44 PKPbc PKPbc 12 15 12.2 +0.1
1.8nm,0.7s,baz=308,slow=3.6,SNR=4.9
SONM Songino Array 167.78 2 PKPab PKPab 12 16 38.1 +0.9
1.2nm,0.9s,baz=340,slow=1.4,SNR=4.8

IDC 27 11:55:51.0±0.9, 35.°94S×73.°34W, h0km, mb4.5/7, mb1 4.6/7, mb1mx4.3/31, mbtmp4.5/7, Error ellipse: s-maj=49.7km s-min=24.7km az=47.0

NEIC 27 11:55:55.7±0.5, 36.22S×73.87W, h35km, mb4.7/2, Error ellipse: s-maj=34.6km s-min=15.9km az=64.0

ISCJB 27 11:56:02.9±2.2, 33.5S±0.1×72.09W±0.07, h28km±12km, mb4.6/11, Error ellipse: s-maj=21.9km s-min=9.1km az=12.7

GUC 27 11:56:03.9±0.7, 33.47S×72.02W, h29km±30km, ML4.8

ISC 27 11:56:03.3±2.5, 33.5S±0.1×72.12W±0.09, h31km±14km, n30, σ1.95/31, mb4.6/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.60	42	eP	Pb	11 56 14.8	-0.6
IHA				eS	Sb	11 56 22.6	-1.0
TACH	Talagante	1.00	100	eP	Pn	11 56 20.4	-0.8
ROCH	El Roble	1.05	62	eP	Pn	11 56 22.1	0.0
ROCH				eS	Sb	11 56 35.5	-1.2
SAN	Santiago	1.22	89	eP	Pn	11 56 24.3	+0.1
SAN				eS	Sn	11 56 39.6	0.0
PEL	Peldehue	1.24	75	eP	Pn	11 56 24.1	-0.5
PEL				eS	Sn	11 56 40.1	-0.2
PEL				AML	AML	11 56 46.6	
	comp=N,35µm,0.8s						
PCH	Pirque	1.34	97	eP	Pn	11 56 26.0	-0.1
FCH	Farellones	1.53	85	eP	Pb	11 56 32.7	+1.4
FCH				eS	Sb	11 56 52.0	+1.5
APG	El Apazote	51.29	337	P	P	12 05 11.6	+6.8
	comp=N,6.5nm,0.8s,baz=177,slow=22,SNR=6.9						
JCT	Junction City	68.79	335	eP	P	12 07 07.2	+2.7
	comp=N,37nm,1.2s						
TXAR	Lajitas Array	69.25	331	P	P	12 07 09.9	+2.5
	comp=N,1.3nm,0.7s,baz=155,slow=9.2,SNR=4.0						
OXF	Oxford	69.55	345	eP	P	12 07 10.7	+1.7
	comp=N,25nm,1.0s						
DBIC	Dimbokro	75.07	71	P	P	12 07 43.5	+1.1
	comp=N,4.8nm,0.7s,baz=206,slow=5.8,SNR=3.8						
SUR	Sutherland	75.14	119	P	P	12 07 33.6	-9.3
	comp=N,11nm,0.9s,baz=343,slow=8.7,SNR=3.9						
ANMO	Albuquerque	75.29	331	P	P	12 07 44.9	+1.3
	comp=N,6.4nm,1.0s,baz=145,slow=9.3,SNR=6.0						
PDAR	Pinedale Array	83.27	333	P	P	12 08 28.8	+1.8
	comp=N,1.3nm,0.8s,baz=123,slow=5.5,SNR=4.8						
TORD	Torodi Ar. Bea	84.09	70	P	P	12 08 33.0	+1.5
	comp=N,3.6nm,0.7s,baz=255,slow=4.0,SNR=6.8						
MCMT	McKenzie Canyo	86.28	332	eP	P	12 08 45.1	+3.1
	comp=N,2.8nm,0.9s						
BSMT	Bassoo Peak	89.54	333	P	P	12 08 55.9	-1.5
	comp=N,5.9nm,1.5s						
GERES	GERESS Array B	111.83	45	PKP	PKiKP	12 14 33.5	-1.3
	comp=N,1.1nm,0.8s,baz=98,slow=2.7,SNR=3.6						
WRA	Warramunga Arr	121.19	209	PKP	PKPdf	12 14 40.6	-13
	comp=N,0.6nm,0.6s,baz=178,slow=1.8,SNR=4.6						
BRTR	Keskin Array B	121.64	61	PKP	PKPdf	12 14 52.0	-2.0
	comp=N,1.3nm,0.7s,baz=181,slow=4.5,SNR=7.6						
AKASG	Malin Array Be	121.89	47	PKP	PKPdf	12 14 52.0	-1.9
	comp=N,0.9nm,0.5s,baz=256,slow=2.8,SNR=6.3						
SEY	Seymchan	139.55	330	PKP	PKPdf	12 15 19.9	-6.9
	comp=N,2.5nm,0.9s,baz=92,slow=5.3,SNR=5.1						
AKTO	Aktyubinsk	140.05	50	PKP	PKPdf	12 15 25.8	-2.5
	comp=N,0.7nm,0.3s,baz=300,slow=8.1,SNR=2.8						
BVAR	Borovoye Array	146.94	42	PKPbc	PKPbc	12 15 42.6	+0.4
	comp=N,8.1nm,0.9s,baz=292,slow=4.7,SNR=8.0						
HYB	Hyderabad	149.20	114	i PKP	PKPdf	12 15 40.5	-4.6
ZALV	Zalesovo Beam	153.82	32	PKP	PKPdf	12 15 46.6	-4.3
	comp=N,3.8nm,0.8s,baz=316,slow=6.2,SNR=7.9						
ZALV				PKPbc	PKPbc	12 15 58.7	-0.1
	comp=N,5.0nm,0.6s,baz=296,slow=3.5,SNR=9.9						
MKAR	Makanchi Array	156.47	48	PKP	PKPdf	12 15 49.9	-4.9
	comp=N,3.1nm,1.0s,baz=285,slow=1.9,SNR=7.0						
MKAR				PKPab	PKPab	12 16 24.9	+1.3
	comp=N,1.7nm,0.7s,baz=296,slow=2.9,SNR=7.5						
CMAR	Chiang Mai Arr	163.03	150	PKPab	PKPab	12 16 35.5	-17
	comp=N,0.8nm,0.5s,baz=227,slow=5.3,SNR=4.2						
SONM	Songino Array	165.61	4	PKPab	PKPab	12 17 04.5	+1.1
	comp=N,1.4nm,0.9s,baz=318,slow=2.0,SNR=5.3						

ISCJB 27 11:58:32.7±0.6, 35.35S±0.07×72.3W±0.2, h35km, mb4.3/12, Error ellipse: s-maj=19.2km s-min=10.7km az=1.6

IDC 27 11:58:33.7±0.8, 35.28S×72.33W, h30km±5km, mb4.2/11, mb1 4.3/14, mb1mx4.2/34, mbtmp4.4/14, ML4.2/3, Error ellipse: s-maj=22.9km s-min=14.6km az=82.0

NEIC 27 11:58:34.9±0.5, 35.36S×72.15W, h35km, mb4.0/12, Error ellipse: s-maj=16.9km s-min=8.0km az=96.0

ISC 27 11:58:35.3±0.9, 35.38S±0.09×72.1W±0.2, h35km, n20, σ1.07/19, mb4.4/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.95	41	Pn	Pn	11 59 48.1	+1.0
	2.6nm,0.3s,baz=229,slow=11,SNR=7.8						
CFAA				Lg	Lg	12 00 58.2	
	6.4nm,0.3s,baz=294,slow=20,SNR=4.8						
PLCA	Paso Flores	5.47	168	Pn	Pn	11 59 54.0	-0.3
	1.0nm,0.3s,baz=52,slow=19,SNR=1.9						
PLCA				Lg	Lg	12 01 25.0	
	6.9nm,0.3s,baz=276,slow=22,SNR=3.0						
LPAZ	La Paz	19.34	11	P	P	12 02 58.4	0.0
	1.3nm,0.3s,baz=164,slow=4.1,SNR=10						
SIV	San Ignacio	21.68	30	P	P	12 03 21.6	-1.4
	48nm,0.8s,baz=211,slow=9.0,SNR=28						
BDFB	Brasilia	29.15	54	P	P	12 04 33.0	-0.3
	8.1nm,0.8s,baz=283,slow=3.2,SNR=3.5						
SNAA	Sanae	50.32	157	P	P	12 07 27.4	-0.7
	1.8nm,0.9s,baz=297,slow=2.3,SNR=5.6						
QSPA	South Pole Qui	54.86	180	P	P	12 08 02.8	+0.9
	2.9nm,0.7s,baz=314,slow=1.5,SNR=7.0						
QSPA				pP	pP	12 08 11.8	-0.6
	7.6nm,1.0s,baz=126,slow=3.6,SNR=5.1						
TXAR	Lajitas Array	70.93	331	P	P	12 09 46.2	-2.8
	0.8nm,0.8s,baz=156,slow=9.7,SNR=5.3						
TXAR				pP	pP	12 09 55.9	-4.0
	1.0nm,0.5s,baz=162,slow=8.0,SNR=6.5						
SUR	Sutherland	74.19	119	P	P	12 10 09.0	+0.2
	6.2nm,0.8s,baz=117,slow=8.5,SNR=3.4						
DBIC	Dimbokro	75.65	71	P	P	12 10 17.4	+0.3
	12nm,0.8s,baz=205,slow=7.9,SNR=10						
DBIC				pP	pP	12 10 26.9	-1.1
	5.6nm,0.7s,baz=192,slow=6.3,SNR=4.3						
ANMO	Albuquerque	76.98	332	P	P	12 10 23.7	-0.7
	0.4nm,0.5s,baz=149,slow=5.9,SNR=2.6						
SDCO	Great Sand Dun	79.09	334	eP	P	12 10 35.8	-0.4
	1.3nm,0.7s						
BOSA	Boshof	79.45	117	P	P	12 10 39.0	+0.6
	15nm,0.8s,baz=242,slow=3.3,SNR=14						
TORD	Torodi Ar. Bea	84.71	70	P	P	12 11 05.5	-0.4
	2.6nm,1.0s,baz=222,slow=5.3,SNR=4.7						
PDAR	Pinedale Array	84.98	333	P	P	12 11 03.9	-3.0
	0.4nm,1.0s,baz=126,slow=4.6,SNR=2.4						
BRTR	Keskin Array B	122.52	62	PKP	PKPdf	12 17 26.2	-0.8
	0.7nm,0.8s,baz=273,slow=2.7,SNR=3.6						
AKASG	Malin Array Be	123.14	48	PKhKP	PKPpre	12 17 23.3	
	0.2nm,0.4s,baz=262,slow=2.8,SNR=4.8						
BVAR	Borovoye Array	148.30	44	PKPbc	PKPdf	12 18 15.9	+2.2
	0.7nm,0.5s,baz=303,slow=0.9,SNR=4.0						
HYB	Hyderabad	148.35	117	i PKP	PKPdf	12 18 17.0	+2.1
MKAR	Makanchi Array	157.67	51	PKPab	PKPab	12 18 58.9	-1.1
	0.3nm,0.3s,baz=292,slow=3.5,SNR=4.2						

IDC 27 12:00:54.7±0.9, 33.87S×71.69W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/29, mbtmp4.0/5, Error ellipse: s-maj=50.9km s-min=24.7km az=72.0

ISCJB 27 12:00:56.4±0.8, 34.09S±0.07×72.09W±0.08, h19km, mb4.0/5, Error ellipse: s-maj=11.9km s-min=7.1km az=44.4

GUC 27 12:00:59.7±0.8, 33.99S×71.97W, h26km±112km, ML4.5

ISC 27 12:00:57.6±0.9, 34.01S±0.07×71.92W±0.07, h19km, n15, σ0.71/19, mb4.0/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.00	13	eP	Pg	12 01 17.5	+0.4
IHA				eS	Sg	12 01 31.0	+0.7
SAN	Santiago	1.18	63	eP	Pg	12 01 21.0	+0.5
SAN				eS	Sg	12 01 37.3	+1.3
PCH	Pirque	1.23	72	eP	Pg	12 01 21.7	+0.2
ROCH	El Roble	1.28	37	eP	Pg	12 01 22.5	+0.1
PEL	Peldehue	1.34	50	eP	Pg	12 01 23.8	+0.3
PEL				eS	Sg	12 01 41.2	+0.2
PEL				AML	AML	12 01 47.9	
	comp=N,15µm,0.4s						
FCH	Farellones	1.52	64	eP	Pb	12 01 24.9	-0.4
FCH				eS	Sg	12 01 46.2	-0.5
FCH				AML	AML	12 01 48.9	
	comp=N,9µm,0.3s						
SNAA	Sanae	51.54	158	P	P	12 10 02.6	+0.7
	comp=N,1.3nm,0.7s,baz=267,slow=8.3,SNR=3.6						
QSPA	South Pole Qui	56.23	180	P	P	12 10 37.1	+0.8
	comp=N,5.3nm,0.9s,baz=140,slow=4.2,SNR=4.3						
TXAR	Lajitas Array	69.79	331	P	P	12 12 07.2	+0.5
	comp=N,0.4nm,0.7s,baz=156,slow=9.1,SNR=3.5						
PDAR	Pinedale Array	83.81	333	P	P	12 13 25.4	-0.3
	comp=N,0.4nm,0.8s,baz=148,slow=11,SNR=2.8						
TORD	Torodi Ar. Bea	84.12	70	P	P	12 13 26.1	-1.5
	comp=N,2.3nm,0.8s,baz=251,slow=4.4,SNR=4.4						
YKA	Yellowknife Ar	102.09	341	P	Pdif	12 14 49.4	-0.6
	comp=N,0.2nm,0.6s,baz=324,slow=3.1,SNR=5.3						
BVAR	Borovoye Array	147.22	43	PKPbc	PKPbc	12 20 38.9	-0.1
	comp=N,1.7nm,0.7s,baz=277,slow=2.4,SNR=4.4						
ZALV	Zalesovo Beam	154.18	32	PKPbc	PKPbc	12 20 55.5	-0.1
	comp=N,2.0nm,0.6s,baz=308,slow=2.9,SNR=3.6						
MKAR	Makanchi Array	156.69	49	PKPab	PKPab	12 21 19.7	-0.9
	comp=N,0.8nm,0.6s,baz=288,slow=2.3,SNR=4.3						

IDC 27 12:02:19.0±1.6, 35.13S×72.05W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/28, mbtmp3.9/3, Error ellipse: s-maj=76.5km s-min=45.2km az=37.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	70.71	331	P	P	12 13 36.5	-0.4
	0.7nm,0.7s,baz=150,slow=8.9,SNR=4.3						
ANMO	Albuquerque	76.77	332	P	P	12 14 12.8	+0.3
	0.2nm,0.3s,baz=56,slow=36,SNR=2.1						
TORD	Torodi Ar. Bea	84.61	70	P	P	12 14 54.4	-0.3
	1.0nm,0.8s,baz=244,slow=4.4,SNR=4.6						
WRA	Warramunga Arr	119.77	209	PKP	PKPdf	12 21 11.3	-0.4
	0.2nm,0.5s,baz=156,slow=1.8,SNR=4.5						
H11S2	WAKE ISLAND Hyl	125.73	268	T	T	14 39 08.0	
	baz=120						
H11S1	WAKE ISLAND Hyl	125.75	268	T	T	14 39 07.1	
	baz=120						
H11S3	WAKE ISLAND Hyl	125.75	268	T	T	14 39 07.8	
	baz=120						
BVAR	Borovoye Array	148.11	44	PKPbc	PKPbc	12 22 06.1	0.0
	1.1nm,0.6s,baz=300,slow=3.6,SNR=4.6						

IDC 27 12:02:57.8±0.5, 37.04S×73.29W, h0km, mb4.7/14, mb1 4.8/17, mb1mx4.7/31, mbtmp4.7/17, ML4.3/3, MS4.1/1, Ms1 4.1/1, ms1mx4.0/25, Error ellipse: s-maj=25.5km s-min=12.3km az=74.0

ISCJB 27 12:03:02.4±0.3, 36.94S±0.06×72.9W±0.1, h33km, mb5.2/55, Error ellipse: s-maj=12.9km s-min=7.6km az=156.2

NEIC 27 12:03:03.2±0.2, 37.03S×73.14W, h35km, mb5.0/15, Error ellipse: s-maj=9.4km s-min=4.9km az=70.0

ISC 27 12:03:03.3±0.5, 37.04S±0.08×73.2W±0.1, h35km, n416, σ1.08/411, mb5.2/55, 179C-152D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.22	152	Pn	Pn	12 04 06.2	+1.0
	13nm,0.3s,baz=323,slow=8.8,SNR=5.1						
PLCA				Lg	Lg	12 05 12.1	
	22nm,0.3s,baz=47,slow=18,SNR=3.1						
PLCA	Paso Flores	4.22	152	ePn	Pn	12 04 05.5	+0.4
PLCA				Lg	Lg	12 05 12.1	
CFAA	Coronel Fontan	6.79	38	Pn	Pn	12 04 40.6	+0.2
	3.7nm,0.3s,baz=304,slow=21,SNR=4.4						
CFAA				Sn	Sn	12 05 46.5	-10
	2.8nm,0.3s,baz=195,slow=20,SNR=3.3						
CFAA				LR	LR	12 07 17.0	
	comp=Z,1µm,18.1s,baz=204,slow=38						
USHA	Ushuaia	18.09	171	P	Pn	12 07 11.4	-0.2
	0.4nm,0.3s,baz=340,slow=7.4,SNR=4.9						
LPAZ	La Paz	21.15	14	P	P	12 07 46.5	+0.5
	22nm,0.8s,baz=192,slow=9.9,SNR=16						
SIV	San Ignacio	23.56	30	P	P	12 08 10.0	-0.6
	9.0nm,0.8s,baz=226,slow=12,SNR=6.2						
NNA	Nana	25.16	352	P	P	12 08 24.9	-0.5
	26nm,0.8s,baz=188,slow=8.5,SNR=10						
SDV	Santo Domingo	45.75	4	eP	P	12 11 20.9	-0.6
	44nm,0.8s						
SNAA	Sanae	49.15	157	P	P	12 11 47.4	+0.2
	5.4nm,1.0s,baz=280,slow=7.0,SNR=8.2						
QSPA	South Pole Qui	53.20	180	P	P	12 12 17.7	0.0
	19nm,0.9s,baz=144,slow=3.0,SNR=17						
APG	El Apazote	54.27	339	P	P	12 12 22.6	-3.5
	9.6nm,0.6s,baz=133,slow=6.0,SNR=5.9						
TEIG	Tepich	58.71	343	P	P	12 12 56.9	-0.5
	23nm,0.8s,baz=80,slow=0.9,SNR=6.8						
034A	Hebbronville	68.13	336	⇑P	P	12 14 01.6	+2.0
	baz=68						
934A	Benavides	68.57	336	⇑P	P	12 14 04.4	+2.1
	baz=69						
933A	Laredo	68.83	335	⇑P	P	12 14 05.4	+1.5
	baz=69,SNR=9.1						
834A	Tilden	69.07	336	⇓P	P	12 14 07.7	+2.3
	baz=69,SNR=7.6						
735A	Kenedy	69.51	337	⇓P	P	12 14 10.1	+2.0
	baz=70,SNR=6.4						
833A	Chaparral WMA,	69.53	335	⇑P	P	12 14 10.3	+2.0
	baz=70,SNR=8.7						
832A	Faith Ranch, C	69.69	335	⇓P	P	12 14 11.0	+1.8
	baz=70,SNR=14						
734A	La Parita Cree	69.74	336	⇑P	P	12 14 10.8	+1.2
	baz=70						
733A	Divot King Ran	69.86	336	⇓P	P	12 14 11.6	+1.2
	baz=70,SNR=11						
636A	Smothers Creek	69.86	338	⇓P	P	12 14 12.2	+1.9
	baz=70,SNR=6.4						
635A	Leesville	69.99	337	⇓P	P	12 14 12.3	+1.2
	baz=70,SNR=7.5						
732A	Laxson Ranch,	70.09	335	⇑P	P	12 14 12.5	+0.8
	baz=70,SNR=9.0						
537A	Green Hill Far	70.20	339	⇑P	P	12 14 14.0	+1.6
	baz=70						
536A	Bastrop	70.42	338	⇑P	P	12 14 14.1	+0.3
	baz=71						
633A	Saathoff Ranch	70.50	336	⇑P	P	12 14 15.2	+0.9
	baz=71,SNR=7.9						
535A	Dale	70.53	338	⇓P	P	12 14 15.2	+0.8
	baz=71,SNR=8.3						
GOGA	Godfrey	70.74	351	eP	P	12 14 15.0	-0.6
	41nm,1.1s						
632A	Uvalde	70.75	336	⇓P	P	12 14 16.9	+1.1
	baz=71,SNR=5.0						
631A	Perdido Creek	70.93	335	⇓P	P	12 14 17.5	+0.7
	baz=71,SNR=9.5						
533A	Kerrville	71.03	336	⇑P	P	12 14 18.5	+1.0
	baz=71,SNR=5.8						
337A	Centerville	71.25	340	⇓P	P	12 14 20.0	+1.3
	baz=72						
532A	Rocksprings	71.36	336	⇓P	P	12 14 20.3	+0.8
	baz=72,SNR=7.0						
434A	Burnet	71.47	337	⇓P	P	12 14 20.4	+0.3
	baz=72,SNR=7.2						
336A	Riesel	71.58	339	⇓P	P	12 14 21.5	+0.7
	baz=72,SNR=6.0						
531A	Rocksprings	71.61	335	⇓P	P	12 14 22.0	+1.0
	baz=72,SNR=6.5						
JCT	Junction City	71.65	336	eP	P	12 14 21.4	+0.2
	7.4nm,1.1s						
JCT	Junction City	71.65	336	⇑P	P	12 14 21.8	+0.6
	baz=72,SNR=7.4						
335A	Moody	71.66	338	⇓P	P	12 14 22.2	+1.0
	baz=72,SNR=7.4						
433A	Art	71.68	337	⇓P	P	12 14 21.6	+0.2
	baz=72,SNR=5.1						
530A	J-C Ranch, Com	71.86	335	⇓P	P	12 14 23.3	+0.8
	baz=72,SNR=6.7						
334A	Lometa	71.95	338	⇑P	P	12 14 23.2	+0.2
	baz=72,SNR=8.5						
TXAR	Lajitas Array	71.96	332	P	P	12 14 23.4	+0.2
	4.4nm,0.8s,baz=152,slow=8.8,SNR=18						
432A	Menard	72.01	336	⇑P	P	12 14 23.7	+0.2
	baz=72,SNR=7.5						
431A	Sonora	72.10	335	⇓P	P	12 14 24.2	+0.3
	baz=72						
529A	Stev Forest Ra	72.15	334	⇓P	P	12 14 25.3	+1.0
	baz=72,SNR=5.5						
333A	Richland Sprin	72.17	337	⇑P	P	12 14 24.6	+0.3
	baz=72,SNR=9.3						
KMSC	Kings Mountain	72.22	353	eP	P	12 14 24.1	-0.4
	4.9nm,0.9s						
WHTX	Lake Whitney	72.33	338	eP	P	12 14 24.7	-0.5
	88nm,1.0s						
WHTX	Lake Whitney	72.33	338	⇑P	P	12 14 25.8	+0.6
	baz=73,SNR=6.7						
430A	Baggett Ranch,	72.41	335	⇓P	P	12 14 26.0	+0.2
	baz=73,SNR=8.4						
332A	Millersview	72.47	336	⇓P	P	12 14 26.3	+0.2
	baz=73,SNR=6.0						
429A	Davenport Ranc	72.49	334	⇑P	P	12 14 26.9	+0.7
	baz=73,SNR=6.5						
234A	Clairette	72.54	338	⇑P	P	12 14 27.0	+0.5
	baz=73,SNR=10						
331A	San Angelo	72.62	336	⇑P	P	12 14 27.4	+0.4
	baz=73,SNR=10.0						
233A	Rising Star	72.79	337	⇓P	P	12 14 28.4	+0.4
	baz=73,SNR=5.3						
135A	Vickery Place,	72.84	339	⇓P	P	12 14 28.5	+0.3
	baz=73						
232A	Coleman	72.90	337	⇓P	P	12 14 28.7	0.0
	baz=73,SNR=7.9						
330A	Mertzon	72.96	335	⇓P	P	12 14 29.1	0.0
	baz=73,SNR=5.4						
134A	White-Moore Ra	73.06	338	⇑P	P	12 14 29.9	+0.3
	baz=73,SNR=9.2						
231A	Bronte	73.16	336	⇓P	P	12 14 30.4	+0.2
	baz=74,SNR=9.8						
329A	Wagon Wheel Ra	73.31	335	⇑P	P	12 14 31.5	+0.4
	baz=74,SNR=6.0						
133A	Hamilton Ranch	73.34	338	⇑P	P	12 14 31.6	+0.4
	baz=74,SNR=9.5						
230A	Sterling City	73.38	335	⇓P	P	12 14 31.8	+0.3
	baz=74						
Z35A	Perchaven, San	73.53	339	⇓P	P	12 14 32.8	+0.5
	baz=74,SNR=6.5						
ABTX	Abilene, Hawle	73.58	337	eP	P	12 14 32.2	-0.4
	191nm,1.5s						
ABTX	Abilene, Hawle	73.58	337	⇑P	P	12 14 32.8	+0.1
	baz=74,SNR=5.5						
229A	Bryant Ranch,	73.69	335	⇓P	P	12 14 33.5	+0.2
	baz=74						
Z34A	Collier Ranch,	73.75	339	⇑P	P	12 14 33.9	+0.3
	baz=74,SNR=7.1						
131A	Roby	73.86	336	⇓P	P	12 14 34.7	+0.3
	baz=74,SNR=7.8						
Z33A	Whitaker Ranch	73.93	338	⇑P	P	12 14 35.1	+0.5
	baz=74,SNR=7.6						
130A	Snyder	73.98	336	⇓P	P	12 14 35.3	+0.2
	baz=74						
WVT	Waverly	74.06	348	eP	P	12 14 34.0	-1.4
	188nm,1.4s						
228A	UT Block 9, Go	74.09	334	⇑P	P	12 14 35.9	+0.1
	baz=74						
Z32A	Haskell	74.16	337	⇑P	P	12 14 36.4	+0.4
	baz=74,SNR=5.2						
VWCC	Virginia Weste	74.18	354	eP	P	12 14 36.5	+0.4
Y34A	Reagan Ranch,	74.26	339	⇓P	P	12 14 36.7	+0.1
	baz=75,SNR=5.3						
129A	Stewart Farms,	74.31	335	⇑P	P	12 14 37.7	+0.7
	baz=75						
Z31A	Sharp Cattle R	74.38	337	⇓P	P	12 14 37.6	+0.3
	baz=75,SNR=6.0						
128A	Castleberry Fa	74.51	335	⇑P	P	12 14 38.7	+0.5
	baz=75,SNR=6.0						
Y33A	Hilltop Ranch,	74.56	338	⇓P	P	12 14 38.5	+0.2
	baz=75,SNR=6.8						
Z30A	Sanderson Ranc	74.67	336	⇑P	P	12 14 39.0	0.0
	baz=75,SNR=5.8						
Y32A	R-V Farms, Ver	74.80	338	⇓P	P	12 14 39.7	0.0
	baz=75,SNR=9.5						
Z29A	Hungry Hill Ra	74.83	336	⇑P	P	12 14 39.6	-0.4
	baz=75,SNR=7.7						
127A	Arkansas Junct	74.86	334	⇑P	P	12 14 40.9	+0.7
	baz=75						
X34A	Smith Ranch, M	74.88	339	⇑P	P	12 14 40.8	+0.7
	baz=75						
PARMO	Parma	74.93	346	eP	P	12 14 40.0	-0.4
Y31A	Rekieta Farm,	75.01	337	⇑P	P	12 14 41.4	+0.4
	baz=75,SNR=6.6						
X33A	Lawton	75.02	339	⇑P	P	12 14 41.5	+0.6
	baz=75						
Y30A	Stafford Cattl	75.14	336	⇓P	P	12 14 42.2	+0.4
	baz=76						
X32A	Elmer	75.14	338	⇓P	P	12 14 42.3	+0.6
	baz=76,SNR=5.6						
Y29A	Porterfield Fa	75.37	336	⇑P	P	12 14 43.5	+0.3
	baz=76,SNR=5.4						
Z27A	Tatum	75.39	334	⇑P	P	12 14 43.8	+0.5
	baz=76,SNR=9.4						
X31A	McDonald Ranch	75.54	337	⇓P	P	12 14 44.4	+0.4
	baz=76,SNR=6.1						
TUL1	Tulsa	75.56	341	eP	P	12 14 43.4	-0.7
	19nm,1.1s						
TUL1	Tulsa	75.56	341	⇓P	P	12 14 43.8	-0.2
	baz=76						
W33A	Caddo, Fort Co	75.58	339	⇑P	P	12 14 45.1	+0.9
	baz=76						
Y28A	McKinney Farm,	75.61	335	⇓P	P	12 14 45.0	+0.5
	baz=76,SNR=6.3						
Z26A	Caprock	75.62	334	⇑P	P	12 14 45.2	+0.6
	baz=76						
X30A	Coker Ranch, T	75.65	337	⇓P	P	12 14 45.5	+0.8
	baz=76						
W32A	Sentinel	75.78	338	⇓P	P	12 14 46.0	+0.7
	baz=76,SNR=7.5						
USIN	University of	75.83	348	eP	P	12 14 44.7	-0.8
	48nm,1.1s						
MSTX	Muleshoe	75.84	335	eP	P	12 14 45.5	-0.3
	169nm,1.6s						
MSTX	Muleshoe	75.84	335	⇑P	P	12 14 46.4	+0.6
	baz=76,SNR=7.3						
SIUC	Southern Illin	75.85	347	eP	P	12 14 45.0	-0.6
	24nm,0.8s						
Y27A	Causey	75.89	335	⇓P	P	12 14 47.1	+1.0
	baz=76						
Z25A	Roswell	75.89	333	⇑P	P	12 14 46.9	+0.8
	baz=76						
X29A	Tulia	75.92	336	⇓P	P	12 14 46.5	+0.3
	baz=76,SNR=5.7						
319A	Douglas	75.98	329	⇓P	P	12 14 48.1	+1.4
	baz=76,SNR=5.9						
W31A	Holland Ranch,	76.05	338	⇑P	P	12 14 47.4	+0.5
	baz=76						
X28A	Dimmitt	76.15	336	⇓P	P	12 14 56.4	+8.8
	baz=76						
V33A	Lossen Ranch,	76.15	339	⇑P	P	12 14 48.3	+0.9
	baz=76						
Y26A	Elida	76.16	334	⇓P	P	12 14 47.9	+0.2
	baz=76						
Z24A	Sheeppen Canyo	76.18	333	⇑P	P	12 14 48.6	+0.7
	baz=76,SNR=6.4						
V32A	Arapaho	76.28	339	⇑P	P	12 14 48.8	+0.7
	baz=77						
AMTX	Amarillo	76.31	336	eP	P	12 14 48.5	0.0
	138nm,1.4s						
AMTX	Amarillo	76.31	336	⇑P	P	12 14 49.1	+0.6
	baz=77						
121A	Cookes Peak, D	76.39	330	⇓P	P	12 14 50.3	+1.2
	baz=77,SNR=18						
Y25A	Mesa, Roswell	76.47	333	⇓P	P	12 14 49.6	+0.2
	baz=77,SNR=7.8						
U34A	Anderson Ranch	76.52	340	eP	P	12 14 49.5	0.0
	111nm,1.4s						
W29A	Amraillo	76.52	336	⇑P	P	12 14 50.3	+0.7
	baz=77						
V31A	Spring Creek L	76.56	338	⇑P	P	12 14 51.1	+1.2
	baz=77						
X27A	F and S Farms,	76.56	335	⇑P	P	12 14 50.2	+0.3
	baz=77						
U33A	Lingo Farm, Me	76.67	340	⇑P	P	12 14 50.6	+0.2
	baz=77						
Z22A	Elephant Butte	76.71	331	⇑P	P	12 14 53.9	+3.0
	baz=77,SNR=14						
X26A	CR and CF Fran	76.72	334	⇓P	P	12 14 51.5	+0.6
	baz=77,SNR=6.9						
Y24A	Capitan	76.74	333	⇑P	P	12 14 51.9	+0.9
	baz=77,SNR=5.6						
U32A	Winter Ranch,	76.88	339	⇓P	P	12 14 52.0	+0.5
	baz=77,SNR=6.9						
SLM	Saint Louis	76.93	346	eP	P	12 14 51.6	-0.2
	29nm,0.5s						
W27A	Bowe Ranch, En	76.93	335	⇓P	P	12 14 52.6	+0.6
	baz=77,SNR=8.3						
Y23A	Lovelace Mesa,	76.97	332	⇓P	P	12 14 53.8	+1.5
	baz=77,SNR=8.5						
X25A	Clemmons Ranch	77.00	334	⇓P	P	12 14 53.0	+0.5
	baz=77						
DBIC	Dimbokro	77.03	71	P	P	12 14 53.8	+0.8
	5.4nm,0.7s,baz=162,slow=4.9,SNR=5.9						
DBIC	Dimbokro	77.03	71	eP	P	12 14 53.4	+0.5

	30nm,1.5s					
W26A	Owens Ranch, T	77.19	335	⇓P	P	12 14 54.5 +1.0
	baz=78,SNR=6.2					
V28A	Channing	77.28	336	⇓P	P	12 14 55.2 +1.2
	baz=78,SNR=6.7					
T33A	Patterson Ranc	77.32	340	⇑P	P	12 14 54.6 +0.6
	baz=78					
V27A	Dan Oppiter Fa	77.49	336	⇑P	P	12 14 56.1 +1.0
	baz=78,SNR=8.9					
U30A	WK&E Inc. Balk	77.51	338	⇑P	P	12 14 56.3 +1.1
	baz=78,SNR=5.2					
W25A	X Bar L Ranch,	77.55	334	⇓P	P	12 14 56.7 +1.2
	baz=78					
X23A	Hourglass Bar	77.60	333	⇓P	P	12 14 57.2 +1.3
	baz=78					
T32A	Huddler Ranch,	77.60	339	⇓P	P	12 14 56.8 +1.2
	baz=78					
T31A	Randall Ranch,	77.74	339	⇑P	P	12 14 57.3 +0.9
	baz=78					
LAZ	Ladron	77.79	332	eP	P	12 14 58.1 +1.1
	8.9nm,1.7s					
V26A	Tequesquite Ra	77.84	335	⇓P	P	12 14 57.4 +0.3
	baz=78,SNR=6.4					
U28A	Mallet	77.86	336	⇑P	P	12 14 57.8 +0.7
	baz=78					
W24A	Lazy 6 Ranch,	77.88	333	⇓P	P	12 14 58.3 +0.9
	baz=78,SNR=7.2					
214A	Organ Pipe Nat	78.00	326	eP	P	12 14 59.1 +1.2
	84nm,1.5s					
214A	Organ Pipe Nat	78.00	326	⇓P	P	12 14 59.5 +1.5
	baz=78					
ANMO	Albuquerque	78.02	333	P	P	12 14 58.6 +0.4
	baz=162,slow=10					
ANMO	Albuquerque	78.02	333	eP	P	12 14 58.6 +0.4
	48nm,1.4s					
S32A	Newby Ranch, P	78.09	339	⇑P	P	12 14 59.7 +1.4
	baz=78					
U27A	Thompson Grove	78.09	336	⇑P	P	12 14 59.6 +1.1
	baz=78,SNR=7.2					
W23A	Werner Place,	78.10	333	⇑P	P	12 15 00.3 +1.6
	baz=78,SNR=6.0					
V25A	Rancho No Teng	78.17	334	⇓P	P	12 14 59.6 +0.7
	baz=78,SNR=6.3					
S31A	Mullinville	78.17	339	⇑P	P	12 14 59.4 +0.6
	baz=78					
T29A	Hugoton	78.28	337	⇓P	P	12 15 00.3 +0.9
	baz=79					
V24A	Rampart Ranch,	78.29	334	⇓P	P	12 15 00.7 +0.9
	baz=79					
U26A	Atchley Ranch,	78.37	335	⇓P	P	12 15 00.8 +0.7
	baz=79,SNR=7.5					
R33A	Olander Ranch,	78.40	340	⇑P	P	12 15 00.1 +0.1
	baz=79					
S30A	Montezuma	78.48	338	⇑P	P	12 15 01.3 +0.8
	baz=79,SNR=6.0					
T28A	Walsh	78.50	337	⇓P	P	12 15 01.3 +0.6
	baz=79,SNR=8.4					
U25A	Circle Dot Ran	78.60	335	⇑P	P	12 15 02.4 +1.0
	baz=79,SNR=7.4					
V23A	Ortiz Mt. (NFS	78.64	333	⇑P	P	12 15 03.5 +1.9
	baz=79					
T27A	Campo	78.64	336	⇑P	P	12 15 02.4 +0.9
	baz=79,SNR=7.3					
S29A	Ulysses	78.65	338	⇑P	P	12 15 02.4 +0.9
	baz=79,SNR=8.0					
R32A	Long Quarter,	78.70	340	⇑P	P	12 15 02.8 +1.1
	baz=79					
KSU1	Kansas State U	78.78	342	eP	P	12 15 00.5 -1.6
	24nm,0.9s					
KSU1	Kansas State U	78.78	342	⇑P	P	12 15 02.8 +0.7
	baz=79					
R31A	Burdett	78.81	339	⇑P	P	12 15 03.0 +0.7
	baz=79					
S28A	Manter	78.87	337	⇓P	P	12 15 03.5 +0.8
	baz=79,SNR=6.5					
U24A	Moreno Valley	78.91	334	⇓P	P	12 15 04.6 +1.4
	baz=79					
Q33A	Connelly Farm,	79.00	341	⇓P	P	12 15 03.9 +0.6
	baz=79					
X18A	Snowflake	79.00	330	⇓P	P	12 15 05.3 +1.7
	baz=79,SNR=6.2					
R30A	Dighton	79.02	339	⇓P	P	12 15 04.1 +0.6
	baz=79					
T26A	Comanche Natio	79.03	336	⇑P	P	12 15 04.4 +0.7
	baz=79					
V22A	San Miguel Ran	79.05	333	⇑P	P	12 15 05.7 +1.8
	baz=79,SNR=10					
113A	Mohawk Valley,	79.11	326	⇑P	P	12 15 05.7 +1.7
	baz=79					
U23A	El Rito	79.16	333	⇓P	P	12 15 06.3 +1.8
	baz=80,SNR=7.5					
Q32A	Meitler Ranch,	79.19	340	⇑P	P	12 15 04.9 +0.5
	baz=80					
T25A	Trinidad	79.27	335	⇑P	P	12 15 07.0 +1.9
	baz=80,SNR=10					
S26A	Kim	79.40	336	⇓P	P	12 15 07.1 +1.5
	baz=80,SNR=8.2					
R29A	Marienthal	79.40	338	⇓P	P	12 15 06.8 +1.2
	baz=80,SNR=7.1					
W18A	Petrified Fore	79.43	330	⇓P	P	12 15 07.6 +1.6
	baz=80					
Q31A	Ellis	79.44	340	⇓P	P	12 15 06.7 +1.0
	baz=80					
U22A	Llaves	79.44	333	⇓P	P	12 15 08.2 +2.1
	baz=80,SNR=8.7					
BOSA	Boshof	79.48	118	P	P	12 15 06.9 +0.4
	10nm,1.0s,baz=236,slow=6.2,SNR=4.8					
X16A	Lo Mia Camp, P	79.52	329	⇑P	P	12 15 08.3 +1.9
	baz=80,SNR=7.0					
R28A	Tribune	79.53	337	⇑P	P	12 15 06.8 +0.5
	baz=80,SNR=5.7					
T24B	San Luis	79.53	334	⇓P	P	12 15 08.6 +2.0
	baz=80,SNR=7.7					
Q30A	Quinter	79.64	339	⇑P	P	12 15 07.7 +0.9
	baz=80					
T23A	Casias Ranch,	79.74	334	⇑P	P	12 15 09.0 +1.3
	baz=80,SNR=6.5					
S25A	Robets Cordova	79.75	335	⇓P	P	12 15 08.8 +1.2
	baz=80,SNR=5.1					
Y14A	Wickenburg	79.77	327	⇓P	P	12 15 09.1 +1.5
	baz=80,SNR=7.9					
Q29A	Oakley	79.78	338	⇓P	P	12 15 08.4 +0.8
	baz=80,SNR=7.1					
R27A	Eads	79.79	337	⇓P	P	12 15 08.6 +0.9
	baz=80,SNR=5.2					
P32A	Huiting Farm,	79.79	340	⇑P	P	12 15 08.4 +0.8
	baz=80					
GLA	Glamis	79.83	325	⇑P	P	12 15 09.1 +1.1
	baz=80,SNR=6.6					
P31A	Stockton	79.91	340	⇑P	P	12 15 09.2 +0.9
	baz=80					
S24A	Houchin Ranch,	80.00	335	⇑P	P	12 15 10.6 +1.6
	baz=80,SNR=7.3					
R26A	Arlington	80.01	336	⇑P	P	12 15 10.6 +1.7
	baz=80					
R25A	Fountain Ranch	80.14	336	⇓P	P	12 15 11.5 +1.9
	baz=80					
P30A	Selden	80.18	339	⇑P	P	12 15 11.5 +1.8
	baz=80					
SWSC	Sam W. Stewart	80.18	325	⇓P	P	12 15 11.5 +1.7
	baz=80,SNR=6.2					
Q28A	Sharon Springs	80.20	338	⇑P	P	12 15 10.8 +0.9
	baz=80,SNR=7.4					
S23A	Nye Farm, Mont	80.33	334	⇑P	P	12 15 12.6 +1.8
	baz=81					
KSCO	Kaye Shedlock'	80.40	337	⇓P	P	12 15 12.2 +1.2
	baz=81,SNR=5.5					
MONP	Monument Peak	80.43	324	⇑P	P	12 15 13.7 +2.3
	baz=81					
P29A	Atwood	80.43	339	⇑P	P	12 15 11.7 +0.6
	baz=81,SNR=5.7					
WUAZ	Wupatki	80.44	329	eP	P	12 15 12.0 +0.6
	46nm,1.2s					
WUAZ	Wupatki	80.44	329	⇑P	P	12 15 12.9 +1.5
	baz=81,SNR=7.7					
O31A	Woolen Ranch,	80.49	340	⇑P	P	12 15 12.2 +0.9
	baz=81					
R24A	Sanders Place,	80.49	335	⇓P	P	12 15 13.0 +1.3
	baz=81,SNR=7.8					
PDMCI	Parker Dam,Lak	80.57	327	⇑P	P	12 15 14.5 +2.6
	baz=81					
Q26A	Hugo	80.60	336	⇑P	P	12 15 13.8 +1.7
	baz=81					
BC3	Big Chuckawall	80.62	325	⇑P	P	12 15 14.8 +2.5
	baz=81,SNR=6.5					
P28A	Saint Francis	80.65	338	⇑P	P	12 15 13.9 +1.6
	baz=81,SNR=7.8					
S22A	4UR Ranch, Cre	80.66	334	⇑P	P	12 15 14.6 +2.0
	baz=81					
R23A	Moffat	80.70	334	⇑P	P	12 15 14.0 +1.2
	baz=81					
O30A	MW Ranch, Wils	80.71	339	⇓P	P	12 15 14.3 +1.8
	baz=81					
MVCO	Mesa Verde	80.79	332	⇓P	P	12 15 14.9 +1.6
	baz=81					
Q25A	Bedland, Calha	80.82	336	⇑P	P	12 15 14.5 +1.1
	baz=81					
O29A	4D Ranch, Culb	80.87	339	⇑P	P	12 15 14.4 +1.0
	baz=81					
P27A	Ficken Ranch,	80.88	337	⇑P	P	12 15 15.2 +1.6
	baz=81,SNR=7.8					
IRM	Iron Mountain	80.91	326	⇓P	P	12 15 15.2 +1.5
	baz=81					
PFO	Pinyon Flat Ob	81.04	325	eP	P	12 15 15.8 +1.2
PFO	Pinyon Flat Ob	81.04	325	⇓P	P	12 15 16.3 +1.7
	baz=81					
P26A	Davis Ranch, A	81.12	337	⇑P	P	12 15 15.8 +0.9
	baz=82					
W13A	Hualapai Mount	81.14	327	⇑P	P	12 15 17.1 +1.9
	baz=82,SNR=5.7					
O28A	Krutsinger Ran	81.16	338	⇓P	P	12 15 16.5 +1.5
	baz=82,SNR=7.6					
Q24A	Divide	81.17	335	⇑P	P	12 15 16.0 +0.6
	baz=82,SNR=5.4					
P25A	Willow Gulch B	81.34	336	⇑P	P	12 15 17.5 +1.4
	baz=82					
BGNE	Belgrade	81.35	341	eP	P	12 15 15.9 0.0
	9.6nm,0.8s					
BGNE	Belgrade	81.35	341	⇓P	P	12 15 16.8 +0.9
	baz=82					
MURC	Murrieta	81.38	324	⇓P	P	12 15 18.1 +1.9
	baz=82					
O27A	Beecher Island	81.43	338	⇓P	P	12 15 17.5 +1.0
	baz=82,SNR=6.6					
N29A	Votaw Ranch, W	81.47	339	⇓P	P	12 15 17.4 +0.8
	baz=82					
M31A	Lambtecht Ranc	81.50	341	⇓P	P	12 15 17.3 +0.5
	baz=82,SNR=5.0					
U15A	North Rim	81.60	329	⇓P	P	12 15 19.2 +1.6
	baz=82,SNR=7.3					
N28A	Pribbeno Ranch	81.61	339	⇑P	P	12 15 18.6 +1.2
	baz=82					
PV01	Paradox Valley	81.63	333	eP	P	12 15 17.7 -0.1
	5μm,1.6s					
GMRC	Granite Mounta	81.65	326	⇑P	P	12 15 20.1 +2.3
	baz=82					
LDFC	Landfair	81.66	326	eP	P	12 15 18.8 +1.0
	57nm,1.3s					
O26A	Horse Wrangler	81.73	337	⇓P	P	12 15 19.9 +1.8
	baz=82					
P23A	Jefferson	81.77	335	⇑P	P	12 15 20.3 +1.7
	baz=82					
LBTB	Lobatse	81.87	115	eP	P	12 15 19.4 0.0
	15nm,0.8s					
O25A	Wiggins	81.87	337	⇑P	P	12 15 20.8 +1.9
	baz=82					
OGNE	Ogallala	81.99	338	⇓P	P	12 15 22.6 +3.2
	baz=82					
HEC	Hector,Ludlow	82.00	325	⇑P	P	12 15 21.8 +2.3
	baz=82,SNR=5.2					
N27A	Anderson Farm,	82.01	338	⇑P	P	12 15 21.3 +1.8
	baz=82,SNR=5.6					
M29A	Burnside Ranch	82.06	339	⇑P	P	12 15 21.4 +1.7
	baz=82					
ISCO	Idaho Springs	82.08	335	⇑P	P	12 15 21.6 +1.5
	baz=82					
BFSC	Mount Baldy Ra	82.12	324	⇑P	P	12 15 22.9 +2.6
	baz=82					
L31A	Butterfield Fa	82.25	341	⇓P	P	12 15 21.3 +0.7
	baz=83,SNR=6.2					
L30A	Spencer Herefo	82.27	340	⇑P	P	12 15 22.1 +1.4
	baz=83					
P22A	Eagle	82.28	334	⇑P	P	12 15 22.4 +1.3
	baz=83					
O23A	Lake Granby, G	82.55	335	⇓P	P	12 15 24.3 +1.8
	baz=83,SNR=5.1					
L29A	Maesberg Ranch	82.58	340	⇑P	P	12 15 24.4 +1.9
	baz=83					
GSC	Goldstone	82.61	325	⇑P	P	12 15 24.7 +2.0
	baz=83					
M27A	Reverse DX Ran	82.63	338	⇑P	P	12 15 24.3 +1.5
	baz=83,SNR=7.4					
O22A	Kremmling	82.72	335	⇓P	P	12 15 24.1 +0.7
	baz=83,SNR=6.0					
N24A	Carr	82.76	336	⇑P	P	12 15 25.6 +2.1
	baz=83					
EDW2	Edwards Air Fo	82.80	324	⇑P	P	12 15 24.8 +1.0
	baz=83					
SHPR	Sheep Range	82.88	327	eP	P	12 15 24.8 +0.6
	86nm,1.6s					
K30A	Basset	82.92	341	⇓P	P	12 15 24.6 +0.5
	baz=83,SNR=10					
OSI	Osito Adit	82.93	324	⇑P	P	12 15 26.0 +1.6
	baz=83					
L27A	T5 Ranch, Ells	83.12	339	⇓P	P	12 15 26.3 +1.1
	baz=84,SNR=5.2					
LRMC	Laurel Mountai	83.16	325	⇓P	P	12 15 28.3 +2.7
	baz=84					
ECSD	EROS Data Cent	83.17	343	eP	P	12 15 24.9 -0.4
	60nm,1.1s					
ECSD	EROS Data Cent	83.17	343	⇓P	P	12 15 25.5 +0.2
	baz=84,SNR=12					
N23A	Red Feather La	83.17	336	⇓P	P	12 15 27.0 +1.2
	baz=84					
K29A	Lazy Trails An	83.19	340	⇓P	P	12 15 26.5 +1.0
	baz=84					
ARUT	Antelope Range	83.23	329	eP	P	12 15 28.1 +2.0
	903nm,1.4s					
N22A	Wattenberg Ran	83.26	335	⇓P	P	12 15 27.3 +1.1
	baz=84					
O20A	White River Ci	83.28	334	eP	P	12 15 26.5 +0.3
	53nm,1.2s					
O20A	White River Ci	83.28	334	⇓P	P	12 15 27.8 +1.5
	baz=84,SNR=5.5					
L26A	Underwood Farm	83.30	338	⇓P	P	12 15 28.1 +1.9
	baz=84					
M24A	Cheyenne	83.32	337	⇑P	P	12 15 27.9 +1.5
	baz=84					
K28A	Ten Mile Ranch	83.43	339	⇑P	P	12 15 28.1 +1.3
	baz=84,SNR=5.6					
J30A	Dallas	83.49	341	⇑P	P	12 15 27.7 +0.7
	baz=84					
FURC	Furnace Creek,	83.60	326	⇓P	P	12 15 29.8 +2.1
	baz=84,SNR=6.4					
K27A	Flueckinger Fa	83.67	339	⇓P	P	12 15 29.6 +1.6
	baz=84					
ISA	Isabella	83.67	324	⇑P	P	12 15 30.0 +1.8
	baz=84					
J29A	Okreek	83.79	340	⇓P	P	12 15 28.9 +0.3
	baz=84,SNR=7.2					
N20A	Spence Gulch,	83.91	334	⇓P	P	12 15 30.8 +1.3
	baz=84					
I30A	Oacoma	84.03	341	⇑P	P	12 15 29.8 +0.1
	baz=84,SNR=6.6					
J28A	Allard Ranch,	84.05	340	⇑P	P	12 15 31.3 +1.4
	baz=84,SNR=5.5					
VES	Vestal, Richgr	84.10	324	⇑P	P	12 15 32.2 +1.9
	baz=84					
SMMC	Simmler	84.11	323	⇑P	P	12 15 32.4 +2.0
	baz=84					
J27A	Elkhorn Farm,	84.11	339	⇑P	P	12 15 31.1 +0.9
	baz=84					
L23A	Garrett	84.19	336	⇑P	P	12 15 31.8 +0.9
	baz=84					
I29A	Vivian Onida	84.35	341	⇓P	P	12 15 32.8 +1.4
	baz=85					
BRSD	Miller	84.40	342	eP	P	12 15 31.2 -0.4
	9.8nm,0.8s					
BRSD	Miller	84.40	342	⇑P	P	12 15 32.6 +1.0
	baz=85					
K24A	Anderson Ranch	84.46	337	⇑P	P	12 15 33.7 +1.6
	baz=85					
J26A	Sides Ranch, S	84.47	339	⇑P	P	12 15 33.3 +1.2
	baz=85,SNR=6.1					
NLU	North Lily Min	84.55	331	eP	P	12 15 32.4 -0.3
	14nm,1.6s					
I28A	Midland	84.56	340	⇓P	P	12 15 32.9 +0.5
	baz=85,SNR=6.5					
R11A	Troy Canyon, C	84.61	328	⇓P	P	12 15 34.6 +1.5
	baz=85					
K23A	Bowen Ranch, D	84.74	337	⇓P	P	12 15 34.9 +1.4
	baz=85					
J25A	Sunshine Ranch	84.76	338	⇓P	P	12 15 34.4 +0.8
	baz=85					
I27A	Quinn	84.87	340	⇓P	P	12 15 34.4 +0.4
	baz=85					
H29A	Onida	84.89	341	⇑P	P	12 15 34.5 +0.4
	baz=85,SNR=5.1					
K22A	Casper	84.94	336	eP	P	12 15 34.9 +0.4
	193nm,1.6s					
K22A	Casper	84.94	336	⇑P	P	12 15 35.3 +0.7
	baz=85,SNR=5.7					
J24A	Dixon Ranch, L	84.96	338	⇓P	P	12 15 35.4 +0.7
	baz=85					
DUG	Dugway	85.04	331	eP	P	12 15 35.9 +0.8
	11nm,1.4s					
DUG	Dugway	85.04	331	⇑P	P	12 15 36.6 +1.5
	baz=85					
I26A	New Underwood	85.07	339	⇓P	P	12 15 36.4 +1.3
	baz=85					
G30A	Faulkton	85.09	342	⇑P	P	12 15 36.0 +1.0
	baz=85					
TPH	Tonopah	85.09	327	eP	P	12 15 36.1 +0.6
	65nm,1.5s					
H28A	Mission Ridge	85.15	340	⇑P	P	12 15 35.9 +0.4
	baz=86					
K21A	Alcova	85.16	335	⇑P	P	12 15 36.6 +0.9
	baz=86,SNR=7.1					
TCUT	Toone Canyon	85.30	332	eP	P	12 15 37.0 +0.4
	115nm,1.5s					
I25A	Rochford	85.31	338	⇓P	P	12 15 37.0 +0.6
	baz=86,SNR=8.0					
H27A	Howes	85.40	340	⇑P	P	12 15 37.2 +0.5
	baz=86,SNR=6.5					
I24A	Kuemmerle Ranc	85.43	338	⇑P	P	12 15 37.6 +0.7
	baz=86					
RSSD	Black Hills	85.49	338	eP	P	12 15 36.7 -0.7
	14nm,0.8s					
G28A	Parade	85.49	341	⇑P	P	12 15 37.8 +0.6
	baz=86,SNR=5.3					
J22A	Midwest	85.61	336	⇑P	P	12 15 38.6 +0.7
	baz=86					
F30A	Leola	85.72	342	⇑P	P	12 15 38.9 +0.7
	baz=86					
BGU	Big Grassy Mou	85.75	331	eP	P	12 15 39.5 +0.8
	25nm,1.5s					
H25A	Fruitdale	85.82	339	⇑P	P	12 15 39.3 +0.5
	baz=86,SNR=9.3					
J21A	Lysite	85.86	336	⇓P	P	12 15 40.1 +0.9
	baz=86					
NVAR	Mina Array Bea	85.86	326	P	P	12 15 40.3 +0.9
	2.1nm,0.8s,baz=162,slow=5.7,SNR=6.4					
F29A	Eureka	85.92	342	⇓P	P	12 15 39.2 0.0
	baz=86,SNR=5.9					
I22A	9 Mile Ranch,	86.04	337	⇓P	P	12 15 40.5 +0.5
	baz=86					
G27A	Dupree	86.05	340	⇑P	P	12 15 40.2 +0.3
	baz=86,SNR=5.5					
PDAR	Pinedale Array	86.07	334	P	P	12 15 40.4 +0.1
	3.7nm,1.0s,baz=151,slow=4.0,SNR=12					
J20A	Shoshoni	86.08	335	⇑P	P	12 15 41.5 +1.3
	baz=86,SNR=6.7					
TORD	Torodi Ar. Bea	86.11	70	P	P	12 15 40.9 0.0
	3.0nm,1.0s,baz=234,slow=5.1,SNR=5.5					
G26A	Maurine	86.15	340	⇑P	P	12 15 40.6 +0.2
	baz=86,SNR=11					
F28A	McLaughlin	86.18	341	⇓P	P	12 15 41.3 +0.8
	baz=86,SNR=5.9					
H24A	Dirks Ranch, A	86.22	338	⇑P	P	12 15 41.2 +0.5
	baz=87,SNR=5.5					
I21A	Big Trails, Te	86.23	336	⇑P	P	12 15 41.2 +0.3
	baz=87					
G25A	Newell	86.29	339	⇑P	P	12 15 41.6 +0.5
	baz=87,SNR=10					
E30A	Jud	86.32	343	⇓P	P	12 15 41.5 +0.4
	baz=87					
J19A	Crowheart	86.33	335	⇓P	P	12 15 41.5 0.0
	baz=87,SNR=8.9					
HVU	Hansel Valley	86.39	331	eP	P	12 15 41.9 +0.1
	5.2nm,1.2s					
F27A	Lemmon	86.53	340	⇑P	P	12 15 42.5 +0.3
	baz=87,SNR=6.6					
E29A	Napoleon	86.56	342	⇑P	P	12 15 43.0 +0.7
	baz=87					
H22A	Clearmont	86.63	337	⇑P	P	12 15 43.4 +0.5
	baz=87					
F26A	Lodgepole	86.69	340	⇑P	P	12 15 43.4 +0.4
	baz=87					
G24A	Alzada	86.70	339	⇑P	P	12 15 43.8 +0.7
	baz=87					
E28A	Huff	86.83	341	⇑P	P	12 15 43.4 -0.2
	baz=87					
D30A	Buchanan	86.85	343	⇑P	P	12 15 43.9 +0.2
	baz=87,SNR=5.7					
H21A	Big Horn, Sher	86.88	337	⇑P	P	12 15 43.9 -0.1
	baz=87					
G23A	Biddle	86.88	338	⇓P	P	12 15 44.2 +0.2
	baz=87					
E27A	Carson	86.92	341	⇑P	P	12 15 44.2 +0.1
	baz=87					
F25A	Bowman	86.97	339	⇑P	P	12 15 45.3 +0.9
	baz=87					
I19A	Meeteetse	86.99	335	⇑P	P	12 15 45.7 +0.9
	baz=87,SNR=6.3					
D29A	Pettibone, Tap	87.01	342	⇓P	P	12 15 44.9 +0.4
	baz=87					
H20A	Greybull	87.06	336	⇓P	P	12 15 45.4 +0.5
	baz=87,SNR=15					
F24A	Ekalaka	87.18	339	⇑P	P	12 15 46.4 +0.9
	baz=88					
E26A	Carlson Angus	87.20	340	⇑P	P	12 15 45.7 +0.3
	baz=88,SNR=7.3					
AGMN	Agassiz Nation	87.33	345	⇓P	P	12 15 46.6 +0.6
	baz=88					
C30A	Mose, Pekin	87.34	343	⇑P	P	12 15 47.0 +0.9
	baz=88,SNR=9.0					
F23A	Volborg	87.35	338	⇑P	P	12 15 46.6 +0.3
	baz=88					
D28A	Regan	87.37	342	⇑P	P	12 15 47.3 +1.0
	baz=88,SNR=5.8					
I17A	Pilgrim Ck.	87.43	334	⇑P	P	12 15 48.1 +1.2
	baz=88					
E25A	Miller Ranch,	87.48	340	⇑P	P	12 15 47.4 +0.6
	baz=88,SNR=6.2					
D27A	Center	87.54	341	⇓P	P	12 15 48.0 +0.9
	baz=88					
H19A	Powell	87.55	335	⇓P	P	12 15 47.8 +0.4
	baz=88					
F22A	Rosebud	87.66	338	⇑P	P	12 15 48.7 +0.9
	baz=88					
D26A	Manning	87.71	340	⇑P	P	12 15 48.1 +0.2
	baz=88,SNR=9.8					
G20A	Bridger	87.78	336	⇑P	P	12 15 49.9 +1.4
	baz=88,SNR=7.3					
H18A	Shoshone NF, C	87.78	335	⇓P	P	12 15 50.0 +1.5
	baz=88					
H17A	Grant Village	87.85	334	⇓P	P	12 15 49.5 +0.5
	baz=88					
B30A	Myrvik Farm, E	88.01	344	⇓P	P	12 15 49.9 +0.6
	baz=88,SNR=11					
D25A	Fairfield	88.06	340	⇑P	P	12 15 50.7 +1.1
	baz=88					
C27A	Sayler Ranch,	88.09	341	⇓P	P	12 15 51.0 +1.3
	baz=88,SNR=6.3					
YMR	Madison River	88.22	334	eP	P	12 15 51.3 +0.7
	122nm,1.5s					
B29A	Wagenman Farm,	88.26	343	⇓P	P	12 15 51.3 +0.8
	baz=89,SNR=6.5					
F20A	Billings	88.28	336	⇓P	P	12 15 52.6 +1.8
	baz=89					
D24A	Glendive	88.30	339	⇑P	P	12 15 51.7 +0.9
	baz=89					
C26A	Wahner Farm, P	88.35	341	⇑P	P	12 15 51.8 +0.9
	baz=89					
A30A	Hoffart Farm,	88.47	344	⇑P	P	12 15 51.7 +0.3
	baz=89,SNR=5.6					
B28A	Dugan Ranch, T	88.49	342	⇑P	P	12 15 52.1 +0.6
	baz=89,SNR=8.7					
HLID	Hailey	88.54	331	⇓P	P	12 15 53.7 +1.6
	baz=89,SNR=5.4					
C25A	Freed Ranch, W	88.55	340	⇓P	P	12 15 52.9 +1.0
	baz=89					
F19A	Roth Farm, Mol	88.58	336	⇑P	P	12 15 54.1 +1.9
	baz=89,SNR=7.1					
E21A	Keefer Ranch,	88.60	337	⇓P	P	12 15 53.4 +1.3
	baz=89,SNR=6.5					
D23A	Lindsay	88.61	339	⇓P	P	12 15 54.0 +1.8
	baz=89,SNR=7.3					
A29A	Manning Farm,	88.66	343	⇓P	P	12 15 52.7 +0.3
	baz=89,SNR=13					
B27A	Peters Farms,	88.67	342	⇑P	P	12 15 53.1 +0.7
	baz=89					
C24A	Savage	88.71	339	⇑P	P	12 15 53.1 +0.5
	baz=89,SNR=6.9					
D22A	Cohagen	88.87	338	⇓P	P	12 15 55.9 +2.4
	baz=89,SNR=6.8					

B26A Jensen Ranch, 88.89 341 ⇑P P 12 15 54.4 +0.9
baz=89
A28A Rude Farm, Bot 88.90 343 ⇑P P 12 15 54.1 +0.6
baz=89
MCMT McKenzie Canyo 89.03 333 eP P 12 15 55.0 +0.5
46nm,1.6s
ULM Lac du Bonnet 89.20 346 P P 12 15 54.4 -0.4
5.4nm,0.8s,baz=169,slow=3.6,SNR=7.0
DGMT Dagmar 89.50 340 eP P 12 15 56.6 +0.3
86nm,1.1s
LRM Limekiln Ridge 89.75 334 eP P 12 15 57.8 0.0
112nm,1.6s
SCHQ Schefferville 91.67 4 P P 12 16 05.5 -0.7
4.9nm,0.9s,baz=127,slow=5.1,SNR=3.6
BLMT Blacktail Moun 92.30 334 eP P 12 16 09.9 +0.4
GERES GERESS Array B 114.93 47 PKP PKPdf 12 21 39.8 -0.1
1.0nm,0.8s,baz=197,slow=3.1,SNR=3.0
ILAR Eielson Array 116.47 333 PKP PKPdf 12 21 40.6 -1.6
0.7nm,0.8s,baz=134,slow=2.6,SNR=6.5
WRA Warramunga Arr 117.66 209 PKP PKPdf 12 21 44.8 -1.3
1.3nm,0.8s,baz=167,slow=1.7,SNR=5.2
BRTR Keskin Array B 124.08 63 PKP PKPdf 12 21 57.9 -0.1
1.8nm,0.8s,baz=176,slow=2.8,SNR=9.2
AKASG Malin Array Be 124.91 49 PKP PKPdf 12 21 57.7 -1.2
1.5nm,0.7s,baz=269,slow=2.8,SNR=8.0
SEY Seymchan 142.15 328 PKP PKPdf 12 22 29.2 -1.6
7.8nm,0.9s,baz=70,slow=1.5,SNR=16
AKTO Aktyubinsk 142.95 53 PKhKP PKPpre 12 22 28.6
1.6nm,0.5s,baz=325,slow=5.6,SNR=4.8
TIXI Tiksi 143.50 348 ePKPdf PKPab 12 22 27.3 -2.0
ABKAR Akbulak array 144.24 55 ePKPdf PKPbc 12 22 33.8 +0.5
PSI Prapat 145.16 166 PKPbc PKPbc 12 22 36.6 -0.7
16nm,0.8s,baz=196,slow=5.7,SNR=14
HYB Hyderabad 148.35 120 *i* PKP PKPbc 12 22 45.0 -1.3
BRVK Borovoye 150.03 46 ePKPbc PKPbc 12 22 50.3 +0.9
BVAR Borovoye Array 150.10 46 PKPbc PKPbc 12 22 50.4 +0.8
6.3nm,0.8s,baz=279,slow=3.9,SNR=17
YAK Yakutsk 151.23 338 ePKPbc PKPbc 12 22 51.7 -0.3
YAK ePKPab PKPab 12 22 59.6 -0.3
AAK Ala-Archa 154.66 67 PKPbc PKPbc 12 23 01.1 +0.7
2.7nm,0.8s,baz=198,slow=5.6,SNR=4.4
ZALV Zalesovo Beam 157.27 35 PKP PKPdf 12 22 54.1 -0.6
4.1nm,0.8s,baz=270,slow=1.5,SNR=8.5
ZALV PKPab PKPab 12 23 26.1 +0.2
7.4nm,0.5s,baz=312,slow=3.4,SNR=15
MK31 Makanchi Array 159.38 54 ePKPdf PKPdf 12 22 57.6 +0.1
MKAR Makanchi Array 159.38 54 PKP PKPdf 12 22 57.5 -0.1
2.7nm,0.9s,baz=318,slow=1.6,SNR=8.5
CMAR Chiang Mai Arr 160.24 157 PKP PKPdf 12 22 59.1 -0.2
0.4nm,0.3s,baz=267,slow=3.3,SNR=4.7
SONM Songino Array 169.21 2 PKPab PKPab 12 24 17.4 -1.1
2.0nm,0.7s,baz=329,slow=3.0,SNR=6.7

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*IDC **27** 12:03:22.8±0.5, 34.32S×73.96W, h0km, mb5.3/15, mb1 5.2/16, mb1mx5.1/26, mbtmp5.2/16, ML5.2/1, Error ellipse: s-maj=22.6km s-min=13.5km az=81.0*
*ISCJB **27** 12:03:25.3±0.3, 34.34S±0.05×74.17W±0.09, h33km, mb5.3/48, Error ellipse: s-maj=11.4km s-min=6.2km az=160.9*
*NEIC **27** 12:03:27.6±0.2, 34.37S×73.97W, h35km, mb5.5/36, Error ellipse: s-maj=10.6km s-min=6.0km az=72.0*
*MOS **27** 12:03:27.7±1.8, 34.20S×73.90W, h33km, mb5.6/26, Error ellipse: s-maj=18.1km s-min=10.6km az=89.2*
*BJI **27** 12:03:28.5, 34.40S×73.80W, h35km, mB5.8/6, Ms5.9/6, Ms7 5.7/3*
ISC 27 12:03:28.0±0.3, 34.36S±0.06×73.91W±0.09, h35km, n226, σ1§51/230, mb5.5/47, 21C-12D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 6.90 158 P Pn 12 05 05.1 -1.6
PLCA e 12 06 38.8
PLCA pmax pmax
comp=Z,2μm,1.4s
PLCA Paso Flores 6.90 158 Pn Pn 12 05 05.1 -1.6
comp=Z,2μm,1.4s
PLCA eSn Sn 12 06 38.8 +15
TRQA Tornquist 10.32 114 ePn Pn 12 05 50.7 -2.8
comp=Z,79nm,0.8s
CPUP Villa Florida 16.38 65 P Pn 12 07 14.2 -1.0
CPUP pmax pmax
comp=Z,2.0nm,0.3s
CPUP Villa Florida 16.38 65 Pn Pn 12 07 14.2 -1.0
comp=Z,2.2nm,0.3s,baz=214,slow=7.7,SNR=4.2
LPAZ La Paz 18.73 18 eP Pn 12 07 45.5 +0.6
comp=Z,55nm,1.0s
USHA Ushuaia 20.83 171 P P 12 08 07.3 +1.0
comp=Z,273nm,1.0s,baz=319,slow=8.2,SNR=18
NNA Nana 22.43 352 eP P 12 08 23.8 0.0
NNA Nana 22.43 352 eP P 12 08 23.9 0.0
comp=Z,54nm,1.0s
SAML Samuel 27.14 24 eP P 12 09 08.9 +0.9
comp=Z,54nm,1.5s
ATAH Atahualpa 27.40 350 P P 12 09 12.9 +2.1
comp=Z,6.7nm,1.0s,baz=186,slow=11,SNR=6.4
BDFB Brasilia 29.82 58 P P 12 09 32.9 +0.9
BDFB pmax pmax
comp=Z,13nm,0.9s
BDFB Brasilia 29.82 58 P P 12 09 32.9 +0.9
comp=Z,13nm,0.9s,baz=216,slow=5.5,SNR=5.8
OTAV Otavalo 34.67 352 eP P 12 10 15.1 +0.2
comp=Z,81nm,1.4s
ROSC El Rosal 39.00 359 P P 12 10 50.7 -0.9
comp=Z,5.4nm,0.4s,baz=270,slow=20,SNR=2.2
RCBR Riachuelo 45.16 60 P P 12 11 41.7 +0.2
comp=Z,5.7nm,0.7s,baz=221,slow=9.6,SNR=4.2
JTS JuntasAbangare 45.62 345 P P 12 11 45.6 +0.6
JTS pmax pmax
comp=Z,15nm,1.1s
JTS JuntasAbangare 45.62 345 P P 12 11 45.6 +0.6
comp=Z,15nm,1.1s,baz=156,slow=4.5,SNR=8.5
JTS JuntasAbangare 45.62 345 P P 12 11 43.7 -1.4
comp=Z,58nm,1.5s
GRGR Grenville 47.68 16 eP P 12 12 01.0 -0.1
VNA3 Neumayer Olymp 49.62 158 P P 12 12 15.8 +0.3
VNA1 Neumayer--Stat 49.96 157 P P 12 12 20.4 +2.4
VNA2 Neumayer--Watz 50.29 157 P P 12 12 20.5 -0.1
FDF Fort de France 50.30 16 eP P 12 12 20.8 -0.5
FDF pmax pmax
comp=Z,46nm,0.7s
FDF Fort de France 50.30 16 eP P 12 12 20.8 -0.5
comp=Z,46nm,0.7s
APG El Apazote 51.55 339 P P 12 12 27.9 -3.0
comp=Z,19nm,0.9s,baz=218,slow=6.7,SNR=12
SNAA Sanae 51.84 158 P P 12 12 32.0 -0.2
SNAA Sanae 51.84 158 P P 12 12 32.1 -0.2
SNAA pmax pmax
comp=Z,85nm,1.0s
SNAA Sanae 51.84 158 P P 12 12 32.1 -0.2
comp=Z,85nm,1.0s,baz=284,slow=6.1,SNR=48
SNAA Sanae 51.84 158 eP P 12 12 32.1 -0.2
comp=Z,306nm,1.1s
OBIP Obispado Ponce 52.57 9 eP P 12 12 37.6 -0.5
comp=Z,50nm,0.9s
CELP Cerrillos 52.60 9 eP P 12 12 38.6 +0.8
LRS Lares 52.78 8 eP P 12 12 39.1 -0.6
QSPA South Pole Qui 55.88 180 P P 12 13 03.1 +1.2
comp=Z,193nm,1.0s,baz=148,slow=4.0,SNR=35
QSPA South Pole Qui 55.88 180 eP P 12 13 01.4 -0.5
comp=Z,264nm,1.1s
TEIG Tepich 55.98 344 P P 12 13 02.8 -0.1
comp=Z,33nm,0.7s,baz=170,slow=11,SNR=16
NVL N'lazarevskaya 56.61 157 eP P 12 13 09.1 +2.2
NVL pmax pmax
comp=Z,161nm,0.9s
TIGA Tifton 66.08 351 eP P 12 14 11.3 0.0
comp=Z,61nm,0.9s
NATX Nacogdoches 68.61 341 eP P 12 14 27.9 +0.7
comp=Z,93nm,1.0s
TXAR Lajitas Array 69.31 332 P P 12 14 32.0 +0.1
TXAR pmax pmax
comp=Z,10.0nm,0.6s
TXAR Lajitas Array 69.31 332 P P 12 14 31.9 +0.1
comp=Z,9.7nm,0.6s,baz=151,slow=7.7,SNR=22
CNNC Cliffs of the 69.33 357 eP P 12 14 32.0 +0.3
comp=Z,30nm,0.8s
OXF Oxford 70.03 346 eP P 12 14 35.0 -1.0
OXF pmax pmax
comp=Z,108nm,1.2s
OXF Oxford 70.03 346 eP P 12 14 35.0 -1.0
comp=Z,108nm,1.2s
CPCT Cooper Cave 70.15 351 eP P 12 14 36.5 -0.3
HALT Halls 71.38 347 eP P 12 14 43.7 -0.5
GLAT Glass 71.71 347 eP P 12 14 45.9 -0.3
W34A Bridge Creek, 72.74 340 eP P 12 14 51.1 -1.3
comp=Z,84nm,1.3s
V34A Guthrie 73.23 340 eP P 12 14 53.8 -1.5
comp=Z,152nm,1.5s
MAW Mawson 73.27 164 P P 12 14 55.5 +0.3
MAW pmax pmax
comp=Z,117nm,1.1s
MAW Mawson 73.27 164 P P 12 14 55.5 +0.3
comp=Z,117nm,1.1s,baz=242,slow=7.4,SNR=7.0
121A Cookes Peak, D 73.77 331 eP P 12 14 58.1 -0.6
comp=Z,138nm,1.4s
TUC Tucson 74.84 328 eP P 12 15 03.5 -1.3
TUC pmax pmax
comp=Z,78nm,1.6s
TUC Tucson 74.84 328 eP P 12 15 03.5 -1.3
comp=Z,78nm,1.6s
LENM Lemitar 74.88 332 eP P 12 15 04.3 -0.9
comp=Z,30nm,1.5s
ANMO Albuquerque 75.37 333⇑eP P 12 15 06.8 -1.2
ANMO pmax pmax
comp=Z,114nm,1.5s
DBIC Dimbokro 76.76 72 P P 12 15 16.0 -0.2
DBIC pmax pmax
comp=Z,65nm,0.9s
DBIC Dimbokro 76.76 72 P P 12 15 16.0 -0.2
comp=Z,65nm,0.9s,baz=212,slow=5.7,SNR=17
W18A Petrified Fore 76.81 330 eP P 12 15 14.9 -1.3
comp=Z,161nm,1.6s
GLA Glamis 77.28 326 eP P 12 15 17.3 -1.4
GLA pmax pmax
comp=Z,79nm,1.4s
GLA Glamis 77.28 326 eP P 12 15 17.3 -1.4
comp=Z,79nm,1.4s
KSCO Kaye Shedlock' 77.70 337 eP P 12 15 20.1 -0.9
comp=Z,140nm,1.3s
JFWS Jewell Farm 78.34 348 eP P 12 15 24.8 +0.5
JFWS pmax pmax
comp=Z,29nm,1.0s
JFWS Jewell Farm 78.34 348 eP P 12 15 24.8 +0.5
comp=Z,29nm,1.0s
OGNE Ogallala 79.28 339 eP P 12 15 31.0 +1.3
comp=Z,218nm,1.8s
CASY Casey 79.63 182 eP P 12 15 31.2 0.0
comp=Z,101nm,1.1s
SPMN St. Paul 81.04 347 eP P 12 15 38.2 -0.7
comp=Z,24nm,0.9s
BOSA Boshof 81.27 119 eP P 12 15 42.6 +1.6
BOSA pmax pmax
comp=Z,106nm,1.0s
BOSA Boshof 81.27 119 P P 12 15 42.5 +1.5
comp=Z,77nm,1.0s,baz=231,slow=5.3,SNR=30
BOSA Boshof 81.27 119 eP P 12 15 42.6 +1.6
comp=Z,106nm,1.0s
DAU Daniels Canyon 81.99 332 eP P 12 15 42.1 -2.3
DAU pmax pmax
comp=Z,68nm,1.5s
DAU Daniels Canyon 81.99 332 eP P 12 15 42.1 -2.3
comp=Z,68nm,1.5s
SPUT South Promonto 83.22 332 eP P 12 15 47.8 -2.8
comp=Z,104nm,1.5s
NVAR Mina Array Bea 83.31 326 PKKPbc PKKPbc 12 34 11.6 -0.7
comp=Z,1.2nm,0.6s,baz=350,slow=4.8,SNR=3.8
PDAR Pinedale Array 83.40 334 PKKPbc PKKPbc 12 34 10.0 -2.3
comp=Z,1.6nm,0.8s,baz=130,slow=1.4,SNR=5.8
LBTB Lobatse 83.55 116 eP P 12 15 53.8 +0.9
LBTB pmax pmax
comp=Z,106nm,1.2s
LBTB Lobatse 83.55 116 eP P 12 15 53.8 +0.9
comp=Z,106nm,1.2s
TOA0 Torodi Ar. Sit 85.79 71 eP P 12 16 03.8 -0.2
TORD Torodi Ar. Bea 85.79 71 P P 12 16 03.9 -0.2
comp=Z,47nm,1.0s,baz=260,slow=3.7,SNR=56
TORD PKKPbc PKKPbc 12 34 01.5 -3.1
comp=Z,0.4nm,0.6s,baz=338,slow=3.1,SNR=2.9
QLMT Earthquake Lak 85.86 334 eP P 12 16 01.6 -2.4
comp=Z,7.0nm,1.6s
E20A Meyer Farm, Mu 86.20 337 ⇑P P 12 16 02.3 -3.1
baz=89,SNR=17
B25A Knox Farm, Ray 86.32 341 ⇓P P 12 16 03.6 -2.3
baz=89,SNR=6.4
D21A La Casta Ranch 86.34 338 ⇓P P 12 16 03.0 -3.1
baz=89,SNR=9.8
E19A Rath Farm, Rou 86.37 337 ⇑P P 12 16 02.8 -3.4
baz=89,SNR=8.5
A27A Ledoux Ranch, 86.44 342 ⇓P P 12 16 03.0 -3.5
baz=90
C23A Lambert 86.46 339 ⇑P P 12 16 03.8 -2.8
baz=90,SNR=9.7
A26A Wade Farm, Ken 86.59 342 ⇓P P 12 16 03.8 -3.4
baz=90
C22A Vida 86.61 339 ⇑P P 12 16 04.3 -3.1
baz=90,SNR=7.7
D20A Manuel Ranch, 86.72 337 ⇑P P 12 16 05.1 -2.9
baz=90,SNR=11
DGMT Dagmar 86.78 340 ⇑P P 12 16 05.4 -2.8
baz=90,SNR=10
A25A Svangstu Ranch 86.91 341 ⇑P P 12 16 06.5 -2.3
baz=90
B23A Brockton 87.00 340 ⇓P P 12 16 06.7 -2.5
baz=90,SNR=6.2
MOD Modoc 87.01 327 P P 12 16 05.6 -4.0
comp=Z,68nm,1.4s
D19A Cripps Ranch, 87.02 337 ⇑P P 12 16 06.4 -3.0
baz=90
C21A Desert Coulee 87.05 338 ⇓P P 12 16 08.3 -1.2
baz=90,SNR=7.4
A24A Westby 87.14 341 ⇓P P 12 16 08.8 -1.1
baz=90,SNR=9.6
B22A Reddig Ranch S 87.14 339 ⇓P P 12 16 09.4 -0.5
baz=90,SNR=10
C20A Veseth Ranch, 87.23 338 ⇑P P 12 16 09.8 -0.5
baz=90,SNR=6.5
N02D Trinity Center 87.38 325 ⇑P P 12 16 11.2 -0.1
baz=90
B21A Ellsworth Farm 87.56 339 ⇓P P 12 16 11.8 -0.1
baz=91,SNR=7.5
C19A Slack Wire Ran 87.58 337 ⇑P P 12 16 12.4 +0.3
baz=91
M04C Macdoel 87.61 326 ⇑P P 12 16 12.5 0.0
baz=90
HRY Holter Researc 87.62 335 eP P 12 16 12.8 +0.4
comp=Z,27nm,1.6s
A22A Carney Farms, 87.74 340 ⇑P P 12 16 09.3 -3.5
baz=91,SNR=9.6
M02C Callahan 87.78 325 ⇓P P 12 16 11.2 -2.0
baz=91
A21A Bergtoll Ranch 88.04 339 ⇑P P 12 16 10.0 -4.2
baz=91,SNR=5.4
EGMT Eagleton 88.06 337 ⇓P P 12 16 13.2 -1.2
baz=91
K04D Chiloquin, OR 88.24 327 ⇑P P 12 16 12.6 -2.9
baz=91
A20A Cobblestone Ra 88.24 338 ⇑P P 12 16 11.3 -3.9
baz=91
CHMT Chamberlain Mo 88.30 334 eP P 12 16 13.3 -2.5
comp=Z,16nm,1.6s
MSO Missoula 88.48 334 ⇑P P 12 16 14.1 -2.4
baz=92
J05D Fort Rock, OR 88.53 328 ⇓P P 12 16 12.9 -4.0
baz=91
SLMT Seeley Lake 88.67 334 eP P 12 16 13.2 -4.2
comp=Z,8.5nm,1.3s
PINOR Pine Mountain 88.78 328 eP P 12 16 19.9 +2.1
comp=Z,49nm,1.2s
SCHQ Schefferville 89.04 4 P P 12 16 19.3 +0.5
comp=Z,4.6nm,0.7s,baz=169,slow=3.1,SNR=8.6
I05D Terrebonne, OR 89.41 328 ⇑P P 12 16 20.3 -0.6
baz=92
BSMT Bassoo Peak 89.65 334 eP P 12 16 18.3 -3.7
comp=Z,14nm,1.6s
ESDC Sonseca Array 97.95 47 P Pdif 12 17 00.8 +0.5
comp=Z,1.3nm,0.8s,baz=247,slow=4.7,SNR=5.3
YKA Yellowknife Ar 101.91 342 P Pdif 12 17 16.7 -0.5
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 101.91 342 P Pdif 12 17 16.7 -0.5
comp=Z,1.1nm,0.9s,baz=143,slow=4.3,SNR=12
GERES GERESS Array B 113.51 46 PKiKP PKiKP 12 22 01.5 -0.6
comp=Z,1.6nm,0.8s,baz=206,slow=4.0,SNR=4.5
CLL Collm 114.16 43 ePKIKP PKPdf 12 22 05.0 +2.0
CLL Collm 114.16 43 ePKiKP PKiKP 12 22 05.0 +2.0
BRG Berggiesshubel 114.52 44 ePKP PKPdf 12 22 05.1 +1.4
comp=Z,19nm,1.8s
BRG Berggiesshubel 114.52 44 ePKIKP PKPdf 12 22 05.1 +1.4
BRG pmax pmax
comp=Z,19nm,1.8s
NOA NORSAR Array B 117.16 33 PKIKP PKPdf 12 22 08.3 -0.3
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 117.16 33 PKP PKPdf 12 22 08.3 -0.3
comp=Z,1.3nm,0.8s,baz=213,slow=3.7,SNR=4.1
STHS Stebnicka Huta 118.29 48 ePKIKP PKPdf 12 22 13.7 +2.6
STHS Stebnicka Huta 118.29 48 ePKP PKPdf 12 22 13.7 +2.6
KOLS Kolonicke sedl 118.75 48 ePKIKP PKPdf 12 22 14.6 +2.6
KOLS Kolonicke sedl 118.75 48 ePKP PKPdf 12 22 14.6 +2.6
WRA Warramunga Arr 119.68 211 PKIKP PKPdf 12 22 14.3 -0.5
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 119.68 211 PKP PKPdf 12 22 14.3 -0.5
comp=Z,2.2nm,0.8s,baz=155,slow=1.4,SNR=6.3
BUR08 Bucovina Ar. S 120.16 51 ePKPdf PKPdf 12 22 15.0 +0.1
PMG Port Moresby 121.62 230 *i* PKIKP PKPdf 12 22 16.9 -1.7
MMAI Mount Meron Ar 122.31 70 PKP PKPdf 12 22 19.1 -0.3
comp=Z,6.6nm,0.9s,baz=247,slow=1.1,SNR=4.2
BRTR Keskin Array B 123.36 62 PKIKP PKPdf 12 22 21.3 0.0
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 123.36 62 PKP PKPdf 12 22 21.3 0.0
comp=Z,4.7nm,0.9s,baz=182,slow=3.7,SNR=14
AK02 Malin Array Si 123.56 48 ePKPdf PKPdf 12 22 19.8 -1.3
KIEV Kiev 123.57 48 ePKIKP PKPdf 12 22 20.2 -0.9
KIEV Kiev 123.57 48 ePKPdf PKPdf 12 22 20.2 -0.9
AK01 Malin Array Si 123.57 48 ePKPdf PKPdf 12 22 20.1 -1.1
AKASG Malin Array Be 123.58 48 PKIKP PKPdf 12 22 20.1 -1.0
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 123.58 48 PKP PKPdf 12 22 20.1 -1.0
comp=Z,5.5nm,0.9s,baz=268,slow=2.7,SNR=12
VSU Vasula 123.93 39 PKIKP PKPdf 12 22 21.0 -0.6
FINES FINESS Array B 124.17 35 PKIKP PKPdf 12 22 21.0 -0.9
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 124.17 35 PKP PKPdf 12 22 21.0 -0.9
comp=Z,5.0nm,0.9s,baz=238,slow=4.7,SNR=11
ARCES ARCESS Array B 124.99 25 PKIKP PKPdf 12 22 22.6 -0.7
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 124.99 25 PKP PKPdf 12 22 22.6 -0.7
comp=Z,3.0nm,0.7s,baz=264,slow=1.2,SNR=10
ANN Anapa 127.50 57 *i* PKIKP PKPdf 12 22 27.3 -1.6
ANN pmax pmax
comp=Z,73nm,1.4s
OBN Obninsk 128.76 44⇑*i*PKIKP PKPdf 12 22 30.7 -0.2
OBN e 12 22 42.1
OBN pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 128.76 44 PKP PKPdf 12 22 31.1 +0.2
comp=Z,11nm,0.4s,baz=168,slow=4.3,SNR=4.7
TMCR Tamitsa 129.82 32 ePKIKP PKPdf 12 22 35.0 +2.4
TMCR e 12 24 48.5
TMCR pmax pmax
comp=Z,22nm,1.2s
KLMR Klimovskoe 130.61 36 ePKIKP PKPdf 12 22 35.3 +1.0
KLMR pmax pmax
comp=Z,36nm,1.1s
KBZ Khabaz 131.10 59 PKIKP PKPdf 12 22 38.1 +2.4
KBZ pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 131.10 59 PKP PKPdf 12 22 38.0 +2.4
comp=Z,5.6nm,1.1s,baz=249,slow=3.9,SNR=5.5
ZEI Tsey 131.63 61 *i* PKIKP PKPdf 12 22 38.9 +1.8
ZEI pmax pmax
comp=Z,13nm,1.2s
BILL Bilibino 132.47 334 PKIKP PKPdf 12 22 38.3 +0.7
BILL e 12 25 03.7
BILL pmax pmax
comp=Z,8.0nm,1.2s
PRGR Permogore 133.50 35 ePKIKP PKPdf 12 22 40.5 +0.8
PRGR pmax pmax
comp=Z,13nm,0.9s
PETK Petropavlovsk- 139.28 314 PKIKP PKPdf 12 22 53.7 +2.9
PETK pmax pmax
comp=Z,10.0nm,1.0s
PETK Petropavlovsk- 139.28 314 PKP PKPdf 12 22 53.6 +2.9
comp=Z,9.7nm,1.0s,baz=94,slow=7.7,SNR=4.7
SEY Seymchan 139.56 329 PKIKP PKPdf 12 22 53.7 +2.8
SEY pmax pmax
comp=Z,11nm,1.0s
SEY Seymchan 139.56 329 PKP PKPdf 12 22 53.7 +2.8
comp=Z,11nm,1.0s,baz=93,slow=4.1,SNR=8.7
ARU Arti 141.03 41 *i* PKHKP PKPpre 12 22 48.4
GEYT Alibeck 141.43 70 PKP PKPdf 12 22 54.5 -0.7
comp=Z,5.8nm,1.0s,baz=256,slow=5.8,SNR=4.7
PALK Pallekele 144.30 133 PKIKP PKPbc 12 22 59.3 0.0
PALK pmax pmax
comp=Z,116nm,1.0s
PALK Pallekele 144.30 133 PKP PKPbc 12 22 59.3 0.0
comp=Z,116nm,1.0s,baz=218,slow=3.7,SNR=24
PALK Pallekele 144.30 133 PKP PKPbc 12 22 59.3 0.0
PALK ePKPdf PKPdf 12 23 00.2 -0.8
BKNI Bangkinang 145.82 171 ePKPbc PKPbc 12 23 03.8 +0.2
GSI Gunungsitoli 146.17 165 ePKPbc PKPbc 12 23 04.2 0.0
KSM Kuching 147.05 188 ePKPbc PKPbc 12 23 07.2 -0.5
PSI Prapat 147.90 166 PKP2 PKPbc 12 23 10.1 -0.1
PSI pmax pmax
comp=Z,65nm,1.0s
PSI Prapat 147.90 166 PKPbc PKPbc 12 23 10.1 -0.1
comp=Z,65nm,1.0s,baz=198,slow=3.1,SNR=24
BVAR Borovoye Array 148.59 43 PKP2 PKPbc 12 23 11.4 +0.7
BVAR pmax pmax
comp=Z,20nm,0.6s
BVAR Borovoye Array 148.59 43 PKPbc PKPbc 12 23 11.4 +0.7
comp=Z,20nm,0.6s,baz=297,slow=2.2,SNR=36
KBL Kabul 149.56 79 ePKP2 PKPbc 12 23 14.0 0.0
KBL Kabul 149.56 79 ePKPbc PKPbc 12 23 14.0 0.0
YSS Yuzh-Sakhalins 149.75 306⇑ePKP2 PKPab 12 23 21.0 +1.8
IPM Ipoh 149.90 170 ePKPab PKPbc 12 23 16.7 +1.6
HYB Hyderabad 150.17 117 *i* PKP PKPbc 12 23 14.5 -1.2
ASAJ Asahikawa 150.30 300 PKIKP PKPbc 12 23 13.1 -2.1
ASAJ pmax pmax
comp=Z,30nm,0.9s
ASAJ Asahikawa 150.30 300 PKPbc PKPbc 12 23 13.1 -2.1
comp=Z,30nm,0.9s,baz=72,slow=20,SNR=5.2
AAK Ala-Archa 154.04 62 PKIKP PKPbc 12 23 24.7 +0.8
AAK 12 23 38.5
AAK pmax pmax
comp=Z,19nm,1.0s
AAK pmax pmax
comp=Z,14nm,1.0s
AAK Ala-Archa 154.04 62 PKPbc PKPbc 12 23 24.7 +0.8
comp=Z,18nm,1.0s,baz=207,slow=2.3,SNR=12
AAK PKPab PKPab 12 23 38.5 +1.0
comp=Z,14nm,1.0s,baz=219,slow=3.7,SNR=7.3
NVS Novosibirsk 154.05 31 ePKIKP PKPdf 12 23 14.8 -0.4
NVS pmax pmax
comp=Z,42nm,1.1s
NVS pmax pmax
comp=E,15nm,1.3s
KURK Kurchatov 154.19 42 ePKIKP PKPbc 12 23 25.0 +1.3
KURK e 12 23 40.0
KURK Kurchatov 154.19 42 ePKPbc PKPbc 12 23 25.0 +1.3
KURK ePKPab PKPab 12 23 40.0 +2.3
ZALV Zalesovo Beam 155.34 31 PKIKP PKPdf 12 23 16.2 -0.8
ZALV pmax pmax
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 155.34 31 PKP PKPdf 12 23 16.2 -0.8
comp=Z,16nm,1.1s,baz=287,slow=2.5,SNR=13
KSH Kashi 155.44 69 ePKP PKPdf 12 23 19.3 +1.5
KSH epPKP pPKPdf 12 23 29.5 +0.2
KSH esPKP 12 23 34.3
KSH PP PP 12 27 17.8 -3.0
KSH eSKS SKSdf 12 30 21.5 -0.1
KSH eSKKS SKKSac 12 34 08.0 +0.6
KSH eSS SS 12 47 03.3 -1.2
KSH AMB AMB
comp=Z,350nm,4.4s
BOD Bodaibo 155.93 350 ePKIKP PKPdf 12 23 25.2 +7.5
BOD pmax pmax
comp=Z,15nm,1.6s
KLR Kul'dur 155.93 316 ePKIKP PKPdf 12 23 11.6 -6.4
MKAR Makanchi Array 158.16 48 PKIKP PKPdf 12 23 20.3 -0.7
MKAR 12 23 54.6
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 158.16 48 PKP PKPdf 12 23 20.3 -0.7
comp=Z,1.8nm,0.6s,baz=333,slow=0.5,SNR=9.2
MKAR PKPab PKPab 12 23 54.5 -0.3
comp=Z,7.5nm,0.8s,baz=282,slow=3.7,SNR=13
MDJ Mudanjiang 159.24 307 PKP PKPdf 12 23 22.0 -0.2
KOLN Koldanda 159.67 103 eP PKPdf 12 23 24.3 +0.8
DANN Dangsing 160.03 101 eP PKPdf 12 23 25.2 +1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GKN	Gorkha	160.60	103	eP	PKPdf	12 23 25.3	+0.8
DMN	Daman	160.81	105	eP	PKPdf	12 23 25.8	+0.9
KKN	Kakani	161.03	105	eP	PKPdf	12 23 25.8	+0.7
PKIN	Phulchoki	161.03	105	eP	PKPdf	12 23 25.7	+0.6
PKI	Pulchoki	161.03	105	eP	PKPdf	12 23 25.8	+0.6
GUN	Gumba	161.56	105	eP	PKPdf	12 23 26.7	+0.9
RAMN	Ramite	161.69	109	eP	PKPdf	12 23 27.1	+1.3
JIRN	Jiri	161.69	106	eP	PKPdf	12 23 26.7	+0.7
ODAN	Odare	162.27	110	eP	PKPdf	12 23 27.5	+1.1
MOY	Mondy	162.31	10	ePKP2	PKPab	12 24 15.3	+2.5
TLY	Talaya	162.59	5	ePKIKP	PKPdf	12 23 28.5	+2.9
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TLY	Talaya	162.59	5	PKP	PKPdf	12 23 27.9	+2.3
	comp=Z,0.4nm,0.2s,baz=18,slow=3.7,SNR=3.7						
TAPN	Taplejung	162.75	109	eP	PKPdf	12 23 28.2	+1.2
WMQ	Urumqi	162.91	51	ePKP	PKPdf	12 23 25.3	-1.0
CMAR	Chiang Mai Arr	162.93	156	PKIKP	PKPdf	12 23 28.9	+1.9
CMAR						12 24 16.7	
CMAR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMAR	Chiang Mai Arr	162.93	156	PKP	PKPdf	12 23 28.9	+1.9
	comp=Z,6.5nm,1.1s,baz=249,slow=2.3,SNR=18						
CMAR				PKPab	PKPab	12 24 16.7	+0.5
	comp=Z,5.7nm,0.9s,baz=223,slow=5.4,SNR=13						
SHL	Shillong	164.90	122	eP	PKPdf	12 23 32.5	+3.7
SHL				ex	x	12 23 37.5	
ULN	Ulaanbaatar	166.48	357	ePKIKP	PKPdf	12 23 28.7	-0.7
ULN				e		12 24 33.0	
ULN	Ulaanbaatar	166.48	357	ePKPdf	PKPdf	12 23 28.7	-0.7
ULN				ePKPab	PKPab	12 24 33.0	+1.7
LSA	Lhasa	166.50	106	ePKIKP	PKPdf	12 23 30.8	+0.4
LSA	Lhasa	166.50	106	ePKPdf	PKPdf	12 23 30.8	+0.4
SONM	Songino Array	166.53	359	PKIKP	PKPdf	12 23 30.7	+1.3
SONM						12 24 33.6	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	Songino Array	166.53	359	PKP	PKPdf	12 23 30.7	+1.3
	comp=Z,1.1nm,0.8s,baz=119,slow=1.8,SNR=4.6						
SONM				PKPab	PKPab	12 24 33.6	+2.1
	comp=Z,4.0nm,0.9s,baz=353,slow=3.3,SNR=8.3						
NJ2	Nanjing	169.06	261	ePKP	PKPdf	12 23 31.5	0.0
GYA	Guiyang	172.11	184	i PKP	PKPdf	12 23 31.0	-2.5
GYA				pPKP	pPKPdf	12 23 43.0	-2.0
GYA				PKPab	PKPab	12 24 56.0	-0.7
GYA				PKS	PKSdf	12 27 01.5	-4.5
GYA				PP	PP	12 28 48.0	+2.0
GYA				SKKS		12 35 30.5	
GYA				SS	SS	12 49 51.8	-1.4
GYA				AMB	AMB		
	comp=Z,170nm,8.5s						
GYA				LR	LR		
	comp=Z,170nm,21.2s						
GYA				LR	LR		
	comp=Z,160nm,21.5s						
GYA				LR	LR		
	comp=Z,180nm,24.2s						
HHC	Hu-ho-hao-te	172.20	328	ePKP	PKPdf	12 23 33.3	+0.3
HHC				pPKP	pPKPdf	12 23 43.5	-1.1
HHC				sPKP		12 23 47.5	
HHC				PP	PP	12 28 53.5	+5.7
GTA	Gaotai	172.88	43	ePKP	PKPdf	12 23 34.5	+1.1
GTA				pPKP	pPKPdf	12 23 45.3	+0.4
GTA				sPKP		12 23 49.0	
GTA				PKPab	PKPab	12 25 02.0	+2.0
CD2	Chengdu	176.04	150	PKP	PKPdf	12 23 33.0	-1.6
CD2				pPKP	pPKPdf	12 23 44.5	-1.6
CD2				sPKP		12 23 48.3	
CD2				PKS	PKSdf	12 27 03.8	-3.0
CD2				PP	PP	12 29 08.5	+2.2
CD2				SKS	SKSdf	12 30 30.5	-4.5
CD2				SKKS	SKKSac	12 35 49.3	-1.2
CD2				SS	SS	12 50 29.3	-2.5
CD2				AMB	AMB		
	comp=Z,420nm,6.2s						
LZH	Lanzhou	177.48	46	ePKP	PKPdf	12 23 37.5	+2.7
LZH				pPKP	pPKPdf	12 23 47.5	+1.1
LZH				sPKP		12 23 53.5	

IDC 27 12:04:58.0±2.6, 35°.54S×72°.10W, h0km, mb4.5/4, mb1 4.8/4, mb1mx4.3/26, mbtmp4.5/4, MS5.1/1, Ms1 5.1/1, ms1mx4.2/29, Error ellipse: s-maj=123.0km s-min=35.5km az=24.0

ISC 27 12:05:03.7±3.3, 35°.5S±0°.9×72°.0W±0°.5, h35km, n12, σ0.85/9, mb4.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	15.55	58	LR	LR	12 14 22.6	
	comp=Z,8μm,19.9s,baz=174,slow=36						
TXAR	Lajitas Array	71.00	331	P	P	12 16 17.6	-0.3
	1.3nm,0.6s,baz=155,slow=8.7,SNR=3.2						
DBIC	Dimbokro	75.65	71	P	P	12 16 45.7	+0.1
	12nm,0.8s,baz=223,slow=6.3,SNR=3.6						
TORD	Torodi Ar. Bea	84.71	70	P	P	12 17 33.7	-0.7
	3.8nm,1.0s,baz=255,slow=5.8,SNR=2.0						
PDAR	Pinedale Array	85.05	333	P	P	12 17 35.9	+0.2
	3.9nm,1.0s,baz=134,slow=6.4,SNR=2.5						
MLR	Muntele Rosu	119.36	53	PKP	PKPdf	12 23 48.1	-1.0
	0.8nm,0.8s,baz=117,slow=5.4,SNR=4.4						
BRTR	Keskin Array B	122.53	62	PKP	PKPdf	12 23 55.4	0.0
	2.9nm,0.9s,baz=197,slow=3.8,SNR=6.2						
AKASG	Malin Array Be	123.17	48	PKP	PKPdf	12 23 55.7	-0.4
	0.4nm,0.4s,baz=262,slow=3.2,SNR=5.1						
GEYT	Alibeck	140.34	71	PKhKP	PKPpre	12 24 24.0	
	1.1nm,0.5s,baz=264,slow=4.8,SNR=2.5						
AKTO	Aktyubinsk	141.26	51	PKhKP	PKPpre	12 24 21.3	
	5.2nm,0.9s,baz=210,slow=1.6,SNR=5.4						
BVAR	Borovoye Array	148.33	45	PKPbc	PKPbc	12 24 47.2	+1.5
	13nm,0.9s,baz=268,slow=4.5,SNR=6.0						
MKAR	Makanchi Array	157.69	52	PKPab	PKPab	12 25 29.1	+0.5
	2.5nm,0.8s,baz=275,slow=3.3,SNR=3.3						

WEL 27 12:09:07.9±0.2, 46°.05S×166°.88E, h5km, ML4.4/12, 3C, Error ellipse: s-maj=2.3km s-min=0.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.57	19	⇑P*	Pb	12 09 19.7	-0.7
DCZ				SG	Sg	12 09 27.5	+1.2
DCZ				AML	AML	12 09 28.1	
DCZ				AML	AML	12 09 28.1	
DCZ				AML	AML	12 09 28.1	
WHZ	Wether Hill Ro	0.75	81	⇑P*	Pg	12 09 22.6	+0.3
WHZ				S*	Sg	12 09 32.3	+0.2
WHZ				AML	AML	12 09 33.0	
APZ	The Paps	1.12	137	P*	Pg	12 09 28.6	-0.8
APZ				AML	AML	12 09 29.4	
APZ				AML	AML	12 09 44.3	
MLZ	Mavora Lakes	1.13	54	P*	Pg	12 09 28.5	-1.1
MLZ				AML	AML	12 09 44.3	
MLZ				AML	AML	12 09 44.5	
MSZ	Milford Sound	1.54	29	PN	Pn	12 09 34.9	-1.0
MSZ				AML	AML	12 09 56.4	
MSZ				AML	AML	12 09 56.4	
MSZ				AML	AML	12 09 56.6	
MSZ				AML	AML	12 09 56.7	
SYZ	Scrubby Hill	1.65	109	⇑PN	Pn	12 09 37.0	-0.5
SYZ				AML	AML	12 09 58.9	
SYZ				AML	AML	12 09 59.0	
SYZ				AML	AML	12 09 59.0	
SYZ				AML	AML	12 09 59.0	
EAZ	Earnscleugh	1.88	66	PN	Pn	12 09 40.9	+0.4
EAZ				AML	AML	12 10 06.1	
EAZ				AML	AML	12 10 06.1	
EAZ				AML	AML	12 10 08.6	
EAZ				AML	AML	12 10 08.6	
TUZ	Tuapeka	1.92	89	PN	Pn	12 09 41.3	+0.1
WKZ	Wanaka	1.92	52	PN	Pn	12 09 42.0	+0.8
WKZ				AML	AML	12 10 09.8	
WKZ				AML	AML	12 10 09.8	
WKZ				AML	AML	12 10 10.4	
JCZ	Jackson Bay	2.36	35	PN	Pb	12 09 49.4	-1.5
JCZ				AML	AML	12 10 31.0	
JCZ				AML	AML	12 10 32.5	
HHSZ	Highcliff Hill	2.59	88	PN	Pn	12 09 50.5	0.0
ODZ	Otahua Downs	2.82	71	PN	Pn	12 09 52.5	-1.1
LBZ	Lake Benmore	2.85	56	PN	Pn	12 09 53.1	-0.9
LBZ				AML	AML	12 10 38.3	
LBZ				AML	AML	12 10 45.5	
FOZ	Fox Glacier	3.16	40	PN	Pn	12 10 01.0	+2.7
FOZ				AML	AML	12 11 00.2	
FOZ				AML	AML	12 11 04.9	
RPZ	Rata Peaks	3.75	54	ePN	Pn	12 10 04.4	-2.1
RPZ				AML	AML	12 11 16.3	
RPZ				AML	AML	12 11 18.0	
MQZ	McQueen's Vall	4.71	63	ePN	Pn	12 10 18.1	-1.4
LTZ	Lake Taylor	5.04	52	ePN	Pn	12 10 23.3	-0.8
DSZ	Denniston Nort	5.56	42	ePN	Pn	12 10 31.0	-0.3
THZ	Tophouse	6.08	48	ePN	Pn	12 10 38.5	-0.1
QRZ	Quartz Range	6.62	40	ePN	Pn	12 10 46.6	+0.8

IDC 27 12:10:35.9±0.5, 34°.90S×72°.72W, h0km, mb4.6/14, mb1 4.7/15, mb1mx4.6/29, mbtmp4.6/15, ML3.8/2, Error ellipse: s-maj=21.5km s-min=15.3km az=85.0

ISCJB 27 12:10:37.7±0.4, 34°.91S±0°.07×72°.61W±0°.10, h18km, mb4.6/17, Error ellipse: s-maj=11.9km s-min=9.2km az=160.7

NEIC 27 12:10:41.3±0.3, 34°.89S×72°.68W, h35km, mb4.6/1, Error ellipse: s-maj=12.2km s-min=7.9km az=92.0

ISC 27 12:10:39.0±0.5, 34°.92S±0°.09×72°.7W±0°.1, h18km, n211, σ0.87/211, mb4.6/17, 99C-81D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.97	50	Pn	Pn	12 11 54.1	+1.3
	0.7nm,0.3s,baz=244,slow=14,SNR=3.6						
CFAA				Lg	Lg	12 13 06.3	
	1.0nm,0.3s,baz=300,slow=9.8,SNR=3.6						
LPAZ	La Paz	19.00	13	P	Pn	12 15 01.5	+0.4
	0.5nm,0.3s,baz=185,slow=6.2,SNR=7.8						
USHA	Ushuaia	20.13	173	P	P	12 15 13.2	+1.4
	12nm,0.7s,baz=330,slow=4.6,SNR=3.8						
SIV	San Ignacio	21.53	32	P	P	12 15 26.7	-0.6
	19nm,0.9s,baz=219,slow=16,SNR=12						
BDFB	Brasilia	29.28	55	P	P	12 16 39.1	-1.4
	6.0nm,0.9s,baz=254,slow=21,SNR=3.1						
OTAV	Otavalo	35.39	350	eP	P	12 17 35.6	+1.3
	13nm,1.7s						
SDV	Santo Domingo	43.61	3	eP	P	12 18 41.9	-0.7
SNAA	Sanae	50.93	158	P	P	12 19 39.0	+0.1
	3.6nm,0.9s,baz=287,slow=5.4,SNR=7.7						
APG	El Apazote	52.45	338	P	P	12 19 48.0	-3.0
	2.3nm,0.8s,baz=139,slow=9.3,SNR=3.1						
QSPA	South Pole Qui	55.32	180	P	P	12 20 11.2	-0.2
	4.5nm,0.8s,baz=187,slow=2.2,SNR=6.9						
TEIG	Tepich	56.81	342	P	P	12 20 21.1	-1.2
	12nm,0.6s,baz=166,slow=3.1,SNR=6.3						
834A	Tilden	67.31	335	⇑P	P	12 21 34.1	+1.4
	baz=68						
735A	Kenedy	67.73	336	⇑P	P	12 21 36.7	+1.4
	baz=68						
832A	Faith Ranch, C	67.95	334	⇑P	P	12 21 37.0	+0.3
	baz=68						
636A	Smothers Creek	68.07	337	⇓P	P	12 21 39.3	+1.9
	baz=68						
732A	Laxson Ranch,	68.36	334	⇑P	P	12 21 37.7	-1.6
	baz=69,SNR=7.1						
632A	Uvalde	69.00	335	⇑P	P	12 21 42.0	-1.3
	baz=69						
631A	Perdido Creek	69.20	334	⇓P	P	12 21 45.2	+0.6
	baz=70						
533A	Kerrville	69.26	336	⇑P	P	12 21 43.7	-1.3
	baz=70						
532A	Rocksprings	69.61	335	⇓P	P	12 21 45.6	-1.5
	baz=70,SNR=6.6						
434A	Burnet	69.69	337	⇓P	P	12 21 48.4	+0.9
	baz=70						
336A	Riesel	69.77	338	⇓P	P	12 21 49.4	+1.4
	baz=70						
335A	Moody	69.85	338	⇓P	P	12 21 49.7	+1.2
	baz=70						
531A	Rocksprings	69.87	334	⇑P	P	12 21 48.6	-0.1
	baz=70,SNR=6.2						
JCT	Junction City	69.90	335	⇓P	P	12 21 47.8	-1.1
	baz=70						
433A	Art	69.91	336	⇑P	P	12 21 48.4	-0.5
	baz=70,SNR=6.5						
530A	J-C Ranch, Com	70.14	334	⇑P	P	12 21 50.7	+0.4
	baz=70,SNR=6.2						
334A	Lometa	70.16	337	⇑P	P	12 21 50.9	+0.4
	baz=70						
432A	Menard	70.25	335	⇑P	P	12 21 50.1	-1.0
	baz=70						
TXAR	Lajitas Array	70.29	331	P	P	12 21 51.3	0.0
	2.6nm,0.6s,baz=153,slow=8.4,SNR=7.2						
431A	Sonora	70.36	335	⇓P	P	12 21 50.6	-1.1
	baz=71						
333A	Richland Sprin	70.39	336	⇑P	P	12 21 51.2	-0.7
	baz=71,SNR=5.2						
529A	Stev Forest Ra	70.44	333	⇓P	P	12 21 53.2	+0.9
	baz=71						
WHTX	Lake Whitney	70.52	338	⇓P	P	12 21 53.5	+1.0
	baz=71						
430A	Baggett Ranch,	70.68	334	⇓P	P	12 21 51.6	-2.1
	baz=71,SNR=5.6						
332A	Millersview	70.70	336	⇓P	P	12 21 51.6	-2.2
	baz=71						
234A	Clairette	70.75	337	⇓P	P	12 21 54.8	+0.8
	baz=71						
429A	Davenport Ranc	70.77	334	⇓P	P	12 21 54.4	+0.1
	baz=71,SNR=5.0						
331A	San Angelo	70.87	335	⇑P	P	12 21 53.9	-0.9
	baz=71,SNR=8.3						
233A	Rising Star	71.00	337	⇑P	P	12 21 55.8	+0.2
	baz=71,SNR=5.1						
232A	Coleman	71.13	336	⇓P	P	12 21 55.3	-1.1
	baz=71,SNR=6.1						
330A	Mertzon	71.22	334	⇑P	P	12 21 57.0	0.0
	baz=72,SNR=5.0						
231A	Bronte	71.40	335	⇓P	P	12 21 58.2	+0.2
	baz=72,SNR=6.0						
133A	Hamilton Ranch	71.55	337	⇑P	P	12 21 59.4	+0.5
	baz=72						
329A	Wagon Wheel Ra	71.58	334	⇑P	P	12 21 59.5	+0.3
	baz=72						
Z35A	Perchaven, San	71.70	338	⇓P	P	12 22 00.6	+0.8
	baz=72,SNR=5.4						
ABTX	Abilene, Hawle	71.81	336	eP	P	12 22 00.4	0.0
	15nm,1.0s						
ABTX	Abilene, Hawle	71.81	336	⇑P	P	12 22 00.1	-0.3
	baz=72,SNR=6.5						
229A	Bryant Ranch,	71.95	334	⇓P	P	12 22 01.1	-0.2
	baz=72						
131A	Roby	72.10	336	⇓P	P	12 22 02.1	-0.1
	baz=72,SNR=5.9						
Z33A	Whitaker Ranch	72.13	337	⇓P	P	12 22 02.4	+0.1
	baz=72,SNR=6.7						
130A	Snyder	72.23	335	⇓P	P	12 22 02.8	-0.2
	baz=72						
Z32A	Haskell	72.38	337	⇑P	P	12 22 03.3	-0.5
	baz=73,SNR=5.7						
Y34A	Reagan Ranch,	72.44	338	⇓P	P	12 22 04.4	+0.3
	baz=73						
129A	Stewart Farms,	72.58	334	⇑P	P	12 22 05.3	+0.2
	baz=73						
Z31A	Sharp Cattle R	72.61	336	⇓P	P	12 22 04.7	-0.5
	baz=73,SNR=6.5						
Y33A	Hilltop Ranch,	72.75	338	⇓P	P	12 22 06.2	+0.2
	baz=73						
128A	Castleberry Fa	72.79	334	⇓P	P	12 22 06.3	-0.1
	baz=73,SNR=6.2						
Z30A	Sanderson Ranc	72.91	335	⇑P	P	12 22 06.6	-0.4
	baz=73,SNR=6.3						
Y32A	R-V Farms, Ver	73.01	337	⇓P	P	12 22 07.4	-0.1
	baz=73						
Y31A	Rekieta Farm,	73.24	336	⇓P	P	12 22 09.0	+0.1
	baz=74						
X32A	Elmer	73.34	337	⇓P	P	12 22 09.9	+0.4
	baz=74						
Y30A	Stafford Cattl	73.37	336	⇑P	P	12 22 10.7	+1.0
	baz=74						
Y29A	Porterfield Fa	73.62	335	⇑P	P	12 22 11.6	+0.4
	baz=74,SNR=5.4						
Z27A	Tatum	73.68	334	⇑P	P	12 22 12.5	+0.9
	baz=74						
X31A	McDonald Ranch	73.76	337	⇑P	P	12 22 12.4	+0.4
	baz=74,SNR=5.4						
Y28A	McKinney Farm,	73.86	335	⇓P	P	12 22 12.3	-0.4
	baz=74						
Z26A	Caprock	73.92	333	⇑P	P	12 22 13.8	+0.8
	baz=74						
W32A	Sentinel	73.98	338	⇑P	P	12 22 13.7	+0.5
	baz=74,SNR=9.6						
MSTX	Muleshoe	74.11	334	⇑P	P	12 22 14.5	+0.4
	baz=74,SNR=5.2						
X29A	Tulia	74.16	335	⇓P	P	12 22 15.1	+0.7
	baz=74						
Y27A	Causey	74.17	334	⇑P	P	12 22 14.7	+0.2
	baz=74						
W31A	Holland Ranch,	74.25	337	⇑P	P	12 22 15.6	+0.7
	baz=75						
V33A	Lossen Ranch,	74.33	339	⇓P	P	12 22 15.7	+0.4
	baz=75						
Y26A	Elida	74.44	333	⇑P	P	12 22 16.9	+0.8
	baz=75						
Z24A	Sheeppen Canyo	74.50	332	⇑P	P	12 22 17.4	+0.9
	baz=75						
AMTX	Amarillo	74.55	336	⇑P	P	12 22 16.7	0.0
U34A	Anderson Ranch	74.68	339	⇑P	P	12 22 17.9	+0.6
	baz=75						
W29A	Amarillo	74.76	336	⇓P	P	12 22 18.1	+0.2
	baz=75						
V31A	Spring Creek L	74.76	337	⇑P	P	12 22 19.3	+1.4
	baz=75						
121A	Cookes Peak, D	74.76	330	⇑P	P	12 22 19.4	+1.3
	baz=75						
Y25A	Mesa, Roswell	74.77	333	⇓P	P	12 22 18.0	0.0
	baz=75						
U33A	Lingo Farm, Me	74.84	339	⇓P	P	12 22 18.8	+0.5
	baz=75						
X26A	CR and CF Fran	75.00	334	⇑P	P	12 22 20.2	+0.9
	baz=75,SNR=5.7						
U32A	Winter Ranch,	75.06	338	⇑P	P	12 22 20.2	+0.7
	baz=75						
Z22A	Elephant Butte	75.06	331	⇑P	P	12 22 21.7	+2.0
	baz=75						
W27A	Bowe Ranch, En	75.19	335	⇓P	P	12 22 20.7	+0.3
	baz=76,SNR=5.1						
Y23A	Lovelace Mesa,	75.30	332	⇑P	P	12 22 23.3	+2.2
	baz=76						
U31A	Nine Bar Ranch	75.31	338	⇓P	P	12 22 21.8	+0.8
	baz=76						
W26A	Owens Ranch, T	75.47	334	⇑P	P	12 22 21.5	-0.5
	baz=76						
T33A	Patterson Ranc	75.48	339	⇑P	P	12 22 22.8	+0.9
	baz=76						
X24A	Lazy VL Ranch,	75.62	333	⇓P	P	12 22 23.3	+0.4
	baz=76						
U30A	WK&E Inc. Balk	75.71	337	⇑P	P	12 22 24.1	+0.7
	baz=76						
W25A	X Bar L Ranch,	75.83	334	⇑P	P	12 22 24.4	+0.3
	baz=76						
X23A	Hourglass Bar	75.92	332	⇓P	P	12 22 26.1	+1.4
	baz=76						
DBIC	Dimbokro	75.96	71	P	P	12 22 25.2	0.0
	5.5nm,0.7s,baz=204,slow=7.6,SNR=6.7						
W24A	Lazy 6 Ranch,	76.18	333	⇑P	P	12 22 26.8	+0.7
	baz=76						
U27A	Thompson Grove	76.34	335	⇑P	P	12 22 27.8	+0.9
	baz=77						
S31A	Mullinville	76.35	338	⇓P	P	12 22 27.3	+0.4
	baz=77						
W23A	Werner Place,	76.42	332	⇑P	P	12 22 28.5	+0.9
	baz=77						
V25A	Rancho No Teng	76.44	334	⇑P	P	12 22 27.9	+0.3
	baz=77						
T29A	Hugoton	76.49	337	⇓P	P	12 22 28.7	+1.0
	baz=77						
V24A	Rampart Ranch,	76.59	333	⇑P	P	12 22 28.6	+0.1
	baz=77						
S30A	Montezuma	76.67	338	⇓P	P	12 22 29.6	+0.9
	baz=77						
T28A	Walsh	76.73	336	⇓P	P	12 22 29.6	+0.5
	baz=77,SNR=11						
S29A	Ulysses	76.86	337	⇓P	P	12 22 30.7	+0.9
	baz=77						
U25A	Circle Dot Ran	76.87	334	⇑P	P	12 22 30.4	+0.4
	baz=77						
T27A	Campo	76.88	336	⇓P	P	12 22 30.3	+0.3
	baz=77,SNR=5.3						
V23A	Ortiz Mt. (NFS	76.94	333	⇓P	P	12 22 32.2	+1.7
	baz=77						
S28A	Manter	77.08	337	⇓P	P	12 22 31.5	+0.4
	baz=77,SNR=5.7						
Q33A	Connelly Farm,	77.15	340	⇓P	P	12 22 31.6	+0.2
	baz=78						
T26A	Comanche Natio	77.28	335	⇓P	P	12 22 33.7	+1.4
	baz=78						
Q32A	Meitler Ranch,	77.35	340	⇑P	P	12 22 33.1	+0.6
	baz=78						
V22A	San Miguel Ran	77.37	332	⇑P	P	12 22 34.9	+2.0
	baz=78						
U23A	El Rito	77.46	333	⇓P	P	12 22 34.9	+1.4
	baz=78						
T25A	Trinidad	77.53	334	⇑P	P	12 22 35.1	+1.3
	baz=78,SNR=8.5						
R29A	Marienthal	77.60	337	⇑P	P	12 22 34.8	+0.8
	baz=78						
S26A	Kim	77.64	335	⇑P	P	12 22 35.1	+0.9
	baz=78,SNR=7.6						
R28A	Tribune	77.74	337	⇑P	P	12 22 35.0	+0.3
	baz=78,SNR=5.3						
U22A	Llaves	77.76	332	⇓P	P	12 22 37.0	+2.0
	baz=78						
T24B	San Luis	77.81	334	⇓P	P	12 22 36.6	+1.2
	baz=78						
Q29A	Oakley	77.98	338	⇑P	P	12 22 36.5	+0.4
	baz=78						
S25A	Robets Cordova	78.01	335	⇑P	P	12 22 36.6	+0.2
	baz=78						
R27A	Eads	78.01	336	⇑P	P	12 22 36.7	+0.4
	baz=78,SNR=7.2						
T23A	Casias Ranch,	78.03	333	⇓P	P	12 22 38.2	+1.6
	baz=78						
R26A	Arlington	78.24	336	⇑P	P	12 22 38.3	+0.7
	baz=78						
S24A	Houchin Ranch,	78.27	334	⇑P	P	12 22 39.4	+1.5
	baz=79						
Q28A	Sharon Springs	78.40	337	⇑P	P	12 22 39.0	+0.5
	baz=79						
KSCO	Kaye Shedlock'	78.61	337	⇑P	P	12 22 40.6	+0.9
	baz=79						
P29A	Atwood	78.62	338	⇑P	P	12 22 40.7	+1.2
	baz=79,SNR=5.1						
R24A	Sanders Place,	78.76	334	⇑P	P	12 22 42.1	+1.6
	baz=79						
Q26A	Hugo	78.83	336	⇑P	P	12 22 41.8	+1.0
	baz=79						
P28A	Saint Francis	78.85	337	⇑P	P	12 22 41.8	+0.9
	baz=79						
S22A	4UR Ranch, Cre	78.95	333	⇓P	P	12 22 43.1	+1.3
	baz=79						
R23A	Moffat	78.98	334	⇓P	P	12 22 42.8	+0.9
	baz=79						
Q25A	Bedland, Calha	79.07	335	⇓P	P	12 22 42.6	+0.4
	baz=79						
MVCO	Mesa Verde	79.12	332	⇑P	P	12 22 43.8	+1.2
	baz=79						
O28A	Krutsinger Ran	79.36	338	⇑P	P	12 22 44.6	+1.0
	baz=80						
Q24A	Divide	79.42	335	⇑P	P	12 22 45.3	+1.0
	baz=80						
BOSA	Boshof	80.10	118	P	P	12 22 48.1	-0.1
	11nm,0.8s,baz=241,slow=3.4,SNR=14						
K30A	Basset	81.06	340	⇑P	P	12 22 53.4	+0.7
	baz=81,SNR=6.4						
K29A	Lazy Trails An	81.34	340	⇓P	P	12 22 55.9	+1.7
	baz=82						
K28A	Ten Mile Ranch	81.60	339	⇓P	P	12 22 57.3	+1.7
	baz=82						
K27A	Flueckinger Fa	81.85	338	⇓P	P	12 22 58.3	+1.4
	baz=82						
J29A	Okreek	81.94	340	⇑P	P	12 22 57.8	+0.5
	baz=82,SNR=7.3						
I30A	Oacoma	82.16	341	⇑P	P	12 22 58.4	0.0
	baz=82,SNR=5.6						
N20A	Spence Gulch,	82.19	334	⇓P	P	12 23 00.7	+1.8
	baz=82						
L23A	Garrett	82.42	336	⇑P	P	12 23 00.8	+0.7
	baz=83						
URZ	Urewera	82.66	228	P	P	12 23 01.4	-0.1
	17nm,1.0s,baz=34,slow=1.9,SNR=3.5						
I28A	Midland	82.72	340	⇑P	P	12 23 02.3	+0.9
	baz=83						
R11A	Troy Canyon, C	83.05	327	⇓P	P	12 23 05.0	+1.6
	baz=83						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
J24A	Dixon Ranch, L	83.17	337	⇑P	P	12 23 04.7	+0.9
	baz=84						
G30A	Faulkton	83.21	341	⇑P	P	12 23 04.1	+0.2
	baz=84						
H28A	Mission Ridge	83.30	340	⇑P	P	12 23 05.1	+0.8
	baz=84						
DUG	Dugway	83.41	330	⇓P	P	12 23 06.3	+1.1
	baz=84						
K21A	Alcova	83.41	335	⇑P	P	12 23 05.9	+0.7
	baz=84						
I25A	Rochford	83.50	338	⇓P	P	12 23 06.3	+0.7
	baz=84						
H27A	Howes	83.56	339	⇑P	P	12 23 05.5	-0.2
	baz=84						
G28A	Parade	83.64	340	⇓P	P	12 23 06.3	+0.2
	baz=84,SNR=6.5						
F29A	Eureka	84.05	341	⇑P	P	12 23 08.4	+0.2
	baz=84,SNR=5.8						
G27A	Dupree	84.20	340	⇑P	P	12 23 08.4	-0.6
	baz=84						
I22A	9 Mile Ranch,	84.27	336	⇓P	P	12 23 09.8	+0.3
	baz=85						
G26A	Maurine	84.32	339	⇑P	P	12 23 09.7	+0.2
	baz=85						
F28A	McLaughlin	84.32	341	⇑P	P	12 23 10.1	+0.6
	baz=85,SNR=5.2						
J20A	Shoshoni	84.34	335	⇓P	P	12 23 11.2	+1.3
	baz=85						
NVAR	Mina Array Bea	84.34	326	P	P	12 23 10.4	+0.3
	2.1nm,0.9s,baz=156,slow=6.8,SNR=5.2						
PDAR	Pinedale Array	84.35	334	P	P	12 23 09.6	-0.4
	0.9nm,0.8s,baz=143,slow=3.2,SNR=6.1						
E30A	Jud	84.43	342	⇓P	P	12 23 10.2	+0.2
	baz=85						
G25A	Newell	84.47	339	⇑P	P	12 23 10.7	+0.3
	baz=85						
J19A	Crowheart	84.60	334	⇓P	P	12 23 11.9	+0.7
	baz=85						
E29A	Napoleon	84.68	342	⇓P	P	12 23 11.3	0.0
	baz=85						
F27A	Lemmon	84.68	340	⇓P	P	12 23 11.5	+0.1
	baz=85						
I20A	Worland	84.88	335	⇑P	P	12 23 12.7	+0.2
	baz=85						
TORD	Torodi Ar. Bea	85.01	70	P	P	12 23 13.5	-0.2
	4.7nm,0.8s,baz=276,slow=5.8,SNR=18						
E27A	Carson	85.06	340	⇑P	P	12 23 13.7	+0.5
	baz=85						
H21A	Big Horn, Sher	85.11	336	⇑P	P	12 23 13.7	0.0
	baz=85						
I19A	Meeteetse	85.25	335	⇑P	P	12 23 14.9	+0.4
	baz=86						
H20A	Greybull	85.30	335	⇑P	P	12 23 14.4	-0.2
	baz=86						
E26A	Carlson Angus	85.35	340	⇓P	P	12 23 14.9	+0.1
	baz=86						
F24A	Ekalaka	85.37	338	⇓P	P	12 23 15.2	+0.3
	baz=86						
C30A	Mose, Pekin	85.44	343	⇓P	P	12 23 15.7	+0.6
	baz=86,SNR=5.7						
F23A	Volborg	85.55	338	⇓P	P	12 23 15.8	0.0
	baz=86						
H19A	Powell	85.80	335	⇓P	P	12 23 17.6	+0.4
	baz=86						
D26A	Manning	85.86	340	⇑P	P	12 23 18.5	+1.3
	baz=86						
F22A	Rosebud	85.87	337	⇑P	P	12 23 17.5	+0.1
	baz=86						
G20A	Bridger	86.02	336	⇑P	P	12 23 18.2	0.0
	baz=86						
H18A	Shoshone NF, C	86.05	335	⇓P	P	12 23 18.9	+0.4
	baz=86						
E22A	Miles City	86.36	338	⇑P	P	12 23 19.7	0.0
	baz=87						
D24A	Glendive	86.48	339	⇓P	P	12 23 21.0	+0.7
	baz=87						
C25A	Freed Ranch, W	86.71	340	⇓P	P	12 23 22.6	+1.2
	baz=87						
D23A	Lindsay	86.79	338	⇑P	P	12 23 22.2	+0.3
	baz=87						
E21A	Keefer Ranch,	86.81	337	⇓P	P	12 23 22.4	+0.4
	baz=87						
F19A	Roth Farm, Mol	86.82	336	⇑P	P	12 23 21.9	-0.2
	baz=87						
C24A	Savage	86.88	339	⇑P	P	12 23 22.8	+0.5
	baz=87						
HLID	Hailey	86.88	331	⇓P	P	12 23 23.7	+1.1
	baz=87						
D22A	Cohagen	87.07	338	⇓P	P	12 23 23.1	-0.1
	baz=87						
E20A	Meyer Farm, Mu	87.12	336	⇑P	P	12 23 23.9	+0.4
	baz=87						
D21A	La Casta Ranch	87.25	337	⇑P	P	12 23 24.7	+0.6
	baz=88						
ULM	Lac du Bonnet	87.25	345	P	P	12 23 23.4	-0.5
	6.5nm,0.9s,baz=174,slow=3.8,SNR=7.7						
E19A	Rath Farm, Rou	87.30	336	⇑P	P	12 23 24.3	0.0
	baz=88						
DGMT	Dagmar	87.66	340	eP	P	12 23 25.8	-0.2
	28nm,1.0s						
YKA	Yellowknife Ar	102.76	341	P	Pdif	12 24 33.8	-0.8
	0.3nm,0.8s,baz=144,slow=4.4,SNR=4.0						
BRTR	Keskin Array B	122.73	62	PKP	PKPdf	12 29 33.1	-0.7
	1.2nm,0.7s,baz=195,slow=2.6,SNR=7.3						
AKASG	Malin Array Be	123.19	48	PKP	PKPdf	12 29 32.5	-1.6
	0.1nm,0.2s,baz=266,slow=2.5,SNR=5.3						
PSI	Prapat	147.10	164	PKPbc	PKPdf	12 30 20.4	+0.8
	8.0nm,0.4s,baz=168,slow=6.3,SNR=5.9						
BVAR	Borovoye Array	148.30	44	PKPbc	PKPbc	12 30 24.4	+0.8
	3.9nm,0.6s,baz=262,slow=1.4,SNR=3.5						
ASAJ	Asahikawa	151.47	299	PKPbc	PKPbc	12 30 31.6	+0.1
	9.5nm,0.9s,baz=90,slow=3.0,SNR=3.6						
ASAJ				PKPab	PKPab	12 30 38.3	-1.7
	2.7nm,0.7s,baz=78,slow=14,SNR=2.8						
AAK	Ala-Archa	153.39	63	PKPbc	PKPbc	12 30 36.3	+0.1
	4.0nm,0.8s,baz=196,slow=18,SNR=4.2						
ZALV	Zalesovo Beam	155.28	33	PKP	PKPdf	12 30 29.4	-1.2
	2.6nm,0.7s,baz=270,slow=2.4,SNR=3.7						
ZALV				PKPbc	PKPab	12 30 39.5	-16
	1.6nm,0.6s,baz=340,slow=3.9,SNR=3.6						
ZALV				PKPab	PKPab	12 30 55.6	-0.1
	3.5nm,0.7s,baz=312,slow=5.4,SNR=4.7						
CMAR	Chiang Mai Arr	161.99	153	PKPab	PKPab	12 31 25.4	-0.3
	0.5nm,0.4s,baz=210,slow=5.2,SNR=4.2						
SONM	Songino Array	167.08	3	PKPab	PKPab	12 31 47.8	+0.3
	0.4nm,0.4s,baz=332,slow=3.4,SNR=4.3						

IDC 27 12:13:14.0±1.6, 38.49S×74.20W, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.3/15, mbtmp4.2/7, ML4.8/1, Error ellipse: s-maj=63.3km s-min=31.1km az=27.0
NEIC 27 12:13:22.0±0.6, 37.63S×73.22W, h35km, mb4.4/4, Error ellipse: s-maj=30.0km s-min=12.7km az=221.0
ISC 27 12:13:20.1±1.1, 38.4S±0.3×74.1W±0.2, h35km, n18, σ0.85/16, mb4.3/10, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.60	132	Pn	Pn	12 14 18.1	+4.6
	10nm,0.3s,baz=342,slow=14,SNR=4.9						
TRQA	Tornquist	9.54	92	ePn	Pn	12 15 26.1	-8.8
	149nm,1.3s						
CPUP	Villa Florida	18.53	54	P	Pn	12 17 35.1	+1.1
	0.8nm,0.3s,baz=217,slow=16,SNR=2.9						
TXAR	Lajitas Array	72.81	333	P	P	12 24 44.6	-0.5
	2.4nm,0.8s,baz=154,slow=8.8,SNR=7.4						
ABTX	Abilene, Hawle	74.54	338	eP	P	12 24 54.6	-0.5
	3.6nm,0.6s						
U34A	Anderson Ranch	77.54	341	eP	P	12 25 11.4	-0.6
	13nm,1.0s						
DBIC	Dimbokro	78.14	72	P	P	12 25 15.3	-0.6
	6.7nm,0.9s,baz=226,slow=6.8,SNR=4.5						
ANMO	Albuquerque	78.89	333	eP	P	12 25 20.6	+0.8
	3.6nm,0.9s						
BOSA	Boshof	79.49	118	P	P	12 25 23.6	+0.2
	3.5nm,0.8s,baz=233,slow=5.1,SNR=3.7						
SDCO	Great Sand Dun	81.09	335	eP	P	12 25 32.4	+0.7
	1.9nm,0.9s						
NVAR	Mina Array Bea	86.58	327	P	P	12 26 00.0	+0.4
	0.3nm,0.4s,baz=149,slow=7.9,SNR=2.1						
PDAR	Pinedale Array	86.96	335	P	P	12 26 01.1	-0.4
	0.7nm,1.0s,baz=145,slow=6.5,SNR=2.9						
TORD	Torodi Ar. Bea	87.23	71	P	P	12 26 02.5	-0.7
	1.2nm,0.7s,baz=220,slow=5.1,SNR=8.3						
SEY	Seymchan	142.89	327	PKP	PKPdf	12 32 48.8	0.0
	1.4nm,0.7s,baz=103,slow=3.4,SNR=4.4						
TIXI	Tiksi	144.66	348	ePKPdf	PKPdf	12 32 51.1	-0.7
ABKAR	Akbulak array	145.59	56	ePKPdf	PKPab	12 32 54.0	-0.6
BVAR	Borovoye Array	151.54	47	PKPbc	PKPbc	12 33 09.6	-0.2
	1.4nm,0.8s,baz=284,slow=1.2,SNR=3.7						
JNU	Nakatsue	159.10	263	ePKPdf	PKPdf	12 33 16.6	+2.1

IDC 27 12:14:08.8±0.8, 33.95S×71.88W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.2/28, mbtmp4.2/8, Error ellipse: s-maj=33.9km s-min=23.3km az=71.0
ISCJB 27 12:14:10.1±0.6, 34.05S±0.1×71.8W±0.2, h19km, mb4.2/13, Error ellipse: s-maj=21.8km s-min=12.5km az=142.9
NEIC 27 12:14:14.1±0.4, 33.98S×71.85W, h35km, mb4.3/5, Error ellipse: s-maj=14.6km s-min=8.3km az=52.0
ISC 27 12:14:11.8±0.8, 34.0S±0.1×71.9W±0.2, h19km, n18, σ0.56/19, mb4.4/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRQA	Tornquist	8.99	120	ePn	Pn	12 16 20.5	-0.1
SAML	Samuel	26.16	20	eP	P	12 19 45.6	+0.6
	9.2nm,0.9s						
BDFB	Brasilia	28.20	56	P	P	12 20 03.7	+0.1
	5.1nm,0.6s,baz=187,slow=7.4,SNR=4.0						
SNAA	Sanae	51.56	158	P	P	12 23 16.5	+0.3
	2.3nm,0.9s,baz=322,slow=5.5,SNR=3.7						
QSPA	South Pole Qui	56.27	180	P	P	12 23 51.2	+0.4
	4.0nm,0.7s,baz=131,slow=3.3,SNR=3.7						
JCT	Junction City	69.32	334	eP	P	12 25 17.8	-0.1
	4.2nm,0.8s						
TXAR	Lajitas Array	69.78	331	P	P	12 25 20.7	-0.2
	0.6nm,0.5s,baz=156,slow=8.1,SNR=4.6						
ABTX	Abilene, Hawle	71.21	335	eP	P	12 25 29.2	-0.2
	22nm,1.8s						
ANMO	Albuquerque	75.82	331	eP	P	12 25 56.4	-0.3
	1.1nm,0.9s						
SDCO	Great Sand Dun	77.91	333	eP	P	12 26 08.8	+0.2
	0.9nm,0.9s						
BOSA	Boshof	79.96	118	P	P	12 26 20.0	-0.1
	3.6nm,0.7s,baz=278,slow=2.1,SNR=3.2						
PDAR	Pinedale Array	83.80	333	P	P	12 26 40.0	+0.1
	0.8nm,0.9s,baz=168,slow=4.6,SNR=3.0						
NVAR	Mina Array Bea	83.94	325	P	P	12 26 41.2	+0.5
	0.4nm,0.3s,baz=193,slow=3.7,SNR=3.4						
TORD	Torodi Ar. Bea	84.07	70	P	P	12 26 41.9	+0.2
	2.5nm,0.7s,baz=257,slow=3.8,SNR=6.2						
BVAR	Borovoye Array	147.17	43	PKPbc	PKPbc	12 33 53.3	+0.2
	1.9nm,0.6s,baz=305,slow=4.9,SNR=4.2						
AAK	Ala-Archa	152.37	62	PKPbc	PKPbc	12 34 06.7	+0.1
	2.6nm,0.6s,baz=206,slow=5.4,SNR=6.4						
ZALV	Zalesovo Beam	154.13	32	PKPbc	PKPbc	12 34 09.5	-0.3
	4.5nm,0.6s,baz=307,slow=3.1,SNR=9.3						
MKAR	Makanchi Array	156.64	49	PKP	PKPdf	12 34 03.5	-1.9
	1.5nm,0.7s,baz=298,slow=3.2,SNR=5.0						
MKAR				PKPab	PKPab	12 34 34.3	-0.3
	1.1nm,0.6s,baz=287,slow=4.7,SNR=3.7						

IDC 27 12:15:27.9±11.0, 32.59S×72.50W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.9/27, mbtmp3.9/3, Error ellipse: s-maj=515.1km s-min=46.0km az=26.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	68.31	331	P	P	12 26 31.2	+0.2
	0.6nm,0.5s,baz=156,slow=9.1,SNR=3.5						
PDAR	Pinedale Array	82.33	333	P	P	12 27 51.4	-0.2
	0.6nm,0.8s,baz=134,slow=3.9,SNR=2.7						
TORD	Torodi Ar. Bea	84.10	70	P	P	12 28 01.1	0.0
	1.0nm,0.9s,baz=235,slow=4.4,SNR=2.6						
BVAR	Borovoye Array	146.50	41	PKPbc	PKPdf	12 35 09.8	+0.6
	0.6nm,0.5s,baz=281,slow=2.3,SNR=2.2						

ISCJB 27 12:15:41.0±0.6, 36.44N±0.06×70.92E±0.10, h188km, mb3.5/6, Error ellipse: s-maj=13.0km s-min=4.8km az=144.0
IDC 27 12:15:40.2±7.7, 36.34N×71.01E, h173km±48km, mb3.3/7, mb1 3.4/10, mb1mx3.2/29, mbtmp3.8/10, Error ellipse: s-maj=71.9km s-min=22.7km az=171.0
NNC 27 12:15:50.6±8.8, 37.12N×70.83E, h190km±125km, mb2.7, mpv3.6, Error ellipse: s-maj=87.9km s-min=47.3km az=25.0
ISC 27 12:15:42.4±0.8, 36.58N±0.07×71.04E±0.09, h188km, n29, σ1.99/33, mb3.5/6, 1C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	5.72	133	eP	Pn	12 17 08.0	+1.9
DLH				eS	Sn	12 18 12.0	0.0
EKS2	Erkin-Say	6.43	18	ePKPbc	Sn	12 18 28.0	-0.4
KK31	Karatay Array	6.53	357	P	Pn	12 17 18.1	+1.9
	3.8nm,0.4s,baz=175,slow=13,SNR=41						
KK31				S	Sn	12 18 27.5	-3.1
	8.2nm,0.3s,baz=183,slow=23,SNR=20						
AAK	Ala-Archa	6.61	23	⇓P	Pn	12 17 19.8	+2.3
	2.1nm,0.6s						
AAK				⇓S	Sn	12 18 29.7	-3.0
	9.6nm,0.5s						
AAK	Ala-Archa	6.61	23	P	Pn	12 17 19.3	+1.8
	0.9nm,0.3s,baz=154,slow=6.2,SNR=9.6						
AAK				S	Sn	12 18 34.2	+1.6
	0.9nm,0.3s,baz=213,slow=5.0,SNR=4.8						
AAK	Ala-Archa	6.61	23	ePKPbc	Sn	12 18 29.5	-3.2
TKM2	Tokmak 2	7.24	28	⇓P	Pn	12 17 29.4	+3.6
	3.5nm,0.7s						
MKAR	Makanchi Array	13.21	36	P	Pn	12 18 43.9	+1.2
	0.1nm,0.3s,baz=197,slow=15,SNR=3.4						
DANN	Dangsing	13.51	124	eP	Pn	12 18 47.9	+1.0
KOLN	Koldanda	13.78	126	eP	Pn	12 18 50.9	+0.6
GKN	Gorkha	14.32	123	eP	Pn	12 18 56.5	-0.4
	25nm,0.6s						
DMN	Daman	14.89	123	eP	Pn	12 19 02.7	-1.4
	8.4nm,0.2s						
KKN	Kakani	14.89	122	eP	Pn	12 19 02.3	-1.7
	31nm,0.5s						
AB31	Akbulak array	15.03	331	⇓P	Pn	12 19 08.0	+1.9
	0.8nm,0.5s,baz=290,slow=5.7,SNR=24						
AB31				⇓S	Sn	12 21 48.6	-4.5
	0.6nm,0.5s,baz=147,slow=24,SNR=2.6						
PKIN	Phulchoki	15.11	122	eP	Pn	12 19 05.3	-1.4
	10nm,0.3s						
PKI	Pulchoki	15.12	122	eP	Pn	12 19 05.2	-1.7
GUN	Gumba	15.23	120	eP	Pn	12 19 06.4	-1.9
	14nm,0.3s						
JIRN	Jiri	15.60	120	eP	Pn	12 19 10.7	-2.1
	30nm,0.5s						
BVAR	Borovoye Array	16.45	359	P	Pn	12 19 23.3	+0.8
	0.5nm,0.3s,baz=161,slow=9.9,SNR=7.8						
AKTO	Aktyubinsk	16.73	330	⇑P	Pn	12 19 24.7	-0.2
	1.6nm,0.5s						
AKTO	Aktyubinsk	16.73	330	P	Pn	12 19 25.8	0.0
	0.4nm,0.3s,baz=131,slow=12,SNR=6.8						
TAPN	Taplejung	16.86	118	eP	Pn	12 19 22.7	-4.1
	11nm,0.4s						
ZALV	Zalesovo Beam	19.83	25	P	P	12 20 00.2	+1.7
	0.8nm,0.3s,baz=218,slow=9.1,SNR=3.4						
MLR	Muntele Rosu	34.77	299	P	P	12 22 13.9	-1.0
	0.7nm,0.6s,baz=90,slow=1.0,SNR=3.8						
FINES	FINESS Array B	37.44	326	P	P	12 22 38.2	+1.1
	1.5nm,0.7s,baz=121,slow=7.4,SNR=5.9						
ARCES	ARCESS Array B	41.08	338	P	P	12 23 08.8	+1.6
	1.6nm,0.6s,baz=115,slow=8.6,SNR=9.3						
NOA	NORSAR Array B	44.34	323	P	P	12 23 33.5	+0.1
	1.1nm,0.8s,baz=94,slow=8.0,SNR=4.3						
ILAR	Eielson Array	74.69	16	P	P	12 27 00.5	-0.3
	0.4nm,1.0s,baz=311,slow=5.1,SNR=3.7						
YKA	Yellowknife Ar	81.16	3	P	P	12 27 37.6	+1.1
	0.3nm,0.4s,baz=351,slow=5.5,SNR=9.6						

IDC 27 12:16:54.3±0.8, 34.71S×72.72W, h0km, mb4.0/7, mb1 4.2/9, mb1mx4.1/30, mbtmp4.1/9, ML4.1/2, Error ellipse: s-maj=31.6km s-min=20.9km az=97.0
ISCJB 27 12:16:55.6±0.7, 34.7S±0.1×72.6W±0.2, h18km, mb4.0/11, Error ellipse: s-maj=18.9km s-min=14.6km az=12.7
NEIC 27 12:16:57.8±0.9, 35.06S×72.33W, h35km, mb4.0/4, Error ellipse: s-maj=20.8km s-min=16.3km az=205.0
ISC 27 12:16:57.2±0.9, 34.7S±0.1×72.7W±0.2, h18km, n16, σ0.79/15, mb4.2/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.83	51	Pn	Pn	12 18 08.8	-0.3
	3.3nm,0.3s,baz=230,slow=14,SNR=4.8						
CFAA				Lg	Lg	12 19 18.6	
	2.9nm,0.3s,baz=280,slow=18,SNR=4.7						
TRQA	Tornquist	9.24	114	ePn	Pn	12 19 01.2	-8.4
	181nm,1.3s						
LPAZ	La Paz	18.79	14	P	Pn	12 21 16.7	0.0
	0.5nm,0.3s,baz=188,slow=5.4,SNR=6.3						
SIV	San Ignacio	21.34	32	P	P	12 21 44.7	+1.2
	7.7nm,0.8s,baz=226,slow=12,SNR=5.4						
SNAA	Sanae	51.13	158	P	P	12 25 58.9	+0.3
	2.3nm,0.9s,baz=291,slow=6.7,SNR=4.0						
QSPA	South Pole Qui	55.53	180	P	P	12 26 31.7	+0.6
	4.1nm,0.9s,baz=129,slow=0.6,SNR=2.6						
JCT	Junction City	69.70	335	eP	P	12 28 05.8	-0.1
	1.0nm,0.4s						
TXAR	Lajitas Array	70.10	331	P	P	12 28 08.9	+0.4
	0.6nm,0.7s,baz=152,slow=8.0,SNR=3.6						
U34A	Anderson Ranch	74.48	339	eP	P	12 28 34.8	+0.5
	3.6nm,0.5s						
DBIC	Dimbokro	75.89	71	P	P	12 28 43.2	+0.3
	1.4nm,0.6s,baz=210,slow=4.5,SNR=2.5						
ANMO	Albuquerque	76.16	332	eP	P	12 28 45.4	+1.1
	0.9nm,0.9s						
SDCO	Great Sand Dun	78.27	334	eP	P	12 28 55.5	-0.7
	0.8nm,0.8s						
PDAR	Pinedale Array	84.16	334	P	P	12 29 26.4	-0.9
	0.5nm,0.8s,baz=136,slow=5.6,SNR=2.6						
TORD	Torodi Ar. Bea	84.93	70	P	P	12 29 30.6	-0.9
	1.0nm,0.7s,baz=203,slow=6.3,SNR=3.3						
WRA	Warramunga Arr	119.90	210	PKP	PKPdf	12 35 45.8	-1.3
	0.5nm,0.5s,baz=162,slow=1.8,SNR=4.8						
BVAR	Borovoye Array	148.14	43	PKPbc	PKPbc	12 36 41.3	-0.1
	0.9nm,0.6s,baz=270,slow=4.3,SNR=3.6						

BJI 27 12:19:47.1, 25.80N×128.58E, h9km, mB5.3/14, mb4.8/41, Ms5.3/24, Ms7 5.2/22
ISCJB 27 12:19:48.6±0.8, 25.87N±0.02×128.46E±0.02, h7km±4km, mb5.0/133, MS5.2/8, Error ellipse: s-maj=4.2km s-min=2.7km az=142.5
IDC 27 12:19:48.4±0.5, 25.93N×128.62E, h0km, mb4.7/31, mb1 4.7/34, mb1mx4.6/49, mbtmp4.7/34, ML4.1/3, Error ellipse: s-maj=15.2km s-min=10.8km az=78.0
JMA 27 12:19:49.4±0.3, 25.92N×128.68E, h24km, M5.4
JMA Felt I J1.
MOS 27 12:19:52.4±1.5, 25.94N×128.50E, h33km, mb5.1/58, Error ellipse: s-maj=8.1km s-min=5.2km az=104.6
NEIC 27 12:19:54.5±0.3, 25.89N×128.37E, h35km, mb5.2/62, MW5.2(NIED), Error ellipse: s-maj=7.6km s-min=5.3km az=138.0
NEIC Felt [II] at Chatan, Ginowan and Okinawa, Okinawa. Also felt at Gushikawa, Ishikawa, Nishihara, Urasoe and Yomitan. Recorded [1 JMA] on Okinawa.
NIED 27 12:20:00, 25.90N×128.70E, h5km, Mw5.2 Best double couple: $M_0$6.75000×10^{16} NP1:φs91.00000°, δ52.00000°, λ32.00000°. NP2:φs340.00000°, δ66.00000°, λ137.00000°.
ISC 27 12:19:51.8±0.5, 25.98N±0.03×128.51E±0.03, h14km±2km, h14km:pP-P, n365, σ1.87/369, mb5.1/134, MS5.3/8, 30C-16D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.70	321	P	Pg	12 20 04.8	-0.6
JNTH				S	Sb	12 20 15.8	+0.6
JJT2	Tamagusuku 2	0.71	283	P	Pb	12 20 05.7	-0.1
JJT2				S	Sn	12 20 17.9	-0.1
JOW	Kunigami	0.88	346	P	Pb	12 20 07.8	-1.0
JOW				S	Sb	12 20 20.0	-0.4
JOW	Kunigami	0.88	346	Pn	Pb	12 20 07.8	-1.0
	80nm,0.3s,baz=143,slow=16,SNR=188						
JOW				Sn	Sg	12 20 21.4	+1.0
	292nm,0.3s,baz=150,slow=20,SNR=26						
JOW	Kunigami	0.88	346	ePn	Pb	12 20 07.9	-1.0
JOW				Sn	Sg	12 20 21.4	+1.0
JOW				eSn	Sn	12 20 22.2	-0.1
JIH	Iheya	1.16	335	P	Pn	12 20 12.2	-1.4
JIH				S	Sg	12 20 30.3	+0.9
JAGN	Aguni-jima	1.29	298	P	Pn	12 20 14.3	-1.1
JOKE	Okinoerabujima	1.38	2	P	Pn	12 20 14.9	-1.7
JKE	Kume jima 2	1.59	283	P	Pn	12 20 17.7	-1.8
JKE				S	Sn	12 20 38.9	-0.9
JTK	Tokunoshima	1.84	12	P	Pn	12 20 21.1	-1.9
JAMN	Amaminishikomi	2.33	15	P	Pn	12 20 27.8	-1.9
JMZ	Minamidaito 2	2.44	93	P	Pn	12 20 26.9	-4.3
JMZ				S	Sn	12 20 53.6	-7.3
JAM	Amami Oshima	2.62	22	P	Pn	12 20 31.3	-2.3
JAM				S	Sn	12 21 01.4	-3.7
JOGS	Gusukube	3.06	247	P	Pn	12 20 38.1	-1.6
JOGS				S	Sn	12 21 14.4	-1.7
JIKM	Ikemajima	3.13	251	P	Pn	12 20 39.1	-1.6
JIKM				S	Sn	12 21 16.0	-1.8
JMJ	Miyako jima 2	3.13	249	P	Pn	12 20 39.2	-1.5
JMJ				S	Sn	12 21 15.4	-2.5
JTAJ	Takarajima	3.23	11	P	Pn	12 20 40.2	-1.8
JTAJ				S	Sn	12 21 17.1	-3.0
JIRB	Irabujima	3.23	250	P	Pn	12 20 40.5	-1.5
JIRB				S	Sn	12 21 19.1	-1.2
JTJ	Tarama	3.70	250	P	Pn	12 20 47.7	-0.7
JTJ				S	Sn	12 21 29.3	-2.5
JNN	Nakanoshima	4.04	17	P	Pn	12 20 51.8	-1.3
JNN				S	Sn	12 21 36.8	-3.4
JISG	Ishigakijimahi	4.05	251	P	Pn	12 20 50.4	-2.9
JISG				S	Sn	12 21 36.7	-3.7
JIJ	Ishigaki jima	4.27	249	P	Pn	12 20 53.4	-3.0
JIJ				S	Sn	12 21 42.8	-3.2
JKRS	Kuro-shima	4.43	248	P	Pn	12 20 57.4	-1.2
JKRS				S	Sn	12 21 47.8	-2.2
HATJ	Hateruma jima	4.68	247	eS	Sn	12 21 52.7	-3.3
YOJ	Yonaguni jima	5.21	254	eP	Pn	12 21 07.2	-2.0
YOJ						12 22 06.5	
YOJ	Yonaguni jima	5.21	254	P	Pn	12 21 06.8	-2.4
YOJ	Yonaguni jima	5.21	254	ePn	Pn	12 21 07.2	-2.0
YOJ				S	Sn	12 22 06.5	-2.6
JYNG	Yonagunijimaku	5.27	254	P	Pn	12 21 07.9	-2.1
JYNG				S	Sn	12 22 05.7	-4.8
TATO	Taipei	6.43	263	ePn	Pn	12 21 24.0	-1.9
NACB	Ninganchiao	6.52	256	ePn	Pn	12 21 24.4	-2.9
YHNB	Yeheng	6.59	260	ePn	Pn	12 21 27.2	-1.0
YHNB				eSn	Sn	12 22 41.9	-1.3
YULB	Yu-li	7.05	250	ePn	Pn	12 21 31.2	-3.3
YULB				eSn	Sn	12 22 45.5	-9.0
SSLB	Suanglung	7.20	254	ePn	Pn	12 21 33.1	-3.6
SSLB				eSn	Sn	12 22 50.7	-7.6
JNU	Nakatsue	7.41	16	Pn	Pn	12 21 38.8	-0.8
	7.5nm,0.3s,baz=285,slow=1.0,SNR=75						
JNU				Sn	Sn	12 22 59.6	-3.9
	baz=229,slow=15						
JNU	Nakatsue	7.41	16	ePn	Pn	12 21 39.5	-0.1
JNU				eSn	Sn	12 23 00.1	-3.4
TWG	Pinlang	7.47	247	ePn	Pn	12 21 37.1	-3.2
TWG				eSn	Sn	12 22 55.4	-10
TPUB	Ta-pu	7.65	251	ePn	Pn	12 21 40.3	-2.5
TPUB				eSn	Sn	12 23 03.0	-6.4
NJ2	Nanjing	10.39	308	eP	Pn	12 22 20.4	+1.6
NJ2				S	Sn	12 24 18.0	+1.3
NJ2				pmax	pmax		
	comp=Z,40nm,0.7s						
NJ2				LR	LR		
	comp=N,4μm,19.0s						
NJ2				LR	LR		
	comp=E,4μm,18.0s						
KS01	Wonju Array Si	11.48	358	ePn	Pn	12 22 37.1	+1.9
WHN	Wuhan	13.28	293	P	P	12 23 10.5	+0.8
WHN				pP	pP	12 23 21.0	
MAJO	Matsushiro	13.40	36	eP	Pn	12 23 02.7	+1.2
MAJO				pmax	pmax		
	comp=Z,412nm,1.9s						
MAJO	Matsushiro	13.40	36	ePn	Pn	12 23 02.7	+1.2
	comp=Z,412nm,1.9s						
MAT	Matsushiro	13.40	36	P	P	12 23 13.6	+2.7
MAT				eS	S	12 25 58.2	+4.1
MJAR	Matsushiro Arr	13.40	36	P	Pn	12 23 01.2	-0.3
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	13.40	36	Pn	Pn	12 23 01.2	-0.3
	comp=Z,0.5nm,0.3s,baz=239,slow=14,SNR=8.4						
DL2	Dalian	14.14	337	P	P	12 23 20.0	+0.9
DL2				pmax	pmax		
	comp=Z,68nm,1.6s						
SNY	Shenyang	16.33	347	⇑PKP	P	12 23 44.0	+0.6

ENH Enshi 17.32 289 ePn P 12 23 59.0 +4.5
comp=Z,22nm,1.1s
VLA Vladivostok 17.32 8⇑iP Pn 12 23 53.8 +0.7
VLA eS Sn 12 27 04.7 -0.9
BJT Baijiatuau 17.39 327 eP P 12 23 56.0 +0.8
BJT pmax pmax
comp=Z,45nm,0.7s
BJT Baijiatuau 17.39 327 eP P 12 23 56.0 +0.8
comp=Z,45nm,0.7s
BJI Beijing 17.40 327 P P 12 23 56.3 +1.0
BJI pmax pmax
comp=Z,30nm,1.0s
CN2 Changchun 17.96 353 eP P 12 24 02.0 +0.5
CN2 eS Sn 12 27 20.0 -1.0
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 LR LR
comp=Z,4μm,15.0s
CN2 LR LR
comp=Z,8μm,15.0s
CN2 LR LR
comp=Z,11μm,18.0s
USRK Ussuriysk Arra 18.40 8 P Pn 12 24 06.8 +0.4
comp=Z,1.1nm,0.3s,baz=187,slow=6.3,SNR=18
QIZ Qiongzhong 18.57 252 P Pn 12 24 08.6 -0.1
comp=Z,40nm,0.9s
MDJ Mudanjiang 18.62 2 P Pn 12 24 12.0 +3.0
XAN Xi'an 18.75 300 P P 12 24 10.3 -0.1
XAN sP sP 12 24 17.3 +1.0
XAN pmax pmax
comp=Z,17nm,0.8s
GYA Guiyang 19.61 276⇑iP Pn 12 24 21.8 +0.5
GYA PP PnPn 12 24 39.5 +4.7
GYA S S 12 27 55.0 -6.0
GYA SS SnSn 12 28 21.5 +6.0
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,670nm,15.8s
GYA LR LR
comp=Z,560nm,16.0s
GYA LR LR
comp=Z,680nm,14.6s
ERM Erimo 20.04 33 eP Pn 12 24 26.1 +0.1
ERM pmax pmax
comp=Z,45nm,1.0s
ERM Erimo 20.04 33 eP Pn 12 24 26.1 +0.1
comp=Z,45nm,1.0s
HHC Hu-ho-hao-te 20.45 321 eP P 12 24 28.0 -0.9
HHC pP pP 12 24 33.0 +0.1
HHC S S 12 28 09.5 -7.9
HHC pmax pmax
comp=Z,33nm,0.7s
ASAJ Asahikawa 21.41 29 P P 12 24 38.4 -0.7
ASAJ pmax pmax
comp=Z,8.0nm,0.7s
ASAJ Asahikawa 21.41 29 P P 12 24 38.4 -0.7
comp=Z,8.4nm,0.7s,baz=196,slow=15,SNR=2.1
CD2 Chengdu 22.30 288 eP P 12 24 49.0 +0.2
CD2 pP pP 12 24 53.3 +0.4
CD2 sP sP 12 24 56.0 +1.2
CD2 PP PnPn 12 25 15.5 +4.0
CD2 S S 12 28 48.5 -5.3
CD2 sS sS 12 28 55.0 -5.6
CD2 SS SnSn 12 29 28.0 +6.6
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,420nm,5.6s
CD2 LR LR
comp=Z,7μm,12.7s
CD2 LR LR
comp=Z,15μm,18.6s
CD2 LR LR
comp=Z,13μm,15.7s
MYLDM Lahad Datu 22.79 207 ⇑P P 12 24 59.7 +5.6
YUK Yuzh-Kuril'sk 22.86 34⇓eP P 12 24 56.1 +1.5
SDKM Sandakan 22.93 210 ⇓P P 12 24 59.3 +3.6
HABR Khabarovsk 23.04 11 eP P 12 24 55.5 -0.9
HABR e*SP sP 12 24 59.8 -2.6
HABR ePPP PPP 12 25 27.9
HABR e 12 28 45.0
HABR eS S 12 29 06.8 +0.2
HABR e 12 36 09.0
HABR pmax pmax
comp=N,14nm,1.4s
HABR pmax pmax
comp=Z,39nm,1.4s
HABR pmax pmax
comp=E,5.0nm,0.6s
HABR MLR MLR
comp=Z,5μm,19.0s
KKM Kota Kinabalu 23.04 213 ⇑P P 12 25 00.1 +3.3
KMI Kunming 23.26 274 P P 12 25 00.0 +0.8
KMI sP sP 12 25 09.3 +4.1
KMI pmax pmax
comp=Z,78nm,1.0s
KLR Kul'dur 23.35 5 eP P 12 24 55.8 -3.8
KLR pmax pmax
comp=Z,80nm,1.6s
LZH Lanzhou 23.36 302 ⇑P P 12 24 59.3 -0.7
LZH pP pP 12 25 01.5 -2.7
LZH sP sP 12 25 03.0 -3.1
LZH PP PnPn 12 25 31.8 +5.7
LZH pmax pmax
comp=Z,51nm,1.0s
LZH pmax pmax
comp=Z,260nm,5.0s
YSS Yuzh-Sakhalins 23.79 25⇑iP P 12 25 04.8 +0.9
YSS e 12 25 19.3
YSS pmax pmax
comp=N,130nm,1.1s
YSS pmax pmax
comp=Z,250nm,1.1s
YSS MLR MLR
comp=Z,8μm,19.0s
YSS Yuzh-Sakhalins 23.79 25 eP P 12 25 04.8 +0.9
comp=Z,239nm,1.0s
UBPT Khong Chiam 24.01 248 P P 12 25 09.9 +3.7
comp=Z,51nm,1.7s
CRAI Chiangrai 26.48 263 P P 12 25 31.6 +2.9
comp=Z,147nm,1.3s
BTM Bintulu 27.06 216 ⇓P P 12 25 39.6 +5.6
UTTA Uttaradit 27.17 258 P P 12 25 40.0 +5.1
comp=Z,7.9nm,0.8s
PBKT Sadao Pong 27.27 255 P P 12 25 40.0 +4.2
comp=Z,37nm,0.8s
GTA Gaotai 27.49 306 eP P 12 25 35.5 -2.3
GTA pP pP 12 25 40.0 -2.1
GTA sP sP 12 25 42.5 -1.4
GTA pmax pmax
comp=Z,19nm,0.8s
ULN Ulaanbaatar 27.61 328⇑iP P 12 25 39.1 +0.3
ULN pmax pmax
comp=Z,57nm,1.7s
ULN Ulaanbaatar 27.61 328 eP P 12 25 38.6 -0.2
comp=Z,23nm,0.8s
LAMP Lampang 27.70 260 P P 12 25 41.9 +2.2
comp=Z,20nm,0.8s,comp=Z,152nm
CMAI Chiengmai2 27.75 264 P P 12 25 44.3 +3.9
comp=Z,25nm,0.8s
SONM Songino Array 27.90 327 P P 12 25 41.9 +0.5
SONM pmax pmax
comp=Z,14nm,0.6s
SONM Songino Array 27.90 327 P P 12 25 41.9 +0.5
comp=Z,14nm,0.6s,baz=142,slow=11,SNR=34
SONA1 Songino Array 27.91 327 eP P 12 25 40.8 -0.7
SBUM Sibu 28.15 216 eP P 12 25 46.3 +2.6
comp=Z,26nm,1.1s
SBUM Sibu 28.15 216 ⇓P P 12 25 47.2 +3.5
CMMT Chiang Mai 28.20 261 P P 12 25 46.5 +2.3
comp=Z,88nm,1.0s
CHTO Chiang Mai 28.21 261 P P 12 25 45.2 +1.0
CHTO pmax pmax
comp=Z,37nm,0.8s
CHTO Chiang Mai 28.21 261 P P 12 25 46.6 +2.3
comp=Z,230nm,1.2s
CHTO Chiang Mai 28.21 261 P P 12 25 45.2 +1.0
comp=Z,37nm,0.8s
CM01 Chiang Mai Arr 28.33 261 eP P 12 25 48.0 +2.6
CMAR Chiang Mai Arr 28.33 261 P P 12 25 45.4 0.0
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 28.33 261 P P 12 25 45.4 0.0
comp=Z,7.5nm,0.8s,baz=52,slow=7.8,SNR=16
MHMT Maesarieng 29.33 261 P P 12 26 08.1 +14
KSM Kuching 30.01 219 eP P 12 26 00.1 -0.1
comp=Z,55nm,1.0s
KSM Kuching 30.01 219 ⇑P P 12 26 04.1 +3.8
TLY Talaya 31.86 330 eP P 12 26 10.1 -6.1
TLY pmax pmax
comp=Z,7.0nm,1.4s
SURT Suratani 32.89 244 P P 12 26 29.9 +4.3
comp=Z,19nm,0.9s
LSA Lhasa 33.15 285 eP P 12 26 29.3 +0.9
LSA pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 33.15 285 eP P 12 26 29.3 +0.9
comp=Z,15nm,0.8s
MYKOM Kota Tinggi 33.78 229 ⇓P P 12 26 37.2 +3.8
IPM Ipoh 33.91 236 eP P 12 26 34.7 +0.1
comp=Z,31nm,1.4s
IPM Ipoh 33.91 236 ⇑P P 12 26 37.7 +3.2
KGM Kluang 33.98 230 ⇑P P 12 26 37.9 +2.8
PETK Petropavlovsk- 34.78 31 P P 12 26 39.2 -2.5
PETK pmax pmax
comp=Z,10.0nm,1.0s
PETK Petropavlovsk- 34.78 31 P P 12 26 39.1 -2.5
comp=Z,10nm,1.0s,baz=236,slow=10,SNR=4.4
PET Petropavlovsk 35.18 32 eP P 12 26 38.1 -6.9
PET i 12 26 47.5
PET pmax pmax
comp=Z,20nm,0.8s
YAK Yakutsk 36.06 1 eP P 12 26 50.5 -2.0
YAK pmax pmax
comp=Z,103nm,1.1s
YAK pmax pmax
comp=N,69nm,1.4s
YAK pmax pmax
comp=E,19nm,1.5s
YAK Yakutsk 36.06 1 eP P 12 26 51.3 -1.2
comp=E,92nm,0.9s
BATI Baumata 36.27 188 P P 12 26 51.5 -3.3
comp=E,36nm,0.8s,baz=350,slow=12,SNR=3.6
TAPN Taplejung 36.38 281 eP P 12 26 54.7 -1.4
comp=E,89nm,0.9s
HVS Khovu-Aksy 36.49 323⇑eP P 12 26 56.6 +0.1
HVS pmax pmax
comp=Z,48nm,1.5s
ODAN Odare 36.73 281 eP P 12 26 57.8 -1.2
comp=Z,290nm,0.8s
RAMN Ramite 37.41 281 eP P 12 27 03.5 -1.3
comp=Z,71nm,0.8s
WMQ Urumqi 37.47 309 P P 12 27 04.0 -0.9
WMQ pP pP 12 27 08.5 -0.9
WMQ sP sP 12 27 11.0 -0.2
WMQ PP PnPn 12 28 31.8 +0.7
WMQ PcP PcP 12 29 23.3 +0.1
WMQ pmax pmax
comp=Z,45nm,0.9s
WMQ pmax pmax
comp=Z,340nm,10.8s
WMQ LR LR
comp=Z,860nm,13.4s
WMQ LR LR
comp=Z,720nm,15.6s
WMQ LR LR
comp=Z,480nm,18.4s
JIRN Jiri 37.68 282 eP P 12 27 06.4 -0.8
comp=Z,60nm,0.7s
GUN Gumba 37.92 283 eP P 12 27 08.3 -0.9
comp=Z,128nm,0.8s
PKI Pulchoki 38.38 282 eP P 12 27 11.5 -1.6
comp=Z,143nm,0.9s
PKIN Phulchoki 38.38 282 eP P 12 27 12.3 -0.8
comp=Z,40nm,0.4s
KKN Kakani 38.46 283 eP P 12 27 12.4 -1.2
comp=Z,160nm,0.9s
DMN Daman 38.64 282 eP P 12 27 13.7 -1.5
comp=Z,156nm,1.0s
GKN Gorkha 38.99 283 eP P 12 27 16.7 -1.4
comp=Z,205nm,0.8s
PMG Port Moresby 39.57 150 P P 12 27 21.6 -1.1
PMG pmax pmax
comp=Z,3.0nm,0.6s
PMG Port Moresby 39.57 150 P P 12 27 21.6 -1.1
comp=Z,2.9nm,0.6s,baz=300,slow=8.1,SNR=3.1
DANN Dangsing 39.72 284 eP P 12 27 23.3 -1.0
comp=Z,231nm,0.6s
KOLN Koldanda 39.94 283 eP P 12 27 24.8 -1.2
comp=Z,170nm,0.9s
SEY Seymchan 40.19 17 P P 12 27 26.9 -0.4
SEY pmax pmax
comp=Z,5.0nm,0.6s
SEY Seymchan 40.19 17 P P 12 27 26.9 -0.4
comp=Z,5.4nm,0.6s,baz=220,slow=7.1,SNR=15
MK31 Makanchi Array 41.89 312 eP P 12 27 38.7 -2.9
MK31 Makanchi Array 41.89 312 eP P 12 27 38.7 -2.9
MKAR Makanchi Array 41.89 312 P P 12 27 39.4 -2.3
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 41.89 312 P P 12 27 39.4 -2.3
comp=Z,8.8nm,0.7s,baz=98,slow=6.0,SNR=27
ZAA0 Zalesovo Array 42.60 323 eP P 12 27 46.0 -1.2
ZALV Zalesovo Beam 42.60 323 P P 12 27 44.9 -2.4
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 42.60 323 P P 12 27 44.9 -2.4
comp=Z,5.1nm,0.6s,baz=112,slow=8.4,SNR=12
FITZ Fitzroy Crossi 43.90 184 eP P 12 27 57.4 -0.7
comp=Z,42nm,1.3s
KURK Kurchatov 45.18 317 P P 12 28 07.1 -0.9
comp=Z,52nm,1.1s,SNR=5.3
KURK Kurchatov 45.18 317 eP P 12 28 06.6 -1.4
KURK pmax pmax
comp=Z,66nm,2.0s
KURK Kurchatov 45.18 317 eP P 12 28 06.6 -1.4
comp=Z,66nm,2.0s
KSH Kashi 45.61 301 eP P 12 28 14.5 +2.7
KSH epP pP 12 28 20.3 +4.0
KSH esP sP 12 28 21.5 +3.4
KSH ePP PP 12 30 00.0 +1.5
KSH ePcS PcS 12 33 44.8 +0.5
KSH eS S 12 34 56.5 +2.5
KSH eSS ScS 12 38 12.5 +4.5
KSH pmax pmax
comp=Z,64nm,2.0s
KSH pmax pmax
comp=Z,340nm,9.1s
KSH LR LR
comp=Z,620nm,14.5s
KSH LR LR
comp=Z,1μm,17.3s
KSH LR LR
comp=Z,5μm,35.1s
TIXI Tiksi 45.71 0⇑iP P 12 28 12.1 +0.2
TIXI pmax pmax
comp=Z,25nm,1.7s
WRAB Tennant Creek 45.98 172 P P 12 28 12.0 -2.7
comp=Z,198nm,0.8s,SNR=11
WRAB Tennant Creek 45.98 172⇓iP P 12 28 17.0 +2.3
WRAB pmax pmax
comp=Z,35nm,0.9s
WRAB Tennant Creek 45.98 172 eP P 12 28 12.9 -1.7
comp=Z,26nm,0.8s
WRA Warramunga Arr 45.99 172 P P 12 28 12.8 -1.9
WRA pmax pmax
comp=Z,11nm,0.7s
WRA Warramunga Arr 45.99 172 P P 12 28 12.8 -1.9
comp=Z,11nm,0.7s,baz=353,slow=8.4,SNR=68
TKM2 Tokmak 2 46.03 305 eP P 12 28 15.7 +0.6
TKM2 pmax pmax
comp=Z,23nm,0.8s
TKM2 Tokmak 2 46.03 305 eP P 12 28 15.7 +0.6
comp=Z,22nm,0.8s
AAK Ala-Archa 46.82 305⇑iP P 12 28 21.8 +0.5
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 46.82 305 P P 12 28 21.2 -0.1
comp=Z,3.7nm,0.7s,baz=126,slow=5.4,SNR=5.5
HYB Hyderabad 46.96 270 i PKP P 12 28 23.5 +0.9
BILL Bilibino 47.83 18⇓iP P 12 28 30.1 +1.5
BILL e 12 29 57.4
BILL eS S 12 35 27.9 +3.1
BILL eSS SnSn 12 39 55.7 +17
BILL pmax pmax
comp=Z,22nm,1.2s
BILL MLR MLR
comp=Z,3μm,19.0s
BILL Bilibino 47.83 18 eP P 12 28 29.7 +1.1
comp=Z,22nm,1.1s
CTA Charters Tower 48.92 158 P P 12 28 36.4 -1.2
CTA pmax pmax
comp=Z,6.0nm,0.7s
CTA Charters Tower 48.92 158 P P 12 28 36.4 -1.2
comp=Z,5.7nm,0.7s,baz=327,slow=9.4,SNR=8.0
PALK Pallekele 49.12 256 P P 12 28 38.7 -0.6
PALK pmax pmax
comp=Z,9.0nm,0.7s
PALK Pallekele 49.12 256 P P 12 28 38.7 -0.6
comp=Z,9.1nm,0.7s,baz=49,slow=7.9,SNR=4.2
AS31 Alice Springs 49.62 174 eP P 12 28 41.5 -1.4
AS01 Alice Springs 49.63 173 eP P 12 28 40.7 -2.2
KKAR Karatay Array 49.76 306 eP P 12 28 42.8 -1.0
KKAR pmax pmax
comp=Z,10.0nm,0.7s
KKAR Karatay Array 49.76 306 eP P 12 28 42.8 -1.0
comp=Z,9.7nm,0.7s
VOSK Vostochnaya 50.23 318 eP P 12 28 48.0 +0.7
VOSK pmax pmax
comp=Z,12nm,0.8s
VOSK Vostochnaya 50.23 318 eP P 12 28 48.0 +0.7
comp=Z,12nm,0.8s
BVAR Borovoye Array 50.63 318 P P 12 28 49.5 -0.7
BVAR pmax pmax
comp=Z,6.0nm,0.6s
BVAR Borovoye Array 50.63 318 P P 12 28 49.5 -0.7
comp=Z,6.1nm,0.6s,baz=90,slow=8.9,SNR=18
BRVK Borovoye 50.70 318 P P 12 28 50.8 +0.1
comp=Z,109nm,0.9s,SNR=7.1
BRVK Borovoye 50.70 318⇓iP P 12 28 51.1 +0.4
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 50.70 318 eP P 12 28 50.5 -0.3
comp=Z,39nm,0.8s
POO Poona 50.83 273 eP P 12 28 50.0 -2.3
KBL Kabul 51.44 295 eP P 12 28 55.7 -1.2
KBL e 12 30 11.3
KBL pmax pmax
comp=Z,45nm,0.8s
KBL Kabul 51.44 295 eP P 12 28 55.7 -1.2
comp=Z,45nm,0.8s
KBL ePcP PcP 12 30 11.3 0.0
GAMB Gambell 53.74 28 eP P 12 29 14.5 +1.4
comp=Z,21nm,1.4s
TNA Tin City 55.75 27 eP P 12 29 28.2 +0.5
comp=Z,23nm,1.1s
SVE Sverdlovsk 56.62 322 eP P 12 29 34.1 +0.1
SVE pmax pmax
comp=Z,24nm,1.0s
ABKAR Akbulak array 57.01 313 eP P 12 29 37.0 +0.1
comp=Z,14nm,0.6s
ARU Arti 57.75 322d iP P 12 29 42.5 +0.5
ARU 12 31 47.3
ARU S S 12 37 40.9 +0.5
ARU pmax pmax
comp=Z,25nm,1.7s
ARU Arti 57.75 322 eP P 12 29 40.7 -1.3
comp=Z,15nm,0.8s
AKTO Aktyubinsk 58.19 315 P P 12 29 44.7 -0.6
AKTO pmax pmax
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 58.19 315 P P 12 29 44.6 -0.6
comp=Z,5.3nm,0.7s,baz=99,slow=7.9,SNR=9.4
STKA Stephens Creek 58.87 167 P P 12 29 47.9 -2.2
STKA pmax pmax
comp=Z,2.0nm,0.5s
STKA Stephens Creek 58.87 167 P P 12 29 47.9 -2.2
comp=Z,2.1nm,0.5s,baz=350,slow=5.1,SNR=8.1
GEYT Alibeck 59.64 300 P P 12 29 55.2 -0.4
comp=Z,8.9nm,0.6s,baz=63,slow=3.3,SNR=10.0
IM04 Indian Mountai 61.58 27 eP P 12 30 09.9 +1.6
PPLA Purkeypile 62.37 31 eP P 12 30 12.1 -1.7
comp=Z,31nm,1.3s
SPU Mount Spurr 62.55 32 eP P 12 30 17.4 +2.5
KTH Kantishna Hill 62.90 30 eP P 12 30 19.7 +2.4
comp=Z,20nm,1.2s
TRF Thorofare Moun 63.19 30 eP P 12 30 22.6 +3.2
comp=Z,20nm,1.3s
MCK McKinley 63.77 29 eP P 12 30 22.9 0.0
MCK pmax pmax
comp=Z,16nm,0.9s
MCK McKinley 63.77 29 eP P 12 30 22.9 0.0
comp=Z,16nm,0.9s
COLA College 64.12 28⇑eP P 12 30 26.4 +1.2
COLA pmax pmax
comp=Z,28nm,1.1s
COLA College 64.12 28 eP P 12 30 26.0 +0.8
comp=Z,91nm,2.4s
PRGR Permogore 64.15 328 eP P 12 30 23.2 -2.2
PRGR 12 30 57.3
PRGR pmax pmax
comp=Z,5.0nm,0.3s
ILAR Eielson Array 64.54 28 P P 12 30 25.9 -2.1
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR Eielson Array 64.54 28 P P 12 30 25.9 -2.1
comp=Z,1.6nm,0.7s,baz=263,slow=4.9,SNR=22
PAX Paxson 65.42 30 eP P 12 30 33.5 -0.3
PAX pmax pmax
comp=Z,33nm,1.7s
PAX Paxson 65.42 30 eP P 12 30 33.5 -0.3
comp=Z,33nm,1.7s
DIV Divide 65.58 32 eP P 12 30 37.4 +2.5
comp=Z,49nm,1.5s
DOT Dot Lake 65.93 29 eP P 12 30 36.2 -0.8
comp=Z,9.1nm,0.8s
BMRM Bremner River 66.16 32 eP P 12 30 40.2 +1.5
comp=Z,40nm,1.5s
MENT Mentasta 66.21 30 eP P 12 30 39.0 +0.1
RAGM Ragged Mountai 66.24 33 eP P 12 30 35.5 -3.6
comp=Z,322nm,2.8s
EGAK Eagle 66.96 28 eP P 12 30 45.1 +1.5
comp=Z,8.9nm,1.1s
TMCR Tamitsa 67.15 332 eP P 12 30 44.1 -0.7
TMCR pmax pmax
comp=Z,22nm,0.9s
KLMR Klimovskoe 67.20 328 eP P 12 30 43.7 -1.4
KLMR pmax pmax
comp=Z,39nm,2.0s
DAWY Dawson 67.87 28 eP P 12 30 50.1 +0.7
APA Apatity 68.19 336⇓iP P 12 30 53.0 +1.7
APA MLR MLR
comp=Z,2μm,22.0s
VRHR Novokhopersk 68.35 317 eP P 12 30 51.0 -1.6
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.8s
GOF Gofitskoye 69.04 311 eP P 12 30 58.1 +1.1
ZEI Tsey 69.08 308 eP P 12 30 55.5 -2.1
ZEI pmax pmax
comp=Z,40nm,1.3s
GNI Garni 69.23 305 P P 12 31 00.4 +1.9
GNI pmax pmax
comp=Z,20nm,1.5s
GNI Garni 69.23 305 P P 12 30 60.0 +1.5
comp=Z,2.3nm,0.4s,baz=59,slow=11,SNR=4.4
KBZ Khabaz 69.52 310 P P 12 30 59.8 -0.1
KBZ pmax pmax
comp=Z,19nm,0.8s
KBZ Khabaz 69.52 310 P P 12 30 59.8 -0.1
comp=Z,19nm,0.8s,baz=92,slow=2.2,SNR=29
HYT Haines Junctio 69.57 31 eP P 12 31 02.2 +2.0
KIV Kislovodsk 69.60 310 eP P 12 31 01.1 +0.5
KIV pmax pmax
comp=Z,101nm,1.4s
KIV Kislovodsk 69.60 310 eP P 12 31 01.1 +0.5
comp=Z,101nm,1.4s
VORD Divnogorie 69.81 318 eP P 12 31 00.4 -1.2
VORD pmax pmax
comp=N,50nm,0.6s
VORD pmax pmax
comp=E,90nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 69.81 318 eP P 12 30 59.4 -2.2
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,0.9s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	Obninsk	70.18	322	P	P	12 31 03.8	0.0
OBN				e		12 31 14.6	
OBN						12 31 22.5	
OBN				pmax	pmax		
	comp=Z,28nm,1.2s						
OBN				MLR	MLR		
	comp=Z,3µm,19.0s						
OBN	Obninsk	70.18	322	P	P	12 31 03.5	-0.4
	comp=Z,13nm,0.4s,baz=195,slow=22,SNR=3.2						
ARCES	ARCESS Array B	70.33	339	P	P	12 31 05.7	+1.1
ARCES				pmax	pmax		
	comp=Z,12nm,1.0s						
ARCES	ARCESS Array B	70.33	339	P	P	12 31 05.7	+1.1
	comp=Z,12nm,1.0s,baz=29,slow=10,SNR=7.9						
ANN	Anapa	72.91	312	eP	P	12 31 20.8	+0.3
ANN				pmax	pmax		
	comp=Z,86nm,1.3s						
FIA1	FINESS Array S	73.21	331	eP	P	12 31 22.9	+0.9
FINES	FINESS Array B	73.21	331	P	P	12 31 21.1	-0.9
FINES				pmax	pmax		
	comp=Z,10.0nm,0.7s						
FINES	FINESS Array B	73.21	331	P	P	12 31 21.1	-0.9
	comp=Z,9.7nm,0.7s,baz=72,slow=6.2,SNR=22						
VSU	Vasula	74.10	328	⇓eP	P	12 31 27.7	+0.5
VSU				pmax	pmax		
	comp=Z,68nm,0.8s						
RAYN	Ar Rayn	74.13	289	eP	P	12 31 28.3	+0.1
	comp=Z,23nm,1.2s						
MALT	Malatya	74.46	305	⇑iP	P	12 31 30.2	+0.3
SIM	Simferopol'	75.07	313	iP	P	12 31 33.5	+0.4
SIM				pmax	pmax		
	comp=Z,27nm,1.0s						
IDID	Didziasalis	75.38	325	eP	P	12 31 34.8	+0.1
IDID				AMB	AMB	12 31 36.8	
	comp=Z,11nm,1.3s						
NACGM	Naroch	75.53	324	e	P	12 31 34.0	-1.6
DAG	Danmarks Havn	75.54	353	iP	P	12 31 34.4	-0.9
DAG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DAG	Danmarks Havn	75.54	353	iP	P	12 31 34.4	-0.9
	comp=Z,3.4nm,0.9s						
ISAL	Salakas	75.59	325	eP	P	12 31 36.1	+0.2
ISAL				AMB	AMB	12 31 38.2	
	comp=Z,8.7nm,1.7s						
IIGN	Ignalina	75.63	325	eP	P	12 31 36.7	+0.6
IIGN				AMB	AMB	12 31 37.8	
	comp=Z,6.9nm,1.5s						
RES	Resolute Bay	75.75	11	eP	P	12 31 36.9	+0.4
RES				pmax	pmax		
	comp=Z,15nm,0.7s						
RES	Resolute Bay	75.75	11	eP	P	12 31 36.9	+0.4
	comp=Z,15nm,0.7s						
AKASG	Malin Array Be	75.89	320	P	P	12 31 36.3	-1.4
AKASG				pmax	pmax		
	comp=Z,14nm,0.6s						
AKASG	Malin Array Be	75.89	320	P	P	12 31 36.3	-1.4
	comp=Z,14nm,0.6s,baz=57,slow=6.1,SNR=36						
AKBB	Malin Array Si	75.89	320	eP	P	12 31 36.1	-1.6
AKBB	Malin Array Si	75.89	320	eP	P	12 31 36.1	-1.6
AK01	Malin Array Si	75.90	320	eP	P	12 31 36.2	-1.5
KIEV	Kiev	75.90	320	iP	P	12 31 39.2	+1.4
KIEV	Kiev	75.90	320	eP	P	12 31 36.5	-1.3
	comp=Z,17nm,0.7s						
AK02	Malin Array Si	75.92	320	eP	P	12 31 36.3	-1.6
AK11	Malin Array Si	75.93	320	eP	P	12 31 37.1	-0.8
BRTR	Keskin Array B	77.39	308	P	P	12 31 46.1	-0.5
BRTR				pmax	pmax		
	comp=Z,12nm,0.8s						
BRTR	Keskin Array B	77.39	308	P	P	12 31 46.1	-0.5
	comp=Z,12nm,0.8s,baz=100,slow=4.6,SNR=30						
SUW	Suwalki	77.81	324	eP	P	12 31 48.4	-0.1
SUW	Suwalki	77.81	324	eP	P	12 31 48.3	-0.2
ASF	Jabal al Asfar	77.92	300	P	P	12 31 50.1	+0.5
ASF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ASF	Jabal al Asfar	77.92	300	P	P	12 31 50.1	+0.5
	comp=Z,5.9nm,0.8s,baz=39,slow=13,SNR=2.1						
ANTO	Ankara	77.93	308	⇑iP	P	12 31 52.0	+2.4
YKA	Yellowknife Ar	78.65	25	P	P	12 31 52.2	-0.8
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	Yellowknife Ar	78.65	25	P	P	12 31 52.2	-0.8
	comp=Z,2.2nm,0.6s,baz=300,slow=5.5,SNR=26						
MMAI	Mount Meron Ar	78.74	301	P	P	12 31 55.3	+1.1
	comp=Z,3.8nm,0.7s,baz=65,slow=8.1,SNR=2.2						
VRI	Vrincioaia	79.45	316	⇑iP	P	12 31 58.4	+0.7
PLOR	Plostina	79.50	316	⇓iP	P	12 31 58.5	+0.4
MSAB	Monastry St. A	79.53	314	⇑iP	P	12 31 58.3	+0.2
BUR08	Bucovina Ar. S	79.58	318	eP	P	12 31 57.6	-0.9
BURAR	Bucovina Array	79.59	318	⇑iP	P	12 31 57.8	-0.8
BUR04	Bucovina Ar. S	79.59	318	eP	P	12 31 58.1	-0.5
NB2	NORSAR Subarra	79.65	334	P	P	12 31 56.8	-1.8
	comp=Z,7.9nm,0.7s,baz=54,slow=5.6						
NOA	NORSAR Array B	79.65	334	P	P	12 31 57.0	-1.6
NOA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NOA	NORSAR Array B	79.65	334	P	P	12 31 57.0	-1.6
	comp=Z,7.7nm,0.9s,baz=52,slow=5.6,SNR=15						
ISR	Istrita	79.89	315	⇑iP	P	12 32 03.1	+2.9
MLR	Muntele Rosu	80.10	316	P	P	12 32 00.8	-0.7
MLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MLR	Muntele Rosu	80.10	316	⇑iP	P	12 32 01.1	-0.4
MLR	Muntele Rosu	80.10	316	P	P	12 32 00.8	-0.7
	comp=Z,2.6nm,0.9s,baz=355,slow=11,SNR=5.4						
KWP	Kalwaria Pacla	80.12	321	eP	P	12 32 02.1	+0.8
KWP	Kalwaria Pacla	80.12	321	eP	P	12 32 02.1	+0.8
KWP	Kalwaria Pacla	80.12	321	⇓iP	P	12 32 02.1	+0.8
KWP	Kalwaria Pacla	80.12	321	eP	P	12 32 01.9	+0.6
	comp=Z,28nm,1.0s						
PRD	Provadia	80.20	313	eP	P	12 32 04.4	+2.6
DOPR	Dopca	80.23	316	⇑iP	P	12 32 02.9	+0.9
NEF	NEVSHA	80.25	313	eP	P	12 32 07.6	+5.5
KOLS	Kolonicke sedl	80.71	320	eP	P	12 32 07.7	+3.2
KOLS	Kolonicke sedl	80.71	320	e	P	12 32 07.7	+3.2
UZH	Uzhgorod	80.84	320	eP	P	12 32 05.9	+0.7
UZH				e		12 32 17.9	
TRPA	Tarpa	80.94	319	⇓iP	P	12 32 05.5	-0.2
ARR	Arges	80.98	316	⇓iP	P	12 32 06.1	0.0
CRVS	Cervenica-Dubn	81.19	320	eP	P	12 32 11.7	+4.6
CRVS	Cervenica-Dubn	81.19	320	ePCP	P	12 32 11.7	+4.6
SUMG	Summit	81.31	356	eP	P	12 32 09.8	+2.1
SUMG				pmax	pmax		
	comp=Z,26nm,0.8s						
SUMG	Summit	81.31	356	iP	P	12 32 09.7	+2.1
	comp=Z,25nm,0.9s						
SUMG	Summit	81.31	356	eP	P	12 32 09.8	+2.1
	comp=Z,26nm,0.8s						
OJC	Ojcow	81.47	322	eP	P	12 32 09.8	+1.3
OJC				pmax	pmax		
	comp=Z,162nm,2.3s						
OJC	Ojcow	81.47	322	eP	P	12 32 09.8	+1.3
	comp=Z,162nm,2.3s						
LOT	Lotru	81.48	316	⇑iP	P	12 32 08.2	-0.6
DRGR		81.48	318	⇑iP	P	12 32 08.7	0.0
GZR	Gura Zlata	82.12	317	⇑iP	P	12 32 12.1	0.0
PSZ	Piszkesteto	82.59	320	⇓iP	P	12 32 16.3	+1.8
MORC	Moravsky Berou	82.94	322	eP	P	12 32 14.3	-2.0
MORC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MORC	Moravsky Berou	82.94	322	⇑iP	P	12 32 19.3	+3.0
MORC	Moravsky Berou	82.94	322	eP	P	12 32 14.3	-2.0
	comp=Z,9.2nm,1.0s						
KSP	Ksiaz	83.05	324	eP	P	12 32 17.8	+1.1
KSP	Ksiaz	83.05	324	eP	P	12 32 18.4	+1.7
MUD	Monsted U'grnd	83.25	331	iP	P	12 32 20.8	+3.2
MUD				pmax	pmax		
	comp=Z,15nm,1.0s						
MUD	Monsted U'grnd	83.25	331	iP	P	12 32 20.8	+3.2
	comp=Z,15nm,1.0s						
MMB	Musomiste	83.35	313	eP	P	12 32 11.0	-7.6
D05A	Enumclaw	83.47	40	eP	P	12 32 23.4	+4.4
	comp=Z,50nm,1.4s						
SMOL	Smolenice	83.68	321	eP	P	12 32 25.7	+5.6
SMOL	Smolenice	83.68	321	ePCP	P	12 32 25.7	+5.6
VRAC	Vranov	83.72	322	⇑iP	P	12 32 22.3	+2.1
BRG	Berggiesshubel	84.27	325	eP	P	12 32 26.4	+3.4
	comp=Z,8.4nm,1.1s						
BRG				e		12 32 35.3	
	comp=Z,18nm,1.5s						
BRG	Berggiesshubel	84.27	325	eP	P	12 32 26.4	+3.4
BRG				e		12 32 35.3	
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BRG				pmax	pmax		
	comp=Z,18nm,1.5s						
CLL	Collm	84.50	325	eP	P	12 32 26.7	+2.5
CLL				pmax	pmax		
	comp=Z,14nm,0.7s						
CLL	Collm	84.50	325	eP	P	12 32 25.0	+0.8
CLL				⇑iP(2)		12 32 26.9	
	comp=Z,12nm,0.9s						
CLL				i		12 32 29.9	
CLL				i sP	sP	12 32 37.5	+6.8
CLL	Collm	84.50	325	eP	P	12 32 26.7	+2.5
	comp=Z,14nm,0.7s						
EDM	Edmonton	84.67	32	eP	P	12 32 27.6	+2.5
EDM	Edmonton	84.67	32	eP	P	12 32 27.6	+2.5
CONA	Conrad Observa	84.88	321	⇑iPcP	PcP	12 32 28.5	-1.1
	comp=Z,10.0nm,1.1s						
KHC	Kasperske Hory	85.46	323	eP	P	12 32 30.5	+1.4
KHC				e		12 32 42.0	
KHC	Kasperske Hory	85.46	323	eP	P	12 32 30.5	+1.4
KHC				epP	pP	12 32 42.0	+8.1
KHC	Kasperske Hory	85.46	323	eP	P	12 32 32.3	+3.3
	comp=Z,8.8nm,1.0s						
GERES	GERESS Array B	85.56	323	P	P	12 32 31.0	+1.4
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES	GERESS Array B	85.56	323	P	P	12 32 31.0	+1.4
	comp=Z,3.3nm,0.8s,baz=67,slow=4.5,SNR=12						
NEW	Newport	85.64	38	eP	P	12 32 32.1	+2.0
NEW				pmax	pmax		
	comp=Z,18nm,1.5s						
NEW	Newport	85.64	38	eP	P	12 32 32.1	+2.0
	comp=Z,18nm,1.5s						
E09A	Wood Farm, Sta	86.06	39	eP	P	12 32 35.0	+2.9
	comp=Z,19nm,1.5s						
BSMT	Bassoo Peak	87.16	37	eP	P	12 32 38.6	+0.9
	comp=Z,6.3nm,1.2s						
MOD	Modoc	87.31	44	eP	P	12 32 38.3	-0.2
	comp=Z,47nm,1.8s						
WVOR	Wild Horse Val	88.05	43	eP	P	12 32 44.7	+2.7
WVOR				pmax	pmax		
	comp=Z,19nm,1.5s						
WVOR	Wild Horse Val	88.05	43	eP	P	12 32 44.7	+2.7
	comp=Z,19nm,1.5s						
SLMT	Seeley Lake	88.23	37	eP	P	12 32 42.4	-0.4
	comp=Z,12nm,1.2s						
FCC	Fort Churchill	88.48	21	eP	P	12 32 44.8	+1.3
FCC	Fort Churchill	88.48	21	eP	P	12 32 44.8	+1.3
FFC	Flin Flon	88.70	27	eP	P	12 32 44.0	-0.7
FFC	Flin Flon	88.70	27	eP	P	12 32 44.0	-0.7
	comp=Z,220nm,3.0s						
CDF	Champ du Feu	89.21	325	eP	P	12 32 51.9	+4.6
	comp=Z,18nm,0.9s						
TUE	Stuetta	89.33	323	eP	P	12 32 46.9	-1.2
	comp=Z,9.9nm,0.8s						
BAIF	Baives	89.65	328	eP	P	12 32 53.9	+4.7
	comp=Z,15nm,1.0s						
HINF	Hinteralfeld	89.81	325	eP	P	12 32 55.0	+5.0
DLMT	Dillon	89.87	38	eP	P	12 32 52.8	+2.3
	comp=Z,6.5nm,0.9s						
HLID	Hailey	89.92	40	eP	P	12 32 53.2	+2.3
	comp=Z,6.9nm,1.0s						
HAU	Haudompre	89.94	325	eP	P	12 32 55.8	+5.2
MCMT	McKenzie Canyo	90.05	39	eP	P	12 32 53.1	+1.6
	comp=Z,4.3nm,1.2s						
SFTF	Sexfontaines	90.48	326	eP	P	12 32 58.5	+5.4
NV01	Mina Array Sit	90.50	46	eP	P	12 32 49.5	-4.2
YMR	Madison River	91.20	38	eP	P	12 33 00.2	+3.4
	comp=Z,11nm,1.1s						
LPL	La Plagne	91.35	323	eP	P	12 33 03.0	+5.5
	comp=Z,7.8nm,0.7s						
LPG	La Plagne	91.35	323	eP	P	12 33 03.2	+5.6
	comp=Z,13nm,0.8s						
H17A	Grant Village	91.59	38	eP	P	12 33 03.4	+4.7
	comp=Z,13nm,1.4s						
RLMT	Red Lodge	91.84	37	eP	P	12 32 58.5	-1.2
	comp=Z,51nm,2.1s						
PGF	Pioggiola	91.96	320	eP	P	12 33 05.2	+5.0
	comp=Z,44nm,0.9s						
PGF	Pioggiola	91.96	320	eP	P	12 33 05.2	+5.0
PGF	Pioggiola	91.96	320	eP	P	12 33 05.2	+5.0
	comp=Z,44nm,0.9s						
HVU	Hansel Valley	91.97	41	eP	P	12 32 59.7	-0.6
HVU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HVU	Hansel Valley	91.97	41	eP	P	12 32 59.7	-0.6
	comp=Z,6.3nm,0.9s						
SBF	Sospel	92.02	322	eP	P	12 33 05.6	+5.2
	comp=Z,32nm,0.9s						
DGMT	Dagmar	92.17	32	eP	P	12 33 04.4	+3.4
	comp=Z,23nm,1.1s						
ORIF	Oris-en-Rattie	92.20	323	eP	P	12 33 06.0	+4.7
LAO	LASA Array	92.40	34	eP	P	12 32 59.4	-2.7
	comp=Z,122nm,2.7s						
FRF	La Foret Royal	92.66	322	eP	P	12 33 08.0	+4.7
BGF	Bois d'Agland	92.69	326	eP	P	12 33 08.9	+5.5
BGF	Bois d'Agland	92.69	326	eP	P	12 33 08.9	+5.5
BGF	Bois d'Agland	92.69	326	eP	P	12 33 08.9	+5.5
LMR	La Mourre	92.88	322	eP	P	12 33 09.1	+4.8
CTCC	Cactus City	94.76	49	eP	P	12 33 15.2	+2.0
H06E1	SOCORRO T-PHAS	107.11	59	T	T	14 34 03.5	
	SNR=5.7						
TRQA	Tornquist	165.04	146	ePKPdf	PKPdf	12 39 55.5	-0.2

IDC 27 12:20:11.9±0.7, 35°.28S×72°.54W, h0km, mb4.4/10, mb1 4.5/12, mb1mx4.3/28, mbtmp4.4/12, ML3.9/2, Error ellipse: s-maj=30.8km s-min=16.6km az=82.0
ISCJB 27 12:20:13.4±0.6, 35°.29S±0°.09×72°.4W±0°.2, h20km, mb4.4/10, Error ellipse: s-maj=26.5km s-min=12.5km az=177.1
ISC 27 12:20:15.0±0.7, 35°.3S±0°.1×72°.5W±0°.2, h20km, n19, σ0.86/18, mb4.4/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.67	165	Lg	Lg	12 23 04.7	
	9.6nm,0.3s,baz=258,slow=8.8,SNR=3.9						
LPAZ	La Paz	19.32	13	P	P	12 24 39.4	-0.2
	0.1nm,0.3s,baz=169,slow=10,SNR=3.2						
USHA	Ushuaia	19.76	173	P	P	12 24 43.1	-0.5
	0.5nm,0.3s,baz=352,slow=10,SNR=4.2						
SIV	San Ignacio	21.77	31	P	P	12 25 04.7	-0.9
	4.6nm,0.7s,baz=200,slow=7.5,SNR=5.6						
SNAA	Sanae	50.56	157	P	P	12 29 12.2	+0.4
	6.8nm,0.9s,baz=269,slow=5.2,SNR=16						
QSPA	South Pole Qui	54.96	180	P	P	12 29 44.9	+0.5
	19nm,0.8s,baz=135,slow=3.0,SNR=21						
TXAR	Lajitas Array	70.65	331	P	P	12 31 29.8	+0.5
	1.7nm,0.6s,baz=153,slow=8.4,SNR=12						
DBIC	Dimbokro	75.97	71	P	P	12 32 00.9	0.0
	3.5nm,0.8s,baz=228,slow=9.2,SNR=3.6						
BOSA	Boshof	79.83	118	P	P	12 32 22.3	-0.2
	3.0nm,0.7s,baz=232,slow=4.7,SNR=5.8						
NVAR	Mina Array Bea	84.70	326	P	P	12 32 47.9	+0.3
	2.1nm,0.9s,baz=144,slow=5.7,SNR=4.1						
PDAR	Pinedale Array	84.72	334	P	P	12 32 48.0	+0.4
	1.2nm,1.0s,baz=131,slow=4.5,SNR=4.5						
TORD	Torodi Ar. Bea	85.02	70	P	P	12 32 50.2	+0.7
	1.4nm,0.7s,baz=263,slow=3.9,SNR=5.9						
ULM	Lac du Bonnet	87.62	345	P	P	12 33 00.6	-0.8
	4.3nm,0.8s,baz=199,slow=3.1,SNR=5.5						
WRA	Warramunga Arr	119.45	209	PKP	PKPdf	12 39 02.3	-1.4
	0.8nm,0.7s,baz=166,slow=1.4,SNR=5.5						
AKASG	Malin Array Be	123.34	48	PKP	PKPdf	12 39 08.5	-1.5
	0.1nm,0.3s,baz=265,slow=2.8,SNR=4.7						
ARCES	ARCESS Array B	125.34	25	PKP	PKPdf	12 39 12.6	-0.7
	3.8nm,0.9s,baz=319,slow=2.6,SNR=3.0						
ZALV	Zalesovo Beam	155.51	33	PKPbc	PKPdf	12 40 15.9	+9.4
	1.8nm,0.6s,baz=295,slow=3.1,SNR=6.6						
ZALV				PKPab	PKPab	12 40 33.6	+1.2
	1.4nm,0.6s,baz=301,slow=4.3,SNR=4.7						
MKAR	Makanchi Array	157.89	51	PKPab	PKPab	12 40 44.0	+1.0
	0.9nm,0.8s,baz=300,slow=2.4,SNR=4.8						
SONM	Songino Array	167.43	3	PKPab	PKPab	12 41 25.6	+0.8
	0.9nm,0.8s,baz=330,slow=3.5,SNR=4.4						

IDC 27 12:20:56.4±1.7, 37°.72S×73°.74W, h0km, mb4.3/5, mb1 4.4/7, mb1mx4.2/28, mbtmp4.3/7, ML4.3/2, Error ellipse: s-maj=45.8km s-min=28.8km az=73.0
ISCJB 27 12:20:58.3±1.5, 37°.7S±0°.1×73°.6W±0°.3, h23km, mb4.2/5, Error ellipse: s-maj=33.2km s-min=15.6km az=168.3
ISC 27 12:20:59.9±1.4, 37°.8S±0°.1×73°.7W±0°.2, h23km, n9, σ0.57/9, mb4.2/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.84	142	Pn	Pn	12 21 57.2	-0.5
	7.8nm,0.3s,baz=307,slow=15,SNR=2.6						
CFAA	Coronel Fontan	7.59	38	Pn	Pn	12 22 49.2	0.0
	2.2nm,0.3s,baz=303,slow=19,SNR=4.1						
LPAZ	La Paz	21.93	14	P	P	12 25 51.8	-0.7
	7.0nm,0.8s,baz=231,slow=6.5,SNR=2.8						
SIV	San Ignacio	24.37	31	P	P	12 26 15.7	-0.7
	6.9nm,0.8s,baz=210,slow=8.1,SNR=2.6						
TXAR	Lajitas Array	72.41	333	P	P	12 32 24.0	-0.3
	1.3nm,0.8s,baz=150,slow=8.6,SNR=4.4						
DBIC	Dimbokro	77.63	71	P	P	12 32 55.0	+0.3
	5.2nm,0.6s,baz=207,slow=4.7,SNR=5.1						
TORD	Torodi Ar. Bea	86.72	71	P	P	12 33 42.8	+0.6
	1.0nm,0.6s,baz=220,slow=5.3,SNR=4.1						
BRTR	Keskin Array B	124.75	64	PKP	PKPdf	12 39 58.1	+0.4
	0.7nm,0.7s,baz=202,slow=4.8,SNR=3.8						
ZALV	Zalesovo Beam	158.07	35	PKPab	PKPab	12 41 28.3	+0.4
	1.6nm,0.5s,baz=284,slow=6.0,SNR=3.8						

IDC 27 12:23:01.5±0.7, 36°.30S×73°.34W, h0km, mb4.6/13, mb1 4.7/16, mb1mx4.5/34, mbtmp4.6/16, ML4.8/3, MS4.8/3, Ms1 4.8/3, ms1mx4.5/24, Error ellipse: s-maj=21.5km s-min=14.2km az=84.0
ISCJB 27 12:23:05.5±0.5, 36°.26S±0°.07×73°.1W±0°.1, h33km, mb4.8/23, MS5.2/2, Error ellipse: s-maj=13.2km s-min=9.8km az=170.6
NEIC 27 12:23:07.1±0.4, 36°.18S×73°.10W, h35km, mb5.0/13, Error ellipse: s-maj=13.2km s-min=9.4km az=88.0
ISC 27 12:23:06.3±0.5, 36°.21S±0°.08×73°.3W±0°.1, h35km, n50, σ1.42/45, mb4.9/23, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.00	155	Pn	Pn	12 24 18.0	-1.0
	10nm,0.3s,baz=292,slow=11,SNR=2.9						
PLCA				Lg	Lg	12 25 38.0	
	13nm,0.3s,baz=36,slow=17,SNR=3.9						
CFAA	Coronel Fontan	6.22	44	Pn	Pn	12 24 36.6	+0.9
	6.1nm,0.3s,baz=202,slow=14,SNR=7.2						
CFAA				Lg	Lg	12 26 24.0	
	1.2nm,0.3s,baz=309,slow=23,SNR=5.5						
TRQA	Tornquist	9.22	105	ePn	Pn	12 25 05.3	-11
LVC	Limon Verde	14.07	17	ePn	Pn	12 26 21.0	-2.4
CPUP	Villa Florida	16.80	59	Pn	Pn	12 26 58.0	-0.9
	1.2nm,0.3s,baz=220,slow=14,SNR=3.9						
USHA	Ushuaia	18.93	171	LR	LR	12 34 36.8	
	comp=Z,1µm,20.0s,baz=194,slow=37						
LPAZ	La Paz	20.36	14	P	Pn	12 27 42.2	-0.7
	6.1nm,0.6s,baz=196,slow=7.3,SNR=6.9						
LPAZ	La Paz	20.36	14	ePn	Pn	12 27 41.5	-1.2
	23nm,0.8s						
SIV	San Ignacio	22.89	32	P	P	12 28 07.7	+0.7
	32nm,1.0s,baz=226,slow=15,SNR=7.9						
SAML	Samuel	28.65	21	P	P	12 28 57.4	-2.4
	2.2nm,0.6s						
RCBR	Riachuelo	45.68	58	P	P	12 31 24.6	+0.6
	4.7nm,0.6s,baz=190,slow=5.8,SNR=4.2						
GRGR	Grenville	49.32	15	eP	P	12 31 50.5	-1.5
	130nm,0.9s						
SNAA	Sanae	49.95	157	P	P	12 31 56.5	+0.2
	9.1nm,1.0s,baz=298,slow=5.4,SNR=8.8						
APG	El Apazote	53.46	339	LR	LR	12 50 13.9	
	comp=Z,1µm,19.3s,baz=359,slow=30						
QSPA	South Pole Qui	54.03	180	P	P	12 32 26.5	-0.4
	15nm,1.1s,baz=143,slow=6.8,SNR=4.5						
QSPA	South Pole Qui	54.03	180	eP	P	12 32 27.0	0.0
	15nm,1.1s						
CELP	Cerrillos	54.36	8	eP	P	12 32 30.2	+0.7
H06E1	SOCORRO T-PHAS	55.25	320	T	T	13 44 39.2	
TXAR	Lajitas Array	71.18	332	P	P	12 34 22.4	+0.9
	0.7nm,0.6s,baz=155,slow=8.3,SNR=5.5						
SUR	Sutherland	74.66	119	P	P	12 34 43.6	+1.0
	15nm,1.0s,baz=265,slow=5.8,SNR=3.6						
DBIC	Dimbokro	76.85	72	P	P	12 34 55.9	+0.9
	11nm,0.8s,baz=210,slow=3.9,SNR=6.7						
DBIC	Dimbokro	76.85	72	eP	P	12 34 56.6	+1.6
	12nm,0.8s						
ANMO	Albuquerque	77.24	333	eP	P	12 34 59.2	+2.3
	68nm,2.9s						
BOSA	Boshof	79.95	118	P	P	12 35 13.0	+0.8
	10.0nm,0.9s,baz=247,slow=6.4,SNR=7.0						
ECSD	EROS Data Cent	82.34	343	eP	P	12 35 24.6	+0.5
	15nm,0.9s						
JLU	Jordanelle	84.09	332	eP	P	12 35 35.5	+2.0
	3.3nm,0.8s						
DUG	Dugway	84.27	331	eP	P	12 35 36.6	+2.3
	9.5nm,1.1s						
RSSD	Black Hills	84.69	338	eP	P	12 35 37.3	+0.9
	33nm,2.2s						
NVAR	Mina Array Bea	85.12	326	P	P	12 35 40.2	+1.5
	0.5nm,0.3s,baz=140,slow=7.1,SNR=2.5						
PDAR	Pinedale Array	85.28	334	P	P	12 35 40.8	+1.4
	0.8nm,0.8s,baz=142,slow=7.4,SNR=5.8						
TORD	Torodi Ar. Bea	85.92	71	P	P	12 35 43.3	+0.3
	6.3nm,1.1s,baz=236,slow=3.9,SNR=9.4						
TPAW	Teton Pass	86.41	334	eP	P	12 35 46.7	+1.7
	82nm,2.8s						
AGMN	Agassiz Nation	86.51	345	eP	P	12 35 46.2	+1.1
	103nm,2.5s						
FLWY	Flagg Ranch	86.83	334	eP	P	12 35 48.7	+1.7
	17nm,1.4s						
YMR	Madison River	87.44	334	eP	P	12 35 52.4	+2.4
	8.1nm,1.0s						
ULM	Lac du Bonnet	88.37	346	P	P	12 35 54.0	+0.1
	6.7nm,1.0s,baz=196,slow=3.1,SNR=6.6						
ULM	Lac du Bonnet	88.37	346	eP	P	12 35 54.5	+0.6
DZM	Mont Dzumac	99.11	234	LR	LR	13 13 14.1	
	comp=Z,1µm,19.9s,baz=270,slow=30						
H11S2	WAKE ISLAND Hy	124.70	268	T	T	14 59 08.8	
	baz=116						
H11S1	WAKE ISLAND Hy	124.71	268	T	T	14 59 07.1	
	baz=116						
H11S3	WAKE ISLAND Hy	124.71	268	T	T	14 59 12.2	
	baz=116						
ABKAR	Akbulak array	143.83	54	ePKPdf	PKPdf	12 42 35.5	-1.7
HYB	Hyderabad	148.84	119	iPKP	PKPbc	12 42 49.5	-1.2
YAK	Yakutsk	150.43	338	ePKPbc	PKPbc	12 42 53.3	+0.2
KSH	Kashi	155.57	73	ePKPbc	PKPab	12 43 22.5	+0.1
ZALV	Zalesovo Beam	156.63	34	PKPbc	PKPdf	12 43 10.6	+14
	3.6nm,0.7s,baz=305,slow=5.2,SNR=5.5						
ZALV				PKPab	PKPab	12 43 27.4	+1.1
	1.7nm,0.5s,baz=305,slow=5.2,SNR=3.7						
MKAR	Makanchi Array	158.95	52	PKP	PKPdf	12 43 00.5	+0.4
	1.6nm,0.9s,baz=323,slow=1.8,SNR=4.6						
SONM	Songino Array	168.38	1	PKPab	PKPab	12 44 18.8	+0.9
	1.5nm,0.8s,baz=330,slow=2.0,SNR=6.1						
GYA	Guiyang	170.28	180	PKPbc	PKPdf	12 43 09.3	-1.5
GYA				pPKP	pPKPdf	12 43 21.5	-0.8
GYA				PKPab	PKPab	12 47 27.0	+0.2
GYA				PKS	PKSdf	12 46 39.8	-3.6
GYA				PP	PP	12 48 17.5	+1.5
LZH	Lanzhou	177.68	92	ePKP	PKPdf	12 43 11.8	-1.3
LZH				pPKP	pPKPdf	12 43 23.3	-1.4
LZH				sPKP		12 43 26.3	

IDC 27 12:26:45.7±0.8, 37°.18S×73°.76W, h0km, mb4.1/9, mb1 4.4/10, mb1mx4.2/31, mbtmp4.2/10, ML4.1/1, Error ellipse: s-maj=33.8km s-min=18.9km az=78.0
ISCJB 27 12:26:46.9±0.7, 37°.24S±0°.10×73°.7W±0°.1, h14km, mb4.2/11, Error ellipse: s-maj=26.2km s-min=12.0km az=163.4
NEIC 27 12:26:51.3±0.6, 37°.22S×73°.59W, h35km, mb4.3/1, Error ellipse: s-maj=23.7km s-min=11.0km az=74.0
ISC 27 12:26:48.3±0.8, 37°.2S±0°.1×73°.7W±0°.2, h14km, n17, σ1.03/17, mb4.2/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.26	146	Pn	Pn	12 27 53.1	+0.3
	2.6nm,0.3s,baz=293,slow=15,SNR=2.2						
LPAZ	La Paz	21.43	15	P	P	12 31 37.2	+0.6
	15nm,1.1s,baz=170,slow=8.1,SNR=6.3						
SIV	San Ignacio	23.92	31	P	P	12 31 59.6	-2.3
	4.2nm,0.9s,baz=254,slow=11,SNR=4.7						
OTAV	Otavalo	37.54	352	eP	P	12 34 04.5	+1.9
	13nm,1.4s						
SNAA	Sanae	49.13	157	eP	P	12 35 35.4	+0.4
SNAA	Sanae	49.13	157	P	P	12 35 35.2	+0.1
	4.4nm,1.1s,baz=294,slow=6.1,SNR=5.0						
SNAA	Sanae	49.13	157	ePdif	P	12 35 35.4	+0.4
QSPA	South Pole Qui	53.01	180	P	P	12 36 04.1	-0.3

3.3nm,1.0s,baz=173,slow=2.4,SNR=3.2
TXAR Lajitas Array 71.94 333 P P 12 38 10.5 -0.8
1.2nm,0.8s,baz=157,slow=8.2,SNR=8.9
DBIC Dimbokro 77.47 72 P P 12 38 44.2 +0.7
4.9nm,0.8s,baz=193,slow=5.5,SNR=3.1
ANMO Albuquerque 78.01 333 eP P 12 38 47.3 +0.9
3.8nm,1.2s
NVAR Mina Array Bea 85.80 326 P P 12 39 27.0 -0.2
0.4nm,0.5s,baz=139,slow=6.0,SNR=2.4
PDAR Pinedale Array 86.06 334 P P 12 39 27.7 -0.8
1.3nm,1.0s,baz=114,slow=4.4,SNR=3.4
TORD Torodi Ar. Bea 86.55 71 P P 12 39 31.4 +0.2
1.2nm,0.8s,baz=223,slow=3.6,SNR=5.4
BVAR Borovoye Array 150.51 46 PKPbc PKPbc 12 46 38.2 -0.7
4.2nm,1.1s,baz=282,slow=2.9,SNR=9.9
MKAR Makanchi Array 159.81 54 PKPab PKPab 12 47 25.1 -0.5
0.8nm,0.8s,baz=298,slow=2.6,SNR=3.9
SONM Songino Array 169.40 360 PKPab PKPab 12 48 06.3 -1.3
1.0nm,1.0s,baz=4.8,slow=1.7,SNR=5.1

IDC 27 12:27:17.7±1.4, 35.°75S×73.°49W, h0km, mb4.2/2, mb1 4.3/3, mb1mx3.9/30, mbtmp4.0/3, ML3.6/1, Error ellipse: s-maj=52.9km s-min=39.4km az=43.0
ISC 27 12:27:23.3±1.3, 35.°7S±0.°3×73.°4W±0.°2, h35km, n7, σ0°64/8, Off coast of central Chile

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

CFAA Coronel Fontan 5.92 48 Pn Pn 12 28 48.7 +0.1
1.5nm,0.3s,baz=239,slow=18,SNR=3.9
TXAR Lajitas Array 70.65 332 P P 12 38 36.1 +0.7
0.4nm,0.6s,baz=148,slow=8.6,SNR=3.0
BOSA Boshof 80.30 118 P P 12 39 31.4 +0.3
5.3nm,0.9s,baz=318,slow=6.4,SNR=3.6
BRTR Keskin Array B 123.62 62 PKP PKPdf 12 46 17.0 -0.1
0.6nm,0.7s,baz=204,slow=3.2,SNR=3.1
ZALV Zalesovo Beam 156.24 33 PKP PKPdf 12 47 12.8 -0.7
0.9nm,0.7s,baz=318,slow=1.9,SNR=2.8
ZALV PKPab **PKPab 12 47 41.4 -0.2**
1.1nm,0.5s,baz=286,slow=5.7,SNR=3.3
MKAR Makanchi Array 158.70 51 PKP PKPdf 12 47 17.0 +0.1
0.4nm,0.9s,baz=270,slow=1.4,SNR=2.8
SONM Songino Array 167.84 1 PKPab PKPab 12 48 31.6 -1.0
0.5nm,0.8s,baz=347,slow=3.3,SNR=2.7

IDC 27 12:27:58.9±1.1, 31.°81S×71.°20W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/29, mbtmp4.2/4, MS5.0/1, Ms1 5.0/1, ms1mx4.3/23, Error ellipse: s-maj=54.9km s-min=28.0km az=77.0, Near coast of central Chile

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

RCBR Riachuelo 41.90 59 LR LR 12 56 15.3
comp=Z,2μm,19.8s,baz=319,slow=40
SNAA Sanae 53.35 158 P P 12 37 20.7 +1.1
1.8nm,0.9s,baz=286,slow=13,SNR=2.1
QSPA South Pole Qui 58.42 180 P P 12 37 54.8 -1.3
5.2nm,0.9s,baz=147,slow=7.3,SNR=3.8
TXAR Lajitas Array 68.19 330 P P 12 39 01.7 +0.5
1.1nm,0.7s,baz=152,slow=9.2,SNR=4.7
DBIC Dimbokro 73.81 71 P P 12 39 35.4 -0.2
3.1nm,0.6s,baz=203,slow=3.0,SNR=4.0
SONM Songino Array 163.89 6 PKPab PKPab 12 48 55.5 -0.9
1.5nm,1.1s,baz=336,slow=3.2,SNR=4.2

IDC 27 12:28:40.6±0.5, 33.°97S×72.°15W, h0km, mb4.5/15, mb1 4.6/17, mb1mx4.5/32, mbtmp4.6/17, ML5.1/2, Error ellipse: s-maj=18.3km s-min=14.8km az=89.0
GUC 27 12:28:41.8±0.8, 34.°00S×72.°36W, h35km±33km, ML4.8
ISCJB 27 12:28:48.0±0.4, 34.°32S±0.°05×71.°58W±0.°08, h35km, mb4.8/46, Error ellipse: s-maj=9.6km s-min=6.6km az=27.7
NEIC 27 12:28:49.0±0.3, 34.°30S×71.°21W, h35km, mb4.9/35, Error ellipse: s-maj=12.9km s-min=8.8km az=81.0
ISC 27 12:28:47.7±0.4, 34.°27S±0.°06×71.°5W±0.°1, h35km, n93, σ2°03/88, mb4.8/46, 1C-2D, Near coast of central Chile

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

TACH Talagante 0.78 38⇓eP Pn 12 29 03.8 +1.5
PCH Pirque 1.06 52 eP Pn 12 29 10.2 +4.1
SAN Santiago 1.08 41 eP Pn 12 29 08.5 +2.1
SAN eS Sn 12 29 27.7 +7.4
IHA Instituto Hidr 1.25 355 eP Pn 12 29 02.8 -5.9
IHA eS Sn 12 29 18.5 -5.7
PEL Peldehue 1.32 32 eP Pn 12 29 10.5 +0.8
PEL eS Sn 12 29 32.8 +6.6
PEL AML AML 12 29 38.4
comp=E,24μm,0.3s
ROCH El Roble 1.36 18 eP Pn 12 29 08.9 -1.6
ROCH eS **Sn 12 29 29.6 +2.2**
ROCH AML AML 12 29 39.2
comp=N,19μm,0.5s
FCH Farellones 1.39 48⇓eP Pn 12 29 14.3 +3.4
FCH eS Sn 12 29 37.4 +8.9
CFAA Coronel Fontan 3.83 47 Pn Pn 12 29 45.9 +1.7
comp=N,2.1nm,0.3s,baz=241,slow=19,SNR=6.4
CFAA Lg Lg 12 30 47.4
comp=N,5.5nm,0.3s,baz=289,slow=18,SNR=4.1
PLCA Paso Flores 6.49 174 Pn Pn 12 30 24.5 +3.7
comp=N,19nm,0.3s,baz=304,slow=15,SNR=4.0
PLCA Paso Flores 6.49 174 ePn Pn 12 30 23.3 +2.5
comp=N,667nm,0.9s
CPUP Villa Florida 14.58 61 Pn P 12 32 15.9 -1.5
comp=N,1.2nm,0.3s,baz=227,slow=11,SNR=3.8
LPAZ La Paz 18.17 10 P Pn 12 32 54.4 -3.4
comp=N,1.0nm,0.3s,baz=190,slow=5.4,SNR=11
LPAZ La Paz 18.17 10 ePn Pn 12 32 54.8 -3.0
comp=N,28nm,0.9s
SIV San Ignacio 20.49 30 P P 12 33 21.0 -1.6
comp=N,15nm,0.7s,baz=236,slow=15,SNR=13
USHA Ushuaia 20.67 175 P Pn 12 33 26.8 +0.1
comp=N,18nm,0.9s,baz=321,slow=14,SNR=4.1
NNA Nana 22.71 346 P P 12 33 40.6 -6.0
comp=N,4.5nm,0.4s,baz=212,slow=15,SNR=3.0
SAML Samuel 26.34 19 eP P 12 34 17.6 -2.9
comp=N,7.3nm,0.9s
BDFB Brasilia 28.13 55 P P 12 34 35.8 -0.9
comp=N,8.4nm,0.7s,baz=229,slow=9.1,SNR=6.7
SDV Santo Domingo 42.93 1 eP P 12 36 46.4 +3.0
comp=N,28nm,1.5s
RCBR Riachuelo 43.42 57 P P 12 36 47.6 +0.3
comp=N,8.3nm,0.9s,baz=219,slow=13,SNR=3.6
SNAA Sanae 51.17 158 P P 12 37 48.7 +1.7
comp=N,3.0nm,0.8s,baz=233,slow=9.9,SNR=10
SNAA Sanae 51.17 158 eP P 12 37 45.2 -1.7
comp=N,20nm,1.0s
CELP Cerrillos 52.27 6 eP P 12 37 52.2 -3.4
LRS Lares 52.46 6 P P 12 37 57.3 +0.3
QSPA South Pole Qui 55.96 180 eP P 12 38 23.1 +0.8
comp=N,206nm,2.7s
TEIG Tepich 56.50 341 P P 12 38 21.1 -5.2
comp=N,18nm,0.7s,baz=108,slow=1.3,SNR=9.2
SYO Syowa Base 65.45 158⇑eX P 12 39 27.0 +0.4
JCT Junction City 69.72 334 eP P 12 39 55.5 +1.5
TXAR Lajitas Array 70.19 330 P P 12 39 52.2 -4.7
comp=N,0.9nm,0.7s,baz=158,slow=8.3,SNR=7.7
WHTX Lake Whitney 70.29 337 eP P 12 39 59.0 +1.6
comp=N,15nm,0.8s
OXF Oxford 70.45 344 eP P 12 40 00.2 +1.9
comp=N,49nm,1.0s
UALR University of 71.41 342 eP P 12 40 06.1 +2.1
comp=N,19nm,1.1s
MIAR Mount Ida 71.51 341 eP P 12 40 07.8 +3.0
comp=N,22nm,1.4s
ABTX Abilene, Hawle 71.61 335 eP P 12 40 07.5 +2.1
comp=N,13nm,1.0s
WVT Waverly 71.68 346 eP P 12 40 06.8 +1.1
comp=N,26nm,0.8s
PBMO Poplar Bluff 72.86 344 eP P 12 40 16.2 +3.5
comp=N,25nm,1.3s
W34A Bridge Creek, 73.38 338 eP P 12 40 19.0 +3.1
comp=N,233nm,2.8s
TUL1 Tulsa 73.41 340 eP P 12 40 17.7 +1.6
comp=N,18nm,1.1s
MSTX Muleshoe 73.95 333 eP P 12 40 20.4 +1.0
comp=N,20nm,1.3s
AMTX Amarillo 74.37 335 eP P 12 40 23.9 +2.2
comp=N,14nm,1.0s
DBIC Dimbokro 74.86 71 P P 12 40 26.0 +1.0
comp=N,7.7nm,0.9s,baz=198,slow=9.2,SNR=4.5
ACSO Alum Creek Sta 74.89 351 eP P 12 40 26.8 +2.2
comp=N,82nm,1.8s
ANMO Albuquerque 76.23 331 eP P 12 40 33.7 +1.0
comp=N,7.1nm,1.2s
NCB Newcomb 77.91 358 eP P 12 40 42.8 +1.2
comp=N,18nm,0.6s
WUAZ Wupatki 78.79 328 eP P 12 40 49.4 +2.5
comp=N,14nm,1.3s
MVCO Mesa Verde 79.01 331 eP P 12 40 50.8 +2.6
comp=N,10nm,1.3s
BOSA Boshof 79.56 117 P P 12 40 53.6 +2.2
comp=N,3.8nm,0.5s,baz=236,slow=3.3,SNR=7.9
ECSD EROS Data Cent 80.94 342 eP P 12 40 58.9 +0.8
comp=N,12nm,0.9s
CCUT Cedar City 81.37 328 eP P 12 41 02.9 +2.0
comp=N,7.9nm,1.2s
R11A Troy Canyon, C 83.02 327 eP P 12 41 11.9 +2.5
comp=N,6.4nm,1.3s
DUG Dugway 83.33 329 eP P 12 41 13.9 +3.0
comp=N,8.2nm,1.1s
TPH Tonopah 83.56 325 eP P 12 41 14.7 +2.5
comp=N,20nm,1.8s
TORD Torodi Ar. Bea 83.90 70 P P 12 41 14.8 +0.6
comp=N,9.1nm,0.8s,baz=251,slow=4.1,SNR=19
BGU Big Grassy Mou 84.03 330 eP P 12 41 17.2 +2.7
comp=N,3.8nm,1.4s
PDAR Pinedale Array 84.20 333 P P 12 41 12.1 -3.3
comp=N,1.6nm,1.1s,baz=151,slow=4.6,SNR=2.2
NVAR Mina Array Bea 84.36 325 P P 12 41 12.3 -4.0
comp=N,0.5nm,0.5s,baz=152,slow=4.1,SNR=2.1
HVU Hansel Valley 84.64 330 eP P 12 41 19.8 +2.3
comp=N,5.1nm,1.0s
LOHW Long Hollow 85.32 333 eP P 12 41 23.6 +2.5
comp=N,34nm,2.1s
YMR Madison River 86.36 333 eP P 12 41 28.3 +2.1
comp=N,6.0nm,0.9s
LAO LASA Array 86.44 337 eP P 12 41 29.1 +2.8
comp=N,67nm,2.2s
HLID Hailey 86.79 330 eP P 12 41 31.4 +3.1
comp=N,14nm,1.6s
ULM Lac du Bonnet 86.88 345 P P 12 41 24.5 -3.7
comp=N,2.3nm,0.8s,baz=155,slow=5.6,SNR=3.2
MCMT McKenzie Canyo 87.21 332 eP P 12 41 31.4 +1.0
comp=N,5.3nm,1.4s
DGMT Dagmar 87.39 339 eP P 12 41 33.8 +3.0
comp=N,18nm,1.1s
DLMT Dillon 87.56 332 eP P 12 41 34.3 +2.4
comp=N,13nm,1.4s
SCHQ Schefferville 88.84 3 P P 12 41 34.4 -3.1
comp=N,2.4nm,0.7s,baz=188,slow=5.5,SNR=4.2
YKA Yellowknife Ar 102.46 341 P Pdif 12 42 35.3 -4.0
comp=N,0.1nm,0.5s,baz=143,slow=5.0,SNR=4.0
WLF Walferdange 108.13 42 ePdif Pdif 12 42 55.2 -10
WRA Warramunga Arr 120.73 209 PKP PKPdf 12 47 33.1 -3.4
comp=N,0.7nm,0.5s,baz=164,slow=1.6,SNR=7.2
BRTR Keskin Array B 121.59 61 PKP PKPdf 12 47 36.5 -1.2
comp=N,1.1nm,0.7s,baz=202,slow=3.1,SNR=6.5
AKASG Malin Array Be 122.06 47 PKP PKPdf 12 47 35.7 -2.3
comp=N,1.2nm,0.6s,baz=260,slow=2.8,SNR=10
FINES FINESS Array B 122.97 35 PKP PKPdf 12 47 37.7 -1.7
comp=N,3.0nm,1.1s,baz=308,slow=3.4,SNR=4.3
ARCES ARCESS Array B 124.08 25 PKP PKPdf 12 47 39.2 -2.1
comp=N,1.7nm,0.7s,baz=244,slow=3.0,SNR=7.0
KBZ Khabaz 129.36 59 PKP PKPdf 12 47 51.7 -0.5
comp=N,1.9nm,0.9s,baz=247,slow=7.5,SNR=4.1
POO Poona 145.44 108 eP PKPbc 12 48 21.0 -1.5
BRVK Borovoye 147.11 43 ePKPbc PKPdf 12 48 26.1 +1.9
BVAR Borovoye Array 147.18 43 PKPbc PKPdf 12 48 24.2 -0.2
comp=N,5.9nm,0.5s,baz=290,slow=2.2,SNR=21
HYB Hyderabad 148.42 115 i PKP PKPdf 12 48 30.0 +2.5
EKS2 Erkin-Say 151.72 62 ePKPdf PKPdf 12 48 31.6 -0.5
AAK Ala-Archa 152.25 62 PKPbc PKPbc 12 48 39.3 -0.4
comp=N,5.8nm,0.7s,baz=162,slow=0.8,SNR=11
AAK Ala-Archa 152.25 62 ePKPbc PKPbc 12 48 38.8 -0.9
KURK Kurchatov 152.78 44 ePKPbc PKPbc 12 48 39.1 -1.3
KSH Kashi 153.56 69 PKPbc PKPbc 12 48 42.0 -0.7
ZAA0 Zalesovo Array 154.22 33 ePKPbc PKPbc 12 48 42.0 -1.4
ZALV Zalesovo Beam 154.22 33 PKP PKPdf 12 48 31.6 -3.6
comp=N,1.3nm,0.6s,baz=311,slow=3.5,SNR=3.8
ZALV PKPbc **PKPbc 12 48 41.5 -1.9**
comp=N,7.0nm,0.5s,baz=300,slow=3.1,SNR=20
MKAR Makanchi Array 156.61 50 PKPbc PKPdf 12 48 46.4 +7.7
comp=N,1.0nm,0.7s,baz=299,slow=1.1,SNR=4.4
MKAR PKPab **PKPab 12 49 07.2 -0.7**
comp=N,2.0nm,0.5s,baz=285,slow=3.0,SNR=14
CMAR Chiang Mai Arr 162.09 149 PKP PKPdf 12 48 43.9 -1.9
comp=N,0.4nm,0.3s,baz=240,slow=4.9,SNR=3.4
SONM Songino Array 166.36 6 PKPab PKPab 12 49 46.8 -3.6
comp=N,0.5nm,0.7s,baz=330,slow=1.8,SNR=4.1
NJ2 Nanjing 171.03 259 ePKP PKPdf 12 48 52.5 +0.2
GTA Gaotai 171.37 51 ePKP PKPdf 12 48 51.3 -1.1
GTA pPKP **pPKPdf 12 49 01.8 -2.2**
GTA sPKP 12 49 06.0
GTA PKPab **PKPab 12 50 13.3 +0.3**
BJT Baijiatuau 171.61 315 ePKPab PKPab 12 50 14.0 +0.1
GYA Guiyang 172.05 168 ePKP PKPdf 12 48 52.0 -1.2
GYA pPKP **pPKPdf 12 49 03.3 -1.4**
GYA PKPab **PKPab 12 50 16.8 +0.7**
GYA PKS **PKSdf 12 52 22.5 -3.2**
GYA PP **PP 12 54 07.5 +1.2**
GYA SKKS 13 00 50.5
GYA SS **SS 13 15 11.3 -1.2**
GYA AMB AMB
comp=N,110nm,8.0s
GYA LR LR
comp=N,110nm,21.0s
GYA LR LR
comp=N,90nm,21.5s
GYA LR LR
comp=N,120nm,24.2s
LZH Lanzhou 175.79 63 ePKP PKPdf 12 48 56.8 +2.6
LZH pPKP **pPKPdf 12 49 06.3 +0.6**
LZH sPKP 12 49 12.3

ISCJB 27 12:29:29.7±1.8, 38.°33S±0.°5×72.°3W±0.°4, h10km, mb4.8/8, Error ellipse: s-maj=77.7km s-min=25.0km az=26.5
IDC 27 12:29:29.1±2.0, 38.°33S×72.°15W, h0km, mb4.5/5, mb1 4.7/5, mb1mx4.3/30, mbtmp4.5/5, Error ellipse: s-maj=92.5km s-min=31.4km az=33.0
ISC 27 12:29:30.4±2.0, 38.°5S±0.°5×72.°4W±0.°4, h10km, n11, σ1°28/11, mb4.9/8, Central Chile

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

TXAR Lajitas Array 73.50 332 P P 12 41 02.9 -0.4
2.1nm,0.7s,baz=156,slow=9.0,SNR=5.4
LIC Lamto 76.46 71 eP P 12 41 21.6 +0.9
41nm,0.9s
TIC Toumodi 76.75 70 eP P 12 41 23.1 +0.8
14nm,0.2s
KIC Kosan Boka 76.77 71 eP P 12 41 23.4 +1.0
40nm,0.8s
DBIC Dimbokro 76.89 70 P P 12 41 22.5 -0.5
12nm,0.7s,baz=213,slow=7.1,SNR=8.9
BOSA Boshof 78.26 117 P P 12 41 31.1 +0.3
7.2nm,0.8s,baz=264,slow=4.8,SNR=4.6
NVAR Mina Array Bea 87.39 326 P P 12 42 18.8 +1.0
0.5nm,0.5s,baz=140,slow=7.1,SNR=3.4
PDAR Pinedale Array 87.61 334 P P 12 42 19.1 +0.3
1.4nm,0.8s,baz=160,slow=6.5,SNR=4.4
BVAR Borovoye Array 150.59 48 PKPbc PKPbc 12 49 19.5 -2.4
2.8nm,0.7s,baz=285,slow=2.9,SNR=4.0
ZALV Zalesovo Beam 158.02 38 PKPab PKPab 12 49 58.8 -1.3
2.0nm,0.8s,baz=317,slow=5.9,SNR=2.2
SONM Songino Array 170.58 5 PKPab PKPab 12 50 56.8 +1.2
1.0nm,0.9s,baz=312,slow=4.2,SNR=3.8

IDC 27 12:30:14.5±2.5, 35.°33S×70.°46W, h0km, mb4.0/3, mb1 4.6/4, mb1mx4.1/30, mbtmp4.2/4, ML4.3/1, Error ellipse: s-maj=69.4km s-min=50.4km az=133.0, Chile-Argentina border region

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

LPAZ La Paz 19.08 7 P P 12 34 38.8 -0.7
0.4nm,0.3s,baz=181,slow=10.0,SNR=3.7
SIV San Ignacio 21.02 26 P P 12 35 00.3 +0.5
6.5nm,0.6s,baz=220,slow=11,SNR=3.5
TXAR Lajitas Array 71.53 330 P P 12 41 37.6 +0.3
0.9nm,0.6s,baz=157,slow=8.7,SNR=5.4
NVAR Mina Array Bea 85.72 324 P P 12 42 55.4 -0.1
0.8nm,0.7s,baz=147,slow=8.6,SNR=3.2
BVAR Borovoye Array 147.34 45 PKPbc PKPbc 12 49 58.6 -0.9
1.4nm,0.7s,baz=270,slow=2.9,SNR=1.9

ISCJB 27 12:31:53.8±0.3, 34.°35S±0.°06×72.°2W±0.°1, h10km, mb4.6/17, Error ellipse: s-maj=18.0km s-min=8.1km az=163.0
IDC 27 12:31:53.5±0.5, 34.°35S×72.°34W, h0km, mb4.4/14, mb1 4.6/16, mb1mx4.5/31, mbtmp4.5/16, ML4.8/2, Error ellipse: s-maj=27.1km s-min=14.1km az=77.0
NEIC 27 12:31:58.8±0.2, 34.°36S×72.°32W, h35km, mb4.3/1, Error ellipse: s-maj=13.0km s-min=5.6km az=81.0
ISC 27 12:31:55.2±0.5, 34.°33S±0.°09×72.°3W±0.°2, h10km, n150, σ0°69/150, mb4.5/17, 49C-64D, Near coast of central Chile

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

PLCA Paso Flores 6.54 168 Pn Pn 12 33 32.7 +1.2
6.8nm,0.3s,baz=329,slow=10,SNR=3.1
PLCA Lg Lg 12 35 12.0
9.6nm,0.3s,baz=308,slow=17,SNR=4.0
LPAZ La Paz 18.35 13 P P 12 36 11.9 +1.4
1.0nm,0.3s,baz=192,slow=8.0,SNR=7.8
USHA Ushuaia 20.68 174 P P 12 36 34.6 -0.5
11nm,0.9s,baz=28,slow=15,SNR=3.1
SIV San Ignacio 20.86 32 P P 12 36 38.0 +0.6
9.9nm,0.7s,baz=219,slow=6.9,SNR=9.1
NNA Nana 22.62 348 P P 12 36 56.7 +0.3
9.8nm,0.8s,baz=193,slow=9.9,SNR=5.1
SNAA Sanae 51.36 158 P P 12 40 59.8 +0.2
0.9nm,0.7s,baz=286,slow=9.8,SNR=4.0
APG El Apazote 52.02 338 P P 12 41 00.8 -4.4
3.3nm,0.7s,baz=120,slow=20,SNR=3.3
QSPA South Pole Qui 55.91 180 P P 12 41 33.2 +0.1
5.9nm,0.8s,baz=281,slow=1.0,SNR=10
TEIG Tepich 56.35 342 P P 12 41 36.3 -0.1
3.0nm,0.3s,baz=154,slow=6.4,SNR=7.1
533A Kerrville 68.86 335 ⇓P P 12 42 59.4 -0.5
baz=69
532A Rocksprings 69.21 335 ⇑P P 12 43 03.1 +0.9
baz=70,SNR=5.3
434A Burnet 69.28 336 ⇓P P 12 43 02.2 -0.3
baz=70
433A Art 69.50 336 ⇑P P 12 43 04.0 +0.1
baz=70,SNR=5.3
TXAR Lajitas Array 69.92 331 P P 12 43 07.0 +0.3
2.6nm,0.6s,baz=156,slow=8.7,SNR=21
431A Sonora 69.97 334 ⇓P P 12 43 07.5 +0.6
baz=70
430A Baggett Ranch, 70.29 334 ⇓P P 12 43 09.6 +0.8
baz=71,SNR=5.9
332A Millersview 70.30 335 ⇑P P 12 43 09.2 +0.4
baz=71
OXF Oxford 70.34 345 eP P 12 43 08.2 -0.7
28nm,1.2s
331A San Angelo 70.47 335 ⇓P P 12 43 10.5 +0.7
baz=71,SNR=5.8
233A Rising Star 70.59 336 ⇓P P 12 43 10.4 -0.2
baz=71
232A Coleman 70.72 336 ⇓P P 12 43 11.3 -0.1
baz=71
231A Bronte 71.00 335 ⇓P P 12 43 13.3 +0.2
baz=71,SNR=7.7
ABTX Abilene, Hawle 71.39 336 ⇓P P 12 43 15.3 -0.1
baz=72,SNR=5.0
WVT Waverly 71.58 347 eP P 12 43 16.1 -0.3
27nm,0.8s
131A Roby 71.69 335 ⇓P P 12 43 17.4 +0.1
baz=72,SNR=5.1
Z33A Whitaker Ranch 71.71 337 ⇓P P 12 43 17.5 +0.2
baz=72,SNR=6.9
130A Snyder 71.83 335 ⇑P P 12 43 18.4 +0.4
baz=72
Z32A Haskell 71.96 336 ⇑P P 12 43 18.6 -0.2
baz=72,SNR=6.3
Z31A Sharp Cattle R 72.20 336 ⇓P P 12 43 20.3 0.0
baz=72,SNR=9.6
Z30A Sanderson Ranc 72.51 335 ⇑P P 12 43 22.2 0.0
baz=73
Y32A R-V Farms, Ver 72.59 337 ⇑P P 12 43 22.6 0.0
baz=73
Z29A Hungry Hill Ra 72.69 334 ⇓P P 12 43 23.4 +0.1
baz=73
Y29A Porterfield Fa 73.22 335 ⇑P P 12 43 26.5 +0.1
baz=74,SNR=5.5
X31A McDonald Ranch 73.34 336 ⇑P P 12 43 27.0 0.0
baz=74,SNR=5.7
W32A Sentinel 73.55 337 ⇑P P 12 43 28.0 -0.2
baz=74,SNR=7.0
MSTX Muleshoe 73.71 334 ⇓P P 12 43 29.7 +0.4
baz=74,SNR=5.2
Z24A Sheeppen Canyo 74.12 332 ⇓P P 12 43 32.9 +1.0
baz=74,SNR=7.5
W27A Bowe Ranch, En 74.80 334 ⇓P P 12 43 36.4 +0.8
baz=75,SNR=6.2
V28A Channing 75.12 335 ⇓P P 12 43 38.3 +0.9
baz=76,SNR=5.1
X24A Lazy VL Ranch, 75.24 332 ⇓P P 12 43 39.1 +0.7
baz=76,SNR=8.8
DBIC Dimbokro 75.47 71 P P 12 43 39.9 0.0
4.3nm,0.6s,baz=221,slow=1.3,SNR=6.1
W24A Lazy 6 Ranch, 75.80 333 ⇑P P 12 43 41.8 +0.3
baz=76
W23A Werner Place, 76.04 332 ⇑P P 12 43 44.1 +1.2
baz=76
T28A Walsh 76.32 336 ⇓P P 12 43 44.5 +0.2
baz=77,SNR=6.0
T27A Campo 76.47 335 ⇓P P 12 43 45.3 +0.1
baz=77
U25A Circle Dot Ran 76.48 334 ⇑P P 12 43 46.2 +0.9
baz=77
S28A Manter 76.67 336 ⇑P P 12 43 47.0 +0.7
baz=77
T26A Comanche Natio 76.88 335 ⇑P P 12 43 48.4 +0.8
baz=77
T25A Trinidad 77.14 334 ⇓P P 12 43 50.3 +1.2
baz=78
S26A Kim 77.24 335 ⇓P P 12 43 50.6 +1.1
baz=78,SNR=6.9
R28A Tribune 77.32 337 ⇓P P 12 43 50.6 +0.7
baz=78
Q30A Quinter 77.39 338 ⇑P P 12 43 50.6 +0.4
baz=78,SNR=5.2
T24B San Luis 77.43 333 ⇓P P 12 43 52.3 +1.5
baz=78
Q29A Oakley 77.55 337 ⇓P P 12 43 51.5 +0.3
baz=78
R27A Eads 77.60 336 ⇓P P 12 43 52.0 +0.5
baz=78,SNR=5.7
X16A Lo Mia Camp, P 77.60 328 ⇑P P 12 43 53.1 +1.4
baz=78,SNR=6.6
T23A Casias Ranch, 77.65 333 ⇑P P 12 43 53.2 +1.2
baz=78
R26A Arlington 77.84 335 ⇑P P 12 43 53.6 +0.8
baz=78
S24A Houchin Ranch, 77.88 334 ⇓P P 12 43 54.7 +1.4
baz=78,SNR=6.6
P29A Atwood 78.19 338 ⇑P P 12 43 55.6 +0.9
baz=78,SNR=7.0
R24A Sanders Place, 78.36 334 ⇑P P 12 43 57.4 +1.5
baz=79,SNR=6.8
Q25A Bedland, Calha 78.66 335 ⇑P P 12 43 58.2 +0.6
baz=79
Q24A Divide 79.03 334 ⇑P P 12 44 01.0 +1.3
baz=79,SNR=5.1
P25A Willow Gulch B 79.17 335 ⇑P P 12 44 02.0 +1.7
baz=80
U15A North Rim 79.67 328 ⇑P P 12 44 04.8 +1.6
baz=80,SNR=6.1
N27A Anderson Farm, 79.79 337 ⇑P P 12 44 04.9 +1.3
baz=80
L31A Butterfield Fa 79.94 340 ⇓P P 12 44 04.3 +0.1
baz=80
BOSA Boshof 80.10 118 P P 12 44 05.8 +0.1
3.1nm,0.8s,baz=256,slow=4.2,SNR=3.2
O23A Lake Granby, G 80.41 335 ⇓P P 12 44 08.5 +1.5
baz=81,SNR=5.6
K30A Basset 80.61 340 ⇑P P 12 44 08.2 +0.4
baz=81
ECSD EROS Data Cent 80.80 342 ⇑P P 12 44 08.8 +0.1
baz=81
ECSD EROS Data Cent 80.80 342 ePP P 12 44 08.6 -0.1
K29A Lazy Trails An 80.90 339 ⇑P P 12 44 09.2 -0.2
baz=81
CCUT Cedar City 81.08 328 ePP P 12 44 12.5 +1.9
K28A Ten Mile Ranch 81.16 339 ⇑P P 12 44 12.1 +1.3
baz=82,SNR=5.6
J29A Okreek 81.49 340 ⇓P P 12 44 12.7 +0.2
baz=82,SNR=5.5
I30A Oacoma 81.71 341 ⇑P P 12 44 13.5 -0.1

baz=82,SNR=5.3
J27A Elkhorn Farm, 81.85 339 ⇓P P 12 44 15.8 +1.3
baz=82
I29A Vivian Onida 82.05 340 ⇓P P 12 44 15.6 +0.2
baz=82
I28A Midland 82.28 339 ⇓P P 12 44 16.8 +0.2
baz=83
H29A Onida 82.58 340 ⇓P P 12 44 17.9 -0.3
baz=83,SNR=7.4
H28A Mission Ridge 82.85 340 ⇓P P 12 44 19.9 +0.4
baz=83,SNR=5.4
K21A Alcova 83.01 335 ⇑P P 12 44 21.7 +1.0
baz=83,SNR=5.7
G29A Hoven 83.02 341 ⇑P P 12 44 20.5 +0.1
baz=83,SNR=6.3
DUG Dugway 83.05 330 ePP P 12 44 21.9 +1.0
G28A Parade 83.19 340 ⇑P P 12 44 21.6 +0.3
baz=84,SNR=6.4
F30A Leola 83.38 342 ⇓P P 12 44 21.7 -0.5
baz=84
F29A Eureka 83.59 341 ⇓P P 12 44 23.5 +0.2
baz=84,SNR=8.2
G26A Maurine 83.88 339 ⇑P P 12 44 24.9 0.0
baz=84
J20A Shoshoni 83.94 335 ⇑P P 12 44 26.6 +1.3
baz=84,SNR=5.3
PDAR Pinedale Array 83.96 333 P P 12 44 25.4 -0.3
1.6nm,0.7s,baz=163,slow=4.7,SNR=8.4
E30A Jud 83.97 342 ⇓P P 12 44 25.3 0.0
baz=84
H24A Dirks Ranch, A 83.98 338 ⇓P P 12 44 25.6 +0.1
baz=84
G25A Newell 84.03 338 ⇑P P 12 44 26.0 +0.3
baz=84
NVAR Mina Array Bea 84.04 325 P P 12 44 26.9 +0.8
2.1nm,0.7s,baz=154,slow=5.7,SNR=6.6
J19A Crowheart 84.21 334 ⇓P P 12 44 27.7 +0.9
baz=84,SNR=6.0
E29A Napoleon 84.22 341 ⇑P P 12 44 26.7 +0.1
baz=85
F26A Lodgepole 84.41 339 ⇓P P 12 44 27.8 +0.2
baz=85
I20A Worland 84.47 335 ⇓P P 12 44 28.7 +0.7
baz=85,SNR=6.1
D30A Buchanan 84.49 342 ⇓P P 12 44 28.1 +0.2
baz=85
E28A Huff 84.51 341 ⇓P P 12 44 28.6 +0.6
baz=85
TORD Torodi Ar. Bea 84.51 70 P P 12 44 28.3 -0.4
3.8nm,0.9s,baz=290,slow=5.9,SNR=7.6
E27A Carson 84.61 340 ⇑P P 12 44 28.8 +0.2
baz=85
D29A Pettibone, Tap 84.66 342 ⇑P P 12 44 29.1 +0.4
baz=85
C30A Mose, Pekin 84.97 343 ⇓P P 12 44 30.9 +0.6
baz=85,SNR=12
D28A Regan 85.04 341 ⇓P P 12 44 30.9 +0.2
baz=85
I17A Pilgrim Ck. 85.33 333 ⇑P P 12 44 33.5 +1.0
baz=86
F22A Rosebud 85.45 337 ⇓P P 12 44 32.6 -0.3
baz=86
C28A Hausauer Farms 85.47 341 ⇓P P 12 44 33.3 +0.5
baz=86
G20A Bridger 85.61 335 ⇓P P 12 44 33.6 -0.2
baz=86,SNR=8.7
B30A Myrvik Farm, E 85.63 343 ⇑P P 12 44 33.8 +0.2
baz=86,SNR=12
H18A Shoshone NF, C 85.65 334 ⇓P P 12 44 34.5 +0.4
baz=86,SNR=15
B29A Wagenman Farm, 85.90 342 ⇓P P 12 44 35.3 +0.5
baz=86,SNR=5.3
D24A Glendive 86.04 339 ⇓P P 12 44 35.7 0.0
baz=86
A30A Hoffart Farm, 86.08 343 ⇑P P 12 44 35.9 +0.1
baz=86,SNR=5.4
B28A Dugan Ranch, T 86.14 342 ⇑P P 12 44 36.6 +0.5
baz=86
A29A Manning Farm, 86.29 343 ⇑P P 12 44 37.0 +0.2
baz=87
D23A Lindsay 86.36 338 ⇓P P 12 44 37.5 +0.2
baz=87,SNR=9.7
F19A Roth Farm, Mol 86.42 335 ⇓P P 12 44 37.9 +0.2
baz=87
C24A Savage 86.44 339 ⇑P P 12 44 39.0 +1.4
baz=87,SNR=10
E20A Meyer Farm, Mu 86.71 336 ⇓P P 12 44 39.3 +0.3
baz=87,SNR=9.6
B25A Knox Farm, Ray 86.74 340 ⇓P P 12 44 40.0 +0.9
baz=87
ULM Lac du Bonnet 86.76 345 P P 12 44 38.6 -0.5
4.8nm,0.8s,baz=178,slow=5.0,SNR=6.6
D21A La Casta Ranch 86.83 337 ⇑P P 12 44 39.7 +0.2
baz=87
A27A Ledoux Ranch, 86.84 341 ⇓P P 12 44 40.3 +0.8
baz=87
E19A Rath Farm, Rou 86.89 336 ⇓P P 12 44 40.1 +0.2
baz=87,SNR=8.0
C23A Lambert 86.91 338 ⇓P P 12 44 40.1 +0.2
baz=87,SNR=7.1
MCMT McKenzie Canyo 86.96 332 eP P 12 44 41.1 +0.6
2.3nm,1.1s
DGMT Dagmar 87.22 339 eP P 12 44 41.6 +0.2
36nm,1.2s
DGMT Dagmar 87.22 339 ⇓P P 12 44 41.7 +0.3
baz=88,SNR=8.3
D20A Manuel Ranch, 87.22 336 ⇓P P 12 44 41.4 -0.1
baz=88,SNR=5.4
B23A Brockton 87.45 339 ⇓P P 12 44 42.6 0.0
baz=88
C21A Desert Coulee 87.53 337 ⇓P P 12 44 42.9 -0.1
baz=88,SNR=7.0
B22A Reddig Ranch S 87.61 338 ⇑P P 12 44 42.9 -0.4
baz=88,SNR=7.9
A22A Carney Farms, 88.20 339 ⇑P P 12 44 46.3 +0.1
baz=88,SNR=7.4
A21A Bergtoll Ranch 88.50 338 ⇑P P 12 44 47.7 +0.2
baz=89
SCHQ Schefferville 88.92 3 P P 12 44 48.6 -0.7
2.9nm,0.9s,baz=144,slow=2.3,SNR=3.8
YKA Yellowknife Ar 102.30 341 P Pdif 12 45 49.5 -0.6
0.3nm,0.7s,baz=141,slow=4.4,SNR=6.3
ILAR Eielson Array 114.39 333 PKP PKPdf 12 50 33.9 -0.4
0.3nm,0.7s,baz=145,slow=2.8,SNR=4.3
WRA Warramunga Arr 120.38 209 PKP PKPdf 12 50 45.5 -1.9
1.1nm,1.4s,baz=162,slow=1.6,SNR=10
AKASG Malin Array Be 122.56 48 PKP PKPdf 12 50 49.0 -1.4
0.3nm,0.3s,baz=262,slow=3.4,SNR=5.0
SPITS Spitsbergen Ar 123.04 14 PKP PKPdf 12 50 50.1 -0.6
2.5nm,0.7s,baz=250,slow=7.2,SNR=3.9
FINES FINESS Array B 123.37 35 PKP PKPdf 12 50 51.2 -0.5
1.6nm,0.9s,baz=241,slow=2.9,SNR=3.0
ARCES ARCESS Array B 124.40 25 PKP PKPdf 12 50 53.1 -0.3
3.3nm,1.0s,baz=243,slow=3.8,SNR=3.6
BRVK Borovoye 147.59 43 ePKPbc PKPbc 12 51 39.6 +0.3
BVAR Borovoye Array 147.66 43 PKPbc PKPbc 12 51 40.0 +0.6
4.0nm,0.5s,baz=288,slow=2.2,SNR=14
AAK Ala-Archa 152.84 62 PKPbc PKPbc 12 51 52.8 +0.3
2.4nm,0.6s,baz=297,slow=2.3,SNR=4.6
AAK PKPab PKPab 12 52 03.8 +0.2
1.6nm,0.6s,baz=293,slow=18,SNR=3.1
ZALV Zalesovo Beam 154.61 32 PKPbc PKPbc 12 51 55.7 -0.1
4.5nm,0.7s,baz=294,slow=3.3,SNR=9.2
ZALV PKPab PKPab 12 52 10.2 -0.2
2.5nm,0.5s,baz=308,slow=3.9,SNR=5.3
MKAR Makanchi Array 157.13 49 PKPab PKPab 12 52 21.1 -0.4
1.5nm,0.7s,baz=298,slow=4.3,SNR=5.2
SONM Songino Array 166.47 4 PKPab PKPab 12 53 02.3 0.0
1.4nm,0.9s,baz=2.9,slow=2.9,SNR=5.9

ISCJB **27** *12:32:53.6±0.6, 36°.27S±0°.09×73°.4W±0°.1, h10km, mb4.5/15, Error ellipse: s-maj=16.7km s-min=13.2km az=3.3*
IDC **27** *12:32:53.4±0.6, 36°.28S×73°.51W, h0km, mb4.6/15, mb1 4.7/16, mb1mx4.5/32, mbtmp4.6/16, ML4.0/1, Error ellipse: s-maj=23.2km s-min=16.9km az=85.0*
NEIC **27** *12:32:58.9±0.3, 36°.26S×73°.44W, h35km, mb4.6/1, Error ellipse: s-maj=11.1km s-min=8.6km az=100.0*
ISC 27 12:32:55.5±0.6, 36°.3S±0°.1×73°.4W±0°.1, h10km, n40, σ1°.36/41, mb4.6/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	6.34	44	Pn	Pn	12 34 29.5	+0.5
	3.3nm,0.3s,baz=228,slow=12,SNR=3.6						
LPAZ	La Paz	20.44	15	P	P	12 37 35.4	+1.7
	18nm,0.7s,baz=193,slow=5.4,SNR=7.7						
SIV	San Ignacio	22.99	32	P	P	12 37 59.1	-1.4
	17nm,0.8s,baz=220,slow=13,SNR=7.8						
NNA	Nana	24.36	352	P	P	12 38 13.1	-0.7
	12nm,0.6s,baz=192,slow=10.0,SNR=5.3						
BDFB	Brasilia	30.56	54	P	P	12 39 09.0	-0.5
	6.4nm,0.7s,baz=197,slow=7.1,SNR=3.6						
RCBR	Riachuelo	45.81	58	P	P	12 41 18.5	+0.8
	11nm,1.1s,baz=230,slow=14,SNR=4.8						
SNAA	Sanae	49.94	157	P	P	12 41 49.3	+0.2
	6.3nm,0.9s,baz=290,slow=7.3,SNR=9.2						
QSPA	South Pole Qui	53.98	180	P	P	12 42 19.1	-0.3
	6.4nm,0.8s,baz=112,slow=1.9,SNR=3.1						
TEIG	Tepich	57.91	344	P	P	12 42 47.3	-0.4
	11nm,0.7s,baz=115,slow=15,SNR=4.1						
TXAR	Lajitas Array	71.17	332	P	P	12 44 14.6	+0.1
	1.8nm,0.6s,baz=153,slow=8.2,SNR=7.2						
DBIC	Dimbokro	76.98	72	P	P	12 44 48.8	+0.1
	7.0nm,0.6s,baz=200,slow=4.8,SNR=8.7						
BOSA	Boshof	80.02	118	P	P	12 45 05.2	-0.3
	5.2nm,0.9s,baz=252,slow=4.4,SNR=3.6						
JLU	Jordanelle	84.08	332	eP	P	12 45 26.3	-0.2
	3.0nm,0.6s						
NVAR	Mina Array Bea	85.10	326	P	P	12 45 31.5	-0.1
	1.5nm,0.6s,baz=156,slow=5.2,SNR=4.6						
PDAR	Pinedale Array	85.28	334	P	P	12 45 31.6	-0.9
	0.9nm,0.7s,baz=136,slow=6.2,SNR=4.7						
TORD	Torodi Ar. Bea	86.04	71	P	P	12 45 36.0	-0.6
	2.7nm,0.8s,baz=245,slow=3.8,SNR=4.7						
ULM	Lac du Bonnet	88.39	346	P	P	12 45 46.0	-1.1
	6.1nm,0.7s,baz=167,slow=3.3,SNR=7.7						
YKA	Yellowknife Ar	103.83	342	Pdiff	Pdif	12 46 56.0	-1.0
	0.2nm,0.6s,baz=144,slow=4.8,SNR=3.1						
ILAR	Eielson Array	115.19	333	PKP	PKPdf	12 51 36.1	-0.9
	0.3nm,0.7s,baz=153,slow=4.0,SNR=3.7						
WRA	Warramunga Arr	118.24	210	PKP	PKPdf	12 51 42.0	-1.5
	0.7nm,0.7s,baz=139,slow=0.8,SNR=3.2						
BRTR	Keskin Array B	123.91	63	PKP	PKPdf	12 51 52.8	-1.1
	0.7nm,0.7s,baz=205,slow=3.3,SNR=4.0						
HYB	Hyderabad	148.91	120	i PKP	PKPdf	12 52 42.5	+2.5
BRVK	Borovoye	149.62	45	ePKPbc	PKPdf	12 52 44.5	+4.4
BVAR	Borovoye Array	149.70	45	PKPbc	PKPbc	12 52 44.9	0.0
	3.6nm,0.6s,baz=292,slow=3.2,SNR=7.6						
YAK	Yakutsk	150.43	338	ePKPbc	PKPdf	12 52 45.7	+4.7
AAK	Ala-Archa	154.53	66	PKPab	PKPab	12 53 10.2	-0.8
	2.5nm,0.6s,baz=201,slow=4.3,SNR=5.2						
ZALV	Zalesovo Beam	156.74	34	PKPab	PKPab	12 53 19.9	+0.1
	3.2nm,0.6s,baz=304,slow=6.1,SNR=5.4						
KOLN	Koldanda	158.80	107	eP	PKPab	12 53 29.2	-0.6
	14nm,0.8s						
MKAR	Makanchi Array	159.08	52	PKP	PKPdf	12 52 51.8	-1.6
	1.9nm,0.8s,baz=323,slow=2.2,SNR=5.9						
MKAR				PKPab	PKPab	12 53 29.3	-0.9
	1.1nm,0.8s,baz=286,slow=5.4,SNR=3.5						
DANN	Dangsing	159.20	106	eP	PKPab	12 53 31.0	-0.6
	23nm,1.3s						
GKN	Gorkha	159.71	108	eP	PKPab	12 53 33.1	-0.6
	18nm,0.8s						
DMN	Daman	159.88	109	eP	PKPab	12 53 34.0	-0.5
	17nm,0.9s						
PKIN	Phulchoki	160.08	110	eP	PKPab	12 53 34.6	-0.9
	7.8nm,0.6s						
PKI	Pulchoki	160.09	110	eP	PKPab	12 53 34.8	-0.8
	6.9nm,0.5s						
KKN	Kakani	160.10	109	eP	PKPab	12 53 35.2	-0.3
GUN	Gumba	160.62	110	eP	PKPab	12 53 37.4	-0.5
RAMN	Ramite	160.65	113	eP	PKPab	12 53 37.5	-0.4
	6.1nm,0.6s						
JIRN	Jiri	160.73	111	eP	PKPab	12 53 38.0	-0.4
	6.1nm,0.5s						
ODAN	Odare	161.19	114	eP	PKPab	12 53 39.7	-0.5
	6.5nm,0.7s						
SONM	Songino Array	168.43	1	PKPab	PKPab	12 54 11.4	+0.1
	1.3nm,1.0s,baz=339,slow=3.4,SNR=5.0						

IDC **27** *12:33:38.9±1.7, 26°.14N×128°.93E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/37, mbtmp3.4/3, Error ellipse: s-maj=64.6km s-min=19.1km az=60.0*
ISCJB **27** *12:33:41.8±0.6, 25°.92N±0°.04×128°.67E±0°.04, h27km, mb3.4/3, Error ellipse: s-maj=5.6km s-min=4.8km az=1.3*
JMA **27** *12:33:43.8±0.5, 26°.01N×128°.63E, h21km, M3.0*
ISC 27 12:33:42.6±0.9, 26°.02N±0°.05×128°.72E±0°.04, h27km, n16, σ1°.25/25, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.80	309	P	Pb	12 33 57.4	-0.5
JNTH				eS	Sb	12 34 08.2	-0.1
JJT2	Tamagusuku 2	0.88	278	P	Pb	12 33 59.2	0.0
JOW	Kunigami	0.90	334	P	Pb	12 34 00.6	+0.9
JOW				eS	Sn	12 34 12.4	+0.6
JOW	Kunigami	0.90	334	Pn	Pb	12 34 00.2	+0.5
	baz=140,slow=17						
JOW				Sn	Sn	12 34 12.3	+0.6
	baz=143,slow=20						
JIH	Iheya	1.22	327	P	Pb	12 34 05.2	+0.2
JIH				eS	Sb	12 34 20.6	+0.4
JOKE	Okinoerabujima	1.34	355	P	Pb	12 34 07.6	+0.4
JOKE				eS	Sb	12 34 24.4	+0.4
JAGN	Aguni-jima	1.44	294	P	Pb	12 34 07.6	-1.2
JAGN				eS	Sn	12 34 24.9	0.0
JKE	Kume jima 2	1.76	280	P	Pn	12 34 11.1	-0.2
JKE				eS	Sn	12 34 31.6	-1.3
JTK	Tokunoshima	1.77	7	P	Pb	12 34 13.6	-0.9
JTK				eS	Sb	12 34 35.6	-0.7
JAMN	Amaminishikomi	2.25	10	P	Pb	12 34 21.0	-1.6
JMZ	Minamidaito 2	2.27	94	P	Pn	12 34 19.1	+0.8
JMZ				eS	Sn	12 34 44.9	-0.4
JAM	Amami Oshima	2.51	18	P	Pb	12 34 23.5	-3.5
JAM				eS	Sb	12 34 53.5	-4.0
JOGS	Gusukube	3.24	248	eS	Sn	12 35 07.2	-2.3
MKAR	Makanchi Array	42.00	312	P	P	12 41 32.1	+0.6
	0.2nm,0.5s,baz=93,slow=11,SNR=5.1						
WRA	Warramunga Arr	46.01	173	P	P	12 42 05.1	+1.2
	0.7nm,0.9s,baz=353,slow=9.5,SNR=2.8						
AKASG	Malin Array Be	75.97	320	P	P	12 45 27.2	+0.1
	0.2nm,0.3s,baz=60,slow=7.2,SNR=3.7						

GUC **27** *12:34:54.7±0.6, 34°.06S×72°.55W, h37km±4km, ML5.7*
IDC **27** *12:34:58.8±0.5, 34°.00S×72°.09W, h0km, mb4.6/19, mb1 4.6/21, mb1mx4.6/32, mbtmp4.6/21, ML4.1/2, Error ellipse: s-maj=17.6km s-min=13.9km az=90.0*
ISCJB **27** *12:35:00.4±0.5, 33°.97S±0°.05×72°.09W±0°.08, h19km, mb4.5/20, Error ellipse: s-maj=9.9km s-min=7.2km az=26.2*
NEIC **27** *12:35:04.1±0.3, 33°.98S×72°.12W, h35km, mb4.4/2, Error ellipse: s-maj=10.1km s-min=7.7km az=96.0*
ISC 27 12:35:01.9±0.5, 33°.92S±0°.07×72°.01W±0°.06, h19km, n58, σ1°.25/60, mb4.6/20, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.58	39	eP	Pb	12 35 12.6	-0.7
TACH	Talagante	0.93	73	eP	Pb	12 35 19.0	-0.4
IHA	Instituto Hidr	0.95	19	eP	Pb	12 35 17.1	-2.6
SAN	Santiago	1.22	68	eP	Pn	12 35 23.9	-0.1
SAN				eS	Sb	12 35 35.2	-4.5
ROCH	El Roble	1.26	42	eP	Pn	12 35 23.7	-1.1
ROCH				eP	Pb	12 35 24.1	-1.2
ROCH				eS	Sg	12 35 46.5	+3.5
ROCH				AML	AML	12 35 52.7	
	comp=N,246μm,0.6s						
PEL	Peldehue	1.35	55	eP	Pn	12 35 25.1	-0.7
PEL				eS	Sg	12 35 48.3	+2.6
PEL				AML	AML	12 35 54.5	
	comp=N,68μm,0.7s						
FCH	Farellones	1.55	68	eP	Pg	12 35 31.3	-0.6
FCH				eS	Sg	12 35 53.9	+1.7
CFAA	Coronel Fontan	3.93	55	Pn	Pn	12 36 02.9	+1.6
	comp=N,3.4nm,0.3s,baz=165,slow=17,SNR=20						
CFAA				Lg	Lg	12 37 06.0	
	comp=N,6.9nm,0.3s,baz=306,slow=19,SNR=8.3						
CPUP	Villa Florida	14.78	63	Pn	P	12 38 34.1	-1.6
	comp=N,0.5nm,0.3s,baz=274,slow=18,SNR=1.7						
LPAZ	La Paz	17.91	12	P	P	12 39 11.9	+0.7
	comp=N,0.7nm,0.3s,baz=189,slow=7.0,SNR=7.1						
SIV	San Ignacio	20.40	32	P	P	12 39 38.0	+0.2
	comp=N,12nm,0.7s,baz=227,slow=14,SNR=6.0						
USHA	Ushuaia	21.05	174	P	P	12 39 44.9	+0.3
	comp=N,10nm,0.9s,baz=280,slow=15,SNR=2.7						
NNA	Nana	22.28	347	P	P	12 39 60.0	+1.8
	comp=N,5.1nm,0.4s,baz=215,slow=8.0,SNR=3.7						
SAML	Samuel	26.15	20	eP	P	12 40 35.7	+0.6
	comp=N,24nm,0.9s						
ATAH	Atahualpa	27.30	346	P	P	12 40 46.1	+0.2
	comp=N,5.8nm,0.7s,baz=166,slow=13,SNR=2.2						
BDFB	Brasilia	28.27	56	P	P	12 40 54.8	+0.5
	comp=N,21nm,1.1s,baz=181,slow=4.2,SNR=5.9						
RCBR	Riachuelo	43.58	58	P	P	12 43 05.9	+0.8
	comp=N,9.3nm,0.9s,baz=203,slow=13,SNR=3.1						
VNA3	Neumayer Olymp	49.42	158	P	P	12 43 50.2	+0.1
VNA2	Neumayer--Watz	50.07	157	P	P	12 43 55.6	+0.6
SNAA	Sanae	51.65	158	P	P	12 44 07.2	+0.2
SNAA	Sanae	51.65	158	P	P	12 44 07.2	+0.2
	comp=N,8.3nm,1.0s,baz=281,slow=4.9,SNR=8.4						
QSPA	South Pole Qui	56.31	180	P	P	12 44 40.6	-0.6
	comp=N,18nm,1.0s,baz=186,slow=4.3,SNR=6.6						
H06E1	SOCORRO T-PHAS	64.20	319	T	T	13 55 23.3	
TXAR	Lajitas Array	69.68	331	P	P	12 46 11.0	+0.6
	comp=N,0.7nm,0.5s,baz=153,slow=8.7,SNR=8.9						
BBTS	Babate	71.55	57	P	P	12 46 23.5	+1.5
	comp=N,29nm,1.0s,baz=245,slow=4.3,SNR=5.5						
SUR	Sutherland	74.84	119	P	P	12 46 42.1	+0.5
	comp=N,16nm,1.1s,baz=232,slow=5.4,SNR=3.4						
DBIC	Dimbokro	75.13	71	P	P	12 46 43.3	+0.1
	comp=N,4.2nm,0.8s,baz=192,slow=5.9,SNR=3.7						
TSUM	Tsumeb	79.21	106	P	P	12 47 07.2	+1.0
	comp=N,5.9nm,1.1s,baz=256,slow=9.8,SNR=4.1						
BOSA	Boshof	80.08	118	P	P	12 47 10.7	-0.2
	comp=N,4.5nm,0.7s,baz=264,slow=1.4,SNR=4.8						
PDAR	Pinedale Array	83.71	333	P	P	12 47 30.2	+0.7
	comp=N,1.3nm,1.0s,baz=143,slow=3.7,SNR=3.6						
NVAR	Mina Array Bea	83.84	325	P	P	12 47 31.2	+0.9
	comp=N,1.3nm,0.7s,baz=150,slow=7.3,SNR=3.3						
TOA0	Torodi Ar. Sit	84.16	70	eP	P	12 47 32.1	-0.1
TORD	Torodi Ar. Bea	84.16	70	P	P	12 47 32.2	0.0
	comp=N,15nm,0.9s,baz=248,slow=3.9,SNR=20						
ULM	Lac du Bonnet	86.43	345	P	P	12 47 41.8	-0.9
	comp=N,3.2nm,0.8s,baz=165,slow=6.2,SNR=3.2						
MCMT	McKenzie Canyo	86.71	332	eP	P	12 47 44.6	0.0
	comp=N,0.8nm,0.8s						
SCHQ	Schefferville	88.51	3	P	P	12 47 52.8	+0.2
	comp=N,2.2nm,0.8s,baz=198,slow=3.2,SNR=3.1						
YKA	Yellowknife Ar	101.99	341	P	Pdif	12 48 52.8	-1.1
	comp=N,0.2nm,0.6s,baz=140,slow=4.3,SNR=3.6						
MLR	Muntele Rosu	118.41	52	PKP	PKPdf	12 53 46.9	-1.1
	comp=N,0.3nm,0.6s,baz=145,slow=5.9,SNR=3.2						
WRA	Warramunga Arr	120.84	209	PKP	PKPdf	12 53 51.9	-1.6
	comp=N,0.5nm,0.4s,baz=161,slow=1.8,SNR=6.8						
BRTR	Keskin Array B	121.77	61	PKP	PKPdf	12 53 54.7	0.0
	comp=N,1.4nm,0.9s,baz=178,slow=3.2,SNR=5.7						
AKASG	Malin Array Be	122.12	47	PKP	PKPdf	12 53 53.1	-1.6
	comp=N,2.6nm,0.9s,baz=263,slow=3.0,SNR=10						
FINES	FINESS Array B	122.91	35	PKP	PKPdf	12 53 55.0	-1.0
	comp=N,2.3nm,1.0s,baz=296,slow=6.3,SNR=3.6						
ARCES	ARCESS Array B	123.94	25	PKP	PKPdf	12 53 57.3	-0.4
	comp=N,3.8nm,0.8s,baz=242,slow=2.6,SNR=5.3						
H11S2	WAKE ISLAND Hyl	125.80	269	T	T	15 12 54.9	
	baz=116						
H11S1	WAKE ISLAND Hyl	125.81	269	T	T	15 12 57.1	
	baz=116						
H11S3	WAKE ISLAND Hyl	125.81	269	T	T	15 12 56.0	
	baz=116						
KBZ	Khabaz	129.53	58	PKP	PKPdf	12 54 10.1	+0.9
	comp=N,3.8nm,1.1s,baz=335,slow=4.7,SNR=4.1						
PETK	Petropavlovsk-	140.12	314	PKP	PKPdf	12 54 29.8	+1.1
	comp=N,3.3nm,0.9s,baz=44,slow=11,SNR=2.4						
POO	Poona	145.94	108	⇑i P	PKPab	12 54 41.0	-0.3
	comp=N,114nm,1.2s						
BVAR	Borovoye Array	147.21	43	PKPbc	PKPdf	12 54 42.2	+1.0
	comp=N,4.9nm,0.6s,baz=297,slow=2.0,SNR=12						
HYB	Hyderabad	148.94	115	i PKP	PKPbc	12 54 47.5	-1.6
KKAR	Karatay Array	149.49	61	ePKPbc	PKPbc	12 54 49.7	0.0
EKS2	Erkin-Say	151.92	62	ePKPbc	PKPbc	12 54 56.1	+0.5
AAK	Ala-Archa	152.45	62	PKPbc	PKPbc	12 54 57.7	+0.9
	comp=N,5.4nm,0.8s,baz=260,slow=2.3,SNR=7.4						
ZALV	Zalesovo Beam	154.15	32	PKP	PKPdf	12 54 51.3	-0.5
	comp=N,2.9nm,0.8s,baz=276,slow=2.8,SNR=4.9						
ZALV				PKPbc	PKPbc	12 54 59.6	-0.3
	comp=N,9.8nm,0.7s,baz=299,slow=3.0,SNR=18						
MKAR	Makanchi Array	156.69	49	PKP	PKPdf	12 54 54.6	-0.9
	comp=N,0.9nm,0.8s,baz=270,slow=2.5,SNR=3.6						
CMAR	Chiang Mai Arr	162.60	150	PKP	PKPdf	12 55 02.2	-0.8
	comp=N,0.2nm,0.3s,baz=245,slow=1.9,SNR=4.4						
SONM	Songino Array	166.05	4	PKPab	PKPab	12 56 06.8	+1.0
	comp=N,0.7nm,0.8s,baz=2.5,slow=2.8,SNR=4.4						

IDC **27** *12:35:44.9±1.7, 37°.16S×74°.17W, h0km, mb4.4/5, mb1 4.7/6, mb1mx4.3/31, mbtmp4.4/6, ML4.8/1, Error ellipse: s-maj=85.9km s-min=29.7km az=45.0*
ISCJB **27** *12:35:48.2±1.2, 37°.3S±0°.3×74°.2W±0°.5, h33km, mb4.4/5, Error ellipse: s-maj=69.8km s-min=17.3km az=143.8*
ISC 27 12:35:49.8±1.4, 37°.3S±0°.3×74°.3W±0°.4, h35km, n8, σ0°.39/7, mb4.4/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.48	141	Pn	Pn	12 36 55.2	0.0
	9.6nm,0.3s,baz=317,slow=18,SNR=4.9						
TXAR	Lajitas Array	71.80	333	P	P	12 47 08.8	0.0
	2.2nm,0.5s,baz=154,slow=9.0,SNR=9.4						
DBIC	Dimbokro	77.94	72	P	P	12 47 44.8	+0.3
	5.6nm,1.0s,baz=186,slow=3.9,SNR=3.6						
NVAR	Mina Array Bea	85.61	327	P	P	12 48 24.9	+0.3
	0.7nm,0.5s,baz=138,slow=9.6,SNR=2.6						
PDAR	Pinedale Array	85.93	335	P	P	12 48 26.4	+0.2
	1.3nm,0.9s,baz=132,slow=6.2,SNR=3.6						
SCHQ	Schefferville	92.00	4	P	P	12 48 53.9	-0.4
	8.4nm,1.3s,baz=241,slow=19,SNR=2.8						
BVAR	Borovoye Array	150.90	46	PKPbc	PKPbc	12 55 37.6	-0.4
	2.2nm,0.7s,baz=262,slow=2.4,SNR=2.1						
AAK	Ala-Archa	155.55	68	PKPbc	PKPdf	12 55 47.9	+8.3
	6.8nm,0.9s,baz=291,slow=2.1,SNR=4.7						

IDC **27** *12:38:05.4±0.8, 36°.68S×72°.91W, h0km, mb4.3/7, mb1 4.5/7, mb1mx4.2/30, mbtmp4.3/7, Error ellipse: s-maj=40.1km s-min=22.4km az=69.0*
ISCJB **27** *12:38:07.8±0.7, 36°.6S±0°.2×72°.8W±0°.3, h25km, mb4.3/9, Error ellipse: s-maj=39.1km s-min=16.7km az=156.9*
NEIC **27** *12:38:10.8±0.5, 36°.64S×72°.90W, h35km, mb4.5/2, Error ellipse: s-maj=25.6km s-min=13.0km az=69.0*
ISC 27 12:38:09.3±0.8, 36°.6S±0°.2×72°.9W±0°.3, h25km, n17, σ0°.85/15, mb4.4/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.49	157	Lg	Lg	12 40 29.1	
	4.9nm,0.3s,baz=2.1,slow=16,SNR=2.2						
OTAV	Otavalo	37.03	351	eP	P	12 45 16.1	-1.5
	16nm,1.5s						
SNAA	Sanae	49.44	157	P	P	12 46 56.2	-0.6
	1.5nm,0.9s,baz=284,slow=8.6,SNR=2.9						
QSPA	South Pole Qui	53.63	180	P	P	12 47 28.7	+0.4
	8.7nm,0.9s,baz=146,slow=2.5,SNR=4.3						
TXAR	Lajitas Array	71.70	332	P	P	12 49 29.6	+0.6
	2.7nm,0.8s,baz=151,slow=8.0,SNR=8.8						
DBIC	Dimbokro	76.65	71	P	P	12 49 58.6	+0.3
	2.7nm,0.7s,baz=246,slow=4.9,SNR=4.0						
ANMO	Albuquerque	77.76	332	eP	P	12 50 04.9	+0.7
	3.2nm,0.9s						
BOSA	Boshof	79.45	118	P	P	12 50 14.2	+0.3
	3.1nm,0.8s,baz=265,slow=3.8,SNR=3.3						
NVAR	Mina Array Bea	85.65	326	P	P	12 50 46.9	+1.0
	1.1nm,0.7s,baz=164,slow=5.1,SNR=5.2						
PDAR	Pinedale Array	85.80	334	P	P	12 50 46.4	-0.1
	1.6nm,1.0s,baz=165,slow=4.7,SNR=6.4						
GERES	GERESS Array B	114.45	46	PKP	PKPdf	12 56 46.2	-0.4
	0.4nm,0.7s,baz=160,slow=3.1,SNR=2.5						
WRA	Warramunga Arr	118.16	209	PKP	PKPdf	12 56 53.3	-1.3
	0.3nm,0.6s,baz=147,slow=1.9,SNR=3.6						
BRTR	Keskin Array B	123.66	63	PKP	PKPdf	12 57 04.8	+0.2
	0.6nm,0.7s,baz=321,slow=1.6,SNR=4.1						
HYB	Hyderabad	148.34	119	i PKP	PKPbc	12 57 53.0	-0.8
ZALV	Zalesovo Beam	156.77	35	PKPab	PKPab	12 58 32.4	+1.1
	1.2nm,0.6s,baz=313,slow=5.3,SNR=2.8						
MKAR	Makanchi Array	158.92	53	PKPab	PKPab	12 58 41.2	+0.2
	0.9nm,0.7s,baz=281,slow=4.7,SNR=3.5						
SONM	Songino Array	168.77	3	PKPab	PKPab	12 59 24.2	+0.1
	0.9nm,1.0s,baz=333,slow=5.5,SNR=3.7						

IDC **27** *12:40:23.4±0.7, 34°.40S×73°.42W, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.3/30, mbtmp4.4/13, ML4.3/1, Error ellipse: s-maj=29.4km s-min=15.9km az=80.0*
ISCJB **27** *12:40:26.8±0.6, 34°.42S±0°.08×73°.4W±0°.2, h33km,*

mb4.3/13, Error ellipse: s-maj=23.8km s-min=11.3km az=172.1

*NEIC **27** 12:40:28.7±0.4, 34°.39S×73°.40W, h35km, mb4.6/2, Error ellipse: s-maj=18.8km s-min=9.0km az=83.0*

ISC 27 12:40:28.6±0.7, 34°.5S±0°.1×73°.4W±0°.2, h35km, n22, σ0s.94/23, mb4.4/13, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**18.70**	**16**	P	**Pn**	**12 44 44.9**	**-0.3**
	0.4nm,0.3s,baz=201,slow=6.3,SNR=4.3						
LPAZ	**La Paz**	**18.70**	**16**	P	**Pn**	**12 44 44.9**	**-0.3**
LPAZ				*e*Pn	**P**	**12 44 46.9**	**+2.3**
USHA	**Ushuaia**	**20.68**	**172**	P	Pn	12 45 07.2	-0.6
	10nm,0.8s,baz=320,slow=8.6,SNR=3.7						
SIV	**San Ignacio**	**21.47**	**34**	P	**P**	**12 45 13.1**	**-1.0**
	15nm,0.8s,baz=231,slow=12,SNR=8.9						
NNA	**Nana**	**22.58**	**351**	P	**P**	**12 45 25.0**	**-1.0**
	11nm,0.8s,baz=199,slow=11,SNR=5.6						
OTAV	**Otavalo**	**34.83**	**351**	*e*P	**P**	**12 47 18.0**	**+1.2**
	6.5nm,0.9s						
SNAA	**Sanae**	**51.60**	**158**	P	**P**	**12 49 31.2**	**+0.1**
	1.8nm,0.7s,baz=276,slow=7.7,SNR=15						
QSPA	**South Pole Qui**	**55.79**	**180**	P	**P**	**12 50 02.3**	**+0.4**
	6.5nm,0.9s,baz=169,slow=1.0,SNR=7.3						
TXAR	**Lajitas Array**	**69.58**	**332**	P	**P**	**12 51 34.2**	**+0.1**
	1.8nm,0.8s,baz=151,slow=8.2,SNR=8.5						
MSTX	**Muleshoe**	**73.42**	**335**	*e*P	**P**	**12 51 56.4**	**-0.8**
	7.9nm,1.1s						
DBIC	**Dimbokro**	**76.40**	**72**	P	**P**	**12 52 14.2**	**-0.5**
	8.4nm,0.8s,baz=209,slow=11,SNR=7.7						
BOSA	**Boshof**	**80.86**	**118**	P	**P**	**12 52 39.8**	**+0.4**
	2.9nm,0.9s,baz=180,slow=5.1,SNR=3.1						
NVAR	**Mina Array Bea**	**83.61**	**326**	P	**P**	**12 52 54.3**	**+0.8**
	0.5nm,0.5s,baz=140,slow=2.9,SNR=3.0						
PDAR	**Pinedale Array**	**83.66**	**334**		**P**	**12 52 52.6**	**-1.0**
	1.1nm,1.0s,baz=140,slow=7.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**85.43**	**71**	P	**P**	**12 53 02.8**	**-0.1**
	2.8nm,0.8s,baz=253,slow=3.9,SNR=7.2						
ULM	**Lac du Bonnet**	**86.64**	**346**	P	**P**	**12 53 07.3**	**-0.7**
	5.3nm,1.1s,baz=205,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**119.81**	**210**	PKP	**PKPdf**	**12 59 14.2**	**-1.5**
	0.5nm,0.8s,baz=160,slow=1.7,SNR=3.5						
BVAR	**Borovoye Array**	**148.38**	**43**	PKPbc	**PKPbc**	**13 00 11.6**	**+0.9**
	1.4nm,0.6s,baz=289,slow=4.4,SNR=8.2						
ZAA0	**Zalesovo Array**	**155.21**	**32**	*e*PKPbc	PKPdf	13 00 26.3	+8.8
ZAA0				*e*PKPab	**PKPab**	**13 00 42.9**	**+0.4**
ZALV	**Zalesovo Beam**	**155.21**	**32**	PKP	**PKPdf**	**13 00 16.6**	**-0.8**
	0.4nm,0.3s,baz=300,slow=2.8,SNR=4.0						
ZALV				PKPbc	PKPbc	13 00 26.3	
	3.1nm,0.9s,baz=301,slow=3.1,SNR=6.3						
MKAR	**Makanchi Array**	**157.91**	**49**	PKP	**PKPdf**	**13 00 22.5**	**+1.2**
	0.5nm,0.8s,baz=20,slow=1.7,SNR=3.2						
MKAR				PKPab	**PKPab**	**13 00 54.7**	**+0.3**
	1.1nm,0.7s,baz=292,slow=4.3,SNR=6.1						
SONM	**Songino Array**	**166.62**	**1**	PKPab	**PKPab**	**13 01 32.6**	**+0.1**
	0.3nm,0.5s,baz=349,slow=1.5,SNR=6.1						

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*SJA **27** 12:41:41.2±0.8, 31°.50S×69°.65W, h16km±6km, ML4.8*

*IDC **27** 12:41:43.1±0.6, 31°.78S×69°.44W, h0km, mb4.6/13, mb1 4.7/16, mb1mx4.5/34, mbtmp4.6/16, ML4.5/3, Error ellipse: s-maj=17.1km s-min=10.6km az=180.0*

*GUC **27** 12:41:44.7±4.2, 31°.23S×70°.05W, h28km±203km, ML5.1*

*ISCJB **27** 12:41:47.3±0.8, 31°.64S±0°.04×69°.23W±0°.05, h28km±6km, mb4.8/46, Error ellipse: s-maj=8.6km s-min=4.7km az=31.8*

*NEIC **27** 12:41:49.6±1.0, 31°.77S×69°.19W, h40km±8km, mb4.9/33, Error ellipse: s-maj=9.8km s-min=5.6km az=68.0*

ISC 27 12:41:47.6±1.3, 31°.69S±0°.05×69°.33W±0°.04, h24km±10km, n358, σ1s.06/365, mb4.9/46, 139C-131D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.54**	**185**	*i* P	**Pb**	**12 41 56.1**	**-2.5**
AUSP				*e*S	**Sn**	**12 42 08.1**	**-0.3**
SJA	**San Juan**	**0.68**	**76**	*i* P	**Pb**	**12 41 59.6**	**-1.1**
SJA				*e*S	**Sn**	**12 42 12.1**	**+0.6**
RTCV	**Cerro Valdivia**	**0.69**	**105**	*i* P	**Pb**	**12 42 00.4**	**-0.6**
RTCV				*i* P	**Pn**	**12 42 00.6**	**-1.4**
RTLL	**Cerro Villicun**	**0.81**	**64**	*i* P	**Pb**	**12 42 00.8**	**-2.3**
CFAA	**Coronel Fontan**	**0.93**	**85**	Pg	**Pb**	**12 42 04.8**	**-0.3**
	15nm,0.3s,baz=260,slow=16,SNR=43						
CFAA				Lg	Lg	12 42 15.9	
	106nm,0.3s,baz=280,slow=19,SNR=35						
CFAA	**Coronel Fontan**	**0.93**	**85**	*i* P	**Pb**	**12 42 04.5**	**-0.6**
ARCO	**CERRO ARCO**	**1.20**	**164**	*i* P	**Pn**	**12 42 08.9**	**-0.1**
ARCO				*e*S	**Sb**	**12 42 29.7**	**+4.9**
ARCO				AML	AML	12 42 33.2	
	comp=Z,13µm,0.6s						
AAGR	**Agrelo**	**1.46**	**163**	*i* P	**Pn**	**12 42 12.7**	**+0.2**
JACH	**Jahuel**	**1.46**	**227**	*e*P	**Pn**	**12 42 11.8**	**-0.8**
FCH	**Farellones**	**1.83**	**206**	*e*P	Pb	12 42 26.3	+5.8
FCH				*e*S	Sb	12 42 51.4	+8.3
FCH				AML	AML	12 42 52.8	
	comp=E,9µm,0.3s						
PEL	**Peldehue**	**1.85**	**218**	*e*P	**Pn**	**12 42 18.8**	**+1.0**
PEL				*e*S	**Sb**	**12 42 45.2**	**+1.7**
PEL				AML	AML	12 42 47.9	
	comp=N,33µm,0.5s						
AVIZ	**Vizcacheras**	**1.91**	**159**	*i* P	**Pn**	**12 42 19.5**	**+0.8**
ROCH	**El Roble**	**1.92**	**228**	*e*P	**Pn**	**12 42 18.7**	**-0.2**
ROCH				*e*P	**Pn**	**12 42 18.7**	**-0.2**
ROCH				*e*S	**Sn**	**12 42 42.4**	**0.0**
ROCH				AML	AML	12 42 49.3	
	comp=N,43µm,0.7s						
SAN	**Santiago**	**2.09**	**212**	*e*P	**Pn**	**12 42 23.2**	**+2.1**
SAN				*e*S	**Sb**	**12 42 49.9**	**-0.5**
TRQA	**Tornquist**	**8.76**	**138**	*e*Pn	**Pn**	**12 43 52.8**	**0.0**
	comp=N,121nm,0.6s						
CPUP	**Villa Florida**	**11.78**	**66**	Pn	**Pn**	**12 44 33.6**	**-0.4**
	comp=N,2.9nm,0.3s,baz=223,slow=10,SNR=5.6						
LPAZ	**La Paz**	**15.37**	**4**	Pn	**Pn**	**12 45 24.6**	**+1.0**
	comp=N,0.4nm,0.3s,baz=188,slow=6.8,SNR=4.0						
SIV	**San Ignacio**	**17.34**	**28**	P	**P**	**12 45 49.3**	**-0.1**
	comp=N,0.4nm,0.3s,baz=242,slow=15,SNR=2.6						
USHA	**Ushuaia**	**23.14**	**179**	P	**P**	**12 46 51.7**	**-0.2**
	comp=N,64nm,1.0s,baz=321,slow=9.3,SNR=9.7						
SAML	**Samuel**	**23.34**	**15**	*e*P	**P**	**12 46 54.7**	**+0.6**
	comp=N,14nm,0.9s						
JTS	**JuntasAbangare**	**44.34**	**338**	P	**P**	**12 49 57.1**	**+1.1**
	comp=N,4.4nm,0.6s,baz=113,slow=7.7,SNR=4.5						
QSPA	**South Pole Qui**	**58.54**	**180**	P	**P**	**12 51 39.6**	**-2.3**
	comp=N,6.3nm,0.8s,baz=158,slow=1.9,SNR=6.2						
833A	**Chaparral WMA,**	**66.19**	**331**	⇑P	**P**	**12 52 34.2**	**+0.9**
	baz=67,SNR=7.6						
832A	**Faith Ranch, C**	**66.40**	**331**	⇓P	**P**	**12 52 35.5**	**+0.9**
	baz=67,SNR=6.0						
732A	**Laxson Ranch,**	**66.78**	**331**	⇑P	**P**	**12 52 37.9**	**+0.9**
	baz=67,SNR=5.4						
632A	**Uvalde**	**67.39**	**331**	⇓P	**P**	**12 52 42.0**	**+1.0**
	baz=68,SNR=5.6						
533A	**Kerrville**	**67.59**	**332**	⇓P	**P**	**12 52 43.2**	**+1.0**
	baz=68,SNR=6.1						
434A	**Burnet**	**67.95**	**333**	⇑P	**P**	**12 52 44.9**	**+0.4**
	baz=68,SNR=7.9						
532A	**Rocksprings**	**67.99**	**332**	⇑P	**P**	**12 52 45.4**	**+0.7**
	baz=68,SNR=9.0						
433A	**Art**	**68.22**	**333**	⇑P	**P**	**12 52 46.7**	**+0.6**
	baz=69,SNR=12						
JCT	**Junction City**	**68.26**	**332**	⇑P	**P**	**12 52 46.8**	**+0.4**
	baz=69						
531A	**Rocksprings**	**68.28**	**331**	⇑P	**P**	**12 52 48.3**	**+1.7**
	baz=69,SNR=5.4						
TKL	**Tuckaleechee C**	**68.35**	**347**	*e*P	**P**	**12 52 46.9**	**+0.1**
334A	**Lometa**	**68.40**	**334**	⇑P	**P**	**12 52 47.4**	**+0.2**
	baz=69,SNR=6.2						
530A	**J-C Ranch, Com**	**68.60**	**330**	⇓P	**P**	**12 52 49.7**	**+1.2**
	baz=69,SNR=6.7						
432A	**Menard**	**68.60**	**332**	⇓P	**P**	**12 52 49.4**	**+0.8**
	baz=69						
333A	**Richland Sprin**	**68.68**	**333**	⇑P	**P**	**12 52 49.4**	**+0.4**
	baz=69,SNR=8.3						
431A	**Sonora**	**68.76**	**331**	⇑P	**P**	**12 52 50.9**	**+1.4**
	baz=69						
TXAR	**Lajitas Array**	**68.91**	**328**	P	**P**	**12 52 48.2**	**-2.4**
	comp=N,1.7nm,0.7s,baz=153,slow=8.1,SNR=7.8						
529A	**Stev Forest Ra**	**68.95**	**330**	⇑P	**P**	**12 52 52.2**	**+1.4**
	baz=69,SNR=8.8						
234A	**Clairette**	**68.97**	**334**	⇑P	**P**	**12 52 50.2**	**-0.5**
	baz=69,SNR=6.4						
332A	**Millersview**	**69.03**	**332**	⇓P	**P**	**12 52 51.7**	**+0.5**
	baz=70,SNR=8.4						
430A	**Baggett Ranch,**	**69.11**	**331**	⇓P	**P**	**12 52 52.8**	**+1.0**
	baz=70,SNR=6.9						
331A	**San Angelo**	**69.24**	**332**	⇑P	**P**	**12 52 53.2**	**+0.7**
	baz=70,SNR=7.0						
429A	**Davenport Ranc**	**69.25**	**330**	⇓P	**P**	**12 52 53.8**	**+1.2**
	baz=70,SNR=6.6						
233A	**Rising Star**	**69.27**	**333**	⇑P	**P**	**12 52 52.6**	**0.0**
	baz=70,SNR=9.0						
232A	**Coleman**	**69.44**	**333**	⇓P	**P**	**12 52 53.7**	**0.0**
	baz=70,SNR=8.2						
330A	**Mertzon**	**69.63**	**331**	⇓P	**P**	**12 52 55.1**	**+0.2**
	baz=70,SNR=5.8						
WVT	**Waverly**	**69.66**	**344**	*e*P	**P**	**12 52 54.8**	**-0.1**
	comp=N,31nm,0.8s						
MIAR	**Mount Ida**	**69.72**	**339**	*e*P	**P**	**12 52 56.1**	**+0.7**
	comp=N,18nm,1.4s						
231A	**Bronte**	**69.75**	**332**	⇓P	**P**	**12 52 56.1**	**+0.5**
	baz=70,SNR=9.6						
133A	**Hamilton Ranch**	**69.80**	**334**	⇑P	**P**	**12 52 55.6**	**-0.3**
	baz=70						
230A	**Sterling City**	**70.02**	**332**	⇓P	**P**	**12 52 57.7**	**+0.4**
	baz=70						
329A	**Wagon Wheel Ra**	**70.03**	**331**	⇑P	**P**	**12 52 58.1**	**+0.7**
	baz=70,SNR=5.3						
ABTX	**Abilene, Hawle**	**70.09**	**333**	⇓P	**P**	**12 52 57.7**	**0.0**
	baz=70,SNR=7.3						
Z33A	**Whitaker Ranch**	**70.35**	**334**	⇑P	**P**	**12 52 59.9**	**+0.6**
	baz=71,SNR=8.6						
131A	**Roby**	**70.42**	**332**	⇑P	**P**	**12 53 00.0**	**+0.3**
	baz=71,SNR=7.7						
130A	**Snyder**	**70.59**	**332**	⇓P	**P**	**12 53 01.3**	**+0.5**
	baz=71						
Z32A	**Haskell**	**70.63**	**334**	⇓P	**P**	**12 53 00.8**	**-0.2**
	baz=71						
228A	**UT Block 9, Go**	**70.84**	**330**	⇑P	**P**	**12 53 02.6**	**+0.3**
	baz=71						
Z31A	**Sharp Cattle R**	**70.90**	**333**	⇑P	**P**	**12 53 03.4**	**+0.8**
	baz=71,SNR=9.6						
PBMO	**Poplar Bluff**	**70.92**	**342**	*e*P	**P**	**12 53 03.1**	**+0.5**
129A	**Stewart Farms,**	**70.98**	**331**	⇑P	**P**	**12 53 03.3**	**+0.1**
	baz=71						
X34A	**Smith Ranch, M**	**71.19**	**335**	⇓P	**P**	**12 53 03.4**	**-0.9**
	baz=72,SNR=5.8						
128A	**Castleberry Fa**	**71.23**	**331**	⇑P	**P**	**12 53 05.7**	**+1.0**
	baz=72,SNR=6.6						
Y32A	**R-V Farms, Ver**	**71.24**	**334**	⇑P	**P**	**12 53 05.3**	**+0.6**
	baz=72						
Z30A	**Sanderson Ranc**	**71.26**	**332**	⇓P	**P**	**12 53 05.0**	**+0.2**
	baz=72,SNR=6.4						
Z29A	**Hungry Hill Ra**	**71.47**	**332**	⇓P	**P**	**12 53 06.5**	**+0.4**
	baz=72,SNR=7.1						
SIUC	**Southern Illin**	**71.50**	**343**	*e*P	**P**	**12 53 06.3**	**+0.2**
	comp=N,15nm,0.8s						
Y31A	**Rekieta Farm,**	**71.51**	**333**	⇑P	**P**	**12 53 07.0**	**+0.6**
	baz=72,SNR=6.6						
127A	**Arkansas Junct**	**71.64**	**330**	⇑P	**P**	**12 53 08.7**	**+1.4**
	baz=72						
GDL2	**Guadalupe Moun**	**71.67**	**329**	*e*P	**P**	**12 53 08.2**	**+0.8**
TUL1	**Tulsa**	**71.68**	**338**	⇑P	**P**	**12 53 04.6**	**-2.6**
	baz=72						
Y29A	**Porterfield Fa**	**71.98**	**332**	⇓P	**P**	**12 53 09.9**	**+0.7**
	baz=72,SNR=11						
X31A	**McDonald Ranch**	**72.00**	**334**	⇑P	**P**	**12 53 09.7**	**+0.4**
	baz=72,SNR=6.5						
Z27A	**Tatum**	**72.13**	**331**	⇓P	**P**	**12 53 10.1**	**-0.1**
	baz=73						
W32A	**Sentinel**	**72.17**	**335**	⇓P	**P**	**12 53 10.8**	**+0.6**
	baz=73,SNR=5.6						
X30A	**Coker Ranch, T**	**72.18**	**333**	⇓P	**P**	**12 53 10.7**	**+0.4**
	baz=73						
Y28A	**McKinney Farm,**	**72.25**	**332**	⇑P	**P**	**12 53 11.1**	**+0.3**
	baz=73						
DBIC	**Dimbokro**	**72.26**	**70**	P	**P**	**12 53 11.2**	**-0.1**
	comp=N,2.8nm,0.4s,baz=212,slow=6.8,SNR=6.7						
Z26A	**Caprock**	**72.42**	**330**	⇓P	**P**	**12 53 12.8**	**+0.9**
	baz=73,SNR=9.0						
V33A	**Lossen Ranch,**	**72.44**	**336**	⇓P	**P**	**12 53 11.5**	**-0.3**
	baz=73						
X29A	**Tulia**	**72.50**	**332**	⇑P	**P**	**12 53 12.8**	**+0.5**
	baz=73						
MSTX	**Muleshoe**	**72.52**	**331**	*e*P	**P**	**12 53 13.0**	**+0.6**
	comp=N,22nm,0.8s						
MSTX	**Muleshoe**	**72.52**	**331**	⇓P	**P**	**12 53 13.2**	**+0.8**
	baz=73,SNR=9.6						
Y27A	**Causey**	**72.60**	**331**	⇑P	**P**	**12 53 13.8**	**+0.8**
	baz=73						
ACSO	**Alum Creek Sta**	**72.67**	**349**	*e*P	**P**	**12 53 13.4**	**+0.4**
	comp=N,28nm,1.1s						
Z25A	**Roswell**	**72.74**	**329**	⇑P	**P**	**12 53 15.4**	**+1.6**
	baz=73						
X28A	**Dimmitt**	**72.76**	**332**	⇑P	**P**	**12 53 13.4**	**-0.5**
	baz=73						
AMTX	**Amarillo**	**72.88**	**333**	⇑P	**P**	**12 53 15.2**	**+0.7**
	baz=73						
Z24A	**Sheeppen Canyo**	**73.07**	**329**	⇓P	**P**	**12 53 17.1**	**+1.3**
	baz=74,SNR=11						
W29A	**Amraillo**	**73.07**	**333**	⇓P	**P**	**12 53 16.0**	**+0.3**
	baz=74						
319A	**Douglas**	**73.25**	**325**	⇓P	**P**	**12 53 19.1**	**+2.2**
	baz=74						
Y25A	**Mesa, Roswell**	**73.28**	**330**	⇑P	**P**	**12 53 18.4**	**+1.4**
	baz=74						
X26A	**CR and CF Fran**	**73.45**	**331**	⇑P	**P**	**12 53 18.8**	**+0.8**
	baz=74,SNR=6.8						
121A	**Cookes Peak, D**	**73.49**	**327**	⇑P	**P**	**12 53 19.6**	**+1.2**
	baz=74,SNR=6.2						
W27A	**Bowe Ranch, En**	**73.58**	**332**	⇑P	**P**	**12 53 19.3**	**+0.6**
	baz=74,SNR=6.2						
Y24A	**Capitan**	**73.60**	**329**	⇑P	**P**	**12 53 21.5**	**+2.5**
	baz=74						
Z22A	**Elephant Butte**	**73.72**	**328**	⇑P	**P**	**12 53 21.6**	**+2.0**
	baz=74						
V28A	**Channing**	**73.85**	**333**	⇑P	**P**	**12 53 20.4**	**+0.1**
	baz=74						
Y23A	**Lovelace Mesa,**	**73.88**	**329**	⇓P	**P**	**12 53 22.5**	**+1.9**
	baz=74						
W26A	**Owens Ranch, T**	**73.89**	**331**	⇑P	**P**	**12 53 21.7**	**+1.1**
	baz=74,SNR=9.4						
SUR	**Sutherland**	**73.93**	**118**	P	**P**	**12 53 21.2**	**+0.1**
	comp=N,5.8nm,1.0s,baz=326,slow=7.3,SNR=3.5						
U30A	**WK&E Inc. Balk**	**73.93**	**334**	⇓P	**P**	**12 53 20.7**	**0.0**
	baz=74						
V27A	**Dan Oppiter Fa**	**74.10**	**332**	⇑P	**P**	**12 53 22.6**	**+0.9**
	baz=74						
X24A	**Lazy VL Ranch,**	**74.15**	**330**	⇑P	**P**	**12 53 23.9**	**+1.7**
	baz=75,SNR=6.2						
W25A	**X Bar L Ranch,**	**74.29**	**331**	⇑P	**P**	**12 53 23.3**	**+0.4**
	baz=75,SNR=6.0						
S32A	**Newby Ranch, P**	**74.36**	**336**	⇑P	**P**	**12 53 23.7**	**+0.6**
	baz=75						
U28A	**Mallet**	**74.40**	**333**	⇑P	**P**	**12 53 23.8**	**+0.3**
	baz=75						
V26A	**Tequesquite Ra**	**74.51**	**331**	⇓P	**P**	**12 53 25.1**	**+1.0**
	baz=75						
U27A	**Thompson Grove**	**74.67**	**333**	⇓P	**P**	**12 53 25.1**	**0.0**
	baz=75						
W24A	**Lazy 6 Ranch,**	**74.69**	**330**	⇓P	**P**	**12 53 27.0**	**+1.7**
	baz=75						
T29A	**Hugoton**	**74.73**	**334**	⇓P	**P**	**12 53 25.3**	**0.0**
	baz=75						
S30A	**Montezuma**	**74.85**	**335**	⇑P	**P**	**12 53 23.9**	**-2.2**
	baz=75						
V25A	**Rancho No Teng**	**74.89**	**331**	⇓P	**P**	**12 53 26.9**	**+0.4**
	baz=75,SNR=8.0						
ANMO	**Albuquerque**	**74.91**	**329**	*e*P	**P**	**12 53 28.2**	**+1.6**
	comp=N,9.0nm,1.2s						
W23A	**Werner Place,**	**74.96**	**329**	⇑P	**P**	**12 53 29.1**	**+2.2**
	baz=75,SNR=8.4						
T28A	**Walsh**	**75.00**	**333**	⇓P	**P**	**12 53 27.4**	**+0.4**
	baz=75,SNR=6.4						
U26A	**Atchley Ranch,**	**75.01**	**332**	⇑P	**P**	**12 53 27.8**	**+0.7**
	baz=76,SNR=6.4						
V24A	**Rampart Ranch,**	**75.07**	**330**	⇓P	**P**	**12 53 28.5**	**+1.0**
	baz=76						
S29A	**Ulysses**	**75.07**	**334**	⇓P	**P**	**12 53 28.0**	**+0.7**
	baz=76,SNR=7.2						
R31A	**Burdett**	**75.09**	**336**	⇓P	**P**	**12 53 28.3**	**+0.9**
	baz=76						
T27A	**Campo**	**75.19**	**333**	⇓P	**P**	**12 53 29.0**	**+0.9**
	baz=76						
U25A	**Circle Dot Ran**	**75.29**	**331**	⇑P	**P**	**12 53 30.4**	**+1.6**
	baz=76,SNR=6.6						
S28A	**Manter**	**75.33**	**334**	⇑P	**P**	**12 53 28.0**	**-0.8**
	baz=76,SNR=8.3						
R30A	**Dighton**	**75.36**	**335**	⇑P	**P**	**12 53 29.8**	**+0.9**
	baz=76						
Q32A	**Meitler Ranch,**	**75.39**	**337**	⇑P	**P**	**12 53 29.2**	**+0.2**
	baz=76,SNR=5.9						
V23A	**Ortiz Mt. (NFS**	**75.47**	**330**	⇓P	**P**	**12 53 32.0**	**+2.2**
	baz=76						
T26A	**Comanche Natio**	**75.63**	**332**	⇓P	**P**	**12 53 32.6**	**+2.0**
	baz=76,SNR=5.4						
R29A	**Marienthal**	**75.79**	**335**	⇓P	**P**	**12 53 32.2**	**+0.8**
	baz=76						
T25A	**Trinidad**	**75.92**	**332**	⇓P	**P**	**12 53 33.7**	**+1.3**
	baz=76,SNR=9.0						
V22A	**San Miguel Ran**	**75.93**	**329**	⇓P	**P**	**12 53 34.5**	**+2.0**
	baz=76,SNR=20						
Q30A	**Quinter**	**75.95**	**336**	⇑P	**P**	**12 53 33.5**	**+1.2**
	baz=76,SNR=8.8						
R28A	**Tribune**	**75.96**	**334**	⇑P	**P**	**12 53 33.1**	**+0.7**
	baz=76						
S26A	**Kim**	**75.97**	**333**	⇓P	**P**	**12 53 32.6**	**+0.1**
	baz=76,SNR=7.9						
U23A	**El Rito**	**75.97**	**330**	⇓P	**P**	**12 53 34.7**	**+2.0**
	baz=76,SNR=6.8						
P32A	**Huiting Farm,**	**75.98**	**337**	⇓P	**P**	**12 53 31.6**	**-0.7**
	baz=76						
Q29A	**Oakley**	**76.14**	**335**	⇓P	**P**	**12 53 34.0**	**+0.6**
	baz=77						
P31A	**Stockton**	**76.15**	**336**	⇓P	**P**	**12 53 34.1**	**+0.8**
	baz=77,SNR=6.9						
T24B	**San Luis**	**76.25**	**331**	⇓P	**P**	**12 53 36.3**	**+1.9**
	baz=77,SNR=8.7						
R27A	**Eads**	**76.29**	**333**	⇓P	**P**	**12 53 34.9**	**+0.7**
	baz=77,SNR=6.0						
U22A	**Llaves**	**76.30**	**330**	⇓P	**P**	**12 53 36.9**	**+2.4**
	baz=77,SNR=7.4						
S25A	**Robets Cordova**	**76.38**	**332**	⇑P	**P**	**12 53 36.1**	**+1.1**
	baz=77						
O32A	**Brockman Farm,**	**76.45**	**338**	⇓P	**P**	**12 53 35.6**	**+0.5**
	baz=77						
P30A	**Selden**	**76.47**	**336**	⇓P	**P**	**12 53 35.7**	**+0.5**
	baz=77						
T23A	**Casias Ranch,**	**76.50**	**331**	⇓P	**P**	**12 53 37.5**	**+1.7**
	baz=77,SNR=6.1						
R26A	**Arlington**	**76.55**	**333**	⇓P	**P**	**12 53 36.3**	**+0.5**
	baz=77						
Q28A	**Sharon Springs**	**76.61**	**335**	⇓P	**P**	**12 53 35.9**	**-0.2**
	baz=77,SNR=5.5						
S24A	**Houchin Ranch,**	**76.68**	**331**	⇓P	**P**	**12 53 38.8**	**+2.0**
	baz=77,SNR=12						
O31A	**Woolen Ranch,**	**76.70**	**337**	⇓P	**P**	**12 53 36.9**	**+0.5**
	baz=77						
R25A	**Fountain Ranch**	**76.74**	**332**	⇓P	**P**	**12 53 38.2**	**+1.2**
	baz=77						
P29A	**Atwood**	**76.76**	**335**	⇓P	**P**	**12 53 37.2**	**+0.4**
	baz=77,SNR=6.5						
X16A	**Lo Mia Camp, P**	**76.78**	**325**	⇑P	**P**	**12 53 39.4**	**+2.1**
	baz=77,SNR=8.0						
KSCO	**Kaye Shedlock'**	**76.86**	**334**	⇑P	**P**	**12 53 38.0**	**+0.5**
	baz=77						
O30A	**MW Ranch, Wils**	**76.97**	**336**	⇓P	**P**	**12 53 39.0**	**+1.0**
	baz=77						
P28A	**Saint Francis**	**77.03**	**335**	⇑P	**P**	**12 53 39.7**	**+1.3**
	baz=78,SNR=5.9						
S23A	**Nye Farm, Mont**	**77.06**	**331**	⇓P	**P**	**12 53 41.2**	**+2.3**
	baz=78						
Q26A	**Hugo**	**77.12**	**333**	⇑P	**P**	**12 53 39.7**	**+0.7**
	baz=78						
R24A	**Sanders Place,**	**77.14**	**332**	⇓P	**P**	**12 53 40.9**	**+1.7**
	baz=78,SNR=8.3						
O29A	**4D Ranch, Culb**	**77.18**	**336**	⇓P	**P**	**12 53 40.3**	**+1.1**
	baz=78						
P27A	**Ficken Ranch,**	**77.31**	**334**	⇑P	**P**	**12 53 40.2**	**+0.1**
	baz=78						
Q25A	**Bedland, Calha**	**77.39**	**333**	⇓P	**P**	**12 53 41.2**	**+0.5**
	baz=78						
R23A	**Moffat**	**77.40**	**331**	⇓P	**P**	**12 53 42.4**	**+1.6**
	baz=78,SNR=6.9						
S22A	**4UR Ranch, Cre**	**77.44**	**330**	⇓P	**P**	**12 53 42.6**	**+1.5**
	baz=78,SNR=6.9						
BGNE	**Belgrade**	**77.44**	**338**	*e*P	**P**	**12 53 41.5**	**+0.8**
	comp=N,32nm,0.8s						
BGNE	**Belgrade**	**77.44**	**338**	⇓P	**P**	**12 53 41.4**	**+0.8**
	baz=78,SNR=7.1						
O28A	**Krutsinger Ran**	**77.52**	**335**	⇓P	**P**	**12 53 42.0**	**+0.9**
	baz=78						
P26A	**Davis Ranch, A**	**77.61**	**334**	⇑P	**P**	**12 53 42.9**	**+1.2**
	baz=78						
TSUM	**Tsumeb**	**77.62**	**105**	P	**P**	**12 53 41.8**	**-0.6**
	comp=N,4.4nm,1.1s,baz=230,slow=9.2,SNR=4.3						
WUAZ	**Wupatki**	**77.64**	**326**	*e*P	**P**	**12 53 43.9**	**+1.9**
	comp=N,9.4nm,1.2s						
M31A	**Lambtecht Ranc**	**77.65**	**338**	⇑P	**P**	**12 53 43.2**	**+1.4**
	baz=78						
MVCO	**Mesa Verde**	**77.71**	**329**	*e*P	**P**	**12 53 43.9**	**+1.4**
	comp=N,8.1nm,0.9s						
MVCO	**Mesa Verde**	**77.71**	**329**	⇓P	**P**	**12 53 43.9**	**+1.4**
	baz=78,SNR=6.4						
N29A	**Votaw Ranch, W**	**77.73**	**336**	⇓P	**P**	**12 53 41.3**	**-1.0**
	baz=78						
Q24A	**Divide**	**77.79**	**332**	⇑P	**P**	**12 53 44.3**	**+1.3**
	baz=78,SNR=9.9						
O27A	**Beecher Island**	**77.83**	**335**	⇑P	**P**	**12 53 45.2**	**+2.2**
	baz=78						
P25A	**Willow Gulch B**	**77.88**	**333**	⇑P	**P**	**12 53 44.9**	**+1.6**
	baz=78,SNR=9.0						
N28A	**Pribbeno Ranch**	**77.94**	**336**	⇑P	**P**	**12 53 44.3**	**+0.8**
	baz=78						
M30A	**Dale-Ortello V**	**78.12**	**337**	⇓P	**P**	**12 53 45.6**	**+1.2**
	baz=79,SNR=5.2						
M29A	**Burnside Ranch**	**78.31**	**336**	⇓P	**P**	**12 53 45.9**	**+0.3**
	baz=79						
L31A	**Butterfield Fa**	**78.36**	**338**	⇓P	**P**	**12 53 46.8**	**+1.1**
	baz=79,SNR=13						
N27A	**Anderson Farm,**	**78.40**	**335**	⇑P	**P**	**12 53 46.4**	**+0.4**
	baz=79						
L30A	**Spencer Herefo**	**78.44**	**337**	⇑P	**P**	**12 53 47.3**	**+1.1**
	baz=79,SNR=6.3						
ISCO	**Idaho Springs**	**78.69**	**332**	⇑P	**P**	**12 53 49.5**	**+1.5**
	baz=79,SNR=7.1						
K30A	**Basset**	**79.06**	**338**	⇑P	**P**	**12 53 50.8**	**+1.3**
	baz=80,SNR=9.3						
BOSA	**Boshof**	**79.10**	**117**	P	**P**	**12 53 49.3**	**-1.1**
	comp=N,4.0nm,0.8s,baz=206,slow=8.6,SNR=3.3						
ECSD	**EROS Data Cent**	**79.10**	**340**	*e*P	**P**	**12 53 50.2**	**+0.5**
	comp=N,22nm,0.8s						
ECSD	**EROS Data Cent**	**79.10**	**340**	⇑P	**P**	**12 53 50.0**	**+0.3**
	baz=80,SNR=11						
O23A	**Lake Granby, G**	**79.16**	**332**	⇑P	**P**	**12 53 52.2**	**+1.7**
	baz=80,SNR=9.4						
N24A	**Carr**	**79.29**	**333**	⇑P	**P**	**12 53 52.3**	**+1.3**
	baz=80						
K29A	**Lazy Trails An**	**79.36**	**337**	⇓P	**P**	**12 53 52.8**	**+1.6**
	baz=80						
O22A	**Kremmling**	**79.37**	**332**	⇑P	**P**	**12 53 52.6**	**+1.0**
	baz=80,SNR=6.9						
J30A	**Dallas**	**79.60**	**338**	⇑P	**P**	**12 53 52.2**	**-0.2**
	baz=80						
K28A	**Ten Mile Ranch**	**79.67**	**337**	⇓P	**P**	**12 53 54.7**	**+1.8**
	baz=80,SNR=6.4						
N23A	**Red Feather La**	**79.76**	**333**	⇑P	**P**	**12 53 55.1**	**+1.4**
	baz=80,SNR=5.5						
M24A	**Cheyenne**	**79.82**	**334**	⇓P	**P**	**12 53 54.3**	**+0.4**
	baz=80						
N22A	**Wattenberg Ran**	**79.88**	**332**	⇑P	**P**	**12 53 56.3**	**+1.9**
	baz=80,SNR=8.1						
J29A	**Okreek**	**79.94**	**338**	⇑P	**P**	**12 53 54.9**	**+0.6**
	baz=80,SNR=14						
K27A	**Flueckinger Fa**	**79.96**	**336**	⇓P	**P**	**12 53 55.9**	**+1.3**
	baz=80,SNR=7.0						
I30A	**Oacoma**	**80.11**	**338**	⇑P	**P**	**12 53 54.7**	**-0.5**
	baz=81,SNR=8.6						
SRU	**San Rafael**	**80.17**	**329**	*e*P	**P**	**12 53 56.9**	**+1.0**
	comp=N,9.7nm,0.8s						
CCUT	**Cedar City**	**80.22**	**326**	*e*P	**P**	**12 53 58.3**	**+2.0**
	comp=N,11nm,1.0s						
J27A	**Elkhorn Farm,**	**80.37**	**336**	⇑P	**P**	**12 53 56.4**	**-0.4**
	baz=81,SNR=9.5						
BRSD	**Miller**	**80.44**	**339**	⇑P	**P**	**12 53 57.3**	**+0.3**
	baz=81						
I29A	**Vivian Onida**	**80.49**	**338**	⇓P	**P**	**12 53 57.2**	**-0.1**
	baz=81						
TMUT	**Trail Mountain**	**80.63**	**328**	*e*P	**P**	**12 54 00.2**	**+1.7**
	comp=N,12nm,1.2s						
N20A	**Spence Gulch,**	**80.64**	**331**	⇑P	**P**	**12 54 00.2**	**+1.7**
	baz=81						
L23A	**Garrett**	**80.71**	**333**	⇓P	**P**	**12 53 59.9**	**+1.1**
	baz=81						
I28A	**Midland**	**80.75**	**337**	⇑P	**P**	**12 53 59.1**	**+0.4**
	baz=81,SNR=5.4						
J26A	**Sides Ranch, S**	**80.79**	**336**	⇑P	**P**	**12 54 00.7**	**+1.7**
	baz=81,SNR=8.2						
K24A	**Anderson Ranch**	**80.90**	**334**	⇑P	**P**	**12 54 01.8**	**+2.1**
	baz=81						
L22A	**Ellis Ranch, M**	**80.92**	**333**	⇑P	**P**	**12 54 01.8**	**+1.9**
	baz=81						

H29A Onida 81.00 338 ⇓P P 12 54 00.5 +0.5
baz=82,SNR=12
I27A Quinn 81.10 337 ⇓P P 12 54 01.6 +1.1
baz=82
J25A Sunshine Ranch 81.11 335 ⇓P P 12 54 02.3 +1.6
baz=82,SNR=7.6
K23A Bowen Ranch, D 81.23 334 ⇓P P 12 54 02.7 +1.5
baz=82,SNR=11
TORD Torodi Ar. Bea 81.26 69 P P 12 54 01.7 -0.3
comp=N,6.8nm,0.8s,baz=250,slow=4.5,SNR=13
H28A Mission Ridge 81.30 338 ⇑P P 12 54 02.5 +0.9
baz=82,SNR=9.3
I26A New Underwood 81.34 336 ⇑P P 12 54 03.2 +1.3
baz=82
J24A Dixon Ranch, L 81.37 335 ⇑P P 12 54 03.7 +1.6
baz=82,SNR=8.5
MPU Maple Canyon 81.41 328 eP P 12 54 03.5 +1.0
comp=N,9.9nm,1.1s
G29A Hoven 81.42 339 ⇑P P 12 54 02.1 -0.1
baz=82
K22A Casper 81.48 333 ⇓P P 12 54 04.0 +1.2
baz=82,SNR=7.4
H27A Howes 81.61 337 ⇑P P 12 54 04.0 +0.7
baz=82,SNR=11
G28A Parade 81.62 338 ⇓P P 12 54 04.1 +0.8
baz=82,SNR=5.5
I25A Rochford 81.64 336 ⇓P P 12 54 04.9 +1.3
baz=82,SNR=12
F30A Leola 81.72 340 ⇓P P 12 54 03.6 -0.2
baz=82,SNR=5.7
EYMN Ely 81.73 345 eP P 12 54 03.8 0.0
comp=N,51nm,1.6s
K21A Alcova 81.75 333 ⇓P P 12 54 05.7 +1.5
baz=82,SNR=14
JLU Jordanelle 81.80 329 eP P 12 54 05.2 +0.6
comp=N,3.3nm,0.8s
I24A Kuemmerle Ranc 81.82 335 ⇓P P 12 54 06.0 +1.5
baz=82,SNR=6.7
RSSD Black Hills 81.83 336 eP P 12 54 05.3 +0.6
comp=N,8.6nm,0.8s
R11A Troy Canyon, C 81.93 325 eP P 12 54 06.8 +1.6
comp=N,9.7nm,1.3s
R11A Troy Canyon, C 81.93 325 ⇑P P 12 54 06.9 +1.7
baz=82,SNR=7.3
F29A Eureka 81.96 339 ⇓P P 12 54 05.3 +0.3
baz=82,SNR=7.4
J22A Midwest 82.12 334 ⇑P P 12 54 06.5 +0.4
baz=83,SNR=6.9
H25A Fruitdale 82.12 336 ⇑P P 12 54 07.5 +1.6
baz=83,SNR=6.9
G27A Dupree 82.22 337 ⇑P P 12 54 07.0 +0.5
baz=83,SNR=5.9
F28A McLaughlin 82.28 338 ⇑P P 12 54 07.5 +0.8
baz=83,SNR=5.1
E30A Jud 82.29 340 ⇓P P 12 54 07.4 +0.6
baz=83,SNR=5.8
G26A Maurine 82.37 337 ⇓P P 12 54 07.7 +0.5
baz=83,SNR=8.1
TPH Tonopah 82.53 324 eP P 12 54 09.1 +0.7
comp=N,40nm,2.0s
I22A 9 Mile Ranch, 82.53 334 ⇑P P 12 54 09.0 +0.8
baz=83,SNR=12
G25A Newell 82.56 336 ⇑P P 12 54 09.2 +1.0
baz=83,SNR=14
H24A Dirks Ranch, A 82.56 336 ⇑P P 12 54 08.8 +0.5
baz=83,SNR=14
J20A Shoshoni 82.68 333 ⇑P P 12 54 10.7 +1.6
baz=83,SNR=9.8
F27A Lemmon 82.69 338 ⇑P P 12 54 09.2 +0.3
baz=83
I21A Big Trails, Te 82.77 333 ⇓P P 12 54 09.6 +0.1
baz=83,SNR=7.2
BGU Big Grassy Mou 82.77 328 eP P 12 54 10.2 +0.6
comp=N,6.3nm,1.5s
PDAR Pinedale Array 82.78 331 P P 12 54 08.1 -1.6
comp=N,3.5nm,0.8s,baz=149,slow=4.4,SNR=18
D30A Buchanan 82.80 340 ⇓P P 12 54 09.9 +0.6
baz=83,SNR=7.0
F26A Lodgepole 82.88 337 ⇓P P 12 54 10.8 +0.9
baz=83,SNR=7.5
E28A Huff 82.89 339 ⇑P P 12 54 10.3 +0.4
baz=83,SNR=5.2
J19A Crowheart 83.00 332 ⇑P P 12 54 12.2 +1.5
baz=83,SNR=9.7
D29A Pettibone, Tap 83.00 340 ⇓P P 12 54 10.7 +0.3
baz=84
G24A Alzada 83.02 336 ⇑P P 12 54 11.4 +0.8
baz=84,SNR=8.4
E27A Carson 83.04 338 ⇓P P 12 54 11.0 +0.3
baz=84
H22A Clearmont 83.08 334 ⇓P P 12 54 12.0 +0.9
baz=84
AGMN Agassiz Nation 83.10 343 eP P 12 54 11.2 +0.3
comp=N,7.1nm,0.8s
I20A Worland 83.20 333 ⇓P P 12 54 12.4 +0.7
baz=84,SNR=7.2
F25A Bowman 83.21 337 ⇓P P 12 54 11.8 +0.2
baz=84,SNR=5.8
G23A Biddle 83.25 335 ⇓P P 12 54 12.2 +0.3
baz=84,SNR=14
C30A Mose, Pekin 83.26 341 ⇑P P 12 54 11.6 -0.1
baz=84,SNR=9.1
HVU Hansel Valley 83.34 329 eP P 12 54 13.1 +0.5
comp=N,10nm,0.9s
NVAR Mina Array Bea 83.34 323 P P 12 54 13.7 +1.0
comp=N,5.2nm,1.1s,baz=156,slow=6.7,SNR=7.9
H21A Big Horn, Sher 83.36 334 ⇓P P 12 54 12.8 +0.3
baz=84,SNR=7.2
D28A Regan 83.41 339 ⇓P P 12 54 13.2 +0.6
baz=84,SNR=8.5
F24A Ekalaka 83.48 336 ⇑P P 12 54 13.7 +0.7
baz=84,SNR=9.7
G22A Birney 83.59 335 ⇓P P 12 54 14.0 +0.4
baz=84,SNR=5.1
H20A Greybull 83.61 333 ⇓P P 12 54 14.4 +0.7
baz=84,SNR=12
I19A Meeteetse 83.62 332 ⇓P P 12 54 14.7 +0.8
baz=84
D27A Center 83.63 339 ⇓P P 12 54 13.7 0.0
baz=84
ELK Elko 83.64 327 eP P 12 54 15.0 +0.8
comp=N,8.5nm,1.0s
E25A Miller Ranch, 83.70 337 ⇓P P 12 54 14.8 +0.7
baz=84,SNR=5.5
F23A Volborg 83.70 335 ⇑P P 12 54 14.5 +0.3
baz=84,SNR=10
D26A Manning 83.85 338 ⇑P P 12 54 15.7 +0.9
baz=84,SNR=6.3
B30A Myrvik Farm, E 83.90 341 ⇑P P 12 54 15.0 0.0
baz=84,SNR=13
G21A Lodge Grass 83.93 334 ⇓P P 12 54 16.1 +0.7
baz=84
E24A Baker 84.05 337 ⇓P P 12 54 17.1 +1.2
baz=84
F22A Rosebud 84.06 335 ⇑P P 12 54 16.3 +0.4
baz=84,SNR=15
H19A Powell 84.14 333 ⇑P P 12 54 17.0 +0.5
baz=85
I17A Pilgrim Ck. 84.16 331 ⇓P P 12 54 18.2 +1.5
baz=85
C27A Sayler Ranch, 84.16 339 ⇓P P 12 54 16.4 0.0
baz=85,SNR=6.0
B29A Wagenman Farm, 84.20 340 ⇓P P 12 54 17.2 +0.6
baz=85,SNR=6.7
D25A Fairfield 84.24 337 ⇑P P 12 54 18.1 +1.3
baz=85,SNR=7.5
G20A Bridger 84.31 334 ⇑P P 12 54 17.8 +0.5
baz=85,SNR=11
A30A Hoffart Farm, 84.33 341 ⇑P P 12 54 17.4 +0.2
baz=85
E23A Ismay 84.34 336 ⇑P P 12 54 18.1 +0.8
baz=85
H18A Shoshone NF, C 84.42 332 ⇑P P 12 54 18.8 +0.8
baz=85,SNR=13
C26A Wahner Farm, P 84.44 339 ⇑P P 12 54 18.2 +0.4
baz=85
B28A Dugan Ranch, T 84.47 340 ⇑P P 12 54 17.5 -0.4
baz=85,SNR=8.7
E22A Miles City 84.52 336 ⇓P P 12 54 18.6 +0.3
baz=85
D24A Glendive 84.54 337 ⇑P P 12 54 19.7 +1.3
baz=85,SNR=6.1
A29A Manning Farm, 84.58 341 ⇑P P 12 54 17.8 -0.6
baz=85,SNR=7.6
C25A Freed Ranch, W 84.71 338 ⇓P P 12 54 20.3 +1.2
baz=85
LAO LASA Array 84.83 335 eP P 12 54 20.2 +0.4
comp=N,12nm,0.9s
A28A Rude Farm, Bot 84.86 340 ⇓P P 12 54 20.2 +0.3
baz=85
D23A Lindsay 84.89 336 ⇓P P 12 54 21.4 +1.2
baz=85,SNR=11
ULM Lac du Bonnet 84.91 343 P P 12 54 19.7 -0.3
comp=N,9.1nm,0.8s,baz=159,slow=5.0,SNR=13
ULM Lac du Bonnet 84.91 343 eP P 12 54 19.9 -0.1
C24A Savage 84.94 337 ⇑P P 12 54 21.4 +1.1
baz=85,SNR=12
E21A Keefer Ranch, 85.00 335 ⇑P P 12 54 22.0 +1.3
baz=85,SNR=6.5
F19A Roth Farm, Mol 85.12 333 ⇑P P 12 54 22.2 +0.9
baz=86,SNR=7.4
B25A Knox Farm, Ray 85.17 338 ⇓P P 12 54 22.5 +1.0
baz=86
D22A Cohagen 85.21 336 ⇑P P 12 54 22.8 +1.1
baz=86
E20A Meyer Farm, Mu 85.36 334 ⇓P P 12 54 23.5 +1.0
baz=86,SNR=12
A26A Wade Farm, Ken 85.38 339 ⇑P P 12 54 22.9 +0.4
baz=86
D21A La Casta Ranch 85.42 335 ⇑P P 12 54 23.7 +0.9
baz=86,SNR=6.6
C23A Lambert 85.43 337 ⇑P P 12 54 23.6 +0.8
baz=86,SNR=6.0
HLID Hailey 85.49 329 eP P 12 54 24.2 +0.9
comp=N,11nm,1.0s
HLID Hailey 85.49 329 ⇑P P 12 54 24.7 +1.3
baz=86,SNR=13
E19A Rath Farm, Rou 85.57 334 ⇓P P 12 54 24.5 +0.9
baz=86,SNR=23
C22A Vida 85.62 336 ⇑P P 12 54 24.5 +0.8
baz=86
DGMT Dagmar 85.68 338 eP P 12 54 24.7 +0.7
comp=N,26nm,0.8s
DGMT Dagmar 85.68 338 ⇓P P 12 54 25.3 +1.3
baz=86,SNR=7.6
MCMT McKenzie Canyo 85.84 331 eP P 12 54 25.8 +0.6
comp=N,6.7nm,0.9s
D20A Manuel Ranch, 85.86 335 ⇑P P 12 54 25.7 +0.8
baz=86,SNR=21
B23A Brockton 85.94 337 ⇓P P 12 54 26.3 +1.0
baz=86
A24A Westby 86.02 338 ⇑P P 12 54 26.5 +0.9
baz=86
C21A Desert Coulee 86.11 336 ⇓P P 12 54 26.5 +0.4
baz=87,SNR=11
B22A Reddig Ranch S 86.13 336 ⇑P P 12 54 27.4 +1.1
baz=87,SNR=5.7
SCHQ Schefferville 86.19 1 P P 12 54 25.5 -0.9
comp=N,8.9nm,1.0s,baz=172,slow=4.9,SNR=9.9
D19A Cripps Ranch, 86.19 334 ⇑P P 12 54 27.4 +0.8
baz=87,SNR=13
C20A Veseth Ranch, 86.34 335 ⇑P P 12 54 27.3 +0.1
baz=87,SNR=7.8
WVOR Wild Horse Val 86.56 326 eP P 12 54 29.9 +1.3
comp=N,10.0nm,1.3s
B21A Ellsworth Farm 86.59 336 ⇑P P 12 54 29.0 +0.5
baz=87
A22A Carney Farms, 86.70 337 ⇑P P 12 54 29.5 +0.4
baz=87,SNR=13
C19A Slack Wire Ran 86.73 334 ⇓P P 12 54 29.8 +0.5
baz=87,SNR=6.9
B20A Solberg Farm, 86.96 335 ⇓P P 12 54 30.9 +0.6
baz=87,SNR=8.9
MOD Modoc 86.97 324 eP P 12 54 31.8 +1.1
comp=N,7.7nm,0.8s
A21A Bergtoll Ranch 87.04 336 ⇑P P 12 54 31.2 +0.5
baz=88,SNR=6.8
EGMT Eagleton 87.24 334 eP P 12 54 40.0 +8.3
comp=N,13nm,1.2s
EGMT Eagleton 87.24 334 ⇑P P 12 54 32.3 +0.5
baz=88,SNR=6.6
A20A Cobblestone Ra 87.30 336 ⇑P P 12 54 32.7 +0.8
baz=88,SNR=11
B19A Brinkman Farms 87.30 335 ⇓P P 12 54 32.6 +0.6
baz=88
A19A Klindworth Far 87.63 335 ⇑P P 12 54 33.8 +0.2
baz=88,SNR=6.5
K05A Summer Lake 87.87 325 eP P 12 54 36.5 +1.4
I07A Izee 88.22 326 eP P 12 54 37.7 +1.1
SWMT Swartz Lake 88.47 332 eP P 12 54 38.1 +0.5
comp=N,7.9nm,1.4s
FFC Flin Flon 90.54 342 eP P 12 54 47.0 0.0
comp=N,4.6nm,0.9s
YKA Yellowknife Ar 100.63 340 P Pdif 12 55 32.2 -0.5
comp=N,0.5nm,0.8s,baz=140,slow=4.8,SNR=7.1
WRA Warramunga Arr 123.87 207 PKP PKPdf 13 00 42.4 -1.8
comp=N,1.5nm,0.5s,baz=152,slow=1.9,SNR=22
HYB Hyderabad 147.65 108 i PKP PKPbc 13 01 30.0 -0.6
EKS2 Erkin-Say 148.85 59 P PKPbc 13 01 33.6 +0.4
SNR=6.5
EKS2 Erkin-Say 148.85 59 ePKPbc PKPbc 13 01 33.4 +0.2
AML Almayashu 148.86 60 P PKPdf 13 01 31.1 +1.5
SNR=5.8
USP Ospenovka 149.28 58 P PKPbc 13 01 34.1 0.0
SNR=7.2
AAK Ala-Archa 149.38 59 P PKPbc 13 01 35.5 +0.9
SNR=9.2
AAK Ala-Archa 149.38 59 PKPbc PKPbc 13 01 35.0 +0.4
comp=N,7.1nm,0.9s,baz=208,slow=3.2,SNR=14
UCH Uchtor 149.46 60 P PKPbc 13 01 35.4 +0.3
SNR=6.8
TKM2 Tokmak 2 150.13 58 P PKPbc 13 01 36.5 +0.1
SNR=7.8
ZAA0 Zalesovo Array 151.06 32 ePKPbc PKPbc 13 01 37.7 -0.3
ZALV Zalesovo Beam 151.06 32 PKPbc PKPbc 13 01 38.0 0.0
comp=N,17nm,0.8s,baz=298,slow=3.2,SNR=38
IPM Ipoh 151.46 160 ePKPbc PKPbc 13 01 39.0 -1.2
MK31 Makanchi Array 153.53 47 ePKPbc PKPbc 13 01 43.5 -0.3
MK31 ePKPab PKPab 13 01 56.1 -0.2
MKAR Makanchi Array 153.53 47 PKPab PKPab 13 01 56.1 -0.2
comp=N,4.1nm,0.8s,baz=302,slow=3.4,SNR=13
MJAR Matsushiro Arr 156.73 290 PKPab PKPab 13 02 09.5 -0.8
comp=N,2.6nm,0.7s,baz=100,slow=3.0,SNR=8.6
SONM Songino Array 163.55 10 PKPab PKPab 13 02 40.4 +0.8
comp=N,1.0nm,0.8s,baz=309,slow=3.5,SNR=5.2

IDC 27 12:42:35.4±1.0, 37.37S×73.62W, h0km, mb4.7/8, mb1 4.7/10, mb1mx4.4/32, mbtmp4.7/10, ML4.1/2, Error ellipse: s-maj=37.1km s-min=16.1km az=72.0
ISCJB 27 12:42:37.7±0.8, 37.36S±0.10×73.6W±0.3, h23km, mb4.6/9, Error ellipse: s-maj=31.7km s-min=12.1km az=165.8
NEIC 27 12:42:41.2±0.7, 37.31S×73.38W, h35km, mb4.8/1, Error ellipse: s-maj=28.5km s-min=10.3km az=76.0
ISC 27 12:42:38.6±0.9, 37.4S±0.1×73.6W±0.2, h23km, n26, σ1.56/26, mb4.8/9, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PLCA Paso Flores 4.11 146 Pn Pn 12 43 40.0 -0.1
4.4nm,0.3s,baz=330,slow=12,SNR=2.3
PLCA Lg Lg 12 44 44.6
14nm,0.3s,baz=27,slow=15,SNR=4.8
USHA Ushuaia 17.83 170 P P 12 46 46.5 +0.9
0.2nm,0.3s,baz=349,slow=17,SNR=3.5
LPAZ La Paz 21.53 14 P P 12 47 26.8 -0.1
6.1nm,0.6s,baz=184,slow=13,SNR=2.8
SNAA Sanae 48.98 157 P P 12 51 24.2 +1.3
4.7nm,0.9s,baz=312,slow=7.0,SNR=6.3
QSPA South Pole Qui 52.89 180 P P 12 51 50.7 -1.8
12nm,0.9s,baz=118,slow=1.0,SNR=7.0
H06E1 SOCORRO T-PHAS 66.00 321 T T 14 04 54.0
TXAR Lajitas Array 72.09 333 P P 12 54 02.7 +1.6
1.9nm,0.7s,baz=151,slow=8.0,SNR=5.0
SUR Sutherland 74.31 119 P P 12 54 15.6 +1.0
16nm,0.9s,baz=237,slow=6.6,SNR=6.3
U34A Anderson Ranch 76.71 340 eP P 12 54 28.7 +1.0
5.4nm,0.5s
DBIC Dimbokro 77.44 71 P P 12 54 32.6 +0.3
11nm,0.7s,baz=210,slow=6.2,SNR=6.8
TSUM Tsumeb 79.50 106 P P 12 54 44.8 +0.9
7.6nm,0.9s,baz=236,slow=6.2,SNR=10
BOSA Boshof 79.62 118 P P 12 54 45.4 +1.0
17nm,1.0s,baz=229,slow=5.3,SNR=8.1
HYB Hyderabad 148.46 121 i PKP PKPbc 13 02 24.0 +0.2
BVAR Borovoye Array 150.55 46 PKP PKPdf 13 02 21.7 -0.8
2.5nm,0.8s,baz=298,slow=3.2,SNR=4.5
BVAR PKPbc PKiKP 13 02 29.9 +1.3
3.4nm,0.7s,baz=262,slow=3.0,SNR=7.0
KOLN Koldanda 158.57 110 eP PKPab 13 03 06.3 -3.5
33nm,1.2s
DANN Dangsing 158.99 109 eP PKPab 13 03 10.4 -1.3
61nm,0.8s
GKN Gorkha 159.47 111 eP PKPab 13 03 12.2 -1.4
27nm,1.2s
DMN Daman 159.60 112 eP PKPab 13 03 12.9 -1.5
18nm,1.1s
PKIN Phulchoki 159.79 113 eP PKPab 13 03 13.2 -2.0
PKI Pulchoki 159.80 113 eP PKPab 13 03 12.7 -2.6
MKAR Makanchi Array 159.82 55 PKPab PKPab 13 03 13.4 -1.1
1.8nm,0.8s,baz=299,slow=3.1,SNR=3.8
KKN Kakani 159.83 112 eP PKPab 13 03 14.0 -1.3
RAMN Ramite 160.31 116 eP PKPab 13 03 15.5 -1.9
16nm,0.9s
JIRN Jiri 160.42 114 eP PKPab 13 03 17.2 -0.9
15nm,0.9s
ODAN Odare 160.81 118 eP PKPab 13 03 19.0 -0.6
21nm,1.0s
SONM Songino Array 169.53 0 PKPab PKPab 13 03 55.0 -2.2
0.9nm,0.8s,baz=333,slow=2.9,SNR=4.2

IDC 27 12:44:43.5±0.5, 37.20S×73.65W, h0km, mb4.7/13, mb1 4.8/16, mb1mx4.7/31, mbtmp4.7/16, ML4.1/3, Error ellipse: s-maj=20.3km s-min=12.6km az=78.0
ISCJB 27 12:44:45.1±0.3, 37.07S±0.06×73.37W±0.09, h14km, mb5.0/65, MS5.2/43, Error ellipse: s-maj=10.5km s-min=7.1km az=152.6
MOS 27 12:44:47.9±0.9, 37.09S×73.38W, h33km, mb5.3/15, MS5.1/9, Error ellipse: s-maj=22.9km s-min=10.5km az=102.4
NEIC 27 12:44:49.1±0.2, 37.17S×73.37W, h35km, mb5.1/55, Error ellipse: s-maj=8.0km s-min=5.0km az=71.0
ISC 27 12:44:46.3±0.4, 37.12S±0.06×73.5W±0.1, h14km, n402, σ0.95/403, mb5.0/65, MS5.2/43, 125C-135D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PLCA Paso Flores 4.27 149 P Pn 12 45 51.0 +0.1
PLCA Paso Flores 4.27 149 Pn Pn 12 45 51.0 +0.1
6.8nm,0.3s,baz=326,slow=11,SNR=1.6
PLCA Lg Lg 12 47 00.2
17nm,0.3s,baz=3.1,slow=8.4,SNR=5.0
CFAA Coronel Fontan 7.00 40 Pn Pn 12 46 29.5 +1.1
0.8nm,0.3s,baz=232,slow=12,SNR=2.9
CFAA Lg Lg 12 48 33.6
1.0nm,0.3s,baz=143,slow=20,SNR=4.5
LVC Limon Verde 14.99 17 ePn Pn 12 48 13.2 -4.8
CPUP Villa Florida 17.42 56 eP Pn 12 48 48.4 -0.5
CPUP Villa Florida 17.42 56 ePn Pn 12 48 48.4 -0.5
USHA Ushuaia 18.05 171 P Pn 12 48 56.0 -0.5
0.3nm,0.3s,baz=301,slow=5.9,SNR=4.2
LPAZ La Paz 21.29 14 eP P 12 49 35.0 +1.9
LPAZ pmax pmax
comp=Z,19nm,0.8s
LPAZ La Paz 21.29 14 P P 12 49 34.9 +1.9
comp=Z,16nm,0.7s,baz=191,slow=7.3,SNR=12
LPAZ La Paz 21.29 14 eP P 12 49 35.0 +1.9
comp=Z,19nm,0.8s
SIV San Ignacio 23.75 31 P P 12 49 58.4 +0.1
comp=Z,18nm,0.9s,baz=235,slow=10,SNR=11
NNA Nana 25.21 352 P P 12 50 11.3 -0.4
NNA MLR MLR
comp=Z,2μm,22.0s
NNA Nana 25.21 352 P P 12 50 11.3 -0.4
comp=Z,5.0nm,0.4s,baz=202,slow=14,SNR=3.7
NNA Nana 25.21 352 P P 12 50 11.3 -0.4
NNA LR LR
comp=Z,2μm,22.0s
PMSA Palmer Station 28.25 171 PFAKE 12 50 50.0 +11
PMSA LR LR
comp=Z,2μm,18.3s
SAML Samuel 29.56 21 eP P 12 50 50.6 -0.1
comp=Z,6.7nm,0.8s
OTAV Otavalo 37.46 352 eP P 12 52 01.1 +1.3
comp=Z,26nm,1.1s
SDV Santo Domingo 45.84 4 eP P 12 53 07.1 -1.2
comp=Z,11nm,0.8s
JTS JuntasAbangare 48.38 345 eP P 12 53 28.4 +0.6
JTS pmax pmax
comp=Z,32nm,1.6s
JTS JuntasAbangare 48.38 345 eP P 12 53 28.4 +0.6
comp=Z,32nm,1.6s
SNAA Sanae 49.16 157 eP P 12 53 33.5 +0.1
SNAA pmax pmax
comp=Z,22nm,1.0s
SNAA Sanae 49.16 157 P P 12 53 33.1 -0.2
comp=Z,5.3nm,0.8s,baz=276,slow=6.9,SNR=6.7
SNAA Sanae 49.16 157 eP P 12 53 33.5 +0.1
comp=Z,22nm,1.0s
GRGR Grenville 50.24 15 eP P 12 53 43.5 +1.5
comp=Z,160nm,0.9s
GRGR LR LR
comp=Z,600nm,18.5s
QSPA South Pole Qui 53.12 180 P P 12 54 02.0 -1.2
comp=Z,15nm,0.8s,baz=296,slow=1.1,SNR=10
QSPA South Pole Qui 53.12 180 eP P 12 54 03.2 -0.1
comp=Z,23nm,1.1s
QSPA LR LR
comp=Z,1μm,18.0s
APG El Apazote 54.26 340 P P 12 54 07.5 -4.6
comp=Z,9.1nm,0.8s,baz=156,slow=20,SNR=11
CRPR Cabo Rojo, PR 55.16 7 eP P 12 54 16.9 -1.5
comp=Z,21nm,0.8s
CRPR LR LR
comp=Z,1μm,22.0s
CELP Cerrillos 55.28 8 eP P 12 54 18.4 -0.8
833A Chaparral WMA, 69.50 336 ⇑P P 12 55 54.1 -0.2
baz=70,SNR=5.5
832A Faith Ranch, C 69.66 335 ⇓P P 12 55 54.7 -0.6
baz=70,SNR=5.0
732A Laxson Ranch, 70.07 335 ⇓P P 12 55 57.7 -0.1
baz=70,SNR=5.6
632A Uvalde 70.72 336 ⇓P P 12 56 02.4 +0.6
baz=71,SNR=5.5
533A Kerrville 71.00 337 ⇓P P 12 56 03.4 -0.1
baz=71,SNR=7.8
532A Rocksprings 71.33 336 ⇓P P 12 56 05.6 +0.1
baz=72,SNR=8.4
434A Burnet 71.46 338 ⇑P P 12 56 06.4 +0.2
baz=72,SNR=7.5
336A Riesel 71.57 339 ⇑P P 12 56 06.8 0.0
baz=72,SNR=5.8
531A Rocksprings 71.58 335 ⇑P P 12 56 07.4 +0.4
baz=72,SNR=6.9
JCT Junction City 71.63 336 eP P 12 56 07.4 +0.1
JCT pmax pmax
comp=Z,18nm,0.9s
JCT MLR MLR
comp=Z,1μm,19.2s
JCT Junction City 71.63 336 eP P 12 56 07.4 +0.1
comp=Z,18nm,0.9s
JCT LR LR
comp=Z,1μm,19.2s
JCT Junction City 71.63 336 ⇓P P 12 56 07.3 +0.1
baz=72,SNR=7.6
335A Moody 71.64 339 ⇑P P 12 56 06.6 -0.7
baz=72
433A Art 71.66 337 ⇓P P 12 56 07.0 -0.4
baz=72,SNR=8.2
530A J-C Ranch, Com 71.83 335 ⇓P P 12 56 09.0 +0.5
baz=72,SNR=9.0
TXAR Lajitas Array 71.92 332 P P 12 56 09.1 -0.1
comp=Z,6.5nm,0.9s,baz=151,slow=8.0,SNR=16
334A Lometa 71.93 338 ⇑P P 12 56 08.7 -0.3
baz=72,SNR=8.6
432A Menard 71.99 336 ⇓P P 12 56 09.1 -0.3
baz=72
431A Sonora 72.08 336 ⇑P P 12 56 09.5 -0.5
baz=72,SNR=5.2
529A Stev Forest Ra 72.11 334 ⇑P P 12 56 10.6 +0.4
baz=72,SNR=7.7
333A Richland Sprin 72.15 337 ⇓P P 12 56 10.0 -0.4
baz=73,SNR=7.1
KMSC Kings Mountain 72.27 353 eP P 12 56 10.2 -0.7
comp=Z,11nm,0.8s
KMSC LR LR
comp=Z,1μm,18.5s
WHTX Lake Whitney 72.32 339 eP P 12 56 11.3 0.0
comp=Z,20nm,0.9s
WHTX Lake Whitney 72.32 339 ⇑P P 12 56 10.5 -0.8
baz=73,SNR=5.9
430A Baggett Ranch, 72.38 335 ⇓P P 12 56 11.8 0.0
baz=73,SNR=10
332A Millersview 72.44 337 ⇓P P 12 56 11.9 -0.3
baz=73,SNR=10
429A Davenport Ranc 72.46 335 ⇓P P 12 56 12.6 +0.3
baz=73,SNR=5.7
234A Clairette 72.53 338 ⇓P P 12 56 12.2 -0.4
baz=73,SNR=6.5

331A	San Angelo	72.59	336	⇓P	P	12 56 12.7	-0.4
	baz=73,SNR=8.2						
233A	Rising Star	72.77	338	⇓P	P	12 56 13.5	-0.6
	baz=73,SNR=5.3						
OXF	Oxford	72.80	346	eP	P	12 56 13.1	-1.0
OXF				pmax	pmax		
	comp=Z,29nm,0.9s						
OXF				MLR	MLR		
	comp=Z,801nm,18.7s						
OXF	Oxford	72.80	346	eP	P	12 56 13.1	-1.0
	comp=Z,29nm,0.9s						
OXF				LR	LR		
	comp=Z,801nm,18.7s						
232A	Coleman	72.88	337	⇑P	P	12 56 14.5	-0.3
	baz=73,SNR=6.9						
330A	Mertzon	72.93	335	⇓P	P	12 56 15.0	-0.1
	baz=73						
134A	White-Moore Ra	73.04	338	⇑P	P	12 56 15.0	-0.6
	baz=74						
231A	Bronte	73.14	336	⇓P	P	12 56 15.9	-0.4
	baz=74,SNR=9.8						
329A	Wagon Wheel Ra	73.28	335	⇑P	P	12 56 17.4	+0.3
	baz=74,SNR=5.7						
133A	Hamilton Ranch	73.33	338	⇑P	P	12 56 17.4	0.0
	baz=74,SNR=7.3						
230A	Sterling City	73.35	336	⇓P	P	12 56 17.3	-0.2
	baz=74						
Z35A	Perchaven, San	73.52	339	⇓P	P	12 56 18.1	-0.3
	baz=74,SNR=5.5						
ABTX	Abilene, Hawle	73.56	337	eP	P	12 56 18.4	-0.3
	comp=Z,17nm,0.9s						
ABTX				LR	LR		
	comp=Z,2μm,20.5s						
ABTX	Abilene, Hawle	73.56	337	⇓P	P	12 56 18.5	-0.3
	baz=74,SNR=7.1						
229A	Bryant Ranch,	73.66	335	⇓P	P	12 56 19.5	+0.2
	baz=74						
Z34A	Collier Ranch,	73.74	339	⇑P	P	12 56 19.7	0.0
	baz=74						
131A	Roby	73.84	337	⇑P	P	12 56 20.3	-0.1
	baz=74,SNR=7.0						
Z33A	Whitaker Ranch	73.91	338	⇓P	P	12 56 19.9	-0.8
	baz=74,SNR=7.8						
228A	UT Block 9, Go	74.06	335	⇓P	P	12 56 22.0	+0.3
	baz=74						
WVT	Waverly	74.09	348	eP	P	12 56 20.6	-1.1
WVT				pmax	pmax		
	comp=Z,29nm,1.1s						
WVT				MLR	MLR		
	comp=Z,700nm,21.4s						
WVT	Waverly	74.09	348	eP	P	12 56 20.6	-1.1
	comp=Z,28nm,1.1s						
WVT				LR	LR		
	comp=Z,700nm,21.4s						
Z32A	Haskell	74.15	338	⇑P	P	12 56 21.8	-0.3
	baz=75,SNR=7.3						
VWCC	Virginia Weste	74.24	355	eP	P	12 56 21.9	-0.6
Y34A	Reagan Ranch,	74.25	339	⇓P	P	12 56 22.3	-0.4
	baz=75						
129A	Stewart Farms,	74.28	335	⇑P	P	12 56 22.8	-0.2
	baz=75						
SUR	Sutherland	74.35	119	P	P	12 56 25.1	+1.2
	comp=Z,13nm,1.0s,baz=193,slow=5.5,SNR=3.7						
SUR	Sutherland	74.35	119	P	P	12 56 25.1	+1.2
SUR				LR	LR		
	comp=Z,3μm,20.0s						
Z31A	Sharp Cattle R	74.36	337	⇓P	P	12 56 23.2	-0.2
	baz=75,SNR=6.7						
128A	Castleberry Fa	74.48	335	⇓P	P	12 56 24.2	0.0
	baz=75,SNR=7.0						
Z30A	Sanderson Ranc	74.64	336	⇓P	P	12 56 24.7	-0.3
	baz=75,SNR=9.1						
Z29A	Hungry Hill Ra	74.81	336	⇓P	P	12 56 25.3	-0.8
	baz=75,SNR=9.0						
127A	Arkansas Junct	74.83	334	⇑P	P	12 56 27.3	+1.0
	baz=75						
X34A	Smith Ranch, M	74.87	339	⇑P	P	12 56 26.1	-0.2
	baz=75						
Y31A	Rekieta Farm,	74.99	337	⇑P	P	12 56 26.4	-0.6
	baz=75						
Y30A	Stafford Cattl	75.11	337	⇑P	P	12 56 27.3	-0.5
	baz=76						
X32A	Elmer	75.12	338	⇓P	P	12 56 27.9	+0.1
	baz=76						
Y29A	Porterfield Fa	75.35	336	⇓P	P	12 56 29.4	+0.2
	baz=76						
W34A	Bridge Creek,	75.45	340	⇓P	P	12 56 29.0	-0.6
	baz=76						
X31A	McDonald Ranch	75.53	338	⇑P	P	12 56 30.1	0.0
	baz=76,SNR=6.5						
TUL1	Tulsa	75.56	341	eP	P	12 56 29.4	-0.8
	comp=Z,20nm,0.8s						
TUL1				LR	LR		
	comp=Z,3μm,18.1s						
TUL1	Tulsa	75.56	341	⇓P	P	12 56 29.2	-1.0
	baz=76,SNR=6.0						
W33A	Caddo, Fort Co	75.57	339	⇓P	P	12 56 30.8	+0.5
	baz=76,SNR=5.3						
Y28A	McKinney Farm,	75.58	336	⇑P	P	12 56 30.6	+0.1
	baz=76						
Z26A	Caprock	75.59	334	⇓P	P	12 56 30.7	+0.1
	baz=76,SNR=11						
X30A	Coker Ranch, T	75.63	337	⇑P	P	12 56 30.9	+0.2
	baz=76						
W32A	Sentinel	75.77	338	⇑P	P	12 56 31.4	-0.1
	baz=76,SNR=9.8						
MSTX	Muleshoe	75.81	335	⇓P	P	12 56 31.6	-0.2
	baz=76,SNR=5.1						
USIN	University of	75.86	348	eP	P	12 56 30.8	-1.0
	comp=Z,26nm,0.8s						
USIN				LR	LR		
	comp=Z,1μm,21.0s						
Z25A	Roswell	75.86	333	⇑P	P	12 56 32.6	+0.5
	baz=76						
Y27A	Causey	75.86	335	⇑P	P	12 56 31.9	-0.3
	baz=76						
X29A	Tulia	75.89	336	⇑P	P	12 56 32.5	+0.2
	baz=76						
319A	Douglas	75.93	329	⇑P	P	12 56 34.4	+1.9
	baz=76,SNR=5.7						
W31A	Holland Ranch,	76.03	338	⇓P	P	12 56 33.0	0.0
	baz=76						
Y26A	Elida	76.13	334	⇑P	P	12 56 33.9	+0.2
	baz=76						
Z24A	Sheeppen Canyo	76.14	333	⇑P	P	12 56 35.0	+1.2
	baz=76,SNR=7.1						
V33A	Lossen Ranch,	76.14	339	⇓P	P	12 56 33.3	-0.3
	baz=77						
V32A	Arapaho	76.26	339	⇑P	P	12 56 34.3	0.0
	baz=77						
AMTX	Amarillo	76.29	336	eP	P	12 56 34.6	+0.1
	comp=Z,24nm,1.0s						
AMTX				LR	LR		
	comp=Z,2μm,20.0s						
AMTX	Amarillo	76.29	336	⇑P	P	12 56 34.3	-0.3
	baz=77						
121A	Cookes Peak, D	76.34	331	⇓P	P	12 56 36.4	+1.4
	baz=77						
Y25A	Mesa, Roswell	76.43	334	⇑P	P	12 56 35.2	-0.2
	baz=77						
W29A	Amraillo	76.50	337	⇑P	P	12 56 36.0	+0.2
	baz=77,SNR=5.9						
U34A	Anderson Ranch	76.51	340	⇓P	P	12 56 35.6	0.0
	baz=77						
X27A	F and S Farms,	76.54	335	⇑P	P	12 56 36.3	+0.3
	baz=77						
V31A	Spring Creek L	76.55	338	⇓P	P	12 56 35.8	-0.1
	baz=77						
U33A	Lingo Farm, Me	76.67	340	⇑P	P	12 56 35.7	-0.8
	baz=77						
X26A	CR and CF Fran	76.69	335	⇑P	P	12 56 37.1	+0.2
	baz=77,SNR=5.4						
Y24A	Capitan	76.70	333	⇓P	P	12 56 37.4	+0.4
	baz=77,SNR=7.5						
BLO	Bloomington	76.86	350	eP	P	12 56 36.5	-1.0
BLO				pmax	pmax		
	comp=Z,17nm,0.8s						
BLO				MLR	MLR		
	comp=Z,2μm,21.8s						
BLO	Bloomington	76.86	350	eP	P	12 56 36.5	-1.0
	comp=Z,17nm,0.8s						
BLO				LR	LR		
	comp=Z,2μm,21.8s						
W27A	Bowe Ranch, En	76.91	335	⇓P	P	12 56 38.1	+0.1
	baz=77,SNR=10						
Y23A	Lovelace Mesa,	76.93	333	⇓P	P	12 56 39.4	+1.1
	baz=77						
X25A	Clemmons Ranch	76.97	334	⇓P	P	12 56 38.7	+0.3
	baz=77						
W26A	Owens Ranch, T	77.17	335	⇑P	P	12 56 39.9	+0.4
	baz=78						
V28A	Channing	77.26	336	⇑P	P	12 56 40.0	0.0
	baz=78						
X24A	Lazy VL Ranch,	77.27	333	⇑P	P	12 56 40.6	+0.4
	baz=78,SNR=14						
DBIC	Dimbokro	77.29	71	eP	P	12 56 41.1	+0.5
DBIC				pmax	pmax		
	comp=Z,12nm,0.7s						
DBIC	Dimbokro	77.29	71	P	P	12 56 41.0	+0.5
	comp=Z,9.9nm,0.6s,baz=198,slow=5.6,SNR=13						
DBIC	Dimbokro	77.29	71	eP	P	12 56 41.0	+0.5
	comp=Z,12nm,0.7s						
TUC	Tucson	77.37	328	eP	P	12 56 41.2	+0.6
TUC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TUC	Tucson	77.37	328	eP	P	12 56 41.2	+0.6
	comp=Z,7.8nm,1.1s						
V27A	Dan Oppiter Fa	77.47	336	⇓P	P	12 56 41.3	+0.1
	baz=78						
ACSO	Alum Creek Sta	77.47	353	eP	P	12 56 40.3	-0.6
	comp=Z,18nm,0.8s						
ACSO				LR	LR		
	comp=Z,1μm,20.8s						
U30A	WK&E Inc. Balk	77.49	338	⇓P	P	12 56 41.3	+0.1
	baz=78						
W25A	X Bar L Ranch,	77.52	334	⇑P	P	12 56 41.6	0.0
	baz=78,SNR=7.3						
X23A	Hourglass Bar	77.56	333	⇓P	P	12 56 43.3	+1.4
	baz=78						
V26A	Tequesquite Ra	77.81	335	⇑P	P	12 56 42.7	-0.4
	baz=78						
W24A	Lazy 6 Ranch,	77.84	334	⇑P	P	12 56 44.0	+0.6
	baz=78,SNR=7.5						
214A	Organ Pipe Nat	77.94	327	⇑P	P	12 56 45.3	+1.5
	baz=78,SNR=7.4						
W23A	Werner Place,	78.06	333	⇓P	P	12 56 45.4	+0.7
	baz=78,SNR=7.4						
U27A	Thompson Grove	78.07	336	⇓P	P	12 56 44.6	+0.1
	baz=78						
S32A	Newby Ranch, P	78.08	340	⇑P	P	12 56 44.4	-0.1
	baz=78						
SFIN	Scholer Farm	78.13	349	⇓P	P	12 56 42.3	-2.3
	baz=79						
V25A	Rancho No Teng	78.14	335	⇓P	P	12 56 45.1	+0.1
	baz=78,SNR=6.4						
S31A	Mullinville	78.16	339	⇓P	P	12 56 45.1	+0.2
	baz=79						
V24A	Rampart Ranch,	78.26	334	⇑P	P	12 56 46.3	+0.6
	baz=79,SNR=5.6						
T29A	Hugoton	78.26	338	⇑P	P	12 56 45.8	+0.3
	baz=79						
U26A	Atchley Ranch,	78.34	335	⇓P	P	12 56 47.1	+1.0
	baz=79						
R33A	Olander Ranch,	78.39	341	⇑P	P	12 56 46.0	-0.1
	baz=79						
S30A	Montezuma	78.46	338	⇑P	P	12 56 46.7	+0.1
	baz=79,SNR=6.2						
T28A	Walsh	78.48	337	⇓P	P	12 56 46.7	-0.1
	baz=79,SNR=11						
U25A	Circle Dot Ran	78.57	335	⇓P	P	12 56 48.2	+0.8
	baz=79,SNR=5.9						
V23A	Ortiz Mt. (NFS	78.60	333	⇑P	P	12 56 48.7	+1.1
	baz=79						
T27A	Campo	78.62	337	⇓P	P	12 56 47.9	+0.3
	baz=79						
S29A	Ulysses	78.64	338	⇓P	P	12 56 48.0	+0.4
	baz=79						
R32A	Long Quarter,	78.69	340	⇑P	P	12 56 48.2	+0.3
	baz=79						
R31A	Burdett	78.80	339	⇑P	P	12 56 49.0	+0.6
	baz=79						
S28A	Manter	78.85	337	⇑P	P	12 56 48.9	+0.2
	baz=79,SNR=6.4						
Q33A	Connelly Farm,	79.00	341	⇓P	P	12 56 49.4	-0.1
	baz=79						
R30A	Dighton	79.01	339	⇑P	P	12 56 50.1	+0.5
	baz=79						
T26A	Comanche Natio	79.01	336	⇓P	P	12 56 50.5	+0.7
	baz=79,SNR=7.3						
V22A	San Miguel Ran	79.01	333	⇑P	P	12 56 50.7	+0.8
	baz=79,SNR=12						
U23A	El Rito	79.13	334	⇓P	P	12 56 51.5	+1.0
	baz=80,SNR=8.6						
Q32A	Meitler Ranch,	79.19	340	⇑P	P	12 56 50.5	0.0
	baz=80						
T25A	Trinidad	79.24	335	⇑P	P	12 56 51.9	+0.8
	baz=80,SNR=12						
S26A	Kim	79.37	336	⇑P	P	12 56 52.5	+0.8
	baz=80,SNR=14						
W18A	Petrified Fore	79.38	330	eP	P	12 56 52.9	+1.0
	comp=Z,14nm,1.0s						
W18A				LR	LR		
	comp=Z,1μm,20.1s						
W18A	Petrified Fore	79.38	330	⇑P	P	12 56 53.5	+1.6
	baz=80,SNR=5.4						
R29A	Marienthal	79.39	338	⇓P	P	12 56 52.1	+0.4
	baz=80						
U22A	Llaves	79.41	333	⇓P	P	12 56 53.1	+1.0
	baz=80						
Q31A	Ellis	79.43	340	⇑P	P	12 56 52.8	+1.0
	baz=80						
T24B	San Luis	79.50	335	⇓P	P	12 56 53.8	+1.1
	baz=80,SNR=6.2						
R28A	Tribune	79.51	338	⇓P	P	12 56 52.5	+0.1
	baz=80,SNR=7.6						
Q30A	Quinter	79.63	339	⇓P	P	12 56 53.2	+0.2
	baz=80,SNR=6.8						
BOSA	Boshof	79.65	118	P	P	12 56 53.4	-0.3
	comp=Z,6.0nm,0.8s,baz=219,slow=7.9,SNR=5.3						
T23A	Casias Ranch,	79.71	334	⇑P	P	12 56 54.6	+0.9
	baz=80,SNR=5.9						
S25A	Robets Cordova	79.72	335	⇑P	P	12 56 54.3	+0.6
	baz=80,SNR=7.9						
R27A	Eads	79.77	337	⇑P	P	12 56 54.0	+0.2
	baz=80,SNR=10.0						
Q29A	Oakley	79.77	339	⇑P	P	12 56 53.7	-0.1
	baz=80						
P32A	Huiting Farm,	79.79	341	⇑P	P	12 56 53.8	+0.1
	baz=80						
P31A	Stockton	79.91	340	⇑P	P	12 56 54.5	+0.1
	baz=80						
S24A	Houchin Ranch,	79.97	335	⇓P	P	12 56 56.0	+0.8
	baz=80,SNR=9.2						
R26A	Arlington	79.98	336	⇓P	P	12 56 55.5	+0.5
	baz=80,SNR=8.5						
R25A	Fountain Ranch	80.12	336	⇓P	P	12 56 56.6	+0.8
	baz=80						
P30A	Selden	80.17	339	⇓P	P	12 56 56.3	+0.4
	baz=81						
Q28A	Sharon Springs	80.18	338	⇓P	P	12 56 56.4	+0.4
	baz=81						
KSCO	Kaye Shedlock'	80.38	337	⇑P	P	12 56 58.0	+0.9
	baz=81						
WUAZ	Wupatki	80.39	329	eP	P	12 56 58.0	+0.8
	comp=Z,18nm,1.4s						
WUAZ				LR	LR		
	comp=Z,900nm,18.1s						
WUAZ	Wupatki	80.39	329	⇑P	P	12 56 58.5	+1.2
	baz=81						
P29A	Atwood	80.42	339	⇑P	P	12 56 57.4	+0.2
	baz=81,SNR=8.8						
R24A	Sanders Place,	80.47	335	⇑P	P	12 56 58.4	+0.7
	baz=81,SNR=12						
O31A	Woolen Ranch,	80.48	340	⇑P	P	12 56 57.5	0.0
	baz=81						
Q26A	Hugo	80.58	337	⇓P	P	12 56 58.9	+0.7
	baz=81						
S22A	4UR Ranch, Cre	80.62	334	⇑P	P	12 56 59.5	+0.8
	baz=81,SNR=8.9						
P28A	Saint Francis	80.63	338	⇓P	P	12 56 59.2	+0.8
	baz=81						
R23A	Moffat	80.67	335	⇑P	P	12 56 59.7	+0.8
	baz=81						
O30A	MW Ranch, Wils	80.71	340	⇓P	P	12 56 59.4	+0.7
	baz=81						
MVCO	Mesa Verde	80.75	332	eP	P	12 56 60.0	+0.7
	comp=Z,20nm,1.3s						
MVCO	Mesa Verde	80.75	332	⇓P	P	12 57 00.2	+0.9
	baz=81						
Q25A	Bedland, Calha	80.80	336	⇑P	P	12 56 59.5	+0.1
	baz=81,SNR=6.7						
P27A	Ficken Ranch,	80.86	338	⇑P	P	12 57 00.3	+0.6
	baz=81						
O29A	4D Ranch, Culb	80.86	339	⇑P	P	12 57 00.1	+0.5
	baz=81						
PFO	Pinyon Flat Ob	80.97	325	eP	P	12 57 01.8	+1.4
PFO				MLR	MLR		
	comp=Z,900nm,20.0s						
PFO	Pinyon Flat Ob	80.97	325	eP	P	12 57 01.8	+1.4
PFO				LR	LR		
	comp=Z,900nm,20.0s						
P26A	Davis Ranch, A	81.10	337	⇑P	P	12 57 01.7	+0.7
	baz=82						
Q24A	Divide	81.14	336	⇓P	P	12 57 02.2	+0.8
	baz=82,SNR=6.1						
O28A	Krutsinger Ran	81.15	338	⇓P	P	12 57 01.2	0.0
	baz=82,SNR=5.1						
P25A	Willow Gulch B	81.32	336	⇓P	P	12 57 03.3	+1.1
	baz=82,SNR=8.5						
N29A	Votaw Ranch, W	81.46	340	⇑P	P	12 57 03.3	+0.5
	baz=82						
M31A	Lambtecht Ranc	81.50	341	⇓P	P	12 57 03.7	+0.7
	baz=82						
U15A	North Rim	81.55	329	⇑P	P	12 57 05.4	+1.9
	baz=82						
GMRC	Granite Mounta	81.59	326	⇓P	P	12 57 04.9	+1.2
	baz=82						
O26A	Horse Wrangler	81.72	337	⇑P	P	12 57 05.3	+1.1
	baz=82						
P23A	Jefferson	81.74	335	⇑P	P	12 57 06.4	+1.8
	baz=82						
M30A	Dale-Ortello V	81.92	340	⇓P	P	12 57 05.7	+0.5
	baz=82						
PV04	Paradox Valley	81.94	333	eP	P	12 57 06.1	+0.5
SMCO	Snowmass	81.95	334	eP	P	12 57 06.4	+0.6
	comp=Z,17nm,1.1s						
SMCO				LR	LR		
	comp=Z,800nm,18.4s						
OGNE	Ogallala	81.98	339	⇓P	P	12 57 06.6	+1.1
	baz=82						
N27A	Anderson Farm,	82.00	338	⇑P	P	12 57 07.0	+1.3
	baz=82						
LBTB	Lobatse	82.05	115	eP	P	12 57 06.3	-0.2
LBTB				pmax	pmax		
	comp=Z,22nm,0.7s						
LBTB				MLR	MLR		
	comp=Z,1μm,18.5s						
LBTB	Lobatse	82.05	115	eP	P	12 57 06.2	-0.2
	comp=Z,22nm,0.7s						
LBTB				LR	LR		
	comp=Z,1μm,18.5s						
ISCO	Idaho Springs	82.05	336	eP	P	12 57 06.7	+0.5
ISCO				pmax	pmax		
	comp=Z,23nm,1.8s						
ISCO	Idaho Springs	82.05	336	eP	P	12 57 06.7	+0.5
	comp=Z,23nm,1.8s						
ISCO	Idaho Springs	82.05	336	⇓P	P	12 57 07.0	+0.8
	baz=82						
M29A	Burnside Ranch	82.06	340	⇓P	P	12 57 06.8	+0.9
	baz=82						
N26A	Koester Ranch,	82.23	338	⇓P	P	12 57 07.9	+1.1
	baz=83						
L31A	Butterfield Fa	82.25	341	⇓P	P	12 57 07.1	+0.3
	baz=83,SNR=6.7						
P22A	Eagle	82.25	335	⇓P	P	12 57 08.0	+0.9
	baz=83						
TUQ	Turquoise Moun	82.25	326	⇑P	P	12 57 09.0	+1.9
	baz=83						
L30A	Spencer Herefo	82.26	341	⇓P	P	12 57 07.6	+0.7
	baz=83						
O23A	Lake Granby, G	82.52	336	⇓P	P	12 57 09.5	+0.8
	baz=83,SNR=7.6						
O22A	Kremmling	82.69	335	⇓P	P	12 57 10.7	+1.2
	baz=83,SNR=9.4						
N24A	Carr	82.74	337	⇓P	P	12 57 10.3	+0.7
	baz=83						
SHPR	Sheep Range	82.82	327	eP	P	12 57 10.9	+0.8
K30A	Basset	82.91	341	⇑P	P	12 57 11.3	+1.0
	baz=83,SNR=8.0						
CCUT	Cedar City	82.95	329	eP	P	12 57 12.3	+1.5
	comp=Z,12nm,1.1s						
M25A	Palm-Egli Farm	83.03	337	⇑P	P	12 57 12.4	+1.3
	baz=84						
N23A	Red Feather La	83.14	336	⇑P	P	12 57 12.2	+0.4
	baz=84						
ECSD	EROS Data Cent	83.17	343	eP	P	12 57 11.1	-0.5
	comp=Z,23nm,0.8s						
ECSD				LR	LR		
	comp=Z,2μm,21.0s						
ECSD	EROS Data Cent	83.17	343	⇑P	P	12 57 10.9	-0.6
	baz=84,SNR=12						
SRU	San Rafael	83.18	332	eP	P	12 57 12.2	+0.3
SRU				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SRU				MLR	MLR		
	comp=Z,800nm,21.0s						
SRU	San Rafael	83.18	332	eP	P	12 57 12.2	+0.3
	comp=Z,9.1nm,0.9s						
SRU				LR	LR		
	comp=Z,800nm,21.0s						
N22A	Wattenberg Ran	83.23	335	⇑P	P	12 57 13.1	+0.9
	baz=84,SNR=5.2						
O20A	White River Ci	83.25	334	eP	P	12 57 12.7	+0.4
	comp=Z,9.2nm,0.8s						
O20A				LR	LR		
	comp=Z,2μm,20.5s						
O20A	White River Ci	83.25	334	⇑P	P	12 57 12.7	+0.4
	baz=84						
M24A	Cheyenne	83.30	337	⇓P	P	12 57 14.0	+1.5
	baz=84						
PHWY	Pilot Hill	83.36	336	eP	P	12 57 12.9	0.0
	comp=Z,80nm,2.4s						
PHWY				LR	LR		
	comp=Z,800nm,20.1s						
K28A	Ten Mile Ranch	83.42	340	⇑P	P	12 57 13.3	+0.4
	baz=84,SNR=7.7						
J30A	Dallas	83.49	341	⇑P	P	12 57 13.7	+0.5
	baz=84						
TMUT	Trail Mountain	83.60	331	eP	P	12 57 15.0	+0.7
	comp=Z,8.8nm,0.9s						
TMUT				LR	LR		
	comp=Z,1μm,18.0s						
K27A	Flueckinger Fa	83.66	339	⇓P	P	12 57 15.4	+1.2
	baz=84						
J29A	Okreek	83.78	341	⇑P	P	12 57 14.6	-0.2
	baz=84,SNR=6.5						
SPMN	St. Paul	83.81	346	⇓P	P	12 57 13.9	-0.8
	baz=84						
I30A	Oacoma	84.03	341	⇓P	P	12 57 15.7	-0.3
	baz=84,SNR=8.4						
J27A	Elkhorn Farm,	84.10	339	⇑P	P	12 57 17.1	+0.7
	baz=84,SNR=6.3						
MPU	Maple Canyon	84.39	332	eP	P	12 57 18.7	+0.6
	comp=Z,14nm,1.0s						
MPU				LR	LR		
	comp=Z,1μm,19.6s						
BRSD	Miller	84.40	342	eP	P	12 57 17.4	-0.5
	comp=Z,20nm,0.8s						
BRSD				LR	LR		
	comp=Z,500nm,19.1s						
BRSD	Miller	84.40	342	⇓P	P	12 57 17.6	-0.2
	baz=85						
J26A	Sides Ranch, S	84.46	339	⇑P	P	12 57 18.8	+0.6
	baz=85,SNR=5.5						
R11A	Troy Canyon, C	84.55	328	eP	P	12 57 19.6	+0.7
	comp=Z,7.7nm,1.0s						
R11A	Troy Canyon, C	84.55	328	⇑P	P	12 57 20.1	+1.1
	baz=85						
I28A	Midland	84.56	340	⇑P	P	12 57 19.1	+0.4
	baz=85						
K23A	Bowen Ranch, D	84.72	337	⇓P	P	12 57 19.8	+0.1
	baz=85,SNR=6.7						
J25A	Sunshine Ranch	84.74	338	⇑P	P	12 57 20.1	+0.3
	baz=85						
JLU	Jordanelle	84.83	332	eP	P	12 57 20.8	+0.4
	comp=Z,6.1nm,0.8s						
JLU				LR	LR		
	comp=Z,600nm,19.5s						
I27A	Quinn	84.87	340	⇑P	P	12 57 20.4	+0.1
	baz=85						
H29A	Onida	84.89	341	⇑P	P	12 57 19.8	-0.6
	baz=85,SNR=5.8						
K22A	Casper	84.91	336	⇓P	P	12 57 21.6	+0.9
	baz=85,SNR=6.9						
J24A	Dixon Ranch, L	84.95	338	⇑P	P	12 57 21.4	+0.7
	baz=85						
DUG	Dugway	85.00	331	eP	P	12 57 21.8	+0.7
DUG				pmax	pmax		
	comp=Z,18nm,1.3s						
DUG	Dugway	85.00	331	eP	P	12 57 21.8	+0.7
	comp=Z,18nm,1.3s						
DUG	Dugway	85.00	331	⇓P	P	12 57 21.8	+0.7
	baz=85						
TPH	Tonopah	85.03	327	eP	P	12 57 22.3	+0.9

TPH pmax pmax
comp=Z,17nm,1.0s
TPH MLR MLR
comp=Z,1µm,19.2s
TPH Tonopah 85.03 327 eP P 12 57 22.3 +0.9
comp=Z,16nm,1.0s
TPH LR LR
comp=Z,1µm,19.2s
I26A New Underwood 85.06 339 ⇑P P 12 57 21.4 +0.2
baz=86
G30A Faulkton 85.09 342 ⇓P P 12 57 21.1 -0.3
baz=86
K21A Alcova 85.14 336 ⇑P P 12 57 21.8 -0.1
baz=86,SNR=8.0
H28A Mission Ridge 85.15 341 ⇓P P 12 57 21.6 -0.1
baz=86,SNR=7.7
I25A Rochford 85.30 339 ⇓P P 12 57 22.7 +0.1
baz=86,SNR=6.7
G29A Hoven 85.35 342 ⇑P P 12 57 22.3 -0.3
baz=86
H27A Howes 85.39 340 ⇓P P 12 57 22.4 -0.4
baz=86,SNR=9.4
I24A Kuemmerle Ranc 85.42 338 ⇑P P 12 57 22.8 -0.3
baz=86
G28A Parade 85.49 341 ⇑P P 12 57 23.3 -0.1
baz=86,SNR=9.4
J22A Midwest 85.58 337 ⇑P P 12 57 22.2 -1.8
baz=86
BGU Big Grassy Mou 85.71 331 eP P 12 57 25.2 +0.5
comp=Z,11nm,1.9s
F30A Leola 85.73 342 ⇓P P 12 57 24.5 0.0
baz=86
NVAR Mina Array Bea 85.80 326 P P 12 57 26.1 +0.9
comp=Z,4.1nm,0.7s,baz=161,slow=6.1,SNR=10
H25A Fruitdale 85.81 339 ⇓P P 12 57 25.1 +0.1
baz=86,SNR=7.5
J21A Lysite 85.84 336 ⇓P P 12 57 25.6 +0.3
baz=86
F29A Eureka 85.92 342 ⇓P P 12 57 25.2 -0.3
baz=86,SNR=6.7
I22A 9 Mile Ranch, 86.02 337 ⇑P P 12 57 25.8 -0.3
baz=86
PDAR Pinedale Array 86.03 334 P P 12 57 25.9 -0.5
comp=Z,3.8nm,0.9s,baz=155,slow=4.6,SNR=13
G27A Dupree 86.04 340 ⇑P P 12 57 25.6 -0.4
baz=86,SNR=7.8
J20A Shoshoni 86.05 335 ⇑P P 12 57 26.8 +0.5
baz=86
G26A Maurine 86.15 340 ⇓P P 12 57 26.2 -0.4
baz=87,SNR=12
F28A McLaughlin 86.18 341 ⇓P P 12 57 26.7 0.0
baz=87,SNR=7.0
H24A Dirks Ranch, A 86.20 338 ⇑P P 12 57 26.4 -0.6
baz=87,SNR=7.1
I21A Big Trails, Te 86.20 336 ⇑P P 12 57 27.0 -0.1
baz=87
G25A Newell 86.28 339 ⇑P P 12 57 27.1 -0.1
baz=87,SNR=11
J19A Crowheart 86.30 335 ⇓P P 12 57 28.5 +0.9
baz=87
E30A Jud 86.32 343 ⇓P P 12 57 27.1 -0.3
baz=87
HVU Hansel Valley 86.34 332 eP P 12 57 27.8 0.0
HVU pmax pmax
comp=Z,14nm,1.1s
HVU Hansel Valley 86.34 332 eP P 12 57 27.8 0.0
comp=Z,14nm,1.1s
TORD Torodi Ar. Bea 86.36 71 P P 12 57 27.9 -0.4
comp=Z,2.3nm,0.6s,baz=236,slow=3.5,SNR=6.0
I20A Worland 86.60 336 ⇓P P 12 57 28.9 -0.1
baz=87
F26A Lodgepole 86.68 340 ⇑P P 12 57 28.9 -0.4
baz=87,SNR=6.5
G24A Alzada 86.69 339 ⇓P P 12 57 29.4 +0.1
baz=87
E28A Huff 86.83 342 ⇓P P 12 57 29.5 -0.4
baz=87,SNR=5.6
G23A Biddle 86.86 338 ⇑P P 12 57 29.3 -0.9
baz=87
E27A Carson 86.92 341 ⇑P P 12 57 30.1 -0.3
baz=87,SNR=6.1
I19A Meeteetse 86.96 335 ⇓P P 12 57 31.3 +0.5
baz=87
F25A Bowman 86.96 340 ⇓P P 12 57 30.3 -0.3
baz=87,SNR=5.1
REDW Red Top Meadow 87.01 334 eP P 12 57 31.0 -0.1
comp=Z,62nm,2.5s
REDW LR LR
comp=Z,700nm,18.2s
D29A Pettibone, Tap 87.01 342 ⇓P P 12 57 30.4 -0.3
baz=87,SNR=5.1
H20A Greybull 87.03 336 ⇓P P 12 57 31.1 +0.1
baz=88
LOHW Long Hollow 87.14 334 eP P 12 57 31.7 -0.1
comp=Z,5.1nm,0.9s
LOHW LR LR
comp=Z,800nm,19.4s
TPAW Teton Pass 87.16 334 eP P 12 57 31.9 +0.1
comp=Z,7.0nm,0.8s
TPAW LR LR
comp=Z,900nm,18.4s
E26A Carlson Angus 87.19 340 ⇑P P 12 57 31.4 -0.3
baz=88,SNR=9.6
FXWY Fox Creek 87.31 334 eP P 12 57 32.2 -0.4
comp=Z,41nm,2.5s
F23A Volborg 87.34 338 ⇓P P 12 57 31.7 -0.7
baz=88
AGMN Agassiz Nation 87.35 345 eP P 12 57 31.9 -0.4
comp=Z,8.9nm,0.7s
AGMN LR LR
comp=Z,1µm,18.0s
AGMN Agassiz Nation 87.35 345 ⇓P P 12 57 31.6 -0.8
baz=88,SNR=5.4
C30A Mose, Pekin 87.35 343 ⇓P P 12 57 32.5 +0.1
baz=88,SNR=13
D28A Regan 87.37 342 ⇑P P 12 57 32.4 -0.1
baz=88,SNR=9.1
I17A Pilgrim Ck. 87.40 334 ⇑P P 12 57 33.3 +0.3
baz=88
E25A Miller Ranch, 87.48 340 ⇑P P 12 57 33.0 0.0
baz=88,SNR=5.9
IMW Indian Meadow 87.51 334 eP P 12 57 33.7 +0.1
comp=Z,11nm,1.1s
IMW LR LR
comp=Z,900nm,18.4s
D27A Center 87.54 341 ⇑P P 12 57 32.9 -0.4
baz=88
D26A Manning 87.70 341 ⇓P P 12 57 33.8 -0.3
baz=88,SNR=17
H18A Shoshone NF, C 87.75 335 ⇓P P 12 57 34.7 0.0
baz=88
G20A Bridger 87.76 336 ⇓P P 12 57 36.3 +1.8
baz=88
E24A Baker 87.78 339 ⇑P P 12 57 35.2 +0.6
baz=88
C28A Hausauer Farms 87.82 342 ⇓P P 12 57 34.3 -0.3
baz=88
B30A Myrvik Farm, E 88.02 344 ⇓P P 12 57 35.4 -0.2
baz=88,SNR=14
C27A Sayler Ranch, 88.09 341 ⇑P P 12 57 36.2 +0.2
baz=88,SNR=7.0
YMR Madison River 88.19 334 eP P 12 57 37.5 +0.8
comp=Z,13nm,0.9s
YMR LR LR
comp=Z,2µm,21.0s
B29A Wagenman Farm, 88.27 343 ⇓P P 12 57 36.5 -0.2
baz=89,SNR=8.5
D24A Glendive 88.30 339 ⇑P P 12 57 37.2 +0.2
baz=89
C26A Wahner Farm, P 88.35 341 ⇓P P 12 57 37.1 0.0
baz=89
A30A Hoffart Farm, 88.48 344 ⇓P P 12 57 37.2 -0.5
baz=89
B28A Dugan Ranch, T 88.49 342 ⇓P P 12 57 37.6 -0.2
baz=89,SNR=10
HLID Hailey 88.49 332 eP P 12 57 38.9 +0.7
comp=Z,8.0nm,1.1s
HLID LR LR
comp=Z,1µm,19.1s
C25A Freed Ranch, W 88.55 340 ⇓P P 12 57 38.6 +0.5
baz=89
D23A Lindsay 88.60 339 ⇑P P 12 57 38.6 +0.2
baz=89
A29A Manning Farm, 88.67 343 ⇓P P 12 57 38.2 -0.4
baz=89,SNR=13
B27A Peters Farms, 88.67 342 ⇓P P 12 57 38.7 0.0
baz=89
C24A Savage 88.70 340 ⇓P P 12 57 39.2 +0.4
baz=89,SNR=5.8
MFID Camas Ranch 88.92 331 eP P 12 57 40.5 +0.5
MFID LR LR
comp=Z,1µm,22.0s
ULM Lac du Bonnet 89.22 346 P P 12 57 40.4 -0.8
comp=Z,5.2nm,0.8s,baz=165,slow=5.3,SNR=6.3
DLMT Dillon 89.37 334 eP P 12 57 42.5 +0.3
comp=Z,26nm,1.9s
DLMT LR LR
comp=Z,900nm,18.1s
DGMT Dagmar 89.50 340 eP P 12 57 41.9 -0.6
comp=Z,26nm,1.3s
DGMT LR LR
comp=Z,2µm,20.4s
MOD Modoc 89.52 327 eP P 12 57 43.6 +0.7
comp=Z,96nm,2.5s
F10A Beach Ranch, E 91.60 331 eP P 12 57 52.3 -0.2
comp=Z,120nm,2.8s
HAWA Hanford 92.85 330 eP P 12 57 59.9 +1.7
comp=Z,13nm,1.4s
HAWA LR LR
comp=Z,1µm,20.6s
WALA Waterton Lakes 93.00 335 eP P 12 57 59.2 +0.3
TUE Stuetta 111.43 47 ePdif Pdif 12 59 14.5 -7.2
GERES GERESS Array B 115.16 47 PKP PKPdf 13 03 24.7 -2.0
comp=Z,1.1nm,0.8s,baz=308,slow=2.4,SNR=4.0
ILAR Eielson Array 116.43 333 PKP PKPdf 13 03 27.8 -0.8
comp=Z,0.7nm,1.0s,baz=139,slow=1.1,SNR=3.9
WRA Warramunga Arr 117.47 210 PKP PKPdf 13 03 30.3 -1.8
comp=Z,1.7nm,0.8s,baz=160,slow=1.5,SNR=7.6
MMAI Mount Meron Ar 122.90 71 PKP PKPdf 13 03 40.3 -1.8
comp=Z,3.8nm,0.8s,baz=160,slow=4.6,SNR=4.1
BRTR Keskin Array B 124.33 63 PKP PKPdf 13 03 43.8 -1.0
comp=Z,2.5nm,0.7s,baz=194,slow=3.8,SNR=14
H11S2 WAKE ISLAND Hy 124.51 268 T T 15 20 31.2
baz=121
H11S1 WAKE ISLAND Hy 124.53 268 T T 15 20 31.9
baz=121
H11S3 WAKE ISLAND Hy 124.53 268 T T 15 20 31.4
baz=121
H11N3 WAKE ISLAND Hy 125.00 269 T T 15 21 03.5
baz=122
H11N1 WAKE ISLAND Hy 125.02 269 T T 15 21 03.2
baz=122
H11N2 WAKE ISLAND Hy 125.02 269 T T 15 21 04.9
baz=122
AKASG Malin Array Be 125.14 49 PKP PKPdf 13 03 44.2 -1.4
comp=Z,1.3nm,0.7s,baz=260,slow=2.7,SNR=9.1
FINES FINESS Array B 126.21 36 PKP PKPdf 13 03 46.5 -0.9
comp=Z,1.5nm,0.9s,baz=258,slow=12,SNR=3.0
OBN Obninsk 130.49 45 i PKIKP PKPdf 13 03 55.4 -0.3
OBN pmax pmax
comp=Z,5.0nm,0.7s
BILL Bilibino 135.09 333 ePKIKP PKPdf 13 04 03.2 -0.9
BILL pmax pmax
comp=Z,2.0nm,1.5s
GEYT Alibeck 141.95 74 PKhKP PKPpre 13 04 11.9
comp=Z,2.8nm,0.8s,baz=298,slow=3.2,SNR=4.7
GEYT PKP PKPdf 13 04 18.1 +0.4
comp=Z,2.6nm,0.7s,baz=260,slow=4.5,SNR=4.8
AKTO Aktyubinsk 143.19 53 PKhKP PKPpre 13 04 14.9
comp=Z,1.9nm,0.6s,baz=255,slow=2.9,SNR=5.5
TIXI Tiksi 143.53 348 ePKPdf PKPab 13 04 14.7 -1.1
KSM Kuching 144.36 187 ePKPdf PKPab 13 04 20.4 -0.2
ABKAR Akbulak array 144.48 55 ePKPdf PKPbc 13 04 20.2 -0.1
MYKOM Kota Tinggi 144.76 175 ePKPdf PKPab 13 04 21.4 -0.6
MYKOM LR LR
comp=Z,200nm,18.0s
IPM Ipoh 147.12 170 ePKPbc PKPdf 13 04 28.0 +0.7
HYB Hyderabad 148.51 121 i PKP PKPdf 13 04 31.0 +1.5
BRVK Borovoye 150.25 46 ePKIKP PKPbc 13 04 36.4 +0.1
BRVK MLR MLR
comp=Z,400nm,20.0s
BRVK Borovoye 150.25 46 ePKPdf PKPbc 13 04 36.4 +0.1
BRVK LR LR
comp=Z,400nm,20.0s
BVAR Borovoye Array 150.32 46 PKPbc PKPbc 13 04 36.5 +0.1
comp=Z,7.5nm,0.7s,baz=294,slow=4.1,SNR=21
BVAR PKPab PKPab 13 04 42.7 -0.2
comp=Z,7.7nm,0.8s,baz=298,slow=3.2,SNR=9.3
KKAR Karatay Array 151.97 66 ePKIKP PKPbc 13 04 40.2 -0.5
KKAR Karatay Array 151.97 66 ePKPbc PKPbc 13 04 40.1 -0.5
MJAR Matsushiro Arr 154.69 278 PKPab PKPab 13 05 01.4 -0.4
comp=Z,1.0nm,0.7s,baz=140,slow=6.5,SNR=4.3
AAK Ala-Archa 154.90 67 PKP PKPdf 13 04 38.3 -0.3
comp=Z,2.9nm,0.7s,baz=187,slow=1.0,SNR=4.6
AAK PKPbc PKiKP 13 04 47.5 +0.2
comp=Z,4.5nm,0.6s,baz=183,slow=3.2,SNR=8.2
AAK PKPab PKPab 13 05 02.9 +0.2
comp=Z,5.7nm,0.6s,baz=196,slow=5.0,SNR=8.8
ZALV Zalesovo Beam 157.47 35 PKP PKPdf 13 04 40.2 -1.1
comp=Z,6.2nm,0.9s,baz=274,slow=2.2,SNR=8.4
ZALV PKPab PKPab 13 05 13.2 +0.1
comp=Z,4.0nm,0.7s,baz=299,slow=4.2,SNR=5.2
MKAR Makanchi Array 159.62 54 PKP PKPdf 13 04 43.6 -0.6
comp=Z,2.3nm,0.8s,baz=240,slow=0.6,SNR=6.9
MKAR PKPab PKPab 13 05 22.3 -0.4
comp=Z,3.1nm,0.7s,baz=290,slow=4.2,SNR=9.9
CMAR Chiang Mai Arr 160.25 158 PKP PKPdf 13 04 45.0 -0.7
comp=Z,0.5nm,0.3s,baz=248,slow=1.9,SNR=5.4
CMAR PKPab PKPab 13 05 25.0 -1.0
comp=Z,0.3nm,0.3s,baz=206,slow=5.9,SNR=4.1
ZAK Zakamensk 166.54 9 ⇓ iPKP2 PKPab 13 05 52.6 -0.3
ZAK pmax pmax
comp=Z,3.0nm,1.0s
NJ2 Nanjing 168.65 247 ePKP PKPdf 13 04 53.0 +0.2
SONM Songino Array 169.29 0 PKPab PKPab 13 06 05.2 0.0
comp=Z,2.5nm,0.8s,baz=334,slow=4.1,SNR=13
GYA Guiyang 169.37 181 PKP PKPdf 13 04 53.0 -0.6
GYA pPKP pPKPdf 13 05 04.8 +6.4
GYA PKPab PKPab 13 06 07.5 +1.5
GYA PKS PKSdf 13 08 24.3 -2.0
GYA PP PP 13 09 58.0 +3.4
GYA SKKS 13 16 40.5
GYA SS SS 13 30 50.5 +0.7
GYA AMB AMB
comp=Z,120nm,8.5s
GYA LR LR
comp=Z,130nm,21.2s
GYA LR LR
comp=Z,120nm,21.6s
GYA LR LR
comp=Z,140nm,24.3s
GTA Gaotai 174.25 65 ePKP PKPdf 13 04 54.8 -0.7
GTA pPKP pPKPdf 13 05 05.0 +4.7
GTA sPKP 13 05 09.3
LZH Lanzhou 177.61 115 ePKP PKPdf 13 04 56.5 +0.1
LZH pPKP pPKPdf 13 05 07.5 +6.2
LZH sPKP 13 05 11.0

*IDC **27** 12:46:14.5±0.5, 37°.93S×74°.99W, h0km, mb4.6/11, mb1 4.8/13, mb1mx4.6/29, mbtmp4.6/13, ML4.8/2, Error ellipse: s-maj=21.3km s-min=17.7km az=95.0*
*MOS **27** 12:46:18.9±1.1, 37°.81S×75°.05W, h33km, mb5.1/13, Error ellipse: s-maj=19.2km s-min=11.4km az=102.3*
*BJI **27** 12:46:19.0, 37°.70S×73°.70W, h35km, mB5.0/1, Ms4.4/2, Ms7 5.3/2*
*ISCJB **27** 12:46:20.4±0.4, 37°.50S±0°.08×74°.81W±0°.08, h33km, mb5.0/63, Error ellipse: s-maj=13.2km s-min=7.4km az=32.3*
*NEIC **27** 12:46:20.7±0.3, 37°.84S×74°.97W, h35km, mb5.1/52, Error ellipse: s-maj=9.3km s-min=6.8km az=214.0*
ISC 27 12:46:20.1±0.4, 37°.86S±0°.08×75°.06W±0°.10, h35km, n431, σ1.03/434, mb5.0/63, 59C-52D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.52 131 eP Pn 12 47 29.4 +3.3
PLCA Paso Flores 4.52 131 Lg Lg 12 48 26.4
23nm,0.3s,baz=237,slow=17,SNR=3.0
PLCA Paso Flores 4.52 131 ePn Pn 12 47 29.4 +3.3
PLCA Lg Lg 12 48 26.4
CFAA Coronel Fontan 8.39 44 Pn Pn 12 48 17.9 -1.3
3.2nm,0.3s,baz=221,slow=14,SNR=4.3
TRQA Tornquist 10.33 95 ePn Pn 12 48 47.4 +1.6
CPUP Villa Florida 18.88 58 eP P 12 50 37.1 -0.2
CPUP Villa Florida 18.88 58 P P 12 50 36.8 -0.6
1.5nm,0.3s,baz=142,slow=19,SNR=2.3
CPUP Villa Florida 18.88 58 Pn P 12 50 37.1 -0.2
LPAZ La Paz 22.34 18 eP P 12 51 15.7 +0.2
LPAZ La Paz 22.34 18 P P 12 51 16.6 +1.0
8.9nm,0.8s,baz=186,slow=19,SNR=1.6
LPAZ La Paz 22.34 18 eP P 12 51 15.7 +0.2
BDFB Brasilia 32.55 55 P P 12 52 50.7 +2.7
10nm,1.1s,baz=229,slow=11,SNR=2.1
SDV Santo Domingo 46.68 6 eP P 12 54 45.9 +0.2
11nm,0.9s
SNAA Sanae 48.99 156 P P 12 55 01.7 -1.0
3.1nm,1.0s,baz=232,slow=12,SNR=1.8
QSPA South Pole Qui 52.38 180 P P 12 55 28.5 0.0
11nm,0.8s,baz=147,slow=7.4,SNR=7.1
QSPA South Pole Qui 52.38 180 eP P 12 55 29.7 +1.1
27nm,1.3s
PPT Papeete 67.36 265 P P 12 57 13.2 +1.3
55nm,0.9s,baz=171,slow=4.9,SNR=5.2
034A Hebbronville 68.28 337 P P 12 57 18.9 +1.5
baz=69
933A Laredo 68.97 337 P P 12 57 23.1 +1.5
baz=70
834A Tilden 69.23 338 P P 12 57 24.7 +1.5
baz=70
833A Chaparral WMA, 69.67 337 P P 12 57 27.0 +1.0
baz=70
832A Faith Ranch, C 69.82 337 P P 12 57 27.3 +0.5
baz=70
636A Smothers Creek 70.08 340 P P 12 57 30.2 +1.8
baz=71
732A Laxson Ranch, 70.23 337 P P 12 57 30.1 +0.8
baz=71
633A Saathoff Ranch 70.67 338 P P 12 57 33.1 +1.0
baz=71
533A Kerrville 71.20 338 P P 12 57 36.0 +0.6
baz=72
GOGA Godfrey 71.34 353 eP P 12 57 35.8 -0.2
GOGA pmax pmax
comp=Z,10.0nm,0.9s
GOGA Godfrey 71.34 353 eP P 12 57 35.8 -0.2
comp=Z,10.0nm,0.9s
LRAL Lakeview Retre 71.40 349 eP P 12 57 35.7 -0.7
comp=Z,13nm,0.8s
532A Rocksprings 71.52 337 P P 12 57 38.0 +0.8
baz=72
434A Burnet 71.68 339 P P 12 57 39.0 +0.9
baz=72
531A Rocksprings 71.75 337 P P 12 57 39.3 +0.7
baz=72
JCT Junction City 71.81 338 eP P 12 57 39.8 +0.8
JCT pmax pmax
comp=Z,27nm,1.4s
JCT Junction City 71.81 338 eP P 12 57 39.8 +0.8
comp=Z,27nm,1.4s
JCT Junction City 71.81 338 P P 12 57 39.5 +0.5
baz=72
336A Riesel 71.83 340 P P 12 57 39.9 +0.8
baz=72
433A Art 71.86 338 P P 12 57 39.6 +0.3
baz=72
335A Moody 71.89 340 P P 12 57 40.3 +0.9
baz=72
530A J-C Ranch, Com 71.98 336 P P 12 57 40.9 +0.9
baz=73
TXAR Lajitas Array 72.01 334 P P 12 57 40.6 +0.4
comp=Z,4.3nm,0.9s,baz=155,slow=8.0,SNR=9.0
334A Lometa 72.16 339 P P 12 57 41.4 +0.3
baz=73
529A Stev Forest Ra 72.25 335 P P 12 57 42.2 +0.6
baz=73
431A Sonora 72.25 337 P P 12 57 42.0 +0.4
baz=73
333A Richland Sprin 72.36 339 P P 12 57 42.4 +0.1
baz=73
430A Baggett Ranch, 72.54 337 P P 12 57 44.1 +0.7
baz=73
WHTX Lake Whitney 72.57 340 P P 12 57 43.7 +0.3
baz=73
138A Matatall Enter 72.60 342 P P 12 57 44.3 +0.7
baz=73
429A Davenport Ranc 72.60 336 P P 12 57 44.3 +0.6
baz=73
332A Millersview 72.64 338 P P 12 57 44.0 +0.1
baz=73
234A Clairette 72.76 340 P P 12 57 44.9 +0.3
baz=73
331A San Angelo 72.78 337 P P 12 57 45.0 +0.3
baz=73
KMSC Kings Mountain 72.87 355 P P 12 57 45.0 -0.1
baz=73
233A Rising Star 72.99 339 P P 12 57 45.6 -0.4
baz=74
232A Coleman 73.08 338 P P 12 57 46.4 -0.2
baz=74
330A Mertzon 73.10 337 P P 12 57 46.6 0.0
baz=74
231A Bronte 73.33 338 P P 12 57 48.0 0.0
baz=74
SWET Sewanee 73.41 351 eP P 12 57 48.4 0.0
comp=Z,28nm,0.8s
329A Wagon Wheel Ra 73.42 336 P P 12 57 48.9 +0.3
baz=74
230A Sterling City 73.52 337 P P 12 57 49.6 +0.4
baz=74
133A Hamilton Ranch 73.55 339 P P 12 57 49.5 +0.3
baz=74
TKL Tuckaleechee C 73.59 353 P P 12 57 48.8 -0.7
comp=Z,5.7nm,0.8s,baz=162,slow=9.7,SNR=3.5
ABTX Abilene, Hawle 73.77 339 P P 12 57 50.8 +0.2
baz=74
Z35A Perchaven, San 73.78 341 P P 12 57 50.9 +0.3
baz=74
229A Bryant Ranch, 73.81 337 P P 12 57 51.0 +0.1
baz=74
Z34A Collier Ranch, 73.99 340 P P 12 57 52.0 +0.2
baz=75
131A Roby 74.04 338 P P 12 57 52.5 +0.4
baz=75
130A Snyder 74.14 337 P P 12 57 52.9 +0.2
baz=75
Z33A Whitaker Ranch 74.14 340 P P 12 57 52.6 -0.1
baz=75
228A UT Block 9, Go 74.20 336 P P 12 57 54.2 +1.0
baz=75
Z32A Haskell 74.36 339 P P 12 57 54.2 +0.2
baz=75
129A Stewart Farms, 74.45 337 P P 12 57 54.5 -0.1
baz=75
Y34A Reagan Ranch, 74.51 341 P P 12 57 54.4 -0.3
baz=75
Z31A Sharp Cattle R 74.57 338 P P 12 57 55.4 +0.2
baz=75
128A Castleberry Fa 74.63 336 P P 12 57 55.5 -0.1
baz=75
Z30A Sanderson Ranc 74.83 338 P P 12 57 56.6 -0.2
baz=75
Z29A Hungry Hill Ra 74.98 337 P P 12 57 57.2 -0.5
baz=76
Y32A R-V Farms, Ver 75.01 339 P P 12 57 57.7 0.0
baz=76
X34A Smith Ranch, M 75.13 341 P P 12 57 58.5 +0.1
baz=76
Y31A Rekieta Farm, 75.20 339 P P 12 57 58.8 0.0
baz=76
X33A Lawton 75.25 340 P P 12 57 59.1 0.0
baz=76
Y30A Stafford Cattl 75.31 338 P P 12 57 59.8 +0.3
baz=76
Y29A Porterfield Fa 75.53 337 P P 12 58 01.0 +0.2
baz=76
PBMO Poplar Bluff 75.62 347 eP P 12 58 00.9 -0.1
comp=Z,17nm,0.8s
Z26A Caprock 75.72 335 P P 12 58 02.1 +0.2
baz=76
W34A Bridge Creek, 75.72 341 P P 12 58 02.2 +0.5
baz=76
X31A McDonald Ranch 75.75 339 P P 12 58 02.5 +0.5
baz=76
Y28A McKinney Farm, 75.75 337 P P 12 58 01.9 -0.1
baz=76
W33A Caddo, Fort Co 75.82 340 P P 12 58 02.7 +0.3
baz=76
X30A Coker Ranch, T 75.83 338 P P 12 58 03.2 +0.8
baz=76
TUL1 Tulsa 75.87 343 eP P 12 58 02.7 +0.1
comp=Z,27nm,0.8s
TUL1 Tulsa 75.87 343 P P 12 58 02.7 +0.1
baz=76
319A Douglas 75.93 330 P P 12 58 04.7 +1.5
baz=77
MSTX Muleshoe 75.97 337 eP P 12 58 05.1 +1.8
comp=Z,10.0nm,1.0s
MSTX Muleshoe 75.97 337 ⇑P P 12 58 04.2 +0.8
baz=77

Z25A Roswell 75.97 335 P P 12 58 04.8 +1.4
baz=77
W32A Sentinel 76.01 340 P P 12 58 04.0 +0.6
baz=77
Y27A Causey 76.02 336 ⇑P P 12 58 04.9 +1.3
baz=77
X29A Tulia 76.08 338 P P 12 58 04.5 +0.6
baz=77
Z24A Sheeppen Canyo 76.24 334 P P 12 58 05.6 +0.6
baz=77
W31A Holland Ranch, 76.26 339 P P 12 58 05.3 +0.4
baz=77
Y26A Elida 76.26 336 P P 12 58 05.8 +0.7
baz=77
USIN University of 76.34 350 eP P 12 58 04.7 -0.5
comp=Z,18nm,0.7s
121A Cookes Peak, D 76.39 332 P P 12 58 06.8 +1.0
baz=77
V33A Lossen Ranch, 76.41 341 P P 12 58 06.2 +0.5
baz=77
AMTX Amarillo 76.48 338 eP P 12 58 06.8 +0.6
comp=Z,17nm,0.9s
AMTX Amarillo 76.48 338 P P 12 58 06.6 +0.4
baz=77
V32A Arapaho 76.51 340 P P 12 58 07.1 +0.8
baz=77
Y25A Mesa, Roswell 76.55 335 P P 12 58 06.9 +0.2
baz=77
W29A Amraillo 76.69 338 ⇑P P 12 58 07.6 +0.2
baz=77,SNR=5.7
Z22A Elephant Butte 76.73 333 P P 12 58 10.2 +2.4
baz=77
V31A Spring Creek L 76.78 340 P P 12 58 09.7 +1.9
baz=77
U34A Anderson Ranch 76.80 342 P P 12 58 08.5 +0.7
baz=77
Y24A Capitan 76.81 334 P P 12 58 09.0 +0.8
baz=78
X26A CR and CF Fran 76.84 336 P P 12 58 09.2 +1.0
baz=78
U33A Lingo Farm, Me 76.94 341 P P 12 58 08.8 +0.1
baz=78
Y23A Lovelace Mesa, 77.02 334 P P 12 58 10.7 +1.3
baz=78
W27A Bowe Ranch, En 77.07 337 ⇑P P 12 58 10.3 +0.7
baz=78,SNR=6.7
U32A Winter Ranch, 77.12 340 P P 12 58 10.3 +0.6
baz=78
W26A Owens Ranch, T 77.32 336 ⇑P P 12 58 11.6 +0.7
baz=78
X24A Lazy VL Ranch, 77.39 335 ⇑P P 12 58 12.5 +1.1
baz=78,SNR=6.0
SLM Saint Louis 77.39 348 eP P 12 58 11.3 +0.2
SLM pmax pmax
comp=Z,42nm,0.9s
SLM Saint Louis 77.39 348 eP P 12 58 11.3 +0.2
comp=Z,42nm,0.9s
V28A Channing 77.45 338 P P 12 58 12.9 +1.2
baz=78
V27A Dan Oppiter Fa 77.64 337 P P 12 58 13.7 +0.9
baz=78
W25A X Bar L Ranch, 77.66 336 ⇓P P 12 58 13.9 +1.0
baz=78
U30A WK&E Inc. Balk 77.72 339 P P 12 58 14.5 +1.4
baz=78
LAZ Ladron 77.83 333 eP P 12 58 15.4 +1.5
comp=Z,6.1nm,1.4s
T32A Huddler Ranch, 77.86 341 P P 12 58 14.8 +1.0
baz=78
214A Organ Pipe Nat 77.87 328 P P 12 58 15.3 +1.3
baz=79
W24A Lazy 6 Ranch, 77.96 335 ⇓P P 12 58 15.9 +1.2
baz=79,SNR=5.1
T31A Randall Ranch, 77.98 340 P P 12 58 15.6 +1.1
baz=79
ACSO Alum Creek Sta 78.05 354 eP P 12 58 14.7 -0.1
comp=Z,20nm,0.8s
W23A Werner Place, 78.17 334 P P 12 58 17.4 +1.6
baz=79
U27A Thompson Grove 78.25 337 ⇓P P 12 58 16.6 +0.5
baz=79
V25A Rancho No Teng 78.28 336 ⇓P P 12 58 16.7 +0.3
baz=79,SNR=5.3
S32A Newby Ranch, P 78.35 341 P P 12 58 17.4 +0.8
baz=79
V24A Rampart Ranch, 78.39 335 P P 12 58 17.8 +0.7
baz=79
T29A Hugoton 78.48 339 P P 12 58 18.7 +1.4
baz=79
T28A Walsh 78.69 338 ⇑P P 12 58 19.0 +0.6
baz=79,SNR=9.0
S30A Montezuma 78.70 340 ⇑P P 12 58 18.2 -0.3
baz=79,SNR=8.2
DBIC Dimbokro 78.71 72 P P 12 58 18.8 -0.3
comp=Z,2.1nm,0.6s,baz=221,slow=9.3,SNR=2.2
V23A Ortiz Mt. (NFS 78.71 335 P P 12 58 19.7 +0.9
baz=79
U25A Circle Dot Ran 78.72 336 P P 12 58 19.6 +0.8
baz=79
T27A Campo 78.81 338 ⇓P P 12 58 19.9 +0.7
baz=79
S29A Ulysses 78.86 339 P P 12 58 20.3 +0.9
baz=80
R32A Long Quarter, 78.97 341 P P 12 58 20.4 +0.5
baz=80
X18A Snowflake 78.98 331 P P 12 58 21.2 +0.9
baz=80
R31A Burdett 79.06 341 P P 12 58 21.0 +0.5
baz=80
S28A Manter 79.06 339 ⇑P P 12 58 20.7 +0.2
baz=80,SNR=5.4
KSU1 Kansas State U 79.11 343 eP P 12 58 20.8 +0.2
comp=Z,16nm,0.9s
KSU1 Kansas State U 79.11 343 P P 12 58 20.6 0.0
baz=80
V22A San Miguel Ran 79.11 334 P P 12 58 22.6 +1.5
baz=80
Z14A Wintersburg 79.15 328 P P 12 58 22.4 +1.4
baz=80
T26A Comanche Natio 79.18 337 ⇓P P 12 58 21.2 -0.1
baz=80
U23A El Rito 79.24 335 P P 12 58 23.0 +1.3
baz=80
R30A Dighton 79.25 340 P P 12 58 22.3 +0.8
baz=80
Q33A Connelly Farm, 79.30 342 P P 12 58 22.1 +0.4
baz=80
T25A Trinidad 79.40 337 ⇑P P 12 58 24.8 +2.3
baz=80,SNR=5.8
W18A Petrified Fore 79.42 332 P P 12 58 24.2 +1.5
baz=80
X16A Lo Mia Camp, P 79.46 330 P P 12 58 24.7 +1.8
baz=80
Q32A Meitler Ranch, 79.47 342 P P 12 58 23.2 +0.6
baz=80
U22A Llaves 79.51 334 P P 12 58 24.3 +1.1
baz=80
S26A Kim 79.56 337 ⇓P P 12 58 24.4 +1.1
baz=80,SNR=8.7
R29A Marienthal 79.62 339 P P 12 58 24.2 +0.7
baz=80
T24B San Luis 79.64 336 P P 12 58 25.3 +1.3
baz=80
Y14A Wickenburg 79.67 329 P P 12 58 24.7 +0.8
baz=80
R28A Tribune 79.73 339 ⇓P P 12 58 24.5 +0.4
baz=80,SNR=5.5
T23A Casias Ranch, 79.83 335 P P 12 58 26.0 +1.1
baz=80
S25A Robets Cordova 79.89 337 P P 12 58 25.8 +0.7
baz=80
Q30A Quinter 79.89 340 ⇓P P 12 58 26.3 +1.4
baz=80,SNR=8.7
R27A Eads 79.97 338 ⇓P P 12 58 26.2 +0.7
baz=81,SNR=7.8
Q29A Oakley 80.01 340 P P 12 58 25.8 +0.2
baz=81
P32A Huiting Farm, 80.08 342 P P 12 58 26.6 +0.7
baz=81
S24A Houchin Ranch, 80.12 336 ⇑P P 12 58 28.0 +1.5
baz=81,SNR=7.7
R26A Arlington 80.17 338 ⇑P P 12 58 27.4 +0.9
baz=81,SNR=8.0
P31A Stockton 80.18 341 P P 12 58 26.8 +0.4
baz=81
R25A Fountain Ranch 80.29 337 P P 12 58 28.2 +1.0
baz=81
WUAZ Wupatki 80.40 331 eP P 12 58 30.0 +2.1
comp=Z,13nm,1.1s
WUAZ Wupatki 80.40 331 P P 12 58 29.4 +1.5
baz=81
Q28A Sharon Springs 80.41 339 ⇓P P 12 58 29.0 +1.2
baz=81
P30A Selden 80.43 341 P P 12 58 28.5 +0.7
baz=81
PDMCI Parker Dam,Lak 80.45 328 P P 12 58 29.6 +1.5
baz=81
R24A Sanders Place, 80.62 336 ⇑P P 12 58 31.0 +1.9
baz=81,SNR=9.0
P29A Atwood 80.67 340 ⇓P P 12 58 29.4 +0.3
baz=81,SNR=5.1
S22A 4UR Ranch, Cre 80.74 335 P P 12 58 31.1 +1.2
baz=81
O31A Woolen Ranch, 80.76 341 P P 12 58 30.8 +1.2
baz=81
Q26A Hugo 80.77 338 P P 12 58 30.9 +1.1
baz=81
R23A Moffat 80.82 336 P P 12 58 31.6 +1.3
baz=82
MVCO Mesa Verde 80.83 334 eP P 12 58 31.5 +1.2
MVCO Mesa Verde 80.83 334 P P 12 58 31.4 +1.2
baz=82
PFO Pinyon Flat Ob 80.86 326 P P 12 58 32.1 +1.8
baz=82
P28A Saint Francis 80.86 339 ⇑P P 12 58 31.5 +1.2
baz=82,SNR=5.3
O30A MW Ranch, Wils 80.97 341 P P 12 58 31.2 +0.4
baz=82
Q25A Bedland, Calha 80.98 337 ⇑P P 12 58 32.5 +1.5
baz=82
W13A Hualapai Mount 81.04 329 P P 12 58 32.9 +1.5
baz=82
P27A Ficken Ranch, 81.08 339 P P 12 58 32.2 +0.8
baz=82
Q24A Divide 81.31 337 ⇓P P 12 58 34.3 +1.4
baz=82,SNR=7.1
P26A Davis Ranch, A 81.31 338 ⇓P P 12 58 33.0 +0.3
baz=82,SNR=5.8
O28A Krutsinger Ran 81.39 340 ⇑P P 12 58 33.6 +0.7
baz=82,SNR=5.5
P25A Willow Gulch B 81.51 338 ⇑P P 12 58 35.2 +1.5
baz=82,SNR=7.3
GMRC Granite Mounta 81.51 327 P P 12 58 35.6 +1.8
baz=82
U15A North Rim 81.55 330 P P 12 58 35.7 +1.6
baz=82
O27A Beecher Island 81.64 339 P P 12 58 36.0 +1.7
baz=82
BGNE Belgrade 81.66 343 eP P 12 58 34.9 +0.6
comp=Z,28nm,0.9s
BGNE Belgrade 81.66 343 P P 12 58 35.1 +0.8
baz=82
N29A Votaw Ranch, W 81.72 341 P P 12 58 35.7 +0.9
baz=82
M31A Lambtecht Ranc 81.80 342 P P 12 58 36.3 +1.3
baz=82
N28A Pribbeno Ranch 81.84 340 P P 12 58 36.3 +0.9
baz=82
P23A Jefferson 81.90 336 P P 12 58 37.9 +1.9
baz=82
O26A Horse Wrangler 81.93 339 ⇓P P 12 58 37.2 +1.4
baz=82,SNR=5.6
BFSC Mount Baldy Ra 81.93 326 P P 12 58 37.9 +1.9
baz=83
PV04 Paradox Valley 82.03 334 eP P 12 58 38.1 +1.5
SMCO Snowmass 82.08 335 eP P 12 58 39.1 +2.0
comp=Z,50nm,1.8s
ISCO Idaho Springs 82.22 337 eP P 12 58 39.1 +1.5
ISCO pmax pmax
comp=Z,26nm,1.8s
ISCO Idaho Springs 82.22 337 eP P 12 58 39.1 +1.5
comp=Z,26nm,1.8s
ISCO Idaho Springs 82.22 337 ⇑P P 12 58 39.3 +1.7
baz=83,SNR=5.3
OGNE Ogallala 82.22 340 P P 12 58 38.6 +1.3
baz=83
N27A Anderson Farm, 82.23 339 ⇑P P 12 58 38.2 +0.8
baz=83,SNR=6.7
M29A Burnside Ranch 82.33 341 P P 12 58 39.1 +1.2
baz=83
P22A Eagle 82.39 336 P P 12 58 39.7 +1.3
baz=83
GSC Goldstone 82.45 327 P P 12 58 40.3 +1.6
baz=83
L31A Butterfield Fa 82.55 342 P P 12 58 39.8 +0.9
baz=83
L30A Spencer Herefo 82.56 342 P P 12 58 40.3 +1.2
baz=83
O23A Lake Granby, G 82.69 337 ⇑P P 12 58 41.3 +1.2
baz=83
SHOC Shoshone 82.73 327 P P 12 58 42.5 +2.4
baz=84
SHPR Sheep Range 82.77 328 eP P 12 58 42.2 +1.8
O22A Kremmling 82.84 336 ⇓P P 12 58 42.7 +1.8
baz=84
N24A Carr 82.93 338 P P 12 58 42.8 +1.7
baz=84
CCUT Cedar City 82.95 330 eP P 12 58 43.5 +2.1
comp=Z,18nm,1.4s
K30A Basset 83.21 342 ⇓P P 12 58 43.6 +1.2
baz=84,SNR=6.2
SRU San Rafael 83.25 333 eP P 12 58 43.8 +0.9
SRU pmax pmax
comp=Z,7.0nm,0.7s
SRU San Rafael 83.25 333 eP P 12 58 43.8 +0.9
comp=Z,7.3nm,0.7s
N23A Red Feather La 83.32 337 ⇑P P 12 58 44.5 +1.3
baz=84
O20A White River Ci 83.37 335 eP P 12 58 44.6 +1.2
comp=Z,11nm,0.8s
O20A White River Ci 83.37 335 P P 12 58 44.8 +1.3
baz=84
N22A Wattenberg Ran 83.39 337 P P 12 58 45.1 +1.4
baz=84
FURC Furnace Creek, 83.46 327 P P 12 58 45.8 +2.0
baz=84
ISA Isabella 83.48 326 eP P 12 58 45.9 +1.9
ISA pmax pmax
comp=Z,8.0nm,0.9s
ISA Isabella 83.48 326 eP P 12 58 45.9 +1.9
comp=Z,7.9nm,0.9s
ISA Isabella 83.48 326 P P 12 58 45.6 +1.6
baz=84
M24A Cheyenne 83.50 338 ⇓P P 12 58 44.6 +0.5
baz=84,SNR=8.0
ECSD EROS Data Cent 83.53 344 eP P 12 58 44.4 +0.4
comp=Z,26nm,1.0s
ECSD EROS Data Cent 83.53 344 ⇓P P 12 58 44.3 +0.3
baz=84,SNR=11
PHWY Pilot Hill 83.54 337 eP P 12 58 45.2 +0.8
comp=Z,11nm,0.9s
K28A Ten Mile Ranch 83.69 341 ⇑P P 12 58 46.8 +1.9
baz=84
J30A Dallas 83.80 342 P P 12 58 45.9 +0.5
baz=84
L25A Engebretsen Ra 83.88 339 P P 12 58 47.2 +1.3
baz=84
VES Vestal, Richgr 83.91 325 P P 12 58 47.1 +1.1
baz=85
K27A Flueckinger Fa 83.91 340 ⇓P P 12 58 46.8 +0.8
baz=84,SNR=5.9
M22A Cedar Creek Ra 83.98 337 P P 12 58 48.6 +2.0
baz=85
N20A Spence Gulch, 84.00 335 P P 12 58 47.4 +0.6
baz=85
J29A Okreek 84.08 342 ⇑P P 12 58 47.5 +0.7
baz=85
GRAC Grapevine Rang 84.12 327 P P 12 58 48.7 +1.4
baz=85
SPMN St. Paul 84.24 347 eP P 12 58 47.2 -0.2
comp=Z,32nm,1.3s
SPMN St. Paul 84.24 347 ⇓P P 12 58 47.3 -0.2
baz=85,SNR=5.7
K25A Mack Ranch, Ha 84.28 339 P P 12 58 49.6 +1.6
baz=85
I30A Oacoma 84.34 343 ⇑P P 12 58 47.7 -0.4
baz=85,SNR=5.8
L23A Garrett 84.36 338 P P 12 58 48.8 +0.3
baz=85
J27A Elkhorn Farm, 84.36 341 ⇑P P 12 58 50.0 +1.7
baz=85,SNR=6.8
MPU Maple Canyon 84.45 333 eP P 12 58 50.5 +1.6
comp=Z,15nm,1.0s
L22A Ellis Ranch, M 84.50 337 P P 12 58 50.5 +1.3
baz=85
R11A Troy Canyon, C 84.52 329 eP P 12 58 51.2 +1.8
comp=Z,46nm,2.4s
R11A Troy Canyon, C 84.52 329 P P 12 58 50.9 +1.5
baz=85
I29A Vivian Onida 84.65 342 P P 12 58 51.4 +1.7
baz=85
K24A Anderson Ranch 84.65 338 P P 12 58 51.0 +1.1
baz=85
J26A Sides Ranch, S 84.70 340 ⇓P P 12 58 50.3 +0.3
baz=85,SNR=7.0
BRSD Miller 84.73 343 P P 12 58 50.5 +0.5
baz=85
I28A Midland 84.84 341 ⇓P P 12 58 50.8 +0.1
baz=85,SNR=6.5
JLU Jordanelle 84.90 333 eP P 12 58 52.5 +1.2
comp=Z,7.2nm,0.8s
K23A Bowen Ranch, D 84.92 338 ⇓P P 12 58 52.3 +1.1
baz=86
TPH Tonopah 84.97 328 eP P 12 58 53.3 +1.6
TPH pmax pmax
comp=Z,19nm,1.3s
TPH Tonopah 84.97 328 eP P 12 58 53.3 +1.6
comp=Z,19nm,1.3s
J25A Sunshine Ranch 84.98 339 ⇓P P 12 58 52.4 +1.0
baz=86
DUG Dugway 85.04 332 eP P 12 58 53.3 +1.4
DUG pmax pmax
comp=Z,19nm,1.4s
DUG Dugway 85.04 332 eP P 12 58 53.3 +1.4
comp=Z,19nm,1.4s
DUG Dugway 85.04 332 ⇑P P 12 58 53.5 +1.7
baz=86,SNR=6.5
CTU Camp Tracy 85.08 333 eP P 12 58 53.7 +1.6
comp=Z,6.2nm,0.7s
K22A Casper 85.09 337 eP P 12 58 53.1 +1.0
comp=Z,13nm,0.8s
K22A Casper 85.09 337 ⇑P P 12 58 53.3 +1.2
baz=86,SNR=6.0
I27A Quinn 85.14 341 ⇓P P 12 58 52.6 +0.4
baz=86,SNR=6.0
J24A Dixon Ranch, L 85.16 339 P P 12 58 53.7 +1.2
baz=86
H29A Onida 85.20 342 ⇓P P 12 58 52.3 -0.1
baz=86,SNR=6.6
K21A Alcova 85.30 337 ⇑P P 12 58 54.1 +0.9
baz=86,SNR=12
I26A New Underwood 85.31 340 P P 12 58 53.8 +0.7
baz=86
G30A Faulkton 85.42 343 ⇓P P 12 58 53.8 +0.3
baz=86,SNR=9.1
H28A Mission Ridge 85.44 342 ⇑P P 12 58 53.4 -0.2
baz=86,SNR=8.5
I25A Rochford 85.54 340 ⇓P P 12 58 55.3 +1.0
baz=86,SNR=7.9
I24A Kuemmerle Ranc 85.64 339 ⇑P P 12 58 55.5 +0.8
baz=86,SNR=5.1
G29A Hoven 85.66 343 ⇑P P 12 58 54.8 +0.1
baz=86,SNR=5.9
H27A Howes 85.67 341 ⇑P P 12 58 54.9 +0.1
baz=86,SNR=7.0
NVAR Mina Array Bea 85.72 327 P P 12 58 56.4 +1.0
comp=Z,2.5nm,0.7s,baz=154,slow=6.3,SNR=5.7
J22A Midwest 85.77 338 ⇓P P 12 58 55.8 +0.3
baz=86
G28A Parade 85.79 342 ⇓P P 12 58 56.2 +0.9
baz=86,SNR=9.4
J21A Lysite 86.01 337 ⇓P P 12 58 58.0 +1.3
baz=87,SNR=6.1
H25A Fruitdale 86.06 340 ⇓P P 12 58 57.9 +1.1
baz=87
F30A Leola 86.06 343 ⇑P P 12 58 56.7 0.0
baz=87,SNR=6.0
PDAR Pinedale Array 86.17 335 P P 12 58 57.8 +0.3
comp=Z,5.6nm,0.8s,baz=150,slow=6.1,SNR=20
I22A 9 Mile Ranch, 86.21 338 ⇑P P 12 58 58.2 +0.5
baz=87
J20A Shoshoni 86.22 337 ⇑P P 12 58 59.5 +1.9
baz=87,SNR=20
F29A Eureka 86.24 343 ⇓P P 12 58 57.8 +0.3
baz=87,SNR=16
G27A Dupree 86.33 341 ⇓P P 12 58 58.0 -0.1
baz=87,SNR=9.8
I21A Big Trails, Te 86.38 337 ⇓P P 12 58 59.8 +1.3
baz=87,SNR=7.2
HVU Hansel Valley 86.41 333 eP P 12 58 59.3 +0.7
HVU pmax pmax
comp=Z,14nm,0.9s
HVU Hansel Valley 86.41 333 eP P 12 58 59.3 +0.7
comp=Z,14nm,0.9s
G26A Maurine 86.42 341 ⇑P P 12 58 58.4 -0.1
baz=87,SNR=12
H24A Dirks Ranch, A 86.44 339 ⇑P P 12 58 58.8 +0.1
baz=87
ELK Elko 86.44 331 eP P 12 59 00.0 +1.0
ELK pmax pmax
comp=Z,7.0nm,1.0s
ELK Elko 86.44 331 eP P 12 58 60.0 +1.0
comp=Z,6.6nm,1.0s
J19A Crowheart 86.44 336 ⇓P P 12 58 59.4 +0.6
baz=87,SNR=22
F28A McLaughlin 86.49 342 ⇓P P 12 58 59.1 +0.3
baz=87,SNR=12
G25A Newell 86.54 340 ⇑P P 12 58 59.4 +0.3
baz=87,SNR=9.6
E30A Jud 86.67 344 ⇑P P 12 59 00.3 +0.7
baz=87,SNR=6.9
I20A Worland 86.77 337 ⇓P P 12 59 01.6 +1.3
baz=87,SNR=13
F27A Lemmon 86.81 342 ⇑P P 12 59 01.1 +0.7
baz=87,SNR=5.2
E29A Napoleon 86.89 343 ⇑P P 12 59 00.3 -0.4
baz=87
G24A Alzada 86.93 340 P P 12 59 01.3 +0.3
baz=88
F26A Lodgepole 86.95 341 ⇑P P 12 59 01.2 +0.1
baz=88,SNR=6.6
G23A Biddle 87.09 339 ⇑P P 12 59 01.4 -0.4
baz=88
I19A Meeteetse 87.12 336 ⇓P P 12 59 02.6 +0.5
baz=88
REDW Red Top Meadow 87.13 335 eP P 12 59 02.9 +0.7
comp=Z,8.0nm,0.8s
E28A Huff 87.14 343 ⇓P P 12 59 02.0 +0.1
baz=88,SNR=13
D30A Buchanan 87.21 344 ⇓P P 12 59 02.7 +0.5
baz=88,SNR=5.7
H20A Greybull 87.21 337 ⇑P P 12 59 02.3 -0.2
baz=88,SNR=9.0
E27A Carson 87.22 342 ⇑P P 12 59 01.8 -0.5
baz=88,SNR=6.5
F25A Bowman 87.23 341 ⇑P P 12 59 03.5 +1.1
baz=88
LOHW Long Hollow 87.27 335 eP P 12 59 03.5 +0.6
comp=Z,8.0nm,0.9s
TPAW Teton Pass 87.27 335 eP P 12 59 03.8 +0.8
comp=Z,14nm,0.8s
D29A Pettibone, Tap 87.35 343 ⇑P P 12 59 02.8 -0.1
baz=88,SNR=10
F24A Ekalaka 87.42 340 P P 12 59 03.6 +0.3
baz=88
FXWY Fox Creek 87.43 335 eP P 12 59 04.4 +0.7
comp=Z,4.3nm,0.8s
E26A Carlson Angus 87.48 341 ⇑P P 12 59 03.5 -0.1
baz=88,SNR=9.2
I17A Pilgrim Ck. 87.53 335 ⇓P P 12 59 05.8 +1.6
baz=88,SNR=14
F23A Volborg 87.57 339 ⇓P P 12 59 04.8 +0.7
baz=88
IMW Indian Meadow 87.63 335 eP P 12 59 05.5 +0.8
comp=Z,12nm,1.0s
H19A Powell 87.68 337 ⇑P P 12 59 05.6 +0.9
baz=88,SNR=8.3
D28A Regan 87.70 343 ⇓P P 12 59 05.1 +0.5
baz=88,SNR=16
C30A Mose, Pekin 87.71 344 ⇑P P 12 59 04.8 +0.1
baz=88,SNR=16
FLWY Flagg Ranch 87.72 335 eP P 12 59 06.2 +1.2
comp=Z,24nm,0.8s
E25A Miller Ranch, 87.75 341 ⇓P P 12 59 04.6 -0.3
baz=88
AGMN Agassiz Nation 87.76 346 eP P 12 59 05.1 +0.2
comp=Z,16nm,0.8s
AGMN Agassiz Nation 87.76 346 ⇑P P 12 59 04.7 -0.1
baz=88,SNR=11
TORD Torodi Ar. Bea 87.79 72 P P 12 59 05.9 +0.1
comp=Z,1.7nm,0.8s,baz=240,slow=3.6,SNR=3.3
D27A Center 87.84 342 ⇑P P 12 59 05.5 +0.2
baz=88,SNR=6.2
H18A Shoshone NF, C 87.91 336 ⇑P P 12 59 06.0 0.0

baz=88,SNR=15
G20A Bridger 87.94 337 ⇑P P 12 59 06.6 +0.7
baz=89
H17A Grant Village 87.95 335 ⇓P P 12 59 07.7 +1.6
baz=89,SNR=5.7
D26A Manning 87.99 342 ⇑P P 12 59 06.6 +0.6
baz=88,SNR=8.2
YFT Old Faithful 88.09 335 eP P 12 59 09.3 +2.5
comp=Z,7.2nm,0.8s
C28A Hausauer Farms 88.15 343 ⇑P P 12 59 06.7 0.0
baz=89
YMR Madison River 88.32 335 eP P 12 59 09.3 +1.4
comp=Z,26nm,0.8s
B30A Myrvik Farm, E 88.39 345 ⇓P P 12 59 08.2 +0.4
baz=89,SNR=20
C27A Sayler Ranch, 88.41 342 ⇑P P 12 59 08.7 +0.7
baz=89,SNR=6.6
HLID Hailey 88.56 333 eP P 12 59 10.2 +1.2
comp=Z,56nm,2.1s
HLID Hailey 88.56 333 P P 12 59 10.5 +1.5
baz=89
QLMT Earthquake Lak 88.62 335 eP P 12 59 11.3 +2.1
B29A Wagenman Farm, 88.62 344 ⇓P P 12 59 09.2 +0.3
baz=89,SNR=11
C26A Wahner Farm, P 88.65 342 P P 12 59 09.8 +0.7
baz=89
F19A Roth Farm, Mol 88.73 337 P P 12 59 09.9 +0.3
baz=89
B28A Dugan Ranch, T 88.83 343 ⇓P P 12 59 10.3 +0.4
baz=89,SNR=5.1
D23A Lindsay 88.85 340 P P 12 59 10.4 +0.3
baz=89
A30A Hoffart Farm, 88.85 345 ⇑P P 12 59 10.0 0.0
baz=89
MFID Camas Ranch 88.95 332 eP P 12 59 11.9 +1.1
comp=Z,12nm,1.3s
C24A Savage 88.97 341 P P 12 59 10.7 +0.1
baz=90
A29A Manning Farm, 89.03 344 ⇑P P 12 59 11.3 +0.5
baz=90
E20A Meyer Farm, Mu 89.07 338 P P 12 59 11.3 +0.1
baz=90
B26A Jensen Ranch, 89.20 342 P P 12 59 12.1 +0.4
baz=90
WVOR Wild Horse Val 89.22 329 eP P 12 59 13.4 +1.3
WVOR pmax pmax
comp=Z,25nm,2.1s
WVOR Wild Horse Val 89.22 329 eP P 12 59 13.4 +1.3
comp=Z,25nm,2.1s
E19A Rath Farm, Rou 89.23 337 ⇓P P 12 59 12.8 +0.8
baz=90,SNR=5.9
A28A Rude Farm, Bot 89.24 344 ⇓P P 12 59 12.4 +0.5
baz=90
BOZ Bozeman (W) 89.41 335 eP P 12 59 13.4 +0.5
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 89.41 335 eP P 12 59 13.4 +0.5
comp=Z,3.8nm,0.8s
C23A Lambert 89.42 340 P P 12 59 13.3 +0.6
baz=90
DLMT Dillon 89.48 335 eP P 12 59 14.5 +1.3
comp=Z,46nm,1.9s
ULM Lac du Bonnet 89.63 347 P P 12 59 13.4 -0.2
comp=Z,11nm,0.8s,baz=185,slow=3.3,SNR=16
DGMT Dagmar 89.77 341 eP P 12 59 14.7 +0.2
comp=Z,11nm,0.7s
DGMT Dagmar 89.77 341 P P 12 59 14.6 +0.2
baz=90
B22A Reddig Ranch S 90.09 340 P P 12 59 16.1 +0.2
baz=91
A24A Westby 90.14 341 P P 12 59 16.1 0.0
baz=91
A23A Redstone 90.40 341 P P 12 59 17.3 +0.1
baz=91
C19A Slack Wire Ran 90.45 338 P P 12 59 17.5 -0.1
baz=91
B21A Ellsworth Farm 90.49 339 P P 12 59 17.9 +0.2
baz=91
A22A Carney Farms, 90.70 340 P P 12 59 18.6 -0.1
baz=91
EGMT Eagleton 90.92 338 P P 12 59 19.8 0.0
baz=92
A21A Bergtoll Ranch 90.98 340 P P 12 59 19.8 -0.2
baz=92
A20A Cobblestone Ra 91.16 339 P P 12 59 21.1 +0.3
baz=92
SLMT Seeley Lake 91.43 335 eP P 12 59 23.6 +1.4
A19A Klindworth Far 91.43 339 P P 12 59 22.3 +0.1
baz=92
F10A Beach Ranch, E 91.65 332 eP P 12 59 24.9 +1.6
comp=Z,112nm,2.9s
SWMT Swartz Lake 91.83 335 eP P 12 59 24.9 +0.9
YBMT Yellow Bay 92.14 335 eP P 12 59 26.8 +1.2
BSMT Bassoo Peak 92.39 334 eP P 12 59 27.9 +1.1
WALA Waterton Lakes 93.14 336 eP P 12 59 30.8 +0.6
NEW Newport 93.56 333 eP P 12 59 31.9 0.0
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 93.56 333 eP P 12 59 31.9 0.0
comp=Z,4.2nm,0.9s
NEW Newport 93.56 333 P P 12 59 32.0 0.0
baz=94
EDM Edmonton 96.59 338 eP P 12 59 44.7 -1.0
EDM Edmonton 96.59 338 eP P 12 59 44.7 -1.0
YKA Yellowknife Ar 104.95 342 Pdiff Pdif 13 00 21.9 -0.7
comp=Z,0.5nm,0.7s,baz=143,slow=4.2,SNR=8.0
WRA Warramunga Arr 116.20 211 PKiKP PKPdf 13 04 59.0 -1.1
WRA Warramunga Arr 116.20 211 PKP PKPdf 13 04 59.0 -1.1
comp=Z,0.5nm,0.6s,baz=161,slow=1.5,SNR=3.7
ILAR Eielson Array 116.51 333 PKP PKPdf 13 04 58.8 -0.3
comp=Z,0.8nm,0.8s,baz=162,slow=1.5,SNR=5.4
GERES GERESS Array B 116.58 48 PKP PKPdf 13 04 59.4 -0.5
comp=Z,0.6nm,0.7s,baz=224,slow=2.7,SNR=2.3
HFS Hagfors 121.36 36 PKP PKPdf 13 05 08.3 -0.3
comp=Z,3.0nm,0.8s,baz=213,slow=7.1,SNR=4.1
BRTR Keskin Array B 125.78 64 PKiKP PKPdf 13 05 18.0 0.0
BRTR Keskin Array B 125.78 64 PKP PKPdf 13 05 17.9 0.0
comp=Z,0.7nm,0.7s,baz=193,slow=2.2,SNR=4.6
AKASG Malin Array Be 126.57 50 PKP PKPdf 13 05 18.1 -0.8
comp=Z,0.8nm,0.7s,baz=262,slow=2.8,SNR=3.2
FINES FINESS Array B 127.55 36 PKP PKPdf 13 05 19.4 -0.9
comp=Z,2.7nm,1.0s,baz=332,slow=7.9,SNR=3.5
BILL Bilibino 135.16 332 ePKHKP PKPpre 13 05 22.6
BILL pmax pmax
comp=Z,3.0nm,1.2s
PMBI Palembang 139.42 180 ePKPdf PKPdf 13 05 39.8 -4.4
GEYT Alibeck 143.36 75 PKP PKPbc 13 05 48.0 +0.2
comp=Z,3.5nm,0.7s,baz=256,slow=1.2,SNR=5.4
TIXI Tiksi 143.98 347 ePKiKP PKPab 13 05 47.5 -0.5
TIXI Tiksi 143.98 347 ePKPdf PKPab 13 05 47.5 -0.5
AKTO Aktyubinsk 144.64 54 PKP PKPab 13 05 50.6 -0.5
comp=Z,6.8nm,0.8s,baz=303,slow=4.4,SNR=12
ABKAR Akbulak array 145.94 56 ePKPbc PKPbc 13 05 55.5 +0.2
HYB Hyderabad 149.18 124 i PKP PKPbc 13 06 04.0 -1.2
YSS Yuzh-Sakhalins 150.88 300 ePKiKP PKPbc 13 06 07.5 -0.9
ASAJ Asahikawa 151.08 295 ePKPbc PKPbc 13 06 09.5 +0.5
YAK Yakutsk 151.39 336 ePKiKP PKPbc 13 06 08.8 -0.3
YAK Yakutsk 151.39 336 ePKPbc PKPbc 13 06 08.8 -0.3
BVAR Borovoye Array 151.74 46 PKPbc PKPbc 13 06 10.9 +0.6
comp=Z,3.6nm,0.6s,baz=290,slow=3.3,SNR=5.9
MJAR Matsushiro Arr 153.54 277 PKPab PKPab 13 06 27.3 -0.1
comp=Z,4.1nm,0.7s,baz=125,slow=3.8,SNR=8.4
AAK Ala-Archa 156.35 69 PKPab PKPab 13 06 39.1 -0.3
comp=Z,2.0nm,0.9s,baz=199,slow=4.5,SNR=2.4
ZALV Zalesovo Beam 158.79 34 PKPab PKPab 13 06 49.7 +0.4
comp=Z,7.7nm,0.8s,baz=303,slow=5.0,SNR=12
CMAR Chiang Mai Arr 159.97 163 PKP PKPdf 13 06 15.6 -0.2
comp=Z,0.4nm,0.3s,baz=263,slow=1.5,SNR=3.0
CMAR PKPab PKPab 13 06 54.1 -1.2
comp=Z,0.4nm,0.3s,baz=205,slow=4.0,SNR=2.8
MKAR Makanchi Array 161.07 55 PKPab PKPab 13 06 59.6 0.0
comp=Z,1.2nm,0.9s,baz=293,slow=3.8,SNR=3.1
NJ2 Nanjing 167.21 247 ePKP PKPdf 13 06 21.8 -0.4
GYA Guiyang 168.54 188 PKP PKPdf 13 06 21.3 -2.1
GYA pPKP pPKPdf 13 06 35.5 +0.6
GYA PKPab PKPab 13 07 33.8 +1.0
GYA PKS PKSdf 13 09 53.8 -2.4
GYA PP PP 13 11 24.0 +3.0
GYA SKKS 13 18 07.0
GYA SS SS 13 32 12.5 +2.5
GYA AMB AMB
comp=Z,120nm,8.3s
GYA LR LR
comp=Z,130nm,21.5s
GYA LR LR
comp=Z,120nm,21.9s
GYA LR LR

comp=Z,140nm,24.4s
SONM Songino Array 169.97 354 PKPab PKPab 13 07 39.5 +0.8
comp=Z,1.1nm,0.7s,baz=355,slow=3.0,SNR=5.7
GTA Gaotai 175.70 67 ePKP PKPdf 13 06 27.0 +0.7
GTA pPKP pPKPdf 13 06 37.5 -0.3
GTA sPKP 13 06 41.3
LZH Lanzhou 178.03 153 ePKP PKPdf 13 06 25.0 -1.9
LZH pPKP pPKPdf 13 06 35.5 -2.9
LZH sPKP 13 06 39.0

IDC 27 12:48:19.2±0.7, 34°.73S×73°.89W, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.3/30, mbtmp4.4/10, ML3.8/1, Error ellipse: s-maj=29.4km s-min=19.3km az=68.0
ISCJB 27 12:48:22.7±0.6, 34°.6S±0°.1×73°.7W±0°.2, h33km, mb4.4/12, Error ellipse: s-maj=19.2km s-min=15.6km az=145.6
NEIC 27 12:48:24.7±0.4, 34°.67S×73°.74W, h35km, mb4.4/3, Error ellipse: s-maj=15.4km s-min=12.8km az=62.0
ISC 27 12:48:24.5±0.7, 34°.7S±0°.1×73°.7W±0°.2, h35km, n21, σ0s95/22, mb4.4/12, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.53 58 Pn Pn 12 49 42.9 -1.4
2.5nm,0.3s,baz=232,slow=12,SNR=5.2
SNAA Sanae 51.50 158 P P 12 57 26.2 -0.1
4.3nm,0.8s,baz=284,slow=6.6,SNR=7.9
APG El Apazote 51.89 339 P P 12 57 28.0 -2.0
4.0nm,0.6s,baz=135,slow=20,SNR=3.3
QSPA South Pole Qui 55.57 180 P P 12 57 55.6 -0.7
11nm,0.9s,baz=140,slow=4.3,SNR=4.6
JCT Junction City 69.30 336 eP P 12 59 28.4 +0.1
1.5nm,0.5s
TXAR Lajitas Array 69.65 332 P P 12 59 30.8 +0.3
1.3nm,0.6s,baz=154,slow=8.3,SNR=6.9
ABTX Abilene, Hawle 71.22 337 eP P 12 59 40.1 +0.1
8.9nm,1.3s
ANMO Albuquerque 75.71 333 eP P 13 00 06.5 0.0
6.3nm,1.5s
DBIC Dimbokro 76.72 72 P P 13 00 13.6 +1.1
2.0nm,0.5s,baz=219,slow=4.6,SNR=3.8
BOSA Boshof 80.99 118 P P 13 00 36.6 +0.6
12nm,1.0s,baz=291,slow=1.5,SNR=4.6
NVAR Mina Array Bea 83.64 326 P P 13 00 50.3 +0.8
1.3nm,0.8s,baz=153,slow=6.1,SNR=3.9
PDAR Pinedale Array 83.74 334 P P 13 00 50.4 +0.4
1.6nm,0.9s,baz=134,slow=3.9,SNR=4.0
TORD Torodi Ar. Bea 85.75 71 P P 13 01 01.1 +0.7
2.3nm,1.0s,baz=257,slow=5.4,SNR=4.5
WRA Warramunga Arr 119.49 211 PKP PKPdf 13 07 09.8 -1.2
0.5nm,0.7s,baz=158,slow=1.7,SNR=5.6
BRTR Keskin Array B 123.38 62 PKP PKPdf 13 07 18.7 +0.8
0.5nm,0.6s,baz=222,slow=1.9,SNR=3.4
BVAR Borovoye Array 148.72 43 PKPbc PKPbc 13 08 08.4 +0.8
1.8nm,0.5s,baz=284,slow=6.0,SNR=5.2
HYB Hyderabad 149.89 118 i PKP PKPbc 13 08 11.0 -0.6
ZALV Zalesovo Beam 155.53 31 PKPab PKPab 13 08 41.2 +1.4
3.0nm,1.1s,baz=300,slow=6.0,SNR=4.2
MKAR Makanchi Array 158.25 49 PKPab PKPab 13 08 52.6 +0.8
0.7nm,0.6s,baz=277,slow=3.6,SNR=4.6
CMAR Chiang Mai Arr 162.59 156 PKP PKPdf 13 08 22.9 -0.3
0.3nm,0.3s,baz=245,slow=1.9,SNR=2.9
CMAR PKPab PKPab 13 09 10.2 -1.1
0.5nm,0.3s,baz=166,slow=4.5,SNR=4.0
SONM Songino Array 166.84 360 PKPab PKPab 13 09 30.2 +0.8
0.7nm,0.9s,baz=345,slow=5.1,SNR=3.7

IDC 27 12:50:59.0±1.6, 26°.04N×128°.99E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/41, mbtmp3.4/4, Error ellipse: s-maj=53.3km s-min=21.9km az=67.0
ISCJB 27 12:51:01.8±0.6, 25°.95N±0°.04×128°.77E±0°.04, h27km, mb3.2/4, Error ellipse: s-maj=6.1km s-min=4.6km az=10.3
JMA 27 12:51:02.1±0.3, 25°.95N×128°.76E, h29km±5km, M2.9
ISC 27 12:51:02.9±1.0, 25°.95N±0°.05×128°.73E±0°.04, h27km, n17, σ0s86/26, mb3.4/4, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.85 312 P Pn 12 51 17.8 -1.3
JNTH eS Sb 12 51 29.6 -0.5
JJT2 Tamagusuku 2 0.90 282 P Pn 12 51 19.2 -0.6
JJT2 eS Sb 12 51 31.5 -0.1
JOW Kunigami 0.97 335 P Pn 12 51 20.1 -0.6
JOW eS Sb 12 51 32.9 -0.5
JOW Kunigami 0.97 335 Pn Pn 12 51 20.1 -0.6
10nm,0.3s,baz=140,slow=16,SNR=12
JOW Sn Sb 12 51 31.7 -1.7
7.5nm,0.3s,baz=156,slow=16,SNR=6.6
JIH Iheya 1.28 328 P Pn 12 51 24.8 -0.1
JIH eS Sn 12 51 40.6 -0.6
JOKE Okinoerabujima 1.41 354 P Pn 12 51 26.8 0.0
JOKE eS Sn 12 51 43.6 -0.9
JAGN Aguni-jima 1.48 296 P Pn 12 51 27.8 +0.1
JAGN eS Sn 12 51 47.0 +0.8
JKE Kume jima 2 1.79 282 P Pn 12 51 31.3 -0.7
JTK Tokunoshima 1.84 6 P Pn 12 51 32.7 0.0
JTK eS Sn 12 51 54.5 -0.5
JMZ Minamidaito 2 2.25 93 P Pn 12 51 37.9 -0.4
JMZ eS Sn 12 52 03.2 -1.9
JAMN Amaminishikomi 2.31 10 P Pn 12 51 40.0 +0.8
JAM Amami Oshima 2.57 17 P Pn 12 51 42.7 0.0
JAM eS Sn 12 52 12.7 -0.4
JZK Kikaishima 2.60 25 eS Sn 12 52 15.4 +1.6
SONM Songino Array 28.03 327 P P 12 56 54.5 +2.6
0.4nm,0.4s,baz=136,slow=9.4,SNR=7.7
MKAR Makanchi Array 42.05 312 P P 12 58 53.0 +0.8
0.3nm,0.7s,baz=86,slow=8.8,SNR=3.0
WRA Warramunga Arr 45.95 173 P P 12 59 24.3 +0.7
0.3nm,0.7s,baz=355,slow=8.4,SNR=3.8
AKASG Malin Array Be 76.03 320 P P 13 02 47.8 +0.1
0.1nm,0.3s,baz=62,slow=6.4,SNR=2.1

IDC 27 12:52:12.4±0.7, 38°.03S×73°.90W, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.3/30, mbtmp4.3/12, ML3.5/1, MS5.1/3, Ms1 5.1/3, ms1mx4.4/32, Error ellipse: s-maj=26.7km s-min=18.0km az=89.0
ISCJB 27 12:52:14.4±0.5, 37°.99S±0°.07×73°.8W±0°.2, h18km, mb4.5/16, MS5.1/2, Error ellipse: s-maj=18.2km s-min=10.5km az=179.6
NEIC 27 12:52:18.0±0.5, 37°.97S×73°.94W, h35km, mb4.6/2, Error ellipse: s-maj=16.7km s-min=9.4km az=80.0
ISC 27 12:52:15.3±0.6, 38°.05S±0°.09×73°.9W±0°.2, h18km, n34, σ0s95/34, mb4.5/16, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.72 137 Pn Pb 12 53 16.6 -4.1
4.5nm,0.3s,baz=313,slow=17,SNR=4.5
PLCA Lg Lg 12 54 12.1
8.5nm,0.3s,baz=24,slow=20,SNR=2.8
CFAA Coronel Fontan 7.93 38 Pn Pn 12 54 10.2 +0.5
0.6nm,0.3s,baz=231,slow=6.5,SNR=3.2
USHA Ushuaia 17.20 169 P P 12 56 17.3 +1.4
0.3nm,0.3s,baz=305,slow=8.8,SNR=3.7
USHA LR LR 13 03 47.1
comp=Z,5μm,19.2s,baz=325,slow=40
LPAZ La Paz 22.26 15 P P 12 57 12.2 +0.2
10nm,0.7s,baz=175,slow=0.5,SNR=7.6
LPAZ La Paz 22.26 15 eP P 12 57 12.9 +0.9
SIV San Ignacio 24.71 31 P P 12 57 35.0 -0.5
3.9nm,0.9s,baz=236,slow=15,SNR=2.8
SIV LR LR 13 09 18.1
comp=Z,5μm,18.4s,baz=252,slow=42
BDFB Brasilia 31.91 53 P P 12 58 41.3 +1.3
4.7nm,0.8s,baz=162,slow=6.9,SNR=2.6
OTAV Otavalo 38.33 353 eP P 12 59 37.7 +2.0
37nm,1.5s
SDV Santo Domingo 46.79 4 eP P 13 00 43.0 -1.0
10nm,0.8s
SNAA Sanae 48.45 156 P P 13 00 56.3 0.0
1.7nm,0.8s,baz=265,slow=6.9,SNR=7.5
QSPA South Pole Qui 52.20 180 P P 13 01 25.7 +0.9
8.2nm,0.9s,baz=152,slow=1.9,SNR=14
TXAR Lajitas Array 72.59 333 P P 13 03 42.0 +0.5
1.6nm,0.8s,baz=155,slow=6.9,SNR=15
BBTS Babate 75.06 58 LR LR 13 37 04.9
comp=Z,1μm,18.2s,baz=222,slow=36
DBIC Dimbokro 77.89 72 P P 13 04 12.0 -0.3
4.6nm,0.8s,baz=200,slow=8.7,SNR=5.2
ANMO Albuquerque 78.66 333 eP P 13 04 16.9 +0.6
12nm,1.2s

BOSA Boshof 79.51 118 P P 13 04 21.1 -0.2
4.8nm,0.8s,baz=186,slow=7.8,SNR=5.5
SDCO Great Sand Dun 80.86 335 eP P 13 04 29.3 +1.0
6.5nm,1.2s
ECSD EROS Data Cent 83.97 344 eP P 13 04 44.0 0.0
31nm,1.1s
NVAR Mina Array Bea 86.39 327 P P 13 04 56.4 -0.1
0.3nm,0.3s,baz=120,slow=5.3,SNR=2.2
PDAR Pinedale Array 86.73 335 P P 13 04 57.8 -0.4
1.1nm,0.9s,baz=153,slow=5.0,SNR=5.6
TORD Torodi Ar. Bea 86.97 71 P P 13 04 59.5 -0.2
3.2nm,0.9s,baz=249,slow=3.9,SNR=12
BRTR Keskin Array B 125.03 64 PKP PKPdf 13 11 14.3 -0.1
0.7nm,0.7s,baz=173,slow=3.2,SNR=5.4
GEYT Alibeck 142.51 75 PKP PKPdf 13 11 44.1 -2.9
2.3nm,0.8s,baz=256,slow=2.4,SNR=2.8
AKTO Aktyubinsk 144.00 54 PKP PKPbc 13 11 47.1 0.0
5.0nm,1.0s,baz=264,slow=5.2,SNR=11
TIXI Tiksi 144.37 348 ePKPdf PKPab 13 11 46.6 -0.7
ABKAR Akbulak array 145.27 56 ePKPbc PKPab 13 11 51.3 0.0
POO Poona 145.82 116 eP PKPdf 13 11 53.0 -0.3
HYB Hyderabad 148.30 123 i PKP PKPbc 13 12 01.0 +0.1
BVAR Borovoye Array 151.20 47 PKP PKPdf 13 11 59.5 -1.5
0.6nm,0.6s,baz=284,slow=5.8,SNR=3.6
BVAR PKPbc PKiKP 13 12 07.6 +0.2
3.0nm,0.7s,baz=298,slow=4.2,SNR=12
KKAR Karatay Array 152.63 68 ePKPbc PKPbc 13 12 10.9 +0.5
KKAR ePKPab PKPab 13 12 21.3 +0.1
AAK Ala-Archa 155.55 69 PKP PKPdf 13 12 07.9 +0.1
1.2nm,0.7s,baz=192,slow=7.0,SNR=4.2
AAK PKPbc PKPbc 13 12 17.7
1.8nm,0.8s,baz=74,slow=1.4,SNR=4.8
AAK PKPab PKPab 13 12 33.4 -0.4
4.8nm,0.7s,baz=208,slow=4.1,SNR=11
ZALV Zalesovo Beam 158.41 36 PKPab PKPab 13 12 44.0 -1.5
2.1nm,0.6s,baz=303,slow=4.9,SNR=6.3
MKAR Makanchi Array 160.42 56 PKPab PKPab 13 12 53.9 -0.7
1.5nm,0.8s,baz=286,slow=4.0,SNR=9.2
SONM Songino Array 170.22 359 PKPab PKPab 13 13 36.7 -0.9
0.8nm,1.0s,baz=351,slow=3.0,SNR=3.6

IDC 27 12:53:47.0±1.7, 25°.93N×128°.56E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/40, mbtmp3.6/4, Error ellipse: s-maj=71.3km s-min=22.1km az=74.0
JMA 27 12:53:49.4±0.3, 25°.92N×128°.64E, h30km, M3.0
ISC 27 12:53:49.8±2.5, 25°.89N±0°.05×128°.61E±0°.04, h24km±19km, n18, σ1s43/28, mb3.6/4, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JJT2 Tamagusuku 2 0.81 288 P Pn 12 54 04.9 -0.8
JJT2 eS Sb 12 54 16.4 +0.6
JNTH Nagotoyohara 0.82 320 P Pn 12 54 04.2 -1.6
JOW Kunigami 0.98 342 P Pn 12 54 07.3 -0.8
JOW eS Sn 12 54 19.3 -2.0
JOW Kunigami 0.98 342 Pn Pn 12 54 07.3 -0.8
5.1nm,0.3s,baz=164,slow=14,SNR=8.2
JOW Sn Sn 12 54 18.4 -2.9
11nm,0.3s,baz=119,slow=19,SNR=15
JOW LR LR 12 54 30.3
comp=Z,245nm,18.7s,baz=250,slow=46
JIH Iheya 1.28 333 P Pn 12 54 11.9 -0.2
JIH eS Sn 12 54 27.2 -1.3
JAGN Aguni-jima 1.41 300 P Pn 12 54 13.7 -0.2
JAGN eS Sn 12 54 31.6 -0.2
JOKE Okinoerabujima 1.47 359 P Pn 12 54 14.5 -0.2
JOKE eS Sn 12 54 32.0 -1.1
JKE Kume jima 2 1.70 285 P Pn 12 54 16.9 -1.0
JKE eS Sn 12 54 37.7 -1.1
JTK Tokunoshima 1.91 9 P Pn 12 54 20.6 -0.2
JTK eS Sn 12 54 43.1 -1.1
JMZ Minamidaito 2 2.35 91 P Pn 12 54 26.2 -0.7
JMZ eS Sn 12 54 52.3 -2.7
JAMN Amaminishikomi 2.40 12 P Pn 12 54 27.5 0.0
JAMN eS Sn 12 54 54.4 -1.7
JAM Amami Oshima 2.66 19 eS Sn 12 55 02.1 -0.6
JIKM Ikemajima 3.19 253 eS Sn 12 55 15.0 -0.7
JTJ Tarama 3.75 251 eS Sn 12 55 26.4 -3.1
SONM Songino Array 28.02 327 P P 12 59 40.6 +1.6
0.5nm,0.5s,baz=141,slow=10,SNR=10
MKAR Makanchi Array 42.01 312 P P 13 01 38.9 -0.3
1.5nm,0.9s,baz=89,slow=9.5,SNR=7.5
WRA Warramunga Arr 45.90 172 P P 13 02 11.8 +1.3
1.0nm,0.7s,baz=354,slow=8.5,SNR=6.3
AKASG Malin Array Be 76.01 320 P P 13 05 35.5 +0.6
0.1nm,0.3s,baz=57,slow=6.4,SNR=3.0

IDC 27 12:56:58.2±0.7, 37°.57S×73°.81W, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.2/33, mbtmp4.2/14, ML4.2/2, Error ellipse: s-maj=25.6km s-min=18.0km az=92.0
ISCJB 27 12:57:01.7±0.6, 37°.47S±0°.08×73°.9W±0°.1, h33km, mb4.4/18, Error ellipse: s-maj=16.0km s-min=11.1km az=163.6
NEIC 27 12:57:03.7±0.4, 37°.45S×73°.82W, h35km, mb4.7/4, Error ellipse: s-maj=12.6km s-min=9.1km az=81.0
ISC 27 12:57:03.7±0.7, 37°.43S±0°.09×73°.8W±0°.1, h35km, n26, σ0s97/26, mb4.5/18, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.16 144 Pn Pn 12 58 06.4 +1.7
3.6nm,0.3s,baz=315,slow=14,SNR=3.4
PLCA Lg Lg 12 59 10.4
8.7nm,0.3s,baz=238,slow=19,SNR=4.0
CFAA Coronel Fontan 7.40 40 Pn Pn 12 58 47.8 -1.4
0.9nm,0.3s,baz=207,slow=9.9,SNR=3.5
CPUP Villa Florida 17.81 56 P P 13 01 09.8 +0.7
0.5nm,0.3s,baz=204,slow=9.6,SNR=4.6
LPAZ La Paz 21.65 15 P P 13 01 54.1 +2.4
14nm,0.7s,baz=158,slow=6.4,SNR=14
SIV San Ignacio 24.14 31 P P 13 02 17.0 +0.5
4.6nm,0.9s,baz=226,slow=12,SNR=3.6
SAML Samuel 29.94 21 eP P 13 03 09.0 +0.5
32nm,1.5s
BDFB Brasilia 31.49 53 P P 13 03 21.2 -1.2
3.5nm,0.7s,baz=256,slow=12,SNR=3.1
SDV Santo Domingo 46.17 4 eP P 13 05 25.1 0.0
21nm,0.8s
SNAA Sanae 48.98 157 P P 13 05 44.6 -1.8
0.7nm,0.8s,baz=283,slow=11,SNR=4.0
QSPA South Pole Qui 52.81 180 P P 13 06 14.3 -1.0
8.2nm,0.8s,baz=150,slow=3.3,SNR=12
QSPA South Pole Qui 52.81 180 eP P 13 06 15.0 -0.3
28nm,1.1s
JCT Junction City 71.81 337 P P 13 08 22.7 +0.1
2.8nm,0.3s
TXAR Lajitas Array 72.07 333 P P 13 08 25.0 +0.7
0.6nm,0.7s,baz=152,slow=9.6,SNR=4.5
ABTX Abilene, Hawle 73.75 337 eP P 13 08 33.8 -0.3
13nm,1.5s
U34A Anderson Ranch 76.72 341 eP P 13 08 50.2 -0.8
8.6nm,1.1s
DBIC Dimbokro 77.62 72 P P 13 08 57.1 +0.5
4.4nm,0.6s,baz=205,slow=5.1,SNR=7.8
ANMO Albuquerque 78.14 333 eP P 13 08 59.7 +0.5
6.0nm,1.0s
BOSA Boshof 79.73 118 P P 13 09 08.1 -0.2
3.6nm,1.0s,baz=264,slow=10,SNR=3.2
NVAR Mina Array Bea 85.91 326 P P 13 09 39.7 -0.3
0.2nm,0.3s,baz=191,slow=4.4,SNR=2.7
PDAR Pinedale Array 86.20 334 P P 13 09 42.2 +0.8
0.6nm,1.0s,baz=187,slow=3.6,SNR=3.4
TORD Torodi Ar. Bea 86.70 71 P P 13 09 44.5 +0.3
2.0nm,0.6s,baz=215,slow=5.1,SNR=15
ULM Lac du Bonnet 89.45 346 P P 13 09 56.1 -0.2
0.8nm,0.5s,baz=198,slow=6.4,SNR=1.9
BRTR Keskin Array B 124.70 63 PKP PKPdf 13 15 59.9 +0.4
0.5nm,0.7s,baz=228,slow=1.7,SNR=3.1
ABKAR Akbulak array 144.87 55 ePKPdf PKPbc 13 16 35.9 +0.3
ZALV Zalesovo Beam 157.87 35 PKP PKPdf 13 16 55.9 0.0
0.5nm,0.7s,baz=29,slow=3.3,SNR=2.2
ZALV PKPab PKPab 13 17 30.0 +1.1
2.2nm,0.6s,baz=302,slow=5.3,SNR=6.7
MKAR Makanchi Array 160.01 55 PKPab PKPab 13 17 39.0 +0.5
0.8nm,0.7s,baz=294,slow=2.9,SNR=5.0

IDC 27 12:58:28.6±0.5, 33°.52S×71°.90W, h0km, mb4.6/13, mb1 4.8/13, mb1mx4.5/31, mbtmp4.7/13, Error ellipse: s-maj=18.1km s-min=15.5km az=95.0
MOS 27 12:58:32.7±1.0, 33°.51S×72°.02W, h33km, mb5.4/17, MS5.1/10, Error ellipse: s-maj=13.7km s-min=11.3km

az=102.7
GUC **27** 12:58:32.6±0.8, 33.58S×72.07W, h10km, ML4.6
ISCJB **27** 12:58:32.0±1.3, 33.59S±0.05×72.09W±0.05, h28km±8km, mb4.9/60, MS5.0/30, Error ellipse: s-maj=8.9km s-min=6.4km az=18.2
NEIC **27** 12:58:34.4±0.2, 33.57S×71.91W, h35km, mb5.1/49, Error ellipse: s-maj=6.6km s-min=5.3km az=211.0
BJI **27** 12:58:34.2, 33.40S×70.90W, h35km, mB4.9/1, Ms4.9/1, Ms7 4.7/1
ISC 27 12:58:33.4±0.9, **33.58S**±0.05×**72.00W**±0.06, **h33**km±4km, **n459**, σ1.06/465, **mb5.0**/61, **MS5.2**/30, **137C-150D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.63**	**29**	*i* P	**Pn**	**12 58 45.4**	**-0.7**
IHA				*e*S	**Sn**	**12 58 55.1**	**+0.1**
IHA	**Instituto Hidr**	**0.63**	**29**	⇓*i*P	**Pn**	**12 58 45.5**	**-0.5**
IHA				*i* S	**Sb**	**12 58 54.9**	**+0.1**
ROCH	**El Roble**	**1.03**	**54**	*e*P	**Pn**	**12 58 52.2**	**+0.4**
ROCH				*e*S	**Sb**	**12 59 07.6**	**+1.4**
ROCH				AML	AML	12 59 10.3	
	comp=N,19μm,0.5s						
ROCH	**El Roble**	**1.03**	**54**	*i* P	**Pn**	**12 58 52.2**	**+0.4**
ROCH				*i* S	**Sb**	**12 59 07.7**	**+1.4**
SAN	**Santiago**	**1.13**	**84**	*e*P	**Pn**	**12 58 53.2**	**+0.2**
SAN				*i* S	**Sb**	**12 59 09.3**	**+0.5**
SAN	**Santiago**	**1.13**	**84**	*e*P	**Pn**	**12 58 53.2**	**+0.2**
SAN				*i* S	**Sb**	**12 59 09.3**	**+0.5**
SAN				AML	AML	12 59 12.3	
	comp=E,16μm,0.5s						
SAN	**Santiago**	**1.13**	**84**	*e*P	**Pn**	**12 58 53.2**	**+0.2**
SAN				*i* S	**Sb**	**12 59 09.3**	**+0.5**
PEL	**Peldehue**	**1.19**	**69**	⇓*i*P	**Pb**	**12 58 55.0**	**-0.4**
PEL				*i* S	**Sb**	**12 59 11.4**	**+0.9**
PEL	**Peldehue**	**1.19**	**69**	*e*P	**Pn**	**12 58 54.4**	**+0.7**
PEL				*i* S	**Sb**	**12 59 11.4**	**+0.9**
PEL				AML	AML	12 59 16.3	
	comp=E,38μm,0.4s						
PEL	**Peldehue**	**1.19**	**69**	⇓*i*P	**Pb**	**12 58 55.0**	**-0.4**
PEL				*i* S	**Sb**	**12 59 11.4**	**+0.9**
CFAA	**Coronel Fontan**	**3.74**	**59**	Pg	Pb	12 59 35.1	-3.7
	comp=E,4.7nm,0.3s,baz=228,slow=11,SNR=6.9						
CFAA				Lg	Lg	13 00 25.1	
	comp=E,5.4nm,0.3s,baz=315,slow=20,SNR=5.5						
CFAA	**Coronel Fontan**	**3.74**	**59**	Pg	Pb	12 59 35.1	-3.7
CFAA				Lg	Lg	13 00 25.1	
PLCA	**Paso Flores**	**7.23**	**171**	Lg	Lg	13 02 23.4	
	comp=E,4.5nm,0.3s,baz=273,slow=17,SNR=3.2						
TRQA	**Tornquist**	**9.28**	**122**	*e*Pn	**Pn**	**13 00 46.6**	**+1.7**
CPUP	**Villa Florida**	**14.62**	**64**	P	**Pn**	**13 01 58.3**	**+0.4**
CPUP	**Villa Florida**	**14.62**	**64**	Pn	**Pn**	**13 01 58.3**	**+0.4**
USHA	**Ushuaia**	**21.39**	**174**	P	**P**	**13 03 19.7**	**+1.7**
	comp=E,15nm,0.7s,baz=31,slow=3.9,SNR=5.1						
USHA	**Ushuaia**	**21.39**	**174**	P	**P**	**13 03 19.7**	**+1.7**
NNA	**Nana**	**21.95**	**347**	P	**P**	**13 03 25.2**	**+0.8**
NNA				MLR	MLR		
	comp=Z,2μm,22.0s						
NNA	**Nana**	**21.95**	**347**	P	**P**	**13 03 25.2**	**+0.8**
	comp=Z,29nm,1.2s,baz=186,slow=11,SNR=4.9						
NNA	**Nana**	**21.95**	**347**	P	**P**	**13 03 25.2**	**+0.8**
NNA				LR	LR		
	comp=Z,2μm,22.0s						
SAML	**Samuel**	**25.83**	**20**	*e*P	**P**	**13 04 01.7**	**-0.2**
	comp=Z,18nm,0.9s						
SAML				LR	LR		
	comp=Z,500nm,20.0s						
BDFB	**Brasilia**	**28.07**	**56**	P	**P**	**13 04 21.4**	**-0.8**
BDFB	**Brasilia**	**28.07**	**56**	P	**P**	**13 04 21.4**	**-0.8**
	comp=Z,3.7nm,0.4s,baz=171,slow=9.8,SNR=3.3						
BDFB	**Brasilia**	**28.07**	**56**	P	**P**	**13 04 21.4**	**-0.8**
OTAV	**Otavalo**	**34.18**	**348**	*e*P	**P**	**13 05 18.9**	**+2.6**
OTAV				LR	LR		
	comp=Z,800nm,18.8s						
SDV	**Santo Domingo**	**42.25**	**2**	*e*P	**P**	**13 06 23.4**	**-0.5**
VNA3	**Neumayer Olymp**	**49.73**	**158**	P	**P**	**13 07 23.4**	**+1.3**
VNA2	**Neumayer--Watz**	**50.39**	**157**	P	**P**	**13 07 28.1**	**+1.1**
CELP	**Cerrillos**	**51.63**	**7**	*e*P	**P**	**13 07 36.1**	**-0.8**
SNAA	**Sanae**	**51.96**	**158**	P	**P**	**13 07 39.9**	**+1.0**
SNAA	**Sanae**	**51.96**	**158**	P	**P**	**13 07 39.7**	**+0.8**
SNAA				MLR	MLR		
	comp=Z,2μm,19.3s						
SNAA	**Sanae**	**51.96**	**158**	P	**P**	**13 07 39.7**	**+0.8**
	comp=Z,6.5nm,1.0s,baz=280,slow=6.6,SNR=8.6						
SNAA	**Sanae**	**51.96**	**158**	P	**P**	**13 07 39.7**	**+0.8**
SNAA				LR	LR		
	comp=Z,2μm,19.3s						
QSPA	**South Pole Qui**	**56.65**	**180**	P	**P**	**13 08 14.0**	**+0.8**
	comp=Z,23nm,0.9s,baz=145,slow=3.0,SNR=13						
QSPA	**South Pole Qui**	**56.65**	**180**	P	**P**	**13 08 14.1**	**+0.8**
	comp=Z,13nm,0.9s						
QSPA				LR	LR		
	comp=Z,2μm,20.3s						
SYO	**Syowa Base**	**66.24**	**159**	⇑*e*X	P	13 09 09.0	-8.7
834A	**Tilden**	**66.33**	**334**	⇓P	**P**	**13 09 20.5**	**+1.8**
	baz=67						
735A	**Kenedy**	**66.74**	**335**	⇓P	**P**	**13 09 23.4**	**+2.1**
	baz=67						
833A	**Chaparral WMA,**	**66.82**	**334**	⇑P	**P**	**13 09 23.3**	**+1.5**
	baz=67,SNR=7.0						
734A	**La Parita Cree**	**66.99**	**335**	⇓P	**P**	**13 09 25.2**	**+2.2**
	baz=67						
832A	**Faith Ranch, C**	**67.00**	**333**	⇓P	**P**	**13 09 24.1**	**+1.0**
	baz=67,SNR=5.8						
537A	**Green Hill Far**	**67.36**	**337**	⇓P	**P**	**13 09 25.9**	**+0.6**
	baz=68						
732A	**Laxson Ranch,**	**67.40**	**334**	⇑P	**P**	**13 09 27.0**	**+1.4**
	baz=68,SNR=7.2						
GOGA	**Godfrey**	**67.50**	**350**	*e*P	**P**	**13 09 25.6**	**-0.5**
GOGA				pmax	pmax		
	comp=Z,177nm,2.8s						
GOGA				MLR	MLR		
	comp=Z,2μm,22.0s						
GOGA	**Godfrey**	**67.50**	**350**	*e*P	**P**	**13 09 25.6**	**-0.5**
	comp=Z,177nm,2.8s						
GOGA				LR	LR		
	comp=Z,2μm,22.0s						
VBMS	**Vicksburg**	**67.74**	**343**	*e*P	**P**	**13 09 27.6**	**0.0**
	comp=Z,210nm,2.1s						
VBMS				LR	LR		
	comp=Z,700nm,19.8s						
LRAL	**Lakeview Retre**	**67.75**	**346**	*e*P	**P**	**13 09 27.5**	**-0.1**
	comp=Z,14nm,1.1s						
LRAL				LR	LR		
	comp=Z,1μm,18.0s						
632A	**Uvalde**	**68.03**	**334**	⇓P	**P**	**13 09 30.6**	**+1.1**
	baz=68,SNR=7.9						
631A	**Perdido Creek**	**68.24**	**333**	⇑P	**P**	**13 09 30.8**	**-0.1**
	baz=69						
533A	**Kerrville**	**68.28**	**335**	⇓P	**P**	**13 09 32.1**	**+1.0**
	baz=69						
532A	**Rocksprings**	**68.64**	**334**	⇓P	**P**	**13 09 34.5**	**+1.1**
	baz=69,SNR=12						
434A	**Burnet**	**68.69**	**336**	⇑P	**P**	**13 09 34.8**	**+1.2**
	baz=69,SNR=6.2						
336A	**Riesel**	**68.74**	**337**	⇓P	**P**	**13 09 34.9**	**+1.0**
	baz=69						
335A	**Moody**	**68.83**	**337**	⇓P	**P**	**13 09 35.4**	**+0.9**
	baz=69						
531A	**Rocksprings**	**68.91**	**334**	⇑P	**P**	**13 09 36.0**	**+1.0**
	baz=69,SNR=6.4						
433A	**Art**	**68.92**	**335**	⇓P	**P**	**13 09 35.6**	**+0.5**
	baz=69,SNR=10						
JCT	**Junction City**	**68.92**	**334**	*e*P	**P**	**13 09 36.1**	**+1.0**
JCT				pmax	pmax		
	comp=Z,24nm,1.0s						
JCT				MLR	MLR		
	comp=Z,300nm,19.4s						
JCT	**Junction City**	**68.92**	**334**	*e*P	**P**	**13 09 36.1**	**+1.0**
	comp=Z,24nm,1.0s						
JCT				LR	LR		
	comp=Z,300nm,19.4s						
JCT	**Junction City**	**68.92**	**334**	⇑P	**P**	**13 09 36.2**	**+1.1**
	baz=69,SNR=6.4						
MEH	**Mehetia**	**68.94**	**262**	*e*T	T	13 09 06.1	
	comp=Z,140nm,0.2s						
334A	**Lometa**	**69.15**	**336**	⇓P	**P**	**13 09 37.3**	**+0.8**
	baz=70,SNR=6.0						
530A	**J-C Ranch, Com**	**69.19**	**333**	⇑P	**P**	**13 09 38.3**	**+1.5**
	baz=70,SNR=10						
432A	**Menard**	**69.28**	**335**	⇑P	**P**	**13 09 38.1**	**+0.7**
	baz=70,SNR=6.0						
TXAR	**Lajitas Array**	**69.38**	**331**	P	**P**	**13 09 39.1**	**+1.0**
TXAR	**Lajitas Array**	**69.38**	**331**	P	**P**	**13 09 39.0**	**+1.0**
	comp=Z,3.1nm,0.7s,baz=156,slow=8.2,SNR=14						
TXAR	**Lajitas Array**	**69.38**	**331**	P	**P**	**13 09 39.0**	**+1.0**
431A	**Sonora**	**69.40**	**334**	⇑P	**P**	**13 09 38.2**	**+0.1**
	baz=70						
333A	**Richland Sprin**	**69.40**	**335**	⇓P	**P**	**13 09 38.4**	**+0.3**
	baz=70,SNR=8.8						
WHTX	**Lake Whitney**	**69.50**	**337**	*e*P	**P**	**13 09 39.3**	**+0.7**
	comp=Z,22nm,0.9s						
WHTX				LR	LR		
	comp=Z,1μm,19.7s						
WHTX	**Lake Whitney**	**69.50**	**337**	⇑P	**P**	**13 09 36.9**	**-1.7**
	baz=70,SNR=5.5						
529A	**Stev Forest Ra**	**69.51**	**332**	⇓P	**P**	**13 09 39.9**	**+1.1**
	baz=70,SNR=12						
OXF	**Oxford**	**69.68**	**345**	*e*P	**P**	**13 09 39.8**	**+0.2**
OXF				pmax	pmax		
	comp=Z,42nm,1.0s						
OXF				MLR	MLR		
	comp=Z,700nm,19.0s						
OXF	**Oxford**	**69.68**	**345**	*e*P	**P**	**13 09 39.8**	**+0.2**
	comp=Z,42nm,1.0s						
OXF				LR	LR		
	comp=Z,700nm,19.0s						
332A	**Millersview**	**69.72**	**335**	⇑P	**P**	**13 09 40.6**	**+0.6**
	baz=70,SNR=7.0						
430A	**Baggett Ranch,**	**69.72**	**333**	⇓P	**P**	**13 09 41.1**	**+1.0**
	baz=70,SNR=9.4						
234A	**Clairette**	**69.73**	**336**	⇑P	**P**	**13 09 41.1**	**+1.0**
	baz=70,SNR=5.4						
TKL	**Tuckaleechee C**	**69.75**	**350**	*e*P	**P**	**13 09 40.0**	**-0.1**
TKL	**Tuckaleechee C**	**69.75**	**350**	P	**P**	**13 09 39.6**	**-0.5**
	comp=Z,6.1nm,0.7s,baz=169,slow=8.2,SNR=7.5						
TKL	**Tuckaleechee C**	**69.75**	**350**	*e*P	**P**	**13 09 40.0**	**-0.1**
429A	**Davenport Ranc**	**69.83**	**333**	⇑P	**P**	**13 09 42.1**	**+1.4**
	baz=70,SNR=7.1						
331A	**San Angelo**	**69.90**	**334**	⇓P	**P**	**13 09 41.3**	**+0.2**
	baz=70,SNR=9.2						
TVO	**Taravao**	**69.96**	**262**	*e*T	T	13 10 21.4	
	comp=Z,1.8nm,0.2s						
233A	**Rising Star**	**70.00**	**336**	⇑P	**P**	**13 09 42.4**	**+0.7**
	baz=70,SNR=7.9						
232A	**Coleman**	**70.14**	**335**	⇑P	**P**	**13 09 43.3**	**+0.7**
	baz=70,SNR=7.8						
TIAR	**Tiarei**	**70.15**	**262**	*e*T	T	13 10 36.0	
	comp=Z,12nm,0.3s						
330A	**Mertzon**	**70.26**	**334**	⇑P	**P**	**13 09 43.8**	**+0.4**
	baz=71,SNR=6.9						
PAE	**Paea**	**70.29**	**262**	*e*T	T	13 10 45.9	
	comp=Z,1.2nm,0.2s						
PPT2	**Papeete2**	**70.32**	**262**	*e*T	T	13 10 48.0	
	comp=Z,3.9nm,0.3s						
231A	**Bronte**	**70.42**	**335**	⇑P	**P**	**13 09 44.8**	**+0.4**
	baz=71,SNR=9.7						
133A	**Hamilton Ranch**	**70.55**	**336**	⇓P	**P**	**13 09 44.8**	**-0.3**
	baz=71,SNR=7.7						
329A	**Wagon Wheel Ra**	**70.63**	**333**	⇓P	**P**	**13 09 46.9**	**+1.2**
	baz=71						
Z35A	**Perchaven, San**	**70.67**	**338**	⇓P	**P**	**13 09 45.9**	**+0.2**
	baz=71,SNR=6.9						
230A	**Sterling City**	**70.67**	**334**	⇑P	**P**	**13 09 46.2**	**+0.3**
	baz=71						
ABTX	**Abilene, Hawle**	**70.81**	**336**	*e*P	**P**	**13 09 47.3**	**+0.6**
	comp=Z,36nm,1.2s						
ABTX	**Abilene, Hawle**	**70.81**	**336**	⇓P	**P**	**13 09 46.9**	**+0.2**
	baz=71,SNR=10.0						
WVT	**Waverly**	**70.91**	**346**	*e*P	**P**	**13 09 47.1**	**-0.1**
WVT				pmax	pmax		
	comp=Z,51nm,0.9s						
WVT				MLR	MLR		
	comp=Z,1μm,18.8s						
WVT	**Waverly**	**70.91**	**346**	*e*P	**P**	**13 09 47.1**	**-0.1**
	comp=Z,51nm,0.9s						
WVT				LR	LR		
	comp=Z,1μm,18.8s						
Z34A	**Collier Ranch,**	**70.92**	**337**	⇓P	**P**	**13 09 46.9**	**-0.4**
	baz=71,SNR=5.1						
229A	**Bryant Ranch,**	**71.00**	**333**	⇑P	**P**	**13 09 49.0**	**+1.1**
	baz=71						
131A	**Roby**	**71.12**	**335**	⇓P	**P**	**13 09 49.3**	**+0.7**
	baz=72,SNR=8.8						
Z33A	**Whitaker Ranch**	**71.12**	**337**	⇓P	**P**	**13 09 48.6**	**+0.2**
	baz=72,SNR=7.1						
130A	**Snyder**	**71.25**	**334**	⇓P	**P**	**13 09 49.9**	**+0.5**
	baz=72						
Z32A	**Haskell**	**71.38**	**336**	⇑P	**P**	**13 09 50.2**	**+0.1**
	baz=72,SNR=8.0						
Y34A	**Reagan Ranch,**	**71.41**	**338**	⇑P	**P**	**13 09 50.2**	**0.0**
	baz=72						
228A	**UT Block 9, Go**	**71.43**	**333**	⇓P	**P**	**13 09 51.3**	**+0.8**
	baz=72,SNR=7.1						
129A	**Stewart Farms,**	**71.61**	**334**	⇓P	**P**	**13 09 52.0**	**+0.4**
	baz=72						
Z31A	**Sharp Cattle R**	**71.62**	**335**	⇑P	**P**	**13 09 52.1**	**+0.6**
	baz=72,SNR=11						
Y33A	**Hilltop Ranch,**	**71.73**	**337**	⇓P	**P**	**13 09 51.9**	**-0.2**
	baz=72						
128A	**Castleberry Fa**	**71.84**	**333**	⇑P	**P**	**13 09 53.5**	**+0.6**
	baz=72,SNR=9.5						
Z30A	**Sanderson Ranc**	**71.93**	**335**	⇓P	**P**	**13 09 53.7**	**+0.2**
	baz=72,SNR=7.2						
Y32A	**R-V Farms, Ver**	**72.00**	**336**	⇑P	**P**	**13 09 54.6**	**+0.8**
	baz=72						
X34A	**Smith Ranch, M**	**72.02**	**338**	⇑P	**P**	**13 09 53.8**	**-0.1**
	baz=72,SNR=5.4						
PBMO	**Poplar Bluff**	**72.08**	**345**	*e*P	**P**	**13 09 54.5**	**+0.3**
	comp=Z,226nm,2.4s						
Z29A	**Hungry Hill Ra**	**72.12**	**334**	⇓P	**P**	**13 09 54.5**	**-0.1**
	baz=72,SNR=7.2						
GDL2	**Guadalupe Moun**	**72.19**	**332**	*e*P	**P**	**13 09 56.1**	**+1.0**
127A	**Arkansas Junct**	**72.22**	**333**	⇓P	**P**	**13 09 56.3**	**+1.1**
	baz=73						
Y31A	**Rekieta Farm,**	**72.24**	**336**	⇓P	**P**	**13 09 54.9**	**-0.4**
	baz=73,SNR=6.0						
X32A	**Elmer**	**72.33**	**337**	⇓P	**P**	**13 09 56.1**	**+0.4**
	baz=73						
Y30A	**Stafford Cattl**	**72.39**	**335**	⇓P	**P**	**13 09 57.0**	**+0.9**
	baz=73						
W34A	**Bridge Creek,**	**72.59**	**338**	⇑P	**P**	**13 09 56.9**	**-0.4**
	baz=73						
Y29A	**Porterfield Fa**	**72.65**	**334**	⇓P	**P**	**13 09 58.2**	**+0.4**
	baz=73,SNR=8.8						
Z27A	**Tatum**	**72.73**	**333**	⇑P	**P**	**13 09 59.0**	**+0.7**
	baz=73,SNR=5.3						
W33A	**Caddo, Fort Co**	**72.73**	**338**	⇓P	**P**	**13 09 57.8**	**-0.3**
	baz=73						
X31A	**McDonald Ranch**	**72.75**	**336**	⇑P	**P**	**13 09 58.8**	**+0.5**
	baz=73,SNR=7.4						
SDMD	**Soldier's Deli**	**72.76**	**356**	*e*P	**P**	**13 09 58.6**	**+0.4**
	comp=Z,47nm,1.4s						
X30A	**Coker Ranch, T**	**72.89**	**335**	⇓P	**P**	**13 09 59.8**	**+0.7**
	baz=73						
Y28A	**McKinney Farm,**	**72.90**	**334**	⇓P	**P**	**13 09 59.5**	**+0.2**
	baz=73						
W32A	**Sentinel**	**72.96**	**337**	⇓P	**P**	**13 09 59.9**	**+0.4**
	baz=73,SNR=12						
Z26A	**Caprock**	**72.98**	**332**	⇓P	**P**	**13 10 00.7**	**+0.9**
	baz=73,SNR=17						
V34A	**Guthrie**	**73.06**	**339**	⇑P	**P**	**13 09 58.6**	**-1.5**
	baz=73						
MSTX	**Muleshoe**	**73.15**	**334**	*e*P	**P**	**13 10 01.3**	**+0.6**
	comp=Z,21nm,0.8s						
MSTX				LR	LR		
	comp=Z,1μm,19.3s						
MSTX	**Muleshoe**	**73.15**	**334**	⇑P	**P**	**13 10 01.4**	**+0.6**
	baz=74,SNR=8.5						
X29A	**Tulia**	**73.18**	**335**	⇑P	**P**	**13 10 01.0**	**+0.1**
	baz=74						
Y27A	**Causey**	**73.22**	**333**	⇑P	**P**	**13 10 01.6**	**+0.4**
	baz=74						
W31A	**Holland Ranch,**	**73.25**	**336**	⇓P	**P**	**13 10 00.6**	**-0.7**
	baz=74						
Z25A	**Roswell**	**73.28**	**332**	⇓P	**P**	**13 10 03.1**	**+1.6**
	baz=74						
V33A	**Lossen Ranch,**	**73.29**	**338**	⇑P	**P**	**13 10 01.1**	**-0.3**
	baz=74,SNR=5.2						
X28A	**Dimmitt**	**73.43**	**334**	⇑P	**P**	**13 10 02.9**	**+0.5**
	baz=74						
V32A	**Arapaho**	**73.44**	**337**	⇑P	**P**	**13 10 03.3**	**+1.0**
	baz=74						
Y26A	**Elida**	**73.50**	**333**	⇑P	**P**	**13 10 04.2**	**+1.3**
	baz=74						
319A	**Douglas**	**73.56**	**327**	⇑P	**P**	**13 10 05.6**	**+2.3**
	baz=74,SNR=6.9						
AMTX	**Amarillo**	**73.57**	**335**	*e*P	**P**	**13 10 04.1**	**+0.9**
	comp=Z,53nm,1.4s						
AMTX				LR	LR		
	comp=Z,1μm,19.8s						
AMTX	**Amarillo**	**73.57**	**335**	⇓P	**P**	**13 10 04.3**	**+1.1**
	baz=74						
Z24A	**Sheeppen Canyo**	**73.58**	**331**	⇓P	**P**	**13 10 04.9**	**+1.4**
	baz=74,SNR=7.6						
U34A	**Anderson Ranch**	**73.63**	**339**	*e*P	**P**	**13 10 04.0**	**+0.6**
	comp=Z,14nm,0.8s						
U34A				LR	LR		
	comp=Z,1μm,19.6s						
U34A	**Anderson Ranch**	**73.63**	**339**	⇑P	**P**	**13 10 01.1**	**-2.3**
	baz=74						
V31A	**Spring Creek L**	**73.75**	**337**	⇑P	**P**	**13 10 04.7**	**+0.5**
	baz=74						
W29A	**Amraillo**	**73.77**	**335**	⇓P	**P**	**13 10 04.6**	**+0.2**
	baz=74,SNR=5.3						
U33A	**Lingo Farm, Me**	**73.80**	**338**	⇑P	**P**	**13 10 03.6**	**-0.8**
	baz=74						
Y25A	**Mesa, Roswell**	**73.84**	**332**	⇑P	**P**	**13 10 05.2**	**+0.3**
	baz=74						
X27A	**F and S Farms,**	**73.87**	**334**	⇓P	**P**	**13 10 05.1**	**+0.1**
	baz=74						
121A	**Cookes Peak, D**	**73.89**	**329**	*e*P	**P**	**13 10 06.7**	**+1.4**
	comp=Z,17nm,1.1s						
121A	**Cookes Peak, D**	**73.89**	**329**	⇑P	**P**	**13 10 07.2**	**+1.9**
	baz=74,SNR=9.6						
U32A	**Winter Ranch,**	**74.03**	**338**	⇑P	**P**	**13 10 06.0**	**+0.2**
	baz=74						
X26A	**CR and CF Fran**	**74.05**	**333**	⇑P	**P**	**13 10 06.7**	**+0.6**
	baz=74,SNR=8.5						
Y24A	**Capitan**	**74.13**	**332**	⇓P	**P**	**13 10 07.5**	**+0.8**
	baz=74,SNR=6.6						
Z22A	**Elephant Butte**	**74.17**	**330**	⇓P	**P**	**13 10 08.6**	**+1.8**
	baz=74,SNR=5.2						
W27A	**Bowe Ranch, En**	**74.23**	**334**	⇑P	**P**	**13 10 07.5**	**+0.4**
	baz=75,SNR=6.9						
Y23A	**Lovelace Mesa,**	**74.38**	**331**	⇑P	**P**	**13 10 10.1**	**+2.0**
	baz=75						
W26A	**Owens Ranch, T**	**74.51**	**333**	⇓P	**P**	**13 10 09.8**	**+1.1**
	baz=75,SNR=7.3						
X24A	**Lazy VL Ranch,**	**74.69**	**332**	⇓P	**P**	**13 10 11.2**	**+1.3**
	baz=75,SNR=9.0						
V27A	**Dan Oppiter Fa**	**74.77**	**334**	⇑P	**P**	**13 10 11.4**	**+1.2**
	baz=75						
W25A	**X Bar L Ranch,**	**74.89**	**333**	⇓P	**P**	**13 10 11.7**	**+0.8**
	baz=75,SNR=5.5						
DBIC	**Dimbokro**	**75.02**	**71**	P	**P**	**13 10 11.3**	**-0.7**
DBIC	**Dimbokro**	**75.02**	**71**	P	**P**	**13 10 11.3**	**-0.7**
	comp=Z,4.8nm,0.8s,baz=216,slow=4.6,SNR=4.0						
DBIC	**Dimbokro**	**75.02**	**71**	P	**P**	**13 10 11.3**	**-0.7**
TUC	**Tucson**	**75.04**	**327**	*e*P	**P**	**13 10 12.7**	**+0.9**
TUC				pmax	pmax		
	comp=Z,19nm,1.4s						
TUC				MLR	MLR		
	comp=Z,600nm,18.0s						
TUC	**Tucson**	**75.04**	**327**	*e*P	**P**	**13 10 12.7**	**+0.9**
	comp=Z,19nm,1.4s						
TUC				LR	LR		
	comp=Z,600nm,18.0s						
V26A	**Tequesquite Ra**	**75.15**	**334**	⇑P	**P**	**13 10 13.6**	**+1.2**
	baz=76,SNR=5.5						
W24A	**Lazy 6 Ranch,**	**75.25**	**332**	⇑P	**P**	**13 10 14.4**	**+1.3**
	baz=76						
U27A	**Thompson Grove**	**75.36**	**335**	⇓P	**P**	**13 10 14.6**	**+1.0**
	baz=76						
ANMO	**Albuquerque**	**75.43**	**331**	P	**P**	**13 10 14.7**	**+0.6**
ANMO	**Albuquerque**	**75.43**	**331**	P	**P**	**13 10 14.7**	**+0.6**
	comp=Z,6.2nm,1.0s,baz=162,slow=7.5,SNR=8.9						
ANMO	**Albuquerque**	**75.43**	**331**	P	**P**	**13 10 14.7**	**+0.6**
T29A	**Hugoton**	**75.49**	**336**	⇓P	**P**	**13 10 14.6**	**+0.3**
	baz=76						
W23A	**Werner Place,**	**75.50**	**332**	⇓P	**P**	**13 10 16.4**	**+1.9**
	baz=76,SNR=5.5						
V25A	**Rancho No Teng**	**75.50**	**333**	⇑P	**P**	**13 10 15.6**	**+1.1**
	baz=76,SNR=6.6						
V24A	**Rampart Ranch,**	**75.65**	**333**	⇑P	**P**	**13 10 16.9**	**+1.4**
	baz=76						
S30A	**Montezuma**	**75.65**	**337**	⇓P	**P**	**13 10 16.0**	**+0.8**
	baz=76						
U26A	**Atchley Ranch,**	**75.67**	**334**	⇑P	**P**	**13 10 16.2**	**+0.7**
	baz=76						
T28A	**Walsh**	**75.73**	**336**	⇑P	**P**	**13 10 16.4**	**+0.7**
	baz=76,SNR=7.9						
R32A	**Long Quarter,**	**75.82**	**339**	⇓P	**P**	**13 10 15.7**	**-0.3**
	baz=76						
S29A	**Ulysses**	**75.85**	**337**	⇓P	**P**	**13 10 17.4**	**+1.1**
	baz=76						
T27A	**Campo**	**75.89**	**335**	⇑P	**P**	**13 10 17.3**	**+0.7**
	baz=76,SNR=8.8						
U25A	**Circle Dot Ran**	**75.92**	**334**	⇑P	**P**	**13 10 18.4**	**+1.5**
	baz=76,SNR=5.8						
V23A	**Ortiz Mt. (NFS**	**76.02**	**332**	⇓P	**P**	**13 10 19.2**	**+1.7**
	baz=76						
S28A	**Manter**	**76.08**	**336**	⇓P	**P**	**13 10 18.0**	**+0.3**
	baz=76,SNR=6.8						
Q33A	**Connelly Farm,**	**76.09**	**340**	⇓P	**P**	**13 10 18.1**	**+0.6**
	baz=76						
R30A	**Dighton**	**76.18**	**337**	⇑P	**P**	**13 10 17.2**	**-0.9**
	baz=76						
U24A	**Moreno Valley**	**76.25**	**333**	⇑P	**P**	**13 10 20.7**	**+1.8**
	baz=77						
Q32A	**Meitler Ranch,**	**76.29**	**339**	⇓P	**P**	**13 10 17.0**	**-1.8**
	baz=77						
T26A	**Comanche Natio**	**76.31**	**334**	⇑P	**P**	**13 10 20.2**	**+1.1**
	baz=77						
P33A	**Williams Farm,**	**76.45**	**340**	⇓P	P	13 10 16.2	-3.4
	baz=77						
V22A	**San Miguel Ran**	**76.45**	**331**	⇓P	**P**	**13 10 22.8**	**+2.8**
	baz=77,SNR=12						
U23A	**El Rito**	**76.53**	**332**	⇓P	**P**	**13 10 22.8**	**+2.4**
	baz=77,SNR=6.1						
Q31A	**Ellis**	**76.56**	**338**	⇓P	**P**	**13 10 21.1**	**+0.8**
	baz=77						
T25A	**Trinidad**	**76.57**	**334**	⇓P	**P**	**13 10 22.7**	**+2.1**
	baz=77,SNR=16						
R29A	**Marienthal**	**76.58**	**337**	⇓P	**P**	**13 10 21.1**	**+0.6**
	baz=77						
S26A	**Kim**	**76.66**	**335**	⇓P	**P**	**13 10 22.7**	**+1.6**
	baz=77,SNR=11						
R28A	**Tribune**	**76.73**	**336**	⇑P	**P**	**13 10 22.1**	**+0.8**
	baz=77,SNR=5.4						
Q30A	**Quinter**	**76.79**	**338**	⇓P	**P**	**13 10 21.6**	**0.0**
	baz=77,SNR=5.0						
113A	**Mohawk Valley,**	**76.82**	**325**	⇑P	**P**	**13 10 23.9**	**+2.0**
	baz=77						
U22A	**Llaves**	**76.83**	**332**	⇑P	**P**	**13 10 24.4**	**+2.3**
	baz=77,SNR=5.8						
T24B	**San Luis**	**76.86**	**333**	⇑P	**P**	**13 10 24.4**	**+2.0**
	baz=77,SNR=6.8						
P32A	**Huiting Farm,**	**76.89**	**339**	⇑P	**P**	**13 10 22.8**	**+0.7**
	baz=77						
Q29A	**Oakley**	**76.96**	**337**	⇓P	**P**	**13 10 22.9**	**+0.3**
	baz=77						
R27A	**Eads**	**77.02**	**336**	⇑P	**P**	**13 10 23.6**	**+0.6**
	baz=77,SNR=8.5						
P31A	**Stockton**	**77.03**	**339**	⇓P	**P**	**13 10 23.8**	**+0.8**
	baz=77,SNR=5.1						
S25A	**Robets Cordova**	**77.04**	**334**	⇑P	**P**	**13 10 24.7**	**+1.5**
	baz=77,SNR=7.7						
T23A	**Casias Ranch,**	**77.09**	**333**	⇓P	**P**	**13 10 25.3**	**+1.7**
	baz=77						
X16A	**Lo Mia Camp, P**	**77.10**	**327**	⇑P	**P**	**13 10 25.8**	**+2.1**
	baz=77,SNR=11						
R26A	**Arlington**	**77.26**	**335**	⇓P	**P**	**13 10 25.5**	**+1.1**
	baz=78,SNR=6.2						
S24A	**Houchin Ranch,**	**77.31**	**334**	⇓P	**P**	**13 10 26.7**	**+1.9**
	baz=78,SNR=11						
P30A	**Selden**	**77.32**	**338**	⇑P	**P**	**13 10 24.4**	**-0.2**
	baz=78						
Q28A	**Sharon Springs**	**77.39**	**337**	⇑P	**P**	**13 10 25.3**	**+0.3**
	baz=78						
R25A	**Fountain Ranch**	**77.42**	**334**	⇑P	**P**	**13 10 26.2**	**+0.9**
	baz=78						
P29A	**Atwood**	**77.59**	**338**	⇑P	**P**	**13 10 26.9**	**+0.8**
	baz=78,SNR=5.5						
O31A	**Woolen Ranch,**	**77.59**	**339**	⇑P	**P**	**13 10 24.7**	**-1.4**
	baz=78						
KSCO	**Kaye Shedlock'**	**77.61**	**336**	⇓P	**P**	**13 10 27.5**	**+1.2**
	baz=78						
R24A	**Sanders Place,**	**77.79**	**334**	⇓P	**P**	**13 10 29.2**	**+1.8**
	baz=78,SNR=9.4						
P28A	**Saint Francis**	**77.83**	**337**	⇓P	**P**	**13 10 28.7**	**+1.2**
	baz=78						
O30A	**MW Ranch, Wils**	**77.84**	**338**	⇑P	**P**	**13 10 27.7**	**+0.2**
	baz=78						
JFWS	**Jewell Farm**	**77.94**	**346**	*e*P	**P**	**13 10 28.1**	**+0.2**
JFWS				pmax	pmax		
	comp=Z,45nm,1.3s						
JFWS				MLR	MLR		
	comp=Z,1μm,19.8s						
JFWS	**Jewell Farm**	**77.94**	**346**	*e*P	**P**	**13 10 28.1**	**+0.2**
	comp=Z,45nm,1.3s						

JFWS LR LR
comp=Z,1μm,19.8s
WUAZ Wupatki 77.99 328 eP P 13 10 30.5 +1.9
comp=Z,15nm,1.1s
WUAZ LR LR
comp=Z,1μm,20.9s
WUAZ Wupatki 77.99 328 ⇑P P 13 10 30.5 +1.9
baz=78,SNR=6.1
S22A 4UR Ranch, Cre 78.02 332 ⇑P P 13 10 30.7 +1.9
baz=78
R23A Moffat 78.02 333 ⇑P P 13 10 30.8 +2.0
baz=78,SNR=6.5
P27A Ficken Ranch, 78.08 336 ⇑P P 13 10 29.8 +0.8
baz=78
Q25A Bedland, Calha 78.09 335 ⇑P P 13 10 30.1 +1.0
baz=78
MVCO Mesa Verde 78.21 331 eP P 13 10 31.2 +1.4
comp=Z,11nm,1.1s
MVCO LR LR
comp=Z,1μm,18.8s
MVCO Mesa Verde 78.21 331 ⇓P P 13 10 31.4 +1.6
baz=79
O28A Krutsinger Ran 78.33 337 ⇓P P 13 10 31.5 +1.3
baz=79
P26A Davis Ranch, A 78.35 336 ⇓P P 13 10 31.5 +1.0
baz=79
BGNE Belgrade 78.41 340 eP P 13 10 31.5 +1.0
comp=Z,38nm,1.0s
BGNE LR LR
comp=Z,2μm,19.4s
Q24A Divide 78.46 334 ⇓P P 13 10 32.7 +1.5
baz=79,SNR=6.4
M31A Lambtecht Ranc 78.59 340 ⇑P P 13 10 30.8 -0.7
baz=79
P25A Willow Gulch B 78.59 335 ⇓P P 13 10 33.5 +1.7
baz=79,SNR=9.7
N29A Votaw Ranch, W 78.60 338 ⇓P P 13 10 32.2 +0.5
baz=79
W13A Hualapai Mount 78.78 326 ⇑P P 13 10 35.1 +2.1
baz=79,SNR=5.6
O25A Wiggins 79.11 335 ⇓P P 13 10 37.1 +2.5
baz=80
U15A North Rim 79.16 328 ⇑P P 13 10 37.6 +2.4
baz=80,SNR=7.0
N27A Anderson Farm, 79.20 337 ⇑P P 13 10 36.4 +1.4
baz=80
SMCO Snowmass 79.32 333 eP P 13 10 37.9 +1.8
comp=Z,11nm,0.9s
L30A Spencer Herefo 79.36 339 ⇑P P 13 10 37.0 +1.2
baz=80
ISCO Idaho Springs 79.36 334 eP P 13 10 37.1 +0.9
ISCO pmax pmax
comp=Z,36nm,1.9s
ISCO MLR MLR
comp=Z,1μm,20.1s
ISCO Idaho Springs 79.36 334 eP P 13 10 37.1 +0.9
comp=Z,36nm,1.9s
ISCO LR LR
comp=Z,1μm,20.1s
ISCO Idaho Springs 79.36 334 ⇓P P 13 10 37.4 +1.2
baz=80,SNR=5.3
GMRC Granite Mounta 79.37 325 ⇑P P 13 10 38.4 +2.3
baz=80,SNR=6.6
PV04 Paradox Valley 79.39 331 eP P 13 10 38.1 +1.8
N26A Koester Ranch, 79.44 336 ⇓P P 13 10 38.0 +1.7
baz=80
O23A Lake Granby, G 79.83 334 ⇑P P 13 10 40.9 +2.2
baz=80,SNR=5.1
K30A Basset 80.00 340 ⇑P P 13 10 40.0 +0.8
baz=80
O22A Kremmling 80.02 334 ⇓P P 13 10 41.2 +1.5
baz=80,SNR=5.4
ECSD EROS Data Cent 80.16 342 eP P 13 10 40.2 +0.1
comp=Z,21nm,1.0s
ECSD LR LR
comp=Z,1μm,18.7s
ECSD EROS Data Cent 80.16 342 ⇓P P 13 10 39.8 -0.2
baz=80,SNR=8.3
K29A Lazy Trails An 80.28 339 ⇓P P 13 10 41.0 +0.3
baz=81
N23A Red Feather La 80.44 335 ⇓P P 13 10 44.0 +2.0
baz=81
SHPR Sheep Range 80.53 326 eP P 13 10 44.3 +1.9
N22A Wattenberg Ran 80.55 334 ⇑P P 13 10 44.1 +1.6
baz=81,SNR=5.0
M24A Cheyenne 80.56 336 ⇓P P 13 10 43.9 +1.5
baz=81
J30A Dallas 80.56 340 ⇑P P 13 10 42.4 +0.2
baz=81
CCUT Cedar City 80.57 328 eP P 13 10 44.9 +2.2
comp=Z,10nm,1.0s
CCUT LR LR
comp=Z,1μm,21.9s
PHWY Pilot Hill 80.63 335 eP P 13 10 44.1 +1.1
comp=Z,5.2nm,0.7s
SRU San Rafael 80.66 331 eP P 13 10 44.1 +1.0
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU MLR MLR
comp=Z,1μm,18.8s
SRU San Rafael 80.66 331 eP P 13 10 44.1 +1.0
comp=Z,7.4nm,0.9s
SRU LR LR
comp=Z,1μm,18.8s
K27A Flueckinger Fa 80.81 338 ⇑P P 13 10 45.1 +1.4
baz=81
M23A Laramie 80.87 335 ⇑P P 13 10 46.1 +1.9
baz=81
J29A Okreek 80.87 340 ⇑P P 13 10 44.4 +0.5
baz=81,SNR=6.8
J27A Elkhorn Farm, 81.24 338 ⇑P P 13 10 47.3 +1.4
baz=82,SNR=6.0
I29A Vivian Onida 81.43 340 ⇓P P 13 10 47.3 +0.5
baz=82
ISA Isabella 81.45 323 eP P 13 10 49.2 +2.0
ISA pmax pmax
comp=Z,14nm,1.1s
ISA MLR MLR
comp=Z,1μm,21.7s
ISA Isabella 81.45 323 eP P 13 10 49.2 +2.0
comp=Z,14nm,1.1s
ISA LR LR
comp=Z,1μm,21.7s
ISA Isabella 81.45 323 ⇑P P 13 10 49.6 +2.4
baz=82,SNR=7.2
J26A Sides Ranch, S 81.63 338 ⇓P P 13 10 49.4 +1.5
baz=82
I28A Midland 81.66 339 ⇓P P 13 10 49.2 +1.2
baz=82,SNR=7.1
MPU Maple Canyon 81.88 330 eP P 13 10 50.9 +1.3
comp=Z,10nm,1.0s
MPU LR LR
comp=Z,1μm,18.5s
J25A Sunshine Ranch 81.93 337 ⇑P P 13 10 51.3 +1.7
baz=82
H29A Onida 81.96 340 ⇓P P 13 10 50.1 +0.5
baz=82,SNR=8.3
K23A Bowen Ranch, D 81.97 336 ⇓P P 13 10 50.9 +1.0
baz=82
I27A Quinn 81.99 339 ⇓P P 13 10 50.9 +1.0
baz=82
G30A Faulkton 82.12 341 ⇓P P 13 10 50.7 +0.2
baz=82
J24A Dixon Ranch, L 82.16 337 ⇓P P 13 10 52.5 +1.7
baz=82
K22A Casper 82.19 335 eP P 13 10 52.4 +1.3
comp=Z,27nm,1.5s
K22A LR LR
comp=Z,900nm,18.0s
K22A Casper 82.19 335 ⇑P P 13 10 52.7 +1.6
baz=82
I26A New Underwood 82.21 338 ⇓P P 13 10 52.7 +1.7
baz=83
R11A Troy Canyon, C 82.22 327 eP P 13 10 53.3 +1.9
comp=Z,8.8nm,1.1s
R11A Troy Canyon, C 82.22 327 ⇑P P 13 10 53.3 +1.9
baz=83,SNR=7.3
H28A Mission Ridge 82.24 340 ⇓P P 13 10 51.8 +0.8
baz=83,SNR=6.3
JLU Jordanelle 82.30 331 eP P 13 10 52.9 +1.1
comp=Z,6.5nm,1.0s
JLU LR LR
comp=Z,500nm,21.3s
G29A Hoven 82.40 340 ⇓P P 13 10 52.1 +0.3
baz=83,SNR=5.9
K21A Alcova 82.44 335 ⇑P P 13 10 53.5 +1.1
baz=83,SNR=7.0
I25A Rochford 82.47 337 ⇑P P 13 10 53.5 +1.0
baz=83
H27A Howes 82.51 339 ⇓P P 13 10 53.5 +0.9
baz=83,SNR=5.4
DUG Dugway 82.53 330 eP P 13 10 54.3 +1.5
DUG pmax pmax
comp=Z,22nm,1.4s
DUG Dugway 82.53 330 eP P 13 10 54.2 +1.5
comp=Z,22nm,1.4s
DUG Dugway 82.53 330 ⇑P P 13 10 54.3 +1.5
baz=83,SNR=7.0
G28A Parade 82.57 340 ⇓P P 13 10 53.6 +0.7
baz=83,SNR=6.0
F30A Leola 82.75 341 ⇓P P 13 10 53.6 -0.1
baz=83
TPH Tonopah 82.76 326 eP P 13 10 55.5 +1.3
TPH pmax pmax
comp=Z,17nm,1.1s
TPH MLR MLR
comp=Z,1μm,21.4s
TPH Tonopah 82.76 326 eP P 13 10 55.5 +1.3
comp=Z,17nm,1.1s
TPH LR LR
comp=Z,1μm,21.4s
F29A Eureka 82.96 341 ⇑P P 13 10 55.4 +0.6
baz=83,SNR=7.9
H25A Fruitdale 82.97 338 ⇓P P 13 10 56.4 +1.5
baz=83
G27A Dupree 83.14 339 ⇑P P 13 10 56.6 +0.8
baz=84,SNR=5.2
BGU Big Grassy Mou 83.23 330 eP P 13 10 57.3 +0.9
comp=Z,6.4nm,1.5s
F28A McLaughlin 83.25 340 ⇑P P 13 10 57.4 +1.1
baz=84,SNR=5.8
G26A Maurine 83.27 339 ⇓P P 13 10 57.2 +0.8
baz=84
I22A 9 Mile Ranch, 83.27 336 ⇓P P 13 10 57.4 +0.8
baz=84,SNR=5.0
E30A Jud 83.33 342 ⇑P P 13 10 57.2 +0.5
baz=84
J20A Shoshoni 83.36 334 ⇑P P 13 10 58.5 +1.4
baz=84
H24A Dirks Ranch, A 83.39 337 ⇑P P 13 10 57.8 +0.6
baz=84
PDAR Pinedale Array 83.40 333 P P 13 10 57.6 +0.2
comp=Z,3.1nm,1.0s,baz=156,slow=4.1,SNR=8.3
PDAR Pinedale Array 83.40 333 P P 13 10 57.6 +0.2
G25A Newell 83.43 338 ⇓P P 13 10 58.2 +0.9
baz=84,SNR=6.6
NVAR Mina Array Bea 83.56 325 P P 13 10 59.2 +0.9
comp=Z,3.6nm,0.8s,baz=159,slow=5.8,SNR=11
NVAR Mina Array Bea 83.56 325 P P 13 10 59.2 +0.9
E29A Napoleon 83.59 341 ⇑P P 13 10 58.4 +0.4
baz=84
F27A Lemmon 83.62 339 ⇑P P 13 10 58.6 +0.3
baz=84,SNR=5.9
J19A Crowheart 83.64 334 ⇓P P 13 10 59.6 +1.0
baz=84,SNR=8.0
F26A Lodgepole 83.79 339 ⇓P P 13 10 59.5 +0.4
baz=84,SNR=5.9
HVU Hansel Valley 83.83 331 eP P 13 11 00.3 +0.7
HVU pmax pmax
comp=Z,11nm,0.9s
HVU Hansel Valley 83.83 331 eP P 13 11 00.2 +0.7
comp=Z,11nm,0.9s
D30A Buchanan 83.85 342 ⇓P P 13 10 59.8 +0.4
baz=84,SNR=8.6
E28A Huff 83.88 341 ⇓P P 13 11 00.4 +0.8
baz=84
I20A Worland 83.90 335 ⇑P P 13 11 00.6 +0.8
baz=84,SNR=5.2
E27A Carson 83.99 340 ⇓P P 13 11 00.6 +0.4
baz=84
D29A Pettibone, Tap 84.03 341 ⇓P P 13 11 00.4 +0.2
baz=84,SNR=5.1
TORD Torodi Ar. Bea 84.04 70 P P 13 11 01.0 -0.1
comp=Z,6.7nm,0.8s,baz=259,slow=4.7,SNR=14
TORD Torodi Ar. Bea 84.04 70 P P 13 11 01.0 -0.1
G23A Biddle 84.06 337 ⇓P P 13 11 01.1 +0.5
baz=84
F25A Bowman 84.10 339 ⇓P P 13 11 01.6 +0.9
baz=84
H21A Big Horn, Sher 84.11 336 ⇑P P 13 11 01.1 +0.2
baz=84
AGMN Agassiz Nation 84.26 344 ⇑P P 13 11 01.6 +0.3
baz=85
I19A Meeteetse 84.29 334 ⇑P P 13 11 03.3 +1.4
baz=85
E26A Carlson Angus 84.29 339 ⇑P P 13 11 02.6 +1.0
baz=85
H20A Greybull 84.32 335 ⇓P P 13 11 02.5 +0.6
baz=85,SNR=8.1
C30A Mose, Pekin 84.33 342 ⇓P P 13 11 02.3 +0.6
baz=85,SNR=11
F24A Ekalaka 84.33 338 ⇓P P 13 11 02.8 +0.9
baz=85
D28A Regan 84.41 341 ⇑P P 13 11 02.4 +0.2
baz=85,SNR=8.1
F23A Volborg 84.53 337 ⇑P P 13 11 03.4 +0.5
baz=85
TPAW Teton Pass 84.55 333 eP P 13 11 04.1 +0.8
comp=Z,6.7nm,0.9s
E25A Miller Ranch, 84.60 339 ⇓P P 13 11 04.4 +1.1
baz=85
I17A Pilgrim Ck. 84.77 333 ⇓P P 13 11 05.6 +1.2
baz=85,SNR=6.4
D26A Manning 84.79 340 ⇓P P 13 11 04.9 +0.8
baz=85,SNR=5.3
H19A Powell 84.83 334 ⇑P P 13 11 05.4 +0.9
baz=85
F22A Rosebud 84.86 337 ⇓P P 13 11 05.4 +0.8
baz=85
E24A Baker 84.93 338 ⇑P P 13 11 05.5 +0.7
baz=85
B30A Myrvik Farm, E 84.99 343 ⇓P P 13 11 05.2 +0.1
baz=85,SNR=16
G20A Bridger 85.03 335 ⇑P P 13 11 05.7 +0.2
baz=85,SNR=8.6
H18A Shoshone NF, C 85.08 334 ⇓P P 13 11 06.8 +0.9
baz=85,SNR=12
C27A Sayler Ranch, 85.15 341 ⇓P P 13 11 07.2 +1.3
baz=86
D25A Fairfield 85.16 339 ⇑P P 13 11 07.4 +1.4
baz=86
F21A Absaloka Mine, 85.19 336 ⇑P P 13 11 06.8 +0.6
baz=86
B29A Wagenman Farm, 85.26 342 ⇓P P 13 11 07.0 +0.6
baz=86,SNR=6.4
E22A Miles City 85.34 337 ⇑P P 13 11 07.4 +0.5
baz=86
C26A Wahner Farm, P 85.41 340 ⇑P P 13 11 08.3 +1.0
baz=86
A30A Hoffart Farm, 85.44 343 ⇓P P 13 11 07.7 +0.4
baz=86
B28A Dugan Ranch, T 85.51 342 ⇓P P 13 11 08.3 +0.7
baz=86,SNR=7.4
YMR Madison River 85.56 333 eP P 13 11 09.8 +1.5
comp=Z,18nm,0.9s
LAO LASA Array 85.65 337 eP P 13 11 09.0 +0.5
comp=Z,14nm,1.1s
LAO LR LR
comp=Z,900nm,19.0s
A29A Manning Farm, 85.65 342 ⇑P P 13 11 08.6 +0.3
baz=86,SNR=8.9
D23A Lindsay 85.75 338 ⇓P P 13 11 09.8 +0.9
baz=86,SNR=13
E21A Keefer Ranch, 85.80 337 ⇓P P 13 11 10.3 +1.1
baz=86,SNR=6.1
C24A Savage 85.83 339 ⇑P P 13 11 10.5 +1.2
baz=86,SNR=10
F19A Roth Farm, Mol 85.84 335 ⇑P P 13 11 09.9 +0.4
baz=86,SNR=5.4
A28A Rude Farm, Bot 85.91 342 ⇑P P 13 11 10.0 +0.3
baz=86
HLID Hailey 85.99 331 eP P 13 11 11.3 +0.9
comp=Z,9.5nm,1.1s
HLID Hailey 85.99 331 ⇓P P 13 11 11.8 +1.4
baz=86,SNR=7.9
D22A Cohagen 86.04 337 ⇓P P 13 11 11.4 +1.0
baz=86
ULM Lac du Bonnet 86.10 345 P P 13 11 09.8 -0.7
ULM Lac du Bonnet 86.10 345 P P 13 11 09.8 -0.7
comp=Z,6.4nm,0.9s,baz=175,slow=4.6,SNR=7.2
ULM Lac du Bonnet 86.10 345 P P 13 11 09.8 -0.7
E20A Meyer Farm, Mu 86.12 336 ⇓P P 13 11 11.6 +0.8
baz=86,SNR=12
B25A Knox Farm, Ray 86.12 340 ⇑P P 13 11 12.2 +1.4
baz=86
A27A Ledoux Ranch, 86.20 341 ⇓P P 13 11 12.5 +1.4
baz=87
D21A La Casta Ranch 86.23 337 ⇓P P 13 11 12.2 +0.9
baz=87,SNR=5.2
C23A Lambert 86.31 338 ⇑P P 13 11 12.3 +0.6
baz=87,SNR=8.7
E19A Rath Farm, Rou 86.31 335 ⇓P P 13 11 12.7 +0.9
baz=87,SNR=13
A26A Wade Farm, Ken 86.37 341 ⇓P P 13 11 12.7 +0.8
baz=87
MCMT McKenzie Canyo 86.41 332 eP P 13 11 13.8 +1.2
comp=Z,8.4nm,1.3s
C22A Vida 86.47 338 ⇑P P 13 11 13.1 +0.6
baz=87
DGMT Dagmar 86.60 339 eP P 13 11 13.8 +0.7
comp=Z,47nm,1.2s
DGMT Dagmar 86.60 339 ⇑P P 13 11 13.8 +0.7
baz=87,SNR=8.5
D20A Manuel Ranch, 86.63 336 ⇑P P 13 11 13.9 +0.6
baz=87,SNR=12
BOZ Bozeman (W) 86.64 333 eP P 13 11 13.9 +0.4
BOZ pmax pmax
comp=Z,79nm,3.0s
BOZ Bozeman (W) 86.64 333 eP P 13 11 13.9 +0.4
comp=Z,79nm,3.0s
DLMT Dillon 86.76 333 eP P 13 11 15.2 +1.1
comp=Z,18nm,1.4s
B23A Brockton 86.84 339 ⇓P P 13 11 15.1 +0.9
baz=87
WVOR Wild Horse Val 86.89 327 eP P 13 11 16.0 +1.2
WVOR pmax pmax
comp=Z,26nm,1.8s
WVOR Wild Horse Val 86.89 327 eP P 13 11 16.0 +1.2
comp=Z,26nm,1.8s
C21A Desert Coulee 86.93 337 ⇑P P 13 11 14.7 0.0
baz=87,SNR=12
D19A Cripps Ranch, 86.95 336 ⇓P P 13 11 15.1 +0.2
baz=87,SNR=5.7
A24A Westby 86.95 340 ⇓P P 13 11 16.0 +1.2
baz=87
B22A Reddig Ranch S 87.00 338 ⇓P P 13 11 15.5 +0.5
baz=87,SNR=8.1
LRM Limekiln Ridge 87.09 333 eP P 13 11 16.9 +1.0
C20A Veseth Ranch, 87.13 337 ⇓P P 13 11 15.9 +0.2
baz=88,SNR=5.4
A23A Redstone 87.25 339 ⇓P P 13 11 17.2 +1.0
baz=88
B21A Ellsworth Farm 87.44 338 ⇓P P 13 11 17.8 +0.7
baz=88,SNR=7.0
C19A Slack Wire Ran 87.50 336 ⇑P P 13 11 18.3 +0.7
baz=88
A22A Carney Farms, 87.59 338 ⇓P P 13 11 18.5 +0.6
baz=88,SNR=12
B20A Solberg Farm, 87.77 337 ⇓P P 13 11 19.3 +0.6
baz=88
A21A Bergtoll Ranch 87.90 338 ⇓P P 13 11 19.5 +0.1
baz=88,SNR=5.6
EGMT Eagleton 87.99 336 eP P 13 11 20.1 +0.2
comp=Z,13nm,1.3s
EGMT Eagleton 87.99 336 ⇑P P 13 11 20.6 +0.8
baz=88
B19A Brinkman Farms 88.09 336 ⇑P P 13 11 20.6 +0.3
baz=88,SNR=5.3
A20A Cobblestone Ra 88.12 337 ⇑P P 13 11 20.9 +0.5
baz=88,SNR=9.0
BMO Blue Mountains 88.24 330 eP P 13 11 21.9 +0.7
comp=Z,32nm,2.3s
A19A Klindworth Far 88.43 337 ⇑P P 13 11 22.6 +0.7
baz=89,SNR=6.8
MSO Missoula 88.50 333 eP P 13 11 24.0 +1.6
comp=Z,26nm,2.0s
WALA Waterton Lakes 90.34 334 eP P 13 11 32.2 +1.2
C09A Chrisman Ranch 91.01 331 eP P 13 11 34.8 +0.9
comp=Z,7.6nm,0.9s
EDM Edmonton 93.61 337 eP P 13 11 45.0 -0.9
EDM Edmonton 93.61 337 eP P 13 11 45.0 -0.9
YKA Yellowknife Ar 101.67 341 P Pdif 13 12 21.3 -0.6
YKA Yellowknife Ar 101.67 341 P Pdif 13 12 21.3 -0.6
comp=Z,0.2nm,0.8s,baz=144,slow=4.5,SNR=3.7
YKA Yellowknife Ar 101.67 341 P Pdif 13 12 21.3 -0.6
WRA Warramunga Arr 121.14 209 PKIKP PKPdf 13 17 23.0 -0.4
WRA Warramunga Arr 121.14 209 PKP PKPdf 13 17 23.0 -0.4
comp=Z,3.4nm,0.9s,baz=157,slow=1.7,SNR=13
WRA Warramunga Arr 121.14 209 PKP PKPdf 13 17 23.0 -0.4
BRTR Keskin Array B 121.60 61 PKIKP PKPdf 13 17 23.0 -0.8
BRTR Keskin Array B 121.60 61 PKP PKPdf 13 17 23.0 -0.8
comp=Z,1.1nm,0.8s,baz=188,slow=2.5,SNR=5.2
BRTR Keskin Array B 121.60 61 PKP PKPdf 13 17 23.0 -0.8
AKASG Malin Array Be 121.89 47 PKIKP PKPdf 13 17 22.8 -0.9
AKASG Malin Array Be 121.89 47 PKP PKPdf 13 17 22.8 -0.9
comp=Z,1.1nm,0.7s,baz=270,slow=1.9,SNR=4.9
AKASG Malin Array Be 121.89 47 PKP PKPdf 13 17 22.8 -0.9
FINES FINESS Array B 122.63 34 PKIKP PKPdf 13 17 24.4 -0.4
FINES FINESS Array B 122.63 34 PKP PKPdf 13 17 24.4 -0.4
comp=Z,3.0nm,1.0s,baz=5.3,slow=6.0,SNR=3.8
FINES FINESS Array B 122.63 34 PKP PKPdf 13 17 24.4 -0.4
H11S2 WAKE ISLAND Hy125.81 269 T T 15 36 25.5
baz=116,slow=74,SNR=3.5
H11S1 WAKE ISLAND Hy125.82 269 T T 15 36 26.0
baz=116,slow=74,SNR=2.5
H11S3 WAKE ISLAND Hy125.82 269 T T 15 36 27.0
baz=116
OBN Obninsk 127.11 43 i PKIKP PKPdf 13 17 33.9 +0.3
OBN pmax pmax
comp=Z,9.0nm,0.6s
KLMR Klimovskoe 129.05 36 ePKIKP PKPdf 13 17 36.8 -0.3
KLMR pmax pmax
comp=Z,22nm,1.1s
BILL Bilibino 132.47 334 ePKIKP PKPdf 13 17 44.8 +1.4
BILL pmax pmax
comp=Z,6.0nm,1.4s
HYB Hyderabad 149.08 114 i PKP PKPbc 13 18 18.0 -0.8
IPM Ipoh 150.33 166 ePKPbc PKPbc 13 18 21.6 -0.4
YSS Yuzh-Sakhalins 150.56 307 ePKIKP PKPbc 13 18 21.2 -0.3
YSS pmax pmax
comp=Z,20nm,0.8s
ASAJ Asahikawa 151.26 302 PKPbc PKPbc 13 18 23.4 +0.1
comp=Z,25nm,1.1s,baz=264,slow=6.1,SNR=5.6
ASAJ Asahikawa 151.26 302 PKPbc PKPbc 13 18 23.4 +0.1
KSH Kashi 153.69 68 ePKPbc PKPbc 13 18 29.3 +0.3
ZAA0 Zalesovo Array 153.86 32 ePKPdf PKPdf 13 18 19.9 -0.9
ZAA0 ePKPbc PKiKP 13 18 28.8 +0.1
ZALV Zalesovo Beam 153.86 32 PKIKP PKPbc 13 18 29.2 +0.5
ZALV Zalesovo Beam 153.86 32 PKPbc PKPbc 13 18 29.1 +0.5
comp=Z,10nm,0.8s,baz=298,slow=3.2,SNR=14
ZALV Zalesovo Beam 153.86 32 PKPbc PKPbc 13 18 29.1 +0.5
BOD Bodaibo 155.42 352 ePKP2 PKPab 13 18 47.6 -0.8
BOD pmax pmax
comp=Z,8.0nm,1.0s
MKAR Makanchi Array 156.47 48 PKP2 PKPab 13 18 52.7 -0.7
MKAR Makanchi Array 156.47 48 PKPab PKPab 13 18 52.7 -0.7
comp=Z,2.1nm,0.8s,baz=284,slow=4.3,SNR=6.4
MKAR Makanchi Array 156.47 48 PKPab PKPab 13 18 52.7 -0.7
CMAR Chiang Mai Arr 162.90 149 PKIKP PKPdf 13 18 31.6 -1.2
CMAR Chiang Mai Arr 162.90 149 PKP PKPdf 13 18 31.6 -1.2
comp=Z,1.5nm,0.9s,baz=240,slow=3.0,SNR=6.6
CMAR Chiang Mai Arr 162.90 149 PKP PKPdf 13 18 31.6 -1.2
SONM Songino Array 165.71 4 PKP2 PKPab 13 19 33.9 +0.2
SONM Songino Array 165.71 4 PKPab PKPab 13 19 33.9 +0.2
comp=Z,1.1nm,0.9s,baz=349,slow=3.0,SNR=5.6
SONM Songino Array 165.71 4 PKPab PKPab 13 19 33.9 +0.2
NJ2 Nanjing 170.74 263 ePKP PKPdf 13 18 38.0 -0.2
GTA Gaotai 171.21 46 ePKP PKPdf 13 18 39.5 +1.0
GTA pPKP pPKPdf 13 18 50.3 +1.0
GTA sPKP 13 18 54.0
GTA PKPab 13 19 58.5 +0.1
GYA Guiyang 172.81 170 PKP PKPdf 13 18 38.0 -1.6
GYA pPKP pPKPdf 13 18 49.3 -1.1
GYA PKPab PKPab 13 20 05.8 +0.2
GYA PKS PKSdf 13 20 08.5 -3.6
GYA PP PP 13 23 57.0 +0.9
GYA SKKS 13 30 39.8
GYA SS SS 13 45 04.0 -2.1
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=Z,130nm,21.4s
GYA LR LR
comp=Z,120nm,21.6s
GYA LR LR
comp=Z,140nm,24.2s
LZH Lanzhou 175.77 53 ePKP PKPdf 13 18 39.0 -1.3
LZH pPKP pPKPdf 13 18 49.5 -1.7
LZH sPKP 13 18 54.3

SKHL 27 12:59:53.5±1.1,48.84N×133.26E,h10km,mb4.0/3, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**1.07**	**292**	ePg	Pg	13 00 13.4	-0.7
KLR				eSg	Sb	13 00 28.4	+0.3
KHBR	**Khabarovsk**	**1.25**	**106**	ePg	Pn	13 00 15.9	-1.0
KHBR				eSg	Sb	13 00 32.0	-1.2
GRNR	**Gornyy**	**2.81**	**45**	ePg	Pb	13 00 44.8	+0.9
GRNR				AMB	AMB	13 00 45.5	
	21nm,0.2s						
GRNR				eSn	Sg	13 01 21.4	-2.6
GRNR				eSg	Sb	13 01 21.8	+3.4
GRNR				A	A	13 01 25.6	
	120nm,0.2s						
EKMR	**Ekimchan**	**4.24**	**357**	ePn	Pn	13 00 59.7	+1.5
EKMR				ePg	Pb	13 01 08.9	+0.7
EKMR				AMB	AMB	13 01 16.3	
	16nm,0.3s						
EKMR				eSg	Sg	13 02 05.1	-4.6
EKMR				A	A	13 02 16.2	
	27nm,0.6s						
EKMR				A	A	13 02 16.2	
	15nm,0.6s						
NKL	**Nikolayevsk**	**6.37**	**45**	eSg	Sg	13 03 13.0	-4.7
NKL				A	A	13 03 25.0	
	16nm,0.7s						
BMKR	**Bomnak**	**6.49**	**337**	eSg	Sg	13 03 17.0	-4.6
BMKR				A	A	13 03 24.5	
	10.0nm,0.6s						
KROS	**Kirovskiy**	**6.83**	**327**	eSg	Sg	13 03 25.5	-7.2
KROS				A	A	13 03 34.2	
	9.0nm,0.6s						

*IDC **27** 13:04:45.8±0.5,36.97S×73.31W,h0km,mb4.4/19, mb1 4.6/21,mb1mx4.5/36,mbtmp4.4/21,ML4.3/2,Error ellipse: s-maj=19.9km s-min=12.2km az=71.0*

*ISCJB **27** 13:04:47.1±0.3,36.93S±0.06×73.15W±0.10,h14km, mb4.7/44,Error ellipse: s-maj=12.5km s-min=6.9km az=148.9*

*NEIC **27** 13:04:51.2±0.2,37.00S×73.21W,h35km,mb4.9/25,Error ellipse: s-maj=8.7km s-min=5.2km az=65.0*

ISC 27 13:04:48.1±0.4,36.99S±0.07×73.3W±0.1,h14km,n249, σ1.02/256,mb4.8/44,90C-89D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.31**	**151**	Pn	**Pn**	**13 05 54.1**	**+0.8**
	5.6nm,0.3s,baz=340,slow=8.9,SNR=4.7						
PLCA				Lg	Lg	13 07 03.5	
	14nm,0.3s,baz=293,slow=13,SNR=5.3						
PLCA	**Paso Flores**	**4.31**	**151**	ePn	**Pn**	**13 05 53.5**	**+0.2**
PLCA				Lg	Lg	13 07 03.5	
CFAA	**Coronel Fontan**	**6.82**	**39**	Lg	Lg	13 08 25.8	
	0.8nm,0.3s,baz=213,slow=10,SNR=4.7						
TRQA	**Tornquist**	**9.06**	**100**	ePn	**Pn**	**13 06 59.0**	**+0.5**
USHA	**Ushuaia**	**18.16**	**171**	P	**P**	**13 09 00.8**	**+1.1**
	0.3nm,0.3s,baz=302,slow=6.6,SNR=2.3						
LPAZ	**La Paz**	**21.13**	**14**	P	**P**	**13 09 32.8**	**-0.4**
	5.2nm,0.7s,baz=181,slow=6.0,SNR=9.8						
SIV	**San Ignacio**	**23.57**	**31**	P	**P**	**13 09 59.0**	**+0.8**
	7.1nm,0.8s,baz=237,slow=11,SNR=7.7						
SAML	**Samuel**	**29.39**	**21**	eP	**P**	**13 10 50.2**	**-0.7**
BDFB	**Brasilia**	**30.91**	**53**	P	**P**	**13 11 05.9**	**+1.3**
	1.4nm,0.3s,baz=243,slow=2.3,SNR=2.8						
OTAV	**Otavalo**	**37.35**	**352**	eP	**P**	**13 12 02.5**	**+1.8**
	42nm,1.6s						
JTS	**JuntasAbangare**	**48.29**	**345**	P	**P**	**13 13 29.5**	**+0.6**
	6.0nm,0.7s,baz=118,slow=7.4,SNR=5.8						
SNAA	**Sanae**	**49.23**	**157**	P	**P**	**13 13 35.8**	**+0.2**
	0.8nm,0.5s,baz=286,slow=9.6,SNR=18						
QSPA	**South Pole Qui**	**53.25**	**180**	P	**P**	**13 14 06.5**	**+0.5**
	4.4nm,0.5s,baz=321,slow=8.4,SNR=32						
732A	**Laxson Ranch,**	**70.01**	**335**	⇑P	**P**	**13 15 59.4**	**+0.3**
	baz=70,SNR=8.6						
632A	**Uvalde**	**70.66**	**336**	⇑P	**P**	**13 16 03.6**	**+0.4**
	baz=71,SNR=5.3						
631A	**Perdido Creek**	**70.84**	**335**	⇑P	**P**	**13 16 04.4**	**+0.1**
	baz=71						
533A	**Kerrville**	**70.94**	**337**	⇑P	**P**	**13 16 05.2**	**+0.3**
	baz=71						
532A	**Rocksprings**	**71.27**	**336**	⇑P	**P**	**13 16 07.4**	**+0.5**
	baz=72,SNR=9.8						
434A	**Burnet**	**71.39**	**337**	⇓P	**P**	**13 16 07.8**	**+0.2**
	baz=72,SNR=6.6						
336A	**Riesel**	**71.50**	**339**	⇑P	**P**	**13 16 07.7**	**-0.5**
	baz=72						
531A	**Rocksprings**	**71.52**	**335**	⇓P	**P**	**13 16 08.7**	**+0.2**
	baz=72,SNR=6.8						
JCT	**Junction City**	**71.56**	**336**	eP	**P**	**13 16 09.1**	**+0.4**
	12nm,0.8s						
JCT	**Junction City**	**71.56**	**336**	⇓P	**P**	**13 16 09.0**	**+0.4**
	baz=72,SNR=5.3						
433A	**Art**	**71.59**	**337**	⇓P	**P**	**13 16 08.3**	**-0.5**
	baz=72,SNR=8.2						
530A	**J-C Ranch, Com**	**71.77**	**335**	⇑P	**P**	**13 16 11.0**	**+1.0**
	baz=72,SNR=10						
334A	**Lometa**	**71.86**	**338**	⇑P	**P**	**13 16 10.7**	**+0.2**
	baz=72,SNR=8.6						
TXAR	**Lajitas Array**	**71.87**	**332**	P	**P**	**13 16 10.7**	**+0.1**
	5.3nm,0.9s,baz=152,slow=8.4,SNR=32						
432A	**Menard**	**71.93**	**336**	⇓P	**P**	**13 16 10.8**	**-0.1**
	baz=72						
431A	**Sonora**	**72.02**	**335**	⇑P	**P**	**13 16 11.8**	**+0.4**
	baz=72,SNR=5.7						
529A	**Stev Forest Ra**	**72.06**	**334**	⇑P	**P**	**13 16 12.5**	**+0.8**
	baz=72,SNR=7.5						
333A	**Richland Sprin**	**72.09**	**337**	⇑P	**P**	**13 16 11.5**	**-0.3**
	baz=72						
KMSC	**Kings Mountain**	**72.16**	**353**	⇓P	**P**	**13 16 12.2**	**+0.2**
	baz=72						
WHTX	**Lake Whitney**	**72.25**	**339**	⇑P	**P**	**13 16 09.9**	**-2.8**
	baz=73						
430A	**Baggett Ranch,**	**72.32**	**335**	⇑P	**P**	**13 16 13.6**	**+0.3**
	baz=73,SNR=7.5						
332A	**Millersview**	**72.38**	**336**	⇓P	**P**	**13 16 13.6**	**0.0**
	baz=73,SNR=6.8						
429A	**Davenport Ranc**	**72.40**	**334**	⇑P	**P**	**13 16 13.7**	**0.0**
	baz=73,SNR=6.9						
234A	**Clairette**	**72.46**	**338**	⇑P	**P**	**13 16 12.4**	**-1.6**
	baz=73						
331A	**San Angelo**	**72.53**	**336**	⇓P	**P**	**13 16 14.6**	**+0.1**
	baz=73,SNR=9.2						
233A	**Rising Star**	**72.70**	**337**	⇓P	**P**	**13 16 15.5**	**+0.1**
	baz=73						
232A	**Coleman**	**72.82**	**337**	⇑P	**P**	**13 16 15.6**	**-0.6**
	baz=73,SNR=7.0						
330A	**Mertzon**	**72.87**	**335**	⇓P	**P**	**13 16 16.5**	**0.0**
	baz=73						
TKL	**Tuckaleechee C**	**72.93**	**351**	P	**P**	**13 16 15.4**	**-1.3**
	6.1nm,0.8s,baz=142,slow=8.0,SNR=7.2						
134A	**White-Moore Ra**	**72.97**	**338**	⇑P	**P**	**13 16 16.5**	**-0.5**
	baz=73						
231A	**Bronte**	**73.07**	**336**	⇓P	**P**	**13 16 17.7**	**0.0**
	baz=73,SNR=9.4						
329A	**Wagon Wheel Ra**	**73.22**	**335**	⇑P	**P**	**13 16 19.6**	**+1.0**
	baz=74						
133A	**Hamilton Ranch**	**73.26**	**338**	⇓P	**P**	**13 16 18.4**	**-0.3**
	baz=74						
230A	**Sterling City**	**73.29**	**336**	⇓P	**P**	**13 16 19.3**	**+0.3**
	baz=74						
Z35A	**Perchaven, San**	**73.44**	**339**	⇓P	**P**	**13 16 19.8**	**+0.1**
	baz=74						
ABTX	**Abilene, Hawle**	**73.50**	**337**	eP	**P**	**13 16 19.9**	**-0.2**
	8.7nm,0.8s						
ABTX	**Abilene, Hawle**	**73.50**	**337**	⇓P	**P**	**13 16 20.2**	**+0.1**
	baz=74,SNR=5.6						
229A	**Bryant Ranch,**	**73.60**	**335**	⇓P	**P**	**13 16 21.2**	**+0.5**
	baz=74						
Z34A	**Collier Ranch,**	**73.67**	**339**	⇓P	**P**	**13 16 21.0**	**-0.1**
	baz=74						
131A	**Roby**	**73.78**	**336**	⇑P	**P**	**13 16 22.1**	**+0.3**
	baz=74						
Z33A	**Whitaker Ranch**	**73.84**	**338**	⇑P	**P**	**13 16 22.2**	**+0.1**
	baz=74						
130A	**Snyder**	**73.89**	**336**	⇓P	**P**	**13 16 22.6**	**+0.2**
	baz=74						
Z32A	**Haskell**	**74.08**	**337**	⇓P	**P**	**13 16 23.2**	**-0.3**
	baz=74,SNR=5.8						
Y34A	**Reagan Ranch,**	**74.17**	**339**	⇓P	**P**	**13 16 23.2**	**-0.8**
	baz=75						
Z31A	**Sharp Cattle R**	**74.30**	**337**	⇑P	**P**	**13 16 24.6**	**-0.2**
	baz=75,SNR=6.2						
128A	**Castleberry Fa**	**74.42**	**335**	⇓P	**P**	**13 16 25.8**	**+0.1**
	baz=75						
Z30A	**Sanderson Ranc**	**74.58**	**336**	⇑P	**P**	**13 16 26.7**	**+0.2**
	baz=75,SNR=6.9						
Y32A	**R-V Farms, Ver**	**74.71**	**338**	⇑P	**P**	**13 16 27.6**	**+0.4**
	baz=75						
Z29A	**Hungry Hill Ra**	**74.75**	**336**	⇑P	**P**	**13 16 27.3**	**-0.2**
	baz=75,SNR=7.6						
X34A	**Smith Ranch, M**	**74.80**	**339**	⇓P	**P**	**13 16 28.4**	**+0.7**
	baz=75						
Y31A	**Rekieta Farm,**	**74.93**	**337**	⇑P	**P**	**13 16 29.2**	**+0.8**
	baz=75						
Y29A	**Porterfield Fa**	**75.28**	**336**	⇑P	**P**	**13 16 31.3**	**+0.7**
	baz=76						
X31A	**McDonald Ranch**	**75.46**	**338**	⇓P	**P**	**13 16 31.8**	**+0.3**
	baz=76						
TUL1	**Tulsa**	**75.48**	**341**	eP	**P**	**13 16 31.3**	**-0.2**
	22nm,1.0s						
TUL1	**Tulsa**	**75.48**	**341**	⇓P	**P**	**13 16 31.4**	**-0.2**
	baz=76						
W33A	**Caddo, Fort Co**	**75.50**	**339**	⇓P	**P**	**13 16 32.0**	**+0.4**
	baz=76						
Z26A	**Caprock**	**75.53**	**334**	⇓P	**P**	**13 16 32.7**	**+0.7**
	baz=76,SNR=8.8						
X30A	**Coker Ranch, T**	**75.57**	**337**	⇓P	**P**	**13 16 33.5**	**+1.4**
	baz=76						
W32A	**Sentinel**	**75.70**	**338**	⇑P	**P**	**13 16 33.9**	**+1.0**
	baz=76,SNR=7.0						
MSTX	**Muleshoe**	**75.75**	**335**	eP	**P**	**13 16 33.0**	**-0.3**
	13nm,1.3s						
MSTX	**Muleshoe**	**75.75**	**335**	⇑P	**P**	**13 16 33.7**	**+0.4**
	baz=76						
V34A	**Guthrie**	**75.87**	**340**	eP	**P**	**13 16 33.0**	**-0.8**
	85nm,2.1s						
X28A	**Dimmitt**	**76.06**	**336**	⇓P	**P**	**13 16 35.5**	**+0.5**
	baz=76						
V33A	**Lossen Ranch,**	**76.07**	**339**	⇑P	**P**	**13 16 35.1**	**+0.2**
	baz=76						
Y26A	**Elida**	**76.07**	**334**	⇓P	**P**	**13 16 35.9**	**+0.7**
	baz=76						
Z24A	**Sheeppen Canyo**	**76.09**	**333**	⇑P	**P**	**13 16 36.8**	**+1.4**
	baz=76,SNR=6.7						
AMTX	**Amarillo**	**76.23**	**336**	eP	**P**	**13 16 36.0**	**+0.1**
	21nm,1.1s						
AMTX	**Amarillo**	**76.23**	**336**	⇓P	**P**	**13 16 36.7**	**+0.7**
	baz=77						
121A	**Cookes Peak, D**	**76.30**	**331**	⇓P	**P**	**13 16 38.2**	**+1.7**
	baz=77						
Y25A	**Mesa, Roswell**	**76.38**	**334**	⇓P	**P**	**13 16 36.8**	**-0.1**
	baz=77						
W29A	**Amraillo**	**76.44**	**336**	⇓P	**P**	**13 16 37.4**	**+0.3**
	baz=77						
V31A	**Spring Creek L**	**76.48**	**338**	⇑P	**P**	**13 16 38.4**	**+1.1**
	baz=77						
Z22A	**Elephant Butte**	**76.62**	**331**	⇑P	**P**	**13 16 40.1**	**+1.8**
	baz=77						
X26A	**CR and CF Fran**	**76.63**	**334**	⇓P	**P**	**13 16 38.5**	**+0.2**
	baz=77						
Y24A	**Capitan**	**76.65**	**333**	⇑P	**P**	**13 16 39.6**	**+1.1**
	baz=77,SNR=7.2						
U32A	**Winter Ranch,**	**76.80**	**339**	⇓P	**P**	**13 16 39.1**	**+0.1**
	baz=77						
W27A	**Bowe Ranch, En**	**76.85**	**335**	⇑P	**P**	**13 16 39.9**	**+0.4**
	baz=77						
Y23A	**Lovelace Mesa,**	**76.88**	**332**	⇓P	**P**	**13 16 41.1**	**+1.3**
	baz=77,SNR=5.4						
W26A	**Owens Ranch, T**	**77.11**	**335**	⇑P	**P**	**13 16 41.5**	**+0.6**
	baz=78						
DBIC	**Dimbokro**	**77.11**	**71**	P	**P**	**13 16 40.1**	**-1.3**
	2.4nm,0.6s,baz=238,slow=8.5,SNR=5.0						
X24A	**Lazy VL Ranch,**	**77.22**	**333**	⇑P	**P**	**13 16 42.7**	**+1.0**
	baz=78,SNR=7.2						
T33A	**Patterson Ranc**	**77.24**	**340**	⇑P	**P**	**13 16 42.7**	**+1.2**
	baz=78						
U30A	**WK&E Inc. Balk**	**77.42**	**338**	⇓P	**P**	**13 16 43.4**	**+0.7**
	baz=78						
W25A	**X Bar L Ranch,**	**77.46**	**334**	⇓P	**P**	**13 16 43.3**	**+0.3**
	baz=78,SNR=6.3						
X23A	**Hourglass Bar**	**77.51**	**333**	⇑P	**P**	**13 16 44.9**	**+1.6**
	baz=78						
V26A	**Tequesquite Ra**	**77.75**	**335**	⇑P	**P**	**13 16 45.3**	**+0.7**
	baz=78						
W24A	**Lazy 6 Ranch,**	**77.79**	**334**	⇓P	**P**	**13 16 45.5**	**+0.6**
	baz=78,SNR=8.9						
ANMO	**Albuquerque**	**77.93**	**333**	P	**P**	**13 16 46.1**	**+0.4**
	5.8nm,0.9s,baz=160,slow=7.0,SNR=23						
U27A	**Thompson Grove**	**78.01**	**336**	⇓P	**P**	**13 16 47.1**	**+1.1**
	baz=78						
S32A	**Newby Ranch, P**	**78.01**	**339**	⇓P	**P**	**13 16 46.0**	**+0.2**
	baz=78						
W23A	**Werner Place,**	**78.01**	**333**	⇑P	**P**	**13 16 47.6**	**+1.5**
	baz=78						
V25A	**Rancho No Teng**	**78.08**	**334**	⇑P	**P**	**13 16 46.9**	**+0.4**
	baz=78,SNR=8.2						
S31A	**Mullinville**	**78.09**	**339**	⇓P	**P**	**13 16 47.0**	**+0.7**
	baz=78						
V24A	**Rampart Ranch,**	**78.20**	**334**	⇑P	**P**	**13 16 48.4**	**+1.2**
	baz=79						
U26A	**Atchley Ranch,**	**78.28**	**335**	⇑P	**P**	**13 16 48.0**	**+0.4**
	baz=79						
T28A	**Walsh**	**78.42**	**337**	⇓P	**P**	**13 16 48.3**	**+0.1**
	baz=79						
U25A	**Circle Dot Ran**	**78.51**	**335**	⇑P	**P**	**13 16 49.4**	**+0.6**
	baz=79,SNR=5.3						
V23A	**Ortiz Mt. (NFS**	**78.55**	**333**	⇑P	**P**	**13 16 51.0**	**+1.9**
	baz=79						
T27A	**Campo**	**78.56**	**336**	⇓P	**P**	**13 16 49.9**	**+0.9**
	baz=79						
S29A	**Ulysses**	**78.57**	**338**	⇓P	**P**	**13 16 50.5**	**+1.5**
	baz=79						
S28A	**Manter**	**78.78**	**337**	⇑P	**P**	**13 16 51.1**	**+0.9**
	baz=79						
T26A	**Comanche Natio**	**78.94**	**336**	⇓P	**P**	**13 16 52.5**	**+1.3**
	baz=79,SNR=5.5						
V22A	**San Miguel Ran**	**78.96**	**333**	⇓P	**P**	**13 16 52.8**	**+1.4**
	baz=79,SNR=7.1						
U23A	**El Rito**	**79.07**	**333**	⇑P	**P**	**13 16 53.5**	**+1.5**
	baz=79,SNR=5.4						
Q32A	**Meitler Ranch,**	**79.11**	**340**	⇑P	**P**	**13 16 52.2**	**+0.3**
	baz=80						
T25A	**Trinidad**	**79.18**	**335**	⇓P	**P**	**13 16 53.6**	**+1.0**
	baz=80,SNR=7.6						
S26A	**Kim**	**79.31**	**336**	⇑P	**P**	**13 16 54.0**	**+0.8**
	baz=80,SNR=10						
U22A	**Llaves**	**79.35**	**333**	⇓P	**P**	**13 16 54.9**	**+1.4**
	baz=80						
R28A	**Tribune**	**79.45**	**338**	⇑P	**P**	**13 16 54.8**	**+1.0**
	baz=80						
Q30A	**Quinter**	**79.56**	**339**	⇑P	**P**	**13 16 55.0**	**+0.6**
	baz=80						
BOSA	**Boshof**	**79.59**	**118**	P	**P**	**13 16 55.0**	**-0.2**
	4.4nm,1.0s,baz=213,slow=2.8,SNR=6.3						
T23A	**Casias Ranch,**	**79.65**	**334**	⇓P	**P**	**13 16 56.6**	**+1.5**
	baz=80						
S25A	**Robets Cordova**	**79.66**	**335**	⇑P	**P**	**13 16 55.9**	**+0.7**
	baz=80						
R27A	**Eads**	**79.70**	**337**	⇑P	**P**	**13 16 55.6**	**+0.4**
	baz=80						
S24A	**Houchin Ranch,**	**79.91**	**335**	⇓P	**P**	**13 16 58.1**	**+1.5**
	baz=80,SNR=7.1						
R26A	**Arlington**	**79.92**	**336**	⇑P	**P**	**13 16 57.2**	**+0.7**
	baz=80,SNR=5.9						
P29A	**Atwood**	**80.35**	**339**	⇓P	**P**	**13 16 59.7**	**+1.1**
	baz=81						
R24A	**Sanders Place,**	**80.41**	**335**	⇑P	**P**	**13 17 00.6**	**+1.4**
	baz=81,SNR=7.0						
S22A	**4UR Ranch, Cre**	**80.57**	**334**	⇓P	**P**	**13 17 01.1**	**+1.0**
	baz=81						
R23A	**Moffat**	**80.61**	**335**	⇓P	**P**	**13 17 01.9**	**+1.5**
	baz=81						
MVCO	**Mesa Verde**	**80.70**	**332**	eP	**P**	**13 17 01.3**	**+0.5**
	42nm,1.9s						
Q25A	**Bedland, Calha**	**80.74**	**336**	⇓P	**P**	**13 17 01.6**	**+0.7**
	baz=81						
URZ	**Urewera**	**80.90**	**229**	P	**P**	**13 17 02.9**	**+1.1**
	9.7nm,1.0s,baz=342,slow=24,SNR=5.8						
PFO	**Pinyon Flat Ob**	**80.94**	**325**	P	**P**	**13 17 02.7**	**+0.6**
	6.7nm,1.0s,baz=140,slow=4.7,SNR=5.9						
Q24A	**Divide**	**81.08**	**335**	⇓P	**P**	**13 17 03.8**	**+0.9**
	baz=82						
P25A	**Willow Gulch B**	**81.26**	**336**	⇑P	**P**	**13 17 04.9**	**+1.2**
	baz=82,SNR=6.2						
N29A	**Votaw Ranch, W**	**81.39**	**339**	⇑P	**P**	**13 17 05.2**	**+1.0**
	baz=82						
SMCO	**Snowmass**	**81.89**	**334**	eP	**P**	**13 17 08.2**	**+0.9**
	7.8nm,1.0s						
LBTB	**Lobatse**	**81.98**	**115**	eP	**P**	**13 17 07.2**	**-0.8**
	18nm,0.6s						
ISCO	**Idaho Springs**	**81.99**	**335**	eP	**P**	**13 17 08.3**	**+0.7**
	26nm,2.3s						
O23A	**Lake Granby, G**	**82.46**	**335**	⇑P	**P**	**13 17 11.5**	**+1.4**
	baz=83,SNR=6.6						
O22A	**Kremmling**	**82.63**	**335**	⇑P	**P**	**13 17 11.7**	**+0.7**
	baz=83,SNR=5.4						
K30A	**Basset**	**82.84**	**341**	⇑P	**P**	**13 17 12.2**	**+0.5**
	baz=83						
CCUT	**Cedar City**	**82.91**	**329**	eP	**P**	**13 17 14.2**	**+1.8**
	7.3nm,1.1s						
N23A	**Red Feather La**	**83.08**	**336**	⇑P	**P**	**13 17 14.2**	**+0.9**
	baz=84						
ECSD	**EROS Data Cent**	**83.09**	**343**	eP	**P**	**13 17 12.6**	**-0.3**
ECSD	**EROS Data Cent**	**83.09**	**343**	⇑P	**P**	**13 17 13.0**	**+0.1**
	baz=84						
N22A	**Wattenberg Ran**	**83.17**	**335**	⇓P	**P**	**13 17 15.2**	**+1.5**
	baz=84						
O20A	**White River Ci**	**83.19**	**334**	eP	**P**	**13 17 14.1**	**+0.3**
	56nm,2.1s						
M24A	**Cheyenne**	**83.24**	**337**	⇑P	**P**	**13 17 15.2**	**+1.2**
	baz=84						
K28A	**Ten Mile Ranch**	**83.35**	**340**	⇓P	**P**	**13 17 15.7**	**+1.3**
	baz=84						
M23A	**Laramie**	**83.53**	**336**	⇑P	**P**	**13 17 16.9**	**+1.4**
	baz=84						
TMUT	**Trail Mountain**	**83.55**	**331**	eP	**P**	**13 17 16.7**	**+0.9**
	5.0nm,0.7s						
K27A	**Flueckinger Fa**	**83.59**	**339**	⇓P	**P**	**13 17 17.4**	**+1.8**
	baz=84						
J29A	**Okreek**	**83.71**	**341**	⇑P	**P**	**13 17 17.0**	**+0.9**
	baz=84						
SPMN	**St. Paul**	**83.71**	**346**	⇓P	**P**	**13 17 15.6**	**-0.5**
	baz=84						
I30A	**Oacoma**	**83.95**	**341**	⇓P	**P**	**13 17 17.4**	**0.0**
	baz=84						
MPU	**Maple Canyon**	**84.34**	**331**	eP	**P**	**13 17 20.5**	**+0.9**
	6.8nm,1.0s						
J26A	**Sides Ranch, S**	**84.39**	**339**	⇑P	**P**	**13 17 21.1**	**+1.4**
	baz=85						
I28A	**Midland**	**84.48**	**340**	⇓P	**P**	**13 17 20.5**	**+0.4**
	baz=85,SNR=5.4						
K23A	**Bowen Ranch, D**	**84.66**	**337**	⇓P	**P**	**13 17 22.1**	**+1.0**
	baz=85						
JLU	**Jordanelle**	**84.78**	**332**	eP	**P**	**13 17 22.6**	**+0.7**
	4.1nm,0.8s						
H29A	**Onida**	**84.81**	**341**	⇑P	**P**	**13 17 21.3**	**-0.4**
	baz=85,SNR=5.1						
K22A	**Casper**	**84.85**	**336**	eP	**P**	**13 17 22.7**	**+0.6**
	8.9nm,0.8s						
K22A	**Casper**	**84.85**	**336**	⇑P	**P**	**13 17 22.7**	**+0.6**
	baz=85,SNR=5.4						
J24A	**Dixon Ranch, L**	**84.88**	**338**	⇓P	**P**	**13 17 23.3**	**+1.1**
	baz=85,SNR=5.2						
DUG	**Dugway**	**84.95**	**331**	eP	**P**	**13 17 23.4**	**+0.7**
	81nm,2.7s						
I26A	**New Underwood**	**84.98**	**339**	⇓P	**P**	**13 17 23.5**	**+0.8**
	baz=85						
G30A	**Faulkton**	**85.01**	**342**	⇑P	**P**	**13 17 23.0**	**+0.3**
	baz=85						
H28A	**Mission Ridge**	**85.07**	**341**	⇓P	**P**	**13 17 23.6**	**+0.5**
	baz=86,SNR=5.1						
K21A	**Alcova**	**85.07**	**336**	⇑P	**P**	**13 17 23.9**	**+0.6**
	baz=86,SNR=6.0						
I25A	**Rochford**	**85.23**	**338**	⇓P	**P**	**13 17 24.3**	**+0.3**
	baz=86,SNR=6.1						
H27A	**Howes**	**85.32**	**340**	⇓P	**P**	**13 17 24.3**	**0.0**
	baz=86,SNR=5.1						
I24A	**Kuemmerle Ranc**	**85.35**	**338**	⇓P	**P**	**13 17 25.0**	**+0.5**
	baz=86						
RSSD	**Black Hills**	**85.41**	**338**	eP	**P**	**13 17 24.4**	**-0.6**
	7.0nm,0.8s						
H25A	**Fruitdale**	**85.74**	**339**	⇑P	**P**	**13 17 27.5**	**+1.1**
	baz=86,SNR=5.4						
NVAR	**Mina Array Bea**	**85.77**	**326**	P	**P**	**13 17 27.6**	**+0.7**
	2.8nm,0.7s,baz=152,slow=6.0,SNR=10						
F29A	**Eureka**	**85.84**	**342**	⇓P	**P**	**13 17 26.9**	**+0.1**
	baz=86,SNR=5.6						
I22A	**9 Mile Ranch,**	**85.95**	**337**	⇓P	**P**	**13 17 27.8**	**+0.3**
	baz=86						
G27A	**Dupree**	**85.97**	**340**	⇑P	**P**	**13 17 28.0**	**+0.6**
	baz=86,SNR=5.4						
PDAR	**Pinedale Array**	**85.98**	**334**	P	**P**	**13 17 27.3**	**-0.6**
	1.8nm,0.8s,baz=166,slow=4.7,SNR=13						
J20A	**Shoshoni**	**85.99**	**335**	⇑P	**P**	**13 17 28.6**	**+0.8**
	baz=86						
G26A	**Maurine**	**86.07**	**340**	⇑P	**P**	**13 17 27.6**	**-0.4**
	baz=86,SNR=7.9						
F28A	**McLaughlin**	**86.10**	**341**	⇑P	**P**	**13 17 28.8**	**+0.7**
	baz=86						
H24A	**Dirks Ranch, A**	**86.13**	**338**	⇑P	**P**	**13 17 28.6**	**+0.3**
	baz=86,SNR=5.3						
I21A	**Big Trails, Te**	**86.14**	**336**	⇓P	**P**	**13 17 28.4**	**-0.1**
	baz=86						
TORD	**Torodi Ar. Bea**	**86.19**	**71**	P	**P**	**13 17 28.3**	**-0.9**
	0.7nm,0.7s,baz=224,slow=4.2,SNR=5.3						
G25A	**Newell**	**86.21**	**339**	⇓P	**P**	**13 17 29.1**	**+0.4**
	baz=87,SNR=8.3						
E30A	**Jud**	**86.24**	**343**	⇓P	**P**	**13 17 29.5**	**+0.7**
	baz=87						
J19A	**Crowheart**	**86.24**	**335**	⇑P	**P**	**13 17 29.3**	**+0.2**
	baz=87						
HVU	**Hansel Valley**	**86.30**	**332**	eP	**P**	**13 17 28.9**	**-0.4**
	6.9nm,1.0s						
ELK	**Elko**	**86.39**	**329**	P	**P**	**13 17 29.7**	**-0.2**
	2.0nm,0.9s,baz=157,slow=6.7,SNR=5.9						
F27A	**Lemmon**	**86.45**	**340**	⇓P	**P**	**13 17 29.7**	**-0.1**
	baz=87,SNR=10						
I20A	**Worland**	**86.54**	**336**	⇑P	**P**	**13 17 30.7**	**+0.2**
	baz=87						
F26A	**Lodgepole**	**86.60**	**340**	⇓P	**P**	**13 17 30.3**	**-0.3**
	baz=87,SNR=5.1						
E28A	**Huff**	**86.75**	**341**	⇑P	**P**	**13 17 31.9**	**+0.6**
	baz=87						
D30A	**Buchanan**	**86.77**	**343**	⇑P	**P**	**13 17 31.9**	**+0.5**
	baz=87						
G23A	**Biddle**	**86.80**	**338**	⇑P	**P**	**13 17 31.5**	**-0.1**
	baz=87						
D29A	**Pettibone, Tap**	**86.93**	**342**	⇓P	**P**	**13 17 32.3**	**+0.1**
	baz=87						
H20A	**Greybull**	**86.97**	**336**	⇓P	**P**	**13 17 32.8**	**+0.3**
	baz=87						
F24A	**Ekalaka**	**87.10**	**339**	⇓P	**P**	**13 17 33.7**	**+0.6**
	baz=88						
E26A	**Carlson Angus**	**87.12**	**340**	⇑P	**P**	**13 17 33.4**	**+0.3**
	baz=88						
AGMN	**Agassiz Nation**	**87.26**	**345**	eP	**P**	**13 17 33.3**	**-0.4**
	93nm,2.6s						
AGMN	**Agassiz Nation**	**87.26**	**345**	⇑P	**P**	**13 17 33.7**	**0.0**
	baz=88						
C30A	**Mose, Pekin**	**87.27**	**343**	⇓P	**P**	**13 17 34.3**	**+0.6**
	baz=88,SNR=11						
F23A	**Volborg**	**87.27**	**338**	⇑P	**P**	**13 17 33.8**	**-0.1**
	baz=88						
D28A	**Regan**	**87.29**	**342**	⇓P	**P**	**13 17 34.1**	**+0.2**
	baz=88,SNR=6.9						
I17A	**Pilgrim Ck.**	**87.34**	**334**	⇑P	**P**	**13 17 36.0**	**+1.5**
	baz=88						
E25A	**Miller Ranch,**	**87.40**	**340**	⇓P	**P**	**13 17 34.7**	**+0.2**
	baz=88						
IMW	**Indian Meadow**	**87.45**	**334**	eP	**P**	**13 17 35.5**	**+0.4**
	7.7nm,1.3s						
FLWY	**Flagg Ranch**	**87.53**	**334**	eP	**P**	**13 17 36.0**	**+0.7**
	5.1nm,0.8s						
D26A	**Manning**	**87.63**	**341**	⇑P	**P**	**13 17 35.8**	**+0.3**
	baz=88,SNR=8.5						
C28A	**Hausauer Farms**	**87.73**	**342**	⇓P	**P**	**13 17 36.6**	**+0.6**
	baz=88						
B30A	**Myrvik Farm, E**	**87.94**	**344**	⇑P	**P**	**13 17 37.1**	**+0.2**
	baz=88,SNR=13						
C27A	**Sayler Ranch,**	**88.01**	**341**	⇑P	**P**	**13 17 37.8**	**+0.5**
	baz=88,SNR=6.9						
YMR	**Madison River**	**88.14**	**334**	eP	**P**	**13 17 39.7**	**+1.4**
	7.7nm,1.0s						
B29A	**Wagenman Farm,**	**88.19**	**343**	⇓P	**P**	**13 17 38.5**	**+0.3**
	baz=89						
D24A	**Glendive**	**88.22**	**339**	⇑P	**P**	**13 17 38.9**	**+0.5**
	baz=89						
A30A	**Hoffart Farm,**	**88.39**	**344**	⇑P	**P**	**13 17 38.5**	**-0.6**
	baz=89,SNR=6.1						
B28A	**Dugan Ranch, T**	**88.41**	**342**	⇑P	**P**	**13 17 39.5**	**+0.4**
	baz=89						
D23A	**Lindsay**	**88.53**	**339**	⇓P	**P**	**13 17 40.1**	**+0.3**
	baz=89						
A29A	**Manning Farm,**	**88.59**	**343**	⇓P	**P**	**13 17 39.9**	**-0.1**
	baz=89,SNR=8.1						
C24A	**Savage**	**88.63**	**339**	⇓P	**P**	**13 17 40.7**	**+0.4**
	baz=89						
A28A	**Rude Farm, Bot**	**88.82**	**343**	⇓P	**P**	**13 17 41.4**	**+0.3**
	baz=89						
MCMT	**McKenzie Canyo**	**88.94**	**333**	eP	**P**	**13 17 42.6**	**+0.5**

	0.6nm,0.7s						
ULM	Lac du Bonnet	89.12	346	P	P	13 17 41.7	-0.8
	1.3nm,0.4s,baz=138,slow=4.6,SNR=4.8						
YBH	Yreka Blue Hor	90.42	325	P	P	13 17 49.1	+0.2
	2.4nm,1.0s,baz=27,slow=9.0,SNR=3.3						
YKA	Yellowknife Ar	104.56	342	Pdiff	Pdif	13 18 51.6	-0.6
	0.5nm,1.1s,baz=259,slow=7.1,SNR=3.6						
ILAR	Eielson Array	116.38	333	PKP	PKPdf	13 23 29.1	-1.1
	0.4nm,0.9s,baz=188,slow=3.3,SNR=4.4						
WRA	Warramunga Arr	117.65	210	PKP	PKPdf	13 23 32.8	-1.4
	1.1nm,0.5s,baz=156,slow=1.7,SNR=24						
BRTR	Keskin Array B	124.15	63	PKP	PKPdf	13 23 46.0	-0.1
	0.9nm,0.7s,baz=175,slow=3.2,SNR=6.0						
AKASG	Malin Array Be	124.95	49	PKP	PKPdf	13 23 45.6	-1.5
	0.5nm,0.4s,baz=267,slow=2.2,SNR=4.0						
SEY	Seymchan	142.06	328	PKP	PKPdf	13 24 18.4	-0.3
	0.7nm,0.2s,baz=71,slow=2.9,SNR=3.8						
TIXI	Tiksi	143.43	348	ePKPdf	PKPab	13 24 16.5	-0.6
MYKOM	Kota Tinggi	144.87	175	ePKPdf	PKPab	13 24 23.9	-0.3
SBUM	Sibu	145.25	190	ePKPdf	PKPbc	13 24 25.6	0.0
HYB	Hyderabad	148.46	121	iPKP	PKPbc	13 24 33.5	-1.2
MJAR	Matsushiro Arr	154.80	279	PKPab	PKPab	13 25 03.7	-0.3
	1.5nm,0.9s,baz=114,slow=2.8,SNR=4.7						
ZALV	Zalesovo Beam	157.29	35	PKP	PKPdf	13 24 42.2	-0.7
	2.7nm,0.8s,baz=318,slow=2.0,SNR=8.7						
ZALV				PKPab	PKPab	13 25 14.7	+0.6
	1.4nm,0.5s,baz=294,slow=5.5,SNR=4.7						
MKAR	Makanchi Array	159.44	54	PKP	PKPdf	13 24 45.7	-0.1
	0.9nm,0.8s,baz=41,slow=0.5,SNR=6.9						
MKAR				PKPab	PKPab	13 25 23.8	+0.1
	1.6nm,0.7s,baz=283,slow=4.2,SNR=10						
USRK	Ussuriysk Arra	159.54	298	PKPab	PKPab	13 25 22.4	-1.8
	1.7nm,0.7s,baz=53,slow=5.6,SNR=5.1						
NJ2	Nanjing	168.83	247	ePKP	PKPdf	13 24 55.3	+0.7
SONM	Songino Array	169.16	1	PKPab	PKPab	13 26 07.0	+0.6
	2.0nm,0.8s,baz=340,slow=5.1,SNR=16						
GYA	Guiyang	169.50	180	ePKP	PKPdf	13 24 53.0	-2.4
GYA				pPKP	pPKPdf	13 25 04.8	+4.5
GYA				PKPab	PKPab	13 26 09.5	+1.1
GYA				PKS	PKSdf	13 28 25.0	-3.1
GYA				PP	PP	13 29 58.5	+1.4
GYA				SKKS		13 36 41.3	
GYA				SS	SS	13 50 49.5	-3.3
GYA				AMB	AMB		
	comp=Z,110nm,8.0s						
GYA				LR	LR		
	comp=N,110nm,21.2s						
GYA				LR	LR		
	comp=E,90nm,21.4s						
GYA				LR	LR		
	comp=Z,120nm,24.6s						
GTA	Gaotai	174.07	64	ePKP	PKPdf	13 24 57.5	+0.3
GTA				pPKP	pPKPdf	13 25 08.0	+6.0
GTA				sPKP		13 25 12.0	
LZH	Lanzhou	177.53	111	ePKP	PKPdf	13 24 56.5	-1.7
LZH				pPKP	pPKPdf	13 25 07.3	+4.3
LZH				sPKP		13 25 12.8	

*IDC **27** 13:07:32.0±0.6, 37.88S×74.08W, h0km, mb4.4/13, mb1 4.6/16, mb1mx4.4/34, mbtmp4.5/16, ML5.6/2, Error ellipse: s-maj=23.0km s-min=15.6km az=64.0*
*ISCJB **27** 13:07:38.5±0.3, 38.36S±0.07×72.79W±0.10, h25km, mb4.8/41, Error ellipse: s-maj=13.6km s-min=6.0km az=139.4*
*NEIC **27** 13:07:40.5±0.3, 38.55S×72.87W, h35km, mb5.0/31, Error ellipse: s-maj=12.6km s-min=7.9km az=43.0*
*BJI **27** 13:07:41.5, 38.40S×73.30W, h35km, mB5.5/4, Ms5.4/2, Ms7 5.1/2*
ISC 27 13:07:39.6±0.4, 38.36S±0.07×72.93W±0.10, h25km, n180, σ1§43/187, mb4.9/41, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.00	143	Pn	Pb	13 08 34.1	+1.8
	120nm,0.3s,baz=296,slow=12,SNR=19						
PLCA				Sn	Sb	13 09 23.9	+15
	88nm,0.3s,baz=230,slow=21,SNR=5.9						
PLCA	Paso Flores	3.00	143	Pn	Pn	13 08 23.5	-2.1
PLCA				eSn	Sn	13 09 00.1	-0.7
TRQA	Tornquist	8.63	91	ePn	Pn	13 09 43.1	+0.3
	85nm,0.7s						
USHA	Ushuaia	16.75	171	P	P	13 11 36.8	+2.4
	0.7nm,0.3s,baz=335,slow=11,SNR=4.2						
CPUP	Villa Florida	17.80	52	P	P	13 11 48.4	+2.3
	2.5nm,0.3s,baz=207,slow=12,SNR=7.8						
CPUP	Villa Florida	17.80	52	ePn	P	13 11 46.3	+0.1
	0.8nm,0.5s						
LPAZ	La Paz	22.39	12	P	P	13 12 25.7	-11
	8.3nm,0.7s,baz=184,slow=7.3,SNR=5.9						
SIV	San Ignacio	24.61	28	P	P	13 12 51.1	-6.9
	8.6nm,0.7s,baz=231,slow=17,SNR=6.6						
BDFB	Brasilia	31.52	51	P	P	13 14 00.7	+0.8
	3.2nm,0.6s,baz=86,slow=14,SNR=2.8						
OTAV	Otavalo	38.75	351	eP	P	13 15 04.8	+2.4
	18nm,1.3s						
RCBR	Riachuelo	46.63	56	P	P	13 16 06.4	+0.4
	6.1nm,0.9s,baz=195,slow=10,SNR=2.7						
RCBR	Riachuelo	46.63	56	eP	P	13 16 07.5	+1.4
	32nm,1.4s						
SNAA	Sanae	47.85	156	P	P	13 16 15.9	+0.9
	3.5nm,0.9s,baz=288,slow=6.2,SNR=5.5						
SNAA	Sanae	47.85	156	eP	P	13 16 14.3	-0.6
	34nm,1.3s						
JTS	JuntasAbangare	49.69	344	P	P	13 16 20.2	-9.3
	1.4nm,0.3s,baz=282,slow=20,SNR=3.8						
QSPA	South Pole Qui	51.88	180	P	P	13 16 45.9	+0.2
	4.9nm,1.0s,baz=142,slow=7.3,SNR=3.7						
QSPA	South Pole Qui	51.88	180	eP	P	13 16 45.7	0.0
	12nm,1.1s						
CELP	Cerrillos	56.45	7	eP	P	13 17 19.2	-0.1
034A	Hebbronville	69.41	336	P	P	13 18 47.9	+2.5
	baz=70						
933A	Laredo	70.11	335	P	P	13 18 51.6	+1.9
	baz=71						
833A	Chaparral WMA,	70.81	335	P	P	13 18 55.2	+1.3
	baz=71						
832A	Faith Ranch, C	70.97	335	P	P	13 18 56.2	+1.3
	baz=72						
732A	Laxson Ranch,	71.38	335	P	P	13 18 57.9	+0.6
	baz=72						
536A	Bastrop	71.72	338	P	P	13 18 59.8	+0.4
	baz=72						
533A	Kerrville	72.32	336	P	P	13 19 03.8	+0.9
	baz=73						
338A	Crockett	72.43	340	P	P	13 19 05.3	+1.7
	baz=73						
337A	Centerville	72.55	340	P	P	13 19 06.4	+2.1
	baz=73						
532A	Rocksprings	72.64	336	P	P	13 19 06.4	+1.4
	baz=73						
336A	Riesel	72.89	339	P	P	13 19 07.8	+1.5
	baz=73						
531A	Rocksprings	72.89	335	P	P	13 19 08.3	+1.8
	baz=73						
JCT	Junction City	72.94	336	eP	P	13 19 08.0	+1.3
	21nm,0.9s						
JCT	Junction City	72.94	336	P	P	13 19 08.0	+1.3
	baz=74						
335A	Moody	72.96	338	P	P	13 19 07.6	+0.9
	baz=74						
433A	Art	72.97	337	P	P	13 19 08.4	+1.5
	baz=74						
530A	J-C Ranch, Com	73.14	334	P	P	13 19 09.9	+2.0
	baz=74						
TXAR	Lajitas Array	73.22	332	P	P	13 18 59.3	-9.1
	1.1nm,0.7s,baz=153,slow=8.3,SNR=6.5						
334A	Lometa	73.24	338	P	P	13 19 09.0	+0.6
	baz=74						
432A	Menard	73.30	336	P	P	13 19 09.9	+1.1
	baz=74						
431A	Sonora	73.39	335	P	P	13 19 10.7	+1.4
	baz=74						
529A	Stev Forest Ra	73.42	334	P	P	13 19 11.2	+1.6
	baz=74						
333A	Richland Sprin	73.46	337	P	P	13 19 10.8	+1.1
	baz=74						
WHTX	Lake Whitney	73.63	338	eP	P	13 19 11.3	+0.6
	24nm,0.9s						
WHTX	Lake Whitney	73.63	338	P	P	13 19 11.2	+0.5
	baz=74						
430A	Baggett Ranch,	73.69	335	P	P	13 19 12.2	+1.1
	baz=74						
137A	Heron Place, G	73.73	340	P	P	13 19 12.4	+1.2
	baz=74						
332A	Millersview	73.75	336	P	P	13 19 11.9	+0.5
	baz=74						
429A	Davenport Ranc	73.76	334	P	P	13 19 12.8	+1.2
	baz=74						
234A	Clairette	73.84	338	P	P	13 19 12.2	+0.3
	baz=74						
331A	San Angelo	73.91	336	P	P	13 19 12.5	+0.2
	baz=74						
233A	Rising Star	74.08	337	P	P	13 19 13.9	+0.5
	baz=75						
232A	Coleman	74.19	337	P	P	13 19 14.3	+0.3
	baz=75						
330A	Mertzon	74.24	335	P	P	13 19 14.7	+0.4
	baz=75						
231A	Bronte	74.45	336	P	P	13 19 16.0	+0.5
	baz=75						
329A	Wagon Wheel Ra	74.58	335	P	P	13 19 17.5	+1.1
	baz=75						
133A	Hamilton Ranch	74.64	337	P	P	13 19 17.2	+0.6
	baz=75						
Z35A	Perchaven, San	74.83	339	P	P	13 19 17.9	+0.3
	baz=75						
ABTX	Abilene, Hawle	74.87	337	eP	P	13 19 18.6	+0.7
	15nm,0.9s						
ABTX	Abilene, Hawle	74.87	337	P	P	13 19 18.6	+0.7
	baz=75						
229A	Bryant Ranch,	74.97	335	P	P	13 19 18.9	+0.4
	baz=76						
MIAR	Mount Ida	75.03	342	eP	P	13 19 21.1	+2.3
	21nm,1.5s						
131A	Roby	75.15	336	P	P	13 19 21.4	+1.8
	baz=76						
Z33A	Whitaker Ranch	75.22	338	P	P	13 19 21.7	+1.8
	baz=76						
130A	Snyder	75.27	336	P	P	13 19 22.0	+1.8
	baz=76						
Z32A	Haskell	75.46	337	P	P	13 19 22.1	+0.8
	baz=76						
VWCC	Virginia Weste	75.52	354	eP	P	13 19 21.8	+0.3
Y34A	Reagan Ranch,	75.56	339	P	P	13 19 22.1	+0.3
	baz=76						
Z31A	Sharp Cattle R	75.67	337	P	P	13 19 23.4	+0.9
	baz=76						
128A	Castleberry Fa	75.79	335	P	P	13 19 23.6	+0.3
	baz=76						
Z30A	Sanderson Ranc	75.95	336	P	P	13 19 24.6	+0.4
	baz=76						
Y32A	R-V Farms, Ver	76.09	338	P	P	13 19 24.5	-0.4
	baz=77						
Z29A	Hungry Hill Ra	76.12	335	P	P	13 19 24.8	-0.3
	baz=77						
X34A	Smith Ranch, M	76.19	339	P	P	13 19 26.3	+0.8
	baz=77						
X32A	Elmer	76.44	338	P	P	13 19 27.7	+0.8
	baz=77						
PBMO	Poplar Bluff	76.50	346	eP	P	13 19 32.2	+5.1
	18nm,0.9s						
Y29A	Porterfield Fa	76.66	336	P	P	13 19 28.8	+0.6
	baz=77						
W34A	Bridge Creek,	76.76	339	eP	P	13 19 28.9	+0.3
	17nm,0.9s						
X31A	McDonald Ranch	76.84	337	P	P	13 19 29.8	+0.7
	baz=77						
TUL1	Tulsa	76.87	341	eP	P	13 19 29.6	+0.4
	28nm,0.8s						
TUL1	Tulsa	76.87	341	P	P	13 19 29.7	+0.4
	baz=77						
W33A	Caddo, Fort Co	76.88	339	P	P	13 19 30.6	+1.3
	baz=77						
Z26A	Caprock	76.90	334	P	P	13 19 30.0	+0.4
	baz=77						
X30A	Coker Ranch, T	76.94	337	P	P	13 19 31.0	+1.2
	baz=78						
W32A	Sentinel	77.08	338	P	P	13 19 31.2	+0.7
	baz=78						
MSTX	Muleshoe	77.12	335	P	P	13 19 31.7	+0.9
	baz=78						
319A	Douglas	77.21	329	P	P	13 19 32.4	+0.9
	baz=78						
V34A	Guthrie	77.26	340	P	P	13 19 31.8	+0.4
	baz=78						
DBIC	Dimbokro	77.28	71	P	P	13 19 30.7	-1.4
	18nm,0.6s,baz=200,slow=5.9,SNR=4.4						
DBIC	Dimbokro	77.28	71	eP	P	13 19 30.9	-1.2
	21nm,0.6s						
V33A	Lossen Ranch,	77.46	339	P	P	13 19 34.0	+1.4
	baz=78						
AMTX	Amarillo	77.60	336	eP	P	13 19 33.8	+0.3
	19nm,0.8s						
AMTX	Amarillo	77.60	336	P	P	13 19 33.8	+0.3
	baz=78						
V31A	Spring Creek L	77.86	338	P	P	13 19 36.4	+1.5
	baz=78						
Z22A	Elephant Butte	77.96	331	P	P	13 19 36.4	+0.8
	baz=78						
Y24A	Capitan	78.00	333	P	P	13 19 36.7	+0.8
	baz=78						
W27A	Bowe Ranch, En	78.22	335	P	P	13 19 37.7	+0.8
	baz=79						
W26A	Owens Ranch, T	78.47	335	P	P	13 19 38.8	+0.4
	baz=79						
TUC	Tucson	78.65	328	eP	P	13 19 40.0	+0.7
	7.9nm,1.0s						
BOSA	Boshof	78.69	117	P	P	13 19 41.8	+1.8
	12nm,0.9s,baz=259,slow=3.2,SNR=10						
BOSA	Boshof	78.69	117	eP	P	13 19 39.6	-0.4
	18nm,0.9s						
W25A	X Bar L Ranch,	78.83	334	P	P	13 19 40.9	+0.6
	baz=79						
214A	Organ Pipe Nat	79.21	326	P	P	13 19 43.3	+0.9
	baz=80						
ANMO	Albuquerque	79.29	332	P	P	13 19 35.0	-7.9
	1.2nm,0.9s,baz=164,slow=8.7,SNR=4.0						
ANMO	Albuquerque	79.29	332	eP	P	13 19 42.6	-0.3
	12nm,1.0s						
V25A	Rancho No Teng	79.44	334	P	P	13 19 44.6	+0.8
	baz=80						
T28A	Walsh	79.80	337	P	P	13 19 45.8	+0.3
	baz=80						
U25A	Circle Dot Ran	79.88	335	P	P	13 19 46.5	+0.3
	baz=80						
V22A	San Miguel Ran	80.32	333	P	P	13 19 50.0	+1.4
	baz=81						
T25A	Trinidad	80.55	335	P	P	13 19 50.8	+1.1
	baz=81						
W18A	Petrified Fore	80.68	330	P	P	13 19 50.6	+0.2
	13nm,1.1s						
W18A	Petrified Fore	80.68	330	P	P	13 19 51.5	+1.0
	baz=81						
S26A	Kim	80.68	336	P	P	13 19 51.3	+1.0
	baz=81						
U22A	Llaves	80.71	333	P	P	13 19 51.7	+1.1
	baz=81						
X16A	Lo Mia Camp, P	80.75	329	P	P	13 19 51.8	+1.0
	baz=81						
R28A	Tribune	80.83	337	P	P	13 19 51.7	+0.7
	baz=81						
Y14A	Wickenburg	80.99	327	P	P	13 19 52.5	+0.5
	baz=82						
LBTB	Lobatse	81.13	115	eP	P	13 19 52.8	-0.4
	14nm,0.7s						
S24A	Houchin Ranch,	81.27	335	P	P	13 19 53.9	+0.2
	baz=82						
R26A	Arlington	81.30	336	P	P	13 19 54.1	+0.5
	baz=82						
WUAZ	Wupatki	81.67	329	eP	P	13 19 57.1	+1.4
	12nm,1.0s						
R24A	Sanders Place,	81.77	335	P	P	13 19 57.0	+0.7
	baz=82						
S22A	4UR Ranch, Cre	81.92	333	P	P	13 19 58.1	+1.0
	baz=82						
MVCO	Mesa Verde	82.05	332	P	P	13 19 59.0	+1.3
	baz=83						
Q25A	Bedland, Calha	82.11	336	P	P	13 19 58.1	+0.1
	baz=83						
PFO	Pinyon Flat Ob	82.23	325	P	P	13 19 58.8	+0.1
	baz=83						
U15A	North Rim	82.83	329	P	P	13 20 02.7	+0.8
	baz=83						
SMCO	Snowmass	83.26	334	eP	P	13 20 04.8	+0.6
	8.2nm,0.9s						
ISCO	Idaho Springs	83.36	335	eP	P	13 20 04.6	0.0
	63nm,2.8s						
SHPR	Sheep Range	84.09	327	eP	P	13 20 08.7	+0.5
CCUT	Cedar City	84.23	329	eP	P	13 20 10.9	+1.9
	7.9nm,1.0s						
ECSD	EROS Data Cent	84.49	343	eP	P	13 20 09.4	-0.5
	16nm,0.8s						
PHWY	Pilot Hill	84.67	336	eP	P	13 20 11.4	+0.2
	9.6nm,1.3s						
MPU	Maple Canyon	85.68	331	eP	P	13 20 17.2	+1.1
	9.8nm,1.0s						
TOA0	Torodi Ar. Sit	86.37	70	eP	P	13 20 18.3	-1.7
TORD	Torodi Ar. Bea	86.37	70	P	P	13 20 19.1	-0.9
	6.6nm,0.8s,baz=219,slow=5.1,SNR=18						
NVAR	Mina Array Bea	87.07	326	P	P	13 20 15.3	-7.7
	0.6nm,0.5s,baz=169,slow=5.5,SNR=2.5						
PDAR	Pinedale Array	87.34	334	P	P	13 20 15.8	-8.5
	1.8nm,1.0s,baz=134,slow=4.3,SNR=5.2						
HVU	Hansel Valley	87.64	331	eP	P	13 20 26.4	+0.7
	13nm,0.9s						
ELK	Elko	87.72	329	P	P	13 20 17.9	-8.2
	1.3nm,0.8s,baz=132,slow=2.1,SNR=3.2						
ELK	Elko	87.72	329	eP	P	13 20 26.9	+0.8
LOHW	Long Hollow	88.45	334	eP	P	13 20 30.9	+1.4
	22nm,1.8s						
FLWY	Flagg Ranch	88.89	334	eP	P	13 20 32.8	+1.1
	8.1nm,0.9s						
YFT	Old Faithful	89.26	334	eP	P	13 20 35.0	+1.6
	11nm,1.3s						
HLID	Hailey	89.79	331	eP	P	13 20 37.1	+1.4
	6.7nm,0.9s						
QLMT	Earthquake Lak	89.80	334	eP	P	13 20 36.7	+0.8
	0.2nm,0.2s						
MCMT	McKenzie Canyo	90.30	333	eP	P	13 20 38.4	+0.2
	4.7nm,1.3s						
SLMT	Seeley Lake	92.61	334	eP	P	13 20 49.1	+0.3
SWMT	Swartz Lake	93.01	334	eP	P	13 20 50.6	0.0
JTMT	Jette	93.32	333	eP	P	13 20 53.0	+1.0
WALA	Waterton Lakes	94.31	334	eP	P	13 20 56.9	+0.4
GERES	GERESS Array B	115.69	47	PKP	PKPdf	13 26 18.6	-0.7
	1.5nm,0.9s,baz=225,slow=2.5,SNR=4.9						
WRA	Warramunga Arr	116.60	209	PKP	PKPdf	13 26 19.0	-2.9
	0.6nm,1.0s,baz=158,slow=1.9,SNR=3.0						
CHGN	Chignik	118.60	321	ePKPdf	PKPdf	13 26 24.1	-0.3
BRTR	Keskin Array B	124.50	64	PKP	PKPdf	13 26 32.7	-3.8
	0.4nm,0.7s,baz=214,slow=1.3,SNR=2.6						
AKASG	Malin Array Be	125.61	50	PKP	PKPdf	13 26 35.2	-2.8
	0.4nm,0.4s,baz=264,slow=2.7,SNR=3.4						
FINES	FINESS Array B	126.96	36	PKP	PKPdf	13 26 37.6	-2.7
	2.5nm,1.1s,baz=197,slow=4.4,SNR=3.4						
ARCES	ARCESS Array B	128.26	26	PKP	PKPdf	13 26 40.3	-2.4
	3.0nm,0.9s,baz=235,slow=3.2,SNR=3.4						
GEYT	Alibeck	141.87	75	PKhKP	PKPpre	13 27 00.4	
	1.7nm,0.7s,baz=250,slow=2.9,SNR=3.1						
SEY	Seymchan	143.37	327	PKP	PKPdf	13 27 08.8	-1.9
	4.5nm,0.9s,baz=86,slow=4.8,SNR=9.2						
ARU	Arti	143.44	44	ePKPdf	PKPdf	13 27 09.6	-1.5
HYB	Hyderabad	147.50	122	iPKP	PKPbc	13 27 21.0	-0.9
KSH	Kashi	155.84	77	ePKPbc	PKPab	13 27 56.0	-2.3
KOLN	Koldanda	157.73	111	eP	PKPab	13 28 07.2	+0.4
	22nm,1.1s						
DANN	Dangsing	158.17	110	eP	PKPab	13 28 09.1	+0.3
	28nm,0.8s						
ZALV	Zalesovo Beam	158.22	37	PKP	PKPdf	13 27 31.5	-2.2
	1.2nm,0.8s,baz=262,slow=2.9,SNR=3.5						
ZALV				PKPab	PKPab	13 28 03.1	-4.8
	2.8nm,0.9s,baz=285,slow=5.8,SNR=4.0						
GKN	Gorkha	158.62	112	eP	PKPab	13 28 11.1	+0.5
	22nm,0.9s						
DMN	Daman	158.73	114	eP	PKPab	13 28 12.0	+0.8
	18nm,0.8s						
PKIN	Phulchoki	158.92	114	eP	PKPab	13 28 12.6	+0.5
	13nm,0.7s						
PKI	Pulchoki	158.93	114	eP	PKPab	13 28 12.3	+0.1
	18nm,0.8s						
KKN	Kakani	158.97	114	eP	PKPab	13 28 12.3	+0.1
RAMN	Ramite	159.40	118	eP	PKPab	13 28 15.0	+0.9
	23nm,1.0s						
GUN	Gumba	159.47	114	eP	PKPab	13 28 13.9	-0.6
	22nm,1.0s						
JIRN	Jiri	159.54	115	eP	PKPab	13 28 15.5	+0.6
	19nm,0.7s						
MKAR	Makanchi Array	159.97	57	PKP	PKPdf	13 27 34.2	-1.8
	1.1nm,0.9s,baz=8.1,slow=1.7,SNR=4.3						
MKAR				PKPab	PKPab	13 28 12.9	-2.8
	2.0nm,0.8s,baz=289,slow=3.7,SNR=4.3						
TAPN	Taplejung	160.42	118	eP	PKPab	13 28 17.8	-0.8
	15nm,1.2s						
GYA	Guiyang	168.12	178	PKP	PKPdf	13 27 44.0	-0.2
GYA				pPKP	pPKPdf	13 27 55.3	+2.6
GYA				PKPab	PKPab	13 28 54.5	+2.5
GYA				PKS	PKSdf	13 31 15.5	-1.5
GYA				PP	PP	13 32 43.8	+3.9
GYA				SKKS		13 39 25.5	
GYA				AMB	AMB		
	comp=Z,120nm,8.2s						
GYA				LR	LR		
	comp=N,130nm,21.6s						
GYA				LR	LR		
	comp=E,120nm,21.2s						
GYA				LR	LR		
	comp=Z,140nm,24.0s						
NJ2	Nanjing	168.49	240	ePKP	PKPdf	13 27 45.0	+0.9
CD2	Chengdu	172.08	159	PKP	PKPdf	13 27 46.8	+0.5
CD2				pPKP	pPKPdf	13 27 58.0	+3.3
CD2				sPKP		13 28 02.0	
CD2				PKS	PKSdf	13 31 17.8	-0.8
CD2				PP	PP	13 33 04.3	+4.4
CD2				SKS	SKSdf	13 34 44.8	-3.2
CD2				SKKS	SKKSac	13 39 46.0	+1.4
CD2				SS	SS	13 54 07.5	+0.3
CD2				AMB	AMB		
	comp=Z,220nm,6.2s						
GTA	Gaotai	174.25	77	ePKP	PKPdf	13 27 47.3	+0.3
GTA				pPKP	pPKPdf	13 27 57.5	+2.1
GTA				sPKP		13 28 01.5	
GTA				PKPab	PKPab	13 29 23.0	+3.8
HHC	Hu-ho-hao-te	175.73	307	ePKP	PKPdf	13 27 43.8	-3.5
HHC				pPKP	pPKPdf	13 27 54.3	-1.4
HHC				sPKP		13 28 00.5	
LZH	Lanzhou	176.57	130	ePKP	PKPdf	13 27 47.8	+0.1
LZH				pPKP	pPKPdf	13 27 59.5	+3.3
LZH				sPKP		13 28 03.0	

*IDC **27** 13:09:05.4±1.0, 25.92N×128.53E, h0km, mb3.9/10, mb1 4.1/11, mb1mx4.0/25, mbtmp3.9/11, ML3.3/1, Error ellipse: s-maj=31.8km s-min=19.9km az=76.0*
*ISCJB **27** 13:09:06.7±0.4, 25.89N±0.03×128.62E±0.03, h27km, mb3.8/10, Error ellipse: s-maj=5.0km s-min=3.1km az=141.8*
*JMA **27** 13:09:07.7±0.3, 25.93N×128.66E, h31km, M3.5*
ISC 27 13:09:08.9±0.7, 25.93N±0.04×128.60E±0.04, h27km, n36, σ1§54/53, mb4.0/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.79	319	P	Pb	13 09 22.5	-1.5
JJT2	Tamagusuku 2	0.80	286	P	Pb	13 09 23.4	-0.7
JJT2				eS	Sb	13 09 34.8	+0.3
JOW	Kunigami	0.95	342	P	Pn	13 09 25.4	-1.0
JOW				eS	Sb	13 09 37.4	-1.5
JOW	Kunigami	0.95	342	Pn	Pn	13 09 25.4	-1.0
	15nm,0.3s,baz=158,slow=18,SNR=59						
JIH	Iheya	1.24	333	P	Pn	13 09 29.9	-0.6
JIH				eS	Sn	13 09 45.4	-0.9
JAGN	Aguni-jima	1.39	299	P	Pn	13 09 31.8	-0.6
JAGN				eS	Sn	13 09 50.6	+0.7
JOKE	Okinoerabujima	1.43	359	P	Pn	13 09 32.4	-0.7
JOKE				eS	Sn	13 09 49.4	-1.6
JKE	Kume jima 2	1.68	284	P	Pn	13 09 35.3	-1.2
JKE				eS	Sn	13 09 54.6	-2.5
JTK	Tokunoshima	1.88	9	P	Pn	13 09 38.7	-0.5
JMZ	Minamidaito 2	2.36	92	P	Pn	13 09 44.6	-1.3
JMZ				eS	Sn	13 10 11.2	-2.8
JAMN	Amaminishikomi	2.37	12	P	Pn	13 09 45.6	-0.3
JAMN				eS	Sn	13 10 13.6	-0.4
JAM	Amami Oshima	2.63	20	P	Pn	13 09 49.7	+0.1
JAM				eS	Sn	13 10 19.6	-1.1
JZK	Kikaishima	2.68	27	P	Pb	13 09 51.9	-4.2
JZK				eS	Sn	13 10 22.2	+0.5
JOGS	Gusukube	3.12	249	P	Pn	13 09 56.2	0.0
JOGS				eS	Sn	13 10 31.3	-1.2
JIKM	Ikemajima	3.19	253	eS	Sn	13 10 35.2	+0.8
JTAJ	Takarajima	3.26	9	P	Pn	13 09 58.4	+0.2
JTAJ				eS	Sn	13 10 33.3	-2.8
JIRB	Irabujima	3.29	251	P	Pn	13 09 57.6	-1.0
JIRB				eS	Sn	13 10 34.9	-1.9
JTJ	Tarama	3.75	251	P	Pn	13 10 03.7	-1.3
JTJ				eS	Sn	13 10 45.5	-2.8
JNN	Nakanoshima	4.06	16	eS	Sn	13 10 53.6	-2.3

JISG Ishigakijimahi 4.11 252 P Pn 13 10 08.1 -1.7
JISG eS Sn 13 10 55.7 -1.3
JIJ Ishigaki jima 4.33 250 P Pn 13 10 10.9 -2.0
JIJ eS Sn 13 10 58.7 -3.8
JYAK Yakushimahirau 4.62 21 eP Pn 13 11 06.7 -2.9
IRIF Iriomote-Funau 4.69 251 P Pn 13 10 18.0 +0.1
JKC Kuchinoerabu 4.73 17 P Pn 13 10 18.2 -0.3
JKC eS Sn 13 11 10.5 -2.0
JTN Tanegashima 3 5.16 23 eS Sn 13 11 20.4 -2.5
JNU Nakatsue 7.44 15 Pn Pn 13 10 54.8 -0.9
0.4nm,0.3s,baz=44,slow=16,SNR=4.7
JNU Sn Sn 13 12 17.5 -1.8
0.3nm,0.3s,baz=172,slow=2.7,SNR=3.8
SONM Songino Array 27.99 327 P P 13 14 59.6 +2.1
1.5nm,0.6s,baz=139,slow=11,SNR=0.5
MKAR Makanchi Array 41.99 312 P P 13 16 57.3 -0.3
0.8nm,0.7s,baz=93,slow=10.0,SNR=8.8
ZALV Zalesovo Beam 42.69 323 P P 13 17 02.8 -0.5
1.3nm,0.7s,baz=118,slow=7.2,SNR=4.5
WRA Warramunga Arr 45.93 172 P P 13 17 29.7 +0.2
1.9nm,0.7s,baz=353,slow=8.2,SNR=13
ILAR Eielson Array 64.55 28 P P 13 19 44.0 +0.8
0.4nm,0.8s,baz=268,slow=6.0,SNR=5.6
KBZ Khabaz 69.61 310 P P 13 20 16.1 +0.4
3.3nm,1.0s,baz=70,slow=20,SNR=3.6
FINES FINESS Array B 73.29 331 P P 13 20 38.1 +0.6
2.0nm,0.9s,baz=90,slow=5.6,SNR=5.8
AKASG Malin Array Be 75.98 320 P P 13 20 53.6 +0.3
1.7nm,0.7s,baz=61,slow=6.5,SNR=4.4
BRTR Keskin Array B 77.48 308 P P 13 21 03.7 +1.4
1.5nm,0.9s,baz=90,slow=4.9,SNR=7.6
YKA Yellowknife Ar 78.66 25 P P 13 21 09.9 +1.7
0.4nm,0.7s,baz=300,slow=5.5,SNR=8.4

IDC **27** *13:09:15.6±0.4, 38.°52S×73.°69W, h0km, mb4.7/20, mb1 4.8/22, mb1mx4.8/27, mbtmp4.7/22, ML4.8/2, MS5.1/5, Ms1 5.0/5, ms1mx4.5/28, Error ellipse: s-maj=19.4km s-min=12.5km az=65.0*

ISCJB **27** *13:09:17.6±0.3, 38.°44S±0.°06×73.°54W±0.°08, h18km, mb5.0/44, MS5.1/6, Error ellipse: s-maj=10.5km s-min=6.1km az=136.0*

MOS **27** *13:09:19.9±1.0, 38.°44S×73.°58W, h33km, mb5.5/8, Error ellipse: s-maj=19.3km s-min=11.0km az=100.2*

NEIC **27** *13:09:20.9±0.2, 38.°50S×73.°65W, h35km, mb5.3/18, Error ellipse: s-maj=7.7km s-min=5.0km az=57.0*

ISC 27 13:09:18.6±0.4, 38.°48S±0.°08×73.°66W±0.°10, h18km, n351, σ0.90/349, mb5.1/44, MS5.2/6, 48C-65D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.29	134	P	Pn	13 10 11.0	+1.8
PLCA	Paso Flores	3.29	134	Pn	Pn	13 10 11.0	+1.8
	baz=315,slow=7.1,SNR=0.8						
PLCA				Lg	Lg	13 11 01.0	
	119nm,0.3s,baz=46,slow=20,SNR=5.5						
TRQA	Tornquist	9.19	91	ePn	Pn	13 11 30.8	+0.5
USHA	Ushuaia	16.73	169	Pn	Pn	13 13 12.5	+0.7
	0.9nm,0.3s,baz=316,slow=6.3,SNR=12						
CPUP	Villa Florida	18.32	53	P	Pn	13 13 30.6	-1.1
	1.8nm,0.3s,baz=195,slow=10,SNR=2.9						
LPAZ	La Paz	22.64	14	P	P	13 14 20.3	+1.1
	13nm,1.0s,baz=147,slow=3.3,SNR=3.0						
SIV	San Ignacio	24.99	30	P	P	13 14 41.0	-0.3
	33nm,1.1s,baz=229,slow=12,SNR=9.0						
SIV				LR	LR	13 26 46.2	
	comp=Z,3μm,18.4s,baz=212,slow=42						
NNA	Nana	26.54	353	P	P	13 14 55.6	+0.2
	4.6nm,0.4s,baz=192,slow=9.3,SNR=2.2						
ATAH	Atahualpa	31.50	351	P	P	13 15 41.6	+1.7
	2.2nm,0.5s,baz=142,slow=12,SNR=2.9						
BDFB	Brasilia	32.03	52	P	P	13 15 45.9	+1.5
	6.3nm,0.5s,baz=225,slow=8.6,SNR=2.0						
BDFB				LR	LR	13 30 32.3	
	comp=Z,3μm,21.2s,baz=234,slow=40						
OTAV	Otavalo	38.78	352	eP	P	13 16 42.7	0.0
	54nm,1.4s						
RCBR	Riachuelo	47.17	56	P	P	13 17 50.9	+0.7
	30nm,1.1s,baz=205,slow=10,SNR=7.6						
SNAA	Sanae	47.97	156	P	P	13 17 55.8	0.0
	11nm,1.1s,baz=274,slow=5.9,SNR=14						
JTS	JuntasAbangare	49.65	345	P	P	13 18 10.2	+1.0
	5.1nm,1.0s,baz=158,slow=19,SNR=2.8						
QSPA	South Pole Qui	51.76	180	P	P	13 18 25.4	+0.6
	20nm,1.1s,baz=138,slow=4.0,SNR=8.8						
NVL	N'lazarevskaya	52.76	155	eP	P	13 18 32.0	+0.1
NVL				pmax	pmax		
	comp=Z,27nm,1.0s						
APG	El Apazote	55.49	340	LR	LR	13 37 23.3	
	comp=Z,2μm,19.5s,baz=348,slow=30						
035A	Encino	68.99	337	P	P	13 20 24.3	+1.6
	baz=69						
034A	Hebbronville	69.29	336	P	P	13 20 25.8	+1.2
	baz=70						
KVTX	Kingsville	69.49	337	eP	P	13 20 26.2	+0.4
	comp=Z,45nm,0.4s						
934A	Benavides	69.74	337	P	P	13 20 29.2	+1.9
	baz=70						
933A	Laredo	69.99	336	P	P	13 20 30.1	+1.2
	baz=70						
835A	Beeville	70.17	337	P	P	13 20 31.1	+1.2
	baz=70						
834A	Tilden	70.23	337	⇑P	P	13 20 32.0	+1.6
	baz=71						
833A	Chaparral WMA,	70.68	336	P	P	13 20 34.2	+1.1
	baz=71						
735A	Kenedy	70.69	338	P	P	13 20 34.6	+1.4
	baz=71						
832A	Faith Ranch, C	70.83	336	P	P	13 20 35.1	+1.0
	baz=71						
734A	La Parita Cree	70.91	337	P	P	13 20 35.7	+1.2
	baz=71						
732A	Laxson Ranch,	71.25	336	⇑P	P	13 20 37.2	+0.7
	baz=72,SNR=5.7						
537A	Green Hill Far	71.41	339	P	P	13 20 39.0	+1.5
	baz=72						
536A	Bastrop	71.62	339	P	P	13 20 40.2	+1.4
	baz=72						
633A	Saathoff Ranch	71.67	337	⇑P	P	13 20 40.2	+1.1
	baz=72						
535A	Dale	71.72	338	P	P	13 20 40.7	+1.3
	baz=72						
632A	Uvalde	71.91	336	⇓P	P	13 20 41.4	+0.9
	baz=72						
534A	Blanco	71.99	337	P	P	13 20 41.0	0.0
	baz=72						
631A	Perdido Creek	72.07	335	P	P	13 20 42.0	+0.5
	baz=72						
339A	Huntington	72.14	341	P	P	13 20 43.1	+1.3
	baz=72						
436A	Wall Ranch, Ga	72.20	339	P	P	13 20 43.8	+1.6
	baz=72						
533A	Kerrville	72.20	337	⇑P	P	13 20 43.1	+0.8
	baz=72,SNR=11						
LRAL	Lakeview Retre	72.23	348	eP	P	13 20 42.5	+0.1
	comp=Z,37nm,0.9s						
338A	Crockett	72.35	341	P	P	13 20 45.0	+1.9
	baz=73						
337A	Centerville	72.47	340	P	P	13 20 45.0	+1.2
	baz=73						
532A	Rocksprings	72.52	336	⇑P	P	13 20 44.9	+0.6
	baz=73,SNR=13						
434A	Burnet	72.66	338	⇑P	P	13 20 45.7	+0.7
	baz=73,SNR=8.4						
531A	Rocksprings	72.76	336	⇓P	P	13 20 46.3	+0.6
	baz=73,SNR=6.7						
336A	Riesel	72.79	339	⇑P	P	13 20 46.4	+0.6
	baz=73,SNR=5.9						
JCT	Junction City	72.82	337	eP	P	13 20 45.7	-0.3
JCT				pmax	pmax		
	comp=Z,78nm,1.3s						
JCT	Junction City	72.82	337	eP	P	13 20 45.7	-0.3
	comp=Z,78nm,1.3s						
JCT	Junction City	72.82	337	⇓P	P	13 20 47.1	+1.1
	baz=73,SNR=5.0						
433A	Art	72.85	337	⇓P	P	13 20 46.7	+0.5
	baz=73,SNR=11						
335A	Moody	72.86	339	⇑P	P	13 20 47.1	+0.9
	baz=73						
530A	J-C Ranch, Com	73.00	335	⇓P	P	13 20 47.6	+0.4
	baz=73,SNR=9.6						
TXAR	Lajitas Array	73.06	333	P	P	13 20 48.1	+0.6
	comp=Z,3.3nm,0.9s,baz=153,slow=8.4,SNR=5.0						
TXAR				LR	LR	13 48 23.8	
	comp=Z,959nm,18.7s,baz=0.0,slow=32						
237A	Washetta, Mont	73.10	340	P	P	13 20 48.7	+1.1
	baz=74						
334A	Lometa	73.14	338	⇓P	P	13 20 48.4	+0.6
	baz=74,SNR=11						
432A	Menard	73.18	337	⇑P	P	13 20 48.3	+0.1
	baz=74						
431A	Sonora	73.26	336	⇓P	P	13 20 48.4	-0.2
	baz=74,SNR=5.8						
529A	Stev Forest Ra	73.28	334	⇓P	P	13 20 48.6	-0.1
	baz=74						
333A	Richland Sprin	73.35	338	⇓P	P	13 20 49.4	+0.3
	baz=74,SNR=12						
WHTX	Lake Whitney	73.53	339	eP	P	13 20 49.5	-0.7
	comp=Z,43nm,0.9s						
WHTX	Lake Whitney	73.53	339	⇑P	P	13 20 50.3	+0.1
	baz=74,SNR=5.5						
430A	Baggett Ranch,	73.56	335	⇑P	P	13 20 51.0	+0.6
	baz=74,SNR=8.6						
KMSC	Kings Mountain	73.60	353	P	P	13 20 50.6	+0.2
	baz=74						
429A	Davenport Ranc	73.63	335	⇓P	P	13 20 51.4	+0.6
	baz=74,SNR=9.1						
332A	Millersview	73.64	337	⇓P	P	13 20 50.9	+0.1
	baz=74,SNR=8.9						
137A	Heron Place, G	73.65	341	P	P	13 20 52.1	+1.3
	baz=74						
234A	Clairette	73.74	338	⇓P	P	13 20 51.8	+0.4
	baz=74						
331A	San Angelo	73.78	336	⇓P	P	13 20 52.2	+0.6
	baz=74,SNR=11						
233A	Rising Star	73.97	338	⇓P	P	13 20 53.3	+0.5
	baz=74,SNR=5.3						
232A	Coleman	74.08	337	⇓P	P	13 20 53.7	+0.3
	baz=74,SNR=7.0						
330A	Mertzon	74.11	336	⇓P	P	13 20 53.4	-0.2
	baz=74,SNR=5.3						
134A	White-Moore Ra	74.26	339	P	P	13 20 54.6	+0.3
	baz=75						
231A	Bronte	74.33	337	⇓P	P	13 20 55.2	+0.4
	baz=75,SNR=5.9						
TKL	Tuckaleechee C	74.36	351	P	P	13 20 54.6	-0.3
	comp=Z,6.4nm,0.9s,baz=158,slow=12,SNR=3.4						
329A	Wagon Wheel Ra	74.45	335	⇓P	P	13 20 56.0	+0.4
	baz=75						
133A	Hamilton Ranch	74.53	338	⇓P	P	13 20 56.5	+0.6
	baz=75,SNR=6.0						
230A	Sterling City	74.53	336	P	P	13 20 56.3	+0.2
	baz=75						
Z35A	Perchaven, San	74.74	340	⇓P	P	13 20 57.4	+0.3
	baz=75,SNR=5.1						
ABTX	Abilene, Hawle	74.76	337	⇑P	P	13 20 57.7	+0.4
	baz=75,SNR=5.8						
229A	Bryant Ranch,	74.83	335	⇑P	P	13 20 58.6	+0.7
	baz=75						
131A	Roby	75.04	337	⇓P	P	13 20 59.5	+0.6
	baz=75,SNR=11						
Z33A	Whitaker Ranch	75.12	338	⇑P	P	13 20 59.9	+0.6
	baz=76,SNR=5.7						
130A	Snyder	75.14	336	⇑P	P	13 20 59.9	+0.3
	baz=76,SNR=5.4						
228A	UT Block 9, Go	75.23	335	⇓P	P	13 21 00.9	+0.8
	baz=76						
Z32A	Haskell	75.35	338	⇑P	P	13 21 01.3	+0.6
	baz=76,SNR=6.6						
129A	Stewart Farms,	75.46	336	P	P	13 21 02.0	+0.6
	baz=76						
Y34A	Reagan Ranch,	75.47	339	⇓P	P	13 21 01.9	+0.5
	baz=76,SNR=5.1						
Z31A	Sharp Cattle R	75.56	337	⇓P	P	13 21 02.3	+0.4
	baz=76,SNR=6.7						
128A	Castleberry Fa	75.66	335	⇑P	P	13 21 02.9	+0.3
	baz=76						
Y33A	Hilltop Ranch,	75.76	339	P	P	13 21 03.6	+0.6
	baz=76						
Z30A	Sanderson Ranc	75.83	337	⇓P	P	13 21 03.8	+0.3
	baz=76,SNR=6.3						
Y32A	R-V Farms, Ver	75.99	338	⇑P	P	13 21 04.8	+0.5
	baz=76,SNR=5.1						
Z29A	Hungry Hill Ra	75.99	336	⇑P	P	13 21 04.8	+0.4
	baz=76,SNR=12						
X34A	Smith Ranch, M	76.09	340	P	P	13 21 05.6	+0.7
	baz=76						
Y31A	Rekieta Farm,	76.19	337	⇓P	P	13 21 06.1	+0.6
	baz=76,SNR=5.4						
X33A	Lawton	76.22	339	P	P	13 21 06.0	+0.4
	baz=77						
Y30A	Stafford Cattl	76.31	337	P	P	13 21 06.8	+0.6
	baz=77						
X32A	Elmer	76.33	338	⇓P	P	13 21 06.7	+0.4
	baz=77,SNR=5.8						
Y29A	Porterfield Fa	76.53	336	P	P	13 21 07.9	+0.3
	baz=77						
W34A	Bridge Creek,	76.68	340	⇓P	P	13 21 08.7	+0.5
	baz=77						
X31A	McDonald Ranch	76.73	338	P	P	13 21 08.9	+0.4
	baz=77						
Z26A	Caprock	76.75	334	P	P	13 21 09.2	+0.4
	baz=77						
Y28A	McKinney Farm,	76.76	336	⇓P	P	13 21 09.9	+1.1
	baz=77						
W33A	Caddo, Fort Co	76.79	339	⇓P	P	13 21 10.0	+1.2
	baz=77,SNR=5.7						
TUL1	Tulsa	76.80	342	eP	P	13 21 08.2	-0.7
	comp=Z,51nm,0.8s						
TUL1	Tulsa	76.80	342	P	P	13 21 09.3	+0.4
	baz=77						
X30A	Coker Ranch, T	76.83	337	⇓P	P	13 21 10.0	+0.9
	baz=77						
W32A	Sentinel	76.98	339	P	P	13 21 10.6	+0.7
	baz=77						
MSTX	Muleshoe	76.99	335	⇑P	P	13 21 10.6	+0.5
	baz=77,SNR=6.1						
Z25A	Roswell	77.01	334	P	P	13 21 11.6	+1.3
	baz=77						
319A	Douglas	77.02	329	P	P	13 21 11.1	+0.7
	baz=77						
Y27A	Causey	77.04	335	⇓P	P	13 21 11.1	+0.6
	baz=77						
X29A	Tulia	77.08	337	⇓P	P	13 21 11.2	+0.6
	baz=77						
V34A	Guthrie	77.17	340	P	P	13 21 11.3	+0.3
	baz=78						
W31A	Holland Ranch,	77.24	338	⇑P	P	13 21 12.1	+0.7
	baz=78						
Z24A	Sheeppen Canyo	77.29	333	⇑P	P	13 21 13.1	+1.2
	baz=78						
Y26A	Elida	77.29	335	P	P	13 21 12.5	+0.6
	baz=78						
V33A	Lossen Ranch,	77.37	340	P	P	13 21 12.8	+0.8
	baz=78						
LIC	Lamto	77.43	72	eP	P	13 21 13.2	+0.2
	comp=Z,178nm,1.3s						
121A	Cookes Peak, D	77.46	331	P	P	13 21 13.4	+0.6
	baz=78						
V32A	Arapaho	77.48	339	P	P	13 21 13.5	+0.8
	baz=78						
AMTX	Amarillo	77.48	337	⇓P	P	13 21 13.2	+0.4
	baz=78						
Y25A	Mesa, Roswell	77.59	334	⇓P	P	13 21 13.5	0.0
	baz=78						
W29A	Amraillo	77.69	337	⇑P	P	13 21 14.5	+0.5
	baz=78,SNR=5.4						
TIC	Toumodi	77.71	71	eP	P	13 21 14.7	+0.1
	comp=Z,122nm,1.2s						
X27A	F and S Farms,	77.72	335	P	P	13 21 14.5	+0.4
	baz=78						
KIC	Kosan Boka	77.73	72	eP	P	13 21 15.0	+0.3
	comp=Z,220nm,1.3s						
U34A	Anderson Ranch	77.75	340	P	P	13 21 14.1	-0.1
	baz=78						
V31A	Spring Creek L	77.76	338	⇑P	P	13 21 15.1	+0.8
	baz=78,SNR=6.3						
Z22A	Elephant Butte	77.80	332	P	P	13 21 15.5	+0.8
	baz=78						
Y24A	Capitan	77.85	333	⇓P	P	13 21 15.5	+0.4
	baz=78						
DBIC	Dimbokro	77.85	71	P	P	13 21 15.7	+0.4
	comp=Z,33nm,1.0s,baz=200,slow=7.0,SNR=11						
X26A	CR and CF Fran	77.86	335	P	P	13 21 15.5	+0.5
	baz=78						
U33A	Lingo Farm, Me	77.89	340	P	P	13 21 15.5	+0.5
	baz=78						
Y23A	Lovelace Mesa,	78.08	333	⇑P	P	13 21 17.1	+0.8
	baz=78						
W27A	Bowe Ranch, En	78.09	336	⇓P	P	13 21 16.9	+0.7
	baz=78,SNR=6.7						
U32A	Winter Ranch,	78.09	339	P	P	13 21 16.7	+0.6
	baz=78						
X25A	Clemmons Ranch	78.13	334	P	P	13 21 17.1	+0.6
	baz=78						
W26A	Owens Ranch, T	78.34	335	⇑P	P	13 21 18.6	+1.0
	baz=79						
TUC	Tucson	78.45	329	eP	P	13 21 18.7	+0.4
TUC				pmax	pmax		
	comp=Z,30nm,1.4s						
TUC	Tucson	78.45	329	eP	P	13 21 18.6	+0.4
	comp=Z,30nm,1.4s						
T33A	Patterson Ranc	78.54	340	P	P	13 21 19.8	+1.3
	baz=79						
LPM	Los Pinos Moun	78.62	333	eP	P	13 21 18.9	-0.4
	comp=Z,15nm,1.2s						
V27A	Dan Oppiter Fa	78.65	336	P	P	13 21 20.4	+1.1
	baz=79						
W25A	X Bar L Ranch,	78.69	335	⇑P	P	13 21 21.2	+1.6
	baz=79						
U30A	WK&E Inc. Balk	78.70	338	P	P	13 21 20.2	+0.6
	baz=79						
X23A	Hourglass Bar	78.71	333	P	P	13 21 20.8	+1.0
	baz=79						
T32A	Huddler Ranch,	78.82	340	P	P	13 21 20.8	+0.7
	baz=79						
LAZ	Ladron	78.89	332	eP	P	13 21 21.0	+0.2
T31A	Randall Ranch,	78.95	339	P	P	13 21 21.6	+0.8
	baz=79						
214A	Organ Pipe Nat	78.99	327	eP	P	13 21 21.4	+0.2
	comp=Z,38nm,1.3s						
214A	Organ Pipe Nat	78.99	327	P	P	13 21 22.5	+1.2
	baz=79						
W24A	Lazy 6 Ranch,	79.00	334	⇓P	P	13 21 22.4	+1.0
	baz=79,SNR=6.3						
ANMO	Albuquerque	79.13	333	P	P	13 21 22.4	+0.3
	comp=Z,6.6nm,1.0s,baz=177,slow=6.1,SNR=6.7						
BOSA	Boshof	79.14	118	P	P	13 21 22.2	-0.3
	comp=Z,33nm,1.1s,baz=234,slow=5.1,SNR=9.5						
BOSA				PP	PP	13 24 23.3	+1.8
	comp=Z,4.6nm,0.8s,baz=211,slow=3.7,SNR=3.1						
BOSA				LR	LR	13 51 20.6	
	comp=Z,1μm,21.4s,baz=208,slow=32						
W23A	Werner Place,	79.22	333	⇓P	P	13 21 23.5	+0.9
	baz=80						
U27A	Thompson Grove	79.26	336	⇑P	P	13 21 23.8	+1.1
	baz=80						
V25A	Rancho No Teng	79.30	335	⇑P	P	13 21 23.2	+0.2
	baz=80,SNR=5.2						
S32A	Newby Ranch, P	79.31	340	P	P	13 21 23.4	+0.6
	baz=80						
S31A	Mullinville	79.38	339	P	P	13 21 24.2	+0.9
	baz=80						
V24A	Rampart Ranch,	79.42	334	⇓P	P	13 21 24.2	+0.5
	baz=80						
R33A	Olander Ranch,	79.63	341	P	P	13 21 24.9	+0.4
	baz=80						
S30A	Montezuma	79.68	339	P	P	13 21 25.3	+0.4
	baz=80						
T28A	Walsh	79.68	337	⇓P	P	13 21 25.7	+0.7
	baz=80,SNR=5.7						
U25A	Circle Dot Ran	79.75	335	⇓P	P	13 21 26.5	+1.1
	baz=80,SNR=5.5						
V23A	Ortiz Mt. (NFS	79.75	334	P	P	13 21 26.7	+1.2
	baz=80						
T27A	Campo	79.81	337	⇓P	P	13 21 26.3	+0.6
	baz=80						
R32A	Long Quarter,	79.93	340	P	P	13 21 26.8	+0.7
	baz=80						
S28A	Manter	80.05	338	P	P	13 21 27.5	+0.6
	baz=80						
X18A	Snowflake	80.06	330	P	P	13 21 28.5	+1.3
	baz=80						
V22A	San Miguel Ran	80.16	333	⇓P	P	13 21 29.3	+1.5
	baz=80,SNR=15						
T26A	Comanche Natio	80.19	336	⇑P	P	13 21 28.7	+0.9
	baz=80,SNR=5.4						
U23A	El Rito	80.28	334	⇑P	P	13 21 29.7	+1.4
	baz=81,SNR=5.3						
T25A	Trinidad	80.42	336	⇑P	P	13 21 30.7	+1.7
	baz=81,SNR=5.8						
W18A	Petrified Fore	80.50	331	eP	P	13 21 29.2	-0.3
	comp=Z,42nm,1.3s						
W18A	Petrified Fore	80.50	331	P	P	13 21 30.8	+1.3
	baz=81						
X16A	Lo Mia Camp, P	80.56	329	⇓P	P	13 21 30.9	+1.1
	baz=81						
U22A	Llaves	80.56	333	⇓P	P	13 21 31.3	+1.5
	baz=81						
S26A	Kim	80.56	336	⇑P	P	13 21 30.9	+1.2
	baz=81,SNR=6.2						
R29A	Marienthal	80.60	338	P	P	13 21 30.6	+0.8
	baz=81						
T24B	San Luis	80.67	335	P	P	13 21 31.0	+0.5
	baz=81						
R28A	Tribune	80.72	338	P	P	13 21 31.0	+0.5
	baz=81						
Y14A	Wickenburg	80.78	328	⇓P	P	13 21 31.8	+0.9
	baz=81						
Q30A	Quinter	80.86	339	P	P	13 21 32.3	+1.1
	baz=81						
T23A	Casias Ranch,	80.87	334	⇑P	P	13 21 32.7	+1.1
	baz=81						
S25A	Robets Cordova	80.90	336	P	P	13 21 32.4	+0.8
	baz=81						
R27A	Eads	80.96	337	⇓P	P	13 21 32.0	+0.2
	baz=81,SNR=5.1						
S24A	Houchin Ranch,	81.14	335	P	P	13 21 34.1	+1.0
	baz=82						
R26A	Arlington	81.18	337	⇓P	P	13 21 33.6	+0.6
	baz=82,SNR=5.8						
P30A	Selden	81.39	340	P	P	13 21 35.0	+1.0
	baz=82						
S23A	Nye Farm, Mont	81.46	335	P	P	13 21 35.4	+0.8
	baz=82						
WUAZ	Wupatki	81.49	330	⇑P	P	13 21 35.0	+0.3
	baz=82						
KSCO	Kaye Shedlock'	81.58	338	P	P	13 21 35.8	+0.7
	baz=82						
LBTB	Lobatse	81.60	115	eP	P	13 21 35.0	-0.7
LBTB				pmax	pmax		
	comp=Z,107nm,1.4s						
LBTB	Lobatse	81.60	115	eP	P	13 21 35.0	-0.7
	comp=Z,107nm,1.4s						
P29A	Atwood	81.64	339	P	P	13 21 36.7	+1.4
	baz=82						
R24A	Sanders Place,	81.64	335	⇑P	P	13 21 36.0	+0.4
	baz=82,SNR=6.2						
S22A	4UR Ranch, Cre	81.78	334	⇑P	P	13 21 38.0	+1.6
	baz=82						
R23A	Moffat	81.84	335	⇓P	P	13 21 37.7	+1.0
	baz=82						
MVCO	Mesa Verde	81.89	333	⇑P	P	13 21 38.4	+1.5
	baz=82,SNR=5.1						
PFO	Pinyon Flat Ob	82.00	325	⇓P	P	13 21 39.1	+1.6
	baz=82						
Q24A	Divide	82.32	336	P	P	13 21 40.2	+0.9
	baz=83						
O28A	Krutsinger Ran	82.36	339	P	P	13 21 40.4	+1.3
	baz=83						
P25A	Willow Gulch B	82.51	337	P	P	13 21 41.1	+1.0
	baz=83						
GMRC	Granite Mounta	82.64	326	⇓P	P	13 21 42.3	+1.6
	baz=83						
U15A	North Rim	82.64	329	⇓P	P	13 21 42.4	+1.5
	baz=83						
PV01	Paradox Valley	82.74	333	eP	P	13 21 41.9	+0.5
	comp=Z,2μm,1.3s						
M31A	Lambtecht Ranc	82.74	341	P	P	13 21 42.6	+1.6
	baz=83						
P23A	Jefferson	82.92	335	P	P	13 21 43.9	+1.6
	baz=83						
ISCO	Idaho Springs	83.23	336	P	P	13 21 44.3	+0.4
	baz=84						
TUQ	Turquoise Moun	83.31	326	P	P	13 21 44.7	+0.5
	baz=84						
L31A	Butterfield Fa	83.49	341	P	P	13 21 45.9	+1.1
	baz=84						
GSC	Goldstone	83.58	326	⇓P	P	13 21 46.6	+1.1
	baz=84						
O23A	Lake Granby, G	83.70	336	⇓P	P	13 21 47.5	+1.2
	baz=84,SNR=5.7						
EDW2	Edwards Air Fo	83.76	325	⇑P	P	13 21 47.9	+1.5
	baz=84						
L29A	Maesberg Ranch	83.81	340	P	P	13 21 47.1	+0.6
	baz=84						
O22A	Kremmling	83.86	335	P	P	13 21 48.3	+1.2
	baz=84						
K30A	Basset	84.15	341	⇑P	P	13 21 49.4	+1.2
	baz=84						
N23A	Red Feather La	84.33	336	P	P	13 21 50.3	+0.8

baz=85
N22A Wattenberg Ran 84.41 336 P P 13 21 51.0 +1.1
baz=85
ECSD EROS Data Cent 84.44 343 P P 13 21 49.8 +0.2
baz=85
M24A Cheyenne 84.50 337 P P 13 21 50.7 +0.5
baz=85
ISA Isabella 84.63 325 ⇑P P 13 21 52.3 +1.5
baz=85
K27A Flueckinger Fa 84.88 339 P P 13 21 53.1 +1.2
baz=85
J29A Okreek 85.02 341 ⇓P P 13 21 53.4 +0.8
baz=85
N20A Spence Gulch, 85.04 334 P P 13 21 53.1 +0.1
baz=85
VES Vestal, Richgr 85.05 324 P P 13 21 54.5 +1.6
baz=85
K26A Motz Farm, Whi 85.14 339 ⇑P P 13 21 55.0 +1.7
baz=86
GRAC Grapevine Rang 85.25 326 P P 13 21 54.8 +0.8
baz=86
K25A Mack Ranch, Ha 85.26 338 ⇓P P 13 21 55.5 +1.5
baz=86
I30A Oacoma 85.27 342 P P 13 21 54.6 +0.8
baz=86
J28A Allard Ranch, 85.28 340 P P 13 21 54.4 +0.4
baz=86
J27A Elkhorn Farm, 85.32 340 P P 13 21 55.3 +1.1
baz=86
L23A Garrett 85.36 337 P P 13 21 55.0 +0.4
baz=86
R11A Troy Canyon, C 85.63 328 ⇓P P 13 21 57.2 +1.2
baz=86
J26A Sides Ranch, S 85.68 339 ⇑P P 13 21 56.9 +1.0
baz=86
I28A Midland 85.79 340 P P 13 21 56.7 +0.2
baz=86
K23A Bowen Ranch, D 85.92 337 P P 13 21 57.9 +0.7
baz=86
JLU Jordanelle 85.96 332 eP P 13 21 57.1 -0.6
comp=Z,21nm,1.3s
I27A Quinn 86.09 340 P P 13 21 58.2 +0.3
baz=86
K22A Casper 86.10 336 eP P 13 21 56.5 -1.7
comp=Z,60nm,1.5s
K22A Casper 86.10 336 ⇓P P 13 21 59.0 +0.8
baz=86
DUG Dugway 86.11 331 P P 13 21 59.6 +1.3
baz=86
H29A Onida 86.13 341 P P 13 21 58.4 +0.3
baz=86
J24A Dixon Ranch, L 86.15 338 P P 13 21 58.9 +0.6
baz=86
K21A Alcova 86.32 336 ⇓P P 13 21 59.6 +0.3
baz=87,SNR=5.7
G30A Faulkton 86.34 342 P P 13 21 59.9 +0.8
baz=87
H28A Mission Ridge 86.38 341 P P 13 21 59.9 +0.6
baz=87
I25A Rochford 86.51 339 P P 13 22 00.4 +0.2
baz=87
G29A Hoven 86.59 342 P P 13 22 00.7 +0.3
baz=87
H27A Howes 86.62 340 P P 13 22 01.1 +0.5
baz=87
G28A Parade 86.73 341 P P 13 22 01.7 +0.6
baz=87
NVAR Mina Array Bea 86.85 326 P P 13 22 02.9 +0.8
comp=Z,1.7nm,0.8s,baz=152,slow=4.0,SNR=4.3
TOA0 Torodi Ar. Sit 86.94 71 eP P 13 22 02.0 -0.8
TORD Torodi Ar. Bea 86.94 71 P P 13 22 02.3 -0.5
comp=Z,12nm,1.0s,baz=233,slow=4.9,SNR=14
F30A Leola 86.98 343 P P 13 22 02.5 +0.3
baz=87
J21A Lysite 87.02 336 ⇑P P 13 22 03.0 +0.3
baz=87
H25A Fruitdale 87.03 339 P P 13 22 02.8 +0.3
baz=87
F29A Eureka 87.17 342 P P 13 22 02.9 -0.2
baz=88
PDAR Pinedale Array 87.20 334 P P 13 22 03.6 0.0
comp=Z,2.9nm,1.0s,baz=145,slow=5.4,SNR=6.6
J20A Shoshoni 87.23 336 ⇑P P 13 22 04.7 +1.1
baz=88,SNR=7.1
G27A Dupree 87.28 340 P P 13 22 04.1 +0.4
baz=88
G26A Maurine 87.37 340 P P 13 22 04.1 0.0
baz=88
I21A Big Trails, Te 87.39 336 ⇓P P 13 22 04.5 +0.1
baz=88,SNR=5.6
F28A McLaughlin 87.42 341 P P 13 22 05.0 +0.6
baz=88
J19A Crowheart 87.47 335 ⇓P P 13 22 04.8 0.0
baz=88,SNR=5.9
G25A Newell 87.50 339 P P 13 22 05.2 +0.4
baz=88
ELK Elko 87.53 330 P P 13 22 05.5 +0.2
comp=Z,4.7nm,0.9s,baz=149,slow=1.8,SNR=7.8
E30A Jud 87.58 343 P P 13 22 05.0 -0.1
baz=88
F27A Lemmon 87.76 341 P P 13 22 05.9 -0.1
baz=88
I20A Worland 87.78 336 ⇓P P 13 22 06.6 +0.4
baz=88,SNR=5.4
E29A Napoleon 87.81 342 P P 13 22 06.5 +0.3
baz=88
F26A Lodgepole 87.91 340 P P 13 22 06.8 0.0
baz=88
E28A Huff 88.08 342 P P 13 22 07.7 +0.3
baz=88
D30A Buchanan 88.12 343 P P 13 22 07.9 +0.2
baz=88
I19A Meeteetse 88.14 335 ⇑P P 13 22 08.2 +0.1
baz=88
H20A Greybull 88.22 336 P P 13 22 08.5 +0.2
baz=89
D29A Pettibone, Tap 88.27 343 P P 13 22 08.4 0.0
baz=89
I17A Pilgrim Ck. 88.56 334 ⇑P P 13 22 11.2 +1.1
baz=89
C30A Mose, Pekin 88.62 344 P P 13 22 10.7 +0.7
baz=89
D28A Regan 88.62 342 P P 13 22 10.7 +0.6
baz=89
H19A Powell 88.70 336 P P 13 22 11.0 +0.4
baz=89
H18A Shoshone NF, C 88.93 335 P P 13 22 12.2 +0.4
baz=89
D26A Manning 88.94 341 P P 13 22 12.2 +0.7
baz=89
G20A Bridger 88.95 336 P P 13 22 12.4 +0.6
baz=89
C28A Hausauer Farms 89.07 342 P P 13 22 13.3 +1.2
baz=89
B30A Myrvik Farm, E 89.29 344 P P 13 22 13.5 +0.4
baz=90
C27A Sayler Ranch, 89.34 342 P P 13 22 13.9 +0.5
baz=90
B29A Wagenman Farm, 89.53 343 P P 13 22 14.1 -0.1
baz=90
LSZ Lusaka 89.61 109 eP P 13 22 15.9 +0.2
LSZ pmax pmax
comp=Z,65nm,1.9s
LSZ Lusaka 89.61 109 eP P 13 22 15.8 +0.2
comp=Z,65nm,1.9s
HLID Hailey 89.62 332 P P 13 22 15.9 +0.9
baz=90
QLMT Earthquake Lak 89.66 334 eP P 13 22 15.9 +0.7
comp=Z,1.7nm,1.1s
F19A Roth Farm, Mol 89.74 336 P P 13 22 15.3 -0.1
baz=90
A30A Hoffart Farm, 89.75 344 P P 13 22 15.3 +0.1
baz=90
B28A Dugan Ranch, T 89.75 343 P P 13 22 15.3 0.0
baz=90
D23A Lindsay 89.82 339 P P 13 22 15.8 +0.1
baz=90
C24A Savage 89.93 340 P P 13 22 16.5 +0.3
baz=90
A29A Manning Farm, 89.94 343 P P 13 22 16.2 +0.1
baz=90
E20A Meyer Farm, Mu 90.07 337 P P 13 22 17.0 +0.1
baz=90
MCMT McKenzie Canyo 90.15 333 eP P 13 22 17.6 0.0
comp=Z,12nm,1.9s
E19A Rath Farm, Rou 90.23 337 P P 13 22 17.3 -0.4
baz=91
ULM Lac du Bonnet 90.50 346 P P 13 22 19.1 +0.4
comp=Z,3.5nm,1.0s,baz=90,slow=2.0,SNR=2.6
DGMT Dagmar 90.73 340 P P 13 22 20.1 +0.2
baz=91
D19A Cripps Ranch, 90.89 337 P P 13 22 21.2 +0.5
baz=91
B22A Reddig Ranch S 91.06 339 P P 13 22 21.5 0.0
baz=91
A22A Carney Farms, 91.67 339 P P 13 22 24.5 +0.2
baz=92
CHMT Chamberlain Mo 92.10 334 eP P 13 22 26.8 +0.3
comp=Z,7.4nm,1.5s
MSO Missoula 92.26 334 P P 13 22 28.5 +1.3
baz=93
SLMT Seeley Lake 92.46 334 eP P 13 22 27.7 -0.5
comp=Z,13nm,1.4s
BSMT Bassoo Peak 93.44 334 eP P 13 22 33.2 +0.6
comp=Z,9.8nm,1.3s
NEW Newport 94.61 333 P P 13 22 37.4 -0.5
comp=Z,1.7nm,0.9s,baz=190,slow=11,SNR=3.0
NEW Newport 94.61 333 P P 13 22 37.4 -0.5
baz=95
YKA Yellowknife Ar 105.88 342 Pdiff Pdif 13 23 33.4 +5.5
comp=Z,0.2nm,0.6s,baz=144,slow=4.8,SNR=3.1
GERES GERESS Array B 116.19 47 PKP PKPdf 13 27 59.4 -0.9
comp=Z,1.1nm,0.7s,baz=132,slow=1.5,SNR=4.5
WRA Warramunga Arr 116.22 209 PKP PKPdf 13 27 59.8 -1.4
comp=Z,0.6nm,0.8s,baz=167,slow=1.3,SNR=3.3
NOA NORSAR Array B 120.48 34 PKP PKPdf 13 28 07.7 -0.4
comp=Z,1.4nm,0.9s,baz=206,slow=1.0,SNR=3.0
H11S2 WAKE ISLAND Hy124.33 267 T T 15 44 43.3
baz=126,slow=75,SNR=7.9
H11S1 WAKE ISLAND Hy124.33 267 T T 15 44 47.7
baz=126,slow=75,SNR=9.5
H11S3 WAKE ISLAND Hy124.33 267 T T 15 44 40.4
baz=126,slow=75,SNR=7.7
BRTR Keskin Array B 125.06 64 PKP PKPdf 13 28 17.2 -0.5
comp=Z,0.6nm,0.4s,baz=255,slow=5.5,SNR=5.9
AKASG Malin Array Be 126.12 50 PKP PKPdf 13 28 17.9 -1.2
comp=Z,0.3nm,0.3s,baz=269,slow=2.3,SNR=7.8
AKASG PP PP 13 30 11.3 -2.6
comp=Z,0.2nm,0.3s,baz=251,slow=5.8,SNR=4.3
FINES FINESS Array B 127.39 37 PKP PKPdf 13 28 21.1 -0.1
comp=Z,2.8nm,1.0s,baz=357,slow=3.8,SNR=4.5
ARCES ARCESS Array B 128.61 26 PKP PKPdf 13 28 23.1 -0.3
comp=Z,3.8nm,0.9s,baz=17,slow=6.9,SNR=5.8
OBN Obninsk 131.54 46 ⇓iPKIKP PKPdf 13 28 30.7 +1.5
OBN e 13 28 37.6
OBN pmax pmax
comp=Z,6.0nm,0.7s
OBN MLR MLR
comp=Z,523nm,17.0s
KLMR Klimovskoe 133.75 39 ePKIKP PKPdf 13 28 31.8 -1.5
KLMR pmax pmax
comp=Z,26nm,1.6s
BILL Bilibino 136.23 332 ePKIKP PKPdf 13 28 39.2 +1.5
BILL e 13 28 47.0
BILL pmax pmax
comp=Z,5.0nm,1.4s
PETK Petropavlovsk- 142.18 310 PKP PKPdf 13 28 49.1 0.0
comp=Z,5.3nm,0.9s,baz=108,slow=9.3,SNR=3.4
GEYT Alibeck 142.44 75 PKhKP PKPpre 13 28 46.6
comp=Z,3.2nm,0.7s,baz=270,slow=2.4,SNR=4.7
SEY Seymchan 143.16 327 PKP PKPdf 13 28 50.6 +0.1
comp=Z,3.6nm,0.7s,baz=142,slow=3.0,SNR=5.4
ARU Arti 143.93 44 PKIKP PKPab 13 28 49.5 +0.2
ARU Arti 143.93 44 ePKPdf PKPbc 13 28 49.8 -0.1
TIXI Tiksi 144.83 348 ePKIKP PKPab 13 28 51.0 -1.2
TIXI Tiksi 144.83 348 ePKPdf PKPab 13 28 51.0 -1.2
SVE Sverdlovsk 144.98 43 ePKIKP PKPbc 13 28 53.1 -0.1
SVE pmax pmax
comp=Z,64nm,1.5s
ABKAR Akbulak array 145.36 57 ePKPdf PKPbc 13 28 54.6 -0.1
POO Poona 145.47 116 ⇓iP PKPdf 13 28 54.0 -1.9
comp=Z,114nm,1.2s
IPM Ipoh 145.81 171 ePKPdf PKPab 13 28 56.1 -0.6
HYB Hyderabad 147.91 123 i PKP PKPbc 13 29 02.0 -1.1
BRVK Borovoye 151.29 48 ePKIKP PKPbc 13 29 10.6 +0.3
BRVK Borovoye 151.29 48 ePKPbc PKPbc 13 29 10.6 +0.3
YSS Yuzh-Sakhalins 152.15 300⇑ePKIKP PKPbc 13 29 11.0 -1.4
ASAJ Asahikawa 152.34 293 PKPbc PKPbc 13 29 12.0 -1.0
comp=Z,18nm,1.0s,baz=214,slow=7.1,SNR=5.3
NVS Novosibirsk 157.38 36 ePKIKP PKPdf 13 29 10.6 -2.1
NVS pmax pmax
comp=Z,18nm,1.3s
ZALV Zalesovo Beam 158.66 37 PKP PKPdf 13 29 12.9 -1.5
comp=Z,2.5nm,0.9s,baz=318,slow=2.0,SNR=4.9
ZALV PKPab PKPab 13 29 50.0 +0.3
comp=Z,8.4nm,1.0s,baz=290,slow=6.1,SNR=6.8
CMAR Chiang Mai Arr 159.03 160 PKP PKPdf 13 29 15.6 -0.3
comp=Z,0.5nm,0.7s,baz=236,slow=3.5,SNR=4.5
CMAR PKPab PKPab 13 29 51.8 -0.4
comp=Z,1.7nm,1.0s,baz=215,slow=5.1,SNR=5.0
USRK Ussuriysk Arra 159.96 295 PKPab PKPab 13 29 55.8 0.0
comp=Z,2.4nm,0.8s,baz=51,slow=8.0,SNR=4.9
BOD Bodaibo 160.01 348 ePKP2 PKPab 13 29 53.8 -1.7
BOD pmax pmax
comp=Z,7.0nm,1.5s
MKAR Makanchi Array 160.51 57 PKP PKPdf 13 29 16.6 -0.1
comp=Z,2.5nm,1.0s,baz=274,slow=3.5,SNR=4.9
MKAR PKPab PKPab 13 29 57.3 -0.8
comp=Z,3.4nm,1.0s,baz=278,slow=3.8,SNR=4.7
MKAR PP PP 13 33 40.8 -0.2
comp=Z,2.3nm,1.0s,baz=287,slow=4.6,SNR=5.3
MOY Mondy 166.29 14 ePKP2 PKPab 13 30 31.4 +8.0
SONM Songino Array 170.65 360 PKP PKPdf 13 29 24.5 -0.7
comp=Z,1.2nm,0.9s,baz=218,slow=1.6,SNR=4.9
SONM PKPab PKPab 13 30 42.4 -0.3
comp=Z,2.0nm,1.0s,baz=349,slow=3.1,SNR=5.6

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*IDC **27** 13:12:47.1±0.5, 35.23S×72.52W, h0km, mb4.7/14, mb1 4.8/16, mb1mx4.7/23, mbtmp4.6/16, ML4.5/2, Error ellipse: s-maj=24.3km s-min=15.6km az=66.0*

*ISCJB **27** 13:12:51.5±0.3, 35.03S±0.07×72.2W±0.1, h33km, mb4.9/59, Error ellipse: s-maj=14.2km s-min=8.4km az=150.5*

*BJI **27** 13:12:51.4, 35.00S×71.70W, h35km, mB5.3/3, Ms6.6/1*

*NEIC **27** 13:12:52.5±0.3, 35.16S×72.21W, h35km, mb5.0/45, Error ellipse: s-maj=11.8km s-min=7.6km az=70.0*

ISC 27 13:12:51.5±0.7, 35.28S±0.06×72.4W±0.1, h33km±3km, h33km:pP-P, n333, σ1.22/341, mb4.9/59, 118C-119D, Near coast of central Chile

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

CFAA Coronel Fontan 5.06 45 Pn Pn 13 14 03.5 -1.6
2.2nm,0.3s,baz=192,slow=9.3,SNR=4.2
CFAA Sn Sn 13 15 05.5 +3.0
3.7nm,0.3s,baz=294,slow=20,SNR=3.9
PLCA Paso Flores 5.63 165 Pn Pn 13 14 12.4 -0.6
6.9nm,0.3s,baz=300,slow=8.1,SNR=3.8
PLCA Sn Sb 13 15 32.7 -3.5
17nm,0.3s,baz=320,slow=15,SNR=4.3
LPAZ La Paz 19.30 13 P P 13 17 10.5 -3.9
0.8nm,0.3s,baz=179,slow=10,SNR=6.5
LPAZ La Paz 19.30 13 eP P 13 17 12.2 -2.2
SIV San Ignacio 21.73 31 P P 13 17 36.4 -3.7
16nm,0.8s,baz=232,slow=10,SNR=5.6
NNA Nana 23.54 349 P P 13 17 55.5 -3.5
6.8nm,0.3s,baz=172,slow=9.0,SNR=3.2
SDV Santo Domingo 43.96 3 eP P 13 20 55.8 0.0
15nm,0.8s
VNA3 Neumayer Olymp 48.29 157 P P 13 21 31.6 +2.5
VNA2 Neumayer--Watz 48.95 157 P P 13 21 36.5 +2.3
SNAA Sanae 50.52 157 P P 13 21 48.2 +2.1
SNAA Sanae 50.52 157 P P 13 21 47.8 +1.7
4.2nm,0.7s,baz=280,slow=7.9,SNR=9.7
SNAA Sanae 50.52 157 eP P 13 21 46.5 +0.4
21nm,1.0s
QSPA South Pole Qui 54.96 180 P P 13 22 20.3 +1.2
7.5nm,0.9s,baz=165,slow=6.1,SNR=4.8
QSPA South Pole Qui 54.96 180 eP P 13 22 21.4 +2.3
16nm,0.8s
TEIG Tepich 57.22 342 P P 13 22 35.1 -0.4
13nm,0.7s,baz=168,slow=4.5,SNR=6.5
SYO Syowa Base 64.79 158⇑eP P 13 23 26.2 -0.1
833A Chaparral WMA, 68.20 334 ⇑P P 13 23 48.8 +0.2
baz=68
832A Faith Ranch, C 68.37 334 ⇑P P 13 23 49.2 -0.5
baz=69
732A Laxson Ranch, 68.78 334 ⇑P P 13 23 52.5 +0.3
baz=69,SNR=9.7
632A Uvalde 69.42 335 ⇓P P 13 23 56.6 +0.4
baz=70,SNR=5.9
631A Perdido Creek 69.61 334 ⇓P P 13 23 57.1 -0.3
baz=70
533A Kerrville 69.68 336 ⇓P P 13 23 58.2 +0.4
baz=70
532A Rocksprings 70.03 335 ⇑P P 13 24 00.9 +0.9
baz=70,SNR=7.9
434A Burnet 70.11 336 ⇑P P 13 24 00.6 +0.2
baz=70,SNR=6.0
336A Riesel 70.18 338 ⇑P P 13 24 00.9 +0.1
baz=70
531A Rocksprings 70.29 334 ⇑P P 13 24 02.5 +0.9
baz=71
JCT Junction City 70.31 335 eP P 13 23 59.8 -1.9
17nm,0.9s
JCT Junction City 70.31 335 ⇓P P 13 24 02.2 +0.6
baz=71
433A Art 70.32 336 ⇑P P 13 24 01.9 +0.2
baz=71,SNR=6.5
530A J-C Ranch, Com 70.56 334 ⇓P P 13 24 04.1 +0.9
baz=71,SNR=5.5
334A Lometa 70.57 337 ⇑P P 13 24 03.7 +0.4
baz=71,SNR=5.7
432A Menard 70.67 335 ⇓P P 13 24 04.1 +0.3
baz=71
TXAR Lajitas Array 70.71 331 P P 13 24 04.5 +0.4
2.5nm,0.6s,baz=154,slow=8.9,SNR=12
431A Sonora 70.78 334 ⇓P P 13 24 04.3 -0.2
baz=71
333A Richland Sprin 70.81 336 ⇑P P 13 24 04.3 -0.4
baz=71,SNR=5.9
529A Stev Forest Ra 70.86 333 ⇓P P 13 24 05.5 +0.5
baz=71,SNR=8.0
WHTX Lake Whitney 70.94 338 eP P 13 24 03.8 -1.6
9.1nm,0.8s
WHTX Lake Whitney 70.94 338 ⇑P P 13 24 05.9 +0.6
baz=71
430A Baggett Ranch, 71.10 334 ⇓P P 13 24 07.6 +1.1
baz=71
332A Millersview 71.12 335 ⇓P P 13 24 06.7 +0.2
baz=71,SNR=5.1
234A Clairette 71.16 337 ⇓P P 13 24 06.6 -0.1
baz=71
429A Davenport Ranc 71.19 333 ⇑P P 13 24 08.0 +1.0
baz=72
331A San Angelo 71.29 335 ⇑P P 13 24 07.8 +0.2
baz=72,SNR=6.2
TKL Tuckaleechee C 71.37 350 P P 13 24 07.8 -0.2
11nm,0.7s,baz=145,slow=7.1,SNR=3.5
233A Rising Star 71.42 336 ⇓P P 13 24 08.5 +0.2
baz=72
232A Coleman 71.55 336 ⇑P P 13 24 10.1 +1.0
baz=72
330A Mertzon 71.64 334 ⇓P P 13 24 09.7 -0.1
baz=72
231A Bronte 71.82 335 ⇓P P 13 24 10.6 -0.2
baz=72,SNR=8.3
133A Hamilton Ranch 71.97 337 ⇓P P 13 24 12.1 +0.4
baz=72,SNR=5.2
329A Wagon Wheel Ra 72.00 334 ⇑P P 13 24 12.5 +0.6
baz=72
230A Sterling City 72.05 335 ⇑P P 13 24 12.1 -0.1
baz=72
Z35A Perchaven, San 72.12 338 ⇓P P 13 24 13.1 +0.6
baz=72,SNR=5.2
ABTX Abilene, Hawle 72.22 336 eP P 13 24 13.6 +0.5
18nm,0.9s
ABTX epP pP 13 24 25.0 +1.5
ABTX Abilene, Hawle 72.22 336 ⇑P P 13 24 12.9 -0.2
baz=72,SNR=6.1
229A Bryant Ranch, 72.37 334 ⇓P P 13 24 14.8 +0.7
baz=73
131A Roby 72.52 335 ⇓P P 13 24 15.0 +0.1
baz=73,SNR=5.3
Z33A Whitaker Ranch 72.55 337 ⇑P P 13 24 15.1 +0.1
baz=73,SNR=5.4
130A Snyder 72.64 335 ⇓P P 13 24 16.0 +0.3
baz=73
228A UT Block 9, Go 72.79 333 ⇑P P 13 24 17.2 +0.5
baz=73,SNR=5.8
Z32A Haskell 72.79 336 ⇑P P 13 24 16.7 +0.2
baz=73,SNR=6.8
129A Stewart Farms, 72.99 334 ⇑P P 13 24 18.5 +0.7
baz=73
Z31A Sharp Cattle R 73.02 336 ⇑P P 13 24 18.3 +0.4
baz=73,SNR=7.4
Y33A Hilltop Ranch, 73.17 337 ⇑P P 13 24 18.3 -0.4
baz=73
128A Castleberry Fa 73.20 334 ⇑P P 13 24 19.5 +0.4
baz=74,SNR=6.4
Z30A Sanderson Ranc 73.33 335 ⇓P P 13 24 19.6 -0.1
baz=74,SNR=6.1
Y32A R-V Farms, Ver 73.42 337 ⇑P P 13 24 20.4 +0.1
baz=74
X34A Smith Ranch, M 73.47 338 ⇓P P 13 24 21.1 +0.6
baz=74
Z29A Hungry Hill Ra 73.50 335 ⇑P P 13 24 20.9 +0.1
baz=74,SNR=6.7
PBMO Poplar Bluff 73.63 345 eP P 13 24 21.2 -0.2
79nm,1.9s
X32A Elmer 73.76 337 ⇓P P 13 24 18.8 -3.4
baz=74
Y30A Stafford Cattl 73.79 336 ⇑P P 13 24 22.7 +0.2
baz=74
Y29A Porterfield Fa 74.04 335 ⇑P P 13 24 24.2 +0.3
baz=74,SNR=5.3
TUL1 Tulsa 74.11 340 eP P 13 24 24.3 +0.1
17nm,0.7s
TUL1 Tulsa 74.11 340 ⇓P P 13 24 24.1 -0.1
baz=74
X31A McDonald Ranch 74.17 337 ⇑P P 13 24 25.1 +0.5
baz=74,SNR=6.5
W33A Caddo, Fort Co 74.18 338 ⇑P P 13 24 25.1 +0.5
baz=74
Y28A McKinney Farm, 74.28 335 ⇑P P 13 24 25.8 +0.4
baz=75
Z26A Caprock 74.34 333 ⇓P P 13 24 26.3 +0.5
baz=75,SNR=11
W32A Sentinel 74.39 337 ⇓P P 13 24 26.3 +0.4
baz=75,SNR=7.3
MSTX Muleshoe 74.52 334 eP P 13 24 27.1 +0.3
18nm,0.9s
MSTX Muleshoe 74.52 334 ⇑P P 13 24 27.1 +0.3
baz=75,SNR=7.1
X29A Tulia 74.58 335 ⇓P P 13 24 27.4 +0.3
baz=75
Z25A Roswell 74.62 332 ⇓P P 13 24 28.8 +1.4
baz=75
W31A Holland Ranch, 74.67 337 ⇑P P 13 24 26.8 -0.7
baz=75
V33A Lossen Ranch, 74.74 338 ⇓P P 13 24 28.1 +0.2
baz=75,SNR=5.4
Y26A Elida 74.86 333 ⇓P P 13 24 29.1 +0.3
baz=75
Z24A Sheeppen Canyo 74.91 332 ⇓P P 13 24 30.7 +1.5
baz=75,SNR=6.4
AMTX Amarillo 74.97 335 eP P 13 24 29.9 +0.5
29nm,1.2s
AMTX Amarillo 74.97 335 ⇑P P 13 24 29.8 +0.5
baz=75
W29A Amraillo 75.17 336 ⇓P P 13 24 30.9 +0.3
baz=76,SNR=6.7
121A Cookes Peak, D 75.18 330 ⇓P P 13 24 32.2 +1.5
baz=76,SNR=6.0
Y25A Mesa, Roswell 75.19 333 ⇓P P 13 24 30.7 +0.1
baz=76
X26A CR and CF Fran 75.42 334 ⇑P P 13 24 33.0 +1.0
baz=76
Y24A Capitan 75.47 332 ⇓P P 13 24 33.5 +1.1
baz=76,SNR=5.2
Z22A Elephant Butte 75.48 331 ⇑P P 13 24 34.4 +2.0
baz=76
W27A Bowe Ranch, En 75.61 334 ⇑P P 13 24 33.6 +0.6
baz=76,SNR=8.7
X25A Clemmons Ranch 75.71 333 ⇓P P 13 24 34.6 +0.9
baz=76
Y23A Lovelace Mesa, 75.71 332 ⇓P P 13 24 35.1 +1.4
baz=76
ACSO Alum Creek Sta 75.77 352 eP P 13 24 33.9 +0.2
33nm,0.8s
DBIC Dimbokro 75.88 71 P P 13 24 37.0 +2.1
7.9nm,0.7s,baz=201,slow=5.9,SNR=6.8
W26A Owens Ranch, T 75.89 334 ⇓P P 13 24 35.4 +0.8
baz=76
U30A WK&E Inc. Balk 76.13 337 ⇑P P 13 24 36.9 +1.0
baz=76
W25A X Bar L Ranch, 76.25 333 ⇑P P 13 24 37.4 +0.6
baz=76,SNR=5.5
LPM Los Pinos Moun 76.27 331 eP P 13 24 36.4 -0.6
6.1nm,0.9s
X23A Hourglass Bar 76.34 332 ⇓P P 13 24 38.8 +1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=77,SNR=5.2						
V26A	Tequesquite Ra baz=77	76.53	334	⇓P	P	13 24 38.7	+0.4
W24A	Lazy 6 Ranch, baz=77	76.60	333	⇑P	P	13 24 39.8	+1.0
U27A	Thompson Grove baz=77	76.75	335	⇑P	P	13 24 40.5	+0.9
ANMO	Albuquerque 7.1nm,0.9s,baz=160,slow=8.4,SNR=11	76.76	332	P	P	13 24 40.5	+0.8
ANMO	Albuquerque 9.4nm,1.0s	76.76	332	eP	P	13 24 39.0	-0.8
S31A	Mullinville baz=77	76.77	338	⇓P	P	13 24 35.0	-4.4
W23A	Werner Place, baz=77,SNR=6.5	76.83	332	⇑P	P	13 24 41.6	+1.5
V25A	Rancho No Teng baz=77,SNR=6.1	76.86	334	⇑P	P	13 24 40.9	+0.6
T29A	Hugoton baz=77	76.91	337	⇓P	P	13 24 41.5	+1.1
V24A	Rampart Ranch, baz=77	77.00	333	⇓P	P	13 24 41.9	+0.8
U26A	Atchley Ranch, baz=77	77.05	334	⇓P	P	13 24 41.8	+0.5
S30A	Montezuma baz=77	77.09	337	⇑P	P	13 24 42.3	+0.9
T28A	Walsh baz=77,SNR=9.7	77.15	336	⇓P	P	13 24 42.2	+0.5
S29A	Ulysses baz=78	77.28	337	⇑P	P	13 24 42.3	-0.1
R32A	Long Quarter, baz=78	77.28	339	⇑P	P	13 24 43.1	+0.8
U25A	Circle Dot Ran baz=78	77.29	334	⇓P	P	13 24 43.7	+1.0
T27A	Campo baz=78,SNR=6.3	77.30	336	⇓P	P	13 24 43.4	+0.8
V23A	Ortiz Mt. (NFS baz=78	77.36	332	⇑P	P	13 24 45.2	+2.1
R31A	Burdett baz=78	77.40	338	⇑P	P	13 24 43.2	+0.2
S28A	Manter baz=78,SNR=8.1	77.50	336	⇑P	P	13 24 43.6	-0.1
U24A	Moreno Valley baz=78	77.61	333	⇓P	P	13 24 46.6	+2.1
T26A	Comanche Natio baz=78,SNR=5.5	77.70	335	⇑P	P	13 24 45.7	+0.8
V22A	San Miguel Ran baz=78,SNR=8.7	77.79	332	⇓P	P	13 24 47.6	+2.1
U23A	El Rito baz=78,SNR=5.6	77.88	333	⇑P	P	13 24 47.8	+1.8
T25A	Trinidad baz=78,SNR=9.2	77.95	334	⇓P	P	13 24 47.6	+1.3
R29A	Marienthal baz=78	78.02	337	⇓P	P	13 24 47.5	+1.0
S26A	Kim baz=78,SNR=8.7	78.06	335	⇓P	P	13 24 47.9	+1.1
R28A	Tribune baz=78,SNR=7.0	78.16	337	⇓P	P	13 24 47.3	0.0
U22A	Llaves baz=78	78.17	332	⇑P	P	13 24 50.2	+2.6
W18A	Petrified Fore 14nm,1.0s	78.23	329	eP	P	13 24 47.9	+0.1
T24B	San Luis baz=78	78.23	334	⇓P	P	13 24 49.9	+1.9
Q30A	Quinter baz=78,SNR=6.0	78.24	338	⇑P	P	13 24 47.9	+0.2
X16A	Lo Mia Camp, P baz=79,SNR=7.7	78.36	328	⇑P	P	13 24 50.2	+1.6
Q29A	Oakley baz=79	78.39	338	⇓P	P	13 24 48.7	+0.1
S25A	Robets Cordova baz=79	78.43	335	⇓P	P	13 24 50.2	+1.2
R27A	Eads baz=79,SNR=7.9	78.43	336	⇑P	P	13 24 49.4	+0.5
R26A	Arlington baz=79,SNR=6.4	78.66	336	⇑P	P	13 24 51.5	+1.4
S24A	Houchin Ranch, baz=79,SNR=8.6	78.69	334	⇓P	P	13 24 52.2	+1.7
P30A	Selden baz=79	78.77	338	⇑P	P	13 24 50.1	-0.5
R25A	Fountain Ranch baz=79	78.81	335	⇑P	P	13 24 51.7	+0.7
P29A	Atwood baz=79,SNR=6.7	79.03	338	⇑P	P	13 24 52.5	+0.4
R24A	Sanders Place, baz=80,SNR=11	79.17	334	⇓P	P	13 24 54.7	+1.7
WUAZ	Wupatki 17nm,1.3s	79.26	329	eP	P	13 24 55.1	+1.6
S22A	4UR Ranch, Cre baz=80	79.37	333	⇑P	P	13 24 55.8	+1.6
R23A	Moffat baz=80,SNR=5.8	79.39	334	⇑P	P	13 24 55.7	+1.4
Q25A	Bedland, Calha baz=80	79.48	335	⇑P	P	13 24 55.5	+0.8
JFWS	Jewell Farm 178nm,2.0s	79.51	347	eP	P	13 24 54.8	+0.2
MVCO	Mesa Verde 23nm,1.4s	79.54	331	eP	P	13 24 56.3	+1.2
BOSA	Boshof 4.9nm,0.8s,baz=219,slow=6.5,SNR=1.9	79.75	118	P	P	13 24 58.2	+1.6
O28A	Krutsinger Ran baz=80	79.77	338	⇑P	P	13 24 56.0	-0.1
Q24A	Divide baz=80,SNR=6.0	79.84	335	⇑P	P	13 24 57.8	+1.0
PFO	Pinyon Flat Ob 2.7nm,0.9s,baz=109,slow=4.4,SNR=4.5	79.98	324	P	P	13 24 58.6	+1.2
PFO	Pinyon Flat Ob baz=80	79.98	324	⇑P	P	13 25 11.4	+14
P25A	Willow Gulch B baz=80,SNR=7.2	80.00	336	⇓P	P	13 24 58.7	+1.3
PV01	Paradox Valley 1μm,1.6s	80.37	332	eP	P	13 25 00.2	+0.6
U15A	North Rim baz=81,SNR=6.7	80.42	328	⇑P	P	13 25 01.6	+1.6
P23A	Jefferson baz=81	80.45	334	⇑P	P	13 25 04.6	+4.5
O25A	Wiggins baz=81	80.52	336	⇑P	P	13 25 01.6	+1.4
N27A	Anderson Farm, baz=81	80.63	337	⇑P	P	13 25 01.4	+0.6
SMCO	Snowmass 13nm,1.0s	80.69	333	eP	P	13 25 03.0	+1.5
ISCO	Idaho Springs 73nm,2.6s	80.75	335	eP	P	13 25 02.8	+1.1
ISCO	Idaho Springs baz=81	80.75	335	⇑P	P	13 25 02.9	+1.2
P22A	Eagle baz=81	80.97	334	⇓P	P	13 25 04.7	+1.9
L29A	Maesberg Ranch baz=81	81.16	339	⇑P	P	13 25 04.3	+0.8
O23A	Lake Granby, G baz=82,SNR=5.9	81.22	335	⇑P	P	13 25 05.6	+1.5
O22A	Kremmling baz=82	81.40	334	⇑P	P	13 25 06.4	+1.3
K30A	Basset baz=82,SNR=6.1	81.47	340	⇓P	P	13 25 06.1	+1.0
ECSD	EROS Data Cent 22nm,0.8s	81.67	343	eP	P	13 25 06.2	+0.1
ECSD	EROS Data Cent baz=82,SNR=8.9	81.67	343	⇑P	P	13 25 05.8	-0.3
SHPR	Sheep Range	81.75	326	eP	P	13 25 08.6	+1.7
CCUT	Cedar City 10nm,0.9s	81.83	328	eP	P	13 25 09.4	+2.0
N23A	Red Feather La baz=82	81.84	335	⇑P	P	13 25 08.9	+1.5
N22A	Wattenberg Ran baz=82	81.93	335	⇑P	P	13 25 09.7	+1.8
M24A	Cheyenne baz=82	81.97	336	⇓P	P	13 25 09.4	+1.5
SRU	San Rafael 8.3nm,0.9s	81.98	331	eP	P	13 25 08.9	+0.9
J30A	Dallas baz=82	82.04	340	⇓P	P	13 25 06.0	-2.0
LBTB	Lobatse 220nm,1.1s	82.04	115	eP	P	13 25 09.8	+1.0
K27A	Flueckinger Fa baz=82	82.26	338	⇑P	P	13 25 10.9	+1.5
J29A	Okreek baz=83	82.35	340	⇑P	P	13 25 10.8	+1.1
TMUT	Trail Mountain 114nm,2.7s	82.41	331	eP	P	13 25 11.6	+1.2
I30A	Oacoma baz=83,SNR=5.6	82.57	341	⇑P	P	13 25 11.1	+0.3
J26A	Sides Ranch, S baz=83	83.07	338	⇑P	P	13 25 14.3	+0.8
I28A	Midland baz=83,SNR=7.1	83.14	340	⇓P	P	13 25 14.4	+0.7
MPU	Maple Canyon 10nm,1.0s	83.20	331	eP	P	13 25 15.4	+1.1
J25A	Sunshine Ranch baz=84	83.37	338	⇑P	P	13 25 16.2	+1.1
K23A	Bowen Ranch, D baz=84	83.39	336	⇓P	P	13 25 16.4	+1.1
H29A	Onida baz=84,SNR=7.0	83.44	340	⇓P	P	13 25 15.1	-0.2
I27A	Quinn baz=84	83.45	339	⇓P	P	13 25 15.9	+0.4
R11A	Troy Canyon, C 5.1nm,0.8s	83.47	327	eP	P	13 25 17.4	+1.6
R11A	Troy Canyon, C baz=84,SNR=7.3	83.47	327	⇓P	P	13 25 18.0	+2.3
J24A	Dixon Ranch, L baz=84	83.59	337	⇓P	P	13 25 17.6	+1.4
K22A	Casper 24nm,1.4s	83.60	335	eP	P	13 25 15.4	-0.9
K22A	Casper baz=84	83.60	335	⇑P	P	13 25 17.6	+1.3
G30A	Faulkton baz=84	83.62	341	⇑P	P	13 25 15.9	-0.3
JLU	Jordanelle 5.5nm,0.7s	83.62	331	eP	P	13 25 17.7	+1.1
H28A	Mission Ridge baz=84,SNR=6.0	83.71	340	⇑P	P	13 25 17.1	+0.4
CTU	Camp Tracy 4.1nm,0.8s	83.82	331	eP	P	13 25 18.3	+0.7
DUG	Dugway 26nm,1.5s	83.83	330	eP	P	13 25 18.8	+1.3
DUG	Dugway baz=84,SNR=6.4	83.83	330	⇓P	P	13 25 19.0	+1.4
K21A	Alcova baz=84,SNR=7.0	83.83	335	⇓P	P	13 25 18.6	+1.0
G29A	Hoven baz=84	83.89	341	⇑P	P	13 25 18.5	+1.0
I25A	Rochford baz=84	83.92	338	⇓P	P	13 25 18.9	+0.9
H27A	Howes baz=84	83.98	339	⇑P	P	13 25 18.3	+0.2
TPH	Tonopah 7.9nm,1.0s	83.98	326	eP	P	13 25 19.9	+1.4
G28A	Parade baz=84,SNR=7.5	84.05	340	⇓P	P	13 25 19.3	+0.8
I24A	Kuemmerle Ranc baz=84	84.05	337	⇓P	P	13 25 19.4	+0.9
RSSD	Black Hills 7.1nm,1.0s	84.10	338	eP	P	13 25 19.3	+0.3
F30A	Leola baz=84	84.25	342	⇓P	P	13 25 19.3	-0.1
H25A	Fruitdale baz=85	84.42	338	⇑P	P	13 25 21.6	+1.3
F29A	Eureka baz=85,SNR=7.2	84.46	341	⇓P	P	13 25 20.0	-0.5
BGU	Big Grassy Mou 11nm,1.9s	84.53	330	eP	P	13 25 22.7	+1.6
I22A	9 Mile Ranch, baz=85	84.68	336	⇑P	P	13 25 22.3	+0.5
F28A	McLaughlin baz=85	84.73	341	⇓P	P	13 25 22.6	+0.7
G26A	Maurine baz=85	84.73	339	⇑P	P	13 25 22.2	+0.3
J20A	Shoshoni baz=85,SNR=8.4	84.75	335	⇓P	P	13 25 23.3	+1.1
NVAR	Mina Array Bea 2.9nm,0.8s,baz=158,slow=6.3,SNR=9.1	84.76	326	P	P	13 25 23.8	+1.3
PDAR	Pinedale Array 1.7nm,0.6s,baz=131,slow=5.2,SNR=6.9	84.77	333	P	P	13 25 22.4	+0.1
H24A	Dirks Ranch, A baz=85	84.83	338	⇓P	P	13 25 22.7	+0.3
E30A	Jud baz=85	84.84	342	⇑P	P	13 25 22.7	+0.4
G25A	Newell baz=85,SNR=7.8	84.88	339	⇓P	P	13 25 23.2	+0.5
I21A	Big Trails, Te baz=85,SNR=7.1	84.89	335	⇓P	P	13 25 23.4	+0.6
TORD	Torodi Ar. Bea 4.3nm,0.9s,baz=257,slow=4.8,SNR=10	84.93	70	P	P	13 25 25.1	+1.5
J19A	Crowheart baz=85,SNR=7.4	85.02	334	⇓P	P	13 25 24.4	+0.9
F27A	Lemmon baz=85,SNR=7.0	85.09	340	⇑P	P	13 25 23.9	+0.3
HVU	Hansel Valley 8.3nm,0.8s	85.15	331	eP	P	13 25 24.8	+0.6
F26A	Lodgepole baz=86	85.26	339	⇓P	P	13 25 24.9	+0.4
H22A	Clearmont baz=86	85.26	336	⇑P	P	13 25 25.0	+0.4
I20A	Worland baz=86,SNR=8.8	85.29	335	⇓P	P	13 25 25.2	+0.6
ELK	Elko 2.7nm,0.8s,baz=146,slow=2.4,SNR=7.2	85.30	329	P	P	13 25 25.4	+0.3
ELK	Elko 3.6nm,0.9s	85.30	329	eP	P	13 25 26.0	+0.9
D30A	Buchanan baz=86,SNR=6.3	85.36	342	⇓P	P	13 25 24.6	-0.4
G23A	Biddle baz=86	85.50	337	⇑P	P	13 25 26.1	+0.4
H21A	Big Horn, Sher baz=86	85.52	336	⇑P	P	13 25 26.2	+0.3
D29A	Pettibone, Tap baz=86	85.53	342	⇓P	P	13 25 26.4	+0.6
F25A	Bowman baz=86	85.56	339	⇑P	P	13 25 26.8	+0.7
I19A	Meeteetse baz=86	85.67	334	⇑P	P	13 25 27.8	+1.0
H20A	Greybull baz=86,SNR=9.1	85.72	335	⇓P	P	13 25 27.4	+0.5
REDW	Red Top Meadow 11nm,1.3s	85.76	333	eP	P	13 25 27.8	+0.5
F24A	Ekalaka baz=86	85.78	338	⇑P	P	13 25 27.5	+0.4
AGMN	Agassiz Nation 5.8nm,0.7s	85.81	345	eP	P	13 25 27.4	+0.3
AGMN	Agassiz Nation baz=86	85.81	345	⇓P	P	13 25 26.7	-0.4
C30A	Mose, Pekin baz=86,SNR=9.3	85.85	343	⇓P	P	13 25 28.1	+0.8
LOHW	Long Hollow 8.6nm,1.4s	85.88	333	eP	P	13 25 28.4	+0.5
TPAW	Teton Pass 6.2nm,0.9s	85.91	333	eP	P	13 25 28.7	+0.6
D28A	Regan baz=86	85.91	341	⇑P	P	13 25 28.4	+0.7
F23A	Volborg baz=86,SNR=7.1	85.97	338	⇓P	P	13 25 28.0	-0.1
E25A	Miller Ranch, baz=86,SNR=5.9	86.06	339	⇓P	P	13 25 29.2	+0.7
G21A	Lodge Grass baz=86,SNR=5.8	86.10	336	⇓P	P	13 25 29.3	+0.5
I17A	Pilgrim Ck. baz=86,SNR=5.5	86.14	333	⇓P	P	13 25 30.4	+1.2
H19A	Powell baz=86,SNR=6.0	86.22	335	⇓P	P	13 25 30.0	+0.6
IMW	Indian Meadow 12nm,1.3s	86.25	333	eP	P	13 25 30.5	+0.7
D26A	Manning baz=86	86.27	340	⇓P	P	13 25 30.1	+0.6
F22A	Rosebud baz=87	86.29	337	⇓P	P	13 25 30.0	+0.4
FLWY	Flagg Ranch 8.4nm,0.8s	86.32	333	eP	P	13 25 31.1	+1.1
E24A	Baker baz=87	86.38	339	⇓P	P	13 25 30.2	+0.1
G20A	Bridger baz=87,SNR=7.0	86.44	336	⇓P	P	13 25 30.5	0.0
H18A	Shoshone NF, C baz=87,SNR=11	86.47	334	⇑P	P	13 25 31.3	+0.6
B30A	Myrvik Farm, E baz=87,SNR=9.2	86.51	343	⇓P	P	13 25 31.3	+0.7
H17A	Grant Village baz=87	86.55	334	⇓P	P	13 25 33.0	+1.8
D25A	Fairfield baz=87,SNR=7.0	86.63	339	⇓P	P	13 25 32.4	+1.1
C27A	Sayler Ranch, baz=87,SNR=7.4	86.64	341	⇓P	P	13 25 32.1	+0.9
B29A	Wagenman Farm, baz=87	86.78	342	⇓P	P	13 25 32.2	+0.3
E22A	Miles City baz=87	86.78	337	⇓P	P	13 25 32.0	0.0
D24A	Glendive baz=87,SNR=6.1	86.89	339	⇓P	P	13 25 33.5	+1.0
C26A	Wahner Farm, P baz=87	86.90	340	⇑P	P	13 25 33.2	+0.7
F20A	Billings baz=87	86.92	336	⇓P	P	13 25 32.9	+0.1
YMR	Madison River 19nm,1.0s	86.92	334	eP	P	13 25 34.4	+1.4
A30A	Hoffart Farm, baz=87	86.96	343	⇑P	P	13 25 32.5	-0.2
B28A	Dugan Ranch, T baz=87,SNR=6.4	87.01	342	⇑P	P	13 25 33.5	+0.4
LAO	LASA Array 18nm,1.1s	87.08	337	eP	P	13 25 33.6	+0.1
C25A	Freed Ranch, W baz=87	87.12	340	⇓P	P	13 25 34.6	+1.0
A29A	Manning Farm, baz=87,SNR=7.9	87.17	343	⇓P	P	13 25 34.5	+0.7
D23A	Lindsay baz=88,SNR=12	87.20	338	⇓P	P	13 25 35.1	+1.0
E21A	Keefer Ranch, baz=88	87.22	337	⇓P	P	13 25 34.8	+0.7
F19A	Roth Farm, Mol baz=88	87.24	335	⇑P	P	13 25 35.1	+0.7
C24A	Savage baz=88,SNR=9.3	87.29	339	⇑P	P	13 25 35.4	+1.0
HLID	Hailey baz=88,SNR=5.2	87.30	331	⇓P	P	13 25 36.2	+1.4
A28A	Rude Farm, Bot baz=88	87.42	342	⇓P	P	13 25 35.2	+0.2
D22A	Cohagen baz=88	87.48	338	⇓P	P	13 25 36.2	+0.8
E20A	Meyer Farm, Mu baz=88,SNR=7.7	87.54	336	⇑P	P	13 25 36.3	+0.6
B25A	Knox Farm, Ray baz=88	87.60	340	⇑P	P	13 25 36.5	+0.6
ULM	Lac du Bonnet 9.2nm,0.8s,baz=162,slow=2.7,SNR=11	87.66	345	P	P	13 25 36.0	0.0
D21A	La Casta Ranch baz=88	87.66	337	⇑P	P	13 25 37.0	+0.7
A27A	Ledoux Ranch, baz=88	87.71	341	⇑P	P	13 25 36.7	+0.3
E19A	Rath Farm, Rou baz=88,SNR=5.9	87.72	336	⇑P	P	13 25 37.0	+0.4
MCMT	McKenzie Canyo 4.1nm,0.9s	87.76	332	eP	P	13 25 37.7	+0.7
C23A	Lambert baz=88,SNR=6.8	87.76	339	⇓P	P	13 25 37.5	+0.7
A26A	Wade Farm, Ken baz=88	87.86	341	⇑P	P	13 25 37.1	-0.1
C22A	Vida baz=88	87.92	338	⇑P	P	13 25 38.3	+0.8
D20A	Manuel Ranch, baz=88	88.05	336	⇑P	P	13 25 38.9	+0.7
DGMT	Dagmar 40nm,1.0s	88.07	339	eP	P	13 25 37.0	-1.2
DGMT	Dagmar baz=88,SNR=9.5	88.07	339	⇓P	P	13 25 38.5	+0.4
A25A	Svangstu Ranch baz=88	88.19	340	⇑P	P	13 25 39.2	+0.5
B23A	Brockton baz=89	88.30	339	⇑P	P	13 25 39.9	+0.6
D19A	Cripps Ranch, baz=89	88.36	336	⇓P	P	13 25 39.6	-0.1
C21A	Desert Coulee baz=89,SNR=5.8	88.37	337	⇓P	P	13 25 39.6	0.0
A24A	Westby baz=89	88.43	340	⇓P	P	13 25 40.9	+1.0
B22A	Reddig Ranch S baz=89,SNR=6.4	88.45	338	⇑P	P	13 25 40.6	+0.6
LRM	Limekiln Ridge	88.46	333	eP	P	13 25 41.3	+1.0
MOD	Modoc 10nm,0.7s	88.46	326	eP	P	13 25 41.3	+1.0
B21A	Ellsworth Farm baz=89	88.88	338	⇑P	P	13 25 43.2	+1.2
A22A	Carney Farms, baz=89	89.05	339	⇑P	P	13 25 43.6	+0.9
A21A	Bergtoll Ranch baz=90	89.35	338	⇑P	P	13 25 44.7	+0.5
A20A	Cobblestone Ra baz=90	89.56	337	⇓P	P	13 25 45.5	+0.3
FCC	Fort Churchill	95.43	349	eP	P	13 26 11.8	-0.1
YKA	Yellowknife Ar 0.4nm,0.8s,baz=144,slow=4.7,SNR=7.6	103.17	341	Pdiff	Pdif	13 26 45.9	-0.6
ILAR	Eielson Array 0.5nm,0.8s,baz=193,slow=3.6,SNR=4.8	115.19	333	PKP	PKPdf	13 31 28.8	+0.4
WRA	Warramunga Arr 0.7nm,0.6s,baz=173,slow=1.3,SNR=8.7	119.49	209	PKP	PKPdf	13 31 37.6	-0.6
BRTR	Keskin Array B 0.9nm,0.7s,baz=162,slow=2.9,SNR=5.2	122.72	62	PKP	PKPdf	13 31 44.6	+0.7
AKASG	Malin Array Be 1.9nm,0.7s,baz=262,slow=2.7,SNR=7.9	123.28	48	PKP	PKPdf	13 31 44.2	-0.1
FINES	FINESS Array B 1.2nm,0.7s,baz=333,slow=1.6,SNR=4.4	124.22	35	PKP	PKPdf	13 31 46.7	+0.9
ARCES	ARCESS Array B 5.8nm,0.9s,baz=243,slow=4.0,SNR=3.6	125.30	25	PKP	PKPdf	13 31 48.1	+0.4
H11N3	WAKE ISLAND Hy baz=123	125.88	270	T	T	15 50 08.3	
H11N1	WAKE ISLAND Hy baz=123	125.90	270	T	T	15 49 59.5	
H11N2	WAKE ISLAND Hy baz=123	125.90	270	T	T	15 49 56.7	
GEYT	Alibeck 0.6nm,0.4s,baz=278,slow=3.9,SNR=3.0	140.57	71	PKP	PKPdf	13 32 20.2	+2.8
PETK	Petropavlovsk- 4.2nm,0.8s,baz=66,slow=14,SNR=2.9	140.81	313	PKP	PKPdf	13 32 19.0	+1.7
HYB	Hyderabad	148.65	117	iP	PKPbc	13 32 36.0	+0.3
KSH	Kashi	154.60	71	ePKPbc	PKPdf	13 32 38.3	-2.1
KSH				epPKP	pPKPdf	13 32 50.0	-1.3
KSH				esPKP		13 32 54.5	
KSH				eSKS	SKSdf	13 39 40.0	-4.7
KSH				SKKS	SKKSac	13 43 20.8	-6.1
KSH				eSS	SS	13 56 07.8	-12
KSH	comp=Z,89nm,4.6s			AMB	AMB		
MJAR	Matsushiro Arr 0.6nm,0.5s,baz=322,slow=5.1,SNR=4.4	155.22	282	PKPab	PKPab	13 33 06.6	+0.2
ZALV	Zalesovo Beam 3.3nm,0.8s,baz=316,slow=4.1,SNR=4.8	155.47	33	PKP	PKPdf	13 32 41.5	+0.5
USRK	Ussuriysk Arra 1.3nm,0.8s,baz=74,slow=12,SNR=4.1	159.29	303	PKPab	PKPab	13 33 24.0	+0.4
CMAR	Chiang Mai Arr 1.5nm,1.0s,baz=234,slow=5.0,SNR=4.7	161.57	153	PKPab	PKPab	13 33 34.3	+0.3
SONM	Songino Array 2.3nm,0.8s,baz=334,slow=5.1,SNR=9.9	167.43	4	PKPab	PKPab	13 34 00.4	+1.2
NJ2	Nanjing	170.08	254	ePKP	PKPdf	13 32 57.3	+1.5
GTA	Gaotai	172.56	54	ePKP	PKPdf	13 32 58.3	+1.2
GTA				pPKP	pPKPdf	13 33 09.0	+1.0
GTA				sPKP		13 33 12.5	
GTA				PKPab	PKPab	13 34 25.0	+2.6
HHC	Hu-ho-hao-te	173.62	332	ePKP	PKPdf	13 32 53.3	-4.1
HHC				pPKP	pPKPdf	13 33 04.0	-4.3
HHC				sPKP		13 33 07.5	
CD2	Chengdu	174.58	143	PKP	PKPdf	13 32 57.5	-0.5
CD2				pPKP	pPKPdf	13 33 09.0	+0.1
CD2				sPKP		13 33 12.8	
CD2				PKS	PKSdf	13 36 28.5	-1.8
CD2				PP	PP	13 38 25.5	+2.2
CD2				SKS	SKSdf	13 39 55.5	-3.4
CD2				SKKS	SKKSac	13 45 06.3	-1.3
CD2				SS	SS	13 59 39.5	-2.7
CD2	comp=Z,220nm,6.2s			AMB	AMB		

IDC 27 13:17:35.1±0.6, 37.37S×73.07W, h0km, mb4.3/13, mb1 4.4/16, mb1mx4.3/38, mbtmp4.3/16, ML4.3/3, Error ellipse: s-maj=26.7km s-min=14.7km az=69.0

ISCJB 27 13:17:38.5±0.5, 37.42S±0.06×72.9W±0.1, h33km, mb4.2/15, Error ellipse: s-maj=14.5km s-min=8.8km az=167.5

NEIC 27 13:17:40.5±0.4, 37.38S×72.98W, h35km, mb4.3/2, Error ellipse: s-maj=12.9km s-min=8.6km az=75.0

ISC 27 13:17:40.1±0.6, 37.39S±0.07×73.0W±0.1, h33km, n32, σ1.31/34, mb4.3/15, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores 6.7nm,0.3s,baz=325,slow=12,SNR=4.6	3.82	151	Pn	Pn	13 18 37.1	+0.4
PLCA	24nm,0.3s,baz=319,slow=12,SNR=5.9			Pg	Pb	13 18 46.2	-0.6
PLCA	23nm,0.3s,baz=26,slow=14,SNR=3.9			Lg	Lg	13 19 42.3	
TRQA	Tornquist	8.72	98	Pn	Pn	13 19 43.7	-0.2
LVC	Limon Verde 14nm,0.9s	15.14	14	Pn	Pn	13 21 11.8	0.0
CPUP	Villa Florida 0.3nm,0.3s,baz=276,slow=18,SNR=2.3	17.23	55	P	Pn	13 21 37.7	-0.4
CPUP	Villa Florida	17.23	55	P	P	13 21 38.5	-0.9
USHA	Ushuaia 0.2nm,0.3s,baz=302,slow=15,SNR=2.1	17.71	171	P	Pn	13 21 41.7	-2.3
LPAZ	La Paz 4.6nm,0.8s,baz=176,slow=7.0,SNR=3.0	21.45	13	P	P	13 22 28.1	+1.9
SIV	San Ignacio 7.2nm,0.9s,baz=233,slow=9.7,SNR=5.9	23.77	29	P	P	13 22 51.1	+1.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
SAML	Samuel	29.67	20	P	P	13 23 42.1	-0.6
SDV	Santo Domingo	46.09	3	P	P	13 26 01.2	0.0
	7.9nm,1.4s						
SNAA	Sanae	48.75	157	P	P	13 26 22.6	+1.3
	4.9nm,1.0s,baz=291,slow=5.8,SNR=6.8						
SNAA	Sanae	48.75	157	eP	P	13 26 22.9	+1.7
QSPA	South Pole Qui	52.85	180	P	P	13 26 51.8	-0.4
	6.1nm,0.9s,baz=139,slow=3.7,SNR=5.5						
QSPA	South Pole Qui	52.85	180	eP	P	13 26 52.3	0.0
TEIG	Tepich	59.10	343	P	P	13 27 36.7	-0.5
	17nm,1.1s,baz=160,slow=9.3,SNR=3.1						
TXAR	Lajitas Array	72.35	332	P	P	13 29 02.5	-0.2
	0.7nm,0.6s,baz=156,slow=8.9,SNR=7.4						
TKL	Tuckaleechee C	73.37	351	P	P	13 29 07.3	-1.1
	2.1nm,0.7s,baz=221,slow=20,SNR=2.4						
DBIC	Dimbokro	76.97	71	P	P	13 29 29.7	0.0
	7.7nm,0.8s,baz=209,slow=4.5,SNR=5.8						
ANMO	Albuquerque	78.42	332	P	P	13 29 37.0	-0.5
	0.5nm,0.4s,baz=150,slow=7.3,SNR=4.3						
BOSA	Boshof	79.16	118	P	P	13 29 44.1	+2.2
	5.0nm,1.0s,baz=210,slow=8.6,SNR=3.9						
TORD	Torodi Ar. Bea	86.06	70	P	P	13 30 16.4	-1.3
	1.9nm,0.8s,baz=230,slow=4.8,SNR=13						
NVAR	Mina Array Bea	86.26	326	P	P	13 30 19.5	+1.1
	0.6nm,0.7s,baz=145,slow=3.3,SNR=3.4						
PDAR	Pinedale Array	86.46	334	P	P	13 30 19.2	-0.1
	0.5nm,0.9s,baz=194,slow=7.1,SNR=2.6						
ELK	Elko	86.88	329	P	P	13 30 21.7	+0.3
	0.4nm,0.5s,baz=158,slow=19,SNR=3.7						
YKA	Yellowknife Ar	105.03	341	Pdiff	Pdif	13 31 39.4	-4.0
	0.1nm,0.6s,baz=134,slow=3.5,SNR=3.0						
GERES	GERESS Array B	115.04	47	PKP	PKPdf	13 36 18.6	+1.4
	0.4nm,0.5s,baz=178,slow=13,SNR=2.8						
WRA	Warramunga Arr	117.44	209	PKP	PKPdf	13 36 21.8	-1.0
	0.8nm,1.0s,baz=154,slow=1.7,SNR=3.4						
BRTR	Keskin Array B	124.08	63	PKP	PKPdf	13 36 36.2	+1.2
	1.1nm,0.7s,baz=192,slow=3.3,SNR=5.9						
AKASG	Malin Array Be	125.00	49	PKP	PKPdf	13 36 36.3	+0.1
	0.3nm,0.3s,baz=261,slow=2.4,SNR=4.2						
HYB	Hyderabad	148.01	121	iP	PKPbc	13 37 23.0	+0.5
ZALV	Zalesovo Beam	157.45	36	PKP	PKPdf	13 37 31.9	-0.1
	1.2nm,0.7s,baz=262,slow=3.0,SNR=4.7						
ZALV				PKPab	PKPab	13 38 05.9	+2.1
	2.3nm,0.7s,baz=306,slow=5.0,SNR=5.4						
MKAR	Makanchi Array	159.44	55	PKPab	PKPab	13 38 11.4	-1.3
	1.1nm,0.8s,baz=284,slow=3.3,SNR=7.1						

IDC 27 13:19:54.9±0.5, 36°.06S×73°.31W, h0km, mb4.5/18, mb1 4.6/20, mb1mx4.5/41, mbtmp4.5/20, ML3.8/2, Error ellipse: s-maj=22.3km s-min=14.2km az=73.0
ISCJB 27 13:19:58.6±0.4, 36°.02S±0°.05×73°.2W±0°.1, h33km, mb4.5/21, Error ellipse: s-maj=12.1km s-min=7.2km az=169.7
NEIC 27 13:20:00.3±0.3, 36°.02S×73°.19W, h35km, mb4.4/6, Error ellipse: s-maj=8.1km s-min=5.3km az=80.0
ISC 27 13:20:00.3±0.5, 36°.01S±0°.07×73°.2W±0°.1, h35km, n55, σ0s.63/57, mb4.5/21, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
PLCA	Paso Flores	5.16	157	Pn	Pn	13 21 14.6	-0.5
CFAA	Coronel Fontan	6.03	45	Pn	Pn	13 21 27.8	+0.8
	1.8nm,0.3s,baz=209,slow=13,SNR=4.3						
TRQA	Tornquist	9.20	106	ePn	Pn	13 22 10.3	-0.2
LVC	Limon Verde	13.86	17	ePn	Pn	13 23 13.7	-0.8
CPUP	Villa Florida	16.64	59	Pn	Pn	13 23 50.8	0.0
	0.6nm,0.9s						
USHA	Ushuaia	19.11	172	P	P	13 24 20.6	+0.6
	0.3nm,0.3s,baz=344,slow=6.0,SNR=4.4						
LPAZ	La Paz	20.15	14	P	Pn	13 24 33.7	-0.7
	5.3nm,0.7s,baz=161,slow=3.4,SNR=3.0						
SIV	San Ignacio	22.68	32	P	P	13 24 59.2	+0.4
	12nm,0.9s,baz=226,slow=13,SNR=8.1						
NNA	Nana	24.14	351	P	P	13 25 13.2	0.0
SAML	Samuel	28.44	21	eP	P	13 25 52.0	+0.2
	1.7nm,0.8s						
OTAV	Otavalo	36.39	351	eP	P	13 27 01.9	-0.1
	3.7nm,1.0s						
SDV	Santo Domingo	44.72	4	eP	P	13 28 10.6	+0.2
	7.0nm,0.9s						
RCBR	Riachuelo	45.51	58	P	P	13 28 17.7	+1.1
	14nm,0.9s,baz=206,slow=9.4,SNR=6.4						
RCBR	Riachuelo	45.51	58	eP	P	13 28 15.0	-1.6
VNA3	Neumayer Olymp	47.88	157	P	P	13 28 35.1	+0.7
VNA2	Neumayer--Watz	48.55	156	P	P	13 28 40.2	+0.7
SNAA	Sanae	50.10	157	P	P	13 28 51.7	+0.2
SNAA	Sanae	50.10	157	P	P	13 28 51.8	+0.4
	8.6nm,0.9s,baz=283,slow=6.3,SNR=17						
QSPA	South Pole Qui	54.23	180	P	P	13 29 22.7	+0.3
	13nm,1.0s,baz=224,slow=7.1,SNR=3.4						
QSPA	South Pole Qui	54.23	180	eP	P	13 29 22.3	-0.1
	16nm,1.2s						
TEIG	Tepich	57.72	343	P	P	13 29 47.8	+0.2
	6.5nm,0.6s,baz=146,slow=3.6,SNR=3.6						
TXAR	Lajitas Array	71.04	332	P	P	13 31 15.5	+0.8
	1.3nm,0.7s,baz=151,slow=8.5,SNR=7.3						
TKL	Tuckaleechee C	71.98	351	P	P	13 31 19.2	-0.9
	4.4nm,0.8s,baz=124,slow=11,SNR=3.5						
WVT	Waverly	73.05	348	eP	P	13 31 26.0	-0.4
	4.4nm,1.0s						
SUR	Sutherland	74.69	119	P	P	13 31 37.1	+0.4
	20nm,1.1s,baz=205,slow=9.5,SNR=4.5						
DBIC	Dimbokro	76.72	72	P	P	13 31 49.2	+1.0
	9.9nm,0.7s,baz=193,slow=6.5,SNR=7.5						
DBIC	Dimbokro	76.72	72	eP	P	13 31 48.1	-0.2
ANMO	Albuquerque	77.10	332	P	P	13 31 50.1	-0.1
	1.6nm,0.8s,baz=163,slow=6.3,SNR=5.5						
ANMO	Albuquerque	77.10	332	eP	P	13 31 50.0	-0.1
	4.8nm,1.5s						
BOSA	Boshof	79.98	118	P	P	13 32 06.8	+0.5
	18nm,1.1s,baz=230,slow=5.5,SNR=9.8						
NVAR	Mina Array Bea	85.00	326	P	P	13 32 33.4	+1.3
	1.3nm,0.7s,baz=152,slow=6.4,SNR=7.6						
PDAR	Pinedale Array	85.13	334	P	P	13 32 32.8	+0.1
	0.8nm,1.0s,baz=131,slow=6.7,SNR=5.1						
ELK	Elko	85.59	329	P	P	13 32 36.0	+1.0
	1.3nm,0.8s,baz=186,slow=5.0,SNR=4.8						
TORD	Torodi Ar. Bea	85.78	71	P	P	13 32 36.2	0.0
	4.4nm,1.1s,baz=246,slow=4.1,SNR=9.5						
ULM	Lac du Bonnet	88.19	346	P	P	13 32 46.8	-0.3
	5.1nm,0.8s,baz=188,slow=5.5,SNR=8.2						
LSZ	Lusaka	90.07	109	P	P	13 32 57.8	+0.8
	1.6nm,0.5s,baz=35,slow=7.5,SNR=4.1						
WRA	Warramunga Arr	118.55	210	PKP	PKPdf	13 38 43.5	-1.3
	1.2nm,0.6s,baz=161,slow=1.7,SNR=16						
MLR	Muntele Rosu	120.44	54	PKP	PKPdf	13 38 46.6	-1.2
	0.3nm,0.7s,baz=253,slow=23,SNR=3.3						
BRTR	Keskin Array B	123.62	62	PKP	PKPdf	13 38 54.4	+0.3
	0.6nm,0.7s,baz=144,slow=2.9,SNR=3.6						
SPITS	Spitsbergen Ar	124.85	15	PKP	PKPdf	13 38 55.0	-0.2
	7.9nm,0.9s,baz=94,slow=5.8,SNR=4.0						
HYB	Hyderabad	148.87	119	iPKP	PKPbc	13 39 43.5	-1.2
ZALV	Zalesovo Beam	156.43	34	PKP	PKPdf	13 39 50.2	-0.4
	3.1nm,0.9s,baz=276,slow=2.8,SNR=7.3						
ZALV				PKPab	PKPab	13 40 20.0	+0.7
	2.2nm,0.7s,baz=298,slow=6.6,SNR=5.5						
KOLN	Koldanda	158.69	106	eP	PKPab	13 40 30.1	-0.2
	24nm,0.9s						
MKAR	Makanchi Array	158.77	52	PKP	PKPdf	13 39 53.3	-0.6
	1.7nm,0.9s,baz=278,slow=1.8,SNR=6.1						
MKAR				PKPab	PKPab	13 40 29.0	-0.8
	1.0nm,0.9s,baz=272,slow=4.0,SNR=3.0						
DANN	Dangsing	159.09	105	eP	PKPab	13 40 31.8	-0.3
GKN	Gorkha	159.61	107	eP	PKPab	13 40 34.1	-0.1
	55nm,1.2s						
DMN	Daman	159.78	108	eP	PKPab	13 40 35.2	+0.1
	44nm,1.1s						
PKIN	Phulchoki	159.99	109	eP	PKPab	13 40 35.7	-0.3
	20nm,1.1s						
PKI	Pulchoki	159.99	109	eP	PKPab	13 40 35.9	-0.2
KKN	Kakani	160.00	108	eP	PKPab	13 40 36.2	+0.2
	34nm,0.9s						
GUN	Gumba	160.52	109	eP	PKPab	13 40 38.5	+0.1
RAMN	Ramite	160.58	112	eP	PKPab	13 40 38.4	-0.1
	8.2nm,0.8s						
JIRN	Jiri	160.64	110	eP	PKPab	13 40 38.8	-0.1
CMAR	Chiang Mai Arr	161.19	156	PKP	PKPdf	13 39 57.0	-0.5
	0.4nm,0.4s,baz=245,slow=2.0,SNR=4.8						
CMAR				PKPab	PKPab	13 40 40.0	-0.9
	0.6nm,0.6s,baz=226,slow=4.7,SNR=6.1						
SONM	Songino Array	168.18	1	PKPab	PKPab	13 41 11.5	+0.4
	0.8nm,0.7s,baz=337,slow=4.0,SNR=6.2						

IDC 27 13:21:14.0±1.2, 35°.67S×72°.79W, h0km, mb4.3/6, mb1 4.5/9, mb1mx4.2/44, mbtmp4.4/9, ML4.7/3, Error ellipse: s-maj=34.3km s-min=25.7km az=71.0
ISCJB 27 13:21:14.8±0.9, 35°.64S±0°.09×72°.7W±0°.2, h17km, mb4.3/6, Error ellipse: s-maj=25.2km s-min=13.6km az=0.0
ISC 27 13:21:16.6±1.0, 35°.7S±0°.1×72°.8W±0°.2, h17km, n12, σ0s.89/12, mb4.4/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
PLCA	Paso Flores	5.37	162	Pn	Pn	13 22 36.1	+0.1
	26nm,0.3s,baz=264,slow=20,SNR=3.1						
CFAA	Coronel Fontan	5.52	44	Pn	Pn	13 22 38.1	0.0
	3.5nm,0.3s,baz=62,slow=8.5,SNR=6.1						
LPAZ	La Paz	19.72	13	P	P	13 25 45.0	-1.0
	0.3nm,0.3s,baz=168,slow=6.3,SNR=2.1						
SIV	San Ignacio	22.19	31	P	P	13 26 12.4	+0.2
	39nm,1.1s,baz=223,slow=14,SNR=8.2						
TXAR	Lajitas Array	70.89	332	P	P	13 32 32.8	0.0
	0.8nm,0.7s,baz=152,slow=7.9,SNR=3.5						
DBIC	Dimbokro	76.27	71	P	P	13 33 04.9	+0.2
	7.4nm,1.1s,baz=178,slow=6.7,SNR=2.2						
BOSA	Boshof	79.83	118	P	P	13 33 23.6	-0.9
	3.7nm,0.8s,baz=215,slow=8.5,SNR=3.0						
NVAR	Mina Array Bea	84.90	326	P	P	13 33 50.7	0.0
	0.7nm,0.7s,baz=169,slow=6.4,SNR=3.0						
TORD	Torodi Ar. Bea	85.33	70	P	P	13 33 52.8	-0.3
	2.0nm,0.9s,baz=258,slow=4.1,SNR=3.1						
ZALV	Zalesovo Beam	155.93	34	PKPab	PKPab	13 41 36.5	+0.2
	0.5nm,0.5s,baz=315,slow=4.1,SNR=2.3						
MKAR	Makanchi Array	158.27	52	PKPab	PKPab	13 41 49.0	+2.2
	0.8nm,0.8s,baz=276,slow=5.7,SNR=2.3						
SONM	Songino Array	167.81	3	PKPab	PKPab	13 42 28.6	+0.2
	0.4nm,0.6s,baz=345,slow=4.0,SNR=3.4						

IDC 27 13:21:53.4±0.7, 36°.28S×73°.28W, h0km, mb4.4/13, mb1 4.6/14, mb1mx4.3/43, mbtmp4.4/14, ML3.8/1, Error ellipse: s-maj=30.3km s-min=16.9km az=75.0
ISCJB 27 13:21:55.4±0.5, 36°.29S±0°.07×73°.1W±0°.1, h25km, mb4.3/15, Error ellipse: s-maj=14.6km s-min=9.1km az=165.8
NEIC 27 13:21:58.5±0.4, 36°.28S×73°.16W, h35km, mb4.4/5, Error ellipse: s-maj=12.2km s-min=7.6km az=76.0
ISC 27 13:21:57.1±0.6, 36°.28S±0°.08×73°.2W±0°.1, h25km, n28, σ0s.88/28, mb4.4/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
PLCA	Paso Flores	4.90	156	Pn	Pn	13 23 09.8	+0.5
TRQA	Tornquist	9.13	105	ePn	Pn	13 24 07.2	-0.1
CPUP	Villa Florida	16.78	58	ePn	Pn	13 25 50.4	0.0
	0.2nm,0.6s						
USHA	Ushuaia	18.84	171	P	P	13 26 14.1	-0.8
	0.3nm,0.3s,baz=334,slow=1.3,SNR=3.8						
LPAZ	La Paz	20.42	14	P	P	13 26 31.0	-2.1
	6.6nm,0.6s,baz=186,slow=6.9,SNR=3.4						
SIV	San Ignacio	22.91	31	P	P	13 26 58.5	-0.8
	7.3nm,0.7s,baz=216,slow=14,SNR=2.0						
NNA	Nana	24.41	351	P	P	13 27 13.0	-0.8
SAML	Samuel	28.70	21	eP	P	13 27 52.3	0.0
	1.9nm,0.8s						
RCBR	Riachuelo	45.66	57	P	P	13 30 15.2	-0.8
	4.6nm,0.9s						
SNAA	Sanae	49.84	157	P	P	13 30 47.6	-0.1
	5.1nm,0.9s,baz=270,slow=7.9,SNR=4.7						
SNAA	Sanae	49.84	157	eP	P	13 30 46.6	-1.1
	4.3nm,0.9s						
QSPA	South Pole Qui	53.96	180	P	P	13 31 17.9	-0.7
	11nm,0.9s,baz=168,slow=6.0,SNR=4.5						
QSPA	South Pole Qui	53.96	180	eP	P	13 31 17.6	-1.0
	4.2nm,0.9s						
TXAR	Lajitas Array	71.28	332	P	P	13 33 15.3	+0.9
	0.7nm,0.6s,baz=150,slow=8.0,SNR=4.2						
SWET	Sewanee	72.12	349	eP	P	13 33 19.5	+0.2
	5.4nm,0.8s						
TKL	Tuckaleechee C	72.25	351	P	P	13 33 20.6	+0.6
	3.6nm,0.8s,baz=295,slow=17,SNR=2.4						
SUR	Sutherland	74.56	119	P	P	13 33 35.9	+1.7
	11nm,1.0s,baz=247,slow=8.6,SNR=2.9						
DBIC	Dimbokro	76.81	71	P	P	13 33 48.6	+1.6
	4.2nm,0.6s,baz=196,slow=7.6,SNR=3.9						
DBIC	Dimbokro	76.81	71	eP	P	13 33 47.5	+0.5
LBTB	Lobatse	82.20	115	P	P	13 34 16.7	+0.3
	4.3nm,0.6s,baz=240,slow=4.4,SNR=5.6						
NVAR	Mina Array Bea	85.23	326	P	P	13 34 32.1	+0.6
	0.8nm,0.6s,baz=167,slow=5.3,SNR=3.9						
PDAR	Pinedale Array	85.38	334	P	P	13 34 32.8	+0.5
	1.7nm,1.0s,baz=145,slow=5.4,SNR=5.3						
ELK	Elko	85.82	329	P	P	13 34 33.8	-0.7
	0.9nm,0.6s,baz=299,slow=2.2,SNR=3.0						
TORD	Torodi Ar. Bea	85.87	71	P	P	13 34 35.3	+0.2
	2.7nm,0.8s,baz=229,slow=4.2,SNR=4.1						
HYB	Hyderabad	148.74	119	iPKP	PKPbc	13 41 42.0	-0.7
ZALV	Zalesovo Beam	156.65	34	PKPab	PKPab	13 42 19.3	+0.7
	1.9nm,0.8s,baz=296,slow=4.6,SNR=4.0						
MKAR	Makanchi Array	158.94	52	PKPab	PKPab	13 42 29.3	+0.4
	1.2nm,0.8s,baz=278,slow=4.4,SNR=3.8						
SONM	Songino Array	168.45	1	PKPab	PKPab	13 43 10.4	-0.2
	0.5nm,0.7s,baz=339,slow=3.6,SNR=2.8						

ISCJB 27 13:23:41.1±0.7, 34°.62S±0°.09×72°.6W±0°.1, h10km, mb4.2/15, Error ellipse: s-maj=16.4km s-min=10.8km az=143.6
IDC 27 13:23:41.0±0.9, 34°.64S×72°.65W, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.4/22, mbtmp4.2/15, ML4.1/1, Error ellipse: s-maj=37.1km s-min=20.1km az=53.0
NEIC 27 13:23:46.6±0.5, 34°.59S×72°.58W, h35km, mb4.3/2, Error ellipse: s-maj=13.2km s-min=8.7km az=55.0
ISC 27 13:23:42.7±0.8, 34°.6S±0°.1×72°.7W±0°.1, h10km, n25, σ0s.85/25, mb4.2/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
TRQA	Tornquist	9.28	115	ePn	Pn	13 25 56.6	+0.1
LVC	Limon Verde	12.40	16	ePn	Pn	13 26 39.3	-0.2
CPUP	Villa Florida	15.57	62	ePn	Pn	13 27 23.0	+0.6
LPAZ	La Paz	18.70	14	P	Pn	13 28 03.7	+1.4
	0.3nm,0.3s,baz=202,slow=6.0,SNR=2.7						
SIV	San Ignacio	21.27	32	P	P	13 28 28.8	-0.5
	3.7nm,0.7s,baz=208,slow=13,SNR=2.8						
NNA	Nana	22.84	349	P	P	13 28 46.3	+0.1
OTAV	Otavalo	35.09	350	P	P	13 30 37.5	+0.8
	4.7nm,1.5s						
ROSC	El Rosal	39.29	357	eP	P	13 31 11.6	-0.7
SNAA	Sanae	51.22	158	P	P	13 32 46.4	+0.4
	1.4nm,0.8s,baz=254,slow=9.9,SNR=2.6						
SNAA	Sanae	51.22	158	eP	P	13 32 46.3	+0.4
	3.3nm,0.8s						
TEIG	Tepich	56.52	342	P	P	13 33 25.1	-0.1
	13nm,0.8s,baz=207,slow=9.0,SNR=3.6						
TXAR	Lajitas Array	70.02	331	P	P	13 34 55.4	+0.7
	1.3nm,0.7s,baz=158,slow=9.5,SNR=6.1						
TKL	Tuckaleechee C	70.68	350	P	P	13 34 57.9	-0.5
	2.3nm,0.7s,baz=174,slow=6.7,SNR=3.0						
DBIC	Dimbokro	75.86	72	P	P	13 35 29.4	-0.2
	3.0nm,0.7s,baz=206,slow=7.4,SNR=2.9						
ANMO	Albuquerque	76.08	332	P	P	13 35 31.0	+0.4
	2.6nm,0.9s,baz=172,slow=8.0,SNR=6.3						
BOSA	Boshof	80.24	118	P	P	13 35 52.5	-1.5
	2.7nm,0.6s,baz=224,slow=4.1,SNR=5.3						
LBTB	Lobatse	82.52	115	P	P	13 36 07.9	+1.8
	4.1nm,1.0s,baz=246,slow=9.1,SNR=3.2						
PDAR	Pinedale Array	84.08	334	P	P	13 36 13.9	+0.2
	0.7nm,0.9s,baz=160,slow=2.9,SNR=3.8						
NVAR	Mina Array Bea	84.09	326	P	P	13 36 14.3	+0.4
	0.4nm,0.3s,baz=143,slow=6.2,SNR=4.4						
ELK	Elko	84.62	329	P	P	13 36 15.8	-0.7
	1.2nm,0.8s,baz=336,slow=3.3,SNR=4.0						
TORD	Torodi Ar. Bea	84.91	70	P	P	13 36 17.7	-0.5
	1.1nm,0.6s,baz=263,slow=4.1,SNR=4.3						
ULM	Lac du Bonnet	86.96	345	P	P	13 36 26.8	-0.7
	2.6nm,0.8s,baz=318,slow=0.9,SNR=3.7						
BRTR	Keskin Array B	122.58	61	PKP	PKPdf	13 42 36.9	-1.6
	0.6nm,0.7s,baz=222,slow=1.9,SNR=3.6						
ZALV	Zalesovo Beam	155.02	32	PKPab	PKPab	13 44 00.3	+0.6
	1.9nm,0.7s,baz=318,slow=4.0,SNR=4.6						
SONM	Songino Array	166.77	3	PKPab	PKPab	13 44 52.2	+1.0
	0.6nm,0.8s,baz=345,slow=3.3,SNR=4.2						

IDC 27 13:25:12.9±1.2, 36°.76S×72°.75W, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.3/20, mbtmp4.1/11, ML3.2/2, Error ellipse: s-maj=35.4km s-min=25.4km az=69.0
NEIC 27 13:25:18.0±0.6, 36°.75S×72°.67W, h35km, mb4.3/4, Error ellipse: s-maj=13.4km s-min=9.3km az=72.0
ISCJB 27 13:25:20.1±1.0, 36°.6S±0°.1×72°.4W±0°.2, h58km, mb4.1/12, Error ellipse: s-maj=20.5km s-min=13.7km az=136.4
ISC 27 13:25:20.6±0.9, 36°.7S±0°.1×72°.5W±0°.1, h58km, n18, σ1s.16/18, mb4.1/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
TRQA	Tornquist	8.52	102	P	Pn	13 27 20.2	-1.1
LVC	Limon Verde	14.39	14	ePn	Pn	13 28 40.5	-1.0
CPUP	Villa Florida	16.57	56	Pn	Pn	13 29 09.4	+0.4
	0.8nm,0.3s,baz=203,slow=13,SNR=2.1						
CPUP	Villa Florida	16.57	56	ePn	Pn	13 29 09.0	-0.1
	0.3nm,0.5s						
USHA	Ushuaia	18.35	172	P	P	13 29 27.5	-2.7
	0.1nm,0.3s,baz=324,slow=7.6,SNR=3.2						
LPAZ	La Paz	20.71	12	P	P	13 29 57.0	+0.2
	3.6nm,0.6s,baz=218,slow=9.6,SNR=4.1						
SIV	San Ignacio	23.01	29	P	P	13 30 20.2	-0.5
	12nm,0.9s,baz=246,slow=11,SNR=4.9						
NNA	Nana	24.91	350	eP	P	13 30 38.2	-0.2
	3.8nm,0.5s						
SAML	Samuel	28.91	19	eP	P	13 31 14.4	+0.3
	3.5nm,1.1s						
SDV	Santo Domingo	45.38	3	eP	P	13 33 32.5	-1.2
	2.2nm,0.5s						
RCBR	Riachuelo	45.45	56	P	P	13 33 33.6	-0.5
	7.7nm,1.1s						
TXAR	Lajitas Array	71.90	332	P	P	13 36 37.5	-0.2
	0.4nm,0.5s,baz=151,slow=8.1,SNR=2.8						
DBIC	Dimbokro	76.44	71	P	P	13 37 05.9	+1.6
	2.4nm,0.5s,baz=187,slow=5.3,SNR=4.6						
TSUM	Tsumeb	78.88	106	P	P	13 37 18.8	+0.7
	1.7nm,0.9s,baz=31,slow=5.9,SNR=2.1						
LBTB	Lobatse	81.55	115	P	P	13 37 34.6	+2.2
	2.8nm,0.6s,baz=250,slow=5.8,SNR=4.6						
TORD	Torodi Ar. Bea	85.52	70	P	P	13 37 53.1	+0.5
	1.6nm,1.0s,baz=239,slow=3.6,SNR=3.6						
NVAR	Mina Array Bea	85.87	326	P	P	13 37 54.5	+0.4
	0.4nm,0.5s,baz=152,slow=6.0,SNR=2.6						
PDAR	Pinedale Array	85.99	334	P	P	13 37 55.3	+0.7
	1.0nm,1.0s,baz=145,slow=5.2,SNR=3.3						

IDC 27 13:26:45.9±6.4, 35°.21S×71°.52W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.9/14, mbtmp4.0/2, MS4.3/1, Ms1 4.3/1, ms1mx3.5/22, Error ellipse: s-maj=297.9km s-min=57.3km az=27.0
ISCJB 27 13:26:51.4±1.0, 35°.17S±0°.10×71°.1W±0°.2, h35km, mb4.2/4, MS4.3/1, Error ellipse: s-maj=21.7km s-min=14.2km az=0.7
NEIC 27 13:26:52.3±0.9, 35°.06S×71°.22W, h35km, mb4.5/2, Error ellipse: s-maj=21.5km s-min=12.9km az=84.0
ISC 27 13:26:54.6±1.1, 35°.2S±0°.1×71°.0W±0°.2, h35km, n12, σ2s.11/9, mb4.4/4, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
PLCA	Paso Flores	5.54	177	Pn	Pn	13 28 14.0	-0.7
TRQA	Tornquist	7.76	114	ePn	Pn	13 28 45.1	0.0
LVC	Limon Verde	12.66	9	Pn	Pn	13 29 47.1	-5.4
CPUP	Villa Florida	14.66	57	ePn	Pn	13 30 19.1	-0.3
	0.3nm,0.6s						
SDV	Santo Domingo	43.84	0	eP	P	13 34 56.5	-1.2
	8.7nm,0.9s						
SNAA	Sanae	50.14	158	LR	LR	13 54 31.0	
	comp=Z,334nm,21.4s,baz=215,slow=33						
SNAA	Sanae	50.14	158	eP	P	13 35 46.1	0.0
	6.3nm,1.0s						
TXAR	Lajitas Array	71.21	330	P	P	13 38 05.7	-4.4
	0.6nm,0.7s,baz=153,slow=8.1,SNR=3.5						
DBIC	Dimbokro	74.72	70	P	P	13 38 31.3	+0.1
TORD	Torodi Ar. Bea	83.78	69	P	P	13 39 19.9	-0.6
	2.0nm,0.9s,baz=251,slow=4.9,SNR=4.4						
BVAR	Borovoye Array	147.52	45	PKPbc	PKPdf	13 46 31.9	+0.1
	1.2nm,0.6s,baz=292,slow=4.7,SNR=4.1						
ZALV	Zalesovo Beam	154.72	35	PKPbc	PKPdf	13 46 47.7	+4.9
	1.5nm,0.6s,baz=294,slow=3.4,SNR=4.4						

IDC 27 13:26:56.9±0.9, 36°.33S×73°.46W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.4/23, mbtmp4.4/14, ML4.8/1, Error ellipse: s-maj=32.1km s-min=18.0km az=79.0
ISCJB 27 13:27:00.2±0.7, 36°.24S±0°.08×73°.4W±0°.1, h33km, mb4.3/16, Error ellipse: s-maj=16.5km s-min=10.3km az=161.1
NEIC 27 13:27:02.3±0.6, 36°.21S×73°.42W, h35km, mb4.1/4, Error ellipse: s-maj=16.1km s-min=10.1km az=72.0
ISC 27 13:27:02.2±0.7, 36°.18S±0°.09×73°.4W±0°.1, h35km, n30, σ1s.03/29, mb4.4/16, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
TRQA	Tornquist	9.28	105	ePn	Pn	13 29 13.2	-0.4
LVC	Limon Verde	14.07	17	Pn	Pn	13 30 18.1	-1.2
CPUP	Villa Florida	16.84	59	Pn	Pn	13 30 56.1	-1.0
	0.8nm,0.3s,baz=243,slow=14,SNR=3.1						
CPUP	Villa Florida	16.84	59	ePn	P	13 30 56.8	-0.3
LPAZ	La Paz	20.36	15	P	Pn	13 31 38.7	0.0
	6.5nm,0.7s,baz=194,slow=5.7,SNR=2.9						
SIV	San Ignacio	22.90	32	P	P	13 32 04.1	+1.1
	11nm,0.8s,baz=229,slow=15,SNR=5.9						
NNA	Nana	24.30	352	P	P	13 32 17.0	+0.5
	5.2nm,0.8s						
SAML	Samuel	28.65	21	eP	P	13 32 54.2	-1.5
	1.5nm,0.8s						
ATAH	Atahualpa	29.28	350	P	P	13 33 01.4	-0.3
	4.5nm,0.7s,baz=172,slow=15,SNR=3.2						
OTAV	Otavalo	36.55	351	P	P	13 34 04.9	-0.3
	2.5nm,1.0s						
SDV	Santo Domingo	44.90	4	eP	P	13 35 12.7	-1.1
RCBR	Riachuelo	45.72	58	eP	P	13 35 21.4	+1.2
	12nm,1.1s						
SNAA	Sanae	49.99	157	P	P	13 35 51.7	-0.9
	4.4nm,0.9s,baz=286,slow=6.9,SNR=9.1						
SNAA	Sanae	49.99	157	eP	P	13 35 52.0	-0.6
QSPA	South Pole Qui	54.06	180	P	P	13 36 22.0	-1.0
	7.2nm,0.9s,baz=149,slow=3.0,SNR=5.7						
QSPA	South Pole Qui	54.06	180	eP	P	13 36 22.5	-0.5
TXAR	Lajitas Array	71.13	332	P	P	13 38 18.8	+1.6
	0.6nm,0.7s,baz=148,slow=8.6,SNR=3.1						
SUR	Sutherland	74.72	119	P	P	13 38 40.2	+1.4
	8.0nm,0.8s,baz=225,slow=8.4,SNR=4.3						
DBIC	Dimbokro	76.90	72	P	P	13 38 52.3	+1.1
	5.1nm,0.8s,baz=210,slow=7.1,SNR=6.0						
DBIC	Dimbokro	76.90	72	eP	P	13 38 52.4	+1.2
TSUM	Tsumeb	79.66	106	P	P	13 39 06.9	+0.2
	3.5nm,1.1s,baz=243,slow=2.3,SNR=2.8						
BOSA	Boshof	80.01	118	P	P	13 39 07.4	-1.0
	3.3nm,0.8s,baz=208,slow=5.0,SNR=3.9						
LBTB	Lobatse	82.36	115	P	P	13 39 21.0	0.0
	5.3nm,0.7s,baz=243,slow=5.1,SNR=5.5						
PDAR	Pinedale Array	85.23	334	P	P	13 39 34.2	-0.9
	0.5nm,0.8s,baz=195,slow=5.6,SNR=3.3						
TORD	Torodi Ar. Bea	85.97	71	P	P	13 39 39.0	-0.1
	3.6nm,0.9s,baz=262,slow=3.6,SNR=7.0						
HYB	Hyderabad	148.90	120	iPKP	PKPbc	13 46 46.5	-0.3
BVAR	Borovoye Array	149.60	45	PKPbc	PKPbc	13 46 48.9	+1.5
	1.1nm,0.5s,baz=264,slow=1.5,SNR=3.5						
ZALV	Zalesovo Beam	156.65	34	PKPab	PKPab	13 47 22.5	+0.2
	2.3nm,0.7s,baz=305,slow=5.2,SNR=5.3						
MKAR	Makanchi Array	158.99	52	PKPab	PKPab	13 47 33.2	+0.5
	0.9nm,0.8s,baz=289,slow=3.7,SNR=3.7						
SONM	Songino Array	168.36	1	PKPab	PKPab	13 48 15.8	+2.1
	0.3nm,0.7s,baz=0.0,slow=3.0,SNR=4.2						

IDC 27 13:33:08.2±0.7, 34°.26S×73°.30W, h0km, mb4.4/13, mb1 4.5/15, mb1mx4.3/43, mbtmp4.4/15, ML3.9/2, Error ellipse: s-maj=23.7km s-min=16.5km az=72.0
ISCJB 27 13:33:11.3±0.5, 34°.29S±0°.06×73°.26W±0°.09, h33km, mb4.4/15, Error ellipse: s-maj=10.8km s-min=8.6km az=5.4
NEIC 27 13:33:13.5±0.4, 34°.25S×73°.19W, h35km, mb4.5/3, Error ellipse: s-maj=11.4km s-min=6.6km az=75.0
ISC 27 13:33:13.3±0.6, 34°.26S±0°.07×73°.3W±0°.1, h35km, n26, σ0s.96/26, mb4.4/15, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
CFAA	Coronel Fontan	5.01	59	Pn	Pn	13 34 24.5	-1.6
	2.0nm,0.3s,baz=21,slow=18,SNR=2.8						
CFAA				Sn	Sn	13 35 25.0	+2.2

	3.4nm,0.3s,baz=115,slow=16,SNR=6.1						
PLCA	**Paso Flores**	**6.81**	**162**	*e*Pn	**Pn**	**13 34 50.8**	**-0.1**
TRQA	**Tornquist**	**9.90**	**116**	*e*Pn	**Pn**	**13 35 31.4**	**-1.8**
LVC	**Limon Verde**	**12.23**	**19**	*e*Pn	**Pn**	**13 36 05.0**	**-0.3**
LPAZ	**La Paz**	**18.49**	**16**	P	**Pn**	**13 37 27.6**	**+0.2**
	0.3nm,0.3s,baz=191,slow=7.4,SNR=9.7						
SIV	**San Ignacio**	**21.26**	**34**	P	**P**	**13 37 56.7**	**0.0**
	5.4nm,0.7s,baz=216,slow=11,SNR=6.2						
NNA	**Nana**	**22.41**	**351**	P	**P**	**13 38 09.1**	**0.0**
	6.0nm,0.4s,baz=193,slow=14,SNR=3.1						
OTAV	**Otavalo**	**34.66**	**351**	*e*P	**P**	**13 39 59.5**	**-0.6**
	14nm,1.4s						
SDV	**Santo Domingo**	**42.99**	**4**	*e*P	**P**	**13 41 08.9**	**-0.6**
	8.8nm,1.5s						
SNAA	**Sanae**	**51.74**	**158**	P	**P**	**13 42 16.8**	**0.0**
	2.3nm,0.5s,baz=280,slow=10,SNR=12						
QSPA	**South Pole Qui**	**55.97**	**180**	P	**P**	**13 42 48.8**	**+0.8**
	5.1nm,0.9s,baz=141,slow=4.4,SNR=5.6						
QSPA	**South Pole Qui**	**55.97**	**180**	*e*P	**P**	**13 42 48.6**	**+0.6**
	5.1nm,1.1s						
TEIG	**Tepich**	**56.03**	**343**	P	**P**	**13 42 48.1**	**-0.6**
	12nm,0.5s,baz=133,slow=1.1,SNR=12						
TXAR	**Lajitas Array**	**69.47**	**332**	P	**P**	**13 44 18.4**	**+0.2**
	2.1nm,0.6s,baz=153,slow=8.3,SNR=22						
BBTS	**Babate**	**72.64**	**58**	P	**P**	**13 44 39.2**	**+1.7**
	9.4nm,0.4s,baz=22,slow=0.6,SNR=3.6						
ANMO	**Albuquerque**	**75.52**	**332**	P	**P**	**13 44 54.9**	**+0.7**
	1.6nm,0.9s,baz=193,slow=5.5,SNR=4.2						
DBIC	**Dimbokro**	**76.25**	**72**	P	**P**	**13 44 58.6**	**-0.1**
	3.9nm,0.7s,baz=219,slow=6.6,SNR=5.0						
TSUM	**Tsumeb**	**80.14**	**106**	*e*P	**P**	**13 45 19.3**	**-1.1**
BOSA	**Boshof**	**80.87**	**118**	P	**P**	**13 45 24.3**	**+0.2**
	4.5nm,0.8s,baz=238,slow=5.8,SNR=4.1						
LBTB	**Lobatse**	**83.14**	**115**	P	**P**	**13 45 36.4**	**+0.3**
	6.1nm,0.9s,baz=87,slow=0.9,SNR=5.0						
PDAR	**Pinedale Array**	**83.53**	**334**	P	**P**	**13 45 38.3**	**+0.7**
	0.7nm,1.0s,baz=148,slow=5.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**85.28**	**71**	P	**P**	**13 45 47.2**	**+0.4**
	2.0nm,0.7s,baz=253,slow=3.7,SNR=7.5						
BVAR	**Borovoye Array**	**148.18**	**43**	PKPbc	**PKPbc**	**13 52 55.9**	**+0.9**
	3.5nm,0.7s,baz=310,slow=2.8,SNR=10						
ZALV	**Zalesovo Beam**	**155.00**	**31**	PKPbc	PKPdf	13 53 09.6	+7.7
	2.0nm,0.6s,baz=296,slow=2.5,SNR=7.4						
MKAR	**Makanchi Array**	**157.72**	**49**	PKPab	**PKPab**	**13 53 36.8**	**-1.5**
	0.6nm,0.7s,baz=298,slow=4.3,SNR=5.2						
SONM	**Songino Array**	**166.44**	**1**	PKPab	**PKPab**	**13 54 16.0**	**-0.4**
	0.5nm,0.7s,baz=42,slow=2.3,SNR=4.7						

IDC ***27*** *13:34:10.6±14.0, 35.88S×72.69W, h0km, mb4.2/4, mb1 4.6/4, mb1mx4.2/15, mbtmp4.2/4, Error ellipse: s-maj=656.5km s-min=343.5km az=75.0*
ISCJB ***27*** *13:34:15.1±0.7, 36.07S±0.09×73.4W±0.1, h33km, mb4.2/7, Error ellipse: s-maj=16.9km s-min=11.3km az=157.1*
NEIC ***27*** *13:34:17.0±0.5, 36.04S×73.49W, h35km, mb4.3/3, Error ellipse: s-maj=11.5km s-min=7.9km az=67.0*
ISC 27 13:34:16.9±0.8, 36.04S±0.10×73.5W±0.1, h35km, n13, σ0.46/13, mb4.3/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.21**	**155**	*e*Pn	**Pn**	**13 35 32.3**	**-0.1**
TRQA	**Tornquist**	**9.39**	**106**	*e*Pn	**Pn**	**13 36 30.2**	**+0.5**
LVC	**Limon Verde**	**13.95**	**18**	Pn	**Pn**	**13 37 32.3**	**0.0**
CPUP	**Villa Florida**	**16.83**	**59**	*e*Pn	**P**	**13 38 11.0**	**-0.5**
	0.2nm,0.8s						
NNA	**Nana**	**24.14**	**352**	P	**P**	**13 39 29.4**	**-0.3**
SDV	**Santo Domingo**	**44.76**	**4**	P	**P**	**13 42 27.9**	**+0.6**
	3.9nm,0.8s						
RCBR	**Riachuelo**	**45.70**	**58**	*e*P	**P**	**13 42 34.2**	**-0.5**
	5.6nm,0.9s						
QSPA	**South Pole Qui**	**54.20**	**180**	P	**P**	**13 43 39.1**	**+0.4**
	2.4nm,0.8s						
TXAR	**Lajitas Array**	**70.97**	**332**	P	**P**	**13 45 30.8**	**-0.1**
	2.2nm,0.9s,baz=152,slow=8.2,SNR=6.4						
ANMO	**Albuquerque**	**77.03**	**333**	P	**P**	**13 46 06.9**	**+0.6**
	3.5nm,1.0s,baz=162,slow=6.5,SNR=6.8						
NVAR	**Mina Array Bea**	**84.91**	**326**	P	**P**	**13 46 48.3**	**+0.1**
	1.0nm,0.8s,baz=140,slow=5.7,SNR=5.1						
PDAR	**Pinedale Array**	**85.07**	**334**	P	**P**	**13 46 49.0**	**0.0**
	2.2nm,1.1s,baz=139,slow=5.6,SNR=6.0						
HYB	**Hyderabad**	**149.04**	**119**	*i* PKP	**PKPdf**	**13 53 57.0**	**-0.6**

IDC ***27*** *13:34:41.9±0.7, 36.10S×72.77W, h0km, mb4.4/12, mb1 4.6/12, mb1mx4.3/40, mbtmp4.4/12, Error ellipse: s-maj=33.9km s-min=17.9km az=63.0*
ISCJB ***27*** *13:34:45.7±0.5, 36.05S±0.07×72.6W±0.1, h35km, mb4.3/16, Error ellipse: s-maj=14.5km s-min=9.0km az=163.7*
NEIC ***27*** *13:34:47.3±0.4, 36.06S×72.69W, h35km, mb4.3/6, Error ellipse: s-maj=11.0km s-min=7.0km az=74.0*
ISC 27 13:34:47.4±0.6, 36.04S±0.08×72.7W±0.1, h35km, n30, σ0.86/30, mb4.4/16, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.97**	**161**	Pn	**Pn**	**13 35 59.6**	**0.0**
TRQA	**Tornquist**	**8.78**	**106**	*e*Pn	**Pn**	**13 36 51.5**	**-0.3**
LVC	**Limon Verde**	**13.77**	**15**	*e*Pn	**Pn**	**13 37 59.7**	**-0.7**
CPUP	**Villa Florida**	**16.29**	**58**	P	**Pn**	**13 38 34.1**	**+0.6**
	0.1nm,0.6s						
LPAZ	**La Paz**	**20.08**	**13**	*e*P	**P**	**13 39 19.7**	**+1.1**
	9.4nm,1.0s						
SIV	**San Ignacio**	**22.49**	**30**	P	**P**	**13 39 44.3**	**+0.5**
	12nm,1.0s,baz=234,slow=12,SNR=6.9						
SAML	**Samuel**	**28.32**	**20**	P	**P**	**13 40 37.5**	**-0.4**
SDV	**Santo Domingo**	**44.73**	**3**	*e*P	**P**	**13 42 56.9**	**-0.7**
	3.6nm,0.8s						
RCBR	**Riachuelo**	**45.17**	**57**	P	**P**	**13 43 00.1**	**-0.8**
	8.3nm,1.1s						
JTS	**JuntasAbangare**	**47.52**	**344**	*e*P	**P**	**13 43 19.9**	**+0.6**
	5.1nm,1.1s						
SNAA	**Sanae**	**49.90**	**157**	P	**P**	**13 43 37.0**	**-0.1**
	2.7nm,0.9s,baz=218,slow=4.6,SNR=7.0						
SNAA	**Sanae**	**49.90**	**157**	*e*P	**P**	**13 43 36.8**	**-0.3**
QSPA	**South Pole Qui**	**54.20**	**180**	P	**P**	**13 44 09.0**	**-0.3**
	5.3nm,0.9s,baz=155,slow=6.2,SNR=3.8						
QSPA	**South Pole Qui**	**54.20**	**180**	*e*P	**P**	**13 44 08.8**	**-0.5**
	8.9nm,0.8s						
TEIG	**Tepich**	**57.88**	**343**	P	**P**	**13 44 35.9**	**+0.2**
	9.2nm,0.6s,baz=98,slow=14,SNR=3.9						
TXAR	**Lajitas Array**	**71.27**	**332**	P	**P**	**13 46 03.6**	**+0.4**
	2.5nm,0.6s,baz=155,slow=9.0,SNR=16						
DBIC	**Dimbokro**	**76.32**	**71**	*e*P	**P**	**13 46 33.7**	**+0.6**
LAZ	**Ladron**	**77.11**	**331**	*e*P	**P**	**13 46 37.4**	**+0.1**
	0.5nm,0.7s						
TSUM	**Tsumeb**	**79.16**	**106**	P	**P**	**13 46 50.0**	**+1.0**
	0.8nm,0.6s,baz=246,slow=17,SNR=4.2						
BOSA	**Boshof**	**79.58**	**118**	P	**P**	**13 46 50.9**	**-0.4**
	7.1nm,0.9s,baz=204,slow=7.8,SNR=5.4						
LBTB	**Lobatse**	**81.92**	**115**	P	**P**	**13 47 03.8**	**0.0**
	2.5nm,0.7s,baz=240,slow=4.0,SNR=3.5						
NVAR	**Mina Array Bea**	**85.27**	**326**	P	**P**	**13 47 21.1**	**+0.6**
	2.4nm,0.8s,baz=156,slow=5.5,SNR=8.5						
PDAR	**Pinedale Array**	**85.35**	**334**	P	**P**	**13 47 20.6**	**-0.3**
	1.3nm,1.1s,baz=145,slow=5.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**85.39**	**70**	P	**P**	**13 47 21.8**	**+0.3**
	2.0nm,0.9s,baz=240,slow=3.4,SNR=5.5						
ULM	**Lac du Bonnet**	**88.33**	**345**	P	**P**	**13 47 33.7**	**-1.2**
	2.7nm,0.7s,baz=184,slow=4.6,SNR=5.1						
HYB	**Hyderabad**	**148.48**	**118**	*i* PKP	**PKPdf**	**13 54 29.0**	**+1.7**
BVAR	**Borovoye Array**	**149.10**	**45**	PKPbc	**PKPbc**	**13 54 31.8**	**+0.4**
	1.4nm,0.7s,baz=308,slow=4.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**156.21**	**34**	PKPab	**PKPab**	**13 55 06.4**	**+0.9**
	2.4nm,0.8s,baz=300,slow=3.2,SNR=4.4						
MKAR	**Makanchi Array**	**158.45**	**52**	PKP	**PKPdf**	**13 54 37.9**	**-2.8**
	1.0nm,0.9s,baz=222,slow=1.9,SNR=3.6						
SONM	**Songino Array**	**168.19**	**3**	PKPab	**PKPab**	**13 55 58.6**	**+0.4**
	0.5nm,0.9s,baz=351,slow=4.8,SNR=3.7						

IDC ***27*** *13:34:58.5±0.6, 37.55S×73.52W, h0km, mb4.6/16, mb1 4.6/19, mb1mx4.6/25, mbtmp4.5/19, ML3.3/1, Error ellipse: s-maj=23.5km s-min=14.5km az=75.0*
ISCJB ***27*** *13:35:00.5±0.5, 37.47S±0.06×73.5W±0.1, h23km, mb4.6/20, Error ellipse: s-maj=13.2km s-min=8.2km az=162.8*
NEIC ***27*** *13:35:03.3±0.4, 37.51S×73.60W, h35km, mb4.6/6, Error ellipse: s-maj=12.1km s-min=7.6km az=77.0*
ISC 27 13:35:01.7±0.5, 37.52S±0.07×73.6W±0.1, h23km, n52, σ1.06/50, mb4.6/20, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.00**	**144**	Pn	Pn	13 36 04.7	+3.1
	7.0nm,0.3s,baz=23,slow=15,SNR=2.3						
PLCA				Lg	Lg	13 37 03.5	
	43nm,0.3s,baz=34,slow=22,SNR=3.4						
PLCA	**Paso Flores**	**4.00**	**144**	*e*Pn	**Pn**	**13 36 02.6**	**+1.0**
PLCA				Lg	Lg	13 37 03.5	
CFAA	**Coronel Fontan**	**7.38**	**38**	Pn	**Pn**	**13 36 48.8**	**+0.7**
	1.5nm,0.3s,baz=233,slow=13,SNR=3.8						
CFAA				Sn	Sb	13 38 24.6	-12
	3.4nm,0.3s,baz=104,slow=17,SNR=3.3						
TRQA	**Tornquist**	**9.23**	**97**	*e*Pn	**Pn**	**13 37 12.9**	**-0.5**
LVC	**Limon Verde**	**15.40**	**17**	*e*Pn	**Pn**	**13 38 35.8**	**-2.0**
USHA	**Ushuaia**	**17.67**	**170**	P	**Pn**	**13 39 03.8**	**-2.3**
	0.3nm,0.3s,baz=314,slow=7.5,SNR=5.2						
CPUP	**Villa Florida**	**17.73**	**56**	P	**Pn**	**13 39 05.7**	**-1.4**
	1.3nm,0.3s,baz=239,slow=15,SNR=4.4						
CPUP	**Villa Florida**	**17.73**	**56**	*e*Pn	**P**	**13 39 07.5**	**-0.3**
LPAZ	**La Paz**	**21.70**	**14**	P	**P**	**13 39 51.7**	**0.0**
	10nm,0.9s,baz=159,slow=10,SNR=2.6						
LPAZ	**La Paz**	**21.70**	**14**	*e*P	**P**	**13 39 51.1**	**-0.7**
	13nm,1.0s						
SIV	**San Ignacio**	**24.14**	**31**	P	**P**	**13 40 15.8**	**-0.3**
	13nm,0.9s,baz=226,slow=9.8,SNR=4.5						
NNA	**Nana**	**25.59**	**353**	P	**P**	**13 40 29.5**	**+0.3**
	7.1nm,0.5s,baz=181,slow=12,SNR=3.5						
SAML	**Samuel**	**29.97**	**21**	*e*P	**P**	**13 41 06.4**	**-2.1**
	5.3nm,0.9s						
ATAH	**Atahualpa**	**30.56**	**351**	P	**P**	**13 41 16.4**	**+2.3**
	3.5nm,0.7s,baz=173,slow=4.4,SNR=4.5						
BDFB	**Brasilia**	**31.42**	**53**	P	**P**	**13 41 24.2**	**+2.7**
	7.1nm,0.8s,baz=206,slow=8.5,SNR=4.4						
OTAV	**Otavalo**	**37.84**	**352**	*e*P	**P**	**13 42 17.1**	**-0.1**
	15nm,1.4s						
ROSC	**El Rosal**	**42.16**	**359**	*e*P	**P**	**13 42 51.1**	**-1.9**
SDV	**Santo Domingo**	**46.25**	**4**	*e*P	**P**	**13 43 24.9**	**-0.7**
BCIP	**Isla Barro Col**	**46.80**	**352**	P	**P**	**13 43 29.8**	**+0.1**
JTS	**JuntasAbangare**	**48.73**	**345**	*e*P	**P**	**13 43 45.1**	**+0.5**
SNAA	**Sanae**	**48.84**	**157**	P	**P**	**13 43 45.3**	**+0.3**
	5.7nm,0.9s,baz=273,slow=7.5,SNR=8.6						
SNAA	**Sanae**	**48.84**	**157**	*e*P	**P**	**13 43 44.7**	**-0.2**
	7.6nm,0.8s						
QSPA	**South Pole Qui**	**52.72**	**180**	P	**P**	**13 44 15.3**	**+0.9**
	8.6nm,0.8s,baz=132,slow=3.0,SNR=6.6						
QSPA	**South Pole Qui**	**52.72**	**180**	*e*P	**P**	**13 44 14.5**	**+0.1**
	4.8nm,0.7s						
KVTX	**Kingsville**	**68.62**	**337**	P	**P**	**13 46 01.0**	**-1.8**
	200nm,0.8s						
TXAR	**Lajitas Array**	**72.22**	**333**	P	**P**	**13 46 26.3**	**+1.3**
	3.8nm,0.8s,baz=155,slow=8.8,SNR=9.0						
SUR	**Sutherland**	**74.26**	**119**	P	**P**	**13 46 38.6**	**+1.3**
	11nm,0.9s,baz=234,slow=8.8,SNR=4.4						
DBIC	**Dimbokro**	**77.52**	**71**	P	**P**	**13 46 56.5**	**+0.7**
	16nm,0.9s,baz=210,slow=7.0,SNR=8.9						
DBIC	**Dimbokro**	**77.52**	**71**	*e*P	**P**	**13 46 56.0**	**+0.2**
	7.6nm,0.8s						
TSUM	**Tsumeb**	**79.48**	**106**	P	**P**	**13 47 07.2**	**+0.3**
	2.7nm,0.9s,baz=230,slow=18,SNR=5.2						
TSUM	**Tsumeb**	**79.48**	**106**	*e*P	**P**	**13 47 07.4**	**+0.5**
BOSA	**Boshof**	**79.56**	**118**	P	**P**	**13 47 07.0**	**-0.2**
	6.8nm,0.8s,baz=241,slow=4.3,SNR=5.5						
LBTB	**Lobatse**	**81.98**	**115**	P	**P**	**13 47 20.3**	**+0.1**
	12nm,0.8s,baz=274,slow=5.4,SNR=8.3						
NVAR	**Mina Array Bea**	**86.07**	**326**	P	**P**	**13 47 42.3**	**+1.7**
	1.3nm,0.7s,baz=134,slow=6.4,SNR=4.5						
PDAR	**Pinedale Array**	**86.35**	**334**	P	**P**	**13 47 42.8**	**+1.0**
	1.8nm,0.9s,baz=142,slow=5.1,SNR=6.5						
TORD	**Torodi Ar. Bea**	**86.60**	**71**	P	**P**	**13 47 43.5**	**0.0**
	2.2nm,0.6s,baz=222,slow=5.0,SNR=9.3						
ULM	**Lac du Bonnet**	**89.58**	**346**	P	**P**	**13 47 55.7**	**-1.1**
	6.3nm,1.1s,baz=187,slow=3.6,SNR=4.4						
GERES	**GERESS Array B**	**115.51**	**47**	PKP	**PKPdf**	**13 53 41.3**	**-0.1**
	0.3nm,0.6s,baz=207,slow=2.7,SNR=5.3						
BRTR	**Keskin Array B**	**124.61**	**63**	PKP	**PKPdf**	**13 53 59.1**	**-0.1**
	1.8nm,0.7s,baz=212,slow=4.3,SNR=11						
AKASG	**Malin Array Be**	**125.48**	**50**	PKP	**PKPdf**	**13 53 59.8**	**-0.5**
	0.5nm,0.4s,baz=258,slow=2.8,SNR=5.7						
FINES	**FINESS Array B**	**126.60**	**36**	PKP	**PKPdf**	**13 54 01.4**	**-0.7**
	1.7nm,0.9s,baz=195,slow=4.3,SNR=3.9						
GEYT	**Alibeck**	**142.16**	**74**	PKhKP	PKPpre	13 54 27.6	
	2.6nm,0.7s,baz=277,slow=2.4,SNR=4.8						
AKTO	**Aktyubinsk**	**143.52**	**54**	PKhKP	PKPpre	13 54 30.8	
	4.4nm,1.1s,baz=283,slow=4.9,SNR=6.9						
ABKAR	**Akbulak array**	**144.80**	**55**	*e*PKPdf	PKPbc	13 54 35.7	+0.4
HYB	**Hyderabad**	**148.40**	**122**	*i* PKP	**PKPbc**	**13 54 46.0**	**-0.7**
BVAR	**Borovoye Array**	**150.68**	**46**	PKPbc	**PKPbc**	**13 54 52.2**	**+0.9**
	7.9nm,0.7s,baz=290,slow=4.1,SNR=16						
YAK	**Yakutsk**	**151.54**	**337**	*e*PKPbc	**PKPbc**	**13 54 53.2**	**+0.3**
MJAR	**Matsushiro Arr**	**154.64**	**278**	PKPab	**PKPab**	**13 55 15.5**	**0.0**
	2.7nm,1.0s,baz=136,slow=2.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**157.86**	**35**	PKP	**PKPdf**	**13 54 55.3**	**-0.4**
	3.3nm,0.9s,baz=302,slow=3.3,SNR=6.0						
ZALV				PKPab	**PKPab**	**13 55 28.0**	**-0.7**
	3.9nm,0.6s,baz=305,slow=5.1,SNR=7.9						
CMAR	**Chiang Mai Arr**	**159.92**	**159**	PKPab	**PKPab**	**13 55 38.0**	**-0.4**
	0.9nm,0.6s,baz=220,slow=5.4,SNR=5.5						
MKAR	**Makanchi Array**	**159.94**	**55**	PKP	**PKPdf**	**13 54 58.7**	**+0.1**
	2.0nm,1.0s,baz=318,slow=1.9,SNR=6.4						
MKAR				PKPab	**PKPab**	**13 55 37.6**	**-0.5**
	2.1nm,0.8s,baz=282,slow=3.9,SNR=6.3						
SONM	**Songino Array**	**169.69**	**360**	PKPab	**PKPab**	**13 56 21.1**	**+0.2**
	0.8nm,0.8s,baz=336,slow=3.2,SNR=5.0						

ISCJB ***27*** *13:36:03.7±1.4, 38.2S±0.1×73.5W±0.2, h22km, mb4.3/3, Error ellipse: s-maj=27.4km s-min=13.0km az=163.4*
NEIC ***27*** *13:36:06.8±1.2, 38.21S×73.50W, h35km, mb4.2/3, Error ellipse: s-maj=24.6km s-min=11.4km az=74.0*
ISC 27 13:36:05.2±1.5, 38.2S±0.1×73.5W±0.2, h22km, n8, σ0.90/8, mb4.2/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.41**	**139**	Pn	**Pn**	**13 36 57.6**	**+0.4**
TRQA	**Tornquist**	**9.09**	**93**	Pn	**Pn**	**13 38 14.9**	**-0.2**
LVC	**Limon Verde**	**16.03**	**16**	*e*Pn	**Pn**	**13 39 48.2**	**-1.3**
CPUP	**Villa Florida**	**18.06**	**54**	Pn	**P**	**13 40 15.9**	**+0.9**
	0.2nm,0.5s						
LPAZ	**La Paz**	**22.33**	**14**	P	**P**	**13 41 02.7**	**+0.6**
	7.6nm,0.9s						
SAML	**Samuel**	**30.57**	**20**	*e*P	**P**	**13 42 17.3**	**-0.1**
	3.4nm,1.2s						
SDV	**Santo Domingo**	**46.91**	**4**	P	**P**	**13 44 35.0**	**+0.7**
SNAA	**Sanae**	**48.19**	**156**	*e*P	**P**	**13 44 42.9**	**-0.7**
	7.4nm,1.0s						

IDC ***27*** *13:39:23.4±0.7, 36.03S×73.44W, h0km, mb4.3/12, mb1 4.4/15, mb1mx4.3/39, mbtmp4.3/15, ML4.2/3, Error ellipse: s-maj=24.1km s-min=16.1km az=86.0*
ISCJB ***27*** *13:39:27.4±0.4, 36.04S±0.07×73.14W±0.09, h33km, mb4.7/34, Error ellipse: s-maj=10.6km s-min=9.3km az=147.3*
NEIC ***27*** *13:39:29.0±0.3, 36.03S×73.18W, h35km, mb4.8/25, Error ellipse: s-maj=8.7km s-min=7.3km az=58.0*
ISC 27 13:39:28.9±0.6, 36.03S±0.09×73.2W±0.1, h35km, n52, σ1.03/51, mb4.7/34, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.04**	**45**	Pn	**Pn**	**13 40 56.6**	**+0.7**
	1.9nm,0.3s,baz=39,slow=3.8,SNR=7.6						
TRQA	**Tornquist**	**9.20**	**106**	Pn	**Pn**	**13 41 37.9**	**-1.2**
LVC	**Limon Verde**	**13.88**	**17**	Pn	**Pn**	**13 42 43.0**	**-0.4**
CPUP	**Villa Florida**	**16.65**	**59**	Pn	**Pn**	**13 43 18.9**	**-0.6**
	0.5nm,0.3s,baz=131,slow=20,SNR=2.1						
CPUP	**Villa Florida**	**16.65**	**59**	*e*Pn	**P**	**13 43 17.7**	**-1.9**
USHA	**Ushuaia**	**19.09**	**172**	P	**P**	**13 43 49.0**	**+0.7**
	0.5nm,0.3s,baz=356,slow=12,SNR=3.8						
LPAZ	**La Paz**	**20.17**	**14**	P	Pn	13 44 02.3	-1.0
	3.8nm,0.7s,baz=197,slow=6.7,SNR=4.2						
SIV	**San Ignacio**	**22.70**	**32**	P	**P**	**13 44 28.2**	**+0.5**
	3.8nm,0.4s,baz=221,slow=14,SNR=8.7						
BDFB	**Brasilia**	**30.27**	**54**	P	**P**	**13 45 38.6**	**+1.6**
	3.6nm,0.7s,baz=233,slow=9.4,SNR=3.1						
SNAA	**Sanae**	**50.08**	**157**	P	**P**	**13 48 20.9**	**+0.9**
	3.3nm,0.8s,baz=291,slow=6.4,SNR=9.2						
SNAA	**Sanae**	**50.08**	**157**	*e*P	**P**	**13 48 20.7**	**+0.7**
	8.6nm,0.8s						
QSPA	**South Pole Qui**	**54.21**	**180**	P	**P**	**13 48 50.6**	**-0.3**
	6.6nm,0.9s,baz=149,slow=3.1,SNR=7.1						
QSPA	**South Pole Qui**	**54.21**	**180**	*e*P	**P**	**13 48 50.9**	**+0.1**
	10.0nm,1.1s						
TXAR	**Lajitas Array**	**71.06**	**332**	P	**P**	**13 50 43.0**	**-0.5**
	2.8nm,0.6s,baz=155,slow=8.7,SNR=26						
WHTX	**Lake Whitney**	**71.38**	**338**	*e*P	**P**	**13 50 45.0**	**-0.3**
	12nm,0.9s						
ABTX	**Abilene, Hawle**	**72.65**	**337**	*e*P	**P**	**13 50 52.5**	**-0.3**
	7.8nm,0.8s						
MSTX	**Muleshoe**	**74.92**	**335**	*e*P	**P**	**13 51 05.8**	**-0.5**
	11nm,1.1s						
AMTX	**Amarillo**	**75.38**	**336**	*e*P	**P**	**13 51 08.7**	**-0.2**
	11nm,0.9s						
DBIC	**Dimbokro**	**76.73**	**72**	P	**P**	**13 51 18.5**	**+1.6**
	3.8nm,0.6s,baz=171,slow=4.7,SNR=3.6						
LAZ	**Ladron**	**76.89**	**332**	*e*P	**P**	**13 51 16.5**	**-1.1**
	3.1nm,1.1s						
ANMO	**Albuquerque**	**77.12**	**332**	*e*P	**P**	**13 51 19.2**	**+0.4**
	7.9nm,1.1s						
MVCO	**Mesa Verde**	**79.89**	**333**	*e*P	**P**	**13 51 34.6**	**+0.5**
	65nm,2.5s						
BOSA	**Boshof**	**79.97**	**118**	P	**P**	**13 51 35.6**	**+0.7**
	3.2nm,0.8s,baz=227,slow=4.6,SNR=3.5						
SMCO	**Snowmass**	**81.07**	**334**	*e*P	**P**	**13 51 41.3**	**+0.7**
	23nm,1.6s						
SHPR	**Sheep Range**	**82.02**	**327**	*e*P	**P**	**13 51 46.2**	**+0.8**
CCUT	**Cedar City**	**82.13**	**329**	*e*P	**P**	**13 51 47.4**	**+1.3**
	55nm,2.5s						
ECSD	**EROS Data Cent**	**82.19**	**343**	*e*P	**P**	**13 51 45.3**	**-0.6**
	11nm,1.1s						
LBTB	**Lobatse**	**82.31**	**115**	P	**P**	**13 51 48.7**	**+1.4**
	baz=100,slow=4.3						
SRU	**San Rafael**	**82.32**	**332**	*e*P	**P**	**13 51 47.4**	**+0.4**
	7.9nm,1.2s						
MPU	**Maple Canyon**	**83.53**	**331**	*e*P	**P**	**13 51 53.7**	**+0.5**
	9.0nm,1.1s						
R11A	**Troy Canyon, C**	**83.75**	**328**	*e*P	**P**	**13 51 55.2**	**+0.8**
	7.6nm,1.4s						
JLU	**Jordanelle**	**83.97**	**332**	*e*P	**P**	**13 51 55.9**	**+0.3**
	5.6nm,0.9s						
DUG	**Dugway**	**84.15**	**331**	*e*P	**P**	**13 51 56.5**	**+0.2**
TPH	**Tonopah**	**84.24**	**327**	*e*P	**P**	**13 51 57.5**	**+0.7**
	15nm,1.4s						
NVAR	**Mina Array Bea**	**85.02**	**326**	P	**P**	**13 52 01.0**	**+0.1**
	1.9nm,0.7s,baz=153,slow=6.3,SNR=10.0						
PDAR	**Pinedale Array**	**85.15**	**334**	P	**P**	**13 52 01.4**	**0.0**
	1.6nm,1.0s,baz=119,slow=5.8,SNR=6.0						
HVU	**Hansel Valley**	**85.49**	**331**	*e*P	**P**	**13 52 02.9**	**-0.2**
	5.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**85.79**	**71**	P	**P**	**13 52 04.4**	**-0.6**
	0.8nm,0.8s,baz=264,slow=4.8,SNR=3.0						
LOHW	**Long Hollow**	**86.26**	**334**	*e*P	**P**	**13 52 06.7**	**-0.2**
	24nm,2.3s						
TPAW	**Teton Pass**	**86.28**	**333**	*e*P	**P**	**13 52 07.5**	**+0.4**
	6.6nm,1.0s						
IMW	**Indian Meadow**	**86.63**	**334**	*e*P	**P**	**13 52 08.8**	**0.0**
	13nm,1.4s						
FLWY	**Flagg Ranch**	**86.70**	**334**	*e*P	**P**	**13 52 09.7**	**+0.7**
	11nm,1.1s						
YMR	**Madison River**	**87.31**	**334**	*e*P	**P**	**13 52 13.2**	**+1.3**
	123nm,2.6s						
HLID	**Hailey**	**87.64**	**331**	*e*P	**P**	**13 52 13.7**	**+0.1**
	6.2nm,1.3s						
ULM	**Lac du Bonnet**	**88.21**	**346**	P	**P**	**13 52 14.2**	**-1.7**
	3.4nm,0.7s,baz=214,slow=3.0,SNR=5.6						
MOD	**Modoc**	**88.72**	**327**	*e*P	**P**	**13 52 18.9**	**+0.2**
	29nm,1.9s						
YKA	**Yellowknife Ar**	**103.67**	**342**	Pdiff	**Pdif**	**13 53 29.5**	**+3.6**
	0.2nm,0.7s,baz=139,slow=4.8,SNR=3.3						
PSI	**Prapat**	**146.14**	**166**	PKPbc	**PKPdf**	**13 59 05.1**	**-0.1**
	baz=190,slow=6.1						
BVAR	**Borovoye Array**	**149.40**	**45**	PKPbc	**PKPbc**	**13 59 12.0**	**-1.6**
	1.0nm,0.6s,baz=296,slow=4.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**156.44**	**34**	PKP	**PKPdf**	**13 59 18.6**	**-0.7**
	1.0nm,0.7s,baz=321,slow=2.0,SNR=4.0						
MKAR	**Makanchi Array**	**158.79**	**52**	PKP	**PKPdf**	**13 59 20.1**	**-2.5**
	0.7nm,0.9s,baz=288,slow=2.2,SNR=3.5						
SONM	**Songino Array**	**168.20**	**1**	PKPab	**PKPab**	**14 00 40.2**	**+0.4**
	0.3nm,0.7s,baz=11,slow=2.9,SNR=2.6						

NEIC 27 13:40:31.4±1.0, 35.04S×72.06W, h35km, mb4.2/4, Error ellipse: s-maj=25.7km s-min=10.6km az=81.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.81**	**169**	*e*Pn	Pn	13 41 54.4	-0.7
TRQA	**Tornquist**	**8.65**	**113**	Pn	Pn	13 42 34.9	+0.8
LVC	**Limon Verde**	**12.69**	**13**	*e*Pn	Pn	13 43 28.3	-1.4
LPAZ	**La Paz**	**19.00**	**12**	*e*P	Pn	13 44 51.6	-0.2
	3.9nm,0.8s						
RCBR	**Riachuelo**	**44.21**	**57**	*e*P	P	13 48 36.4	-1.0
	2.9nm,0.8s						
BCIP	**Isla Barro Col**	**44.58**	**349**	*e*P	P	13 48 41.0	+0.9
SNAA	**Sanae**	**50.63**	**158**	P	P	13 49 26.7	0.0
	3.3nm,1.0s						
DBIC	**Dimbokro**	**75.53**	**71**	*e*P	P	13 52 13.1	+0.5
	2.3nm,0.8s						

IDC ***27*** *13:41:24.2±0.7, 35.92S×73.32W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.4/32, mbtmp4.4/14, ML3.7/1, Error ellipse: s-maj=24.4km s-min=18.0km az=100.0*
ISCJB ***27*** *13:41:26.8±0.6, 35.92S±0.06×73.1W±0.1, h28km, mb4.3/13, Error ellipse: s-maj=14.0km s-min=9.3km az=176.1*
NEIC ***27*** *13:41:29.2±0.3, 35.92S×73.19W, h35km, mb4.3/4, Error ellipse: s-maj=8.8km s-min=6.1km az=91.0*
ISC 27 13:41:28.3±0.6, 35.91S±0.08×73.2W±0.1, h28km, n51, σ0.76/49, mb4.5/13, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.25**	**157**	*e*Pn	**Pn**	**13 42 44.8**	**-0.3**
CFAA	**Coronel Fontan**	**5.98**	**45**	Pn	**Pn**	**13 42 54.5**	**-0.5**
	1.9nm,0.3s,baz=65,slow=17,SNR=2.5						
CFAA				Sn	Sn	13 44 10.1	+7.5
	0.1nm,0.3s,baz=68,slow=19,SNR=2.1						
CFAA	**Coronel Fontan**	**5.98**	**45**	Pn	**Pn**	**13 42 54.5**	**-0.5**
CFAA				Sn	Sn	13 44 10.1	+7.5
TRQA	**Tornquist**	**9.25**	**107**	*e*Pn	**Pn**	**13 43 39.6**	**-0.3**
	25nm,0.8s						
LVC	**Limon Verde**	**13.78**	**17**	*e*Pn	**Pn**	**13 44 42.9**	**+0.8**
CPUP	**Villa Florida**	**16.61**	**59**	*e*Pn	**Pn**	**13 45 19.0**	**-0.2**
LPAZ	**La Paz**	**20.07**	**14**	P	Pn	13 46 01.2	-0.9
	6.3nm,0.6s,baz=191,slow=7.4,SNR=6.2						
LPAZ	**La Paz**	**20.07**	**14**	*e*P	**P**	**13 46 00.1**	**0.0**
	5.9nm,0.7s						
SIV	**San Ignacio**	**22.61**	**32**	P	**P**	**13 46 26.4**	**-0.5**
	10nm,0.5s,baz=226,slow=6.1,SNR=17						
SIV	**San Ignacio**	**22.61**	**32**	P	**P**	**13 46 26.4**	**-0.5**
SAML	**Samuel**	**28.36**	**21**	*e*P	**P**	**13 47 19.2**	**-0.9**
	2.9nm,1.1s						
BDFB	**Brasilia**	**30.23**	**55**	P	**P**	**13 47 38.2**	**+1.4**
	4.7nm,0.6s,baz=176,slow=16,SNR=2.7						
BDFB	**Brasilia**	**30.23**	**55**	P	**P**	**13 47 38.2**	**+1.4**
SDV	**Santo Domingo**	**44.62**	**4**	*e*P	**P**	**13 49 37.6**	**-1.0**
RCBR	**Riachuelo**	**45.48**	**58**	P	**P**	**13 49 45.8**	**+0.5**
	6.3nm,0.8s,baz=210,slow=6.0,SNR=3.2						
RCBR	**Riachuelo**	**45.48**	**58**	*e*P	**P**	**13 49 45.0**	**-0.3**
	20nm,1.5s						
SNAA	**Sanae**	**50.20**	**157**	P	**P**	**13 50 21.9**	**+0.7**
	2.5nm,0.8s,baz=276,slow=7.3,SNR=3.9						
SNAA	**Sanae**	**50.20**	**157**	*e*P	**P**	**13 50 21.1**	**-0.1**
	4.1nm,0.8s						
QSPA	**South Pole Qui**	**54.33**	**180**	P	**P**	**13 50 52.6**	**+0.6**
	6.2nm,0.8s,baz=149,slow=1.8,SNR=7.9						
QSPA	**South Pole Qui**	**54.33**	**180**	*e*P	**P**	**13 50 51.8**	**-0.3**
	5.3nm,1.0s						
TXAR	**Lajitas Array**	**70.94**	**332**	P	**P**	**13 52 43.7**	**+0.5**
	1.1nm,0.5s,baz=152,slow=8.9,SNR=6.6						
TXAR	**Lajitas Array**	**70.94**	**332**	P	**P**	**13 52 43.7**	**+0.5**
DBIC	**Dimbokro**	**76.72**	**72**	P	**P**	**13 53 17.7**	**+0.5**
	4.6nm,0.6s,baz=198,slow=4.4,SNR=5.1						
DBIC	**Dimbokro**	**76.72**	**72**	*e*P	**P**	**13 53 16.8**	**-0.4**
BOSA	**Boshof**	**80.05**	**118**	P	**P**	**13 53 35.7**	**0.0**
	4.4nm,0.8s,baz=218,slow=5.1,SNR=3.2						
BOSA	**Boshof**	**80.05**	**118**	P	**P**	**13 53 35.7**	**0.0**
NVAR	**Mina Array Bea**	**84.91**	**326**	P	**P**	**13 54 02.0**	**+1.3**
	1.0nm,0.6s,baz=148,slow=5.0,SNR=5.1						
NVAR	**Mina Array Bea**	**84.91**	**326**	P	**P**	**13 54 02.0**	**+1.3**
PDAR	**Pinedale Array**	**85.04**	**334**	P	**P**	**13 54 01.0**	**-0.2**
	1.0nm,1.1s,baz=156,slow=6.9,SNR=3.9						
PDAR	**Pinedale Array**	**85.04**	**334**	P	**P**	**13 54 01.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**85.78**	**71**	P	**P**	**13 54 05.3**	**0.0**
	0.6nm,0.6s,baz=246,slow=4.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**85.78**	**71**	P	**P**	**13 54 05.3**	**0.0**
ULM	**Lac du Bonnet**	**88.10**	**346**	P	**P**	**13 54 14.9**	**-0.8**
	4.3nm,0.8s,baz=158,slow=1.7,SNR=6.0						

ULM	Lac du Bonnet	88.10	346	P	P	13 54 14.9	-0.8
YKA	Yellowknife Ar	103.56	342	Pdiff	Pdif	13 55 25.4	-0.5
	0.1nm,0.5s,baz=143,slow=4.8,SNR=2.6						
YKA	Yellowknife Ar	103.56	342	Pdif	Pdif	13 55 25.4	-0.5
WRA	Warramunga Arr	118.62	210	PKP	PKPdf	14 00 13.2	-0.9
	0.2nm,0.4s,baz=156,slow=1.6,SNR=3.4						
WRA	Warramunga Arr	118.62	210	PKP	PKPdf	14 00 13.2	-0.9
H11N3	WAKE ISLAND Hy	125.21	270	T	T	16 18 16.2	
	baz=130						
H11N1	WAKE ISLAND Hy	125.22	270	T	T	16 18 07.1	
	baz=130,slow=74						
H11N2	WAKE ISLAND Hy	125.23	270	T	T	16 18 18.0	
	baz=130,slow=74						
SEY	Seymchan	141.17	329	PKP	PKPdf	14 00 55.3	+0.1
	1.7nm,0.2s,baz=79,slow=7.7,SNR=3.6						
SEY	Seymchan	141.17	329	PKP	PKPdf	14 00 55.3	+0.1
PSI	Prapat	146.26	166	PKPbc	PKPbc	14 01 06.5	-0.5
	5.9nm,0.8s,baz=192,slow=6.0,SNR=3.9						
PSI	Prapat	146.26	166	PKPbc	PKPbc	14 01 06.5	-0.5
BVAR	Borovoye Array	149.34	45	PKPbc	PKPbc	14 01 13.8	-0.2
	1.2nm,0.5s,baz=305,slow=2.2,SNR=4.6						
BVAR				PKPab	PKPab	14 01 20.6	+1.9
	1.0nm,0.6s,baz=306,slow=2.3,SNR=4.9						
BVAR	Borovoye Array	149.34	45	PKPbc	PKPbc	14 01 13.8	-0.2
BVAR				PKPab	PKPab	14 01 20.6	+1.9
ZALV	Zalesovo Beam	156.36	33	PKPab	PKPab	14 01 47.2	-0.9
	2.3nm,0.8s,baz=328,slow=4.6,SNR=4.2						
ZALV	Zalesovo Beam	156.36	33	PKPab	PKPab	14 01 47.2	-0.9
SONM	Songino Array	168.08	1	PKPab	PKPab	14 02 39.8	+0.1
	0.8nm,0.7s,baz=341,slow=6.5,SNR=5.8						
SONM	Songino Array	168.08	1	PKPab	PKPab	14 02 39.8	+0.1

*ISCJB **27** 13:42:06.8±0.6,36°.81S±0°.07×73°.6W±0°.1,h14km, mb4.4/13,Error ellipse: s-maj=17.2km s-min=10.4km az=170.8*

*IDC **27** 13:42:06.2±0.6,36°.84S×73°.77W,h0km,mb4.4/9, mb1 4.6/10,mb1mx4.4/31,mbtmp4.4/10,ML4.6/1,Error ellipse: s-maj=34.3km s-min=17.1km az=78.0*

*NEIC **27** 13:42:10.8±0.4,36°.85S×73°.43W,h35km,mb4.3/6,Error ellipse: s-maj=13.5km s-min=9.1km az=78.0*

ISC 27 13:42:08.0±0.6,**36°.80S**±0°.08×**73°.7W**±0°.1,**h14**km,**n35, σ1s.38**/36,**mb4.4**/13,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.63	149	Pn	Pn	13 43 19.6	+2.0
	7.2nm,0.3s,baz=310,slow=7.9,SNR=2.6						
PLCA				Lg	Lg	13 44 21.3	
	16nm,0.3s,baz=55,slow=21,SNR=3.0						
PLCA	Paso Flores	4.63	149	ePn	Pn	13 43 17.7	+0.1
PLCA				Lg	Lg	13 44 21.3	
TRQA	Tornquist	9.39	101	ePn	Pn	13 44 19.4	-3.6
LVC	Limon Verde	14.73	18	ePn	Pn	13 45 36.7	+0.5
CPUP	Villa Florida	17.38	58	ePn	Pn	13 46 10.7	+0.6
	0.3nm,0.6s						
LPAZ	La Paz	21.01	15	P	P	13 46 54.0	+2.1
	10nm,0.8s,baz=170,slow=9.2,SNR=2.8						
LPAZ	La Paz	21.01	15	eP	P	13 46 52.5	+0.6
	4.9nm,0.8s						
SIV	San Ignacio	23.55	32	P	P	13 47 18.4	+0.3
	7.8nm,0.9s,baz=225,slow=4.3,SNR=2.7						
SAML	Samuel	29.32	22	eP	P	13 48 07.4	-2.8
OTAV	Otavalo	37.11	352	eP	P	13 49 18.4	-0.3
	7.8nm,1.0s						
SDV	Santo Domingo	45.53	4	eP	P	13 50 26.3	-1.2
	2.7nm,0.8s						
BCIP	Isla Barro Col	46.08	352	eP	P	13 50 31.1	-0.5
RCBR	Riachuelo	46.26	58	eP	P	13 50 33.4	+0.2
SNAA	Sanae	49.52	157	P	P	13 50 58.9	+1.1
	3.9nm,1.0s,baz=248,slow=11,SNR=2.4						
SNAA	Sanae	49.52	157	eP	P	13 50 55.9	-1.9
	3.3nm,0.7s						
QSPA	South Pole Qui	53.44	180	P	P	13 51 27.0	-0.4
	5.9nm,0.8s,baz=349,slow=0.7,SNR=6.2						
QSPA	South Pole Qui	53.44	180	eP	P	13 51 26.5	-0.8
	29nm,0.9s						
TXAR	Lajitas Array	71.56	333	P	P	13 53 30.8	+2.1
	3.3nm,0.8s,baz=156,slow=8.1,SNR=9.3						
DBIC	Dimbokro	77.34	72	P	P	13 54 00.9	-1.7
	2.7nm,0.8s,baz=198,slow=6.3,SNR=4.0						
DBIC	Dimbokro	77.34	72	eP	P	13 54 00.7	-1.9
LAZ	Ladron	77.39	332	eP	P	13 54 03.3	+0.6
	3.0nm,1.4s						
BOSA	Boshof	79.95	118	P	P	13 54 19.7	+2.7
	4.4nm,0.9s,baz=259,slow=4.8,SNR=1.9						
NVAR	Mina Array Bea	85.44	326	P	P	13 54 46.8	+1.5
	1.3nm,0.7s,baz=154,slow=5.8,SNR=6.1						
PDAR	Pinedale Array	85.67	334	P	P	13 54 47.0	+0.7
	3.0nm,1.2s,baz=144,slow=6.7,SNR=5.3						
ULM	Lac du Bonnet	88.86	346	P	P	13 55 01.6	+0.3
	3.3nm,0.8s,baz=201,slow=4.0,SNR=3.5						
GERES	GERESS Array B	115.06	47	PKP	PKPdf	14 00 47.2	-1.1
	0.2nm,0.6s,baz=235,slow=3.5,SNR=3.5						
WRA	Warramunga Arr	117.67	210	PKP	PKPdf	14 00 52.8	-1.4
	1.5nm,0.8s,baz=156,slow=1.7,SNR=9.3						
BRTR	Keskin Array B	124.33	63	PKP	PKPdf	14 01 06.0	-0.4
	1.1nm,0.8s,baz=188,slow=3.2,SNR=4.7						
SEY	Seymchan	141.73	328	PKP	PKPdf	14 01 38.6	+0.5
	1.2nm,0.5s,baz=12,slow=3.0,SNR=5.9						
PSI	Prapat	145.49	167	PKPbc	PKPbc	14 01 44.9	-1.6
	7.1nm,0.6s,baz=191,slow=5.2,SNR=4.5						
HYB	Hyderabad	148.82	121	iPKP	PKPdf	14 01 53.5	+1.8
BVAR	Borovoye Array	150.22	46	PKPbc	PKPbc	14 01 57.1	-0.8
	2.7nm,0.7s,baz=338,slow=3.4,SNR=5.5						
ZALV	Zalesovo Beam	157.29	34	PKP	PKPdf	14 02 00.6	-2.2
	2.5nm,0.9s,baz=307,slow=2.9,SNR=3.6						
ZALV				PKPab	PKPab	14 02 34.2	+0.1
	1.1nm,0.6s,baz=313,slow=5.7,SNR=2.5						
MKAR	Makanchi Array	159.56	53	PKP	PKPdf	14 02 05.5	-0.4
	1.6nm,0.8s,baz=292,slow=2.9,SNR=4.5						
MKAR				PKPab	PKPab	14 02 43.6	-0.6
	1.3nm,0.9s,baz=289,slow=3.7,SNR=4.2						
SONM	Songino Array	168.97	360	PKPab	PKPab	14 03 26.4	+0.9
	1.6nm,0.7s,baz=342,slow=3.7,SNR=9.5						

*IDC **27** 13:42:27.0±0.8,30°.01S×177°.24W,h0km,mb4.7/10, mb1 4.8/11,mb1mx4.5/35,mbtmp4.6/11,ML4.2/1,Error ellipse: s-maj=24.7km s-min=20.8km az=131.0*

*NEIC **27** 13:42:28.3±4.1,29°.98S×177°.40W,h9km±24km,mb4.7/6, Error ellipse: s-maj=14.7km s-min=9.0km az=86.0*

*ISCJB **27** 13:42:30.7±0.6,30°.03S±0°.04×177°.4W±0°.1,h35km, mb4.6/13,Error ellipse: s-maj=13.5km s-min=4.9km az=8.8*

ISC 27 13:42:32.4±0.6,**30°.04S**±0°.06×**177°.37W**±0°.10,**h35**km,**n94, σ1s.89**/92,**mb4.7**/13,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.92	329	Pn	Pn	13 42 45.9	-2.9
	10μm,0.3s,baz=106,slow=8.7,SNR=891						
RAO				LR	LR	13 43 14.7	
	comp=Z,35μm,21.0s,baz=321,slow=50						
MXZ	Matakaoa Point	8.32	204	PN	Pn	13 44 32.7	+2.2
MXZ				SN	Sn	13 46 08.6	+5.4
HAZ	Te Kaha	8.68	206	PN	Pn	13 44 37.1	+1.7
HAZ				SN	Sn	13 46 18.6	+6.7
PUZ	Puketiti	8.79	203	ePN	Pn	13 44 35.9	-1.0
PUZ				SN	Sn	13 46 16.6	+1.8
CNGZ	Carnagh Statio	9.18	202	PN	Pn	13 44 44.0	+1.7
OUZ	Omahuta	9.20	234	Pn	Pn	13 44 40.9	-1.7
	155nm,0.5s						
OUZ	Omahuta	9.20	234	ePN	Pn	13 44 52.8	+10
MWZ	Matawai	9.29	206	eSN	Sn	13 46 30.8	+3.8
URZ	Urewera	9.38	208	PN	Pn	13 44 45.4	+0.3
	2.2nm,0.3s,baz=269,slow=2.9,SNR=12						
URZ				Sn	Sn	13 46 33.9	+4.6
	8.3nm,0.3s,baz=243,slow=24,SNR=16						
URZ	Urewera	9.38	208	PN	Pn	13 44 45.9	+0.9
URZ				SN	Sn	13 46 33.6	+4.3
RAGZ	Rawiri	9.47	206	PN	Pn	13 44 48.4	+2.0
RIGZ	Rimuhau	9.53	204	PN	Pn	13 44 48.6	+1.4
SNGZ	Shannon Statio	9.75	205	PN	Pn	13 44 52.1	+2.0
KNZ	Kokohu	9.84	203	ePN	Pn	13 44 51.6	+0.3
BKZ	Black Stump Fm	10.41	207	ePN	Pn	13 44 59.2	0.0
PXZ	Pawanui	11.03	204	eSN	Sn	13 47 08.6	-1.0
MRZ	Mangatainoka R	12.05	207	ePN	Pn	13 45 19.4	-2.2
MRZ				eSN	Sn	13 47 31.8	-3.0
NNZ	Nelson	13.44	211	ePN	P	13 45 46.6	-2.8
NNZ				eSN	Sn	13 48 04.8	-3.9
QRZ	Quartz Range	13.54	215	ePN	P	13 45 48.6	-1.9
CTZ	Chatham Island	13.68	178	ePN	Pn	13 45 47.6	+3.8
CTZ				eSN	Sn	13 48 09.7	-4.6
THZ	Tophouse	14.09	211	eSN	Sn	13 48 21.1	-3.5
KHZ	Kahutara	14.35	208	ePn	Pn	13 45 52.2	-0.7
	21nm,0.4s						
DSZ	Denniston Nort	14.59	214	eSN	Sn	13 48 29.6	-7.2
DZM	Mont Dzumac	16.56	295	Pn	P	13 46 26.1	+1.8
	0.7nm,0.3s,baz=117,slow=14,SNR=6.3						
DZM	Mont Dzumac	16.56	295	ePn	Pn	13 46 20.1	-2.0
	22nm,0.8s						
ARMA	Armidale	26.75	261	eP	P	13 48 08.0	-1.0
	12nm,0.9s						
ARMA	Armidale	26.75	261	P	P	13 48 12.6	+3.6
	baz=27,SNR=16						
MGCD	Mangrove Creek	26.98	255	P	P	13 48 15.3	+4.5
	baz=27,SNR=5.6						
EIDS	Eidsvold	28.27	272	P	P	13 48 23.9	+1.5
	baz=28,SNR=6.6						
RMQ	Roma	29.98	268	P	P	13 48 40.5	+2.8
	baz=30,SNR=22						
CMSA	Cobar Meteorol	31.68	258	P	P	13 48 55.4	+2.9
	baz=32,SNR=12						
QLP	Quilpie	33.88	266	P	P	13 49 13.0	+1.1
	baz=34,SNR=16						
CTA	Charters Tower	34.29	278	P	P	13 49 16.3	+0.9
	15nm,0.7s,baz=100,slow=11,SNR=26						
CTAO	Charters Tower	34.29	278	eP	P	13 49 14.8	-0.7
	13nm,0.6s						
STKA	Stephens Creek	35.09	256	P	P	13 49 23.5	+1.2
	7.7nm,0.6s,baz=97,slow=9.8,SNR=57						
STKA	Stephens Creek	35.09	256	eP	P	13 49 22.9	+0.5
	3.0nm,1.0s						
STKA	Stephens Creek	35.09	256	P	P	13 49 24.8	+2.5
	baz=35,SNR=36						
HTT	Hallett	37.13	253	P	P	13 49 41.2	+1.4
	baz=37,SNR=13						
BBOO	Buckleboo	39.59	254	P	P	13 50 02.0	+1.5
	baz=40,SNR=9.3						
AS31	Alice Springs	43.68	266	eP	P	13 50 32.4	-1.7
WRAB	Tennant Creek	44.63	271	P	P	13 50 39.4	-2.3
	21nm,0.8s						
WRA	Warramunga Arr	44.63	271	P	P	13 50 41.0	-0.8
	21nm,0.6s,baz=111,slow=7.4,SNR=141						
WRKA	Warakurna	48.07	262	P	P	13 51 07.6	-1.1
	baz=48,SNR=16						
KNRA	Kununurra	51.23	274	P	P	13 51 32.1	-0.6
	baz=51,SNR=7.8						
MEEK	Meekatharra	55.80	257	P	P	13 52 05.3	-1.0
	baz=56,SNR=3.9						
BLDU	Ballidu	56.13	251	P	P	13 52 08.2	-0.3
	baz=56,SNR=4.8						
MORW	Morawa	57.16	253	P	P	13 52 15.5	-0.4
	baz=57,SNR=8.5						
QSPA	South Pole Qui	60.07	180	eP	P	13 52 35.3	-0.4
	9.4nm,1.0s						
CISI	Cisompet, Garu	73.13	271	P	P	13 54 04.9	+5.1
	baz=73,SNR=3.5						
MJAR	Matsushiro Arr	78.26	325	P	P	13 54 27.9	-0.7
	5.0nm,0.9s,baz=162,slow=5.4,SNR=10						
JNU	Nakatsue	79.66	318	P	P	13 54 38.4	+2.1
	9.8nm,1.1s,baz=180,slow=12						
ASAJ	Asahikawa	82.38	332	P	P	13 54 52.2	+1.7
	9.3nm,0.9s,baz=164,slow=8.6,SNR=4.0						
PETK	Petropavlovsk-	85.61	345	P	P	13 55 06.0	-0.7
	4.1nm,0.7s,baz=128,slow=7.5,SNR=6.2						
USRK	Ussuriysk Arra	87.17	326	P	P	13 55 14.4	-0.2
	2.8nm,0.6s,baz=141,slow=3.1,SNR=8.0						
NVAR	Mina Array Bea	87.61	42	P	P	13 55 17.4	+0.2
	1.2nm,0.8s,baz=229,slow=8.9,SNR=6.6						
TRF	Thorofare Moun	95.63	12	eP	P	13 55 53.3	-0.5
ILAR	Eielson Array	97.46	13	P	P	13 56 01.0	-0.8
	0.3nm,0.8s,baz=219,slow=5.8,SNR=7.0						
MKAR	Makanchi Array	117.96	310	PKP	PKPdf	14 01 14.5	-0.6
	1.0nm,0.6s,baz=195,slow=1.3,SNR=5.6						
ZALV	Zalesovo Beam	118.13	318	PKP	PKPdf	14 01 15.0	-0.1
	1.1nm,0.6s,baz=90,slow=1.4,SNR=2.5						
KKAR	Karatay Array	125.33	304	ePKPdf	PKPdf	14 01 29.4	+0.1
BVAR	Borovoye Array	126.53	316	PKP	PKPdf	14 01 31.4	+0.1
	4.2nm,0.7s,baz=166,slow=0.8,SNR=10						
SPITS	Spitsbergen Ar	131.38	356	PKP	PKPdf	14 01 40.6	+0.7
	7.8nm,0.8s,baz=333,slow=2.3,SNR=3.9						
ABKAR	Akbulak array	133.09	311	ePKPdf	PKPdf	14 01 43.7	-0.2
GEYT	Alibeck	133.90	295	PKP	PKPdf	14 01 47.1	+1.3
	2.8nm,0.8s,baz=44,slow=4.9,SNR=5.5						
H10S3	ASCENSION HYDR	137.81	154	T	T	16 37 17.4	
	baz=204,slow=74,SNR=33						
H10S2	ASCENSION HYDR	137.81	154	T	T	16 37 18.7	
	baz=204,slow=74,SNR=40						
H10S1	ASCENSION HYDR	137.83	154	T	T	16 37 19.9	
	baz=204,slow=74,SNR=49						
ARCES	ARCESS Array B	138.36	348	PKP	PKPdf	14 01 53.3	+0.2
	4.0nm,0.7s,baz=38,slow=1.6,SNR=3.8						
H10N3	ASCENSION HYDR	138.89	154	T	T	16 38 06.9	
	baz=203,slow=75,SNR=94						
H10N1	ASCENSION HYDR	138.90	154	T	T	16 38 07.1	
	baz=203,slow=75,SNR=85						
H10N2	ASCENSION HYDR	138.91	154	T	T	16 38 08.3	
	baz=203,slow=75,SNR=72						
JOF	Joensuu	142.29	339	ep	PKPdf	14 02 03.9	+3.5
KAF	Kangasniemi	144.39	341	ep	PKPab	14 02 01.9	-0.4
FIA1	FINESS Array S	144.99	341	ePKPdf	PKPdf	14 02 03.8	-0.7
FINES	FINESS Array B	145.00	341	PKPbc	PKPbc	14 02 03.9	-0.6
	8.7nm,0.6s,baz=80,slow=2.9,SNR=69						
KBZ	Khabaz	145.36	304	PKPbc	PKPbc	14 02 06.2	0.0
	4.3nm,0.9s,baz=105,slow=2.8,SNR=10						
EATA	Eleskirt	146.13	298	iP	PKPab	14 02 09.9	0.0
DAGI	Agillar	146.46	300	iP	PKPab	14 02 10.8	-0.1
EKAR	Karacoban	146.50	297	iP	PKPab	14 02 11.9	+0.6
DBAD	Bademkaya	146.63	300	iP	PKPab	14 02 12.4	+0.8
NB2	NORSAR Subarra	148.48	352	PKP	PKPbc	14 02 14.5	-0.2
	comp=Z,14nm,0.7s,baz=12,slow=2.9						
NOA	NORSAR Array B	148.48	352	PKPbc	PKPbc	14 02 14.5	-0.2
	comp=Z,12nm,0.8s,baz=16,slow=4.2,SNR=40						
ASF	Jabal al Asfar	150.66	283	PKPbc	PKPbc	14 02 22.1	+1.0
	comp=Z,5.4nm,0.8s,baz=276,slow=1.2,SNR=5.4						
AKASG	Malin Array Be	151.34	324	PKPbc	PKPbc	14 02 21.7	-0.2
	comp=Z,14nm,0.6s,baz=48,slow=3.0,SNR=47						
AKBB	Malin Array Si	151.34	324	ePKPbc	PKPbc	14 02 21.9	0.0
AK01	Malin Array Si	151.36	324	ePKPbc	PKPbc	14 02 21.8	-0.1
KIEV	Kiev	151.36	324	ePKPbc	PKPbc	14 02 21.7	-0.2
AK02	Malin Array Si	151.38	324	ePKPbc	PKPbc	14 02 21.8	-0.2
SUW	Suwalki	151.80	334	ePKPbc	PKPbc	14 02 22.9	0.0
BRTR	Keskin Array B	152.91	299	PKP	PKPdf	14 02 18.8	0.0
	comp=Z,0.8nm,0.8s,baz=92,slow=3.5,SNR=3.7						
BRTR				PKPbc	PKPbc	14 02 26.1	0.0
	comp=Z,2.8nm,0.6s,baz=129,slow=4.2,SNR=12						
CLL	Collm	157.39	343	iPKPab	PKPab	14 02 57.2	+1.4
	comp=Z,9.0nm,0.8s						
BRG	Berggiesshubel	157.53	341	ePKP	PKPab	14 02 58.0	+1.6
	comp=Z,8.2nm,1.0s						
KHC	Kasperske Hory	159.19	339	ePKPAB	PKPab	14 03 02.5	-1.2
KHC				ex	x	14 03 04.5	
GERES	GERESS Array B	159.41	339	PKPab	PKPab	14 03 05.2	+0.5
	comp=Z,1.4nm,0.7s,baz=35,slow=3.6,SNR=6.4						

*IDC **27** 13:43:12.2±0.8,36°.69S×73°.39W,h0km,mb4.3/8, mb1 4.5/9,mb1mx4.3/32,mbtmp4.4/9,ML4.5/1,Error ellipse: s-maj=31.7km s-min=20.7km az=88.0*

*ISCJB **27** 13:43:14.1±0.7,36°.69S±0°.07×73°.3W±0°.2,h25km, mb4.3/10,Error ellipse: s-maj=18.3km s-min=9.7km az=169.5*

*NEIC **27** 13:43:17.4±0.5,36°.68S×73°.22W,h35km,mb4.2/4,Error ellipse: s-maj=13.9km s-min=7.9km az=74.0*

ISC 27 13:43:16.1±0.7,**36°.68S**±0°.08×**73°.3W**±0°.1,**h25**km,**n27, σ0s.90**/27,**mb4.3**/10,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.57	153	ePn	Pn	13 44 22.6	-1.0
TRQA	Tornquist	9.08	102	ePn	Pn	13 45 24.3	-1.3
LVC	Limon Verde	14.51	16	ePn	Pn	13 46 40.6	+0.5
CPUP	Villa Florida	17.03	57	P	Pn	13 47 14.3	+0.1
	0.4nm,0.3s,baz=216,slow=10,SNR=2.3						
CPUP	Villa Florida	17.03	57	ePn	Pn	13 47 12.9	+0.4
LPAZ	La Paz	20.81	14	eP	P	13 47 56.0	-0.3
	5.4nm,0.8s						
SIV	San Ignacio	23.27	31	P	P	13 48 22.2	+0.4
	6.8nm,0.9s,baz=231,slow=13,SNR=2.6						
NNA	Nana	24.80	352	P	P	13 48 35.0	-1.2
SAML	Samuel	29.08	21	eP	P	13 49 13.2	-1.4
	1.3nm,0.7s						
SDV	Santo Domingo	45.39	4	eP	P	13 51 31.8	-1.0
	4.7nm,0.9s						
BCIP	Isla Barro Col	46.02	351	eP	P	13 51 37.6	0.0
SNAA	Sanae	49.50	157	P	P	13 52 04.5	+0.5
	2.7nm,1.0s,baz=278,slow=11,SNR=2.3						
SNAA	Sanae	49.50	157	eP	P	13 52 04.4	+0.3
	2.9nm,0.7s						
QSPA	South Pole Qui	53.56	180	P	P	13 52 34.6	-0.1
	8.7nm,1.0s,baz=149,slow=4.1,SNR=2.8						
TXAR	Lajitas Array	71.61	332	P	P	13 54 34.8	-0.5
	0.8nm,0.7s,baz=155,slow=8.7,SNR=3.1						
DBIC	Dimbokro	76.97	71	P	P	13 55 07.5	+0.6
	7.9nm,0.7s,baz=186,slow=7.9,SNR=6.0						
DBIC	Dimbokro	76.97	71	eP	P	13 55 07.6	+0.7
BOSA	Boshof	79.70	118	P	P	13 55 22.5	+0.5
	7.4nm,1.0s,baz=259,slow=9.3,SNR=3.2						
PDAR	Pinedale Array	85.71	334	P	P	13 55 53.5	+0.6
	1.5nm,1.1s,baz=165,slow=7.3,SNR=3.5						
TORD	Torodi Ar. Bea	86.05	71	P	P	13 55 54.8	0.0
	1.3nm,0.7s,baz=215,slow=3.5,SNR=4.1						
NACGM	Naroch	124.50	44	e	PKPdf	14 02 15.0	+2.7
PSI	Prapat	145.53	166	PKPbc	PKPdf	14 02 51.9	-0.8
	6.5nm,0.7s,baz=317,slow=4.1,SNR=4.5						
HYB	Hyderabad	148.58	120	iPKP	PKPbc	14 03 01.0	-0.3
BVAR	Borovoye Array	149.89	46	PKPbc	PKPbc	14 03 02.8	-0.6
	1.2nm,0.6s,baz=302,slow=3.2,SNR=2.5						
AAK	Ala-Archa	154.56	66	PKPab	PKPab	14 03 29.8	+0.5
	2.3nm,0.6s,baz=213,slow=3.0,SNR=3.3						
ZALV	Zalesovo Beam	157.00	34	PKPab	PKPab	14 03 39.7	+0.6
	2.9nm,0.9s,baz=305,slow=5.1,SNR=3.9						
MKAR	Makanchi Array	159.21	53	PKPab	PKPab	14 03 49.7	+0.7
	1.1nm,0.8s,baz=271,slow=3.6,SNR=3.2						

*IDC **27** 13:48:04.8±1.4,35°.23S×72°.35W,h0km,mb3.9/5, mb1 4.1/7,mb1mx4.0/32,mbtmp4.0/7,ML4.1/2,Error ellipse: s-maj=43.7km s-min=23.7km az=87.0*

*ISCJB **27** 13:48:09.5±0.8,35°.29S±0°.07×72°.0W±0°.2,h52km,mb4.1/7, Error ellipse: s-maj=17.8km s-min=9.8km az=3.1*

*NEIC **27** 13:48:10.0±0.6,35°.27S×72°.09W,h35km,mb4.6/3,Error ellipse: s-maj=15.2km s-min=8.2km az=93.0*

ISC 27 13:48:11.4±0.8,**35°.37S**±0°.06×**72°.0W**±0°.1,**h52**km,**n23, σ1s.91**/19,**mb4.2**/7,**Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.88	41	Pn	Pn	13 49 21.3	-1.0
	1.3nm,0.3s,baz=237,slow=17,SNR=4.0						
PLCA	Paso Flores	5.47	169	Pn	Pn	13 49 30.4	0.0
	2.9nm,0.3s,baz=318,slow=13,SNR=3.8						
PLCA				Sn	Sn	13 50 28.3	-3.7
	5.9nm,0.3s,baz=60,slow=8.1,SNR=3.1						
PLCA	Paso Flores	5.47	169	ePn	Pn	13 49 30.9	+0.5
PLCA				Sn	Sn	13 50 28.3	-3.7
TRQA	Tornquist	8.46	111	ePn	Pn	13 50 11.3	0.0
LVC	Limon Verde	12.99	13	ePn	Pn	13 51 10.8	-2.7
CPUP	Villa Florida	15.45	58	ePn	Pn	13 51 45.1	-0.9
	0.8nm,0.9s						
SIV	San Ignacio	21.62	30	P	P	13 52 56.5	-0.8
	3.1nm,0.7s,baz=213,slow=9.6,SNR=3.5						
SAML	Samuel	27.50	19	eP	P	13 53 53.4	+0.5
RCBR	Riachuelo	44.33	57	eP	P	13 56 16.5	-0.1
	3.8nm,0.8s						
SNAA	Sanae	50.30	157	P	P	13 57 04.4	+2.1
	2.9nm,1.0s,baz=270,slow=6.0,SNR=5.8						
SNAA	Sanae	50.30	157	eP	P	13 57 04.1	+1.8
	7.2nm,1.0s						
SDDR	Presa de Saban	54.06	1	eP	P	13 57 30.5	-0.2
QSPA	South Pole Qui	54.87	180	eP	P	13 57 36.2	-0.1
	9.4nm,1.1s						
TXAR	Lajitas Array	70.96	331	P	P	13 59 22.6	-0.8
	0.3nm,0.5s,baz=153,slow=7.6,SNR=5.0						
DBIC	Dimbokro	75.57	71	eP	P	13 59 50.6	-0.2
BOSA	Boshof	79.39	117	P	P	14 00 15.1	+2.9
	1.9nm,0.5s,baz=225,slow=2.9,SNR=6.3						
TORD	Torodi Ar. Bea	84.63	70	P	P	14 00 41.8	+2.2
	0.6nm,0.8s,baz=250,slow=4.4,SNR=4.5						
H11S2	WAKE ISLAND Hy	125.79	268	T	T	16 25 19.0	
	baz=111						
H11S1	WAKE ISLAND Hy	125.81	268	T	T	16 25 08.7	
	baz=111						
H11S3	WAKE ISLAND Hy	125.81	268	T	T	16 25 15.5	
	baz=111						
H11N3	WAKE ISLAND Hy	126.24	270	T	T	16 25 35.7	
	baz=124						
H11N1	WAKE ISLAND Hy	126.25	270	T	T	16 25 33.4	
	baz=124						
H11N2	WAKE ISLAND Hy	126.26	270	T	T	16 25 33.7	
	baz=124						

IDC 27 13:48:21.4±4.2,**23°.36S**×**175°.48W**,**h0**km,**mb4.3**/4,**mb1 4.5**/4,**mb1mx4.0**/44,**mbtmp4.3**/4,**Error ellipse: s-maj=158.0km s-min=48.1km az=146.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	35.63	268	P	P	13 55 21.8	+0.5
	2.3nm,0.3s,baz=96,slow=13,SNR=8.3						
STKA	Stephens Creek	38.77	248	P	P	13 55 47.7	-0.1
	2.4nm,0.9s,baz=85,slow=11,SNR=5.1						
WRA	Warramunga Arr	46.58	264	P	P	13 56 50.3	-1.2
	1.0nm,0.3s,baz=101,slow=8.3,SNR=56						
CMAR	Chiang Mai Arr	93.26	289	P	P	14 01 39.9	+1.4
	1.9nm,0.7s,baz=140,slow=4.0,SNR=11						
AKASG	Malin Array Be	146.64	331	PKPbc	PKPdf	14 08 03.2	0.0
	0.3nm,0.3s,baz=43,slow=3.5,SNR=3.1						

*ISCJB **27** 13:49:39.2±0.5,34°.69S±0°.07×72°.0W±0°.1,h16km, mb4.3/11,Error ellipse: s-maj=13.4km s-min=9.8km az=166.3*

*IDC **27** 13:49:39.4±0.8,34°.61S×72°.09W,h0km,mb4.4/9, mb1 4.5/11,mb1mx4.3/33,mbtmp4.4/11,ML4.8/1,Error ellipse: s-maj=31.7km s-min=21.9km az=51.0*

*NEIC **27** 13:49:44.0±0.5,34°.66S×71°.96W,h35km,mb4.2/2,Error ellipse: s-maj=14.3km s-min=10.3km az=76.0*

ISC 27 13:49:40.9±0.6,**34°.69S**±0°.08×**72°.17W**±0°.10,**h16**km,**n30, σ1s.34**/31,**mb4.4**/11,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.51	48	Pn	Pn	13 50 47.7	-0.8
	0.9nm,0.3s,baz=266,slow=15,SNR=2.1						
CFAA				Sn	Sn	13 51 44.5	+3.8
	4.1nm,0.3s,baz=356,slow=10.0,SNR=3.3						
PLCA	Paso Flores	6.17	169	Pn	Pn	13 51 11.3	-0.1
	5.6nm,0.3s,baz=302,slow=18,SNR=2.7						
PLCA	Paso Flores	6.17	169	ePn	Pn	13 51 10.2	-1.2
TRQA	Tornquist	8.88	115	ePn	Pn	13 51 46.5	-1.9
CPUP	Villa Florida	15.25	61	Pn	Pn	13 53 14.3	-1.2
	0.3nm,0.7s						
NNA	Nana	23.00	348	P	P	13 54 44.4	-0.7
	4.9nm,0.4s,baz=275,slow=11,SNR=4.7						
NNA	Nana	23.00	348	eP	P	13 54 45.2	+0.1
SAML	Samuel	26.91	20	eP	P	13 55 20.1	-1.2
SDV	Santo Domingo	43.36	2	eP	P	13 57 41.1	-1.6
RCBR	Riachuelo	44.10	58	eP	P	13 57 48.2	-0.3
	2.1nm,0.7s						
JTS	JuntasAbangare	46.35	342	eP	P	13 58 05.0	-1.4
SNAA	Sanae	50.99	158	eP	P	13 58 41.2	-0.3
SDDR	Presa de Saban	53.38	1	eP	P	13 58 58.1	-1.6
QSPA	South Pole Qui	55.55	180	eP	P	13 59 15.5	+0.3
	3.8nm,1.0s						
TXAR	Lajitas Array	70.28	331	P	P	14 00 54.7	+1.2
	0.9nm,0.6s,baz=152,slow=8.7,SNR=7.8						
DBIC	Dimbokro	75.50	71	P	P	14 01 25.3	+0.5
	2.7nm,0.7s,baz=155,slow=8.1,SNR=2.9						
DBIC	Dimbokro	75.50	71	eP	P	14 01 23.8	-0.9
BOSA	Boshof	79.84	118	P	P	14 01 50.9	+1.9
	5.1nm,0.9s,baz=192,slow=1.9,SNR=3.8						
PDAR	Pinedale Array	84.33	333	P	P	14 02 13.0	+0.9
	1.3nm,0.7s,baz=158,slow=4.4,SNR=9.4						
NVAR	Mina Array Bea	84.39	325	P	P	14 02 14.5	+2.0
	1.9nm,0.7s,baz=158,slow=5.9,SNR=6.6						
TORD	Torodi Ar. Bea	84.54	70	P	P	14 02 14.0	+0.5
	2.1nm,0.8s,baz=267,slow=4.4,SNR=5.4						
ULM	Lac du Bonnet	87.13	345	P	P	14 02 25.1	-0.4
	3.3nm,0.7s,baz=115,slow=2.4,SNR=4.6						
YBH	Yreka Blue Hor	89.07	325	P	P	14 02 36.1	+1.0
	6.5nm,1.3s,baz=90,slow=6.1,SNR=5.1						
YKA	Yellowknife Ar	102.67	341	Pdiff	Pdif	14 03 36.5	+0.2
	0.2nm,0.7s,baz=143,slow=4.6,SNR=7.1						
WRA	Warramunga Arr	120.11	209	PKP	PKPdf	14 08 32.5	+1.0
	0.4nm,0.5s,baz=160,slow=1.7,SNR=8.2						
BRTR	Keskin Array B	122.26	61	PKP	PKPdf	14 08 34.9	-0.2
	0.7nm,0.7s,baz=66,slow=4.9,SNR=3.7						
BVAR	Borovoye Array	147.85	44	PKPbc	PKPab	14 09 26.0	-1.1
	2.7nm,0.5s,baz=290,slow=2.2,SNR=13						
AAK	Ala-Archa	152.92	63	PKPbc	PKPbc	14 09 39.3	+2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.5nm,0.6s,baz=128,slow=1.2,SNR=5.4						
ZALV	**Zalesovo Beam**	**154.86**	**33**	PKPab	**PKPab**	**14 09 56.3**	**+0.1**
	2.3nm,0.6s,baz=307,slow=4.4,SNR=5.2						
MKAR	**Makanchi Array**	**157.29**	**50**	PKPab	**PKPab**	**14 10 06.7**	**-0.2**
	0.8nm,0.7s,baz=309,slow=3.9,SNR=3.9						

*IDC **27** 13:50:14.7±0.8, 35°.49S×73°.15W, h0km, mb4.3/9, mb1 4.4/11, mb1mx4.3/33, mbtmp4.4/11, ML4.4/2, Error ellipse: s-maj=28.7km s-min=19.3km az=79.0*
*ISCJB **27** 13:50:15.4±0.6, 35°.47S±0°.06×73°.1W±0°.1, h17km, mb4.3/12, Error ellipse: s-maj=17.0km s-min=7.9km az=166.6*
*NEIC **27** 13:50:19.7±0.4, 35°.45S×73°.09W, h35km, mb4.6/4, Error ellipse: s-maj=14.0km s-min=7.1km az=77.0*
ISC 27 13:50:17.0±0.6**, 35°.48S**±0°.07×**73°.2W**±0°.1**, h17km, n43, σ0.s82**/43**, mb4.5**/12**, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.63**	**159**	*e*Pn	**Pn**	**13 51 41.2**	**+1.1**
TRQA	**Tornquist**	**9.33**	**109**	*e*Pn	**Pn**	**13 52 31.2**	**+0.4**
LVC	**Limon Verde**	**13.35**	**17**	Pn	**Pn**	**13 53 26.0**	**+0.1**
USHA	**Ushuaia**	**19.63**	**172**	Pn	**Pn**	**13 54 45.8**	**-0.1**
	0.4nm,0.3s,baz=287,slow=14,SNR=4.0						
LPAZ	**La Paz**	**19.63**	**15**	P	**Pn**	**13 54 46.4**	**-0.5**
	0.5nm,0.3s,baz=195,slow=8.4,SNR=4.9						
SIV	**San Ignacio**	**22.21**	**32**	P	**P**	**13 55 12.3**	**-0.5**
	9.8nm,0.8s,baz=221,slow=10,SNR=8.6						
NNA	**Nana**	**23.62**	**351**	P	**P**	**13 55 27.9**	**+0.6**
SAML	**Samuel**	**27.94**	**21**	*e*P	**P**	**13 56 04.8**	**-1.7**
	2.1nm,0.8s						
OTAV	**Otavalo**	**35.87**	**351**	*e*P	**P**	**13 57 16.6**	**-0.1**
ROSC	**El Rosal**	**40.13**	**358**	*e*P	**P**	**13 57 52.7**	**+0.1**
SDV	**Santo Domingo**	**44.19**	**4**	*e*P	**P**	**13 58 24.1**	**-1.3**
	4.3nm,0.8s						
BCIP	**Isla Barro Col**	**44.85**	**351**	*e*P	**P**	**13 58 30.5**	**+0.1**
RCBR	**Riachuelo**	**45.21**	**58**	P	**P**	**13 58 34.0**	**+0.6**
	6.7nm,0.8s,baz=247,slow=13,SNR=3.7						
RCBR	**Riachuelo**	**45.21**	**58**	*e*P	**P**	**13 58 34.2**	**+0.8**
JTS	**JuntasAbangare**	**46.87**	**344**	*e*P	**P**	**13 58 45.9**	**-0.5**
SNAA	**Sanae**	**50.58**	**157**	P	**P**	**13 59 14.2**	**-0.1**
	4.1nm,0.6s,baz=284,slow=7.3,SNR=14						
SNAA	**Sanae**	**50.58**	**157**	*e*P	**P**	**13 59 13.7**	**-0.7**
	34nm,1.3s						
QSPA	**South Pole Qui**	**54.76**	**180**	P	**P**	**13 59 43.6**	**-1.9**
	14nm,1.0s						
TXAR	**Lajitas Array**	**70.59**	**332**	P	**P**	**14 01 31.2**	**-0.1**
	0.3nm,0.6s,baz=150,slow=9.1,SNR=3.4						
DBIC	**Dimbokro**	**76.53**	**72**	P	**P**	**14 02 07.0**	**+0.5**
	4.8nm,0.5s,baz=213,slow=4.9,SNR=7.6						
DBIC	**Dimbokro**	**76.53**	**72**	*e*P	**P**	**14 02 04.5**	**-2.0**
TSUM	**Tsumeb**	**79.70**	**106**	*e*P	**P**	**14 02 24.4**	**+0.1**
BOSA	**Boshof**	**80.20**	**118**	P	**P**	**14 02 27.6**	**+0.7**
	5.1nm,0.6s,baz=248,slow=3.4,SNR=6.7						
NVAR	**Mina Array Bea**	**84.58**	**326**	P	**P**	**14 02 51.7**	**+2.3**
	0.6nm,0.7s,baz=152,slow=5.9,SNR=2.1						
TORD	**Torodi Ar. Bea**	**85.58**	**71**	P	**P**	**14 02 55.0**	**+0.2**
	2.7nm,0.9s,baz=247,slow=5.2,SNR=3.9						
ULM	**Lac du Bonnet**	**87.69**	**346**	P	**P**	**14 03 04.1**	**0.0**
	2.1nm,0.8s,baz=201,slow=5.3,SNR=2.4						
GERES	**GERESS Array B**	**113.85**	**46**	PKiKP	**PKiKP**	**14 08 55.5**	**+1.0**
	0.2nm,0.3s,baz=225,slow=0.6,SNR=3.8						
WRA	**Warramunga Arr**	**119.02**	**210**	PKP	**PKPdf**	**14 09 04.6**	**-0.8**
	0.4nm,0.5s,baz=158,slow=1.8,SNR=6.3						
ARCES	**ARCESS Array B**	**125.74**	**25**	PKP	**PKPdf**	**14 09 16.1**	**-0.5**
	1.6nm,0.8s,baz=270,slow=3.6,SNR=4.1						
BVAR	**Borovoye Array**	**148.99**	**44**	PKPbc	**PKPbc**	**14 10 04.4**	**+0.9**
	4.2nm,0.5s,baz=294,slow=2.2,SNR=15						
HYB	**Hyderabad**	**149.10**	**118**	*i* P	**PKPbc**	**14 10 04.0**	**-0.9**
AAK	**Ala-Archa**	**154.00**	**64**	PKPbc	**PKPbc**	**14 10 15.6**	**0.0**
	1.3nm,0.7s,baz=225,slow=6.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**155.97**	**33**	PKPab	**PKPab**	**14 10 36.9**	**0.0**
	2.7nm,0.5s,baz=314,slow=4.4,SNR=4.8						
MKAR	**Makanchi Array**	**158.42**	**51**	PKPab	**PKPab**	**14 10 47.8**	**0.0**
	0.6nm,0.5s,baz=282,slow=3.1,SNR=5.7						
GKN	**Gorkha**	**159.73**	**105**	*e*P	**PKPab**	**14 10 54.7**	**+0.5**
DMN	**Daman**	**159.91**	**107**	*e*P	**PKPab**	**14 10 55.3**	**+0.2**
	36nm,1.0s						
PKIN	**Phulchoki**	**160.12**	**107**	*e*P	**PKPab**	**14 10 55.8**	**-0.3**
	13nm,0.7s						
PKI	**Pulchoki**	**160.13**	**107**	*e*P	**PKPab**	**14 10 56.1**	**-0.1**
	14nm,0.6s						
KKN	**Kakani**	**160.13**	**107**	*e*P	**PKPab**	**14 10 56.3**	**+0.3**
	18nm,0.7s						
GUN	**Gumba**	**160.66**	**107**	*e*P	**PKPab**	**14 10 58.7**	**+0.2**
RAMN	**Ramite**	**160.74**	**111**	*e*P	**PKPab**	**14 10 58.8**	**+0.1**
	10nm,0.7s						
JIRN	**Jiri**	**160.78**	**108**	*e*P	**PKPab**	**14 10 59.2**	**+0.2**
	15nm,0.7s						
SONM	**Songino Array**	**167.65**	**1**	PKPab	**PKPab**	**14 11 28.9**	**+0.7**
	0.7nm,0.8s,baz=342,slow=3.9,SNR=5.6						

*IDC **27** 13:52:03.4±0.6, 35°.13S×71°.80W, h0km, mb4.6/14, mb1 4.7/15, mb1mx4.6/21, mbtmp4.6/15, ML4.9/1, Error ellipse: s-maj=23.6km s-min=16.3km az=76.0*
*ISCJB **27** 13:52:06.0±0.6, 35°.15S±0°.09×71°.9W±0°.1, h29km, mb4.6/15, Error ellipse: s-maj=17.4km s-min=12.7km az=176.5*
*NEIC **27** 13:52:08.3±0.4, 35°.18S×71°.91W, h35km, mb4.9/2, Error ellipse: s-maj=13.2km s-min=9.4km az=93.0*
ISC 27 13:52:07.6±0.6**, 35°.15S**±0°.10×**71°.9W**±0°.1**, h29km, n33, σ0.s88**/33**, mb4.5**/15**, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.69**	**42**	Pn	**Pn**	**13 53 18.7**	**+2.3**
	3.6nm,0.3s,baz=245,slow=17,SNR=5.1						
LPAZ	**La Paz**	**19.09**	**11**	P	**Pn**	**13 56 29.6**	**+0.2**
	1.6nm,0.3s,baz=184,slow=7.9,SNR=8.7						
SIV	**San Ignacio**	**21.41**	**30**	P	**P**	**13 56 53.3**	**+0.1**
	20nm,1.0s,baz=208,slow=11,SNR=7.2						
NNA	**Nana**	**23.49**	**348**	P	**P**	**13 57 15.3**	**+0.3**
	4.3nm,0.3s,baz=143,slow=8.5,SNR=4.2						
BDFB	**Brasilia**	**28.91**	**54**	P	**P**	**13 58 02.9**	**-1.4**
	9.0nm,0.8s,baz=226,slow=5.6,SNR=5.1						
SDV	**Santo Domingo**	**43.81**	**2**	*e*P	**P**	**14 00 10.4**	**-0.8**
RCBR	**Riachuelo**	**44.17**	**57**	P	**P**	**14 00 13.6**	**-0.4**
	3.5nm,0.6s,baz=221,slow=11,SNR=4.7						
SNAA	**Sanae**	**50.49**	**157**	P	**P**	**14 01 03.4**	**+0.8**
	3.2nm,0.8s,baz=246,slow=3.0,SNR=9.9						
QSPA	**South Pole Qui**	**55.09**	**180**	P	**P**	**14 01 38.2**	**+1.5**
	8.8nm,0.9s,baz=121,slow=1.7,SNR=5.8						
QSPA	**South Pole Qui**	**55.09**	**180**	*e*P	**P**	**14 01 36.2**	**-0.5**
	6.9nm,1.0s						
TEIG	**Tepich**	**57.22**	**342**	P	**P**	**14 01 52.3**	**+0.1**
	18nm,0.7s,baz=169,slow=10.0,SNR=5.1						
TXAR	**Lajitas Array**	**70.78**	**331**	P	**P**	**14 03 22.2**	**+0.9**
	1.3nm,0.4s,baz=156,slow=8.2,SNR=17						
WVT	**Waverly**	**72.45**	**347**	*e*P	**P**	**14 03 29.4**	**-1.6**
	18nm,0.7s						
DBIC	**Dimbokro**	**75.46**	**71**	P	**P**	**14 03 49.1**	**-0.1**
	11nm,0.6s,baz=206,slow=6.5,SNR=10						
DBIC	**Dimbokro**	**75.46**	**71**	*e*P	**P**	**14 03 48.7**	**-0.5**
BOSA	**Boshof**	**79.45**	**117**	P	**P**	**14 04 11.4**	**-0.2**
	6.2nm,0.5s,baz=246,slow=3.8,SNR=9.7						
TORD	**Torodi Ar. Bea**	**84.51**	**70**	P	**P**	**14 04 37.7**	**-0.4**
	8.7nm,0.7s,baz=271,slow=5.2,SNR=24						
PDAR	**Pinedale Array**	**84.83**	**333**	P	**P**	**14 04 39.4**	**0.0**
	0.7nm,0.5s,baz=144,slow=7.9,SNR=7.1						
NVAR	**Mina Array Bea**	**84.88**	**325**	P	**P**	**14 04 40.7**	**+1.0**
	1.1nm,0.8s,baz=157,slow=6.7,SNR=4.8						
ULM	**Lac du Bonnet**	**87.63**	**345**	P	**P**	**14 04 52.6**	**0.0**
	5.0nm,0.8s,baz=159,slow=5.6,SNR=5.5						
WRA	**Warramunga Arr**	**119.81**	**209**	PKP	**PKPdf**	**14 10 54.9**	**-0.7**
	0.5nm,0.4s,baz=153,slow=1.7,SNR=17						
BRTR	**Keskin Array B**	**122.30**	**62**	PKP	**PKPdf**	**14 10 59.2**	**-0.6**
	1.0nm,0.7s,baz=180,slow=3.5,SNR=4.6						
PSI	**Prapat**	**146.71**	**163**	PKPbc	**PKPdf**	**14 11 46.4**	**+0.7**
	6.1nm,0.7s,baz=279,slow=1.7,SNR=5.3						
BVAR	**Borovoye Array**	**148.04**	**44**	PKPbc	**PKPbc**	**14 11 50.1**	**+0.4**
	3.8nm,0.6s,baz=261,slow=2.2,SNR=8.9						
HYB	**Hyderabad**	**148.35**	**116**	*i* P	**PKPbc**	**14 11 50.5**	**-1.1**
AML	**Almayashu**	**152.39**	**65**	P	**PKPbc**	**14 12 01.8**	**+0.7**
	SNR=7.7						
EKS2	**Erkin-Say**	**152.41**	**64**	P	**PKPbc**	**14 12 01.4**	**+0.6**
	SNR=12						
USP	**Ospenovka**	**152.89**	**62**	P	**PKPbc**	**14 12 02.1**	**+0.4**
	SNR=6.7						
AAK	**Ala-Archa**	**152.94**	**64**	P	**PKPbc**	**14 12 02.8**	**+0.8**
	SNR=8.2						
AAK	**Ala-Archa**	**152.94**	**64**	PKPbc	**PKPbc**	**14 12 02.7**	**+0.7**
	9.0nm,0.7s,baz=182,slow=2.4,SNR=15						
ZALV	**Zalesovo Beam**	**155.13**	**34**	PKPab	**PKPab**	**14 12 21.9**	**-0.1**
	3.4nm,0.7s,baz=312,slow=4.7,SNR=5.9						
MKAR	**Makanchi Array**	**157.43**	**51**	PKPab	**PKPab**	**14 12 30.8**	**-1.4**
	2.7nm,0.8s,baz=280,slow=3.6,SNR=8.3						
SONM	**Songino Array**	**167.26**	**5**	PKPab	**PKPab**	**14 13 15.6**	**+0.4**
	0.9nm,0.8s,baz=343,slow=5.1,SNR=5.9						

*ISCJB **27** 13:52:18.0±0.7, 35°.16S±0°.07×72°.3W±0°.2, h18km, mb4.5/9, MS4.7/5, Error ellipse: s-maj=18.0km s-min=9.8km az=175.7*
*IDC **27** 13:52:17.3±0.9, 35°.17S×72°.28W, h0km, mb4.6/7, mb1 4.6/7, mb1mx4.4/16, mbtmp4.6/7, MS4.7/5, Ms1 4.7/5, ms1mx4.2/27, Error ellipse: s-maj=38.2km s-min=25.1km az=109.0*
*NEIC **27** 13:52:22.2±0.5, 35°.15S×72°.23W, h35km, mb4.5/3, Error ellipse: s-maj=14.2km s-min=8.1km az=89.0*
ISC 27 13:52:19.9±0.7**, 35°.14S**±0°.08×**72°.3W**±0°.1**, h18km, n22, σ0.s84**/20**, mb4.7**/9**, MS4.8**/5**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.75**	**167**	*e*Pn	**Pn**	**13 53 44.4**	**+0.1**
	442nm,0.9s						
TRQA	**Tornquist**	**8.78**	**112**	*e*Pn	**Pn**	**13 54 25.3**	**-0.6**
LVC	**Limon Verde**	**12.83**	**14**	*e*Pn	**Pn**	**13 55 20.8**	**-0.8**
CPUP	**Villa Florida**	**15.56**	**60**	Pn	**Pn**	**13 55 58.9**	**+0.5**
SIV	**San Ignacio**	**21.56**	**31**	P	**P**	**13 57 09.7**	**+1.3**
	38nm,1.0s,baz=226,slow=13,SNR=8.2						
SIV				LR	LR	14 07 20.1	
	comp=Z,2μm,19.3s,baz=224,slow=42						
SAML	**Samuel**	**27.37**	**20**	*e*P	**P**	**13 58 03.0**	**-1.2**
BDFB	**Brasilia**	**29.16**	**54**	P	**P**	**13 58 21.5**	**+1.3**
	15nm,1.1s,baz=206,slow=3.2,SNR=4.1						
ROSC	**El Rosal**	**39.83**	**357**	LR	LR	14 17 30.8	
	comp=Z,406nm,18.1s,baz=52,slow=38						
ROSC	**El Rosal**	**39.83**	**357**	*e*P	**P**	**13 59 52.2**	**-0.6**
SDV	**Santo Domingo**	**43.82**	**2**	*e*P	**P**	**14 00 24.8**	**-0.3**
	2.3nm,0.7s						
SNAA	**Sanae**	**50.61**	**157**	*e*P	**P**	**14 01 16.1**	**-1.2**
	5.7nm,1.1s						
QSPA	**South Pole Qui**	**55.09**	**180**	P	**P**	**14 01 51.4**	**+0.8**
	5.8nm,0.7s,baz=265,slow=1.1,SNR=6.3						
QSPA	**South Pole Qui**	**55.09**	**180**	*e*P	**P**	**14 01 50.6**	**0.0**
	11nm,1.0s						
TXAR	**Lajitas Array**	**70.63**	**331**	P	**P**	**14 03 35.1**	**+0.8**
	0.9nm,0.5s,baz=147,slow=9.9,SNR=4.7						
TXAR				LR	LR	14 31 01.2	
	comp=Z,442nm,18.2s,baz=0.0,slow=33						
DBIC	**Dimbokro**	**75.74**	**71**	P	**P**	**14 04 05.7**	**+0.9**
	3.2nm,0.6s,baz=198,slow=5.3,SNR=3.3						
BOSA	**Boshof**	**79.72**	**118**	P	**P**	**14 04 27.4**	**+0.4**
	5.1nm,0.7s,baz=224,slow=3.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**84.79**	**70**	P	**P**	**14 04 52.3**	**-1.2**
	3.5nm,0.8s,baz=230,slow=5.3,SNR=6.3						
TORD				LR	LR	14 40 44.8	
	comp=Z,653nm,21.2s,baz=205,slow=34						
ESDC	**Sonseca Array**	**97.51**	**46**	LR	LR	14 50 07.3	
	comp=Z,267nm,18.5s,baz=135,slow=36						
WRA	**Warramunga Arr**	**119.66**	**209**	PKP	**PKPdf**	**14 11 09.0**	**-0.3**
	0.7nm,0.4s,baz=160,slow=1.7,SNR=5.8						
BRTR	**Keskin Array B**	**122.56**	**62**	PKP	**PKPdf**	**14 11 14.0**	**-0.3**
	1.5nm,0.9s,baz=207,slow=2.5,SNR=2.9						
PSI	**Prapat**	**146.80**	**164**	PKPbc	**PKPbc**	**14 12 01.9**	**+0.3**
	5.7nm,0.7s,baz=212,slow=5.4,SNR=3.7						
AAK	**Ala-Archa**	**153.21**	**64**	PKPbc	**PKPbc**	**14 12 16.6**	**0.0**
	6.5nm,0.8s,baz=198,slow=3.9,SNR=3.7						

*IDC **27** 13:53:58.3±0.4, 33°.36S×71°.94W, h0km, mb4.8/20, mb1 4.9/24, mb1mx4.8/27, mbtmp4.8/24, ML4.8/4, Error ellipse: s-maj=14.8km s-min=11.8km az=83.0*
*ISCJB **27** 13:54:00.4±0.2, 33°.28S±0°.04×71°.80W±0°.06, h19km, mb5.1/117, Error ellipse: s-maj=8.1km s-min=4.7km az=142.0*
*GUC **27** 13:54:01.7±0.5, 33°.48S×71°.84W, h2km±3km, ML5.3*
*MOS **27** 13:54:02.9±1.0, 33°.17S×71°.90W, h33km, mb5.3/26, Error ellipse: s-maj=16.4km s-min=8.4km az=101.9*
*NEIC **27** 13:54:03.8±0.1, 33°.30S×71°.84W, h35km, mb5.2/99, Error ellipse: s-maj=6.4km s-min=4.2km az=67.0*
ISC 27 13:54:01.2±0.3**, 33°.36S**±0°.05×**71°.98W**±0°.05**, h19km, n606, σ1.s16**/627**, mb5.2**/117**, 155C-156D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.36**	**109**	*e*S	**Sg**	**13 54 10.6**	**-3.5**
ROCH	**El Roble**	**0.90**	**65**	*e*P	**Pn**	**13 54 19.6**	**+0.5**
ROCH				*e*S	**Sn**	**13 54 33.7**	**+2.0**
ROCH				AML	AML	13 54 36.8	
	comp=N,244μm,0.5s						
FCH	**Farellones**	**1.41**	**89**	*e*P	**Pb**	**13 54 27.5**	**+0.3**
FCH				*e*S	**Sg**	**13 54 46.6**	**-0.5**
FCH				AML	AML	13 54 55.2	
	comp=E,86μm,0.5s						
CFAA	**Coronel Fontan**	**3.61**	**62**	Pg	**Pb**	**13 55 02.8**	**-1.7**
	comp=E,25nm,0.3s,baz=225,slow=11,SNR=14						
CFAA				Lg	Lg	13 55 52.8	
	comp=E,62nm,0.3s,baz=77,slow=14,SNR=4.6						
PLCA	**Paso Flores**	**7.45**	**172**	Pn	**Pn**	**13 55 49.9**	**+0.9**
	comp=E,4.6nm,0.3s,baz=51,slow=13,SNR=1.9						
PLCA				Lg	Lg	13 57 49.4	
	comp=E,2.5nm,0.3s,baz=181,slow=4.5,SNR=2.2						
TRQA	**Tornquist**	**9.38**	**123**	*e*Pn	Pn	13 56 21.2	+5.8
LVC	**Limon Verde**	**11.04**	**15**	*e*Pn	**Pn**	**13 56 38.7**	**+0.3**
CPUP	**Villa Florida**	**14.51**	**65**	P	**Pn**	**13 57 26.0**	**+0.5**
CPUP						14 00 11.2	
CPUP				pmax	pmax		
	comp=Z,126nm,0.7s						
CPUP	**Villa Florida**	**14.51**	**65**	Pn	**Pn**	**13 57 26.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=243,slow=16,SNR=1.8						
CPUP				Sn	**Sn**	**14 00 11.2**	**+5.3**
	comp=Z,3.1nm,0.3s,baz=178,slow=13,SNR=2.2						
CPUP	**Villa Florida**	**14.51**	**65**	Pn	**Pn**	**13 57 26.0**	**+0.5**
	comp=Z,126nm,0.7s						
CPUP				Sn	**Sn**	**14 00 11.2**	**+5.3**
LPAZ	**La Paz**	**17.35**	**12**	*e*P	**Pn**	**13 58 02.7**	**-0.3**
LPAZ				pmax	pmax		
	comp=Z,104nm,1.2s						
LPAZ	**La Paz**	**17.35**	**12**	P	**Pn**	**13 58 03.0**	**0.0**
	comp=Z,2.3nm,0.3s,baz=191,slow=6.5,SNR=13						
LPAZ	**La Paz**	**17.35**	**12**	*e*Pn	**Pn**	**13 58 02.7**	**-0.3**
	comp=Z,104nm,1.2s						
SIV	**San Ignacio**	**19.90**	**32**	P	**P**	**13 58 31.0**	**-0.8**
	comp=Z,2.3nm,0.3s,baz=228,slow=12,SNR=15						
USHA	**Ushuaia**	**21.61**	**174**	P	**P**	**13 58 50.7**	**+0.8**
	comp=Z,35nm,0.9s,baz=351,slow=6.6,SNR=6.3						
NNA	**Nana**	**21.73**	**347**	*e*P	**P**	**13 58 52.6**	**+1.0**
NNA	**Nana**	**21.73**	**347**	P	**P**	**13 58 52.0**	**+0.5**
	comp=Z,17nm,0.7s,baz=174,slow=12,SNR=6.8						
NNA	**Nana**	**21.73**	**347**	*e*P	**P**	**13 58 52.6**	**+1.0**
SAML	**Samuel**	**25.61**	**20**	*e*P	**P**	**13 59 29.1**	**-0.4**
	comp=Z,34nm,0.8s						
ATAH	**Atahualpa**	**26.76**	**346**	P	**P**	**13 59 42.2**	**+1.8**
	comp=Z,7.5nm,0.8s,baz=217,slow=10,SNR=2.9						
BDFB	**Brasilia**	**27.94**	**57**	*e*P	**P**	**13 59 49.6**	**-1.0**
BDFB	**Brasilia**	**27.94**	**57**	P	**P**	**13 59 49.9**	**-0.7**
	comp=Z,40nm,0.9s,baz=242,slow=8.9,SNR=15						
BDFB	**Brasilia**	**27.94**	**57**	*e*P	**P**	**13 59 49.6**	**-1.0**
OTAV	**Otavalo**	**33.97**	**348**	*e*P	**P**	**14 00 44.9**	**+0.8**
	comp=Z,23nm,1.2s						
ROSC	**El Rosal**	**38.07**	**356**	P	**P**	**14 01 20.3**	**+1.1**
	comp=Z,9.6nm,0.6s,baz=147,slow=10,SNR=4.2						
ROSC	**El Rosal**	**38.07**	**356**	*e*P	**P**	**14 01 18.3**	**-0.9**
SDV	**Santo Domingo**	**42.03**	**2**	*e*P	**P**	**14 01 50.7**	**-1.1**
	comp=Z,62nm,1.0s						
RCBR	**Riachuelo**	**43.27**	**59**	P	**P**	**14 02 01.8**	**0.0**
	comp=Z,18nm,0.9s,baz=209,slow=11,SNR=6.2						
JTS	**JuntasAbangare**	**45.13**	**342**	*e*P	**P**	**14 02 16.7**	**0.0**
JTS				pmax	pmax		
	comp=Z,80nm,1.8s						
JTS	**JuntasAbangare**	**45.13**	**342**	P	**P**	**14 02 17.1**	**+0.4**
	comp=Z,4.9nm,0.9s,baz=151,slow=2.4,SNR=3.9						
JTS	**JuntasAbangare**	**45.13**	**342**	*e*P	**P**	**14 02 16.6**	**0.0**
	comp=Z,80nm,1.8s						
VNA3	**Neumayer Olymp**	**49.93**	**158**	P	**P**	**14 02 54.2**	**+0.8**
VNA1	**Neumayer--Stat**	**50.24**	**157**	P	**P**	**14 02 57.3**	**+1.6**
VNA2	**Neumayer--Watz**	**50.58**	**157**	P	**P**	**14 02 59.1**	**+0.9**
APG	**El Apazote**	**51.23**	**337**	P	**P**	**14 03 03.4**	**-0.6**
	comp=Z,3.3nm,0.5s,baz=95,slow=11,SNR=2.2						
OBIP	**Obispado Ponce**	**51.37**	**7**	*e*P	**P**	**14 03 03.6**	**-1.1**
	comp=Z,125nm,1.4s						
SABA	**Saba**	**51.37**	**11**	*e*P	**P**	**14 03 04.1**	**-0.7**
	comp=Z,154nm,0.8s						
CELP	**Cerrillos**	**51.40**	**7**	*e*P	**P**	**14 03 02.6**	**-2.4**
SNAA	**Sanae**	**52.16**	**158**	P	**P**	**14 03 10.8**	**+0.6**
SNAA	**Sanae**	**52.16**	**158**	*e*P	**P**	**14 03 10.8**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,54nm,1.0s						
SNAA	**Sanae**	**52.16**	**158**	P	**P**	**14 03 10.8**	**+0.6**
	comp=Z,9.7nm,0.9s,baz=278,slow=7.6,SNR=17						
SNAA	**Sanae**	**52.16**	**158**	*e*P	**P**	**14 03 10.8**	**+0.6**
	comp=Z,54nm,1.0s						
GTBY	**Guantanamo Bay**	**53.07**	**356**	*e*P	**P**	**14 03 14.5**	**-2.8**
	comp=Z,57nm,1.0s						
TEIG	**Tepich**	**55.51**	**341**	P	**P**	**14 03 34.9**	**-0.1**
	comp=Z,23nm,0.7s,baz=141,slow=7.3,SNR=9.2						
TEIG	**Tepich**	**55.51**	**341**	*e*P	**P**	**14 03 34.2**	**-0.8**
	comp=Z,51nm,0.9s						
QSPA	**South Pole Qui**	**56.88**	**180**	P	**P**	**14 03 45.1**	**+0.5**
	comp=Z,33nm,1.0s,baz=147,slow=3.5,SNR=13						
QSPA	**South Pole Qui**	**56.88**	**180**	*e*P	**P**	**14 03 45.4**	**+0.8**
NVL	**N'lazarevskaya**	**56.89**	**157**	*e*P	**P**	**14 03 45.5**	**+1.1**
NVL				pmax	pmax		
	comp=Z,24nm,1.0s						
034A	**Hebbronville**	**65.23**	**334**	⇓P	**P**	**14 04 42.8**	**+1.3**
	baz=66						
TIGA	**Tifton**	**65.38**	**349**	*e*P	**P**	**14 04 42.0**	**-0.3**
	comp=Z,51nm,1.0s						
834A	**Tilden**	**66.14**	**334**	⇓P	**P**	**14 04 49.2**	**+1.9**
	baz=66						
SYO	**Syowa Base**	**66.44**	**159**	⇑*e*P	P	14 04 44.7	-4.1
833A	**Chaparral WMA,**	**66.63**	**334**	⇑P	**P**	**14 04 51.4**	**+1.0**
	baz=67						
832A	**Faith Ranch, C**	**66.81**	**333**	⇓P	**P**	**14 04 52.4**	**+0.7**
	baz=67						
636A	**Smothers Creek**	**66.86**	**336**	⇓P	**P**	**14 04 53.4**	**+1.5**
	baz=67						
732A	**Laxson Ranch,**	**67.21**	**333**	⇓P	**P**	**14 04 55.8**	**+1.6**
	baz=68						
GOGA	**Godfrey**	**67.29**	**350**	*e*P	**P**	**14 04 54.0**	**-0.5**
GOGA				pmax	pmax		
	comp=Z,24nm,0.9s						
GOGA	**Godfrey**	**67.29**	**350**	*e*P	**P**	**14 04 54.0**	**-0.5**
	comp=Z,24nm,0.9s						
LRAL	**Lakeview Retre**	**67.54**	**346**	*e*P	**P**	**14 04 56.9**	**+0.8**
	comp=Z,8.9nm,0.9s						
632A	**Uvalde**	**67.84**	**334**	⇓P	**P**	**14 04 59.8**	**+1.6**
	baz=68,SNR=6.3						
631A	**Perdido Creek**	**68.05**	**333**	⇑P	**P**	**14 05 00.5**	**+1.0**
	baz=68						
532A	**Rocksprings**	**68.45**	**334**	⇓P	**P**	**14 05 02.7**	**+0.7**
	baz=69,SNR=7.8						
434A	**Burnet**	**68.49**	**336**	⇓P	**P**	**14 05 03.3**	**+1.1**
	baz=69						
KMSC	**Kings Mountain**	**68.70**	**352**	*e*P	**P**	**14 05 02.5**	**-0.9**
	comp=Z,24nm,1.0s						
KMSC	**Kings Mountain**	**68.70**	**352**	⇓P	**P**	**14 05 03.3**	**-0.1**
	baz=69						
531A	**Rocksprings**	**68.72**	**334**	⇑P	**P**	**14 05 03.8**	**+0.1**
	baz=69						
433A	**Art**	**68.72**	**335**	⇑P	**P**	**14 05 03.7**	**+0.1**
	baz=69,SNR=6.8						
JCT	**Junction City**	**68.73**	**334**	*e*P	**P**	**14 05 04.3**	**+0.6**
JCT				pmax	pmax		
	comp=Z,47nm,1.3s						
JCT	**Junction City**	**68.73**	**334**	*e*P	**P**	**14 05 04.3**	**+0.6**
	comp=Z,47nm,1.3s						
JCT	**Junction City**	**68.73**	**334**	⇓P	**P**	**14 05 04.0**	**+0.3**
	baz=69						
334A	**Lometa**	**68.96**	**336**	⇓P	**P**	**14 05 04.8**	**-0.3**
	baz=69,SNR=5.7						
530A	**J-C Ranch, Com**	**69.00**	**333**	⇑P	**P**	**14 05 05.5**	**+0.1**
	baz=69						
432A	**Menard**	**69.08**	**335**	⇓P	**P**	**14 05 06.3**	**+0.4**
	baz=69						
TXAR	**Lajitas Array**	**69.20**	**331**	P	**P**	**14 05 07.2**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=153,slow=8.1,SNR=6.9						
333A	**Richland Sprin**	**69.21**	**335**	⇑P	**P**	**14 05 06.8**	**+0.2**
	baz=70,SNR=5.1						
431A	**Sonora**	**69.21**	**334**	⇑P	**P**	**14 05 07.1**	**+0.4**
	baz=70						
WHTX	**Lake Whitney**	**69.30**	**337**	*e*P	**P**	**14 05 07.7**	**+0.5**
	comp=Z,34nm,1.0s						
WHTX	**Lake Whitney**	**69.30**	**337**	⇑P	**P**	**14 05 07.7**	**+0.5**
	baz=70						
529A	**Stev Forest Ra**	**69.32**	**332**	⇓P	**P**	**14 05 07.8**	**+0.4**
	baz=70,SNR=8.3						
SWET	**Sewanee**	**69.46**	**348**	*e*P	**P**	**14 05 07.2**	**-1.0**
	comp=Z,40nm,0.9s						
OXF	**Oxford**	**69.47**	**345**	*e*P	**P**	**14 05 07.0**	**-1.1**
OXF				pmax	pmax		
	comp=Z,74nm,1.0s						
OXF	**Oxford**	**69.47**	**345**	*e*P	**P**	**14 05 07.0**	**-1.1**
	comp=Z,74nm,1.0s						
332A	**Millersview**	**69.53**	**335**	⇓P	**P**	**14 05 09.5**	**+0.8**
	baz=70						
430A	**Baggett Ranch,**	**69.53**	**333**	⇑P	**P**	**14 05 09.4**	**+0.7**
	baz=70						
234A	**Clairette**	**69.54**	**336**	⇓P	**P**	**14 05 09.8**	**+1.1**
	baz=70						
TKL	**Tuckaleechee C**	**69.54**	**350**	*e*P	**P**	**14 05 08.9**	**+0.3**
TKL	**Tuckaleechee C**	**69.54**	**350**	*e*P	**P**	**14 05 08.9**	**+0.3**
429A	**Davenport Ranc**	**69.64**	**333**	⇑P	**P**	**14 05 10.7**	**+1.3**
	baz=70						
331A	**San Angelo**	**69.70**	**334**	⇑P	**P**	**14 05 10.8**	**+1.0**
	baz=70						
233A	**Rising Star**	**69.81**	**336**	⇓P	**P**	**14 05 10.6**	**+0.2**
	baz=70						
232A	**Coleman**	**69.95**	**335**	⇓P	**P**	**14 05 11.2**	**-0.1**
	baz=70,SNR=5.7						
330A	**Mertzon**	**70.07**	**334**	⇑P	**P**	**14 05 12.0**	**0.0**
	baz=70,SNR=5.2						
231A	**Bronte**	**70.23**	**335**	⇑P	**P**	**14 05 13.7**	**+0.7**
	baz=70,SNR=5.8						
133A	**Hamilton Ranch**	**70.35**	**336**	⇑P	**P**	**14 05 13.8**	**+0.1**
	baz=71						
329A	**Wagon Wheel Ra**	**70.44**	**333**	⇓P	**P**	**14 05 14.4**	**+0.1**
	baz=71						
Z35A	**Perchaven, San**	**70.47**	**338**	⇓P	**P**	**14 05 14.6**	**+0.3**
	baz=71						
230A	**Sterling City**	**70.48**	**334**	⇑P	**P**	**14 05 15.2**	**+0.7**
	baz=71						
MIAR	**Mount Ida**	**70.52**	**341**	*e*P	**P**	**14 05 14.7**	**0.0**
MIAR				pmax	pmax		
	comp=Z,35nm,1.4s						
MIAR	**Mount Ida**	**70.52**	**341**	*e*P	**P**	**14 05 14.7**	**0.0**
	comp=Z,35nm,1.4s						
ABTX	**Abilene, Hawle**	**70.62**	**335**	*e*P	**P**	**14 05 15.6**	**+0.3**
	comp=Z,36nm,0.9s						
ABTX	**Abilene, Hawle**	**70.62**	**335**	⇑P	**P**	**14 05 15.5**	**+0.2**
	baz=71						
WVT	**Waverly**	**70.70**	**346**	*e*P	**P**	**14 05 15.2**	**-0.5**
WVT				pmax	pmax		
	comp=Z,89nm,1.0s						
WVT	**Waverly**	**70.70**	**346**	*e*P	**P**	**14 05 15.2**	**-0.5**
	comp=Z,89nm,1.0s						
Z34A	**Collier Ranch,**	**70.72**	**337**	⇓P	**P**	**14 05 16.1**	**+0.2**
	baz=71						
229A	**Bryant Ranch,**	**70.81**	**333**	⇓P	**P**	**14 05 17.5**	**+1.0**
	baz=71						
JSRW	**J. Sargeant Re**	**70.90**	**355**	*e*P	**P**	**14 05 17.7**	**+0.8**
Z33A	**Whitaker Ranch**	**70.92**	**336**	⇓P	**P**	**14 05 17.5**	**+0.4**
	baz=71						
131A	**Roby**	**70.92**	**335**	⇑P	**P**	**14 05 19.3**	**+2.1**
	baz=71,SNR=5.6						
Z32A	**Haskell**	**71.18**	**336**	⇑P	**P**	**14 05 19.8**	**+1.1**
	baz=72						
Y34A	**Reagan Ranch,**	**71.21**	**338**	⇓P	**P**	**14 05 19.8**	**+0.9**
	baz=72						
228A	**UT Block 9, Go**	**71.24**	**333**	⇑P	**P**	**14 05 19.8**	**+0.6**
	baz=72,SNR=6.5						
Z31A	**Sharp Cattle R**	**71.42**	**335**	⇑P	**P**	**14 05 20.4**	**+0.2**
	baz=72,SNR=5.8						
Y33A	**Hilltop Ranch,**	**71.53**	**337**	⇑P	**P**	**14 05 20.9**	**+0.1**
	baz=72						
128A	**Castleberry Fa**	**71.64**	**333**	⇑P	**P**	**14 05 22.0**	**+0.4**
	baz=72						
Z30A	**Sanderson Ranc**	**71.74**	**335**	⇑P	**P**	**14 05 23.2**	**+1.1**
	baz=72,SNR=5.8						
Y32A	**R-V Farms, Ver**	**71.80**	**336**	⇓P	**P**	**14 05 23.9**	**+1.4**
	baz=72						
X34A	**Smith Ranch, M**	**71.82**	**338**	⇓P	**P**	**14 05 23.2**	**+0.6**
	baz=72						
PBMO	**Poplar Bluff**	**71.87**	**344**	*e*P	**P**	**14 05 21.1**	**-1.6**
	comp=Z,25nm,0.9s						
Z29A	**Hungry Hill Ra**	**71.93**	**334**	⇑P	**P**	**14 05 23.0**	**-0.3**
	baz=72,SNR=5.1						
MNTX	**Cornudas Mount**	**71.98**	**330**	*e*P	**P**	**14 05 22.8**	**-0.8**
	comp=Z,9.5nm,0.8s						
127A	**Arkansas Junct**	**72.03**	**333**	⇑P	**P**	**14 05 24.8**	**+0.8**
	baz=72						
Y31A	**Rekieta Farm,**	**72.05**	**336**	⇓P	**P**	**14 05 23.5**	**-0.4**

baz=72,SNR=6.6
Y30A Stafford Cattl 72.19 335 ⇑P P 14 05 25.3 +0.4
baz=72
Z28A Tucker Farm, M 72.20 334 ⇑P P 14 05 25.0 0.0
baz=72
W34A Bridge Creek, 72.39 338 eP P 14 05 25.9 0.0
comp=Z,23nm,1.0s
W34A Bridge Creek, 72.39 338 ⇑P P 14 05 26.4 +0.5
baz=73
TUL1 Tulsa 72.42 340 eP P 14 05 25.5 -0.6
comp=Z,26nm,0.9s
TUL1 Tulsa 72.42 340 ⇑P P 14 05 26.6 +0.6
baz=73
Y29A Porterfield Fa 72.45 334 ⇓P P 14 05 27.0 +0.5
baz=73,SNR=8.0
WCI Wyandotte Cave 72.46 348 eP P 14 05 24.9 -1.4
WCI pmax pmax
comp=Z,12nm,0.8s
WCI Wyandotte Cave 72.46 348 eP P 14 05 24.9 -1.4
comp=Z,12nm,0.8s
SIUC Southern Illin 72.51 346 eP P 14 05 25.8 -0.8
comp=Z,40nm,1.0s
W33A Caddo, Fort Co 72.53 337 ⇓P P 14 05 26.7 -0.1
baz=73
Z27A Tatum 72.54 333 ⇓P P 14 05 27.0 0.0
baz=73
X31A McDonald Ranch 72.56 336 ⇓P P 14 05 26.5 -0.5
baz=73
X30A Coker Ranch, T 72.70 335 ⇓P P 14 05 28.1 +0.2
baz=73
W32A Sentinel 72.76 337 ⇑P P 14 05 28.0 -0.2
baz=73,SNR=7.3
Z26A Caprock 72.80 332 ⇓P P 14 05 29.2 +0.6
baz=73
V34A Guthrie 72.86 338 eP P 14 05 28.0 -0.7
V34A Guthrie 72.86 338 ⇑P P 14 05 29.5 +0.8
baz=73
MSTX Muleshoe 72.95 334 eP P 14 05 30.1 +0.6
comp=Z,39nm,0.8s
MSTX Muleshoe 72.95 334 ⇓P P 14 05 29.8 +0.3
baz=73,SNR=6.2
X29A Tulia 72.99 335 ⇓P P 14 05 29.7 +0.1
baz=73,SNR=5.7
W31A Holland Ranch, 73.05 336 ⇓P P 14 05 30.4 +0.5
baz=73
V33A Lossen Ranch, 73.09 338 ⇓P P 14 05 30.3 +0.2
baz=73
Z25A Roswell 73.09 332 ⇓P P 14 05 30.8 +0.6
baz=73
MVL Millersville 73.10 356 eP P 14 05 31.8 +1.8
comp=Z,59nm,1.3s
AMTX Amarillo 73.38 335 eP P 14 05 32.3 +0.4
comp=Z,40nm,1.0s
AMTX Amarillo 73.38 335 ⇓P P 14 05 32.3 +0.4
baz=74
Z24A Sheeppen Canyo 73.39 331 ⇑P P 14 05 33.3 +1.1
baz=74,SNR=7.3
BLO Bloomington 73.42 348 eP P 14 05 31.1 -0.8
BLO pmax pmax
comp=Z,13nm,0.7s
BLO Bloomington 73.42 348 eP P 14 05 31.1 -0.8
comp=Z,13nm,0.7s
U34A Anderson Ranch 73.43 339 eP P 14 05 32.2 +0.2
comp=Z,34nm,1.0s
V31A Spring Creek L 73.55 337 ⇓P P 14 05 33.9 +1.1
baz=74
W29A Amraillo 73.58 335 ⇑P P 14 05 34.1 +1.0
baz=74,SNR=5.7
Y25A Mesa, Roswell 73.65 332 ⇑P P 14 05 35.1 +1.5
baz=74
121A Cookes Peak, D 73.71 329 eP P 14 05 34.3 +0.2
comp=Z,28nm,1.1s
121A Cookes Peak, D 73.71 329 ⇑P P 14 05 35.4 +1.4
baz=74
V30A Spur Ranch, Mi 73.82 336 ⇓P P 14 05 36.4 +1.9
baz=74
U32A Winter Ranch, 73.83 338 ⇑P P 14 05 36.3 +1.8
baz=74
X26A CR and CF Fran 73.86 333 ⇑P P 14 05 36.0 +1.2
baz=74
ACSO Alum Creek Sta 73.93 351 eP P 14 05 34.5 -0.3
comp=Z,57nm,1.0s
Y24A Capitan 73.94 332 ⇑P P 14 05 36.6 +1.2
baz=74
Z22A Elephant Butte 73.99 330 ⇑P P 14 05 36.7 +1.1
baz=74
W27A Bowe Ranch, En 74.04 334 ⇓P P 14 05 36.8 +1.0
baz=74
X25A Clemmons Ranch 74.17 332 ⇓P P 14 05 37.3 +0.7
baz=74
Y23A Lovelace Mesa, 74.20 331 ⇓P P 14 05 37.6 +0.7
baz=74
T33A Patterson Ranc 74.24 338 ⇓P P 14 05 37.6 +0.8
baz=75
W26A Owens Ranch, T 74.32 333 ⇓P P 14 05 38.3 +0.8
baz=75,SNR=5.3
V28A Channing 74.35 335 ⇑P P 14 05 38.6 +1.0
baz=75
X24A Lazy VL Ranch, 74.50 332 ⇓P P 14 05 39.9 +1.2
baz=75
T32A Huddler Ranch, 74.54 338 ⇑P P 14 05 40.1 +1.6
baz=75
W25A X Bar L Ranch, 74.70 333 ⇑P P 14 05 40.8 +1.1
baz=75
X23A Hourglass Bar 74.82 331 ⇓P P 14 05 41.8 +1.4
baz=75
TUC Tucson 74.86 327 eP P 14 05 40.9 +0.3
TUC Tucson 74.86 327 eP P 14 05 40.9 +0.3
DBIC Dimbokro 74.93 71 P P 14 05 41.6 +0.3
comp=Z,26nm,0.9s,baz=206,slow=5.8,SNR=15
V26A Tequesquite Ra 74.96 334 ⇓P P 14 05 42.1 +0.9
baz=75,SNR=5.1
S32A Newby Ranch, P 75.02 338 ⇑P P 14 05 42.6 +1.3
baz=75
LAZ Ladron 75.05 330 eP P 14 05 43.0 +1.1
comp=Z,9.8nm,1.4s
W24A Lazy 6 Ranch, 75.06 332 ⇑P P 14 05 43.1 +1.3
baz=75
S31A Mullinville 75.12 338 ⇓P P 14 05 43.5 +1.5
baz=75
U27A Thompson Grove 75.16 335 ⇓P P 14 05 43.0 +0.6
baz=76
ANMO Albuquerque 75.24 331 eP P 14 05 44.1 +1.2
ANMO pmax pmax
comp=Z,10.0nm,1.1s
ANMO Albuquerque 75.24 331 eP P 14 05 44.1 +1.2
comp=Z,10nm,1.1s
T29A Hugoton 75.29 336 ⇓P P 14 05 44.7 +1.7
baz=76
V25A Rancho No Teng 75.31 333 ⇓P P 14 05 44.7 +1.4
baz=76
W23A Werner Place, 75.31 332 ⇓P P 14 05 44.3 +1.0
baz=76
S30A Montezuma 75.45 337 ⇑P P 14 05 45.3 +1.4
baz=76
V24A Rampart Ranch, 75.46 333 ⇑P P 14 05 45.3 +1.1
baz=76
U26A Atchley Ranch, 75.47 334 ⇑P P 14 05 45.6 +1.4
baz=76
214A Organ Pipe Nat 75.52 325 eP P 14 05 43.6 -0.8
comp=Z,15nm,1.2s
214A Organ Pipe Nat 75.52 325 ⇓P P 14 05 45.7 +1.3
baz=76
T28A Walsh 75.54 336 ⇓P P 14 05 46.4 +1.9
baz=76,SNR=5.5
R32A Long Quarter, 75.61 339 ⇑P P 14 05 46.2 +1.4
baz=76
KSU1 Kansas State U 75.63 340 eP P 14 05 44.6 -0.2
comp=Z,16nm,0.9s
KSU1 Kansas State U 75.63 340 ⇓P P 14 05 46.1 +1.4
baz=76
S29A Ulysses 75.65 336 ⇓P P 14 05 46.4 +1.4
baz=76
T27A Campo 75.70 335 ⇑P P 14 05 46.3 +0.9
baz=76,SNR=5.5
U25A Circle Dot Ran 75.72 333 ⇓P P 14 05 46.7 +1.0
baz=76
TRY Troy 75.74 359 eP P 14 05 45.7 +0.5
comp=Z,58nm,1.1s
R31A Burdett 75.75 338 ⇓P P 14 05 46.8 +1.3
baz=76
V23A Ortiz Mt. (NFS 75.83 332 ⇑P P 14 05 47.3 +1.0
baz=76
S28A Manter 75.89 336 ⇓P P 14 05 47.8 +1.3
baz=76,SNR=6.7
R30A Dighton 75.98 337 ⇓P P 14 05 47.4 +0.6
baz=76
Q32A Meitler Ranch, 76.09 339 ⇑P P 14 05 49.2 +1.7
baz=76
T26A Comanche Natio 76.11 334 ⇑P P 14 05 49.3 +1.4
baz=76,SNR=6.5
V22A San Miguel Ran 76.27 331 ⇓P P 14 05 50.1 +1.3
baz=77
U23A El Rito 76.34 332 ⇑P P 14 05 50.6 +1.4
baz=77
X18A Snowflake 76.35 328 ⇓P P 14 05 50.5 +1.2
baz=77
Q31A Ellis 76.36 338 ⇓P P 14 05 50.7 +1.7
baz=77
T25A Trinidad 76.38 334 ⇓P P 14 05 50.6 +1.3
baz=77
R29A Marienthal 76.39 337 ⇓P P 14 05 50.8 +1.6
baz=77
ACCN Adirondack Com 76.39 359 eP P 14 05 49.6 +0.6
comp=Z,428nm,2.6s
S26A Kim 76.47 335 ⇓P P 14 05 51.7 +1.9
baz=77,SNR=5.6
R28A Tribune 76.54 336 ⇑P P 14 05 51.4 +1.3
baz=77
U22A Llaves 76.65 332 ⇓P P 14 05 52.4 +1.5
baz=77
T24B San Luis 76.67 333 ⇑P P 14 05 52.8 +1.7
baz=77
P32A Huiting Farm, 76.69 339 ⇓P P 14 05 52.7 +1.9
baz=77
Q29A Oakley 76.76 337 ⇑P P 14 05 53.3 +2.0
baz=77
R27A Eads 76.82 336 ⇑P P 14 05 54.3 +2.6
baz=77,SNR=6.3
P31A Stockton 76.83 339 ⇑P P 14 05 53.2 +1.6
baz=77
S25A Robets Cordova 76.85 334 ⇑P P 14 05 53.3 +1.3
baz=77
X16A Lo Mia Camp, P 76.92 327 ⇑P P 14 05 53.9 +1.4
baz=77
R26A Arlington 77.06 335 ⇑P P 14 05 54.5 +1.4
baz=77
P30A Selden 77.12 338 ⇑P P 14 05 54.8 +1.5
baz=77
S24A Houchin Ranch, 77.12 333 ⇓P P 14 05 55.5 +1.8
baz=77
O32A Brockman Farm, 77.18 340 ⇑P P 14 05 55.3 +1.7
baz=78
Q28A Sharon Springs 77.19 337 ⇑P P 14 05 55.2 +1.4
baz=78
R25A Fountain Ranch 77.23 334 ⇓P P 14 05 55.3 +1.2
baz=78
Y14A Wickenburg 77.24 326 ⇑P P 14 05 56.0 +1.9
baz=78
SDCO Great Sand Dun 77.32 333 eP P 14 05 55.0 +0.2
comp=Z,7.3nm,1.0s
P29A Atwood 77.39 337 ⇑P P 14 05 56.3 +1.5
baz=78
O31A Woolen Ranch, 77.39 339 ⇓P P 14 05 56.2 +1.4
baz=78
GLA Glamis 77.39 324 eP P 14 05 56.7 +1.8
GLA pmax pmax
comp=Z,11nm,1.1s
GLA Glamis 77.39 324 eP P 14 05 56.7 +1.8
comp=Z,10nm,1.1s
GLA Glamis 77.39 324 ⇓P P 14 05 56.8 +1.8
baz=78
KSCO Kaye Shedlock' 77.42 336 eP P 14 05 55.3 +0.2
comp=Z,37nm,1.1s
KSCO Kaye Shedlock' 77.42 336 ⇓P P 14 05 56.7 +1.7
baz=78
S23A Nye Farm, Mont 77.47 333 ⇓P P 14 05 56.8 +1.2
baz=78
R24A Sanders Place, 77.60 334 ⇑P P 14 05 57.4 +1.1
baz=78
O30A MW Ranch, Wils 77.64 338 ⇑P P 14 05 57.8 +1.6
baz=78
LONY Lake Ozonia 77.64 358 eP P 14 05 55.3 -0.7
comp=Z,47nm,1.3s
Q26A Hugo 77.64 335 ⇑P P 14 05 57.9 +1.5
baz=78
JFWS Jewell Farm 77.73 346 eP P 14 05 56.4 -0.1
JFWS pmax pmax
comp=Z,52nm,1.1s
JFWS Jewell Farm 77.73 346 eP P 14 05 56.4 -0.1
comp=Z,52nm,1.1s
WUAZ Wupatki 77.81 328 eP P 14 05 59.0 +1.6
comp=Z,22nm,1.4s
WUAZ Wupatki 77.81 328 ⇑P P 14 05 58.4 +1.0
baz=78
O29A 4D Ranch, Culb 77.82 338 ⇓P P 14 05 59.1 +1.9
baz=78
S22A 4UR Ranch, Cre 77.83 332 ⇓P P 14 05 58.6 +1.0
baz=78
R23A Moffat 77.83 333 ⇓P P 14 05 58.5 +0.9
baz=78
Q25A Bedland, Calha 77.89 335 ⇑P P 14 05 59.5 +1.7
baz=78
MVCO Mesa Verde 78.03 331 eP P 14 05 59.8 +1.1
comp=Z,14nm,1.0s
MVCO Mesa Verde 78.03 331 ⇓P P 14 06 00.1 +1.4
baz=78
MONP Monument Peak 78.05 323 ⇓P P 14 06 00.5 +1.6
baz=78
P26A Davis Ranch, A 78.15 336 ⇑P P 14 06 00.4 +1.2
baz=78
BC3 Big Chuckawall 78.19 324 ⇑P P 14 06 00.9 +1.5
baz=78
BGNE Belgrade 78.20 340 eP P 14 05 58.9 -0.4
comp=Z,73nm,1.1s
BGNE Belgrade 78.20 340 ⇑P P 14 06 01.1 +1.8
baz=78
Q24A Divide 78.26 334 ⇓P P 14 06 01.4 +1.4
baz=79
M31A Lambtecht Ranc 78.38 340 ⇑P P 14 06 02.0 +1.7
baz=79
P25A Willow Gulch B 78.40 335 ⇑P P 14 06 01.9 +1.3
baz=79,SNR=6.8
109C Camp Elliot, M 78.40 323 ⇓P P 14 06 02.2 +1.7
baz=79
N29A Votaw Ranch, W 78.40 338 ⇑P P 14 06 02.1 +1.6
baz=79
O27A Beecher Island 78.43 337 ⇑P P 14 06 03.0 +2.4
baz=79
IRM Iron Mountain 78.45 325 ⇑P P 14 06 02.5 +1.7
baz=79
O26A Horse Wrangler 78.75 336 ⇑P P 14 06 04.1 +1.7
baz=79
PV01 Paradox Valley 78.85 331 eP P 14 06 03.6 +0.5
comp=Z,542nm,1.3s
P23A Jefferson 78.88 334 ⇑P P 14 06 04.5 +1.1
baz=79
O25A Wiggins 78.92 335 ⇓P P 14 06 04.7 +1.4
baz=79,SNR=5.5
U15A North Rim 78.98 328 ⇓P P 14 06 05.1 +1.1
baz=79
N27A Anderson Farm, 79.00 337 ⇑P P 14 06 05.1 +1.3
baz=79
L31A Butterfield Fa 79.11 340 ⇓P P 14 06 05.8 +1.6
baz=79
SMCO Snowmass 79.13 333 eP P 14 06 06.2 +1.3
comp=Z,18nm,0.9s
L30A Spencer Herefo 79.16 339 ⇓P P 14 06 06.1 +1.5
baz=80
ISCO Idaho Springs 79.17 334 eP P 14 06 05.5 +0.5
ISCO pmax pmax
comp=Z,37nm,1.8s
ISCO Idaho Springs 79.17 334 eP P 14 06 05.5 +0.5
comp=Z,37nm,1.8s
ISCO Idaho Springs 79.17 334 ⇓P P 14 06 06.0 +1.0
baz=80
GMRC Granite Mounta 79.20 325 ⇑P P 14 06 06.6 +1.6
baz=80
PV04 Paradox Valley 79.21 331 eP P 14 06 05.0 -0.1
TSUM Tsumeb 79.34 106 eP P 14 06 06.5 +0.2
comp=Z,50nm,1.3s
P22A Eagle 79.41 333 ⇑P P 14 06 07.0 +0.8
baz=80
L29A Maesberg Ranch 79.49 339 ⇑P P 14 06 07.9 +1.5
baz=80
O23A Lake Granby, G 79.64 334 ⇑P P 14 06 08.4 +0.9
baz=80
K30A Basset 79.79 340 ⇑P P 14 06 09.1 +1.1
baz=80
N24A Carr 79.82 335 ⇓P P 14 06 09.2 +0.9
baz=80
O22A Kremmling 79.83 334 ⇑P P 14 06 10.0 +1.5
baz=80,SNR=5.7
ECSD EROS Data Cent 79.95 342 eP P 14 06 08.4 -0.3
comp=Z,51nm,1.0s
ECSD EROS Data Cent 79.95 342 ⇓P P 14 06 09.8 +1.1
baz=80
K29A Lazy Trails An 80.08 339 ⇑P P 14 06 10.9 +1.4
baz=80
L27A T5 Ranch, Ells 80.08 338 ⇑P P 14 06 11.0 +1.4
baz=80
GSC Goldstone 80.17 324 ⇓P P 14 06 11.2 +0.9
baz=80
N23A Red Feather La 80.25 335 ⇑P P 14 06 12.4 +1.6
baz=81
BOSA Boshof 80.33 118 P P 14 06 11.8 +0.2
comp=Z,29nm,1.1s,baz=236,slow=5.9,SNR=11
SHPR Sheep Range 80.35 326 eP P 14 06 12.6 +1.3
J30A Dallas 80.36 340 ⇑P P 14 06 12.1 +1.2
baz=81
N22A Wattenberg Ran 80.36 334 ⇑P P 14 06 12.5 +1.2
baz=81,SNR=5.6
M24A Cheyenne 80.36 336 ⇓P P 14 06 12.8 +1.6
baz=81
CCUT Cedar City 80.39 328 eP P 14 06 12.8 +1.2
comp=Z,17nm,1.1s
EDW2 Edwards Air Fo 80.42 323 ⇓P P 14 06 12.7 +1.1
baz=81
PHWY Pilot Hill 80.44 335 eP P 14 06 13.1 +1.3
comp=Z,13nm,1.1s
O20A White River Ci 80.44 333 ⇑P P 14 06 13.1 +1.4
baz=81
SPMN St. Paul 80.47 345 eP P 14 06 10.4 -1.0
comp=Z,18nm,0.8s
SRU San Rafael 80.48 331 eP P 14 06 12.6 +0.6
SRU pmax pmax
comp=Z,9.0nm,1.0s
SRU San Rafael 80.48 331 eP P 14 06 12.6 +0.6
comp=Z,9.0nm,1.0s
K27A Flueckinger Fa 80.61 338 ⇓P P 14 06 13.6 +1.2
baz=81
ARUT Antelope Range 80.62 328 eP P 14 06 13.1 +0.4
ARUT pmax pmax
comp=Z,105nm,1.2s
ARUT Antelope Range 80.62 328 eP P 14 06 13.1 +0.4
comp=Z,105nm,1.2s
J29A Okreek 80.67 339 ⇓P P 14 06 13.6 +0.9
baz=81
M23A Laramie 80.68 335 ⇓P P 14 06 14.4 +1.4
baz=81
L25A Engebretsen Ra 80.68 336 ⇑P P 14 06 14.1 +1.2
baz=81
I30A Oacoma 80.88 340 ⇑P P 14 06 14.7 +0.9
baz=81
K26A Motz Farm, Whi 80.91 337 ⇓P P 14 06 15.8 +1.7
baz=81
TMUT Trail Mountain 80.92 330 P P 14 06 14.6 +0.2
M22A Cedar Creek Ra 80.93 334 ⇑P P 14 06 15.5 +1.1
baz=81
J28A Allard Ranch, 80.96 339 ⇓P P 14 06 15.5 +1.2
baz=81
SBC Santa Barbara 80.96 322 ⇑P P 14 06 15.5 +1.2
baz=81
J27A Elkhorn Farm, 81.04 338 ⇑P P 14 06 16.4 +1.7
baz=81,SNR=8.3
N20A Spence Gulch, 81.06 333 ⇓P P 14 06 16.1 +1.1
baz=81
K25A Mack Ranch, Ha 81.06 337 ⇓P P 14 06 16.1 +1.2
baz=81
L23A Garrett 81.24 335 ⇓P P 14 06 16.8 +0.8
baz=82
ISA Isabella 81.28 323 ⇑P P 14 06 17.0 +0.8
baz=82
L22A Ellis Ranch, M 81.43 335 ⇓P P 14 06 18.3 +1.4
baz=82
J26A Sides Ranch, S 81.43 338 ⇓P P 14 06 18.2 +1.4
baz=82
I28A Midland 81.46 339 ⇓P P 14 06 17.7 +0.9
baz=82
MPU Maple Canyon 81.70 330 eP P 14 06 18.8 +0.3
comp=Z,11nm,1.1s
VES Vestal, Richgr 81.73 323 ⇓P P 14 06 19.6 +1.2
baz=82
J25A Sunshine Ranch 81.73 337 ⇓P P 14 06 19.9 +1.5
baz=82
H29A Onida 81.76 340 ⇑P P 14 06 19.0 +0.6
baz=82
K23A Bowen Ranch, D 81.78 336 ⇑P P 14 06 19.5 +0.8
baz=82
I27A Quinn 81.79 339 ⇑P P 14 06 20.5 +1.8
baz=82
NLU North Lily Min 81.83 330 eP P 14 06 19.8 +0.7
comp=Z,31nm,1.7s
G30A Faulkton 81.92 341 ⇓P P 14 06 20.4 +1.2
baz=82,SNR=5.4
J24A Dixon Ranch, L 81.96 337 ⇑P P 14 06 20.6 +1.0
baz=82
K22A Casper 82.00 335 eP P 14 06 20.5 +0.6
comp=Z,26nm,1.1s
K22A Casper 82.00 335 ⇑P P 14 06 20.6 +0.6
baz=82
I26A New Underwood 82.01 338 ⇑P P 14 06 21.0 +1.2
baz=82
H28A Mission Ridge 82.03 340 ⇑P P 14 06 20.7 +0.9
baz=82
R11A Troy Canyon, C 82.05 327 eP P 14 06 20.7 +0.4
comp=Z,13nm,1.1s
R11A Troy Canyon, C 82.05 327 ⇓P P 14 06 20.9 +0.6
baz=82
JLU Jordanelle 82.12 331 eP P 14 06 22.0 +1.3
comp=Z,7.4nm,0.9s
K21A Alcova 82.25 335 ⇑P P 14 06 22.4 +1.1
baz=83
I25A Rochford 82.27 337 ⇑P P 14 06 22.0 +0.6
baz=83,SNR=5.4
H27A Howes 82.31 339 ⇓P P 14 06 21.9 +0.6
baz=83,SNR=6.8
DUG Dugway 82.34 330 eP P 14 06 22.6 +0.8
DUG pmax pmax
comp=Z,23nm,1.4s
DUG Dugway 82.34 330 eP P 14 06 22.6 +0.8
comp=Z,23nm,1.4s
DUG Dugway 82.34 330 ⇑P P 14 06 23.2 +1.5
baz=83
G28A Parade 82.37 340 ⇓P P 14 06 22.4 +0.7
baz=83,SNR=6.0
I24A Kuemmerle Ranc 82.42 337 ⇑P P 14 06 22.3 +0.3
baz=83
RSSD Black Hills 82.46 337 eP P 14 06 22.8 +0.4
RSSD pmax pmax
comp=Z,15nm,1.0s
RSSD Black Hills 82.46 337 eP P 14 06 22.8 +0.4
comp=Z,15nm,1.0s
LBTB Lobatse 82.53 115 eP P 14 06 23.5 +0.3
LBTB pmax pmax
comp=Z,69nm,1.1s
LBTB Lobatse 82.53 115 eP P 14 06 23.5 +0.3
comp=Z,69nm,1.1s
TPH Tonopah 82.59 326 eP P 14 06 24.3 +1.1
TPH pmax pmax
comp=Z,10.0nm,0.9s
TPH Tonopah 82.59 326 eP P 14 06 24.2 +1.1
comp=Z,10nm,0.9s
J22A Midwest 82.65 335 ⇓P P 14 06 24.5 +1.2
baz=83
F29A Eureka 82.76 341 ⇑P P 14 06 24.1 +0.5
baz=83,SNR=7.4
H25A Fruitdale 82.77 338 ⇓P P 14 06 24.8 +1.0
baz=83
EYMN Ely 82.81 347 eP P 14 06 23.8 0.0
comp=Z,27nm,1.1s
G27A Dupree 82.94 339 ⇑P P 14 06 25.0 +0.4
baz=83
F28A McLaughlin 83.04 340 ⇑P P 14 06 25.6 +0.5
baz=83,SNR=6.5
BGU Big Grassy Mou 83.04 330 eP P 14 06 26.6 +1.2
comp=Z,7.6nm,1.3s
G26A Maurine 83.07 339 ⇑P P 14 06 25.3 0.0
baz=83,SNR=5.7
I22A 9 Mile Ranch, 83.08 336 ⇓P P 14 06 25.7 +0.3
baz=83
E30A Jud 83.12 342 ⇑P P 14 06 25.9 +0.4
baz=84
J20A Shoshoni 83.17 334 ⇑P P 14 06 26.7 +0.8
baz=84
H24A Dirks Ranch, A 83.19 337 ⇓P P 14 06 26.2 +0.2
baz=84
BW06 Boulder Array 83.21 333 eP P 14 06 25.7 -0.7
comp=Z,7.2nm,1.0s
PDAR Pinedale Array 83.21 333 P P 14 06 26.2 -0.1
comp=Z,2.2nm,1.1s,baz=164,slow=2.8,SNR=6.6
G25A Newell 83.23 338 ⇑P P 14 06 27.2 +1.0
baz=84,SNR=6.2
I21A Big Trails, Te 83.29 335 ⇓P P 14 06 26.7 +0.1

baz=84
H23A Clabaugh Cattl 83.30 337 ⇓P P 14 06 27.5 +1.0
baz=84
NVAR Mina Array Bea 83.39 325 P P 14 06 28.2 +0.9
comp=Z,1.3nm,0.7s,baz=149,slow=5.9,SNR=6.5
F27A Lemmon 83.42 339 ⇓P P 14 06 28.3 +1.3
baz=84
J19A Crowheart 83.45 334 ⇑P P 14 06 28.0 +0.6
baz=84
F26A Lodgepole 83.59 339 ⇑P P 14 06 28.5 +0.5
baz=84
D30A Buchanan 83.65 342 ⇑P P 14 06 28.2 0.0
baz=84,SNR=6.8
HVU Hansel Valley 83.65 331 eP P 14 06 28.8 +0.3
HVU pmax pmax
comp=Z,17nm,1.0s
HVU Hansel Valley 83.65 331 eP P 14 06 28.8 +0.3
comp=Z,17nm,1.0s
E28A Huff 83.68 341 ⇑P P 14 06 29.3 +1.0
baz=84
I20A Worland 83.71 335 ⇑P P 14 06 29.7 +1.0
baz=84
D29A Pettibone, Tap 83.82 341 ⇑P P 14 06 29.3 +0.2
baz=84,SNR=6.4
ELK Elko 83.84 328 eP P 14 06 30.3 +0.7
ELK pmax pmax
comp=Z,10.0nm,1.0s
ELK Elko 83.84 328 eP P 14 06 30.3 +0.7
comp=Z,10.0nm,1.0s
G23A Biddle 83.86 337 ⇓P P 14 06 30.0 +0.6
baz=84
F25A Bowman 83.90 338 ⇓P P 14 06 29.9 +0.4
baz=84
H21A Big Horn, Sher 83.92 336 ⇓P P 14 06 30.0 +0.2
baz=84
TOA0 Torodi Ar. Sit 83.94 70 eP P 14 06 30.4 0.0
TORD Torodi Ar. Bea 83.94 70 P P 14 06 30.4 -0.1
comp=Z,29nm,0.8s,baz=258,slow=4.5,SNR=42
AGMN Agassiz Nation 84.05 344 eP P 14 06 30.0 -0.2
comp=Z,18nm,1.0s
AGMN Agassiz Nation 84.05 344 ⇑P P 14 06 30.4 +0.2
baz=84
E26A Carlson Angus 84.09 339 ⇓P P 14 06 31.6 +1.1
baz=84
I19A Meeteetse 84.09 334 ⇑P P 14 06 31.3 +0.5
baz=84
C30A Mose, Pekin 84.12 342 ⇓P P 14 06 30.9 +0.3
baz=84,SNR=7.9
H20A Greybull 84.13 335 ⇑P P 14 06 30.7 -0.1
baz=84
F24A Ekalaka 84.13 338 ⇓P P 14 06 31.5 +0.7
baz=84
D28A Regan 84.21 341 ⇑P P 14 06 31.5 +0.4
baz=84,SNR=8.8
REDW Red Top Meadow 84.22 333 eP P 14 06 31.7 +0.3
comp=Z,11nm,1.0s
F23A Volborg 84.33 337 ⇑P P 14 06 32.1 +0.3
baz=85
LOHW Long Hollow 84.33 333 eP P 14 06 32.3 +0.3
comp=Z,11nm,1.3s
TPAW Teton Pass 84.36 333 eP P 14 06 32.1 -0.1
comp=Z,16nm,1.0s
D27A Center 84.40 340 ⇓P P 14 06 32.3 +0.3
baz=85
E25A Miller Ranch, 84.40 339 ⇑P P 14 06 32.7 +0.6
baz=85
FXWY Fox Creek 84.52 333 eP P 14 06 32.9 0.0
comp=Z,4.7nm,1.0s
I17A Pilgrim Ck. 84.58 333 ⇑P P 14 06 34.4 +1.1
baz=85,SNR=5.1
C28A Hausauer Farms 84.64 341 ⇑P P 14 06 34.3 +1.1
baz=85
H19A Powell 84.64 334 ⇓P P 14 06 34.4 +1.0
baz=85
IMW Indian Meadow 84.70 333 eP P 14 06 34.3 +0.4
comp=Z,11nm,1.0s
E24A Baker 84.73 338 ⇑P P 14 06 35.0 +1.3
baz=85
FLWY Flagg Ranch 84.77 333 eP P 14 06 34.8 +0.6
comp=Z,18nm,1.0s
B30A Myrvik Farm, E 84.78 343 ⇓P P 14 06 34.2 +0.3
baz=85,SNR=14
G20A Bridger 84.84 335 ⇓P P 14 06 34.7 +0.3
baz=85,SNR=6.4
H18A Shoshone NF, C 84.89 334 ⇑P P 14 06 35.6 +0.7
baz=85,SNR=12
C27A Sayler Ranch, 84.94 340 ⇑P P 14 06 35.6 +0.9
baz=85,SNR=5.9
D25A Fairfield 84.96 339 ⇓P P 14 06 36.2 +1.3
baz=85
B29A Wagenman Farm, 85.05 342 ⇓P P 14 06 35.3 0.0
baz=85,SNR=5.2
E22A Miles City 85.14 337 ⇓P P 14 06 37.1 +1.3
baz=86
C26A Wahner Farm, P 85.21 340 ⇓P P 14 06 36.6 +0.5
baz=86
A30A Hoffart Farm, 85.23 343 ⇓P P 14 06 35.7 -0.5
baz=86,SNR=5.1
D24A Glendive 85.23 338 ⇓P P 14 06 36.7 +0.5
baz=86
B28A Dugan Ranch, T 85.30 341 ⇑P P 14 06 36.7 +0.2
baz=86,SNR=5.2
F20A Billings 85.32 336 ⇓P P 14 06 38.6 +1.8
baz=86
YMR Madison River 85.37 333 eP P 14 06 38.3 +1.1
comp=Z,32nm,1.0s
C25A Freed Ranch, W 85.44 339 ⇑P P 14 06 38.4 +1.2
baz=86
A29A Manning Farm, 85.45 342 ⇓P P 14 06 37.2 0.0
baz=86,SNR=6.6
LAO LASA Array 85.45 337 eP P 14 06 37.6 +0.2
comp=Z,23nm,1.0s
D23A Lindsay 85.56 338 ⇓P P 14 06 38.7 +0.9
baz=86
C24A Savage 85.63 339 ⇑P P 14 06 38.8 +0.6
baz=86
F19A Roth Farm, Mol 85.64 335 ⇓P P 14 06 39.3 +0.9
baz=86
QLMT Earthquake Lak 85.68 333 eP P 14 06 39.3 +0.6
HLID Hailey 85.80 331 eP P 14 06 40.4 +1.0
comp=Z,15nm,1.1s
HLID Hailey 85.80 331 ⇑P P 14 06 40.5 +1.1
baz=86
D22A Cohagen 85.84 337 ⇓P P 14 06 40.2 +0.9
baz=86
ULM Lac du Bonnet 85.89 345 P P 14 06 38.8 -0.6
comp=Z,7.1nm,0.9s,baz=167,slow=4.0,SNR=8.5
B25A Knox Farm, Ray 85.92 340 ⇑P P 14 06 40.7 +1.0
baz=86
E20A Meyer Farm, Mu 85.92 336 ⇑P P 14 06 40.1 +0.3
baz=86,SNR=11
D21A La Casta Ranch 86.03 337 ⇑P P 14 06 40.7 +0.4
baz=86
C23A Lambert 86.11 338 ⇓P P 14 06 41.0 +0.5
baz=86
E19A Rath Farm, Rou 86.11 335 ⇓P P 14 06 41.3 +0.6
baz=86,SNR=13
MCMT McKenzie Canyo 86.22 332 eP P 14 06 41.6 +0.1
comp=Z,9.2nm,1.0s
MFID Camas Ranch 86.27 330 eP P 14 06 42.9 +1.3
comp=Z,13nm,1.1s
C22A Vida 86.28 338 ⇓P P 14 06 42.0 +0.6
baz=87
DGMT Dagmar 86.40 339 eP P 14 06 42.5 +0.6
comp=Z,72nm,1.1s
DGMT Dagmar 86.40 339 ⇓P P 14 06 42.1 +0.1
baz=87
D20A Manuel Ranch, 86.44 336 ⇑P P 14 06 42.6 +0.4
baz=87,SNR=11
BOZ Bozeman (W) 86.45 333 eP P 14 06 42.4 0.0
BOZ pmax pmax
comp=Z,7.0nm,1.0s
BOZ Bozeman (W) 86.45 333 eP P 14 06 42.4 0.0
comp=Z,6.9nm,1.0s
A25A Svangstu Ranch 86.51 340 ⇓P P 14 06 43.1 +0.7
baz=87
DLMT Dillon 86.57 333 eP P 14 06 43.9 +0.8
comp=Z,25nm,1.3s
B23A Brockton 86.64 339 ⇓P P 14 06 43.5 +0.4
baz=87
WVOR Wild Horse Val 86.71 327 eP P 14 06 44.5 +0.7
WVOR pmax pmax
comp=Z,15nm,1.3s
WVOR Wild Horse Val 86.71 327 eP P 14 06 44.5 +0.7
comp=Z,14nm,1.3s
C21A Desert Coulee 86.73 337 ⇓P P 14 06 43.8 +0.1
baz=87,SNR=11
A24A Westby 86.75 339 ⇓P P 14 06 44.1 +0.4
baz=87
D19A Cripps Ranch, 86.75 336 ⇑P P 14 06 44.0 +0.2
baz=87,SNR=6.9
B22A Reddig Ranch S 86.80 338 ⇑P P 14 06 45.0 +1.0
baz=87,SNR=7.2
LRM Limekiln Ridge 86.90 333 eP P 14 06 45.1 +0.3
C20A Veseth Ranch, 86.94 337 ⇑P P 14 06 44.8 +0.2
baz=87
A23A Redstone 87.04 339 ⇑P P 14 06 45.2 +0.1
baz=87
MOD Modoc 87.06 326 eP P 14 06 46.4 +0.8
comp=Z,112nm,2.5s
WDC Whiskeytown Da 87.12 324 eP P 14 06 45.9 +0.3
WDC pmax pmax
comp=Z,18nm,1.1s
WDC Whiskeytown Da 87.12 324 eP P 14 06 45.9 +0.3
comp=Z,18nm,1.1s
B21A Ellsworth Farm 87.24 337 ⇑P P 14 06 46.1 +0.1
baz=88
C19A Slack Wire Ran 87.31 336 ⇑P P 14 06 46.8 +0.4
baz=88,SNR=5.3
A22A Carney Farms, 87.39 338 ⇓P P 14 06 47.3 +0.5
baz=88,SNR=9.4
HRY Holter Researc 87.42 334 eP P 14 06 48.2 +1.1
N02D Trinity Center 87.50 324 ⇓P P 14 06 47.7 +0.2
baz=88
B20A Solberg Farm, 87.57 337 ⇑P P 14 06 48.3 +0.6
baz=88
M04C Macdoel 87.69 325 ⇓P P 14 06 48.5 0.0
baz=88
A21A Bergtoll Ranch 87.70 338 ⇑P P 14 06 48.7 +0.4
baz=88,SNR=7.4
EGMT Eagleton 87.80 336 eP P 14 06 48.7 -0.1
comp=Z,14nm,1.0s
EGMT Eagleton 87.80 336 ⇓P P 14 06 49.2 +0.3
baz=88
M02C Callahan 87.89 324 ⇑P P 14 06 49.8 +0.4
baz=88
B19A Brinkman Farms 87.89 336 ⇓P P 14 06 49.5 +0.3
baz=88
A20A Cobblestone Ra 87.92 337 ⇑P P 14 06 49.9 +0.5
baz=88,SNR=9.4
SCHQ Schefferville 87.94 3 P P 14 06 49.0 -0.3
comp=Z,6.7nm,0.8s,baz=150,slow=5.5,SNR=5.7
SCHQ Schefferville 87.94 3 eP P 14 06 48.4 -0.9
BMO Blue Mountains 88.06 330 eP P 14 06 50.5 +0.3
BMO pmax pmax
comp=Z,10.0nm,1.1s
BMO Blue Mountains 88.06 330 eP P 14 06 50.5 +0.3
comp=Z,9.8nm,1.1s
CHMT Chamberlain Mo 88.12 333 eP P 14 06 50.3 -0.2
A19A Klindworth Far 88.23 337 ⇓P P 14 06 51.0 +0.1
baz=89,SNR=6.6
I07A Izee 88.40 328 eP P 14 06 52.5 +0.6
comp=Z,16nm,1.0s
SLMT Seeley Lake 88.49 333 eP P 14 06 52.5 +0.3
J05D Fort Rock, OR 88.57 326 ⇓P P 14 06 54.2 +1.5
baz=89
SWMT Swartz Lake 88.90 333 eP P 14 06 54.5 +0.4
F10A Beach Ranch, E 88.93 330 eP P 14 06 54.0 -0.2
comp=Z,12nm,1.0s
G08A Pilot Rock 89.12 329 eP P 14 06 55.9 +0.7
comp=Z,8.0nm,1.1s
YBMT Yellow Bay 89.20 333 eP P 14 06 54.9 -0.6
JTMT Jette 89.20 333 eP P 14 06 55.8 +0.2
comp=Z,5.5nm,1.1s
I05D Terrebonne, OR 89.43 327 ⇓P P 14 06 57.5 +0.9
baz=90
BSMT Bassoo Peak 89.48 333 eP P 14 06 55.8 -1.2
I03D Drain, OR 89.87 325 ⇑P P 14 06 59.0 +0.4
baz=90
LSZ Lusaka 89.96 108 eP P 14 06 59.2 -0.7
LSZ Lusaka 89.96 108 eP P 14 06 59.2 -0.7
WALA Waterton Lakes 90.15 334 eP P 14 07 00.2 +0.3
HAWA Hanford 90.23 329 eP P 14 07 01.1 +0.9
comp=Z,16nm,1.0s
NEW Newport 90.73 332 eP P 14 07 02.0 -0.6
NEW pmax pmax
comp=Z,84nm,2.8s
NEW Newport 90.73 332 eP P 14 07 01.9 -0.6
comp=Z,84nm,2.8s
NEW Newport 90.73 332 ⇓P P 14 07 02.3 -0.2
baz=91
C09A Chrisman Ranch 90.82 331 eP P 14 07 03.2 +0.3
comp=Z,17nm,1.0s
TAM Tamanrasset 92.50 64 eP P 14 07 11.1 -0.4
TAM pmax pmax
comp=Z,14nm,1.3s
TAM Tamanrasset 92.50 64 eP P 14 07 11.1 -0.4
comp=Z,14nm,1.3s
EDM Edmonton 93.42 337 eP P 14 07 13.5 -1.4
EDM Edmonton 93.42 337 eP P 14 07 13.5 -1.4
FCC Fort Churchill 93.61 349 eP P 14 07 15.6 +0.1
FCC Fort Churchill 93.61 349 eP P 14 07 15.6 +0.1
ESDC Sonseca Array 96.10 46 P P 14 07 27.0 -0.6
comp=Z,0.2nm,0.3s,baz=250,slow=4.3,SNR=4.2
YKA Yellowknife Ar 101.47 341 P Pdif 14 07 50.0 -0.9
comp=Z,0.5nm,0.7s,baz=152,slow=4.5,SNR=10
GERES GERESS Array B 111.67 45 PKiKP PKiKP 14 12 33.5 -0.7
comp=Z,0.7nm,0.7s,baz=207,slow=4.1,SNR=4.6
ILAR Eielson Array 113.64 333 PKiKP PKiKP 14 12 44.2 +6.8
comp=Z,0.5nm,1.0s,baz=22,slow=2.4,SNR=4.2
KOLS Kolonicke sedl 116.89 48 ePP PP 14 13 52.7 -1.1
MLR Muntele Rosu 118.04 52 PKP PKPdf 14 12 46.6 -0.1
comp=Z,0.9nm,1.0s,baz=186,slow=10,SNR=3.6
MLR PP PP 14 13 59.8 -2.2
comp=Z,0.8nm,0.9s,baz=229,slow=6.9,SNR=4.6
WRA Warramunga Arr 121.35 209 PKP PKPdf 14 12 52.9 -0.9
comp=Z,2.6nm,0.9s,baz=159,slow=1.5,SNR=7.3
BRTR Keskin Array B 121.48 61 PKP PKPdf 14 12 53.2 -0.3
comp=Z,2.2nm,0.8s,baz=180,slow=3.0,SNR=8.7
BRTR PP PP 14 14 26.9 +1.1
comp=Z,3.3nm,1.1s,baz=234,slow=4.8,SNR=5.9
AKASG Malin Array Be 121.72 47 PKP PKPdf 14 12 51.9 -1.5
comp=Z,1.9nm,0.6s,baz=271,slow=2.5,SNR=7.5
FINES FINESS Array B 122.43 34 PKP PKPdf 14 12 54.2 -0.2
comp=Z,3.6nm,1.1s,baz=48,slow=2.1,SNR=4.0
H11S2 WAKE ISLAND Hy125.83 270 T T 16 31 52.0
baz=118,slow=74,SNR=46
H11S1 WAKE ISLAND Hy125.84 270 T T 16 31 54.0
baz=118,slow=74,SNR=66
H11S3 WAKE ISLAND Hy125.84 270 T T 16 31 53.3
baz=118,slow=74,SNR=51
H11N3 WAKE ISLAND Hy126.22 271 T T 16 32 24.8
baz=103,slow=74,SNR=5.5
H11N1 WAKE ISLAND Hy126.24 271 T T 16 32 17.9
baz=103
H11N2 WAKE ISLAND Hy126.24 271 T T 16 32 22.3
baz=103,slow=74,SNR=11
OBN Obninsk 126.93 43 i PKIKP PKPdf 14 13 03.8 +0.6
OBN i 14 13 11.2
OBN pmax pmax
comp=Z,23nm,1.5s
KLMR Klimovskoe 128.86 36 ePKIKP PKPdf 14 13 06.3 -0.4
KLMR pmax pmax
comp=Z,37nm,1.4s
KBZ Khabaz 129.21 58 PKP PKPdf 14 13 08.3 +0.4
comp=Z,3.9nm,1.0s,baz=208,slow=3.8,SNR=4.9
BILL Bilibino 132.28 334 ePKIKP PKPdf 14 13 13.8 +0.8
BILL pmax pmax
comp=Z,7.0nm,1.2s
SEY Seymchan 139.50 330 PKP PKPdf 14 13 24.4 -2.2
comp=Z,4.1nm,0.8s,baz=111,slow=6.8,SNR=9.9
GEYT Alibeck 139.58 69 PKP PKPdf 14 13 26.2 -1.4
comp=Z,2.2nm,0.5s,baz=298,slow=3.2,SNR=6.2
AKTO Aktyubinsk 139.88 49 PKP PKPdf 14 13 27.5 -0.1
comp=Z,2.5nm,0.8s,baz=274,slow=4.6,SNR=6.2
ABKAR Akbulak array 141.24 51 ePKPdf PKPpre 14 13 24.0
PALK Pallekele 143.76 130 ePKPdf PKPab 14 13 32.6 0.0
PALK Pallekele 143.76 130 PKhKP PKPpre 14 13 32.2
comp=Z,34nm,1.0s,baz=234,slow=2.6,SNR=8.4
PALK Pallekele 143.76 130 ePKPdf PKPab 14 13 32.6 0.0
POO Poona 146.09 107 ⇓iP PKPdf 14 13 39.0 -0.7
comp=Z,70nm,1.0s
GSI Gunungsitoli 146.64 161 ePKPab PKPbc 14 13 41.8 -0.5
BRVK Borovoye 146.70 42 ePKP2 PKPdf 14 13 40.2 +0.6
BRVK Borovoye 146.70 42 ePKPdf PKPdf 14 13 40.2 +0.6
BVAR Borovoye Array 146.78 42 PKPbc PKPdf 14 13 40.4 +0.7
comp=Z,15nm,0.8s,baz=294,slow=2.7,SNR=19
KBL Kabul 147.78 77 ePKIKP PKPdf 14 13 43.5 +1.2
KBL Kabul 147.78 77 ePKPdf PKPdf 14 13 43.5 +1.2
YAK Yakutsk 148.14 341 ePKIKP PKPdf 14 13 41.0 -0.7
YAK pmax pmax
comp=Z,46nm,0.9s
YAK Yakutsk 148.14 341 ePKPdf PKPbc 14 13 44.3 -0.6
KSM Kuching 148.21 184 ePKPdf PKPdf 14 13 43.4 +0.1
PSI Prapat 148.43 162 PKPbc PKPbc 14 13 46.5 -0.9
comp=Z,42nm,0.9s,baz=190,slow=3.4,SNR=26
HYB Hyderabad 149.15 114 ⇑iPKP PKPbc 14 13 48.0 -0.9
KKAR Karatay Array 149.19 61 ePKIKP PKPdf 14 13 44.0 0.0
KKAR Karatay Array 149.19 61 ePKPdf PKPdf 14 13 44.0 0.0
YSS Yuzh-Sakhalins 150.44 308 ePKIKP PKPab 14 13 56.3 -1.4
IPM Ipoh 150.54 166 ePKPdf PKPbc 14 13 51.8 -0.7
ASAJ Asahikawa 151.16 302 PKPbc PKPbc 14 13 52.8 -0.2
comp=Z,21nm,1.1s,baz=90,slow=9.1,SNR=4.1
ASAJ PKPab PKPab 14 14 00.7 -0.1
comp=Z,9.9nm,0.9s,baz=233,slow=5.1,SNR=4.7
EKS2 Erkin-Say 151.63 61 P PKPdf 14 13 48.7 +0.7
SNR=7.4
EKS2 Erkin-Say 151.63 61 ePKIKP PKPdf 14 13 49.2 +1.2
EKS2 Erkin-Say 151.63 61 ePKPdf PKPdf 14 13 49.2 +1.2
AML Almayashu 151.63 62 P PKPbc 14 13 55.2 +0.5
SNR=9.6
USP Ospenovka 152.06 59 P PKPbc 14 13 55.5 +0.4
SNR=11
AAK Ala-Archa 152.15 61 P PKPbc 14 13 56.3 +0.7
SNR=14
AAK Ala-Archa 152.15 61 PKIKP PKPdf 14 13 48.7 -0.2
AAK e 14 13 50.0
AAK 14 13 56.2
AAK 14 14 05.2
AAK Ala-Archa 152.15 61 PKP PKPdf 14 13 48.7 -0.2
comp=Z,5.0nm,1.0s,baz=226,slow=2.4,SNR=4.0
AAK PKPbc PKPbc 14 13 56.2 +0.7
comp=Z,26nm,0.9s,baz=208,slow=3.0,SNR=18
AAK PKPab PKPab 14 14 05.2 -0.1
comp=Z,30nm,1.1s,baz=210,slow=3.7,SNR=10
AAK Ala-Archa 152.15 61 PKP PKPdf 14 13 48.7 -0.2
AAK ePKPdf PKPbc 14 13 50.0 -5.6
AAK PKPbc PKPbc 14 13 56.2 +0.7
AAK PKPab PKPab 14 14 05.2 -0.1
FRU Bishkek 152.21 60 ePKIKP PKPbc 14 13 57.0 +1.5
UCH Uchtor 152.22 62 P PKPdf 14 13 50.2 +0.9
SNR=5.8
CHMS Chumysh 152.29 60 P PKPbc 14 13 56.1 +0.4
SNR=9.6
NVS Novosibirsk 152.37 32 ePKIKP PKPdf 14 13 48.2 -0.3
NVS pmax pmax
comp=E,16nm,1.1s
NVS pmax pmax
comp=Z,63nm,1.1s
KURK Kurchatov 152.37 42 ePKIKP PKPbc 14 13 55.4 -0.1
KURK Kurchatov 152.37 42 ePKPbc PKPbc 14 13 55.4 -0.1
KBK Karagaybulak 152.48 61 P PKPbc 14 13 56.9 +0.6
SNR=7.4
KZA Kyzart 152.79 62 P PKPbc 14 13 56.1 -1.2
SNR=6.9
TKM2 Tokmak 2 152.91 60 P PKPbc 14 13 50.6 +0.5
SNR=8.1
TKM2 Tokmak 2 152.91 60 ePKIKP PKPdf 14 13 50.5 +0.5
TKM2 Tokmak 2 152.91 60 ePKPdf PKPdf 14 13 50.5 +0.5
KSH Kashi 153.58 67 PKPbc PKPdf 14 13 51.5 +0.5
KSH pPKP PKiKP 14 14 02.3 +3.5
KSH esPKP 14 14 05.5
KSH eSKS SKSdf 14 20 53.5 -3.6
KSH eSKKS SKKSac 14 24 31.3 -3.6
KSH eSS SS 14 37 15.5 -5.9
KSH AMB AMB
comp=Z,90nm,4.9s
KSH LR LR
comp=Z,270nm,7.5s
ZAA0 Zalesovo Array 153.66 32 ePKPdf PKPdf 14 13 50.0 -0.5
ZAA0 ePKPbc PKPbc 14 13 57.8 -0.4
ZALV Zalesovo Beam 153.66 32 PKP PKPdf 14 13 50.1 -0.3
comp=Z,6.8nm,0.9s,baz=281,slow=2.4,SNR=9.8
ZALV PKPbc PKiKP 14 13 58.3 0.0
comp=Z,13nm,0.8s,baz=270,slow=2.4,SNR=3.8
ZALV PKPab PKPab 14 14 07.7 -3.2
comp=Z,35nm,1.0s,baz=298,slow=3.2,SNR=16
BOD Bodaibo 155.20 352 ePKIKP PKPab 14 14 08.9 -8.4
BOD pmax pmax
comp=Z,25nm,1.0s
KLR Kul'dur 156.28 319 ePKIKP PKPdf 14 13 58.8 +4.6
MK31 Makanchi Array 156.30 48 ePKIKP PKPdf 14 13 53.6 -0.8
MK31 Makanchi Array 156.30 48 ePKPdf PKPdf 14 13 53.5 -0.8
MKAR Makanchi Array 156.30 48 PKP PKPdf 14 13 54.2 -0.1
comp=Z,3.6nm,0.9s,baz=318,slow=1.6,SNR=8.7
MKAR PKPbc PKPbc 14 14 03.3
comp=Z,6.4nm,1.0s,baz=302,slow=2.3,SNR=11
MKAR PKPab PKPab 14 14 22.7 +0.2
comp=Z,14nm,0.7s,baz=299,slow=4.1,SNR=26
MKAR PP PP 14 17 59.8 -0.6
comp=Z,1.9nm,0.9s,baz=290,slow=4.2,SNR=3.5
KOLN Koldanda 158.27 98 eP PKPdf 14 13 57.3 -0.4
comp=Z,21nm,1.1s
DANN Dangsing 158.60 97 eP PKPdf 14 13 58.1 -0.1
comp=Z,45nm,1.0s
GKN Gorkha 159.21 99 eP PKPdf 14 13 58.3 -0.4
DMN Daman 159.45 100 eP PKPdf 14 13 58.9 -0.3
KKN Kakani 159.66 100 eP PKPdf 14 13 58.9 -0.4
PKIN Phulchoki 159.68 100 eP PKPdf 14 13 58.7 -0.7
PKI Pulchoki 159.69 100 eP PKPdf 14 13 58.9 -0.6
comp=Z,26nm,1.3s
GUN Gumba 160.20 100 eP PKPdf 14 13 59.7 -0.4
JIRN Jiri 160.37 101 eP PKPdf 14 13 59.7 -0.6
RAMN Ramite 160.42 103 eP PKPdf 14 14 00.2 0.0
comp=Z,65nm,1.4s
MOY Mondy 161.00 14 ePKP2 PKPab 14 14 52.5 +10
ODAN Odare 161.03 105 eP PKPdf 14 14 00.7 -0.2
comp=Z,22nm,0.9s
TLY Talaya 161.41 9 ePKIKP PKPdf 14 13 59.6 -0.6
TLY pmax pmax
comp=Z,4.0nm,1.3s
TLY Talaya 161.41 9 PKPab PKPab 14 14 45.4 +1.0
comp=Z,4.2nm,0.8s,baz=282,slow=3.3,SNR=6.3
TAPN Taplejung 161.49 103 eP PKPdf 14 14 01.1 -0.3
comp=Z,29nm,1.4s
ZAK Zakamensk 162.63 10 ePKIKP PKPdf 14 13 55.8 -5.8
ZAK e 14 14 50.0
ZAK pmax pmax
comp=Z,2.0nm,1.9s
CMAR Chiang Mai Arr 163.08 149 PKP PKPdf 14 14 03.0 +0.2
comp=Z,2.4nm,1.0s,baz=248,slow=3.3,SNR=11
CMAR PKPab PKPab 14 14 51.5 -1.1
comp=Z,3.4nm,1.1s,baz=225,slow=4.6,SNR=7.1
CHTO Chiang Mai 163.39 148 ePKP2 PKPab 14 14 53.4 -0.6
CHTO Chiang Mai 163.39 148 ePKPab PKPab 14 14 53.4 -0.6
SONM Songino Array 165.49 4 PKP PKPdf 14 14 03.7 -0.6
comp=Z,0.3nm,0.5s,baz=45,slow=0.6,SNR=3.9
SONM PKPab PKPab 14 15 02.7 +0.2
comp=Z,3.1nm,0.9s,baz=338,slow=3.4,SNR=2.0
SONM PP PP 14 18 50.0 +1.0
comp=Z,1.1nm,1.1s,baz=302,slow=2.4,SNR=4.4
ULN Ulaanbaatar 165.49 3 ePKP2 PKPab 14 15 03.6 +1.0
ULN Ulaanbaatar 165.49 3 ePKPab PKPab 14 15 03.6 +1.0
NJ2 Nanjing 170.78 265 ePKP PKPdf 14 14 09.3 +1.1
GTA Gaotai 171.04 45 ePKP PKPdf 14 14 08.5 +0.1
GTA pPKP pPKPdf 14 14 14.8 -0.1
GTA sPKP 14 14 18.5
HHC Hu-ho-hao-te 172.00 340 ePKP PKPdf 14 14 07.0 -1.7
HHC pPKP pPKPdf 14 14 16.3 +1.0
GYA Guiyang 173.03 170 PKP PKPdf 14 14 09.0 -0.6
GYA pPKP pPKPdf 14 14 20.0 +3.8
GYA PKPab PKPab 14 15 38.5 +2.1
GYA PKS PKSdf 14 17 40.5 -1.6
GYA PP PP 14 19 30.0 +3.0
GYA SKKS 14 26 11.8
GYA SS SS 14 40 39.0 -0.4
GYA AMB AMB
comp=Z,120nm,8.4s
GYA LR LR
comp=Z,130nm,21.4s
GYA LR LR
comp=Z,120nm,21.5s
GYA LR LR
comp=Z,140nm,24.2s
LZH Lanzhou 175.61 50 ePKP PKPdf 14 14 09.5 -0.8
LZH pPKP pPKPdf 14 14 20.5 +3.7
LZH sPKP 14 14 24.8
LZH PKPab PKPab 14 15 49.3 +1.3
CD2 Chengdu 175.64 123 PKP PKPdf 14 14 10.0 -0.3
CD2 pPKP pPKPdf 14 14 21.3 +4.5
CD2 sPKP 14 14 25.0
CD2 PKS PKSdf 14 17 40.8 -1.7
CD2 PP PP 14 19 43.5 +2.6
CD2 SKS SKSdf 14 21 07.5 -4.9
CD2 SKKS SKKSac 14 26 24.3 -2.1
CD2 SS SS 14 41 02.8 -4.0
CD2 AMB AMB
comp=Z,260nm,6.2s

ISCJB **27** *13:57:19.6±0.7, 36.37S±0.08×73.4W±0.1, h27km, mb4.2/7, Error ellipse: s-maj=17.4km s-min=10.9km az=166.9*
IDC **27** *13:57:19.1±9.7, 36.74S×73.15W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.3/14, mbtmp4.2/5, Error ellipse: s-maj=407.4km s-min=36.3km az=21.0*
NEIC **27** *13:57:22.3±0.5, 36.36S×73.39W, h35km, mb4.3/4, Error ellipse: s-maj=11.8km s-min=7.3km az=78.0*
ISC 27 13:57:21.2±0.8**, 36.36S**±0.09×**73.4W**±0.1**, h27km, n13,** σ0s47/13**, mb4.3**/7**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.92**	**153**	*e*Pn	**Pn**	**13 58 33.2**	**-0.2**
TRQA	**Tornquist**	**9.30**	**104**	*e*Pn	**Pn**	**13 59 33.3**	**-0.2**
	1μm,1.4s						
LVC	**Limon Verde**	**14.25**	**17**	*e*Pn	**Pn**	**14 00 42.1**	**+0.6**
CPUP	**Villa Florida**	**16.99**	**58**	*e*Pn	**Pn**	**14 01 16.5**	**-0.4**
	22nm,1.1s						
LPAZ	**La Paz**	**20.54**	**15**	*e*P	**P**	**14 01 58.7**	**+0.4**
	8.4nm,0.9s						
SDV	**Santo Domingo**	**45.08**	**4**	P	**P**	**14 05 34.5**	**-0.8**
SNAA	**Sanae**	**49.85**	**157**	P	**P**	**14 06 12.0**	**+0.4**
	6.1nm,1.2s						
QSPA	**South Pole Qui**	**53.88**	**180**	P	**P**	**14 06 42.0**	**+0.1**
	3.1nm,0.9s						
TXAR	**Lajitas Array**	**71.26**	**332**	P	**P**	**14 08 37.7**	**-0.4**
	1.5nm,0.8s,baz=151,slow=8.4,SNR=4.2						
DBIC	**Dimbokro**	**77.02**	**72**	P	**P**	**14 09 12.5**	**+0.5**
	5.1nm,0.6s,baz=202,slow=7.5,SNR=5.7						
NVAR	**Mina Array Bea**	**85.18**	**326**	P	**P**	**14 09 55.0**	**-0.1**
	0.2nm,0.3s,baz=151,slow=5.9,SNR=3.7						
PDAR	**Pinedale Array**	**85.36**	**334**	P	**P**	**14 09 56.3**	**+0.4**
	0.4nm,0.6s,baz=194,slow=7.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**86.08**	**71**	P	**P**	**14 09 59.4**	**-0.4**
	3.1nm,1.2s,baz=218,slow=4.7,SNR=3.0						

IDC **27** *13:57:47.6±1.0, 25.94N×128.60E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.1/27, mbtmp4.1/14, ML3.3/2, Error ellipse: s-maj=26.4km s-min=18.6km az=86.0*
ISCJB **27** *13:57:49.1±0.9, 25.90N±0.03×128.63E±0.03, h26km±6km, mb3.9/12, Error ellipse: s-maj=6.4km s-min=3.9km az=141.4*
JMA **27** *13:57:49.4±0.3, 25.93N×128.67E, h27km, M3.7*
ISC 27 13:57:49.6±1.7**, 25.93N**±0.04×**128.61E**±0.04**, h15km**±10km**, n47,** σ1s52/66**, mb4.1**/12**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.79**	**318**	P	**Pg**	**13 58 04.5**	**-0.4**
JNTH				*e*S	**Sb**	**13 58 15.8**	**+0.4**
JJT2	**Tamagusuku 2**	**0.80**	**285**	P	**Pg**	**13 58 05.4**	**+0.2**
JJT2				*e*S	**Sn**	**13 58 17.3**	**-0.6**
JOW	**Kunigami**	**0.95**	**342**	P	**Pb**	**13 58 07.5**	**-0.2**
JOW				*e*S	**Sb**	**13 58 19.3**	**-0.7**
JOW	**Kunigami**	**0.95**	**342**	Pn	**Pb**	**13 58 07.4**	**-0.3**
	24nm,0.3s,baz=161,slow=16,SNR=58						
JOW				Sn	**Sb**	13 58 15.6	-4.5
	43nm,0.3s,baz=147,slow=17,SNR=23						
JIH	**Iheya**	**1.24**	**333**	P	**Pn**	**13 58 12.1**	**-0.3**
JIH				*e*S	**Sb**	**13 58 27.9**	**-0.6**
JAGN	**Aguni-jima**	**1.39**	**298**	P	**Pn**	**13 58 14.2**	**-0.2**
JAGN				*e*S	**Sn**	**13 58 32.1**	**-0.4**
JOKE	**Okinoerabujima**	**1.43**	**359**	P	**Pn**	**13 58 14.4**	**-0.5**
JOKE				*e*S	**Sn**	**13 58 31.3**	**-2.1**
JKE	**Kume jima 2**	**1.68**	**284**	P	**Pn**	**13 58 17.5**	**-1.0**
JKE				*e*S	**Sn**	**13 58 37.6**	**-2.2**
JTK	**Tokunoshima**	**1.87**	**9**	P	**Pn**	**13 58 20.1**	**-1.0**
JTK				*e*S	**Sn**	**13 58 43.2**	**-1.2**
JMZ	**Minamidaito 2**	**2.36**	**92**	P	**Pn**	**13 58 26.4**	**-1.3**
JMZ				*e*S	**Sn**	**13 58 53.4**	**-3.0**
JAMN	**Amaminishikomi**	**2.36**	**12**	P	**Pn**	**13 58 28.1**	**+0.4**
JAM	**Amami Oshima**	**2.63**	**20**	P	**Pn**	**13 58 30.9**	**-0.5**
JAM				*e*S	**Sn**	**13 59 01.2**	**-1.8**
JZK	**Kikaishima**	**2.67**	**27**	P	**Pn**	**13 58 33.0**	**+1.0**
JZK				*e*S	**Sn**	**13 59 03.6**	**-0.5**
JOGS	**Gusukube**	**3.12**	**249**	P	**Pn**	**13 58 38.4**	**+0.2**
JOGS				*e*S	**Sn**	**13 59 13.7**	**-1.6**
JIKM	**Ikemajima**	**3.20**	**252**	*e*S	**Sn**	**13 59 16.4**	**-0.8**
JTAJ	**Takarajima**	**3.25**	**9**	P	**Pn**	**13 58 39.0**	**-1.0**
JTAJ				*e*S	**Sn**	**13 59 15.3**	**-3.2**
JIRB	**Irabujima**	**3.29**	**251**	P	**Pn**	**13 58 40.2**	**-0.4**
JIRB				*e*S	**Sn**	**13 59 16.8**	**-2.7**
JTJ	**Tarama**	**3.76**	**251**	P	**Pn**	**13 58 46.0**	**-1.0**
JTJ				*e*S	**Sn**	**13 59 27.5**	**-3.5**
JISG	**Ishigakijimahi**	**4.11**	**252**	P	**Pn**	**13 58 50.9**	**-1.0**
JISG				*e*S	**Sn**	**13 59 36.8**	**-2.9**
JIJ	**Ishigaki jima**	**4.34**	**250**	P	**Pn**	**13 58 53.6**	**-1.3**
JIJ				*e*S	**Sn**	**13 59 40.8**	**-4.4**
IRIF	**Iriomote-Funau**	**4.70**	**251**	P	**Pn**	**13 58 58.3**	**-1.6**
JNU	**Nakatsue**	**7.43**	**15**	Pn	**Pn**	**13 59 38.8**	**+1.2**
	1.1nm,0.3s,baz=304,slow=2.5,SNR=11						
JNU				Sn	**Sn**	**14 00 58.6**	**-3.0**
	0.4nm,0.3s,baz=270,slow=20,SNR=3.3						
USRK	**Ussuriysk Arra**	**18.43**	**8**	P	**Pn**	**14 02 06.2**	**+1.7**
	0.1nm,0.3s,baz=193,slow=7.8,SNR=5.2						
SONM	**Songino Array**	**27.99**	**327**	P	**P**	**14 03 41.8**	**+2.0**
	2.1nm,0.5s,baz=141,slow=11,SNR=27						
CMAR	**Chiang Mai Arr**	**28.41**	**261**	P	**P**	**14 03 44.9**	**+1.2**
	0.4nm,0.3s,baz=53,slow=8.2,SNR=4.9						
TAPN	**Taplejung**	**36.47**	**282**	*e*P	**P**	**14 04 55.0**	**+0.5**
	18nm,1.1s						
ODAN	**Odare**	**36.82**	**281**	*e*P	**P**	**14 04 57.9**	**+0.5**
	38nm,1.0s						
RAMN	**Ramite**	**37.50**	**281**	*e*P	**P**	**14 05 03.3**	**0.0**
JIRN	**Jiri**	**37.77**	**282**	*e*P	**P**	**14 05 06.1**	**+0.4**
GUN	**Gumba**	**38.01**	**283**	*e*P	**P**	**14 05 08.3**	**+0.6**
PKI	**Pulchoki**	**38.47**	**282**	*e*P	**P**	**14 05 11.5**	**0.0**
PKIN	**Phulchoki**	**38.48**	**282**	*e*P	**P**	**14 05 11.6**	**+0.1**
KKN	**Kakani**	**38.55**	**283**	*e*P	**P**	**14 05 12.4**	**+0.3**
GKN	**Gorkha**	**39.09**	**283**	*e*P	**P**	**14 05 16.9**	**+0.4**
DANN	**Dangsing**	**39.81**	**284**	*e*P	**P**	**14 05 23.5**	**+0.8**
	12nm,0.5s						
KOLN	**Koldanda**	**40.03**	**283**	*e*P	**P**	**14 05 24.8**	**+0.4**
	20nm,1.0s						
MKAR	**Makanchi Array**	**41.99**	**312**	P	**P**	**14 05 39.5**	**-0.5**
	1.4nm,0.7s,baz=95,slow=11,SNR=18						
WRA	**Warramunga Arr**	**45.94**	**172**	P	**P**	**14 06 12.3**	**+0.4**
	4.4nm,0.7s,baz=353,slow=8.4,SNR=27						
BVAR	**Borovoye Array**	**50.72**	**318**	P	**P**	**14 06 48.7**	**+0.1**
	1.4nm,0.8s,baz=88,slow=7.9,SNR=6.2						
ILAR	**Eielson Array**	**64.54**	**28**	P	**P**	**14 08 25.8**	**+0.1**
	0.3nm,0.7s,baz=271,slow=4.4,SNR=5.1						
KBZ	**Khabaz**	**69.61**	**310**	P	**P**	**14 08 58.9**	**+0.7**
	3.2nm,0.9s,baz=146,slow=3.1,SNR=6.2						
FINES	**FINESS Array B**	**73.29**	**331**	P	**P**	**14 09 20.1**	**+0.1**
	1.7nm,0.7s,baz=85,slow=6.5,SNR=5.8						
AKASG	**Malin Array Be**	**75.98**	**320**	P	**P**	**14 09 36.3**	**+0.4**
	1.3nm,0.5s,baz=56,slow=6.2,SNR=6.0						
BRTR	**Keskin Array B**	**77.48**	**308**	P	**P**	**14 09 45.7**	**+0.9**
	2.6nm,0.8s,baz=89,slow=5.1,SNR=9.5						
YKA	**Yellowknife Ar**	**78.65**	**25**	P	**P**	**14 09 51.6**	**+0.9**
	0.3nm,0.6s,baz=304,slow=5.1,SNR=6.0						
NB2	**NORSAR Subarra**	**79.73**	**334**	P	**P**	**14 09 56.3**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=59,slow=5.9						
NOA	**NORSAR Array B**	**79.73**	**334**	P	**P**	**14 09 56.2**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=50,slow=5.4,SNR=6.1						

IDC **27** *13:57:51.0±0.4, 34.12S×71.74W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.2/18, mbtmp4.2/7, ML3.9/1, Error ellipse: s-maj=16.3km s-min=7.5km az=99.0*
ISCJB **27** *13:57:55.1±1.1, 34.1S±0.1×71.7W±0.3, h35km, mb4.2/5, Error ellipse: s-maj=40.0km s-min=16.7km az=3.2*
ISC 27 13:57:56.7±1.0**, 34.1S**±0.1×**71.7W**±0.3**, h35km, n9,** σ1s39/9**, mb4.2**/5**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**18.00**	**11**	P	**Pn**	**14 02 04.1**	**-0.7**
	0.2nm,0.3s,baz=197,slow=12,SNR=2.3						
SIV	**San Ignacio**	**20.41**	**31**	P	**P**	**14 02 29.4**	**-1.4**
	7.2nm,0.9s,baz=222,slow=15,SNR=3.3						
SNAA	**Sanae**	**51.43**	**158**	P	**P**	**14 06 58.9**	**+0.9**
	2.0nm,0.7s,baz=263,slow=6.1,SNR=5.8						
QSPA	**South Pole Qui**	**56.17**	**180**	P	**P**	**14 07 31.3**	**-1.4**
	5.7nm,0.9s,baz=181,slow=4.4						
TXAR	**Lajitas Array**	**69.92**	**331**	P	**P**	**14 09 05.8**	**+1.5**
	1.0nm,0.8s,baz=148,slow=8.6,SNR=3.1						
DBIC	**Dimbokro**	**74.97**	**71**	P	**P**	**14 09 36.4**	**+1.8**
	6.1nm,1.1s,baz=216,slow=4.6,SNR=2.2						
TORD	**Torodi Ar. Bea**	**84.00**	**70**	P	**P**	**14 10 23.6**	**-0.2**
	1.2nm,0.9s,baz=257,slow=6.1,SNR=2.7						
WRA	**Warramunga Arr**	**120.82**	**209**	PKP	**PKPdf**	**14 16 44.9**	**-0.9**
	0.2nm,0.3s,baz=158,slow=1.6,SNR=4.9						
BVAR	**Borovoye Array**	**147.16**	**43**	PKPbc	**PKPdf**	**14 17 32.7**	**-0.7**
	1.2nm,0.6s,baz=309,slow=4.6,SNR=3.8						

ISCJB **27** *14:00:37.5±0.6, 34.30S±0.05×72.45W±0.07, h19km, mb4.1/9, Error ellipse: s-maj=9.8km s-min=6.2km az=36.7*
GUC **27** *14:00:39.3±0.6, 34.18S×72.27W, h13km±18km, ML4.5*
IDC **27** *14:00:41.0±0.7, 34.22S×72.18W, h24km±4km, mb4.0/10, mb1 4.1/13, mb1mx4.0/33, mbtmp4.1/13, ML4.5/2, Error ellipse: s-maj=24.1km s-min=15.6km az=91.0*
NEIC **27** *14:00:42.1±0.4, 34.24S×72.23W, h35km, mb4.2/1, Error ellipse: s-maj=10.7km s-min=7.5km az=89.0*
ISC 27 14:00:40.0±0.6**, 34.23S**±0.06×**72.27W**±0.08**, h19km, n35,** σ1s07/43**, mb4.2**/9**, 6C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.95**	**38**	⇓*i*P	**Pb**	**14 00 57.0**	**-0.9**
TACH	**Talagante**	**1.25**	**63**	*e*P	**Pn**	**14 01 02.1**	**-0.4**
IHA	**Instituto Hidr**	**1.31**	**24**	⇑*i*P	**Pn**	**14 01 02.8**	**-0.5**
SAN	**Santiago**	**1.54**	**60**	⇑*i*P	**Pn**	**14 01 07.0**	**+0.4**
SAN				*i* S	**Sb**	**14 01 28.2**	**+0.9**
PCH	**Pirque**	**1.58**	**68**	⇑*i*P	**Pn**	**14 01 08.4**	**+1.2**
ROCH	**El Roble**	**1.64**	**40**	⇑*i*P	**Pn**	**14 01 08.7**	**+0.7**
ROCH				*i* S	**Sb**	**14 01 31.4**	**+1.4**
ROCH				AML	AML	14 01 41.8	
	comp=N,9μm,0.6s						
PEL	**Peldehue**	**1.71**	**51**	⇑*i*P	**Pn**	**14 01 09.8**	**+0.9**
PEL				*i* S	**Sb**	**14 01 33.4**	**+1.4**
PEL				AML	AML	14 01 43.6	
	comp=N,10μm,0.6s						
JACH	**Jahuel**	**2.08**	**43**	⇑*i*P	**Pn**	**14 01 16.0**	**+1.9**
CFAA	**Coronel Fontan**	**4.28**	**53**	Pn	**Pn**	**14 01 45.9**	**+1.7**
	comp=N,1.0nm,0.3s,baz=215,slow=16,SNR=4.2						
PLCA	**Paso Flores**	**6.63**	**169**	Pn	**Pn**	**14 02 18.1**	**+1.5**
	comp=N,3.4nm,0.3s,baz=274,slow=16,SNR=4.3						
PLCA	**Paso Flores**	**6.63**	**169**	*e*Pn	**Pn**	**14 02 16.7**	**+0.1**
TRQA	**Tornquist**	**9.15**	**118**	*e*Pn	**Pn**	**14 02 51.8**	**+0.6**
LVC	**Limon Verde**	**11.94**	**15**	*e*Pn	**Pn**	**14 03 30.1**	**+0.6**
CPUP	**Villa Florida**	**15.11**	**63**	*e*Pn	**Pn**	**14 04 13.0**	**+0.5**
LPAZ	**La Paz**	**18.25**	**13**	P	**P**	**14 04 54.3**	**+1.2**
	comp=N,0.3nm,0.3s,baz=204,slow=8.2,SNR=3.4						
LPAZ	**La Paz**	**18.25**	**13**	*e*P	**P**	**14 04 53.3**	**+0.3**
SIV	**San Ignacio**	**20.77**	**32**	P	**P**	**14 05 19.9**	**-0.1**
	comp=N,9.7nm,0.9s,baz=214,slow=7.0,SNR=7.2						
SAML	**Samuel**	**26.51**	**20**	*e*P	**P**	**14 06 15.8**	**-0.6**
BDFB	**Brasilia**	**28.62**	**56**	P	**P**	**14 06 34.4**	**-1.1**
	comp=N,6.0nm,0.7s,baz=218,slow=12,SNR=2.5						
BCIP	**Isla Barro Col**	**43.75**	**349**	P	**P**	**14 08 43.3**	**-1.1**
RCBR	**Riachuelo**	**43.92**	**58**	*e*P	**P**	**14 08 44.4**	**-1.5**
SNAA	**Sanae**	**51.45**	**158**	P	**P**	**14 09 43.7**	**+0.1**
	comp=N,0.8nm,0.6s,baz=286,slow=8.4,SNR=3.1						
QSPA	**South Pole Qui**	**56.01**	**180**	P	**P**	**14 10 17.9**	**+0.8**
	comp=N,1.7nm,0.8s,baz=151,slow=7.7,SNR=2.9						
QSPA				pP	**pP**	**14 10 25.4**	**+2.2**
	comp=N,4.0nm,0.8s,baz=71,slow=7.4,SNR=4.1						
TEIG	**Tepich**	**56.26**	**342**	P	**P**	**14 10 19.1**	**-0.1**
	comp=N,4.6nm,0.5s,baz=117,slow=4.5,SNR=2.7						
TXAR	**Lajitas Array**	**69.84**	**331**	P	**P**	**14 11 50.0**	**+0.5**
	comp=N,0.4nm,0.5s,baz=154,slow=9.2,SNR=6.5						
DBIC	**Dimbokro**	**75.43**	**71**	P	**P**	**14 12 22.4**	**-0.6**
	comp=N,1.2nm,0.5s,baz=255,slow=5.2,SNR=2.8						
TSUM	**Tsumeb**	**79.33**	**106**	P	**P**	**14 12 42.6**	**-2.5**
BOSA	**Boshof**	**80.13**	**118**	P	**P**	**14 12 49.2**	**0.0**
	comp=N,3.5nm,0.9s,baz=207,slow=3.8,SNR=3.3						
BOSA				pP	**pP**	**14 12 56.0**	**+0.5**
	comp=N,2.4nm,0.8s,baz=253,slow=2.7,SNR=1.8						
NVAR	**Mina Array Bea**	**83.96**	**325**	P	**P**	**14 13 09.9**	**+0.9**
	comp=N,0.4nm,0.5s,baz=134,slow=6.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**84.47**	**70**	P	**P**	**14 13 11.6**	**-0.3**
	comp=N,1.1nm,0.7s,baz=256,slow=4.3,SNR=3.7						
WRA	**Warramunga Arr**	**120.47**	**209**	PKP	**PKPdf**	**14 19 29.8**	**-1.1**
	comp=N,0.5nm,0.5s,baz=155,slow=1.7,SNR=5.5						
WRA				pPKP	**pPKPdf**	**14 19 38.0**	**+0.6**
	comp=N,0.6nm,0.6s,baz=163,slow=1.7,SNR=3.3						
ARCES	**ARCESS Array B**	**124.30**	**25**	PKP	**PKPdf**	**14 19 36.3**	**-0.3**
	comp=N,3.7nm,1.0s,baz=217,slow=2.8,SNR=2.9						
BVAR	**Borovoye Array**	**147.58**	**43**	PKPbc	**PKPbc**	**14 20 22.9**	**+0.4**
	comp=N,1.2nm,0.5s,baz=308,slow=1.6,SNR=7.2						
BVAR				pPKPbc	**pPKPbc**	**14 20 30.1**	**+1.1**
	comp=N,0.8nm,0.4s,baz=298,slow=2.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**154.52**	**32**	PKPbc	**PKPbc**	**14 20 38.7**	**-0.2**
	comp=N,1.6nm,0.7s,baz=286,slow=2.6,SNR=5.1						
ZALV				pPKPbc	**pPKPbc**	**14 20 47.4**	**+2.1**
	comp=N,1.2nm,0.6s,baz=334,slow=3.3,SNR=3.0						
MKAR	**Makanchi Array**	**157.06**	**49**	PKPab	**PKPab**	**14 21 04.3**	**-0.3**
	comp=N,0.3nm,0.6s,baz=253,slow=4.2,SNR=4.2						

IDC **27** *14:01:12.3±0.8, 34.81S×73.00W, h0km, mb4.1/7, mb1 4.3/10, mb1mx4.1/33, mbtmp4.1/10, ML4.4/3, Error ellipse: s-maj=30.3km s-min=19.0km az=88.0*
ISCJB **27** *14:01:15.2±0.6, 34.81S±0.06×72.8W±0.1, h33km, mb4.2/10, Error ellipse: s-maj=14.1km s-min=8.2km az=176.5*
NEIC **27** *14:01:17.2±0.3, 34.79S×72.83W, h35km, mb4.4/6, Error ellipse: s-maj=9.4km s-min=5.7km az=88.0*
ISC 27 14:01:17.5±0.7**, 34.79S**±0.08×**72.8W**±0.1**, h35km, n28,** σ1s07/28**, mb4.2**/10**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.00**	**52**	Pn	**Pn**	**14 02 29.7**	**-0.4**
	2.2nm,0.3s,baz=201,slow=14,SNR=2.4						
CFAA				Sn	Sn	14 03 36.5	+10
	baz=99,slow=20,SNR=1.3						
PLCA	**Paso Flores**	**6.20**	**164**	Pn	**Pn**	**14 02 46.1**	**-0.4**
	4.6nm,0.3s,baz=342,slow=14,SNR=3.1						
PLCA				Lg	Lg	14 04 25.1	
	3.3nm,0.3s,baz=277,slow=19,SNR=2.2						
TRQA	**Tornquist**	**9.34**	**114**	*e*Pn	**Pn**	**14 03 29.0**	**-0.5**
LVC	**Limon Verde**	**12.62**	**17**	*e*Pn	**Pn**	**14 04 14.4**	**-0.3**
CPUP	**Villa Florida**	**15.79**	**62**	*e*Pn	**Pn**	**14 04 57.1**	**0.0**
	1.5nm,1.0s						
LPAZ	**La Paz**	**18.91**	**14**	P	**P**	**14 05 34.4**	**-1.4**
	0.4nm,0.3s,baz=171,slow=3.2,SNR=6.8						
LPAZ	**La Paz**	**18.91**	**14**	P	**P**	**14 05 35.7**	**-0.1**
	19nm,0.8s						
USHA	**Ushuaia**	**20.27**	**173**	P	**P**	**14 05 50.3**	**+0.6**
	14nm,0.9s,baz=300,slow=6.3,SNR=4.5						
SIV	**San Ignacio**	**21.50**	**32**	P	**P**	**14 06 03.2**	**-0.1**
	10.0nm,1.1s,baz=215,slow=16,SNR=2.4						
SAML	**Samuel**	**27.21**	**21**	*e*P	**P**	**14 06 57.5**	**-0.6**
	3.6nm,0.9s						
OTAV	**Otavalo**	**35.24**	**350**	*e*P	**P**	**14 08 08.0**	**-1.3**
ROSC	**El Rosal**	**39.46**	**358**	*e*P	**P**	**14 08 44.5**	**-0.4**
SDV	**Santo Domingo**	**43.49**	**3**	*e*P	**P**	**14 09 17.3**	**-0.4**
	6.9nm,0.7s						
BCIP	**Isla Barro Col**	**44.22**	**350**	*e*P	**P**	**14 09 23.1**	**-0.2**
RCBR	**Riachuelo**	**44.62**	**58**	*e*P	**P**	**14 09 26.6**	**-0.1**
	14nm,1.3s						
SNAA	**Sanae**	**51.10**	**158**	P	**P**	**14 10 15.7**	**-0.5**
	3.4nm,0.9s,baz=273,slow=7.5,SNR=6.0						
SNAA	**Sanae**	**51.10**	**158**	*e*P	**P**	**14 10 14.8**	**-1.4**
	15nm,1.4s						
QSPA	**South Pole Qui**	**55.44**	**180**	P	**P**	**14 10 48.5**	**+0.2**
	1.7nm,0.8s						
TXAR	**Lajitas Array**	**70.11**	**332**	P	**P**	**14 12 26.4**	**+0.2**
	0.4nm,0.7s,baz=153,slow=8.1,SNR=2.7						
DBIC	**Dimbokro**	**76.06**	**72**	P	**P**	**14 13 04.2**	**+2.6**
	2.6nm,0.8s,baz=202,slow=11,SNR=1.9						
DBIC	**Dimbokro**	**76.06**	**72**	P	**P**	**14 13 02.1**	**+0.4**
NVAR	**Mina Array Bea**	**84.16**	**326**	P	**P**	**14 13 46.4**	**+1.3**
	0.5nm,0.5s,baz=156,slow=6.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**85.10**	**70**	P	**P**	**14 13 49.5**	**-0.6**
	1.3nm,0.7s,baz=294,slow=6.2,SNR=4.4						
WRA	**Warramunga Arr**	**119.75**	**210**	PKP	**PKPdf**	**14 20 03.1**	**-1.3**
	0.7nm,0.6s,baz=171,slow=1.6,SNR=5.7						
ARCES	**ARCESS Array B**	**125.01**	**25**	PKP	**PKPdf**	**14 20 11.8**	**-1.1**
	2.3nm,0.8s,baz=223,slow=3.7,SNR=2.2						
BVAR	**Borovoye Array**	**148.31**	**44**	PKPbc	**PKPbc**	**14 20 59.8**	**+0.3**
	1.4nm,0.7s,baz=309,slow=0.9,SNR=2.2						
AAK	**Ala-Archa**	**153.46**	**63**	PKPab	**PKPab**	**14 21 27.6**	**+3.0**
	2.1nm,0.7s,baz=256,slow=4.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**155.25**	**32**	PKPab	**PKPab**	**14 21 31.9**	**+0.3**
	1.9nm,0.8s,baz=318,slow=1.9,SNR=3.3						

IDC **27** *14:04:06.8±1.0, 37.47S×73.42W, h0km, mb4.0/6, mb1 4.1/7, mb1mx4.0/29, mbtmp4.0/7, ML3.4/1, Error ellipse: s-maj=33.1km s-min=17.7km az=74.0*
ISCJB **27** *14:04:09.0±0.8, 37.37S±0.09×73.6W±0.2, h23km, mb4.0/8, Error ellipse: s-maj=19.0km s-min=12.0km az=161.7*
NEIC **27** *14:04:12.3±0.7, 37.28S×73.49W, h35km, mb4.0/2, Error ellipse: s-maj=16.8km s-min=10.3km az=79.0*
ISC 27 14:04:10.4±0.8**, 37.42S**±0.08×**73.5W**±0.1**, h23km, n19,** σ1s51/18**, mb4.0**/8**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.04**	**146**	Pg	**Pb**	**14 05 17.9**	**-3.1**
	4.5nm,0.3s,baz=309,slow=13,SNR=3.1						
PLCA				Lg	Lg	14 06 11.6	
	8.4nm,0.3s,baz=270,slow=6.1,SNR=3.9						
PLCA	**Paso Flores**	**4.04**	**146**	Pn	**Pn**	**14 05 13.4**	**+2.5**
PLCA				Lg	Lg	14 06 11.6	
CFAA	**Coronel Fontan**	**7.26**	**39**	Pn	Pn	14 05 51.9	-3.3
	0.7nm,0.3s,baz=165,slow=19,SNR=2.2						
TRQA	**Tornquist**	**9.18**	**97**	*e*Pn	**Pn**	**14 06 22.5**	**+1.1**
LVC	**Limon Verde**	**15.29**	**16**	Pn	**Pn**	**14 07 44.6**	**-0.4**
LPAZ	**La Paz**	**21.59**	**14**	P	**P**	**14 09 01.7**	**+2.5**
	4.2nm,0.5s,baz=150,slow=4.0,SNR=4.5						
LPAZ	**La Paz**	**21.59**	**14**	*e*P	**P**	**14 08 57.5**	**-1.7**
SIV	**San Ignacio**	**24.02**	**31**	P	**P**	**14 09 24.4**	**+0.6**
	2.6nm,0.5s,baz=216,slow=7.9,SNR=6.6						
PAYG	**Puerto Ayora**	**39.70**	**333**	P	**P**	**14 11 40.0**	**-1.1**
SNAA	**Sanae**	**48.91**	**157**	*e*P	**P**	**14 12 55.9**	**+1.7**
	2.2nm,0.9s						
QSPA	**South Pole Qui**	**52.82**	**180**	P	**P**	**14 13 23.7**	**-0.1**
	2.9nm,0.8s,baz=194,slow=3.0,SNR=3.9						
QSPA	**South Pole Qui**	**52.82**	**180**	P	**P**	**14 13 23.1**	**-0.7**
	1.1nm,0.8s						
TXAR	**Lajitas Array**	**72.16**	**333**	P	**P**	**14 15 33.6**	**+0.3**
	0.3nm,0.5s,baz=160,slow=9.8,SNR=4.1						
DBIC	**Dimbokro**	**77.42**	**71**	P	**P**	**14 16 04.7**	**+0.7**
	1.6nm,0.5s,baz=192,slow=7.6,SNR=4.6						
PDAR	**Pinedale Array**	**86.28**	**334**	P	**P**	**14 16 50.0**	**-0.2**
	0.7nm,1.0s,baz=111,slow=3.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**86.50**	**71**	P	**P**	**14 16 51.4**	**-0.3**
	0.5nm,0.5s,baz=218,slow=4.7,SNR=4.4						
BVAR	**Borovoye Array**	**150.56**	**46**	PKPbc	**PKPbc**	**14 24 00.6**	**+0.9**
	1.0nm,0.6s,baz=321,slow=2.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**157.74**	**35**	PKPab	**PKPab**	**14 24 35.8**	**-1.1**
	0.6nm,0.4s,baz=343,slow=4.5,SNR=4.1						
MKAR	**Makanchi Array**	**159.83**	**55**	PKPab	**PKPab**	**14 24 45.9**	**-0.5**
	0.2nm,0.6s,baz=276,slow=4.0,SNR=3.5						

IDC **27** *14:05:36.5±0.8, 35.24S×72.62W, h0km, mb3.8/7, mb1 4.0/8, mb1mx4.0/29, mbtmp3.8/8, ML2.9/1, Error ellipse: s-maj=33.3km s-min=20.8km az=87.0*
ISCJB **27** *14:05:37.4±0.8, 35.20S±0.10×72.6W±0.2, h18km, mb3.9/7, Error ellipse: s-maj=19.0km s-min=13.5km az=19.4*
NEIC **27** *14:05:41.5±0.9, 35.19S×72.50W, h35km, mb4.0/1, Error ellipse: s-maj=18.4km s-min=14.9km az=131.0*
ISC 27 14:05:39.2±0.8**, 35.2S**±0.1×**72.6W**±0.1**, h18km, n16,** σ0s90/15**, mb4.0**/7**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.12**	**47**	Pn	**Pn**	**14 06 56.5**	**+1.5**
	0.5nm,0.3s,baz=215,slow=16,SNR=2.0						
TRQA	**Tornquist**	**9.01**	**112**	Pn	Pn	14 07 55.7	+7.3
	12nm,0.9s						
LVC	**Limon Verde**	**12.94**	**15**	*e*Pn	**Pn**	**14 08 42.4**	**-0.1**
CPUP	**Villa Florida**	**15.82**	**60**	*e*Pn	**Pn**	**14 09 20.0**	**-0.9**
SIV	**San Ignacio**	**21.73**	**31**	P	**P**	**14 10 28.5**	**-1.2**
	4.5nm,0.6s,baz=220,slow=9.0,SNR=5.1						
SDV	**Santo Domingo**	**43.88**	**3**	*e*P	**P**	**14 13 43.5**	**-1.4**
BCIP	**Isla Barro Col**	**44.64**	**350**	P	**P**	**14 13 51.0**	**+0.3**
SNAA	**Sanae**	**50.67**	**157**	P	**P**	**14 14 36.6**	**-0.4**
	0.5nm,0.7s,baz=339,slow=8.6,SNR=3.3						
SNAA	**Sanae**	**50.67**	**157**	*e*P	**P**	**14 14 36.3**	**-0.7**
	1.3nm,0.7s						
QSPA	**South Pole Qui**	**55.05**	**180**	P	**P**	**14 15 09.3**	**-0.2**
	4.1nm,1.2s,baz=107,slow=11,SNR=3.8						
TXAR	**Lajitas Array**	**70.55**	**331**	P	**P**	**14 16 53.5**	**+0.4**
	0.7nm,0.5s,baz=156,slow=8.6,SNR=9.0						
NVAR	**Mina Array Bea**	**84.59**	**326**	P	**P**	**14 18 12.5**	**+1.0**
	0.3nm,0.5s,baz=154,slow=7.0,SNR=2.3						
PDAR	**Pinedale Array**	**84.61**	**334**	P	**P**	**14 18 11.6**	**+0.1**
	0.3nm,0.6s,baz=134,slow=6.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**85.06**	**70**	P	**P**	**14 18 14.6**	**+0.5**
	1.0nm,0.8s,baz=260,slow=4.1,SNR=2.8						
WRA	**Warramunga Arr**	**119.49**	**209**	PKP	**PKPdf**	**14 24 28.5**	**+0.2**
	0.4nm,0.9s,baz=158,slow=1.6,SNR=2.8						
SONM	**Songino Array**	**167.34**	**3**	PKPab	**PKPab**	**14 26 49.9**	**+1.1**
	0.3nm,0.6s,baz=357,slow=2.9,SNR=2.2						

IDC **27** *14:06:20.5±0.8, 34.17S×71.43W, h0km, mb4.4/9, mb1 4.6/12, mb1mx4.5/18, mbtmp4.5/12, ML5.2/3, Error ellipse: s-maj=26.7km s-min=23.0km az=67.0*
ISCJB **27** *14:06:28.5±1.5, 33.9S±0.1×71.3W±0.1, h63km±9km, mb4.4/8, Error ellipse: s-maj=21.7km s-min=10.8km az=30.5*
GUC **27** *14:06:29.0±0.5, 33.91S×71.36W, h45km±3km, ML4.6*
ISC 27 14:06:27.3±3.0**, 34.1S**±0.2×**71.5W**±0.1**, h44km**±22km**, n28,** σ1s02/33**, mb4.5**/8**, 2C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAN	**Santiago**	**0.90**	**49**	*e*P	**Pn**	**14 06 43.5**	**0.0**
PCH	**Pirque**	**0.90**	**62**	⇑*i*P	**Pn**	**14 06 43.8**	**+0.2**
PCH				*i* S	**Sn**	**14 06 55.5**	**-0.1**
STL	**Santa Lucia**	**0.92**	**48**	⇓*i*P	**Pn**	**14 06 43.1**	**-0.8**
STL				*i* S	**Sn**	**14 06 54.3**	**-1.6**
IHA	**Instituto Hidr**	**1.03**	**352**	⇑*i*P	**Pn**	**14 06 45.6**	**+0.3**
IHA				*i* S	**Sn**	**14 06 58.6**	**0.0**
PEL	**Peldehue**	**1.11**	**36**	⇓*i*P	**Pn**	**14 06 46.8**	**+0.3**
PEL				*i* S	**Sn**	**14 06 59.6**	**-1.1**
PEL				AML	AML	14 07 05.8	
	comp=E,28μm,0.3s						
ROCH	**El Roble**	**1.14**	**20**	*e*P	**Pn**	**14 06 47.3**	**+0.2**
ROCH				*e*S	**Sn**	**14 07 01.3**	**-0.3**
ROCH				AML	AML	14 07 05.1	
	comp=N,40μm,0.4s						
FCH	**Farellones**	**1.22**	**54**	⇓*i*P	Pn	14 06 52.2	+4.0
FCH				*i* S	**Sn**	**14 07 07.0**	**+3.4**
CFAA	**Coronel Fontan**	**3.65**	**49**	Pn	**Pn**	**14 07 23.7**	**+2.4**
	comp=N,14nm,0.3s,baz=205,slow=15,SNR=19						
PLCA	**Paso Flores**	**6.71**	**174**	Pn	Pn	14 07 58.9	-4.4
	comp=N,30nm,0.3s,baz=340,slow=10,SNR=6.1						
CPUP	**Villa Florida**	**14.44**	**62**	Pn	**Pn**	**14 09 48.4**	**-0.4**
	comp=N,2.2nm,0.3s,baz=229,slow=14,SNR=5.8						
LPAZ	**La Paz**	**17.94**	**10**	P	**P**	**14 10 34.8**	**+0.5**
	comp=N,0.6nm,0.3s,baz=179,slow=9.0,SNR=4.1						
SIV	**San Ignacio**	**20.27**	**30**	P	**P**	**14 10 58.2**	**-1.0**
	comp=N,9.9nm,0.5s,baz=216,slow=9.4,SNR=16						
BDFB	**Brasilia**	**27.97**	**55**	P	**P**	**14 12 13.6**	**-0.4**
	comp=N,9.1nm,0.7s,baz=204,slow=10.0,SNR=3.5						
TXAR	**Lajitas Array**	**70.01**	**330**	P	**P**	**14 17 35.4**	**+1.0**
	comp=N,1.1nm,0.7s,baz=159,slow=8.2,SNR=5.8						
DBIC	**Dimbokro**	**74.75**	**71**	P	**P**	**14 18 02.4**	**-0.5**
	comp=N,4.2nm,0.5s,baz=232,slow=5.2,SNR=5.5						
BOSA	**Boshof**	**79.62**	**117**	P	**P**	**14 18 30.6**	**+0.2**
	comp=N,12nm,0.8s,baz=255,slow=5.7,SNR=12						
TORD	**Torodi Ar. Bea**	**83.78**	**70**	P	**P**	**14 18 51.6**	**-0.5**
	comp=N,8.3nm,0.8s,baz=257,slow=4.3,SNR=24						
PDAR	**Pinedale Array**	**84.02**	**333**	P	**P**	**14 18 53.3**	**+0.3**
	comp=N,0.7nm,0.9s,baz=176,slow=4.3,SNR=3.5						
NVAR	**Mina Array Bea**	**84.20**	**325**	P	**P**	**14 18 55.6**	**+1.6**
	comp=N,0.5nm,0.6s,baz=143,slow=6.3,SNR=3.4						
ULM	**Lac du Bonnet**	**86.67**	**345**	P	**P**	**14 19 05.2**	**-0.5**
	comp=N,2.5nm,0.8s,baz=169,slow=7.5,SNR=3.9						
YKA	**Yellowknife Ar**	**102.26**	**341**	P	**Pdif**	**14 20 16.3**	**-0.6**
	comp=N,0.2nm,0.6s,baz=145,slow=4.4,SNR=5.4						
WRA	**Warramunga Arr**	**120.95**	**209**	PKP	**PKPdf**	**14 25 15.0**	**-0.3**
	comp=N,0.8nm,0.8s,baz=176,slow=1.8,SNR=7.3						
AKASG	**Malin Array Be**	**121.88**	**47**	PKP	**PKPdf**	**14 25 15.0**	**-1.0**
	comp=N,0.2nm,0.3s,baz=254,slow=1.7,SNR=3.6						
FINES	**FINESS Array B**	**122.76**	**35**	PKP	**PKPdf**	**14 25 17.3**	**-0.1**
	comp=N,1.1nm,0.9s,baz=316,slow=5.8,SNR=3.0						
ARCES	**ARCESS Array B**	**123.86**	**25**	PKP	**PKPdf**	**14 25 19.1**	**-0.3**
	comp=N,4.4nm,1.0s,baz=260,slow=3.6,SNR=5.7						
ZALV	**Zalesovo Beam**	**154.01**	**33**	PKPbc	**PKPbc**	**14 26 21.3**	**-0.1**
	comp=N,6.3nm,0.7s,baz=304,slow=3.1,SNR=20						
MKAR	**Makanchi Array**	**156.44**	**49**	PKP	**PKPdf**	**14 26 17.1**	**+0.2**
	comp=N,0.8nm,0.9s,baz=298,slow=2.6,SNR=4.0						
MKAR				PKPbc	PKPbc	14 26 26.8	
	comp=N,0.8nm,0.8s,baz=272,slow=2.6,SNR=4.7						
MKAR				PKPab	**PKPab**	**14 26 45.3**	**-0.4**
	comp=N,1.6nm,0.7s,baz=310,slow=3.2,SNR=6.8						
SONM	**Songino Array**	**166.14**	**6**	PKPab	**PKPab**	**14 27 28.3**	**+0.4**
	comp=N,0.6nm,0.9s,baz=5.7,slow=2.9,SNR=3.6						

ISCJB 27 14:06:45.7±1.8, 37.°19S±0.°06×72.°51W±0.°09, h34km±16km, mb4.9/42, MS4.6/1, Error ellipse: s-maj=12.5km s-min=9.9km az=159.2
BJI 27 14:06:45.0, 36.°91S×72.°28W, h33km, mB5.4/6, Ms5.2/2, Ms7 5.1/2
NEIC 27 14:06:47.0±0.2, 37.°22S×72.°67W, h35km, mb5.0/30, Error ellipse: s-maj=9.8km s-min=6.2km az=61.0
IDC 27 14:06:46.6±0.7, 37.°21S×72.°77W, h31km±5km, mb4.5/16, mb1 4.6/18, mb1mx4.5/24, mbtmp4.7/18, ML4.4/2, MS4.0/2, Ms1 4.0/2, ms1mx3.7/22, Error ellipse: s-maj=20.4km s-min=12.1km az=75.0
ISC 27 14:06:46.4±0.6, 37.°19S±0.°07×72.°67W±0.°09, h33km±2km, h33km:pP-P, n84, σ1§47/106, mb5.0/42, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.91**	**156**	Pn	**Pn**	**14 07 46.1**	**+2.0**
	8.3nm,0.3s,baz=318,slow=13,SNR=2.7						
PLCA				Lg	Lg	14 08 53.0	
	26nm,0.3s,baz=20,slow=13,SNR=5.3						
PLCA	**Paso Flores**	**3.91**	**156**	*e*Pn	**Pn**	**14 07 44.2**	**+0.1**
PLCA				Lg	Lg	14 08 53.0	
CFAA	**Coronel Fontan**	**6.66**	**35**	LR	LR	14 11 14.7	
	comp=Z,244nm,20.7s,baz=232,slow=40						
TRQA	**Tornquist**	**8.53**	**99**	*e*Pn	**Pn**	**14 08 47.9**	**+0.3**
TRQA				*e*Sn	**Sn**	**14 10 20.6**	**-1.9**
LVC	**Limon Verde**	**14.88**	**14**	*e*Pn	Pn	14 10 10.7	-3.9
	26nm,0.6s						
USHA	**Ushuaia**	**17.89**	**172**	P	**P**	**14 10 53.5**	**+0.8**
	0.5nm,0.3s,baz=355,slow=16,SNR=2.7						
LPAZ	**La Paz**	**21.20**	**12**	P	**P**	**14 11 32.0**	**+2.1**
	13nm,0.9s,baz=168,slow=6.1,SNR=7.5						
LPAZ	**La Paz**	**21.20**	**12**	*e*P	**P**	**14 11 31.0**	**+1.1**
	33nm,0.8s						
SIV	**San Ignacio**	**23.48**	**29**	P	**P**	**14 11 54.3**	**+1.0**
	18nm,0.7s,baz=228,slow=11,SNR=7.7						
NNA	**Nana**	**25.37**	**350**	P	**P**	**14 12 11.8**	**+1.2**
	13nm,0.8s,baz=189,slow=9.6,SNR=4.9						
SAML	**Samuel**	**29.40**	**19**	*e*P	**P**	**14 12 46.9**	**+0.2**
	9.9nm,1.0s						
ATAH	**Atahualpa**	**30.37**	**349**	P	**P**	**14 12 55.1**	**-0.6**
	4.8nm,0.7s,baz=160,slow=14,SNR=2.8						
BDFB	**Brasilia**	**30.62**	**52**	P	**P**	**14 12 58.2**	**+0.5**
	13nm,0.8s,baz=191,slow=10,SNR=4.6						
BDFB				LR	LR	14 26 32.2	
	comp=Z,1µm,19.9s,baz=180,slow=39						
OTAV	**Otavalo**	**37.62**	**350**	*e*P	**P**	**14 13 59.1**	**+0.4**
	32nm,1.3s						
ROSC	**El Rosal**	**41.85**	**358**	*e*P	**P**	**14 14 35.1**	**+1.3**
RCBR	**Riachuelo**	**45.80**	**56**	P	**P**	**14 15 07.1**	**+1.9**
	13nm,0.9s,baz=202,slow=6.3,SNR=4.4						
SDV	**Santo Domingo**	**45.87**	**3**	*e*P	**P**	**14 15 03.9**	**-1.9**
	46nm,1.3s						
VNA3	**Neumayer Olymp**	**46.62**	**157**	P	**P**	**14 15 11.2**	**+0.2**
VNA2	**Neumayer--Watz**	**47.30**	**156**	P	**P**	**14 15 16.3**	**+0.1**
SNAA	**Sanae**	**48.85**	**157**	P	**P**	**14 15 28.0**	**-0.3**
SNAA	**Sanae**	**48.85**	**157**	P	**P**	**14 15 28.1**	**-0.3**
	5.6nm,0.9s,baz=298,slow=5.8,SNR=13						
SNAA	**Sanae**	**48.85**	**157**	*e*P	**P**	**14 15 27.7**	**-0.6**
	132nm,1.8s						
QSPA	**South Pole Qui**	**53.05**	**180**	P	**P**	**14 16 00.5**	**+0.4**
	6.3nm,0.7s,baz=159,slow=2.8,SNR=10						
QSPA	**South Pole Qui**	**53.05**	**180**	*e*P	**P**	**14 15 58.8**	**-1.3**
	22nm,0.9s						
JCT	**Junction City**	**71.95**	**336**	*e*P	**P**	**14 18 06.3**	**-0.1**
	38nm,1.4s						
TXAR	**Lajitas Array**	**72.28**	**332**	P	**P**	**14 18 08.8**	**+0.3**
	3.4nm,0.8s,baz=150,slow=8.7,SNR=12						
BBTS	**Babate**	**73.78**	**57**	P	**P**	**14 18 19.3**	**+1.7**
	34nm,1.2s,baz=178,slow=1.5,SNR=3.6						
ABTX	**Abilene, Hawle**	**73.88**	**337**	*e*P	**P**	**14 18 16.1**	**-1.7**
	11nm,0.8s						
WVT	**Waverly**	**74.29**	**347**	*e*P	**P**	**14 18 18.9**	**-1.1**
	7.7nm,0.8s						
AMTX	**Amarillo**	**76.61**	**336**	*e*P	**P**	**14 18 33.9**	**+0.3**
	56nm,1.8s						
DBIC	**Dimbokro**	**76.69**	**71**	P	**P**	**14 18 35.5**	**+1.1**
	21nm,0.7s,baz=199,slow=5.9,SNR=20						
DBIC	**Dimbokro**	**76.69**	**71**	*e*P	**P**	**14 18 35.2**	**+0.8**
	30nm,0.8s						
LAZ	**Ladron**	**78.12**	**331**	*e*P	**P**	**14 18 41.9**	**-0.3**
	7.7nm,1.2s						
ANMO	**Albuquerque**	**78.34**	**332**	*e*P	**P**	**14 18 44.0**	**+0.6**
	23nm,1.3s						
BOSA	**Boshof**	**79.05**	**118**	P	**P**	**14 18 47.9**	**+0.2**
	12nm,1.0s,baz=228,slow=4.6,SNR=5.2						
BOSA	**Boshof**	**79.05**	**118**	*e*P	**P**	**14 18 47.8**	**+0.2**
	17nm,1.2s						
WUAZ	**Wupatki**	**80.78**	**329**	*e*P	**P**	**14 18 58.2**	**+1.6**
	12nm,1.1s						
MVCO	**Mesa Verde**	**81.11**	**332**	*e*P	**P**	**14 18 59.2**	**+0.8**
	25nm,1.5s						
LBTB	**Lobatse**	**81.44**	**115**	*e*P	**P**	**14 19 00.3**	**-0.1**
LBTB				*e*P	**P**	**14 19 01.1**	**+0.6**
PV01	**Paradox Valley**	**81.95**	**332**	*e*P	**P**	**14 19 02.7**	**-0.1**
	674nm,1.3s						
SMCO	**Snowmass**	**82.29**	**334**	*e*P	**P**	**14 19 06.5**	**+1.7**
	23nm,1.4s						
PV04	**Paradox Valley**	**82.30**	**332**	*e*P	**P**	**14 19 06.9**	**+2.3**
ISCO	**Idaho Springs**	**82.38**	**335**	*e*P	**P**	**14 19 06.1**	**+1.0**
	22nm,1.8s						
SHPR	**Sheep Range**	**83.22**	**327**	*e*P	**P**	**14 19 10.7**	**+1.3**
CCUT	**Cedar City**	**83.34**	**329**	*e*P	**P**	**14 19 11.7**	**+1.7**
	14nm,1.1s						
ECSD	**EROS Data Cent**	**83.43**	**343**	*e*P	**P**	**14 19 10.3**	**+0.2**
	31nm,1.4s						
SRU	**San Rafael**	**83.54**	**331**	*e*P	**P**	**14 19 11.9**	**+0.9**
	9.1nm,0.8s						
ARUT	**Antelope Range**	**83.57**	**329**	*e*P	**P**	**14 19 11.1**	**0.0**
	201nm,1.1s						
TMUT	**Trail Mountain**	**83.97**	**331**	*e*P	**P**	**14 19 14.2**	**+0.8**
	11nm,0.9s						
R11A	**Troy Canyon, C**	**84.95**	**327**	*e*P	**P**	**14 19 19.4**	**+1.2**
	26nm,1.7s						
K22A	**Casper**	**85.24**	**336**	*e*P	**P**	**14 19 20.0**	**+0.5**
	14nm,0.9s						
DUG	**Dugway**	**85.37**	**330**	*e*P	**P**	**14 19 21.1**	**+0.9**
	14nm,1.1s						
TPH	**Tonopah**	**85.44**	**326**	*e*P	**P**	**14 19 21.8**	**+1.2**
	16nm,1.1s						
TOA0	**Torodi Ar. Sit**	**85.78**	**70**	*e*P	**P**	**14 19 22.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**85.78**	**70**	P	**P**	**14 19 22.9**	**+0.4**
	14nm,1.0s,baz=231,slow=4.2,SNR=16						
RSSD	**Black Hills**	**85.78**	**338**	*e*P	**P**	**14 19 22.7**	**+0.5**
	8.9nm,0.8s						
NVAR	**Mina Array Bea**	**86.21**	**326**	P	**P**	**14 19 25.3**	**+0.8**
	2.4nm,0.7s,baz=149,slow=5.5,SNR=8.4						
NVAR				pP	**pP**	**14 19 35.9**	**+0.8**
	2.5nm,0.8s,baz=154,slow=5.8,SNR=6.0						
PDAR	**Pinedale Array**	**86.38**	**334**	P	**P**	**14 19 25.4**	**+0.1**
	1.0nm,0.8s,baz=152,slow=6.7,SNR=4.9						
PDAR				pP	**pP**	**14 19 35.6**	**-0.3**
	3.2nm,0.9s,baz=166,slow=5.8,SNR=9.3						
HVU	**Hansel Valley**	**86.71**	**331**	*e*P	**P**	**14 19 26.9**	**+0.1**
	10.0nm,0.9s						
ULM	**Lac du Bonnet**	**89.44**	**345**	P	**P**	**14 19 40.8**	**+1.4**
	6.1nm,0.9s,baz=215,slow=3.4,SNR=3.1						
ULM				pP	**pP**	**14 19 48.3**	**-1.7**
	6.4nm,0.9s,baz=86,slow=1.8,SNR=6.1						
MOD	**Modoc**	**89.93**	**327**	*e*P	**P**	**14 19 43.2**	**+1.1**
	7.6nm,0.9s						
BRTR	**Keskin Array B**	**123.78**	**63**	PKP	**PKPdf**	**14 25 40.5**	**-0.2**
	1.2nm,0.6s,baz=203,slow=3.3,SNR=7.1						
AKASG	**Malin Array Be**	**124.69**	**49**	PKP	**PKPdf**	**14 25 41.1**	**-0.8**
	0.7nm,0.5s,baz=266,slow=2.7,SNR=3.7						
GEYT	**Alibeck**	**141.34**	**73**	PKhKP	PKPpre	14 26 08.4	
	1.0nm,0.6s,baz=286,slow=7.2,SNR=3.0						
GEYT				PKP	**PKPdf**	**14 26 13.6**	**-0.1**
	2.4nm,0.9s,baz=318,slow=6.2,SNR=4.2						
SEY	**Seymchan**	**142.49**	**328**	PKhKP	PKPpre	14 26 05.1	
	0.9nm,0.6s,baz=108,slow=4.4,SNR=3.8						
SEY				PKP	**PKPdf**	**14 26 15.8**	**+1.0**
	3.8nm,1.0s,baz=71,slow=2.8,SNR=6.8						
AKTO	**Aktyubinsk**	**142.71**	**53**	PKhKP	PKPpre	14 26 11.4	
	2.2nm,0.9s,baz=234,slow=5.5,SNR=4.3						
ABKAR	**Akbulak array**	**143.99**	**55**	*e*PKPdf	PKPbc	14 26 16.0	+0.1
HYB	**Hyderabad**	**147.92**	**120**	*i* PKP	**PKPbc**	**14 26 28.0**	**-0.6**
KKAR	**Karatay Array**	**151.40**	**66**	*e*PKPbc	**PKPbc**	**14 26 36.1**	**-0.4**
ASAJ	**Asahikawa**	**152.52**	**296**	PKPab	**PKPab**	**14 26 49.0**	**-0.4**
	15nm,1.1s,baz=184,slow=12,SNR=3.8						
AAK	**Ala-Archa**	**154.33**	**67**	*e*PKPab	**PKPab**	**14 26 58.2**	**+0.8**
MJAR	**Matsushiro Arr**	**155.34**	**278**	PKPab	**PKPab**	**14 27 01.5**	**-0.2**
	2.3nm,0.9s,baz=154,slow=3.6,SNR=5.3						
KSH	**Kashi**	**155.36**	**75**	*e*PKPdf	**PKPdf**	**14 26 31.8**	**-4.5**
KSH				*e*sPKP		14 26 46.8	
KSH				*e*SKS	**SKSdf**	**14 33 33.5**	**-6.8**
KSH				*e*SKKS	**SKKSac**	**14 37 20.5**	**-5.2**
KSH				*e*SS	SS	14 50 15.0	-7.4
KSH				AMB	AMB		
	comp=Z,54nm,4.5s						
ZALV	**Zalesovo Beam**	**157.15**	**36**	PKPab	**PKPab**	**14 27 09.4**	**+0.6**
	6.6nm,0.9s,baz=297,slow=4.8,SNR=7.6						
MK31	**Makanchi Array**	**159.13**	**55**	*e*PKPdf	**PKPdf**	**14 26 40.5**	**-0.2**
MKAR	**Makanchi Array**	**159.13**	**55**	PKP	**PKPdf**	**14 26 40.6**	**-0.1**
	3.4nm,1.0s,baz=325,slow=1.5,SNR=9.2						
MKAR				PKPab	**PKPab**	**14 27 18.2**	**+0.4**
	3.4nm,0.9s,baz=295,slow=3.5,SNR=6.9						
MKAR				pPKPab	**pPKPab**	**14 27 28.5**	**0.0**
	2.4nm,0.8s,baz=282,slow=4.6,SNR=3.5						
MKAR	**Makanchi Array**	**159.13**	**55**	PKP	**PKPdf**	**14 26 40.6**	**-0.1**
MKAR				*e*PKPdf	**PKPdf**	**14 26 40.7**	**0.0**
MKAR				PKPab	**PKPab**	**14 27 18.2**	**+0.4**
MKAR				pPKPab	**pPKPab**	**14 27 28.5**	**0.0**
CMAR	**Chiang Mai Arr**	**159.94**	**156**	PKP	**PKPdf**	**14 26 43.4**	**+0.9**
	0.4nm,0.3s,baz=230,slow=2.4,SNR=6.1						
CMAR				PKPab	**PKPab**	**14 27 21.7**	**-0.1**
	1.5nm,0.9s,baz=226,slow=3.8,SNR=6.6						
NJ2	**Nanjing**	**169.22**	**245**	*e*PKP	**PKPdf**	**14 26 50.5**	**+0.3**
GYA	**Guiyang**	**169.29**	**177**	*e*PKP	**PKPdf**	**14 26 50.0**	**-0.6**
GYA				pPKP	**pPKPdf**	**14 27 01.5**	**-0.1**
GYA				PKPab	**PKPab**	**14 28 04.8**	**+2.0**
GYA				PKS	**PKSdf**	**14 30 22.0**	**-1.3**
GYA				PP	**PP**	**14 31 53.3**	**+1.9**
GYA				SKKS		14 38 36.5	
GYA				AMB	AMB		
	comp=Z,120nm,8.0s						
GYA				LR	LR		
	comp=N,130nm,21.5s						
GYA				LR	LR		
	comp=E,110nm,21.3s						
GYA				LR	LR		
	comp=Z,120nm,24.2s						
SONM	**Songino Array**	**169.34**	**3**	PKPab	**PKPab**	**14 28 03.1**	**+0.6**
	1.2nm,1.0s,baz=343,slow=3.9,SNR=5.4						
SONM				pPKPab	**pPKPab**	**14 28 14.3**	**+1.1**
	1.6nm,0.8s,baz=354,slow=3.3,SNR=6.5						
CD2	**Chengdu**	**173.07**	**154**	PKP	**PKPdf**	**14 26 52.3**	**0.0**
CD2				pPKP	**pPKPdf**	**14 27 03.5**	**+0.2**
CD2				sPKP		14 27 07.5	
CD2				PKS	**PKSdf**	**14 30 23.0**	**-1.6**
CD2				PP	**PP**	**14 32 14.0**	**+3.5**
CD2				SKS	**SKSdf**	**14 33 50.0**	**-3.0**
CD2				SKKS	**SKKSac**	**14 38 55.5**	**+0.4**
CD2				SS	**SS**	**14 53 21.8**	**-0.1**
CD2				AMB	AMB		
	comp=Z,220nm,6.2s						
HHC	**Hu-ho-hao-te**	**175.08**	**319**	*e*PKP	**PKPdf**	**14 26 51.0**	**-1.7**
HHC				pPKP	**pPKPdf**	**14 27 00.0**	**-3.7**
HHC				sPKP		14 27 05.5	
HHC				AMB	AMB		
	comp=Z,230nm,4.5s						
LZH	**Lanzhou**	**176.99**	**110**	*e*PKP	**PKPdf**	**14 26 52.8**	**-0.6**
LZH				pPKP	**pPKPdf**	**14 27 03.5**	**-0.9**
LZH				sPKP		14 27 06.5	

ISCJB 27 14:10:22.0±0.5, 34.°26S±0.°05×72.°0W±0.°1, h16km, mb4.4/10, Error ellipse: s-maj=16.9km s-min=7.2km az=168.2
IDC 27 14:10:25.3±0.5, 34.°30S×72.°00W, h25km±3km, mb4.3/12, mb1 4.4/14, mb1mx4.3/30, mbtmp4.4/14, ML4.4/2, Error ellipse: s-maj=24.9km s-min=11.9km az=78.0
NEIC 27 14:10:26.1±0.4, 34.°27S×72.°11W, h35km, mb4.7/2, Error ellipse: s-maj=14.4km s-min=6.8km az=79.0
ISC 27 14:10:23.8±0.4, 34.°34S±0.°06×72.°0W±0.°1, h16km, n43, σ1§68/54, mb4.5/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.20**	**51**	Pn	Pb	14 11 32.5	-4.8
	2.4nm,0.3s,baz=229,slow=11,SNR=4.3						
CFAA				Lg	Lg	14 12 30.2	
	15nm,0.3s,baz=113,slow=17,SNR=6.7						
PLCA	**Paso Flores**	**6.49**	**170**	Pn	**Pn**	**14 12 00.3**	**+1.6**
	3.0nm,0.3s,baz=14,slow=17,SNR=1.9						
PLCA				Sn	**Sn**	**14 13 08.1**	**-4.3**
	3.2nm,0.3s,baz=279,slow=18,SNR=0.9						
PLCA				Lg	Lg	14 13 50.9	
	4.0nm,0.3s,baz=277,slow=15,SNR=2.8						
PLCA	**Paso Flores**	**6.49**	**170**	*e*Pn	**Pn**	**14 11 59.4**	**+0.8**
PLCA				Sn	**Sn**	**14 13 08.1**	**-4.3**
PLCA				Lg	Lg	14 13 50.9	
TRQA	**Tornquist**	**8.94**	**117**	Pn	**Pn**	**14 12 34.8**	**+2.6**
LVC	**Limon Verde**	**12.00**	**14**	*e*Pn	**Pn**	**14 13 13.8**	**-0.7**
LPAZ	**La Paz**	**18.32**	**12**	P	**P**	**14 14 39.5**	**+1.6**
	0.3nm,0.3s,baz=201,slow=8.6,SNR=3.5						
LPAZ	**La Paz**	**18.32**	**12**	*e*P	**P**	**14 14 38.7**	**+0.7**
	4.3nm,0.8s						
USHA	**Ushuaia**	**20.64**	**174**	P	**P**	**14 15 04.0**	**+1.6**
	15nm,0.8s,baz=332,slow=4.5,SNR=5.1						
SIV	**San Ignacio**	**20.77**	**31**	P	**P**	**14 15 03.9**	**-0.2**
	3.8nm,0.7s,baz=232,slow=16,SNR=2.5						
NNA	**Nana**	**22.68**	**348**	P	**P**	**14 15 24.0**	**-0.7**
SAML	**Samuel**	**26.55**	**20**	*e*P	**P**	**14 15 59.0**	**-2.0**
ATAH	**Atahualpa**	**27.70**	**346**	P	**P**	**14 16 10.6**	**-1.2**
	7.3nm,0.7s,baz=55,slow=2.9,SNR=4.4						
OTAV	**Otavalo**	**34.92**	**349**	*e*P	**P**	**14 17 14.8**	**-0.5**
SDV	**Santo Domingo**	**43.01**	**2**	*e*P	**P**	**14 18 21.9**	**-0.9**
BCIP	**Isla Barro Col**	**43.90**	**349**	*e*P	**P**	**14 18 28.7**	**-1.0**
VNA3	**Neumayer Olymp**	**49.05**	**158**	P	**P**	**14 19 10.2**	**+0.7**
VNA2	**Neumayer--Watz**	**49.70**	**157**	P	**P**	**14 19 15.2**	**+0.7**
SNAA	**Sanae**	**51.27**	**158**	P	**P**	**14 19 27.0**	**+0.5**
SNAA	**Sanae**	**51.27**	**158**	P	**P**	**14 19 26.9**	**+0.4**
	4.4nm,0.7s,baz=264,slow=9.2,SNR=26						
SNAA	**Sanae**	**51.27**	**158**	*e*P	**P**	**14 19 26.7**	**+0.2**
	4.5nm,0.7s						
SDDR	**Presa de Saban**	**53.03**	**1**	P	**P**	**14 19 38.4**	**-1.6**
QSPA	**South Pole Qui**	**55.90**	**180**	P	**P**	**14 20 01.5**	**+0.9**
	13nm,0.8s,baz=143,slow=6.6,SNR=19						
QSPA				pP	**pP**	**14 20 08.6**	**+2.9**
	6.8nm,0.9s,baz=104,slow=8.3,SNR=5.5						
QSPA	**South Pole Qui**	**55.90**	**180**	*e*P	**P**	**14 20 00.6**	**0.0**
	8.3nm,0.9s						
QSPA				pP	**pP**	**14 20 08.6**	**+2.9**
TXAR	**Lajitas Array**	**70.03**	**331**	P	**P**	**14 21 35.1**	**+0.3**
	0.6nm,0.5s,baz=156,slow=8.7,SNR=13						
TXAR				pP	**pP**	**14 21 42.7**	**+2.6**
	0.9nm,0.5s,baz=154,slow=8.5,SNR=5.9						
DBIC	**Dimbokro**	**75.29**	**71**	P	**P**	**14 22 05.9**	**-0.5**
	5.5nm,0.6s,baz=203,slow=5.5,SNR=5.2						
DBIC	**Dimbokro**	**75.29**	**71**	*e*P	**P**	**14 22 06.2**	**-0.3**
BOSA	**Boshof**	**79.92**	**118**	P	**P**	**14 22 32.5**	**+0.2**
	9.9nm,0.9s,baz=251,slow=5.8,SNR=7.4						
BOSA				pP	**PcP**	**14 22 40.1**	**+0.2**
	4.8nm,0.8s,baz=265,slow=5.3,SNR=4.5						
SHPR	**Sheep Range**	**81.14**	**326**	*e*P	**P**	**14 22 36.6**	**-1.9**
PDAR	**Pinedale Array**	**84.06**	**333**	P	**P**	**14 22 53.6**	**0.0**
	0.5nm,0.5s,baz=140,slow=5.8,SNR=4.6						
PDAR				pP	**pP**	**14 23 02.2**	**+3.2**
	1.0nm,0.7s,baz=156,slow=4.7,SNR=5.6						
NVAR	**Mina Array Bea**	**84.16**	**325**	P	**P**	**14 22 55.3**	**+1.0**
	1.7nm,0.8s,baz=161,slow=5.3,SNR=5.1						
NVAR				pP	**pP**	**14 23 02.4**	**+2.8**
	1.3nm,0.7s,baz=154,slow=6.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P	**P**	**14 22 55.0**	**-0.4**
	3.5nm,0.9s,baz=250,slow=5.1,SNR=6.7						
ULM	**Lac du Bonnet**	**86.83**	**345**	P	**P**	**14 23 06.2**	**-0.7**
	1.7nm,0.5s,baz=175,slow=8.7,SNR=3.6						
YKA	**Yellowknife Ar**	**102.38**	**341**	P	**Pdif**	**14 24 17.1**	**-0.9**
	0.4nm,1.1s,baz=141,slow=4.6,SNR=5.4						
WRA	**Warramunga Arr**	**120.46**	**209**	PKP	**PKPdf**	**14 29 13.8**	**-1.2**
	0.4nm,0.5s,baz=159,slow=1.8,SNR=12						
WRA				pPKP	**pPKPdf**	**14 29 23.7**	**+3.1**
	0.6nm,0.9s,baz=163,slow=1.7,SNR=2.6						
BRTR	**Keskin Array B**	**122.00**	**61**	PKP	**PKPdf**	**14 29 16.8**	**-0.7**
	0.5nm,0.6s,baz=263,slow=2.1,SNR=3.6						
SPITS	**Spitsbergen Ar**	**123.01**	**14**	PKP	**PKPdf**	**14 29 17.8**	**-0.4**
	9.4nm,1.0s,baz=197,slow=4.5,SNR=4.6						
SEY	**Seymchan**	**140.32**	**330**	PKP	**PKPdf**	**14 29 49.6**	**-1.4**
	2.3nm,0.7s,baz=119,slow=5.2,SNR=6.4						
BVAR	**Borovoye Array**	**147.53**	**43**	PKPbc	**PKPbc**	**14 30 07.0**	**+0.4**
	2.9nm,0.6s,baz=299,slow=3.1,SNR=5.4						
HYB	**Hyderabad**	**148.79**	**115**	*i* PKP	**PKPbc**	**14 30 09.5**	**-1.5**
AAK	**Ala-Archa**	**152.67**	**62**	PKPbc	**PKPbc**	**14 30 19.0**	**-0.7**
	2.3nm,0.6s,baz=304,slow=1.8,SNR=5.4						
AAK				pPKPbc	**PKPbc**	**14 30 28.6**	**-1.8**
	2.0nm,0.6s,baz=211,slow=4.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**154.51**	**33**	PKPbc	**PKPbc**	**14 30 22.8**	**-0.3**
	3.4nm,0.7s,baz=308,slow=3.6,SNR=7.5						
ZALV				pPKPbc	**pPKPbc**	**14 30 31.5**	**+2.9**
	2.7nm,0.8s,baz=298,slow=3.2,SNR=4.3						
ZALV				PKPab	**PKPab**	**14 30 37.9**	**+0.3**
	2.6nm,0.6s,baz=311,slow=5.3,SNR=4.9						
MKAR	**Makanchi Array**	**156.99**	**50**	PKPab	**PKPab**	**14 30 47.9**	**-0.6**
	1.1nm,0.5s,baz=288,slow=3.5,SNR=8.9						
SONM	**Songino Array**	**166.47**	**5**	PKPab	**PKPab**	**14 31 30.1**	**+0.2**
	0.3nm,0.7s,baz=337,slow=3.3,SNR=2.8						

IDC 27 14:11:27.3±4.8, 33.°83S×73.°11W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.7/29, mbtmp4.1/2, Error ellipse: s-maj=186.5km s-min=23.1km az=24.0
ISCJB 27 14:11:28.8±0.9, 34.°14S±0.°10×73.°3W±0.°2, h33km, mb4.3/4, Error ellipse: s-maj=20.0km s-min=12.3km az=154.2
NEIC 27 14:11:31.2±0.6, 34.°12S×73.°26W, h35km, mb4.1/1, Error ellipse: s-maj=13.7km s-min=8.5km az=64.0
ISC 27 14:11:31.3±1.0, 34.°1S±0.°1×73.°3W±0.°1, h35km, n10, σ0§29/10, mb4.3/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.95**	**163**	Pn	**Pn**	**14 13 10.4**	**-0.2**
TRQA	**Tornquist**	**9.95**	**117**	*e*Pn	**Pn**	**14 13 51.7**	**-0.1**
LVC	**Limon Verde**	**12.09**	**20**	*e*Pn	**Pn**	**14 14 21.1**	**-0.1**
CPUP	**Villa Florida**	**15.80**	**65**	*e*Pn	**Pn**	**14 15 10.9**	**-0.2**
PAYG	**Puerto Ayora**	**36.89**	**331**	P	**P**	**14 18 36.3**	**-0.3**
	28nm,1.0s						
JTS	**JuntasAbangare**	**45.53**	**344**	P	**P**	**14 19 47.5**	**-0.1**
	1.1nm,0.4s						
TXAR	**Lajitas Array**	**69.34**	**332**	P	**P**	**14 22 35.7**	**+0.4**
	0.5nm,0.5s,baz=163,slow=7.3,SNR=2.3						
DBIC	**Dimbokro**	**76.19**	**72**	P	**P**	**14 23 16.7**	**+0.4**
	2.3nm,0.5s,baz=239,slow=8.0,SNR=3.5						
BVAR	**Borovoye Array**	**148.06**	**43**	PKPbc	**PKPbc**	**14 31 12.8**	**+0.2**
	1.3nm,0.4s,baz=307,slow=3.3,SNR=4.4						
MKAR	**Makanchi Array**	**157.61**	**48**	PKPab	**PKPab**	**14 31 55.8**	**0.0**
	0.4nm,0.6s,baz=271,slow=3.3,SNR=2.4						

IDC 27 14:15:10.3±0.9, 35.°05S×74.°25W, h22km±5km, mb3.6/5, mb1 3.8/6, mb1mx3.7/35, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=40.9km s-min=21.1km az=79.0
ISC 27 14:15:12.2±0.8, 35.°0S±0.°1×74.°3W±0.°3, h35km, n10, σ1§68/13, mb3.7/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.10**	**58**	Pn	Pn	14 16 31.6	-8.4
	1.3nm,0.3s,baz=213,slow=6.5,SNR=4.9						
CFAA				Sn	Sn	14 17 33.2	-15
	0.6nm,0.3s,baz=176,slow=21,SNR=1.9						
LPAZ	**La Paz**	**19.46**	**18**	P	**P**	**14 19 35.4**	**-1.2**
	0.1nm,0.3s,baz=225,slow=12,SNR=3.0						
SNAA	**Sanae**	**51.35**	**157**	P	**P**	**14 24 11.9**	**-0.9**
	0.7nm,0.9s,baz=210,slow=14,SNR=3.4						
QSPA	**South Pole Qui**	**55.21**	**180**	P	**P**	**14 24 41.8**	**+0.5**
	3.5nm,0.9s,baz=161,slow=1.3,SNR=5.6						
TXAR	**Lajitas Array**	**69.76**	**333**	P	**P**	**14 26 18.7**	**-0.1**
	0.4nm,0.5s,baz=154,slow=8.5,SNR=8.4						
TXAR				pP	**pP**	**14 26 26.8**	**-2.9**
	0.6nm,0.7s,baz=159,slow=8.4,SNR=5.2						
PDAR	**Pinedale Array**	**83.86**	**335**	P	**P**	**14 27 39.2**	**+1.0**
	0.4nm,0.8s,baz=144,slow=7.8,SNR=2.8						
PDAR				pP	**PcP**	**14 27 44.9**	**+2.8**
	0.1nm,0.4s,baz=152,slow=4.1,SNR=1.3						
TORD	**Torodi Ar. Bea**	**86.30**	**71**	P	**P**	**14 27 51.2**	**+0.4**
	0.5nm,0.9s,baz=261,slow=5.4,SNR=2.4						
WRA	**Warramunga Arr**	**118.95**	**211**	PKP	**PKPdf**	**14 33 56.6**	**-1.0**
	0.5nm,0.9s,baz=162,slow=1.7,SNR=3.5						
BVAR	**Borovoye Array**	**149.29**	**43**	PKPbc	**PKPbc**	**14 34 55.5**	**-1.2**
	0.5nm,0.5s,baz=286,slow=2.6,SNR=4.2						
BVAR				pPKPbc	**PKPab**	**14 35 03.6**	**+2.3**
	0.6nm,0.5s,baz=280,slow=8.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**156.07**	**31**	PKPab	**PKPab**	**14 35 30.8**	**+1.0**
	0.6nm,0.5s,baz=322,slow=4.4,SNR=4.2						
ZALV				pPKPab	**pPKPab**	**14 35 40.6**	**-0.3**
	0.9nm,0.6s,baz=303,slow=4.4,SNR=3.7						

ISCJB 27 14:15:51.4±0.6, 38.°34S±0.°08×73.°6W±0.°1, h18km, mb4.4/14, Error ellipse: s-maj=13.9km s-min=10.4km az=148.8
IDC 27 14:15:54.0±0.6, 38.°40S×73.°56W, h21km±3km, mb4.2/11, mb1 4.4/12, mb1mx4.2/34, mbtmp4.3/12, ML4.8/1, Error ellipse: s-maj=21.7km s-min=14.9km az=80.0
NEIC 27 14:15:55.8±0.5, 38.°29S×73.°55W, h35km, mb4.8/4, Error ellipse: s-maj=13.0km s-min=9.3km az=63.0
ISC 27 14:15:53.4±0.5, 38.°34S±0.°07×73.°5W±0.°1, h18km, n48, σ1§33/59, mb4.5/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.33**	**137**	Pn	**Pb**	**14 16 49.8**	**-2.1**
	28nm,0.3s,baz=311,slow=12,SNR=13						
PLCA				Lg	Lg	14 17 35.7	
	46nm,0.3s,baz=43,slow=20,SNR=8.8						
PLCA	**Paso Flores**	**3.33**	**137**	*e*Pn	**Pn**	**14 16 46.2**	**+1.7**
PLCA				Lg	Lg	14 17 35.7	
TRQA	**Tornquist**	**9.11**	**92**	*e*Pn	**Pn**	**14 18 05.5**	**+1.6**
	84nm,1.1s						
LVC	**Limon Verde**	**16.17**	**16**	*e*Pn	**Pn**	**14 19 38.1**	**-1.8**
CPUP	**Villa Florida**	**18.16**	**53**	P	**P**	**14 20 05.3**	**+0.5**
	0.7nm,0.3s,baz=215,slow=14,SNR=2.7						
CPUP	**Villa Florida**	**18.16**	**53**	*e*P	**P**	**14 20 05.0**	**+0.2**
LPAZ	**La Paz**	**22.48**	**14**	P	**P**	**14 20 55.0**	**+2.6**
	8.5nm,0.9s,baz=182,slow=12,SNR=5.5						
LPAZ	**La Paz**	**22.48**	**14**	*e*P	**P**	**14 20 49.5**	**-2.8**
	16nm,1.1s						
SIV	**San Ignacio**	**24.82**	**30**	P	**P**	**14 21 15.5**	**+0.9**
	13nm,1.1s,baz=237,slow=12,SNR=6.5						
BDFB	**Brasilia**	**31.88**	**52**	P	**P**	**14 22 18.3**	**+0.6**
	7.4nm,0.9s,baz=218,slow=5.4,SNR=2.0						
OTAV	**Otavalo**	**38.65**	**352**	*e*P	**P**	**14 23 16.3**	**-0.1**
PAYG	**Puerto Ayora**	**40.52**	**334**	P	**P**	**14 23 30.6**	**-0.8**
RCBR	**Riachuelo**	**47.01**	**56**	*e*P	**P**	**14 24 23.4**	**-0.4**
SDV	**Santo Domingo**	**47.06**	**4**	*e*P	**P**	**14 24 22.9**	**-1.3**
	3.5nm,0.8s						
SNAA	**Sanae**	**48.07**	**156**	P	**P**	**14 24 31.0**	**-0.4**
	1.4nm,0.9s,baz=298,slow=7.9,SNR=4.9						
SNAA				pP	**pP**	**14 24 39.5**	**+2.4**
	3.6nm,1.0s,baz=261,slow=8.8,SNR=7.3						
SNAA	**Sanae**	**48.07**	**156**	*e*P	**P**	**14 24 30.0**	**-1.4**
	12nm,1.0s						
SNAA				pP	**pP**	**14 24 39.5**	**+2.4**
QSPA	**South Pole Qui**	**51.90**	**180**	P	**P**	**14 24 58.8**	**-1.9**
	3.9nm,1.1s,baz=186,slow=4.5,SNR=3.4						
QSPA				pP	**pP**	**14 25 08.2**	**+1.9**
	5.7nm,1.0s,baz=164,slow=7.0,SNR=4.8						
QSPA	**South Pole Qui**	**51.90**	**180**	P	**P**	**14 24 59.2**	**-1.4**
QSPA				pP	**pP**	**14 25 08.2**	**+1.9**
JCT	**Junction City**	**72.72**	**336**	*e*P	**P**	**14 27 19.8**	**-0.4**
	12nm,1.1s						
TXAR	**Lajitas Array**	**72.97**	**333**	P	**P**	**14 27 22.5**	**+0.7**
	1.0nm,0.8s,baz=154,slow=8.4,SNR=7.2						
TXAR				pP	**pP**	**14 27 28.3**	**+0.6**
	2.3nm,0.8s,baz=152,slow=9.3,SNR=12						
WVT	**Waverly**	**75.27**	**348**	*e*P	**P**	**14 27 34.3**	**-0.6**
TUL1	**Tulsa**	**76.70**	**342**	*e*P	**P**	**14 27 42.4**	**-0.7**
	18nm,1.0s						
DBIC	**Dimbokro**	**77.72**	**71**	P	**P**	**14 27 50.0**	**+0.7**
	10nm,0.8s,baz=185,slow=5.9,SNR=11						
DBIC				pP	**pP**	**14 27 56.6**	**+1.3**
	6.4nm,0.8s,baz=200,slow=7.0,SNR=4.6						
BOSA	**Boshof**	**79.13**	**118**	P	**P**	**14 27 56.5**	**-0.8**
	6.9nm,0.8s,baz=271,slow=5.4,SNR=6.3						
TSUM	**Tsumeb**	**79.20**	**106**	*e*P	**P**	**14 27 57.9**	**+0.1**
NVAR	**Mina Array Bea**	**86.78**	**326**	P	**P**	**14 28 37.8**	**+1.3**
	0.6nm,0.6s,baz=172,slow=7.0,SNR=2.6						
NVAR				pP	**pP**	**14 28 43.6**	**+1.1**
	0.5nm,0.6s,baz=160,slow=4.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**86.81**	**71**	P	**P**	**14 28 36.6**	**-0.3**
	3.4nm,0.9s,baz=228,slow=4.4,SNR=11						
TORD				pP	**pP**	**14 28 43.1**	**+0.2**
	1.1nm,0.6s,baz=217,slow=5.1,SNR=3.8						
PDAR	**Pinedale Array**	**87.11**	**334**	P	**P**	**14 28 38.1**	**+0.1**
	0.9nm,0.8s,baz=145,slow=5.4,SNR=6.6						
PDAR				pP	**pP**	**14 28 44.1**	**+0.1**
	2.2nm,1.0s,baz=141,slow=5.7,SNR=9.6						
GERES	**GERESS Array B**	**116.03**	**47**	PKP	**PKPdf**	**14 34 34.2**	**-0.5**
	0.8nm,0.8s,baz=323,slow=0.5,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**124.41**	**267**	T	T	16 51 06.5	
	baz=126,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**124.42**	**267**	T	T	16 51 07.0	
	baz=126,slow=75,SNR=13						

H11S3 WAKE ISLAND Hy124.42 267 T T 16 51 07.0
baz=126,slow=75,SNR=12
AKASG Malin Array Be 125.96 50 PKP PKPdf 14 34 52.6 -1.1
0.2nm,0.3s,baz=270,slow=1.8,SNR=4.5
GEYT Alibeck 142.32 75 PKhKP PKPpre 14 35 20.8
1.0nm,0.7s,baz=99,slow=9.2,SNR=3.7
SEY Seymchan 143.09 327 PKP PKPdf 14 35 26.0 +0.9
1.6nm,0.7s,baz=100,slow=4.9,SNR=6.0
BVAR Borovoye Array 151.19 48 PKP PKPdf 14 35 39.6 +0.7
1.0nm,0.8s,baz=282,slow=7.4,SNR=4.4
BVAR PKPbc PKiKP 14 35 45.3 -0.1
3.4nm,0.7s,baz=270,slow=3.0,SNR=14
BVAR pPKPbc PKPab 14 35 52.3 -0.6
2.5nm,0.7s,baz=260,slow=4.4,SNR=5.0
AAK Ala-Archa 155.40 70 PKPab PKPab 14 36 11.2 0.0
3.6nm,0.8s,baz=217,slow=4.2,SNR=7.6
ZALV Zalesovo Beam 158.49 36 PKPab PKPab 14 36 24.3 +0.5
2.6nm,0.8s,baz=292,slow=5.9,SNR=5.9
ZALV pPKPab pPKPab 14 36 31.3 +1.4
1.3nm,0.7s,baz=305,slow=5.2,SNR=2.6
DANN Dangsing 158.63 111 eP PKPab 14 36 24.1 -1.5
16nm,0.9s
GKN Gorkha 159.07 113 eP PKPab 14 36 26.0 -1.4
DMN Daman 159.18 115 eP PKPab 14 36 26.4 -1.6
PKIN Phulchoki 159.37 115 eP PKPab 14 36 27.0 -1.8
7.9nm,0.9s
PKI Pulchoki 159.38 115 eP PKPab 14 36 27.0 -1.9
10nm,0.9s
KKN Kakani 159.41 114 eP PKPab 14 36 27.5 -1.4
RAMN Ramite 159.83 118 eP PKPab 14 36 29.0 -1.8
13nm,1.0s
JIRN Jiri 159.98 116 eP PKPab 14 36 30.2 -1.4
14nm,0.9s
MKAR Makanchi Array 160.35 57 PKP PKPdf 14 35 53.4 +2.0
1.6nm,1.0s,baz=312,slow=2.7,SNR=4.2
MKAR PKPab PKPab 14 36 31.8 -0.5
0.9nm,0.7s,baz=282,slow=4.5,SNR=5.6
SONM Songino Array 170.51 0 PKP PKPdf 14 35 59.2 -0.7
0.4nm,0.9s,baz=0.0,slow=1.4,SNR=2.9
SONM PKPab PKPab 14 37 17.6 +0.7
0.2nm,0.4s,baz=23,slow=4.7,SNR=3.6
SONM pPKPab pPKPab 14 37 23.6 +0.7
1.5nm,1.0s,baz=343,slow=4.6,SNR=6.2

IDC 27 14:16:29.0±2.3, 52.13N×172.82E, h0km, mb2.9/2, mb1 3.4/3, mb1mx3.2/28, mbtmp3.2/3, ML2.4/1, Error ellipse: s-maj=28.6km s-min=22.3km az=116.0, Near Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FX1 Attu Island--F 0.78 15 Pn Pb 14 16 46.3 +0.8
58nm,0.3s,baz=180,slow=0.9,SNR=372
FX1 Sn Sn 14 16 58.8 -0.9
145nm,0.3s,baz=197,slow=22,SNR=15
PETK Petropavlovsk- 9.26 282 Pn Pn 14 18 43.5 -0.1
0.2nm,0.3s,baz=91,slow=19,SNR=5.9
ILAR Eielson Array 24.08 43 P P 14 21 45.4 -0.4
0.3nm,0.8s,baz=252,slow=8.4,SNR=4.3
YKA Yellowknife Ar 38.45 45 P P 14 23 52.0 0.0
0.1nm,0.4s,baz=284,slow=7.9,SNR=3.1

IDC 27 14:18:35.9±0.8, 35.65S×70.31W, h0km, mb4.1/7, mb1 4.2/9, mb1mx4.1/36, mbtmp4.1/9, ML4.2/2, Error ellipse: s-maj=37.0km s-min=17.4km az=85.0
ISCJB 27 14:18:38.7±0.6, 35.76S±0.07×70.5W±0.2, h35km, mb4.0/7, Error ellipse: s-maj=20.1km s-min=9.8km az=169.5
NEIC 27 14:18:40.6±0.4, 35.79S×70.56W, h35km, mb4.0/3, Error ellipse: s-maj=15.5km s-min=7.2km az=81.0
ISC 27 14:18:40.8±0.6, 35.73S±0.07×70.4W±0.1, h35km, n21, σ1§25/19, mb4.1/7, Chile-Argentina border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.51 25 Pn Pn 14 19 53.4 +6.7
0.3nm,0.3s,baz=167,slow=18,SNR=2.6
CFAA Pg 14 20 07.2
0.5nm,0.3s,baz=210,slow=14,SNR=3.2
CFAA Lg Lg 14 21 05.8
1.4nm,0.3s,baz=86,slow=20,SNR=3.2
PLCA Paso Flores 4.99 181 Pn Pn 14 19 55.4 +2.1
4.2nm,0.3s,baz=320,slow=12,SNR=2.3
PLCA Sn Sn 14 20 38.2 -12
5.9nm,0.3s,baz=192,slow=23,SNR=2.6
PLCA Paso Flores 4.99 181 P Pn 14 19 52.7 -0.6
PLCA Sn Sn 14 20 38.2 -12
TRQA Tornquist 7.17 111 ePn Pn 14 20 23.9 +0.8
LVC Limon Verde 13.14 6 ePn Pn 14 21 46.1 +0.9
USHA Ushuaia 19.15 176 P P 14 23 00.3 -0.6
0.1nm,0.3s,baz=350,slow=9.8,SNR=2.3
LPAZ La Paz 19.47 7 P P 14 22 58.3 -7.0
0.1nm,0.3s,baz=234,slow=1.8,SNR=3.7
LPAZ La Paz 19.47 7 eP P 14 23 05.2 -0.2
1.5nm,0.6s
SIV San Ignacio 21.37 25 P P 14 23 22.1 -3.2
5.3nm,0.9s,baz=238,slow=9.5,SNR=3.5
BCIP Isla Barro Col 45.53 347 P P 14 26 56.8 -0.3
SNAA Sanae 49.49 157 P P 14 27 26.8 -0.6
1.1nm,0.8s,baz=292,slow=5.9,SNR=5.7
SNAA Sanae 49.49 157 eP P 14 27 26.8 -0.6
3.3nm,1.0s
APG El Apazote 53.91 336 P P 14 28 02.0 +0.9
3.1nm,0.5s,baz=150,slow=8.1,SNR=3.8
QSPA South Pole Qui 54.51 180 P P 14 28 05.3 +0.4
3.7nm,1.0s,baz=146,slow=3.6,SNR=3.5
QSPA South Pole Qui 54.51 180 eP P 14 28 03.0 -1.9
1.5nm,0.8s
TXAR Lajitas Array 71.89 330 P P 14 30 00.0 -0.3
0.2nm,0.5s,baz=148,slow=7.4,SNR=4.1
BOSA Boshof 78.11 117 P P 14 30 37.8 +1.2
3.2nm,0.9s,baz=273,slow=2.5,SNR=3.6
TORD Torodi Ar. Bea 83.58 69 P P 14 31 05.2 -0.5
0.7nm,1.0s,baz=224,slow=6.0,SNR=3.9
BVAR Borovoye Array 147.60 45 PKPbc PKPbc 14 38 21.9 +1.1
0.3nm,0.5s,baz=222,slow=1.9,SNR=2.4
MKAR Makanchi Array 156.83 53 PKPab PKPab 14 39 02.4 +0.5
0.3nm,0.8s,baz=318,slow=3.9,SNR=3.7
SONM Songino Array 167.68 10 PKPab PKPab 14 39 48.9 -0.5
0.3nm,0.8s,baz=75,slow=1.6,SNR=2.6

ISCJB 27 14:19:57.5±0.3, 37.31S±0.06×73.10W±0.09, h22km, mb4.8/43, Error ellipse: s-maj=11.3km s-min=7.5km az=148.7
IDC 27 14:19:57.6±0.6, 37.32S×73.44W, h22km±3km, mb4.4/14, mb1 4.5/16, mb1mx4.4/40, mbtmp4.5/16, ML4.2/2, Error ellipse: s-maj=17.5km s-min=15.1km az=68.0
NEIC 27 14:19:59.5±0.3, 37.34S×73.26W, h35km, mb5.0/29, Error ellipse: s-maj=10.5km s-min=7.0km az=70.0
BJI 27 14:19:59.7, 37.30S×73.10W, h25km, mB5.4/5, Ms5.2/3, Ms7 5.0/3
ISC 27 14:19:58.1±0.5, 37.35S±0.06×73.16W±0.09, h24km±2km, h24km:pP-P, n358, σ1§42/387, mb4.9/43, 129C-138D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.94 150 Pn Pb 14 21 04.4 -2.5
4.8nm,0.3s,baz=321,slow=16,SNR=2.3
PLCA Lg Lg 14 22 07.5
14nm,0.3s,baz=50,slow=22,SNR=6.1
PLCA Paso Flores 3.94 150 ePn Pn 14 20 56.8 -0.3
PLCA Lg Lg 14 22 07.5
LVC Limon Verde 15.14 15 Pn Pn 14 23 30.1 -0.6
34nm,0.8s
CPUP Villa Florida 17.34 55 P P 14 24 01.8 +2.1
0.4nm,0.3s,baz=206,slow=12,SNR=4.6
CPUP S S 14 27 21.4 +2.5
1.5nm,0.3s,baz=179,slow=10,SNR=4.3
USHA Ushuaia 17.78 171 P P 14 24 04.8 +0.5
0.3nm,0.3s,baz=25,slow=17,SNR=2.6
LPAZ La Paz 21.45 13 P P 14 24 46.7 +1.4
11nm,1.0s,baz=174,slow=9.8,SNR=7.3
LPAZ La Paz 21.45 13 eP P 14 24 46.9 +1.7
SIV San Ignacio 23.82 30 P P 14 25 08.9 -0.3
18nm,0.8s,baz=230,slow=11,SNR=16
SAML Samuel 29.68 20 eP P 14 26 00.9 -1.2
12nm,0.9s
BDFB Brasilia 31.03 53 P P 14 26 13.9 -0.2
7.7nm,0.9s,baz=163,slow=7.8,SNR=4.5
BDFB pP pP 14 26 21.8 +0.4
13nm,1.0s,baz=11,slow=0.8,SNR=4.7
BDFB Brasilia 31.03 53 eP P 14 26 12.5 -1.7
BDFB pP pP 14 26 21.8 +0.4
OTAV Otavalo 37.72 351 eP P 14 27 11.3 -1.1
37nm,1.8s
SDV Santo Domingo 46.05 3 eP P 14 28 17.8 -2.4
28nm,1.0s
RCBR Riachuelo 46.21 57 P P 14 28 23.3 +2.0
10nm,1.0s,baz=238,slow=13,SNR=3.1
SNAA Sanae 48.85 157 P P 14 28 42.2 +1.0
4.3nm,1.0s,baz=280,slow=6.1,SNR=7.7
SNAA Sanae 48.85 157 eP P 14 28 42.1 +0.9
20nm,1.1s
QSPA South Pole Qui 52.89 180 P P 14 29 12.0 +0.3
10nm,1.0s,baz=125,slow=2.5,SNR=8.0
APG El Apazote 54.57 339 P P 14 29 20.2 -4.4
3.6nm,0.7s,baz=181,slow=13,SNR=4.1
035Z Hargill 67.66 336 ⇓P P 14 30 54.3 +1.3
baz=68
035A Encino 68.11 336 ⇓P P 14 30 57.6 +1.7
baz=68
034A Hebbronville 68.42 336 ⇓P P 14 30 59.4 +1.6
baz=69
934A Benavides 68.86 336 ⇑P P 14 31 01.5 +1.0
baz=69
933A Laredo 69.12 335 ⇓P P 14 31 03.9 +1.8
baz=69
835A Beeville 69.28 337 ⇑P P 14 31 04.0 +1.0
baz=70
834A Tilden 69.36 336 ⇓P P 14 31 05.1 +1.5
baz=70
833A Chaparral WMA, 69.82 335 ⇑P P 14 31 08.1 +1.7
baz=70
832A Faith Ranch, C 69.97 335 ⇓P P 14 31 08.5 +1.1
baz=70
734A La Parita Cree 70.03 336 ⇑P P 14 31 08.8 +1.1
baz=70
733A Divot King Ran 70.15 336 ⇓P P 14 31 09.2 +0.7
baz=70
636A Smothers Creek 70.16 338 ⇓P P 14 31 09.6 +1.2
baz=70
635A Leesville 70.29 337 ⇑P P 14 31 10.0 +0.7
baz=71
732A Laxson Ranch, 70.38 335 ⇓P P 14 31 10.0 +0.1
baz=71,SNR=6.1
537A Green Hill Far 70.50 339 ⇓P P 14 31 11.7 +1.2
baz=71
536A Bastrop 70.72 338 ⇓P P 14 31 12.7 +0.8
baz=71
633A Saathoff Ranch 70.80 336 ⇓P P 14 31 13.6 +1.2
baz=71
535A Dale 70.83 338 ⇓P P 14 31 13.2 +0.7
baz=71
632A Uvalde 71.04 336 ⇓P P 14 31 15.2 +1.3
baz=71,SNR=5.3
534A Blanco 71.10 337 ⇓P P 14 31 15.6 +1.3
baz=71
340A Bronson 71.11 341 ⇓P P 14 31 15.8 +1.6
baz=71
339A Huntington 71.20 341 ⇓P P 14 31 16.5 +1.8
baz=72
631A Perdido Creek 71.22 335 ⇑P P 14 31 16.6 +1.6
baz=72
533A Kerrville 71.32 336 ⇑P P 14 31 17.5 +1.9
baz=72
338A Crockett 71.42 340 ⇑P P 14 31 17.6 +1.5
baz=72
435B Jarrell 71.53 338 ⇑P P 14 31 18.6 +1.8
baz=72
337A Centerville 71.54 340 ⇑P P 14 31 18.4 +1.6
baz=72
532A Rocksprings 71.65 336 ⇑P P 14 31 18.8 +1.1
baz=72,SNR=6.3
434A Burnet 71.77 337 ⇓P P 14 31 19.3 +1.0
baz=72
336A Riesel 71.88 339 ⇑P P 14 31 20.4 +1.5
baz=72
531A Rocksprings 71.90 335 ⇑P P 14 31 20.6 +1.5
baz=72
JCT Junction City 71.94 336 eP P 14 31 18.2 -1.1
21nm,0.9s
JCT Junction City 71.94 336 ⇑P P 14 31 20.8 +1.4
baz=72
335A Moody 71.95 338 ⇑P P 14 31 20.2 +0.9
baz=72
433A Art 71.97 337 ⇓P P 14 31 20.4 +0.9
baz=72,SNR=7.5
530A J-C Ranch, Com 72.15 335 ⇑P P 14 31 21.7 +1.1
baz=72
TXAR Lajitas Array 72.24 332 P P 14 31 20.5 -0.7
1.8nm,0.8s,baz=153,slow=8.4,SNR=11
TXAR pP pP 14 31 28.0 -1.1
2.8nm,0.8s,baz=158,slow=7.8,SNR=10
334A Lometa 72.24 338 ⇑P P 14 31 21.9 +0.8
baz=72
432A Menard 72.31 336 ⇑P P 14 31 22.2 +0.7
baz=73
431A Sonora 72.39 335 ⇓P P 14 31 23.6 +1.6
baz=73
529A Stev Forest Ra 72.44 334 ⇓P P 14 31 23.5 +1.2
baz=73
333A Richland Sprin 72.47 337 ⇑P P 14 31 23.3 +0.8
baz=73
KMSC Kings Mountain 72.53 353 ⇑P P 14 31 23.9 +1.2
baz=73
WHTX Lake Whitney 72.63 339 ⇓P P 14 31 24.5 +1.2
baz=73
430A Baggett Ranch, 72.70 335 ⇑P P 14 31 25.1 +1.2
baz=73
332A Millersview 72.76 336 ⇑P P 14 31 25.0 +0.8
baz=73
429A Davenport Ranc 72.78 334 ⇑P P 14 31 24.7 +0.4
baz=73
234A Clairette 72.84 338 ⇑P P 14 31 25.8 +1.1
baz=73
331A San Angelo 72.91 336 ⇓P P 14 31 25.1 0.0
baz=73
233A Rising Star 73.08 337 ⇑P P 14 31 27.2 +1.1
baz=73
135A Vickery Place, 73.14 339 ⇑P P 14 31 27.9 +1.4
baz=73
232A Coleman 73.19 337 ⇑P P 14 31 27.7 +0.9
baz=74
330A Mertzon 73.25 335 ⇓P P 14 31 27.8 +0.7
baz=74
134A White-Moore Ra 73.35 338 ⇓P P 14 31 29.2 +1.5
baz=74
231A Bronte 73.45 336 ⇑P P 14 31 29.0 +0.7
baz=74,SNR=5.1
329A Wagon Wheel Ra 73.59 335 ⇑P P 14 31 30.2 +1.0
baz=74
133A Hamilton Ranch 73.64 338 ⇑P P 14 31 30.5 +1.1
baz=74
230A Sterling City 73.67 335 ⇑P P 14 31 31.0 +1.4
baz=74
Z35A Perchaven, San 73.82 339 ⇑P P 14 31 31.4 +1.0
baz=74
ABTX Abilene, Hawle 73.88 337 eP P 14 31 30.6 -0.2
18nm,0.9s
ABTX Abilene, Hawle 73.88 337 ⇓P P 14 31 32.0 +1.2
baz=74
229A Bryant Ranch, 73.98 335 ⇓P P 14 31 32.3 +0.9
baz=74
Z34A Collier Ranch, 74.05 339 ⇑P P 14 31 32.8 +1.1
baz=74
131A Roby 74.16 336 ⇓P P 14 31 33.5 +1.1
baz=74
Z33A Whitaker Ranch 74.22 338 ⇑P P 14 31 33.8 +1.1
baz=74
130A Snyder 74.27 336 ⇓P P 14 31 34.1 +1.0
baz=75
WVT Waverly 74.37 348 eP P 14 31 31.9 -1.6
57nm,0.8s
228A UT Block 9, Go 74.38 334 ⇑P P 14 31 35.1 +1.3
baz=75
Z32A Haskell 74.46 337 ⇑P P 14 31 35.8 +1.7
baz=75
Y34A Reagan Ranch, 74.55 339 ⇓P P 14 31 35.7 +1.0
baz=75
129A Stewart Farms, 74.60 335 ⇑P P 14 31 36.2 +1.2
baz=75
Z31A Sharp Cattle R 74.67 337 ⇓P P 14 31 36.3 +0.9
baz=75
128A Castleberry Fa 74.80 335 ⇑P P 14 31 37.3 +1.1
baz=75
Y33A Hilltop Ranch, 74.85 338 ⇑P P 14 31 37.4 +1.0
baz=75
Z30A Sanderson Ranc 74.96 336 ⇓P P 14 31 38.0 +0.9
baz=75
Y32A R-V Farms, Ver 75.09 338 ⇓P P 14 31 38.8 +1.0
baz=75
Z29A Hungry Hill Ra 75.12 336 ⇓P P 14 31 37.9 -0.2
baz=75
X34A Smith Ranch, M 75.18 339 ⇑P P 14 31 39.5 +1.3
baz=76
Y31A Rekieta Farm, 75.31 337 ⇑P P 14 31 40.1 +1.0
baz=76
X33A Lawton 75.31 339 ⇓P P 14 31 39.8 +0.7
baz=76
Y30A Stafford Cattl 75.43 336 ⇓P P 14 31 41.2 +1.4
baz=76
X32A Elmer 75.43 338 ⇑P P 14 31 40.8 +1.1
baz=76
PBMO Poplar Bluff 75.48 346 eP P 14 31 38.6 -1.2
14nm,0.8s
Y29A Porterfield Fa 75.66 336 ⇑P P 14 31 42.6 +1.5
baz=76
W34A Bridge Creek, 75.76 339 ⇓P P 14 31 42.8 +1.3
baz=76
X31A McDonald Ranch 75.84 337 ⇓P P 14 31 43.2 +1.1
baz=76
TUL1 Tulsa 75.86 341 ⇓P P 14 31 43.4 +1.3
baz=76
W33A Caddo, Fort Co 75.88 339 ⇓P P 14 31 44.0 +1.8
baz=76
X30A Coker Ranch, T 75.95 337 ⇓P P 14 31 44.7 +2.0
baz=76
W32A Sentinel 76.08 338 ⇓P P 14 31 44.8 +1.4
baz=76
MSTX Muleshoe 76.13 335 eP P 14 31 42.4 -1.4
13nm,0.8s
MSTX Muleshoe 76.13 335 ⇓P P 14 31 44.7 +0.9
baz=76
Z25A Roswell 76.18 333 ⇑P P 14 31 45.3 +1.1
baz=76
X29A Tulia 76.21 336 ⇑P P 14 31 45.7 +1.5
baz=76
319A Douglas 76.26 329 ⇓P P 14 31 45.8 +1.2
baz=76
V33A Lossen Ranch, 76.45 339 ⇓P P 14 31 46.9 +1.4
baz=77
Z24A Sheeppen Canyo 76.46 333 ⇑P P 14 31 48.1 +2.2
baz=77
AMTX Amarillo 76.61 336 eP P 14 31 46.6 +0.1
22nm,1.3s
AMTX Amarillo 76.61 336 ⇓P P 14 31 47.6 +1.1
baz=77
Y25A Mesa, Roswell 76.75 333 ⇓P P 14 31 48.2 +0.8
baz=77
W29A Amraillo 76.81 336 ⇓P P 14 31 49.1 +1.5
baz=77
U34A Anderson Ranch 76.82 340 ⇑P P 14 31 49.7 +2.1
baz=77
V31A Spring Creek L 76.86 338 ⇓P P 14 31 50.0 +2.1
baz=77
Z22A Elephant Butte 76.99 331 ⇓P P 14 31 51.2 +2.4
baz=77
X26A CR and CF Fran 77.01 334 ⇓P P 14 31 49.2 +0.3
baz=77
Y24A Capitan 77.02 333 ⇑P P 14 31 49.5 +0.5
baz=77
DBIC Dimbokro 77.12 71 P P 14 31 51.2 +1.5
9.7nm,0.8s,baz=192,slow=6.9,SNR=11
DBIC pP pP 14 31 57.8 +0.1
8.4nm,0.7s,baz=191,slow=4.2,SNR=6.6
W27A Bowe Ranch, En 77.22 335 ⇓P P 14 31 50.2 +0.2
baz=78,SNR=6.2
Y23A Lovelace Mesa, 77.25 332 ⇑P P 14 31 51.4 +1.1
baz=78
W26A Owens Ranch, T 77.48 335 ⇑P P 14 31 52.9 +1.4
baz=78
T33A Patterson Ranc 77.62 340 ⇑P P 14 31 54.1 +2.1
baz=78
W25A X Bar L Ranch, 77.84 334 ⇑P P 14 31 54.8 +1.4
baz=78
T32A Huddler Ranch, 77.90 339 ⇑P P 14 31 55.2 +1.6
baz=78
T31A Randall Ranch, 78.04 339 ⇑P P 14 31 55.8 +1.4
baz=78
V26A Tequesquite Ra 78.13 335 ⇑P P 14 31 56.1 +1.0
baz=78
U28A Mallet 78.15 336 ⇑P P 14 31 56.4 +1.3
baz=78
W24A Lazy 6 Ranch, 78.17 333 ⇓P P 14 31 56.4 +1.0
baz=78
214A Organ Pipe Nat 78.27 326 ⇑P P 14 31 56.9 +1.1
baz=78
ANMO Albuquerque 78.31 333 eP P 14 31 55.8 -0.4
8.1nm,1.1s
U27A Thompson Grove 78.38 336 ⇑P P 14 31 57.9 +1.4
baz=79
S32A Newby Ranch, P 78.39 339 ⇑P P 14 31 58.1 +1.8
baz=79
W23A Werner Place, 78.39 333 ⇑P P 14 31 57.4 +0.8
baz=79
V25A Rancho No Teng 78.45 334 ⇑P P 14 31 57.3 +0.3
baz=79
S30A Montezuma 78.77 338 ⇓P P 14 31 59.1 +0.6
baz=79
T28A Walsh 78.80 337 ⇑P P 14 31 59.1 +0.4
baz=79,SNR=5.5
U25A Circle Dot Ran 78.89 335 ⇑P P 14 32 00.3 +0.9
baz=79
V23A Ortiz Mt. (NFS 78.92 333 ⇑P P 14 32 00.5 +1.0
baz=79
R32A Long Quarter, 79.00 340 ⇓P P 14 32 01.3 +1.6
baz=79
R31A Burdett 79.10 339 ⇑P P 14 32 01.8 +1.5
baz=79
S28A Manter 79.16 337 ⇑P P 14 32 02.2 +1.6
baz=80,SNR=6.0
TSUM Tsumeb 79.18 106 P P 14 32 03.0 +1.7
3.3nm,0.8s,baz=240,slow=8.9,SNR=6.2
X18A Snowflake 79.28 330 ⇓P P 14 32 03.4 +1.9
baz=80
R30A Dighton 79.31 339 ⇑P P 14 32 02.7 +1.3
baz=80
BOSA Boshof 79.32 118 P P 14 32 02.8 +0.7
7.3nm,0.9s,baz=194,slow=10.0,SNR=5.5
T26A Comanche Natio 79.32 336 ⇑P P 14 32 02.5 +0.8
baz=80
V22A San Miguel Ran 79.34 333 ⇓P P 14 32 02.6 +0.7
baz=80,SNR=6.4
U23A El Rito 79.45 333 ⇑P P 14 32 04.7 +2.3
baz=80
Q32A Meitler Ranch, 79.49 340 ⇓P P 14 32 04.0 +1.7
baz=80
T25A Trinidad 79.56 335 ⇓P P 14 32 04.2 +1.2
baz=80,SNR=6.8
S26A Kim 79.69 336 ⇓P P 14 32 03.9 +0.3
baz=80,SNR=6.5
U22A Llaves 79.73 333 ⇑P P 14 32 05.5 +1.6
baz=80
Q31A Ellis 79.73 340 ⇑P P 14 32 05.3 +1.7
baz=80
X16A Lo Mia Camp, P 79.79 329 ⇑P P 14 32 05.5 +1.2
baz=80
T24B San Luis 79.82 334 ⇑P P 14 32 05.7 +1.1
baz=80
R28A Tribune 79.83 337 ⇑P P 14 32 05.2 +0.9
baz=80
T23A Casias Ranch, 80.03 334 ⇓P P 14 32 06.4 +0.8
baz=80
S25A Robets Cordova 80.04 335 ⇑P P 14 32 06.7 +1.1
baz=80
Y14A Wickenburg 80.04 327 ⇓P P 14 32 06.6 +1.1
baz=80
R27A Eads 80.08 337 ⇑P P 14 32 06.7 +1.1
baz=80,SNR=5.7
Q29A Oakley 80.08 338 ⇓P P 14 32 06.8 +1.2
baz=80
GLA Glamis 80.10 325 ⇓P P 14 32 06.9 +1.1
baz=80
P31A Stockton 80.21 340 ⇑P P 14 32 07.6 +1.3
baz=80
S24A Houchin Ranch, 80.28 335 ⇑P P 14 32 08.4 +1.3
baz=81,SNR=5.7
R26A Arlington 80.30 336 ⇓P P 14 32 08.3 +1.4
baz=81,SNR=5.7
R25A Fountain Ranch 80.43 336 ⇓P P 14 32 09.2 +1.5
baz=81
P30A Selden 80.48 339 ⇑P P 14 32 09.6 +1.9
baz=81
Q28A Sharon Springs 80.49 338 ⇓P P 14 32 09.9 +2.0
baz=81
S23A Nye Farm, Mont 80.62 334 ⇓P P 14 32 09.8 +1.1
baz=81
R24A Sanders Place, 80.78 335 ⇑P P 14 32 10.6 +1.0
baz=81,SNR=7.2

Code	Station	Δ	Az	Phase	ISC	Time	Res
BC3	Big Chuckawall	80.89	325	⇑P	P	14 32 11.9	+1.8
	baz=81						
P28A	Saint Francis	80.94	338	⇑P	P	14 32 12.0	+1.7
	baz=81						
S22A	4UR Ranch, Cre	80.94	334	⇑P	P	14 32 11.8	+1.2
	baz=81						
R23A	Moffat	80.99	334	⇓P	P	14 32 12.7	+1.9
	baz=81						
O30A	MW Ranch, Wils	81.01	339	⇑P	P	14 32 11.5	+0.9
	baz=81						
MVCO	Mesa Verde	81.07	332	⇓P	P	14 32 12.8	+1.6
	baz=81						
Q25A	Bedland, Calha	81.12	336	⇓P	P	14 32 12.8	+1.5
	baz=81						
O29A	4D Ranch, Culb	81.17	339	⇓P	P	14 32 12.5	+1.1
	baz=82						
P27A	Ficken Ranch,	81.17	337	⇓P	P	14 32 13.2	+1.7
	baz=82						
PFO	Pinyon Flat Ob	81.31	325	P	P	14 32 09.6	-2.8
	6.2nm,1.0s,baz=90,slow=2.0,SNR=2.8						
PFO	Pinyon Flat Ob	81.31	325	⇑P	P	14 32 13.8	+1.4
	baz=82						
W13A	Hualapai Mount	81.41	327	⇑P	P	14 32 14.6	+1.6
	baz=82						
P26A	Davis Ranch, A	81.42	337	⇑P	P	14 32 14.5	+1.6
	baz=82						
BELC	Belle Mtn. Jos	81.42	325	⇓P	P	14 32 14.0	+1.0
	baz=82						
Q24A	Divide	81.46	335	⇑P	P	14 32 15.1	+1.9
	baz=82						
P25A	Willow Gulch B	81.63	336	⇑P	P	14 32 15.7	+1.7
	baz=82,SNR=6.2						
MURC	Murrieta	81.64	324	⇑P	P	14 32 15.7	+1.6
	baz=82						
BGNE	Belgrade	81.65	341	⇓P	P	14 32 15.3	+1.4
	baz=82						
LBTB	Lobatse	81.72	115	eP	P	14 32 14.6	-0.3
	231nm,0.7s						
U15A	North Rim	81.88	329	⇓P	P	14 32 16.9	+1.4
	baz=82						
GMRC	Granite Mounta	81.92	326	⇓P	P	14 32 17.7	+2.1
	baz=82						
O26A	Horse Wrangler	82.03	337	⇓P	P	14 32 18.0	+2.0
	baz=82						
O25A	Wiggins	82.17	337	⇑P	P	14 32 19.3	+2.5
	baz=82						
SMCO	Snowmass	82.27	334	eP	P	14 32 18.8	+1.1
	12nm,1.0s						
ISCO	Idaho Springs	82.37	335	⇓P	P	14 32 18.8	+0.8
	baz=83						
N26A	Koester Ranch,	82.54	337	⇑P	P	14 32 20.3	+1.7
	baz=83						
L31A	Butterfield Fa	82.55	341	⇑P	P	14 32 20.5	+1.9
	baz=83						
L30A	Spencer Herefo	82.57	340	⇓P	P	14 32 20.4	+1.7
	baz=83						
P22A	Eagle	82.57	334	⇓P	P	14 32 20.7	+1.7
	baz=83						
O23A	Lake Granby, G	82.84	335	⇓P	P	14 32 22.3	+1.9
	baz=83						
GSC	Goldstone	82.87	325	⇑P	P	14 32 22.4	+1.9
	baz=83						
O22A	Kremmling	83.00	335	⇑P	P	14 32 23.1	+1.7
	baz=83						
EDW2	Edwards Air Fo	83.07	324	⇑P	P	14 32 22.9	+1.4
	baz=83						
K30A	Basset	83.22	341	⇑P	P	14 32 23.8	+1.7
	baz=84						
CCUT	Cedar City	83.28	329	eP	P	14 32 23.6	+0.9
	11nm,1.2s						
N23A	Red Feather La	83.46	336	⇓P	P	14 32 25.2	+1.6
	baz=84						
ECSD	EROS Data Cent	83.47	343	eP	P	14 32 23.8	+0.5
	24nm,0.8s						
ECSD	EROS Data Cent	83.47	343	⇑P	P	14 32 24.9	+1.6
	baz=84						
SRU	San Rafael	83.50	332	eP	P	14 32 24.0	+0.2
	8.3nm,0.9s						
N22A	Wattenberg Ran	83.55	335	⇓P	P	14 32 26.0	+2.0
	baz=84						
O20A	White River Ci	83.57	334	⇑P	P	14 32 25.9	+1.8
	baz=84						
M23A	Laramie	83.91	336	⇓P	P	14 32 27.8	+1.9
	baz=84						
ISA	Isabella	83.94	324	⇓P	P	14 32 27.4	+1.5
	baz=84						
J29A	Okreek	84.09	340	⇑P	P	14 32 28.2	+1.7
	baz=84,SNR=6.0						
VES	Vestal, Richgr	84.37	324	⇓P	P	14 32 31.3	+3.3
	baz=85						
SMMC	Simmler	84.37	323	⇑P	P	14 32 30.7	+2.6
	baz=85						
J27A	Elkhorn Farm,	84.41	339	⇑P	P	14 32 29.7	+1.5
	baz=85,SNR=5.1						
J26A	Sides Ranch, S	84.77	339	⇓P	P	14 32 31.9	+1.9
	baz=85						
I28A	Midland	84.86	340	⇑P	P	14 32 31.9	+1.5
	baz=85						
R11A	Troy Canyon, C	84.88	328	eP	P	14 32 31.3	+0.5
	6.2nm,1.0s						
R11A	Troy Canyon, C	84.88	328	⇑P	P	14 32 32.0	+1.1
	baz=85						
K23A	Bowen Ranch, D	85.03	337	⇑P	P	14 32 32.9	+1.5
	baz=85						
J25A	Sunshine Ranch	85.05	338	⇑P	P	14 32 33.0	+1.6
	baz=85						
JLU	Jordanelle	85.15	332	eP	P	14 32 33.2	+1.0
	55nm,2.4s						
I27A	Quinn	85.17	340	⇓P	P	14 32 33.3	+1.4
	baz=86						
H29A	Onida	85.19	341	⇑P	P	14 32 33.4	+1.4
	baz=86,SNR=8.2						
J24A	Dixon Ranch, L	85.26	338	⇑P	P	14 32 34.3	+1.8
	baz=86						
DUG	Dugway	85.32	331	eP	P	14 32 32.7	-0.2
	36nm,2.1s						
TPH	Tonopah	85.36	327	eP	P	14 32 33.6	+0.4
	8.2nm,1.0s						
G30A	Faulkton	85.39	342	⇓P	P	14 32 34.2	+1.2
	baz=86						
H28A	Mission Ridge	85.45	340	⇑P	P	14 32 34.7	+1.4
	baz=86,SNR=6.6						
K21A	Alcova	85.45	335	⇑P	P	14 32 35.0	+1.4
	baz=86						
I25A	Rochford	85.61	338	⇓P	P	14 32 35.9	+1.6
	baz=86						
H27A	Howes	85.70	340	⇓P	P	14 32 36.2	+1.7
	baz=86,SNR=5.1						
RSSD	Black Hills	85.79	338	eP	P	14 32 35.2	-0.1
	6.8nm,0.9s						
G28A	Parade	85.79	341	⇑P	P	14 32 36.5	+1.5
	baz=86,SNR=6.3						
J22A	Midwest	85.90	336	⇓P	P	14 32 37.6	+1.9
	baz=86						
NVAR	Mina Array Bea	86.13	326	P	P	14 32 37.4	+0.4
	1.6nm,0.7s,baz=151,slow=5.9,SNR=6.3						
NVAR				pP	pP	14 32 43.6	-1.4
	1.7nm,0.7s,baz=161,slow=7.0,SNR=5.3						
TOA0	Torodi Ar. Sit	86.20	70	eP	P	14 32 36.8	-0.9
TORD	Torodi Ar. Bea	86.20	70	P	P	14 32 38.0	+0.3
	2.6nm,0.8s,baz=232,slow=3.5,SNR=6.9						
TORD				pP	pP	14 32 45.1	-0.5
	3.4nm,0.9s,baz=255,slow=4.0,SNR=5.4						
F29A	Eureka	86.22	342	⇑P	P	14 32 38.4	+1.3
	baz=86,SNR=5.8						
G27A	Dupree	86.35	340	⇓P	P	14 32 39.6	+1.8
	baz=87						
PDAR	Pinedale Array	86.35	334	P	P	14 32 37.6	-0.4
	1.6nm,1.0s,baz=155,slow=5.7,SNR=7.6						
PDAR				pP	pP	14 32 44.3	-1.8
	1.1nm,0.8s,baz=170,slow=4.0,SNR=5.1						
J20A	Shoshoni	86.37	335	⇓P	P	14 32 39.7	+1.7
	baz=87						
F28A	McLaughlin	86.48	341	⇑P	P	14 32 40.1	+1.7
	baz=87,SNR=5.3						
H24A	Dirks Ranch, A	86.51	338	⇓P	P	14 32 39.6	+1.0
	baz=87						
I21A	Big Trails, Te	86.52	336	⇑P	P	14 32 39.8	+1.1
	baz=87						
G25A	Newell	86.59	339	⇑P	P	14 32 40.5	+1.5
	baz=87						
J19A	Crowheart	86.62	335	⇓P	P	14 32 41.0	+1.7
	baz=87						
E30A	Jud	86.62	343	⇓P	P	14 32 40.6	+1.6
	baz=87						
HVU	Hansel Valley	86.67	331	eP	P	14 32 39.6	0.0
	11nm,0.8s						
ELK	Elko	86.76	329	eP	P	14 32 39.6	-0.5
	7.6nm,1.0s						
F27A	Lemmon	86.83	340	⇑P	P	14 32 41.4	+1.3
	baz=87,SNR=5.5						
I20A	Worland	86.92	336	⇓P	P	14 32 41.9	+1.3
	baz=87						
F26A	Lodgepole	86.98	340	⇓P	P	14 32 42.3	+1.4
	baz=87						
E28A	Huff	87.13	341	⇓P	P	14 32 42.9	+1.4
	baz=87						
D30A	Buchanan	87.15	343	⇓P	P	14 32 43.2	+1.6
	baz=88,SNR=6.1						
H21A	Big Horn, Sher	87.17	337	⇓P	P	14 32 43.6	+1.7
	baz=88						
G23A	Biddle	87.17	338	⇓P	P	14 32 42.7	+0.9
	baz=88						
E27A	Carson	87.22	341	⇓P	P	14 32 44.0	+2.0
	baz=88						
F25A	Bowman	87.27	339	⇓P	P	14 32 44.1	+1.8
	baz=88						
I19A	Meeteetse	87.28	335	⇓P	P	14 32 44.2	+1.7
	baz=88						
D29A	Pettibone, Tap	87.31	342	⇓P	P	14 32 44.1	+1.8
	baz=88,SNR=5.4						
REDW	Red Top Meadow	87.33	333	eP	P	14 32 43.9	+1.0
	32nm,1.9s						
REDW				ePP	PP	14 36 06.4	-1.4
H20A	Greybull	87.35	336	⇓P	P	14 32 43.8	+1.1
	baz=88,SNR=7.8						
TPAW	Teton Pass	87.48	333	eP	P	14 32 43.6	0.0
	8.4nm,1.0s						
C30A	Mose, Pekin	87.65	343	⇓P	P	14 32 45.5	+1.5
	baz=88,SNR=6.5						
D28A	Regan	87.67	342	⇑P	P	14 32 45.6	+1.5
	baz=88						
I17A	Pilgrim Ck.	87.72	334	⇑P	P	14 32 45.6	+0.9
	baz=88						
G21A	Lodge Grass	87.75	337	⇓P	P	14 32 47.2	+2.5
	baz=88						
IMW	Indian Meadow	87.83	334	eP	P	14 32 45.6	+0.3
	14nm,1.3s						
H19A	Powell	87.84	335	⇓P	P	14 32 47.0	+1.9
	baz=88						
FLWY	Flagg Ranch	87.91	334	eP	P	14 32 46.0	+0.5
	12nm,0.8s						
D26A	Manning	88.01	340	⇑P	P	14 32 47.1	+1.4
	baz=88						
H18A	Shoshone NF, C	88.07	335	⇓P	P	14 32 47.7	+1.3
	baz=88,SNR=9.8						
G20A	Bridger	88.07	336	⇑P	P	14 32 47.7	+1.5
	baz=88,SNR=10.0						
B30A	Myrvik Farm, E	88.32	344	⇑P	P	14 32 48.6	+1.5
	baz=89,SNR=7.3						
D25A	Fairfield	88.36	340	⇓P	P	14 32 49.0	+1.6
	baz=89						
C27A	Sayler Ranch,	88.39	341	⇑P	P	14 32 49.0	+1.4
	baz=89						
YMR	Madison River	88.51	334	eP	P	14 32 47.3	-1.1
	20nm,0.9s						
D24A	Glendive	88.60	339	⇑P	P	14 32 50.8	+2.2
	baz=89						
C26A	Wahner Farm, P	88.65	341	⇑P	P	14 32 50.3	+1.5
	baz=89						
A30A	Hoffart Farm,	88.77	344	⇑P	P	14 32 51.9	+2.7
	baz=89						
B28A	Dugan Ranch, T	88.79	342	⇑P	P	14 32 51.0	+1.7
	baz=89						
HLID	Hailey	88.82	331	⇑P	P	14 32 51.0	+1.1
	baz=89						
C24A	Savage	89.01	339	⇑P	P	14 32 51.2	+0.8
	baz=89,SNR=8.1						
D22A	Cohagen	89.17	338	⇑P	P	14 32 54.1	+2.9
	baz=90,SNR=5.0						
E20A	Meyer Farm, Mu	89.19	337	⇓P	P	14 32 53.0	+1.7
	baz=90,SNR=16						
MCMT	McKenzie Canyo	89.32	333	eP	P	14 32 50.7	-1.5
	1.4nm,0.8s						
D21A	La Casta Ranch	89.34	338	⇓P	P	14 32 54.1	+2.1
	baz=90						
B25A	Knox Farm, Ray	89.34	340	⇓P	P	14 32 53.0	+1.0
	baz=90						
E19A	Rath Farm, Rou	89.36	336	⇑P	P	14 32 57.0	+4.8
	baz=90,SNR=13						
C23A	Lambert	89.47	339	⇓P	P	14 32 56.7	+4.1
	baz=90,SNR=14						
C22A	Vida	89.62	339	⇓P	P	14 32 57.2	+3.9
	baz=90,SNR=5.1						
A26A	Wade Farm, Ken	89.62	341	⇓P	P	14 32 57.1	+3.8
	baz=90						
D20A	Manuel Ranch,	89.71	337	⇓P	P	14 32 57.8	+4.1
	baz=90,SNR=11						
DGMT	Dagmar	89.80	340	⇑P	P	14 32 58.1	+4.0
	baz=90,SNR=8.3						
B23A	Brockton	90.02	339	⇓P	P	14 32 56.7	+1.6
	baz=90,SNR=5.6						
C21A	Desert Coulee	90.05	338	⇑P	P	14 32 56.3	+0.9
	baz=90,SNR=12						
B22A	Reddig Ranch S	90.15	339	⇓P	P	14 32 56.7	+0.9
	baz=90,SNR=10.0						
A24A	Westby	90.16	340	⇓P	P	14 32 57.2	+1.4
	baz=90						
N02D	Trinity Center	90.18	325	⇓P	P	14 32 56.2	0.0
	baz=90						
C20A	Veseth Ranch,	90.22	337	⇑P	P	14 32 57.3	+1.1
	baz=90						
A23A	Redstone	90.43	340	⇑P	P	14 32 56.7	-0.4
	baz=91						
B21A	Ellsworth Farm	90.57	338	⇑P	P	14 32 58.5	+0.8
	baz=91						
A22A	Carney Farms,	90.75	339	⇓P	P	14 32 58.9	+0.3
	baz=91,SNR=11						
B20A	Solberg Farm,	90.88	338	⇓P	P	14 32 59.7	+0.5
	baz=91,SNR=8.3						
A21A	Bergtoll Ranch	91.05	339	⇑P	P	14 33 01.1	+1.1
	baz=91,SNR=8.5						
EGMT	Eagleton	91.05	336	⇑P	P	14 33 01.5	+1.4
	baz=91						
K04D	Chiloquin, OR	91.07	326	⇓P	P	14 33 02.5	+2.2
	baz=91						
B19A	Brinkman Farms	91.17	337	⇑P	P	14 33 02.0	+1.5
	baz=92						
A20A	Cobblestone Ra	91.24	338	⇑P	P	14 33 01.8	+0.9
	baz=92,SNR=7.8						
GERES	GERESS Array B	115.13	47	PKP	PKPdf	14 38 36.5	-0.3
	0.2nm,0.4s,baz=226,slow=3.5,SNR=4.7						
ILAR	Eielson Array	116.75	333	PKP	PKPdf	14 38 38.4	-0.9
	0.2nm,0.6s,baz=134,slow=2.6,SNR=2.6						
BRTR	Keskin Array B	124.20	63	PKP	PKPdf	14 38 54.1	-0.5
	1.5nm,0.7s,baz=198,slow=2.8,SNR=9.8						
BRTR				pPKP	pPKPdf	14 39 01.4	-1.4
	0.9nm,0.7s,baz=201,slow=4.5,SNR=3.7						
AKASG	Malin Array Be	125.09	49	PKP	PKPdf	14 38 54.7	-1.0
	0.2nm,0.3s,baz=262,slow=3.0,SNR=5.3						
GEYT	Alibeck	141.76	74	PKhKP	PKPpre	14 39 22.8	
	2.5nm,0.9s,baz=229,slow=9.0,SNR=4.9						
SEY	Seymchan	142.43	328	PKP	PKPdf	14 39 27.2	-0.5
	0.4nm,0.3s,baz=326,slow=3.6,SNR=3.2						
ABKAR	Akbulak array	144.40	55	ePKPdf	PKPbc	14 39 30.5	+0.3
HYB	Hyderabad	148.17	121	iP	PKPbc	14 39 41.0	-1.3
BRVK	Borovoye	150.23	46	ePKPbc	PKPbc	14 39 46.2	-0.1
BVAR	Borovoye Array	150.30	46	PKPbc	PKPbc	14 39 47.2	+0.7
	7.4nm,0.9s,baz=290,slow=4.4,SNR=20						
BVAR				pPKPbc	pPKPbc	14 39 54.1	-0.6
	4.2nm,0.7s,baz=247,slow=3.0,SNR=6.7						
YAK	Yakutsk	151.53	337	ePKPbc	PKPbc	14 39 48.2	-0.9
KKAR	Karatay Array	151.83	67	ePKPbc	PKPbc	14 39 50.5	0.0
AAK	Ala-Archa	154.76	68	PKP	PKPdf	14 39 47.4	-1.1
	1.3nm,0.7s,baz=0.0,slow=7.1,SNR=3.9						
AAK				PKPbc	PKiKP	14 39 58.1	+1.0
	1.3nm,0.6s,baz=217,slow=5.1,SNR=3.2						
AAK				PKPab	PKPab	14 40 13.2	+1.0
	4.9nm,0.7s,baz=221,slow=3.4,SNR=8.1						
AAK	Ala-Archa	154.76	68	PKP	PKPdf	14 39 47.4	-1.1
AAK				ePKPdf	PKPbc	14 39 48.2	-8.8
AAK				PKPbc	PKiKP	14 39 58.1	+1.0
AAK				PKPab	PKPab	14 40 13.2	+1.0
MJAR	Matsushiro Arr	154.97	278	PKPab	PKPab	14 40 11.7	-1.5
	2.2nm,0.9s,baz=140,slow=2.5,SNR=5.6						
KSH	Kashi	155.78	75	ePKP	PKPdf	14 39 50.5	+0.6
KSH				epPKP	pPKPdf	14 40 00.5	+2.4
KSH				esPKP		14 40 04.5	
KSH				SKS	SKSdf	14 46 51.8	-2.9
KSH				eSKKS	SKKSac	14 50 38.8	-3.1
KSH				eSS	SS	15 03 34.5	-6.2
KSH				AMB	AMB		
	comp=Z,130nm,4.0s						
ZALV	Zalesovo Beam	157.51	35	PKP	PKPdf	14 39 50.6	-0.9
	2.6nm,0.8s,baz=270,slow=1.5,SNR=9.8						
ZALV				PKPab	PKPab	14 40 24.1	+0.7
	3.1nm,0.6s,baz=311,slow=5.7,SNR=6.6						
KOLN	Koldanda	158.25	109	eP	PKPab	14 40 27.9	+0.2
DANN	Dangsing	158.67	108	eP	PKPab	14 40 29.9	+0.3
	30nm,0.9s						
GKN	Gorkha	159.15	110	eP	PKPab	14 40 31.7	+0.2
DMN	Daman	159.29	112	eP	PKPab	14 40 32.5	+0.2
	11nm,0.9s						
PKIN	Phulchoki	159.49	112	eP	PKPab	14 40 33.0	-0.1
PKI	Pulchoki	159.49	112	eP	PKPab	14 40 33.2	0.0
KKN	Kakani	159.52	111	eP	PKPab	14 40 33.4	+0.2
MKAR	Makanchi Array	159.55	55	PKP	PKPdf	14 39 53.6	-0.7
	1.8nm,0.9s,baz=318,slow=1.6,SNR=8.4						
MKAR				PKPab	PKPab	14 40 33.0	+0.5
	2.6nm,0.8s,baz=294,slow=3.9,SNR=11						
MKAR	Makanchi Array	159.55	55	ePKPdf	PKPdf	14 39 53.5	-0.7
MKAR				PKPab	PKPab	14 40 33.0	+0.5
MKAR				ePKPab	PKPab	14 40 33.2	+0.7
CMAR	Chiang Mai Arr	159.94	158	PKP	PKPdf	14 39 55.4	-0.1
	0.5nm,0.3s,baz=238,slow=0.9,SNR=5.1						
CMAR				PKPab	PKPab	14 40 34.2	-0.5
	0.4nm,0.4s,baz=210,slow=3.2,SNR=4.0						
CMAR				pPKPab	pPKPab	14 40 42.7	-0.1
	1.0nm,0.8s,baz=244,slow=2.2,SNR=2.3						
RAMN	Ramite	160.00	115	eP	PKPab	14 40 35.5	+0.1
	10nm,1.0s						
JIRN	Jiri	160.12	113	eP	PKPab	14 40 36.0	0.0
	20nm,1.1s						
ODAN	Odare	160.52	117	eP	PKPab	14 40 37.9	+0.3
	16nm,0.8s						
TAPN	Taplejung	161.04	116	eP	PKPab	14 40 39.9	0.0
	14nm,1.3s						
WMQ	Urumqi	164.10	60	ePKP	PKPdf	14 39 59.5	+0.4
WMQ				LR	LR		
	comp=N,110nm,20.4s						
WMQ				LR	LR		
	comp=E,190nm,19.8s						
WMQ				LR	LR		
	comp=Z,200nm,21.8s						
NJ2	Nanjing	168.79	245	ePKP	PKPdf	14 40 04.0	+1.1
GYA	Guiyang	169.14	179	ePKP	PKPdf	14 40 03.0	-0.5
GYA				pPKP	pPKPdf	14 40 13.8	+2.0
GYA				PKPab	PKPab	14 41 17.5	+2.4
GYA				PKS	PKSdf	14 43 33.8	-2.4
GYA				PP	PP	14 45 07.5	+3.9
GYA				SKKS		14 51 49.3	
GYA				SS	SS	15 05 57.0	+0.5
GYA				AMB	AMB		
	comp=Z,120nm,8.0s						
GYA				LR	LR		
	comp=N,130nm,21.8s						
GYA				LR	LR		
	comp=E,110nm,21.5s						
GYA				LR	LR		
	comp=Z,120nm,24.4s						
SONM	Songino Array	169.52	2	PKPab	PKPab	14 41 16.5	+0.2
	0.3nm,0.7s,baz=343,slow=4.5,SNR=2.8						
SONM				pPKPab	pPKPab	14 41 21.7	-2.6
	0.8nm,0.9s,baz=352,slow=6.2,SNR=4.2						
CD2	Chengdu	173.08	157	PKP	PKPdf	14 40 05.3	0.0
CD2				pPKP	pPKPdf	14 40 16.5	+2.9
CD2				sPKP		14 40 20.5	
CD2				PKS	PKSdf	14 43 36.0	-1.7
CD2				PP	PP	14 45 27.3	+3.9
CD2				SKS	SKSdf	14 47 03.0	-4.0
CD2				SKKS	SKKSac	14 52 09.0	-0.1
CD2				SS	SS	15 06 35.5	-0.2
CD2				AMB	AMB		
	comp=Z,260nm,5.6s						
GTA	Gaotai	174.11	67	ePKP	PKPdf	14 40 05.3	-0.2
GTA				pPKP	pPKPdf	14 40 12.5	-1.3
GTA				sPKP		14 40 16.3	
HHC	Hu-ho-hao-te	174.93	315	ePKP	PKPdf	14 40 06.5	+0.8
HHC				pPKP	pPKPdf	14 40 15.3	+1.3
HHC				sPKP		14 40 22.0	
LZH	Lanzhou	177.28	117	ePKP	PKPdf	14 40 05.5	-1.0
LZH				pPKP	pPKPdf	14 40 15.5	+0.8
LZH				sPKP		14 40 21.5	

ISCJB 27 14:20:39.1±2.1, 34.14S±0.06×72.19W±0.05, h10km±13km, mb4.7/25, Error ellipse: s-maj=11.9km s-min=6.0km az=154.0

GUC 27 14:20:40.5±0.8, 34.20S×72.12W, h39km±5km, ML5.2

IDC 27 14:20:43.7±0.8, 33.99S×71.94W, h25km±4km, mb4.6/17, mb1 4.7/17, mb1mx4.5/37, mbtmp4.7/17, Error ellipse: s-maj=21.9km s-min=15.4km az=52.0

NEIC 27 14:20:44.8±0.3, 33.99S×72.05W, h35km, mb4.8/6, Error ellipse: s-maj=9.9km s-min=7.3km az=212.0

ISC 27 14:20:43.4±0.8, 34.03S±0.08×72.07W±0.07, h27km±4km, n51, σ0.83/64, mb4.7/25, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	Talagante	1.01	69	⇑iP	Pn	14 21 00.8	-1.2
IHA	Instituto Hidr	1.06	20	⇓iP	Pn	14 21 01.9	-0.7
SAN	Santiago	1.30	64	eP	Pn	14 21 05.6	-0.4
SAN				iS	Sb	14 21 23.8	+0.1
STL	Santa Lucia	1.33	64	eP	Pn	14 21 05.2	-1.1
STL				iS	Sb	14 21 23.9	-0.4
ROCH	El Roble	1.38	40	⇑iP	Pn	14 21 06.7	-0.4
ROCH				iS	Sb	14 21 27.8	+2.0
ROCH				AML	AML	14 21 33.7	
	comp=N,40μm,0.6s						
PEL	Peldehue	1.45	53	⇑iP	Pn	14 21 08.2	+0.2
PEL				iS	Sb	14 21 29.0	+1.0
PEL				AML	AML	14 21 35.3	
	comp=E,79μm,0.5s						
FCH	Farellones	1.64	65	⇓iP	Pn	14 21 10.7	-0.1
FCH				iS	Sb	14 21 34.1	+0.6
FCH				AML	AML	14 21 38.5	
	comp=N,29μm,0.5s						
CFAA	Coronel Fontan	4.03	54	Pn	Pn	14 21 45.1	+1.7
	comp=N,2.8nm,0.3s,baz=223,slow=13,SNR=5.8						
CFAA				Lg	Lg	14 22 40.9	
	comp=N,18nm,0.3s,baz=57,slow=13,SNR=5.4						
TRQA	Tornquist	9.10	119	Pn	Pn	14 22 54.1	+1.0
CPUP	Villa Florida	14.87	63	Pn	Pn	14 24 11.9	0.0
NNA	Nana	22.37	348	P	P	14 25 40.7	+1.0
	comp=N,14nm,0.8s,baz=210,slow=11,SNR=4.9						
BDFB	Brasilia	28.37	56	P	P	14 26 34.7	-1.0
	comp=N,17nm,0.8s,baz=213,slow=9.2,SNR=7.3						
RCBR	Riachuelo	43.68	58	P	P	14 28 46.0	-0.2
	comp=N,7.9nm,0.7s,baz=216,slow=12,SNR=4.5						
SNAA	Sanae	51.57	158	P	P	14 29 47.7	+0.9
	comp=N,5.9nm,1.0s,baz=258,slow=6.8,SNR=5.3						
APG	El Apazote	51.81	337	P	P	14 29 45.9	-3.5
	comp=N,7.4nm,0.8s,baz=138,slow=12,SNR=4.7						
CRPR	Cabo Rojo, PR	51.96	6	Pn	P	14 29 45.6	-4.6
TEIG	Tepich	56.12	342	P	P	14 30 20.8	+0.2
	comp=N,32nm,0.7s,baz=152,slow=5.4,SNR=8.4						
TEIG				pP	pP	14 30 29.2	+0.4
	comp=N,17nm,0.6s,baz=154,slow=4.4,SNR=2.7						
QSPA	South Pole Qui	56.21	180	P	P	14 30 22.1	+1.2
	comp=N,5.4nm,0.8s,baz=107,slow=8.7,SNR=2.6						
JCT	Junction City	69.30	335	eP	P	14 31 47.8	-0.5
	comp=N,14nm,1.0s						
TXAR	Lajitas Array	69.75	331	P	P	14 31 51.8	+0.6
	comp=N,2.6nm,0.7s,baz=148,slow=8.5,SNR=7.7						
BBTS	Babate	71.65	57	P	P	14 32 03.3	+0.4
	comp=N,33nm,1.0s,baz=241,slow=4.1,SNR=4.2						
SIUC	Southern Illin	73.14	346	eP	P	14 32 09.9	-1.5
MSTX	Muleshoe	73.52	334	eP	P	14 32 11.8	-2.0
	comp=N,9.2nm,0.8s						
DBIC	Dimbokro	75.21	71	P	P	14 32 24.1	+0.1
	comp=N,6.0nm,0.7s,baz=213,slow=6.0,SNR=4.5						
PFO	Pinyon Flat Ob	79.14	324	P	P	14 32 47.4	+1.6
	comp=N,7.4nm,1.0s,baz=115,slow=2.0,SNR=4.9						
TSUM	Tsumeb	79.23	106	P	P	14 32 47.3	+0.6
	comp=N,1.4nm,0.9s,baz=281,slow=6.6,SNR=3.7						
BOSA	Boshof	80.08	118	P	P	14 32 51.1	-0.1
	comp=N,7.5nm,0.9s,baz=226,slow=6.9,SNR=4.2						
DUG	Dugway	82.89	330	eP	P	14 33 05.9	+0.3
	comp=N,8.1nm,1.1s						
PDAR	Pinedale Array	83.78	333	P	P	14 33 10.6	+0.4
	comp=N,2.7nm,0.8s,baz=144,slow=4.5,SNR=9.7						
PDAR				pP	pP	14 33 19.4	+0.5
	comp=N,2.3nm,1.1s,baz=144,slow=3.7,SNR=2.9						
NVAR	Mina Array Bea	83.89	325	P	P	14 33 12.2	+1.2
	comp=N,4.6nm,0.9s,baz=162,slow=5.4,SNR=9.4						
TOA0	Torodi Ar. Sit	84.24	70	eP	P	14 33 12.8	-0.2
TORD	Torodi Ar. Bea	84.24	70	P	P	14 33 12.6	-0.3
	comp=N,11nm,0.9s,baz=258,slow=4.3,SNR=14						
TORD				pP	pP	14 33 20.6	-1.0

comp=N,3.7nm,0.7s,baz=262,slow=4.0,SNR=4.0
QLMT Earthquake Lak 86.25 333 eP P 14 33 21.9 -0.7
comp=N,0.5nm,0.7s
ULM Lac du Bonnet 86.52 345 P P 14 33 22.8 -0.7
comp=N,6.1nm,0.9s,baz=190,slow=4.2,SNR=6.8
MCMT McKenzie Canyo 86.78 332 eP P 14 33 25.6 +0.4
comp=N,5.6nm,1.0s
DGMT Dagmar 87.00 339 eP P 14 33 25.6 -0.3
comp=N,12nm,0.5s
LRM Limekiln Ridge 87.47 333 eP P 14 33 29.0 +0.5
comp=N,103nm,1.3s
YBH Yreka Blue Hor 88.58 325 P P 14 33 34.0 +0.3
comp=N,5.5nm,0.8s,baz=87,slow=5.8,SNR=8.8
YKA Yellowknife Ar 102.08 341 P Pdif 14 34 34.0 -0.6
comp=N,0.6nm,0.7s,baz=142,slow=4.5,SNR=11
WRA Warramunga Arr 120.72 209 PKP PKPdf 14 39 32.8 -0.8
comp=N,1.8nm,1.1s,baz=157,slow=1.6,SNR=5.8
BRTR Keskin Array B 121.87 61 PKP PKPdf 14 39 35.3 +0.1
comp=N,1.1nm,0.9s,baz=182,slow=1.7,SNR=4.2
AKASG Malin Array Be 122.23 47 PKP PKPdf 14 39 34.2 -1.1
comp=N,1.1nm,0.6s,baz=260,slow=2.8,SNR=5.4
FINES FINESS Array B 123.03 35 PKP PKPdf 14 39 36.2 -0.3
comp=N,1.7nm,0.9s,baz=29,slow=3.2,SNR=2.9
ARCES ARCESS Array B 124.05 25 PKP PKPdf 14 39 38.3 0.0
comp=N,2.6nm,0.8s,baz=250,slow=2.6,SNR=4.1
SEY Seymchan 140.04 330 PKP PKPdf 14 40 09.7 +1.1
comp=N,2.1nm,0.7s,baz=174,slow=6.6,SNR=4.3
BVAR Borovoye Array 147.32 43 PKPbc PKPbc 14 40 24.5 +0.5
comp=N,6.8nm,0.7s,baz=292,slow=2.8,SNR=8.7
HYB Hyderabad 148.94 115 iPKP PKPbc 14 40 28.0 -1.4
AAK Ala-Archa 152.54 62 PKPbc PKPbc 14 40 38.1 +0.7
comp=N,5.3nm,0.7s,baz=211,slow=2.4,SNR=5.4
AAK PKPab PKPab 14 40 47.6 -0.3
comp=N,7.1nm,0.9s,baz=217,slow=1.2,SNR=5.6
ZALV Zalesovo Beam 154.26 32 PKP PKPdf 14 40 32.0 -0.2
comp=N,4.1nm,0.8s,baz=289,slow=3.8,SNR=5.2
ZALV PKPbc PKiKP 14 40 40.6 +0.1
comp=N,7.3nm,0.7s,baz=314,slow=3.1,SNR=10
ZALV pPKPbc pPKPbc 14 40 49.0 -0.4
comp=N,3.4nm,0.8s,baz=297,slow=3.5,SNR=2.4
ZALV PKPab PKPab 14 40 54.8 +0.3
comp=N,4.6nm,0.6s,baz=301,slow=5.1,SNR=5.2
ZALV pPKPab pPKPab 14 41 03.4 +0.2
comp=N,4.3nm,0.8s,baz=304,slow=4.6,SNR=2.8
MKAR Makanchi Array 156.80 49 PKPab PKPab 14 41 05.0 -0.7
comp=N,3.5nm,0.7s,baz=269,slow=3.7,SNR=12
MKAR pPKPab pPKPab 14 41 13.3 -1.1
comp=N,2.4nm,0.6s,baz=302,slow=4.5,SNR=4.8
SONM Songino Array 166.16 4 PKP PKPdf 14 40 44.9 -1.0
comp=N,0.3nm,0.7s,baz=323,slow=2.2,SNR=2.6
SONM PKPab PKPab 14 41 47.3 +0.7
comp=N,1.3nm,0.9s,baz=350,slow=3.3,SNR=5.4

ISCJB **27** *14:21:14.8±0.6, 34°58S±0°07×72°7W±0°1, h33km, mb4.5/10, Error ellipse: s-maj=15.3km s-min=9.0km az=165.3*
IDC **27** *14:21:14.9±0.9, 34°57S×72°81W, h16km±4km, mb4.3/4, mb1 4.6/4, mb1mx4.1/38, mbtmp4.4/4, Error ellipse: s-maj=43.6km s-min=25.7km az=54.0*
NEIC **27** *14:21:17.0±0.3, 34°56S×72°78W, h35km, mb4.5/7, Error ellipse: s-maj=10.6km s-min=6.3km az=76.0*
ISC 27 14:21:16.3±0.6,**34°56S**±0°08×**72°8W**±0°1,**h35km,n24, σ2s44**/32,**mb4.5**/10,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.42	164	ePn	Pn	14 22 48.8	+0.4
TRQA	Tornquist	9.42	115	ePn	Pn	14 23 29.4	-0.1
LVC	Limon Verde	12.39	17	Pn	Pn	14 24 11.0	+0.6
CPUP	Villa Florida	15.66	63	Pn	Pn	14 24 54.5	+0.2
	0.6nm,0.5s						
LPAZ	La Paz	18.68	14	P	Pn	14 25 32.5	-0.1
	11nm,0.8s						
NNA	Nana	22.77	350	P	P	14 26 16.2	+0.4
SAML	Samuel	26.98	21	eP	P	14 26 55.5	+0.7
	4.4nm,0.7s						
OTAV	Otavalo	35.02	350	P	P	14 28 06.4	+0.2
SDV	Santo Domingo	43.26	3	eP	P	14 29 14.8	+0.1
	6.7nm,0.7s						
SNAA	Sanae	51.31	158	P	P	14 30 18.1	+1.4
	2.4nm,0.6s,baz=263,slow=9.9,SNR=5.1						
SNAA	Sanae	51.31	158	eP	P	14 30 17.3	+0.6
QSPA	South Pole Qui	55.68	180	P	P	14 30 48.8	-0.1
	2.5nm,0.7s						
TXAR	Lajitas Array	69.91	332	P	P	14 32 24.7	+0.8
	2.1nm,0.6s,baz=159,slow=8.2,SNR=8.0						
TXAR				pP	pP	14 32 30.7	-4.0
	3.3nm,0.8s,baz=160,slow=7.8,SNR=4.2						
WVT	Waverly	71.71	347	P	P	14 32 34.6	0.0
MSTX	Muleshoe	73.73	334	eP	P	14 32 46.3	-0.5
	16nm,0.8s						
ANMO	Albuquerque	75.97	332	eP	P	14 33 01.3	+1.5
	6.0nm,1.0s						
DUG	Dugway	83.03	330	eP	P	14 33 39.0	+1.0
	14nm,1.3s						
NVAR	Mina Array Bea	83.98	326	P	P	14 33 44.5	+1.4
	2.0nm,0.8s,baz=132,slow=6.2,SNR=3.6						
NVAR				pP	PcP	14 33 50.6	+3.7
	1.1nm,0.6s,baz=140,slow=5.8,SNR=2.1						
TORD	Torodi Ar. Bea	85.01	70	P	P	14 33 49.5	+1.0
	4.2nm,0.9s,baz=230,slow=5.0,SNR=3.9						
TORD				pP	PcP	14 33 54.5	+2.8
	8.2nm,0.8s,baz=252,slow=4.0,SNR=4.6						
WRA	Warramunga Arr	119.96	210	PKP	PKPdf	14 40 04.8	+1.1
	0.7nm,0.7s,baz=155,slow=1.7,SNR=3.1						
WRA				pPKP	pPKPdf	14 40 09.8	-5.3
	0.6nm,0.6s,baz=154,slow=1.7,SNR=1.8						
BRTR	Keskin Array B	122.67	61	PKP	PKPdf	14 40 08.5	+0.1
	0.2nm,0.3s,baz=199,slow=5.5,SNR=2.2						
BRTR				pPKP	pPKPdf	14 40 14.6	-5.2
	0.9nm,0.7s,baz=184,slow=4.0,SNR=3.1						
BVAR	Borovoye Array	148.13	43	PKPbc	PKPab	14 41 00.2	-0.6
	6.3nm,0.7s,baz=266,slow=1.8,SNR=3.5						
BVAR				pPKPbc	pPKPbc	14 41 04.9	-4.3
	6.5nm,0.7s,baz=293,slow=3.3,SNR=4.5						
MKAR	Makanchi Array	157.62	49	PKPab	PKPab	14 41 42.0	+1.1
	1.4nm,0.6s,baz=284,slow=3.0,SNR=2.5						
MKAR				pPKPab	pPKPab	14 41 47.0	-5.1
	2.3nm,0.7s,baz=296,slow=4.3,SNR=3.6						
SONM	Songino Array	166.72	2	PKPab	PKPab	14 42 22.3	+1.6
	1.9nm,0.8s,baz=342,slow=4.5,SNR=3.8						
SONM				pPKPab	pPKPab	14 42 27.5	-4.4
	1.9nm,0.8s,baz=336,slow=5.0,SNR=6.2						

ISCJB **27** *14:23:24.7±0.2, 34°50S±0°05×72°72W±0°08, h26km, mb5.0/79, MS4.8/1, Error ellipse: s-maj=10.5km s-min=5.5km az=153.4*
IDC **27** *14:23:25.8±0.4, 34°56S×73°01W, h24km±2km, mb4.6/17, mb1 4.7/20, mb1mx4.6/36, mbtmp4.7/20, ML4.5/3, MS4.8/2, Ms1 4.9/2, ms1mx4.1/24, Error ellipse: s-maj=17.9km s-min=10.6km az=73.0*
MOS **27** *14:23:25.9±1.0, 34°54S×72°73W, h33km, mb5.4/20, Error ellipse: s-maj=25.2km s-min=9.6km az=101.9*
NEIC **27** *14:23:27.3±0.2, 34°58S×72°85W, h35km, mb5.2/66, Error ellipse: s-maj=7.9km s-min=5.3km az=65.0*
ISC 27 14:23:26.0±0.4,**34°57S**±0°05×**72°89W**±0°08,**h28km**±2km,**h27km:pP-P,n465,σ1s17**/494,**mb5.1**/79,**158C-135D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.90	54	Pn	Pn	14 24 40.5	+2.6
	3.4nm,0.3s,baz=238,slow=9.5,SNR=2.1						
CFAA				Pg	Pb	14 24 51.2	+0.1
	5.7nm,0.3s,baz=217,slow=10,SNR=3.5						
CFAA				Lg	Lg	14 25 54.8	
	baz=113,slow=22,SNR=1.2						
PLCA	Paso Flores	6.43	164	Pn	Pn	14 24 59.2	+0.3
	6.0nm,0.3s,baz=5.0,slow=19,SNR=2.6						
TRQA	Tornquist	9.47	115	Pn	Pn	14 25 40.4	-0.2
	383nm,1.5s						
LVC	Limon Verde	12.41	17	ePn	Pn	14 26 22.0	+0.9
LPAZ	La Paz	18.70	14	eP	P	14 27 42.8	-0.1
LPAZ				pmax	pmax		
	comp=Z,43nm,1.0s						
LPAZ	La Paz	18.70	14	P	Pn	14 27 45.0	+1.6
	comp=Z,0.4nm,0.3s,baz=172,slow=12,SNR=4.6						
LPAZ				LR	LR	14 35 12.5	
	comp=Z,2μm,18.5s,baz=132,slow=38						
LPAZ	La Paz	18.70	14	ePn	P	14 27 42.8	-0.1
	comp=Z,43nm,1.0s						
USHA	Ushuaia	20.50	173	P	Pn	14 28 02.9	-1.0
	comp=Z,39nm,0.8s,baz=317,slow=7.4,SNR=8.7						
USHA				LR	LR	14 37 11.4	
	comp=Z,3μm,18.4s,baz=326,slow=40						
SIV	San Ignacio	21.33	33	P	P	14 28 11.4	+0.5
	comp=Z,36nm,1.0s,baz=232,slow=12,SNR=7.2						
NNA	Nana	22.76	350	P	P	14 28 26.9	+0.6
	comp=Z,8.0nm,0.6s,baz=177,slow=16,SNR=3.3						
SAML	Samuel	27.01	22	eP	P	14 29 04.7	-1.1
	comp=Z,9.0nm,1.0s						
BDFB	Brasilia	29.24	56	P	P	14 29 25.3	-0.5
	comp=Z,13nm,0.8s,baz=215,slow=8.2,SNR=4.6						
OTAV	Otavalo	35.01	350	eP	P	14 30 16.9	+0.1
	comp=Z,42nm,1.5s						
OTAV				epP	pP	14 30 27.2	+2.2
ROSC	El Rosal	39.24	358	eP	P	14 30 52.5	-0.1
SDV	Santo Domingo	43.27	3	eP	P	14 31 23.7	-1.7
VNA3	Neumayer Olymp	49.10	158	P	P	14 32 11.8	+1.2
VNA1	Neumayer--Stat	49.43	157	P	P	14 32 14.4	+1.4
VNA2	Neumayer--Watz	49.77	157	P	P	14 32 16.7	+1.0
SNAA	Sanae	51.33	158	P	P	14 32 28.5	+1.0
SNAA	Sanae	51.33	158	eP	P	14 32 26.8	-0.7
SNAA				*PP	pP	14 32 35.8	-0.1
SNAA				pmax	pmax		
	comp=Z,127nm,1.4s						
SNAA	Sanae	51.33	158	P	P	14 32 28.5	+1.0
	comp=Z,8.5nm,0.9s,baz=282,slow=6.0,SNR=9.6						
SNAA				pP	pP	14 32 35.8	-0.1
	comp=Z,19nm,1.1s,baz=277,slow=5.0,SNR=10						
SNAA	Sanae	51.33	158	eP	P	14 32 26.8	-0.7
	comp=Z,127nm,1.4s						
SNAA				pP	pP	14 32 35.8	-0.1
APG	El Apazote	52.05	338	P	P	14 32 30.1	-3.6
	comp=Z,13nm,0.8s,baz=171,slow=8.7,SNR=10						
QSPA	South Pole Qui	55.67	180	P	P	14 33 00.5	+1.0
	comp=Z,27nm,0.9s,baz=142,slow=3.6,SNR=13						
QSPA				pP	pP	14 33 07.3	-0.6
	comp=Z,38nm,1.0s,baz=163,slow=8.0,SNR=10						
QSPA	South Pole Qui	55.67	180	eP	P	14 32 59.2	-0.3
	comp=Z,46nm,1.1s						
QSPA				pP	pP	14 33 07.3	-0.6
NVL	N'lazarevskaya	56.08	157	eP	P	14 33 04.2	+2.0
NVL				pmax	pmax		
	comp=Z,18nm,0.8s						
TEIG	Tepich	56.42	343	P	P	14 33 05.1	0.0
	comp=Z,45nm,0.9s,baz=161,slow=12,SNR=11						
TEIG				pP	pP	14 33 12.6	-1.1
	comp=Z,43nm,0.9s,baz=206,slow=7.6,SNR=6.6						
034A	Hebbronville	65.98	335	⇑P	P	14 34 09.7	-0.2
	baz=66						
933A	Laredo	66.70	335	⇓P	P	14 34 15.5	+1.1
	baz=67						
834A	Tilden	66.91	335	⇑P	P	14 34 17.0	+1.3
	baz=67,SNR=8.4						
833A	Chaparral WMA,	67.39	335	⇑P	P	14 34 19.7	+0.9
	baz=68,SNR=11						
832A	Faith Ranch, C	67.56	334	⇑P	P	14 34 20.5	+0.6
	baz=68,SNR=7.3						
636A	Smothers Creek	67.67	337	⇑P	P	14 34 19.4	-1.1
	baz=68,SNR=8.8						
732A	Laxson Ranch,	67.96	334	⇓P	P	14 34 22.9	+0.6
	baz=68,SNR=11						
GOGA	Godfrey	68.35	350	eP	P	14 34 24.8	+0.1
GOGA				pmax	pmax		
	comp=Z,26nm,1.1s						
GOGA	Godfrey	68.35	350	eP	P	14 34 24.8	+0.1
	comp=Z,26nm,1.1s						
VBMS	Vicksburg	68.47	344	eP	P	14 34 26.2	+0.7
	comp=Z,77nm,1.1s						
632A	Uvalde	68.61	335	⇓P	P	14 34 27.3	+0.9
	baz=69,SNR=8.4						
533A	Kerrville	68.86	336	⇑P	P	14 34 29.1	+1.1
	baz=69,SNR=8.3						
532A	Rocksprings	69.21	335	⇓P	P	14 34 30.8	+0.5
	baz=70,SNR=12						
434A	Burnet	69.29	337	⇑P	P	14 34 31.1	+0.4
	baz=70,SNR=10						
336A	Riesel	69.37	338	⇑P	P	14 34 32.0	+0.9
	baz=70,SNR=8.5						
335A	Moody	69.46	338	⇑P	P	14 34 31.7	0.0
	baz=70,SNR=5.6						
531A	Rocksprings	69.47	335	⇑P	P	14 34 32.5	+0.6
	baz=70,SNR=6.3						
JCT	Junction City	69.50	335	⇑P	P	14 34 32.5	+0.5
	baz=70,SNR=8.9						
433A	Art	69.51	336	⇑P	P	14 34 32.2	+0.1
	baz=70,SNR=16						
530A	J-C Ranch, Com	69.74	334	⇑P	P	14 34 34.4	+0.9
	baz=70,SNR=12						
334A	Lometa	69.76	337	⇓P	P	14 34 34.0	+0.5
	baz=70,SNR=9.6						
432A	Menard	69.86	336	⇑P	P	14 34 34.3	+0.1
	baz=70,SNR=6.6						
TXAR	Lajitas Array	69.89	332	P	P	14 34 34.8	+0.3
	comp=Z,5.7nm,0.8s,baz=151,slow=8.6,SNR=15						
TXAR				pP	pP	14 34 43.1	0.0
	comp=Z,3.3nm,0.6s,baz=158,slow=9.0,SNR=9.4						
431A	Sonora	69.96	335	⇓P	P	14 34 35.3	+0.4
	baz=70						
333A	Richland Sprin	70.00	336	⇓P	P	14 34 35.3	+0.3
	baz=70,SNR=9.6						
529A	Stev Forest Ra	70.04	333	⇑P	P	14 34 36.5	+1.1
	baz=70,SNR=13						
WHTX	Lake Whitney	70.12	338	eP	P	14 34 34.7	-1.1
	comp=Z,44nm,0.9s						
WHTX	Lake Whitney	70.12	338	⇑P	P	14 34 35.6	-0.2
	baz=70,SNR=7.4						
430A	Baggett Ranch,	70.28	334	⇓P	P	14 34 36.8	0.0
	baz=71,SNR=9.5						
332A	Millersview	70.31	336	⇓P	P	14 34 36.7	-0.2
	baz=71,SNR=9.2						
234A	Clairette	70.35	337	⇑P	P	14 34 37.1	0.0
	baz=71,SNR=8.2						
429A	Davenport Ranc	70.37	334	⇓P	P	14 34 37.9	+0.5
	baz=71,SNR=9.3						
331A	San Angelo	70.47	335	⇑P	P	14 34 37.7	-0.2
	baz=71,SNR=9.1						
233A	Rising Star	70.61	337	⇓P	P	14 34 38.7	0.0
	baz=71,SNR=10						
232A	Coleman	70.73	336	⇑P	P	14 34 39.7	+0.2
	baz=71,SNR=10						
330A	Mertzon	70.82	335	⇑P	P	14 34 40.6	+0.5
	baz=71,SNR=5.8						
231A	Bronte	71.00	336	⇓P	P	14 34 41.0	-0.2
	baz=71,SNR=9.8						
133A	Hamilton Ranch	71.16	337	⇑P	P	14 34 42.6	+0.5
	baz=72,SNR=9.8						
329A	Wagon Wheel Ra	71.18	334	⇓P	P	14 34 43.4	+1.1
	baz=72,SNR=5.8						
230A	Sterling City	71.24	335	⇑P	P	14 34 43.0	+0.4
	baz=72						
Z35A	Perchaven, San	71.31	339	⇓P	P	14 34 43.4	+0.5
	baz=72,SNR=6.7						
ABTX	Abilene, Hawle	71.41	336	eP	P	14 34 43.4	-0.2
	comp=Z,43nm,0.9s						
ABTX	Abilene, Hawle	71.41	336	⇑P	P	14 34 44.1	+0.5
	baz=72,SNR=12						
MIAR	Mount Ida	71.43	342	eP	P	14 34 44.1	+0.5
MIAR				pmax	pmax		
	comp=Z,54nm,1.8s						
MIAR	Mount Ida	71.43	342	eP	P	14 34 44.1	+0.5
	comp=Z,54nm,1.8s						
Z34A	Collier Ranch,	71.55	338	⇑P	P	14 34 44.4	0.0
	baz=72						
229A	Bryant Ranch,	71.56	334	⇓P	P	14 34 45.6	+1.0
	baz=72						
WVT	Waverly	71.70	347	eP	P	14 34 44.2	-1.0
WVT				pmax	pmax		
	comp=Z,46nm,1.0s						
WVT	Waverly	71.70	347	eP	P	14 34 44.2	-1.0
	comp=Z,46nm,1.0s						
131A	Roby	71.70	336	⇓P	P	14 34 45.9	+0.5
	baz=72,SNR=8.0						
Z33A	Whitaker Ranch	71.73	337	⇑P	P	14 34 45.6	+0.1
	baz=72,SNR=9.3						
130A	Snyder	71.83	335	⇑P	P	14 34 46.5	+0.3
	baz=72,SNR=5.4						
228A	UT Block 9, Go	71.97	334	⇑P	P	14 34 47.6	+0.5
	baz=72						
Z32A	Haskell	71.98	337	⇑P	P	14 34 46.9	-0.1
	baz=72,SNR=11						
Y34A	Reagan Ranch,	72.04	338	⇓P	P	14 34 47.7	+0.4
	baz=72,SNR=7.2						
129A	Stewart Farms,	72.18	335	⇑P	P	14 34 48.7	+0.4
	baz=72						
Z31A	Sharp Cattle R	72.21	336	⇓P	P	14 34 48.9	+0.5
	baz=73,SNR=10						
Y33A	Hilltop Ranch,	72.36	338	⇑P	P	14 34 49.4	+0.1
	baz=73						
128A	Castleberry Fa	72.39	334	⇑P	P	14 34 49.8	+0.3
	baz=73,SNR=7.2						
Z30A	Sanderson Ranc	72.51	335	⇓P	P	14 34 49.8	-0.4
	baz=73,SNR=10.0						
Y32A	R-V Farms, Ver	72.61	337	⇓P	P	14 34 50.9	+0.2
	baz=73,SNR=6.5						
X34A	Smith Ranch, M	72.66	339	⇓P	P	14 34 50.4	-0.6
	baz=73,SNR=5.9						
Z29A	Hungry Hill Ra	72.69	335	⇓P	P	14 34 51.5	+0.2
	baz=73,SNR=8.4						
127A	Arkansas Junct	72.76	333	⇓P	P	14 34 52.9	+1.1
	baz=73						
X33A	Lawton	72.81	338	⇓P	P	14 34 51.7	-0.2
	baz=73						
PBMO	Poplar Bluff	72.84	345	eP	P	14 34 52.0	0.0
	comp=Z,13nm,0.8s						
Y31A	Rekieta Farm,	72.84	336	⇓P	P	14 34 52.3	+0.2
	baz=73,SNR=8.0						
X32A	Elmer	72.95	337	⇑P	P	14 34 52.8	0.0
	baz=73						
Y30A	Stafford Cattl	72.97	336	⇓P	P	14 34 53.4	+0.4
	baz=73,SNR=5.3						
Y29A	Porterfield Fa	73.22	335	⇑P	P	14 34 54.4	0.0
	baz=74,SNR=9.6						
W34A	Bridge Creek,	73.23	339	eP	P	14 34 54.9	+0.5
	comp=Z,16nm,0.9s						
W34A	Bridge Creek,	73.23	339	⇑P	P	14 34 53.6	-0.9
	baz=74						
TUL1	Tulsa	73.30	341	eP	P	14 34 54.5	-0.3
	comp=Z,22nm,0.8s						
TUL1	Tulsa	73.30	341	⇓P	P	14 34 54.1	-0.6
	baz=74,SNR=6.3						
X31A	McDonald Ranch	73.36	337	⇓P	P	14 34 55.4	+0.2
	baz=74,SNR=8.5						
W33A	Caddo, Fort Co	73.37	338	⇓P	P	14 34 55.7	+0.5
	baz=74,SNR=8.4						
Y28A	McKinney Farm,	73.47	335	⇑P	P	14 34 56.2	+0.3
	baz=74						
Z26A	Caprock	73.52	333	⇑P	P	14 34 56.7	+0.4
	baz=74,SNR=17						
W32A	Sentinel	73.58	338	⇑P	P	14 34 57.2	+0.7
	baz=74,SNR=13						
MSTX	Muleshoe	73.71	334	eP	P	14 34 57.1	-0.3
MSTX	Muleshoe	73.71	334	⇓P	P	14 34 57.9	+0.5
	baz=74,SNR=7.6						
V34A	Guthrie	73.72	339	eP	P	14 34 57.5	+0.3
	comp=Z,45nm,1.3s						
V34A	Guthrie	73.72	339	⇓P	P	14 34 56.7	-0.5
	baz=74						
X29A	Tulia	73.76	335	⇑P	P	14 34 58.0	+0.3
	baz=74,SNR=6.1						
Y27A	Causey	73.77	334	⇑P	P	14 34 57.9	+0.2
	baz=74						
Z25A	Roswell	73.81	333	⇑P	P	14 34 58.9	+0.9
	baz=74						
W31A	Holland Ranch,	73.86	337	⇓P	P	14 34 58.4	+0.2
	baz=74						
V33A	Lossen Ranch,	73.93	339	⇑P	P	14 34 58.4	-0.1
	baz=74,SNR=8.0						
Y26A	Elida	74.05	334	⇓P	P	14 35 00.2	+0.8
	baz=74						
V32A	Arapaho	74.07	338	⇑P	P	14 35 00.4	+1.1
	baz=74						
Z24A	Sheeppen Canyo	74.10	332	⇑P	P	14 35 00.8	+1.0
	baz=74,SNR=9.0						
AMTX	Amarillo	74.16	336	eP	P	14 34 58.1	-1.8
	comp=Z,49nm,1.1s						
AMTX	Amarillo	74.16	336	⇓P	P	14 35 00.7	+0.8
	baz=74						
U34A	Anderson Ranch	74.28	340	eP	P	14 35 01.0	+0.5
	comp=Z,42nm,1.3s						
U34A	Anderson Ranch	74.28	340	⇑P	P	14 34 55.7	-4.8
	baz=75						
W29A	Amraillo	74.36	336	⇑P	P	14 35 01.2	+0.1
	baz=75,SNR=8.4						
121A	Cookes Peak, D	74.37	330	eP	P	14 35 01.0	-0.4
	comp=Z,18nm,1.0s						
121A	Cookes Peak, D	74.37	330	⇑P	P	14 35 03.4	+2.0
	baz=75,SNR=7.6						
V31A	Spring Creek L	74.37	338	⇓P	P	14 35 01.1	0.0
	baz=75,SNR=5.8						
Y25A	Mesa, Roswell	74.37	333	⇑P	P	14 35 02.1	+0.8
	baz=75						
U33A	Lingo Farm, Me	74.45	339	⇓P	P	14 34 58.4	-3.1
	baz=75						
X26A	CR and CF Fran	74.60	334	⇑P	P	14 35 03.6	+1.0
	baz=75,SNR=9.9						
Y24A	Capitan	74.65	332	⇓P	P	14 35 04.3	+1.4
	baz=75,SNR=7.9						
Z22A	Elephant Butte	74.66	331	⇑P	P	14 35 05.0	+2.0
	baz=75,SNR=6.8						
U32A	Winter Ranch,	74.66	338	⇑P	P	14 35 03.1	+0.3
	baz=75						
W27A	Bowe Ranch, En	74.80	335	⇑P	P	14 35 04.3	+0.6
	baz=75,SNR=8.1						
X25A	Clemmons Ranch	74.89	333	⇑P	P	14 35 04.8	+0.5
	baz=75						
Y23A	Lovelace Mesa,	74.90	332	⇓P	P	14 35 06.1	+1.7
	baz=75,SNR=6.2						
ACSO	Alum Creek Sta	75.01	352	eP	P	14 35 02.5	-2.2
	comp=Z,26nm,0.8s						
W26A	Owens Ranch, T	75.07	334	⇑P	P	14 35 06.4	+1.1
	baz=75,SNR=7.6						
V28A	Channing	75.13	336	⇑P	P	14 35 06.7	+1.1
	baz=76						
X24A	Lazy VL Ranch,	75.22	333	⇓P	P	14 35 07.8	+1.5
	baz=76,SNR=6.4						
U30A	WK&E Inc. Balk	75.32	337	⇑P	P	14 35 07.2	+0.6
	baz=76						
T32A	Huddler Ranch,	75.38	339	⇑P	P	14 35 03.6	-3.3
	baz=76						
W25A	X Bar L Ranch,	75.44	334	⇑P	P	14 35 08.4	+1.0
	baz=76,SNR=6.5						
LPM	Los Pinos Moun	75.46	332	eP	P	14 35 08.7	+1.1
TUC	Tucson	75.46	328	eP	P	14 35 05.4	-2.2
TUC				pmax	pmax		
	comp=Z,21nm,1.4s						
TUC	Tucson	75.46	328	eP	P	14 35 05.3	-2.2
	comp=Z,21nm,1.4s						
T31A	Randall Ranch,	75.53	338	⇓P	P	14 35 05.2	-2.5
	baz=76						
U28A	Mallet	75.70	336	⇓P	P	14 35 09.3	+0.5
	baz=76						
V26A	Tequesquite Ra	75.71	334	⇓P	P	14 35 09.7	+0.7
	baz=76,SNR=6.6						
LAZ	Ladron	75.73	331	eP	P	14 35 09.2	0.0
	comp=Z,15nm,1.5s						
W24A	Lazy 6 Ranch,	75.78	333	⇑P	P	14 35 10.7	+1.2
	baz=76						
U27A	Thompson Grove	75.94	335	⇓P	P	14 35 10.9	+0.7
	baz=76,SNR=6.0						
ANMO	Albuquerque	75.95	332	eP	P	14 35 11.4	+1.0
ANMO				pmax	pmax		
	comp=Z,19nm,1.1s						
ANMO	Albuquerque	75.95	332	eP	P	14 35 11.4	+1.0
	comp=Z,19nm,1.1s						
S31A	Mullinville	75.96	339	⇓P	P	14 35 09.4	-0.8
	baz=76						
W23A	Werner Place,	76.02	332	⇓P	P	14 35 12.5	+1.6
	baz=76,SNR=6.8						
DBIC	Dimbokro	76.03	72	P	P	14 35 12.1	+1.0
	comp=Z,12nm,0.8s,baz=203,slow=7.3,SNR=9.2						
V25A	Rancho No Teng	76.05	334	⇑P	P	14 35 11.7	+0.7
	baz=76,SNR=9.4						
T29A	Hugoton	76.10	337	⇓P	P	14 35 08.7	-2.4
	baz=76						
R33A	Olander Ranch,	76.16	340	⇑P	P	14 35 09.5	-1.8
	baz=76						
V24A	Rampart Ranch,	76.19	333	⇑P	P	14 35 12.9	+1.0
	baz=76,SNR=7.2						
U26A	Atchley Ranch,	76.23	335	⇓P	P	14 35 12.8	+0.8
	baz=77						
S30A	Montezuma	76.28	338	⇑P	P	14 35 12.3	+0.3
	baz=77						
T28A	Walsh	76.33	336	⇑P	P	14 35 12.5	0.0
	baz=77,SNR=12						
S29A	Ulysses	76.46	337	⇓P	P	14 35 13.6	+0.4
	baz=77,SNR=7.7						
R32A	Long Quarter,	76.47	339	⇑P	P	14 35 10.0	-3.1
	baz=77,SNR=5.1						
U25A	Circle Dot Ran	76.47	334	⇓P	P	14 35 14.5	+1.2
	baz=77,SNR=8.1						
T27A	Campo	76.48	336	⇓P	P	14 35 14.1	+0.7
	baz=77,SNR=11						
KSU1	Kansas State U	76.52	341	⇑P	P	14 35 08.7	-4.6
	baz=77						
V23A	Ortiz Mt. (NFS	76.55	333	⇓P	P	14 35 15.9	+2.1
	baz=77						
S28A	Manter	76.69	337	⇑P	P	14 35 15.2	+0.8

baz=77,SNR=10
Q33A Connelly Farm, 76.76 340 ⇓P P 14 35 11.4 -3.3
baz=77
R30A Dighton 76.81 338 ⇑P P 14 35 15.5 +0.5
baz=77
T26A Comanche Natio 76.88 335 ⇑P P 14 35 16.6 +0.9
baz=77,SNR=6.7
Q32A Meitler Ranch, 76.95 340 ⇑P P 14 35 16.2 +0.4
baz=77,SNR=6.8
V22A San Miguel Ran 76.97 332 ⇓P P 14 35 18.2 +2.0
baz=77,SNR=10
X18A Snowflake 77.00 329 ⇑P P 14 35 18.2 +1.9
baz=77
U23A El Rito 77.06 333 ⇓P P 14 35 18.7 +1.9
baz=77,SNR=7.0
S27A Las Animas 77.11 336 ⇓P P 14 35 18.0 +1.1
baz=78
T25A Trinidad 77.14 335 ⇓P P 14 35 18.5 +1.4
baz=78,SNR=11
R29A Marienthal 77.21 338 ⇓P P 14 35 18.0 +0.7
baz=78
Q31A Ellis 77.21 339 ⇑P P 14 35 17.7 +0.5
baz=78
S26A Kim 77.24 336 ⇑P P 14 35 18.5 +0.9
baz=78,SNR=12
R28A Tribune 77.34 337 ⇓P P 14 35 18.8 +0.7
baz=78,SNR=7.8
U22A Llaves 77.36 332 ⇓P P 14 35 20.7 +2.3
baz=78,SNR=5.6
T24B San Luis 77.42 334 ⇑P P 14 35 20.5 +1.7
baz=78,SNR=5.8
Q30A Quinter 77.43 338 ⇑P P 14 35 18.7 +0.2
baz=78,SNR=5.6
X16A Lo Mia Camp, P 77.54 328 ⇓P P 14 35 21.4 +2.0
baz=78,SNR=7.5
Q29A Oakley 77.58 338 ⇑P P 14 35 19.4 0.0
baz=78
S25A Robets Cordova 77.61 335 ⇑P P 14 35 20.7 +1.0
baz=78,SNR=9.2
R27A Eads 77.62 336 ⇑P P 14 35 20.2 +0.6
baz=78,SNR=12
T23A Casias Ranch, 77.63 333 ⇓P P 14 35 21.5 +1.5
baz=78
P31A Stockton 77.68 339 ⇑P P 14 35 20.3 +0.4
baz=78
R26A Arlington 77.85 336 ⇑P P 14 35 22.3 +1.3
baz=78,SNR=11
S24A Houchin Ranch, 77.87 334 ⇓P P 14 35 22.8 +1.5
baz=78,SNR=10
P30A Selden 77.96 339 ⇑P P 14 35 21.8 +0.4
baz=78
R25A Fountain Ranch 78.00 335 ⇓P P 14 35 23.1 +1.3
baz=78
Q28A Sharon Springs 78.01 337 ⇑P P 14 35 22.8 +1.0
baz=78
S23A Nye Farm, Mont 78.21 334 ⇓P P 14 35 25.0 +1.9
baz=79
P29A Atwood 78.22 338 ⇓P P 14 35 23.6 +0.6
baz=79,SNR=8.1
R24A Sanders Place, 78.36 335 ⇑P P 14 35 25.4 +1.5
baz=79,SNR=10
WUAZ Wupatki 78.44 329 *e*P P 14 35 25.9 +1.6
comp=Z,14nm,1.0s
WUAZ Wupatki 78.44 329 ⇓P P 14 35 26.0 +1.6
baz=79,SNR=6.3
P28A Saint Francis 78.45 338 ⇓P P 14 35 25.3 +1.0
baz=79
O30A MW Ranch, Wils 78.49 339 ⇑P P 14 35 23.6 -0.7
baz=79
S22A 4UR Ranch, Cre 78.55 333 ⇓P P 14 35 26.9 +1.8
baz=79,SNR=6.6
R23A Moffat 78.58 334 ⇓P P 14 35 27.0 +1.8
baz=79
O29A 4D Ranch, Culb 78.66 339 ⇑P P 14 35 26.2 +0.9
baz=79
Q25A Bedland, Calha 78.67 336 ⇑P P 14 35 26.3 +0.7
baz=79,SNR=6.6
P27A Ficken Ranch, 78.70 337 ⇓P P 14 35 26.2 +0.6
baz=79
MVCO Mesa Verde 78.72 332 *e*P P 14 35 27.2 +1.3
comp=Z,20nm,1.1s
MVCO Mesa Verde 78.72 332 ⇓P P 14 35 27.4 +1.5
baz=79,SNR=6.8
P26A Davis Ranch, A 78.95 336 ⇓P P 14 35 28.6 +1.5
baz=79,SNR=5.4
O28A Krutsinger Ran 78.96 338 ⇑P P 14 35 28.2 +1.2
baz=79
Q24A Divide 79.03 335 ⇓P P 14 35 29.2 +1.5
baz=79,SNR=8.4
BGNE Belgrade 79.09 341 ⇓P P 14 35 26.1 -1.5
baz=80
P25A Willow Gulch B 79.18 336 ⇑P P 14 35 29.9 +1.5
baz=80
O27A Beecher Island 79.24 337 ⇑P P 14 35 30.0 +1.4
baz=80,SNR=5.1
M31A Lambtecht Ranc 79.26 340 ⇓P P 14 35 29.3 +0.7
baz=80
P24A Kohler Place, 79.44 335 ⇑P P 14 35 31.6 +1.9
baz=80
O26A Horse Wrangler 79.56 337 ⇑P P 14 35 31.3 +0.9
baz=80,SNR=6.0
U15A North Rim 79.61 329 ⇑P P 14 35 32.9 +2.1
baz=80,SNR=9.5
P23A Jefferson 79.64 335 ⇓P P 14 35 33.6 +2.6
baz=80
O25A Wiggins 79.70 336 ⇓P P 14 35 32.7 +1.6
baz=80
TSUM Tsumeb 79.74 106 P P 14 35 33.3 +1.4
comp=Z,5.7nm,1.1s,baz=238,slow=8.7,SNR=4.9
N27A Anderson Farm, 79.82 338 ⇑P P 14 35 32.7 +1.0
baz=80
M29A Burnside Ranch 79.84 339 ⇑P P 14 35 31.8 0.0
baz=80
SMCO Snowmass 79.87 334 *e*P P 14 35 34.0 +1.6
comp=Z,28nm,1.3s
PV04 Paradox Valley 79.91 332 *e*P P 14 35 33.8 +1.4
ISCO Idaho Springs 79.93 335 *e*P P 14 35 33.8 +1.2
ISCO pmax pmax
comp=Z,15nm,1.3s
ISCO Idaho Springs 79.93 335 *e*P P 14 35 33.8 +1.2
comp=Z,15nm,1.3s
ISCO Idaho Springs 79.93 335 ⇑P P 14 35 33.9 +1.3
baz=80,SNR=6.8
L31A Butterfield Fa 79.99 341 ⇓P P 14 35 32.5 0.0
baz=80
L30A Spencer Herefo 80.03 340 ⇓P P 14 35 31.2 -1.5
baz=80
N26A Koester Ranch, 80.06 337 ⇑P P 14 35 34.2 +1.2
baz=80
P22A Eagle 80.16 334 ⇓P P 14 35 35.3 +1.5
baz=80
O23A Lake Granby, G 80.41 335 ⇑P P 14 35 36.2 +1.1
baz=81,SNR=9.0
BOSA Boshof 80.43 118 *e*P P 14 35 35.2 -0.4
BOSA *PP pP 14 35 44.0 -0.4
BOSA pmax pmax
comp=Z,59nm,1.3s
BOSA Boshof 80.43 118 P P 14 35 36.4 +0.9
comp=Z,15nm,0.8s,baz=225,slow=6.1,SNR=12
BOSA pP pP 14 35 44.0 -0.4
comp=Z,34nm,1.1s,baz=230,slow=6.4,SNR=10
BOSA Boshof 80.43 118 *e*P P 14 35 35.2 -0.4
comp=Z,59nm,1.3s
BOSA pP pP 14 35 44.0 -0.4
O22A Kremmling 80.58 335 ⇓P P 14 35 37.1 +1.0
baz=81,SNR=9.2
N24A Carr 80.60 336 ⇑P P 14 35 37.2 +1.2
baz=81
K30A Basset 80.67 340 ⇓P P 14 35 37.2 +1.1
baz=81,SNR=6.7
M25A Palm-Egli Farm 80.87 337 ⇑P P 14 35 38.7 +1.3
baz=81
ECSD EROS Data Cent 80.88 343 *e*P P 14 35 36.9 -0.3
comp=Z,28nm,0.8s
ECSD EROS Data Cent 80.88 343 ⇑P P 14 35 37.1 0.0
baz=81,SNR=10
SHPR Sheep Range 80.94 327 *e*P P 14 35 37.3 -0.6
K29A Lazy Trails An 80.95 340 ⇑P P 14 35 38.2 +0.5
baz=81
CCUT Cedar City 81.01 329 *e*P P 14 35 40.5 +2.1
comp=Z,21nm,1.1s
N23A Red Feather La 81.02 335 ⇑P P 14 35 39.6 +1.2
baz=81,SNR=6.3
N22A Wattenberg Ran 81.12 335 ⇓P P 14 35 40.5 +1.6
baz=82,SNR=7.7
M24A Cheyenne 81.16 336 ⇑P P 14 35 39.9 +1.0
baz=82
SRU San Rafael 81.16 331 *e*P P 14 35 40.0 +0.9
SRU pmax pmax
comp=Z,13nm,1.0s
SRU San Rafael 81.16 331 *e*P P 14 35 40.0 +0.9
comp=Z,13nm,1.0s
O20A White River Ci 81.18 333 *e*P P 14 35 40.4 +1.2
comp=Z,31nm,1.5s
O20A White River Ci 81.18 333 ⇑P P 14 35 41.1 +2.0
baz=82
PHWY Pilot Hill 81.22 336 *e*P P 14 35 40.1 +0.6
comp=Z,29nm,1.4s
SPMN St. Paul 81.45 346 *e*P P 14 35 39.8 -0.4
comp=Z,16nm,0.9s
K27A Flueckinger Fa 81.45 339 ⇓P P 14 35 41.4 +1.0
baz=82
J29A Okreek 81.54 340 ⇑P P 14 35 40.6 -0.2
baz=82,SNR=8.7
TMUT Trail Mountain 81.60 331 *e*P P 14 35 42.7 +1.2
comp=Z,86nm,2.2s
I30A Oacoma 81.77 341 ⇓P P 14 35 42.4 +0.5
baz=82
ISA Isabella 81.81 324 *e*P P 14 35 44.1 +1.7
ISA pmax pmax
comp=Z,14nm,1.3s
ISA Isabella 81.81 324 *e*P P 14 35 44.1 +1.7
comp=Z,14nm,1.3s
J28A Allard Ranch, 81.82 340 ⇓P P 14 35 43.3 +1.0
baz=82
K25A Mack Ranch, Ha 81.88 337 ⇓P P 14 35 43.9 +1.2
baz=82
J27A Elkhorn Farm, 81.89 339 ⇑P P 14 35 43.5 +0.9
baz=82,SNR=9.0
L23A Garrett 82.03 336 ⇓P P 14 35 44.7 +1.1
baz=82
I29A Vivian Onida 82.11 340 ⇓P P 14 35 44.0 +0.3
baz=82
BRSD Miller 82.13 341 *e*P P 14 35 43.4 -0.4
comp=Z,27nm,0.9s
BRSD Miller 82.13 341 ⇓P P 14 35 43.0 -0.8
baz=82
L22A Ellis Ranch, M 82.20 335 ⇓P P 14 35 46.4 +1.9
baz=83
J26A Sides Ranch, S 82.26 338 ⇑P P 14 35 46.0 +1.4
baz=83,SNR=9.3
I28A Midland 82.33 340 ⇓P P 14 35 45.1 +0.2
baz=83,SNR=6.3
MPU Maple Canyon 82.38 331 *e*P P 14 35 46.7 +1.2
comp=Z,22nm,1.1s
NLU North Lily Min 82.51 331 *e*P P 14 35 44.1 -2.1
comp=Z,32nm,1.5s
J25A Sunshine Ranch 82.56 338 ⇑P P 14 35 47.4 +1.2
baz=83
K23A Bowen Ranch, D 82.57 336 ⇑P P 14 35 47.5 +1.1
baz=83
H29A Onida 82.64 341 ⇑P P 14 35 46.0 -0.4
baz=83,SNR=8.3
I27A Quinn 82.65 339 ⇑P P 14 35 47.3 +0.7
baz=83
R11A Troy Canyon, C 82.65 327 *e*P P 14 35 48.6 +1.7
comp=Z,12nm,1.1s
R11A Troy Canyon, C 82.65 327 ⇑P P 14 35 49.0 +2.1
baz=83,SNR=11
LBTB Lobatse 82.71 115 *e*P P 14 35 46.7 -0.9
LBTB pmax pmax
comp=Z,76nm,1.5s
LBTB Lobatse 82.71 115 *e*P P 14 35 46.7 -0.9
comp=Z,76nm,1.5s
RPZ Rata Peaks 82.75 221 *e*P P 14 35 46.5 -1.0
J24A Dixon Ranch, L 82.78 337 ⇑P P 14 35 49.0 +1.7
baz=83
K22A Casper 82.78 336 *e*P P 14 35 48.5 +1.1
comp=Z,52nm,1.4s
K22A Casper 82.78 336 ⇑P P 14 35 48.6 +1.1
baz=83,SNR=6.2
JLU Jordanelle 82.81 331 *e*P P 14 35 48.8 +1.0
comp=Z,9.2nm,0.9s
G30A Faulkton 82.82 342 ⇑P P 14 35 47.3 -0.1
baz=83,SNR=5.8
I26A New Underwood 82.85 339 ⇓P P 14 35 48.5 +0.8
baz=83
H28A Mission Ridge 82.91 340 ⇓P P 14 35 48.0 +0.1
baz=83,SNR=6.4
DUG Dugway 83.01 330 ⇑P P 14 35 50.4 +1.8
baz=83,SNR=16
K21A Alcova 83.02 335 ⇑P P 14 35 49.5 +0.8
baz=83,SNR=8.7
I25A Rochford 83.11 338 ⇑P P 14 35 50.7 +1.5
baz=84,SNR=8.0
TPH Tonopah 83.16 326 *e*P P 14 35 51.1 +1.5
TPH pmax pmax
comp=Z,17nm,1.1s
TPH Tonopah 83.16 326 *e*P P 14 35 51.1 +1.5
comp=Z,17nm,1.1s
H27A Howes 83.17 339 ⇑P P 14 35 49.8 +0.5
baz=84,SNR=5.4
I24A Kuemmerle Ranc 83.24 337 ⇓P P 14 35 51.0 +1.3
baz=84
G28A Parade 83.25 340 ⇓P P 14 35 50.1 +0.5
baz=84,SNR=6.8
RSSD Black Hills 83.29 338 *e*P P 14 35 47.1 -3.0
RSSD Black Hills 83.29 338 *e*P P 14 35 47.1 -3.0
J22A Midwest 83.44 336 ⇑P P 14 35 51.7 +0.9
baz=84
H25A Fruitdale 83.61 338 ⇑P P 14 35 52.5 +1.0
baz=84,SNR=5.4
F29A Eureka 83.65 341 ⇓P P 14 35 52.2 +0.6
baz=84,SNR=8.0
BGU Big Grassy Mou 83.71 331 *e*P P 14 35 53.0 +0.7
comp=Z,16nm,1.6s
I22A 9 Mile Ranch, 83.87 336 ⇑P P 14 35 53.8 +0.8
baz=84
G26A Maurine 83.92 339 ⇓P P 14 35 53.4 +0.3
baz=84,SNR=5.3
F28A McLaughlin 83.93 341 ⇑P P 14 35 53.7 +0.6
baz=84
J20A Shoshoni 83.94 335 ⇑P P 14 35 54.8 +1.5
baz=84,SNR=10
NVAR Mina Array Bea 83.95 326 P P 14 35 53.2 -0.5
comp=Z,3.0nm,0.8s,baz=139,slow=7.0,SNR=8.6
PDAR Pinedale Array 83.95 334 P P 14 35 53.7 +0.1
comp=Z,4.3nm,1.0s,baz=145,slow=5.4,SNR=10
PDAR pP pP 14 36 02.2 -0.2
comp=Z,5.5nm,1.1s,baz=163,slow=6.2,SNR=8.4
H24A Dirks Ranch, A 84.02 338 ⇑P P 14 35 54.2 +0.5
baz=84
E30A Jud 84.04 342 ⇑P P 14 35 53.9 +0.3
baz=84,SNR=6.9
I21A Big Trails, Te 84.07 336 ⇑P P 14 35 54.5 +0.5
baz=84,SNR=8.4
G25A Newell 84.07 339 ⇑P P 14 35 54.5 +0.6
baz=84,SNR=6.6
J19A Crowheart 84.20 334 ⇑P P 14 35 55.6 +0.8
baz=85,SNR=9.5
E29A Napoleon 84.29 342 ⇑P P 14 35 55.0 +0.1
baz=85
F27A Lemmon 84.29 340 ⇑P P 14 35 55.1 +0.2
baz=85,SNR=6.1
HVU Hansel Valley 84.33 331 *e*P P 14 35 56.1 +0.6
HVU pmax pmax
comp=Z,24nm,1.0s
HVU Hansel Valley 84.33 331 *e*P P 14 35 56.0 +0.6
comp=Z,24nm,1.0s
H22A Clearmont 84.45 337 ⇓P P 14 35 56.7 +0.8
baz=85
F26A Lodgepole 84.45 340 ⇑P P 14 35 56.5 +0.7
baz=85
I20A Worland 84.48 335 ⇑P P 14 35 56.6 +0.5
baz=85,SNR=7.8
D30A Buchanan 84.56 343 ⇓P P 14 35 55.7 -0.5
baz=85,SNR=8.6
E28A Huff 84.57 341 ⇓P P 14 35 56.8 +0.5
baz=85
G23A Biddle 84.68 338 ⇓P P 14 35 57.0 0.0
baz=85
D29A Pettibone, Tap 84.73 342 ⇑P P 14 35 57.3 +0.2
baz=85,SNR=6.7
F25A Bowman 84.75 339 ⇓P P 14 35 57.9 +0.6
baz=85
H20A Greybull 84.91 336 ⇓P P 14 35 58.6 +0.4
baz=85,SNR=14
REDW Red Top Meadow 84.94 333 *e*P P 14 35 59.1 +0.6
comp=Z,25nm,1.4s
F24A Ekalaka 84.97 338 ⇓P P 14 35 58.5 +0.1
baz=85,SNR=5.2
AGMN Agassiz Nation 85.01 345 *e*P P 14 35 58.3 -0.2
comp=Z,17nm,0.8s
AGMN Agassiz Nation 85.01 345 ⇓P P 14 35 58.3 -0.2
baz=85,SNR=5.9
C30A Mose, Pekin 85.05 343 ⇓P P 14 35 59.4 +0.6
baz=85,SNR=12
LOHW Long Hollow 85.07 334 *e*P P 14 35 59.7 +0.6
comp=Z,21nm,1.5s
TOA0 Torodi Ar. Sit 85.07 70 *e*P P 14 35 59.0 -0.6
TORD Torodi Ar. Bea 85.07 70 P P 14 36 00.2 +0.7
comp=Z,7.7nm,0.8s,baz=251,slow=4.0,SNR=11
TORD pP pP 14 36 07.1 -1.3
comp=Z,14nm,1.1s,baz=243,slow=3.9,SNR=9.2
TPAW Teton Pass 85.09 333 *e*P P 14 36 00.1 +0.7
comp=Z,10nm,1.0s
D28A Regan 85.11 341 ⇓P P 14 35 59.0 0.0
baz=86,SNR=6.5
F23A Volborg 85.15 338 ⇑P P 14 35 59.9 +0.6
baz=86
FXWY Fox Creek 85.25 333 *e*P P 14 36 00.7 +0.6
comp=Z,75nm,2.9s
E25A Miller Ranch, 85.25 339 ⇓P P 14 36 00.8 +1.0
baz=86
G21A Lodge Grass 85.29 336 ⇑P P 14 36 00.7 +0.6
baz=86
I17A Pilgrim Ck. 85.32 334 ⇓P P 14 36 01.8 +1.4
baz=86,SNR=6.4
H19A Powell 85.41 335 ⇑P P 14 36 01.7 +1.0
baz=86,SNR=5.5
IMW Indian Meadow 85.44 333 *e*P P 14 36 01.8 +0.7
comp=Z,18nm,1.3s
D26A Manning 85.46 340 ⇑P P 14 36 01.1 +0.3
baz=86,SNR=5.2
F22A Rosebud 85.47 337 ⇑P P 14 36 01.5 +0.5
baz=86,SNR=5.7
FLWY Flagg Ranch 85.51 334 *e*P P 14 36 02.0 +0.6
comp=Z,78nm,1.8s
E24A Baker 85.58 339 ⇑P P 14 36 02.3 +0.8
baz=86
G20A Bridger 85.62 336 ⇑P P 14 36 01.6 -0.2
baz=86,SNR=11
H18A Shoshone NF, C 85.65 335 ⇓P P 14 36 02.5 +0.4
baz=86,SNR=12
B30A Myrvik Farm, E 85.72 343 ⇑P P 14 36 02.2 +0.2
baz=86,SNR=12
H17A Grant Village 85.73 334 *e*P P 14 36 03.3 +0.8
comp=Z,31nm,2.0s
H17A Grant Village 85.73 334 ⇓P P 14 36 04.3 +1.8
baz=86
D25A Fairfield 85.82 340 ⇑P P 14 36 03.3 +0.7
baz=86,SNR=7.2
C27A Sayler Ranch, 85.83 341 ⇓P P 14 36 03.3 +0.7
baz=86,SNR=6.1
YFT Old Faithful 85.88 334 *e*P P 14 36 06.6 +3.4
B29A Wagenman Farm, 85.97 343 ⇓P P 14 36 03.7 +0.5
baz=86
D24A Glendive 86.08 339 ⇓P P 14 36 04.3 +0.4
baz=86,SNR=6.8
YMR Madison River 86.11 334 *e*P P 14 36 05.7 +1.4
comp=Z,25nm,1.0s
F20A Billings 86.11 336 ⇑P P 14 36 04.5 +0.4
baz=86
A30A Hoffart Farm, 86.17 344 ⇑P P 14 36 04.2 0.0
baz=86,SNR=10.0
OHCM Honcut 86.17 324 *e*P P 14 36 06.0 +1.5
B28A Dugan Ranch, T 86.21 342 ⇓P P 14 36 04.1 -0.3
baz=87
LAO LASA Array 86.27 338 *e*P P 14 36 05.2 +0.4
comp=Z,31nm,1.1s
A29A Manning Farm, 86.37 343 ⇓P P 14 36 04.8 -0.5
baz=87,SNR=6.0
D23A Lindsay 86.39 339 ⇓P P 14 36 06.3 +0.8
baz=87,SNR=14
F19A Roth Farm, Mol 86.42 336 ⇑P P 14 36 05.7 0.0
baz=87,SNR=7.5
C24A Savage 86.48 339 ⇓P P 14 36 06.5 +0.6
baz=87,SNR=15
HLID Hailey 86.49 331 *e*P P 14 36 07.2 +1.0
comp=Z,8.6nm,1.0s
HLID Hailey 86.49 331 ⇑P P 14 36 07.1 +1.0
baz=87,SNR=8.2
A28A Rude Farm, Bot 86.61 342 ⇓P P 14 36 07.3 +0.8
baz=87
D22A Cohagen 86.67 338 ⇓P P 14 36 07.9 +1.1
baz=87,SNR=6.7
E20A Meyer Farm, Mu 86.72 336 ⇓P P 14 36 07.9 +0.8
baz=87,SNR=14
B25A Knox Farm, Ray 86.80 340 ⇑P P 14 36 08.5 +1.1
baz=87,SNR=7.2
ULM Lac du Bonnet 86.86 345 P P 14 36 07.3 -0.2
comp=Z,12nm,0.9s,baz=172,slow=4.1,SNR=9.8
ULM pP pP 14 36 15.1 -1.4
comp=Z,11nm,0.9s,baz=134,slow=3.8,SNR=7.8
E19A Rath Farm, Rou 86.90 336 ⇓P P 14 36 08.4 +0.4
baz=87,SNR=12
MFID Camas Ranch 86.94 330 *e*P P 14 36 09.4 +1.1
comp=Z,20nm,1.5s
MCMT McKenzie Canyo 86.94 333 *e*P P 14 36 09.2 +0.8
comp=Z,16nm,1.3s
C23A Lambert 86.95 339 ⇓P P 14 36 09.0 +0.9
baz=87
A26A Wade Farm, Ken 87.06 341 ⇓P P 14 36 08.7 +0.1
baz=87,SNR=5.7
C22A Vida 87.11 338 ⇑P P 14 36 08.8 -0.1
baz=88,SNR=7.3
BOZ Bozeman (W) 87.19 334 *e*P P 14 36 09.9 +0.4
BOZ pmax pmax
comp=Z,55nm,2.5s
BOZ Bozeman (W) 87.19 334 *e*P P 14 36 09.9 +0.4
comp=Z,55nm,2.5s
D20A Manuel Ranch, 87.24 337 ⇓P P 14 36 10.0 +0.4
baz=88,SNR=9.6
DGMT Dagmar 87.27 340 ⇑P P 14 36 10.0 +0.3
baz=88,SNR=12
DLMT Dillon 87.30 333 *e*P P 14 36 11.1 +1.1
comp=Z,18nm,1.3s
WVOR Wild Horse Val 87.33 328 *e*P P 14 36 11.5 +1.3
WVOR pmax pmax
comp=Z,27nm,1.6s
WVOR Wild Horse Val 87.33 328 *e*P P 14 36 11.5 +1.3
comp=Z,27nm,1.6s
B23A Brockton 87.49 339 ⇓P P 14 36 11.5 +0.8
baz=88,SNR=6.0
D19A Cripps Ranch, 87.55 336 ⇑P P 14 36 11.1 0.0
baz=88
C21A Desert Coulee 87.56 338 ⇑P P 14 36 11.1 0.0
baz=88,SNR=7.7
A24A Westby 87.62 340 ⇑P P 14 36 11.7 +0.4
baz=88,SNR=5.8
LRM Limekiln Ridge 87.64 334 *e*P P 14 36 12.3 +0.6
B22A Reddig Ranch S 87.64 339 ⇑P P 14 36 12.2 +0.8
baz=88,SNR=7.6
WDC Whiskeytown Da 87.65 324 *e*P P 14 36 11.8 +0.2
WDC pmax pmax
comp=Z,60nm,1.8s
WDC Whiskeytown Da 87.65 324 *e*P P 14 36 11.8 +0.2
comp=Z,60nm,1.8s
C20A Veseth Ranch, 87.75 337 ⇑P P 14 36 12.3 +0.3
baz=88
A23A Redstone 87.90 340 ⇓P P 14 36 12.1 -0.6
baz=88
C19A Slack Wire Ran 88.10 337 ⇑P P 14 36 14.2 +0.5
baz=88
A22A Carney Farms, 88.24 339 ⇓P P 14 36 14.4 +0.1
baz=89,SNR=7.9
B20A Solberg Farm, 88.39 337 ⇑P P 14 36 15.6 +0.6
baz=89,SNR=5.1
A21A Bergtoll Ranch 88.54 338 ⇑P P 14 36 15.8 +0.1
baz=89
K05A Summer Lake 88.56 327 *e*P P 14 36 17.5 +1.3
comp=Z,29nm,1.0s
EGMT Eagleton 88.59 336 ⇑P P 14 36 16.3 +0.2
baz=89
B19A Brinkman Farms 88.70 337 ⇑P P 14 36 16.4 -0.1
baz=89,SNR=5.5
BMO Blue Mountains 88.72 330 *e*P P 14 36 17.5 +0.7
BMO pmax pmax
comp=Z,95nm,3.0s
BMO Blue Mountains 88.72 330 *e*P P 14 36 17.5 +0.7
comp=Z,95nm,3.0s
A20A Cobblestone Ra 88.75 338 ⇑P P 14 36 16.8 +0.1
baz=89,SNR=6.5
I07A Izee 89.03 328 *e*P P 14 36 19.7 +1.5
comp=Z,16nm,1.4s
MSO Missoula 89.04 333 ⇑P P 14 36 21.4 +3.1
baz=89
A19A Klindworth Far 89.05 337 ⇓P P 14 36 19.0 +0.8
baz=89
G08A Pilot Rock 89.76 329 *e*P P 14 36 22.7 +1.1
comp=Z,9.6nm,1.3s
WALA Waterton Lakes 90.91 334 *e*P P 14 36 27.5 +0.6
NEW Newport 91.44 332 P P 14 36 28.6 -0.7
comp=Z,1.9nm,0.8s,baz=152,slow=3.2,SNR=4.5

NEW pP pP 14 36 36.4 -1.8
comp=Z,2.4nm,0.9s,baz=181,slow=11,SNR=4.1
FCC Fort Churchill 94.65 349 eP **P 14 36 44.0 +0.3**
FCC Fort Churchill 94.65 349 eP **P 14 36 44.0 +0.3**
ESDC Sonseca Array 97.48 47 P Pdif 14 36 57.4 +0.1
comp=Z,0.1nm,0.3s,baz=269,slow=7.7,SNR=3.2
ESDC pP pP 14 37 05.5 -0.6
comp=Z,0.1nm,0.3s,baz=255,slow=29,SNR=2.1
YKA Yellowknife Ar 102.37 342 P **Pdif 14 37 17.8 -0.5**
comp=Z,0.9nm,0.9s,baz=141,slow=4.0,SNR=10
YKA pP pP 14 37 25.8
comp=Z,0.9nm,0.9s,baz=146,slow=4.6,SNR=5.5
ILAR Eielson Array 114.38 333 PKP PKPdf 14 42 02.3 +0.1
comp=Z,0.6nm,0.9s,baz=184,slow=2.9,SNR=5.0
CRVS Cervenica-Dubn 117.76 48 ePKIKP **PKPdf 14 42 14.1 +4.9**
CRVS Cervenica-Dubn 117.76 48 e **PKPdf 14 42 14.1 +4.9**
CRVS e 14 58 14.0
WRA Warramunga Arr 119.92 210 PKP **PKPdf 14 42 13.2 -1.2**
comp=Z,3.0nm,0.8s,baz=160,slow=1.5,SNR=9.5
WRA pPKP **pPKPdf 14 42 21.2 -2.4**
comp=Z,3.3nm,0.8s,baz=162,slow=1.4,SNR=8.5
BRTR Keskin Array B 122.73 62 PKP **PKPdf 14 42 19.4 +0.2**
comp=Z,1.7nm,0.8s,baz=186,slow=4.0,SNR=7.4
BRTR pPKP **pPKPdf 14 42 27.2 -1.2**
comp=Z,2.7nm,1.1s,baz=191,slow=2.5,SNR=6.9
AKASG Malin Array Be 123.10 48 PKP **PKPdf 14 42 18.7 -0.7**
comp=Z,1.0nm,0.6s,baz=268,slow=2.7,SNR=4.5
RAYN Ar Rayn 125.76 84 ePKPdf **PKPdf 14 42 26.1 +0.7**
KLMR Klimovskoe 130.28 36 ePKIKP **PKPdf 14 42 31.2 -1.6**
KLMR pmax pmax
comp=Z,29nm,1.5s
KBZ Khabaz 130.49 59 PKP **PKPdf 14 42 35.1 +1.4**
comp=Z,2.0nm,1.0s,baz=289,slow=7.8,SNR=3.5
KBZ pPKP **pPKPdf 14 42 42.7 -0.2**
comp=Z,2.5nm,0.9s,baz=280,slow=3.7,SNR=5.1
BILL Bilibino 133.03 334 ePKIKP **PKPdf 14 42 39.0 +1.2**
BILL pmax pmax
comp=Z,6.0nm,1.1s
SEY Seymchan 140.16 330 PKP **PKPdf 14 42 49.5 -1.6**
comp=Z,5.2nm,0.8s,baz=104,slow=5.5,SNR=6.1
GEYT Alibeck 140.71 70 PKP **PKPdf 14 42 53.6 +0.6**
comp=Z,2.9nm,0.8s,baz=235,slow=5.2,SNR=4.1
GSI Gunungsitoli 145.73 163 ePKPdf **PKPab 14 43 03.2 -0.1**
KSM Kuching 146.94 186 ePKPab **PKPab 14 43 08.4 +0.5**
BRVK Borovoye 148.11 43 ePKP2 **PKPbc 14 43 09.7 +1.2**
BRVK Borovoye 148.11 43 ePKPbc **PKPbc 14 43 09.7 +1.2**
BVAR Borovoye Array 148.18 43 PKPbc **PKPbc 14 43 09.9 +1.1**
comp=Z,6.4nm,0.8s,baz=290,slow=4.4,SNR=8.7
KBL Kabul 148.77 79 ePKP2 **PKPbc 14 43 11.2 0.0**
KBL Kabul 148.77 79 ePKPbc **PKPbc 14 43 11.2 0.0**
YAK Yakutsk 149.02 339 ePKIKP **PKPbc 14 43 09.2 -1.4**
YAK pmax pmax
comp=Z,33nm,0.8s
YAK Yakutsk 149.02 339 ePKPbc **PKPbc 14 43 10.4 -0.2**
HYB Hyderabad 149.32 117 i PKP **PKPbc 14 43 12.0 -0.8**
KKAR Karatay Array 150.44 62 ePKIKP **PKPbc 14 43 14.9 +0.2**
KKAR Karatay Array 150.44 62 ePKPbc **PKPbc 14 43 14.9 +0.2**
YSS Yuzh-Sakhalins 150.56 306⇑ ePKIKP **PKPbc 14 43 15.8 +1.0**
YSS pmax pmax
comp=Z,20nm,0.8s
EKS2 Erkin-Say 152.87 63 ePKIKP **PKPbc 14 43 20.6 +0.1**
EKS2 Erkin-Say 152.87 63 ePKPbc **PKPbc 14 43 20.6 +0.1**
AAK Ala-Archa 153.40 63 PKPbc **PKPbc 14 43 21.7 0.0**
comp=Z,5.7nm,0.8s,baz=231,slow=3.4,SNR=5.4
TKM2 Tokmak 2 154.16 62 ePKIKP **PKPbc 14 43 23.8 +0.4**
TKM2 Tokmak 2 154.16 62 ePKPbc **PKPbc 14 43 23.8 +0.4**
MJAR Matsushiro Arr 154.67 283 PKPab **PKPab 14 43 38.8 -0.6**
comp=Z,2.3nm,1.1s,baz=120,slow=2.7,SNR=4.4
KSH Kashi 154.74 70 ePKPbc **PKPdf 14 43 15.8 -0.2**
KSH epPKP **pPKPdf 14 43 26.3 +1.1**
KSH esPKP 14 43 29.8
KSH eSKS **SKSdf 14 50 18.3 -2.5**
KSH eSKKS **SKKSac 14 53 59.8 -3.8**
KSH eSS **SS 15 06 49.8 -6.8**
KSH AMB AMB
comp=Z,92nm,3.9s
KSH LR LR
comp=Z,350nm,6.1s
ZALV Zalesovo Beam 155.08 32 PKP **PKPdf 14 43 15.9 +0.1**
comp=Z,2.0nm,0.7s,baz=295,slow=3.1,SNR=3.7
ZALV PKPbc PKPbc 14 43 24.9
comp=Z,12nm,0.9s,baz=298,slow=3.2,SNR=9.5
ZALV PKPab **PKPab 14 43 41.5 +1.1**
comp=Z,11nm,1.0s,baz=305,slow=5.1,SNR=3.6
BOD Bodaibo 156.28 351 ePKP2 **PKPab 14 43 43.7 -1.7**
BOD pmax pmax
comp=Z,16nm,0.8s
MKAR Makanchi Array 157.67 49 PKP **PKPdf 14 43 16.9 -2.5**
comp=Z,1.0nm,0.8s,baz=292,slow=2.6,SNR=3.2
MKAR PKPab **PKPab 14 43 52.4 +0.5**
comp=Z,4.9nm,0.8s,baz=299,slow=3.4,SNR=11
WMQ Urumqi 162.38 53 ePKP **PKPdf 14 43 24.5 -0.4**
WMQ LR LR
comp=Z,130nm,21.0s
WMQ LR LR
comp=Z,150nm,20.6s
WMQ LR LR
comp=Z,120nm,20.4s
CMAR Chiang Mai Arr 162.38 154 PKP **PKPdf 14 43 25.7 +0.1**
comp=Z,0.8nm,0.5s,baz=246,slow=2.5,SNR=6.9
CMAR pPKP **pPKPdf 14 43 34.0 -0.8**
comp=Z,2.7nm,1.0s,baz=250,slow=2.3,SNR=6.0
CMAR PKPab **PKPab 14 44 12.9 -0.1**
comp=Z,1.2nm,0.9s,baz=224,slow=3.8,SNR=3.4
ZAK Zakamensk 163.95 9⇓ ePKIKP PKPdf 14 43 38.8 +13
ZAK i 14 44 19.2
ZAK pmax pmax
comp=Z,2.0nm,1.7s
ZAK pmax pmax
comp=Z,4.0nm,1.5s
SONM Songino Array 166.73 2 PKP **PKPdf 14 43 28.5 -0.2**
comp=Z,0.9nm,0.8s,baz=30,slow=1.5,SNR=3.8
SONM pPKP **pPKPdf 14 43 36.5 -1.5**
comp=Z,1.0nm,0.9s,baz=305,slow=1.3,SNR=3.3
SONM PKPab **PKPab 14 44 32.2 +0.7**
comp=Z,4.0nm,0.9s,baz=340,slow=4.8,SNR=12
NJ2 Nanjing 169.85 259 ePKP **PKPdf 14 43 32.3 +1.2**
GYA Guiyang 171.91 177 PKP **PKPdf 14 43 32.0 -0.5**
GYA pPKP **pPKPdf 14 43 44.8 +3.0**
GYA PKPab **PKPab 14 44 57.5 +2.6**
GYA PP **PP 14 48 48.5 +3.6**
GYA SKKS 14 55 31.0
GYA SS **SS 15 09 51.5 +0.5**
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=Z,130nm,21.6s
GYA LR LR
comp=Z,120nm,21.4s
GYA LR LR
comp=Z,140nm,24.2s
GTA Gaotai 172.43 48 ePKP **PKPdf 14 43 33.5 +1.1**
HHC Hu-ho-hao-te 172.80 332 ePKP **PKPdf 14 43 30.0 -2.5**
HHC pPKP **pPKPdf 14 43 39.5 -2.2**
HHC sPKP 14 43 44.8
CD2 Chengdu 175.39 141 PKP **PKPdf 14 43 33.0 -0.6**
CD2 pPKP **pPKPdf 14 43 44.3 +1.5**
CD2 sPKP 14 43 48.0
CD2 PKS **PKSdf 14 47 03.8 -2.0**
CD2 PP **PP 14 49 05.0 +2.5**
CD2 SKS **SKSdf 14 50 30.5 -4.3**
CD2 SKKS **SKKSac 14 54 45.8 -1.6**
CD2 SS **SS 15 10 23.0 -2.9**
CD2 AMB AMB
comp=Z,230nm,6.2s
LZH Lanzhou 176.93 59 ePKP **PKPdf 14 43 33.5 -0.4**
LZH pPKP **pPKPdf 14 43 44.3 +1.2**
LZH sPKP 14 43 49.8

IDC ***27*** *14:25:36.6±0.9, 38.°53S×75.°80W, h0km, mb4.3/6, mb1 4.5/7, mb1mx4.2/36, mbtmp4.4/7, ML5.2/1, Error ellipse: s-maj=37.4km s-min=21.0km az=78.0*
ISCJB ***27*** *14:25:40.1±0.8, 38.°51S±0.°09×75.°6W±0.°2, h33km, mb4.3/9, Error ellipse: s-maj=18.4km s-min=11.7km az=156.2*
NEIC ***27*** *14:25:41.7±0.8, 38.°53S×75.°66W, h35km, mb4.5/5, Error ellipse: s-maj=19.0km s-min=12.3km az=68.0*
ISC 27 14:25:41.7±0.8,**38.°51S**±0.°10×**75.°7W**±0.°1,**h35km, n22, σ1§25/22, mb4.3/9, Off coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.55 121 Pn **Pn 14 26 49.5 +1.5**
26nm,0.3s,baz=303,slow=14,SNR=9.0
PLCA Paso Flores 4.55 121 ePn **Pn 14 26 47.5 -0.5**
TRQA Tornquist 10.79 92 ePn **Pn 14 28 13.0 -0.6**
LVC Limon Verde 16.87 22 ePn **Pn 14 29 34.0 -1.4**
LPAZ La Paz 23.11 19 P **P 14 30 46.1 +0.8**
5.3nm,0.8s,baz=192,slow=5.9,SNR=2.4
LPAZ La Paz 23.11 19 eP **P 14 30 45.5 +0.3**
2.3nm,0.7s
SAML Samuel 31.51 24 eP **P 14 32 00.9 +0.5**
3.4nm,1.1s
OTAV Otavalo 38.64 356 P **P 14 33 02.2 -0.1**
SDV Santo Domingo 47.38 7 eP **P 14 34 11.7 -1.0**
3.1nm,0.9s
RCBR Riachuelo 48.52 58 eP **P 14 34 23.0 +1.6**
7.3nm,1.1s
SNAA Sanae 48.59 156 P **P 14 34 20.4 -1.0**
3.7nm,0.9s,baz=302,slow=9.8,SNR=2.6
SNAA Sanae 48.59 156 eP **P 14 34 20.0 -1.3**
9.0nm,1.2s
QSPA South Pole Qui 51.73 180 P **P 14 34 46.7 +1.3**
11nm,0.9s,baz=165,slow=5.1,SNR=3.7
QSPA South Pole Qui 51.73 180 eP **P 14 34 45.4 +0.1**
5.5nm,1.0s
TXAR Lajitas Array 72.38 335 P **P 14 37 06.0 +1.9**
1.5nm,0.8s,baz=154,slow=6.9,SNR=4.2
DBIC Dimbokro 79.38 73 P **P 14 37 44.7 +0.4**
2.6nm,0.7s,baz=223,slow=4.7,SNR=2.6
PDAR Pinedale Array 86.55 336 P **P 14 38 20.0 -1.0**
1.9nm,1.1s,baz=154,slow=4.6,SNR=3.7
GEYT Alibeck 144.00 76 PKhKP PKPpre 14 45 05.3
1.5nm,0.8s,baz=284,slow=5.8,SNR=2.2
GEYT PKP **PKPdf 14 45 12.9 -0.4**
3.5nm,0.8s,baz=306,slow=3.5,SNR=6.2
HYB Hyderabad 149.21 126 i PKP **PKPbc 14 45 25.0 -1.9**
BVAR Borovoye Array 152.55 47 PKPbc **PKPbc 14 45 32.1 -1.6**
1.4nm,0.7s,baz=280,slow=4.2,SNR=3.4
ZALV Zalesovo Beam 159.60 34 PKPab **PKPab 14 46 16.3 +1.9**
1.2nm,0.7s,baz=313,slow=5.1,SNR=3.2
MKAR Makanchi Array 161.85 56 PKPab **PKPab 14 46 25.5 +0.9**
0.5nm,0.8s,baz=325,slow=1.8,SNR=2.7

ISCJB ***27*** *14:26:36.0±0.6, 37.°38S±0.°07×73.°7W±0.°1, h23km, mb4.2/13, Error ellipse: s-maj=16.3km s-min=9.5km az=163.0*
IDC ***27*** *14:26:37.4±0.6, 37.°38S×73.°72W, h18km±3km, mb4.2/10, mb1 4.3/12, mb1mx4.2/38, mbtmp4.3/12, ML5.0/2, Error ellipse: s-maj=22.7km s-min=15.9km az=71.0*
NEIC ***27*** *14:26:39.2±0.4, 37.°39S×73.°61W, h35km, mb4.4/5, Error ellipse: s-maj=11.8km s-min=7.9km az=73.0*
ISC 27 14:26:37.6±0.6,**37.°37S**±0.°08×**73.°7W**±0.°1,**h23km, n35, σ1§00/43, mb4.4/13, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.14 145 Pn **Pn 14 27 40.0 +0.6**
20nm,0.3s,baz=275,slow=6.4,SNR=4.1
PLCA Paso Flores 4.14 145 ePn **Pn 14 27 39.5 +0.1**
TRQA Tornquist 9.28 98 ePn **Pn 14 28 49.0 -0.8**
LVC Limon Verde 15.26 17 ePn **Pn 14 30 12.1 +0.2**
CPUP Villa Florida 17.67 56 Pn **P 14 30 44.3 +1.3**
1.3nm,0.3s,baz=208,slow=14,SNR=2.9
LPAZ La Paz 21.56 15 P **P 14 31 27.2 +1.1**
9.4nm,0.7s,baz=179,slow=5.4,SNR=6.7
LPAZ La Paz 21.56 15 eP **P 14 31 25.9 -0.1**
SIV San Ignacio 24.03 31 P **P 14 31 51.5 +0.6**
3.7nm,0.7s,baz=222,slow=12,SNR=4.4
SAML Samuel 29.84 21 eP **P 14 32 42.8 -0.3**
OTAV Otavalo 37.68 352 eP **P 14 33 52.3 +0.6**
8.1nm,1.0s
ROSC El Rosal 42.01 359 P **P 14 34 26.8 -0.9**
SDV Santo Domingo 46.10 4 P **P 14 34 59.7 -0.4**
RCBR Riachuelo 46.55 57 eP **P 14 35 03.3 -0.4**
2.5nm,0.8s
BCIP Isla Barro Col 46.65 352 P **P 14 35 02.7 -1.6**
SNAA Sanae 48.99 157 P **P 14 35 23.0 +1.0**
3.8nm,0.8s,baz=284,slow=8.3,SNR=8.6
SNAA Sanae 48.99 157 eP **P 14 35 20.0 -2.0**
5.8nm,0.9s
QSPA South Pole Qui 52.87 180 P **P 14 35 52.1 +0.7**
5.3nm,0.9s,baz=149,slow=7.1,SNR=2.1
QSPA South Pole Qui 52.87 180 eP **P 14 35 50.9 -0.4**
6.5nm,1.1s
APG El Apazote 54.44 340 P **P 14 36 04.2 +0.8**
6.7nm,0.9s,baz=135,slow=10.0,SNR=5.0
TXAR Lajitas Array 72.07 333 P **P 14 38 00.1 +0.2**
0.4nm,0.6s,baz=154,slow=9.0,SNR=3.4
TXAR pP **pP 14 38 05.4 -1.9**
2.9nm,0.8s,baz=154,slow=6.9,SNR=7.9
WVT Waverly 74.30 348 eP **P 14 38 12.8 0.0**
1.9nm,0.8s
DBIC Dimbokro 77.49 72 P **P 14 38 32.6 +1.0**
4.5nm,0.8s,baz=216,slow=4.7,SNR=3.9
DBIC pP **pP 14 38 39.0 -0.1**
6.9nm,0.9s,baz=214,slow=5.6,SNR=4.0
DBIC Dimbokro 77.49 72 eP **P 14 38 31.9 +0.3**
DBIC pP **pP 14 38 39.0 -0.1**
BOSA Boshof 79.66 118 P **P 14 38 44.5 +0.9**
3.7nm,0.8s,baz=210,slow=4.5,SNR=3.2
PDAR Pinedale Array 86.20 334 P **P 14 39 18.8 +1.8**
0.5nm,0.9s,baz=167,slow=4.3,SNR=2.4
PDAR pP **pP 14 39 23.2 -1.3**
3.5nm,1.1s,baz=126,slow=4.6,SNR=6.5
TORD Torodi Ar. Bea 86.57 71 P **P 14 39 19.4 +0.2**
1.6nm,0.6s,baz=215,slow=4.9,SNR=7.5
TORD pP **pP 14 39 26.1 -0.7**
3.5nm,1.1s,baz=241,slow=5.6,SNR=4.5
WRA Warramunga Arr 117.19 210 PKP **PKPdf 14 45 20.0 -1.3**
0.4nm,0.7s,baz=155,slow=1.8,SNR=3.8
WRA pPKP **pPKPdf 14 45 26.8 -2.3**
0.2nm,0.5s,baz=152,slow=1.8,SNR=1.4
BRTR Keskin Array B 124.56 63 PKP **PKPdf 14 45 34.8 -0.2**
0.8nm,0.6s,baz=196,slow=3.8,SNR=4.6
HYB Hyderabad 148.50 122 i PKP **PKPbc 14 46 21.5 -1.3**
BVAR Borovoye Array 150.59 46 PKPbc **PKPbc 14 46 27.6 +0.6**
2.8nm,0.6s,baz=288,slow=3.9,SNR=6.2
BVAR pPKPbc **PKPab 14 46 34.1 +0.3**
3.7nm,0.7s,baz=273,slow=5.6,SNR=7.6
MJAR Matsushiro Arr 154.59 278 PKPab **PKPab 14 46 52.5 +1.3**
0.5nm,0.4s,baz=112,slow=3.0,SNR=3.1
AAK Ala-Archa 155.13 68 PKPbc PKPdf 14 46 38.1 +9.5
1.5nm,0.5s,baz=199,slow=3.0,SNR=4.6
AAK PKPab **PKPab 14 46 54.1 +0.6**
baz=194,slow=8.3
ZALV Zalesovo Beam 157.75 35 PKPbc PKPdf 14 46 39.2 +7.7
3.4nm,0.9s,baz=291,slow=2.5,SNR=4.2
ZALV PKPab **PKPab 14 47 04.5 +0.4**
1.7nm,0.6s,baz=332,slow=4.9,SNR=3.6
ZALV pPKPab pPKPab 14 47 10.2 -1.5
2.0nm,0.7s,baz=309,slow=5.8,SNR=3.2
MKAR Makanchi Array 159.88 55 PKPab **PKPab 14 47 13.7 0.0**
1.1nm,0.8s,baz=289,slow=4.5,SNR=3.7
MKAR pPKPab **pPKPab 14 47 19.9 -1.4**
1.2nm,0.7s,baz=289,slow=3.6,SNR=3.9
SONM Songino Array 169.54 360 PKPab **PKPab 14 47 56.3 +0.2**
0.7nm,1.0s,baz=310,slow=4.9,SNR=2.8

ISCJB ***27*** *14:27:53.7±0.7, 38.°28S±0.°1×73.°9W±0.°1, h18km, mb4.3/9, Error ellipse: s-maj=17.0km s-min=11.5km az=135.4*
IDC ***27*** *14:27:53.7±1.4, 37.°93S×73.°82W, h0km, mb4.2/5, mb1 4.6/6, mb1mx4.2/37, mbtmp4.3/6, ML5.3/1, Error ellipse: s-maj=64.9km s-min=24.4km az=42.0*
NEIC ***27*** *14:27:58.1±0.6, 38.°19S×73.°85W, h35km, mb4.5/4, Error ellipse: s-maj=17.1km s-min=11.4km az=45.0*
ISC 27 14:27:55.5±0.7,**38.°21S**±0.°10×**73.°9W**±0.°1,**h18km, n27, σ1§16/25, mb4.3/9, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.58 136 Pn **Pn 14 28 52.1 +1.8**
52nm,0.3s,baz=310,slow=14,SNR=7.5
PLCA Sn **Sb 14 29 40.4 -1.3**
60nm,0.3s,baz=227,slow=8.2,SNR=6.1
PLCA Paso Flores 3.58 136 ePn **Pn 14 28 50.5 +0.2**
PLCA Sn **Sb 14 29 40.4 -1.3**
TRQA Tornquist 9.36 93 Pn **Pn 14 30 10.3 +0.8**
CPUP Villa Florida 18.29 54 eP **P 14 32 08.8 +0.5**
SAML Samuel 30.68 21 P **P 14 34 09.4 +0.2**
OTAV Otavalo 38.50 353 eP **P 14 35 16.6 -0.7**
13nm,1.0s
SDV Santo Domingo 46.95 4 eP **P 14 36 25.3 -0.2**
RCBR Riachuelo 47.15 57 eP **P 14 36 26.1 -0.9**
SNAA Sanae 48.28 156 eP **P** 14 36 31.0 -4.2
5.8nm,1.0s
QSPA South Pole Qui 52.03 180 eP **P 14 37 03.7 -0.1**

4.0nm,1.0s
TXAR Lajitas Array 72.75 333 P **P 14 39 22.6 -0.1**
1.7nm,0.8s,baz=149,slow=7.9,SNR=4.4
MIAR Mount Ida 74.67 343 P **P 14 39 31.9 -1.7**
WVT Waverly 75.10 348 P **P 14 39 34.8 -1.3**
DBIC Dimbokro 77.91 72 P **P 14 39 51.5 -1.2**
3.7nm,0.6s,baz=207,slow=7.7,SNR=3.2
DBIC Dimbokro 77.91 72 eP **P 14 39 51.7 -1.0**
ANMO Albuquerque 78.82 333 eP **P 14 39 57.5 +0.1**
7.1nm,1.3s
NVAR Mina Array Bea 86.54 327 P **P 14 40 37.8 +0.3**
0.3nm,0.3s,baz=143,slow=9.1,SNR=3.4
PDAR Pinedale Array 86.89 335 P **P 14 40 38.0 -1.1**
1.7nm,1.0s,baz=134,slow=6.4,SNR=4.7
TORD Torodi Ar. Bea 87.00 71 P **P 14 40 41.2 +1.2**
0.8nm,0.6s,baz=233,slow=5.4,SNR=4.6
ILAR Eielson Array 117.26 333 PKP **PKPdf 14 46 40.4 +1.7**
1.3nm,1.1s,baz=126,slow=1.6,SNR=4.5
H11S2 WAKE ISLAND Hy124.17 267 T T 17 03 06.8
baz=126,slow=75,SNR=12
H11S1 WAKE ISLAND Hy124.19 267 T T 17 03 08.1
baz=126,slow=75,SNR=12
H11S3 WAKE ISLAND Hy124.19 267 T T 17 03 07.0
baz=126,slow=75,SNR=13
AKASG Malin Array Be 126.07 50 PKP **PKPdf 14 46 57.1 +1.1**
0.3nm,0.4s,baz=260,slow=2.0,SNR=2.4
BVAR Borovoye Array 151.29 47 PKPbc **PKPbc 14 47 47.0 -0.3**
1.1nm,0.6s,baz=289,slow=4.4,SNR=2.5
ZALV Zalesovo Beam 158.53 36 PKPab **PKPab 14 48 28.3 +2.1**
0.7nm,0.4s,baz=289,slow=5.8,SNR=4.3
MKAR Makanchi Array 160.49 56 PKPab **PKPab 14 48 36.8 +1.7**
0.3nm,0.6s,baz=256,slow=4.9,SNR=3.3

IDC ***27*** *14:29:06.0±0.8, 34.°99S×72.°80W, h0km, mb4.6/10, mb1 4.7/12, mb1mx4.4/37, mbtmp4.6/12, ML4.0/2, Error ellipse: s-maj=28.7km s-min=23.3km az=39.0*
ISCJB ***27*** *14:29:07.6±0.6, 34.°6S±0.°1×72.°4W±0.°1, h10km, mb4.9/30, Error ellipse: s-maj=22.8km s-min=10.3km az=32.9*
BJI ***27*** *14:29:09.8, 35.°00S×71.°70W, h30km, mB5.2/4, Ms4.9/1*
NEIC ***27*** *14:29:11.8±0.4, 34.°90S×72.°57W, h35km, mb4.9/20, Error ellipse: s-maj=11.8km s-min=8.4km az=216.0*
ISC 27 14:29:07.1±0.6,**35.°1S**±0.°1×**72.°7W**±0.°1,**h10km, n305, σ0§99/313, mb4.9/30, 138C-114D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.11 48 Pn **Pn 14 30 24.4 +0.6**
1.5nm,0.3s,baz=256,slow=16,SNR=4.4
CFAA Lg Lg 14 31 39.5
2.1nm,0.3s,baz=79,slow=10,SNR=3.6
TRQA Tornquist 9.12 112 ePn **Pn 14 31 20.1 +1.4**
849nm,1.8s
TRQA eSn **Sn 14 33 00.4 -1.1**
LPAZ La Paz 19.18 13 P **P 14 33 32.5 +1.0**
0.5nm,0.3s,baz=212,slow=7.6,SNR=4.8
LPAZ La Paz 19.18 13 ePn **P 14 33 29.3 -2.3**
14nm,0.8s
SIV San Ignacio 21.70 32 P **P 14 33 56.5 -1.8**
15nm,0.7s,baz=217,slow=10,SNR=9.7
OTAV Otavalo 35.56 350 eP **P 14 36 06.5 +1.3**
13nm,1.4s
TEIG Tepich 56.97 343 P **P 14 38 51.9 -0.9**
18nm,0.8s,baz=92,slow=20,SNR=5.3
934A Benavides 66.97 335 ⇓P **P 14 40 01.5 +1.6**
baz=67
933A Laredo 67.24 335 ⇓P **P 14 40 02.8 +1.1**
baz=67
835A Beeville 67.36 336 ⇑P **P 14 40 04.2 +1.8**
baz=68
834A Tilden 67.46 335 ⇓P **P 14 40 04.3 +1.3**
baz=68
833A Chaparral WMA, 67.93 335 ⇓P **P 14 40 06.5 +0.5**
baz=68
832A Faith Ranch, C 68.10 334 ⇑P **P 14 40 07.7 +0.7**
baz=68
636A Smothers Creek 68.22 337 ⇑P **P 14 40 08.4 +0.6**
baz=68
732A Laxson Ranch, 68.50 334 ⇓P **P 14 40 10.4 +0.8**
baz=69,SNR=5.6
632A Uvalde 69.15 335 ⇓P **P 14 40 14.3 +0.7**
baz=69
532A Rocksprings 69.76 335 ⇑P **P 14 40 17.9 +0.5**
baz=70,SNR=6.6
434A Burnet 69.84 337 ⇑P **P 14 40 18.2 +0.3**
baz=70
336A Riesel 69.92 338 ⇑P **P 14 40 18.7 +0.4**
baz=70
335A Moody 70.01 338 ⇑P **P 14 40 19.2 +0.4**
baz=70
531A Rocksprings 70.02 335 ⇓P **P 14 40 19.8 +0.8**
baz=70
JCT Junction City 70.05 335 ⇓P **P 14 40 19.8 +0.6**
baz=70
433A Art 70.06 336 ⇓P **P 14 40 19.3 +0.1**
baz=70,SNR=5.0
530A J-C Ranch, Com 70.28 334 ⇑P **P 14 40 21.7 +1.0**
baz=70,SNR=6.4
334A Lometa 70.31 337 ⇑P **P 14 40 21.0 +0.3**
baz=70
432A Menard 70.40 335 ⇑P **P 14 40 21.3 0.0**
baz=71
TXAR Lajitas Array 70.43 332 P **P 14 40 21.5 -0.1**
2.4nm,0.7s,baz=152,slow=8.7,SNR=9.3
TXAR Lajitas Array 70.43 332 P **P 14 40 21.5 -0.1**
431A Sonora 70.51 335 ⇓P **P 14 40 22.2 +0.2**
baz=71
333A Richland Sprin 70.55 336 ⇑P **P 14 40 22.2 0.0**
baz=71
529A Stev Forest Ra 70.59 333 ⇑P **P 14 40 22.9 +0.4**
baz=71,SNR=5.4
WHTX Lake Whitney 70.67 338 eP **P 14 40 22.9 0.0**
16nm,0.8s
WHTX Lake Whitney 70.67 338 ⇑P **P 14 40 23.4 +0.4**
baz=71
430A Baggett Ranch, 70.83 334 ⇓P **P 14 40 24.7 +0.7**
baz=71
332A Millersview 70.85 336 ⇓P **P 14 40 24.2 +0.1**
baz=71
234A Clairette 70.90 337 ⇑P **P 14 40 24.6 +0.3**
baz=71
429A Davenport Ranc 70.92 334 ⇑P **P 14 40 24.7 +0.2**
baz=71
331A San Angelo 71.02 335 ⇓P **P 14 40 25.0 -0.1**
baz=71,SNR=6.2
233A Rising Star 71.16 337 ⇑P **P 14 40 26.1 +0.2**
baz=71
232A Coleman 71.28 336 ⇓P **P 14 40 26.6 -0.1**
baz=72
330A Mertzon 71.37 335 ⇓P **P 14 40 27.2 0.0**
baz=72
231A Bronte 71.55 335 ⇓P **P 14 40 28.2 -0.1**
baz=72,SNR=7.6
133A Hamilton Ranch 71.70 337 ⇓P **P 14 40 29.4 +0.3**
baz=72
329A Wagon Wheel Ra 71.73 334 ⇑P **P 14 40 29.6 +0.2**
baz=72
230A Sterling City 71.78 335 ⇓P **P 14 40 29.5 -0.2**
baz=72
Z35A Perchaven, San 71.86 339 ⇓P **P 14 40 30.3 +0.3**
baz=72
ABTX Abilene, Hawle 71.96 336 eP **P 14 40 30.6 -0.2**
15nm,0.8s
ABTX Abilene, Hawle 71.96 336 ⇓P **P 14 40 30.7 0.0**
baz=72,SNR=6.1
Z34A Collier Ranch, 72.10 338 ⇑P **P 14 40 31.4 -0.1**
baz=72
229A Bryant Ranch, 72.10 334 ⇑P **P 14 40 31.7 +0.1**
baz=72
131A Roby 72.25 336 ⇑P **P 14 40 32.7 +0.2**
baz=72
Z33A Whitaker Ranch 72.28 337 ⇓P **P 14 40 32.8 +0.2**
baz=72
130A Snyder 72.38 335 ⇓P **P 14 40 33.0 -0.2**
baz=73
228A UT Block 9, Go 72.52 334 ⇑P **P 14 40 34.2 +0.1**
baz=73
Z32A Haskell 72.53 337 ⇓P **P 14 40 33.6 -0.5**
baz=73,SNR=6.2
Y34A Reagan Ranch, 72.59 338 ⇓P **P 14 40 34.1 -0.3**
baz=73
Z31A Sharp Cattle R 72.76 336 ⇑P **P 14 40 35.4 -0.1**
baz=73,SNR=6.5
Y33A Hilltop Ranch, 72.91 338 ⇑P **P 14 40 36.3 0.0**
baz=73
128A Castleberry Fa 72.93 334 ⇑P **P 14 40 36.6 -0.1**

baz=73,SNR=5.9
Z30A Sanderson Ranc 73.06 335 ⇑P P 14 40 37.2 -0.1
baz=73
Y32A R-V Farms, Ver 73.16 337 ⇑P P 14 40 37.9 +0.1
baz=73
X34A Smith Ranch, M 73.21 339 ⇑P P 14 40 38.4 +0.3
baz=73
Z29A Hungry Hill Ra 73.23 335 ⇑P P 14 40 37.9 -0.5
baz=73
127A Arkansas Junct 73.30 333 ⇑P P 14 40 39.2 +0.4
baz=74
X33A Lawton 73.36 338 ⇑P P 14 40 39.4 +0.4
baz=74
Y31A Rekieta Farm, 73.39 336 ⇓P P 14 40 38.9 -0.3
baz=74
X32A Elmer 73.49 337 ⇑P P 14 40 40.0 +0.2
baz=74
Z28A Tucker Farm, M 73.50 334 ⇓P P 14 40 40.0 0.0
baz=74
Y30A Stafford Cattl 73.52 336 ⇑P P 14 40 40.2 +0.1
baz=74
Y29A Porterfield Fa 73.77 335 ⇓P P 14 40 41.6 0.0
baz=74,SNR=5.4
W34A Bridge Creek, 73.78 339 ⇓P P 14 40 41.6 +0.1
baz=74
Z27A Tatum 73.82 334 ⇑P P 14 40 41.5 -0.4
baz=74
TUL1 Tulsa 73.85 341 eP P 14 40 40.6 -1.2
15nm,0.7s
TUL1 Tulsa 73.85 341 ⇑P P 14 40 41.6 -0.2
baz=74
X31A McDonald Ranch 73.91 337 ⇑P P 14 40 42.2 -0.1
baz=74
W33A Caddo, Fort Co 73.92 338 ⇑P P 14 40 42.9 +0.6
baz=74
Y28A McKinney Farm, 74.01 335 ⇑P P 14 40 43.1 +0.1
baz=74
X30A Coker Ranch, T 74.03 336 ⇓P P 14 40 43.0 0.0
baz=74
Z26A Caprock 74.06 333 ⇑P P 14 40 43.8 +0.5
baz=74
W32A Sentinel 74.13 338 ⇓P P 14 40 43.8 +0.3
baz=74
MSTX Muleshoe 74.25 334 eP P 14 40 44.1 -0.3
12nm,0.8s
MSTX Muleshoe 74.25 334 ⇑P P 14 40 43.9 -0.5
baz=74
V34A Guthrie 74.27 339 ⇓P P 14 40 44.0 -0.2
baz=74
X29A Tulia 74.31 335 ⇑P P 14 40 44.2 -0.5
baz=74
Y27A Causey 74.31 334 ⇑P P 14 40 44.4 -0.4
baz=74
Z25A Roswell 74.35 333 ⇓P P 14 40 45.0 0.0
baz=74
W31A Holland Ranch, 74.41 337 ⇓P P 14 40 44.9 -0.3
baz=75
V33A Lossen Ranch, 74.48 339 ⇓P P 14 40 45.2 -0.3
baz=75
Y26A Elida 74.59 334 ⇓P P 14 40 47.2 +0.8
baz=75
Z24A Sheeppen Canyo 74.64 332 ⇓P P 14 40 47.2 +0.5
baz=75
AMTX Amarillo 74.70 336 eP P 14 40 47.0 0.0
24nm,1.2s
AMTX Amarillo 74.70 336 ⇓P P 14 40 47.1 +0.2
baz=75
U34A Anderson Ranch 74.83 339 ⇑P P 14 40 47.5 -0.1
baz=75
121A Cookes Peak, D 74.90 330 ⇓P P 14 40 49.1 +0.9
baz=75
W29A Amraillo 74.91 336 ⇓P P 14 40 48.4 +0.3
baz=75
Y25A Mesa, Roswell 74.91 333 ⇓P P 14 40 48.1 -0.1
baz=75
V31A Spring Creek L 74.92 337 ⇓P P 14 40 48.9 +0.8
baz=75
U33A Lingo Farm, Me 75.00 339 ⇑P P 14 40 49.9 +1.4
baz=75
X26A CR and CF Fran 75.15 334 ⇓P P 14 40 50.2 +0.6
baz=75
V30A Spur Ranch, Mi 75.17 337 ⇑P P 14 40 51.6 +2.0
baz=75
Y24A Capitan 75.19 332 ⇓P P 14 40 50.7 +0.7
baz=75
Z22A Elephant Butte 75.20 331 ⇑P P 14 40 51.0 +1.1
baz=75
W27A Bowe Ranch, En 75.34 335 ⇑P P 14 40 50.9 +0.3
baz=76,SNR=5.2
Y23A Lovelace Mesa, 75.44 332 ⇑P P 14 40 53.0 +1.6
baz=76
X25A Clemmons Ranch 75.44 333 ⇑P P 14 40 51.1 -0.2
baz=76
ACSO Alum Creek Sta 75.56 352 eP P 14 40 50.5 -1.1
24nm,0.8s
W26A Owens Ranch, T 75.61 334 ⇑P P 14 40 52.8 +0.5
baz=76
T33A Patterson Ranc 75.64 339 ⇑P P 14 40 52.8 +0.6
baz=76
V28A Channing 75.67 336 ⇑P P 14 40 53.1 +0.6
baz=76
X24A Lazy VL Ranch, 75.76 333 ⇓P P 14 40 54.2 +1.0
baz=76
U30A WK&E Inc. Balk 75.87 337 ⇑P P 14 40 54.8 +1.2
baz=76
W25A X Bar L Ranch, 75.98 334 ⇑P P 14 40 54.5 +0.2
baz=76
DBIC Dimbokro 76.05 71 P P 14 40 55.8 +0.7
7.2nm,0.8s,baz=221,slow=5.6,SNR=4.4
X23A Hourglass Bar 76.06 332 ⇑P P 14 40 56.1 +1.1
baz=76
U28A Mallet 76.24 336 ⇑P P 14 40 56.0 +0.2
baz=76
V26A Tequesquite Ra 76.26 334 ⇓P P 14 40 56.0 +0.1
baz=76
W24A Lazy 6 Ranch, 76.32 333 ⇑P P 14 40 56.9 +0.5
baz=76
S32A Newby Ranch, P 76.42 339 ⇑P P 14 40 57.1 +0.4
baz=77
U27A Thompson Grove 76.48 335 ⇓P P 14 40 57.4 +0.2
baz=77
ANMO Albuquerque 76.49 332 eP P 14 40 58.1 +0.8
W23A Werner Place, 76.56 332 ⇑P P 14 40 58.7 +0.9
baz=77
V25A Rancho No Teng 76.59 334 ⇑P P 14 40 58.3 +0.4
baz=77
214A Organ Pipe Nat 76.61 326 ⇑P P 14 40 58.7 +0.9
baz=77
R33A Olander Ranch, 76.71 340 ⇓P P 14 40 58.4 +0.1
baz=77
V24A Rampart Ranch, 76.73 333 ⇓P P 14 40 58.4 -0.3
baz=77
U26A Atchley Ranch, 76.78 335 ⇑P P 14 40 58.8 -0.1
baz=77
S30A Montezuma 76.83 338 ⇑P P 14 40 59.4 +0.4
baz=77
T28A Walsh 76.88 336 ⇑P P 14 40 59.5 +0.2
baz=77,SNR=8.2
S29A Ulysses 77.01 337 ⇑P P 14 41 00.7 +0.6
baz=77
U25A Circle Dot Ran 77.02 334 ⇓P P 14 41 00.9 +0.6
baz=77
R32A Long Quarter, 77.02 339 ⇓P P 14 41 00.5 +0.5
baz=77
T27A Campo 77.03 336 ⇓P P 14 41 00.7 +0.4
baz=77
KSU1 Kansas State U 77.07 341 ⇓P P 14 41 00.6 +0.3
baz=77
V23A Ortiz Mt. (NFS 77.09 333 ⇓P P 14 41 01.5 +0.8
baz=77
S28A Manter 77.24 337 ⇑P P 14 41 01.9 +0.6
baz=77,SNR=8.1
Q33A Connelly Farm, 77.31 340 ⇓P P 14 41 01.7 +0.1
baz=78
U24A Moreno Valley 77.34 334 ⇑P P 14 41 03.5 +1.3
baz=78
R30A Dighton 77.36 338 ⇑P P 14 41 02.3 +0.3
baz=78
T26A Comanche Natio 77.43 335 ⇓P P 14 41 03.1 +0.5
baz=78
Q32A Meitler Ranch, 77.50 340 ⇑P P 14 41 03.0 +0.3
baz=78
V22A San Miguel Ran 77.51 332 ⇑P P 14 41 04.3 +1.2
baz=78
X18A Snowflake 77.53 329 ⇑P P 14 41 04.3 +1.2
baz=78
U23A El Rito 77.61 333 ⇓P P 14 41 04.8 +1.1
baz=78

S27A Las Animas 77.65 336 ⇑P P 14 41 05.2 +1.5
baz=78
T25A Trinidad 77.68 335 ⇓P P 14 41 05.2 +1.2
baz=78,SNR=6.8
R29A Marienthal 77.75 338 ⇑P P 14 41 04.9 +0.7
baz=78
Q31A Ellis 77.76 339 ⇓P P 14 41 04.6 +0.5
baz=78
S26A Kim 77.79 335 ⇓P P 14 41 05.5 +1.0
baz=78,SNR=10.0
R28A Tribune 77.89 337 ⇓P P 14 41 05.6 +0.6
baz=78,SNR=5.4
U22A Llaves 77.90 332 ⇑P P 14 41 06.9 +1.7
baz=78
T24B San Luis 77.96 334 ⇑P P 14 41 06.7 +1.1
baz=78
Q30A Quinter 77.98 338 ⇓P P 14 41 05.9 +0.5
baz=78
X16A Lo Mia Camp, P 78.07 328 ⇑P P 14 41 07.4 +1.2
baz=78
Q29A Oakley 78.13 338 ⇑P P 14 41 06.3 0.0
baz=78
S25A Robets Cordova 78.16 335 ⇑P P 14 41 07.3 +0.7
baz=78
R27A Eads 78.16 336 ⇑P P 14 41 06.7 +0.1
baz=78,SNR=7.2
T23A Casias Ranch, 78.18 333 ⇑P P 14 41 07.8 +0.9
baz=78
P31A Stockton 78.23 339 ⇓P P 14 41 07.3 +0.5
baz=78
R26A Arlington 78.39 336 ⇑P P 14 41 08.3 +0.5
baz=79
S24A Houchin Ranch, 78.41 334 ⇓P P 14 41 09.0 +0.9
baz=79,SNR=7.6
R25A Fountain Ranch 78.54 335 ⇓P P 14 41 09.2 +0.6
baz=79
Q28A Sharon Springs 78.56 337 ⇓P P 14 41 09.4 +0.7
baz=79
O32A Brockman Farm, 78.61 340 ⇓P P 14 41 09.0 +0.2
baz=79
R24A Sanders Place, 78.90 335 ⇓P P 14 41 12.0 +1.2
baz=79,SNR=7.4
WUAZ Wupatki 78.98 329 ⇓P P 14 41 12.5 +1.3
baz=79
S22A 4UR Ranch, Cre 79.10 333 ⇑P P 14 41 12.7 +0.8
baz=79
R23A Moffat 79.12 334 ⇓P P 14 41 12.8 +0.8
baz=79
Q25A Bedland, Calha 79.22 335 ⇓P P 14 41 13.2 +0.7
baz=79
BC3 Big Chuckawall 79.25 325 ⇑P P 14 41 14.6 +2.0
baz=79
MVCO Mesa Verde 79.26 332 eP P 14 41 13.3 +0.6
13nm,1.3s
MVCO Mesa Verde 79.26 332 ⇓P P 14 41 13.8 +1.0
baz=80
P26A Davis Ranch, A 79.50 336 ⇑P P 14 41 15.2 +1.4
baz=80
O28A Krutsinger Ran 79.51 338 ⇓P P 14 41 15.1 +1.3
baz=80
Q24A Divide 79.57 335 ⇑P P 14 41 15.5 +1.0
baz=80,SNR=5.9
O27A Beecher Island 79.79 337 ⇓P P 14 41 17.0 +1.6
baz=80
BOSA Boshof 80.05 118 P P 14 41 18.9 +1.5
9.7nm,0.9s,baz=226,slow=5.9,SNR=6.4
O26A Horse Wrangler 80.10 337 ⇓P P 14 41 18.7 +1.5
baz=80
U15A North Rim 80.14 329 ⇑P P 14 41 18.9 +1.3
baz=80
O25A Wiggins 80.25 336 ⇑P P 14 41 19.7 +1.7
baz=80
GMRC Granite Mounta 80.27 325 ⇑P P 14 41 19.9 +1.7
baz=80
N27A Anderson Farm, 80.37 337 ⇓P P 14 41 19.5 +1.0
baz=81
SMCO Snowmass 80.41 334 eP P 14 41 20.6 +1.5
16nm,1.3s
ISCO Idaho Springs 80.48 335 eP P 14 41 20.0 +0.6
4.8nm,0.9s
ISCO Idaho Springs 80.48 335 ⇑P P 14 41 20.4 +1.0
baz=81
L31A Butterfield Fa 80.54 341 ⇓P P 14 41 20.2 +0.9
baz=81
P22A Eagle 80.70 334 ⇓P P 14 41 22.1 +1.6
baz=81
O23A Lake Granby, G 80.95 335 ⇓P P 14 41 22.6 +0.8
baz=81,SNR=6.2
O22A Kremmling 81.13 334 ⇑P P 14 41 23.5 +0.7
baz=81,SNR=6.0
N24A Carr 81.15 336 ⇑P P 14 41 23.7 +0.9
baz=81
K30A Basset 81.22 340 ⇑P P 14 41 23.9 +1.0
baz=81
GSC Goldstone 81.24 325 ⇑P P 14 41 24.8 +1.5
baz=81
M25A Palm-Egli Farm 81.42 337 ⇑P P 14 41 25.0 +0.8
baz=82
ECSD EROS Data Cent 81.43 343 eP P 14 41 23.6 -0.4
19nm,0.8s
ECSD EROS Data Cent 81.43 343 ⇑P P 14 41 23.9 -0.1
baz=82
K29A Lazy Trails An 81.50 340 ⇓P P 14 41 25.0 +0.6
baz=82
CCUT Cedar City 81.55 328 eP P 14 41 26.6 +1.5
7.5nm,1.0s
N23A Red Feather La 81.57 335 ⇓P P 14 41 26.1 +1.0
baz=82
N22A Wattenberg Ran 81.66 335 ⇓P P 14 41 26.7 +1.0
baz=82,SNR=5.5
M24A Cheyenne 81.70 336 ⇑P P 14 41 27.0 +1.3
baz=82
O20A White River Ci 81.72 333 ⇓P P 14 41 26.6 +0.7
baz=82
J30A Dallas 81.79 341 ⇑P P 14 41 26.3 +0.4
baz=82
L25A Engebretsen Ra 82.04 337 ⇑P P 14 41 29.2 +1.8
baz=82
J29A Okreek 82.09 340 ⇑P P 14 41 27.9 +0.4
baz=82
M22A Cedar Creek Ra 82.25 335 ⇓P P 14 41 30.3 +1.6
baz=82
ISA Isabella 82.33 324 ⇑P P 14 41 30.4 +1.4
baz=82
N20A Spence Gulch, 82.34 334 ⇑P P 14 41 29.7 +0.6
baz=82
J27A Elkhorn Farm, 82.44 339 ⇑P P 14 41 30.5 +1.1
baz=83
R11A Troy Canyon, C 83.18 327 eP P 14 41 34.7 +1.2
3.2nm,0.9s
R11A Troy Canyon, C 83.18 327 ⇓P P 14 41 34.9 +1.4
baz=83
H29A Onida 83.19 341 ⇓P P 14 41 33.1 0.0
baz=83
K22A Casper 83.33 336 ⇑P P 14 41 35.5 +1.3
baz=84
G30A Faulkton 83.37 342 ⇓P P 14 41 34.5 +0.4
baz=84
H28A Mission Ridge 83.46 340 ⇓P P 14 41 34.9 +0.3
baz=84
DUG Dugway 83.55 330 eP P 14 41 36.0 +0.8
11nm,1.1s
DUG Dugway 83.55 330 ⇑P P 14 41 36.6 +1.3
baz=84
K21A Alcova 83.56 335 ⇓P P 14 41 35.6 +0.2
baz=84,SNR=6.4
I25A Rochford 83.65 338 ⇑P P 14 41 36.3 +0.5
baz=84
H27A Howes 83.72 339 ⇓P P 14 41 35.7 -0.2
baz=84
G28A Parade 83.80 340 ⇑P P 14 41 36.7 +0.4
baz=84
RSSD Black Hills 83.84 338 eP P 14 41 36.7 -0.1
6.6nm,1.1s
F30A Leola 84.00 342 ⇑P P 14 41 38.2 +0.9
baz=84
F29A Eureka 84.20 341 ⇓P P 14 41 38.6 +0.2
baz=84
I22A 9 Mile Ranch, 84.42 336 ⇑P P 14 41 39.4 -0.2
baz=85
G26A Maurine 84.47 339 ⇓P P 14 41 39.6 -0.2
baz=85
NVAR Mina Array Bea 84.47 326 P P 14 41 40.8 +0.6
1.5nm,0.8s,baz=176,slow=5.0,SNR=5.7
F28A McLaughlin 84.48 341 ⇓P P 14 41 40.0 +0.2
baz=85
J20A Shoshoni 84.48 335 ⇑P P 14 41 40.8 +0.8
baz=85,SNR=6.0

PDAR Pinedale Array 84.50 334 P P 14 41 40.3 +0.1
1.7nm,0.9s,baz=134,slow=4.3,SNR=4.9
H24A Dirks Ranch, A 84.56 338 ⇓P P 14 41 40.1 -0.2
baz=85
I21A Big Trails, Te 84.62 336 ⇓P P 14 41 40.4 -0.2
baz=85
G25A Newell 84.62 339 ⇑P P 14 41 40.9 +0.4
baz=85
J19A Crowheart 84.75 334 ⇑P P 14 41 41.7 +0.3
baz=85,SNR=5.2
F27A Lemmon 84.84 340 ⇓P P 14 41 41.7 +0.2
baz=85
HVU Hansel Valley 84.87 331 eP P 14 41 42.1 +0.1
7.2nm,0.8s
H22A Clearmont 85.00 337 ⇓P P 14 41 42.4 -0.2
baz=85
I20A Worland 85.02 335 ⇑P P 14 41 43.3 +0.6
baz=85
G24A Alzada 85.05 338 ⇑P P 14 41 43.6 +0.9
baz=85
TORD Torodi Ar. Bea 85.10 70 P P 14 41 43.7 +0.1
6.0nm,0.8s,baz=294,slow=6.0,SNR=15
TORD Torodi Ar. Bea 85.10 70 P P 14 41 43.7 +0.1
D30A Buchanan 85.12 342 ⇓P P 14 41 42.9 0.0
baz=85
G23A Biddle 85.23 337 ⇓P P 14 41 43.2 -0.4
baz=85
D29A Pettibone, Tap 85.28 342 ⇓P P 14 41 43.6 -0.2
baz=86
F25A Bowman 85.30 339 ⇑P P 14 41 44.2 +0.2
baz=86
H20A Greybull 85.45 335 ⇑P P 14 41 44.5 -0.3
baz=86,SNR=10.0
F24A Ekalaka 85.52 338 ⇓P P 14 41 45.1 0.0
baz=86
G22A Birney 85.53 337 ⇑P P 14 41 45.1 -0.1
baz=86
AGMN Agassiz Nation 85.56 345 eP P 14 41 44.6 -0.5
41nm,1.8s
AGMN Agassiz Nation 85.56 345 ⇓P P 14 41 44.8 -0.3
baz=86
C30A Mose, Pekin 85.60 343 ⇑P P 14 41 45.6 +0.3
baz=86,SNR=5.3
D28A Regan 85.66 341 ⇑P P 14 41 45.9 +0.3
baz=86
F23A Volborg 85.70 338 ⇑P P 14 41 46.0 0.0
baz=86
G21A Lodge Grass 85.84 336 ⇑P P 14 41 46.7 0.0
baz=86
I17A Pilgrim Ck. 85.87 334 ⇑P P 14 41 47.7 +0.7
baz=86
H19A Powell 85.95 335 ⇓P P 14 41 47.7 +0.4
baz=86
F22A Rosebud 86.02 337 ⇑P P 14 41 48.3 +0.7
baz=86
E24A Baker 86.12 339 ⇑P P 14 41 48.5 +0.5
baz=86
G20A Bridger 86.17 336 ⇑P P 14 41 48.0 -0.4
baz=86,SNR=8.2
H18A Shoshone NF, C 86.19 335 ⇓P P 14 41 48.4 -0.3
baz=86,SNR=7.7
B30A Myrvik Farm, E 86.27 343 ⇑P P 14 41 48.6 0.0
baz=86,SNR=7.8
H17A Grant Village 86.28 334 ⇑P P 14 41 49.8 +0.7
baz=86
D25A Fairfield 86.37 340 ⇑P P 14 41 50.0 +0.8
baz=87
C27A Sayler Ranch, 86.38 341 ⇑P P 14 41 49.6 +0.4
baz=87
B29A Wagenman Farm, 86.53 343 ⇑P P 14 41 50.2 +0.4
baz=87
D24A Glendive 86.63 339 ⇑P P 14 41 51.1 +0.7
baz=87
YMR Madison River 86.65 334 eP P 14 41 52.0 +1.2
107nm,2.4s
A30A Hoffart Farm, 86.72 343 ⇑P P 14 41 50.6 -0.2
baz=87
A29A Manning Farm, 86.92 343 ⇓P P 14 41 51.5 -0.3
baz=87,SNR=6.0
D23A Lindsay 86.94 338 ⇓P P 14 41 52.8 +0.8
baz=87
E21A Keefer Ranch, 86.96 337 ⇑P P 14 41 53.3 +1.1
baz=87
HLID Hailey 87.02 331 ⇑P P 14 41 53.8 +1.1
baz=87
C24A Savage 87.03 339 ⇑P P 14 41 53.0 +0.5
baz=87
D22A Cohagen 87.22 338 ⇑P P 14 41 53.9 +0.6
baz=87
E20A Meyer Farm, Mu 87.27 336 ⇓P P 14 41 53.9 +0.2
baz=88,SNR=7.8
B25A Knox Farm, Ray 87.35 340 ⇑P P 14 41 54.6 +0.7
baz=88
ULM Lac du Bonnet 87.42 345 P P 14 41 52.4 -1.7
6.1nm,0.9s,baz=169,slow=5.2,SNR=5.9
E19A Rath Farm, Rou 87.45 336 ⇓P P 14 41 54.4 -0.1
baz=88,SNR=5.7
C23A Lambert 87.50 339 ⇓P P 14 41 55.1 +0.4
baz=88
A26A Wade Farm, Ken 87.61 341 ⇑P P 14 41 55.5 +0.3
baz=88
C22A Vida 87.66 338 ⇑P P 14 41 55.5 +0.1
baz=88
D20A Manuel Ranch, 87.79 337 ⇑P P 14 41 56.0 -0.1
baz=88,SNR=5.0
DGMT Dagmar 87.82 340 eP P 14 41 56.4 +0.3
26nm,0.9s
DGMT Dagmar 87.82 340 ⇓P P 14 41 56.9 +0.7
baz=88
B23A Brockton 88.04 339 ⇓P P 14 41 57.6 +0.4
baz=88
C21A Desert Coulee 88.11 338 ⇑P P 14 41 57.4 -0.2
baz=88
A24A Westby 88.17 340 ⇑P P 14 41 58.1 +0.3
baz=88
B22A Reddig Ranch S 88.19 338 ⇓P P 14 41 58.4 +0.4
baz=88
A22A Carney Farms, 88.79 339 ⇑P P 14 42 00.8 0.0
baz=89
YBH Yreka Blue Hor 89.15 325 P P 14 42 02.7 0.0
3.2nm,0.8s,baz=84,slow=4.7,SNR=4.6
AFI Afiamalu 89.36 254 eP P 14 42 01.1 -3.3
457nm,0.6s
YKA Yellowknife Ar 102.92 341 P Pdif 14 43 03.9 -0.8
0.4nm,0.8s,baz=144,slow=4.6,SNR=4.4
WRA Warramunga Arr 119.53 209 PKP PKPdf 14 47 57.5 -0.1
0.9nm,0.7s,baz=158,slow=1.8,SNR=9.1
BRTR Keskin Array B 122.84 62 PKP PKPdf 14 48 03.7 +0.3
1.4nm,0.8s,baz=188,slow=2.5,SNR=7.0
AKASG Malin Array Be 123.34 48 PKP PKPdf 14 48 02.9 -0.9
0.7nm,0.7s,baz=262,slow=2.6,SNR=5.0
SEY Seymchan 140.70 329 PKP PKPdf 14 48 36.4 +0.3
2.5nm,0.7s,baz=149,slow=4.9,SNR=5.4
BVAR Borovoye Array 148.46 44 PKP PKPdf 14 48 50.8 +0.9
3.1nm,0.7s,baz=305,slow=5.2,SNR=5.5
BVAR PKPbc PKPbc 14 48 54.1 +0.7
3.1nm,0.7s,baz=305,slow=5.1,SNR=5.9
KSH Kashi 154.77 71 ePKPbc PKPbc 14 49 07.8 -0.8
KSH epPKP PKPab 14 49 17.5 -6.2
KSH esPKP 14 49 23.0
KSH ePP PP 14 53 19.8 +20
KSH eSKS SKSdf 14 56 09.0 +2.2
ZALV Zalesovo Beam 155.45 33 PKP PKPdf 14 48 60.0 -0.3
2.3nm,0.8s,baz=304,slow=2.7,SNR=3.9
ZALV PKPbc PKPbc 14 49 09.2
3.0nm,0.8s,baz=298,slow=3.2,SNR=4.7
ZALV PKPab PKPab 14 49 26.4 +0.5
5.0nm,0.8s,baz=304,slow=5.1,SNR=6.3
MKAR Makanchi Array 157.89 51 PKPab PKPab 14 49 37.0 +0.2
1.3nm,0.9s,baz=290,slow=3.0,SNR=3.1
CMAR Chiang Mai Arr 161.84 154 PKP PKPdf 14 49 09.6 +0.6
0.5nm,0.7s,baz=263,slow=3.9,SNR=4.0
WMQ Urumqi 162.57 54 ePKP PKPdf 14 49 06.3 -2.8
WMQ LR LR
comp=N,110nm,22.0s
WMQ LR LR
comp=E,93nm,21.8s
SONM Songino Array 167.26 3 PKPab PKPab 14 50 17.8 +0.1
1.3nm,0.8s,baz=340,slow=3.9,SNR=6.3
NJ2 Nanjing 169.89 256 ePKP PKPdf 14 49 15.0 -0.1
HHC Hu-ho-hao-te 173.34 331 ePKP PKPdf 14 49 12.5 -4.2
HHC pPKP pPKPdf 14 49 22.5 +2.4
HHC sPKP 14 49 27.3
HHC AMB AMB
comp=Z,94nm,3.9s
CD2 Chengdu 174.88 144 PKP PKPdf 14 49 14.5 -2.9
CD2 pPKP pPKPdf 14 49 26.0 +5.1
CD2 sPKP 14 49 29.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2				PKS	PKSdf	14 52 45.5	-4.2
CD2				PP	PP	14 54 42.8	-1.1
CD2				SKS	SKSdf	14 56 12.3	-8.4
CD2				SKKS	SKKSac	15 01 23.5	-7.3
CD2				SS	SS	15 15 56.5	-10
CD2				AMB	AMB		
	comp=Z,160nm,6.2s						
LZH	Lanzhou	177.02	70	ePKP	PKPdf	14 49 15.8	-2.1
LZH				pPKP	pPKPdf	14 49 27.5	+6.1
LZH				sPKP		14 49 31.3	

ISCJB 27 14:30:52.2±0.7, 37.°46S±0.°06×73.°4W±0.°1, h23km, mb4.3/10, Error ellipse: s-maj=17.2km s-min=8.3km az=14.1

IDC 27 14:30:53.3±0.7, 37.°51S×73.°49W, h22km±4km, mb4.2/10, mb1 4.4/13, mb1mx4.2/37, mbtmp4.3/13, ML4.2/3, Error ellipse: s-maj=20.2km s-min=12.7km az=80.0

ISC 27 14:30:53.3±0.6, 37.°48S±0.°08×73.°5W±0.°1, h23km, n25, σ0s70/29, mb4.4/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.98	146	Pn	Pn	14 31 54.6	+1.6
	12nm,0.3s,baz=317,slow=14,SNR=4.4						
PLCA				Lg	Lg	14 32 58.6	
	20nm,0.3s,baz=245,slow=20,SNR=3.5						
CFAA	Coronel Fontan	7.29	38	Pn	Pn	14 32 38.2	-0.1
	1.1nm,0.3s,baz=194,slow=8.3,SNR=10.0						
CFAA				Sn	Sn	14 33 59.7	-0.7
	0.1nm,0.3s,baz=290,slow=18,SNR=1.3						
CFAA				Lg	Lg	14 34 46.9	
	baz=297,slow=18,SNR=3.6						
USHA	Ushuaia	17.70	170	P	Pn	14 34 56.8	-1.3
	0.3nm,0.3s,baz=316,slow=11,SNR=2.9						
LPAZ	La Paz	21.63	14	P	P	14 35 43.4	+0.8
	4.7nm,0.6s,baz=160,slow=7.1,SNR=4.7						
SIV	San Ignacio	24.06	30	P	P	14 36 07.1	+0.1
	9.1nm,0.8s,baz=219,slow=12,SNR=6.0						
SNAA	Sanae	48.84	157	P	P	14 39 36.3	-0.3
	3.5nm,1.0s,baz=303,slow=6.7,SNR=4.1						
SNAA				pP	pP	14 39 43.1	-0.6
	1.9nm,0.9s,baz=252,slow=7.7,SNR=3.3						
QSPA	South Pole Qui	52.77	180	P	P	14 40 06.8	+0.5
	7.3nm,0.9s,baz=147,slow=8.2,SNR=3.6						
TXAR	Lajitas Array	72.23	333	P	P	14 42 16.9	+0.3
	2.6nm,0.9s,baz=159,slow=9.5,SNR=10						
TXAR				pP	P	14 42 23.6	+7.0
	1.3nm,0.7s,baz=150,slow=8.0,SNR=7.0						
TXAR	Lajitas Array	72.23	333	pP	P	14 42 23.6	+7.0
DBIC	Dimbokro	77.41	71	P	P	14 42 47.4	+0.6
	6.4nm,0.6s,baz=199,slow=6.2,SNR=7.6						
BOSA	Boshof	79.50	118	P	P	14 42 58.6	+0.1
	4.2nm,0.9s,baz=234,slow=3.7,SNR=4.4						
NVAR	Mina Array Bea	86.09	326	P	P	14 43 33.1	+0.9
	0.6nm,0.7s,baz=146,slow=5.4,SNR=3.5						
PDAR	Pinedale Array	86.35	334	P	P	14 43 33.6	+0.1
	0.7nm,0.8s,baz=155,slow=6.7,SNR=4.3						
TORD	Torodi Ar. Bea	86.49	71	P	P	14 43 34.5	0.0
	1.5nm,0.6s,baz=213,slow=5.1,SNR=7.7						
TORD				pP	pP	14 43 42.1	0.0
	1.0nm,0.7s,baz=218,slow=4.3,SNR=2.6						
TORD	Torodi Ar. Bea	86.49	71	pP	P	14 43 42.1	+7.6
GERES	GERESS Array B	115.41	47	PKP	PKPdf	14 49 32.4	-0.4
	0.6nm,0.6s,baz=186,slow=1.3,SNR=4.4						
WRA	Warramunga Arr	117.16	210	PKP	PKPdf	14 49 35.8	-1.2
	0.3nm,0.6s,baz=154,slow=1.5,SNR=3.7						
WRA				pPKP	pPKPdf	14 49 45.1	+0.3
	0.2nm,0.6s,baz=167,slow=1.6,SNR=1.3						
BRTR	Keskin Array B	124.50	63	PKP	PKPdf	14 49 50.2	-0.4
	1.2nm,0.6s,baz=202,slow=3.6,SNR=6.8						
AKASG	Malin Array Be	125.38	50	PKP	PKPdf	14 49 50.7	-0.9
	0.5nm,0.4s,baz=258,slow=2.7,SNR=5.4						
FINES	FINESS Array B	126.50	36	PKP	PKPdf	14 49 53.3	-0.2
	2.5nm,1.0s,baz=204,slow=4.2,SNR=4.4						
MJAR	Matsushiro Arr	154.73	278	PKPab	PKPab	14 51 07.9	+0.4
	1.6nm,0.7s,baz=124,slow=4.7,SNR=4.9						
ZALV	Zalesovo Beam	157.77	35	PKP	PKPdf	14 50 47.0	-0.2
	0.5nm,0.3s,baz=256,slow=5.8,SNR=3.8						
ZALV				PKPab	PKPab	14 51 20.3	+0.4
	3.2nm,0.6s,baz=307,slow=4.8,SNR=6.5						
MKAR	Makanchi Array	159.84	55	PKP	PKPdf	14 50 49.8	-0.2
	1.0nm,0.8s,baz=216,slow=1.2,SNR=3.3						
MKAR				PKPab	PKPab	14 51 28.9	-0.3
	1.0nm,0.6s,baz=300,slow=2.7,SNR=3.8						
CMAR	Chiang Mai Arr	159.92	159	PKPab	PKPab	14 51 28.8	-1.3
	0.7nm,0.8s,baz=223,slow=3.6,SNR=3.5						
SONM	Songino Array	169.65	0	PKPab	PKPab	14 52 12.9	+0.6
	0.3nm,0.6s,baz=340,slow=2.8,SNR=3.0						

MAN 27 14:33:13, 11.°56N×124.°46E, h28km, mb4.6, ML3.4, MS3.4, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OCLP	Ormoc	0.53	163	eP	Pn	14 33 24.4	-0.4
OCLP				eS	Sn	14 33 33.3	+0.5
PLP	Palo	0.65	128⇓	eP	Pn	14 33 26.6	+0.3
PLP				eS	Sn	14 33 37.3	+1.6
CNP	Catarman	0.96	12	eP	Pb	14 33 31.9	+0.8
CNP				eS	Sb	14 33 45.4	+1.9
MMPH	Masbate	1.13	314⇑	eP	Pn	14 33 33.4	+0.3
MMPH				iS	Sb	14 33 48.5	+0.1
MSLP	Maasin	1.48	164	eP	Pb	14 33 41.1	+1.3
TBP	Tagbilaran	1.95	197	eP	Pb	14 33 50.4	+2.4
TBP				eS	Sb	14 34 11.4	-0.4
PVCP	Virac	2.04	352⇑	eP	Pb	14 33 47.9	-1.5
GUIM	Jordan	2.06	243	eP	Pn	14 33 47.6	+1.9

IDC 27 14:33:13.4±0.8, 37.°50S×73.°71W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.3/18, mbtmp4.2/9, Error ellipse: s-maj=36.4km s-min=22.2km az=80.0

ISCJB 27 14:33:15.6±0.8, 37.°5S±0.°1×73.°7W±0.°3, h23km, mb4.2/9, Error ellipse: s-maj=30.1km s-min=16.6km az=179.2

ISC 27 14:33:17.0±0.8, 37.°5S±0.°1×73.°7W±0.°3, h23km, n14, σ0s69/15, mb4.1/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	21.69	15	P	P	14 38 06.5	-0.5
	4.4nm,0.6s,baz=224,slow=6.6,SNR=3.7						
SIV	San Ignacio	24.16	31	P	P	14 38 31.6	+0.1
	4.0nm,0.7s,baz=225,slow=14,SNR=4.1						
SNAA	Sanae	48.88	157	P	P	14 42 00.5	0.0
	2.4nm,1.0s,baz=301,slow=7.2,SNR=4.2						
QSPA	South Pole Qui	52.74	180	P	P	14 42 29.7	-0.1
	5.9nm,0.9s,baz=139,slow=4.0,SNR=4.6						
TXAR	Lajitas Array	72.18	333	P	P	14 44 40.2	+0.2
	0.8nm,0.8s,baz=159,slow=8.6,SNR=4.5						
DBIC	Dimbokro	77.56	72	P	P	14 45 12.2	+0.8
	5.1nm,0.6s,baz=198,slow=6.6,SNR=5.2						
NVAR	Mina Array Bea	86.02	326	P	P	14 45 56.9	+1.2
	0.5nm,0.5s,baz=144,slow=6.7,SNR=3.6						
PDAR	Pinedale Array	86.30	334	P	P	14 45 57.0	0.0
	0.9nm,0.9s,baz=180,slow=5.6,SNR=4.3						
TORD	Torodi Ar. Bea	86.64	71	P	P	14 45 59.0	0.0
	1.3nm,0.7s,baz=227,slow=4.8,SNR=5.8						
GERES	GERESS Array B	115.54	47	PKP	PKPdf	14 51 56.5	-0.2
	0.4nm,0.7s,baz=180,slow=0.5,SNR=3.7						
BRTR	Keskin Array B	124.65	64	PKP	PKPdf	14 52 14.6	0.0
	1.3nm,0.7s,baz=191,slow=4.2,SNR=8.3						
ZALV	Zalesovo Beam	157.88	35	PKP	PKPdf	14 53 10.0	-1.0
	1.1nm,0.8s,baz=304,slow=1.0,SNR=3.6						
ZALV				PKPab	PKPab	14 53 44.7	+0.6
	3.1nm,0.8s,baz=312,slow=5.3,SNR=6.4						
MKAR	Makanchi Array	159.98	55	PKPab	PKPab	14 53 53.3	-0.3
	0.6nm,0.7s,baz=289,slow=3.7,SNR=3.7						
SONM	Songino Array	169.67	360	PKPab	PKPab	14 54 34.8	-1.4
	0.6nm,0.9s,baz=1.9,slow=4.3,SNR=3.3						

NEIC 27 14:33:38.0, 14.°07S×75.°74W, h65km, mb4.3/3, After ARE., Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	2.33	332	eP	Pn	14 34 15.4	+1.2
	765nm,0.4s						
NNA	Nana	2.33	332	ePn	Pn	14 34 15.1	+0.9
NNA				eSn	Sn	14 34 42.1	+0.3
OTAV	Otavalo	14.47	349	Pn	Pn	14 36 59.5	-0.5
SDV	Santo Domingo	23.36	13	eP	P	14 38 40.7	-0.6
	4.2nm,0.4s						
BCIP	Isla Barro Col	23.44	350	P	P	14 38 40.4	-1.4
	6.5nm,0.6s						
JTS	JuntasAbangare	25.87	339	P	P	14 39 03.8	-0.1
	4.4nm,0.2s						
PLCA	Paso Flores	26.95	171	eP	P	14 39 12.0	-1.4

ISCJB 27 14:33:46.1±1.1, 34.°8S±0.°2×72.°8W±0.°2, h18km, mb3.8/4, Error ellipse: s-maj=30.1km s-min=11.5km az=41.4

IDC 27 14:33:49.5±1.0, 34.°81S×72.°69W, h29km±7km, mb3.6/4, mb1 3.9/5, mb1mx3.6/34, mbtmp3.7/5, ML3.0/1, Error ellipse: s-maj=32.3km s-min=23.7km az=103.0

ISC 27 14:33:48.7±0.9, 34.°9S±0.°1×72.°7W±0.°2, h18km, n6, σ2s16/10, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.99	50	Pn	Pn	14 35 02.4	-0.3
	0.7nm,0.3s,baz=227,slow=16,SNR=2.1						
CFAA				Sn	Sn	14 36 00.8	+0.8
	1.2nm,0.3s,baz=260,slow=12,SNR=2.4						
SNAA	Sanae	50.94	158	P	P	14 42 47.9	-0.7
	0.8nm,0.8s,baz=304,slow=7.3,SNR=2.3						
QSPA	South Pole Qui	55.32	180	P	P	14 43 22.1	+1.1
	1.8nm,0.7s,baz=217,slow=3.4,SNR=3.2						
TXAR	Lajitas Array	70.28	331	P	P	14 44 59.6	-1.4
	0.2nm,0.4s,baz=154,slow=8.4,SNR=3.8						
TXAR				pP	pP	14 45 09.1	+2.2
	0.5nm,0.6s,baz=155,slow=8.8,SNR=2.8						
TORD	Torodi Ar. Bea	85.03	70	P	P	14 46 22.2	-1.3
	0.7nm,1.1s,baz=239,slow=5.2,SNR=2.2						
TORD				pP	pP	14 46 30.6	+1.1
	0.7nm,0.8s,baz=226,slow=5.7,SNR=1.6						
WRA	Warramunga Arr	119.70	209	PKP	PKPdf	14 52 35.8	-2.4
	1.1nm,1.0s,baz=154,slow=1.8,SNR=8.2						
WRA				pPKP	pPKPdf	14 52 48.2	+3.8
	0.5nm,1.0s,baz=176,slow=1.7,SNR=1.6						

IDC 27 14:34:19.0±0.9, 34.°31S×73.°65W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/36, mbtmp4.1/7, Error ellipse: s-maj=56.2km s-min=23.8km az=67.0

ISCJB 27 14:34:21.9±0.7, 34.°41S±0.°08×73.°5W±0.°2, h33km, mb4.2/8, Error ellipse: s-maj=20.6km s-min=11.0km az=163.5

NEIC 27 14:34:23.6±0.6, 34.°42S×73.°59W, h35km, mb4.6/2, Error ellipse: s-maj=26.2km s-min=10.3km az=84.0

ISC 27 14:34:23.7±0.8, 34.°42S±0.°09×73.°7W±0.°2, h35km, n16, σ1s09/15, mb4.2/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.78	159	Pn	Pn	14 35 58.7	-2.0
TRQA	Tornquist	10.14	114	Pn	Pn	14 36 46.5	-0.3
LVC	Limon Verde	12.49	21	Pn	Pn	14 37 19.8	+0.5
SAML	Samuel	27.13	23	eP	P	14 40 02.4	-1.2
ROSC	El Rosal	39.07	359	P	P	14 41 46.7	-1.2
SDV	Santo Domingo	43.17	4	eP	P	14 42 20.2	-1.2
	8.0nm,1.0s						
SNAA	Sanae	51.72	158	P	P	14 43 28.0	+1.0
	3.2nm,1.0s,baz=295,slow=7.2,SNR=4.1						
SNAA	Sanae	51.72	158	eP	P	14 43 27.8	+0.7
	12nm,1.2s						
QSPA	South Pole Qui	55.81	180	P	P	14 43 58.6	+1.4
	5.9nm,1.0s,baz=142,slow=5.2,SNR=4.2						
QSPA	South Pole Qui	55.81	180	eP	P	14 43 57.9	+0.7
TXAR	Lajitas Array	69.45	332	P	P	14 45 28.4	0.0
	2.2nm,0.9s,baz=157,slow=8.1,SNR=7.6						
NVAR	Mina Array Bea	83.46	326	P	P	14 46 48.7	+1.0
	0.4nm,0.5s,baz=152,slow=4.1,SNR=2.7						
PDAR	Pinedale Array	83.53	334	P	P	14 46 48.0	-0.1
	0.9nm,1.0s,baz=142,slow=4.6,SNR=2.8						
ELK	Elko	84.01	330	P	P	14 46 51.1	+0.6
	2.5nm,1.1s,baz=126,slow=5.5,SNR=3.1						
TORD	Torodi Ar. Bea	85.65	71	P	P	14 46 59.7	+0.6
	0.7nm,0.6s,baz=255,slow=4.0,SNR=2.8						
ZALV	Zalesovo Beam	155.31	31	PKPbc	PKPdf	14 54 20.3	+7.6
	0.8nm,0.6s,baz=336,slow=3.2,SNR=2.5						

MAN 27 14:35:08, 13.°59N×120.°89E, h1km, mb4.3, ML3.1, MS2.9, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.10	144⇓	iP	Pg	14 35 10.2	+0.2
PGP				iS	Sg	14 35 12.4	+0.9
LUBP	Lubang	0.64	283	eP	Pg	14 35 20.7	+0.4
LUBP				eS	Sg	14 35 28.4	-0.3
SJMP	San Jose	1.14	169	eP	Pb	14 35 30.6	+0.1
SJMP				eS	Sg	14 35 45.1	+0.4

ISCJB 27 14:36:15.9±0.4, 34.°25S±0.°06×72.°45W±0.°08, h17km, mb4.7/41, Error ellipse: s-maj=9.5km s-min=8.1km az=14.2

IDC 27 14:36:18.2±0.5, 34.°17S×72.°39W, h24km±3km, mb4.3/14, mb1 4.4/17, mb1mx4.3/24, mbtmp4.4/17, ML4.3/3, Error ellipse: s-maj=22.6km s-min=12.3km az=69.0

NEIC 27 14:36:19.9±0.3, 34.°19S×72.°22W, h35km, mb4.9/26, Error ellipse: s-maj=10.3km s-min=6.1km az=82.0

ISC 27 14:36:18.0±0.4, 34.°19S±0.°06×72.°43W±0.°10, h17km, n57, σ1s22/69, mb4.8/41, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.37	55	Pn	Pn	14 37 23.5	-0.1
	2.4nm,0.3s,baz=221,slow=15,SNR=4.6						
CFAA				Sn	Sn	14 38 16.6	+2.4
	3.9nm,0.3s,baz=68,slow=18,SNR=5.3						
PLCA	Paso Flores	6.70	168	Pn	Pn	14 37 56.1	+0.4
	3.7nm,0.3s,baz=349,slow=16,SNR=3.0						
PLCA				Sn	Sn	14 39 18.3	+6.6
	1.4nm,0.3s,baz=251,slow=14,SNR=1.5						
PLCA	Paso Flores	6.70	168	ePn	Pn	14 37 53.6	-2.1
PLCA				Sn	Sn	14 39 18.3	+6.6
TRQA	Tornquist	9.29	118	ePn	Pn	14 38 22.1	-9.2
LVC	Limon Verde	11.94	16	Pn	Pn	14 39 05.2	-2.5
LPAZ	La Paz	18.24	13	P	P	14 40 30.9	-0.3
	0.2nm,0.3s,baz=181,slow=7.5,SNR=4.7						
LPAZ	La Paz	18.24	13	ePn	P	14 40 30.7	-0.4
	15nm,0.9s						
USHA	Ushuaia	20.83	173	P	P	14 40 59.7	+1.2
	40nm,1.0s,baz=323,slow=8.1,SNR=6.5						
NNA	Nana	22.46	349	P	P	14 41 18.3	+1.8
	10nm,0.7s,baz=196,slow=8.3,SNR=5.2						
SAML	Samuel	26.52	21	eP	P	14 41 53.7	-1.1
OTAV	Otavalo	34.71	349	P	P	14 43 08.2	+0.6
	11nm,1.1s						
JTS	JuntasAbangare	45.80	343	P	P	14 44 39.9	+0.9
	3.7nm,0.6s,baz=115,slow=17,SNR=3.5						
SNAA	Sanae	51.53	158	P	P	14 45 22.2	-0.3
	5.3nm,0.9s,baz=279,slow=6.1,SNR=13						
APG	El Apazote	51.84	338	P	P	14 45 21.3	-4.3
	8.1nm,0.7s,baz=156,slow=7.2,SNR=8.6						
APG				pP	pP	14 45 29.1	-1.9
	12nm,0.8s,baz=158,slow=7.6,SNR=6.3						
QSPA	South Pole Qui	56.05	180	P	P	14 45 53.7	-2.0
	5.2nm,1.1s,baz=153,slow=1.7,SNR=6.8						
QSPA				pP	pP	14 46 03.5	+2.3
	6.5nm,0.9s,baz=122,slow=3.3,SNR=6.7						
QSPA	South Pole Qui	56.05	180	eP	P	14 45 55.4	-0.4
QSPA				pP	pP	14 46 03.5	+2.3
TEIG	Tepich	56.18	342	P	P	14 45 56.5	-0.4
	25nm,0.7s,baz=169,slow=5.1,SNR=8.6						
TEIG				pP	pP	14 46 04.4	+2.1
	23nm,0.7s,baz=138,slow=12,SNR=5.1						
JCT	Junction City	69.32	335	eP	P	14 47 24.2	-0.2
	20nm,1.1s						
TXAR	Lajitas Array	69.74	331	P	P	14 47 26.0	-1.1
	4.3nm,0.6s,baz=156,slow=8.5,SNR=51						
TXAR				pP	pP	14 47 33.7	+1.0
	4.6nm,0.7s,baz=151,slow=8.8,SNR=18						
ABTX	Abilene, Hawle	71.22	336	eP	P	14 47 35.4	-0.6
	27nm,1.3s						
WVT	Waverly	71.42	347	eP	P	14 47 36.3	-0.8
	16nm,1.0s						
TUL1	Tulsa	73.07	340	eP	P	14 47 46.0	-1.0
	13nm,0.8s						
MSTX	Muleshoe	73.53	334	eP	P	14 47 49.2	-0.7
	14nm,0.9s						
AMTX	Amarillo	73.97	335	eP	P	14 47 52.2	-0.3
	19nm,1.2s						
TUC	Tucson	75.35	327	eP	P	14 47 60.0	-0.5
	6.5nm,1.1s						
DBIC	Dimbokro	75.55	71	P	P	14 48 00.1	-1.9
	2.8nm,0.8s,baz=193,slow=7.9,SNR=2.3						
DBIC				pP	pP	14 48 10.0	+2.5
	4.6nm,0.8s,baz=207,slow=3.5,SNR=3.4						
ANMO	Albuquerque	75.79	332	eP	P	14 48 02.8	-0.3
	8.1nm,1.2s						
WUAZ	Wupatki	78.32	328	eP	P	14 48 17.3	0.0
	7.4nm,1.1s						
MVCO	Mesa Verde	78.57	331	eP	P	14 48 18.6	-0.1
	58nm,2.2s						
SMCO	Snowmass	79.70	333	eP	P	14 48 25.6	+0.6
	18nm,1.4s						
BOSA	Boshof	80.27	118	P	P	14 48 29.1	+0.8
	5.9nm,0.9s,baz=247,slow=7.7,SNR=2.7						
BOSA				pP	pP	14 48 33.4	-0.5
	7.4nm,0.9s,baz=260,slow=5.8,SNR=6.1						
ECSD	EROS Data Cent	80.63	342	eP	P	14 48 28.9	-0.6
	9.8nm,0.9s						
CCUT	Cedar City	80.89	328	eP	P	14 48 31.8	+0.5
	9.3nm,1.1s						
SRU	San Rafael	81.02	331	eP	P	14 48 31.4	-0.5
	5.5nm,0.9s						
R11A	Troy Canyon, C	82.54	327	eP	P	14 48 39.9	-0.1
	14nm,1.7s						
RSSD	Black Hills	83.08	338	eP	P	14 48 42.6	0.0
	43nm,2.3s						
BGU	Big Grassy Mou	83.57	330	eP	P	14 48 44.6	-0.5
	5.7nm,1.5s						
PDAR	Pinedale Array	83.78	333	P	P	14 48 45.9	-0.4
	1.5nm,0.9s,baz=153,slow=4.9,SNR=7.4						
PDAR				pP	pP	14 48 53.1	+1.2
	1.3nm,0.9s,baz=116,slow=3.4,SNR=6.0						
NVAR	Mina Array Bea	83.85	325	P	P	14 48 46.0	-0.7
	1.2nm,0.6s,baz=155,slow=8.4,SNR=6.6						
HVU	Hansel Valley	84.19	331	eP	P	14 48 47.6	-0.7
	10nm,1.0s						
ELK	Elko	84.35	329	P	P	14 48 48.0	-1.2
	1.7nm,0.8s,baz=168,slow=6.1,SNR=5.9						
ELK				pP	pP	14 48 55.5	+0.5
	2.8nm,1.1s,baz=171,slow=3.1,SNR=4.1						
TORD	Torodi Ar. Bea	84.58	70	P	P	14 48 48.1	-2.6
	1.0nm,0.7s,baz=285,slow=6.6,SNR=4.4						
TORD				pP	pP	14 48 57.9	+1.5
	3.3nm,0.9s,baz=246,slow=4.7,SNR=9.4						
LOHW	Long Hollow	84.90	333	eP	P	14 48 51.4	-0.5
	39nm,2.5s						
IMW	Indian Meadow	85.27	333	eP	P	14 48 54.0	+0.2
	13nm,1.6s						
FLWY	Flagg Ranch	85.34	333	eP	P	14 48 53.6	-0.5
	126nm,2.8s						
YMR	Madison River	85.94	334	eP	P	14 48 57.6	+0.5
	12nm,1.1s						
HLID	Hailey	86.34	331	eP	P	14 48 59.2	+0.1
	6.0nm,1.1s						
ULM	Lac du Bonnet	86.60	345	P	P	14 48 58.9	-0.9
	1.9nm,0.8s,baz=149,slow=1.7,SNR=3.1						
ULM				pP	pP	14 49 06.5	+1.0
	3.9nm,0.9s,baz=74,slow=2.7,SNR=3.5						
DGMT	Dagmar	87.05	339	eP	P	14 49 02.3	+0.1
	22nm,0.9s						
K05A	Summer Lake	88.46	327	eP	P	14 49 09.0	-0.3
	193nm,2.4s						
YBH	Yreka Blue Hor	88.53	325	P	P	14 49 07.9	-1.7
	2.4nm,0.9s,baz=180,slow=10,SNR=3.5						
YKA	Yellowknife Ar	102.13	341	P	Pdif	14 50 08.9	-2.0
	0.3nm,0.8s,baz=146,slow=4.9,SNR=4.5						
ARCES	ARCESS Array B	124.32	25	PKP	PKPdf	14 55 13.4	-1.5
	5.3nm,1.0s,baz=242,slow=3.9,SNR=3.2						
HYB	Hyderabad	149.15	115	iPKP	PKPbc	14 56 05.1	-1.0
ZALV	Zalesovo Beam	154.56	32	PKPbc	PKPbc	14 56 16.0	-1.2
	1.4nm,0.6s,baz=318,slow=2.4,SNR=5.2						
ZALV				PKPab	PKPab	14 56 30.3	-1.5
	1.6nm,0.7s,baz=325,slow=2.3,SNR=4.0						
ZALV				pPKPab	pPKPab	14 56 37.6	+0.1
	2.6nm,0.9s,baz=273,slow=2.8,SNR=3.0						
MKAR	Makanchi Array	157.13	49	PKPab	PKPab	14 56 40.8	-2.4
	0.4nm,0.6s,baz=336,slow=2.7,SNR=4.3						
MKAR				pPKPab	pPKPab	14 56 48.5	-0.4
	0.6nm,0.7s,baz=321,slow=3.0,SNR=4.1						
SONM	Songino Array	166.34	3	PKPab	PKPab	14 57 22.1	-1.3
	0.5nm,0.8s,baz=90,slow=1.4,SNR=2.8						

IDC 27 14:40:13.8±1.0, 33.°67S×73.°17W, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/35, mbtmp3.8/5, Error ellipse: s-maj=46.2km s-min=24.2km az=89.0

ISC 27 14:40:14.7±1.1, 33.°6S±0.°2×73.°0W±0.°4, h6km, n7, σ1s40/6, mb3.8/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIV	San Ignacio	20.56	34	P	Pn	14 44 57.7	+1.3
	2.9nm,0.8s,baz=226,slow=10,SNR=3.7						
SNAA	Sanae	52.24	158	P	P	14 49 25.4	-0.9
	0.5nm,0.5s,baz=266,slow=9.7,SNR=6.0						
QSPA	South Pole Qui	56.63	180	P	P	14 49 59.0	+0.6
	1.5nm,1.1s,baz=202,slow=5.4,SNR=3.4						
TXAR	Lajitas Array	69.02	331	P	P	14 51 20.4	-0.8
	0.3nm,0.5s,baz=148,slow=8.6,SNR=5.1						
TORD	Torodi Ar. Bea	84.80	71	P	P	14 52 49.8	-0.6
	1.0nm,0.7s,baz=260,slow=4.3,SNR=6.3						
ZALV	Zalesovo Beam	154.29	31	PKPbc	PKPbc	15 00 17.1	+1.8
	0.6nm,0.5s,baz=292,slow=4.5,SNR=3.8						
MKAR	Makanchi Array	157.07	48	PKPab	PKPab	15 00 42.3	+0.8
	0.3nm,0.6s,baz=278,slow=2.5,SNR=4.6						

ISCJB 27 14:40:31.3±0.3, 34.°18S±0.°05×72.°00W±0.°07, h19km, mb4.7/32, Error ellipse: s-maj=9.6km s-min=6.9km az=146.4

NEIC 27 14:40:34.8±0.3, 34.°20S×72.°05W, h35km, mb5.0/23, Error ellipse: s-maj=8.9km s-min=6.6km az=73.0

IDC 27 14:40:35.1±0.4, 34.°22S×72.°14W, h37km±3km, mb4.2/15, mb1 4.4/19, mb1mx4.2/39, mbtmp4.4/19, ML4.7/3, Error ellipse: s-maj=17.4km s-min=11.4km az=74.0

ISC 27 14:40:33.9±0.4, 34.°20S±0.°07×72.°03W±0.°09, h19km, n223, σ1s52/231, mb4.7/33, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.11	52	Pn	Pn	14 41 35.8	+0.1
	1.3nm,0.3s,baz=228,slow=12,SNR=3.8						
CFAA				Lg	Lg	14 42 40.1	
	7.1nm,0.3s,baz=128,slow=19,SNR=5.7						
PLCA	Paso Flores	6.62	170	Pn	Pn	14 42 11.4	+1.2
	4.0nm,0.3s,baz=323,slow=18,SNR=3.4						
PLCA	Paso Flores	6.62	170	Pn	Pn	14 42 09.2	-1.1
TRQA	Tornquist	8.99	118	ePn	Pn	14 42 41.6	-1.2
LVC	Limon Verde	11.87	14	Pn	Pn	14 43 19.8	-2.6
CPUP	Villa Florida	14.92	62	Pn	Pn	14 44 06.5	+2.7
	0.8nm,0.3s,baz=235,slow=12,SNR=3.2						
CPUP	Villa Florida	14.92	62	ePn	Pn	14 44 02.9	-0.9
LPAZ	La Paz	18.18	12	P	P	14 44 46.9	+0.7
	0.6nm,0.3s,baz=197,slow=7.2,SNR=12						
LPAZ	La Paz	18.18	12	P	P	14 44 46.9	+0.7
	20nm,0.9s						
SIV	San Ignacio	20.64	31	P	P	14 45 12.4	-0.1
	10nm,0.6s,baz=213,slow=7.0,SNR=17						
USHA	Ushuaia	20.78	174	P	P	14 45 13.9	+0.4
	9.4nm,0.9s,baz=349,slow=8.9,SNR=3.0						
SAML	Samuel	26.42	20	eP	P	14 46 08.4	-1.1
	10nm,0.8s						
BDFB	Brasilia	28.44	55	P	P	14 46 26.9	-0.9
	8.7nm,0.8s,baz=169,slow=9.9,SNR=6.1						
PAYG	Puerto Ayora	37.48	329	eP	P	14 47 42.5	-3.9
SDV	Santo Domingo	42.87	2	eP	P	14 48 28.4	-2.9
	8.4nm,0.8s						
SNAA	Sanae	51.39	158	P	P	14 49 36.0	-1.0
	2.2nm,0.7s,baz=258,slow=7.1,SNR=8.4						
SNAA				pP	pP	14 49 45.8	+2.7
	3.6nm,0.7s,baz=287,slow=5.2,SNR=8.2						
SNAA	Sanae	51.39	158	eP	P	14 49 35.4	-1.6
	3.7nm,0.8s						
CRPR	Cabo Rojo, PR	52.13	6	eP	P	14 49 41.0	-1.9
	284nm,2.5s						
QSPA	South Pole Qui	56.03	180	P	P	14 50 10.0	-1.2
	6.7nm,0.9s,baz=135,slow=1.0,SNR=12						
QSPA				pP	pP	14 50 20.8	+3.5
	18nm,0.8s,baz=133,slow=2.4,SNR=16						
QSPA	South Pole Qui	56.03	180	eP	P	14 50 09.8	-1.4
	23nm,0.8s						
QSPA				pP	pP	14 50 20.8	+3.5
TEIG	Tepich	56.30	342	P	P	14 50 11.9	-1.5
	6.5nm,0.6s,baz=165,slow=14,SNR=3.6						
TEIG				pP	pP	14 50 22.8	+3.4
	12nm,0.7s,baz=171,slow=14,SNR=2.9						
034A	Hebbronville	65.97	334	P	P	14 51 18.7	-0.1
	baz=66						

833A Chaparral WMA, 67.37 334 P P 14 51 27.2 -0.6
baz=68
832A Faith Ranch, C 67.55 333 P P 14 51 28.2 -0.7
baz=68
636A Smothers Creek 67.61 336 P P 14 51 29.1 -0.2
baz=68
632A Uvalde 68.58 334 P P 14 51 34.9 -0.5
baz=69
532A Rocksprings 69.19 334 P P 14 51 38.6 -0.7
baz=70
434A Burnet 69.25 336 P P 14 51 38.5 -1.0
baz=70
336A Riesel 69.31 337 P P 14 51 38.9 -0.9
baz=70
531A Rocksprings 69.45 334 P P 14 51 40.5 -0.4
baz=70
433A Art 69.47 335 P P 14 51 39.4 -1.6
baz=70
JCT Junction City 69.47 335 P P 14 51 40.4 -0.5
baz=70
KMSC Kings Mountain 69.53 352 P P 14 51 40.0 -1.1
baz=70
334A Lometa 69.71 336 P P 14 51 41.0 -1.4
baz=70
530A J-C Ranch, Com 69.73 333 P P 14 51 41.7 -0.9
baz=70
TXAR Lajitas Array 69.92 331 P P 14 51 42.7 -1.1
1.4nm,0.6s,baz=153,slow=8.6,SNR=15
TXAR pP pP 14 51 54.4 +4.4
1.1nm,0.7s,baz=148,slow=9.8,SNR=6.4
431A Sonora 69.95 334 P P 14 51 43.7 -0.2
baz=70
333A Richland Sprin 69.96 336 P P 14 51 42.7 -1.2
baz=70
529A Stev Forest Ra 70.05 332 P P 14 51 43.9 -0.6
baz=70
WHTX Lake Whitney 70.06 337 P P 14 51 43.6 -0.9
baz=70
430A Baggett Ranch, 70.27 334 P P 14 51 45.0 -0.9
baz=71
332A Millersview 70.27 335 P P 14 51 44.7 -1.1
baz=71
429A Davenport Ranc 70.37 333 P P 14 51 45.7 -0.8
baz=71
331A San Angelo 70.45 334 P P 14 51 46.1 -0.8
baz=71
233A Rising Star 70.56 336 P P 14 51 46.6 -1.0
baz=71
232A Coleman 70.70 335 P P 14 51 47.2 -1.2
baz=71
231A Bronte 70.97 335 P P 14 51 48.9 -1.2
baz=71
133A Hamilton Ranch 71.11 336 P P 14 51 49.8 -1.1
baz=71
Z35A Perchaven, San 71.23 338 P P 14 51 50.8 -0.8
baz=72
MIAR Mount Ida 71.31 341 P P 14 51 50.2 -1.8
ABTX Abilene, Hawle 71.37 336 P P 14 51 51.2 -1.3
baz=72
Z34A Collier Ranch, 71.48 337 P P 14 51 52.2 -0.9
baz=72
WVT Waverly 71.51 347 eP P 14 51 51.9 -1.3
26nm,0.8s
131A Roby 71.67 335 P P 14 51 53.0 -1.3
baz=72
Z33A Whitaker Ranch 71.68 337 P P 14 51 53.1 -1.2
baz=72
130A Snyder 71.80 335 P P 14 51 53.9 -1.2
baz=72
Z32A Haskell 71.93 336 P P 14 51 54.8 -1.1
baz=72
228A UT Block 9, Go 71.97 333 P P 14 51 55.0 -1.2
baz=72
Z31A Sharp Cattle R 72.17 336 P P 14 51 56.3 -1.0
baz=72
Y33A Hilltop Ranch, 72.30 337 P P 14 51 56.8 -1.2
baz=73
128A Castleberry Fa 72.38 333 P P 14 51 57.2 -1.4
baz=73
Y32A R-V Farms, Ver 72.56 336 P P 14 51 58.5 -1.1
baz=73
Z29A Hungry Hill Ra 72.67 334 P P 14 51 58.6 -1.7
baz=73
Y31A Rekieta Farm, 72.80 336 P P 14 52 00.2 -0.8
baz=73
Y30A Stafford Cattl 72.94 335 P P 14 52 00.9 -1.0
baz=73
W32A Sentinel 73.52 337 P P 14 52 04.0 -1.3
baz=74
Z26A Caprock 73.52 332 P P 14 52 04.2 -1.2
baz=74
V34A Guthrie 73.63 339 P P 14 52 04.6 -1.3
baz=74
MSTX Muleshoe 73.69 334 eP P 14 52 04.8 -1.6
17nm,1.3s
MSTX Muleshoe 73.69 334 P P 14 52 04.8 -1.6
baz=74
Z25A Roswell 73.82 332 P P 14 52 05.9 -1.2
baz=74
V33A Lossen Ranch, 73.86 338 P P 14 52 06.2 -1.0
baz=74
319A Douglas 74.08 327 P P 14 52 08.0 -0.7
baz=74
Z24A Sheeppen Canyo 74.11 331 P P 14 52 08.0 -1.0
baz=74
121A Cookes Peak, D 74.42 329 P P 14 52 10.5 -0.3
baz=75
U32A Winter Ranch, 74.59 338 P P 14 52 10.3 -1.2
baz=75
X26A CR and CF Fran 74.60 333 P P 14 52 10.3 -1.4
baz=75
Y24A Capitan 74.67 332 P P 14 52 11.0 -1.2
baz=75
Z22A Elephant Butte 74.70 330 P P 14 52 12.1 -0.3
baz=75
ACSO Alum Creek Sta 74.75 351 eP P 14 52 11.0 -1.3
198nm,2.4s
T33A Patterson Ranc 75.01 339 P P 14 52 13.2 -0.7
baz=75
DBIC Dimbokro 75.24 71 P P 14 52 15.1 -0.7
3.7nm,0.7s,baz=181,slow=4.8,SNR=4.2
DBIC pP pP 14 52 26.5 +4.6
5.1nm,0.7s,baz=190,slow=4.9,SNR=5.0
W24A Lazy 6 Ranch, 75.79 332 P P 14 52 17.9 -0.7
baz=76
U27A Thompson Grove 75.91 335 P P 14 52 18.3 -0.9
baz=76
ANMO Albuquerque 75.96 331 eP P 14 52 18.0 -1.7
1.7nm,0.9s
ANMO eP pP 14 52 19.0 -7.0
W23A Werner Place, 76.03 332 P P 14 52 19.0 -1.1
baz=76
V25A Rancho No Teng 76.04 333 P P 14 52 19.0 -1.1
baz=76
V24A Rampart Ranch, 76.19 333 P P 14 52 20.5 -0.5
baz=76
U26A Atchley Ranch, 76.21 334 P P 14 52 20.6 -0.5
baz=76
R32A Long Quarter, 76.39 339 P P 14 52 20.5 -1.3
baz=77
U25A Circle Dot Ran 76.46 334 P P 14 52 21.9 -0.6
baz=77
S28A Manter 76.64 336 P P 14 52 22.6 -0.7
baz=77
T26A Comanche Natio 76.86 335 P P 14 52 23.9 -0.7
baz=77
Q32A Meitler Ranch, 76.87 339 P P 14 52 23.4 -1.1
baz=77
V22A San Miguel Ran 76.99 332 P P 14 52 25.3 -0.2
baz=77
U23A El Rito 77.07 332 P P 14 52 25.8 -0.1
baz=77
T25A Trinidad 77.12 334 P P 14 52 25.9 -0.2
baz=77
S26A Kim 77.21 335 P P 14 52 26.3 -0.3
baz=78
R28A Tribune 77.29 336 P P 14 52 26.1 -0.9
baz=78
Q30A Quinter 77.36 338 P P 14 52 26.3 -1.0
baz=78
U22A Llaves 77.37 332 P P 14 52 27.5 -0.2
baz=78
T24B San Luis 77.41 333 P P 14 52 27.4 -0.5
baz=78
R27A Eads 77.58 336 P P 14 52 27.7 -0.8
baz=78
S25A Robets Cordova 77.59 334 P P 14 52 28.2 -0.6
baz=78
P31A Stockton 77.60 339 P P 14 52 27.5 -1.1
baz=78
X16A Lo Mia Camp, P 77.61 327 P P 14 52 28.6 -0.3
baz=78
R26A Arlington 77.81 335 P P 14 52 29.1 -0.8
baz=78
S24A Houchin Ranch, 77.86 334 P P 14 52 30.0 -0.4
baz=78
R24A Sanders Place, 78.34 334 P P 14 52 32.6 -0.3
baz=79
WUAZ Wupatki 78.51 328 eP P 14 52 32.9 -1.0
110nm,2.8s
WUAZ Wupatki 78.51 328 P P 14 52 33.5 -0.4
baz=79
S22A 4UR Ranch, Cre 78.56 333 P P 14 52 33.7 -0.6
baz=79
R23A Moffat 78.57 333 P P 14 52 33.4 -0.9
baz=79
Q24A Divide 79.00 334 P P 14 52 36.2 -0.5
baz=79
TSUM Tsumeb 79.15 106 eP P 14 52 37.5 -0.4
N29A Votaw Ranch, W 79.17 338 P P 14 52 37.1 -0.1
baz=80
O27A Beecher Island 79.19 337 P P 14 52 37.2 -0.2
baz=80
W13A Hualapai Mount 79.29 326 P P 14 52 37.9 -0.3
baz=80
O26A Horse Wrangler 79.51 336 P P 14 52 38.7 -0.5
baz=80
U15A North Rim 79.67 328 P P 14 52 40.3 -0.1
baz=80
N27A Anderson Farm, 79.76 337 P P 14 52 40.1 -0.5
baz=80
GMRC Granite Mounta 79.86 325 P P 14 52 40.9 -0.4
baz=80
SMCO Snowmass 79.86 333 eP P 14 52 41.5 0.0
100nm,2.6s
ISCO Idaho Springs 79.91 334 P P 14 52 40.7 -0.9
baz=80
BOSA Boshof 79.97 118 P P 14 52 41.5 -0.7
4.2nm,0.8s,baz=247,slow=9.8,SNR=4.3
BOSA pP PcP 14 52 53.2 +3.5
8.7nm,0.8s,baz=243,slow=3.9,SNR=6.5
O23A Lake Granby, G 80.38 334 P P 14 52 43.8 -0.4
baz=81
O22A Kremmling 80.57 334 P P 14 52 44.7 -0.5
baz=81
ECSD EROS Data Cent 80.74 342 eP P 14 52 43.8 -1.8
10nm,0.8s
ECSD EROS Data Cent 80.74 342 P P 14 52 44.3 -1.4
baz=81
CCUT Cedar City 81.08 328 eP P 14 52 48.3 +0.4
107nm,3.0s
SRU San Rafael 81.19 331 eP P 14 52 47.6 -0.8
29nm,1.8s
J29A Okreek 81.45 340 P P 14 52 48.6 -0.9
baz=82
K26A Motz Farm, Whi 81.68 337 P P 14 52 50.6 -0.1
baz=82
ISA Isabella 81.94 323 P P 14 52 52.1 -0.1
baz=82
J26A Sides Ranch, S 82.19 338 P P 14 52 53.1 -0.3
baz=82
H29A Onida 82.53 340 P P 14 52 53.8 -1.3
baz=83
G30A Faulkton 82.70 341 P P 14 52 55.2 -0.7
baz=83
R11A Troy Canyon, C 82.73 327 eP P 14 52 56.5 0.0
8.3nm,1.3s
R11A Troy Canyon, C 82.73 327 P P 14 52 56.2 -0.3
baz=83
H28A Mission Ridge 82.81 340 P P 14 52 55.5 -1.1
baz=83
K21A Alcova 82.99 335 P P 14 52 56.7 -1.1
baz=83
I25A Rochford 83.04 338 P P 14 52 57.4 -0.5
baz=83
DUG Dugway 83.05 330 P P 14 52 57.2 -0.9
baz=83
H27A Howes 83.08 339 P P 14 52 57.0 -0.9
baz=83
G28A Parade 83.15 340 P P 14 52 57.0 -1.2
baz=84
I24A Kuemmerle Ranc 83.18 337 P P 14 52 57.3 -1.3
baz=84
RSSD Black Hills 83.22 337 eP P 14 52 57.1 -1.8
3.7nm,0.9s
F30A Leola 83.33 341 P P 14 52 57.9 -1.3
baz=84
J22A Midwest 83.40 335 P P 14 52 58.2 -1.6
baz=84
F29A Eureka 83.54 341 P P 14 52 58.5 -1.7
baz=84
I22A 9 Mile Ranch, 83.83 336 P P 14 53 00.5 -1.4
baz=84
G26A Maurine 83.84 339 P P 14 53 00.1 -1.7
baz=84
E30A Jud 83.91 342 P P 14 53 00.6 -1.5
baz=84
J20A Shoshoni 83.92 334 P P 14 53 02.3 -0.1
baz=84
PDAR Pinedale Array 83.95 333 P P 14 53 01.1 -1.6
1.2nm,0.8s,baz=170,slow=5.3,SNR=9.7
PDAR pP pP 14 53 14.1 +5.1
1.1nm,0.7s,baz=161,slow=3.9,SNR=6.8
H24A Dirks Ranch, A 83.95 337 P P 14 53 01.0 -1.5
baz=84
G25A Newell 84.00 338 P P 14 53 01.4 -1.2
baz=84
NVAR Mina Array Bea 84.06 325 P P 14 53 02.1 -1.3
1.8nm,0.7s,baz=159,slow=5.5,SNR=9.0
NVAR pP pP 14 53 13.5 +3.8
1.5nm,0.8s,baz=162,slow=5.5,SNR=5.6
J19A Crowheart 84.19 334 P P 14 53 02.8 -1.1
baz=84
F27A Lemmon 84.19 339 P P 14 53 02.4 -1.3
baz=84
TOA0 Torodi Ar. Sit 84.27 70 eP P 14 53 03.7 -1.0
TORD Torodi Ar. Bea 84.27 70 P P 14 53 03.7 -1.0
4.0nm,0.8s,baz=260,slow=3.8,SNR=12
TORD pP pP 14 53 15.4 +4.4
6.4nm,1.0s,baz=264,slow=4.1,SNR=8.5
HVU Hansel Valley 84.36 331 eP P 14 53 03.6 -1.1
5.2nm,0.8s
F26A Lodgepole 84.36 339 P P 14 53 03.4 -1.1
baz=85
D30A Buchanan 84.44 342 P P 14 53 03.7 -1.1
baz=85
ELK Elko 84.54 328 P P 14 53 04.8 -1.0
2.5nm,0.9s,baz=180,slow=10,SNR=8.8
ELK pP pP 14 53 15.1 +3.0
1.4nm,0.8s,baz=190,slow=4.2,SNR=3.4
E27A Carson 84.57 340 P P 14 53 04.3 -1.2
baz=85
D29A Pettibone, Tap 84.61 341 P P 14 53 04.3 -1.4
baz=85
H20A Greybull 84.87 335 P P 14 53 05.6 -1.6
baz=85
C30A Mose, Pekin 84.92 342 P P 14 53 06.2 -1.0
baz=85
D28A Regan 84.99 341 P P 14 53 06.6 -1.0
baz=85
G21A Lodge Grass 85.25 336 P P 14 53 07.7 -1.4
baz=86
I17A Pilgrim Ck. 85.32 333 P P 14 53 08.6 -1.0
baz=86
H19A Powell 85.38 335 P P 14 53 08.5 -1.3
baz=86
IMW Indian Meadow 85.43 333 eP P 14 53 09.2 -1.1
4.2nm,0.8s
FLWY Flagg Ranch 85.50 333 eP P 14 53 09.4 -1.1
7.4nm,0.8s
B30A Myrvik Farm, E 85.58 343 P P 14 53 08.8 -1.6
baz=86
G20A Bridger 85.59 335 P P 14 53 08.9 -1.9
baz=86
H18A Shoshone NF, C 85.63 334 P P 14 53 09.6 -1.5
baz=86
C27A Sayler Ranch, 85.72 341 P P 14 53 10.4 -0.8
baz=86
B29A Wagenman Farm, 85.84 342 P P 14 53 10.5 -1.3
baz=86
D24A Glendive 86.00 339 P P 14 53 12.1 -0.6
baz=86
A30A Hoffart Farm, 86.02 343 P P 14 53 11.1 -1.5
baz=86
YMR Madison River 86.10 333 eP P 14 53 13.1 -0.3
11nm,0.9s
A29A Manning Farm, 86.24 342 P P 14 53 12.1 -1.6
baz=87
D23A Lindsay 86.32 338 P P 14 53 13.2 -1.1
baz=87
F19A Roth Farm, Mol 86.39 335 P P 14 53 12.7 -2.0
baz=87
C24A Savage 86.40 339 P P 14 53 13.6 -1.0
baz=87
HLID Hailey 86.52 331 eP P 14 53 14.8 -0.7
30nm,2.3s
HLID Hailey 86.52 331 P P 14 53 14.6 -0.9
baz=87
D22A Cohagen 86.61 337 P P 14 53 14.4 -1.3
baz=87
E20A Meyer Farm, Mu 86.68 336 P P 14 53 14.7 -1.4
baz=87
ULM Lac du Bonnet 86.70 345 P P 14 53 12.5 -3.4
4.0nm,1.0s,baz=209,slow=3.4,SNR=3.9
ULM pP pP 14 53 26.3 +4.0
3.1nm,0.8s,baz=151,slow=1.6,SNR=3.0
E19A Rath Farm, Rou 86.86 336 P P 14 53 15.5 -1.5
baz=87
C23A Lambert 86.88 338 P P 14 53 15.4 -1.5
baz=87
A26A Wade Farm, Ken 86.95 341 P P 14 53 16.2 -1.0
baz=87
C22A Vida 87.04 338 P P 14 53 16.5 -1.3
baz=87
DGMT Dagmar 87.18 339 eP P 14 53 17.6 -0.8
16nm,0.7s
DGMT Dagmar 87.18 339 P P 14 53 17.0 -1.3
baz=88
D20A Manuel Ranch, 87.19 336 P P 14 53 17.0 -1.5
baz=88
C21A Desert Coulee 87.50 337 P P 14 53 18.3 -1.7
baz=88
A24A Westby 87.53 340 P P 14 53 18.8 -1.3
baz=88
B22A Reddig Ranch S 87.57 338 P P 14 53 18.7 -1.6
baz=88
A22A Carney Farms, 88.16 338 P P 14 53 21.8 -1.3
baz=88
A21A Bergtoll Ranch 88.47 338 P P 14 53 22.8 -1.8
baz=89
YBH Yreka Blue Hor 88.74 325 P P 14 53 23.5 -2.6
2.1nm,0.8s,baz=75,slow=5.9,SNR=4.5
YBH pP pP 14 53 36.1 +3.6
4.2nm,0.9s,baz=106,slow=2.7,SNR=4.9
YKA Yellowknife Ar 102.25 341 P Pdif 14 54 24.8 -2.3
0.5nm,0.8s,baz=142,slow=4.6,SNR=8.5
WRA Warramunga Arr 120.59 209 PKP PKPdf 14 59 21.7 -3.2
1.0nm,0.5s,baz=156,slow=1.7,SNR=25
WRA pPKP pPKPdf 14 59 30.7 -0.7
0.9nm,0.6s,baz=169,slow=1.4,SNR=3.5
BRTR Keskin Array B 121.93 61 PKP PKPdf 14 59 25.7 -1.2
0.7nm,0.8s,baz=269,slow=5.4,SNR=3.3
AKASG Malin Array Be 122.32 48 PKP PKPdf 14 59 24.4 -2.7
0.7nm,0.6s,baz=262,slow=3.2,SNR=6.1
AKASG pPKP pPKPdf 14 59 35.0 +1.4
0.2nm,0.4s,baz=254,slow=2.6,SNR=2.8
FINES FINESS Array B 123.15 35 PKP PKPdf 14 59 27.1 -1.2
1.1nm,0.8s,baz=181,slow=6.9,SNR=3.4
H11S2 WAKE ISLAND Hyl 125.77 269 T T 17 18 08.8
baz=118,slow=74,SNR=9.3
H11S1 WAKE ISLAND Hyl 125.79 269 T T 17 18 01.0
baz=118,slow=74,SNR=8.2
H11S3 WAKE ISLAND Hyl 125.79 269 T T 17 18 06.4
baz=118,slow=74,SNR=10
H11N3 WAKE ISLAND Hyl 126.19 270 T T 17 18 28.5
baz=122,slow=76,SNR=3.4
H11N1 WAKE ISLAND Hyl 126.21 270 T T 17 18 27.5
baz=122,slow=76,SNR=3.8
H11N2 WAKE ISLAND Hyl 126.21 270 T T 17 18 25.4
baz=122,slow=76,SNR=12
POO Poona 145.87 108 ⇓iP PKPdf 15 00 10.0 -1.9
30nm,1.0s
HYB Hyderabad 148.84 115 i PKP PKPdf 15 00 17.5 +0.6
KSH Kashi 153.94 69 ePKPbc PKPdf 15 00 16.8 -7.3
ZALV Zalesovo Beam 154.39 33 PKPbc PKPbc 15 00 31.2 -1.2
5.6nm,0.7s,baz=299,slow=3.1,SNR=18
ZALV pPKPbc pPKPbc 15 00 41.2 +2.3
3.6nm,0.7s,baz=301,slow=3.2,SNR=6.0
MKAR Makanchi Array 156.89 49 PKP PKPdf 15 00 24.7 -3.0
0.4nm,0.8s,baz=270,slow=2.2,SNR=3.9
MKAR PKPab PKPab 15 00 56.8 -1.0
1.5nm,0.7s,baz=289,slow=4.2,SNR=7.7
MKAR pPKPab pPKPab 15 01 05.0 +0.9
1.0nm,0.8s,baz=279,slow=2.1,SNR=3.8
SONM Songino Array 166.33 4 PKP PKPdf 15 00 35.6 -2.0
0.3nm,0.7s,baz=304,slow=1.5,SNR=3.4
SONM PKPab PKPab 15 01 38.3 -0.6
1.0nm,0.8s,baz=344,slow=3.7,SNR=7.5
SONM pPKPab pPKPab 15 01 52.1 +6.8
0.5nm,0.6s,baz=106,slow=0.1,SNR=3.6

BJI 27 14:40:52.8, 31.20S×74.70W, h30km, mB5.4/6, Ms4.9/1, Ms7 4.5/1
IDC 27 14:40:57.0±0.7, 34.05S×72.04W, h23km±4km, mb4.4/10, mb1 4.6/10, mb1mx4.3/35, mbtmp4.5/10, Error ellipse: s-maj=42.9km s-min=15.6km az=73.0
NEIC 27 14:40:58.0±0.4, 34.06S×72.09W, h35km, mb4.4/5, Error ellipse: s-maj=11.8km s-min=7.2km az=77.0
ISC 27 14:40:56.2±0.6, 34.07S±0.07×72.2W±0.1, h26km±4km, h25km:pP-P, n33, σ1.57/39, mb4.4/12, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
PLCA Paso Flores 6.77 170 ePn Pn 14 42 33.2 -0.8
TRQA Tornquist 9.14 119 Pn Pn 14 43 07.3 +0.8
LVC Limon Verde 11.77 15 Pn Pn 14 43 42.5 -0.2
CPUP Villa Florida 14.95 63 Pn Pn 14 44 25.6 +0.2
USHA Ushuaia 20.92 174 P P 14 45 38.0 +1.3
18nm,0.8s,baz=302,slow=5.5,SNR=4.2
SAML Samuel 26.33 20 P P 14 46 29.2 -0.9
3.7nm,0.7s
OTAV Otavalo 34.64 349 P P 14 47 42.8 -1.3
SDV Santo Domingo 42.75 2 P P 14 48 52.4 +0.7
6.1nm,0.8s
RCBR Riachuelo 43.76 58 eP P 14 49 00.9 +1.0
4.0nm,0.7s
JTS JuntasAbangare 45.76 342 P P 14 49 15.2 -0.5
SNAA Sanae 51.55 158 P P 14 50 00.7 +1.0
7.5nm,0.9s,baz=279,slow=4.7,SNR=9.5
SNAA pP pP 14 50 07.0 -0.6
4.2nm,0.8s,baz=246,slow=5.1,SNR=4.4
SNAA Sanae 51.55 158 eP P 14 50 00.1 +0.4
10.0nm,0.8s
TEIG Tepich 56.14 342 P P 14 50 34.6 +1.0
22nm,0.8s,baz=167,slow=7.8,SNR=5.6
TEIG pP pP 14 50 42.8 +1.2
18nm,0.8s,baz=197,slow=16,SNR=3.7
QSPA South Pole Qui 56.16 180 P P 14 50 35.7 +2.1
16nm,0.9s,baz=164,slow=3.5,SNR=5.7
QSPA South Pole Qui 56.16 180 eP P 14 50 33.4 -0.1
4.2nm,0.8s
TXAR Lajitas Array 69.75 331 P P 14 52 05.5 +1.4
1.7nm,0.7s,baz=153,slow=8.4,SNR=7.1
MIAR Mount Ida 71.15 341 eP P 14 52 12.3 -0.1
ANMO Albuquerque 75.80 331 eP P 14 52 40.9 +0.8
PDAR Pinedale Array 83.78 333 P P 14 53 24.0 +0.8
1.6nm,0.9s,baz=151,slow=3.4,SNR=6.1
NVAR Mina Array Bea 83.89 325 P P 14 53 25.8 +1.9
0.4nm,0.3s,baz=156,slow=5.5,SNR=4.4
TORD Torodi Ar. Bea 84.32 70 P P 14 53 27.1 +0.8
4.8nm,0.8s,baz=246,slow=4.1,SNR=6.7
ELK Elko 84.38 329 P P 14 53 27.6 +1.4
3.1nm,1.0s,baz=262,slow=2.8,SNR=5.4
ULM Lac du Bonnet 86.54 345 P P 14 53 36.6 +0.1
4.4nm,0.8s,baz=174,slow=5.4,SNR=5.3
ULM pP pP 14 53 45.4 +0.5
3.7nm,0.7s,baz=179,slow=2.5,SNR=3.6
WRA Warramunga Arr 120.65 209 PKP PKPdf 14 59 47.0 +0.6
1.0nm,1.0s,baz=161,slow=1.5,SNR=2.4
WRA pPKP pPKPdf 14 59 55.4 +0.4
0.7nm,0.7s,baz=158,slow=1.6,SNR=1.9
HYB Hyderabad 148.99 115 i PKP PKPbc 15 00 42.0 -0.5
KSH Kashi 153.99 69 ePKPbc PKPdf 15 00 41.5 -4.0
KSH ePKP PKPbc 15 00 52.0 -1.5
KSH esPKP 15 00 55.0
KSH eSKS SKSdf 15 07 42.5 -8.2
KSH eSKKS SKKSac 15 11 26.5 -3.7
KSH eSS SS 15 24 19.5 +0.4
KSH AMB AMB
comp=Z,120nm,5.4s

ZALV Zalesovo Beam 154.34 32 PKPbc PKPbc 15 00 54.2 +0.6
4.2nm,0.8s,baz=303,slow=3.0,SNR=5.1
ZALV pPKPbc pPKPbc 15 01 02.2 0.0
3.5nm,0.7s,baz=300,slow=3.3,SNR=3.3
MKAR Makanchi Array 156.88 49 PKPab PKPab 15 01 20.4 +1.3
1.1nm,0.6s,baz=298,slow=2.6,SNR=3.7
MKAR pPKPab pPKPab 15 01 27.6 +0.2
1.1nm,0.6s,baz=260,slow=3.2,SNR=3.2
NJ2 Nanjing 170.54 261 ePKP PKPdf 15 00 56.3 -5.7
GYA Guiyang 172.34 172 ePKP PKPdf 15 00 57.8 -5.5
GYA pPKP pPKPdf 15 01 10.3 -1.6
GYA PKPab PKPab 15 02 36.0 +8.7
GYA PKS PKSdf 15 04 29.0 -6.8
GYA PP PP 15 06 29.3 +12
GYA SKKS 15 13 10.5
GYA AMB AMB
comp=Z,120nm,8.5s
GYA LR LR
comp=N,130nm,21.4s
GYA LR LR
comp=E,110nm,21.2s
GYA LR LR
comp=Z,120nm,24.4s
HHC Hu-ho-hao-te 172.62 337 ePKP PKPdf 15 00 56.0 -6.9
HHC pPKP pPKPdf 15 01 04.8 -6.8
HHC sPKP 15 01 10.5
CD2 Chengdu 175.32 131 PKP PKPdf 15 00 59.5 -4.6
CD2 pPKP pPKPdf 15 01 10.8 -1.9
CD2 sPKP 15 01 14.5
CD2 PKS PKSdf 15 04 30.3 -6.1
CD2 PP PP 15 06 46.3 +13
CD2 SKS SKSdf 15 07 56.8 -8.8
CD2 SKKS SKKSac 15 13 27.0 +9.0
CD2 SS SS 15 28 19.0 +22
CD2 AMB AMB
comp=Z,230nm,6.2s
LZH Lanzhou 176.15 57 ePKP PKPdf 15 00 59.0 -5.3
LZH pPKP pPKPdf 15 01 07.8 -5.1
LZH sPKP 15 01 12.0

ISCJB 27 14:41:46.0±0.2, 35.66S×72.96W±0.07, h17km, mb5.1/80, MS5.4/3, Error ellipse: s-maj=8.5km s-min=5.8km az=168.3
MOS 27 14:41:48.7±1.5, 35.71S×73.08W, h33km, mb5.5/17, Error ellipse: s-maj=18.8km s-min=8.8km az=99.4
IDC 27 14:41:50.3±4.1, 35.77S×73.11W, h33km±30km, mb4.8/22, mb1 4.8/27, mb1mx4.8/37, mbtmp4.9/27, ML4.9/5, MS5.2/3, Ms1 5.2/3, ms1mx4.6/16, Error ellipse: s-maj=18.2km s-min=11.4km az=82.0
NEIC 27 14:41:50.2±0.2, 35.71S×73.11W, h35km, mb5.1/43, Error ellipse: s-maj=9.4km s-min=6.3km az=74.0
BJI 27 14:41:52.1, 35.70S×72.50W, h35km, mB5.4/2
ISC 27 14:41:47.4±0.3, 35.73S±0.06×73.13W±0.09, h17km, n182, σ1.30/171, mb5.2/79, MS5.4/3, 3C-1D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 5.40 159 Pn Pn 14 43 08.6 +1.4
17nm,0.3s,baz=337,slow=12,SNR=5.3
PLCA Lg Lg 14 44 29.0
16nm,0.3s,baz=282,slow=17,SNR=2.8
CFAA Coronel Fontan 5.79 46 Pn Pn 14 43 14.8 +2.2
7.2nm,0.3s,baz=234,slow=8.7,SNR=3.5
CFAA Sn Sn 14 44 14.8 -3.7
0.8nm,0.3s,baz=228,slow=17,SNR=1.5
CFAA Lg Lg 14 44 46.4
4.4nm,0.3s,baz=129,slow=20,SNR=2.4
CFAA LR LR 14 45 37.9
comp=Z,4μm,18.4s,baz=229,slow=39
TRQA Tornquist 9.23 108 ePn Pn 14 43 52.4 -7.3
CPUP Villa Florida 16.45 60 Pn P 14 45 39.7 -0.3
3.4nm,0.3s,baz=213,slow=10,SNR=4.5
CPUP Lg Lg 14 50 34.2
1.0nm,0.3s,baz=157,slow=14,SNR=2.5
USHA Ushuaia 19.38 172 P Pn 14 46 14.2 +0.9
3.0nm,0.3s,baz=306,slow=6.5,SNR=9.4
LPAZ La Paz 19.86 14 P Pn 14 46 20.9 +0.9
0.9nm,0.3s,baz=171,slow=9.5,SNR=6.3
SIV San Ignacio 22.41 32 P P 14 46 45.1 -0.2
30nm,0.9s,baz=235,slow=15,SNR=8.7
SIV LR LR 14 57 25.1
comp=Z,17μm,18.4s,baz=226,slow=42
NNA Nana 23.87 351 P P 14 47 00.8 +0.7
4.7nm,0.4s,baz=177,slow=14,SNR=3.2
ATAH Atahualpa 28.86 349 P P 14 47 47.2 +1.6
5.0nm,0.5s,baz=98,slow=3.8,SNR=5.2
BDFB Brasilia 30.05 55 P P 14 47 55.2 -0.6
28nm,0.9s,baz=217,slow=5.8,SNR=9.3
BDFB LR LR 15 01 30.1
comp=Z,7μm,20.1s,baz=223,slow=39
OTAV Otavalo 36.12 351 eP P 14 48 51.6 +2.4
30nm,1.2s
SDV Santo Domingo 44.43 4 eP P 14 49 57.0 -0.6
40nm,0.8s
RCBR Riachuelo 45.31 58 P P 14 50 06.2 +1.6
14nm,0.7s,baz=223,slow=10,SNR=9.1
JTS JuntasAbangare 47.11 344 P P 14 50 20.5 +1.9
3.5nm,0.4s,baz=225,slow=7.1,SNR=3.4
VNA3 Neumayer Olymp 48.11 157 P P 14 50 26.0 +0.2
VNA1 Neumayer--Stat 48.45 156 P P 14 50 29.4 +1.0
VNA2 Neumayer--Watz 48.78 157 P P 14 50 31.2 +0.2
SNAA Sanae 50.34 157 P P 14 50 42.7 -0.2
SNAA Sanae 50.34 157 eP P 14 50 42.3 -0.6
SNAA Sanae 50.34 157 P P 14 50 43.1 +0.2
28nm,0.9s,baz=301,slow=6.8,SNR=13
SNAA Sanae 50.34 157 eP P 14 50 42.3 -0.6
FDF Fort de France 51.45 15 eP P 14 50 50.8 -1.0
FDF pmax pmax
comp=Z,46nm,0.6s
FDF Fort de France 51.45 15 eP P 14 50 50.8 -1.0
comp=Z,46nm,0.6s
APG El Apazote 53.06 339 P P 14 51 01.1 -2.8
comp=Z,5.4nm,0.8s,baz=146,slow=7.3,SNR=2.7
CRPR Cabo Rojo, PR 53.74 7 eP P 14 51 07.3 -1.3
OBIP Obispado Ponce 53.83 8 eP P 14 51 08.5 -0.8
comp=Z,35nm,0.6s
CELP Cerrillos 53.86 8 eP P 14 51 07.7 -1.9
LRS Lares 54.05 7 eP P 14 51 09.4 -1.6
CBYP Canovanas 54.14 9 eP P 14 51 10.2 -1.5
comp=Z,21nm,0.6s
SDDR Presa de Saban 54.43 2 eP P 14 51 13.9 +0.1
comp=Z,14nm,0.9s
QSPA South Pole Qui 54.52 180 P P 14 51 14.0 -0.1
comp=Z,23nm,0.8s,baz=142,slow=2.1,SNR=7.9
QSPA South Pole Qui 54.52 180 eP P 14 51 13.5 -0.6
comp=Z,57nm,0.9s
RKT Rikitea 54.52 265 eS S 14 59 02.9 +10
comp=Z,2μm,32.9s
RKT eLR LR 15 07 02.5
comp=Z,3μm,30.0s
RKT Rikitea 54.52 265 eT T 15 49 21.1
comp=Z,3.2nm,0.2s
NVL N'lazarevskaya 55.10 156 eP P 14 51 18.4 +0.4
NVL pmax pmax
comp=Z,34nm,0.9s
TEIG Tepich 57.47 343 P P 14 51 36.1 +0.7
comp=Z,16nm,0.7s,baz=145,slow=10,SNR=3.6
TEIG Tepich 57.47 343 eP P 14 51 35.5 +0.1
comp=Z,40nm,0.9s
SYO Syowa Base 64.59 158⇑eP P 14 52 20.2 -3.1
MEH Mehetia 67.75 264 eT T 16 05 53.4
comp=Z,90nm,0.2s
TVO Taravao 68.75 263 eT T 16 07 09.6
comp=Z,3.3nm,0.2s
TIAR Tiarei 68.95 263 eT T 16 07 23.8
comp=Z,11nm,0.2s
PAE Paea 69.08 263 eT T 16 07 34.0
comp=Z,1.6nm,0.3s
PPT2 Papeete2 69.12 263 eS S 15 02 10.5 +12
comp=Z,4μm,30.8s
PPT2 Papeete2 69.12 263 eLR LR 15 13 54.6
comp=Z,7μm,29.2s
PPT2 Papeete2 69.12 263 eT T 16 07 36.0
comp=Z,3.1nm,0.3s
JCT Junction City 70.47 336 eP P 14 53 00.3 -0.6
JCT pmax pmax
comp=Z,12nm,0.6s
JCT Junction City 70.47 336 eP P 14 53 00.3 -0.6
comp=Z,12nm,0.6s
TXAR Lajitas Array 70.81 332 P P 14 53 04.3 +1.2
comp=Z,4.0nm,0.6s,baz=158,slow=6.9,SNR=11
KMSC Kings Mountain 70.92 353 eP P 14 53 03.8 +0.4
comp=Z,21nm,0.7s
WHTX Lake Whitney 71.12 338 eP P 14 53 03.9 -0.8
comp=Z,24nm,0.9s
SWET Sewanee 71.58 349 eP P 14 53 07.6 +0.1
comp=Z,32nm,0.7s
CPCT Cooper Cave 71.60 350 eP P 14 53 07.2 -0.4
TKL Tuckaleechee C 71.71 351 eP P 14 53 06.8 -1.4
TKL Tuckaleechee C 71.71 351 eP P 14 53 06.8 -1.4
MAW Mawson 71.78 164 P P 14 53 09.7 +1.3
comp=Z,49nm,1.0s,baz=220,slow=7.9,SNR=4.5
ABTX Abilene, Hawle 72.39 337 eP P 14 53 12.2 -0.3
comp=Z,17nm,0.8s
WVT Waverly 72.79 348 eP P 14 53 12.7 -1.9
WVT Waverly 72.79 348 eP P 14 53 12.7 -1.9
VWCC Virginia Weste 72.88 354 eP P 14 53 14.4 -0.8
BBTS Babate 73.30 58 P P 14 53 19.4 +1.3
comp=Z,16nm,0.9s,baz=256,slow=6.3,SNR=5.0
MNTX Cornudas Mount 73.58 332 eP P 14 53 19.5 0.0
comp=Z,8.3nm,0.9s
TUL1 Tulsa 74.33 341 eP P 14 53 21.8 -1.9
comp=Z,23nm,0.8s
USIN University of 74.55 348 eP P 14 53 24.7 -0.2
comp=Z,31nm,0.7s
MSTX Muleshoe 74.67 335 eP P 14 53 24.9 -1.0
comp=Z,19nm,0.8s
V34A Guthrie 74.73 340 eP P 14 53 25.4 -0.7
comp=Z,18nm,0.9s
SUR Sutherland 74.78 119 P P 14 53 28.0 +1.0
comp=Z,42nm,1.0s
SDMD Soldier's Deli 74.84 357 eP P 14 53 27.0 +0.3
comp=Z,17nm,0.7s
AMTX Amarillo 75.13 336 eP P 14 53 27.8 -0.8
comp=Z,34nm,1.0s
BLO Bloomington 75.55 349 P P 14 53 29.9 -0.8
BLO pmax pmax
comp=Z,17nm,0.7s
BLO Bloomington 75.55 349 P P 14 53 29.9 -0.8
comp=Z,17nm,0.7s
SSPA Standing Stone 76.11 356 eP P 14 53 33.2 -0.6
comp=Z,14nm,0.8s
ACSO Alum Creek Sta 76.13 352 eP P 14 53 32.9 -1.1
comp=Z,56nm,0.7s
LIC Lamto 76.17 72 eP P 14 53 35.1 +0.2
comp=Z,129nm,0.9s
TUC Tucson 76.33 328 eP P 14 53 35.6 +0.1
TUC pmax pmax
comp=Z,8.0nm,0.9s
TUC Tucson 76.33 328 eP P 14 53 35.6 +0.1
comp=Z,8.3nm,0.9s
TIC Toumodi 76.44 71 eP P 14 53 37.1 +0.7
comp=Z,60nm,0.5s
KIC Kosan Boka 76.47 72 eP P 14 53 37.0 +0.4
comp=Z,130nm,0.8s
DBIC Dimbokro 76.58 72 eP P 14 53 34.6 -2.6
DBIC pmax pmax
comp=Z,57nm,0.8s
DBIC Dimbokro 76.58 72 P P 14 53 37.7 +0.5
comp=Z,51nm,0.7s,baz=198,slow=4.9,SNR=31
DBIC Dimbokro 76.58 72 eP P 14 53 34.6 -2.6
comp=Z,57nm,0.8s
LAZ Ladron 76.66 332 eP P 14 53 39.0 +1.6
comp=Z,4.5nm,1.0s
ANMO Albuquerque 76.88 332 eP P 14 53 38.1 -0.5
ANMO pmax pmax
comp=Z,23nm,1.3s
ANMO Albuquerque 76.88 332 eP P 14 53 38.1 -0.5
comp=Z,24nm,1.3s
CASY Casey 78.28 182 eP P 14 53 44.7 -1.2
comp=Z,38nm,0.9s
WUAZ Wupatki 79.33 329 eP P 14 53 53.4 +1.2
comp=Z,12nm,0.9s
MDV Middlebury 79.35 360 eP P 14 53 51.3 -0.5
MVCO Mesa Verde 79.65 332 eP P 14 53 54.0 0.0
comp=Z,18nm,1.1s
PFO Pinyon Flat Ob 80.00 324 P P 14 53 57.0 +1.2
PFO pmax pmax
comp=Z,245nm,2.5s
PFO Pinyon Flat Ob 80.00 324 P P 14 53 57.0 +1.2
comp=Z,245nm,2.5s
BOSA Boshof 80.06 118 eP P 14 53 55.0 -1.5
BOSA pmax pmax
comp=Z,46nm,0.8s
BOSA Boshof 80.06 118 P P 14 53 56.5 0.0
comp=Z,45nm,0.8s,baz=235,slow=5.1,SNR=21
BOSA Boshof 80.06 118 eP P 14 53 55.0 -1.5
comp=Z,46nm,0.8s
PV01 Paradox Valley 80.49 332 eP P 14 53 59.0 +0.5
comp=Z,651nm,0.9s
SHPR Sheep Range 81.80 327 eP P 14 54 06.8 +1.3
comp=Z,23nm,1.3s
URZ Urewera 81.84 228 P P 14 54 05.6 0.0
comp=Z,7.8nm,0.8s,baz=114,slow=12,SNR=2.0
ECSD EROS Data Cent 81.92 343 eP P 14 54 04.6 -1.1
SRU San Rafael 82.08 332 eP P 14 54 06.8 -0.1
SRU pmax pmax
comp=Z,12nm,0.9s
SRU San Rafael 82.08 332 eP P 14 54 06.8 -0.1
comp=Z,12nm,0.9s
ARUT Antelope Range 82.13 329 P P 14 54 07.7 +0.6
ARUT Antelope Range 82.13 329 P P 14 54 07.7 +0.6
comp=Z,154nm,1.0s
LBTB Lobatse 82.39 115 eP P 14 54 06.8 -2.1
LBTB pmax pmax
comp=Z,34nm,0.9s
LBTB Lobatse 82.39 115 eP P 14 54 06.8 -2.1
comp=Z,34nm,0.9s
SPMN St. Paul 82.52 346 eP P 14 54 07.7 -1.0
comp=Z,20nm,0.8s
ISA Isabella 82.63 324 eP P 14 54 10.5 +0.8
ISA pmax pmax
comp=Z,9.0nm,1.0s
ISA Isabella 82.63 324 eP P 14 54 10.5 +0.8
comp=Z,8.8nm,1.0s
R11A Troy Canyon, C 83.52 328 eP P 14 54 15.6 +1.3
comp=Z,9.4nm,1.0s
K22A Casper 83.75 336 eP P 14 54 15.3 -0.1
comp=Z,64nm,1.5s
DUG Dugway 83.92 331 eP P 14 54 17.1 +0.8
DUG pmax pmax
comp=Z,24nm,1.2s
DUG Dugway 83.92 331 eP P 14 54 17.1 +0.8
comp=Z,24nm,1.2s
TPH Tonopah 84.02 326 eP P 14 54 16.7 -0.2
TPH pmax pmax
comp=Z,35nm,1.3s
TPH Tonopah 84.02 326 eP P 14 54 16.7 -0.2
comp=Z,34nm,1.3s
TCUT Toone Canyon 84.16 332 eP P 14 54 17.2 -0.5
comp=Z,26nm,1.0s
RSSD Black Hills 84.29 338 eP P 14 54 19.2 +1.0
RSSD pmax pmax
comp=Z,9.0nm,1.0s
RSSD Black Hills 84.29 338 eP P 14 54 19.2 +1.0
comp=Z,8.7nm,1.0s
NVAR Mina Array Bea 84.80 326 P P 14 54 23.0 +2.1
comp=Z,4.6nm,0.9s,baz=160,slow=5.3,SNR=9.1
PDAR Pinedale Array 84.90 334 P P 14 54 22.0 +0.7
comp=Z,5.7nm,1.2s,baz=153,slow=4.8,SNR=8.0
ELK Elko 85.37 329 P P 14 54 25.0 +1.2
ELK Elko 85.37 329 P P 14 54 24.9 +1.2
comp=Z,5.0nm,1.0s,baz=212,slow=5.1,SNR=5.0
WAKR Walker 85.38 325 eP P 14 54 26.2 +2.4
comp=Z,12nm,1.0s
TORD Torodi Ar. Bea 85.63 71 P P 14 54 25.1 -0.2
comp=Z,18nm,1.0s,baz=262,slow=4.2,SNR=11
AGMN Agassiz Nation 86.08 345 eP P 14 54 27.5 +0.8
comp=Z,17nm,0.7s
YMR Madison River 87.06 334 eP P 14 54 32.4 +0.4
comp=Z,24nm,1.0s
HLID Hailey 87.41 331 eP P 14 54 34.8 +1.2
comp=Z,5.9nm,0.9s
MCMT McKenzie Canyo 87.88 333 eP P 14 54 36.7 +0.7
comp=Z,9.9nm,1.2s
ULM Lac du Bonnet 87.93 346 eP P 14 54 34.8 -0.9
ULM pmax pmax
comp=Z,18nm,0.7s
ULM Lac du Bonnet 87.93 346 P P 14 54 34.9 -0.8
comp=Z,22nm,0.7s,baz=162,slow=6.3,SNR=13
ULM Lac du Bonnet 87.93 346 eP P 14 54 34.8 -0.9
comp=Z,18nm,0.7s
DGMT Dagmar 88.28 340 eP P 14 54 37.4 0.0
comp=Z,28nm,0.9s
MOD Modoc 88.50 327 eP P 14 54 39.2 +0.4
comp=Z,11nm,0.8s
LRM Limekiln Ridge 88.59 334 eP P 14 54 39.9 +0.6
comp=Z,60nm,1.2s
PINOR Pine Mountain 90.28 328 eP P 14 54 48.7 +1.9
comp=Z,9.3nm,0.9s
SCHQ Schefferville 90.36 4 P P 14 54 47.1 +0.1
comp=Z,12nm,1.1s,baz=195,slow=1.8,SNR=4.1
SWMT Swartz Lake 90.58 334 eP P 14 54 49.1 +0.7
comp=Z,5.0nm,1.1s
NEW Newport 92.37 332 P P 14 54 54.7 -1.9
comp=Z,2.2nm,0.9s,baz=99,slow=2.1,SNR=3.1
ESDC Sonseca Array 98.41 47 P Pdif 14 55 24.9 +0.5
comp=Z,1.3nm,0.7s,baz=233,slow=5.1,SNR=5.4
DZM Mont Dzumac 99.50 234 eLR LR 15 27 55.7
comp=Z,2μm,31.6s
YKA Yellowknife Ar 103.40 342 Pdiff Pdif 14 55 46.6 +0.6
comp=Z,0.8nm,0.8s,baz=144,slow=4.7,SNR=5.5
GERES GERESS Array B 114.00 46 PKP PKiKP 15 00 24.2 -0.9
comp=Z,0.7nm,0.7s,baz=224,slow=3.7,SNR=4.7
ILAR Eielson Array 115.32 333 PKP PKPdf 15 00 25.4 -1.6
comp=Z,0.5nm,0.7s,baz=154,slow=2.4,SNR=7.1
VYHS Vyhne 116.91 48 ePP PKPdf 15 00 31.8 +1.2
WRA Warramunga Arr 118.82 210 PKP PKPdf 15 00 33.1 -2.2
comp=Z,1.1nm,0.8s,baz=155,slow=1.7,SNR=5.6
BRTR Keskin Array B 123.44 62 PKP PKPdf 15 00 44.7 +1.1
comp=Z,1.8nm,0.7s,baz=194,slow=3.2,SNR=6.5
TNA Tin City 123.84 330 ePKPdf PKPdf 15 00 44.8 +1.4
AKASG Malin Array Be 124.01 49 PKP PKPdf 15 00 44.2 +0.1
comp=Z,1.7nm,0.6s,baz=255,slow=3.1,SNR=8.9
FINES FINESS Array B 124.91 35 PKP PKPdf 15 00 46.5 +1.0
comp=Z,2.3nm,1.0s,baz=347,slow=5.7,SNR=3.8
GAMB Gambell 125.08 328 ePKPdf PKPdf 15 00 47.1 +1.4
ARCES ARCESS Array B 125.95 25 PKP PKPdf 15 00 47.7 +0.3
comp=Z,5.4nm,1.0s,baz=1.4,slow=4.9,SNR=3.9
OBN Obninsk 129.30 44⇑iPKIKP PKPdf 15 00 54.9 +0.8
OBN e 15 01 03.0
OBN pmax pmax
comp=Z,18nm,1.5s
OBN MLR MLR
comp=Z,734nm,19.0s
KBZ Khabaz 131.24 60 PKP PKPdf 15 01 00.5 +2.3
comp=Z,2.2nm,0.8s,baz=245,slow=3.8,SNR=4.1
KLMR Klimovskoe 131.32 37 ePKIKP PKPdf 15 00 56.1 -1.7
KLMR pmax pmax
comp=Z,29nm,1.3s
BILL Bilibino 133.98 333 ePKIKP PKPdf 15 01 03.0 +0.4
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL Bilibino 133.98 333 ePKPdf PKPdf 15 01 03.0 +0.4
SOKR Solikamsk 140.00 37 ePKHKP PKPpre 15 01 07.4
SOKR pmax pmax
comp=Z,8.0nm,1.0s
GEYT Alibeck 141.26 72 PKhKP PKPpre 15 01 10.9
comp=Z,1.1nm,0.6s,baz=354,slow=1.4,SNR=2.7
GEYT PKP PKPdf 15 01 17.3 +0.2
comp=Z,1.5nm,0.6s,baz=354,slow=1.4,SNR=3.5
ARU Arti 141.63 42 PKHKP PKPpre 15 01 10.3
GSI Gunungsitoli 144.68 164 ePKPdf PKPdf 15 01 24.1 +0.3
IPM Ipoh 148.44 169 ePKPbc PKPab 15 01 35.3 -1.5
HYB Hyderabad 148.96 119 iPKP PKPdf 15 01 32.0 +1.2
KBL Kabul 149.16 81 ePKPbc PKPbc 15 01 35.3 +0.2
KBL Kabul 149.16 81 ePKPbc PKPbc 15 01 35.3 +0.2
YAK Yakutsk 150.03 339 ePKIKP PKPbc 15 01 34.4 -1.7
YAK pmax pmax
comp=Z,68nm,1.1s
YAK Yakutsk 150.03 339 ePKPbc PKPbc 15 01 35.6 -0.4
YSS Yuzh-Sakhalins 151.06 304⇑ePKIKP PKPab 15 01 43.3 -3.4
KKAR Karatay Array 151.13 64 ePKIKP PKPbc 15 01 39.7 +0.3
KKAR Karatay Array 151.13 64 ePKPbc PKPbc 15 01 39.6 +0.3
EKS2 Erkin-Say 153.55 65 ePKIKP PKPbc 15 01 44.9 -0.1
EKS2 Erkin-Say 153.55 65 ePKPbc PKPbc 15 01 44.9 -0.1
MJAR Matsushiro Arr 154.73 281 PKPab PKPab 15 01 59.0 -3.6
comp=Z,2.7nm,0.8s,baz=101,slow=3.9,SNR=4.3
KURK Kurchatov 154.74 45 ePKIKP PKPbc 15 01 47.3 +0.3
KURK Kurchatov 154.74 45 ePKPbc PKPbc 15 01 47.3 +0.3
TKM2 Tokmak 2 154.86 64 ePKIKP PKPbc 15 01 47.9 0.0
TKM2 Tokmak 2 154.86 64 ePKPbc PKPbc 15 01 47.9 0.0
ZALV Zalesovo Beam 156.16 33 PKP PKPdf 15 01 40.0 -0.2
comp=Z,13nm,1.1s,baz=270,slow=3.0,SNR=6.3
ZALV PKPab PKPab 15 02 09.0 +1.0
comp=Z,16nm,0.7s,baz=302,slow=4.6,SNR=9.8
KLR Kul'dur 157.35 314 ePKP2 PKPab 15 02 17.9 +4.5
BOD Bodaibo 157.39 350 ePKP2 PKPab 15 02 12.2 -1.0
BOD pmax pmax
comp=Z,14nm,1.1s
MK31 Makanchi Array 158.55 51 ePKIKP PKPdf 15 01 43.1 -0.5
MK31 Makanchi Array 158.55 51 ePKPdf PKPdf 15 01 43.1 -0.5
MKAR Makanchi Array 158.55 51 PKP PKPdf 15 01 42.8 -0.8
comp=Z,4.0nm,1.0s,baz=318,slow=1.6,SNR=9.3
MKAR PKPab PKPab 15 02 13.3 -5.4
comp=Z,1.7nm,0.7s,baz=276,slow=3.3,SNR=4.6
CMAR Chiang Mai Arr 161.42 156 PKP PKPdf 15 01 48.7 +1.1
comp=Z,0.9nm,0.5s,baz=248,slow=2.8,SNR=5.2
CMAR PKPab PKPab 15 02 30.4 -1.3
comp=Z,2.3nm,0.9s,baz=231,slow=2.9,SNR=6.5
SHL Shillong 163.62 124 eP PKPab 15 02 41.5 -0.1
ZAK Zakamensk 165.12 9⇓ePKIKP PKPdf 15 01 55.2 +4.9
ZAK i 15 02 47.8
ZAK pmax pmax
comp=Z,2.0nm,1.0s
ZAK pmax pmax
comp=Z,6.0nm,11.1s
SONM Songino Array 167.89 2 PKPab PKPab 15 03 00.4 +0.8
comp=Z,4.8nm,0.8s,baz=338,slow=3.2,SNR=15

IDC 27 14:43:40.9±0.6, 35.77S×73.20W, h0km, mb4.9/12, mb1 5.0/13, mb1mx4.9/20, mbtmp4.9/13, ML4.5/1, Error ellipse: s-maj=30.0km s-min=18.0km az=73.0
ISCJB 27 14:43:43.7±0.5, 35.77S±0.06×72.9W±0.1, h28km, mb4.8/13, Error ellipse: s-maj=16.1km s-min=8.8km az=175.3
NEIC 27 14:43:46.2±0.4, 35.75S×72.93W, h35km, mb4.2/1, Error ellipse: s-maj=12.1km s-min=8.2km az=75.0
ISC 27 14:43:45.3±0.6, 35.76S±0.08×73.0W±0.1, h28km, n29, σ0.85/29, mb5.0/13, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 5.31 160 Pn Pn 14 45 03.2 +0.4
1μm,1.0s
TRQA Tornquist 9.09 108 Pn Pn 14 45 53.1 -1.5
LVC Limon Verde 13.57 16 Pn Pn 14 46 57.0 +0.8
CPUP Villa Florida 16.35 59 Pn Pn 14 47 32.5 -0.3
USHA Ushuaia 19.32 172 P Pn 14 48 08.9 -0.4
1.5nm,0.3s,baz=340,slow=6.9,SNR=3.9
LPAZ La Paz 19.87 14 Pn P 14 48 15.3 +0.4
SIV San Ignacio 22.37 31 P P 14 48 42.5 +1.2
29nm,0.8s,baz=222,slow=14,SNR=6.1
SAML Samuel 28.14 21 eP P 14 49 35.2 +0.1
3.6nm,0.6s
SNAA Sanae 50.25 157 P P 14 52 39.3 +0.7
15nm,0.8s,baz=269,slow=5.4,SNR=4.4
QSPA South Pole Qui 54.48 180 P P 14 53 10.4 +0.3
24nm,0.8s,baz=130,slow=5.0,SNR=4.2
TEIG Tepich 57.54 343 P P 14 53 31.7 -0.6
20nm,0.7s,baz=161,slow=11,SNR=4.4
TXAR Lajitas Array 70.91 332 P P 14 54 59.7 -0.2
2.8nm,0.6s,baz=158,slow=8.6,SNR=5.0
DBIC Dimbokro 76.46 71 P P 14 55 34.1 +1.4
25nm,0.6s,baz=203,slow=5.4,SNR=7.8
BOSA Boshof 79.92 118 P P 14 55 52.8 +0.7
23nm,0.7s,baz=236,slow=4.3,SNR=5.9
NVAR Mina Array Bea 84.91 326 P P 14 56 18.3 +0.7
4.4nm,0.7s,baz=154,slow=6.4,SNR=6.1
PDAR Pinedale Array 85.00 334 P P 14 56 17.6 -0.4
1.4nm,0.8s,baz=137,slow=8.3,SNR=4.3
ELK Elko 85.47 329 P P 14 56 20.6 +0.2
3.8nm,0.9s,baz=166,slow=5.6,SNR=3.1
TORD Torodi Ar. Bea 85.52 70 P P 14 56 21.6 +0.6
8.8nm,0.9s,baz=254,slow=4.6,SNR=3.8
ULM Lac du Bonnet 88.01 346 P P 14 56 31.7 -0.6
18nm,0.7s,baz=172,slow=2.6,SNR=9.9
YKA Yellowknife Ar 103.48 342 Pdiff Pdif 14 57 41.9 -0.6
0.7nm,0.8s,baz=144,slow=4.6,SNR=4.4
GERES GERESS Array B 113.93 46 PKP PKiKP 15 02 20.8 -0.4
0.7nm,0.7s,baz=182,slow=4.0,SNR=3.6
ILAR Eielson Array 115.42 333 PKP PKPdf 15 02 22.6 -0.8
0.5nm,0.7s,baz=162,slow=1.9,SNR=4.6
WRA Warramunga Arr 118.86 210 PKP PKPdf 15 02 29.8 -1.8
0.7nm,0.7s,baz=156,slow=1.7,SNR=5.1
BRTR Keskin Array B 123.37 62 PKP PKPdf 15 02 39.6 0.0
1.4nm,0.8s,baz=187,slow=3.1,SNR=3.8
AKASG Malin Array Be 123.94 49 PKP PKPdf 15 02 39.2 -0.9
1.8nm,0.8s,baz=257,slow=2.9,SNR=4.6
HYB Hyderabad 148.82 118 iPKP PKPbc 15 03 29.0 -1.7
ZALV Zalesovo Beam 156.12 34 PKPab PKPab 15 04 05.0 +0.9
7.4nm,0.7s,baz=310,slow=5.1,SNR=4.1
MKAR Makanchi Array 158.47 52 PKPab PKPab 15 04 15.0 +0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	1.6nm,0.7s,baz=307,slow=3.9,SNR=4.6						
SONM	Songino Array	167.93	2	PKPab	PKPab	15 04 56.5	+0.5
	3.5nm,0.8s,baz=339,slow=5.6,SNR=7.2						

IDC 27 14:45:40.5±1.5, 31.57S×72.37W, h0km, mb4.6/1, mb1 4.4/2, mb1mx4.0/28, mbtmp4.7/3, ML3.7/1, Error ellipse: s-maj=81.1km s-min=34.7km az=180.0
ISCJB 27 14:45:41.5±1.1, 31.50S±0.10×72.4W±0.1, h24km, mb4.6/3, Error ellipse: s-maj=15.5km s-min=10.7km az=39.0
NEIC 27 14:45:45.4±0.6, 31.46S×72.31W, h35km, mb4.1/2, Error ellipse: s-maj=13.0km s-min=9.5km az=82.0
ISC 27 14:45:43.9±1.0, 31.5S±0.1×72.4W±0.1, h24km, n12, σ0.83/14, mb4.7/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.54	93	Pn	Pn	14 46 38.0	+0.6
	7.1nm,0.3s,baz=7.4,slow=2.4,SNR=6.6						
CFAA				Sn	Sn	14 47 19.1	+0.5
	9.3nm,0.3s,baz=341,slow=22,SNR=2.3						
LVC	Limon Verde	9.35	20	Pn	Pn	14 47 57.0	-0.3
TRQA	Tornquist	10.79	130	Pn	Pn	14 48 16.2	-0.6
CPUP	Villa Florida	14.14	73	Pn	Pn	14 49 01.9	-0.8
LPAZ	La Paz	15.60	15	ePn	Pn	14 49 21.7	-1.2
	7.7nm,0.8s						
SAML	Samuel	23.99	23	eP	P	14 50 57.6	+0.9
	8.2nm,1.0s						
SNAA	Sanae	54.04	159	eP	P	14 55 05.6	-0.3
	16nm,0.8s						
ANMO	Albuquerque	73.43	331	P	P	14 57 14.3	+0.1
TORD	Torodi Ar. Bea	83.63	70	P	P	14 58 10.4	-0.3
	4.0nm,0.7s,baz=252,slow=4.9,SNR=3.3						
WRA	Warramunga Arr	122.81	210	PKP	PKPdf	15 04 38.7	+0.3
	0.6nm,0.8s,baz=155,slow=1.7,SNR=3.3						
ZALV	Zalesovo Beam	152.21	29	PKPbc	PKPbc	15 05 37.9	+0.9
	4.5nm,0.4s,baz=314,slow=2.7,SNR=9.4						
ZALV				PKPab	PKPab	15 05 48.3	+1.6
	2.7nm,0.6s,baz=319,slow=3.0,SNR=4.1						
MKAR	Makanchi Array	155.25	45	PKPab	PKPab	15 05 59.8	-0.1
	1.3nm,0.9s,baz=292,slow=3.9,SNR=2.9						

IDC 27 14:46:09.9±0.7, 35.84S×73.16W, h0km, mb4.6/10, mb1 4.8/12, mb1mx4.7/19, mbtmp4.6/12, ML4.0/2, Error ellipse: s-maj=31.9km s-min=18.2km az=83.0
ISCJB 27 14:46:12.2±0.5, 35.86S±0.06×73.0W±0.1, h28km, mb4.7/17, Error ellipse: s-maj=14.9km s-min=8.2km az=162.8
NEIC 27 14:46:14.7±0.4, 35.89S×73.07W, h35km, mb4.9/8, Error ellipse: s-maj=12.2km s-min=7.3km az=70.0
ISC 27 14:46:13.9±0.6, 35.87S±0.07×73.1W±0.1, h28km, n35, σ0.94/35, mb4.9/17, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.26	158	ePn	Pn	14 47 29.6	-1.2
TRQA	Tornquist	9.19	107	ePn	Pn	14 48 24.9	+0.3
LVC	Limon Verde	13.71	17	Pn	Pn	14 49 27.4	+0.6
USHA	Ushuaia	19.24	172	P	P	14 50 34.7	-1.1
	0.3nm,0.3s,baz=317,slow=6.9,SNR=2.1						
LPAZ	La Paz	20.01	14	P	P	14 50 45.4	+0.2
	0.3nm,0.3s,baz=184,slow=9.8,SNR=2.6						
LPAZ	La Paz	20.01	14	eP	P	14 50 44.1	-1.0
	7.6nm,0.8s						
SIV	San Ignacio	22.53	32	P	P	14 51 11.1	-0.6
	16nm,0.8s,baz=241,slow=15,SNR=4.0						
SAML	Samuel	28.29	21	eP	P	14 52 03.9	-1.2
	4.7nm,0.8s						
OTAV	Otavalo	36.27	351	P	P	14 53 17.5	+2.1
	58nm,1.6s						
PAYG	Puerto Ayora	38.48	332	eP	P	14 53 33.3	-0.4
	21nm,0.9s						
SDV	Santo Domingo	44.58	4	eP	P	14 54 22.2	-1.7
RCBR	Riachuelo	45.39	58	eP	P	14 54 28.8	-1.4
JTS	JuntasAbangare	47.25	344	P	P	14 54 44.5	-0.2
SNAA	Sanae	50.20	157	P	P	14 55 08.2	+1.4
	11nm,0.9s,baz=297,slow=6.9,SNR=6.1						
QSPA	South Pole Qui	54.37	180	P	P	14 55 39.0	+1.1
	14nm,0.9s,baz=158,slow=6.5,SNR=7.1						
QSPA	South Pole Qui	54.37	180	eP	P	14 55 39.0	+1.0
TEIG	Tepich	57.61	343	eP	P	14 56 01.1	-0.3
TXAR	Lajitas Array	70.95	332	P	P	14 57 28.7	-0.1
	1.2nm,0.8s,baz=149,slow=6.0,SNR=4.4						
DBIC	Dimbokro	76.62	72	P	P	14 58 03.0	+0.6
	16nm,0.7s,baz=207,slow=6.4,SNR=7.7						
DBIC	Dimbokro	76.62	72	eP	P	14 58 02.2	-0.1
	11nm,0.6s						
ANMO	Albuquerque	77.01	332	eP	P	14 58 04.8	+0.6
	6.7nm,1.1s						
BOSA	Boshof	79.99	118	P	P	14 58 21.5	+0.5
	16nm,0.8s,baz=215,slow=3.7,SNR=6.6						
ECSD	EROS Data Cent	82.06	343	eP	P	14 58 30.7	-0.6
	17nm,1.1s						
NVAR	Mina Array Bea	84.92	326	P	P	14 58 47.2	+0.8
	1.2nm,0.7s,baz=153,slow=5.6,SNR=3.8						
PDAR	Pinedale Array	85.04	334	P	P	14 58 48.4	+1.5
	0.7nm,0.7s,baz=177,slow=5.0,SNR=3.1						
TORD	Torodi Ar. Bea	85.68	71	P	P	14 58 50.7	+0.2
	5.7nm,0.9s,baz=251,slow=4.6,SNR=3.9						
ULM	Lac du Bonnet	88.08	346	P	P	14 59 00.2	-1.1
	5.0nm,0.8s,baz=102,slow=3.4,SNR=3.6						
DGMT	Dagmar	88.42	340	eP	P	14 59 02.5	-0.5
	26nm,1.1s						
MOD	Modoc	88.63	327	eP	P	14 59 05.0	+0.7
	6.1nm,0.8s						
YKA	Yellowknife Ar	103.54	342	Pdiff	Pdif	15 00 12.7	+1.3
	0.4nm,0.7s,baz=137,slow=3.0,SNR=4.2						
WRA	Warramunga Arr	118.69	210	PKP	PKPdf	15 04 59.1	-0.8
	0.5nm,0.6s,baz=156,slow=1.7,SNR=4.6						
BRTR	Keskin Array B	123.51	62	PKP	PKPdf	15 05 08.5	-0.1
	0.7nm,0.7s,baz=205,slow=2.1,SNR=2.9						
ZALV	Zalesovo Beam	156.28	33	PKPab	PKPab	15 06 34.1	+0.7
	5.1nm,0.7s,baz=304,slow=5.7,SNR=3.9						
MKAR	Makanchi Array	158.65	52	PKPab	PKPab	15 06 43.9	-0.1
	2.4nm,0.8s,baz=290,slow=3.5,SNR=3.7						
SONM	Songino Array	168.04	2	PKPab	PKPab	15 07 25.0	-0.1
	1.0nm,0.8s,baz=340,slow=5.5,SNR=3.5						

IDC 27 14:49:22.6±2.4, 36.61S×73.22W, h0km, mb3.9/5, mb1 4.3/5, mb1mx4.1/15, mbtmp3.9/5, Error ellipse: s-maj=73.3km s-min=47.8km az=20.0
ISC 27 14:49:26.8±2.1, 36.6S±0.4×73.2W±0.3, h25km, n9, σ0.49/6, mb4.0/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	20.67	14	P	P	14 54 05.7	+0.2
	2.5nm,0.7s,baz=220,slow=7.8,SNR=2.7						
TXAR	Lajitas Array	71.53	332	P	P	15 00 45.2	-0.4
	0.7nm,0.6s,baz=161,slow=8.5,SNR=5.5						
NVAR	Mina Array Bea	85.46	326	P	P	15 02 03.0	+0.7
	0.5nm,0.6s,baz=151,slow=5.8,SNR=3.9						
PDAR	Pinedale Array	85.63	334	P	P	15 02 03.0	-0.2
	1.6nm,1.1s,baz=130,slow=6.0,SNR=3.8						
TORD	Torodi Ar. Bea	85.94	71	P	P	15 02 05.1	+0.1
	1.2nm,0.9s,baz=219,slow=5.1,SNR=2.6						
H11N3	WAKE ISLAND Hy	125.26	269	T	T	17 25 44.5	
	baz=112,slow=74,SNR=17						
H11N1	WAKE ISLAND Hy	125.27	269	T	T	17 25 45.4	
	baz=112,slow=74,SNR=32						
H11N2	WAKE ISLAND Hy	125.28	269	T	T	17 25 48.2	
	baz=112						
MKAR	Makanchi Array	159.08	53	PKPab	PKPab	15 09 58.8	-0.3
	0.4nm,0.8s,baz=320,slow=4.2,SNR=2.6						

ISCJB 27 14:52:04.2±0.3, 38.00S±0.07×73.30W±0.09, h22km, mb4.6/15, Error ellipse: s-maj=12.2km s-min=7.2km az=141.1
IDC 27 14:52:06.2±0.7, 38.04S×73.20W, h25km±4km, mb4.4/11, mb1 4.5/14, mb1mx4.4/21, mbtmp4.5/14, ML4.7/3, Error ellipse: s-maj=23.1km s-min=13.2km az=72.0
NEIC 27 14:52:07.2±0.3, 37.97S×73.38W, h35km, mb5.0/6, Error ellipse: s-maj=10.5km s-min=7.2km az=72.0
ISC 27 14:52:05.4±0.5, 38.01S±0.08×73.4W±0.1, h22km, n112, σ0.90/120, mb4.5/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.49	142	Pn	Pn	14 52 59.3	+0.9
	27nm,0.3s,baz=312,slow=11,SNR=8.8						
PLCA				Lg	Lg	14 53 52.0	
	30nm,0.3s,baz=36,slow=17,SNR=5.6						
PLCA	Paso Flores	3.49	142	ePn	Pn	14 52 59.6	+1.2
PLCA				Lg	Lg	14 53 52.0	
TRQA	Tornquist	8.99	94	ePn	Pn	14 54 14.9	+1.0
	49nm,0.8s						
USHA	Ushuaia	17.16	170	P	P	14 56 05.3	+0.2
	0.3nm,0.3s,baz=314,slow=9.4,SNR=2.2						
CPUP	Villa Florida	17.86	54	P	P	14 56 13.8	+0.8
	1.3nm,0.3s,baz=197,slow=9.0,SNR=3.6						
LPAZ	La Paz	22.13	13	P	P	14 57 01.3	+1.2
	6.6nm,0.8s,baz=204,slow=8.6,SNR=4.1						
LPAZ	La Paz	22.13	13	eP	P	14 56 59.4	-0.7
	20nm,0.9s						
SIV	San Ignacio	24.47	30	P	P	14 57 23.4	+0.5
	8.8nm,0.8s,baz=192,slow=7.0,SNR=6.0						
BDFB	Brasilia	31.57	52	P	P	14 58 26.3	-0.2
	5.7nm,0.7s,baz=202,slow=11,SNR=3.1						
OTAV	Otavalo	38.35	352	eP	P	14 59 24.9	-0.4
SNAA	Sanae	48.32	156	P	P	15 00 45.0	+0.3
	4.3nm,0.9s,baz=274,slow=7.6,SNR=13						
QSPA	South Pole Qui	52.23	180	P	P	15 01 14.8	+0.2
	3.3nm,0.7s,baz=140,slow=2.2,SNR=9.4						
532A	Rocksprings	72.18	336	P	P	15 03 29.6	+1.2
	baz=72						
434A	Burnet	72.31	338	P	P	15 03 30.2	+1.1
	baz=73						
531A	Rocksprings	72.42	335	P	P	15 03 30.8	+0.9
	baz=73						
336A	Riesel	72.43	339	P	P	15 03 30.9	+1.1
	baz=73						
JCT	Junction City	72.47	336	eP	P	15 03 30.7	+0.5
	23nm,1.2s						
433A	Art	72.51	337	P	P	15 03 31.1	+0.8
	baz=73						
530A	J-C Ranch, Com	72.67	335	P	P	15 03 32.7	+1.4
	baz=73						
TXAR	Lajitas Array	72.74	333	P	P	15 03 32.8	+0.9
	1.3nm,0.8s,baz=158,slow=8.2,SNR=6.9						
TXAR				pP	pP	15 03 39.9	+0.9
	2.6nm,0.7s,baz=152,slow=7.9,SNR=8.6						
334A	Lometa	72.79	338	P	P	15 03 32.9	+0.9
	baz=73						
431A	Sonora	72.92	336	P	P	15 03 34.5	+1.7
	baz=73						
333A	Richland Sprin	73.00	337	P	P	15 03 34.1	+0.9
	baz=73						
430A	Baggett Ranch,	73.22	335	P	P	15 03 35.1	+0.5
	baz=74						
332A	Millersview	73.29	337	P	P	15 03 35.5	+0.6
	baz=74						
429A	Davenport Ranc	73.30	335	P	P	15 03 36.0	+1.0
	baz=74						
331A	San Angelo	73.44	336	P	P	15 03 36.6	+0.7
	baz=74						
232A	Coleman	73.73	337	P	P	15 03 38.1	+0.6
	baz=74						
330A	Mertzon	73.77	335	P	P	15 03 38.1	+0.3
	baz=74						
231A	Bronte	73.98	336	P	P	15 03 39.5	+0.4
	baz=74						
329A	Wagon Wheel Ra	74.11	335	P	P	15 03 40.3	+0.5
	baz=74						
133A	Hamilton Ranch	74.18	338	P	P	15 03 40.8	+0.6
	baz=74						
ABTX	Abilene, Hawle	74.41	337	P	P	15 03 42.0	+0.5
	baz=75						
229A	Bryant Ranch,	74.50	335	P	P	15 03 42.8	+0.7
	baz=75						
131A	Roby	74.69	337	P	P	15 03 43.8	+0.7
	baz=75						
Z33A	Whitaker Ranch	74.77	338	P	P	15 03 44.1	+0.5
	baz=75						
130A	Snyder	74.80	336	P	P	15 03 43.8	0.0
	baz=75						
228A	UT Block 9, Go	74.90	335	P	P	15 03 44.5	+0.1
	baz=75						
Z32A	Haskell	75.00	338	P	P	15 03 45.3	+0.4
	baz=75						
Z31A	Sharp Cattle R	75.21	337	P	P	15 03 46.8	+0.7
	baz=76						
128A	Castleberry Fa	75.32	335	P	P	15 03 47.5	+0.7
	baz=76						
Y33A	Hilltop Ranch,	75.40	339	P	P	15 03 48.0	+0.9
	baz=76						
Z30A	Sanderson Ranc	75.49	336	P	P	15 03 48.0	+0.2
	baz=76						
Z29A	Hungry Hill Ra	75.65	336	P	P	15 03 49.2	+0.5
	baz=76						
X31A	McDonald Ranch	76.38	338	P	P	15 03 53.7	+0.9
	baz=77						
W33A	Caddo, Fort Co	76.43	339	P	P	15 03 53.9	+0.9
	baz=77						
TUL1	Tulsa	76.43	341	P	P	15 03 53.2	+0.3
	baz=77						
X30A	Coker Ranch, T	76.48	337	P	P	15 03 54.1	+0.7
	baz=77						
W32A	Sentinel	76.62	338	P	P	15 03 54.9	+0.8
	baz=77						
X29A	Tulia	76.74	336	P	P	15 03 55.7	+0.8
	baz=77						
V33A	Lossen Ranch,	77.00	339	P	P	15 03 57.3	+1.1
	baz=77						
AMTX	Amarillo	77.14	336	P	P	15 03 57.8	+0.7
	baz=77						
Y25A	Mesa, Roswell	77.26	334	P	P	15 03 59.2	+1.3
	baz=78						
V31A	Spring Creek L	77.40	338	P	P	15 04 00.2	+1.7
	baz=78						
DBIC	Dimbokro	77.49	71	P	P	15 03 58.4	-1.1
	26nm,0.9s,baz=168,slow=13,SNR=19						
DBIC	Dimbokro	77.49	71	eP	P	15 03 58.0	-1.5
	28nm,0.9s						
Y24A	Capitan	77.53	333	P	P	15 04 00.8	+1.3
	baz=78						
W27A	Bowe Ranch, En	77.75	335	P	P	15 04 01.3	+0.8
	baz=78						
X25A	Clemmons Ranch	77.80	334	P	P	15 04 01.5	+0.6
	baz=78						
W25A	X Bar L Ranch,	78.36	334	P	P	15 04 04.4	+0.4
	baz=79						
V26A	Tequesquite Ra	78.66	335	P	P	15 04 06.5	+0.9
	baz=79						
ANMO	Albuquerque	78.81	333	P	P	15 04 06.1	-0.5
	7.4nm,1.5s						
W23A	Werner Place,	78.89	333	P	P	15 04 07.9	+0.9
	baz=79						
U27A	Thompson Grove	78.92	336	P	P	15 04 08.0	+1.0
	baz=79						
V25A	Rancho No Teng	78.97	335	P	P	15 04 07.9	+0.4
	baz=79						
V24A	Rampart Ranch,	79.10	334	P	P	15 04 09.4	+1.2
	baz=79						
TSUM	Tsumeb	79.16	106	P	P	15 04 07.5	-1.4
	2.9nm,1.0s,baz=257,slow=8.1,SNR=4.0						
BOSA	Boshof	79.17	118	P	P	15 04 07.1	-1.7
	7.5nm,0.9s,baz=196,slow=7.4,SNR=6.6						
BOSA	Boshof	79.17	118	eP	P	15 04 08.5	-0.3
T28A	Walsh	79.33	337	P	P	15 04 09.4	+0.1
	baz=80						
R31A	Burdett	79.66	339	P	P	15 04 11.5	+0.6
	baz=80						
T26A	Comanche Natio	79.85	336	P	P	15 04 13.0	+0.9
	baz=80						
T25A	Trinidad	80.08	335	P	P	15 04 14.9	+1.4
	baz=80						
S26A	Kim	80.22	336	P	P	15 04 15.2	+1.1
	baz=80						
S25A	Robets Cordova	80.57	335	P	P	15 04 17.1	+1.0
	baz=81						
R27A	Eads	80.62	337	P	P	15 04 17.2	+1.0
	baz=81						
S24A	Houchin Ranch,	80.81	335	P	P	15 04 18.0	+0.6
	baz=81						
R26A	Arlington	80.83	336	P	P	15 04 18.2	+0.9
	baz=81						
R24A	Sanders Place,	81.31	335	P	P	15 04 20.9	+0.9
	baz=82						
ECSD	EROS Data Cent	84.05	343	P	P	15 04 33.2	-0.6
	23nm,1.0s						
DUG	Dugway	85.81	331	eP	P	15 04 41.5	-1.5
	10nm,0.9s						
TOA0	Torodi Ar. Sit	86.58	71	eP	P	15 04 46.6	-0.6
TORD	Torodi Ar. Bea	86.58	71	P	P	15 04 47.1	-0.1
	7.8nm,0.9s,baz=231,slow=4.2,SNR=21						
TORD				pP	pP	15 04 55.3	+0.9
	5.2nm,0.7s,baz=230,slow=4.3,SNR=10						
PDAR	Pinedale Array	86.87	334	P	P	15 04 48.5	+0.2
	1.3nm,1.0s,baz=140,slow=7.2,SNR=4.6						
GERES	GERESS Array B	115.70	47	PKP	PKPdf	15 10 45.4	-0.1
	1.6nm,0.8s,baz=221,slow=1.4,SNR=9.6						
ILAR	Eielson Array	117.26	332	PKP	PKPdf	15 10 47.6	-0.3
	0.3nm,0.8s,baz=142,slow=2.5,SNR=3.6						
ILAR				pPKP	pPKPdf	15 10 55.9	+0.5
	0.4nm,0.8s,baz=207,slow=2.7,SNR=3.5						
BRTR	Keskin Array B	124.65	64	PKP	PKPdf	15 11 03.2	+0.2
	1.8nm,0.8s,baz=197,slow=3.6,SNR=11						
BRTR				pPKP	pPKPdf	15 11 13.2	+2.6
	1.1nm,0.8s,baz=285,slow=1.5,SNR=3.9						
AKASG	Malin Array Be	125.65	50	PKP	PKPdf	15 11 03.8	-0.6
	0.7nm,0.4s,baz=264,slow=2.8,SNR=6.8						
FINES	FINESS Array B	126.88	36	PKP	PKPdf	15 11 06.2	-0.1
	1.6nm,0.7s,baz=151,slow=3.2,SNR=9.0						
GEYT	Alibeck	142.11	75	PKP	PKPdf	15 11 36.4	+0.7
	1.7nm,0.8s,baz=282,slow=7.4,SNR=4.0						
TIXI	Tiksi	144.41	348	ePKPdf	PKPab	15 11 36.0	-0.9
ABKAR	Akbulak array	144.92	56	ePKPdf	PKPbc	15 11 39.5	+0.1
POO	Poona	145.47	115	eP	PKPdf	15 11 41.0	-1.1
HYB	Hyderabad	147.98	122	iP	PKPbc	15 11 48.0	-1.4
BRVK	Borovoye	150.80	47	ePKPbc	PKPbc	15 11 56.3	+1.0
KKAR	Karatay Array	152.24	68	ePKPbc	PKPbc	15 11 58.9	-0.2
ZALV	Zalesovo Beam	158.14	36	PKP	PKPdf	15 11 59.0	-0.9
	2.6nm,0.8s,baz=270,slow=1.5,SNR=8.6						
ZALV				PKPbc	PKPbc	15 12 11.4	
	1.2nm,0.5s,baz=327,slow=3.7,SNR=4.1						
ZALV				PKPab	PKPab	15 12 33.9	+0.2
	2.4nm,0.7s,baz=306,slow=5.1,SNR=5.1						
KOLN	Koldanda	158.18	111	eP	PKPab	15 12 34.2	-0.8
DANN	Dangsing	158.62	110	eP	PKPab	15 12 35.8	-1.2
GKN	Gorkha	159.07	112	eP	PKPab	15 12 37.7	-1.1
DMN	Daman	159.19	114	eP	PKPab	15 12 38.4	-1.1
	17nm,0.9s						
PKIN	Phulchoki	159.38	114	eP	PKPab	15 12 39.2	-1.1
	9.1nm,0.5s						
PKI	Pulchoki	159.39	114	eP	PKPab	15 12 39.3	-1.1
	11nm,0.6s						
CMAR	Chiang Mai Arr	159.39	159	PKPbc	PKPdf	15 12 12.4	+10
	0.5nm,0.7s,baz=223,slow=1.0,SNR=4.4						
CMAR				PKPab	PKPab	15 12 41.1	+1.1
	0.3nm,0.8s,baz=178,slow=6.0,SNR=4.1						
KKN	Kakani	159.42	113	eP	PKPab	15 12 39.3	-1.1
	19nm,1.0s						
RAMN	Ramite	159.87	117	eP	PKPab	15 12 41.6	-0.8
	9.6nm,0.7s						
GUN	Gumba	159.93	114	eP	PKPab	15 12 41.9	-0.8
JIRN	Jiri	160.00	115	eP	PKPab	15 12 42.1	-1.0
	11nm,0.7s						
MKAR	Makanchi Array	160.06	56	PKP	PKPdf	15 12 02.9	+0.4
	0.9nm,0.8s,baz=298,slow=2.6,SNR=4.2						
MKAR				pPKP	pPKPdf	15 12 11.1	+1.2
	1.2nm,0.8s,baz=325,slow=3.4,SNR=3.8						
MKAR				PKPab	PKPab	15 12 42.6	+0.2
	1.3nm,0.7s,baz=286,slow=2.8,SNR=9.8						
MKAR				pPKPab	pPKPab	15 12 50.1	+0.4
	2.1nm,0.9s,baz=290,slow=3.2,SNR=4.5						
MKAR				PP	PP	15 16 26.2	+1.3
	0.8nm,0.8s,baz=284,slow=4.9,SNR=3.6						
ODAN	Odare	160.36	119	eP	PKPab	15 12 43.4	-1.1
TAPN	Taplejung	160.89	118	eP	PKPab	15 12 46.3	-0.6
	5.5nm,0.9s						
SONM	Songino Array	170.18	1	PKPab	PKPab	15 13 27.5	+0.7
	1.1nm,0.9s,baz=344,slow=6.1,SNR=5.1						

IDC 27 14:54:58.2±0.6, 37.96S×75.07W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.3/27, mbtmp4.3/10, Error ellipse: s-maj=31.5km s-min=18.9km az=75.0
ISCJB 27 14:55:01.9±0.7, 37.85S±0.08×75.2W±0.1, h33km, mb4.3/10, Error ellipse: s-maj=17.2km s-min=8.3km az=146.3
NEIC 27 14:55:03.5±0.4, 37.93S×75.18W, h35km, mb4.9/2, Error ellipse: s-maj=12.9km s-min=8.6km az=64.0
ISC 27 14:55:03.5±0.6, 37.85S±0.09×75.3W±0.1, h35km, n29, σ0.99/30, mb4.4/10, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.65	130	Pn	Pn	14 56 13.8	+2.5
	5.9nm,0.3s,baz=292,slow=18,SNR=4.4						
PLCA				Sn	Sn	14 57 05.5	+1.4
	16nm,0.3s,baz=16,slow=17,SNR=4.6						
PLCA	Paso Flores	4.65	130	ePn	Pn	14 56 10.7	-0.6
PLCA				Sn	Sn	14 57 05.5	+1.4
TRQA	Tornquist	10.49	95	ePn	Pn	14 57 31.2	-0.2
LVC	Limon Verde	16.14	22	Pn	Pn	14 58 47.8	-0.1
	5.0nm,0.8s						
LPAZ	La Paz	22.38	18	P	P	14 59 59.1	-0.4
	6.3nm,1.0s,baz=243,slow=6.8,SNR=3.2						
SAML	Samuel	30.77	24	eP	P	15 01 15.7	0.0
SDV	Santo Domingo	46.69	6	P	P	15 03 28.6	-0.6
SNAA	Sanae	49.06	156	P	P	15 03 46.0	-0.8
	3.4nm,0.8s,baz=278,slow=5.8,SNR=7.6						
SNAA	Sanae	49.06	156	eP	P	15 03 45.5	-1.3
	16nm,1.1s						
QSPA	South Pole Qui	52.39	180	P	P	15 04 11.6	-0.5
	9.1nm,0.9s,baz=147,slow=7.2,SNR=6.7						
QSPA	South Pole Qui	52.39	180	eP	P	15 04 11.7	-0.4
	12nm,1.1s						
TXAR	Lajitas Array	71.93	334	P	P	15 06 24.5	+1.2
	1.4nm,0.8s,baz=154,slow=8.6,SNR=7.0						
DBIC	Dimbokro	78.86	73	P	P	15 07 03.2	-0.1
	3.6nm,0.6s,baz=185,slow=7.4,SNR=4.7						
BOSA	Boshof	80.55	119	P	P	15 07 11.4	-1.2
	2.6nm,0.7s,baz=238,slow=4.5,SNR=4.1						
NVAR	Mina Array Bea	85.63	327	P	P	15 07 40.4	+1.9
	0.5nm,0.7s,baz=174,slow=3.6,SNR=3.8						
PDAR	Pinedale Array	86.09	335	P	P	15 07 41.5	+0.8
	5.1nm,1.1s,baz=158,slow=5.9,SNR=10						
TORD	Torodi Ar. Bea	87.94	72	P	P	15 07 48.8	-1.2
	1.6nm,0.9s,baz=231,slow=3.1,SNR=4.1						
ULM	Lac du Bonnet	89.59	347	P	P	15 07 57.1	+0.3
	2.8nm,0.8s,baz=181,slow=2.8,SNR=4.5						
ILAR	Eielson Array	116.43	333	PKP	PKPdf	15 13 42.3	-0.2
	0.3nm,0.8s,baz=158,slow=1.0,SNR=3.1						
BRTR	Keskin Array B	125.92	64	PKP	PKPdf	15 14 01.5	-0.2
	0.4nm,0.8s,baz=178,slow=6.8,SNR=2.8						
GEYT	Alibeck	143.50	75	PKP	PKPbc	15 14 31.5	-0.2
	2.5nm,0.6s,baz=247,slow=7.7,SNR=5.5						
PSI	Prapat	144.71	170	PKP	PKPab	15 14 34.9	-1.1
	13nm,0.7s,baz=171,slow=4.5,SNR=11						
ASAJ	Asahikawa	150.94	295	PKPbc	PKPbc	15 14 52.4	+0.3
	4.9nm,0.6s,baz=72,slow=5.5,SNR=8.5						
BVAR	Borovoye Array	151.85	46	PKPbc	PKPbc	15 14 54.5	+0.5
	1.7nm,0.6s,baz=303,slow=3.2,SNR=5.5						
AAK	Ala-Archa	156.49	69	PKPab	PKPab	15 15 23.5	0.0
	1.5nm,0.9s,baz=215,slow=2.7,SNR=3.6						
ZALV	Zalesovo Beam	158.87	34	PKPab	PKPab	15 15 33.9	+0.8
	2.9nm,0.8s,baz=305,slow=5.2,SNR=6.7						
CMAR	Chiang Mai Arr	160.02	164	PKPab	PKPab	15 15 37.9	-1.0
	0.3nm,0.7s,baz=215,slow=3.0,SNR=3.4						
MKAR	Makanchi Array	161.19	54	PKPab	PKPab	15 15 43.7	+0.1
	0.6nm,0.8s,baz=268,slow=4.7,SNR=3.4						
SONM	Songino Array	169.95	354	PKPab	PKPab	15 16 22.9	+0.9
	0.4nm,0.9s,baz=350,slow=7.5,SNR=3.0						

IDC 27 14:56:46.7±0.8, 38.05S×73.57W, h0km, mb4.2/8, mb1 4.5/10, mb1mx4.3/26, mbtmp4.3/10, ML5.2/1, Error ellipse: s-maj=34.6km s-min=18.9km az=68.0
ISCJB 27 14:56:48.9±0.7, 38.02S±0.08×73.5W±0.2, h22km, mb4.2/9, Error ellipse: s-maj=18.7km s-min=10.4km az=162.6
NEIC 27 14:56:51.9±0.5, 38.05S×73.54W, h35km, mb4.1/1, Error ellipse: s-maj=14.9km s-min=8.3km az=74.0
ISC 27 14:56:50.1±0.7, 38.10S±0.09×73.6W±0.2, h22km, n27, σ1.19/23, mb4.1/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.54	139	Pn	Pn	14 57 45.0	+1.2
	49nm,0.3s,baz=314,slow=15,SNR=9.7						
PLCA				Lg	Lg	14 58 32.5	
	27nm,0.3s,baz=15,slow=23,SNR=3.2						
PLCA	Paso Flores	3.54	139	ePn	Pn	14 57 44.0	+0.2
PLCA				Lg	Lg	14 58 32.5	
TRQA	Tornquist	9.18	93	ePn	Pn	14 59 01.7	+0.5
LVC	Limon Verde	15.96	16	Pn	Pn	15 00 32.6	-1.0
	14nm,0.9s						
USHA	Ushuaia	17.10	170	P	P	15 00 49.5	+0.3
	0.2nm,0.3s,baz=304,slow=10.0,SNR=3.4						
LPAZ	La Paz	22.26	14	P	P	15 01 50.3	+4.0
	4.6nm,0.8s,baz=182,slow=9.6,SNR=2.9						
SIV	San Ignacio	24.65	30	P	P	15 02 09.0	-0.2
	3.8nm,1.0s,baz=250,slow=12,SNR=2.4						
SDV	Santo Domingo	46.83	4	eP	P	15 05 17.9	-0.8

SNAA Sanae 48.31 156 P P 15 05 28.8 -0.6
1.4nm,0.8s,baz=285,slow=10,SNR=4.2
TXAR Lajitas Array 72.74 333 P P 15 08 16.7 +0.2
1.7nm,0.7s,baz=152,slow=8.0,SNR=10
DBIC Dimbokro 77.70 71 P P 15 08 45.8 +0.4
4.2nm,0.6s,baz=200,slow=4.7,SNR=7.5
BOSA Boshof 79.29 118 P P 15 08 54.7 +0.4
3.9nm,0.7s,baz=158,slow=2.3,SNR=4.1
NVAR Mina Array Bea 86.55 326 P P 15 09 32.3 +0.8
0.7nm,0.6s,baz=155,slow=5.8,SNR=4.1
TORD Torodi Ar. Bea 86.79 71 P P 15 09 32.0 -1.0
1.7nm,0.8s,baz=227,slow=4.0,SNR=4.8
PDAR Pinedale Array 86.87 334 P P 15 09 32.6 -0.4
1.0nm,0.8s,baz=142,slow=5.6,SNR=6.3
GERES GERESS Array B 115.91 47 PKP PKPdf 15 15 29.1 -1.5
0.5nm,0.8s,baz=256,slow=5.4,SNR=3.6
H11S2 WAKE ISLAND Hy 124.36 267 T T 17 31 59.9
baz=126,slow=75,SNR=6.3
H11S1 WAKE ISLAND Hy 124.38 267 T T 17 32 01.0
baz=126,slow=75,SNR=4.9
H11S3 WAKE ISLAND Hy 124.38 267 T T 17 32 01.2
baz=126,slow=75,SNR=4.5
SEY Seymchan 142.86 327 PKhKP PKPpre 15 16 16.6
0.9nm,0.5s,baz=97,slow=8.6,SNR=3.8
PSI Prapat 144.21 167 PKP PKPab 15 16 22.8 +0.1
2.3nm,0.3s,baz=186,slow=9.2,SNR=3.3
BVAR Borovoye Array 151.08 47 PKPbc PKPbc 15 16 40.4 -0.4
1.7nm,0.6s,baz=292,slow=4.0,SNR=7.4
AAK Ala-Archa 155.37 69 PKPab PKPab 15 17 06.4 -0.8
1.0nm,0.5s,baz=200,slow=8.6,SNR=4.5
ZALV Zalesovo Beam 158.33 36 PKPab PKPab 15 17 19.6 +0.3
0.8nm,0.5s,baz=305,slow=5.1,SNR=4.2
CMAR Chiang Mai Arr 159.37 160 PKPab PKPab 15 17 25.1 +0.4
0.2nm,0.4s,baz=216,slow=5.5,SNR=3.7
MKAR Makanchi Array 160.27 56 PKPab PKPab 15 17 26.4 -1.6
0.3nm,0.6s,baz=277,slow=2.5,SNR=2.4
SONM Songino Array 170.27 360 PKPab PKPab 15 18 12.7 +0.6
0.6nm,0.8s,baz=340,slow=4.3,SNR=4.8

ISCJB 27 15:00:10.5±0.6, 37.°22S±0.°07×72.°8W±0.°1, h33km, mb4.3/15, Error ellipse: s-maj=15.1km s-min=9.2km az=161.9
NEIC 27 15:00:12.8±0.4, 37.°19S×72.°78W, h35km, mb4.8/3, Error ellipse: s-maj=14.7km s-min=10.1km az=71.0
IDC 27 15:00:12.9±0.6, 37.°40S×73.°22W, h35km±4km, mb4.0/10, mb1 4.2/10, mb1mx4.1/17, mbtmp4.3/10, Error ellipse: s-maj=26.1km s-min=16.4km az=64.0
ISC 27 15:00:12.6±0.5, 37.°23S±0.°07×72.°9W±0.°1, h33km, n36, σ1§37/49, mb4.4/15, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.93	154	ePn	Pn	15 01 10.1	-0.5
TRQA	Tornquist	8.66	99	ePn	Pn	15 02 13.8	-1.8
LVC	Limon Verde	14.96	14	ePn	Pn	15 03 41.5	-0.4
CPUP	Villa Florida	17.07	55	Pn	Pn	15 04 08.5	-0.1
	3.0nm,0.3s,baz=215,slow=16,SNR=2.0						
LPAZ	La Paz	21.27	13	P	P	15 04 55.0	-1.8
	6.9nm,0.8s,baz=194,slow=8.2,SNR=7.5						
SIV	San Ignacio	23.59	29	P	P	15 05 18.0	-2.4
	11nm,0.9s,baz=219,slow=10,SNR=11						
SAML	Samuel	29.49	20	eP	P	15 06 11.9	-1.8
OTAV	Otavalo	37.64	351	eP	P	15 07 25.2	+0.1
SDV	Santo Domingo	45.92	3	eP	P	15 08 30.6	-1.7
	1.4nm,0.5s						
JTS	JuntasAbangare	48.62	344	P	P	15 08 52.1	-1.1
	2.9nm,0.8s,baz=193,slow=13,SNR=3.4						
JTS	JuntasAbangare	48.62	344	eP	P	15 08 52.6	-0.6
SNAA	Sanae	48.87	157	P	P	15 08 53.5	-1.1
	1.5nm,0.9s,baz=269,slow=6.6,SNR=4.5						
QSPA	South Pole Qui	53.01	180	P	P	15 09 23.3	-2.6
	1.8nm,0.9s,baz=161,slow=4.4,SNR=2.8						
QSPA				pP	pP	15 09 34.6	-1.3
	11nm,1.0s,baz=148,slow=3.9,SNR=12						
QSPA	South Pole Qui	53.01	180	P	P	15 09 24.7	-1.2
	13nm,1.1s						
QSPA				pP	pP	15 09 34.6	-1.3
TXAR	Lajitas Array	72.25	332	P	P	15 11 33.2	-1.3
	1.6nm,0.8s,baz=150,slow=7.9,SNR=13						
TXAR				pP	pP	15 11 45.7	+0.9
	1.2nm,0.7s,baz=162,slow=9.5,SNR=7.9						
WVT	Waverly	74.30	347	eP	P	15 11 45.9	-0.5
DBIC	Dimbokro	76.84	71	P	P	15 12 02.2	+0.8
	4.9nm,0.7s,baz=229,slow=3.7,SNR=6.8						
DBIC				pP	PcP	15 12 13.1	+0.5
	7.0nm,0.6s,baz=215,slow=4.9,SNR=6.1						
ANMO	Albuquerque	78.31	332	eP	P	15 12 09.4	0.0
	28nm,2.2s						
BOSA	Boshof	79.16	118	P	P	15 12 15.3	+1.0
	3.6nm,0.9s,baz=195,slow=2.5,SNR=3.2						
BOSA				pP	pP	15 12 27.5	+2.8
	3.8nm,0.8s,baz=199,slow=9.0,SNR=2.9						
LBTB	Lobatse	81.55	115	eP	P	15 12 27.0	-0.2
	7.5nm,0.8s						
TORD	Torodi Ar. Bea	85.93	70	P	P	15 12 51.6	+2.1
	1.5nm,0.8s,baz=251,slow=4.8,SNR=6.3						
TORD				pP	pP	15 13 01.5	+1.5
	1.7nm,0.8s,baz=241,slow=3.7,SNR=4.3						
NVAR	Mina Array Bea	86.17	326	P	P	15 12 51.1	+0.6
	1.6nm,0.8s,baz=158,slow=5.8,SNR=7.8						
NVAR				pP	pP	15 13 02.9	+1.9
	1.4nm,0.5s,baz=174,slow=5.1,SNR=3.0						
PDAR	Pinedale Array	86.35	334	P	P	15 12 51.4	+0.1
	1.0nm,0.8s,baz=152,slow=4.9,SNR=6.8						
ULM	Lac du Bonnet	89.45	345	P	P	15 13 04.5	-1.0
	2.7nm,0.7s,baz=243,slow=1.1,SNR=3.8						
WRA	Warramunga Arr	117.62	209	PKP	PKPdf	15 18 57.2	+1.5
	0.8nm,0.9s,baz=154,slow=1.8,SNR=4.0						
BRTR	Keskin Array B	123.93	63	PKP	PKPdf	15 19 07.3	+0.1
	0.7nm,0.8s,baz=188,slow=0.7,SNR=4.0						
AKASG	Malin Array Be	124.83	49	PKP	PKPdf	15 19 08.1	-0.3
	1.2nm,0.7s,baz=259,slow=2.5,SNR=7.4						
SEY	Seymchan	142.45	328	PKP	PKPdf	15 19 42.0	+1.1
	2.6nm,0.9s,baz=96,slow=9.2,SNR=6.4						
PSI	Prapat	144.91	166	PKP	PKPab	15 19 44.1	-1.9
	8.9nm,0.8s,baz=129,slow=2.2,SNR=6.8						
PSI				pPKP	pPKPdf	15 19 58.0	+0.2
	6.5nm,0.7s,baz=162,slow=7.2,SNR=4.0						
HYB	Hyderabad	148.03	120	i PKP	PKPbc	15 19 54.0	-1.1
BVAR	Borovoye Array	150.04	46	PKPbc	PKPbc	15 20 00.4	+1.3
	2.9nm,0.7s,baz=274,slow=4.1,SNR=14						
AAK	Ala-Archa	154.48	68	PKP	PKPdf	15 20 02.4	+1.2
	1.2nm,0.8s,baz=162,slow=3.2,SNR=3.1						
AAK				PKPbc	PKiKP	15 20 11.3	+1.6
	1.3nm,0.8s,baz=260,slow=6.4,SNR=3.3						
AAK				PKPab	PKPab	15 20 26.7	+2.4
	3.2nm,0.6s,baz=216,slow=4.6,SNR=9.7						
ZALV	Zalesovo Beam	157.27	36	PKP	PKPdf	15 20 03.5	-0.8
	2.8nm,0.8s,baz=321,slow=2.1,SNR=9.7						
ZALV				pPKP	pPKPdf	15 20 17.0	+1.8
	1.9nm,0.7s,baz=318,slow=4.0,SNR=5.7						
ZALV				PKPab	PKPab	15 20 37.1	+1.6
	1.1nm,0.7s,baz=310,slow=5.0,SNR=4.3						
MKAR	Makanchi Array	159.28	55	PKP	PKPdf	15 20 07.1	+0.1
	1.2nm,0.9s,baz=290,slow=3.5,SNR=6.9						
MKAR				PKPab	PKPab	15 20 45.6	+1.1
	0.3nm,0.7s,baz=308,slow=2.9,SNR=4.1						
CMAR	Chiang Mai Arr	159.96	157	PKP	PKPdf	15 20 08.4	-0.3
	0.3nm,0.5s,baz=250,slow=1.8,SNR=3.1						
SONM	Songino Array	169.39	3	PKPab	PKPab	15 21 30.1	+1.2
	0.9nm,0.9s,baz=316,slow=4.4,SNR=6.7						

IDC 27 15:02:16.7±0.7, 37.°46S×73.°76W, h0km, mb4.4/11, mb1 4.5/13, mb1mx4.4/20, mbtmp4.4/13, ML4.3/2, Error ellipse: s-maj=28.6km s-min=18.4km az=52.0
ISCJB 27 15:02:20.3±0.6, 37.°43S±0.°07×73.°7W±0.°1, h33km, mb4.4/12, Error ellipse: s-maj=15.7km s-min=10.1km az=179.7
NEIC 27 15:02:21.8±0.3, 37.°42S×73.°78W, h35km, mb4.9/5, Error ellipse: s-maj=11.0km s-min=7.2km az=91.0
ISC 27 15:02:21.8±0.6, 37.°43S±0.°09×73.°8W±0.°1, h35km, n45, σ0§69/46, mb4.5/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRQA	Tornquist	9.36	97	Pn	Pn	15 04 34.8	+0.7
LVC	Limon Verde	15.35	17	ePn	Pn	15 05 56.1	+0.1
USHA	Ushuaia	17.78	170	P	P	15 06 26.7	-0.1
	0.4nm,0.3s,baz=338,slow=11,SNR=2.7						
CPUP	Villa Florida	17.79	56	P	P	15 06 27.5	+0.5
	0.4nm,0.3s,baz=199,slow=18,SNR=3.6						
CPUP	Villa Florida	17.79	56	ePn	P	15 06 27.4	+0.4
	1.2nm,0.8s						
LPAZ	La Paz	21.64	15	P	P	15 07 10.9	+1.1
	20nm,1.1s,baz=169,slow=9.5,SNR=6.4						
LPAZ	La Paz	21.64	15	eP	P	15 07 10.0	+0.2
	45nm,1.0s						
SIV	San Ignacio	24.13	31	P	P	15 07 34.4	-0.1
	8.0nm,0.9s,baz=220,slow=12,SNR=4.5						
SAML	Samuel	29.93	21	eP	P	15 08 25.2	-1.4
	6.9nm,1.2s						
BDFB	Brasilia	31.47	53	P	P	15 08 39.8	-0.5
	5.5nm,0.8s,baz=215,slow=8.5,SNR=3.7						
SDV	Santo Domingo	46.17	4	eP	P	15 10 42.4	-0.9
SNAA	Sanae	48.97	157	P	P	15 11 04.6	+0.3
	4.4nm,0.9s,baz=276,slow=5.9,SNR=9.5						
SNAA	Sanae	48.97	157	eP	P	15 11 04.5	+0.2
	37nm,1.4s						
QSPA	South Pole Qui	52.81	180	P	P	15 11 33.7	+0.4
	6.2nm,1.0s,baz=157,slow=7.0,SNR=3.9						
QSPA	South Pole Qui	52.81	180	eP	P	15 11 34.0	+0.6
	13nm,1.0s						
TXAR	Lajitas Array	72.09	333	P	P	15 13 42.5	0.0
	0.8nm,0.9s,baz=166,slow=5.6,SNR=4.0						
DBIC	Dimbokro	77.60	72	P	P	15 14 15.3	+0.7
	8.6nm,0.9s,baz=192,slow=6.4,SNR=5.8						
DBIC	Dimbokro	77.60	72	eP	P	15 14 14.7	+0.1
	12nm,0.8s						
BOSA	Boshof	79.71	118	P	P	15 14 25.9	-0.4
	4.9nm,0.9s,baz=216,slow=6.9,SNR=5.6						
NVAR	Mina Array Bea	85.93	326	P	P	15 14 59.7	+1.5
	0.2nm,0.3s,baz=140,slow=7.1,SNR=2.5						
PDAR	Pinedale Array	86.22	334	P	P	15 15 00.2	+0.7
	1.6nm,1.1s,baz=160,slow=4.7,SNR=4.8						
TORD	Torodi Ar. Bea	86.68	71	P	P	15 15 02.3	+0.1
	3.9nm,0.9s,baz=234,slow=3.8,SNR=8.4						
GERES	GERESS Array B	115.54	47	PKP	PKPdf	15 20 59.5	-0.1
	0.2nm,0.5s,baz=280,slow=12,SNR=2.3						
BRTR	Keskin Array B	124.67	63	PKP	PKPdf	15 21 16.6	-1.0
	1.2nm,0.8s,baz=208,slow=6.6,SNR=5.4						
AKASG	Malin Array Be	125.51	50	PKP	PKPdf	15 21 19.2	+0.7
	0.3nm,0.5s,baz=279,slow=1.8,SNR=2.7						
GEYT	Alibeck	142.25	74	PKhKP	PKPpre	15 21 46.7	
	1.6nm,0.8s,baz=82,slow=11,SNR=3.6						
PSI	Prapat	144.88	167	PKP	PKPab	15 21 54.1	-0.8
	9.6nm,0.9s,baz=189,slow=4.7,SNR=6.4						
HYB	Hyderabad	148.55	122	i PKP	PKPbc	15 22 04.0	-1.3
BVAR	Borovoye Array	150.71	46	PKPbc	PKPbc	15 22 10.4	+0.8
	3.7nm,0.8s,baz=276,slow=4.0,SNR=10						
AAK	Ala-Archa	155.24	68	PKPab	PKPab	15 22 36.2	-0.1
	5.6nm,0.8s,baz=182,slow=2.9,SNR=8.2						
ZALV	Zalesovo Beam	157.86	35	PKP	PKPdf	15 22 13.5	-0.5
	1.3nm,0.8s,baz=22,slow=5.3,SNR=3.8						
ZALV				PKPab	PKPab	15 22 47.5	+0.5
	4.6nm,1.0s,baz=300,slow=6.0,SNR=6.2						
KOLN	Koldanda	158.68	110	eP	PKPab	15 22 50.3	-1.3
DANN	Dangsing	159.10	109	eP	PKPab	15 22 53.3	-0.3
	35nm,0.9s						
GKN	Gorkha	159.58	111	eP	PKPab	15 22 55.1	-0.4
DMN	Daman	159.71	113	eP	PKPab	15 22 55.9	-0.3
PKIN	Phulchoki	159.90	113	eP	PKPab	15 22 55.9	-1.1
	12nm,0.9s						
PKI	Pulchoki	159.91	113	eP	PKPab	15 22 55.7	-1.4
	16nm,1.0s						
KKN	Kakani	159.94	113	eP	PKPab	15 22 56.6	-0.6
MKAR	Makanchi Array	159.99	55	PKP	PKPdf	15 22 16.5	-0.2
	1.3nm,1.0s,baz=318,slow=1.6,SNR=4.7						
MKAR				PKPab	PKPab	15 22 57.0	+0.4
	1.5nm,0.8s,baz=290,slow=3.5,SNR=5.8						
RAMN	Ramite	160.41	117	eP	PKPab	15 22 59.1	-0.1
	11nm,0.7s						
GUN	Gumba	160.44	113	eP	PKPab	15 22 59.0	-0.5
JIRN	Jiri	160.53	114	eP	PKPab	15 22 59.5	-0.4
	14nm,0.9s						
ODAN	Odare	160.91	118	eP	PKPab	15 23 01.1	-0.3
	14nm,0.8s						
TAPN	Taplejung	161.43	117	eP	PKPab	15 23 03.2	-0.5
	15nm,1.2s						
SONM	Songino Array	169.60	359	PKPab	PKPab	15 23 38.9	+0.1
	0.2nm,0.4s,baz=97,slow=26,SNR=3.8						

MOS 27 15:09:06.3±1.2, 33.°96S×71.°41W, h33km, mb5.3/19, Error ellipse: s-maj=14.8km s-min=8.4km az=87.8
IDC 27 15:09:08.7±0.4, 33.°94S×71.°30W, h45km±3km, mb4.5/20, mb1 4.6/23, mb1mx4.5/31, mbtmp4.7/23, Error ellipse: s-maj=16.8km s-min=12.1km az=65.0
ISCJB 27 15:09:09.9±0.6, 33.°94S±0.°05×71.°21W±0.°08, h69km±4km, mb4.8/72, Error ellipse: s-maj=11.0km s-min=7.0km az=158.2
GUC 27 15:09:09.4±0.5, 33.°96S×71.°37W, h50km±9km, ML4.8
NEIC 27 15:09:09.0, 33.°96S×71.°36W, h50km, mb5.1/56, After GUC.
NEIC Felt in the epicentral area.
ISC 27 15:09:08.3±0.4, 33.°98S±0.°05×71.°41W±0.°06, h45km±3km, h45km:pP-P, n212, σ1§19/263, mb5.0/72, 11C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	Talagante	0.51	50	eP	Pn	15 09 20.3	+0.8
TACH	Talagante	0.51	50	eP	Pn	15 09 20.3	+0.8
RCDM	Rinconada Maip	0.70	46	eP	Pn	15 09 23.0	+1.0
RCDM				i S	Sn	15 09 33.2	+1.3
RCDM				AML	AML	15 09 33.9	
	comp=N,106μm,0.2s						
RCDM	Rinconada Maip	0.70	46	eP	Pn	15 09 23.0	+1.0
RCDM				i S	Sn	15 09 33.2	+1.3
SAN	Santiago	0.82	50⇑	iP	Pn	15 09 24.5	+1.0
SAN				eS	Sn	15 09 35.8	+1.2
SAN	Santiago	0.82	50⇑	iP	Pn	15 09 24.5	+1.0
SAN				eS	Sn	15 09 35.8	+1.2
SAN	Santiago	0.82	50⇑	iP	Pn	15 09 24.5	+1.0
SAN				eS	Sn	15 09 35.8	+1.2
PCH	Pirque	0.83	65⇑	iP	Pn	15 09 24.6	+0.9
PCH	Pirque	0.83	65⇑	iP	Pn	15 09 24.6	+0.9
IHA	Instituto Hidr	0.97	349⇓	iP	Pn	15 09 26.8	+1.3
IHA	Instituto Hidr	0.97	349⇓	iP	Pn	15 09 26.8	+1.3
PEL	Peldehue	1.03	36⇑	iP	Pn	15 09 27.7	+1.3
PEL				i S	Sn	15 09 41.3	+1.5
PEL	Peldehue	1.03	36⇑	iP	Pn	15 09 27.7	+1.3
PEL				i S	Sn	15 09 41.3	+1.5
PEL				AML	AML	15 09 44.9	
	comp=N,48μm,0.5s						
PEL	Peldehue	1.03	36⇑	iP	Pn	15 09 27.7	+1.3
PEL				i S	Sn	15 09 41.3	+1.5
ROCH	El Roble	1.06	19	eP	Pn	15 09 28.4	+1.4
ROCH				eS	Sn	15 09 42.8	+2.0
ROCH	El Roble	1.06	19	eP	Pn	15 09 28.4	+1.4
ROCH				eS	Sn	15 09 42.8	+2.0
FCH	Farellones	1.14	55	AML	AML	15 09 30.6	
	comp=N,22μm,0.5s						
CFAA	Coronel Fontan	3.57	49	P	Pn	15 10 04.4	+3.1
	comp=N,40nm,0.3s,baz=219,slow=14,SNR=86						
PLCA	Paso Flores	6.77	174	eP	Pn	15 10 46.0	+0.8
PLCA	Paso Flores	6.77	174	P	Pn	15 10 47.6	+2.5
	comp=N,4.0nm,0.3s,baz=334,slow=15,SNR=3.9						
PLCA	Paso Flores	6.77	174	ePn	Pn	15 10 46.0	+0.8
TRQA	Tornquist	8.65	121	ePn	Pn	15 11 12.7	+1.8
LVC	Limon Verde	11.54	12	ePn	Pn	15 11 46.8	-3.9
CPUP	Villa Florida	14.36	62	eP	Pn	15 12 27.4	-1.5
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CPUP	Villa Florida	14.36	62	P	Pn	15 12 28.5	-0.4
	comp=Z,3.8nm,0.3s,baz=215,slow=14,SNR=10						
CPUP	Villa Florida	14.36	62	ePn	Pn	15 12 27.4	-1.5
	comp=Z,1.2nm,0.4s						
LPAZ	La Paz	17.87	10	eP	Pn	15 13 13.7	-0.4
LPAZ				pmax	pmax		
	comp=Z,220nm,1.8s						
LPAZ	La Paz	17.87	10	P	P	15 13 15.3	+0.8
	comp=Z,1.5nm,0.3s,baz=182,slow=10,SNR=19						
LPAZ	La Paz	17.87	10	eP	Pn	15 13 13.7	-0.4
	comp=Z,220nm,1.8s						
SIV	San Ignacio	20.19	30	P	P	15 13 38.8	-0.5
	comp=Z,28nm,0.5s,baz=213,slow=9.3,SNR=87						
USHA	Ushuaia	20.95	175	P	Pn	15 13 48.9	-1.2
	comp=Z,20nm,1.0s,baz=323,slow=9.3,SNR=7.8						
NNA	Nana	22.45	346	P	P	15 14 05.2	+1.6
	comp=Z,4.8nm,0.4s,baz=191,slow=14,SNR=2.9						
SAML	Samuel	26.04	19	eP	P	15 14 37.0	-0.4
	comp=Z,23nm,0.7s						
BDFB	Brasilia	27.90	55	P	P	15 14 52.6	-1.6
	comp=Z,17nm,0.8s,baz=217,slow=7.4,SNR=15						
ROSC	El Rosal	38.73	355	P	P	15 16 32.8	+4.2
	comp=Z,6.5nm,0.4s,baz=277,slow=22,SNR=5.1						
RCBR	Riachuelo	43.19	58	P	P	15 17 04.1	-0.9
	comp=Z,3.9nm,0.5s,baz=225,slow=10.0,SNR=3.2						
PCRV	Puerto La Cruz	44.38	10	P	P	15 17 14.8	+0.2
	comp=Z,6.9nm,0.4s,baz=51,slow=16,SNR=3.7						
JTS	JuntasAbangare	45.87	341	P	P	15 17 28.6	+2.3
	comp=Z,2.0nm,0.3s,baz=162,slow=20,SNR=3.0						
VNA3	Neumayer Olymp	49.18	158	P	P	15 17 52.5	+1.1
VNA2	Neumayer--Watz	49.83	157	P	P	15 17 57.3	+1.0
SNAA	Sanae	51.41	158	P	P	15 18 09.1	+0.9
SNAA	Sanae	51.41	158	eP	P	15 18 08.8	+0.5
SNAA				pmax	pmax		
	comp=Z,20nm,0.8s						
SNAA	Sanae	51.41	158	P	P	15 18 08.9	+0.6
	comp=Z,7.6nm,0.8s,baz=276,slow=7.2,SNR=36						
SNAA	Sanae	51.41	158	eP	P	15 18 08.8	+0.6
	comp=Z,20nm,0.8s						
CRPR	Cabo Rojo, PR	51.86	5	eP	P	15 18 11.7	-0.4
	comp=Z,50nm,0.9s						
SABA	Saba	51.90	10	eP	P	15 18 12.4	0.0
	comp=Z,119nm,0.6s						
CELP	Cerrillos	51.97	6	eP	P	15 18 12.0	-1.0
APG	El Apazote	51.99	336	P	P	15 18 10.6	-2.8
	comp=Z,6.2nm,0.8s,baz=153,slow=11,SNR=5.3						
LRS	Lares	52.16	5	eP	P	15 18 13.7	-0.7
CBYP	Canovanas	52.23	7	P	P	15 18 13.8	-1.2
SDDR	Presa de Saban	52.67	0	eP	P	15 18 17.6	-0.5
	comp=Z,6.1nm,0.6s						
TEIG	Tepich	56.25	341	P	P	15 18 44.8	+0.7
	comp=Z,32nm,0.7s,baz=172,slow=11,SNR=12						
TEIG				pP	pP	15 18 57.6	+0.8
	comp=Z,22nm,0.7s,baz=136,slow=6.4,SNR=3.9						
QSPA	South Pole Qui	56.25	180	eP	P	15 18 45.2	+1.4
	comp=Z,31nm,0.8s						
KMSC	Kings Mountain	69.39	351	eP	P	15 20 10.1	-1.2
	comp=Z,6.1nm,0.6s						
JCT	Junction City	69.50	334	eP	P	15 20 12.5	+0.4
JCT				pmax	pmax		
	comp=Z,19nm,1.0s						
JCT	Junction City	69.50	334	eP	P	15 20 12.5	+0.4
	comp=Z,19nm,1.0s						
TXAR	Lajitas Array	69.97	330	P	P	15 20 16.5	+1.3
	comp=Z,2.2nm,0.5s,baz=158,slow=8.9,SNR=46						
TXAR				pP	pP	15 20 29.4	+1.2
	comp=Z,3.6nm,0.5s,baz=150,slow=8.4,SNR=20						
SWET	Sewanee	70.17	347	eP	P	15 20 15.3	-0.8
	comp=Z,16nm,0.6s						
OXF	Oxford	70.19	344	eP	P	15 20 15.6	-0.6
OXF				pmax	pmax		
	comp=Z,38nm,1.0s						
OXF	Oxford	70.19	344	eP	P	15 20 15.6	-0.6
	comp=Z,38nm,1.0s						
TKL	Tuckaleechee C	70.24	349	P	P	15 20 16.3	-0.2
	comp=Z,8.4nm,0.8s,baz=167,slow=6.3,SNR=7.7						
BBTS	Babate	71.17	57	P	P	15 20 23.6	+1.1
	comp=Z,12nm,0.8s,baz=248,slow=5.4,SNR=3.2						
ABTX	Abilene, Hawle	71.38	335	eP	P	15 20 22.8	-0.7
	comp=Z,36nm,0.9s						
WVT	Waverly	71.42	346	eP	P	15 20 23.7	+0.1
WVT				pmax	pmax		
	comp=Z,39nm,0.7s						
WVT	Waverly	71.42	346	eP	P	15 20 23.7	+0.1
	comp=Z,39nm,0.7s						
JSRW	J. Sargeant Re	71.57	355	eP	P	15 20 25.5	+1.1
PBMO	Poplar Bluff	72.60	344	eP	P	15 20 30.7	+0.1
	comp=Z,20nm,0.6s						
MNTX	Cornudas Mount	72.75	330	eP	P	15 20 31.5	-0.3
	comp=Z,6.5nm,0.7s						
MNTX				e		15 20 44.7	
MSTX	Muleshoe	73.72	333	eP	P	15 20 38.4	+0.8
	comp=Z,22nm,0.8s						
AMTX	Amarillo	74.14	334	eP	P	15 20 39.5	-0.5
	comp=Z,27nm,1.0s						
AMTX				epP	pP	15 20 53.8	+0.7
121A	Cookes Peak, D	74.49	329	eP	P	15 20 42.7	+0.6
	comp=Z,4.7nm,0.8s						
121A				epP	PcP	15 20 56.3	-0.2
ACSO	Alum Creek Sta	74.62	351	eP	P	15 20 41.9	-0.6
	comp=Z,43nm,0.9s						
DBIC	Dimbokro	74.68	71	P	P	15 20 43.0	-0.5
DBIC	Dimbokro	74.68	71	P	P	15 20 43.0	-0.5
	comp=Z,6.9nm,0.6s,baz=197,slow=5.9,SNR=10						
LPM	Los Pinos Moun	75.54	330	eP	P	15 20 48.6	+0.5
ANMO	Albuquerque	76.02	331	eP	P	15 20 52.0	+1.1
ANMO				pmax	pmax		
	comp=Z,13nm,1.0s						
ANMO	Albuquerque	76.02	331	eP	P	15 20 52.0	+1.1
	comp=Z,13nm,1.0s						
WUAZ	Wupatki	78.59	328	eP	P	15 21 04.8	-0.4
WUAZ				epP	pP	15 21 19.2	+0.6
TSUM	Tsumeb	78.72	106	eP	P	15 21 06.2	-0.2
	comp=Z,25nm,1.2s						
MVCO	Mesa Verde	78.80	331	eP	P	15 21 06.2	-0.2
MVCO				epP	pP	15 21 20.5	+0.7
BOSA	Boshof	79.62	117	eP	P	15 21 11.0	-0.2
BOSA				pmax	pmax		
	comp=Z,25nm,0.9s						
BOSA	Boshof	79.62	117	P	P	15 21 11.4	+0.2
	comp=Z,27nm,0.8s,baz=240,slow=4.6,SNR=34						
BOSA	Boshof	79.62	117	eP	P	15 21 11.0	-0.2
	comp=Z,25nm,0.9s						
SMCO	Snowmass	79.90	333	eP	P	15 21 14.5	+1.9
	comp=Z,20nm,1.0s						
ISCO	Idaho Springs	79.94	334	eP	P	15 21 14.1	+1.4
ISCO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ISCO	Idaho Springs	79.94	334	eP	P	15 21 14.1	+1.4
	comp=Z,8.4nm,0.9s						
PV04	Paradox Valley	79.98	331	eP	P	15 21 13.3	+0.5
ECSD	EROS Data Cent	80.69	342	eP	P	15 21 16.4	+0.2
	comp=Z,31nm,0.9s						
SHPR	Sheep Range	81.14	326	eP	P	15 21 20.0	+1.0
SHPR				epP	pP	15 21 33.7	+1.3
CCUT	Cedar City	81.17	327	eP	P	15 21 21.4	+2.2
	comp=Z,14nm,0.9s						
SPMN	St. Paul	81.19	345	eP	P	15 21 18.7	-0.2
	comp=Z,21nm,1.0s						
PHWY	Pilot Hill	81.20	335	eP	P	15 21 19.2	-0.2
	comp=Z,13nm,0.9s						
O20A	White River Ci	81.22	332	eP	P	15 21 19.6	+0.2
	comp=Z,15nm,0.9s						
SRU	San Rafael	81.25	330	eP	P	15 21 19.6	0.0
SRU				e		15 21 33.6	
SRU				pmax	pmax		
	comp=Z,16nm,0.8s						
SRU	San Rafael	81.25	330	eP	P	15 21 19.6	0.0
	comp=Z,16nm,0.8s						
SRU				e		15 21 33.5	
TMUT	Trail Mountain	81.69	330	eP	P	15 21 23.6	+1.5
	comp=Z,18nm,1.2s						
LBTB	Lobatse	81.84	115	eP	P	15 21 23.2	+0.1
LBTB				pmax	pmax		
	comp=Z,15nm,0.5s						
LBTB	Lobatse	81.84	115	eP	P	15 21 23.2	+0.1
	comp=Z,15nm,0.5s						
MPU	Maple Canyon	82.48	330	eP	P	15 21 26.6	+0.6
	comp=Z,16nm,1.0s						
R11A	Troy Canyon, C	82.83	326	eP	P	15 21 29.0	+1.2
	comp=Z,15nm,1.0s						
JLU	Jordanelle	82.89	330	eP	P	15 21 29.9	+1.6
	comp=Z,12nm,0.9s						
DUG	Dugway	83.12	329	eP	P	15 21 30.9	+1.6
DUG				pmax	pmax		
	comp=Z,49nm,1.8s						
DUG	Dugway	83.12	329	eP	P	15 21 30.9	+1.6
	comp=Z,49nm,1.8s						
RSSD	Black Hills	83.22	337	eP	P	15 21 29.6	-0.2
RSSD	Black Hills	83.22	337	eP	P	15 21 29.6	-0.2
RSSD				eP	PcP	15 21 30.7	-3.5
TCUT	Toone Canyon	83.31	331	eP	P	15 21 31.0	+0.6
	comp=Z,9.1nm,0.8s						
TPH	Tonopah	83.37	325	eP	P	15 21 32.1	+1.4
TPH				pmax	pmax		
	comp=Z,16nm,1.2s						
TPH	Tonopah	83.37	325	eP	P	15 21 32.1	+1.4
	comp=Z,16nm,1.2s						
TOA0	Torodi Ar. Sit	83.72	70	eP	P	15 21 31.8	-0.9
TOA0				epP	pP	15 21 46.3	+0.1
TORD	Torodi Ar. Bea	83.72	70	P	P	15 21 32.8	0.0
	comp=Z,16nm,0.8s,baz=261,slow=4.3,SNR=71						
TORD				pP	pP	15 21 46.3	+0.1
	comp=Z,5.7nm,0.9s,baz=261,slow=5.2,SNR=5.5						
PDAR	Pinedale Array	83.98	333	P	P	15 21 34.1	+0.3
	comp=Z,1.3nm,0.8s,baz=169,slow=4.7,SNR=10						
PDAR				pP	pP	15 21 46.8	-0.4
	comp=Z,3.3nm,0.8s,baz=157,slow=5.6,SNR=13						
NVAR	Mina Array Bea	84.17	325	P	P	15 21 35.5	+0.7
	comp=Z,1.7nm,0.7s,baz=160,slow=6.0,SNR=8.9						

NVAR pP pP 15 21 49.8 +1.5
comp=Z,4.9nm,0.8s,baz=156,slow=6.2,SNR=16
HVU Hansel Valley 84.42 330 eP P 15 21 36.8 +0.9
HVU pmax pmax
comp=Z,19nm,0.8s
HVU Hansel Valley 84.42 330 eP P 15 21 36.8 +0.9
comp=Z,19nm,0.8s
ELK Elko 84.62 328 eP P 15 21 38.3 +1.3
ELK pmax pmax
comp=Z,11nm,0.8s
ELK Elko 84.62 328 eP P 15 21 38.3 +1.3
comp=Z,11nm,0.8s
TPAW Teton Pass 85.13 332 eP P 15 21 40.5 +0.9
comp=Z,12nm,0.8s
IMW Indian Meadow 85.47 333 eP P 15 21 42.3 +1.0
comp=Z,13nm,0.9s
FLWY Flagg Ranch 85.54 333 eP P 15 21 42.6 +1.0
comp=Z,23nm,0.8s
RLMT Red Lodge 85.90 334 eP P 15 21 43.6 +0.4
comp=Z,7.0nm,0.6s
RLMT epP pP 15 21 56.7 0.0
YMR Madison River 86.14 333 eP P 15 21 46.2 +1.7
comp=Z,32nm,0.9s
LAO LASA Array 86.21 337 eP P 15 21 45.0 +0.4
comp=Z,28nm,1.0s
HLID Hailey 86.58 330 eP P 15 21 48.3 +1.7
comp=Z,18nm,1.0s
HLID e 15 22 00.7
ULM Lac du Bonnet 86.62 345 eP P 15 21 45.4 -1.0
ULM e 15 21 58.9
ULM *PP pP 15 21 59.2 -0.7
ULM pmax pmax
comp=Z,5.0nm,0.8s
ULM Lac du Bonnet 86.62 345 P P 15 21 45.7 -0.7
comp=Z,5.0nm,0.8s,baz=161,slow=3.1,SNR=10
ULM pP pP 15 21 59.2 -0.7
comp=Z,7.3nm,0.9s,baz=168,slow=5.3,SNR=8.5
ULM Lac du Bonnet 86.62 345 eP P 15 21 45.4 -1.0
comp=Z,5.1nm,0.8s
ULM e 15 21 58.9
ULM pP pP 15 21 59.2 -0.7
MCMT McKenzie Canyo 87.00 332 eP P 15 21 49.7 +1.0
comp=Z,3.3nm,0.9s
MCMT e 15 22 02.6
DGMT Dagmar 87.15 339 eP P 15 21 50.0 +0.9
comp=Z,41nm,0.8s
DGMT epP pP 15 22 03.4 +0.7
BOZ Bozeman (W) 87.22 333 eP P 15 21 50.3 +0.6
BOZ pmax pmax
comp=Z,7.0nm,0.9s
BOZ Bozeman (W) 87.22 333 eP P 15 21 50.3 +0.6
comp=Z,6.5nm,0.9s
WVOR Wild Horse Val 87.49 327 eP P 15 21 52.3 +1.3
WVOR pmax pmax
comp=Z,8.0nm,1.1s
WVOR Wild Horse Val 87.49 327 eP P 15 21 52.3 +1.3
comp=Z,8.4nm,1.1s
LRM Limekiln Ridge 87.67 333 eP P 15 21 52.6 +0.6
comp=Z,56nm,0.8s
SCHQ Schefferville 88.54 3 P P 15 21 54.9 -0.7
comp=Z,1.8nm,0.4s,baz=196,slow=5.9,SNR=11
YBH Yreka Blue Hor 88.86 324 P P 15 21 57.7 +0.2
comp=Z,3.6nm,0.8s,baz=92,slow=8.1,SNR=8.4
YBH pP pP 15 22 11.1 +0.1
comp=Z,6.7nm,0.8s,baz=105,slow=7.2,SNR=7.3
NEW Newport 91.50 331 P P 15 22 08.7 -0.9
comp=Z,0.6nm,0.4s,baz=122,slow=9.5,SNR=3.2
C09A Chrisman Ranch 91.60 331 eP P 15 22 11.0 +1.0
comp=Z,9.1nm,0.8s
TAM Tamanrasset 92.35 64 eP P 15 22 14.6 +0.3
TAM pmax pmax
comp=Z,2.0nm,0.8s
TAM Tamanrasset 92.35 64 eP P 15 22 14.6 +0.3
comp=Z,2.2nm,0.8s
YKA Yellowknife Ar 102.21 341 P Pdif 15 22 57.0 -0.6
comp=Z,0.5nm,0.5s,baz=142,slow=4.6,SNR=14
YKA pP 15 23 10.7
comp=Z,0.5nm,0.6s,baz=144,slow=4.6,SNR=7.9
YKA Yellowknife Ar 102.21 341 P Pdif 15 22 57.0 -0.6
YKA pP 15 23 10.7
CLL Collm 112.48 43 ePKiKP PKiKP 15 27 38.0 -0.9
ILAR Eielson Array 114.42 333 PKP PKPdf 15 27 41.5 -0.8
comp=Z,0.5nm,0.8s,baz=167,slow=4.5,SNR=4.4
ILAR pPKP PKiKP 15 27 55.3 +13
comp=Z,0.5nm,0.8s,baz=171,slow=1.9,SNR=3.5
WRA Warramunga Arr 121.03 208 PKP PKPdf 15 27 55.7 -0.8
comp=Z,1.7nm,0.9s,baz=162,slow=1.5,SNR=16
WRA pPKP pPKPdf 15 28 09.6 -0.8
comp=Z,0.8nm,0.7s,baz=161,slow=1.7,SNR=3.3
BRTR Keskin Array B 121.37 61 PKP PKPdf 15 27 56.4 -0.2
comp=Z,1.3nm,0.8s,baz=193,slow=2.5,SNR=8.6
AKASG Malin Array Be 121.80 47 PKP PKPdf 15 27 55.6 -1.2
comp=Z,1.9nm,0.7s,baz=260,slow=2.8,SNR=8.5
AKASG pPKP pPKPdf 15 28 10.2 -0.6
comp=Z,1.5nm,0.8s,baz=266,slow=2.9,SNR=4.1
FINES FINESS Array B 122.68 34 PKP PKPdf 15 27 57.7 -0.5
comp=Z,1.0nm,0.7s,baz=329,slow=2.2,SNR=7.4
FINES pPKP pPKPdf 15 28 12.1 -0.1
comp=Z,2.1nm,0.9s,baz=158,slow=4.1,SNR=2.5
ARCES ARCESS Array B 123.78 25 PKP PKPdf 15 27 59.8 -0.3
comp=Z,1.2nm,0.4s,baz=243,slow=3.8,SNR=16
H11S2 WAKE ISLAND Hy 126.29 269 T T 17 47 43.8
baz=116
H11S1 WAKE ISLAND Hy 126.30 269 T T 17 47 55.5
baz=116
H11S3 WAKE ISLAND Hy 126.31 269 T T 17 47 49.9
baz=116
OBN Obninsk 127.07 43 i PKIKP pPKPdf 15 28 20.8 +0.1
OBN 15 35 10.7
OBN pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 129.14 58 PKP PKPdf 15 28 11.5 +0.4
comp=Z,1.7nm,0.9s,baz=267,slow=8.5,SNR=3.8
BILL Bilibino 133.05 334 ePKIKP pPKPdf 15 28 33.0 +1.2
BILL pmax pmax
comp=Z,4.0nm,1.1s
GEYT Alibeck 139.36 69 PKP PKPdf 15 28 30.1 -0.4
comp=Z,1.4nm,0.4s,baz=248,slow=0.8,SNR=3.9
GEYT pPKP pPKPdf 15 28 45.8 +1.3
comp=Z,0.6nm,0.3s,baz=193,slow=5.8,SNR=1.6
SEY Seymchan 140.27 330 PKP PKPdf 15 28 32.2 +0.9
comp=Z,4.2nm,0.8s,baz=152,slow=4.5,SNR=11
SEY pPKP pPKPdf 15 28 46.8 +1.5
comp=Z,4.0nm,0.8s,baz=89,slow=3.3,SNR=5.9
POO Poona 145.45 108⇑ iP PKPdf 15 28 39.0 -2.9
comp=Z,40nm,1.0s
BRVK Borovoye 146.84 43 ePKP2 PKPbc 15 28 45.4 +0.4
BRVK Borovoye 146.84 43 ePKPbc PKPbc 15 28 45.4 +0.4
KBL Kabul 147.46 78 ePKIKP PKPdf 15 28 44.6 -0.4
KBL Kabul 147.46 78 ePKPdf PKPdf 15 28 44.6 -0.4
HYB Hyderabad 148.46 114 i PKP PKPbc 15 28 49.5 -1.0
YAK Yakutsk 148.89 341 ePKIKP PKPbc 15 28 48.9 -1.3
YAK pmax pmax
comp=Z,25nm,0.9s
YAK Yakutsk 148.89 341 ePKPdf PKPdf 15 28 46.0 -0.2
YAK ePKPbc PKPbc 15 28 49.8 -0.4
KKAR Karatay Array 149.08 62 ePKP2 PKPbc 15 28 50.9 -0.4
KKAR Karatay Array 149.08 62 ePKPbc PKPbc 15 28 50.9 -0.4
IPM Ipoh 149.81 165 ePKPbc PKPbc 15 28 53.4 -0.7
YSS Yuzh-Sakhalins 151.20 307⇑ ePKIKP PKPbc 15 28 56.1 -0.2
YSS e 15 29 10.0
AML Almayashu 151.50 63 P PKPbc 15 28 58.1 +0.5
SNR=9.6
EKS2 Erkin-Say 151.51 62 P PKPbc 15 28 58.1 +0.7
SNR=9.4
EKS2 Erkin-Say 151.51 62 ePKIKP PKPdf 15 28 51.7 +0.5
EKS2 e 15 28 57.7
EKS2 Erkin-Say 151.51 62 ePKPdf PKPdf 15 28 51.6 +0.5
EKS2 ePKPbc PKiKP 15 28 57.7 -0.1
ASAJ Asahikawa 151.89 301 PKPbc PKPbc 15 28 58.5 +0.6
comp=Z,8.2nm,0.8s,baz=43,slow=3.8,SNR=6.7
USP Ospenovka 151.96 61 P PKPbc 15 28 58.5 +0.2
SNR=9.6
AAK Ala-Archa 152.04 62 P PKPbc 15 28 59.0 +0.4
SNR=15
AAK Ala-Archa 152.04 62 ePKIKP PKPdf 15 28 52.9 +0.9
AAK Ala-Archa 152.04 62 ePKPdf PKPdf 15 28 52.9 +0.9
UCH Uchtor 152.10 63 P PKPbc 15 28 59.9 +0.8
SNR=10
KURK Kurchatov 152.51 43 ePKIKP PKPdf 15 28 52.5 +0.3
KURK e 15 28 58.8
KURK Kurchatov 152.51 43 ePKPdf PKPdf 15 28 52.5 +0.3
KURK ePKPbc PKPbc 15 28 58.8 -0.3
NVS Novosibirsk 152.65 33 i PKIKP PKPbc 15 28 59.0 -0.3
NVS e 15 29 09.8
NVS pmax pmax
comp=Z,21nm,0.9s
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,5.0nm,0.7s
TKM2 Tokmak 2 152.81 61 P PKPbc 15 29 00.5 +0.1
SNR=6.4
KSH Kashi 153.38 69 ePKPbc PKPbc 15 29 01.5 -0.1
KSH epPKP PKPab 15 29 12.5 -1.4
KSH esPKP 15 29 16.5
KSH PP PP 15 32 59.5 +11
KSH eSKS SKSdf 15 36 03.5 +6.1
ZAA0 Zalesovo Array 153.93 33 ePKPdf PKPdf 15 28 53.5 -0.7
ZAA0 ePKPbc PKPbc 15 29 02.0 -0.2
ZALV Zalesovo Beam 153.93 33 PKP PKPdf 15 28 53.9 -0.2
comp=E,2.5nm,0.8s,baz=285,slow=2.9,SNR=9.8
ZALV PKPbc PKiKP 15 29 02.3 +0.1
comp=E,14nm,0.6s,baz=301,slow=3.0,SNR=50
ZALV pPKP pPKPdf 15 29 07.7 -0.5
comp=E,2.4nm,0.5s,baz=302,slow=3.6,SNR=4.2
ZALV pPKPbc PKPab 15 29 15.4 -0.1
comp=E,18nm,0.8s,baz=302,slow=3.3,SNR=15
BOD Bodaibo 155.88 353 ePKP2 PKPab 15 29 22.2 -1.5
BOD pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 156.36 49 ePKIKP PKPdf 15 28 57.2 -0.5
MK31 Makanchi Array 156.36 49 ePKPdf PKPdf 15 28 57.2 -0.5
MKAR Makanchi Array 156.36 49 PKP PKPdf 15 28 57.7 0.0
comp=Z,1.4nm,0.9s,baz=288,slow=1.2,SNR=8.3
MKAR PKPab PKPab 15 29 26.1 -0.2
comp=Z,0.5nm,0.5s,baz=276,slow=1.6,SNR=4.5
KOLN Koldanda 157.71 99 eP PKPdf 15 29 00.0 -0.3
comp=Z,13nm,0.9s
DANN Dangsing 158.05 98 eP PKPdf 15 29 01.0 +0.2
comp=Z,27nm,0.7s
GKN Gorkha 158.64 100 eP PKPdf 15 29 01.2 -0.2
DMN Daman 158.88 101 eP PKPdf 15 29 01.4 -0.4
KKN Kakani 159.09 101 eP PKPdf 15 29 01.4 -0.6
PKIN Phulchoki 159.10 102 eP PKPdf 15 29 01.4 -0.6
PKI Pulchoki 159.11 102 eP PKPdf 15 29 01.5 -0.6
comp=Z,7.1nm,0.9s
GUN Gumba 159.62 101 eP PKPdf 15 29 02.4 -0.3
JIRN Jiri 159.78 102 eP PKPdf 15 29 02.7 -0.3
comp=Z,5.2nm,0.6s
RAMN Ramite 159.81 104 eP PKPdf 15 29 03.0 +0.1
comp=Z,17nm,1.0s
ODAN Odare 160.41 106 eP PKPdf 15 29 03.5 0.0
comp=Z,12nm,0.7s
TAPN Taplejung 160.88 105 eP PKPdf 15 29 04.0 -0.1
WMQ Urumqi 161.05 53 ePKP PKPdf 15 29 04.3 +0.8
WMQ LR LR
comp=Z,170nm,23.2s
WMQ LR LR
comp=Z,150nm,20.6s
WMQ LR LR
comp=Z,130nm,20.8s
CMAR Chiang Mai Arr 162.30 148 PKP PKPdf 15 29 04.7 -0.7
comp=Z,1.1nm,0.9s,baz=256,slow=2.5,SNR=7.3
CMAR pPKP pPKPdf 15 29 20.1 +0.6
comp=Z,1.5nm,1.1s,baz=234,slow=2.5,SNR=3.7
ZAK Zakamensk 163.16 12⇑ iPKP2 PKPab 15 29 56.1 +0.4
ZAK pmax pmax
comp=Z,2.0nm,1.1s
LSA Lhasa 164.58 101 ePKIKP PKPdf 15 29 08.4 +0.5
LSA Lhasa 164.58 101 ePKPdf PKPdf 15 29 08.4 +0.5
SONM Songino Array 166.06 6 PKP PKPdf 15 29 07.6 -0.5
comp=Z,0.6nm,0.8s,baz=264,slow=0.3,SNR=4.8
SONM PKPab PKPab 15 30 08.4 -0.2
comp=Z,0.8nm,0.7s,baz=332,slow=4.6,SNR=5.6
GTA Gaotai 171.12 50 ePKP PKPdf 15 29 12.3 +0.6
GTA pPKP pPKPdf 15 29 26.5 +0.8
GYA Guiyang 172.32 167 PKP PKPdf 15 29 12.3 -0.3
GYA pPKP pPKPdf 15 29 24.0 -2.7
GYA PKPab PKPab 15 30 39.5 +2.8
GYA PKS PKSdf 15 32 43.0 -2.1
GYA PP PP 15 34 31.8 +4.7
GYA SKKS 15 41 12.5
GYA SS SS 15 55 36.0 +2.4
GYA AMB AMB
comp=Z,120nm,8.4s
GYA LR LR
comp=Z,130nm,21.5s
GYA LR LR
comp=Z,120nm,21.3s
GYA LR LR
comp=Z,140nm,24.2s
HHC Hu-ho-hao-te 172.75 342 ePKP PKPdf 15 29 10.8 -1.6
HHC pPKP pPKPdf 15 29 21.5 -4.9
HHC sPKP 15 29 26.8
HHC PP PP 15 34 36.0 +6.7
HHC AMB AMB
comp=Z,340nm,5.1s
CD2 Chengdu 174.90 126 PKP PKPdf 15 29 13.8 +0.4
CD2 pPKP pPKPdf 15 29 25.0 -2.4
CD2 sPKP 15 29 29.0
CD2 PKS PKSdf 15 32 44.5 -1.1
CD2 PP PP 15 34 44.0 +3.3
CD2 SKS SKSdf 15 36 11.5 -1.3
CD2 SKKS SKKSac 15 41 24.5 +1.0
CD2 SS SS 15 56 00.0 -0.5
CD2 AMB AMB
comp=Z,220nm,6.2s
LZH Lanzhou 175.58 60 ePKP PKPdf 15 29 14.0 +0.5
LZH pPKP pPKPdf 15 29 26.0 -1.6
LZH sPKP 15 29 31.3

MOS 27 15:09:45.9±1.3, 34°.04S×71°.37W, h33km, mb5.4/14, Error ellipse: s-maj=25.2km s-min=11.9km az=100.9
ISCJB 27 15:09:48.6±2.2, 33°.85S±0°.07×71°.09W±0°.10, h51km±19km, mb5.0/49, Error ellipse: s-maj=15.4km s-min=8.8km az=145.7
IDC 27 15:09:48.7±0.5, 33°.96S×71°.35W, h47km±3km, mb4.7/19, mb1 4.8/20, mb1mx4.7/29, mbtmp5.0/20, MS3.4/1, Ms1 3.4/1, ms1mx3.3/22, Error ellipse: s-maj=17.9km s-min=13.5km az=56.0
NEIC 27 15:09:48.7±0.3, 33°.94S×71°.34W, mb5.2/30, Error ellipse: s-maj=10.3km s-min=6.8km az=58.0
ISC 27 15:09:48.7±0.5, 33°.96S±0°.08×71°.4W±0°.1, h46km±3km, h46km:pP-P, n418, σ1.05/442, mb5.0/49, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CFAA Coronel Fontan 3.53 49 P Pn 15 10 45.1 +4.1
60nm,0.3s,baz=227,slow=11,SNR=12
CFAA LR LR 15 12 23.1
comp=Z,567nm,19.6s,baz=203,slow=44
TRQA Tornquist 8.64 121 ePn Pn 15 11 53.2 +2.1
LPAZ La Paz 17.84 10 eP P 15 13 56.8 +2.4
LPAZ La Paz 17.84 10 P P 15 13 55.4 +1.0
1.6nm,0.3s,baz=178,slow=13,SNR=7.0
LPAZ La Paz 17.84 10 eP P 15 13 56.8 +2.4
SIV San Ignacio 20.15 30 P P 15 14 18.6 -0.5
45nm,0.6s,baz=216,slow=10,SNR=18
NNA Nana 22.43 346 P P 15 14 46.4 +2.7
10nm,0.6s,baz=194,slow=8.3,SNR=4.3
SAML Samuel 26.01 19 eP P 15 15 16.9 -0.4
42nm,0.6s
ATAH Atahualpa 27.47 345 P P 15 15 32.0 +1.0
6.2nm,0.6s,baz=78,slow=19,SNR=2.6
BDFB Brasilia 27.86 55 P P 15 15 33.5 -0.7
39nm,0.9s,baz=214,slow=8.3,SNR=9.2
ROSC El Rosal 38.70 355 P P 15 17 12.4 +3.7
17nm,0.6s,baz=133,slow=4.7,SNR=5.1
RCBR Riachuelo 43.15 58 P P 15 17 45.1 +0.1
18nm,0.9s,baz=218,slow=9.8,SNR=5.8
PCRV Puerto La Cruz 44.35 10 P P 15 17 54.5 0.0
16nm,0.5s,baz=178,slow=3.9,SNR=5.0
SNAA Sanae 51.42 158 eP P 15 18 48.6 0.0
SNAA pmax pmax
comp=Z,47nm,0.8s
SNAA Sanae 51.42 158 P P 15 18 49.0 +0.4
comp=Z,18nm,0.9s,baz=285,slow=6.4,SNR=20
SNAA Sanae 51.42 158 eP P 15 18 48.6 0.0
comp=Z,47nm,0.8s
ICMP Isla Caja de M 51.76 6 eP P 15 18 50.5 -1.1
OBIP Obispado Ponce 51.91 6 eP P 15 18 52.1 -0.6
comp=Z,42nm,0.9s
CELP Cerrillos 51.94 6 eP P 15 18 52.3 -0.7
APG El Apazote 51.98 336 P P 15 18 51.1 -2.5
comp=Z,7.1nm,0.7s,baz=172,slow=15,SNR=5.0
SDDR Presa de Saban 52.64 0 eP P 15 18 57.5 -0.7
comp=Z,11nm,0.5s
NVL N'lazarevskaya 56.14 157 eP P 15 19 23.8 +0.8
NVL pmax pmax
comp=Z,28nm,0.9s
TEIG Tepich 56.24 341 P P 15 19 24.7 +0.4
comp=Z,42nm,0.6s,baz=159,slow=11,SNR=8.7
TEIG pP pP 15 19 36.6 -0.7
comp=Z,35nm,0.6s,baz=29,slow=2.9,SNR=4.3
QSPA South Pole Qui 56.28 180 eP P 15 19 25.1 +0.8
comp=Z,49nm,0.9s
035A Encino 65.66 334 P P 15 20 30.1 +2.0
baz=66
034A Hebbronville 65.99 333 P P 15 20 32.3 +2.1
baz=66
933A Laredo 66.70 333 P P 15 20 36.6 +1.7
baz=67
835A Beeville 66.79 335 P P 15 20 37.2 +1.9
baz=67
834A Tilden 66.90 334 P P 15 20 38.2 +2.1
baz=67
735A Kenedy 67.30 335 P P 15 20 40.7 +2.2
baz=68
833A Chaparral WMA, 67.39 333 P P 15 20 40.8 +1.7
baz=68
832A Faith Ranch, C 67.57 333 P P 15 20 41.7 +1.4
baz=68
732A Laxson Ranch, 67.97 333 P P 15 20 44.2 +1.4
baz=68
633A Saathoff Ranch 68.34 334 P P 15 20 46.2 +1.1
baz=69
632A Uvalde 68.60 334 P P 15 20 48.2 +1.4
baz=69
631A Perdido Creek 68.81 333 P P 15 20 49.3 +1.2
baz=69
533A Kerrville 68.84 334 P P 15 20 49.7 +1.4
baz=69
337A Centerville 68.92 338 P P 15 20 50.3 +1.6
baz=69
239A Gary 69.14 339 P P 15 20 51.7 +1.7
baz=70
532A Rocksprings 69.21 334 P P 15 20 52.1 +1.5
baz=70
434A Burnet 69.25 335 P P 15 20 52.0 +1.2
baz=70
KMSC Kings Mountain 69.37 351 eP P 15 20 51.1 -0.2
comp=Z,6.1nm,0.6s
KMSC Kings Mountain 69.37 351 P P 15 20 51.7 +0.3
baz=70
335A Moody 69.39 336 P P 15 20 52.3 +0.7
baz=70
531A Rocksprings 69.48 333 P P 15 20 53.4 +1.1
baz=70
433A Art 69.48 335 P P 15 20 53.0 +0.8
baz=70
JCT Junction City 69.49 334 eP P 15 20 52.8 +0.5
JCT pmax pmax
comp=Z,39nm,1.0s
JCT Junction City 69.49 334 eP P 15 20 52.8 +0.5
comp=Z,39nm,1.0s
JCT Junction City 69.49 334 P P 15 20 54.1 +1.9
baz=70
334A Lometa 69.71 336 P P 15 20 54.6 +1.0
baz=70
530A J-C Ranch, Com 69.76 333 P P 15 20 55.4 +1.4
baz=70
432A Menard 69.84 334 P P 15 20 55.4 +1.0
baz=70
333A Richland Sprin 69.96 335 P P 15 20 55.9 +0.8
baz=70
431A Sonora 69.97 333 P P 15 20 56.8 +1.5
baz=70
TXAR Lajitas Array 69.97 330 P P 15 20 56.5 +1.1
comp=Z,3.3nm,0.5s,baz=159,slow=8.8,SNR=8.5
TXAR pP pP 15 21 09.3 +0.6
comp=Z,5.8nm,0.6s,baz=153,slow=8.8,SNR=8.8
WHTX Lake Whitney 70.05 337 P P 15 20 57.1 +1.5
baz=70
137A Heron Place, G 70.07 338 P P 15 20 57.3 +1.5
baz=70
529A Stev Forest Ra 70.08 332 P P 15 20 57.2 +1.2
baz=70
TKL Tuckaleechee C 70.22 349 P P 15 20 56.2 -0.4
comp=Z,11nm,0.8s,baz=174,slow=8.4,SNR=7.5
TKL pP pP 15 21 09.4 -0.6
comp=Z,11nm,0.8s,baz=167,slow=7.3,SNR=3.8
332A Millersview 70.28 334 P P 15 20 58.2 +1.1
baz=71
234A Clairette 70.29 336 P P 15 20 58.1 +0.9
baz=71
430A Baggett Ranch, 70.30 333 P P 15 20 58.4 +1.1
baz=71
429A Davenport Ranc 70.40 332 P P 15 20 59.5 +1.6
baz=71
331A San Angelo 70.46 334 P P 15 20 59.4 +1.2
baz=71
233A Rising Star 70.56 335 P P 15 20 59.5 +0.7
baz=71
232A Coleman 70.70 335 P P 15 21 00.5 +0.8
baz=71
330A Mertzon 70.83 333 P P 15 21 01.2 +0.7
baz=71
231A Bronte 70.99 334 P P 15 21 02.2 +0.8
baz=71
133A Hamilton Ranch 71.11 336 P P 15 21 03.0 +0.9
baz=71
BBTS Babate 71.13 57 P P 15 21 02.4 -0.2
comp=Z,29nm,1.0s,baz=194,slow=4.9,SNR=5.0
329A Wagon Wheel Ra 71.20 333 P P 15 21 03.7 +0.9
baz=72
Z35A Perchaven, San 71.22 337 P P 15 21 03.8 +1.1
baz=72
230A Sterling City 71.24 334 P P 15 21 04.1 +1.2
baz=72
MIAR Mount Ida 71.25 341 eP P 15 21 02.1 -0.8
MIAR pmax pmax
comp=Z,18nm,1.0s
MIAR Mount Ida 71.25 341 eP P 15 21 02.1 -0.8
comp=Z,18nm,1.0s
ABTX Abilene, Hawle 71.37 335 P P 15 21 05.0 +1.2
baz=72
WVT Waverly 71.40 346 eP P 15 21 03.6 -0.1
WVT pmax pmax
comp=Z,58nm,0.7s
WVT Waverly 71.40 346 eP P 15 21 03.6 -0.1
comp=Z,58nm,0.7s
Z34A Collier Ranch, 71.47 337 P P 15 21 05.3 +1.1
baz=72
229A Bryant Ranch, 71.57 333 P P 15 21 05.9 +0.9
baz=72
Z33A Whitaker Ranch 71.67 336 P P 15 21 06.2 +0.7
baz=72
131A Roby 71.68 334 P P 15 21 06.4 +0.8
baz=72
130A Snyder 71.82 334 P P 15 21 07.2 +0.7
baz=72
Z32A Haskell 71.93 335 P P 15 21 08.0 +0.9
baz=72
Y34A Reagan Ranch, 71.95 337 P P 15 21 07.9 +0.8
baz=72
228A UT Block 9, Go 72.00 332 P P 15 21 08.6 +1.0
baz=72
Z31A Sharp Cattle R 72.18 335 P P 15 21 09.3 +0.8
baz=72
Y33A Hilltop Ranch, 72.28 336 P P 15 21 09.9 +0.8
baz=73
128A Castleberry Fa 72.41 333 P P 15 21 10.9 +0.9
baz=73
Z30A Sanderson Ranc 72.50 334 P P 15 21 11.0 +0.5
baz=73
Y32A R-V Farms, Ver 72.56 336 P P 15 21 11.3 +0.5
baz=73
X34A Smith Ranch, M 72.57 337 P P 15 21 11.5 +0.7
baz=73
Z29A Hungry Hill Ra 72.69 334 P P 15 21 12.0 +0.4
baz=73
MNTX Cornudas Mount 72.75 330 eP P 15 21 11.4 -0.5
comp=Z,9.0nm,0.7s
MNTX epP pP 15 21 23.3 -2.1
Y31A Rekieta Farm, 72.80 335 P P 15 21 13.2 +0.9
baz=73
Y30A Stafford Cattl 72.95 335 P P 15 21 14.1 +1.0
baz=73
W34A Bridge Creek, 73.13 338 P P 15 21 14.7 +0.5
baz=74
TUL1 Tulsa 73.16 339 P P 15 21 15.1 +0.8
baz=74
Y29A Porterfield Fa 73.21 334 P P 15 21 15.3 +0.6
baz=74
W33A Caddo, Fort Co 73.28 337 P P 15 21 16.3 +1.2

	baz=74					
Z27A	Tatum	73.30	333	P	P	15 21 16.3 +1.0
	baz=74					
X31A	McDonald Ranch	73.31	336	P	P	15 21 16.2 +0.9
	baz=74					
X30A	Coker Ranch, T	73.45	335	P	P	15 21 17.1 +1.0
	baz=74					
W32A	Sentinel	73.51	336	P	P	15 21 17.1 +0.7
	baz=74					
Z26A	Caprock	73.56	332	P	P	15 21 17.8 +1.0
	baz=74					
MSTX	Muleshoe	73.72	333	P	P	15 21 18.4 +0.7
	baz=74					
X29A	Tulia	73.75	334	P	P	15 21 18.6 +0.7
	baz=74					
W31A	Holland Ranch,	73.80	336	P	P	15 21 19.2 +1.0
	baz=74					
V33A	Lossen Ranch,	73.83	337	P	P	15 21 18.9 +0.7
	baz=74					
Z25A	Roswell	73.86	331	P	P	15 21 19.7 +1.0
	baz=74					
V32A	Arapaho	73.99	337	P	P	15 21 20.2 +1.0
	baz=74					
AMTX	Amarillo	74.13	334	P	P	15 21 21.2 +1.1
	baz=74					
Z24A	Sheeppen Canyo	74.16	331	P	P	15 21 21.8 +1.3
	baz=74					
319A	Douglas	74.17	327	P	P	15 21 22.0 +1.6
	baz=74					
U34A	Anderson Ranch	74.17	338	P	P	15 21 20.5 +0.4
	baz=74					
V31A	Spring Creek L	74.30	336	P	P	15 21 22.2 +1.2
	baz=75					
W29A	Amraillo	74.33	335	P	P	15 21 22.1 +0.8
	baz=75					
Y25A	Mesa, Roswell	74.41	332	P	P	15 21 22.3 +0.5
	baz=75					
121A	Cookes Peak, D	74.49	329	eP	P	15 21 23.6 +1.2
	comp=Z,18nm,0.7s					
121A	Cookes Peak, D	74.49	329	P	P	15 21 23.8 +1.5
	baz=75					
U32A	Winter Ranch,	74.58	337	P	P	15 21 23.4 +0.8
	baz=75					
V30A	Spur Ranch, Mi	74.58	336	P	P	15 21 24.4 +1.7
	baz=75					
ACSO	Alum Creek Sta	74.60	351	eP	P	15 21 22.1 -0.5
	comp=Z,42nm,0.8s					
ACSO				epP	pP	15 21 34.9 -1.1
X26A	CR and CF Fran	74.62	333	P	P	15 21 23.9 +0.8
	baz=75					
DBIC	Dimbokro	74.64	71	P	P	15 21 23.0 -0.5
	comp=Z,18nm,0.7s,baz=205,slow=4.8,SNR=11					
Z22A	Elephant Butte	74.76	330	P	P	15 21 25.8 +1.9
	baz=75					
W27A	Bowe Ranch, En	74.80	333	P	P	15 21 24.8 +0.8
	baz=75					
T33A	Patterson Ranc	74.98	338	P	P	15 21 26.1 +1.1
	baz=75					
W26A	Owens Ranch, T	75.08	333	P	P	15 21 26.6 +0.9
	baz=75					
V28A	Channing	75.11	334	P	P	15 21 26.8 +1.0
	baz=75					
U30A	WK&E Inc. Balk	75.26	336	P	P	15 21 28.0 +1.4
	baz=76					
X24A	Lazy VL Ranch,	75.27	331	P	P	15 21 27.9 +1.1
	baz=76					
T32A	Huddler Ranch,	75.28	338	P	P	15 21 27.8 +1.1
	baz=76					
V27A	Dan Oppiter Fa	75.33	334	P	P	15 21 28.1 +1.0
	baz=76					
W25A	X Bar L Ranch,	75.46	332	P	P	15 21 28.8 +0.9
	baz=76					
V26A	Tequesquite Ra	75.72	333	P	P	15 21 30.3 +1.0
	baz=76					
W24A	Lazy 6 Ranch,	75.82	332	P	P	15 21 30.9 +0.8
	baz=76					
S31A	Mullinville	75.86	337	P	P	15 21 31.0 +1.0
	baz=76					
U27A	Thompson Grove	75.92	334	P	P	15 21 31.7 +1.2
	baz=76					
R33A	Olander Ranch,	76.03	339	P	P	15 21 31.7 +0.8
	baz=76					
T29A	Hugoton	76.04	336	P	P	15 21 32.2 +1.1
	baz=76					
V25A	Rancho No Teng	76.07	333	P	P	15 21 32.3 +0.9
	baz=76					
S30A	Montezuma	76.20	337	P	P	15 21 32.9 +0.9
	baz=76					
V24A	Rampart Ranch,	76.22	332	P	P	15 21 33.8 +1.5
	baz=76					
U26A	Atchley Ranch,	76.23	334	P	P	15 21 33.7 +1.4
	baz=77					
T28A	Walsh	76.30	335	P	P	15 21 33.5 +1.0
	baz=77					
214A	Organ Pipe Nat	76.30	325	P	P	15 21 34.0 +1.4
	baz=77					
S29A	Ulysses	76.40	336	P	P	15 21 34.2 +1.1
	baz=77					
T27A	Campo	76.46	335	P	P	15 21 34.5 +1.0
	baz=77					
U25A	Circle Dot Ran	76.48	333	P	P	15 21 34.9 +1.1
	baz=77					
R31A	Burdett	76.49	338	P	P	15 21 34.6 +1.1
	baz=77					
Q33A	Connelly Farm,	76.62	339	P	P	15 21 34.9 +0.7
	baz=77					
S28A	Manter	76.64	336	P	P	15 21 35.6 +1.1
	baz=77					
R30A	Dighton	76.73	337	P	P	15 21 36.2 +1.3
	baz=77					
Q32A	Meitler Ranch,	76.83	339	P	P	15 21 36.1 +0.7
	baz=77					
T26A	Comanche Natio	76.87	334	P	P	15 21 37.2 +1.3
	baz=77					
V22A	San Miguel Ran	77.03	331	P	P	15 21 38.6 +1.7
	baz=77					
S27A	Las Animas	77.08	335	P	P	15 21 38.5 +1.5
	baz=77					
Q31A	Ellis	77.10	338	P	P	15 21 38.5 +1.6
	baz=77					
U23A	El Rito	77.11	332	P	P	15 21 38.7 +1.4
	baz=77					
X18A	Snowflake	77.13	328	P	P	15 21 38.9 +1.4
	baz=77					
R29A	Marienthal	77.14	336	P	P	15 21 38.6 +1.4
	baz=78					
T25A	Trinidad	77.14	333	P	P	15 21 38.9 +1.5
	baz=78					
S26A	Kim	77.22	334	P	P	15 21 39.1 +1.2
	baz=78					
R28A	Tribune	77.29	336	P	P	15 21 39.3 +1.2
	baz=78					
Q30A	Quinter	77.34	337	P	P	15 21 39.5 +1.2
	baz=78					
U22A	Llaves	77.41	331	P	P	15 21 41.0 +1.9
	baz=78					
113A	Mohawk Valley,	77.43	324	P	P	15 21 40.1 +1.2
	baz=78					
T24B	San Luis	77.44	333	P	P	15 21 41.1 +1.9
	baz=78					
Q29A	Oakley	77.51	337	P	P	15 21 40.0 +0.7
	baz=78					
W18A	Petrified Fore	77.53	329	P	P	15 21 41.0 +1.4
	baz=78					
P31A	Stockton	77.57	338	P	P	15 21 40.8 +1.2
	baz=78					
R27A	Eads	77.58	335	P	P	15 21 40.8 +1.0
	baz=78					
S25A	Robets Cordova	77.61	334	P	P	15 21 41.3 +1.3
	baz=78					
T23A	Casias Ranch,	77.67	332	P	P	15 21 41.6 +1.1
	baz=78					
X16A	Lo Mia Camp, P	77.70	327	P	P	15 21 42.3 +1.6
	baz=78					
R26A	Arlington	77.82	335	P	P	15 21 41.9 +0.8
	baz=78					
S24A	Houchin Ranch,	77.88	333	P	P	15 21 43.7 +2.0
	baz=78					
Q28A	Sharon Springs	77.94	336	P	P	15 21 43.1 +1.3
	baz=78					
R25A	Fountain Ranch	77.98	334	P	P	15 21 43.2 +1.1
	baz=78					
Y14A	Wickenburg	78.02	326	P	P	15 21 44.1 +1.8
	baz=78					
S23A	Nye Farm, Mont	78.24	333	P	P	15 21 45.1 +1.5
	baz=79					
R24A	Sanders Place,	78.36	333	P	P	15 21 45.8 +1.6
	baz=79					
O30A	MW Ranch, Wils	78.38	338	P	P	15 21 45.6 +1.5
	baz=79					
Q26A	Hugo	78.40	335	P	P	15 21 45.6 +1.2
	baz=79					
WUAZ	Wupatki	78.59	328	eP	P	15 21 46.7 +1.2
	comp=Z,15nm,0.9s					
WUAZ	Wupatki	78.59	328	P	P	15 21 47.2 +1.7
	baz=79					
S22A	4UR Ranch, Cre	78.59	332	P	P	15 21 46.8 +1.2
	baz=79					
R23A	Moffat	78.59	333	P	P	15 21 47.1 +1.5
	baz=79					
Q25A	Bedland, Calha	78.65	334	P	P	15 21 46.9 +1.1
	baz=79					
TSUM	Tsumeb	78.69	106	eP	P	15 21 46.4 -0.2
	comp=Z,52nm,1.2s					
MVCO	Mesa Verde	78.80	331	eP	P	15 21 47.5 +0.8
	comp=Z,19nm,1.1s					
MVCO	Mesa Verde	78.80	331	P	P	15 21 47.3 +0.7
	baz=79					
O28A	Krutsinger Ran	78.89	337	P	P	15 21 47.9 +1.0
	baz=79					
P26A	Davis Ranch, A	78.91	335	P	P	15 21 48.4 +1.2
	baz=79					
BC3	Big Chuckawall	78.97	324	P	P	15 21 49.2 +1.6
	baz=79					
Q24A	Divide	79.02	334	P	P	15 21 49.4 +1.4
	baz=79					
M31A	Lambtecht Ranc	79.12	339	P	P	15 21 49.1 +1.0
	baz=80					
P25A	Willow Gulch B	79.15	335	P	P	15 21 50.1 +1.6
	baz=80					
O27A	Beecher Island	79.18	336	P	P	15 21 50.3 +1.8
	baz=80					
IRM	Iron Mountain	79.23	324	P	P	15 21 50.1 +1.3
	baz=80					
W13A	Hualapai Mount	79.39	326	P	P	15 21 51.8 +1.9
	baz=80					
PFO	Pinyon Flat Ob	79.43	323	P	P	15 21 52.0 +1.9
	baz=80					
O26A	Horse Wrangler	79.50	336	P	P	15 21 51.6 +1.3
	baz=80					
BELC	Belle Mtn. Jos	79.52	324	P	P	15 21 50.9 +0.3
	baz=80					
BOSA	Boshof	79.60	117	eP	P	15 21 51.1 -0.2
BOSA				pmax	pmax	
	comp=Z,58nm,0.9s					
BOSA	Boshof	79.60	117	P	P	15 21 51.6 +0.2
	comp=Z,52nm,0.9s,baz=233,slow=4.7,SNR=23					
BOSA	Boshof	79.60	117	eP	P	15 21 51.1 -0.2
	comp=Z,58nm,0.9s					
O25A	Wiggins	79.67	335	P	P	15 21 53.7 +2.5
	baz=80					
N27A	Anderson Farm,	79.75	336	P	P	15 21 53.1 +1.4
	baz=80					
U15A	North Rim	79.76	328	P	P	15 21 53.4 +1.4
	baz=80					
L31A	Butterfield Fa	79.85	340	P	P	15 21 52.7 +0.7
	baz=80					
ISCO	Idaho Springs	79.93	334	P	P	15 21 54.1 +1.2
	baz=80					
GMRC	Granite Mounta	79.98	324	P	P	15 21 55.0 +2.0
	baz=80					
N26A	Koester Ranch,	80.00	336	P	P	15 21 54.6 +1.6
	baz=80					
CASY	Casey	80.07	181	eP	P	15 21 53.8 +0.7
	comp=Z,19nm,1.0s					
O23A	Lake Granby, G	80.40	334	P	P	15 21 57.2 +1.8
	baz=81					
K30A	Basset	80.53	339	P	P	15 21 57.0 +1.3
	baz=81					
BFSC	Mount Baldy Ra	80.53	323	P	P	15 21 58.8 +2.8
	baz=81					
O22A	Kremmling	80.59	333	P	P	15 21 58.0 +1.5
	baz=81					
TUQ	Turquoise Moun	80.63	325	P	P	15 21 58.4 +1.8
	baz=81					
ECSD	EROS Data Cent	80.68	342	eP	P	15 21 56.5 0.0
ECSD	EROS Data Cent	80.68	342	P	P	15 21 56.9 +0.5
	baz=81					
K29A	Lazy Trails An	80.82	339	P	P	15 21 58.5 +1.2
	baz=81					
L27A	T5 Ranch, Ells	80.83	337	P	P	15 21 58.6 +1.2
	baz=81					
GSC	Goldstone	80.95	324	P	P	15 21 59.3 +1.1
	baz=81					
N23A	Red Feather La	81.01	334	P	P	15 21 59.2 +0.6
	baz=81					
J30A	Dallas	81.09	340	P	P	15 21 59.6 +0.9
	baz=81					
K28A	Ten Mile Ranch	81.09	338	P	P	15 22 00.5 +1.7
	baz=81					
N22A	Wattenberg Ran	81.11	334	P	P	15 22 00.4 +1.2
	baz=81					
M24A	Cheyenne	81.12	335	P	P	15 22 00.5 +1.4
	baz=81					
SPMN	St. Paul	81.17	345	P	P	15 21 58.9 -0.1
	baz=82					
EDW2	Edwards Air Fo	81.21	323	P	P	15 22 01.0 +1.4
	baz=82					
O20A	White River Ci	81.21	332	P	P	15 22 00.8 +1.2
	baz=82					
SRU	San Rafael	81.25	330	eP	P	15 22 00.1 +0.3
SRU				e*PP	pP	15 22 13.8 +0.3
SRU				pmax	pmax	
	comp=Z,16nm,0.8s					
SRU	San Rafael	81.25	330	eP	P	15 22 00.1 +0.3
	comp=Z,16nm,0.8s					
SRU				epP	pP	15 22 13.8 +0.3
K27A	Flueckinger Fa	81.36	338	P	P	15 22 01.2 +1.0
	baz=82					
OSI	Osito Adit	81.37	322	P	P	15 22 01.4 +1.1
	baz=82					
J29A	Okreek	81.41	339	P	P	15 22 01.0 +0.6
	baz=82					
M23A	Laramie	81.43	335	P	P	15 22 02.2 +1.4
	baz=82					
I30A	Oacoma	81.61	340	P	P	15 22 02.3 +0.9
	baz=82					
J28A	Allard Ranch,	81.70	338	P	P	15 22 02.8 +0.8
	baz=82					
J27A	Elkhorn Farm,	81.78	338	P	P	15 22 03.8 +1.3
	baz=82					
LBTB	Lobatse	81.82	115	eP	P	15 22 03.0 -0.3
LBTB				pmax	pmax	
	comp=Z,32nm,0.7s					
LBTB	Lobatse	81.82	115	eP	P	15 22 03.0 -0.3
	comp=Z,32nm,0.7s					
N20A	Spence Gulch,	81.82	333	P	P	15 22 03.8 +0.9
	baz=82					
I29A	Vivian Onida	81.97	339	P	P	15 22 04.2 +0.9
	baz=82					
BRSD	Miller	81.97	340	P	P	15 22 03.8 +0.6
	baz=82					
ISA	Isabella	82.07	323	P	P	15 22 05.7 +1.6
	baz=82					
J26A	Sides Ranch, S	82.18	337	P	P	15 22 06.5 +2.0
	baz=82					
I28A	Midland	82.20	339	P	P	15 22 05.5 +1.0
	baz=82					
J25A	Sunshine Ranch	82.48	337	P	P	15 22 07.0 +0.9
	baz=83					
H29A	Onida	82.49	340	P	P	15 22 06.8 +0.8
	baz=83					
VES	Vestal, Richgr	82.51	323	P	P	15 22 07.4 +1.2
	baz=83					
K23A	Bowen Ranch, D	82.53	335	P	P	15 22 07.5 +1.1
	baz=83					
I27A	Quinn	82.53	338	P	P	15 22 07.6 +1.3
	baz=83					
G30A	Faulkton	82.65	341	P	P	15 22 07.6 +0.8
	baz=83					
J24A	Dixon Ranch, L	82.71	336	P	P	15 22 08.6 +1.3
	baz=83					
K22A	Casper	82.76	335	P	P	15 22 08.9 +1.3
	baz=83					
H28A	Mission Ridge	82.77	339	P	P	15 22 08.2 +0.7
	baz=83					
R11A	Troy Canyon, C	82.83	326	P	P	15 22 09.8 +1.7
	baz=83					
G29A	Hoven	82.93	340	P	P	15 22 08.9 +0.7
	baz=83					
K21A	Alcova	83.00	334	P	P	15 22 09.4 +0.4
	baz=83					
I25A	Rochford	83.02	337	P	P	15 22 10.2 +1.2
	baz=83					
H27A	Howes	83.05	338	P	P	15 22 09.6 +0.7
	baz=83					
G28A	Parade	83.11	339	P	P	15 22 09.9 +0.7
	baz=83					
DUG	Dugway	83.12	329	P	P	15 22 10.8 +1.3
	baz=83					
I24A	Kuemmerle Ranc	83.17	336	P	P	15 22 09.6 -0.1
	baz=84					
RSSD	Black Hills	83.21	337	eP	P	15 22 09.9 -0.1
RSSD				pmax	pmax	
	comp=Z,12nm,0.9s					
RSSD	Black Hills	83.21	337	eP	P	15 22 09.9 -0.1
	comp=Z,12nm,0.9s					
F30A	Leola	83.27	341	P	P	15 22 10.7 +0.7
	baz=84					
TCUT	Toone Canyon	83.30	331	eP	P	15 22 11.4 +0.8
	comp=Z,18nm,0.9s					
TPH	Tonopah	83.37	325	eP	P	15 22 12.0 +1.1
TPH				e		15 22 25.3
TPH				pmax	pmax	
	comp=Z,16nm,1.2s					
TPH	Tonopah	83.37	325	eP	P	15 22 12.0 +1.1
	comp=Z,16nm,1.2s					
TPH				e		15 22 25.3
J22A	Midwest	83.41	335	P	P	15 22 11.4 +0.5
	baz=84					
F29A	Eureka	83.49	340	P	P	15 22 11.9 +0.8
	baz=84					
H25A	Fruitdale	83.52	337	P	P	15 22 12.7 +1.3
	baz=84					
TORD	Torodi Ar. Bea	83.68	70	P	P	15 22 12.5 -0.3
	comp=Z,30nm,0.8s,baz=256,slow=4.4,SNR=23					
TORD				pP	pP	15 22 27.7 +1.2
	comp=Z,8.6nm,0.7s,baz=254,slow=3.6,SNR=3.7					
G27A	Dupree	83.68	339	P	P	15 22 12.9 +0.7
	baz=84					
G26A	Maurine	83.81	338	P	P	15 22 13.0 +0.2
	baz=84					
I22A	9 Mile Ranch,	83.83	335	P	P	15 22 13.4 +0.3
	baz=84					
E30A	Jud	83.85	341	P	P	15 22 13.8 +0.8
	baz=84					
J20A	Shoshoni	83.93	334	P	P	15 22 15.2 +1.6
	baz=84					
H24A	Dirks Ranch, A	83.94	337	P	P	15 22 13.8 +0.2
	baz=84					
G25A	Newell	83.97	338	P	P	15 22 14.2 +0.5
	baz=84					
PDAR	Pinedale Array	83.97	333	P	P	15 22 14.2 +0.2
	comp=Z,2.2nm,0.9s,baz=164,slow=2.8,SNR=5.5					
PDAR				pP	pP	15 22 27.2 -0.5
	comp=Z,7.4nm,1.0s,baz=148,slow=5.2,SNR=8.0					
F27A	Lemmon	84.16	339	P	P	15 22 15.4 +0.8
	baz=84					
NVAR	Mina Array Bea	84.17	325	P	P	15 22 16.4 +1.3
	comp=Z,3.8nm,0.8s,baz=157,slow=5.8,SNR=7.2					
NVAR				pP	pP	15 22 29.7 +0.9
	comp=Z,4.6nm,0.6s,baz=152,slow=6.3,SNR=7.6					
J19A	Crowheart	84.21	333	P	P	15 22 16.1 +1.0
	baz=84					
F26A	Lodgepole	84.33	339	P	P	15 22 16.4 +0.9
	baz=85					
D30A	Buchanan	84.37	342	P	P	15 22 16.4 +0.8
	baz=85					
E28A	Huff	84.41	340	P	P	15 22 16.6 +0.7
	baz=85					
D29A	Pettibone, Tap	84.55	341	P	P	15 22 17.2 +0.7
	baz=85					
G23A	Biddle	84.61	337	P	P	15 22 17.1 +0.1
	baz=85					
F25A	Bowman	84.64	338	P	P	15 22 17.6 +0.5
	baz=85					
AGMN	Agassiz Nation	84.77	344	P	P	15 22 17.9 +0.4
	baz=85					
WAKR	Walker	84.77	324	eP	P	15 22 19.6 +1.5
WAKR				e		15 22 32.5
C30A	Mose, Pekin	84.85	342	P	P	15 22 18.8 +0.8
	baz=85					
F24A	Ekalaka	84.88	337	P	P	15 22 19.0 +0.7
	baz=85					
H20A	Greybull	84.88	335	P	P	15 22 19.0 +0.6
	baz=85					
D28A	Regan	84.94	340	P	P	15 22 19.3 +0.9
	baz=85					
E25A	Miller Ranch,	85.14	338	P	P	15 22 20.7 +1.2
	baz=86					
G21A	Lodge Grass	85.25	335	P	P	15 22 20.8 +0.6
	baz=86					
D26A	Manning	85.33	339	P	P	15 22 21.3 +0.9
	baz=86					
I17A	Pilgrim Ck.	85.35	333	P	P	15 22 21.5 +0.6
	baz=86					
H19A	Powell	85.40	334	P	P	15 22 21.6 +0.7
	baz=86					
F22A	Rosebud	85.41	336	P	P	15 22 21.7 +0.8
	baz=86					
E24A	Baker	85.47	338	P	P	15 22 21.8 +0.6
	baz=86					
B30A	Myrvik Farm, E	85.50	342	P	P	15 22 21.8 +0.6
	baz=86					
G20A	Bridger	85.59	335	P	P	15 22 22.3 +0.4
	baz=86					
H18A	Shoshone NF, C	85.65	334	P	P	15 22 22.5 +0.2
	baz=86					
C27A	Sayler Ranch,	85.67	340	P	P	15 22 22.8 +0.7
	baz=86					
D25A	Fairfield	85.70	339	P	P	15 22 23.4 +1.1
	baz=86					
B29A	Wagenman Farm,	85.78	342	P	P	15 22 23.4 +0.8
	baz=86					
RLMT	Red Lodge	85.89	334	eP	P	15 22 23.8 +0.3
	comp=Z,12nm,0.6s					
RLMT				epP	pP	15 22 36.9 -0.3
E22A	Miles City	85.89	337	P	P	15 22 23.0 -0.3
	baz=86					
C26A	Wahner Farm, P	85.95	340	P	P	15 22 23.7 +0.2
	baz=86					
A30A	Hoffart Farm,	85.95	343	P	P	15 22 23.6 +0.2
	baz=86					
D24A	Glendive	85.97	338	P	P	15 22 23.8 +0.2
	baz=86					
YMR	Madison River	86.13	333	eP	P	15 22 25.7 +0.9
	comp=Z,39nm,1.1s					
YMR				e		15 22 39.3
A29A	Manning Farm,	86.17	342	P	P	15 22 24.9 +0.4
	baz=86					
D23A	Lindsay	86.30	338	P	P	15 22 26.1 +0.8
	baz=87					
E21A	Keefer Ranch,	86.35	336	P	P	15 22 26.2 +0.7
	baz=87					
C24A	Savage	86.37	338	P	P	15 22 26.7 +1.1
	baz=87					
F19A	Roth Farm, Mol	86.40	335	P	P	15 22 26.2 +0.4
	baz=87					
A28A	Rude Farm, Bot	86.43	341	P	P	15 22 25.9 0.0
	baz=87					
HLID	Hailey	86.57	330	P	P	15 22 28.1 +1.3
	baz=87					
D22A	Cohagen	86.59	337	P	P	15 22 27.6 +1.0
	baz=87					
ULM	Lac du Bonnet	86.60	345	eP	P	15 22 25.9 -0.7
ULM				*PP	pP	15 22 38.9 -1.4
ULM				e		15 22 39.2
ULM				pmax	pmax	
	comp=Z,14nm,1.1s					
ULM	Lac du Bonnet	86.60	345	P	P	15 22 26.4 -0.1
	comp=Z,6.6nm,0.7s,baz=168,slow=6.1,SNR=7.3					
ULM				pP	pP	15 22 38.9 -1.4
	comp=Z,11nm,0.8s,baz=174,slow=6.1,SNR=6.8					
ULM	Lac du Bonnet	86.60	345	eP	P	15 22 25.9 -0.7
	comp=Z,14nm,1.1s					
ULM				pP	pP	15 22 38.9 -1.4
ULM				e		15 22 39.2
E20A	Meyer Farm, Mu	86.68	336	P	P	15 22 28.0 +0.9
	baz=87					
A27A	Ledoux Ranch,	86.73	341	P	P	15 22 28.5 +1.2
	baz=87					
D21A	La Casta Ranch	86.78	336	P	P	15 22 28.6 +0.9
	baz=87					
C23A	Lambert	86.85	338	P	P	15 22 28.9 +1.0
	baz=87					
E19A	Rath Farm, Rou	86.87	335	P	P	15 22 29.0 +0.9
	baz=87					
A26A	Wade Farm, Ken	86.90	340	P	P	15 22 28.8 +0.7
	baz=87					
MCMT	McKenzie Canyo	86.99	332	eP	P	15 22 29.8 +0.8
	comp=Z,8.6nm,0.8s					
MCMT				epP	pP	15 22 43.3 +0.6
C22A	Vida	87.02	337	P	P	15 22 29.6 +0.8
	baz=87					

DGMT Dagmar 87.14 339 eP P 15 22 29.6 +0.2
comp=Z,44nm,1.0s
DGMT eP pP 15 22 43.6 +0.6
DGMT Dagmar 87.14 339 P P 15 22 30.3 +1.0
D20A Manuel Ranch, 87.19 336 P P 15 22 30.5 +0.9
baz=88
A25A Svangstu Ranch 87.24 340 P P 15 22 30.7 +0.9
baz=88
B23A Brockton 87.38 338 P P 15 22 30.6 +0.2
baz=88
C21A Desert Coulee 87.48 337 P P 15 22 31.1 +0.1
baz=88
WVOR Wild Horse Val 87.49 327 eP P 15 22 32.1 +0.8
WVOR pmax pmax
comp=Z,17nm,1.6s
WVOR Wild Horse Val 87.49 327 eP P 15 22 32.1 +0.8
comp=Z,17nm,1.6s
A24A Westby 87.49 339 P P 15 22 31.5 +0.5
baz=88
D19A Cripps Ranch, 87.51 335 P P 15 22 31.6 +0.4
baz=88
B22A Reddig Ranch S 87.55 338 P P 15 22 32.0 +0.7
baz=88
LRM Limekiln Ridge 87.67 333 eP P 15 22 32.5 +0.3
comp=Z,108nm,1.1s
LRM e 15 22 46.0
C20A Veseth Ranch, 87.69 336 P P 15 22 31.9 0.0
baz=88
A23A Redstone 87.78 339 P P 15 22 33.5 +1.1
baz=88
B21A Ellsworth Farm 87.98 337 P P 15 22 33.9 +0.6
baz=88
C19A Slack Wire Ran 88.06 336 P P 15 22 34.3 +0.5
baz=88
A22A Carney Farms, 88.13 338 P P 15 22 34.6 +0.6
baz=88
N02D Trinity Center 88.28 324 P P 15 22 35.6 +0.6
baz=89
B20A Solberg Farm, 88.32 337 P P 15 22 35.4 +0.4
baz=89
M04C Macdoel 88.47 325 P P 15 22 37.0 +1.0
baz=89
SCHQ Schefferville 88.52 3 P P 15 22 35.3 -0.4
comp=Z,2.3nm,0.4s,baz=201,slow=6.2,SNR=9.5
B19A Brinkman Farms 88.64 336 P P 15 22 37.1 +0.6
baz=89
M02C Callahan 88.67 324 P P 15 22 37.8 +1.0
baz=89
A20A Cobblestone Ra 88.67 337 P P 15 22 37.2 +0.5
baz=89
YBH Yreka Blue Hor 88.86 324 P P 15 22 38.0 +0.3
YBH Yreka Blue Hor 88.86 324 P P 15 22 38.0 +0.3
comp=Z,7.7nm,0.8s,baz=71,slow=3.9,SNR=6.5
A19A Klindworth Far 88.98 336 P P 15 22 38.7 +0.6
baz=89
MSO Missoula 89.08 332 P P 15 22 39.4 +0.7
baz=89
K04D Chiloquin, OR 89.08 325 P P 15 22 39.6 +0.8
baz=89
J05D Fort Rock, OR 89.34 326 P P 15 22 41.1 +1.0
baz=90
J04D Umpqua Nationa 89.72 326 P P 15 22 42.8 +1.0
baz=90
I05D Terrebonne, OR 90.21 327 P P 15 22 45.1 +1.2
baz=90
NEW Newport 91.50 331 P P 15 22 48.3 -1.5
comp=Z,1.5nm,0.7s,baz=136,slow=8.0,SNR=3.0
TAM Tamanrasset 92.31 64 eP P 15 22 54.2 -0.1
TAM pmax pmax
comp=Z,2.0nm,0.8s
TAM Tamanrasset 92.31 64 eP P 15 22 54.2 -0.1
comp=Z,2.2nm,0.8s
YKA Yellowknife Ar 102.20 341 P Pdif 15 23 37.2 -0.6
comp=Z,1.0nm,0.7s,baz=142,slow=4.5,SNR=9.9
YKA pP pPdif 15 23 50.7 -0.9
comp=Z,0.6nm,0.6s,baz=142,slow=4.7,SNR=5.0
YKA Yellowknife Ar 102.20 341 pP pPdif 15 23 50.8 -0.9
GERES GERESS Array B 111.73 45 PKiKP PKiKP 15 28 17.9 0.0
comp=Z,1.4nm,0.8s,baz=228,slow=1.2,SNR=5.1
ILAR Eielson Array 114.41 333 PKP PKPdf 15 28 21.5 -0.9
comp=Z,0.6nm,0.8s,baz=114,slow=2.9,SNR=5.8
VYHS Vyhne 114.66 47 ePKIKP PKPdf 15 28 23.8 +0.4
VYHS Vyhne 114.66 47 ePKP PKPdf 15 28 23.8 +0.4
WRA Warramunga Arr 121.07 208 PKP PKPdf 15 28 35.4 -1.4
comp=Z,2.9nm,0.8s,baz=162,slow=1.5,SNR=7.9
WRA pPKP pPKPdf 15 28 49.9 -1.1
comp=Z,1.4nm,0.6s,baz=166,slow=1.5,SNR=3.3
BRTR Keskin Array B 121.33 61 PKP PKPdf 15 28 36.1 -0.6
comp=Z,2.4nm,0.8s,baz=196,slow=3.2,SNR=10
BRTR pPKP pPKPdf 15 28 51.7 +0.7
comp=Z,1.3nm,0.8s,baz=270,slow=0.4,SNR=2.9
KIEV Kiev 121.74 47 ePKIKP PKPdf 15 28 35.7 -1.3
KIEV Kiev 121.74 47 ePKPdf PKPdf 15 28 35.6 -1.3
AKASG Malin Array Be 121.75 47 PKP PKPdf 15 28 35.6 -1.3
comp=Z,4.3nm,0.7s,baz=262,slow=2.8,SNR=15
AKASG pPKP pPKPdf 15 28 50.9 -0.4
comp=Z,0.7nm,0.6s,baz=269,slow=2.8,SNR=2.5
FINES FINESS Array B 122.64 34 PKP PKPdf 15 28 37.7 -0.7
comp=Z,2.9nm,0.9s,baz=121,slow=0.9,SNR=7.4
FINES pPKP pPKPdf 15 28 52.4 -0.2
comp=Z,1.1nm,0.6s,baz=173,slow=2.2,SNR=2.0
PMG Port Moresby 123.46 227 PKP PKPdf 15 28 41.6 +0.2
comp=Z,4.7nm,0.8s,baz=90,slow=7.2,SNR=3.8
ARCES ARCESS Array B 123.74 25 PKP PKPdf 15 28 39.9 -0.4
comp=Z,3.0nm,0.7s,baz=247,slow=3.5,SNR=11
ARCES pPKP pPKPdf 15 28 54.3 -0.2
comp=Z,5.9nm,1.1s,baz=251,slow=2.8,SNR=1.6
OBN Obninsk 127.03 43 i PKPdf 15 28 47.1 +0.2
OBN i 15 29 00.5
OBN pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 129.10 58 PKP PKPdf 15 28 52.0 +0.8
comp=Z,3.3nm,1.0s,baz=61,slow=2.5,SNR=4.4
GEYT Alibeck 139.32 69 PKP PKPdf 15 29 08.5 -2.2
comp=Z,2.5nm,0.6s,baz=260,slow=5.9,SNR=5.8
GEYT pPKP pPKPdf 15 29 26.1 +1.1
comp=Z,1.4nm,0.5s,baz=335,slow=6.4,SNR=1.8
SEY Seymchan 140.27 330 PKP PKPdf 15 29 10.5 -1.0
comp=Z,8.0nm,0.8s,baz=134,slow=1.8,SNR=9.6
SEY pPKP pPKPdf 15 29 26.5 +0.7
comp=Z,10nm,1.0s,baz=143,slow=3.2,SNR=5.0
KBL Kabul 147.42 78 ePKIKP PKPdf 15 29 24.9 -0.3
KBL Kabul 147.42 78 ePKPdf PKPdf 15 29 24.9 -0.3
HYB Hyderabad 148.44 114 i PKP PKPbc 15 29 29.5 -1.2
YAK Yakutsk 148.87 341 ePKIKP PKPdf 15 29 26.1 -0.3
YAK Yakutsk 148.87 341 ePKPdf PKPdf 15 29 26.1 -0.3
YSS Yuzh-Sakhalins 151.21 307 ePKIKP PKPbc 15 29 36.8 +0.3
AML Almayashu 151.46 63 P PKPbc 15 29 38.3 +0.5
SNR=5.4
EKS2 Erkin-Say 151.47 62 P PKPbc 15 29 38.3 +0.9
SNR=5.8
ASAJ Asahikawa 151.91 301 PKPbc PKPbc 15 29 38.1 -0.1
comp=Z,16nm,0.9s,baz=264,slow=6.9,SNR=5.9
USP Ospenovka 151.92 61 P PKPbc 15 29 39.0 +0.6
SNR=7.9
AAK Ala-Archa 152.00 62 P PKPbc 15 29 39.4 +0.7
SNR=5.9
UCH Uchtor 152.06 63 P PKPbc 15 29 40.2 +1.0
SNR=6.4
KURK Kurchatov 152.47 43 ePKIKP PKPdf 15 29 32.7 +0.4
KURK e 15 29 39.1
KURK Kurchatov 152.47 43 ePKPdf PKPdf 15 29 32.7 +0.4
KURK ePKPbc PKPbc 15 29 39.1 -0.1
NVS Novosibirsk 152.61 33 i PKIKP PKPbc 15 29 38.8 -0.6
NVS e 15 29 46.2
NVS pmax pmax
comp=Z,41nm,0.9s
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.7s
TKM2 Tokmak 2 152.77 61 P PKPbc 15 29 40.7 +0.2
SNR=5.3
ZAA0 Zalesovo Array 153.89 33 ePKPdf PKPdf 15 29 34.0 -0.3
ZAA0 ePKPbc PKPbc 15 29 42.0 -0.3
ZALV Zalesovo Beam 153.89 33 PKPbc PKPbc 15 29 42.4 +0.1
comp=E,27nm,0.7s,baz=299,slow=3.0,SNR=19
ZALV PKPab PKPab 15 29 55.7 +0.1
comp=E,30nm,0.9s,baz=299,slow=4.2,SNR=9.9
MJAR Matsushiro Arr 155.75 285 PKPab PKPab 15 30 03.2 -1.0
comp=E,1.4nm,0.8s,baz=90,slow=3.4,SNR=3.1
MKAR Makanchi Array 156.32 49 PKP PKPdf 15 29 37.6 -0.3
comp=E,2.7nm,0.9s,baz=302,slow=2.7,SNR=3.9
MKAR PKPab PKPab 15 30 06.1 -0.2
comp=E,4.8nm,0.7s,baz=305,slow=3.7,SNR=8.9
KLR Kul'dur 157.07 319 ePKIKP PKPdf 15 29 51.7 +13
CMAR Chiang Mai Arr 162.30 148 PKP PKPdf 15 29 45.2 -0.4
comp=E,2.4nm,1.0s,baz=254,slow=2.5,SNR=8.3
CMAR PKPab PKPab 15 30 32.1 -0.7
comp=E,1.3nm,0.9s,baz=217,slow=4.3,SNR=3.6
ZAK Zakamensk 163.12 12 e PKPab 15 30 35.9 +0.1
ZAK pmax pmax
comp=Z,2.0nm,1.1s
LSA Lhasa 164.55 101 ePKIKP PKPdf 15 29 48.9 +0.8
LSA Lhasa 164.55 101 ePKPdf PKPdf 15 29 48.9 +0.8
SONM Songino Array 166.03 6 PKP PKPdf 15 29 47.9 -0.4
comp=Z,1.3nm,0.8s,baz=292,slow=0.6,SNR=7.4
SONM PKPab PKPab 15 30 48.3 -0.4
comp=Z,1.8nm,0.7s,baz=332,slow=4.1,SNR=6.9
SONM pPKPab pPKPab 15 31 01.4 -1.1
comp=Z,2.0nm,0.8s,baz=345,slow=4.6,SNR=4.0

IDC **27** *15:11:20.8±1.2, 25.91N×128.67E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.6/41, mbtmp3.4/8, ML3.6/2, Error ellipse: s-maj=35.3km s-min=21.4km az=69.0*
ISCJB **27** *15:11:22.6±1.0, 25.93N±0.04×128.70E±0.04, h27km±7km, mb3.6/6, Error ellipse: s-maj=7.2km s-min=5.9km az=9.9*
JMA **27** *15:11:23.1±0.3, 25.92N×128.68E, h32km, M2.9*
ISC 27 15:11:22.9±2.1, 25.92N±0.05×128.66E±0.04, h16km±13km, n20, σ1.13/29, mb3.7/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.83	316	P	Pb	15 11 38.4	-0.4
JJT2	Tamagusuku 2	0.85	285	P	Pb	15 11 39.3	+0.1
JJT2				eS	Sg	15 11 50.7	+0.1
JOW	Kunigami	0.97	339	P	Pb	15 11 41.0	-0.3
JOW				eS	Sb	15 11 53.5	-0.4
JOW	Kunigami	0.97	339	Pn	Pb	15 11 41.1	-0.3
	5.1nm,0.3s,baz=145,slow=17,SNR=30						
JOW				Sn	Sb	15 11 53.9	0.0
	7.9nm,0.3s,baz=151,slow=29,SNR=14						
JIH	Iheya	1.27	331	P	Pn	15 11 45.6	-0.3
JIH				eS	Sb	15 12 01.8	-0.7
JOKE	Okinoerabujima	1.44	357	P	Pn	15 11 48.1	-0.1
JAGN	Aguni-jima	1.44	298	P	Pn	15 11 47.9	-0.3
JAGN				eS	Sn	15 12 05.8	-0.9
JKE	Kume jima 2	1.73	284	P	Pn	15 11 51.3	-1.0
JKE				eS	Sn	15 12 11.1	-3.0
JTK	Tokunoshima	1.88	8	P	Pn	15 11 54.1	-0.1
JTK				eS	Sn	15 12 15.8	-1.8
JMZ	Minamidaito 2	2.31	92	P	Pn	15 11 59.6	-0.6
JMZ				eS	Sn	15 12 26.2	-2.0
JAMN	Amaminishikomi	2.36	11	eS	Sn	15 12 28.1	-1.4
JAM	Amami Oshima	2.62	19	P	Pn	15 12 04.0	-0.5
JAM				eS	Sn	15 12 34.5	-1.4
JNU	Nakatsue	7.43	15	Pn	Pn	15 13 11.8	+1.1
	0.4nm,0.3s,baz=2.9,slow=6.1,SNR=5.7						
JCJ	Chichijima	12.17	81	Pn	Pn	15 14 14.8	-0.8
	2.9nm,0.3s,baz=285,slow=20,SNR=2.3						
SONM	Songino Array	28.02	327	P	P	15 17 15.6	+2.4
	0.6nm,0.5s,baz=139,slow=10,SNR=10.0						
MKAR	Makanchi Array	42.03	312	P	P	15 19 13.3	-0.2
	0.1nm,0.3s,baz=95,slow=8.5,SNR=4.1						
WRA	Warramunga Arr	45.92	173	P	P	15 19 45.4	+0.4
	0.5nm,0.6s,baz=353,slow=8.3,SNR=5.1						
GEYT	Alibeck	59.78	300	P	P	15 21 27.7	+0.4
	1.0nm,0.7s,baz=88,slow=16,SNR=2.2						
FINES	FINESS Array B	73.32	331	P	P	15 22 53.5	+0.2
	1.8nm,1.1s,baz=99,slow=8.6,SNR=2.7						
BRTR	Keskin Array B	77.53	308	P	P	15 23 19.0	+0.8
	0.5nm,0.9s,baz=68,slow=3.9,SNR=2.1						

IDC **27** *15:12:05.3±1.1, 34.22S×72.53W, h0km, mb4.4/8, mb1 4.6/8, mb1mx4.3/31, mbtmp4.4/8, Error ellipse: s-maj=49.3km s-min=24.8km az=46.0*
ISCJB **27** *15:12:06.2±0.6, 34.27S±0.07×72.5W±0.1, h17km, mb4.4/10, Error ellipse: s-maj=15.4km s-min=9.6km az=164.8*
NEIC **27** *15:12:10.5±0.4, 34.24S×72.42W, h35km, mb4.4/3, Error ellipse: s-maj=10.5km s-min=6.5km az=75.0*
ISC 27 15:12:08.1±0.7, 34.24S±0.09×72.5W±0.1, h17km, n19, σ0.63/19, mb4.5/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.66	167	Pn	Pn	15 13 45.7	+0.6
TRQA	Tornquist	9.30	117	Pn	Pn	15 14 21.0	-0.4
LVC	Limon Verde	12.00	16	ePn	Pn	15 14 59.6	+0.9
CPUP	Villa Florida	15.27	63	ePn	Pn	15 15 43.5	+0.7
LPAZ	La Paz	18.30	13	ePn	Pn	15 16 20.8	-1.0
PAYG	Puerto Ayora	37.33	330	P	P	15 19 20.4	+0.8
SDV	Santo Domingo	42.93	3	eP	P	15 20 05.8	-0.5
	3.8nm,0.8s						
SNAA	Sanae	51.50	158	P	P	15 21 12.5	+0.2
	3.9nm,0.7s,baz=274,slow=9.7,SNR=4.3						
SNAA	Sanae	51.50	158	eP	P	15 21 12.3	0.0
	9.3nm,1.1s						
QSPA	South Pole Qui	55.99	180	eP	P	15 21 44.9	-0.6
	3.9nm,0.9s						
TEIG	Tepich	56.22	342	P	P	15 21 47.0	-0.3
	14nm,0.7s,baz=162,slow=3.2,SNR=3.1						
TXAR	Lajitas Array	69.77	331	P	P	15 23 17.1	-0.3
	1.6nm,0.6s,baz=154,slow=8.5,SNR=6.3						
DBIC	Dimbokro	75.60	71	P	P	15 23 53.2	+0.9
	2.7nm,0.6s,baz=234,slow=3.9,SNR=2.9						
PDAR	Pinedale Array	83.82	333	P	P	15 24 36.9	+0.3
	0.6nm,0.7s,baz=147,slow=5.1,SNR=2.4						
NVAR	Mina Array Bea	83.88	325	P	P	15 24 36.8	-0.2
	1.3nm,0.7s,baz=150,slow=6.2,SNR=3.8						
TORD	Torodi Ar. Bea	84.63	70	P	P	15 24 40.4	-0.7
	4.3nm,0.7s,baz=230,slow=4.3,SNR=3.9						
YBH	Yreka Blue Hor	88.56	325	P	P	15 24 59.2	-0.5
	3.9nm,0.9s,baz=99,slow=8.5,SNR=4.7						
BRTR	Keskin Array B	122.27	61	PKP	PKPdf	15 31 02.4	+0.3
	0.9nm,0.8s,baz=209,slow=3.3,SNR=2.9						
MKAR	Makanchi Array	157.20	49	PKPab	PKPab	15 32 32.9	-0.6
	2.0nm,0.7s,baz=315,slow=2.6,SNR=3.7						

IDC 27 15:13:53.7±2.7, 34.59S×71.02W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.9/32, mbtmp3.8/4, Error ellipse: s-maj=705.8km s-min=34.3km az=64.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	50.72	158	P	P	15 22 54.7	-0.1
	0.9nm,0.7s,baz=284,slow=5.5,SNR=2.0						
TXAR	Lajitas Array	70.66	330	P	P	15 25 11.4	+0.2
	0.8nm,0.6s,baz=154,slow=8.5,SNR=5.2						
PDAR	Pinedale Array	84.67	333	P	P	15 26 29.4	0.0
	0.4nm,0.6s,baz=141,slow=5.8,SNR=2.6						
NVAR	Mina Array Bea	84.85	325	P	P	15 26 30.1	-0.2
	0.4nm,0.3s,baz=170,slow=5.5,SNR=4.3						

ISCJB **27** *15:19:05.2±0.5, 36.84S±0.07×72.6W±0.1, h35km, mb4.4/14, Error ellipse: s-maj=14.7km s-min=9.3km az=162.4*
IDC **27** *15:19:06.0±0.8, 36.90S×72.66W, h24km±5km, mb4.1/12, mb1 4.3/13, mb1mx4.2/32, mbtmp4.3/13, ML3.8/1, Error ellipse: s-maj=27.4km s-min=12.7km az=73.0*
NEIC **27** *15:19:07.2±0.4, 36.80S×72.60W, h35km, mb4.6/2, Error ellipse: s-maj=13.2km s-min=9.0km az=72.0*
ISC 27 15:19:06.9±0.5, 36.82S±0.07×72.7W±0.1, h35km, n36, σ1.53/41, mb4.4/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.25	157	Pn	Pn	15 20 07.8	-1.5
	1.3nm,0.3s,baz=325,slow=18,SNR=1.7						
PLCA				Lg	Lg	15 21 15.9	
	6.6nm,0.3s,baz=60,slow=20,SNR=2.7						
PLCA	Paso Flores	4.25	157	ePn	Pn	15 20 08.7	-0.5
PLCA				Lg	Lg	15 21 15.9	
TRQA	Tornquist	8.62	101	ePn	Pn	15 21 08.4	-0.8
LVC	Limon Verde	14.54	14	ePn	Pn	15 22 31.0	+0.6
CPUP	Villa Florida	16.75	56	ePn	Pn	15 22 58.8	+0.1
LPAZ	La Paz	20.85	12	P	P	15 23 45.8	-0.6
	6.1nm,0.7s,baz=175,slow=5.7,SNR=8.2						
LPAZ				pP	pP	15 23 53.8	-2.0
	4.1nm,0.6s,baz=181,slow=15,SNR=3.4						
SIV	San Ignacio	23.18	30	P	P	15 24 09.8	-0.8
	9.8nm,0.9s,baz=226,slow=14,SNR=4.6						
SDV	Santo Domingo	45.51	3	eP	P	15 27 20.7	-2.6
	2μm,3.6s						
SNAA	Sanae	49.19	157	P	P	15 27 50.6	-0.7
	1.5nm,0.9s,baz=279,slow=14,SNR=7.2						
SNAA	Sanae	49.19	157	eP	P	15 27 51.2	0.0
	4.3nm,0.9s						
QSPA	South Pole Qui	53.42	180	P	P	15 28 23.1	+0.1
	2.4nm,0.5s,baz=212,slow=4.9,SNR=9.9						
CELP	Cerrillos	54.91	7	eP	P	15 28 33.9	-0.2
TEIG	Tepich	58.62	343	P	P	15 28 59.9	-0.6
	4.1nm,0.3s,baz=170,slow=12,SNR=3.1						
TXAR	Lajitas Array	71.94	332	P	P	15 30 27.8	+1.0
	1.6nm,0.6s,baz=152,slow=8.7,SNR=17						
TXAR				pP	pP	15 30 35.6	-2.0
	0.6nm,0.6s,baz=148,slow=6.9,SNR=4.3						
WVT	Waverly	73.93	347	eP	P	15 30 37.5	-0.7
	8.5nm,0.8s						
DBIC	Dimbokro	76.61	71	P	P	15 30 57.6	+3.4
	4.4nm,0.7s,baz=201,slow=7.5,SNR=6.2						
DBIC	Dimbokro	76.61	71	eP	P	15 30 54.8	+0.6
ANMO	Albuquerque	78.01	332	eP	P	15 31 02.6	+0.8
TSUM	Tsumeb	78.97	106	P	P	15 31 09.9	+2.3
	2.4nm,1.0s,baz=205,slow=6.1,SNR=6.5						
TSUM	Tsumeb	78.97	106	eP	P	15 31 07.2	-0.3
BOSA	Boshof	79.25	118	P	P	15 31 07.9	-1.1
	4.9nm,1.1s,baz=288,slow=3.2,SNR=4.0						
TORD	Torodi Ar. Bea	85.68	70	P	P	15 31 42.6	+0.2
	0.9nm,0.8s,baz=242,slow=3.3,SNR=3.4						
NVAR	Mina Array Bea	85.90	326	P	P	15 31 45.2	+2.0
	1.6nm,0.7s,baz=149,slow=7.2,SNR=9.2						
NVAR				pP	pP	15 31 52.8	-1.5
	0.4nm,0.7s,baz=159,slow=5.3,SNR=2.5						
PDAR	Pinedale Array	86.04	334	P	P	15 31 44.8	+0.9
	0.4nm,0.8s,baz=120,slow=7.4,SNR=4.2						
ULM	Lac du Bonnet	89.08	345	P	P	15 31 58.4	+0.4
	3.7nm,0.6s,baz=158,slow=3.5,SNR=7.4						
YBH	Yreka Blue Hor	90.56	325	P	P	15 32 03.9	-1.3
	3.4nm,1.1s,baz=117,slow=4.5,SNR=3.1						
YKA	Yellowknife Ar	104.55	341	Pdiff	Pdif	15 33 12.1	+4.3
	0.1nm,0.6s,baz=148,slow=5.0,SNR=3.5						
GERES	GERESS Array B	114.51	46	PKP	PKPdf	15 37 44.1	+1.3
	0.4nm,0.7s,baz=29,slow=2.2,SNR=2.8						
ILAR	Eielson Array	116.45	333	PKP	PKPdf	15 37 46.7	+0.8
	0.3nm,0.8s,baz=185,slow=5.2,SNR=2.6						
WRA	Warramunga Arr	118.03	209	PKP	PKPdf	15 37 49.6	-0.9
	0.5nm,0.7s,baz=158,slow=1.6,SNR=4.9						
WRA				pPKP	pPKPdf	15 37 59.5	-2.5
	0.3nm,0.6s,baz=156,slow=1.5,SNR=1.8						
BRTR	Keskin Array B	123.64	63	PKP	PKPdf	15 38 02.0	+1.3
	0.6nm,0.7s,baz=188,slow=2.9,SNR=3.9						
PETK	Petropavlovsk-	141.67	311	PKP	PKPdf	15 38 36.0	+2.1
	11nm,1.0s,baz=145,slow=5.4,SNR=4.0						
PSI	Prapat	145.27	165	PKPbc	PKPbc	15 38 40.7	-0.6
	5.3nm,0.7s,baz=196,slow=7.3,SNR=3.6						
ZALV	Zalesovo Beam	156.87	35	PKP	PKPdf	15 38 59.1	+1.2
	0.8nm,0.5s,baz=355,slow=4.8,SNR=2.7						
ZALV				PKPab	PKPab	15 39 30.8	+2.9
	1.7nm,0.7s,baz=305,slow=5.2,SNR=4.6						
MKAR	Makanchi Array	158.95	54	PKP	PKPdf	15 39 01.3	+0.6
	0.5nm,0.7s,baz=5.8,slow=0.9,SNR=3.7						
MKAR				PKPab	PKPab	15 39 39.6	+2.4
	0.9nm,0.8s,baz=276,slow=4.3,SNR=4.5						
SONM	Songino Array	168.98	3	PKP	PKPdf	15 39 10.5	+0.5
	0.5nm,1.0s,baz=328,slow=2.2,SNR=2.6						
SONM				PKPab	PKPab	15 40 22.4	+1.2
	1.0nm,0.8s,baz=342,slow=4.8,SNR=8.5						

ISCJB **27** *15:21:39.5±0.8, 34.58S±0.08×73.5W±0.2, h33km, mb4.2/6, Error ellipse: s-maj=21.5km s-min=10.7km az=173.9*
NEIC **27** *15:21:41.8±0.6, 34.58S×73.55W, h35km, mb4.8/2, Error ellipse: s-maj=17.4km s-min=8.5km az=84.0*
IDC **27** *15:21:43.9±7.2, 34.54S×73.68W, h58km±66km, mb3.9/7, mb1 3.9/7, mb1mx3.7/33, mbtmp4.2/7, Error ellipse: s-maj=40.2km s-min=20.4km az=94.0*
ISC 27 15:21:41.8±0.8, 34.56S±0.09×73.5W±0.2, h35km, n15, σ0.81/14, mb4.3/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.60	160	ePn	Pn	15 23 16.1	-0.2
TRQA	Tornquist	9.95	114	ePn	Pn	15 24 01.9	-0.3
LVC	Limon Verde	12.57	20	ePn	Pn	15 24 37.8	-0.6
USHA	Ushuaia	20.58	172	P	P	15 26 17.4	0.0
	13nm,0.9s,baz=340,slow=12,SNR=3.0						
SIV	San Ignacio	21.61	34	P	P	15 26 30.4	+1.5
	3.8nm,0.7s,baz=233,slow=12,SNR=3.6						
SNAA	Sanae	51.53	158	P	P	15 30 44.3	+0.5
	1.5nm,0.7s,baz=272,slow=7.4,SNR=3.9						
SNAA	Sanae	51.53	158	eP	P	15 30 44.5	+0.7
	17nm,0.9s						
QSPA	South Pole Qui	55.67	180	P	P	15 31 14.6	+0.3
	7.3nm,0.9s,baz=139,slow=6.4,SNR=5.4						
QSPA	South Pole Qui	55.67	180	eP	P	15 31 13.6	-0.6
	7.9nm,1.1s						
TEIG	Tepich	56.26	343	eP	P	15 31 19.8	+1.1
TXAR	Lajitas Array	69.64	332	P	P	15 32 46.5	-1.1
	0.6nm,0.9s,baz=145,slow=9.7,SNR=3.3						
DBIC	Dimbokro	76.52	72	P	P	15 33 27.8	-0.8
	2.9nm,0.7s,baz=189,slow=5.4,SNR=3.8						
TORD	Torodi Ar. Bea	85.56	71	P	P	15 34 16.8	+0.1
	0.8nm,0.6s,baz=244,slow=3.2,SNR=3.7						
ZALV	Zalesovo Beam	155.35	32	PKPbc	PKPdf	15 41 40.4	+10
	0.8nm,0.6s,baz=329,slow=2.5,SNR=3.4						
MKAR	Makanchi Array	158.06	49	PKPab	PKPab	15 42 08.1	-0.1
	0.6nm,0.7s,baz=300,slow=4.1,SNR=3.8						

ISCJB **27** *15:22:10.8±1.8, 38.5S±0.2×73.3W±0.2, h18km, mb4.2/6, Error ellipse: s-maj=31.3km s-min=17.7km az=145.1*
IDC **27** *15:22:12.3±2.3, 38.51S×73.44W, h21km±6km, mb4.1/5, mb1 4.2/5, mb1mx3.9/30, mbtmp4.2/5, Error ellipse: s-maj=67.0km s-min=33.5km az=88.0*
NEIC **27** *15:22:14.6±0.8, 38.46S×73.30W, h35km, mb4.2/1, Error ellipse: s-maj=18.2km s-min=16.6km az=84.0*
ISC 27 15:22:12.0±1.3, 38.5S±0.2×73.4W±0.2, h18km, n15, σ0.80/16, mb4.2/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRQA	Tornquist	9.01	91	Pn	Pn	15 24 20.9	-0.3
LVC	Limon Verde	16.26	15	Pn	Pn	15 25 59.3	-0.4
CPUP	Villa Florida	18.16	53	P	Pn	15 26 22.8	-0.4
LPAZ	La Paz	22.57	13	P	P	15 27 11.6	-0.4
	3.8nm,0.8s,baz=181,slow=9.2,SNR=3.7						
SIV	San Ignacio	24.88	29	P	P	15 27 35.4	+1.6
	3.0nm,0.7s,baz=222,slow=15,SNR=2.5						
SAML	Samuel	30.79	20	eP	P	15 28 27.4	+0.7
	4.6nm,1.1s						
SDV	Santo Domingo	47.17	4	eP	P	15 30 43.8	0.0
DBIC	Dimbokro	77.67	71	P	P	15 34 07.5	-0.2
	6.8nm,0.7s,baz=229,slow=6.5,SNR=6.6						
DBIC				pP	pP	15 34 15.1	+1.4
	5.0nm,0.7s,baz=205,slow=6.0,SNR=3.8						
TSUM	Tsumeb	79.07	106	P	P	15 34 15.7	0.0
	1.8nm,0.7s,baz=203,slow=8.3,SNR=6.8						
TORD	Torodi Ar. Bea	86.76	71	P	P	15 34 54.7	-0.6
	0.7nm,0.6s,baz=220,slow=5.4,SNR=5.9						
TORD				pP	pP	15 35 01.8	+0.5
	0.9nm,0.6s,baz=229,slow=3.7,SNR=2.9						
BRTR	Keskin Array B	124.88	64	PKP	PKPdf	15 41 11.4	+0.6
	0.8nm,0.7s,baz=158,slow=5.8,SNR=5.0						
AKASG	Malin Array Be	125.97	50	PKP	PKPdf	15 41 11.1	-1.1
	0.3nm,0.4s,baz=262,slow=2.6,SNR=3.7						
FINES	FINESS Array B	127.26	37	PKP	PKPdf	15 41 14.1	-0.3
	1.8nm,1.0s,baz=152,slow=6.2,SNR=4.9						
PSI	Prapat	143.83	167	PKP	PKPdf	15 41 46.7	-0.1
	12nm,0.7s,baz=181,slow=1.8,SNR=12						
MKAR	Makanchi Array	160.34	57	pPKP	pPKPdf	15 42 16.9	+0.7
	0.6nm,0.6s,baz=296,slow=4.5,SNR=4.1						

IDC **27** *15:22:46.2±1.3, 36.04S×73.47W, h22km±4km, mb4.2/6, mb1 4.4/6, mb1mx4.1/28, mbtmp4.4/6, Error ellipse: s-maj=50.5km s-min=26.5km az=45.0*
ISCJB **27** *15:22:51.1±0.3, 35.55S±0.07×71.52W±0.10, h25km, mb4.8/28, Error ellipse: s-maj=13.3km s-min=7.8km az=139.9*
NEIC **27** *15:22:53.6±0.4, 35.46S×71.53W, h35km, mb5.0/25, Error ellipse: s-maj=14.5km s-min=9.0km az=56.0*
BJI **27** *15:23:04.1, 34.50S×74.90W, h35km, mB5.1/4, Ms5.3/2, Ms7 5.1/2*
ISC 27 15:22:50.4±1.2, 35.7S±0.1×71.9W±0.2, h9km±6km, n99, σ1.38/90, mb4.9/30, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.18	168	ePn	Pn	15 24 08.3	+0.2
TRQA	Tornquist	8.32	110	Pn	Pn	15 24 48.3	-3.0
LVC	Limon Verde	13.27	12	Pn	Pn	15 25 48.5	-11
CPUP	Villa Florida	15.58	57	Pn	Pn	15 26 25.3	-5.0
LPAZ	La Paz	19.59	11	P	P	15 27 21.1	+1.6
	8.2nm,0.7s,baz=198,slow=9.7,SNR=5.0						
NNA	Nana	23.99	348	P	P	15 28 04.6	-0.9
OTAV	Otavalo	36.23	349	P	P	15 29 47.6	-6.8
	34nm,1.7s						
PAYG	Puerto Ayora	38.78	330	P	P	15 30 13.7	-1.7
SDV	Santo Domingo	44.33	2	P	P	15 30 58.4	-2.7
	18nm,1.1s						
RCBR	Riachuelo	44.45	57	eP	P	15 30 58.5	-3.6
SNAA	Sanae	50.02	157	P	P	15 31 42.2	-2.6
	3.2nm,1.0s,baz=254,slow=6.9,SNR=5.3						
SNAA	Sanae	50.02	157	P	P	15 31 44.9	+0.1
	42nm,1.5s						
QSPA	South Pole Qui	54.58	180	P	P	15 32 21.0	+2.2
	16nm,1.1s						
TEIG	Tepich	57.70	342	eP	P	15 32 38.2	-3.3
034A	Hebbronville	67.31	334	P	P	15 33 46.7	+1.1
	baz=68						
834A	Tilden	68.24	335	P	P	15 33 51.9	+0.5
	baz=68						
735A	Kenedy	68.66	336	P	P	15 33 54.7	+0.7
	baz=69						
833A	Chaparral WMA,	68.72	334	P	P	15 33 54.6	+0.2
	baz=69						
832A	Faith Ranch, C	68.89	334	P	P	15 33 56.4	+0.9
	baz=69						
732A	Laxson Ranch,	69.29	334	P	P	15 33 58.4	+0.5
	baz=70						
632A	Uvalde	69.93	334	P	P	15 34 03.2	+1.2
	baz=70						
631A	Perdido Creek	70.13	334	P	P	15 34 04.9	+1.8
	baz=70						
533A	Kerrville	70.19	335	P	P	15 34 04.4	+0.9
	baz=70						
JCT	Junction City	70.83	335	eP	P	15 34 05.7	-1.7
	20nm,1.3s						
530A	J-C Ranch, Com	71.07	333	P	P	15 34 09.9	+0.9
	baz=71						
334A	Lometa	71.08	336	P	P	15 34 10.1	+1.2
	baz=71						
TXAR	Lajitas Array	71.23	331	P	P	15 34 01.4	-8.6
	0.9nm,0.8s,baz=153,slow=8.1,SNR=3.7						
TXAR				pP	pP	15 34 08.9	-3.9
	1.2nm,0.5s,baz=155,slow=9.9,SNR=6.8						
333A	Richland Sprin	71.32	336	P	P	15 34 10.7	+0.3
	baz=72						
WHTX	Lake Whitney	71.44	337	P	P	15 34 11.7	+0.7
	baz=72						
430A	Baggett Ranch,	71.61	334	P	P	15 34 11.9	-0.3
	baz=72						
429A	Davenport Ranc	71.71	333	P	P	15 34 12.5	-0.2
	baz=72						
231A	Bronte	72.33	335	P	P	15 34 17.0	+0.5
	baz=73						
Z35A	Perchaven, San	72.62	338	P	P	15 34 18.6	+0.5
	baz=73						
ABTX	Abilene, Hawle	72.73	336	eP	P	15 34 16.9	-2.0
	11nm,1.0s						
ABTX	Abilene, Hawle	72.73	336	P	P	15 34 19.6	+0.8
	baz=73						
X34A	Smith Ranch, M	73.97	338	P	P	15 34 27.7	+1.6
	baz=74						
Y31A	Rekieta Farm,	74.16	336	P	P	15 34 28.3	+1.1
	baz=74						
Y29A	Porterfield Fa	74.55	335	P	P	15 34 30.1	+0.6
	baz=75						
X31A	McDonald Ranch	74.68	336	P	P	15 34 31.4	+1.2
	baz=75						
MSTX	Muleshoe	75.04	334	eP	P	15 34 30.9	-1.5
	28nm,1.2s						
319A	Douglas	75.35	328	P	P	15 34 33.6	-0.7
	baz=76						
Z24A	Sheeppen Canyo	75.44	332	P	P	15 34 35.5	+0.7
	baz=76						
AMTX	Amarillo	75.48	335	eP	P	15 34 32.5	-2.4
	16nm,1.0s						
U34A	Anderson Ranch	75.59	339	eP	P	15 34 36.5	+1.1
	29nm,1.1s						
U34A	Anderson Ranch	75.59	339	P	P	15 34 37.7	+2.3
	baz=76						
DBIC	Dimbokro	75.63	71	P	P	15 34 36.5	+0.4
	4.8nm,0.8s,baz=191,slow=6.3,SNR=3.6						
DBIC				pP	pP	15 34 44.8	+5.8
	8.8nm,1.0s,baz=218,slow=5.9,SNR=3.3						
DBIC	Dimbokro	75.63	71	P	P	15 34 31.5	-4.7
	14nm,1.1s						
V31A	Spring Creek L	75.68	337	P	P	15 34 38.2	+2.2
	baz=76						
121A	Cookes Peak, D	75.71	329	P	P	15 34 36.2	-0.2
	baz=76						
ACSO	Alum Creek Sta	76.21	351	eP	P	15 34 38.1	-0.7
	17nm,1.0s						
TUC	Tucson	76.81	327	eP	P	15 34 41.3	-1.2
	18nm,1.2s						
LAZ	Ladron	77.08	331	eP	P	15 34 42.8	-1.4
	13nm,1.6s						
W24A	Lazy 6 Ranch,	77.12	332	P	P	15 34 46.5	+2.1
	baz=77						
U27A	Thompson Grove	77.26	335	P	P	15 34 46.8	+1.7
	baz=78						
ANMO	Albuquerque	77.28	331	eP	P	15 34 43.8	-1.5
	18nm,1.1s						
U26A	Atchley Ranch,	77.56	334	P	P	15 34 48.3	+1.4
	baz=78						
Q32A	Meitler Ranch,	78.26	339	P	P	15 34 52.3	+1.9
	baz=78						
R28A	Tribune	78.66	336	P	P	15 34 53.3	+0.5
	baz=79						
TSUM	Tsumeb	78.67	105	P	P	15 34 52.2	-1.3
	4.0nm,1.0s,baz=307,slow=10,SNR=3.5						
U22A	Llaves	78.70	332	P	P	15 34 54.0	+0.8
	baz=79						
X16A	Lo Mia Camp, P	78.89	328	P	P	15 34 54.2	0.0
	baz=79						
S25A	Robets Cordova	78.94	334	P	P	15 34 54.4	0.0
	baz=79						
R26A	Arlington	79.17	335	P	P	15 34 55.7	+0.1
	baz=80						
S24A	Houchin Ranch,	79.20	334	P	P	15 34 55.9	-0.1
	baz=80						
BOSA	Boshof	79.22	117	P	P	15 34 55.8	-0.6
	10nm,1.0s,baz=190,slow=5.7,SNR=6.4						
BOSA	Boshof	79.22	117	eP	P	15 34 56.7	+0.4
	12nm,1.0s						
Q28A	Sharon Springs	79.32	337	P	P	15 34 56.3	-0.1
	baz=80						
R24A	Sanders Place,	79.69	334	P	P	15 34 58.3	-0.2
	baz=80						
WUAZ	Wupatki	79.79	328	P	P	15 34 58.6	-0.4
	baz=80						
MVCO	Mesa Verde	80.06	331	P	P	15 35 00.3	-0.3
	baz=80						
P25A	Willow Gulch B	80.50	335	P	P	15 35 02.9	0.0
	baz=81						
U15A	North Rim	80.96	328	P	P	15 35 05.6	+0.1
	baz=81						
SMCO	Snowmass	81.20	333	eP	P	15 35 07.5	+0.6
	110nm,2.1s						
LBTB	Lobatse	81.52	115	P	P	15 35 08.3	-0.4
	18nm,1.3s						
O22A	Kremmling	81.91	334	P	P	15 35 10.4	-0.1
	baz=82						
CCUT	Cedar City	82.36	328	eP	P	15 35 12.7	-0.2
	18nm,1.3s						
R11A	Troy Canyon, C	84.00	327	eP	P	15 35 21.6	+0.5
	20nm,1.4s						
R11A	Troy Canyon, C	84.00	327	P	P	15 35 20.8	-0.4
	baz=84						
DUG	Dugway	84.35	330	eP	P	15 35 22.3	-0.6
	34nm,1.4s						
DUG	Dugway	84.35	330	P	P	15 35 22.4	-0.5
	baz=85						
TPH	Tonopah	84.52	326	eP	P	15 35 23.6	-0.2
	17nm,1.2s						
TORD	Torodi Ar. Bea	84.69	70	P	P	15 35 24.5	-0.5
	2.5nm,0.9s,baz=237,slow=4.9,SNR=5.1						
TORD				pP	PcP	15 35 32.2	+3.8
	5.3nm,1.1s,baz=242,slow=4.6,SNR=6.5						
NVAR	Mina Array Bea	85.30	325	pP	P	15 35 27.2	-0.6
	0.9nm,0.6s,baz=160,slow=5.6,SNR=4.3						
HVU	Hansel Valley	85.67	331	eP	P	15 35 28.6	-0.9
	5.6nm,1.0s						
IMW	Indian Meadow	86.77	333	eP	P	15 35 35.7	+0.7
	11nm,1.2s						
ULM	Lac du Bonnet	88.12	345	pP	P	15 35 42.7	+1.7
	3.8nm,0.9s,baz=135,slow=2.8,SNR=3.9						
MCMT	McKenzie Canyo	88.28	332	eP	P	15 35 41.1	-1.2
	3.6nm,1.2s						
MOD	Modoc	89.00	326	eP	P	15 35 44.8	-0.7
	7.7nm,1.0s						
AKASG	Malin Array Be	123.23	48	PKP	PKPdf	15 41 42.1	-5.0
	0.2nm,0.5s,baz=266,slow=2.5,SNR=3.1						
AKASG				pPKP	PKiKP	15 41 48.6	+1.2
	0.7nm,0.7s,baz=266,slow=2.5,SNR=2.4						
HYB	Hyderabad	148.12	117	i PKP	PKPdf	15 42 32.0	-1.9
KSH	Kashi	154.35	72	ePKP	PKPbc	15 42 48.5	-2.7
KSH				epPKP	PKPab	15 43 00.5	-4.9
KSH				esPKP		15 43 04.0	
KSH				eSKS	SKSdf	15 49 50.3	+0.4
KSH				eSKKS	SKKSac	15 53 41.0	+10
KSH				eSS	SS	16 06 40.8	+19
KSH				AMB	AMB		
	comp=Z,38nm,8.4s						
ZALV	Zalesovo Beam	155.56	34	PKPab	PKPab	15 43 07.1	-2.7
	2.0nm,0.7s,baz=323,slow=4.5,SNR=3.9						
ZALV				pPKPab	pPKPab	15 43 14.2	+1.4
	3.2nm,0.8s,baz=297,slow=6.5,SNR=4.3						
MKAR	Makanchi Array	157.75	52	PKP	PKPdf	15 42 43.6	-3.4
	0.6nm,0.8s,baz=256,slow=3.0,SNR=2.4						
MKAR				pPKP	pPKPdf	15 42 50.3	+0.3
	1.3nm,0.7s,baz=291,slow=5.1,SNR=5.5						
MKAR				PKPab	PKPab	15 43 20.4	+0.7
	1.0nm,0.9s,baz=267,slow=3.6,SNR=3.2						
WMQ	Urumqi	162.36	56	ePKP	PKPdf	15 43 04.0	+12
NJ2	Nanjing	170.34	251	ePKP	PKPdf	15 43 08.8	+10
GYA	Guiyang	170.75	172	PKP	PKPdf	15 43 10.0	+11
GYA				pPKP	pPKPdf	15 43 21.5	+19
GYA				PKPab	PKPab	15 44 33.8	+17
GYA				PKS	PKSdf	15 46 41.0	+9.0
GYA				PP	PP	15 48 26.3	+20
GYA				SKKS		15 55 07.8	
GYA				SS	SS	16 09 28.0	+19
GYA				AMB	AMB		
	comp=Z,120nm,8.2s						
GYA				LR	LR		
	comp=N,130nm,21.2s						
GYA				LR	LR		
	comp=E,120nm,21.6s						
GYA				LR	LR		
	comp=Z,140nm,24.3s						
CD2	Chengdu	174.04	141	PKP	PKPdf	15 43 11.3	+11
CD2				pPKP	pPKPdf	15 43 22.5	+19
CD2				sPKP		15 43 26.3	
CD2				PKS	PKSdf	15 46 42.0	+9.1
CD2				PP	PP	15 48 47.8	+24
CD2				SKS	SKSdf	15 50 08.8	+4.7
CD2				SKKS	SKKSac	15 55 28.5	+18
CD2				SS	SS	16 10 09.8	+28
CD2				AMB	AMB		
	comp=Z,220nm,6.2s						
HHC	Hu-ho-hao-te	174.14	333	ePKP	PKPdf	15 43 06.0	+5.6
HHC				sPKP		15 43 21.0	
LZH	Lanzhou	176.54	82	ePKP	PKPdf	15 43 16.5	+15
LZH				pPKP	pPKPdf	15 43 26.8	+22

*IDC **27** 15:23:28.6±0.5, 38.34S×73.87W, h0km, mb4.7/15, mb1 4.8/17, mb1mx4.6/31, mbtmp4.7/17, ML4.4/2, MS4.5/2, Ms1 4.4/2, ms1mx3.9/29, Error ellipse: s-maj=20.3km s-min=15.0km az=80.0*

*ISCJB **27** 15:23:32.4±0.3, 38.32S±0.06×73.75W±0.09, h33km, mb4.9/33, MS4.5/1, Error ellipse: s-maj=11.6km s-min=7.3km az=149.7*

*NEIC **27** 15:23:33.6±0.3, 38.28S×73.73W, h35km, mb5.2/23, Error ellipse: s-maj=11.4km s-min=7.4km az=74.0*

ISC 27 15:23:33.8±0.4, 38.37S±0.07×73.9W±0.1, h35km, n196, σ1.00/196, mb5.0/33, 61C-66D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.49	134	Lg	Lg	15 25 16.4	
	48nm,0.3s,baz=225,slow=20,SNR=2.4						
PLCA	Paso Flores	3.49	134	Pn	Pn	15 24 25.7	+0.1
PLCA				Lg	Lg	15 25 16.4	
CFAA	Coronel Fontan	8.18	36	Pn	Pn	15 25 32.1	+2.2
	1.6nm,0.3s,baz=104,slow=19,SNR=2.7						
CFAA				Lg	Lg	15 27 40.8	
	0.8nm,0.3s,baz=133,slow=19,SNR=3.5						
USHA	Ushuaia	16.88	169	Pn	Pn	15 27 26.2	-0.9
	0.2nm,0.3s,baz=312,slow=8.9,SNR=2.7						
CPUP	Villa Florida	18.39	54	P	P	15 27 44.2	-1.5
	1.0nm,0.3s,baz=214,slow=10,SNR=5.2						
CPUP				LR	LR	15 35 01.1	
	comp=Z,893nm,20.6s,baz=210,slow=38						
CPUP	Villa Florida	18.39	54	ePn	P	15 27 43.5	-2.2
	1.1nm,0.7s						
LPAZ	La Paz	22.57	14	P	P	15 28 31.8	+0.1
	28nm,1.0s,baz=143,slow=7.5,SNR=6.3						
LPAZ	La Paz	22.57	14	P	P	15 28 29.0	-2.7
	70nm,1.3s						
SIV	San Ignacio	24.98	30	P	P	15 28 54.0	-0.2
	8.7nm,1.0s,baz=228,slow=12,SNR=2.1						
NNA	Nana	26.40	353	LR	LR	15 37 20.4	
	comp=Z,1µm,19.5s,baz=144,slow=32						
ATAH	Atahualpa	31.36	351	P	P	15 29 52.6	+1.0
	4.4nm,0.6s,baz=151,slow=10,SNR=4.4						
OTAV	Otavalo	38.65	353	eP	P	15 30 53.4	-1.1
	48nm,1.4s						
SDV	Santo Domingo	47.10	4	P	P	15 31 59.1	-3.5
	26nm,1.1s						
SNAA	Sanae	48.15	156	P	P	15 32 10.7	+0.7
	10nm,1.1s,baz=276,slow=9.0,SNR=6.2						
SNAA	Sanae	48.15	156	eP	P	15 32 10.4	+0.3
	41nm,1.2s						
JTS	JuntasAbangare	49.50	346	P	P	15 32 20.1	-0.7
	9.2nm,0.9s,baz=207,slow=4.0,SNR=6.1						
JTS	JuntasAbangare	49.50	346	eP	P	15 32 19.9	-0.9
	66nm,1.8s						
QSPA	South Pole Qui	51.88	180	P	P	15 32 39.2	+0.7
	29nm,1.0s,baz=153,slow=3.6,SNR=9.7						
QSPA	South Pole Qui	51.88	180	eP	P	15 32 39.1	+0.7
	41nm,1.1s						
QSPA				ePcP	PcP	15 33 46.9	-4.0
834A	Tilden	70.06	337	⇑P	P	15 34 43.9	+1.8
	baz=70						
833A	Chaparral WMA,	70.51	336	⇑P	P	15 34 46.2	+1.4
	baz=71,SNR=5.4						
735A	Kenedy	70.52	338	⇑P	P	15 34 45.2	+0.3
	baz=71						
832A	Faith Ranch, C	70.66	336	⇓P	P	15 34 46.9	+1.2
	baz=71,SNR=5.7						
733A	Divot King Ran	70.84	336	⇓P	P	15 34 46.9	+0.1
	baz=71						
732A	Laxson Ranch,	71.07	336	⇑P	P	15 34 49.0	+0.8
	baz=71,SNR=6.6						
633A	Saathoff Ranch	71.50	337	⇑P	P	15 34 50.8	0.0
	baz=72,SNR=5.3						
632A	Uvalde	71.73	336	⇓P	P	15 34 52.8	+0.6
	baz=72,SNR=5.5						
534A	Blanco	71.82	338	⇑P	P	15 34 52.8	+0.1
	baz=72						
631A	Perdido Creek	71.90	336	⇓P	P	15 34 53.9	+0.7
	baz=72,SNR=5.4						
533A	Kerrville	72.03	337	⇓P	P	15 34 54.3	+0.3
	baz=72,SNR=6.9						
532A	Rocksprings	72.35	336	⇑P	P	15 34 56.1	+0.2
	baz=73,SNR=8.6						
434A	Burnet	72.49	338	⇓P	P	15 34 57.0	+0.3
	baz=73,SNR=10						
531A	Rocksprings	72.58	336	⇓P	P	15 34 58.3	+0.9
	baz=73,SNR=8.5						
336A	Riesel	72.62	340	⇓P	P	15 34 58.3	+0.8
	baz=73,SNR=5.6						
JCT	Junction City	72.64	337	eP	P	15 34 57.6	0.0
	36nm,1.3s						
JCT	Junction City	72.64	337	⇑P	P	15 34 57.9	+0.2
	baz=73,SNR=6.7						
433A	Art	72.68	337	⇑P	P	15 34 58.0	+0.2
	baz=73,SNR=7.1						
335A	Moody	72.69	339	⇓P	P	15 34 58.8	+1.0
	baz=73						
530A	J-C Ranch, Com	72.83	335	⇓P	P	15 34 59.7	+0.9
	baz=73,SNR=13						
TXAR	Lajitas Array	72.88	333	P	P	15 34 59.2	0.0
	5.3nm,0.8s,baz=152,slow=8.5,SNR=14						
334A	Lometa	72.97	338	⇓P	P	15 34 59.1	-0.4
	baz=73,SNR=14						
432A	Menard	73.01	337	⇑P	P	15 34 59.9	0.0
	baz=73						
431A	Sonora	73.08	336	⇑P	P	15 35 00.8	+0.5
	baz=73,SNR=6.5						
333A	Richland Sprin	73.18	338	⇑P	P	15 35 00.2	-0.6
	baz=74,SNR=6.5						
WHTX	Lake Whitney	73.36	339	eP	P	15 35 01.6	-0.2
	49nm,1.5s						
WHTX	Lake Whitney	73.36	339	⇓P	P	15 35 02.4	+0.6
	baz=74,SNR=5.8						
430A	Baggett Ranch,	73.38	336	⇓P	P	15 35 02.5	+0.4
	baz=74,SNR=11						
429A	Davenport Ranc	73.45	335	⇑P	P	15 35 03.2	+0.8
	baz=74,SNR=8.5						
332A	Millersview	73.46	337	⇓P	P	15 35 02.6	+0.1
	baz=74,SNR=11						
234A	Clairette	73.57	339	⇑P	P	15 35 03.1	0.0
	baz=74,SNR=5.1						
331A	San Angelo	73.61	336	⇑P	P	15 35 03.2	-0.2
	baz=74,SNR=8.7						
233A	Rising Star	73.80	338	⇑P	P	15 35 04.7	+0.2
	baz=74,SNR=5.1						
232A	Coleman	73.91	337	⇓P	P	15 35 05.4	+0.3
	baz=74,SNR=7.2						
RAR	Rarotonga	74.05	255	P	P	15 35 08.3	+2.0
	13nm,0.4s,baz=133,slow=19,SNR=4.3						
SWET	Sewanee	74.06	350	eP	P	15 35 05.4	-0.5
	168nm,1.6s						
134A	White-Moore Ra	74.09	339	⇓P	P	15 35 06.4	+0.3
	baz=74						
231A	Bronte	74.15	337	⇑P	P	15 35 06.7	+0.2
	baz=74,SNR=7.5						
329A	Wagon Wheel Ra	74.27	335	⇓P	P	15 35 07.4	+0.2
	baz=75						
230A	Sterling City	74.36	336	⇓P	P	15 35 07.8	0.0
	baz=75						
133A	Hamilton Ranch	74.36	338	⇑P	P	15 35 08.2	+0.5
	baz=75,SNR=6.8						
Z35A	Perchaven, San	74.57	340	⇓P	P	15 35 10.0	+1.2
	baz=75						
ABTX	Abilene, Hawle	74.59	338	eP	P	15 35 08.5	-0.6
	29nm,1.1s						
ABTX	Abilene, Hawle	74.59	338	⇑P	P	15 35 09.4	+0.4
	baz=75,SNR=6.5						
229A	Bryant Ranch,	74.66	336	⇑P	P	15 35 09.9	+0.5
	baz=75						
Z34A	Collier Ranch,	74.79	339	⇑P	P	15 35 10.9	+0.8
	baz=75						
131A	Roby	74.86	337	⇓P	P	15 35 10.7	+0.1
	baz=75						
Z33A	Whitaker Ranch	74.95	339	⇓P	P	15 35 11.7	+0.7
	baz=75						
130A	Snyder	74.97	337	⇓P	P	15 35 11.4	+0.1
	baz=75						
228A	UT Block 9, Go	75.05	335	⇓P	P	15 35 13.1	+1.3
	baz=75						
Z32A	Haskell	75.18	338	⇑P	P	15 35 12.6	+0.1
	baz=76,SNR=7.2						
Y34A	Reagan Ranch,	75.30	340	⇑P	P	15 35 13.2	+0.2
	baz=76,SNR=5.1						
Z31A	Sharp Cattle R	75.39	337	⇑P	P	15 35 13.7	+0.1
	baz=76,SNR=7.3						
128A	Castleberry Fa	75.48	335	⇑P	P	15 35 14.8	+0.6
	baz=76,SNR=5.9						
Z30A	Sanderson Ranc	75.66	337	⇓P	P	15 35 15.3	+0.1
	baz=76,SNR=7.9						
Z29A	Hungry Hill Ra	75.81	336	⇓P	P	15 35 16.2	+0.1
	baz=76,SNR=9.9						
Y32A	R-V Farms, Ver	75.82	338	⇑P	P	15 35 16.2	+0.2
	baz=76,SNR=5.3						
X34A	Smith Ranch, M	75.93	340	⇓P	P	15 35 17.4	+0.7
	baz=76						
Y31A	Rekieta Farm,	76.02	338	⇑P	P	15 35 17.8	+0.5
	baz=76						
X33A	Lawton	76.05	339	⇑P	P	15 35 17.8	+0.4
	baz=76						
X32A	Elmer	76.16	339	⇑P	P	15 35 18.3	+0.3
	baz=76						
Y29A	Porterfield Fa	76.36	336	⇑P	P	15 35 19.3	+0.1
	baz=77						
X31A	McDonald Ranch	76.56	338	⇑P	P	15 35 20.6	+0.4
	baz=77,SNR=6.6						
W33A	Caddo, Fort Co	76.62	339	⇓P	P	15 35 21.9	+1.4
	baz=77,SNR=8.1						
TUL1	Tulsa	76.64	342	eP	P	15 35 19.7	-1.0
	46nm,1.2s						
TUL1	Tulsa	76.64	342	⇑P	P	15 35 20.9	+0.2
	baz=77,SNR=8.2						
X30A	Coker Ranch, T	76.66	337	⇑P	P	15 35 22.5	+1.7
	baz=77						
W32A	Sentinel	76.81	339	⇓P	P	15 35 22.3	+0.7
	baz=77,SNR=9.4						
MSTX	Muleshoe	76.81	336	⇑P	P	15 35 23.1	+1.3
	baz=77						
Z25A	Roswell	76.83	334	⇓P	P	15 35 22.4	+0.4
	baz=77						
Y27A	Causey	76.86	335	⇓P	P	15 35 23.1	+0.9
	baz=77						
X29A	Tulia	76.91	337	⇑P	P	15 35 22.9	+0.5
	baz=77						
V34A	Guthrie	77.01	340	⇓P	P	15 35 22.8	+0.1
	baz=77						
W31A	Holland Ranch,	77.07	338	⇓P	P	15 35 24.0	+0.9
	baz=77						
V33A	Lossen Ranch,	77.20	340	⇓P	P	15 35 24.5	+0.6
	baz=78,SNR=5.8						
AMTX	Amarillo	77.31	337	eP	P	15 35 22.9	-1.7
	28nm,1.0s						
AMTX	Amarillo	77.31	337	⇓P	P	15 35 25.1	+0.6
	baz=78						
V32A	Arapaho	77.31	339	⇓P	P	15 35 25.5	+1.0
	baz=78						
Y25A	Mesa, Roswell	77.41	334	⇓P	P	15 35 25.5	+0.3
	baz=78						
W29A	Amraillo	77.52	337	⇑P	P	15 35 26.4	+0.6
	baz=78						
U34A	Anderson Ranch	77.58	341	⇓P	P	15 35 26.5	+0.6
	baz=78						
V31A	Spring Creek L	77.59	339	⇑P	P	15 35 27.3	+1.3
	baz=78						
Y24A	Capitan	77.67	334	⇑P	P	15 35 27.9	+1.2
	baz=78						
X26A	CR and CF Fran	77.68	335	⇑P	P	15 35 27.4	+0.6
	baz=78						
U33A	Lingo Farm, Me	77.73	340	⇑P	P	15 35 27.0	+0.2
	baz=78						
Y23A	Lovelace Mesa,	77.89	333	⇓P	P	15 35 29.5	+1.5
	baz=78						
W27A	Bowe Ranch, En	77.91	336	⇑P	P	15 35 28.8	+0.8
	baz=78						
U32A	Winter Ranch,	77.92	339	⇓P	P	15 35 28.5	+0.6
	baz=78						
X25A	Clemmons Ranch	77.95	334	⇓P	P	15 35 28.7	+0.5
	baz=78						
DBIC	Dimbokro	77.98	71	P	P	15 35 29.6	+0.9
	5.2nm,0.7s,baz=174,slow=10.0,SNR=4.7						
DBIC	Dimbokro	77.98	71	eP	P	15 35 28.1	-0.6
	41nm,1.4s						
W26A	Owens Ranch, T	78.16	335	⇓P	P	15 35 30.8	+1.5
	baz=78						
V28A	Channing	78.28	337	⇓P	P	15 35 31.3	+1.3
	baz=79						
T33A	Patterson Ranc	78.37	340	⇓P	P	15 35 31.4	+1.0
	baz=79						
W25A	X Bar L Ranch,	78.51	335	⇑P	P	15 35 31.7	+0.4
	baz=79						
U30A	WK&E Inc. Balk	78.53	338	⇑P	P	15 35 32.5	+1.3
	baz=79						
T32A	Huddler Ranch,	78.65	340	⇓P	P	15 35 32.8	+0.9
	baz=79						
ACSO	Alum Creek Sta	78.67	353	eP	P	15 35 30.8	-1.0
	32nm,1.3s						
LAZ	Ladron	78.71	332	eP	P	15 35 32.7	+0.2
	16nm,1.6s						
T31A	Randall Ranch,	78.78	339	⇑P	P	15 35 33.3	+0.7
	baz=79						
V26A	Tequesquite Ra	78.81	336	⇓P	P	15 35 33.3	+0.3
	baz=79						
W24A	Lazy 6 Ranch,	78.82	334	⇓P	P	15 35 33.8	+0.7
	baz=79						
W23A	Werner Place,	79.03	334	⇓P	P	15 35 35.4	+1.1
	baz=79						
U27A	Thompson Grove	79.08	337	⇓P	P	15 35 35.6	+1.2
	baz=79						
V25A	Rancho No Teng	79.13	335	⇓P	P	15 35 35.2	+0.4
	baz=79						
S31A	Mullinville	79.21	340	⇓P	P	15 35 35.9	+1.0
	baz=80						

V24A Rampart Ranch, 79.24 334 ⇓P P 15 35 36.6 +1.1
baz=80
T29A Hugoton 79.30 338 ⇑P P 15 35 36.4 +0.9
baz=80
U26A Atchley Ranch, 79.35 336 ⇑P P 15 35 37.1 +1.2
baz=80
BOSA Boshof 79.35 118 P P 15 35 36.9 +0.6
14nm,1.0s,baz=217,slow=5.4,SNR=5.0
BOSA Boshof 79.35 118 eP P 15 35 36.0 -0.3
20nm,1.0s
TSUM Tsumeb 79.44 106 P P 15 35 37.8 +0.8
3.0nm,0.9s,baz=248,slow=8.5,SNR=3.2
S30A Montezuma 79.51 339 ⇑P P 15 35 37.3 +0.7
baz=80
T28A Walsh 79.51 337 ⇑P P 15 35 37.7 +1.1
baz=80
U25A Circle Dot Ran 79.57 335 ⇓P P 15 35 38.2 +1.1
baz=80
S28A Manter 79.88 338 ⇑P P 15 35 39.2 +0.5
baz=80
V22A San Miguel Ran 79.98 333 ⇑P P 15 35 41.4 +2.0
baz=80
T26A Comanche Natio 80.02 336 ⇑P P 15 35 40.5 +0.9
baz=80
Q33A Connelly Farm, 80.08 341 ⇑P P 15 35 40.3 +0.7
baz=80
U23A El Rito 80.10 334 ⇓P P 15 35 42.1 +2.0
baz=80
T25A Trinidad 80.24 336 ⇑P P 15 35 42.3 +1.5
baz=81
Q32A Meitler Ranch, 80.25 341 ⇓P P 15 35 41.0 +0.4
baz=81
W18A Petrified Fore 80.31 331 ⇓P P 15 35 42.7 +1.5
baz=81
S26A Kim 80.39 337 ⇓P P 15 35 42.8 +1.4
baz=81
R29A Marienthal 80.43 339 ⇓P P 15 35 44.2 +2.6
baz=81
T24B San Luis 80.49 335 ⇓P P 15 35 43.8 +1.5
baz=81
R28A Tribune 80.55 338 ⇑P P 15 35 42.9 +0.7
baz=81
S25A Robets Cordova 80.73 336 ⇑P P 15 35 44.8 +1.4
baz=81
S24A Houchin Ranch, 80.96 335 ⇑P P 15 35 46.4 +1.6
baz=81
R26A Arlington 81.00 337 ⇓P P 15 35 45.9 +1.2
baz=81
P30A Selden 81.22 340 ⇑P P 15 35 46.6 +0.9
baz=82
WUAZ Wupatki 81.30 330 eP P 15 35 46.5 0.0
46nm,1.8s
R24A Sanders Place, 81.47 336 ⇑P P 15 35 49.4 +2.1
baz=82
Q26A Hugo 81.60 337 ⇓P P 15 35 49.1 +1.2
baz=82
S22A 4UR Ranch, Cre 81.60 334 ⇑P P 15 35 49.7 +1.6
baz=82
R23A Moffat 81.66 335 ⇑P P 15 35 49.7 +1.2
baz=82
O30A MW Ranch, Wils 81.77 340 ⇓P P 15 35 48.9 +0.3
baz=82
LBTB Lobatse 81.80 115 eP P 15 35 48.5 -0.9
27nm,1.3s
Q25A Bedland, Calha 81.81 337 ⇓P P 15 35 49.9 +0.7
baz=82
P26A Davis Ranch, A 82.13 337 ⇓P P 15 35 51.7 +1.0
baz=82
Q24A Divide 82.14 336 ⇑P P 15 35 52.0 +1.0
baz=82
P25A Willow Gulch B 82.34 337 ⇑P P 15 35 53.4 +1.6
baz=83
PV01 Paradox Valley 82.56 333 eP P 15 35 53.9 +0.8
O23A Lake Granby, G 83.53 336 ⇓P P 15 35 59.2 +1.1
baz=84
O22A Kremmling 83.68 335 ⇓P P 15 36 00.0 +1.1
baz=84
DUG Dugway 85.93 331 eP P 15 36 10.3 +0.3
15nm,1.4s
NVAR Mina Array Bea 86.66 327 P P 15 36 13.4 -0.3
1.7nm,0.8s,baz=147,slow=7.0,SNR=4.7
PDAR Pinedale Array 87.02 335 P P 15 36 15.2 -0.3
4.9nm,1.1s,baz=145,slow=5.4,SNR=9.1
TORD Torodi Ar. Bea 87.07 71 P P 15 36 16.5 +0.5
4.1nm,1.0s,baz=224,slow=4.7,SNR=5.4
HVU Hansel Valley 87.29 332 eP P 15 36 16.1 -0.6
11nm,1.0s
QLMT Earthquake Lak 89.48 334 eP P 15 36 27.5 +0.5
1.4nm,1.2s
MCMT McKenzie Canyo 89.97 333 eP P 15 36 30.4 +1.0
6.4nm,1.4s
ULM Lac du Bonnet 90.34 346 P P 15 36 30.2 -0.4
3.5nm,0.9s,baz=170,slow=3.3,SNR=2.8
SLMT Seeley Lake 92.28 334 eP P 15 36 39.8 -0.2
14nm,1.7s
BSMT Bassoo Peak 93.25 334 eP P 15 36 44.4 -0.1
4.3nm,1.1s
GERES GERESS Array B 116.24 47 PKP PKPdf 15 42 12.5 -0.4
1.3nm,0.8s,baz=211,slow=1.6,SNR=8.6
ILAR Eielson Array 117.39 333 PKP PKPdf 15 42 14.5 0.0
0.7nm,0.8s,baz=167,slow=2.8,SNR=6.7
VYHS Vyhne 119.09 49 ePKP PKPdf 15 42 19.2 +0.9
STHS Stebnicka Huta 120.92 49 e PKPdf 15 42 26.1 +4.3
BRTR Keskin Array B 125.16 64 PKP PKPdf 15 42 30.9 +0.4
1.5nm,0.8s,baz=187,slow=1.9,SNR=7.6
AKASG Malin Array Be 126.18 50 PKP PKPdf 15 42 31.1 -0.7
0.7nm,0.5s,baz=263,slow=2.6,SNR=7.2
GEYT Alibeck 142.58 75 PKhKP PKPpre 15 42 59.6
3.5nm,0.8s,baz=272,slow=3.7,SNR=6.0
ARU Arti 143.96 44 ePKPdf PKPbc 15 43 03.3 +0.7
PSI Prapat 144.00 168 PKP PKPbc 15 43 04.2 +0.2
17nm,0.8s,baz=204,slow=4.9,SNR=12
TIXI Tiksi 144.68 348 ePKPdf PKPab 15 43 03.5 -0.7
ABKAR Akbulak array 145.44 56 ePKPbc PKPab 15 43 08.0 +0.2
POO Poona 145.67 116 eP PKPdf 15 43 08.0 -0.8
HYB Hyderabad 148.12 123 i PKP PKPbc 15 43 16.0 -0.2
ASAJ Asahikawa 152.14 294 PKPbc PKPbc 15 43 25.2 +0.1
6.9nm,0.8s,baz=14,slow=4.9,SNR=4.5
YAK Yakutsk 152.23 336 ePKPbc PKPbc 15 43 24.1 -0.5
MJAR Matsushiro Arr 154.53 276 PKPab PKPab 15 43 44.8 -0.5
2.4nm,1.0s,baz=116,slow=2.9,SNR=4.3
ZALV Zalesovo Beam 158.66 36 PKP PKPdf 15 43 27.1 +0.3
2.1nm,0.8s,baz=211,slow=2.6,SNR=3.9
ZALV PKPab PKPab 15 44 02.6 +0.1
4.5nm,0.7s,baz=298,slow=6.2,SNR=6.2
CMAR Chiang Mai Arr 159.20 160 PKP PKPdf 15 43 29.7 +1.1
1.5nm,1.0s,baz=241,slow=2.7,SNR=7.0
CMAR PKPab PKPab 15 44 04.7 -0.9
2.9nm,1.1s,baz=223,slow=3.3,SNR=8.2
USRK Ussuriysk Arra 159.75 295 PKPab PKPab 15 44 07.8 +0.2
1.3nm,0.7s,baz=101,slow=15,SNR=3.7
MKAR Makanchi Array 160.59 57 PKP PKPdf 15 43 30.1 +0.8
2.3nm,1.0s,baz=289,slow=3.7,SNR=3.7
MKAR PKPab PKPab 15 44 11.5 +0.3
2.4nm,0.7s,baz=287,slow=4.2,SNR=8.8
TLY Talaya 166.57 7 PKP PKPdf 15 43 32.8 -2.0
0.9nm,0.2s,baz=90,slow=1.0,SNR=2.9
TLY PKPab PKPab 15 44 37.7 +0.6
0.6nm,0.5s,baz=330,slow=2.2,SNR=5.2
SONM Songino Array 170.53 359 PKP PKPdf 15 43 37.1 -0.6
2.0nm,1.1s,baz=0.0,slow=0.0,SNR=6.8
SONM PKPab PKPab 15 44 55.3 +0.4
2.5nm,1.0s,baz=345,slow=5.0,SNR=8.7

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*IDC **27** 15:24:26.3±1.1, 26°.04N×128°.45E, h0km, mb3.9/9, mb1 3.9/10, mb1mx3.8/26, mbtmp3.9/10, ML3.6/1, Error ellipse: s-maj=36.8km s-min=17.7km az=83.0*
*ISCJB **27** 15:24:28.3±0.9, 26°.04N±0°.04×128°.70E±0°.04, h30km±6km, mb3.7/9, Error ellipse: s-maj=6.8km s-min=5.8km az=167.6*
*JMA **27** 15:24:28.3±0.3, 26°.02N×128°.69E, h39km, M3.2*
ISC 27 15:24:28.1±1.5, 26°.01N±0°.05×128°.66E±0°.04, h17km±9km, n22, σ1°25/34, mb3.7/9, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
JNTH Nagotoyohara 0.76 311 P Pb 15 24 42.5 -0.4
JNTH eS Sg 15 24 53.5 +0.4
JJT2 Tamagusuku 2 0.83 279 P Pg 15 24 44.4 +0.1
JJT2 eS Sn 15 24 56.5 -0.4
JOW Kunigami 0.89 337 P Pb 15 24 44.7 -0.3
JOW S Sg 15 24 56.7 -0.3
JOW Kunigami 0.89 337 Pn Pb 15 24 44.9 -0.1
16nm,0.3s,baz=154,slow=17,SNR=46
JOW Sn Sn 15 24 57.5 -0.8
26nm,0.3s,baz=317,slow=19,SNR=32
JIH Iheya 1.19 329 P Pn 15 24 49.5 -0.5
JIH eS Sb 15 25 04.0 -1.4
JOKE Okinoerabujima 1.34 357 P Pn 15 24 51.7 -0.4
JOKE eS Sn 15 25 08.3 -1.3
JAGN Aguni-jima 1.40 295 P Pn 15 24 51.1 -1.7
JAGN eS Sn 15 25 09.3 -1.6
JKE Kume jima 2 1.71 281 P Pn 15 24 56.5 -0.7
JKE eS Sn 15 25 17.4 -1.3
JTK Tokunoshima 1.78 8 P Pn 15 24 57.7 -0.5
JTK eS Sn 15 25 18.7 -1.8
JAMN Amaminishikomi 2.27 12 P Pn 15 25 04.6 -0.2
JMZ Minamidaito 2 2.31 94 P Pn 15 25 04.7 -0.7
JMZ eS Sn 15 25 29.9 -3.6
JAM Amami Oshima 2.53 19 P Pn 15 25 07.7 -0.7
JAM eS Sn 15 25 36.8 -2.1
JNU Nakatsue 7.34 15 Pn Pn 15 26 16.2 +1.6
0.9nm,0.3s,baz=210,slow=20,SNR=11
JNU Sn Sn 15 27 37.1 -0.5
0.1nm,0.3s,baz=108,slow=19,SNR=3.3
SONM Songino Array 27.95 327 P P 15 30 19.1 +1.4
1.4nm,0.9s,baz=138,slow=7.7,SNR=6.2
SEY Seymchan 40.12 17 P P 15 32 03.8 +1.1
1.7nm,1.0s,baz=214,slow=7.3,SNR=2.6
MKAR Makanchi Array 41.97 312 P P 15 32 17.1 -1.1
1.0nm,0.7s,baz=94,slow=11,SNR=3.4
WRA Warramunga Arr 46.01 173 P P 15 32 51.7 +0.9
0.7nm,0.7s,baz=350,slow=8.2,SNR=4.8
FINES FINESS Array B 73.24 331 P P 15 35 58.2 +0.1
1.0nm,0.9s,baz=76,slow=5.9,SNR=5.1
AKASG Malin Array Be 75.95 320 P P 15 36 13.2 -0.8
1.8nm,0.7s,baz=58,slow=6.3,SNR=8.0
BRTR Keskin Array B 77.47 308 P P 15 36 24.0 +1.0
1.5nm,0.9s,baz=74,slow=5.3,SNR=7.2
YKA Yellowknife Ar 78.56 25 P P 15 36 29.8 +1.4
0.2nm,0.5s,baz=305,slow=5.3,SNR=6.8
NOA NORSAR Array B 79.68 334 P P 15 36 34.8 +0.2
0.8nm,0.7s,baz=52,slow=5.8,SNR=3.3

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*IDC **27** 15:26:17.0±0.8, 37°.87S×73°.73W, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.3/30, mbtmp4.2/13, ML4.7/1, Error ellipse: s-maj=25.9km s-min=19.0km az=94.0*
*ISCJB **27** 15:26:18.4±0°.7, 37°.81S±0°.08×73°.8W±0°.1, h18km, mb4.2/12, Error ellipse: s-maj=15.7km s-min=11.8km az=174.3*
*NEIC **27** 15:26:21.9±0.5, 37°.78S×73°.83W, h35km, mb4.6/2, Error ellipse: s-maj=14.3km s-min=10.4km az=82.0*
ISC 27 15:26:19.5±0.7, 37°.86S±0°.07×73°.9W±0°.1, h18km, n30, σ1°22/27, mb4.4/12, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PLCA Paso Flores 3.85 139 Pn Pb 15 27 26.4 -0.5
11nm,0.3s,baz=319,slow=14,SNR=2.9
PLCA Lg Lg 15 28 17.9
11nm,0.3s,baz=256,slow=19,SNR=2.9
PLCA Paso Flores 3.85 139 Pn Pn 15 27 19.6 +1.8
CFAA Coronel Fontan 7.76 38 Sn Sn 15 29 46.0 +7.1
0.9nm,0.3s,baz=230,slow=18,SNR=2.4
TRQA Tornquist 9.38 95 Pn Pn 15 28 35.5 +1.9
LVC Limon Verde 15.77 17 Pn Pn 15 29 59.3 -1.7
USHA Ushuaia 17.38 169 Pn Pn 15 30 17.4 -3.4
0.1nm,0.3s,baz=343,slow=7.8,SNR=3.0
CPUP Villa Florida 18.08 55 P Pn 15 30 29.1 -0.5
0.6nm,0.3s,baz=218,slow=14,SNR=2.8
CPUP Villa Florida 18.08 55 P P 15 30 30.1 +0.1
LPAZ La Paz 22.07 15 P P 15 31 14.5 +0.4
3.1nm,0.8s,baz=202,slow=13,SNR=3.1
LPAZ La Paz 22.07 15 P P 15 31 12.4 -1.7
7.6nm,0.8s
SIV San Ignacio 24.52 31 P P 15 31 38.5 +0.5
4.2nm,0.9s,baz=226,slow=14,SNR=2.2
BDFB Brasilia 31.77 53 P P 15 32 42.8 -0.2
5.6nm,0.8s,baz=225,slow=11,SNR=3.1
RCBR Riachuelo 46.95 57 P P 15 34 50.7 +1.3
11nm,1.0s,baz=270,slow=4.0,SNR=2.6
RCBR Riachuelo 46.95 57 P P 15 34 50.0 +0.6
SNAA Sanae 48.61 156 P P 15 35 02.6 +1.0
3.8nm,0.9s,baz=283,slow=6.1,SNR=6.2
SNAA Sanae 48.61 156 eP P 15 35 01.6 0.0
22nm,1.3s
QSPA South Pole Qui 52.39 180 P P 15 35 31.6 +1.3
4.3nm,0.9s,baz=130,slow=6.8,SNR=3.7
TXAR Lajitas Array 72.43 333 P P 15 37 45.4 +0.7
0.2nm,0.5s,baz=145,slow=9.5,SNR=2.3
DBIC Dimbokro 77.80 72 P P 15 38 15.1 -0.8
6.7nm,0.9s,baz=217,slow=6.4,SNR=4.8
BOSA Boshof 79.57 118 P P 15 38 24.4 -1.3
4.3nm,0.8s,baz=298,slow=4.0,SNR=4.0
NVAR Mina Array Bea 86.25 327 P P 15 39 00.9 +0.9
0.4nm,0.6s,baz=145,slow=3.3,SNR=2.8
PDAR Pinedale Array 86.57 334 P P 15 39 02.5 +1.0
1.5nm,1.1s,baz=187,slow=5.1,SNR=4.2
TORD Torodi Ar. Bea 86.88 71 P P 15 39 02.6 -0.8
1.9nm,0.9s,baz=254,slow=4.1,SNR=4.1
GERES GERESS Array B 115.88 47 PKP PKPdf 15 45 01.1 +0.6
0.2nm,0.3s,baz=211,slow=1.1,SNR=3.6
BRTR Keskin Array B 124.92 64 PKP PKPdf 15 45 17.6 -0.8
0.7nm,0.8s,baz=188,slow=4.4,SNR=4.0
AKASG Malin Array Be 125.83 50 PKhKP PKPpre 15 45 16.9
0.2nm,0.4s,baz=272,slow=2.4,SNR=4.4
GEYT Alibeck 142.43 75 PKhKP PKPpre 15 45 48.1
1.6nm,0.7s,baz=304,slow=10,SNR=3.3
PSI Prapat 144.49 168 PKP PKPab 15 45 53.9 +0.2
10.0nm,0.8s,baz=230,slow=3.9,SNR=7.3
ABKAR Akbulak array 145.14 56 ePKPdf PKPbc 15 45 54.8 0.0
MKAR Makanchi Array 160.28 55 PKPab PKPab 15 46 58.0 0.0
1.2nm,0.8s,baz=280,slow=4.3,SNR=5.5

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*IDC **27** 15:28:57.6±1.0, 35°.44S×72°.92W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.2/17, mbtmp4.2/7, ML3.7/1, Error ellipse: s-maj=41.1km s-min=25.5km az=80.0*
*ISCJB **27** 15:28:58.3±0.7, 35°.45S±0°.07×72°.9W±0°.1, h17km, mb4.2/7, Error ellipse: s-maj=21.1km s-min=9.8km az=171.3*
*NEIC **27** 15:29:02.7±0.5, 35°.43S×72°.89W, h35km, mb4.1/1, Error ellipse: s-maj=14.8km s-min=7.7km az=82.0*
ISC 27 15:29:00.1±0.7, 35°.43S±0°.09×73°.0W±0°.2, h17km, n18, σ0°82/19, mb4.5/7, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PLCA Paso Flores 5.62 161 Pn Pn 15 30 23.0 0.0
TRQA Tornquist 9.19 110 Pn Pn 15 31 12.0 +0.1
LVC Limon Verde 13.25 17 Pn Pn 15 32 08.5 +0.7
LPAZ La Paz 19.55 14 P Pn 15 33 29.0 +0.1
0.1nm,0.3s,baz=171,slow=8.0,SNR=3.0
SIV San Ignacio 22.08 32 P P 15 33 54.6 +0.1
22nm,1.2s,baz=221,slow=16,SNR=6.9
SAML Samuel 27.83 21 eP P 15 34 48.8 +0.2
SDV Santo Domingo 44.13 3 eP P 15 37 07.5 -0.5
SNAA Sanae 50.55 157 P P 15 37 58.5 +1.2
2.6nm,1.1s,baz=273,slow=6.5,SNR=4.1
SNAA Sanae 50.55 157 eP P 15 37 57.9 +0.6
41nm,1.8s
QSPA South Pole Qui 54.81 180 eP P 15 38 28.8 -0.1
1.8nm,1.0s
TXAR Lajitas Array 70.62 332 P P 15 40 15.2 +0.6
0.7nm,0.7s,baz=152,slow=8.3,SNR=4.4
DBIC Dimbokro 76.35 72 P P 15 40 47.2 -1.4
4.2nm,0.8s,baz=186,slow=10,SNR=3.2
BOSA Boshof 80.07 118 P P 15 41 08.4 -0.9
4.1nm,0.8s,baz=253,slow=11,SNR=3.9
PDAR Pinedale Array 84.70 334 P P 15 41 31.8 -1.3
0.9nm,1.2s,baz=144,slow=7.8,SNR=2.4
WRA Warramunga Arr 119.15 210 PKP PKPdf 15 47 48.6 -0.1
0.3nm,0.6s,baz=173,slow=1.4,SNR=4.1
BRTR Keskin Array B 123.18 62 PKP PKPdf 15 47 56.7 +0.8
0.7nm,1.0s,baz=333,slow=1.6,SNR=2.8
AKASG Malin Array Be 123.71 48 PKP PKPdf 15 47 56.8 +0.5
0.2nm,0.3s,baz=246,slow=2.1,SNR=3.9
ZALV Zalesovo Beam 155.83 33 PKP PKPdf 15 48 52.6 0.0
0.2nm,0.3s,baz=12,slow=7.8,SNR=2.6
ZALV PKPab PKPab 15 49 20.9 +1.5
1.8nm,0.7s,baz=316,slow=6.0,SNR=4.8

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*IDC **27** 15:30:51.5±0.7, 36°.11S×73°.29W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.2/19, mbtmp4.2/11, Error ellipse: s-maj=34.7km s-min=18.8km az=80.0*
*ISCJB **27** 15:30:54.2±0.6, 36°.10S±0°.07×73°.1W±0°.1, h28km, mb4.1/10, Error ellipse: s-maj=16.0km s-min=9.4km az=167.6*
*NEIC **27** 15:30:56.5±0.4, 36°.11S×73°.14W, h35km, mb4.1/2, Error ellipse: s-maj=10.8km s-min=6.8km az=79.0*
ISC 27 15:30:55.7±0.6, 36°.09S±0°.08×73°.2W±0°.1, h28km, n26, σ0°69/28, mb4.2/10, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PLCA Paso Flores 5.06 157 ePn Pn 15 32 10.2 +0.3
TRQA Tornquist 9.15 106 ePn Pn 15 33 05.1 -0.8
LVC Limon Verde 13.93 17 Pn Pn 15 34 11.8 +0.2
CPUP Villa Florida 16.66 59 Pn Pn 15 34 47.5 +0.4
LPAZ La Paz 20.23 14 P P 15 35 29.9 +0.5
2.0nm,0.7s,baz=193,slow=14,SNR=2.2
SIV San Ignacio 22.73 31 P P 15 35 56.1 +0.4
4.6nm,0.8s,baz=224,slow=13,SNR=4.0
NNA Nana 24.23 351 P P 15 36 09.5 -0.8
3.6nm,0.3s,baz=216,slow=14,SNR=3.4
NNA Nana 24.23 351 P P 15 36 09.5 -0.8
NNA Pn P 15 36 10.2 -0.2
SAML Samuel 28.51 21 eP P 15 36 48.9 +0.1
SDV Santo Domingo 44.80 4 P P 15 39 07.0 -0.4
SNAA Sanae 50.01 157 P P 15 39 48.0 +0.8
1.8nm,0.8s,baz=301,slow=6.3,SNR=4.3
SNAA Sanae 50.01 157 eP P 15 39 47.0 -0.2
1.4nm,0.8s
QSPA South Pole Qui 54.15 180 P P 15 40 18.6 +0.5
3.9nm,0.8s,baz=72,slow=3.2,SNR=6.9
QSPA South Pole Qui 54.15 180 eP P 15 40 17.7 -0.4
2.2nm,1.0s
TXAR Lajitas Array 71.13 332 P P 15 42 11.9 +0.2
1.3nm,0.7s,baz=153,slow=8.5,SNR=9.1
DBIC Dimbokro 76.72 71 P P 15 42 45.4 +0.7
2.4nm,0.6s,baz=197,slow=7.9,SNR=4.0
BOSA Boshof 79.91 118 P P 15 43 02.2 -0.2
1.4nm,0.7s,baz=346,slow=4.2,SNR=2.9
NVAR Mina Array Bea 85.09 326 P P 15 43 28.9 -0.2
1.0nm,0.6s,baz=145,slow=6.2,SNR=6.0
PDAR Pinedale Array 85.22 334 P P 15 43 31.0 +1.4
0.5nm,0.8s,baz=123,slow=5.9,SNR=2.6
ULM Lac du Bonnet 88.28 346 P P 15 43 43.3 -0.7
2.4nm,0.6s,baz=186,slow=1.3,SNR=4.8
WRA Warramunga Arr 118.49 210 PKP PKPdf 15 49 39.7 -1.6
0.3nm,0.6s,baz=158,slow=1.8,SNR=9.8
BRTR Keskin Array B 123.63 62 PKP PKPdf 15 49 50.6 0.0
0.4nm,0.6s,baz=202,slow=1.6,SNR=2.5
HYB Hyderabad 148.80 119 i PKP PKPbc 15 50 40.5 -0.6
ZALV Zalesovo Beam 156.48 34 PKP PKPdf 15 50 46.7 -0.6
0.3nm,0.3s,baz=0.0,slow=6.2,SNR=2.9
ZALV PKPab PKPab 15 51 17.1 +1.0
0.8nm,0.6s,baz=15,slow=6.0,SNR=3.0
MKAR Makanchi Array 158.80 52 PKP PKPdf 15 50 50.4 -0.1
0.5nm,0.8s,baz=299,slow=1.5,SNR=3.5
SONM Songino Array 168.26 1 PKPab PKPab 15 52 08.7 +0.7
0.4nm,0.7s,baz=326,slow=3.5,SNR=4.2

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*ISCJB **27** 15:35:46.8±0.6, 35°.48S±0°.06×72°.6W±0°.1, h20km, mb4.1/11, Error ellipse: s-maj=15.6km s-min=8.6km az=175.5*
*IDC **27** 15:35:46.0±0.7, 35°.42S×72°.72W, h0km, mb4.0/10, mb1 4.2/14, mb1mx4.1/29, mbtmp4.0/14, ML4.0/4, Error ellipse: s-maj=28.8km s-min=15.7km az=83.0*
*NEIC **27** 15:35:50.5±0.5, 35°.44S×72°.61W, h35km, mb4.2/3, Error ellipse: s-maj=14.8km s-min=8.2km az=88.0*
ISC 27 15:35:48.8±0.6, 35°.44S±0°.07×72°.7W±0°.1, h20km, n25, σ1°13/27, mb4.2/11, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
CFAA Coronel Fontan 5.31 45 Pn Pn 15 37 07.7 +0.6
1.2nm,0.3s,baz=232,slow=11,SNR=3.6
PLCA Paso Flores 5.53 163 Pn Pn 15 37 08.6 -1.5
1.5nm,0.3s,baz=324,slow=8.7,SNR=1.9
PLCA Paso Flores 5.53 163 Pn Pn 15 37 09.8 -0.3
TRQA Tornquist 8.95 110 ePn Pn 15 37 56.5 -0.4
LVC Limon Verde 13.19 15 ePn Pn 15 38 55.8 +0.5
LPAZ La Paz 19.50 13 P Pn 15 40 16.1 -0.5
0.4nm,0.3s,baz=191,slow=13,SNR=9.1
USHA Ushuaia 19.61 173 P P 15 40 14.8 -0.9
0.3nm,0.3s,baz=0.0,slow=3.0,SNR=2.6
SIV San Ignacio 21.97 31 P P 15 40 40.3 -1.2
8.6nm,0.9s,baz=230,slow=10,SNR=7.7
SAML Samuel 27.75 20 eP P 15 41 35.0 -1.3
SDV Santo Domingo 44.13 3 eP P 15 43 54.7 -1.5
6.1nm,0.8s
SNAA Sanae 50.45 157 P P 15 44 47.3 +2.6
1.8nm,0.9s,baz=274,slow=6.0,SNR=6.6
SNAA Sanae 50.45 157 eP P 15 44 44.8 +0.1
1.5nm,0.9s
APG El Apazote 52.94 338 P P 15 45 05.9 +1.8
3.6nm,0.5s,baz=105,slow=4.1,SNR=3.5
QSPA South Pole Qui 54.80 180 P P 15 45 17.8 +0.8
1.8nm,1.0s,baz=133,slow=5.2,SNR=2.5
QSPA South Pole Qui 54.80 180 eP P 15 45 17.1 +0.1
2.4nm,1.0s
TXAR Lajitas Array 70.75 332 P P 15 47 03.8 +0.1
0.4nm,0.7s,baz=148,slow=9.3,SNR=4.3
DBIC Dimbokro 76.12 71 P P 15 47 35.9 +0.4
1.3nm,0.5s,baz=201,slow=6.5,SNR=3.9
NVAR Mina Array Bea 84.78 326 P P 15 48 21.0 -0.8
0.4nm,0.7s,baz=111,slow=4.9,SNR=3.5
PDAR Pinedale Array 84.83 334 P P 15 48 21.7 -0.1
0.7nm,1.0s,baz=127,slow=7.0,SNR=3.8
TORD Torodi Ar. Bea 85.17 70 P P 15 48 24.5 +0.5
1.3nm,0.8s,baz=261,slow=4.0,SNR=6.4
ULM Lac du Bonnet 87.76 345 P P 15 48 35.5 -0.3
1.4nm,0.6s,baz=157,slow=13,SNR=2.8
BRTR Keskin Array B 122.96 62 PKP PKPdf 15 54 44.7 +1.0
0.2nm,0.4s,baz=156,slow=4.2,SNR=2.5
AKASG Malin Array Be 123.53 48 PKP PKPdf 15 54 45.5 +1.3
0.2nm,0.3s,baz=272,slow=4.2,SNR=2.7
ZALV Zalesovo Beam 155.71 33 PKP PKPdf 15 55 39.8 -0.8
0.2nm,0.3s,baz=300,slow=12,SNR=2.6
ZALV PKPab PKPab 15 56 07.3 +0.2
0.9nm,0.5s,baz=325,slow=4.2,SNR=3.7
SONM Songino Array 167.60 3 PKP PKPdf 15 55 50.9 -2.4
0.2nm,0.9s,baz=92,slow=3.3,SNR=2.1
SONM PKPab PKPab 15 56 59.9 +0.6
0.5nm,0.8s,baz=322,slow=4.0,SNR=5.3

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*IDC **27** 15:37:00.0±0.9, 25°.95N×128°.65E, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/32, mbtmp3.9/13, ML3.7/1, MS4.6/1, Ms1 4.6/1, ms1mx3.5/45, Error ellipse: s-maj=36.9km s-min=15.8km az=71.0*
*ISCJB **27** 15:37:01.6±0.5, 25°.93N±0°.03×128°.70E±0°.03, h27km, mb3.8/12, Error ellipse: s-maj=4.9km s-min=3.2km az=45.0*
*JMA **27** 15:37:04.2±0.3, 26°.02N×128°.68E, h40km±5km, M3.9*
ISC 27 15:37:03.5±0.7, 25°.96N±0°.04×128°.67E±0°.04, h27km, n37, σ1°26/56, mb3.9/12, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
JNTH Nagotoyohara 0.80 314 P Pn 15 37 18.5 -0.5
JNTH eS Sn 15 37 28.8 -1.3
JJT2 Tamagusuku 2 0.84 282 P Pn 15 37 19.9 +0.3
JJT2 eS Sn 15 37 31.4 +0.3
JOW Kunigami 0.94 338 P Pb 15 37 20.6 -0.5
JOW S Sb 15 37 31.9 -1.3
JOW Kunigami 0.94 338 Pn Pb 15 37 20.6 -0.5
42nm,0.3s,baz=172,slow=1.0,SNR=158
JOW Sn Sb 15 37 32.0 -1.1
51nm,0.3s,baz=300,slow=20,SNR=28
JIH Iheya 1.24 330 P Pb 15 37 25.3 -0.9
JIH S Sb 15 37 40.6 -1.2
JOKE Okinoerabujima 1.40 357 P Pn 15 37 27.2 0.0
JOKE eS Sn 15 37 43.6 -1.2
JAGN Aguni-jima 1.42 296 P Pb 15 37 28.2 -1.1
JAGN eS Sb 15 37 45.9 -1.2
JKE Kume jima 2 1.73 283 P Pn 15 37 31.8 +0.1
JKE eS Sn 15 37 51.8 -1.1
JTK Tokunoshima 1.84 8 P Pn 15 37 33.0 -0.2
JTK eS Sn 15 37 54.1 -1.5
JMZ Minamidaito 2 2.31 93 P Pn 15 37 37.5 -2.2
JMZ S Sn 15 38 01.7 -5.5
JAMN Amaminishikomi 2.32 11 P Pn 15 37 39.9 0.0
JAM Amami Oshima 2.58 19 P Pn 15 37 42.8 -0.7
JAM eS Sn 15 38 12.1 -1.9
JZK Kikaishima 2.62 26 P Pn 15 37 43.8 -0.2
JZK eS Sn 15 38 14.9 0.0
JOGS Gusukube 3.18 249 P Pn 15 37 52.2 +0.5
JOGS eS Sn 15 38 27.7 -1.1
JTAJ Takarajima 3.22 8 P Pn 15 37 50.6 -1.6

JTAJ eS Sn 15 38 27.1 -2.6
JMJ Miyako jima 2 3.26 250 eS **Sn 15 38 29.1 -1.5**
JIKM Ikemajima 3.26 252 P **Pn 15 37 53.2 +0.4**
JIKM eS Sn 15 38 30.4 -0.3
JIRB Irabujima 3.35 251 eS **Sn 15 38 31.5 -1.5**
JTJ Tarama 3.82 251 P **Pn 15 38 00.1 -0.4**
JTJ eS Sn 15 38 41.9 -2.7
JNN Nakanoshima 4.01 15 P **Pn 15 38 03.1 -0.1**
JNN eS Sn 15 38 47.7 -1.6
JISG Ishigakijimahi 4.17 252 P **Pn 15 38 04.4 -1.0**
JISG eS Sn 15 38 50.3 -3.0
JIJ Ishigaki jima 4.39 250 P **Pn 15 38 07.5 -0.9**
JIJ eS Sn 15 38 55.5 -3.3
JNU Nakatsue 7.39 15 Pn **Pn 15 38 50.9 +1.2**
1.2nm,0.3s,baz=180,slow=3.7,SNR=25
KSRS Korea Array 11.48 357 LR LR 15 44 42.1
comp=Z,3μm,19.9s,baz=346,slow=40
GTA Gaotai 27.61 306 eP **P 15 42 48.5 -0.2**
GTA pP **pP 15 42 56.0 -0.7**
GTA sP **sP 15 42 58.8 -1.2**
SONM Songino Array 27.99 327 P **P 15 42 52.5 +0.4**
0.5nm,0.5s,baz=119,slow=8.9,SNR=8.1
MKAR Makanchi Array 42.01 312 P **P 15 44 53.2 +0.8**
0.9nm,0.7s,baz=91,slow=7.3,SNR=7.9
ZALV Zalesovo Beam 42.70 323 P **P 15 44 57.8 -0.1**
0.4nm,0.4s,baz=81,slow=8.9,SNR=2.5
WRA Warramunga Arr 45.96 173 P **P 15 45 24.8 +0.4**
1.5nm,0.6s,baz=354,slow=8.4,SNR=13
STKA Stephens Creek 58.82 167 P **P 15 47 00.1 +0.6**
3.2nm,1.0s,baz=332,slow=12,SNR=2.7
GEYT Alibeck 59.76 300 P **P 15 47 07.9 +1.7**
1.1nm,0.7s,baz=64,slow=6.7,SNR=2.2
KBZ Khabaz 69.63 310 P **P 15 48 12.3 +1.9**
2.8nm,0.9s,baz=37,slow=5.1,SNR=5.8
FINES FINESS Array B 73.29 331 P **P 15 48 32.9 +0.7**
0.6nm,0.4s,baz=90,slow=6.9,SNR=13
AKASG Malin Array Be 75.99 320 P **P 15 48 48.0 0.0**
1.3nm,0.7s,baz=60,slow=6.5,SNR=8.3
BRTR Keskin Array B 77.51 308 P **P 15 48 57.8 +0.7**
1.0nm,0.8s,baz=116,slow=4.8,SNR=6.0
YKA Yellowknife Ar 78.60 25 P **P 15 49 03.7 +1.2**
0.1nm,0.5s,baz=300,slow=5.3,SNR=5.8
NOA NORSAR Array B 79.73 334 P **P 15 49 09.0 +0.3**
0.7nm,0.7s,baz=59,slow=5.2,SNR=3.5

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*ISCJB **27** 15:37:09.1±0.7, 36.°90S×73.°05W±0.°2, h14km, mb4.0/9, Error ellipse: s-maj=21.1km s-min=12.4km az=174.3*
*IDC **27** 15:37:12.3±0.9, 36.°92S×73.°36W, h26km±5km, mb3.7/8, mb1 4.0/10, mb1mx3.9/27, mbtmp3.9/10, ML4.4/2, Error ellipse: s-maj=30.4km s-min=16.9km az=84.0*
ISC 27 15:37:11.0±0.7, 36.°90S±0.°09×73.°3W±0.°2, h14km, n16, σ1.°73/20, mb4.0/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.40**	**151**	Pn	**Pn**	**15 38 19.0**	**+1.5**
	3.4nm,0.3s,baz=345,slow=18,SNR=2.7						
PLCA				Sn	Sb	15 39 21.6	+0.6
	1.5nm,0.3s,baz=233,slow=20,SNR=1.7						
CPUP	**Villa Florida**	**17.20**	**57**	Pn	**Pn**	**15 41 11.5**	**+0.6**
	0.4nm,0.3s,baz=215,slow=14,SNR=3.0						
LPAZ	**La Paz**	**21.04**	**14**	P	**P**	**15 41 56.0**	**+0.8**
	10.0nm,1.0s,baz=184,slow=6.2,SNR=7.1						
SIV	**San Ignacio**	**23.49**	**31**	P	**P**	**15 42 18.9**	**-1.6**
	4.4nm,0.6s,baz=233,slow=9.2,SNR=6.9						
SNAA	**Sanae**	**49.32**	**157**	P	**P**	**15 45 58.2**	**-1.1**
	0.5nm,0.7s,baz=285,slow=16,SNR=2.4						
QSPA	**South Pole Qui**	**53.34**	**180**	P	**P**	**15 46 28.9**	**-0.8**
	2.1nm,0.6s,baz=317,slow=1.6,SNR=11						
APG	**El Apazote**	**54.09**	**339**	P	P	15 46 31.3	-4.4
	2.8nm,0.5s,baz=102,slow=9.3,SNR=3.7						
TXAR	**Lajitas Array**	**71.78**	**332**	P	**P**	**15 48 32.9**	**-0.1**
	1.0nm,0.8s,baz=152,slow=9.4,SNR=7.7						
TXAR				pP	**pP**	**15 48 41.0**	**+3.3**
	0.9nm,0.6s,baz=152,slow=8.4,SNR=7.4						
NVAR	**Mina Array Bea**	**85.68**	**326**	P	**P**	**15 49 48.4**	**-1.1**
	0.2nm,0.5s,baz=147,slow=4.9,SNR=3.2						
PDAR	**Pinedale Array**	**85.89**	**334**	P	**P**	**15 49 49.9**	**-0.5**
	0.7nm,0.9s,baz=132,slow=2.7,SNR=3.4						
PDAR				pP	**pP**	**15 49 58.6**	**+3.6**
	0.5nm,0.9s,baz=170,slow=6.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**86.17**	**71**	P	**P**	**15 49 53.0**	**+0.8**
	0.8nm,0.9s,baz=262,slow=5.1,SNR=2.7						
WRA	**Warramunga Arr**	**117.73**	**210**	PKP	**PKPdf**	**15 55 56.1**	**-1.3**
	0.2nm,0.8s,baz=148,slow=1.5,SNR=2.9						
WRA				pPKP	**pPKPdf**	**15 56 04.0**	**+1.9**
	0.3nm,0.4s,baz=162,slow=1.4,SNR=2.0						
AKASG	**Malin Array Be**	**124.90**	**49**	PKP	**PKPdf**	**15 56 07.5**	**-2.5**
	0.1nm,0.3s,baz=234,slow=0.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**157.22**	**35**	PKPab	**PKPab**	**15 57 35.5**	**-1.2**
	0.7nm,0.5s,baz=276,slow=4.0,SNR=3.5						
MKAR	**Makanchi Array**	**159.39**	**54**	PKPab	**PKPab**	**15 57 44.9**	**-1.6**
	0.8nm,0.8s,baz=316,slow=3.3,SNR=6.3						
SONM	**Songino Array**	**169.07**	**1**	PKP	**PKPdf**	**15 57 16.5**	**-1.0**
	0.2nm,0.6s,baz=347,slow=5.9,SNR=2.1						
SONM				PKPab	**PKPab**	**15 58 28.5**	**-0.4**
	0.7nm,0.8s,baz=337,slow=3.3,SNR=6.3						

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*ISCJB **27** 15:43:22.0±1.3, 35.°7S±0.°2×73.°2W±0.°4, h17km, mb4.0/5, Error ellipse: s-maj=50.8km s-min=28.0km az=154.0*
*IDC **27** 15:43:25.0±1.1, 35.°73S×73.°14W, h25km±5km, mb3.8/5, mb1 3.9/5, mb1mx3.7/28, mbtmp4.0/5, Error ellipse: s-maj=42.0km s-min=25.5km az=52.0*
ISC 27 15:43:24.1±1.0, 35.°9S±0.°2×73.°2W±0.°3, h17km, n8, σ1.°32/14, mb4.1/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	**Sanae**	**50.25**	**157**	P	**P**	**15 52 19.6**	**+0.7**
	1.0nm,0.5s,baz=282,slow=9.2,SNR=8.5						
TXAR	**Lajitas Array**	**70.89**	**332**	P	**P**	**15 54 39.6**	**-0.7**
	0.2nm,0.5s,baz=163,slow=6.6,SNR=2.9						
TXAR				pP	**pP**	**15 54 47.4**	**+1.6**
	0.4nm,0.7s,baz=152,slow=8.7,SNR=3.3						
DBIC	**Dimbokro**	**76.69**	**72**	P	**P**	**15 55 14.0**	**-0.5**
	2.1nm,0.6s,baz=201,slow=6.4,SNR=3.1						
DBIC				pP	**pP**	**15 55 21.8**	**+1.7**
	2.5nm,0.7s,baz=193,slow=9.5,SNR=2.6						
BOSA	**Boshof**	**80.06**	**118**	P	**P**	**15 55 32.5**	**-0.7**
	2.7nm,0.8s,baz=217,slow=5.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**85.75**	**71**	P	**P**	**15 56 01.1**	**-1.5**
	1.2nm,1.0s,baz=234,slow=4.8,SNR=5.1						
TORD				pP	**pP**	**15 56 10.2**	**+1.9**
	1.0nm,0.8s,baz=247,slow=4.9,SNR=4.4						
WRA	**Warramunga Arr**	**118.67**	**210**	PKP	**PKPdf**	**16 02 10.9**	**-0.8**
	0.2nm,0.7s,baz=158,slow=1.7,SNR=3.3						
AKASG	**Malin Array Be**	**124.15**	**49**	PKP	**PKPdf**	**16 02 20.0**	**-1.1**
	0.1nm,0.3s,baz=264,slow=0.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**156.31**	**33**	PKP	**PKPdf**	**16 03 16.9**	**-0.2**
	0.3nm,0.4s,baz=23,slow=7.8,SNR=2.9						
ZALV				pPKP	**pPKPdf**	**16 03 24.2**	**+1.2**
	0.3nm,0.4s,baz=316,slow=4.0,SNR=2.2						
ZALV				PKPab	**PKPab**	**16 03 44.6**	**-0.8**
	1.1nm,0.6s,baz=316,slow=4.1,SNR=4.9						
ZALV				pPKPab	**pPKPab**	**16 03 52.6**	**+1.5**
	0.9nm,0.7s,baz=270,slow=5.2,SNR=2.5						

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*IDC **27** 15:44:45.8±0.7, 36.°14S×73.°42W, h0km, mb4.7/6, mb1 4.7/9, mb1mx4.6/32, mbtmp4.6/9, ML4.6/3, Error ellipse: s-maj=32.7km s-min=16.0km az=73.0*
*ISCJB **27** 15:44:49.1±0.5, 36.°13S±0.°06×73.°2W±0.°1, h33km, mb5.1/14, Error ellipse: s-maj=14.8km s-min=7.3km az=165.1*
*NEIC **27** 15:44:50.7±0.3, 36.°13S×73.°26W, h35km, mb5.5/6, Error ellipse: s-maj=12.1km s-min=6.4km az=76.0*
ISC 27 15:44:50.9±0.5, 36.°13S±0.°07×73.°3W±0.°1, h35km, n58, σ0.°99/55, mb5.3/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.08**	**156**	Pn	**Pn**	**15 46 05.4**	**+0.9**
	9.8nm,0.3s,baz=323,slow=8.8,SNR=5.5						
PLCA				Lg	Lg	15 47 28.4	
	18nm,0.3s,baz=263,slow=19,SNR=6.7						
PLCA	**Paso Flores**	**5.08**	**156**	ePn	**Pn**	**15 46 03.1**	**-1.4**
PLCA				Lg	Lg	15 47 28.4	
CFAA	**Coronel Fontan**	**6.16**	**44**	Pn	**Pn**	**15 46 20.6**	**+1.2**
	2.3nm,0.3s,baz=206,slow=8.8,SNR=10						
TRQA	**Tornquist**	**9.24**	**105**	ePn	**Pn**	**15 47 02.0**	**+0.5**
	185nm,1.4s						
LVC	**Limon Verde**	**13.99**	**17**	Pn	**Pn**	**15 48 06.4**	**-0.5**
USHA	**Ushuaia**	**19.00**	**171**	P	**P**	**15 49 09.5**	**+0.2**
	1.8nm,0.3s,baz=339,slow=11,SNR=12						
LPAZ	**La Paz**	**20.29**	**14**	Pn	**P**	**15 49 24.4**	**+0.1**
NNA	**Nana**	**24.25**	**351**	P	**P**	**15 50 04.3**	**-0.4**
SAML	**Samuel**	**28.58**	**21**	P	**P**	**15 50 42.8**	**-0.8**
OTAV	**Otavalo**	**36.50**	**351**	P	**P**	**15 51 53.3**	**-0.1**
SDV	**Santo Domingo**	**44.84**	**4**	P	**P**	**15 53 01.8**	**-0.1**
SNAA	**Sanae**	**50.02**	**157**	P	**P**	**15 53 42.0**	**+0.6**
	18nm,0.9s,baz=279,slow=7.8,SNR=47						
QSPA	**South Pole Qui**	**54.11**	**180**	P	**P**	**15 54 12.5**	**+0.4**
	28nm,1.0s,baz=162,slow=1.0,SNR=31						
TEIG	**Tepich**	**57.81**	**343**	P	**P**	**15 54 38.0**	**-0.8**
TXAR	**Lajitas Array**	**71.11**	**332**	P	**P**	**15 56 06.7**	**+1.0**
	0.9nm,0.6s,baz=155,slow=8.6,SNR=8.9						
CER	**Ceres**	**73.09**	**119**	eP	**P**	**15 56 15.6**	**-2.1**
CER				AMB	AMB	15 57 05.6	
	comp=Z,93nm,2.3s						
CER	**Ceres**	**73.09**	**119**	P	**P**	**15 56 15.6**	**-2.1**
	comp=Z,93nm,2.3s						
MNTX	**Cornudas Mount**	**73.88**	**332**	eP	**P**	**15 56 22.9**	**+0.8**
	comp=Z,118nm,1.3s						
SUR	**Sutherland**	**74.70**	**119**	P	**P**	**15 56 28.7**	**+1.4**
	comp=Z,14nm,1.0s,baz=196,slow=8.2,SNR=4.2						
UPI	**Upington**	**77.24**	**116**	eP	**P**	**15 56 41.1**	**-0.6**
UPI				AMB	AMB	15 57 25.1	
	comp=Z,143nm,5.0s						
UPI	**Upington**	**77.24**	**116**	P	**P**	**15 56 41.1**	**-0.6**
	comp=Z,143nm,5.0s						
WIN	**Windhoek**	**77.35**	**109**	eP	P	15 56 39.0	-3.6
WIN				AMB	AMB	15 57 17.1	
	comp=Z,22nm,4.9s						
GRM	**Grahamstown**	**78.14**	**123**	eP	P	15 57 01.1	+14
GRM				AMB	AMB	15 57 38.8	
	comp=Z,164nm,6.2s						
HVD	**Gariep Dam**	**79.00**	**120**	eP	**P**	**15 56 49.8**	**-1.8**
HVD				AMB	AMB	15 57 40.4	
	comp=Z,160nm,4.6s						
HVD	**Gariep Dam**	**79.00**	**120**	P	**P**	**15 56 49.8**	**-1.8**
	comp=Z,160nm,4.6s						
BOSA	**Boshof**	**79.98**	**118**	eP	**P**	**15 56 55.9**	**-1.0**
BOSA				AMB	AMB	15 57 42.9	
	comp=Z,109nm,5.2s						
BOSA	**Boshof**	**79.98**	**118**	P	**P**	**15 56 57.5**	**+0.6**
	comp=Z,12nm,0.9s,baz=230,slow=5.9,SNR=11						
SWZ	**Schweizer**	**80.87**	**117**	eP	**P**	**15 57 01.7**	**-0.1**
SWZ				AMB	AMB	15 57 45.9	
	comp=Z,123nm,6.0s						
SWZ	**Schweizer**	**80.87**	**117**	P	**P**	**15 57 01.7**	**-0.1**
	comp=Z,123nm,6.0s						
SEK	**Senekal**	**81.84**	**119**	eP	**P**	**15 57 07.2**	**+0.3**
SEK				AMB	AMB	15 57 52.8	
	comp=Z,138nm,2.3s						
SEK	**Senekal**	**81.84**	**119**	P	**P**	**15 57 07.2**	**+0.3**
	comp=Z,138nm,2.3s						
RUDU	**RUNDU**	**82.01**	**106**	eP	**P**	**15 57 08.9**	**+1.1**
RUDU				AMB	AMB	15 57 39.1	
	comp=Z,116nm,2.1s						
RUDU	**RUNDU**	**82.01**	**106**	P	**P**	**15 57 08.9**	**+1.1**
	comp=Z,116nm,2.1s						
LBTB	**Lobatse**	**82.33**	**115**	eP	**P**	**15 57 08.7**	**-0.7**
LBTB				AMB	AMB	15 57 50.7	
	comp=Z,84nm,2.5s						
LBTB	**Lobatse**	**82.33**	**115**	P	**P**	**15 57 08.7**	**-0.7**
	comp=Z,84nm,2.5s						
PRYS	**Parys**	**82.48**	**118**	eP	**P**	**15 57 09.7**	**-0.5**
PRYS				AMB	AMB	15 57 55.4	
	comp=Z,67nm,5.6s						
PRYS	**Parys**	**82.48**	**118**	P	**P**	**15 57 09.7**	**-0.5**
	comp=Z,67nm,5.6s						
KSR	**Koster**	**82.78**	**117**	eP	P	15 57 24.1	+12
KSR				AMB	AMB	15 57 56.2	
	comp=Z,55nm,5.3s						
WDLM	**Western Deep L**	**82.82**	**117**	eP	P	15 57 05.3	-6.8
WDLM				AMB	AMB	15 57 55.7	
	comp=Z,77nm,2.5s						
CRWM	**Crown Mines**	**83.36**	**118**	eP	**P**	**15 57 12.6**	**-2.3**
CRWM				AMB	AMB	15 57 59.7	
	comp=Z,80nm,4.8s						
OBSV	**Observatory**	**83.43**	**118**	eP	**P**	**15 57 15.8**	**+0.6**
OBSV				AMB	AMB	15 57 59.1	
	comp=Z,78nm,2.4s						
ERPM	**east rand prop**	**83.46**	**118**	eP	**P**	**15 57 14.9**	**-0.4**
ERPM				AMB	AMB	15 58 00.9	
	comp=Z,115nm,5.0s						
ERPM	**east rand prop**	**83.46**	**118**	P	**P**	**15 57 14.9**	**-0.4**
	comp=Z,115nm,5.0s						
SLR	**Silverton**	**83.85**	**117**	eP	**P**	**15 57 15.7**	**-1.6**
SLR				AMB	AMB	15 58 00.8	
	comp=Z,118nm,2.2s						
SLR	**Silverton**	**83.85**	**117**	P	**P**	**15 57 15.7**	**-1.6**
	comp=Z,118nm,2.2s						
NVAR	**Mina Array Bea**	**85.06**	**326**	P	**P**	**15 57 24.3**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=160,slow=5.6,SNR=5.5						
MSNA	**Messina**	**87.17**	**116**	eP	**P**	**15 57 33.1**	**-0.6**
MSNA				AMB	AMB	15 58 17.3	
	comp=Z,102nm,5.7s						
MSNA	**Messina**	**87.17**	**116**	P	**P**	**15 57 33.1**	**-0.6**
	comp=Z,102nm,5.7s						
ULM	**Lac du Bonnet**	**88.29**	**346**	eP	**P**	**15 57 38.4**	**+0.3**
WRA	**Warramunga Arr**	**118.41**	**210**	PKP	**PKPdf**	**16 03 34.0**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=157,slow=1.7,SNR=16						
BRTR	**Keskin Array B**	**123.74**	**63**	PKP	**PKPdf**	**16 03 44.3**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=246,slow=2.2,SNR=5.4						
AKASG	**Malin Array Be**	**124.37**	**49**	PKP	**PKPdf**	**16 03 44.5**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=259,slow=3.4,SNR=3.0						
PSI	**Prapat**	**146.06**	**166**	PKPbc	**PKPdf**	**16 04 27.0**	**0.0**
	comp=Z,29nm,0.8s,baz=168,slow=3.8,SNR=23						
HYB	**Hyderabad**	**148.88**	**119**	iP	**PKPbc**	**16 04 34.0**	**-1.3**
AAK	**Ala-Archa**	**154.37**	**65**	PKPbc	**PKPbc**	**16 04 48.3**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=178,slow=3.6,SNR=6.2						
AAK				PKPab	**PKPab**	**16 05 02.4**	**+0.6**
	comp=Z,2.7nm,0.6s,baz=248,slow=4.8,SNR=10						
ZALV	**Zalesovo Beam**	**156.56**	**34**	PKP	**PKPdf**	**16 04 41.0**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=266,slow=2.6,SNR=8.4						
MKAR	**Makanchi Array**	**158.90**	**52**	PKP	**PKPdf**	**16 04 44.6**	**0.0**
	comp=Z,1.8nm,0.8s,baz=294,slow=1.5,SNR=12						
CMAR	**Chiang Mai Arr**	**161.11**	**157**	PKP	**PKPdf**	**16 04 48.2**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=259,slow=2.0,SNR=5.1						

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*IDC **27** 15:45:34.6±0.3, 24.°89S×65.°37W, h0km, mb5.4/26, mb1 5.4/30, mb1mx5.4/32, mbtmp5.4/30, ML5.1/4, MS5.6/21, Ms1 5.6/21, ms1mx5.5/29, Error ellipse: s-maj=14.2km s-min=8.9km az=69.0*
*SJA **27** 15:45:35.7±0.4, 24.°85S×65.°68W, h9km±1km, ML6.0, Ms6.3*
*ISCJB **27** 15:45:36.1±0.5, 24.°73S±0.°02×65.°41W±0.°03, h19km±3km, mb6.0/292, MS5.7/31, Error ellipse: s-maj=4.5km s-min=3.7km az=165.0*
*NEIC **27** 15:45:37.0±0.2, 24.°87S×65.°60W, h10km, mb6.3/214, MD6.1(SJA), Depth from synthetics of broadband displacement seismograms. After SJA.*
NEIC Two people killed and two injured in the Salta area. Felt [V] at Cordoba and Salta and [IV] at San Miguel de Tucuman and San Salvador de Jujuy. Also felt at Libertador General San Martin, Mendoza, San Pedro and Santa Fe. Felt [II] at Asuncion, Paraguay. Felt at Antofagasta and Calama, Chile and at Tarija, Bolivia.
*GCMT **27** 15:45:37.0±0.7, 24.°91S×65.°59W, h27km±3km, MW6.3/52, Moment Tensor Solution. s52,c78; Duration: 3.°9 Moment tensor: Scale 10^{18}Nm; M_{rr}2.24±.39; $M_{\theta\theta}$-0.13±.20; $M_{\phi\phi}$-2.10±.22; $M_{r\theta}$-0.68±.36; $M_{r\phi}$0.55±.09; $M_{\theta\phi}$1.83±.32; Best double couple: $M_0$2.97200×10^{18} NP1:ϕ_s342.00000°, δ66.00000°, λ87.00000°. NP2: ϕ_s169.00000°, δ25.00000°, λ97.00000°. Principal axes: T 2.9750, Plg69.0000°, Azm245.0000°; N 0.0010, Plg3.0000°, Azm343.0000°; P -2.9690, Plg20.0000°, Azm74.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=50s.*
*MOS **27** 15:45:38.3±1.2, 24.°59S×65.°57W, h28km, mb6.3/57, MS5.6/11 Error ellipse: s-maj=10.4km s-min=6.3km az=106.1*
*BJI **27** 15:45:40.0, 23.°71S×65.°93W, h39km, mB6.2/43, Ms6.2/39, Ms7 6.1/37*
*LDG **27** 15:45:49.5, 23.°94S×65.°14W, h100km*
ISC 27 15:45:39.2±0.5, 24.°80S±0.°03×65.°46W±0.°04, h32km±3km, n1212, σ1.°10/1266, mb6.2/285, MS5.7/31, 253C-254D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.08**	**332** ⇓	iP	Pb	15 45 40.6	-4.4
SLA				AMPG		15 45 41.7	
	comp=Z,953μm,0.6s						
SLA				eS4	**Pb**	**15 45 44.3**	**-0.6**
SLA				eS	**Sb**	**15 45 44.7**	**-4.2**
SLA				AMSG		15 45 45.8	
	comp=Z,4884μm,0.6s						
SLA				AML	AML	15 45 46.6	
	comp=Z,1668μm,0.8s						
AZAP	**Zapla**	**0.67**	**32** ⇓	eP	**Pb**	**15 45 52.6**	**-0.1**
AZAP				AMPN		15 45 52.8	
	comp=Z,10μm,0.2s						
AZAP				iPg4	Pn	15 45 57.8	+5.0
AZAP				eS	**Sn**	**15 46 04.9**	**+2.5**
AZAP				AMSN		15 46 05.5	
	comp=Z,184μm,0.7s						
AZAP				iSg4		15 46 11.0	
ALOL	**LOMAS DE OLMED**	**1.67**	**55** ⇑	eP	**Pb**	**15 46 09.8**	**+0.3**
AHML	**Horco Molle**	**1.98**	**177** ⇑	iP	**Pn**	**15 46 11.4**	**+0.7**
AHML				AMPN		15 46 12.3	
	comp=Z,28μm,0.6s						
AHML				iPg4		15 46 16.5	
AHML				iS4	**Sb**	**15 46 36.8**	**-2.2**
AHML				AMSN		15 46 39.9	
	comp=Z,602μm,0.8s						
AHML				iSg4		15 46 55.0	
YJA	**Yavi**	**2.61**	**359** ⇑	eP	**Pb**	**15 46 24.4**	**-1.2**
YJA				iPg4		15 46 32.8	
YJA				AMPG		15 46 33.3	
	comp=Z,878nm,0.5s						
YJA				eS4		15 46 58.1	
YJA				iS4		15 47 14.2	
YJA				AMSG		15 47 18.4	
	comp=Z,1μm,1.4s						
YJA				iSg4		15 47 27.2	
CYA	**Choya**	**3.64**	**185** ⇓	eP	**Pn**	**15 46 33.6**	**+0.1**
CYA				iPg4	Pb	15 46 47.9	+4.9
CYA				iS4	**Sn**	**15 47 18.0**	**+2.6**
CYA				eS4	**Sn**	**15 47 18.6**	**+3.2**
CYA				iSg4		15 47 34.5	
CYA				AML	AML	15 47 37.3	
	comp=Z,38μm,0.7s						
LVC	**Limon Verde**	**3.84**	**304** ⇑	eP	**Pn**	**15 46 37.0**	**+0.7**
LVC				AMPN		15 46 40.3	
	comp=Z,30μm,3.5s						
LVC				eS4		15 47 37.7	
LVC				AMSN		15 47 41.0	
	comp=Z,186μm,5.9s						
AGUA	**GUANDACOL**	**5.40**	**209** ⇓	iP	Pn	15 47 00.8	+3.2
TCA	**Tanti**	**6.56**	**173** ⇑	iP	**Pn**	**15 47 13.0**	**-0.6**
TCA				iPg4		15 47 40.1	
TCA				eS4	**Sn**	**15 48 29.4**	**+2.0**
TCA				iSg4		15 49 42.1	
AMOG	**MOGNA**	**6.68**	**203** ⇓	iP	**Pn**	**15 47 14.5**	**-0.8**
AMOG				iS4	x	15 49 06.4	
RTLL	**Cerro Villicun**	**7.03**	**202** ⇓	iP	**Pn**	**15 47 21.6**	**+1.5**
CFAA	**Coronel Fontan**	**7.21**	**199**	Pn	**Pn**	**15 47 23.6**	**+1.0**
	comp=Z,3.9nm,0.3s,baz=22,slow=14,SNR=13						
CFAA				Lg	Lg	15 49 09.8	
	comp=Z,6.1nm,0.3s,baz=168,slow=17,SNR=3.1						
CFAA	**Coronel Fontan**	**7.21**	**199** ⇓	iP	**Pn**	**15 47 23.5**	**+1.0**
CFAA				iPg4		15 47 55.2	
CFAA				eS4	**Sn**	**15 48 44.5**	**+1.1**
CFAA				iSg4		15 49 21.3	
SJA	**San Juan**	**7.24**	**201** ⇓	iP	**Pn**	**15 47 24.1**	**+1.2**
SJA				AMPN		15 47 24.7	
	comp=Z,965nm,1.3s						
SJA				iPg4		15 47 58.4	
SJA				eSg4		15 49 16.9	
SJA				AMSN		15 49 25.3	
	comp=Z,11μm,0.6s						
SJA				iSg4		15 49 46.6	
CPUP	**Villa Florida**	**7.50**	**103**	Pn	**Pn**	**15 47 28.9**	**+2.4**
	comp=Z,35nm,0.3s,baz=261,slow=11,SNR=117						
CPUP				Lg	Lg	15 49 40.7	
	comp=Z,460nm,0.3s,baz=345,slow=20,SNR=4.3						
CPUP	**Villa Florida**	**7.50**	**103**	ePn	**Pn**	**15 47 27.0**	**+0.6**
	comp=Z,0.6nm,1.3s						
CPUP				eSg	Sb	15 49 36.8	+19
CPUP				Lg	Lg	15 49 40.7	
CPUP	**Villa Florida**	**7.50**	**103** ⇓	eP	**Pn**	**15 47 28.6**	**+2.2**
CPUP				AMPN		15 47 29.1	
	comp=Z,16μm,0.4s						
CPUP				iPg4		15 48 14.1	
CPUP				eS4	**Sn**	**15 48 53.6**	**+3.2**
CPUP				eS4	**Sn**	**15 48 53.6**	**+3.2**
CPUP				AMSN		15 48 59.7	
	comp=Z,195μm,0.9s						
CPUP				iSg4		15 49 59.5	
RTCV	**Cerro Valdivia**	**7.54**	**200** ⇓	eP	**Pn**	**15 47 27.8**	**+0.7**
ACAN	**Cantantal**	**7.60**	**191** ⇓	eP	**Pn**	**15 47 27.4**	**-0.5**
ASAL	**Salagasta**	**8.31**	**200** ⇓	iP	**Pn**	**15 47 38.0**	**+0.3**
ASAL				iPg4		15 47 57.3	
ASAL				eS4	**Sn**	**15 49 10.7**	**+0.2**
ASAL				iSg4		15 50 04.1	
ARCO	**CERRO ARCO**	**8.57**	**200** ⇓	iP	**Pn**	**15 47 41.9**	**+0.6**
ARCO				iPg4		15 48 28.1	
ARCO				eS4		15 50 03.5	
ARCO				iSg4		15 50 23.5	
ARCO				AML	AML	15 50 37.4	
	comp=Z,2μm,0.7s						
AAGR	**Agrelo**	**8.77**	**199** ⇓	iP	**Pn**	**15 47 42.6**	**-1.3**
AAGR				iPg4		15 48 13.2	
AAGR				eS4		15 50 07.6	
AAGR				iSg4		15 50 44.6	
LPAZ	**La Paz**	**8.83**	**343**	P	**Pn**	**15 47 47.6**	**+2.4**
LPAZ						15 49 27.9	
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
LPAZ				smax	smax		
	comp=N,2.0nm,0.3s						
LPAZ	**La Paz**	**8.83**	**343**	Pn	**Pn**	**15 47 47.6**	**+2.4**
	comp=N,5.2nm,0.3s,baz=145,slow=9.9,SNR=32						
LPAZ				Sn	**Sn**	**15 49 27.9**	**+4.0**
	comp=N,2.4nm,0.3s,baz=294,slow=22,SNR=3.8						
LPAZ				LR	LR	15 51 50.9	
	comp=N,126μm,21.1s,baz=149,slow=42						
LPAZ	**La Paz**	**8.83**	**343**	Pn	**Pn**	**15 47 43.2**	**-2.0**
LPAZ	**La Paz**	**8.83**	**343** ⇑	eP	**Pn**	**15 47 47.1**	**+1.9**
LPAZ				AMPN		15 47 52.3	
	comp=Z,63μm,4.5s						
LPAZ				ePg4		15 49 19.7	
LPAZ				AMSN		15 50 18.4	
	comp=Z,41μm,4.2s						
LPAZ				eSg4		15 51 10.9	
SIV	**San Ignacio**	**9.68**	**26**	Pn	**Pn**	**15 47 57.9**	**+1.5**
	comp=Z,76nm,0.3s,baz=228,slow=12,SNR=109						
SIV				Sn	**Sn**	**15 49 44.1**	**0.0**
	comp=Z,34nm,0.3s,baz=127,slow=20,SNR=3.7						
SIV				LR	LR	15 52 24.1	
	comp=Z,65μm,20.1s,baz=206,slow=42						
EDMA	**Eldorado**	**10.07**	**101** ⇓	eP	Pn	15 48 05.5	+3.8
EDMA				ePg4		15 48 11.5	
SAML	**Samuel**	**15.91**	**8**	ePn	**Pn**	**15 49 17.4**	**-3.5**
	comp=Z,138nm,1.0s						
PLCA	**Paso Flores**	**16.45**	**194**	eP	**Pn**	**15 49 28.3**	**+0.6**
PLCA	**Paso Flores**	**16.45**	**194**	Pn	**Pn**	**15 49 26.9**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=28,slow=14,SNR=2.9						
PLCA				Lg	Lg	15 54 14.1	
	comp=Z,6.1nm,0.3s,baz=149,slow=20,SNR=3.8						
PLCA				LR	LR	15 56 36.0	
	comp=Z,56μm,20.8s,baz=355,slow=40						
PLCA	**Paso Flores**	**16.45**	**194**	ePn	**Pn**	**15 49 28.3**	**+0.6**
PLCA				Lg	Lg	15 54 14.1	
NNA	**Nana**	**16.68**	**318**	P	**P**	**15 49 32.5**	**-0.4**
	comp=Z,4μm,1.6s,SNR=32						
NNA	**Nana**	**16.68**	**318**	iP	**P**	**15 49 33.2**	**+0.3**
NNA	**Nana**	**16.68**	**318**	Pn	**Pn**	**15 49 31.9**	**+1.1**
	comp=Z,1.7nm,0.3s,baz=160,slow=11,SNR=47						
NNA				Sn	**S**	**15 52 45.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=162,slow=16,SNR=1.6						
NNA	**Nana**	**16.68**	**318**	ePn	**Pn**	**15 49 31.9**	**+1.1**
	comp=Z,2μm,1.5s						
NNA				Sn	**S**	**15 52 45.2**	**-0.5**
BDFB	**Brasilia**	**18.72**	**64**	P	**Pn**	**15 49 59.4**	**+3.4**
	comp=Z,1.4nm,0.3s,baz=235,slow=12,SNR=17						
BDFB				Lg	Lg	15 55 33.5	
	comp=Z,4.2nm,0.3s,baz=146,slow=20,SNR=3.7						
BDFB				LR	LR	15 58 07.8	
	comp=Z,46μm,20.7s,baz=240,slow=40						
ATAH	**Atahualpa**	**21.48**	**323**	P	**P**	**15 50 27.5**	**+1.7**
	comp=Z,92nm,1.2s,baz=148,slow=7.8,SNR=72						
ATAH				S	Sn	15 54 31.6	-0.3
	comp=Z,13nm,1.0s,baz=156,slow=15,SNR=2.3						
EFI	**East Falkland**	**27.43**	**170** ⇑	iP	**P**	**15 51 18.1**	**-3.8**
OTAV	**Otavalo**	**27.88**	**331**	eP	**P**	**15 51 28.1**	**+1.2**

comp=Z,781nm,1.5s
USHA Ushuaia 30.08 183 P P 15 51 45.6 +0.1
comp=Z,51nm,0.7s,baz=353,slow=6.7,SNR=18
ROSC El Rosal 30.71 342 P P 15 51 52.8 +0.9
comp=Z,35nm,0.8s,baz=151,slow=3.3,SNR=18
ROSC LR LR 16 07 12.2
comp=Z,6µm,18.7s,baz=190,slow=42
SDV Santo Domingo 33.85 351 eP P 15 52 17.9 -1.3
comp=Z,670nm,1.2s
RCBR Riachuelo 34.04 61 P P 15 52 23.1 +2.3
comp=Z,95nm,0.9s,baz=223,slow=8.6,SNR=26
RCBR LR LR 16 05 26.2
comp=Z,19µm,21.4s,baz=222,slow=35
RCBR Riachuelo 34.04 61 eP P 15 52 23.8 +3.0
comp=Z,191nm,1.2s
PCRV Puerto La Cruz 34.77 1 P P 15 52 28.3 +1.3
comp=Z,302nm,1.1s,baz=174,slow=4.7,SNR=54
PCRV LR LR 16 08 24.4
comp=Z,22µm,18.7s,baz=170,slow=39
TPP Pointe-a-Pierr 35.12 7 e P 15 52 29.9 0.0
TBH Brigand Hill 35.33 7 e P 15 52 29.8 -1.9
TRN Trinidad (W) 35.45 7 e P 15 52 36.6 +3.9
BCIP Isla Barro Col 36.55 336 eP P 15 52 43.7 +1.5
comp=Z,2µm,1.9s
GRGR Grenville 36.89 6 eP P 15 52 45.8 +0.7
comp=Z,1µm,1.2s
GRW Mount Saint Ca 36.92 6 e P 15 52 46.6 +1.2
FCV Fort Charlotte 37.95 7 e P 15 52 53.9 -0.1
BHS Barnard House 38.10 7 e P 15 52 57.0 +1.7
SVV Soufriere Volc 38.11 7 e P 15 52 56.6 +1.2
SSV Crater Summit 38.12 7 e P 15 52 55.4 -0.2
SLB Belfond 38.63 7 e P 15 52 57.5 -2.4
RPN Rapa Nui 39.37 257 P P 15 53 05.6 -0.4
RPN pmax pmax
comp=Z,40nm,0.9s
RPN Rapa Nui 39.37 257 P P 15 53 05.6 -0.4
comp=Z,40nm,0.8s,baz=294,slow=4.8,SNR=6.4
FDF Fort de France 39.51 7 eP P 15 53 06.3 -0.9
FDF Fort de France 39.51 7 eP P 15 53 06.2 -0.9
FDF Fort de France 39.51 7 eP P 15 53 06.3 -0.9
comp=Z,2µm,1.1s
JTS JuntasAbangare 39.72 329 P P 15 53 10.5 +1.6
comp=Z,879nm,1.5s,SNR=46
JTS JuntasAbangare 39.72 329 ⇑iP P 15 53 09.1 +0.1
JTS pmax pmax
comp=Z,960nm,1.9s
JTS JuntasAbangare 39.72 329 P P 15 53 10.8 +1.8
comp=Z,68nm,0.9s,baz=137,slow=3.9,SNR=69
JTS JuntasAbangare 39.72 329 eP P 15 53 10.6 +1.6
comp=Z,2µm,2.4s
PMSA Palmer Station 39.99 179 P P 15 53 10.4 -0.1
comp=Z,60nm,0.9s,baz=348,slow=10,SNR=4.9
PMSA Palmer Station 39.99 179 eP P 15 53 12.0 +1.4
DLPL La Plaine 40.10 6 eP P 15 53 10.4 -1.6
BBL Barber's Block 40.53 6 eP P 15 53 11.9 -1.5
TBG Guadeloupe-3 40.57 6 eP P 15 53 13.7 -2.2
HMG Houelmont 40.70 6 eP P 15 53 16.1 -0.9
PHG Guadeloupe-2 40.73 6 eP P 15 53 16.7 -0.7
DOG Dongo Capester 40.75 6 eP P 15 53 16.4 -1.1
ECG Echelle 40.76 6 eP P 15 53 16.8 -0.8
LKG Breislack 40.76 6 eP P 15 53 16.0 -1.7
CRG Carmichael 40.77 6 eP P 15 53 15.6 -2.2
SSG Sans Toucher 40.80 6 eP P 15 53 16.7 -1.3
SEG Port Louis 41.13 6 eP P 15 53 19.4 -1.1
SEUS St. Eustatius 42.10 4 eP P 15 53 26.5 -2.0
SEUS St. Eustatius 42.10 4 eP P 15 53 27.6 -0.8
comp=Z,2µm,1.2s
SABA Saba 42.22 3 eP P 15 53 28.0 -1.4
SABA Saba 42.22 3 eP P 15 53 28.6 -0.8
comp=Z,2µm,1.1s
ANWB Willy Bob 42.36 5 eP P 15 53 28.0 -2.5
comp=Z,900nm,0.8s
ICMP Isla Caja de M 42.44 358 eP P 15 53 29.9 -1.3
CRPR Cabo Rojo, PR 42.57 358 eP P 15 53 30.9 -1.4
comp=Z,590nm,1.4s
CPD Cerro la Pandu 42.58 359 eP P 15 53 31.2 -1.2
CPD pmax pmax
comp=Z,1µm,1.5s
CPD Cerro la Pandu 42.58 359 eP P 15 53 31.2 -1.2
comp=Z,1µm,1.5s
OBIP Obispado Ponce 42.59 358 eP P 15 53 30.9 -1.5
comp=Z,3µm,2.2s
CELP Cerrillos 42.62 358 eP P 15 53 31.8 -0.9
SMRT St. Maarten 42.65 3 eP P 15 53 30.4 -2.5
SMRT St. Maarten 42.65 3 eP P 15 53 30.5 -2.5
comp=Z,4µm,1.7s
HUMP Col San Antoni 42.68 359 eP P 15 53 32.1 -1.0
LSP Las Mesas 42.74 358 eP P 15 53 32.7 -1.0
MPR Mayaguez 42.78 358 eP P 15 53 32.9 -1.0
comp=Z,989nm,1.9s
CBYP Canovanas 42.81 359 eP P 15 53 32.2 -2.1
comp=Z,2µm,1.8s
LRS Lares 42.85 358 eP P 15 53 33.0 -1.5
STVI Saint Thomas 42.89 1 eP P 15 53 33.3 -1.5
comp=Z,3µm,2.2s
AOPR Arecibo Observ 42.90 358 eP P 15 53 33.5 -1.5
comp=Z,2µm,1.6s
AGPR Aguadilla, PR 43.03 358 eP P 15 53 31.6 -4.4
comp=Z,1µm,1.6s
PCDR Punta Cana, DR 43.14 356 eP P 15 53 35.9 -1.0
JAKH Jacmel 43.32 350 eP P 15 53 38.5 +0.1
PAPH Port-au-Prince 43.53 351 eP P 15 53 40.6 +0.3
SMN1 Samana, DR 43.88 355 eP P 15 53 41.5 -1.4
SDDR Presa de Saban 43.88 352 eP P 15 53 41.5 -1.5
comp=Z,1µm,2.1s
MTDJ Mount Denham 44.35 343 eP P 15 53 46.6 -0.2
comp=Z,1µm,1.9s
GTBY Guantanamo Bay 45.44 347 eP P 15 53 54.3 -0.9
comp=Z,232nm,1.0s
GRTK Grand Turk 46.36 353 eP P 15 54 02.1 -0.4
comp=Z,861nm,1.0s
TEIG Tepich 49.95 332 eP P 15 54 30.1 -0.2
comp=Z,268nm,1.2s
VNA3 Neumayer Olymp 55.95 161 P P 15 55 15.5 +1.5
VNA1 Neumayer--Stat 56.13 160 P P 15 55 16.5 +1.3
VNA2 Neumayer--Watz 56.50 160 P P 15 55 16.5 -1.4
SACV Santiago Islan 56.82 50 P P 15 55 21.3 +0.4
comp=Z,374nm,1.1s,SNR=5.2
SACV Santiago Islan 56.82 50 eP P 15 55 22.6 +1.7
comp=Z,77nm,1.1s
BBSR BB Station 56.85 1 eP P 15 55 22.5 +1.8
comp=Z,488nm,1.5s
SNAA Sanae 58.14 161 P P 15 55 29.5 0.0
SNAA Sanae 58.14 161 ⇓iP P 15 55 29.7 +0.2
SNAA pmax pmax
comp=Z,86nm,1.3s
SNAA Sanae 58.14 161 P P 15 55 29.4 -0.1
comp=Z,13nm,1.1s,baz=285,slow=7.9,SNR=14
SNAA LR LR 16 16 50.5
comp=Z,2µm,21.9s,baz=298,slow=32
SNAA Sanae 58.14 161 eP P 15 55 28.0 -1.5
TIGA Tifton 58.55 342 eP P 15 55 32.2 -0.5
comp=Z,908nm,1.7s
RGRS Roger Stewart 59.08 346 eP P 15 55 35.9 -0.5
CSU Charleston Sou 59.12 346 eP P 15 55 35.2 -1.5
BRAL Brewton 59.22 338 eP P 15 55 38.4 +1.0
comp=Z,1µm,1.8s
NHSC New Hope 59.26 346 eP P 15 55 38.7 +1.0
comp=Z,1µm,1.2s
035A Encino 60.31 326 ⇑P P 15 55 45.9 +0.9
baz=61,SNR=5.7
GOGA Godfrey 60.37 343 eP P 15 55 44.7 -0.6
GOGA pmax pmax
comp=Z,950nm,2.1s
GOGA Godfrey 60.37 343 eP P 15 55 44.7 -0.6
comp=Z,950nm,2.1s
KVTX Kingsville 60.71 327 eP P 15 55 49.1 +1.4
comp=Z,820nm,1.5s
034A Hebbronville 60.71 326 ⇑P P 15 55 48.5 +0.8
baz=61,SNR=9.4
CNNC Cliffs of the 60.86 348 eP P 15 55 49.0 +0.5
comp=Z,714nm,1.8s
LRAL Lakeview Retre 61.06 339 eP P 15 55 49.0 -1.0
comp=Z,305nm,1.8s
934A Benavides 61.07 326 ⇑P P 15 55 51.3 +1.2
baz=61,SNR=14
835A Beeville 61.29 327 ⇑P P 15 55 53.1 +1.5
baz=62,SNR=6.9
933A Laredo 61.46 326 ⇑P P 15 55 53.3 +0.5
baz=62,SNR=33
KMSC Kings Mountain 61.48 345 eP P 15 55 52.6 -0.1
comp=Z,2µm,2.4s
KMSC Kings Mountain 61.48 345 ⇓P P 15 55 53.5 +0.8
baz=62,SNR=54
834A Tilden 61.51 327 ⇓P P 15 55 53.8 +0.7
baz=62,SNR=22

VBMS Vicksburg 61.54 336 eP P 15 55 53.1 -0.1
comp=Z,728nm,1.9s
HKT Hockley 61.74 330 eP P 15 55 54.6 0.0
HKT pmax pmax
comp=Z,1µm,2.5s
HKT Hockley 61.74 330 eP P 15 55 54.6 0.0
comp=Z,1µm,2.5s
735A Kenedy 61.75 328 ⇑P P 15 55 55.2 +0.5
baz=62,SNR=9.5
BBTS Babate 61.77 56 P P 15 55 56.0 +1.0
comp=Z,54nm,0.9s,baz=246,slow=1.7,SNR=16
636A Smothers Creek 61.91 329 ⇓P P 15 55 56.8 +1.0
baz=62,SNR=9.3
537A Green Hill Far 62.08 330 ⇓P P 15 55 57.9 +1.1
baz=62,SNR=8.6
833A Chaparral WMA, 62.10 326 ⇓P P 15 55 57.6 +0.6
baz=62,SNR=63
734A La Parita Cree 62.11 327 ⇑P P 15 55 57.7 +0.6
baz=62,SNR=12
340A Bronson 62.16 333 ⇓P P 15 55 58.0 +0.6
baz=62,SNR=11
635A Leesville 62.18 328 ⇑P P 15 55 57.5 0.0
baz=62,SNR=11
832A Faith Ranch, C 62.36 326 ⇓P P 15 55 58.6 -0.2
baz=63,SNR=58
339A Huntington 62.37 332 ⇑P P 15 55 59.6 +0.7
baz=63,SNR=9.8
733A Divot King Ran 62.37 326 ⇑P P 15 55 59.0 0.0
baz=63,SNR=16
536A Bastrop 62.42 329 ⇓P P 15 55 59.8 +0.7
baz=63,SNR=5.8
TKL Tuckaleechee C 62.57 343 eP P 15 55 59.2 -0.9
TKL Tuckaleechee C 62.57 343 eP P 15 55 59.2 -0.9
CPCT Cooper Cave 62.58 343 P P 15 56 00.2 +0.1
535A Dale 62.62 329 ⇓P P 15 56 00.6 +0.1
baz=63,SNR=9.4
NVL N'lazarevskaya 62.63 159 eP P 15 55 58.5 -1.6
NVL eS S 16 04 25.0 -0.8
NVL pmax pmax
comp=Z,114nm,2.2s
338A Crockett 62.71 331 ⇓P P 15 56 02.4 +1.2
baz=63,SNR=16
732A Laxson Ranch, 62.72 326 ⇓P P 15 56 01.8 +0.6
baz=63,SNR=57
SWET Sewanee 62.76 341 eP P 15 56 00.2 -1.2
comp=Z,457nm,1.5s
NATX Nacogdoches 62.78 332 eP P 15 56 00.4 -1.2
comp=Z,215nm,1.0s
436A Wall Ranch, Ga 62.88 330 ⇑P P 15 56 03.5 +1.2
baz=63,SNR=8.7
RKT Rikitea 62.89 256 eS S 16 04 33.4 +2.9
comp=Z,8µm,35.8s
RKT eLQ LQ 16 12 08.2
comp=Z,4µm,30.5s
RKT eLR LR 16 14 46.1
comp=Z,17µm,30.2s
633A Saathoff Ranch 62.92 327 ⇓P P 15 56 02.6 +0.1
baz=63,SNR=29
337A Centerville 62.93 331 ⇓P P 15 56 03.6 +1.0
baz=63,SNR=10
534A Blanco 63.05 328 ⇑P P 15 56 03.0 -0.4
baz=63,SNR=18
VWCC Virginia Weste 63.21 347 eP P 15 56 04.6 +0.3
OXF Oxford 63.21 338 eP P 15 56 03.0 -1.4
OXF pmax pmax
comp=Z,195nm,1.3s
OXF Oxford 63.21 338 eP P 15 56 03.0 -1.4
comp=Z,195nm,1.3s
JSRW J. Sargeant Re 63.24 349 eP P 15 56 04.0 -0.5
435B Jarrell 63.25 329 ⇓P P 15 56 04.9 +0.1
baz=64,SNR=9.1
632A Uvalde 63.26 327 ⇑P P 15 56 04.9 0.0
baz=64,SNR=44
BLA Blacksburg 63.27 347 eP P 15 56 05.5 +0.7
BLA pmax pmax
comp=Z,2µm,2.5s
BLA Blacksburg 63.27 347 eP P 15 56 05.5 +0.7
comp=Z,2µm,2.5s
533A Kerrville 63.35 328 ⇓P P 15 56 05.3 -0.2
baz=64,SNR=18
TZTN Tazewell 63.35 344 eP P 15 56 04.9 -0.4
comp=Z,173nm,1.3s
336A Riesel 63.42 330 ⇓P P 15 56 06.3 +0.4
baz=64,SNR=20
631A Perdido Creek 63.58 326 ⇓P P 15 56 06.5 -0.5
baz=64,SNR=70
335A Moody 63.60 330 ⇑P P 15 56 06.5 -0.5
baz=64,SNR=36
434A Burnet 63.60 329 ⇑P P 15 56 06.5 -0.6
baz=64,SNR=32
CBN Corbin 63.66 350 eP P 15 56 06.6 -0.6
comp=Z,410nm,1.8s
532A Rocksprings 63.83 327 ⇓P P 15 56 08.6 0.0
baz=64,SNR=44
433A Art 63.94 328 ⇓P P 15 56 08.6 -0.7
baz=64,SNR=76
334A Lometa 64.02 329 ⇓P P 15 56 09.7 -0.1
baz=64,SNR=21
JCT Junction City 64.06 327 eP P 15 56 09.4 -0.8
JCT pmax pmax
comp=Z,202nm,1.2s
JCT Junction City 64.06 327 eP P 15 56 09.4 -0.8
comp=Z,202nm,1.2s
JCT Junction City 64.06 327 ⇑P P 15 56 10.2 0.0
baz=64,SNR=33
531A Rocksprings 64.18 326 ⇑P P 15 56 10.7 -0.3
baz=64,SNR=70
WVT Waverly 64.18 340 eP P 15 56 08.3 -2.4
WVT pmax pmax
comp=Z,420nm,1.5s
WVT Waverly 64.18 340 eP P 15 56 08.3 -2.4
comp=Z,420nm,1.5s
WHTX Lake Whitney 64.21 330 eP P 15 56 10.5 -0.5
comp=Z,251nm,1.3s
WHTX Lake Whitney 64.21 330 ⇑P P 15 56 10.6 -0.5
baz=64,SNR=29
333A Richland Sprin 64.36 328 ⇑P P 15 56 11.7 -0.4
baz=65,SNR=56
432A Menard 64.38 327 ⇓P P 15 56 12.1 -0.2
baz=65,SNR=83
HALT Halls 64.46 339 eP P 15 56 12.3 -0.2
UALR University of 64.50 336 eP P 15 56 12.2 -0.6
comp=Z,546nm,2.1s
234A Clairette 64.53 329 ⇑P P 15 56 12.9 -0.2
baz=65,SNR=11
530A J-C Ranch, Com 64.56 326 ⇑P P 15 56 13.5 0.0
baz=65,SNR=38
HBAR Harrisburg 64.59 337 eP P 15 56 12.9 -0.5
431A Sonora 64.63 327 ⇓P P 15 56 13.4 -0.5
baz=65,SNR=46
135A Vickery Place, 64.67 330 ⇓P P 15 56 13.9 -0.1
baz=65,SNR=13
SDMD Soldier's Deli 64.75 350 eP P 15 56 14.9 +0.5
comp=Z,304nm,1.7s
MIAR Mount Ida 64.77 335 eP P 15 56 13.7 -0.9
MIAR pmax pmax
comp=Z,624nm,2.1s
MIAR Mount Ida 64.77 335 eP P 15 56 13.7 -0.9
comp=Z,624nm,2.1s
GLAT Glass 64.77 339 eP P 15 56 13.6 -1.0
332A Millersview 64.78 328 ⇓P P 15 56 14.2 -0.6
baz=65,SNR=60
233A Rising Star 64.90 329 ⇑P P 15 56 15.7 +0.1
baz=65,SNR=48
134A White-Moore Ra 64.98 330 ⇑P P 15 56 16.1 0.0
baz=65,SNR=16
529A Stev Forest Ra 65.00 325 ⇑P P 15 56 16.4 +0.1
baz=65,SNR=83
430A Baggett Ranch, 65.03 326 ⇑P P 15 56 16.4 -0.1
baz=65,SNR=39
PVMO Portageville 65.04 339 eP P 15 56 16.2 -0.2
comp=Z,1µm,1.4s
331A San Angelo 65.05 327 ⇓P P 15 56 16.5 -0.1
baz=65,SNR=33
TXAR Lajitas Array 65.14 323 P P 15 56 17.4 +0.1
comp=Z,4.7nm,0.5s,baz=155,slow=6.9,SNR=45
TXAR LR LR 16 23 25.2
comp=Z,2µm,21.4s,baz=0.0,slow=35
232A Coleman 65.14 328 ⇑P P 15 56 16.9 -0.3
baz=65,SNR=34
429A Davenport Ranc 65.23 326 ⇓P P 15 56 18.0 +0.1
baz=66,SNR=62
Z35A Perchaven, San 65.25 331 ⇓P P 15 56 17.8 0.0
baz=66,SNR=23
MVL Millersville 65.25 351 eP P 15 56 18.3 +0.6
comp=Z,86nm,1.0s
133A Hamilton Ranch 65.40 329 ⇓P P 15 56 18.4 -0.4
baz=66,SNR=30

QSPA South Pole Qui 65.41 180 P P 15 56 18.7 0.0
comp=Z,90nm,0.9s,baz=156,slow=3.0,SNR=52
QSPA PP PP 15 58 41.1 -1.3
comp=Z,17nm,1.1s,baz=157,slow=7.7,SNR=3.3
QSPA South Pole Qui 65.41 180 eP P 15 56 18.5 -0.2
comp=Z,1µm,1.9s
QSPA PP PP 15 58 41.1 -1.3
330A Mertzon 65.50 327 ⇑P P 15 56 19.6 0.0
baz=66,SNR=28
231A Bronte 65.51 328 ⇑P P 15 56 19.4 -0.2
baz=66,SNR=24
Z34A Collier Ranch, 65.58 330 ⇓P P 15 56 19.9 -0.1
baz=66,SNR=43
PBMO Poplar Bluff 65.61 338 eP P 15 56 19.1 -0.9
comp=Z,2µm,2.5s
WCI Wyandotte Cave 65.67 342 eP P 15 56 19.0 -1.5
WCI pmax pmax
comp=Z,185nm,1.3s
WCI Wyandotte Cave 65.67 342 eP P 15 56 18.9 -1.5
comp=Z,185nm,1.3s
BRNJ Basking Ridge 65.69 352 eP P 15 56 22.3 +1.8
comp=Z,519nm,1.7s
LUPA Lehigh Univers 65.71 352 eP P 15 56 21.4 +0.8
comp=Z,71nm,1.9s
CPNY Central Park 65.73 353 eP P 15 56 21.2 +0.6
comp=Z,564nm,1.8s
ABTX Abilene, Hawle 65.75 329 eP P 15 56 20.5 -0.6
comp=Z,220nm,1.3s
ABTX Abilene, Hawle 65.75 329 ⇓P P 15 56 20.7 -0.4
baz=66,SNR=33
USIN University of 65.82 341 eP P 15 56 20.3 -1.1
comp=Z,224nm,1.5s
230A Sterling City 65.86 327 ⇑P P 15 56 21.5 -0.3
baz=66,SNR=14
Z33A Whitaker Ranch 65.89 330 ⇓P P 15 56 22.0 +0.1
baz=66,SNR=23
PAL Palisades 65.93 353 eP P 15 56 22.4 +0.4
PAL pmax pmax
comp=Z,451nm,1.7s
PAL Palisades 65.93 353 eP P 15 56 22.4 +0.4
comp=Z,451nm,1.7s
329A Wagon Wheel Ra 65.97 326 ⇓P P 15 56 22.3 -0.2
baz=66,SNR=39
Y34A Reagan Ranch, 66.00 331 ⇓P P 15 56 22.6 0.0
baz=66,SNR=34
SIUC Southern Illin 66.07 340 eP P 15 56 22.2 -0.8
comp=Z,199nm,1.5s
ODNJ Ogdensburg 66.09 352 eP P 15 56 23.7 +0.7
comp=Z,417nm,1.8s
SSPA Standing Stone 66.11 350 eP P 15 56 23.7 +0.5
YLE Yale 66.14 354 eP P 15 56 24.4 +1.1
comp=Z,3µm,2.9s
131A Roby 66.15 328 ⇑P P 15 56 23.2 -0.4
baz=66,SNR=54
Z32A Haskell 66.24 329 ⇓P P 15 56 24.1 -0.1
baz=66,SNR=26
229A Bryant Ranch, 66.27 327 ⇑P P 15 56 24.3 -0.2
baz=66,SNR=15
130A Snyder 66.36 328 ⇓P P 15 56 25.3 +0.2
baz=67,SNR=20
LIC Lamto 66.36 71 ⇑iP P 15 56 25.7 +0.3
comp=Z,71nm,0.9s,baz=246
LIC eR
comp=Z,6µm,20.5s
LIC Lamto 66.36 71 ePKP1 P 15 56 25.7 +0.3
Y33A Hilltop Ranch, 66.43 330 ⇓P P 15 56 25.4 0.0
baz=67,SNR=24
Z31A Sharp Cattle R 66.56 329 ⇓P P 15 56 26.6 +0.3
baz=67,SNR=57
X34A Smith Ranch, M 66.58 331 ⇑P P 15 56 26.6 +0.2
baz=67,SNR=30
TIC Toumodi 66.58 70 ePKP1 P 15 56 26.0 -0.8
comp=Z,35nm,0.2s
BLO Bloomington 66.61 342 eP P 15 56 25.7 -0.8
BLO pmax pmax
comp=Z,1µm,2.5s
BLO Bloomington 66.61 342 eP P 15 56 25.7 -0.8
comp=Z,1µm,2.5s
BRYW Bryant College 66.61 355 eP P 15 56 27.0 +0.6
comp=Z,786nm,1.8s
OLIL Olney 66.66 341 eP P 15 56 25.3 -1.4
comp=Z,531nm,2.0s
KIC Kosan Boka 66.68 71 ePKP1 P 15 56 26.9 -0.5
comp=Z,353nm,1.2s
KSPA Keystone Colle 66.70 352 eP P 15 56 27.4 +0.5
comp=Z,272nm,1.1s
ACSO Alum Creek Sta 66.72 345 eP P 15 56 25.8 -1.3
comp=Z,214nm,0.9s
DBIC Dimbokro 66.73 70 eP P 15 56 27.7 -0.1
DBIC Dimbokro 66.73 70 P P 15 56 27.6 -0.2
comp=Z,60nm,0.8s,baz=217,slow=6.9,SNR=42
DBIC LR LR 16 22 29.9
comp=Z,9µm,21.8s,baz=212,slow=33
DBIC Dimbokro 66.73 70 eP P 15 56 27.7 -0.1
228A UT Block 9, Go 66.78 326 ⇓P P 15 56 27.3 -0.5
baz=67,SNR=20
Y32A R-V Farms, Ver 66.80 330 ⇓P P 15 56 28.0 +0.2
baz=67,SNR=46
129A Stewart Farms, 66.83 327 ⇓P P 15 56 28.0 -0.1
baz=67,SNR=20
TUL1 Tulsa 66.84 334 eP P 15 56 27.4 -0.6
comp=Z,519nm,1.8s
TUL1 Tulsa 66.84 334 ⇑P P 15 56 27.7 -0.2
baz=67,SNR=24
Z30A Sanderson Ranc 67.00 328 ⇓P P 15 56 29.0 -0.2
baz=67,SNR=60
QUA2 Belchertown 67.04 354 eP P 15 56 29.4 +0.3
comp=Z,803nm,2.5s
WES Weston 67.06 355 eP P 15 56 29.7 +0.5
WES pmax pmax
comp=Z,1µm,2.7s
WES Weston 67.06 355 eP P 15 56 29.7 +0.5
comp=Z,1µm,2.7s
X32A Elmer 67.08 330 ⇓P P 15 56 29.5 -0.1
baz=67,SNR=17
W34A Bridge Creek, 67.09 332 eP P 15 56 29.3 -0.3
comp=Z,800nm,2.4s
W34A Bridge Creek, 67.09 332 ⇑P P 15 56 29.6 0.0
baz=67,SNR=9.6
128A Castleberry Fa 67.13 327 ⇑P P 15 56 30.0 0.0
baz=67,SNR=31
Y31A Rekieta Farm, 67.15 329 ⇑P P 15 56 30.3 +0.3
baz=67,SNR=44
HRV Adam Dziewonsk 67.20 355 eP P 15 56 30.5 +0.4
HRV pmax pmax
comp=Z,188nm,1.3s
HRV Adam Dziewonsk 67.20 355 eP P 15 56 30.5 +0.4
comp=Z,188nm,1.3s
SLM Saint Louis 67.23 339 eP P 15 56 29.4 -1.0
SLM Saint Louis 67.23 339 eP P 15 56 29.4 -1.0
Z29A Hungry Hill Ra 67.26 328 ⇑P P 15 56 30.5 -0.3
baz=68,SNR=30
W33A Caddo, Fort Co 67.32 331 ⇓P P 15 56 31.6 +0.5
baz=68,SNR=50
BINY Binghamton 67.36 352 P P 15 56 29.9 -1.2
comp=Z,406nm,1.1s
Y30A Stafford Cattl 67.38 328 ⇓P P 15 56 31.5 0.0
baz=68,SNR=14
V34A Guthrie 67.49 332 eP P 15 56 30.7 -1.4
comp=Z,2µm,2.5s
V34A Guthrie 67.49 332 ⇑P P 15 56 32.1 0.0
baz=68,SNR=16
ALLY Alegheny Colle 67.49 348 eP P 15 56 31.8 -0.2
comp=Z,426nm,1.1s
CLNB Carlsbad 67.56 325 eP P 15 56 33.5 +0.7
X31A McDonald Ranch 67.57 330 ⇑P P 15 56 32.2 -0.5
baz=68,SNR=52
TRY Troy 67.61 353 eP P 15 56 33.7 +1.1
comp=Z,1µm,2.1s
127A Arkansas Junct 67.62 326 ⇓P P 15 56 32.7 -0.4
baz=68,SNR=42
Z28A Tucker Farm, M 67.62 327 ⇓P P 15 56 32.9 -0.2
baz=68,SNR=28
W32A Sentinel 67.64 330 ⇓P P 15 56 33.5 +0.3
baz=68,SNR=47
Y29A Porterfield Fa 67.73 328 ⇓P P 15 56 33.7 -0.1
baz=68,SNR=39
GDL2 Guadalupe Moun 67.76 325 eP P 15 56 34.1 +0.1
V33A Lossen Ranch, 67.81 332 ⇑P P 15 56 34.2 +0.1
baz=68,SNR=35
X30A Coker Ranch, T 67.83 329 ⇑P P 15 56 34.1 -0.3
baz=68,SNR=56
SFIN Scholer Farm 67.90 342 eP P 15 56 32.9 -1.6
comp=Z,236nm,1.4s
SFIN Scholer Farm 67.90 342 ⇑P P 15 56 33.5 -1.1
baz=68,SNR=16
U34A Anderson Ranch 68.01 332 eP P 15 56 34.8 -0.6
comp=Z,233nm,1.1s

U34A Anderson Ranch 68.01 332 ⇓P P 15 56 35.5 +0.2
baz=68,SNR=17
W31A Holland Ranch, 68.01 330 ⇓P P 15 56 35.1 -0.3
baz=68,SNR=15
Y28A McKinney Farm, 68.05 328 ⇓P P 15 56 35.7 -0.1
baz=68,SNR=10
V32A Arapaho 68.05 331 ⇓P P 15 56 36.1 +0.4
baz=68,SNR=9.7
Z27A Tatum 68.05 326 ⇓P P 15 56 35.9 0.0
baz=68,SNR=29
FFD Franklin Falls 68.17 355 eP P 15 56 37.9 +1.8
comp=Z,707nm,2.1s
X29A Tulia 68.22 328 ⇓P P 15 56 36.9 +0.1
baz=68,SNR=28
U33A Lingo Farm, Me 68.25 332 ⇑P P 15 56 37.0 +0.1
baz=68,SNR=16
ACCN Adirondack Com 68.26 354 eP P 15 56 38.3 +1.5
comp=Z,776nm,2.1s
W30A Crocket Farms 68.30 330 ⇓P P 15 56 37.6 +0.3
baz=69
MSTX Muleshoe 68.36 327 eP P 15 56 37.1 -0.7
comp=Z,513nm,1.4s
MSTX Muleshoe 68.36 327 ⇓P P 15 56 37.8 0.0
baz=69,SNR=54
Z26A Caprock 68.41 326 ⇑P P 15 56 38.3 +0.3
baz=69,SNR=42
HNH Hanover 68.45 355 eP P 15 56 39.1 +1.2
comp=Z,723nm,2.0s
V31A Spring Creek L 68.45 330 ⇑P P 15 56 38.9 +0.7
baz=69,SNR=21
Y27A Causey 68.48 327 ⇓P P 15 56 38.4 -0.1
baz=69,SNR=36
X28A Dimmitt 68.52 328 ⇓P P 15 56 39.1 +0.3
baz=69
AMTX Amarillo 68.57 329 eP P 15 56 38.4 -0.7
comp=Z,221nm,1.4s
AMTX Amarillo 68.57 329 ⇓P P 15 56 39.0 0.0
baz=69
U32A Winter Ranch, 68.59 331 ⇓P P 15 56 39.3 +0.2
baz=69,SNR=5.1
W29A Amraillo 68.75 329 ⇓P P 15 56 40.2 +0.1
baz=69,SNR=15
Z25A Roswell 68.79 325 ⇑P P 15 56 40.5 0.0
baz=69,SNR=67
MDV Middlebury 68.82 354 eP P 15 56 41.1 +0.9
V30A Spur Ranch, Mi 68.83 330 ⇓P P 15 56 41.5 +0.9
baz=69,SNR=10
Y26A Elida 68.84 326 ⇓P P 15 56 40.9 +0.1
baz=69,SNR=7.8
AAM Ann Arbor 68.85 346 eP P 15 56 40.1 -0.3
AAM pmax pmax
comp=Z,2μm,2.5s
AAM Ann Arbor 68.85 346 eP P 15 56 40.1 -0.3
comp=Z,2μm,2.5s
T33A Patterson Ranc 68.86 332 ⇓P P 15 56 40.8 +0.2
baz=69,SNR=7.1
NCB Newcomb 68.90 353 eP P 15 56 41.4 +0.7
comp=Z,1μm,2.6s
U31A Nine Bar Ranch 68.95 331 ⇑P P 15 56 41.9 +0.6
baz=69
X27A F and S Farms, 69.06 327 ⇓P P 15 56 42.3 +0.2
baz=69
W28A Vega 69.12 328 ⇑P P 15 56 42.8 +0.3
baz=69,SNR=16
WVL Waterville 69.13 357 eP P 15 56 43.7 +1.6
comp=Z,577nm,1.8s
Z24A Sheeppen Canyo 69.17 325 ⇑P P 15 56 43.3 +0.4
baz=69,SNR=51
EMMW East Machias 69.19 358 eP P 15 56 43.9 +1.4
comp=Z,1μm,2.3s
S33A Kaszmaul Farm, 69.19 333 ⇑P P 15 56 43.0 +0.3
baz=70,SNR=5.9
T32A Huddler Ranch, 69.23 332 ⇓P P 15 56 43.7 +0.7
baz=70,SNR=20
Y25A Mesa, Roswell 69.28 326 ⇓P P 15 56 43.5 0.0
baz=70,SNR=46
V29A Stinnett 69.30 329 ⇑P P 15 56 43.8 +0.3
baz=70,SNR=6.1
X26A CR and CF Fran 69.34 327 ⇑P P 15 56 44.4 +0.5
baz=70,SNR=29
W27A Bowe Ranch, En 69.38 328 ⇓P P 15 56 44.3 +0.2
baz=70,SNR=16
U30A WK&E Inc. Balk 69.45 330 ⇑P P 15 56 45.1 +0.7
baz=70,SNR=20
T31A Randall Ranch, 69.49 331 ⇓P P 15 56 45.1 +0.5
baz=70,SNR=18
V28A Channing 69.53 329 ⇓P P 15 56 45.2 +0.2
baz=70,SNR=25
PTN Potsdam (NY) 69.58 353 eP P 15 56 45.5 +0.6
PTN pmax pmax
comp=Z,1μm,2.2s
PTN Potsdam (NY) 69.58 353 eP P 15 56 45.5 +0.6
comp=Z,1μm,2.2s
LONY Lake Ozonia 69.58 353 eP P 15 56 45.6 +0.7
comp=Z,490nm,1.8s
U29A Oasis Ranch, S 69.66 330 ⇓P P 15 56 46.2 +0.4
baz=70,SNR=17
Y24A Capitan 69.67 325 ⇑P P 15 56 46.3 +0.3
baz=70,SNR=13
S32A Newby Ranch, P 69.67 332 ⇓P P 15 56 46.3 +0.5
baz=70,SNR=15
W26A Owens Ranch, T 69.74 327 ⇓P P 15 56 47.2 +0.8
baz=70,SNR=43
X25A Clemmons Ranch 69.75 326 ⇓P P 15 56 46.5 +0.1
baz=70,SNR=51
R33A Olander Ranch, 69.79 333 ⇑P P 15 56 46.9 +0.4
baz=70,SNR=16
T30A Plains 69.82 331 ⇓P P 15 56 47.2 +0.5
baz=70,SNR=6.0
V27A Dan Oppiter Fa 69.83 328 ⇑P P 15 56 47.6 +0.7
baz=70,SNR=18
319A Douglas 69.83 321 ⇓P P 15 56 48.4 +1.4
baz=70,SNR=22
S31A Mullinville 69.84 332 ⇓P P 15 56 47.5 +0.8
baz=70,SNR=19
121A Cookes Peak, D 69.85 323 eP P 15 56 47.1 0.0
121A Cookes Peak, D 69.85 323 ⇓P P 15 56 48.7 +1.6
baz=70,SNR=45
KSU1 Kansas State U 69.92 335 eP P 15 56 46.8 -0.4
comp=Z,1μm,2.3s
KSU1 Kansas State U 69.92 335 ⇓P P 15 56 47.5 +0.3
baz=70
Z22A Elephant Butte 69.96 324 ⇓P P 15 56 49.2 +1.5
baz=70,SNR=150
Y23A Lovelace Mesa, 70.00 325 ⇓P P 15 56 48.9 +0.9
baz=70,SNR=40
U28A Mallet 70.04 329 ⇑P P 15 56 48.4 +0.2
baz=70
X24A Lazy VL Ranch, 70.17 326 ⇓P P 15 56 49.6 +0.6
baz=70,SNR=14
R32A Long Quarter, 70.19 333 ⇑P P 15 56 49.3 +0.4
baz=70,SNR=23
W25A X Bar L Ranch, 70.19 327 ⇑P P 15 56 49.5 +0.4
baz=70,SNR=82
T29A Hugoton 70.25 330 ⇓P P 15 56 49.8 +0.4
baz=70,SNR=11
S30A Montezuma 70.28 331 ⇑P P 15 56 50.1 +0.6
baz=71,SNR=15
V26A Tequesquite Ra 70.32 328 ⇓P P 15 56 50.4 +0.6
baz=71,SNR=71
Q33A Connelly Farm, 70.32 334 ⇓P P 15 56 50.0 +0.3
baz=71,SNR=15
U27A Thompson Grove 70.36 329 ⇑P P 15 56 50.4 +0.3
baz=71,SNR=20
R31A Burdett 70.42 332 ⇓P P 15 56 50.7 +0.4
baz=71,SNR=11
S29A Ulysses 70.56 331 ⇓P P 15 56 51.7 +0.5
baz=71,SNR=20
X23A Hourglass Bar 70.57 325 ⇓P P 15 56 52.7 +1.2
baz=71,SNR=42
LPM Los Pinos Moun 70.59 325 eP P 15 56 51.9 +0.3
T28A Walsh 70.60 330 ⇓P P 15 56 51.5 0.0
baz=71,SNR=10
Q32A Meitler Ranch, 70.61 333 ⇓P P 15 56 51.7 +0.3
baz=71,SNR=17
P33A Williams Farm, 70.64 334 ⇑P P 15 56 51.8 +0.2
baz=71,SNR=7.7
LENM Lemitar 70.66 324 eP P 15 56 52.4 +0.3
W24A Lazy 6 Ranch, 70.66 326 ⇓P P 15 56 52.8 +0.7
baz=71,SNR=36
R30A Dighton 70.74 332 ⇑P P 15 56 53.0 +0.8
baz=71,SNR=26
V25A Rancho No Teng 70.76 327 ⇓P P 15 56 53.2 +0.6
baz=71,SNR=40
U26A Atchley Ranch, 70.78 328 ⇑P P 15 56 53.4 +0.6
baz=71,SNR=98
T27A Campo 70.83 329 ⇓P P 15 56 53.6 +0.6
baz=71,SNR=62
S28A Manter 70.88 330 ⇑P P 15 56 53.9 +0.7
baz=71,SNR=57
LAZ Ladron 70.93 324 eP P 15 56 54.4 +0.7
Q31A Ellis 70.97 333 ⇑P P 15 56 54.3 +0.7
baz=71,SNR=17
ANMO Albuquerque 70.99 325ceP P 15 56 54.7 +0.6
ANMO pmax pmax
comp=Z,493nm,1.2s
ANMO Albuquerque 70.99 325 eP P 15 56 54.7 +0.6
comp=Z,256nm,1.3s
V24A Rampart Ranch, 71.00 327 ⇑P P 15 56 54.7 +0.5
baz=71,SNR=56
W23A Werner Place, 71.00 326 ⇑P P 15 56 55.2 +1.1
baz=71,SNR=64
U25A Circle Dot Ran 71.10 328 ⇓P P 15 56 55.5 +0.8
baz=71,SNR=64
JFWS Jewell Farm 71.14 341 eP P 15 56 53.4 -1.1
JFWS pmax pmax
comp=Z,405nm,1.4s
JFWS Jewell Farm 71.14 341 eP P 15 56 53.4 -1.1
comp=Z,405nm,1.4s
P32A Huiting Farm, 71.16 334 ⇓P P 15 56 54.8 +0.1
baz=72,SNR=15
SCIA State Center 71.16 338 eP P 15 56 54.3 -0.4
comp=Z,238nm,1.4s
PQI Presque Isle 71.17 358 eP P 15 56 56.0 +1.4
comp=Z,472nm,1.9s
R29A Marienthal 71.23 331 ⇑P P 15 56 56.0 +0.7
baz=72,SNR=14
Q30A Quinter 71.29 332 ⇓P P 15 56 56.3 +0.7
baz=72,SNR=37
T26A Comanche Natio 71.33 329 ⇑P P 15 56 56.7 +0.7
baz=72,SNR=82
TUC Tucson 71.38 321 eP P 15 56 56.7 +0.3
TUC pmax pmax
comp=Z,310nm,1.6s
TUC Tucson 71.38 321 eP P 15 56 56.6 +0.3
comp=Z,310nm,1.6s
P31A Stockton 71.39 333 ⇓P P 15 56 56.9 +0.7
baz=72,SNR=44
S27A Las Animas 71.42 329 ⇑P P 15 56 57.0 +0.5
baz=72,SNR=7.1
R28A Tribune 71.46 331 ⇓P P 15 56 57.1 +0.4
baz=72,SNR=20
V23A Ortiz Mt. (NFS 71.47 326 ⇑P P 15 56 58.2 +1.2
baz=72,SNR=61
U24A Moreno Valley 71.54 327 ⇑P P 15 56 58.9 +1.4
baz=72,SNR=13
Q29A Oakley 71.55 331 ⇑P P 15 56 57.4 +0.2
baz=72,SNR=24
O32A Brockman Farm, 71.58 334 ⇓P P 15 56 57.3 +0.1
baz=72,SNR=11
S26A Kim 71.63 329 ⇓P P 15 56 58.3 +0.5
baz=72,SNR=76
T25A Trinidad 71.69 328 ⇓P P 15 56 59.3 +1.0
baz=72,SNR=38
P30A Selden 71.78 332 ⇑P P 15 56 59.1 +0.5
baz=72,SNR=17
R27A Eads 71.86 330 ⇓P P 15 56 59.0 -0.1
baz=72,SNR=25
O31A Woolen Ranch, 71.91 333 ⇓P P 15 57 00.1 +0.8
baz=72
U23A El Rito 71.93 326 ⇑P P 15 57 01.0 +1.2
baz=72,SNR=36
V22A San Miguel Ran 71.97 326 ⇓P P 15 57 01.7 +1.7
baz=72,SNR=52
N32A Stulken Farm, 72.01 334 ⇑P P 15 57 00.2 +0.3
baz=72
Q28A Sharon Springs 72.06 331 ⇑P P 15 57 01.0 +0.7
baz=72,SNR=19
T24B San Luis 72.10 327 ⇑P P 15 57 02.3 +1.4
baz=72,SNR=77
P29A Atwood 72.12 332 ⇑P P 15 57 01.5 +0.9
baz=72,SNR=16
S25A Robets Cordova 72.12 328 ⇑P P 15 57 01.9 +1.1
baz=72,SNR=74
ROSA Rosais 72.16 30 eP P 15 57 02.4 +1.6
comp=Z,79nm,0.8s
R26A Arlington 72.17 329 ⇑P P 15 57 01.6 +0.6
baz=72,SNR=60
O30A MW Ranch, Wils 72.23 333 ⇑P P 15 57 01.9 +0.7
baz=72,SNR=39
PSMN Pico do Norte, 72.29 33 eP P 15 57 04.4 +2.8
comp=Z,70nm,0.7s
U22A Llaves 72.30 326 ⇑P P 15 57 03.5 +1.5
baz=73,SNR=39
214A Organ Pipe Nat 72.32 319 eP P 15 57 01.9 -0.1
comp=Z,350nm,1.6s
214A Organ Pipe Nat 72.32 319 ⇓P P 15 57 03.4 +1.5
baz=72,SNR=40
N31A Bailey Ranch, 72.33 334 ⇓P P 15 57 02.6 +0.9
baz=73,SNR=5.5
KSCO Kaye Shedlock' 72.37 330 eP P 15 57 02.2 0.0
comp=Z,472nm,1.4s
KSCO Kaye Shedlock' 72.37 330 ⇓P P 15 57 03.4 +1.2
baz=73,SNR=18
T23A Casias Ranch, 72.41 327 ⇓P P 15 57 03.7 +1.1
baz=73,SNR=31
R25A Fountain Ranch 72.44 329 ⇓P P 15 57 03.6 +1.0
baz=73,SNR=32
P28A Saint Francis 72.45 331 ⇑P P 15 57 03.7 +1.1
baz=73,SNR=17
S24A Houchin Ranch, 72.48 328 ⇑P P 15 57 04.8 +1.7
baz=73,SNR=29
O29A 4D Ranch, Culb 72.50 332 ⇑P P 15 57 03.9 +1.1
baz=73,SNR=17
BGNE Belgrade 72.51 335 eP P 15 57 02.9 0.0
comp=Z,784nm,1.3s
BGNE Belgrade 72.51 335 ⇑P P 15 57 03.2 +0.4
baz=73,SNR=11
PGRA Graciosa 72.53 30 eP P 15 57 02.6 -0.4
comp=Z,32nm,0.4s
X18A Snowflake 72.54 323 ⇑P P 15 57 05.0 +1.6
baz=73,SNR=31
PSET Sete Cidades 72.62 32 eP P 15 57 04.8 +1.2
comp=Z,66nm,0.5s
SDCO Great Sand Dun 72.70 328 eP P 15 57 03.8 -0.6
comp=Z,368nm,1.6s
Q26A Hugo 72.71 330 ⇓P P 15 57 05.1 +0.9
baz=73,SNR=55
N30A Hueftle Ranch, 72.77 333 ⇑P P 15 57 05.2 +0.8
baz=73
M31A Lambtecht Ranc 72.78 334 ⇑P P 15 57 05.2 +0.7
baz=73,SNR=13
P27A Ficken Ranch, 72.80 331 ⇑P P 15 57 05.8 +1.1
baz=73,SNR=13
W18A Petrified Fore 72.86 323 eP P 15 57 06.4 +1.1
comp=Z,388nm,1.4s
W18A Petrified Fore 72.86 323 ⇑P P 15 57 06.4 +1.1
baz=73,SNR=34
R24A Sanders Place, 72.89 328 ⇓P P 15 57 06.7 +1.3
baz=73,SNR=28
O28A Krutsinger Ran 72.91 332 ⇓P P 15 57 06.5 +1.1
baz=73,SNR=14
S23A Nye Farm, Mont 72.91 327 ⇓P P 15 57 06.8 +1.2
baz=73,SNR=12
N29A Votaw Ranch, W 73.00 333 ⇑P P 15 57 06.9 +1.1
baz=73,SNR=26
Q25A Bedland, Calha 73.03 329 ⇑P P 15 57 06.8 +0.5
baz=73,SNR=34
P26A Davis Ranch, A 73.14 330 ⇑P P 15 57 07.6 +0.8
baz=73,SNR=26
R23A Moffat 73.21 328 ⇑P P 15 57 08.8 +1.5
baz=74
O27A Beecher Island 73.27 331 ⇓P P 15 57 08.5 +1.0
baz=74,SNR=22
N28A Pribbeno Ranch 73.28 332 ⇓P P 15 57 08.4 +0.9
baz=74,SNR=14
X16A Lo Mia Camp, P 73.29 322 ⇑P P 15 57 08.9 +1.0
baz=74,SNR=52
M30A Dale-Ortello V 73.30 334 ⇓P P 15 57 08.4 +0.8
baz=74
S22A 4UR Ranch, Cre 73.35 327 ⇓P P 15 57 09.2 +0.9
baz=74,SNR=34
Z14A Wintersburg 73.40 320 ⇑P P 15 57 09.3 +1.1
baz=74,SNR=10
L31A Butterfield Fa 73.43 335 ⇑P P 15 57 09.0 +0.8
baz=74,SNR=21
113A Mohawk Valley, 73.46 319 ⇓P P 15 57 09.4 +0.8
baz=74,SNR=28
PMOZ Porto Moniz, M 73.47 41 eLQ LQ 16 21 11.5
PMOZ eLR LR 16 25 11.1
comp=Z,3μm,22.8s
P25A Willow Gulch B 73.48 330 ⇓P P 15 57 09.4 +0.6
baz=74,SNR=40
Q24A Divide 73.50 329 ⇓P P 15 57 09.9 +0.8
baz=74,SNR=76
M29A Burnside Ranch 73.55 333 ⇑P P 15 57 10.0 +0.9
baz=74,SNR=13
L30A Spencer Herefo 73.58 334 ⇓P P 15 57 10.1 +0.9
baz=74,SNR=19
O26A Horse Wrangler 73.68 331 ⇑P P 15 57 11.0 +1.1
baz=74,SNR=26
OGNE Ogallala 73.70 332 eP P 15 57 10.0 0.0
comp=Z,1μm,1.8s
OGNE Ogallala 73.70 332 ⇑P P 15 57 10.6 +0.6
baz=74,SNR=22
COWI Conover 73.76 343 eP P 15 57 09.0 -1.1
comp=Z,203nm,1.4s
MVCO Mesa Verde 73.79 325 eP P 15 57 11.3 +0.6
comp=Z,419nm,1.4s
MVCO Mesa Verde 73.79 325 ⇑P P 15 57 12.1 +1.3
baz=74,SNR=82
M28A Bar X Bar Ranc 73.79 333 ⇓P P 15 57 11.7 +1.2
baz=74,SNR=18
N27A Anderson Farm, 73.80 332 ⇓P P 15 57 11.6 +1.0
baz=74,SNR=15
P24A Kohler Place, 73.82 329 ⇑P P 15 57 12.1 +1.2
baz=74,SNR=21
Y14A Wickenburg 73.84 320 ⇑P P 15 57 11.9 +1.0
baz=74,SNR=41
O25A Wiggins 73.94 330 ⇑P P 15 57 12.9 +1.4
baz=74,SNR=21
ECSD EROS Data Cent 73.95 337 eP P 15 57 10.8 -0.5
comp=Z,217nm,1.4s
ECSD EROS Data Cent 73.95 337 ⇑P P 15 57 11.3 0.0
baz=74,SNR=49
L29A Maesberg Ranch 73.98 334 ⇑P P 15 57 12.3 +0.7
baz=74,SNR=34
SPMN St. Paul 74.01 340 eP P 15 57 10.4 -1.1
comp=Z,279nm,1.4s
SPMN St. Paul 74.01 340 ⇓P P 15 57 11.3 -0.2
baz=74,SNR=26
DRLN Deer Lake 74.06 5 eP P 15 57 11.1 -0.6
WUAZ Wupatki 74.06 322 eP P 15 57 12.1 -0.2
comp=Z,1μm,2.3s
WUAZ eP P 15 57 13.2 +0.9
WUAZ Wupatki 74.06 322 ⇑P P 15 57 13.2 +0.9
baz=74,SNR=55
N26A Koester Ranch, 74.12 331 ⇑P P 15 57 13.6 +1.1
baz=74,SNR=23
P23A Jefferson 74.15 329 ⇑P P 15 57 14.2 +1.3
baz=74,SNR=32
VNDA Vanda 74.16 190 eP P 15 57 13.0 +0.9
VNDA pmax pmax
comp=Z,427nm,2.0s
VNDA Vanda 74.16 190 P P 15 57 13.3 +1.2
comp=Z,20nm,0.9s,baz=144,slow=4.3,SNR=6.4
VNDA Vanda 74.16 190 eP P 15 57 13.0 +0.9
comp=Z,427nm,2.0s
K30A Basset 74.16 335 ⇑P P 15 57 13.0 +0.5
baz=74,SNR=19
SUR Sutherland 74.20 119 P P 15 57 14.9 +1.5
comp=Z,8.4nm,0.9s,baz=254,slow=6.7,SNR=4.8
SUR Sutherland 74.20 119 eP P 15 57 14.3 +0.9
comp=Z,169nm,1.6s
GLA Glamis 74.29 319 eP P 15 57 14.4 +0.8
GLA pmax pmax
comp=Z,743nm,2.3s
GLA Glamis 74.29 319 eP P 15 57 14.4 +0.8
comp=Z,743nm,2.3s
GLA Glamis 74.29 319 ⇑P P 15 57 14.6 +1.0
baz=74,SNR=15
M27A Reverse DX Ran 74.33 332 ⇑P P 15 57 14.5 +0.9
baz=75,SNR=16
L28A Conneally Angus 74.36 333 ⇓P P 15 57 15.1 +1.3
baz=75,SNR=7.1
ISCO Idaho Springs 74.38 329 eP P 15 57 14.7 +0.5
ISCO pmax pmax
comp=Z,224nm,1.4s
ISCO Idaho Springs 74.38 329 eP P 15 57 14.7 +0.5
comp=Z,224nm,1.4s
ISCO Idaho Springs 74.38 329 ⇓P P 15 57 14.5 +0.3
baz=75,SNR=80
O24A Longmont 74.38 329 ⇑P P 15 57 15.2 +1.2
baz=75,SNR=8.1
N25A Grover 74.49 331 ⇓P P 15 57 16.0 +1.3
baz=75,SNR=20
K29A Lazy Trails An 74.51 334 ⇑P P 15 57 15.3 +0.7
baz=75,SNR=18
PV01 Paradox Valley 74.53 326 eP P 15 57 14.5 -0.5
comp=Z,22μm,1.4s
SMCO Snowmass 74.54 328 eP P 15 57 16.2 +0.9
comp=Z,286nm,1.4s
M26A McRoberts Ranc 74.61 332 ⇓P P 15 57 16.3 +1.0
baz=75,SNR=8.2
J30A Dallas 74.66 335 ⇑P P 15 57 15.7 +0.3
baz=75,SNR=11
L27A T5 Ranch, Ells 74.76 332 ⇑P P 15 57 17.4 +1.3
baz=75,SNR=18
PDMCI Parker Dam,Lak 74.76 320 ⇑P P 15 57 16.8 +0.6
baz=75,SNR=21
P22A Eagle 74.76 328 ⇓P P 15 57 17.7 +1.3
baz=75,SNR=65
SWSC Sam W. Stewart 74.80 318 ⇓P P 15 57 18.0 +1.6
baz=75,SNR=14
O23A Lake Granby, G 74.85 329 ⇓P P 15 57 18.2 +1.2
baz=75,SNR=58
N24A Carr 74.86 330 ⇑P P 15 57 18.4 +1.5
baz=75,SNR=16
K28A Ten Mile Ranch 74.89 333 ⇓P P 15 57 18.2 +1.3
baz=75,SNR=25
PV04 Paradox Valley 74.89 326 eP P 15 57 17.6 +0.5
M25A Palm-Egli Farm 74.98 331 ⇑P P 15 57 18.8 +1.3
baz=75,SNR=12
L26A Underwood Farm 75.04 332 ⇓P P 15 57 18.9 +1.1
baz=75,SNR=17
J29A Okreek 75.05 334 ⇑P P 15 57 18.3 +0.6
baz=75,SNR=33
BC3 Big Chuckawall 75.09 319 ⇑P P 15 57 19.4 +1.2
baz=75,SNR=40
O22A Kremmling 75.10 329 ⇑P P 15 57 19.0 +0.5
baz=75,SNR=71
I30A Oacoma 75.14 335 ⇑P P 15 57 18.2 0.0
baz=76,SNR=13
MONP Monument Peak 75.15 317 ⇑P P 15 57 19.9 +1.2
baz=75,SNR=14
BAR Barrett 75.16 317 eP P 15 57 19.5 +0.9
comp=Z,916nm,2.4s
W13A Hualapai Mount 75.18 321 ⇓P P 15 57 20.5 +1.6
baz=75,SNR=25
U15A North Rim 75.23 323 ⇑P P 15 57 20.8 +1.6
baz=76,SNR=62
K27A Flueckinger Fa 75.24 333 ⇑P P 15 57 20.0 +1.2
baz=76,SNR=41
IRM Iron Mountain 75.26 319 ⇑P P 15 57 20.4 +1.3
baz=76,SNR=42
M24A Cheyenne 75.35 330 ⇑P P 15 57 21.1 +1.4
baz=76,SNR=48
NEE2 Needles Airpor 75.37 320 ⇑P P 15 57 21.2 +1.5
baz=76
N23A Red Feather La 75.40 329 ⇑P P 15 57 21.2 +1.1
baz=76,SNR=45
BRSD Miller 75.41 336 eP P 15 57 19.8 +0.1
comp=Z,1μm,2.3s
BRSD Miller 75.41 336 ⇓P P 15 57 19.9 +0.1
baz=76
J28A Allard Ranch, 75.43 334 ⇑P P 15 57 20.6 +0.7
baz=76,SNR=39
PHWY Pilot Hill 75.50 330 eP P 15 57 21.1 +0.4
comp=Z,239nm,1.4s
L25A Engebretsen Ra 75.52 331 ⇑P P 15 57 21.8 +1.2
baz=76,SNR=13
TOA0 Torodi Ar. Sit 75.56 68 eP P 15 57 19.7 -1.5
TORD Torodi Ar. Bea 75.56 68 P P 15 57 20.6 -0.6
comp=Z,87nm,0.8s,baz=257,slow=5.1,SNR=118
TORD LR LR 16 28 01.7
comp=Z,8μm,21.8s,baz=230,slow=34
I29A Vivian Onida 75.56 335 ⇑P P 15 57 20.5 -0.1
baz=76,SNR=10.0
N22A Wattenberg Ran 75.56 329 ⇓P P 15 57 21.9 +0.9
baz=76,SNR=50
109C Camp Elliot, M 75.57 317 ⇓P P 15 57 22.2 +1.3
baz=76
J27A Elkhorn Farm, 75.60 333 ⇓P P 15 57 21.3 +0.4
baz=76,SNR=43
K26A Motz Farm, Whi 75.63 332 ⇓P P 15 57 22.6 +1.4
baz=76,SNR=16
BELC Belle Mtn. Jos 75.66 319 ⇑P P 15 57 22.3 +0.8
baz=76,SNR=22
PFO Pinyon Flat Ob 75.66 318 P P 15 57 22.8 +1.2
comp=Z,347nm,1.9s,SNR=13
PFO Pinyon Flat Ob 75.66 318 eP P 15 57 22.5 +0.9
PFO Pinyon Flat Ob 75.66 318 eP P 15 57 22.5 +0.9
PFO Pinyon Flat Ob 75.66 318 ⇓P P 15 57 23.0 +1.4
baz=76,SNR=15

M23A Laramie 75.75 330 ⇑P P 15 57 23.2 +1.2
baz=76,SNR=15
K25A Mack Ranch, Ha 75.85 332 ⇓P P 15 57 23.9 +1.5
baz=76,SNR=15
L24A Wheatland 75.86 331 ⇓P P 15 57 24.0 +1.5
baz=76,SNR=8.5
LDFC Landfair 75.87 320 eP P 15 57 24.0 +1.3
comp=Z,1μm,2.3s
I28A Midland 75.88 334 ⇓P P 15 57 23.4 +0.9
baz=76,SNR=15
O20A White River Ci 75.90 328 eP P 15 57 23.5 +0.6
comp=Z,299nm,1.1s
O20A White River Ci 75.90 328 ⇑P P 15 57 23.8 +0.9
baz=76,SNR=82
GMRC Granite Mounta 75.99 319 ⇑P P 15 57 24.4 +0.9
baz=76,SNR=65
H29A Onida 76.04 335 ⇓P P 15 57 23.6 +0.3
baz=76,SNR=57
G30A Faulkton 76.07 336 ⇑P P 15 57 23.6 +0.2
baz=76,SNR=17
J26A Sides Ranch, S 76.09 333 ⇑P P 15 57 24.9 +1.2
baz=76,SNR=38
TSUM Tsumeb 76.09 105 eP P 15 57 23.9 -0.5
comp=Z,88nm,1.1s
EYMN Ely 76.10 342 eP P 15 57 23.1 -0.5
comp=Z,158nm,1.3s
M22A Cedar Creek Ra 76.10 329 ⇑P P 15 57 25.4 +1.3
baz=76,SNR=14
MURC Murrieta 76.11 318 ⇑P P 15 57 25.0 +1.0
baz=76,SNR=19
L23A Garrett 76.26 330 ⇓P P 15 57 25.8 +1.0
baz=76,SNR=38
SRU San Rafael 76.27 325 eP P 15 57 25.2 +0.3
SRU pmax pmax
comp=Z,198nm,1.2s
SRU San Rafael 76.27 325 eP P 15 57 25.2 +0.3
comp=Z,198nm,1.2s
I27A Quinn 76.29 334 ⇓P P 15 57 25.5 +0.7
baz=77,SNR=19
K24A Anderson Ranch 76.35 331 ⇓P P 15 57 26.8 +1.5
baz=77,SNR=8.7
BBRC Big Bear Solar 76.39 318 ⇑P P 15 57 27.8 +1.9
baz=77
H28A Mission Ridge 76.39 335 ⇓P P 15 57 25.8 +0.5
baz=77,SNR=13
G29A Hoven 76.41 336 ⇑P P 15 57 25.3 -0.1
baz=77,SNR=11
HEC Hector,Ludlow 76.42 319 ⇓P P 15 57 26.3 +0.5
baz=77,SNR=27
N20A Spence Gulch, 76.45 328 ⇑P P 15 57 27.2 +1.2
baz=77,SNR=46
J25A Sunshine Ranch 76.46 332 ⇓P P 15 57 27.2 +1.4
baz=77,SNR=15
L22A Ellis Ranch, M 76.52 330 ⇓P P 15 57 27.5 +1.1
baz=77,SNR=26
I26A New Underwood 76.59 333 ⇓P P 15 57 27.5 +1.0
baz=77,SNR=8.0
TUQ Turquoise Moun 76.60 320 ⇓P P 15 57 27.9 +1.1
baz=77,SNR=13
F30A Leola 76.63 337 ⇓P P 15 57 26.9 +0.3
baz=77,SNR=17
CCUT Cedar City 76.63 323 eP P 15 57 27.9 +0.8
comp=Z,2μm,2.4s
G28A Parade 76.69 335 ⇑P P 15 57 27.5 +0.5
baz=77,SNR=25
CIS Catalina Islan 76.73 317 ⇑P P 15 57 28.5 +1.0
baz=77
K23A Bowen Ranch, D 76.73 331 ⇑P P 15 57 28.3 +0.8
baz=77,SNR=30
TMUT Trail Mountain 76.76 325 eP P 15 57 26.5 -1.4
comp=Z,272nm,1.6s
TMUT eP P 15 57 28.2 +0.3
H27A Howes 76.77 334 ⇑P P 15 57 27.7 +0.2
baz=77,SNR=55
J24A Dixon Ranch, L 76.78 332 ⇓P P 15 57 28.4 +0.7
baz=77,SNR=50
BFSC Mount Baldy Ra 76.82 318 ⇑P P 15 57 29.0 +0.9
baz=77,SNR=16
ARUT Antelope Range 76.85 323 eP P 15 57 28.4 +0.1
ARUT Antelope Range 76.85 323 eP P 15 57 28.4 +0.1
comp=Z,6μm,1.4s
RRX Edison Barstow 76.86 319 ⇑P P 15 57 29.7 +1.5
baz=77
FMP Fort Macarthur 76.86 317 ⇑P P 15 57 29.2 +1.1
baz=77
SHPR Sheep Range 76.90 321 eP P 15 57 28.4 -0.2
F29A Eureka 76.92 336 ⇑P P 15 57 28.7 +0.4
baz=77,SNR=21
I25A Rochford 76.94 333 ⇑P P 15 57 29.8 +1.2
baz=77,SNR=65
GSC Goldstone 77.03 319 eP P 15 57 30.0 +0.7
GSC pmax pmax
comp=Z,1μm,2.3s
GSC Goldstone 77.03 319 eP P 15 57 30.0 +0.7
comp=Z,1μm,2.3s
GSC Goldstone 77.03 319 ⇓P P 15 57 30.5 +1.2
baz=77,SNR=39
H26A Fairpoint 77.04 334 ⇓P P 15 57 29.7 +0.7
baz=77
K22A Casper 77.05 330 eP P 15 57 29.8 +0.5
comp=Z,1μm,2.1s
K22A Casper 77.05 330 ⇑P P 15 57 30.3 +1.0
baz=77,SNR=49
MWC Mount Wilson 77.06 318 eP P 15 57 30.4 +0.9
MWC pmax pmax
comp=Z,700nm,1.9s
MWC Mount Wilson 77.06 318 eP P 15 57 30.4 +0.9
comp=Z,700nm,1.9s
PASC Pasadena Art C 77.10 317 eP P 15 57 28.2 -1.3
comp=Z,290nm,1.5s
PMOR Pomariorio Ree 77.12 259 eP P 15 57 32.7 +2.6
comp=Z,330nm,1.4s
SHOC Shoshone 77.13 320 ⇑P P 15 57 30.8 +1.1
baz=77,SNR=13
RSSD Black Hills 77.15 333 eP P 15 57 29.8 -0.1
RSSD pmax pmax
comp=Z,587nm,2.4s
RSSD Black Hills 77.15 333 eP P 15 57 29.8 -0.1
comp=Z,586nm,2.4s
E30A Jud 77.16 337 ⇑P P 15 57 30.0 +0.4
baz=78,SNR=21
I24A Kuemmerle Ranc 77.19 332 ⇓P P 15 57 30.7 +0.7
baz=78,SNR=16
J23A Dilts Ranch, B 77.22 331 ⇑P P 15 57 31.1 +1.0
baz=78
DECC Green Verdugo 77.24 317 ⇑P P 15 57 31.4 +1.0
baz=77,SNR=9.3
F28A McLaughlin 77.29 336 ⇓P P 15 57 31.1 +0.7
baz=78
G27A Dupree 77.33 335 ⇑P P 15 57 30.9 +0.2
baz=78,SNR=22
K21A Alcova 77.37 330 ⇓P P 15 57 32.2 +1.1
baz=78,SNR=81
H25A Fruitdale 77.38 333 ⇑P P 15 57 31.5 +0.6
baz=78,SNR=23
EDW2 Edwards Air Fo 77.46 318 ⇓P P 15 57 32.3 +0.7
baz=78,SNR=18
E29A Napoleon 77.48 337 ⇓P P 15 57 32.1 +0.7
baz=78
MPU Maple Canyon 77.51 325 eP P 15 57 32.7 +0.7
comp=Z,281nm,1.4s
G26A Maurine 77.53 334 ⇑P P 15 57 32.3 +0.6
baz=78,SNR=49
DAU Daniels Canyon 77.61 326 eP P 15 57 33.4 +0.8
DAU Daniels Canyon 77.61 326 eP P 15 57 33.4 +0.8
D30A Buchanan 77.62 337 ⇓P P 15 57 32.8 +0.6
baz=78,SNR=64
I23A Meade Ranch, G 77.63 332 ⇓P P 15 57 32.9 +0.4
baz=78
PPT2 Papeete2 77.63 256 eP P 15 57 35.5 +2.4
comp=Z,110nm,1.3s
PPT2 eS S 16 07 22.6 -0.5
comp=Z,5μm,34.2s
PPT2 Papeete2 77.63 256 eLQ LQ 16 18 21.9
comp=Z,5μm,27.5s
PPT2 eLR LR 16 21 36.5
comp=Z,14μm,31.0s
J22A Midwest 77.64 331 ⇓P P 15 57 33.3 +0.8
baz=78,SNR=55
PPT Papeete 77.64 256 P P 15 57 42.3 +9.2
PPT pmax pmax
comp=Z,43nm,0.9s
PPT MLR MLR
comp=Z,2μm,21.8s
PPT Papeete 77.64 256 P P 15 57 42.3 +9.2
comp=Z,43nm,0.9s,baz=175,slow=3.4,SNR=4.5
PPT LR LR 16 24 20.3
comp=Z,2μm,21.8s,baz=107,slow=30

LRMC Laurel Mountai 77.68 319 ⇑P P 15 57 34.2 +1.3
baz=78,SNR=28
NLU North Lily Min 77.69 325 eP P 15 57 34.3 +1.3
comp=Z,791nm,2.2s
AGMN Agassiz Nation 77.70 340 eP P 15 57 32.0 -0.6
comp=Z,112nm,1.1s
AGMN Agassiz Nation 77.70 340 ⇓P P 15 57 32.9 +0.3
baz=78,SNR=10.0
OSI Osito Adit 77.73 317 eP P 15 57 33.1 0.0
comp=Z,581nm,1.8s
OSI Osito Adit 77.73 317 ⇓P P 15 57 33.7 +0.6
baz=78,SNR=7.6
G25A Newell 77.77 334 ⇑P P 15 57 33.8 +0.7
baz=78,SNR=25
F27A Lemmon 77.78 335 ⇓P P 15 57 33.8 +0.6
baz=78,SNR=41
JLU Jordanelle 77.85 326 eP P 15 57 34.0 0.0
comp=Z,344nm,1.5s
FURC Furnace Creek, 77.86 320 ⇑P P 15 57 34.7 +1.0
baz=78,SNR=32
E28A Huff 77.87 336 ⇑P P 15 57 34.4 +0.8
baz=78,SNR=28
H24A Dirks Ranch, A 77.87 333 ⇑P P 15 57 34.4 +0.6
baz=78,SNR=46
D29A Pettibone, Tap 77.88 337 ⇓P P 15 57 34.2 +0.6
baz=78,SNR=24
BSC Santa Cruz Isl 77.88 316 ⇑P P 15 57 34.9 +1.0
baz=78
F26A Lodgepole 78.02 334 ⇓P P 15 57 35.1 +0.6
baz=78,SNR=28
I22A 9 Mile Ranch, 78.02 331 ⇑P P 15 57 35.3 +0.7
baz=78,SNR=42
J21A Lysite 78.02 330 ⇑P P 15 57 35.6 +0.9
baz=78,SNR=36
C30A Mose, Pekin 78.04 338 ⇓P P 15 57 35.0 +0.5
baz=78,SNR=30
E27A Carson 78.07 335 ⇓P P 15 57 35.5 +0.8
baz=78,SNR=7.6
CTU Camp Tracy 78.07 326 eP P 15 57 35.8 +0.7
comp=Z,308nm,1.9s
H23A Clabaugh Cattl 78.08 332 ⇓P P 15 57 35.5 +0.6
baz=78,SNR=6.6
ARVC Arvin 78.13 318 ⇓P P 15 57 36.5 +1.2
baz=78,SNR=9.5
TCUT Toone Canyon 78.21 326 eP P 15 57 34.7 -1.3
comp=Z,928nm,2.0s
SBC Santa Barbara 78.23 317 ⇓P P 15 57 37.0 +1.2
baz=78
DUG Dugway 78.25 325 eP P 15 57 35.5 -0.5
DUG pmax pmax
comp=Z,466nm,1.8s
DUG Dugway 78.25 325 eP P 15 57 35.5 -0.5
comp=Z,466nm,1.8s
DUG Dugway 78.25 325 ⇑P P 15 57 37.4 +1.3
baz=78,SNR=36
ISA Isabella 78.28 318 eP P 15 57 36.9 +0.7
ISA pmax pmax
comp=Z,906nm,2.3s
ISA Isabella 78.28 318 eP P 15 57 36.9 +0.7
comp=Z,906nm,2.3s
ISA Isabella 78.28 318 ⇑P P 15 57 37.7 +1.5
baz=78,SNR=31
G24A Alzada 78.29 333 ⇑P P 15 57 36.8 +0.8
baz=79,SNR=14
I21A Big Trails, Te 78.31 330 ⇑P P 15 57 37.2 +0.9
baz=79,SNR=62
J20A Shoshoni 78.31 330 ⇓P P 15 57 37.9 +1.6
baz=79,SNR=20
D28A Regan 78.34 336 ⇓P P 15 57 36.9 +0.7
baz=79,SNR=26
F25A Bowman 78.39 334 ⇓P P 15 57 37.4 +0.9
baz=79,SNR=9.2
R11A Troy Canyon, C 78.44 322 eP P 15 57 37.1 -0.1
comp=Z,376nm,1.6s
R11A Troy Canyon, C 78.44 322 ⇑P P 15 57 39.1 +2.0
baz=79,SNR=63
E26A Carlson Angus 78.45 335 ⇓P P 15 57 37.4 +0.6
baz=79,SNR=10
H22A Clearmont 78.52 331 ⇑P P 15 57 38.2 +0.9
baz=79,SNR=35
GRAC Grapevine Rang 78.52 320 ⇓P P 15 57 38.9 +1.4
baz=79,SNR=23
BW06 Boulder Array 78.55 328 eP P 15 57 37.5 -0.2
comp=Z,223nm,1.6s
PDAR Pinedale Array 78.55 328 P P 15 57 37.6 -0.1
comp=Z,14nm,0.8s,baz=134,slow=6.4,SNR=78
PDAR LR LR 16 35 41.9
comp=Z,2μm,21.9s,baz=132,slow=38
G23A Biddle 78.59 332 ⇑P P 15 57 38.4 +0.7
baz=79,SNR=30
D27A Center 78.62 336 ⇓P P 15 57 38.6 +0.8
baz=79,SNR=7.9
B30A Myrvik Farm, E 78.64 338 ⇓P P 15 57 38.2 +0.4
baz=79,SNR=76
J19A Crowheart 78.69 329 ⇑P P 15 57 39.3 +0.9
baz=79,SNR=85
C28A Hausauer Farms 78.72 337 ⇓P P 15 57 39.2 +1.0
baz=79
F24A Ekalaka 78.72 333 ⇓P P 15 57 39.0 +0.6
baz=79,SNR=27
VES Vestal, Richgr 78.76 318 ⇓P P 15 57 39.9 +1.2
baz=79,SNR=34
I20A Worland 78.80 330 ⇑P P 15 57 40.1 +1.2
baz=79,SNR=23
E25A Miller Ranch, 78.84 334 ⇓P P 15 57 39.8 +0.9
baz=79,SNR=20
H21A Big Horn, Sher 78.84 331 ⇓P P 15 57 39.7 +0.6
baz=79,SNR=19
SPUT South Promonto 78.88 326 eP P 15 57 39.0 -0.5
comp=Z,505nm,1.6s
BGU Big Grassy Mou 78.90 325 eP P 15 57 40.0 +0.4
comp=Z,130nm,1.4s
D26A Manning 78.90 335 ⇑P P 15 57 40.2 +0.9
baz=79,SNR=14
SMMC Simmler 78.97 317 ⇓P P 15 57 41.5 +1.5
baz=79,SNR=12
G22A Birney 78.99 332 ⇓P P 15 57 40.4 +0.5
baz=79,SNR=18
B29A Wagenman Farm, 79.00 338 ⇓P P 15 57 40.3 +0.6
baz=79,SNR=49
F23A Volborg 79.02 333 ⇑P P 15 57 40.3 +0.3
baz=79,SNR=38
A30A Hoffart Farm, 79.05 339 ⇓P P 15 57 40.5 +0.4
baz=79,SNR=29
TIN Tinemaha 79.06 320 ⇓P P 15 57 41.7 +1.2
baz=79,SNR=14
BOSA Boshof 79.12 116 P P 15 57 40.8 -0.4
BOSA pmax pmax
comp=Z,10.0nm,1.0s
BOSA Boshof 79.12 116 P P 15 57 40.8 -0.4
comp=Z,10.0nm,1.0s,baz=270,slow=6.3,SNR=4.7
BOSA Boshof 79.12 116 eP P 15 57 40.8 -0.4
comp=Z,105nm,1.4s
C27A Sayler Ranch, 79.12 336 ⇓P P 15 57 41.4 +0.9
baz=79,SNR=13
H20A Greybull 79.16 330 ⇑P P 15 57 41.0 +0.2
baz=79,SNR=49
TPH Tonopah 79.17 321 eP P 15 57 41.9 +0.7
TPH pmax pmax
comp=Z,861nm,2.1s
TPH Tonopah 79.17 321 eP P 15 57 41.9 +0.7
comp=Z,861nm,2.1s
E24A Baker 79.25 334 ⇓P P 15 57 42.1 +0.8
baz=80,SNR=23
I19A Meeteetse 79.26 330 ⇓P P 15 57 42.5 +1.0
baz=80,SNR=85
AHID Auburn Hatcher 79.29 328 P P 15 57 40.3 -1.5
comp=Z,695nm,1.6s
SCHQ Schefferville 79.31 359 P P 15 57 40.7 -0.6
comp=Z,46nm,1.0s,baz=214,slow=5.0,SNR=38
SCHQ LR LR 16 35 42.9
comp=Z,3μm,19.2s,baz=180,slow=38
SCHQ Schefferville 79.31 359 eP P 15 57 41.0 -0.3
B28A Dugan Ranch, T 79.33 337 ⇓P P 15 57 42.3 +0.7
baz=80,SNR=26
D25A Fairfield 79.34 335 ⇓P P 15 57 42.3 +0.6
baz=80,SNR=22
A29A Manning Farm, 79.35 338 ⇓P P 15 57 42.1 +0.5
baz=80,SNR=24
G21A Lodge Grass 79.39 331 ⇑P P 15 57 42.4 +0.3
baz=80,SNR=28
HVU Hansel Valley 79.39 326 eP P 15 57 42.3 0.0
HVU pmax pmax
comp=Z,677nm,1.8s
HVU Hansel Valley 79.39 326 eP P 15 57 42.3 0.0
comp=Z,677nm,1.8s
F22A Rosebud 79.42 332 ⇑P P 15 57 42.7 +0.6
baz=80,SNR=30

ULM Lac du Bonnet 79.43 341 P P 15 57 41.6 -0.4
ULM pmax pmax
comp=Z,55nm,0.9s
ULM Lac du Bonnet 79.43 341 P P 15 57 41.6 -0.4
comp=Z,55nm,0.8s,baz=151,slow=4.8,SNR=48
C26A Wahner Farm, P 79.44 336 ⇓P P 15 57 43.0 +0.8
baz=80,SNR=28
MTUM Tungsten Hills 79.46 320 eP P 15 57 43.4 +0.6
E23A Ismay 79.60 333 ⇓P P 15 57 43.6 +0.5
baz=80
B27A Peters Farms, 79.62 337 ⇓P P 15 57 44.0 +0.8
baz=80,SNR=8.8
REDW Red Top Meadow 79.62 328 eP P 15 57 43.9 +0.4
comp=Z,974nm,2.1s
LOHW Long Hollow 79.69 328 eP P 15 57 43.3 -0.6
comp=Z,953nm,2.1s
A28A Rude Farm, Bot 79.69 337 ⇓P P 15 57 44.1 +0.6
baz=80,SNR=19
D24A Glendive 79.71 334 ⇓P P 15 57 44.8 +1.1
baz=80,SNR=12
H19A Powell 79.75 330 ⇓P P 15 57 45.0 +0.9
baz=80,SNR=32
C25A Freed Ranch, W 79.78 335 ⇑P P 15 57 45.2 +1.2
baz=80,SNR=6.6
E22A Miles City 79.82 333 ⇑P P 15 57 44.6 +0.3
baz=80,SNR=11
F21A Absaloka Mine, 79.82 332 ⇑P P 15 57 45.0 +0.6
baz=80,SNR=14
G20A Bridger 79.83 331 ⇑P P 15 57 44.9 +0.4
baz=80,SNR=55
I17A Pilgrim Ck. 79.91 329 ⇓P P 15 57 46.7 +1.6
baz=80,SNR=57
FXWY Fox Creek 79.91 328 eP P 15 57 44.2 -1.0
comp=Z,1μm,3.0s
ELK Elko 79.94 324 eP P 15 57 44.8 -0.6
ELK pmax pmax
comp=Z,739nm,2.3s
ELK Elko 79.94 324 eP P 15 57 44.8 -0.6
comp=Z,739nm,2.3s
B26A Jensen Ranch, 79.95 336 ⇑P P 15 57 46.0 +1.0
baz=80
NV11 Mina Array Sit 79.95 321 eP P 15 57 45.1 -0.3
NVAR Mina Array Bea 80.04 321 P P 15 57 46.4 +0.5
comp=Z,32nm,1.1s,baz=143,slow=4.3,SNR=66
NVAR PP PP 16 00 51.7 +3.2
comp=Z,1.3nm,0.8s,baz=128,slow=7.3,SNR=2.1
NVAR PKKPbc PKKPbc 16 16 32.3 +0.2
comp=Z,0.3nm,0.5s,baz=336,slow=2.0,SNR=4.0
H18A Shoshone NF, C 80.06 330 ⇓P P 15 57 47.0 +1.1
baz=80,SNR=36
IMW Indian Meadow 80.06 328 eP P 15 57 46.5 +0.5
comp=Z,306nm,1.4s
A27A Ledoux Ranch, 80.07 337 ⇓P P 15 57 46.8 +1.2
baz=80,SNR=17
C24A Savage 80.08 334 ⇑P P 15 57 46.7 +1.0
baz=80,SNR=33
D23A Lindsay 80.11 334 ⇑P P 15 57 47.1 +1.2
baz=80,SNR=23
LAO LASA Array 80.13 333 eP P 15 57 46.0 0.0
comp=Z,253nm,1.4s
B25A Knox Farm, Ray 80.21 336 ⇓P P 15 57 47.7 +1.3
baz=80,SNR=7.4
RLMT Red Lodge 80.22 330 eP P 15 57 45.6 -1.2
comp=Z,574nm,1.8s
F20A Billings 80.25 331 ⇓P P 15 57 47.3 +0.6
baz=80,SNR=27
MAW Mawson 80.26 162 P P 15 57 46.8 +0.4
MAW pmax pmax
comp=Z,40nm,1.0s
MAW Mawson 80.26 162 P P 15 57 46.8 +0.4
comp=Z,40nm,1.0s,baz=238,slow=9.5,SNR=3.5
H17A Grant Village 80.27 329 eP P 15 57 48.6 +1.5
comp=Z,335nm,1.8s
H17A Grant Village 80.27 329 ⇑P P 15 57 49.0 +1.9
baz=80,SNR=26
A26A Wade Farm, Ken 80.31 336 ⇓P P 15 57 47.7 +0.8
baz=81,SNR=27
E21A Keefer Ranch, 80.37 332 ⇑P P 15 57 48.0 +0.7
baz=81,SNR=11
YFT Old Faithful 80.43 329 eP P 15 57 49.6 +1.7
comp=Z,1μm,2.6s
D22A Cohagen 80.48 333 ⇓P P 15 57 48.9 +1.0
baz=81,SNR=35
YNR Norris Junctio 80.56 329 eP P 15 57 50.2 +1.5
comp=Z,616nm,2.0s
C23A Lambert 80.61 334 ⇑P P 15 57 49.5 +1.0
baz=81,SNR=14
F19A Roth Farm, Mol 80.64 331 ⇑P P 15 57 49.4 +0.6
baz=81,SNR=94
YMR Madison River 80.66 329 eP P 15 57 50.1 +1.0
comp=Z,2μm,2.1s
A25A Svangstu Ranch 80.74 336 ⇓P P 15 57 50.4 +1.2
baz=81,SNR=19
WAKR Walker 80.75 320 eP P 15 57 50.5 +0.8
D21A La Casta Ranch 80.75 333 ⇓P P 15 57 50.3 +0.9
baz=81,SNR=46
DGMT Dagmar 80.76 335 eP P 15 57 49.3 0.0
comp=Z,475nm,1.3s
DGMT Dagmar 80.76 335 ⇑P P 15 57 50.1 +0.8
baz=81,SNR=35
E20A Meyer Farm, Mu 80.79 332 ⇑P P 15 57 50.4 +0.8
baz=81,SNR=50
BMN Battle Mountai 80.79 323 eP P 15 57 49.4 -0.4
BMN pmax pmax
comp=Z,186nm,1.8s
BMN Battle Mountai 80.79 323 eP P 15 57 49.4 -0.4
comp=Z,186nm,1.8s
SAO San Andreas Ge 80.81 318 eP P 15 57 50.7 +0.9
SAO pmax pmax
comp=Z,221nm,1.8s
SAO San Andreas Ge 80.81 318 eP P 15 57 50.7 +0.9
comp=Z,220nm,1.8s
C22A Vida 80.84 334 ⇑P P 15 57 50.4 +0.6
baz=81,SNR=34
GCMT Greycliff 80.92 330 eP P 15 57 50.0 -0.3
comp=Z,290nm,1.6s
CMB Columbia Colle 81.00 319 eP P 15 57 50.7 -0.1
CMB pmax pmax
comp=Z,643nm,2.5s
CMB Columbia Colle 81.00 319 eP P 15 57 50.7 -0.1
comp=Z,643nm,2.5s
QLMT Earthquake Lak 81.00 329 eP P 15 57 51.8 +0.9
E19A Rath Farm, Rou 81.04 331 ⇑P P 15 57 51.6 +0.6
baz=81,SNR=15
A24A Westby 81.06 335 ⇓P P 15 57 51.5 +0.6
baz=81,SNR=36
B23A Brockton 81.06 335 ⇓P P 15 57 52.1 +1.2
baz=81,SNR=47
D20A Manuel Ranch, 81.25 332 ⇑P P 15 57 52.6 +0.5
baz=82,SNR=63
B22A Reddig Ranch S 81.33 334 ⇑P P 15 57 53.0 +0.6
baz=82,SNR=20
C21A Desert Coulee 81.40 333 ⇑P P 15 57 53.1 +0.3
baz=82,SNR=48
A23A Redstone 81.42 335 ⇑P P 15 57 53.7 +0.9
baz=82,SNR=13
MDT Midelt 81.50 48 P P 15 57 54.5 +0.8
comp=Z,33nm,1.1s,baz=244,slow=6.4,SNR=12
MDT LR LR 16 32 45.7
comp=Z,5μm,20.8s,baz=233,slow=35
HLID Hailey 81.52 326 eP P 15 57 53.7 0.0
comp=Z,305nm,1.3s
HLID Hailey 81.52 326 ⇑P P 15 57 55.2 +1.6
baz=82,SNR=119
D19A Cripps Ranch, 81.63 332 ⇑P P 15 57 54.7 +0.6
baz=82,SNR=59
MORF Marmelete 81.66 42 eP P 15 57 54.6 +0.1
MORF AMS AMS 16 33 35.7
comp=Z,4μm,20.6s
MORF Marmelete 81.66 42 eP P 15 57 54.5 +0.1
MCMT McKenzie Canyo 81.67 328 eP P 15 57 54.2 -0.3
comp=Z,120nm,1.2s
C20A Veseth Ranch, 81.69 333 ⇑P P 15 57 54.4 +0.2
baz=82,SNR=27
BOZ Bozeman (W) 81.70 329 eP P 15 57 54.4 -0.2
BOZ pmax pmax
comp=Z,312nm,1.9s
BOZ Bozeman (W) 81.70 329 eP P 15 57 54.4 -0.2
comp=Z,312nm,1.9s
B21A Ellsworth Farm 81.84 333 ⇓P P 15 57 55.9 +0.9
baz=82,SNR=5.8
A22A Carney Farms, 81.85 334 ⇑P P 15 57 56.2 +1.1
baz=82,SNR=42
DLMT Dillon 81.95 329 eP P 15 57 56.5 +0.7
comp=Z,695nm,2.0s
MFID Camas Ranch 82.14 325 eP P 15 57 57.4 +0.5
comp=Z,848nm,2.1s
C19A Slack Wire Ran 82.14 332 ⇑P P 15 57 57.4 +0.6

baz=82,SNR=64
LRM Limekiln Ridge 82.22 329 eP P 15 57 57.7 +0.3
A21A Bergtoll Ranch 82.25 334 ⇓P P 15 57 57.8 +0.6
baz=82,SNR=27
B20A Solberg Farm, 82.26 333 ⇑P P 15 57 57.7 +0.4
baz=83,SNR=11
LIS Lisbon 82.27 41 eP P 15 57 57.8 +0.3
LIS AMS AMS 16 33 09.5
comp=Z,3μm,19.7s
LIS Lisbon 82.27 41 eP P 15 57 57.7 +0.3
PVAQ Vaqueiros 82.30 43 eP P 15 58 01.2 +3.5
comp=Z,168nm,2.0s
PVAQ Vaqueiros 82.30 43 eLQ LQ 16 23 26.5
PVAQ eLR LR 16 25 58.6
comp=Z,3μm,26.9s
OHCM Honcut 82.49 320 eP P 15 57 58.8 +0.1
A20A Cobblestone Ra 82.57 333 ⇓P P 15 57 59.2 +0.3
baz=83,SNR=62
HRY Holter Researc 82.59 330 eP P 15 57 59.5 +0.3
B19A Brinkman Farms 82.66 332 ⇑P P 15 57 59.6 +0.3
baz=83,SNR=30
EGMT Eagleton 82.67 332 eP P 15 57 58.9 -0.5
comp=Z,703nm,2.0s
EGMT Eagleton 82.67 332 ⇓P P 15 57 59.6 +0.1
baz=83,SNR=49
WVOR Wild Horse Val 82.94 323 eP P 15 58 01.5 +0.4
WVOR Wild Horse Val 82.94 323 eP P 15 58 01.5 +0.4
A19A Klindworth Far 82.94 333 ⇓P P 15 58 01.1 +0.3
baz=83,SNR=28
PBAR Barrancos 83.20 43 eP P 15 58 03.5 +1.2
comp=Z,198nm,1.7s
PBAR Barrancos 83.20 43 eLQ LQ 16 23 53.5
PBAR eLR LR 16 27 36.7
comp=Z,7μm,17.9s
PESTR Estremoz 83.30 42 eP P 15 58 03.8 +0.9
comp=Z,92nm,2.0s
CHMT Chamberlain Mo 83.40 329 eP P 15 58 03.4 0.0
MOD Modoc 83.50 322 eP P 15 58 04.2 +0.2
comp=Z,679nm,2.3s
PCAS Casmilo, Conde 83.51 40 eP P 15 58 04.5 +0.6
comp=Z,108nm,2.3s
TAM Tamanrasset 83.53 61 eP P 15 58 04.8 +0.2
TAM pmax pmax
comp=Z,95nm,1.3s
TAM Tamanrasset 83.53 61 eP P 15 58 04.8 +0.2
comp=Z,95nm,1.3s
MSO Missoula 83.66 329 eP P 15 58 04.8 +0.2
comp=Z,265nm,1.6s
MSO Missoula 83.66 329 ⇑P P 15 58 05.7 +1.0
baz=84,SNR=56
SLMT Seeley Lake 83.75 329 eP P 15 58 05.0 -0.1
BMO Blue Mountains 83.90 326 eP P 15 58 05.4 -0.5
BMO pmax pmax
comp=Z,476nm,1.8s
BMO Blue Mountains 83.90 326 eP P 15 58 05.4 -0.5
comp=Z,476nm,1.8s
WDC Whiskeytown Da 83.92 320 eP P 15 58 04.6 -1.4
WDC pmax pmax
comp=Z,407nm,2.1s
WDC Whiskeytown Da 83.92 320 eP P 15 58 04.6 -1.4
comp=Z,407nm,2.1s
KCPM Cahto Peak 83.97 319 eP P 15 58 05.6 -0.8
comp=Z,171nm,1.7s
SWMT Swartz Lake 84.18 329 eP P 15 58 07.3 0.0
N02D Trinity Center 84.27 320 ⇑P P 15 58 08.0 +0.2
baz=84
M04C Macdoel 84.29 321 ⇑P P 15 58 08.7 +0.7
baz=84
MTE Manteigas 84.30 41 eP P 15 58 08.4 +0.4
comp=Z,192nm,2.5s
MTE Manteigas 84.30 41 eLQ LQ 16 23 07.8
MTE eLR LR 16 28 11.9
MTE -MS 16 33 57.9
K05A Summer Lake 84.37 322 eP P 15 58 09.1 +0.6
comp=Z,2μm,2.2s
KMRM Mail Ridge 84.38 319 eP P 15 58 10.2 +1.8
comp=Z,573nm,1.7s
YBMT Yellow Bay 84.44 330 eP P 15 58 08.7 +0.1
JTMT Jette 84.48 329 eP P 15 58 08.8 -0.1
HOG Hogback Mounta 84.51 322 P P 15 58 09.0 -0.2
I07A Izee 84.52 324 eP P 15 58 09.7 +0.5
comp=Z,519nm,1.8s
M02C Callahan 84.62 320 ⇑P P 15 58 10.1 +0.4
baz=85
F10A Beach Ranch, E 84.64 327 eP P 15 58 09.5 -0.1
comp=Z,2μm,2.6s
BLMT Blacktail Moun 84.72 329 eP P 15 58 10.1 -0.1
YBH Yreka Blue Hor 84.75 321 eP P 15 58 09.6 -0.7
YBH pmax pmax
comp=Z,142nm,1.7s
YBH Yreka Blue Hor 84.75 321 eP P 15 58 09.6 -0.7
comp=Z,142nm,1.7s
POLO Lamas de Olo 84.77 40 eP P 15 58 11.3 +0.9
K04D Chiloquin, OR 84.79 322 ⇓P P 15 58 11.3 +0.8
baz=85
BSMT Bassoo Peak 84.80 329 eP P 15 58 10.3 -0.2
KHMM Horse Mountain 84.80 320 eP P 15 58 11.5 +0.8
comp=Z,592nm,1.9s
J05D Fort Rock, OR 84.93 323 ⇓P P 15 58 12.0 +0.8
baz=85
RAR Rarotonga 85.05 249 LR LR 16 27 54.2
comp=Z,1μm,19.6s,baz=132,slow=30
G08A Pilot Rock 85.05 325 eP P 15 58 11.9 +0.1
comp=Z,257nm,2.0s
PINOR Pine Mountain 85.08 323 eP P 15 58 11.3 -0.4
comp=Z,434nm,1.7s
MVO Moncorvo 85.08 40 eP P 15 58 13.6 +1.7
comp=Z,156nm,1.0s
MVO A A 15 58 18.1
comp=Z,165nm,2.0s
MVO Moncorvo 85.08 40 eLQ LQ 16 24 26.0
MVO eLR LR 16 27 20.8
MVO -MS 16 34 42.8
FFC Flin Flon 85.18 340 P P 15 58 11.8 -0.2
comp=Z,199nm,2.2s,SNR=13
FFC Flin Flon 85.18 340 eP P 15 58 11.3 -0.7
FFC pmax pmax
comp=Z,324nm,2.2s
FFC Flin Flon 85.18 340 eP P 15 58 11.3 -0.7
comp=Z,324nm,2.2s
KTRM Thompson Ridge 85.25 321 P P 15 58 13.1 +0.2
WALA Waterton Lakes 85.27 330 eP P 15 58 12.4 -0.4
J04D Umpqua Nationa 85.39 322 ⇑P P 15 58 14.2 +0.6
baz=86
HUMO Hull Mountain 85.45 321 eP P 15 58 13.3 -0.4
comp=Z,84nm,1.4s
BBOR Butler Butte 85.48 322 P P 15 58 13.4 -0.6
L02D Cave Junction, 85.54 321 ⇑P P 15 58 15.0 +0.9
baz=86
PBRG Braganca 85.65 40 eP P 15 58 15.8 +1.1
comp=Z,206nm,1.4s
I05D Terrebonne, OR 85.68 323 ⇓P P 15 58 15.8 +0.9
baz=86
PAB San Pablo 85.70 43 eP P 15 58 15.3 +0.2
PAB pmax pmax
comp=Z,66nm,0.9s
PAB San Pablo 85.70 43 eP P 15 58 15.3 +0.2
comp=Z,66nm,0.9s
G06A Carlson Farm, 85.89 324 eP P 15 58 15.8 -0.1
comp=Z,536nm,2.0s
I04A Tendick Farm, 85.91 323 ⇓P P 15 58 16.2 +0.3
baz=86
KBO Bosley Butte 85.93 320 eP P 15 58 17.2 +1.0
comp=Z,872nm,1.9s
ESDC Sonseca Array 86.01 43 P P 15 58 17.1 +0.5
comp=Z,31nm,0.9s,baz=239,slow=4.6,SNR=53
ESDC LR LR 16 36 39.8
comp=Z,2μm,18.1s,baz=210,slow=36
ESLA Sonseca Array 86.01 43 eP P 15 58 16.4 -0.2
comp=Z,90nm,1.7s
HAWA Hanford 86.09 326 eP P 15 58 16.9 +0.2
comp=Z,810nm,2.0s
WRD Warden 86.18 326 P P 15 58 18.3 +1.1
NEW Newport 86.19 328 eP P 15 58 16.7 -0.5
NEW pmax pmax
comp=Z,86nm,1.3s
NEW Newport 86.19 328 eP P 15 58 16.7 -0.5
comp=Z,86nm,1.3s
NEW Newport 86.19 328 ⇓P P 15 58 17.3 0.0
baz=86,SNR=33
D08A Wollman Farm, 86.24 327 eP P 15 58 17.5 0.0
comp=Z,737nm,2.0s
G05D Wamic, OR 86.26 324 ⇑P P 15 58 19.0 +1.4
baz=86
OD2 Odessa Site #2 86.36 327 P P 15 58 17.8 -0.3
H04A Detroit Lake 86.36 323 eP P 15 58 18.1 -0.1
comp=Z,511nm,2.1s
I03D Drain, OR 86.37 322 ⇑P P 15 58 18.9 +0.7
baz=87
E07A Sunnyside 86.37 326 eP P 15 58 18.4 +0.2
comp=Z,391nm,2.0s
KEBM Edson Butte 86.41 321 eP P 15 58 19.4 +0.9
comp=Z,458nm,1.5s
C09A Chrisman Ranch 86.43 327 eP P 15 58 17.7 -0.7
comp=Z,263nm,1.3s
TRW Toppenish Ridg 86.55 325 P P 15 58 19.8 +0.7
FCC Fort Churchill 86.57 346 eP P 15 58 18.4 -0.4
FCC Fort Churchill 86.57 346 eP P 15 58 18.4 -0.4
COR Corvallis 86.91 323 eP P 15 58 21.8 +1.0
COR pmax pmax
comp=Z,784nm,1.8s
COR Corvallis 86.91 323 eP P 15 58 21.8 +1.0
comp=Z,784nm,1.8s
LSZ Lusaka 86.94 105 eP P 15 58 22.4 +0.5
LSZ pmax pmax
comp=Z,295nm,1.9s
LSZ Lusaka 86.94 105 eP P 15 58 22.4 +0.5
comp=Z,295nm,1.9s
WTV Waterville 87.19 327 P P 15 58 21.8 -0.4
LTY Liberty 87.25 326 eP P 15 58 22.6 +0.1
comp=Z,667nm,2.0s
G03D McMinnville, O 87.29 323 ⇑P P 15 58 23.7 +1.1
baz=88
F04A Amboy 87.30 324 eP P 15 58 22.7 +0.1
comp=Z,305nm,1.4s
ETW Entiat 87.31 326 P P 15 58 22.7 -0.2
B08A Colville Reser 87.33 327 eP P 15 58 21.8 -1.0
comp=Z,196nm,1.6s
LON Longmire 87.51 325 eP P 15 58 23.4 -0.3
LON pmax pmax
comp=Z,288nm,2.0s
LON Longmire 87.51 325 eP P 15 58 23.4 -0.3
comp=Z,288nm,2.0s
F04D Rainier, OR 87.71 324 ⇑P P 15 58 25.5 +0.9
baz=88
D05A Enumclaw 87.89 325 eP P 15 58 24.9 -0.5
comp=Z,278nm,1.4s
EDM Edmonton 88.10 333 eP P 15 58 25.2 -1.1
EDM Edmonton 88.10 333 eP P 15 58 25.2 -1.1
E03A Lebam 88.30 324 eP P 15 58 28.6 +1.2
comp=Z,624nm,2.1s
B06A Marblemount 88.50 327 eP P 15 58 27.4 -0.9
comp=Z,582nm,2.2s
NLWA Neilton Lookou 89.00 325 eP P 15 58 31.4 +0.7
comp=Z,521nm,2.1s
A05A Maple Falls 89.11 327 eP P 15 58 31.1 -0.1
comp=Z,256nm,1.5s
CASY Casey 89.16 178 eP P 15 58 30.6 -0.7
comp=Z,590nm,1.8s
PGC Sidney 89.58 326 eP P 15 58 34.0 +0.6
SJPF Ste Jean 89.70 41 eP P 15 58 34.6 +0.5
comp=Z,96nm,1.0s
ETSF Etsaut 89.98 42 eP P 15 58 36.0 +0.5
comp=Z,51nm,0.9s
CKHR Kef el Ahmar 90.23 50 P P 15 58 38.7 +1.8
SET Setif 90.24 50 P P 15 58 40.0 +3.1
VAL Valentia 90.38 31 ⇓iP P 15 58 37.9 +0.9
EPF Esparros 90.60 42 eP P 15 58 37.4 -1.0
comp=Z,24nm,0.8s
DFRA Djebel Bou Aff 90.75 50 P P 15 58 40.4 +1.1
CTEI Djebel Teioual 90.88 50 P P 15 58 41.2 +1.3
CASM Ain Smara 91.03 50 P P 15 58 41.6 +1.1
CKFL Kef-Lekhel 91.26 50 P P 15 58 42.6 +0.9
QUIF Quistinic 91.40 37 eP P 15 58 41.1 -0.7
CAEH 'Ain El Ouahch 91.54 50 P P 15 58 43.4 +0.5
ROSF Rostrenen 91.59 36 eP P 15 58 42.0 -0.7
comp=Z,68nm,0.9s
ABSA Djebel Ababsia 91.73 51 P P 15 58 41.6 -2.2
CMAH Djebel Manchou 91.86 50 P P 15 58 44.8 +0.4
LFF La Frestale 91.90 41 eP P 15 58 44.2 -0.1
comp=Z,87nm,1.0s
MTLF Montolieu 91.91 42 eP P 15 58 44.1 -0.3
SGMF Saint Gilles 91.92 37 eP P 15 58 43.4 -0.9
comp=Z,43nm,0.9s
SFJD Kangerlussuaq 92.19 6 ⇑iP P 15 58 45.0 -0.1
SFJD pmax pmax
comp=Z,32nm,0.9s
SFJD Kangerlussuaq 92.19 6 ⇑iP P 15 58 45.0 -0.1
comp=Z,32nm,0.9s
SFJD Kangerlussuaq 92.19 6 eP P 15 58 45.6 +0.6
comp=Z,84nm,1.2s
MFF Saint Martin d 92.31 39 eP P 15 58 45.7 -0.4
comp=Z,57nm,0.9s
RJF Les Rejaudoux 92.56 41 eP P 15 58 47.0 -0.3
comp=Z,109nm,1.6s
RJF eR
comp=Z,6μm,22.2s
KEST Kesra 92.79 52 P P 15 58 49.9 +1.2
comp=Z,2.7nm,0.9s,baz=85,slow=5.3,SNR=5.3
KEST LR LR 16 42 35.5
comp=Z,3μm,18.7s,baz=184,slow=37
GRR Gorron 92.93 37 eP P 15 58 48.1 -0.8
comp=Z,136nm,1.3s
DSB Dublin 93.02 31 eP P 15 58 49.0 -0.2
comp=Z,559nm,2.9s
FLN La Foliniere 93.35 37 eP P 15 58 50.1 -0.7
comp=Z,77nm,1.1s
FLN eR
comp=Z,4μm,22.8s
LDF La Druitiere 93.45 37 eP P 15 58 50.5 -0.8
comp=Z,44nm,0.9s
TCF Toulx Ste Croi 93.50 40 eP P 15 58 51.2 -0.5
comp=Z,86nm,1.6s
BGF Bois d'Agland 94.02 40 eP P 15 58 53.7 -0.3
VIVF Saint-Julien-l 94.22 42 eP P 15 58 54.4 -0.6
ILULI Ilulissat 94.32 5 ⇑iP P 15 58 54.5 -0.3
ILULI pmax pmax
comp=Z,18nm,1.1s
ILULI Ilulissat 94.32 5 ⇑iP P 15 58 54.5 -0.3
comp=Z,18nm,1.0s
SMRF Simiane la Rot 94.32 43 eP P 15 58 54.5 -1.0
SSB Saint Sauveur 94.35 42 eP P 15 58 55.2 -0.4
SSB pmax pmax
comp=Z,23nm,0.9s
SSB Saint Sauveur 94.35 42 eP P 15 58 55.2 -0.4
comp=Z,23nm,0.9s
AVF Avril sur Loir 94.44 40 eP P 15 58 55.2 -0.7
comp=Z,94nm,1.5s
LMR La Mourre 94.58 44 eP P 15 58 56.7 0.0
comp=Z,97nm,1.3s
VSL Villasalto 94.61 49 eP P 15 58 56.8 -0.1
comp=Z,30nm,1.2s
SMF Signal de Mont 94.65 40 eP P 15 58 56.7 -0.2
comp=Z,78nm,1.2s
SSF Saint Saulge 94.67 40 eP P 15 58 56.2 -0.8
comp=Z,64nm,1.4s
FRF La Foret Royal 94.78 44 eP P 15 58 56.9 -0.7
comp=Z,69nm,1.4s
LOR Lormes 94.98 40 eP P 15 58 57.5 -0.9
comp=Z,62nm,1.4s
LOR eR
comp=Z,6μm,20.5s
ORIF Oris-en-Rattie 94.99 43 eP P 15 58 58.4 -0.2
comp=Z,76nm,1.2s
ORIF eR
comp=Z,6μm,19.0s
YKA Yellowknife Ar 95.36 339 P P 15 58 59.1 -0.6
YKA 16 02 51.9
YKA pmax pmax
comp=Z,22nm,1.0s
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKA Yellowknife Ar 95.36 339 P P 15 58 59.1 -0.6
comp=Z,22nm,1.0s,baz=130,slow=4.4,SNR=104
YKA PP PP 16 02 51.9 +1.2
comp=Z,3.6nm,1.0s,baz=131,slow=8.5,SNR=5.5
YKA PKKPbc PKKPbc 16 15 52.9 -1.9
comp=Z,0.4nm,0.4s,baz=322,slow=3.5,SNR=11
SBF Sospel 95.43 44 eP P 15 59 00.9 +0.2
comp=Z,107nm,1.2s
MBDF Montbardon 95.44 43 eP P 15 59 01.0 +0.2
comp=Z,69nm,1.3s
BORG Borgarnes 95.56 17 LR LR 16 38 13.0
comp=Z,1μm,19.9s,baz=228,slow=33
EKA Eskdalemuir Ar 95.79 31 P P 15 59 01.4 -0.5
EKA pmax pmax
comp=Z,13nm,0.9s
EKA MLR MLR
comp=Z,2μm,21.7s
EKA Eskdalemuir Ar 95.79 31 P P 15 59 01.4 -0.5
comp=Z,13nm,0.9s,baz=243,slow=3.5,SNR=14
EKA LR LR 16 37 50.5
comp=Z,2μm,21.7s,baz=240,slow=33
PGF Pioggiola 95.80 46 eP P 15 59 02.7 +0.3
comp=Z,60nm,1.0s
LPL La Plagne 95.81 42 eP P 15 59 03.1 +0.6
comp=Z,37nm,0.9s
LPG La Plagne 95.81 42 eP P 15 59 03.2 +0.6
comp=Z,39nm,0.9s
CABF La Chapelle 95.96 41 eP P 15 59 03.0 0.0
comp=Z,70nm,1.4s
SFTF Sexfontaines 96.15 39 eP P 15 59 03.1 -0.6
MEZF Maizieres J'vi 96.30 39 eP P 15 59 04.0 -0.4
comp=Z,33nm,1.0s
SENIN Lac Senin/Sane 96.57 42 eP P 15 59 07.2 +1.2
BAIF Baives 96.62 37 eP P 15 59 05.2 -0.6
PAGF Fort de Pagny 96.72 39 eP P 15 59 05.9 -0.4
comp=Z,29nm,1.4s
HAU Haudompre 96.81 40 eP P 15 59 06.0 -0.8
comp=Z,24nm,1.1s
HAU eR
comp=Z,5μm,20.2s
DOU Dourbes 96.86 38 P P 15 59 07.4 +0.6
SNF Seneffe 96.90 37 P P 15 59 07.2 +0.1
GIVF Givet 96.99 38 eP P 15 59 07.0 -0.5
comp=Z,138nm,1.5s
HINF Hinteralfeld 97.01 40 eP P 15 59 06.9 -0.8
comp=Z,20nm,1.0s
ECH Echery 97.38 40 eP P 15 59 08.7 -0.6
ECH pmax pmax
comp=Z,15nm,1.1s
ECH Echery 97.38 40 eP P 15 59 08.7 -0.6
comp=Z,15nm,1.1s
WLF Walferdange 97.51 38 P Pdif 15 59 10.4 +0.4
comp=Z,13nm,1.3s
CDF Champ du Feu 97.55 40 eP P 15 59 09.5 -0.7
comp=Z,47nm,1.3s
TUE Stuetta 97.86 42 eP P 15 59 11.4 -0.4
comp=Z,19nm,1.1s
BFO Black Forest 98.12 40 ceP Pdif 15 59 13.6 +0.9
DAVOX Davos/Dischmat 98.33 42 PP PP 16 03 10.9 -3.5
comp=Z,1.2nm,0.5s,baz=236,slow=3.9,SNR=5.6
DAVOX LR LR 16 40 55.8
comp=Z,3μm,20.6s,baz=246,slow=34
FUORN Ofenpass-Fuorn 98.49 42 eP Pdif 15 59 15.1 +0.4
comp=Z,33nm,1.4s
DAVA Damuels 98.56 42 ⇓iPdiff Pdif 15 59 15.2 +0.3
comp=Z,23nm,1.2s
DLBC Dease Lake 98.59 331 eP Pdif 15 59 15.2 +0.6
STU Stuttgart 98.84 40 eP Pdif 15 59 17.0 +1.1
STU pmax pmax
comp=Z,21nm,0.8s
STU Stuttgart 98.84 40 eP Pdif 15 59 16.9 +1.1
comp=Z,21nm,0.8s
SUMG Summit 98.84 8 eP Pdif 15 59 16.0 +0.2
SUMG pmax pmax
comp=Z,37nm,1.2s
SUMG Summit 98.84 8 ⇑iP Pdif 15 59 16.3 +0.5
comp=Z,14nm,0.9s
SUMG Summit 98.84 8 iP PP 16 03 15.1 -2.8
comp=Z,11nm,1.3s
SUMG Summit 98.84 8 eP Pdif 15 59 16.0 +0.1
comp=Z,37nm,1.2s
FETA Feichten 98.96 42 ⇑iPdiff Pdif 15 59 16.8 +0.1
comp=Z,19nm,1.2s
RETA Reutte 99.19 42 ⇓iPdiff Pdif 15 59 16.8 -0.8
comp=Z,15nm,1.1s
KULLO Kullorsuaq 99.28 2 iP PP 16 03 17.2 -3.5
comp=Z,13nm,1.1s
MOTA Moosalm 99.33 42 iPdiff Pdif 15 59 18.5 +0.2
comp=Z,8.0nm,0.8s,SNR=5.9
WTTA Wattenberg 99.62 42 ⇑iPdiff Pdif 15 59 20.0 +0.4
comp=Z,21nm,1.1s,SNR=6.3
GRF Grafenberg Arr 100.44 40 ePdiff Pdif 15 59 23.2 +0.2
GRF ePP PP 16 03 23.9 -6.3
GERES GERESS Array B 101.55 41 P Pdif 15 59 28.5 +0.5
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 101.55 41 P Pdif 15 59 28.5 +0.5
comp=Z,0.8nm,0.8s,baz=240,slow=4.5,SNR=7.2
KHC Kasperske Hory 101.59 41 ePP PP 16 03 38.8 -0.1
CLL Collm 102.16 39 eP Pdif 15 59 31.0 +0.5
CLL e 16 03 41.0
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL MLR MLR
comp=Z,3μm,20.4s
CLL Collm 102.16 39 ePdif Pdif 15 59 31.0 +0.5
comp=Z,8.0nm,1.1s
CLL ePP PP 16 03 41.0 -2.0
CLL ePKiKP PKiKP 16 03 53.0 +0.4
CLL eSdif Sdif 16 11 24.0 +13
CLL e 16 12 33.0
CLL ePS PS 16 13 00.0 +11
CLL eSS SS 16 18 23.0 +5.7
CLL eSSS SSS 16 22 24.0
CLL eSSSS 16 25 48.0
CLL Lm MLR 16 44 00.0
comp=Z,3μm,20.4s
PRU Pruhonice 102.52 41 ePP PP 16 03 44.0 -1.8
TREC Trest 102.81 42 ePP PP 16 03 51.8 +3.8
VRAC Vranov 103.48 42 PP PP 16 03 52.6 -0.5
comp=Z,3.5nm,0.9s,baz=252,slow=16,SNR=3.0
UPC Upice 103.59 41 ePP PP 16 03 52.8 -1.0
KSP Ksiaz 103.88 40 eP PP 16 03 53.5 -2.5
KRLC Kraliky 103.88 41 ePP PP 16 03 54.1 -2.0
VAY Valandovo 104.53 51 eP PP 16 03 59.3 -1.7
VYHS Vyhne 104.56 43 eP Pdif 15 59 41.1 -0.2
VYHS e 16 04 03.1
VYHS Vyhne 104.56 43 PDIF Pdif 15 59 41.1 -0.2
VYHS ePP PP 16 04 03.1 +2.0
OKC Ostrava-Krasne 104.62 42 AMS AMS 16 49 30.0
comp=Z,2μm,18.2s
KKB Krupnik 105.08 51 eP PP 16 04 04.4 -0.7
NOA NORSAR Array B 105.21 29 PP PP 16 04 03.2 -2.5
comp=Z,3.9nm,1.1s,baz=244,slow=7.0,SNR=3.4
DAG Danmarks Havn 105.22 10 iP Pdif 15 59 43.7 +0.1
DAG pmax pmax
comp=Z,4.0nm,1.1s
DAG Danmarks Havn 105.22 10 iP Pdif 15 59 43.7 +0.1
comp=Z,2.8nm,1.1s
DAG Danmarks Havn 105.22 10 iP PP 16 04 01.9 -3.4
comp=Z,4.3nm,1.2s
DAG Danmarks Havn 105.22 10 iP PKKPbc 16 15 21.9 -4.7
comp=Z,2.2nm,0.8s
MMB Musomiste 105.44 51 eP PP 16 04 06.1 -1.7
PLD Plovdiv 106.29 51 eP PP 16 04 12.8 -1.3
CRVS Cervenica-Dubn 106.33 43 eP Pdif 15 59 49.9 +0.7
CRVS e 16 04 16.7
CRVS Cervenica-Dubn 106.33 43 PDIF Pdif 15 59 49.8 +0.6
CRVS ePP PP 16 04 16.7 +2.5
KOLS Kolonicke sedl 106.85 44 ePP PP 16 04 20.2 +2.2
KWP Kalwaria Pacla 107.34 43 eP PKiKP 16 04 03.2 +0.9
SZH Strazhica 107.52 50 eP PP 16 04 17.7 -5.4
MLR Muntele Rosu 108.19 48 PKiKP PKiKP 16 04 05.0 +0.9
comp=Z,2.3nm,1.3s,baz=136,slow=1.3,SNR=4.7
ILAR Eielson Array 108.59 333 Pdiff Pdif 15 59 58.3 -0.5
comp=Z,0.9nm,1.1s,baz=123,slow=3.3,SNR=5.1
ILAR PKiKP PKiKP 16 04 03.8 -0.4
comp=Z,1.9nm,1.1s,baz=193,slow=1.3,SNR=4.8
ILAR PKKPbc PKKPbc 16 15 13.5 -2.3
comp=Z,0.5nm,0.9s,baz=307,slow=4.5,SNR=4.2
KIS Kishinev 110.52 47 ePKiKP PKiKP 16 04 08.0 -0.3
KIS Kishinev 110.52 47 eP PKiKP 16 04 08.0 -0.3
AKASG Malin Array Be 111.66 43 PKiKP PKiKP 16 04 10.5 +0.2
comp=Z,2.8nm,0.9s,baz=261,slow=2.4,SNR=7.5
AKASG PKKPbc PKKPab 16 15 10.3 -1.5
comp=Z,0.5nm,0.6s,baz=67,slow=4.0,SNR=4.5
MNK Minsk 111.67 39 ePKiKP PKiKP 16 04 07.0 -3.2
MICGM Minsk 111.69 39 e PKiKP 16 04 07.0 -3.2
BRTR Keskin Array B 112.11 55 iPKiKP PKiKP 16 04 12.6 +0.9
BRTR 16 04 56.2
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 112.11 55 PKiKP PKiKP 16 04 12.6 +0.9
comp=Z,3.0nm,0.8s,baz=190,slow=3.2,SNR=14
BRTR PP PP 16 04 56.2 -0.4
comp=Z,2.9nm,1.0s,baz=252,slow=6.8,SNR=4.0
FINES FINESS Array B 112.18 31 iPKiKP PKiKP 16 04 11.1 +0.1
FINES 16 04 53.9
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES pmax pmax
comp=Z,4.0nm,1.1s
FINES FINESS Array B 112.18 31 PKiKP PKiKP 16 04 11.1 +0.1
comp=Z,1.7nm,0.9s,baz=276,slow=2.7,SNR=4.0

FINES PP PP 16 04 53.9 -2.4
comp=Z,4.2nm,1.1s,baz=210,slow=10,SNR=5.3
FINES PKKPbc PKKPbc 16 15 05.3 +1.4
comp=Z,3.6nm,1.2s,baz=139,slow=5.3,SNR=3.4
ARCES ARCESS Array B 113.32 23 PKKPbc PKKPbc 16 14 59.6 -0.7
comp=Z,2.6nm,0.8s,baz=79,slow=4.9,SNR=6.1
SIM Simferopol' 113.64 50 i PKIKP PKiKP 16 04 13.0 -1.3
SIM pmax pmax
comp=Z,300nm,12.0s
SIM MLR MLR
comp=Z,1µm,17.0s
ANN Anapa 115.93 51 i PKIKP PKPdf 16 04 18.2 -0.4
ANN e 16 04 30.3
ANN e 16 05 20.3
ANN i PPP PPP 16 07 48.2
ANN e 16 11 07.9
ANN eSP SP 16 15 05.0 +4.6
ANN pmax pmax
comp=Z,70nm,1.9s
APA Apatity 116.03 25⇓iPKIKP PKPdf 16 04 24.0 +5.8
APA i 16 05 24.0
APA i 16 11 10.0
APA i PS PS 16 15 04.0 -0.8
OBN Obninsk 116.76 39⇑iPKIKP PKPdf 16 04 20.7 +0.8
OBN e 16 04 28.6
OBN i 16 04 35.6
OBN e 16 05 25.5
OBN eS SP 16 15 10.4 +3.2
OBN SS SS 16 21 27.3 -5.9
OBN pmax pmax
comp=Z,71nm,1.7s
OBN MLR MLR
comp=Z,2µm,23.0s
OBN Obninsk 116.76 39 PKP PKPdf 16 04 20.0 +0.1
comp=Z,8.3nm,0.4s,baz=153,slow=3.5,SNR=9.3
SOC Sochi 117.35 52 i PKIKP PKPdf 16 04 22.2 +0.7
SOC e 16 05 38.9
SOC ePPP PPP 16 08 00.5
SOC eSS SS 16 22 07.4 +26
SOC pmax pmax
comp=Z,23nm,0.6s
SOC MLR MLR
comp=Z,1µm,19.0s
MOS Moscow 117.41 38 ePKIKP PKPdf 16 04 19.1 -2.1
MOS e 16 05 29.8
MOS MLR MLR
comp=Z,2µm,21.0s
TMCR Tamitsa 117.89 29 ePKIKP PKPdf 16 04 22.9 +1.1
TMCR e 16 05 40.9
TMCR pmax pmax
comp=Z,32nm,1.5s
VSR Storozhevoye 117.94 44 ePKIKP PKPdf 16 04 19.9 -2.4
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,7.0nm,0.9s
STKA Stephens Creek 118.00 206 PKP PKPdf 16 04 21.9 -1.4
comp=E,1.2nm,0.5s,baz=337,slow=1.6,SNR=3.8
STKA PKKPbc PKKPbc 16 14 43.1 -0.1
comp=E,3.9nm,0.9s,baz=334,slow=6.4,SNR=6.0
VORD Divnogorie 118.00 44 ePKIKP PKPdf 16 04 20.7 -1.7
VORD pmax pmax
comp=Z,9.0nm,1.1s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,60nm,0.6s
KLMR Klimovskoe 118.60 33 ePKIKP PKPdf 16 04 21.7 -1.6
KLMR pmax pmax
comp=Z,89nm,1.8s
VRHR Novokhopersk 119.48 44 ePKIKP PKPdf 16 04 24.5 -0.8
VRHR pmax pmax
comp=Z,10.0nm,1.3s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
KIV Kislovodsk 119.53 52 ePKIKP PKPdf 16 04 26.4 +0.6
KIV Kislovodsk 119.53 52 ePKPdf PKPdf 16 04 26.4 +0.6
KBZ Khabaz 119.66 52 PKIKP PKPdf 16 04 26.1 +0.3
KBZ pmax pmax
comp=Z,20nm,1.0s
KBZ Khabaz 119.66 52 PKP PKPdf 16 04 26.1 +0.3
comp=Z,20nm,1.0s,baz=226,slow=3.6,SNR=27
AKH Akhalkalaki 119.79 55 P PP 16 05 44.0 -6.5
GOF Gofitskoye 119.91 51 ePKIKP PKPdf 16 04 26.8 +0.5
GOF pmax pmax
comp=Z,60nm,1.2s
ONI Oni 119.92 54 P PP 16 05 52.3 +1.2
NCK Nalchik 120.13 53⇑iPKIKP PKPdf 16 04 28.5 +1.6
ZEI Tsey 120.27 54 i PKIKP PKPdf 16 04 25.7 -1.7
ZEI pmax pmax
comp=Z,19nm,1.1s
GNI Garni 120.56 57⇓iPKIKP PKPdf 16 04 29.4 +1.4
GNI pmax pmax
comp=Z,46nm,1.7s
TBLG Delisi 120.76 55 P PP 16 05 55.1 -1.8
DGRG David-gareji 121.20 55 P PP 16 05 56.8 -3.1
BILL Bilibino 126.74 338⇑ePKIKP PKPdf 16 04 38.6 -0.2
BILL e 16 06 36.2
BILL pmax pmax
comp=Z,21nm,1.3s
BILL Bilibino 126.74 338 ePKPdf PKPdf 16 04 38.5 -0.2
SOKR Solikamsk 127.28 33d iPKIKP PKPdf 16 04 41.1 +1.1
SOKR pmax pmax
comp=Z,30nm,1.0s
SOKR MLR MLR
comp=Z,3µm,20.0s
AS31 Alice Springs 128.30 203 ePKPdf PKPdf 16 04 42.7 -0.6
ARU Arti 129.00 36 i PKIKP PKPdf 16 04 44.5 +1.1
ARU 16 11 47.2
ARU Arti 129.00 36 ePKPdf PKPdf 16 04 44.4 +1.0
AKTO Aktyubinsk 129.88 44 PKIKP PKPdf 16 04 45.4 +0.1
AKTO 16 06 58.9
AKTO pmax pmax
comp=Z,20nm,1.2s
AKTO pmax pmax
comp=Z,2.0nm,1.0s
AKTO Aktyubinsk 129.88 44 PKP PKPdf 16 04 45.4 +0.1
comp=Z,20nm,1.2s,baz=296,slow=1.5,SNR=31
AKTO PP PP 16 06 58.9 +1.5
comp=Z,2.2nm,1.0s,baz=265,slow=8.6,SNR=2.2
SVE Sverdlovsk 130.00 35 i PKIKP PKPdf 16 04 46.2 +0.9
SVE pmax pmax
comp=Z,68nm,1.9s
GEYT Alibeck 130.75 60 PKP PKPdf 16 04 47.2 -0.1
comp=Z,12nm,1.0s,baz=267,slow=3.0,SNR=24
GEYT PP PP 16 07 03.7 +0.1
comp=Z,2.7nm,0.8s,baz=248,slow=6.1,SNR=3.8
ABKAR Akbulak array 131.31 45 ePKPdf PKPdf 16 04 49.0 +1.0
WRA Warramunga Arr 131.53 205 PKIKP PKPdf 16 04 49.3 -0.1
WRA pmax pmax
comp=Z,8.0nm,0.4s
WRA pmax pmax
comp=N,3.0nm,0.8s
WRA Warramunga Arr 131.53 205 PKP PKPdf 16 04 49.3 -0.1
comp=N,8.3nm,0.4s,baz=162,slow=1.7,SNR=84
WRA SKPbc SKPab 16 08 14.9 +1.8
comp=N,3.0nm,0.8s,baz=162,slow=4.3,SNR=4.7
WRAB Tennant Creek 131.54 205⇑iPKIKP PKPdf 16 04 49.8 +0.4
WRAB pmax pmax
comp=Z,305nm,1.7s
WRAB Tennant Creek 131.54 205 ePKPdf PKPdf 16 04 50.0 +0.6
COEN Coen 132.41 219 ePKPdf PKPdf 16 04 52.0 +0.9
TIXI Tiksi 132.42 354 i PKIKP PKPdf 16 04 48.6 -0.8
TIXI pmax pmax
comp=Z,45nm,1.7s
TIXI Tiksi 132.42 354 ePKPdf PKPdf 16 04 50.0 +0.6
PMG Port Moresby 133.44 227d iPKIKP PKPdf 16 04 54.9 +1.8
PMG pmax pmax
comp=Z,70nm,1.7s
PMG Port Moresby 133.44 227 PKP PKPdf 16 04 52.0 -1.1
comp=Z,2.8nm,0.5s,baz=54,slow=8.1,SNR=9.4
PMG Port Moresby 133.44 227 PKP PKPdf 16 04 52.0 -1.1
PMG ePKPdf PKiKP 16 04 54.3 -0.1
MBWA Marble Bar 134.04 187 ePKPdf PKPdf 16 04 54.3 +0.2
FITZ Fitzroy Crossi 136.01 195 ePKPdf PKPdf 16 04 59.3 +1.5
BRVK Borovoye 136.51 38⇑iPKIKP PKPdf 16 04 58.7 +1.1
BRVK Borovoye 136.51 38 ePKPdf PKPdf 16 04 58.3 +0.7
PET Petropavlovsk 136.60 322 ePKIKP PKPdf 16 04 59.3 +1.5
PET e 16 07 45.2
PET eSS SS 16 25 38.8 -1.8
PET pmax pmax
comp=Z,14nm,0.8s
PET MLR MLR
comp=Z,1µm,19.0s
PETK Petropavlovsk- 137.09 323 PKIKP PKPdf 16 04 59.6 +0.8
PETK pmax pmax
comp=Z,20nm,0.9s
PETK Petropavlovsk- 137.09 323 PKP PKPdf 16 04 59.6 +0.8
comp=Z,20nm,0.9s,baz=97,slow=4.6,SNR=11
YAK Yakutsk 141.39 349 ePKIKP PKPdf 16 05 06.6 +0.3
YAK Yakutsk 141.39 349 ePKPdf PKPdf 16 05 06.6 +0.3
EKS2 Erkin-Say 142.13 52 P PKPdf 16 05 12.4 +3.9
SNR=5.7
EKS2 Erkin-Say 142.13 52 ePKIKP PKPdf 16 05 08.4 0.0
EKS2 Erkin-Say 142.13 52 ePKPdf PKPdf 16 05 08.4 0.0
NVS Novosibirsk 142.13 29⇑iPKIKP PKPdf 16 05 04.3 -3.5
NVS pmax pmax
comp=E,96nm,1.8s
NVS pmax pmax
comp=Z,339nm,1.8s
KURK Kurchatov 142.17 37 ePKIKP PKPdf 16 05 08.1 +0.1
KURK Kurchatov 142.17 37 ePKPdf PKPdf 16 05 08.1 +0.1
AAK Ala-Archa 142.65 51 PKhKP PKPpre 16 05 06.4
comp=Z,2.7nm,0.6s,baz=254,slow=1.8,SNR=10
FRU Bishkek 142.68 51 ePKIKP PKPdf 16 05 07.0 -2.3
CHMS Chumysh 142.73 51 P PKPdf 16 05 06.6 -2.8
SNR=7.1
UCH Uchtor 142.77 52 P PKPdf 16 05 07.5 -2.5
SNR=12
KBK Karagaybulak 142.96 51 P PKPdf 16 05 07.1 -2.9
SNR=7.7
PALK Pallekele 143.26 113 PKIKP PKPdf 16 05 12.3 +1.1
PALK pmax pmax
comp=Z,45nm,1.0s
PALK Pallekele 143.26 113 PKP PKPdf 16 05 12.3 +1.1
comp=Z,45nm,1.0s,baz=197,slow=0.9,SNR=13
KZA Kyzart 143.34 52 P PKPbc 16 05 09.0 +0.9
SNR=11
TKM2 Tokmak 2 143.35 51 P PKPbc 16 05 08.0 +0.1
SNR=13
TKM2 Tokmak 2 143.35 51 PKIKP PKPdf 16 05 10.8 +0.1
TKM2 Tokmak 2 143.35 51 PKPdf PKPdf 16 05 10.8 +0.1
ZAA0 Zalesovo Array 143.41 29 ePKPdf PKPdf 16 05 10.7 +0.6
ZALV Zalesovo Beam 143.41 29 PKIKP PKPbc 16 05 07.4 0.0
ZALV pmax pmax
comp=Z,78nm,1.0s
ZALV Zalesovo Beam 143.41 29 PKhKP PKPbc 16 05 07.4 +0.1
comp=Z,78nm,0.9s,baz=306,slow=3.5,SNR=114
XMIS Christmas Isla 143.88 165 ePKPdf PKPdf 16 05 11.7 -0.5
ULHL Ulahol 144.00 52 P PKPdf 16 05 10.9 -1.0
SNR=9.6
BATI Baumata 144.09 195 PKP PKPbc 16 05 10.5 -0.1
comp=Z,29nm,0.6s,baz=99,slow=5.0,SNR=5.3
SOEI Soe 144.37 197 ePKPdf PKPdf 16 05 12.6 -0.6
KSH Kashi 144.49 56 ePKP PKPab 16 05 06.0 -5.1
KSH esPKP 16 05 23.0
KSH eSKS SKSdf 16 12 10.8 -9.1
KSH eSKKS SKKSac 16 15 11.3 -8.0
KSH eSS SS 16 27 12.5 -1.8
KSH LR LR
comp=Z,1µm,21.3s
KSH LR LR
comp=Z,2µm,21.6s
KRAR Krasnoyarsk 145.03 21⇓iPKIKP PKPdf 16 05 13.1 +0.2
KRAR i 16 05 16.0
HYB Hyderabad 145.71 95 i PKP PKPdf 16 05 14.5 -0.8
MMRI Maumere 145.93 194 ePKPbc PKPab 16 05 16.8 -0.1
MK31 Makanchi Array 146.22 41 ePKP2 PKPab 16 05 17.1 0.0
MK31 Makanchi Array 146.22 41 ePKPbc PKPab 16 05 17.1 0.0
MKAR Makanchi Array 146.22 41 PKP2 PKPdf 16 05 15.7 +0.4
MKAR pmax pmax
comp=Z,121nm,0.8s
MKAR Makanchi Array 146.22 41 PKPbc PKPdf 16 05 15.7 +0.4
comp=Z,121nm,0.8s,baz=306,slow=2.7,SNR=227
KUR Kuril'sk 146.28 316c iPKHKP PKPpre 16 05 06.1
KUR pmax pmax
comp=Z,8µm,5.7s
KUR pmax pmax
comp=Z,682nm,1.9s
JAGI Jajag, Banyuwa 146.93 179 ePKPbc PKPbc 16 05 19.8 +0.4
BOD Bodaibo 147.00 1 ePKIKP PKPdf 16 05 16.2 0.0
BOD pmax pmax
comp=Z,178nm,1.6s
CLNS Chul'man 147.12 350 ePKIKP PKPdf 16 05 16.5 0.0
CLNS pmax pmax
comp=Z,109nm,1.5s
CLNS pmax pmax
comp=N,17nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,1.1s
NGP Nagpur 147.18 89 eP PKPbc 16 05 19.0 -0.9
NGP ex PKPab 16 05 22.8 +1.2
comp=Z,249nm,2.0s
CISI Cisompet, Garu 147.18 168 ePKPbc PKPbc 16 05 20.7 +0.6
FAKI Fak Fak 147.52 214 ePKPdf PKPdf 16 05 18.3 -0.2
FAKI ePKPab PKiKP 16 05 23.7 +0.5
YUK Yuzh-Kuril'sk 148.09 315 i PKHKP PKPpre 16 05 11.0
YUK i 16 05 16.9
YUK MLR MLR
comp=N,826nm,19.0s
YUK MLR MLR
comp=Z,1µm,19.0s
YUK MLR MLR
comp=E,672nm,19.0s
SMRI Semarang 148.10 172 ePKPdf PKPdf 16 05 20.6 +1.2
SMRI ePKPbc PKPbc 16 05 23.1 +0.6
SMRI ePKPab PKPab 16 05 25.5 +0.2
YSS Yuzh-Sakhalins 148.48 322α iPKIKP PKPdf 16 05 19.0 0.0
YSS e 16 05 27.5
YSS ePPS PPS 16 21 31.0
YSS pmax pmax
comp=Z,220nm,1.5s
YSS pmax pmax
comp=Z,2µm,4.0s
YSS Yuzh-Sakhalins 148.48 322 ePKPdf PKPdf 16 05 19.9 +0.9
YSS ePKPab PKPab 16 05 26.1 +0.2
MNAI Manna 148.91 157 ePKPbc PKPbc 16 05 25.9 +1.2
MNAI ePKPab PKPab 16 05 28.7 +0.1
HVS Khovu-Aksy 149.21 26d iPKIKP PKPdf 16 05 21.1 +0.9
HVS i 16 05 26.6
KAPI Kappang 149.94 190 ePKPdf PKPdf 16 05 23.0 +0.6
KAPI ePKPbc PKPbc 16 05 27.6 +0.4
ASAJ Asahikawa 150.11 317 PKP PKPdf 16 05 22.0 +0.3
comp=Z,25nm,1.1s,baz=202,slow=5.4,SNR=3.5
ASAJ PKPbc PKiKP 16 05 27.2 -0.4
comp=Z,194nm,1.3s,baz=234,slow=14,SNR=28
ASAJ Asahikawa 150.11 317 PKP PKPdf 16 05 22.0 +0.3
ASAJ ePKPbc PKPbc 16 05 27.0 +0.3
ASAJ PKPbc PKiKP 16 05 27.2 -0.4
ASAJ ePKPab PKPab 16 05 32.9 +0.2
ERM Erimo 150.77 313⇓ePKIKP PKPdf 16 05 23.9 +1.1
ERM i 16 05 30.9
ERM Erimo 150.77 313 ePKPbc PKPbc 16 05 29.3 +0.9
WMQ Urumqi 151.01 42 PKPbc PKPdf 16 05 23.0 -0.2
WMQ pPKP pPKPdf 16 05 34.0 +0.3
WMQ sPKP 16 05 37.5
WMQ PP PP 16 09 09.8 +3.0
WMQ SKS SKSdf 16 12 25.5 -3.1
WMQ SKKS SKKSac 16 15 49.3 -6.1
WMQ SS SS 16 28 15.3 -12
WMQ AMB AMB
comp=Z,2µm,10.0s
WMQ LR LR
comp=Z,2µm,22.2s
WMQ LR LR
comp=Z,3µm,20.8s
WMQ LR LR
comp=Z,4µm,23.0s
MOY Mondy 151.24 18 ePKIKP PKPdf 16 05 25.3 +1.9
MOY pmax pmax
comp=Z,578nm,2.8s
HABR Khabarovsk 151.38 331de PKIKP PKPdf 16 05 22.4 -1.1
HABR e 16 05 35.1
HABR pmax pmax
comp=E,64nm,2.7s
HABR pmax pmax
comp=N,34nm,2.8s
HABR pmax pmax
comp=Z,31nm,2.8s
GSI Gunungsitoli 151.47 142 ePKPdf PKPdf 16 05 24.8 0.0
IRK Irkutsk 151.50 13 ePKIKP PKPdf 16 05 22.4 -1.2
IRK e 16 09 05.6
IRK pmax pmax
comp=Z,553nm,2.2s
TLY Talaya 151.89 14 i PKIKP PKPdf 16 05 25.4 +1.2
TLY e 16 05 31.6
TLY pmax pmax
comp=Z,64nm,1.6s
TLY Talaya 151.89 14 PKP PKPdf 16 05 26.0 +1.7
comp=Z,3.5nm,0.8s,baz=218,slow=1.0,SNR=32
TLY Talaya 151.89 14 ePKPdf PKPdf 16 05 24.7 +0.4
TLY PKP PKPdf 16 05 26.0 +1.7
TLY ePKPbc PKiKP 16 05 31.5 +0.5
KLR Kul'dur 152.14 335 ePKIKP PKPdf 16 05 20.4 -4.2
KLR pmax pmax
comp=Z,330nm,1.8s
KLR pmax pmax
comp=Z,2µm,6.0s
KOLN Koldanda 152.14 77 eP PKPdf 16 05 25.9 +0.3
comp=Z,245nm,1.4s
DANN Dangsing 152.28 76 eP PKPdf 16 05 26.6 +0.7
comp=Z,279nm,0.9s
BKNI Bangkinang 152.39 150 ePKPdf PKPdf 16 05 26.4 +0.3
BKNI ePKPbc PKPbc 16 05 32.8 -0.2
CIT Chita 152.81 1 ePKIKP PKPdf 16 05 26.7 +1.1
CIT pmax pmax
comp=Z,315nm,2.0s
ZAK Zakamensk 153.01 16⇑iPKIKP PKPdf 16 05 26.5 +0.5
ZAK e 16 09 19.4
ZAK pmax pmax
comp=Z,33nm,1.7s
GKN Gorkha 153.06 77 eP PKPdf 16 05 27.3 +0.4
comp=Z,356nm,1.5s
TNTI Ternate 153.09 209 ePKPbc PKPbc 16 05 34.7 +0.2
TNTI ePKPab PKPab 16 05 46.5 +0.7
LUWI Luwuk 153.10 198 ePKPbc PKPbc 16 05 34.7 +0.1
PSI Prapat 153.45 143 PKIKP PKPdf 16 05 28.1 +0.3
PSI 16 05 35.7
PSI pmax pmax
comp=Z,11nm,0.7s
PSI Prapat 153.45 143 PKP PKPdf 16 05 28.1 +0.3
comp=Z,11nm,0.7s,baz=214,slow=3.8,SNR=22
PSI PKPbc PKiKP 16 05 35.7 +0.1
comp=Z,79nm,1.1s,baz=213,slow=7.7,SNR=16
DMN Daman 153.47 78 eP PKPdf 16 05 27.8 +0.2
comp=Z,430nm,1.6s
KKN Kakani 153.63 77 eP PKPdf 16 05 28.2 +0.4
PKIN Phulchoki 153.73 78 eP PKPdf 16 05 27.9 -0.1
PKI Pulchoki 153.74 78 eP PKPdf 16 05 28.0 -0.1
GUN Gumba 154.16 77 eP PKPdf 16 05 28.9 +0.2
LHMI Lhok Sumawe 154.23 136 ePKPdf PKPdf 16 05 28.9 +0.1
JIRN Jiri 154.43 77 eP PKPdf 16 05 29.2 +0.1
comp=Z,212nm,1.6s
RAMN Ramite 154.79 79 eP PKPdf 16 05 30.0 +0.5
comp=Z,461nm,1.6s
KGM Kluang 154.90 153 ⇑P PKPdf 16 05 30.6 +0.9
MYKOM Kota Tinggi 154.91 154 ⇓P PKPdf 16 05 30.7 +1.0
HIA Hailar 155.24 352 ePKIKP PKPdf 16 05 29.3 +0.2
HIA Hailar 155.24 352 ePKPdf PKPdf 16 05 29.3 +0.2
ODAN Odare 155.49 79 eP PKPdf 16 05 30.8 +0.4
comp=Z,315nm,1.6s
TAPN Taplejung 155.78 78 eP PKPdf 16 05 31.1 +0.2
comp=Z,315nm,1.7s
USRK Ussuriysk Arra 155.98 328 PKP PKPdf 16 05 30.6 +0.4
comp=Z,9.3nm,1.1s,baz=333,slow=0.9,SNR=28
USRK PP PP 16 09 36.5 +2.2
comp=Z,1.8nm,0.8s,baz=72,slow=8.2,SNR=5.2
IPM Ipoh 155.98 145 ePKPdf PKPdf 16 05 31.6 +0.4
IPM Ipoh 155.98 145 ⇓P PKPdf 16 05 31.7 +0.5
SONM Songino Array 156.12 14 PKIKP PKPdf 16 05 31.6 +1.1
SONM 16 05 58.5
SONM 16 09 40.1
SONM pmax pmax
comp=Z,13nm,1.2s
SONM pmax pmax
comp=Z,25nm,0.8s
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 156.12 14 PKP PKPdf 16 05 31.6 +1.1
comp=Z,13nm,1.2s,baz=284,slow=0.6,SNR=49
SONM PKPab PKPab 16 05 58.5 +0.5
comp=Z,25nm,0.8s,baz=320,slow=3.7,SNR=26
SONM PP PP 16 09 40.1 +5.3
comp=Z,1.6nm,0.9s,baz=336,slow=6.8,SNR=3.6
ULN Ulaanbaatar 156.22 13 ePKIKP PKPdf 16 05 30.9 +0.3
ULN Ulaanbaatar 156.22 13 ePKPdf PKPdf 16 05 30.9 +0.3
KSM Kuching 156.46 169 ePKPdf PKPdf 16 05 31.8 0.0
KSM ePKPab PKPab 16 06 00.9 +0.8
MJAR Matsushiro Arr 156.58 306 PKIKP PKPdf 16 05 31.4 +0.1
MJAR pmax pmax
comp=Z,5.0nm,1.2s
MJAR pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 156.58 306 PKP PKPdf 16 05 31.4 +0.1
comp=Z,4.9nm,1.2s,baz=294,slow=0.9,SNR=8.8
MJAR PKPab PKPab 16 06 00.0 -0.3
comp=Z,10nm,0.9s,baz=55,slow=2.1,SNR=11
MAJO Matsushiro 156.58 306 ePKIKP PKPdf 16 05 30.5 -0.8
MAJO Matsushiro 156.58 306 ePKPdf PKPdf 16 05 30.5 -0.8
MAT Matsushiro 156.58 306 ePKP PKPdf 16 05 30.3 -1.0
MDJ Mudanjiang 156.75 332 PKP PKPdf 16 05 30.8 -0.4
MDJ pPKP pPKPdf 16 05 40.5 -1.2
MDJ sPKP 16 05 45.3
MDJ PKS PKSdf 16 09 06.3 +1.3
MDJ PP PP 16 09 34.5 -3.9
MDJ AMB AMB
comp=Z,520nm,5.9s
MDJ LR LR
comp=Z,2µm,20.0s
MDJ LR LR
comp=Z,1µm,17.5s
MDJ LR LR
comp=Z,3µm,23.7s
MDJ Mudanjiang 156.75 332 ePKPdf PKPdf 16 05 31.0 -0.2
KTGM Kuala Trenggan 157.76 149 ⇓P PKPdf 16 05 32.1 -1.3
LSA Lhasa 158.65 72 PKP PKPdf 16 05 35.3 +0.7
LSA Lhasa 158.65 72 ePKIKP PKPdf 16 05 35.4 +0.7
LSA Lhasa 158.65 72 ePKPdf PKPdf 16 05 35.4 +0.7
CN2 Changchun 159.04 337 ePKP PKPdf 16 05 33.5 -0.6
CN2 PP PP 16 09 48.8 -2.1
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,600nm,21.0s
CN2 LR LR
comp=Z,1µm,21.0s
CN2 LR LR
comp=Z,600nm,17.0s
GTA Gaotai 160.86 37 PKP PKPdf 16 05 36.8 +0.4
GTA pPKP pPKPdf 16 05 47.5 +0.6
GTA sPKP 16 05 51.3
GTA PKPab PKPab 16 06 19.8 +0.9
GTA PP PP 16 10 02.3 +1.0
GTA SS SS 16 30 07.3 -5.4
GTA AMB AMB
comp=Z,1µm,5.7s
GTA LR LR
comp=Z,2µm,18.1s
GTA LR LR
comp=Z,2µm,20.2s
GTA LR LR
comp=Z,13µm,19.4s
SNY Shenyang 161.43 338 ⇑PKP PKPdf 16 05 35.8 -0.9
SNY PKPab PKPab 16 06 22.0 +1.0
SNY PP PP 16 10 02.5 -1.2
SNY AMB AMB
comp=Z,2µm,7.9s
HHC Hu-ho-hao-te 163.80 8 ePKP PKPdf 16 05 40.3 +1.0
HHC sPKP 16 05 51.0
HHC PP PP 16 10 16.0 -0.2
HHC SKS SKSdf 16 12 39.8 -1.8
HHC AMB AMB
comp=Z,2µm,4.6s
HHC LR LR
comp=Z,2µm,16.9s
HHC LR LR
comp=Z,5µm,17.3s
HHC LR LR
comp=Z,6µm,17.7s
CMAR Chiang Mai Arr 164.19 110 PKIKP PKPdf 16 05 40.9 +0.7
CMAR pmax pmax
comp=Z,17nm,1.2s
CMAR Chiang Mai Arr 164.19 110 PKP PKPdf 16 05 40.9 +0.7
comp=Z,17nm,1.2s,baz=251,slow=2.1,SNR=37
CHTO Chiang Mai 164.35 109 ePKIKP PKPdf 16 05 40.5 +0.2
CHTO Chiang Mai 164.35 109 ePKPdf PKPdf 16 05 40.5 +0.2
BJI Beijing 164.74 355 PKP PKPdf 16 05 40.3 +0.3
BJI PP PP 16 10 19.5 -1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BJI				AMB	AMB		
	comp=Z,2μm,5.4s						
BJI				LR	LR		
	comp=Z,2μm,20.0s						
BJI				LR	LR		
	comp=Z,2μm,18.6s						
BJI				LR	LR		
	comp=Z,8μm,91.8s						
LZH	**Lanzhou**	**165.46**	**37**	PKP	**PKPdf**	**16 05 42.5**	**+1.5**
LZH				pPKP	**pPKPdf**	**16 05 52.0**	**+0.5**
LZH				sPKP		16 05 56.8	
LZH				PP	**PP**	**16 10 29.8**	**+4.1**
LZH				AMB	AMB		
	comp=Z,940nm,5.1s						
LZH				LR	LR		
	comp=Z,2μm,19.8s						
LZH				LR	LR		
	comp=Z,4μm,20.0s						
LZH				LR	LR		
	comp=Z,3μm,21.0s						
TIY	**Taiyuan**	**167.00**	**7**	*e*PKP	**PKPdf**	**16 05 42.5**	**+0.5**
TIY				PKPab	**PKPab**	**16 06 44.5**	**-1.2**
TIY				PP	**PP**	**16 10 29.8**	**-3.0**
TIY				AMB	AMB		
	comp=Z,1μm,5.6s						
TIY				LR	LR		
	comp=Z,1μm,16.2s						
TIY				LR	LR		
	comp=Z,2μm,15.1s						
TIA	**Tai'an**	**168.41**	**350**	PKP	**PKPdf**	**16 05 43.3**	**+0.3**
TIA				PP	**PP**	**16 10 38.0**	**-1.9**
TIA				AMB	AMB		
	comp=Z,3μm,8.0s						
TIA				LR	LR		
	comp=Z,900nm,19.0s						
TIA				LR	LR		
	comp=Z,2μm,20.8s						
TIA				LR	LR		
	comp=Z,3μm,19.0s						
CD2	**Chengdu**	**168.69**	**55**	PKP	**PKPdf**	**16 05 43.3**	**-0.1**
CD2				pPKP	**pPKPdf**	**16 05 55.5**	**+1.6**
CD2				sPKP		16 05 59.5	
CD2				PKS	**PKSdf**	**16 09 14.5**	**-1.5**
CD2				PP	**PP**	**16 10 45.0**	**+2.2**
CD2				SKS	**SKSdf**	**16 12 41.5**	**-3.5**
CD2				SKKS	**SKKSac**	**16 17 26.5**	**-1.4**
CD2				SS	**SS**	**16 31 31.5**	**-2.4**
CD2				AMB	AMB		
	comp=Z,1μm,6.4s						
KMI	**Kunming**	**169.29**	**86**	PKP	**PKPdf**	**16 05 44.5**	**+0.3**
KMI				pPKP	**pPKPdf**	**16 05 57.0**	**+2.3**
XAN	**Xi'an**	**169.57**	**27**	PKP	**PKPdf**	**16 05 44.3**	**+0.5**
NJ2	**Nanjing**	**171.83**	**333**	*e*PKP	**PKPdf**	**16 05 45.5**	**+0.5**
NJ2				PKPab	**PKPab**	**16 07 06.5**	**-0.7**
NJ2				PP	**PP**	**16 10 56.8**	**-0.6**
NJ2				LR	LR		
	comp=Z,970nm,24.0s						
NJ2				LR	LR		
	comp=Z,260nm,29.0s						
NJ2				LR	LR		
	comp=Z,3μm,27.0s						
GYA	**Guiyang**	**172.70**	**75**	*i* PKP	**PKPdf**	**16 05 45.5**	**-0.2**
GYA				pPKP	**pPKPdf**	**16 05 57.8**	**+1.5**
GYA				PKPab	**PKPab**	**16 07 12.0**	**+0.3**
GYA				PKS	**PKSdf**	**16 09 16.5**	**-1.7**
GYA				PP	**PP**	**16 11 00.5**	**-3.1**
GYA				SKKS		16 17 46.0	
GYA				SS	**SS**	**16 32 11.8**	**-3.0**
GYA				AMB	AMB		
	comp=Z,2μm,10.5s						
GYA				LR	LR		
	comp=Z,5μm,21.4s						
GYA				LR	LR		
	comp=Z,4μm,21.6s						
GYA				LR	LR		
	comp=Z,4μm,24.8s						
QIZ	**Qiongzhong**	**172.79**	**142**	PKP	**PKPdf**	**16 05 46.0**	**+0.2**
QIZ				SS	SS	16 32 16.8	+3.6
QIZ				AMB	AMB		
	comp=Z,1μm,10.6s						
QIZ	**Qiongzhong**	**172.79**	**142**	*e*PKPdf	**PKPdf**	**16 05 46.5**	**+0.7**
ENH	**Enshi**	**172.94**	**38**	*e*PKPdf	**PKPdf**	**16 05 45.6**	**0.0**
SSLB	**Suanglung**	**174.06**	**262**	*e*PKPdf	**PKPdf**	**16 05 46.7**	**+0.5**
TPUB	**Ta-pu**	**174.24**	**256**	*e*PKPdf	**PKPdf**	**16 05 46.5**	**+0.2**
WHN	**Wuhan**	**174.27**	**2**	PKP	**PKPdf**	**16 05 46.5**	**+0.5**
WHN				PKPab	**PKPab**	**16 07 17.5**	**-0.4**
WHN				PP	**PP**	**16 11 08.0**	**-0.9**
QZH	**Quanzhou**	**176.31**	**273**	*i* PKP	**PKPdf**	**16 05 47.3**	**+0.6**
QZH				PP	**PP**	**16 11 19.0**	**-2.0**
QZH				AMB	AMB		
	comp=Z,5μm,8.8s						

*ISCJB **27** 15:48:32.1±0.6, 28.07N±0.06×140.1E±0.1, h400km, mb3.3/6, Error ellipse: s-maj=14.0km s-min=5.9km az=156.3*

*IDC **27** 15:48:32.7±0.7, 28.02N×140.19E, h401km±12km, mb3.1/6, mb1 3.1/9, mb1mx2.9/27, mbtmp3.8/9, Error ellipse: s-maj=37.9km s-min=13.8km az=71.0*

*JMA **27** 15:48:33.2±0.1, 28.20N×140.46E, h410km, M3.8*

ISC 27 15:48:32.8±0.7, 28.16N±0.08×140.3E±0.1, h400km, n18, σ1.49/24, mb3.4/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.97**	**122**	P	**Pn**	**15 49 29.6**	**+1.0**
CBIJ				*e*S	**S**	**15 50 14.4**	**+0.7**
JCJ	**Chichijima**	**1.97**	**122**	P	**Pn**	**15 49 29.5**	**+0.9**
	12nm,0.3s,baz=266,slow=19,SNR=9.9						
JCJ				S	**S**	**15 50 14.2**	**+0.5**
	88nm,0.3s,baz=284,slow=23,SNR=32						
JHHJ	**Haha-jima-NKT**	**2.25**	**132**	P	**Pn**	**15 49 31.4**	**+0.9**
JHHJ				*e*S	**S**	**15 50 16.6**	**-0.4**
BSO3	**Boso 3**	**6.63**	**1**	*e*S	**S**	**15 51 33.9**	**+1.0**
JHU	**Hanno**	**7.72**	**354**	P	**P**	**15 50 25.1**	**+0.1**
JHU				*e*S	**S**	**15 51 51.3**	**-4.6**
JRY	**Ryogami san**	**7.93**	**352**	P	**P**	**15 50 28.2**	**+0.9**
JYT	**Yasato**	**8.05**	**359**	P	**P**	**15 50 29.2**	**+0.7**
JYT				*e*S	**S**	**15 52 00.3**	**-2.4**
JAG	**Ashikaga**	**8.28**	**355**	P	**Pn**	**15 50 30.9**	**+0.1**
JHO	**Hitachi**	**8.43**	**1**	P	**P**	**15 50 34.1**	**+1.3**
MJAR	**Matsushiro Arr**	**8.55**	**349**	P	**P**	**15 50 35.6**	**+1.4**
	0.1nm,0.3s,baz=84,slow=38,SNR=3.1						
MJAR				S	**S**	**15 52 12.9**	**-0.4**
	0.5nm,0.3s,baz=158,slow=22,SNR=8.1						
JNU	**Nakatsue**	**9.51**	**304**	P	**Pn**	**15 50 46.2**	**+1.0**
	0.5nm,0.3s,baz=151,slow=1.2,SNR=6.3						
USRK	**Ussuriysk Arra**	**17.34**	**340**	P	**P**	**15 52 11.8**	**+1.7**
	0.2nm,0.3s,baz=178,slow=11,SNR=6.5						
SONM	**Songino Array**	**32.80**	**316**	P	**P**	**15 54 30.3**	**-0.4**
	0.3nm,0.4s,baz=128,slow=8.5,SNR=9.5						
WRA	**Warramunga Arr**	**48.16**	**188**	P	**P**	**15 56 33.2**	**-1.6**
	0.3nm,0.4s,baz=5.2,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**48.52**	**309**	P	**P**	**15 56 36.0**	**-1.2**
	0.1nm,0.4s,baz=86,slow=9.7,SNR=5.1						
ARCES	**ARCESS Array B**	**71.99**	**340**	P	**P**	**15 59 15.2**	**+1.3**
	2.7nm,0.9s,baz=334,slow=8.0,SNR=5.8						
FINES	**FINESS Array B**	**76.26**	**333**	P	**P**	**15 59 38.4**	**+0.1**
	0.6nm,0.3s,baz=83,slow=4.3,SNR=15						
HFS	**Hagfors**	**81.79**	**336**	P	**P**	**16 00 07.9**	**-0.1**
	2.9nm,0.9s,baz=154,slow=4.1,SNR=9.2						

*IDC **27** 15:51:05.6±1.8, 35.27S×72.16W, h0km, mb4.1/3, mb1 4.5/3, mb1mx4.1/34, mbtmp4.1/3, Error ellipse: s-maj=81.1km s-min=47.0km az=31.0*

*ISCJB **27** 15:51:11.0±0.8, 35.41S±0.08×72.0W±0.2, h52km, mb4.2/5, Error ellipse: s-maj=17.9km s-min=11.3km az=7.0*

*NEIC **27** 15:51:10.9±0.6, 35.34S×72.16W, h35km, mb4.2/2, Error ellipse: s-maj=12.8km s-min=10.6km az=82.0*

ISC 27 15:51:12.5±0.8, 35.37S±0.08×72.1W±0.1, h52km, n16, σ1.58/17, mb4.2/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.49**	**168**	Pn	**Pn**	**15 52 31.0**	**-0.7**
TRQA	**Tornquist**	**8.54**	**111**	Pn	**Pn**	**15 53 12.8**	**-0.6**
SLA	**San Lorenzo**	**12.04**	**30**	*i* P	Pn	15 53 56.9	-4.6
SLA				*i* S	**Pn**	**15 54 00.7**	**-0.8**
SLA				AML	AML	15 54 02.5	
	comp=Z,7μm,0.8s						
SLA	**San Lorenzo**	**12.04**	**30**	*i* S	**S**	**15 56 45.4**	**+4.2**
SLA				AML	AML	15 56 47.2	
	comp=Z,11μm,0.7s						
AZAP	**Zapla**	**12.66**	**31**	*i* P	**Pn**	**15 54 08.3**	**-1.7**
AZAP	**Zapla**	**12.66**	**31**	*i* P	**S**	**15 56 53.7**	**-0.3**
ASTB	**Santa Barbara**	**13.15**	**32**	*i* P	**Pn**	**15 54 18.6**	**+2.0**
ASTB	**Santa Barbara**	**13.15**	**32**	*i* P	**S**	**15 57 04.4**	**+0.5**
ASTB				*i* P	**S**	**15 57 04.4**	**+0.5**
ALOL	**LOMAS DE OLMED**	**13.49**	**34**	*i* P	**P**	**15 54 26.5**	**-2.5**
CPUP	**Villa Florida**	**15.53**	**59**	Pn	**Pn**	**15 54 47.9**	**-0.1**
SNAA	**Sanae**	**50.33**	**157**	P	**P**	**16 00 04.6**	**+0.9**
	comp=Z,2.0nm,0.8s						
QSPA	**South Pole Qui**	**54.87**	**180**	P	**P**	**16 00 37.5**	**+0.1**
	comp=Z,2.7nm,0.8s						
TXAR	**Lajitas Array**	**70.92**	**331**	P	**P**	**16 02 23.8**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=157,slow=8.5,SNR=6.7						
TORD	**Torodi Ar. Bea**	**84.70**	**70**	P	**P**	**16 03 41.9**	**+0.8**
	comp=Z,2.1nm,1.1s,baz=250,slow=4.5,SNR=2.7						
NVAR	**Mina Array Bea**	**84.99**	**325**	P	**P**	**16 03 42.7**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=153,slow=6.1,SNR=3.8						
WRA	**Warramunga Arr**	**119.55**	**209**	PKP	**PKPdf**	**16 09 57.6**	**+0.7**
	comp=Z,1.5nm,1.1s,baz=153,slow=1.7,SNR=4.6						

*SJA **27** 15:53:05.2±0.6, 34.51S×72.98W, h45km±16km, ML4.3*

*ISCJB **27** 15:53:06.4±1.4, 34.4S±0.2×72.8W±0.2, h10km, mb4.5/3, MS5.6/3, Error ellipse: s-maj=35.0km s-min=8.8km az=42.7*

*IDC **27** 15:53:07.7±1.4, 34.53S×72.44W, h0km, mb4.5/3, mb1 4.5/3, mb1mx4.2/16, mbtmp4.5/3, MS5.6/3, Ms1 5.5/3, ms1mx4.7/24, Error ellipse: s-maj=84.0km s-min=29.4km az=94.0*

ISC 27 15:53:08.7±1.0, 34.5S±0.2×72.7W±0.2, h10km, n16, σ0.83/17, mb4.6/3, MS5.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**3.54**	**63**	*i* P	**Pn**	**15 54 03.6**	**-0.3**
ARCO				AML	AML	15 54 46.4	
	comp=Z,480nm,0.3s						
ARCO				*i* S	**Sn**	**15 54 46.6**	**+0.7**
AUSP	**Uspallata**	**3.57**	**52**	*i* P	**Pn**	**15 54 03.9**	**-0.6**
AUSP				*i* S	**Sn**	**15 54 48.0**	**+1.3**
RTLS	**Leoncito**	**3.91**	**48**	*i* P	**Pn**	**15 54 08.8**	**-0.3**
RTLS				*i* P	**Pn**	**15 54 08.8**	**-0.3**
AMOG	**MOGNA**	**5.00**	**46**	*i* P	**Pn**	**15 54 23.9**	**-0.1**
AMOG				*i* S	**Sn**	**15 55 20.6**	**-1.3**
PMSA	**Palmer Station**	**30.78**	**173**	LR	LR	16 09 40.1	
	comp=Z,13μm,20.0s,baz=340,slow=32						
SNAA	**Sanae**	**51.34**	**158**	P	**P**	**16 02 12.9**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=295,slow=7.5,SNR=7.8						
QSPA	**South Pole Qui**	**55.75**	**180**	P	**P**	**16 02 45.5**	**0.0**
	comp=Z,4.5nm,0.8s,baz=86,slow=0.5,SNR=4.3						
MAW	**Mawson**	**72.87**	**164**	LR	LR	16 38 05.7	
	comp=Z,4μm,19.5s,baz=234,slow=37						
TORD	**Torodi Ar. Bea**	**84.88**	**70**	P	**P**	**16 05 43.9**	**-0.3**
	comp=Z,5.4nm,0.8s,baz=289,slow=6.2,SNR=8.7						
NEW	**Newport**	**91.44**	**332**	LR	LR	16 42 18.3	
	comp=Z,2μm,19.3s,baz=108,slow=32						
BRTR	**Keskin Array B**	**122.54**	**61**	PKP	**PKPdf**	**16 12 04.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=185,slow=2.5,SNR=3.3						
AKASG	**Malin Array Be**	**122.92**	**48**	PKP	**PKPdf**	**16 12 06.1**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=270,slow=2.2,SNR=3.6						
BVAR	**Borovoye Array**	**148.00**	**43**	PKPbc	**PKPbc**	**16 12 54.4**	**+0.5**
	baz=291,slow=3.3						
AAK	**Ala-Archa**	**153.21**	**63**	PKPbc	**PKPbc**	**16 13 05.7**	**-1.2**
	comp=Z,3.6nm,0.8s,baz=273,slow=0.5,SNR=5.0						
ZALV	**Zalesovo Beam**	**154.92**	**32**	PKPbc	**PKPbc**	**16 13 09.6**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=312,slow=2.8,SNR=4.9						
SONM	**Songino Array**	**166.64**	**3**	PKPab	**PKPab**	**16 14 17.7**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=316,slow=4.0,SNR=2.7						

*IDC **27** 15:54:45.1±1.2, 25.87N×128.55E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/47, mbtmp3.7/7, ML3.1/1, Error ellipse: s-maj=57.6km s-min=17.3km az=74.0*

*ISCJB **27** 15:54:47.6±0.7, 25.91N±0.04×128.61E±0.04, h34km±9km, mb3.6/6, Error ellipse: s-maj=7.5km s-min=3.9km az=136.3*

*JMA **27** 15:54:48.9±0.3, 25.97N×128.62E, h41km±5km, M3.6*

ISC 27 15:54:47.5±1.6, 25.91N±0.04×128.64E±0.04, h23km±12km, n26, σ1.33/43, mb3.6/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.82**	**318**	P	**Pb**	**15 55 03.0**	**-0.1**
JNTH				*e*S	**Sb**	**15 55 13.9**	**+0.1**
JJT2	**Tamagusuku 2**	**0.83**	**286**	P	**Pb**	**15 55 03.9**	**+0.7**
JJT2				S	**Sb**	**15 55 14.7**	**+0.7**
JOW	**Kunigami**	**0.98**	**341**	P	**Pn**	**15 55 05.6**	**-0.2**
JOW				*e*S	**Sb**	**15 55 17.1**	**-1.2**
JOW	**Kunigami**	**0.98**	**341**	Pn	**Pn**	**15 55 05.7**	**-0.2**
	13nm,0.3s,baz=151,slow=19,SNR=189						
JOW				Sn	**Sb**	**15 55 17.0**	**-1.3**
	28nm,0.3s,baz=162,slow=19,SNR=47						
JIH	**Iheya**	**1.27**	**332**	P	**Pn**	**15 55 10.1**	**+0.2**
JIH				*e*S	**Sn**	**15 55 25.3**	**-0.9**
JAGN	**Aguni-jima**	**1.42**	**299**	P	**Pn**	**15 55 12.3**	**+0.4**
JAGN				S	**Sn**	**15 55 29.0**	**-0.9**
JOKE	**Okinoerabujima**	**1.45**	**358**	P	**Pn**	**15 55 12.6**	**+0.3**
JOKE				*e*S	**Sn**	**15 55 29.1**	**-1.5**
JKE	**Kume jima 2**	**1.71**	**285**	P	**Pn**	**15 55 15.8**	**-0.1**
JKE				S	**Sn**	**15 55 34.9**	**-2.2**
JTK	**Tokunoshima**	**1.89**	**8**	P	**Pn**	**15 55 18.7**	**+0.3**
JTK				S	**Sn**	**15 55 40.2**	**-1.4**
JMZ	**Minamidaito 2**	**2.33**	**92**	P	**Pn**	**15 55 24.1**	**-0.3**
JMZ				*e*S	**Sn**	**15 55 48.8**	**-3.5**
JAMN	**Amaminishikomi**	**2.38**	**12**	P	**Pn**	**15 55 25.6**	**+0.6**
JAMN				*e*S	**Sn**	**15 55 51.6**	**-1.9**
JAM	**Amami Oshima**	**2.64**	**19**	P	**Pn**	**15 55 29.7**	**+1.0**
JAM				*e*S	**Sn**	**15 55 58.1**	**-1.9**
JZK	**Kikaishima**	**2.68**	**26**	P	**Pn**	**15 55 30.6**	**+1.4**
JZK				*e*S	**Sn**	**15 56 01.2**	**+0.3**
JOGS	**Gusukube**	**3.14**	**249**	P	**Pn**	**15 55 36.2**	**+0.7**
JOGS				*e*S	**Sn**	**15 56 10.9**	**-1.3**
JIKM	**Ikemajima**	**3.21**	**253**	P	**Pn**	**15 55 37.1**	**+0.5**
JIKM				*e*S	**Sn**	**15 56 13.1**	**-1.1**
JTAJ	**Takarajima**	**3.27**	**9**	P	**Pn**	**15 55 37.2**	**-0.2**
JTAJ				*e*S	**Sn**	**15 56 13.3**	**-2.3**
JIRB	**Irabujima**	**3.31**	**252**	P	**Pn**	**15 55 37.9**	**0.0**
JIRB				*e*S	**Sn**	**15 56 15.4**	**-1.1**
JTJ	**Tarama**	**3.78**	**251**	P	**Pn**	**15 55 44.0**	**-0.3**
JTJ				*e*S	**Sn**	**15 56 26.2**	**-1.8**
JISG	**Ishigakijimahi**	**4.13**	**252**	P	**Pn**	**15 55 48.8**	**-0.4**
JISG				*e*S	**Sn**	**15 56 33.4**	**-3.3**
JNU	**Nakatsue**	**7.45**	**15**	Pn	**Pn**	**15 56 36.4**	**+1.5**
	0.3nm,0.3s,baz=350,slow=12,SNR=8.3						
SONM	**Songino Array**	**28.02**	**327**	P	P	16 00 39.8	+2.9
	0.8nm,0.4s,baz=143,slow=11,SNR=21						
MKAR	**Makanchi Array**	**42.02**	**312**	P	**P**	**16 02 36.7**	**-0.4**
	0.1nm,0.3s,baz=93,slow=11,SNR=5.4						
ZALV	**Zalesovo Beam**	**42.72**	**323**	P	P	16 02 43.8	+1.2
	0.3nm,0.4s,baz=94,slow=9.3,SNR=2.2						
WRA	**Warramunga Arr**	**45.91**	**173**	P	**P**	**16 03 09.7**	**+1.2**
	0.4nm,0.7s,baz=358,slow=10,SNR=4.0						
STKA	**Stephens Creek**	**58.78**	**167**	P	**P**	**16 04 44.5**	**+0.7**
	2.7nm,1.0s,baz=356,slow=11,SNR=3.0						
FINES	**FINESS Array B**	**73.32**	**331**	P	**P**	**16 06 17.8**	**+0.9**
	0.9nm,0.8s,baz=78,slow=2.0,SNR=4.0						

*ISCJB **27** 15:55:54.9±0.6, 34.03S±0.07×72.3W±0.1, h35km, mb4.6/15, Error ellipse: s-maj=15.3km s-min=9.9km az=168.6*

*NEIC **27** 15:55:56.4±0.5, 34.03S×72.30W, h35km, mb5.1/7, Error ellipse: s-maj=14.0km s-min=9.2km az=75.0*

*IDC **27** 15:55:59.0±0.6, 33.96S×72.24W, h50km±4km, mb3.9/8, mb1 4.1/9, mb1mx3.9/31, mbtmp4.1/9, Error ellipse: s-maj=21.4km s-min=18.6km az=55.0*

ISC 27 15:55:57.3±0.5, 34.01S±0.08×72.2W±0.1, h35km, n37, σ1.91/41, mb4.7/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.12**	**55**	P	**Pn**	**15 56 59.5**	**+1.7**
	0.4nm,0.3s,baz=221,slow=11,SNR=2.1						
CFAA				S	Sn	15 58 04.2	+19
	19nm,0.3s,baz=310,slow=11,SNR=8.1						
PLCA	**Paso Flores**	**6.84**	**169**	Pn	**Pn**	**15 57 34.5**	**-0.7**
TRQA	**Tornquist**	**9.22**	**119**	*e*Pn	**Pn**	**15 58 06.5**	**-1.2**
LVC	**Limon Verde**	**11.72**	**15**	*e*Pn	**Pn**	**15 58 42.3**	**0.0**
LPAZ	**La Paz**	**18.03**	**13**	P	P	16 00 15.1	+9.1
	0.7nm,0.3s,baz=164,slow=7.1,SNR=4.2						
LPAZ	**La Paz**	**18.03**	**13**	Pn	**Pn**	**16 00 03.9**	**-1.9**
	17nm,0.9s						
USHA	**Ushuaia**	**20.98**	**174**	P	Pn	16 00 48.4	+8.4
	29nm,1.1s,baz=350,slow=11,SNR=2.8						
NNA	**Nana**	**22.33**	**348**	P	P	16 01 05.5	+13
	3.6nm,0.3s,baz=204,slow=13,SNR=3.5						
PAYG	**Puerto Ayora**	**37.24**	**329**	P	**P**	**16 03 05.5**	**-0.2**
	27nm,1.0s						
SDV	**Santo Domingo**	**42.69**	**2**	P	**P**	**16 03 48.8**	**-2.3**
	16nm,0.9s						
RCBR	**Riachuelo**	**43.77**	**58**	P	**P**	**16 04 01.7**	**+1.9**
	272nm,1.3s,baz=305,slow=10.0,SNR=5.8						
RCBR	**Riachuelo**	**43.77**	**58**	*e*P	**P**	**16 04 00.9**	**+1.2**
	958nm,1.8s						
SNAA	**Sanae**	**51.63**	**158**	P	**P**	**16 05 01.0**	**+0.9**
	4.0nm,0.9s,baz=276,slow=5.3,SNR=7.9						
SNAA	**Sanae**	**51.63**	**158**	*e*P	**P**	**16 04 60.0**	**-0.1**
	39nm,0.9s						
QSPA	**South Pole Qui**	**56.22**	**180**	P	**P**	**16 05 34.5**	**+0.7**
	6.7nm,1.1s,baz=195,slow=19,SNR=7.2						
QSPA	**South Pole Qui**	**56.22**	**180**	P	P	16 05 27.1	-6.6
	31nm,1.0s						
TXAR	**Lajitas Array**	**69.68**	**331**	P	**P**	**16 07 02.9**	**-0.6**
	0.9nm,0.6s,baz=152,slow=9.0,SNR=5.8						
TXAR				pP	**pP**	**16 07 17.9**	**+3.6**
	0.7nm,0.4s,baz=156,slow=9.5,SNR=4.8						
WVT	**Waverly**	**71.29**	**347**	*e*P	**P**	**16 07 10.7**	**-2.3**
	23nm,0.9s						
DBIC	**Dimbokro**	**75.32**	**71**	P	**P**	**16 07 36.7**	**-0.6**
	4.0nm,0.7s,baz=184,slow=7.9,SNR=5.2						
DBIC				pP	**PcP**	**16 07 50.9**	**+0.4**
	6.5nm,0.9s,baz=133,slow=7.8,SNR=3.1						
DBIC	**Dimbokro**	**75.32**	**71**	*e*P	**P**	**16 07 36.1**	**-1.2**
DBIC				pP	**PcP**	**16 07 50.9**	**+0.4**
ANMO	**Albuquerque**	**75.73**	**332**	*e*P	**P**	**16 07 37.1**	**-2.3**
	1.6nm,0.8s						
TSUM	**Tsumeb**	**79.35**	**106**	P	**P**	**16 08 01.0**	**+0.9**
	3.6nm,1.1s,baz=256,slow=4.2,SNR=3.1						
LBTB	**Lobatse**	**82.43**	**115**	P	**P**	**16 08 14.8**	**-1.6**
	18nm,1.4s						
PDAR	**Pinedale Array**	**83.71**	**333**	P	**P**	**16 08 23.2**	**+0.6**
	0.4nm,0.8s,baz=148,slow=5.3,SNR=2.7						
PDAR				pP	**pP**	**16 08 36.0**	**+2.4**
	1.0nm,0.7s,baz=142,slow=5.5,SNR=5.6						
NVAR	**Mina Array Bea**	**83.81**	**325**	P	**P**	**16 08 23.5**	**+0.3**
	0.5nm,0.4s,baz=315,slow=25,SNR=4.4						
NVAR				pP	**pP**	**16 08 37.7**	**+3.5**
	2.4nm,0.7s,baz=156,slow=5.7,SNR=11						
TORD	**Torodi Ar. Bea**	**84.35**	**70**	P	**P**	**16 08 25.4**	**-0.8**
	4.5nm,0.8s,baz=246,slow=4.7,SNR=9.9						
TORD				pP	**pP**	**16 08 40.6**	**+3.3**
	5.8nm,0.9s,baz=244,slow=4.6,SNR=6.7						
YKA	**Yellowknife Ar**	**102.02**	**341**	pP	Pdif	16 10 01.3	+14
	0.2nm,0.6s,baz=148,slow=4.9,SNR=3.1						
WRA	**Warramunga Arr**	**120.68**	**209**	PKP	**PKPdf**	**16 14 44.7**	**-1.4**
	1.6nm,1.2s,baz=137,slow=1.3,SNR=3.5						
WRA				pPKP	**pPKPdf**	**16 15 01.4**	**+3.8**
	3.0nm,1.1s,baz=165,slow=1.4,SNR=5.5						
BRTR	**Keskin Array B**	**121.97**	**61**	PKP	**PKPdf**	**16 14 47.4**	**-0.7**
	1.3nm,1.0s,baz=195,slow=4.5,SNR=2.2						
BRTR				pPKP	**pPKPdf**	**16 15 02.1**	**+2.6**
	0.4nm,0.6s,baz=100,slow=0.9,SNR=1.6						
AKASG	**Malin Array Be**	**122.31**	**48**	PKP	**PKPdf**	**16 14 46.2**	**-1.8**
	0.2nm,0.3s,baz=267,slow=2.7,SNR=4.3						
BVAR	**Borovoye Array**	**147.39**	**43**	PKPbc	**PKPab**	**16 15 37.0**	**-1.9**
	2.1nm,0.6s,baz=298,slow=3.8,SNR=6.8						
BVAR				pPKPbc	**pPKPbc**	**16 15 51.4**	**+3.2**
	2.0nm,0.4s,baz=292,slow=1.5,SNR=8.6						
PSI	**Prapat**	**147.86**	**163**	PKPbc	**PKPbc**	**16 15 38.1**	**-1.4**
	8.1nm,1.0s,baz=234,slow=6.6,SNR=3.8						
HYB	**Hyderabad**	**149.06**	**115**	*e*PKP	PKPab	16 15 57.0	+10
HYB	**Hyderabad**	**149.06**	**115**	*e*P	PKPab	16 15 57.0	+10
AAK	**Ala-Archa**	**152.64**	**62**	PKPbc	**PKPbc**	**16 15 50.1**	**-0.1**
	4.2nm,1.1s,baz=230,slow=2.5,SNR=5.9						
ZALV	**Zalesovo Beam**	**154.31**	**32**	PKPbc	**PKPbc**	**16 15 52.2**	**-1.0**
	2.5nm,0.7s,baz=282,slow=2.4,SNR=6.2						
ZALV				pPKPbc	**PKPab**	**16 16 08.2**	**+0.8**
	4.2nm,0.5s,baz=319,slow=2.2,SNR=9.4						
MKAR	**Makanchi Array**	**156.88**	**49**	PKPab	**PKPab**	**16 16 16.4**	**-2.3**
	1.5nm,0.7s,baz=300,slow=2.9,SNR=7.5						
MKAR				pPKPab	**pPKPab**	**16 16 32.9**	**+2.9**
	1.7nm,0.6s,baz=276,slow=3.0,SNR=4.7						

*IDC **27** 16:00:20.6±0.5, 34.13S×72.34W, h0km, mb4.6/13, mb1 4.7/13, mb1mx4.5/33, mbtmp4.6/13, Error ellipse: s-maj=25.8km s-min=15.3km az=72.0*

*ISCJB **27** 16:00:22.4±0.3, 34.21S±0.06×72.12W±0.09, h17km, mb4.7/18, Error ellipse: s-maj=12.3km s-min=7.0km az=149.2*

*NEIC **27** 16:00:25.9±0.3, 34.12S×72.26W, h35km, mb5.0/9, Error ellipse: s-maj=11.6km s-min=7.0km az=76.0*

ISC 27 16:00:23.7±0.5, 34.20S±0.08×72.2W±0.1, h17km, n188, σ1.03/191, mb4.9/18, 72C-72D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.21**	**53**	Pn	**Pn**	**16 01 28.9**	**+1.7**
	1.1nm,0.3s,baz=220,slow=15,SNR=8.2						
CFAA				Lg	Lg	16 02 25.5	
	5.7nm,0.3s,baz=98,slow=3.1,SNR=3.7						
PLCA	**Paso Flores**	**6.66**	**169**	*e*Pn	**Pn**	**16 02 00.8**	**0.0**
TRQA	**Tornquist**	**9.12**	**118**	*e*Pn	**Pn**	**16 02 35.1**	**+0.6**
LVC	**Limon Verde**	**11.89**	**15**	*e*Pn	**Pn**	**16 03 10.5**	**-2.3**
LPAZ	**La Paz**	**18.20**	**13**	P	**P**	**16 04 38.3**	**+1.8**
	0.4nm,0.3s,baz=190,slow=6.1,SNR=4.6						
LPAZ	**La Paz**	**18.20**	**13**	*e*Pn	**Pn**	**16 04 35.4**	**-0.9**
USHA	**Ushuaia**	**20.80**	**174**	P	Pn	16 05 06.0	-0.4
	24nm,1.0s,baz=341,slow=8.6,SNR=3.4						
SDV	**Santo Domingo**	**42.87**	**2**	*e*P	**P**	**16 08 20.0**	**-1.4**
	32nm,1.2s						
RCBR	**Riachuelo**	**43.86**	**58**	P	**P**	**16 08 28.7**	**-0.6**
SNAA	**Sanae**	**51.45**	**158**	P	**P**	**16 09 28.1**	**+0.4**
	8.0nm,0.9s,baz=283,slow=6.8,SNR=13						
SNAA	**Sanae**	**51.45**	**158**	*e*P	**P**	**16 09 27.2**	**-0.4**
	27nm,0.9s						
APG	**El Apazote**	**51.93**	**337**	P	P	16 09 29.0	-2.9
	3.7nm,0.6s,baz=159,slow=14,SNR=4.2						
QSPA	**South Pole Qui**	**56.04**	**180**	P	**P**	**16 10 01.8**	**+0.4**
	22nm,0.9s,baz=152,slow=3.1,SNR=11						
QSPA	**South Pole Qui**	**56.04**	**180**	*e*P	**P**	**16 10 01.3**	**-0.1**
	20nm,0.9s						
TEIG	**Tepich**	**56.24**	**342**	*e*P	**P**	**16 10 02.2**	**-0.8**
632A	**Uvalde**	**68.52**	**334**	⇓P	**P**	**16 11 26.8**	**+1.6**
	baz=69						
631A	**Perdido Creek**	**68.72**	**334**	⇓P	**P**	**16 11 27.4**	**+1.0**
	baz=69						
532A	**Rocksprings**	**69.12**	**334**	⇓P	**P**	**16 11 30.7**	**+1.8**
	baz=69						
434A	**Burnet**	**69.18**	**336**	⇓P	**P**	**16 11 30.7**	**+1.4**
	baz=69						
336A	**Riesel**	**69.25**	**338**	⇑P	**P**	**16 11 31.0**	**+1.4**
	baz=70						
335A	**Moody**	**69.34**	**337**	⇑P	**P**	**16 11 31.7**	**+1.6**
	baz=70						
531A	**Rocksprings**	**69.39**	**334**	⇓P	**P**	**16 11 32.6**	**+2.0**
	baz=70						
JCT	**Junction City**	**69.41**	**335**	⇓P	**P**	**16 11 32.2**	**+1.5**
	baz=70						
433A	**Art**	**69.41**	**335**	⇓P	**P**	**16 11 31.9**	**+1.3**
	baz=70						
334A	**Lometa**	**69.65**	**336**	⇓P	**P**	**16 11 33.5**	**+1.3**
	baz=70						
530A	**J-C Ranch, Com**	**69.67**	**333**	⇑P	**P**	**16 11 33.9**	**+1.6**
	baz=70						
TXAR	**Lajitas Array**	**69.84**	**331**	P	**P**	**16 11 32.5**	**-0.9**
	1.2nm,0.6s,baz=146,slow=6.8,SNR=9.2						
431A	**Sonora**	**69.88**	**334**	⇑P	**P**	**16 11 34.7**	**+1.1**
	baz=70						
333A	**Richland Sprin**	**69.89**	**336**	⇑P	**P**	**16 11 34.8**	**+1.1**
	baz=70						
529A	**Stev Forest Ra**	**69.98**	**333**	⇑P	**P**	**16 11 35.6**	**+1.3**
	baz=70						
WHTX	**Lake Whitney**	**70.00**	**337**	⇓P	**P**	**16 11 35.9**	**+1.6**
	baz=70						
430A	**Baggett Ranch,**	**70.20**	**334**	⇓P	**P**	**16 11 36.9**	**+1.3**
	baz=70						
332A	**Millersview**	**70.21**	**335**	⇓P	**P**	**16 11 36.5**	**+1.0**
	baz=70						
SWET	**Sewanee**	**70.24**	**348**	*e*P	**P**	**16 11 33.6**	**-2.0**
	11nm,0.9s						
429A	**Davenport Ranc**	**70.30**	**333**	⇑P	**P**	**16 11 37.6**	**+1.4**
	baz=70						
TKL	**Tuckaleechee C**	**70.33**	**350**	P	**P**	**16 11 35.3**	**-0.9**
	7.4nm,0.8s,baz=150,slow=7.1,SNR=4.1						
331A	**San Angelo**	**70.38**	**335**	⇑P	**P**	**16 11 37.9**	**+1.2**
	baz=71						

233A Rising Star 70.50 336 ⇑P P 16 11 38.4 +1.0
baz=71
232A Coleman 70.63 335 ⇓P P 16 11 39.3 +1.1
baz=71
330A Mertzon 70.74 334 ⇓P P 16 11 40.2 +1.3
baz=71
231A Bronte 70.91 335 ⇑P P 16 11 40.9 +1.0
baz=71
Z35A Perchaven, San 71.17 338 ⇑P P 16 11 42.6 +1.2
baz=71
MIAR Mount Ida 71.26 341 eP P 16 11 41.2 -0.6
26nm,1.7s
ABTX Abilene, Hawle 71.30 336 ⇑P P 16 11 43.3 +1.1
baz=72
WVT Waverly 71.47 347 eP P 16 11 42.8 -0.3
36nm,0.8s
229A Bryant Ranch, 71.47 334 ⇑P P 16 11 44.3 +0.9
baz=72
131A Roby 71.61 335 ⇓P P 16 11 45.2 +1.2
baz=72
130A Snyder 71.74 335 ⇑P P 16 11 45.7 +0.8
baz=72
Z32A Haskell 71.87 336 ⇑P P 16 11 46.9 +1.3
baz=72
228A UT Block 9, Go 71.90 333 ⇓P P 16 11 47.2 +1.3
baz=72
Z31A Sharp Cattle R 72.11 336 ⇑P P 16 11 48.2 +1.1
baz=72
128A Castleberry Fa 72.31 333 ⇑P P 16 11 49.1 +0.7
baz=72
Z30A Sanderson Ranc 72.42 335 ⇑P P 16 11 49.6 +0.6
baz=73
Y32A R-V Farms, Ver 72.50 336 ⇑P P 16 11 50.2 +0.8
baz=73
Z29A Hungry Hill Ra 72.60 334 ⇑P P 16 11 50.5 +0.4
baz=73
Y29A Porterfield Fa 73.13 335 ⇓P P 16 11 54.4 +1.2
baz=73
W33A Caddo, Fort Co 73.24 338 ⇑P P 16 11 54.9 +1.2
baz=74
X31A McDonald Ranch 73.25 336 ⇑P P 16 11 54.6 +0.8
baz=74
Z26A Caprock 73.45 333 ⇑P P 16 11 56.1 +0.9
baz=74
W32A Sentinel 73.46 337 ⇓P P 16 11 56.4 +1.4
baz=74
MSTX Muleshoe 73.62 334 eP P 16 11 55.5 -0.7
6.7nm,0.8s
MSTX Muleshoe 73.62 334 ⇓P P 16 11 56.9 +0.7
baz=74
319A Douglas 74.00 328 ⇓P P 16 11 59.2 +0.8
baz=74
AMTX Amarillo 74.06 335 ⇑P P 16 11 59.4 +0.7
baz=74
121A Cookes Peak, D 74.34 329 ⇑P P 16 12 00.8 +0.4
baz=74
X26A CR and CF Fran 74.53 333 ⇓P P 16 12 01.8 +0.4
baz=75
Y24A Capitan 74.59 332 ⇑P P 16 12 02.3 +0.3
baz=75
T33A Patterson Ranc 74.95 339 ⇓P P 16 12 05.3 +1.6
baz=75
W26A Owens Ranch, T 74.99 334 ⇓P P 16 12 05.3 +1.2
baz=75
DBIC Dimbokro 75.37 71 P P 16 12 06.0 -0.6
5.7nm,0.8s,baz=207,slow=7.2,SNR=4.2
DBIC Dimbokro 75.37 71 eP P 16 12 06.6 0.0
36nm,1.5s
ANMO Albuquerque 75.89 332 eP P 16 12 07.9 -1.5
W23A Werner Place, 75.96 332 ⇑P P 16 12 10.3 +0.5
baz=76
V24A Rampart Ranch, 76.12 333 ⇑P P 16 12 10.7 0.0
baz=76
U26A Atchley Ranch, 76.15 334 ⇓P P 16 12 10.1 -0.7
baz=76
T27A Campo 76.38 335 ⇑P P 16 12 11.0 -1.0
baz=77
U25A Circle Dot Ran 76.39 334 ⇓P P 16 12 11.4 -0.8
baz=77
S28A Manter 76.58 336 ⇑P P 16 12 14.0 +0.9
baz=77
T26A Comanche Natio 76.79 335 ⇑P P 16 12 14.9 +0.5
baz=77
Q32A Meitler Ranch, 76.81 339 ⇓P P 16 12 15.1 +0.8
baz=77
V22A San Miguel Ran 76.92 332 ⇓P P 16 12 16.3 +1.1
baz=77
U23A El Rito 77.00 332 ⇓P P 16 12 16.7 +1.0
baz=77
T25A Trinidad 77.05 334 ⇓P P 16 12 17.2 +1.2
baz=77
S26A Kim 77.15 335 ⇑P P 16 12 16.2 -0.1
baz=77
R28A Tribune 77.23 337 ⇓P P 16 12 18.0 +1.2
baz=78
T24B San Luis 77.34 333 ⇓P P 16 12 18.7 +1.0
baz=78
R27A Eads 77.51 336 ⇑P P 16 12 18.1 -0.2
baz=78
S25A Robets Cordova 77.52 334 ⇑P P 16 12 19.8 +1.3
baz=78
X16A Lo Mia Camp, P 77.53 328 ⇓P P 16 12 19.9 +1.3
baz=78
R26A Arlington 77.75 335 ⇓P P 16 12 19.6 -0.1
baz=78
S24A Houchin Ranch, 77.79 334 ⇓P P 16 12 21.2 +1.0
baz=78
P30A Selden 77.83 338 ⇑P P 16 12 20.6 +0.6
baz=78
R25A Fountain Ranch 77.90 335 ⇓P P 16 12 19.8 -0.8
baz=78
R24A Sanders Place, 78.27 334 ⇓P P 16 12 21.1 -1.6
baz=78
WUAZ Wupatki 78.43 328 ⇑P P 16 12 23.8 +0.3
baz=79
S22A 4UR Ranch, Cre 78.49 333 ⇓P P 16 12 22.5 -1.5
baz=79
Q25A Bedland, Calha 78.57 335 ⇑P P 16 12 23.0 -1.3
baz=79
Q24A Divide 78.94 334 ⇑P P 16 12 26.6 +0.1
baz=79
P25A Willow Gulch B 79.08 335 ⇑P P 16 12 28.5 +1.4
baz=79
M31A Lambtecht Ranc 79.11 340 ⇑P P 16 12 29.1 +2.1
baz=79
W13A Hualapai Mount 79.20 326 ⇑P P 16 12 29.9 +2.0
baz=79
TSUM Tsumeb 79.29 106 eP P 16 12 29.3 +0.5
15nm,1.4s
GMRC Granite Mounta 79.77 325 ⇓P P 16 12 33.2 +2.3
baz=80
ISCO Idaho Springs 79.84 334 ⇑P P 16 12 32.0 +0.6
baz=80
BOSA Boshof 80.10 118 P P 16 12 32.4 -0.7
12nm,0.9s,baz=237,slow=7.5,SNR=8.3
O23A Lake Granby, G 80.32 334 ⇑P P 16 12 34.8 +0.9
baz=81
ECSD EROS Data Cent 80.69 342 ⇓P P 16 12 36.4 +0.8
baz=81
N22A Wattenberg Ran 81.03 334 ⇓P P 16 12 38.0 +0.3
baz=81
J29A Okreek 81.39 340 ⇑P P 16 12 40.5 +1.2
baz=82
H29A Onida 82.48 340 ⇑P P 16 12 45.3 +0.3
baz=83
R11A Troy Canyon, C 82.65 327 ⇑P P 16 12 46.5 +0.3
baz=83
G30A Faulkton 82.65 341 ⇑P P 16 12 46.8 +1.0
baz=83
K21A Alcova 82.92 335 ⇓P P 16 12 47.9 +0.4
baz=83
I25A Rochford 82.98 338 ⇑P P 16 12 47.2 -0.6
baz=83
H27A Howes 83.03 339 ⇓P P 16 12 48.4 +0.6
baz=83
G28A Parade 83.09 340 ⇓P P 16 12 48.2 +0.1
baz=83
I24A Kuemmerle Ranc 83.12 337 ⇑P P 16 12 48.2 -0.2
baz=83
F30A Leola 83.27 341 ⇑P P 16 12 48.8 -0.3
baz=84
F29A Eureka 83.49 341 ⇑P P 16 12 51.2 +1.1
baz=84
I22A 9 Mile Ranch, 83.77 336 ⇓P P 16 12 51.2 -0.5
baz=84
G26A Maurine 83.78 339 ⇓P P 16 12 51.2 -0.5
baz=84
J20A Shoshoni 83.85 335 ⇓P P 16 12 52.5 +0.2
baz=84,SNR=5.8
E30A Jud 83.86 342 ⇑P P 16 12 52.9 +0.9
baz=84
PDAR Pinedale Array 83.88 333 P P 16 12 51.4 -1.1
1.9nm,0.9s,baz=152,slow=5.1,SNR=8.9
H24A Dirks Ranch, A 83.89 337 ⇑P P 16 12 51.8 -0.5
baz=84
G25A Newell 83.94 338 ⇓P P 16 12 52.5 0.0
baz=84
NVAR Mina Array Bea 83.97 325 P P 16 12 50.6 -2.4
2.3nm,0.8s,baz=150,slow=5.6,SNR=4.8
J19A Crowheart 84.12 334 ⇑P P 16 12 52.4 -1.2
baz=84
F27A Lemmon 84.14 340 ⇓P P 16 12 53.4 -0.1
baz=84,SNR=6.5
H22A Clearmont 84.34 336 ⇑P P 16 12 54.1 -0.5
baz=85
D30A Buchanan 84.39 342 ⇓P P 16 12 54.9 +0.2
baz=85,SNR=6.1
I20A Worland 84.39 335 ⇓P P 16 12 53.7 -1.2
baz=85
TORD Torodi Ar. Bea 84.40 70 P P 16 12 55.0 -0.5
9.0nm,0.9s,baz=254,slow=4.3,SNR=18
D29A Pettibone, Tap 84.56 342 ⇓P P 16 12 56.3 +0.7
baz=85
G23A Biddle 84.56 337 ⇓P P 16 12 56.6 +0.8
baz=85
I19A Meeteetse 84.77 334 ⇓P P 16 12 55.3 -1.6
baz=85
AGMN Agassiz Nation 84.81 344 ⇑P P 16 12 57.7 +0.9
baz=85
H20A Greybull 84.81 335 ⇓P P 16 12 55.8 -1.2
baz=85,SNR=6.8
C30A Mose, Pekin 84.87 343 ⇑P P 16 12 57.5 +0.4
baz=85,SNR=6.5
D28A Regan 84.94 341 ⇑P P 16 12 57.4 -0.1
baz=85
I17A Pilgrim Ck. 85.25 333 ⇓P P 16 13 00.7 +1.4
baz=86,SNR=5.5
D26A Manning 85.31 340 ⇓P P 16 12 58.8 -0.6
baz=86
H19A Powell 85.31 335 ⇑P P 16 13 00.3 +0.7
baz=86
G20A Bridger 85.52 335 ⇓P P 16 13 01.4 +0.8
baz=86,SNR=7.2
B30A Myrvik Farm, E 85.53 343 ⇑P P 16 13 00.1 -0.3
baz=86,SNR=11
H18A Shoshone NF, C 85.56 334 ⇓P P 16 13 02.0 +1.0
baz=86,SNR=11
D25A Fairfield 85.67 339 ⇓P P 16 13 02.7 +1.5
baz=86
B29A Wagenman Farm, 85.79 342 ⇓P P 16 13 01.9 +0.2
baz=86
B28A Dugan Ranch, T 86.04 342 ⇓P P 16 13 03.8 +0.9
baz=86
A29A Manning Farm, 86.19 343 ⇑P P 16 13 03.1 -0.5
baz=86
D23A Lindsay 86.26 338 ⇑P P 16 13 04.2 +0.1
baz=86,SNR=8.4
F19A Roth Farm, Mol 86.33 335 ⇓P P 16 13 05.2 +0.7
baz=87
C24A Savage 86.34 339 ⇓P P 16 13 05.9 +1.4
baz=87,SNR=9.1
HLID Hailey 86.44 331 ⇓P P 16 13 04.5 -0.8
baz=87
D22A Cohagen 86.55 338 ⇑P P 16 13 06.5 +1.0
baz=87
E20A Meyer Farm, Mu 86.61 336 ⇑P P 16 13 07.4 +1.5
baz=87
ULM Lac du Bonnet 86.65 345 P P 16 13 05.1 -0.8
5.1nm,0.9s,baz=169,slow=3.8,SNR=7.0
D21A La Casta Ranch 86.73 337 ⇓P P 16 13 07.3 +0.8
baz=87
E19A Rath Farm, Rou 86.80 336 ⇓P P 16 13 07.4 +0.6
baz=87
C23A Lambert 86.82 338 ⇑P P 16 13 07.7 +0.9
baz=87,SNR=7.0
A26A Wade Farm, Ken 86.90 341 ⇓P P 16 13 09.0 +1.8
baz=87
DGMT Dagmar 87.12 339 ⇓P P 16 13 09.7 +1.5
baz=87
D20A Manuel Ranch, 87.13 336 ⇑P P 16 13 09.7 +1.3
baz=87,SNR=7.5
B23A Brockton 87.35 339 ⇓P P 16 13 09.9 +0.5
baz=88
C21A Desert Coulee 87.44 337 ⇑P P 16 13 10.7 +0.9
baz=88,SNR=6.6
D19A Cripps Ranch, 87.44 336 ⇓P P 16 13 11.0 +1.1
baz=88
A24A Westby 87.47 340 ⇓P P 16 13 11.1 +1.2
baz=88
B22A Reddig Ranch S 87.51 338 ⇑P P 16 13 11.5 +1.3
baz=88,SNR=6.9
C20A Veseth Ranch, 87.63 337 ⇑P P 16 13 11.4 +0.6
baz=88
C19A Slack Wire Ran 88.00 336 ⇓P P 16 13 13.6 +1.1
baz=88
A22A Carney Farms, 88.10 339 ⇑P P 16 13 14.6 +1.7
baz=88,SNR=7.3
M04C Macdoel 88.28 325 ⇑P P 16 13 15.9 +1.7
baz=88
A20A Cobblestone Ra 88.63 337 ⇑P P 16 13 16.7 +1.3
baz=89
YBH Yreka Blue Hor 88.65 325 P P 16 13 16.3 +0.5
2.1nm,0.8s,baz=91,slow=4.9,SNR=3.7
YKA Yellowknife Ar 102.20 341 P Pdif 16 14 17.0 +0.1
0.6nm,0.8s,baz=138,slow=3.9,SNR=9.2
WRA Warramunga Arr 120.53 209 PKP PKPdf 16 19 14.5 -0.5
1.3nm,0.9s,baz=161,slow=1.4,SNR=4.7
BRTR Keskin Array B 122.04 61 PKP PKPdf 16 19 17.6 +0.2
1.1nm,0.8s,baz=184,slow=5.0,SNR=5.4
AKASG Malin Array Be 122.42 48 PKP PKPdf 16 19 16.2 -1.3
0.9nm,0.7s,baz=267,slow=2.1,SNR=8.2
ARCES ARCESS Array B 124.25 25 PKP PKPdf 16 19 20.3 -0.1
3.8nm,1.0s,baz=234,slow=4.3,SNR=3.1
POO Poona 146.00 109 ⇓iP PKPdf 16 20 02.0 -0.3
179nm,1.5s
BVAR Borovoye Array 147.51 43 PKP PKPdf 16 20 01.7 -2.0
1.6nm,0.8s,baz=297,slow=1.0,SNR=14
BVAR PKPbc PKPbc 16 20 07.3 +1.0
6.4nm,0.8s,baz=292,slow=2.8,SNR=17
PSI Prapat 147.69 163 PKPbc PKPdf 16 20 05.0 -0.5
10.0nm,0.8s,baz=177,slow=5.0,SNR=8.9
HYB Hyderabad 148.97 115 i PKP PKPbc 16 20 11.0 -0.2
AAK Ala-Archa 152.71 62 PKPbc PKPbc 16 20 20.5 +1.0
5.7nm,0.8s,baz=176,slow=2.7,SNR=9.6
AAK PKPab PKPab 16 20 30.5 +0.1
6.0nm,0.8s,baz=194,slow=6.8,SNR=7.9
ZALV Zalesovo Beam 154.46 32 PKP PKPdf 16 20 14.4 +0.1
2.1nm,0.9s,baz=300,slow=3.3,SNR=4.1
ZALV PKPbc PKiKP 16 20 23.1 +0.4
6.9nm,0.7s,baz=300,slow=3.0,SNR=17
ZALV PKPab PKPab 16 20 37.1 0.0
5.3nm,0.8s,baz=312,slow=5.0,SNR=7.5
MKAR Makanchi Array 156.99 49 PKP PKPdf 16 20 17.6 -0.4
0.5nm,0.7s,baz=318,slow=1.6,SNR=3.9
MKAR PKPab PKPab 16 20 47.5 -0.9
2.7nm,0.8s,baz=306,slow=4.3,SNR=9.8
CMAR Chiang Mai Arr 162.44 151 PKP PKPdf 16 20 25.7 +0.7
1.0nm,0.9s,baz=253,slow=2.6,SNR=7.1
CMAR PKPab PKPab 16 21 12.2 -0.4
0.5nm,0.8s,baz=218,slow=5.1,SNR=4.6
SONM Songino Array 166.33 4 PKPab PKPab 16 21 30.1 +1.1
1.1nm,0.9s,baz=335,slow=4.0,SNR=6.4

*IDC **27** 16:04:57.4±4.7,20°.08S×178°.89W,h618km±54km,mb3.2/7, mb1 3.3/8,mb1mx3.1/41,mbtmp4.2/8,Error ellipse: s-maj=37.2km s-min=27.0km az=52.0*
*ISCJB **27** 16:04:59.4±1.3,20°.3S±0°.2×179°.0W±0°.2,h665km,mb3.7/7, Error ellipse: s-maj=28.7km s-min=21.3km az=11.6*
ISC 27 16:05:01.0±1.2,20°.2S±0°.2×179°.0W±0°.2,h665km,n13, σ0§81/12,mb3.7/7,Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 18.29 190 P P 16 08 36.0 -0.6
0.7nm,0.3s,baz=271,slow=3.0,SNR=14
CTA Charters Tower 32.57 264 P P 16 10 41.5 +0.1
3.9nm,0.4s,baz=89,slow=9.8,SNR=13
PMG Port Moresby 34.35 283 P P 16 10 55.9 -0.4
7.2nm,0.8s,baz=100,slow=12,SNR=4.3
STKA Stephens Creek 37.05 244 P P 16 11 18.7 +0.5
2.1nm,0.8s,baz=89,slow=8.0,SNR=8.5
WRA Warramunga Arr 43.69 262 P P 16 12 10.0 -0.7
2.3nm,0.3s,baz=97,slow=7.5,SNR=35
MJAR Matsushiro Arr 69.42 324 P P 16 15 04.3 -0.8
1.1nm,0.8s,baz=160,slow=6.3,SNR=5.9
ILAR Eielson Array 88.26 13 P P 16 16 43.4 0.0
0.3nm,0.9s,baz=202,slow=6.8,SNR=3.2
CMAR Chiang Mai Arr 89.12 290 P P 16 16 50.2 +1.7
0.7nm,0.7s,baz=134,slow=3.9,SNR=3.6
BVAR Borovoye Array 118.25 320 PKP PKPdf 16 22 33.9 -0.6
0.4nm,0.4s,baz=146,slow=1.0,SNR=4.3
AKASG Malin Array Be 142.31 331 PKhKP PKPpre 16 23 16.2
0.8nm,0.3s,baz=44,slow=4.5,SNR=10
BRTR Keskin Array B 145.94 312 PKPbc PKPbc 16 23 28.5 -0.3
0.6nm,0.5s,baz=137,slow=3.7,SNR=4.2
MMAI Mount Meron Ar 146.85 300 PKPbc PKPbc 16 23 32.1 +0.8
12nm,1.1s,baz=69,slow=7.5,SNR=5.7
GERES GERESS Array B 149.67 343 PKPbc PKPbc 16 23 38.2 +0.4
0.4nm,0.6s,baz=35,slow=4.9,SNR=4.8

*IDC **27** 16:05:19.3±0.9,37°.61S×73°.31W,h0km,mb4.1/8, mb1 4.3/10,mb1mx4.1/34,mbtmp4.1/10,ML3.9/2,Error ellipse: s-maj=35.4km s-min=20.7km az=66.0*
*ISCJB **27** 16:05:22.9±0.7,37°.61S±0°.07×73°.1W±0°.2,h33km,mb4.1/8, Error ellipse: s-maj=17.7km s-min=8.7km az=177.4*
*NEIC **27** 16:05:24.7±0.6,37°.64S×72°.94W,h35km,mb4.2/1,Error ellipse: s-maj=16.0km s-min=9.6km az=80.0*
ISC 27 16:05:24.2±0.8,37°.64S±0°.08×73°.3W±0°.2,h33km,n22, σ0§84/21,mb4.0/8,Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.74 147 Pn Pn 16 06 20.6 +1.0
3.6nm,0.3s,baz=319,slow=11,SNR=2.5
PLCA Lg Lg 16 07 19.1
9.1nm,0.3s,baz=17,slow=22,SNR=4.2
PLCA Paso Flores 3.74 147 ePn Pn 16 06 17.4 -2.2
PLCA Lg Lg 16 07 19.1
CFAA Coronel Fontan 7.30 36 Pn Pn 16 07 08.4 -0.1
0.5nm,0.3s,baz=255,slow=16,SNR=3.0
CFAA Sn Sn 16 08 30.5 +0.3
0.5nm,0.3s,baz=180,slow=8.3,SNR=3.9
TRQA Tornquist 8.93 96 ePn Pn 16 07 25.9 -4.9
LVC Limon Verde 15.43 15 ePn Pn 16 08 58.5 -1.2
LPAZ La Paz 21.74 13 P P 16 10 14.3 +0.8
4.1nm,0.8s,baz=194,slow=2.1,SNR=3.9
LPAZ La Paz 21.74 13 eP P 16 10 12.6 -0.9
SNAA Sanae 48.62 157 P P 16 14 05.4 +1.0
1.2nm,0.8s,baz=311,slow=3.5,SNR=5.1
SNAA Sanae 48.62 157 eP P 16 14 04.7 +0.4
2.8nm,1.0s
QSPA South Pole Qui 52.61 180 P P 16 14 34.2 -0.4
TXAR Lajitas Array 72.46 332 P P 16 16 46.9 -0.4
0.4nm,0.8s,baz=160,slow=7.7,SNR=4.0
DBIC Dimbokro 77.28 71 P P 16 17 16.0 +0.5
7.7nm,0.7s,baz=209,slow=6.0,SNR=11
BOSA Boshof 79.25 118 P P 16 17 26.9 +0.4
3.0nm,0.9s,baz=227,slow=7.7,SNR=3.1
NVAR Mina Array Bea 86.33 326 P P 16 18 03.6 +0.8
0.5nm,0.6s,baz=149,slow=5.2,SNR=5.1
TORD Torodi Ar. Bea 86.36 70 P P 16 18 02.7 -0.6
1.4nm,0.8s,baz=238,slow=3.1,SNR=6.1
PDAR Pinedale Array 86.58 334 P P 16 18 04.2 +0.2
0.7nm,0.9s,baz=155,slow=6.9,SNR=3.5
BRTR Keskin Array B 124.40 63 PKP PKPdf 16 24 19.6 -0.1
0.5nm,0.8s,baz=208,slow=2.8,SNR=3.0
AKTO Aktyubinsk 143.35 54 PKhKP PKPpre 16 24 51.0
1.2nm,0.8s,baz=296,slow=3.2,SNR=4.3
BVAR Borovoye Array 150.55 47 PKPbc PKPbc 16 25 12.1 +0.2
2.0nm,0.7s,baz=292,slow=4.0,SNR=10
AAK Ala-Archa 154.93 68 PKPab PKPab 16 25 38.1 +0.4
2.3nm,0.7s,baz=186,slow=3.1,SNR=6.8
ZALV Zalesovo Beam 157.78 36 PKPab PKPab 16 25 49.6 +0.3
1.2nm,0.6s,baz=317,slow=5.7,SNR=5.2
MKAR Makanchi Array 159.77 55 PKPab PKPab 16 25 57.7 -0.6
0.6nm,0.7s,baz=282,slow=3.4,SNR=5.0

*IDC **27** 16:07:15.4±1.0,34°.13S×72°.11W,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.8/32,mbtmp3.8/5,Error ellipse: s-maj=46.1km s-min=23.8km az=88.0*
*ISCJB **27** 16:07:16.6±0.9,34°.15S±0°.08×71°.9W±0°.2,h19km,mb3.8/4, Error ellipse: s-maj=23.4km s-min=11.4km az=177.4*
*NEIC **27** 16:07:20.7±0.5,34°.14S×71°.95W,h35km,mb4.2/1,Error ellipse: s-maj=15.6km s-min=8.2km az=84.0*
ISC 27 16:07:18.6±0.8,34°.11S±0°.10×72°.0W±0°.2,h19km,n16, σ0§77/16,mb3.9/4,Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.02 53 Lg Lg 16 09 17.4
0.7nm,0.3s,baz=270,slow=20,SNR=2.4
PLCA Paso Flores 6.71 171 ePn Pn 16 08 56.2 +0.1
TRQA Tornquist 9.00 119 Pn Pn 16 09 27.4 -0.2
LPAZ La Paz 18.09 12 Pn Pn 16 11 29.3 -0.2
SIV San Ignacio 20.55 31 P P 16 11 56.4 +0.3
3.3nm,0.7s,baz=223,slow=14,SNR=3.9
RCBR Riachuelo 43.66 58 P P 16 15 22.2 -0.2
SNAA Sanae 51.46 158 P P 16 16 22.7 +0.4
0.8nm,0.8s,baz=280,slow=12,SNR=2.9
QSPA South Pole Qui 56.12 180 P P 16 16 55.8 -0.8
3.2nm,0.9s,baz=144,slow=3.0,SNR=3.8
QSPA South Pole Qui 56.12 180 eP P 16 16 56.1 -0.5
2.4nm,1.0s
TXAR Lajitas Array 69.86 331 P P 16 18 27.8 -0.4
0.2nm,0.6s,baz=165,slow=7.5,SNR=2.1
TORD Torodi Ar. Bea 84.21 70 P P 16 19 49.3 +0.2
1.3nm,0.8s,baz=248,slow=3.8,SNR=4.6
GEYT Alibeck 139.85 70 PKP PKPdf 16 26 47.6 +2.1
0.6nm,0.7s,baz=306,slow=5.2,SNR=2.5
BVAR Borovoye Array 147.33 43 PKPbc PKPbc 16 26 59.6 -0.8
0.8nm,0.6s,baz=270,slow=4.4,SNR=3.9
ZALV Zalesovo Beam 154.30 32 PKPbc PKPbc 16 27 16.5 -0.4
1.9nm,0.8s,baz=300,slow=3.3,SNR=6.5
ZALV PKPab PKPab 16 27 30.4 -0.6
0.7nm,0.7s,baz=300,slow=3.3,SNR=3.9
MKAR Makanchi Array 156.80 49 PKPab PKPab 16 27 42.1 0.0
0.5nm,0.7s,baz=318,slow=3.7,SNR=3.7
SONM Songino Array 166.24 5 PKPab PKPab 16 28 23.8 +0.6
0.4nm,0.9s,baz=46,slow=4.2,SNR=3.6

*IDC **27** 16:08:23.4±0.9,35°.87S×73°.04W,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.9/31,mbtmp3.9/7,ML3.7/1,Error ellipse: s-maj=41.0km s-min=20.6km az=89.0*
*ISCJB **27** 16:08:26.2±0.8,35°.91S±0°.09×72°.9W±0°.2,h28km,mb3.9/6, Error ellipse: s-maj=21.7km s-min=12.2km az=166.5*
*NEIC **27** 16:08:28.4±0.6,35°.87S×73°.01W,h35km,mb4.1/2,Error ellipse: s-maj=17.7km s-min=10.6km az=72.0*
ISC 27 16:08:27.5±0.8,35°.86S±0°.10×73°.0W±0°.2,h28km,n15, σ0§71/15,mb4.0/6,Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 5.24 159 P Pn 16 09 43.8 -0.3
TRQA Tornquist 9.12 107 ePn Pn 16 10 37.6 +0.3
LPAZ La Paz 19.98 14 P Pn 16 12 60.0 -0.3
0.1nm,0.3s,baz=196,slow=7.4,SNR=2.6
SIV San Ignacio 22.49 31 P P 16 13 24.3 -0.6
6.1nm,0.9s,baz=243,slow=14,SNR=2.4
SNAA Sanae 50.18 157 P P 16 17 20.3 0.0
1.0nm,0.9s,baz=270,slow=11,SNR=2.7
SNAA Sanae 50.18 157 P P 16 17 20.0 -0.3
1.4nm,0.8s
QSPA South Pole Qui 54.38 180 P P 16 17 52.1 +0.5
1.9nm,0.8s,baz=139,slow=0.8,SNR=3.2
QSPA South Pole Qui 54.38 180 eP P 16 17 51.5 -0.1
2.7nm,1.2s
TXAR Lajitas Array 70.97 332 P P 16 19 42.7 +0.1
0.5nm,0.6s,baz=158,slow=9.0,SNR=5.7
NVAR Mina Array Bea 84.95 326 P P 16 21 01.2 +1.0
1.2nm,0.9s,baz=134,slow=6.4,SNR=5.1
TORD Torodi Ar. Bea 85.61 70 P P 16 21 04.8 +1.1
0.4nm,0.8s,baz=246,slow=4.7,SNR=1.9
BVAR Borovoye Array 149.19 45 PKPbc PKPbc 16 28 11.5 -1.2
0.4nm,0.6s,baz=305,slow=5.1,SNR=2.2
ZALV Zalesovo Beam 156.23 34 PKPab PKPab 16 28 46.0 -0.8
0.5nm,0.4s,baz=306,slow=5.0,SNR=2.6
ZALV Zalesovo Beam 156.23 34 PKPab PKPab 16 28 46.0 -0.8
SONM Songino Array 168.03 2 PKPab PKPab 16 29 38.3 -0.3
0.3nm,0.8s,baz=332,slow=2.4,SNR=3.0

*IDC **27** 16:09:30.7±0.8,36°.95S×73°.40W,h0km,mb4.0/8, mb1 4.2/10,mb1mx4.1/30,mbtmp4.0/10,ML4.3/2,Error ellipse: s-maj=33.6km s-min=17.7km az=76.0*
*ISCJB **27** 16:09:31.5±0.7,37°.04S±0°.07×73°.4W±0°.2,h14km,mb4.0/9,*

Error ellipse: s-maj=17.8km s-min=9.6km az=171.6
NEIC 27 16:09:35.9±0.5, 37.03S×73.32W, h35km, mb4.2/1, Error ellipse: s-maj=15.6km s-min=8.8km az=79.0
ISC 27 16:09:32.6±0.7, 37.01S±0.08×73.5W±0.1, h14km, n22, σ1§18/22, mb4.0/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.36	149	Pn	Pn	16 10 39.1	+0.5
	7.1nm,0.3s,baz=342,slow=8.5,SNR=3.0						
PLCA				Lg	Lg	16 11 44.4	
	11nm,0.3s,baz=358,slow=20,SNR=3.1						
PLCA	Paso Flores	4.36	149	ePn	Pn	16 10 37.7	-0.9
PLCA				Lg	Lg	16 11 44.4	
CFAA	Coronel Fontan	6.91	40	Lg	Lg	16 13 08.8	
	0.7nm,0.3s,baz=143,slow=19,SNR=2.2						
TRQA	Tornquist	9.19	100	Pn	Pn	16 11 45.0	+0.2
LVC	Limon Verde	14.88	17	ePn	Pn	16 13 03.6	+0.8
USHA	Ushuaia	18.16	171	P	Pn	16 13 43.9	-0.3
	0.2nm,0.3s,baz=332,slow=13,SNR=2.5						
LPAZ	La Paz	21.17	14	P	P	16 14 20.2	+2.0
	5.0nm,0.9s,baz=163,slow=7.5,SNR=3.2						
SIV	San Ignacio	23.64	31	P	P	16 14 42.4	-1.2
	2.4nm,0.8s,baz=228,slow=14,SNR=3.2						
SDV	Santo Domingo	45.73	4	P	P	16 17 50.7	-3.0
RCBR	Riachuelo	46.23	57	P	P	16 17 57.1	-0.5
SNAA	Sanae	49.27	157	P	P	16 18 21.1	+0.6
	0.8nm,0.9s,baz=299,slow=9.1,SNR=3.1						
SNAA	Sanae	49.27	157	eP	P	16 18 20.0	-0.5
	1.8nm,0.7s						
QSPA	South Pole Qui	53.24	180	P	P	16 18 50.9	+0.5
	1.3nm,0.7s,baz=67,slow=7.7,SNR=5.3						
TXAR	Lajitas Array	71.82	332	P	P	16 20 55.0	+0.2
	1.9nm,1.0s,baz=149,slow=9.3,SNR=7.7						
DBIC	Dimbokro	77.24	72	P	P	16 21 27.6	+1.0
	1.6nm,0.6s,baz=270,slow=4.0,SNR=3.1						
BOSA	Boshof	79.70	118	P	P	16 21 40.4	+0.1
	2.3nm,0.8s,baz=225,slow=2.9,SNR=2.7						
NVAR	Mina Array Bea	85.70	326	P	P	16 22 12.0	+0.8
	0.9nm,0.8s,baz=150,slow=7.3,SNR=5.0						
PDAR	Pinedale Array	85.93	334	P	P	16 22 12.6	+0.4
	0.5nm,0.8s,baz=116,slow=6.1,SNR=3.4						
AKTO	Aktyubinsk	143.12	53	PKP	PKPdf	16 29 07.8	+2.2
	1.0nm,0.6s,baz=214,slow=7.3,SNR=4.0						
BVAR	Borovoye Array	150.24	46	PKPbc	PKPbc	16 29 21.8	-0.8
	1.1nm,0.6s,baz=290,slow=2.5,SNR=6.0						
MKAR	Makanchi Array	159.55	54	PKP	PKPdf	16 29 29.6	-0.9
	0.5nm,0.7s,baz=287,slow=1.4,SNR=4.1						
MKAR				PKPab	PKPab	16 30 07.8	-1.0
	0.6nm,0.9s,baz=299,slow=1.8,SNR=2.8						
SONM	Songino Array	169.18	0	PKPab	PKPab	16 30 51.2	+0.2
	1.0nm,1.0s,baz=332,slow=2.2,SNR=5.2						

IDC 27 16:09:39.5±1.5, 25.93N×128.61E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/50, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=60.4km s-min=21.0km az=77.0
JMA 27 16:09:41.7±0.3, 25.96N×128.71E, h29km, M3.2
ISC 27 16:09:40.7±2.5, 25.92N±0.07×128.66E±0.04, h11km±14km, n17, σ1§20/24, mb3.9/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.82	316	P	Pb	16 09 56.9	-0.1
JNTH				eS	Sb	16 10 08.3	+0.2
JJT2	Tamagusuku 2	0.84	285	P	Pn	16 09 58.1	-0.4
JJT2				eS	Sn	16 10 09.6	-1.2
JOW	Kunigami	0.97	339	P	Pg	16 09 59.2	-0.2
JOW				eS	Sg	16 10 11.7	-0.3
JOW	Kunigami	0.97	339	Pn	Pb	16 09 59.3	-0.2
	7.5nm,0.3s,baz=129,slow=16,SNR=12						
JOW				Sn	Sg	16 10 11.7	-0.3
	13nm,0.3s,baz=156,slow=20,SNR=12						
JIH	Iheya	1.27	331	eS	Sb	16 10 19.6	-1.3
JAGN	Aguni-jima	1.43	298	P	Pn	16 10 06.6	0.0
JOKE	Okinoerabujima	1.44	357	P	Pn	16 10 06.3	-0.4
JKE	Kume jima 2	1.73	284	P	Pn	16 10 10.1	-0.5
JKE				eS	Sn	16 10 30.5	-2.2
JTK	Tokunoshima	1.88	8	P	Pn	16 10 13.1	+0.4
JMZ	Minamidaito 2	2.31	92	P	Pn	16 10 18.2	-0.5
JMZ				eS	Sn	16 10 44.5	-2.6
JNU	Nakatsue	7.43	15	Pn	Pn	16 11 30.6	+1.5
	0.5nm,0.3s,baz=245,slow=7.5,SNR=5.5						
JNU				Sn	Sn	16 12 51.4	-2.0
	0.1nm,0.3s,baz=102,slow=20,SNR=1.7						
SONM	Songino Array	28.02	327	P	P	16 15 34.0	+2.2
	1.0nm,0.5s,baz=141,slow=11,SNR=18						
MKAR	Makanchi Array	42.02	312	P	P	16 17 32.0	-0.1
	0.6nm,0.7s,baz=96,slow=9.2,SNR=5.9						
WRA	Warramunga Arr	45.92	173	P	P	16 18 04.2	+0.6
	1.0nm,0.6s,baz=353,slow=8.5,SNR=7.3						
FINES	FINESS Array B	73.32	331	P	P	16 21 11.7	-0.3
	1.5nm,0.9s,baz=59,slow=8.3,SNR=3.2						
AKASG	Malin Array Be	76.01	320	P	P	16 21 27.6	-0.2
	0.7nm,0.6s,baz=60,slow=6.4,SNR=5.2						
BRTR	Keskin Array B	77.52	308	P	P	16 21 37.7	+0.9
	0.3nm,0.7s,baz=113,slow=3.3,SNR=2.7						

IDC 27 16:11:05.0±0.7, 36.19S×72.76W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.2/28, mbtmp4.2/11, Error ellipse: s-maj=29.7km s-min=19.5km az=82.0
ISCJB 27 16:11:09.1±0.7, 36.2S±0.1×72.5W±0.2, h35km, mb4.2/11, Error ellipse: s-maj=18.9km s-min=13.8km az=153.6
NEIC 27 16:11:10.2±0.4, 36.20S×72.60W, h35km, mb4.0/3, Error ellipse: s-maj=14.1km s-min=11.7km az=60.0
ISC 27 16:11:10.6±0.7, 36.2S±0.1×72.6W±0.1, h35km, n25, σ1§12/23, mb4.2/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRQA	Tornquist	8.67	106	Pn	Pn	16 13 12.9	-0.6
LVC	Limon Verde	13.90	14	Pn	Pn	16 14 21.5	-3.8
LPAZ	La Paz	20.21	12	P	P	16 15 44.3	+1.1
	2.6nm,0.8s,baz=195,slow=7.8,SNR=3.0						
SIV	San Ignacio	22.58	30	P	P	16 16 07.7	-0.3
	8.2nm,1.1s,baz=235,slow=16,SNR=3.4						
RCBR	Riachuelo	45.19	57	P	P	16 19 23.2	-1.2
	2.1nm,0.9s						
SNAA	Sanae	49.74	157	P	P	16 19 59.8	+0.7
	0.6nm,0.6s,baz=307,slow=6.8,SNR=3.7						
SNAA	Sanae	49.74	157	eP	P	16 19 58.8	-0.3
	0.6nm,0.4s						
QSPA	South Pole Qui	54.05	180	P	P	16 20 31.8	+0.5
	3.0nm,0.8s,baz=178,slow=2.7,SNR=3.9						
QSPA	South Pole Qui	54.05	180	eP	P	16 20 30.6	-0.8
	1.9nm,1.0s						
TXAR	Lajitas Array	71.43	332	P	P	16 22 26.7	-0.7
	1.8nm,0.7s,baz=156,slow=9.3,SNR=13						
DRV	Dumont d'Urvil	74.47	193	L	L	16 23 00.0	
DRV				R		16 28 00.0	
DBIC	Dimbokro	76.30	71	P	P	16 22 57.3	+1.1
	2.8nm,0.6s,baz=173,slow=6.1,SNR=3.2						
BOSA	Boshof	79.45	118	P	P	16 23 14.7	+1.0
	3.5nm,0.8s,baz=170,slow=5.7,SNR=3.5						
TORD	Torodi Ar. Bea	85.37	70	P	P	16 23 44.8	+0.3
	2.3nm,1.0s,baz=257,slow=4.3,SNR=5.6						
NVAR	Mina Array Bea	85.43	326	P	P	16 23 44.4	-0.2
	0.9nm,0.6s,baz=155,slow=6.1,SNR=6.9						
PDAR	Pinedale Array	85.52	334	P	P	16 23 45.8	+0.8
	0.4nm,0.7s,baz=134,slow=3.9,SNR=2.4						
ULM	Lac du Bonnet	88.49	345	P	P	16 23 57.3	-1.6
	3.7nm,1.0s,baz=148,slow=5.5,SNR=4.5						
WRA	Warramunga Arr	118.64	209	PKP	PKPdf	16 29 53.6	-1.7
	0.8nm,1.1s,baz=154,slow=1.6,SNR=3.2						
BRTR	Keskin Array B	123.26	62	PKP	PKPdf	16 30 02.2	-1.5
	0.4nm,0.6s,baz=259,slow=1.5,SNR=3.7						
HYB	Hyderabad	148.35	119	iPKP	PKPdf	16 30 53.5	+3.2
BVAR	Borovoye Array	149.16	45	PKPbc	PKPbc	16 30 54.7	0.0
	1.2nm,0.6s,baz=298,slow=3.2,SNR=5.3						
AAK	Ala-Archa	153.87	66	PKPbc	PKPbc	16 31 06.5	+0.4
	2.0nm,1.1s,baz=45,slow=2.9,SNR=4.5						
TGY	Tagaytay City	154.89	212	PKPab	PKPab	16 31 23.7	-0.4
	75nm,0.4s,baz=190,slow=6.1,SNR=3.4						
MKAR	Makanchi Array	158.49	53	PKP	PKPdf	16 31 02.9	-1.0
	0.6nm,0.8s,baz=58,slow=1.0,SNR=3.4						
MKAR				PKPab	PKPab	16 31 38.5	-0.4
	0.9nm,1.0s,baz=282,slow=3.3,SNR=3.7						
SONM	Songino Array	168.34	3	PKPab	PKPab	16 32 22.1	0.0
	0.4nm,0.6s,baz=356,slow=2.6,SNR=3.5						

IDC 27 16:11:52.0±0.9, 35.29S×72.92W, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.1/27, mbtmp4.3/8, Error ellipse: s-maj=39.3km s-min=20.1km az=82.0
ISCJB 27 16:11:52.4±0.6, 35.29S±0.08×72.9W±0.2, h17km, mb4.2/8, Error ellipse: s-maj=18.4km s-min=10.1km az=164.5
NEIC 27 16:11:56.8±0.5, 35.28S×72.87W, h35km, mb4.1/2, Error ellipse: s-maj=16.2km s-min=8.9km az=75.0
ISC 27 16:11:54.3±0.7, 35.30S±0.09×73.0W±0.1, h17km, n22, σ1§07/21, mb4.3/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.39	48	Lg	Lg	16 14 36.4	
	1.1nm,0.3s,baz=285,slow=20,SNR=3.0						
PLCA	Paso Flores	5.75	161	Pn	Pn	16 13 18.6	-0.2
TRQA	Tornquist	9.23	111	Pn	Pn	16 14 07.0	+0.3
LVC	Limon Verde	13.12	17	Pn	Pn	16 14 60.0	-0.2
LPAZ	La Paz	19.42	14	P	Pn	16 16 24.4	+2.9
	0.7nm,0.3s,baz=194,slow=8.7,SNR=8.9						
SIV	San Ignacio	21.97	32	P	P	16 16 47.4	-0.1
	17nm,1.0s,baz=194,slow=10,SNR=5.8						
NNA	Nana	23.47	350	P	P	16 17 03.2	+0.1
	5.6nm,0.5s,baz=180,slow=8.1,SNR=3.2						
RCBR	Riachuelo	44.97	58	P	P	16 20 06.9	-1.8
SNAA	Sanae	50.67	157	P	P	16 20 52.4	+0.1
	1.9nm,0.7s,baz=290,slow=8.5,SNR=7.2						
SNAA	Sanae	50.67	157	eP	P	16 20 52.4	+0.1
	3.2nm,1.1s						
QSPA	South Pole Qui	54.94	180	P	P	16 21 24.5	+0.5
	3.4nm,1.1s,baz=121,slow=5.9,SNR=2.8						
QSPA	South Pole Qui	54.94	180	eP	P	16 21 24.3	+0.3
	1.5nm,0.8s						
TXAR	Lajitas Array	70.51	332	P	P	16 23 09.1	+1.0
	0.3nm,0.5s,baz=144,slow=7.8,SNR=3.0						
MIAR	Mount Ida	72.11	342	eP	P	16 23 15.3	-2.3
WVT	Waverly	72.40	347	eP	P	16 23 19.2	-0.1
DBIC	Dimbokro	76.31	72	P	P	16 23 42.7	+0.2
	3.3nm,0.7s,baz=166,slow=7.1,SNR=3.2						
ANMO	Albuquerque	76.57	332	P	P	16 23 44.2	+0.5
TORD	Torodi Ar. Bea	85.36	70	P	P	16 24 31.1	+0.2
	1.4nm,0.8s,baz=251,slow=4.4,SNR=4.7						
ULM	Lac du Bonnet	87.56	346	P	P	16 24 39.8	-1.0
	3.1nm,1.8s,baz=193,slow=14,SNR=4.7						
BVAR	Borovoye Array	148.74	44	PKPbc	PKPbc	16 31 40.8	+0.7
	1.1nm,0.5s,baz=188,slow=1.0,SNR=4.7						
ZALV	Zalesovo Beam	155.72	33	PKPab	PKPab	16 32 13.7	+0.6
	1.3nm,0.6s,baz=299,slow=3.1,SNR=4.9						
SONM	Songino Array	167.46	2	PKPab	PKPab	16 33 05.2	+0.6
	0.5nm,0.9s,baz=343,slow=3.0,SNR=3.0						

IDC 27 16:12:57.1±0.8, 35.14S×72.62W, h0km, mb3.9/6, mb1 4.1/9, mb1mx4.0/30, mbtmp3.9/9, ML4.4/2, Error ellipse: s-maj=32.5km s-min=20.1km az=79.0
ISCJB 27 16:12:58.3±0.8, 35.20S±0.08×72.5W±0.2, h18km, mb3.9/6, Error ellipse: s-maj=23.4km s-min=12.8km az=1.9
ISC 27 16:12:59.8±0.8, 35.2S±0.1×72.5W±0.2, h18km, n12, σ0§82/12, mb4.0/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.06	47	Pn	Pn	16 14 14.9	0.0
	0.6nm,0.3s,baz=184,slow=15,SNR=2.2						
PLCA	Paso Flores	5.77	165	Pn	Pn	16 14 23.6	-1.0
	4.6nm,0.3s,baz=297,slow=14,SNR=2.5						
LPAZ	La Paz	19.22	13	P	Pn	16 17 24.9	+0.4
	0.2nm,0.3s,baz=187,slow=7.2,SNR=2.1						
QSPA	South Pole Qui	55.06	180	P	P	16 22 32.0	+1.6
	2.1nm,0.9s,baz=138,slow=3.4,SNR=2.6						
TXAR	Lajitas Array	70.56	331	P	P	16 24 13.9	+0.1
	0.9nm,0.6s,baz=158,slow=8.9,SNR=9.6						
BOSA	Boshof	79.89	118	P	P	16 25 08.6	+0.7
	1.7nm,0.6s,baz=311,slow=1.9,SNR=3.2						
NVAR	Mina Array Bea	84.61	326	P	P	16 25 32.4	+0.1
	0.6nm,0.7s,baz=148,slow=6.9,SNR=2.9						
PDAR	Pinedale Array	84.62	334	P	P	16 25 31.2	-1.1
	0.2nm,0.5s,baz=162,slow=6.6,SNR=2.7						
TORD	Torodi Ar. Bea	85.00	70	P	P	16 25 34.1	-0.3
	0.5nm,0.5s,baz=271,slow=4.3,SNR=3.7						
WRA	Warramunga Arr	119.54	209	PKP	PKPdf	16 31 48.2	-0.8
	0.2nm,0.6s,baz=160,slow=1.6,SNR=3.2						
BVAR	Borovoye Array	148.41	44	PKPbc	PKPbc	16 32 44.6	0.0
	0.7nm,0.6s,baz=274,slow=2.1,SNR=3.0						
SONM	Songino Array	167.32	3	PKPab	PKPab	16 34 09.4	0.0
	0.4nm,0.8s,baz=336,slow=3.2,SNR=2.9						

IDC 27 16:13:39.9±1.6, 35.15S×73.93W, h0km, mb3.7/2, mb1 4.1/4, mb1mx3.8/30, mbtmp3.8/4, ML4.9/1, Error ellipse: s-maj=47.6km s-min=34.0km az=54.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.92	55	Pn	Pn	16 15 10.8	+1.7
	0.6nm,0.3s,baz=190,slow=17,SNR=2.1						
PLCA	Paso Flores	6.18	155	Pn	Pn	16 15 13.5	+0.9
	6.1nm,0.3s,baz=315,slow=8.6,SNR=2.3						
PLCA				Sn	Sn	16 16 27.6	+3.5
	0.7nm,0.3s,baz=252,slow=19,SNR=1.6						
TXAR	Lajitas Array	70.00	333	P	P	16 24 54.1	+0.6
	0.5nm,0.7s,baz=158,slow=9.7,SNR=2.6						
TORD	Torodi Ar. Bea	86.06	71	P	P	16 26 23.0	+0.1
	0.6nm,0.9s,baz=250,slow=4.3,SNR=2.0						
MKAR	Makanchi Array	158.69	50	PKPab	PKPab	16 34 12.5	-2.2
	0.4nm,0.6s,baz=290,slow=3.7,SNR=3.3						

IDC 27 16:15:13.7±0.9, 24.86S×65.68W, h0km, mb4.1/4, mb1 4.2/6, mb1mx3.9/31, mbtmp4.1/6, ML4.6/2, Error ellipse: s-maj=28.1km s-min=23.1km az=35.0
ISCJB 27 16:15:16.4±2.8, 24.74S±0.06×65.9W±0.2, h19km±21km, mb4.0/4, Error ellipse: s-maj=25.5km s-min=8.5km az=9.8
SJA 27 16:15:16.6±1.1, 24.85S×65.69W, h11km±11km, MD2.7, ML3.8
ISC 27 16:15:17.9±1.9, 24.76S±0.08×65.7W±0.1, h17km±9km, n17, σ1§39/16, mb3.9/4, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	0.18	79	iP	Pg	16 15 21.7	-0.9
SLA				iS	Sg	16 15 26.0	+0.2
SLA				AML	AML	16 15 27.6	
	comp=Z,29µm,0.7s						
AZAP	Zapla	0.78	47	iP	Pg	16 15 33.9	+0.6
AZAP				iS	Sb	16 15 45.1	+1.5
AZAP				AML	AML	16 15 49.1	
	comp=Z,3µm,0.2s						
ASTB	Santa Barbara	1.37	54	iP	Pg	16 15 44.6	+0.3
ALOL	LOMAS DE OLMED	1.83	60	iP	Pn	16 15 51.0	+2.3
AHML	Horco Molle	2.05	171	iP	Pn	16 15 51.7	0.0
AHML				iP	Pn	16 15 51.7	0.0
YJA	Yavi	2.57	4	iP	Pn	16 16 03.0	+3.8
CYA	Choya	3.67	181	iP	Pn	16 16 14.4	+0.4
CYA				AML	AML	16 16 57.5	
	comp=Z,104nm,0.8s						
CYA				iS	Sn	16 16 58.3	+1.4
CPUP	Villa Florida	7.72	103	Pn	Pn	16 17 08.4	-1.2
	comp=Z,4.7nm,0.3s,baz=258,slow=11,SNR=11						
CPUP				Lg	Lg	16 19 18.4	
	comp=Z,32nm,0.3s,baz=179,slow=16,SNR=4.8						
SIV	San Ignacio	9.74	27	Pn	Pn	16 17 38.4	+1.1
	comp=Z,1.4nm,0.3s,baz=262,slow=8.5,SNR=21						
SIV				Sn	Sn	16 19 24.0	-2.4
	comp=Z,1.0nm,0.3s,baz=323,slow=20,SNR=3.1						
SIV				Lg	Lg	16 20 22.1	
	comp=Z,1.0nm,0.3s,baz=307,slow=20,SNR=2.0						
TXAR	Lajitas Array	64.99	324	P	P	16 25 56.8	-0.4
	comp=Z,0.3nm,0.7s,baz=151,slow=7.7,SNR=2.1						
QSPA	South Pole Qui	65.45	180	P	P	16 25 58.0	-1.8
	comp=Z,8.2nm,1.0s,baz=154,slow=2.9,SNR=8.4						
TORD	Torodi Ar. Bea	75.74	68	P	P	16 27 00.5	-2.6
	comp=Z,1.4nm,0.6s,baz=252,slow=5.4,SNR=9.2						
YKA	Yellowknife Ar	95.24	339	P	P	16 28 38.4	-1.8
	comp=Z,0.2nm,0.7s,baz=140,slow=5.0,SNR=4.1						
WRA	Warramunga Arr	131.48	205	PKP	PKPdf	16 34 28.5	-1.8
	comp=Z,0.3nm,0.3s,baz=141,slow=1.6,SNR=3.2						
ZALV	Zalesovo Beam	143.49	29	PKP	PKPab	16 34 47.8	+0.2
	comp=Z,0.8nm,0.4s,baz=289,slow=4.5,SNR=3.6						
MKAR	Makanchi Array	146.33	41	PKPbc	PKPdf	16 34 55.9	-0.6
	comp=Z,2.6nm,0.7s,baz=306,slow=3.4,SNR=20						
SONM	Songino Array	156.13	13	PKPab	PKPab	16 35 38.3	-0.7
	comp=Z,0.2nm,0.6s,baz=312,slow=4.2,SNR=4.9						

IDC 27 16:15:55.4±2.9, 38.97N×143.08E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.3/46, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=68.5km s-min=35.4km az=63.0
ISCJB 27 16:15:58.6±1.5, 38.87N±0.06×142.68E±0.08, h16km±9km, mb3.6/2, Error ellipse: s-maj=11.7km s-min=8.9km az=29.5
JMA 27 16:16:00.1±0.1, 38.90N×142.61E, h28km±2km, M3.8
ISC 27 16:15:58.9±2.2, 38.92N±0.06×142.64E±0.08, h12km±12km, n17, σ1§18/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.78	282	P	Pb	16 16 14.5	+0.2
OFUJ				eS	Sg	16 16 24.4	+0.3
MIYJ	Miyakonagasawa	0.92	316	P	Pg	16 16 16.6	0.0
MIYJ				eS	Sg	16 16 28.2	-0.4
JMK	Ichinoseki	1.11	272	P	Pb	16 16 19.7	-0.3
JMK				S	Sb	16 16 33.8	-0.6
JIO	Ouri	1.11	246	P	Pb	16 16 19.1	-0.9
JIO				S	Sb	16 16 32.5	-2.0
JTH	Tanohata	1.19	330	P	Pb	16 16 21.3	0.0
JOM	Ohasama	1.19	298	P	Pn	16 16 21.2	-0.1
JOM				eS	Sn	16 16 36.2	-0.5
JRG	Rokugo	1.64	288	P	Pb	16 16 28.3	-0.6
JOU	Okura	1.65	251	P	Pn	16 16 27.7	+0.1
JOU				S	Sn	16 16 47.8	-0.9
JANG	Nango	1.70	329	P	Pn	16 16 29.0	+0.7
JYK	Kaneyama	1.78	271	P	Pn	16 16 30.4	+0.9
JYK				eS	Sn	16 16 52.8	+0.8
JMM	Marumori	1.79	235	P	Pn	16 16 29.0	-0.6
MJAR	Matsushiro Arr	4.24	237	Pn	Pn	16 17 05.6	+2.3
	1.2nm,0.3s,baz=50,slow=9.9,SNR=18						
MJAR				Sn	Sb	16 18 07.5	+3.0
	0.2nm,0.3s,baz=87,slow=24,SNR=2.6						
H11N2	WAKE ISLAND Hy	28.36	125	T	T	16 52 20.2	
	baz=317,slow=75,SNR=8.5						
H11N1	WAKE ISLAND Hy	28.37	125	T	T	16 52 25.1	
	baz=317,slow=75,SNR=8.5						
H11N3	WAKE ISLAND Hy	28.38	125	T	T	16 52 22.0	
	baz=317,slow=75,SNR=7.4						
MKAR	Makanchi Array	43.97	301	P	P	16 24 06.3	+0.5
	0.3nm,0.6s,baz=76,slow=9.3,SNR=4.1						
WRA	Warramunga Arr	59.06	189	P	P	16 25 57.9	-1.0
	0.8nm,0.5s,baz=56,slow=7.0,SNR=15						

IDC 27 16:16:26.4±0.8, 36.71S×73.54W, h0km, mb4.0/8, mb1 4.3/10, mb1mx4.1/28, mbtmp4.1/10, ML4.1/2, Error ellipse: s-maj=34.2km s-min=17.3km az=73.0
ISCJB 27 16:16:28.8±0.6, 36.72S±0.08×73.5W±0.2, h27km, mb4.1/9, Error ellipse: s-maj=19.0km s-min=10.0km az=157.2
NEIC 27 16:16:31.5±0.4, 36.70S×73.48W, h35km, mb4.5/2, Error ellipse: s-maj=16.0km s-min=7.6km az=60.0
ISC 27 16:16:30.4±0.6, 36.71S±0.08×73.5W±0.1, h27km, n27, σ0§63/28, mb4.1/9, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.64	151	Pn	Pn	16 17 39.0	+0.2
	3.3nm,0.3s,baz=302,slow=9.7,SNR=3.2						
PLCA				Pg	Pb	16 17 50.8	-0.3
	6.1nm,0.3s,baz=309,slow=12,SNR=4.2						
PLCA				Lg	Lg	16 18 53.0	
	12nm,0.3s,baz=26,slow=9.2,SNR=3.5						
PLCA	Paso Flores	4.64	151	ePn	Pn	16 17 38.7	-0.1
PLCA				Pg	Pb	16 17 50.8	-0.3
PLCA				Lg	Lg	16 18 53.0	
TRQA	Tornquist	9.28	102	Pn	Pn	16 18 42.6	+0.1
USHA	Ushuaia	18.46	171	P	Pn	16 20 44.1	+0.1
	0.2nm,0.3s,baz=338,slow=16,SNR=2.3						
LPAZ	La Paz	20.89	15	P	Pn	16 21 12.9	-0.9
	3.9nm,0.8s,baz=144,slow=5.8,SNR=4.6						
PAYG	Puerto Ayora	39.07	333	eP	P	16 23 54.8	-0.4
	13nm,0.8s						
SDV	Santo Domingo	45.43	4	P	P	16 24 47.4	+0.2
SNAA	Sanae	49.56	157	eP	P	16 25 18.5	-0.1
	3.1nm,0.9s						
SNAA	Sanae	49.56	157⇑	e	P	16 25 18.5	0.0
SNAA	Sanae	49.56	157	PKP2bc	P	16 25 18.5	0.0
	1.3nm,1.0s,baz=114,slow=1.3,SNR=3.9						
QSPA	South Pole Qui	53.54	180	P	P	16 25 48.5	+0.1
	6.7nm,0.8s,baz=160,slow=2.3,SNR=10						
TXAR	Lajitas Array	71.53	332	P	P	16 27 48.4	-0.5
	0.4nm,0.6s,baz=134,slow=7.2,SNR=4.0						
MIAR	Mount Ida	73.31	343	eP	P	16 27 59.5	+0.2
WVT	Waverly	73.68	348	P	P	16 28 01.0	-0.4
DBIC	Dimbokro	77.19	72	P	P	16 28 22.2	+0.2
	2.1nm,0.8s,baz=194,slow=5.6,SNR=3.7						
DBIC	Dimbokro	77.19	72	eP	P	16 28 21.3	-0.8
BOSA	Boshof	79.88	118	P	P	16 28 38.4	+1.4
	2.0nm,1.0s,baz=191,slow=5.2,SNR=2.8						
NVAR	Mina Array Bea	85.43	326	P	P	16 29 06.3	+0.8
	0.6nm,0.7s,baz=198,slow=4.7,SNR=3.6						
PDAR	Pinedale Array	85.65	334	P	P	16 29 07.3	+0.8
	0.6nm,0.9s,baz=116,slow=4.1,SNR=3.5						
TORD	Torodi Ar. Bea	86.26	71	P	P	16 29 09.3	-0.6
	1.3nm,0.7s,baz=242,slow=3.1,SNR=5.8						
GERES	GERESS Array B	114.90	47	PKP	PKPdf	16 35 07.7	-0.5
	0.4nm,0.7s,baz=143,slow=0.5,SNR=4.1						
AKASG	Malin Array Be	124.89	49	PKP	PKPdf	16 35 25.4	-1.8
	0.3nm,0.4s,baz=263,slow=2.2,SNR=4.5						
BVAR	Borovoye Array	150.06	45	PKPbc	PKPbc	16 36 18.1	+0.2
	2.1nm,0.8s,baz=296,slow=4.8,SNR=8.4						
AAK	Ala-Archa	154.77	67	PKPab	PKPab	16 36 44.5	+0.4
	2.1nm,0.6s,baz=201,slow=3.4,SNR=7.8						
ZALV	Zalesovo Beam	157.15	34	PKP	PKPdf	16 36 22.4	-0.5
	0.2nm,0.3s,baz=300,slow=2.9,SNR=3.6						
ZALV				PKPab	PKPab	16 36 53.9	+0.2
	1.0nm,0.7s,baz=297,slow=4.8,SNR=3.9						
MKAR	Makanchi Array	159.40	53	PKPab	PKPab	16 37 03.2	-0.6
	0.5nm,0.7s,baz=297,slow=4.0,SNR=5.6						
SONM	Songino Array	168.88	0	PKPab	PKPab	16 37 46.4	+1.0
	0.1nm,0.3s,baz=318,slow=1.9,SNR=2.3						

IDC 27 16:21:07.3±0.4, 38.36S×73.66W, h0km, mb5.1/17, mb1 5.2/21, mb1mx5.1/27, mbtmp5.1/21, ML5.0/4, MS5.0/1, Ms1 5.0/1, ms1mx4.2/28, Error ellipse: s-maj=17.5km s-min=12.6km az=75.0
ISCJB 27 16:21:09.6±0.2, 38.26S±0.04×73.36W±0.05, h18km, mb5.4/144, MS5.5/3, Error ellipse: s-maj=6.8km s-min=4.4km az=146.3
MOS 27 16:21:12.2±0.9, 38.17S×73.48W, h33km, mb5.5/58, Error ellipse: s-maj=15.5km s-min=7.5km az=100.1
BJI 27 16:21:12.3, 38.27S×73.59W, h39km, mB5.4/19, Ms5.8/13, Ms7 5.8/13
NEIC 27 16:21:13.1±0.2, 38.28S×73.43W, h35km, mb5.4/129, Error ellipse: s-maj=6.7km s-min=4.5km az=58.0
ISC 27 16:21:10.5±0.3, 38.32S±0.05×73.44W±0.06, h18km, n665, σ1§15/695, mb5.4/145, MS5.4/3, 126C-149D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.28	138	eP	Pn	16 22 03.4	+2.2
PLCA				e		16 22 40.0	
PLCA	Paso Flores	3.28	138	Pn	Pn	16 22 03.3	+2.2
	30nm,0.3s,baz=294,slow=9.2,SNR=18						
PLCA				Pg	Pb	16 22 08.7	+0.4
	144nm,0.3s,baz=311,slow=16,SNR=35						
PLCA				Lg	Lg	16 22 55.6	
	196nm,0.3s,baz=43,slow=23,SNR=12						
PLCA	Paso Flores	3.28	138	ePn	Pn	16 22 03.4	+2.2
PLCA				eSn	Sn	16 22 40.0	+0.3
PLCA				Lg	Lg	16 22 55.6	
CFAA	Coronel Fontan	7.95	34	Pn	Pn	16 23 05.9	+0.7
	5.9nm,0.3s,baz=210,slow=13,SNR=29						
CFAA				Sn	Sn	16 24 37.0	+2.3
	1.8nm,0.3s,baz=120,slow=20,SNR=2.8						
CFAA				Lg	Lg	16 25 26.1	
	0.8nm,0.3s,baz=144,slow=16,SNR=3.2						
TRQA	Tornquist	9.03	92	ePn	Pn	16 23 23.8	+3.8
TRQA				eSn	Sn	16 24 59.0	-2.2
USHA	Ushuaia	16.86	170	Pn	Pn	16 25 06.0	+0.6
	1.1nm,0.3s,baz=319,slow=9.4,SNR=11						
USHA				LR	LR	16 31 11.0	
	comp=Z,4µm,18.5s,baz=326,slow=36						
CPUP	Villa Florida	18.09	53	P	P	16 25 22.0	+0.8
CPUP				pmax	pmax		
	comp=Z,9.0nm,0.3s						
CPUP	Villa Florida	18.09	53	P	P	16 25 21.9	+0.8
	comp=Z,8.8nm,0.3s,baz=213,slow=11,SNR=9.5						
CPUP	Villa Florida	18.09	53	P	P	16 25 21.9	+0.8
	comp=Z,166nm,0.8s						
LPAZ	La Paz	22.44	13	P	P	16 26 10.0	+0.8

LPAZ pmax pmax
comp=Z,38nm,0.8s
LPAZ La Paz 22.44 13 P P 16 26 10.0 +0.8
comp=Z,38nm,0.8s,baz=160,slow=14,SNR=8.3
LPAZ La Paz 22.44 13 eP P 16 26 08.7 -0.5
comp=Z,290nm,1.4s
SIV San Ignacio 24.77 29 P P 16 26 31.8 +0.5
comp=Z,44nm,0.8s,baz=222,slow=12,SNR=24
NNA Nana 26.40 352 P P 16 26 45.8 -0.3
NNA pmax pmax
comp=Z,18nm,0.7s
NNA Nana 26.40 352 P P 16 26 45.8 -0.3
comp=Z,18nm,0.7s,baz=182,slow=9.8,SNR=8.2
NNA Nana 26.40 352 eP P 16 26 44.8 -1.3
comp=Z,33nm,0.9s
HOPE Hope Point 29.68 135 eP P 16 27 16.1 +1.0
comp=Z,90nm,1.1s
SAML Samuel 30.67 20 eP P 16 27 23.0 -1.2
comp=Z,7.8nm,0.9s
ATAH Atahualpa 31.37 351 P P 16 27 33.2 +2.4
comp=Z,29nm,1.0s,baz=169,slow=5.2,SNR=5.8
BDFB Brasilia 31.80 52 P P 16 27 33.9 -0.4
BDFB pmax pmax
comp=Z,20nm,0.8s
BDFB Brasilia 31.80 52 P P 16 27 33.9 -0.4
comp=Z,20nm,0.8s,baz=217,slow=7.4,SNR=6.8
OTAV Otavalo 38.65 352 eP P 16 28 33.1 -0.5
comp=Z,102nm,1.4s
ROSC El Rosal 42.97 359 P P 16 29 11.7 +2.6
comp=Z,17nm,0.6s,baz=143,slow=5.1,SNR=6.8
ROSC El Rosal 42.97 359 eP P 16 29 07.8 -1.3
VNA3 Neumayer Olymp 45.83 156 P P 16 29 31.9 +0.9
VNA1 Neumayer--Stat 46.19 155 P P 16 29 34.8 +1.1
VNA2 Neumayer--Watz 46.51 156 P P 16 29 37.0 +0.6
RCBR Riachuelo 46.94 56 P P 16 29 42.2 +1.9
comp=Z,64nm,0.9s,baz=206,slow=10,SNR=18
RCBR Riachuelo 46.94 56 eP P 16 29 41.7 +1.4
comp=Z,275nm,1.7s
SDV Santo Domingo 47.04 4 eP P 16 29 39.6 -1.6
comp=Z,62nm,0.8s
SNAA Sanae 48.05 156 P P 16 29 48.7 +0.2
SNAA Sanae 48.05 156 P P 16 29 48.6 +0.2
SNAA pmax pmax
comp=Z,18nm,0.9s
SNAA Sanae 48.05 156 P P 16 29 48.6 +0.2
comp=Z,18nm,0.9s,baz=282,slow=6.8,SNR=53
SNAA Sanae 48.05 156 eP P 16 29 48.6 +0.2
comp=Z,60nm,0.9s
JTS JuntasAbangare 49.54 345 P P 16 30 01.3 +1.0
JTS pmax pmax
comp=Z,5.0nm,0.6s
JTS JuntasAbangare 49.54 345 P P 16 30 01.3 +1.0
comp=Z,5.0nm,0.6s,baz=96,slow=5.8,SNR=3.8
JTS JuntasAbangare 49.54 345 eP P 16 30 00.4 +0.1
comp=Z,39nm,1.0s
GRGR Grenville 51.39 15 eP P 16 30 13.3 -1.0
comp=Z,255nm,1.0s
QSPA South Pole Qui 51.92 180 P P 16 30 17.9 -0.1
comp=Z,24nm,1.0s,baz=148,slow=11,SNR=24
QSPA South Pole Qui 51.92 180 eP P 16 30 17.7 -0.2
comp=Z,57nm,1.1s
NVL N'lazarevskaya 52.83 156 eP P 16 30 25.6 +1.2
NVL pmax pmax
comp=Z,45nm,0.8s
ICMP Isla Caja de M 56.29 8 eP P 16 30 48.0 -2.0
CRPR Cabo Rojo, PR 56.34 7 eP P 16 30 50.0 -0.4
comp=Z,48nm,1.1s
SEUS St. Eustatius 56.38 12 eP P 16 30 50.4 -0.3
comp=Z,124nm,0.9s
OBIP Obispado Ponce 56.43 8 eP P 16 30 49.0 -2.0
comp=Z,52nm,0.9s
CELP Cerrillos 56.47 8 eP P 16 30 50.3 -1.1
CPD Cerro la Pandu 56.50 9 eP P 16 30 51.0 -0.6
CPD pmax pmax
comp=Z,31nm,0.9s
CPD Cerro la Pandu 56.50 9 eP P 16 30 51.0 -0.6
comp=Z,31nm,0.9s
LRS Lares 56.65 8 eP P 16 30 51.4 -1.3
CBYP Canovanas 56.74 9 eP P 16 30 52.5 -0.9
comp=Z,49nm,0.9s
TEIG Tepich 59.88 344 eP P 16 31 15.2 0.0
comp=Z,77nm,1.2s
SYO Syowa Base 62.28 158⇓eP P 16 31 29.0 -1.9
035A Encino 68.91 336 ⇓P P 16 32 15.0 +0.9
baz=69
034A Hebbronville 69.21 336 ⇑P P 16 32 17.3 +1.2
baz=70,SNR=11
934A Benavides 69.66 336 ⇓P P 16 32 20.6 +1.8
baz=70
933A Laredo 69.91 336 ⇑P P 16 32 21.4 +1.0
baz=70
834A Tilden 70.16 337 ⇓P P 16 32 23.5 +1.6
baz=70,SNR=13
833A Chaparral WMA, 70.61 336 ⇑P P 16 32 25.7 +1.0
baz=71,SNR=17
735A Kenedy 70.61 337 ⇑P P 16 32 26.4 +1.8
baz=71
832A Faith Ranch, C 70.76 335 ⇑P P 16 32 26.4 +0.8
baz=71,SNR=10
733A Divot King Ran 70.94 336 ⇓P P 16 32 28.3 +1.6
baz=71
636A Smothers Creek 70.97 338 ⇓P P 16 32 28.0 +1.2
baz=71,SNR=10
HKT Hockley 71.07 340 eP P 16 32 27.0 -0.3
HKT pmax pmax
comp=Z,21nm,1.1s
HKT Hockley 71.07 340 eP P 16 32 27.0 -0.3
comp=Z,21nm,1.1s
635A Leesville 71.10 338 ⇓P P 16 32 27.9 +0.3
baz=71
732A Laxson Ranch, 71.17 336 ⇓P P 16 32 28.8 +0.7
baz=72
537A Green Hill Far 71.33 339 ⇓P P 16 32 30.2 +1.2
baz=72
NHSC New Hope 71.34 354 eP P 16 32 28.6 -0.3
comp=Z,201nm,1.3s
536A Bastrop 71.53 339 ⇑P P 16 32 31.0 +0.8
baz=72,SNR=7.6
633A Saathoff Ranch 71.59 336 ⇑P P 16 32 31.5 +0.9
baz=72,SNR=8.8
535A Dale 71.64 338 ⇑P P 16 32 32.0 +1.1
baz=72
632A Uvalde 71.83 336 ⇓P P 16 32 32.4 +0.3
baz=72,SNR=18
534A Blanco 71.91 337 ⇓P P 16 32 32.3 -0.2
baz=72
340A Bronson 71.96 342 ⇑P P 16 32 33.7 +1.0
baz=72,SNR=5.4
VBMS Vicksburg 71.96 345 eP P 16 32 33.7 +1.0
comp=Z,94nm,1.0s
GOGA Godfrey 71.98 351 eP P 16 32 32.1 -0.7
GOGA pmax pmax
comp=Z,67nm,1.2s
GOGA Godfrey 71.98 351 eP P 16 32 32.1 -0.7
comp=Z,67nm,1.2s
631A Perdido Creek 72.00 335 ⇓P P 16 32 32.8 -0.2
baz=72,SNR=10
339A Huntington 72.04 341 ⇑P P 16 32 34.1 +0.9
baz=72
LRAL Lakeview Retre 72.11 348 eP P 16 32 32.9 -0.7
comp=Z,60nm,0.8s
436A Wall Ranch, Ga 72.11 339 ⇓P P 16 32 34.3 +0.6
baz=72
533A Kerrville 72.12 337 ⇓P P 16 32 34.0 +0.2
baz=72,SNR=17
338A Crockett 72.26 340 ⇑P P 16 32 36.3 +1.8
baz=73,SNR=7.2
435B Jarrell 72.35 338 ⇑P P 16 32 35.9 +0.8
baz=73
337A Centerville 72.38 340 ⇑P P 16 32 37.0 +1.8
baz=73,SNR=10
532A Rocksprings 72.44 336 ⇑P P 16 32 36.2 +0.4
baz=73,SNR=25
NATX Nacogdoches 72.48 341 eP P 16 32 35.4 -0.4
comp=Z,100nm,0.9s
434A Burnet 72.58 338 ⇑P P 16 32 37.1 +0.5
baz=73,SNR=30
531A Rocksprings 72.69 336 ⇑P P 16 32 38.2 +1.0
baz=73,SNR=19
336A Riesel 72.71 339 ⇓P P 16 32 37.6 +0.4
baz=73,SNR=17
JCT Junction City 72.74 336 eP P 16 32 37.3 -0.2
JCT pmax pmax
comp=Z,86nm,1.1s
JCT Junction City 72.74 336 eP P 16 32 37.3 -0.2
comp=Z,86nm,1.1s
JCT Junction City 72.74 336 ⇑P P 16 32 38.0 +0.6
baz=73,SNR=14
335A Moody 72.77 339 ⇓P P 16 32 38.1 +0.5
baz=73,SNR=8.6
433A Art 72.77 337 ⇑P P 16 32 37.2 -0.4
baz=73,SNR=25
530A J-C Ranch, Com 72.93 335 ⇓P P 16 32 39.3 +0.7
baz=73,SNR=25
TXAR Lajitas Array 73.00 333 P P 16 32 38.8 -0.3
TXAR pmax pmax
comp=Z,8.0nm,0.8s
TXAR Lajitas Array 73.00 333 P P 16 32 38.8 -0.3
comp=Z,7.8nm,0.8s,baz=154,slow=8.6,SNR=67
334A Lometa 73.06 338 ⇓P P 16 32 39.4 +0.1
baz=73,SNR=46
432A Menard 73.10 336 ⇓P P 16 32 39.8 +0.1
baz=73,SNR=13
431A Sonora 73.18 336 ⇓P P 16 32 40.4 +0.3
baz=74,SNR=17
529A Stev Forest Ra 73.21 334 ⇑P P 16 32 39.5 -0.8
baz=74,SNR=12
333A Richland Sprin 73.27 337 ⇓P P 16 32 40.4 -0.2
baz=74,SNR=17
CNNC Cliffs of the 73.31 356 eP P 16 32 41.2 +0.5
comp=Z,58nm,0.8s
WHTX Lake Whitney 73.45 339 eP P 16 32 41.2 -0.4
comp=Z,85nm,0.9s
WHTX Lake Whitney 73.45 339 P P 16 32 41.5 0.0
baz=74,SNR=14
KMSC Kings Mountain 73.46 353 eP P 16 32 41.5 -0.1
comp=Z,52nm,0.9s
KMSC Kings Mountain 73.46 353 ⇓P P 16 32 42.0 +0.4
baz=74,SNR=12
430A Baggett Ranch, 73.48 335 ⇓P P 16 32 41.9 0.0
baz=74,SNR=23
429A Davenport Ranc 73.56 335 ⇑P P 16 32 42.4 +0.1
baz=74,SNR=21
332A Millersview 73.56 337 P P 16 32 42.5 +0.2
baz=74,SNR=22
234A Clairette 73.66 338 ⇓P P 16 32 43.1 +0.3
baz=74,SNR=10.0
331A San Angelo 73.70 336 P P 16 32 42.8 -0.4
baz=74,SNR=22
233A Rising Star 73.89 338 ⇑P P 16 32 44.2 -0.1
baz=74,SNR=17
135A Vickery Place, 73.97 339 ⇑P P 16 32 44.9 +0.3
baz=74
OXF Oxford 73.97 346 eP P 16 32 43.7 -0.9
OXF pmax pmax
comp=Z,102nm,1.1s
OXF Oxford 73.97 346 eP P 16 32 43.7 -0.9
comp=Z,102nm,1.1s
232A Coleman 74.00 337 ⇓P P 16 32 44.7 -0.2
baz=74,SNR=16
330A Mertzon 74.04 336 ⇓P P 16 32 44.6 -0.5
baz=74
CPCT Cooper Cave 74.12 351 eP P 16 32 44.8 -0.6
134A White-Moore Ra 74.17 339 ⇓P P 16 32 46.0 +0.2
baz=74,SNR=8.4
TKL Tuckaleechee C 74.23 351 eP P 16 32 45.7 -0.4
TKL Tuckaleechee C 74.23 351 eP P 16 32 45.7 -0.4
231A Bronte 74.25 336 ⇓P P 16 32 46.2 -0.1
baz=74,SNR=14
329A Wagon Wheel Ra 74.38 335 ⇓P P 16 32 47.1 0.0
baz=75,SNR=10.0
133A Hamilton Ranch 74.45 338 ⇓P P 16 32 47.4 0.0
baz=75,SNR=15
230A Sterling City 74.46 336 ⇑P P 16 32 46.6 -0.9
baz=75
Z35A Perchaven, San 74.65 339 ⇑P P 16 32 48.8 +0.3
baz=75,SNR=8.3
ABTX Abilene, Hawle 74.68 337 eP P 16 32 48.1 -0.7
comp=Z,79nm,1.1s
ABTX Abilene, Hawle 74.68 337 ⇓P P 16 32 47.9 -0.9
baz=75,SNR=15
229A Bryant Ranch, 74.76 335 ⇑P P 16 32 49.0 -0.3
baz=75,SNR=9.9
UALR University of 74.82 344 P P 16 32 47.5 -2.0
comp=Z,25nm,0.9s
MIAR Mount Ida 74.87 343 eP P 16 32 49.3 -0.5
MIAR pmax pmax
comp=Z,21nm,0.8s
MIAR Mount Ida 74.87 343 eP P 16 32 49.3 -0.5
comp=Z,21nm,0.8s
Z34A Collier Ranch, 74.87 339 ⇓P P 16 32 50.2 +0.3
baz=75,SNR=8.4
131A Roby 74.96 337 ⇓P P 16 32 50.0 -0.4
baz=75,SNR=8.4
Z33A Whitaker Ranch 75.04 338 ⇑P P 16 32 51.0 +0.1
baz=75,SNR=9.0
130A Snyder 75.07 336 ⇑P P 16 32 51.3 +0.2
baz=75,SNR=8.6
TZTN Tazewell 75.08 352 eP P 16 32 50.7 -0.4
comp=Z,46nm,0.9s
228A UT Block 9, Go 75.16 335 ⇓P P 16 32 52.0 +0.3
baz=76,SNR=13
Z32A Haskell 75.27 338 ⇑P P 16 32 52.1 -0.1
baz=76,SNR=16
WVT Waverly 75.27 348 eP P 16 32 51.1 -1.0
WVT pmax pmax
comp=Z,103nm,1.2s
WVT Waverly 75.27 348 eP P 16 32 51.1 -1.0
comp=Z,103nm,1.2s
Y34A Reagan Ranch, 75.38 339 ⇓P P 16 32 52.9 +0.2
baz=76,SNR=10
BLA Blacksburg 75.44 354 eP P 16 32 50.5 -2.6
BLA pmax pmax
comp=Z,24nm,0.8s
BLA Blacksburg 75.44 354 eP P 16 32 50.5 -2.6
comp=Z,24nm,0.8s
VWCC Virginia Weste 75.44 355 eP P 16 32 53.5 +0.4
Z31A Sharp Cattle R 75.48 337 ⇓P P 16 32 53.5 0.0
baz=76,SNR=15
128A Castleberry Fa 75.58 335 ⇑P P 16 32 54.1 0.0
baz=76,SNR=11
Y33A Hilltop Ranch, 75.67 339 ⇓P P 16 32 54.3 -0.2
baz=76
CASY Casey 75.68 182 eP P 16 32 54.2 0.0
comp=Z,41nm,1.0s
JSRW J. Sargeant Re 75.75 356 eP P 16 32 55.4 +0.6
Z30A Sanderson Ranc 75.76 336 ⇓P P 16 32 54.5 -0.5
baz=76,SNR=20
MNTX Cornudas Mount 75.76 332 eP P 16 32 53.8 -1.3
comp=Z,9.1nm,0.9s
GDL2 Guadalupe Moun 75.84 333 eP P 16 32 55.9 +0.2
Y32A R-V Farms, Ver 75.91 338 ⇓P P 16 32 56.2 +0.4
baz=76,SNR=7.8
Z29A Hungry Hill Ra 75.92 336 ⇓P P 16 32 55.6 -0.4
baz=76,SNR=25
127A Arkansas Junct 75.93 334 ⇓P P 16 32 55.2 -0.9
baz=76
X34A Smith Ranch, M 76.01 339 ⇑P P 16 32 56.7 +0.3
baz=76,SNR=13
Y31A Rekieta Farm, 76.11 337 ⇑P P 16 32 57.7 +0.7
baz=76
PARMO Parma 76.12 347 eP P 16 32 55.9 -1.0
X33A Lawton 76.14 339 ⇑P P 16 32 56.8 -0.3
baz=76
Y30A Stafford Cattl 76.23 337 ⇓P P 16 32 57.7 0.0
baz=76,SNR=7.9
X32A Elmer 76.25 338 ⇓P P 16 32 57.9 +0.2
baz=77
PBMO Poplar Bluff 76.36 346 eP P 16 32 57.5 -0.8
comp=Z,53nm,0.8s
Y29A Porterfield Fa 76.46 336 ⇓P P 16 32 59.4 +0.3
baz=77,SNR=6.9
Z27A Tatum 76.46 335 ⇑P P 16 32 59.6 +0.4
baz=77,SNR=8.0
W34A Bridge Creek, 76.59 340 eP P 16 32 59.6 0.0
comp=Z,56nm,0.9s
W34A Bridge Creek, 76.59 340 ⇓P P 16 33 00.1 +0.4
baz=77,SNR=9.1
X31A McDonald Ranch 76.65 338 ⇓P P 16 33 00.5 +0.4
baz=77,SNR=9.3
Z26A Caprock 76.68 334 ⇓P P 16 33 00.5 +0.1
baz=77,SNR=12
W33A Caddo, Fort Co 76.70 339 ⇓P P 16 33 01.4 +1.1
baz=77,SNR=20
TUL1 Tulsa 76.71 342 ⇑P P 16 33 00.6 +0.3
baz=77,SNR=19
X30A Coker Ranch, T 76.75 337 ⇓P P 16 33 01.3 +0.7
baz=77,SNR=9.4
W32A Sentinel 76.89 339 ⇓P P 16 33 02.1 +0.7
baz=77,SNR=22
MSTX Muleshoe 76.92 335 eP P 16 33 02.0 +0.3
comp=Z,44nm,1.1s
MSTX Muleshoe 76.92 335 ⇓P P 16 33 01.9 +0.2
baz=77,SNR=9.0
Z25A Roswell 76.95 333 ⇓P P 16 33 03.0 +1.1
baz=77
Y27A Causey 76.97 335 ⇓P P 16 33 01.7 -0.2
baz=77
319A Douglas 76.97 329 ⇓P P 16 33 03.2 +1.1
baz=77,SNR=12
X29A Tulia 77.01 336 ⇓P P 16 33 02.3 +0.2
baz=77
V34A Guthrie 77.08 340 eP P 16 33 02.0 -0.4
comp=Z,83nm,0.9s
V34A Guthrie 77.08 340 ⇑P P 16 33 02.3 -0.1
baz=77
WCI Wyandotte Cave 77.09 350 eP P 16 33 01.1 -1.4
WCI pmax pmax
comp=Z,20nm,1.0s
WCI Wyandotte Cave 77.09 350 eP P 16 33 01.1 -1.4
comp=Z,20nm,1.0s
W31A Holland Ranch, 77.16 338 ⇑P P 16 33 03.1 +0.1
baz=78,SNR=8.5
LIC Lamto 77.22 71 eP P 16 33 05.2 +1.5
comp=Z,283nm,0.7s
Z24A Sheeppen Canyo 77.22 333 ⇓P P 16 33 04.4 +0.9
baz=78
Y26A Elida 77.22 334 ⇑P P 16 33 03.9 +0.5
baz=78
V33A Lossen Ranch, 77.28 340 ⇑P P 16 33 04.0 +0.4
baz=78,SNR=14
V32A Arapaho 77.39 339 ⇓P P 16 33 04.9 +0.6
baz=78
AMTX Amarillo 77.40 337 eP P 16 33 04.6 +0.2
comp=Z,79nm,1.0s
AMTX Amarillo 77.40 337 ⇑P P 16 33 04.2 -0.2
baz=78
121A Cookes Peak, D 77.41 331 ⇑P P 16 33 06.0 +1.5
baz=78
SDMD Soldier's Deli 77.42 357 eP P 16 33 05.3 +1.1
comp=Z,34nm,0.9s
TIC Toumodi 77.50 71 eP P 16 33 06.8 +1.5
comp=Z,105nm,0.5s
Y25A Mesa, Roswell 77.52 334 ⇓P P 16 33 05.1 0.0
baz=78
KIC Kosan Boka 77.52 72 eP P 16 33 07.0 +1.6
comp=Z,220nm,0.6s
W29A Amraillo 77.61 337 ⇓P P 16 33 06.0 +0.5
baz=78,SNR=8.0
DBIC Dimbokro 77.64 71 P P 16 33 07.2 +1.1
DBIC pmax pmax
comp=Z,85nm,0.6s
DBIC Dimbokro 77.64 71 P P 16 33 07.2 +1.1
comp=Z,85nm,0.6s,baz=201,slow=5.4,SNR=153
X27A F and S Farms, 77.64 335 ⇓P P 16 33 05.9 +0.1
baz=78
U34A Anderson Ranch 77.65 340 eP P 16 33 05.6 0.0
comp=Z,48nm,0.9s
U34A Anderson Ranch 77.65 340 ⇓P P 16 33 06.9 +1.3
baz=78
V31A Spring Creek L 77.67 338 ⇓P P 16 33 07.8 +2.0
baz=78,SNR=12
Z22A Elephant Butte 77.74 332 ⇓P P 16 33 07.4 +1.0
baz=78,SNR=7.5
Y24A Capitan 77.78 333 ⇑P P 16 33 07.4 +0.8
baz=78,SNR=7.9
X26A CR and CF Fran 77.79 335 ⇑P P 16 33 07.2 +0.6
baz=78,SNR=7.9
U33A Lingo Farm, Me 77.81 340 ⇑P P 16 33 06.9 +0.4
baz=78,SNR=9.0
OLIL Olney 77.86 348 eP P 16 33 06.3 -0.4
comp=Z,32nm,1.0s
MVL Millersville 77.99 358 eP P 16 33 08.5 +1.1
comp=Z,43nm,1.1s
U32A Winter Ranch, 78.00 339 ⇓P P 16 33 08.6 +1.0
baz=78,SNR=9.7
W27A Bowe Ranch, En 78.01 336 ⇓P P 16 33 08.6 +0.8
baz=78,SNR=11
Y23A Lovelace Mesa, 78.01 333 ⇑P P 16 33 09.1 +1.1
baz=78
BLO Bloomington 78.05 350 eP P 16 33 07.3 -0.4
BLO Bloomington 78.05 350 eP P 16 33 07.3 -0.4
SLM Saint Louis 78.13 347 eP P 16 33 08.0 -0.2
SLM pmax pmax
comp=Z,110nm,0.9s
SLM Saint Louis 78.13 347 eP P 16 33 08.0 -0.2
comp=Z,110nm,0.9s
W26A Owens Ranch, T 78.27 335 ⇑P P 16 33 09.9 +0.7
baz=79,SNR=8.1
V28A Channing 78.37 336 ⇑P P 16 33 10.7 +0.9
baz=79
TUC Tucson 78.41 328 eP P 16 33 10.6 +0.6
TUC pmax pmax
comp=Z,22nm,1.0s
TUC Tucson 78.41 328 eP P 16 33 10.6 +0.6
comp=Z,22nm,1.0s
T33A Patterson Ranc 78.45 340 ⇓P P 16 33 11.0 +1.0
baz=79,SNR=12
LPM Los Pinos Moun 78.56 332 eP P 16 33 11.8 +0.9
U30A WK&E Inc. Balk 78.61 338 ⇑P P 16 33 11.5 +0.4
baz=79,SNR=7.6
W25A X Bar L Ranch, 78.62 335 ⇓P P 16 33 11.6 +0.5
baz=79,SNR=9.5
X23A Hourglass Bar 78.64 333 ⇑P P 16 33 12.4 +0.9
baz=79,SNR=9.7
ACSO Alum Creek Sta 78.67 353 eP P 16 33 10.2 -0.9
comp=Z,89nm,0.9s
SSPA Standing Stone 78.69 357 eP P 16 33 11.4 +0.2
comp=Z,46nm,1.2s
T32A Huddler Ranch, 78.73 339 ⇓P P 16 33 13.1 +1.5
baz=79
LAZ Ladron 78.83 332 eP P 16 33 11.8 -0.6
comp=Z,15nm,1.2s
T31A Randall Ranch, 78.86 339 ⇑P P 16 33 13.6 +1.3
baz=79
V26A Tequesquite Ra 78.92 335 ⇑P P 16 33 13.1 +0.3
baz=79
W24A Lazy 6 Ranch, 78.94 334 ⇑P P 16 33 13.5 +0.5
baz=79,SNR=9.9
U28A Mallet 78.95 337 ⇓P P 16 33 13.4 +0.5
baz=79
214A Organ Pipe Nat 78.95 327 eP P 16 33 12.6 -0.4
comp=Z,28nm,0.9s
214A Organ Pipe Nat 78.95 327 ⇓P P 16 33 13.7 +0.7
baz=79,SNR=9.4
T30A Plains 79.06 338 ⇓P P 16 33 15.0 +1.5
baz=79
BOSA Boshof 79.07 118 P P 16 33 14.1 +0.1
BOSA pmax pmax
comp=Z,68nm,0.9s
BOSA Boshof 79.07 118 P P 16 33 14.1 +0.1
comp=Z,68nm,0.9s,baz=231,slow=4.9,SNR=64
BOSA Boshof 79.07 118 eP P 16 33 13.8 -0.3
comp=Z,71nm,0.9s
ANMO Albuquerque 79.07 333⇓iP P 16 33 14.4 +0.7
ANMO pmax pmax
comp=Z,90nm,1.2s
ANMO Albuquerque 79.07 333 eP P 16 33 14.2 +0.4
comp=Z,30nm,0.9s
TSUM Tsumeb 79.13 106 eP P 16 33 14.3 -0.2
comp=Z,32nm,1.1s
W23A Werner Place, 79.15 333 ⇓P P 16 33 15.0 +0.8
baz=79
U27A Thompson Grove 79.18 336 ⇑P P 16 33 15.4 +1.2
baz=80
S32A Newby Ranch, P 79.22 340 ⇓P P 16 33 15.1 +0.8
baz=80
V25A Rancho No Teng 79.23 335 ⇓P P 16 33 15.2 +0.6
baz=80,SNR=13
YLE Yale 79.26 0 eP P 16 33 16.1 +1.8
comp=Z,188nm,1.3s
V24A Rampart Ranch, 79.35 334 ⇓P P 16 33 16.1 +0.7
baz=80,SNR=6.8
U26A Atchley Ranch, 79.45 336 ⇑P P 16 33 17.1 +1.4
baz=80
S30A Montezuma 79.59 338 ⇓P P 16 33 17.2 +0.9
baz=80
T28A Walsh 79.60 337 ⇓P P 16 33 17.1 +0.7
baz=80,SNR=8.9
U25A Circle Dot Ran 79.67 335 ⇓P P 16 33 17.9 +0.9
baz=80
V23A Ortiz Mt. (NFS 79.69 333 ⇓P P 16 33 18.4 +1.3
baz=80
T27A Campo 79.73 337 ⇓P P 16 33 18.5 +1.3
baz=80
S29A Ulysses 79.76 338 ⇑P P 16 33 19.8 +2.5
baz=80
KSU1 Kansas State U 79.94 342 eP P 16 33 17.9 -0.2
comp=Z,33nm,0.9s
S28A Manter 79.97 337 ⇑P P 16 33 19.1 +0.6
baz=80,SNR=10
X18A Snowflake 80.01 330 ⇑P P 16 33 19.3 +0.4
baz=80,SNR=6.6

V22A San Miguel Ran 80.10 333 ⇑P P 16 33 20.7 +1.3
baz=80,SNR=17
T26A Comanche Natio 80.11 336 ⇓P P 16 33 20.4 +1.1
baz=80,SNR=13
R30A Dighton 80.14 339 ⇑P P 16 33 20.8 +1.6
baz=80
U23A El Rito 80.22 334 ⇑P P 16 33 21.4 +1.4
baz=80,SNR=9.6
Q32A Meitler Ranch, 80.33 340 ⇓P P 16 33 21.0 +0.8
baz=81,SNR=7.6
T25A Trinidad 80.35 335 ⇑P P 16 33 22.1 +1.4
baz=81,SNR=16
S27A Las Animas 80.36 337 ⇓P P 16 33 21.5 +0.9
baz=81
W18A Petrified Fore 80.44 331 eP P 16 33 21.7 +0.5
comp=Z,36nm,1.0s
W18A Petrified Fore 80.44 331 ⇓P P 16 33 23.3 +2.1
baz=81
S26A Kim 80.48 336 ⇑P P 16 33 22.7 +1.4
baz=81,SNR=17
U22A Llaves 80.49 333 ⇓P P 16 33 23.0 +1.5
baz=81,SNR=11
X16A Lo Mia Camp, P 80.51 329 ⇓P P 16 33 22.9 +1.4
baz=81,SNR=20
R29A Marienthal 80.52 338 ⇑P P 16 33 22.3 +0.9
baz=81
Q31A Ellis 80.56 340 ⇓P P 16 33 22.4 +0.9
baz=81
T24B San Luis 80.60 335 ⇑P P 16 33 23.7 +1.6
baz=81,SNR=11
R28A Tribune 80.64 338 ⇓P P 16 33 22.7 +0.7
baz=81,SNR=12
TRY Troy 80.68 360 eP P 16 33 23.5 +1.6
comp=Z,81nm,1.0s
Y14A Wickenburg 80.74 328 ⇑P P 16 33 23.0 +0.4
baz=81,SNR=7.1
Q30A Quinter 80.77 339 ⇓P P 16 33 23.8 +1.2
baz=81,SNR=8.7
AAM Ann Arbor 80.78 352 eP P 16 33 22.9 +0.4
AAM pmax pmax
comp=Z,71nm,1.1s
AAM Ann Arbor 80.78 352 eP P 16 33 22.9 +0.4
comp=Z,71nm,1.1s
T23A Casias Ranch, 80.80 334 ⇓P P 16 33 24.4 +1.2
baz=81
S25A Robets Cordova 80.83 336 ⇓P P 16 33 24.5 +1.3
baz=81,SNR=9.3
R27A Eads 80.88 337 ⇓P P 16 33 24.0 +0.6
baz=81,SNR=10
S24A Houchin Ranch, 81.07 335 ⇑P P 16 33 25.5 +0.9
baz=81,SNR=15
R26A Arlington 81.10 337 ⇓P P 16 33 26.1 +1.6
baz=81,SNR=15
R25A Fountain Ranch 81.22 336 ⇓P P 16 33 26.2 +1.0
baz=82
SDCO Great Sand Dun 81.26 335 P P 16 33 24.1 -1.5
comp=Z,12nm,0.9s
P30A Selden 81.30 339 ⇓P P 16 33 26.5 +1.0
baz=82,SNR=7.8
ACCN Adirondack Com 81.33 360 eP P 16 33 26.7 +1.2
comp=Z,409nm,2.5s
WUAZ Wupatki 81.44 330 eP P 16 33 26.8 +0.4
comp=Z,28nm,1.0s
WUAZ Wupatki 81.44 330 ⇑P P 16 33 27.9 +1.5
baz=82,SNR=9.1
LBTB Lobatse 81.51 115 eP P 16 33 26.6 -0.7
LBTB pmax pmax
comp=Z,124nm,1.2s
LBTB Lobatse 81.51 115 eP P 16 33 26.6 -0.7
comp=Z,124nm,1.2s
P29A Atwood 81.55 339 ⇑P P 16 33 28.5 +1.7
baz=82
BC3 Big Chuckawall 81.56 326 ⇑P P 16 33 27.9 +0.8
baz=82
R24A Sanders Place, 81.57 335 ⇓P P 16 33 28.5 +1.3
baz=82,SNR=14
Q26A Hugo 81.69 337 ⇑P P 16 33 28.9 +1.2
baz=82,SNR=8.9
S22A 4UR Ranch, Cre 81.71 334 ⇑P P 16 33 29.0 +1.0
baz=82,SNR=13
R23A Moffat 81.77 335 ⇓P P 16 33 29.7 +1.4
baz=82,SNR=10.0
MVCO Mesa Verde 81.83 332 eP P 16 33 29.2 +0.7
comp=Z,16nm,0.9s
MVCO Mesa Verde 81.83 332 ⇑P P 16 33 29.7 +1.1
baz=82,SNR=8.2
O30A MW Ranch, Wils 81.84 340 ⇑P P 16 33 30.0 +1.7
baz=82
IRM Iron Mountain 81.85 326 ⇓P P 16 33 29.8 +1.3
baz=82
Q25A Bedland, Calha 81.91 336 ⇓P P 16 33 30.5 +1.6
baz=82
NCB Newcomb 81.92 359 eP P 16 33 25.9 -2.7
comp=Z,26nm,0.9s
MDV Middlebury 81.94 0 eP P 16 33 29.6 +0.9
PFO Pinyon Flat Ob 81.97 325 eP P 16 33 28.8 -0.4
PFO Pinyon Flat Ob 81.97 325 eP P 16 33 28.8 -0.4
W13A Hualapai Mount 82.11 328 ⇑P P 16 33 31.3 +1.2
baz=82,SNR=9.4
Q24A Divide 82.25 336 ⇓P P 16 33 31.6 +0.8
baz=83,SNR=9.8
JFWS Jewell Farm 82.29 348 eP P 16 33 31.6 +1.1
JFWS pmax pmax
comp=Z,46nm,1.2s
JFWS Jewell Farm 82.29 348 eP P 16 33 31.6 +1.1
comp=Z,46nm,1.2s
P25A Willow Gulch B 82.43 336 ⇓P P 16 33 32.8 +1.2
baz=83,SNR=11
BGNE Belgrade 82.50 342 eP P 16 33 31.2 -0.5
comp=Z,126nm,0.8s
PTN Potsdam (NY) 82.53 359 eP P 16 33 32.0 +0.3
PTN pmax pmax
comp=Z,120nm,1.0s
PTN Potsdam (NY) 82.53 359 eP P 16 33 32.0 +0.3
comp=Z,120nm,1.0s
LONY Lake Ozonia 82.57 359 eP P 16 33 31.5 -0.4
comp=Z,50nm,0.9s
U15A North Rim 82.59 329 P P 16 33 33.5 +0.9
baz=83,SNR=14
GMRC Granite Mounta 82.60 326 ⇑P P 16 33 33.9 +1.3
baz=83
M31A Lambtecht Ranc 82.65 341 ⇑P P 16 33 33.8 +1.3
baz=83,SNR=8.0
PV01 Paradox Valley 82.67 333 eP P 16 33 33.0 +0.1
comp=Z,2μm,0.9s
O25A Wiggins 82.97 337 ⇓P P 16 33 35.4 +1.1
baz=83
PV04 Paradox Valley 83.03 333 eP P 16 33 35.7 +1.0
SMCO Snowmass 83.05 334 eP P 16 33 36.1 +1.0
comp=Z,27nm,1.0s
N27A Anderson Farm, 83.13 338 ⇓P P 16 33 36.1 +1.1
baz=83,SNR=7.9
ISCO Idaho Springs 83.16 336 eP P 16 33 36.1 +0.6
ISCO pmax pmax
comp=Z,16nm,1.3s
ISCO Idaho Springs 83.16 336 eP P 16 33 36.0 +0.6
comp=Z,16nm,1.3s
ISCO Idaho Springs 83.16 336 ⇑P P 16 33 36.6 +1.1
baz=84,SNR=8.3
P22A Eagle 83.35 335 ⇑P P 16 33 37.3 +0.9
baz=84
L30A Spencer Herefo 83.41 341 ⇑P P 16 33 38.1 +1.7
baz=84
GSC Goldstone 83.55 326 eP P 16 33 38.9 +1.5
GSC pmax pmax
comp=Z,123nm,2.5s
GSC Goldstone 83.55 326 eP P 16 33 38.9 +1.5
comp=Z,122nm,2.5s
O23A Lake Granby, G 83.63 336 ⇓P P 16 33 39.1 +1.2
baz=84,SNR=10.0
O22A Kremmling 83.79 335 ⇓P P 16 33 39.7 +0.9
baz=84,SNR=9.4
SHPR Sheep Range 83.84 327 eP P 16 33 39.1 +0.2
N24A Carr 83.86 337 ⇑P P 16 33 40.3 +1.4
baz=84
CCUT Cedar City 83.99 329 eP P 16 33 41.0 +1.2
comp=Z,23nm,1.1s
K30A Basset 84.06 341 ⇓P P 16 33 41.3 +1.6
baz=84,SNR=9.9
M25A Palm-Egli Farm 84.16 337 ⇓P P 16 33 42.2 +1.8
baz=84
ARUT Antelope Range 84.23 329 P P 16 33 40.0 -0.9
ARUT Antelope Range 84.23 329 P P 16 33 40.0 -0.9
comp=Z,338nm,1.1s
SRU San Rafael 84.25 332 eP P 16 33 41.0 0.0
SRU pmax pmax
comp=Z,24nm,0.8s
SRU San Rafael 84.25 332 eP P 16 33 41.0 0.0
comp=Z,24nm,0.8s
N23A Red Feather La 84.25 336 ⇓P P 16 33 42.4 +1.3
baz=85,SNR=9.5
N22A Wattenberg Ran 84.34 335 ⇑P P 16 33 43.0 +1.5
baz=85,SNR=13
O20A White River Ci 84.34 334 eP P 16 33 42.2 +0.8
comp=Z,23nm,1.0s
O20A White River Ci 84.34 334 ⇑P P 16 33 42.5 +1.1
baz=85
MVU Marysvale 84.36 330 eP P 16 33 41.7 +0.1
comp=Z,15nm,0.9s
PHWY Pilot Hill 84.47 336 eP P 16 33 42.4 +0.2
comp=Z,16nm,0.9s
FURC Furnace Creek, 84.55 326 ⇑P P 16 33 43.8 +1.6
baz=85
ISA Isabella 84.60 325 eP P 16 33 43.8 +1.1
ISA pmax pmax
comp=Z,22nm,1.0s
ISA Isabella 84.60 325 eP P 16 33 43.8 +1.1
comp=Z,22nm,1.0s
ISA Isabella 84.60 325 ⇑P P 16 33 44.1 +1.4
baz=85,SNR=6.8
TMUT Trail Mountain 84.67 331 eP P 16 33 44.4 +1.1
comp=Z,24nm,0.8s
N20A Spence Gulch, 84.97 334 ⇑P P 16 33 46.1 +1.5
baz=85
SPMN St. Paul 84.98 346 eP P 16 33 43.6 -0.7
comp=Z,26nm,0.8s
VES Vestal, Richgr 85.02 324 ⇑P P 16 33 46.1 +1.4
baz=85
J28A Allard Ranch, 85.18 340 ⇓P P 16 33 47.4 +2.0
baz=86
GRAC Grapevine Rang 85.21 326 ⇓P P 16 33 47.0 +1.3
baz=86
J27A Elkhorn Farm, 85.23 339 ⇓P P 16 33 47.1 +1.4
baz=86
L23A Garrett 85.28 337 ⇓P P 16 33 47.5 +1.4
baz=86
MPU Maple Canyon 85.46 332 eP P 16 33 48.0 +1.0
comp=Z,29nm,1.1s
NLU North Lily Min 85.57 331 eP P 16 33 48.2 +0.6
comp=Z,93nm,1.9s
R11A Troy Canyon, C 85.59 328 eP P 16 33 48.5 +0.8
comp=Z,18nm,1.0s
R11A Troy Canyon, C 85.59 328 ⇑P P 16 33 49.3 +1.6
baz=86,SNR=16
J26A Sides Ranch, S 85.59 339 ⇓P P 16 33 48.5 +1.0
baz=86,SNR=8.4
J25A Sunshine Ranch 85.87 338 ⇓P P 16 33 50.0 +1.1
baz=86
JLU Jordanelle 85.90 332 eP P 16 33 49.8 +0.5
comp=Z,19nm,1.0s
I27A Quinn 86.00 340 ⇓P P 16 33 50.0 +0.6
baz=86
K22A Casper 86.03 336 eP P 16 33 48.8 -1.0
comp=Z,36nm,1.3s
K22A Casper 86.03 336 ⇓P P 16 33 49.7 -0.1
baz=86
H29A Onida 86.04 341 ⇑P P 16 33 50.5 +0.9
baz=86,SNR=10
TPH Tonopah 86.05 327 eP P 16 33 51.1 +1.0
TPH pmax pmax
comp=Z,27nm,1.0s
TPH Tonopah 86.05 327 eP P 16 33 51.1 +1.0
comp=Z,27nm,1.0s
DUG Dugway 86.06 331 eP P 16 33 50.3 +0.3
DUG pmax pmax
comp=Z,42nm,1.1s
DUG Dugway 86.06 331 eP P 16 33 50.3 +0.3
comp=Z,42nm,1.1s
DUG Dugway 86.06 331 ⇑P P 16 33 50.9 +0.9
baz=86,SNR=27
J24A Dixon Ranch, L 86.07 338 ⇓P P 16 33 50.5 +0.6
baz=86,SNR=7.4
CTU Camp Tracy 86.09 332 eP P 16 33 50.7 +0.6
comp=Z,10nm,0.9s
K21A Alcova 86.24 336 ⇑P P 16 33 52.0 +1.1
baz=87,SNR=11
G30A Faulkton 86.25 342 ⇓P P 16 33 51.5 +1.0
baz=87
TCUT Toone Canyon 86.33 332 eP P 16 33 51.5 +0.1
comp=Z,66nm,1.3s
G29A Hoven 86.50 342 ⇑P P 16 33 52.8 +1.0
baz=87
G28A Parade 86.64 341 ⇑P P 16 33 52.7 +0.1
baz=87,SNR=7.3
TOA0 Torodi Ar. Sit 86.73 71 eP P 16 33 53.6 -0.1
TORD Torodi Ar. Bea 86.73 71 P P 16 33 53.7 0.0
comp=Z,26nm,0.8s,baz=236,slow=4.2,SNR=95
BGU Big Grassy Mou 86.77 331 eP P 16 33 54.0 +0.6
comp=Z,35nm,2.2s
NVAR Mina Array Bea 86.81 326 P P 16 33 53.6 -0.2
comp=Z,3.6nm,0.8s,baz=161,slow=6.1,SNR=20
F30A Leola 86.88 342 ⇑P P 16 33 54.3 +0.6
baz=87
SPUT South Promonto 86.89 332 P P 16 33 52.2 -1.9
comp=Z,49nm,1.0s
H25A Fruitdale 86.94 339 ⇑P P 16 33 55.5 +1.4
baz=87
PDAR Pinedale Array 87.13 334 P P 16 33 54.8 -0.5
comp=Z,5.3nm,0.8s,baz=151,slow=5.7,SNR=41
BW06 Boulder Array 87.13 334 eP P 16 33 53.9 -1.4
comp=Z,17nm,1.1s
J20A Shoshoni 87.16 335 ⇓P P 16 33 56.5 +1.2
baz=88,SNR=15
G27A Dupree 87.18 340 ⇓P P 16 33 54.9 -0.3
baz=88,SNR=6.5
G26A Maurine 87.28 340 ⇑P P 16 33 55.6 -0.1
baz=88,SNR=12
WAKR Walker 87.37 326 eP P 16 33 55.5 -1.0
EYMN Ely 87.39 348 eP P 16 33 56.9 +0.8
comp=Z,26nm,1.1s
J19A Crowheart 87.40 335 ⇓P P 16 33 56.5 0.0
baz=88,SNR=16
CMB Columbia Colle 87.42 325 eP P 16 33 57.8 +1.3
CMB pmax pmax
comp=Z,149nm,3.0s
CMB Columbia Colle 87.42 325 eP P 16 33 57.8 +1.3
comp=Z,149nm,3.0s
HVU Hansel Valley 87.42 332 eP P 16 33 55.3 -1.3
HVU pmax pmax
comp=Z,40nm,1.0s
HVU Hansel Valley 87.42 332 eP P 16 33 55.3 -1.3
comp=Z,40nm,1.0s
ELK Elko 87.48 330 eP P 16 33 57.1 +0.1
ELK pmax pmax
comp=Z,26nm,1.0s
ELK Elko 87.48 330 eP P 16 33 57.1 +0.1
comp=Z,26nm,1.0s
F27A Lemmon 87.67 340 ⇓P P 16 33 57.8 +0.3
baz=88,SNR=10
I20A Worland 87.71 336 ⇑P P 16 33 58.9 +1.0
baz=88,SNR=8.1
E28A Huff 87.98 342 ⇑P P 16 33 59.5 +0.5
baz=88
D30A Buchanan 88.02 343 ⇑P P 16 33 59.6 +0.5
baz=88,SNR=9.7
BMN Battle Mountai 88.02 328 eP P 16 33 58.8 -0.7
BMN pmax pmax
comp=Z,7.0nm,1.0s
BMN Battle Mountai 88.02 328 eP P 16 33 58.8 -0.7
comp=Z,7.3nm,1.0s
REDW Red Top Meadow 88.10 334 eP P 16 33 59.5 -0.5
comp=Z,22nm,1.2s
H20A Greybull 88.14 336 ⇑P P 16 34 01.1 +1.2
baz=88,SNR=6.2
D29A Pettibone, Tap 88.17 342 ⇓P P 16 34 00.4 +0.5
baz=88,SNR=7.8
LOHW Long Hollow 88.23 334 eP P 16 34 00.4 -0.1
comp=Z,9.0nm,0.8s
TPAW Teton Pass 88.25 334 eP P 16 34 00.6 -0.1
comp=Z,23nm,0.9s
FXWY Fox Creek 88.40 334 eP P 16 34 01.4 0.0
comp=Z,22nm,1.5s
I17A Pilgrim Ck. 88.50 334 ⇑P P 16 34 02.6 +0.8
baz=89,SNR=6.6
C30A Mose, Pekin 88.51 343 ⇓P P 16 34 01.8 +0.3
baz=89,SNR=20
AGMN Agassiz Nation 88.52 345 eP P 16 34 00.1 -1.3
comp=Z,32nm,1.0s
AGMN Agassiz Nation 88.52 345 ⇓P P 16 34 01.7 +0.3
baz=89,SNR=7.1
D28A Regan 88.53 342 ⇑P P 16 34 02.4 +0.9
baz=89,SNR=7.6
IMW Indian Meadow 88.60 334 eP P 16 34 02.1 -0.3
comp=Z,20nm,1.0s
H19A Powell 88.63 335 ⇓P P 16 34 03.4 +1.1
baz=89
FLWY Flagg Ranch 88.68 334 eP P 16 34 03.1 +0.5
comp=Z,28nm,0.9s
D26A Manning 88.84 341 ⇑P P 16 34 04.2 +1.1
baz=89
H18A Shoshone NF, C 88.86 335 ⇓P P 16 34 03.8 +0.3
baz=89,SNR=8.7
G20A Bridger 88.87 336 ⇑P P 16 34 03.2 -0.2
baz=89,SNR=7.6
H17A Grant Village 88.91 334 eP P 16 34 04.3 +0.6
comp=Z,12nm,1.4s
YFT Old Faithful 89.05 334 eP P 16 34 05.5 +1.1
comp=Z,13nm,0.9s
RLMT Red Lodge 89.12 336 eP P 16 34 04.3 -0.3
comp=Z,11nm,0.6s
B30A Myrvik Farm, E 89.19 344 ⇓P P 16 34 05.1 +0.5
baz=90,SNR=33
YMR Madison River 89.29 334 P P 16 34 05.4 0.0
comp=Z,26nm,0.6s
B29A Wagenman Farm, 89.43 343 ⇑P P 16 34 05.9 +0.2
baz=90,SNR=7.8
LSZ Lusaka 89.50 109 eP P 16 34 07.4 +0.3
LSZ pmax pmax
comp=Z,15nm,0.9s
LSZ Lusaka 89.50 109 eP P 16 34 07.4 +0.3
comp=Z,15nm,0.9s
HLID Hailey 89.56 332 eP P 16 34 07.5 +0.7
comp=Z,21nm,1.0s
HLID Hailey 89.56 332 ⇓P P 16 34 08.3 +1.6
baz=90,SNR=12
QLMT Earthquake Lak 89.59 334 eP P 16 34 06.9 0.0
A30A Hoffart Farm, 89.64 344 ⇓P P 16 34 06.6 -0.1
baz=90,SNR=12
F19A Roth Farm, Mol 89.67 336 ⇓P P 16 34 08.8 +1.8
baz=90,SNR=5.8
A29A Manning Farm, 89.83 343 ⇑P P 16 34 07.8 +0.2
baz=90,SNR=19
MFID Camas Ranch 89.98 331 eP P 16 34 08.0 -0.6
comp=Z,16nm,1.0s
MCMT McKenzie Canyo 90.08 333 P P 16 34 08.9 -0.3
comp=Z,5.8nm,0.7s
WVOR Wild Horse Val 90.28 328 eP P 16 34 11.7 +1.7
WVOR pmax pmax
comp=Z,17nm,1.3s
WVOR Wild Horse Val 90.28 328 eP P 16 34 11.7 +1.7
comp=Z,17nm,1.3s
BOZ Bozeman (W) 90.37 334 eP P 16 34 10.1 -0.3
BOZ pmax pmax
comp=Z,8.0nm,1.1s
BOZ Bozeman (W) 90.37 334 eP P 16 34 10.1 -0.3
comp=Z,8.3nm,1.1s
ULM Lac du Bonnet 90.39 346 P P 16 34 10.1 0.0
ULM pmax pmax
comp=Z,11nm,1.0s
ULM Lac du Bonnet 90.39 346 P P 16 34 10.1 0.0
comp=Z,11nm,1.0s,baz=180,slow=2.6,SNR=11
ULM Lac du Bonnet 90.39 346 eP P 16 34 09.9 -0.2
DLMT Dillon 90.46 334 eP P 16 34 12.0 +1.2
comp=Z,25nm,1.3s
D20A Manuel Ranch, 90.52 337 ⇓P P 16 34 11.0 +0.1
baz=91,SNR=6.0
MOD Modoc 90.54 327 eP P 16 34 10.2 -1.1
comp=Z,11nm,1.0s
LRM Limekiln Ridge 90.81 334 eP P 16 34 12.6 +0.1
D19A Cripps Ranch, 90.81 337 ⇓P P 16 34 12.8 +0.5
baz=91,SNR=5.2
K05A Summer Lake 91.47 327 eP P 16 34 17.0 +1.3
comp=Z,239nm,2.7s
BMO Blue Mountains 91.76 330 eP P 16 34 17.3 +0.5
comp=Z,7.5nm,1.0s
EGMT Eagleton 91.85 337 eP P 16 34 16.7 -0.4
comp=Z,9.0nm,0.8s
CHMT Chamberlain Mo 92.03 334 eP P 16 34 19.3 +1.2
A20A Cobblestone Ra 92.06 338 ⇓P P 16 34 18.3 +0.3
baz=92,SNR=6.5
MSO Missoula 92.20 333 eP P 16 34 20.1 +1.3
comp=Z,13nm,1.1s
SLMT Seeley Lake 92.39 334 eP P 16 34 19.6 -0.2
F10A Beach Ranch, E 92.67 331 eP P 16 34 21.8 +0.8
comp=Z,9.1nm,0.6s
G08A Pilot Rock 92.77 330 eP P 16 34 22.4 +0.9
comp=Z,63nm,2.4s
SWMT Swartz Lake 92.80 334 eP P 16 34 21.6 0.0
SCHQ Schefferville 92.96 4 P P 16 34 20.3 -1.7
comp=Z,4.0nm,0.8s,baz=229,slow=9.3,SNR=3.5
JTMT Jette 93.10 334 eP P 16 34 23.0 0.0
BLMT Blacktail Moun 93.36 334 eP P 16 34 23.2 -1.1
BSMT Bassoo Peak 93.37 334 eP P 16 34 24.3 0.0
HAWA Hanford 93.91 330 eP P 16 34 27.4 +0.8
comp=Z,7.5nm,0.8s
D08A Wollman Farm, 94.22 331 eP P 16 34 28.6 +0.6
comp=Z,31nm,1.5s
NEW Newport 94.55 332 eP P 16 34 28.9 -0.7
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 94.55 332 eP P 16 34 28.9 -0.7
comp=Z,10nm,1.0s
C09A Chrisman Ranch 94.59 332 eP P 16 34 30.3 +0.6
comp=Z,18nm,0.6s
MDT Midelt 95.39 52 P P 16 34 34.4 +0.6
comp=Z,6.3nm,1.0s,baz=225,slow=5.8,SNR=4.6
EDM Edmonton 97.51 337 eP P 16 34 40.8 -2.1
EDM Edmonton 97.51 337 eP P 16 34 40.8 -2.1
ESDC Sonseca Array 100.36 47 P Pdif 16 34 56.7 +0.7
comp=Z,1.4nm,0.8s,baz=252,slow=3.9,SNR=3.6
YKA Yellowknife Ar 105.78 341 Pdiff Pdif 16 35 18.6 -0.9
comp=Z,0.2nm,0.6s,baz=144,slow=4.2,SNR=6.2
YKA PP PP 16 39 47.3 +4.4
comp=Z,0.4nm,0.6s,baz=134,slow=6.9,SNR=4.3
DAVOX Davos/Dischmat 112.69 48 i PKIKP PKiKP 16 39 44.9 -0.8
DAVOX pmax pmax
comp=Z,1.0nm,0.4s
DAVOX Davos/Dischmat 112.69 48 PKiKP PKiKP 16 39 44.9 -0.8
comp=Z,1.0nm,0.4s,baz=225,slow=11,SNR=3.7
GERES GERESS Array B 115.96 47 PKIKP PKPdf 16 39 51.4 -0.4
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES GERESS Array B 115.96 47 PKP PKPdf 16 39 51.4 -0.4
comp=Z,6.4nm,0.8s,baz=207,slow=1.5,SNR=52
KHC Kasperske Hory 116.02 47 ePKIKP PKPdf 16 39 52.0 +0.2
KHC Kasperske Hory 116.02 47 ePKP PKPdf 16 39 51.5 -0.3
KHC ex x 16 39 59.2
KHC Kasperske Hory 116.02 47 ePKPdf PKPdf 16 39 52.0 +0.2
WRA Warramunga Arr 116.44 209 PKP PKPdf 16 39 51.9 -1.7
comp=Z,1.6nm,0.8s,baz=170,slow=1.7,SNR=8.9
WRA PKKPbc PKKPbc 16 50 21.3 +0.5
comp=Z,1.4nm,0.7s,baz=345,slow=3.9,SNR=9.2
CLL Collm 116.75 45 i PKIKP PKPdf 16 39 53.1 0.0
CLL i 16 40 00.4
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 116.75 45 i PKiKP PKPdf 16 39 53.1 0.0
comp=Z,5.0nm,0.8s
CLL i 16 40 00.4
PRA Prague 116.96 46 PKP PKPdf 16 39 54.0 +0.5
PRU Pruhonice 116.98 46 ePKIKP PKPdf 16 39 53.6 0.0
PRU e 16 39 59.3
PRU Pruhonice 116.98 46 ePKP PKPdf 16 39 53.6 0.0
PRU ex x 16 39 59.3
BRG Berggiesshubel 117.06 45 ePKP PKPdf 16 39 53.8 +0.1
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 117.06 45 ePKIKP PKPdf 16 39 53.8 +0.1
BRG pmax pmax
comp=Z,5.0nm,0.9s
PVCC Panska Ves 117.25 46 ePKP PKPdf 16 39 53.6 -0.5
PVCC ex x 16 40 00.0
ILAR Eielson Array 117.51 332 PKP PKPdf 16 39 53.1 -1.0
comp=Z,0.9nm,0.8s,baz=154,slow=0.6,SNR=9.2
ILAR PP PP 16 41 07.2 +0.2
comp=Z,0.4nm,0.8s,baz=133,slow=5.4,SNR=4.2
ILAR PKKPbc PKKPab 16 50 15.7 -1.9
comp=Z,0.7nm,0.9s,baz=322,slow=4.5,SNR=5.9
PKSM Moragy 117.66 52 ⇑ iP PKPdf 16 39 54.7 -0.3
VRAC Vranov 117.85 48 PKIKP PKPdf 16 39 55.0 -0.3
VRAC pmax pmax
comp=Z,4.0nm,0.4s
VRAC Vranov 117.85 48 PKP PKPdf 16 39 55.0 -0.3
comp=Z,3.7nm,0.3s,baz=337,slow=2.9,SNR=4.4
SMOL Smolenice 117.98 49 ePKIKP PKPdf 16 39 56.4 +0.8
SMOL Smolenice 117.98 49 ePKP PKPdf 16 39 56.4 +0.8
DPC Dobruska-Polom 118.17 47 ePKIKP PKPdf 16 39 56.2 +0.3
DPC e 16 40 02.3
DPC Dobruska-Polom 118.17 47 ePKP PKPdf 16 39 56.2 +0.3
DPC ex x 16 40 02.3
KRLC Kraliky 118.31 47 ePKIKP PKPdf 16 39 56.3 +0.1
KRLC Kraliky 118.31 47 ePKP PKPdf 16 39 56.3 +0.1
MORC Moravsky Berou 118.61 48 ePKIKP PKPdf 16 39 56.6 -0.2

MORC Moravsky Berou 118.61 48⇑iP PKPdf 16 39 57.1 +0.3
MORC Moravsky Berou 118.61 48 ePKPdf PKPdf 16 39 56.6 -0.2
VYHS Vyhne 118.81 49 ePKIKP PKPdf 16 39 57.1 -0.1
VYHS Vyhne 118.81 49 ePKP PKPdf 16 39 57.1 -0.1
OKC Ostrava-Krasne 118.99 48 ePKIKP PKPdf 16 39 57.5 +0.1
OKC MLR MLR
comp=Z,1μm,18.8s
OKC Ostrava-Krasne 118.99 48 ePKP PKPdf 16 39 57.5 +0.1
OKC AMS AMS 17 51 40.0
comp=Z,1μm,18.8s
BZS Buzias 119.24 53⇑iP PKPdf 16 39 58.2 +0.1
GZR Gura Zlata 119.88 54⇑iP PKPdf 16 39 59.3 -0.1
NB2 NORSAR Subarra120.25 34 PKPdf PKPdf 16 39 58.8 -0.8
comp=Z,2.0nm,0.7s,baz=248,slow=1.9
NOA NORSAR Array B 120.25 34 PKIKP PKPdf 16 39 59.4 -0.2
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 120.25 34 PKP PKPdf 16 39 59.4 -0.2
comp=Z,3.1nm,0.8s,baz=251,slow=2.2,SNR=11
DRGR 120.44 52⇑PKIKP PKPdf 16 40 00.5 +0.1
DRGR 120.44 52⇑iP PKPdf 16 40 00.5 +0.1
LOT Lotru 120.54 54⇓iP PKPdf 16 40 00.2 -0.5
CRVS Cervenica-Dubn 120.55 50 ePKIKP PKPdf 16 40 00.2 -0.3
CRVS Cervenica-Dubn 120.55 50 ePKP PKPdf 16 40 00.2 -0.3
STHS Stebnicka Huta 120.64 49 ePKIKP PKPdf 16 40 00.9 +0.2
STHS Stebnicka Huta 120.64 49 ePKP PKPdf 16 40 00.9 +0.2
TRPA Tarpa 120.89 51⇑iP PKPdf 16 40 01.3 +0.2
HFS Hagfors 120.99 36 PKIKP PKPdf 16 39 59.4 -1.6
HFS pmax pmax
comp=Z,8.0nm,0.7s
HFS Hagfors 120.99 36 PKP PKPdf 16 39 59.4 -1.6
comp=Z,8.2nm,0.7s,baz=174,slow=3.0,SNR=19
ARR Arges 121.05 55⇓iP PKPdf 16 40 01.1 -0.6
KOLS Kolonicke sedl 121.05 50 ePKIKP PKPdf 16 40 02.0 +0.5
KOLS Kolonicke sedl 121.05 50 ePKP PKPdf 16 40 02.0 +0.5
JMB Yambol 121.11 58⇑iP PKPdf 16 39 59.9 -1.9
VOIR 121.35 55⇓PKIKP PKPdf 16 40 01.9 -0.3
VOIR 121.35 55⇓iP PKPdf 16 40 01.9 -0.3
KWP Kalwaria Pacla 121.59 49 ePKIKP PKPdf 16 40 02.9 +0.4
KWP Kalwaria Pacla 121.59 49 ePKP PKPdf 16 40 02.9 +0.4
KWP Kalwaria Pacla 121.59 49⇑iP PKPdf 16 40 02.6 +0.1
DOPR Dopca 121.78 54⇓iP PKPdf 16 40 03.0 0.0
MLR Muntele Rosu 121.95 55⇑PKIKP PKPdf 16 40 03.0 -0.5
MLR Muntele Rosu 121.95 55⇑iP PKPdf 16 40 03.0 -0.5
MLR Muntele Rosu 121.95 55 PKP PKPdf 16 40 02.3 -1.2
comp=Z,1.7nm,0.8s,baz=163,slow=1.8,SNR=15
PRD Provadia 121.96 58⇑PKIKP PKPdf 16 40 03.5 +0.2
BURAR Bucovina Array 122.33 52⇑PKIKP PKPdf 16 40 04.5 +0.4
BURAR Bucovina Array 122.33 52⇑iP PKPdf 16 40 04.5 +0.4
LVV L'vov 122.46 50 ePKIKP PKPdf 16 40 03.8 -0.3
PLOR Plostina 122.54 55⇓PKIKP PKPdf 16 40 03.9 -0.6
PLOR Plostina 122.54 55⇓iP PKPdf 16 40 03.9 -0.6
VRI Vrincioaia 122.60 55⇓PKIKP PKPdf 16 40 04.1 -0.4
VRI Vrincioaia 122.60 55⇓iP PKPdf 16 40 04.1 -0.4
TESR Tescani 122.80 54⇓iP PKPdf 16 40 04.2 -0.7
TIRR Tirgusor 123.14 57⇑PKIKP PKPdf 16 40 05.6 0.0
TIRR Tirgusor 123.14 57⇑iP PKPdf 16 40 05.6 0.0
CFR Carcaliu 123.24 56⇑PKIKP PKPdf 16 40 05.6 -0.1
CFR Carcaliu 123.24 56⇑iP PKPdf 16 40 05.6 -0.1
SUW Suwalki 123.51 45 ePKIKP PKPdf 16 40 05.9 -0.1
SUW Suwalki 123.51 45 ePKP PKPdf 16 40 04.9 -1.1
SUW Suwalki 123.51 45 ePKPdf PKPdf 16 40 05.9 -0.1
BRTR Keskin Array B 124.84 64 PKIKP PKPdf 16 40 09.1 -0.1
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 124.84 64 PKP PKPdf 16 40 09.1 -0.1
comp=Z,3.7nm,0.7s,baz=197,slow=3.0,SNR=24
NACGM Naroch 125.78 44 e PKPdf 16 40 08.0 -2.3
KIEV Kiev 125.88 50 ePKIKP PKPdf 16 40 09.7 -0.9
KIEV Kiev 125.88 50 ePKPdf PKPdf 16 40 09.7 -0.9
AKASG Malin Array Be 125.89 50 PKIKP PKPdf 16 40 09.4 -1.2
AKASG 16 42 01.3
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 125.89 50 PKP PKPdf 16 40 09.4 -1.2
comp=Z,4.9nm,0.7s,baz=262,slow=2.7,SNR=40
AKASG PP PP 16 42 01.2 -3.1
comp=Z,0.1nm,0.2s,baz=250,slow=6.8,SNR=4.1
AKBB Malin Array Si 125.89 50 ePKIKP PKPdf 16 40 10.0 -0.7
AKBB Malin Array Si 125.89 50 ePKPdf PKPdf 16 40 09.9 -0.7
MNK Minsk 126.25 45 ePKIKP PKPpre 16 40 01.0
MICGM Minsk 126.27 45 e PKPpre 16 40 01.0
GAMB Gambell 127.12 327 ePKPdf PKPdf 16 40 12.8 +0.2
SPITS Spitsbergen Ar 127.14 15 PKIKP PKPdf 16 40 11.9 -0.5
SPITS pmax pmax
comp=Z,10.0nm,1.0s
SPITS Spitsbergen Ar 127.14 15 PKP PKPdf 16 40 11.9 -0.5
comp=Z,10nm,0.9s,baz=346,slow=0.6,SNR=3.6
FINES FINESS Array B 127.16 36 PKIKP PKPdf 16 40 12.6 -0.1
FINES pmax pmax
comp=Z,9.0nm,0.9s
FINES FINESS Array B 127.16 36 PKP PKPdf 16 40 12.6 -0.1
comp=Z,8.5nm,0.9s,baz=253,slow=1.5,SNR=19
KAF Kangasniemi 127.42 36 ePKIKP PKPdf 16 40 12.7 -0.5
KAF Kangasniemi 127.42 36 ep PKPdf 16 40 12.7 -0.5
MALT Malatya 127.71 67⇑PKIKP PKPdf 16 40 14.8 +0.1
MALT Malatya 127.71 67⇑iP PKPdf 16 40 14.8 +0.1
ARCES ARCESS Array B 128.40 26 PKIKP PKPdf 16 40 14.1 -0.8
ARCES pmax pmax
comp=Z,10.0nm,1.0s
ARCES ARCESS Array B 128.40 26 PKP PKPdf 16 40 14.1 -0.8
comp=Z,10nm,0.9s,baz=270,slow=0.5,SNR=10
JOF Joensuu 129.84 35 ePKIKP PKPdf 16 40 18.0 +0.2
JOF Joensuu 129.84 35 ep PKPdf 16 40 18.0 +0.2
APA Apatity 131.13 29⇑PKIKP PKPdf 16 40 21.8 +1.7
APA MLR MLR
comp=Z,900nm,22.0s
OBN Obninsk 131.30 46⇑PKIKP PKPdf 16 40 21.1 +0.3
OBN i 16 40 27.5
OBN pmax pmax
comp=Z,19nm,0.9s
OBN MLR MLR
comp=Z,789nm,23.0s
OBN Obninsk 131.30 46 PKP PKPdf 16 40 20.2 -0.6
comp=Z,7.6nm,0.4s,baz=291,slow=4.6,SNR=5.5
LVZ Lovozero 131.61 29⇑PKIKP PKPdf 16 40 23.4 +2.3
LVZ pmax pmax
comp=Z,69nm,2.5s
MOS Moscow 132.00 45 ePKIKP PKPdf 16 40 22.2 +0.1
KBZ Khabaz 132.71 62 PKIKP PKPdf 16 40 24.2 +0.4
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 132.71 62 PKP PKPdf 16 40 24.2 +0.4
comp=Z,3.1nm,0.8s,baz=245,slow=2.2,SNR=7.7
TMCR Tamitsa 132.94 34 ePKIKP PKPdf 16 40 23.3 -0.3
TMCR pmax pmax
comp=Z,16nm,0.6s
ZEI Tsey 133.15 64 iPKIKP PKPdf 16 40 24.2 -0.8
ZEI pmax pmax
comp=Z,7.0nm,1.1s
GOF Gofitskoye 133.17 60 ePKIKP PKPdf 16 40 25.1 +0.4
KLMR Klimovskoe 133.52 38 ePKIKP PKPdf 16 40 24.3 -0.5
KLMR pmax pmax
comp=Z,35nm,1.1s
BILL Bilibino 136.17 332 ePKIKP PKPpre 16 40 25.0
BILL e 16 40 40.4
BILL e 16 43 15.8
BILL pmax pmax
comp=Z,3.0nm,1.0s
SOKR Solikamsk 142.19 39 ePKIKP PKPdf 16 40 40.0 -0.7
SOKR pmax pmax
comp=Z,20nm,1.1s
PETK Petropavlovsk- 142.21 310 PKHKP PKPpre 16 40 35.8
PETK pmax pmax
comp=Z,7.0nm,0.9s
PETK Petropavlovsk- 142.21 310 PKhKP PKPpre 16 40 35.8
comp=Z,7.4nm,0.9s,baz=131,slow=4.0,SNR=4.6
GEYT Alibeck 142.24 75 PKhKP PKPpre 16 40 37.0
comp=Z,7.9nm,0.6s,baz=255,slow=4.8,SNR=20
SEY Seymchan 143.12 327 PKIKP PKPbc 16 40 38.6 -0.7
SEY pmax pmax
comp=Z,10.0nm,0.9s
SEY Seymchan 143.12 327 PKhKP PKPbc 16 40 38.6 -0.7
comp=Z,10nm,0.9s,baz=93,slow=4.7,SNR=11
ARU Arti 143.69 44 iPKIKP PKPbc 16 40 40.9 -0.2
ARU 16 44 00.5
AKTO Aktyubinsk 143.88 54 PKIKP PKPbc 16 40 41.9 0.0
AKTO pmax pmax
comp=Z,50nm,1.1s
AKTO Aktyubinsk 143.88 54 PKP PKPbc 16 40 41.9 -0.1
comp=Z,50nm,1.1s,baz=253,slow=1.9,SNR=67
TIXI Tiksi 144.71 348⇑PKIKP PKPab 16 40 42.3 -1.4
TIXI i 16 40 49.2
SVE Sverdlovsk 144.75 43 ePKIKP PKPdf 16 40 44.9 -0.5
SVE pmax pmax
comp=Z,94nm,1.1s
KAD Karad 144.80 117 eP PKPab 16 40 45.3 -0.4
ABKAR Akbulak array 145.13 56 ePKPdf PKPdf 16 40 46.2 -0.1
POO Poona 145.38 115⇓iP PKPbc 16 40 46.0 -1.6
comp=Z,80nm,1.0s
HYB Hyderabad 147.85 123 iPKP PKPbc 16 40 53.5 -1.4
KBL Kabul 149.72 85 ePKPdf PKPdf 16 40 55.2 +0.5
KBL ePKPbc PKPbc 16 40 59.4 -0.1
BVAR Borovoye Array 151.12 48 PKIKP PKPdf 16 40 55.7 -0.3
BVAR 16 41 02.5
BVAR pmax pmax
comp=Z,7.0nm,0.8s
BVAR pmax pmax
comp=Z,33nm,0.7s
BVAR Borovoye Array 151.12 48 PKP PKPdf 16 40 55.7 -0.3
comp=Z,7.4nm,0.8s,baz=278,slow=2.2,SNR=26
BVAR PKPbc PKiKP 16 41 02.5 0.0
comp=Z,33nm,0.7s,baz=288,slow=3.4,SNR=62
YSS Yuzh-Sakhalins 152.22 300⇓iPKIKP PKPbc 16 41 03.9 -0.6
YSS i 16 41 10.0
YSS e 16 41 20.3
YSS Yuzh-Sakhalins 152.22 300 ePKPbc PKPbc 16 41 04.1 -0.5
YAK Yakutsk 152.33 337 ePKIKP PKPbc 16 41 02.7 -1.6
YAK pmax pmax
comp=Z,60nm,1.1s
YAK Yakutsk 152.33 337 ePKPbc PKPbc 16 41 03.4 -0.9
EKS2 Erkin-Say 154.79 70 ePKIKP PKPdf 16 41 02.6 +0.7
EKS2 Erkin-Say 154.79 70 ePKPdf PKPdf 16 41 02.6 +0.7
MJAR Matsushiro Arr 154.87 276 PKIKP PKPdf 16 41 01.7 -0.4
MJAR 16 41 25.8
MJAR pmax pmax
comp=Z,1.0nm,0.9s
MJAR pmax pmax
comp=Z,8.0nm,1.0s
MJAR Matsushiro Arr 154.87 276 PKP PKPdf 16 41 01.7 -0.4
comp=Z,1.2nm,0.9s,baz=157,slow=4.0,SNR=3.5
MJAR PKPab PKPab 16 41 25.8 -0.3
comp=Z,7.8nm,0.9s,baz=135,slow=3.0,SNR=5.5
MAT Matsushiro 154.87 276 ePKP PKPdf 16 41 03.7 +1.7
AAK Ala-Archa 155.31 70 PKIKP PKPdf 16 41 02.5 -0.1
AAK 16 41 28.7
AAK 16 45 04.3
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK pmax pmax
comp=Z,21nm,0.6s
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 155.31 70 PKP PKPdf 16 41 02.5 -0.1
comp=Z,4.3nm,0.7s,baz=165,slow=2.9,SNR=14
AAK PKPab PKPab 16 41 28.7 +0.7
comp=Z,21nm,0.6s,baz=177,slow=2.3,SNR=23
AAK PP PP 16 45 04.3 -0.7
comp=Z,9.0nm,1.0s,baz=256,slow=4.1,SNR=7.7
TKM2 Tokmak 2 156.13 69 ePKIKP PKPdf 16 41 03.8 0.0
TKM2 Tokmak 2 156.13 69 ePKPdf PKPdf 16 41 03.8 0.0
KSH Kashi 156.22 77 ePKP PKPdf 16 41 04.3 +0.4
KSH epPKP pPKPdf 16 41 16.0 +5.9
KSH esPKP 16 41 19.5
KSH eSKS SKSdf 16 48 04.3 -5.0
KSH eSKKS SKKSac 16 51 55.5 -2.9
KSH eSS SS 17 04 55.5 -4.0
KSH AMB AMB
comp=Z,160nm,5.0s
KSH LR LR
comp=Z,140nm,9.0s
KSH LR LR
comp=Z,210nm,7.4s
KSH LR LR
comp=Z,410nm,8.2s
NVS Novosibirsk 157.15 36 iPKIKP PKPdf 16 41 02.4 -2.0
NVS e 16 45 16.4
NVS pmax pmax
comp=E,7.0nm,1.2s
NVS pmax pmax
comp=Z,22nm,1.2s
KOLN Koldanda 158.12 112 eP PKPdf 16 41 05.9 -0.9
comp=Z,19nm,1.2s
ZAA0 Zalesovo Array 158.43 37 ePKPdf PKPdf 16 41 05.0 -1.0
ZALV Zalesovo Beam 158.43 37 PKIKP PKPdf 16 41 05.5 -0.5
ZALV 16 41 40.9
ZALV pmax pmax
comp=Z,9.0nm,0.8s
ZALV pmax pmax
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 158.43 37 PKP PKPdf 16 41 05.5 -0.5
comp=Z,9.0nm,0.8s,baz=284,slow=2.4,SNR=41
ZALV PKPab PKPab 16 41 40.9 +0.2
comp=Z,16nm,0.8s,baz=299,slow=4.9,SNR=11
DANN Dangsing 158.56 111 eP PKPdf 16 41 06.4 -1.0
comp=Z,21nm,0.8s
KLR Kul'dur 158.90 309 ePKIKP PKPdf 16 41 05.3 -1.4
GKN Gorkha 159.00 113 eP PKPdf 16 41 07.0 -0.8
DMN Daman 159.11 114 eP PKPdf 16 41 07.2 -0.8
CMAR Chiang Mai Arr 159.12 159 PKIKP PKPdf 16 41 07.9 -0.1
CMAR 16 41 43.5
CMAR 16 45 32.6
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR pmax pmax
comp=Z,4.0nm,1.0s
CMAR pmax pmax
comp=Z,2.0nm,1.1s
CMAR Chiang Mai Arr 159.12 159 PKP PKPdf 16 41 07.9 -0.1
comp=Z,1.1nm,0.8s,baz=237,slow=2.8,SNR=9.6
CMAR PKPab PKPab 16 41 43.5 -1.1
comp=Z,3.9nm,1.0s,baz=230,slow=3.6,SNR=5.5
CMAR PP PP 16 45 32.6 +8.1
comp=Z,1.8nm,1.1s,baz=220,slow=6.4,SNR=4.2
PKIN Phulchoki 159.30 115 eP PKPdf 16 41 07.4 -0.9
PKI Pulchoki 159.31 115 eP PKPdf 16 41 07.6 -0.8
KKN Kakani 159.34 114 eP PKPdf 16 41 07.5 -0.8
RAMN Ramite 159.77 118 eP PKPdf 16 41 08.5 -0.3
comp=Z,34nm,1.2s
GUN Gumba 159.84 115 eP PKPdf 16 41 08.3 -0.7
BOD Bodaibo 159.89 348 ePKP2 PKPab 16 41 37.7 -9.2
BOD pmax pmax
comp=Z,15nm,1.3s
JIRN Jiri 159.92 116 eP PKPdf 16 41 08.5 -0.6
USRK Ussuriysk Arra 160.04 295 PKPab PKPab 16 41 46.0 -2.1
comp=Z,1.4nm,0.7s,baz=98,slow=9.0,SNR=3.3
ODAN Odare 160.25 120 eP PKPdf 16 41 09.1 -0.2
MKAR Makanchi Array 160.28 57 PKIKP PKPdf 16 41 08.0 -0.5
MKAR 16 45 32.7
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 160.28 57 PKP PKPdf 16 41 08.0 -0.5
comp=Z,5.9nm,0.9s,baz=318,slow=1.6,SNR=30
MKAR PKPab PKPab 16 41 49.4 +0.2
comp=Z,8.4nm,0.7s,baz=268,slow=3.4,SNR=16
MKAR PP PP 16 45 32.7 +0.9
comp=Z,3.6nm,0.9s,baz=289,slow=3.7,SNR=7.0
TAPN Taplejung 160.78 119 eP PKPdf 16 41 09.7 -0.3
LSA Lhasa 164.61 119 ePKIKP PKPdf 16 41 14.4 +0.5
LSA Lhasa 164.61 119 ePKPdf PKPdf 16 41 14.4 +0.5
WMQ Urumqi 164.76 63 ePKP PKPdf 16 41 13.0 0.0
WMQ LR LR
comp=Z,1μm,22.4s
WMQ LR LR
comp=Z,2μm,21.6s
WMQ LR LR
comp=Z,2μm,21.6s
IRK Irkutsk 165.99 6 ePKP2 PKPab 16 42 13.2 -0.6
IRK pmax pmax
comp=Z,34nm,1.4s
ZAK Zakamensk 167.72 10 ePKIKP PKPdf 16 41 14.0 -1.2
ZAK e 16 42 21.9
ZAK e 16 46 12.2
ZAK pmax pmax
comp=Z,2.0nm,1.4s
NJ2 Nanjing 168.16 242 ePKP PKPdf 16 41 17.5 +1.6
GYA Guiyang 168.17 180 PKP PKPdf 16 41 16.0 -0.3
GYA pPKP pPKPdf 16 41 28.5 +6.0
GYA PKPab PKPab 16 42 27.0 +2.8
GYA PKS PKSdf 16 44 47.3 -1.8
GYA PP PP 16 46 16.5 +4.4
GYA SKKS 16 52 58.0
GYA SS SS 17 07 01.5 +0.6
GYA AMB AMB
comp=Z,180nm,8.4s
GYA LR LR
comp=Z,180nm,21.4s
GYA LR LR
comp=Z,170nm,21.5s
GYA LR LR
comp=Z,190nm,24.0s
ULN Ulaanbaatar 170.46 358 ePKIKP PKPdf 16 41 16.8 -0.3
ULN Ulaanbaatar 170.46 358 ePKPdf PKPdf 16 41 16.8 -0.3
SONM Songino Array 170.49 1 PKIKP PKPdf 16 41 15.7 -1.4
SONM 16 42 34.4
SONM 16 46 30.0
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM pmax pmax
comp=Z,6.0nm,0.9s
SONM pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 170.49 1 PKP PKPdf 16 41 15.7 -1.4
comp=Z,3.5nm,1.0s,baz=225,slow=0.6,SNR=19
SONM PKPab PKPab 16 42 34.4 +0.4
comp=Z,6.2nm,0.9s,baz=334,slow=4.5,SNR=15
SONM PP PP 16 46 30.0 +6.1
comp=Z,2.4nm,1.1s,baz=14,slow=3.8,SNR=6.0
CD2 Chengdu 172.25 162 PKP PKPdf 16 41 18.0 -0.4
CD2 pPKP pPKPdf 16 41 29.3 +4.7
CD2 sPKP 16 41 33.0
CD2 PKS PKSdf 16 44 49.0 -1.8
CD2 PP PP 16 46 36.3 +3.6
CD2 SKS SKSdf 16 48 15.8 -5.0
CD2 SKKS SKKSac 16 53 18.0 -1.2
CD2 SS SS 17 07 40.5 -1.0
CD2 AMB AMB
comp=Z,240nm,6.2s
GTA Gaotai 174.62 76 PKP PKPdf 16 41 19.3 +0.2
GTA pPKP pPKPdf 16 41 30.0 +4.7
GTA sPKP 16 41 34.0
GTA PKPab PKPab 16 42 54.0 +1.1
GTA PP PP 16 46 48.5 +2.7
GTA SKS SKSdf 16 48 17.0 -4.3
GTA SKKS SKKSac 16 53 29.3 -1.6
GTA SS SS 17 08 03.8 -3.5
GTA AMB AMB
comp=Z,300nm,7.0s
GTA LR LR
comp=Z,2μm,19.8s
GTA LR LR
comp=Z,2μm,20.2s
GTA LR LR
comp=Z,4μm,19.0s
XAN Xi'an 175.32 205 PKP PKPdf 16 41 19.3 -0.1
HHC Hu-ho-hao-te 175.38 305 ePKP PKPdf 16 41 15.8 -3.5
HHC pPKP pPKPdf 16 41 25.5 0.0
HHC sPKP 16 41 30.5
LZH Lanzhou 176.89 135 ePKP PKPdf 16 41 21.0 +1.2
LZH pPKP pPKPdf 16 41 31.5 +5.5
LZH sPKP 16 41 36.8
LZH ePP PP 16 47 01.3 +5.4
LZH SKKS 16 53 41.0
LZH SS SS 17 08 24.8 -2.8
LZH AMB AMB
comp=Z,200nm,4.2s
LZH LR LR
comp=Z,1μm,18.1s
LZH LR LR
comp=Z,1μm,17.9s
LZH LR LR
comp=Z,2μm,21.0s

SJA 27 16:22:57.6±0.6, 23°.63S×66°.51W, h237km±26km, MD3.8, ML3.7
ISCJB 27 16:22:59.1±0.5, 23°.42S±0°.07×66°.58W±0°.07, h201km, mb4.5/12, Error ellipse: s-maj=12.1km s-min=5.8km az=36.1
NEIC 27 16:22:59.4±0.8, 23°.59S×66°.54W, h206km±6km, mb4.9/3, Error ellipse: s-maj=12.2km s-min=8.6km az=209.0
IDC 27 16:23:00.4±2.2, 23°.58S×66°.53W, h212km±18km, mb4.2/9, mb1 4.2/15, mb1mx4.0/35, mbtmp4.6/15, Error ellipse: s-maj=21.5km s-min=13.4km az=33.0
ISC 27 16:22:59.3±0.6, 23°.51S±0°.09×66°.59W±0°.07, h201km, n31, σ1°24/36, mb4.5/12, Jujuy Province

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SLA San Lorenzo 1.56 141 iP Pn 16 23 34.5 +0.7
SLA iS S 16 24 02.3 +2.0
SLA AML AML 16 24 04.7
comp=Z,306nm,0.6s
AZAP Zapla 1.56 117 iP Pn 16 23 35.3 +1.3
AZAP iS S 16 24 02.7 +2.2
AZAP AML AML 16 24 03.0
comp=Z,398nm,0.5s
ASTB Santa Barbara 1.98 103 iP Pn 16 23 39.1 +1.3
ASTB iP Pn 16 23 39.1 +1.3
ASTB iS S 16 24 09.4 +2.2
LVC Limon Verde 2.32 292 ePn Pn 16 23 42.2 +0.6
LVC eSn S 16 24 16.2 +2.5
ALOL LOMAS DE OLMED 2.42 98 iP Pn 16 23 42.3 0.0
LPAZ La Paz 7.33 348 P Pn 16 24 46.3 +1.9
comp=Z,7.3nm,0.3s,baz=155,slow=5.7,SNR=83
CPUP Villa Florida 8.86 110 P Pn 16 25 02.5 -1.3
baz=273,slow=15,SNR=4.0
SIV San Ignacio 9.10 36 P Pn 16 25 07.7 +0.7
comp=Z,1.7nm,0.3s,baz=244,slow=11,SNR=6.1
SAML Samuel 14.84 13 ePn P 16 26 20.0 -0.4
comp=Z,43nm,0.9s
NNA Nana 15.04 318 P P 16 26 24.0 +1.2
comp=Z,0.9nm,0.3s,baz=180,slow=8.1,SNR=4.0
BDFB Brasilia 19.16 69 P P 16 27 08.7 +0.9
comp=Z,2.3nm,0.3s,baz=253,slow=10,SNR=10
ATAH Atahualpa 19.84 323 P Pn 16 27 18.1 -1.6
comp=Z,0.7nm,0.3s,baz=145,slow=12,SNR=4.2
SDV Santo Domingo 32.44 353 eP P 16 29 09.7 -1.2
comp=Z,21nm,1.0s
TXAR Lajitas Array 63.50 324 P P 16 33 08.5 +0.2
comp=Z,3.4nm,0.7s,baz=142,slow=6.3,SNR=6.0
HRV Adam Dziewonsk 65.84 356 eP P 16 33 22.2 -0.8
QSPA South Pole Qui 66.70 180 P P 16 33 28.1 -0.3
comp=Z,4.2nm,0.5s,baz=163,slow=11,SNR=8.1
BGNE Belgrade 70.91 335 eP P 16 33 54.2 -0.3
comp=Z,116nm,0.6s
TORD Torodi Ar. Bea 76.04 69 P P 16 34 24.5 -0.5
comp=Z,18nm,1.0s,baz=264,slow=6.5,SNR=17
PDAR Pinedale Array 76.92 329 P P 16 34 30.3 +0.7
comp=Z,2.4nm,0.6s,baz=133,slow=7.5,SNR=8.0
ULM Lac du Bonnet 77.88 341 P P 16 34 33.4 -1.0
comp=Z,8.5nm,0.7s,baz=177,slow=4.0,SNR=7.0
SCHQ Schefferville 78.02 360 P P 16 34 35.2 +0.1
comp=Z,7.5nm,0.6s,baz=128,slow=4.8,SNR=4.0
NVAR Mina Array Bea 78.39 321 P P 16 34 38.6 +0.8
comp=Z,1.8nm,0.7s,baz=152,slow=4.6,SNR=4.6
DGMT Dagmar 79.17 336 eP P 16 34 41.5 -0.1
comp=Z,19nm,0.8s
MDT Midelt 81.41 49 P P 16 34 54.5 +0.5
comp=Z,4.9nm,0.8s,baz=229,slow=7.4,SNR=4.4
YKA Yellowknife Ar 93.79 340 P P 16 35 53.1 +0.2
comp=Z,1.9nm,0.6s,baz=138,slow=4.7,SNR=20
WRA Warramunga Arr 132.24 207 PKP PKPdf 16 41 49.4 -0.7
comp=Z,1.0nm,0.5s,baz=153,slow=1.9,SNR=15
PETK Petropavlovsk- 135.45 323 PKP PKPdf 16 41 55.7 +0.7
comp=Z,2.8nm,0.7s,baz=136,slow=2.9,SNR=5.2
ZALV Zalesovo Beam 142.78 28 PKP PKPdf 16 42 05.5 -2.9
comp=Z,2.3nm,0.3s,baz=303,slow=3.8,SNR=8.2
MKAR Makanchi Array 145.91 39 PKPbc PKPbc 16 42 14.8 -0.2
comp=Z,5.5nm,0.4s,baz=333,slow=2.7,SNR=18
USRK Ussuriysk Arra 154.34 328 PKPbc PKPbc 16 42 35.4 -0.2
comp=Z,1.5nm,0.6s,baz=49,slow=1.5,SNR=4.3
MJAR Matsushiro Arr 154.99 307 PKPbc PKPbc 16 42 37.4 +0.1
comp=Z,0.9nm,0.4s,baz=86,slow=1.4,SNR=5.1

IDC 27 16:24:04.3±1.1, 25°.75N×128°.63E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/45, mbtmp3.7/9, ML3.9/1, Error ellipse: s-maj=38.0km s-min=21.0km az=76.0
ISCJB 27 16:24:09.0±1.7, 25°.96N±0°.04×128°.66E±0°.04, h33km±14km, mb3.6/8, Error ellipse: s-maj=7.3km s-min=5.6km az=173.8
JMA 27 16:24:08.6±0.2, 25°.98N×128°.64E, h33km±4km, M3.5
ISC 27 16:24:08.0±0.8, 25°.92N±0°.05×128°.65E±0°.04, h19km±3km, n22, σ1°41/34, mb3.8/8, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.82 317 P Pb 16 24 22.8 -0.8

JNTH S Sb 16 24 33.5 -0.7
JJT2 Tamagusuku 2 0.84 285 P Pb 16 24 24.0 +0.1
JJT2 S Sb 16 24 34.8 +0.1
JOW Kunigami 0.97 340 P Pb 16 24 25.5 -0.7
JOW S Sb 16 24 37.4 -1.2
JOW Kunigami 0.97 340 Pn Pb 16 24 25.5 -0.7
19nm,0.3s,baz=169,slow=14,SNR=20
JOW Sn Sb 16 24 36.5 -2.0
32nm,0.3s,baz=135,slow=20,SNR=18
JIH Iheya 1.27 331 P Pn 16 24 30.2 -0.4
JIH S Sn 16 24 45.2 -1.9
JAGN Aguni-jima 1.43 298 P Pn 16 24 32.4 -0.4
JAGN eS Sn 16 24 49.9 -1.1
JOKE Okinoerabujima 1.44 357 P Pn 16 24 32.6 -0.4
JOKE eS Sn 16 24 49.2 -2.2
JKE Kume jima 2 1.72 284 P Pn 16 24 36.1 -0.8
JKE eS Sn 16 24 54.8 -3.5
JTK Tokunoshima 1.88 8 P Pn 16 24 38.8 -0.3
JMZ Minamidaito 2 2.32 92 P Pn 16 24 45.4 +0.2
JMZ S Sn 16 25 10.9 -2.3
JAMN Amaminishikomi 2.36 11 P Pn 16 24 45.5 -0.2
JAMN eS Sn 16 25 12.4 -1.7
JAM Amami Oshima 2.62 19 P Pn 16 24 48.8 -0.5
JAM eS Sn 16 25 19.4 -1.2
JOGS Gusukube 3.15 249 P Pn 16 24 57.3 +0.7
JNU Nakatsue 7.43 15 Pn Pn 16 25 56.8 +1.3
1.5nm,0.3s,baz=185,slow=10.0,SNR=16
JNU Sn Sn 16 27 17.4 -1.9
0.1nm,0.3s,baz=90,slow=18,SNR=1.8
SONM Songino Array 28.02 327 P P 16 29 59.9 +2.1
0.8nm,0.4s,baz=145,slow=12,SNR=22
MKAR Makanchi Array 42.02 312 P P 16 31 58.3 +0.2
0.4nm,0.5s,baz=97,slow=11,SNR=9.4
WRA Warramunga Arr 45.92 173 P P 16 32 26.9 -2.8
0.8nm,1.5s,baz=356,slow=8.6,SNR=5.6
BVAR Borovoye Array 50.75 318 P P 16 33 06.3 -0.3
0.7nm,0.5s,baz=99,slow=7.4,SNR=3.5
ILAR Eielson Array 64.53 28 P P 16 34 44.4 +1.0
0.4nm,0.8s,baz=277,slow=7.2,SNR=5.6
FINES FINESS Array B 73.31 331 P P 16 35 38.0 +0.1
1.0nm,0.8s,baz=64,slow=4.4,SNR=5.3
AKASG Malin Array Be 76.01 320 P P 16 35 53.9 +0.1
0.4nm,0.4s,baz=57,slow=6.5,SNR=6.1
BRTR Keskin Array B 77.52 308 P P 16 36 03.0 +0.3
0.5nm,0.7s,baz=45,slow=5.4,SNR=3.8

IDC 27 16:24:33.3±0.9, 36.21S×73.44W, h0km, mb4.4/6, mb1 4.5/8, mb1mx4.3/28, mbtmp4.4/8, ML3.5/2, Error ellipse: s-maj=34.1km s-min=19.8km az=92.0
ISCJB 27 16:24:36.4±0.7, 36.24S±0.07×73.2W±0.2, h33km, mb4.3/6, Error ellipse: s-maj=17.8km s-min=10.3km az=0.9
NEIC 27 16:24:38.2±0.6, 36.23S×73.25W, h35km, mb4.1/2, Error ellipse: s-maj=14.5km s-min=8.3km az=91.0
ISC 27 16:24:38.2±0.8, 36.23S±0.09×73.3W±0.1, h35km, n19, σ0.69/17, mb4.5/6, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.97 156 Lg Lg 16 27 10.8
11nm,0.3s,baz=29,slow=19,SNR=2.5
PLCA Paso Flores 4.97 156 P Pn 16 25 50.4 0.0
CFAA Coronel Fontan 6.22 44 Pn Pn 16 26 07.8 +0.2
0.6nm,0.3s,baz=219,slow=14,SNR=2.5
TRQA Tornquist 9.18 105 P Pn 16 26 48.4 +0.2
LVC Limon Verde 14.09 17 ePn Pn 16 27 50.8 -4.7
USHA Ushuaia 18.90 171 P Pn 16 28 56.7 +0.5
0.3nm,0.3s,baz=352,slow=7.1,SNR=3.2
LPAZ La Paz 20.38 14 eP P 16 29 12.1 -0.5
3.2nm,0.8s
SIV San Ignacio 22.89 31 P P 16 29 40.3 +1.4
11nm,0.9s,baz=222,slow=16,SNR=2.6
RCBR Riachuelo 45.67 58 P P 16 32 55.1 -0.7
SNAA Sanae 49.91 157 P P 16 33 28.4 +0.4
8.4nm,0.9s,baz=289,slow=9.2,SNR=5.6
SNAA Sanae 49.91 157 eP P 16 33 27.1 -0.8
QSPA South Pole Qui 54.01 180 P P 16 33 59.2 +0.6
7.3nm,0.9s,baz=122,slow=5.0,SNR=3.1
QSPA South Pole Qui 54.01 180 eP P 16 33 58.8 +0.2
3.3nm,0.8s
TXAR Lajitas Array 71.22 332 P P 16 35 53.6 -0.1
1.1nm,0.8s,baz=159,slow=7.7,SNR=3.0
DBIC Dimbokro 76.83 72 P P 16 36 27.7 +0.9
4.2nm,0.6s,baz=207,slow=6.4,SNR=3.6
DBIC Dimbokro 76.83 72 eP P 16 36 27.0 +0.2
TSUM Tsumeb 79.56 106 P P 16 36 40.9 -1.1
NVAR Mina Array Bea 85.16 326 P P 16 37 11.0 +0.2
0.6nm,0.6s,baz=148,slow=5.4,SNR=3.2
HYB Hyderabad 148.80 119 i PKP PKPbc 16 44 22.0 -0.5

IDC 27 16:27:49.8±4.5, 35.55S×72.67W, h0km, mb4.2/3, mb1 4.2/5, mb1mx3.9/31, mbtmp4.1/5, ML3.6/2, Error ellipse: s-maj=113.8km s-min=48.3km az=92.0, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.40 45 Pn Pn 16 29 13.1 +1.4
0.6nm,0.3s,baz=215,slow=12,SNR=3.0
LPAZ La Paz 19.61 13 P Pn 16 32 21.6 -0.2
0.2nm,0.3s,baz=180,slow=9.1,SNR=4.1
SIV San Ignacio 22.07 31 P P 16 32 44.8 -1.7
3.6nm,0.6s,baz=178,slow=10,SNR=5.1
DBIC Dimbokro 76.17 71 P P 16 39 40.4 +0.3
2.1nm,0.8s,baz=190,slow=7.1,SNR=3.4
TORD Torodi Ar. Bea 85.23 70 P P 16 40 28.5 -0.1
1.0nm,0.8s,baz=225,slow=4.3,SNR=4.7

IDC 27 16:27:51.2±0.4, 37.82S×73.67W, h0km, mb4.9/23, mb1 4.9/27, mb1mx4.9/32, mbtmp4.8/27, ML4.0/3, MS5.1/2, Ms1 5.1/2, ms1mx4.5/31, Error ellipse: s-maj=16.8km s-min=11.7km az=73.0
ISCJB 27 16:27:54.5±0.2, 37.78S±0.04×73.18W±0.05, h22km, mb5.4/115, MS5.5/3, Error ellipse: s-maj=6.3km s-min=5.2km az=39.1
NEIC 27 16:27:56.8±0.2, 37.78S×73.35W, h35km, mb5.5/97, Error ellipse: s-maj=8.3km s-min=6.0km az=69.0
MOS 27 16:27:56.0±1.3, 37.64S×73.62W, h33km, mb5.7/29, Error ellipse: s-maj=18.1km s-min=8.6km az=103.2
BJI 27 16:27:58.5, 37.80S×73.40W, h30km, mB5.4/8, Ms5.8/8, Ms7 5.6/7
ISC 27 16:27:55.3±0.3, 37.82S±0.05×73.33W±0.06, h22km, n703, σ1.42/700, mb5.5/115, MS5.6/4, 196C-188D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.62 144 eP Pb 16 28 55.8 -2.8
PLCA Paso Flores 3.62 144 Pn Pn 16 28 49.5 -0.6
2.9nm,0.3s,baz=296,slow=10.0,SNR=2.1
PLCA Pg Pb 16 28 59.2 +0.6
57nm,0.3s,baz=288,slow=12,SNR=10
PLCA Lg Lg 16 29 53.4
44nm,0.3s,baz=49,slow=19,SNR=3.0
PLCA Paso Flores 3.62 144 ePn Pb 16 28 55.8 -2.8
CFAA Coronel Fontan 7.49 36 Pn Pn 16 29 42.3 -0.9
1.6nm,0.3s,baz=203,slow=13,SNR=5.5
CFAA Sn Sn 16 31 09.1 +1.6
2.6nm,0.3s,baz=132,slow=18,SNR=3.1
CFAA Lg Lg 16 31 55.8
0.8nm,0.3s,baz=114,slow=19,SNR=2.2
TRQA Tornquist 8.97 95 Pn Pn 16 30 03.7 +0.1
TRQA eSn Sn 16 31 43.9 -0.1
LVC Limon Verde 15.63 15 Pn P 16 31 37.3 -1.2
USHA Ushuaia 17.34 170 P P 16 31 57.1 +0.2
0.6nm,0.3s,baz=324,slow=9.4,SNR=8.2
USHA LR LR 16 39 43.1
comp=Z,7μm,19.1s,baz=322,slow=41
CPUP Villa Florida 17.73 54 P P 16 32 02.3 +0.9
3.3nm,0.3s,baz=211,slow=8.9,SNR=6.5
LPAZ La Paz 21.94 13 eP P 16 32 48.7 +0.7
LPAZ pmax pmax
comp=Z,170nm,1.3s
LPAZ La Paz 21.94 13 P P 16 32 48.9 +0.9
comp=Z,29nm,1.0s,baz=180,slow=9.6,SNR=11
LPAZ La Paz 21.94 13 eP P 16 32 48.7 +0.7
comp=Z,170nm,1.3s
SIV San Ignacio 24.29 30 P P 16 33 12.0 +0.8
comp=Z,17nm,0.8s,baz=223,slow=13,SNR=12
NNA Nana 25.92 352 i P P 16 33 28.8 +2.9
NNA Nana 25.92 352 P P 16 33 25.6 -0.3
comp=Z,81nm,1.3s,baz=202,slow=12,SNR=5.3
NNA Nana 25.92 352 eP P 16 33 26.0 +0.1
comp=Z,68nm,1.1s
SAML Samuel 30.17 20 eP P 16 34 03.0 -0.9
comp=Z,26nm,1.5s
ATAH Atahualpa 30.89 350 P P 16 34 11.1 +0.4
comp=Z,4.3nm,0.5s,baz=181,slow=8.7,SNR=6.6
BDFB Brasilia 31.43 52 eP P 16 34 16.3 +1.1
BDFB Brasilia 31.43 52 P P 16 34 15.5 +0.3
comp=Z,20nm,1.1s,baz=215,slow=8.5,SNR=3.9
BDFB Brasilia 31.43 52 eP P 16 34 16.2 +1.1
OTAV Otavalo 38.17 352 eP P 16 35 15.0 +1.3
comp=Z,148nm,1.3s
ROSC El Rosal 42.47 359 P P 16 35 50.9 +1.6
comp=Z,5.9nm,0.3s,baz=112,slow=18,SNR=3.9
ROSC El Rosal 42.47 359 eP P 16 35 48.9 -0.3
VNA3 Neumayer Olymp 46.25 156 P P 16 36 20.7 +2.2
SDV Santo Domingo 46.53 4 eP P 16 36 19.9 -1.6
comp=Z,62nm,0.9s
RCBR Riachuelo 46.59 56 P P 16 36 23.6 +1.8
comp=Z,43nm,1.2s,baz=210,slow=9.7,SNR=8.4
RCBR Riachuelo 46.59 56 eP P 16 36 20.3 -1.5
comp=Z,143nm,1.6s
VNA1 Neumayer--Stat 46.61 155 P P 16 36 24.0 +2.8
VNA2 Neumayer--Watz 46.93 156 P P 16 36 25.8 +2.0
PCRV Puerto La Cruz 48.44 11 P P 16 36 36.6 +0.5
comp=Z,14nm,0.6s,baz=197,slow=10,SNR=3.9
SNAA Sanae 48.48 157 P P 16 36 37.4 +1.5
SNAA Sanae 48.48 157c iP P 16 36 37.6 +1.8
SNAA pmax pmax
comp=Z,45nm,1.1s
SNAA Sanae 48.48 157 P P 16 36 36.9 +1.0
comp=Z,13nm,0.9s,baz=278,slow=7.4,SNR=35
SNAA Sanae 48.48 157 eP P 16 36 35.9 +0.1
comp=Z,96nm,1.1s
JTS JuntasAbangare 49.08 345 P P 16 36 41.7 +0.7
comp=Z,264nm,1.3s,SNR=5.2
JTS JuntasAbangare 49.08 345 ⇑eP P 16 36 42.2 +1.2
JTS pmax pmax
comp=Z,31nm,1.4s
JTS JuntasAbangare 49.08 345 P P 16 36 41.2 +0.2
comp=Z,9.4nm,0.8s,baz=56,slow=4.6,SNR=7.2
GRGR Grenville 50.88 15 eP P 16 36 53.8 -0.9
comp=Z,322nm,0.9s
QSPA South Pole Qui 52.42 180 P P 16 37 06.2 +0.4
comp=Z,22nm,1.0s,baz=271,slow=1.1,SNR=17
QSPA South Pole Qui 52.42 180 eP P 16 37 05.1 -0.7
comp=Z,41nm,1.1s
NVL N'lazarevskaya 53.26 156 eP P 16 37 20.7 +9.0
NVL pmax pmax
comp=Z,56nm,1.0s
CRPR Cabo Rojo, PR 55.84 7 eP P 16 37 28.3 -2.7
OBIP Obispado Ponce 55.93 8 eP P 16 37 30.5 -1.1
comp=Z,40nm,1.0s
CELP Cerrillos 55.96 8 eP P 16 37 30.4 -1.4
GTBY Guantanamo Bay 57.47 358 eP P 16 37 40.6 -1.9
comp=Z,85nm,1.0s
TEIG Tepich 59.43 344 eP P 16 37 55.9 -0.3
comp=Z,192nm,1.6s
035A Encino 68.48 336 ⇑P P 16 38 57.4 +1.8
baz=69
PPT Papeete 68.72 264 P P 16 38 55.8 -1.8
comp=Z,55nm,1.0s,baz=39,slow=1.8,SNR=4.2
034A Hebbronville 68.79 336 ⇑P P 16 38 59.0 +1.4
baz=69
934A Benavides 69.24 336 ⇓P P 16 39 02.1 +1.7
baz=70
933A Laredo 69.49 336 ⇓P P 16 39 03.9 +2.0
baz=70,SNR=8.9
835A Beeville 69.66 337 ⇑P P 16 39 04.6 +1.7
baz=70
834A Tilden 69.73 336 ⇓P P 16 39 05.3 +1.9
baz=70,SNR=7.7
735A Kenedy 70.18 337 ⇓P P 16 39 07.9 +1.8
baz=70
833A Chaparral WMA, 70.19 336 ⇑P P 16 39 07.7 +1.5
baz=70,SNR=8.7
832A Faith Ranch, C 70.34 335 ⇓P P 16 39 08.7 +1.5
baz=71,SNR=5.9
733A Divot King Ran 70.52 336 ⇑P P 16 39 09.9 +1.7
baz=71
636A Smothers Creek 70.54 338 ⇓P P 16 39 09.9 +1.5
baz=71,SNR=6.3
HKT Hockley 70.63 339 eP P 16 39 07.2 -1.6
HKT pmax pmax
comp=Z,93nm,2.0s
HKT Hockley 70.63 339 eP P 16 39 07.2 -1.6
comp=Z,93nm,2.0s
635A Leesville 70.67 338 ⇓P P 16 39 11.2 +2.1
baz=71
LPIG La Paz 70.72 324 LR LR 17 02 44.3
comp=Z,1μm,20.9s,baz=116,slow=30
732A Laxson Ranch, 70.75 335 ⇓P P 16 39 11.2 +1.5
baz=71,SNR=8.4
NHSC New Hope 70.86 354 eP P 16 39 10.2 +0.1
comp=Z,229nm,1.2s
537A Green Hill Far 70.89 339 ⇓P P 16 39 12.1 +1.7
baz=71
536A Bastrop 71.10 338 ⇑P P 16 39 13.0 +1.3
baz=71
633A Saathoff Ranch 71.17 336 ⇓P P 16 39 13.5 +1.4
baz=72,SNR=7.4
535A Dale 71.21 338 ⇓P P 16 39 13.3 +0.9
baz=72
632A Uvalde 71.41 336 ⇑P P 16 39 15.5 +1.8
baz=72,SNR=8.7
534A Blanco 71.48 337 ⇓P P 16 39 16.1 +2.1
baz=72
GOGA Godfrey 71.50 351 eP P 16 39 12.7 -1.4
GOGA pmax pmax
comp=Z,52nm,1.1s
GOGA Godfrey 71.50 351 eP P 16 39 12.7 -1.4
comp=Z,52nm,1.1s
VBMS Vicksburg 71.50 345 eP P 16 39 15.4 +1.3
comp=Z,95nm,1.2s
340A Bronson 71.51 342 ⇓P P 16 39 16.3 +2.2
baz=72
631A Perdido Creek 71.58 335 ⇑P P 16 39 16.3 +1.6
baz=72
LRAL Lakeview Retre 71.64 348 eP P 16 39 13.3 -1.5
comp=Z,67nm,1.3s
533A Kerrville 71.69 337 ⇑P P 16 39 17.2 +1.8
baz=72,SNR=9.7
338A Crockett 71.82 340 ⇑P P 16 39 18.2 +2.2
baz=72
435B Jarrell 71.92 338 ⇓P P 16 39 18.8 +2.1
baz=72
337A Centerville 71.94 340 ⇓P P 16 39 18.9 +2.2
baz=72,SNR=6.2
532A Rocksprings 72.02 336 ⇓P P 16 39 18.8 +1.4
baz=72,SNR=16
434A Burnet 72.15 338 ⇓P P 16 39 19.7 +1.6
baz=72,SNR=11
531A Rocksprings 72.27 335 ⇓P P 16 39 20.2 +1.4
baz=72,SNR=11
JCT Junction City 72.31 336 eP P 16 39 17.4 -1.7
JCT pmax pmax
comp=Z,123nm,1.3s
JCT Junction City 72.31 336 eP P 16 39 17.4 -1.7
comp=Z,123nm,1.3s
JCT Junction City 72.31 336 ⇓P P 16 39 20.9 +1.8
baz=73,SNR=11
335A Moody 72.34 338 ⇓P P 16 39 20.9 +1.8
baz=73
433A Art 72.35 337 ⇓P P 16 39 20.9 +1.7
baz=73,SNR=12
530A J-C Ranch, Com 72.52 335 ⇑P P 16 39 22.2 +1.9
baz=73,SNR=22
TXAR Lajitas Array 72.59 332 P P 16 39 19.4 -1.5
comp=Z,3.8nm,0.8s,baz=155,slow=7.7,SNR=19
334A Lometa 72.62 338 ⇓P P 16 39 22.9 +2.0
baz=73,SNR=17
432A Menard 72.68 336 ⇑P P 16 39 23.0 +1.7
baz=73,SNR=8.4
431A Sonora 72.76 336 ⇑P P 16 39 23.2 +1.4
baz=73,SNR=18
529A Stev Forest Ra 72.80 334 ⇑P P 16 39 23.8 +1.8
baz=73,SNR=12
CNNC Cliffs of the 72.82 356 eP P 16 39 23.0 +1.2
comp=Z,55nm,1.0s
333A Richland Sprin 72.84 337 ⇓P P 16 39 24.0 +1.8
baz=73,SNR=9.3
KMSC Kings Mountain 72.98 353 eP P 16 39 20.7 -2.1
comp=Z,88nm,1.4s
KMSC Kings Mountain 72.98 353 ⇑P P 16 39 25.2 +2.4
baz=73,SNR=5.8
WHTX Lake Whitney 73.01 339 eP P 16 39 22.0 -1.1
comp=Z,46nm,1.0s
WHTX Lake Whitney 73.01 339 ⇓P P 16 39 25.2 +2.1
baz=73,SNR=6.5
430A Baggett Ranch, 73.07 335 ⇓P P 16 39 25.2 +1.7
baz=73,SNR=21
332A Millersview 73.13 337 ⇑P P 16 39 25.3 +1.4
baz=73,SNR=12
429A Davenport Ranc 73.14 334 ⇓P P 16 39 25.4 +1.3
baz=73,SNR=18
234A Clairette 73.22 338 ⇓P P 16 39 25.9 +1.5
baz=74,SNR=8.3
331A San Angelo 73.28 336 ⇓P P 16 39 26.8 +2.0
baz=74,SNR=16
233A Rising Star 73.46 338 ⇓P P 16 39 27.3 +1.5
baz=74,SNR=7.5
OXF Oxford 73.50 346 eP P 16 39 23.3 -2.7
OXF pmax pmax
comp=Z,147nm,1.4s
OXF Oxford 73.50 346 eP P 16 39 23.3 -2.7
comp=Z,147nm,1.4s
232A Coleman 73.57 337 ⇑P P 16 39 27.9 +1.3
baz=74,SNR=13
SWET Sewanee 73.61 349 eP P 16 39 24.9 -1.7
330A Mertzon 73.62 335 ⇑P P 16 39 27.9 +1.1
baz=74,SNR=6.4
CPCT Cooper Cave 73.64 350 eP P 16 39 26.2 -0.5
134A White-Moore Ra 73.74 338 ⇓P P 16 39 29.0 +1.6
baz=74
TKL Tuckaleechee C 73.75 351 eP P 16 39 25.6 -1.8
TKL Tuckaleechee C 73.75 351 eP P 16 39 25.6 -1.8
231A Bronte 73.83 336 ⇑P P 16 39 29.6 +1.6
baz=74,SNR=16
SUR Sutherland 73.92 119 P P 16 39 31.2 +2.2
comp=Z,14nm,0.9s,baz=262,slow=3.9,SNR=4.8
329A Wagon Wheel Ra 73.96 335 ⇑P P 16 39 30.4 +1.5
baz=74,SNR=6.6
133A Hamilton Ranch 74.02 338 ⇑P P 16 39 30.5 +1.4
baz=74,SNR=8.9
230A Sterling City 74.04 336 ⇑P P 16 39 30.6 +1.3
baz=74
Z35A Perchaven, San 74.21 339 ⇓P P 16 39 32.3 +2.1
baz=74,SNR=5.5
ABTX Abilene, Hawle 74.25 337 eP P 16 39 27.2 -3.3
comp=Z,69nm,1.1s
ABTX Abilene, Hawle 74.25 337 ⇑P P 16 39 32.5 +2.0
baz=74,SNR=9.7
229A Bryant Ranch, 74.34 335 ⇑P P 16 39 32.6 +1.6
baz=75,SNR=7.7
UALR University of 74.36 344 eP P 16 39 34.8 +3.9
MIAR Mount Ida 74.42 343 eP P 16 39 33.6 +2.3
MIAR Mount Ida 74.42 343 eP P 16 39 33.6 +2.3
Z34A Collier Ranch, 74.44 339 ⇓P P 16 39 33.7 +2.2
baz=75
131A Roby 74.53 337 ⇓P P 16 39 33.9 +1.7
baz=75,SNR=6.6
TZTN Tazewell 74.60 351 eP P 16 39 33.9 +1.5
comp=Z,43nm,1.0s
Z33A Whitaker Ranch 74.61 338 ⇓P P 16 39 33.9 +1.4
baz=75,SNR=7.5
130A Snyder 74.64 336 ⇑P P 16 39 34.5 +1.7
baz=75
228A UT Block 9, Go 74.74 335 ⇓P P 16 39 34.8 +1.4
baz=75,SNR=12
WVT Waverly 74.80 348 eP P 16 39 30.9 -2.6
WVT pmax pmax
comp=Z,61nm,1.1s
WVT Waverly 74.80 348 eP P 16 39 30.9 -2.6
comp=Z,61nm,1.1s
Z32A Haskell 74.84 338 ⇑P P 16 39 35.5 +1.7
baz=75,SNR=21
Y34A Reagan Ranch, 74.94 339 ⇓P P 16 39 36.0 +1.6
baz=75,SNR=6.6
VWCC Virginia Weste 74.95 355 eP P 16 39 32.7 -1.7
129A Stewart Farms, 74.97 335 ⇓P P 16 39 36.2 +1.5
baz=75
Z31A Sharp Cattle R 75.05 337 ⇓P P 16 39 36.9 +1.8
baz=75,SNR=7.7
128A Castleberry Fa 75.17 335 ⇑P P 16 39 37.5 +1.6
baz=76,SNR=10
Y33A Hilltop Ranch, 75.24 338 ⇑P P 16 39 38.0 +1.9
baz=76,SNR=6.4
JSRW J. Sargeant Re 75.26 356 eP P 16 39 35.4 -0.7
Z30A Sanderson Ranc 75.33 336 ⇑P P 16 39 37.9 +1.1
baz=76,SNR=11
MNTX Cornudas Mount 75.36 332 eP P 16 39 34.7 -2.2
comp=Z,21nm,1.2s
GDL2 Guadalupe Moun 75.44 333 eP P 16 39 38.5 +1.1
Y32A R-V Farms, Ver 75.47 338 ⇑P P 16 39 39.3 +1.8
baz=76,SNR=7.0
Z29A Hungry Hill Ra 75.49 336 ⇓P P 16 39 38.6 +0.9
baz=76,SNR=21
127A Arkansas Junct 75.52 334 ⇓P P 16 39 38.3 +0.5
baz=76
X34A Smith Ranch, M 75.57 339 ⇑P P 16 39 39.5 +1.5
baz=76,SNR=8.4
Y31A Rekieta Farm, 75.69 337 ⇑P P 16 39 39.4 +0.7
baz=76,SNR=7.2
X33A Lawton 75.70 339 ⇓P P 16 39 39.7 +1.0
baz=76
Z28A Tucker Farm, M 75.74 335 ⇑P P 16 39 39.9 +0.7
baz=76
Y30A Stafford Cattl 75.80 337 ⇑P P 16 39 40.6 +1.2
baz=76
PBMO Poplar Bluff 75.90 346 eP P 16 39 42.4 +2.6
Y29A Porterfield Fa 76.03 336 ⇓P P 16 39 41.3 +0.5
baz=76
Z27A Tatum 76.05 335 ⇓P P 16 39 42.3 +1.4
baz=76
W34A Bridge Creek, 76.15 340 eP P 16 39 39.3 -2.0
comp=Z,139nm,1.5s
W34A Bridge Creek, 76.15 340 ⇑P P 16 39 42.8 +1.5
baz=76
CASY Casey 76.18 182 eP P 16 39 40.4 -0.8
comp=Z,40nm,1.3s
X31A McDonald Ranch 76.22 338 ⇑P P 16 39 43.0 +1.3
baz=76,SNR=7.2
TUL1 Tulsa 76.26 341 eP P 16 39 39.8 -2.1
comp=Z,131nm,1.4s
TUL1 Tulsa 76.26 341 ⇓P P 16 39 43.9 +2.0
baz=77,SNR=8.9
W33A Caddo, Fort Co 76.26 339 ⇑P P 16 39 43.9 +1.9
baz=77,SNR=7.4
Y28A McKinney Farm, 76.27 336 ⇓P P 16 39 43.2 +1.1
baz=77
Z26A Caprock 76.27 334 ⇓P P 16 39 43.8 +1.6
baz=77,SNR=13
X30A Coker Ranch, T 76.32 337 ⇓P P 16 39 44.2 +1.9
baz=77
W32A Sentinel 76.46 338 ⇑P P 16 39 44.0 +0.9
baz=77,SNR=23
MSTX Muleshoe 76.50 335 eP P 16 39 43.0 -0.5
comp=Z,66nm,1.2s
MSTX Muleshoe 76.50 335 ⇓P P 16 39 45.3 +1.8
baz=77,SNR=9.2
Z25A Roswell 76.54 333 ⇑P P 16 39 45.3 +1.6
baz=77,SNR=8.8
Y27A Causey 76.55 335 ⇓P P 16 39 45.2 +1.4
baz=77
USIN University of 76.57 348 eP P 16 39 42.6 -1.0
comp=Z,86nm,1.1s
SIUC Southern Illin 76.58 347 eP P 16 39 42.3 -1.3
comp=Z,44nm,1.1s
X29A Tulia 76.58 336 ⇑P P 16 39 45.0 +1.1
baz=77
319A Douglas 76.59 329 ⇑P P 16 39 44.1 +0.1
baz=77,SNR=9.2
V34A Guthrie 76.64 340 eP P 16 39 41.8 -2.2
comp=Z,69nm,1.1s
V34A Guthrie 76.64 340 ⇓P P 16 39 45.4 +1.3
baz=77,SNR=6.5
W31A Holland Ranch, 76.72 338 ⇑P P 16 39 45.8 +1.2
baz=77,SNR=6.2
Y26A Elida 76.81 334 ⇓P P 16 39 46.6 +1.3
baz=77
X28A Dimmitt 76.81 336 ⇑P P 16 39 46.5 +1.3
baz=77
Z24A Sheeppen Canyo 76.81 333 ⇓P P 16 39 45.7 +0.3
baz=77,SNR=8.7
V33A Lossen Ranch, 76.84 339 ⇑P P 16 39 46.2 +1.0
baz=77,SNR=11
SDMD Soldier's Deli 76.93 357 eP P 16 39 45.9 +0.3
comp=Z,35nm,1.2s
V32A Arapaho 76.96 339 ⇑P P 16 39 47.4 +1.5
baz=77
AMTX Amarillo 76.98 336 eP P 16 39 44.7 -1.4
comp=Z,114nm,1.3s
AMTX Amarillo 76.98 336 ⇓P P 16 39 47.0 +0.8
baz=77
121A Cookes Peak, D 77.01 331 eP P 16 39 44.5 -2.0

comp=Z,54nm,1.6s
121A Cookes Peak, D 77.01 331 ⇑P P 16 39 47.4 +0.9
baz=77
Y25A Mesa, Roswell 77.11 334 ⇓P P 16 39 47.4 +0.4
baz=77,SNR=8.4
W29A Amraillo 77.19 337 ⇓P P 16 39 48.0 +0.7
baz=78,SNR=12
U34A Anderson Ranch 77.21 340 eP P 16 39 46.4 -0.9
comp=Z,110nm,1.3s
U34A Anderson Ranch 77.21 340 ⇑P P 16 39 48.9 +1.7
baz=78,SNR=9.3
X27A F and S Farms, 77.22 335 ⇑P P 16 39 49.0 +1.5
baz=78
V31A Spring Creek L 77.24 338 ⇓P P 16 39 48.9 +1.3
baz=78
Z22A Elephant Butte 77.34 332 ⇑P P 16 39 50.9 +2.6
baz=78,SNR=9.5
U33A Lingo Farm, Me 77.36 340 ⇓P P 16 39 49.6 +1.4
baz=78
X26A CR and CF Fran 77.38 335 ⇓P P 16 39 49.8 +1.4
baz=78,SNR=7.5
Y24A Capitan 77.38 333 ⇓P P 16 39 50.4 +1.9
baz=78,SNR=10.0
OLIL Olney 77.39 348 P P 16 39 46.4 -1.7
comp=Z,73nm,1.5s
DBIC Dimbokro 77.40 71 P P 16 39 49.7 +0.9
comp=Z,28nm,0.9s,baz=185,slow=6.8,SNR=15
V30A Spur Ranch, Mi 77.48 337 ⇓P P 16 39 50.9 +1.9
baz=78
W28A Vega 77.49 336 ⇑P P 16 39 50.6 +1.6
baz=78
MVL Millersville 77.50 358 eP P 16 39 51.2 +2.5
U32A Winter Ranch, 77.56 339 ⇑P P 16 39 50.6 +1.4
baz=78,SNR=5.7
BLO Bloomington 77.58 350 P P 16 39 47.7 -1.5
BLO pmax pmax
comp=Z,71nm,1.3s
BLO Bloomington 77.58 350 P P 16 39 47.7 -1.5
comp=Z,71nm,1.3s
W27A Bowe Ranch, En 77.59 335 ⇓P P 16 39 50.9 +1.3
baz=78,SNR=7.5
Y23A Lovelace Mesa, 77.61 333 ⇑P P 16 39 51.0 +1.2
baz=78,SNR=10
X25A Clemmons Ranch 77.65 334 ⇓P P 16 39 51.6 +1.6
baz=78
SLM Saint Louis 77.66 347 eP P 16 39 50.0 +0.3
SLM pmax pmax
comp=Z,156nm,1.4s
SLM Saint Louis 77.66 347 eP P 16 39 50.0 +0.3
comp=Z,156nm,1.4s
U31A Nine Bar Ranch 77.80 338 ⇓P P 16 39 51.8 +1.2
baz=78
V29A Stinnett 77.84 337 ⇑P P 16 39 51.5 +0.6
baz=78
W26A Owens Ranch, T 77.85 335 ⇑P P 16 39 52.2 +1.1
baz=78,SNR=7.0
V28A Channing 77.95 336 ⇓P P 16 39 53.3 +1.8
baz=78,SNR=5.5
X24A Lazy VL Ranch, 77.95 333 ⇑P P 16 39 53.1 +1.4
baz=78,SNR=7.7
T33A Patterson Ranc 78.01 340 ⇓P P 16 39 52.9 +1.2
baz=78,SNR=8.6
TUC Tucson 78.02 328 P P 16 39 52.2 +0.2
TUC pmax pmax
comp=Z,59nm,1.6s
TUC Tucson 78.02 328 P P 16 39 52.2 +0.2
comp=Z,59nm,1.6s
V27A Dan Oppiter Fa 78.15 336 ⇑P P 16 39 53.9 +1.3
baz=78,SNR=5.8
LENM Lemitar 78.15 332 eP P 16 39 53.6 +0.8
LPM Los Pinos Moun 78.16 332 eP P 16 39 53.6 +0.8
comp=Z,26nm,1.2s
U30A WK&E Inc. Balk 78.18 338 ⇑P P 16 39 54.4 +1.6
baz=78
W25A X Bar L Ranch, 78.20 334 ⇓P P 16 39 54.6 +1.6
baz=78,SNR=11
X23A Hourglass Bar 78.24 333 ⇑P P 16 39 54.6 +1.3
baz=78
T32A Huddler Ranch, 78.29 339 ⇓P P 16 39 54.7 +1.4
baz=79,SNR=7.6
U29A Oasis Ranch, S 78.30 337 ⇑P P 16 39 55.2 +1.8
baz=79
S33A Kaszmaul Farm, 78.42 340 ⇑P P 16 39 55.6 +1.5
baz=79
LAZ Ladron 78.42 332 eP P 16 39 55.5 +1.2
T31A Randall Ranch, 78.42 339 ⇑P P 16 39 55.9 +1.8
baz=79,SNR=5.7
V26A Tequesquite Ra 78.50 335 ⇓P P 16 39 56.2 +1.6
baz=79,SNR=11
W24A Lazy 6 Ranch, 78.52 334 ⇓P P 16 39 56.1 +1.2
baz=79,SNR=8.2
U28A Mallet 78.53 337 ⇓P P 16 39 56.2 +1.4
baz=79
214A Organ Pipe Nat 78.58 327 P P 16 39 54.9 -0.1
comp=Z,44nm,1.2s
214A Organ Pipe Nat 78.58 327 ⇑P P 16 39 56.7 +1.6
baz=79
T30A Plains 78.63 338 ⇓P P 16 39 56.8 +1.5
baz=79
ANMO Albuquerque 78.66 333 ⇑iP P 16 39 56.2 +0.6
ANMO pmax pmax
comp=Z,138nm,1.3s
ANMO Albuquerque 78.66 333 eP P 16 39 54.6 -1.0
comp=Z,73nm,1.2s
W23A Werner Place, 78.74 333 ⇑P P 16 39 56.9 +0.8
baz=79,SNR=10
U27A Thompson Grove 78.76 336 ⇓P P 16 39 56.7 +0.7
baz=79,SNR=5.4
S32A Newby Ranch, P 78.78 340 ⇓P P 16 39 58.1 +2.1
baz=79
V25A Rancho No Teng 78.82 335 ⇑P P 16 39 57.2 +0.8
baz=79,SNR=17
SFIN Scholer Farm 78.84 349 ⇑P P 16 39 57.0 +0.8
baz=79
S31A Mullinville 78.86 339 ⇓P P 16 39 57.6 +1.1
baz=79
V24A Rampart Ranch, 78.94 334 ⇓P P 16 39 59.1 +1.9
baz=79,SNR=8.0
T29A Hugoton 78.96 338 ⇑P P 16 39 58.4 +1.4
baz=79
U26A Atchley Ranch, 79.03 335 ⇓P P 16 39 59.2 +1.6
baz=79,SNR=11
R33A Olander Ranch, 79.09 340 ⇓P P 16 39 58.9 +1.2
baz=79,SNR=7.0
S30A Montezuma 79.16 338 ⇓P P 16 39 59.1 +1.0
baz=80,SNR=6.7
T28A Walsh 79.17 337 ⇑P P 16 39 59.0 +0.8
baz=80
TSUM Tsumeb 79.18 106 eP P 16 39 59.3 +0.4
comp=Z,46nm,1.4s
BOSA Boshof 79.23 118 P P 16 39 57.2 -1.8
BOSA pmax pmax
comp=Z,47nm,0.9s
BOSA Boshof 79.23 118 P P 16 40 00.2 +1.1
comp=Z,14nm,1.0s,baz=213,slow=6.5,SNR=9.0
BOSA Boshof 79.23 118 P P 16 39 57.2 -1.8
comp=Z,47nm,0.9s
U25A Circle Dot Ran 79.26 335 ⇑P P 16 39 59.9 +1.1
baz=80
V23A Ortiz Mt. (NFS 79.28 333 ⇓P P 16 39 59.5 +0.5
baz=80
T27A Campo 79.31 336 ⇓P P 16 39 59.7 +0.6
baz=80,SNR=9.1
S29A Ulysses 79.33 338 ⇓P P 16 40 00.3 +1.2
baz=80,SNR=5.9
R32A Long Quarter, 79.39 340 ⇑P P 16 40 00.6 +1.3
baz=80,SNR=7.2
KSU1 Kansas State U 79.49 342 ⇓P P 16 40 01.0 +1.2
baz=80
R31A Burdett 79.49 339 ⇑P P 16 40 01.5 +1.6
baz=80,SNR=6.6
S28A Manter 79.54 337 ⇑P P 16 40 02.0 +1.8
baz=80,SNR=6.6
U24A Moreno Valley 79.56 334 ⇓P P 16 40 01.4 +0.8
baz=80
X18A Snowflake 79.62 330 ⇑P P 16 40 01.8 +1.0
baz=80
V22A San Miguel Ran 79.69 333 ⇓P P 16 40 02.1 +0.8
baz=80,SNR=30
T26A Comanche Natio 79.69 336 ⇑P P 16 40 02.4 +1.2
baz=80,SNR=14
113A Mohawk Valley, 79.69 326 ⇓P P 16 40 02.1 +1.0
baz=80
Q33A Connelly Farm, 79.70 341 ⇓P P 16 40 02.3 +1.3
baz=80,SNR=7.4
R30A Dighton 79.70 339 ⇓P P 16 40 02.8 +1.8
baz=80,SNR=6.5
U23A El Rito 79.81 334 ⇑P P 16 40 02.8 +1.0
baz=80,SNR=10
Z14A Wintersburg 79.84 327 ⇑P P 16 40 02.7 +0.8
baz=80
Q32A Meitler Ranch, 79.89 340 ⇓P P 16 40 03.2 +1.2
baz=80,SNR=9.5
T25A Trinidad 79.93 335 ⇑P P 16 40 03.9 +1.4
baz=80,SNR=28
S27A Las Animas 79.94 337 ⇑P P 16 40 03.5 +1.0
baz=80,SNR=5.2
W18A Petrified Fore 80.05 330 eP P 16 40 03.0 -0.1
comp=Z,75nm,1.1s
W18A Petrified Fore 80.05 330 ⇓P P 16 40 04.0 +0.8
baz=80
S26A Kim 80.06 336 ⇓P P 16 40 04.3 +1.2
baz=80,SNR=18
P33A Williams Farm, 80.08 341 ⇓P P 16 40 04.8 +1.8
baz=80
R29A Marienthal 80.08 338 ⇓P P 16 40 03.8 +0.6
baz=80,SNR=7.0
U22A Llaves 80.08 333 ⇓P P 16 40 04.2 +0.8
baz=80,SNR=11
BKZ Black Stump Fm 80.11 228 eP P 16 40 05.3 +1.7
comp=Z,32nm,1.2s
X16A Lo Mia Camp, P 80.12 329 ⇑P P 16 40 04.2 +0.6
baz=80,SNR=17
Q31A Ellis 80.12 340 ⇓P P 16 40 04.9 +1.6
baz=80
TRY Troy 80.18 360 eP P 16 40 04.3 +0.9
comp=Z,94nm,1.2s
T24B San Luis 80.19 334 ⇓P P 16 40 05.5 +1.5
baz=80,SNR=8.5
R28A Tribune 80.21 338 ⇑P P 16 40 05.3 +1.5
baz=80,SNR=11
Q30A Quinter 80.33 339 ⇑P P 16 40 05.1 +0.7
baz=81,SNR=15
Y14A Wickenburg 80.36 327 ⇓P P 16 40 05.4 +0.6
baz=81,SNR=6.1
T23A Casias Ranch, 80.39 334 ⇑P P 16 40 04.2 -0.9
baz=81,SNR=7.1
GLA Glamis 80.41 326 P P 16 40 02.1 -2.9
GLA pmax pmax
comp=Z,43nm,1.3s
GLA Glamis 80.41 326 P P 16 40 02.1 -2.9
comp=Z,44nm,1.3s
GLA Glamis 80.41 326 ⇓P P 16 40 05.2 +0.2
baz=81,SNR=6.6
S25A Robets Cordova 80.41 335 ⇑P P 16 40 04.9 -0.2
baz=81,SNR=9.5
R27A Eads 80.46 337 ⇑P P 16 40 05.9 +0.7
baz=81,SNR=17
Q29A Oakley 80.47 338 ⇓P P 16 40 06.4 +1.2
baz=81
P32A Huiting Farm, 80.49 340 ⇓P P 16 40 06.6 +1.3
baz=81
P31A Stockton 80.60 340 ⇑P P 16 40 07.8 +1.9
baz=81
S24A Houchin Ranch, 80.65 335 ⇓P P 16 40 07.8 +1.3
baz=81,SNR=25
R26A Arlington 80.67 336 ⇓P P 16 40 07.6 +1.2
baz=81,SNR=31
SWSC Sam W. Stewart 80.75 325 ⇑P P 16 40 07.2 +0.5
baz=81
R25A Fountain Ranch 80.80 336 ⇓P P 16 40 07.4 +0.3
baz=81
ACCN Adirondack Com 80.83 360 eP P 16 40 07.5 +0.6
comp=Z,93nm,1.3s
SDCO Great Sand Dun 80.84 335 eP P 16 40 06.7 -0.9
comp=Z,26nm,1.2s
P30A Selden 80.86 339 ⇑P P 16 40 08.3 +1.0
baz=81,SNR=6.0
BAR Barrett 80.93 324 P P 16 40 06.8 -1.0
comp=Z,200nm,1.3s
S23A Nye Farm, Mont 80.98 334 ⇑P P 16 40 08.9 +0.7
baz=81
O32A Brockman Farm, 81.00 341 ⇑P P 16 40 09.1 +1.1
baz=81
WUAZ Wupatki 81.05 329 eP P 16 40 08.8 +0.3
comp=Z,59nm,1.4s
WUAZ Wupatki 81.05 329 ⇓P P 16 40 09.3 +0.8
baz=81,SNR=9.9
KSCO Kaye Shedlock' 81.07 337 ⇓P P 16 40 10.1 +1.6
baz=81
P29A Atwood 81.11 339 ⇑P P 16 40 10.0 +1.4
baz=81
R24A Sanders Place, 81.15 335 ⇓P P 16 40 10.1 +1.1
baz=81,SNR=24
PDMCI Parker Dam,Lak 81.16 327 ⇓P P 16 40 10.3 +1.4
baz=81
O31A Woolen Ranch, 81.18 340 ⇑P P 16 40 09.8 +0.8
baz=82,SNR=7.6
BC3 Big Chuckawall 81.19 326 ⇓P P 16 40 10.4 +1.1
baz=82
Q26A Hugo 81.27 337 ⇑P P 16 40 11.6 +2.0
baz=82,SNR=11
S22A 4UR Ranch, Cre 81.30 334 ⇑P P 16 40 11.3 +1.4
baz=82,SNR=9.2
109C Camp Elliot, M 81.31 324 ⇓P P 16 40 11.3 +1.6
baz=82
P28A Saint Francis 81.33 338 ⇓P P 16 40 10.6 +0.8
baz=82
R23A Moffat 81.35 335 ⇓P P 16 40 10.7 +0.4
baz=82,SNR=10
O30A MW Ranch, Wils 81.40 340 ⇓P P 16 40 11.5 +1.3
baz=82,SNR=5.5
NCB Newcomb 81.42 359 eP P 16 40 09.3 -0.8
comp=Z,369nm,2.8s
MVCO Mesa Verde 81.42 332 P P 16 40 10.4 -0.1
comp=Z,82nm,1.4s
MVCO Mesa Verde 81.42 332 ⇑P P 16 40 11.5 +1.0
baz=82,SNR=14
MDV Middlebury 81.44 0 eP P 16 40 08.3 -1.8
IRM Iron Mountain 81.48 326 ⇓P P 16 40 11.3 +0.6
baz=82
Q25A Bedland, Calha 81.49 336 ⇑P P 16 40 10.9 +0.1
baz=82,SNR=8.0
P27A Ficken Ranch, 81.56 338 ⇑P P 16 40 13.1 +2.1
baz=82
O29A 4D Ranch, Culb 81.56 339 ⇓P P 16 40 11.1 +0.1
baz=82
PFO Pinyon Flat Ob 81.61 325 P P 16 40 09.1 -2.4
PFO Pinyon Flat Ob 81.61 325 P P 16 40 09.1 -2.4
PFO Pinyon Flat Ob 81.61 325 ⇑P P 16 40 12.7 +1.3
baz=82
LBTB Lobatse 81.65 115 eP P 16 40 11.6 -0.5
LBTB pmax pmax
comp=Z,49nm,0.9s
LBTB Lobatse 81.65 115 eP P 16 40 11.6 -0.5
comp=Z,49nm,0.9s
N31A Bailey Ranch, 81.71 341 ⇑P P 16 40 12.6 +0.9
baz=82
W13A Hualapai Mount 81.73 327 ⇓P P 16 40 12.8 +0.7
baz=82,SNR=7.8
P26A Davis Ranch, A 81.79 337 ⇑P P 16 40 12.9 +0.6
baz=82
Q24A Divide 81.83 335 ⇑P P 16 40 14.1 +1.4
baz=82,SNR=26
O28A Krutsinger Ran 81.84 338 ⇑P P 16 40 13.3 +0.8
baz=82
MURC Murrieta 81.94 324 ⇑P P 16 40 13.5 +0.4
baz=82
N30A Hueftle Ranch, 81.99 340 ⇑P P 16 40 14.7 +1.4
baz=82
Q23A Hartsel 82.00 335 ⇑P P 16 40 15.0 +1.4
baz=82
P25A Willow Gulch B 82.01 336 ⇓P P 16 40 14.1 +0.6
baz=82,SNR=21
PTN Potsdam (NY) 82.03 359 eP P 16 40 13.0 -0.2
PTN pmax pmax
comp=Z,116nm,1.1s
PTN Potsdam (NY) 82.03 359 eP P 16 40 13.0 -0.2
comp=Z,116nm,1.1s
BGNE Belgrade 82.05 341 eP P 16 40 13.1 -0.4
comp=Z,101nm,1.3s
BGNE Belgrade 82.05 341 ⇑P P 16 40 14.8 +1.3
baz=82
LONY Lake Ozonia 82.07 359 eP P 16 40 12.9 -0.6
comp=Z,69nm,1.1s
O27A Beecher Island 82.11 338 ⇑P P 16 40 15.4 +1.4
baz=82
N29A Votaw Ranch, W 82.16 339 ⇑P P 16 40 14.5 +0.4
baz=82
M31A Lambtecht Ranc 82.20 341 ⇑P P 16 40 16.0 +1.7
baz=82,SNR=7.6
U15A North Rim 82.21 329 ⇑P P 16 40 15.5 +0.7
baz=82,SNR=21
GMRC Granite Mounta 82.23 326 ⇑P P 16 40 15.5 +0.8
baz=82
LDFC Landfair 82.24 327 P P 16 40 15.1 +0.3
comp=Z,57nm,1.1s
N28A Pribbeno Ranch 82.29 339 ⇑P P 16 40 15.9 +1.1
baz=83
O26A Horse Wrangler 82.41 337 ⇓P P 16 40 16.4 +0.8
baz=83
P23A Jefferson 82.43 335 ⇓P P 16 40 16.7 +0.8
baz=83,SNR=10
O25A Wiggins 82.54 337 ⇓P P 16 40 17.3 +1.0
baz=83,SNR=6.2
HEC Hector,Ludlow 82.57 326 ⇓P P 16 40 16.8 +0.4
baz=83
PV04 Paradox Valley 82.62 333 eP P 16 40 18.8 +2.1
SMCO Snowmass 82.63 334 eP P 16 40 17.4 +0.3
comp=Z,118nm,1.2s
N27A Anderson Farm, 82.69 338 ⇓P P 16 40 17.7 +0.8
baz=83,SNR=6.1
ISCO Idaho Springs 82.73 335 eP P 16 40 17.7 +0.2
ISCO pmax pmax
comp=Z,34nm,1.2s
ISCO Idaho Springs 82.73 335 eP P 16 40 17.7 +0.2
comp=Z,34nm,1.2s
ISCO Idaho Springs 82.73 335 ⇑P P 16 40 18.1 +0.7
baz=83,SNR=11
P22A Eagle 82.93 335 ⇓P P 16 40 18.7 +0.3
baz=83,SNR=9.3
L31A Butterfield Fa 82.95 341 ⇑P P 16 40 18.9 +0.7
baz=83,SNR=9.6
L30A Spencer Herefo 82.96 340 ⇑P P 16 40 18.7 +0.5
baz=83
N25A Grover 83.17 337 ⇓P P 16 40 19.8 +0.3
baz=84
GSC Goldstone 83.18 325 ⇓P P 16 40 19.6 0.0
baz=83
O23A Lake Granby, G 83.21 335 ⇓P P 16 40 20.2 +0.3
baz=84,SNR=19
L29A Maesberg Ranch 83.27 340 ⇓P P 16 40 20.1 +0.2
baz=84
M27A Reverse DX Ran 83.31 338 ⇓P P 16 40 21.9 +1.8
baz=84
EDW2 Edwards Air Fo 83.37 324 ⇓P P 16 40 20.8 +0.3
baz=84
O22A Kremmling 83.37 335 ⇓P P 16 40 21.4 +0.6
baz=84,SNR=18
N24A Carr 83.43 336 ⇓P P 16 40 21.3 +0.4
baz=84,SNR=7.4
SHOC Shoshone 83.45 326 ⇓P P 16 40 22.1 +1.2
baz=84
SHPR Sheep Range 83.47 327 eP P 16 40 21.8 +0.7
OSI Osito Adit 83.49 324 P P 16 40 22.4 +1.2
comp=Z,54nm,1.0s
CCUT Cedar City 83.61 329 eP P 16 40 23.1 +1.1
comp=Z,60nm,1.2s
K30A Basset 83.61 341 ⇑P P 16 40 22.0 +0.4
baz=84,SNR=12
LRMC Laurel Mountai 83.72 325 ⇓P P 16 40 22.5 +0.1
baz=84
M25A Palm-Egli Farm 83.73 337 ⇑P P 16 40 22.8 +0.5
baz=84,SNR=6.5
N23A Red Feather La 83.83 336 ⇑P P 16 40 23.5 +0.5
baz=84,SNR=9.6
SRU San Rafael 83.85 332 eP P 16 40 22.2 -0.9
SRU San Rafael 83.85 332 eP P 16 40 22.2 -0.9
ECSD EROS Data Cent 83.88 343 eP P 16 40 22.0 -0.9
comp=Z,142nm,1.3s
ECSD EROS Data Cent 83.88 343 ⇑P P 16 40 23.0 +0.1
baz=84
N22A Wattenberg Ran 83.92 335 ⇑P P 16 40 24.3 +0.8
baz=84,SNR=9.6
O20A White River Ci 83.93 334 eP P 16 40 25.1 +1.6
O20A White River Ci 83.93 334 ⇑P P 16 40 24.7 +1.3
baz=84
MVU Marysvale 83.97 330 eP P 16 40 24.5 +0.7
comp=Z,34nm,1.2s
M24A Cheyenne 83.99 337 ⇑P P 16 40 25.2 +1.5
baz=84,SNR=5.9
PHWY Pilot Hill 84.04 336 eP P 16 40 24.0 -0.1
comp=Z,42nm,1.2s
K28A Ten Mile Ranch 84.12 340 ⇑P P 16 40 25.2 +0.9
baz=84
J30A Dallas 84.19 341 ⇑P P 16 40 24.7 +0.2
baz=84
ISA Isabella 84.24 325 eP P 16 40 25.3 +0.3
ISA pmax pmax
comp=Z,36nm,1.1s
ISA Isabella 84.24 325 eP P 16 40 25.3 +0.3
comp=Z,36nm,1.1s
ISA Isabella 84.24 325 ⇓P P 16 40 25.9 +0.9
baz=84
TMUT Trail Mountain 84.27 331 eP P 16 40 25.6 +0.2
comp=Z,70nm,1.4s
K27A Flueckinger Fa 84.35 339 ⇑P P 16 40 26.6 +1.1
baz=85,SNR=7.3
L25A Engebretsen Ra 84.36 338 ⇓P P 16 40 27.3 +1.8
baz=85
J29A Okreek 84.48 341 ⇑P P 16 40 26.4 +0.4
baz=85,SNR=13
M22A Cedar Creek Ra 84.50 336 ⇓P P 16 40 26.4 -0.1
baz=85
SPMN St. Paul 84.51 346 eP P 16 40 28.3 +2.3
SPMN St. Paul 84.51 346 ⇓P P 16 40 26.4 +0.3
baz=85,SNR=6.4
N20A Spence Gulch, 84.56 334 ⇑P P 16 40 26.2 -0.5
baz=85,SNR=9.0
SMMC Simmler 84.66 323 ⇑P P 16 40 26.6 -0.5
baz=85
I30A Oacoma 84.73 341 ⇑P P 16 40 27.1 0.0
baz=85
J28A Allard Ranch, 84.74 340 ⇑P P 16 40 27.5 +0.2
baz=85,SNR=8.1
J27A Elkhorn Farm, 84.80 339 ⇓P P 16 40 28.4 +0.8
baz=85,SNR=9.6
GRAC Grapevine Rang 84.85 326 ⇑P P 16 40 29.2 +1.2
baz=85
L23A Garrett 84.86 336 ⇓P P 16 40 29.0 +0.9
baz=85,SNR=8.6
I29A Vivian Onida 85.05 341 ⇑P P 16 40 31.7 +2.8
baz=85
MPU Maple Canyon 85.06 331 eP P 16 40 29.9 +0.7
comp=Z,76nm,1.3s
K24A Anderson Ranch 85.13 337 ⇑P P 16 40 30.7 +1.2
baz=85
J26A Sides Ranch, S 85.15 339 ⇑P P 16 40 32.0 +2.6
baz=86,SNR=7.9
NLU North Lily Min 85.17 331 eP P 16 40 31.6 +1.8
R11A Troy Canyon, C 85.21 328 eP P 16 40 30.3 +0.4
comp=Z,23nm,1.0s
R11A Troy Canyon, C 85.21 328 ⇓P P 16 40 30.8 +0.9
baz=86,SNR=19
I28A Midland 85.26 340 ⇓P P 16 40 30.4 +0.6
baz=86,SNR=8.6
TIN Tinemaha 85.27 325 ⇑P P 16 40 31.5 +1.3
baz=86
K23A Bowen Ranch, D 85.41 337 ⇑P P 16 40 31.4 +0.5
baz=86
J25A Sunshine Ranch 85.44 338 ⇓P P 16 40 32.4 +1.5
baz=86,SNR=6.0
JLU Jordanelle 85.50 332 eP P 16 40 31.2 -0.2
comp=Z,39nm,1.3s
H29A Onida 85.59 341 ⇓P P 16 40 32.2 +0.7
baz=86,SNR=12
K22A Casper 85.60 336 eP P 16 40 31.4 -0.4
comp=Z,98nm,1.4s
K22A Casper 85.60 336 ⇓P P 16 40 32.2 +0.4
baz=86,SNR=7.3
J24A Dixon Ranch, L 85.64 338 ⇑P P 16 40 32.0 +0.2
baz=86,SNR=11
DUG Dugway 85.66 331 eP P 16 40 32.0 -0.1
DUG pmax pmax
comp=Z,83nm,1.3s
DUG Dugway 85.66 331 eP P 16 40 32.0 -0.1
comp=Z,83nm,1.3s
DUG Dugway 85.66 331 ⇓P P 16 40 32.6 +0.5
baz=86,SNR=14
MTUM Tungsten Hills 85.67 325 eP P 16 40 34.2 +1.9
TPH Tonopah 85.68 327 eP P 16 40 33.0 +0.7
TPH pmax pmax
comp=Z,59nm,1.1s
TPH Tonopah 85.68 327 eP P 16 40 33.0 +0.7
comp=Z,59nm,1.1s
CTU Camp Tracy 85.69 332 eP P 16 40 33.9 +1.6
comp=Z,36nm,1.7s
G30A Faulkton 85.80 342 ⇑P P 16 40 32.5 0.0
baz=86
K21A Alcova 85.82 336 ⇑P P 16 40 32.9 0.0
baz=86,SNR=7.9
H28A Mission Ridge 85.85 341 ⇓P P 16 40 33.1 +0.3
baz=86,SNR=5.2
I25A Rochford 85.99 339 ⇑P P 16 40 33.7 0.0

baz=86,SNR=14
G29A Hoven 86.05 342 ⇑P P 16 40 34.9 +1.1
baz=86,SNR=6.4
H27A Howes 86.09 340 ⇓P P 16 40 34.6 +0.6
baz=86,SNR=7.9
I24A Kuemmerle Ranc 86.11 338 ⇓P P 16 40 33.6 -0.6
baz=86
RSSD Black Hills 86.17 338 eP P 16 40 33.7 -1.0
RSSD pmax pmax
comp=Z,18nm,0.9s
RSSD Black Hills 86.17 338 eP P 16 40 33.6 -1.0
comp=Z,18nm,0.9s
G28A Parade 86.19 341 ⇓P P 16 40 34.6 +0.1
baz=86,SNR=6.7
J22A Midwest 86.27 336 ⇑P P 16 40 34.5 -0.6
baz=87,SNR=6.4
BGU Big Grassy Mou 86.38 331 eP P 16 40 38.0 +2.3
F30A Leola 86.43 342 ⇑P P 16 40 35.9 +0.3
baz=87
NVAR Mina Array Bea 86.44 326 P P 16 40 35.8 -0.4
comp=Z,3.4nm,0.8s,baz=156,slow=5.2,SNR=18
SPUT South Promonto 86.49 332 P P 16 40 36.9 +0.7
comp=Z,77nm,1.3s
TORD Torodi Ar. Bea 86.49 71 P P 16 40 36.7 +0.1
comp=Z,8.3nm,1.0s,baz=223,slow=4.4,SNR=18
H25A Fruitdale 86.50 339 ⇑P P 16 40 36.4 +0.3
baz=87,SNR=8.9
F29A Eureka 86.62 342 ⇓P P 16 40 36.6 0.0
baz=87,SNR=6.8
I22A 9 Mile Ranch, 86.71 337 ⇑P P 16 40 36.6 -0.6
baz=87,SNR=6.3
BW06 Boulder Array 86.72 334 eP P 16 40 36.2 -1.2
comp=Z,61nm,1.3s
PDAR Pinedale Array 86.72 334 P P 16 40 36.0 -1.3
comp=Z,3.3nm,0.8s,baz=152,slow=4.7,SNR=15
J20A Shoshoni 86.74 335 ⇓P P 16 40 37.9 +0.6
baz=87,SNR=28
G27A Dupree 86.74 340 ⇑P P 16 40 37.1 -0.1
baz=87
G26A Maurine 86.84 340 ⇓P P 16 40 37.3 -0.4
baz=87,SNR=13
F28A McLaughlin 86.88 341 ⇑P P 16 40 38.2 +0.3
baz=87,SNR=7.0
I21A Big Trails, Te 86.89 336 ⇑P P 16 40 37.8 -0.3
baz=87,SNR=14
H24A Dirks Ranch, A 86.90 338 ⇑P P 16 40 38.1 +0.1
baz=87
G25A Newell 86.98 339 ⇑P P 16 40 39.3 +0.9
baz=87
J19A Crowheart 86.98 335 ⇓P P 16 40 38.1 -0.5
baz=87,SNR=12
WAKR Walker 87.01 326 eP P 16 40 38.5 -0.4
HVU Hansel Valley 87.02 332 eP P 16 40 38.4 -0.4
HVU pmax pmax
comp=Z,44nm,1.1s
HVU Hansel Valley 87.02 332 eP P 16 40 38.4 -0.4
comp=Z,44nm,1.1s
E30A Jud 87.03 343 ⇑P P 16 40 39.3 +0.8
baz=87,SNR=9.0
ELK Elko 87.09 329 eP P 16 40 39.3 0.0
ELK pmax pmax
comp=Z,35nm,1.2s
ELK Elko 87.09 329 P P 16 40 38.0 -1.2
comp=Z,7.1nm,0.9s,baz=179,slow=4.3,SNR=6.1
ELK Elko 87.09 329 eP P 16 40 39.3 0.0
comp=Z,35nm,1.2s
F27A Lemmon 87.22 340 ⇑P P 16 40 39.7 +0.2
baz=88,SNR=13
E29A Napoleon 87.27 342 ⇓P P 16 40 41.1 +1.5
baz=88
I20A Worland 87.28 336 ⇓P P 16 40 41.1 +1.1
baz=88,SNR=8.2
E28A Huff 87.53 341 ⇑P P 16 40 41.2 +0.2
baz=88
G23A Biddle 87.56 338 ⇑P P 16 40 41.5 +0.3
baz=88
D30A Buchanan 87.56 343 ⇓P P 16 40 41.1 +0.1
baz=88,SNR=11
E27A Carson 87.62 341 ⇑P P 16 40 41.0 -0.4
baz=88
BMN Battle Mountai 87.64 328 eP P 16 40 41.1 -0.7
BMN pmax pmax
comp=Z,12nm,1.1s
BMN Battle Mountai 87.64 328 eP P 16 40 41.1 -0.7
comp=Z,12nm,1.1s
I19A Meeteetse 87.65 335 ⇑P P 16 40 41.7 -0.1
baz=88,SNR=7.2
F25A Bowman 87.66 339 ⇓P P 16 40 41.7 0.0
baz=88
REDW Red Top Meadow 87.69 334 eP P 16 40 40.2 -1.9
comp=Z,27nm,1.1s
D29A Pettibone, Tap 87.72 342 ⇓P P 16 40 41.6 -0.2
baz=88,SNR=6.1
H20A Greybull 87.72 336 ⇓P P 16 40 41.8 -0.3
baz=88,SNR=7.7
LOHW Long Hollow 87.82 334 eP P 16 40 41.9 -0.8
comp=Z,22nm,1.2s
TPAW Teton Pass 87.84 334 eP P 16 40 41.6 -1.2
comp=Z,70nm,1.5s
F24A Ekalaka 87.87 339 ⇓P P 16 40 43.0 +0.4
baz=88
E26A Carlson Angus 87.89 340 ⇑P P 16 40 42.6 -0.1
baz=88,SNR=10
FXWY Fox Creek 87.99 334 eP P 16 40 42.7 -0.8
comp=Z,21nm,1.1s
F23A Volborg 88.03 338 ⇓P P 16 40 43.7 +0.3
baz=88
C30A Mose, Pekin 88.06 343 ⇓P P 16 40 43.9 +0.5
baz=88
AGMN Agassiz Nation 88.06 345 eP P 16 40 40.5 -2.9
comp=Z,39nm,0.9s
AGMN Agassiz Nation 88.06 345 ⇑P P 16 40 44.0 +0.7
baz=88,SNR=8.9
D28A Regan 88.08 342 ⇓P P 16 40 44.0 +0.5
baz=88,SNR=21
I17A Pilgrim Ck. 88.08 334 ⇑P P 16 40 44.3 +0.3
baz=88,SNR=19
G21A Lodge Grass 88.13 337 ⇑P P 16 40 44.4 +0.4
baz=88
E25A Miller Ranch, 88.17 340 ⇑P P 16 40 44.5 +0.4
baz=88
IMW Indian Meadow 88.19 334 eP P 16 40 43.9 -0.7
comp=Z,34nm,1.2s
H19A Powell 88.21 335 ⇑P P 16 40 44.3 -0.1
baz=88,SNR=5.5
D27A Center 88.24 341 ⇑P P 16 40 43.4 -0.9
baz=88
FLWY Flagg Ranch 88.27 334 eP P 16 40 44.3 -0.5
comp=Z,79nm,1.5s
D26A Manning 88.40 341 ⇓P P 16 40 45.3 +0.2
baz=89
H18A Shoshone NF, C 88.44 335 ⇑P P 16 40 45.8 +0.2
baz=89,SNR=18
G20A Bridger 88.45 336 ⇑P P 16 40 46.8 +1.3
baz=89,SNR=6.2
H17A Grant Village 88.50 334 ⇓P P 16 40 47.2 +1.2
baz=89
B30A Myrvik Farm, E 88.73 344 ⇓P P 16 40 47.6 +1.0
baz=89
D25A Fairfield 88.75 340 ⇑P P 16 40 48.1 +1.3
baz=89
C27A Sayler Ranch, 88.79 341 ⇑P P 16 40 47.3 +0.3
baz=89,SNR=5.7
B29A Wagenman Farm, 88.97 343 ⇑P P 16 40 47.7 -0.1
baz=89,SNR=10.0
D24A Glendive 88.99 339 ⇑P P 16 40 48.1 +0.2
baz=89
C26A Wahner Farm, P 89.05 341 ⇓P P 16 40 48.6 +0.5
baz=89
HLID Hailey 89.17 331 eP P 16 40 49.0 0.0
comp=Z,49nm,1.3s
HLID Hailey 89.17 331 ⇑P P 16 40 49.7 +0.7
baz=89,SNR=25
QLMT Earthquake Lak 89.18 334 eP P 16 40 50.6 +1.6
A30A Hoffart Farm, 89.18 344 ⇓P P 16 40 48.4 -0.3
baz=90
B28A Dugan Ranch, T 89.20 342 ⇑P P 16 40 50.0 +1.2
baz=90,SNR=8.1
F19A Roth Farm, Mol 89.24 336 ⇓P P 16 40 50.1 +0.9
baz=90,SNR=5.2
D23A Lindsay 89.29 339 ⇓P P 16 40 50.7 +1.4
baz=90
B27A Peters Farms, 89.38 342 ⇓P P 16 40 50.7 +1.1
baz=90
A29A Manning Farm, 89.38 343 ⇑P P 16 40 49.3 -0.3
baz=90
C24A Savage 89.40 340 ⇓P P 16 40 49.4 -0.4
baz=90,SNR=9.6

E20A Meyer Farm, Mu 89.56 337 ⇓P P 16 40 50.4 -0.2
baz=90
MFID Camas Ranch 89.58 331 eP P 16 40 51.6 +0.8
comp=Z,40nm,1.4s
LSZ Lusaka 89.59 109 eP P 16 40 52.4 +0.7
LSZ pmax pmax
comp=Z,27nm,1.2s
LSZ Lusaka 89.59 109 eP P 16 40 52.4 +0.7
comp=Z,27nm,1.2s
A28A Rude Farm, Bot 89.61 343 ⇓P P 16 40 50.8 +0.1
baz=90
E19A Rath Farm, Rou 89.73 336 ⇓P P 16 40 51.3 -0.1
baz=90
C23A Lambert 89.86 339 ⇑P P 16 40 51.8 -0.1
baz=90
WVOR Wild Horse Val 89.90 328 eP P 16 40 53.3 +0.9
WVOR pmax pmax
comp=Z,36nm,1.4s
WVOR Wild Horse Val 89.90 328 eP P 16 40 53.3 +0.9
comp=Z,36nm,1.4s
ULM Lac du Bonnet 89.92 346 P P 16 40 50.1 -2.0
comp=Z,4.2nm,0.8s,baz=198,slow=3.0,SNR=4.1
BOZ Bozeman (W) 89.96 334 eP P 16 40 53.5 +0.9
BOZ pmax pmax
comp=Z,105nm,2.8s
BOZ Bozeman (W) 89.96 334 eP P 16 40 53.5 +0.9
comp=Z,105nm,2.8s
A26A Wade Farm, Ken 90.03 342 ⇑P P 16 40 54.5 +1.9
baz=90,SNR=5.2
DLMT Dillon 90.05 334 eP P 16 40 56.2 +3.2
D20A Manuel Ranch, 90.09 337 ⇑P P 16 40 52.5 -0.5
baz=90
MOD Modoc 90.17 327 eP P 16 40 54.1 +0.4
comp=Z,17nm,1.0s
D19A Cripps Ranch, 90.39 337 ⇓P P 16 40 54.8 +0.3
baz=91
LRM Limekiln Ridge 90.39 334 eP P 16 40 56.0 +1.2
B23A Brockton 90.41 340 ⇑P P 16 40 55.0 +0.6
baz=91
C21A Desert Coulee 90.43 338 ⇑P P 16 40 54.2 -0.5
baz=91
B22A Reddig Ranch S 90.54 339 ⇑P P 16 40 55.4 +0.3
baz=91
A24A Westby 90.56 340 ⇑P P 16 40 55.8 +0.6
baz=91
C19A Slack Wire Ran 90.95 337 ⇑P P 16 40 59.8 +2.8
baz=91
K05A Summer Lake 91.09 327 eP P 16 41 01.0 +3.0
YBH Yreka Blue Hor 91.09 325 P P 16 40 55.7 -2.2
comp=Z,2.5nm,0.9s,baz=101,slow=5.2,SNR=4.0
BMO Blue Mountains 91.37 330 eP P 16 41 00.4 +1.2
comp=Z,13nm,1.3s
A21A Bergtoll Ranch 91.43 339 ⇓P P 16 40 58.8 -0.5
baz=92
B19A Brinkman Farms 91.55 337 ⇓P P 16 41 00.2 +0.4
baz=92
A20A Cobblestone Ra 91.62 338 ⇑P P 16 41 00.3 +0.2
baz=92
J05D Fort Rock, OR 91.69 327 ⇑P P 16 41 00.2 -0.5
baz=92
MSO Missoula 91.79 333 ⇓P P 16 41 02.0 +1.0
baz=92,SNR=8.3
A19A Klindworth Far 91.91 338 ⇓P P 16 41 01.5 0.0
baz=92
F10A Beach Ranch, E 92.27 331 eP P 16 41 05.0 +1.7
G08A Pilot Rock 92.39 330 eP P 16 41 06.9 +3.0
SCHQ Schefferville 92.46 4 P P 16 41 02.6 -1.2
comp=Z,2.6nm,1.0s,baz=263,slow=8.1,SNR=2.8
WALA Waterton Lakes 93.69 335 eP P 16 41 09.4 -0.3
NEW Newport 94.15 332 P P 16 41 09.4 -2.4
comp=Z,1.1nm,0.6s,baz=172,slow=3.3,SNR=4.7
NEW Newport 94.15 332 ⇓P P 16 41 11.1 -0.7
baz=94,SNR=7.7
EDM Edmonton 97.08 337 eP Pdif 16 41 29.0 +3.9
EDM Edmonton 97.08 337 eP Pdif 16 41 28.9 +3.8
FCC Fort Churchill 97.77 349 P P 16 41 26.6 -1.3
FCC Fort Churchill 97.77 349 P P 16 41 26.6 -1.3
YKA Yellowknife Ar 105.34 341 PP PP 16 46 17.9 -5.8
comp=Z,0.7nm,0.8s,baz=142,slow=4.9,SNR=7.1
YKA PKKPbc PKKPbc 16 57 45.7 +3.3
comp=Z,0.2nm,0.7s,baz=312,slow=3.2,SNR=3.7
GERES GERESS Array B 115.56 47 PKP PKPdf 16 46 33.5 -1.7
comp=Z,2.3nm,0.8s,baz=236,slow=1.4,SNR=13
KHC Kasperske Hory 115.62 47 ePKIKP PKPdf 16 46 41.4 +6.2
KHC Kasperske Hory 115.62 47 ePKP PKPdf 16 46 41.4 +6.2
CLL Collm 116.33 44 ePP PP 16 47 45.0 +1.7
CLL e 16 47 59.0
CLL Lm MLR 17 48 00.0
comp=Z,2μm,18.4s
WRA Warramunga Arr 116.92 209 PKP PKPdf 16 46 36.8 -1.9
comp=Z,0.6nm,0.8s,baz=169,slow=1.8,SNR=2.9
ILAR Eielson Array 117.11 332 PKP PKPdf 16 46 36.4 -1.1
comp=Z,0.3nm,0.6s,baz=163,slow=2.7,SNR=4.4
ILAR PP PP 16 47 52.6 +4.3
comp=Z,2.3nm,1.1s,baz=121,slow=4.9,SNR=6.6
PKSM Moragy 117.28 51⇑iP PKPdf 16 46 38.7 +0.3
VRAC Vranov 117.45 48⇑iP PKPdf 16 46 45.6 +7.0
DPC Dobruska-Polom 117.77 46 ePKIKP PKPdf 16 46 45.4 +6.2
DPC Dobruska-Polom 117.77 46 ePKP PKPdf 16 46 45.4 +6.2
MORC Moravsky Berou 118.22 47⇓iP PKPdf 16 46 47.5 +7.4
VYHS Vyhne 118.42 49 ePKIKP PKPdf 16 46 40.7 +0.2
VYHS Vyhne 118.42 49 ePKP PKPdf 16 46 40.7 +0.2
BZS Buzias 118.88 53⇑iP PKPdf 16 46 40.8 -0.7
GZR Gura Zlata 119.52 54⇑iP PKPdf 16 46 49.0 +6.2
CRVS Cervenica-Dubn 120.17 50 ePKIKP PKPdf 16 46 48.1 +4.2
CRVS Cervenica-Dubn 120.17 50 e PKPdf 16 46 48.1 +4.2
TRPA Tarpa 120.51 51⇓iP PKPdf 16 46 44.6 +0.1
UZH Uzhgorod 120.56 50 ePKIKP PKPdf 16 46 49.5 +4.9
KOLS Kolonicke sedl 120.67 50 ePKIKP PKPdf 16 46 46.4 +1.6
KOLS Kolonicke sedl 120.67 50 ePKP PKPdf 16 46 46.4 +1.6
KOLS e 17 09 36.1
VOIR 120.99 54⇑iP PKPdf 16 46 47.0 +1.3
KWP Kalwaria Pacla 121.21 49 ePKIKP PKPdf 16 46 46.6 +0.7
KWP Kalwaria Pacla 121.21 49 ePKP PKPdf 16 46 46.5 +0.7
KWP Kalwaria Pacla 121.21 49⇓iP PKPdf 16 46 46.7 +0.9
MLR Muntele Rosu 121.59 55⇓iP PKPdf 16 46 46.8 -0.1
MLR Muntele Rosu 121.59 55 PKP PKPdf 16 46 46.4 -0.4
comp=Z,0.7nm,0.7s,baz=309,slow=4.6,SNR=5.3
BURAR Bucovina Array 121.96 52⇑iP PKPdf 16 46 48.1 +0.6
BUR08 Bucovina Ar. S 121.96 52 ePKPdf PKPdf 16 46 48.1 +0.6
VRI Vrincioaia 122.24 54⇑iP PKPdf 16 46 49.6 +1.6
MSAB Monastry St. A 122.27 57⇑iP PKPdf 16 46 45.6 -2.4
TESR Tescani 122.44 54⇑iP PKPdf 16 46 46.1 -2.2
TIRR Tirgusor 122.80 57⇑iP PKPdf 16 46 42.0 -7.0
CFR Carcaliu 122.89 56⇑iP PKPdf 16 46 49.2 0.0
SUW Suwalki 123.09 44 ePKIKP PKPdf 16 46 49.6 +0.3
SUW Suwalki 123.09 44 ePKP PKPdf 16 46 49.4 +0.1
SUW Suwalki 123.09 44 ePKPdf PKPdf 16 46 49.6 +0.3
BRTR Keskin Array B 124.54 64 PKP PKPdf 16 46 52.5 -0.2
comp=Z,3.8nm,0.7s,baz=201,slow=3.1,SNR=16
AK02 Malin Array Si 125.48 50 ePKPdf PKPdf 16 46 53.1 -0.8
KIEV Kiev 125.49 50⇓ePKIKP PKPdf 16 46 53.6 -0.4
KIEV Kiev 125.49 50 ePKP PKPdf 16 46 52.7 -1.2
AK01 Malin Array Si 125.50 50 ePKPdf PKPdf 16 46 53.3 -0.7
AKASG Malin Array Be 125.50 50 PKP PKPdf 16 46 52.6 -1.4
comp=Z,4.3nm,0.9s,baz=263,slow=2.6,SNR=8.0
AKASG PP PP 16 48 43.8 -2.2
comp=Z,0.2nm,0.3s,baz=252,slow=6.9,SNR=5.6
VSU Vasula 126.32 40⇓ePKIKP PKPdf 16 46 55.0 -0.3
RAYN Ar Rayn 126.36 87 ePKPdf PKPdf 16 46 57.1 +0.5
FINES FINESS Array B 126.71 36 PKIKP PKPdf 16 46 55.0 -1.0
FINES FINESS Array B 126.71 36 PKP PKPdf 16 46 55.0 -1.0
comp=Z,2.2nm,0.9s,baz=202,slow=2.1,SNR=6.5
GAMB Gambell 126.75 327 ePKPdf PKPdf 16 46 53.9 -2.1
MALT Malatya 127.44 67⇑iP PKPdf 16 46 59.0 +0.7
APA Apatity 130.65 29⇑iPKIKP PKPdf 16 47 10.0 +6.7
APA MLR MLR
comp=Z,1μm,18.0s
OBN Obninsk 130.90 46 ⇑PKIKP PKPdf 16 47 05.5 +1.4
OBN i 16 47 11.6
OBN pmax pmax
comp=Z,30nm,1.7s
OBN MLR MLR
comp=Z,925nm,19.0s
KBZ Khabaz 132.41 62 PKP PKPdf 16 47 07.5 +0.2
comp=Z,3.3nm,0.9s,baz=172,slow=2.9,SNR=5.8
ZEI Tsey 132.85 63 i PKIKP PKPdf 16 47 14.1 +5.5
ZEI pmax pmax
comp=Z,8.0nm,1.1s
GOF Gofitskoye 132.85 60 ePKIKP PKPdf 16 47 15.7 +7.5
KLMR Klimovskoe 133.08 38 ePKIKP PKPdf 16 47 07.8 -0.3
KLMR pmax pmax
comp=Z,18nm,1.2s
BILL Bilibino 135.77 332 ePKIKP PKPdf 16 47 19.1 +6.1
BILL e 16 49 50.9

BILL pmax pmax
comp=Z,8.0nm,1.2s
PETK Petropavlovsk- 141.95 310 PKP PKPdf 16 47 22.6 -2.1
comp=Z,2.5nm,0.9s,baz=180,slow=1.2,SNR=2.6
GEYT Alibeck 142.03 74 PKhKP PKPpre 16 47 21.2
comp=Z,4.4nm,0.8s,baz=266,slow=4.5,SNR=7.8
GSI Gunungsitoli 142.71 165 ePKPdf PKPdf 16 47 26.4 -0.9
SEY Seymchan 142.75 327 PKP PKPdf 16 47 23.6 -2.3
comp=Z,8.1nm,0.9s,baz=103,slow=1.9,SNR=7.9
ARU Arti 143.28 44 i PKIKP PKPbc 16 47 24.3 +0.2
ARU 16 50 44.8
ARU Arti 143.28 44 ePKPdf PKPbc 16 47 24.2 +0.1
MYKOM Kota Tinggi 144.05 175 ePKPdf PKPdf 16 47 33.8 +4.1
TIXI Tiksi 144.24 348⇓ePKIKP PKPab 16 47 24.9 -1.2
TIXI i 16 47 32.0
SVE Sverdlovsk 144.33 43 ePKIKP PKPbc 16 47 27.9 +0.7
SVE pmax pmax
comp=Z,33nm,1.2s
SBUM Sibu 144.43 190 ePKPdf PKPab 16 47 27.9 -0.6
ABKAR Akbulak array 144.79 56 ePKPdf PKPab 16 47 30.1 +0.3
KAD Karad 144.96 117 eP PKPbc 16 47 30.5 +0.1
POO Poona 145.52 115⇓iP PKPdf 16 47 31.0 -1.1
comp=Z,179nm,1.5s
MYLDM Lahad Datu 145.76 201 ePKPab PKPab 16 47 33.8 +0.4
LHMI Lhok Sumawe 146.37 162 ePKPab PKPab 16 47 35.2 +0.3
IPM Ipoh 146.41 170 ePKPdf PKPdf 16 47 34.2 +0.5
HYB Hyderabad 148.05 122 i PKP PKPbc 16 47 39.0 -0.5
KBL Kabul 149.59 85 ePKP2 PKPbc 16 47 43.7 +0.5
KBL Kabul 149.59 85 ePKPbc PKPbc 16 47 43.7 +0.5
BRVK Borovoye 150.65 47 ePKIKP PKPbc 16 47 45.4 +0.5
BRVK Borovoye 150.65 47 ePKPbc PKPbc 16 47 45.4 +0.5
BVAR Borovoye Array 150.72 47 PKP PKPdf 16 47 38.5 -1.0
comp=Z,0.6nm,0.5s,baz=260,slow=0.9,SNR=4.0
BVAR PKPbc PKPbc 16 47 44.7 -0.4
comp=Z,17nm,0.7s,baz=298,slow=3.2,SNR=30
YAK Yakutsk 151.90 337 ePKIKP PKPbc 16 47 45.1 -2.4
YAK pmax pmax
comp=N,12nm,1.5s
YAK pmax pmax
comp=Z,90nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK Yakutsk 151.90 337 ePKPbc PKPbc 16 47 47.2 -0.2
YSS Yuzh-Sakhalins 152.04 301 ePKIKP PKPbc 16 47 47.0 -1.3
YSS Yuzh-Sakhalins 152.04 301 ePKPbc PKPbc 16 47 47.5 -0.8
ASAJ Asahikawa 152.31 295 PKPbc PKPbc 16 47 47.7 -1.3
comp=E,21nm,1.1s,baz=129,slow=3.6,SNR=6.1
ASAJ Asahikawa 152.31 295 ePKPbc PKPbc 16 47 48.2 -0.7
MJAR Matsushiro Arr 154.89 277 PKP PKPdf 16 47 46.0 -0.2
comp=E,1.1nm,0.9s,baz=114,slow=0.8,SNR=3.6
MAT Matsushiro 154.90 277 ePKP PKPdf 16 47 42.4 -3.8
AAK Ala-Archa 155.06 69 PKIKP PKPdf 16 47 47.1 +0.7
AAK e 16 47 54.5
AAK 16 48 11.6
AAK Ala-Archa 155.06 69 PKP PKPdf 16 47 47.1 +0.7
comp=E,2.3nm,0.8s,baz=283,slow=3.2,SNR=4.3
AAK PKPab PKPab 16 48 11.6 +0.6
comp=E,8.1nm,0.6s,baz=181,slow=2.1,SNR=14
AAK Ala-Archa 155.06 69 PKP PKPdf 16 47 47.1 +0.7
AAK ePKPbc PKPbc 16 47 54.5
AAK PKPab PKPab 16 48 11.6 +0.6
TKM2 Tokmak 2 155.87 68 ePKIKP PKPdf 16 47 48.2 +0.6
TKM2 Tokmak 2 155.87 68 ePKPdf PKPdf 16 47 48.2 +0.6
KSH Kashi 156.03 76 ePKP PKPdf 16 47 47.5 -0.3
KSH epPKP pPKPdf 16 47 59.8 +4.5
KSH esPKP 16 48 02.5
KSH eSKS SKSdf 16 54 49.0 -3.8
KSH SKKS SKKSac 16 58 40.8 -0.2
KSH eSS SS 17 11 40.0 -1.2
KSH LR LR
comp=E,55nm,4.4s
KSH LR LR
comp=E,38nm,2.6s
KSH LR LR
comp=E,210nm,8.4s
NVS Novosibirsk 156.70 36 ePKIKP PKPdf 16 47 46.1 -1.8
NVS e 16 48 15.4
NVS pmax pmax
comp=Z,24nm,1.3s
NVS pmax pmax
comp=E,14nm,1.7s
ZALV Zalesovo Beam 157.98 36 PKP PKPdf 16 47 48.6 -0.9
comp=E,2.3nm,0.8s,baz=318,slow=2.0,SNR=4.7
ZALV PKPab PKPab 16 48 23.0 +0.1
comp=E,13nm,1.0s,baz=298,slow=4.1,SNR=8.0
KOLN Koldanda 158.22 111 eP PKPdf 16 47 56.9 +5.9
KOLN Koldanda 158.22 111 eP PP 16 52 07.0 +1.8
KLR Kul'dur 158.64 310 ePKIKP PKPdf 16 47 50.8 +0.3
DANN Dangsing 158.65 110 eP PKPdf 16 47 58.2 +6.6
GKN Gorkha 159.12 112 eP PKPdf 16 47 57.8 +5.8
GKN Gorkha 159.12 112 eP PP 16 52 10.3 +0.3
DMN Daman 159.24 113 eP PKPdf 16 47 58.6 +6.3
DMN Daman 159.24 113 eP PP 16 52 11.3 +0.5
BOD Bodaibo 159.42 349 ePKP2 PKPab 16 48 32.4 +3.4
BOD pmax pmax
comp=Z,25nm,1.2s
PKIN Phulchoki 159.43 114 eP PKPdf 16 47 58.4 +5.9
PKIN Phulchoki 159.43 114 eP PP 16 52 12.0 +0.1
PKI Pulchoki 159.44 114 eP PKPdf 16 47 58.5 +5.9
PKI Pulchoki 159.44 114 eP PP 16 52 12.1 +0.1
KKN Kakani 159.47 113 eP PKPdf 16 47 58.5 +6.0
KKN Kakani 159.47 113 eP PP 16 52 12.7 +0.7
CMAR Chiang Mai Arr 159.56 159 PKP PKPdf 16 47 52.5 0.0
comp=Z,0.8nm,0.8s,baz=282,slow=1.9,SNR=4.9
CMAR PKPab PKPab 16 48 30.1 -0.5
comp=Z,5.9nm,1.1s,baz=219,slow=4.9,SNR=5.3
CHTO Chiang Mai 159.89 158 ePKP2 PKPab 16 48 31.8 -0.3
CHTO Chiang Mai 159.89 158 ePKPab PKPab 16 48 31.8 -0.3
USRK Ussuriysk Arra 159.90 296 PKPab PKPab 16 48 34.1 +2.4
comp=Z,1.4nm,0.9s,baz=64,slow=3.4,SNR=6.3
RAMN Ramite 159.92 117 eP PKPdf 16 47 59.5 +6.4
RAMN Ramite 159.92 117 eP PP 16 52 13.7 -0.7
MKAR Makanchi Array 159.93 56 ePKIKP PKPdf 16 47 52.2 0.0
MKAR 16 48 31.7
MKAR Makanchi Array 159.93 56 PKP PKPdf 16 47 51.8 -0.4
comp=Z,2.7nm,1.0s,baz=270,slow=3.3,SNR=4.6
MKAR PKPab PKPab 16 48 31.6 -0.1
comp=Z,4.9nm,0.9s,baz=270,slow=2.5,SNR=7.5
MKAR Makanchi Array 159.93 56 ePKPdf PKPdf 16 47 52.2 0.0
MKAR PKPab PKPab 16 48 31.6 -0.1
GUN Gumba 159.97 113 eP PKPdf 16 47 59.3 +6.1
JIRN Jiri 160.05 115 eP PKPdf 16 47 59.3 +5.9
ODAN Odare 160.42 118 eP PKPdf 16 48 00.1 +6.5
TAPN Taplejung 160.95 118 eP PKPdf 16 48 00.7 +6.4
comp=Z,27nm,1.2s
TAPN Taplejung 160.95 118 eP PP 16 52 19.5 -0.5
YHNB Yeheng 161.86 228 ePKPdf PKPdf 16 47 54.2 -0.8
WMQ Urumqi 164.45 61 ePKP PKPdf 16 47 57.0 +0.1
WMQ LR LR
comp=Z,1μm,20.8s
WMQ LR LR
comp=Z,1μm,20.6s
WMQ LR LR
comp=Z,1μm,24.2s
MOY Mondy 165.59 14 ePKP2 PKPab 16 49 03.9 +7.5
TLY Talaya 165.98 8 ePKP2 PKPab 16 48 53.3 -4.7
TLY pmax pmax
comp=Z,3.0nm,0.6s
ZAK Zakamensk 167.21 10 ePKP2 PKPab 16 49 03.6 +0.1
ZAK pmax pmax
comp=Z,7.0nm,1.3s
NJ2 Nanjing 168.46 244 ePKP PKPdf 16 48 01.5 +1.3
GYA Guiyang 168.67 180 PKP PKPdf 16 48 00.3 -0.4
GYA pPKP pPKPdf 16 48 12.8 +4.5
GYA PKPab PKPab 16 49 11.5 +0.9
GYA PKS PKSdf 16 51 32.5 -1.0
GYA PP PP 16 53 02.5 +3.7
GYA SKKS 16 59 44.0
GYA SS SS 17 13 50.0 +0.4
GYA AMB AMB
comp=Z,180nm,8.4s
GYA LR LR
comp=Z,180nm,21.8s
GYA LR LR
comp=Z,170nm,21.6s
GYA LR LR
comp=Z,190nm,24.4s
SONM Songino Array 169.99 1 PKP PKPdf 16 47 58.6 -2.3
comp=Z,1.2nm,1.0s,baz=256,slow=1.2,SNR=2.5
SONM PKPab PKPab 16 49 15.5 -0.4
comp=Z,2.6nm,0.8s,baz=341,slow=3.9,SNR=7.8
CD2 Chengdu 172.70 160 PKP PKPdf 16 48 02.0 -0.7
CD2 pPKP pPKPdf 16 48 13.5 +3.3
CD2 sPKP 16 48 17.3

CD2				PKS	**PKSdf**	16 51 33.0	-2.0
CD2				PP	**PP**	16 53 22.3	+3.3
CD2				SKS	**SKSdf**	16 54 59.8	-4.9
CD2				SKKS	**SKKSac**	17 00 04.0	-1.0
CD2				SS	**SS**	17 14 28.5	-1.1
CD2				AMB	AMB		
	comp=Z,260nm,6.2s						
GTA	**Gaotai**	**174.41**	**71**	*e*PKP	**PKPdf**	**16 48 03.0**	**-0.2**
GTA				pPKP	**pPKPdf**	**16 48 14.0**	**+3.3**
GTA				sPKP		16 48 18.0	
GTA				PKPab	**PKPab**	**16 49 38.0**	**+2.0**
GTA				PP	**PP**	**16 53 31.8**	**+3.0**
GTA				SKS	**SKSdf**	**16 55 00.8**	**-4.2**
GTA				SKKS	**SKKSac**	**17 00 13.0**	**-0.5**
GTA				SS	**SS**	**17 14 45.8**	**-3.0**
GTA				AMB	AMB		
	comp=Z,320nm,5.9s						
GTA				LR	LR		
	comp=Z,2µm,20.2s						
GTA				LR	LR		
	comp=Z,2µm,20.2s						
GTA				LR	LR		
	comp=Z,2µm,21.9s						
HHC	**Hu-ho-hao-te**	**175.15**	**310**	*e*PKP	**PKPdf**	**16 48 03.0**	**-0.3**
XAN	**Xi'an**	**175.80**	**207**	PKP	PKPdf	16 48 10.0	+6.4
LZH	**Lanzhou**	**177.15**	**127**	*e*PKP	**PKPdf**	**16 48 05.8**	**+1.8**
LZH				pPKP	**pPKPdf**	**16 48 16.8**	**+5.3**
LZH				sPKP		16 48 21.5	

IPEC ***27*** *16:30:16.0±0.2, 49°.82N×18°.56E, h2km±4km, ML1.1/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*
PRU ***27*** *16:30:16.5, 49°.88N×18°.50E, h0km*
CSEM 27 16:30:14.2±1.0**, 49°.86N**×**18°.61E, h1**km**, ML1.8**/4**, Error ellipse: s-maj=13.5km s-min=10.6km az=85.0, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.30**	**267**	*e*PG	Pb	16 30 21.4	-1.0
OKC				*e*SG	Sg	16 30 24.6	+0.7
	8.0nm,0.3s						
OKC	**Ostrava-Krasne**	**0.30**	**267**	Pg	Pb	16 30 21.4	-1.0
OKC				Sg	Sg	16 30 24.6	+0.7
	8.0nm,0.3s						
MORC	**Moravsky Berou**	**0.70**	**264**	*e*Pg	Pb	16 30 28.7	-0.6
MORC				*e*Sg	Sg	16 30 37.0	+0.2
	3.5nm,0.2s,baz=86						
KRLC	**Kraliky**	**1.20**	**281**	*e*PG	Pg	16 30 36.6	-0.8
KRLC				*e*SG	Sg	16 30 53.0	0.0
KRLC	**Kraliky**	**1.20**	**281**	Pg	Pg	16 30 36.6	-0.8
KRLC				Sg	Sg	16 30 53.0	0.0
VRAC	**Vranov**	**1.42**	**248**	*e*Pg	Pb	16 30 41.6	0.0
	baz=67						
VRAC				*e*Sg	Sg	16 30 59.2	-0.8
	2.7nm,0.3s,baz=67						
DPC	**Dobruska-Polom**	**1.56**	**289**	*e*PG	Pb	16 30 43.6	-0.3
DPC				*e*SG	Sn	16 31 03.3	-0.7
DPC	**Dobruska-Polom**	**1.56**	**289**	Pg	Pb	16 30 43.6	-0.3
DPC				Sg	Sn	16 31 03.3	-0.7
KRUC	**Moravsky**	**1.65**	**242**	*e*Pg	Pb	16 30 44.9	-0.5
	baz=61						
KRUC				*e*Sg	Sb	16 31 06.6	-0.1
	1.5nm,0.3s,baz=61						

IDC ***27*** *16:32:14.3±0.5, 34°.89S×72°.61W, h0km, mb4.7/20, mb1 4.8/23, mb1mx4.7/36, mbtmp4.7/23, ML4.8/3, Error ellipse: s-maj=18.5km s-min=12.6km az=74.0*
ISCJB ***27*** *16:32:17.8±0.2, 34°.89S±0°.05×72°.39W±0°.07, h29km, mb5.0/70, Error ellipse: s-maj=8.8km s-min=5.8km az=145.8*
BJI ***27*** *16:32:19.9, 35°.08S×71°.51W, h35km, mB5.2/7, Ms5.5/4, Ms7 5.3/4*
NEIC ***27*** *16:32:20.9±1.2, 34°.92S×72°.33W, h41km±10km, mb5.1/59, Error ellipse: s-maj=11.5km s-min=6.9km az=71.0*
MOS ***27*** *16:32:20.2±1.6, 34°.41S×71°.74W, h33km, mb5.3/16, Error ellipse: s-maj=41.8km s-min=14.3km az=115.5*
ISC 27 16:32:19.2±0.3**, 34°.90S**±0°.06×**72°.42W**±0°.09**, h29**km**, n366, σ1.s14**/363**, mb5.1**/71**, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.80**	**48**	Pn	**Pn**	**16 33 31.4**	**+1.7**
	4.6nm,0.3s,baz=223,slow=5.3,SNR=12						
CFAA				Lg	Lg	16 34 41.9	
	1.7nm,0.3s,baz=110,slow=23,SNR=3.0						
PLCA	**Paso Flores**	**6.01**	**166**	Pn	**Pn**	**16 33 46.5**	**+0.3**
	11nm,0.3s,baz=50,slow=7.9,SNR=3.4						
PLCA				Lg	Lg	16 35 15.4	
	3.5nm,0.3s,baz=250,slow=17,SNR=2.0						
TRQA	**Tornquist**	**8.98**	**114**	Pn	**Pn**	**16 34 26.7**	**-0.2**
LVC	**Limon Verde**	**12.62**	**15**	*e*Pn	**Pn**	**16 35 16.8**	**-0.3**
CPUP	**Villa Florida**	**15.53**	**61**	Pn	**Pn**	**16 35 57.4**	**+1.2**
	1.0nm,0.3s,baz=194,slow=12,SNR=2.8						
LPAZ	**La Paz**	**18.93**	**13**	*e*P	**P**	**16 36 38.6**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,31nm,0.8s						
LPAZ	**La Paz**	**18.93**	**13**	P	**Pn**	**16 36 39.9**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=179,slow=4.3,SNR=16						
LPAZ	**La Paz**	**18.93**	**13**	*e*P	**P**	**16 36 38.6**	**+0.1**
	comp=Z,31nm,0.8s						
USHA	**Ushuaia**	**20.12**	**173**	P	**P**	**16 36 51.1**	**+0.5**
	comp=Z,17nm,0.8s,baz=352,slow=3.1,SNR=5.8						
SIV	**San Ignacio**	**21.40**	**31**	P	**P**	**16 37 04.1**	**-0.7**
	comp=Z,26nm,0.6s,baz=219,slow=8.7,SNR=22						
NNA	**Nana**	**23.16**	**349**	P	**P**	**16 37 23.3**	**-0.1**
	comp=Z,11nm,0.6s,baz=148,slow=19,SNR=3.8						
BDFB	**Brasilia**	**29.10**	**55**	P	**P**	**16 38 16.8**	**-0.8**
	comp=Z,9.4nm,0.7s,baz=210,slow=11,SNR=4.4						
OTAV	**Otavalo**	**35.41**	**350**	*e*P	**P**	**16 39 15.3**	**+2.1**
	comp=Z,15nm,1.0s						
ROSC	**El Rosal**	**39.58**	**357**	P	**P**	**16 39 50.0**	**+1.5**
	comp=Z,5.8nm,0.5s,baz=236,slow=14,SNR=3.1						
ROSC	**El Rosal**	**39.58**	**357**	P	**P**	**16 39 50.0**	**+1.5**
	comp=Z,3.8nm,0.6s						
RCBR	**Riachuelo**	**44.38**	**58**	P	**P**	**16 40 27.7**	**+0.3**
	comp=Z,12nm,0.8s,baz=232,slow=14,SNR=7.3						
RCBR	**Riachuelo**	**44.38**	**58**	*e*P	**P**	**16 40 26.6**	**-0.8**
	comp=Z,30nm,1.2s						
PCRV	**Puerto La Cruz**	**45.43**	**11**	P	**P**	**16 40 35.6**	**0.0**
	comp=Z,6.8nm,0.6s,baz=228,slow=19,SNR=3.0						
JTS	**JuntasAbangare**	**46.48**	**343**	*e*P	**P**	**16 40 46.4**	**+2.5**
JTS				pmax	pmax		
	comp=Z,83nm,2.2s						
JTS	**JuntasAbangare**	**46.48**	**343**	P	**P**	**16 40 43.5**	**-0.4**
	comp=Z,2.7nm,0.5s,baz=122,slow=19,SNR=3.6						
JTS	**JuntasAbangare**	**46.48**	**343**	*e*P	**P**	**16 40 46.4**	**+2.5**
	comp=Z,82nm,2.2s						
VNA3	**Neumayer Olymp**	**48.65**	**157**	P	**P**	**16 41 01.2**	**+1.1**
VNA2	**Neumayer--Watz**	**49.31**	**157**	P	**P**	**16 41 04.5**	**-0.7**
SNAA	**Sanae**	**50.87**	**158**	P	**P**	**16 41 17.1**	**0.0**
SNAA	**Sanae**	**50.87**	**158**	*e*P	**P**	**16 41 16.0**	**-1.1**
SNAA				pmax	pmax		
	comp=Z,37nm,1.0s						
SNAA	**Sanae**	**50.87**	**158**	P	**P**	**16 41 17.0**	**-0.1**
	comp=Z,11nm,1.0s,baz=260,slow=7.2,SNR=18						
SNAA	**Sanae**	**50.87**	**158**	*e*P	**P**	**16 41 16.0**	**-1.1**
	comp=Z,37nm,1.0s						
QSPA	**South Pole Qui**	**55.34**	**180**	P	**P**	**16 41 49.8**	**-0.3**
	comp=Z,7.3nm,0.7s,baz=133,slow=3.1,SNR=12						
QSPA	**South Pole Qui**	**55.34**	**180**	*e*P	**P**	**16 41 50.2**	**+0.1**
	comp=Z,25nm,0.9s						
TEIG	**Tepich**	**56.85**	**342**	P	**P**	**16 42 00.2**	**-1.0**
	comp=Z,7.7nm,0.6s,baz=172,slow=7.1,SNR=4.4						
SYO	**Syowa Base**	**65.15**	**158**	⇑*e*pP	P	16 43 06.0	+9.0
933A	**Laredo**	**67.16**	**334**	P	**P**	**16 43 11.5**	**+1.1**
	baz=68						
735A	**Kenedy**	**67.79**	**336**	P	**P**	**16 43 15.1**	**+0.8**
	baz=68						
833A	**Chaparral WMA,**	**67.85**	**334**	P	**P**	**16 43 14.9**	**+0.2**
	baz=68						
636A	**Smothers Creek**	**68.13**	**337**	P	**P**	**16 43 17.0**	**+0.6**
	baz=68						
632A	**Uvalde**	**69.07**	**335**	P	**P**	**16 43 22.2**	**-0.1**
	baz=69						
631A	**Perdido Creek**	**69.27**	**334**	P	**P**	**16 43 22.9**	**-0.6**
	baz=70						
533A	**Kerrville**	**69.33**	**335**	P	**P**	**16 43 23.4**	**-0.5**
	baz=70						
532A	**Rocksprings**	**69.68**	**335**	P	**P**	**16 43 26.2**	**0.0**
	baz=70						
434A	**Burnet**	**69.75**	**336**	P	**P**	**16 43 26.0**	**-0.6**
	baz=70						
336A	**Riesel**	**69.83**	**338**	P	**P**	**16 43 26.5**	**-0.4**
	baz=70						
531A	**Rocksprings**	**69.94**	**334**	P	**P**	**16 43 27.6**	**-0.1**
	baz=70						
JCT	**Junction City**	**69.96**	**335**	*e*P	**P**	**16 43 27.4**	**-0.5**
JCT				pmax	pmax		
	comp=Z,17nm,0.8s						
JCT	**Junction City**	**69.96**	**335**	*e*P	**P**	**16 43 27.4**	**-0.5**
	comp=Z,17nm,0.8s						
JCT	**Junction City**	**69.96**	**335**	P	**P**	**16 43 27.6**	**-0.3**
	baz=70						
433A	**Art**	**69.97**	**336**	P	**P**	**16 43 27.3**	**-0.6**
	baz=70						
530A	**J-C Ranch, Com**	**70.21**	**334**	P	**P**	**16 43 29.2**	**-0.2**
	baz=71						
334A	**Lometa**	**70.22**	**337**	P	**P**	**16 43 28.9**	**-0.5**
	baz=71						
TXAR	**Lajitas Array**	**70.37**	**331**	P	**P**	**16 43 29.8**	**-0.7**
	comp=Z,2.8nm,0.5s,baz=155,slow=8.5,SNR=26						
431A	**Sonora**	**70.43**	**334**	P	**P**	**16 43 30.1**	**-0.6**
	baz=71						
333A	**Richland Sprin**	**70.46**	**336**	P	**P**	**16 43 30.3**	**-0.6**
	baz=71						
529A	**Stev Forest Ra**	**70.52**	**333**	P	**P**	**16 43 30.9**	**-0.4**
	baz=71						
WHTX	**Lake Whitney**	**70.58**	**338**	*e*P	**P**	**16 43 33.4**	**+1.9**
	comp=Z,16nm,0.8s						
WHTX	**Lake Whitney**	**70.58**	**338**	P	**P**	**16 43 30.9**	**-0.6**
	baz=71						
430A	**Baggett Ranch,**	**70.75**	**334**	P	**P**	**16 43 32.2**	**-0.5**
	baz=71						
332A	**Millersview**	**70.77**	**335**	P	**P**	**16 43 32.1**	**-0.7**
	baz=71						
234A	**Clairette**	**70.81**	**337**	P	**P**	**16 43 32.1**	**-0.8**
	baz=71						
429A	**Davenport Ranc**	**70.84**	**333**	P	**P**	**16 43 32.9**	**-0.3**
	baz=71						
331A	**San Angelo**	**70.94**	**335**	P	**P**	**16 43 33.0**	**-0.8**
	baz=71						
233A	**Rising Star**	**71.07**	**336**	P	**P**	**16 43 34.1**	**-0.4**
	baz=71						
232A	**Coleman**	**71.20**	**336**	P	**P**	**16 43 34.6**	**-0.8**
	baz=72						
330A	**Mertzon**	**71.29**	**334**	P	**P**	**16 43 35.2**	**-0.7**
	baz=72						
231A	**Bronte**	**71.47**	**335**	P	**P**	**16 43 36.0**	**-0.9**
	baz=72						
133A	**Hamilton Ranch**	**71.61**	**337**	P	**P**	**16 43 37.4**	**-0.5**
	baz=72						
329A	**Wagon Wheel Ra**	**71.65**	**334**	P	**P**	**16 43 37.7**	**-0.4**
	baz=72						
ABTX	**Abilene, Hawle**	**71.87**	**336**	*e*P	**P**	**16 43 38.8**	**-0.6**
	comp=Z,54nm,1.5s						
ABTX	**Abilene, Hawle**	**71.87**	**336**	P	**P**	**16 43 39.0**	**-0.4**
	baz=72						
Z34A	**Collier Ranch,**	**72.00**	**338**	P	**P**	**16 43 39.9**	**-0.2**
	baz=72						
229A	**Bryant Ranch,**	**72.03**	**334**	P	**P**	**16 43 39.7**	**-0.7**
	baz=72						
WVT	**Waverly**	**72.11**	**347**	*e*P	**P**	**16 43 39.8**	**-0.9**
WVT				pmax	pmax		
	comp=Z,20nm,0.9s						
WVT	**Waverly**	**72.11**	**347**	*e*P	**P**	**16 43 39.8**	**-0.9**
	comp=Z,20nm,0.9s						
131A	**Roby**	**72.17**	**335**	P	**P**	**16 43 40.5**	**-0.7**
	baz=72						
Z33A	**Whitaker Ranch**	**72.19**	**337**	P	**P**	**16 43 40.6**	**-0.7**
	baz=72						
130A	**Snyder**	**72.30**	**335**	P	**P**	**16 43 41.2**	**-0.7**
	baz=73						
JSRW	**J. Sargeant Re**	**72.41**	**355**	*e*P	**P**	**16 43 41.4**	**-1.0**
Z32A	**Haskell**	**72.44**	**336**	P	**P**	**16 43 42.3**	**-0.5**
	baz=73						
228A	**UT Block 9, Go**	**72.44**	**333**	P	**P**	**16 43 42.3**	**-0.6**
	baz=73						
Y34A	**Reagan Ranch,**	**72.49**	**338**	P	**P**	**16 43 42.5**	**-0.5**
	baz=73						
Z31A	**Sharp Cattle R**	**72.67**	**336**	P	**P**	**16 43 43.8**	**-0.4**
	baz=73						
Y33A	**Hilltop Ranch,**	**72.81**	**337**	P	**P**	**16 43 44.3**	**-0.7**
	baz=73						
128A	**Castleberry Fa**	**72.86**	**334**	P	**P**	**16 43 44.7**	**-0.7**
	baz=73						
Z30A	**Sanderson Ranc**	**72.98**	**335**	P	**P**	**16 43 45.0**	**-1.0**
	baz=73						
Y32A	**R-V Farms, Ver**	**73.07**	**337**	P	**P**	**16 43 46.1**	**-0.4**
	baz=73						
X34A	**Smith Ranch, M**	**73.11**	**338**	P	**P**	**16 43 46.4**	**-0.3**
	baz=74						
MNTX	**Cornudas Mount**	**73.14**	**331**	*e*P	**P**	**16 43 45.4**	**-1.6**
	comp=Z,1.8nm,0.6s						
Z29A	**Hungry Hill Ra**	**73.16**	**335**	P	**P**	**16 43 46.2**	**-0.9**
	baz=74						
Y31A	**Rekieta Farm,**	**73.30**	**336**	P	**P**	**16 43 47.6**	**-0.2**
	baz=74						
Y30A	**Stafford Cattl**	**73.44**	**336**	P	**P**	**16 43 48.0**	**-0.7**
	baz=74						
Y29A	**Porterfield Fa**	**73.69**	**335**	P	**P**	**16 43 49.5**	**-0.7**
	baz=74						
TUL1	**Tulsa**	**73.75**	**340**	*e*P	**P**	**16 43 51.8**	**+1.4**
	comp=Z,16nm,0.8s						
TUL1	**Tulsa**	**73.75**	**340**	P	**P**	**16 43 49.5**	**-0.9**
	baz=74						
Z27A	**Tatum**	**73.75**	**333**	P	**P**	**16 43 50.3**	**-0.3**
	baz=74						
W33A	**Caddo, Fort Co**	**73.82**	**338**	P	**P**	**16 43 50.3**	**-0.5**
	baz=74						
X31A	**McDonald Ranch**	**73.82**	**337**	P	**P**	**16 43 49.9**	**-1.0**
	baz=74						
Z26A	**Caprock**	**73.99**	**333**	P	**P**	**16 43 51.6**	**-0.4**
	baz=74						
W32A	**Sentinel**	**74.04**	**337**	P	**P**	**16 43 51.9**	**-0.3**
	baz=74						
MSTX	**Muleshoe**	**74.18**	**334**	*e*P	**P**	**16 43 52.6**	**-0.5**
	comp=Z,15nm,0.8s						
MSTX	**Muleshoe**	**74.18**	**334**	P	**P**	**16 43 52.6**	**-0.5**
	baz=74						
Z25A	**Roswell**	**74.28**	**332**	P	**P**	**16 43 53.6**	**-0.1**
	baz=75						
319A	**Douglas**	**74.49**	**328**	P	**P**	**16 43 54.6**	**-0.4**
	baz=75						
Y26A	**Elida**	**74.52**	**333**	P	**P**	**16 43 54.7**	**-0.4**
	baz=75						
V32A	**Arapaho**	**74.52**	**338**	P	**P**	**16 43 54.9**	**0.0**
	baz=75						
Z24A	**Sheeppen Canyo**	**74.57**	**332**	P	**P**	**16 43 55.3**	**-0.3**
	baz=75						
AMTX	**Amarillo**	**74.62**	**335**	*e*P	**P**	**16 43 54.8**	**-0.8**
	comp=Z,413nm,3.0s						
AMTX	**Amarillo**	**74.62**	**335**	P	**P**	**16 43 55.1**	**-0.6**
	baz=75						
SUR	**Sutherland**	**74.67**	**119**	P	**P**	**16 43 58.1**	**+1.7**
	comp=Z,178nm,0.7s,SNR=6.6						
SUR	**Sutherland**	**74.67**	**119**	P	**P**	**16 43 57.8**	**+1.4**
	comp=Z,18nm,0.9s,baz=224,slow=4.8,SNR=9.5						
U34A	**Anderson Ranch**	**74.73**	**339**	P	**P**	**16 43 56.2**	**+0.1**
	baz=75						
W29A	**Amraillo**	**74.82**	**335**	P	**P**	**16 43 56.3**	**-0.5**
	baz=75						
Y25A	**Mesa, Roswell**	**74.84**	**333**	P	**P**	**16 43 57.1**	**+0.1**
	baz=75						
121A	**Cookes Peak, D**	**74.85**	**330**	P	**P**	**16 43 57.4**	**+0.3**
	baz=75						
X26A	**CR and CF Fran**	**75.07**	**334**	P	**P**	**16 43 58.2**	**-0.1**
	baz=75						
Y24A	**Capitan**	**75.13**	**332**	P	**P**	**16 43 58.4**	**-0.4**
	baz=76						
Z22A	**Elephant Butte**	**75.14**	**331**	P	**P**	**16 43 58.9**	**+0.1**
	baz=76						
W27A	**Bowe Ranch, En**	**75.26**	**334**	P	**P**	**16 43 59.3**	**-0.1**
	baz=76						
Y23A	**Lovelace Mesa,**	**75.37**	**332**	P	**P**	**16 44 00.6**	**+0.5**
	baz=76						
ACSO	**Alum Creek Sta**	**75.39**	**352**	*e*P	**P**	**16 43 59.1**	**-0.8**
	comp=Z,19nm,0.6s						
W26A	**Owens Ranch, T**	**75.54**	**334**	P	**P**	**16 44 00.5**	**-0.5**
	baz=76						
V28A	**Channing**	**75.59**	**335**	P	**P**	**16 44 01.6**	**+0.3**
	baz=76						
DBIC	**Dimbokro**	**75.76**	**71**	*e*P	**P**	**16 44 01.6**	**-1.0**
DBIC				pmax	pmax		
	comp=Z,21nm,0.8s						
DBIC	**Dimbokro**	**75.76**	**71**	P	**P**	**16 44 03.3**	**+0.7**
	comp=Z,16nm,0.7s,baz=210,slow=6.2,SNR=17						
DBIC	**Dimbokro**	**75.76**	**71**	*e*P	**P**	**16 44 01.6**	**-1.0**
	comp=Z,21nm,0.8s						
W25A	**X Bar L Ranch,**	**75.91**	**333**	P	**P**	**16 44 02.8**	**-0.3**
	baz=76						
LPM	**Los Pinos Moun**	**75.93**	**331**	*e*P	**P**	**16 44 05.7**	**+2.4**
TUC	**Tucson**	**75.95**	**327**	*e*P	**P**	**16 44 02.7**	**-0.7**
TUC				pmax	pmax		
	comp=Z,14nm,1.3s						
TUC	**Tucson**	**75.95**	**327**	*e*P	**P**	**16 44 02.7**	**-0.7**
	comp=Z,14nm,1.3s						
V26A	**Tequesquite Ra**	**76.18**	**334**	P	**P**	**16 44 03.9**	**-0.7**
	baz=76						
W24A	**Lazy 6 Ranch,**	**76.25**	**333**	P	**P**	**16 44 04.8**	**-0.4**
	baz=77						
ANMO	**Albuquerque**	**76.42**	**332**	*e*P	**P**	**16 44 06.1**	**0.0**
ANMO				pmax	pmax		
	comp=Z,25nm,1.4s						
ANMO	**Albuquerque**	**76.42**	**332**	*e*P	**P**	**16 44 06.1**	**0.0**
	comp=Z,25nm,1.4s						
V25A	**Rancho No Teng**	**76.52**	**334**	P	**P**	**16 44 06.4**	**-0.3**
	baz=77						
V24A	**Rampart Ranch,**	**76.66**	**333**	P	**P**	**16 44 07.6**	**+0.1**
	baz=77						
U26A	**Atchley Ranch,**	**76.70**	**334**	P	**P**	**16 44 07.7**	**0.0**
	baz=77						
T28A	**Walsh**	**76.79**	**336**	P	**P**	**16 44 07.5**	**-0.6**
	baz=77						
S29A	**Ulysses**	**76.92**	**337**	P	**P**	**16 44 08.3**	**-0.5**
	baz=77						
U25A	**Circle Dot Ran**	**76.94**	**334**	P	**P**	**16 44 08.7**	**-0.3**
	baz=77						
T27A	**Campo**	**76.94**	**336**	P	**P**	**16 44 08.3**	**-0.6**
	baz=77						
V23A	**Ortiz Mt. (NFS**	**77.02**	**332**	P	**P**	**16 44 09.9**	**+0.4**
	baz=77						
S28A	**Manter**	**77.15**	**336**	P	**P**	**16 44 10.4**	**+0.4**
	baz=78						
T26A	**Comanche Natio**	**77.35**	**335**	P	**P**	**16 44 11.7**	**+0.5**
	baz=78						
V22A	**San Miguel Ran**	**77.45**	**332**	P	**P**	**16 44 12.5**	**+0.6**
	baz=78						
U23A	**El Rito**	**77.54**	**333**	P	**P**	**16 44 13.0**	**+0.6**
	baz=78						
S27A	**Las Animas**	**77.57**	**336**	P	**P**	**16 44 12.0**	**-0.4**
	baz=78						
T25A	**Trinidad**	**77.60**	**334**	P	**P**	**16 44 12.9**	**+0.2**
	baz=78						
Q31A	**Ellis**	**77.66**	**339**	P	**P**	**16 44 12.9**	**+0.1**
	baz=78						
S26A	**Kim**	**77.71**	**335**	P	**P**	**16 44 13.2**	**0.0**
	baz=78						
R28A	**Tribune**	**77.80**	**337**	P	**P**	**16 44 13.5**	**-0.2**
	baz=78						
U22A	**Llaves**	**77.83**	**332**	P	**P**	**16 44 14.4**	**+0.3**
	baz=78						
Q30A	**Quinter**	**77.88**	**338**	P	**P**	**16 44 14.3**	**+0.3**
	baz=78						
T24B	**San Luis**	**77.89**	**334**	P	**P**	**16 44 15.0**	**+0.5**
	baz=78						
W18A	**Petrified Fore**	**77.89**	**329**	*e*P	**P**	**16 44 15.0**	**+0.7**
	comp=Z,21nm,1.0s						
W18A	**Petrified Fore**	**77.89**	**329**	P	**P**	**16 44 15.1**	**+0.7**
	baz=78						
X16A	**Lo Mia Camp, P**	**78.03**	**328**	P	**P**	**16 44 15.2**	**0.0**
	baz=78						
Q29A	**Oakley**	**78.04**	**338**	P	**P**	**16 44 15.4**	**+0.5**
	baz=78						
R27A	**Eads**	**78.08**	**336**	P	**P**	**16 44 15.1**	**-0.1**
	baz=78						
S25A	**Robets Cordova**	**78.08**	**335**	P	**P**	**16 44 15.7**	**+0.4**
	baz=78						
T23A	**Casias Ranch,**	**78.10**	**333**	P	**P**	**16 44 16.2**	**+0.6**
	baz=78						
R26A	**Arlington**	**78.31**	**336**	P	**P**	**16 44 17.0**	**+0.5**
	baz=79						
S24A	**Houchin Ranch,**	**78.34**	**334**	P	**P**	**16 44 17.4**	**+0.5**
	baz=79						
SDCO	**Great Sand Dun**	**78.54**	**334**	*e*P	**P**	**16 44 17.3**	**-0.7**
P29A	**Atwood**	**78.67**	**338**	P	**P**	**16 44 18.8**	**+0.4**
	baz=79						
R24A	**Sanders Place,**	**78.83**	**334**	P	**P**	**16 44 20.0**	**+0.5**
	baz=79						
Q26A	**Hugo**	**78.89**	**336**	P	**P**	**16 44 20.9**	**+1.2**
	baz=79						
P28A	**Saint Francis**	**78.91**	**337**	P	**P**	**16 44 20.6**	**+0.9**
	baz=79						
WUAZ	**Wupatki**	**78.93**	**328**	*e*P	**P**	**16 44 20.2**	**+0.2**
	comp=Z,22nm,1.4s						
WUAZ	**Wupatki**	**78.93**	**328**	P	**P**	**16 44 20.6**	**+0.6**
	baz=79						
S22A	**4UR Ranch, Cre**	**79.03**	**333**	P	**P**	**16 44 21.1**	**+0.4**
	baz=79						
Q25A	**Bedland, Calha**	**79.14**	**335**	P	**P**	**16 44 22.3**	**+1.2**
	baz=80						
MVCO	**Mesa Verde**	**79.20**	**331**	*e*P	**P**	**16 44 20.4**	**-1.1**
	comp=Z,16nm,1.0s						
MVCO	**Mesa Verde**	**79.20**	**331**	P	**P**	**16 44 22.2**	**+0.6**
	baz=80						
TSUM	**Tsumeb**	**79.27**	**106**	*e*P	**P**	**16 44 23.8**	**+1.4**
	comp=Z,14nm,1.0s						
P26A	**Davis Ranch, A**	**79.41**	**336**	P	**P**	**16 44 23.2**	**+0.6**
	baz=80						
Q24A	**Divide**	**79.49**	**335**	P	**P**	**16 44 23.5**	**+0.3**
	baz=80						
P25A	**Willow Gulch B**	**79.64**	**336**	P	**P**	**16 44 24.6**	**+0.7**
	baz=80						
W13A	**Hualapai Mount**	**79.69**	**327**	P	**P**	**16 44 24.8**	**+0.5**
	baz=80						
BOSA	**Boshof**	**79.93**	**118**	P	**P**	**16 44 25.0**	**-0.8**
BOSA				pmax	pmax		
	comp=Z,22nm,0.7s						
BOSA	**Boshof**	**79.93**	**118**	P	**P**	**16 44 26.3**	**+0.4**
	comp=Z,26nm,0.8s,baz=231,slow=4.9,SNR=30						
BOSA	**Boshof**	**79.93**	**118**	P	**P**	**16 44 25.0**	**-0.8**
	comp=Z,22nm,0.7s						
PV01	**Paradox Valley**	**80.03**	**332**	*e*P	**P**	**16 44 25.2**	**-0.9**
	comp=Z,1µm,1.1s						
U15A	**North Rim**	**80.09**	**328**	P	**P**	**16 44 27.2**	**+0.7**
	baz=80						
GMRC	**Granite Mounta**	**80.24**	**325**	P	**P**	**16 44 27.5**	**+0.4**
	baz=81						
N27A	**Anderson Farm,**	**80.27**	**337**	P	**P**	**16 44 27.6**	**+0.4**
	baz=81						
SMCO	**Snowmass**	**80.34**	**333**	*e*P	**P**	**16 44 28.9**	**+1.0**
	comp=Z,29nm,1.2s						
PV04	**Paradox Valley**	**80.39**	**332**	*e*P	P	16 44 31.9	+4.0
ISCO	**Idaho Springs**	**80.40**	**335**	*e*P	**P**	**16 44 30.5**	**+2.4**
ISCO	**Idaho Springs**	**80.40**	**335**	*e*P	**P**	**16 44 30.5**	**+2.4**
O22A	**Kremmling**	**81.05**	**334**	P	**P**	**16 44 31.9**	**+0.3**
	baz=81						
ECSD	**EROS Data Cent**	**81.31**	**343**	*e*P	**P**	**16 44 31.3**	**-1.2**
	comp=Z,79nm,1.8s						
ECSD	**EROS Data Cent**	**81.31**	**343**	P	**P**	**16 44 32.1**	**-0.4**
	baz=82						
SHPR	**Sheep Range**	**81.43**	**326**	*e*P	**P**	**16 44 34.0**	**+0.5**
N23A	**Red Feather La**	**81.49**	**335**	P	**P**	**16 44 34.6**	**+0.8**
	baz=82						
CCUT	**Cedar City**	**81.50**	**328**	*e*P	**P**	**16 44 34.9**	**+0.9**
	comp=Z,18nm,1.0s						
N22A	**Wattenberg Ran**	**81.58**	**335**	P	**P**	**16 44 35.6**	**+1.2**
	baz=82						
SRU	**San Rafael**	**81.64**	**331**	*e*P	**P**	**16 44 34.4**	**-0.2**
SRU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SRU	**San Rafael**	**81.64**	**331**	*e*P	**P**	**16 44 34.4**	**-0.2**
	comp=Z,9.7nm,1.0s						
O20A	**White River Ci**	**81.65**	**333**	*e*P	**P**	**16 44 36.6**	**+2.0**
	comp=Z,35nm,1.6s						
PHWY	**Pilot Hill**	**81.68**	**335**	*e*P	**P**	**16 44 36.8**	**+1.9**
	comp=Z,126nm,2.8s						
LRMC	**Laurel Mountai**	**81.78**	**324**	P	**P**	**16 44 35.8**	**+0.5**
	baz=82						
MVU	**Marysvale**	**81.81**	**330**	*e*P	**P**	**16 44 36.1**	**+0.5**
	comp=Z,11nm,0.9s						
SPMN	**St. Paul**	**81.86**	**346**	*e*P	**P**	**16 44 37.2**	**+1.9**
	comp=Z,127nm,2.3s						
J29A	**Okreek**	**81.99**	**340**	P	**P**	**16 44 37.3**	**+1.2**
	baz=82						
TMUT	**Trail Mountain**	**82.08**	**331**	*e*P	**P**	**16 44 39.7**	**+2.7**
	comp=Z,129nm,2.7s						
FURC	**Furnace Creek,**	**82.19**	**325**	P	**P**	**16 44 37.6**	**+0.4**
	baz=82						
LBTB	**Lobatse**	**82.21**	**115**	*e*P	**P**	**16 44 37.3**	**-0.7**
LBTB				pmax	pmax		
	comp=Z,31nm,1.0s						
LBTB	**Lobatse**	**82.21**	**115**	*e*P	**P**	**16 44 37.3**	**-0.7**
	comp=Z,31nm,1.0s						
N20A	**Spence Gulch,**	**82.27**	**333**	P	**P**	**16 44 38.7**	**+0.8**
	baz=83						
ISA	**Isabella**	**82.31**	**324**	*e*P	P	16 44 42.0	+4.0
ISA	**Isabella**	**82.31**	**324**	*e*P	P	16 44 42.0	+4.0
ISA	**Isabella**	**82.31**	**324**	P	**P**	**16 44 38.8**	**+0.8**

baz=83
VES Vestal, Richgr 82.75 323 P P 16 44 40.9 +0.7
baz=83
I28A Midland 82.77 340 P P 16 44 41.7 +1.5
baz=83
MPU Maple Canyon 82.86 331 eP P 16 44 41.9 +1.0
comp=Z,19nm,1.1s
R11A Troy Canyon, C 83.14 327 eP P 16 44 42.9 +0.5
comp=Z,12nm,1.0s
R11A Troy Canyon, C 83.14 327 P P 16 44 43.2 +0.8
baz=84
J24A Dixon Ranch, L 83.23 337 P P 16 44 42.9 +0.2
baz=84
K22A Casper 83.25 335 P P 16 44 42.5 -0.3
comp=Z,48nm,1.4s
K22A Casper 83.25 335 P P 16 44 43.4 +0.6
baz=84
G30A Faulkton 83.26 341 P P 16 44 43.8 +1.1
baz=84
JLU Jordanelle 83.28 331 eP P 16 44 45.6 +2.4
comp=Z,11nm,1.1s
H28A Mission Ridge 83.35 340 P P 16 44 42.9 -0.3
baz=84
K21A Alcova 83.48 335 P P 16 44 43.6 -0.5
baz=84
DUG Dugway 83.49 330 eP P 16 44 43.4 -0.7
DUG pmax pmax
comp=Z,27nm,1.3s
DUG Dugway 83.49 330 eP P 16 44 43.4 -0.7
comp=Z,27nm,1.3s
DUG Dugway 83.49 330 P P 16 44 44.0 -0.1
baz=84
I25A Rochford 83.56 338 P P 16 44 44.7 +0.2
baz=84
TPH Tonopah 83.66 326 eP P 16 44 45.6 +0.4
TPH pmax pmax
comp=Z,15nm,1.1s
TPH Tonopah 83.66 326 eP P 16 44 45.5 +0.4
comp=Z,15nm,1.1s
I24A Kuemmerle Ranc 83.69 337 P P 16 44 45.6 +0.6
baz=84
RSSD Black Hills 83.74 338 eP P 16 44 46.2 +0.8
RSSD pmax pmax
comp=Z,68nm,2.3s
RSSD Black Hills 83.74 338 eP P 16 44 46.2 +0.8
comp=Z,68nm,2.3s
BGU Big Grassy Mou 84.19 330 eP P 16 44 48.0 +0.3
comp=Z,7.8nm,1.3s
I22A 9 Mile Ranch, 84.33 336 P P 16 44 48.3 -0.1
baz=85
G26A Maurine 84.37 339 P P 16 44 48.8 +0.4
baz=85
J20A Shoshoni 84.41 335 P P 16 44 49.0 +0.3
baz=85
PDAR Pinedale Array 84.42 333 P P 16 44 47.4 -1.6
comp=Z,1.6nm,0.8s,baz=138,slow=6.9,SNR=3.8
NVAR Mina Array Bea 84.44 325 P P 16 44 48.2 -1.0
comp=Z,1.8nm,0.8s,baz=166,slow=7.0,SNR=7.5
H24A Dirks Ranch, A 84.47 338 P P 16 44 48.5 -0.5
baz=85
I21A Big Trails, Te 84.53 335 P P 16 44 48.9 -0.5
baz=85
J19A Crowheart 84.67 334 P P 16 44 49.7 -0.4
baz=85
F27A Lemmon 84.73 340 P P 16 44 51.1 +0.9
baz=85
TOA0 Torodi Ar. Sit 84.81 70 eP P 16 44 49.9 -1.4
TORD Torodi Ar. Bea 84.81 70 P P 16 44 51.5 +0.2
comp=Z,11nm,0.7s,baz=277,slow=5.6,SNR=49
HVU Hansel Valley 84.81 331 eP P 16 44 51.3 +0.5
HVU pmax pmax
comp=Z,34nm,1.4s
HVU Hansel Valley 84.81 331 eP P 16 44 51.3 +0.5
comp=Z,34nm,1.4s
I20A Worland 84.94 335 P P 16 44 51.1 -0.4
baz=85
ELK Elko 84.97 329 eP P 16 44 51.6 -0.2
ELK pmax pmax
comp=Z,8.0nm,1.0s
ELK Elko 84.97 329 P P 16 44 50.4 -1.4
comp=Z,2.8nm,0.9s,baz=244,slow=9.3,SNR=6.3
ELK Elko 84.97 329 eP P 16 44 51.6 -0.2
comp=Z,8.0nm,1.0s
D30A Buchanan 85.00 342 P P 16 44 51.5 +0.1
baz=85
I19A Meeteetse 85.32 334 P P 16 44 53.9 +0.5
baz=86
H20A Greybull 85.37 335 P P 16 44 53.0 -0.5
baz=86
REDW Red Top Meadow 85.42 333 eP P 16 44 57.5 +3.6
AGMN Agassiz Nation 85.44 345 eP P 16 44 52.2 -1.4
comp=Z,96nm,2.4s
G22A Birney 85.44 337 P P 16 44 54.0 +0.1
baz=86
C30A Mose, Pekin 85.48 343 P P 16 44 54.0 +0.2
baz=86
LOHW Long Hollow 85.54 333 eP P 16 44 57.9 +3.3
TPAW Teton Pass 85.56 333 eP P 16 44 59.1 +4.4
F23A Volborg 85.61 338 P P 16 44 54.7 +0.1
baz=86
G21A Lodge Grass 85.75 336 P P 16 44 56.2 +0.8
baz=86
I17A Pilgrim Ck. 85.79 333 P P 16 44 55.9 +0.1
baz=86
H19A Powell 85.87 335 P P 16 44 55.6 -0.4
baz=86
IMW Indian Meadow 85.91 333 eP P 16 44 58.7 +2.3
comp=Z,18nm,1.4s
F22A Rosebud 85.93 337 P P 16 44 57.1 +0.8
baz=86
FLWY Flagg Ranch 85.98 333 eP P 16 44 56.9 +0.2
comp=Z,60nm,1.7s
H18A Shoshone NF, C 86.12 334 P P 16 44 57.0 -0.4
baz=86
B30A Myrvik Farm, E 86.14 343 P P 16 44 57.1 0.0
baz=86
H17A Grant Village 86.20 334 eP P 16 45 02.8 +4.9
C27A Sayler Ranch, 86.27 341 P P 16 44 58.4 +0.6
baz=87
RLMT Red Lodge 86.36 335 eP P 16 44 57.4 -1.2
comp=Z,7.6nm,0.6s
D24A Glendive 86.53 339 P P 16 45 00.2 +1.1
baz=87
A30A Hoffart Farm, 86.59 343 P P 16 44 59.0 -0.4
baz=87
LAO LASA Array 86.73 337 eP P 16 45 02.4 +2.3
comp=Z,26nm,1.2s
A29A Manning Farm, 86.80 343 P P 16 45 01.7 +1.3
baz=87
D23A Lindsay 86.85 338 P P 16 45 01.1 +0.4
baz=87
F19A Roth Farm, Mol 86.89 335 P P 16 45 01.3 +0.3
baz=87
C24A Savage 86.93 339 P P 16 45 01.3 +0.3
baz=87
HLID Hailey 86.97 331 eP P 16 45 04.8 +3.3
comp=Z,14nm,1.4s
HLID Hailey 86.97 331 P P 16 45 01.6 +0.1
baz=87
D22A Cohagen 87.13 338 P P 16 45 03.3 +1.3
baz=88
E20A Meyer Farm, Mu 87.18 336 P P 16 45 03.8 +1.4
baz=88
B25A Knox Farm, Ray 87.24 340 P P 16 45 03.1 +0.5
baz=88
ULM Lac du Bonnet 87.28 345 eP P 16 45 05.6 +3.0
ULM Lac du Bonnet 87.28 345 P P 16 45 01.8 -0.8
comp=Z,5.4nm,1.0s,baz=198,slow=6.4,SNR=3.8
ULM Lac du Bonnet 87.28 345 eP P 16 45 05.6 +3.0
D21A La Casta Ranch 87.31 337 P P 16 45 03.4 +0.5
baz=88
E19A Rath Farm, Rou 87.36 336 P P 16 45 04.6 +1.3
baz=88
C23A Lambert 87.40 339 P P 16 45 03.8 +0.5
baz=88
MCMT McKenzie Canyo 87.42 332 eP P 16 45 04.2 +0.5
comp=Z,12nm,1.2s
C22A Vida 87.56 338 P P 16 45 05.8 +1.7
baz=88
BOZ Bozeman (W) 87.66 334 eP P 16 45 07.7 +2.9
BOZ pmax pmax
comp=Z,8.0nm,1.3s
BOZ Bozeman (W) 87.66 334 eP P 16 45 07.7 +2.9
comp=Z,7.5nm,1.3s
D20A Manuel Ranch, 87.70 336 P P 16 45 06.2 +1.4
baz=88
DGMT Dagmar 87.71 339 eP P 16 45 04.4 -0.4
comp=Z,77nm,1.3s
DGMT Dagmar 87.71 339 P P 16 45 05.3 +0.5
baz=88
DLMT Dillon 87.78 333 eP P 16 45 07.7 +2.4
comp=Z,14nm,1.1s
WVOR Wild Horse Val 87.81 328 eP P 16 45 09.9 +4.3
WVOR Wild Horse Val 87.81 328 eP P 16 45 09.9 +4.3
B23A Brockton 87.94 339 P P 16 45 07.4 +1.5
baz=88
C21A Desert Coulee 88.01 337 P P 16 45 07.5 +1.2
baz=88
A24A Westby 88.07 340 P P 16 45 08.2 +1.7
baz=88
B22A Reddig Ranch S 88.09 338 P P 16 45 08.3 +1.6
baz=88
LRM Limekiln Ridge 88.11 333 eP P 16 45 09.2 +2.2
MOD Modoc 88.14 326 eP P 16 45 07.2 +0.1
comp=Z,29nm,1.5s
A22A Carney Farms, 88.69 339 P P 16 45 11.6 +2.1
baz=89
B20A Solberg Farm, 88.85 337 P P 16 45 12.3 +2.1
baz=89
EGMT Eagleton 89.05 336 P P 16 45 13.2 +2.1
baz=89
K05A Summer Lake 89.06 327 eP P 16 45 12.0 +0.5
comp=Z,130nm,1.8s
YBH Yreka Blue Hor 89.12 325 eP P 16 45 15.1 +3.4
YBH Yreka Blue Hor 89.12 325 P P 16 45 10.8 -0.9
comp=Z,3.4nm,1.0s,baz=137,slow=5.6,SNR=2.8
YBH Yreka Blue Hor 89.12 325 eP P 16 45 15.1 +3.4
B19A Brinkman Farms 89.16 337 P P 16 45 14.3 +2.6
baz=90
A20A Cobblestone Ra 89.20 337 P P 16 45 14.1 +2.3
baz=90
BMO Blue Mountains 89.20 330 eP P 16 45 15.6 +3.6
J05D Fort Rock, OR 89.65 327 P P 16 45 15.4 +1.2
baz=90
F10A Beach Ranch, E 90.09 331 eP P 16 45 18.5 +2.4
comp=Z,134nm,2.9s
G08A Pilot Rock 90.25 329 eP P 16 45 19.2 +2.2
comp=Z,69nm,2.6s
C09A Chrisman Ranch 91.99 331 eP P 16 45 26.8 +2.0
comp=Z,7.1nm,0.9s
WRA Warramunga Arr 119.83 209 PKP PKPdf 16 51 05.4 -1.8
comp=Z,0.6nm,0.6s,baz=156,slow=1.8,SNR=7.4
BRTR Keskin Array B 122.54 62 PKP PKPdf 16 51 11.6 -0.3
comp=Z,1.6nm,0.7s,baz=182,slow=4.1,SNR=8.4
AKASG Malin Array Be 123.03 48 PKP PKPdf 16 51 10.4 -1.9
comp=Z,0.8nm,0.5s,baz=265,slow=2.7,SNR=6.1
FINES FINESS Array B 123.91 35 PKP PKPdf 16 51 12.6 -1.0
comp=Z,1.6nm,0.8s,baz=132,slow=2.8,SNR=3.7
ARCES ARCESS Array B 124.96 25 PKP PKPdf 16 51 14.6 -0.9
comp=Z,5.4nm,1.0s,baz=241,slow=1.9,SNR=3.1
OBN Obninsk 128.30 44 i PKIKP PKPdf 16 51 28.4 +6.2
OBN pmax pmax
comp=Z,8.0nm,1.6s
KBZ Khabaz 130.32 59 PKP PKPdf 16 51 26.9 +0.5
comp=Z,3.1nm,1.0s,baz=280,slow=4.9,SNR=3.6
ONI Oni 130.46 61 P PKPdf 16 51 24.3 -2.5
BILL Bilibino 133.50 334 ePKIKP PKPdf 16 51 39.2 +7.5
BILL pmax pmax
comp=Z,5.0nm,1.1s
GEYT Alibeck 140.45 71 PKhKP PKPpre 16 51 42.4
comp=Z,1.9nm,0.8s,baz=298,slow=6.1,SNR=2.5
SEY Seymchan 140.65 329 PKP PKPdf 16 51 43.8 -1.3
comp=Z,3.1nm,0.7s,baz=106,slow=3.9,SNR=6.8
ABKAR Akbulak array 142.48 53 ePKPdf PKPdf 16 51 48.9 +0.2
SBUM Sibu 147.43 189 ePKPdf PKPbc 16 52 00.7 -0.2
BRVK Borovoye 148.08 44 ePKIKP PKPdf 16 51 58.9 +0.7
BRVK Borovoye 148.08 44 ePKPdf PKPdf 16 51 58.9 +0.7
HYB Hyderabad 148.83 116 i PKP PKPbc 16 52 03.0 -1.5
IPM Ipoh 149.13 167 ePKPbc PKPbc 16 52 05.8 +0.4
IPM ePKPab PKPab 16 52 11.0 +1.4
YAK Yakutsk 149.47 340 ePKP2 PKPab 16 52 09.4 -0.2
YAK pmax pmax
comp=Z,32nm,0.9s
YAK Yakutsk 149.47 340 ePKPbc PKPbc 16 52 04.0 -0.6
KKAR Karatay Array 150.24 63 ePKP2 PKPbc 16 52 08.2 +0.9
KKAR Karatay Array 150.24 63 ePKPbc PKPbc 16 52 08.2 +0.9
ASAJ Asahikawa 151.64 300 PKPbc PKPbc 16 52 11.9 +1.5
comp=Z,15nm,1.1s,baz=333,slow=9.0,SNR=3.2
AAK Ala-Archa 153.20 63 ePKIKP PKPbc 16 52 15.0 +0.8
AAK e 16 52 26.7
AAK Ala-Archa 153.20 63 ePKPbc PKPbc 16 52 15.0 +0.8
AAK ePKPab PKPab 16 52 26.7 +0.6
NVS Novosibirsk 153.87 33 ePKIKP PKPbc 16 52 12.1 -2.9
NVS pmax pmax
comp=Z,16nm,1.1s
KSH Kashi 154.48 70 ePKPbc PKPdf 16 52 09.8 +1.2
KSH epPKP pPKPdf 16 52 20.5 +2.2
KSH esPKP 16 52 23.8
KSH eSKS SKSdf 16 59 12.0 -1.3
KSH eSKKS SKKSac 17 02 52.5 -2.5
KSH AMB AMB
comp=Z,76nm,4.9s
MJAR Matsushiro Arr 155.13 283 PKIKP PKPdf 16 52 18.0 +8.5
MJAR Matsushiro Arr 155.13 283 PKPbc PKPdf 16 52 18.0 +8.5
comp=Z,1.0nm,0.9s,baz=104,slow=3.9,SNR=3.1
ZALV Zalesovo Beam 155.15 33 PKP PKPdf 16 52 07.9 -1.0
comp=Z,1.4nm,0.6s,baz=232,slow=1.7,SNR=4.5
BOD Bodaibo 156.67 351 ePKP2 PKPab 16 52 34.7 -5.4
BOD pmax pmax
comp=Z,10.0nm,1.0s
MKAR Makanchi Array 157.58 50 ePKIKP PKPdf 16 52 15.1 +2.7
MKAR Makanchi Array 157.58 50 PKP PKPdf 16 52 11.9 -0.5
comp=Z,2.2nm,1.0s,baz=298,slow=3.1,SNR=4.6
MKAR PKPab PKPab 16 52 44.8 +0.3
comp=Z,2.2nm,0.9s,baz=302,slow=2.4,SNR=7.0
MKAR Makanchi Array 157.58 50 ePKPdf PKPdf 16 52 15.1 +2.7
MKAR PKPab PKPab 16 52 44.8 +0.3
DANN Dangsing 158.72 101 eP PKPdf 16 52 10.8 -3.9
GUN Gumba 160.23 105 eP PKPdf 16 52 15.3 -1.2
JIRN Jiri 160.37 106 eP PKPdf 16 52 15.9 -0.8
CMAR Chiang Mai Arr 161.91 153 PKP2 PKPab 16 53 03.0 -0.9
CMAR Chiang Mai Arr 161.91 153 PKPab PKPab 16 53 03.0 -0.9
comp=Z,1.2nm,0.9s,baz=266,slow=5.5,SNR=4.0
CHTO Chiang Mai 162.24 152 ePKIKP PKPdf 16 52 19.1 +0.7
CHTO Chiang Mai 162.24 152 ePKPdf PKPdf 16 52 19.1 +0.7
WMQ Urumqi 162.26 54 ePKP PKPdf 16 52 18.8 +1.0
WMQ LR LR
comp=Z,930nm,19.6s
ZAK Zakamensk 164.21 10 ePKIKP PKPdf 16 52 25.0 +5.5
ZAK pmax pmax
comp=Z,2.0nm,1.6s
ZAK pmax pmax
comp=Z,4.0nm,1.3s
SONM Songino Array 167.04 4 PKPab PKPab 16 53 25.7 -0.2
comp=Z,1.3nm,0.9s,baz=19,slow=5.3,SNR=2.6
NJ2 Nanjing 170.17 256 ePKP PKPdf 16 52 23.3 -1.0
GYA Guiyang 171.55 174 PKP PKPdf 16 52 25.3 0.0
GYA pPKP pPKPdf 16 52 36.0 +1.0
GYA PKPab PKPab 16 53 48.0 +1.7
GYA PKS PKSdf 16 55 54.5 -3.4
GYA PP PP 16 57 39.0 +2.8
GYA SKKS 17 04 21.8
GYA AMB AMB
comp=Z,120nm,8.5s
GYA LR LR
comp=Z,130nm,21.8s
GYA LR LR
comp=Z,120nm,21.5s
GYA LR LR
comp=Z,140nm,24.2s
GTA Gaotai 172.34 52 ePKP PKPdf 16 52 26.3 +1.0
GTA pPKP pPKPdf 16 52 37.0 +2.0
GTA sPKP 16 52 41.3
HHC Hu-ho-hao-te 173.28 333 ePKP PKPdf 16 52 23.0 -2.6
HHC pPKP pPKPdf 16 52 33.0 -2.3
HHC sPKP 16 52 38.0
CD2 Chengdu 174.88 140 PKP PKPdf 16 52 26.8 +0.4
CD2 pPKP pPKPdf 16 52 38.0 +1.9
CD2 sPKP 16 52 41.8
CD2 PKS PKSdf 16 55 57.5 -1.2
CD2 PP PP 16 57 56.5 +3.3
CD2 SKS SKSdf 16 59 24.3 -3.3
CD2 AMB AMB
comp=Z,220nm,6.2s
LZH Lanzhou 176.73 68 ePKP PKPdf 16 52 29.5 +2.6
LZH pPKP pPKPdf 16 52 39.3 +2.8
LZH sPKP 16 52 44.0

ISCJB 27 16:34:24.3±0.3, 35°.42S±0°.05×72°.61W±0°.08, h20km, mb4.5/16, Error ellipse: s-maj=9.1km s-min=7.5km az=179.6

NEIC 27 16:34:27.4±0.4, 35°.40S×72°.62W, h35km, mb4.7/5, Error ellipse: s-maj=12.1km s-min=8.4km az=66.0

IDC 27 16:34:27.4±0.7, 35°.34S×72°.63W, h29km±4km, mb4.2/11, mb1 4.4/14, mb1mx4.2/35, mbtmp4.4/14, ML4.7/2, Error ellipse: s-maj=23.4km s-min=14.3km az=71.0

ISC 27 16:34:26.0±0.5, 35°.42S±0°.07×72°.65W±0°.10, h20km, n90, σ1§18/90, mb4.5/16, 29C-27D, Near coast of central Chile

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

CFAA Coronel Fontan 5.30 45 Pn Pn 16 35 45.0 +0.9
baz=225,slow=16,SNR=3.0
CFAA Sn Sn 16 36 45.8 +1.3
2.6nm,0.3s,baz=222,slow=15,SNR=1.8
CFAA Lg Lg 16 36 59.5
9.5nm,0.3s,baz=261,slow=20,SNR=6.0
PLCA Paso Flores 5.56 163 Pn Pn 16 35 48.5 +1.0
8.9nm,0.3s,baz=324,slow=12,SNR=3.4
PLCA Lg Lg 16 37 14.6
7.2nm,0.3s,baz=255,slow=20,SNR=2.7
TRQA Tornquist 8.96 110 Pn Pn 16 36 32.2 -2.0
LPAZ La Paz 19.48 13 P Pn 16 38 54.2 +0.7
0.5nm,0.3s,baz=189,slow=8.9,SNR=3.9
USHA Ushuaia 19.63 173 P Pn 16 38 54.3 -0.2
0.6nm,0.3s,baz=343,slow=14,SNR=3.0
SIV San Ignacio 21.95 31 P P 16 39 17.2 -1.2
9.0nm,0.6s,baz=200,slow=9.4,SNR=5.3
OTAV Otavalo 35.89 350 eP P 16 41 24.1 -1.2
SDV Santo Domingo 44.11 3 eP P 16 42 31.9 -1.2
JTS JuntasAbangare 46.93 343 eP P 16 42 54.4 -0.9
SNAA Sanae 50.47 157 P P 16 43 22.7 +0.7
1.6nm,0.8s,baz=290,slow=12,SNR=4.3
SNAA Sanae 50.47 157 eP P 16 43 21.4 -0.6
QSPA South Pole Qui 54.82 180 P P 16 43 55.3 +1.0
2.9nm,0.7s,baz=141,slow=2.9,SNR=7.2
QSPA South Pole Qui 54.82 180 eP P 16 43 53.0 -1.4
TEIG Tepich 57.29 343 P P 16 44 11.7 -0.6
11nm,0.6s,baz=172,slow=7.1,SNR=5.2
735A Kenedy 68.19 336 ⇑P P 16 45 25.5 +0.6
baz=68
636A Smothers Creek 68.53 337 ⇑P P 16 45 28.3 +1.4
baz=69
535A Dale 69.20 337 ⇑P P 16 45 33.4 +2.2
baz=70
339A Huntington 69.52 340 ⇑P pP 16 45 47.8 +8.3
baz=70
631A Perdido Creek 69.65 334 ⇓P P 16 45 27.2 -6.7
baz=70
533A Kerrville 69.72 336 ⇑P P 16 45 34.7 +0.3
baz=70
337A Centerville 69.89 339 ⇓P pP 16 45 45.0 +3.1
baz=70
532A Rocksprings 70.07 335 ⇑P P 16 45 37.0 +0.4
baz=70,SNR=7.3
434A Burnet 70.15 337 ⇑P P 16 45 37.5 +0.5
baz=70,SNR=5.6
531A Rocksprings 70.33 335 ⇓P P 16 45 38.7 +0.6
baz=71,SNR=5.3
JCT Junction City 70.36 335 eP P 16 45 37.0 -1.2
27nm,1.3s
JCT Junction City 70.36 335 ⇑P P 16 45 38.1 -0.2
baz=71
433A Art 70.37 336 ⇓P P 16 45 38.6 +0.3
baz=71,SNR=5.9
530A J-C Ranch, Com 70.59 334 ⇓P P 16 45 40.0 +0.2
baz=71,SNR=7.3
334A Lometa 70.62 337 ⇑P P 16 45 41.7 +1.9
baz=71,SNR=5.1
TXAR Lajitas Array 70.73 332 P P 16 45 40.9 +0.3
4.5nm,0.8s,baz=158,slow=8.8,SNR=11
TXAR pP pP 16 45 49.9 +2.7
2.7nm,0.7s,baz=158,slow=9.8,SNR=6.8
431A Sonora 70.82 335 ⇑P P 16 45 39.8 -1.3
baz=71
333A Richland Sprin 70.86 336 ⇓P P 16 45 41.5 +0.2
baz=71,SNR=5.6
529A Stev Forest Ra 70.89 333 ⇓P P 16 45 41.6 0.0
baz=71,SNR=6.1
430A Baggett Ranch, 71.14 334 ⇓P P 16 45 43.3 +0.3
baz=71,SNR=6.1
332A Millersview 71.16 336 ⇓P P 16 45 43.8 +0.6
baz=72
429A Davenport Ranc 71.22 334 ⇑P P 16 45 40.6 -3.0
baz=72
331A San Angelo 71.33 335 ⇓P P 16 45 44.2 0.0
baz=72,SNR=7.2
233A Rising Star 71.47 337 ⇑P P 16 45 45.3 +0.3
baz=72
232A Coleman 71.59 336 ⇑P P 16 45 46.0 +0.3
baz=72
330A Mertzon 71.68 335 ⇑P P 16 45 46.3 0.0
baz=72
231A Bronte 71.86 335 ⇑P P 16 45 47.8 +0.4
baz=72,SNR=7.0
133A Hamilton Ranch 72.02 337 ⇑P P 16 45 48.7 +0.4
baz=72
329A Wagon Wheel Ra 72.04 334 ⇓P P 16 45 48.3 -0.2
baz=72
ABTX Abilene, Hawle 72.27 336 ⇑P P 16 45 50.4 +0.7
baz=73
229A Bryant Ranch, 72.41 334 ⇑P P 16 45 49.8 -0.9
baz=73
Z34A Collier Ranch, 72.41 338 ⇓P pP 16 46 00.9 +3.8
baz=73
WVT Waverly 72.58 347 eP P 16 45 50.5 -1.0
228A UT Block 9, Go 72.83 334 ⇓P P 16 45 53.7 +0.5
baz=73
Z32A Haskell 72.84 337 ⇑P P 16 45 54.1 +1.0
baz=73,SNR=5.7
129A Stewart Farms, 73.03 334 ⇓P P 16 45 54.6 +0.2
baz=73
Z31A Sharp Cattle R 73.07 336 ⇓P P 16 45 55.9 +1.3
baz=73
128A Castleberry Fa 73.24 334 ⇑P P 16 45 55.6 -0.1
baz=74,SNR=5.4
MNTX Cornudas Mount 73.50 331 eP P 16 45 54.2 -2.9
2.2nm,0.8s
Z29A Hungry Hill Ra 73.55 335 ⇓P P 16 45 57.7 +0.3
baz=74,SNR=6.1
Z27A Tatum 74.13 334 ⇑P P 16 46 01.9 +1.0
baz=74
Z26A Caprock 74.37 333 ⇑P P 16 46 02.5 +0.2
baz=75,SNR=13
Z25A Roswell 74.65 333 ⇑P P 16 46 04.8 +0.9
baz=75
Z24A Sheeppen Canyo 74.94 332 ⇑P P 16 46 06.3 +0.6
baz=75,SNR=7.4
Y24A Capitan 75.50 332 ⇑P P 16 46 09.8 +1.0
baz=76,SNR=5.5
Z22A Elephant Butte 75.50 331 ⇑P P 16 46 08.2 -0.6
baz=76
W27A Bowe Ranch, En 75.65 335 ⇓P P 16 46 10.5 +0.9
baz=76
Y23A Lovelace Mesa, 75.74 332 ⇓P P 16 46 11.7 +1.4
baz=76
DBIC Dimbokro 76.11 71 P P 16 46 12.8 +0.2
3.2nm,0.8s,baz=191,slow=7.8,SNR=2.7
DBIC pP pP 16 46 21.4 +2.1
4.2nm,0.7s,baz=189,slow=9.9,SNR=3.2
DBIC Dimbokro 76.11 71 eP P 16 46 12.4 -0.2
W25A X Bar L Ranch, 76.29 334 ⇑P P 16 46 14.0 +0.7
baz=77
W24A Lazy 6 Ranch, 76.63 333 ⇑P P 16 46 16.7 +1.4
baz=77
ANMO Albuquerque 76.79 332 eP P 16 46 16.0 -0.2
U27A Thompson Grove 76.80 335 ⇓P pP 16 46 26.2 +3.5
baz=77
V25A Rancho No Teng 76.90 334 ⇓P P 16 46 17.8 +1.0
baz=77
V24A Rampart Ranch, 77.04 333 ⇓P P 16 46 18.6 +0.9
baz=77
V23A Ortiz Mt. (NFS 77.39 333 ⇓P P 16 46 21.2 +1.6
baz=78
V22A San Miguel Ran 77.82 332 ⇓P P 16 46 24.1 +2.1
baz=78,SNR=5.5
X18A Snowflake 77.83 329 ⇓P P 16 46 23.1 +1.1
baz=78
X16A Lo Mia Camp, P 78.37 328 ⇓P P 16 46 26.9 +1.9
baz=79,SNR=6.4
Y14A Wickenburg 78.65 327 ⇑P P 16 46 28.2 +1.8
baz=79
WUAZ Wupatki 79.27 329 ⇓P P 16 46 31.2 +1.3
baz=80
IRM Iron Mountain 79.81 325 ⇓P P 16 46 34.0 +1.3
baz=80
BOSA Boshof 79.86 118 P P 16 46 34.2 +0.7
2.2nm,0.5s,baz=239,slow=9.6,SNR=2.8
BOSA pP PcP 16 46 43.4 +2.3

9.3nm,0.8s,baz=230,slow=7.0,SNR=5.1
ECSD EROS Data Cent 81.75 343 eP **P 16 46 41.8 -1.1**
4.1nm,0.8s
DUG Dugway 83.85 330 eP **P 16 46 52.0 -2.0**
NVAR Mina Array Bea 84.77 326 P **P 16 46 59.6 +0.8**
3.0nm,0.9s,baz=140,slow=5.6,SNR=4.9
PDAR Pinedale Array 84.80 334 P **P 16 46 58.6 -0.4**
0.5nm,0.5s,baz=139,slow=7.1,SNR=4.3
PDAR pP **pP 16 47 07.7 +2.1**
0.6nm,0.5s,baz=141,slow=5.7,SNR=2.3
TORD Torodi Ar. Bea 85.17 70 P **P 16 47 00.3 -0.8**
1.7nm,0.9s,baz=275,slow=3.6,SNR=2.7
ULM Lac du Bonnet 87.74 345 P **P 16 47 11.9 -0.9**
2.4nm,0.7s,baz=143,slow=7.7,SNR=3.5
MCMT McKenzie Canyo 87.79 333 eP **P 16 47 12.7 -0.8**
2.7nm,1.1s
DGMT Dagmar 88.13 340 eP **P 16 47 13.7 -1.1**
19nm,1.2s
WRA Warramunga Arr 119.28 209 PKP **PKPdf 16 53 12.8 -1.5**
1.3nm,1.1s,baz=180,slow=1.6,SNR=4.9
AKASG Malin Array Be 123.52 48 PKP **PKPdf 16 53 19.7 -1.6**
0.3nm,0.5s,baz=256,slow=2.9,SNR=3.2
ASAJ Asahikawa 151.72 299 PKPbc **PKPbc 16 54 18.1 -0.6**
6.3nm,0.8s,baz=99,slow=13,SNR=3.3
SONM Songino Array 167.57 3 PKPab **PKPab 16 55 36.0 -0.3**
0.6nm,0.6s,baz=332,slow=3.5,SNR=4.4

IDC 27 16:37:14.3±1.0, 36.°07S×72.°72W, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/36, mbtmp4.1/8, MS5.5/1, Ms1 5.5/1, ms1mx4.0/28, Error ellipse: s-maj=38.9km s-min=23.9km az=73.0
ISCJB 27 16:37:18.5±1.0, 36.°0S±0.°1×72.°6W±0.°3, h35km, mb4.1/7, MS5.4/1, Error ellipse: s-maj=34.1km s-min=19.1km az=168.8
ISC 27 16:37:19.9±0.9, 36.°0S±0.°2×72.°6W±0.°3, h35km, n10, σ0.°81/9, mb4.1/7, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 20.07 13 P **P 16 41 51.7 +0.8**
3.6nm,0.8s,baz=194,slow=7.8,SNR=3.3
SIV San Ignacio 22.47 30 P **P 16 42 15.8 -0.3**
3.6nm,0.4s,baz=216,slow=13,SNR=6.0
RPN Rapa Nui 32.34 275 LR LR 16 52 56.0
comp=Z,8μm,21.6s,baz=137,slow=29
SNAA Sanae 49.90 157 P **P 16 46 10.0 +0.5**
7.4nm,1.0s,baz=283,slow=10,SNR=3.8
TXAR Lajitas Array 71.27 332 P **P 16 48 35.8 +0.1**
1.2nm,0.6s,baz=158,slow=9.4,SNR=7.4
BOSA Boshof 79.57 118 P **P 16 49 23.9 +0.2**
2.0nm,0.7s,baz=228,slow=7.4,SNR=4.2
NVAR Mina Array Bea 85.27 326 P **P 16 49 53.8 +0.8**
0.3nm,0.5s,baz=167,slow=4.4,SNR=3.6
TORD Torodi Ar. Bea 85.36 70 P **P 16 49 53.5 -0.2**
0.7nm,0.8s,baz=228,slow=4.2,SNR=3.1
ULM Lac du Bonnet 88.33 345 P **P 16 50 06.5 -0.8**
1.7nm,0.6s,baz=180,slow=6.1,SNR=3.2
WRA Warramunga Arr 118.75 209 PKP **PKPdf 16 56 03.6 -1.3**
0.7nm,1.0s,baz=148,slow=1.6,SNR=4.8

ISCJB 27 16:37:31.7±0.2, 37.°36S±0.°05×73.°30W±0.°06, h27km, mb5.3/87, MS5.7/9, Error ellipse: s-maj=8.4km s-min=5.1km az=44.0
BJI 27 16:37:32.8, 37.°56S×73.°01W, h35km, mB5.9/17, Ms5.9/12, Ms7 5.9/11
IDC 27 16:37:32.5±0.7, 37.°52S×73.°73W, h29km±4km, mb4.7/19, mb1 4.8/22, mb1mx4.7/39, mbtmp4.9/22, ML4.1/3, MS5.6/10, Ms1 5.6/10, ms1mx5.2/27, Error ellipse: s-maj=16.8km s-min=12.7km az=78.0
NEIC 27 16:37:33.6±0.2, 37.°51S×73.°45W, h35km, mb5.4/72, Error ellipse: s-maj=9.5km s-min=6.2km az=65.0
MOS 27 16:37:33.0±1.2, 37.°33S×73.°64W, h33km, mb5.5/20, Error ellipse: s-maj=24.7km s-min=12.8km az=105.9
ISC 27 16:37:33.1±0.6, 37.°49S±0.°05×73.°53W±0.°06, h31km±3km, h31km:pP-P, n449, σ1.°32/466, mb5.4/87, MS5.8/9, 113C-102D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.98 145 eP **Pn 16 38 32.3 +0.3**
PLCA Paso Flores 3.98 145 Pn **Pn 16 38 34.5 +2.5**
4.7nm,0.3s,baz=314,slow=18,SNR=3.7
PLCA Lg Lg 16 39 37.6
27nm,0.3s,baz=21,slow=24,SNR=2.9
PLCA Paso Flores 3.98 145 ePn **Pn 16 38 32.3 +0.3**
PLCA Lg Lg 16 39 37.6
CFAA Coronel Fontan 7.32 38 Pn **Pn 16 39 19.4 +1.6**
1.3nm,0.3s,baz=210,slow=12,SNR=4.7
CFAA Sn **Sn 16 40 43.4 +3.5**
1.3nm,0.3s,baz=106,slow=18,SNR=2.1
CFAA Lg Lg 16 41 17.4
0.6nm,0.3s,baz=139,slow=19,SNR=2.6
CFAA LR LR 16 42 21.3
comp=Z,5μm,19.9s,baz=225,slow=39
TRQA Tornquist 9.16 97 Pn **Pn 16 39 42.3 -0.8**
TRQA eSn **Sn 16 41 24.0 -1.1**
CPUP Villa Florida 17.66 56 P **P 16 41 40.9 +3.4**
1.7nm,0.3s,baz=208,slow=11,SNR=5.2
CPUP LR LR 16 49 35.9
comp=Z,27μm,18.7s,baz=216,slow=41
USHA Ushuaia 17.69 170 P **P 16 41 37.8 +0.3**
0.6nm,0.3s,baz=320,slow=9.9,SNR=6.7
USHA LR LR 16 48 17.2
comp=Z,24μm,19.5s,baz=324,slow=36
LPAZ La Paz 21.66 14 P **P 16 42 23.0 +1.3**
LPAZ La Paz 21.66 14 P **P 16 42 22.9 +1.3**
47nm,1.0s,baz=174,slow=8.5,SNR=22
SIV San Ignacio 24.09 31 P **P 16 42 46.1 +0.2**
13nm,0.6s,baz=233,slow=12,SNR=11
SIV LR LR 16 54 29.1
comp=Z,33μm,18.1s,baz=222,slow=42
NNA Nana 25.57 352 ceP **P 16 43 00.1 +0.7**
NNA Nana 25.57 352 P **P 16 42 59.5 +0.1**
11nm,0.5s,baz=211,slow=8.7,SNR=8.8
NNA Nana 25.57 352 P **P 16 42 57.7 -1.8**
38nm,0.7s
PMSA Palmer Station 27.89 171 LR LR 16 55 05.6
comp=Z,12μm,18.5s,baz=334,slow=38
SAML Samuel 29.92 21 eP **P 16 43 37.3 -1.0**
47nm,1.5s
ATAH Atahualpa 30.54 350 P **P 16 43 43.1 -1.1**
19nm,1.0s,baz=194,slow=7.9,SNR=6.2
ATAH LR LR 16 54 14.9
comp=Z,4μm,21.1s,baz=176,slow=33
BDFB Brasilia 31.35 53 P **P 16 43 50.8 -0.3**
13nm,0.9s,baz=195,slow=7.7,SNR=5.7
BDFB LR LR 16 57 53.8
comp=Z,18μm,18.5s,baz=222,slow=39
OTAV Otavalo 37.82 352 eP **P 16 44 47.5 +0.2**
56nm,1.3s
SDV Santo Domingo 46.22 4 eP **P 16 45 53.8 -1.8**
23nm,0.8s
RCBR Riachuelo 46.54 57 P **P 16 45 59.2 +1.2**
57nm,1.3s,baz=212,slow=9.6,SNR=8.3
RCBR LR LR 17 05 07.0
comp=Z,12μm,20.6s,baz=208,slow=35
RCBR Riachuelo 46.54 57 P **P 16 45 58.0 0.0**
301nm,1.9s
VNA3 Neumayer Olymp 46.62 156 P **P 16 45 59.2 +1.3**
VNA1 Neumayer--Stat 46.97 156 P **P 16 46 02.7 +2.0**
VNA2 Neumayer--Watz 47.30 156 P **P 16 46 04.2 +1.0**
JTS JuntasAbangare 48.73 345⇑eP **P 16 46 16.0 +1.2**
JTS pmax pmax
comp=Z,20nm,1.3s
JTS JuntasAbangare 48.73 345 P **P 16 46 13.2 -1.6**
comp=Z,7.5nm,1.0s,baz=124,slow=12,SNR=3.5
JTS JuntasAbangare 48.73 345 P **P 16 46 13.2 -1.6**
comp=Z,27nm,2.1s
SNAA Sanae 48.84 157 P **P 16 46 15.9 +0.7**
SNAA Sanae 48.84 157⇑eP **P 16 46 16.0 +0.8**
SNAA pmax pmax
comp=Z,183nm,1.7s
SNAA Sanae 48.84 157 P **P 16 46 15.8 +0.7**
comp=Z,24nm,1.0s,baz=268,slow=5.4,SNR=31
SNAA Sanae 48.84 157 eP **P 16 46 14.3 -0.9**
comp=Z,91nm,1.0s
GRGR Grenville 50.61 15 eP **P 16 46 28.9 -0.2**
comp=Z,210nm,1.0s
QSPA South Pole Qui 52.75 180 P **P 16 46 42.9 -1.9**
comp=Z,35nm,0.9s,baz=137,slow=1.4,SNR=29
NVL N'lazarevskaya 53.62 156 eP **P 16 46 52.4 +1.5**
NVL eS S 16 54 28.0 +6.1
NVL pmax pmax
comp=Z,31nm,0.9s
NVL MLR MLR
comp=Z,6μm,15.0s
RKT Rikitea 54.08 267 eS **S 16 54 34.2 +4.7**
comp=Z,3μm,29.2s
RKT eLR LR 17 02 41.6
comp=Z,11μm,26.2s,baz=125
RKT Rikitea 54.08 267 eT T 17 44 41.2
comp=Z,1.5nm,0.2s
CRPR Cabo Rojo, PR 55.53 7 eP **P 16 47 04.4 -0.9**
OBIP Obispado Ponce 55.62 8 eP **P 16 47 05.7 -0.3**
comp=Z,57nm,1.4s
CELP Cerrillos 55.66 8 eP **P 16 47 04.6 -1.7**
GTBY Guantanamo Bay 57.13 358 P **P 16 47 15.1 -1.6**
comp=Z,33nm,0.9s
TBI Tubuai 65.39 259 eT T 17 58 35.6
comp=Z,6.3nm,0.2s
MEH Mehetia 67.24 264 eT T 18 01 03.3
comp=Z,17nm,0.2s
034A Hebbronville 68.43 336 ⇓P **P 16 48 32.8 +0.9**
baz=69
TIAR Tiarei 68.43 264 eT T 18 02 31.6
comp=Z,3.7nm,0.2s
PAE Paea 68.56 264 eT T 18 02 40.8
comp=Z,0.9nm,0.3s
PPT2 Papeete2 68.60 264 eS **S 16 57 38.5 +4.4**
comp=Z,7μm,27.2s
PPT2 Papeete2 68.60 264 eLR LR 17 09 17.1
comp=Z,9μm,25.0s,baz=120
PPT Papeete 68.61 264 P **P 16 48 33.2 -0.2**
comp=Z,47nm,0.9s,baz=179,slow=11,SNR=5.0
PPT LR LR 17 11 22.5
comp=Z,4μm,18.1s,baz=110,slow=30
934A Benavides 68.87 336 ⇓P **P 16 48 36.6 +1.9**
baz=69
933A Laredo 69.13 336 ⇑P **P 16 48 37.5 +1.2**
baz=70
834A Tilden 69.37 336 ⇑P **P 16 48 40.0 +2.3**
baz=70
833A Chaparral WMA, 69.83 336 ⇓P **P 16 48 41.6 +1.1**
baz=70
832A Faith Ranch, C 69.98 335 ⇑P **P 16 48 39.9 -1.6**
baz=70
MAW Mawson 70.18 164 LR LR 17 19 57.1
comp=Z,6μm,18.2s,baz=231,slow=36
633A Saathoff Ranch 70.81 336 ⇑P **P 16 48 46.5 0.0**
baz=71
632A Uvalde 71.05 336 ⇑P **P 16 48 47.6 -0.4**
baz=71
GOGA Godfrey 71.15 351 eP **P 16 48 48.0 -0.5**
GOGA pmax pmax
comp=Z,117nm,1.8s
GOGA Godfrey 71.15 351 eP **P 16 48 48.0 -0.5**
comp=Z,117nm,1.8s
631A Perdido Creek 71.22 335 ⇑P **P 16 48 50.0 +1.0**
baz=72
LRAL Lakeview Retre 71.28 348 eP **P 16 48 48.3 -1.0**
comp=Z,30nm,1.1s
533A Kerrville 71.33 337 ⇑P **P 16 48 50.3 +0.6**
baz=72
532A Rocksprings 71.66 336 ⇓P **P 16 48 52.0 +0.3**
baz=72,SNR=6.7
434A Burnet 71.79 338 ⇑P **P 16 48 52.9 +0.5**
baz=72,SNR=8.0
531A Rocksprings 71.90 336 ⇑P **P 16 48 54.6 +1.4**
baz=72,SNR=5.5
JCT Junction City 71.95 336 ⇓P **P 16 48 53.6 +0.2**
baz=72,SNR=5.7
433A Art 71.98 337 ⇑P **P 16 48 53.3 -0.3**
baz=72,SNR=7.1
530A J-C Ranch, Com 72.15 335 ⇑P **P 16 48 55.6 +0.9**
baz=72,SNR=8.5
TXAR Lajitas Array 72.23 333 P **P 16 48 55.3 +0.1**
comp=Z,3.6nm,0.8s,baz=148,slow=8.6,SNR=13
TXAR pP **pP 16 49 03.6 -1.4**
comp=Z,1.5nm,0.7s,baz=153,slow=8.4,SNR=13
334A Lometa 72.26 338 ⇓P **P 16 48 55.1 -0.2**
baz=73,SNR=8.7
432A Menard 72.32 336 ⇓P **P 16 48 56.3 +0.7**
baz=73
431A Sonora 72.40 336 ⇓P **P 16 48 56.2 0.0**
baz=73,SNR=6.2
529A Stev Forest Ra 72.43 334 ⇑P **P 16 48 57.9 +1.5**
baz=73,SNR=5.2
333A Richland Sprin 72.48 337 ⇓P **P 16 48 56.4 -0.2**
baz=73
WHTX Lake Whitney 72.65 339 eP **P 16 48 56.3 -1.2**
comp=Z,203nm,2.3s
WHTX Lake Whitney 72.65 339 ⇓P **P 16 48 57.3 -0.2**
baz=73
430A Baggett Ranch, 72.70 335 ⇓P **P 16 48 58.4 +0.5**
baz=73,SNR=8.0
332A Millersview 72.77 337 ⇓P **P 16 48 57.4 -0.9**
baz=73,SNR=7.1
429A Davenport Ranc 72.78 335 ⇓P **P 16 48 59.6 +1.2**
baz=73,SNR=7.3
331A San Angelo 72.92 336 ⇑P **P 16 48 59.2 0.0**
baz=73,SNR=7.6
233A Rising Star 73.10 338 ⇑P **P 16 48 58.8 -1.4**
baz=74
232A Coleman 73.21 337 ⇑P **P 16 48 59.7 -1.2**
baz=74,SNR=6.5
330A Mertzon 73.25 336 ⇓P **P 16 49 01.5 +0.3**
baz=74
SWET Sewanee 73.26 349 eP **P 16 48 59.0 -2.0**
comp=Z,63nm,0.9s
CPCT Cooper Cave 73.29 351 P **P 16 49 00.6 -0.7**
TKL Tuckaleechee C 73.40 351 eP **P 16 49 00.7 -1.2**
TKL Tuckaleechee C 73.40 351 eP **P 16 49 00.7 -1.2**
231A Bronte 73.46 336 ⇓P **P 16 49 02.3 -0.1**
baz=74,SNR=5.5
329A Wagon Wheel Ra 73.60 335 ⇓P **P 16 49 03.9 +0.7**
baz=74
133A Hamilton Ranch 73.66 338 ⇑P **P 16 49 01.8 -1.7**
baz=74,SNR=6.3
230A Sterling City 73.68 336 ⇑P **P 16 49 03.9 +0.2**
baz=74
ABTX Abilene, Hawle 73.89 337 ⇓P **P 16 49 04.7 -0.2**
baz=74,SNR=6.9
229A Bryant Ranch, 73.98 335 ⇓P **P 16 49 05.9 +0.4**
baz=74
MIAR Mount Ida 74.06 343 eP **P 16 49 06.2 +0.4**
MIAR pmax pmax
comp=Z,139nm,2.3s
MIAR Mount Ida 74.06 343 eP **P 16 49 06.2 +0.4**
comp=Z,139nm,2.3s
131A Roby 74.17 337 ⇓P **P 16 49 06.7 +0.1**
baz=74,SNR=6.1
TZTN Tazewell 74.25 352 eP **P 16 49 07.2 +0.3**
comp=Z,28nm,0.9s
130A Snyder 74.28 336 ⇑P **P 16 49 07.5 +0.4**
baz=75
228A UT Block 9, Go 74.38 335 ⇑P **P 16 49 09.1 +1.3**
baz=75
WVT Waverly 74.45 348 eP **P 16 49 07.0 -1.0**
WVT pmax pmax
comp=Z,59nm,1.3s
WVT Waverly 74.45 348 eP **P 16 49 07.0 -1.0**
comp=Z,59nm,1.3s
Z32A Haskell 74.48 338 ⇓P **P 16 49 07.8 -0.4**
baz=75,SNR=7.2
Z31A Sharp Cattle R 74.69 337 ⇓P **P 16 49 10.0 +0.5**
baz=75,SNR=5.9
128A Castleberry Fa 74.81 335 ⇓P **P 16 49 10.6 +0.3**
baz=75
Y33A Hilltop Ranch, 74.88 339 ⇑P **P 16 49 10.8 +0.3**
baz=75
Z30A Sanderson Ranc 74.97 336 ⇓P **P 16 49 11.0 -0.2**
baz=75,SNR=6.6
Y32A R-V Farms, Ver 75.11 338 ⇑P **P 16 49 12.3 +0.4**
baz=76
Z29A Hungry Hill Ra 75.13 336 ⇓P **P 16 49 11.6 -0.6**
baz=76,SNR=8.8
Y31A Rekieta Farm, 75.32 337 ⇑P **P 16 49 13.3 +0.1**
baz=76
Y30A Stafford Cattl 75.44 337 ⇑P **P 16 49 14.0 +0.1**
baz=76
X32A Elmer 75.46 338 ⇑P **P 16 49 15.0 +1.1**
baz=76
Y29A Porterfield Fa 75.67 336 ⇓P **P 16 49 15.7 +0.5**
baz=76
Z27A Tatum 75.69 335 ⇓P **P 16 49 16.2 +0.9**
baz=76
X31A McDonald Ranch 75.86 338 ⇑P **P 16 49 16.4 +0.2**
baz=76,SNR=5.3
TUL1 Tulsa 75.90 342 P **P 16 49 14.2 -2.1**
comp=Z,159nm,2.1s
W33A Caddo, Fort Co 75.90 339 ⇑P **P 16 49 16.2 -0.2**
baz=76
Y28A McKinney Farm, 75.91 336 ⇓P **P 16 49 17.4 +0.8**
baz=76
Z26A Caprock 75.91 334 ⇑P **P 16 49 18.1 +1.5**
baz=76,SNR=5.9
X30A Coker Ranch, T 75.96 337 ⇓P **P 16 49 18.4 +1.6**
baz=76
W32A Sentinel 76.10 339 ⇓P **P 16 49 17.9 +0.3**
baz=76,SNR=9.3
MSTX Muleshoe 76.13 335 eP **P 16 49 18.3 +0.4**
comp=Z,47nm,1.4s
MSTX Muleshoe 76.13 335 ⇑P **P 16 49 18.4 +0.4**
baz=76
Y27A Causey 76.19 335 ⇑P **P 16 49 18.9 +0.7**
baz=77
X29A Tulia 76.22 336 ⇓P **P 16 49 19.1 +0.8**
baz=77
W31A Holland Ranch, 76.36 338 ⇑P **P 16 49 19.1 0.0**
baz=77
Y26A Elida 76.45 334 ⇓P **P 16 49 20.5 +0.8**
baz=77
Z24A Sheeppen Canyo 76.45 333 ⇑P P 16 49 23.2 +3.4
baz=77
V33A Lossen Ranch, 76.48 340 ⇓P **P 16 49 19.3 -0.4**
baz=77,SNR=5.0
CASY Casey 76.51 182 P **P 16 49 17.5 -2.0**
comp=Z,88nm,1.4s
AMTX Amarillo 76.62 337 eP **P 16 49 19.5 -1.1**
comp=Z,129nm,1.8s
AMTX Amarillo 76.62 337 ⇓P **P 16 49 21.0 +0.4**
baz=77
121A Cookes Peak, D 76.65 331 ⇑P P 16 49 29.1 +8.1
baz=77
Y25A Mesa, Roswell 76.75 334 ⇓P **P 16 49 23.7 +2.2**
baz=77
W29A Amraillo 76.83 337 ⇓P **P 16 49 22.2 +0.5**
baz=77
U34A Anderson Ranch 76.85 340 eP **P 16 49 22.3 +0.5**
comp=Z,80nm,1.6s
U34A Anderson Ranch 76.85 340 ⇑P **P 16 49 21.9 +0.1**
baz=77
X27A F and S Farms, 76.86 335 ⇑P **P 16 49 23.2 +1.1**
baz=77
V31A Spring Creek L 76.88 338 ⇑P **P 16 49 22.6 +0.6**
baz=77,SNR=5.2
X26A CR and CF Fran 77.01 335 ⇑P **P 16 49 23.7 +0.8**
baz=77
Y24A Capitan 77.02 333 ⇓P **P 16 49 24.5 +1.5**
baz=77
V30A Spur Ranch, Mi 77.12 338 ⇑P **P 16 49 22.8 -0.6**
baz=78
BLO Bloomington 77.22 350 eP **P 16 49 23.8 0.0**
BLO pmax pmax
comp=Z,22nm,0.9s
BLO Bloomington 77.22 350 eP **P 16 49 23.8 0.0**
comp=Z,22nm,0.9s
W27A Bowe Ranch, En 77.23 336 ⇓P **P 16 49 24.1 +0.1**
baz=78,SNR=5.5
X25A Clemmons Ranch 77.28 334 ⇑P **P 16 49 27.3 +2.9**
baz=78
DBIC Dimbokro 77.44 71 eP **P 16 49 25.2 -0.4**
DBIC pmax pmax
comp=Z,83nm,1.2s
DBIC Dimbokro 77.44 71 P **P 16 49 26.9 +1.3**
comp=Z,26nm,0.9s,baz=206,slow=6.5,SNR=14
DBIC Dimbokro 77.44 71 eP **P 16 49 25.2 -0.4**
comp=Z,82nm,1.2s
W26A Owens Ranch, T 77.49 335 ⇑P **P 16 49 26.9 +1.4**
baz=78
V28A Channing 77.59 336 ⇑P **P 16 49 25.7 -0.4**
baz=78
T33A Patterson Ranc 77.65 340 ⇓P **P 16 49 26.5 +0.3**
baz=78
TUC Tucson 77.66 328 eP **P 16 49 26.8 +0.3**
TUC pmax pmax
comp=Z,31nm,1.4s
TUC Tucson 77.66 328 eP **P 16 49 26.8 +0.3**
comp=Z,31nm,1.4s
LPM Los Pinos Moun 77.80 332 eP **P 16 49 27.9 +0.6**
W25A X Bar L Ranch, 77.84 334 ⇑P **P 16 49 28.0 +0.5**
baz=78
V26A Tequesquite Ra 78.14 335 ⇓P **P 16 49 29.4 +0.3**
baz=78
W24A Lazy 6 Ranch, 78.16 334 ⇓P **P 16 49 30.8 +1.4**
baz=78
214A Organ Pipe Nat 78.22 327 eP **P 16 49 29.5 -0.1**
ANMO Albuquerque 78.30 333⇑iP **P 16 49 31.3 +1.2**
ANMO pmax pmax
comp=Z,52nm,1.2s
ANMO Albuquerque 78.30 333 eP **P 16 49 30.9 +0.7**
comp=Z,30nm,1.2s
W23A Werner Place, 78.38 333 ⇓P **P 16 49 32.6 +2.0**
baz=79
V25A Rancho No Teng 78.45 335 ⇓P **P 16 49 31.7 +0.7**
baz=79,SNR=7.3
S31A Mullinville 78.50 339 ⇑P **P 16 49 30.0 -1.0**
baz=79
V24A Rampart Ranch, 78.58 334 ⇑P **P 16 49 32.7 +1.0**
baz=79
T29A Hugoton 78.59 338 ⇑P **P 16 49 32.1 +0.6**
baz=79
U26A Atchley Ranch, 78.67 336 ⇓P **P 16 49 32.4 +0.3**
baz=79
S30A Montezuma 78.80 338 ⇓P **P 16 49 33.0 +0.3**
baz=79
T28A Walsh 78.81 337 ⇑P **P 16 49 32.9 +0.1**
baz=79,SNR=6.5
U25A Circle Dot Ran 78.89 335 ⇑P **P 16 49 34.5 +1.2**
baz=79
T27A Campo 78.95 337 ⇑P **P 16 49 33.8 +0.2**
baz=79
S29A Ulysses 78.97 338 ⇑P **P 16 49 33.0 -0.6**
baz=79
S28A Manter 79.18 337 ⇑P **P 16 49 35.6 +0.8**
baz=80
V22A San Miguel Ran 79.33 333 ⇓P **P 16 49 37.9 +2.1**
baz=80,SNR=5.7
T26A Comanche Natio 79.33 336 ⇑P **P 16 49 36.5 +0.8**
baz=80,SNR=5.9
TSUM Tsumeb 79.42 106 eP **P 16 49 36.3 -0.4**
comp=Z,62nm,1.5s
TSUM eP **P 16 49 37.9 +1.1**
U23A El Rito 79.44 334 ⇑P **P 16 49 38.1 +1.6**
baz=80
BOSA Boshof 79.51 118 eP **P 16 49 37.3 +0.2**
BOSA pmax pmax
comp=Z,159nm,1.6s
BOSA Boshof 79.51 118 P **P 16 49 37.7 +0.6**
comp=Z,19nm,0.9s,baz=231,slow=5.4,SNR=10
BOSA Boshof 79.51 118 eP **P 16 49 37.3 +0.2**
comp=Z,159nm,1.6s
T25A Trinidad 79.57 335 ⇓P **P 16 49 38.5 +1.4**
baz=80,SNR=9.7
S27A Las Animas 79.57 337 ⇑P **P 16 49 37.9 +0.9**
baz=80
S26A Kim 79.70 336 ⇓P **P 16 49 38.5 +0.9**
baz=80,SNR=9.2
T24B San Luis 79.82 335 ⇑P **P 16 49 40.8 +2.3**
baz=80
R28A Tribune 79.84 338 ⇑P **P 16 49 39.0 +0.7**
baz=80,SNR=7.0
Q30A Quinter 79.97 339 ⇑P **P 16 49 38.9 -0.1**
baz=80,SNR=5.6
T23A Casias Ranch, 80.03 334 ⇓P **P 16 49 41.6 +2.0**
baz=80
S25A Robets Cordova 80.05 336 ⇑P **P 16 49 40.9 +1.3**
baz=80
R27A Eads 80.09 337 ⇓P **P 16 49 40.3 +0.6**
baz=80,SNR=5.2
P31A Stockton 80.24 340 ⇓P **P 16 49 40.1 -0.3**
baz=81
S24A Houchin Ranch, 80.29 335 ⇑P **P 16 49 42.6 +1.5**
baz=81,SNR=7.6
R26A Arlington 80.31 337 ⇓P **P 16 49 41.5 +0.5**
baz=81,SNR=8.4
R25A Fountain Ranch 80.44 336 ⇑P **P 16 49 42.5 +0.8**
baz=81
WUAZ Wupatki 80.69 330 eP **P 16 49 43.9 +0.8**
comp=Z,130nm,2.2s
R24A Sanders Place, 80.79 335 ⇑P **P 16 49 45.2 +1.6**
baz=81,SNR=8.7
Q26A Hugo 80.90 337 ⇑P **P 16 49 45.1 +1.0**
baz=81
S22A 4UR Ranch, Cre 80.94 334 ⇓P **P 16 49 46.0 +1.4**
baz=81,SNR=5.2
MVCO Mesa Verde 81.06 332 eP **P 16 49 43.4 -1.8**
comp=Z,28nm,1.2s

Q25A Bedland, Calha 81.13 336 ⇑P P 16 49 46.4 +1.0
baz=82
P26A Davis Ranch, A 81.43 337 ⇑P P 16 49 48.0 +1.1
baz=82
Q24A Divide 81.47 336 ⇑P P 16 49 48.4 +1.0
baz=82,SNR=5.8
O28A Krutsinger Ran 81.48 338 ⇑P P 16 49 48.4 +1.3
baz=82
P25A Willow Gulch B 81.65 337 ⇓P P 16 49 49.4 +1.3
baz=82,SNR=6.7
LONY Lake Ozonia 81.74 359 eP P 16 49 49.5 +1.3
comp=Z,436nm,2.7s
M31A Lambtecht Ranc 81.84 341 ⇑P P 16 49 46.8 -2.1
baz=82
PV01 Paradox Valley 81.91 333 eP P 16 49 50.4 +0.8
comp=Z,3μm,1.6s
LBTB Lobatse 81.93 115 eP P 16 49 50.3 +0.3
LBTB pmax pmax
comp=Z,262nm,1.9s
LBTB Lobatse 81.93 115 eP P 16 49 50.3 +0.3
comp=Z,262nm,1.9s
PV04 Paradox Valley 82.26 333 eP P 16 49 52.8 +1.4
SMCO Snowmass 82.27 334 eP P 16 49 53.0 +1.3
comp=Z,30nm,1.2s
N27A Anderson Farm, 82.33 338 ⇑P P 16 49 52.3 +0.7
baz=83
ISCO Idaho Springs 82.37 336 eP P 16 49 52.3 +0.2
ISCO pmax pmax
comp=Z,34nm,1.7s
ISCO Idaho Springs 82.37 336 eP P 16 49 52.2 +0.2
comp=Z,34nm,1.7s
ISCO Idaho Springs 82.37 336 ⇓P P 16 49 53.1 +1.0
baz=83,SNR=5.2
P22A Eagle 82.57 335 ⇓P P 16 49 56.5 +3.4
baz=83
L30A Spencer Herefo 82.60 341 ⇓P P 16 49 53.8 +0.9
baz=83
O23A Lake Granby, G 82.84 336 ⇑P P 16 49 56.1 +1.6
baz=83,SNR=6.9
M27A Reverse DX Ran 82.95 339 ⇑P P 16 49 55.9 +1.2
baz=83
O22A Kremmling 83.01 335 ⇑P P 16 49 57.1 +1.8
baz=83,SNR=8.3
N24A Carr 83.07 337 ⇑P P 16 49 57.5 +2.0
baz=83
SHPR Sheep Range 83.11 327 eP P 16 49 55.7 -0.1
CCUT Cedar City 83.25 329 eP P 16 49 58.4 +1.8
comp=Z,34nm,1.2s
K30A Basset 83.25 341 ⇓P P 16 49 55.4 -0.8
baz=84,SNR=6.2
M25A Palm-Egli Farm 83.36 337 ⇓P P 16 49 58.4 +1.4
baz=84
N23A Red Feather La 83.47 336 ⇓P P 16 49 59.7 +2.0
baz=84,SNR=6.3
SRU San Rafael 83.49 332 eP P 16 49 58.4 +0.7
SRU pmax pmax
comp=Z,16nm,1.0s
SRU San Rafael 83.49 332 eP P 16 49 58.4 +0.7
comp=Z,16nm,1.0s
ECSD EROS Data Cent 83.52 343 ⇑P P 16 49 57.6 0.0
baz=84
N22A Wattenberg Ran 83.55 335 ⇑P P 16 49 59.5 +1.3
baz=84,SNR=6.5
O20A White River Ci 83.56 334 eP P 16 49 59.2 +1.1
comp=Z,242nm,2.8s
MVU Marysvale 83.61 330 eP P 16 50 00.1 +1.7
comp=Z,37nm,1.5s
PHWY Pilot Hill 83.68 336 eP P 16 49 59.8 +1.0
comp=Z,143nm,2.3s
K28A Ten Mile Ranch 83.76 340 ⇑P P 16 49 57.5 -1.4
baz=84
ISA Isabella 83.88 325 eP P 16 50 01.5 +1.8
ISA pmax pmax
comp=Z,59nm,2.0s
ISA Isabella 83.88 325 eP P 16 50 01.5 +1.8
comp=Z,59nm,2.0s
TMUT Trail Mountain 83.91 332 eP P 16 49 58.5 -1.5
comp=Z,37nm,1.3s
K27A Flueckinger Fa 83.99 339 ⇓P P 16 50 01.5 +1.4
baz=84
J29A Okreek 84.12 341 ⇓P P 16 50 00.4 -0.3
baz=84,SNR=5.6
SPMN St. Paul 84.16 346 eP P 16 50 00.0 -0.7
comp=Z,76nm,1.8s
I30A Oacoma 84.37 342 ⇓P P 16 50 01.8 0.0
baz=85
J28A Allard Ranch, 84.38 340 ⇓P P 16 50 02.8 +0.8
baz=85
J27A Elkhorn Farm, 84.44 340 ⇓P P 16 50 03.5 +1.2
baz=85
MPU Maple Canyon 84.69 332 eP P 16 50 05.2 +1.3
comp=Z,18nm,1.1s
J26A Sides Ranch, S 84.79 339 ⇓P P 16 50 05.4 +1.2
baz=85,SNR=5.8
NLU North Lily Min 84.81 331 eP P 16 50 05.0 +0.6
comp=Z,67nm,1.7s
R11A Troy Canyon, C 84.85 328 eP P 16 50 05.2 +0.6
comp=Z,25nm,1.3s
I28A Midland 84.90 340 ⇑P P 16 50 05.5 +1.0
baz=85
K23A Bowen Ranch, D 85.05 337 ⇑P P 16 50 07.2 +1.7
baz=85
J25A Sunshine Ranch 85.08 338 ⇓P P 16 50 07.8 +2.2
baz=86
JLU Jordanelle 85.14 332 eP P 16 50 07.2 +1.1
comp=Z,212nm,2.9s
I27A Quinn 85.20 340 ⇑P P 16 50 07.1 +1.0
baz=86
H29A Onida 85.23 341 ⇑P P 16 50 06.6 +0.4
baz=86,SNR=6.0
K22A Casper 85.24 336 eP P 16 50 07.5 +1.0
comp=Z,133nm,2.0s
K22A Casper 85.24 336 ⇓P P 16 50 08.4 +2.0
baz=86
J24A Dixon Ranch, L 85.28 338 ⇑P P 16 50 08.4 +1.8
baz=86,SNR=7.4
DUG Dugway 85.30 331 eP P 16 50 08.2 +1.4
DUG pmax pmax
comp=Z,36nm,1.4s
DUG Dugway 85.30 331 eP P 16 50 08.2 +1.4
comp=Z,36nm,1.4s
TPH Tonopah 85.32 327 eP P 16 50 08.1 +1.1
TPH pmax pmax
comp=Z,27nm,1.1s
TPH Tonopah 85.32 327 eP P 16 50 08.1 +1.1
comp=Z,26nm,1.1s
G30A Faulkton 85.44 342 ⇑P P 16 50 07.2 0.0
baz=86,SNR=5.3
H28A Mission Ridge 85.49 341 ⇑P P 16 50 08.5 +1.0
baz=86
I25A Rochford 85.63 339 ⇑P P 16 50 09.1 +0.7
baz=86,SNR=8.1
H27A Howes 85.73 340 ⇑P P 16 50 08.9 +0.2
baz=86,SNR=5.9
RSSD Black Hills 85.81 338 eP P 16 50 08.9 -0.5
RSSD pmax pmax
comp=Z,16nm,1.2s
RSSD Black Hills 85.81 338 eP P 16 50 08.9 -0.5
comp=Z,16nm,1.2s
G28A Parade 85.83 341 ⇑P P 16 50 10.0 +0.8
baz=86
BGU Big Grassy Mou 86.01 331 eP P 16 50 12.1 +1.8
comp=Z,47nm,2.4s
F30A Leola 86.07 342 ⇓P P 16 50 10.9 +0.6
baz=86
NVAR Mina Array Bea 86.09 326 P P 16 50 11.8 +1.0
comp=Z,2.7nm,0.8s,baz=152,slow=5.5,SNR=9.9
NVAR pP pP 16 50 19.9 -0.9
comp=Z,3.4nm,0.8s,baz=156,slow=6.0,SNR=8.9
H25A Fruitdale 86.14 339 ⇓P P 16 50 12.2 +1.4
baz=86
F29A Eureka 86.26 342 ⇑P P 16 50 11.4 +0.1
baz=87,SNR=6.9
PDAR Pinedale Array 86.35 334 P P 16 50 11.8 -0.3
comp=Z,5.7nm,1.0s,baz=153,slow=4.6,SNR=19
PDAR pP pP 16 50 20.9 -1.2
comp=Z,2.6nm,0.8s,baz=187,slow=6.0,SNR=5.9
J20A Shoshoni 86.38 336 ⇑P P 16 50 14.5 +2.4
baz=87
G27A Dupree 86.38 340 ⇓P P 16 50 12.3 +0.3
baz=87
G26A Maurine 86.48 340 ⇑P P 16 50 12.4 0.0
baz=87,SNR=11
F28A McLaughlin 86.52 341 ⇑P P 16 50 13.2 +0.7
baz=87
TOA0 Torodi Ar. Sit 86.52 71 eP P 16 50 13.1 -0.2
TORD Torodi Ar. Bea 86.52 71 P P 16 50 13.8 +0.6
comp=Z,7.8nm,0.7s,baz=235,slow=3.4,SNR=22
TORD PP PP 16 53 35.6 +0.2
comp=Z,4.1nm,1.1s,baz=229,slow=8.2,SNR=3.9
I21A Big Trails, Te 86.53 336 ⇓P P 16 50 12.8 0.0
baz=87,SNR=6.4
H24A Dirks Ranch, A 86.53 338 ⇓P P 16 50 13.0 +0.2
baz=87
J19A Crowheart 86.62 335 ⇑P P 16 50 14.5 +1.2
baz=87,SNR=6.6
HVU Hansel Valley 86.65 332 eP P 16 50 13.8 +0.3
HVU pmax pmax
comp=Z,28nm,1.3s
HVU Hansel Valley 86.65 332 eP P 16 50 13.8 +0.3
comp=Z,28nm,1.3s
ELK Elko 86.73 330 P P 16 50 13.8 -0.1
comp=Z,5.6nm,0.9s,baz=222,slow=12,SNR=13
F27A Lemmon 86.86 340 ⇑P P 16 50 14.8 +0.5
baz=87,SNR=11
F26A Lodgepole 87.02 340 ⇓P P 16 50 15.6 +0.6
baz=87
D30A Buchanan 87.20 343 ⇓P P 16 50 15.9 +0.1
baz=88,SNR=5.9
E27A Carson 87.26 341 ⇑P P 16 50 16.5 +0.3
baz=88
REDW Red Top Meadow 87.33 334 eP P 16 50 17.1 +0.3
comp=Z,24nm,1.4s
D29A Pettibone, Tap 87.36 342 ⇓P P 16 50 16.3 -0.3
baz=88,SNR=6.7
LOHW Long Hollow 87.46 334 eP P 16 50 17.4 0.0
comp=Z,7.5nm,1.0s
TPAW Teton Pass 87.47 334 eP P 16 50 18.3 +0.7
comp=Z,12nm,0.9s
E26A Carlson Angus 87.53 340 ⇑P P 16 50 18.4 +0.9
baz=88
FXWY Fox Creek 87.63 334 eP P 16 50 18.9 +0.6
comp=Z,53nm,2.1s
AGMN Agassiz Nation 87.70 345 eP P 16 50 17.6 -0.6
comp=Z,109nm,1.8s
AGMN Agassiz Nation 87.70 345 ⇓P P 16 50 17.8 -0.4
baz=88,SNR=8.2
D28A Regan 87.72 342 ⇑P P 16 50 18.8 +0.5
baz=88,SNR=8.0
IMW Indian Meadow 87.83 334 eP P 16 50 19.7 +0.4
comp=Z,27nm,1.4s
D27A Center 87.88 341 ⇓P P 16 50 19.9 +0.8
baz=88
FLWY Flagg Ranch 87.91 334 eP P 16 50 20.7 +1.1
comp=Z,20nm,1.0s
FLWY ePP PP 16 53 46.4 -0.1
D26A Manning 88.04 341 ⇑P P 16 50 20.9 +1.0
baz=88,SNR=6.6
H18A Shoshone NF, C 88.08 335 ⇓P P 16 50 21.4 +1.1
baz=88,SNR=5.5
H17A Grant Village 88.14 334 eP P 16 50 21.5 +0.8
comp=Z,23nm,1.8s
H17A ePP PP 16 53 46.8 -1.6
B30A Myrvik Farm, E 88.37 344 ⇓P P 16 50 21.5 +0.1
baz=89,SNR=16
C27A Sayler Ranch, 88.43 342 ⇓P P 16 50 22.4 +0.7
baz=89,SNR=6.9
YMR Madison River 88.51 334 eP P 16 50 24.0 +1.6
comp=Z,116nm,2.1s
C26A Wahner Farm, P 88.69 341 ⇑P P 16 50 23.7 +0.8
baz=89
HLID Hailey 88.80 332 eP P 16 50 23.1 -0.7
comp=Z,84nm,2.3s
A30A Hoffart Farm, 88.83 344 ⇑P P 16 50 23.6 +0.1
baz=89,SNR=7.3
A29A Manning Farm, 89.02 343 ⇓P P 16 50 24.6 +0.1
baz=89,SNR=11
MFID Camas Ranch 89.22 331 eP P 16 50 26.9 +1.3
comp=Z,139nm,2.8s
MCMT McKenzie Canyo 89.31 333 eP P 16 50 26.2 0.0
comp=Z,8.2nm,1.4s
WVOR Wild Horse Val 89.54 328 eP P 16 50 28.7 +1.5
WVOR pmax pmax
comp=Z,46nm,1.8s
WVOR Wild Horse Val 89.54 328 eP P 16 50 28.7 +1.5
comp=Z,46nm,1.8s
ULM Lac du Bonnet 89.57 346 P P 16 50 26.1 -0.8
comp=Z,9.3nm,1.0s,baz=191,slow=4.1,SNR=6.8
DLMT Dillon 89.69 334 eP P 16 50 29.2 +1.4
comp=Z,29nm,1.6s
K05A Summer Lake 90.73 327 eP P 16 50 34.6 +1.8
comp=Z,336nm,2.8s
BMO Blue Mountains 91.01 331 eP P 16 50 34.9 +1.0
comp=Z,45nm,2.3s
MSO Missoula 91.42 334 eP P 16 50 37.9 +2.0
comp=Z,71nm,2.1s
G08A Pilot Rock 92.02 330 eP P 16 50 40.0 +1.3
comp=Z,94nm,2.5s
HAWA Hanford 93.16 330 eP P 16 50 46.3 +2.6
comp=Z,53nm,1.7s
WALA Waterton Lakes 93.33 335 eP P 16 50 45.3 +0.7
D08A Wollman Farm, 93.46 331 eP P 16 50 46.2 +1.1
comp=Z,36nm,1.8s
NEW Newport 93.79 332 P P 16 50 45.5 -1.2
comp=Z,2.7nm,0.9s,baz=196,slow=7.4,SNR=4.4
DZM Mont Dzumac 98.21 234 eSS SS 17 09 20.9 +5.2
comp=Z,2μm,23.9s
DZM Mont Dzumac 98.21 234 eLR LR 17 23 13.2
comp=Z,3μm,26.4s
YKA Yellowknife Ar 104.98 342 PP PP 16 55 57.5 -0.2
comp=Z,0.2nm,0.8s,baz=137,slow=9.2,SNR=2.9
YKA PKKP PKKPdf 17 07 25.4 -5.4
comp=Z,0.2nm,0.8s,baz=316,slow=2.7,SNR=4.0
GERES GERESS Array B 115.44 47 PKP PKPdf 16 56 10.6 -0.8
comp=Z,1.1nm,0.7s,baz=236,slow=1.4,SNR=9.3
CLL Collm 116.21 44 ePKIKP PKPdf 16 56 14.0 +1.4
CLL Collm 116.21 44 ePKiKP PKPdf 16 56 14.0 +1.4
ILAR Eielson Array 116.74 333 PKP PKPdf 16 56 10.6 -2.6
comp=Z,0.8nm,1.0s,baz=163,slow=3.5,SNR=3.5
WRA Warramunga Arr 117.13 210 PKP PKPdf 16 56 13.6 -1.9
comp=Z,0.8nm,0.7s,baz=154,slow=1.7,SNR=5.1
PKSM Moragy 117.20 51 ⇓PKIKP PKPdf 16 56 14.3 -0.3
PKSM Moragy 117.20 51 ⇓iP PKPdf 16 56 14.3 -0.3
MORC Moravsky Berou 118.11 47 ⇓PKIKP PKPdf 16 56 16.3 -0.1
MORC Moravsky Berou 118.11 47 ⇓iP PKPdf 16 56 16.3 -0.1
VYHS Vyhne 118.32 49 ePKIKP PKPdf 16 56 16.8 0.0
VYHS Vyhne 118.32 49 ePKP PKPdf 16 56 16.8 0.0
VYHS e 17 09 40.5
BZS Buzias 118.80 53 ⇓PKIKP PKPdf 16 56 18.2 +0.4
BZS Buzias 118.80 53 ⇓iP PKPdf 16 56 18.2 +0.4
GZR Gura Zlata 119.45 54 ⇑PKIKP PKPdf 16 56 23.0 +3.9
GZR Gura Zlata 119.45 54 ⇑iP PKPdf 16 56 23.0 +3.9
DRGR 119.98 52 ⇓PKIKP PKPdf 16 56 23.6 +3.5
DRGR 119.98 52 ⇓iP PKPdf 16 56 23.6 +3.5
CRVS Cervenica-Dubn 120.07 49 ePKIKP PKPdf 16 56 20.9 +0.8
CRVS Cervenica-Dubn 120.07 49 ePKP PKPdf 16 56 20.9 +0.8
CRVS e 17 09 36.9
STHS Stebnicka Huta 120.15 49 ePKIKP PKPdf 16 56 22.2 +1.9
STHS Stebnicka Huta 120.15 49 ePKP PKPdf 16 56 22.2 +1.9
TRPA Tarpa 120.42 51 ⇑iP PKPdf 16 56 14.7 -6.1
UZH Uzhgorod 120.47 50 ePKIKP PKPdf 16 56 20.3 -0.5
JMB Yambol 120.73 58 ⇑PKIKP PKPdf 16 56 27.1 +5.5
JMB Yambol 120.73 58 ⇑iP PKPdf 16 56 27.1 +5.5
VOIR 120.92 54 ⇑PKIKP PKPdf 16 56 21.3 -0.7
VOIR 120.92 54 ⇑iP PKPdf 16 56 21.3 -0.7
KWP Kalwaria Pacla 121.11 49 ⇑PKIKP PKPdf 16 56 22.5 +0.4
KWP Kalwaria Pacla 121.11 49 ⇑iP PKPdf 16 56 22.5 +0.4
MLR Muntele Rosu 121.53 54 ⇓PKIKP PKPdf 16 56 23.2 0.0
MLR Muntele Rosu 121.53 54 ⇓iP PKPdf 16 56 23.2 0.0
BURAR Bucovina Array 121.88 52 ⇓PKIKP PKPdf 16 56 24.5 +0.7
BURAR Bucovina Array 121.88 52 ⇓iP PKPdf 16 56 24.5 +0.7
PLOR Plostina 122.12 54 ⇑PKIKP PKPdf 16 56 23.8 -0.4
PLOR Plostina 122.12 54 ⇑iP PKPdf 16 56 23.8 -0.4
VRI Vrincioaia 122.18 54 ⇓PKIKP PKPdf 16 56 19.9 -4.4
VRI Vrincioaia 122.18 54 ⇓iP PKPdf 16 56 19.9 -4.4
TESR Tescani 122.37 54 ⇑iP PKPdf 16 56 24.5 -0.1
CFR Carcaliu 122.83 56 ⇑PKIKP PKPdf 16 56 25.9 +0.4
CFR Carcaliu 122.83 56 ⇑iP PKPdf 16 56 25.9 +0.4
SUW Suwalki 122.96 44 ePKIKP PKPdf 16 56 25.8 +0.3
SUW Suwalki 122.96 44 ePKPdf PKPdf 16 56 25.8 +0.3
ANTO Ankara 123.99 63 ⇑PKIKP PKPdf 16 56 28.9 +0.9
ANTO Ankara 123.99 63 ⇑iP PKPdf 16 56 28.9 +0.9
BRTR Keskin Array B 124.53 63 PKP PKPdf 16 56 29.0 -0.2
comp=Z,3.0nm,0.7s,baz=193,slow=2.6,SNR=19
KIEV Kiev 125.40 50 ⇓ePKIKP PKPdf 16 56 30.9 +0.7
AKASG Malin Array Be 125.41 50 PKP PKPdf 16 56 28.7 -1.5
comp=Z,1.8nm,0.8s,baz=271,slow=2.8,SNR=12
AKASG PP PP 16 58 19.4 -2.5
comp=Z,2.4nm,0.9s,baz=255,slow=6.8,SNR=10
RAYN Ar Rayn 126.50 87 ePKPdf PKPdf 16 56 34.0 +0.7
FINES FINESS Array B 126.53 36 PKP PKPdf 16 56 31.8 -0.3
comp=Z,5.8nm,1.1s,baz=233,slow=0.7,SNR=6.3
MALT Malatya 127.45 67 ⇓PKIKP PKPdf 16 56 34.2 -0.6
MALT Malatya 127.45 67 ⇓iP PKPdf 16 56 34.2 -0.6
ANN Anapa 128.92 59 i PKIKP PKPdf 16 56 38.2 +1.0
ANN e 16 58 50.1
ANN pmax pmax
comp=Z,45nm,1.7s
OBN Obninsk 130.78 45 i PKIKP PKPdf 16 56 41.2 +0.9
OBN pmax pmax
comp=Z,16nm,1.3s
MOS Moscow 131.47 45 ePKIKP PKPdf 16 56 42.4 +0.8
MOS MLR MLR
comp=Z,2μm,21.0s
AKH Akhalkalaki 132.16 65 P PP 16 59 01.3 -5.3
KBZ Khabaz 132.38 62 PKP PKPdf 16 56 43.9 +0.1
comp=Z,1.8nm,0.7s,baz=179,slow=16,SNR=4.9
ONI Oni 132.47 63 P PP 16 59 06.5 -1.9
GNI Garni 132.69 67 ⇑ePKIKP PKPdf 16 56 45.0 +0.3
GOF Gofitskoye 132.82 60 ePKIKP PKPdf 16 56 46.6 +2.0
ZEI Tsey 132.84 63 i PKIKP PKPdf 16 56 44.7 -0.3
ZEI pmax pmax
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 132.92 38 ePKIKP PKPdf 16 56 41.5 -2.7
KLMR pmax pmax
comp=Z,33nm,1.5s
TBLG Delisi 133.15 65 P PP 16 59 06.0 -6.7
DGRG David-gareji 133.53 65 P PP 16 59 15.2 0.0
BILL Bilibino 135.41 332 ePKIKP PKPdf 16 56 51.9 +3.2
BILL e 16 59 32.3
BILL pmax pmax
comp=Z,2.0nm,1.2s
PETK Petropavlovsk- 141.62 311 PKP PKPdf 16 56 57.9 -2.7
comp=Z,4.9nm,0.5s,baz=90,slow=2.9,SNR=6.8
GEYT Alibeck 142.09 74 PKhKP PKPpre 16 56 57.2
comp=Z,5.7nm,0.7s,baz=251,slow=4.5,SNR=7.5
GEYT PP PP 17 00 12.1 +3.5
comp=Z,0.9nm,0.5s,baz=256,slow=5.8,SNR=3.5
SEY Seymchan 142.39 327 PKhKP PKPpre 16 56 56.5
comp=Z,1.8nm,0.6s,baz=82,slow=23,SNR=4.7
GSI Gunungsitoli 143.06 165 ePKPdf PKPdf 16 57 05.7 +1.3
ARU Arti 143.14 43 i PKIKP PKPbc 16 56 59.7 -0.5
ARU Arti 143.14 43 ePKPdf PKPdf 16 57 01.9 -1.3
KSM Kuching 143.98 187 ePKPdf PKPbc 16 57 04.8 +0.9
SVE Sverdlovsk 144.19 42 ePKIKP PKPdf 16 57 04.1 -0.9
SVE pmax pmax
comp=Z,53nm,1.6s
MYKOM Kota Tinggi 144.39 175 ePKPdf PKPab 16 57 04.7 -0.1
ABKAR Akbulak array 144.73 55 ePKPdf PKPdf 16 57 05.8 -0.3
SBUM Sibu 144.73 190 ePKPdf PKPab 16 57 05.6 -0.5
KAD Karad 145.24 116 ex PKPbc 16 57 07.6 -0.2
POO Poona 145.80 114 ⇓ix PKPdf 16 57 09.0 0.0
comp=Z,556nm,2.0s
LHMI Lhok Sumawe 146.73 163 ePKPbc PKPbc 16 57 12.7 +0.4
IPM Ipoh 146.76 170 ePKPdf PKPdf 16 57 11.2 +0.3
HYB Hyderabad 148.35 122 i PKP PKPbc 16 57 15.5 -1.3
BRVK Borovoye 150.54 46 ePKIKP PKPbc 16 57 22.1 +1.0
BRVK Borovoye 150.54 46 ePKPbc PKPbc 16 57 22.1 +1.0
YAK Yakutsk 151.54 337 ePKIKP PKPbc 16 57 21.2 -1.9
YAK pmax pmax
comp=Z,55nm,1.0s
YAK Yakutsk 151.54 337 ePKPbc PKPbc 16 57 22.4 -0.7
YSS Yuzh-Sakhalins 151.74 301 ePKIKP PKPbc 16 57 23.7 -0.3
YSS Yuzh-Sakhalins 151.74 301 ePKPbc PKPbc 16 57 23.7 -0.3
ASAJ Asahikawa 152.03 295 ePKPbc PKPbc 16 57 25.4 +0.6
EKS2 Erkin-Say 154.55 68 ePKIKP PKPdf 16 57 23.8 +1.7
EKS2 Erkin-Say 154.55 68 ePKPdf PKPdf 16 57 23.8 +1.7
MJAR Matsushiro Arr 154.70 278 PKPbc PKPbc 16 57 30.7 -0.3
comp=Z,2.0nm,0.9s,baz=177,slow=2.4,SNR=4.5
MJAR PKPab PKPab 16 57 44.1 -1.8
comp=Z,5.7nm,0.8s,baz=139,slow=3.4,SNR=11
AAK Ala-Archa 155.08 68 ePKIKP PKPdf 16 57 23.8 +0.9
AAK 17 01 24.2
AAK Ala-Archa 155.08 68 PP PP 17 01 24.2 -0.2
comp=Z,3.2nm,1.0s,baz=217,slow=8.5,SNR=3.9
AAK Ala-Archa 155.08 68 ePKPdf PKPdf 16 57 23.8 +0.9
AAK PP PP 17 01 24.2 -0.1
FRU Bishkek 155.17 68 ePKIKP PKPdf 16 57 26.0 +3.2
TKM2 Tokmak 2 155.88 67 ePKIKP PKPdf 16 57 24.6 +0.6
TKM2 Tokmak 2 155.88 67 ePKPdf PKPdf 16 57 24.6 +0.6
KSH Kashi 156.10 76 ePKP PKPdf 16 57 24.3 0.0
KSH epPKP pPKPdf 16 57 35.8 +1.2
KSH esPKP 16 57 38.5
KSH eSKS SKSdf 17 04 25.3 -3.0
KSH eSKKS SKKSac 17 08 15.5 -1.4
KSH AMB AMB
comp=Z,280nm,5.9s
KSH LR LR
comp=Z,130nm,6.6s
NVS Novosibirsk 156.52 35 ePKIKP PKPdf 16 57 22.2 -1.9
NVS e 17 01 32.2
NVS pmax pmax
comp=Z,89nm,2.1s
NVS pmax pmax
comp=N,22nm,2.5s
NVS pmax pmax
comp=E,67nm,2.9s
ZAA0 Zalesovo Array 157.80 35 ePKPdf PKPdf 16 57 25.5 -0.3
ZALV Zalesovo Beam 157.80 35 PKP PKPdf 16 57 24.2 -1.6
comp=E,7.7nm,1.0s,baz=270,slow=1.5,SNR=12
ZALV PKPab PKPab 16 57 59.0 +0.4
comp=E,7.7nm,0.6s,baz=305,slow=5.2,SNR=9.1
KOLN Koldanda 158.48 110 eP PKPdf 16 57 26.5 -1.3
DANN Dangsing 158.91 109 eP PKPdf 16 57 28.4 0.0
BOD Bodaibo 159.07 349 ePKP2 PKPab 16 58 02.0 -1.9
BOD pmax pmax
comp=Z,13nm,1.7s
GKN Gorkha 159.38 111 eP PKPdf 16 57 29.0 +0.2
DMN Daman 159.51 113 eP PKPdf 16 57 28.4 -0.7
PKI Pulchoki 159.71 113 eP PKPdf 16 57 29.5 +0.1
KKN Kakani 159.74 112 eP PKPdf 16 57 29.5 +0.2
MK31 Makanchi Array 159.87 55 ePKIKP PKPdf 16 57 28.9 +0.4
MK31 Makanchi Array 159.87 55 ePKPdf PKPdf 16 57 28.9 +0.4
MKAR Makanchi Array 159.87 55 PKP PKPdf 16 57 28.4 -0.2
comp=Z,9.2nm,1.2s,baz=323,slow=1.8,SNR=11
MKAR PKPab PKPab 16 58 07.5 -0.4
comp=Z,2.9nm,0.8s,baz=284,slow=3.9,SNR=5.7
MKAR PP PP 17 01 50.5 +0.3
comp=Z,2.8nm,1.1s,baz=263,slow=2.0,SNR=5.6
CMAR Chiang Mai Arr 159.92 159 PKP PKPdf 16 57 29.1 -0.3
comp=Z,3.7nm,1.2s,baz=222,slow=1.5,SNR=7.7
RAMN Ramite 160.21 116 eP PKPdf 16 57 29.7 -0.1
GUN Gumba 160.24 113 eP PKPdf 16 57 30.3 +0.3
JIRN Jiri 160.33 114 eP PKPdf 16 57 29.5 -0.6
ODAN Odare 160.71 118 eP PKPdf 16 57 30.0 -0.4
TAPN Taplejung 161.24 117 eP PKPdf 16 57 30.6 -0.4
WMQ Urumqi 164.43 60 ePKP PKPdf 16 57 34.0 +0.7
WMQ LR LR
comp=Z,1μm,19.4s
WMQ LR LR
comp=Z,2μm,22.6s
WMQ LR LR
comp=Z,2μm,21.6s
NJ2 Nanjing 168.47 246 ePKP PKPdf 16 57 37.0 +0.3
GYA Guiyang 169.00 181 PKP PKPdf 16 57 37.3 -0.1
GYA pPKP pPKPdf 16 57 48.0 +0.3
GYA PKPab PKPab 16 58 49.5 +1.0
GYA PKS PKSdf 17 01 08.0 -2.1
GYA PP PP 17 02 40.5 +3.6
GYA SKKS 17 09 22.3
GYA SS SS 17 23 28.5 0.0
GYA AMB AMB
comp=Z,180nm,8.5s
GYA LR LR
comp=Z,180nm,21.5s
GYA LR LR
comp=Z,170nm,21.2s
SONM Songino Array 169.66 0 PKP PKPdf 16 57 34.3 -2.8
comp=Z,3.5nm,1.2s,baz=253,slow=1.5,SNR=3.7
SONM PKPab PKPab 16 58 51.0 +0.1
comp=Z,4.3nm,1.1s,baz=340,slow=4.0,SNR=8.2
SONM PP PP 17 02 42.1 +1.7
comp=Z,1.1nm,1.1s,baz=345,slow=5.1,SNR=3.4
CD2 Chengdu 173.06 160 PKP PKPdf 16 57 39.3 0.0
CD2 pPKP pPKPdf 16 57 50.5 +0.9
CD2 sPKP 16 57 54.5
CD2 PKS PKSdf 17 01 10.0 -1.6
CD2 PP PP 17 03 01.0 +3.7
CD2 SKS SKSdf 17 04 37.0 -3.2
CD2 SKKS SKKSac 17 09 42.8 +0.6
CD2 SS SS 17 24 09.0 +0.3
CD2 AMB AMB
comp=Z,280nm,6.2s
GTA Gaotai 174.43 68 ePKP PKPdf 16 57 39.5 -0.1
GTA pPKP pPKPdf 16 57 50.0 0.0
GTA sPKP 16 57 54.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GTA				PKPab	PKPab	16 59 15.0	+2.4
GTA				PP	PP	17 03 07.0	+1.6
GTA				SKS	SKSdf	17 04 37.3	-3.1
GTA				SKKS	SKKSac	17 09 48.0	-1.2
GTA				SS	SS	17 24 20.0	-4.6
GTA				AMB	AMB		
	comp=Z,2μm,10.1s						
GTA				LR	LR		
	comp=Z,1μm,19.8s						
GTA				LR	LR		
	comp=Z,2μm,20.2s						
GTA				LR	LR		
	comp=Z,4μm,20.7s						
HHC	Hu-ho-hao-te	174.82	312	ePKP	PKPdf	16 57 36.5	-3.1
HHC				pPKP	pPKPdf	16 57 46.5	-3.5
HHC				sPKP		16 57 51.8	
HHC				AMB	AMB		
	comp=Z,530nm,3.9s						
HHC				LR	LR		
	comp=Z,5μm,25.7s						
HHC				LR	LR		
	comp=Z,5μm,25.7s						
HHC				LR	LR		
	comp=Z,3μm,18.3s						
LZH	Lanzhou	177.47	123	ePKP	PKPdf	16 57 41.5	+1.0
LZH				pPKP	pPKPdf	16 57 52.8	+2.0
LZH				sPKP		16 57 56.5	
LZH				PP	PP	17 03 23.5	+3.9
LZH				eSKKS		17 10 04.5	
LZH				AMB	AMB		
	comp=Z,1μm,5.3s						
LZH				LR	LR		
	comp=Z,1μm,17.2s						
LZH				LR	LR		
	comp=Z,2μm,20.2s						
LZH				LR	LR		
	comp=Z,3μm,21.0s						

*IDC **27** 16:42:25.3±0.8, 34.79S×72.39W, h0km, mb4.2/7, mb1 4.4/10, mb1mx4.2/37, mbtmp4.2/10, ML4.8/2, Error ellipse: s-maj=30.7km s-min=19.1km az=81.0*
*ISCJB **27** 16:42:26.4±0.8, 34.79S±0.08×72.4W±0.2, h18km, mb4.2/7, Error ellipse: s-maj=22.3km s-min=12.0km az=3.8*
ISC 27 16:42:28.2±0.8, 34.77S±0.10×72.4W±0.2, h18km, n11, σ0.69/11, mb4.2/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.71	49	Pn	Pn	16 43 39.1	+0.7
	1.2nm,0.3s,baz=275,slow=12,SNR=4.4						
CFAA				Lg	Lg	16 44 49.5	
	1.4nm,0.3s,baz=17,slow=11,SNR=2.9						
PLCA	Paso Flores	6.13	167	Pn	Pn	16 43 58.5	+0.6
	5.7nm,0.3s,baz=312,slow=12,SNR=2.0						
LPAZ	La Paz	18.80	13	P	Pn	16 46 48.7	+0.7
	0.9nm,0.3s,baz=196,slow=7.3,SNR=9.3						
SIV	San Ignacio	21.29	31	P	P	16 47 12.7	-1.2
	8.0nm,0.8s,baz=213,slow=14,SNR=4.2						
QSPA	South Pole Qui	55.46	180	P	P	16 52 01.2	-0.4
	3.0nm,0.8s,baz=164,slow=3.6,SNR=5.8						
TEIG	Tepich	56.74	342	P	P	16 52 10.7	-0.3
	5.6nm,0.5s,baz=172,slow=15,SNR=3.0						
TXAR	Lajitas Array	70.27	331	P	P	16 53 40.5	0.0
	1.0nm,0.5s,baz=156,slow=9.2,SNR=15						
BOSA	Boshof	79.97	118	P	P	16 54 36.5	-0.2
	2.0nm,0.6s,baz=258,slow=2.5,SNR=4.3						
NVAR	Mina Array Bea	84.35	325	P	P	16 54 60.0	+0.6
	0.6nm,0.8s,baz=153,slow=8.1,SNR=3.0						
TORD	Torodi Ar. Bea	84.75	70	P	P	16 55 01.1	-0.6
	0.8nm,0.9s,baz=242,slow=5.8,SNR=2.0						
BVAR	Borovoye Array	148.05	44	PKPbc	PKPbc	17 02 12.1	-0.1
	0.4nm,0.7s,baz=280,slow=4.2,SNR=2.2						

*ISCJB **27** 16:44:09.7±0.9, 35.58S±0.08×73.1W±0.1, h17km, mb4.1/7, Error ellipse: s-maj=18.3km s-min=9.5km az=23.7*
*IDC **27** 16:44:09.5±0.9, 35.48S×73.04W, h0km, mb4.2/6, mb1 4.2/8, mb1mx4.0/33, mbtmp4.1/8, ML4.0/2, Error ellipse: s-maj=35.7km s-min=21.7km az=93.0*
*NEIC **27** 16:44:14.2±0.6, 35.59S×73.04W, h35km, mb4.1/2, Error ellipse: s-maj=16.8km s-min=13.1km az=92.0*
ISC 27 16:44:11.6±0.8, 35.57S±0.09×73.1W±0.1, h17km, n16, σ1.08/17, mb4.1/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.53	159	Pn	Pn	16 45 32.9	-0.4
	2.3nm,0.3s,baz=293,slow=15,SNR=2.3						
PLCA				Lg	Lg	16 47 06.3	
	1.2nm,0.3s,baz=276,slow=18,SNR=2.7						
CFAA	Coronel Fontan	5.68	47	Pn	Pn	16 45 35.6	+0.4
	0.9nm,0.3s,baz=234,slow=8.7,SNR=3.6						
CFAA				Sn	Sn	16 46 40.3	+0.3
	1.2nm,0.3s,baz=301,slow=18,SNR=2.6						
CFAA				Lg	Lg	16 47 03.5	
	baz=105,slow=20,SNR=2.9						
TRQA	Tornquist	9.27	109	ePn	Pn	16 46 24.5	+0.1
SIV	San Ignacio	22.27	32	P	P	16 49 07.4	-0.6
	6.7nm,1.1s,baz=214,slow=10,SNR=3.9						
SNAA	Sanae	50.47	157	eP	P	16 53 07.6	-0.6
	2.6nm,0.8s						
QSPA	South Pole Qui	54.67	180	P	P	16 53 42.1	+2.7
	3.4nm,1.2s,baz=135,slow=4.3,SNR=3.2						
QSPA	South Pole Qui	54.67	180	P	P	16 53 39.2	-0.2
	1.3nm,0.8s						
TXAR	Lajitas Array	70.69	332	P	P	16 55 26.0	-0.6
	0.3nm,0.5s,baz=154,slow=7.8,SNR=5.5						
DBIC	Dimbokro	76.52	72	P	P	16 56 01.4	+0.3
	4.7nm,0.7s,baz=220,slow=4.8,SNR=4.7						
BOSA	Boshof	80.12	118	P	P	16 56 21.4	+0.3
	2.8nm,0.6s,baz=219,slow=2.7,SNR=5.8						
TORD	Torodi Ar. Bea	85.58	71	P	P	16 56 47.9	-1.4
	1.1nm,0.9s,baz=226,slow=3.2,SNR=3.0						
AKASG	Malin Array Be	123.90	48	PKP	PKPdf	17 03 06.6	-1.5
	0.5nm,0.7s,baz=256,slow=1.9,SNR=3.9						
BVAR	Borovoye Array	149.03	44	PKPbc	PKPbc	17 03 58.4	+0.2
	1.4nm,0.5s,baz=304,slow=3.3,SNR=5.8						
ZALV	Zalesovo Beam	156.03	33	PKPab	PKPab	17 04 32.6	+0.9
	1.3nm,0.8s,baz=308,slow=4.9,SNR=2.4						
MKAR	Makanchi Array	158.45	51	PKPab	PKPab	17 04 42.8	+0.3
	0.9nm,0.9s,baz=256,slow=5.8,SNR=3.4						
SONM	Songino Array	167.74	2	PKPab	PKPab	17 05 24.6	+1.4
	0.5nm,1.0s,baz=344,slow=2.4,SNR=2.2						

*IDC **27** 16:46:12.9±0.7, 25.90N×128.50E, h0km, mb4.2/17, mb1 4.3/19, mb1mx4.2/38, mbtmp4.2/19, ML3.4/2, Error ellipse: s-maj=20.5km s-min=15.1km az=92.0*
*JMA **27** 16:46:14.9±0.2, 25.91N×128.63E, h36km±4km, M4.0*
*ISCJB **27** 16:46:15.3±1.0, 25.89N±0.03×128.53E±0.04, h33km±7km, mb4.2/19, Error ellipse: s-maj=6.9km s-min=3.9km az=135.6*
ISC 27 16:46:14.8±0.9, 25.94N±0.04×128.57E±0.04, h14km±5km, n42, σ1.74/61, mb4.3/19, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.76	320	P	Pb	16 46 29.8	0.0
JNTH				eS	Sn	16 46 41.2	-1.2
JJT2	Tamagusuku 2	0.76	285	P	Pb	16 46 30.1	+0.2
JJT2				S	Sn	16 46 41.2	-1.3
JOW	Kunigami	0.93	344	P	Pb	16 46 32.6	-0.1
JOW				eS	Sb	16 46 44.4	-0.6
JOW	Kunigami	0.93	344	Pn	Pb	16 46 32.6	-0.1
	28nm,0.3s,baz=166,slow=16,SNR=38						
JOW				Sn	Sb	16 46 44.8	-0.2
	57nm,0.3s,baz=143,slow=20,SNR=16						
JIH	Iheya	1.22	334	P	Pn	16 46 36.9	-0.6
JIH				S	Sb	16 46 52.4	-0.8
JAGN	Aguni-jima	1.35	299	P	Pn	16 46 39.3	0.0
JAGN				S	Sb	16 46 57.3	+0.1
JOKE	Okinoerabujima	1.42	0	P	Pn	16 46 39.5	-0.7
JOKE				S	Sn	16 46 56.6	-2.1
JKE	Kume jima 2	1.65	284	P	Pn	16 46 42.6	-0.8
JKE				S	Sn	16 47 02.6	-1.8
JTK	Tokunoshima	1.87	10	P	Pn	16 46 46.4	-0.1
JTK				S	Sn	16 47 06.8	-3.1
JAMN	Amaminishikomi	2.36	13	P	Pn	16 46 52.6	-0.6
JAMN				eS	Sn	16 47 19.2	-2.7
JMZ	Minamidaito 2	2.39	92	P	Pn	16 46 52.0	-1.7
JMZ				S	Sn	16 47 17.1	-5.7
JAM	Amami Oshima	2.63	20	eS	Sn	16 47 25.6	-3.0
JOGS	Gusukube	3.09	248	P	Pn	16 47 03.2	0.0
JOGS				S	Sn	16 47 38.3	-1.7
JMJ	Miyako jima 2	3.17	250	S	Sn	16 47 39.5	-2.3
JIKM	Ikemajima	3.17	252	P	Pn	16 47 03.9	-0.4
JIKM				S	Sn	16 47 40.6	-1.3
JTJ	Tarama	3.73	251	P	Pn	16 47 11.1	-0.9
JTJ				S	Sn	16 47 52.8	-3.0
JISG	Ishigakijimahi	4.08	252	P	Pn	16 47 18.2	-1.2
JISG				S	Sn	16 48 00.8	-3.7
JIJ	Ishigaki jima	4.30	250	P	Pn	16 47 18.2	-1.7
JIJ				S	Sn	16 48 04.9	-5.1
JKRS	Kuro-shima	4.47	249	P	Pn	16 47 22.1	-0.1
JKRS				eS	Sn	16 48 10.6	-3.3
IRIF	Iriomote-Funau	4.67	251	P	Pn	16 47 24.1	-0.8
IRIF				eS	Sn	16 48 16.0	-2.9
JNU	Nakatsue	7.43	15	Pn	Pn	16 48 03.5	+0.5
	1.5nm,0.3s,baz=344,slow=3.7,SNR=15						
JNU				Sn	Sn	16 49 22.5	-4.7
	0.6nm,0.3s,baz=227,slow=19,SNR=2.3						
USRK	Ussuriysk Arra	18.43	8	P	Pn	16 50 31.5	+1.7
	0.2nm,0.3s,baz=187,slow=10,SNR=7.6						
ASAJ	Asahikawa	21.41	29	P	P	16 51 04.2	+2.0
	4.0nm,0.7s,baz=198,slow=9.6,SNR=3.5						
GTA	Gaotai	27.55	306	P	P	16 52 00.3	-1.1
GTA				pP	pP	16 52 05.0	-0.7
GTA				sP	sP	16 52 07.5	+0.1
GTA				PcP	PP	16 53 30.0	+26
GTA				pmax	pmax		
	comp=Z,30nm,1.4s						
SONM	Songino Array	27.96	327	P	P	16 52 06.6	+1.6
	comp=Z,6.2nm,0.7s,baz=140,slow=10,SNR=43						
CMAR	Chiang Mai Arr	28.38	261	P	P	16 52 09.7	+0.8
	comp=Z,1.6nm,0.9s,baz=52,slow=7.6,SNR=9.8						
SEY	Seymchan	40.21	17	P	P	16 53 52.9	+2.2
	comp=Z,1.2nm,0.6s,baz=214,slow=11,SNR=15						
MKAR	Makanchi Array	41.95	312	P	P	16 54 04.6	-0.7
	comp=Z,2.3nm,0.7s,baz=94,slow=11,SNR=17						
ZALV	Zalesovo Beam	42.66	323	P	P	16 54 09.8	-1.1
	comp=Z,1.5nm,0.6s,baz=115,slow=6.5,SNR=3.8						
WRA	Warramunga Arr	45.95	172	P	P	16 54 37.4	-0.2
	comp=Z,8.5nm,0.7s,baz=353,slow=8.4,SNR=47						
STKA	Stephens Creek	58.82	167	P	P	16 56 12.4	-0.4
	comp=Z,2.3nm,0.7s,baz=310,slow=5.8,SNR=5.0						
GEYT	Alibeck	59.70	300	P	P	16 56 19.7	+0.5
	comp=Z,3.8nm,0.8s,baz=71,slow=5.0,SNR=8.0						
ILAR	Eielson Array	64.55	28	P	P	16 56 51.1	-0.1
	comp=Z,0.6nm,0.7s,baz=268,slow=6.2,SNR=9.3						
KBZ	Khabaz	69.58	310	P	P	16 57 24.6	+1.1
	comp=Z,5.0nm,1.0s,baz=90,slow=1.0,SNR=3.4						
FINES	FINESS Array B	73.26	331	P	P	16 57 45.0	-0.4
	comp=Z,2.2nm,0.7s,baz=66,slow=6.7,SNR=7.8						
AKASG	Malin Array Be	75.95	320	P	P	16 58 01.1	-0.2
	comp=Z,5.7nm,0.8s,baz=56,slow=6.2,SNR=22						
BRTR	Keskin Array B	77.45	308	P	P	16 58 10.8	+0.7
	comp=Z,4.5nm,0.8s,baz=90,slow=5.4,SNR=11						
YKA	Yellowknife Ar	78.66	25	P	P	16 58 17.0	+0.8
	comp=Z,0.7nm,0.7s,baz=300,slow=5.5,SNR=9.6						
NB2	NORSAR Subarra	79.71	334	P	P	16 58 21.5	-0.5
	comp=Z,1.6nm,0.7s,baz=52,slow=5.9						
NOA	NORSAR Array B	79.71	334	P	P	16 58 21.2	-0.8
	comp=Z,2.5nm,0.8s,baz=52,slow=5.6,SNR=9.4						
SUMG	Summit	81.34	356	iP	P	16 58 35.9	+4.8
	comp=Z,6.8nm,0.9s						
SUMG				i		16 58 44.2	
GERES	GERESS Array B	85.61	323	P	P	16 58 54.4	+1.3
	comp=Z,0.7nm,0.7s,baz=46,slow=3.9,SNR=4.8						

*IDC **27** 16:46:26.8±0.7, 35.63S×72.68W, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/30, mbtmp4.1/10, ML4.3/1, Error ellipse: s-maj=32.7km s-min=17.7km az=80.0*
*ISCJB **27** 16:46:28.3±0.6, 35.70S±0.06×72.8W±0.1, h20km, mb4.2/10, Error ellipse: s-maj=16.6km s-min=8.1km az=18.0*
*NEIC **27** 16:46:31.9±0.5, 35.72S×72.76W, h35km, mb4.0/2, Error ellipse: s-maj=18.1km s-min=9.1km az=99.0*
ISC 27 16:46:29.9±0.7, 35.68S±0.08×72.8W±0.1, h20km, n20, σ0.91/21, mb4.1/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.35	161	Pn	Pn	16 47 50.1	+1.3
	2.1nm,0.3s,baz=320,slow=14,SNR=2.2						
CFAA	Coronel Fontan	5.58	45	Pn	Pn	16 47 53.6	+1.8
	baz=210,slow=14,SNR=2.1						
CFAA				Sn	Sn	16 48 55.4	-0.1
	0.5nm,0.3s,baz=231,slow=17,SNR=3.5						
LVC	Limon Verde	13.46	16	Pn	Pn	16 49 41.3	+1.2
LPAZ	La Paz	19.76	13	P	Pn	16 51 01.1	+0.2
	0.1nm,0.3s,baz=201,slow=10,SNR=3.1						
SIV	San Ignacio	22.24	31	P	P	16 51 24.8	-0.7
	3.2nm,0.6s,baz=221,slow=10.0,SNR=3.9						
PMSA	Palmer Station	29.61	172	P	P	16 52 33.8	+0.5
	72nm,1.0s,baz=13,slow=19,SNR=4.9						
SNAA	Sanae	50.28	157	P	P	16 55 24.2	-0.4
	0.7nm,0.5s,baz=246,slow=1.8,SNR=3.1						
SNAA	Sanae	50.28	157	eP	P	16 55 22.9	-1.7
	1.1nm,0.8s						
QSPA	South Pole Qui	54.56	180	P	P	16 55 56.6	+0.2
	4.3nm,0.8s,baz=186,slow=2.1,SNR=6.6						
QSPA	South Pole Qui	54.56	180	eP	P	16 55 56.8	+0.4
	1.6nm,0.8s						
TXAR	Lajitas Array	70.89	332	P	P	16 57 45.8	+0.2
	1.1nm,0.7s,baz=152,slow=8.4,SNR=7.5						
DBIC	Dimbokro	76.33	71	P	P	16 58 16.9	-0.9
	2.0nm,0.6s,baz=202,slow=5.5,SNR=4.1						
BOSA	Boshof	79.86	118	P	P	16 58 36.7	-0.8
	3.0nm,0.9s,baz=262,slow=4.1,SNR=3.8						
NVAR	Mina Array Bea	84.90	326	P	P	16 59 04.2	+0.8
	0.8nm,0.6s,baz=152,slow=6.4,SNR=4.1						
PDAR	Pinedale Array	84.97	334	P	P	16 59 02.9	-0.8
	0.3nm,0.7s,baz=141,slow=5.8,SNR=2.9						
TORD	Torodi Ar. Bea	85.39	70	P	P	16 59 05.2	-1.0
	1.0nm,0.8s,baz=244,slow=3.2,SNR=3.6						
PSI	Prapat	146.40	165	PKPbc	PKPdf	17 06 09.2	+0.2
	2.4nm,0.5s,baz=348,slow=3.8						
BVAR	Borovoye Array	148.94	45	PKPbc	PKPbc	17 06 15.6	-0.1
	0.6nm,0.5s,baz=304,slow=4.1,SNR=3.6						
AAK	Ala-Archa	153.84	65	PKPab	PKPab	17 06 40.3	-0.6
	0.7nm,0.6s,baz=241,slow=6.8,SNR=4.7						
SONM	Songino Array	167.84	2	PKPab	PKPab	17 07 41.9	+0.5
	0.4nm,0.9s,baz=25,slow=1.4,SNR=2.2						

IDC 27 16:47:40.0±4.0, 34.18S×73.39W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/29, mbtmp4.0/4, Error ellipse: s-maj=129.6km s-min=38.2km az=11.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDFB	Brasilia	29.37	57	P	P	16 53 44.9	-0.2
	2.4nm,0.6s,baz=225,slow=17,SNR=3.1						
TXAR	Lajitas Array	69.36	332	P	P	16 58 50.8	+1.2
	0.8nm,0.9s,baz=157,slow=7.7,SNR=3.9						
PDAR	Pinedale Array	83.43	334	P	P	17 00 08.1	-1.3
	1.6nm,1.1s,baz=152,slow=7.8,SNR=5.7						
TORD	Torodi Ar. Bea	85.33	71	P	P	17 00 19.6	+0.3
	0.7nm,0.7s,baz=246,slow=4.8,SNR=2.9						

*IDC **27** 16:48:18.1±0.8, 34.52S×72.14W, h0km, mb4.3/8, mb1 4.4/10, mb1mx4.2/30, mbtmp4.3/10, ML4.0/2, Error ellipse: s-maj=28.4km s-min=22.0km az=94.0*
*ISCJB **27** 16:48:19.3±0.7, 34.32S±0.09×72.0W±0.2, h16km, mb4.3/9, Error ellipse: s-maj=18.9km s-min=12.2km az=160.4*
*NEIC **27** 16:48:23.4±0.6, 34.38S×72.09W, h35km, mb4.1/2, Error ellipse: s-maj=16.4km s-min=12.3km az=78.0*
ISC 27 16:48:20.8±0.7, 34.37S±0.09×72.1W±0.1, h16km, n27, σ1.29/26, mb4.5/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.29	51	Pn	Pn	16 49 28.0	+2.6
	1.3nm,0.3s,baz=235,slow=12,SNR=2.9						
CFAA				Lg	Lg	16 50 26.6	
	5.7nm,0.3s,baz=295,slow=19,SNR=3.8						
PLCA	Paso Flores	6.47	169	Lg	Lg	16 51 34.9	
	1.4nm,0.3s,baz=263,slow=19,SNR=1.5						
TRQA	Tornquist	9.00	117	Pn	Pn	16 50 29.8	-0.3
LVC	Limon Verde	12.06	14	Pn	Pn	16 51 10.2	-2.0
LPAZ	La Paz	18.37	12	P	Pn	16 52 36.7	+1.2
	0.6nm,0.3s,baz=195,slow=7.0,SNR=9.5						
LPAZ	La Paz	18.37	12	eP	Pn	16 52 36.7	+1.2
	7.8nm,1.0s						
SIV	San Ignacio	20.84	31	P	P	16 53 01.2	-0.7
	11nm,1.0s,baz=200,slow=9.2,SNR=12						
BDFB	Brasilia	28.62	55	P	P	16 54 16.4	-0.3
	3.8nm,0.6s,baz=261,slow=11,SNR=4.3						
SNAA	Sanae	51.27	158	P	P	16 57 20.9	-2.6
	2.5nm,0.9s,baz=283,slow=8.8,SNR=6.4						
SNAA	Sanae	51.27	158	eP	P	16 57 21.9	-1.7
	1.9nm,0.8s						
QSPA	South Pole Qui	55.86	180	P	P	16 57 59.1	+1.8
	4.9nm,0.9s,baz=136,slow=3.0,SNR=4.8						
TEIG	Tepich	56.43	342	P	P	16 58 01.8	+0.1
TXAR	Lajitas Array	70.02	331	P	P	16 59 32.0	+0.2
	0.3nm,0.5s,baz=150,slow=6.7,SNR=4.1						
WVT	Waverly	71.65	347	eP	P	16 59 40.7	-0.8
	17nm,1.1s						
DBIC	Dimbokro	75.38	71	P	P	17 00 04.2	+0.3
	3.0nm,0.6s,baz=189,slow=6.8,SNR=4.6						
BOSA	Boshof	79.97	118	P	P	17 00 30.4	+0.7
	5.8nm,0.8s,baz=204,slow=7.4,SNR=5.5						
NVAR	Mina Array Bea	84.14	325	P	P	17 00 52.2	+1.0
	1.5nm,1.0s,baz=135,slow=5.6,SNR=3.2						
TORD	Torodi Ar. Bea	84.42	70	P	P	17 00 52.9	+0.1
	4.0nm,0.9s,baz=262,slow=4.0,SNR=9.2						
WRA	Warramunga Arr	120.39	209	PKP	PKPdf	17 07 11.2	-0.7
	0.4nm,0.6s,baz=156,slow=1.8,SNR=4.6						
AKASG	Malin Array Be	122.51	48	PKP	PKPdf	17 07 14.2	-0.7
	0.2nm,0.5s,baz=257,slow=3.2,SNR=2.8						
PSI	Prapat	147.50	163	PKPbc	PKPbc	17 08 04.6	-0.3
	3.4nm,0.8s,baz=135,slow=13,SNR=2.8						
BVAR	Borovoye Array	147.61	43	PKPbc	PKPbc	17 08 04.4	+0.6
	2.1nm,0.6s,baz=278,slow=3.7,SNR=8.1						
HYB	Hyderabad	148.85	115	i PKP	PKPbc	17 08 08.0	-0.2
AAK	Ala-Archa	152.76	62	PKPab	PKPab	17 08 25.1	-2.7
	2.9nm,0.8s,baz=248,slow=11,SNR=3.3						
ZALV	Zalesovo Beam	154.59	33	PKPbc	PKPbc	17 08 20.7	+0.5
	2.1nm,0.7s,baz=300,slow=3.3,SNR=6.5						
MKAR	Makanchi Array	157.07	50	PKPab	PKPab	17 08 46.1	+0.2
	1.0nm,0.6s,baz=268,slow=3.4,SNR=9.3						
SONM	Songino Array	166.51	4	PKPab	PKPab	17 09 27.6	+0.6
	0.6nm,0.8s,baz=321,slow=3.7,SNR=4.4						

*IDC **27** 16:49:47.9±0.8, 34.64S×72.75W, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/33, mbtmp4.2/9, ML3.9/1, Error ellipse: s-maj=33.3km s-min=21.0km az=86.0*
*ISCJB **27** 16:49:51.3±0.8, 34.59S±0.09×72.6W±0.2, h33km, mb4.1/8, Error ellipse: s-maj=21.6km s-min=11.9km az=167.4*
*NEIC **27** 16:49:53.1±0.5, 34.60S×72.73W, h35km, mb4.1/2, Error ellipse: s-maj=14.4km s-min=8.5km az=83.0*
ISC 27 16:49:53.2±0.8, 34.6S±0.1×72.7W±0.2, h35km, n18, σ0.66/17, mb4.2/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRQA	Tornquist	9.34	115	Pn	Pn	16 52 05.2	-0.1
LVC	Limon Verde	12.40	17	Pn	Pn	16 52 48.0	+0.5
LPAZ	La Paz	18.70	14	P	Pn	16 54 09.1	-0.7
	0.2nm,0.3s,baz=177,slow=6.6,SNR=2.6						
LPAZ	La Paz	18.70	14	eP	Pn	16 54 09.1	-0.7
	7.8nm,1.0s						
SIV	San Ignacio	21.28	32	P	P	16 54 36.5	-0.3
	14nm,0.8s,baz=222,slow=13,SNR=6.9						
SDV	Santo Domingo	43.29	3	eP	P	16 57 51.3	-0.6
SNAA	Sanae	51.25	158	P	P	16 58 51.7	-1.4
	1.7nm,0.5s,baz=271,slow=12,SNR=7.2						
SNAA	Sanae	51.25	158	eP	P	16 58 52.8	-0.3
	3.4nm,1.0s						
QSPA	South Pole Qui	55.64	180	P	P	16 59 25.9	+0.5
	2.1nm,0.6s,baz=261,slow=1.8,SNR=6.3						
TXAR	Lajitas Array	69.98	331	P	P	17 01 01.7	+0.5
	1.4nm,1.0s,baz=156,slow=6.8,SNR=5.0						
DBIC	Dimbokro	75.91	72	P	P	17 01 36.4	-0.2
	1.9nm,0.7s,baz=217,slow=5.1,SNR=2.2						
TSUM	Tsumeb	79.60	106	P	P	17 01 58.3	+0.9
	1.0nm,0.9s,baz=207,slow=9.0,SNR=3.0						
PDAR	Pinedale Array	84.04	334	P	P	17 02 19.9	-0.2
	1.7nm,1.2s,baz=116,slow=4.1,SNR=3.6						
TORD	Torodi Ar. Bea	84.95	70	P	P	17 02 25.1	0.0
	1.2nm,0.7s,baz=275,slow=5.9,SNR=5.5						
WRA	Warramunga Arr	119.96	210	PKP	PKPdf	17 08 40.0	-0.6
	0.5nm,0.5s,baz=167,slow=1.7,SNR=6.8						
BVAR	Borovoye Array	148.11	43	PKPbc	PKPbc	17 09 35.4	+0.8
	1.6nm,0.5s,baz=322,slow=2.2,SNR=7.5						
AAK	Ala-Archa	153.29	63	PKPbc	PKPbc	17 09 47.8	+0.3
	1.0nm,0.5s,baz=208,slow=7.8,SNR=4.2						
ZALV	Zalesovo Beam	155.04	32	PKPbc	PKPdf	17 09 49.5	+7.7
	1.4nm,0.7s,baz=292,slow=4.6,SNR=2.8						

*ISCJB **27** 16:50:18.0±0.2, 34.09S±0.05×71.97W±0.07, h30km, mb5.0/45, MS4.6/1, Error ellipse: s-maj=9.5km s-min=5.3km az=137.8*
*BJI **27** 16:50:17.9, 34.36S×71.29W, h35km, mB5.6/8, Ms5.2/3, Ms7 5.8/2*
*MOS **27** 16:50:18.7±1.2, 34.12S×72.20W, h33km, mb5.1/19, Error ellipse: s-maj=18.8km s-min=9.5km az=93.9*
*IDC **27** 16:50:18.5±0.7, 34.23S×72.26W, h28km±4km, mb4.7/20, mb1 4.7/23, mb1mx4.6/34, mbtmp4.8/23, ML5.1/2, MS4.7/1, Ms1 4.7/1, ms1mx4.1/35, Error ellipse: s-maj=17.2km s-min=12.6km az=83.0*
*NEIC **27** 16:50:19.5±0.2, 34.22S×72.17W, h35km, mb5.1/31, Error ellipse: s-maj=7.5km s-min=5.7km az=66.0*
ISC 27 16:50:18.8±0.6, 34.26S±0.06×72.23W±0.07, h32km±3km, h32km:pP-P, n335, σ1.09/364, mb5.1/45, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.28	53	Pn	Pn	16 51 23.5	+1.7
	3.7nm,0.3s,baz=235,slow=15,SNR=1.8						
CFAA				Lg	Lg	16 52 23.0	
	6.6nm,0.3s,baz=237,slow=13,SNR=3.1						
PLCA	Paso Flores	6.59	169	eP	Pn	16 52 00.1	+6.5
PLCA	Paso Flores	6.59	169	ePn	Pn	16 52 00.1	+6.5
TRQA	Tornquist	9.11	117	ePn	Pn	16 52 27.7	-0.4
TRQA				eSn	Sn	16 54 10.3	+0.8
LVC	Limon Verde	11.97	15	ePn	Pn	16 53 06.2	-1.2
	103nm,1.3s						
CPUP	Villa Florida	15.10	62	P	Pn	16 53 51.8	+2.0
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CPUP	Villa Florida	15.10	62	Pn	Pn	16 53 51.8	+2.0
	comp=Z,2.1nm,0.3s,baz=224,slow=13,SNR=4.3						
CPUP	Villa Florida	15.10	62	ePn	Pn	16 53 50.1	+0.4
	comp=Z,2.0nm,0.6s						
LPAZ	La Paz	18.28	13	P	Pn	16 54 30.8	+0.2
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ	La Paz	18.28	13	P	Pn	16 54 30.8	+0.2
	comp=Z,2.0nm,0.3s,baz=193,slow=6.7,SNR=11						
LPAZ	La Paz	18.28	13	ePn	P	16 54 29.7	-0.9
	comp=Z,60nm,0.8s						
USHA	Ushuaia	20.74	174	P	Pn	16 55 01.0	+2.0
	comp=Z,14nm,0.8s,baz=322,slow=6.8,SNR=5.4						
SIV	San Ignacio	20.78	32	P	P	16 54 57.1	-0.3
	comp=Z,93nm,0.9s,baz=236,slow=15,SNR=19						
NNA	Nana	22.57	348	P	P	16 55 17.9	+1.3
NNA				pmax	pmax		
	comp=Z,25nm,1.1s						
NNA	Nana	22.57	348	P	P	16 55 17.9	+1.3
	comp=Z,25nm,1.1s,baz=190,slow=9.0,SNR=4.7						
NNA	Nana	22.57	348	eP	P	16 55 15.9	-0.6
	comp=Z,25nm,0.9s						
SAML	Samuel	26.53	20	eP	P	16 55 53.8	+0.1
	comp=Z,23nm,0.8s						
BDFB	Brasilia	28.61	56	P	P	16 56 11.5	-1.0
	comp=Z,44nm,0.9s,baz=227,slow=7.3,SNR=19						
BDFB				pP	pP	16 56 21.0	-0.7
	comp=Z,18nm,0.8s,baz=220,slow=11,SNR=4.1						
PMSA	Palmer Station	30.95	173	LR	LR	17 09 50.2	
	comp=Z,1μm,18.2s,baz=7.0,slow=38						
OTAV	Otavalo	34.81	349	eP	P	16 57 08.4	+1.1
	comp=Z,18nm,1.4s						
SDV	Santo Domingo	42.94	2	eP	P	16 58 13.7	-1.3
	comp=Z,37nm,0.9s						
RCBR	Riachuelo	43.92	58	P	P	16 58 22.1	-0.8
	comp=Z,20nm,0.9s,baz=202,slow=11,SNR=6.1						
RCBR	Riachuelo	43.92	58	eP	P	16 58 21.4	-1.4
	comp=Z,34nm,1.2s						
JTS	JuntasAbangare	45.92	342	eP	P	16 58 40.1	+1.4
JTS				pmax	pmax		
	comp=Z,22nm,1.5s						
JTS	JuntasAbangare	45.92	342	eP	P	16 58 40.1	+1.4
	comp=Z,22nm,1.5s						
SNAA	Sanae	51.40	158	P	P	16 59 21.0	+0.8

SNAA *PP pP 16 59 29.2 -0.6
SNAA pmax pmax
comp=Z,4.0nm,0.9s
SNAA pmax pmax
comp=Z,16nm,0.9s
SNAA Sanae 51.40 158 P P 16 59 21.0 +0.8
comp=Z,4.3nm,0.9s,baz=287,slow=6.0,SNR=6.5
SNAA pP pP 16 59 29.2 -0.6
comp=Z,16nm,0.9s,baz=279,slow=4.2,SNR=16
CRPR Cabo Rojo, PR 52.21 6 eP P 16 59 25.3 -1.4
comp=Z,39nm,1.0s
SABA Saba 52.30 11 eP P 16 59 27.8 +0.4
comp=Z,104nm,0.9s
CELP Cerrillos 52.32 7 eP P 16 59 26.9 -0.6
LRS Lares 52.51 6 eP P 16 59 28.1 -0.9
QSPA South Pole Qui 55.97 180 P P 16 59 54.8 +0.9
comp=Z,9.7nm,0.9s,baz=138,slow=4.0,SNR=6.7
QSPA South Pole Qui 55.97 180 eP P 16 59 54.6 +0.8
comp=Z,24nm,1.0s
TEIG Tepich 56.30 342 P P 16 59 54.3 -2.1
comp=Z,18nm,0.8s,baz=135,slow=13,SNR=4.2
834A Tilden 66.87 335 P P 17 01 09.5 +1.9
baz=67
735A Kenedy 67.28 336 P P 17 01 12.0 +1.7
baz=68
833A Chaparral WMA, 67.35 334 P P 17 01 11.8 +1.1
baz=68
HKT Hockley 67.65 338 eP P 17 01 12.7 +0.2
HKT pmax pmax
comp=Z,116nm,2.6s
HKT Hockley 67.65 338 eP P 17 01 12.7 +0.2
comp=Z,116nm,2.6s
GOGA Godfrey 68.14 350 eP P 17 01 15.2 -0.4
GOGA pmax pmax
comp=Z,27nm,1.4s
GOGA Godfrey 68.14 350 eP P 17 01 15.2 -0.4
comp=Z,27nm,1.4s
532A Rocksprings 69.17 335 P P 17 01 23.0 +0.8
baz=70
434A Burnet 69.23 336 P P 17 01 23.4 +0.9
baz=70
336A Riesel 69.30 338 P P 17 01 24.1 +1.3
baz=70
335A Moody 69.39 337 P P 17 01 24.5 +1.0
baz=70
531A Rocksprings 69.43 334 P P 17 01 24.4 +0.6
baz=70
JCT Junction City 69.45 335 eP P 17 01 24.1 +0.2
JCT pmax pmax
comp=Z,10.0nm,0.9s
JCT Junction City 69.45 335 eP P 17 01 24.1 +0.2
comp=Z,10.0nm,0.9s
JCT Junction City 69.45 335 P P 17 01 24.8 +0.9
baz=70
433A Art 69.46 335 P P 17 01 25.1 +1.2
baz=70
KMSC Kings Mountain 69.57 352 P P 17 01 25.2 +0.8
baz=70
334A Lometa 69.70 336 P P 17 01 26.7 +1.4
baz=70
530A J-C Ranch, Com 69.71 333 P P 17 01 26.5 +1.0
baz=70
TXAR Lajitas Array 69.89 331 P P 17 01 26.7 0.0
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 69.89 331 P P 17 01 26.7 0.0
comp=Z,1.1nm,0.6s,baz=152,slow=8.9,SNR=4.7
431A Sonora 69.92 334 P P 17 01 28.6 +1.7
baz=70
333A Richland Sprin 69.94 336 P P 17 01 27.5 +0.7
baz=70
529A Stev Forest Ra 70.02 333 P P 17 01 28.1 +0.7
baz=70
WHTX Lake Whitney 70.05 337 P P 17 01 28.1 +0.7
baz=70
137A Heron Place, G 70.09 339 P P 17 01 29.0 +1.3
baz=70
430A Baggett Ranch, 70.25 334 P P 17 01 29.4 +0.6
baz=70
332A Millersview 70.25 335 P P 17 01 29.0 +0.2
baz=71
234A Clairette 70.28 337 P P 17 01 29.5 +0.6
baz=71
OXF Oxford 70.28 345 eP P 17 01 28.6 -0.2
OXF Oxford 70.28 345 eP P 17 01 28.6 -0.2
SWET Sewanee 70.30 348 eP P 17 01 28.8 -0.2
comp=Z,16nm,0.7s
429A Davenport Ranc 70.35 333 P P 17 01 29.7 +0.3
baz=71
331A San Angelo 70.43 335 P P 17 01 30.4 +0.5
baz=71
233A Rising Star 70.55 336 P P 17 01 31.4 +0.8
baz=71
232A Coleman 70.68 335 P P 17 01 31.9 +0.4
baz=71
330A Mertzon 70.78 334 P P 17 01 32.5 +0.4
baz=71
231A Bronte 70.96 335 P P 17 01 33.5 +0.4
baz=71
133A Hamilton Ranch 71.09 336 P P 17 01 34.4 +0.5
baz=71
230A Sterling City 71.20 334 P P 17 01 34.9 +0.3
baz=72
Z35A Perchaven, San 71.23 338 P P 17 01 35.2 +0.6
baz=72
ABTX Abilene, Hawle 71.35 336 eP P 17 01 36.1 +0.7
comp=Z,12nm,0.9s
ABTX Abilene, Hawle 71.35 336 P P 17 01 36.1 +0.7
baz=72
Z34A Collier Ranch, 71.47 338 P P 17 01 36.9 +0.8
baz=72
VWCC Virginia Weste 71.51 353 eP P 17 01 36.2 -0.1
229A Bryant Ranch, 71.52 334 P P 17 01 37.0 +0.5
baz=72
WVT Waverly 71.53 347 eP P 17 01 36.4 0.0
WVT pmax pmax
comp=Z,12nm,1.1s
WVT Waverly 71.53 347 eP P 17 01 36.4 0.0
comp=Z,12nm,1.1s
131A Roby 71.65 335 P P 17 01 38.0 +0.8
baz=72
Z33A Whitaker Ranch 71.67 337 P P 17 01 37.9 +0.6
baz=72
BBTS Babate 71.89 57 P P 17 01 40.0 +1.0
comp=Z,30nm,0.9s,baz=263,slow=3.1,SNR=7.0
Z32A Haskell 71.92 336 P P 17 01 39.2 +0.4
baz=72
Y34A Reagan Ranch, 71.96 338 P P 17 01 39.9 +0.9
baz=72
Z31A Sharp Cattle R 72.16 336 P P 17 01 40.8 +0.6
baz=72
Y33A Hilltop Ranch, 72.28 337 P P 17 01 41.6 +0.7
baz=73
128A Castleberry Fa 72.36 334 P P 17 01 42.0 +0.5
baz=73
Z30A Sanderson Ranc 72.47 335 P P 17 01 42.6 +0.4
baz=73
Y32A R-V Farms, Ver 72.55 337 P P 17 01 43.0 +0.4
baz=73
X34A Smith Ranch, M 72.58 338 P P 17 01 43.3 +0.6
baz=73
Z29A Hungry Hill Ra 72.65 334 P P 17 01 43.5 +0.2
baz=73
Y31A Rekieta Farm, 72.78 336 P P 17 01 44.9 +0.9
baz=73
MAW Mawson 72.97 164 P P 17 01 45.4 +0.7
MAW pmax pmax
comp=Z,12nm,0.5s
MAW Mawson 72.97 164 P P 17 01 45.4 +0.7
comp=Z,12nm,0.5s,baz=236,slow=11,SNR=4.9
Y29A Porterfield Fa 73.18 335 P P 17 01 46.6 +0.2
baz=74
TUL1 Tulsa 73.20 340 P P 17 01 46.5 +0.1
baz=74
USIN University of 73.28 347 eP P 17 01 46.6 -0.2
comp=Z,29nm,0.9s
W33A Caddo, Fort Co 73.29 338 P P 17 01 47.8 +0.9
baz=74
WCI Wyandotte Cave 73.30 348 eP P 17 01 46.6 -0.3
WCI pmax pmax
comp=Z,141nm,2.6s
WCI Wyandotte Cave 73.30 348 eP P 17 01 46.6 -0.3
comp=Z,141nm,2.6s
Z26A Caprock 73.50 333 P P 17 01 48.9 +0.5
baz=74
W32A Sentinel 73.51 337 P P 17 01 49.1 +0.8
baz=74
MSTX Muleshoe 73.67 334 eP P 17 01 49.7 +0.3
comp=Z,13nm,1.0s
MSTX Muleshoe 73.67 334 P P 17 01 49.8 +0.5
baz=74
Z25A Roswell 73.79 332 P P 17 01 51.9 +1.8
baz=74
V33A Lossen Ranch, 73.85 338 P P 17 01 50.8 +0.6
baz=74
319A Douglas 74.03 328 P P 17 01 52.9 +1.3
baz=74
U34A Anderson Ranch 74.19 339 P P 17 01 52.9 +0.7
baz=74
Y24A Capitan 74.64 332 P P 17 01 56.0 +0.9
baz=75
W27A Bowe Ranch, En 74.76 334 P P 17 01 56.5 +0.9
baz=75
ACSO Alum Creek Sta 74.79 351 eP P 17 01 55.2 -0.4
comp=Z,39nm,1.0s
SUR Sutherland 74.84 119 P P 17 01 58.1 +1.5
comp=Z,30nm,0.9s,baz=240,slow=4.3,SNR=6.5
DBIC Dimbokro 75.42 71 P P 17 02 00.1 +0.3
DBIC pmax pmax
comp=Z,19nm,0.9s
DBIC Dimbokro 75.42 71 P P 17 02 00.1 +0.3
comp=Z,19nm,0.8s,baz=205,slow=7.2,SNR=13
DBIC Dimbokro 75.42 71 eP P 17 02 00.1 +0.3
comp=Z,25nm,1.0s
W24A Lazy 6 Ranch, 75.76 332 P P 17 02 03.3 +1.8
baz=76
U27A Thompson Grove 75.89 335 P P 17 02 03.0 +0.9
baz=76
ANMO Albuquerque 75.94 332 eP P 17 02 03.8 +1.2
ANMO pmax pmax
comp=Z,70nm,2.8s
ANMO Albuquerque 75.94 332 eP P 17 02 03.8 +1.2
comp=Z,70nm,2.8s
W23A Werner Place, 76.00 332 P P 17 02 04.4 +1.4
baz=76
V25A Rancho No Teng 76.02 333 P P 17 02 03.5 +0.5
baz=76
U26A Atchley Ranch, 76.19 334 P P 17 02 04.2 +0.3
baz=76
T28A Walsh 76.28 336 P P 17 02 05.0 +0.7
baz=77
R32A Long Quarter, 76.38 339 P P 17 02 05.6 +0.9
baz=77
S29A Ulysses 76.40 337 P P 17 02 05.8 +0.9
baz=77
T27A Campo 76.43 335 P P 17 02 05.9 +0.7
baz=77
U25A Circle Dot Ran 76.44 334 P P 17 02 05.9 +0.6
baz=77
S28A Manter 76.63 336 P P 17 02 07.2 +1.0
baz=77
Q33A Connelly Farm, 76.66 340 P P 17 02 07.3 +1.0
baz=77
V22A San Miguel Ran 76.96 332 P P 17 02 10.0 +1.6
baz=77
U23A El Rito 77.05 332 P P 17 02 09.9 +1.1
baz=77
S27A Las Animas 77.05 335 P P 17 02 09.9 +1.2
baz=77
T25A Trinidad 77.10 334 P P 17 02 10.0 +1.0
baz=77
S26A Kim 77.19 335 P P 17 02 10.9 +1.4
baz=78
R28A Tribune 77.28 337 P P 17 02 10.6 +0.6
baz=78
Q30A Quinter 77.35 338 P P 17 02 11.3 +1.0
baz=78
R27A Eads 77.56 336 P P 17 02 11.9 +0.4
baz=78
X16A Lo Mia Camp, P 77.57 328 P P 17 02 13.0 +1.2
baz=78
P31A Stockton 77.59 339 P P 17 02 12.4 +0.9
baz=78
R26A Arlington 77.80 335 P P 17 02 14.1 +1.2
baz=78
S24A Houchin Ranch, 77.83 334 P P 17 02 14.7 +1.4
baz=78
R24A Sanders Place, 78.32 334 P P 17 02 17.2 +1.4
baz=79
P28A Saint Francis 78.38 337 P P 17 02 17.5 +1.5
baz=79
N32A Stulken Farm, 78.43 340 P P 17 02 19.0 +2.9
baz=79
WUAZ Wupatki 78.47 328 eP P 17 02 18.4 +1.7
comp=Z,8.6nm,1.1s
WUAZ Wupatki 78.47 328 P P 17 02 18.1 +1.4
baz=79
EMMW East Machias 78.72 3 eP P 17 02 18.3 +0.7
comp=Z,78nm,1.1s
P26A Davis Ranch, A 78.89 336 P P 17 02 20.0 +1.1
baz=79
Q24A Divide 78.99 334 P P 17 02 20.9 +1.2
baz=79
P25A Willow Gulch B 79.13 335 P P 17 02 21.8 +1.5
baz=79
W13A Hualapai Mount 79.24 326 P P 17 02 22.4 +1.4
baz=80
PFO Pinyon Flat Ob 79.25 324 P P 17 02 22.5 +1.5
baz=80
TSUM Tsumeb 79.30 106 P P 17 02 22.1 +0.4
comp=Z,2.1nm,0.9s,baz=250,slow=3.0,SNR=6.0
O26A Horse Wrangler 79.49 336 P P 17 02 23.6 +1.4
baz=80
U15A North Rim 79.64 328 P P 17 02 24.8 +1.5
baz=80
GMRC Granite Mounta 79.81 325 P P 17 02 25.6 +1.6
baz=80
ISCO Idaho Springs 79.89 334 P P 17 02 25.2 +0.6
baz=80
BOSA Boshof 80.09 118 P P 17 02 25.8 -0.1
BOSA pmax pmax
comp=Z,17nm,0.9s
BOSA Boshof 80.09 118 P P 17 02 25.8 -0.1
comp=Z,17nm,0.9s,baz=224,slow=4.1,SNR=11
O23A Lake Granby, G 80.36 334 P P 17 02 28.3 +1.3
baz=81
N24A Carr 80.55 335 P P 17 02 28.9 +1.0
baz=81
K30A Basset 80.57 340 P P 17 02 29.1 +1.3
baz=81
ECSD EROS Data Cent 80.75 342 eP P 17 02 28.4 -0.3
comp=Z,18nm,0.9s
ECSD EROS Data Cent 80.75 342 P P 17 02 29.3 +0.6
baz=81
N23A Red Feather La 80.98 335 P P 17 02 31.4 +1.1
baz=81
CCUT Cedar City 81.04 328 eP P 17 02 33.2 +2.5
comp=Z,8.0nm,1.0s
J29A Okreek 81.44 340 P P 17 02 33.7 +1.3
baz=82
J28A Allard Ranch, 81.73 339 P P 17 02 35.4 +1.4
baz=82
LBTB Lobatse 82.34 115 eP P 17 02 36.2 -1.7
LBTB pmax pmax
comp=Z,40nm,1.2s
LBTB Lobatse 82.34 115 eP P 17 02 36.2 -1.7
comp=Z,40nm,1.2s
H29A Onida 82.53 340 P P 17 02 38.5 +0.4
baz=83
R11A Troy Canyon, C 82.69 327 eP P 17 02 41.0 +1.8
comp=Z,74nm,2.5s
R11A Troy Canyon, C 82.69 327 P P 17 02 40.5 +1.2
baz=83
H28A Mission Ridge 82.81 340 P P 17 02 40.2 +0.6
baz=83
I25A Rochford 83.03 338 P P 17 02 42.2 +1.3
baz=83
G28A Parade 83.14 340 P P 17 02 42.1 +0.8
baz=84
F30A Leola 83.33 342 P P 17 02 42.9 +0.7
baz=84
J22A Midwest 83.39 336 P P 17 02 43.4 +0.7
baz=84
F29A Eureka 83.54 341 P P 17 02 43.9 +0.7
baz=84
G27A Dupree 83.71 339 P P 17 02 44.8 +0.6
baz=84
I22A 9 Mile Ranch, 83.81 336 P P 17 02 45.4 +0.5
baz=84
J20A Shoshoni 83.90 335 P P 17 02 46.5 +1.2
baz=84
E30A Jud 83.92 342 P P 17 02 46.1 +0.9
baz=84
PDAR Pinedale Array 83.92 333 P P 17 02 45.7 +0.1
comp=Z,1.1nm,0.8s,baz=155,slow=4.5,SNR=4.8
NVAR Mina Array Bea 84.01 325 P P 17 02 46.5 +0.4
comp=Z,1.9nm,0.7s,baz=162,slow=6.1,SNR=5.6
E29A Napoleon 84.17 341 P P 17 02 47.0 +0.5
baz=84
F27A Lemmon 84.19 340 P P 17 02 47.2 +0.6
baz=84
I20A Worland 84.43 335 P P 17 02 48.7 +0.7
baz=85
D30A Buchanan 84.44 342 P P 17 02 48.2 +0.4
baz=85
TORD Torodi Ar. Bea 84.45 70 P P 17 02 48.9 +0.3
comp=Z,20nm,0.9s,baz=243,slow=4.7,SNR=28
E28A Huff 84.46 341 P P 17 02 48.8 +0.8
baz=85
D29A Pettibone, Tap 84.61 342 P P 17 02 49.7 +1.0
baz=85
H20A Greybull 84.86 335 P P 17 02 50.5 +0.4
baz=85
C30A Mose, Pekin 84.92 343 P P 17 02 50.8 +0.6
baz=85
I17A Pilgrim Ck. 85.29 333 P P 17 02 53.8 +1.4
baz=86
D26A Manning 85.36 340 P P 17 02 53.2 +0.7
baz=86
FLWY Flagg Ranch 85.48 333 eP P 17 02 54.5 +1.1
comp=Z,75nm,2.4s
G20A Bridger 85.57 335 P P 17 02 53.8 +0.1
baz=86
B30A Myrvik Farm, E 85.58 343 P P 17 02 53.4 -0.2
baz=86
H18A Shoshone NF, C 85.61 334 P P 17 02 54.5 +0.4
baz=86
C27A Sayler Ranch, 85.72 341 P P 17 02 55.1 +0.8
baz=86
D25A Fairfield 85.73 339 P P 17 02 55.4 +1.1
baz=86
B29A Wagenman Farm, 85.85 342 P P 17 02 55.5 +0.7
baz=86
A30A Hoffart Farm, 86.03 343 P P 17 02 56.2 +0.5
baz=86
A29A Manning Farm, 86.24 343 P P 17 02 57.3 +0.5
baz=87
D23A Lindsay 86.31 338 P P 17 02 58.4 +1.1
baz=87
C24A Savage 86.40 339 P P 17 02 58.7 +1.1
baz=87
HLID Hailey 86.48 331 P P 17 02 59.2 +0.9
baz=87
E20A Meyer Farm, Mu 86.66 336 P P 17 02 59.5 +0.6
baz=87
B25A Knox Farm, Ray 86.69 340 P P 17 03 00.2 +1.2
baz=87
ULM Lac du Bonnet 86.71 345 eP P 17 02 58.9 -0.1
ULM *PP pP 17 03 08.7 -0.5
ULM Lac du Bonnet 86.71 345 P P 17 02 58.2 -0.8
comp=Z,3.0nm,0.5s,baz=176,slow=1.1,SNR=6.2
ULM pP pP 17 03 08.7 -0.5
comp=Z,4.5nm,0.8s,baz=140,slow=4.8,SNR=4.2
ULM Lac du Bonnet 86.71 345 eP P 17 02 58.9 -0.1
ULM pP pP 17 03 08.7 -0.5
E19A Rath Farm, Rou 86.85 336 P P 17 03 00.2 +0.3
baz=87
C23A Lambert 86.87 338 P P 17 03 00.8 +0.8
baz=87
A26A Wade Farm, Ken 86.95 341 P P 17 03 01.2 +0.9
baz=87
C22A Vida 87.03 338 P P 17 03 01.5 +0.8
baz=87
DGMT Dagmar 87.17 339 eP P 17 03 01.0 -0.4
comp=Z,27nm,1.0s
DGMT Dagmar 87.17 339 P P 17 03 02.2 +0.9
baz=88
C21A Desert Coulee 87.49 337 P P 17 03 03.4 +0.5
baz=88
A24A Westby 87.52 340 P P 17 03 03.8 +0.7
baz=88
B22A Reddig Ranch S 87.56 338 P P 17 03 04.0 +0.7
baz=88
MOD Modoc 87.69 326 eP P 17 03 05.5 +1.3
comp=Z,5.4nm,0.9s
A22A Carney Farms, 88.15 339 P P 17 03 06.9 +0.9
baz=88
M04C Macdoel 88.31 325 P P 17 03 07.6 +0.5
baz=89
B20A Solberg Farm, 88.32 337 P P 17 03 07.5 +0.6
baz=89
A21A Bergtoll Ranch 88.46 338 P P 17 03 07.5 -0.1
baz=89
SCHQ Schefferville 88.86 3 P P 17 03 08.3 -0.9
comp=Z,7.1nm,1.0s,baz=210,slow=5.2,SNR=4.1
TAM Tamanrasset 93.08 65 eP P 17 03 29.8 -0.1
TAM Tamanrasset 93.08 65 eP P 17 03 29.8 -0.1
FCC Fort Churchill 94.45 349 eP P 17 03 35.9 +0.9
FCC Fort Churchill 94.45 349 eP P 17 03 35.9 +0.9
ESDC Sonseca Array 96.88 46 P P 17 03 46.7 0.0
comp=Z,1.3nm,0.8s,baz=246,slow=5.5,SNR=3.7
YKA Yellowknife Ar 102.25 341 P Pdif 17 04 09.5 -0.5
comp=Z,0.5nm,0.8s,baz=138,slow=4.3,SNR=6.8
YKA PP PKiKP 17 08 29.8 -1.9
comp=Z,0.3nm,0.9s,baz=135,slow=6.7,SNR=3.7
ILAR Eielson Array 114.36 333 PKiKP PKiKP 17 08 54.5 +0.2
comp=Z,0.3nm,0.8s,baz=142,slow=0.9,SNR=3.6
NOA NORSAR Array B 116.33 33 PKIKP PKPdf 17 08 57.9 -0.4
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA NORSAR Array B 116.33 33 PKP PKPdf 17 08 57.9 -0.4
comp=Z,1.4nm,0.9s,baz=249,slow=2.1,SNR=3.5
BUR08 Bucovina Ar. S 119.03 50 ePKPdf PKPdf 17 09 04.1 +0.1
WRA Warramunga Arr 120.45 209 PKIKP PKPdf 17 09 06.9 -0.7
WRA 17 09 16.2
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 120.45 209 PKP PKPdf 17 09 06.9 -0.7
comp=Z,1.0nm,0.7s,baz=166,slow=1.5,SNR=5.1
WRA pPKP pPKPdf 17 09 16.1 -1.9
comp=Z,1.0nm,0.7s,baz=162,slow=1.5,SNR=4.5
BRTR Keskin Array B 122.10 61 PKIKP PKPdf 17 09 09.9 -0.3
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 122.10 61 PKP PKPdf 17 09 09.9 -0.3
comp=Z,2.2nm,0.8s,baz=186,slow=3.4,SNR=15
AK01 Malin Array Si 122.48 48 ePKPdf PKPdf 17 09 09.0 -1.4
AKASG Malin Array Be 122.49 48 PKIKP PKPdf 17 09 09.1 -1.3
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 122.49 48 PKP PKPdf 17 09 09.1 -1.3
comp=Z,3.2nm,0.8s,baz=264,slow=2.6,SNR=16
MALT Malatya 125.16 64 ⇑PKIKP PKPdf 17 09 16.9 +0.8
MALT Malatya 125.16 64 ⇑iP PKPdf 17 09 16.9 +0.8
OBN Obninsk 127.74 43 i PKIKP PKPdf 17 09 20.1 -0.2
OBN i 17 09 27.3
OBN pmax pmax
comp=Z,10.0nm,1.3s
KBZ Khabaz 129.87 59 PKIKP PKPdf 17 09 25.4 +0.7
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 129.87 59 PKP PKPdf 17 09 25.4 +0.7
comp=Z,2.9nm,0.9s,baz=131,slow=3.6,SNR=6.2
ZEI Tsey 130.38 60 ePKIKP PKPdf 17 09 26.7 +0.7
ZEI pmax pmax
comp=Z,6.0nm,1.4s
BILL Bilibino 133.00 334 ePKIKP PKPdf 17 09 31.2 +1.3
ARU Arti 140.05 41 ePKIKP PKPdf 17 09 44.7 +1.4
ARU Arti 140.05 41 ePKPdf PKPdf 17 09 44.7 +1.4
GEYT Alibeck 140.09 70 PKhKP PKPpre 17 09 39.4
comp=Z,1.1nm,0.7s,baz=284,slow=7.0,SNR=2.9
SEY Seymchan 140.18 330 PKIKP PKPdf 17 09 43.8 +0.5
SEY pmax pmax
comp=Z,4.0nm,0.8s
SEY Seymchan 140.18 330 PKP PKPdf 17 09 43.8 +0.5
comp=Z,4.3nm,0.8s,baz=72,slow=2.4,SNR=8.7
AKTO Aktyubinsk 140.63 50 PKIKP PKPdf 17 09 44.9 +0.3
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 140.63 50 PKP PKPdf 17 09 44.9 +0.3
comp=Z,1.6nm,0.7s,baz=125,slow=5.2,SNR=4.9
TIXI Tiksi 140.92 350 ePKIKP PKPdf 17 09 44.9 +0.4
TIXI Tiksi 140.92 350 ePKPdf PKPdf 17 09 44.9 +0.4
PALK Pallekele 143.34 131 PKhKP PKPpre 17 09 47.0
PALK pmax pmax
comp=Z,14nm,1.0s
PALK Pallekele 143.34 131 PKhKP PKPpre 17 09 47.0
comp=Z,14nm,1.0s,baz=354,slow=21,SNR=3.6
KAD Karad 145.57 111 eP PKPbc 17 09 54.8 +0.3
GSI Gunungsitoli 145.85 162 ePKPbc PKPab 17 09 56.7 +0.8
POO Poona 146.01 109 ⇑iP PKPdf 17 09 55.0 -0.1
comp=Z,50nm,1.0s
BRVK Borovoye 147.51 43 ePKP2 PKPbc 17 10 00.1 +1.0

BRVK Borovoye 147.51 43 ePKPab PKPbc 17 10 00.1 +1.0
BVAR Borovoye Array 147.58 43 PKP2 PKPbc 17 10 00.2 +0.9
BVAR pmax pmax
comp=Z,10.0nm,0.7s
BVAR Borovoye Array 147.58 43 PKPbc PKPbc 17 10 00.2 +0.9
comp=Z,9.8nm,0.7s,baz=270,slow=4.4,SNR=14
PSI Prapat 147.63 163 PKIKP PKPbc 17 09 59.9 -0.9
PSI pmax pmax
comp=Z,8.0nm,0.8s
PSI Prapat 147.63 163 PKPbc PKPbc 17 09 59.9 -0.9
comp=Z,8.4nm,0.8s,baz=290,slow=0.3,SNR=7.5
SBUM Sibu 148.08 188 ePKPbc PKPbc 17 10 02.7 +0.9
YAK Yakutsk 148.92 340 ePKP2 PKPab 17 10 06.5 -0.1
YAK pmax pmax
comp=Z,31nm,1.0s
YAK Yakutsk 148.92 340 ePKPdf PKPdf 17 09 58.4 -0.1
YAK ePKPbc PKPbc 17 10 02.2 -0.3
HYB Hyderabad 148.97 115 i PKP PKPbc 17 10 03.0 -1.0
IPM Ipoh 149.71 167 ePKPbc PKPbc 17 10 05.8 -0.2
KKAR Karatay Array 149.81 62 ePKP2 PKPbc 17 10 05.5 +0.1
KKAR Karatay Array 149.81 62 ePKPbc PKPbc 17 10 05.5 +0.1
KKAR ePKPab PKPab 17 10 10.8 -0.1
ASAJ Asahikawa 151.45 301 PKIKP PKPbc 17 10 10.0 +0.8
ASAJ pmax pmax
comp=Z,6.0nm,0.8s
ASAJ Asahikawa 151.45 301 PKPbc PKPbc 17 10 10.0 +0.8
comp=Z,6.0nm,0.8s,baz=262,slow=7.1,SNR=3.3
AML Almayashu 152.23 63 P PKPbc 17 10 12.5 +0.9
SNR=5.4
EKS2 Erkin-Say 152.24 62 P PKPbc 17 10 11.8 +0.6
SNR=7.5
EKS2 Erkin-Say 152.24 62 ePKIKP PKPbc 17 10 11.4 +0.2
EKS2 Erkin-Say 152.24 62 ePKPbc PKPbc 17 10 11.4 +0.2
AAK Ala-Archa 152.77 62 P PKPbc 17 10 13.8 +1.3
SNR=7.1
AAK Ala-Archa 152.77 62 PKIKP PKPbc 17 10 13.3 +0.8
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 152.77 62 PKPbc PKPbc 17 10 13.3 +0.8
comp=Z,10nm,0.8s,baz=203,slow=1.6,SNR=17
AAK Ala-Archa 152.77 62 ePKPbc PKPbc 17 10 13.1 +0.6
UCH Uchtor 152.83 63 P PKPbc 17 10 14.2 +1.2
SNR=5.9
CHMS Chumysh 152.91 61 P PKPbc 17 10 13.3 +0.7
SNR=5.9
KURK Kurchatov 153.18 43 ePKIKP PKPbc 17 10 13.4 +0.6
KURK e 17 10 24.6
KURK Kurchatov 153.18 43 ePKPbc PKPbc 17 10 13.4 +0.6
KURK ePKPab PKPab 17 10 24.6 -0.1
NVS Novosibirsk 153.25 32 ePKIKP PKPbc 17 10 09.5 -3.3
NVS e 17 10 21.5
NVS pmax pmax
comp=Z,25nm,0.9s
NVS pmax pmax
comp=E,6.0nm,1.0s
TKM2 Tokmak 2 153.54 61 ePKIKP PKPbc 17 10 14.7 +0.5
TKM2 Tokmak 2 153.54 61 ePKPbc PKPbc 17 10 14.7 +0.5
KSH Kashi 154.12 69 ePKPbc PKPdf 17 10 04.8 -2.5
KSH epPKP PKPbc 17 10 14.8 -0.6
KSH esPKP 17 10 18.3
KSH eSKS SKSdf 17 17 07.0 -4.8
KSH eSKKS SKSac 17 20 45.0 -7.0
KSH AMB AMB
comp=E,540nm,10.6s
ZAA0 Zalesovo Array 154.53 32 ePKPdf PKPdf 17 10 07.1 -0.1
ZAA0 ePKPbc PKiKP 17 10 15.8 +0.2
ZALV Zalesovo Beam 154.53 32 PKIKP PKPdf 17 10 07.0 -0.2
ZALV 17 10 16.1
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 154.53 32 PKP PKPdf 17 10 07.0 -0.2
comp=Z,4.0nm,0.8s,baz=299,slow=3.1,SNR=6.6
ZALV PKPbc PKiKP 17 10 16.1 +0.4
comp=Z,16nm,0.8s,baz=298,slow=3.2,SNR=22
BOD Bodaibo 156.07 352 ePKIKP PKPdf 17 10 19.9 +11
BOD pmax pmax
comp=Z,13nm,0.9s
MKAR Makanchi Array 157.06 49 PKIKP PKPdf 17 10 10.6 -0.3
MKAR 17 14 27.1
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 157.06 49 PKP PKPdf 17 10 10.6 -0.3
comp=Z,1.2nm,0.8s,baz=282,slow=0.5,SNR=5.1
MKAR PKPab PKPab 17 10 40.0 -1.4
comp=Z,4.8nm,0.8s,baz=292,slow=3.8,SNR=10
MKAR PP PP 17 14 27.1 +6.8
comp=Z,1.5nm,0.9s,baz=292,slow=3.8,SNR=4.1
MKAR Makanchi Array 157.06 49 PKP PKPdf 17 10 10.6 -0.3
MKAR ePKPdf PKPdf 17 10 11.2 +0.3
MKAR PKPab PKPab 17 10 40.0 -1.4
MKAR PP PP 17 14 27.1 +6.8
KOLN Koldanda 158.33 101 eP PKPdf 17 10 13.0 -0.3
DANN Dangsing 158.68 99 eP PKPdf 17 10 14.1 +0.3
comp=Z,30nm,1.0s
GKN Gorkha 159.26 101 eP PKPdf 17 10 14.9 +0.6
DMN Daman 159.48 103 eP PKPdf 17 10 14.5 -0.2
KKN Kakani 159.70 102 eP PKPdf 17 10 14.9 0.0
PKIN Phulchoki 159.70 103 eP PKPdf 17 10 14.6 -0.4
PKI Pulchoki 159.71 103 eP PKPdf 17 10 14.7 -0.4
GUN Gumba 160.23 103 eP PKPdf 17 10 15.7 0.0
JIRN Jiri 160.38 104 eP PKPdf 17 10 15.7 -0.2
RAMN Ramite 160.40 106 eP PKPdf 17 10 16.0 +0.2
ODAN Odare 160.98 107 eP PKPdf 17 10 16.5 +0.1
TAPN Taplejung 161.46 106 eP PKPdf 17 10 17.1 +0.1
WMQ Urumqi 161.76 53 PKP PKPdf 17 10 17.0 +0.6
WMQ LR LR
comp=Z,1μm,24.4s
TLY Talaya 162.34 8 PKPab PKPab 17 11 04.6 +0.5
comp=Z,3.0nm,0.8s,baz=286,slow=2.3,SNR=6.2
CMAR Chiang Mai Arr 162.40 151 PKIKP PKPdf 17 10 16.3 -1.5
CMAR 17 11 03.8
CMAR pmax pmax
comp=Z,1.0nm,0.5s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 162.40 151 PKP PKPdf 17 10 16.3 -1.5
comp=Z,0.5nm,0.3s,baz=248,slow=2.4,SNR=6.7
CMAR PKPab PKPab 17 11 03.8 -1.4
comp=Z,0.6nm,0.3s,baz=215,slow=4.4,SNR=4.6
ZAK Zakamensk 163.56 10 ePKIKP PKPdf 17 10 25.8 +7.8
ZAK e 17 11 09.2
ZAK pmax pmax
comp=Z,2.0nm,1.4s
ZAK pmax pmax
comp=Z,2.0nm,1.0s
LSA Lhasa 165.19 103 ePKIKP PKPdf 17 10 21.5 +0.9
LSA Lhasa 165.19 103 eP PKPdf 17 10 21.5 +0.9
SONM Songino Array 166.40 4 PKIKP PKPdf 17 10 20.1 -0.5
SONM 17 11 22.6
SONM 17 15 17.5
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 166.40 4 PKP PKPdf 17 10 20.1 -0.5
comp=Z,0.6nm,0.9s,baz=202,slow=1.6,SNR=3.6
SONM PKPab PKPab 17 11 22.6 +0.3
comp=Z,3.0nm,0.8s,baz=324,slow=3.3,SNR=13
SONM PP PP 17 15 17.5 +8.1
comp=Z,0.3nm,0.9s,baz=330,slow=5.1,SNR=3.8
NJ2 Nanjing 170.45 260 ePKP PKPdf 17 10 23.8 +0.2
GTA Gaotai 171.81 49 PKP PKPdf 17 10 24.8 +0.5
GTA pPKP pPKPdf 17 10 35.5 +0.7
GTA sPKP 17 10 39.5
GTA PKPab PKPab 17 11 47.8 +1.2
GTA PP PP 17 15 40.3 +2.6
GTA SKS SKSdf 17 17 23.3 -2.0
GTA SKKS SKKSac 17 22 22.0 -0.1
GTA AMB AMB
comp=Z,120nm,6.1s
GTA LR LR
comp=Z,920nm,18.1s
GTA LR LR
comp=Z,690nm,18.1s
GYA Guiyang 172.16 173 PKP PKPdf 17 10 24.0 -0.8
GYA pPKP pPKPdf 17 10 35.5 +0.2
GYA PKPab PKPab 17 11 49.0 +0.8
GYA PKS PKSdf 17 13 54.8 -2.5
GYA SKKS 17 22 24.8
GYA SS SS 17 36 46.3 +1.0
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=Z,130nm,21.6s
GYA LR LR
comp=Z,120nm,21.4s
HHC Hu-ho-hao-te 172.77 336 ePKP PKPdf 17 10 22.3 -2.3
HHC pPKP pPKPdf 17 10 32.5 -2.6
HHC sPKP 17 10 36.5
HHC PP PP 17 15 44.5 +2.9
HHC AMB AMB
comp=Z,810nm,8.1s
CD2 Chengdu 175.24 134 PKP PKPdf 17 10 26.0 +0.3
CD2 pPKP pPKPdf 17 10 37.3 +1.1
CD2 sPKP 17 10 41.0
CD2 PKS PKSdf 17 13 56.8 -1.2
CD2 PP PP 17 15 57.5 +3.2
CD2 SKS SKSdf 17 17 23.5 -3.0
CD2 SKKS SKKSac 17 22 38.3 -0.3
CD2 AMB AMB
comp=Z,220nm,5.8s
LZH Lanzhou 176.31 59 ePKP PKPdf 17 10 25.0 -1.0
LZH pPKP pPKPdf 17 10 34.3 -2.2
LZH sPKP 17 10 40.0
LZH eSKKS 17 22 43.0
LZH AMB AMB
comp=Z,540nm,7.6s
LZH LR LR
comp=Z,2μm,18.0s
XAN Xi'an 179.02 257 PKP PKPdf 17 10 31.8 +5.6

IDC 27 16:50:51.3±3.5, 25.91N×128.56E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/34, mbtmp3.8/5, ML3.1/1, Error ellipse: s-maj=89.5km s-min=38.1km az=102.0
ISCJB 27 16:50:53.6±1.2, 25.92N±0.05×128.63E±0.04, h31km±8km, mb3.6/4, Error ellipse: s-maj=8.7km s-min=6.4km az=5.6
JMA 27 16:50:53.5±0.3, 25.91N×128.63E, h30km, M3.2
ISC 27 16:50:53.2±1.8, 25.91N±0.06×128.61E±0.04, h17km±10km, n17, σ1§46/28, mb3.8/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.80	319	P	Pg	16 51 08.3	-0.5
JNTH				eS	Sg	16 51 19.8	+0.3
JJT2	Tamagusuku 2	0.81	286	P	Pb	16 51 08.9	+0.2
JJT2				eS	Sb	16 51 19.8	+0.5
JOW	Kunigami	0.96	342	P	Pb	16 51 11.3	-0.1
JOW				S	Sb	16 51 22.9	-0.9
JOW	Kunigami	0.96	342	Pn	Pb	16 51 11.1	-0.3
	8.4nm,0.3s,baz=150,slow=15,SNR=20						
JOW				Sn	Sb	16 51 23.0	-0.9
	12nm,0.3s,baz=128,slow=19,SNR=20						
JIH	Iheya	1.26	333	P	Pn	16 51 15.9	0.0
JIH				S	Sb	16 51 31.5	-0.8
JAGN	Aguni-jima	1.40	299	P	Pn	16 51 17.9	0.0
JAGN				S	Sn	16 51 35.3	-0.7
JOKE	Okinoerabujima	1.44	359	P	Pn	16 51 18.9	+0.4
JOKE				S	Sn	16 51 36.5	-0.6
JKE	Kume jima 2	1.69	285	P	Pn	16 51 20.8	-1.1
JKE				eS	Sn	16 51 39.9	-3.2
JTK	Tokunoshima	1.89	9	P	Pn	16 51 24.3	-0.3
JTK				eS	Sn	16 51 44.3	-3.8
JMZ	Minamidaito 2	2.35	92	P	Pn	16 51 30.6	-0.4
JMZ				S	Sn	16 51 56.9	-2.6
JAMN	Amaminishikomi	2.38	12	P	Pn	16 51 32.4	+1.1
JAM	Amami Oshima	2.64	19	P	Pn	16 51 35.4	+0.4
JAM				eS	Sn	16 52 05.2	-1.4
JNU	Nakatsue	7.45	15	Pn	Pn	16 52 42.8	+1.7
	0.3nm,0.3s,baz=201,slow=9.7,SNR=13						
SONM	Songino Array	28.00	327	P	P	16 56 45.7	+2.5
	0.6nm,0.5s,baz=141,slow=10,SNR=6.6						
FINES	FINESS Array B	73.31	331	P	P	17 02 23.9	+0.5
	0.7nm,0.8s,baz=56,slow=14,SNR=2.9						
AKASG	Malin Array Be	75.99	320	P	P	17 02 38.9	-0.3
	0.6nm,0.6s,baz=60,slow=5.9,SNR=4.9						
BRTR	Keskin Array B	77.50	308	P	P	17 02 49.5	+1.4
	1.0nm,0.9s,baz=64,slow=6.6,SNR=3.9						

ISCJB 27 16:50:58.6±0.8, 18.3S±0.1×178.0W±0.2, h557km, mb3.9/10, Error ellipse: s-maj=23.0km s-min=12.7km az=43.3
IDC 27 16:50:58.2±3.7, 18.24S×177.95W, h539km±41km, mb3.5/11, mb1 3.7/11, mb1mx3.5/37, mbtmp4.4/11, Error ellipse: s-maj=22.3km s-min=20.3km az=95.0
ISC 27 16:51:00.2±0.8, 18.3S±0.2×178.1W±0.2, h557km, n43, σ1§58/40, mb4.0/10, 6C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.34	191	P	P	16 54 57.7	-1.2
	6.1nm,0.4s,baz=288,slow=2.6,SNR=14						
PMG	Port Moresby	34.85	280	P	P	16 57 06.0	+0.5
	9.6nm,0.8s,baz=78,slow=6.7,SNR=7.3						
PMG	Port Moresby	34.85	280	P	P	16 57 06.2	+0.7
	baz=35,SNR=4.3						
QLP	Quilpie	35.71	250	P	P	16 57 12.7	+0.2
	baz=36,SNR=6.2						
COEN	Coen	37.44	271	P	P	16 57 27.3	+0.4
	baz=38,SNR=7.1						
STKA	Stephens Creek	38.74	242	P	P	16 57 38.2	+1.0
	5.3nm,0.9s,baz=85,slow=9.4,SNR=11						
STKA	Stephens Creek	38.74	242	P	P	16 57 38.5	+1.2
	baz=39,SNR=8.3						
HTT	Hallett	41.24	240	P	P	16 57 58.7	+1.4
	baz=42,SNR=3.8						
WRA	Warramunga Arr	44.89	260	P	P	16 58 24.8	-1.1
	3.7nm,0.7s,baz=96,slow=7.1,SNR=69						
WRA				PcP	PcP	16 59 55.0	-0.4
	1.1nm,0.8s,baz=90,slow=3.7,SNR=5.0						
MTN	Manton Dam	49.12	269	S	S	17 05 16.1	-6.2
	baz=49,SNR=3.8						
WRKA	Warakurna	50.05	252	P	P	16 59 04.3	-0.1
	baz=50,SNR=38						
KNRA	Kununurra	50.78	264	P	P	16 59 09.3	-0.5
	baz=51,SNR=4.0						
FITZ	Fitzroy Crossi	53.29	261	P	P	16 59 27.8	-0.1
	baz=53,SNR=4.3						
MEEK	Meekatharra	58.61	250	P	P	17 00 03.9	-0.6
	baz=59,SNR=3.5						
MJAR	Matsushiro Arr	68.41	323	P	P	17 01 05.6	-1.2
	3.2nm,0.6s,baz=152,slow=5.7,SNR=21						
UGM	Wanagama	69.96	268	P	P	17 01 16.2	-0.5
	baz=70,SNR=4.6						
PETK	Petropavlovsk-	74.13	345	P	P	17 01 39.2	-0.6
	3.1nm,0.6s,baz=116,slow=8.2,SNR=3.4						
NVAR	Mina Array Bea	79.47	44	P	P	17 02 10.1	+0.5
	0.8nm,0.6s,baz=229,slow=8.8,SNR=4.3						
SEY	Seymchan	84.22	347	P	P	17 02 32.1	-0.7
	3.2nm,0.5s,baz=153,slow=9.0,SNR=11						
ILAR	Eielson Array	86.18	13	P	P	17 02 41.0	-1.3
	1.1nm,0.4s,baz=222,slow=4.9,SNR=52						
CMAR	Chiang Mai Arr	89.32	290	P	P	17 02 58.5	+0.4
	1.6nm,0.9s,baz=117,slow=2.5,SNR=6.2						
YKA	Yellowknife Ar	94.53	25	P	P	17 03 20.2	-0.8
	0.3nm,0.5s,baz=242,slow=4.5,SNR=7.1						
MKAR	Makanchi Array	109.63	314	PKiKP	PKiKP	17 08 26.4	-1.5
	0.3nm,0.5s,baz=134,slow=0.4,SNR=6.6						
SPITS	Spitsbergen Ar	119.66	357	PKP	PKPdf	17 08 44.9	-1.4
	16nm,1.1s,baz=101,slow=2.9,SNR=4.7						
ARCES	ARCESS Array B	126.74	350	PKP	PKPdf	17 08 59.4	-0.7
	6.1nm,1.0s,baz=15,slow=0.6,SNR=5.0						
FINES	FINESS Array B	133.64	344	PKP	PKPdf	17 09 11.5	-1.8
	3.2nm,0.9s,baz=90,slow=0.7,SNR=5.9						
BURAR	Bucovina Array	145.10	332	⇑ iP	PKPdf	17 09 36.3	+1.7
TESR	Tescani	145.25	330	⇓ iP	PKPdf	17 09 35.0	+0.2
BRTR	Keskin Array B	145.28	315	PKPbc	PKPdf	17 09 35.5	+0.2
	1.3nm,0.5s,baz=79,slow=2.2,SNR=9.3						
ASF	Jabal al Asfar	145.65	301	PKPbc	PKPdf	17 09 37.3	+1.2
	2.8nm,0.8s,baz=72,slow=6.4,SNR=3.6						
PLOR	Plostina	145.72	329	⇓ iP	PKPdf	17 09 33.1	-2.5
TRPA	Tarpa	145.83	335	⇑ iP	PKPdf	17 09 36.8	+1.1
CLL	Collm	145.90	348	⇓ iPKP	PKPdf	17 09 36.9	+1.2
	comp=Z,9.0nm,0.7s						
BRG	Berggieshubel	146.11	346	ePKP	PKPdf	17 09 37.9	+1.8
	comp=Z,5.3nm,0.9s						
MORC	Moravsky Berou	146.17	342	⇑ iP	PKPdf	17 09 38.1	+1.8
DOPR	Dopca	146.25	330	⇓ iP	PKPdf	17 09 39.0	+2.5
MLR	Muntele Rosu	146.32	329	⇓ iP	PKPdf	17 09 39.7	+2.9
MMAI	Mount Meron Ar	146.62	303	PKPbc	PKPdf	17 09 39.9	+2.2
	comp=Z,3.2nm,0.6s,baz=70,slow=7.2,SNR=9.0						
VOIR		146.80	330	⇑ iP	PKPdf	17 09 40.2	+2.7
ARR	Arges	147.05	330	⇑ iP	PKPdf	17 09 41.4	+3.5
GZR	Gura Zlata	147.88	332	⇓ iP	PKPdf	17 09 41.2	+1.9
GERES	GERESS Array B	148.06	345	PKPbc	PKPdf	17 09 42.9	+3.4
	comp=Z,1.7nm,0.5s,baz=22,slow=2.6,SNR=16						
MMB	Musomiste	150.23	326	⇑ iP	PKPbc	17 09 48.4	-0.5

IDC 27 16:52:47.3±1.8, 25.94N×128.59E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/33, mbtmp3.5/3, Error ellipse: s-maj=72.9km s-min=21.7km az=73.0
ISCJB 27 16:52:49.1±0.7, 25.96N±0.05×128.68E±0.04, h27km, mb3.3/3, Error ellipse: s-maj=6.7km s-min=5.0km az=20.2
JMA 27 16:52:50.0±0.3, 25.96N×128.64E, h35km, M2.8
ISC 27 16:52:50.2±0.9, 25.99N±0.05×128.65E±0.04, h27km, n13, σ1§08/22, mb3.2/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.78	313	P	Pb	16 53 04.4	-0.7
JNTH				S	Sn	16 53 15.5	-0.6
JJT2	Tamagusuku 2	0.83	281	P	Pb	16 53 05.4	-0.6
JJT2				S	Sb	16 53 16.4	-0.4
JOW	Kunigami	0.91	338	P	Pb	16 53 07.1	-0.2
JOW				eS	Sn	16 53 18.6	-0.8
JOW	Kunigami	0.91	338	Pn	Pb	16 53 07.0	-0.4
	4.0nm,0.3s,baz=165,slow=14,SNR=4.2						
JOW				Sn	Sb	16 53 18.4	-0.6
	8.5nm,0.3s,baz=137,slow=20,SNR=5.6						
JIH	Iheya	1.21	330	P	Pb	16 53 11.7	-0.8
JIH				eS	Sn	16 53 26.4	-0.5
JOKE	Okinoerabujima	1.37	357	P	Pb	16 53 14.4	-0.8
JOKE				eS	Sb	16 53 31.1	-1.2
JAGN	Aguni-jima	1.40	296	P	Pn	16 53 13.9	-0.1
JKE	Kume jima 2	1.71	282	P	Pn	16 53 17.5	-0.8
JKE				eS	Sn	16 53 38.1	-1.2
JTK	Tokunoshima	1.81	8	P	Pn	16 53 20.3	+0.7
JTK				eS	Sn	16 53 41.2	-0.5
JMZ	Minamidaito 2	2.32	94	P	Pn	16 53 26.4	-0.2
JMZ				S	Sn	16 53 52.2	-2.0
SONM	Songino Array	27.96	327	P	P	16 58 41.6	+3.0
	0.2nm,0.5s,baz=141,slow=10,SNR=4.5						
MKAR	Makanchi Array	41.98	312	P	P	17 00 39.3	+0.4
	0.4nm,0.8s,baz=101,slow=9.6,SNR=3.2						
WRA	Warramunga Arr	45.99	173	P	P	17 01 11.9	+0.6
	0.7nm,0.7s,baz=352,slow=8.4,SNR=4.4						

IDC 27 16:53:28.0±0.9, 36.17S×73.48W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.1/32, mbtmp4.1/10, ML3.9/1, Error ellipse: s-maj=30.0km s-min=22.0km az=88.0
ISCJB 27 16:53:31.4±0.8, 36.1S±0.1×73.4W±0.2, h33km, mb4.1/8, Error ellipse: s-maj=21.7km s-min=11.5km az=36.1
ISC 27 16:53:33.2±0.9, 36.2S±0.1×73.4W±0.2, h35km, n16, σ0§69/16, mb4.1/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.10	155	Lg	Lg	16 56 07.5	
	10nm,0.3s,baz=51,slow=19,SNR=3.7						
CFAA	Coronel Fontan	6.26	45	Pn	Pn	16 55 02.4	-0.8
	2.7nm,0.3s,baz=217,slow=10,SNR=8.0						
CFAA				Sn	Sn	16 56 14.0	+0.5
	0.3nm,0.3s,baz=6.7,slow=17,SNR=2.1						
LPAZ	La Paz	20.34	15	P	P	16 58 08.1	+0.9
	5.5nm,0.7s,baz=215,slow=5.4,SNR=2.6						
SIV	San Ignacio	22.90	32	P	P	16 58 33.3	-0.7
	6.2nm,0.8s,baz=242,slow=13,SNR=3.6						
RCBR	Riachuelo	45.75	58	P	P	17 01 50.8	-0.6
	3.7nm,0.6s,baz=199,slow=11,SNR=4.2						
SNAA	Sanae	50.04	157	P	P	17 02 23.9	-0.1
	1.2nm,0.8s,baz=282,slow=11,SNR=3.7						
TXAR	Lajitas Array	71.08	332	P	P	17 04 48.0	+0.2
	0.7nm,0.8s,baz=153,slow=8.1,SNR=3.7						
DBIC	Dimbokro	76.94	72	P	P	17 05 22.8	+0.3
	2.7nm,0.8s,baz=220,slow=8.1,SNR=4.4						
BOSA	Boshof	80.08	118	P	P	17 05 39.7	-0.1
	2.3nm,0.7s,baz=220,slow=6.4,SNR=4.0						
NVAR	Mina Array Bea	85.01	326	P	P	17 06 04.1	-1.0
	0.2nm,0.3s,baz=152,slow=6.6,SNR=6.0						
TORD	Torodi Ar. Bea	86.00	71	P	P	17 06 10.9	+0.6
	0.8nm,0.6s,baz=269,slow=6.1,SNR=4.2						
PSI	Prapat	146.07	166	PKPbc	PKPbc	17 13 10.1	-0.2
	4.2nm,0.7s,baz=189,slow=13,SNR=4.2						
BVAR	Borovoye Array	149.62	45	PKPbc	PKPbc	17 13 19.1	+0.7
	1.3nm,0.6s,baz=259,slow=1.5,SNR=4.5						
AAK	Ala-Archa	154.48	65	PKPab	PKPab	17 13 44.6	-0.1
	1.1nm,0.6s,baz=180,slow=1.0,SNR=4.9						
ZALV	Zalesovo Beam	156.65	34	PKPab	PKPab	17 13 54.5	+1.3
	1.0nm,0.5s,baz=340,slow=4.3,SNR=3.3						
MKAR	Makanchi Array	159.01	52	PKPab	PKPab	17 14 04.0	+0.2
	0.5nm,0.8s,baz=284,slow=2.4,SNR=3.1						

IDC 27 16:56:28.9±1.0, 24.85S×65.52W, h0km, mb3.8/3, mb1 4.3/5, mb1mx3.9/28, mbtmp4.1/5, ML4.7/2, Error ellipse: s-maj=33.7km s-min=27.3km az=83.0
SJA 27 16:56:29.2±1.0, 24.84S×65.75W, h4km±8km, ML4.5, MW4.1
ISCJB 27 16:56:31.5±0.9, 24.79S±0.06×65.5W±0.1, h28km±7km, mb3.8/3, Error ellipse: s-maj=21.9km s-min=7.5km az=19.1
ISC 27 16:56:31.3±1.4, 24.81S±0.08×65.6W±0.1, h16km±8km, n13, σ1§13/16, mb4.0/3, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	0.16	54	i P	Pg	16 56 35.2	-0.4
SLA				i S	Sb	16 56 39.6	+0.5
SLA				AML	AML	16 56 40.7	
	comp=Z,53μm,0.6s						
AZAP	Zapla	0.79	42	i P	Pn	16 56 47.6	-0.4
FSA	Cafayete	1.32	195	i P	Pn	16 56 54.3	-0.9
FSA				IAML		16 56 56.3	
	comp=Z,14μm,0.2s						
FSA				eS	Sb	16 57 13.4	+0.9
ASTB	Santa Barbara	1.36	51	eP	Pg	16 56 58.6	+1.0
ALOL	LOMAS DE OLMED	1.82	57	i P	Pb	16 57 04.0	-0.3
CPUP	Villa Florida	7.66	103	Pn	Pn	16 58 22.3	+0.1
	comp=Z,5.7nm,0.3s,baz=252,slow=10,SNR=5.9						
CPUP				Lg	Lg	17 00 32.5	
	comp=Z,17nm,0.3s,baz=328,slow=15,SNR=3.1						
SIV	San Ignacio	9.77	27	Pn	Pn	16 58 52.5	+1.3
	comp=Z,2.2nm,0.3s,baz=228,slow=8.8,SNR=15						
SIV				Sn	Sn	17 00 38.4	-2.3
	comp=Z,0.5nm,0.3s,baz=139,slow=19,SNR=3.8						
SIV				Lg	Lg	17 01 37.9	
	comp=Z,0.5nm,0.3s,baz=267,slow=19,SNR=2.6						
TXAR	Lajitas Array	65.06	324	P	P	17 07 12.6	+1.4
	comp=Z,0.3nm,0.8s,baz=156,slow=8.9,SNR=2.7						
QSPA	South Pole Qui	65.39	180	P	P	17 07 13.5	+0.5
	comp=Z,2.0nm,0.9s,baz=236,slow=1.8,SNR=7.9						
TORD	Torodi Ar. Bea	75.72	68	P	P	17 08 15.0	-1.6
	comp=Z,1.1nm,0.7s,baz=254,slow=5.5,SNR=4.6						
WRA	Warramunga Arr	131.45	205	PKP	PKPdf	17 15 43.2	-0.7
	comp=Z,0.2nm,0.6s,baz=156,slow=1.8,SNR=4.5						
MKAR	Makanchi Array	146.34	41	PKPbc	PKPdf	17 16 10.4	+0.3
	comp=Z,0.7nm,0.7s,baz=296,slow=2.9,SNR=4.0						
SONM	Songino Array	156.17	13	PKPab	PKPab	17 16 52.4	-0.4
	comp=Z,0.2nm,0.7s,baz=337,slow=3.3,SNR=2.1						

ISCJB 27 17:02:07.7±0.9, 34.85S±0.10×72.6W±0.3, h18km, mb3.8/4, Error ellipse: s-maj=40.7km s-min=13.8km az=178.9
IDC 27 17:02:11.9±7.2, 34.85S×72.61W, h37km±65km, mb3.6/4, mb1 3.9/6, mb1mx3.7/28, mbtmp3.6/3, ML4.3/2, Error ellipse: s-maj=73.7km s-min=23.1km az=96.0
ISC 27 17:02:09.4±0.9, 34.85S±0.1×72.7W±0.3, h18km, n7, σ0§43/7, mb4.0/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.14	165	Pn	Pn	17 03 39.5	+0.3
	3.8nm,0.3s,baz=335,slow=10,SNR=6.7						
LPAZ	La Paz	18.90	14	P	Pn	17 06 30.8	+0.4
	0.1nm,0.3s,baz=195,slow=12,SNR=3.0						
SIV	San Ignacio	21.45	32	P	P	17 06 56.6	-0.3
	4.0nm,0.6s,baz=228,slow=11,SNR=5.6						
QSPA	South Pole Qui	55.42	180	P	P	17 11 42.2	-0.3
	1.5nm,0.9s,baz=146,slow=18,SNR=3.6						
TXAR	Lajitas Array	70.19	331	P	P	17 13 21.5	+0.4
	0.7nm,0.6s,baz=154,slow=8.7,SNR=6.7						
PDAR	Pinedale Array	84.25	334	P	P	17 14 39.8	-0.2
	0.2nm,0.6s,baz=166,slow=8.4,SNR=2.0						
SONM	Songino Array	166.98	3	PKPab	PKPab	17 23 17.1	-0.4
	0.3nm,0.8s,baz=45,slow=2.2,SNR=3.3						

IDC **27** *17:03:29.8±0.7, 34.°05S×73.°30W, h0km, mb4.3/7, mb1 4.3/9, mb1mx4.1/28, mbtmp4.2/9, ML3.5/2, Error ellipse: s-maj=28.4km s-min=19.6km az=102.0*
ISCJB **27** *17:03:33.3±0.7, 33.°99S±0.°09×73.°3W±0.°1, h33km, mb4.2/8, Error ellipse: s-maj=15.6km s-min=10.4km az=39.4*
NEIC **27** *17:03:35.3±1.9, 34.°00S×73.°28W, h38km±15km, mb4.6/2, Error ellipse: s-maj=19.7km s-min=11.2km az=80.0*
ISC 27 17:03:34.9±0.7, **34.°0S**±0.°1×**73.°3W**±0.°1, **h35km, n25,** σ**0.°97**/28, **mb4.3**/8, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.90	62	Pn	Pn	17 04 45.8	-0.4
	0.6nm,0.3s,baz=220,slow=16,SNR=3.0						
CFAA				Sn	Sn	17 05 42.4	+0.6
	1.3nm,0.3s,baz=137,slow=23,SNR=7.0						
LVC	Limon Verde	11.98	20	Pn	Pn	17 06 23.5	+0.1
	13nm,1.0s						
LPAZ	La Paz	18.23	16	P	Pn	17 07 46.3	+0.5
	0.2nm,0.3s,baz=187,slow=8.7,SNR=5.8						
SIV	San Ignacio	21.05	35	P	P	17 08 16.5	+0.6
	3.8nm,0.7s,baz=219,slow=12,SNR=4.6						
SAML	Samuel	26.61	23	P	P	17 09 06.6	-3.5
SDV	Santo Domingo	42.71	4	P	P	17 11 28.8	-0.1
	4.9nm,0.8s						
SNAA	Sanae	52.01	158	P	P	17 12 40.3	-0.1
	2.5nm,0.5s,baz=283,slow=8.4,SNR=17						
AGPR	Aguadilla, PR	52.49	7	P	P	17 12 51.4	+6.9
QSPA	South Pole Qui	56.25	180	P	P	17 13 12.2	+0.7
	2.4nm,0.8s,baz=190,slow=3.4,SNR=3.4						
TXAR	Lajitas Array	69.20	332	P	P	17 14 39.4	+1.2
	0.9nm,0.6s,baz=152,slow=8.4,SNR=8.8						
DBIC	Dimbokro	76.19	72	P	P	17 15 20.2	+0.3
	4.7nm,0.7s,baz=216,slow=6.6,SNR=6.6						
DBIC	Dimbokro	76.19	72	eP	P	17 15 19.9	0.0
	11nm,1.0s						
BOSA	Boshof	81.03	118	P	P	17 15 46.7	+0.1
	2.1nm,0.7s,baz=239,slow=5.9,SNR=3.4						
TOA0	Torodi Ar. Sit	85.22	71	eP	P	17 16 08.1	0.0
TORD	Torodi Ar. Bea	85.22	71	P	P	17 16 08.0	-0.1
	1.8nm,0.6s,baz=260,slow=4.7,SNR=11						
WRA	Warramunga Arr	120.24	210	PKP	PKPdf	17 22 22.0	-0.9
	0.5nm,1.0s,baz=165,slow=1.5,SNR=4.5						
BRTR	Keskin Array B	122.77	61	PKP	PKPdf	17 22 26.9	-0.2
	0.7nm,0.7s,baz=186,slow=2.4,SNR=4.7						
AKASG	Malin Array Be	122.97	48	PKP	PKPdf	17 22 25.9	-1.0
	0.4nm,0.5s,baz=258,slow=2.7,SNR=5.3						
BVAR	Borovoye Array	148.00	42	PKPbc	PKPbc	17 23 17.1	+1.0
	0.4nm,0.6s,baz=285,slow=1.6,SNR=18						
AAK	Ala-Archa	153.44	62	PKPbc	PKPbc	17 23 30.6	+1.0
	4.8nm,0.7s,baz=205,slow=2.5,SNR=7.0						
AAK	Ala-Archa	153.44	62	ePKPbc	PKPbc	17 23 29.9	+0.3
	2.0nm,0.7s,baz=205,slow=2.5,SNR=7.0						
ZALV	Zalesovo Beam	154.78	31	PKPbc	PKPbc	17 23 32.1	+0.3
	2.3nm,0.8s,baz=296,slow=3.0,SNR=9.0						
MK31	Makanchi Array	157.56	48	ePKPdf	PKPdf	17 23 26.6	-0.5
MK31				ePKPab	PKPab	17 23 59.1	-0.2
MKAR	Makanchi Array	157.56	48	PKP	PKPdf	17 23 27.0	-0.1
	0.3nm,0.7s,baz=295,slow=0.9,SNR=3.7						
MKAR				PKPab	PKPab	17 23 59.6	+0.3
	0.9nm,0.7s,baz=297,slow=4.1,SNR=6.9						
SONM	Songino Array	166.16	1	PKP	PKPdf	17 23 34.5	-1.6
	0.5nm,1.0s,baz=122,slow=1.9,SNR=3.6						
SONM				PKPab	PKPab	17 24 37.8	+1.0
	0.2nm,0.8s,baz=347,slow=3.6,SNR=3.7						
SONM				PP	PP	17 28 31.1	+7.3
	1.0nm,1.0s,baz=355,slow=0.7,SNR=5.8						

IDC **27** *17:04:00.6±1.1, 26.°00N×128.°82E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.8/25, mbtmp3.8/11, ML3.5/1, Error ellipse: s-maj=39.8km s-min=20.5km az=70.0*
ISCJB **27** *17:04:02.3±1.0, 26.°01N±0.°04×128.°75E±0.°04, h28km±6km, mb3.7/11, Error ellipse: s-maj=6.9km s-min=5.2km az=40.1*
JMA **27** *17:04:03.0±0.2, 26.°02N×128.°77E, h35km, M3.3*
ISC 27 17:04:03.5±0.9, **25.°99N**±0.°04×**128.°75E**±0.°04, **h24km**±5km, **n27,** σ**1.°91**/43, **mb3.8**/11, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.84	309	P	Pb	17 04 18.1	-1.4
JNTH				S	Sn	17 04 29.4	-2.0
JJT2	Tamagusuku 2	0.91	280	P	Pb	17 04 19.9	-0.8
JJT2				S	Sn	17 04 31.8	-1.4
JOW	Kunigami	0.94	333	P	Pb	17 04 19.9	-1.4
JOW				eS	Sb	17 04 31.3	-2.1
JOW	Kunigami	0.94	333	Pn	Pb	17 04 20.0	-1.2
	18nm,0.3s,baz=131,slow=19,SNR=35						
JOW				Sn	Sb	17 04 30.9	-2.5
	35nm,0.3s,baz=119,slow=19,SNR=23						
JIH	Iheya	1.26	326	P	Pn	17 04 24.8	-0.8
JIH				S	Sn	17 04 40.0	-1.7
JOKE	Okinoerabujima	1.38	353	P	Pn	17 04 26.5	-0.8
JOKE				S	Sn	17 04 43.1	-1.7
JAGN	Aguni-jima	1.48	294	P	Pn	17 04 28.1	-0.5
JAGN				S	Sb	17 04 46.6	-2.1
JKE	Kume jima 2	1.79	281	P	Pn	17 04 31.7	-1.3
JKE				S	Sn	17 04 52.6	-2.4
JTK	Tokunoshima	1.80	6	P	Pn	17 04 32.1	-1.0
JTK				S	Sn	17 04 52.1	-3.1
JMZ	Minamidaito 2	2.23	94	P	Pn	17 04 37.3	-1.7
JMZ				S	Sn	17 05 01.5	-4.3
JAMN	Amaminishikomi	2.28	10	P	Pn	17 04 39.4	-0.3
JAMN				S	Sn	17 05 05.3	-1.7
JAM	Amami Oshima	2.53	17	P	Pn	17 04 41.7	-1.4
JAM				eS	Sn	17 05 10.5	-2.7
JOGS	Gusukube	3.26	249	P	Pn	17 04 52.4	-0.7
JOGS				eS	Sn	17 05 29.4	-1.8
JTJ	Tarama	3.90	251	P	Pn	17 05 00.6	-1.3
JTJ				S	Sn	17 05 43.6	-3.3
JISG	Ishigakijimahi	4.25	252	P	Pn	17 05 05.2	-1.6
JISG				S	Sn	17 05 51.8	-3.8
JNU	Nakatsue	7.35	14	Pn	Pn	17 05 50.0	+0.7
	0.8nm,0.3s,baz=202,slow=9.4,SNR=8.5						
GTA	Gaotai	27.65	306	eP	P	17 09 49.0	-0.6
GTA				pP	pP	17 09 58.0	+1.2
GTA				sP	sP	17 10 02.0	+2.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
SONM	Songino Array	28.01	327	P	P	17 09 55.4	+2.8
	comp=Z,0.6nm,0.5s,baz=137,slow=9.7,SNR=6.8						
MKAR	Makanchi Array	42.04	312	P	P	17 11 54.1	+1.0
	comp=Z,0.7nm,0.8s,baz=94,slow=7.7,SNR=4.2						
WRA	Warramunga Arr	45.98	173	P	P	17 12 25.3	+0.4
	comp=Z,1.8nm,0.7s,baz=353,slow=8.6,SNR=10						
GEYT	Alibeck	59.81	300	P	P	17 14 09.8	+2.8
	comp=Z,1.0nm,0.5s,baz=42,slow=4.6,SNR=3.8						
FINES	FINESS Array B	73.30	331	P	P	17 15 33.1	+0.4
	comp=Z,0.5nm,0.4s,baz=66,slow=4.6,SNR=6.4						
AKASG	Malin Array Be	76.02	320	P	P	17 15 49.0	+0.4
	comp=Z,0.4nm,0.4s,baz=63,slow=5.8,SNR=6.8						
BRTR	Keskin Array B	77.55	308	P	P	17 15 58.5	+0.8
	comp=Z,0.6nm,0.9s,baz=116,slow=5.6,SNR=5.3						
YKA	Yellowknife Ar	78.55	25	P	P	17 16 03.4	+0.8
	comp=Z,0.2nm,0.6s,baz=300,slow=5.5,SNR=5.5						
NOA	NORSAR Array B	79.74	334	P	P	17 16 09.7	+0.5
	comp=Z,0.8nm,0.8s,baz=55,slow=5.4,SNR=3.0						
GERES	GERESS Array B	85.67	323	P	P	17 16 42.6	+2.2
	comp=Z,0.3nm,0.4s,baz=46,slow=5.9,SNR=4.4						

MOS **27** *17:05:04.2±1.4, 51.°67N×158.°68E, h72km, mb4.2/2, Error ellipse: s-maj=22.1km s-min=10.6km az=80.2*
KRSC **27** *17:05:05.1±1.1, 51.°77N×158.°79E, h64km±16km, ML4.0*
ISCJB **27** *17:05:06.0±0.7, 51.°76N±0.°05×158.°78E±0.°09, h72km±7km, mb3.5/7, Error ellipse: s-maj=10.9km s-min=5.3km az=42.3*
IDC **27** *17:05:09.7±2.4, 51.°86N×158.°37E, h95km±19km, mb3.3/7, mb1 3.6/8, mb1mx3.3/45, mbtmp3.7/8, Error ellipse: s-maj=29.9km s-min=20.8km az=148.0*
ISC 27 17:05:06.4±1.0, **51.°72N**±0.°05×**158.°82E**±0.°06, **h58km**±11km, **n48,** σ**0.°99**/61, **mb3.5**/7, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.74	345	PN	Pn	17 05 21.1	+0.1
RUS				S	Sn	17 05 31.1	-0.6
RUS	Russkaya	0.74	345	i P	Pn	17 05 21.1	+0.1
RUS				eS	Sn	17 05 31.1	-0.6
MTVR	Mutnovka	0.86	333	i P	Pn	17 05 22.8	+0.1
MTVR				eS	Sn	17 05 34.1	-0.6
ASAK	Asacha	0.88	320	i P	Pn	17 05 23.4	+0.6
ASAK				eS	Sn	17 05 34.8	-0.1
PAU	Pauzhetka	1.28	260	PN	Pn	17 05 28.8	+0.8
PAU				S	Sn	17 05 44.9	+0.8
PAU	Pauzhetka	1.28	260	i P	Pn	17 05 28.8	+0.8
PAU				eS	Sn	17 05 44.9	+0.8
PET	Petropavlovsk	1.31	356	PN	Pn	17 05 28.5	+0.1
PET				S	Sn	17 05 44.4	-0.6
PET	Petropavlovsk	1.31	356	i P	Pn	17 05 28.5	+0.1
PET				i S	Sn	17 05 44.4	-0.6
MIPR	Malaya Ipel'ka	1.39	295	i P	Pn	17 05 29.9	+0.4
MIPR				eS	Sn	17 05 46.9	0.0
NLC	Nalytchevo	1.49	12	eS	Sn	17 05 46.8	-2.5
UGLR	Uglovaya	1.50	0	i P	Pn	17 05 31.6	+0.6
UGLR				S	Sn	17 05 49.5	0.0
SMAR	Somma	1.55	360	i P	Pn	17 05 32.2	+0.4
SMAR				S	Sn	17 05 50.6	-0.4
AVH	Avacha	1.55	358	i P	Pn	17 05 32.5	+0.7
AVH				eS	Sn	17 05 51.0	+0.1
PETK	Petropavlovsk-	1.55	334	PN	Pn	17 05 32.0	+0.3
PETK				S	Sn	17 05 51.6	+0.8
PETK				pmax	pmax		
	comp=Z,25nm,0.3s						
PETK				smax	smax		
	comp=N,32nm,0.3s						
PETK	Petropavlovsk-	1.55	334	P	Pn	17 05 32.0	+0.3
	comp=N,25nm,0.3s,baz=134,slow=18,SNR=312						
PETK				S	Sn	17 05 51.6	+0.8
	comp=N,32nm,0.3s,baz=152,slow=16,SNR=11						
SDLR	Sedlovina	1.56	1	i P	Pn	17 05 32.1	+0.1
SPN	Mys Shipunski	1.57	28	S	Sn	17 05 50.1	-1.0
KOK	Koryaka	1.58	356	i P	Pn	17 05 33.1	+0.9
KOK				eS	Sn	17 05 52.1	+0.5
APC	Apacha	1.58	321	i P	Pn	17 05 32.4	+0.3
APC				eS	Sn	17 05 51.0	-0.5
KRER	Koryakskii	1.59	358	i P	Pn	17 05 32.7	+0.3
KRER				eS	Sn	17 05 51.3	-0.7
KRX	Arik	1.65	356	i P	Pn	17 05 33.7	+0.6
KRX				S	Sn	17 05 53.0	-0.3
SKR	Severo-Kuril's	1.99	240	ePN	Pn	17 05 34.5	-3.1
SKR				i S	Sn	17 05 57.5	-3.9
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				smax	smax		
	comp=E,750nm,0.3s						
SKR				smax	smax		
	comp=N,420nm,0.5s						
SKR	Severo-Kuril's	1.99	240	eP	Pn	17 05 38.2	+0.6
SKR				eS	Sn	17 06 00.9	-0.5
GNL	Ganaly	2.05	345	i P	Pn	17 05 39.0	+0.4
KII	Karymskiy	2.35	9	P	Pn	17 05 43.3	+0.6
KII				S	Sn	17 06 09.8	-0.6
MKZ	Mys Kozlova	3.34	30	PN	Pn	17 05 56.3	+0.3
MKZ	Mys Kozlova	3.34	30	P	Pn	17 05 56.3	+0.3
TUMR	Tumrok	3.66	12	P	Pn	17 06 02.6	+2.1
KBTR	Krutoberegovo	5.08	26	PN	Pn	17 06 21.6	+1.8
KBTR	Krutoberegovo	5.08	26	eP	Pn	17 06 21.6	+1.8
FX1	Attu Island--F	8.87	77	PN	Pn	17 07 12.7	+1.0
FX1				pmax	pmax		
	comp=Z,12nm,0.3s						
FX1	Attu Island--F	8.87	77	P	Pn	17 07 12.7	+1.0
	comp=Z,12nm,0.3s,baz=298,slow=3.7,SNR=36						
SEY	Seymchan	11.76	345	P	Pn	17 07 49.8	-1.4
	comp=Z,0.1nm,0.3s,baz=198,slow=16,SNR=3.8						
ILAR	Eielson Array	30.35	44	P	P	17 11 12.4	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	30.35	44	P	P	17 11 12.4	+0.3
	comp=Z,0.4nm,0.7s,baz=265,slow=6.0,SNR=6.0						
H11N2	WAKE ISLAND Hy	32.54	166	T	T	17 46 35.6	
	baz=351,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy	32.56	166	T	T	17 46 52.5	
	baz=351,slow=76,SNR=12						
H11N1	WAKE ISLAND Hy	32.56	166	T	T	17 46 56.3	
	baz=351,slow=76,SNR=20						
H11S1	WAKE ISLAND Hy	33.72	166	T	T	17 48 07.6	
	baz=351,slow=76,SNR=5.0						
H11S3	WAKE ISLAND Hy	33.73	166	T	T	17 48 10.8	
	baz=351,slow=76,SNR=7.6						
H11S2	WAKE ISLAND Hy	33.73	166	T	T	17 48 07.8	
	baz=351,slow=76,SNR=4.1						
YKA	Yellowknife Ar	44.71	41	P	P	17 13 12.9	-0.2
	comp=Z,0.3nm,0.5s,baz=297,slow=7.7,SNR=5.9						
MKAR	Makanchi Array	48.05	296	P	P	17 13 36.2	-3.4
	comp=Z,0.5nm,0.8s,baz=58,slow=3.7,SNR=3.1						
SPITS	Spitsbergen Ar	48.36	350	P	P	17 13 39.9	-1.7
SPITS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SPITS	Spitsbergen Ar	48.36	350	P	P	17 13 39.9	-1.7
	comp=Z,5.4nm,0.9s,baz=64,slow=5.9,SNR=7.6						
PDAR	Pinedale Array	58.89	59	P	P	17 15 00.4	+1.2
	comp=Z,0.5nm,0.8s,baz=295,slow=2.8,SNR=3.2						
TXAR	Lajitas Array	71.91	66	P	P	17 16 23.6	+0.2
	comp=Z,0.4nm,0.6s,baz=282,slow=2.3,SNR=4.2						
WRA	Warramunga Arr	74.50	204	P	P	17 16 38.3	-0.1
	comp=Z,0.2nm,0.6s,baz=19,slow=6.1,SNR=4.1						

NEIC **27** *17:06:18.2±1.0, 37.°63S×73.°99W, h19km±5km, mb4.7/3, Error ellipse: s-maj=28.2km s-min=14.5km az=89.0*
IDC **27** *17:06:19.5±0.9, 37.°66S×73.°63W, h17km±4km, mb3.8/7, mb1 4.0/9, mb1mx3.9/28, mbtmp3.9/9, ML4.0/2, Error ellipse: s-maj=31.2km s-min=14.7km az=76.0*
ISCJB **27** *17:06:20.6±0.9, 37.°69S±0.°08×73.°7W±0.°2, h33km, mb4.1/8, Error ellipse: s-maj=21.4km s-min=9.1km az=161.7*
ISC 27 17:06:20.7±1.0, **37.°67S**±0.°10×**73.°9W**±0.°2, **h35km, n21,** σ**1.°86**/20, **mb4.1**/8, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.01	141	Pn	Pn	17 07 19.6	-0.1
	1.5nm,0.3s,baz=313,slow=10,SNR=2.3						
PLCA				Sn	Sn	17 08 05.2	-0.3
	6.7nm,0.3s,baz=313,slow=20,SNR=5.2						
PLCA				Lg	Lg	17 08 24.8	
	8.2nm,0.3s,baz=56,slow=23,SNR=6.1						
TRQA	Tornquist	9.43	96	Pn	Pn	17 08 28.2	-5.9
CPUP	Villa Florida	18.00	56	P	Pn	17 10 26.9	-1.2
	0.4nm,0.3s,baz=207,slow=11,SNR=3.7						
LPAZ	La Paz	21.90	15	P	P	17 11 11.9	+0.4
	4.8nm,0.9s,baz=182,slow=7.2,SNR=4.6						
SIV	San Ignacio	24.39	31	P	P	17 11 37.8	+2.1
	3.8nm,0.8s,baz=229,slow=13,SNR=4.9						
SAML	Samuel	30.19	21	P	P	17 12 25.5	-2.3
SNAA	Sanae	48.79	157	P	P	17 15 02.3	+0.4
	0.8nm,0.8s,baz=278,slow=9.9,SNR=4.6						
SNAA				pP	pP	17 15 08.7	-3.6
	2.3nm,0.9s,baz=275,slow=7.5,SNR=6.9						
SNAA	Sanae	48.79	157	eP	P	17 15 02.3	+0.4
	8.7nm,1.3s						
SNAA				pP	pP	17 15 08.7	-3.6
QSPA	South Pole Qui	52.57	180	P	P	17 15 31.4	+0.9
	2.6nm,1.0s,baz=145,slow=4.7,SNR=4.6						
QSPA	South Pole Qui	52.57	180	eP	P	17 15 31.1	+0.6
	9.4nm,1.2s						
TXAR	Lajitas Array	72.25	333	P	P	17 17 45.8	+3.4
	0.4nm,0.8s,baz=156,slow=6.9,SNR=3.2						
CASY	Casey	76.32	182	P	P	17 18 01.8	-3.8
	19nm,1.4s						
DBIC	Dimbokro	77.78	72	pP	pP	17 18 20.4	-5.1
	4.1nm,0.7s,baz=227,slow=4.5,SNR=3.5						
BOSA	Boshof	79.69	118	P	P	17 18 27.5	+2.4
	2.4nm,0.8s,baz=233,slow=7.5,SNR=3.7						
PDAR	Pinedale Array	86.39	335	pP	pP	17 19 05.5	-4.8
	0.6nm,0.9s,baz=116,slow=6.8,SNR=3.8						
TOA0	Torodi Ar. Sit	86.86	71	P	P	17 19 03.9	+2.0
TORD	Torodi Ar. Bea	86.86	71	P	P	17 19 00.8	-1.1
	0.6nm,0.6s,baz=221,slow=5.3,SNR=3.1						
TORD				pP	PcP	17 19 06.9	+2.7
	1.0nm,0.7s,baz=232,slow=3.8,SNR=5.3						
ABKAR	Akbulak array	145.07	56	ePKPdf	PKPbc	17 25 51.7	-1.5
BVAR	Borovoye Array	150.95	47	PKPbc	PKPbc	17 26 09.1	+0.1
	1.1nm,0.7s,baz=298,slow=3.2,SNR=5.1						
BVAR				pPKPbc	PKPab	17 26 16.0	-0.6
	1.8nm,0.8s,baz=276,slow=2.8,SNR=7.6						
ZALV	Zalesovo Beam	158.11	35	PKPab	PKPab	17 26 46.1	-0.8
	1.1nm,0.8s,baz=297,slow=4.5,SNR=4.0						
MKAR	Makanchi Array	160.21	55	PKP	PKPdf	17 26 15.1	-0.8
	0.5nm,1.0s,baz=297,slow=0.6,SNR=3.0						

ISCJB **27** *17:09:34.0±0.7, 34.°13S±0.°08×73.°2W±0.°2, h33km, mb4.1/9, Error ellipse: s-maj=20.9km s-min=10.9km az=3.8*
NEIC **27** *17:09:36.1±1.4, 34.°11S×73.°21W, h37km±12km, mb4.5/5, Error ellipse: s-maj=19.0km s-min=8.0km az=97.0*
IDC **27** *17:09:40.1±3.3, 33.°95S×73.°07W, h65km±28km, mb3.7/6, mb1 3.9/10, mb1mx3.7/35, mbtmp4.0/9, ML4.1/2, Error ellipse: s-maj=33.6km s-min=19.9km az=85.0*
ISC 27 17:09:36.0±0.8, **34.°09S**±0.°09×**73.°2W**±0.°2, **h35km, n20,** σ**0.°62**/18, **mb4.3**/9, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.88	61	P	Pn	17 10 46.9	0.0
	0.5nm,0.3s,baz=260,slow=11,SNR=2.7						
PLCA	Paso Flores	6.96	163	P	Pn	17 11 22.4	+6.9
	1.6nm,0.3s,baz=302,slow=18,SNR=2.8						
PLCA	Paso Flores	6.96	163	ePn	Pn	17 11 15.1	-0.4
LPAZ	La Paz	18.31	16	P	Pn	17 13 48.5	+0.6
	0.1nm,0.3s,baz=190,slow=7.7,SNR=3.9						
SIV	San Ignacio	21.09	34	P	P	17 14 17.1	-0.4
	2.7nm,0.7s,baz=227,slow=14,SNR=3.2						
SAML	Samuel	26.68	23	eP	P	17 15 12.4	+0.7
	3.6nm,1.1s						
SDV	Santo Domingo	42.81	4	eP	P	17 17 29.5	-1.3
	4.8nm,0.7s						
SNAA	Sanae	51.87	158	P	P	17 18 41.5	+1.0
	1.9nm,0.6s,baz=284,slow=8.8,SNR=17						
SNAA	Sanae	51.87	158	eP	P	17 18 40.9	+0.4
	10nm,0.9s						
SDDR	Presa de Saban	52.81	2	P	P	17 18 53.5	+5.5
QSPA	South Pole Qui	56.14	180	P	P	17 19 11.6	-0.2
	5.4nm,1.2s						
TXAR	Lajitas Array	69.34	332	P	P	17 20 40.4	+0.4
	0.9nm,0.7s,baz=152,slow=8.1,SNR=9.2						
DBIC	Dimbokro	76.14	72	P	P	17 21 21.1	+0.5
	3.3nm,0.6s,baz=215,slow=4.9,SNR=4.2						
DBIC	Dimbokro	76.14	72	P	P	17 21 20.6	0.0
	7.5nm,0.9s						
PDAR	Pinedale Array	83.41	334	P	P	17 22 00.1	+0.5
	0.2nm,0.5s,baz=156,slow=4.7,SNR=2.5						
TOA0	Torodi Ar. Sit	85.17	71	eP	P	17 22 08.9	-0.1
TORD	Torodi Ar. Bea	85.17	71	P	P	17 22 09.2	+0.3
	1.3nm,0.7s,baz=252,slow=3.8,SNR=7.3						
AAK	Ala-Archa	153.42	62	ePKPbc	PKPbc	17 29 30.0	-0.6
ZALV	Zalesovo Beam	154.82	31	PKPbc	PKPbc	17 29 32.0	-1.0
	1.7nm,0.7s,baz=300,slow=3.7,SNR=7.0						
MKAR	Makanchi Array	157.56	48	PKPab	PKPab	17 30 00.3	0.0
	0.3nm,0.7s,baz=319,slow=3.5,SNR=3.7						

SJA **27** *17:11:34.8±1.4, 34.°29S×73.°07W, h10km±77km, MD4.7, ML5.6*
GUC **27** *17:11:45.4±0.7, 34.°12S×72.°23W, h33km±4km, ML5.9, MW6.2*
BJI **27** *17:11:48.0, 34.°00S×71.°80W, h35km, mB5.5/15, Ms5.9/16, Ms7 5.6/17*
MOS **27** *17:11:48.5±0.9, 33.°69S×71.°81W, h33km, mb5.5/54, Error ellipse: s-maj=15.8km s-min=7.8km az=103.0*
NEIC **27** *17:11:49.0±0.1, 33.°99S×71.°81W, h35km, mb5.5/166, Error ellipse: s-maj=5.2km s-min=3.5km az=67.0*
IDC **27** *17:11:49.9±2.2, 34.°02S×71.°98W, h44km±20km, mb4.8/25, mb1 4.9/28, mb1mx4.9/36, mbtmp5.1/28, ML5.2/2, MS5.1/5, Ms1 5.1/5, ms1mx4.6/40, Error ellipse: s-maj=18.0km s-min=10.8km az=72.0*
ISCJB **27** *17:11:51.2±0.7, 33.°94S±0.°04×71.°79W±0.°06, h62km±5km, mb5.4/191, Error ellipse: s-maj=9.1km s-min=5.8km az=153.1*
ISC 27 17:11:48.4±0.7, **34.°06S**±0.°04×**71.°94W**±0.°05, **h34km**±2km, **n897,** σ**1.°10**/943, **mb5.5**/190, **MS5.4**/4, **199C-229D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.45	77⇓i P		Pn	17 11 58.9	+0.3
TACH	Talagante	0.93	64⇑i P		Pb	17 12 05.8	-0.3
IHA	Instituto Hidr	1.06	14⇑i P		Pb	17 12 06.8	-0.1
CHCH	Chadas Angostu	1.08	84⇑i P		Pb	17 12 08.4	-0.2
RCDM	Rinconada Maip	1.10	59⇑i P		Pb	17 12 08.3	-0.8
SAN	Santiago	1.22	61⇑i P		Pb	17 12 10.6	-0.5
STL	Santa Lucia	1.25	60⇓i P		Pb	17 12 10.0	+0.4
STL				i S	Sb	17 12 29.7	+2.4
PCH	Pirque	1.26	70⇑i P		Pb	17 12 11.3	-0.5
ROCH	El Roble	1.33	36	eP	Pb	17 12 11.8	+0.9
ROCH				i S	Sb	17 12 32.2	+2.2
ROCH				AML	AML	17 12 41.6	
	comp=E,925μm,0.7s						
PEL	Peldehue	1.39	49⇑i P		Pb	17 12 13.2	-0.7
PEL				i S	Sb	17 12 34.3	+3.0
PEL				AML	AML	17 12 41.1	
	comp=E,227μm,0.6s						
FCH	Farellones	1.56	62⇓i P		Pn	17 12 13.8	-0.2
FCH				i S	Sb	17 12 37.0	+0.6
FCH				AML	AML	17 12 42.4	
	comp=E,77μm,0.6s						
AAGR	Agrelo	2.77	70	i P	Pb	17 12 35.1	-2.3
AAGR				i P	Pb	17 12 35.1	-2.3
ARCO	CERRO ARCO	2.79	65	i P	Pb	17 12 38.0	+0.2
ARCO				AML	AML	17 13 23.6	
	comp=Z,5μm,0.7s						
AUSP	Uspallata	2.82	50	i P	Pb	17 12 35.4	-2.8
AVIZ	Vizcacheras	2.91	79	i P	Pb	17 12 37.3	-2.5
ASAL	Salagasta	2.98	61	i P	Pb	17 12 38.4	-2.5
CMCH	Combarbala	2.98	16⇑i P		Pb	17 12 33.4	-0.1
CMCH				i S	Sn	17 13 08.7	+0.5
RTLS	Leoncito	3.17	45	i P	Pn	17 12 40.1	+4.0
RTCV	Cerro Valdivia	3.60	53	i P	Pb	17 12 46.8	-4.6
CFAA	Coronel Fontan	3.96	53	P	Pn	17 12 49.8	+2.9
	comp=Z,4.0nm,0.3s,baz=225,slow=12,SNR=33						
CFAA				S	Sb	17 13 47.0	+1.9
	comp=Z,22nm,0.3s,baz=325,slow=20,SNR=3.6						
CFAA				LR	LR	17 14 37.5	
	comp=Z,6μm,18.2s,baz=220,slow=42						
CFAA	Coronel Fontan	3.96	53	i P	Pb	17 12 52.7	-4.9
CFAA				i S	Sb	17 13 48.6	+3.5
RTLL	Cerro Villicun	3.99	48	i P	Pn	17 12 51.3	+3.9
AMOG	MOGNA	4.26	44	i P	Pn	17 12 55.3	+4.3
ACAN	Cantantal	4.36	67	i P	Pn	17 12 58.1	+5.7
AVFE	Valle Fertil	5.09	49	i P	Pn	17 13 07.3	+4.9
AVFE				i S	Sb	17 14 15.3	-2.2
AVFE				AML	AML	17 14 18.0	
	comp=Z,5μm,0.7s						
ACHE	Chepes	5.30	58	i P	Pn	17 13 10.2	+4.7
AGUA	GUANDACOL	5.42	34	i P	Pn	17 13 09.8	+2.8
PLCA	Paso Flores	6.75	171	P	Pn	17 13 26.1	+0.8
PLCA				S	Sb	17 14 56.4	-8.8
PLCA				pmax	pmax		
	comp=Z,11nm,0.3s						
PLCA				smax	smax		
	comp=N,4.0nm,0.3s						
PLCA	Paso Flores	6.75	171	P	Pn	17 13 26.1	+0.8
	comp=N,11nm,0.3s,baz=314,slow=7.2,SNR=6.9						
PLCA				S	Sb	17 14 56.4	-8.8
	comp=N,4.4nm,0.3s,baz=38,slow=19,SNR=1.6						
PLCA	Paso Flores	6.75	171	ePn	Pn	17 13 24.8	-0.4
	comp=N,2μm,1.7s						
PLCA				P	Pn	17 13 26.1	+0.8
PLCA				S	Sb	17 14 56.4	-8.8
TRQA	Tornquist	8.99	119	ePn	Pn	17 13 58.3	+2.4
LVC	Limon Verde	11.71	14	P	Pn	17 14 27.8	-5.6
CPUP	Villa Florida	14.79	62	P	Pn	17 15 13.3	-1.7
	comp=N,2.4nm,0.3s,baz=182,slow=11,SNR=8.1						
CPUP				S	Sn	17 18 04.6	+6.8
	comp=N,3.5nm,0.3s,baz=273,slow=17,SNR=2.0						
CPUP				LR	LR	17 21 25.6	
	comp=N,14μm,20.8s,baz=224,slow=39						
CPUP	Villa Florida	14.79	62	ePn	Pn	17 15 11.7	-3.4
	comp=N,0.2nm,0.6s						
CPUP				P	Pn	17 15 13.3	-1.7
CPUP				S	Sn	17 18 04.6	+6.8
LPAZ	La Paz	18.03	12	P	P	17 15 57.7	+0.4
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
LPAZ	La Paz	18.03	12	P	P	17 15 57.6	+0.4
	comp=Z,2.6nm,0.3s,baz=198,slow=7.6,SNR=58						
LPAZ	La Paz	18.03	12	eP	Pn	17 15 56.5	-0.5
	comp=Z,395nm,1.4s						
LPAZ				P	P	17 15 57.6	+0.4
SIV	San Ignacio	20.48	31	P	P	17 16 23.2	-0.3
	comp=Z,32nm,0.6s,baz=224,slow=10,SNR=56						
SIV				LR	LR	17 25 46.0	
	comp=Z,12μm,19.6s,baz=234,slow=41						
USHA	Ushuaia	20.91	174	P	P	17 16 29.0	+1.2

comp=Z,42nm,0.8s,baz=320,slow=6.3,SNR=6.3
NNA Nana 22.42 347 eP P 17 16 44.5 +0.1
NNA pmax pmax
comp=Z,91nm,1.1s
NNA Nana 22.42 347 eP P 17 16 44.5 +0.1
comp=Z,91nm,1.1s
SAML Samuel 26.26 20 eP P 17 17 20.1 -0.6
comp=Z,124nm,1.1s
ATAH Atahualpa 27.45 346 P P 17 17 32.9 +1.0
comp=Z,4.2nm,0.6s,baz=172,slow=8.4,SNR=6.0
BDFB Brasilia 28.30 56 P P 17 17 38.8 -0.3
BDFB pmax pmax
comp=Z,32nm,0.6s
BDFB Brasilia 28.30 56 P P 17 17 38.8 -0.3
comp=Z,32nm,0.6s,baz=219,slow=8.5,SNR=29
OTAV Otavalo 34.66 348 eP P 17 18 36.6 +1.3
comp=Z,92nm,1.5s
ROSC El Rosal 38.77 356 P P 17 19 09.9 -0.4
comp=Z,8.4nm,0.5s,baz=193,slow=2.6,SNR=10
ROSC El Rosal 38.77 356 P P 17 19 09.9 -0.4
ROSC eP P 17 19 11.3 +1.0
SDV Santo Domingo 42.73 2 eP P 17 19 42.0 -0.7
comp=Z,95nm,1.2s
RCBR Riachuelo 43.60 58 eP P 17 19 50.3 +0.6
comp=Z,63nm,0.9s
PCRV Puerto La Cruz 44.54 10 P P 17 19 56.1 -1.0
comp=Z,12nm,0.4s,baz=259,slow=2.9,SNR=5.5
JTS JuntasAbangare 45.81 342 ⇓iP P 17 20 08.6 +1.4
JTS pmax pmax
comp=Z,94nm,1.8s
JTS JuntasAbangare 45.81 342 P P 17 20 07.8 +0.6
comp=Z,7.9nm,0.9s,baz=152,slow=4.5,SNR=9.9
JTS JuntasAbangare 45.81 342 P P 17 20 07.8 +0.6
JTS eP P 17 20 08.3 +1.2
GRGR Grenville 46.97 14 eP P 17 20 17.1 +0.8
comp=Z,188nm,1.0s
VNA3 Neumayer Olymp 49.27 158 P P 17 20 34.3 +0.9
FDF Fort de France 49.60 14 eP P 17 20 34.9 -1.6
FDF pmax pmax
comp=Z,109nm,1.2s
FDF Fort de France 49.60 14 eP P 17 20 34.9 -1.6
comp=Z,109nm,1.2s
VNA2 Neumayer--Watz 49.92 157 P P 17 20 39.3 +0.9
SNAA Sanae 51.50 158 P P 17 20 51.1 +0.7
SNAA Sanae 51.50 158c iP P 17 20 51.0 +0.7
SNAA pmax pmax
comp=Z,194nm,1.2s
SNAA Sanae 51.50 158 P P 17 20 51.1 +0.7
comp=Z,43nm,1.1s,baz=277,slow=8.0,SNR=58
SNAA Sanae 51.50 158 eP P 17 20 51.1 +0.7
comp=Z,218nm,1.3s
APG El Apazote 51.88 337 P P 17 20 50.5 -3.4
comp=Z,24nm,1.0s,baz=153,slow=7.1,SNR=12
ICMP Isla Caja de M 51.91 7 eP P 17 20 52.8 -1.1
SEUS St. Eustatius 51.97 11 eP P 17 20 53.0 -1.3
comp=Z,222nm,1.1s
CRPR Cabo Rojo, PR 51.98 6 eP P 17 20 54.0 -0.4
comp=Z,212nm,1.4s
SABA Saba 52.06 11 eP P 17 20 54.9 -0.1
comp=Z,484nm,1.3s
OBIP Obispado Ponce 52.06 6 eP P 17 20 54.5 -0.4
comp=Z,79nm,0.8s
CELP Cerrillos 52.09 6 eP P 17 20 54.7 -0.5
CPD Cerro la Pandu 52.12 7 eP P 17 20 53.8 -1.7
CPD pmax pmax
comp=Z,52nm,1.2s
CPD Cerro la Pandu 52.12 7 eP P 17 20 53.8 -1.7
comp=Z,52nm,1.2s
LSP Las Mesas 52.15 6 eP P 17 20 55.4 -0.2
MPR Mayaguez 52.18 6 eP P 17 20 55.1 -0.7
comp=Z,70nm,1.2s
MTDJ Mount Denham 52.27 353 eP P 17 20 57.1 +0.5
comp=Z,128nm,1.4s
LRS Lares 52.28 6 eP P 17 20 55.7 -1.0
PAPH Port-au-Prince 52.29 360 eP P 17 20 57.0 +0.3
ANWB Willy Bob 52.34 12 eP P 17 20 55.7 -1.4
comp=Z,469nm,1.5s
CBYP Canovanas 52.36 7 eP P 17 20 55.7 -1.6
comp=Z,196nm,1.5s
SMRT St. Maarten 52.50 11 eP P 17 20 56.0 -2.2
comp=Z,130nm,1.4s
SDDR Presa de Saban 52.75 1 eP P 17 21 00.6 +0.4
comp=Z,25nm,1.0s
SMN1 Samana, DR 53.01 3 eP P 17 21 01.1 -0.9
GTBY Guantanamo Bay 53.77 356 eP P 17 21 07.5 -0.1
comp=Z,110nm,1.3s
QSPA South Pole Qui 56.18 180 P P 17 21 25.4 +0.7
comp=Z,65nm,1.0s,baz=148,slow=3.7,SNR=65
QSPA South Pole Qui 56.18 180 eP P 17 21 24.1 -0.7
comp=Z,86nm,1.1s
QSPA P P 17 21 25.4 +0.7
TEIG Tepich 56.18 341 P P 17 21 24.5 -0.5
comp=Z,54nm,0.8s,baz=152,slow=7.5,SNR=14
TEIG Tepich 56.18 341 P P 17 21 24.5 -0.5
TEIG eP P 17 21 24.9 -0.2
NVL N'lazarevskaya 56.23 157 eP P 17 21 25.5 +0.7
NVL pmax pmax
comp=Z,73nm,1.1s
035A Encino 65.55 334 ⇓P P 17 22 29.8 +1.2
baz=66
SYO Syowa Base 65.78 158⇑eP P 17 22 28.6 -1.0
034A Hebbronville 65.87 334 ⇑P P 17 22 32.0 +1.3
baz=66,SNR=8.6
KVTX Kingsville 66.03 335 eP P 17 22 32.1 +0.4
comp=Z,106nm,1.0s
TIGA Tifton 66.07 349 eP P 17 22 31.7 -0.2
comp=Z,97nm,1.2s
TIGA Tifton 66.07 349 ⇑P P 17 22 32.5 +0.6
baz=66
BRAL Brewton 66.28 346 eP P 17 22 33.8 +0.6
comp=Z,287nm,1.5s
934A Benavides 66.30 334 ⇓P P 17 22 35.1 +1.7
baz=67,SNR=6.4
933A Laredo 66.58 334 ⇑P P 17 22 36.7 +1.4
baz=67,SNR=8.2
835A Beeville 66.68 335 ⇓P P 17 22 38.1 +2.2
baz=67
834A Tilden 66.79 335 ⇑P P 17 22 38.2 +1.7
baz=67,SNR=15
SACV Santiago Islan 67.03 52 eP P 17 22 37.4 -1.0
comp=Z,41nm,0.9s
735A Kenedy 67.19 335 ⇑P P 17 22 41.1 +2.0
baz=68,SNR=7.3
NHSC New Hope 67.26 353 eP P 17 22 39.4 0.0
comp=Z,212nm,1.3s
833A Chaparral WMA, 67.27 334 ⇓P P 17 22 40.9 +1.2
baz=68,SNR=12
832A Faith Ranch, C 67.45 333 ⇓P P 17 22 41.9 +1.1
baz=68,SNR=19
636A Smothers Creek 67.51 336 ⇓P P 17 22 43.3 +2.2
baz=68,SNR=12
HKT Hockley 67.55 338 eP P 17 22 42.3 +1.0
HKT pmax pmax
comp=Z,128nm,1.8s
HKT Hockley 67.55 338 eP P 17 22 42.3 +1.0
comp=Z,128nm,1.8s
733A Divot King Ran 67.59 334 ⇓P P 17 22 43.2 +1.6
baz=68
538A Harpers Horsep 67.70 338 ⇓P P 17 22 44.6 +2.4
baz=68
537A Green Hill Far 67.83 337 ⇑P P 17 22 44.5 +1.4
baz=68
732A Laxson Ranch, 67.85 334 ⇑P P 17 22 44.5 +1.2
baz=68,SNR=12
GOGA Godfrey 67.98 350 eP P 17 22 43.5 -0.5
GOGA pmax pmax
comp=Z,48nm,1.1s
GOGA Godfrey 67.98 350 eP P 17 22 43.5 -0.5
comp=Z,48nm,1.1s
536A Bastrop 68.06 337 ⇑P P 17 22 45.8 +1.2
baz=68,SNR=5.5
535A Dale 68.19 336 ⇑P P 17 22 47.0 +1.6
baz=68
VBMS Vicksburg 68.21 343 eP P 17 22 46.3 +0.9
comp=Z,122nm,1.2s
633A Saathoff Ranch 68.22 335 ⇑P P 17 22 46.4 +0.8
baz=68,SNR=7.3
LRAL Lakeview Retre 68.23 346 eP P 17 22 45.2 -0.3
comp=Z,37nm,1.1s
340A Bronson 68.34 340 ⇑P P 17 22 47.9 +1.7
baz=69
339A Huntington 68.45 339 ⇓P P 17 22 49.0 +2.0
baz=69
632A Uvalde 68.49 334 ⇓P P 17 22 48.4 +1.1
baz=69,SNR=15
534A Blanco 68.50 335 ⇓P P 17 22 48.1 +0.8
baz=69
631A Perdido Creek 68.69 333 ⇓P P 17 22 49.1 +0.6
baz=69,SNR=13
338A Crockett 68.70 339 ⇓P P 17 22 50.3 +1.8
baz=69,SNR=5.3
533A Kerrville 68.73 335 ⇑P P 17 22 49.7 +0.9
baz=69,SNR=12
337A Centerville 68.84 338 ⇓P P 17 22 51.1 +1.8
baz=69,SNR=6.7
NATX Nacogdoches 68.88 339 eP P 17 22 50.5 +0.8
comp=Z,44nm,1.0s
435B Jarrell 68.89 336 ⇓P P 17 22 51.2 +1.5
baz=69
532A Rocksprings 69.09 334 ⇑P P 17 22 52.2 +1.1
baz=69,SNR=35
434A Burnet 69.15 336 ⇑P P 17 22 52.1 +0.7
baz=69,SNR=22
CNNC Cliffs of the 69.17 355 eP P 17 22 52.0 +0.7
comp=Z,216nm,1.6s
336A Riesel 69.20 337 ⇑P P 17 22 52.5 +0.9
baz=70,SNR=14
335A Moody 69.30 337 ⇑P P 17 22 53.0 +0.8
baz=70,SNR=8.1
531A Rocksprings 69.36 334 ⇑P P 17 22 53.7 +1.0
baz=70,SNR=19
433A Art 69.37 335 ⇓P P 17 22 53.3 +0.5
baz=70,SNR=40
JCT Junction City 69.38 334 eP P 17 22 53.1 +0.3
JCT pmax pmax
comp=Z,99nm,1.2s
JCT Junction City 69.38 334 eP P 17 22 53.1 +0.3
comp=Z,99nm,1.2s
JCT Junction City 69.38 334 ⇑P P 17 22 53.4 +0.6
baz=70,SNR=14
KMSC Kings Mountain 69.40 352 eP P 17 22 52.5 -0.3
comp=Z,71nm,1.4s
KMSC Kings Mountain 69.40 352 ⇓P P 17 22 53.5 +0.7
baz=70
334A Lometa 69.61 336 ⇓P P 17 22 54.7 +0.5
baz=70,SNR=16
530A J-C Ranch, Com 69.64 333 ⇑P P 17 22 55.2 +0.8
baz=70,SNR=32
432A Menard 69.73 335 ⇑P P 17 22 55.7 +0.7
baz=70,SNR=7.0
TXAR Lajitas Array 69.83 331 P P 17 22 55.9 +0.2
TXAR pmax pmax
comp=Z,8.0nm,1.0s
TXAR Lajitas Array 69.83 331 P P 17 22 55.9 +0.2
comp=Z,7.7nm,1.0s,baz=146,slow=9.1,SNR=37
431A Sonora 69.85 334 ⇓P P 17 22 56.1 +0.3
baz=70,SNR=14
333A Richland Sprin 69.86 336 ⇑P P 17 22 57.0 +1.2
baz=70,SNR=23
529A Stev Forest Ra 69.96 332 ⇑P P 17 22 57.0 +0.6
baz=70,SNR=20
WHTX Lake Whitney 69.96 337 eP P 17 22 56.1 -0.2
comp=Z,78nm,1.1s
WHTX Lake Whitney 69.96 337 ⇓P P 17 22 57.2 +0.9
baz=70,SNR=16
OXF Oxford 70.15 345 eP P 17 22 56.9 -0.5
OXF pmax pmax
comp=Z,131nm,0.9s
OXF Oxford 70.15 345 eP P 17 22 56.9 -0.5
comp=Z,131nm,0.9s
332A Millersview 70.17 335 ⇓P P 17 22 58.3 +0.6
baz=70,SNR=20
430A Baggett Ranch, 70.18 333 ⇓P P 17 22 58.5 +0.7
baz=70,SNR=22
234A Clairette 70.19 337 ⇑P P 17 22 58.6 +0.9
baz=70,SNR=16
TKL Tuckaleechee C 70.23 350 P P 17 22 57.2 -0.8
TKL pmax pmax
comp=Z,29nm,1.1s
TKL Tuckaleechee C 70.23 350 P P 17 22 57.1 -0.8
comp=Z,29nm,1.1s,baz=153,slow=7.7,SNR=14
TKL Tuckaleechee C 70.23 350 P P 17 22 57.1 -0.8
TKL eP P 17 22 57.4 -0.5
429A Davenport Ranc 70.28 333 ⇓P P 17 22 59.0 +0.6
baz=71,SNR=23
331A San Angelo 70.35 334 ⇓P P 17 22 59.3 +0.5
baz=71,SNR=18
233A Rising Star 70.46 336 ⇓P P 17 22 59.8 +0.4
baz=71,SNR=15
135A Vickery Place, 70.47 337 ⇑P P 17 23 00.4 +1.0
baz=71
232A Coleman 70.60 335 ⇑P P 17 23 00.9 +0.6
baz=71,SNR=20
134A White-Moore Ra 70.70 337 ⇑P P 17 23 01.4 +0.6
baz=71
330A Mertzon 70.71 334 ⇑P P 17 23 01.4 +0.4
baz=71,SNR=8.8
231A Bronte 70.88 335 ⇓P P 17 23 02.3 +0.3
baz=71,SNR=21
133A Hamilton Ranch 71.01 336 ⇓P P 17 23 03.5 +0.7
baz=71,SNR=18
TZTN Tazewell 71.07 350 eP P 17 23 02.7 -0.3
comp=Z,45nm,1.0s
329A Wagon Wheel Ra 71.08 333 ⇑P P 17 23 03.8 +0.5
baz=71,SNR=9.4
UALR University of 71.09 342 eP P 17 23 03.3 +0.2
comp=Z,39nm,1.1s
230A Sterling City 71.12 334 ⇓P P 17 23 03.8 +0.3
baz=71
Z35A Perchaven, San 71.13 338 ⇓P P 17 23 03.9 +0.5
baz=71,SNR=12
MIAR Mount Ida 71.20 341 eP P 17 23 04.0 +0.2
MIAR pmax pmax
comp=Z,37nm,1.1s
MIAR Mount Ida 71.20 341 eP P 17 23 04.0 +0.2
comp=Z,37nm,1.1s
ABTX Abilene, Hawle 71.27 336 eP P 17 23 04.4 +0.1
comp=Z,81nm,1.1s
ABTX Abilene, Hawle 71.27 336 ⇓P P 17 23 05.0 +0.7
baz=72,SNR=15
VWCC Virginia Weste 71.34 353 eP P 17 23 04.8 +0.2
BLA Blacksburg 71.35 353 eP P 17 23 04.4 -0.3
BLA pmax pmax
comp=Z,36nm,1.2s
BLA Blacksburg 71.35 353 eP P 17 23 04.3 -0.3
comp=Z,36nm,1.2s
Z34A Collier Ranch, 71.38 337 ⇓P P 17 23 05.4 +0.5
baz=72,SNR=7.3
WVT Waverly 71.39 346 eP P 17 23 04.1 -0.8
WVT pmax pmax
comp=Z,341nm,1.4s
WVT Waverly 71.39 346 eP P 17 23 04.1 -0.8
comp=Z,341nm,1.4s
229A Bryant Ranch, 71.45 333 ⇑P P 17 23 05.8 +0.3
baz=72,SNR=8.6
131A Roby 71.57 335 ⇑P P 17 23 06.8 +0.6
baz=72,SNR=8.8
Z33A Whitaker Ranch 71.58 337 ⇑P P 17 23 06.7 +0.6
baz=72,SNR=14
JSRW J. Sargeant Re 71.60 355 eP P 17 23 06.7 +0.5
130A Snyder 71.71 334 ⇑P P 17 23 08.7 +1.7
baz=72,SNR=5.7
Z32A Haskell 71.83 336 ⇑P P 17 23 08.2 +0.5
baz=72,SNR=27
Y34A Reagan Ranch, 71.87 338 ⇓P P 17 23 08.4 +0.5
baz=72,SNR=9.8
228A UT Block 9, Go 71.88 333 ⇑P P 17 23 08.7 +0.7
baz=72,SNR=16
PVMO Portageville 72.05 345 eP P 17 23 09.8 +1.0
comp=Z,90nm,0.6s
129A Stewart Farms, 72.07 334 ⇑P P 17 23 10.4 +1.2
baz=72
Z31A Sharp Cattle R 72.07 335 ⇓P P 17 23 09.7 +0.5
baz=72,SNR=17
Y33A Hilltop Ranch, 72.19 337 ⇓P P 17 23 10.1 +0.2
baz=72,SNR=8.1
128A Castleberry Fa 72.29 333 ⇑P P 17 23 11.0 +0.5
baz=73,SNR=14
PARMO Parma 72.30 345 eP P 17 23 10.2 -0.1
Z30A Sanderson Ranc 72.39 335 ⇓P P 17 23 11.4 +0.4
baz=73,SNR=13
Y32A R-V Farms, Ver 72.46 336 ⇓P P 17 23 12.6 +1.2
baz=73,SNR=7.5
X34A Smith Ranch, M 72.49 338 ⇑P P 17 23 12.1 +0.6
baz=73,SNR=10
PBMO Poplar Bluff 72.56 345 eP P 17 23 11.4 -0.5
comp=Z,58nm,1.1s
Z29A Hungry Hill Ra 72.57 334 ⇓P P 17 23 13.6 +1.4
baz=73,SNR=16
MNTX Cornudas Mount 72.60 331 eP P 17 23 11.0 -1.4
comp=Z,16nm,1.0s
GDL2 Guadalupe Moun 72.64 332 eP P 17 23 13.4 +0.8
X33A Lawton 72.64 337 ⇓P P 17 23 12.9 +0.4
baz=73
127A Arkansas Junct 72.67 333 ⇓P P 17 23 13.6 +0.8
baz=73
Y31A Rekieta Farm, 72.70 336 ⇓P P 17 23 13.2 +0.3
baz=73,SNR=12
X32A Elmer 72.79 337 ⇓P P 17 23 14.2 +0.9
baz=73,SNR=6.4
Y30A Stafford Cattl 72.84 335 ⇑P P 17 23 13.9 +0.1
baz=73,SNR=5.1
W34A Bridge Creek, 73.05 338 eP P 17 23 15.2 +0.3
comp=Z,67nm,1.3s
W34A Bridge Creek, 73.05 338 ⇑P P 17 23 15.4 +0.5
baz=73
TUL1 Tulsa 73.09 340 eP P 17 23 14.8 -0.3
comp=Z,68nm,1.2s
TUL1 Tulsa 73.09 340 ⇑P P 17 23 16.1 +1.0
baz=73,SNR=9.3
Y29A Porterfield Fa 73.10 334 ⇓P P 17 23 15.5 +0.2
baz=73,SNR=16
USIN University of 73.14 347 eP P 17 23 14.8 -0.5
comp=Z,127nm,1.1s
WCI Wyandotte Cave 73.15 348 eP P 17 23 14.3 -1.1
WCI pmax pmax
comp=Z,29nm,1.1s
WCI Wyandotte Cave 73.15 348 eP P 17 23 14.3 -1.1
comp=Z,29nm,1.1s
CPRX Cap Rock 73.17 332 eP P 17 23 16.6 +0.7
comp=Z,5.0nm,0.8s
Z27A Tatum 73.18 333 ⇓P P 17 23 16.0 +0.2
baz=74,SNR=7.2
W33A Caddo, Fort Co 73.19 338 ⇑P P 17 23 16.4 +0.7
baz=74,SNR=11
SIUC Southern Illin 73.20 346 eP P 17 23 15.6 -0.1
comp=Z,57nm,1.0s
X31A McDonald Ranch 73.21 336 ⇑P P 17 23 16.2 +0.3
baz=74,SNR=12
SDMD Soldier's Deli 73.24 356 eP P 17 23 16.8 +0.9
comp=Z,40nm,1.0s
Y28A McKinney Farm, 73.35 334 ⇓P P 17 23 17.2 +0.4
baz=74
W32A Sentinel 73.42 337 ⇓P P 17 23 17.6 +0.6
baz=74,SNR=28
Z26A Caprock 73.43 332 ⇑P P 17 23 17.9 +0.6
baz=74,SNR=45
V34A Guthrie 73.53 339 eP P 17 23 17.8 +0.1
comp=Z,85nm,1.3s
V34A Guthrie 73.53 339 ⇑P P 17 23 18.7 +1.0
baz=74,SNR=5.1
MSTX Muleshoe 73.60 334 eP P 17 23 17.6 -0.7
comp=Z,69nm,1.3s
MSTX Muleshoe 73.60 334 ⇑P P 17 23 19.0 +0.8
baz=74,SNR=11
X29A Tulia 73.64 335 ⇑P P 17 23 20.2 +1.7
baz=74,SNR=9.9
Y27A Causey 73.67 333 ⇓P P 17 23 19.1 +0.4
baz=74
W31A Holland Ranch, 73.70 336 ⇑P P 17 23 20.8 +2.0
baz=74,SNR=6.3
Z25A Roswell 73.73 332 ⇑P P 17 23 20.2 +1.1
baz=74,SNR=8.5
V33A Lossen Ranch, 73.75 338 ⇑P P 17 23 20.3 +1.2
baz=74,SNR=13
MVL Millersville 73.80 356 eP P 17 23 20.1 +1.0
comp=Z,68nm,1.4s
X28A Dimmitt 73.88 334 ⇑P P 17 23 20.8 +0.8
baz=74
V32A Arapaho 73.90 337 ⇓P P 17 23 20.8 +0.9
baz=74,SNR=5.1
Y26A Elida 73.95 333 ⇓P P 17 23 21.8 +1.4
baz=74
OLIL Olney 73.96 347 eP P 17 23 19.5 -0.7
comp=Z,75nm,1.3s
319A Douglas 74.00 327 ⇑P P 17 23 21.9 +1.2
baz=74,SNR=9.2
AMTX Amarillo 74.03 335 eP P 17 23 21.0 +0.2
comp=Z,74nm,1.2s
AMTX Amarillo 74.03 335 ⇑P P 17 23 21.2 +0.4
baz=74
Z24A Sheeppen Canyo 74.03 331 ⇓P P 17 23 21.6 +0.7
baz=74,SNR=17
U34A Anderson Ranch 74.09 339 eP P 17 23 21.0 0.0
comp=Z,53nm,1.1s
U34A Anderson Ranch 74.09 339 ⇓P P 17 23 21.9 +0.9
baz=74,SNR=9.1
BLO Bloomington 74.11 348 eP P 17 23 20.2 -0.8
BLO pmax pmax
comp=Z,92nm,1.4s
BLO Bloomington 74.11 348 eP P 17 23 20.2 -0.8
comp=Z,92nm,1.4s
V31A Spring Creek L 74.21 337 ⇑P P 17 23 22.9 +1.2
baz=74,SNR=7.8
W29A Amarillo 74.23 335 ⇑P P 17 23 22.5 +0.6
baz=74,SNR=8.4
U33A Lingo Farm, Me 74.26 338 ⇓P P 17 23 23.7 +1.7
baz=75
Y25A Mesa, Roswell 74.28 332 ⇓P P 17 23 23.4 +1.1
baz=75,SNR=8.2
SLM Saint Louis 74.30 345 eP P 17 23 21.8 -0.3
SLM pmax pmax
comp=Z,103nm,1.1s
SLM Saint Louis 74.30 345 eP P 17 23 21.8 -0.3
comp=Z,103nm,1.1s
X27A F and S Farms, 74.32 334 ⇓P P 17 23 23.7 +1.1
baz=75
121A Cookes Peak, D 74.33 329 eP P 17 23 23.5 +0.8
comp=Z,24nm,0.8s
121A Cookes Peak, D 74.33 329 ⇑P P 17 23 24.0 +1.3
baz=75,SNR=16
LUPA Lehigh Univers 74.36 357 eP P 17 23 22.5 +0.1
comp=Z,5.6nm,1.2s
V30A Spur Ranch, Mi 74.48 336 ⇓P P 17 23 25.2 +1.9
baz=75
U32A Winter Ranch, 74.49 338 ⇓P P 17 23 24.1 +0.8
baz=75,SNR=6.7
X26A CR and CF Fran 74.50 333 ⇓P P 17 23 24.4 +0.8
baz=75,SNR=10
SSPA Standing Stone 74.53 355 eP P 17 23 23.4 0.0
comp=Z,74nm,1.5s
Y24A Capitan 74.58 332 ⇑P P 17 23 24.8 +0.7
baz=75,SNR=12
Z22A Elephant Butte 74.61 330 ⇑P P 17 23 25.2 +0.9
baz=75,SNR=13
ACSO Alum Creek Sta 74.62 351 eP P 17 23 23.6 -0.4
comp=Z,217nm,1.5s
W27A Bowe Ranch, En 74.68 334 ⇓P P 17 23 25.3 +0.7
baz=75,SNR=11
LIC Lamto 74.72 71 eP P 17 23 25.5 +0.4
comp=Z,122nm,1.4s
SUR Sutherland 74.73 119 P P 17 23 27.2 +1.9
comp=Z,443nm,1.3s,SNR=11
SUR Sutherland 74.73 119 LR LR 17 51 20.3
comp=Z,702nm,18.9s,baz=314,slow=32
SUR Sutherland 74.73 119 eP P 17 23 27.1 +1.8
comp=Z,134nm,1.3s
U31A Nine Bar Ranch 74.75 337 ⇑P P 17 23 26.4 +1.5
baz=75
X25A Clemmons Ranch 74.81 332 ⇓P P 17 23 25.7 +0.3
baz=75
ODNJ Ogdensburg 74.81 358 eP P 17 23 26.0 +1.0
comp=Z,36nm,1.0s
Y23A Lovelace Mesa, 74.83 331 ⇓P P 17 23 26.9 +1.3
baz=75,SNR=13
V29A Stinnett 74.86 335 ⇑P P 17 23 27.2 +1.7
baz=75
T33A Patterson Ranc 74.90 338 ⇑P P 17 23 26.5 +0.8
baz=75,SNR=8.0
W26A Owens Ranch, T 74.96 333 ⇑P P 17 23 27.1 +0.8
baz=75,SNR=7.5
TIC Toumodi 74.98 71 eP P 17 23 27.1 +0.4
comp=Z,14nm,0.2s
V28A Channing 75.00 335 ⇑P P 17 23 27.0 +0.6
baz=75,SNR=5.7
YLE Yale 75.01 359 eP P 17 23 27.4 +1.3
comp=Z,131nm,1.1s
KIC Kosan Boka 75.02 72 eP P 17 23 27.5 +0.6
comp=Z,324nm,1.6s
DBIC Dimbokro 75.12 71 P P 17 23 27.8 +0.3
DBIC pmax pmax
comp=Z,17nm,0.7s
DBIC Dimbokro 75.12 71 P P 17 23 27.8 +0.3
comp=Z,17nm,0.7s,baz=203,slow=6.1,SNR=23
DBIC Dimbokro 75.12 71 P P 17 23 27.8 +0.3
DBIC eP P 17 23 28.2 +0.7
X24A Lazy VL Ranch, 75.14 332 ⇓P P 17 23 28.4 +1.0
baz=75,SNR=11
U30A WK&E Inc. Balk 75.16 336 ⇑P P 17 23 28.7 +1.4
baz=76
T32A Huddler Ranch, 75.20 338 ⇓P P 17 23 28.1 +0.7
baz=76,SNR=5.9
V27A Dan Oppiter Fa 75.22 334 ⇓P P 17 23 29.0 +1.3

baz=76,SNR=5.5
KSPA Keystone Colle 75.33 357 eP P 17 23 28.6 +0.6
comp=Z,238nm,2.2s
W25A X Bar L Ranch, 75.34 333 ⇓P P 17 23 28.9 +0.5
baz=76,SNR=13
T31A Randall Ranch, 75.36 337 ⇑P P 17 23 28.8 +0.5
baz=76
SFIN Scholer Farm 75.38 348 eP P 17 23 27.4 -0.9
comp=Z,19nm,0.8s
SFIN Scholer Farm 75.38 348 ⇓P P 17 23 29.1 +0.7
baz=76
LPM Los Pinos Moun 75.39 331 eP P 17 23 29.9 +1.1
LENM Lemitar 75.40 331 eP P 17 23 29.2 +0.3
X23A Hourglass Bar 75.45 331 ⇓P P 17 23 30.9 +1.8
baz=76
TUC Tucson 75.47 327 eP P 17 23 29.8 +0.7
TUC pmax pmax
comp=Z,30nm,1.3s
TUC Tucson 75.47 327 eP P 17 23 29.8 +0.7
comp=Z,30nm,1.3s
U28A Mallet 75.56 335 ⇑P P 17 23 30.6 +1.0
baz=76
V26A Tequesquite Ra 75.60 334 ⇓P P 17 23 30.4 +0.5
baz=76,SNR=10
LAZ Ladron 75.68 331 eP P 17 23 31.2 +0.8
S32A Newby Ranch, P 75.68 338 ⇓P P 17 23 31.1 +0.9
baz=76
W24A Lazy 6 Ranch, 75.69 332 ⇑P P 17 23 31.5 +0.9
baz=76,SNR=9.5
ALLY Alegheny Colle 75.72 354 eP P 17 23 29.8 -0.5
comp=Z,100nm,1.4s
S31A Mullinville 75.78 338 ⇓P P 17 23 31.8 +1.0
baz=76,SNR=6.1
U27A Thompson Grove 75.81 335 ⇑P P 17 23 32.0 +0.9
baz=76,SNR=7.4
ANMO Albuquerque 75.88 331 c iP P 17 23 32.4 +0.8
ANMO pmax pmax
comp=Z,124nm,1.2s
ANMO Albuquerque 75.88 331 P P 17 23 31.6 +0.1
comp=Z,15nm,1.0s,baz=160,slow=7.8,SNR=22
ANMO Albuquerque 75.88 331 P P 17 23 31.6 +0.1
ANMO eP P 17 23 31.9 +0.3
W23A Werner Place, 75.94 332 ⇑P P 17 23 33.0 +1.0
baz=76,SNR=10
T29A Hugoton 75.95 336 ⇓P P 17 23 32.3 +0.5
baz=76,SNR=5.8
V25A Rancho No Teng 75.95 333 ⇑P P 17 23 32.7 +0.7
baz=76,SNR=15
R33A Olander Ranch, 75.96 339 ⇓P P 17 23 32.5 +0.8
baz=76,SNR=5.2
V24A Rampart Ranch, 76.10 333 ⇑P P 17 23 33.3 +0.4
baz=76,SNR=7.7
S30A Montezuma 76.11 337 ⇓P P 17 23 33.6 +1.0
baz=76,SNR=9.0
214A Organ Pipe Nat 76.11 325 ⇑P P 17 23 33.9 +1.1
baz=76,SNR=8.0
U26A Atchley Ranch, 76.12 334 ⇑P P 17 23 33.7 +0.7
baz=76,SNR=9.4
T28A Walsh 76.19 336 ⇑P P 17 23 33.7 +0.5
baz=76,SNR=25
R32A Long Quarter, 76.28 339 ⇑P P 17 23 34.4 +0.8
baz=77,SNR=11
KSU1 Kansas State U 76.30 340 eP P 17 23 33.0 -0.7
comp=Z,28nm,0.9s
KSU1 Kansas State U 76.30 340 ⇑P P 17 23 34.3 +0.6
baz=77
S29A Ulysses 76.31 337 ⇓P P 17 23 34.6 +0.8
baz=77,SNR=10
T27A Campo 76.35 335 ⇓P P 17 23 34.9 +0.7
baz=77,SNR=22
U25A Circle Dot Ran 76.37 334 ⇑P P 17 23 35.1 +0.7
baz=77
R31A Burdett 76.41 338 ⇓P P 17 23 35.0 +0.7
baz=77,SNR=8.3
TRY Troy 76.44 359 eP P 17 23 35.2 +0.9
comp=Z,129nm,1.3s
V23A Ortiz Mt. (NFS 76.47 332 ⇑P P 17 23 36.3 +1.3
baz=77
S28A Manter 76.54 336 ⇓P P 17 23 35.9 +0.7
baz=77,SNR=19
Q33A Connelly Farm, 76.55 340 ⇓P P 17 23 36.5 +1.4
baz=77,SNR=5.2
R30A Dighton 76.64 337 ⇓P P 17 23 36.4 +0.8
baz=77,SNR=6.5
U24A Moreno Valley 76.70 333 ⇓P P 17 23 38.0 +1.7
baz=77
AAM Ann Arbor 76.75 351 eP P 17 23 35.5 -0.6
AAM Ann Arbor 76.75 351 eP P 17 23 35.5 -0.6
Q32A Meitler Ranch, 76.76 339 ⇓P P 17 23 36.9 +0.6
baz=77,SNR=12
T26A Comanche Natio 76.76 334 iP P 17 23 37.5 +1.0
baz=77,SNR=12
V22A San Miguel Ran 76.90 331 ⇓P P 17 23 38.9 +1.5
baz=77,SNR=29
P33A Williams Farm, 76.92 340 ⇓P P 17 23 38.2 +1.1
baz=77
X18A Snowflake 76.97 329 ⇑P P 17 23 39.2 +1.4
baz=77,SNR=8.2
S27A Las Animas 76.97 335 ⇑P P 17 23 38.4 +0.7
baz=77,SNR=8.8
U23A El Rito 76.98 332 ⇓P P 17 23 39.3 +1.4
baz=77,SNR=12
T25A Trinidad 77.02 334 ⇓P P 17 23 39.4 +1.4
baz=77,SNR=32
Q31A Ellis 77.02 338 ⇓P P 17 23 38.8 +1.0
baz=77,SNR=8.6
R29A Marienthal 77.05 337 ⇓P P 17 23 38.8 +0.8
baz=77,SNR=7.1
ACCN Adirondack Com 77.09 359 eP P 17 23 38.9 +0.9
comp=Z,41nm,1.1s
S26A Kim 77.11 335 ⇑P P 17 23 39.5 +1.1
baz=77,SNR=39
R28A Tribune 77.19 336 ⇑P P 17 23 39.4 +0.6
baz=78,SNR=18
113A Mohawk Valley, 77.24 325 ⇓P P 17 23 40.4 +1.4
baz=78,SNR=6.3
Q30A Quinter 77.25 338 ⇓P P 17 23 40.3 +1.2
baz=78,SNR=7.2
U22A Llaves 77.28 332 ⇑P P 17 23 40.8 +1.3
baz=78
T24B San Luis 77.31 333 ⇑P P 17 23 41.3 +1.5
baz=78,SNR=13
W18A Petrified Fore 77.38 329 eP P 17 23 41.5 +1.4
comp=Z,56nm,1.2s
W18A Petrified Fore 77.38 329 ⇓P P 17 23 41.5 +1.4
baz=78
HNH Hanover 77.40 360 eP P 17 23 41.2 +1.6
comp=Z,76nm,1.3s
Q29A Oakley 77.42 337 ⇓P P 17 23 40.7 +0.6
baz=78
R27A Eads 77.48 336 ⇓P P 17 23 41.2 +0.8
baz=78,SNR=26
P31A Stockton 77.49 339 ⇓P P 17 23 41.2 +0.8
baz=78,SNR=14
S25A Robets Cordova 77.50 334 ⇑P P 17 23 41.8 +1.2
baz=78,SNR=24
X16A Lo Mia Camp, P 77.53 327 ⇑P P 17 23 42.4 +1.5
baz=78,SNR=34
T23A Casias Ranch, 77.54 333 ⇓P P 17 23 42.5 +1.5
baz=78
NCB Newcomb 77.69 358 eP P 17 23 41.8 +0.5
comp=Z,76nm,1.4s
MDV Middlebury 77.70 359 eP P 17 23 42.1 +0.7
R26A Arlington 77.71 335 ⇓P P 17 23 42.8 +1.1
baz=78,SNR=18
S24A Houchin Ranch, 77.76 334 ⇓P P 17 23 43.8 +1.5
baz=78,SNR=29
P30A Selden 77.78 338 ⇑P P 17 23 42.9 +0.9
baz=78,SNR=5.3
Y14A Wickenburg 77.84 326 ⇑P P 17 23 43.6 +1.1
baz=78,SNR=10
O32A Brockman Farm, 77.85 340 ⇓P P 17 23 43.5 +1.1
baz=78
Q28A Sharon Springs 77.85 337 ⇑P P 17 23 43.4 +0.9
baz=78,SNR=6.0
R25A Fountain Ranch 77.87 334 ⇓P P 17 23 43.4 +0.7
baz=78,SNR=8.0
SDCO Great Sand Dun 77.96 333 eP P 17 23 43.5 +0.2
comp=Z,13nm,0.9s
GLA Glamis 77.98 324 eP P 17 23 44.1 +0.8
GLA pmax pmax
comp=Z,56nm,1.6s
GLA Glamis 77.98 324 eP P 17 23 44.0 +0.8
comp=Z,56nm,1.6s
GLA Glamis 77.98 324 ⇓P P 17 23 44.8 +1.5
baz=78
P29A Atwood 78.05 337 ⇓P P 17 23 44.5 +0.9
baz=78,SNR=8.6

O31A Woolen Ranch, 78.06 339 ⇑P P 17 23 45.1 +1.6
baz=78
KSCO Kaye Shedlock' 78.07 336 eP P 17 23 45.1 +1.4
comp=Z,98nm,1.4s
KSCO Kaye Shedlock' 78.07 336 ⇓P P 17 23 45.6 +1.8
baz=78
SCIA State Center 78.08 344 eP P 17 23 43.7 +0.1
comp=Z,76nm,1.1s
S23A Nye Farm, Mont 78.11 333 ⇓P P 17 23 45.7 +1.5
baz=78
R24A Sanders Place, 78.25 334 ⇑P P 17 23 46.3 +1.5
baz=79,SNR=30
WVL Waterville 78.28 2 eP P 17 23 41.8 -2.7
comp=Z,488nm,2.2s
P28A Saint Francis 78.29 337 ⇓P P 17 23 46.5 +1.6
baz=79,SNR=8.0
Q26A Hugo 78.30 335 ⇑P P 17 23 46.2 +1.1
baz=79,SNR=9.4
O30A MW Ranch, Wils 78.30 338 ⇓P P 17 23 45.8 +0.9
baz=79,SNR=7.7
PTN Potsdam (NY) 78.31 358 eP P 17 23 45.0 +0.3
PTN pmax pmax
comp=Z,318nm,1.8s
PTN Potsdam (NY) 78.31 358 eP P 17 23 45.0 +0.3
comp=Z,318nm,1.8s
N32A Stulken Farm, 78.32 340 ⇓P P 17 23 45.6 +0.7
baz=79
LONY Lake Ozonia 78.35 358 eP P 17 23 45.3 +0.3
comp=Z,98nm,1.4s
SWSC Sam W. Stewart 78.36 323 ⇑P P 17 23 46.7 +1.3
baz=79
JFWS Jewell Farm 78.42 346 eP P 17 23 45.1 -0.3
JFWS pmax pmax
comp=Z,112nm,1.4s
JFWS Jewell Farm 78.42 346 eP P 17 23 45.1 -0.3
comp=Z,112nm,1.4s
WUAZ Wupatki 78.42 328 eP P 17 23 46.9 +1.1
comp=Z,39nm,1.1s
WUAZ Wupatki 78.42 328 ⇑P P 17 23 46.9 +1.1
baz=79,SNR=19
S22A 4UR Ranch, Cre 78.47 332 ⇑P P 17 23 47.5 +1.3
baz=79,SNR=11
R23A Moffat 78.47 333 ⇓P P 17 23 47.6 +1.4
baz=79,SNR=13
O29A 4D Ranch, Culb 78.48 338 ⇓P P 17 23 47.2 +1.3
baz=79
Q25A Bedland, Calha 78.54 335 ⇓P P 17 23 47.4 +0.9
baz=79,SNR=12
P27A Ficken Ranch, 78.54 336 ⇓P P 17 23 47.3 +1.0
baz=79,SNR=5.0
MVCO Mesa Verde 78.66 331 eP P 17 23 47.8 +0.7
comp=Z,29nm,1.1s
MVCO Mesa Verde 78.66 331 ⇓P P 17 23 48.2 +1.1
baz=79,SNR=14
PDMCI Parker Dam,Lak 78.67 325 ⇓P P 17 23 48.8 +1.8
baz=79
BC3 Big Chuckawall 78.78 324 ⇓P P 17 23 49.2 +1.4
baz=79,SNR=7.1
O28A Krutsinger Ran 78.80 337 ⇓P P 17 23 48.8 +1.1
baz=79,SNR=7.1
P26A Davis Ranch, A 78.81 336 ⇓P P 17 23 49.1 +1.3
baz=79,SNR=7.4
BGNE Belgrade 78.88 340 eP P 17 23 48.5 +0.5
comp=Z,79nm,1.1s
BGNE Belgrade 78.88 340 ⇓P P 17 23 48.8 +0.8
baz=79
N30A Hueftle Ranch, 78.88 339 ⇑P P 17 23 49.5 +1.4
baz=79
Q24A Divide 78.91 334 ⇓P P 17 23 49.8 +1.2
baz=79,SNR=26
IRM Iron Mountain 79.04 325 ⇓P P 17 23 50.4 +1.3
baz=79,SNR=7.2
P25A Willow Gulch B 79.05 335 ⇓P P 17 23 50.8 +1.6
baz=79,SNR=23
M31A Lambtecht Ranc 79.05 340 ⇑P P 17 23 49.9 +0.9
baz=79,SNR=8.0
N29A Votaw Ranch, W 79.06 338 ⇓P P 17 23 50.4 +1.3
baz=79
O27A Beecher Island 79.08 337 ⇑P P 17 23 51.1 +1.9
baz=79
TSUM Tsumeb 79.12 106 LR LR 17 54 07.7
comp=Z,2μm,20.6s,baz=208,slow=32
TSUM Tsumeb 79.12 106 eP P 17 23 50.4 +0.3
comp=Z,63nm,1.3s
W13A Hualapai Mount 79.21 326 ⇓P P 17 23 51.8 +1.5
baz=80,SNR=10.0
PFO Pinyon Flat Ob 79.23 323 P P 17 23 50.2 -0.1
PFO pmax pmax
comp=Z,14nm,0.9s
PFO Pinyon Flat Ob 79.23 323 P P 17 23 50.1 -0.1
comp=Z,14nm,0.9s,baz=98,slow=2.3,SNR=8.0
PFO Pinyon Flat Ob 79.23 323 P P 17 23 50.1 -0.1
PFO eP P 17 23 52.1 +1.9
PFO Pinyon Flat Ob 79.23 323 ⇑P P 17 23 51.9 +1.6
baz=80,SNR=5.6
N28A Pribbeno Ranch 79.23 338 ⇑P P 17 23 51.4 +1.4
baz=80
P24A Kohler Place, 79.31 335 ⇓P P 17 23 52.8 +2.2
baz=80
BELC Belle Mtn. Jos 79.32 324 ⇑P P 17 23 53.1 +2.3
baz=80
PV01 Paradox Valley 79.48 331 eP P 17 23 52.5 +0.8
P23A Jefferson 79.52 334 ⇓P P 17 23 53.0 +1.0
baz=80,SNR=5.9
O25A Wiggins 79.57 335 ⇓P P 17 23 53.2 +1.3
baz=80,SNR=6.2
U15A North Rim 79.59 328 ⇑P P 17 23 54.2 +1.8
baz=80
OGNE Ogallala 79.62 337 ⇑P P 17 23 53.9 +1.8
baz=80
PV05 Paradox Valley 79.64 331 eP P 17 23 53.3 +0.7
N27A Anderson Farm, 79.66 337 ⇓P P 17 23 53.4 +1.0
baz=80,SNR=11
LDFC Landfair 79.77 325 eP P 17 23 54.5 +1.4
comp=Z,46nm,1.1s
SMCO Snowmass 79.77 333 eP P 17 23 54.4 +1.0
comp=Z,44nm,1.0s
L31A Butterfield Fa 79.78 340 ⇓P P 17 23 54.0 +1.1
baz=80,SNR=13
GMRC Granite Mounta 79.79 325 ⇑P P 17 23 54.8 +1.5
baz=80,SNR=12
ISCO Idaho Springs 79.81 334 eP P 17 23 53.4 -0.1
ISCO pmax pmax
comp=Z,24nm,1.1s
ISCO Idaho Springs 79.81 334 eP P 17 23 53.4 -0.1
comp=Z,24nm,1.1s
ISCO Idaho Springs 79.81 334 ⇓P P 17 23 54.4 +0.9
baz=80,SNR=16
M28A Bar X Bar Ranc 79.82 338 ⇑P P 17 23 55.1 +1.9
baz=80
L30A Spencer Herefo 79.83 339 ⇑P P 17 23 54.5 +1.3
baz=80
PV04 Paradox Valley 79.84 331 eP P 17 23 54.5 +0.9
PV10 Paradox Valley 79.88 331 eP P 17 23 53.4 -0.4
N26A Koester Ranch, 79.90 336 ⇑P P 17 23 55.2 +1.5
baz=80,SNR=7.8
O24A Longmont 79.91 335 ⇑P P 17 23 55.3 +1.4
baz=80
CASY Casey 79.96 181 eP P 17 23 54.3 +0.6
comp=Z,59nm,1.2s
BOSA Boshof 79.97 118 P P 17 23 55.2 +0.6
BOSA pmax pmax
comp=Z,24nm,0.6s
BOSA Boshof 79.97 118 P P 17 23 55.2 +0.6
comp=Z,24nm,0.6s,baz=230,slow=5.1,SNR=43
BOSA Boshof 79.97 118 eP P 17 23 54.9 +0.2
comp=Z,75nm,1.1s
BOSA P P 17 23 55.2 +0.6
BBRC Big Bear Solar 79.98 324 ⇓P P 17 23 56.2 +1.8
baz=80
PV09 Paradox Valley 80.02 331 eP P 17 23 55.3 +0.7
CIS Catalina Islan 80.05 322 ⇓P P 17 23 56.6 +2.0
baz=80
P22A Eagle 80.06 333 ⇑P P 17 23 56.0 +1.3
baz=80,SNR=12
HEC Hector,Ludlow 80.15 324 ⇓P P 17 23 57.2 +2.0
baz=80
L29A Maesberg Ranch 80.16 339 ⇑P P 17 23 56.5 +1.5
baz=80
N25A Grover 80.18 336 ⇑P P 17 23 56.7 +1.5
baz=80
FMP Fort Macarthur 80.23 322 ⇑P P 17 23 56.8 +1.3
baz=80
M27A Reverse DX Ran 80.26 337 ⇓P P 17 23 56.7 +1.1
baz=81
O23A Lake Granby, G 80.29 334 ⇑P P 17 23 57.2 +1.1
baz=81,SNR=24
BFSC Mount Baldy Ra 80.33 323 ⇑P P 17 23 57.5 +1.2

baz=81
TUQ Turquoise Moun 80.44 325 ⇓P P 17 23 58.3 +1.5
baz=81,SNR=5.2
K30A Basset 80.46 340 ⇓P P 17 23 58.7 +2.1
baz=81
N24A Carr 80.47 335 ⇓P P 17 23 58.1 +1.3
baz=81,SNR=7.9
O22A Kremmling 80.47 334 ⇑P P 17 23 57.9 +0.8
baz=81,SNR=26
RRX Edison Barstow 80.52 324 ⇓P P 17 23 58.8 +1.7
baz=81
ECSD EROS Data Cent 80.63 342 eP P 17 23 57.1 -0.3
comp=Z,117nm,1.3s
ECSD EROS Data Cent 80.63 342 ⇑P P 17 23 58.4 +1.0
baz=81,SNR=45
DECC Green Verdugo 80.68 323 ⇑P P 17 23 59.5 +1.6
baz=81
M25A Palm-Egli Farm 80.72 336 ⇓P P 17 23 59.3 +1.1
baz=81,SNR=5.7
L27A T5 Ranch, Ells 80.74 338 ⇑P P 17 23 59.8 +1.6
baz=81
K29A Lazy Trails An 80.75 339 ⇓P P 17 23 59.0 +0.9
baz=81
GSC Goldstone 80.76 324 eP P 17 24 00.0 +1.5
GSC pmax pmax
comp=Z,20nm,1.0s
GSC Goldstone 80.76 324 eP P 17 23 60.0 +1.5
comp=Z,20nm,1.0s
GSC Goldstone 80.76 324 ⇓P P 17 23 60.0 +1.5
baz=81,SNR=5.1
N23A Red Feather La 80.90 335 ⇑P P 17 24 00.1 +0.9
baz=81,SNR=14
L26A Underwood Farm 80.94 337 ⇑P P 17 24 00.5 +1.2
baz=81
SHPR Sheep Range 80.95 326 eP P 17 24 00.6 +1.1
CCUT Cedar City 81.00 328 eP P 17 24 01.2 +1.4
comp=Z,41nm,1.2s
N22A Wattenberg Ran 81.00 334 ⇓P P 17 24 00.7 +0.8
baz=81,SNR=17
EDW2 Edwards Air Fo 81.01 323 ⇓P P 17 24 00.6 +0.9
baz=81
M24A Cheyenne 81.02 336 ⇓P P 17 24 01.1 +1.3
baz=81,SNR=9.5
K28A Ten Mile Ranch 81.02 338 ⇓P P 17 24 01.2 +1.6
baz=81,SNR=7.4
J30A Dallas 81.03 340 ⇑P P 17 24 00.5 +0.9
baz=81
O20A White River Ci 81.08 333 eP P 17 24 00.9 +0.7
comp=Z,35nm,1.2s
O20A White River Ci 81.08 333 ⇑P P 17 24 01.1 +0.9
baz=81,SNR=7.8
PHWY Pilot Hill 81.09 335 eP P 17 24 00.7 +0.4
comp=Z,34nm,1.1s
SRU San Rafael 81.11 331 eP P 17 24 00.7 +0.4
SRU pmax pmax
comp=Z,27nm,1.1s
SRU San Rafael 81.11 331 eP P 17 24 00.7 +0.4
comp=Z,27nm,1.1s
BSC Santa Cruz Isl 81.14 322 ⇓P P 17 24 02.0 +1.6
baz=81
SPMN St. Paul 81.15 345 eP P 17 23 59.4 -0.8
comp=Z,30nm,0.9s
SPMN St. Paul 81.15 345 ⇑P P 17 24 01.3 +1.1
baz=82,SNR=9.1
OSI Osito Adit 81.16 323 eP P 17 23 59.4 -1.1
comp=Z,31nm,0.9s
OSI Osito Adit 81.16 323 ⇓P P 17 24 02.0 +1.5
baz=82
ARUT Antelope Range 81.23 328 eP P 17 24 01.8 +0.8
ARUT Antelope Range 81.23 328 eP P 17 24 01.8 +0.8
K27A Flueckinger Fa 81.28 338 ⇑P P 17 24 02.5 +1.4
baz=82
COWI Conover 81.29 348 eP P 17 24 00.6 -0.3
comp=Z,36nm,1.2s
MVU Marysvale 81.30 329 eP P 17 24 02.3 +0.9
comp=Z,24nm,1.1s
M23A Laramie 81.33 335 ⇑P P 17 24 02.3 +0.8
baz=82,SNR=14
LRMC Laurel Mountai 81.33 324 ⇑P P 17 24 03.1 +1.6
baz=82,SNR=9.1
J29A Okreek 81.34 339 ⇓P P 17 24 02.2 +1.0
baz=82,SNR=24
TMUT Trail Mountain 81.54 330 eP P 17 24 03.7 +0.9
comp=Z,48nm,1.5s
I30A Oacoma 81.55 340 ⇓P P 17 24 03.6 +1.2
baz=82,SNR=11
L24A Wheatland 81.56 336 ⇓P P 17 24 04.0 +1.4
baz=82
M22A Cedar Creek Ra 81.58 334 ⇑P P 17 24 04.2 +1.3
baz=82,SNR=5.9
ARVC Arvin 81.62 323 ⇑P P 17 24 04.4 +1.5
baz=82
J28A Allard Ranch, 81.62 339 ⇑P P 17 24 04.0 +1.2
baz=82,SNR=19
N20A Spence Gulch, 81.70 333 ⇓P P 17 24 04.4 +1.0
baz=82,SNR=10
J27A Elkhorn Farm, 81.70 338 ⇓P P 17 24 04.7 +1.4
baz=82,SNR=15
K25A Mack Ranch, Ha 81.72 337 ⇑P P 17 24 05.0 +1.6
baz=82
FURC Furnace Creek, 81.73 325 ⇑P P 17 24 05.1 +1.7
baz=82
ISA Isabella 81.87 323 eP P 17 24 05.9 +1.6
ISA pmax pmax
comp=Z,23nm,1.1s
ISA Isabella 81.87 323 eP P 17 24 05.9 +1.6
comp=Z,23nm,1.1s
ISA Isabella 81.87 323 ⇓P P 17 24 05.9 +1.6
baz=82,SNR=11
L23A Garrett 81.89 335 ⇑P P 17 24 05.1 +0.7
baz=82,SNR=7.4
I29A Vivian Onida 81.90 340 ⇓P P 17 24 05.2 +1.0
baz=82
BRSD Miller 81.91 341 eP P 17 24 04.0 -0.3
comp=Z,90nm,1.1s
L22A Ellis Ranch, M 82.07 335 ⇑P P 17 24 06.7 +1.4
baz=82
J26A Sides Ranch, S 82.09 338 ⇓P P 17 24 06.4 +1.1
baz=82,SNR=18
K24A Anderson Ranch 82.13 336 ⇑P P 17 24 07.0 +1.4
baz=82
I28A Midland 82.13 339 ⇑P P 17 24 06.2 +0.8
baz=82,SNR=10
LBTB Lobatse 82.20 115 eP P 17 24 07.3 +0.7
LBTB pmax pmax
comp=Z,174nm,1.4s
LBTB Lobatse 82.20 115 eP P 17 24 07.3 +0.7
comp=Z,174nm,1.4s
VES Vestal, Richgr 82.31 323 ⇓P P 17 24 07.7 +1.2
baz=83,SNR=8.8
MPU Maple Canyon 82.33 330 eP P 17 24 07.7 +0.9
comp=Z,29nm,1.0s
SMMC Simmler 82.36 322 ⇓P P 17 24 08.1 +1.3
baz=83
J25A Sunshine Ranch 82.39 337 ⇓P P 17 24 07.7 +0.9
baz=83,SNR=6.1
H29A Onida 82.43 340 ⇑P P 17 24 07.5 +0.6
baz=83,SNR=33
K23A Bowen Ranch, D 82.43 336 ⇓P P 17 24 07.9 +0.8
baz=83,SNR=11
I27A Quinn 82.46 339 ⇑P P 17 24 07.9 +0.7
baz=83,SNR=6.9
NLU North Lily Min 82.46 330 eP P 17 24 08.8 +1.4
comp=Z,74nm,1.7s
DAU Daniels Canyon 82.51 331 eP P 17 24 08.1 +0.3
DAU Daniels Canyon 82.51 331 eP P 17 24 08.1 +0.3
G30A Faulkton 82.59 341 ⇑P P 17 24 08.5 +0.7
baz=83,SNR=13
J24A Dixon Ranch, L 82.62 337 ⇓P P 17 24 09.2 +1.2
baz=83,SNR=13
K22A Casper 82.65 335 eP P 17 24 08.8 +0.5
comp=Z,69nm,1.3s
K22A Casper 82.65 335 ⇓P P 17 24 09.1 +0.8
baz=83,SNR=14
R11A Troy Canyon, C 82.65 327 eP P 17 24 08.7 +0.2
comp=Z,33nm,1.1s
R11A Troy Canyon, C 82.65 327 ⇑P P 17 24 09.9 +1.5
baz=83
I26A New Underwood 82.67 338 ⇑P P 17 24 09.1 +0.8
baz=83,SNR=7.1
H28A Mission Ridge 82.70 340 ⇓P P 17 24 09.0 +0.7
baz=83,SNR=15
JLU Jordanelle 82.75 331 eP P 17 24 09.9 +0.9
comp=Z,18nm,1.0s
RCTC Rector, Farmer 82.76 323 ⇓P P 17 24 10.3 +1.5
baz=83
TIN Tinemaha 82.85 324 ⇑P P 17 24 11.8 +2.4
baz=83

G29A Hoven 82.87 340 ⇑P P 17 24 10.1 +0.9
baz=83,SNR=8.9
K21A Alcova 82.89 335 ⇓P P 17 24 10.5 +0.9
baz=83,SNR=10
I25A Rochford 82.93 337 ⇓P P 17 24 10.8 +1.0
baz=83,SNR=18
CTU Camp Tracy 82.94 331 eP P 17 24 10.4 +0.5
comp=Z,9.0nm,0.9s
DUG Dugway 82.97 330 eP P 17 24 10.7 +0.7
DUG pmax pmax
comp=Z,68nm,1.4s
DUG Dugway 82.97 330 eP P 17 24 10.7 +0.7
comp=Z,68nm,1.4s
DUG Dugway 82.97 330 ⇓P P 17 24 10.9 +0.9
baz=83,SNR=30
H27A Howes 82.98 339 ⇓P P 17 24 10.2 +0.4
baz=83,SNR=14
G28A Parade 83.04 340 ⇓P P 17 24 10.8 +0.6
baz=83,SNR=9.2
I24A Kuemmerle Ranc 83.08 337 ⇓P P 17 24 11.2 +0.7
baz=83,SNR=5.1
RSSD Black Hills 83.12 337 eP P 17 24 11.0 +0.2
RSSD pmax pmax
comp=Z,30nm,1.2s
RSSD Black Hills 83.12 337 eP P 17 24 11.0 +0.2
comp=Z,30nm,1.2s
TCUT Toone Canyon 83.17 331 eP P 17 24 11.8 +0.6
comp=Z,68nm,1.4s
TPH Tonopah 83.19 326 eP P 17 24 12.2 +0.9
TPH pmax pmax
comp=Z,45nm,1.2s
TPH Tonopah 83.19 326 eP P 17 24 12.2 +0.9
comp=Z,46nm,1.2s
F30A Leola 83.22 341 ⇑P P 17 24 11.6 +0.6
baz=84,SNR=11
MTUM Tungsten Hills 83.25 324 eP P 17 24 13.1 +1.4
J22A Midwest 83.31 335 ⇓P P 17 24 12.6 +0.9
baz=84,SNR=9.8
F29A Eureka 83.43 341 ⇑P P 17 24 12.7 +0.6
baz=84,SNR=8.6
H25A Fruitdale 83.43 338 ⇓P P 17 24 12.9 +0.7
baz=84,SNR=8.8
BKZ Black Stump Fm 83.49 227 eP P 17 24 15.0 +2.1
comp=Z,33nm,1.3s
EYMN Ely 83.50 347 eP P 17 24 11.8 -0.6
comp=Z,69nm,1.3s
J21A Lysite 83.58 335 ⇑P P 17 24 14.0 +0.8
baz=84,SNR=5.6
G27A Dupree 83.61 339 ⇑P P 17 24 13.6 +0.5
baz=84,SNR=12
HWUT Hardware Ranch 83.64 331 eP P 17 24 13.6 +0.1
comp=Z,35nm,1.0s
RPZ Rata Peaks 83.65 221 eP P 17 24 15.1 +1.5
comp=Z,128nm,1.6s
BGU Big Grassy Mou 83.67 330 eP P 17 24 14.2 +0.6
comp=Z,23nm,1.6s
F28A McLaughlin 83.71 340 ⇑P P 17 24 14.3 +0.8
baz=84,SNR=13
I22A 9 Mile Ranch, 83.73 336 ⇑P P 17 24 14.2 +0.4
baz=84,SNR=13
G26A Maurine 83.73 339 ⇑P P 17 24 15.0 +1.3
baz=84,SNR=18
SPUT South Promonto 83.75 331 eP P 17 24 13.6 -0.4
comp=Z,31nm,1.0s
E30A Jud 83.80 342 ⇓P P 17 24 14.4 +0.4
baz=84,SNR=15
J20A Shoshoni 83.82 334 ⇓P P 17 24 15.3 +1.0
baz=84,SNR=23
H24A Dirks Ranch, A 83.85 337 ⇑P P 17 24 14.6 +0.3
baz=84,SNR=10
PDAR Pinedale Array 83.85 333 P P 17 24 13.6 -1.1
comp=Z,8.3nm,1.0s,baz=142,slow=5.1,SNR=38
BW06 Boulder Array 83.85 333 eP P 17 24 14.5 -0.1
comp=Z,28nm,1.4s
G25A Newell 83.89 338 ⇑P P 17 24 15.0 +0.5
baz=84
I21A Big Trails, Te 83.94 335 ⇓P P 17 24 15.2 +0.3
baz=84,SNR=17
NVAR Mina Array Bea 83.98 325 P P 17 24 15.9 +0.6
comp=Z,10nm,1.0s,baz=152,slow=6.1,SNR=29
E29A Napoleon 84.06 341 ⇑P P 17 24 15.7 +0.4
baz=84,SNR=8.3
F27A Lemmon 84.08 339 ⇑P P 17 24 15.9 +0.4
baz=84,SNR=29
J19A Crowheart 84.09 334 ⇓P P 17 24 15.9 +0.1
baz=84,SNR=32
TOA0 Torodi Ar. Sit 84.15 70 eP P 17 24 16.6 +0.2
TORD Torodi Ar. Bea 84.15 70 P P 17 24 16.9 +0.4
comp=Z,45nm,1.0s,baz=258,slow=4.5,SNR=132
F26A Lodgepole 84.26 339 ⇓P P 17 24 16.7 +0.4
baz=85,SNR=8.8
HVU Hansel Valley 84.28 331 eP P 17 24 16.7 0.0
HVU pmax pmax
comp=Z,30nm,0.8s
HVU Hansel Valley 84.28 331 eP P 17 24 16.7 0.0
comp=Z,30nm,0.8s
H22A Clearmont 84.30 336 ⇑P P 17 24 18.2 +1.5
baz=85,SNR=7.1
D30A Buchanan 84.32 342 ⇑P P 17 24 17.2 +0.6
baz=85,SNR=23
G24A Alzada 84.32 338 ⇑P P 17 24 17.6 +0.8
baz=85
E28A Huff 84.35 341 ⇓P P 17 24 17.4 +0.7
baz=85,SNR=8.2
I20A Worland 84.35 335 ⇑P P 17 24 17.4 +0.4
baz=85,SNR=20
ELK Elko 84.46 328 eP P 17 24 18.2 +0.4
ELK pmax pmax
comp=Z,22nm,1.1s
ELK Elko 84.46 328 P P 17 24 18.1 +0.4
comp=Z,12nm,0.9s,baz=189,slow=3.1,SNR=36
ELK Elko 84.46 328 eP P 17 24 18.2 +0.4
comp=Z,22nm,1.1s
E27A Carson 84.46 340 ⇑P P 17 24 17.9 +0.5
baz=85
D29A Pettibone, Tap 84.50 341 ⇑P P 17 24 17.8 +0.3
baz=85,SNR=17
G23A Biddle 84.52 337 ⇓P P 17 24 18.0 +0.3
baz=85,SNR=7.5
F25A Bowman 84.56 338 ⇓P P 17 24 18.6 +0.7
baz=85
H21A Big Horn, Sher 84.57 336 ⇓P P 17 24 18.7 +0.6
baz=85,SNR=5.1
WAKR Walker 84.58 324 eP P 17 24 19.9 +1.5
CMB Columbia Colle 84.68 324 eP P 17 24 19.7 +1.0
CMB pmax pmax
comp=Z,12nm,1.1s
CMB Columbia Colle 84.68 324 eP P 17 24 19.7 +1.0
comp=Z,12nm,1.1s
AGMN Agassiz Nation 84.74 344 eP P 17 24 18.4 -0.2
comp=Z,30nm,0.9s
AGMN Agassiz Nation 84.74 344 ⇑P P 17 24 19.5 +0.9
baz=85
I19A Meeteetse 84.74 334 ⇑P P 17 24 19.6 +0.5
baz=85,SNR=13
E26A Carlson Angus 84.76 339 ⇓P P 17 24 19.7 +0.8
baz=85
H20A Greybull 84.78 335 ⇓P P 17 24 19.4 +0.3
baz=85,SNR=37
F24A Ekalaka 84.80 338 ⇓P P 17 24 19.4 +0.3
baz=85,SNR=6.9
C30A Mose, Pekin 84.80 342 ⇑P P 17 24 19.6 +0.6
baz=85,SNR=38
G22A Birney 84.83 336 ⇓P P 17 24 20.1 +0.7
baz=85,SNR=5.2
REDW Red Top Meadow 84.85 333 eP P 17 24 19.6 -0.1
comp=Z,20nm,1.0s
D28A Regan 84.88 341 ⇓P P 17 24 20.1 +0.6
baz=85,SNR=19
LOHW Long Hollow 84.97 333 eP P 17 24 20.2 -0.1
comp=Z,12nm,0.9s
F23A Volborg 84.99 337 ⇓P P 17 24 21.3 +1.2
baz=85,SNR=7.0
TPAW Teton Pass 85.00 333 eP P 17 24 20.6 +0.1
comp=Z,22nm,1.1s
E25A Miller Ranch, 85.06 339 ⇓P P 17 24 21.0 +0.6
baz=85,SNR=5.7
D27A Center 85.07 340 ⇓P P 17 24 21.6 +1.2
baz=85
G21A Lodge Grass 85.15 336 ⇓P P 17 24 22.0 +1.1
baz=86,SNR=6.5
FXWY Fox Creek 85.16 333 eP P 17 24 21.2 0.0
comp=Z,22nm,1.4s
I17A Pilgrim Ck. 85.22 333 ⇓P P 17 24 22.4 +0.9
baz=86,SNR=20
D26A Manning 85.26 340 ⇑P P 17 24 22.1 +0.7
baz=86,SNR=13
H19A Powell 85.28 334 ⇓P P 17 24 22.1 +0.4
baz=86,SNR=14
F22A Rosebud 85.32 337 ⇑P P 17 24 23.2 +1.5
baz=86,SNR=8.1
IMW Indian Meadow 85.34 333 eP P 17 24 22.4 +0.2
comp=Z,34nm,1.3s
E24A Baker 85.39 338 ⇓P P 17 24 22.7 +0.7
baz=86,SNR=8.4
FLWY Flagg Ranch 85.41 333 eP P 17 24 22.8 +0.4
comp=Z,28nm,0.8s
B30A Myrvik Farm, E 85.46 343 ⇓P P 17 24 23.0 +0.7
baz=86,SNR=67
G20A Bridger 85.49 335 ⇓P P 17 24 23.8 +1.1
baz=86,SNR=34
H18A Shoshone NF, C 85.54 334 ⇓P P 17 24 23.5 +0.5
baz=86,SNR=48
C27A Sayler Ranch, 85.61 340 ⇑P P 17 24 23.8 +0.7
baz=86,SNR=13
D25A Fairfield 85.62 339 ⇑P P 17 24 23.9 +0.7
baz=86,SNR=9.7
H17A Grant Village 85.63 333 eP P 17 24 25.0 +1.4
H17A Grant Village 85.63 333 ⇓P P 17 24 25.7 +2.2
baz=86
F21A Absaloka Mine, 85.64 336 ⇓P P 17 24 24.1 +0.7
baz=86
B29A Wagenman Farm, 85.73 342 ⇓P P 17 24 24.1 +0.5
baz=86,SNR=20
YFT Old Faithful 85.78 333 eP P 17 24 26.0 +1.8
comp=Z,18nm,0.9s
RLMT Red Lodge 85.78 335 eP P 17 24 24.1 -0.2
comp=Z,42nm,1.1s
C26A Wahner Farm, P 85.88 340 ⇑P P 17 24 25.0 +0.6
baz=86,SNR=7.8
D24A Glendive 85.89 338 ⇓P P 17 24 25.0 +0.5
baz=86,SNR=14
A30A Hoffart Farm, 85.91 343 ⇑P P 17 24 25.8 +1.3
baz=86,SNR=14
YNR Norris Junctio 85.94 333 eP P 17 24 29.3 +4.2
comp=Z,46nm,1.9s
F20A Billings 85.97 336 ⇓P P 17 24 25.5 +0.4
baz=86,SNR=5.7
B28A Dugan Ranch, T 85.98 341 ⇓P P 17 24 25.7 +0.9
baz=86,SNR=6.9
YMR Madison River 86.01 333 eP P 17 24 26.4 +1.0
comp=Z,81nm,1.2s
LAO LASA Array 86.11 337 eP P 17 24 25.9 +0.3
comp=Z,50nm,1.0s
C25A Freed Ranch, W 86.11 339 ⇓P P 17 24 26.5 +1.0
baz=86
A29A Manning Farm, 86.12 342 ⇓P P 17 24 27.2 +1.6
baz=86,SNR=22
B27A Peters Farms, 86.18 341 ⇑P P 17 24 26.7 +0.9
baz=86
D23A Lindsay 86.22 338 ⇓P P 17 24 26.8 +0.7
baz=86,SNR=23
OHCM Honcut 86.23 324 eP P 17 24 27.5 +1.2
E21A Keefer Ranch, 86.26 337 ⇓P P 17 24 27.2 +0.8
baz=87,SNR=17
F19A Roth Farm, Mol 86.30 335 ⇑P P 17 24 27.5 +0.9
baz=87,SNR=19
C24A Savage 86.30 339 ⇓P P 17 24 27.2 +0.7
baz=87,SNR=45
QLMT Earthquake Lak 86.32 333 eP P 17 24 28.2 +1.3
HLID Hailey 86.43 331 eP P 17 24 28.2 +0.8
comp=Z,36nm,1.2s
HLID Hailey 86.43 331 ⇓P P 17 24 28.6 +1.1
baz=87,SNR=31
GCMT Greycliff 86.50 335 eP P 17 24 27.2 -0.4
comp=Z,57nm,1.7s
D22A Cohagen 86.50 337 ⇓P P 17 24 28.2 +0.7
baz=87,SNR=8.4
ULM Lac du Bonnet 86.58 345 P P 17 24 26.9 -0.8
ULM pmax pmax
comp=Z,26nm,1.0s
ULM Lac du Bonnet 86.58 345 P P 17 24 26.9 -0.8
comp=Z,26nm,1.0s,baz=167,slow=4.5,SNR=21
ULM Lac du Bonnet 86.58 345 P P 17 24 26.9 -0.8
ULM eP P 17 24 27.1 -0.7
E20A Meyer Farm, Mu 86.58 336 ⇓P P 17 24 28.7 +0.7
baz=87,SNR=40
B25A Knox Farm, Ray 86.59 340 ⇓P P 17 24 28.9 +1.0
baz=87,SNR=14
A27A Ledoux Ranch, 86.67 341 ⇓P P 17 24 29.3 +1.1
baz=87,SNR=5.7
D21A La Casta Ranch 86.69 337 ⇓P P 17 24 29.4 +0.9
baz=87
C23A Lambert 86.77 338 ⇓P P 17 24 30.1 +1.3
baz=87,SNR=30
A26A Wade Farm, Ken 86.84 341 ⇓P P 17 24 30.0 +0.9
baz=87,SNR=5.3
MCMT McKenzie Canyo 86.86 332 eP P 17 24 30.0 +0.4
comp=Z,28nm,1.2s
MFID Camas Ranch 86.89 330 eP P 17 24 30.1 +0.4
comp=Z,22nm,1.1s
C22A Vida 86.94 338 ⇓P P 17 24 30.3 +0.7
baz=87,SNR=12
DGMT Dagmar 87.07 339 eP P 17 24 30.8 +0.5
comp=Z,140nm,1.0s
DGMT Dagmar 87.07 339 ⇑P P 17 24 30.9 +0.7
baz=87,SNR=21
BOZ Bozeman (W) 87.09 333 eP P 17 24 30.3 -0.3
BOZ pmax pmax
comp=Z,131nm,2.5s
BOZ Bozeman (W) 87.09 333 eP P 17 24 30.3 -0.3
comp=Z,131nm,2.5s
D20A Manuel Ranch, 87.09 336 ⇑P P 17 24 31.5 +1.1
baz=87,SNR=38
A25A Svangstu Ranch 87.18 340 ⇑P P 17 24 31.3 +0.6
baz=88,SNR=9.4
B23A Brockton 87.30 339 ⇑P P 17 24 31.9 +0.6
baz=88,SNR=20
WVOR Wild Horse Val 87.32 327 eP P 17 24 32.7 +1.0
WVOR pmax pmax
comp=Z,20nm,1.1s
WVOR Wild Horse Val 87.32 327 eP P 17 24 32.7 +1.0
comp=Z,20nm,1.1s
C21A Desert Coulee 87.39 337 ⇑P P 17 24 32.7 +0.8
baz=88,SNR=16
D19A Cripps Ranch, 87.41 336 ⇑P P 17 24 32.9 +0.9
baz=88,SNR=13
A24A Westby 87.42 339 ⇑P P 17 24 32.6 +0.7
baz=88,SNR=12
B22A Reddig Ranch S 87.46 338 ⇓P P 17 24 32.6 +0.4
baz=88,SNR=15
LRM Limekiln Ridge 87.54 333 eP P 17 24 33.3 +0.4
C20A Veseth Ranch, 87.59 337 ⇓P P 17 24 34.4 +1.6
baz=88,SNR=11
MOD Modoc 87.66 326 eP P 17 24 34.1 +0.7
comp=Z,22nm,0.9s
WDC Whiskeytown Da 87.70 324 eP P 17 24 33.1 -0.4
WDC pmax pmax
comp=Z,51nm,1.4s
WDC Whiskeytown Da 87.70 324 eP P 17 24 33.1 -0.4
comp=Z,52nm,1.4s
A23A Redstone 87.71 339 ⇑P P 17 24 33.7 +0.4
baz=88,SNR=6.9
B21A Ellsworth Farm 87.90 337 ⇑P P 17 24 34.6 +0.4
baz=88,SNR=11
C19A Slack Wire Ran 87.96 336 ⇓P P 17 24 35.6 +1.0
baz=88,SNR=14
A22A Carney Farms, 88.05 338 ⇑P P 17 24 35.4 +0.4
baz=88,SNR=36
HRY Holter Researc 88.06 334 eP P 17 24 35.8 +0.6
N02D Trinity Center 88.08 324 ⇓P P 17 24 36.0 +0.7
baz=88
B20A Solberg Farm, 88.23 337 ⇑P P 17 24 36.7 +0.9
baz=88
M04C Macdoel 88.29 325 ⇑P P 17 24 37.4 +1.0
baz=89
A21A Bergtoll Ranch 88.36 338 ⇓P P 17 24 38.0 +1.5
baz=89,SNR=20
EGMT Eagleton 88.45 336 eP P 17 24 36.8 -0.1
comp=Z,37nm,1.3s
EGMT Eagleton 88.45 336 ⇓P P 17 24 37.7 +0.8
baz=89,SNR=10
M02C Callahan 88.48 324 ⇑P P 17 24 38.1 +0.9
baz=89
B19A Brinkman Farms 88.55 336 ⇑P P 17 24 38.6 +1.3
baz=89,SNR=9.7
K05A Summer Lake 88.58 326 eP P 17 24 38.9 +1.1
comp=Z,61nm,1.2s
A20A Cobblestone Ra 88.58 337 ⇑P P 17 24 38.5 +1.0
baz=89,SNR=13
SCHQ Schefferville 88.64 3 P P 17 24 37.0 -0.6
comp=Z,15nm,1.2s,baz=200,slow=5.1,SNR=7.4
SCHQ Schefferville 88.64 3 P P 17 24 37.0 -0.6
SCHQ eP P 17 24 37.5 -0.1
YBH Yreka Blue Hor 88.67 325 P P 17 24 37.5 -0.6
YBH pmax pmax
comp=Z,10.0nm,0.8s
YBH Yreka Blue Hor 88.67 325 P P 17 24 37.5 -0.6
comp=Z,10nm,0.8s,baz=141,slow=4.6,SNR=17
YBH Yreka Blue Hor 88.67 325 P P 17 24 37.5 -0.6
YBH eP PcP 17 24 38.3 -1.4
BMO Blue Mountains 88.68 330 eP P 17 24 38.6 +0.5
comp=Z,98nm,2.5s
CHMT Chamberlain Mo 88.76 333 eP P 17 24 38.8 +0.2
A19A Klindworth Far 88.89 337 ⇑P P 17 24 39.9 +0.9
baz=89,SNR=17
K04D Chiloquin, OR 88.90 326 ⇓P P 17 24 40.3 +1.1
baz=89
MSO Missoula 88.95 333 eP P 17 24 40.4 +1.0
comp=Z,50nm,1.8s
MSO Missoula 88.95 333 ⇓P P 17 24 40.7 +1.3
baz=89,SNR=6.6
I07A Izee 89.01 328 eP P 17 24 40.6 +0.9
comp=Z,25nm,1.3s
SLMT Seeley Lake 89.13 333 eP P 17 24 40.8 +0.5
J05D Fort Rock, OR 89.17 326 ⇑P P 17 24 42.0 +1.5
baz=90
SWMT Swartz Lake 89.54 333 eP P 17 24 42.5 +0.4
J04D Umpqua Nationa 89.54 326 ⇑P P 17 24 43.5 +1.2
baz=90
F10A Beach Ranch, E 89.55 330 eP P 17 24 42.4 +0.2
comp=Z,18nm,1.0s
LSZ Lusaka 89.71 108 eP P 17 24 45.6 +1.8
LSZ pmax pmax
comp=Z,40nm,1.6s
LSZ Lusaka 89.71 108 eP P 17 24 45.6 +1.8
comp=Z,40nm,1.6s
G08A Pilot Rock 89.73 329 eP P 17 24 43.9 +0.9
comp=Z,53nm,1.9s
YBMT Yellow Bay 89.84 333 eP P 17 24 44.2 +0.7
JTMT Jette 89.84 333 eP P 17 24 44.0 +0.5
I05D Terrebonne, OR 90.03 327 ⇓P P 17 24 45.8 +1.4
baz=90
BLMT Blacktail Moun 90.09 333 eP P 17 24 45.4 +0.6
BSMT Bassoo Peak 90.12 333 eP P 17 24 45.3 +0.4
E09A Wood Farm, Sta 90.37 330 eP P 17 24 46.3 +0.5
comp=Z,8.8nm,1.2s
G06A Carlson Farm, 90.42 328 eP P 17 24 47.4 +1.2
comp=Z,119nm,2.1s
WALA Waterton Lakes 90.80 334 eP P 17 24 48.0 0.0
H2OWA Water 90.81 329 P P 17 24 48.9 +1.0
HAWA Hanford 90.85 329 eP P 17 24 49.0 +1.0
comp=Z,42nm,1.4s
E07A Sunnyside 91.12 329 eP P 17 24 50.4 +1.1
comp=Z,13nm,1.1s
D08A Wollman Farm, 91.12 330 eP P 17 24 50.0 +0.7
comp=Z,17nm,1.2s
OD2 Odessa Site #2 91.30 330 P P 17 24 50.7 +0.5
NEW Newport 91.36 332 P P 17 24 49.9 -0.6
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 91.36 332 P P 17 24 49.9 -0.6
comp=Z,4.8nm,0.9s,baz=127,slow=3.9,SNR=8.6
NEW Newport 91.36 332 P P 17 24 49.9 -0.6
NEW eP P 17 24 50.1 -0.4
NEW Newport 91.36 332 ⇑P P 17 24 50.8 +0.3
baz=92
C09A Chrisman Ranch 91.45 331 eP P 17 24 51.4 +0.5
comp=Z,35nm,1.4s
WTV Waterville 92.06 330 P P 17 24 54.3 +0.5
FFC Flin Flon 92.13 343 eP P 17 24 52.5 -1.3
FFC pmax pmax
comp=Z,39nm,1.9s
FFC Flin Flon 92.13 343 eP P 17 24 52.5 -1.3
comp=Z,39nm,1.9s
ETW Entiat 92.14 330 P P 17 24 54.8 +0.5
B08A Colville Reser 92.32 331 eP P 17 24 54.9 0.0
comp=Z,22nm,1.4s
TAM Tamanrasset 92.78 64 eP P 17 24 58.4 +0.6
TAM pmax pmax
comp=Z,19nm,1.3s
TAM Tamanrasset 92.78 64 eP P 17 24 58.4 +0.6
comp=Z,19nm,1.3s
EDM Edmonton 94.08 336 eP P 17 25 01.6 -1.3
EDM Edmonton 94.08 336 eP P 17 25 01.6 -1.3
FCC Fort Churchill 94.31 349 eP P 17 25 03.6 -0.1
FCC Fort Churchill 94.31 349 eP P 17 25 03.5 -0.1
ESDC Sonseca Array 96.56 46 P P 17 25 14.7 +0.1
comp=Z,0.8nm,0.6s,baz=253,slow=4.5,SNR=5.1
YKA Yellowknife Ar 102.14 341 P Pdif 17 25 38.0 -0.8
comp=Z,1.0nm,0.7s,baz=141,slow=4.5,SNR=23
YKA PP PP 17 29 53.1 +1.6
comp=Z,1.3nm,1.1s,baz=137,slow=8.0,SNR=4.6
GERES GERESS Array B 112.14 45 i PKiKP PKiKP 17 30 20.1 0.0
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 112.14 45 PKiKP PKiKP 17 30 20.1 0.0
comp=Z,1.0nm,0.8s,baz=195,slow=1.5,SNR=8.4
CLL Collm 112.83 43 ePKIKP PKIKP 17 30 22.0 +0.8
CLL Collm 112.83 43 ePKiKP PKiKP 17 30 22.0 +0.8
ILAR Eielson Array 114.29 333 PKIKP PKPdf 17 30 23.1 -0.5
ILAR 17 31 20.3
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 114.29 333 PKP PKPdf 17 30 23.1 -0.5
comp=Z,1.1nm,1.0s,baz=154,slow=1.0,SNR=8.3
ILAR PP PP 17 31 20.3 +0.2
comp=Z,0.4nm,0.8s,baz=121,slow=2.5,SNR=4.3
VYHS Vyhne 115.07 47 ePKIKP PKPdf 17 30 25.9 +0.3
VYHS Vyhne 115.07 47 ePKP PKPdf 17 30 25.9 +0.3
NOA NORSAR Array B 116.03 33 PKIKP PKPdf 17 30 28.0 +0.9
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 116.03 33 PKP PKPdf 17 30 28.0 +0.9
comp=Z,0.9nm,0.8s,baz=246,slow=2.3,SNR=2.5
MSEY Mahe Island 117.24 117 i PKiKP PKiKP 17 30 44.6 +14
SNR=6.8
KOLS Kolonicke sedl 117.34 48 ePKIKP PKPdf 17 30 32.8 +2.9
KOLS Kolonicke sedl 117.34 48 ePKP PKPdf 17 30 32.8 +2.9
KWP Kalwaria Pacla 117.86 47 ePKIKP PKPdf 17 30 31.9 +1.0
KWP Kalwaria Pacla 117.86 47 ePKP PKPdf 17 30 31.9 +1.0
BUR08 Bucovina Ar. S 118.72 50 ePKPdf PKPdf 17 30 32.5 -0.2
SUW Suwalki 119.59 43 ePKIKP PKPdf 17 30 33.8 -0.3
SUW Suwalki 119.59 43 ePKP PKPdf 17 30 33.7 -0.3
SUW Suwalki 119.59 43 ePKPdf PKPdf 17 30 33.1 -0.9
WRA Warramunga Arr 120.75 209 PKP PKPdf 17 30 36.5 -1.0
comp=Z,3.4nm,0.8s,baz=153,slow=1.9,SNR=33
WRA PKKPab PKKPbc 17 40 41.0 -0.1
comp=Z,0.4nm,0.5s,baz=336,slow=4.4,SNR=5.9
WRAB Tennant Creek 120.75 209 ⇓i PKIKP PKPdf 17 30 37.1 -0.4
WRAB pmax pmax
comp=Z,38nm,1.7s
WRAB Tennant Creek 120.75 209 ePKPdf PKPdf 17 30 35.6 -2.0
BRTR Keskin Array B 121.79 61 PKIKP PKPdf 17 30 38.7 -0.3
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 121.79 61 PKP PKPdf 17 30 38.7 -0.3
comp=Z,3.2nm,1.0s,baz=191,slow=2.5,SNR=16
AKASG Malin Array Be 122.17 47 PKIKP PKPdf 17 30 38.1 -1.0
AKASG 17 32 12.0
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 122.17 47 PKP PKPdf 17 30 38.1 -1.0
comp=Z,2.9nm,0.7s,baz=269,slow=2.8,SNR=17
AKASG PP PP 17 32 12.0 -3.1
comp=Z,0.4nm,0.2s,baz=252,slow=6.9,SNR=5.9
FINES FINESS Array B 122.99 35 PKIKP PKPdf 17 30 40.6 +0.2
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 122.99 35 PKP PKPdf 17 30 40.6 +0.2
comp=Z,2.9nm,0.8s,baz=190,slow=3.3,SNR=12
ARCES ARCESS Array B 124.03 25 PKIKP PKPdf 17 30 42.5 +0.3
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 124.03 25 PKP PKPdf 17 30 42.5 +0.3
comp=Z,1.4nm,0.5s,baz=255,slow=3.1,SNR=14
GAMB Gambell 124.19 328 ePKPdf PKPdf 17 30 42.3 -0.3
H11S2 WAKE ISLAND Hy125.85 269 T T 19 49 56.1
baz=118,slow=74,SNR=11
H11S1 WAKE ISLAND Hy125.86 269 T T 19 49 57.8
baz=118,slow=74,SNR=11
H11S3 WAKE ISLAND Hy125.87 269 T T 19 50 00.4
baz=118,slow=74,SNR=9.9
H11N3 WAKE ISLAND Hy126.27 270 T T 19 49 51.6
baz=115,slow=79,SNR=4.2
H11N1 WAKE ISLAND Hy126.28 270 T T 19 49 50.8
baz=115,slow=79,SNR=12
H11N2 WAKE ISLAND Hy126.28 270 T T 19 49 48.9
baz=115,slow=79,SNR=6.8
APA Apatity 126.81 28 ⇓i PKIKP PKPdf 17 30 53.0 +5.5
APA MLR MLR
comp=Z,1µm,12.0s

OBN Obninsk 127.42 43 i PKIKP PKPdf 17 30 50.3 +1.3
OBN pmax pmax
comp=Z,26nm,1.2s
MOS Moscow 128.10 43 ePKIKP PKPdf 17 30 47.4 -2.9
MOS e 17 32 51.2
VSR Storozhevoye 128.42 48⇓ePKIKP PKPdf 17 30 51.0 -0.1
VORD Divnogorie 128.46 49 ePKIKP PKPdf 17 30 49.2 -2.0
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,5.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.8s
KLMR Klimovskoe 129.40 36 ePKIKP PKPdf 17 30 49.9 -2.7
KLMR pmax pmax
comp=Z,105nm,1.5s
KIV Kislovodsk 129.45 58 ePKIKP PKPdf 17 30 53.8 +0.4
KIV Kislovodsk 129.45 58 ePKPdf PKPdf 17 30 53.8 +0.4
KBZ Khabaz 129.55 59 PKIKP PKPdf 17 30 54.1 +0.6
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 129.55 59 PKP PKPdf 17 30 54.0 +0.6
comp=Z,5.5nm,1.0s,baz=260,slow=5.5,SNR=8.4
VRHR Novokhopersk 129.94 49 ePKIKP PKPdf 17 30 53.1 -0.9
VRHR pmax pmax
comp=Z,10.0nm,1.2s
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,3.0nm,0.7s
ZEI Tsey 130.07 60 ePKIKP PKPdf 17 30 53.0 -1.8
ZEI pmax pmax
comp=Z,9.0nm,1.1s
BILL Bilibino 132.93 334 ePKIKP PKPdf 17 30 59.5 +0.3
BILL pmax pmax
comp=Z,16nm,1.5s
BILL Bilibino 132.93 334 ePKPdf PKPdf 17 30 58.9 -0.3
SOKR Solikamsk 138.09 36 ePKIKP PKPdf 17 31 09.2 +0.3
SOKR pmax pmax
comp=Z,20nm,0.9s
ARU Arti 139.74 41 i PKHKP PKPpre 17 31 04.0
ARU Arti 139.74 41 ePKPpre PKPpre 17 31 02.5
ARU ePKPdf PKPdf 17 31 12.3 +0.2
GEYT Alibeck 139.79 70 PKP PKPdf 17 31 13.2 +0.3
comp=Z,1.7nm,0.7s,baz=238,slow=8.5,SNR=4.5
SEY Seymchan 140.12 330 PKIKP PKPdf 17 31 12.4 -0.2
SEY pmax pmax
comp=Z,11nm,1.0s
SEY Seymchan 140.12 330 PKP PKPdf 17 31 12.4 -0.2
comp=Z,11nm,1.0s,baz=119,slow=4.0,SNR=5.2
PETK Petropavlovsk- 140.26 314 PKIKP PKPdf 17 31 13.9 +0.7
PETK pmax pmax
comp=Z,8.0nm,1.1s
PETK Petropavlovsk- 140.26 314 PKP PKPdf 17 31 13.9 +0.7
comp=Z,8.0nm,1.1s,baz=116,slow=5.0,SNR=3.5
TIXI Tiksi 140.77 350c i PKIKP PKPdf 17 31 14.8 +1.3
TIXI pmax pmax
comp=Z,9.0nm,0.8s
TIXI Tiksi 140.77 350 ePKPpre PKPpre 17 31 05.0
TIXI ePKPdf PKPdf 17 31 11.6 -1.9
ABKAR Akbulak array 141.66 52 ePKPpre PKPpre 17 31 09.4
PALK Pallekele 143.28 130 ePKHKP PKPbc 17 31 16.9 0.0
PALK Pallekele 143.28 130 ePKPpre PKPbc 17 31 16.9 -0.1
PALK Pallekele 143.28 130 i PKPdf PKPbc 17 31 17.6 +0.7
SNR=6.7
KAD Karad 145.41 110 eP PKPbc 17 31 23.2 -0.2
POO Poona 145.84 108⇓i P PKPdf 17 31 24.0 -0.1
comp=Z,220nm,1.0s
GSI Gunungsitoli 145.97 161 ePKPdf PKPab 17 31 25.6 -0.1
BRVK Borovoye 147.20 43 ePKIKP PKPdf 17 31 25.6 +0.3
BRVK Borovoye 147.20 43 ePKPdf PKPdf 17 31 25.6 +0.3
KSM Kuching 147.51 184 eP PKPdf 17 31 27.1 0.0
KSM ePKPbc PKPbc 17 31 28.5 -1.1
KBL Kabul 147.90 78 ePKIKP PKPdf 17 31 27.4 0.0
KBL Kabul 147.90 78 ePKPdf PKPdf 17 31 27.4 0.0
YAK Yakutsk 148.81 340 ePKHKP PKPdf 17 31 26.4 -1.3
YAK pmax pmax
comp=Z,65nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=N,10.0nm,1.5s
YAK Yakutsk 148.81 340 ePKPdf PKPdf 17 31 27.1 -0.6
YAK ePKPbc PKPbc 17 31 31.2 -0.4
YAK ePKPab PKPab 17 31 36.0 +0.5
HYB Hyderabad 148.83 115 i PKP PKPbc 17 31 32.0 -1.1
KKAR Karatay Array 149.50 62 ePKPdf PKPdf 17 31 29.6 +0.2
KKAR ePKPbc PKPbc 17 31 34.2 +0.2
IPM Ipoh 149.85 166 ePKPdf PKPdf 17 31 30.8 -0.1
IPM ePKPbc PKPbc 17 31 34.9 -0.8
ASAJ Asahikawa 151.56 301 ePKPdf PKPdf 17 31 33.1 +0.6
ASAJ ePKPbc PKPbc 17 31 38.1 -0.7
ASAJ ePKPab PKPab 17 31 44.6 -2.8
AML Almayashu 151.93 63 P PKPbc 17 31 41.0 +0.8
SNR=8.4
EKS2 Erkin-Say 151.93 62 P PKPbc 17 31 40.9 +1.0
SNR=8.6
EKS2 Erkin-Say 151.93 62 ePKIKP PKPdf 17 31 34.2 +0.8
EKS2 e 17 31 40.5
EKS2 Erkin-Say 151.93 62 ePKPdf PKPdf 17 31 34.2 +0.8
EKS2 ePKPbc PKiKP 17 31 40.5 +0.2
USP Ospenovka 152.38 61 P PKPbc 17 31 41.3 +0.5
SNR=12
AAK Ala-Archa 152.46 62 P PKPbc 17 31 42.1 +0.9
SNR=12
AAK Ala-Archa 152.46 62 ePKIKP PKPdf 17 31 34.8 +0.6
AAK e 17 31 41.8
AAK 17 35 24.9
AAK Ala-Archa 152.46 62 PP PP 17 35 24.9 +0.4
comp=N,5.0nm,1.0s,baz=242,slow=6.2,SNR=5.3
AAK Ala-Archa 152.46 62 ePKPdf PKPdf 17 31 34.8 +0.6
AAK ePKPbc PKiKP 17 31 41.8 +0.4
AAK PP PP 17 35 24.9 +0.4
UCH Uchtor 152.52 63 P PKPdf 17 31 35.5 +0.8
SNR=5.5
FRU Bishkek 152.53 61 i PKIKP PKPbc 17 31 42.0 +0.9
CHMS Chumysh 152.60 61 P PKPbc 17 31 42.0 +0.8
SNR=9.2
KBK Karagaybulak 152.79 62 P PKPbc 17 31 43.0 +1.1
SNR=8.7
KURK Kurchatov 152.87 43 ePKIKP PKPdf 17 31 34.4 +0.1
KURK e 17 31 41.8
KURK e 17 31 48.3
KURK Kurchatov 152.87 43 ePKPdf PKPdf 17 31 34.4 +0.1
KURK ePKPbc PKiKP 17 31 41.8 +0.1
KURK ePKPab PKPab 17 31 48.3 -4.4
NVS Novosibirsk 152.95 32 i PKIKP PKPdf 17 31 33.3 -1.0
NVS pmax pmax
comp=Z,113nm,1.2s
NVS pmax pmax
comp=E,28nm,1.3s
KZA Kyzart 153.08 63 P PKPbc 17 31 44.2 +1.4
SNR=7.5
TKM2 Tokmak 2 153.23 61 P PKPbc 17 31 42.4 -0.5
SNR=6.5
TKM2 Tokmak 2 153.23 61 ePKIKP PKPdf 17 31 35.2 -0.2
TKM2 e 17 31 42.0
TKM2 e 17 35 28.1
TKM2 Tokmak 2 153.23 61 ePKPdf PKPdf 17 31 35.2 -0.2
TKM2 ePKPbc PKPbc 17 31 42.0 -0.9
TKM2 ePP PP 17 35 28.1 -0.8
KSH Kashi 153.82 69 ePKPdf PKPdf 17 31 36.0 -0.2
KSH epPKP pPKPdf 17 31 47.3 0.0
KSH esPKP 17 31 51.0
KSH eSKS SKSdf 17 38 38.5 -2.2
KSH eSKKS SKSac 17 42 18.5 -1.0
KSH eSS SS 17 55 01.0 -6.6
KSH AMB AMB
comp=E,130nm,6.3s
KSH LR LR
comp=E,290nm,6.4s
ZAA0 Zalesovo Array 154.23 32 ePKPdf PKPdf 17 31 35.2 -0.9
ZAA0 ePKPbc PKPbc 17 31 44.1 -0.2
ZAA0 ePKPab PKiKP 17 31 50.8 +6.4
ZALV Zalesovo Beam 154.23 32 PKP PKPdf 17 31 35.6 -0.5
comp=E,8.1nm,1.0s,baz=276,slow=2.8,SNR=25
ZALV PKPbc PKiKP 17 31 44.9 +0.4
comp=E,19nm,0.7s,baz=307,slow=2.9,SNR=30
ZALV PKPab PKPab 17 31 59.2 +0.8
comp=E,18nm,0.7s,baz=299,slow=4.2,SNR=7.3
ZALV PKKP 17 40 16.4
comp=E,1.8nm,0.5s,baz=295,slow=3.3,SNR=6.5
MJAR Matsushiro Arr 155.32 284 PKIKP PKPdf 17 31 37.6 -0.7
MJAR pmax pmax
comp=Z,3.0nm,1.1s
MJAR Matsushiro Arr 155.32 284 PKP PKPdf 17 31 37.5 -0.7
comp=Z,2.9nm,1.1s,baz=77,slow=5.3,SNR=4.8
BOD Bodaibo 155.90 352 ePKIKP PKPdf 17 31 37.5 -0.8
BOD e 17 32 04.1
BOD pmax pmax
comp=Z,53nm,1.2s
MK31 Makanchi Array 156.74 49 ePKIKP PKPdf 17 31 39.3 -0.5
MK31 e 17 35 43.5
MK31 Makanchi Array 156.74 49 ePKPdf PKPdf 17 31 39.3 -0.5
MK31 ePP PP 17 35 43.5 -4.4
MKAR Makanchi Array 156.74 49 PKIKP PKPdf 17 31 39.9 +0.1
MKAR 17 35 47.8
MKAR pmax pmax
comp=Z,4.0nm,1.0s
MKAR pmax pmax
comp=Z,6.0nm,1.2s
MKAR Makanchi Array 156.74 49 PKP PKPdf 17 31 39.9 +0.1
comp=Z,4.0nm,1.0s,baz=318,slow=1.6,SNR=17
MKAR PKPab PKPab 17 32 09.9 +0.4
comp=Z,9.2nm,0.9s,baz=289,slow=3.7,SNR=14
MKAR PP PP 17 35 47.8 -0.2
comp=Z,6.1nm,1.1s,baz=282,slow=5.7,SNR=4.3
KOLN Koldanda 158.12 100 eP PKPdf 17 31 42.0 -0.4
comp=Z,68nm,1.5s
DANN Dangsing 158.47 99 eP PKPdf 17 31 43.0 +0.1
comp=Z,77nm,1.2s
USRK Ussuriysk Arra 158.93 306 PKPab PKPab 17 32 19.5 +0.6
comp=Z,1.7nm,0.7s,baz=62,slow=6.7,SNR=5.2
GKN Gorkha 159.06 100 eP PKPdf 17 31 43.0 -0.5
comp=Z,67nm,1.4s
DMN Daman 159.29 102 eP PKPdf 17 31 43.6 -0.3
comp=Z,73nm,1.6s
KKN Kakani 159.50 102 eP PKPdf 17 31 43.5 -0.5
PKIN Phulchoki 159.51 102 eP PKPdf 17 31 43.5 -0.6
comp=Z,68nm,1.8s
PKI Pulchoki 159.52 102 eP PKPdf 17 31 43.6 -0.6
comp=Z,96nm,1.8s
GUN Gumba 160.04 102 eP PKPdf 17 31 44.5 -0.3
comp=Z,111nm,1.7s
JIRN Jiri 160.19 103 eP PKPdf 17 31 44.6 -0.4
comp=Z,41nm,1.3s
RAMN Ramite 160.22 105 eP PKPdf 17 31 45.0 +0.1
comp=Z,160nm,1.7s
MDJ Mudanjiang 160.35 309 PKP PKPdf 17 31 43.0 -1.2
ODAN Odare 160.81 106 eP PKPdf 17 31 45.4 -0.2
TAPN Taplejung 161.28 105 eP PKPdf 17 31 46.0 -0.1
WMQ Urumqi 161.44 52 PKP PKPdf 17 31 45.8 +0.3
WMQ LR LR
comp=Z,1μm,23.8s
WMQ LR LR
comp=Z,1μm,24.6s
WMQ LR LR
comp=Z,880nm,23.0s
IRK Irkutsk 161.62 7 ePKP2 PKPab 17 32 28.2 -2.1
IRK e 17 36 14.3
IRK pmax pmax
comp=Z,49nm,1.6s
MOY Mondy 161.67 14 ePKIKP PKPdf 17 31 46.6 +1.1
CMAR Chiang Mai Arr 162.46 150 PKIKP PKPdf 17 31 47.0 -0.2
CMAR 17 32 34.2
CMAR 17 36 26.1
CMAR pmax pmax
comp=Z,5.0nm,1.0s
CMAR pmax pmax
comp=Z,4.0nm,1.1s
CMAR pmax pmax
comp=Z,1.0nm,1.0s
CMAR Chiang Mai Arr 162.46 150 PKP PKPdf 17 31 47.0 -0.2
comp=Z,4.8nm,1.0s,baz=247,slow=2.2,SNR=15
CMAR PKPab PKPab 17 32 34.1 -0.7
comp=Z,3.7nm,1.1s,baz=224,slow=5.0,SNR=7.2
CMAR PP PP 17 36 26.1 +7.8
comp=Z,1.0nm,1.0s,baz=214,slow=6.6,SNR=4.4
CHTO Chiang Mai 162.78 150 ePKIKP PKPdf 17 31 46.7 -0.8
CHTO Chiang Mai 162.78 150 ePKPdf PKPdf 17 31 46.7 -0.8
LSA Lhasa 164.99 102 ePKIKP PKPdf 17 31 50.3 +0.5
LSA Lhasa 164.99 102 ePKPdf PKPdf 17 31 50.3 +0.5
SONM Songino Array 166.18 5 PKP2 PKPab 17 32 51.3 +0.7
SONM 17 36 39.7
SONM pmax pmax
comp=Z,6.0nm,1.1s
SONM pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 166.18 5 PKPab PKPab 17 32 51.3 +0.7
comp=Z,5.7nm,1.1s,baz=342,slow=3.0,SNR=8.5
SONM PP PP 17 36 39.7 +2.2
comp=Z,4.9nm,1.3s,baz=331,slow=4.6,SNR=8.2
NJ2 Nanjing 170.72 261 ePKP PKPdf 17 31 53.5 +0.4
GTA Gaotai 171.50 49 ePKP PKPdf 17 31 54.3 +0.8
GTA pPKP pPKPdf 17 32 05.0 +0.5
GTA sPKP 17 32 09.0
GTA PKPab PKPab 17 33 15.8 +1.2
GTA PP PP 17 37 09.5 +4.0
GTA SKS SKSdf 17 38 52.5 -1.9
GTA SKKS SKKSac 17 43 52.0 +2.2
GTA SS SS 17 58 10.5 +0.5
GTA AMB AMB
comp=Z,590nm,6.3s
GTA LR LR
comp=Z,2μm,20.7s
GTA LR LR
comp=Z,2μm,19.8s
GTA LR LR
comp=Z,4μm,20.2s
GYA Guiyang 172.33 171 PKP PKPdf 17 31 57.3 +3.1
GYA pPKP pPKPdf 17 32 05.8 +0.5
GYA PKPab PKPab 17 33 20.0 +1.7
GYA PKS PKSdf 17 35 23.5 -3.2
GYA PP PP 17 37 06.3 -2.3
GYA SKKS 17 43 54.3
GYA SS SS 17 58 17.0 +0.8
GYA AMB AMB
comp=Z,180nm,8.6s
GYA LR LR
comp=Z,180nm,21.8s
GYA LR LR
comp=Z,170nm,21.4s
GYA LR LR
comp=Z,190nm,24.5s
HHC Hu-ho-hao-te 172.67 339 ePKP PKPdf 17 31 53.8 -0.1
HHC pPKP pPKPdf 17 32 00.8 -4.2
HHC sPKP 17 32 06.3
HHC SS SS 17 58 17.0 -2.9
HHC AMB AMB
comp=Z,450nm,9.8s
HHC LR LR
comp=Z,2μm,18.4s
HHC LR LR
comp=Z,3μm,18.0s
HHC LR LR
comp=Z,2μm,15.8s
WHN Wuhan 173.63 238 ⇓PKP PKPdf 17 31 54.5 0.0
CD2 Chengdu 175.19 130 PKP PKPdf 17 31 55.0 -0.1
CD2 pPKP pPKPdf 17 32 06.3 +0.2
CD2 sPKP 17 32 10.0
CD2 PKS PKSdf 17 35 25.8 -1.5
CD2 PP PP 17 37 26.5 +3.0
CD2 SKS SKSdf 17 38 52.5 -3.2
CD2 SKKS SKKSac 17 44 07.3 -0.3
CD2 SS SS 17 58 44.0 -1.7
CD2 AMB AMB
comp=Z,280nm,6.4s
LZH Lanzhou 175.99 58 ePKP PKPdf 17 31 54.8 -0.4
LZH pPKP pPKPdf 17 32 04.8 -1.5
LZH sPKP 17 32 11.3
LZH ePP PP 17 37 30.0 +2.2
LZH eSKKS 17 44 09.0
LZH SS SS 17 58 51.3 -2.8
LZH AMB AMB
comp=Z,330nm,4.1s
LZH LR LR
comp=Z,850nm,16.8s
LZH LR LR
comp=Z,4μm,21.0s
LZH LR LR
comp=Z,4μm,21.0s
XAN Xi'an 179.28 269 PKP PKPdf 17 31 55.3 -0.3

IDC 27 17:12:25.5±1.1, 25°.95N×128°.43E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.7/26, mbtmp3.8/11, Error ellipse: s-maj=37.4km s-min=18.3km az=82.0
JMA 27 17:12:26.7±0.3, 25°.92N×128°.72E, h26km, M3.8

ISC 27 17:12:26.1±1.7, 25°.92N±0°.05×128°.62E±0°.04, h10km±10km, n33, σ1°51/54, mb3.8/10, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.80 318 P Pn 17 12 42.3 -1.2
JNTH S Sn 17 12 54.4 -1.1
JJT2 Tamagusuku 2 0.81 286 P Pn 17 12 43.7 +0.1
JJT2 S Sn 17 12 55.4 -0.3
JOW Kunigami 0.96 341 P Pg 17 12 44.9 +0.3
JOW S Sn 17 12 59.6 +0.2
JOW Kunigami 0.96 341 Pn Pg 17 12 45.0 +0.3
27nm,0.3s,baz=149,slow=16,SNR=228
JOW Sn Sn 17 12 58.9 -0.5
35nm,0.3s,baz=115,slow=19,SNR=19
JIH Iheya 1.26 333 P Pb 17 12 49.7 -0.2
JIH S Sn 17 13 05.2 -1.5
JAGN Aguni-jima 1.41 299 P Pb 17 12 52.1 -0.3
JAGN S Sg 17 13 10.1 -1.3
JOKE Okinoerabujima 1.44 358 P Pn 17 12 52.0 -0.2
JOKE S Sn 17 13 09.5 -1.7
JKE Kume jima 2 1.70 284 P Pn 17 12 55.6 -0.1
JKE S Sn 17 13 14.8 -2.7
JTK Tokunoshima 1.89 9 P Pn 17 12 58.1 -0.3
JTK S Sn 17 13 19.8 -2.4
JMZ Minamidaito 2 2.35 92 P Pn 17 13 04.3 -0.4
JMZ S Sn 17 13 29.9 -3.7
JAMN Amaminishikomi 2.37 12 P Pn 17 13 05.2 +0.2
JAMN eS Sn 17 13 31.8 -2.3
JAM Amami Oshima 2.64 19 P Pn 17 13 08.3 -0.4
JAM S Sn 17 13 37.7 -3.0
JZK Kikaishima 2.68 27 P Pn 17 13 11.3 +2.1
JZK S Sn 17 13 40.6 -1.1
JOGS Gusukube 3.13 249 P Pn 17 13 16.3 +0.9
JOGS S Sn 17 13 52.4 -0.4
JMJ Miyako jima 2 3.20 251 S Sn 17 13 56.2 +1.6
JIKM Ikemajima 3.20 253 P Pn 17 13 18.3 +1.8
JIKM S Sn 17 13 54.1 -0.6
JIRB Irabujima 3.30 252 P Pn 17 13 18.4 +0.6
JIRB S Sn 17 13 56.5 -0.6
JTJ Tarama 3.77 251 P Pn 17 13 24.2 0.0
JTJ S Sn 17 14 07.0 -1.6
JISG Ishigakijimahi 4.12 252 P Pn 17 13 27.9 -1.2
JISG S Sn 17 14 13.7 -3.6
JIJ Ishigaki jima 4.34 250 P Pn 17 13 31.5 -0.6
JIJ eS Sn 17 14 19.9 -2.9
JKRS Kuro-shima 4.50 249 P Pn 17 13 33.4 -0.9
JKRS S Sn 17 14 24.4 -2.3
IRIF Iriomote-Funau 4.70 251 P Pn 17 13 36.7 -0.4
JNU Nakatsue 7.45 15 Pn Pn 17 14 16.0 +1.2
baz=184,slow=16
JNU Sn Sn 17 15 37.3 -2.0
0.4nm,0.3s,baz=198,slow=20,SNR=3.9
SONM Songino Array 28.00 327 P P 17 18 19.0 +1.8
2.2nm,0.9s,baz=143,slow=11,SNR=14
MKAR Makanchi Array 42.00 312 P P 17 20 17.3 -0.2
0.4nm,0.7s,baz=91,slow=10,SNR=8.8
ZALV Zalesovo Beam 42.71 323 P P 17 20 22.3 -0.7
0.4nm,0.6s,baz=100,slow=7.5,SNR=2.7
WRA Warramunga Arr 45.92 172 P P 17 20 50.4 +1.2
0.6nm,0.7s,baz=349,slow=8.4,SNR=4.7
BVAR Borovoye Array 50.74 318 P P 17 21 27.1 +1.1
0.8nm,0.7s,baz=98,slow=7.9,SNR=3.8
FINES FINESS Array B 73.31 331 P P 17 23 58.0 +0.4
1.7nm,0.9s,baz=149,slow=5.1,SNR=7.0
AKASG Malin Array Be 76.00 320 P P 17 24 12.7 -0.6
0.5nm,0.4s,baz=56,slow=6.2,SNR=4.3
BRTR Keskin Array B 77.50 308 P P 17 24 21.1 -1.2
1.2nm,0.9s,baz=72,slow=4.0,SNR=6.0
YKA Yellowknife Ar 78.66 25 P P 17 24 29.6 +1.5
0.1nm,0.3s,baz=149,slow=9.7,SNR=3.1
NOA NORSAR Array B 79.75 334 P P 17 24 35.3 +1.2
1.2nm,1.0s,baz=56,slow=5.5,SNR=2.7

IDC 27 17:19:04.7±1.7, 36°.51S×73°.11W, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.0/34, mbtmp4.1/9, ML3.3/1, Error ellipse: s-maj=45.2km s-min=28.0km az=175.0
ISCJB 27 17:19:06.6±0.6, 36°.59S±0°.05×72°.96W±0°.10, h25km, mb4.3/12, Error ellipse: s-maj=12.0km s-min=6.7km az=21.4
NEIC 27 17:19:09.5±0.7, 36°.59S×72°.87W, h35km, mb4.5/6, Error ellipse: s-maj=24.9km s-min=13.0km az=88.0
SJA 27 17:19:31.1±0.9, 33°.24S×73°.52W, h124km±255km, ML4.5

ISC 27 17:19:08.5±0.7, 36°.53S±0°.07×73°.1W±0°.1, h25km, n23, σ1°96/26, mb4.3/12, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.64 156 Pn Pn 17 20 11.8 -5.1
2.2nm,0.3s,baz=297,slow=14,SNR=3.6
PLCA Sn Sn 17 21 06.5 -3.5
6.5nm,0.3s,baz=326,slow=13,SNR=6.2
AVIZ Vizcacheras 4.82 52 i P Pb 17 20 35.0 +2.7
AAGR Agrelo 4.89 47 i P Pb 17 20 31.0 -2.5
AAGR i S Sn 17 21 15.2 -1.3
ARCO CERRO ARCO 5.01 44 i P Pb 17 20 30.4 -5.1
ARCO i S Sn 17 21 14.7 -4.7
ARCO AML AML 17 21 16.5
comp=Z,630nm,0.4s
AUSP Uspallata 5.26 36 i P Pn 17 20 27.3 +1.5
RTLS Leoncito 5.66 35 i P Pn 17 20 30.9 -0.3
RTCV Cerro Valdivia 5.97 40 i P Pn 17 20 38.1 +2.7
RTCV i P Pn 17 20 38.1 +2.7
CFAA Coronel Fontan 6.33 41 Pn Pn 17 20 39.2 -1.1
comp=Z,0.7nm,0.3s,baz=218,slow=11,SNR=4.7
CFAA Sn Sn 17 21 55.1 +3.2
comp=Z,2.8nm,0.3s,baz=313,slow=24,SNR=5.4
RTLL Cerro Villicun 6.43 38 i P Pn 17 20 40.5 -1.3
LPAZ La Paz 20.63 14 eP P 17 23 47.1 +0.3
comp=Z,8.4nm,0.9s
SIV San Ignacio 23.07 31 P P 17 24 11.5 -0.7
comp=Z,10nm,1.0s,baz=253,slow=18,SNR=2.9
SDV Santo Domingo 45.23 3 P P 17 27 21.9 -2.1
comp=Z,4.4nm,0.6s
SNAA Sanae 49.58 157 eP P 17 27 57.9 +0.8
comp=Z,7.2nm,1.0s
QSPA South Pole Qui 53.71 180 P P 17 28 28.7 +0.6
comp=Z,2.7nm,0.9s
APG El Apazote 53.82 339 P P 17 28 30.3 +0.8
comp=Z,12nm,0.5s,baz=171,slow=4.9,SNR=5.1
TXAR Lajitas Array 71.55 332 P P 17 30 27.3 -0.1
comp=Z,0.8nm,0.6s,baz=147,slow=8.6,SNR=7.4
DBIC Dimbokro 76.78 71 P P 17 30 59.1 +1.0
comp=Z,3.0nm,0.8s,baz=202,slow=9.1,SNR=3.2
DBIC Dimbokro 76.78 71 eP P 17 30 58.6 +0.4
comp=Z,3.7nm,0.7s
CASY Casey 77.48 181 P P 17 31 01.2 -0.1
comp=Z,7.9nm,1.0s
ANMO Albuquerque 77.61 332 P P 17 31 02.2 -0.4
comp=Z,0.9nm,0.7s,baz=141,slow=6.5,SNR=2.9
NVAR Mina Array Bea 85.49 326 P P 17 31 43.8 -0.4
comp=Z,0.3nm,0.3s,baz=161,slow=5.7,SNR=3.8
PDAR Pinedale Array 85.65 334 P P 17 31 45.4 +0.5
comp=Z,1.2nm,1.1s,baz=128,slow=5.8,SNR=3.3
TORD Torodi Ar. Bea 85.85 70 P P 17 31 46.6 +0.3
comp=Z,0.6nm,0.7s,baz=232,slow=3.8,SNR=3.6

MEX 27 17:20:21.0±0.5, 16°.29N×98°.11W, h5km, MD3.7, Near coast of Guerrero

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PNIG Pinotepa 0.10 351 eP Pg 17 20 22.5 -0.7
baz=170,slow=6.2
PNIG i S Sg 17 20 24.6 0.0
VHO Vista Hermosa 1.53 59 i P Pn 17 20 45.8 -3.5
VHO i S Sn 17 21 04.9 -4.9
HUIG Huatulco 1.99 105 eP Pn 17 20 55.4 -0.1
HUIG i S Sn 17 21 13.8 -7.0

IDC 27 17:22:20.4±0.6, 38°.04S×73°.53W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.4/35, mbtmp4.4/14, ML4.6/1, MS5.1/1, Ms1 5.1/1, ms1mx4.0/26, Error ellipse: s-maj=24.6km s-min=17.7km az=69.0
ISCJB 27 17:22:22.6±0.3, 37°.95S±0°.05×73°.44W±0°.09, h22km, mb4.7/34, MS5.1/1, Error ellipse: s-maj=10.8km s-min=6.2km az=148.3
NEIC 27 17:22:25.6±0.4, 37°.98S×73°.49W, h35km, mb4.9/27, Error ellipse: s-maj=13.0km s-min=8.2km az=68.0

ISC 27 17:22:24.1±0.4, 37.97S±0.06×73.59W±0.09, h22km, n143, σ1.50/154, mb4.8/34, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.62	140	Pn	Pn	17 23 19.6	+0.6
	9.5nm,0.3s,baz=317,slow=13,SNR=4.5						
PLCA				Sn	Sb	17 24 14.8	+3.7
	63nm,0.3s,baz=40,slow=22,SNR=6.3						
PLCA	Paso Flores	3.62	140	ePn	Pn	17 23 19.6	+0.6
PLCA				eSn	Sb	17 24 10.9	-0.2
PLCA				Sn	Sn	17 24 14.8	+14
TRQA	Tornquist	9.16	94	Pn	Pn	17 24 36.2	+1.2
LVC	Limon Verde	15.83	16	ePn	Pn	17 26 04.2	-1.7
	40nm,0.9s						
USHA	Ushuaia	17.23	170	Pn	P	17 26 24.7	+0.2
	1.1nm,0.3s,baz=318,slow=10,SNR=13						
CPUP	Villa Florida	17.98	54	P	Pn	17 26 31.9	-0.7
	0.5nm,0.3s,baz=216,slow=10,SNR=3.7						
CPUP	Villa Florida	17.98	54	ePn	Pn	17 26 30.7	-1.9
LPAZ	La Paz	22.13	14	P	P	17 27 22.2	+3.3
	9.4nm,0.7s,baz=208,slow=7.4,SNR=8.0						
LPAZ	La Paz	22.13	14	eP	P	17 27 21.4	+2.4
	15nm,0.8s						
SIV	San Ignacio	24.52	30	P	P	17 27 42.3	+0.1
	3.5nm,0.8s,baz=219,slow=6.5,SNR=2.9						
NNA	Nana	26.04	353	eP	P	17 27 56.5	+0.6
	66nm,1.8s						
SAML	Samuel	30.39	21	eP	P	17 28 34.3	-0.4
	2.4nm,0.6s						
OTAV	Otavalo	38.29	352	eP	P	17 29 45.7	+2.1
	18nm,1.4s						
VNA3	Neumayer Olymp	46.20	156	P	P	17 30 46.7	-0.2
SDV	Santo Domingo	46.70	4	eP	P	17 30 48.3	-3.3
	15nm,0.8s						
RCBR	Riachuelo	46.84	56	P	P	17 30 53.2	+0.6
	5.4nm,0.9s,baz=203,slow=15,SNR=3.2						
RCBR	Riachuelo	46.84	56	P	P	17 30 51.9	-0.7
	87nm,1.8s						
VNA2	Neumayer--Watz	46.88	156	P	P	17 30 51.5	-0.8
BCIP	Isla Barro Col	47.26	352	P	P	17 30 49.8	-5.9
SNAA	Sanae	48.42	156	P	P	17 31 03.5	-0.7
SNAA	Sanae	48.42	156	P	P	17 31 03.4	-0.9
	8.4nm,0.9s,baz=279,slow=6.9,SNR=23						
SNAA	Sanae	48.42	156	eP	P	17 31 03.0	-1.3
	30nm,1.0s						
JTS	JuntasAbangare	49.17	345	eP	P	17 31 11.1	+0.5
	12nm,1.1s						
QSPA	South Pole Qui	52.27	180	P	P	17 31 33.1	-0.4
	13nm,0.8s,baz=169,slow=1.4,SNR=17						
GTBY	Guantanamo Bay	57.61	358	P	P	17 32 11.3	-1.1
	24nm,0.8s						
TEIG	Tepich	59.52	344	LR	LR	17 51 53.8	
	comp=Z,1μm,20.0s,baz=153,slow=30						
632A	Uvalde	71.47	336	P	P	17 33 43.8	+1.0
	baz=72						
631A	Perdido Creek	71.63	335	P	P	17 33 45.7	+1.8
	baz=72						
533A	Kerrville	71.75	337	P	P	17 33 45.2	+0.6
	baz=72						
532A	Rocksprings	72.08	336	P	P	17 33 47.2	+0.6
	baz=72						
434A	Burnet	72.21	338	P	P	17 33 47.6	+0.3
	baz=73						
531A	Rocksprings	72.32	336	P	P	17 33 48.3	+0.3
	baz=73						
336A	Riesel	72.34	339	P	P	17 33 48.5	+0.5
	baz=73						
JCT	Junction City	72.37	336	eP	P	17 33 47.8	-0.5
JCT	Junction City	72.37	336	P	P	17 33 48.6	+0.3
	baz=73						
433A	Art	72.41	337	P	P	17 33 48.7	+0.2
	baz=73						
530A	J-C Ranch, Com	72.57	335	P	P	17 33 50.8	+1.3
	baz=73						
TXAR	Lajitas Array	72.63	333	P	P	17 33 50.1	+0.2
	1.5nm,0.8s,baz=157,slow=8.1,SNR=11						
334A	Lometa	72.69	338	P	P	17 33 49.9	-0.2
	baz=73						
431A	Sonora	72.82	336	P	P	17 33 52.0	+1.0
	baz=73						
333A	Richland Sprin	72.90	337	P	P	17 33 51.9	+0.5
	baz=73						
430A	Baggett Ranch,	73.12	335	P	P	17 33 53.9	+1.1
	baz=74						
429A	Davenport Ranc	73.19	335	P	P	17 33 53.3	+0.1
	baz=74						
332A	Millersview	73.19	337	P	P	17 33 53.4	+0.3
	baz=74						
331A	San Angelo	73.34	336	P	P	17 33 54.3	+0.3
	baz=74						
232A	Coleman	73.63	337	P	P	17 33 56.6	+0.8
	baz=74						
SWET	Sewanee	73.72	349	eP	P	17 33 55.5	-0.6
	28nm,0.7s						
TKL	Tuckaleechee C	73.87	351	P	P	17 33 57.0	0.0
	3.6nm,0.9s,baz=160,slow=12,SNR=3.3						
231A	Bronte	73.88	337	P	P	17 33 57.7	+0.5
	baz=74						
329A	Wagon Wheel Ra	74.01	335	P	P	17 33 58.4	+0.4
	baz=74						
SUR	Sutherland	74.02	119	P	P	17 34 02.0	+3.5
	14nm,1.1s						
133A	Hamilton Ranch	74.08	338	P	P	17 33 58.9	+0.6
	baz=74						
ABTX	Abilene, Hawle	74.31	337	P	P	17 33 60.0	+0.3
	baz=75						
Z33A	Whitaker Ranch	74.67	338	P	P	17 34 02.4	+0.7
	baz=75						
Z32A	Haskell	74.90	338	P	P	17 34 02.8	-0.3
	baz=75						
WVT	Waverly	74.90	348	eP	P	17 34 07.1	+4.2
	18nm,1.1s						
Z31A	Sharp Cattle R	75.11	337	P	P	17 34 04.0	-0.3
	baz=76						
128A	Castleberry Fa	75.22	335	P	P	17 34 04.3	-0.7
	baz=76						
Y33A	Hilltop Ranch,	75.31	339	P	P	17 34 04.9	-0.5
	baz=76						
Z30A	Sanderson Ranc	75.39	336	P	P	17 34 05.9	-0.1
	baz=76						
Z29A	Hungry Hill Ra	75.55	336	P	P	17 34 06.6	-0.3
	baz=76						
CASY	Casey	76.03	182	P	P	17 34 07.7	-1.5
	12nm,1.1s						
Y29A	Porterfield Fa	76.09	336	P	P	17 34 10.3	+0.4
	baz=76						
X31A	McDonald Ranch	76.28	338	P	P	17 34 11.3	+0.3
	baz=77						
Z26A	Caprock	76.32	334	P	P	17 34 11.5	+0.2
	baz=77						
W33A	Caddo, Fort Co	76.33	339	P	P	17 34 12.3	+1.1
	baz=77						
TUL1	Tulsa	76.34	342	eP	P	17 34 13.2	+2.0
	13nm,0.8s						
TUL1	Tulsa	76.34	342	P	P	17 34 11.9	+0.7
	baz=77						
W32A	Sentinel	76.53	339	P	P	17 34 13.1	+0.8
	baz=77						
X29A	Tulia	76.64	336	P	P	17 34 14.0	+0.9
	baz=77						
Z24A	Sheeppen Canyo	76.86	333	P	P	17 34 14.8	+0.3
	baz=77						
V33A	Lossen Ranch,	76.91	340	P	P	17 34 15.5	+1.0
	baz=77						
AMTX	Amarillo	77.04	337	eP	P	17 34 15.8	+0.5
	12nm,0.8s						
AMTX	Amarillo	77.04	337	P	P	17 34 16.0	+0.7
	baz=77						
W29A	Amarillo	77.25	337	P	P	17 34 17.5	+1.0
	baz=78						
Y24A	Capitan	77.42	333	P	P	17 34 17.6	-0.1
	baz=78						
DBIC	Dimbokro	77.64	71	P	P	17 34 18.8	-0.3
	11nm,0.6s,baz=199,slow=6.3,SNR=14						
DBIC	Dimbokro	77.64	71	eP	P	17 34 18.5	-0.6
	14nm,0.8s						
W27A	Bowe Ranch, En	77.64	336	P	P	17 34 19.1	+0.4
	baz=78						
TUC	Tucson	78.05	328	eP	P	17 34 21.9	+0.9
	5.7nm,1.2s						
T33A	Patterson Ranc	78.08	340	P	P	17 34 21.7	+0.7
	baz=78						
LPM	Los Pinos Moun	78.20	333	eP	P	17 34 22.3	+0.3
U30A	WK&E Inc. Balk	78.25	338	P	P	17 34 23.1	+1.1
	baz=79						
W25A	X Bar L Ranch,	78.25	335	P	P	17 34 22.5	+0.3
	baz=79						
ACSO	Alum Creek Sta	78.31	353	eP	P	17 34 21.1	-1.0
	14nm,0.6s						
ANMO	Albuquerque	78.70	333	P	P	17 34 25.0	+0.3
	2.4nm,0.9s,baz=176,slow=8.7,SNR=6.6						
ANMO	Albuquerque	78.70	333	eP	P	17 34 24.7	0.0
	7.5nm,1.1s						
V25A	Rancho No Teng	78.87	335	P	P	17 34 25.9	+0.3
	baz=79						
T28A	Walsh	79.23	337	P	P	17 34 28.0	+0.5
	baz=80						
BOSA	Boshof	79.33	118	P	P	17 34 27.4	-1.0
	8.5nm,0.8s,baz=222,slow=5.8,SNR=8.5						
BOSA	Boshof	79.33	118	eP	P	17 34 27.5	-1.0
	114nm,2.4s						
TSUM	Tsumeb	79.34	106	eP	P	17 34 25.7	-3.0
	18nm,1.5s						
S26A	Kim	80.12	336	P	P	17 34 32.8	+0.5
	baz=80						
X16A	Lo Mia Camp, P	80.15	329	P	P	17 34 33.1	+0.5
	baz=80						
Y14A	Wickenburg	80.38	328	P	P	17 34 35.2	+1.5
	baz=81						
S25A	Robets Cordova	80.46	336	P	P	17 34 35.2	+0.9
	baz=81						
R27A	Eads	80.52	337	P	P	17 34 35.1	+0.7
	baz=81						
P31A	Stockton	80.67	340	P	P	17 34 36.3	+1.2
	baz=81						
S24A	Houchin Ranch,	80.70	335	P	P	17 34 36.3	+0.7
	baz=81						
R26A	Arlington	80.73	337	P	P	17 34 36.5	+1.0
	baz=81						
R24A	Sanders Place,	81.20	335	P	P	17 34 39.4	+1.2
	baz=82						
S22A	4UR Ranch, Cre	81.35	334	P	P	17 34 40.3	+1.2
	baz=82						
MVCO	Mesa Verde	81.46	332	P	P	17 34 41.0	+1.4
	baz=82						
LBTB	Lobatse	81.77	115	eP	P	17 34 40.1	-1.5
	6.5nm,0.6s						
U15A	North Rim	82.23	329	P	P	17 34 44.6	+0.9
	baz=83						
SRU	San Rafael	83.89	332	eP	P	17 34 49.9	-2.3
	3.8nm,0.8s						
ECSD	EROS Data Cent	83.97	343	eP	P	17 34 50.5	-1.7
	12nm,0.8s						
ECSD	EROS Data Cent	83.97	343	P	P	17 34 52.2	0.0
	baz=84						
NVAR	Mina Array Bea	86.46	326	P	P	17 35 06.1	+1.0
	0.5nm,0.4s,baz=153,slow=6.6,SNR=2.4						
TOA0	Torodi Ar. Sit	86.73	71	eP	P	17 35 03.6	-3.1
TORD	Torodi Ar. Bea	86.73	71	P	P	17 35 05.6	-1.0
	1.9nm,0.5s,baz=221,slow=5.2,SNR=13						
PDAR	Pinedale Array	86.76	334	P	P	17 35 06.0	-0.4
	0.5nm,0.6s,baz=127,slow=8.5,SNR=4.2						
ELK	Elko	87.12	330	P	P	17 35 08.5	+0.2
	1.9nm,0.8s,baz=196,slow=4.9,SNR=4.4						
F27A	Lemmon	87.30	341	P	P	17 35 10.5	+1.8
	baz=88						
HLID	Hailey	89.20	332	eP	P	17 35 18.2	+0.1
	4.7nm,1.2s						
MFID	Camas Ranch	89.61	331	P	P	17 35 20.4	+0.5
	1.8nm,0.9s						
LSZ	Lusaka	89.73	109	P	P	17 35 22.2	+1.0
GERES	GERESS Array B	115.81	47	PKP	PKPdf	17 41 05.3	+0.8
	0.6nm,0.7s,baz=222,slow=1.8,SNR=5.6						
WRA	Warramunga Arr	116.69	210	PKhKP	PKPpre	17 41 04.9	
	0.4nm,0.7s,baz=257,slow=2.6,SNR=4.2						
WRA				SKP		17 44 41.9	
	1.1nm,0.6s,baz=153,slow=1.9,SNR=4.7						
BRTR	Keskin Array B	124.79	64	PKP	PKPdf	17 41 21.4	-0.7
	1.3nm,0.9s,baz=158,slow=3.6,SNR=4.2						
FINES	FINESS Array B	126.95	36	PKP	PKPdf	17 41 25.2	-0.1
	2.0nm,1.0s,baz=160,slow=4.4,SNR=3.2						
GEYT	Alibeck	142.26	75	PKhKP	PKPpre	17 41 51.4	
	0.6nm,0.5s,baz=270,slow=1.4,SNR=2.8						
AKTO	Aktyubinsk	143.77	54	PKhKP	PKPpre	17 41 54.4	
	2.1nm,0.7s,baz=287,slow=3.9,SNR=4.6						
TIXI	Tiksi	144.34	348	ePKPdf	PKPab	17 41 53.8	-1.5
ABKAR	Akbulak array	145.04	56	ePKPdf	PKPbc	17 41 57.2	-1.4
POO	Poona	145.64	115	eP	PKPab	17 42 06.0	+4.2
HYB	Hyderabad	148.14	122	i PKP	PKPab	17 42 07.0	+1.6
BRVK	Borovoye	150.90	47	ePKPbc	PKPbc	17 42 13.9	-0.5
BVAR	Borovoye Array	150.97	47	PKPbc	PKPbc	17 42 14.5	0.0
	2.4nm,0.5s,baz=302,slow=3.0,SNR=17						
YAK	Yakutsk	151.96	337	ePKPbc	PKPbc	17 42 14.8	-1.6
KKAR	Karatay Array	152.38	68	ePKPbc	PKPbc	17 42 17.0	-1.1
AAK	Ala-Archa	155.30	69	ePKPdf	PKPdf	17 42 15.7	+0.1
AAK				ePKPbc	PKPbc	17 42 21.4	
KSH	Kashi	156.26	77	ePKP	PKPdf	17 42 20.8	+3.9
KSH				epPKP	pPKPdf	17 42 31.5	+7.1
KSH				esPKP		17 42 35.5	
KSH				ePP	PP	17 46 24.3	+1.0
KSH				eSKKS		17 53 09.3	
KSH				AMB	AMB		
	comp=Z,180nm,5.9s						
MK31	Makanchi Array	160.18	56	ePKPdf	PKPdf	17 42 20.5	-0.9
MKAR	Makanchi Array	160.18	56	PKPab	PKPab	17 43 01.0	-0.7
	0.7nm,0.6s,baz=270,slow=3.1,SNR=5.8						
WMQ	Urumqi	164.70	62	ePKP	PKPdf	17 42 26.3	+0.3
WMQ				LR	LR		
	comp=N,110nm,19.0s						
WMQ				LR	LR		
	comp=E,150nm,20.6s						
WMQ				LR	LR		
	comp=Z,120nm,20.4s						
NJ2	Nanjing	168.22	244	ePKP	PKPdf	17 42 29.0	+0.1
GYA	Guiyang	168.52	181	i PKP	PKPdf	17 42 28.0	-1.5
GYA				pPKP	pPKPdf	17 42 40.8	+3.8
GYA				PKPab	PKPab	17 43 39.5	+0.7
GYA				PKS	PKSdf	17 45 59.5	-2.8
GYA				PP	PP	17 47 29.3	+2.4
GYA				SKKS		17 54 11.0	
GYA				SS	SS	18 08 14.3	-2.7
GYA				AMB	AMB		
	comp=Z,120nm,8.3s						
GYA				LR	LR		
	comp=N,120nm,21.3s						
GYA				LR	LR		
	comp=E,110nm,21.1s						
GYA				LR	LR		
	comp=Z,130nm,24.2s						
SONM	Songino Array	170.14	0	PKPab	PKPab	17 43 45.1	-0.3
	0.6nm,1.0s,baz=2.9,slow=2.9,SNR=3.3						
CD2	Chengdu	172.62	162	PKP	PKPdf	17 42 31.0	-0.5
CD2				pPKP	pPKPdf	17 42 42.3	+3.3
CD2				sPKP		17 42 46.0	
CD2				PKS	PKSdf	17 46 02.0	-1.9
CD2				PP	PP	17 47 50.5	+3.0
CD2				SKS	SKSdf	17 49 28.8	-4.7
CD2				SKKS	SKKSac	17 54 32.3	-1.2
CD2				SS	SS	18 08 56.0	-1.6
CD2				AMB	AMB		
	comp=Z,220nm,6.4s						
GTA	Gaotai	174.64	72	ePKP	PKPdf	17 42 32.5	+0.4
GTA				pPKP	pPKPdf	17 42 43.3	+3.7
GTA				sPKP		17 42 47.3	
GTA				PKPab	PKPab	17 44 07.0	+1.0
HHC	Hu-ho-hao-te	175.08	307	ePKP	PKPdf	17 42 29.5	-2.6
HHC				pPKP	pPKPdf	17 42 39.3	-0.4
HHC				sPKP		17 42 44.0	
LZH	Lanzhou	177.21	132	ePKP	PKPdf	17 42 33.3	+0.5
LZH				pPKP	pPKPdf	17 42 42.0	+1.6
LZH				sPKP		17 42 45.8	

ISCJB 27 17:24:30.6±0.1, 36.31S±0.03×73.01W±0.05, h25km, mb5.5/187, MS5.9/20, Error ellipse: s-maj=5.8km s-min=3.9km az=146.7

NEIC 27 17:24:30.6±0.2, 36.35S×73.21W, h19km, mb5.7/168, MW6.1, Error ellipse: s-maj=6.9km s-min=4.3km az=59.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{18}Nm; Mrr0.94; Mθθ-1.34; Mφφ0.39; Mrθ-0.21; Mrφ-0.45; Mθr-0.74; Best double couple: Mo1.50000×10^{18} NP1: φs107.00000°, δ46.00000°, λ141.00000°. NP2: φs226.00000°, δ63.00000°, λ51.00000°. Principal axes: T 1.4600, Plg54.0000°, Azm86.0000°; N 0.0500, Plg33.0000°, Azm246.0000°; P -1.5200, Plg9.0000°, Azm342.0000°;

BJI 27 17:24:30.2, 35.76S×73.10W, h29km, mB6.0/16, Ms6.1/19, Ms7 6.0/20

MOS 27 17:24:31.3±1.0, 36.29S×73.22W, h33km, mb5.7/40, Error ellipse: s-maj=15.0km s-min=7.3km az=100.9

IDC 27 17:24:34.5±2.1, 36.44S×73.24W, h49km±19km, mb4.9/29, mb1 4.9/33, mb1mx4.9/41, mbtmp5.1/33, ML5.0/4, MS5.9/19, Ms1 5.9/19, ms1mx5.5/32, Error ellipse: s-maj=15.6km s-min=10.4km az=77.0

ISC 27 17:24:31.5±0.3, 36.39S±0.05×73.12W±0.06, h25km, n856, σ1.31/856, mb5.6/191, MS6.1/20, 222C-172D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.78	156	eP	Pn	17 25 42.5	+0.4
PLCA				S	Sb	17 26 45.0	-6.9
PLCA	Paso Flores	4.78	156	P	Pn	17 25 42.9	+0.8
	33nm,0.3s,baz=328,slow=11,SNR=3.6						
PLCA				S	Sb	17 26 45.0	-6.9
	40nm,0.3s,baz=274,slow=22,SNR=3.7						
PLCA	Paso Flores	4.78	156	ePn	Pn	17 25 42.5	+0.4
PLCA				P	Pn	17 25 42.9	+0.8
PLCA				S	Sb	17 26 45.0	-6.9
CFAA	Coronel Fontan	6.26	42	P	Pn	17 26 04.5	+2.1
	5.1nm,0.3s,baz=201,slow=12,SNR=16						
CFAA				S	Sn	17 27 12.5	-0.6
	4.5nm,0.3s,baz=209,slow=11,SNR=5.0						
CFAA				LR	LR	17 28 56.9	
	comp=Z,17μm,20.0s,baz=226,slow=41						
TRQA	Tornquist	9.04	104	ePn	Pn	17 26 43.6	+3.1
LVC	Limon Verde	14.20	16	ePn	Pn	17 27 52.3	+0.9
CPUP	Villa Florida	16.78	58	eP	P	17 28 26.7	-0.2
CPUP				pmax	pmax		
	comp=Z,21nm,1.2s						
CPUP	Villa Florida	16.78	58	P	P	17 28 26.8	-0.2
	comp=Z,3.5nm,0.3s,baz=218,slow=10,SNR=12						
CPUP				S	S	17 31 44.7	+3.8
	comp=Z,1.3nm,0.3s,baz=231,slow=14,SNR=1.9						
CPUP				LR	LR	17 35 01.6	
	comp=Z,39μm,20.3s,baz=220,slow=37						
CPUP	Villa Florida	16.78	58	ePn	P	17 28 26.7	-0.2
	comp=Z,21nm,1.2s						
USHA	Ushuaia	18.73	172	P	Pn	17 28 49.4	+0.8
	comp=Z,1.5nm,0.3s,baz=316,slow=12,SNR=12						
USHA				LR	LR	17 35 35.0	
	comp=Z,30μm,21.3s,baz=328,slow=35						
LPAZ	La Paz	20.50	14	eP	P	17 29 08.6	+0.2
LPAZ				pmax	pmax		
	comp=Z,262nm,1.3s						
LPAZ	La Paz	20.50	14	P	Pn	17 29 10.7	-0.2
	comp=Z,50nm,0.9s,baz=168,slow=10,SNR=12						
LPAZ	La Paz	20.50	14	eP	P	17 29 08.6	+0.2
	comp=Z,262nm,1.3s						
SIV	San Ignacio	22.97	31	P	P	17 29 35.7	+1.4
	comp=Z,102nm,0.9s,baz=231,slow=12,SNR=43						
SIV				LR	LR	17 40 26.7	
	comp=Z,68μm,19.1s,baz=226,slow=41						
NNA	Nana	24.52	351	eP	P	17 29 48.8	-0.4
NNA				pmax	pmax		
	comp=Z,112nm,1.1s						
NNA	Nana	24.52	351	P	P	17 29 48.9	-0.4
	comp=Z,22nm,0.8s,baz=192,slow=10,SNR=7.0						
NNA				LR	LR	17 37 30.0	
	comp=Z,10μm,19.4s,baz=174,slow=32						
NNA	Nana	24.52	351	eP	P	17 29 48.8	-0.4
	comp=Z,112nm,1.1s						
SAML	Samuel	28.77	21	eP	P	17 30 27.1	-0.2
	comp=Z,172nm,2.4s						
PMSA	Palmer Station	28.94	172	LR	LR	17 41 52.7	
	comp=Z,13μm,18.2s,baz=338,slow=36						
PMSA	Palmer Station	28.94	172	eP	P	17 30 28.2	-0.1
ATAH	Atahualpa	29.51	349	P	P	17 30 36.2	+1.9
	comp=Z,6.6nm,0.9s,baz=160,slow=7.5,SNR=6.3						
ATAH				LR	LR	17 40 02.9	
	comp=Z,9μm,20.2s,baz=177,slow=31						
BDFB	Brasilia	30.43	54	eP	P	17 30 42.5	+0.3
BDFB	Brasilia	30.43	54	P	P	17 30 43.6	+1.4
	comp=Z,19nm,0.7s,baz=198,slow=8.2,SNR=10.0						
BDFB				LR	LR	17 44 11.8	
	comp=Z,51μm,19.5s,baz=222,slow=38						
BDFB	Brasilia	30.43	54	eP	P	17 30 42.5	+0.3
HOPE	Hope Point	30.89	137	eP	P	17 30 46.4	+0.6
	comp=Z,115nm,0.9s						
RPN	Rapa Nui	31.99	276	LR	LR	17 40 14.5	
	comp=Z,26μm,18.4s,baz=122,slow=30						
OTAV	Otavalo	36.77	351	eP	P	17 31 39.4	+1.6
	comp=Z,195nm,1.7s						
ROSC	El Rosal	41.04	358	P	P	17 32 14.5	+1.1
	comp=Z,8.5nm,0.4s,baz=251,slow=3.8,SNR=8.0						
SDV	Santo Domingo	45.09	3	eP	P	17 32 44.5	-1.4
	comp=Z,58nm,0.9s						
RCBR	Riachuelo	45.66	57	P	P	17 32 51.9	+1.5
	comp=Z,52nm,1.0s,baz=203,slow=9.2,SNR=19						
RCBR				LR	LR	17 54 01.1	
	comp=Z,47μm,18.7s,baz=205,slow=39						
RCBR	Riachuelo	45.66	57	eP	P	17 32 51.7	+1.3
	comp=Z,326nm,1.6s						
BCIP	Isla Barro Col	45.75	351	eP	P	17 32 50.3	-0.5
	comp=Z,73nm,1.2s						
PCRV	Puerto La Cruz	47.00	11	P	P	17 33 01.5	+0.8
	comp=Z,64nm,0.9s,baz=177,slow=9.6,SNR=8.7						
VNA3	Neumayer Olymp	47.50	157	P	P	17 33 04.4	+0.3
JTS	JuntasAbangare	47.75	344	eP	P	17 33 03.5	-3.1
JTS				pmax	pmax		
	comp=Z,49nm,1.0s						
JTS	JuntasAbangare	47.75	344	P	P	17 33 07.3	+0.8
	comp=Z,7.1nm,0.9s,baz=178,slow=7.1,SNR=7.5						
JTS	JuntasAbangare	47.75	344	eP	P	17 33 03.5	-3.1
	comp=Z,49nm,1.0s						
VNA2	Neumayer--Watz	48.17	156	P	P	17 33 09.9	+0.7
GRGR	Grenville	49.45	15	eP	P	17 33 19.3	-0.4
	comp=Z,548nm,0.9s						
GRW	Mount Saint Ca	49.48	15	e	P	17 33 21.1	+1.1
SNAA	Sanae	49.73	157	P	P	17 33 21.8	+0.6
SNAA	Sanae	49.73	157	eP	P	17 33 21.0	-0.3
SNAA				pmax	pmax		
	comp=Z,256nm,1.2s						
SNAA	Sanae	49.73	157	P	P	17 33 21.4	+0.2
	comp=Z,38nm,0.8s,baz=283,slow=5.9,SNR=47						
SNAA				LR	LR	17 53 39.8	
	comp=Z,3μm,18.9s,baz=286,slow=35						
SNAA	Sanae	49.73	157	eP	P	17 33 21.0	-0.3
	comp=Z,256nm,1.2s						
FCV	Fort Charlotte	50.53	15	e	P	17 33 29.0	+1.2
BHS	Barnard House	50.69	15	e	P	17 33 31.4	+2.4
SVV	Soufriere Volc	50.70	15	e	P	17 33 30.2	+1.1
SLB	Belfond	51.23	15	e	P	17 33 34.2	+1.1
FDF	Fort de France	52.09	15	eP	P	17 33 38.6	-0.9
FDF				pmax	pmax		
	comp=Z,114nm,0.9s						
FDF	Fort de France	52.09	15	eP	P	17 33 38.6	-0.9
	comp=Z,114nm,0.9s						
APG	El Apazote	53.67	339	P	P	17 33 48.0	-3.5
	comp=Z,10nm,0.9s,baz=172,slow=9.1,SNR=5.8						
QSPA	South Pole Qui	53.85	180	P	P	17 33 51.9	-0.3
	comp=Z,89nm,1.0s,baz=159,slow=2.1,SNR=21						
QSPA	South Pole Qui	53.85	180	eP	P	17 33 51.0	-1.2
	comp=Z,82nm,0.9s						
ICMP	Isla Caja de M	54.34	8	eP	P	17 33 54.8	-1.2
CRPR	Cabo Rojo, PR	54.39	7	eP	P	17 33 54.5	-1.9
	comp=Z,77nm,0.9s						
MTDJ	Mount Denham	54.48	355	P	P	17 33 57.5	+0.3
RKT	Rikitea	54.48	266	eS	S	17 41 37.8	+3.1
	comp=Z,7μm,26.2s						
RKT				eLR	LR	17 49 53.9	
	comp=Z,13μm,30.0s,baz=124						
RKT	Rikitea	54.48	266	eT	T	18 32 03.0	
	comp=Z,6.2nm,0.2s						
OBIP	Obispado Ponce	54.48	8	eP	P	17 33 56.2	-0.8
	comp=Z,83nm,0.8s						
NVL	N'lazarevskaya	54.49	156	eP	P	17 33 58.7	+2.1
NVL				eS	S	17 41 37.4	+3.7
NVL				pmax	pmax		
	comp=Z,91nm,0.7s						
NVL				MLR	MLR		
	comp=Z,4μm,14.0s						
CELP	Cerrillos	54.52	8	eP	P	17 33 56.6	-0.7
SABA	Saba	54.52	12	eP	P	17 33 57.0	-0.4
	comp=Z,98nm,0.8s						
CPD	Cerro la Pandu	54.55	8	eP	P	17 33 56.2	-1.4
CPD				pmax	pmax		
	comp=Z,45nm,1.0s						
CPD	Cerro la Pandu	54.55	8	eP	P	17 33 56.2	-1.4
	comp=Z,45nm,1.0s						
LSP	Las Mesas	54.56	7	eP	P	17 33 53.5	-4.2
MPR	Mayaguez	54.59	7	eP	P	17 33 57.4	-0.5
	comp=Z,126nm,1.6s						
LRS	Lares	54.70	7	eP	P	17 33 57.6	-1.1
AOPR	Arecibo Observ	54.77	7	eP	P	17 33 58.2	-1.0
	comp=Z,60nm,0.8s						

CBYP Canovanas 54.79 8 eP P 17 33 57.6 -1.7
comp=Z,341nm,1.8s
ANWB Willy Bob 54.82 13 eP P 17 33 58.0 -1.5
comp=Z,200nm,1.4s
AGPR Aguadilla, PR 54.85 7 eP P 17 33 57.1 -2.6
SDDR Presa de Saban 55.09 2 eP P 17 34 02.9 +1.4
comp=Z,36nm,1.1s
SMN1 Samana, DR 55.39 4 eP P 17 34 03.2 -0.5
GTBY Guantanamo Bay 56.04 358 eP P 17 34 03.8 -4.4
comp=Z,51nm,0.9s
TEIG Tepich 58.10 343 P P 17 34 23.1 +0.3
comp=Z,75nm,0.9s,baz=166,slow=3.6,SNR=9.4
VNDA Vanda 61.59 192 P P 17 34 46.5 +0.3
VNDA pmax pmax
comp=Z,22nm,1.1s
VNDA Vanda 61.59 192 P P 17 34 46.5 +0.3
comp=Z,22nm,1.1s,baz=41,slow=7.4,SNR=3.8
SYO Syowa Base 63.98 158 ⇓iP P 17 35 00.0 -2.2
035A Encino 67.24 336 ⇓P P 17 35 24.8 +1.0
baz=68
034A Hebbronville 67.55 335 ⇑P P 17 35 27.6 +1.9
baz=68
MEH Mehetia 67.68 264 eT T 18 48 33.1
comp=Z,152nm,0.2s
934A Benavides 68.00 336 ⇑P P 17 35 29.7 +1.2
baz=68
TIGA Tifton 68.18 350 ⇑P P 17 35 29.4 -0.1
baz=68
933A Laredo 68.26 335 ⇑P P 17 35 30.7 +0.6
baz=68
834A Tilden 68.49 336 ⇑P P 17 35 33.4 +1.8
baz=69
TVO Taravao 68.68 263 eT T 18 49 48.2
comp=Z,2.9nm,0.2s
TIAR Tiarei 68.88 263 eT T 18 50 02.8
comp=Z,22nm,0.3s
735A Kenedy 68.93 337 ⇑P P 17 35 35.5 +1.3
baz=69
833A Chaparral WMA, 68.95 335 ⇓P P 17 35 34.4 0.0
baz=69,SNR=9.0
PAE Paea 69.01 263 eT T 18 50 12.8
comp=Z,1.9nm,0.2s
PPT2 Papeete2 69.05 263 eS S 17 44 42.5 +3.1
comp=Z,13µm,26.5s
PPT2 Papeete2 69.05 263 eLR LR 17 56 33.2
comp=Z,23µm,24.5s,baz=121
PPT2 Papeete2 69.05 263 eT T 18 50 14.7
comp=Z,3.1nm,0.3s
PPT Papeete 69.06 263 P P 17 35 35.8 +0.3
PPT pmax pmax
comp=Z,35nm,0.9s
PPT MLR MLR
comp=Z,13µm,19.5s
PPT Papeete 69.06 263 P P 17 35 35.8 +0.3
comp=Z,31nm,0.8s,baz=209,slow=6.5,SNR=3.7
PPT LR LR 17 57 54.7
comp=Z,13µm,19.5s,baz=110,slow=29
832A Faith Ranch, C 69.11 335 ⇓P P 17 35 35.1 -0.4
baz=69,SNR=10
734A La Parita Cree 69.16 336 ⇑P P 17 35 35.4 -0.3
baz=69
SACV Santiago Islan 69.22 52 eP P 17 35 33.8 -2.6
comp=Z,493nm,2.6s
636A Smothers Creek 69.28 338 ⇑P P 17 35 38.6 +2.2
baz=70
733A Divot King Ran 69.28 336 ⇓P P 17 35 37.4 +0.9
baz=70
HKT Hockley 69.35 339 eP P 17 35 38.0 +1.2
HKT pmax pmax
comp=Z,101nm,1.9s
HKT Hockley 69.35 339 eP P 17 35 38.0 +1.2
comp=Z,101nm,1.9s
635A Leesville 69.41 337 ⇑P P 17 35 37.8 +0.5
baz=70
NHSC New Hope 69.45 354 eP P 17 35 36.1 -1.3
comp=Z,150nm,1.1s
732A Laxson Ranch, 69.52 335 ⇑P P 17 35 38.6 +0.7
baz=70
537A Green Hill Far 69.61 339 ⇑P P 17 35 39.8 +1.3
baz=70
536A Bastrop 69.83 338 ⇓P P 17 35 41.1 +1.3
baz=70
633A Saathoff Ranch 69.93 336 ⇑P P 17 35 41.7 +1.2
baz=70
535A Dale 69.94 338 ⇑P P 17 35 42.4 +1.9
baz=70
438A Sam Houston St 70.00 340 ⇑P P 17 35 42.2 +1.4
baz=70
GOGA Godfrey 70.11 351 eP P 17 35 39.9 -1.5
GOGA pmax pmax
comp=Z,35nm,1.0s
GOGA Godfrey 70.11 351 eP P 17 35 39.9 -1.5
comp=Z,35nm,1.0s
VBMS Vicksburg 70.17 344 eP P 17 35 42.9 +1.1
comp=Z,106nm,1.1s
632A Uvalde 70.17 335 ⇓P P 17 35 43.3 +1.3
baz=70
340A Bronson 70.20 341 ⇑P P 17 35 43.3 +1.2
baz=70
534A Blanco 70.23 337 ⇓P P 17 35 43.5 +1.2
baz=70
437A Phaontom Ranch 70.27 339 ⇑P P 17 35 44.7 +2.2
baz=70
LRAL Lakeview Retre 70.27 348 eP P 17 35 40.9 -1.5
comp=Z,362nm,2.6s
339A Huntington 70.30 341 ⇓P P 17 35 43.2 +0.5
baz=71
631A Perdido Creek 70.36 335 ⇓P P 17 35 44.6 +1.5
baz=71
436A Wall Ranch, Ga 70.40 338 ⇑P P 17 35 45.5 +2.2
baz=71
533A Kerrville 70.45 336 ⇓P P 17 35 44.3 +0.7
baz=71
338A Crockett 70.53 340 ⇓P P 17 35 44.8 +0.8
baz=71
337A Centerville 70.65 339 ⇓P P 17 35 46.6 +1.8
baz=71
435B Jarrell 70.65 338 ⇓P P 17 35 45.6 +0.8
baz=71
532A Rocksprings 70.78 336 ⇑P P 17 35 46.2 +0.4
baz=71,SNR=16
434A Burnet 70.89 337 ⇑P P 17 35 47.0 +0.7
baz=71,SNR=15
239A Gary 70.93 341 ⇑P P 17 35 47.3 +0.8
baz=71
336A Riesel 70.99 339 ⇓P P 17 35 47.9 +1.0
baz=71,SNR=9.1
531A Rocksprings 71.03 335 ⇓P P 17 35 48.4 +1.2
baz=71,SNR=12
335A Moody 71.07 338 ⇓P P 17 35 48.2 +0.9
baz=71
JCT Junction City 71.07 336 eP P 17 35 47.6 +0.1
JCT pmax pmax
comp=Z,53nm,0.9s
JCT Junction City 71.07 336 eP P 17 35 47.6 +0.1
comp=Z,53nm,0.9s
JCT Junction City 71.07 336 ⇓P P 17 35 48.1 +0.6
baz=71
238A Jacksonville 71.09 340 ⇑P P 17 35 48.5 +1.1
baz=71
433A Art 71.10 337 ⇓P P 17 35 47.9 +0.3
baz=71,SNR=13
MAW Mawson 71.15 164 LR LR 18 07 06.7
comp=Z,7µm,20.1s,baz=230,slow=36
237A Washetta, Mont 71.27 340 ⇓P P 17 35 50.0 +1.4
baz=72
530A J-C Ranch, Com 71.29 334 ⇓P P 17 35 49.5 +0.7
baz=72,SNR=21
334A Lometa 71.36 337 ⇑P P 17 35 49.7 +0.5
baz=72,SNR=18
CNNC Cliffs of the 71.40 356 eP P 17 35 46.7 -2.6
comp=Z,78nm,1.1s
TXAR Lajitas Array 71.40 332 P P 17 35 49.7 +0.1
TXAR pmax pmax
comp=Z,9.0nm,0.9s
TXAR MLR MLR
comp=Z,10µm,18.7s
TXAR Lajitas Array 71.40 332 P P 17 35 49.7 +0.1
comp=Z,9.3nm,0.9s,baz=153,slow=7.8,SNR=17
TXAR LR LR 18 02 38.6
comp=Z,10µm,18.6s,baz=0.0,slow=32
432A Menard 71.44 336 ⇑P P 17 35 50.7 +1.0
baz=72
431A Sonora 71.53 335 ⇑P P 17 35 51.3 +1.0
baz=72,SNR=9.6
KMSC Kings Mountain 71.57 353 ⇓P P 17 35 51.0 +0.7
baz=72
529A Stev Forest Ra 71.58 334 ⇓P P 17 35 51.3 +0.7
baz=72
333A Richland Sprin 71.59 337 ⇑P P 17 35 50.8 +0.2
baz=72,SNR=13
138A Matatall Enter 71.70 341 ⇓P P 17 35 52.5 +1.4
baz=72
WHTX Lake Whitney 71.74 338 eP P 17 35 50.6 -0.8
comp=Z,108nm,1.1s
WHTX Lake Whitney 71.74 338 ⇑P P 17 35 52.3 +0.9
baz=72,SNR=11
137A Heron Place, G 71.82 340 ⇓P P 17 35 53.3 +1.4
baz=72
430A Baggett Ranch, 71.84 335 ⇓P P 17 35 53.0 +0.8
baz=72,SNR=11
332A Millersview 71.89 336 ⇓P P 17 35 53.4 +1.1
baz=72,SNR=11
429A Davenport Ranc 71.92 334 ⇑P P 17 35 53.8 +1.1
baz=72,SNR=12
234A Clairette 71.96 338 ⇓P P 17 35 53.1 +0.4
baz=72,SNR=12
331A San Angelo 72.04 336 ⇑P P 17 35 53.5 +0.2
baz=72,SNR=15
OXF Oxford 72.15 346 eP P 17 35 52.5 -1.3
OXF pmax pmax
comp=Z,83nm,0.9s
OXF Oxford 72.15 346 eP P 17 35 52.5 -1.3
comp=Z,83nm,0.9s
233A Rising Star 72.20 337 ⇓P P 17 35 54.5 +0.2
baz=72,SNR=9.9
SWET Sewanee 72.23 349 eP P 17 35 53.1 -1.2
comp=Z,106nm,0.9s
CPCT Cooper Cave 72.25 350 eP P 17 35 55.2 +0.8
135A Vickery Place, 72.25 339 ⇑P P 17 35 54.8 +0.3
baz=72
232A Coleman 72.32 336 ⇑P P 17 35 55.2 +0.2
baz=73,SNR=9.8
TKL Tuckaleechee C 72.36 351 eP P 17 35 53.5 -1.6
TKL Tuckaleechee C 72.36 351 P P 17 35 54.5 -0.6
comp=Z,20nm,0.9s,baz=160,slow=7.5,SNR=8.1
TKL Tuckaleechee C 72.36 351 eP P 17 35 53.5 -1.6
330A Mertzon 72.39 335 ⇑P P 17 35 55.7 +0.3
baz=73,SNR=8.7
134A White-Moore Ra 72.47 338 ⇑P P 17 35 56.2 +0.4
baz=73
ELIM Elim 72.51 120 eP P 17 35 57.3 +1.0
ELIM AMB AMB 17 35 58.4
comp=Z,137nm,1.8s
ELIM Elim 72.51 120 P P 17 35 57.3 +1.0
comp=Z,137nm,1.8s
231A Bronte 72.58 336 ⇑P P 17 35 56.7 +0.2
baz=73,SNR=15
329A Wagon Wheel Ra 72.74 334 ⇓P P 17 35 58.0 +0.5
baz=73
133A Hamilton Ranch 72.76 337 ⇑P P 17 35 57.9 +0.4
baz=73,SNR=13
230A Sterling City 72.81 335 ⇑P P 17 35 58.2 +0.3
baz=73
CER Ceres 72.85 119 eP P 17 35 59.7 +1.3
CER AMB AMB 17 36 00.7
comp=Z,274nm,2.0s
CER Ceres 72.85 119 P P 17 35 59.7 +1.3
comp=Z,274nm,2.0s
Z35A Perchaven, San 72.93 339 ⇓P P 17 35 59.1 +0.6
baz=73,SNR=15
ABTX Abilene, Hawle 73.00 337 eP P 17 35 58.3 -0.7
comp=Z,50nm,0.8s
ABTX Abilene, Hawle 73.00 337 ⇑P P 17 35 59.5 +0.5
baz=73,SNR=12
UALR University of 73.03 344 eP P 17 35 57.9 -1.1
comp=Z,45nm,1.3s
MIAR Mount Ida 73.10 342 eP P 17 35 57.8 -1.7
MIAR pmax pmax
comp=Z,33nm,1.1s
MIAR Mount Ida 73.10 342 eP P 17 35 57.8 -1.7
comp=Z,33nm,1.1s
229A Bryant Ranch, 73.11 335 ⇑P P 17 36 00.7 +1.0
baz=73,SNR=6.9
Z34A Collier Ranch, 73.16 338 ⇑P P 17 36 00.5 +0.6
baz=73
TZTN Tazewell 73.21 351 eP P 17 35 59.3 -0.8
comp=Z,68nm,1.3s
131A Roby 73.29 336 ⇑P P 17 36 01.5 +0.8
baz=74,SNR=8.4
Z33A Whitaker Ranch 73.34 338 ⇑P P 17 36 01.7 +0.7
baz=74,SNR=11
130A Snyder 73.40 336 ⇓P P 17 36 02.2 +0.8
baz=74,SNR=7.7
WVT Waverly 73.43 348 eP P 17 35 59.9 -1.5
WVT pmax pmax
comp=Z,109nm,1.3s
WVT Waverly 73.43 348 eP P 17 35 59.9 -1.5
comp=Z,109nm,1.3s
KOMG Komaggas 73.46 115 eP P 17 36 03.6 +1.6
KOMG AMB AMB 17 36 04.6
comp=Z,184nm,2.0s
KOMG Komaggas 73.46 115 P P 17 36 03.6 +1.6
comp=Z,184nm,2.0s
228A UT Block 9, Go 73.52 334 ⇓P P 17 36 03.0 +0.8
baz=74,SNR=12
VWCC Virginia Weste 73.54 354 eP P 17 36 00.9 -1.1
Z32A Haskell 73.58 337 ⇑P P 17 36 03.2 +0.9
baz=74,SNR=20
BBTS Babate 73.65 57 P P 17 36 04.0 +0.9
comp=Z,174nm,1.4s,baz=291,slow=1.2,SNR=12
Y34A Reagan Ranch, 73.67 339 ⇓P P 17 36 03.3 +0.5
baz=74,SNR=14
Z31A Sharp Cattle R 73.80 337 ⇓P P 17 36 04.1 +0.4
baz=74,SNR=16
JSRW J. Sargeant Re 73.84 356 eP P 17 36 02.7 -1.0
128A Castleberry Fa 73.94 334 ⇓P P 17 36 05.1 +0.5
baz=74,SNR=12
Y33A Hilltop Ranch, 73.97 338 ⇑P P 17 36 04.9 +0.3
baz=74,SNR=10
Z30A Sanderson Ranc 74.09 336 ⇑P P 17 36 05.6 +0.2
baz=74,SNR=14
MNTX Cornudas Mount 74.17 332 eP P 17 36 04.6 -1.2
comp=Z,18nm,0.9s
DRV Dumont d'Urvil 74.18 193 S SKiKP 17 45 18.0 -13
DRV L L 17 55 00.0
DRV R 18 00 00.0
Y32A R-V Farms, Ver 74.21 337 ⇑P P 17 36 06.3 +0.3
baz=74
GDL2 Guadalupe Moun 74.24 333 eP P 17 36 07.8 +1.5
Z29A Hungry Hill Ra 74.26 335 ⇓P P 17 36 06.6 +0.1
baz=74,SNR=16
X34A Smith Ranch, M 74.29 339 ⇑P P 17 36 06.8 +0.3
baz=75,SNR=13
127A Arkansas Junct 74.30 334 ⇑P P 17 36 07.5 +0.8
baz=75
PARMO Parma 74.30 346 eP P 17 36 06.2 -0.3
X33A Lawton 74.43 338 ⇓P P 17 36 08.0 +0.8
baz=75
SUR Sutherland 74.46 119 P P 17 36 10.8 +2.8
comp=Z,692nm,0.9s,SNR=11
SUR Sutherland 74.46 119 eP P 17 36 09.6 +1.6
comp=Z,102nm,0.9s
PBMO Poplar Bluff 74.55 346 eP P 17 36 07.1 -0.8
comp=Z,84nm,1.3s
X32A Elmer 74.55 338 ⇓P P 17 36 08.5 +0.4
baz=75
Y30A Stafford Cattl 74.56 336 ⇑P P 17 36 08.9 +0.8
baz=75
Y29A Porterfield Fa 74.80 336 ⇑P P 17 36 10.3 +0.7
baz=75
CPRX Cap Rock 74.80 334 eP P 17 36 09.9 +0.3
comp=Z,4.2nm,0.3s
Z27A Tatum 74.83 334 ⇑P P 17 36 09.8 +0.1
baz=75
W34A Bridge Creek, 74.86 339 eP P 17 36 09.7 -0.2
comp=Z,94nm,1.3s
W34A Bridge Creek, 74.86 339 ⇑P P 17 36 10.6 +0.8
baz=75
TUL1 Tulsa 74.96 341 eP P 17 36 08.7 -1.6
comp=Z,111nm,1.1s
TUL1 Tulsa 74.96 341 ⇑P P 17 36 10.5 +0.3
baz=75,SNR=13
X31A McDonald Ranch 74.96 337 ⇑P P 17 36 11.0 +0.6
baz=75,SNR=11
W33A Caddo, Fort Co 74.99 339 ⇑P P 17 36 11.6 +1.1
baz=75,SNR=12
Y28A McKinney Farm, 75.03 335 ⇓P P 17 36 11.6 +0.7
baz=75
Z26A Caprock 75.06 334 ⇑P P 17 36 11.6 +0.5
baz=75,SNR=23
X30A Coker Ranch, T 75.07 337 ⇓P P 17 36 12.3 +1.3
baz=75,SNR=5.2
RAR Rarotonga 75.14 255 LR LR 18 01 41.9
comp=Z,5µm,18.1s,baz=146,slow=30
W32A Sentinel 75.19 338 ⇑P P 17 36 12.5 +0.7
baz=76,SNR=20
USIN University of 75.20 348 eP P 17 36 10.6 -1.0
comp=Z,77nm,0.9s
SIUC Southern Illin 75.22 347 eP P 17 36 10.0 -1.8
comp=Z,68nm,1.3s
WCI Wyandotte Cave 75.24 349 eP P 17 36 09.8 -2.1
WCI pmax pmax
comp=Z,616nm,2.9s
WCI Wyandotte Cave 75.24 349 eP P 17 36 09.8 -2.1
comp=Z,616nm,2.9s
MSTX Muleshoe 75.27 335 eP P 17 36 10.2 -2.1
comp=Z,68nm,1.4s
MSTX Muleshoe 75.27 335 ⇓P P 17 36 13.0 +0.7
baz=76
Y27A Causey 75.33 334 ⇑P P 17 36 13.6 +1.0
baz=76
Z25A Roswell 75.33 333 ⇓P P 17 36 13.9 +1.2
baz=76
X29A Tulia 75.34 336 ⇑P P 17 36 13.3 +0.6
baz=76,SNR=9.5
V34A Guthrie 75.35 340 eP P 17 36 11.5 -1.1
comp=Z,83nm,1.1s
V34A Guthrie 75.35 340 ⇓P P 17 36 13.0 +0.4
baz=76
319A Douglas 75.45 329 ⇑P P 17 36 14.6 +1.2
baz=76
W31A Holland Ranch, 75.46 338 ⇑P P 17 36 13.7 +0.4
baz=76
SDMD Soldier's Deli 75.50 357 eP P 17 36 13.8 +0.5
comp=Z,443nm,2.5s
V33A Lossen Ranch, 75.56 339 ⇓P P 17 36 14.1 +0.3
baz=76,SNR=13
Y26A Elida 75.59 334 ⇑P P 17 36 14.5 +0.3
baz=76
Z24A Sheeppen Canyo 75.62 333 ⇓P P 17 36 15.7 +1.3
baz=76,SNR=11
V32A Arapaho 75.69 338 ⇑P P 17 36 15.4 +0.9
baz=76
AMTX Amarillo 75.74 336 eP P 17 36 14.3 -0.7
comp=Z,87nm,1.0s
AMTX Amarillo 75.74 336 ⇑P P 17 36 15.5 +0.6
baz=76
121A Cookes Peak, D 75.85 330 eP P 17 36 16.7 +0.9
comp=Z,65nm,1.4s
121A Cookes Peak, D 75.85 330 ⇑P P 17 36 17.1 +1.4
baz=76,SNR=8.2
Y25A Mesa, Roswell 75.90 333 ⇓P P 17 36 16.6 +0.6
baz=76
U34A Anderson Ranch 75.92 340 eP P 17 36 15.4 -0.5
comp=Z,112nm,1.4s
U34A Anderson Ranch 75.92 340 ⇑P P 17 36 16.7 +0.8
baz=76
W29A Amraillo 75.94 336 ⇓P P 17 36 16.6 +0.5
baz=76,SNR=14
V31A Spring Creek L 75.97 338 ⇑P P 17 36 17.7 +1.5
baz=76,SNR=12
MVL Millersville 76.07 357 eP P 17 36 17.1 +0.6
comp=Z,61nm,1.3s
U33A Lingo Farm, Me 76.08 339 ⇓P P 17 36 17.1 +0.4
baz=76
X26A CR and CF Fran 76.15 334 ⇑P P 17 36 18.2 +0.8
baz=76,SNR=9.1
Z22A Elephant Butte 76.16 331 ⇑P P 17 36 18.5 +1.0
baz=76,SNR=9.5
Y24A Capitan 76.18 333 ⇓P P 17 36 18.4 +0.8
baz=76,SNR=11
BLO Bloomington 76.20 349 eP P 17 36 16.2 -1.1
BLO pmax pmax
comp=Z,155nm,1.7s
BLO Bloomington 76.20 349 eP P 17 36 16.2 -1.1
comp=Z,155nm,1.7s
V30A Spur Ranch, Mi 76.22 337 ⇓P P 17 36 19.1 +1.4
baz=76
U32A Winter Ranch, 76.29 339 ⇑P P 17 36 18.4 +0.5
baz=77
SLM Saint Louis 76.31 346 eP P 17 36 16.7 -1.3
SLM pmax pmax
comp=Z,427nm,2.0s
SLM Saint Louis 76.31 346 eP P 17 36 16.7 -1.3
comp=Z,427nm,2.0s
W27A Bowe Ranch, En 76.36 335 ⇓P P 17 36 19.4 +0.9
baz=77,SNR=12
Y23A Lovelace Mesa, 76.41 332 ⇓P P 17 36 19.9 +1.0
baz=77,SNR=9.0
W26A Owens Ranch, T 76.62 335 ⇑P P 17 36 21.5 +1.4
baz=77
V28A Channing 76.71 336 ⇓P P 17 36 21.8 +1.3
baz=77
T33A Patterson Ranc 76.72 340 ⇑P P 17 36 21.2 +0.8
baz=77,SNR=15
X24A Lazy VL Ranch, 76.75 333 ⇓P P 17 36 21.8 +1.0
baz=77
SSPA Standing Stone 76.77 356 eP P 17 36 19.8 -0.7
comp=Z,463nm,2.9s
DBIC Dimbokro 76.78 71 ⇑iP P 17 36 21.1 -0.1
DBIC Dimbokro 76.78 71 P P 17 36 21.8 +0.6
DBIC pmax pmax
comp=Z,55nm,1.0s
DBIC MLR MLR
comp=Z,9µm,18.2s
DBIC Dimbokro 76.78 71 P P 17 36 21.8 +0.6
comp=Z,55nm,0.9s,baz=208,slow=6.6,SNR=25
DBIC LR LR 18 09 17.4
comp=Z,9µm,18.2s,baz=207,slow=35
DBIC Dimbokro 76.78 71 eP P 17 36 21.9 +0.6
comp=Z,175nm,1.4s
ACSO Alum Creek Sta 76.78 352 eP P 17 36 19.6 -1.0
comp=Z,82nm,0.9s
TUC Tucson 76.90 328 eP P 17 36 22.3 +0.7
TUC pmax pmax
comp=Z,335nm,2.8s
TUC Tucson 76.90 328 eP P 17 36 22.3 +0.7
comp=Z,335nm,2.8s
V27A Dan Oppiter Fa 76.92 336 ⇑P P 17 36 22.8 +1.2
baz=77
U30A WK&E Inc. Balk 76.92 338 ⇓P P 17 36 22.7 +1.1
baz=77,SNR=8.5
LPM Los Pinos Moun 76.97 332 eP P 17 36 22.5 +0.4
W25A X Bar L Ranch, 76.98 334 ⇓P P 17 36 22.9 +0.8
baz=77,SNR=13
UPI Upington 77.00 116 eP P 17 36 23.0 +0.5
UPI AMB AMB 17 36 33.0
comp=Z,166nm,2.1s
UPI Upington 77.00 116 P P 17 36 23.0 +0.5
comp=Z,166nm,2.1s
T32A Huddler Ranch, 77.01 339 ⇓P P 17 36 23.1 +1.1
baz=77
X23A Hourglass Bar 77.04 332 ⇓P P 17 36 24.1 +1.6
baz=77
WIN Windhoek 77.14 109 eP P 17 36 24.7 +1.2
WIN AMB AMB 17 36 25.8
comp=Z,35nm,1.9s
WIN Windhoek 77.14 109 P P 17 36 24.7 +1.2
WIN pmax pmax
comp=Z,35nm,1.9s
WIN Windhoek 77.14 109 P P 17 36 24.7 +1.2
comp=Z,35nm,1.9s
T31A Randall Ranch, 77.15 338 ⇑P P 17 36 24.5 +1.7
baz=77
LAZ Ladron 77.24 332 eP P 17 36 24.1 +0.5
comp=Z,24nm,1.4s
V26A Tequesquite Ra 77.27 335 ⇑P P 17 36 24.8 +1.1
baz=78
U28A Mallet 77.28 336 ⇑P P 17 36 25.2 +1.5
baz=78
W24A Lazy 6 Ranch, 77.32 333 ⇑P P 17 36 25.0 +1.0
baz=78,SNR=15
YLE Yale 77.33 0 eP P 17 36 28.3 +4.7
comp=Z,1µm,2.6s
SFIN Scholer Farm 77.47 349 eP P 17 36 23.3 -1.2
comp=Z,125nm,1.8s
SFIN Scholer Farm 77.47 349 ⇑P P 17 36 24.9 +0.5
baz=78
ANMO Albuquerque 77.47 332 P P 17 36 24.8 0.0
ANMO pmax pmax
comp=Z,12nm,1.0s
ANMO Albuquerque 77.47 332 P P 17 36 24.8 0.0
comp=Z,12nm,0.9s,baz=171,slow=7.0,SNR=15
ANMO Albuquerque 77.47 332 eP P 17 36 24.9 0.0
comp=Z,41nm,1.1s
214A Organ Pipe Nat 77.48 326 eP P 17 36 25.7 +0.9
comp=Z,32nm,1.3s
214A Organ Pipe Nat 77.48 326 ⇑P P 17 36 26.6 +1.7
baz=78
S32A Newby Ranch, P 77.50 339 ⇑P P 17 36 25.5 +0.8
baz=78,SNR=6.8
U27A Thompson Grove 77.52 336 ⇓P P 17 36 26.3 +1.3
baz=78,SNR=6.0

W23A	Werner Place,	77.54	333	⇑P	P	17 36 26.3 +1.0
	baz=78					
S31A	Mullinville	77.58	339	⇓P	P	17 36 25.7 +0.5
	baz=78					
V25A	Rancho No Teng	77.60	334	⇓P	P	17 36 26.3 +0.7
	baz=78,SNR=16					
KSPA	Keystone Colle	77.61	358	eP	P	17 36 28.6 +3.4
	comp=Z,70nm,1.5s					
CASY	Casey	77.62	182	eP	P	17 36 24.8 -0.4
	comp=Z,44nm,1.0s					
T29A	Hugoton	77.70	337	⇑P	P	17 36 26.5 +0.5
	baz=78					
V24A	Rampart Ranch,	77.73	334	⇓P	P	17 36 27.0 +0.7
	baz=78					
R33A	Olander Ranch,	77.80	340	⇑P	P	17 36 27.5 +1.1
	baz=78					
U26A	Atchley Ranch,	77.80	335	⇑P	P	17 36 27.3 +0.6
	baz=78					
GRM	Grahamstown	77.89	122	eP	P	17 36 28.0 +0.7
GRM				AMB	AMB	17 36 29.8
	comp=Z,171nm,2.8s					
GRM	Grahamstown	77.89	122	P	P	17 36 28.0 +0.7
GRM				pmax	pmax	
	comp=Z,171nm,2.8s					
GRM	Grahamstown	77.89	122	P	P	17 36 28.0 +0.7
	comp=Z,171nm,2.8s					
S30A	Montezuma	77.89	338	⇓P	P	17 36 28.0 +1.0
	baz=78,SNR=9.1					
T28A	Walsh	77.92	337	⇑P	P	17 36 27.9 +0.6
	baz=78,SNR=20					
ALLY	Alegheny Colle	77.93	355	eP	P	17 36 25.1 -1.9
	comp=Z,60nm,1.1s					
U25A	Circle Dot Ran	78.03	335	⇓P	P	17 36 28.9 +0.9
	baz=78,SNR=11					
T27A	Campo	78.06	336	⇑P	P	17 36 28.6 +0.6
	baz=78,SNR=13					
S29A	Ulysses	78.07	338	⇑P	P	17 36 28.8 +0.8
	baz=78					
V23A	Ortiz Mt. (NFS	78.08	333	⇓P	P	17 36 29.5 +1.3
	baz=78					
KSU1	Kansas State U	78.18	342	eP	P	17 36 27.6 -0.9
	comp=Z,55nm,1.0s					
R31A	Burdett	78.21	339	⇑P	P	17 36 29.5 +0.8
	baz=78					
S28A	Manter	78.28	337	⇓P	P	17 36 29.7 +0.5
	baz=79,SNR=12					
U24A	Moreno Valley	78.34	334	⇓P	P	17 36 31.2 +1.4
	baz=79					
Q33A	Connelly Farm,	78.40	341	⇑P	P	17 36 30.0 +0.3
	baz=79					
R30A	Dighton	78.43	338	⇑P	P	17 36 31.1 +1.2
	baz=79					
T26A	Comanche Natio	78.45	336	⇑P	P	17 36 30.9 +0.6
	baz=79,SNR=15					
X18A	Snowflake	78.46	330	⇑P	P	17 36 31.6 +1.2
	baz=79					
V22A	San Miguel Ran	78.49	333	⇑P	P	17 36 32.1 +1.5
	baz=79,SNR=30					
Q32A	Meitler Ranch,	78.59	340	⇓P	P	17 36 31.0 +0.2
	baz=79,SNR=8.1					
113A	Mohawk Valley,	78.60	326	⇓P	P	17 36 32.3 +1.4
	baz=79					
U23A	El Rito	78.60	333	⇓P	P	17 36 32.1 +1.0
	baz=79					
S27A	Las Animas	78.69	336	⇑P	P	17 36 32.4 +0.9
	baz=79					
T25A	Trinidad	78.70	335	⇓P	P	17 36 32.7 +1.0
	baz=79,SNR=18					
TRY	Troy	78.74	360	eP	P	17 36 32.1 +0.6
	comp=Z,154nm,1.4s					
HVD	Gariep Dam	78.76	120	eP	P	17 36 32.5 +0.2
HVD				AMB	AMB	17 36 34.1
	comp=Z,177nm,2.0s					
HVD	Gariep Dam	78.76	120	P	P	17 36 32.5 +0.2
HVD				pmax	pmax	
	comp=Z,177nm,2.0s					
HVD	Gariep Dam	78.76	120	P	P	17 36 32.5 +0.2
	comp=Z,177nm,2.0s					
P33A	Williams Farm,	78.78	341	⇑P	P	17 36 32.3 +0.5
	baz=79					
R29A	Marienthal	78.81	338	⇑P	P	17 36 32.9 +0.8
	baz=79					
S26A	Kim	78.82	336	⇓P	P	17 36 32.6 +0.4
	baz=79,SNR=25					
Q31A	Ellis	78.84	339	⇓P	P	17 36 32.4 +0.2
	baz=79,SNR=8.4					
U22A	Llaves	78.89	333	⇓P	P	17 36 34.4 +1.7
	baz=79					
W18A	Petrified Fore	78.89	330	eP	P	17 36 33.5 +0.8
	comp=Z,65nm,1.3s					
W18A	Petrified Fore	78.89	330	⇑P	P	17 36 33.8 +1.1
	baz=79					
AAM	Ann Arbor	78.90	352	eP	P	17 36 31.6 -0.7
AAM				pmax	pmax	
	comp=Z,109nm,1.4s					
AAM	Ann Arbor	78.90	352	eP	P	17 36 31.6 -0.7
	comp=Z,109nm,1.4s					
R28A	Tribune	78.95	337	⇓P	P	17 36 33.5 +0.7
	baz=79,SNR=12					
T24B	San Luis	78.97	334	⇑P	P	17 36 34.8 +1.5
	baz=79,SNR=16					
X16A	Lo Mia Camp, P	78.99	329	⇓P	P	17 36 35.1 +1.8
	baz=79,SNR=5.5					
T23A	Casias Ranch,	79.17	334	⇑P	P	17 36 35.9 +1.5
	baz=79					
S25A	Robets Cordova	79.18	335	⇓P	P	17 36 35.2 +0.9
	baz=80,SNR=12					
Q29A	Oakley	79.20	338	⇑P	P	17 36 35.0 +0.9
	baz=80					
R27A	Eads	79.21	337	⇓P	P	17 36 35.1 +0.8
	baz=80,SNR=14					
Y14A	Wickenburg	79.25	327	⇑P	P	17 36 36.0 +1.5
	baz=80					
P31A	Stockton	79.32	340	⇑P	P	17 36 35.7 +0.9
	baz=80					
GLA	Glamis	79.32	325	P	P	17 36 34.4 -0.6
GLA				pmax	pmax	
	comp=Z,7.0nm,0.7s					
GLA	Glamis	79.32	325	P	P	17 36 34.4 -0.6
	comp=Z,7.0nm,0.7s					
ACCN	Adirondack Com	79.40	360	eP	P	17 36 35.5 +0.4
	comp=Z,90nm,1.4s					
TSUM	Tsumeb	79.41	106	eP	P	17 36 36.9 +0.9
	comp=Z,160nm,1.7s					
S24A	Houchin Ranch,	79.43	335	⇑P	P	17 36 36.5 +0.8
	baz=80,SNR=23					
R26A	Arlington	79.43	336	⇑P	P	17 36 36.4 +0.9
	baz=80,SNR=16					
R25A	Fountain Ranch	79.57	335	⇑P	P	17 36 37.1 +0.8
	baz=80					
P30A	Selden	79.59	339	⇑P	P	17 36 37.3 +1.1
	baz=80					
Q28A	Sharon Springs	79.61	338	⇑P	P	17 36 37.4 +1.0
	baz=80					
SDCO	Great Sand Dun	79.62	334	eP	P	17 36 36.3 -0.5
	comp=Z,15nm,1.0s					
SWSC	Sam W. Stewart	79.68	325	⇑P	P	17 36 38.3 +1.5
	baz=80					
O32A	Brockman Farm,	79.70	341	⇑P	P	17 36 37.4 +0.5
	baz=80					
BOSA	Boshof	79.74	118	⇑iP	P	17 36 38.2 +0.4
BOSA				AMB	AMB	17 36 47.7
	comp=Z,155nm,1.9s					
BOSA	Boshof	79.74	118	eP	P	17 36 38.0 +0.3
BOSA				pmax	pmax	
	comp=Z,140nm,1.2s					
BOSA	Boshof	79.74	118	P	P	17 36 38.3 +0.6
	comp=Z,74nm,1.0s,baz=239,slow=6.8,SNR=32					
BOSA	Boshof	79.74	118	eP	P	17 36 38.0 +0.3
	comp=Z,140nm,1.2s					
S23A	Nye Farm, Mont	79.76	334	⇑P	P	17 36 38.2 +0.7
	baz=80					
P29A	Atwood	79.84	339	⇓P	P	17 36 38.2 +0.6
	baz=80					
O31A	Woolen Ranch,	79.89	340	⇓P	P	17 36 38.8 +1.0
	baz=80					
WUAZ	Wupatki	79.90	329	eP	P	17 36 37.9 -0.3
	comp=Z,27nm,1.0s					
WUAZ	Wupatki	79.90	329	⇑P	P	17 36 39.1 +0.9
	baz=80,SNR=8.0					
R24A	Sanders Place,	79.92	335	⇓P	P	17 36 39.4 +1.0
	baz=80,SNR=24					
MONP	Monument Peak	79.93	324	⇓P	P	17 36 38.6 +0.1
	baz=80					
NCB	Newcomb	79.99	359	eP	P	17 36 34.3 -4.0
	comp=Z,50nm,0.8s					
MDV	Middlebury	80.01	360	eP	P	17 36 36.9 -1.4
Q26A	Hugo	80.02	336	⇑P	P	17 36 39.3 +0.6
	baz=80					
PDMCI	Parker Dam,Lak	80.06	327	⇓P	P	17 36 40.7 +1.9
	baz=80					
P28A	Saint Francis	80.06	338	⇓P	P	17 36 40.1 +1.3
	baz=80					
SCIA	State Center	80.06	345	eP	P	17 36 37.5 -1.2
S22A	4UR Ranch, Cre	80.09	333	⇑P	P	17 36 40.1 +0.7
	baz=80,SNR=9.0					
BC3	Big Chuckawall	80.11	325	⇑P	P	17 36 42.0 +2.7
	baz=80					
O30A	MW Ranch, Wils	80.12	339	⇑P	P	17 36 40.9 +1.8
	baz=80					
R23A	Moffat	80.13	334	⇓P	P	17 36 40.3 +0.8
	baz=80,SNR=10					
N32A	Stulken Farm,	80.18	341	⇓P	P	17 36 40.1 +0.7
	baz=80					
MVCO	Mesa Verde	80.23	332	eP	P	17 36 39.5 -0.5
	comp=Z,35nm,1.0s					
MVCO	Mesa Verde	80.23	332	⇑P	P	17 36 41.0 +0.9
	baz=80,SNR=13					
Q25A	Bedland, Calha	80.25	336	⇑P	P	17 36 40.7 +0.6
	baz=80,SNR=7.1					
O29A	4D Ranch, Culb	80.28	339	⇑P	P	17 36 42.1 +2.1
	baz=81					
P27A	Ficken Ranch,	80.30	337	⇑P	P	17 36 41.3 +1.1
	baz=81					
IRM	Iron Mountain	80.39	326	⇑P	P	17 36 42.6 +1.9
	baz=81					
JFWS	Jewell Farm	80.46	347	eP	P	17 36 38.2 -2.6
JFWS				pmax	pmax	
	comp=Z,53nm,1.0s					
JFWS	Jewell Farm	80.46	347	eP	P	17 36 38.2 -2.6
	comp=Z,53nm,1.0s					
PFO	Pinyon Flat Ob	80.54	325	P	P	17 36 38.2 -3.5
PFO	Pinyon Flat Ob	80.54	325	P	P	17 36 42.3 +0.7
	comp=Z,8.4nm,0.9s,baz=145,slow=5.3,SNR=4.4					
PFO	Pinyon Flat Ob	80.54	325	P	P	17 36 38.1 -3.5
P26A	Davis Ranch, A	80.54	337	⇑P	P	17 36 42.6 +1.0
	baz=81,SNR=8.0					
O28A	Krutsinger Ran	80.57	338	⇑P	P	17 36 42.5 +0.8
	baz=81					
Q24A	Divide	80.59	335	⇓P	P	17 36 42.5 +0.5
	baz=81,SNR=14					
PTN	Potsdam (NY)	80.60	359	eP	P	17 36 41.7 +0.2
PTN	Potsdam (NY)	80.60	359	eP	P	17 36 41.7 +0.2
	comp=Z,2μm,3.0s					
W13A	Hualapai Mount	80.62	327	⇓P	P	17 36 43.4 +1.2
	baz=81					
SWZ	Schweizer	80.63	117	eP	P	17 36 42.0 -0.6
SWZ				AMB	AMB	17 36 43.5
	comp=Z,160nm,3.1s					
SWZ	Schweizer	80.63	117	P	P	17 36 42.0 -0.6
	comp=Z,160nm,3.1s					
LONY	Lake Ozonia	80.64	359	eP	P	17 36 41.9 +0.2
	comp=Z,57nm,1.1s					
BGNE	Belgrade	80.75	341	eP	P	17 36 45.9 +3.4
BGNE	Belgrade	80.75	341	⇓P	P	17 36 43.3 +0.8
	baz=81					
P25A	Willow Gulch B	80.76	336	⇑P	P	17 36 44.2 +1.4
	baz=81,SNR=22					
O27A	Beecher Island	80.85	338	⇑P	P	17 36 44.5 +1.4
	baz=81					
N29A	Votaw Ranch, W	80.88	339	⇓P	P	17 36 45.1 +1.9
	baz=81					
MURC	Murrieta	80.88	324	⇓P	P	17 36 44.9 +1.5
	baz=81					
M31A	Lambtecht Ranc	80.91	341	⇑P	P	17 36 43.8 +0.5
	baz=81					
P24A	Kohler Place,	81.01	336	⇓P	P	17 36 44.9 +0.8
	baz=81					
U15A	North Rim	81.06	329	P	P	17 36 46.6 +2.0
	baz=81,SNR=14					
PV01	Paradox Valley	81.07	332	eP	P	17 36 44.5 0.0
	comp=Z,2μm,1.0s					
GMRC	Granite Mounta	81.14	326	⇓P	P	17 36 46.6 +1.8
	baz=81					
O26A	Horse Wrangler	81.15	337	⇓P	P	17 36 46.0 +1.2
	baz=81					
P23A	Jefferson	81.20	335	⇓P	P	17 36 46.3 +1.0
	baz=82					
BKZ	Black Stump Fm	81.20	228	eP	P	17 36 47.2 +1.9
	comp=Z,43nm,1.2s					
O25A	Wiggins	81.29	336	⇑P	P	17 36 47.1 +1.6
	baz=82					
URZ	Urewera	81.41	229	LR	LR	18 05 14.9
	comp=Z,8μm,18.4s,baz=178,slow=30					
SMCO	Snowmass	81.42	334	eP	P	17 36 47.3 +0.7
	comp=Z,54nm,1.1s					
N27A	Anderson Farm,	81.43	338	⇑P	P	17 36 47.3 +1.1
	baz=82					
PV04	Paradox Valley	81.43	332	eP	P	17 36 46.1 -0.2
HEC	Hector,Ludlow	81.49	325	⇓P	P	17 36 48.9 +2.3
	baz=82					
ISCO	Idaho Springs	81.50	335	eP	P	17 36 46.6 -0.2
ISCO				pmax	pmax	
	comp=Z,147nm,2.2s					
ISCO	Idaho Springs	81.50	335	eP	P	17 36 46.6 -0.2
	comp=Z,147nm,2.2s					
ISCO	Idaho Springs	81.50	335	⇑P	P	17 36 47.9 +1.1
	baz=82,SNR=11					
KSD	Kokstad	81.52	122	eP	P	17 36 47.3 +0.1
KSD				AMB	AMB	17 36 49.4
	comp=Z,47nm,2.3s					
KSD	Kokstad	81.52	122	P	P	17 36 47.3 +0.1
	comp=Z,47nm,2.3s					
SEK	Senekal	81.60	119	eP	P	17 36 47.7 0.0
SEK				AMB	AMB	17 36 49.0
	comp=Z,145nm,1.9s					
SEK	Senekal	81.60	119	P	P	17 36 47.7 0.0
	comp=Z,145nm,1.9s					
BFSC	Mount Baldy Ra	81.62	324	⇑P	P	17 36 49.4 +2.0
	baz=82					
M28A	Bar X Bar Ranc	81.62	339	⇑P	P	17 36 47.9 +0.7
	baz=82					
L31A	Butterfield Fa	81.65	341	⇑P	P	17 36 47.9 +0.7
	baz=82					
N26A	Koester Ranch,	81.66	337	⇑P	P	17 36 48.3 +0.9
	baz=82					
P22A	Eagle	81.71	334	⇑P	P	17 36 48.6 +0.7
	baz=82					
RUDU	RUNDU	81.81	106	eP	P	17 36 49.9 +1.0
RUDU				AMB	AMB	17 36 51.4
	comp=Z,211nm,1.9s					
RUDU	RUNDU	81.81	106	P	P	17 36 49.9 +1.0
	comp=Z,211nm,1.9s					
BFSD	Buffelsfontein	81.87	117	eP	P	17 36 48.7 -0.4
BFSD				AMB	AMB	17 36 50.2
	comp=Z,149nm,3.2s					
BFSD	Buffelsfontein	81.87	117	P	P	17 36 48.7 -0.4
	comp=Z,149nm,3.2s					
O23A	Lake Granby, G	81.97	335	⇓P	P	17 36 50.4 +1.1
	baz=82,SNR=16					
GSC	Goldstone	82.10	325	eP	P	17 36 51.1 +1.3
GSC				pmax	pmax	
	comp=Z,278nm,2.8s					
GSC	Goldstone	82.10	325	eP	P	17 36 51.1 +1.3
	comp=Z,278nm,2.8s					
GSC	Goldstone	82.10	325	⇓P	P	17 36 51.8 +1.9
	baz=82					
LBTB	Lobatse	82.10	115	eP	P	17 36 50.8 +0.5
LBTB				AMB	AMB	17 36 51.6
	comp=Z,182nm,2.0s					
LBTB	Lobatse	82.10	115	eP	P	17 36 50.7 +0.4
LBTB				pmax	pmax	
	comp=Z,148nm,1.1s					
LBTB	Lobatse	82.10	115	eP	P	17 36 50.7 +0.4
	comp=Z,148nm,1.1s					
O22A	Kremmling	82.14	335	⇑P	P	17 36 50.8 +0.6
	baz=82,SNR=18					
N24A	Carr	82.19	336	⇑P	P	17 36 50.9 +0.7
	baz=82					
PRYS	Parys	82.24	118	eP	P	17 36 50.5 -0.5
PRYS				AMB	AMB	17 36 52.0
	comp=Z,63nm,2.0s					
PRYS	Parys	82.24	118	P	P	17 36 50.5 -0.5
	comp=Z,63nm,2.0s					
EDW2	Edwards Air Fo	82.30	324	⇓P	P	17 36 52.4 +1.5
	baz=82					
SHPR	Sheep Range	82.36	327	eP	P	17 36 52.0 +0.8
CCUT	Cedar City	82.47	329	eP	P	17 36 52.2 +0.3
	comp=Z,260nm,2.3s					
M25A	Palm-Egli Farm	82.47	337	⇑P	P	17 36 52.4 +0.7
	baz=83					
KSR	Koster	82.55	117	eP	P	17 36 52.8 +0.1
KSR				AMB	AMB	17 36 54.0
	comp=Z,75nm,1.8s					
KSR	Koster	82.55	117	P	P	17 36 52.8 +0.1
	comp=Z,75nm,1.8s					
ECSD	EROS Data Cent	82.56	343	eP	P	17 36 51.5 -0.4
	comp=Z,327nm,1.9s					
ECSD	EROS Data Cent	82.56	343	⇑P	P	17 36 51.3 -0.6
	baz=83,SNR=23					
K29A	Lazy Trails An	82.59	340	⇓P	P	17 36 52.9 +0.8
	baz=83					
N23A	Red Feather La	82.60	336	⇓P	P	17 36 53.1 +0.5
	baz=83					
LRMC	Laurel Mountai	82.65	325	⇓P	P	17 36 54.5 +1.7
	baz=83					
SRU	San Rafael	82.67	332	eP	P	17 36 52.7 -0.1
SRU				pmax	pmax	
	comp=Z,27nm,0.8s					
SRU	San Rafael	82.67	332	eP	P	17 36 52.7 -0.1
	comp=Z,27nm,0.8s					
N22A	Wattenberg Ran	82.69	335	⇑P	P	17 36 54.6 +1.6
	baz=83					
ARUT	Antelope Range	82.70	329	eP	P	17 36 53.2 +0.2
ARUT	Antelope Range	82.70	329	eP	P	17 36 53.2 +0.2
	comp=Z,397nm,1.0s					
O20A	White River Ci	82.72	334	eP	P	17 36 54.7 +1.6
	comp=Z,27nm,0.9s					
O20A	White River Ci	82.72	334	⇑P	P	17 36 54.1 +1.0
	baz=83					
M24A	Cheyenne	82.75	337	⇑P	P	17 36 54.3 +1.1
	baz=83					
PHWY	Pilot Hill	82.80	336	eP	P	17 36 53.7 +0.1
	comp=Z,84nm,1.7s					
MVU	Marysvale	82.81	330	eP	P	17 36 54.5 +0.8
	comp=Z,29nm,1.1s					
K28A	Ten Mile Ranch	82.84	339	⇓P	P	17 36 54.2 +0.7
	baz=83					
M23A	Laramie	83.04	336	⇑P	P	17 36 55.2 +0.4
	baz=83					
K27A	Flueckinger Fa	83.08	339	⇓P	P	17 36 55.9 +1.1
	baz=83					
FURC	Furnace Creek,	83.09	326	⇑P	P	17 36 54.8 0.0
	baz=83					
L25A	Engebretsen Ra	83.10	337	⇓P	P	17 36 55.5 +0.6
	baz=83					
CRWM	Crown Mines	83.12	117	eP	P	17 36 55.5 -0.3
CRWM				AMB	AMB	17 36 57.7
	comp=Z,108nm,3.0s					
SPMN	St. Paul	83.16	346	eP	P	17 36 52.6 -2.3
	comp=Z,36nm,1.1s					
SPMN	St. Paul	83.16	346	⇓P	P	17 36 54.9 -0.1
	baz=84					
ISA	Isabella	83.17	324	⇑P	P	17 36 57.0 +1.6
	baz=83					
J29A	Okreek	83.19	340	⇓P	P	17 36 55.3 +0.1
	baz=84,SNR=12					
OBSV	Observatory	83.20	117	eP	P	17 36 56.1 -0.1
OBSV				AMB	AMB	17 36 57.1
	comp=Z,106nm,2.0s					
ERPM	east rand prop	83.22	118	eP	P	17 36 56.5 +0.3
ERPM				AMB	AMB	17 36 57.8
	comp=Z,148nm,1.9s					
ERPM	east rand prop	83.22	118	P	P	17 36 56.5 +0.3
	comp=Z,148nm,1.9s					
M22A	Cedar Creek Ra	83.27	335	⇓P	P	17 36 56.5 +0.5
	baz=84					
N20A	Spence Gulch,	83.34	334	⇑P	P	17 36 56.9 +0.5
	baz=84,SNR=11					
I30A	Oacoma	83.42	341	⇑P	P	17 36 56.5 +0.1
	baz=84					
K25A	Mack Ranch, Ha	83.48	338	⇓P	P	17 36 58.2 +1.4
	baz=84					
J27A	Elkhorn Farm,	83.52	339	⇑P	P	17 36 58.4 +1.4
	baz=84					
VES	Vestal, Richgr	83.60	324	⇑P	P	17 36 59.5 +2.0
	baz=84					
L23A	Garrett	83.61	336	⇓P	P	17 36 58.3 +0.6
	baz=84					
SLR	Silverton	83.62	117	eP	P	17 36 57.4 -0.8
SLR				AMB	AMB	17 36 59.0
	comp=Z,155nm,1.9s					
SLR	Silverton	83.62	117	P	P	17 36 57.4 -0.8
SLR				pmax	pmax	
	comp=Z,155nm,1.9s					
SLR	Silverton	83.62	117	P	P	17 36 57.4 -0.8
	comp=Z,155nm,1.9s					
L22A	Ellis Ranch, M	83.78	336	⇓P	P	17 36 59.0 +0.5
	baz=84					
BRSD	Miller	83.80	342	eP	P	17 36 57.6 -0.7
	comp=Z,60nm,0.4s					
BRSD	Miller	83.80	342	⇑P	P	17 36 58.4 +0.1
	baz=84					
K24A	Anderson Ranch	83.88	337	⇑P	P	17 36 59.8 +0.9
	baz=84					
MPU	Maple Canyon	83.88	331	eP	P	17 36 59.1 0.0
	comp=Z,58nm,1.1s					
J26A	Sides Ranch, S	83.88	338	⇑P	P	17 37 00.1 +1.3
	baz=84					
I28A	Midland	83.97	340	⇑P	P	17 37 02.1 +2.9
	baz=84					
NLU	North Lily Min	84.00	331	eP	P	17 36 59.5 -0.2
	comp=Z,137nm,1.9s					
RCTC	Rector, Farmer	84.06	324	⇑P	P	17 37 01.8 +2.0
	baz=84					
R11A	Troy Canyon, C	84.08	328	eP	P	17 37 00.5 +0.4
	comp=Z,157nm,2.1s					
R11A	Troy Canyon, C	84.08	328	⇓P	P	17 37 01.3 +1.1
	baz=84					
K23A	Bowen Ranch, D	84.16	337	⇑P	P	17 37 01.4 +1.0
	baz=84,SNR=9.4					
J25A	Sunshine Ranch	84.17	338	⇓P	P	17 37 01.4 +1.1
	baz=84,SNR=9.0					
I27A	Quinn	84.28	339	⇑P	P	17 37 01.7 +0.9
	baz=85					
H29A	Onida	84.29	341	⇓P	P	17 37 00.3 -0.5
	baz=85,SNR=13					
JLU	Jordanelle	84.31	332	eP	P	17 37 01.6 +0.3
	comp=Z,38nm,1.0s					
K22A	Casper	84.36	336	eP	P	17 37 00.8 -0.6
	comp=Z,229nm,1.9s					
K22A	Casper	84.36	336	⇑P	P	17 37 01.5 +0.1
	baz=85,SNR=14					
J24A	Dixon Ranch, L	84.38	337	⇑P	P	17 37 01.7 +0.3
	baz=85,SNR=5.9					
I26A	New Underwood	84.47	339	⇓P	P	17 37 03.7 +1.9
	baz=85					
DUG	Dugway	84.50	331	eP	P	17 37 02.6 +0.4
DUG				pmax	pmax	
	comp=Z,55nm,1.1s					
DUG	Dugway	84.50	331	eP	P	17 37 02.6 +0.4
	comp=Z,55nm,1.1s					
DUG	Dugway	84.50	331	⇓P	P	17 37 03.3 +1.1
	baz=85,SNR=24					
CTU	Camp Tracy	84.51	332	eP	P	17 37 02.0 -0.2
	comp=Z,22nm,1.0s					
H28A	Mission Ridge	84.55	340	⇓P	P	17 37 02.8 +0.6
	baz=85					
K21A	Alcova	84.59	335	⇓P	P	17 37 03.4 +0.7
	baz=85,SNR=9.4					
I25A	Rochford	84.72	338	⇑P	P	17 37 03.9 +0.7
	baz=85,SNR=16					
J23A	Dilts Ranch, B	84.72	337	⇓P	P	17 37 05.7 +2.5
	baz=85					
G29A	Hoven	84.74	341	⇓P	P	17 37 03.2 +0.1
	baz=85					
TCUT	Toone Canyon	84.74	332	eP	P	17 37 03.5 0.0
	comp=Z,63nm,0.9s					
H27A	Howes	84.80	340	⇓P	P	17 37 03.6 +0.2
	baz=85					
I24A	Kuemmerle Ranc	84.85	338	⇑P	P	17 37 04.4 +0.6
	baz=85					
G28A	Parade	84.89	341	⇓P	P	17 37 04.5 +0.6
	baz=85,SNR=7.3					
RSSD	Black Hills	84.90	338	eP	P	17 37 03.1 -1.1
RSSD				pmax	pmax	
	comp=Z,23nm,1.0s					
RSSD	Black Hills	84.90	338	eP	P	17 37 03.1 -1.1
	comp=Z,23nm,1.0s					
J22A	Midwest	85.03	336	⇑P	P	17 37 05.4 +0.7
	baz=85					
F30A	Leola	85.11	342	⇓P	P	17 37 05.2 +0.2
	baz=85					
BGU	Big Grassy Mou	85.21	331	eP	P	17 37 05.7 0.0
	comp=Z,15nm,1.2s					
H25A	Fruitdale	85.23	339	⇑P	P	17 37 06.0 +0.4
	baz=86					
J21A	Lysite	85.29	336	⇓P	P	17 37 06.6 +0.5
	baz=86					
SPUT	South Promonto	85.31	331	eP	P	17 37 06.0 -0.2
	comp=Z,49nm,1.1s					
F29A	Eureka	85.31	342	⇓P	P	17 37 06.0 +0.1
	baz=86					

NVAR Mina Array Bea 85.35 326 P P 17 37 07.2 +0.6
comp=Z,6.8nm,0.8s,baz=157,slow=5.8,SNR=19
G27A Dupree 85.45 340 ⇑P P 17 37 06.7 0.0
baz=86
I22A 9 Mile Ranch, 85.46 336 ⇓P P 17 37 06.2 -0.6
baz=86,SNR=17
BW06 Boulder Array 85.50 334 eP P 17 37 05.6 -1.6
comp=Z,56nm,1.4s
PDAR Pinedale Array 85.50 334 P P 17 37 06.8 -0.5
comp=Z,15nm,1.1s,baz=145,slow=5.4,SNR=14
J20A Shoshoni 85.51 335 ⇑P P 17 37 07.2 +0.1
baz=86,SNR=18
G26A Maurine 85.56 340 ⇑P P 17 37 06.3 -0.9
baz=86,SNR=15
F28A McLaughlin 85.58 341 ⇑P P 17 37 07.8 +0.5
baz=86
H24A Dirks Ranch, A 85.63 338 ⇑P P 17 37 07.5 -0.1
baz=86,SNR=20
I21A Big Trails, Te 85.65 336 ⇓P P 17 37 07.5 -0.4
baz=86,SNR=18
G25A Newell 85.70 339 ⇓P P 17 37 08.3 +0.4
baz=86
E30A Jud 85.71 342 ⇑P P 17 37 07.7 -0.2
baz=86
J19A Crowheart 85.76 335 ⇓P P 17 37 08.6 +0.1
baz=86,SNR=21
HVU Hansel Valley 85.84 331 eP P 17 37 08.3 -0.5
HVU pmax pmax
comp=Z,49nm,1.0s
HVU Hansel Valley 85.84 331 eP P 17 37 08.3 -0.5
comp=Z,49nm,1.0s
TOA0 Torodi Ar. Sit 85.85 70 eP P 17 37 09.2 -0.1
TORD Torodi Ar. Bea 85.85 70 P P 17 37 09.4 +0.1
comp=Z,42nm,1.2s,baz=249,slow=2.2,SNR=48
TORD LR LR 18 12 03.3
comp=Z,8µm,21.1s,baz=255,slow=33
WAKR Walker 85.92 325 eP P 17 37 10.6 +1.2
F27A Lemmon 85.93 340 ⇓P P 17 37 09.0 0.0
baz=86,SNR=21
ELK Elko 85.94 329 P P 17 37 09.7 +0.2
ELK pmax pmax
comp=Z,10.0nm,0.9s
ELK Elko 85.94 329 P P 17 37 09.7 +0.2
comp=Z,9.6nm,0.9s,baz=162,slow=3.4,SNR=18
ELK Elko 85.94 329 eP P 17 37 09.7 +0.2
comp=Z,300nm,3.0s
CMB Columbia Colle 85.99 324 eP P 17 37 09.4 -0.1
CMB pmax pmax
comp=Z,255nm,2.7s
CMB Columbia Colle 85.99 324 eP P 17 37 09.4 -0.1
comp=Z,255nm,2.7s
H22A Clearmont 86.05 337 ⇓P P 17 37 08.8 -0.9
baz=86,SNR=14
I20A Worland 86.05 335 ⇓P P 17 37 10.0 +0.2
baz=86,SNR=15
AHID Auburn Hatcher 86.06 333 eP P 17 37 09.8 -0.2
comp=Z,13nm,0.9s
F26A Lodgepole 86.09 340 ⇓P P 17 37 10.0 +0.1
baz=86,SNR=12
G24A Alzada 86.11 338 ⇓P P 17 37 10.5 +0.5
baz=86
E28A Huff 86.23 341 ⇑P P 17 37 11.0 +0.5
baz=86
D30A Buchanan 86.24 343 ⇑P P 17 37 11.2 +0.7
baz=86,SNR=15
G23A Biddle 86.29 338 ⇑P P 17 37 10.9 0.0
baz=87,SNR=13
H21A Big Horn, Sher 86.30 336 ⇓P P 17 37 11.1 +0.1
baz=87
F25A Bowman 86.38 339 ⇓P P 17 37 11.7 +0.4
baz=87,SNR=11
D29A Pettibone, Tap 86.40 342 ⇑P P 17 37 11.8 +0.5
baz=87,SNR=11
I19A Meeteetse 86.42 335 ⇑P P 17 37 12.4 +0.7
baz=87,SNR=6.6
H20A Greybull 86.48 336 ⇓P P 17 37 12.0 +0.1
baz=87,SNR=14
REDW Red Top Meadow 86.48 333 eP P 17 37 11.8 -0.3
comp=Z,68nm,1.3s
BMN Battle Mountai 86.52 328 eP P 17 37 14.1 +1.9
BMN pmax pmax
comp=Z,13nm,1.2s
BMN Battle Mountai 86.52 328 eP P 17 37 14.1 +1.9
comp=Z,12nm,1.2s
G22A Birney 86.59 337 ⇑P P 17 37 12.2 -0.1
baz=87
F24A Ekalaka 86.59 339 ⇑P P 17 37 12.3 -0.1
baz=87,SNR=6.6
E26A Carlson Angus 86.60 340 ⇓P P 17 37 12.3 0.0
baz=87,SNR=14
LOHW Long Hollow 86.61 334 eP P 17 37 12.4 -0.3
comp=Z,43nm,1.3s
TPAW Teton Pass 86.63 333 eP P 17 37 12.6 -0.3
comp=Z,36nm,0.9s
AGMN Agassiz Nation 86.72 345 eP P 17 37 11.9 -0.9
comp=Z,238nm,2.1s
C30A Mose, Pekin 86.73 343 ⇑P P 17 37 12.7 -0.2
baz=87,SNR=14
F23A Volborg 86.77 338 ⇑P P 17 37 12.8 -0.4
baz=87,SNR=14
D28A Regan 86.77 342 ⇑P P 17 37 13.3 +0.2
baz=87,SNR=17
FXWY Fox Creek 86.78 333 eP P 17 37 13.2 -0.3
comp=Z,27nm,1.2s
I17A Pilgrim Ck. 86.87 334 ⇓P P 17 37 14.7 +0.8
baz=87,SNR=26
G21A Lodge Grass 86.88 337 ⇑P P 17 37 13.8 0.0
baz=87
E25A Miller Ranch, 86.89 340 ⇓P P 17 37 14.0 +0.3
baz=87,SNR=16
D27A Center 86.94 341 ⇑P P 17 37 14.1 +0.2
baz=87
MSNA Messina 86.94 115 eP P 17 37 14.7 -0.1
MSNA AMB AMB 17 37 16.7
comp=Z,114nm,3.0s
MSNA Messina 86.94 115 P P 17 37 14.7 -0.1
comp=Z,114nm,3.0s
H19A Powell 86.97 335 ⇓P P 17 37 15.0 +0.7
baz=87
IMW Indian Meadow 86.98 334 eP P 17 37 14.4 -0.2
comp=Z,98nm,1.5s
FLWY Flagg Ranch 87.05 334 eP P 17 37 14.3 -0.5
comp=Z,55nm,1.0s
F22A Rosebud 87.08 337 ⇓P P 17 37 15.1 +0.4
baz=87
D26A Manning 87.11 340 ⇓P P 17 37 15.2 +0.5
baz=87,SNR=28
E24A Baker 87.20 339 ⇑P P 17 37 16.1 +0.8
baz=88
G20A Bridger 87.20 336 ⇓P P 17 37 15.0 -0.4
baz=88,SNR=15
H18A Shoshone NF, C 87.21 335 ⇑P P 17 37 15.5 -0.1
baz=88,SNR=19
H17A Grant Village 87.28 334 eP P 17 37 17.5 +1.5
comp=Z,21nm,1.1s
B30A Myrvik Farm, E 87.40 344 ⇓P P 17 37 16.2 +0.1
baz=88,SNR=36
YFT Old Faithful 87.42 334 eP P 17 37 18.6 +1.9
comp=Z,31nm,1.0s
D25A Fairfield 87.46 340 ⇓P P 17 37 17.1 +0.6
baz=88,SNR=11
C27A Sayler Ranch, 87.49 341 ⇓P P 17 37 17.1 +0.5
baz=88,SNR=20
YNR Norris Junctio 87.60 334 eP P 17 37 19.5 +2.0
comp=Z,41nm,1.6s
B29A Wagenman Farm, 87.65 343 ⇓P P 17 37 17.3 -0.1
baz=88,SNR=16
YMR Madison River 87.66 334 eP P 17 37 18.2 +0.5
comp=Z,106nm,1.4s
D24A Glendive 87.71 339 ⇑P P 17 37 18.4 +0.7
baz=88,SNR=8.7
C26A Wahner Farm, P 87.75 341 ⇑P P 17 37 18.3 +0.4
baz=88,SNR=12
A30A Hoffart Farm, 87.86 344 ⇑P P 17 37 17.9 -0.4
baz=88,SNR=11
B28A Dugan Ranch, T 87.88 342 ⇓P P 17 37 18.8 +0.4
baz=88,SNR=12
LAO LASA Array 87.88 338 eP P 17 37 18.1 -0.5
comp=Z,60nm,1.4s
C25A Freed Ranch, W 87.96 340 ⇓P P 17 37 19.4 +0.6
baz=88
QLMT Earthquake Lak 87.96 334 eP P 17 37 19.0 -0.2
HLID Hailey 87.99 331 eP P 17 37 19.1 -0.2
comp=Z,234nm,2.3s
HLID Hailey 87.99 331 ⇓P P 17 37 19.9 +0.6
baz=88,SNR=13
F19A Roth Farm, Mol 88.00 336 ⇓P P 17 37 19.3 +0.1
baz=88
E21A Keefer Ranch, 88.01 337 ⇑P P 17 37 19.3 +0.2
baz=88
D23A Lindsay 88.02 339 ⇑P P 17 37 19.4 +0.2
baz=88,SNR=11
A29A Manning Farm, 88.05 343 ⇑P P 17 37 19.0 -0.2
baz=88,SNR=35
C24A Savage 88.12 339 ⇑P P 17 37 19.7 +0.1
baz=88,SNR=20
GCMT Greycliff 88.19 335 eP P 17 37 20.9 +0.7
comp=Z,5.3nm,0.9s
D22A Cohagen 88.28 338 ⇓P P 17 37 20.6 +0.2
baz=89
A28A Rude Farm, Bot 88.29 342 ⇓P P 17 37 20.7 +0.3
baz=89
E20A Meyer Farm, Mu 88.31 337 ⇓P P 17 37 21.1 +0.4
baz=89
MFID Camas Ranch 88.42 330 eP P 17 37 20.6 -0.6
comp=Z,109nm,1.8s
B25A Knox Farm, Ray 88.44 340 ⇑P P 17 37 22.0 +0.9
baz=89
D21A La Casta Ranch 88.46 338 ⇓P P 17 37 22.0 +0.8
baz=89
MCMT McKenzie Canyo 88.47 333 eP P 17 37 21.5 -0.2
comp=Z,11nm,0.9s
E19A Rath Farm, Rou 88.49 336 ⇓P P 17 37 21.4 0.0
baz=89,SNR=12
A27A Ledoux Ranch, 88.57 342 ⇑P P 17 37 22.5 +0.8
baz=89
ULM Lac du Bonnet 88.58 346 eP P 17 37 20.5 -1.1
ULM Lac du Bonnet 88.58 346 P P 17 37 20.9 -0.7
comp=Z,19nm,1.0s,baz=156,slow=4.7,SNR=14
ULM Lac du Bonnet 88.58 346 eP P 17 37 20.5 -1.1
C23A Lambert 88.58 339 ⇑P P 17 37 22.0 +0.2
baz=89,SNR=11
PAF Port-aux-Franc 88.65 157 S S 17 47 47.0 -20
PAF SS SS 17 53 40.0 -17
PAF L L 18 00 00.0
PAF R 18 07 00.0
A26A Wade Farm, Ken 88.72 341 ⇑P P 17 37 22.6 +0.2
baz=89
C22A Vida 88.73 339 ⇑P P 17 37 22.9 +0.4
baz=89
BOZ Bozeman (W) 88.74 334 eP P 17 37 21.4 -1.3
BOZ pmax pmax
comp=Z,28nm,1.5s
BOZ Bozeman (W) 88.74 334 eP P 17 37 21.4 -1.3
comp=Z,28nm,1.5s
WVOR Wild Horse Val 88.77 328 eP P 17 37 22.4 -0.5
WVOR pmax pmax
comp=Z,398nm,3.0s
WVOR Wild Horse Val 88.77 328 eP P 17 37 22.4 -0.5
comp=Z,398nm,3.0s
D20A Manuel Ranch, 88.84 337 ⇓P P 17 37 23.1 0.0
baz=89
DLMT Dillon 88.84 333 eP P 17 37 23.7 +0.5
comp=Z,62nm,1.4s
DGMT Dagmar 88.91 340 eP P 17 37 23.1 -0.1
comp=Z,179nm,1.5s
DGMT Dagmar 88.91 340 ⇑P P 17 37 24.0 +0.7
baz=89
A25A Svangstu Ranch 89.04 341 ⇓P P 17 37 24.9 +1.0
baz=89
MOD Modoc 89.06 327 eP P 17 37 25.0 +0.6
comp=Z,22nm,1.0s
B23A Brockton 89.12 339 ⇑P P 17 37 25.2 +0.8
baz=89
D19A Cripps Ranch, 89.14 336 ⇑P P 17 37 25.1 +0.6
baz=89
C21A Desert Coulee 89.17 338 ⇑P P 17 37 24.8 +0.2
baz=90
LRM Limekiln Ridge 89.18 334 eP P 17 37 24.7 -0.2
A24A Westby 89.27 340 ⇑P P 17 37 26.4 +1.5
baz=90
B22A Reddig Ranch S 89.27 339 ⇓P P 17 37 25.2 +0.2
baz=90
C20A Veseth Ranch, 89.35 337 ⇑P P 17 37 25.3 -0.1
baz=90
M04C Macdoel 89.65 326 ⇓P P 17 37 27.9 +0.8
baz=90
B21A Ellsworth Farm 89.68 338 ⇓P P 17 37 26.7 -0.2
baz=90
C19A Slack Wire Ran 89.69 337 ⇑P P 17 37 26.8 -0.3
baz=90
HRY Holter Researc 89.73 335 eP P 17 37 25.4 -1.9
A22A Carney Farms, 89.86 339 ⇑P P 17 37 27.7 -0.1
baz=90
LSZ Lusaka 89.89 109 eP P 17 37 30.3 +1.3
LSZ pmax pmax
comp=Z,54nm,1.2s
LSZ Lusaka 89.89 109 eP P 17 37 30.3 +1.3
comp=Z,54nm,1.2s
K05A Summer Lake 89.98 327 eP P 17 37 30.2 +1.5
comp=Z,80nm,1.4s
B20A Solberg Farm, 90.00 338 ⇑P P 17 37 28.3 -0.1
baz=90
YBH Yreka Blue Hor 90.01 325 P P 17 37 28.1 -0.6
comp=Z,0.8nm,0.4s,baz=168,slow=6.1,SNR=3.2
A21A Bergtoll Ranch 90.16 339 ⇑P P 17 37 28.5 -0.7
baz=90
EGMT Eagleton 90.18 336 eP P 17 37 28.4 -1.0
comp=Z,13nm,1.1s
EGMT Eagleton 90.18 336 ⇓P P 17 37 29.6 +0.3
baz=90
BMO Blue Mountains 90.20 330 eP P 17 37 29.6 0.0
comp=Z,23nm,1.3s
B19A Brinkman Farms 90.30 337 ⇑P P 17 37 29.9 0.0
baz=91
A20A Cobblestone Ra 90.36 338 ⇑P P 17 37 29.7 -0.4
baz=91
CHMT Chamberlain Mo 90.41 334 eP P 17 37 30.4 -0.2
I07A Izee 90.48 329 eP P 17 37 31.5 +0.6
J05D Fort Rock, OR 90.58 327 ⇑P P 17 37 32.4 +1.0
baz=91
MSO Missoula 90.58 333 eP P 17 37 34.0 +2.7
comp=Z,39nm,1.6s
MSO Missoula 90.58 333 ⇓P P 17 37 31.4 +0.2
baz=91
A19A Klindworth Far 90.65 337 ⇑P P 17 37 31.1 -0.4
baz=91
SLMT Seeley Lake 90.77 334 eP P 17 37 30.9 -1.4
SCHQ Schefferville 91.01 4 P P 17 37 32.4 -0.6
comp=Z,3.4nm,0.9s,baz=198,slow=3.2,SNR=2.9
F10A Beach Ranch, E 91.10 331 eP P 17 37 33.5 -0.2
comp=Z,16nm,0.9s
SWMT Swartz Lake 91.18 334 eP P 17 37 32.4 -1.6
G08A Pilot Rock 91.23 330 eP P 17 37 34.6 +0.3
comp=Z,91nm,2.0s
JTMT Jette 91.48 334 eP P 17 37 34.3 -1.2
YBMT Yellow Bay 91.48 334 eP P 17 37 34.3 -1.2
BLMT Blacktail Moun 91.73 334 eP P 17 37 36.1 -0.6
BSMT Bassoo Peak 91.75 333 eP P 17 37 36.2 -0.6
G06A Carlson Farm, 91.88 329 eP P 17 37 39.7 +2.4
comp=Z,104nm,2.0s
E09A Wood Farm, Sta 91.91 331 eP P 17 37 38.6 +1.3
comp=Z,128nm,2.8s
HAWA Hanford 92.36 330 eP P 17 37 39.7 +0.3
comp=Z,53nm,1.4s
WALA Waterton Lakes 92.47 335 eP P 17 37 39.5 -0.5
E07A Sunnyside 92.63 330 eP P 17 37 41.6 +0.9
comp=Z,22nm,1.4s
D08A Wollman Farm, 92.66 331 eP P 17 37 40.8 0.0
comp=Z,17nm,0.9s
NEW Newport 92.96 332 P P 17 37 41.5 -0.7
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 92.96 332 P P 17 37 41.5 -0.7
comp=Z,3.1nm,0.8s,baz=117,slow=6.0,SNR=6.0
NEW Newport 92.96 332 ⇓P P 17 37 42.2 0.0
baz=93
C09A Chrisman Ranch 93.01 331 eP P 17 37 44.2 +1.8
comp=Z,73nm,1.7s
LON Longmire 93.59 329 eP P 17 37 47.5 +2.4
LON pmax pmax
comp=Z,22nm,1.5s
LON Longmire 93.59 329 eP P 17 37 47.5 +2.4
comp=Z,22nm,1.5s
B08A Colville Reser 93.88 331 eP P 17 37 47.0 +0.6
comp=Z,26nm,1.4s
FFC Flin Flon 94.08 344 eP P 17 37 46.1 -1.0
FFC pmax pmax
comp=Z,83nm,2.4s
FFC Flin Flon 94.08 344 eP P 17 37 46.1 -1.0
comp=Z,83nm,2.4s
TAM Tamanrasset 94.64 65 eP P 17 37 51.4 +0.7
TAM pmax pmax
comp=Z,27nm,1.4s
TAM Tamanrasset 94.64 65 eP P 17 37 51.4 +0.7
comp=Z,27nm,1.4s
EDM Edmonton 95.83 337 eP P 17 37 53.6 -1.6
FCC Fort Churchill 96.40 349 eP P 17 37 56.9 -0.7
FCC Fort Churchill 96.40 349 eP P 17 37 56.9 -0.7
ESDC Sonseca Array 98.86 47 LR LR 18 21 43.9
comp=Z,4µm,20.0s,baz=240,slow=35
DZM Mont Dzumac 99.12 234 eSS SS 17 56 31.2 +2.8
comp=Z,5µm,24.9s
DZM eLQ LQ 18 06 09.7
comp=Z,5µm,31.5s
DZM eLR LR 18 10 28.5
comp=Z,9µm,26.2s
YKA Yellowknife Ar 104.03 342 P Pdif 17 38 30.5 -1.1
YKA 17 42 54.1
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 104.03 342 Pdiff Pdif 17 38 30.5 -1.1
comp=Z,1.0nm,0.9s,baz=141,slow=4.7,SNR=6.3
YKA PP PP 17 42 54.1 +4.2
comp=Z,1.0nm,0.9s,baz=140,slow=7.5,SNR=4.6
KEST Kesra 104.91 57 PP PP 17 42 58.2 +1.0
comp=Z,0.3nm,0.3s,baz=225,slow=4.3,SNR=7.4
GERES GERESS Array B 114.45 46 PKIKP PKPdf 17 43 08.1 -0.7
GERES 17 44 10.3
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 114.45 46 PKP PKPdf 17 43 08.1 -0.7
comp=Z,1.1nm,0.8s,baz=152,slow=6.0,SNR=5.3
GERES PP PP 17 44 10.3 +4.3
comp=Z,0.5nm,0.6s,baz=210,slow=0.8,SNR=4.1
CLL Collm 115.18 44 ePKIKP PKPdf 17 43 09.0 -1.0
CLL e 17 44 14.0
CLL MLR MLR
comp=Z,5µm,18.7s
CLL Collm 115.18 44 e(PKiKP) PKPdf 17 43 09.0 -1.0
CLL e 17 43 44.0
CLL ePP PP 17 44 14.0 +2.9
CLL epPP 17 44 20.0
CLL ePS PS 17 53 52.0 +1.6
CLL eSS SS 18 00 06.0 -0.7
CLL Lm MLR 18 34 00.0
comp=N,2µm,19.2s
CLL Lm MLR 18 34 00.0
comp=E,3µm,19.4s
CLL Lm MLR 18 34 00.0
comp=Z,5µm,18.7s
BRG Berggiesshubel 115.52 45 ePKP PP 17 44 19.7 +6.3
comp=Z,36nm,1.8s
ILAR Eielson Array 115.91 333 PKIKP PKPdf 17 43 09.7 -1.3
ILAR 17 44 17.5
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ILAR Eielson Array 115.91 333 PKP PKPdf 17 43 09.7 -1.3
comp=Z,0.2nm,0.7s,baz=191,slow=2.8,SNR=3.0
ILAR PP PP 17 44 17.4 +1.6
comp=Z,1.2nm,1.1s,baz=104,slow=4.3,SNR=4.2
VYHS Vyhne 117.34 48 ePKIKP PKPdf 17 43 13.5 -0.8
VYHS Vyhne 117.34 48 ePKP PKPdf 17 43 13.5 -0.8
BZS Buzias 117.87 52 ⇑PKIKP PKPdf 17 43 15.7 +0.3
BZS Buzias 117.87 52 ⇑iP PKPdf 17 43 15.7 +0.3
WRA Warramunga Arr 118.25 210 PKIKP PKPdf 17 43 15.6 -1.5
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 118.25 210 PKP PKPdf 17 43 15.6 -1.5
comp=Z,1.1nm,0.7s,baz=162,slow=1.9,SNR=7.5
CRVS Cervenica-Dubn 119.10 49 ePKIKP PKPdf 17 43 23.2 +5.5
CRVS Cervenica-Dubn 119.10 49 ePKP PKPdf 17 43 23.2 +5.5
STHS Stebnicka Huta 119.17 48 ePKIKP PKPdf 17 43 22.3 +4.5
STHS Stebnicka Huta 119.17 48 ePKP PKPdf 17 43 22.3 +4.5
TRPA Tarpa 119.46 50 ⇓iP PKPdf 17 43 17.6 -0.7
UZH Uzhgorod 119.50 49 ePKIKP PKPdf 17 43 22.7 +4.3
KOLS Kolonicke sedl 119.61 49 ePKIKP PKPdf 17 43 23.2 +4.6
KOLS Kolonicke sedl 119.61 49 ePKP PKPdf 17 43 23.2 +4.6
VOIR 120.01 54 ⇑PKIKP PKPdf 17 43 18.8 -0.8
VOIR 120.01 54 ⇑iP PKPdf 17 43 18.8 -0.8
KWP Kalwaria Pacla 120.13 48 ePKIKP PKPdf 17 43 21.3 +1.6
KWP Kalwaria Pacla 120.13 48 ePKP PKPdf 17 43 21.2 +1.6
DOPR Dopca 120.43 53 ⇓iP PKPdf 17 43 22.4 +2.1
EIL Elat 120.58 74 PP PP 17 44 50.0 +1.0
comp=Z,5.0nm,0.9s,baz=227,slow=5.2,SNR=5.0
MLR Muntele Rosu 120.61 54 ⇑PKIKP PKPdf 17 43 20.2 -0.7
MLR Muntele Rosu 120.61 54 ⇑iP PKPdf 17 43 20.2 -0.7
MLR Muntele Rosu 120.61 54 PKP PKPdf 17 43 22.0 +1.2
comp=Z,1.3nm,1.0s,baz=7.6,slow=0.6,SNR=4.9
MLR PP PP 17 44 47.0 -2.1
comp=Z,1.7nm,1.1s,baz=239,slow=6.4,SNR=4.1
BURAR Bucovina Array 120.94 51 ⇑PKIKP PKPdf 17 43 21.5 +0.1
BURAR Bucovina Array 120.94 51 ⇑iP PKPdf 17 43 21.5 +0.1
PLOR Plostina 121.21 54 ⇑PKIKP PKPdf 17 43 19.9 -2.0
PLOR Plostina 121.21 54 ⇑iP PKPdf 17 43 19.9 -2.0
TESR Tescani 121.45 53 ⇑iP PKPdf 17 43 21.0 -1.3
TIRR Tirgusor 121.86 56 ⇑PKIKP PKPdf 17 43 18.2 -4.9
TIRR Tirgusor 121.86 56 ⇑iP PKPdf 17 43 18.2 -4.9
CFR Carcaliu 121.93 55 ⇓PKIKP PKPdf 17 43 23.0 -0.2
CFR Carcaliu 121.93 55 ⇓iP PKPdf 17 43 23.0 -0.2
SUW Suwalki 121.94 44 ePKIKP PKPdf 17 43 21.4 -1.5
SUW Suwalki 121.94 44 ePKP PKPdf 17 43 21.4 -1.5
MMAI Mount Meron Ar 122.39 71 PKP PKPdf 17 43 23.7 -0.9
comp=Z,1.5nm,0.6s,baz=85,slow=1.8,SNR=4.4
BRTR Keskin Array B 123.74 63 PKIKP PKPdf 17 43 27.0 -0.1
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 123.74 63 PKP PKPdf 17 43 27.0 -0.1
comp=Z,2.2nm,1.0s,baz=199,slow=3.4,SNR=7.4
AKASG Malin Array Be 124.44 49 PKIKP PKPdf 17 43 26.6 -1.2
AKASG 17 45 11.5
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 124.44 49 PKP PKPdf 17 43 26.6 -1.2
comp=Z,2.1nm,0.7s,baz=264,slow=3.0,SNR=7.1
AKASG PP PP 17 45 11.5 -3.2
comp=Z,0.1nm,0.3s,baz=254,slow=7.9,SNR=12
H11S2 WAKE ISLAND Hyl 124.83 268 T T 20 00 25.5
baz=118
H11S1 WAKE ISLAND Hyl 124.84 268 T T 20 00 27.7
baz=118
H11S3 WAKE ISLAND Hyl 124.84 268 T T 20 00 29.4
baz=118
SPITS Spitsbergen Ar 125.20 15 PKIKP PKPdf 17 43 26.4 -2.2
SPITS pmax pmax
comp=Z,8.0nm,0.9s
SPITS Spitsbergen Ar 125.20 15 PKP PKPdf 17 43 26.4 -2.2
comp=Z,7.8nm,0.9s,baz=150,slow=5.8,SNR=5.1
H11N3 WAKE ISLAND Hyl 125.30 269 T T 20 00 54.7
baz=122,slow=76,SNR=6.6
H11N1 WAKE ISLAND Hyl 125.31 269 T T 20 00 58.8
baz=122,slow=76,SNR=11
H11N2 WAKE ISLAND Hyl 125.32 269 T T 20 00 58.2
baz=122,slow=76,SNR=9.6
ARCES ARCESS Array B 126.55 26 PKIKP PKPdf 17 43 31.0 -0.3
ARCES pmax pmax
comp=Z,10.0nm,1.2s
ARCES ARCESS Array B 126.55 26 PKP PKPdf 17 43 31.0 -0.3
comp=Z,6.6nm,1.0s,baz=270,slow=3.6,SNR=4.8
MALT Malatya 126.71 66 ⇑PKIKP PKPdf 17 43 32.9 +0.1
MALT Malatya 126.71 66 ⇑iP PKPdf 17 43 32.9 +0.1
APA Apatity 129.31 28 ⇑iPKIKP PKPdf 17 43 35.0 -1.6
APA MLR MLR
comp=Z,4µm,20.0s
OBN Obninsk 129.76 45 iPKIKP PKPdf 17 43 37.2 -0.6
OBN i 17 45 59.2
OBN i 17 50 37.0
OBN pmax pmax
comp=Z,12nm,1.2s
MOS Moscow 130.45 44 ePKIKP PKPdf 17 43 36.5 -2.6
MOS MLR MLR
comp=E,6µm,22.0s
MOS MLR MLR
comp=Z,6µm,22.0s
AKH Akhalkalaki 131.38 64 P PP 17 45 57.9 -3.0
KBZ Khabaz 131.56 61 PKIKP PKPdf 17 43 42.3 +0.7
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 131.56 61 PKP PKPdf 17 43 42.3 +0.7
comp=Z,2.9nm,1.0s,baz=199,slow=2.8,SNR=6.0
ONI Oni 131.67 62 P PP 17 46 00.5 -2.1
KLMR Klimovskoe 131.84 37 ePKIKP PKPdf 17 43 38.6 -3.0
KLMR e 17 46 01.8
KLMR pmax pmax
comp=Z,50nm,1.6s
GOF Gofitskoye 131.98 59 ePKIKP PKPdf 17 43 38.1 -4.3

ZEI Tsey 132.04 62 *i* PKIKP PKPdf 17 43 42.9 0.0
ZEI pmax pmax
comp=Z,26nm,2.3s
TBLG Delisi 132.37 64 P PP 17 46 03.5 -3.5
DGRG David-gareji 132.76 64 P PP 17 46 08.8 -0.8
BILL Bilibino 134.57 333 *e*PKIKP PKPdf 17 43 47.0 +0.4
BILL pmax pmax
comp=Z,8.0nm,1.4s
MAK Makhachkala 134.65 63 *i* PKIKP PKPdf 17 43 47.8 +0.3
MAK *e* 17 46 19.1
MAK *e*PPP PPP 17 49 15.2
MAK *e* 17 50 49.5
MAK *e*SS SS 18 04 11.9 -0.3
MAK *e*SSS SSS 18 09 09.2
MAK pmax pmax
comp=Z,252nm,1.6s
GEYT Alibeck 141.46 73 PKhKP PKPpre 17 43 56.6
comp=Z,4.2nm,0.8s,baz=266,slow=2.4,SNR=8.0
ARU Arti 142.11 43 PKIKP PKPdf 17 44 12.9 +12
ABKAR Akbulak array 143.82 54 *e*PKPdf PKPab 17 44 01.1 0.0
POO Poona 145.94 113⇓*i*P PKPdf 17 44 08.0 -0.7
KUR Kuril'sk 148.03 299 PKP2 PKPbc 17 44 15.8 +1.4
KUR pmax pmax
comp=Z,276nm,1.2s
HYB Hyderabad 148.63 119 *i* PKP PKPdf 17 44 14.0 +0.8
BRVK Borovoye 149.53 45 *e*PKP2 PKPbc 17 44 18.1 +0.1
BRVK Borovoye 149.53 45 *e*PKPbc PKPbc 17 44 18.1 +0.1
BVAR Borovoye Array 149.61 45 PKP2 PKPbc 17 44 18.7 +0.5
BVAR pmax pmax
comp=Z,5.0nm,0.5s
BVAR Borovoye Array 149.61 45 PKPbc PKPbc 17 44 18.7 +0.5
comp=Z,4.9nm,0.5s,baz=304,slow=1.8,SNR=15
YAK Yakutsk 150.64 338 *e*PKIKP PKPbc 17 44 18.4 -2.0
YAK pmax pmax
comp=Z,49nm,0.9s
KKAR Karatay Array 151.41 65 *e*PKIKP PKPdf 17 44 19.6 +2.8
KKAR Karatay Array 151.41 65 *e*PKPdf PKPdf 17 44 19.6 +2.8
ASAJ Asahikawa 151.84 297 PKPab PKPab 17 44 31.6 -1.4
comp=Z,39nm,1.1s,baz=90,slow=3.0,SNR=5.8
NDI New Delhi 153.91 99 *ex* PKPdf 17 44 20.0 -0.9
NDI *ex* x 17 48 19.0
AAK Ala-Archa 154.35 66 *e*PKIKP PKPdf 17 44 20.6 -0.7
AAK *e* 17 44 29.7
AAK Ala-Archa 154.35 66 *e*PKPdf PKPdf 17 44 20.6 -0.7
AAK *e*PKPbc PKiKP 17 44 29.7 +0.1
AAK *e*PKPab PKPab 17 44 44.3 +0.5
MJAR Matsushiro Arr 154.86 280 PKPab PKPab 17 44 39.3 -6.7
comp=Z,3.8nm,1.0s,baz=107,slow=3.2,SNR=5.9
NVS Novosibirsk 155.42 34 *e*PKIKP PKPdf 17 44 20.4 -1.7
NVS pmax pmax
comp=E,40nm,2.1s
NVS pmax pmax
comp=Z,127nm,2.1s
KSH Kashi 155.49 73 *e*PKPbc PKPdf 17 44 22.5 -0.4
KSH *e*pPKP pPKPdf 17 44 31.0 -0.3
KSH *e*sPKP 17 44 36.8
KSH *e*SKS SKSdf 17 51 23.3 -4.4
KSH *e*SKKS SKKSac 17 55 10.5 -3.2
KSH AMB AMB
comp=Z,210nm,5.7s
KSH LR LR
comp=Z,470nm,4.7s
ZALV Zalesovo Beam 156.70 34 PKIKP PKPdf 17 44 22.8 -1.0
ZALV pmax pmax
comp=Z,5.0nm,0.9s
ZALV Zalesovo Beam 156.70 34 PKP PKPdf 17 44 22.8 -1.0
comp=Z,9.2nm,1.1s,baz=318,slow=2.0,SNR=10
KLR Kul'dur 157.81 313 *e*PKIKP PKPdf 17 44 19.0 -6.4
KOLN Koldanda 158.52 107 *e*P PKPdf 17 44 26.0 -1.2
DANN Dangsing 158.93 106 *e*P PKPdf 17 44 26.9 -0.9
MK31 Makanchi Array 158.95 53 *e*PKIKP PKPdf 17 44 25.8 -1.1
MK31 *e* 17 48 44.2
MK31 Makanchi Array 158.95 53 *e*PKPdf PKPdf 17 44 25.8 -1.1
MK31 *e*PP PP 17 48 44.2 -0.3
MKAR Makanchi Array 158.95 53 PKIKP PKPdf 17 44 25.6 -1.3
MKAR 17 48 45.1
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR pmax pmax
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 158.95 53 PKP PKPdf 17 44 25.6 -1.3
comp=Z,2.2nm,0.8s,baz=270,slow=2.3,SNR=7.7
MKAR PKPab PKPab 17 45 04.3 +1.0
comp=Z,5.2nm,0.8s,baz=275,slow=2.9,SNR=7.2
MKAR PP PP 17 48 45.1 +0.6
comp=Z,5.7nm,1.0s,baz=260,slow=4.8,SNR=3.5
GKN Gorkha 159.44 108 *e*P PKPdf 17 44 26.9 -1.3
DMN Daman 159.60 109 *e*P PKPdf 17 44 27.5 -1.1
PKIN Phulchoki 159.80 110 *e*P PKPdf 17 44 27.3 -1.5
PKI Pulchoki 159.81 110 *e*P PKPdf 17 44 27.6 -1.3
KKN Kakani 159.82 109 *e*P PKPdf 17 44 27.4 -1.4
GUN Gumba 160.34 109 *e*P PKPdf 17 44 28.3 -1.2
RAMN Ramite 160.37 113 *e*P PKPdf 17 44 28.6 -0.8
JIRN Jiri 160.45 111 *e*P PKPdf 17 44 28.5 -1.2
CMAR Chiang Mai Arr 160.82 156 PKIKP PKPdf 17 44 29.3 -0.6
CMAR 17 45 09.8
CMAR pmax pmax
comp=Z,4.0nm,1.1s
CMAR pmax pmax
comp=Z,4.0nm,1.0s
CMAR Chiang Mai Arr 160.82 156 PKP PKPdf 17 44 29.2 -0.6
comp=Z,3.5nm,1.1s,baz=234,slow=1.4,SNR=8.2
CMAR PKPab PKPab 17 45 09.8 -2.2
comp=Z,3.9nm,1.0s,baz=235,slow=3.7,SNR=4.7
ODAN Odare 160.91 114 *e*P PKPdf 17 44 29.1 -0.9
TAPN Taplejung 161.42 114 *e*P PKPdf 17 44 29.5 -1.1
SHL Shillong 163.24 126⇑*i*P PKPdf 17 44 33.0 +0.7
WMQ Urumqi 163.57 57 PKP PKPdf 17 44 31.8 -0.1
WMQ LR LR
comp=Z,2μm,20.6s
WMQ LR LR
comp=Z,3μm,23.0s
WMQ LR LR
comp=Z,3μm,21.2s
IRK Irkutsk 164.04 6 *e*PKP2 PKPab 17 45 21.7 -3.5
IRK pmax pmax
comp=Z,58nm,2.2s
MOY Mondy 164.16 14 *e*PKIKP PKPdf 17 44 31.2 -1.1
ZAK Zakamensk 165.77 9 *e*PKIKP PKPdf 17 44 31.6 -2.1
ZAK *e* 17 45 33.1
ZAK pmax pmax
comp=Z,4.0nm,2.3s
ZAK pmax pmax
comp=Z,8.0nm,1.3s
ULN Ulaanbaatar 168.53 359 *e*PKIKP PKPdf 17 44 34.5 -1.4
ULN Ulaanbaatar 168.53 359 *e*PKPdf PKPdf 17 44 34.5 -1.4
ULN *e*PKPab PKPab 17 45 45.5 +0.2
SONM Songino Array 168.55 2 PKIKP PKPdf 17 44 34.4 -1.4
SONM 17 49 39.1
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 168.55 2 PKP PKPdf 17 44 34.4 -1.4
comp=Z,1.2nm,0.7s,baz=215,slow=1.8,SNR=7.3
SONM PKPab PKPab 17 45 45.8 +0.4
comp=Z,4.2nm,0.9s,baz=343,slow=4.8,SNR=6.2
SONM PP PP 17 49 39.1 +5.0
comp=Z,1.7nm,0.9s,baz=358,slow=3.3,SNR=4.7
NJ2 Nanjing 169.19 250 *e*PKP PKPdf 17 44 35.8 -0.8
GYA Guiyang 170.10 179 *i* PKP PKPdf 17 44 37.8 +0.3
GYA pPKP pPKPdf 17 44 49.5 +3.6
GYA PKS PKSdf 17 48 08.0 -2.1
GYA PP PP 17 49 45.8 +4.0
GYA SKKS 17 56 28.0
GYA SS SS 18 10 41.5 +2.1
GYA AMB AMB
comp=Z,180nm,8.5s
GYA LR LR
comp=Z,180nm,21.6s
GYA LR LR
comp=Z,170nm,21.3s
GTA Gaotai 173.65 59 *e*PKP PKPdf 17 44 38.3 -0.4
GTA pPKP pPKPdf 17 44 49.0 +1.8
GTA sPKP 17 44 53.0
GTA PKPab PKPab 17 46 09.5 +1.0
GTA PP PP 17 50 01.3 +0.6
GTA SKS SKSdf 17 51 35.5 -4.8
GTA SKKS SKKSac 17 56 43.0 -2.4
GTA SS SS 18 11 12.0 -4.6
GTA AMB AMB
comp=Z,2μm,9.7s
GTA LR LR
comp=Z,2μm,21.1s
GTA LR LR
comp=Z,3μm,19.8s
GTA LR LR
comp=Z,6μm,21.1s
CD2 Chengdu 173.95 154 PKP PKPdf 17 44 38.5 -0.5
CD2 pPKP pPKPdf 17 44 49.8 +2.4
CD2 sPKP 17 44 53.5
CD2 PKS PKSdf 17 48 09.3 -2.0
CD2 PP PP 17 50 04.5 +3.4
CD2 SKS SKSdf 17 51 36.3 -4.3
CD2 SKKS SKKSac 17 56 45.3 -1.3
CD2 SS SS 18 11 16.5 -1.0
CD2 AMB AMB
comp=Z,320nm,6.2s
HHC Hu-ho-hao-te 174.23 322 *e*PKP PKPdf 17 44 35.8 -3.1
HHC pPKP pPKPdf 17 44 44.0 -3.3
HHC sPKP 17 44 49.0
HHC PP PP 17 49 59.3 -3.6
HHC LR LR
comp=Z,4μm,19.6s
HHC LR LR
comp=Z,6μm,19.8s
HHC LR LR
comp=Z,6μm,17.3s
XAN Xi'an 177.12 216 PKP PKPdf 17 44 39.0 -0.7
LZH Lanzhou 177.53 96 *e*PKP PKPdf 17 44 39.8 -0.1
LZH pPKP pPKPdf 17 44 51.0 +2.7
LZH sPKP 17 44 55.0
LZH PP PP 17 50 20.8 +1.0
LZH SKKS 17 57 03.3
LZH SS SS 18 11 48.0 -6.6
LZH AMB AMB
comp=Z,3μm,5.9s
LZH LR LR
comp=Z,850nm,16.8s
LZH LR LR
comp=Z,4μm,20.4s
LZH LR LR
comp=Z,4μm,21.0s

NIED **27** *17:25:00, 25.90N×128.60E, h8km, Mw4.4 Best double couple: Mo5.09000×10^15 NP1:φs352.00000°, δ73.00000°, λ-174.00000°. NP2:φs260.00000°, δ84.00000°, λ-17.00000°.*
NEIC **27** *17:25:26.0±1.8, 25.84N×128.43E, h5km±10km, mb4.9/12, MW4.4(NIED), Error ellipse: s-maj=11.7km s-min=5.7km az=135.0*
IDC **27** *17:25:26.2±0.9, 25.95N×128.36E, h0km, mb4.4/21, mb1 4.5/24, mb1mx4.4/54, mbtmp4.4/24, ML3.6/3, Error ellipse: s-maj=21.7km s-min=16.7km az=116.0*
ISCJB **27** *17:25:26.3±1.0, 25.87N±0.04×128.47E±0.04, h16km±6km, mb4.6/49, Error ellipse: s-maj=7.8km s-min=3.6km az=138.8*
JMA **27** *17:25:28.0±0.2, 25.94N×128.58E, h37km, M4.4*
MOS **27** *17:25:29.1±1.1, 25.90N×128.37E, h33km, mb4.9/28, Error ellipse: s-maj=11.7km s-min=6.9km az=117.1*
ISC 27 17:25:27.6±0.9, 25.93N±0.04×128.46E±0.05, h13km±4km, n167, σ1.24/178, mb4.7/49, 11C-13D, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JJT2 Tamagusuku 2 0.67 288 P Pn 17 25 42.7 -0.2
JJT2 S Sn 17 25 53.3 0.0
JNTH Nagotoyohara 0.70 326 P Pb 17 25 42.2 +0.4
JNTH *e*S Sn 17 25 53.1 -1.0
JOW Kunigami 0.91 349 P Pg 17 25 45.2 -0.1
JOW *e*S Sg 17 25 56.8 -0.4
JOW Kunigami 0.91 349 Pn Pb 17 25 45.4 +0.1
60nm,0.3s,baz=149,slow=17,SNR=242
JOW Sn Sg 17 25 56.8 -0.4
97nm,0.3s,baz=121,slow=19,SNR=23
JOW Kunigami 0.91 349 *e*Pg Pg 17 25 45.1 -0.1
JOW Pn Pb 17 25 45.4 +0.1
JOW Sn Sg 17 25 56.8 -0.4
JIH Iheya 1.18 338 P Pn 17 25 49.4 -0.5
JIH *e*S Sb 17 26 04.8 -0.4
JAGN Aguni-jima 1.27 301 P Pn 17 25 51.3 +0.1
JOKE Okinoerabujima 1.43 4 P Pn 17 25 52.5 -0.8
JOKE *e*S Sn 17 26 09.6 -2.3
JKE Kume jima 2 1.56 285 P Pn 17 25 54.8 -0.2
JKE *e*S Sn 17 26 13.6 -1.5
JTK Tokunoshima 1.90 13 P Pn 17 25 58.8 -0.9
JAMN Amaminishikomi 2.39 15 P Pn 17 26 05.8 -0.7
JMZ Minamidaito 2 2.49 92 P Pn 17 26 05.3 -2.5
JMZ *e*S Sn 17 26 31.7 -6.4
JAM Amami Oshima 2.67 22 P Pn 17 26 09.1 -1.3
JOGS Gusukube 3.00 248 P Pn 17 26 15.4 +0.5
JOGS *e*S Sn 17 26 49.1 -1.7
JIKM Ikemajima 3.08 252 P Pn 17 26 16.3 +0.4
JIKM *e*S Sn 17 26 50.9 -1.7
JMJ Miyako jima 2 3.08 249 P Pn 17 26 16.0 +0.1
JMJ *e*S Sn 17 26 51.3 -1.3
JIRB Irabujima 3.17 250 P Pn 17 26 17.2 -0.1
JIRB *e*S Sn 17 26 52.6 -2.4
JTAJ Takarajima 3.27 11 P Pn 17 26 17.5 -1.2
JTJ Tarama 3.64 250 P Pn 17 26 23.1 -0.6
JTJ *e*S Sn 17 27 03.5 -3.0
JISG Ishigakijimahi 3.99 251 P Pn 17 26 27.4 -1.1
JNN Nakanoshima 4.09 17 P Pn 17 26 29.8 -0.1
JIJ Ishigaki jima 4.21 249 P Pn 17 26 30.4 -1.2
JIJ *e*S Sn 17 27 16.0 -4.7
IRIF Iriomote-Funau 4.58 251 P Pn 17 26 36.3 -0.3
IRIF *e*S Sn 17 27 25.7 -3.9
YOJ Yonaguni jima 5.15 255 *e*P Pn 17 26 43.0 -1.5
YOJ pmax pmax
comp=Z,25nm,0.7s
YOJ Yonaguni jima 5.15 255 *e*Pn Pn 17 26 43.0 -1.5
comp=Z,25nm,0.7s
TATO Taipei 6.38 263 *e*P Pn 17 27 01.9 +0.6
comp=Z,111nm,1.0s
NACB Ninganchiao 6.47 256 *e*P Pn 17 27 00.7 -2.0
comp=Z,33nm,0.3s
YHNB Yeheng 6.54 260 *e*P Pn 17 27 04.2 +0.6
comp=Z,75nm,1.0s
YULB Yu-li 6.99 250 *e*Pn Pn 17 27 06.2 -3.6
comp=Z,14nm,0.3s
YULB *e*Sn Sn 17 28 20.5 -8.7
SSLB Suanglung 7.15 254 *e*Pn Pn 17 27 09.7 -2.3
comp=Z,30nm,0.3s
SSLB *e*Sn Sn 17 28 22.2 -11
TWG Pinlang 7.42 247 *e*Pn Pn 17 27 11.5 -4.1
comp=Z,86nm,0.3s
JNU Nakatsue 7.47 16 Pn Pn 17 27 17.1 +0.7
comp=Z,2.8nm,0.3s,baz=27,slow=16,SNR=44
JNU Sn Sn 17 28 39.1 -1.8
comp=Z,1.3nm,0.3s,baz=173,slow=19,SNR=4.2
JNU Nakatsue 7.47 16 *e*Pn Pn 17 27 17.0 +0.7
comp=Z,8.2nm,0.6s
JNU Sn Sn 17 28 39.1 -1.8
TPUB Ta-pu 7.59 251 *e*Pn Pn 17 27 16.9 -1.2
comp=Z,29nm,0.6s
MJAR Matsushiro Arr 13.46 36 Pn Pn 17 28 39.1 +0.8
comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=3.2
BJT Baijiatuau 17.40 327 P P 17 29 30.9 -0.5
BJT Baijiatuau 17.40 327 P P 17 29 30.9 -0.5
USRK Ussuriysk Arra 18.45 8 P Pn 17 29 44.5 +1.5
comp=Z,0.2nm,0.3s,baz=186,slow=9.1,SNR=12
QIZ Qiongzhong 18.52 252 P Pn 17 29 44.5 +0.5
comp=Z,53nm,1.4s
ASAJ Asahikawa 21.46 29 P P 17 30 17.6 +1.8
ASAJ pmax pmax
comp=Z,4.0nm,0.7s
ASAJ Asahikawa 21.46 29 P P 17 30 17.6 +1.8
comp=Z,4.0nm,0.7s,baz=253,slow=9.2,SNR=5.3
KLR Kul'dur 23.40 5 *e*P P 17 30 33.0 -3.1
YSS Yuzh-Sakhalins 23.85 25⇑*e*P P 17 30 42.0 +1.5
YSS *e* 17 30 52.6
YSS pmax pmax
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 23.85 25 *e*P P 17 30 41.0 +0.5
comp=Z,106nm,1.1s
UBPT Khong Chiam 23.95 248 P P 17 30 44.8 +3.0
comp=Z,15nm,1.6s,comp=Z,2μm
UTTA Uttaradit 27.11 258 P P 17 31 13.1 +2.6
comp=Z,1.8nm,1.0s,comp=Z,41nm
PBKT Sadao Pong 27.21 255 P P 17 31 13.9 +2.5
comp=Z,11nm,0.9s
GTA Gaotai 27.47 306 P P 17 31 12.5 -1.2
GTA pP pP 17 31 17.0 -0.6
GTA sP sP 17 31 19.5 +0.3
GTA pmax pmax
comp=Z,58nm,1.1s
ULN Ulaanbaatar 27.62 328 *e*P P 17 31 16.4 +1.5
ULN Ulaanbaatar 27.62 328 *e*P P 17 31 16.4 +1.5
LAMP Lampang 27.65 260 P P 17 31 17.5 +2.2
comp=Z,4.5nm,0.9s
CMAI Chiengmai2 27.71 264 P P 17 31 19.5 +3.5
comp=Z,4.0nm,0.8s
SONM Songino Array 27.91 327 P P 17 31 16.2 -1.4
SONM pmax pmax
comp=Z,9.0nm,0.8s
SONM Songino Array 27.91 327 P P 17 31 16.2 -1.4
comp=Z,9.2nm,0.8s,baz=144,slow=7.0,SNR=49
CMMT Chiang Mai 28.15 261 P P 17 31 21.1 +1.2
comp=Z,16nm,0.8s,comp=Z,1μm
CHTO Chiang Mai 28.16 261 P P 17 31 21.1 +1.2
comp=Z,99nm,0.8s
CMAR Chiang Mai Arr 28.28 261 P P 17 31 20.3 -0.7
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 28.28 261 P P 17 31 20.3 -0.7
comp=Z,3.1nm,0.8s,baz=54,slow=7.4,SNR=15
UMPA Umpang Tak 29.21 257 P P 17 31 23.4 -5.9
comp=Z,36nm,0.5s,comp=Z,3μm
ZAK Zakamensk 31.15 328 *e*P P 17 31 46.8 +0.6
ZAK pmax pmax
comp=Z,3.0nm,1.6s
MKAR Makanchi Array 41.89 312 P P 17 33 17.2 -0.5
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 41.89 312 P P 17 33 17.1 -0.5
comp=Z,3.9nm,0.6s,baz=93,slow=10,SNR=16
ZALV Zalesovo Beam 42.61 323 P P 17 33 22.1 -1.3
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 42.61 323 P P 17 33 22.1 -1.3
comp=Z,4.2nm,0.7s,baz=120,slow=10,SNR=3.5
KURK Kurchatov 45.18 317 P P 17 33 42.8 -1.3
KURK Kurchatov 45.18 317 P P 17 33 42.8 -1.3
WRAB Tennant Creek 45.95 172 *e*P P 17 33 49.7 -0.8
WRAB pmax pmax
comp=Z,8.0nm,0.9s
WRAB Tennant Creek 45.95 172 *e*P P 17 33 49.7 -0.8
comp=Z,8.2nm,0.9s
WRA Warramunga Arr 45.96 172 P P 17 33 50.9 +0.3
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 45.96 172 P P 17 33 50.9 +0.3
comp=Z,1.8nm,0.6s,baz=353,slow=8.5,SNR=12
TKM2 Tokmak 2 46.02 306 *e*P P 17 33 50.8 -0.4
TKM2 Tokmak 2 46.02 306 *e*P P 17 33 50.8 -0.4
BILL Bilibino 47.89 18 *e*P P 17 34 06.0 +0.9
BILL *e* 17 34 24.5
BILL pmax pmax
comp=Z,7.0nm,1.1s
BILL Bilibino 47.89 18 *e*P P 17 34 04.2 -0.9
comp=Z,17nm,1.3s
BVAR Borovoye Array 50.63 318 P P 17 34 26.4 0.0
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 50.63 318 P P 17 34 26.4 0.0
comp=Z,5.3nm,0.7s,baz=93,slow=7.8,SNR=7.8
BRVK Borovoye 50.70 318 *e*P P 17 34 27.0 +0.1
BRVK *e* 17 34 38.1
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 50.70 318 *e*P P 17 34 26.9 +0.1
comp=Z,10nm,0.8s
BRVK *e* 17 34 38.1
KBL Kabul 51.42 295 *e*P P 17 34 33.1 +0.3
KBL Kabul 51.42 295 *e*P P 17 34 33.1 +0.3
ABKAR Akbulak array 57.00 313 *e*P P 17 35 12.4 -0.6
comp=Z,8.7nm,0.8s
ARU Arti 57.75 322 *e*P P 17 35 17.5 -0.7
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 57.75 322 *e*P P 17 35 17.5 -0.7
comp=Z,6.5nm,0.8s
AKTO Aktyubinsk 58.19 315 P P 17 35 22.0 +0.6
AKTO pmax pmax
comp=Z,3.0nm,0.8s
AKTO Aktyubinsk 58.19 315 P P 17 35 21.9 +0.6
comp=Z,2.8nm,0.8s,baz=83,slow=6.0,SNR=4.8
GEYT Alibeck 59.62 300 P P 17 35 32.4 +0.8
comp=Z,8.6nm,0.9s,baz=77,slow=2.4,SNR=9.5
MCK McKinley 63.83 29 *e*P P 17 35 59.7 +0.3
MCK pmax pmax
comp=Z,3.0nm,0.7s
MCK McKinley 63.83 29 *e*P P 17 35 59.7 +0.3
comp=Z,3.5nm,0.7s
ILAR Eielson Array 64.60 28 P P 17 36 04.3 -0.2
comp=Z,0.6nm,0.7s,baz=266,slow=7.1,SNR=6.8
ZEI Tsey 69.07 308 *e*P P 17 36 32.4 -1.2
ZEI pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 69.51 310 P P 17 36 36.9 +0.9
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 69.51 310 P P 17 36 36.9 +0.9
comp=Z,8.2nm,0.9s,baz=115,slow=5.4,SNR=15
KIV Kislovodsk 69.59 310 *e*P P 17 36 37.1 +0.5
KIV pmax pmax
comp=Z,25nm,1.2s
KIV Kislovodsk 69.59 310 *e*P P 17 36 37.1 +0.5
comp=Z,26nm,1.2s
ARCES ARCESS Array B 70.36 339 P P 17 36 42.5 +1.7
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 70.36 339 P P 17 36 42.5 +1.7
comp=Z,2.9nm,0.9s,baz=64,slow=6.3,SNR=3.1
JOF Joensuu 70.40 331 *e*P P 17 36 41.4 +0.2
JOF Joensuu 70.40 331 *e*p P 17 36 41.4 +0.2
KAF Kangasniemi 72.86 331 *e*P P 17 36 55.6 -0.4
KAF Kangasniemi 72.86 331 *e*p P 17 36 55.6 -0.4
FINES FINESS Array B 73.22 331 P P 17 36 58.0 -0.1
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 73.22 331 P P 17 36 58.0 -0.1
comp=Z,5.4nm,0.7s,baz=75,slow=5.7,SNR=20
MALT Malatya 74.45 305 ⇑P P 17 37 07.7 +1.8
MALT Malatya 74.45 305⇑*i*P P 17 37 07.7 +1.8
NACGM Naroch 75.54 324 *e*LR LR 17 47 50.0
DAG Danmarks Havn 75.58 353 *i* P P 17 37 10.2 -1.4
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 75.58 353 *i* P P 17 37 10.2 -1.4
comp=Z,2.1nm,0.8s
AKASG Malin Array Be 75.89 320 P P 17 37 13.5 -0.3
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 75.89 320 P P 17 37 13.5 -0.3
comp=Z,5.8nm,0.5s,baz=57,slow=6.2,SNR=35
KIEV Kiev 75.90 320 *e*P P 17 37 13.2 -0.7
KIEV pmax pmax
comp=Z,14nm,1.0s
KIEV Kiev 75.90 320 *e*P P 17 37 13.2 -0.7
comp=Z,14nm,1.0s
AK02 Malin Array Si 75.92 320 *e*P P 17 37 13.5 -0.5
BRTR Keskin Array B 77.38 308 P P 17 37 23.1 +0.4
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 77.38 308 P P 17 37 23.1 +0.4
comp=Z,9.3nm,0.9s,baz=91,slow=5.2,SNR=43
SUW Suwalki 77.81 324 *e*P P 17 37 24.2 -0.4
SUW pmax pmax
comp=Z,30nm,0.9s
SUW Suwalki 77.81 324 *e*P P 17 37 24.2 -0.4
comp=Z,30nm,0.9s
YKA Yellowknife Ar 78.70 25 P P 17 37 30.1 +0.7
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 78.70 25 P P 17 37 30.1 +0.7
comp=Z,0.6nm,0.7s,baz=302,slow=5.6,SNR=15
TESR Tescani 79.21 317⇓*i*P P 17 37 32.8 +0.3
VRI Vrincioaia 79.44 316 ⇓P P 17 37 34.9 +1.1
VRI Vrincioaia 79.44 316⇓*i*P P 17 37 34.8 +1.0
PSN Preselentsi 79.47 313 ⇑P P 17 37 34.1 +0.2
PSN Preselentsi 79.47 313⇑*i*P P 17 37 34.1 +0.2
PLOR Plostina 79.50 316 ⇑P P 17 37 35.9 +1.7
PLOR Plostina 79.50 316⇑*i*P P 17 37 35.9 +1.7
BUR08 Bucovina Ar. S 79.59 318 *e*P P 17 37 34.6 -0.1
BURAR Bucovina Array 79.59 318 ⇓P P 17 37 35.5 +0.8
BURAR Bucovina Array 79.59 318⇓*i*P P 17 37 35.5 +0.8
NB2 NORSAR Subarra 79.60 334 P P 17 37 33.8 -1.0
comp=Z,5.3nm,0.8s,baz=52,slow=5.6
NOA NORSAR Array B 79.67 334 P P 17 37 34.4 -0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA	NORSAR Array B	79.67	334	P	P	17 37 34.4	-0.4
	comp=Z,3.7nm,0.7s,baz=52,slow=5.5,SNR=12						
MLR	Muntele Rosu	80.10	316	⇓P	P	17 37 38.0	+0.5
MLR	Muntele Rosu	80.10	316	⇓iP	P	17 37 38.0	+0.5
MLR	Muntele Rosu	80.10	316	P	P	17 37 37.6	+0.1
	comp=Z,1.8nm,0.9s,baz=14,slow=3.1,SNR=9.4						
KWP	Kalwaria Pacla	80.13	321	⇓P	P	17 37 38.8	+1.4
KWP	Kalwaria Pacla	80.13	321	⇓iP	P	17 37 38.8	+1.4
DOPR	Dopca	80.23	316	⇓iP	P	17 37 39.1	+1.0
JMB	Yambol	81.06	313	⇓P	P	17 37 42.7	+0.2
JMB	Yambol	81.06	313	⇓iP	P	17 37 42.7	+0.2
SUMG	Summit	81.34	356	iP	P	17 37 45.1	+1.1
SUMG				pmax	pmax		
	comp=Z,14nm,0.9s						
SUMG	Summit	81.34	356	iP	P	17 37 45.1	+1.1
	comp=Z,14nm,0.9s						
GZR	Gura Zlata	82.12	317	⇑P	P	17 37 49.6	+1.4
GZR	Gura Zlata	82.12	317	⇑iP	P	17 37 49.6	+1.4
PSZ	Piszkesteto	82.59	320	P	P	17 37 49.8	-0.8
PSZ	Piszkesteto	82.59	320	P	P	17 37 49.8	-0.8
MORC	Moravsky Berou	82.95	322	P	P	17 37 51.6	-0.9
MORC	Moravsky Berou	82.95	322	⇓iP	P	17 37 53.5	+1.1
MORC	Moravsky Berou	82.95	322	P	P	17 37 51.5	-0.9
MMB	Musomiste	83.35	313	⇑P	P	17 37 54.8	+0.2
MMB	Musomiste	83.35	313	⇑iP	P	17 37 54.8	+0.2
VRAC	Vranov	83.72	322	P	P	17 37 57.9	+1.5
VRAC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VRAC	Vranov	83.72	322	P	P	17 37 57.9	+1.5
	comp=Z,3.0nm,0.7s,baz=48,slow=9.7,SNR=4.7						
BRG	Berggiesshubel	84.28	325	ePKP	P	17 38 02.5	+3.4
	comp=Z,15nm,1.8s						
	comp=N,4μm,17.5s						
	comp=E,3μm,16.9s						
	comp=Z,6μm,17.4s						
BRG	Berggiesshubel	84.28	325	eP	P	17 38 02.5	+3.4
BRG				pmax	pmax		
	comp=Z,15nm,1.8s						
CLL	Collm	84.51	325	iP	P	17 38 00.7	+0.4
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CLL	Collm	84.51	325	iP	P	17 38 00.7	+0.4
	comp=Z,8.0nm,1.0s						
CLL				iPcP	PcP	17 38 04.0	+0.1
	comp=Z,6.0nm,0.8s						
GERES	GERESS Array B	85.56	323	P	P	17 38 06.7	+0.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	85.56	323	P	P	17 38 06.7	+0.9
	comp=Z,1.1nm,0.7s,baz=44,slow=4.1,SNR=11						
SFJD	Kangerlussuaq	87.36	360	P	P	17 38 18.2	+4.1
SFJD				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SFJD	Kangerlussuaq	87.36	360	P	P	17 38 18.2	+4.1
	comp=Z,6.2nm,0.8s,baz=17,slow=5.1,SNR=3.5						
DAVOX	Davos/Dischmat	88.86	323	P	P	17 38 24.0	+2.1
DAVOX						17 41 50.7	
DAVOX				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DAVOX				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DAVOX	Davos/Dischmat	88.86	323	P	P	17 38 24.0	+2.1
	comp=Z,4.4nm,0.6s,baz=41,slow=5.7,SNR=8.7						
DAVOX				PP	PP	17 41 50.7	+0.2
	comp=Z,3.4nm,0.9s,baz=74,slow=3.5,SNR=3.2						
KMBO	Kilima Mbogo	91.58	270	P	P	17 38 42.0	+6.8
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMBO	Kilima Mbogo	91.58	270	P	P	17 38 42.0	+6.8
	comp=Z,0.8nm,0.7s,baz=57,slow=6.3,SNR=3.7						
KMBO	Kilima Mbogo	91.58	270	P	P	17 38 42.0	+6.8
LAO	LASA Array	92.45	34	eP	P	17 38 37.5	-1.0
	comp=Z,25nm,1.0s						
LVC	Limon Verde	163.82	82	ePKPdf	PKPdf	17 45 29.1	-2.3

ISCJB **27** *17:29:56.6±1.6, 34.01S±0.09×72.2W±0.1, h46km±12km, mb4.6/10, Error ellipse: s-maj=15.1km s-min=14.2km az=166.6*
GUC **27** *17:29:56.4±0.7, 33.91S×72.19W, h36km±3km, ML4.6*
NEIC **27** *17:29:57.2±0.6, 34.01S×72.16W, h35km, mb4.8/7, Error ellipse: s-maj=18.5km s-min=13.7km az=89.0*
IDC **27** *17:29:59.5±4.1, 34.01S×72.16W, h49km±35km, mb4.2/6, mb1 4.3/8, mb1mx3.9/44, mbtmp4.4/8, ML3.7/2, Error ellipse: s-maj=37.8km s-min=20.6km az=73.0*
ISC 27 17:29:58.7±2.6, 34.0S±0.1×72.1W±0.1, h48km±21km, n35, σ1.00/41, mb4.6/10, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
TACH	Talagante	1.02	71	⇓iP	Pn	17 30 15.1	-1.5
RCDM	Rinconada Maip	1.18	66	⇑iP	Pn	17 30 18.1	-0.8
RCDM				iS	Sn	17 30 34.1	+0.3
SAN	Santiago	1.31	67	⇓iP	Pn	17 30 19.9	-0.7
SAN				iS	Sn	17 30 38.0	+1.1
STL	Santa Lucia	1.33	66	eP	Pn	17 30 19.2	-1.7
STL				iS	Sn	17 30 37.5	0.0
ROCH	El Roble	1.36	42	⇑iP	Pn	17 30 20.8	-0.6
ROCH				iS	Sn	17 30 38.4	0.0
ROCH				AML	AML	17 30 47.1	
	comp=N,14μm,0.5s						
PEL	Peldehue	1.45	55	⇑iP	Pn	17 30 22.0	-0.5
PEL				iS	Sn	17 30 41.5	+1.2
PEL				AML	AML	17 30 49.5	
	comp=N,24μm,0.4s						
FCH	Farellones	1.64	67	⇑iP	Pn	17 30 25.4	0.0
FCH				iS	Sn	17 30 47.4	+1.9
FCH				AML	AML	17 30 52.2	
	comp=N,8μm,0.4s						
CFAA	Coronel Fontan	4.02	55	P	Pn	17 30 59.7	+1.9
	comp=N,0.8nm,0.3s,baz=222,slow=15,SNR=2.3						
CFAA				S	Sn	17 31 58.5	+15
	comp=N,5.9nm,0.3s,baz=210,slow=20,SNR=3.9						
CPUP	Villa Florida	14.87	63	P	P	17 33 31.5	+0.8
	comp=N,1.2nm,0.3s,baz=215,slow=16,SNR=3.2						
CPUP	Villa Florida	14.87	63	Pn	P	17 33 31.1	+0.4
	comp=N,106nm,1.5s						
LPAZ	La Paz	17.98	12	P	P	17 34 06.3	+0.5
	comp=N,0.4nm,0.3s,baz=199,slow=7.6,SNR=5.7						
LPAZ	La Paz	17.98	12	ePn	P	17 34 06.1	+0.3
	comp=N,60nm,1.4s						
SDV	Santo Domingo	42.66	2	P	P	17 37 49.0	-1.9
RCBR	Riachuelo	43.67	58	eP	P	17 37 56.5	-2.6
	comp=N,84nm,1.8s						
SNAA	Sanae	51.62	158	P	P	17 39 00.6	+0.6
	comp=N,2.1nm,0.8s,baz=292,slow=4.9,SNR=5.1						
MTDJ	Mount Denham	52.18	353	P	P	17 39 04.8	+0.1
TEIG	Tepich	56.07	342	P	P	17 39 33.3	+0.4
	comp=N,16nm,0.5s,baz=146,slow=7.3,SNR=6.1						
TEIG	Tepich	56.07	342	eP	P	17 39 33.1	+0.2
	comp=N,26nm,0.8s						
QSPA	South Pole Qui	56.25	180	P	P	17 39 34.8	+0.8
	comp=N,6.6nm,0.8s,baz=138,slow=7.7,SNR=3.8						
QSPA	South Pole Qui	56.25	180	eP	P	17 39 34.5	+0.6
	comp=N,9.8nm,0.9s						
TXAR	Lajitas Array	69.70	331	P	P	17 41 04.5	+1.0
	comp=N,0.8nm,0.6s,baz=156,slow=8.7,SNR=7.5						
DBIC	Dimbokro	75.22	71	P	P	17 41 37.0	+0.3
	comp=N,15nm,1.3s						
TSUM	Tsumeb	79.26	106	P	P	17 41 57.9	-1.6
	comp=N,2.0nm,0.8s						
ECSD	EROS Data Cent	80.52	342	eP	P	17 42 05.6	+0.2
	comp=N,7.6nm,0.8s						
LBTB	Lobatse	82.35	115	P	P	17 42 16.6	+0.7
	comp=N,2.1nm,0.4s,baz=259,slow=6.0,SNR=4.9						
TOA0	Torodi Ar. Sit	84.25	70	eP	P	17 42 25.1	-0.4
TORD	Torodi Ar. Bea	84.25	70	P	P	17 42 25.8	+0.3
	comp=N,3.6nm,0.8s,baz=272,slow=5.8,SNR=7.8						
YKA	Yellowknife Ar	102.03	341	P	Pdif	17 43 46.4	-0.5
	comp=N,0.5nm,0.7s,baz=144,slow=5.1,SNR=3.3						
WRA	Warramunga Arr	120.75	209	PKP	PKPdf	17 48 45.5	-0.5
	comp=N,0.4nm,0.4s,baz=157,slow=1.6,SNR=9.9						
ARCES	ARCESS Array B	124.02	25	PKP	PKPdf	17 48 51.2	+0.6
	comp=N,6.5nm,1.0s,baz=258,slow=0.8,SNR=4.2						
SEY	Seymchan	139.99	330	PKP	PKPdf	17 49 20.3	-0.6
	comp=N,1.6nm,0.4s,baz=80,slow=23,SNR=6.6						
BVAR	Borovoye Array	147.30	43	PKPbc	PKPab	17 49 37.8	-0.5
	comp=N,2.6nm,0.5s,baz=297,slow=2.0,SNR=14						
AAK	Ala-Archa	152.54	62	ePKPbc	PKPbc	17 49 50.0	+0.2
ZALV	Zalesovo Beam	154.24	32	PKPbc	PKPbc	17 49 53.6	+0.7
	comp=N,6.2nm,0.6s,baz=307,slow=3.1,SNR=9.0						
MKAR	Makanchi Array	156.79	49	PKPab	PKPab	17 50 19.1	+0.9
	comp=N,1.2nm,0.8s,baz=280,slow=4.0,SNR=4.2						

IDC **27** *17:33:04.9±0.9, 33.82S×71.81W, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.2/19, mbtmp4.3/8, ML4.6/1, Error ellipse: s-maj=27.8km s-min=18.2km az=121.0*
ISCJB **27** *17:33:07.0±1.3, 33.95S±0.07×72.06W±0.07, h24km±8km, mb4.2/7, Error ellipse: s-maj=12.5km s-min=8.1km az=146.7*
GUC **27** *17:33:09.0±0.6, 33.86S×71.97W, h9km±25km, ML4.6*
ISC 27 17:33:06.6±2.1, 33.88S±0.08×71.97W±0.08, h12km±11km, n20, σ0.95/27, mb4.3/7, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
TACH	Talagante	0.89	76	eP	Pn	17 33 25.2	+0.3
IHA	Instituto Hidr	0.89	18	⇓iP	Pn	17 33 25.1	+0.2
IHA				iS	Sn	17 33 37.9	+0.1
RCDM	Rinconada Maip	1.04	69	⇑iP	Pn	17 33 27.5	+0.4
RCDM				iS	Sn	17 33 41.9	+0.2
SAN	Santiago	1.17	69	⇑iP	Pg	17 33 30.2	+1.0
SAN				iS	Sn	17 33 46.1	+1.4
STL	Santa Lucia	1.19	69	eP	Pg	17 33 29.7	+0.1
STL				eS	Sn	17 33 46.1	+0.7
ROCH	El Roble	1.21	42	⇑iP	Pg	17 33 30.9	+1.0
ROCH				iS	Sn	17 33 47.2	+1.3
ROCH				AML	AML	17 33 54.1	
	comp=E,19μm,0.9s						
PEL	Peldehue	1.30	56	eP	Pg	17 33 32.2	+0.7
PEL				iS	Sg	17 33 49.7	+1.2
PEL				AML	AML	17 33 54.1	
	comp=E,33μm,0.4s						
FCH	Farellones	1.50	69	⇓iP	Pb	17 33 33.7	-1.0
FCH				iS	Sg	17 33 53.9	-1.2
FCH				AML	AML	17 33 57.0	
	comp=N,10μm,0.3s						
CFAA	Coronel Fontan	3.88	55	Pg	Pb	17 34 12.4	-2.5
	comp=N,3.6nm,0.3s,baz=222,slow=13,SNR=6.0						
CFAA				Lg	Lg	17 35 02.8	
	comp=N,6.3nm,0.3s,baz=0.9,slow=10,SNR=4.6						
LPAZ	La Paz	17.85	12	P	P	17 37 15.9	-0.3
	comp=N,0.9nm,0.3s,baz=188,slow=5.6,SNR=11						
SNAA	Sanae	51.68	158	P	P	17 42 13.5	+0.5
	comp=N,3.8nm,0.8s,baz=283,slow=6.8,SNR=11						
QSPA	South Pole Qui	56.36	180	P	P	17 42 48.3	+0.9
	comp=N,8.5nm,0.9s,baz=157,slow=8.8,SNR=9.1						
TXAR	Lajitas Array	69.65	331	P	P	17 44 16.7	+0.6
	comp=N,0.2nm,0.6s,baz=155,slow=8.8,SNR=4.1						
TSUM	Tsumeb	79.19	106	P	P	17 45 11.9	-0.1
	comp=N,2.2nm,0.9s,baz=217,slow=5.1,SNR=3.8						
BOSA	Boshof	80.08	118	P	P	17 45 16.2	-0.5
	comp=N,2.9nm,0.8s,baz=201,slow=3.4,SNR=3.5						
LBTB	Lobatse	82.31	115	P	P	17 45 28.2	-0.4
	comp=N,1.8nm,0.6s,baz=233,slow=10,SNR=4.3						
TORD	Torodi Ar. Bea	84.11	70	P	P	17 45 37.8	0.0
	comp=N,3.3nm,0.7s,baz=249,slow=5.3,SNR=9.2						
WRA	Warramunga Arr	120.90	209	PKP	PKPdf	17 51 58.4	-1.1
	comp=N,0.4nm,0.4s,baz=153,slow=1.8,SNR=14						
ZALV	Zalesovo Beam	154.09	32	PKPbc	PKPbc	17 53 05.5	-0.2
	comp=N,2.9nm,0.5s,baz=293,slow=3.1,SNR=9.0						
MKAR	Makanchi Array	156.64	49	PKPab	PKPab	17 53 30.1	-0.5
	comp=N,0.7nm,0.7s,baz=306,slow=1.9,SNR=5.1						

IDC **27** *17:33:41.8±3.0, 36.12S×70.84W, h0km, mb4.4/7, mb1 4.6/7, mb1mx4.2/39, mbtmp4.4/7, Error ellipse: s-maj=263.2km s-min=29.8km az=78.0*
NEIC **27** *17:33:50.1±0.5, 36.59S×73.17W, h35km, mb4.9/21, Error ellipse: s-maj=23.5km s-min=13.6km az=79.0*
ISCJB **27** *17:33:54.4±0.6, 36.4S±0.1×72.4W±0.3, h88km, mb4.6/25, Error ellipse: s-maj=35.8km s-min=16.0km az=167.1*
ISC 27 17:33:55.3±0.7, 36.3S±0.2×72.2W±0.4, h88km, n37, σ1.11/34, mb4.8/27, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
LPAZ	La Paz	20.28	11	P	Pn	17 38 30.7	+3.2
SAML	Samuel	28.46	19	P	P	17 39 44.7	+2.7
SDV	Santo Domingo	44.99	2	eP	P	17 42 00.2	-2.0
	12nm,0.8s						
SNAA	Sanae	49.49	157	P	P	17 42 37.9	+1.5
QSPA	South Pole Qui	53.92	180	P	P	17 43 08.3	-1.2
	7.6nm,0.8s,baz=162,slow=6.2,SNR=6.0						
QSPA	South Pole Qui	53.92	180	eP	P	17 43 07.4	-2.1
	8.9nm,0.8s						
GTBY	Guantanamo Bay	56.01	357	P	P	17 43 25.9	+1.1
	70nm,1.4s						
TEIG	Tepich	58.26	342	P	P	17 43 37.2	-3.5
JCT	Junction City	71.33	335	eP	P	17 45 05.5	+0.1
	8.6nm,0.9s						
TXAR	Lajitas Array	71.70	331	P	P	17 45 07.5	-0.3
	1.9nm,0.7s,baz=154,slow=9.0,SNR=10						
WHTX	Lake Whitney	71.96	338	eP	P	17 45 09.3	+0.2
	14nm,0.9s						
ABTX	Abilene, Hawle	73.24	336	eP	P	17 45 16.4	-0.4
	14nm,1.1s						
WVT	Waverly	73.54	347	eP	P	17 45 19.0	+0.7
	14nm,1.1s						
TUL1	Tulsa	75.14	340	eP	P	17 45 27.8	+0.1
	209nm,3.0s						
DBIC	Dimbokro	76.06	71	P	P	17 45 39.3	+5.9
	31nm,1.7s						
ANMO	Albuquerque	77.76	332	P	P	17 45 43.4	+0.6
	3.9nm,0.9s,baz=155,slow=6.7,SNR=8.1						
SMCO	Snowmass	81.69	333	eP	P	17 46 05.6	+1.4
	5.7nm,1.0s						
ECSD	EROS Data Cent	82.72	342	eP	P	17 46 09.2	+0.2
	16nm,1.0s						
SRU	San Rafael	82.97	331	eP	P	17 46 11.1	+0.5
	4.4nm,0.8s						
MVU	Marysvale	83.13	329	eP	P	17 46 12.7	+1.1
	83nm,2.9s						
MPU	Maple Canyon	84.19	331	eP	P	17 46 17.8	+1.0
	10nm,1.1s						
R11A	Troy Canyon, C	84.43	327	eP	P	17 46 19.1	+1.1
	34nm,2.3s						
DUG	Dugway	84.81	330	eP	P	17 46 20.8	+0.9
	9.1nm,1.2s						
TPH	Tonopah	84.93	326	eP	P	17 46 21.5	+0.9
	29nm,2.1s						
RSSD	Black Hills	85.12	338	eP	P	17 46 21.7	+0.2
	5.0nm,1.0s						
NVAR	Mina Array Bea	85.71	325	P	P	17 46 25.2	+0.6
	1.4nm,0.7s,baz=149,slow=5.9,SNR=5.3						
PDAR	Pinedale Array	85.77	333	P	P	17 46 24.8	0.0
	2.2nm,1.0s,baz=155,slow=4.8,SNR=7.2						
HVU	Hansel Valley	86.14	331	eP	P	17 46 26.8	+0.3
	6.4nm,0.8s						
ELK	Elko	86.27	329	P	P	17 46 26.8	-0.5
	1.6nm,0.6s,baz=181,slow=3.3,SNR=4.8						
LOHW	Long Hollow	86.89	333	eP	P	17 46 30.4	+0.3
	101nm,3.0s						
TPAW	Teton Pass	86.91	333	eP	P	17 46 30.8	+0.5
	8.1nm,1.0s						
ULM	Lac du Bonnet	88.70	345	P	P	17 46 37.0	-1.4
	2.7nm,0.8s,baz=135,slow=5.7,SNR=3.9						
KKH	Kailua Kona	96.62	289	eP	P	17 47 09.0	-6.6
HYB	Hyderabad	148.01	118	iPKP	PKPab	17 53 33.0	-1.0
WMQ	Urumqi	162.91	58	eP	PKPdf	17 53 48.0	+1.0
CD2	Chengdu	173.64	147	PKP	PKPdf	17 53 55.5	+1.0
CD2				pPKP	pPKPdf	17 54 06.8	-12
CD2				sPKP		17 54 10.5	
CD2				PKS	PKSdf	17 57 26.3	-0.6
CD2				PP	PP	17 59 20.5	+4.6
CD2				SKS	SKSdf	18 00 53.0	+3.1
HHC	Hu-ho-hao-te	174.60	328	ePKP	PKPdf	17 53 53.5	-1.1
HHC				pPKP	pPKPdf	17 54 02.8	-17
HHC				sPKP		17 54 08.3	

IDC **27** *17:34:59.1±1.0, 36.20S×73.35W, h0km, mb4.5/9, mb1 4.6/10, mb1mx4.5/20, mbtmp4.5/10, ML4.9/1, Error ellipse: s-maj=34.9km s-min=21.7km az=80.0*
ISCJB **27** *17:35:00.7±0.7, 36.25S±0.09×73.5W±0.2, h27km, mb4.6/12, Error ellipse: s-maj=25.5km s-min=11.6km az=166.2*
NEIC **27** *17:35:03.5±0.6, 36.30S×73.48W, h35km, mb4.9/6, Error ellipse: s-maj=25.5km s-min=11.6km az=77.0*
ISC 27 17:35:02.5±0.7, 36.27S±0.10×73.5W±0.2, h27km, n20, σ1.21/20, mb4.7/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
PLCA	Paso Flores	5.01	154	Pn	Pn	17 36 16.0	0.0
	9.7nm,0.3s,baz=274,slow=15,SNR=3.5						
PLCA	Paso Flores	5.01	154	Pn	Pn	17 36 14.1	-1.9
LPAZ	La Paz	20.47	15	P	P	17 39 37.7	-1.1
	9.6nm,0.8s						
NNA	Nana	24.37	352	P	P	17 40 17.5	-0.9
	11nm,0.6s						
RCBR	Riachuelo	45.85	58	P	P	17 43 24.0	+1.4
	17nm,1.1s,baz=236,slow=13,SNR=4.1						
SNAA	Sanae	49.95	157	P	P	17 43 55.1	+1.6
	3.9nm,0.6s,baz=284,slow=9.4,SNR=8.1						
SNAA	Sanae	49.95	157	eP	P	17 43 54.8	+1.2
	22nm,1.0s						
QSPA	South Pole Qui	53.97	180	P	P	17 44 25.4	+1.7
	5.3nm,0.6s,baz=149,slow=2.8,SNR=11						
QSPA	South Pole Qui	53.97	180	eP	P	17 44 24.9	+1.2
	14nm,1.0s						
TEIG	Tepich	57.91	344	eP	P	17 44 51.3	-0.8
	26nm,1.0s						
TXAR	Lajitas Array	71.16	332	P	P	17 46 19.6	+0.8
	1.2nm,0.7s,baz=155,slow=8.6,SNR=3.8						
DBIC	Dimbokro	77.03	72	P	P	17 46 52.7	-0.5
	6.1nm,0.8s,baz=200,slow=4.6,SNR=5.1						
CASY	Casey	77.73	182	P	P	17 46 54.1	-2.3
	10nm,1.0s						
BOSA	Boshof	80.06	118	P	P	17 47 09.6	-0.4
	3.4nm,0.7s,baz=263,slow=1.9,SNR=4.0						
LBTB	Lobatse	82.42	115	P	P	17 47 22.4	-0.2
	6.3nm,0.8s,baz=246,slow=5.1,SNR=4.1						
NVAR	Mina Array Bea	85.09	326	P	P	17 47 36.7	+0.8
	1.4nm,0.7s,baz=168,slow=5.7,SNR=4.0						
TORD	Torodi Ar. Bea	86.09	71	P	P	17 47 41.5	+0.4
	1.6nm,0.8s,baz=217,slow=3.6,SNR=4.5						
HYB	Hyderabad	148.95	120	iPKP	PKPbc	17 54 47.5	-0.8
ZALV	Zalesovo Beam	156.78	34	PKPab	PKPab	17 55 24.8	+0.6
	1.8nm,0.6s,baz=300,slow=6.0,SNR=4.6						
MK31	Makanchi Array	159.12	52	ePKPdf	PKPdf	17 54 57.7	0.0

SJA **27** *17:40:01.3±1.4, 33.47S×73.41W, h24km±114km, ML5.4*
ISCJB **27** *17:40:09.9±2.1, 33.49S±0.04×72.28W±0.04, h9km±12km, mb4.9/89, MS4.9/1, Error ellipse: s-maj=7.3km s-min=5.2km az=24.1*
IDC **27** *17:40:09.4±0.4, 33.39S×72.12W, h0km, mb4.9/22, mb1 4.9/26, mb1mx4.9/30, mbtmp4.9/26, ML4.9/4, Error ellipse: s-maj=14.7km s-min=12.4km az=62.0*
NEIC **27** *17:40:10.0±1.9, 33.38S×71.96W, h3km±11km, mb5.0/73, MS4.9/1, Error ellipse: s-maj=9.6km s-min=5.3km az=68.0*
GUC **27** *17:40:11.6±0.8, 33.55S×72.31W, h15km±999km, ML5.5*
MOS **27** *17:40:13.8±1.3, 33.28S×72.05W, h33km, mb5.3/18, Error ellipse: s-maj=16.8km s-min=9.4km az=96.5*
ISC 27 17:40:09.5±1.9, 33.45S±0.04×72.26W±0.06, h4km±11km, n496, σ1.34/510, mb5.0/89, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
IHA	Instituto Hidr	0.67	51	⇓iP	Pn	17 40 25.1	-0.7
TACH	Talagante	1.12	101	⇑iP	Pn	17 40 31.6	-0.5
ROCH	El Roble	1.15	66	iP	Pn	17 40 32.9	+0.3
ROCH				iS	Sn	17 40 50.0	+1.0
ROCH				AML	AML	17 40 58.8	
	comp=N,369μm,0.6s						
RCDM	Rinconada Maip	1.21	92	⇑iP	Pn	17 40 33.4	+0.1
RCDM				iS	Sn	17 40 49.3	-1.0
SAN	Santiago	1.33	91	⇑iP	Pb	17 40 35.6	+0.5
SAN				iS	Sn	17 40 53.4	+0.2
PEL	Peldehue	1.35	77	⇓iP	Pb	17 40 36.3	+0.9
PEL				iS	Sn	17 40 55.2	+1.5
PEL				AML	AML	17 41 04.3	
	comp=N,75μm,0.6s						
STL	Santa Lucia	1.35	90	⇓iP	Pn	17 40 34.9	-0.4
STL				iS	Sn	17 40 53.2	-0.5
PCH	Pirque	1.47	97	eP	Pg	17 40 37.7	+0.1
AUSP	Uspallata	2.71	64	iP	Pb	17 40 58.9	+0.2
ARCO	CERRO ARCO	2.85	79	iP	Pg	17 41 03.6	-0.6
ARCO				iS	Sg	17 41 46.8	+5.6
ARCO				AML	AML	17 41 50.1	
	comp=Z,6μm,0.6s						
AAGR	Agrelo	2.90	84	iP	Pb	17 41 02.9	+1.1
ASAL	Salagasta	3.00	74	iP	Pb	17 41 03.7	+0.1
AVIZ	Vizcacheras	3.13	91	iP	Pb	17 41 05.0	-0.8
RTCV	Cerro Valdivia	3.51	64	iP	Pb	17 41 10.3	-2.0
RTLL	Cerro Villicun	3.83	58	iP	Pb	17 41 13.6	-4.2
CFAA	Coronel Fontan	3.86	63	Pg	Pb	17 41 18.1	-0.2
	comp=Z,19nm,0.3s,baz=232,slow=13,SNR=17						
CFAA				Lg	Lg	17 42 05.7	
	comp=Z,14nm,0.3s,baz=199,slow=14,SNR=3.6						
CFAA	Coronel Fontan	3.86	63	iP	Pb	17 41 15.3	-3.0
CFAA				iP	Pb	17 41 15.3	-3.0
AMOG	MOGNA	4.05	53	iP	Pb	17 41 17.2	-4.4
ACAN	Cantantal	4.42	76	iP	Pb	17 41 23.3	-4.5
AGUA	GUANDACOL	5.09	40	iP	Pn	17 41 29.7	+2.9
PLCA	Paso Flores	7.40	170	eP	Pn	17 41 58.4	0.0
PLCA	Paso Flores	7.40	170	Pn	Pn	17 41 59.9	+1.5
	comp=Z,5.9nm,0.3s,baz=328,slow=11,SNR=2.3						
PLCA	Paso Flores	7.40	170	ePn	Pn	17 41 58.4	0.0
PLCA				Pn	Pn	17 41 59.9	+1.5
PLCA				eSn	Sn	17 43 18.6	-4.2
TRQA	Tornquist	9.53	122	ePn	Pn	17 42 28.4	+0.8
LVC	Limon Verde	11.19	16	ePn	Pn	17 42 46.0	-4.6
	comp=Z,39nm,0.6s						
CPUP	Villa Florida	14.76	65	eP	Pn	17 43 39.2	+0.1
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CPUP	Villa Florida	14.76	65	Pn	Pn	17 43 39.2	+0.1
	comp=Z,0.9nm,0.3s,baz=230,slow=16,SNR=3.2						
CPUP				Sn	Sn	17 46 14.8	-8.3
	comp=Z,16nm,0.3s,baz=168,slow=18,SNR=3.2						
CPUP	Villa Florida	14.76	65	ePn	Pn	17 43 39.1	+0.1
	comp=Z,1.5nm,0.5s						
LPAZ	La Paz	17.49	13	P	P	17 44 16.0	-0.3
	comp=Z,1.9nm,0.3s,baz=188,slow=8.4,SNR=40						
SIV	San Ignacio	20.11	33	P	P	17 44 44.6	+0.2
	comp=Z,3.5nm,0.3s,baz=226,slow=14,SNR=19						
USHA	Ushuaia	21.55	174	P	P	17 45 02.1	+2.4
	comp=Z,33nm,0.7s,baz=343,slow=7.4,SNR=22						
NNA	Nana	21.77	348	eP	P	17 45 00.3	-2.2
NNA				pmax	pmax		
	comp=Z,57nm,1.2s						
NNA				MLR	MLR		
	comp=Z,5μm,21.2s						
NNA	Nana	21.77	348	P	P	17 45 03.5	+1.0
	comp=Z,38nm,1.1s,baz=160,slow=13,SNR=6.6						
NNA	Nana	21.77	348	eP	P	17 45 00.3	-2.2
	comp=Z,57nm,1.2s						
NNA				P	P	17 45 03.5	+1.0
NNA				LR	LR		
	comp=Z,5μm,21.2s						
SAML	Samuel	25.78	21	eP	P	17 45 41.1	-0.5
	comp=Z,74nm,0.8s						
BDFB	Brasilia	28.18	57	P	P	17 46 02.0	-1.4
BDFB	Brasilia	28.18	57	P	P	17 46 02.0	-1.4
	comp=Z,25nm,0.6s,baz=230,slow=7.6,SNR=24						
OTAV	Otavalo	34.01	349	eP	P	17 46 55.3	+0.1
	comp=Z,16nm,1.1s						
OTAV				e		17 47 07.6	
ROSC	El Rosal	38.15	357	P	P	17 47 30.6	+0.1
SDV	Santo Domingo	42.13	2	eP	P	17 48 02.4	-0.9
	comp=Z,20nm,0.8s						
RCBR	Riachuelo	43.51	59	P	P	17 48 14.6	+0.2
	comp=Z,9.1nm,0.6s,baz=221,slow=9.1,SNR=12						
RCBR	Riachuelo	43.51	59	eP	P	17 48 14.1	-0.3
	comp=Z,17nm,0.9s						
JTS	JuntasAbangare	45.15	342	eP	P	17 48 27.9	+0.5
JTS	JuntasAbangare	45.15	342	P	P	17 48 28.4	+0.9
	comp=Z,6.7nm,0.8s,baz=157,slow=7.7,SNR=6.4						
JTS	JuntasAbangare	45.15	342	eP	P	17 48 27.9	+0.5
JTS				P	P	17 48 28.4	+0.9
FDF	Fort de France	49.07	14	P	P	17 48 56.4	-1.7
FDF	Fort de France	49.07	14	P	P	17 48 56.4	-1.7
VNA3	Neumayer Olymp	49.94	158	P	P	17 49 05.1	+1.0
VNA2	Neumayer--Watz	50.59	157	P	P	17 49 09.7	+0.7
OBIP	Obispado Ponce	51.49	7	eP	P	17 49 15.1	-1.2
	comp=Z,41nm,1.0s						
SABA	Saba	51.51	11	eP	P	17 49 16.3	-0.1
	comp=Z,126nm,0.8s						
CELP	Cerrillos	51.52	7	eP	P	17 49 13.8	-2.8
MTDJ	Mount Denham	51.63	354	eP	P	17 49 18.0	+0.5
SDDR	Presa de Saban	52.15	1	eP	P	17 49 17.9	-3.3
SNAA	Sanae	52.16	158	P	P	17 49 21.2	+0.2
SNAA	Sanae	52.16	158	eP	P	17 49 21.1	+0.2
SNAA				pmax	pmax		
	comp=Z,82nm,1.2s						

SNAA Sanae 52.16 158 P P 17 49 21.2 +0.3
comp=Z,11nm,0.8s,baz=284,slow=6.3,SNR=42
SNAA Sanae 52.16 158 eP P 17 49 21.1 +0.2
comp=Z,82nm,1.2s
GTBY Guantanamo Bay 53.15 357 eP P 17 49 28.2 -0.4
TEIG Tepich 55.52 342 P P 17 49 45.8 -0.1
comp=Z,22nm,0.7s,baz=157,slow=7.3,SNR=7.5
QSPA South Pole Qui 56.78 180 eP P 17 49 55.2 +0.6
comp=Z,31nm,0.9s
SBA Scott Base 63.58 192 eP P 17 50 42.4 +1.6
SBA Scott Base 63.58 192 eP P 17 50 42.4 +1.6
BBSR BB Station 65.86 7 P P 17 50 56.2 0.0
933A Laredo 65.92 334 P P 17 50 58.1 +1.4
baz=66
834A Tilden 66.12 335 P P 17 50 59.7 +1.7
baz=66
735A Kenedy 66.53 336 P P 17 51 02.3 +1.7
baz=67
833A Chaparral WMA, 66.61 334 P P 17 51 03.1 +2.0
baz=67
832A Faith Ranch, C 66.79 333 P P 17 51 03.8 +1.5
baz=67
632A Uvalde 67.83 334 P P 17 51 10.4 +1.6
baz=68
631A Perdido Creek 68.03 333 P P 17 51 11.8 +1.7
baz=68
532A Rocksprings 68.43 334 P P 17 51 14.3 +1.6
baz=69
434A Burnet 68.48 336 P P 17 51 14.4 +1.5
baz=69
336A Riesel 68.54 338 P P 17 51 14.7 +1.5
baz=69
335A Moody 68.63 337 P P 17 51 15.2 +1.3
baz=69
531A Rocksprings 68.70 334 P P 17 51 14.8 +0.5
baz=69
433A Art 68.71 335 P P 17 51 15.5 +1.1
baz=69
JCT Junction City 68.71 335 eP P 17 51 13.7 -0.7
JCT Junction City 68.71 335 eP P 17 51 13.7 -0.7
334A Lometa 68.95 336 P P 17 51 17.3 +1.5
baz=69
530A J-C Ranch, Com 68.98 333 P P 17 51 17.7 +1.7
baz=69
432A Menard 69.07 335 P P 17 51 18.2 +1.6
baz=69
TXAR Lajitas Array 69.17 331 P P 17 51 18.2 +0.9
comp=Z,1.6nm,0.8s,baz=150,slow=7.7,SNR=10
333A Richland Sprin 69.19 336 P P 17 51 18.3 +0.9
baz=70
529A Stev Forest Ra 69.29 332 P P 17 51 19.2 +1.1
baz=70
WHTX Lake Whitney 69.30 337 P P 17 51 19.1 +1.2
baz=70
332A Millersview 69.51 335 P P 17 51 20.2 +0.9
baz=70
430A Baggett Ranch, 69.51 334 P P 17 51 20.3 +1.0
baz=70
234A Clairette 69.53 337 P P 17 51 20.1 +0.7
baz=70
TKL Tuckaleechee C 69.59 350 P P 17 51 19.4 -0.3
comp=Z,6.1nm,0.8s,baz=136,slow=10,SNR=4.6
429A Davenport Ranc 69.61 333 P P 17 51 21.7 +1.7
baz=70
331A San Angelo 69.69 334 P P 17 51 21.5 +1.1
baz=70
233A Rising Star 69.80 336 P P 17 51 22.1 +1.0
baz=70
232A Coleman 69.94 335 P P 17 51 23.1 +1.2
baz=70
330A Mertzon 70.05 334 P P 17 51 23.4 +0.8
baz=70
231A Bronte 70.22 335 P P 17 51 24.4 +0.8
baz=71
133A Hamilton Ranch 70.34 336 P P 17 51 25.2 +0.8
baz=71
329A Wagon Wheel Ra 70.42 333 P P 17 51 26.0 +1.0
baz=71
Z35A Perchaven, San 70.47 338 P P 17 51 26.0 +0.9
baz=71
ABTX Abilene, Hawle 70.61 336 eP P 17 51 26.1 0.0
comp=Z,19nm,1.0s
ABTX Abilene, Hawle 70.61 336 P P 17 51 27.1 +1.1
baz=71
Z34A Collier Ranch, 70.72 337 P P 17 51 27.8 +1.1
baz=71
WVT Waverly 70.73 347 eP P 17 51 25.3 -1.4
WVT pmax pmax
comp=Z,25nm,0.7s
WVT Waverly 70.73 347 eP P 17 51 25.3 -1.4
comp=Z,25nm,0.7s
229A Bryant Ranch, 70.79 334 P P 17 51 28.1 +1.0
baz=71
131A Roby 70.91 335 P P 17 51 28.5 +0.6
baz=71
Z33A Whitaker Ranch 70.91 337 P P 17 51 28.8 +0.9
baz=71
130A Snyder 71.04 335 P P 17 51 29.1 +0.4
baz=71
Z32A Haskell 71.17 336 P P 17 51 30.3 +0.8
baz=72
Y34A Reagan Ranch, 71.20 338 P P 17 51 30.8 +1.2
baz=72
228A UT Block 9, Go 71.21 333 P P 17 51 30.7 +0.9
baz=72
Z31A Sharp Cattle R 71.41 336 P P 17 51 31.6 +0.7
baz=72
BBTS Babate 71.47 58 P P 17 51 32.6 +1.0
comp=Z,20nm,0.8s,baz=279,slow=1.5,SNR=4.3
Y33A Hilltop Ranch, 71.53 337 P P 17 51 32.5 +1.0
baz=72
128A Castleberry Fa 71.62 333 P P 17 51 32.9 +0.6
baz=72
Z30A Sanderson Ranc 71.72 335 P P 17 51 33.5 +0.7
baz=72
Y32A R-V Farms, Ver 71.80 336 P P 17 51 33.9 +0.7
baz=72
X34A Smith Ranch, M 71.82 338 P P 17 51 33.9 +0.5
baz=72
Z29A Hungry Hill Ra 71.91 334 P P 17 51 34.3 +0.3
baz=72
MNTX Cornudas Mount 71.94 331 eP P 17 51 33.2 -1.0
comp=Z,3.5nm,0.7s
Y31A Rekieta Farm, 72.03 336 P P 17 51 35.7 +1.0
baz=72
X32A Elmer 72.12 337 P P 17 51 36.3 +1.1
baz=72
TUL1 Tulsa 72.43 340 P P 17 51 37.0 +0.1
comp=Z,9.5nm,0.8s
Y29A Porterfield Fa 72.44 335 P P 17 51 38.0 +0.8
baz=73
Z27A Tatum 72.52 333 P P 17 51 39.0 +1.3
baz=73
W33A Caddo, Fort Co 72.53 338 P P 17 51 38.9 +1.4
baz=73
X31A McDonald Ranch 72.55 336 P P 17 51 38.3 +0.6
baz=73
W32A Sentinel 72.75 337 P P 17 51 39.9 +1.0
baz=73
Z26A Caprock 72.77 333 P P 17 51 39.9 +0.7
baz=73
V34A Guthrie 72.86 339 P P 17 51 40.2 +0.7
baz=73
MSTX Muleshoe 72.94 334 eP P 17 51 40.8 +0.6
comp=Z,24nm,0.9s
MSTX Muleshoe 72.94 334 P P 17 51 40.6 +0.5
baz=73
X29A Tulia 72.97 335 P P 17 51 41.1 +0.8
baz=73
W31A Holland Ranch, 73.04 337 P P 17 51 41.6 +1.0
baz=73
V33A Lossen Ranch, 73.09 338 P P 17 51 41.4 +0.5
baz=74
AMTX Amarillo 73.36 335 P P 17 51 43.2 +0.6
baz=74
Z24A Sheeppen Canyo 73.36 331 P P 17 51 43.5 +0.7
baz=74
U34A Anderson Ranch 73.43 339 P P 17 51 44.1 +1.3
baz=74
W29A Amraillo 73.56 335 P P 17 51 44.9 +1.1
baz=74
Y25A Mesa, Roswell 73.62 332 P P 17 51 46.2 +2.0
baz=74
121A Cookes Peak, D 73.67 329 P P 17 51 46.6 +2.0
baz=74
X26A CR and CF Fran 73.84 333 P P 17 51 46.2 +0.8
baz=74
Y24A Capitan 73.92 332 P P 17 51 46.9 +0.9
baz=74
Z22A Elephant Butte 73.95 330 P P 17 51 47.1 +0.9
baz=74
ACSO Alum Creek Sta 73.98 351 eP P 17 51 45.4 -0.6
comp=Z,25nm,0.9s
Y23A Lovelace Mesa, 74.17 331 P P 17 51 50.2 +2.7
baz=74
T33A Patterson Ranc 74.24 339 P P 17 51 49.5 +1.9
baz=75
W26A Owens Ranch, T 74.30 334 P P 17 51 49.6 +1.5
baz=75
T32A Huddler Ranch, 74.54 338 P P 17 51 51.2 +1.8
baz=75
W25A X Bar L Ranch, 74.68 333 P P 17 51 51.5 +1.2
baz=75
V26A Tequesquite Ra 74.94 334 P P 17 51 53.7 +1.9
baz=75
W24A Lazy 6 Ranch, 75.03 332 P P 17 51 54.2 +1.7
baz=75
S31A Mullinville 75.12 338 P P 17 51 54.5 +1.8
baz=76
U27A Thompson Grove 75.15 335 P P 17 51 54.6 +1.6
baz=76
DBIC Dimbokro 75.18 72 eP P 17 51 53.0 -0.6
DBIC pmax pmax
comp=Z,29nm,1.1s
DBIC Dimbokro 75.18 72 P P 17 51 53.3 -0.2
comp=Z,11nm,0.7s,baz=222,slow=5.8,SNR=14
DBIC Dimbokro 75.18 72 eP P 17 51 53.0 -0.6
comp=Z,29nm,1.1s
ANMO Albuquerque 75.21 331 eP P 17 51 56.3 +2.8
ANMO pmax pmax
comp=Z,95nm,2.9s
ANMO Albuquerque 75.21 331 eP P 17 51 56.3 +2.8
comp=Z,95nm,2.9s
SUR Sutherland 75.25 119 P P 17 51 54.4 +0.3
comp=Z,8.6nm,0.9s,baz=230,slow=6.0,SNR=8.3
SUR Sutherland 75.25 119 eP P 17 51 54.2 +0.1
SUR P P 17 51 54.4 +0.3
V25A Rancho No Teng 75.28 333 P P 17 51 55.4 +1.5
baz=76
V24A Rampart Ranch, 75.43 333 P P 17 51 56.4 +1.6
baz=76
U26A Atchley Ranch, 75.45 334 P P 17 51 56.4 +1.5
baz=76
T28A Walsh 75.53 336 P P 17 51 56.7 +1.5
baz=76
R32A Long Quarter, 75.62 339 P P 17 51 57.1 +1.5
baz=76
S29A Ulysses 75.64 337 P P 17 51 57.7 +1.9
baz=76
T27A Campo 75.69 335 P P 17 51 57.7 +1.6
baz=76
U25A Circle Dot Ran 75.70 334 P P 17 51 57.6 +1.3
baz=76
S28A Manter 75.88 336 P P 17 51 58.9 +1.8
baz=76
Q32A Meitler Ranch, 76.10 339 P P 17 51 59.9 +1.6
baz=76
T26A Comanche Natio 76.10 335 P P 17 52 00.6 +2.0
baz=76
V22A San Miguel Ran 76.24 332 P P 17 52 01.8 +2.4
baz=77
S27A Las Animas 76.31 335 P P 17 52 01.4 +1.8
baz=77
U23A El Rito 76.32 332 P P 17 52 01.9 +2.1
baz=77
T25A Trinidad 76.36 334 P P 17 52 02.4 +2.3
baz=77
Q31A Ellis 76.36 339 P P 17 52 01.8 +2.0
baz=77
S26A Kim 76.45 335 P P 17 52 02.7 +2.2
baz=77
R28A Tribune 76.53 336 P P 17 52 03.0 +2.2
baz=77
Q30A Quinter 76.59 338 P P 17 52 03.4 +2.3
baz=77
T24B San Luis 76.65 333 P P 17 52 03.9 +2.1
baz=77
R27A Eads 76.81 336 P P 17 52 04.5 +2.0
baz=77
P31A Stockton 76.83 339 P P 17 52 04.6 +2.1
baz=77
S25A Robets Cordova 76.83 334 P P 17 52 04.7 +2.0
baz=77
X16A Lo Mia Camp, P 76.88 328 P P 17 52 05.1 +2.1
baz=77
R26A Arlington 77.05 335 P P 17 52 06.1 +2.3
baz=77
S24A Houchin Ranch, 77.10 334 P P 17 52 06.5 +2.2
baz=78
Q28A Sharon Springs 77.19 337 P P 17 52 06.7 +2.2
baz=78
R25A Fountain Ranch 77.21 335 P P 17 52 06.7 +2.0
baz=78
P29A Atwood 77.39 338 P P 17 52 07.7 +2.1
baz=78
R24A Sanders Place, 77.58 334 P P 17 52 09.1 +2.2
baz=78
Q26A Hugo 77.63 336 P P 17 52 09.4 +2.3
baz=78
WUAZ Wupatki 77.77 328 eP P 17 52 10.5 +2.5
comp=Z,9.8nm,0.9s
WUAZ Wupatki 77.77 328 P P 17 52 10.8 +2.8
baz=78
S22A 4UR Ranch, Cre 77.80 333 P P 17 52 10.5 +2.2
baz=78
R23A Moffat 77.81 334 P P 17 52 10.9 +2.6
baz=78
Q25A Bedland, Calha 77.88 335 P P 17 52 10.6 +2.0
baz=78
MVCO Mesa Verde 78.00 331 eP P 17 52 12.0 +2.7
comp=Z,14nm,1.3s
MVCO Mesa Verde 78.00 331 P P 17 52 11.6 +2.3
baz=78
P26A Davis Ranch, A 78.14 336 P P 17 52 12.2 +2.3
baz=78
Q24A Divide 78.25 334 P P 17 52 13.0 +2.3
baz=79
P25A Willow Gulch B 78.38 335 P P 17 52 13.3 +2.0
baz=79
M31A Lambtecht Ranc 78.39 340 P P 17 52 13.3 +2.2
baz=79
N29A Votaw Ranch, W 78.40 338 P P 17 52 13.5 +2.3
baz=79
W13A Hualapai Mount 78.56 326 P P 17 52 14.4 +2.0
baz=79
U15A North Rim 78.94 328 P P 17 52 17.1 +2.6
baz=79
SMCO Snowmass 79.11 333 eP P 17 52 18.1 +2.5
comp=Z,9.7nm,0.9s
L31A Butterfield Fa 79.12 340 P P 17 52 17.2 +2.1
baz=80
GMRC Granite Mounta 79.14 325 P P 17 52 17.9 +2.4
baz=80
ISCO Idaho Springs 79.15 334 eP P 17 52 17.7 +2.0
ISCO pmax pmax
comp=Z,13nm,1.4s
ISCO Idaho Springs 79.15 334 eP P 17 52 17.7 +2.0
comp=Z,13nm,1.4s
ISCO Idaho Springs 79.15 334 P P 17 52 17.8 +2.0
baz=80
N26A Koester Ranch, 79.24 337 P P 17 52 18.2 +2.3
baz=80
P22A Eagle 79.39 334 P P 17 52 18.9 +1.9
baz=80
TSUM Tsumeb 79.54 106 P P 17 52 18.3 +0.1
comp=Z,12nm,0.8s,baz=184,slow=6.2,SNR=32
TSUM Tsumeb 79.54 106 eP P 17 52 18.1 -0.1
comp=Z,35nm,1.3s
TSUM P P 17 52 18.3 +0.1
O23A Lake Granby, G 79.62 334 P P 17 52 20.1 +1.9
baz=80
TUQ Turquoise Moun 79.79 325 P P 17 52 21.3 +2.2
baz=80
O22A Kremmling 79.81 334 P P 17 52 20.9 +1.6
baz=80
ECSD EROS Data Cent 79.97 342 eP P 17 52 20.4 +0.7
comp=Z,17nm,0.9s
ECSD EROS Data Cent 79.97 342 P P 17 52 20.2 +0.5
baz=80
L27A T5 Ranch, Ells 80.08 338 P P 17 52 21.7 +1.3
baz=80
N23A Red Feather La 80.24 335 P P 17 52 23.2 +1.7
baz=81
SHPR Sheep Range 80.30 326 eP P 17 52 22.8 +1.0
N22A Wattenberg Ran 80.34 334 P P 17 52 24.2 +2.1
baz=81
CCUT Cedar City 80.34 328 eP P 17 52 25.6 +3.5
comp=Z,8.7nm,0.9s
M24A Cheyenne 80.35 336 P P 17 52 24.1 +2.1
baz=81
K28A Ten Mile Ranch 80.35 339 P P 17 52 24.3 +2.5
baz=81
O20A White River Ci 80.42 333 P P 17 52 24.0 +1.6
baz=81
PHWY Pilot Hill 80.42 335 eP P 17 52 24.8 +2.3
comp=Z,14nm,1.4s
SRU San Rafael 80.44 331 eP P 17 52 24.7 +2.1
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael 80.44 331 eP P 17 52 24.7 +2.1
comp=Z,8.2nm,0.9s
BOSA Boshof 80.49 118 eP P 17 52 22.1 -1.1
BOSA pmax pmax
comp=Z,28nm,1.2s
BOSA Boshof 80.49 118 P P 17 52 23.3 +0.1
comp=Z,9.1nm,0.7s,baz=249,slow=4.4,SNR=20
BOSA Boshof 80.49 118 eP P 17 52 22.1 -1.1
comp=Z,28nm,1.2s
BOSA P P 17 52 23.3 +0.1
SPMN St. Paul 80.50 345 eP P 17 52 22.8 +0.3
comp=Z,124nm,2.3s
CASY Casey 80.57 181 eP P 17 52 23.0 +0.3
comp=Z,21nm,1.1s
ARUT Antelope Range 80.58 328 eP P 17 52 24.3 +1.0
ARUT pmax pmax
comp=Z,95nm,0.9s
ARUT Antelope Range 80.58 328 eP P 17 52 24.3 +1.0
comp=Z,95nm,0.9s
MVU Marysvale 80.64 329 eP P 17 52 26.6 +2.9
comp=Z,80nm,2.8s
M23A Laramie 80.66 335 P P 17 52 25.4 +1.6
baz=81
J29A Okreek 80.68 340 P P 17 52 24.9 +1.4
baz=81
J28A Allard Ranch, 80.96 339 P P 17 52 26.9 +1.9
baz=81
N20A Spence Gulch, 81.03 333 P P 17 52 27.7 +1.9
baz=81
J27A Elkhorn Farm, 81.04 338 P P 17 52 28.2 +2.6
baz=81
ISA Isabella 81.22 323 P P 17 52 28.5 +1.8
baz=82
J26A Sides Ranch, S 81.43 338 P P 17 52 29.6 +2.0
baz=82
I28A Midland 81.47 339 P P 17 52 29.5 +1.8
baz=82
MPU Maple Canyon 81.67 330 eP P 17 52 31.5 +2.4
comp=Z,121nm,2.8s
VES Vestal, Richgr 81.67 323 P P 17 52 30.7 +1.8
baz=82
H29A Onida 81.76 340 P P 17 52 30.6 +1.4
baz=82
K23A Bowen Ranch, D 81.77 336 P P 17 52 30.9 +1.4
baz=82
I27A Quinn 81.79 339 P P 17 52 31.3 +1.8
baz=82
G30A Faulkton 81.93 341 P P 17 52 31.8 +1.7
baz=82
J24A Dixon Ranch, L 81.95 337 P P 17 52 32.5 +2.1
baz=82
K22A Casper 81.99 335 eP P 17 52 31.5 +0.9
comp=Z,11nm,1.0s
K22A Casper 81.99 335 P P 17 52 32.5 +1.8
baz=82
R11A Troy Canyon, C 82.00 327 eP P 17 52 33.0 +2.2
comp=Z,7.7nm,1.1s
R11A Troy Canyon, C 82.00 327 P P 17 52 32.8 +1.9
baz=82
H28A Mission Ridge 82.04 340 P P 17 52 31.9 +1.2
baz=82
JLU Jordanelle 82.08 331 eP P 17 52 33.6 +2.3
comp=Z,6.4nm,1.0s
K21A Alcova 82.23 335 P P 17 52 34.0 +2.0
baz=83
I25A Rochford 82.27 338 P P 17 52 33.6 +1.5
baz=83
DUG Dugway 82.31 330 eP P 17 52 34.5 +2.1
DUG pmax pmax
comp=Z,59nm,2.3s
DUG Dugway 82.31 330 eP P 17 52 34.5 +2.1
comp=Z,59nm,2.3s
DUG Dugway 82.31 330 P P 17 52 34.4 +2.0
baz=83
H27A Howes 82.31 339 P P 17 52 33.8 +1.7
baz=83
G28A Parade 82.38 340 P P 17 52 34.3 +1.9
baz=83
I24A Kuemmerle Ranc 82.42 337 P P 17 52 34.6 +1.8
baz=83
RSSD Black Hills 82.46 338 eP P 17 52 34.0 +0.8
RSSD pmax pmax
comp=Z,61nm,2.4s
RSSD Black Hills 82.46 338 eP P 17 52 34.0 +0.8
comp=Z,61nm,2.4s
TPH Tonopah 82.53 326 eP P 17 52 36.1 +2.4
TPH pmax pmax
comp=Z,9.0nm,1.0s
TPH Tonopah 82.53 326 eP P 17 52 36.1 +2.4
comp=Z,8.7nm,1.0s
F30A Leola 82.55 341 P P 17 52 35.0 +1.7
baz=83
LBTB Lobatse 82.70 115 eP P 17 52 34.4 -0.5
LBTB pmax pmax
comp=Z,29nm,0.9s
LBTB Lobatse 82.70 115 P P 17 52 34.8 -0.1
comp=Z,24nm,0.9s,baz=252,slow=6.8,SNR=22
LBTB Lobatse 82.70 115 eP P 17 52 34.4 -0.5
comp=Z,29nm,0.9s
LBTB P P 17 52 34.8 -0.1
G27A Dupree 82.95 339 P P 17 52 36.3 +0.8
baz=83
BGU Big Grassy Mou 83.01 330 eP P 17 52 37.2 +1.1
comp=Z,5.0nm,1.5s
F28A McLaughlin 83.05 340 P P 17 52 37.0 +1.1
baz=83
I22A 9 Mile Ranch, 83.07 336 P P 17 52 37.1 +0.9
baz=83
G26A Maurine 83.07 339 P P 17 52 37.1 +1.0
baz=83
J20A Shoshoni 83.16 335 P P 17 52 38.7 +2.0
baz=84
H24A Dirks Ranch, A 83.18 337 P P 17 52 36.9 +0.1
baz=84
PDAR Pinedale Array 83.19 333 P P 17 52 37.6 +0.6
comp=Z,3.1nm,0.9s,baz=159,slow=4.4,SNR=17
G25A Newell 83.23 338 P P 17 52 38.1 +1.2
baz=84
I21A Big Trails, Te 83.28 335 P P 17 52 38.4 +1.1
baz=84
NVAR Mina Array Bea 83.33 325 P P 17 52 39.3 +1.5
comp=Z,2.6nm,0.8s,baz=154,slow=6.7,SNR=9.2
F27A Lemmon 83.42 340 P P 17 52 38.7 +0.8
baz=84
J19A Crowheart 83.43 334 P P 17 52 39.5 +1.3
baz=84
F26A Lodgepole 83.59 339 P P 17 52 40.2 +1.4
baz=84
HVU Hansel Valley 83.62 331 eP P 17 52 39.5 +0.4
HVU pmax pmax
comp=Z,11nm,0.8s
HVU Hansel Valley 83.62 331 eP P 17 52 39.5 +0.4
comp=Z,11nm,0.8s
H22A Clearmont 83.64 336 P P 17 52 39.8 +0.6
baz=84
D30A Buchanan 83.66 342 P P 17 52 39.7 +0.7
baz=84
E28A Huff 83.69 341 P P 17 52 39.9 +0.7
baz=84
I20A Worland 83.69 335 P P 17 52 40.2 +0.8
baz=84
E27A Carson 83.80 340 P P 17 52 40.8 +1.0
baz=84
ELK Elko 83.80 329 eP P 17 52 41.7 +1.5
ELK pmax pmax
comp=Z,8.0nm,1.0s
ELK Elko 83.80 329 eP P 17 52 41.7 +1.5
comp=Z,7.6nm,1.0s
D29A Pettibone, Tap 83.84 342 P P 17 52 40.8 +0.8
baz=84
G23A Biddle 83.86 337 P P 17 52 41.0 +0.8
baz=84
F25A Bowman 83.90 339 P P 17 52 41.0 +0.7
baz=84
H21A Big Horn, Sher 83.90 336 P P 17 52 41.2 +0.7

baz=84
I19A Meeteetse 84.08 334 P P 17 52 43.1 +1.6
baz=84
H20A Greybull 84.11 335 P P 17 52 42.4 +0.8
baz=84
C30A Mose, Pekin 84.14 343 P P 17 52 42.4 +1.0
baz=84
REDW Red Top Meadow 84.19 333 eP P 17 52 43.1 +1.0
comp=Z,5.9nm,0.9s
TOA0 Torodi Ar. Sit 84.19 70 eP P 17 52 41.9 -0.6
TORD Torodi Ar. Bea 84.19 70 P P 17 52 42.1 -0.4
comp=Z,21nm,0.7s,baz=258,slow=4.4,SNR=83
D28A Regan 84.22 341 P P 17 52 42.6 +0.7
baz=85
LOHW Long Hollow 84.31 333 eP P 17 52 43.8 +1.0
comp=Z,5.2nm,0.9s
TPAW Teton Pass 84.34 333 eP P 17 52 44.4 +1.5
comp=Z,7.9nm,0.9s
E25A Miller Ranch, 84.40 339 P P 17 52 44.3 +1.4
baz=85
G21A Lodge Grass 84.48 336 P P 17 52 44.2 +0.8
baz=85
FXWY Fox Creek 84.49 333 eP P 17 52 44.6 +0.9
comp=Z,30nm,2.0s
I17A Pilgrim Ck. 84.56 333 P P 17 52 45.3 +1.4
baz=85
D26A Manning 84.59 340 P P 17 52 45.1 +1.3
baz=85
H19A Powell 84.62 335 P P 17 52 45.5 +1.4
baz=85
IMW Indian Meadow 84.68 333 eP P 17 52 45.8 +1.1
comp=Z,7.3nm,1.0s
FLWY Flagg Ranch 84.75 333 eP P 17 52 45.8 +0.9
comp=Z,13nm,0.8s
B30A Myrvik Farm, E 84.80 343 P P 17 52 45.2 +0.4
baz=85
G20A Bridger 84.83 335 P P 17 52 45.3 +0.2
baz=85
H18A Shoshone NF, C 84.87 334 P P 17 52 46.4 +0.8
baz=85
C27A Sayler Ranch, 84.95 341 P P 17 52 46.4 +0.8
baz=85
D25A Fairfield 84.96 339 P P 17 52 47.3 +1.6
baz=85
B29A Wagenman Farm, 85.07 342 P P 17 52 46.7 +0.5
baz=85
YFT Old Faithful 85.11 333 eP P 17 52 50.0 +3.2
comp=Z,6.0nm,0.7s
RLMT Red Lodge 85.11 335 eP P 17 52 47.2 +0.4
comp=Z,5.8nm,0.8s
C26A Wahner Farm, P 85.22 340 P P 17 52 47.7 +0.7
baz=86
A30A Hoffart Farm, 85.25 343 P P 17 52 47.2 +0.1
baz=86
F20A Billings 85.31 336 P P 17 52 48.5 +1.0
baz=86
B28A Dugan Ranch, T 85.32 342 P P 17 52 48.6 +1.2
baz=86
YMR Madison River 85.35 333 eP P 17 52 49.4 +1.5
comp=Z,21nm,0.8s
LAO LASA Array 85.45 337 eP P 17 52 49.5 +1.4
comp=Z,12nm,1.0s
A29A Manning Farm, 85.46 343 P P 17 52 48.5 +0.4
baz=86
D23A Lindsay 85.55 338 P P 17 52 49.6 +1.0
baz=86
E21A Keefer Ranch, 85.59 337 P P 17 52 49.9 +1.1
baz=86
F19A Roth Farm, Mol 85.63 335 P P 17 52 49.8 +0.7
baz=86
C24A Savage 85.63 339 P P 17 52 50.1 +1.1
baz=86
QLMT Earthquake Lak 85.66 333 eP P 17 52 51.8 +2.3
comp=Z,0.4nm,0.6s
A28A Rude Farm, Bot 85.72 342 P P 17 52 50.1 +0.7
baz=86
HLID Hailey 85.77 331 eP P 17 52 52.2 +2.2
comp=Z,6.8nm,0.9s
HLID Hailey 85.77 331 P P 17 52 51.9 +1.9
baz=86
GCMT Greycliff 85.83 335 P P 17 52 50.6 +0.4
comp=Z,5.7nm,0.8s
D22A Cohagen 85.84 338 P P 17 52 51.2 +1.1
baz=86
E20A Meyer Farm, Mu 85.92 336 P P 17 52 51.4 +0.9
baz=86
ULM Lac du Bonnet 85.92 345 P P 17 52 49.5 -0.9
comp=Z,8.4nm,0.8s,baz=160,slow=4.1,SNR=14
B25A Knox Farm, Ray 85.93 340 P P 17 52 51.6 +1.1
baz=86
A27A Ledoux Ranch, 86.01 341 P P 17 52 52.3 +1.4
baz=86
D21A La Casta Ranch 86.03 337 P P 17 52 52.2 +1.1
baz=86
E19A Rath Farm, Rou 86.10 336 P P 17 52 52.3 +0.8
baz=86
C23A Lambert 86.11 338 P P 17 52 52.3 +0.9
baz=86
A26A Wade Farm, Ken 86.18 341 P P 17 52 52.6 +0.9
baz=86
MCMT McKenzie Canyo 86.20 332 eP P 17 52 53.4 +1.2
comp=Z,4.3nm,0.9s
MFID Camas Ranch 86.23 330 eP P 17 52 54.1 +1.9
comp=Z,5.6nm,0.9s
C22A Vida 86.27 338 P P 17 52 53.0 +0.8
baz=87
DGMT Dagmar 86.41 339 eP P 17 52 52.6 -0.2
comp=Z,36nm,0.9s
DGMT Dagmar 86.41 339 P P 17 52 53.4 +0.6
baz=87
BOZ Bozeman (W) 86.42 334 eP P 17 52 53.8 +0.7
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 86.42 334 eP P 17 52 53.8 +0.7
comp=Z,3.5nm,0.8s
D20A Manuel Ranch, 86.43 336 P P 17 52 53.7 +0.7
baz=87
DLMT Dillon 86.55 333 eP P 17 52 55.7 +1.9
comp=Z,11nm,1.3s
B23A Brockton 86.64 339 P P 17 52 54.4 +0.5
baz=87
C21A Desert Coulee 86.73 337 P P 17 52 54.7 +0.2
baz=87
D19A Cripps Ranch, 86.74 336 P P 17 52 55.2 +0.6
baz=87
A24A Westby 86.76 340 P P 17 52 55.4 +0.9
baz=87
B22A Reddig Ranch S 86.80 338 P P 17 52 55.3 +0.5
baz=87
LRM Limekiln Ridge 86.88 333 eP P 17 52 56.1 +0.6
C20A Veseth Ranch, 86.93 337 P P 17 52 56.2 +0.7
baz=87
MOD Modoc 87.01 326 eP P 17 52 57.8 +1.7
comp=Z,6.0nm,0.8s
WDC Whiskeytown Da 87.05 324 eP P 17 52 56.8 +0.7
WDC pmax pmax
comp=Z,11nm,0.8s
WDC Whiskeytown Da 87.05 324 eP P 17 52 56.8 +0.7
comp=Z,11nm,0.8s
B21A Ellsworth Farm 87.23 338 P P 17 52 57.4 +0.5
baz=88
C19A Slack Wire Ran 87.30 336 P P 17 52 57.8 +0.6
baz=88
A22A Carney Farms, 87.39 339 P P 17 52 58.2 +0.6
baz=88
HRY Holter Researc 87.40 334 eP P 17 52 59.8 +1.9
N02D Trinity Center 87.44 324 P P 17 52 58.7 +0.6
baz=88
B20A Solberg Farm, 87.57 337 P P 17 52 59.0 +0.5
baz=88
M04C Macdoel 87.64 325 P P 17 53 00.0 +0.9
baz=88
A21A Bergtoll Ranch 87.70 338 P P 17 52 59.4 +0.3
baz=88
EGMT Eagleton 87.78 336 eP P 17 53 00.8 +1.1
comp=Z,11nm,1.1s
EGMT Eagleton 87.78 336 P P 17 52 59.8 +0.2
baz=88
M02C Callahan 87.83 324 P P 17 53 01.4 +1.4
baz=88
B19A Brinkman Farms 87.89 337 P P 17 53 00.2 +0.2
baz=88
A20A Cobblestone Ra 87.92 337 P P 17 53 00.5 +0.3
baz=88
K05A Summer Lake 87.92 326 eP P 17 53 03.0 +2.4
comp=Z,201nm,2.5s
BMO Blue Mountains 88.02 330 eP P 17 53 01.9 +1.1
comp=Z,5.7nm,0.9s
SCHQ Schefferville 88.05 3 P P 17 53 00.1 -0.5
comp=Z,6.3nm,0.7s,baz=180,slow=4.6,SNR=8.7
CHMT Chamberlain Mo 88.10 333 eP P 17 53 02.1 +0.8
comp=Z,26nm,2.0s
A19A Klindworth Far 88.23 337 P P 17 53 01.8 +0.1
baz=89
K04D Chiloquin, OR 88.25 326 P P 17 53 03.9 +1.9
baz=89
MSO Missoula 88.29 333 eP P 17 53 04.2 +2.1
comp=Z,25nm,1.9s
MSO Missoula 88.29 333 P P 17 53 03.6 +1.5
baz=89
I07A Izee 88.36 328 eP P 17 53 04.3 +1.9
comp=Z,9.6nm,0.9s
SLMT Seeley Lake 88.46 333 eP P 17 53 03.5 +0.5
J05D Fort Rock, OR 88.52 327 P P 17 53 05.0 +1.7
baz=89
SWMT Swartz Lake 88.88 333 eP P 17 53 05.2 +0.4
comp=Z,2.4nm,0.8s
J04D Umpqua Nationa 88.89 326 P P 17 53 06.6 +1.5
baz=89
F10A Beach Ranch, E 88.89 330 eP P 17 53 09.6 +4.7
comp=Z,106nm,2.8s
G08A Pilot Rock 89.08 329 eP P 17 53 06.8 +0.9
comp=Z,75nm,2.7s
JTMT Jette 89.18 333 eP P 17 53 07.3 +1.0
BLMT Blacktail Moun 89.43 333 eP P 17 53 06.6 -0.9
comp=Z,6.9nm,0.8s
BSMT Bassoo Peak 89.46 333 eP P 17 53 08.4 +0.7
WALA Waterton Lakes 90.13 334 eP P 17 53 13.0 +2.3
LSZ Lusaka 90.15 108 eP P 17 53 12.4 +0.7
LSZ pmax pmax
comp=Z,17nm,1.4s
LSZ Lusaka 90.15 108 eP P 17 53 12.4 +0.7
comp=Z,18nm,1.4s
NEW Newport 90.70 332 P P 17 53 12.8 -0.4
comp=Z,1.8nm,0.8s,baz=162,slow=3.2,SNR=3.7
C09A Chrisman Ranch 90.79 331 eP P 17 53 14.7 +1.0
comp=Z,11nm,0.9s
FCC Fort Churchill 93.66 349 eP P 17 53 26.7 +0.1
FCC Fort Churchill 93.66 349 eP P 17 53 26.6 +0.1
ESDC Sonseca Array 96.33 46 P P 17 53 39.8 +0.3
comp=Z,0.3nm,0.4s,baz=226,slow=5.6,SNR=4.8
YKA Yellowknife Ar 101.48 341 P Pdif 17 54 01.5 -0.3
comp=Z,0.9nm,0.7s,baz=141,slow=4.4,SNR=19
GERES GERESS Array B 111.90 45 PKiKP PKiKP 17 58 45.1 -0.5
comp=Z,0.8nm,0.7s,baz=278,slow=0.9,SNR=5.9
ILAR Eielson Array 113.62 333 PKiKP PKiKP 17 58 48.9 +0.6
comp=Z,0.6nm,1.1s,baz=91,slow=1.1,SNR=5.1
NOA NORSAR Array B 115.66 32 PKP PKPdf 17 58 48.7 -3.6
comp=Z,1.2nm,0.8s,baz=204,slow=1.8,SNR=3.7
WRA Warramunga Arr 121.15 209 PKP PKPdf 17 59 03.8 -0.5
comp=Z,2.6nm,0.8s,baz=177,slow=1.4,SNR=15
WRAB Tennant Creek 121.16 209 ePKiKP PKPdf 17 59 03.6 -0.7
WRAB Tennant Creek 121.16 209 ePKPdf PKPdf 17 59 03.6 -0.7
BRTR Keskin Array B 121.72 61 PKP PKPdf 17 59 04.4 -0.5
comp=Z,1.8nm,0.7s,baz=188,slow=2.4,SNR=13
AK01 Malin Array Si 121.94 47 ePKPdf PKPdf 17 59 02.5 -2.2
AK01 e 17 59 11.9
AKASG Malin Array Be 121.95 47 PKP PKPdf 17 59 03.6 -1.1
comp=Z,3.6nm,0.7s,baz=263,slow=2.8,SNR=14
FINES FINESS Array B 122.64 34 PKP PKPdf 17 59 05.5 -0.2
comp=Z,1.4nm,0.6s,baz=203,slow=3.3,SNR=8.1
ARCES ARCESS Array B 123.59 25 PKP PKPdf 17 59 07.2 -0.1
comp=Z,4.2nm,0.9s,baz=257,slow=2.5,SNR=9.6
RAYN Ar Rayn 125.11 83 ePKPdf PKPdf 17 59 12.5 +0.8
H11S2 WAKE ISLAND Hy125.59 270 T T 20 18 02.9
baz=118,slow=75,SNR=23
H11S1 WAKE ISLAND Hy125.61 270 T T 20 18 02.8
baz=118,slow=75,SNR=33
H11S3 WAKE ISLAND Hy125.61 270 T T 20 18 02.3
baz=118,slow=75,SNR=24
OBN Obninsk 127.16 43 i PKIKP PKPdf 17 59 15.2 +0.7
OBN pmax pmax
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 129.07 36 ePKIKP PKPdf 17 59 16.2 -1.8
KLMR pmax pmax
comp=Z,22nm,1.3s
KBZ Khabaz 129.46 58 PKP PKPdf 17 59 20.2 +1.0
comp=Z,2.4nm,0.8s,baz=284,slow=3.0,SNR=5.1
BILL Bilibino 132.26 334 ePKIKP PKPdf 17 59 21.9 -2.0
BILL pmax pmax
comp=Z,4.0nm,1.5s
ARU Arti 139.44 40 ePKHKP PKPpre 17 59 28.7
ARU e 17 59 38.5
ARU Arti 139.44 40 ePKPpre PKPpre 17 59 28.7
ARU ePKPdf PKPdf 17 59 38.5 +0.9
SEY Seymchan 139.47 330 PKP PKPdf 17 59 35.6 -1.8
comp=Z,4.7nm,0.8s,baz=128,slow=4.4,SNR=7.3
GEYT Alibeck 139.83 69 PKP PKPdf 17 59 39.5 +0.5
comp=Z,4.6nm,0.7s,baz=259,slow=3.0,SNR=11
AKTO Aktyubinsk 140.12 50 PKP PKPdf 17 59 39.4 +0.4
comp=Z,4.2nm,0.8s,baz=256,slow=3.4
ABKAR Akbulak array 141.48 51 ePKPpre PKPpre 17 59 33.8
BKNI Bangkinang 146.45 168 ePKPdf PKPdf 17 59 51.0 -0.3
GSI Gunungsitoli 146.63 161 ePKPdf PKPbc 17 59 53.1 0.0
BRVK Borovoye 146.93 42 ePKIKP PKPdf 17 59 49.9 -0.9
BRVK Borovoye 146.93 42 ePKPdf PKPdf 17 59 49.9 -0.9
KBL Kabul 148.03 77 ePKIKP PKPdf 17 59 52.6 -1.0
KBL Kabul 148.03 77 ePKPdf PKPdf 17 59 52.5 -1.0
YAK Yakutsk 148.15 340 ePKIKP PKPdf 17 59 53.0 +0.4
YAK Yakutsk 148.15 340 ePKPdf PKPdf 17 59 53.0 +0.4
MYKOM Kota Tinggi 148.29 173 ePKPdf PKPbc 17 59 57.3 -0.4
SBUM Sibu 148.88 189 ePKPdf PKPbc 17 59 59.1 -0.2
HYB Hyderabad 149.32 114 i PKP PKPbc 17 59 58.5 -1.8
KKAR Karatay Array 149.44 61 ePKPdf PKPdf 17 59 55.6 +0.3
KKAR ePKPbc PKPbc 17 59 59.2 -0.6
MYLDM Lahad Datu 150.14 202 ePKPbc PKPbc 18 00 04.8 +2.4
LHMI Lhok Sumawe 150.18 158 ePKPdf PKPbc 18 00 00.8 -1.6
YSS Yuzh-Sakhalins 150.32 307 ePKIKP PKPbc 18 00 00.0 -1.7
YSS Yuzh-Sakhalins 150.32 307 ePKPbc PKPbc 18 00 01.8 0.0
IPM Ipoh 150.50 166 ePKPdf PKPdf 17 59 58.0 0.0
IPM ePKPbc PKPbc 18 00 02.2 -1.1
EKS2 Erkin-Say 151.87 61 P PKPbc 18 00 06.5 +0.8
SNR=7.9
EKS2 Erkin-Say 151.87 61 ePKIKP PKPdf 18 00 00.3 +1.0
EKS2 Erkin-Say 151.87 61 ePKPdf PKPdf 18 00 00.3 +1.0
AML Almayashu 151.88 62 P PKPbc 18 00 07.0 +0.9
SNR=5.2
USP Ospenovka 152.31 60 P PKPbc 18 00 07.2 +0.6
SNR=7.8
AAK Ala-Archa 152.40 61 P PKPbc 18 00 07.7 +0.7
SNR=11
AAK Ala-Archa 152.40 61 ePKIKP PKPdf 18 00 01.0 +0.8
AAK e 18 00 07.5
AAK Ala-Archa 152.40 61 ePKPdf PKPdf 18 00 01.0 +0.8
AAK ePKPbc PKiKP 18 00 07.5 +0.2
UCH Uchtor 152.47 62 P PKPbc 18 00 08.5 +1.0
SNR=8.9
CHMS Chumysh 152.53 60 P PKPbc 18 00 08.0 +0.9
SNR=5.9
NVS Novosibirsk 152.57 31 ePKIKP PKPdf 17 59 57.0 -2.7
NVS e 18 00 14.7
NVS pmax pmax
comp=Z,34nm,1.1s
NVS pmax pmax
comp=E,7.0nm,1.0s
KURK Kurchatov 152.60 42 ePKIKP PKPbc 18 00 06.4 -0.5
KURK Kurchatov 152.60 42 ePKPbc PKPbc 18 00 06.4 -0.5
TKM2 Tokmak 2 153.16 60 ePKIKP PKPdf 18 00 00.9 -0.4
TKM2 e 18 00 08.0
TKM2 Tokmak 2 153.16 60 ePKPdf PKPdf 18 00 00.9 -0.4
TKM2 ePKPbc PKPbc 18 00 08.0 -0.7
ZAA0 Zalesovo Array 153.86 32 ePKPdf PKPdf 18 00 00.9 -0.7
ZAA0 ePKPbc PKPbc 18 00 09.2 -0.3
ZALV Zalesovo Beam 153.86 32 PKP PKPdf 18 00 01.9 +0.3
comp=E,4.1nm,0.8s,baz=293,slow=2.2,SNR=15
ZALV PKPbc PKPbc 18 00 08.5 -1.1
comp=E,22nm,0.7s,baz=298,slow=3.0,SNR=44
MJAR Matsushiro Arr 154.90 286 PKPab PKPab 18 00 29.1 +1.4
comp=E,1.9nm,0.8s,baz=134,slow=2.4,SNR=4.6
BOD Bodaibo 155.26 352 ePKP2 PKPab 18 00 27.6 -0.9
BOD pmax pmax
comp=Z,13nm,0.8s
MK31 Makanchi Array 156.54 48 ePKIKP PKPdf 18 00 05.1 -0.5
MK31 Makanchi Array 156.54 48 ePKPdf PKPdf 18 00 05.1 -0.5
MK31 ePKPab PKPab 18 00 34.4 0.0
MKAR Makanchi Array 156.54 48 ePKIKP PKPdf 18 00 05.7 +0.1
MKAR Makanchi Array 156.54 48 PKP PKPdf 18 00 06.0 +0.4
comp=Z,2.2nm,0.8s,baz=351,slow=0.5,SNR=15
MKAR PKPab PKPab 18 00 34.4 0.0
comp=Z,18nm,0.7s,baz=289,slow=3.3,SNR=42
MKAR Makanchi Array 156.54 48 ePKPdf PKPdf 18 00 05.7 +0.1
MKAR PKP PKPdf 18 00 06.0 +0.4
MKAR PKPab PKPab 18 00 34.4 0.0
KOLN Koldanda 158.48 99 eP PKPdf 18 00 08.9 +0.1
DANN Dangsing 158.82 97 eP PKPdf 18 00 09.0 -0.3
GKN Gorkha 159.42 99 eP PKPdf 18 00 09.1 -0.8
DMN Daman 159.67 101 eP PKPdf 18 00 10.2 -0.1
KKN Kakani 159.88 100 eP PKPdf 18 00 10.4 -0.1
PKIN Phulchoki 159.89 101 eP PKPdf 18 00 10.3 -0.3
PKI Pulchoki 159.90 101 eP PKPdf 18 00 10.4 -0.3
GUN Gumba 160.41 101 eP PKPdf 18 00 10.5 -0.8
JIRN Jiri 160.57 102 eP PKPdf 18 00 10.9 -0.6
RAMN Ramite 160.63 104 eP PKPdf 18 00 11.4 0.0
comp=Z,21nm,1.0s
ODAN Odare 161.23 105 eP PKPdf 18 00 11.5 -0.5
comp=Z,12nm,0.8s
TAPN Taplejung 161.69 104 eP PKPdf 18 00 12.0 -0.6
ZAK Zakamensk 162.76 10 ePKP2 PKPab 18 01 01.5 +0.1
ZAK pmax pmax
comp=Z,3.0nm,1.0s
CMAR Chiang Mai Arr 163.12 150 PKP PKPdf 18 00 14.2 +0.3
comp=Z,1.1nm,0.8s,baz=262,slow=3.0,SNR=8.5
CMAR PKPab PKPab 18 01 04.7 +1.1
comp=Z,0.6nm,0.8s,baz=212,slow=8.6,SNR=4.8
LSA Lhasa 165.37 100 ePKIKP PKPdf 18 00 16.3 +0.2
LSA e 18 01 14.7
LSA Lhasa 165.37 100 ePKPdf PKPdf 18 00 16.3 +0.2
LSA ePKPab PKPab 18 01 14.7 +0.6
SONM Songino Array 165.59 4 PKP PKPdf 18 00 14.7 -0.6
comp=Z,1.0nm,0.8s,baz=181,slow=0.7,SNR=8.2
SONM PKPab PKPab 18 01 14.7 +0.8
comp=Z,3.1nm,0.8s,baz=333,slow=3.9,SNR=17

SJA 27 17:42:03.9±0.4, 24.87S×65.65W, h5km±3km, ML3.7, Salta Province

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SLA San Lorenzo 0.20 41 i P Pg 17 42 08.7 +0.7
SLA i S Sg 17 42 12.2 +1.4
SLA AML AML 17 42 14.0
comp=Z,19μm,0.6s
AZAP Zapla 0.83 40 i P Pb 17 42 21.1 -0.1
ASTB Santa Barbara 1.40 49 i P Pg 17 42 31.7 +0.6
ALOL LOMAS DE OLMED 1.85 56 i P Pb 17 42 38.3 0.0

IDC 27 17:43:31.4±0.4, 36.61S×73.34W, h0km, mb5.1/21, mb1 5.2/22, mb1mx5.2/24, mbtmp5.1/22, ML4.5/1, MS5.0/5, Ms1 5.0/5, ms1mx4.5/42, Error ellipse: s-maj=18.6km s-min=13.0km az=69.0
ISCJB 27 17:43:35.1±0.2, 36.42S±0.04×72.96W±0.07, h29km, mb5.4/169, MS5.2/2, Error ellipse: s-maj=8.3km s-min=5.3km az=155.0
MOS 27 17:43:35.7±1.0, 36.47S×73.24W, h33km, mb5.6/46, Error ellipse: s-maj=16.5km s-min=6.9km az=100.2
BJI 27 17:43:36.2, 36.50S×73.00W, h25km, mB5.4/16, Ms6.0/13, Ms7 5.9/13
NEIC 27 17:43:37.2±1.1, 36.52S×73.05W, h38km±9km, mb5.5/152, Error ellipse: s-maj=7.3km s-min=4.2km az=73.0
ISC 27 17:43:36.4±0.7, 36.54S±0.05×73.13W±0.09, h32km±4km, h31km:pP-P, n879, σ0.98/901, mb5.5/168, 248C-211D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.65 155 eP Pn 17 44 44.8 +0.3
PLCA Paso Flores 4.65 155 Pn Pn 17 44 46.4 +1.9
17nm,0.3s,baz=331,slow=12,SNR=9.0
PLCA Lg Lg 17 45 54.5
19nm,0.3s,baz=340,slow=3.6,SNR=3.8
PLCA Paso Flores 4.65 155 ePn Pn 17 44 44.8 +0.3
PLCA Lg Lg 17 45 54.5
CFAA Coronel Fontan 6.38 41 LR LR 17 48 03.6
comp=Z,2μm,18.9s,baz=204,slow=42
CPUP Villa Florida 16.87 57 LR LR 17 55 10.0
comp=Z,7μm,19.4s,baz=212,slow=41
USHA Ushuaia 18.58 171 P P 17 47 49.9 -0.7
1.5nm,0.3s,baz=301,slow=4.8,SNR=11
USHA LR LR 17 55 25.6
comp=Z,6μm,19.7s,baz=356,slow=38
LPAZ La Paz 20.65 14 eP Pn 17 48 16.5 -0.2
LPAZ pmax pmax
comp=Z,163nm,1.1s
LPAZ La Paz 20.65 14 P Pn 17 48 15.5 -1.2
comp=Z,43nm,0.9s,baz=180,slow=6.7,SNR=12
LPAZ La Paz 20.65 14 ePn Pn 17 48 16.4 -0.2
comp=Z,163nm,1.1s
SIV San Ignacio 23.10 31 P P 17 48 39.8 +0.2
comp=Z,70nm,0.9s,baz=234,slow=13,SNR=18
NNA Nana 24.67 351 eP P 17 48 52.8 -1.7
NNA pmax pmax
comp=Z,60nm,1.0s
NNA Nana 24.67 351 P P 17 48 53.8 -0.7
comp=Z,46nm,0.9s,baz=182,slow=10,SNR=14
NNA Nana 24.67 351 eP P 17 48 52.8 -1.7
comp=Z,60nm,1.0s
PMSA Palmer Station 28.79 172 LR LR 18 00 06.0
comp=Z,4μm,18.5s,baz=352,slow=35
SAML Samuel 28.91 21 eP P 17 49 32.2 -0.3
comp=Z,42nm,1.1s
ATAH Atahualpa 29.66 349 P P 17 49 41.6 +2.0
comp=Z,13nm,0.9s,baz=197,slow=7.7,SNR=4.5
BDFB Brasilia 30.53 54 eP P 17 49 46.3 -0.7
BDFB Brasilia 30.53 54 P P 17 49 48.5 +1.4
comp=Z,29nm,0.9s,baz=207,slow=3.0,SNR=7.6
BDFB LR LR 18 03 25.9
comp=Z,6μm,18.1s,baz=187,slow=39
BDFB Brasilia 30.53 54 eP P 17 49 46.3 -0.7
OTAV Otavalo 36.92 351 eP P 17 50 44.5 +1.5
comp=Z,98nm,1.5s
ROSC El Rosal 41.19 358 P P 17 51 21.7 +3.2
comp=Z,41nm,0.7s,baz=182,slow=2.3,SNR=17
ROSC El Rosal 41.19 358 eP P 17 51 21.5 +2.9
SDV Santo Domingo 45.24 3 eP P 17 51 50.5 -0.6
RCBR Riachuelo 45.75 57 P P 17 51 56.9 +1.9
comp=Z,27nm,1.0s,baz=229,slow=11,SNR=5.9
RCBR Riachuelo 45.75 57 eP P 17 51 55.8 +0.8
comp=Z,73nm,1.3s
BCIP Isla Barro Col 45.90 351 eP P 17 51 56.4 +0.5
comp=Z,98nm,0.9s
VNA3 Neumayer Olymp 47.37 157 P P 17 52 07.8 +0.9
JTS JuntasAbangare 47.89 344 eP P 17 52 12.4 +0.8
JTS e 17 52 20.1
JTS pmax pmax
comp=Z,42nm,1.2s
JTS JuntasAbangare 47.89 344 P P 17 52 12.7 +1.1
comp=Z,13nm,1.0s,baz=198,slow=12,SNR=8.5
JTS JuntasAbangare 47.89 344 eP P 17 52 12.4 +0.8
comp=Z,42nm,1.2s
JTS e 17 52 20.1
VNA2 Neumayer--Watz 48.04 156 P P 17 52 12.8 +0.7
SNAA Sanae 49.59 157 P P 17 52 24.9 +0.8
SNAA Sanae 49.59 157 eP P 17 52 24.2 0.0
SNAA pmax pmax
comp=Z,137nm,1.6s
SNAA Sanae 49.59 157 P P 17 52 24.4 +0.3
comp=Z,5.7nm,0.9s,baz=288,slow=6.1,SNR=7.6
SNAA Sanae 49.59 157 eP P 17 52 24.1 0.0
comp=Z,137nm,1.6s
GRGR Grenville 49.60 15 eP P 17 52 24.8 +0.1
comp=Z,559nm,1.0s
FDF Fort de France 52.23 15 eP P 17 52 43.3 -1.3
FDF pmax pmax
comp=Z,112nm,0.9s
FDF Fort de France 52.23 15 eP P 17 52 43.3 -1.3
comp=Z,112nm,0.9s
QSPA South Pole Qui 53.70 180 P P 17 52 55.2 +0.2
baz=146,slow=4.4
QSPA South Pole Qui 53.70 180 eP P 17 52 54.4 -0.7
comp=Z,59nm,0.9s
NVL N'lazarevskaya 54.36 156 eP P 17 53 00.5 +1.0
NVL pmax pmax
comp=Z,21nm,0.8s
ICMP Isla Caja de M 54.49 8 eP P 17 52 59.8 -1.2
CRPR Cabo Rojo, PR 54.55 7 eP P 17 53 00.4 -1.0
comp=Z,113nm,0.9s
MTDJ Mount Denham 54.62 355 eP P 17 53 01.6 -0.5
comp=Z,34nm,0.8s
OBIP Obispado Ponce 54.63 8 eP P 17 53 01.3 -0.8
comp=Z,112nm,0.9s
CELP Cerrillos 54.67 8 eP P 17 53 00.8 -1.5
SABA Saba 54.67 12 eP P 17 53 02.4 0.0
comp=Z,109nm,0.9s
LSP Las Mesas 54.72 7 eP P 17 53 02.1 -0.6
LRS Lares 54.85 7 eP P 17 53 02.4 -1.3

AOPR	Arecibo Observ	54.92	7	eP	P	17 53 03.5	-0.7
	comp=Z,63nm,0.9s						
ANWB	Willy Bob	54.97	13	eP	P	17 53 03.4	-1.1
	comp=Z,81nm,0.8s						
SDDR	Presa de Saban	55.25	2	eP	P	17 53 02.8	-3.7
	comp=Z,22nm,0.8s						
SMN1	Samana, DR	55.54	4	eP	P	17 53 03.9	-4.8
TEIG	Tepich	58.24	343	P	P	17 53 27.9	+0.1
	baz=168,slow=9.3						
TEIG	Tepich	58.24	343	eP	P	17 53 27.6	-0.1
	comp=Z,133nm,0.9s						
SBA	Scott Base	60.41	192	P	P	17 53 42.1	0.0
SBA	Scott Base	60.41	192	P	P	17 53 42.1	0.0
VNDA	Vanda	61.44	192	P	P	17 53 49.0	-0.1
VNDA	Vanda	61.44	192	P	P	17 53 49.0	-0.1
SYO	Syowa Base	63.84	158	⇑eP	P	17 54 03.2	-2.0
035A	Encino	67.38	336	⇑P	P	17 54 29.6	+1.2
	baz=68,SNR=6.2						
034A	Hebbronville	67.69	335	⇑P	P	17 54 31.5	+1.0
	baz=68,SNR=10						
934A	Benavides	68.13	336	⇑P	P	17 54 35.1	+2.0
	baz=68						
TIGA	Tifton	68.33	350	eP	P	17 54 33.4	-0.9
	comp=Z,92nm,0.8s						
TIGA	Tifton	68.33	350	⇑P	P	17 54 34.1	-0.2
	baz=69,SNR=10						
738A	Farr-Stevens R	68.39	339	⇑P	P	17 54 36.6	+1.8
	baz=69						
933A	Laredo	68.39	335	⇓P	P	17 54 35.8	+0.9
	baz=69,SNR=8.1						
835A	Beeville	68.54	337	⇓P	P	17 54 37.6	+1.9
	baz=69						
834A	Tilden	68.62	336	⇓P	P	17 54 37.8	+1.5
	baz=69,SNR=18						
PPT	Papeete	69.03	263	P	P	17 54 39.4	+0.2
	comp=Z,23nm,0.8s,baz=117,slow=2.3,SNR=2.6						
735A	Kenedy	69.06	337	⇑P	P	17 54 40.2	+1.2
	baz=69,SNR=11						
833A	Chaparral WMA,	69.09	335	⇓P	P	17 54 40.0	+0.8
	baz=69,SNR=20						
832A	Faith Ranch, C	69.25	335	⇓P	P	17 54 40.8	+0.6
	baz=70,SNR=19						
734A	La Parita Cree	69.29	336	⇓P	P	17 54 41.1	+0.6
	baz=70						
636A	Smothers Creek	69.41	338	⇑P	P	17 54 42.6	+1.5
	baz=70,SNR=11						
733A	Divot King Ran	69.42	336	⇓P	P	17 54 41.5	+0.3
	baz=70						
HKT	Hockley	69.49	339	eP	P	17 54 41.3	-0.2
HKT				pmax	pmax		
	comp=Z,46nm,1.5s						
HKT	Hockley	69.49	339	eP	P	17 54 41.3	-0.2
	comp=Z,46nm,1.5s						
635A	Leesville	69.55	337	⇑P	P	17 54 42.4	+0.4
	baz=70						
NHSC	New Hope	69.60	354	eP	P	17 54 42.1	-0.1
	comp=Z,120nm,1.0s						
NHSC				e		17 54 51.3	
732A	Laxson Ranch,	69.66	335	⇑P	P	17 54 43.4	+0.7
	baz=70,SNR=18						
537A	Green Hill Far	69.75	339	⇑P	P	17 54 44.2	+1.0
	baz=70,SNR=8.8						
536A	Bastrop	69.97	338	⇓P	P	17 54 45.1	+0.6
	baz=70,SNR=7.6						
633A	Saathoff Ranch	70.06	336	⇓P	P	17 54 45.8	+0.6
	baz=70,SNR=10						
535A	Dale	70.08	338	⇑P	P	17 54 45.8	+0.6
	baz=70,SNR=5.5						
438A	Sam Houston St	70.14	340	⇓P	P	17 54 46.7	+1.1
	baz=70						
GOGA	Godfrey	70.25	351	eP	P	17 54 45.6	-0.6
GOGA				pmax	pmax		
	comp=Z,50nm,0.9s						
GOGA	Godfrey	70.25	351	eP	P	17 54 45.6	-0.6
	comp=Z,50nm,0.9s						
632A	Uvalde	70.31	335	⇓P	P	17 54 47.5	+0.8
	baz=71,SNR=20						
VBMS	Vicksburg	70.31	344	eP	P	17 54 47.7	+1.1
	comp=Z,107nm,0.8s						
340A	Bronson	70.34	341	⇑P	P	17 54 47.9	+1.1
	baz=71,SNR=13						
534A	Blanco	70.36	337	⇑P	P	17 54 47.2	+0.2
	baz=71,SNR=5.9						
437A	Phaontom Ranch	70.40	339	⇑P	P	17 54 48.1	+0.9
	baz=71						
LRAL	Lakeview Retre	70.42	348	eP	P	17 54 46.9	-0.3
	comp=Z,32nm,0.9s						
339A	Huntington	70.44	341	⇓P	P	17 54 48.6	+1.2
	baz=71,SNR=15						
631A	Perdido Creek	70.49	335	⇑P	P	17 54 47.9	+0.2
	baz=71,SNR=24						
436A	Wall Ranch, Ga	70.54	339	⇑P	P	17 54 48.8	+0.8
	baz=71,SNR=5.9						
533A	Kerrville	70.58	336	⇓P	P	17 54 49.0	+0.6
	baz=71,SNR=24						
338A	Crockett	70.67	340	⇑P	P	17 54 50.0	+1.3
	baz=71,SNR=12						
435B	Jarrell	70.79	338	⇑P	P	17 54 50.3	+0.8
	baz=71,SNR=7.4						
337A	Centerville	70.79	339	⇓P	P	17 54 51.0	+1.5
	baz=71,SNR=21						
NATX	Nacogdoches	70.87	341	eP	P	17 54 50.5	+0.5
	comp=Z,174nm,0.8s						
532A	Rocksprings	70.92	336	⇓P	P	17 54 51.0	+0.6
	baz=71,SNR=46						
434A	Burnet	71.03	337	⇓P	P	17 54 51.6	+0.5
	baz=71,SNR=42						
239A	Gary	71.07	341	⇓P	P	17 54 51.9	+0.7
	baz=71						
336A	Riesel	71.13	339	⇓P	P	17 54 52.3	+0.7
	baz=72,SNR=19						
531A	Rocksprings	71.17	335	⇓P	P	17 54 52.9	+0.9
	baz=72,SNR=28						
335A	Moody	71.21	338	⇓P	P	17 54 52.8	+0.7
	baz=72,SNR=14						
JCT	Junction City	71.21	336	eP	P	17 54 52.1	-0.1
JCT				pmax	pmax		
	comp=Z,68nm,0.9s						
JCT	Junction City	71.21	336	eP	P	17 54 52.0	-0.1
	comp=Z,68nm,0.9s						
JCT	Junction City	71.21	336	⇓P	P	17 54 52.7	+0.5
	baz=72,SNR=23						
238A	Jacksonville	71.23	340	⇓P	P	17 54 53.4	+1.3
	baz=72						
433A	Art	71.23	337	⇑P	P	17 54 52.6	+0.3
	baz=72,SNR=37						
237A	Washetta, Mont	71.41	340	⇓P	P	17 54 54.2	+0.9
	baz=72						
530A	J-C Ranch, Com	71.43	334	⇑P	P	17 54 54.5	+1.0
	baz=72,SNR=67						
334A	Lometa	71.50	337	⇑P	P	17 54 54.4	+0.5
	baz=72,SNR=66						
TXAR	Lajitas Array	71.53	332	P	P	17 54 54.5	+0.2
	comp=Z,23nm,0.8s,baz=150,slow=8.2,SNR=74						
CNNC	Cliffs of the	71.55	356	eP	P	17 54 54.0	0.0
	comp=Z,91nm,1.0s						
432A	Menard	71.57	336	⇑P	P	17 54 54.4	0.0
	baz=72,SNR=15						
431A	Sonora	71.66	335	⇓P	P	17 54 55.3	+0.3
	baz=72,SNR=31						
529A	Stev Forest Ra	71.72	334	⇑P	P	17 54 55.8	+0.5
	baz=72,SNR=12						
KMSC	Kings Mountain	71.72	353	eP	P	17 54 54.6	-0.5
	comp=Z,59nm,0.9s						
KMSC	Kings Mountain	71.72	353	⇑P	P	17 54 55.2	+0.1
	baz=72,SNR=13						
333A	Richland Sprin	71.72	337	⇑P	P	17 54 55.5	+0.3
	baz=72,SNR=28						
138A	Matatall Enter	71.84	341	⇑P	P	17 54 56.9	+1.1
	baz=72						
WHTX	Lake Whitney	71.88	338	eP	P	17 54 55.8	-0.3
	comp=Z,118nm,0.8s						
WHTX	Lake Whitney	71.88	338	⇓P	P	17 54 56.5	+0.4
	baz=72,SNR=35						
137A	Heron Place, G	71.96	340	⇓P	P	17 54 57.6	+1.1
	baz=72						
430A	Baggett Ranch,	71.97	335	⇓P	P	17 54 57.1	+0.3
	baz=72,SNR=44						
332A	Millersview	72.02	336	⇑P	P	17 54 57.1	+0.1
	baz=72,SNR=34						
429A	Davenport Ranc	72.05	334	⇑P	P	17 54 57.7	+0.4
	baz=72,SNR=38						
234A	Clairette	72.09	338	⇑P	P	17 54 57.6	+0.2
	baz=72,SNR=28						
331A	San Angelo	72.18	336	⇑P	P	17 54 58.0	0.0
	baz=72,SNR=51						
OXF	Oxford	72.30	346	eP	P	17 54 57.1	-1.4
OXF				e		17 55 07.0	
OXF				pmax	pmax		
	comp=Z,104nm,0.9s						
OXF	Oxford	72.30	346	eP	P	17 54 57.1	-1.4
	comp=Z,104nm,0.9s						
OXF				e		17 55 07.0	
233A	Rising Star	72.34	337	⇓P	P	17 54 59.1	+0.2
	baz=73,SNR=38						
SWET	Sewanee	72.38	349	eP	P	17 54 58.8	-0.3
	comp=Z,184nm,0.9s						
135A	Vickery Place,	72.39	339	⇓P	P	17 54 59.3	+0.1
	baz=73,SNR=7.7						
CPCT	Cooper Cave	72.40	350	eP	P	17 55 00.9	+1.8
CPCT				e		17 55 10.3	
232A	Coleman	72.46	337	⇓P	P	17 54 59.8	+0.2
	baz=73,SNR=37						
TKL	Tuckaleechee C	72.51	351	eP	P	17 54 59.3	-0.5
TKL	Tuckaleechee C	72.51	351	eP	P	17 54 59.3	-0.5
330A	Mertzon	72.52	335	⇑P	P	17 55 00.2	+0.1
	baz=73,SNR=17						
134A	White-Moore Ra	72.61	338	⇓P	P	17 55 00.8	+0.4
	baz=73,SNR=6.9						
231A	Bronte	72.72	336	⇓P	P	17 55 01.1	-0.1
	baz=73,SNR=64						
329A	Wagon Wheel Ra	72.87	334	⇑P	P	17 55 02.6	+0.4
	baz=73,SNR=30						
133A	Hamilton Ranch	72.89	337	⇑P	P	17 55 02.6	+0.4
	baz=73,SNR=34						
230A	Sterling City	72.94	335	⇓P	P	17 55 02.4	-0.1
	baz=73,SNR=15						
Z35A	Perchaven, San	73.07	339	⇓P	P	17 55 03.7	+0.5
	baz=73,SNR=26						
ABTX	Abilene, Hawle	73.14	337	eP	P	17 55 03.2	-0.4
	comp=Z,76nm,0.8s						
ABTX	Abilene, Hawle	73.14	337	⇑P	P	17 55 03.9	+0.3
	baz=74,SNR=31						
UALR	University of	73.17	344	eP	P	17 55 02.8	-1.0
	comp=Z,37nm,1.0s						
MIAR	Mount Ida	73.24	342	eP	P	17 55 03.7	-0.5
MIAR				pmax	pmax		
	comp=Z,36nm,1.0s						
MIAR	Mount Ida	73.24	342	eP	P	17 55 03.7	-0.5
	comp=Z,36nm,1.0s						
229A	Bryant Ranch,	73.25	335	⇑P	P	17 55 04.7	+0.3
	baz=74,SNR=24						
Z34A	Collier Ranch,	73.30	339	⇑P	P	17 55 04.7	+0.1
	baz=74,SNR=24						
TZTN	Tazewell	73.35	351	eP	P	17 55 04.3	-0.5
	comp=Z,38nm,0.9s						
131A	Roby	73.42	336	⇓P	P	17 55 05.6	+0.3
	baz=74,SNR=27						
Z33A	Whitaker Ranch	73.48	338	⇑P	P	17 55 06.0	+0.3
	baz=74,SNR=29						
130A	Snyder	73.54	336	⇓P	P	17 55 05.8	-0.3
	baz=74,SNR=21						
HBAR	Harrisburg	73.56	345	eP	P	17 55 06.1	+0.1
WVT	Waverly	73.58	348	eP	P	17 55 04.6	-1.5
WVT				e		17 55 14.7	
WVT				pmax	pmax		
	comp=Z,86nm,0.9s						
WVT	Waverly	73.58	348	eP	P	17 55 04.6	-1.5
	comp=Z,86nm,0.9s						
WVT				e		17 55 14.7	
228A	UT Block 9, Go	73.66	334	⇑P	P	17 55 06.5	-0.2
	baz=74,SNR=33						
VWCC	Virginia Weste	73.69	354	eP	P	17 55 06.3	-0.5
BLA	Blacksburg	73.69	354	eP	P	17 55 06.0	-0.8
BLA				pmax	pmax		
	comp=Z,18nm,0.8s						
BLA	Blacksburg	73.69	354	eP	P	17 55 06.0	-0.8
	comp=Z,18nm,0.8s						
Z32A	Haskell	73.72	337	⇓P	P	17 55 07.4	+0.3
	baz=74,SNR=40						
Y34A	Reagan Ranch,	73.80	339	⇑P	P	17 55 07.5	0.0
	baz=74,SNR=24						
129A	Stewart Farms,	73.87	335	⇓P	P	17 55 08.2	+0.1
	baz=74,SNR=9.0						
Z31A	Sharp Cattle R	73.94	337	⇓P	P	17 55 08.5	+0.2
	baz=74,SNR=23						
JSRW	J. Sargeant Re	73.99	356	eP	P	17 55 08.5	0.0
128A	Castleberry Fa	74.08	335	⇑P	P	17 55 09.6	+0.3
	baz=74,SNR=35						
Y33A	Hilltop Ranch,	74.11	338	⇓P	P	17 55 09.4	+0.1
	baz=74,SNR=22						
Z30A	Sanderson Ranc	74.22	336	⇓P	P	17 55 10.0	-0.1
	baz=75,SNR=33						
Y32A	R-V Farms, Ver	74.35	338	⇓P	P	17 55 10.7	0.0
	baz=75,SNR=13						
GDL2	Guadalupe Moun	74.37	333	eP	P	17 55 10.7	-0.3
GDL2				e		17 55 20.5	
SUR	Sutherland	74.39	119	eP	P	17 55 13.1	+1.6
	comp=Z,52nm,1.0s						
Z29A	Hungry Hill Ra	74.39	335	⇑P	P	17 55 10.6	-0.4
	baz=75,SNR=40						
X34A	Smith Ranch, M	74.43	339	⇓P	P	17 55 11.5	+0.4
	baz=75,SNR=31						
127A	Arkansas Junct	74.43	334	⇓P	P	17 55 11.5	+0.2
	baz=75						
PARMO	Parma	74.45	346	eP	P	17 55 10.9	-0.3
X33A	Lawton	74.56	338	⇑P	P	17 55 11.7	-0.2
	baz=75,SNR=9.0						
Y31A	Rekieta Farm,	74.57	337	⇑P	P	17 55 12.3	+0.3
	baz=75,SNR=16						
Z28A	Tucker Farm, M	74.65	335	⇓P	P	17 55 12.6	0.0
	baz=75,SNR=8.9						
X32A	Elmer	74.69	338	⇓P	P	17 55 12.7	0.0
	baz=75,SNR=9.2						
Y30A	Stafford Cattl	74.69	336	⇓P	P	17 55 12.9	+0.2
	baz=75,SNR=14						
PBMO	Poplar Bluff	74.69	346	eP	P	17 55 12.1	-0.5
	comp=Z,52nm,0.9s						
Y29A	Porterfield Fa	74.93	336	⇑P	P	17 55 14.4	+0.2
	baz=75,SNR=21						
Z27A	Tatum	74.96	334	⇑P	P	17 55 14.5	+0.1
	baz=75,SNR=8.6						
W34A	Bridge Creek,	75.00	339	eP	P	17 55 14.0	-0.5
	comp=Z,44nm,0.8s						
W34A	Bridge Creek,	75.00	339	⇓P	P	17 55 14.5	0.0
	baz=75,SNR=9.2						
X31A	McDonald Ranch	75.10	337	⇓P	P	17 55 15.4	+0.3
	baz=75,SNR=30						
TUL1	Tulsa	75.10	341	eP	P	17 55 14.2	-0.7
	comp=Z,105nm,0.8s						
TUL1	Tulsa	75.10	341	⇓P	P	17 55 14.9	0.0
	baz=75,SNR=29						
W33A	Caddo, Fort Co	75.12	339	⇓P	P	17 55 16.2	+1.0
	baz=76,SNR=46						
Y28A	McKinney Farm,	75.17	335	⇓P	P	17 55 16.0	+0.4
	baz=76,SNR=6.6						
Z26A	Caprock	75.19	334	⇓P	P	17 55 16.0	+0.3
	baz=76,SNR=52						
X30A	Coker Ranch, T	75.21	337	⇓P	P	17 55 15.8	+0.1
	baz=76,SNR=14						
W32A	Sentinel	75.33	338	⇑P	P	17 55 16.5	+0.1
	baz=76,SNR=50						
USIN	University of	75.34	348	eP	P	17 55 15.1	-1.2
	comp=Z,111nm,0.8s						
SIUC	Southern Illin	75.37	347	eP	P	17 55 15.9	-0.6
	comp=Z,60nm,0.8s						
WCI	Wyandotte Cave	75.39	349	eP	P	17 55 15.3	-1.3
WCI				pmax	pmax		
	comp=Z,24nm,0.9s						
WCI	Wyandotte Cave	75.39	349	eP	P	17 55 15.3	-1.3
	comp=Z,24nm,0.9s						
MSTX	Muleshoe	75.40	335	eP	P	17 55 16.4	-0.5
	comp=Z,43nm,0.9s						
MSTX	Muleshoe	75.40	335	⇑P	P	17 55 16.9	0.0
	baz=76,SNR=7.0						
Y27A	Causey	75.46	335	⇑P	P	17 55 17.0	-0.3
	baz=76						
Z25A	Roswell	75.47	333	⇓P	P	17 55 17.7	+0.4
	baz=76,SNR=6.7						
X29A	Tulia	75.48	336	⇓P	P	17 55 17.5	+0.2
	baz=76,SNR=14						
V34A	Guthrie	75.49	340	eP	P	17 55 16.7	-0.6
	comp=Z,72nm,0.8s						
V34A	Guthrie	75.49	340	⇓P	P	17 55 17.4	+0.2
	baz=76,SNR=20						
319A	Douglas	75.58	329	⇑P	P	17 55 19.2	+1.2
	baz=76,SNR=17						
W31A	Holland Ranch,	75.60	338	⇑P	P	17 55 17.9	0.0
	baz=76,SNR=16						
SDMD	Soldier's Deli	75.65	357	eP	P	17 55 18.9	+0.9
	comp=Z,27nm,0.9s						
V33A	Lossen Ranch,	75.70	339	⇓P	P	17 55 18.7	+0.3
	baz=76,SNR=19						
Y26A	Elida	75.72	334	⇑P	P	17 55 19.4	+0.6
	baz=76,SNR=15						
Z24A	Sheeppen Canyo	75.75	333	⇓P	P	17 55 19.5	+0.5
	baz=76,SNR=24						
V32A	Arapaho	75.82	338	⇑P	P	17 55 19.6	+0.5
	baz=76,SNR=11						
AMTX	Amarillo	75.87	336	eP	P	17 55 19.2	-0.3
	comp=Z,67nm,0.8s						
AMTX	Amarillo	75.87	336	⇓P	P	17 55 20.1	+0.6
	baz=76						
121A	Cookes Peak, D	75.97	330	eP	P	17 55 20.8	+0.4
	comp=Z,27nm,0.8s						
121A	Cookes Peak, D	75.97	330	⇑P	P	17 55 21.5	+1.2
	baz=76,SNR=15						
Y25A	Mesa, Roswell	76.03	333	⇓P	P	17 55 20.5	-0.1
	baz=76,SNR=9.5						
U34A	Anderson Ranch	76.06	340	eP	P	17 55 20.1	-0.4
	comp=Z,57nm,0.9s						
U34A	Anderson Ranch	76.06	340	⇓P	P	17 55 20.7	+0.2
	baz=76,SNR=13						
W29A	Amraillo	76.08	336	⇑P	P	17 55 21.2	+0.5
	baz=76,SNR=22						
V31A	Spring Creek L	76.11	338	⇑P	P	17 55 21.6	+0.8
	baz=76,SNR=21						
X27A	F and S Farms,	76.13	335	⇑P	P	17 55 21.4	+0.3
	baz=76,SNR=9.2						
OLIL	Olney	76.17	348	eP	P	17 55 19.5	-1.5
	comp=Z,52nm,1.1s						
U33A	Lingo Farm, Me	76.22	339	⇑P	P	17 55 21.4	+0.1
	baz=77,SNR=17						
X26A	CR and CF Fran	76.29	334	⇑P	P	17 55 22.5	+0.5
	baz=77,SNR=17						
Z22A	Elephant Butte	76.29	331	⇓P	P	17 55 22.9	+0.9
	baz=77,SNR=18						
Y24A	Capitan	76.31	333	⇑P	P	17 55 22.8	+0.6
	baz=77,SNR=29						
BLO	Bloomington	76.34	349	eP	P	17 55 20.9	-1.1
BLO				pmax	pmax		
	comp=Z,57nm,0.9s						
BLO	Bloomington	76.34	349	eP	P	17 55 20.9	-1.1
	comp=Z,57nm,0.9s						
V30A	Spur Ranch, Mi	76.36	337	⇑P	P	17 55 22.1	-0.2
	baz=77						
W28A	Vega	76.39	336	⇑P	P	17 55 23.4	+0.9
	baz=77						
LIC	Lamto	76.42	72	eP	P	17 55 24.3	+1.2
	comp=Z,132nm,1.0s						
U32A	Winter Ranch,	76.42	339	⇑P	P	17 55 23.3	+0.7
	baz=77,SNR=12						
SLM	Saint Louis	76.45	346	eP	P	17 55 21.1	-1.5
SLM				pmax	pmax		
	comp=Z,108nm,0.9s						
SLM	Saint Louis	76.45	346	eP	P	17 55 21.1	-1.5
	comp=Z,108nm,0.9s						
W27A	Bowe Ranch, En	76.49	335	⇓P	P	17 55 23.6	+0.4
	baz=77,SNR=31						
Y23A	Lovelace Mesa,	76.54	332	⇑P	P	17 55 24.4	+0.8
	baz=77,SNR=12						
X25A	Clemmons Ranch	76.57	334	⇓P	P	17 55 24.1	+0.5
	baz=77						
U31A	Nine Bar Ranch	76.67	338	⇑P	P	17 55 24.8	+0.8
	baz=77						
TIC	Toumodi	76.70	71	eP	P	17 55 25.8	+1.1
	comp=Z,24nm,0.2s						
V29A	Stinnett	76.73	337	⇑P	P	17 55 24.9	+0.5
	baz=77						
KIC	Kosan Boka	76.73	72	eP	P	17 55 26.1	+1.3
	comp=Z,160nm,0.9s						
W26A	Owens Ranch, T	76.76	335	⇓P	P	17 55 25.3	+0.6
	baz=77,SNR=11						
DBIC	Dimbokro	76.84	71	eP	P	17 55 26.2	+0.8
DBIC				pmax	pmax		
	comp=Z,47nm,0.8s						
DBIC	Dimbokro	76.84	71	P	P	17 55 26.8	+1.3
	comp=Z,44nm,0.7s,baz=204,slow=6.3,SNR=35						
DBIC	Dimbokro	76.84	71	eP	P	17 55 26.2	+0.8
	comp=Z,47nm,0.8s						
V28A	Channing	76.84	336	⇓P	P	17 55 25.8	+0.8
	baz=77,SNR=11						
T33A	Patterson Ranc	76.86	340	⇓P	P	17 55 25.9	+0.8
	baz=77,SNR=33						
X24A	Lazy VL Ranch,	76.88	333	⇑P	P	17 55 26.3	+0.8
	baz=77,SNR=12						
ACSO	Alum Creek Sta	76.93	352	eP	P	17 55 24.6	-0.7
	comp=Z,73nm,0.9s						
TUC	Tucson	77.02	328	eP	P	17 55 26.7	+0.6
TUC				pmax	pmax		
	comp=Z,21nm,1.1s						
TUC	Tucson	77.02	328	eP	P	17 55 26.7	+0.6
	comp=Z,21nm,1.1s						
V27A	Dan Oppiter Fa	77.05	336	⇑P	P	17 55 26.8	+0.5
	baz=77,SNR=5.2						
U30A	WK&E Inc. Balk	77.06	338	⇑P	P	17 55 27.1	+0.9
	baz=77,SNR=14						
LPM	Los Pinos Moun	77.10	332	eP	P	17 55 26.9	+0.3
LPM				e		17 55 36.0	
W25A	X Bar L Ranch,	77.12	334	⇓P	P	17 55 27.2	+0.5
	baz=78,SNR=27						
T32A	Huddler Ranch,	77.15	339	⇓P	P	17 55 27.1	+0.5
	baz=78,SNR=9.4						
X23A	Hourglass Bar	77.17	333	⇓P	P	17 55 28.2	+1.2
	baz=78,SNR=22						
U29A	Oasis Ranch, S	77.18	337	⇑P	P	17 55 27.5	+0.6
	baz=78						
S33A	Kaszmaul Farm,	77.27	340	⇓P	P	17 55 27.6	+0.3
	baz=78						
T31A	Randall Ranch,	77.29	339	⇑P	P	17 55 28.1	+0.7
	baz=78,SNR=5.9						
LAZ	Ladron	77.37	332	eP	P	17 55 29.0	+0.8
	comp=Z,15nm,0.9s						
V26A	Tequesquite Ra	77.41	335	⇑P	P	17 55 28.4	+0.2
	baz=78,SNR=10						
U28A	Mallet	77.42	336	⇓P	P	17 55 28.8	+0.6
	baz=78,SNR=9.9						
W24A	Lazy 6 Ranch,	77.45	333	⇑P	P	17 55 29.3	+0.7
	baz=78,SNR=17						
CASY	Casey	77.47	182	eP	P	17 55 27.7	-0.4
	comp=Z,31nm,0.9s						
YLE	Yale	77.48	0	eP	P	17 55 29.8	+1.5
	comp=Z,69nm,0.9s						
T30A	Plains	77.50	338	⇓P	P	17 55 29.7	+1.0
	baz=78,SNR=5.6						
ANMO	Albuquerque	77.60	332	eP	P	17 55 29.9	+0.5
ANMO				pmax	pmax		
	comp=Z,36nm,0.9s						
ANMO	Albuquerque	77.60	332	eP	P	17 55 29.9	+0.5
	comp=Z,36nm,0.9s						
214A	Organ Pipe Nat	77.60	326	eP	P	17 55 29.9	+0.6
	comp=Z,29nm,1.1s						
214A	Organ Pipe Nat	77.60	326	⇑P	P	17 55 30.4	+1.1
	baz=78						
SFIN	Scholer Farm	77.61	349	eP	P	17 55 28.1	-1.0
	comp=Z,18nm,0.9s						
SFIN	Scholer Farm	77.61	349	⇑P	P	17 55 28.4	-0.7
	baz=78						
S32A	Newby Ranch, P	77.63	339	⇓P	P	17 55 29.8	+0.5
	baz=78,SNR=18						
U27A	Thompson Grove	77.65	336	⇑P	P	17 55 30.0	+0.4
	baz=78,SNR=12						
W23A	Werner Place,	77.67	333	⇓P	P	17 55 30.7	+0.8
	baz=78,SNR=16						
S31A	Mullinville	77.72	339	⇓P	P	17 55 30.5	+0.7
	baz=78,SNR=14						
V25A	Rancho No Teng	77.73	334	⇓P	P	17 55 30.7	+0.5
	baz=78,SNR=35						
T29A	Hugoton	77.83	337	⇑P	P	17 55 31.3	+0.7
	baz=78,SNR=10.0						
V24A	Rampart Ranch,	77.86	334	⇓P	P	17 55 31.6	+0.7
	baz=78,SNR=19						
U26A	Atchley Ranch,	77.93	335	⇑P	P	17 55 31.7	+0.4
	baz=78,SNR=11						
R33A	Olander Ranch,	77.94	340	⇑P	P	17 55 31.4	+0.4
	baz=78,SNR=10						
S30A	Montezuma	78.03	338	⇑P	P	17 55 32.3	+0.8
	baz=78,SNR=18						
T28A	Walsh	78.06	337	⇑P	P	17 55 32.3	+0.5
	baz=78,SNR=36						
U25A	Circle Dot Ran	78.16	335	⇑P	P	17 55 33.4	+0.9
	baz=78,SNR=19						
T27A	Campo	78.20	336	⇓P	P	17 55 33.4	+0.8
	baz=78,SNR=20						
S29A	Ulysses	78.20	338	⇑P	P	17 55 33.4	+0.8
	baz=79,SNR=15						
V23A	Ortiz Mt. (NFS	78.21	333	⇑P	P	17 55 34.1	+1.3
	baz=78,SNR=7.8						
R32A	Long Quarter,	78.25	340	⇑P	P	17 55 33.4	+0.7
	baz=79,SNR=12						
KSU1	Kansas State U	78.32	342	eP	P	17 55 32.1	-1.0
	comp=Z,41nm,0.9s						
KSU1	Kansas State U	78.32	342	⇑P	P	17 55 33.0	-0.1

baz=79,SNR=7.9
R31A Burdett 78.35 339 ⇑P P 17 55 34.0 +0.7
baz=79,SNR=10
S28A Manter 78.42 337 ⇑P P 17 55 34.4 +0.6
baz=79,SNR=20
U24A Moreno Valley 78.48 334 ⇑P P 17 55 36.2 +1.8
baz=79
Q33A Connelly Farm, 78.54 341 ⇑P P 17 55 34.8 +0.4
baz=79,SNR=9.5
R30A Dighton 78.57 339 ⇑P P 17 55 34.9 +0.3
baz=79,SNR=11
T26A Comanche Natio 78.59 336 ⇑P P 17 55 35.8 +0.9
baz=79,SNR=32
X18A Snowflake 78.59 330 ⇓P P 17 55 36.3 +1.4
baz=79,SNR=8.2
V22A San Miguel Ran 78.62 333 ⇑P P 17 55 36.6 +1.5
baz=79,SNR=54
HRV Adam Dziewonsk 78.68 1 eP P 17 55 35.7 +0.7
HRV Adam Dziewonsk 78.68 1 eP P 17 55 35.7 +0.7
113A Mohawk Valley, 78.72 326 ⇑P P 17 55 36.9 +1.5
baz=79
U23A El Rito 78.73 333 ⇑P P 17 55 37.2 +1.5
baz=79,SNR=21
Q32A Meitler Ranch, 78.73 340 ⇓P P 17 55 36.0 +0.6
baz=79,SNR=16
S27A Las Animas 78.82 336 ⇑P P 17 55 36.5 +0.4
baz=79,SNR=9.4
T25A Trinidad 78.83 335 ⇓P P 17 55 37.6 +1.3
baz=79,SNR=39
TRY Troy 78.89 360 eP P 17 55 37.3 +1.2
comp=Z,44nm,0.9s
P33A Williams Farm, 78.92 341 ⇓P P 17 55 36.6 +0.2
baz=79,SNR=5.6
R29A Marienthal 78.95 338 ⇓P P 17 55 37.5 +0.8
baz=79,SNR=6.7
S26A Kim 78.95 336 ⇓P P 17 55 37.7 +0.9
baz=79,SNR=47
Q31A Ellis 78.98 339 ⇑P P 17 55 37.6 +0.8
baz=79,SNR=10
U22A Llaves 79.02 333 ⇑P P 17 55 38.9 +1.6
baz=79
W18A Petrified Fore 79.02 330 eP P 17 55 37.9 +0.7
comp=Z,58nm,1.2s
W18A Petrified Fore 79.02 330 ⇑P P 17 55 38.3 +1.0
baz=79,SNR=10
R28A Tribune 79.08 337 ⇑P P 17 55 37.8 +0.4
baz=79,SNR=20
T24B San Luis 79.10 334 ⇑P P 17 55 39.2 +1.4
baz=79,SNR=27
X16A Lo Mia Camp, P 79.11 329 ⇓P P 17 55 39.1 +1.3
baz=79
Q30A Quinter 79.19 339 ⇓P P 17 55 38.4 +0.4
baz=80,SNR=15
T23A Casias Ranch, 79.31 334 ⇓P P 17 55 40.0 +1.1
baz=80,SNR=9.2
S25A Robets Cordova 79.31 335 ⇓P P 17 55 39.7 +0.9
baz=80,SNR=19
Q29A Oakley 79.33 338 ⇑P P 17 55 39.2 +0.4
baz=80,SNR=12
P32A Huiting Farm, 79.33 340 ⇑P P 17 55 39.1 +0.4
baz=80
R27A Eads 79.34 337 ⇑P P 17 55 39.4 +0.6
baz=80,SNR=32
Y14A Wickenburg 79.37 327 ⇑P P 17 55 40.6 +1.5
baz=80
TSUM Tsumeb 79.38 106 P P 17 55 41.0 +1.3
comp=Z,9.7nm,0.9s,baz=260,slow=6.4,SNR=9.2
TSUM Tsumeb 79.38 106 eP P 17 55 40.5 +0.8
comp=Z,27nm,1.1s
GLA Glamis 79.44 325 ⇑P P 17 55 40.7 +1.2
baz=80
P31A Stockton 79.45 340 ⇓P P 17 55 39.9 +0.6
baz=80,SNR=10
ACCN Adirondack Com 79.55 360 eP P 17 55 40.7 +1.0
comp=Z,35nm,1.0s
S24A Houchin Ranch, 79.56 335 ⇑P P 17 55 41.6 +1.3
baz=80,SNR=28
R26A Arlington 79.56 336 ⇑P P 17 55 40.9 +0.8
baz=80,SNR=24
BOSA Boshof 79.68 118 eP P 17 55 41.8 +0.6
BOSA e 17 55 49.8
BOSA pmax pmax
comp=Z,29nm,0.9s
BOSA Boshof 79.68 118 P P 17 55 42.3 +1.1
comp=Z,26nm,0.9s,baz=230,slow=5.2,SNR=14
BOSA Boshof 79.68 118 eP P 17 55 41.8 +0.6
comp=Z,29nm,0.9s
BOSA e 17 55 49.8
R25A Fountain Ranch 79.70 336 ⇑P P 17 55 41.5 +0.6
baz=80
P30A Selden 79.72 339 ⇓P P 17 55 41.5 +0.7
baz=80,SNR=8.1
Q28A Sharon Springs 79.75 338 ⇓P P 17 55 41.8 +0.7
baz=80,SNR=8.0
SDCO Great Sand Dun 79.75 334 eP P 17 55 41.4 +0.1
comp=Z,23nm,0.9s
SDCO e 17 55 50.5
SWSC Sam W. Stewart 79.79 325 ⇑P P 17 55 43.2 +1.9
baz=80
O32A Brockman Farm, 79.84 341 ⇓P P 17 55 42.4 +0.9
baz=80
HNH Hanover 79.87 1 eP P 17 55 43.0 +1.5
comp=Z,49nm,1.0s
S23A Nye Farm, Mont 79.89 334 ⇓P P 17 55 43.6 +1.6
baz=80
KSCO Kaye Shedlock' 79.95 337 eP P 17 55 43.4 +1.2
comp=Z,87nm,1.4s
KSCO Kaye Shedlock' 79.95 337 ⇑P P 17 55 43.1 +0.9
baz=80
P29A Atwood 79.98 339 ⇑P P 17 55 43.2 +1.0
baz=80,SNR=17
WUAZ Wupatki 80.03 329 eP P 17 55 43.4 +0.7
comp=Z,33nm,1.0s
WUAZ Wupatki 80.03 329 ⇓P P 17 55 44.0 +1.3
baz=80
MONP Monument Peak 80.05 324 ⇓P P 17 55 44.5 +1.6
baz=80
R24A Sanders Place, 80.06 335 ⇑P P 17 55 44.3 +1.4
baz=80,SNR=36
NCB Newcomb 80.14 359 eP P 17 55 43.0 +0.1
comp=Z,337nm,2.5s
Q26A Hugo 80.15 336 ⇑P P 17 55 44.5 +1.2
baz=80,SNR=8.8
MDV Middlebury 80.16 360 eP P 17 55 43.0 0.0
PDMCI Parker Dam,Lak 80.18 327 ⇑P P 17 55 44.8 +1.5
baz=80
P28A Saint Francis 80.20 338 ⇑P P 17 55 44.9 +0.9
baz=80,SNR=6.5
SCIA State Center 80.20 345 eP P 17 55 42.5 -0.8
comp=Z,90nm,1.3s
S22A 4UR Ranch, Cre 80.22 333 ⇑P P 17 55 45.0 +1.1
baz=81,SNR=31
BC3 Big Chuckawall 80.23 325 ⇑P P 17 55 45.2 +1.4
baz=81
O30A MW Ranch, Wils 80.26 339 ⇓P P 17 55 44.4 +0.7
baz=81,SNR=6.4
BFZ Birch Farm 80.26 226 eP P 17 55 47.4 +3.4
comp=Z,45nm,1.1s
R23A Moffat 80.27 334 ⇓P P 17 55 44.8 +0.6
baz=81,SNR=12
N32A Stulken Farm, 80.32 341 ⇓P P 17 55 45.1 +1.0
baz=81
MVCO Mesa Verde 80.36 332 eP P 17 55 45.0 +0.4
comp=Z,40nm,1.0s
MVCO Mesa Verde 80.36 332 ⇓P P 17 55 45.7 +1.1
baz=81,SNR=18
Q25A Bedland, Calha 80.38 336 ⇓P P 17 55 45.4 +0.8
baz=81,SNR=15
LBNH Lisbon 80.41 1 eP P 17 55 45.0 +0.7
LBNH pmax pmax
comp=Z,40nm,0.9s
LBNH Lisbon 80.41 1 eP P 17 55 45.0 +0.7
comp=Z,40nm,0.9s
O29A 4D Ranch, Culb 80.42 339 ⇓P P 17 55 46.2 +1.5
baz=81
P27A Ficken Ranch, 80.43 337 ⇑P P 17 55 45.8 +1.0
baz=81
IRM Iron Mountain 80.51 326 ⇑P P 17 55 46.6 +1.3
baz=81
JFWS Jewell Farm 80.60 347 eP P 17 55 44.7 -0.7
JFWS pmax pmax
comp=Z,51nm,1.0s
JFWS Jewell Farm 80.60 347 eP P 17 55 44.7 -0.7
comp=Z,51nm,1.0s
PFO Pinyon Flat Ob 80.66 325 eP P 17 55 47.8 +1.7
PFO Pinyon Flat Ob 80.66 325 eP P 17 55 47.8 +1.7
PFO Pinyon Flat Ob 80.66 325 ⇓P P 17 55 47.6 +1.5
baz=81
P26A Davis Ranch, A 80.68 337 ⇓P P 17 55 47.2 +1.1
baz=81,SNR=10
O28A Krutsinger Ran 80.71 338 ⇓P P 17 55 47.2 +1.1
baz=81,SNR=5.6
Q24A Divide 80.73 335 ⇑P P 17 55 47.6 +0.9
baz=81,SNR=28
W13A Hualapai Mount 80.74 327 ⇑P P 17 55 47.8 +1.2
baz=81
PTN Potsdam (NY) 80.75 359 eP P 17 55 46.8 +0.7
PTN pmax pmax
comp=Z,58nm,1.0s
PTN Potsdam (NY) 80.75 359 eP P 17 55 46.8 +0.7
comp=Z,58nm,1.0s
LONY Lake Ozonia 80.79 359 eP P 17 55 46.7 +0.3
comp=Z,34nm,0.9s
BGNE Belgrade 80.89 341 eP P 17 55 47.0 0.0
comp=Z,63nm,0.8s
BGNE e 17 55 56.3
BGNE Belgrade 80.89 341 ⇓P P 17 55 47.6 +0.6
baz=81,SNR=5.9
P25A Willow Gulch B 80.90 336 ⇓P P 17 55 48.6 +1.2
baz=81,SNR=26
O27A Beecher Island 80.98 338 ⇓P P 17 55 49.0 +1.4
baz=81
MURC Murrieta 81.00 324 ⇑P P 17 55 49.4 +1.5
baz=81
N29A Votaw Ranch, W 81.01 339 ⇑P P 17 55 48.6 +0.9
baz=81,SNR=7.2
M31A Lambtecht Ranc 81.05 341 ⇓P P 17 55 48.7 +0.8
baz=81,SNR=12
BKZ Black Stump Fm 81.09 228 eP P 17 55 49.7 +1.2
comp=Z,66nm,1.5s
P24A Kohler Place, 81.14 336 ⇑P P 17 55 49.8 +1.1
baz=82
RPZ Rata Peaks 81.14 221 eP P 17 55 49.3 +0.6
comp=Z,97nm,1.3s
N28A Pribbeno Ranch 81.16 339 ⇑P P 17 55 49.5 +0.9
baz=82
U15A North Rim 81.19 329 ⇑P P 17 55 50.5 +1.4
baz=82
PV01 Paradox Valley 81.20 332 eP P 17 55 49.7 +0.6
comp=Z,3μm,0.9s
GMRC Granite Mounta 81.26 326 ⇓P P 17 55 50.9 +1.6
baz=82
LDFC Landfair 81.26 326 eP P 17 55 50.6 +1.3
comp=Z,34nm,1.0s
LDFC e 17 56 00.6
O26A Horse Wrangler 81.29 337 ⇓P P 17 55 50.6 +1.3
baz=82,SNR=8.1
P23A Jefferson 81.33 335 ⇑P P 17 55 51.2 +1.4
baz=82,SNR=6.2
O25A Wiggins 81.43 336 ⇑P P 17 55 51.4 +1.3
baz=82,SNR=5.9
OGNE Ogallala 81.54 338 eP P 17 55 49.9 -0.7
comp=Z,23nm,0.9s
OGNE Ogallala 81.54 338 ⇑P P 17 55 51.5 +0.9
baz=82,SNR=6.0
SMCO Snowmass 81.55 334 eP P 17 55 52.1 +1.0
comp=Z,70nm,1.1s
PV04 Paradox Valley 81.56 332 eP P 17 55 51.4 +0.5
N27A Anderson Farm, 81.56 338 ⇑P P 17 55 52.1 +1.3
baz=82
HEC Hector,Ludlow 81.61 325 ⇓P P 17 55 52.8 +1.7
baz=82
M29A Burnside Ranch 81.61 339 ⇑P P 17 55 51.8 +0.9
baz=82
ISCO Idaho Springs 81.64 335 eP P 17 55 51.8 +0.4
ISCO pmax pmax
comp=Z,28nm,1.2s
ISCO Idaho Springs 81.64 335 eP P 17 55 51.8 +0.4
comp=Z,28nm,1.2s
ISCO Idaho Springs 81.64 335 ⇑P P 17 55 52.4 +0.9
baz=82,SNR=11
BFSC Mount Baldy Ra 81.74 324 ⇑P P 17 55 53.1 +1.2
baz=82
O24A Longmont 81.75 336 ⇑P P 17 55 53.2 +1.4
baz=82
M28A Bar X Bar Ranc 81.76 339 ⇓P P 17 55 53.1 +1.4
baz=82
L31A Butterfield Fa 81.79 341 ⇓P P 17 55 52.8 +1.0
baz=82
N26A Koester Ranch, 81.80 337 ⇑P P 17 55 52.9 +0.9
baz=82,SNR=6.5
L30A Spencer Herefo 81.81 340 ⇑P P 17 55 52.8 +0.9
baz=82,SNR=7.7
P22A Eagle 81.84 334 ⇑P P 17 55 53.6 +1.1
baz=82,SNR=12
TUQ Turquoise Moun 81.93 326 ⇑P P 17 55 54.3 +1.5
baz=82
LBTB Lobatse 82.05 115 eP P 17 55 54.2 +0.3
LBTB e 17 56 02.2
LBTB pmax pmax
comp=Z,45nm,0.8s
LBTB Lobatse 82.05 115 P P 17 55 54.5 +0.6
comp=Z,28nm,0.8s,baz=249,slow=5.0,SNR=22
LBTB Lobatse 82.05 115 eP P 17 55 54.2 +0.3
comp=Z,45nm,0.8s
LBTB e 17 56 02.2
O23A Lake Granby, G 82.11 335 ⇑P P 17 55 54.9 +1.1
baz=82,SNR=20
L29A Maesberg Ranch 82.12 340 ⇓P P 17 55 54.5 +0.9
baz=82,SNR=10
M27A Reverse DX Ran 82.18 338 ⇓P P 17 55 55.4 +1.5
baz=82
GSC Goldstone 82.22 325 eP P 17 55 55.8 +1.5
GSC pmax pmax
comp=Z,12nm,0.9s
GSC Goldstone 82.22 325 eP P 17 55 55.8 +1.5
comp=Z,12nm,0.9s
GSC Goldstone 82.22 325 ⇑P P 17 55 55.6 +1.3
baz=82
O22A Kremmling 82.28 335 ⇓P P 17 55 55.7 +0.9
baz=83,SNR=26
N24A Carr 82.32 336 ⇑P P 17 55 55.8 +1.0
baz=83,SNR=8.4
EDW2 Edwards Air Fo 82.42 324 ⇓P P 17 55 56.0 +0.6
baz=83
K30A Basset 82.46 341 ⇓P P 17 55 56.2 +0.9
baz=83,SNR=9.3
SHPR Sheep Range 82.48 327 eP P 17 55 56.6 +0.9
SHPR e 17 56 05.7
BSC Santa Cruz Isl 82.49 323 ⇓P P 17 55 56.2 +0.5
baz=83
OSI Osito Adit 82.55 324 ⇓P P 17 55 57.4 +1.4
baz=83
CCUT Cedar City 82.59 329 eP P 17 55 57.7 +1.3
comp=Z,26nm,0.9s
M25A Palm-Egli Farm 82.61 337 ⇓P P 17 55 57.2 +0.9
baz=83,SNR=6.3
L27A T5 Ranch, Ells 82.67 339 ⇑P P 17 55 57.5 +1.0
baz=83,SNR=10
ECSD EROS Data Cent 82.70 343 eP P 17 55 56.3 -0.2
comp=Z,89nm,0.9s
ECSD e 17 56 05.7
ECSD EROS Data Cent 82.70 343 ⇓P P 17 55 56.9 +0.4
baz=83,SNR=50
K29A Lazy Trails An 82.73 340 ⇓P P 17 55 57.5 +0.8
baz=83
N23A Red Feather La 82.73 336 ⇑P P 17 55 57.8 +0.8
baz=83,SNR=15
LRMC Laurel Mountai 82.77 325 ⇑P P 17 55 58.2 +1.0
baz=83
SRU San Rafael 82.80 332 eP P 17 55 57.7 +0.3
SRU pmax pmax
comp=Z,37nm,0.8s
SRU San Rafael 82.80 332 eP P 17 55 57.7 +0.3
comp=Z,37nm,0.8s
N22A Wattenberg Ran 82.82 335 ⇑P P 17 55 58.5 +1.0
baz=83,SNR=16
ARUT Antelope Range 82.83 329 eP P 17 55 58.5 +1.0
ARUT Antelope Range 82.83 329 eP P 17 55 58.5 +1.0
comp=Z,332nm,1.0s
O20A White River Ci 82.85 334 eP P 17 55 57.8 +0.2
comp=Z,28nm,0.8s
O20A White River Ci 82.85 334 ⇑P P 17 55 58.7 +1.1
baz=83,SNR=13
L26A Underwood Farm 82.85 338 ⇑P P 17 55 59.0 +1.6
baz=83
M24A Cheyenne 82.88 337 ⇑P P 17 55 58.9 +1.2
baz=83,SNR=15
MVU Marysvale 82.94 330 eP P 17 55 59.0 +0.9
comp=Z,18nm,0.9s
PHWY Pilot Hill 82.94 336 eP P 17 55 58.5 +0.4
comp=Z,37nm,1.1s
K28A Ten Mile Ranch 82.97 339 ⇑P P 17 55 59.3 +1.3
baz=83,SNR=16
J30A Dallas 83.03 341 ⇓P P 17 55 58.6 +0.4
baz=83,SNR=5.9
M23A Laramie 83.17 336 ⇓P P 17 56 00.4 +1.2
baz=84
FURC Furnace Creek, 83.21 326 ⇑P P 17 56 00.8 +1.6
baz=84
K27A Flueckinger Fa 83.22 339 ⇓P P 17 56 00.2 +0.9
baz=84,SNR=11
TMUT Trail Mountain 83.22 331 eP P 17 56 00.2 +0.5
comp=Z,37nm,0.9s
L25A Engebretsen Ra 83.23 337 ⇑P P 17 56 00.8 +1.3
baz=84,SNR=5.9
ISA Isabella 83.29 324 eP P 17 56 01.0 +1.2
ISA pmax pmax
comp=Z,13nm,0.8s
ISA Isabella 83.29 324 eP P 17 56 01.0 +1.2
comp=Z,13nm,0.8s
ISA Isabella 83.29 324 ⇑P P 17 56 01.4 +1.6
baz=84
SPMN St. Paul 83.31 346 eP P 17 55 58.6 -1.0
comp=Z,23nm,0.8s
SPMN St. Paul 83.31 346 ⇑P P 17 55 59.1 -0.5
baz=84,SNR=5.4
J29A Okreek 83.33 340 ⇑P P 17 56 00.6 +0.8
baz=84,SNR=19
M22A Cedar Creek Ra 83.40 335 ⇓P P 17 56 01.6 +1.1
baz=84,SNR=9.0
L24A Wheatland 83.43 337 ⇑P P 17 56 01.7 +1.2
baz=84,SNR=5.5
N20A Spence Gulch, 83.47 334 ⇓P P 17 56 01.6 +0.8
baz=84,SNR=19
K26A Motz Farm, Whi 83.49 338 ⇓P P 17 56 01.3 +0.6
baz=84
I30A Oacoma 83.56 341 ⇑P P 17 56 01.4 +0.5
baz=84,SNR=20
J28A Allard Ranch, 83.59 340 ⇓P P 17 56 02.3 +1.1
baz=84,SNR=9.3
K25A Mack Ranch, Ha 83.62 338 ⇑P P 17 56 02.3 +0.8
baz=84
J27A Elkhorn Farm, 83.65 339 ⇓P P 17 56 02.9 +1.4
baz=84,SNR=14
VES Vestal, Richgr 83.72 324 ⇑P P 17 56 03.3 +1.4
baz=84
SMMC Simmler 83.73 323 ⇑P P 17 56 04.1 +2.1
baz=84
L23A Garrett 83.75 336 ⇓P P 17 56 02.6 +0.4
baz=84,SNR=6.7
GRAC Grapevine Rang 83.87 326 ⇓P P 17 56 04.5 +1.7
baz=84
L22A Ellis Ranch, M 83.91 336 ⇓P P 17 56 03.8 +0.7
baz=84,SNR=10.0
BRSD Miller 83.94 342 eP P 17 56 02.3 -0.6
comp=Z,92nm,0.8s
BRSD Miller 83.94 342 ⇓P P 17 56 02.9 0.0
baz=84,SNR=11
MPU Maple Canyon 84.01 331 eP P 17 56 03.7 +0.1
comp=Z,45nm,0.9s
K24A Anderson Ranch 84.01 337 ⇑P P 17 56 05.1 +1.6
baz=84
J26A Sides Ranch, S 84.02 339 ⇑P P 17 56 04.2 +0.8
baz=84,SNR=9.7
I28A Midland 84.11 340 ⇑P P 17 56 04.4 +0.7
baz=84,SNR=10
NLU North Lily Min 84.13 331 eP P 17 56 04.9 +0.7
comp=Z,35nm,1.1s
DAU Daniels Canyon 84.20 332 eP P 17 56 04.8 +0.1
DAU e 17 56 14.8
DAU pmax pmax
comp=Z,28nm,0.9s
DAU Daniels Canyon 84.20 332 eP P 17 56 04.8 +0.1
comp=Z,28nm,0.9s
DAU e 17 56 14.8
R11A Troy Canyon, C 84.21 328 eP P 17 56 05.4 +0.8
comp=Z,20nm,0.9s
R11A Troy Canyon, C 84.21 328 ⇑P P 17 56 05.8 +1.2
baz=84
K23A Bowen Ranch, D 84.30 337 ⇑P P 17 56 05.3 +0.3
baz=85,SNR=20
J25A Sunshine Ranch 84.31 338 ⇑P P 17 56 05.5 +0.6
baz=85,SNR=16
TIN Tinemaha 84.31 325 ⇑P P 17 56 06.7 +1.7
baz=85
I27A Quinn 84.42 339 ⇑P P 17 56 05.5 +0.2
baz=85,SNR=5.4
H29A Onida 84.43 341 ⇑P P 17 56 05.5 +0.1
baz=85,SNR=13
JLU Jordanelle 84.44 332 eP P 17 56 05.8 0.0
comp=Z,31nm,0.8s
K22A Casper 84.50 336 eP P 17 56 06.0 +0.1
comp=Z,91nm,1.1s
K22A Casper 84.50 336 ⇑P P 17 56 06.3 +0.3
baz=85,SNR=22
J24A Dixon Ranch, L 84.51 337 ⇑P P 17 56 06.9 +1.0
baz=85,SNR=21
I26A New Underwood 84.61 339 ⇑P P 17 56 06.9 +0.5
baz=85,SNR=5.5
DUG Dugway 84.62 331 eP P 17 56 07.2 +0.6
DUG pmax pmax
comp=Z,65nm,1.1s
DUG Dugway 84.62 331 eP P 17 56 07.2 +0.6
comp=Z,65nm,1.1s
DUG Dugway 84.62 331 ⇓P P 17 56 07.6 +0.9
baz=85,SNR=25
G30A Faulkton 84.63 342 ⇓P P 17 56 06.7 +0.4
baz=85,SNR=13
CTU Camp Tracy 84.64 332 eP P 17 56 06.6 -0.1
comp=Z,26nm,0.9s
H28A Mission Ridge 84.69 340 ⇓P P 17 56 06.9 +0.2
baz=85,SNR=11
TPH Tonopah 84.69 327 eP P 17 56 07.9 +0.8
TPH pmax pmax
comp=Z,27nm,0.9s
TPH Tonopah 84.69 327 eP P 17 56 07.9 +0.8
comp=Z,27nm,0.9s
K21A Alcova 84.72 335 ⇓P P 17 56 07.7 +0.6
baz=85,SNR=28
J23A Dilts Ranch, B 84.86 337 ⇑P P 17 56 08.6 +0.9
baz=85
I25A Rochford 84.86 338 ⇓P P 17 56 08.6 +0.9
baz=85,SNR=33
TCUT Toone Canyon 84.87 332 eP P 17 56 08.2 +0.2
comp=Z,60nm,0.9s
G29A Hoven 84.88 341 ⇑P P 17 56 08.0 +0.3
baz=85,SNR=8.2
H27A Howes 84.94 340 ⇓P P 17 56 08.2 +0.2
baz=85,SNR=5.6
I24A Kuemmerle Ranc 84.98 338 ⇑P P 17 56 08.7 +0.4
baz=85,SNR=18
G28A Parade 85.03 341 ⇑P P 17 56 08.7 +0.3
baz=85,SNR=7.1
RSSD Black Hills 85.04 338 eP P 17 56 08.4 -0.3
RSSD pmax pmax
comp=Z,40nm,0.8s
RSSD Black Hills 85.04 338 eP P 17 56 08.3 -0.3
comp=Z,40nm,0.8s
H26A Fairpoint 85.12 339 ⇑P P 17 56 09.9 +0.9
baz=86,SNR=5.9
J22A Midwest 85.16 336 ⇓P P 17 56 09.1 -0.1
baz=86,SNR=16
F30A Leola 85.26 342 ⇑P P 17 56 09.6 +0.1
baz=86,SNR=8.0
BGU Big Grassy Mou 85.33 331 eP P 17 56 10.1 -0.1
comp=Z,9.0nm,1.1s
BGU e 17 56 19.5
H25A Fruitdale 85.37 339 ⇑P P 17 56 10.5 +0.4
baz=86,SNR=18
J21A Lysite 85.42 336 ⇑P P 17 56 11.1 +0.5
baz=86,SNR=8.5
SPUT South Promonto 85.44 331 eP P 17 56 10.8 +0.1
comp=Z,44nm,0.9s
SPUT e 17 56 20.5
F29A Eureka 85.46 342 ⇑P P 17 56 10.8 +0.3
baz=86,SNR=13
NVAR Mina Array Bea 85.47 326 P P 17 56 11.4 +0.4
comp=Z,12nm,0.9s,baz=152,slow=5.5,SNR=23
G27A Dupree 85.59 340 ⇓P P 17 56 11.2 -0.1
baz=86,SNR=14
I22A 9 Mile Ranch, 85.59 337 ⇑P P 17 56 11.4 0.0
baz=86,SNR=32
BW06 Boulder Array 85.63 334 eP P 17 56 11.4 -0.4
comp=Z,40nm,1.2s
PDAR Pinedale Array 85.63 334 P P 17 56 11.3 -0.4
comp=Z,14nm,0.9s,baz=155,slow=4.9,SNR=37
J20A Shoshoni 85.64 335 ⇑P P 17 56 12.5 +0.9
baz=86,SNR=33
EYMN Ely 85.69 348 eP P 17 56 11.2 -0.4
comp=Z,24nm,1.0s
G26A Maurine 85.70 340 ⇑P P 17 56 11.9 +0.2
baz=86,SNR=24
F28A McLaughlin 85.72 341 ⇑P P 17 56 12.2 +0.4

baz=86,SNR=9.5
H24A Dirks Ranch, A 85.77 338 ⇑P P 17 56 12.2 +0.1
baz=86,SNR=28
I21A Big Trails, Te 85.78 336 ⇓P P 17 56 12.4 +0.1
baz=86,SNR=27
G25A Newell 85.84 339 ⇓P P 17 56 12.9 +0.5
baz=86,SNR=14
E30A Jud 85.85 342 ⇓P P 17 56 12.9 +0.4
baz=86,SNR=8.6
J19A Crowheart 85.89 335 ⇑P P 17 56 13.1 +0.2
baz=86,SNR=22
TOA0 Torodi Ar. Sit 85.91 70 eP P 17 56 13.9 +0.5
TORD Torodi Ar. Bea 85.91 70 P P 17 56 13.3 -0.1
comp=Z,18nm,0.9s,baz=239,slow=4.3,SNR=20
HVU Hansel Valley 85.97 331 eP P 17 56 13.1 -0.2
HVU pmax pmax
comp=Z,44nm,0.8s
HVU Hansel Valley 85.97 331 eP P 17 56 13.1 -0.2
comp=Z,44nm,0.8s
WAKR Walker 86.04 325 eP P 17 56 14.6 +0.8
ELK Elko 86.07 329 eP P 17 56 14.4 +0.5
ELK pmax pmax
comp=Z,15nm,0.9s
ELK Elko 86.07 329 eP P 17 56 14.4 +0.5
comp=Z,15nm,0.9s
F27A Lemmon 86.07 340 ⇓P P 17 56 14.0 +0.4
baz=86,SNR=45
E29A Napoleon 86.09 342 ⇑P P 17 56 13.7 +0.1
baz=86,SNR=5.4
CMB Columbia Colle 86.10 324 eP P 17 56 15.4 +1.5
CMB pmax pmax
comp=Z,17nm,1.3s
CMB Columbia Colle 86.10 324 eP P 17 56 15.4 +1.5
comp=Z,16nm,1.3s
H22A Clearmont 86.18 337 ⇑P P 17 56 14.4 +0.2
baz=86,SNR=21
I20A Worland 86.18 335 ⇓P P 17 56 14.7 +0.5
baz=86,SNR=35
AHID Auburn Hatcher 86.19 333 eP P 17 56 14.1 -0.4
comp=Z,39nm,1.2s
F26A Lodgepole 86.23 340 ⇑P P 17 56 14.7 +0.4
baz=87,SNR=22
G24A Alzada 86.25 338 ⇓P P 17 56 14.5 0.0
baz=87,SNR=11
E28A Huff 86.37 341 ⇓P P 17 56 15.2 +0.2
baz=87,SNR=7.3
D30A Buchanan 86.38 343 ⇓P P 17 56 15.0 0.0
baz=87,SNR=10
G23A Biddle 86.43 338 ⇓P P 17 56 15.2 -0.3
baz=87,SNR=19
H21A Big Horn, Sher 86.43 336 ⇓P P 17 56 14.9 -0.6
baz=87,SNR=19
E27A Carson 86.46 341 ⇑P P 17 56 15.6 +0.2
baz=87,SNR=11
F25A Bowman 86.52 339 ⇑P P 17 56 16.0 +0.2
baz=87,SNR=16
D29A Pettibone, Tap 86.54 342 ⇑P P 17 56 15.7 -0.1
baz=87,SNR=15
I19A Meeteetse 86.55 335 ⇑P P 17 56 16.4 +0.2
baz=87,SNR=10
REDW Red Top Meadow 86.61 333 eP P 17 56 16.6 0.0
comp=Z,47nm,1.2s
H20A Greybull 86.62 336 ⇓P P 17 56 16.2 -0.2
baz=87,SNR=20
BMN Battle Mountai 86.64 328 eP P 17 56 16.8 +0.2
BMN pmax pmax
comp=Z,7.0nm,0.8s
BMN Battle Mountai 86.64 328 eP P 17 56 16.8 +0.2
comp=Z,7.3nm,0.8s
G22A Birney 86.72 337 ⇑P P 17 56 16.7 -0.2
baz=87,SNR=13
F24A Ekalaka 86.73 339 ⇑P P 17 56 16.6 -0.3
baz=87,SNR=22
E26A Carlson Angus 86.74 340 ⇓P P 17 56 17.0 +0.1
baz=87,SNR=29
LOHW Long Hollow 86.74 334 eP P 17 56 17.2 +0.1
comp=Z,18nm,0.9s
TPAW Teton Pass 86.76 333 eP P 17 56 17.2 -0.1
comp=Z,39nm,0.8s
AGMN Agassiz Nation 86.86 345 ⇓P P 17 56 17.4 0.0
baz=87
C30A Mose, Pekin 86.88 343 ⇓P P 17 56 18.0 +0.6
baz=87,SNR=47
F23A Volborg 86.90 338 ⇑P P 17 56 17.6 -0.1
baz=87,SNR=7.5
D28A Regan 86.91 342 ⇓P P 17 56 18.0 +0.4
baz=87,SNR=20
FXWY Fox Creek 86.92 333 eP P 17 56 18.0 -0.1
comp=Z,14nm,1.0s
I17A Pilgrim Ck. 87.00 334 ⇑P P 17 56 19.3 +0.8
baz=87,SNR=32
G21A Lodge Grass 87.02 337 ⇓P P 17 56 18.6 +0.3
baz=87,SNR=9.4
E25A Miller Ranch, 87.03 340 ⇓P P 17 56 18.5 +0.2
baz=87,SNR=17
D27A Center 87.08 341 ⇓P P 17 56 18.5 +0.1
baz=87,SNR=8.5
H19A Powell 87.11 335 ⇓P P 17 56 19.0 +0.2
baz=88,SNR=11
IMW Indian Meadow 87.11 334 eP P 17 56 19.1 +0.1
comp=Z,29nm,0.9s
FLWY Flagg Ranch 87.19 334 eP P 17 56 19.6 +0.3
comp=Z,37nm,0.8s
D26A Manning 87.25 340 ⇓P P 17 56 19.9 +0.6
baz=88,SNR=51
G20A Bridger 87.34 336 ⇓P P 17 56 19.5 -0.4
baz=88,SNR=15
E24A Baker 87.34 339 ⇑P P 17 56 20.2 +0.4
baz=88,SNR=14
H18A Shoshone NF, C 87.34 335 ⇓P P 17 56 20.2 +0.2
baz=88,SNR=18
H17A Grant Village 87.42 334 eP P 17 56 21.8 +1.3
comp=Z,13nm,1.1s
H17A Grant Village 87.42 334 ⇑P P 17 56 21.6 +1.1
baz=88
F21A Absaloka Mine, 87.52 337 ⇓P P 17 56 21.0 +0.3
baz=88
B30A Myrvik Farm, E 87.54 344 ⇑P P 17 56 21.0 +0.3
baz=88,SNR=47
YFT Old Faithful 87.56 334 eP P 17 56 22.9 +1.8
comp=Z,24nm,1.0s
E23A Ismay 87.57 338 ⇓P P 17 56 21.2 +0.3
baz=88
D25A Fairfield 87.60 340 ⇑P P 17 56 21.8 +0.8
baz=88,SNR=12
C27A Sayler Ranch, 87.63 341 ⇓P P 17 56 21.8 +0.7
baz=88,SNR=35
E22A Miles City 87.71 338 ⇑P P 17 56 21.4 -0.1
baz=88,SNR=8.1
YNR Norris Junctio 87.73 334 eP P 17 56 23.4 +1.5
comp=Z,8.4nm,1.0s
YMR Madison River 87.79 334 eP P 17 56 22.4 +0.2
comp=Z,38nm,1.0s
B29A Wagenman Farm, 87.80 343 ⇓P P 17 56 22.1 +0.3
baz=88,SNR=26
F20A Billings 87.83 336 ⇑P P 17 56 21.9 -0.3
baz=88
D24A Glendive 87.85 339 ⇓P P 17 56 22.9 +0.7
baz=88,SNR=12
C26A Wahner Farm, P 87.89 341 ⇓P P 17 56 22.9 +0.6
baz=88,SNR=18
A30A Hoffart Farm, 88.00 344 ⇑P P 17 56 22.8 0.0
baz=88,SNR=23
LAO LASA Array 88.02 338 eP P 17 56 22.3 -0.8
comp=Z,24nm,0.9s
B28A Dugan Ranch, T 88.02 342 ⇑P P 17 56 23.7 +0.7
baz=88,SNR=18
C25A Freed Ranch, W 88.09 340 ⇓P P 17 56 24.3 +1.0
baz=88
QLMT Earthquake Lak 88.09 334 eP P 17 56 24.4 +0.7
HLID Hailey 88.12 331 eP P 17 56 24.5 +0.8
comp=Z,24nm,1.3s
HLID Hailey 88.12 331 ⇑P P 17 56 24.9 +1.2
baz=88,SNR=12
F19A Roth Farm, Mol 88.14 336 ⇑P P 17 56 23.5 -0.1
baz=88,SNR=7.0
E21A Keefer Ranch, 88.15 337 ⇓P P 17 56 23.8 +0.2
baz=88,SNR=5.5
D23A Lindsay 88.16 339 ⇑P P 17 56 24.4 +0.7
baz=88
A29A Manning Farm, 88.20 343 ⇑P P 17 56 23.9 +0.2
baz=89,SNR=42
B27A Peters Farms, 88.21 342 ⇓P P 17 56 24.4 +0.6
baz=89,SNR=5.3
C24A Savage 88.25 339 ⇓P P 17 56 24.4 +0.3
baz=89,SNR=27
GCMT Greycliff 88.32 335 eP P 17 56 23.4 -1.2
comp=Z,6.1nm,1.0s

D22A Cohagen 88.42 338 ⇑P P 17 56 25.1 +0.2
baz=89,SNR=6.7
A28A Rude Farm, Bot 88.43 342 ⇓P P 17 56 25.0 +0.1
baz=89,SNR=13
B26A Jensen Ranch, 88.43 341 ⇓P P 17 56 25.5 +0.6
baz=89
E20A Meyer Farm, Mu 88.45 337 ⇓P P 17 56 25.1 0.0
baz=89,SNR=11
MFID Camas Ranch 88.55 330 eP P 17 56 25.2 -0.5
B25A Knox Farm, Ray 88.58 340 ⇓P P 17 56 26.3 +0.7
baz=89,SNR=11
MCMT McKenzie Canyo 88.61 333 eP P 17 56 26.6 +0.5
MCMT e 17 56 36.3
E19A Rath Farm, Rou 88.62 336 ⇓P P 17 56 25.9 0.0
baz=89,SNR=17
A27A Ledoux Ranch, 88.71 342 ⇓P P 17 56 26.8 +0.6
baz=89,SNR=5.9
C23A Lambert 88.72 339 ⇑P P 17 56 26.5 +0.2
baz=89,SNR=12
ULM Lac du Bonnet 88.72 346 eP P 17 56 25.4 -0.7
ULM Lac du Bonnet 88.72 346 P P 17 56 25.6 -0.5
comp=Z,21nm,0.8s,baz=178,slow=4.2,SNR=26
ULM Lac du Bonnet 88.72 346 eP P 17 56 25.4 -0.7
A26A Wade Farm, Ken 88.86 341 ⇓P P 17 56 27.2 +0.3
baz=89,SNR=8.4
C22A Vida 88.87 339 ⇑P P 17 56 27.5 +0.5
baz=89
BOZ Bozeman (W) 88.87 334 eP P 17 56 27.4 +0.2
BOZ pmax pmax
comp=Z,8.0nm,1.0s
BOZ Bozeman (W) 88.87 334 eP P 17 56 27.4 +0.2
comp=Z,7.5nm,1.0s
WVOR Wild Horse Val 88.89 328 eP P 17 56 27.7 +0.3
WVOR pmax pmax
comp=Z,29nm,1.3s
WVOR Wild Horse Val 88.89 328 eP P 17 56 27.7 +0.3
comp=Z,29nm,1.3s
D20A Manuel Ranch, 88.97 337 ⇑P P 17 56 27.1 -0.4
baz=89,SNR=9.1
DLMT Dillon 88.97 333 eP P 17 56 28.5 +0.8
comp=Z,26nm,1.3s
DGMT Dagmar 89.05 340 eP P 17 56 27.1 -0.7
comp=Z,49nm,1.0s
DGMT e 17 56 37.2
DGMT Dagmar 89.05 340 ⇑P P 17 56 28.0 +0.2
baz=89,SNR=6.2
A25A Svangstu Ranch 89.18 341 ⇓P P 17 56 29.2 +0.8
baz=90
MOD Modoc 89.18 327 eP P 17 56 29.1 +0.4
comp=Z,22nm,1.1s
B23A Brockton 89.26 339 ⇑P P 17 56 28.8 0.0
baz=90
D19A Cripps Ranch, 89.27 337 ⇑P P 17 56 29.3 +0.4
baz=90
LRM Limekiln Ridge 89.31 334 eP P 17 56 29.3 -0.1
B22A Reddig Ranch S 89.40 339 ⇓P P 17 56 29.8 +0.3
baz=90,SNR=6.6
A24A Westby 89.41 340 ⇑P P 17 56 29.8 +0.3
baz=90
A23A Redstone 89.68 340 ⇓P P 17 56 31.5 +0.8
baz=90
M04C Macdoel 89.77 326 ⇑P P 17 56 32.6 +1.1
baz=90
B21A Ellsworth Farm 89.82 338 ⇑P P 17 56 31.4 0.0
baz=90
LSZ Lusaka 89.85 109 eP P 17 56 34.5 +1.9
LSZ e 17 56 42.6
LSZ pmax pmax
comp=Z,26nm,1.2s
LSZ Lusaka 89.85 109 eP P 17 56 34.5 +1.9
comp=Z,26nm,1.2s
LSZ e 17 56 42.6
A22A Carney Farms, 90.00 339 ⇑P P 17 56 32.5 +0.2
baz=90,SNR=12
K05A Summer Lake 90.10 327 eP P 17 56 34.5 +1.4
comp=Z,69nm,1.5s
B20A Solberg Farm, 90.13 338 ⇓P P 17 56 32.6 -0.3
baz=90,SNR=8.5
A21A Bergtoll Ranch 90.30 339 ⇑P P 17 56 33.4 -0.2
baz=91,SNR=12
EGMT Eagleton 90.31 336 eP P 17 56 33.4 -0.4
comp=Z,9.4nm,1.0s
EGMT Eagleton 90.31 336 ⇑P P 17 56 33.5 -0.3
baz=91
BMO Blue Mountains 90.33 330 eP P 17 56 34.2 +0.2
comp=Z,9.9nm,1.2s
B19A Brinkman Farms 90.43 337 ⇑P P 17 56 34.4 +0.1
baz=91,SNR=6.3
A20A Cobblestone Ra 90.50 338 ⇓P P 17 56 34.4 -0.2
baz=91,SNR=8.5
CHMT Chamberlain Mo 90.54 334 eP P 17 56 35.6 +0.6
I07A Izee 90.60 329 eP P 17 56 36.5 +1.2
MSO Missoula 90.71 333 eP P 17 56 37.1 +1.4
comp=Z,30nm,1.8s
MSO Missoula 90.71 333 ⇑P P 17 56 36.8 +1.1
baz=91
A19A Klindworth Far 90.79 337 ⇓P P 17 56 35.8 -0.2
baz=91,SNR=8.5
SLMT Seeley Lake 90.90 334 eP P 17 56 36.3 -0.4
SCHQ Schefferville 91.17 4 P P 17 56 37.1 -0.4
comp=Z,6.2nm,0.9s,baz=212,slow=7.1,SNR=4.6
F10A Beach Ranch, E 91.23 331 eP P 17 56 38.3 +0.2
comp=Z,17nm,1.0s
SWMT Swartz Lake 91.31 334 eP P 17 56 38.3 -0.2
G08A Pilot Rock 91.36 330 eP P 17 56 39.3 +0.5
comp=Z,77nm,2.3s
YBMT Yellow Bay 91.62 334 eP P 17 56 39.7 -0.2
YBMT e 17 56 49.6
BLMT Blacktail Moun 91.87 334 eP P 17 56 39.3 -1.9
BLMT e 17 56 50.8
BSMT Bassoo Peak 91.88 333 eP P 17 56 40.8 -0.4
E09A Wood Farm, Sta 92.03 331 eP P 17 56 41.5 -0.2
comp=Z,7.2nm,0.9s
HAWA Hanford 92.49 330 eP P 17 56 44.0 +0.1
comp=Z,20nm,1.1s
HAWA e 17 56 53.8
WALA Waterton Lakes 92.60 335 eP P 17 56 44.4 0.0
WALA e 17 56 52.2
E07A Sunnyside 92.75 330 eP P 17 56 46.0 +0.9
comp=Z,14nm,1.0s
D08A Wollman Farm, 92.79 331 eP P 17 56 45.8 +0.6
comp=Z,10nm,0.8s
OD2 Odessa Site #2 92.98 331 P P 17 56 46.6 +0.5
NEW Newport 93.09 332 eP P 17 56 46.2 -0.4
NEW pmax pmax
comp=Z,39nm,2.0s
NEW Newport 93.09 332 P P 17 56 45.9 -0.7
comp=Z,4.0nm,0.9s,baz=138,slow=5.5,SNR=7.9
NEW Newport 93.09 332 eP P 17 56 46.2 -0.4
comp=Z,39nm,2.0s
NEW Newport 93.09 332 ⇑P P 17 56 46.4 -0.2
baz=93
C09A Chrisman Ranch 93.14 331 eP P 17 56 47.5 +0.6
comp=Z,15nm,1.2s
EBG Ellensburg 93.33 330 P P 17 56 48.8 +1.0
ETW Entiat 93.79 330 P P 17 56 50.2 +0.2
TAM Tamanrasset 94.71 65 eP P 17 56 55.9 +1.1
TAM pmax pmax
comp=Z,11nm,0.9s
TAM Tamanrasset 94.71 65 eP P 17 56 55.9 +1.1
comp=Z,11nm,0.9s
EDM Edmonton 95.96 337 eP P 17 56 57.7 -2.0
EDM Edmonton 95.96 337 eP P 17 56 57.6 -2.0
FCC Fort Churchill 96.54 349 eP P 17 57 01.8 -0.2
FCC Fort Churchill 96.54 349 eP P 17 57 01.8 -0.2
ESDC Sonseca Array 98.97 47 P Pdif 17 57 14.9 +1.3
comp=Z,2.1nm,0.7s,baz=248,slow=4.6,SNR=7.1
YKA Yellowknife Ar 104.17 342 P Pdif 17 57 35.0 -1.1
YKA Yellowknife Ar 104.17 342 Pdiff Pdif 17 57 35.0 -1.1
comp=Z,1.4nm,1.0s,baz=145,slow=4.0,SNR=8.1
YKA PKiKP PKiKP 18 01 49.5 -3.2
comp=Z,1.4nm,0.9s,baz=143,slow=7.9,SNR=7.8
GERES GERESS Array B 114.56 46 PKP PKPdf 18 02 12.4 -0.5
comp=Z,4.4nm,0.9s,baz=225,slow=1.3,SNR=20
KHC Kasperske Hory 114.62 46 ePKIKP PKPdf 18 02 13.3 +0.4
KHC e 18 02 22.6
KHC Kasperske Hory 114.62 46 ePKP PKPdf 18 02 13.3 +0.4
KHC epPKP PKiKP 18 02 22.6 +10
CLL Collm 115.30 44 ePKIKP PKPdf 18 02 14.0 0.0
CLL e 18 02 23.0
CLL Collm 115.30 44 ePKiKP PKPdf 18 02 14.0 0.0
CLL e(pPKiKP) 18 02 23.0
CLL ePP PP 18 03 21.0 +5.2
TREC Trest 115.81 47 ePKIKP PKPdf 18 02 15.8 +0.7
TREC Trest 115.81 47 ePKP PKPdf 18 02 15.8 +0.7
ILAR Eielson Array 116.04 333 PKP PKPdf 18 02 14.6 -0.5

comp=Z,0.5nm,0.8s,baz=175,slow=1.2,SNR=5.6
PKSM Moragy 116.35 51 ⇓PKIKP PKPdf 18 02 16.3 +0.1
PKSM Moragy 116.35 51 ⇓iP PKPdf 18 02 16.3 +0.1
VRAC Vranov 116.47 47 ⇓PKIKP PKPdf 18 02 16.6 +0.2
VRAC Vranov 116.47 47 ⇓iP PKPdf 18 02 16.6 +0.2
DPC Dobruska-Polom 116.76 46 ePKIKP PKPdf 18 02 17.4 +0.4
DPC e 18 02 25.3
DPC Dobruska-Polom 116.76 46 ePKP PKPdf 18 02 17.4 +0.4
DPC ex x 18 02 25.3
KRLC Kraliky 116.91 46 ePKIKP PKPdf 18 02 16.0 -1.3
KRLC e 18 02 26.2
KRLC Kraliky 116.91 46 ePKP PKPdf 18 02 16.0 -1.3
KRLC epPKP pPKPdf 18 02 26.2 -1.6
MORC Moravsky Berou 117.22 47 ⇓PKIKP PKPdf 18 02 17.8 -0.1
MORC Moravsky Berou 117.22 47 ⇓iP PKPdf 18 02 17.8 -0.1
MORC Moravsky Berou 117.22 47 ePKPdf PKPdf 18 02 17.0 -0.9
VYHS Vyhne 117.45 49 ePKIKP PKPdf 18 02 18.3 0.0
VYHS Vyhne 117.45 49 ePKP PKPdf 18 02 18.3 0.0
OKC Ostrava-Krasne 117.61 47 ePKIKP PKPdf 18 02 17.8 -0.7
OKC e 18 02 26.6
OKC Ostrava-Krasne 117.61 47 ePKP PKPdf 18 02 17.8 -0.7
OKC epPKP pPKPdf 18 02 26.6 -2.5
MMB Musomiste 117.66 57 ⇑PKIKP PKPdf 18 02 18.6 -0.4
MMB Musomiste 117.66 57 ⇑iP PKPdf 18 02 18.6 -0.4
BZS Buzias 117.97 52 ⇓PKIKP PKPdf 18 02 19.2 -0.2
BZS Buzias 117.97 52 ⇓iP PKPdf 18 02 19.1 -0.3
WRA Warramunga Arr 118.11 209 PKP PKPdf 18 02 18.9 -1.7
comp=Z,0.9nm,0.7s,baz=159,slow=1.7,SNR=5.0
GZR Gura Zlata 118.62 53 ⇑PKIKP PKPdf 18 02 20.7 0.0
GZR Gura Zlata 118.62 53 ⇑iP PKPdf 18 02 20.7 0.0
NB2 NORSAR Subarra 118.63 33 PKKP 18 12 44.5
comp=Z,1.7nm,0.7s,baz=66,slow=1.9
KDZ Kurdzhali 118.83 58 ⇑PKIKP PKPdf 18 02 20.4 -0.8
KDZ Kurdzhali 118.83 58 ⇑iP PKPdf 18 02 20.4 -0.8
DRGR 119.14 52 ⇑PKIKP PKPdf 18 02 21.8 +0.1
DRGR 119.14 52 ⇑iP PKPdf 18 02 21.8 +0.1
CRVS Cervenica-Dubn 119.21 49 ePKIKP PKPdf 18 02 22.0 +0.3
CRVS Cervenica-Dubn 119.21 49 ePKP PKPdf 18 02 22.0 +0.3
STHS Stebnicka Huta 119.28 48 ePKIKP PKPdf 18 02 22.4 +0.6
STHS Stebnicka Huta 119.28 48 ePKP PKPdf 18 02 22.3 +0.5
LOT Lotru 119.28 53 ⇑iP PKPdf 18 02 26.1 +4.0
TRPA Tarpa 119.56 50 ⇑iP PKPdf 18 02 22.5 +0.2
UZH Uzhgorod 119.61 49 ePKIKP PKPdf 18 02 29.0 +6.6
KOLS Kolonicke sedl 119.71 49 ePKIKP PKPdf 18 02 23.0 +0.4
KOLS Kolonicke sedl 119.71 49 ePKP PKPdf 18 02 23.0 +0.4
ARR Arges 119.81 54 ⇑iP PKPdf 18 02 23.7 +0.7
JMB Yambol 119.95 57 ⇑PKIKP PKPdf 18 02 22.3 -1.0
JMB Yambol 119.95 57 ⇑iP PKPdf 18 02 22.3 -1.0
VOIR 120.11 54 ⇑PKIKP PKPdf 18 02 22.9 -0.7
VOIR 120.11 54 ⇑iP PKPdf 18 02 22.9 -0.7
KWP Kalwaria Pacla 120.24 48 ⇑PKIKP PKPdf 18 02 24.0 +0.4
KWP Kalwaria Pacla 120.24 48 ePKP PKPdf 18 02 24.1 +0.4
KWP Kalwaria Pacla 120.24 48 ⇑iP PKPdf 18 02 24.0 +0.4
DOPR Dopca 120.53 53 ⇑iP PKPdf 18 02 23.6 -0.7
EIL Elat 120.63 74 PKP PKPdf 18 02 25.7 +0.7
comp=Z,5.4nm,0.9s,baz=332,slow=4.1,SNR=4.7
MLR Muntele Rosu 120.71 54 ⇓PKIKP PKPdf 18 02 24.2 -0.6
MLR Muntele Rosu 120.71 54 ⇓iP PKPdf 18 02 24.2 -0.6
MLR Muntele Rosu 120.71 54 PKP PKPdf 18 02 24.0 -0.8
comp=Z,1.6nm,0.9s,baz=264,slow=1.7,SNR=12
PRD Provadia 120.80 57 ⇓PKIKP PKPdf 18 02 25.4 +0.5
BUR08 Bucovina Ar. S 121.04 51 ePKPdf PKPdf 18 02 25.5 +0.1
BURAR Bucovina Array 121.04 51 ⇑PKIKP PKPdf 18 02 25.6 +0.2
BURAR Bucovina Array 121.04 51 ⇑iP PKPdf 18 02 25.6 +0.2
PLOR Plostina 121.30 54 ⇑PKIKP PKPdf 18 02 25.4 -0.4
PLOR Plostina 121.30 54 ⇑iP PKPdf 18 02 25.4 -0.4
VRI Vrincioaia 121.36 54 ⇓PKIKP PKPdf 18 02 25.3 -0.6
VRI Vrincioaia 121.36 54 ⇓iP PKPdf 18 02 25.3 -0.6
TESR Tescani 121.55 53 ⇓iP PKPdf 18 02 25.8 -0.4
TIRR Tirgusor 121.95 56 ⇓PKIKP PKPdf 18 02 25.6 -1.4
TIRR Tirgusor 121.95 56 ⇓iP PKPdf 18 02 25.6 -1.4
CFR Carcaliu 122.03 55 ⇑PKIKP PKPdf 18 02 27.1 -0.1
CFR Carcaliu 122.03 55 ⇑iP PKPdf 18 02 27.1 -0.1
SUW Suwalki 122.06 44 ePKIKP PKPdf 18 02 26.9 0.0
SUW Suwalki 122.06 44 ePKP PKPdf 18 02 26.8 -0.1
SUW Suwalki 122.06 44 ePKPdf PKPdf 18 02 25.9 -1.1
BRTR Keskin Array B 123.82 63 PKIKP PKPdf 18 02 31.0 0.0
BRTR Keskin Array B 123.82 63 PKP PKPdf 18 02 30.9 0.0
comp=Z,5.6nm,0.8s,baz=192,slow=2.9,SNR=25
NACGM Naroch 124.33 44 e PKPdf 18 02 28.0 -3.3
KIEV Kiev 124.53 49 ePKIKP PKPdf 18 02 30.8 -1.0
KIEV Kiev 124.53 49 ePKPdf PKPdf 18 02 30.8 -1.0
AK01 Malin Array Si 124.54 49 ePKPdf PKPdf 18 02 30.3 -1.5
AKASG Malin Array Be 124.55 49 PKP PKPdf 18 02 30.8 -1.1
comp=Z,7.5nm,0.8s,baz=264,slow=2.6,SNR=22
AKASG PP PP 18 04 16.1 -3.2
comp=Z,1.0nm,0.7s,baz=253,slow=8.4,SNR=5.8
AKBB Malin Array Si 124.55 49 ePKIKP PKPdf 18 02 30.7 -1.1
AKBB Malin Array Si 124.55 49 ePKPdf PKPdf 18 02 30.7 -1.1
SPITS Spitsbergen Ar 125.35 15 PKP PKPdf 18 02 32.9 +0.2
comp=Z,8.5nm,0.9s,baz=189,slow=3.9,SNR=5.7
FINES FINESS Array B 125.58 36 PKP PKPdf 18 02 33.0 -0.4
comp=Z,2.8nm,0.9s,baz=226,slow=5.6,SNR=5.7
ARCES ARCESS Array B 126.69 26 PKP PKPdf 18 02 35.1 -0.3
comp=Z,7.6nm,1.1s,baz=298,slow=1.9,SNR=4.2
MALT Malatya 126.78 66 ⇓PKIKP PKPdf 18 02 37.4 +0.7
MALT Malatya 126.78 66 ⇓iP PKPdf 18 02 37.4 +0.7
OBN Obninsk 129.88 45 i PKIKP PKPdf 18 02 40.7 -1.1
OBN i 18 02 49.7
OBN pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 130.77 50 ePKIKP PKPdf 18 02 43.1 -0.6
VSR pmax pmax
comp=Z,6.0nm,0.7s
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VORD Divnogorie 130.81 51 ePKIKP PKPdf 18 02 42.9 -0.8
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=Z,6.0nm,0.8s
VORD pmax pmax
comp=E,6.0nm,0.7s
KBZ Khabaz 131.65 61 PKhKP PKPpre 18 02 39.7
comp=E,2.1nm,0.8s,baz=316,slow=0.9,SNR=4.1
GOF Gofitskoye 132.06 59 ePKIKP PKPdf 18 02 45.6 -0.8
ZEI Tsey 132.12 62 ePKIKP PKPdf 18 02 43.1 -3.7
ZEI pmax pmax
comp=Z,12nm,1.3s
VRHR Novokhopersk 132.28 51 ePKIKP PKPdf 18 02 46.5 0.0
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,8.0nm,0.7s
BILL Bilibino 134.70 333 ePKIKP PKPdf 18 02 50.0 -0.6
BILL pmax pmax
comp=Z,6.0nm,1.2s
KAPI Kappang 136.94 199 ePKPdf PKPdf 18 02 57.7 +1.2
PETK Petropavlovsk- 141.22 312 PKhKP PKPpre 18 02 58.2
comp=Z,2.4nm,0.8s,baz=87,slow=3.0,SNR=2.6
GEYT Alibeck 141.51 73 PKhKP PKPpre 18 02 58.0
comp=Z,5.9nm,0.8s,baz=264,slow=4.5,SNR=11
ARU Arti 142.23 43 PKhKP PKPpre 18 02 59.9
ARU Arti 142.23 43 ePKPpre PKPpre 18 02 59.3
AKTO Aktyubinsk 142.62 52 PKhKP PKPpre 18 03 01.4
comp=Z,5.0nm,0.9s,baz=287,slow=4.2,SNR=8.9
TIXI Tiksi 143.01 349 ePKPdf PKPab 18 03 00.2 -0.8
SVE Sverdlovsk 143.27 42 ePKIKP PKPbc 18 03 04.7 +1.0
BKNI Bangkinang 143.57 170 ePKPdf PKPdf 18 03 10.1 +1.6
ABKAR Akbulak array 143.92 54 ePKPpre PKPab 18 03 05.8 +0.6
GOA Goa 143.92 117 eP PKPbc 18 03 07.5 +0.7
KSM Kuching 144.96 186 ePKPdf PKPab 18 03 10.0 -0.1
BHJ Bhuj 145.35 102 eP PKPab 18 03 11.6 +0.3
KAD Karad 145.37 115 eP PKPab 18 03 12.2 +0.6
POO Poona 145.89 113 eP PKPdf 18 03 09.8 -2.5
MDRS Chennai 146.59 128 eP PKPdf 18 03 11.9 -1.7
IPM Ipoh 147.65 169 ePKPdf PKPdf 18 03 15.0 -0.5
CMBY CAMPBELL BAY 148.32 155 eP PKPdf 18 03 15.3 -1.3
KKM Kota Kinabalu 148.47 198 ePKPdf PKPdf 18 03 14.9 -2.0
KKM ePKPbc PKPbc 18 03 19.5 -1.0
KKM ePKPab PKPab 18 03 27.3 +3.6
HYB Hyderabad 148.57 120 i PKP PKPbc 18 03 19.5 -1.0
HYB Hyderabad 148.57 120 eP PKPdf 18 03 16.5 -0.3
KBL Kabul 149.28 82 ePKPdf PKPdf 18 03 17.9 +0.1
KBL ePKPbc PKPbc 18 03 22.1 -0.1
BRVK Borovoye 149.65 45 ePKPdf PKPdf 18 03 17.6 +0.1
BRVK ePKPbc PKiKP 18 03 22.8 -0.4
BVAR Borovoye Array 149.72 45 PKP PKPdf 18 03 17.9 +0.3

comp=Z,3.5nm,0.9s,baz=17,slow=1.5,SNR=6.0
BVAR PKPbc PKiKP 18 03 23.2 -0.1
comp=Z,18nm,0.9s,baz=306,slow=3.2,SNR=24
YAK Yakutsk 150.78 338 ePKIKP PKPdf 18 03 18.0 -0.9
YAK e 18 03 23.8
YAK e 18 03 31.7
YAK Yakutsk 150.78 338 ePKPdf PKPdf 18 03 18.0 -0.9
YAK ePKPbc PKPbc 18 03 23.8 -0.7
YAK ePKPab PKPab 18 03 31.6 -0.1
BHPL Bhopal 151.37 109 eP PKPdf 18 03 21.8 +0.6
KKAR Karatay Array 151.48 65 ePKIKP PKPdf 18 03 18.3 -2.4
KKAR e 18 03 26.8
KKAR e 18 03 34.9
KKAR Karatay Array 151.48 65 ePKPdf PKPdf 18 03 18.3 -2.4
KKAR ePKPbc PKPbc 18 03 26.8 -0.1
KKAR ePKPab PKPab 18 03 34.9 -0.5
YSS Yuzh-Sakhalins 151.50 303 ePKIKP PKPbc 18 03 25.5 -1.2
YSS e 18 03 35.0
VIS Vishakhapatnam 152.02 126 eP PKPdf 18 03 21.5 -0.7
PBA Port Blair 152.14 149 eP PKPdf 18 03 21.5 -0.9
DGPR DIGLIPUR 153.59 148 eP PKPdf 18 03 24.8 +0.2
EKS2 Erkin-Say 153.89 66 ePKIKP PKPdf 18 03 25.2 +0.8
EKS2 e 18 03 33.1
EKS2 Erkin-Say 153.89 66 ePKPdf PKPdf 18 03 25.2 +0.8
EKS2 ePKPbc PKiKP 18 03 33.1 +0.6
AAK Ala-Archa 154.42 66 ePKIKP PKPdf 18 03 26.0 +0.8
AAK e 18 03 34.0
AAK Ala-Archa 154.42 66 PKP PKPdf 18 03 26.3 +1.2
comp=Z,5.4nm,0.8s,baz=210,slow=4.4,SNR=3.8
AAK PKPbc PKiKP 18 03 33.9 +0.4
comp=Z,14nm,0.9s,baz=173,slow=4.2,SNR=9.5
AAK PKPab PKPab 18 03 49.2 +1.2
comp=Z,37nm,0.9s,baz=200,slow=2.6,SNR=13
AAK Ala-Archa 154.42 66 ePKPdf PKPdf 18 03 26.0 +0.8
AAK ePKPbc PKiKP 18 03 34.0 +0.4
AAK PKPab PKPab 18 03 49.2 +1.2
DHRM DHARAMSHALA 154.47 91 eP PKPdf 18 03 25.8 +0.1
SMLA Simla 154.80 94 eP PKPdf 18 03 25.0 -0.8
MJAR Matsushiro Arr 154.87 279 PKPbc PKPbc 18 03 33.1 -1.4
comp=Z,2.6nm,1.0s,baz=48,slow=1.9,SNR=4.3
DDI Dehra Dun 155.22 96 eP PKPdf 18 03 26.0 -0.5
KURK Kurchatov 155.31 46 ePKIKP PKPdf 18 03 25.6 -0.2
KURK Kurchatov 155.31 46 ePKPdf PKPdf 18 03 25.6 -0.2
KSH Kashi 155.54 74 ePKP PKPdf 18 03 27.3 +0.5
KSH epPKP pPKPdf 18 03 36.0 -1.3
KSH esPKP 18 03 41.0
KSH eSKS SKSdf 18 10 27.8 -3.0
KSH eSKKS SKKSac 18 14 15.3 -1.8
KSH eSS SS 18 27 10.0 -4.6
KSH AMB AMB
comp=Z,170nm,8.0s
KSH LR LR
comp=Z,790nm,5.4s
NVS Novosibirsk 155.55 34 ePKIKP PKPdf 18 03 24.1 -1.9
NVS pmax pmax
comp=Z,25nm,0.9s
ZAA0 Zalesovo Array 156.83 34 ePKPdf PKPdf 18 03 26.8 -1.0
ZAA0 ePKPab PKPab 18 03 58.3 +0.7
ZALV Zalesovo Beam 156.83 34 PKP PKPdf 18 03 27.3 -0.5
comp=Z,15nm,0.8s,baz=294,slow=2.2,SNR=13
ZALV PKPab PKPab 18 03 58.6 +1.0
comp=Z,18nm,0.9s,baz=302,slow=5.4,SNR=8.2
KLR Kul'dur 157.91 313 ePKIKP PKPdf 18 03 31.4 +2.1
BOD Bodaibo 158.19 350 ePKP2 PKPab 18 04 02.9 -0.4
BOD pmax pmax
comp=Z,23nm,0.9s
KOLN Koldanda 158.49 107 eP PKPdf 18 03 30.1 -0.9
comp=Z,26nm,1.1s
DANN Dangsing 158.89 106 eP PKPdf 18 03 31.3 -0.3
comp=Z,46nm,1.0s
MK31 Makanchi Array 159.05 53 ePKIKP PKPdf 18 03 30.5 -0.3
MK31 e 18 04 07.5
MK31 Makanchi Array 159.05 53 ePKPdf PKPdf 18 03 30.5 -0.3
MK31 ePKPab PKPab 18 04 07.5 -0.1
MKAR Makanchi Array 159.05 53 PKP PKPdf 18 03 30.9 +0.1
comp=Z,6.2nm,0.8s,baz=318,slow=1.6,SNR=11
MKAR PKPab PKPab 18 04 08.1 +0.5
comp=Z,14nm,0.8s,baz=274,slow=3.3,SNR=11
MKAR PP PP 18 07 49.8 +0.8
comp=Z,4.6nm,0.9s,baz=292,slow=3.8,SNR=9.0
GKN Gorkha 159.40 108 eP PKPdf 18 03 31.1 -0.9
comp=Z,30nm,1.3s
PKIN Phulchoki 159.76 110 eP PKPdf 18 03 31.6 -1.0
PKI Pulchoki 159.77 110 eP PKPdf 18 03 31.7 -0.9
KKN Kakani 159.78 109 eP PKPdf 18 03 31.8 -0.7
GUN Gumba 160.30 110 eP PKPdf 18 03 32.5 -0.8
RAMN Ramite 160.32 113 eP PKPdf 18 03 33.0 -0.2
JIRN Jiri 160.40 111 eP PKPdf 18 03 32.4 -1.0
CMAR Chiang Mai Arr 160.68 157 PKP PKPdf 18 03 33.4 -0.1
comp=Z,0.9nm,0.9s,baz=238,slow=2.4,SNR=4.4
ODAN Odare 160.85 115 eP PKPdf 18 03 33.5 -0.2
TAPN Taplejung 161.36 114 eP PKPdf 18 03 33.7 -0.7
SHL Shillong 163.16 126 eP PKPdf 18 03 34.7 -1.3
WMQ Urumqi 163.66 58 ePKP PKPdf 18 03 36.0 +0.2
WMQ LR LR
comp=Z,870nm,20.0s
WMQ LR LR
comp=Z,2μm,19.0s
WMQ LR LR
comp=Z,1μm,19.6s
MOY Mondy 164.31 14 ePKP2 PKPab 18 04 31.4 +1.0
LSA Lhasa 165.18 113 ePKIKP PKPdf 18 03 38.1 0.0
LSA e 18 04 35.8
LSA Lhasa 165.18 113 ePKPdf PKPdf 18 03 38.1 0.0
LSA ePKPab PKPab 18 04 35.8 +0.3
ZAK Zakamensk 165.92 9⇑ePKIKP PKPdf 18 03 46.3 +8.7
ZAK pmax pmax
comp=Z,2.0nm,1.4s
ULN Ulaanbaatar 168.68 359 ePKIKP PKPdf 18 03 37.9 -1.8
ULN e 18 04 50.4
ULN Ulaanbaatar 168.68 359 ePKPdf PKPdf 18 03 37.9 -1.8
ULN ePKPab PKPab 18 04 50.4 +0.5
SONM Songino Array 168.71 2 PKP PKPdf 18 03 38.7 -1.0
comp=Z,1.6nm,0.9s,baz=128,slow=1.4,SNR=5.9
SONM PKPab PKPab 18 04 50.6 +0.7
comp=Z,6.0nm,0.8s,baz=341,slow=2.9,SNR=20
SONM PP PP 18 08 42.7 +4.1
comp=Z,1.5nm,1.1s,baz=343,slow=4.6,SNR=3.9
NJ2 Nanjing 169.12 249 ePKP PKPdf 18 03 41.8 +1.5
GYA Guiyang 169.95 179 iPKP PKPdf 18 03 40.5 -0.7
GYA pPKP pPKPdf 18 03 52.5 +0.7
GYA PKPab PKPab 18 04 57.3 +1.4
GYA PKS PKSdf 18 07 12.0 -1.8
GYA PP PP 18 08 48.5 +3.6
GYA SKKS 18 15 30.0
GYA SS SS 18 29 41.5 +0.4
GYA AMB AMB
comp=Z,180nm,8.2s
GYA LR LR
comp=Z,180nm,21.2s
GYA LR LR
comp=Z,170nm,21.5s
GTA Gaotai 173.73 61 PKP PKPdf 18 03 42.5 -0.1
GTA pPKP pPKPdf 18 03 53.3 +0.1
GTA sPKP 18 03 57.0
GTA PKPab PKPab 18 05 14.0 +1.3
GTA PP PP 18 09 07.8 +2.8
GTA SKS SKSdf 18 10 40.3 -3.1
GTA SKKS SKKSac 18 15 49.0 +0.1
GTA SS SS 18 30 18.8 -1.8
GTA AMB AMB
comp=Z,1μm,6.1s
GTA LR LR
comp=Z,950nm,20.2s
GTA LR LR
comp=Z,1μm,19.8s
GTA LR LR
comp=Z,4μm,17.3s
CD2 Chengdu 173.82 154 PKP PKPdf 18 03 42.5 -0.3
CD2 pPKP pPKPdf 18 03 53.8 +0.4
CD2 sPKP 18 03 57.5
CD2 PKS PKSdf 18 07 13.3 -1.8
CD2 PP PP 18 09 08.0 +3.7
CD2 SKS SKSdf 18 10 40.3 -3.3
CD2 SKKS SKKSac 18 15 48.8 -0.2
CD2 SS SS 18 30 19.0 -0.4
CD2 AMB AMB
comp=Z,320nm,6.4s
HHC Hu-ho-hao-te 174.34 321 ePKP PKPdf 18 03 39.0 -3.7
HHC pPKP pPKPdf 18 03 48.5 -4.8
HHC sPKP 18 03 53.8
HHC AMB AMB
comp=Z,380nm,5.5s
HHC LR LR
comp=Z,790nm,13.5s
HHC LR LR
comp=Z,940nm,22.9s
HHC LR LR
comp=Z,2μm,17.6s
XAN Xi'an 176.99 215 PKP PKPdf 18 03 51.0 +7.5
LZH Lanzhou 177.52 100 ePKP PKPdf 18 03 43.8 +0.1
LZH pPKP pPKPdf 18 03 52.5 -1.8
LZH sPKP 18 03 59.5
LZH PP PP 18 09 26.5 +3.0
LZH eSKKS 18 16 08.0
LZH eSS SS 18 30 55.0 -2.5
LZH AMB AMB
comp=Z,400nm,6.4s
LZH LR LR
comp=Z,3μm,18.6s
LZH LR LR
comp=Z,2μm,18.2s
LZH LR LR
comp=Z,3μm,19.0s

IDC 27 17:49:35.5±0.9, 37°.71S×73°.54W, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.4/17, mbtmp4.2/10, ML3.6/1, Error ellipse: s-maj=36.5km s-min=19.2km az=69.0
ISCJB 27 17:49:38.0±0.6, 37°.71S±0°.07×73°.5W±0°.2, h23km, mb4.3/12, Error ellipse: s-maj=18.6km s-min=10.1km az=178.6
NEIC 27 17:49:41.1±0.4, 37°.68S×73°.51W, h35km, mb4.7/4, Error ellipse: s-maj=14.0km s-min=7.3km az=84.0
ISC 27 17:49:39.3±0.7, 37°.68S±0°.08×73°.4W±0°.2, h23km, n29, σ1.05/29, mb4.3/12, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PLCA Paso Flores 3.79 145 Pg Pb 17 50 43.3 -2.2
9.3nm,0.3s,baz=310,slow=12,SNR=2.4
PLCA Paso Flores 3.79 145 ePn Pn 17 50 39.2 +2.9
PLCA Pg Pb 17 50 43.3 -2.2
TRQA Tornquist 9.06 96 Pn Pn 17 51 42.4 -6.4
LVC Limon Verde 15.51 16 Pn P 17 53 19.4 -1.7
USHA Ushuaia 17.50 170 P P 17 53 42.5 -0.1
0.2nm,0.3s,baz=309,slow=7.2,SNR=3.3
CPUP Villa Florida 17.70 55 Pn Pn 17 53 44.6 +0.3
LPAZ La Paz 21.81 14 P P 17 54 31.8 +1.3
2.6nm,0.7s,baz=198,slow=11,SNR=3.4
SIV San Ignacio 24.20 30 P P 17 54 54.7 +0.4
2.3nm,0.8s,baz=195,slow=14,SNR=3.3
SAML Samuel 30.06 21 P P 17 55 46.0 -0.8
OTAV Otavalo 38.01 352 P P 17 56 57.5 +1.3
SNAA Sanae 48.64 157 P P 17 58 21.3 +0.3
1.7nm,0.8s,baz=288,slow=10,SNR=7.5
SNAA Sanae 48.64 157 eP P 17 58 21.0 0.0
16nm,1.0s
QSPA South Pole Qui 52.57 180 eP P 17 58 50.6 -0.2
12nm,1.3s
TXAR Lajitas Array 72.42 333 P P 18 01 02.8 -0.9
1.5nm,0.8s,baz=155,slow=9.4,SNR=4.2
DBIC Dimbokro 77.43 71 P P 18 01 33.9 +1.0
6.5nm,0.7s,baz=192,slow=6.1,SNR=8.9
TSUM Tsumeb 79.30 106 eP P 18 01 44.0 +0.5
5.7nm,1.1s
BOSA Boshof 79.36 118 P P 18 01 43.6 -0.1
3.7nm,1.1s,baz=212,slow=12,SNR=3.4
TPH Tonopah 85.51 327 eP P 18 02 15.4 +0.1
6.4nm,1.1s
NVAR Mina Array Bea 86.28 326 P P 18 02 19.7 +0.5
1.4nm,0.7s,baz=150,slow=7.4,SNR=5.1
TOA0 Torodi Ar. Sit 86.51 71 P P 18 02 20.2 -0.4
TORD Torodi Ar. Bea 86.51 71 P P 18 02 20.6 -0.1
0.7nm,0.6s,baz=215,slow=4.7,SNR=4.6
PDAR Pinedale Array 86.55 334 P P 18 02 19.9 -0.5
1.2nm,0.8s,baz=154,slow=5.4,SNR=6.5
GERES GERESS Array B 115.51 47 PKP PKPdf 18 08 18.8 -0.2
0.3nm,0.8s,baz=168,slow=0.9,SNR=2.7
BRTR Keskin Array B 124.54 64 PKP PKPdf 18 08 36.2 -0.4
0.7nm,0.7s,baz=244,slow=2.2,SNR=5.1
GEYT Alibeck 142.06 74 PKP PKPdf 18 09 09.1 -0.2
1.3nm,0.9s,baz=183,slow=2.5,SNR=2.6
SEY Seymchan 142.58 327 PKP PKPdf 18 09 09.7 +0.3
0.5nm,0.2s,baz=178,slow=1.5,SNR=3.6
ABKAR Akbulak array 144.77 56 ePKPdf PKPab 18 09 12.2 -0.5
BVAR Borovoye Array 150.68 47 PKPbc PKPbc 18 09 29.3 +0.4
2.9nm,0.6s,baz=289,slow=3.5,SNR=11
MKAR Makanchi Array 159.91 55 PKPab PKPab 18 10 15.4 -0.1
0.6nm,0.6s,baz=280,slow=3.5,SNR=4.6

IDC 27 17:53:33.0±0.7, 34°.73S×71°.84W, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.2/30, mbtmp4.3/9, ML3.8/2, Error ellipse: s-maj=27.0km s-min=21.2km az=72.0
ISCJB 27 17:53:33.7±0.7, 34°.79S±0°.08×72°.0W±0°.1, h16km, mb4.3/9, Error ellipse: s-maj=18.2km s-min=7.8km az=33.8
GUC 27 17:53:38.8±0.8, 34°.26S×72°.17W, h34km±14km, ML4.7
ISC 27 17:53:35.3±0.7, 34°.66S±0°.09×71°.9W±0°.1, h16km, n24, σ1.21/30, mb4.4/9, 4C-1D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LNV Longovilo 0.81 30⇓iP Pn 17 53 52.8 +0.7
CHCH Chadas Angostu 1.27 55⇑iP Pg 17 54 01.9 +2.1
TACH Talagante 1.29 39⇑iP Pg 17 54 00.1 0.0
SAN Santiago 1.59 41 eP Pg 17 54 05.5 -0.3
SAN iS Sg 17 54 25.4 -1.1
PEL Peldehue 1.82 34⇑iP Pb 17 54 08.3 0.0
PEL iS Sb 17 54 30.5 -0.4
PEL AML AML 17 54 41.2
comp=N,8μm,0.5s
ROCH El Roble 1.84 24⇑iP Pn 17 54 07.6 +1.1
ROCH iS Sn 17 54 29.0 -0.5
ROCH AML AML 17 54 42.1
comp=N,36μm,0.4s
CFAA Coronel Fontan 4.33 46 Pn Pn 17 54 41.5 +0.9
comp=N,1.0nm,0.3s,baz=234,slow=14,SNR=3.3
CFAA Pg Pb 17 54 51.4 +0.3
comp=N,2.7nm,0.3s,baz=234,slow=10,SNR=7.5
CFAA Lg Lg 17 55 45.5
comp=N,3.2nm,0.3s,baz=253,slow=22,SNR=5.6
LPAZ La Paz 18.61 11 P P 17 57 53.0 +0.3
comp=N,0.5nm,0.3s,baz=189,slow=6.8,SNR=6.8
SNAA Sanae 50.94 158 P P 18 02 34.2 -1.3
comp=N,2.5nm,0.8s,baz=267,slow=7.9,SNR=17
QSPA South Pole Qui 55.58 180 P P 18 03 05.0 -4.9
comp=N,5.8nm,1.0s,baz=134,slow=3.2,SNR=6.3
TXAR Lajitas Array 70.36 331 P P 18 04 49.0 +0.6
comp=N,0.7nm,0.5s,baz=158,slow=8.4,SNR=8.6
DBIC Dimbokro 75.29 71 P P 18 05 17.8 -0.2
comp=N,4.2nm,0.7s,baz=232,slow=7.4,SNR=5.7
BOSA Boshof 79.67 118 P P 18 05 43.0 +0.4
comp=N,5.9nm,0.8s,baz=239,slow=5.9,SNR=6.2
TORD Torodi Ar. Bea 84.33 70 P P 18 06 05.9 -1.0
comp=N,2.2nm,0.9s,baz=251,slow=4.4,SNR=5.8
PDAR Pinedale Array 84.40 333 P P 18 06 07.3 +0.4
comp=N,1.0nm,0.9s,baz=154,slow=4.7,SNR=5.4
NVAR Mina Array Bea 84.49 325 P P 18 06 08.8 +1.4
comp=N,1.5nm,0.8s,baz=149,slow=5.9,SNR=5.6
ULM Lac du Bonnet 87.16 345 P P 18 06 19.2 -0.9
comp=N,1.8nm,0.6s,baz=140,slow=7.9,SNR=3.2
YKA Yellowknife Ar 102.72 341 P Pdif 18 07 31.3 +0.3
comp=N,0.3nm,0.7s,baz=139,slow=4.3,SNR=5.2
WRA Warramunga Arr 120.24 209 PKP PKPdf 18 12 27.0 +0.8
comp=N,0.8nm,0.9s,baz=165,slow=1.5,SNR=5.7
AKASG Malin Array Be 122.56 48 PKP PKPdf 18 12 29.8 +0.3
comp=N,0.2nm,0.4s,baz=264,slow=3.2,SNR=5.6
BVAR Borovoye Array 147.68 44 PKP PKPdf 18 13 13.4 -2.4
comp=N,1.1nm,0.5s,baz=276,slow=1.0,SNR=7.1
BVAR PKPbc PKiKP 18 13 20.5 -0.1
comp=N,1.2nm,0.6s,baz=313,slow=2.6,SNR=5.4
ZALV Zalesovo Beam 154.72 33 PKP PKPdf 18 13 28.1 +1.6
comp=N,1.2nm,0.6s,baz=334,slow=3.2,SNR=4.5
ZALV PKPbc PKiKP 18 13 36.3 +1.2
comp=N,1.5nm,0.6s,baz=307,slow=2.9,SNR=6.2
ZALV PKPab PKPab 18 13 51.5 +1.5
comp=N,1.7nm,0.7s,baz=305,slow=3.6,SNR=4.3
MKAR Makanchi Array 157.11 50 PKPab PKPab 18 13 57.1 -3.4
comp=N,0.9nm,0.6s,baz=270,slow=3.6,SNR=7.1
SONM Songino Array 166.78 5 PKPab PKPab 18 14 42.5 -0.4
comp=N,0.7nm,0.8s,baz=348,slow=2.9,SNR=4.7

IDC 27 17:55:11.0±0.6, 35°.38S×72°.45W, h0km, mb4.5/10, mb1 4.6/13, mb1mx4.7/13, mbtmp4.5/13, ML4.2/3, Error ellipse: s-maj=26.6km s-min=15.6km az=84.0
ISCJB 27 17:55:12.6±0.3, 35°.42S±0°.06×72°.3W±0°.1, h20km, mb4.6/20, Error ellipse: s-maj=13.1km s-min=7.0km az=149.8
NEIC 27 17:55:15.8±1.3, 35°.48S×72°.42W, h36km±11km, mb4.8/14, Error ellipse: s-maj=14.6km s-min=7.8km az=86.0
ISC 27 17:55:14.1±0.5, 35°.45S±0°.07×72°.3W±0°.1, h20km, n237, σ0.62/236, mb4.6/20, 11C-8D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CFAA Coronel Fontan 5.14 43 Pn Pn 17 56 32.9 +2.9
baz=201,slow=14,SNR=3.2
PLCA Paso Flores 5.46 166 Pn Pn 17 56 36.6 +2.2
2.5nm,0.3s,baz=337,slow=13,SNR=3.8
PLCA Paso Flores 5.46 166 ePn Pn 17 56 33.7 -0.7
TRQA Tornquist 8.71 110 Pn Pn 17 57 18.6 -0.4
120nm,1.1s
LPAZ La Paz 19.45 12 P Pn 17 59 41.2 -0.2
0.3nm,0.3s,baz=214,slow=6.4,SNR=4.2
LPAZ La Paz 19.45 12 eP P 17 59 35.0 -5.2
6.9nm,0.8s
USHA Ushuaia 19.57 173 P Pn 17 59 42.4 +0.5
0.5nm,0.3s,baz=293,slow=11,SNR=4.0
SIV San Ignacio 21.84 30 P P 18 00 05.7 +0.2
11nm,0.7s,baz=208,slow=9.8,SNR=9.6
SDV Santo Domingo 44.12 2 eP P 18 03 20.3 -1.2
10.0nm,1.0s
SNAA Sanae 50.34 157 P P 18 04 10.0 +0.8
2.7nm,1.0s,baz=281,slow=7.2,SNR=4.6
SNAA Sanae 50.34 157 eP P 18 04 07.9 -1.3
23nm,1.3s
SDDR Presa de Saban 54.14 1 P P 18 04 38.2 +0.3
QSPA South Pole Qui 54.79 180 P P 18 04 43.1 +0.8
26nm,0.9s,baz=148,slow=6.1,SNR=19
QSPA South Pole Qui 54.79 180 eP P 18 04 42.9 +0.6
32nm,1.0s
TEIG Tepich 57.40 342 P P 18 05 00.7 -0.4
45nm,1.3s
933A Laredo 67.68 334 P P 18 06 10.6 +0.7
baz=68
834A Tilden 67.90 335 P P 18 06 12.1 +0.9
baz=68
833A Chaparral WMA, 68.37 334 P P 18 06 14.6 +0.5
baz=69
832A Faith Ranch, C 68.55 334 P P 18 06 15.6 +0.3
baz=69
732A Laxson Ranch, 68.95 334 P P 18 06 18.1 +0.4
baz=69
535A Dale 69.33 337 P P 18 06 21.1 +1.1
baz=70
633A Saathoff Ranch 69.34 335 P P 18 06 21.0 +0.8
baz=70
632A Uvalde 69.59 335 P P 18 06 22.3 +0.5
baz=70
631A Perdido Creek 69.79 334 P P 18 06 23.0 +0.1
baz=70
533A Kerrville 69.85 335 P P 18 06 23.8 +0.4
baz=70
532A Rocksprings 70.20 335 ⇑P P 18 06 26.0 +0.5
baz=70,SNR=7.8
434A Burnet 70.28 336 ⇑P P 18 06 26.2 +0.2
baz=71
336A Riesel 70.36 338 P P 18 06 26.6 +0.2
baz=71
531A Rocksprings 70.46 334 ⇑P P 18 06 27.5 +0.4
baz=71,SNR=5.8
JCT Junction City 70.49 335 ⇓P P 18 06 27.5 +0.3
baz=71
433A Art 70.50 336 ⇓P P 18 06 27.2 -0.1
baz=71,SNR=8.4
530A J-C Ranch, Com 70.73 334 ⇓P P 18 06 29.1 +0.4
baz=71,SNR=9.8
334A Lometa 70.75 337 ⇓P P 18 06 29.2 +0.4
baz=71
432A Menard 70.84 335 P P 18 06 29.1 -0.3
baz=71
TXAR Lajitas Array 70.88 331 P P 18 06 29.8 +0.1
3.5nm,0.9s,baz=150,slow=8.5,SNR=12
431A Sonora 70.95 334 ⇓P P 18 06 30.8 +0.8
baz=71
529A Stev Forest Ra 71.03 333 ⇑P P 18 06 31.4 +0.8
baz=71
WHTX Lake Whitney 71.11 338 ⇑P P 18 06 31.4 +0.5
baz=71
430A Baggett Ranch, 71.27 334 ⇑P P 18 06 32.2 +0.2
baz=72,SNR=5.8
332A Millersview 71.29 335 ⇓P P 18 06 32.3 +0.2
baz=72,SNR=5.3
234A Clairette 71.33 337 ⇑P P 18 06 32.4 +0.1
baz=72
429A Davenport Ranc 71.36 333 ⇑P P 18 06 33.3 +0.7
baz=72,SNR=5.0
331A San Angelo 71.46 335 ⇓P P 18 06 33.2 0.0
baz=72,SNR=5.0
233A Rising Star 71.59 336 ⇑P P 18 06 34.3 +0.4
baz=72
232A Coleman 71.72 336 ⇑P P 18 06 34.8 +0.1
baz=72
330A Mertzon 71.81 334 ⇓P P 18 06 35.2 -0.1
baz=72
231A Bronte 71.99 335 ⇑P P 18 06 36.4 +0.1
baz=72,SNR=5.9
133A Hamilton Ranch 72.14 337 P P 18 06 37.1 -0.1
baz=72
329A Wagon Wheel Ra 72.17 334 P P 18 06 37.2 -0.2
baz=72
230A Sterling City 72.22 335 P P 18 06 37.7 -0.1
baz=72
Z35A Perchaven, San 72.29 338 P P 18 06 38.2 +0.2
baz=73
ABTX Abilene, Hawle 72.39 336 P P 18 06 38.6 -0.1
baz=73
Z34A Collier Ranch, 72.53 338 P P 18 06 39.5 0.0
baz=73
229A Bryant Ranch, 72.54 334 P P 18 06 39.6 0.0
baz=73
131A Roby 72.69 335 P P 18 06 40.6 +0.1
baz=73
Z33A Whitaker Ranch 72.72 337 P P 18 06 40.5 -0.1
baz=73
130A Snyder 72.82 335 P P 18 06 41.0 -0.2
baz=73
228A UT Block 9, Go 72.96 333 P P 18 06 42.0 -0.2
baz=73
Z32A Haskell 72.97 336 P P 18 06 41.9 -0.1
baz=73
Y34A Reagan Ranch, 73.03 338 P P 18 06 42.3 0.0
baz=73
129A Stewart Farms, 73.17 334 P P 18 06 43.3 0.0
baz=74
Z31A Sharp Cattle R 73.20 336 P P 18 06 43.4 0.0
baz=74
Y33A Hilltop Ranch, 73.34 337 P P 18 06 44.0 -0.2
baz=74
128A Castleberry Fa 73.38 334 P P 18 06 44.2 -0.4
baz=74
Z30A Sanderson Ranc 73.50 335 P P 18 06 44.7 -0.5
baz=74
Y32A R-V Farms, Ver 73.60 337 P P 18 06 45.5 -0.3
baz=74
X34A Smith Ranch, M 73.65 338 P P 18 06 45.7 -0.3
baz=74
MNTX Cornudas Mount 73.65 331 eP P 18 06 44.5 -1.6
4.4nm,0.9s
Z29A Hungry Hill Ra 73.68 335 P P 18 06 45.8 -0.5
baz=74
Y29A Porterfield Fa 74.21 335 P P 18 06 49.3 -0.1
baz=74
SUR Sutherland 74.35 119 P P 18 06 51.3 +0.6
25nm,1.2s
Z26A Caprock 74.51 333 P P 18 06 51.6 +0.3
baz=75
W32A Sentinel 74.56 337 P P 18 06 51.3 -0.2
baz=75
MSTX Muleshoe 74.70 334 P P 18 06 51.9 -0.4
baz=75
V34A Guthrie 74.70 339 P P 18 06 49.8 -2.4
V34A Guthrie 74.70 339 P P 18 06 52.0 -0.1
baz=75
X29A Tulia 74.75 335 P P 18 06 52.5 -0.1
baz=75
Z25A Roswell 74.79 332 P P 18 06 53.3 +0.4
baz=75
319A Douglas 74.99 328 P P 18 06 54.8 +0.8
baz=75
Z24A Sheeppen Canyo 75.09 332 P P 18 06 55.1 +0.4
baz=75
AMTX Amarillo 75.14 335 P P 18 06 55.2 +0.4

baz=76
121A Cookes Peak, D 75.35 330 P P 18 06 57.0 +0.8
baz=76
X26A CR and CF Fran 75.59 334 P P 18 06 57.9 +0.4
baz=76
Y24A Capitan 75.64 332 P P 18 06 58.1 +0.3
baz=76
Z22A Elephant Butte 75.65 331 P P 18 06 58.1 +0.3
baz=76
W27A Bowe Ranch, En 75.78 334 P P 18 06 58.9 +0.3
baz=76
DBIC Dimbokro 75.88 71 P P 18 06 60.0 +0.5
3.6nm,0.6s,baz=206,slow=5.7,SNR=7.1
DBIC Dimbokro 75.88 71 eP P 18 06 59.4 0.0
5.5nm,0.7s
Y23A Lovelace Mesa, 75.89 332 P P 18 06 59.4 +0.1
baz=76
ACSO Alum Creek Sta 75.94 352 eP P 18 06 58.1 -1.1
8.8nm,0.6s
T33A Patterson Ranc 76.07 339 P P 18 07 00.3 +0.3
baz=76
X24A Lazy VL Ranch, 76.21 332 P P 18 07 01.7 +0.6
baz=76
U30A WK&E Inc. Balk 76.30 337 P P 18 07 02.1 +0.7
baz=77
W25A X Bar L Ranch, 76.42 333 P P 18 07 02.2 0.0
baz=77
X23A Hourglass Bar 76.51 332 P P 18 07 03.4 +0.5
baz=77
W24A Lazy 6 Ranch, 76.77 333 P P 18 07 04.7 +0.4
baz=77
ANMO Albuquerque 76.93 332 eP P 18 07 04.9 -0.3
7.1nm,1.1s
V25A Rancho No Teng 77.03 334 P P 18 07 05.8 +0.1
baz=77
214A Organ Pipe Nat 77.06 326 P P 18 07 05.8 0.0
baz=77
V24A Rampart Ranch, 77.18 333 P P 18 07 07.1 +0.5
baz=78
T28A Walsh 77.32 336 P P 18 07 07.3 +0.1
baz=78
S29A Ulysses 77.45 337 P P 18 07 07.9 +0.1
baz=78
R32A Long Quarter, 77.45 339 P P 18 07 08.1 +0.3
baz=78
U25A Circle Dot Ran 77.46 334 P P 18 07 08.2 +0.1
baz=78
T27A Campo 77.47 336 P P 18 07 08.4 +0.3
baz=78
S28A Manter 77.67 336 P P 18 07 09.2 +0.1
baz=78
T26A Comanche Natio 77.87 335 P P 18 07 10.5 +0.2
baz=78
Q32A Meitler Ranch, 77.94 339 P P 18 07 10.5 0.0
baz=78
V22A San Miguel Ran 77.96 332 P P 18 07 11.9 +1.0
baz=78
S27A Las Animas 78.09 336 P P 18 07 11.8 +0.3
baz=78
T25A Trinidad 78.12 334 P P 18 07 12.5 +0.7
baz=78
Q31A Ellis 78.19 339 P P 18 07 12.2 +0.3
baz=78
S26A Kim 78.23 335 P P 18 07 12.8 +0.5
baz=79
R28A Tribune 78.33 337 P P 18 07 13.3 +0.5
baz=79
W18A Petrified Fore 78.40 329 P P 18 07 13.8 +0.5
baz=79
T24B San Luis 78.40 334 P P 18 07 14.3 +0.8
baz=79
Q30A Quinter 78.41 338 P P 18 07 13.0 -0.2
baz=79
X16A Lo Mia Camp, P 78.52 328 P P 18 07 14.8 +0.8
baz=79
Q29A Oakley 78.57 338 P P 18 07 13.9 -0.1
baz=79
CASY Casey 78.57 181 P P 18 07 10.3 -3.5
13nm,1.1s
S25A Robets Cordova 78.60 335 P P 18 07 14.5 +0.1
baz=79
R27A Eads 78.60 336 P P 18 07 14.4 +0.1
baz=79
P31A Stockton 78.66 339 P P 18 07 14.9 +0.4
baz=79
R26A Arlington 78.83 336 P P 18 07 15.7 +0.2
baz=79
S24A Houchin Ranch, 78.86 334 P P 18 07 16.6 +0.6
baz=79
R24A Sanders Place, 79.35 334 P P 18 07 19.5 +1.0
baz=80
Q26A Hugo 79.42 336 P P 18 07 19.6 +0.7
baz=80
WUAZ Wupatki 79.43 328 P P 18 07 19.7 +0.8
baz=80
R23A Moffat 79.57 334 P P 18 07 20.6 +0.8
baz=80
BOSA Boshof 79.62 118 P P 18 07 20.8 +0.5
8.4nm,0.8s,baz=240,slow=3.1,SNR=8.4
MVCO Mesa Verde 79.71 331 eP P 18 07 20.6 +0.1
5.6nm,1.2s
MVCO Mesa Verde 79.71 331 P P 18 07 21.1 +0.5
baz=80
Q24A Divide 80.02 335 P P 18 07 22.8 +0.6
baz=80
P25A Willow Gulch B 80.17 336 P P 18 07 23.5 +0.6
baz=80
W13A Hualapai Mount 80.18 327 P P 18 07 23.9 +0.8
baz=80
N29A Votaw Ranch, W 80.23 339 P P 18 07 23.9 +0.8
baz=81
U15A North Rim 80.59 328 P P 18 07 26.1 +0.7
baz=81
ISCO Idaho Springs 80.92 335 P P 18 07 27.5 +0.4
baz=81
L31A Butterfield Fa 80.97 340 P P 18 07 27.8 +0.8
baz=81
P22A Eagle 81.15 334 P P 18 07 29.1 +0.9
baz=82
BFSC Mount Baldy Ra 81.24 323 P P 18 07 29.4 +0.7
baz=82
O23A Lake Granby, G 81.39 335 P P 18 07 30.4 +0.8
baz=82
O22A Kremmling 81.57 334 P P 18 07 31.2 +0.7
baz=82
K30A Basset 81.65 340 P P 18 07 31.3 +0.7
baz=82
N22A Wattenberg Ran 82.11 335 P P 18 07 34.0 +0.7
baz=82
O20A White River Ci 82.16 333 P P 18 07 33.9 +0.4
baz=82
K28A Ten Mile Ranch 82.19 339 P P 18 07 34.4 +1.0
baz=82
J29A Okreek 82.52 340 P P 18 07 35.9 +0.8
baz=83
ISA Isabella 82.78 324 P P 18 07 37.9 +1.2
baz=83
N20A Spence Gulch, 82.78 333 P P 18 07 37.3 +0.5
baz=83
J27A Elkhorn Farm, 82.87 339 P P 18 07 38.1 +1.1
baz=83
VES Vestal, Richgr 83.22 323 P P 18 07 39.8 +1.0
baz=84
J26A Sides Ranch, S 83.25 338 P P 18 07 39.5 +0.5
baz=84
J25A Sunshine Ranch 83.54 337 P P 18 07 41.0 +0.5
baz=84
K23A Bowen Ranch, D 83.56 336 P P 18 07 41.0 +0.4
baz=84
H29A Onida 83.62 340 P P 18 07 40.6 -0.1
baz=84
R11A Troy Canyon, C 83.63 327 P P 18 07 41.9 +0.7
baz=84
J24A Dixon Ranch, L 83.76 337 P P 18 07 42.4 +0.8
baz=84
K22A Casper 83.77 335 P P 18 07 42.3 +0.6
baz=84
DUG Dugway 84.00 330 P P 18 07 43.3 +0.4
baz=84
K21A Alcova 84.00 335 P P 18 07 43.1 +0.1
baz=84
I25A Rochford 84.09 338 P P 18 07 43.4 0.0
baz=84
G28A Parade 84.22 340 P P 18 07 44.0 +0.1
baz=85
RSSD Black Hills 84.28 338 eP P 18 07 43.6 -0.7
3.7nm,1.1s
J22A Midwest 84.43 336 P P 18 07 45.1 0.0
baz=85
F29A Eureka 84.63 341 P P 18 07 45.5 -0.3
baz=85
G27A Dupree 84.79 340 P P 18 07 46.5 -0.2
baz=85
I22A 9 Mile Ranch, 84.86 336 P P 18 07 46.7 -0.5
baz=85
G26A Maurine 84.91 339 P P 18 07 47.0 -0.3
baz=85
J20A Shoshoni 84.93 335 P P 18 07 48.1 +0.6
baz=85
NVAR Mina Array Bea 84.93 325 P P 18 07 47.7 -0.1
1.5nm,0.8s,baz=149,slow=4.6,SNR=7.8
TOA0 Torodi Ar. Sit 84.94 70 eP P 18 07 47.9 -0.2
TORD Torodi Ar. Bea 84.94 70 P P 18 07 48.4 +0.3
2.7nm,1.0s,baz=240,slow=4.0,SNR=6.8
PDAR Pinedale Array 84.94 333 P P 18 07 47.2 -0.5
1.3nm,1.0s,baz=140,slow=5.8,SNR=4.8
E30A Jud 85.01 342 P P 18 07 47.7 0.0
baz=85
I21A Big Trails, Te 85.06 335 P P 18 07 47.8 -0.4
baz=85
J19A Crowheart 85.19 334 P P 18 07 48.5 -0.4
baz=86
F27A Lemmon 85.27 340 P P 18 07 49.0 0.0
baz=86
H22A Clearmont 85.44 336 P P 18 07 49.6 -0.4
baz=86
I20A Worland 85.47 335 P P 18 07 50.1 -0.1
baz=86
G23A Biddle 85.67 337 P P 18 07 50.6 -0.6
baz=86
H21A Big Horn, Sher 85.69 336 P P 18 07 50.7 -0.7
baz=86
D29A Pettibone, Tap 85.71 342 P P 18 07 50.8 -0.4
baz=86
I19A Meeteetse 85.84 334 P P 18 07 51.9 -0.3
baz=86
H20A Greybull 85.89 335 P P 18 07 51.7 -0.6
baz=86
F24A Ekalaka 85.95 338 P P 18 07 52.5 -0.1
baz=86
G22A Birney 85.97 337 P P 18 07 51.7 -1.0
baz=86
C30A Mose, Pekin 86.03 343 P P 18 07 52.5 -0.2
baz=86
D28A Regan 86.08 341 P P 18 07 52.9 -0.1
baz=86
F23A Volborg 86.14 337 P P 18 07 53.4 0.0
baz=86
E25A Miller Ranch, 86.24 339 P P 18 07 53.8 0.0
baz=87
G21A Lodge Grass 86.28 336 P P 18 07 54.0 -0.2
baz=87
I17A Pilgrim Ck. 86.31 333 P P 18 07 54.7 +0.1
baz=87
H19A Powell 86.39 335 P P 18 07 54.7 -0.1
baz=87
D26A Manning 86.44 340 P P 18 07 55.0 +0.1
baz=87
F22A Rosebud 86.46 337 P P 18 07 55.1 +0.1
baz=87
E24A Baker 86.56 339 P P 18 07 55.5 +0.1
baz=87
G20A Bridger 86.61 335 P P 18 07 55.0 -0.8
baz=87
H18A Shoshone NF, C 86.64 334 P P 18 07 55.8 -0.4
baz=87
B30A Myrvik Farm, E 86.69 343 P P 18 07 55.9 -0.1
baz=87
D25A Fairfield 86.80 339 P P 18 07 56.9 +0.3
baz=87
C27A Sayler Ranch, 86.81 341 P P 18 07 56.9 +0.3
baz=87
B29A Wagenman Farm, 86.95 342 P P 18 07 57.0 -0.2
baz=87
E22A Miles City 86.95 337 P P 18 07 57.0 -0.4
baz=87
C26A Wahner Farm, P 87.07 340 P P 18 07 57.7 -0.2
baz=87
A29A Manning Farm, 87.34 343 P P 18 07 59.1 -0.1
baz=88
D23A Lindsay 87.38 338 P P 18 07 59.7 +0.2
baz=88
C24A Savage 87.47 339 P P 18 07 59.8 0.0
baz=88
HLID Hailey 87.47 331 P P 18 08 00.1 -0.1
baz=88
A28A Rude Farm, Bot 87.59 342 P P 18 08 00.3 -0.1
baz=88
D22A Cohagen 87.66 338 P P 18 08 00.9 +0.1
baz=88
E20A Meyer Farm, Mu 87.71 336 P P 18 08 01.1 +0.1
baz=88
B25A Knox Farm, Ray 87.78 340 P P 18 08 01.4 +0.1
baz=88
ULM Lac du Bonnet 87.83 345 P P 18 08 00.8 -0.6
3.2nm,0.9s,baz=146,slow=2.1,SNR=9.9
A27A Ledoux Ranch, 87.88 341 P P 18 08 01.8 0.0
baz=88
E19A Rath Farm, Rou 87.89 336 P P 18 08 01.9 0.0
baz=88
C23A Lambert 87.94 339 P P 18 08 01.9 -0.2
baz=88
A26A Wade Farm, Ken 88.04 341 P P 18 08 02.4 -0.1
baz=88
D20A Manuel Ranch, 88.23 336 P P 18 08 03.3 -0.2
baz=89
DGMT Dagmar 88.25 339 P P 18 08 03.0 -0.6
13nm,0.9s
AIS Amsterdam Isla 101.96 156 R 18 13 00.0
YKA Yellowknife Ar 103.35 341 Pdiff Pdif 18 09 10.9 -1.0
0.1nm,0.6s,baz=142,slow=5.4,SNR=3.1
WRA Warramunga Arr 119.38 209 PKP PKPdf 18 14 01.2 -1.4
0.6nm,0.7s,baz=172,slow=1.7,SNR=4.0
AKASG Malin Array Be 123.35 48 PKP PKPdf 18 14 07.7 -1.4
0.2nm,0.5s,baz=246,slow=0.9,SNR=3.1
PSI Prapat 146.52 164 PKPbc PKPdf 18 14 53.8 +0.5
1.9nm,0.4s,baz=169,slow=3.8,SNR=4.6
BVAR Borovoye Array 148.50 44 PKPbc PKPbc 18 14 59.3 +0.5
1.2nm,0.7s,baz=255,slow=4.3,SNR=4.9
HYB Hyderabad 148.52 117 i PKP PKPbc 18 14 58.5 -1.5
YAK Yakutsk 150.00 339 ePKPbc PKPbc 18 15 00.8 -1.5
KKAR Karatay Array 150.43 64 ePKPbc PKPbc 18 15 03.2 -0.7
ASAJ Asahikawa 151.96 299 PKPbc PKPbc 18 15 06.5 -0.9
1.9nm,0.8s,baz=296,slow=12,SNR=3.7
AAK Ala-Archa 153.38 64 PKPbc PKPbc 18 15 11.5 +0.6
0.7nm,0.5s,baz=185,slow=5.3,SNR=3.8
AAK PKPab PKPab 18 15 23.6 +0.5
2.8nm,0.6s,baz=210,slow=3.7,SNR=7.6
AAK Ala-Archa 153.38 64 ePKPbc PKPbc 18 15 09.8 -1.1
AAK ePKPab PKPab 18 15 21.3 -1.8
ZALV Zalesovo Beam 155.57 34 PKPab PKPab 18 15 31.5 -0.2
0.7nm,0.5s,baz=316,slow=4.1,SNR=3.6
TGY Tagaytay City 155.62 213 PKPab PKPab 18 15 34.1 +1.2
57nm,0.4s,baz=153,slow=9.0,SNR=3.1
MKAR Makanchi Array 157.88 51 PKPab PKPab 18 15 41.2 -0.9
0.7nm,0.8s,baz=288,slow=4.2,SNR=3.9
CMAR Chiang Mai Arr 161.40 153 PKP PKPdf 18 15 13.3 -0.5
0.6nm,0.8s,baz=243,slow=4.2,SNR=4.2
SONM Songino Array 167.59 4 PKPab PKPab 18 16 24.8 +0.3
1.2nm,0.8s,baz=352,slow=3.8,SNR=8.7

IDC 27 17:56:46.8±0.5, 34.99S×71.67W, h0km, mb4.8/21, mb1 4.9/23, mb1mx4.9/27, mbtmp4.8/23, ML4.7/2, Error ellipse: s-maj=19.5km s-min=13.1km az=72.0
ISCJB 27 17:56:51.4±0.2, 34.73S±0.04×71.41W±0.07, h33km, mb5.2/115, Error ellipse: s-maj=8.7km s-min=5.1km az=152.4
MOS 27 17:56:51.3±1.2, 34.72S×71.68W, h33km, mb5.4/28, Error ellipse: s-maj=17.2km s-min=7.8km az=99.9
BJI 27 17:56:51.3, 34.35S×72.18W, h40km, mB5.4/7, Ms5.9/8, Ms7 5.7/7
NEIC 27 17:56:52.4±0.2, 34.79S×71.54W, h35km, mb5.3/103, Error ellipse: s-maj=8.3km s-min=4.9km az=63.0
ISC 27 17:56:52.3±0.3, 34.82S±0.06×71.70W±0.08, h35km, n691, σ1$27/698, mb5.2/116, 191C-185D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.32 43 Pn Pn 17 57 59.8 +4.3
6.6nm,0.3s,baz=219,slow=13,SNR=5.0
CFAA Sn Sn 17 58 55.0 +10
7.3nm,0.3s,baz=100,slow=20,SNR=2.2
PLCA Paso Flores 5.98 172 eP Pn 17 58 21.1 +2.8
PLCA Paso Flores 5.98 172 Pn Pn 17 58 21.4 +3.1
20nm,0.3s,baz=343,slow=12,SNR=5.9
PLCA Paso Flores 5.98 172 ePn Pn 17 58 21.1 +2.8
TRQA Tornquist 8.47 115 ePn Pn 17 58 53.9 +1.4
LVC Limon Verde 12.40 12 ePn Pn 17 59 40.5 -6.1
CPUP Villa Florida 14.98 60 eP Pn 18 00 19.7 -1.6
CPUP Villa Florida 14.98 60 Pn Pn 18 00 21.8 +0.4
0.5nm,0.3s,baz=248,slow=16,SNR=1.8
CPUP Villa Florida 14.98 60 ePn Pn 18 00 19.7 -1.6
LPAZ La Paz 18.73 11 eP Pn 18 01 10.6 +1.4
LPAZ pmax pmax
comp=Z,130nm,1.0s
LPAZ La Paz 18.73 11 P Pn 18 01 11.3 +2.2
comp=Z,1.6nm,0.3s,baz=181,slow=7.3,SNR=18
LPAZ La Paz 18.73 11 eP Pn 18 01 10.6 +1.4
comp=Z,130nm,1.0s
USHA Ushuaia 20.14 175 P Pn 18 01 24.7 -0.6
comp=Z,2.3nm,0.3s,baz=344,slow=11,SNR=10.0
SIV San Ignacio 21.03 30 P P 18 01 33.7 +0.6
comp=Z,89nm,1.0s,baz=213,slow=9.8,SNR=31
NNA Nana 23.20 347 eP P 18 01 57.8 +1.6
NNA Nana 23.20 347 P P 18 01 58.4 +2.2
comp=Z,17nm,0.7s,baz=166,slow=6.2,SNR=8.1
NNA Nana 23.20 347 eP P 18 01 57.8 +1.6
comp=Z,96nm,0.8s
SAML Samuel 26.90 19 eP P 18 02 30.1 0.0
comp=Z,17nm,1.2s
ATAH Atahualpa 28.23 346 P P 18 02 45.0 +2.5
comp=Z,4.5nm,0.8s,baz=164,slow=18,SNR=2.7
BDFB Brasilia 28.57 54 eP P 18 02 48.1 +2.9
BDFB Brasilia 28.57 54 P P 18 02 46.1 +0.9
comp=Z,11nm,0.6s,baz=218,slow=8.8,SNR=9.3
BDFB Brasilia 28.57 54 eP P 18 02 48.1 +2.9
OTAV Otavalo 35.44 348 eP P 18 03 47.7 +2.0
comp=Z,23nm,1.0s
ROSC El Rosal 39.54 356 P P 18 04 22.5 +2.2
comp=Z,12nm,0.5s,baz=191,slow=7.4,SNR=6.9
ROSC El Rosal 39.54 356 eP P 18 04 22.3 +1.9
SDV Santo Domingo 43.47 2 eP P 18 04 51.8 -0.6
comp=Z,42nm,0.8s
RCBR Riachuelo 43.84 57 P P 18 04 56.2 +0.9
comp=Z,8.5nm,0.8s,baz=214,slow=9.4,SNR=6.5
RCBR Riachuelo 43.84 57 eP P 18 04 56.1 +0.9
comp=Z,33nm,1.2s
PCRV Puerto La Cruz 45.24 10 P P 18 05 06.6 +0.2
comp=Z,19nm,0.7s,baz=194,slow=5.8,SNR=4.5
JTS JuntasAbangare 46.58 342 eP P 18 05 15.3 -1.6
JTS JuntasAbangare 46.58 342 P P 18 05 19.1 +2.2
comp=Z,2.5nm,0.3s,baz=180,slow=6.1,SNR=5.0
JTS JuntasAbangare 46.58 342 eP P 18 05 15.3 -1.6
JTS eP P 18 05 16.6 -0.3
GRGR Grenville 47.65 13 eP P 18 05 23.0 -2.2
comp=Z,113nm,0.9s
VNA3 Neumayer Olymp 48.50 158 P P 18 05 31.5 +0.3
VNA2 Neumayer--Watz 49.15 157 P P 18 05 36.3 +0.1
FDF Fort de France 50.28 13 eP P 18 05 44.2 -1.2
FDF Fort de France 50.28 13 eP P 18 05 44.2 -1.2
comp=Z,64nm,1.0s
SNAA Sanae 50.73 158 P P 18 05 48.4 +0.2
SNAA Sanae 50.73 158 eP P 18 05 47.8 -0.4
SNAA pmax pmax
comp=Z,45nm,1.0s
SNAA Sanae 50.73 158 P P 18 05 47.6 -0.6
comp=Z,8.0nm,1.0s,baz=272,slow=8.4,SNR=10
SNAA Sanae 50.73 158 eP P 18 05 47.8 -0.4
comp=Z,44nm,1.0s
APG El Apazote 52.66 337 P P 18 06 00.9 -2.4
comp=Z,5.3nm,0.7s,baz=156,slow=7.2,SNR=7.1
CRPR Cabo Rojo, PR 52.71 5 eP P 18 06 02.5 -0.9
comp=Z,102nm,1.3s
OBIP Obispado Ponce 52.79 6 eP P 18 06 02.7 -1.3
comp=Z,43nm,0.8s
CELP Cerrillos 52.82 6 eP P 18 06 03.5 -0.8
LRS Lares 53.01 6 eP P 18 06 03.9 -1.9
ANWB Willy Bob 53.04 12 eP P 18 06 03.3 -2.5
comp=Z,240nm,1.4s
MTDJ Mount Denham 53.04 353 P P 18 06 05.3 -0.6
SDDR Presa de Saban 53.50 0 eP P 18 06 09.4 +0.1
comp=Z,18nm,0.9s
GTBY Guantanamo Bay 54.53 356 eP P 18 06 16.5 -0.3
comp=Z,22nm,0.8s
QSPA South Pole Qui 55.42 180 P P 18 06 23.0 0.0
comp=Z,40nm,1.0s,baz=144,slow=3.4,SNR=16
QSPA South Pole Qui 55.42 180 eP P 18 06 22.9 0.0
comp=Z,49nm,1.0s
NVL N'lazarevskaya 55.46 156 eP P 18 06 23.3 +0.3
NVL pmax pmax
comp=Z,19nm,0.7s
RKT Rikitea 55.77 264 eT T 19 05 42.6
comp=Z,2.0nm,0.3s
TEIG Tepich 56.96 341 eP P 18 06 34.2 +0.1
comp=Z,40nm,0.8s
DWPF Disney 63.26 350 P P 18 07 15.7 -1.5
SYO Syowa Base 65.01 158 ⇑eP P 18 07 26.4 -1.9
035A Encino 66.31 334 ⇓P P 18 07 38.7 +1.6
baz=67
034A Hebbronville 66.63 334 ⇑P P 18 07 40.0 +0.8
baz=67
933A Laredo 67.35 334 ⇓P P 18 07 44.9 +1.1
baz=68
834A Tilden 67.55 334 ⇓P P 18 07 47.1 +2.1
baz=68,SNR=6.6
735A Kenedy 67.96 335 ⇑P P 18 07 50.1 +2.5
baz=68
833A Chaparral WMA, 68.04 334 ⇓P P 18 07 49.8 +1.7
baz=68,SNR=5.7
832A Faith Ranch, C 68.21 333 ⇓P P 18 07 50.4 +1.2
baz=69,SNR=5.7
734A La Parita Cree 68.21 335 ⇓P P 18 07 50.8 +1.6
baz=69
636A Smothers Creek 68.28 336 ⇑P P 18 07 51.4 +1.8
baz=69
HKT Hockley 68.32 338 eP P 18 07 49.0 -0.8
HKT pmax pmax
comp=Z,12nm,1.1s
HKT Hockley 68.32 338 eP P 18 07 49.0 -0.8
comp=Z,12nm,1.1s
733A Divot King Ran 68.36 334 ⇑P P 18 07 52.0 +2.0
baz=69
732A Laxson Ranch, 68.61 333 ⇓P P 18 07 53.0 +1.3
baz=69
GOGA Godfrey 68.76 349 eP P 18 07 52.5 0.0
GOGA pmax pmax
comp=Z,34nm,1.3s
GOGA Godfrey 68.76 349 eP P 18 07 52.5 0.0
comp=Z,34nm,1.3s
535A Dale 68.96 336 ⇑P P 18 07 55.6 +1.8
baz=69
633A Saathoff Ranch 68.99 334 ⇓P P 18 07 55.1 +1.1
baz=69
339A Huntington 69.23 339 ⇑P P 18 07 57.5 +2.1
baz=70
437A Phaontom Ranch 69.23 338 ⇑P P 18 07 57.7 +2.2
baz=70
632A Uvalde 69.25 334 ⇑P P 18 07 57.0 +1.3
baz=70,SNR=7.7
631A Perdido Creek 69.45 333 ⇓P P 18 07 58.6 +1.7
baz=70
533A Kerrville 69.50 335 ⇓P P 18 07 58.7 +1.5
baz=70
337A Centerville 69.61 338 ⇑P P 18 07 59.8 +2.0
baz=70
435B Jarrell 69.66 336 ⇓P P 18 08 00.7 +2.6
baz=70
532A Rocksprings 69.86 334 ⇑P P 18 08 00.3 +0.8
baz=70,SNR=11
434A Burnet 69.91 336 ⇓P P 18 08 00.7 +0.9
baz=70,SNR=7.7
336A Riesel 69.97 337 ⇓P P 18 08 01.6 +1.5
baz=70
TVO Taravao 70.03 262 eT T 19 23 21.3
comp=Z,1.9nm,0.3s
335A Moody 70.07 337 ⇓P P 18 08 01.7 +1.1
baz=70
531A Rocksprings 70.12 334 ⇓P P 18 08 03.3 +2.2
baz=70,SNR=6.0
JCT Junction City 70.14 334 ⇑P P 18 08 01.9 +0.8
baz=70,SNR=5.6
433A Art 70.14 335 ⇓P P 18 08 01.4 +0.3
baz=70,SNR=12
237A Washetta, Mont 70.22 338 ⇑P P 18 08 02.6 +1.1
baz=71
TIAR Tiarei 70.22 262 eT T 19 23 35.8
comp=Z,8.0nm,0.2s
PAE Paea 70.36 262 eT T 19 23 46.0
comp=Z,0.9nm,0.3s
334A Lometa 70.38 336 ⇑P P 18 08 03.3 +0.7

baz=71,SNR=6.3
530A J-C Ranch, Com 70.40 333 ⇑P P 18 08 04.5 +1.8
baz=71,SNR=9.7
432A Menard 70.50 335 ⇑P P 18 08 04.7 +1.4
baz=71
TXAR Lajitas Array 70.58 331 P P 18 08 04.8 +0.9
comp=Z,2.6nm,0.7s,baz=156,slow=8.7,SNR=16
431A Sonora 70.61 334 ⇑P P 18 08 06.0 +1.9
baz=71,SNR=6.8
333A Richland Sprin 70.62 335 ⇓P P 18 08 05.5 +1.4
baz=71
529A Stev Forest Ra 70.72 332 ⇓P P 18 08 06.6 +1.9
baz=71
WHTX Lake Whitney 70.73 337 eP P 18 08 05.5 +0.9
comp=Z,36nm,0.8s
WHTX Lake Whitney 70.73 337 ⇓P P 18 08 05.1 +0.5
baz=71
137A Heron Place, G 70.76 339 ⇓P P 18 08 06.5 +1.7
baz=71
SWET Sewanee 70.93 348 eP P 18 08 05.6 -0.2
OXF Oxford 70.93 345 eP P 18 08 05.0 -0.8
OXF pmax pmax
comp=Z,32nm,1.0s
OXF Oxford 70.93 345 eP P 18 08 05.0 -0.8
comp=Z,32nm,1.0s
430A Baggett Ranch, 70.94 333 ⇑P P 18 08 07.4 +1.3
baz=71,SNR=8.7
332A Millersview 70.94 335 ⇑P P 18 08 06.8 +0.8
baz=71,SNR=7.5
234A Clairette 70.96 336 ⇑P P 18 08 06.9 +0.8
baz=71
TKL Tuckaleechee C 71.01 350 eP P 18 08 05.4 -0.9
TKL Tuckaleechee C 71.01 350 eP P 18 08 05.4 -0.9
429A Davenport Ranc 71.04 333 ⇑P P 18 08 07.6 +0.9
baz=71,SNR=7.9
331A San Angelo 71.11 334 ⇑P P 18 08 07.7 +0.6
baz=72,SNR=8.1
233A Rising Star 71.23 336 ⇑P P 18 08 08.5 +0.8
baz=72,SNR=5.2
135A Vickery Place, 71.24 337 ⇓P P 18 08 08.7 +0.9
baz=72
232A Coleman 71.37 335 ⇓P P 18 08 09.0 +0.4
baz=72,SNR=6.3
134A White-Moore Ra 71.47 337 ⇓P P 18 08 10.4 +1.3
baz=72
330A Mertzon 71.47 334 ⇑P P 18 08 09.6 +0.3
baz=72,SNR=5.1
231A Bronte 71.64 335 ⇓P P 18 08 10.5 +0.3
baz=72,SNR=8.9
133A Hamilton Ranch 71.78 336 ⇓P P 18 08 11.6 +0.6
baz=72,SNR=7.7
329A Wagon Wheel Ra 71.84 333 ⇑P P 18 08 13.3 +1.8
baz=72
230A Sterling City 71.89 334 ⇑P P 18 08 12.4 +0.6
baz=72
Z35A Perchaven, San 71.90 338 ⇓P P 18 08 12.8 +1.1
baz=72,SNR=6.8
MIAR Mount Ida 71.97 341 eP P 18 08 11.3 -0.8
MIAR Mount Ida 71.97 341 eP P 18 08 11.3 -0.8
ABTX Abilene, Hawle 72.04 335 eP P 18 08 13.3 +0.7
comp=Z,36nm,0.8s
ABTX Abilene, Hawle 72.04 335 ⇓P P 18 08 13.2 +0.6
baz=72,SNR=5.2
Z34A Collier Ranch, 72.15 337 ⇑P P 18 08 13.6 +0.4
baz=72,SNR=5.1
WVT Waverly 72.17 346 eP P 18 08 13.0 -0.2
WVT pmax pmax
comp=Z,100nm,1.0s
WVT Waverly 72.17 346 eP P 18 08 13.0 -0.2
comp=Z,100nm,1.0s
229A Bryant Ranch, 72.21 333 ⇓P P 18 08 15.2 +1.5
baz=73
HBAR Harrisburg 72.21 344 eP P 18 08 13.9 +0.5
131A Roby 72.34 335 ⇑P P 18 08 15.8 +1.4
baz=73
Z33A Whitaker Ranch 72.35 336 ⇓P P 18 08 15.0 +0.6
baz=73,SNR=8.5
JSRW J. Sargeant Re 72.37 355 eP P 18 08 15.4 +1.0
130A Snyder 72.47 334 ⇑P P 18 08 15.8 +0.6
baz=73
Z32A Haskell 72.60 336 ⇓P P 18 08 16.7 +0.7
baz=73,SNR=10
228A UT Block 9, Go 72.64 333 ⇑P P 18 08 17.6 +1.3
baz=73,SNR=5.4
Y34A Reagan Ranch, 72.64 338 ⇓P P 18 08 16.5 +0.4
baz=73,SNR=6.2
129A Stewart Farms, 72.83 334 ⇑P P 18 08 18.5 +1.2
baz=73
Z31A Sharp Cattle R 72.84 335 ⇓P P 18 08 18.3 +0.9
baz=73,SNR=8.1
Y33A Hilltop Ranch, 72.96 337 ⇑P P 18 08 19.3 +1.3
baz=73
128A Castleberry Fa 73.05 333 ⇓P P 18 08 19.7 +1.0
baz=73,SNR=6.3
Z30A Sanderson Ranc 73.15 335 ⇑P P 18 08 19.8 +0.6
baz=74,SNR=6.7
Y32A R-V Farms, Ver 73.23 336 ⇓P P 18 08 20.6 +0.9
baz=74
X34A Smith Ranch, M 73.26 338 ⇑P P 18 08 20.3 +0.5
baz=74,SNR=5.9
PBMO Poplar Bluff 73.33 344 eP P 18 08 20.2 +0.1
comp=Z,27nm,0.7s
Z29A Hungry Hill Ra 73.34 334 ⇑P P 18 08 20.7 +0.3
baz=74,SNR=8.1
GDL2 Guadalupe Moun 73.39 331 eP P 18 08 21.8 +1.0
X33A Lawton 73.41 337 ⇑P P 18 08 20.6 -0.1
baz=74
127A Arkansas Junct 73.42 332 ⇑P P 18 08 22.3 +1.4
baz=74
Y31A Rekieta Farm, 73.47 336 ⇑P P 18 08 21.6 +0.6
baz=74,SNR=5.4
X32A Elmer 73.56 336 ⇓P P 18 08 22.0 +0.5
baz=74
Y30A Stafford Cattl 73.61 335 ⇑P P 18 08 23.0 +1.1
baz=74
Z28A Tucker Farm, M 73.61 334 ⇑P P 18 08 23.2 +1.2
baz=74
W34A Bridge Creek, 73.83 338 eP P 18 08 23.0 -0.1
comp=Z,26nm,0.8s
W34A e 18 08 36.5
W34A Bridge Creek, 73.83 338 ⇑P P 18 08 24.0 +0.9
baz=74
Y29A Porterfield Fa 73.86 334 ⇓P P 18 08 24.2 +0.8
baz=74,SNR=7.2
TUL1 Tulsa 73.87 340 eP P 18 08 23.5 +0.2
comp=Z,46nm,0.8s
TUL1 Tulsa 73.87 340 ⇑P P 18 08 24.0 +0.7
baz=74,SNR=6.3
USIN University of 73.92 347 eP P 18 08 23.3 -0.2
comp=Z,50nm,0.8s
Z27A Tatum 73.94 333 ⇑P P 18 08 24.3 +0.3
baz=74
W33A Caddo, Fort Co 73.97 337 ⇓P P 18 08 25.4 +1.4
baz=74,SNR=7.7
SIUC Southern Illin 73.98 346 eP P 18 08 24.0 +0.1
comp=Z,25nm,0.8s
X31A McDonald Ranch 73.98 336 ⇑P P 18 08 24.9 +0.9
baz=74,SNR=5.9
X30A Coker Ranch, T 74.11 335 ⇑P P 18 08 25.1 +0.3
baz=74
W32A Sentinel 74.19 337 ⇓P P 18 08 26.0 +0.7
baz=74,SNR=18
Z26A Caprock 74.19 332 ⇓P P 18 08 26.6 +1.2
baz=74,SNR=17
SUR Sutherland 74.19 119 eP P 18 08 26.3 +0.5
comp=Z,32nm,1.1s
V34A Guthrie 74.30 338 eP P 18 08 25.4 -0.5
comp=Z,43nm,0.9s
V34A e 18 08 38.9
V34A Guthrie 74.30 338 ⇓P P 18 08 26.3 +0.5
baz=75
MSTX Muleshoe 74.36 334 eP P 18 08 26.9 +0.5
comp=Z,26nm,0.8s
MSTX Muleshoe 74.36 334 ⇓P P 18 08 27.8 +1.4
baz=75
X29A Tulia 74.40 335 ⇑P P 18 08 27.7 +1.1
baz=75
W31A Holland Ranch, 74.47 336 ⇓P P 18 08 28.2 +1.3
baz=75
Z25A Roswell 74.48 332 ⇓P P 18 08 28.6 +1.5
baz=75
V33A Lossen Ranch, 74.53 338 ⇓P P 18 08 27.8 +0.7
baz=75,SNR=8.2
X28A Dimmitt 74.64 334 ⇓P P 18 08 29.4 +1.4
baz=75
V32A Arapaho 74.67 337 ⇓P P 18 08 29.0 +0.9
baz=75
Y26A Elida 74.71 333 ⇑P P 18 08 30.0 +1.6
baz=75
319A Douglas 74.74 327 ⇓P P 18 08 30.3 +1.7
baz=75,SNR=6.5
OLIL Olney 74.74 347 eP P 18 08 28.4 +0.1
comp=Z,56nm,1.4s
Z24A Sheeppen Canyo 74.78 331 ⇓P P 18 08 30.6 +1.6
baz=75,SNR=7.5
AMTX Amarillo 74.79 335 eP P 18 08 27.4 -1.4
comp=Z,25nm,0.8s
AMTX Amarillo 74.79 335 ⇓P P 18 08 29.4 +0.6
baz=75
U34A Anderson Ranch 74.86 339 eP P 18 08 29.2 +0.1
comp=Z,39nm,0.8s
U34A e 18 08 42.1
U34A Anderson Ranch 74.86 339 ⇑P P 18 08 29.6 +0.5
baz=75,SNR=5.8
BLO Bloomington 74.89 348 eP P 18 08 28.7 -0.4
BLO pmax pmax
comp=Z,19nm,0.6s
BLO Bloomington 74.89 348 eP P 18 08 28.7 -0.4
comp=Z,19nm,0.6s
V31A Spring Creek L 74.98 337 ⇑P P 18 08 31.3 +1.5
baz=75,SNR=5.5
W29A Amraillo 74.99 335 ⇓P P 18 08 31.5 +1.5
baz=75
U33A Lingo Farm, Me 75.04 338 ⇓P P 18 08 30.8 +0.7
baz=75
Y25A Mesa, Roswell 75.04 332 ⇑P P 18 08 31.5 +1.2
baz=75
SLM Saint Louis 75.08 345 eP P 18 08 30.2 0.0
SLM pmax pmax
comp=Z,46nm,0.9s
SLM Saint Louis 75.08 345 eP P 18 08 30.2 0.0
comp=Z,46nm,0.9s
121A Cookes Peak, D 75.08 329 ⇓P P 18 08 32.6 +2.0
baz=75,SNR=6.9
X27A F and S Farms, 75.09 334 ⇓P P 18 08 32.1 +1.5
baz=75
DBIC Dimbokro 75.18 71 P P 18 08 31.5 +0.1
comp=Z,20nm,0.7s,baz=206,slow=5.5,SNR=24
DBIC Dimbokro 75.18 71 eP P 18 08 31.4 -0.1
comp=Z,30nm,0.8s
DBIC e 18 08 45.9
V30A Spur Ranch, Mi 75.25 336 ⇑P P 18 08 33.5 +2.1
baz=76
U32A Winter Ranch, 75.26 337 ⇑P P 18 08 32.4 +0.9
baz=76
X26A CR and CF Fran 75.26 333 ⇑P P 18 08 32.7 +1.0
baz=76,SNR=7.6
SSPA Standing Stone 75.30 355 eP P 18 08 31.6 +0.1
comp=Z,14nm,0.9s
Y24A Capitan 75.33 331 ⇑P P 18 08 33.7 +1.6
baz=76,SNR=5.7
Z22A Elephant Butte 75.36 330 ⇓P P 18 08 34.6 +2.4
baz=76,SNR=5.1
W27A Bowe Ranch, En 75.45 334 ⇓P P 18 08 33.8 +1.2
baz=76,SNR=5.4
Y23A Lovelace Mesa, 75.58 331 ⇓P P 18 08 36.1 +2.5
baz=76
T33A Patterson Ranc 75.68 338 ⇑P P 18 08 34.6 +0.8
baz=76,SNR=10
W26A Owens Ranch, T 75.73 333 ⇑P P 18 08 36.7 +2.4
baz=76
V28A Channing 75.76 335 ⇓P P 18 08 36.2 +1.7
baz=76
X24A Lazy VL Ranch, 75.89 332 ⇑P P 18 08 37.2 +1.8
baz=76
U30A WK&E Inc. Balk 75.93 336 ⇓P P 18 08 36.8 +1.5
baz=76
T32A Huddler Ranch, 75.97 338 ⇓P P 18 08 37.0 +1.5
baz=76
V27A Dan Oppiter Fa 75.98 334 ⇓P P 18 08 37.2 +1.5
baz=76
W25A X Bar L Ranch, 76.10 333 ⇑P P 18 08 37.6 +1.2
baz=76
T31A Randall Ranch, 76.14 337 ⇓P P 18 08 37.9 +1.4
baz=76
LPM Los Pinos Moun 76.15 331 eP P 18 08 37.8 +1.0
TUC Tucson 76.20 327 eP P 18 08 38.0 +1.0
TUC e 18 08 51.0
TUC pmax pmax
comp=Z,25nm,1.2s
TUC Tucson 76.20 327 eP P 18 08 38.0 +1.0
comp=Z,25nm,1.2s
TUC e 18 08 51.0
X23A Hourglass Bar 76.20 331 ⇑P P 18 08 39.2 +2.1
baz=77
U28A Mallet 76.33 335 ⇓P P 18 08 38.3 +0.7
baz=77,SNR=5.8
V26A Tequesquite Ra 76.36 334 ⇓P P 18 08 39.4 +1.5
baz=77
T30A Plains 76.37 337 ⇑P P 18 08 39.4 +1.7
baz=77
W24A Lazy 6 Ranch, 76.45 332 ⇓P P 18 08 40.7 +2.3
baz=77,SNR=5.2
S32A Newby Ranch, P 76.46 338 ⇑P P 18 08 39.0 +0.8
baz=77
S31A Mullinville 76.55 338 ⇑P P 18 08 40.3 +1.5
baz=77
U27A Thompson Grove 76.58 335 ⇓P P 18 08 40.8 +1.8
baz=77
ANMO Albuquerque 76.63 331 eP P 18 08 40.4 +0.9
ANMO pmax pmax
comp=Z,18nm,1.0s
ANMO Albuquerque 76.63 331 eP P 18 08 40.4 +0.9
comp=Z,18nm,1.0s
W23A Werner Place, 76.70 332 ⇓P P 18 08 42.4 +2.5
baz=77
V25A Rancho No Teng 76.71 333 ⇓P P 18 08 41.2 +1.3
baz=77,SNR=7.0
T29A Hugoton 76.72 336 ⇑P P 18 08 41.0 +1.2
baz=77
R33A Olander Ranch, 76.73 339 ⇑P P 18 08 40.3 +0.5
baz=77
214A Organ Pipe Nat 76.84 325 ⇓P P 18 08 42.6 +2.1
baz=77,SNR=5.8
V24A Rampart Ranch, 76.86 332 ⇑P P 18 08 42.3 +1.5
baz=77
U26A Atchley Ranch, 76.88 334 ⇑P P 18 08 41.9 +1.0
baz=77,SNR=5.4
S30A Montezuma 76.88 337 ⇓P P 18 08 42.2 +1.5
baz=77
T28A Walsh 76.96 335 ⇑P P 18 08 42.0 +0.8
baz=77,SNR=13
R32A Long Quarter, 77.05 339 ⇓P P 18 08 43.1 +1.5
baz=77,SNR=6.0
KSU1 Kansas State U 77.08 340 eP P 18 08 41.2 -0.4
comp=Z,24nm,0.8s
KSU1 Kansas State U 77.08 340 ⇑P P 18 08 41.6 0.0
baz=77
S29A Ulysses 77.08 336 ⇑P P 18 08 42.9 +1.1
baz=77,SNR=6.4
T27A Campo 77.12 335 ⇓P P 18 08 43.5 +1.4
baz=78,SNR=8.3
U25A Circle Dot Ran 77.13 333 ⇑P P 18 08 43.7 +1.4
baz=78,SNR=7.4
R31A Burdett 77.18 338 ⇓P P 18 08 43.6 +1.3
baz=78
V23A Ortiz Mt. (NFS 77.22 332 ⇓P P 18 08 44.0 +1.1
baz=78
S28A Manter 77.31 336 ⇓P P 18 08 44.2 +1.1
baz=78,SNR=9.9
Q33A Connelly Farm, 77.33 339 ⇑P P 18 08 44.2 +1.1
baz=78
R30A Dighton 77.41 337 ⇓P P 18 08 44.5 +0.9
baz=78
AAM Ann Arbor 77.52 351 P P 18 08 43.2 -0.8
AAM Ann Arbor 77.52 351 P P 18 08 43.2 -0.8
T26A Comanche Natio 77.53 334 ⇓P P 18 08 45.6 +1.2
baz=78,SNR=6.7
Q32A Meitler Ranch, 77.53 339 ⇑P P 18 08 45.2 +0.9
baz=78,SNR=6.9
V22A San Miguel Ran 77.65 331 ⇑P P 18 08 47.6 +2.4
baz=78,SNR=9.2
P33A Williams Farm, 77.69 340 ⇑P P 18 08 46.0 +0.8
baz=78
X18A Snowflake 77.72 328 ⇑P P 18 08 48.0 +2.4
baz=78
S27A Las Animas 77.74 335 ⇓P P 18 08 46.2 +0.7
baz=78,SNR=5.9
U23A El Rito 77.74 332 ⇓P P 18 08 47.6 +1.8
baz=78,SNR=5.2
T25A Trinidad 77.79 334 ⇑P P 18 08 47.9 +1.9
baz=78,SNR=16
Q31A Ellis 77.80 338 ⇑P P 18 08 46.5 +0.8
baz=78,SNR=7.1
R29A Marienthal 77.82 337 ⇓P P 18 08 46.8 +0.9
baz=78
S26A Kim 77.88 335 ⇑P P 18 08 47.8 +1.4
baz=78,SNR=13
R28A Tribune 77.96 336 ⇓P P 18 08 47.5 +0.8
baz=78,SNR=7.7
113A Mohawk Valley, 77.97 325 P P 18 08 48.0 +1.3
baz=78
Q30A Quinter 78.03 338 ⇓P P 18 08 48.2 +1.1
baz=78,SNR=6.7
U22A Llaves 78.04 332 ⇓P P 18 08 49.9 +2.5
baz=78
T24B San Luis 78.08 333 ⇓P P 18 08 49.7 +2.0
baz=78,SNR=7.3
W18A Petrified Fore 78.12 329 ⇓P P 18 08 50.1 +2.3
baz=78
Q29A Oakley 78.19 337 ⇓P P 18 08 49.4 +1.5
baz=79
R27A Eads 78.24 335 ⇓P P 18 08 49.5 +1.2
baz=79,SNR=11
S25A Robets Cordova 78.26 334 ⇓P P 18 08 50.4 +1.9
baz=79,SNR=7.4
P31A Stockton 78.27 338 ⇓P P 18 08 49.0 +0.7
baz=79,SNR=6.6
X16A Lo Mia Camp, P 78.27 327 ⇓P P 18 08 50.5 +1.8
baz=79,SNR=11
T23A Casias Ranch, 78.30 333 ⇑P P 18 08 50.1 +1.3
baz=79
NCB Newcomb 78.45 358 eP P 18 08 51.4 +2.2
comp=Z,45nm,0.9s
R26A Arlington 78.48 335 ⇑P P 18 08 51.4 +1.7
baz=79,SNR=7.1
S24A Houchin Ranch, 78.53 333 ⇓P P 18 08 52.7 +2.6
baz=79,SNR=8.4
P30A Selden 78.55 338 ⇑P P 18 08 51.0 +1.1
baz=79
Y14A Wickenburg 78.58 326 ⇓P P 18 08 52.2 +2.0
baz=79
Q28A Sharon Springs 78.62 337 ⇓P P 18 08 52.4 +2.1
baz=79
O32A Brockman Farm, 78.62 340 ⇑P P 18 08 51.8 +1.5
baz=79
R25A Fountain Ranch 78.64 334 ⇑P P 18 08 52.2 +1.7
baz=79
GLA Glamis 78.71 324 ⇑P P 18 08 53.3 +2.4
baz=79
TSUM Tsumeb 78.72 106 eP P 18 08 51.5 -0.1
comp=Z,36nm,1.3s
P29A Atwood 78.82 337 ⇓P P 18 08 52.9 +1.5
baz=79,SNR=5.4
O31A Woolen Ranch, 78.83 339 ⇑P P 18 08 53.1 +1.7
baz=79
KSCO Kaye Shedlock' 78.84 336 eP P 18 08 52.3 +0.7
comp=Z,25nm,0.8s
KSCO Kaye Shedlock' 78.84 336 ⇑P P 18 08 52.8 +1.2
baz=79
R24A Sanders Place, 79.01 334 ⇓P P 18 08 54.5 +1.8
baz=79,SNR=11
P28A Saint Francis 79.06 337 ⇑P P 18 08 54.5 +1.7
baz=79
Q26A Hugo 79.06 335 ⇓P P 18 08 55.1 +2.2
baz=79
O30A MW Ranch, Wils 79.08 338 ⇓P P 18 08 54.5 +1.8
baz=79
LONY Lake Ozonia 79.11 358 eP P 18 08 54.0 +1.2
comp=Z,38nm,1.1s
WUAZ Wupatki 79.17 328 eP P 18 08 55.5 +1.9
comp=Z,38nm,1.4s
WUAZ Wupatki 79.17 328 ⇑P P 18 08 55.9 +2.3
baz=80
JFWS Jewell Farm 79.19 346 eP P 18 08 53.2 -0.1
JFWS pmax pmax
comp=Z,63nm,1.4s
JFWS Jewell Farm 79.19 346 eP P 18 08 53.2 -0.1
comp=Z,63nm,1.4s
S22A 4UR Ranch, Cre 79.22 332 ⇓P P 18 08 55.5 +1.6
baz=80,SNR=5.6
R23A Moffat 79.24 333 ⇑P P 18 08 56.1 +2.0
baz=80
O29A 4D Ranch, Culb 79.26 338 ⇓P P 18 08 55.0 +1.2
baz=80
Q25A Bedland, Calha 79.31 335 ⇓P P 18 08 55.5 +1.2
baz=80
P27A Ficken Ranch, 79.31 336 ⇑P P 18 08 56.2 +2.0
baz=80
N31A Bailey Ranch, 79.34 339 ⇑P P 18 08 55.2 +1.0
baz=80
MVCO Mesa Verde 79.41 331 eP P 18 08 55.9 +1.0
comp=Z,35nm,1.4s
MVCO e 18 09 08.5
MVCO Mesa Verde 79.41 331 ⇑P P 18 08 56.8 +1.8
baz=80
BOSA Boshof 79.44 117 eP P 18 08 54.7 -0.7
BOSA pmax pmax
comp=Z,35nm,0.8s
BOSA Boshof 79.44 117 P P 18 08 55.1 -0.3
comp=Z,31nm,0.8s,baz=247,slow=3.7,SNR=26
BOSA Boshof 79.44 117 eP P 18 08 54.7 -0.7
comp=Z,35nm,0.8s
BC3 Big Chuckawall 79.50 324 ⇓P P 18 08 56.9 +1.6
baz=80
O28A Krutsinger Ran 79.57 337 ⇓P P 18 08 57.7 +2.2
baz=80
P26A Davis Ranch, A 79.58 336 ⇑P P 18 08 57.0 +1.3
baz=80
BGNE Belgrade 79.65 340 ⇓P P 18 08 56.7 +0.8
baz=80
Q24A Divide 79.67 334 ⇓P P 18 08 57.8 +1.4
baz=80,SNR=7.8
IRM Iron Mountain 79.77 325 ⇑P P 18 08 58.9 +2.2
baz=80
P25A Willow Gulch B 79.81 335 ⇓P P 18 08 58.3 +1.3
baz=80,SNR=8.1
M31A Lambtecht Ranc 79.83 339 ⇑P P 18 08 58.3 +1.4
baz=80,SNR=5.2
N29A Votaw Ranch, W 79.84 338 ⇑P P 18 08 58.2 +1.3
baz=80
W13A Hualapai Mount 79.95 326 ⇓P P 18 08 57.9 +0.1
baz=80
PFO Pinyon Flat Ob 79.95 323 P P 18 08 59.0 +1.2
PFO Pinyon Flat Ob 79.95 323 P P 18 08 59.0 +1.2
comp=Z,6.3nm,0.8s,baz=144,slow=3.8
N28A Pribbeno Ranch 80.00 337 ⇓P P 18 08 59.5 +1.7
baz=80
M30A Dale-Ortello V 80.27 339 ⇓P P 18 09 00.5 +1.3
baz=81
MURC Murrieta 80.31 323 ⇓P P 18 09 03.0 +3.4
baz=81
U15A North Rim 80.34 328 ⇑P P 18 09 01.9 +1.9
baz=81,SNR=5.5
OGNE Ogallala 80.39 337 eP P 18 09 01.1 +1.2
comp=Z,18nm,0.8s
OGNE Ogallala 80.39 337 ⇑P P 18 09 01.4 +1.4
baz=81
M29A Burnside Ranch 80.43 338 ⇑P P 18 09 01.8 +1.7
baz=81
N27A Anderson Farm, 80.43 337 ⇓P P 18 09 02.2 +2.1
baz=81
GMRC Granite Mounta 80.52 325 ⇓P P 18 09 03.3 +2.5
baz=81,SNR=5.2
SMCO Snowmass 80.53 333 eP P 18 09 02.9 +1.7
comp=Z,34nm,1.1s
L31A Butterfield Fa 80.56 340 ⇑P P 18 09 01.8 +1.1
baz=81,SNR=6.2
ISCO Idaho Springs 80.58 334 eP P 18 09 01.8 +0.5
ISCO e 18 09 15.1
ISCO pmax pmax
comp=Z,13nm,1.0s
ISCO Idaho Springs 80.58 334 eP P 18 09 01.8 +0.5
comp=Z,13nm,1.0s
ISCO e 18 09 15.1
ISCO Idaho Springs 80.58 334 ⇓P P 18 09 02.5 +1.2
baz=81,SNR=5.9
M28A Bar X Bar Ranc 80.59 338 ⇑P P 18 09 03.4 +2.4
baz=81
PV04 Paradox Valley 80.59 331 eP P 18 09 02.9 +1.7
L30A Spencer Herefo 80.60 339 ⇓P P 18 09 02.5 +1.5
baz=81
N26A Koester Ranch, 80.67 336 ⇑P P 18 09 03.8 +2.3
baz=81
P22A Eagle 80.82 333 ⇓P P 18 09 04.6 +2.1
baz=81
HEC Hector,Ludlow 80.88 324 ⇑P P 18 09 05.4 +2.7
baz=81
L29A Maesberg Ranch 80.93 339 ⇓P P 18 09 04.5 +1.7
baz=81
M27A Reverse DX Ran 81.03 337 ⇓P P 18 09 05.5 +2.2
baz=81
O23A Lake Granby, G 81.05 334 ⇓P P 18 09 05.7 +1.9
baz=81,SNR=8.1

TUQ Turquoise Moun 81.17 325 ⇑P P 18 09 05.9 +1.5
baz=82
M26A McRoberts Ranc 81.22 337 ⇓P P 18 09 06.3 +1.9
baz=82
N24A Carr 81.23 335 ⇓P P 18 09 06.6 +2.0
baz=82
O22A Kremmling 81.24 334 ⇑P P 18 09 06.5 +1.8
baz=82,SNR=9.5
K30A Basset 81.24 340 ⇑P P 18 09 05.3 +0.9
baz=82,SNR=8.8
ECSD EROS Data Cent 81.41 342 eP P 18 09 04.8 -0.4
comp=Z,36nm,0.8s
ECSD e 18 09 18.4
ECSD EROS Data Cent 81.41 342 ⇑P P 18 09 05.9 +0.7
baz=82,SNR=15
GSC Goldstone 81.49 324 eP P 18 09 06.4 +0.5
GSC pmax pmax
comp=Z,35nm,1.7s
GSC Goldstone 81.49 324 eP P 18 09 06.4 +0.5
comp=Z,35nm,1.7s
GSC Goldstone 81.49 324 ⇑P P 18 09 07.7 +1.7
baz=82
M25A Palm-Egli Farm 81.49 336 ⇑P P 18 09 08.2 +2.3
baz=82
L27A T5 Ranch, Ells 81.51 337 ⇓P P 18 09 07.6 +1.7
baz=82
K29A Lazy Trails An 81.52 339 ⇓P P 18 09 06.9 +1.0
baz=82
N23A Red Feather La 81.67 334 ⇑P P 18 09 08.1 +1.1
baz=82
SHPR Sheep Range 81.69 326 eP P 18 09 08.9 +1.8
LBTB Lobatse 81.71 115 eP P 18 09 07.0 -0.6
LBTB pmax pmax
comp=Z,23nm,0.8s
LBTB Lobatse 81.71 115 eP P 18 09 07.0 -0.6
comp=Z,23nm,0.8s
EDW2 Edwards Air Fo 81.73 323 ⇑P P 18 09 08.6 +1.4
baz=82
CCUT Cedar City 81.74 328 eP P 18 09 09.7 +2.2
comp=Z,46nm,1.5s
N22A Wattenberg Ran 81.77 334 ⇑P P 18 09 09.4 +1.9
baz=82,SNR=6.0
M24A Cheyenne 81.78 335 ⇓P P 18 09 08.9 +1.5
baz=82
K28A Ten Mile Ranch 81.79 338 ⇓P P 18 09 09.2 +1.8
baz=82,SNR=7.7
J30A Dallas 81.80 340 ⇓P P 18 09 08.5 +1.2
baz=82
O20A White River Ci 81.84 333 eP P 18 09 07.8 0.0
comp=Z,12nm,0.8s
O20A White River Ci 81.84 333 ⇑P P 18 09 09.8 +2.0
baz=82
PHWY Pilot Hill 81.85 335 eP P 18 09 08.9 +0.9
comp=Z,15nm,0.8s
SRU San Rafael 81.86 330 eP P 18 09 08.9 +1.0
SRU pmax pmax
comp=Z,15nm,0.9s
SRU San Rafael 81.86 330 eP P 18 09 08.8 +1.0
comp=Z,15nm,0.9s
SPMN St. Paul 81.93 345 eP P 18 09 07.6 -0.3
comp=Z,18nm,0.6s
SPMN St. Paul 81.93 345 ⇑P P 18 09 08.2 +0.3
baz=82
MVU Marysvale 82.04 329 eP P 18 09 10.5 +1.6
comp=Z,21nm,1.4s
K27A Flueckinger Fa 82.05 338 ⇑P P 18 09 10.6 +1.8
baz=82
LRMC Laurel Mountai 82.06 324 P P 18 09 10.4 +1.5
baz=82
L25A Engebretsen Ra 82.11 336 ⇑P P 18 09 10.4 +1.3
baz=82
J29A Okreek 82.11 339 ⇑P P 18 09 10.0 +1.0
baz=82,SNR=10
TMUT Trail Mountain 82.30 330 eP P 18 09 11.2 +0.8
comp=Z,14nm,0.9s
I30A Oacoma 82.33 340 ⇑P P 18 09 11.4 +1.4
baz=83
L24A Wheatland 82.33 336 ⇓P P 18 09 12.4 +2.1
baz=83
K26A Motz Farm, Whi 82.34 337 ⇓P P 18 09 12.1 +1.9
baz=83
M22A Cedar Creek Ra 82.34 334 ⇓P P 18 09 11.7 +1.1
baz=83
J28A Allard Ranch, 82.40 339 ⇓P P 18 09 12.3 +1.9
baz=83
FURC Furnace Creek, 82.46 325 ⇓P P 18 09 13.5 +2.7
baz=83
N20A Spence Gulch, 82.46 333 ⇑P P 18 09 12.7 +1.6
baz=83
J27A Elkhorn Farm, 82.48 338 ⇑P P 18 09 12.3 +1.3
baz=83,SNR=6.5
ISA Isabella 82.59 323 eP P 18 09 13.5 +1.8
ISA pmax pmax
comp=Z,10.0nm,0.9s
ISA Isabella 82.59 323 eP P 18 09 13.5 +1.8
comp=Z,10.0nm,0.9s
ISA Isabella 82.59 323 P P 18 09 13.2 +1.5
baz=83
L23A Garrett 82.66 335 ⇓P P 18 09 13.2 +1.1
baz=83
I29A Vivian Onida 82.67 340 ⇑P P 18 09 12.7 +0.8
baz=83
BRSD Miller 82.69 341 eP P 18 09 12.6 +0.7
comp=Z,56nm,0.8s
BRSD Miller 82.69 341 ⇓P P 18 09 12.7 +0.8
baz=83
L22A Ellis Ranch, M 82.84 335 ⇓P P 18 09 14.8 +1.8
baz=83
J26A Sides Ranch, S 82.86 337 ⇓P P 18 09 13.5 +0.6
baz=83,SNR=5.2
I28A Midland 82.90 339 ⇑P P 18 09 14.3 +1.2
baz=83
VES Vestal, Richgr 83.03 323 ⇑P P 18 09 15.4 +1.6
baz=83
MPU Maple Canyon 83.08 330 eP P 18 09 14.7 +0.4
comp=Z,15nm,0.9s
MPU e 18 09 28.0
GRAC Grapevine Rang 83.12 325 ⇓P P 18 09 16.9 +2.5
baz=84
K23A Bowen Ranch, D 83.20 336 ⇓P P 18 09 16.1 +1.4
baz=84,SNR=5.9
H29A Onida 83.20 340 ⇑P P 18 09 15.1 +0.5
baz=84,SNR=8.9
I27A Quinn 83.23 338 ⇓P P 18 09 16.8 +2.0
baz=84
G30A Faulkton 83.37 341 ⇑P P 18 09 16.2 +0.8
baz=84
J24A Dixon Ranch, L 83.39 336 ⇑P P 18 09 17.3 +1.6
baz=84,SNR=5.9
R11A Troy Canyon, C 83.39 327 eP P 18 09 17.6 +1.7
comp=Z,17nm,1.1s
R11A Troy Canyon, C 83.39 327 ⇓P P 18 09 17.7 +1.7
baz=84,SNR=12
K22A Casper 83.42 335 eP P 18 09 17.0 +1.1
comp=Z,25nm,1.0s
K22A Casper 83.42 335 ⇑P P 18 09 17.7 +1.8
baz=84
H28A Mission Ridge 83.48 339 ⇑P P 18 09 17.0 +1.0
baz=84,SNR=7.1
JLU Jordanelle 83.50 331 eP P 18 09 17.6 +1.1
comp=Z,14nm,0.9s
G29A Hoven 83.64 340 ⇓P P 18 09 18.7 +1.9
baz=84
K21A Alcova 83.66 334 ⇓P P 18 09 18.7 +1.5
baz=84,SNR=7.2
CTU Camp Tracy 83.70 331 eP P 18 09 18.6 +1.1
comp=Z,10nm,0.8s
I25A Rochford 83.71 337 ⇑P P 18 09 18.6 +1.2
baz=84,SNR=6.8
DUG Dugway 83.72 330 eP P 18 09 17.6 +0.1
DUG pmax pmax
comp=Z,41nm,1.4s
DUG Dugway 83.72 330 eP P 18 09 17.6 +0.1
comp=Z,41nm,1.4s
DUG Dugway 83.72 330 ⇓P P 18 09 19.2 +1.8
baz=84,SNR=6.1
H27A Howes 83.75 339 ⇓P P 18 09 18.1 +0.7
baz=84
G28A Parade 83.81 340 ⇓P P 18 09 18.2 +0.4
baz=84,SNR=7.3
I24A Kuemmerle Ranc 83.85 337 ⇑P P 18 09 18.4 +0.4
baz=84
RSSD Black Hills 83.89 337 eP P 18 09 18.3 -0.1
RSSD pmax pmax
comp=Z,17nm,0.9s
RSSD Black Hills 83.89 337 eP P 18 09 18.3 -0.1
comp=Z,17nm,0.9s
TPH Tonopah 83.92 326 eP P 18 09 19.9 +1.2

TPH pmax pmax
comp=Z,36nm,1.4s
TPH Tonopah 83.92 326 eP P 18 09 19.9 +1.2
comp=Z,36nm,1.4s
F30A Leola 83.99 341 ⇓P P 18 09 19.2 +0.6
baz=84
J22A Midwest 84.07 335 ⇓P P 18 09 20.1 +0.9
baz=84
H25A Fruitdale 84.20 338 ⇑P P 18 09 20.9 +1.1
baz=85
F29A Eureka 84.21 341 ⇓P P 18 09 20.3 +0.6
baz=85,SNR=7.3
TOA0 Torodi Ar. Sit 84.22 70 eP P 18 09 19.9 -0.6
TORD Torodi Ar. Bea 84.22 70 P P 18 09 20.2 -0.3
comp=Z,24nm,0.9s,baz=251,slow=4.4,SNR=40
J21A Lysite 84.35 335 ⇓P P 18 09 21.8 +1.1
baz=85
G27A Dupree 84.39 339 ⇓P P 18 09 21.2 +0.6
baz=85,SNR=5.1
BGU Big Grassy Mou 84.42 330 eP P 18 09 20.4 -0.7
comp=Z,18nm,1.8s
F28A McLaughlin 84.49 340 ⇑P P 18 09 21.9 +0.7
baz=85
I22A 9 Mile Ranch, 84.50 336 ⇓P P 18 09 22.1 +0.7
baz=85,SNR=5.6
G26A Maurine 84.51 339 ⇓P P 18 09 21.6 +0.3
baz=85,SNR=6.7
E30A Jud 84.58 342 ⇑P P 18 09 22.2 +0.6
baz=85
J20A Shoshoni 84.58 334 ⇑P P 18 09 23.6 +1.8
baz=85,SNR=12
PDAR Pinedale Array 84.61 333 P P 18 09 22.3 +0.2
comp=Z,2.6nm,0.7s,baz=154,slow=6.4,SNR=15
H24A Dirks Ranch, A 84.62 337 ⇑P P 18 09 22.8 +0.9
baz=85,SNR=5.6
G25A Newell 84.66 338 ⇑P P 18 09 22.9 +0.8
baz=85
I21A Big Trails, Te 84.71 335 ⇑P P 18 09 22.6 +0.1
baz=85,SNR=6.8
NVAR Mina Array Bea 84.71 325 P P 18 09 24.1 +1.4
comp=Z,3.6nm,0.8s,baz=156,slow=6.2,SNR=12
E29A Napoleon 84.83 341 ⇓P P 18 09 23.3 +0.5
baz=85
J19A Crowheart 84.86 334 ⇑P P 18 09 23.6 +0.3
baz=85,SNR=9.6
F27A Lemmon 84.86 339 ⇓P P 18 09 23.6 +0.6
baz=85,SNR=7.2
HVU Hansel Valley 85.03 330 eP P 18 09 24.6 +0.5
HVU pmax pmax
comp=Z,27nm,1.0s
HVU Hansel Valley 85.03 330 eP P 18 09 24.6 +0.5
comp=Z,27nm,1.0s
F26A Lodgepole 85.03 339 ⇓P P 18 09 24.8 +0.9
baz=85
H22A Clearmont 85.07 336 ⇓P P 18 09 25.2 +1.0
baz=85
G24A Alzada 85.09 338 ⇓P P 18 09 25.7 +1.4
baz=86
D30A Buchanan 85.10 342 ⇑P P 18 09 25.1 +0.9
baz=86
I20A Worland 85.12 335 ⇑P P 18 09 25.1 +0.6
baz=86,SNR=14
E28A Huff 85.12 340 P P 18 09 25.3 +1.0
baz=86
ELK Elko 85.20 328 eP P 18 09 26.2 +1.1
ELK pmax pmax
comp=Z,10.0nm,1.0s
ELK Elko 85.20 328 P P 18 09 26.1 +1.0
comp=Z,4.1nm,0.9s,baz=162,slow=2.3,SNR=13
ELK Elko 85.20 328 eP P 18 09 26.2 +1.1
comp=Z,10nm,1.0s
E27A Carson 85.23 340 ⇓P P 18 09 26.6 +1.7
baz=86
D29A Pettibone, Tap 85.28 341 ⇓P P 18 09 25.8 +0.8
baz=86
G23A Biddle 85.29 337 ⇓P P 18 09 25.7 +0.5
baz=86
WAKR Walker 85.31 324 eP P 18 09 27.1 +1.5
F25A Bowman 85.33 338 ⇑P P 18 09 26.4 +1.0
baz=86
H21A Big Horn, Sher 85.33 336 ⇓P P 18 09 25.9 +0.4
baz=86
I19A Meeteetse 85.50 334 ⇑P P 18 09 27.3 +0.8
baz=86,SNR=7.9
AGMN Agassiz Nation 85.51 344 eP P 18 09 25.8 -0.4
comp=Z,20nm,0.6s
AGMN e 18 09 39.1
E26A Carlson Angus 85.53 339 ⇑P P 18 09 26.7 +0.3
baz=86
H20A Greybull 85.54 335 ⇓P P 18 09 26.8 +0.2
baz=86,SNR=18
F24A Ekalaka 85.57 338 ⇑P P 18 09 26.9 +0.3
baz=86
C30A Mose, Pekin 85.58 342 ⇑P P 18 09 27.5 +1.0
baz=86,SNR=5.0
G22A Birney 85.60 336 ⇓P P 18 09 27.6 +0.8
baz=86
REDW Red Top Meadow 85.61 332 eP P 18 09 27.6 +0.5
comp=Z,34nm,1.5s
D28A Regan 85.66 341 ⇑P P 18 09 27.7 +0.8
baz=86
LOHW Long Hollow 85.73 333 eP P 18 09 28.1 +0.4
comp=Z,9.1nm,0.8s
TPAW Teton Pass 85.76 332 eP P 18 09 28.6 +0.7
comp=Z,15nm,0.9s
F23A Volborg 85.76 337 ⇓P P 18 09 27.5 0.0
baz=86,SNR=6.0
E25A Miller Ranch, 85.84 339 ⇓P P 18 09 29.3 +1.4
baz=86
D27A Center 85.84 340 ⇓P P 18 09 29.2 +1.3
baz=86
FXWY Fox Creek 85.91 333 eP P 18 09 29.1 +0.5
comp=Z,8.9nm,0.9s
G21A Lodge Grass 85.92 336 ⇑P P 18 09 28.8 +0.4
baz=86,SNR=6.2
I17A Pilgrim Ck. 85.98 333 ⇓P P 18 09 30.5 +1.6
baz=86,SNR=7.0
D26A Manning 86.03 339 ⇑P P 18 09 29.4 +0.5
baz=86
H19A Powell 86.05 334 ⇓P P 18 09 30.7 +1.6
baz=86,SNR=5.4
C28A Hausauer Farms 86.09 341 ⇑P P 18 09 30.4 +1.3
baz=86
F22A Rosebud 86.09 337 ⇓P P 18 09 30.4 +1.2
baz=86
IMW Indian Meadow 86.10 333 eP P 18 09 30.3 +0.7
comp=Z,19nm,0.9s
E24A Baker 86.17 338 ⇑P P 18 09 30.2 +0.7
baz=86
FLWY Flagg Ranch 86.17 333 eP P 18 09 30.8 +1.0
comp=Z,28nm,0.9s
B30A Myrvik Farm, E 86.24 343 ⇑P P 18 09 30.1 +0.3
baz=87,SNR=12
G20A Bridger 86.26 335 ⇓P P 18 09 30.5 +0.4
baz=87,SNR=9.8
H18A Shoshone NF, C 86.30 334 ⇑P P 18 09 31.1 +0.6
baz=87,SNR=19
C27A Sayler Ranch, 86.39 340 ⇓P P 18 09 33.2 +2.6
baz=87
H17A Grant Village 86.39 333 eP P 18 09 33.1 +2.2
comp=Z,9.7nm,1.0s
H17A Grant Village 86.39 333 ⇑P P 18 09 33.1 +2.2
baz=87
D25A Fairfield 86.40 339 ⇓P P 18 09 31.9 +1.3
baz=87
F21A Absaloka Mine, 86.41 336 ⇑P P 18 09 32.7 +1.9
baz=87
E23A Ismay 86.42 337 ⇓P P 18 09 31.8 +1.1
baz=87
B29A Wagenman Farm, 86.51 342 ⇓P P 18 09 31.3 +0.2
baz=87,SNR=5.1
YFT Old Faithful 86.54 333 eP P 18 09 30.8 -0.9
comp=Z,18nm,0.9s
RLMT Red Lodge 86.54 334 eP P 18 09 31.5 -0.1
comp=Z,13nm,0.6s
RLMT e 18 09 45.1
E22A Miles City 86.57 337 ⇑P P 18 09 32.1 +0.6
baz=87
C26A Wahner Farm, P 86.66 340 ⇑P P 18 09 32.6 +0.7
baz=87
D24A Glendive 86.67 338 ⇑P P 18 09 32.9 +1.0
baz=87
A30A Hoffart Farm, 86.69 343 ⇑P P 18 09 31.8 -0.2
baz=87
F20A Billings 86.74 335 ⇑P P 18 09 32.4 -0.1
baz=87
B28A Dugan Ranch, T 86.76 341 ⇓P P 18 09 32.9 +0.6
baz=87

YMR Madison River 86.77 333 eP P 18 09 33.3 +0.5
comp=Z,37nm,0.9s
YMR e 18 09 46.7
LAO LASA Array 86.88 337 eP P 18 09 32.5 -0.5
comp=Z,39nm,1.0s
A29A Manning Farm, 86.90 342 ⇓P P 18 09 33.0 0.0
baz=87,SNR=5.9
OHCM Honcut 86.95 324 eP P 18 09 34.9 +1.4
D23A Lindsay 86.99 338 ⇑P P 18 09 34.6 +1.1
baz=87,SNR=5.8
E21A Keefer Ranch, 87.03 336 ⇑P P 18 09 34.5 +0.8
baz=87
F19A Roth Farm, Mol 87.06 335 ⇓P P 18 09 34.3 +0.3
baz=87
C24A Savage 87.07 338 ⇑P P 18 09 34.8 +0.9
baz=87,SNR=12
QLMT Earthquake Lak 87.08 333 eP P 18 09 35.3 +1.1
A28A Rude Farm, Bot 87.15 342 ⇑P P 18 09 36.1 +1.9
baz=88
HLID Hailey 87.18 330 eP P 18 09 35.3 +0.6
comp=Z,12nm,0.9s
HLID e 18 09 49.0
HLID Hailey 87.18 330 ⇓P P 18 09 35.7 +1.0
baz=88,SNR=7.4
D22A Cohagen 87.28 337 ⇑P P 18 09 36.2 +1.3
baz=88
E20A Meyer Farm, Mu 87.35 336 ⇑P P 18 09 36.6 +1.3
baz=88,SNR=7.2
ULM Lac du Bonnet 87.36 345 P P 18 09 34.6 -0.6
comp=Z,8.8nm,1.0s,baz=158,slow=4.4,SNR=7.4
ULM Lac du Bonnet 87.36 345 eP P 18 09 34.3 -0.8
B25A Knox Farm, Ray 87.36 340 ⇓P P 18 09 37.0 +1.7
baz=88,SNR=5.2
A27A Ledoux Ranch, 87.45 341 ⇑P P 18 09 36.4 +0.8
baz=88
D21A La Casta Ranch 87.46 337 ⇑P P 18 09 37.2 +1.3
baz=88
E19A Rath Farm, Rou 87.53 335 ⇑P P 18 09 36.7 +0.5
baz=88,SNR=9.6
C23A Lambert 87.54 338 ⇓P P 18 09 36.8 +0.6
baz=88,SNR=8.6
A26A Wade Farm, Ken 87.62 341 ⇑P P 18 09 37.8 +1.3
baz=88
MFID Camas Ranch 87.64 329 eP P 18 09 36.6 -0.3
comp=Z,12nm,0.9s
MFID e 18 09 50.3
C22A Vida 87.71 338 ⇑P P 18 09 38.0 +1.0
baz=88
DGMT Dagmar 87.84 339 eP P 18 09 37.8 +0.2
comp=Z,65nm,0.8s
DGMT Dagmar 87.84 339 ⇑P P 18 09 38.4 +0.8
baz=88
BOZ Bozeman (W) 87.85 333 eP P 18 09 38.0 +0.1
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ Bozeman (W) 87.85 333 eP P 18 09 38.0 +0.1
comp=Z,4.8nm,0.8s
D20A Manuel Ranch, 87.86 336 ⇓P P 18 09 38.4 +0.6
baz=88,SNR=7.1
A25A Svangstu Ranch 87.95 340 ⇑P P 18 09 39.6 +1.5
baz=88
DLMT Dillon 87.97 332 eP P 18 09 40.1 +1.7
comp=Z,18nm,1.1s
WVOR Wild Horse Val 88.06 327 eP P 18 09 39.0 +0.1
WVOR pmax pmax
comp=Z,12nm,1.0s
WVOR Wild Horse Val 88.06 327 eP P 18 09 39.0 +0.1
comp=Z,12nm,1.0s
B23A Brockton 88.08 339 ⇓P P 18 09 39.5 +0.8
baz=88
C21A Desert Coulee 88.17 337 ⇑P P 18 09 40.3 +1.2
baz=88
D19A Cripps Ranch, 88.18 336 ⇑P P 18 09 40.6 +1.3
baz=88
A24A Westby 88.19 339 ⇑P P 18 09 39.6 +0.4
baz=89
B22A Reddig Ranch S 88.24 338 ⇑P P 18 09 40.0 +0.5
baz=89,SNR=5.9
LRM Limekiln Ridge 88.30 333 eP P 18 09 40.9 +0.8
C20A Veseth Ranch, 88.36 336 ⇓P P 18 09 40.1 +0.1
baz=89
WDC Whiskeytown Da 88.43 324 eP P 18 09 40.2 -0.3
WDC pmax pmax
comp=Z,14nm,0.8s
WDC Whiskeytown Da 88.43 324 eP P 18 09 40.2 -0.3
comp=Z,14nm,0.8s
A23A Redstone 88.48 339 ⇓P P 18 09 41.6 +1.0
baz=89
B21A Ellsworth Farm 88.67 337 ⇑P P 18 09 42.9 +1.4
baz=89
C19A Slack Wire Ran 88.73 336 ⇑P P 18 09 42.7 +0.8
baz=89
N02D Trinity Center 88.81 324 ⇑P P 18 09 44.1 +1.7
baz=89
A22A Carney Farms, 88.83 338 ⇓P P 18 09 42.8 +0.6
baz=89,SNR=6.8
B20A Solberg Farm, 89.00 337 ⇑P P 18 09 43.1 0.0
baz=89
M04C Macdoel 89.02 325 ⇓P P 18 09 45.3 +1.9
baz=89
A21A Bergtoll Ranch 89.14 338 ⇑P P 18 09 44.4 +0.7
baz=90
M02C Callahan 89.20 324 ⇑P P 18 09 43.9 -0.3
baz=90
EGMT Eagleton 89.22 336 P P 18 09 43.9 -0.2
baz=90
LSZ Lusaka 89.29 108 eP P 18 09 46.5 +1.1
LSZ pmax pmax
comp=Z,15nm,1.0s
LSZ Lusaka 89.29 108 eP P 18 09 46.5 +1.1
comp=Z,15nm,1.0s
K05A Summer Lake 89.31 326 eP P 18 09 46.6 +1.7
comp=Z,28nm,0.9s
B19A Brinkman Farms 89.32 336 ⇓P P 18 09 45.6 +1.0
baz=90
A20A Cobblestone Ra 89.36 337 ⇑P P 18 09 45.0 +0.2
baz=90
SCHQ Schefferville 89.38 3 P P 18 09 44.1 -0.6
comp=Z,3.9nm,0.9s,baz=180,slow=10,SNR=2.6
YBH Yreka Blue Hor 89.39 324 eP P 18 09 45.6 +0.4
YBH pmax pmax
comp=Z,122nm,2.6s
YBH Yreka Blue Hor 89.39 324 P P 18 09 45.6 +0.4
comp=Z,2.9nm,0.9s,baz=124,slow=3.6,SNR=4.5
YBH Yreka Blue Hor 89.39 324 eP P 18 09 45.6 +0.4
comp=Z,122nm,2.6s
BMO Blue Mountains 89.43 329 eP P 18 09 46.0 +0.7
comp=Z,7.0nm,1.0s
K04D Chiloquin, OR 89.63 326 ⇑P P 18 09 46.7 +0.5
baz=90
A19A Klindworth Far 89.66 337 ⇑P P 18 09 46.9 +0.7
baz=90
MSO Missoula 89.71 333 ⇑P P 18 09 47.3 +0.7
baz=90
I07A Izee 89.76 328 eP P 18 09 48.3 +1.5
comp=Z,48nm,1.8s
SLMT Seeley Lake 89.89 333 eP P 18 09 47.4 0.0
J05D Fort Rock, OR 89.91 326 ⇑P P 18 09 48.2 +0.6
baz=90
SWMT Swartz Lake 90.30 333 eP P 18 09 49.5 +0.2
SWMT e 18 10 02.5
F10A Beach Ranch, E 90.31 330 eP P 18 09 50.1 +0.7
comp=Z,9.5nm,0.8s
G08A Pilot Rock 90.48 329 eP P 18 09 51.1 +0.9
comp=Z,6.4nm,0.8s
JTMT Jette 90.60 333 eP P 18 09 50.3 -0.4
JTMT e 18 10 04.3
BSMT Bassoo Peak 90.88 333 P P 18 09 51.8 -0.3
HAWA Hanford 91.60 329 eP P 18 09 55.6 +0.4
comp=Z,11nm,0.9s
HAWA e 18 10 09.2
TAM Tamanrasset 92.92 64 eP P 18 10 02.3 +0.2
TAM e 18 10 15.5
TAM pmax pmax
comp=Z,18nm,1.0s
TAM Tamanrasset 92.92 64 eP P 18 10 02.3 +0.2
comp=Z,18nm,1.0s
TAM e 18 10 15.4
YKA Yellowknife Ar 102.92 341 Pdiff Pdif 18 10 45.5 -0.5
comp=Z,0.6nm,0.9s,baz=139,slow=4.5,SNR=8.1
GERES GERESS Array B 112.53 45 PKiKP PKiKP 18 15 24.8 +0.3
comp=Z,0.6nm,0.7s,baz=270,slow=0.1,SNR=4.5
ILAR Eielson Array 115.05 333 PKP PKPdf 18 15 28.1 -0.5
comp=Z,0.5nm,0.8s,baz=197,slow=0.5,SNR=4.4
NB2 NORSAR Subarra 116.56 33 PKKP SP 18 26 16.3 -1.0
comp=Z,2.1nm,1.1s,baz=66,slow=1.9
BURAR Bucovina Array 119.05 50 ⇓PKIKP PKPdf 18 15 37.6 +0.5

BURAR Bucovina Array 119.05 50⇓iP PKPdf 18 15 37.5 +0.5
SUW Suwalki 120.01 43 ePKIKP PKPdf 18 15 37.1 -1.4
SUW Suwalki 120.01 43 ePKPab PKPdf 18 15 37.1 -1.4
CFR Carcaliu 120.08 54⇑PKIKP PKPdf 18 15 38.7 -0.2
CFR Carcaliu 120.08 54⇑iP PKPdf 18 15 38.7 -0.2
WRA Warramunga Arr 120.19 209 PKP PKPdf 18 15 38.7 -1.4
comp=Z,2.5nm,1.0s,baz=160,slow=1.6,SNR=11
MMAI Mount Meron Ar 120.76 69 PKP PKPdf 18 15 40.6 -0.1
comp=Z,5.7nm,0.9s,baz=46,slow=4.2,SNR=3.6
BRTR Keskin Array B 121.98 61 PKP PKPdf 18 15 42.5 -0.4
comp=Z,2.9nm,0.9s,baz=186,slow=4.2,SNR=14
AK02 Malin Array Si 122.51 48 ePKPdf PKPdf 18 15 41.4 -2.0
KIEV Kiev 122.52 48 ePKPdf PKPdf 18 15 41.0 -2.4
KIEV e 18 15 56.7
KIEV Kiev 122.52 48 ePKPdf PKPdf 18 15 41.0 -2.4
KIEV e 18 15 56.7
AK01 Malin Array Si 122.52 48 ePKPdf PKPdf 18 15 42.3 -1.1
AKASG Malin Array Be 122.53 48 PKP PKPdf 18 15 42.8 -0.7
comp=Z,1.1nm,0.6s,baz=261,slow=2.8,SNR=9.2
AKASG PP PP 18 17 31.3 +10
comp=Z,0.6nm,0.7s,baz=253,slow=7.7,SNR=5.0
SPITS Spitsbergen Ar 123.39 14 PKP PKPdf 18 15 44.2 -0.2
comp=Z,9.0nm,1.0s,baz=184,slow=2.5,SNR=5.5
RAYN Ar Rayn 124.81 84 ePKPdf PKPdf 18 15 49.1 +0.4
MALT Malatya 125.00 64 ⇑PKIKP PKPdf 18 15 49.6 +0.8
MALT Malatya 125.00 64⇑iP PKPdf 18 15 49.6 +0.8
H11N3 WAKE ISLAND Hy 126.47 270 T T 20 34 50.0
baz=115,slow=78,SNR=5.4
H11N1 WAKE ISLAND Hy 126.48 270 T T 20 34 49.5
baz=115,slow=78,SNR=13
H11N2 WAKE ISLAND Hy 126.48 270 T T 20 34 49.5
baz=115,slow=78,SNR=3.2
OBN Obninsk 127.83 44 i PKIKP PKPdf 18 15 52.8 -0.6
OBN pmax pmax
comp=Z,11nm,1.3s
KIV Kislovodsk 129.68 59 ePKIKP PKPdf 18 15 56.7 -0.8
KIV e 18 16 13.0
KIV Kislovodsk 129.68 59 ePKPdf PKPdf 18 15 56.7 -0.8
KIV e 18 16 13.0
KBZ Khabaz 129.77 59 PKP PKPdf 18 15 58.2 +0.7
comp=Z,2.8nm,1.0s,baz=184,slow=6.7,SNR=3.8
GNI Garni 130.23 64 PKP PKPdf 18 15 59.7 +0.9
comp=Z,4.4nm,0.7s,baz=252,slow=3.2,SNR=4.9
ZEI Tsey 130.27 60 ePKIKP PKPdf 18 15 58.0 -0.8
ZEI pmax pmax
comp=Z,12nm,1.1s
BILL Bilibino 133.69 334 ePKIKP PKPdf 18 16 04.4 +0.2
BILL pmax pmax
comp=Z,3.0nm,1.0s
GEYT Alibeck 139.86 70 PKP PKPdf 18 16 17.2 +0.6
comp=Z,3.4nm,0.9s,baz=306,slow=3.5,SNR=6.5
AKTO Aktyubinsk 140.64 51 PKhKP PKPpre 18 16 10.8
comp=Z,1.7nm,0.7s,baz=252,slow=2.9,SNR=6.8
SEY Seymchan 140.88 330 PKP PKPdf 18 16 18.1 +0.5
comp=Z,3.9nm,0.9s,baz=95,slow=0.8,SNR=6.5
TIXI Tiksi 141.54 350 ePKHKP PKPpre 18 16 11.2
TIXI Tiksi 141.54 350 ePKPpre PKPpre 18 16 11.2
ABKAR Akbulak array 141.96 53 ePKPpre PKPpre 18 16 13.8
KAD Karad 144.96 111 eP PKPab 18 16 25.1 -0.5
BKNI Bangkinang 145.02 167 ePKPdf PKPdf 18 16 24.1 -1.7
GSI Gunungsitoli 145.19 161 ePKPdf PKPab 18 16 26.5 +0.1
KSM Kuching 146.78 184 ePKPdf PKPdf 18 16 29.9 +0.4
KSM e 18 16 44.9
MYKOM Kota Tinggi 146.88 172 ePKPdf PKPbc 18 16 30.8 -0.7
PSI Prapat 146.97 163 PKPbc PKPdf 18 16 30.6 +0.6
comp=Z,30nm,0.9s,baz=216,slow=3.8,SNR=22
SBUM Sibu 147.59 187 ePKPdf PKPdf 18 16 31.9 +1.1
BRVK Borovoye 147.61 44 ePKP2 PKPbc 18 16 31.7 -0.6
BRVK Borovoye 147.61 44 ePKPbc PKPbc 18 16 31.7 -0.6
BVAR Borovoye Array 147.68 44 PKPbc PKPdf 18 16 30.6 +0.6
comp=Z,8.1nm,0.8s,baz=242,slow=3.2,SNR=16
KBL Kabul 147.85 79 ePKIKP PKPdf 18 16 32.0 +1.1
KBL Kabul 147.85 79 ePKPdf PKPdf 18 16 32.0 +1.1
HYB Hyderabad 148.33 116 i PKP PKPdf 18 16 33.5 +1.6
LHMI Lhok Sumawe 148.74 158 ePKPab PKPab 18 16 48.5 +8.3
MYLDM Lahad Datu 149.04 200 ePKPab PKPab 18 16 48.6 +7.3
IPM Ipoh 149.07 166 ePKPbc PKPbc 18 16 35.9 -1.5
YAK Yakutsk 149.59 340 ePKPbc PKPbc 18 16 36.0 -1.1
KKAR Karatay Array 149.68 63 ePKP2 PKPbc 18 16 37.5 -0.6
KKAR Karatay Array 149.68 63 ePKPbc PKPbc 18 16 37.5 -0.6
KKM Kota Kinabalu 150.45 196 ePKPbc PKPbc 18 16 38.8 -2.1
YSS Yuzh-Sakhalins 151.50 306 ePKIKP PKPdf 18 16 34.9 -1.1
YSS e 18 16 41.3
YSS Yuzh-Sakhalins 151.50 306 ePKPdf PKPdf 18 16 34.9 -1.1
YSS ePKPbc PKPbc 18 16 41.3 -0.9
PKDT Phuket 151.68 159 PKP PKPbc 18 16 43.2 -0.4
AML Almayashu 152.08 64 P PKPbc 18 16 44.9 +0.6
SNR=10
EKS2 Erkin-Say 152.10 63 P PKPbc 18 16 44.2 +0.3
SNR=12
EKS2 Erkin-Say 152.10 63 ePKIKP PKPbc 18 16 43.9 0.0
EKS2 Erkin-Say 152.10 63 ePKPbc PKPbc 18 16 43.9 0.0
USP Ospenovka 152.57 62 P PKPbc 18 16 45.0 +0.1
SNR=14
AAK Ala-Archa 152.63 63 P PKPbc 18 16 45.6 +0.5
SNR=15
AAK Ala-Archa 152.63 63 ePKIKP PKPbc 18 16 45.2 0.0
AAK Ala-Archa 152.63 63 PKPbc PKPbc 18 16 45.6 +0.5
comp=Z,22nm,0.7s,baz=186,slow=1.4,SNR=26
AAK Ala-Archa 152.63 63 ePKPbc PKPbc 18 16 45.2 0.0
UCH Uchtor 152.68 64 P PKPbc 18 16 46.1 +0.5
SNR=12
CHMS Chumysh 152.78 62 P PKPbc 18 16 45.3 +0.1
SNR=6.2
KBK Karagaybulak 152.96 63 P PKPbc 18 16 46.6 +0.7
SNR=9.9
KZA Kyzart 153.24 64 P PKPbc 18 16 45.8 -1.0
SNR=5.5
KURK Kurchatov 153.27 44 ePKIKP PKPbc 18 16 44.6 -1.4
KURK Kurchatov 153.27 44 ePKPbc PKPbc 18 16 44.6 -1.4
TKM2 Tokmak 2 153.41 62 P PKPbc 18 16 47.2 +0.3
SNR=6.5
TKM2 Tokmak 2 153.41 62 ePKIKP PKPdf 18 16 39.4 +0.1
TKM2 Tokmak 2 153.41 62 ePKPdf PKPdf 18 16 39.4 +0.1
NVS Novosibirsk 153.47 33 ePKIKP PKPdf 18 16 37.2 -1.4
NVS pmax pmax
comp=Z,25nm,1.0s
KSH Kashi 153.90 70 ePKPbc PKPbc 18 16 47.5 -0.4
KSH epPKP PKPab 18 16 59.8 -1.5
KSH esPKP 18 17 02.0
KSH ePP PP 18 20 49.8 +13
KSH eSKS SKSdf 18 23 43.0 -1.2
ZAA0 Zalesovo Array 154.76 34 ePKPdf PKPdf 18 16 39.4 -1.1
ZAA0 ePKPbc PKPbc 18 16 48.0 -1.1
ZALV Zalesovo Beam 154.76 34 PKP PKPdf 18 16 39.8 -0.7
comp=Z,1.4nm,0.8s,baz=267,slow=3.0,SNR=5.8
ZALV PKPbc PKPbc 18 16 48.8 -0.3
comp=Z,6.7nm,1.1s,baz=298,slow=3.2,SNR=8.9
ZALV PKPab PKPab 18 17 04.2 -0.1
comp=Z,3.7nm,0.5s,baz=299,slow=1.7,SNR=7.1
MJAR Matsushiro Arr 155.69 283 PKPab PKPab 18 17 04.8 -4.1
comp=Z,1.0nm,0.6s,baz=119,slow=2.5,SNR=6.0
BOD Bodaibo 156.67 352 ePKP2 PKPab 18 17 11.5 -0.8
BOD pmax pmax
comp=Z,12nm,1.2s
MK31 Makanchi Array 157.07 51 ePKPdf PKPdf 18 16 42.8 -1.1
MK31 Makanchi Array 157.07 51 ePKPdf PKPdf 18 16 42.8 -1.1
MKAR Makanchi Array 157.07 51 PKP PKPdf 18 16 43.6 -0.3
comp=Z,0.8nm,0.8s,baz=337,slow=1.6,SNR=4.3
MKAR PKPab PKPab 18 17 13.3 -1.1
comp=Z,7.7nm,1.0s,baz=285,slow=2.1,SNR=9.5
KOLN Koldanda 157.79 102 eP PKPdf 18 16 44.6 -1.0
DANN Dangsing 158.15 100 eP PKPdf 18 16 45.7 -0.4
GKN Gorkha 158.72 102 eP PKPdf 18 16 45.4 -1.3
DMN Daman 158.93 104 eP PKPdf 18 16 46.4 -0.7
KKN Kakani 159.15 103 eP PKPdf 18 16 45.9 -1.3
PKIN Phulchoki 159.15 104 eP PKPdf 18 16 46.2 -1.1
PKI Pulchoki 159.15 104 eP PKPdf 18 16 45.8 -1.6
JIRN Jiri 159.81 105 eP PKPdf 18 16 47.2 -1.0
RAMN Ramite 159.82 107 eP PKPdf 18 16 47.5 -0.6
ODAN Odare 160.39 108 eP PKPdf 18 16 48.0 -0.7
CMAR Chiang Mai Arr 161.70 151 PKP PKPdf 18 16 48.6 -1.4
comp=Z,1.5nm,0.9s,baz=248,slow=3.3,SNR=7.7
CMAR PKPab PKPab 18 17 34.4 -0.8
comp=Z,2.6nm,0.9s,baz=226,slow=5.5,SNR=6.8
WMQ Urumqi 161.73 54 ePKP PKPdf 18 16 50.0 +0.6
WMQ LR LR
comp=Z,960nm,19.2s
WMQ LR LR
comp=Z,1μm,20.2s
WMQ LR LR
comp=Z,620nm,20.0s
SHL Shillong 163.09 119 eP PKPab 18 17 42.0 +0.5
LSA Lhasa 164.62 105 ePKIKP PKPdf 18 16 52.6 -0.5
LSA e 18 17 48.4
LSA Lhasa 164.62 105 ePKPdf PKPdf 18 16 52.6 -0.5
LSA ePKPab PKPab 18 17 48.4 -0.1
SONM Songino Array 166.91 6 PKPab PKPab 18 17 57.3 -0.1
comp=Z,3.2nm,1.0s,baz=338,slow=2.2,SNR=2.0
SONM PP PP 18 21 45.7 +0.8
comp=Z,0.9nm,1.0s,baz=318,slow=2.0,SNR=3.6
NJ2 Nanjing 170.76 256 ePKP PKPdf 18 16 57.5 +0.8
GYA Guiyang 171.55 170 PKP PKPdf 18 16 57.5 0.0
GYA pPKP pPKPdf 18 17 09.8 +0.8
GYA PKPab PKPab 18 18 21.3 +2.8
GYA PKS PKSdf 18 20 28.5 -1.5
GYA PP PP 18 22 12.0 +3.6
GYA SKKS 18 28 53.0
GYA AMB AMB
comp=Z,130nm,8.2s
GYA LR LR
comp=Z,130nm,21.5s
GYA LR LR
comp=Z,120nm,21.0s
GYA LR LR
comp=Z,140nm,24.0s
GTA Gaotai 171.82 53 ePKP PKPdf 18 16 58.0 +0.8
GTA pPKP pPKPdf 18 17 09.0 +0.3
GTA sPKP 18 17 12.5
GTA PKPab PKPab 18 18 20.8 +1.2
HHC Hu-ho-hao-te 173.45 338 ePKP PKPdf 18 16 55.5 -2.4
HHC pPKP pPKPdf 18 17 05.0 -4.4
HHC sPKP 18 17 10.5
CD2 Chengdu 174.54 134 PKP PKPdf 18 16 58.8 +0.3
CD2 pPKP pPKPdf 18 17 10.0 0.0
CD2 sPKP 18 17 13.8
CD2 PKS PKSdf 18 20 29.5 -1.3
CD2 PP PP 18 22 27.5 +3.6
CD2 SKS SKSdf 18 23 56.3 -2.7
CD2 SKKS SKKSac 18 29 08.3 +0.4
CD2 SS SS 18 43 42.0 -0.7
CD2 AMB AMB
comp=Z,220nm,6.2s
LZH Lanzhou 176.15 69 ePKP PKPdf 18 16 58.8 -0.1
LZH pPKP pPKPdf 18 17 09.3 -1.1
LZH sPKP 18 17 13.0
LZH PP PP 18 22 34.0 +1.6
LZH eSKKS 18 29 15.0
LZH AMB AMB
comp=Z,400nm,8.1s
LZH LR LR
comp=Z,2μm,16.5s
LZH LR LR
comp=Z,2μm,18.1s
LZH LR LR
comp=Z,2μm,17.4s

*IDC **27** 17:57:00.7±0.4, 34.88S×71.78W, h0km, mb5.1/20, Error ellipse: s-maj=17.3km s-min=14.8km az=71.0*
*ISCJB **27** 17:57:04.0±0.4, 34.87S±0.07×71.81W±0.09, h35km, mb5.2/37, Error ellipse: s-maj=10.8km s-min=10.0km az=25.6*
*NEIC **27** 17:57:05.8±0.3, 34.81S×71.70W, h35km, mb5.3/15, Error ellipse: s-maj=12.0km s-min=9.8km az=82.0*
ISC 27 17:57:05.8±0.4, 34.87S±0.08×71.73W±0.10, h35km, n92, σ1§32/91, mb5.2/37, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	15.03	59	Pn	Pn	18 00 33.2	-2.4
SIV	San Ignacio	21.09	30	P	P	18 01 48.1	+0.8
	138nm,0.8s,baz=226,slow=14,SNR=20						
NNA	Nana	23.25	347	P	P	18 02 11.3	+1.2
	97nm,0.8s,baz=188,slow=10,SNR=24						
NNA	Nana	23.25	347	eP	P	18 02 10.2	+0.1
	132nm,0.9s						
SAML	Samuel	26.96	19	P	P	18 02 41.7	-2.5
	22nm,0.9s						
BDFB	Brasilia	28.63	54	P	P	18 03 00.7	+1.5
	40nm,1.0s,baz=236,slow=7.6,SNR=7.9						
OTAV	Otavalo	35.49	348	P	P	18 04 01.6	+2.0
	33nm,1.0s						
ROSC	El Rosal	39.59	356	P	P	18 04 36.7	+2.4
	19nm,0.6s,baz=86,slow=6.3,SNR=7.2						
ROSC	El Rosal	39.59	356	eP	P	18 04 36.1	+1.8
ROSC	El Rosal	39.59	356	e	P	18 04 36.5	+2.2
SDV	Santo Domingo	43.53	2	P	P	18 05 03.9	-2.5
	53nm,0.8s						
RCBR	Riachuelo	43.89	57	P	P	18 05 08.6	-0.6
	7.1nm,0.6s,baz=231,slow=11,SNR=6.3						
RCBR	Riachuelo	43.89	57	eP	P	18 05 06.8	-2.4
	29nm,1.1s						
BCIP	Isla Barro Col	44.46	349	P	P	18 05 11.2	-2.4
	49nm,1.0s						
JTS	JuntasAbangare	46.63	342	eP	P	18 05 35.3	+4.6
	26nm,1.0s						
FDF	Fort de France	50.34	13	P	P	18 06 00.8	+1.5
	63nm,1.0s						
SNAA	Sanae	50.69	158	P	P	18 06 02.6	+1.2
	10nm,0.8s,baz=271,slow=7.6,SNR=8.1						
ANWB	Willy Bob	53.10	12	P	P	18 06 22.3	+2.5
	77nm,0.7s						
SDDR	Presa de Saban	53.56	1	P	P	18 06 24.0	+0.7
	15nm,0.8s						
GTBY	Guantanamo Bay	54.59	356	eP	P	18 06 29.0	-1.7
	26nm,0.8s						
QSPA	South Pole Qui	55.37	180	P	P	18 06 35.7	-0.4
	51nm,0.8s,baz=222,slow=0.7,SNR=18						
QSPA	South Pole Qui	55.37	180	eP	P	18 06 35.2	-0.9
	68nm,0.9s						
QSPA	South Pole Qui	55.37	180	e	P	18 06 35.9	-0.1
TEIG	Tepich	57.00	341	eP	P	18 06 47.2	-0.8
	45nm,0.8s						
TVO	Taravao	70.00	262	eP	P	18 08 12.6	-1.6
	24nm,1.1s						
VAH	Vaihoa	70.00	265	eP	P	18 08 13.6	-0.5
	120nm,1.1s						
TIAR	Tiarei	70.19	262	eP	P	18 08 13.6	-1.7
	29nm,0.9s						
PAE	Paea	70.33	262	eP	P	18 08 14.4	-1.7
	33nm,1.2s						
PPT2	Papeete2	70.36	262	eP	P	18 08 15.0	-1.5
	134nm,1.0s						
PPT	Papeete	70.37	262	P	P	18 08 17.7	+1.3
	122nm,0.9s,baz=95,slow=0.7,SNR=12						
TXAR	Lajitas Array	70.61	331	P	P	18 08 17.7	+0.1
	5.9nm,0.5s,baz=155,slow=6.9,SNR=22						
DBIC	Dimbokro	75.22	71	P	P	18 08 44.9	-0.4
	19nm,0.6s,baz=207,slow=5.1,SNR=14						
ANMO	Albuquerque	76.67	331	P	P	18 08 53.5	+0.3
	baz=160,slow=12						
ANMO	Albuquerque	76.67	331	e	P	18 08 53.6	+0.5
ANMO	Albuquerque	76.67	331	e	P	18 08 53.7	+0.5
TSUM	Tsumeb	78.74	106	eP	P	18 09 06.5	+1.3
BOSA	Boshof	79.44	117	P	P	18 09 08.9	0.0
	32nm,0.8s,baz=241,slow=3.0,SNR=14						
LBTB	Lobatse	81.71	115	P	P	18 09 20.6	-0.5
	25nm,0.7s						
URZ	Urewera	83.26	228	P	P	18 09 29.3	+0.5
	9.3nm,0.7s,baz=334,slow=3.1,SNR=4.1						
TOA0	Torodi Ar. Sit	84.27	70	eP	P	18 09 33.9	-0.3
TOA0	Torodi Ar. Sit	84.27	70	e	P	18 09 33.8	-0.5
TORD	Torodi Ar. Bea	84.27	70	P	P	18 09 34.3	+0.1
	20nm,0.8s,baz=250,slow=3.8,SNR=12						
PDAR	Pinedale Array	84.65	333	P	P	18 09 35.8	0.0
	4.6nm,1.0s,baz=130,slow=6.5,SNR=8.2						
NVAR	Mina Array Bea	84.74	325	P	P	18 09 37.0	+0.6
	4.5nm,0.8s,baz=158,slow=5.6,SNR=7.1						
ELK	Elko	85.23	328	P	P	18 09 38.8	0.0
	4.3nm,0.7s,baz=154,slow=3.1,SNR=7.4						
ULM	Lac du Bonnet	87.40	345	P	P	18 09 47.6	-1.2
	8.5nm,0.7s,baz=170,slow=4.2,SNR=9.0						
ULM	Lac du Bonnet	87.40	345	e	P	18 09 48.0	-0.9
LSZ	Lusaka	89.30	108	eP	P	18 09 59.6	+0.6
	10nm,0.7s						
YBH	Yreka Blue Hor	89.42	324	P	P	18 09 58.1	-0.7
	4.6nm,0.8s,baz=98,slow=7.1,SNR=5.5						
SCHQ	Schefferville	89.44	3	P	P	18 09 57.4	-1.1
	4.6nm,0.8s,baz=177,slow=2.3,SNR=6.6						
NEW	Newport	92.15	332	P	P	18 10 10.7	-0.6
	1.4nm,0.6s,baz=135,slow=13,SNR=4.9						
YKA	Yellowknife Ar	102.96	341	Pdiff	Pdif	18 10 59.1	-0.6
	0.7nm,0.7s,baz=140,slow=4.4,SNR=8.0						
PKSM	Moragy	114.41	50⇑	iP	PKPdf	18 15 43.0	+1.5
ILAR	Eielson Array	115.08	333	PKP	PKPdf	18 15 42.4	+0.1
	0.5nm,0.8s,baz=205,slow=0.3,SNR=4.6						
VYHS	Vyhne	115.49	47	ePKP	PKPdf	18 15 44.8	+1.3
BZS	Buzias	116.05	51⇓	iP	PKPdf	18 15 46.0	+1.3
CRVS	Cervenica-Dubn	117.25	48	ePKP	PKPdf	18 15 44.0	-2.9
STHS	Stebnicka Huta	117.32	47	ePKP	PKPdf	18 15 44.4	-2.6
TRPA	Tarpa	117.62	49⇑	iP	PKPdf	18 15 49.0	+1.4
JMB	Yambol	118.09	56⇑	iP	PKPdf	18 15 48.8	+0.1
KWP	Kalwaria Pacla	118.28	47⇓	iP	PKPdf	18 15 50.0	+1.2
DOPR	Dopca	118.62	52⇓	iP	PKPdf	18 15 50.1	+0.5
BUR08	Bucovina Ar. S	119.11	50	ePKPdf	PKPdf	18 15 50.1	-0.5
VRI	Vrincioaia	119.45	53⇑	iP	PKPdf	18 15 52.2	+1.0
TESR	Tescani	119.63	52⇑	iP	PKPdf	18 15 52.1	+0.6
WRA	Warramunga Arr	120.12	209	PKP	PKPdf	18 15 52.5	-0.9
	3.4nm,0.7s,baz=158,slow=1.7,SNR=21						
WRAB	Tennant Creek	120.13	209	eP	PKPdf	18 15 51.7	-1.7
MMAI	Mount Meron Ar	120.81	69	PKP	PKPdf	18 15 55.6	+1.3
	5.6nm,0.9s,baz=46,slow=2.4,SNR=4.6						
BRTR	Keskin Array B	122.03	61	PKP	PKPdf	18 15 57.2	+0.6
	5.1nm,0.8s,baz=191,slow=2.9,SNR=17						
AKASG	Malin Array Be	122.59	48	PKP	PKPdf	18 15 57.4	+0.3
	4.6nm,0.7s,baz=262,slow=2.9,SNR=17						
AKBB	Malin Array Si	122.59	48	eP	PKPdf	18 15 56.5	-0.5
SPITS	Spitsbergen Ar	123.46	14	PKP	PKPdf	18 15 58.4	+0.4
	3.1nm,0.5s,baz=122,slow=1.9,SNR=8.6						
FINES	FINESS Array B	123.56	35	PKP	PKPdf	18 15 58.9	+0.3
	2.7nm,0.9s,baz=240,slow=1.5,SNR=5.5						
ARCES	ARCESS Array B	124.70	25	PKP	PKPdf	18 16 00.4	-0.2
	2.1nm,0.6s,baz=259,slow=1.2,SNR=7.6						
KBZ	Khabaz	129.83	59	PKP	PKPdf	18 16 12.9	+1.8
	6.4nm,0.9s,baz=200,slow=3.4,SNR=7.0						
GEYT	Alibeck	139.91	71	PKP	PKPdf	18 16 30.9	+0.7
	2.9nm,0.7s,baz=252,slow=2.3,SNR=5.2						
AKTO	Aktyubinsk	140.69	51	PKP	PKPdf	18 16 31.6	+0.4
	4.0nm,0.9s,baz=344,slow=1.5,SNR=6.0						
SEY	Seymchan	140.91	330	PKP	PKPdf	18 16 31.6	+0.5
	2.6nm,0.6s,baz=47,slow=5.2,SNR=5.0						
PETK	Petropavlovsk-	140.94	313	PKP	PKPdf	18 16 29.9	-1.7
	7.3nm,1.1s,baz=95,slow=10.0,SNR=4.4						
PALK	Pallekele	142.63	131	PKhKP	PKPpre	18 16 32.6	
	17nm,0.9s,baz=232,slow=2.0,SNR=4.4						
PSI	Prapat	146.93	163	PKPbc	PKPbc	18 16 44.8	-0.5
	32nm,0.7s,baz=198,slow=7.7,SNR=8.6						
BVAR	Borovoye Array	147.74	44	PKPbc	PKPbc	18 16 47.2	+1.0
	15nm,0.8s,baz=291,slow=4.1,SNR=12						
HYB	Hyderabad	148.33	116	i PKP	PKPbc	18 16 48.0	-0.9
AAK	Ala-Archa	152.68	63	PKPbc	PKPbc	18 17 00.3	+1.5
	38nm,0.7s,baz=203,slow=3.4,SNR=22						
AAK	Ala-Archa	152.68	63	ePKPbc	PKPbc	18 16 58.7	-0.1
KURK	Kurchatov	153.33	44	ePKPbc	PKPbc	18 16 57.5	-2.1
MK31	Makanchi Array	157.13	51	ePKPdf	PKPdf	18 16 54.2	-3.2
MKAR	Makanchi Array	157.13	51	PKP	PKPdf	18 16 59.0	+1.6
	2.5nm,0.8s,baz=300,slow=1.0,SNR=8.1						
MKAR				PKPab	PKPab	18 17 29.4	+1.2
	4.3nm,0.8s,baz=284,slow=5.0,SNR=6.3						
USRK	Ussuriysk Arra	159.53	304	PKPab	PKPab	18 17 39.0	+0.3
	0.9nm,0.7s,baz=132,slow=2.8,SNR=4.7						
CMAR	Chiang Mai Arr	161.67	151	PKP	PKPdf	18 17 03.5	0.0
	2.5nm,0.9s,baz=245,slow=2.5,SNR=9.9						
CMAR				PKPab	PKPab	18 17 48.1	-0.4
	1.8nm,0.9s,baz=218,slow=5.4,SNR=5.1						
CHTO	Chiang Mai	161.99	150	PKP	PKPdf	18 17 05.5	+1.7
SONM	Songino Array	166.97	6	PKPab	PKPab	18 18 12.4	+1.1
	2.6nm,0.8s,baz=334,slow=3.6,SNR=7.4						

*SJA **27** 18:03:19.5±0.8, 33.75S×73.34W, h30km±106km, ML4.0*
*ISCJB **27** 18:03:20.2±0.6, 33.92S±0.09×73.20W±0.05, h10km, mb4.4/14, Error ellipse: s-maj=12.9km s-min=5.9km az=167.0*
*IDC **27** 18:03:20.0±0.8, 33.66S×72.40W, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/32, mbtmp4.1/9, ML3.2/2, Error ellipse: s-maj=26.5km s-min=18.9km az=89.0*
*NEIC **27** 18:03:26.0±1.9, 33.63S×72.27W, h43km±16km, mb4.8/10, Error ellipse: s-maj=20.3km s-min=10.0km az=68.0*
ISC 27 18:03:21.3±0.6, 33.72S±0.07×72.48W±0.06, h12km, n37, σ1§41/40, mb4.5/14, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	Uspallata	3.00	61	i P	Pg	18 04 17.5	-1.3
AUSP				i S	Sg	18 05 00.4	+2.7
ARCO	CERRO ARCO	3.10	75	i P	Pg	18 04 19.3	-1.4
ARCO				AML	AML	18 05 02.9	
	comp=Z,262nm,0.8s						
ARCO				i S	Sg	18 05 03.7	+2.8
AAGR	Agrelo	3.12	79	i P	Pg	18 04 19.2	-1.9
AAGR				i S	Sg	18 05 04.5	+2.9
RTLS	Leoncito	3.30	55	i P	Pb	18 04 21.4	+1.6
RTLS				i S	Sg	18 05 07.7	+0.5
AVIZ	Vizcacheras	3.32	87	i P	Pg	18 04 23.1	-1.8
RTLL	Cerro Villicun	4.14	56	i P	Pb	18 04 33.3	-0.8
CFAA	Coronel Fontan	4.15	61	Pn	Pn	18 04 24.6	0.0
	comp=Z,0.2nm,0.3s,baz=231,slow=18,SNR=2.1						
CFAA				Pg	Pb	18 04 33.3	-1.1
	comp=Z,1.3nm,0.3s,baz=240,slow=15,SNR=5.7						
CFAA				Lg	Lg	18 05 33.2	
	comp=Z,2.0nm,0.3s,baz=69,slow=5.9,SNR=5.2						
CFAA	Coronel Fontan	4.15	61	i P	Pb	18 04 34.2	-0.2
CFAA				i P	Pb	18 04 34.2	-0.2
ACAN	Cantantal	4.67	74	i P	Pb	18 04 40.8	-2.5
TRQA	Tornquist	9.56	120	Pn	Pn	18 05 39.2	+0.5
TRQA				eSn	Sn	18 07 15.3	-11
LPAZ	La Paz	17.79	14	P	Pn	18 07 29.1	-0.4
	comp=Z,0.1nm,0.3s,baz=189,slow=13,SNR=4.0						
SIV	San Ignacio	20.43	33	P	P	18 07 58.5	-0.1
	comp=Z,3.7nm,0.8s,baz=212,slow=13,SNR=3.5						
NNA	Nana	22.00	349	P	P	18 08 16.6	+1.2
	comp=Z,3.8nm,0.4s,baz=168,slow=11,SNR=2.2						
NNA	Nana	22.00	349	P	P	18 08 15.7	+0.2
	comp=Z,68nm,1.5s						
OTAV	Otavalo	34.24	349	P	P	18 10 09.3	+1.7
	comp=Z,20nm,1.5s						
SDV	Santo Domingo	42.41	3	eP	P	18 11 22.8	+6.7
	comp=Z,6.1nm,0.8s						
SNAA	Sanae	51.98	158	P	P	18 12 31.0	+1.0
	comp=Z,2.4nm,1.1s,baz=240,slow=9.9,SNR=2.8						
SNAA	Sanae	51.98	158	eP	P	18 12 30.9	+1.0
	comp=Z,34nm,1.6s						
QSPA	South Pole Qui	56.52	180	P	P	18 13 04.8	+1.6
	comp=Z,8.2nm,1.0s,baz=154,slow=7.8,SNR=8.4						
QSPA	South Pole Qui	56.52	180	eP	P	18 13 04.3	+1.2
	comp=Z,11nm,1.0s						
DWPF	Disney	62.08	351	P	P	18 13 39.0	-2.7
TXAR	Lajitas Array	69.31	331	P	P	18 14 28.7	+0.1
	comp=Z,0.7nm,0.9s,baz=154,slow=8.7,SNR=5.1						
WVT	Waverly	70.95	347	P	P	18 14 34.8	-3.6
	comp=Z,40nm,1.8s						
ANMO	Albuquerque	75.36	332	P	P	18 15 05.4	+0.6
	comp=Z,1.4nm,1.1s,baz=161,slow=7.7,SNR=3.9						
DBIC	Dimbokro	75.44	72	P	P	18 15 04.2	-1.3
	comp=Z,11nm,1.2s						
CASY	Casey	80.29	181	P	P	18 15 28.3	-3.3
	comp=Z,6.4nm,0.9s						
PDAR	Pinedale Array	83.35	333	P	P	18 15 48.9	+0.7
	comp=Z,1.2nm,1.0s,baz=153,slow=6.1,SNR=4.7						
TOA0	Torodi Ar. Sit	84.46	70	P	P	18 15 52.1	-2.1
TORD	Torodi Ar. Bea	84.46	70	P	P	18 15 54.1	-0.1
	comp=Z,1.3nm,1.0s,baz=236,slow=4.4,SNR=5.2						
YMR	Madison River	85.50	334	eP	P	18 15 59.3	+0.2
HLID	Hailey	85.91	331	eP	P	18 16 01.6	+0.6
	comp=Z,8.9nm,1.4s						
MCMT	McKenzie Canyo	86.35	332	eP	P	18 16 04.0	+0.7
	comp=Z,2.1nm,0.9s						
BRTR	Keskin Array B	122.02	61	PKP	PKPdf	18 22 14.2	-1.6
	comp=Z,0.8nm,0.6s,baz=121,slow=2.2,SNR=4.3						
BVAR	Borovoye Array	147.32	42	PKPbc	PKPbc	18 23 05.1	+0.8
	comp=Z,0.6nm,0.5s,baz=304,slow=3.3,SNR=4.6						
AAK	Ala-Archa	152.70	61	PKPbc	PKPbc	18 23 18.6	+0.6
	comp=Z,1.3nm,0.6s,baz=198,slow=6.4,SNR=4.2						
ZALV	Zalesovo Beam	154.18	32	PKPbc	PKPbc	18 23 20.6	0.0
	comp=Z,1.4nm,0.4s,baz=300,slow=3.2,SNR=10.0						
MKAR	Makanchi Array	156.85	48	PKPab	PKPab	18 23 46.1	0.0
	comp=Z,0.6nm,0.6s,baz=282,slow=3.9,SNR=8.0						

*IDC **27** 18:07:40.3±1.1, 35.98S×74.44W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/38, mbtmp4.0/5, Error ellipse: s-maj=51.0km s-min=30.4km az=81.0*
*ISCJB **27** 18:07:42.9±1.1, 36.05S±0.24×74.54W±0.34, h33km, mb4.0/5, Error ellipse: s-maj=45.7km s-min=26.4km az=174.4*
ISC 27 18:07:45.5±1.1, 36.05S±0.24×74.54W±0.34, h35km, n7, σ1§31/7, mb4.0/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	50.51	157	P	P	18 16 38.9	-0.9
	1.3nm,0.8s,baz=261,slow=9.2,SNR=3.9						

QSPA	South Pole Qui	54.25	180	P	P	18 17 08.1	+0.4
	1.8nm,0.8s,baz=118,slow=3.3,SNR=3.2						
TXAR	Lajitas Array	70.56	333	P	P	18 18 56.1	-0.9
	0.4nm,0.5s,baz=148,slow=8.6,SNR=4.5						
DBIC	Dimbokro	77.69	72	P	P	18 19 38.6	-0.2
	3.0nm,0.7s,baz=225,slow=7.1,SNR=4.6						
TORD	Torodi Ar. Bea	86.74	71	P	P	18 20 25.8	-0.4
	0.7nm,0.8s,baz=246,slow=5.2,SNR=5.4						
GERES	GERESS Array B	114.96	47	PKP	PKPdf	18 26 23.2	+0.9
	0.3nm,0.7s,baz=291,slow=2.7,SNR=2.8						
BVAR	Borovoye Array	150.09	44	PKPbc	PKPbc	18 27 33.8	+2.0
	1.5nm,0.5s,baz=287,slow=2.8,SNR=12						

*NEIC **27** 18:10:23.8±4.4, 37.55S×73.65W, h1km±26km, mb4.9/15, Error ellipse: s-maj=15.3km s-min=8.2km az=83.0*

*IDC **27** 18:10:24.5±0.5, 37.61S×73.53W, h0km, mb4.6/17, mb1 4.6/21, mb1mx4.5/42, mbtmp4.5/21, ML4.3/4, Error ellipse: s-maj=18.3km s-min=11.7km az=69.0*

*ISCJB **27** 18:10:27.0±0.3, 37.54S±0.05×73.34W±0.07, h23km, mb4.8/30, Error ellipse: s-maj=9.4km s-min=6.7km az=142.5*

ISC 27 18:10:27.7±0.4, 37.59S±0.06×73.50W±0.09, h23km, n246, σ1§13/254, mb4.8/30, 83C-90D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.89	145	Pn	Pn	18 11 24.9	-1.2
	2.7nm,0.3s,baz=300,slow=16,SNR=1.9						
PLCA				Pg	Pb	18 11 34.8	-0.8
	11nm,0.3s,baz=327,slow=17,SNR=4.3						
PLCA				Lg	Lg	18 12 27.0	
	6.7nm,0.3s,baz=43,slow=19,SNR=2.8						
PLCA	Paso Flores	3.89	145	ePn	Pn	18 11 24.5	-1.6
PLCA				Pg	Pb	18 11 34.8	-0.8
PLCA				Lg	Lg	18 12 27.0	
CFAA	Coronel Fontan	7.38	38	Pn	Pn	18 12 12.2	-1.8
	2.8nm,0.3s,baz=215,slow=12,SNR=7.5						
TRQA	Tornquist	9.13	96	ePn	Pn	18 12 38.8	+0.8
	48nm,1.1s						
LVC	Limon Verde	15.44	16	ePn	Pn	18 14 00.4	-4.0
	17nm,0.8s						
USHA	Ushuaia	17.59	170	P	P	18 14 31.8	-0.2
	0.2nm,0.3s,baz=324,slow=10,SNR=4.2						
CPUP	Villa Florida	17.70	55	P	P	18 14 33.7	+0.2
	1.9nm,0.3s,baz=201,slow=12,SNR=5.5						
CPUP	Villa Florida	17.70	55	ePn	Pn	18 14 32.4	-0.3
LPAZ	La Paz	21.74	14	P	P	18 15 16.6	-1.6
	5.3nm,0.8s,baz=195,slow=9.2,SNR=4.9						
LPAZ	La Paz	21.74	14	P	P	18 15 16.6	-1.6
LPAZ				ePn	P	18 15 16.7	-1.5
SIV	San Ignacio	24.16	30	P	P	18 15 42.2	0.0
	14nm,0.9s,baz=222,slow=13,SNR=12						
NNA	Nana	25.67	352	P	P	18 15 56.1	+0.1
	15nm,0.7s,baz=192,slow=10,SNR=7.5						
PMSA	Palmer Station	27.80	171	P	P	18 16 10.6	-4.0
SAML	Samuel	30.00	21	eP	P	18 16 34.5	-0.2
	14nm,1.4s						
BDFB	Brasilia	31.39	53	P	P	18 16 48.2	+1.1
	3.3nm,0.7s,baz=208,slow=9.9,SNR=3.2						
OTAV	Otavalo	37.92	352	eP	P	18 17 45.3	+1.5
	24nm,1.4s						
SDV	Santo Domingo	46.31	4	eP	P	18 18 50.8	-1.2
	12nm,0.8s						
RCBR	Riachuelo	46.57	57	P	P	18 18 55.5	+1.5
	10nm,0.7s,baz=218,slow=11,SNR=6.4						
RCBR	Riachuelo	46.57	57	eP	P	18 18 54.5	+0.5
	35nm,1.2s						
SNAA	Sanae	48.74	157	P	P	18 19 11.0	+0.8
	8.4nm,1.1s,baz=277,slow=8.1,SNR=11						
SNAA	Sanae	48.74	157	eP	P	18 19 10.2	0.0
	52nm,1.4s						
JTS	JuntasAbangare	48.82	345	P	P	18 19 12.0	+0.7
	4.2nm,0.8s,baz=161,slow=7.3,SNR=4.0						
JTS	JuntasAbangare	48.82	345	eP	P	18 19 11.2	-0.1
	6.6nm,0.8s						
BBGH	Gun Hill	52.14	17	P	P	18 19 30.9	-5.4
	502nm,1.1s						
QSPA	South Pole Qui	52.65	180	P	P	18 19 40.4	+0.6
	7.1nm,1.0s,baz=169,slow=7.8,SNR=5.8						
QSPA	South Pole Qui	52.65	180	eP	P	18 19 40.3	+0.5
	18nm,1.2s						
APG	El Apazote	54.69	340	P	P	18 19 52.0	-3.3
	11nm,0.9s,baz=168,slow=9.7,SNR=12						
SDDR	Presa de Saban	56.31	3	P	P	18 20 03.7	-3.0
	15nm,1.1s						
GTBY	Guantanamo Bay	57.23	358	P	P	18 20 09.8	-3.3
	31nm,1.1s						
TEIG	Tepich	59.17	344	eP	P	18 20 26.5	-0.2
	40nm,0.9s						
SBA	Scott Base	59.33	192	P	P	18 20 27.3	+0.1
	224nm,1.4s						
034A	Hebbronville	68.52	336	⇓P	P	18 21 29.7	+1.5
	baz=69						
834A	Tilden	69.47	336	⇑P	P	18 21 35.2	+1.1
	baz=70						
833A	Chaparral WMA,	69.92	336	⇓P	P	18 21 38.1	+1.2
	baz=70						
633A	Saathoff Ranch	70.90	336	⇓P	P	18 21 43.8	+0.9
	baz=71						
632A	Uvalde	71.14	336	⇑P	P	18 21 44.6	+0.2
	baz=71						
631A	Perdido Creek	71.32	335	⇓P	P	18 21 46.1	+0.8
	baz=72						
533A	Kerrville	71.43	337	⇓P	P	18 21 47.2	+1.2
	baz=72						
532A	Rocksprings	71.76	336	⇑P	P	18 21 49.3	+1.3
	baz=72,SNR=9.3						
434A	Burnet	71.88	338	⇑P	P	18 21 48.9	+0.1
	baz=72						
531A	Rocksprings	72.00	336	⇓P	P	18 21 50.8	+1.2
	baz=72,SNR=7.7						
336A	Riesel	72.00	339	⇓P	P	18 21 50.3	+0.8
	baz=72						
JCT	Junction City	72.05	336	⇑P	P	18 21 51.2	+1.4
	baz=72						
433A	Art	72.08	337	⇓P	P	18 21 50.8	+0.9
	baz=72,SNR=5.3						
530A	J-C Ranch, Com	72.25	335	⇑P	P	18 21 52.5	+1.5
	baz=72,SNR=7.3						
TXAR	Lajitas Array	72.32	333	P	P	18 21 52.4	+0.9
	3.2nm,0.7s,baz=152,slow=9.1,SNR=22						
334A	Lometa	72.36	338	⇑P	P	18 21 52.6	+1.0
	baz=73,SNR=6.3						
432A	Menard	72.41	336	⇓P	P	18 21 52.4	+0.5
	baz=73						
431A	Sonora	72.50	336	⇓P	P	18 21 52.8	+0.3
	baz=73,SNR=5.6						
529A	Stev Forest Ra	72.53	334	⇓P	P	18 21 53.7	+1.0
	baz=73,SNR=5.4						
333A	Richland Sprin	72.58	337	⇓P	P	18 21 53.4	+0.5
	baz=73						
WHTX	Lake Whitney	72.75	339	⇑P	P	18 21 53.9	0.0
	baz=73						
430A	Baggett Ranch,	72.80	335	⇑P	P	18 21 55.1	+0.8
	baz=73,SNR=6.4						
332A	Millersview	72.87	337	⇑P	P	18 21 55.7	+1.1
	baz=73,SNR=6.3						
429A	Davenport Ranc	72.87	335	⇑P	P	18 21 55.5	+0.7
	baz=73,SNR=6.0						
331A	San Angelo	73.02	336	⇓P	P	18 21 56.3	+0.8
	baz=73,SNR=11						
233A	Rising Star	73.20	338	⇓P	P	18 21 57.0	+0.4
	baz=73						
232A	Coleman	73.31	337	⇑P	P	18 21 57.8	+0.6
	baz=74,SNR=7.7						
330A	Mertzon	73.35	336	⇓P	P	18 21 58.1	+0.5
	baz=74						
231A	Bronte	73.56	336	⇑P	P	18 21 59.5	+0.8
	baz=74,SNR=8.7						
329A	Wagon Wheel Ra	73.69	335	⇑P	P	18 22 00.4	+0.9
	baz=74						
133A	Hamilton Ranch	73.75	338	⇓P	P	18 22 00.2	+0.4
	baz=74						
Z35A	Perchaven, San	73.95	339	⇑P	P	18 22 02.1	+1.2
	baz=74						
ABTX	Abilene, Hawle	73.99	337	⇓P	P	18 22 01.8	+0.6
	baz=74						
229A	Bryant Ranch,	74.08	335	⇑P	P	18 22 01.3	-0.5
	baz=74						
131A	Roby	74.27	337	⇑P	P	18 22 03.5	+0.7
	baz=74						
Z33A	Whitaker Ranch	74.34	338	⇑P	P	18 22 03.6	+0.4
	baz=75						
130A	Snyder	74.38	336	⇓P	P	18 22 04.2	+0.6
	baz=75						
228A	UT Block 9, Go	74.48	335	⇓P	P	18 22 05.0	+0.8
	baz=75						
Z32A	Haskell	74.57	338	⇓P	P	18 22 05.2	+0.6
	baz=75						
Z31A	Sharp Cattle R	74.79	337	⇓P	P	18 22 06.9	+1.0
	baz=75						
128A	Castleberry Fa	74.90	335	⇓P	P	18 22 07.6	+1.0
	baz=75						
Z30A	Sanderson Ranc	75.07	336	⇓P	P	18 22 08.0	+0.5
	baz=75						
Z29A	Hungry Hill Ra	75.23	336	⇓P	P	18 22 08.7	+0.2
	baz=76						
Y31A	Rekieta Farm,	75.42	337	⇑P	P	18 22 10.4	+0.9
	baz=76						
X32A	Elmer	75.55	338	⇓P	P	18 22 10.4	+0.2
	baz=76						
Y29A	Porterfield Fa	75.77	336	⇓P	P	18 22 12.0	+0.5
	baz=76						
Z27A	Tatum	75.78	335	⇓P	P	18 22 11.7	0.0
	baz=76						
X31A	McDonald Ranch	75.95	338	⇑P	P	18 22 13.2	+0.7
	baz=76						
TUL1	Tulsa	76.00	341	⇓P	P	18 22 13.4	+0.7
	baz=76						
W33A	Caddo, Fort Co	76.00	339	⇓P	P	18 22 14.1	+1.3
	baz=76						
Z26A	Caprock	76.00	334	⇑P	P	18 22 13.6	+0.6
	baz=76						
W32A	Sentinel	76.19	338	⇑P	P	18 22 14.8	+0.9
	baz=76						
Z25A	Roswell	76.27	333	⇑P	P	18 22 15.2	+0.7
	baz=76						
X29A	Tulia	76.32	336	⇓P	P	18 22 15.1	+0.4
	baz=77						
319A	Douglas	76.32	329	⇑P	P	18 22 16.1	+1.3
	baz=76						
CASY	Casey	76.41	182	eP	P	18 22 15.1	+0.3
	9.0nm,0.8s						
W31A	Holland Ranch,	76.46	338	⇑P	P	18 22 15.9	+0.5
	baz=77						
Y26A	Elida	76.54	334	⇓P	P	18 22 16.8	+0.8
	baz=77						
Z24A	Sheeppen Canyo	76.55	333	⇓P	P	18 22 17.3	+1.1
	baz=77						
V33A	Lossen Ranch,	76.57	339	⇑P	P	18 22 16.5	+0.5
	baz=77						
AMTX	Amarillo	76.71	336	⇑P	P	18 22 18.1	+1.2
	baz=77						
W29A	Amraillo	76.92	337	⇓P	P	18 22 18.4	+0.3
	baz=77						
Z22A	Elephant Butte	77.07	332	⇓P	P	18 22 20.2	+1.2
	baz=77						
X26A	CR and CF Fran	77.11	335	⇓P	P	18 22 20.1	+0.9
	baz=77						
Y24A	Capitan	77.11	333	⇑P	P	18 22 19.9	+0.6
	baz=77						
W27A	Bowe Ranch, En	77.33	335	⇑P	P	18 22 21.2	+0.8
	baz=78,SNR=6.7						
DBIC	Dimbokro	77.45	71	P	P	18 22 22.7	+1.2
	18nm,0.6s,baz=202,slow=6.8,SNR=26						
V28A	Channing	77.68	336	⇑P	P	18 22 23.6	+1.2
	baz=78						
V27A	Dan Oppiter Fa	77.89	336	⇑P	P	18 22 24.6	+1.1
	baz=78						
W25A	X Bar L Ranch,	77.94	334	⇑P	P	18 22 24.9	+1.1
	baz=78						
V26A	Tequesquite Ra	78.23	335	⇑P	P	18 22 26.1	+0.7
	baz=78						
W24A	Lazy 6 Ranch,	78.26	334	⇓P	P	18 22 26.8	+1.1
	baz=78						
214A	Organ Pipe Nat	78.32	327	⇓P	P	18 22 27.2	+1.3
	baz=78						
ANMO	Albuquerque	78.39	333	P	P	18 22 27.9	+1.4
	5.1nm,1.0s,baz=167,slow=8.0,SNR=10.0						
W23A	Werner Place,	78.47	333	⇓P	P	18 22 28.8	+1.9
	baz=79						
U27A	Thompson Grove	78.49	336	⇓P	P	18 22 28.1	+1.3
	baz=79						
V25A	Rancho No Teng	78.55	335	⇓P	P	18 22 28.7	+1.4
	baz=79,SNR=6.6						
V24A	Rampart Ranch,	78.67	334	⇓P	P	18 22 29.1	+1.1
	baz=79						
R33A	Olander Ranch,	78.83	341	⇑P	P	18 22 29.3	+0.7
	baz=79						
S30A	Montezuma	78.89	338	⇑P	P	18 22 30.0	+1.1
	baz=79						
T28A	Walsh	78.91	337	⇑P	P	18 22 29.8	+0.7
	baz=79						
U25A	Circle Dot Ran	78.99	335	⇓P	P	18 22 31.0	+1.4
	baz=79						
T27A	Campo	79.04	337	⇓P	P	18 22 30.5	+0.7
	baz=79						
R32A	Long Quarter,	79.13	340	⇓P	P	18 22 31.4	+1.2
	baz=79						
R31A	Burdett	79.23	339	⇓P	P	18 22 31.1	+0.3
	baz=80						
S28A	Manter	79.27	337	⇓P	P	18 22 31.5	+0.4
	baz=80						
TSUM	Tsumeb	79.38	106	eP	P	18 22 33.4	+1.1
	20nm,1.4s						
V22A	San Miguel Ran	79.42	333	⇓P	P	18 22 33.7	+1.6
	baz=80						
T26A	Comanche Natio	79.43	336	⇓P	P	18 22 33.4	+1.4
	baz=80						
Q33A	Connelly Farm,	79.44	341	⇓P	P	18 22 32.5	+0.6
	baz=80						
BOSA	Boshof	79.45	118	P	P	18 22 33.0	+0.5
	4.2nm,0.7s,baz=249,slow=5.6,SNR=6.0						
U23A	El Rito	79.54	334	⇓P	P	18 22 33.7	+0.9
	baz=80						
T25A	Trinidad	79.66	335	⇓P	P	18 22 35.2	+1.8
	baz=80,SNR=9.4						
S27A	Las Animas	79.67	337	⇑P	P	18 22 34.6	+1.3
	baz=80						
W18A	Petrified Fore	79.78	331	⇑P	P	18 22 35.3	+1.3
	baz=80						
S26A	Kim	79.80	336	⇓P	P	18 22 35.5	+1.6
	baz=80,SNR=9.5						
X16A	Lo Mia Camp, P	79.86	329	⇓P	P	18 22 35.5	+1.0
	baz=80						
T24B	San Luis	79.92	335	⇑P	P	18 22 36.9	+2.0
	baz=80						
R28A	Tribune	79.94	338	⇓P	P	18 22 35.6	+1.0
	baz=80						
Y14A	Wickenburg	80.10	328	⇓P	P	18 22 37.6	+2.0
	baz=80						
GLA	Glamis	80.14	326	⇑P	P	18 22 38.4	+2.5
	baz=80						
S25A	Robets Cordova	80.14	336	⇑P	P	18 22 37.4	+1.5
	baz=80						
R27A	Eads	80.19	337	⇑P	P	18 22 37.2	+1.2
	baz=80						
P31A	Stockton	80.34	340	⇓P	P	18 22 36.4	-0.3
	baz=81						
S24A	Houchin Ranch,	80.38	335	⇑P	P	18 22 39.3	+1.9
	baz=81,SNR=6.1						
R26A	Arlington	80.41	337	⇓P	P	18 22 39.3	+2.0
	baz=81,SNR=6.2						
WUAZ	Wupatki	80.78	330	⇓P	P	18 22 41.2	+1.8
	baz=81						
R24A	Sanders Place,	80.88	335	⇓P	P	18 22 41.9	+2.0
	baz=81,SNR=7.2						
Q26A	Hugo	81.00	337	⇑P	P	18 22 41.9	+1.4
	baz=81						
S22A	4UR Ranch, Cre	81.03	334	⇑P	P	18 22 42.7	+1.8
	baz=81						
R23A	Moffat	81.09	335	⇓P	P	18 22 42.5	+1.4
	baz=81						
MVCO	Mesa Verde	81.16	332	⇓P	P	18 22 42.8	+1.4
	baz=81						
Q25A	Bedland, Calha	81.22	336	⇑P	P	18 22 43.0	+1.3
	baz=82						
W13A	Hualapai Mount	81.46	328	⇓P	P	18 22 45.0	+1.9
	baz=82						
P26A	Davis Ranch, A	81.53	337	⇑P	P	18 22 42.3	-1.0
	baz=82						
Q24A	Divide	81.56	336	⇓P	P	18 22 45.0	+1.4
	baz=82						
P25A	Willow Gulch B	81.74	337	⇓P	P	18 22 45.9	+1.5
	baz=82						
U15A	North Rim	81.94	329	⇓P	P	18 22 47.2	+1.5
	baz=82						
GMRC	Granite Mounta	81.97	326	⇑P	P	18 22 47.8	+2.1
	baz=82						
O26A	Horse Wrangler	82.14	337	⇑P	P	18 22 47.7	+1.3
	baz=82						
P23A	Jefferson	82.16	335	⇑P	P	18 22 47.0	+0.2
	baz=82						
ISCO	Idaho Springs	82.47	336	⇑P	P	18 22 49.9	+1.6
	baz=83						
P22A	Eagle	82.67	335	⇓P	P	18 22 49.7	+0.4
	baz=83						
L31A	Butterfield Fa	82.68	341	⇓P	P	18 22 50.7	+1.6
	baz=83						
L30A	Spencer Herefo	82.70	341	⇑P	P	18 22 49.2	0.0
	baz=83						
GSC	Goldstone	82.91	326	⇓P	P	18 22 53.4	+2.8
	baz=83						
O23A	Lake Granby, G	82.94	336	⇓P	P	18 22 52.7	+1.9
	baz=83						
O22A	Kremmling	83.10	335	⇑P	P	18 22 53.2	+1.5
	baz=83						
K30A	Basset	83.35	341	⇑P	P	18 22 53.7	+1.2
	baz=84						
LRMC	Laurel Mountai	83.46	325	⇓P	P	18 22 54.3	+0.9
	baz=84						
N23A	Red Feather La	83.56	336	⇑P	P	18 22 54.9	+0.9
	baz=84						
ECSD	EROS Data Cent	83.62	343	⇑P	P	18 22 54.9	+1.1
	baz=84						
O20A	White River Ci	83.66	334	⇑P	P	18 22 55.0	+0.7
	baz=84						
M24A	Cheyenne	83.73	337	⇑P	P	18 22 56.2	+1.5
	baz=84						
ISA	Isabella	83.97	325	⇓P	P	18 22 57.1	+1.2
	baz=84						
J29A	Okreek	84.22	341	⇑P	P	18 22 56.9	-0.1
	baz=84						
N20A	Spence Gulch,	84.29	334	⇓P	P	18 22 58.9	+1.2
	baz=84						
J26A	Sides Ranch, S	84.89	339	⇓P	P	18 23 02.0	+1.6
	baz=85						
R11A	Troy Canyon, C	84.94	328	⇑P	P	18 23 02.9	+2.0
	baz=85						
I28A	Midland	85.00	340	⇑P	P	18 23 02.2	+1.4
	baz=85						
K23A	Bowen Ranch, D	85.14	337	⇓P	P	18 23 03.2	+1.4
	baz=85						
H29A	Onida	85.33	341	⇓P	P	18 23 03.3	+0.8
	baz=86						
K22A	Casper	85.33	336	⇑P	P	18 23 03.2	+0.4
	baz=86						
J24A	Dixon Ranch, L	85.37	338	⇓P	P	18 23 03.4	+0.5
	baz=86						
DUG	Dugway	85.39	331	⇓P	P	18 23 05.0	+1.9
	baz=86						
K21A	Alcova	85.56	336	⇓P	P	18 23 04.3	+0.4
	baz=86						
H28A	Mission Ridge	85.58	341	⇑P	P	18 23 04.9	+1.1
	baz=86						
I25A	Rochford	85.73	339	⇑P	P	18 23 06.0	+1.3
	baz=86						
RSSD	Black Hills	85.91	338	eP	P	18 23 04.2	-1.4
	3.3nm,0.8s						
G28A	Parade	85.93	341	⇑P	P	18 23 05.7	+0.3
	baz=86						
NVAR	Mina Array Bea	86.18	326	P	P	18 23 08.8	+1.6
	1.7nm,0.7s,baz=137,slow=6.8,SNR=9.2						
F29A	Eureka	86.36	342	⇑P	P	18 23 08.4	+0.8
	baz=87						
I22A	9 Mile Ranch,	86.44	337	⇓P	P	18 23 08.8	+0.7
	baz=87						
PDAR	Pinedale Array	86.45	334	P	P	18 23 08.6	+0.2
	2.1nm,0.8s,baz=165,slow=7.2,SNR=12						
J20A	Shoshoni	86.47	335	⇑P	P	18 23 10.1	+1.7
	baz=87						
G27A	Dupree	86.48	340	⇓P	P	18 23 08.4	+0.2
	baz=87						
TOA0	Torodi Ar. Sit	86.53	71	eP	P	18 23 08.9	-0.2
TORD	Torodi Ar. Bea	86.53	71	P	P	18 23 09.6	+0.4
	4.1nm,0.7s,baz=221,slow=4.5,SNR=22						
F28A	McLaughlin	86.62	341	⇑P	P	18 23 09.6	+0.8
	baz=87						
I21A	Big Trails, Te	86.62	336	⇓P	P	18 23 09.4	+0.3
	baz=87						
H24A	Dirks Ranch, A	86.63	338	⇑P	P	18 23 09.0	0.0
	baz=87						
G25A	Newell	86.71	339	⇓P	P	18 23 10.3	+0.9
	baz=87						
J19A	Crowheart	86.72	335	⇑P	P	18 23 10.1	+0.5
	baz=87						
E30A	Jud	86.77	343	⇑P	P	18 23 09.8	+0.3
	baz=87						
ELK	Elko	86.82	330	P	P	18 23 10.8	+0.5
	3.4nm,0.9s,baz=176,slow=5.2,SNR=12						
F27A	Lemmon	86.96	340	⇓P	P	18 23 11.1	+0.6
	baz=87						
I20A	Worland	87.02	336	⇑P	P	18 23 11.0	0.0
	baz=87						
F26A	Lodgepole	87.11	340	⇓P	P	18 23 11.9	+0.7
	baz=87						
E28A	Huff	87.27	342	⇓P	P	18 23 12.8	+0.8
	baz=88						
F25A	Bowman	87.40	340	⇓P	P	18 23 13.4	+0.7
	baz=88						
D29A	Pettibone, Tap	87.45	342	⇑P	P	18 23 13.3	+0.5
	baz=88						
H20A	Greybull	87.46	336	⇑P	P	18 23 14.2	+1.2
	baz=88						
E26A	Carlson Angus	87.63	340	⇑P	P	18 23 14.5	+0.8
	baz=88						
C30A	Mose, Pekin	87.80	343	⇑P	P	18 23 15.1	+0.6
	baz=88,SNR=8.9						
D28A	Regan	87.81	342	⇑P	P	18 23 15.4	+0.8
	baz=88,SNR=6.3						
I17A	Pilgrim Ck.	87.82	334	⇑P	P	18 23 15.9	+0.9
	baz=88						
H18A	Shoshone NF, C	88.17	335	⇑P	P	18 23 17.8	+1.2
	baz=88						
G20A	Bridger	88.18	336	⇑P	P	18 23 17.0	+0.5
	baz=88						
B30A	Myrvik Farm, E	88.47	344	⇓P	P	18 23 18.5	+0.9
	baz=89,SNR=12						
C27A	Sayler Ranch,	88.53	342	⇑P	P	18 23 18.8	+0.9
	baz=89						
HLID	Hailey	88.90	332	⇑P	P	18 23 22.0	+2.0
	baz=89						
A30A	Hoffart Farm,	88.92	344	⇑P	P	18 23 20.4	+0.6
	baz=89,SNR=5.6						
B28A	Dugan Ranch, T	88.94	342	⇓P	P	18 23 20.8	+1.0
	baz=89						
A29A	Manning Farm,	89.12	343	⇓P	P	18 23 21.4	+0.7
	baz=89,SNR=7.9						
E19A	Rath Farm, Rou	89.47	336	⇓P	P	18 23 23.0	+0.5
	baz=90						
ULM	Lac du Bonnet	89.67	346	P	P	18 23 23.2	0.0
	3.2nm,0.7s,baz=124,slow=2.2,SNR=4.6						
LSZ	Lusaka	89.79	109	P	P	18 23 26.9	+2.0
	11nm,1.3s						
YKA	Yellowknife Ar	105.08	342	Pdiff	Pdif	18 24 33.1	+0.4
	0.1nm,0.6s,baz=140,slow=4.9,SNR=3.0						
GERES	GERESS Array B	115.49	47	PKP	PKPdf	18 29 07.7	+0.4
	1.1nm,0.6s,baz=216,slow=0.8,SNR=8.0						
WRA	Warramunga Arr	117.06	210	PKP	PKPdf	18 29 10.4	-0.8
	0.6nm,0.8s,baz=168,slow=1.7,SNR=6.0						
HFS	Hagfors	120.43	35	PKP	PKPdf	18 29 15.5	-0.8
	1.9nm,0.7s,baz=238,slow=4.9,SNR=5.1						
MLR	Muntele Rosu	121.56	55	PKP	PKPdf	18 29 19.3	+0.2
	0.4nm,0.6s,baz=202,slow=5.4,SNR=3.8						
MMAI	Mount Meron Ar	123.07	72	PKP	PKPdf	18 29 23.2	+0.8
	3.5nm,0.7s,baz=262,slow=2.9,SNR=3.6						
BRTR	Keskin Array B	124.56	63	PKP	PKPdf	18 29 25.8	+0.7
	2.4nm,0.7s,baz=192,slow=2.8,SNR=17						
AKASG	Malin Array Be	125.45	50	PKP	PKPdf	18 29 25.9	-0.3
	1.5nm,0.7s,baz=258,slow=2.6,SNR=11						
FINES	FINESS Array B	126.60	36	PKP	PKPdf	18 29 28.4	+0.3
	0.9nm,0.7s,baz=264,slow=4.2,SNR=5.7						
GEYT	Alibeck	142.09	74	PKhKP	PKPpre	18 29 53.3	
	2.0nm,0.6s,baz=259,slow=2.9,SNR=7.5						
SEY	Seymchan	142.48	327	PKhKP	PKPpre	18 29 54.8	
	1.6nm,0.6s,baz=68,slow=5.4,SNR=6.4						
AKTO	Aktyubinsk	143.49	54	PKhKP	PKPpre	18 29 56.6	
	2.6nm,0.6s,baz=287,slow=4.1,SNR=10						
TIXI	Tiksi	143.98	348	ePKPdf	PKPab	18 29 56.7	-0.7
ABKAR	Akbulak array	144.76	56	ePKPdf	PKPbc	18 30 01.6	+0.4
HYB	Hyderabad	148.28	122	i PKP	PKPbc	18 30 12.0	-0.4
BRVK	Borovoye	150.59	47	ePKPbc	PKPbc	18 30 17.6	+0.5
YAK	Yakutsk	151.64	337	ePKPdf	PKPdf	18 30 11.8	-1.1
YAK				ePKPbc	PKPbc	18 30 17.7	-1.5
KKAR	Karatay Array	152.17	67	ePKPdf	PKPdf	18 30 13.8	-0.5
KKAR				ePKPbc	PKiKP	18 30 21.4	0.0
KKAR				ePKPab	PKPab	18 30 30.5	-0.4
JHJ2	Mitsune	152.55	271	PKPbc	PKPbc	18 30 19.6	-2.5
MJAR	Matsushiro Arr	154.73	277	PKPbc	PKPbc	18 30 25.6	-1.3
	0.6nm,0.6s,baz=111,slow=2.7,SNR=3.5						
MJAR				PKPab	PKPab	18 30 43.0	+1.0

	1.2nm,0.7s,baz=123,slow=2.9,SNR=4.6						
AAK	Ala-Archa	155.10	68	PKP	PKPdf	18 30 18.8	+0.1
	1.6nm,0.7s,baz=145,slow=3.5,SNR=5.6						
AAK				PKPab	PKPab	18 30 44.5	+1.0
	8.7nm,0.6s,baz=69,slow=4.6,SNR=20						
AAK	Ala-Archa	155.10	68	PKP	PKPdf	18 30 18.8	+0.1
AAK				ePKPdf	PKPdf	18 30 19.3	+0.6
AAK				ePKPbc	PKPbc	18 30 28.8	
AAK				ePKPab	PKPab	18 30 44.5	+1.0
AAK				PKPab	PKPab	18 30 44.5	+1.0
TKM2	Tokmak 2	155.90	68	ePKPdf	PKPdf	18 30 20.2	+0.3
TKM2				ePKPab	PKPab	18 30 47.4	+0.4
ZALV	Zalesovo Beam	157.86	35	PKP	PKPdf	18 30 21.7	0.0
	3.3nm,0.9s,baz=329,slow=2.5,SNR=10						
ZALV				PKPab	PKPab	18 30 56.0	+1.3
	5.0nm,0.7s,baz=305,slow=5.5,SNR=13						
CMAR	Chiang Mai Arr	159.82	159	PKP	PKPdf	18 30 26.1	+0.9
	0.3nm,0.7s,baz=276,slow=3.4,SNR=4.0						
CMAR				PKPab	PKPab	18 31 03.5	-0.5
	2.0nm,1.1s,baz=216,slow=4.5,SNR=8.0						
MK31	Makanchi Array	159.91	55	ePKPdf	PKPdf	18 30 24.2	-0.2
MK31				ePKPab	PKPab	18 31 04.2	+0.3
MKAR	Makanchi Array	159.91	55	PKP	PKPdf	18 30 25.1	+0.7
	2.0nm,1.1s,baz=292,slow=1.8,SNR=7.0						
MKAR				PKPab	PKPab	18 31 04.4	+0.5
	3.0nm,0.7s,baz=286,slow=4.4,SNR=15						
SONM	Songino Array	169.76	0	PKPab	PKPab	18 31 47.8	+0.6
	1.2nm,0.9s,baz=333,slow=5.1,SNR=8.2						

ISCJB **27** *18:12:20.1±0.6, 34°.56S×73°.6W±0°.1, h33km, mb4.5/18, Error ellipse: s-maj=15.7km s-min=10.9km az=153.3*

IDC **27** *18:12:20.7±0.8, 34°.54S×73°.66W, h29km±4km, mb4.2/10, mb1 4.3/10, mb1mx4.1/39, mbtmp4.4/10, Error ellipse: s-maj=27.0km s-min=16.5km az=67.0*

NEIC **27** *18:12:21.4±0.4, 34°.56S×73°.73W, h35km, mb4.8/10, Error ellipse: s-maj=11.8km s-min=8.6km az=68.0*

ISC 27 18:12:21.2±0.6**, 34°.55S**±0°.10×**73°.8W**±0°.1**, h35km, n35,** σ1§**10**/40**, mb4.5**/18**, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRQA	Tornquist	10.12	114	ePn	Pn	18 14 45.2	+1.2
CPUP	Villa Florida	16.34	64	Pn	Pn	18 16 07.8	-0.1
LPAZ	La Paz	18.87	17	Pn	Pn	18 16 41.1	+1.2
SIV	San Ignacio	21.71	35	P	P	18 17 08.8	-0.5
	6.7nm,0.8s,baz=217,slow=9.9,SNR=2.3						
SAML	Samuel	27.26	23	eP	P	18 18 02.6	+0.4
	2.3nm,0.7s						
OTAV	Otavalo	34.88	352	P	P	18 19 11.2	+1.4
	7.5nm,0.9s						
SDV	Santo Domingo	43.30	4	eP	P	18 20 19.5	-0.3
	11nm,0.9s						
SNAA	Sanae	51.62	158	P	P	18 21 24.0	+0.3
	6.0nm,0.9s,baz=278,slow=4.9,SNR=9.5						
APG	El Apazote	51.78	339	P	P	18 21 21.0	-4.7
	5.5nm,0.9s,baz=153,slow=10,SNR=3.9						
QSPA	South Pole Qui	55.69	180	P	P	18 21 54.5	+0.7
	16nm,0.9s,baz=124,slow=1.8,SNR=10						
QSPA	South Pole Qui	55.69	180	eP	P	18 21 54.4	+0.6
	21nm,1.1s						
TEIG	Tepich	56.20	344	P	P	18 21 56.4	-1.2
	15nm,0.8s,baz=207,slow=2.3						
TEIG	Tepich	56.20	344	eP	P	18 21 55.2	-2.5
	29nm,1.1s						
TXAR	Lajitas Array	69.54	332	P	P	18 23 27.5	+1.1
	0.9nm,0.7s,baz=152,slow=6.1,SNR=3.3						
TXAR				pP	pP	18 23 36.6	-0.7
	1.8nm,0.8s,baz=151,slow=8.2,SNR=5.2						
SUR	Sutherland	75.80	120	P	P	18 24 04.8	+0.8
	18nm,1.1s						
DBIC	Dimbokro	76.69	72	P	P	18 24 09.5	+0.5
	7.9nm,0.7s,baz=204,slow=6.6,SNR=7.2						
DBIC				pP	pP	18 24 18.4	-1.5
	6.6nm,0.6s,baz=231,slow=3.9,SNR=5.4						
DBIC	Dimbokro	76.69	72	eP	P	18 24 09.0	+0.1
	8.4nm,0.7s						
DBIC				pP	pP	18 24 18.4	-1.5
TSUM	Tsumeb	80.42	107	eP	P	18 24 29.9	+0.2
	6.1nm,1.2s						
BOSA	Boshof	81.06	118	P	P	18 24 33.2	+0.2
	12nm,0.9s,baz=249,slow=4.7,SNR=8.5						
BOSA				pP	pP	18 24 42.4	-1.6
	7.1nm,1.0s,baz=272,slow=7.9,SNR=3.2						
NVAR	Mina Array Bea	83.54	326	P	P	18 24 47.8	+2.2
	0.4nm,0.7s,baz=126,slow=4.6,SNR=2.2						
PDAR	Pinedale Array	83.63	334	P	P	18 24 46.1	+0.2
	0.4nm,0.7s,baz=178,slow=4.4,SNR=2.4						
TOA0	Torodi Ar. Sit	85.73	71	eP	P	18 24 56.9	0.0
TORD	Torodi Ar. Bea	85.73	71	P	P	18 24 57.2	+0.3
	2.3nm,0.7s,baz=254,slow=4.1,SNR=5.9						
TORD				pP	pP	18 25 06.3	-1.7
	1.5nm,0.6s,baz=250,slow=4.2,SNR=3.4						
MCMT	McKenzie Canyo	86.61	333	eP	P	18 25 02.5	+1.7
	2.8nm,1.1s						
DGMT	Dagmar	87.01	340	eP	P	18 25 03.1	+0.7
	9.0nm,0.8s						
WRA	Warramunga Arr	119.58	211	PKP	PKPdf	18 31 07.0	-0.7
	0.6nm,0.7s,baz=160,slow=1.6,SNR=3.4						
BRTR	Keskin Array B	123.34	62	PKP	PKPdf	18 31 14.3	-0.1
	0.6nm,0.8s,baz=191,slow=5.9,SNR=4.1						
AKASG	Malin Array Be	123.61	48	PKP	PKPdf	18 31 13.9	-0.5
	0.2nm,0.3s,baz=264,slow=2.8,SNR=3.4						
BRVK	Borovoye	148.57	43	ePKPbc	PKPbc	18 32 04.0	+0.2
YAK	Yakutsk	148.75	339	ePKPbc	PKPbc	18 32 04.2	+0.2
HYB	Hyderabad	149.96	118	i PKP	PKPbc	18 32 07.5	-0.9
AAK	Ala-Archa	154.01	62	PKPdf	PKPdf	18 32 09.4	+0.5
ZALV	Zalesovo Beam	155.44	31	PKP	PKPdf	18 32 10.3	0.0
	1.5nm,0.8s,baz=318,slow=1.9,SNR=2.8						
ZALV				pPKP	pPKPdf	18 32 18.9	-2.9
	2.6nm,0.7s,baz=303,slow=3.0,SNR=4.8						
MK31	Makanchi Array	158.19	49	ePKPab	PKPab	18 32 48.3	+0.1
CMAR	Chiang Mai Arr	162.70	156	PKPab	PKPab	18 33 07.5	-0.9
	1.4nm,1.0s,baz=238,slow=4.0,SNR=5.4						

ISCJB **27** *18:12:48.7±0.4, 33°.80S±0°.08×71°.66W±0°.09, h33km, mb4.9/63, Error ellipse: s-maj=12.0km s-min=9.5km az=36.8*

BJI **27** *18:12:48.6, 33°.66S×71°.51W, h35km, mB5.5/7, Ms5.8/3, Ms7 5.6/4*

IDC **27** *18:12:48.3±1.2, 34°.02S×71°.91W, h27km±7km, mb4.5/14, mb1 4.7/16, mb1mx4.4/40, mbtmp4.7/16, ML4.2/2, Error ellipse: s-maj=23.8km s-min=17.7km az=42.0*

NEIC **27** *18:12:50.4±2.0, 33°.86S×71°.70W, h38km±16km, mb5.0/48, Error ellipse: s-maj=16.2km s-min=7.9km az=52.0*

ISC 27 18:12:49.6±0.7**, 33°.85S**±0°.07×**71°.7W**±0°.1**, h34km**±2km**, h34km:pP-P, n120,** σ1§**47**/146**, mb4.9**/63**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.65	53	Pn	Pn	18 13 47.2	+3.5
	1.6nm,0.3s,baz=223,slow=14,SNR=1.8						
CFAA				Lg	Lg	18 14 57.8	
	11nm,0.3s,baz=281,slow=16,SNR=6.6						
LVC	Limon Verde	11.45	13	Pn	Pn	18 15 28.3	-2.7
CPUP	Villa Florida	14.48	63	ePn	Pn	18 16 12.7	+0.6
LPAZ	La Paz	17.77	11	P	P	18 16 57.7	+2.1
	1.6nm,0.3s,baz=187,slow=8.4,SNR=11						
LPAZ	La Paz	17.77	11	ePn	P	18 16 57.3	+1.7
SAML	Samuel	25.98	19	eP	P	18 18 20.2	+0.9
	10nm,0.8s						
BDFB	Brasilia	27.98	55	P	P	18 18 39.4	+1.9
	16nm,0.9s,baz=222,slow=8.7,SNR=7.1						
OTAV	Otavalo	34.50	348	P	P	18 19 37.9	+2.7
SDV	Santo Domingo	42.51	1	eP	P	18 20 42.1	0.0
	17nm,0.9s						
RCBR	Riachuelo	43.29	58	P	P	18 20 48.5	+0.1
	8.3nm,0.8s,baz=214,slow=8.4,SNR=4.2						
BCIP	Isla Barro Col	43.48	348	P	P	18 20 50.0	+0.3
BBGH	Gun Hill	48.13	16	eP	P	18 21 25.1	-1.3
SNAA	Sanae	51.61	158	eP	P	18 21 52.3	0.0
	32nm,1.1s						
APG	El Apazote	51.78	337	P	P	18 21 51.1	-3.3
	2.8nm,0.6s,baz=118,slow=12,SNR=4.0						
ANWB	Willy Bob	52.09	12	eP	P	18 21 54.8	-1.6
	48nm,0.6s						
SDDR	Presa de Saban	52.53	0	eP	P	18 22 00.9	+1.1
	11nm,0.9s						
GTBY	Guantanamo Bay	53.57	356	P	P	18 22 07.2	-0.1
TEIG	Tepich	56.06	341	P	P	18 22 25.6	+0.3
	20nm,0.6s,baz=146,slow=6.3,SNR=5.0						
TEIG	Tepich	56.06	341	eP	P	18 22 25.3	0.0
	21nm,0.7s						
QSPA	South Pole Qui	56.39	180	eP	P	18 22 22.4	-5.0
	22nm,0.9s						
DWPF	Disney	62.31	350	P	P	18 23 04.8	-3.6
JCT	Junction City	69.28	334	eP	P	18 23 54.6	+1.2
	14nm,0.9s						
TXAR	Lajitas Array	69.76	330	P	P	18 23 57.1	+0.7
	2.5nm,0.9s,baz=158,slow=7.4,SNR=5.0						
WHTX	Lake Whitney	69.86	337	eP	P	18 23 56.9	0.0
	16nm,0.9s						
SWET	Sewanee	69.99	348	eP	P	18 23 57.9	+0.2
	36nm,1.0s						
OXF	Oxford	70.01	344	eP	P	18 23 57.2	-0.6
	58nm,1.1s						
TKL	Tuckaleechee C	70.07	350	P	P	18 23 57.8	-0.3
	2.3nm,0.6s,baz=148,slow=8.4,SNR=5.7						
WVT	Waverly	71.24	346	eP	P	18 24 05.4	+0.2
	38nm,0.7s						
PBMO	Poplar Bluff	72.41	344	eP	P	18 24 12.6	+0.4
	49nm,1.5s						
CLNB	Carlsbad	72.42	332	eP	P	18 24 10.9	-1.7
	1.6nm,0.4s						
TUL1	Tulsa	72.97	340	eP	P	18 24 15.3	-0.3
	23nm,1.0s						
USIN	University of	72.98	347	eP	P	18 24 15.4	-0.2
	26nm,0.9s						
MSTX	Muleshoe	73.51	333	eP	P	18 24 19.6	+0.6
	9.3nm,0.7s						
ACSO	Alum Creek Sta	74.45	351	eP	P	18 24 24.5	+0.3
	24nm,0.8s						
SUR	Sutherland	74.62	119	P	P	18 24 26.6	+0.7
	14nm,0.9s,baz=260,slow=3.5,SNR=4.0						
LAZ	Ladron	75.61	330	eP	P	18 24 30.1	-1.1
	13nm,1.3s						
ANMO	Albuquerque	75.80	331	P	P	18 24 32.7	+0.3
	3.5nm,0.8s,baz=161,slow=7.8,SNR=6.4						
MVCO	Mesa Verde	78.58	331	eP	P	18 24 48.2	+0.3
	55nm,1.7s						
TSUM	Tsumeb	78.95	106	eP	P	18 24 51.0	+0.6
SMCO	Snowmass	79.69	333	eP	P	18 24 56.3	+2.2
	14nm,1.0s						
ISCO	Idaho Springs	79.73	334	eP	P	18 24 55.3	+1.1
	28nm,1.8s						
PV04	Paradox Valley	79.77	331	eP	P	18 24 54.6	+0.3
BOSA	Boshof	79.86	118	P	P	18 24 55.8	+0.6
	8.1nm,0.9s,baz=241,slow=4.4,SNR=3.9						
CASY	Casey	80.18	181	eP	P	18 24 54.6	-1.4
	18nm,0.6s						
ECSD	EROS Data Cent	80.50	342	eP	P	18 24 57.6	-0.3
	21nm,0.9s						
SHPR	Sheep Range	80.91	326	eP	P	18 25 01.1	+0.6
CCUT	Cedar City	80.95	328	eP	P	18 25 02.5	+1.7
	13nm,1.1s						
PHWY	Pilot Hill	80.99	335	eP	P	18 25 02.1	+1.1
	20nm,1.4s						
O20A	White River Ci	81.00	332	eP	P	18 25 01.4	+0.4
	181nm,2.9s						
MVU	Marysvale	81.23	329	eP	P	18 25 04.0	+1.7
	14nm,1.4s						
TMUT	Trail Mountain	81.48	330	eP	P	18 25 04.4	+0.8
	25nm,1.3s						
MPU	Maple Canyon	82.26	330	eP	P	18 25 07.9	+0.3
	25nm,1.2s						
K22A	Casper	82.56	335	eP	P	18 25 09.6	+0.6
	24nm,1.1s						
R11A	Troy Canyon, C	82.60	327	eP	P	18 25 11.0	+1.6
	20nm,1.4s						
CTU	Camp Tracy	82.88	330	eP	P	18 25 10.5	-0.2
	5.2nm,0.7s						
RSSD	Black Hills	83.02	337	eP	P	18 25 11.3	-0.1
	9.6nm,0.9s						
TPH	Tonopah	83.14	325	eP	P	18 25 12.8	+0.6
	19nm,1.3s						
BGU	Big Grassy Mou	83.60	330	eP	P	18 25 14.1	-0.4
	11nm,1.7s						
PDAR	Pinedale Array	83.77	333	P	P	18 25 15.5	+0.1
	3.0nm,0.9s,baz=148,slow=5.4,SNR=8.4						
TOA0	Torodi Ar. Sit	83.86	70	eP	P	18 25 16.8	+0.6
TORD	Torodi Ar. Bea	83.86	70	P	P	18 25 17.0	+0.8
	9.0nm,0.9s,baz=243,slow=4.9,SNR=12						
NVAR	Mina Array Bea	83.94	325	P	P	18 25 15.8	-0.6
	1.3nm,0.6s,baz=153,slow=5.8,SNR=5.8						
HVU	Hansel Valley	84.21	330	eP	P	18 25 18.1	+0.6
	10nm,0.9s						
ELK	Elko	84.40	328	P	P	18 25 18.4	-0.2
	4.8nm,1.0s,baz=158,slow=2.1,SNR=7.3						
DCZ	Deep Cove	84.80	217	eP	P	18 25 21.9	+1.4
	174nm,1.5s						
LOHW	Long Hollow	84.89	333	eP	P	18 25 21.5	+0.5
	9.4nm,1.0s						
TPAW	Teton Pass	84.92	332	eP	P	18 25 21.6	+0.3
	18nm,1.1s						
FXWY	Fox Creek	85.07	332	eP	P	18 25 22.1	+0.2
	6.7nm,1.1s						
IMW	Indian Meadow	85.26	333	eP	P	18 25 23.6	+0.7
	21nm,1.4s						
YMR	Madison River	85.92	333	eP	P	18 25 27.3	+1.1
	25nm,1.2s						
LAO	LASA Array	86.01	337	eP	P	18 25 26.9	+0.6
	17nm,1.2s						
QLMT	Earthquake Lak	86.24	333	eP	P	18 25 28.5	+0.8
	0.1nm,0.2s						
HLID	Hailey	86.36	330	eP	P	18 25 29.6	+1.3
	11nm,1.3s						
ULM	Lac du Bonnet	86.43	345	P	P	18 25 28.0	-0.2
	5.5nm,0.8s,baz=156,slow=5.2,SNR=5.7						
MCMT	McKenzie Canyo	86.78	332	eP	P	18 25 30.9	+0.4
	2.8nm,1.0s						
DGMT	Dagmar	86.95	339	eP	P	18 25 31.0	+0.1
	25nm,0.9s						
DLMT	Dillon	87.13	332	eP	P	18 25 33.8	+1.8
	8.8nm,1.2s						
LRM	Limekiln Ridge	87.46	333	eP	P	18 25 34.6	+1.0
YBH	Yreka Blue Hor	88.63	324	P	P	18 25 38.7	-0.4
	3.2nm,0.8s,baz=162,slow=6.4,SNR=5.8						
LSZ	Lusaka	89.55	108	P	P	18 25 46.5	+2.3
YKA	Yellowknife Ar	102.02	341	P	Pdif	18 26 38.7	-0.8
	0.5nm,0.7s,baz=144,slow=4.7,SNR=6.6						
ILAR	Eielson Array	114.20	333	PKP	PKPdf	18 31 24.5	-0.1
	0.4nm,0.8s,baz=151,slow=2.1,SNR=4.9						
WRA	Warramunga Arr	121.05	209	PKP	PKPdf	18 31 37.8	-1.5
	1.6nm,0.8s,baz=163,slow=1.9,SNR=5.7						
BRTR	Keskin Array B	121.48	61	PKP	PKPdf	18 31 39.9	+0.3
	1.6nm,0.8s,baz=222,slow=1.7,SNR=7.0						
AKASG	Malin Array Be	121.85	47	PKP	PKPdf	18 31 39.2	-0.5
	0.3nm,0.4s,baz=264,slow=2.5,SNR=10						
AKASG				pPKP	pPKPdf	18 31 49.1	-1.7
	0.6nm,0.5s,baz=260,slow=3.5,SNR=2.9						
H11S2	WAKE ISLAND Hy	126.09	269	T	T	20 50 51.8	
	baz=118,slow=74,SNR=6.4						
H11S1	WAKE ISLAND Hy	126.10	269	T	T	20 50 54.0	
	baz=118,slow=74,SNR=5.4						
H11S3	WAKE ISLAND Hy	126.11	269	T	T	20 50 53.0	
	baz=118,slow=74,SNR=6.5						
GEYT	Alibeck	139.50	69	PKhKP	PKPpre	18 32 10.5	
	0.8nm,0.6s,baz=277,slow=3.6,SNR=2.6						
AKTO	Aktyubinsk	139.99	50	PKP	PKPdf	18 32 14.7	+0.7
	1.6nm,0.8s,baz=326,slow=3.6,SNR=3.8						
SEY	Seymchan	140.06	330	PKP	PKPdf	18 32 13.5	-0.2
	2.7nm,0.6s,baz=137,slow=2.2,SNR=6.7						
ABKAR	Akbulak array	141.34	52	ePKPpre	PKPpre	18 32 09.8	
GSI	Gunungsitoli	146.09	160	ePKPab	PKPab	18 32 27.5	+0.2
BRVK	Borovoye	146.88	43	ePKPdf	PKPdf	18 32 26.7	+0.8
BRVK				ePKPbc	PKPab	18 32 29.0	-0.3
MYKOM	Kota Tinggi	147.83	172	ePKPab	PKPab	18 32 39.3	+5.2
PSI	Prapat	147.88	162	PKPbc	PKPdf	18 32 29.9	+0.9
	baz=267,slow=4.3						
YAK	Yakutsk	148.69	341	ePKPbc	PKPbc	18 32 31.9	-0.6
HYB	Hyderabad	148.70	114	i PKP	PKPbc	18 32 32.5	-1.4
KKAR	Karatay Array	149.19	61	ePKPdf	PKPdf	18 32 26.5	-3.7
KKAR				ePKPbc	PKPbc	18 32 33.7	-0.7
IPM	Ipoh	150.00	165	ePKPdf	PKPbc	18 32 35.6	-1.6
EKS2	Erkin-Say	151.62	62	ePKPbc	PKPbc	18 32 41.0	+0.6
ASAJ	Asahikawa	151.65	301	PKPbc	PKPbc	18 32 39.1	-1.1
	8.0nm,0.9s,baz=270,slow=1.0,SNR=3.1						
AAK	Ala-Archa	152.15	62	PKPbc	PKPbc	18 32 43.0	+1.4
	9.3nm,0.8s,baz=188,slow=3.8,SNR=11						
AAK	Ala-Archa	152.15	62	ePKPdf	PKPdf	18 32 35.5	+0.5
AAK				ePKPbc	PKiKP	18 32 42.5	+0.6
AAK				PKPbc	PKPbc	18 32 43.0	+1.4
TKM2	Tokmak 2	152.92	61	ePKPdf	PKPdf	18 32 35.8	-0.4
TKM2				ePKPbc	PKiKP	18 32 43.7	+0.1
KSH	Kashi	153.52	68	ePKPbc	PKPdf	18 32 35.8	-1.2
KSH				epPKP	PKiKP	18 32 45.5	+0.7
KSH				esPKP		18 32 48.8	
KSH				eSKS	SKSdf	18 39 37.0	-4.5
KSH				eSKKS	SKKSac	18 43 16.0	-3.1
KSH				eSS	SS	18 56 01.8	-3.7
KSH				AMB	AMB		
	comp=Z,320nm,6.6s						
KSH				LR	LR		
	comp=Z,360nm,8.8s						
ZAA0	Zalesovo Array	153.93	32	ePKPdf	PKPdf	18 32 35.5	-1.4
ZAA0				ePKPbc	PKiKP	18 32 45.3	+0.3
ZALV	Zalesovo Beam	153.93	32	PKP	PKPdf	18 32 35.9	-1.0
	2.1nm,0.8s,baz=336,slow=3.2,SNR=3.5						
ZALV				PKPbc	PKiKP	18 32 45.4	+0.4
	11nm,0.8s,baz=311,slow=3.2,SNR=13						
MK31	Makanchi Array	156.42	49	PKPdf	PKPdf	18 32 40.7	+0.1
MK31				ePKPab	PKPab	18 33 09.4	+0.2
MKAR	Makanchi Array	156.42	49	PKP	PKPdf	18 32 40.4	-0.2
	0.3nm,0.6s,baz=270,slow=1.4,SNR=3.5						
MKAR				pPKP	pPKPdf	18 32 48.6	-3.1
	1.5nm,0.7s,baz=296,slow=3.6,SNR=5.8						
MKAR				PKPab	PKPab	18 33 10.2	+0.9
	4.1nm,0.7s,baz=298,slow=4.4,SNR=8.5						
MKAR	Makanchi Array	156.42	49	PKP	PKPdf	18 32 40.4	-0.2
MKAR				pPKP	pPKPdf	18 32 48.6	-3.1
MKAR				ePKPab	PKPab	18 33 05.9	-3.4
MKAR				PKPab	PKPab	18 33 10.2	+0.9
WMQ	Urumqi	161.12	52	ePKP	PKPdf	18 32 46.5	+0.2
WMQ				LR	LR		
	comp=N,1μm,23.2s						
WMQ				LR	LR		
	comp=E,1μm,21.8s						
WMQ				LR	LR		
	comp=Z,950nm,22.2s						
CMAR	Chiang Mai Arr	162.52	149	PKP	PKPdf	18 32 47.8	-0.6
	1.3nm,1.0s,baz=232,slow=2.2,SNR=5.9						
CMAR				PKPab	PKPab	18 33 34.9	-1.4
	0.7nm,0.9s,baz=229,slow=4.2,SNR=4.1						
SONM	Songino Array	165.95	5	PKP	PKPdf	18 32 50.0	-0.8
	0.5nm,0.9s,baz=5.7,slow=1.4,SNR=2.8						
SONM				PKPab	PKPab	18 33 50.5	-0.3
	1.1nm,1.0s,baz=340,slow=1.7,SNR=3.5						
NJ2	Nanjing	170.99	261	ePKP	PKPdf	18 32 56.0	+1.6
GTA	Gaotai	171.18	49	ePKP	PKPdf	18 32 54.8	+0.3
GTA				pPKP	pPKPdf	18 33 05.5	-0.1
GTA				sPKP		18 33 09.3	
GTA				PKPab	PKPab	18 34 16.0	+1.7
GTA				PP	PP	18 38 09.0	+3.9
GTA				SKS	SKSdf	18 39 53.0	-2.4
GTA				SKKS	SKKSac	18 44 51.0	+1.6
GTA				AMB	AMB		
	comp=Z,410nm,7.0s						
GYA	Guiyang	172.49	168	PKP	PKPdf	18 32 55.0	-0.5
GYA				pPKP	pPKPdf	18 33 06.8	+0.2
GYA				PKPab	PKPab	18 34 22.0	+1.8
GYA				PKS	PKSdf	18 36 26.0	-2.0
GYA				PP	PP	18 38 14.3	+3.7
GYA				SKKS		18 44 56.5	
GYA				SS	SS	18 59 20.5	+1.5
GYA				AMB	AMB		
	comp=Z,120nm,8.5s						
GYA				LR	LR		
	comp=N,130nm,21.8s						
GYA				LR	LR		
	comp=E,110nm,21.3s						
GYA				LR	LR		
	comp=Z,120nm,24.5s						
HHC	Hu-ho-hao-te	172.56	341	ePKP	PKPdf	18 32 51.3	-3.8
HHC				sPKP		18 33 05.5	
HHC				PP	PP	18 38 14.0	+3.0
HHC				AMB	AMB		
	comp=Z,190nm,6.3s						
CD2	Chengdu	175.14	126	PKP	PKPdf	18 32 56.0	-0.2
CD2				pPKP	pPKPdf	18 33 07.3	0.0
CD2				sPKP		18 33 11.0	
CD2				PKS	PKSdf	18 36 26.8	-1.7
CD2				PP	PP	18 38 27.3	+2.7
CD2				SKS	SKSdf	18 39 53.5	-3.4
CD2				SKKS	SKKSac	18 45 08.0	-0.5
CD2				SS	SS	18 59 44.5	-2.1
CD2				AMB	AMB		
	comp=Z,260nm,5.2s						
LZH	Lanzhou	175.68	58	ePKP	PKPdf	18 32 59.0	+2.6
LZH				pPKP	pPKPdf	18 33 09.3	+1.8
LZH				sPKP		18 33 13.8	

IDC **27** *18:12:59.0±0.6, 36°.64S×73°.15W, h0km, mb4.7/15, mb1 4.8/16, mb1mx4.7/22, mbtmp4.7/16, ML5.0/1, Error ellipse: s-maj=27.8km s-min=16.5km az=76.0*

ISCJB **27** *18:13:02.3±0.4, 36°.52S±0°.08×72°.92W±0°.09, h25km, mb4.7/16, Error ellipse: s-maj=13.4km s-min=8.9km az=37.2*

NEIC **27** *18:13:03.9±0.4, 36°.64S×73°.09W, h35km, mb5.0/4, Error ellipse: s-maj=14.3km s-min=8.9km az=70.0*

ISC 27 18:13:02.6±0.5**, 36°.67S**±0°.09×**73°.1W**±0°.1**, h25km, n290,** σ1§**20**/287**, mb4.7**/16**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.50	155	ePn	Pn	18 14 07.0	-2.3
TRQA	Tornquist	8.93	102	Pn	Pn	18 15 10.7	+0.7
CPUP	Villa Florida	16.89	57	Pn	P	18 16 58.7	-0.5
	1.4nm,0.3s,baz=232,slow=15,SNR=3.5						
LPAZ	La Paz	20.77	13	P	Pn	18 17 43.9	-1.1
	16nm,1.0s,baz=188,slow=9.1,SNR=2.0						
LPAZ	La Paz	20.77	13	P	P	18 17 41.1	-1.3
	48nm,1.1s						
SIV	San Ignacio	23.19	30	P	P	18 18 07.6	0.0
	17nm,1.0s,baz=235,slow=13,SNR=4.2						
NNA	Nana	24.81	351	P	P	18 18 21.5	-1.3
OTAV	Otavalo	37.06	351	P	P	18 20 10.3	-1.0
	18nm,1.3s						
ROSC	El Rosal	41.33	358	P	P	18 20 48.2	+1.4
	8.7nm,0.6s,baz=116,slow=17,SNR=4.8						
ROSC	El Rosal	41.33	358	P	P	18 20 46.9	+0.1
SDV	Santo Domingo	45.37	3	eP	P	18 21 18.9	-0.4
	29nm,0.9s						
SNAA	Sanae	49.45	157	P	P	18 21 51.5	+1.3
	7.2nm,0.9s,baz=278,slow=7.9,SNR=9.4						
QSPA	South Pole Qui	53.57	180	P	P	18 22 23.1	+1.9
	17nm,0.9s,baz=149,slow=6.0,SNR=11						
CELP	Cerrillos	54.79	8	eP	P	18 22 28.4	-1.9
LRS	Lares	54.98	7	eP	P	18 22 30.1	-1.6
TEIG	Tepich	58.39	343	P	P	18 22 56.1	+0.2
	32nm,0.9s,baz=192,slow=9.3,SNR=4.5						
TEIG	Tepich	58.39	343	eP	P	18 22 55.7	-0.2
	38nm,0.9s						
933A	Laredo	68.54	335	P	P	18 24 03.8	+0.8
	baz=69						
834A	Tilden	68.77	336	P	P	18 24 05.8	+1.5
	baz=69						
735A	Kenedy	69.21	337	P	P	18 24 10.0	+2.9
	baz=70						
833A	Chaparral WMA,	69.23	335	P	P	18 24 08.2	+1.0
	baz=70						
832A	Faith Ranch, C	69.39	335	P	P	18 24 09.1	+0.8
	baz=70						
636A	Smothers Creek	69.56	338	P	P	18 24 10.5	+1.3
	baz=70						
732A	Laxson Ranch,	69.80	335	P	P	18 24 11.8	+1.1
	baz=70						
537A	Green Hill Far	69.90	339	P	P	18 24 12.5	+1.2
	baz=70						
633A	Saathoff Ranch	70.21	336	P	P	18 24 13.9	+0.6
	baz=70						
339A	Huntington	70.58	341	P	P	18 24 15.9	+0.5
	baz=71						
631A	Perdido Creek	70.63	335	P	P	18 24 16.9	+1.1
	baz=71						
533A	Kerrville	70.73	336	P	P	18 24 17.4	+1.0
	baz=71						
435B	Jarrell	70.93	338	P	P	18 24 18.6	+1.0
	baz=71						
337A	Centerville	70.93	339	P	P	18 24 18.6	+1.0
	baz=71						
532A	Rocksprings	71.06	336	P	P	18 24 19.7	+1.2
	baz=71						
434A	Burnet	71.17	337	P	P	18 24 19.9	+0.8
	baz=72						
239A	Gary	71.21	341	P	P	18 24 20.3	+1.1
	baz=72						
336A	Riesel	71.28	339	P	P	18 24 20.6	+0.9
	baz=72						
335A	Moody	71.35	338	P	P	18 24 21.1	+1.0
	baz=72						
JCT	Junction City	71.35	336	P	P	18 24 21.1	+0.8
	baz=72						

433A Art 71.38 337 P P 18 24 21.0 +0.6
baz=72
237A Washetta, Mont 71.56 340 P P 18 24 22.3 +0.9
baz=72
530A J-C Ranch, Com 71.57 334 P P 18 24 22.4 +0.8
baz=72
334A Lometa 71.64 337 P P 18 24 22.9 +0.9
baz=72
TXAR Lajitas Array 71.68 332 P P 18 24 22.1 -0.1
3.9nm,0.8s,baz=153,slow=6.1,SNR=7.6
432A Menard 71.72 336 P P 18 24 22.7 +0.2
baz=72
431A Sonora 71.81 335 P P 18 24 24.2 +1.2
baz=72
529A Stev Forest Ra 71.86 334 P P 18 24 24.6 +1.2
baz=72
KMSC Kings Mountain 71.86 353 P P 18 24 23.7 +0.6
baz=72
333A Richland Sprin 71.87 337 P P 18 24 24.1 +0.8
baz=72
138A Matatall Enter 71.98 341 P P 18 24 25.3 +1.4
baz=72
WHTX Lake Whitney 72.02 338 P P 18 24 24.9 +0.8
baz=72
137A Heron Place, G 72.11 340 P P 18 24 26.1 +1.4
baz=72
430A Baggett Ranch, 72.12 335 P P 18 24 25.4 +0.5
baz=72
332A Millersview 72.17 336 P P 18 24 25.5 +0.4
baz=72
429A Davenport Ranc 72.20 334 P P 18 24 26.5 +1.1
baz=72
234A Clairette 72.24 338 P P 18 24 26.0 +0.5
baz=72
331A San Angelo 72.32 336 P P 18 24 26.5 +0.5
baz=73
233A Rising Star 72.49 337 P P 18 24 27.9 +0.9
baz=73
232A Coleman 72.60 336 P P 18 24 28.5 +0.8
baz=73
TKL Tuckaleechee C 72.65 351 P P 18 24 27.1 -0.8
9.7nm,0.9s,baz=174,slow=10,SNR=4.6
330A Mertzon 72.67 335 P P 18 24 28.2 +0.1
baz=73
134A White-Moore Ra 72.75 338 P P 18 24 29.3 +0.7
baz=73
231A Bronte 72.86 336 P P 18 24 29.9 +0.6
baz=73
329A Wagon Wheel Ra 73.02 334 P P 18 24 30.7 +0.5
baz=73
133A Hamilton Ranch 73.04 337 P P 18 24 31.1 +0.8
baz=73
Z35A Perchaven, San 73.22 339 P P 18 24 32.0 +0.8
baz=74
ABTX Abilene, Hawle 73.28 337 P P 18 24 32.4 +0.7
baz=74
229A Bryant Ranch, 73.39 335 P P 18 24 33.0 +0.6
baz=74
Z34A Collier Ranch, 73.45 338 P P 18 24 33.3 +0.6
baz=74
131A Roby 73.57 336 P P 18 24 34.2 +0.8
baz=74
Z33A Whitaker Ranch 73.62 338 P P 18 24 34.9 +1.2
baz=74
130A Snyder 73.68 336 P P 18 24 34.8 +0.7
baz=74
228A UT Block 9, Go 73.80 334 P P 18 24 35.8 +1.0
baz=74
Z32A Haskell 73.86 337 P P 18 24 36.0 +1.0
baz=74
Y34A Reagan Ranch, 73.95 339 P P 18 24 36.4 +0.9
baz=74
Z31A Sharp Cattle R 74.08 337 P P 18 24 37.5 +1.1
baz=74
128A Castleberry Fa 74.22 334 P P 18 24 38.0 +0.7
baz=74
Y33A Hilltop Ranch, 74.25 338 P P 18 24 38.2 +0.9
baz=74
Z30A Sanderson Ranc 74.37 336 P P 18 24 38.6 +0.5
baz=75
Y32A R-V Farms, Ver 74.50 337 P P 18 24 39.6 +0.8
baz=75
Z29A Hungry Hill Ra 74.54 335 P P 18 24 39.8 +0.7
baz=75
X34A Smith Ranch, M 74.57 339 P P 18 24 39.4 +0.2
baz=75
Y31A Rekieta Farm, 74.71 337 P P 18 24 41.0 +0.9
baz=75
X32A Elmer 74.83 338 P P 18 24 41.3 +0.6
baz=75
Y30A Stafford Cattl 74.84 336 P P 18 24 41.2 +0.4
baz=75
Y29A Porterfield Fa 75.08 336 P P 18 24 43.0 +0.8
baz=75
Z27A Tatum 75.11 334 P P 18 24 43.3 +0.9
baz=75
W34A Bridge Creek, 75.15 339 P P 18 24 43.4 +0.9
baz=76
TUL1 Tulsa 75.24 341 P P 18 24 43.6 +0.6
baz=76
X31A McDonald Ranch 75.24 337 P P 18 24 43.9 +0.8
baz=76
W33A Caddo, Fort Co 75.27 339 P P 18 24 44.3 +1.1
baz=76
Z26A Caprock 75.34 334 P P 18 24 44.4 +0.6
baz=76
W32A Sentinel 75.47 338 P P 18 24 45.1 +0.7
baz=76
USIN University of 75.48 348 epP P 18 24 44.9 +0.6
MSTX Muleshoe 75.55 335 P P 18 24 45.6 +0.6
baz=76
Y27A Causey 75.60 334 P P 18 24 46.3 +1.0
baz=76
Z25A Roswell 75.61 333 P P 18 24 46.3 +0.9
baz=76
X29A Tulia 75.62 336 P P 18 24 46.1 +0.7
baz=76
V34A Guthrie 75.64 340 P P 18 24 46.3 +1.1
baz=76
319A Douglas 75.72 329 P P 18 24 47.2 +1.1
baz=76
V33A Lossen Ranch, 75.84 339 P P 18 24 47.3 +0.8
baz=76
Y26A Elida 75.87 334 P P 18 24 47.8 +0.9
baz=76
Z24A Sheeppen Canyo 75.89 333 P P 18 24 48.0 +0.9
baz=76
V32A Arapaho 75.97 338 P P 18 24 47.6 +0.4
baz=76
AMTX Amarillo 76.02 336 P P 18 24 47.8 +0.2
baz=76
Y25A Mesa, Roswell 76.18 333 P P 18 24 49.7 +1.0
baz=76
U34A Anderson Ranch 76.20 340 P P 18 24 49.3 +0.8
baz=76
W29A Amraillo 76.22 336 P P 18 24 49.4 +0.6
baz=76
V31A Spring Creek L 76.26 338 P P 18 24 50.7 +1.8
baz=77
X27A F and S Farms, 76.27 335 P P 18 24 49.1 0.0
baz=77
U33A Lingo Farm, Me 76.36 339 P P 18 24 50.5 +1.0
baz=77
X26A CR and CF Fran 76.43 334 P P 18 24 51.3 +1.3
baz=77
Z22A Elephant Butte 76.43 331 P P 18 24 51.4 +1.3
baz=77
Y24A Capitan 76.45 333 P P 18 24 51.1 +0.8
baz=77
U32A Winter Ranch, 76.57 339 P P 18 24 51.7 +1.1
baz=77
W27A Bowe Ranch, En 76.64 335 P P 18 24 52.1 +0.9
baz=77
DBIC Dimbokro 76.82 71 P P 18 24 54.0 +1.4
6.3nm,0.7s,baz=217,slow=7.0,SNR=4.5
V28A Channing 76.99 336 P P 18 24 54.4 +1.3
baz=77
W25A X Bar L Ranch, 77.26 334 P P 18 24 55.4 +0.7
baz=78
T32A Huddler Ranch, 77.29 339 P P 18 24 55.2 +0.5
baz=78
U28A Mallet 77.56 336 P P 18 24 57.4 +1.1
baz=78
W24A Lazy 6 Ranch, 77.59 333 P P 18 24 57.5 +0.8
baz=78
ANMO Albuquerque 77.74 332 P P 18 24 58.4 +1.0
6.6nm,0.9s,baz=153,slow=7.9,SNR=6.4
214A Organ Pipe Nat 77.75 326 P P 18 24 58.3 +0.9
baz=78
S31A Mullinville 77.86 339 P P 18 24 59.1 +1.2
baz=78
V25A Rancho No Teng 77.88 334 P P 18 24 59.5 +1.4
baz=78
T29A Hugoton 77.98 337 P P 18 25 00.1 +1.5
baz=78
V24A Rampart Ranch, 78.01 334 P P 18 24 59.9 +0.9
baz=78
U26A Atchley Ranch, 78.08 335 P P 18 25 00.2 +0.9
baz=78
R33A Olander Ranch, 78.08 340 P P 18 24 59.6 +0.6
baz=78
S30A Montezuma 78.17 338 P P 18 24 59.7 +0.1
baz=78
T28A Walsh 78.20 337 P P 18 25 01.1 +1.2
baz=78
T27A Campo 78.34 336 P P 18 25 02.2 +1.5
baz=79
R32A Long Quarter, 78.39 340 P P 18 25 02.5 +1.7
baz=79
KSU1 Kansas State U 78.47 341 P P 18 25 01.4 +0.3
baz=79
S28A Manter 78.56 337 P P 18 25 02.9 +1.1
baz=79
T26A Comanche Natio 78.73 336 P P 18 25 04.3 +1.4
baz=79
V22A San Miguel Ran 78.77 333 P P 18 25 04.8 +1.6
baz=79
113A Mohawk Valley, 78.86 326 P P 18 25 04.8 +1.4
baz=79
U23A El Rito 78.88 333 P P 18 25 04.8 +1.1
baz=79
Q32A Meitler Ranch, 78.88 340 P P 18 25 04.7 +1.3
baz=79
S27A Las Animas 78.97 336 P P 18 25 04.7 +0.5
baz=79
T25A Trinidad 78.98 335 P P 18 25 05.5 +1.2
baz=79
R29A Marienthal 79.10 338 P P 18 25 05.9 +1.1
baz=79
S26A Kim 79.10 336 P P 18 25 05.7 +0.9
baz=79
Q31A Ellis 79.12 339 P P 18 25 06.3 +1.5
baz=79
U22A Llaves 79.16 333 P P 18 25 07.6 +2.3
baz=79
R28A Tribune 79.23 337 P P 18 25 06.4 +1.0
baz=80
T24B San Luis 79.24 334 P P 18 25 07.7 +1.8
baz=80
X16A Lo Mia Camp, P 79.25 329 P P 18 25 06.8 +0.9
baz=80
S25A Robets Cordova 79.46 335 P P 18 25 08.2 +1.4
baz=80
Q29A Oakley 79.48 338 P P 18 25 07.7 +0.9
baz=80
R27A Eads 79.49 337 P P 18 25 07.8 +0.9
baz=80
BOSA Boshof 79.57 118 P P 18 25 07.1 -0.7
8.7nm,0.9s,baz=246,slow=5.2,SNR=3.7
P31A Stockton 79.60 340 P P 18 25 08.4 +1.0
baz=80
S24A Houchin Ranch, 79.70 335 P P 18 25 09.0 +0.6
baz=80
R26A Arlington 79.71 336 P P 18 25 09.4 +1.3
baz=80
R24A Sanders Place, 80.20 335 P P 18 25 11.9 +1.0
baz=80
S22A 4UR Ranch, Cre 80.37 333 P P 18 25 13.3 +1.4
baz=81
R23A Moffat 80.41 334 P P 18 25 13.5 +1.4
baz=81
MVCO Mesa Verde 80.51 332 P P 18 25 13.8 +1.2
baz=81
MVCO Mesa Verde 80.51 332 epP P 18 25 19.6 +7.0
P26A Davis Ranch, A 80.82 337 P P 18 25 14.6 +0.5
baz=81
O28A Krutsinger Ran 80.86 338 P P 18 25 15.3 +1.1
baz=81
Q24A Divide 80.87 335 P P 18 25 15.6 +1.0
baz=81
P25A Willow Gulch B 81.04 336 P P 18 25 16.0 +0.7
baz=81
O27A Beecher Island 81.13 338 P P 18 25 16.3 +0.6
baz=81
N29A Votaw Ranch, W 81.16 339 P P 18 25 16.8 +1.1
baz=82
U15A North Rim 81.33 329 P P 18 25 18.3 +1.2
baz=82
GMRC Granite Mounta 81.40 326 P P 18 25 18.8 +1.5
baz=82
O26A Horse Wrangler 81.43 337 P P 18 25 19.2 +1.9
baz=82
P23A Jefferson 81.48 335 P P 18 25 19.4 +1.5
baz=82
SMCO Snowmass 81.69 334 epP P 18 25 21.9 +2.8
PV04 Paradox Valley 81.70 332 epP P 18 25 25.6 +6.7
ISCO Idaho Springs 81.78 335 P P 18 25 21.0 +1.6
baz=82
ISCO Idaho Springs 81.78 335 epP P 18 25 21.3 +1.9
O23A Lake Granby, G 82.25 335 P P 18 25 23.0 +1.1
baz=83
M27A Reverse DX Ran 82.33 338 P P 18 25 23.2 +1.2
baz=83
O22A Kremmling 82.42 335 P P 18 25 24.1 +1.3
baz=83
N24A Carr 82.47 336 P P 18 25 24.9 +2.1
baz=83
K30A Basset 82.60 341 P P 18 25 22.5 -0.8
baz=83
SHPR Sheep Range 82.62 327 epP P 18 25 26.7 +3.0
ECSD EROS Data Cent 82.84 343 P P 18 25 25.0 +0.5
baz=83
ECSD EROS Data Cent 82.84 343 epP P 18 25 25.2 +0.8
K29A Lazy Trails An 82.87 340 P P 18 25 26.4 +1.7
baz=83
N23A Red Feather La 82.88 335 P P 18 25 26.3 +1.3
baz=83
LRMC Laurel Mountai 82.91 325 P P 18 25 26.2 +1.0
baz=83
N22A Wattenberg Ran 82.96 335 P P 18 25 27.2 +1.7
baz=83
O20A White River Ci 82.99 334 P P 18 25 26.9 +1.3
baz=83
O20A White River Ci 82.99 334 epP P 18 25 27.8 +2.2
M24A Cheyenne 83.03 337 P P 18 25 27.6 +1.9
baz=83
MVU Marysvale 83.08 330 epP P 18 25 29.0 +2.9
PHWY Pilot Hill 83.08 336 epP P 18 25 27.8 +1.7
TMUT Trail Mountain 83.37 331 epP P 18 25 30.1 +2.5
ISA Isabella 83.43 324 P P 18 25 28.8 +1.0
baz=84
J29A Okreek 83.47 340 P P 18 25 29.0 +1.2
baz=84
M22A Cedar Creek Ra 83.55 335 P P 18 25 30.6 +2.1
baz=84
N20A Spence Gulch, 83.62 334 P P 18 25 30.5 +1.6
baz=84
I30A Oacoma 83.71 341 P P 18 25 29.8 +0.9
baz=84
J28A Allard Ranch, 83.74 340 P P 18 25 31.1 +1.9
baz=84
J27A Elkhorn Farm, 83.80 339 P P 18 25 31.5 +2.0
baz=84
L23A Garrett 83.89 336 P P 18 25 32.1 +1.9
baz=84
MPU Maple Canyon 84.15 331 epP P 18 25 33.6 +2.1
J26A Sides Ranch, S 84.16 338 P P 18 25 32.8 +1.5
baz=84
I28A Midland 84.25 340 P P 18 25 32.6 +0.9
baz=85
R11A Troy Canyon, C 84.35 328 P P 18 25 34.3 +1.7
baz=85
K23A Bowen Ranch, D 84.44 337 P P 18 25 35.0 +2.1
baz=85
J25A Sunshine Ranch 84.45 338 P P 18 25 35.0 +2.1
baz=85
H29A Onida 84.58 341 P P 18 25 34.9 +1.6
baz=85
K22A Casper 84.64 336 P P 18 25 34.6 +0.7
baz=85
K22A Casper 84.64 336 epP P 18 25 34.9 +1.0
J24A Dixon Ranch, L 84.66 337 P P 18 25 34.6 +0.7
baz=85
DUG Dugway 84.77 331 P P 18 25 36.7 +2.1
baz=85
H28A Mission Ridge 84.84 340 P P 18 25 34.3 -0.3
baz=85
TPH Tonopah 84.84 326 epP P 18 25 38.4 +3.3
K21A Alcova 84.87 335 P P 18 25 35.3 +0.3
baz=85
H07S1 FLORES T-PHASE 84.93 31 eP P 18 25 32.9 -2.3
I25A Rochford 85.00 338 P P 18 25 36.7 +1.0
baz=85
G29A Hoven 85.03 341 P P 18 25 37.3 +1.7
baz=85
I24A Kuemmerle Ranc 85.13 338 P P 18 25 36.8 +0.5
baz=85
RSSD Black Hills 85.19 338 epP P 18 25 36.7 0.0
J22A Midwest 85.31 336 P P 18 25 37.6 +0.3
baz=86
F30A Leola 85.40 342 P P 18 25 38.1 +0.7
baz=86
BGU Big Grassy Mou 85.48 331 epP P 18 25 47.3 +9.2
H25A Fruitdale 85.51 339 P P 18 25 40.0 +1.9
baz=86
J21A Lysite 85.57 336 P P 18 25 39.5 +1.0
baz=86
F29A Eureka 85.60 342 P P 18 25 38.3 -0.2
baz=86
NVAR Mina Array Bea 85.61 326 P P 18 25 40.3 +1.4
1.2nm,0.8s,baz=157,slow=5.5,SNR=3.0
G27A Dupree 85.73 340 P P 18 25 39.7 +0.6
baz=86
I22A 9 Mile Ranch, 85.74 336 P P 18 25 39.7 +0.4
baz=86
PDAR Pinedale Array 85.78 334 P P 18 25 38.8 -0.9
4.5nm,1.1s,baz=148,slow=5.2,SNR=5.6
J20A Shoshoni 85.79 335 P P 18 25 40.3 +0.7
baz=86
G26A Maurine 85.84 340 P P 18 25 40.2 +0.6
baz=86
F28A McLaughlin 85.86 341 P P 18 25 40.1 +0.4
baz=86
TOA0 Torodi Ar. Sit 85.89 70 P P 18 25 41.3 +0.7
TORD Torodi Ar. Bea 85.89 70 P P 18 25 42.5 +1.9
3.2nm,0.7s,baz=222,slow=4.6,SNR=4.7
H24A Dirks Ranch, A 85.91 338 P P 18 25 40.3 +0.2
baz=86
I21A Big Trails, Te 85.93 336 P P 18 25 40.4 +0.1
baz=86
G25A Newell 85.98 339 P P 18 25 40.9 +0.5
baz=86
E30A Jud 86.00 342 P P 18 25 41.3 +0.9
baz=86
J19A Crowheart 86.04 335 P P 18 25 41.4 +0.5
baz=86
HVU Hansel Valley 86.11 331 epP P 18 25 43.2 +1.9
F27A Lemmon 86.21 340 P P 18 25 42.7 +1.2
baz=86
H22A Clearmont 86.33 337 P P 18 25 42.3 +0.2
baz=87
I20A Worland 86.33 335 P P 18 25 42.9 +0.7
baz=87
F26A Lodgepole 86.37 340 P P 18 25 43.3 +1.0
baz=87
G24A Alzada 86.40 338 P P 18 25 42.7 +0.2
baz=87
D30A Buchanan 86.53 343 P P 18 25 45.6 +2.6
baz=87
G23A Biddle 86.57 338 P P 18 25 43.5 +0.1
baz=87
F25A Bowman 86.66 339 P P 18 25 44.1 +0.4
baz=87
I19A Meeteetse 86.70 335 P P 18 25 45.1 +0.9
baz=87
H20A Greybull 86.76 336 P P 18 25 44.3 0.0
baz=87
G22A Birney 86.87 337 P P 18 25 45.0 +0.2
baz=87
F24A Ekalaka 86.88 339 P P 18 25 45.3 +0.5
baz=87
E26A Carlson Angus 86.89 340 P P 18 25 45.6 +0.8
baz=87
LOHW Long Hollow 86.89 334 epP P 18 25 47.0 +1.9
TPAW Teton Pass 86.91 333 epP P 18 25 47.1 +1.9
C30A Mose, Pekin 87.02 343 P P 18 25 45.3 0.0
baz=87
F23A Volborg 87.05 338 P P 18 25 46.0 +0.3
baz=87
D28A Regan 87.05 342 P P 18 25 45.9 +0.4
baz=87
FXWY Fox Creek 87.06 333 epP P 18 25 47.7 +1.8
I17A Pilgrim Ck. 87.15 334 P P 18 25 47.0 +0.6
baz=87
G21A Lodge Grass 87.16 337 P P 18 25 46.9 +0.6
baz=88
E25A Miller Ranch, 87.17 340 P P 18 25 47.1 +0.9
baz=88
H19A Powell 87.25 335 P P 18 25 47.2 +0.4
baz=88
IMW Indian Meadow 87.26 334 epP P 18 25 49.3 +2.4
F22A Rosebud 87.36 337 P P 18 25 47.9 +0.8
baz=88
D26A Manning 87.39 340 P P 18 25 47.8 +0.6
baz=88
D25A Fairfield 87.74 340 P P 18 25 49.9 +1.0
baz=88
C27A Sayler Ranch, 87.78 341 P P 18 25 50.2 +1.2
baz=88
YMR Madison River 87.94 334 epP P 18 25 52.8 +2.7
D24A Glendive 87.99 339 P P 18 25 51.9 +1.8
baz=88
C26A Wahner Farm, P 88.03 341 P P 18 25 50.3 +0.1
baz=88
A30A Hoffart Farm, 88.14 344 P P 18 25 51.1 +0.4
baz=88
B28A Dugan Ranch, T 88.17 342 P P 18 25 51.7 +0.9
baz=88
HLID Hailey 88.26 331 P P 18 25 52.5 +0.8
baz=88
A29A Manning Farm, 88.34 343 P P 18 25 51.5 -0.2
baz=89
C24A Savage 88.40 339 P P 18 25 53.2 +1.2
baz=89
ULM Lac du Bonnet 88.86 346 P P 18 25 53.7 -0.3
5.5nm,0.8s,baz=171,slow=2.9,SNR=6.0
GERES GERESS Array B 114.61 47 PKP PKPdf 18 31 40.7 +0.5
0.5nm,0.7s,baz=207,slow=1.1,SNR=4.1
WRA Warramunga Arr 118.03 209 PKP PKPdf 18 31 47.4 -0.4
0.4nm,0.5s,baz=172,slow=1.6,SNR=1.9
MLR Muntele Rosu 120.74 54 PKP PKPdf 18 31 52.6 +0.5
0.6nm,1.0s,baz=176,slow=12,SNR=3.2
BRTR Keskin Array B 123.83 63 PKP PKPdf 18 31 58.8 +0.5
1.0nm,0.7s,baz=212,slow=3.3,SNR=4.1
AKASG Malin Array Be 124.59 49 PKP PKPdf 18 31 58.4 -0.8
0.8nm,0.6s,baz=261,slow=2.8,SNR=3.8
GNI Garni 132.01 66 PKP PKPdf 18 32 14.3 +0.4
1.3nm,0.4s,baz=201,slow=21,SNR=3.3
GEYT Alibeck 141.50 73 PKP PKPdf 18 32 27.7 -3.7
2.5nm,0.9s,baz=242,slow=3.1,SNR=4.1
SEY Seymchan 141.89 328 PKP PKPdf 18 32 29.5 -1.7
2.4nm,0.8s,baz=130,slow=6.2,SNR=3.3
AKTO Aktyubinsk 142.65 53 PKP PKPdf 18 32 36.0 +3.0
1.7nm,0.6s,baz=214,slow=2.6,SNR=5.4
AAK Ala-Archa 154.42 66 PKP PKPdf 18 32 51.5 -0.9
5.0nm,0.7s,baz=225,slow=2.9,SNR=5.5
ZALV Zalesovo Beam 156.91 35 PKP PKPdf 18 32 54.6 -0.5
3.4nm,0.5s,baz=318,slow=1.9,SNR=3.6
ZALV PKPab PKPab 18 33 25.1 -0.1
2.5nm,0.7s,baz=303,slow=3.0,SNR=3.9
MKAR Makanchi Array 159.09 53 PKP PKPdf 18 32 56.9 -1.3
1.0nm,0.7s,baz=298,slow=3.6,SNR=3.5
MKAR PKPab PKPab 18 33 34.2 -0.8
2.7nm,0.9s,baz=296,slow=2.5,SNR=4.0
SONM Songino Array 168.84 2 PKP PKPdf 18 33 06.6 -0.5
0.3nm,0.9s,baz=236,slow=1.6,SNR=2.4
SONM PKPab PKPab 18 34 17.7 0.0
1.2nm,0.9s,baz=8.5,slow=2.9,SNR=4.3

*IDC **27** 18:15:18.9±0.4, 37°.53S×73°.82W, h0km, mb5.1/24, mb1 5.2/28, mb1mx5.1/40, mbtmp5.1/28, ML4.4/3, MS5.5/10, Ms1 5.5/10, ms1mx5.0/33, Error ellipse: s-maj=16.6km s-min=11.0km az=70.0*

*ISCJB **27** 18:15:22.5±0.2, 37°.41S±0°.04×73°.42W±0°.06, h25km, mb5.5/153, MS5.7/16, Error ellipse: s-maj=7.9km s-min=4.2km az=141.8*

*BJI **27** 18:15:22.0, 37°.50S×73°.70W, h25km, mB5.8/24, Ms6.0/21, Ms7 5.8/24*

*NEIC **27** 18:15:22.8±0.7, 37°.52S×73°.55W, h25km±4km, mb5.6/123, MS5.2/2, Error ellipse: s-maj=8.9km s-min=5.6km az=68.0*

MOS **27** 18:15:24.0±1.1, 37.27S×73.72W, h33km, mb5.8/38, Error ellipse: s-maj=15.1km s-min=7.8km az=98.6
ISC 27 18:15:22.9±0.5, 37.47S±0.05×73.67W±0.06, h25km±3km, h23km:pP-P, n841, σ1.47/872, mb5.6/153, MS5.8/16, 169C-199D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.07 144 *e*P Pb 18 16 28.6 -5.2
PLCA Paso Flores 4.07 144 Pn **Pn 18 16 24.4 +0.7**
baz=315,slow=13,SNR=1.0
PLCA Pg **Pb 18 16 33.0 -0.8**
23nm,0.3s,baz=318,slow=15,SNR=6.7
PLCA Lg Lg 18 17 34.3
39nm,0.3s,baz=47,slow=19,SNR=7.3
PLCA Paso Flores 4.07 144 *e*Pn Pb 18 16 28.6 -5.2
PLCA Lg Lg 18 17 34.3
CFAA Coronel Fontan 7.37 39 Pn **Pn 18 17 09.8 +0.8**
0.9nm,0.3s,baz=204,slow=10.0,SNR=3.3
CFAA Lg Lg 18 19 21.6
0.5nm,0.3s,baz=110,slow=15,SNR=3.1
CFAA LR LR 18 20 10.9
comp=Z,6µm,19.8s,baz=224,slow=39
TRQA Tornquist 9.28 97 *e*Pn **Pn 18 17 37.8 +2.7**
USHA Ushuaia 17.73 170 P **Pn 18 19 28.1 +0.2**
0.3nm,0.3s,baz=328,slow=10,SNR=11
CPUP Villa Florida 17.74 56 *e*P **P 18 19 29.4 +0.5**
CPUP pmax pmax
comp=Z,16nm,1.2s
CPUP Villa Florida 17.74 56 P **P 18 19 28.8 -0.1**
comp=Z,2.7nm,0.3s,baz=252,slow=14,SNR=4.8
CPUP LR LR 18 27 25.5
comp=Z,29µm,18.6s,baz=218,slow=41
CPUP Villa Florida 17.74 56 *e*Pn **P 18 19 29.4 +0.5**
comp=Z,16nm,1.2s
EFI East Falkland 17.98 147 *e*P **Pn 18 19 29.8 -1.2**
EFI pmax pmax
comp=Z,1µm,1.3s
EFI East Falkland 17.98 147 *e*Pn **Pn 18 19 29.8 -1.2**
comp=Z,1µm,1.3s
LPAZ La Paz 21.66 15 *e*P **P 18 20 13.7 +1.4**
LPAZ pmax pmax
comp=Z,249nm,1.0s
LPAZ MLR MLR
comp=Z,9µm,20.1s
LPAZ La Paz 21.66 15 P **P 18 20 14.1 +1.8**
comp=Z,109nm,1.0s,baz=184,slow=9.0,SNR=26
LPAZ La Paz 21.66 15 *e*P **P 18 20 13.7 +1.4**
comp=Z,249nm,1.0s
LPAZ LR LR
comp=Z,9µm,20.1s
SIV San Ignacio 24.12 31 P **P 18 20 37.0 +0.1**
comp=Z,56nm,1.0s,baz=224,slow=12,SNR=13
SIV LR LR 18 32 09.8
comp=Z,43µm,18.0s,baz=224,slow=42
NNA Nana 25.53 353 *e*P **P 18 20 50.0 +0.3**
NNA Nana 25.53 353 P **P 18 20 48.1 -1.6**
comp=Z,14nm,0.7s,baz=187,slow=11,SNR=3.6
NNA Nana 25.53 353 *e*P **P 18 20 45.5 -4.2**
comp=Z,192nm,1.8s
SAML Samuel 29.93 21 *e*P **P 18 21 28.8 -0.3**
comp=Z,150nm,1.3s
SAML LR LR
comp=Z,6µm,19.4s
ATAH Atahualpa 30.50 351 P **P 18 21 35.9 +1.4**
comp=Z,19nm,1.1s,baz=185,slow=9.3,SNR=9.4
ATAH LR LR 18 32 04.0
comp=Z,4µm,19.2s,baz=176,slow=33
BDFB Brasilia 31.43 53 *e*P **P 18 21 42.8 +0.4**
BDFB Brasilia 31.43 53 P **P 18 21 42.7 +0.3**
comp=Z,61nm,1.1s,baz=228,slow=9.2,SNR=13
BDFB LR LR 18 35 43.2
comp=Z,19µm,18.8s,baz=224,slow=39
RPN Rapa Nui 31.70 279 LR LR 18 30 21.9
comp=Z,7µm,21.8s,baz=126,slow=29
OTAV Otavalo 37.78 352 *e*P **P 18 22 39.8 +2.1**
comp=Z,175nm,1.4s
OTAV *e*ScP **ScP 18 28 44.7 +4.7**
ROSC El Rosal 42.11 359 P **P 18 23 15.0 +1.5**
comp=Z,7.7nm,0.5s,baz=119,slow=2.3,SNR=9.8
ROSC El Rosal 42.11 359 *e*P **P 18 23 15.5 +1.9**
SDV Santo Domingo 46.20 4 *e*P **P 18 23 44.6 -1.5**
comp=Z,49nm,1.1s
RCBR Riachuelo 46.62 57 P **P 18 23 51.2 +1.9**
comp=Z,116nm,1.3s,baz=212,slow=9.6,SNR=19
RCBR LR LR 18 44 50.8
comp=Z,36µm,18.6s,baz=209,slow=38
RCBR Riachuelo 46.62 57 *e*P **P 18 23 51.0 +1.7**
comp=Z,291nm,1.5s
VNA3 Neumayer Olymp 46.69 156 P **P 18 23 49.6 +0.4**
BCIP Isla Barro Col 46.75 352 *e*P **P 18 23 50.4 +0.2**
comp=Z,150nm,1.5s
VNA2 Neumayer--Watz 47.37 156 P **P 18 23 54.7 +0.2**
JTS JuntasAbangare 48.67 345 P **P 18 24 06.5 +1.4**
comp=Z,247nm,1.9s,SNR=5.6
JTS JuntasAbangare 48.67 345 *e*P **P 18 24 05.6 +0.5**
JTS pmax pmax
comp=Z,156nm,1.5s
JTS JuntasAbangare 48.67 345 P **P 18 24 06.3 +1.3**
comp=Z,24nm,1.2s,baz=153,slow=6.8,SNR=6.3
JTS JuntasAbangare 48.67 345 *e*P **P 18 24 05.6 +0.5**
comp=Z,156nm,1.5s
SNAA Sanae 48.91 157 P **P 18 24 07.2 +0.8**
SNAA Sanae 48.91 157 *e*P **P 18 24 06.7 +0.3**
SNAA Sanae 48.91 157 *e*P **P 18 24 07.3 +0.8**
SNAA pmax pmax
comp=Z,240nm,1.2s
SNAA Sanae 48.91 157 P **P 18 24 06.7 +0.3**
comp=Z,67nm,1.2s,baz=265,slow=7.6,SNR=36
SNAA LR LR 18 44 33.5
comp=Z,2µm,18.0s,baz=292,slow=36
SNAA Sanae 48.91 157 *e*P **P 18 24 06.7 +0.3**
comp=Z,449nm,1.5s
GRGR Grenville 50.61 15 *e*P **P 18 24 19.7 -0.1**
comp=Z,633nm,1.2s
QSPA South Pole Qui 52.78 180 P **P 18 24 35.4 -0.3**
comp=Z,54nm,1.1s,baz=147,slow=7.0,SNR=18
QSPA South Pole Qui 52.78 180 *e*P **P 18 24 35.9 +0.2**
comp=Z,119nm,1.3s
FDF Fort de France 53.24 15 *e*P **P 18 24 38.8 -0.7**
FDF pmax pmax
comp=Z,52nm,1.0s
FDF Fort de France 53.24 15 *e*P **P 18 24 38.8 -0.7**
comp=Z,52nm,1.0s
NVL N'lazarevskaya 53.69 156 *e*P **P 18 24 42.6 +0.5**
NVL *e*S **S 18 32 18.7 +4.5**
NVL pmax pmax
comp=Z,199nm,1.6s
RKT Rikitea 53.97 267 *e*S **S 18 32 16.7 -2.5**
comp=Z,3µm,26.2s
RKT *e*LQ LQ 18 38 05.6
comp=Z,2µm,28.8s
RKT *e*LR LR 18 40 21.1
comp=Z,11µm,27.2s
RKT Rikitea 53.97 267 *e*T T 19 22 20.0
comp=Z,1.5nm,0.2s
APG El Apazote 54.53 340 P **P 18 24 46.2 -2.9**
comp=Z,22nm,0.9s,baz=177,slow=7.7,SNR=9.0
MTDJ Mount Denham 55.51 356 P P 18 25 03.2 +7.2
CRPR Cabo Rojo, PR 55.52 8 *e*P **P 18 24 54.7 -1.2**
comp=Z,198nm,1.6s
CRPR *e*S **S 18 32 43.2 +3.5**
OBIP Obispado Ponce 55.61 8 *e*P **P 18 24 55.7 -0.8**
comp=Z,160nm,1.4s
OBIP *e* 18 25 03.0
CELP Cerrillos 55.65 8 *e*P **P 18 24 55.8 -1.0**
CELP *e*P **S 18 32 43.1 +1.6**
LRS Lares 55.83 8 *e*P **P 18 24 56.4 -1.8**
CBYP Canovanas 55.92 9 *e*P **P 18 24 56.5 -2.5**
comp=Z,337nm,1.8s
ANWB Willy Bob 55.97 14 *e*P **P 18 24 57.5 -1.6**
SDDR Presa de Saban 56.19 3 *e*P **P 18 25 00.6 -0.3**
comp=Z,62nm,1.4s
SMN1 Samana, DR 56.50 5 *e*P **P 18 25 03.2 +0.2**
GTBY Guantanamo Bay 57.10 358 *e*P **P 18 25 05.7 -1.5**
comp=Z,89nm,1.4s
TEIG Tepich 59.01 344 P **P 18 25 19.4 -1.1**
comp=Z,49nm,1.1s,baz=186,slow=8.9,SNR=4.6
TEIG Tepich 59.01 344 *e*P **P 18 25 19.6 -1.0**
comp=Z,85nm,1.2s
SYO Syowa Base 63.14 158 ⇑*e*P **P 18 25 46.0 -2.1**
TBI Tubuai 65.28 259 *e*T T 19 36 25.3
comp=Z,6.2nm,0.3s
MEH Mehetia 67.13 265 *e*T T 19 38 45.4
comp=Z,24nm,0.2s
TVO Taravao 68.12 264 *e*T T 19 39 59.0
comp=Z,1.3nm,0.2s
TIAR Tiarei 68.32 264 *e*T T 19 40 13.9
comp=Z,4.1nm,0.3s
PAE Paea 68.45 264 *e*T T 19 40 23.5
comp=Z,1.0nm,0.3s
PPT2 Papeete2 68.48 264 *e*S **S 18 35 20.0 -4.1**
comp=Z,7µm,27.5s
PPT2 Papeete2 68.48 264 *e*LR LR 18 47 07.2
comp=Z,8µm,25.0s
PPT2 Papeete2 68.48 264 *e*T T 19 40 25.4
comp=Z,2.0nm,0.3s
834A Tilden 69.30 337 ⇓P **P 18 26 30.3 +2.3**
baz=70
735A Kenedy 69.75 338 ⇓P **P 18 26 33.0 +2.3**
baz=70
833A Chaparral WMA, 69.75 336 ⇓P **P 18 26 32.9 +2.1**
baz=70,SNR=8.5
832A Faith Ranch, C 69.91 335 ⇑P **P 18 26 33.5 +1.8**
baz=70,SNR=6.3
734A La Parita Cree 69.97 337 ⇑P **P 18 26 34.9 +2.7**
baz=70
BBSR BB Station 69.98 8 *e*P **P 18 26 31.9 -0.2**
733A Divot King Ran 70.09 336 ⇓P **P 18 26 35.4 +2.5**
baz=70
636A Smothers Creek 70.11 338 ⇑P **P 18 26 35.3 +2.3**
baz=70
HKT Hockley 70.20 340 P **P 18 26 33.5 +0.1**
HKT pmax pmax
comp=Z,40nm,1.4s
HKT Hockley 70.20 340 P **P 18 26 33.5 +0.1**
comp=Z,40nm,1.4s
SACV Santiago Islan 70.23 52 P **P 18 26 34.3 +0.3**
comp=Z,307nm,1.2s,SNR=5.8
SACV Santiago Islan 70.23 52 P **P 18 26 31.7 -2.3**
comp=Z,27nm,1.1s
MAW Mawson 70.23 164 P P 18 26 29.7 -3.6
comp=Z,74nm,1.1s,baz=229,slow=9.3,SNR=3.5
635A Leesville 70.24 338 ⇓P **P 18 26 36.1 +2.4**
baz=71
732A Laxson Ranch, 70.32 336 ⇑P **P 18 26 36.1 +1.9**
baz=71,SNR=7.9
537A Green Hill Far 70.46 339 ⇑P **P 18 26 37.5 +2.5**
baz=71
NHSC New Hope 70.47 354 *e*P **P 18 26 36.1 +1.0**
comp=Z,169nm,1.2s
633A Saathoff Ranch 70.74 337 ⇓P **P 18 26 38.7 +1.9**
baz=71,SNR=6.6
535A Dale 70.78 338 ⇓P **P 18 26 39.6 +2.6**
baz=71
438A Sam Houston St 70.86 340 ⇓P **P 18 26 39.6 +2.1**
baz=71
632A Uvalde 70.98 336 ⇑P **P 18 26 40.1 +1.8**
baz=71,SNR=8.7
534A Blanco 71.05 337 ⇑P **P 18 26 40.9 +2.2**
baz=72
340A Bronson 71.09 342 ⇓P **P 18 26 41.5 +2.7**
baz=72
VBMS Vicksburg 71.09 345 *e*P **P 18 26 39.4 +0.5**
comp=Z,213nm,1.6s
GOGA Godfrey 71.10 351 *e*P **P 18 26 38.2 -0.7**
GOGA *e* 18 26 45.8
GOGA pmax pmax
comp=Z,143nm,1.9s
GOGA Godfrey 71.10 351 *e*P **P 18 26 38.2 -0.7**
comp=Z,143nm,1.9s
GOGA *e* 18 26 45.8
437A Phaontom Ranch 71.12 340 ⇓P **P 18 26 41.6 +2.6**
baz=72
631A Perdido Creek 71.15 335 ⇓P **P 18 26 41.7 +2.4**
baz=72
339A Huntington 71.17 341 ⇑P **P 18 26 41.9 +2.5**
baz=72
LRAL Lakeview Retre 71.23 348 *e*P **P 18 26 39.3 -0.4**
comp=Z,48nm,1.3s
436A Wall Ranch, Ga 71.25 339 ⇓P **P 18 26 42.7 +2.8**
baz=72
533A Kerrville 71.26 337 ⇓P **P 18 26 41.7 +1.7**
baz=72,SNR=6.9
338A Crockett 71.39 341 ⇓P **P 18 26 43.2 +2.5**
baz=72
435B Jarrell 71.49 338 ⇑P **P 18 26 43.9 +2.6**
baz=72
337A Centerville 71.51 340 ⇓P **P 18 26 43.9 +2.5**
baz=72
532A Rocksprings 71.59 336 ⇑P **P 18 26 43.8 +1.8**
baz=72,SNR=7.7
NATX Nacogdoches 71.61 341 *e*P **P 18 26 42.4 +0.4**
comp=Z,258nm,1.8s
434A Burnet 71.72 338 ⇑P **P 18 26 44.2 +1.5**
baz=72,SNR=10
531A Rocksprings 71.83 336 ⇑P **P 18 26 44.9 +1.4**
baz=72,SNR=8.2
336A Riesel 71.84 339 ⇓P **P 18 26 45.0 +1.6**
baz=72
JCT Junction City 71.88 336 *e*P **P 18 26 44.7 +1.0**
JCT pmax pmax
comp=Z,95nm,1.3s
JCT Junction City 71.88 336 *e*P **P 18 26 44.7 +1.0**
comp=Z,95nm,1.3s
JCT Junction City 71.88 336 ⇑P **P 18 26 45.1 +1.4**
baz=72,SNR=6.6
335A Moody 71.91 339 ⇑P **P 18 26 45.4 +1.5**
baz=72
433A Art 71.91 337 ⇑P **P 18 26 45.0 +1.1**
baz=72,SNR=9.2
238A Jacksonville 71.96 341 ⇑P **P 18 26 46.0 +1.9**
baz=72
530A J-C Ranch, Com 72.08 335 ⇓P **P 18 26 46.6 +1.7**
baz=72,SNR=12
237A Washetta, Mont 72.14 340 ⇑P **P 18 26 47.0 +1.8**
baz=73
TX31 Lajitas Ar. Si 72.15 333 *e*P **P 18 26 46.5 +1.0**
TX31 *e*PKiKP **PKiKP 18 32 48.9 +0.2**
TXAR Lajitas Array 72.15 333 P **P 18 26 46.1 +0.6**
comp=Z,9.8nm,1.1s,baz=152,slow=7.8,SNR=11
TXAR LR LR 18 54 10.9
comp=Z,2µm,18.7s,baz=0.0,slow=32
334A Lometa 72.19 338 ⇑P **P 18 26 46.8 +1.3**
baz=73,SNR=8.9
432A Menard 72.25 337 ⇓P **P 18 26 47.2 +1.2**
baz=73
431A Sonora 72.33 336 ⇓P **P 18 26 47.8 +1.4**
baz=73,SNR=6.8
529A Stev Forest Ra 72.36 334 ⇓P **P 18 26 48.3 +1.6**
baz=73,SNR=10
333A Richland Sprin 72.41 337 ⇓P **P 18 26 48.5 +1.7**
baz=73,SNR=7.7
CNNC Cliffs of the 72.44 356 *e*P **P 18 26 46.6 -0.3**
138A Matatall Enter 72.57 341 ⇓P **P 18 26 49.5 +1.8**
baz=73
WHTX Lake Whitney 72.58 339 *e*P **P 18 26 48.4 +0.6**
comp=Z,86nm,1.3s
WHTX *e* 18 26 56.2
WHTX Lake Whitney 72.58 339 ⇑P **P 18 26 49.5 +1.7**
baz=73
KMSC Kings Mountain 72.59 353 *e*P **P 18 26 47.5 -0.4**
comp=Z,177nm,1.9s
KMSC Kings Mountain 72.59 353 ⇓P **P 18 26 50.0 +2.2**
baz=73
430A Baggett Ranch, 72.63 335 ⇓P **P 18 26 49.7 +1.4**
baz=73,SNR=12
137A Heron Place, G 72.69 341 ⇓P **P 18 26 50.4 +1.9**
baz=73
332A Millersview 72.70 337 ⇓P **P 18 26 50.2 +1.6**
baz=73,SNR=13
429A Davenport Ranc 72.70 335 ⇑P **P 18 26 50.4 +1.7**
baz=73,SNR=12
CER Ceres 72.72 119 *e*P **P 18 26 49.8 +0.8**
CER AMB AMB 18 26 58.6
comp=Z,218nm,2.6s
234A Clairette 72.79 338 ⇓P **P 18 26 50.0 +0.9**
baz=73
331A San Angelo 72.85 336 ⇑P **P 18 26 50.6 +1.1**
baz=73,SNR=9.2
233A Rising Star 73.03 338 ⇓P **P 18 26 51.6 +1.0**
baz=73
DRV Dumont d'Urvil 73.03 193 S S 18 35 52.0 -23
DRV L L 18 46 00.0
DRV R 18 51 00.0
OXF Oxford 73.09 346 *e*P **P 18 26 49.7 -1.1**
OXF pmax pmax
comp=Z,109nm,1.4s
OXF Oxford 73.09 346 *e*P **P 18 26 49.6 -1.1**
comp=Z,109nm,1.4s
232A Coleman 73.14 337 ⇑P **P 18 26 52.3 +1.1**
baz=74,SNR=5.3
330A Mertzon 73.18 336 ⇑P **P 18 26 52.1 +0.6**
baz=74
SWET Sewanee 73.21 350 *e*P **P 18 26 50.8 -0.7**
comp=Z,120nm,1.2s
134A White-Moore Ra 73.31 339 ⇓P **P 18 26 52.9 +0.8**
baz=74
TKL Tuckaleechee C 73.36 351 *e*P **P 18 26 52.0 -0.4**
TKL *e**PP **pP 18 26 58.3 -2.1**
TKL Tuckaleechee C 73.36 351 P **P 18 26 51.5 -0.8**
comp=Z,19nm,1.1s,baz=161,slow=10,SNR=5.4
TKL Tuckaleechee C 73.36 351 *e*P **P 18 26 52.0 -0.4**
TKL *e*pP **pP 18 26 58.3 -2.1**
231A Bronte 73.39 337 ⇓P **P 18 26 54.0 +1.3**
baz=74,SNR=5.6
329A Wagon Wheel Ra 73.52 335 ⇑P **P 18 26 54.2 +0.7**
baz=74,SNR=5.6
133A Hamilton Ranch 73.59 338 ⇓P **P 18 26 54.6 +0.8**
baz=74,SNR=8.9
230A Sterling City 73.60 336 ⇓P **P 18 26 55.2 +1.3**
baz=74
Z35A Perchaven, San 73.78 340 ⇑P **P 18 26 55.6 +0.7**
baz=74
ABTX Abilene, Hawle 73.82 337 *e*P **P 18 26 54.2 -1.0**
comp=Z,79nm,1.3s
ABTX Abilene, Hawle 73.82 337 ⇑P **P 18 26 56.0 +0.8**
baz=74
229A Bryant Ranch, 73.91 335 ⇓P **P 18 26 56.6 +0.8**
baz=74
MIAR Mount Ida 74.00 343 *e*P **P 18 26 54.1 -2.1**
MIAR Mount Ida 74.00 343 *e*P **P 18 26 54.1 -2.1**
Z34A Collier Ranch, 74.01 339 ⇓P **P 18 26 56.9 +0.6**
baz=74
131A Roby 74.10 337 ⇓P **P 18 26 57.7 +0.9**
baz=74
Z33A Whitaker Ranch 74.17 338 ⇑P **P 18 26 58.1 +0.9**
baz=75
TZTN Tazewell 74.21 352 *e*P **P 18 26 57.0 -0.3**
comp=Z,148nm,1.8s
130A Snyder 74.21 336 ⇑P **P 18 26 58.2 +0.7**
baz=75
228A UT Block 9, Go 74.31 335 ⇑P **P 18 26 59.4 +1.3**
baz=75,SNR=6.6
SUR Sutherland 74.32 119 P **P 18 26 59.9 +1.2**
comp=Z,56nm,1.1s,baz=252,slow=5.1,SNR=9.0
SUR Sutherland 74.32 119 *e*P **P 18 26 59.4 +0.8**
comp=Z,305nm,1.5s
WVT Waverly 74.39 348 *e*P **P 18 26 57.5 -0.9**
WVT pmax pmax
comp=Z,233nm,1.9s
WVT Waverly 74.39 348 *e*P **P 18 26 57.5 -0.9**
comp=Z,232nm,1.9s
Z32A Haskell 74.41 338 ⇑P **P 18 27 00.0 +1.4**
baz=75,SNR=7.4
Y34A Reagan Ranch, 74.52 339 ⇓P **P 18 27 00.4 +1.2**
baz=75
129A Stewart Farms, 74.53 336 ⇑P **P 18 27 00.4 +1.0**
baz=75
VWCC Virginia Weste 74.57 355 *e*P **P 18 26 58.8 -0.6**
BBTS Babate 74.60 57 P **P 18 27 01.1 +1.1**
comp=Z,98nm,1.1s,baz=222,slow=1.7,SNR=8.9
Z31A Sharp Cattle R 74.62 337 ⇓P **P 18 27 00.7 +0.8**
baz=75,SNR=5.2
128A Castleberry Fa 74.73 335 ⇓P **P 18 27 01.7 +1.1**
baz=75,SNR=7.4
URVA University of 74.75 357 *e*P **P 18 27 01.2 +0.8**
Y33A Hilltop Ranch, 74.81 339 ⇓P **P 18 27 01.9 +1.1**
baz=75
JSRW J. Sargeant Re 74.89 357 *e*P **P 18 27 00.8 -0.4**
Z30A Sanderson Ranc 74.90 336 ⇓P **P 18 27 02.2 +0.7**
baz=75,SNR=7.3
MNTX Cornudas Mount 74.92 332 *e*P **P 18 27 01.7 +0.2**
comp=Z,12nm,1.1s
Y32A R-V Farms, Ver 75.04 338 ⇓P **P 18 27 03.4 +1.2**
baz=76
Z29A Hungry Hill Ra 75.06 336 ⇓P **P 18 27 03.0 +0.5**
baz=76,SNR=9.1
127A Arkansas Junct 75.08 334 ⇓P **P 18 27 04.0 +1.4**
baz=76
X34A Smith Ranch, M 75.14 340 ⇓P **P 18 27 04.1 +1.4**
baz=76
Y31A Rekieta Farm, 75.25 337 ⇑P **P 18 27 05.3 +1.9**
baz=76
X32A Elmer 75.39 338 ⇓P **P 18 27 05.0 +0.7**
baz=76
PBMO Poplar Bluff 75.49 346 *e*P **P 18 27 04.4 -0.3**
comp=Z,394nm,2.9s
Y29A Porterfield Fa 75.60 336 ⇑P **P 18 27 06.6 +1.0**
baz=76
Z27A Tatum 75.61 335 ⇓P **P 18 27 06.9 +1.3**
baz=76
W34A Bridge Creek, 75.72 340 *e*P **P 18 27 06.6 +0.5**
W34A *e* 18 27 13.8
W34A Bridge Creek, 75.72 340 ⇑P **P 18 27 07.2 +1.1**
baz=76
X31A McDonald Ranch 75.79 338 ⇓P **P 18 27 07.4 +0.9**
baz=76
Z26A Caprock 75.83 334 ⇓P **P 18 27 07.7 +0.8**
baz=76,SNR=9.0
W33A Caddo, Fort Co 75.83 339 ⇑P **P 18 27 08.4 +1.6**
baz=76,SNR=6.1
TUL1 Tulsa 75.84 342 *e*P **P 18 27 04.4 -2.3**
comp=Z,99nm,1.4s
TUL1 Tulsa 75.84 342 ⇓P **P 18 27 07.6 +0.9**
baz=76
X30A Coker Ranch, T 75.89 337 ⇓P **P 18 27 08.7 +1.5**
baz=76
W32A Sentinel 76.03 339 ⇓P **P 18 27 08.7 +0.8**
baz=76,SNR=12
MSTX Muleshoe 76.06 335 *e*P **P 18 27 08.6 +0.4**
comp=Z,99nm,1.5s
MSTX Muleshoe 76.06 335 ⇑P **P 18 27 09.4 +1.2**
baz=76
Z25A Roswell 76.10 334 ⇑P **P 18 27 09.6 +1.2**
baz=76
Y27A Causey 76.11 335 ⇓P **P 18 27 09.8 +1.3**
baz=76
319A Douglas 76.14 329 ⇑P **P 18 27 10.2 +1.5**
baz=76
X29A Tulia 76.15 336 ⇓P **P 18 27 09.6 +0.9**
baz=77
USIN University of 76.16 349 *e*P **P 18 27 06.9 -1.6**
comp=Z,188nm,1.8s
SIUC Southern Illin 76.18 347 *e*P **P 18 27 08.3 -0.3**
comp=Z,51nm,1.3s
V34A Guthrie 76.21 340 *e*P **P 18 27 09.1 +0.2**
comp=Z,104nm,1.4s
V34A Guthrie 76.21 340 ⇑P **P 18 27 09.7 +0.8**
baz=77
W31A Holland Ranch, 76.29 338 ⇓P **P 18 27 10.1 +0.6**
baz=77
Y26A Elida 76.37 335 ⇑P **P 18 27 10.8 +0.8**
baz=77
Z24A Sheeppen Canyo 76.38 333 ⇓P **P 18 27 10.8 +0.7**
baz=77,SNR=5.5
V33A Lossen Ranch, 76.41 340 ⇑P **P 18 27 11.3 +1.3**
baz=77,SNR=9.0
V32A Arapaho 76.53 339 ⇑P **P 18 27 11.9 +1.2**
baz=77
CASY Casey 76.53 182 *e*P **P 18 27 10.7 +0.2**
comp=Z,629nm,2.5s
AMTX Amarillo 76.55 337 *e*P **P 18 27 10.9 0.0**
comp=Z,94nm,1.3s
AMTX *e* 18 27 19.3
AMTX Amarillo 76.55 337 ⇑P **P 18 27 12.4 +1.5**
baz=77
121A Cookes Peak, D 76.57 331 *e*P **P 18 27 12.3 +1.1**
comp=Z,80nm,1.7s
121A Cookes Peak, D 76.57 331 ⇑P **P 18 27 12.8 +1.6**
baz=77
Y25A Mesa, Roswell 76.67 334 ⇓P **P 18 27 12.9 +1.2**
baz=77
W29A Amraillo 76.75 337 ⇑P **P 18 27 13.3 +1.2**
baz=77
U34A Anderson Ranch 76.79 340 *e*P **P 18 27 12.8 +0.7**
comp=Z,86nm,1.4s
U34A Anderson Ranch 76.79 340 ⇓P **P 18 27 13.7 +1.5**
baz=77
X27A F and S Farms, 76.79 335 ⇑P **P 18 27 13.6 +1.3**
baz=77
V31A Spring Creek L 76.81 338 ⇑P **P 18 27 14.3 +2.0**
baz=77
Z22A Elephant Butte 76.90 332 ⇑P **P 18 27 14.7 +1.7**
baz=77
UPI Upington 76.93 116 *e*P **P 18 27 14.8 +1.3**
UPI AMB AMB 18 27 23.2
comp=Z,128nm,2.2s
U33A Lingo Farm, Me 76.94 340 ⇑P **P 18 27 14.3 +1.4**
baz=77
X26A CR and CF Fran 76.94 335 ⇑P **P 18 27 15.0 +1.8**
baz=77
Y24A Capitan 76.94 333 ⇑P **P 18 27 15.1 +1.8**

baz=77
MVL Millersville 77.13 358 eP P 18 27 14.6 +0.7
comp=Z,110nm,1.8s
U32A Winter Ranch, 77.13 339 ⇑P P 18 27 15.4 +1.3
W27A Bowe Ranch, En 77.16 336 ⇓P P 18 27 15.5 +1.1
baz=78,SNR=7.1
Y23A Lovelace Mesa, 77.17 333 ⇑P P 18 27 16.4 +1.8
baz=78
BLO Bloomington 77.18 350 eP P 18 27 12.5 -1.7
BLO pmax pmax
comp=Z,117nm,1.7s
BLO Bloomington 77.18 350 eP P 18 27 12.5 -1.7
comp=Z,116nm,1.7s
WIN Windhoek 77.22 109 eP P 18 27 15.4 0.0
WIN AMB AMB 18 27 25.1
comp=Z,30nm,2.8s
SLM Saint Louis 77.25 347 eP P 18 27 13.8 -0.9
SLM Saint Louis 77.25 347 eP P 18 27 13.8 -0.9
W26A Owens Ranch, T 77.41 335 ⇑P P 18 27 17.4 +1.5
baz=78
V28A Channing 77.52 337 ⇑P P 18 27 17.8 +1.4
baz=78
DBIC Dimbokro 77.54 72 ⇑/P P 18 27 17.4 +0.5
DBIC Dimbokro 77.54 72 eP P 18 27 17.8 +0.9
DBIC pmax pmax
comp=Z,209nm,1.4s
DBIC Dimbokro 77.54 72 P P 18 27 17.7 +0.8
comp=Z,86nm,1.1s,baz=203,slow=6.4,SNR=28
DBIC Dimbokro 77.54 72 eP P 18 27 17.8 +0.9
comp=Z,209nm,1.4s
BNM Barren Site 77.57 332 eP P 18 27 19.6 +2.8
TUC Tucson 77.58 328 eP P 18 27 17.4 +0.6
TUC pmax pmax
comp=Z,60nm,1.6s
TUC Tucson 77.58 328 eP P 18 27 17.4 +0.6
comp=Z,60nm,1.6s
T33A Patterson Ranc 77.58 340 ⇑P P 18 27 18.0 +1.4
baz=78
GRM Grahamstown 77.68 122 eP P 18 27 17.1 -0.4
GRM AMB AMB 18 27 26.6
comp=Z,207nm,2.6s
V27A Dan Oppiter Fa 77.72 336 ⇓P P 18 27 20.6 +3.1
baz=78
LPM Los Pinos Moun 77.72 333 eP P 18 27 18.5 +0.9
U30A WK&E Inc. Balk 77.75 338 ⇓P P 18 27 19.0 +1.4
baz=78
W25A X Bar L Ranch, 77.77 335 ⇑P P 18 27 19.5 +1.6
baz=78,SNR=5.6
ACSO Alum Creek Sta 77.79 353 eP P 18 27 16.5 -1.1
comp=Z,202nm,1.7s
SSPA Standing Stone 77.82 357 eP P 18 27 18.2 +0.4
comp=Z,249nm,2.2s
T32A Huddler Ranch, 77.86 340 ⇓P P 18 27 19.9 +1.8
baz=78
LAZ Ladron 77.99 332 eP P 18 27 18.9 -0.3
LAZ e 18 27 28.6
T31A Randall Ranch, 78.00 339 ⇑P P 18 27 20.2 +1.3
baz=78
V26A Tequesquite Ra 78.06 335 ⇓P P 18 27 20.9 +1.4
baz=78
W24A Lazy 6 Ranch, 78.09 334 ⇓P P 18 27 21.5 +1.8
baz=78
U28A Mallet 78.09 337 ⇓P P 18 27 21.3 +1.8
baz=78
214A Organ Pipe Nat 78.14 327 eP P 18 27 19.8 0.0
comp=Z,63nm,1.5s
214A Organ Pipe Nat 78.14 327 ⇓P P 18 27 22.3 +2.5
baz=78
ANMO Albuquerque 78.22 333ceP P 18 27 21.7 +1.3
ANMO pmax pmax
comp=Z,83nm,1.2s
ANMO Albuquerque 78.22 333 P P 18 27 21.0 +0.6
comp=Z,15nm,1.1s,baz=160,slow=6.9,SNR=8.2
ANMO Albuquerque 78.22 333 eP P 18 27 20.7 +0.3
comp=Z,68nm,1.5s
W23A Werner Place, 78.30 333 ⇓P P 18 27 22.8 +1.9
baz=79
U27A Thompson Grove 78.32 336 ⇑P P 18 27 22.6 +1.8
baz=79
V25A Rancho No Teng 78.38 335 ⇑P P 18 27 22.6 +1.3
baz=79,SNR=8.2
S31A Mullinville 78.43 339 ⇑P P 18 27 22.8 +1.4
baz=79
V24A Rampart Ranch, 78.50 334 ⇓P P 18 27 23.4 +1.3
baz=79
T29A Hugoton 78.53 338 ⇓P P 18 27 23.3 +1.4
baz=79
U26A Atchley Ranch, 78.60 336 ⇓P P 18 27 23.0 +0.6
baz=79
HVD Gariep Dam 78.61 120 eP P 18 27 24.0 +1.1
HVD AMB AMB 18 27 32.2
comp=Z,150nm,2.5s
R33A Olander Ranch, 78.67 341 ⇑P P 18 27 24.0 +1.4
baz=79
S30A Montezuma 78.73 339 ⇑P P 18 27 24.4 +1.4
baz=79,SNR=5.5
T28A Walsh 78.74 337 ⇓P P 18 27 24.3 +1.2
baz=79,SNR=9.3
U25A Circle Dot Ran 78.82 335 ⇓P P 18 27 25.5 +1.8
baz=79
V23A Ortiz Mt. (NFS 78.84 334 ⇑P P 18 27 26.1 +2.2
baz=79
T27A Campo 78.88 337 ⇓P P 18 27 25.3 +1.4
baz=79
S29A Ulysses 78.90 338 ⇑P P 18 27 25.6 +1.7
baz=79
ALLY Alegheny Colle 78.96 355 eP P 18 27 24.6 +0.6
comp=Z,104nm,1.5s
R32A Long Quarter, 78.97 340 ⇓P P 18 27 25.5 +1.2
baz=79,SNR=5.9
KSU1 Kansas State U 79.07 342 ⇓P P 18 27 25.9 +1.1
baz=80
R31A Burdett 79.07 340 ⇑P P 18 27 26.1 +1.3
baz=80
S28A Manter 79.11 338 ⇑P P 18 27 26.5 +1.4
baz=80,SNR=5.5
X18A Snowflake 79.18 330 ⇑P P 18 27 27.8 +2.1
baz=80
113A Mohawk Valley, 79.25 326 ⇓P P 18 27 27.7 +1.8
baz=80
V22A San Miguel Ran 79.25 333 ⇑P P 18 27 28.4 +2.3
baz=80
T26A Comanche Natio 79.26 336 ⇓P P 18 27 27.4 +1.3
baz=80,SNR=9.1
R30A Dighton 79.27 339 ⇑P P 18 27 27.7 +1.8
baz=80
Q33A Connelly Farm, 79.28 341 ⇓P P 18 27 27.3 +1.4
baz=80
U23A El Rito 79.37 334 ⇓P P 18 27 28.8 +2.1
baz=80
Q32A Meitler Ranch, 79.46 341 ⇓P P 18 27 28.1 +1.2
baz=80,SNR=5.6
T25A Trinidad 79.49 335 ⇑P P 18 27 29.5 +2.1
baz=80,SNR=10
S27A Las Animas 79.50 337 ⇓P P 18 27 28.9 +1.6
baz=80
TSUM Tsumeb 79.54 106 eP P 18 27 29.4 +1.3
comp=Z,361nm,2.1s
W18A Petrified Fore 79.61 331 eP P 18 27 29.3 +1.2
comp=Z,78nm,1.4s
W18A Petrified Fore 79.61 331 ⇑P P 18 27 30.2 +2.1
baz=80
S26A Kim 79.63 336 ⇓P P 18 27 29.5 +1.5
baz=80,SNR=10
BOSA Boshof 79.63 118 eP P 18 27 28.7 +0.2
BOSA AMB AMB 18 27 37.7
comp=Z,129nm,2.0s
BOSA Boshof 79.63 118 eP P 18 27 28.9 +0.4
BOSA pmax pmax
comp=Z,817nm,2.5s
BOSA Boshof 79.63 118 P P 18 27 28.9 +0.4
comp=Z,42nm,1.0s,baz=241,slow=6.8,SNR=15
BOSA LR LR 19 00 27.0
comp=Z,2µm,18.3s,baz=201,slow=34
BOSA Boshof 79.63 118 eP P 18 27 28.9 +0.4
comp=Z,817nm,2.5s
U22A Llaves 79.65 333 ⇓P P 18 27 31.0 +2.7
baz=80
P33A Williams Farm, 79.65 341 ⇓P P 18 27 29.6 +1.6
baz=80
X16A Lo Mia Camp, P 79.68 329 ⇓P P 18 27 30.7 +2.2
baz=80
Q31A Ellis 79.70 340 ⇓P P 18 27 29.7 +1.5
baz=80
T24B San Luis 79.75 335 ⇓P P 18 27 31.5 +2.6
baz=80
R28A Tribune 79.78 338 ⇓P P 18 27 30.9 +2.2
baz=80,SNR=7.3
TRY Troy 79.82 0 eP P 18 27 30.6 +1.9
comp=Z,99nm,1.4s
Y14A Wickenburg 79.92 328 ⇑P P 18 27 31.2 +1.6
baz=80
T23A Casias Ranch, 79.95 334 ⇑P P 18 27 32.2 +2.3
baz=80
GLA Glamis 79.96 326 eP P 18 27 29.8 0.0
GLA pmax pmax
comp=Z,69nm,1.5s
GLA Glamis 79.96 326 eP P 18 27 29.8 0.0
comp=Z,69nm,1.5s
S25A Robets Cordova 79.97 336 ⇑P P 18 27 31.7 +1.7
baz=80,SNR=5.6
R27A Eads 80.02 337 ⇓P P 18 27 31.3 +1.2
baz=80,SNR=9.8
Q29A Oakley 80.04 339 ⇑P P 18 27 31.8 +1.6
baz=80
P32A Huiting Farm, 80.06 341 ⇓P P 18 27 32.2 +2.1
baz=80
BKZ Black Stump Fm 80.15 228 eP P 18 27 33.0 +1.9
comp=Z,107nm,1.7s
RPZ Rata Peaks 80.17 222 ePcP PcP 18 27 38.8 +0.5
P31A Stockton 80.18 340 ⇓P P 18 27 32.4 +1.6
baz=81
S24A Houchin Ranch, 80.22 335 ⇓P P 18 27 33.5 +2.1
baz=81,SNR=8.7
R26A Arlington 80.24 337 ⇓P P 18 27 33.4 +2.1
baz=81,SNR=12
SDCO Great Sand Dun 80.41 335 eP P 18 27 33.9 +1.5
comp=Z,22nm,1.3s
P30A Selden 80.44 339 ⇑P P 18 27 33.9 +1.7
baz=81
Q28A Sharon Springs 80.45 338 ⇑P P 18 27 34.1 +1.8
baz=81
ACCN Adirondack Com 80.47 0 eP P 18 27 33.7 +1.4
comp=Z,703nm,3.0s
SWZ Schweizer 80.54 117 eP P 18 27 33.7 +0.2
SWZ AMB AMB 18 27 34.7
comp=Z,122nm,2.6s
O32A Brockman Farm, 80.58 341 ⇑P P 18 27 35.0 +2.1
baz=81
WUAZ Wupatki 80.61 330 eP P 18 27 34.0 +0.6
comp=Z,73nm,1.5s
WUAZ Wupatki 80.61 330 ⇓P P 18 27 35.4 +2.0
baz=81
KSCO Kaye Shedlock' 80.64 338 P P 18 27 34.9 +1.5
KSCO Kaye Shedlock' 80.64 338 ⇓P P 18 27 35.3 +1.8
baz=81
P29A Atwood 80.68 339 ⇓P P 18 27 35.8 +2.2
baz=81
R24A Sanders Place, 80.72 335 ⇓P P 18 27 36.4 +2.4
baz=81,SNR=12
PDMCI Parker Dam,Lak 80.72 327 ⇓P P 18 27 35.9 +2.1
baz=81
BC3 Big Chuckawall 80.75 326 ⇑P P 18 27 36.3 +2.2
baz=81
Q26A Hugo 80.83 337 ⇓P P 18 27 37.1 +2.6
baz=81,SNR=6.8
S22A 4UR Ranch, Cre 80.86 334 ⇓P P 18 27 37.1 +2.2
baz=81,SNR=6.0
P28A Saint Francis 80.90 338 ⇑P P 18 27 36.5 +1.8
baz=81
R23A Moffat 80.92 335 ⇑P P 18 27 36.9 +1.8
baz=81
O30A MW Ranch, Wils 80.98 340 ⇓P P 18 27 37.0 +1.9
baz=81
MVCO Mesa Verde 80.98 333 eP P 18 27 35.6 +0.1
comp=Z,102nm,1.8s
MVCO Mesa Verde 80.98 333 ⇓P P 18 27 37.1 +1.7
baz=81
Q25A Bedland, Calha 81.06 336 ⇓P P 18 27 37.5 +1.8
baz=82
NCB Newcomb 81.06 360 eP P 18 27 34.7 -0.7
comp=Z,23nm,1.2s
P27A Ficken Ranch, 81.12 338 ⇓P P 18 27 37.7 +1.7
baz=82
O29A 4D Ranch, Culb 81.13 339 ⇓P P 18 27 37.8 +1.8
baz=82
PFO Pinyon Flat Ob 81.16 325 eP P 18 27 36.9 +0.6
PFO pmax pmax
comp=Z,64nm,1.6s
PFO Pinyon Flat Ob 81.16 325 P P 18 27 37.6 +1.3
comp=Z,7.1nm,0.9s,baz=142,slow=5.0,SNR=3.7
PFO Pinyon Flat Ob 81.16 325 eP P 18 27 36.9 +0.6
comp=Z,64nm,1.6s
PFO Pinyon Flat Ob 81.16 325 ⇓P P 18 27 39.1 +2.7
baz=82
W13A Hualapai Mount 81.29 328 ⇑P P 18 27 39.8 +2.7
baz=82
KSD Kokstad 81.33 122 eP P 18 27 37.9 +0.3
KSD AMB AMB 18 27 39.9
comp=Z,46nm,3.5s
P26A Davis Ranch, A 81.36 337 ⇑P P 18 27 39.9 +2.6
baz=82,SNR=5.2
Q24A Divide 81.39 336 ⇑P P 18 27 39.4 +1.7
baz=82,SNR=6.5
O28A Krutsinger Ran 81.41 339 ⇑P P 18 27 39.3 +1.9
baz=82
JFWS Jewell Farm 81.41 348 eP P 18 27 37.2 -0.1
JFWS pmax pmax
comp=Z,102nm,1.8s
JFWS Jewell Farm 81.41 348 eP P 18 27 37.2 -0.1
comp=Z,102nm,1.8s
SEK Senekal 81.46 119 eP P 18 27 37.9 -0.4
SEK AMB AMB 18 27 47.3
comp=Z,133nm,2.5s
P25A Willow Gulch B 81.58 337 ⇑P P 18 27 40.4 +1.9
baz=82,SNR=6.8
BGNE Belgrade 81.63 342 ⇑P P 18 27 40.1 +1.6
baz=82
PTN Potsdam (NY) 81.67 359 eP P 18 27 39.1 +0.5
PTN Potsdam (NY) 81.67 359 eP P 18 27 39.1 +0.5
comp=Z,546nm,2.1s
LONY Lake Ozonia 81.71 359 eP P 18 27 39.5 +0.7
comp=Z,78nm,1.4s
U15A North Rim 81.76 329 ⇓P P 18 27 41.6 +2.0
baz=82
M31A Lambtecht Ranc 81.78 341 ⇓P P 18 27 41.8 +2.5
baz=82
GMRC Granite Mounta 81.79 326 ⇑P P 18 27 41.7 +2.0
baz=82
LDFC Landfair 81.80 327 eP P 18 27 41.8 +2.1
comp=Z,91nm,1.6s
PV01 Paradox Valley 81.83 333 eP P 18 27 40.3 +0.4
RUDU RUNDU 81.93 106 eP P 18 27 41.8 +0.9
RUDU AMB AMB 18 27 51.1
comp=Z,175nm,2.7s
PV05 Paradox Valley 81.97 332 eP P 18 27 42.4 +1.7
O26A Horse Wrangler 81.98 338 ⇑P P 18 27 42.7 +2.2
baz=82
P23A Jefferson 81.99 335 ⇑P P 18 27 42.6 +1.8
baz=82
LBTB Lobatse 82.04 115 eP P 18 27 41.4 0.0
LBTB AMB AMB 18 27 50.4
comp=Z,155nm,2.4s
LBTB Lobatse 82.04 115 eP P 18 27 41.1 -0.3
LBTB Lobatse 82.04 115 eP P 18 27 41.1 -0.3
comp=Z,1µm,2.8s
HEC Hector,Ludlow 82.13 326 ⇓P P 18 27 43.3 +1.9
baz=82
PRYS Parys 82.13 118 eP P 18 27 38.7 -3.2
PRYS AMB AMB 18 27 50.7
comp=Z,70nm,2.0s
PV04 Paradox Valley 82.18 333 eP P 18 27 43.0 +1.4
M30A Dale-Ortello V 82.19 340 ⇑P P 18 27 43.9 +2.4
baz=83
SMCO Snowmass 82.20 334 eP P 18 27 43.6 +1.5
comp=Z,88nm,1.4s
PV10 Paradox Valley 82.21 333 eP P 18 27 43.0 +1.1
OGNE Ogallala 82.24 339 eP P 18 27 41.3 -0.5
comp=Z,105nm,1.7s
OGNE Ogallala 82.24 339 ⇓P P 18 27 43.6 +1.8
baz=83
N27A Anderson Farm, 82.26 338 ⇓P P 18 27 43.8 +1.9
baz=83
ISCO Idaho Springs 82.30 336 eP P 18 27 42.9 +0.4
ISCO pmax pmax
comp=Z,55nm,1.7s
ISCO Idaho Springs 82.30 336 eP P 18 27 42.9 +0.4
comp=Z,55nm,1.7s
ISCO Idaho Springs 82.30 336 ⇓P P 18 27 44.0 +1.6
baz=83,SNR=7.6
TUQ Turquoise Moun 82.45 326 ⇑P P 18 27 45.6 +2.5
baz=83
KSR Koster 82.46 117 eP P 18 27 44.2 +0.6
KSR AMB AMB 18 27 52.6
comp=Z,75nm,2.7s
M28A Bar X Bar Ranc 82.47 339 ⇑P P 18 27 44.9 +1.9
baz=83
WDLM Western Deep L 82.48 117 eP P 18 27 42.9 -0.9
WDLM AMB AMB 18 27 52.7
comp=Z,96nm,2.4s
KNB Kanab 82.49 329 eP P 18 27 45.8 +2.5
KNB pmax pmax
comp=Z,109nm,1.5s
KNB Kanab 82.49 329 eP P 18 27 45.8 +2.5
comp=Z,109nm,1.5s
N26A Koester Ranch, 82.49 338 ⇑P P 18 27 44.7 +1.6
baz=83
P22A Eagle 82.50 335 ⇑P P 18 27 45.0 +1.6
baz=83
L31A Butterfield Fa 82.52 341 ⇓P P 18 27 44.6 +1.4
baz=83,SNR=6.3
L30A Spencer Herefo 82.54 341 ⇑P P 18 27 44.8 +1.5
baz=83
GSC Goldstone 82.73 326 eP P 18 27 46.4 +1.9
GSC Goldstone 82.73 326 eP P 18 27 46.4 +1.9
GSC Goldstone 82.73 326 ⇑P P 18 27 48.0 +3.5
baz=83
O23A Lake Granby, G 82.77 336 ⇓P P 18 27 47.6 +2.7
baz=83,SNR=8.0
M27A Reverse DX Ran 82.88 339 ⇓P P 18 27 46.6 +1.5
baz=83
EDW2 Edwards Air Fo 82.92 325 ⇓P P 18 27 47.2 +1.8
baz=83
O22A Kremmling 82.94 335 ⇓P P 18 27 47.1 +1.4
baz=83,SNR=12
BSC Santa Cruz Isl 82.97 323 ⇓P P 18 27 48.4 +2.8
baz=83
N24A Carr 83.00 337 ⇓P P 18 27 47.4 +1.6
baz=83
CRWM Crown Mines 83.02 118 eP P 18 27 44.6 -1.9
CRWM AMB AMB 18 27 55.2
comp=Z,145nm,2.7s
SHPR Sheep Range 83.03 327 eP P 18 27 47.0 +0.9
comp=Z,60nm,1.5s
OBSV Observatory 83.09 118 eP P 18 27 46.5 -0.5
OBSV AMB AMB 18 27 55.7
comp=Z,120nm,2.6s
ERPM east rand prop 83.11 118 eP P 18 27 47.4 +0.3
ERPM AMB AMB 18 27 56.4
comp=Z,183nm,2.3s
CCUT Cedar City 83.17 329 eP P 18 27 47.0 +0.1
comp=Z,100nm,1.6s
K30A Basset 83.19 341 ⇓P P 18 27 48.2 +1.6
baz=84
LRMC Laurel Mountai 83.28 325 ⇑P P 18 27 49.5 +2.1
baz=84
M25A Palm-Egli Farm 83.29 337 ⇑P P 18 27 49.6 +2.2
baz=84
N23A Red Feather La 83.40 336 ⇓P P 18 27 50.4 +2.4
baz=84,SNR=6.1
ARUT Antelope Range 83.40 329 eP P 18 27 49.9 +1.9
ARUT Antelope Range 83.40 329 eP P 18 27 49.9 +1.9
comp=Z,949nm,1.4s
SRU San Rafael 83.41 332 eP P 18 27 48.7 +0.7
SRU pmax pmax
comp=Z,41nm,1.5s
SRU San Rafael 83.41 332 eP P 18 27 48.7 +0.7
comp=Z,40nm,1.5s
ECSD EROS Data Cent 83.46 343 eP P 18 27 47.3 -0.7
comp=Z,222nm,1.8s
ECSD EROS Data Cent 83.46 343 ⇓P P 18 27 50.1 +2.2
baz=84,SNR=22
N22A Wattenberg Ran 83.48 336 ⇓P P 18 27 50.4 +1.9
baz=84,SNR=7.6
O20A White River Ci 83.49 334 eP P 18 27 50.8 +2.3
comp=Z,32nm,1.2s
O20A White River Ci 83.49 334 ⇓P P 18 27 50.6 +2.2
baz=84
SLR Silverton 83.51 117 eP P 18 27 48.5 -0.6
SLR AMB AMB 18 27 57.8
comp=Z,181nm,2.7s
MVU Marysvale 83.53 331 eP P 18 27 50.9 +2.1
comp=Z,53nm,1.6s
M24A Cheyenne 83.56 337 ⇓P P 18 27 49.7 +0.9
baz=84
PHWY Pilot Hill 83.61 336 eP P 18 27 50.5 +1.3
comp=Z,129nm,2.2s
K28A Ten Mile Ranch 83.69 340 ⇑P P 18 27 51.6 +2.4
baz=84
FURC Furnace Creek, 83.73 326 ⇑P P 18 27 51.7 +2.2
baz=84
ISA Isabella 83.79 325 eP P 18 27 51.2 +1.2
ISA pmax pmax
comp=Z,49nm,1.5s
ISA Isabella 83.79 325 eP P 18 27 51.2 +1.2
comp=Z,49nm,1.5s
ISA Isabella 83.79 325 ⇑P P 18 27 52.0 +2.0
baz=84
TMUT Trail Mountain 83.83 332 eP P 18 27 50.7 +0.3
comp=Z,46nm,1.4s
L25A Engebretsen Ra 83.92 338 ⇑P P 18 27 52.4 +1.8
baz=84
K27A Flueckinger Fa 83.93 339 ⇓P P 18 27 52.1 +1.6
baz=84
J29A Okreek 84.06 341 ⇓P P 18 27 52.7 +1.6
baz=84,SNR=6.0
SPMN St. Paul 84.11 347 eP P 18 27 50.8 -0.4
comp=Z,35nm,1.3s
L24A Wheatland 84.12 337 ⇑P P 18 27 53.5 +1.9
baz=84
N20A Spence Gulch, 84.12 334 ⇓P P 18 27 53.4 +1.7
baz=84
K26A Motz Farm, Whi 84.19 339 ⇑P P 18 27 53.6 +1.8
baz=85
VES Vestal, Richgr 84.22 324 ⇓P P 18 27 53.1 +1.1
baz=85
I30A Oacoma 84.30 342 ⇑P P 18 27 54.7 +2.4
baz=85
K25A Mack Ranch, Ha 84.31 338 ⇓P P 18 27 54.6 +2.1
baz=85
J28A Allard Ranch, 84.32 340 ⇓P P 18 27 54.0 +1.6
baz=85,SNR=5.9
J27A Elkhorn Farm, 84.37 340 ⇓P P 18 27 54.4 +1.7
baz=85,SNR=9.0
L23A Garrett 84.42 337 ⇑P P 18 27 54.6 +1.3
baz=85
L22A Ellis Ranch, M 84.58 336 ⇓P P 18 27 55.3 +1.3
baz=85
MPU Maple Canyon 84.62 332 eP P 18 27 55.9 +1.7
comp=Z,35nm,1.2s
I29A Vivian Onida 84.63 341 ⇓P P 18 27 56.3 +2.3
baz=85
K24A Anderson Ranch 84.70 337 ⇑P P 18 27 56.7 +2.2
baz=85
J26A Sides Ranch, S 84.72 339 ⇑P P 18 27 56.3 +1.8
baz=85,SNR=10.0
NLU North Lily Min 84.73 331 eP P 18 28 00.5 +5.7
comp=Z,98nm,1.8s
R11A Troy Canyon, C 84.76 328 eP P 18 27 56.5 +1.5
comp=Z,49nm,1.4s
R11A Troy Canyon, C 84.76 328 ⇑P P 18 27 57.0 +2.0
baz=85
I28A Midland 84.83 340 ⇑P P 18 27 56.5 +1.5
baz=85,SNR=9.5
K23A Bowen Ranch, D 84.98 337 ⇓P P 18 27 57.3 +1.4
baz=85
J25A Sunshine Ranch 85.01 338 ⇑P P 18 27 58.6 +2.6
baz=85
JLU Jordanelle 85.06 332 eP P 18 27 57.8 +1.4
comp=Z,33nm,1.3s
I27A Quinn 85.14 340 ⇑P P 18 27 58.4 +1.9
baz=86
K22A Casper 85.17 336 eP P 18 27 57.2 +0.3
comp=Z,161nm,1.7s
K22A Casper 85.17 336 ⇓P P 18 27 59.1 +2.3
baz=86,SNR=6.2
J24A Dixon Ranch, L 85.21 338 ⇓P P 18 27 58.7 +1.7
baz=86,SNR=7.5
DUG Dugway 85.22 331 eP P 18 27 57.7 +0.5
DUG pmax pmax
comp=Z,116nm,1.8s
DUG Dugway 85.22 331 eP P 18 27 57.6 +0.5
comp=Z,116nm,1.8s
DUG Dugway 85.22 331 ⇓P P 18 27 59.3 +2.1
baz=86
TPH Tonopah 85.23 327 eP P 18 27 58.9 +1.5
TPH pmax pmax
comp=Z,39nm,1.2s
TPH Tonopah 85.23 327 eP P 18 27 58.9 +1.5
comp=Z,39nm,1.2s
I26A New Underwood 85.33 339 ⇑P P 18 27 59.2 +1.7
baz=86

G30A Faulkton 85.37 342 ⇓P P 18 27 58.9 +1.3
baz=86
K21A Alcova 85.39 336 ⇑P P 18 27 59.4 +1.4
baz=86,SNR=6.4
H28A Mission Ridge 85.42 341 ⇓P P 18 27 58.9 +1.0
baz=86,SNR=6.3
TCUT Toone Canyon 85.49 332 eP P 18 27 59.9 +1.2
comp=Z,106nm,1.5s
I25A Rochford 85.56 339 ⇓P P 18 27 59.9 +1.1
baz=86,SNR=11
G29A Hoven 85.62 342 ⇓P P 18 28 00.0 +1.1
baz=86
H27A Howes 85.67 340 ⇑P P 18 27 60.0 +0.8
baz=86,SNR=6.4
I24A Kuemmerle Ranc 85.68 338 ⇓P P 18 28 00.4 +1.1
baz=86
RSSD Black Hills 85.74 339 eP P 18 27 58.9 -0.9
RSSD pmax pmax
comp=Z,17nm,1.1s
RSSD Black Hills 85.74 339 eP P 18 27 58.9 -0.9
comp=Z,17nm,1.1s
G28A Parade 85.77 341 ⇓P P 18 28 00.6 +1.0
baz=86,SNR=5.2
J22A Midwest 85.84 337 ⇓P P 18 28 01.0 +0.8
baz=86
BGU Big Grassy Mou 85.94 331 eP P 18 28 02.1 +1.4
comp=Z,24nm,1.6s
HWUT Hardware Ranch 85.97 332 eP P 18 28 01.6 +0.7
comp=Z,87nm,1.4s
HWUT ePKiKP PKiKP 18 33 12.8 +3.1
NV01 Mina Array Sit 86.00 326 eP P 18 28 02.8 +1.6
NVAR Mina Array Bea 86.00 326 P P 18 28 02.3 +1.1
comp=Z,2.7nm,0.9s,baz=152,slow=5.8,SNR=4.9
F30A Leola 86.01 343 ⇓P P 18 28 02.1 +1.3
baz=86
SPUT South Promonto 86.05 332 eP P 18 28 00.4 -0.8
comp=Z,97nm,1.6s
H25A Fruitdale 86.08 339 ⇓P P 18 28 02.4 +1.2
baz=86,SNR=6.6
J21A Lysite 86.09 336 ⇑P P 18 28 02.5 +1.1
baz=86
F29A Eureka 86.20 342 ⇓P P 18 28 03.3 +1.5
baz=87,SNR=7.0
I22A 9 Mile Ranch, 86.27 337 ⇑P P 18 28 03.0 +0.7
baz=87
BW06 Boulder Array 86.28 334 eP P 18 28 01.9 -0.5
PDAR Pinedale Array 86.28 334 P P 18 28 02.5 +0.1
comp=Z,14nm,1.2s,baz=139,slow=5.9,SNR=15
J20A Shoshoni 86.30 336 ⇓P P 18 28 03.6 +1.1
baz=87,SNR=16
G27A Dupree 86.32 340 ⇓P P 18 28 03.3 +0.9
baz=87
G26A Maurine 86.42 340 ⇓P P 18 28 03.4 +0.5
baz=87,SNR=8.9
F28A McLaughlin 86.46 341 ⇓P P 18 28 04.0 +1.0
baz=87,SNR=6.2
I21A Big Trails, Te 86.46 336 ⇑P P 18 28 04.1 +0.9
baz=87,SNR=8.2
H24A Dirks Ranch, A 86.47 339 ⇑P P 18 28 03.9 +0.7
baz=87,SNR=6.2
EYMN Ely 86.51 348 eP P 18 28 03.0 -0.2
comp=Z,165nm,2.3s
J19A Crowheart 86.55 335 ⇑P P 18 28 05.0 +1.3
baz=87,SNR=17
G25A Newell 86.55 339 ⇓P P 18 28 04.3 +0.7
baz=87
WAKR Walker 86.56 326 eP P 18 28 06.3 +2.4
comp=Z,61nm,1.6s
HVU Hansel Valley 86.58 332 eP P 18 28 03.8 -0.1
HVU pmax pmax
comp=Z,50nm,1.4s
HVU Hansel Valley 86.58 332 eP P 18 28 03.8 -0.1
comp=Z,50nm,1.4s
E30A Jud 86.61 343 ⇓P P 18 28 04.7 +1.0
baz=87
CMB Columbia Colle 86.61 325 eP P 18 28 11.8 +7.8
CMB Columbia Colle 86.61 325 epP P 18 28 11.8 +7.8
TOA0 Torodi Ar. Sit 86.62 71 eP P 18 28 04.1 -0.4
TOA0 ePP PP 18 31 26.3 -0.6
TORD Torodi Ar. Bea 86.62 71 P P 18 28 04.0 -0.6
comp=Z,30nm,1.1s,baz=236,slow=4.7,SNR=34
TORD PP PP 18 31 26.4 -0.6
comp=Z,8.4nm,1.1s,baz=240,slow=9.0,SNR=9.4
ELK Elko 86.65 330 eP P 18 28 05.3 +0.9
ELK pmax pmax
comp=Z,25nm,1.3s
ELK Elko 86.65 330 P P 18 28 04.3 -0.1
comp=Z,7.4nm,1.1s,baz=176,slow=4.3,SNR=6.9
ELK Elko 86.65 330 eP P 18 28 05.3 +0.9
comp=Z,25nm,1.3s
F27A Lemmon 86.80 341 ⇑P P 18 28 05.2 +0.5
baz=87,SNR=11
I20A Worland 86.85 336 ⇓P P 18 28 05.4 +0.3
baz=87,SNR=7.0
H22A Clearmont 86.87 337 ⇓P P 18 28 05.5 +0.3
baz=87
MSNA Messina 86.87 116 eP P 18 28 06.6 +0.8
MSNA AMB AMB 18 28 15.5
comp=Z,121nm,2.7s
F26A Lodgepole 86.95 340 ⇑P P 18 28 06.4 +1.0
baz=87
G24A Alzada 86.96 339 ⇓P P 18 28 06.8 +1.2
baz=87
E28A Huff 87.11 342 ⇓P P 18 28 08.5 +2.4
baz=88
H21A Big Horn, Sher 87.11 337 ⇑P P 18 28 07.9 +1.6
baz=88
G23A Biddle 87.13 338 ⇓P P 18 28 07.0 +0.7
baz=88
D30A Buchanan 87.14 343 ⇑P P 18 28 08.2 +1.9
baz=88,SNR=8.5
E27A Carson 87.19 341 ⇓P P 18 28 08.1 +1.5
baz=88
I19A Meeteetse 87.21 335 ⇑P P 18 28 08.2 +1.2
baz=88
F25A Bowman 87.23 340 ⇓P P 18 28 07.9 +1.1
baz=88
REDW Red Top Meadow 87.25 334 eP P 18 28 08.3 +1.1
H20A Greybull 87.29 336 ⇓P P 18 28 08.1 +0.9
baz=88,SNR=6.5
D29A Pettibone, Tap 87.30 343 ⇑P P 18 28 07.5 +0.4
baz=88,SNR=7.8
LOHW Long Hollow 87.39 334 eP P 18 28 08.2 +0.4
comp=Z,63nm,2.1s
TPAW Teton Pass 87.40 334 eP P 18 28 08.4 +0.5
comp=Z,44nm,1.6s
G22A Birney 87.41 338 ⇓P P 18 28 08.9 +1.2
baz=88
F24A Ekalaka 87.44 339 ⇑P P 18 28 08.5 +0.7
baz=88
E26A Carlson Angus 87.47 341 ⇓P P 18 28 09.1 +1.2
baz=88
FXWY Fox Creek 87.56 334 eP P 18 28 09.7 +1.0
comp=Z,25nm,1.6s
F23A Volborg 87.60 338 ⇓P P 18 28 09.5 +0.9
baz=88
C30A Mose, Pekin 87.64 344 ⇑P P 18 28 09.4 +0.7
baz=88,SNR=19
AGMN Agassiz Nation 87.65 345 eP P 18 28 07.9 -0.8
comp=Z,211nm,2.0s
AGMN Agassiz Nation 87.65 345 ⇓P P 18 28 09.1 +0.4
baz=88
I17A Pilgrim Ck. 87.65 334 ⇑P P 18 28 11.0 +1.9
baz=88,SNR=8.4
D28A Regan 87.65 342 ⇓P P 18 28 09.7 +0.9
baz=88,SNR=12
E25A Miller Ranch, 87.75 340 ⇑P P 18 28 10.8 +1.5
baz=88
IMW Indian Meadow 87.75 334 eP P 18 28 10.3 +0.7
comp=Z,49nm,1.6s
H19A Powell 87.77 336 ⇑P P 18 28 10.8 +1.2
baz=88
PAF Port-aux-Franc 87.83 157 S SKSac 18 38 29.0 -7.3
PAF SS SS 18 44 11.0 -25
PAF R 19 05 00.0
FLWY Flagg Ranch 87.83 334 eP P 18 28 11.4 +1.5
comp=Z,55nm,1.3s
D26A Manning 87.98 341 ⇓P P 18 28 11.7 +1.4
baz=88,SNR=12
H18A Shoshone NF, C 88.00 335 ⇓P P 18 28 11.6 +0.8
baz=88,SNR=9.9
G20A Bridger 88.01 336 ⇑P P 18 28 11.3 +0.7
baz=88
E24A Baker 88.05 339 ⇑P P 18 28 12.6 +1.8
baz=88
H17A Grant Village 88.06 334 ⇑P P 18 28 13.0 +1.9
baz=88
YFT Old Faithful 88.20 334 eP P 18 28 14.9 +3.2
comp=Z,44nm,1.5s
RLMT Red Lodge 88.27 336 eP P 18 28 12.9 +0.9
comp=Z,71nm,1.9s
B30A Myrvik Farm, E 88.31 344 ⇓P P 18 28 13.5 +1.6
baz=89,SNR=24
D25A Fairfield 88.32 340 ⇓P P 18 28 13.8 +1.8
baz=89
C27A Sayler Ranch, 88.37 342 ⇑P P 18 28 13.6 +1.5
baz=89,SNR=9.3
YMR Madison River 88.44 334 eP P 18 28 12.9 +0.1
comp=Z,67nm,1.4s
B29A Wagenman Farm, 88.56 343 ⇑P P 18 28 14.2 +1.2
baz=89,SNR=11
C26A Wahner Farm, P 88.62 341 ⇑P P 18 28 14.4 +1.0
baz=89
HLID Hailey 88.72 332 eP P 18 28 16.0 +1.9
HLID Hailey 88.72 332 ⇑P P 18 28 16.5 +2.3
baz=89
QLMT Earthquake Lak 88.74 334 eP P 18 28 15.6 +1.4
comp=Z,4.1nm,1.5s
A30A Hoffart Farm, 88.77 344 ⇓P P 18 28 15.8 +1.8
baz=89,SNR=8.2
B28A Dugan Ranch, T 88.78 343 ⇑P P 18 28 14.7 +0.7
baz=89,SNR=9.2
F19A Roth Farm, Mol 88.81 336 ⇑P P 18 28 15.2 +0.8
baz=89
D23A Lindsay 88.86 339 ⇓P P 18 28 15.8 +1.2
baz=89
B27A Peters Farms, 88.95 342 ⇓P P 18 28 16.1 +1.2
baz=89
A29A Manning Farm, 88.96 343 ⇑P P 18 28 16.0 +1.1
baz=89,SNR=16
C24A Savage 88.97 340 ⇑P P 18 28 15.4 +0.4
baz=89
E20A Meyer Farm, Mu 89.13 337 ⇓P P 18 28 16.7 +0.9
baz=90
MFID Camas Ranch 89.14 331 eP P 18 28 16.2 +0.1
comp=Z,33nm,1.4s
A28A Rude Farm, Bot 89.19 343 ⇑P P 18 28 16.9 +0.9
baz=90
MCMT McKenzie Canyo 89.24 333 eP P 18 28 17.1 +0.5
comp=Z,16nm,1.5s
E19A Rath Farm, Rou 89.30 337 ⇓P P 18 28 17.2 +0.6
baz=90
C23A Lambert 89.43 339 ⇑P P 18 28 17.8 +0.6
baz=90
ULM Lac du Bonnet 89.51 346 eP P 18 28 16.2 -1.2
ULM pmax pmax
comp=Z,125nm,1.9s
ULM Lac du Bonnet 89.51 346 P P 18 28 16.6 -0.8
comp=Z,14nm,1.1s,baz=178,slow=3.4,SNR=7.4
ULM Lac du Bonnet 89.51 346 eP P 18 28 16.1 -1.2
comp=Z,125nm,1.9s
A26A Wade Farm, Ken 89.60 342 ⇓P P 18 28 19.1 +1.1
baz=90
DGMT Dagmar 89.77 340 eP P 18 28 18.9 +0.2
comp=Z,37nm,1.3s
DGMT Dagmar 89.77 340 ⇓P P 18 28 20.5 +1.7
baz=90
A25A Svangstu Ranch 89.91 341 ⇑P P 18 28 20.9 +1.5
baz=90
LSZ Lusaka 89.95 109 eP P 18 28 22.4 +1.8
LSZ pmax pmax
comp=Z,99nm,1.5s
LSZ Lusaka 89.95 109 eP P 18 28 22.4 +1.8
comp=Z,99nm,1.5s
B22A Reddig Ranch S 90.11 339 ⇓P P 18 28 21.5 +1.1
baz=90
C19A Slack Wire Ran 90.51 337 ⇑P P 18 28 23.3 +1.0
baz=91
A22A Carney Farms, 90.72 339 ⇑P P 18 28 24.3 +1.1
baz=91
B20A Solberg Farm, 90.83 338 ⇓P P 18 28 24.5 +0.8
baz=91
EGMT Eagleton 90.99 337 ⇓P P 18 28 25.4 +0.9
baz=91
A21A Bergtoll Ranch 91.00 339 ⇑P P 18 28 25.2 +0.7
baz=91
B19A Brinkman Farms 91.12 337 ⇓P P 18 28 25.5 +0.5
baz=92
I07A Izee 91.17 329 eP P 18 28 27.4 +1.9
comp=Z,27nm,1.6s
A20A Cobblestone Ra 91.19 338 ⇓P P 18 28 25.7 +0.4
baz=92
J05D Fort Rock, OR 91.25 327 ⇑P P 18 28 27.5 +1.6
baz=92
MSO Missoula 91.35 334 ⇓P P 18 28 27.8 +1.6
baz=92
G08A Pilot Rock 91.94 330 eP P 18 28 30.7 +1.7
comp=Z,48nm,2.0s
SWMT Swartz Lake 91.95 334 eP P 18 28 29.9 +0.9
JTMT Jette 92.25 334 eP P 18 28 30.0 -0.5
comp=Z,30nm,1.8s
YBMT Yellow Bay 92.26 334 eP P 18 28 32.3 +1.9
BLMT Blacktail Moun 92.51 334 eP P 18 28 32.4 +0.7
BSMT Bassoo Peak 92.52 334 eP P 18 28 33.0 +1.2
HAWA Hanford 93.08 330 eP P 18 28 36.5 +2.4
comp=Z,23nm,1.3s
WALA Waterton Lakes 93.25 335 eP P 18 28 36.0 +1.0
D08A Wollman Farm, 93.38 331 eP P 18 28 37.5 +2.0
comp=Z,56nm,2.1s
NEW Newport 93.71 333 eP P 18 28 37.3 +0.3
NEW pmax pmax
comp=Z,55nm,2.3s
NEW Newport 93.71 333 P P 18 28 36.6 -0.4
comp=Z,4.8nm,1.1s,baz=122,slow=7.0,SNR=4.1
NEW Newport 93.71 333 eP P 18 28 37.2 +0.3
comp=Z,55nm,2.3s
NEW Newport 93.71 333 ⇓P P 18 28 37.3 +0.3
baz=94
TAM Tamanrasset 95.49 66 eP P 18 28 46.8 +0.8
TAM Tamanrasset 95.49 66 eP P 18 28 46.8 +0.8
comp=Z,336nm,2.6s
DZM Mont Dzumac 98.13 234 eSS SS 18 47 06.0 +0.1
comp=Z,3μm,27.6s
DZM Mont Dzumac 98.13 234 eLR LR 19 00 52.8
comp=Z,4μm,26.5s
ESDC Sonseca Array 99.92 47 P Pdif 18 29 05.6 +0.3
comp=Z,0.6nm,0.6s,baz=226,slow=3.1,SNR=6.1
ES19 SONSECA Array 99.97 47 ePdif Pdif 18 29 07.0 +1.3
YKA Yellowknife Ar 104.92 342 Pdiff Pdif 18 29 26.1 -0.8
comp=Z,0.5nm,1.1s,baz=140,slow=4.9,SNR=3.4
BMRM Bremner River 113.70 330 ePdif Pdif 18 30 08.8 +2.7
GEC2 GERESS Array S 115.51 47 ePKIKP PKPdf 18 34 03.0 +0.8
GEC2 GERESS Array S 115.51 47 ePKPdf PKPdf 18 34 03.0 +0.8
GERES GERESS Array B 115.51 47 PKP PKPdf 18 34 01.8 -0.4
comp=Z,5.2nm,1.1s,baz=210,slow=3.4,SNR=14
KHC Kasperske Hory 115.57 47 ePKIKP PKPdf 18 34 02.8 +0.5
KHC e 18 35 16.1
KHC Kasperske Hory 115.57 47 AMS AMS 18 34 30.0
comp=Z,7μm,16.8s
KHC Kasperske Hory 115.57 47 ePKP PKPdf 18 34 02.8 +0.5
KHC ex x 18 35 16.1
CLL Collm 116.27 44 i PKIKP PKPdf 18 34 04.2 +0.7
CLL e 18 35 10.0
CLL pmax pmax
comp=Z,15nm,1.4s
CLL MLR MLR
comp=Z,3μm,20.5s
CLL Collm 116.27 44 i PKiKP PKPdf 18 34 04.2 +0.7
comp=Z,15nm,1.4s
CLL ePP PP 18 35 10.0 -0.1
CLL e(pPP) 18 35 15.0
CLL Lm MLR 19 21 00.0
comp=Z,3μm,20.5s
CONA Conrad Observa 116.35 49⇓iPKPdf PKPdf 18 34 04.1 +0.2
comp=Z,8.7nm,1.4s
PRA Prague 116.50 46 PKP PKPdf 18 34 05.0 +1.0
PRU Pruhonice 116.53 46 ePKIKP PKPdf 18 34 04.9 +0.9
PRU e 18 34 12.2
PRU MLR MLR
comp=Z,3μm,19.3s
PRU Pruhonice 116.53 46 ePKP PKPdf 18 34 04.9 +0.9
PRU epPKP pPKPdf 18 34 12.2 -0.2
PRU AMS AMS 19 24 40.0
comp=Z,3μm,19.3s
BRG Berggiesshubel 116.59 45 ePKP PKPdf 18 34 04.8 +0.7
comp=Z,17nm,1.5s
BRG Berggiesshubel 116.59 45 ePKIKP PKPdf 18 34 04.8 +0.7
BRG pmax pmax
comp=Z,17nm,1.5s
TREC Trest 116.76 47 ePKIKP PKPdf 18 34 04.2 -0.3
TREC e 18 34 12.4
TREC MLR MLR
comp=Z,3μm,17.7s
TREC Trest 116.76 47 ePKP PKPdf 18 34 04.2 -0.3
TREC epPKP pPKPdf 18 34 12.4 -0.5
TREC AMS AMS 19 30 20.0
comp=Z,3μm,17.7s
PVCC Panska Ves 116.79 46 ePKP PKPdf 18 34 06.0 +1.5
WRA Warramunga Arr 117.10 210 PKP PKPdf 18 34 05.8 -0.4
comp=Z,1.4nm,1.1s,baz=156,slow=1.9,SNR=3.2
PKSM Moragy 117.27 51 ⇓PKIKP PKPdf 18 34 05.7 +0.1
PKSM Moragy 117.27 51⇓iP PKPdf 18 34 05.7 +0.1
VRAC Vranov 117.41 47 ⇑PKIKP PKPdf 18 34 07.0 +1.2
VRAC Vranov 117.41 47⇑iP PKPdf 18 34 07.0 +1.2
UPC Upice 117.60 46 ePKIKP PKPdf 18 34 07.6 +1.5
UPC e 18 34 13.7
UPC Upice 117.60 46 ePKP PKPdf 18 34 07.6 +1.5
UPC epPKP pPKPdf 18 34 13.7 -0.8
DPC Dobruska-Polom 117.71 46 ePKIKP PKPdf 18 34 06.3 -0.1
DPC e 18 34 13.8
DPC Dobruska-Polom 117.71 46 ePKP PKPdf 18 34 06.3 -0.1
DPC epPKP pPKPdf 18 34 13.8 -1.0
DPC Dobruska-Polom 117.71 46 ePKPdf PKPdf 18 34 07.3 +0.9
KRLC Kraliky 117.86 47 ePKIKP PKPdf 18 34 07.1 +0.4
KRLC Kraliky 117.86 47 ePKP PKPdf 18 34 07.1 +0.4
KSP Ksiaz 117.91 46 ePKP PKPdf 18 34 08.4 +1.7
MORC Moravsky Berou 118.17 47 ⇓PKIKP PKPdf 18 34 07.2 -0.1
MORC Moravsky Berou 118.17 47⇓iP PKPdf 18 34 07.2 -0.1
VYHS Vyhne 118.39 49 ePKIKP PKPdf 18 34 07.9 +0.2
VYHS Vyhne 118.39 49 ePKP PKPdf 18 34 07.9 +0.2
OKC Ostrava-Krasne 118.55 47 ePKIKP PKPdf 18 34 08.8 +0.9
OKC e 18 34 16.3
OKC MLR MLR
comp=Z,2μm,17.2s
OKC Ostrava-Krasne 118.55 47 ePKP PKPdf 18 34 08.8 +0.9
OKC epPKP pPKPdf 18 34 16.3 0.0
OKC AMS AMS 19 29 30.0
comp=Z,2μm,17.2s
BZS Buzias 118.88 53 ⇓PKIKP PKPdf 18 34 09.0 +0.3
BZS Buzias 118.88 53⇓iP PKPdf 18 34 09.0 +0.3
NOA NORSAR Array B 119.64 34 PKP PKPdf 18 34 09.1 -0.6
comp=Z,4.4nm,1.2s,baz=242,slow=1.8,SNR=2.8
OJC Ojcow 119.68 48 ePKIKP PKPdf 18 34 10.3 +0.2
OJC Ojcow 119.68 48 ePKPdf PKPdf 18 34 10.2 +0.2
DRGR 120.06 52 ⇑PKIKP PKPdf 18 34 11.7 +0.7
DRGR 120.06 52⇑iP PKPdf 18 34 11.6 +0.6
CRVS Cervenica-Dubn 120.14 49 ePKIKP PKPdf 18 34 11.0 0.0
CRVS Cervenica-Dubn 120.14 49 ePKP PKPdf 18 34 11.0 0.0
STHS Stebnicka Huta 120.21 49 ePKIKP PKPdf 18 34 12.3 +1.1
STHS Stebnicka Huta 120.21 49 ePKP PKPdf 18 34 12.3 +1.1
TRPA Tarpa 120.49 51⇑iP PKPdf 18 34 12.2 +0.5
UZH Uzhgorod 120.54 50 ePKIKP PKPdf 18 34 10.0 -1.8
UZH e 18 34 18.0
UZH e 18 34 24.7
KOLS Kolonicke sedl 120.64 50 ePKIKP PKPdf 18 34 11.7 -0.3
KOLS Kolonicke sedl 120.64 50 ePKP PKPdf 18 34 11.7 -0.3
KWP Kalwaria Pacla 121.18 49 ⇓PKIKP PKPdf 18 34 13.6 +0.6
KWP Kalwaria Pacla 121.18 49 ePKP PKPdf 18 34 13.1 +0.1
KWP Kalwaria Pacla 121.18 49⇓iP PKPdf 18 34 13.6 +0.6
KWP Kalwaria Pacla 121.18 49 ePKPdf PKPdf 18 34 12.9 -0.1
EIL Elat 121.30 75 PKP PKPdf 18 34 13.4 -0.5
comp=Z,8.0nm,1.0s,baz=27,slow=2.3,SNR=4.5
MLR Muntele Rosu 121.60 55⇑iP PKPdf 18 34 13.7 -0.4
MLR Muntele Rosu 121.60 55 PKP PKPdf 18 34 13.4 -0.8
comp=Z,2.5nm,1.1s,baz=270,slow=3.0,SNR=6.5
BUR04 Bucovina Ar. S 121.95 52 ePKPdf PKPdf 18 34 14.8 +0.2
BUR09 Bucovina Ar. S 121.95 52 ePKPdf PKPdf 18 34 14.2 -0.5
BURAR Bucovina Array 121.95 52 ⇑PKIKP PKPdf 18 34 13.6 -1.1
BURAR Bucovina Array 121.95 52⇑iP PKPdf 18 34 13.6 -1.1
TESR Tescani 122.45 54⇓iP PKPdf 18 34 11.1 -4.4
CFR Carcaliu 122.91 56 ⇑PKIKP PKPdf 18 34 17.1 +0.7
CFR Carcaliu 122.91 56⇑iP PKPdf 18 34 17.1 +0.7
SUW Suwalki 123.02 44 ePKIKP PKPdf 18 34 16.1 -0.3
SUW Suwalki 123.02 44 ePKP PKPdf 18 34 16.0 -0.3
SUW Suwalki 123.02 44 ePKPdf PKPdf 18 34 15.2 -1.1
MMAI Mount Meron Ar 123.16 72 PKP PKPdf 18 34 17.5 +0.1
comp=Z,16nm,1.1s,baz=31,slow=3.4,SNR=3.9
ASF Jabal al Asfar 123.92 73 PKP PKPdf 18 34 19.1 +0.1
comp=Z,9.3nm,1.2s,baz=323,slow=5.1,SNR=3.6
KIS Kishinev 124.01 54 ePKIKP PKPdf 18 34 20.0 +1.5
KIS Kishinev 124.01 54 ePKP PKPdf 18 34 20.0 +1.5
BR231 Keskin MP Arra 124.05 63 ePKPdf PKPdf 18 34 19.1 +0.1
ANTO Ankara 124.08 63 ePKIKP PKPdf 18 34 19.4 +0.4
ANTO Ankara 124.08 63⇑iP PKPdf 18 34 19.9 +0.9
ANTO Ankara 124.08 63 ePKPdf PKPdf 18 34 19.4 +0.4
BRTR Keskin Array B 124.62 63 PKP PKPdf 18 34 20.6 +0.5
comp=Z,7.6nm,1.0s,baz=191,slow=3.8,SNR=18
TNA Tin City 125.12 330 ePKPdf PKPdf 18 34 19.7 -0.4
AK11 Malin Array Si 125.44 50 ePKPdf PKPdf 18 34 19.4 -1.7
AK02 Malin Array Si 125.45 50 ePKPdf PKPdf 18 34 20.9 -0.3
AK02 ePP PP 18 36 08.7 -4.1
KIEV Kiev 125.47 50 ePKPdf PKPdf 18 34 19.8 -1.4
KIEV Kiev 125.47 50 ePKPdf PKPdf 18 34 19.8 -1.4
KIEV ePP PP 18 36 08.1 -4.8
AK01 Malin Array Si 125.47 50 ePKPdf PKPdf 18 34 19.4 -1.8
AKASG Malin Array Be 125.48 50 PKP PKPdf 18 34 20.4 -0.8
comp=Z,7.0nm,1.0s,baz=260,slow=3.0,SNR=5.0
AKASG PP PP 18 36 08.6 -4.4
comp=Z,9.4nm,1.0s,baz=256,slow=6.7,SNR=18
AKBB Malin Array Si 125.48 50 ePKIKP PKPdf 18 34 20.0 -1.2
AKBB Malin Array Si 125.48 50 ePKPdf PKPdf 18 34 20.0 -1.2
AKBB ePP PP 18 36 07.5 -5.6
MNK Minsk 125.77 45 ePKIKP PKPdf 18 34 20.0 -1.6
MICGM Minsk 125.80 45 e PKPdf 18 34 20.0 -1.7
GAMB Gambell 126.30 327 ePKPdf PKPdf 18 34 23.5 +1.2
SPITS Spitsbergen Ar 126.36 15 PKP PKPdf 18 34 22.2 0.0
comp=Z,12nm,1.0s,baz=224,slow=4.0,SNR=4.1
FINES FINESS Array B 126.58 36 PKP PKPdf 18 34 23.6 +0.7
comp=Z,12nm,1.2s,baz=186,slow=1.7,SNR=9.8
RAYN Ar Rayn 126.61 87 ePKPdf PKPdf 18 34 24.8 +0.5
RAYN ePP PP 18 36 21.9 +0.8
KAF Kangasniemi 126.83 35 ePKIKP PKPdf 18 34 23.1 -0.3
KAF Kangasniemi 126.83 35 ep PKPdf 18 34 23.1 -0.3
MALT Malatya 127.55 67 ⇓PKIKP PKPdf 18 34 26.1 +0.3
MALT Malatya 127.55 67⇓iP PKPdf 18 34 26.0 +0.3
JOF Joensuu 129.25 35 ePKIKP PKPdf 18 34 28.6 +0.6
JOF Joensuu 129.25 35 ep PKPdf 18 34 28.6 +0.6
OBN Obninsk 130.84 45c iPKIKP PKPdf 18 34 32.1 +0.9
OBN pmax pmax
comp=Z,92nm,1.7s
OBN Obninsk 130.84 45 PKP PKPdf 18 34 31.1 -0.1
comp=Z,5.6nm,0.4s,baz=187,slow=3.0,SNR=13
OBN Obninsk 130.84 45 ePKPdf PKPdf 18 34 30.8 -0.4
MOS Moscow 131.53 45 ePKIKP PKPdf 18 34 32.3 -0.2
MOS pmax pmax
comp=Z,102nm,2.0s
MOS MLR MLR
comp=Z,3μm,18.0s
KIV Kislovodsk 132.38 61 ePKIKP PKPdf 18 34 34.7 0.0
KIV Kislovodsk 132.38 61 ePKPdf PKPdf 18 34 34.7 0.0
KBZ Khabaz 132.47 62 PKP PKPdf 18 34 34.6 -0.1
comp=Z,7.6nm,1.1s,baz=271,slow=2.3,SNR=12
GNI Garni 132.78 67c iPKIKP PKPdf 18 34 37.8 +2.1
GNI pmax pmax
comp=Z,35nm,1.7s
GNI Garni 132.78 67 PKP PKPdf 18 34 35.5 -0.1
comp=Z,14nm,1.1s,baz=226,slow=4.9,SNR=7.5
GOF Gofitskoye 132.91 60 ePKIKP PKPdf 18 34 36.3 +0.8
GOF pmax pmax
comp=Z,20nm,0.7s
ZEI Tsey 132.93 63 i PKIKP PKPdf 18 34 34.0 -1.9
ZEI pmax pmax
comp=Z,38nm,2.1s
KLMR Klimovskoe 132.97 38 ePKIKP PKPdf 18 34 32.1 -3.0
KLMR pmax pmax
comp=Z,116nm,1.8s
TBLG Delisi 133.24 65 P PP 18 37 02.1 -2.0
DGRG David-gareji 133.62 65 P PP 18 37 04.0 -2.4
BILL Bilibino 135.33 332 ePKIKP PKPdf 18 34 38.3 -1.1
BILL pmax pmax
comp=Z,16nm,1.9s
BILL Bilibino 135.33 332 ePKPdf PKPdf 18 34 40.6 +1.3
KAPI Kappang 135.93 199 ePKPdf PKPdf 18 34 40.7 -1.5
PEA0 Petropavlovsk- 141.51 311 epPKPdf pPKPdf 18 34 59.1 -0.5
GEYT Alibeck 142.19 74 PKhKP PKPpre 18 34 49.1
comp=Z,12nm,1.1s,baz=259,slow=3.8,SNR=24
GEYT PP PP 18 37 57.4 -2.5
comp=Z,2.3nm,0.9s,baz=287,slow=5.9,SNR=3.6
SEY Seymchan 142.30 327 PKP PKPdf 18 34 50.0 -2.2
comp=Z,0.7nm,0.3s,baz=46,slow=4.0,SNR=4.6
GSI Gunungsitoli 143.12 165 ePKPpre PKPpre 18 34 47.2
GSI ePKPdf PKPbc 18 34 53.6 +1.5
ARU Arti 143.20 43 i PKIKP PKPbc 18 34 51.1 0.0
ARU Arti 143.20 43 ePKPdf PKPbc 18 34 50.5 -0.6
AKTO Aktyubinsk 143.52 53 PKhKP PKPpre 18 34 51.9
comp=Z,40nm,1.1s,baz=292,slow=2.7,SNR=47
TIXI Tiksi 143.83 348c iPKIKP PKPdf 18 35 00.4 +5.7

TIXI pmax pmax
comp=Z,65nm,1.7s
TIXI Tiksi 143.83 348 ePKPpre PKPpre 18 34 50.9
KSM Kuching 144.00 187 ePKPdf PKPab 18 34 53.2 -0.9
SVE Sverdlovsk 144.25 42 ePKIKP PKPbc 18 34 54.7 +0.5
SVE pmax pmax
comp=Z,85nm,1.6s
MYKOM Kota Tinggi 144.42 176 ePKPdf **PKPab** **18 34 55.6 -0.1**
SBUM Sibu 144.73 190 ePKPdf **PKPab** **18 34 56.4 -0.5**
ABKAR Akbulak array 144.81 55 ePKPdf **PKPab** **18 34 55.8 -0.4**
PSI Prapat 144.84 167 PKP **PKPab** **18 34 56.2 -1.1**
comp=Z,65nm,1.1s,baz=178,slow=6.5,SNR=31
KAD Karad 145.35 117 eP **PKPbc** **18 34 58.9 0.0**
POO Poona 145.91 115⇓iP **PKPab** **18 35 05.0 +3.9**
comp=Z,455nm,1.2s
MYLDM Lahad Datu 145.99 202 eP **PKPab** **18 35 02.7 +1.2**
LHMI Lhok Sumawe 146.79 163 ePKPdf **PKPbc** **18 35 03.7 +0.4**
IPM Ipoh 146.81 170 ePKPdf **PKPdf** **18 34 58.2 -3.5**
KKM Kota Kinabalu 147.45 199 ePKPdf **PKPdf** **18 35 04.0 +1.2**
HYB Hyderabad 148.47 122 i PKP **PKPbc** **18 35 07.0 -0.8**
KBL Kabul 149.82 84 ePKPdf **PKPdf** **18 35 07.1 +0.8**
BRVK Borovoye 150.60 46 ePKIKP **PKPdf** **18 35 06.6 +0.1**
BRVK e 18 35 12.4
BRVK Borovoye 150.60 46 ePKPdf **PKPdf** **18 35 06.6 +0.1**
BRVK ePKPbc **PKiKP** **18 35 12.4 -0.3**
VOSK Vostochnaya 151.11 47 ePKIKP **PKPdf** **18 35 08.3 +1.0**
VOSK Vostochnaya 151.11 47 ePKPdf **PKPdf** **18 35 08.3 +1.0**
NGP Nagpur 151.33 117 eP **PKPdf** **18 35 15.0 +0.3**
NGP eS **SKKSac** **18 45 38.1 -4.7**
YAK Yakutsk 151.47 337 ePKIKP **PKPbc** **18 35 11.2 -2.5**
YAK pmax pmax
comp=Z,65nm,1.5s
YAK Yakutsk 151.47 337 ePKPbc **PKPbc** **18 35 12.5 -1.2**
YSS Yuzh-Sakhalins 151.62 301⇓ePKIKP **PKPdf** **18 35 10.0 +1.7**
YSS e 18 35 20.5
YSS MLR MLR
comp=Z,1µm,18.0s
YSS Yuzh-Sakhalins 151.62 301 ePKPdf **PKPdf** **18 35 08.2 -0.1**
ASAJ Asahikawa 151.92 295 PKPbc **PKPbc** **18 35 13.9 -1.4**
comp=Z,22nm,1.0s,baz=271,slow=17,SNR=6.9
ASAJ Asahikawa 151.92 295 ePKPbc **PKPbc** **18 35 14.5 -0.8**
KKAR Karatay Array 152.25 67 ePKIKP **PKPdf** **18 35 09.8 +0.4**
KKAR e 18 35 16.7
KKAR Karatay Array 152.25 67 ePKPdf **PKPdf** **18 35 09.8 +0.4**
KKAR ePKPbc **PKiKP** **18 35 16.6 +0.2**
MJAR Matsushiro Arr 154.58 278 PKP **PKPdf** **18 35 10.7 -2.3**
comp=Z,2.0nm,1.1s,baz=180,slow=0.7,SNR=4.0
MJAR PKPbc **PKPbc** **18 35 20.9 -0.6**
comp=Z,2.7nm,1.0s,baz=127,slow=0.3,SNR=4.3
AML Almayashu 154.59 69 P **PKPdf** **18 35 14.7 +1.4**
SNR=5.0
EKS2 Erkin-Say 154.65 68 P **PKPdf** **18 35 14.0 +0.9**
SNR=5.4
EKS2 Erkin-Say 154.65 68 ePKIKP **PKPdf** **18 35 13.4 +0.4**
EKS2 Erkin-Say 154.65 68 ePKPdf **PKPdf** **18 35 13.3 +0.4**
USP Ospenovka 155.16 67 P **PKPdf** **18 35 14.3 +0.7**
SNR=7.7
AAK Ala-Archa 155.18 68 P **PKPdf** **18 35 14.9 +1.1**
SNR=7.6
AAK Ala-Archa 155.18 68 ePKIKP **PKPdf** **18 35 14.3 +0.5**
AAK e 18 35 23.4
AAK e 18 35 39.7
AAK 18 39 14.1
AAK Ala-Archa 155.18 68 PKP **PKPdf** **18 35 14.2 +0.4**
comp=Z,9.2nm,1.1s,baz=207,slow=4.9,SNR=8.1
AAK PP **PP** **18 39 14.1 -1.5**
comp=Z,10.0nm,1.1s,baz=262,slow=6.9,SNR=7.3
AAK Ala-Archa 155.18 68 ePKPdf **PKPdf** **18 35 14.3 +0.5**
AAK ePKPbc PKPbc 18 35 23.4
AAK ePKPab **PKPab** **18 35 39.7 +0.9**
AAK ePKPab **PKPab** **18 35 40.0 +1.2**
AAK PP **PP** **18 39 14.1 -1.5**
UCH Uchtor 155.20 69 P **PKPdf** **18 35 15.9 +1.7**
SNR=6.9
FRU Bishkek 155.26 68 i PKIKP **PKPdf** **18 35 15.0 +1.3**
CHMS Chumysh 155.36 67 P **PKPdf** **18 35 15.0 +1.2**
SNR=5.4
KBK Karagaybulak 155.51 68 P **PKPdf** **18 35 15.5 +1.3**
SNR=5.9
KZA Kyzart 155.75 69 P **PKPdf** **18 35 16.0 +1.1**
SNR=6.3
TKM2 Tokmak 2 155.98 67 P **PKPdf** **18 35 15.9 +1.0**
SNR=11
TKM2 Tokmak 2 155.98 67 ePKIKP **PKPdf** **18 35 14.7 -0.2**
TKM2 Tokmak 2 155.98 67 ePKPdf **PKPdf** **18 35 14.7 -0.2**
KSH Kashi 156.20 76 ePKP **PKPdf** **18 35 15.5 +0.3**
KSH epPKP **pPKPdf** **18 35 20.8 -2.8**
KSH esPKP 18 35 26.5
KSH eSKS SKSdf 18 42 12.5 -7.4
KSH SKKS **SKKSac** **18 46 03.0 -5.9**
KSH eSS **SS** **18 59 03.8 -6.2**
KSH AMB AMB
comp=Z,190nm,7.2s
KSH LR LR
comp=Z,170nm,4.2s
KURK Kurchatov 156.26 47 ePKIKP **PKPdf** **18 35 13.4 -1.3**
KURK e 18 35 22.9
KURK e 18 35 43.1
KURK Kurchatov 156.26 47 ePKPdf **PKPdf** **18 35 13.4 -1.3**
KURK ePKPbc PKPbc 18 35 22.9
KURK ePKPab **PKPab** **18 35 43.1 +0.2**
NVS Novosibirsk 156.56 35 ePKIKP **PKPdf** **18 35 13.8 -1.2**
NVS e 18 39 25.5
NVS pmax pmax
comp=Z,164nm,2.2s
NVS pmax pmax
comp=E,19nm,1.5s
ZAA0 Zalesovo Array 157.84 35 ePKPdf **PKPdf** **18 35 15.2 -1.4**
ZAA0 ePKPab **PKPab** **18 35 50.0 +0.5**
ZALV Zalesovo Beam 157.84 35 PKP **PKPdf** **18 35 16.3 -0.3**
comp=E,17nm,1.1s,baz=270,slow=3.0,SNR=11
ZALV PKPab **PKPab** **18 35 49.8 +0.2**
comp=E,34nm,1.0s,baz=296,slow=4.4,SNR=13
KLR Kul'dur 158.20 311 ePKIKP PKPdf 18 35 10.7 -6.5
KOLN Koldanda 158.60 110 eP **PKPdf** **18 35 18.2 -0.5**
BOD Bodaibo 159.02 348 ePKP2 **PKPab** **18 35 52.8 -1.7**
BOD pmax pmax
comp=Z,25nm,1.6s
DANN Dangsing 159.02 109 eP **PKPdf** **18 35 19.0 -0.3**
GKN Gorkha 159.50 111 eP **PKPdf** **18 35 19.1 -0.6**
USRK Ussuriysk Arra 159.50 297 PKPab **PKPab** **18 35 57.8 +0.7**
comp=Z,3.4nm,1.0s,baz=99,slow=4.5,SNR=3.7
DMN Daman 159.62 113 eP **PKPdf** **18 35 19.8 -0.2**
PKIN Phulchoki 159.82 113 eP **PKPdf** **18 35 19.7 -0.5**
PKI Pulchoki 159.82 113 eP **PKPdf** **18 35 19.5 -0.8**
KKN Kakani 159.85 112 eP **PKPdf** **18 35 19.6 -0.6**
MK31 Makanchi Array 159.95 55 ePKIKP **PKPdf** **18 35 18.5 -0.9**
MK31 e 18 35 58.8
MK31 Makanchi Array 159.95 55 ePKPdf **PKPdf** **18 35 18.5 -0.9**
MK31 ePKPab **PKPab** **18 35 58.8 -0.3**
MKAR Makanchi Array 159.95 55 PKP **PKPdf** **18 35 19.8 +0.3**
comp=Z,15nm,1.2s,baz=323,slow=1.8,SNR=13
MKAR PKPab **PKPab** **18 35 59.9 +0.8**
comp=Z,6.4nm,1.0s,baz=289,slow=3.9,SNR=5.7
MKAR PP **PP** **18 39 40.6 -0.7**
comp=Z,11nm,1.2s,baz=275,slow=4.3,SNR=10
MK01 Makanchi Array 159.96 55 ePKP **PKPdf** **18 35 18.8 -0.7**
CMAR Chiang Mai Arr 159.98 159 PKP **PKPdf** **18 35 20.8 +0.5**
comp=Z,5.0nm,1.2s,baz=238,slow=2.6,SNR=11
CMAR PKPab **PKPab** **18 35 59.2 -0.5**
comp=Z,4.6nm,1.1s,baz=221,slow=4.9,SNR=5.2
CMAR PP **PP** **18 39 40.0 -0.6**
comp=Z,0.7nm,0.9s,baz=188,slow=4.5,SNR=3.8
CHTO Chiang Mai 160.32 159 ePKIKP **PKPdf** **18 35 18.3 -2.4**
CHTO e 18 36 00.9
CHTO Chiang Mai 160.32 159 ePKPdf **PKPdf** **18 35 18.3 -2.4**
CHTO ePKPab **PKPab** **18 36 00.9 -0.2**
RAMN Ramite 160.32 117 eP **PKPdf** **18 35 20.9 +0.1**
GUN Gumba 160.36 113 eP **PKPdf** **18 35 20.6 -0.3**
JIRN Jiri 160.44 114 eP **PKPdf** **18 35 20.5 -0.5**
ODAN Odare 160.83 118 eP **PKPdf** **18 35 21.2 -0.1**
TAPN Taplejung 161.35 117 eP **PKPdf** **18 35 21.7 -0.2**
SHL Shillong 162.92 130 eP **PKPdf** **18 35 24.0 +0.6**
WMQ Urumqi 164.51 60 PKP **PKPdf** **18 35 23.0 -1.2**
WMQ LR LR
comp=Z,2µm,20.4s
WMQ LR LR
comp=Z,2µm,21.2s
WMQ LR LR
comp=Z,2µm,20.8s
LSA Lhasa 165.18 117 ePKIKP **PKPdf** **18 35 25.7 0.0**
LSA e 18 36 23.2
LSA Lhasa 165.18 117 ePKPdf **PKPdf** **18 35 25.7 0.0**
LSA ePKPab **PKPab** **18 36 23.2 +0.2**
MOY Mondy 165.31 13 ePKIKP **PKPdf** **18 35 25.0 +0.4**
TLY Talaya 165.66 7 ePKIKP **PKPdf** **18 35 23.4 -1.4**
TLY e 18 36 23.9
TLY Talaya 165.66 7 PKPab **PKPab** **18 36 24.0 +0.2**
comp=Z,1.3nm,0.6s,baz=346,slow=1.3,SNR=7.9
TLY Talaya 165.66 7 ePKPdf **PKPdf** **18 35 23.4 -1.4**
TLY ePKPab **PKPab** **18 36 23.9 +0.2**
ZAK Zakamensk 166.90 9 ePKIKP **PKPdf** **18 35 26.4 +0.5**
ZAK e 18 36 29.6
ZAK pmax pmax
comp=Z,5.0nm,3.0s
KMI Kunming 167.32 165 PKP **PKPdf** **18 35 27.5 +0.3**
KMI pPKP **pPKPdf** **18 35 35.0 -0.6**
NJ2 Nanjing 168.37 246 ePKP **PKPdf** **18 35 29.0 +1.6**
GYA Guiyang 169.02 182 i PKP **PKPdf** **18 35 27.5 -0.7**
GYA PKPab **PKPab** **18 36 41.8 +2.4**
GYA PKS **PKSdf** **18 38 59.0 -1.9**
GYA PP PP 18 40 33.3 +5.5
GYA SKKS 18 47 15.5
GYA SS **SS** **19 01 21.0 +0.9**
GYA AMB AMB
comp=Z,190nm,8.2s
GYA LR LR
comp=Z,190nm,21.2s
GYA LR LR
comp=Z,170nm,21.5s
GYA LR LR
comp=Z,180nm,24.3s
ULN Ulaanbaatar 169.59 357 ePKIKP **PKPdf** **18 35 25.6 -2.3**
ULN e 18 36 41.5
ULN Ulaanbaatar 169.59 357 ePKPdf **PKPdf** **18 35 25.6 -2.3**
ULN ePKPab **PKPab** **18 36 41.5 0.0**
SONA1 Songino Array 169.62 360 ePKPdf **PKPdf** **18 35 26.9 -1.1**
SONA1 ePKPab **PKPab** **18 36 42.4 +0.8**
SONM Songino Array 169.64 360 PKP **PKPdf** **18 35 26.5 -1.4**
comp=Z,2.7nm,1.2s,baz=311,slow=3.1,SNR=6.0
SONM PKPab **PKPab** **18 36 42.3 +0.7**
comp=Z,6.0nm,1.1s,baz=340,slow=2.9,SNR=8.7
SONM PP PP 18 40 25.7 -5.2
comp=Z,0.7nm,0.9s,baz=347,slow=4.2,SNR=4.0
WHN Wuhan 170.41 226 PKP **PKPdf** **18 35 32.3 +3.6**
ENH Enshi 172.36 201 ePKPdf **PKPdf** **18 35 29.7 -0.1**
CD2 Chengdu 173.12 161 PKP **PKPdf** **18 35 30.5 +0.4**
CD2 pPKP **pPKPdf** **18 35 41.3 +2.8**
CD2 sPKP 18 35 45.0
CD2 PKS **PKSdf** **18 39 01.3 -1.1**
CD2 PP **PP** **18 40 52.0 +3.7**
CD2 SKS **SKSdf** **18 42 29.8 -1.9**
CD2 SKKS **SKKSac** **18 47 35.5 +1.6**
CD2 SS **SS** **19 02 01.8 +1.2**
CD2 AMB AMB
comp=Z,320nm,5.8s
GTA Gaotai 174.53 67 ePKP **PKPdf** **18 35 30.5 +0.1**
GTA pPKP **pPKPdf** **18 35 41.3 +2.4**
GTA sPKP 18 35 45.0
GTA PKPab **PKPab** **18 37 05.0 +1.2**
GTA PP **PP** **18 40 59.8 +3.2**
GTA SKS **SKSdf** **18 42 28.3 -3.6**
GTA SKKS **SKKSac** **18 47 40.8 -0.2**
GTA SS **SS** **19 02 15.0 -1.8**
GTA AMB AMB
comp=Z,2µm,9.5s
GTA LR LR
comp=Z,2µm,19.8s
GTA LR LR
comp=Z,2µm,20.2s
GTA LR LR
comp=Z,3µm,21.1s
HHC Hu-ho-hao-te 174.71 311 ePKP **PKPdf** **18 35 29.8 -0.6**
HHC pPKP **pPKPdf** **18 35 37.5 -1.3**
HHC sPKP 18 35 44.3
HHC AMB AMB
comp=Z,910nm,8.2s
HHC LR LR
comp=Z,2µm,17.5s
HHC LR LR
comp=Z,2µm,19.4s
HHC LR LR
comp=Z,3µm,18.6s
XAN Xi'an 175.98 212 PKP **PKPdf** **18 35 30.8 -0.1**
LZH Lanzhou 177.58 124 ePKP **PKPdf** **18 35 32.0 +0.7**
LZH pPKP **pPKPdf** **18 35 39.8 +0.1**
LZH sPKP 18 35 43.0
LZH PP **PP** **18 41 12.0 +1.2**
LZH eSKKS 18 47 57.5
LZH SS **SS** **19 02 43.5 -1.9**
LZH AMB AMB
comp=Z,1µm,5.7s
LZH LR LR
comp=Z,2µm,21.0s
LZH LR LR
comp=Z,3µm,20.6s
LZH LR LR
comp=Z,3µm,21.0s

IDC 27 18:21:20.1±0.8, 37.78S×73.50W, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.4/39, mbtmp4.4/11, ML3.7/1, Error ellipse: s-maj=35.4km s-min=14.7km az=59.0
ISCJB 27 18:21:22.3±0.6, 37.75S±0.08×73.7W±0.1, h22km, mb4.4/15, Error ellipse: s-maj=17.9km s-min=10.6km az=157.3
NEIC 27 18:21:25.3±0.6, 37.70S×73.76W, h35km, mb4.9/6, Error ellipse: s-maj=19.9km s-min=11.3km az=67.0
ISC 27 18:21:23.3±0.7, 37.79S±0.10×73.5W±0.2, h22km, n36, σ1§15/31, mb4.4/15, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.71 143 Pn Pn 18 22 23.8 +4.5
10nm,0.3s,baz=320,slow=16,SNR=4.2
PLCA Pg **Pb** **18 22 27.9 -0.2**
27nm,0.3s,baz=317,slow=16,SNR=10.0
PLCA Lg Lg 18 23 18.4
11nm,0.3s,baz=35,slow=18,SNR=4.7
PLCA Paso Flores 3.71 143 Pn Pn 18 22 23.8 +4.5
PLCA Pg **Pb** **18 22 27.9 -0.2**
PLCA eSn **Sb** **18 23 11.9 -0.7**
PLCA Lg Lg 18 23 18.4
TRQA Tornquist 9.07 95 Pn Pn 18 23 39.1 +6.1
LVC Limon Verde 15.62 16 Pn **Pn** **18 25 03.5 +1.1**
USHA Ushuaia 17.39 170 P **P** **18 25 25.6 +0.1**
0.3nm,0.3s,baz=191,slow=18,SNR=3.7
LPAZ La Paz 21.93 14 P **P** **18 26 15.1 -0.8**
8.6nm,1.1s,baz=199,slow=11,SNR=2.4
NNA Nana 25.87 352 eP **P** **18 26 49.2 -4.3**
16nm,0.9s
SAML Samuel 30.17 21 eP **P** **18 27 30.8 -1.2**
3.3nm,0.6s
OTAV Otavalo 38.12 352 eP **P** **18 28 42.8 +1.5**
30nm,1.6s
SNAA Sanae 48.55 157 P **P** **18 30 04.2 -0.3**
4.4nm,1.0s,baz=284,slow=8.8,SNR=5.6
SNAA Sanae 48.55 157 eP P 18 29 58.9 -5.5
16nm,1.0s
QSPA South Pole Qui 52.46 180 P P 18 30 30.2 -3.9
3.5nm,0.9s,baz=137,slow=5.2,SNR=5.1
TXAR Lajitas Array 72.52 333 P **P** **18 32 49.3 +0.8**
2.0nm,0.6s,baz=152,slow=8.4,SNR=8.7
DBIC Dimbokro 77.48 71 P **P** **18 33 18.6 +1.3**
11nm,0.9s,baz=202,slow=6.1,SNR=8.7
DBIC Dimbokro 77.48 71 eP **P** **18 33 18.2 +0.9**
12nm,1.0s
ANMO Albuquerque 78.59 333 P **P** **18 33 23.6 +0.3**
5.0nm,1.1s,baz=151,slow=7.0,SNR=7.0
BOSA Boshof 79.33 118 P **P** **18 33 28.1 +0.4**
4.3nm,0.8s,baz=222,slow=6.7,SNR=3.4
ECSD EROS Data Cent 83.82 343 eP **P** **18 33 50.4 -0.3**
15nm,1.0s
NVAR Mina Array Bea 86.36 326 P **P** **18 34 04.1 +0.3**
0.5nm,0.7s,baz=150,slow=3.8,SNR=4.1
TORD Torodi Ar. Bea 86.56 71 P **P** **18 34 04.9 -0.1**
2.9nm,1.2s,baz=238,slow=5.3,SNR=2.2
PDAR Pinedale Array 86.64 334 P **P** **18 34 05.0 0.0**
1.4nm,0.9s,baz=150,slow=5.9,SNR=5.0
ELK Elko 87.01 330 P **P** **18 34 07.0 +0.1**
2.6nm,1.1s,baz=144,slow=8.7,SNR=3.8
GERES GERESS Array B 115.60 47 PKP **PKPdf** **18 40 02.3 -0.9**
0.7nm,0.8s,baz=350,slow=6.8,SNR=4.9
TREC Trest 116.85 47 AMS AMS 18 40 10.0
3µm,17.9s
ILAR Eielson Array 117.03 333 PKP **PKPdf** **18 40 04.2 -1.2**
0.1nm,0.9s,baz=144,slow=3.2,SNR=3.3
BRTR Keskin Array B 124.61 64 PKP **PKPdf** **18 40 20.8 -0.1**
1.2nm,0.7s,baz=209,slow=3.0,SNR=7.4
AKTO Aktyubinsk 143.57 54 PKhKP PKPpre 18 40 53.2
2.0nm,0.8s,baz=208,slow=3.2,SNR=4.1
TIXI Tiksi 144.18 348 ePKPdf **PKPab** **18 40 53.0 -0.9**
PSI Prapat 144.49 167 PKP **PKPdf** **18 41 00.2 +1.5**
9.7nm,0.8s,baz=180,slow=3.0,SNR=5.1
ABKAR Akbulak array 144.84 56 ePKPdf PKPbc 18 40 57.3 +0.2
BRVK Borovoye 150.70 47 ePKPbc **PKPbc** **18 41 13.8 +0.7**
BVAR Borovoye Array 150.77 47 PKPbc **PKPbc** **18 41 14.2 +1.0**
6.2nm,0.6s,baz=298,slow=3.1,SNR=16
AAK Ala-Archa 155.14 69 ePKPbc PKPdf 18 41 24.0 +9.4
ZALV Zalesovo Beam 158.00 36 PKPab **PKPab** **18 41 52.2 +1.2**
2.2nm,0.8s,baz=305,slow=5.1,SNR=3.6
MK31 Makanchi Array 159.99 56 ePKPdf **PKPdf** **18 41 20.4 +0.1**
MK31 ePKPab **PKPab** **18 41 59.9 -0.1**
MKAR Makanchi Array 159.99 56 PKPab **PKPab** **18 42 00.2 +0.2**
0.8nm,0.7s,baz=278,slow=5.0,SNR=3.6

IDC 27 18:23:05.7±0.4, 37.54S×73.87W, h0km, mb4.9/19, mb1 4.9/23, mb1mx4.8/41, mbtmp4.9/23, ML4.5/4, Error ellipse: s-maj=16.0km s-min=11.4km az=72.0
ISCJB 27 18:23:08.4±0.2, 37.56S±0.04×73.60W±0.06, h20km, mb5.2/92, MS5.7/151, Error ellipse: s-maj=7.2km s-min=5.2km az=148.8
BJI 27 18:23:09.0, 37.06S×74.11W, h30km, mB5.5/11, Ms5.9/8, Ms7 5.8/7
MOS 27 18:23:10.4±1.2, 37.49S×73.67W, h33km, mb5.5/30, MS5.6/23, Error ellipse: s-maj=16.7km s-min=7.9km az=102.6
NEIC 27 18:23:11.4±0.2, 37.58S×73.70W, h35km, mb5.3/85, MS5.7/150, Error ellipse: s-maj=8.4km s-min=5.3km az=62.0
ISC 27 18:23:10.4±0.5, 37.59S±0.05×73.74W±0.07, h30km±3km, h30km:pP-P, n650, σ1§32/573, mb5.2/93, MS5.7/151, 139C-102D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.00 143 eP Pn 18 24 12.5 +2.8
PLCA Paso Flores 4.00 143 Pn **Pn** **18 24 11.8 +2.1**
6.9nm,0.3s,baz=330,slow=12,SNR=1.3
PLCA Pg Pb 18 24 22.4 +2.3
56nm,0.3s,baz=315,slow=14,SNR=6.7
PLCA Lg Lg 18 25 15.8
35nm,0.3s,baz=45,slow=20,SNR=4.4
PLCA Paso Flores 4.00 143 ePn Pn 18 24 12.5 +2.8
PLCA Pg Pb 18 24 22.4 +2.3
PLCA Lg Lg 18 25 15.8
CFAA Coronel Fontan 7.50 39 Pn **Pn** **18 24 56.5 -1.3**
2.0nm,0.3s,baz=218,slow=15,SNR=4.8
CFAA Sn **Sn** **18 26 24.8 +3.0**
1.3nm,0.3s,baz=108,slow=20,SNR=2.2
CFAA Lg Lg 18 27 05.2
baz=290,slow=17,SNR=3.7
TRQA Tornquist 9.32 96 ePn **Pn** **18 25 24.2 +1.6**
LVC Limon Verde 15.50 17 ePn **Pn** **18 26 49.0 +1.9**
107nm,1.1s
USHA Ushuaia 17.62 170 P **P** **18 27 14.2 0.0**
0.9nm,0.3s,baz=316,slow=9.0,SNR=10
CPUP Villa Florida 17.86 56 eP **Pn** **18 27 16.1 -0.5**
CPUP pmax pmax
comp=Z,4.0nm,0.9s
CPUP Villa Florida 17.86 56 P **Pn** **18 27 16.0 -0.5**
comp=Z,1.4nm,0.3s,baz=216,slow=14,SNR=4.2
CPUP Villa Florida 17.86 56 ePn **Pn** **18 27 16.1 -0.5**
comp=Z,3.9nm,0.9s
EFI East Falkland 17.91 147 eP **Pn** **18 27 16.3 -0.7**
EFI pmax pmax
comp=Z,325nm,1.1s
EFI East Falkland 17.91 147 ePn **Pn** **18 27 16.3 -0.7**
comp=Z,325nm,1.1s
LPAZ La Paz 21.79 15 eP **P** **18 28 01.3 +0.7**
LPAZ pmax pmax
comp=Z,150nm,1.2s
LPAZ La Paz 21.79 15 P **P** **18 28 01.5 +0.9**
comp=Z,42nm,1.0s,baz=185,slow=11,SNR=11
LPAZ La Paz 21.79 15 eP **P** **18 28 01.3 +0.7**
comp=Z,150nm,1.2s
NNA Nana 25.65 353 eP **P** **18 28 39.7 +2.1**
NNA pmax pmax
comp=Z,28nm,1.0s
NNA MLR MLR
comp=Z,7µm,21.0s
NNA Nana 25.65 353 P **P** **18 28 37.8 +0.2**
comp=Z,4.6nm,0.3s,baz=155,slow=7.0,SNR=3.9
NNA Nana 25.65 353 eP **P** **18 28 39.7 +2.1**
comp=Z,28nm,1.0s
NNA LR LR
comp=Z,7µm,21.0s
PMSA Palmer Station 27.82 171 PFAKE 18 29 10.0 +13
PMSA LR LR
comp=Z,11µm,19.0s
SAML Samuel 30.07 21 eP **P** **18 29 16.9 -0.2**
comp=Z,49nm,1.3s
SAML LR LR
comp=Z,21µm,19.0s
HOPE Hope Point 30.36 135 PFAKE 18 29 30.0 +11
HOPE LR LR
comp=Z,8µm,19.0s
BDFB Brasilia 31.55 53 eP **P** **18 29 30.2 -0.1**
BDFB Brasilia 31.55 53 P **P** **18 29 29.0 -1.2**
comp=Z,17nm,1.1s,baz=202,slow=9.3,SNR=2.9
BDFB Brasilia 31.55 53 eP **P** **18 29 30.2 -0.1**
OTAV Otavalo 37.89 352 eP **P** **18 30 27.2 +1.8**
comp=Z,65nm,1.3s
OTAV LR LR
comp=Z,8µm,18.0s
PAYG Puerto Ayora 39.78 334 PFAKE 18 30 50.0 +9.2
PAYG LR LR
comp=Z,4µm,19.0s
ROSC El Rosal 42.23 359 eP **P** **18 31 02.6 +1.3**
SDV Santo Domingo 46.33 4 eP **P** **18 31 32.8 -1.0**
comp=Z,50nm,1.3s
SDV LR LR
comp=Z,10µm,22.0s
VNA3 Neumayer Olymp 46.59 156 P **P** **18 31 36.3 +1.1**
RCBR Riachuelo 46.73 57 P **P** **18 31 35.7 -1.3**
comp=Z,49nm,1.2s,baz=197,slow=8.7,SNR=9.8
RCBR Riachuelo 46.73 57 eP **P** **18 31 38.8 +1.8**
comp=Z,145nm,1.6s
RCBR LR LR
comp=Z,53µm,19.0s
BCIP Isla Barro Col 46.86 352 PFAKE 18 31 50.0 +12
BCIP LR LR
comp=Z,3µm,20.0s
VNA2 Neumayer--Watz 47.27 156 P **P** **18 31 41.6 +1.1**
TRIS Tristan da Cun 48.05 109 PFAKE 18 32 00.0 +13
TRIS LR LR
comp=Z,5µm,20.0s
JTS JuntasAbangare 48.78 345 eP **P** **18 31 54.1 +1.4**
JTS e 18 31 59.9
JTS pmax pmax
comp=Z,88nm,1.8s
JTS MLR MLR
comp=Z,4µm,22.0s
JTS JuntasAbangare 48.78 345 eP **P** **18 31 54.1 +1.4**
comp=Z,88nm,1.8s
JTS e 18 31 59.9
JTS LR LR
comp=Z,4µm,22.0s
SNAA Sanae 48.81 157 P **P** **18 31 53.4 +0.9**
SNAA Sanae 48.81 157 eP **P** **18 31 53.4 +0.9**
SNAA pmax pmax
comp=Z,116nm,1.1s
SNAA Sanae 48.81 157 P **P** **18 31 53.4 +0.9**
comp=Z,32nm,1.1s,baz=280,slow=6.2,SNR=25
SNAA Sanae 48.81 157 eP **P** **18 31 53.4 +0.9**
comp=Z,116nm,1.1s
GRGR Grenville 50.74 15 eP **P** **18 32 08.1 +0.5**
comp=Z,272nm,1.1s
GRGR LR LR
comp=Z,8µm,19.0s
BBGH Gun Hill 52.20 18 PFAKE 18 32 30.0 +12
BBGH LR LR
comp=Z,8µm,20.0s
QSPA South Pole Qui 52.65 180 P **P** **18 32 22.2 +0.7**
comp=Z,65nm,1.0s,baz=140,slow=8.4,SNR=28
QSPA South Pole Qui 52.65 180 eP **P** **18 32 22.2 +0.7**
comp=Z,97nm,1.1s
QSPA LR LR
comp=Z,5µm,21.0s
FDF Fort de France 53.38 15 P **P** **18 32 25.5 -1.8**

FDF MLR MLR
comp=Z,7µm,19.0s
FDF Fort de France 53.38 15 P P 18 32 25.4 -1.8
FDF LR LR
comp=Z,7µm,19.0s
NVL N'lazarevskaya 53.60 156 eP P 18 32 28.7 +0.5
NVL pmax pmax
comp=Z,20nm,0.9s
APG El Apazote 54.63 340 P P 18 32 33.6 -3.0
comp=Z,3.7nm,0.9s,baz=144,slow=10,SNR=4.4
MTDJ Mount Denham 55.63 356 PFAKE 18 33 00.0 +16
MTDJ LR LR
comp=Z,2µm,22.0s
ANWB Willy Bob 56.10 14 P P 18 32 45.2 -1.7
ANWB LR LR
comp=Z,5µm,19.0s
SDDR Presa de Saban 56.32 3 eP P 18 32 47.6 -0.9
comp=Z,54nm,1.5s
SDDR LR LR
comp=Z,3µm,20.0s
GTBY Guantanamo Bay 57.23 358 eP P 18 32 53.4 -1.4
GTBY LR LR
comp=Z,3µm,20.0s
GRTK Grand Turk 58.84 3 PFAKE 18 33 20.0 +14
GRTK LR LR
comp=Z,4µm,19.0s
TEIG Tepich 59.12 344 PFAKE 18 33 20.0 +12
TEIG LR LR
comp=Z,2µm,22.0s
ASCN Ascension 61.05 77 PFAKE 18 33 30.0 +8.4
ASCN LR LR
comp=Z,6µm,19.0s
SYO Syowa Base 63.04 158⇑eP P 18 33 33.2 -1.0
SHEL Horse Pasture 63.11 90 PFAKE 18 33 50.0 +15
SHEL LR LR
comp=Z,5µm,20.0s
035A Encino 68.15 337 ⇓P P 18 34 09.0 +1.4
baz=68
034A Hebbronville 68.45 336 ⇓P P 18 34 11.1 +1.7
baz=69
KVTX Kingsville 68.65 337 PFAKE 18 34 20.0 +9.3
KVTX LR LR
comp=Z,3µm,21.0s
BRAL Brewton 69.38 348 PFAKE 18 34 30.0 +15
BRAL LR LR
comp=Z,2µm,19.0s
834A Tilden 69.39 337 ⇑P P 18 34 17.3 +2.0
baz=70
833A Chaparral WMA, 69.85 336 ⇓P P 18 34 18.4 +0.3
baz=70
832A Faith Ranch, C 70.00 335 ⇑P P 18 34 20.4 +1.4
baz=70
BBSR BB Station 70.11 8 PFAKE 18 34 30.0 +10
BBSR LR LR
comp=Z,3µm,19.0s
636A Smothers Creek 70.21 338 ⇓P P 18 34 22.0 +1.7
baz=70
SACV Santiago Islan 70.35 52 PFAKE 18 34 30.0 +8.5
SACV LR LR
comp=Z,6µm,19.0s
732A Laxson Ranch, 70.41 336 ⇑P P 18 34 22.5 +1.0
baz=71,SNR=6.1
NHSC New Hope 70.59 354 PFAKE 18 34 30.0 +7.5
NHSC LR LR
comp=Z,3µm,20.0s
633A Saathoff Ranch 70.83 337 ⇑P P 18 34 26.1 +2.0
baz=71
632A Uvalde 71.07 336 ⇑P P 18 34 26.9 +1.3
baz=71
GOGA Godfrey 71.22 351 eP P 18 34 25.9 -0.5
GOGA pmax pmax
comp=Z,28nm,1.2s
GOGA MLR MLR
comp=Z,2µm,20.0s
GOGA Godfrey 71.22 351 eP P 18 34 25.9 -0.5
comp=Z,28nm,1.2s
GOGA LR LR
comp=Z,2µm,20.0s
LRAL Lakeview Retre 71.34 348 eP P 18 34 27.2 +0.1
comp=Z,92nm,1.8s
533A Kerrville 71.36 337 ⇑P P 18 34 27.8 +0.5
baz=72
532A Rocksprings 71.68 336 ⇓P P 18 34 29.9 +0.6
baz=72,SNR=5.5
NATX Nacogdoches 71.71 341 eP P 18 34 28.7 -0.7
comp=Z,106nm,1.6s
434A Burnet 71.81 338 ⇑P P 18 34 31.1 +1.0
baz=72
531A Rocksprings 71.92 336 ⇑P P 18 34 32.3 +1.5
baz=72
336A Riesel 71.94 339 ⇑P P 18 34 31.7 +1.0
baz=72
JCT Junction City 71.97 336 eP P 18 34 31.2 +0.1
JCT pmax pmax
comp=Z,39nm,1.4s
JCT Junction City 71.97 336 eP P 18 34 31.2 +0.1
comp=Z,39nm,1.4s
JCT Junction City 71.97 336 ⇓P P 18 34 32.1 +1.0
baz=72
433A Art 72.01 337 ⇑P P 18 34 32.3 +1.1
baz=72,SNR=6.9
530A J-C Ranch, Com 72.17 335 ⇑P P 18 34 33.8 +1.5
baz=72,SNR=8.8
TX31 Lajitas Ar. Si 72.24 333 eP P 18 34 32.8 0.0
TXAR Lajitas Array 72.24 333 P P 18 34 33.0 +0.3
TXAR Lajitas Array 72.24 333 P P 18 34 33.0 +0.3
comp=Z,1.5nm,0.8s,baz=161,slow=5.7,SNR=6.1
334A Lometa 72.29 338 ⇓P P 18 34 34.2 +1.3
baz=73
431A Sonora 72.42 336 ⇓P P 18 34 35.1 +1.4
baz=73
529A Stev Forest Ra 72.45 334 ⇑P P 18 34 34.8 +0.9
baz=73
333A Richland Sprin 72.51 337 ⇑P P 18 34 34.9 +0.7
baz=73
CNNC Cliffs of the 72.57 356 PFAKE 18 34 50.0 +16
CNNC LR LR
comp=Z,2µm,21.0s
138A Matatall Enter 72.67 341 ⇓P P 18 34 36.7 +1.6
baz=73
WHTX Lake Whitney 72.68 339 eP P 18 34 35.4 +0.2
comp=Z,24nm,1.1s
WHTX Lake Whitney 72.68 339 ⇓P P 18 34 36.0 +0.8
baz=73
KMSC Kings Mountain 72.71 353 eP P 18 34 34.9 -0.3
comp=Z,17nm,1.0s
KMSC Kings Mountain 72.71 353 ⇑P P 18 34 35.3 0.0
baz=73
430A Baggett Ranch, 72.72 335 ⇑P P 18 34 36.7 +1.1
baz=73
429A Davenport Ranc 72.79 335 ⇑P P 18 34 36.9 +0.9
baz=73
332A Millersview 72.80 337 ⇓P P 18 34 36.2 +0.3
baz=73,SNR=9.2
234A Clairette 72.89 338 ⇓P P 18 34 37.2 +0.8
baz=73
331A San Angelo 72.94 336 ⇓P P 18 34 37.2 +0.4
baz=73,SNR=6.8
233A Rising Star 73.13 338 ⇓P P 18 34 39.0 +1.1
baz=74
232A Coleman 73.23 337 ⇓P P 18 34 39.6 +1.0
baz=74
SWET Sewanee 73.32 350 eP P 18 34 38.1 -0.9
comp=Z,40nm,0.9s
134A White-Moore Ra 73.41 339 ⇓P P 18 34 39.5 0.0
baz=74
TKL Tuckaleechee C 73.47 351 eP P 18 34 39.1 -0.7
TKL Tuckaleechee C 73.47 351 P P 18 34 39.3 -0.5
comp=Z,9.9nm,0.9s,baz=311,slow=1.6,SNR=5.0
TKL Tuckaleechee C 73.47 351 eP P 18 34 39.1 -0.7
329A Wagon Wheel Ra 73.61 335 ⇑P P 18 34 41.9 +1.1
baz=74
133A Hamilton Ranch 73.68 338 ⇓P P 18 34 42.4 +1.3
baz=74
Z35A Perchaven, San 73.88 340 ⇓P P 18 34 43.8 +1.6
baz=74
ABTX Abilene, Hawle 73.92 337 eP P 18 34 42.2 -0.3
comp=Z,34nm,1.3s
ABTX Abilene, Hawle 73.92 337 ⇑P P 18 34 43.2 +0.7
baz=74
229A Bryant Ranch, 74.00 335 ⇑P P 18 34 44.6 +1.5
baz=74
MIAR Mount Ida 74.10 343 eP P 18 34 44.7 +1.2
MIAR pmax pmax
comp=Z,38nm,1.6s
MIAR MLR MLR
comp=Z,2µm,20.0s

MIAR Mount Ida 74.10 343 eP P 18 34 44.7 +1.2
comp=Z,38nm,1.6s
MIAR LR LR
comp=Z,2µm,20.0s
131A Roby 74.19 337 ⇑P P 18 34 45.0 +0.9
baz=74
Z33A Whitaker Ranch 74.27 338 ⇑P P 18 34 45.7 +1.1
baz=75
130A Snyder 74.30 336 ⇑P P 18 34 45.6 +0.8
baz=75
SUR Sutherland 74.31 119 eP P 18 34 47.6 +2.3
SUR epP pP 18 34 54.2 -0.7
SUR LR LR
comp=Z,4µm,20.0s
TZTN Tazewell 74.32 352 eP P 18 34 44.2 -0.5
comp=Z,64nm,1.5s
RAR Rarotonga 74.35 255 PFAKE 18 35 00.0 +15
RAR LR LR
comp=Z,2µm,19.0s
228A UT Block 9, Go 74.40 335 ⇓P P 18 34 46.1 +0.7
baz=75
Z32A Haskell 74.50 338 ⇑P P 18 34 46.0 +0.2
baz=75
WVT Waverly 74.51 348 eP P 18 34 45.3 -0.5
WVT pmax pmax
comp=Z,51nm,1.5s
WVT Waverly 74.51 348 eP P 18 34 45.3 -0.5
comp=Z,51nm,1.5s
Y34A Reagan Ranch, 74.61 339 ⇑P P 18 34 47.1 +0.6
baz=75
BLA Blacksburg 74.69 354 PFAKE 18 35 00.0 +13
BLA LR LR
comp=Z,2µm,21.0s
VWCC Virginia Weste 74.69 355 eP P 18 34 46.3 -0.5
BBTS Babate 74.72 58 P P 18 34 49.0 +1.5
comp=Z,26nm,0.9s,baz=352,slow=2.2,SNR=3.6
Z31A Sharp Cattle R 74.72 337 ⇓P P 18 34 48.2 +1.1
baz=75
128A Castleberry Fa 74.82 335 ⇑P P 18 34 48.8 +0.9
baz=75
Y33A Hilltop Ranch, 74.91 339 ⇑P P 18 34 49.0 +0.8
baz=75
Z30A Sanderson Ranc 74.99 336 ⇑P P 18 34 49.6 +0.8
baz=75,SNR=6.3
MNTX Cornudas Mount 75.00 332 eP P 18 34 49.5 +0.7
comp=Z,84nm,3.0s
MNTX LR LR
comp=Z,1µm,19.0s
JSRW J. Sargeant Re 75.01 357 eP P 18 34 48.3 -0.3
Z29A Hungry Hill Ra 75.15 336 ⇑P P 18 34 51.3 +1.5
baz=76
X34A Smith Ranch, M 75.24 340 ⇑P P 18 34 51.5 +1.4
baz=76
Y31A Rekieta Farm, 75.35 337 ⇓P P 18 34 51.7 +0.9
baz=76
Y30A Stafford Cattl 75.47 337 ⇓P P 18 34 52.1 +0.6
baz=76
CBN Corbin 75.50 357 PFAKE 18 35 00.0 +8.6
CBN LR LR
comp=Z,2µm,20.0s
PBMO Poplar Bluff 75.60 346 eP P 18 34 51.2 -0.8
comp=Z,36nm,1.5s
Y29A Porterfield Fa 75.69 336 ⇑P P 18 34 53.4 +0.6
baz=76
Z27A Tatum 75.70 335 ⇓P P 18 34 54.6 +1.6
baz=76
W34A Bridge Creek, 75.82 340 eP P 18 34 52.2 -1.2
comp=Z,81nm,1.8s
X31A McDonald Ranch 75.89 338 ⇑P P 18 34 54.9 +1.1
baz=76
Z26A Caprock 75.92 334 ⇓P P 18 34 55.2 +1.1
baz=76
W33A Caddo, Fort Co 75.93 339 ⇓P P 18 34 55.3 +1.2
baz=76
TUL1 Tulsa 75.94 342 eP P 18 34 54.4 +0.4
comp=Z,31nm,1.1s
TUL1 Tulsa 75.94 342 ⇑P P 18 34 54.8 +0.7
baz=76
W32A Sentinel 76.13 339 ⇓P P 18 34 56.4 +1.2
baz=76
MSTX Muleshoe 76.15 335 eP P 18 34 56.2 +0.7
MSTX epP pP 18 35 01.9 -3.1
MSTX Muleshoe 76.15 335 ⇑P P 18 34 56.6 +1.1
baz=76
Z25A Roswell 76.19 334 ⇑P P 18 34 56.4 +0.7
baz=76
Y27A Causey 76.20 335 ⇓P P 18 34 56.3 +0.5
baz=76
319A Douglas 76.22 329 ⇑P P 18 34 58.0 +2.1
baz=76
V34A Guthrie 76.31 340 eP P 18 34 56.0 -0.2
comp=Z,78nm,1.7s
V34A Guthrie 76.31 340 ⇓P P 18 34 56.7 +0.5
baz=77
W31A Holland Ranch, 76.39 338 ⇑P P 18 34 57.7 +1.0
baz=77
CASY Casey 76.40 182 eP P 18 34 56.9 +0.5
comp=Z,51nm,1.1s
CASY LR LR
comp=Z,8µm,19.0s
Y26A Elida 76.46 335 ⇑P P 18 34 58.0 +0.7
baz=77
Z24A Sheeppen Canyo 76.46 333 ⇑P P 18 34 58.4 +1.1
baz=77
X28A Dimmitt 76.47 336 ⇑P P 18 34 59.3 +2.0
baz=77
V33A Lossen Ranch, 76.51 340 ⇑P P 18 34 58.2 +0.9
baz=77
V32A Arapaho 76.63 339 ⇑P P 18 34 59.6 +1.6
baz=77
AMTX Amarillo 76.64 337 eP P 18 34 57.9 -0.3
comp=Z,19nm,0.9s
AMTX Amarillo 76.64 337 ⇑P P 18 34 59.4 +1.2
baz=77
Y25A Mesa, Roswell 76.76 334 ⇑P P 18 34 60.0 +1.0
baz=77
W29A Amraillo 76.85 337 ⇑P P 18 34 59.6 +0.3
baz=77
X27A F and S Farms, 76.88 335 ⇓P P 18 35 01.3 +1.7
baz=77
U34A Anderson Ranch 76.89 340 eP P 18 35 00.1 +0.6
comp=Z,25nm,1.0s
U34A Anderson Ranch 76.89 340 ⇑P P 18 35 00.2 +0.8
baz=77
V31A Spring Creek L 76.91 338 ⇑P P 18 35 01.4 +1.7
baz=77
Z22A Elephant Butte 76.98 332 ⇑P P 18 35 02.7 +2.4
baz=77
Y24A Capitan 77.03 333 ⇓P P 18 35 01.4 +0.9
baz=77
X26A CR and CF Fran 77.03 335 ⇑P P 18 35 02.0 +1.5
baz=77
W27A Bowe Ranch, En 77.25 336 ⇑P P 18 35 02.9 +1.3
baz=78
Y23A Lovelace Mesa, 77.25 333 ⇓P P 18 35 03.6 +1.8
baz=78
BLO Bloomington 77.29 350 eP P 18 35 01.8 +0.2
BLO pmax pmax
comp=Z,100nm,2.0s
BLO Bloomington 77.29 350 eP P 18 35 01.8 +0.2
comp=Z,100nm,2.0s
SLM Saint Louis 77.36 347 eP P 18 35 01.5 -0.5
SLM pmax pmax
comp=Z,32nm,0.4s
SLM Saint Louis 77.36 347 eP P 18 35 01.5 -0.5
comp=Z,32nm,0.4s
W26A Owens Ranch, T 77.50 335 ⇑P P 18 35 05.2 +2.1
baz=78
X24A Lazy VL Ranch, 77.60 334 ⇓P P 18 35 05.7 +2.0
baz=78
DBIC Dimbokro 77.63 72 eP P 18 35 05.0 +0.9
DBIC pmax pmax
comp=Z,78nm,1.2s
DBIC Dimbokro 77.63 72 P P 18 35 05.2 +1.1
comp=Z,37nm,1.1s,baz=194,slow=6.2,SNR=14
DBIC Dimbokro 77.63 72 eP P 18 35 05.0 +0.9
comp=Z,78nm,1.2s
BNM Barren Site 77.66 333 eP P 18 35 03.4 -0.8
TUC Tucson 77.66 329 eP P 18 35 05.7 +1.7
TUC pmax pmax
comp=Z,25nm,1.6s
TUC MLR MLR
comp=Z,1µm,20.0s
TUC Tucson 77.66 329 eP P 18 35 05.7 +1.7
comp=Z,25nm,1.6s
TUC LR LR
comp=Z,1µm,20.0s
T33A Patterson Ranc 77.68 340 ⇓P P 18 35 05.7 +1.8

baz=78
W25A X Bar L Ranch, 77.86 335 ⇓P P 18 35 06.7 +1.6
baz=78
X23A Hourglass Bar 77.89 333 ⇑P P 18 35 06.8 +1.5
baz=78
ACSO Alum Creek Sta 77.91 353 eP P 18 35 04.6 -0.4
comp=Z,69nm,1.5s
ACSO LR LR
comp=Z,2µm,20.0s
T32A Huddler Ranch, 77.96 340 ⇓P P 18 35 06.5 +1.0
baz=78
LAZ Ladron 78.07 332 eP P 18 35 08.7 +2.3
T31A Randall Ranch, 78.09 339 ⇑P P 18 35 08.3 +2.1
baz=78
V26A Tequesquite Ra 78.16 335 ⇑P P 18 35 08.4 +1.7
baz=78
W24A Lazy 6 Ranch, 78.17 334 ⇓P P 18 35 08.2 +1.2
baz=78
U28A Mallet 78.19 337 ⇓P P 18 35 08.0 +1.2
baz=78
214A Organ Pipe Nat 78.21 327 ⇑P P 18 35 09.2 +2.2
baz=78
ANMO Albuquerque 78.31 333 eP P 18 35 08.4 +0.8
ANMO pmax pmax
comp=Z,53nm,2.0s
ANMO MLR MLR
comp=Z,1µm,19.0s
ANMO Albuquerque 78.31 333 P P 18 35 08.1 +0.4
comp=Z,7.1nm,1.1s,baz=160,slow=7.7,SNR=6.3
ANMO Albuquerque 78.31 333 eP P 18 35 08.4 +0.8
comp=Z,53nm,2.0s
ANMO LR LR
comp=Z,1µm,19.0s
W23A Werner Place, 78.39 333 ⇑P P 18 35 09.9 +1.8
baz=79
U27A Thompson Grove 78.42 336 ⇓P P 18 35 09.5 +1.4
baz=79
S32A Newby Ranch, P 78.45 340 ⇓P P 18 35 09.2 +1.1
baz=79
V25A Rancho No Teng 78.47 335 ⇓P P 18 35 09.7 +1.1
baz=79
S31A Mullinville 78.53 339 ⇓P P 18 35 10.1 +1.5
baz=79
V24A Rampart Ranch, 78.59 334 ⇑P P 18 35 09.7 +0.4
baz=79
U26A Atchley Ranch, 78.69 336 ⇑P P 18 35 10.9 +1.1
baz=79
R33A Olander Ranch, 78.77 341 ⇑P P 18 35 11.0 +1.1
baz=79
S30A Montezuma 78.83 339 ⇓P P 18 35 11.4 +1.1
baz=79
T28A Walsh 78.84 337 ⇑P P 18 35 10.8 +0.4
baz=79,SNR=7.0
U25A Circle Dot Ran 78.91 335 ⇑P P 18 35 12.5 +1.6
baz=79
V23A Ortiz Mt. (NFS 78.93 334 ⇓P P 18 35 12.9 +1.8
baz=79
T27A Campo 78.97 337 ⇑P P 18 35 12.6 +1.4
baz=79
S29A Ulysses 79.00 338 ⇑P P 18 35 12.6 +1.4
baz=79
R32A Long Quarter, 79.07 340 ⇓P P 18 35 12.7 +1.2
baz=79
R31A Burdett 79.17 340 ⇑P P 18 35 13.3 +1.2
baz=80
KSU1 Kansas State U 79.17 342 PFAKE 18 35 20.0 +8.0
KSU1 LR LR
comp=Z,2µm,19.0s
S28A Manter 79.20 338 ⇑P P 18 35 13.4 +1.0
baz=80
V22A San Miguel Ran 79.34 333 ⇓P P 18 35 15.3 +1.9
baz=80
BINY Binghamton 79.44 358 PFAKE 18 35 30.0 +17
BINY LR LR
comp=Z,3µm,20.0s
U23A El Rito 79.46 334 ⇑P P 18 35 15.9 +1.9
baz=80
TSUM Tsumeb 79.56 106 eP P 18 35 14.6 -0.4
comp=Z,71nm,1.8s
TSUM LR LR
comp=Z,3µm,19.0s
Q32A Meitler Ranch, 79.56 341 ⇑P P 18 35 15.6 +1.4
baz=80
T25A Trinidad 79.58 336 ⇑P P 18 35 16.5 +1.9
baz=80,SNR=12
S27A Las Animas 79.60 337 ⇑P P 18 35 15.8 +1.3
baz=80
BOSA Boshof 79.62 118 eP P 18 35 15.8 +0.6
BOSA pmax pmax
comp=Z,44nm,1.1s
BOSA Boshof 79.62 118 P P 18 35 15.5 +0.3
comp=Z,27nm,1.0s,baz=236,slow=6.2,SNR=12
BOSA Boshof 79.62 118 eP P 18 35 15.8 +0.6
comp=Z,44nm,1.1s
SNZO South Karori 79.65 225 PFAKE 18 35 30.0 +15
SNZO LR LR
comp=Z,3µm,19.0s
W18A Petrified Fore 79.69 331 ⇑P P 18 35 17.2 +2.0
baz=80
S26A Kim 79.72 336 ⇓P P 18 35 16.4 +1.1
baz=80,SNR=7.5
U22A Llaves 79.73 333 ⇑P P 18 35 18.1 +2.7
baz=80
X16A Lo Mia Camp, P 79.76 329 ⇓P P 18 35 17.7 +2.1
baz=80
Q31A Ellis 79.80 340 ⇓P P 18 35 16.8 +1.3
baz=80
T24B San Luis 79.84 335 ⇑P P 18 35 17.8 +1.7
baz=80
R28A Tribune 79.87 338 ⇑P P 18 35 17.3 +1.3
baz=80,SNR=6.6
Y14A Wickenburg 80.00 328 ⇑P P 18 35 18.5 +1.8
baz=80
AAM Ann Arbor 80.03 353 PFAKE 18 35 30.0 +13
AAM LR LR
comp=Z,3µm,20.0s
S25A Robets Cordova 80.07 336 ⇓P P 18 35 18.6 +1.4
baz=80
R27A Eads 80.12 337 ⇓P P 18 35 18.2 +0.8
baz=80
Q29A Oakley 80.14 339 ⇓P P 18 35 18.8 +1.4
baz=80
P31A Stockton 80.28 340 ⇑P P 18 35 18.8 +0.7
baz=81
S24A Houchin Ranch, 80.31 335 ⇓P P 18 35 20.5 +1.9
baz=81
R26A Arlington 80.33 337 ⇑P P 18 35 20.3 +1.7
baz=81,SNR=9.1
SDCO Great Sand Dun 80.50 335 eP P 18 35 21.0 +1.3
comp=Z,17nm,1.6s
SDCO LR LR
comp=Z,2µm,22.0s
P30A Selden 80.54 340 ⇓P P 18 35 21.2 +1.7
baz=81
Q28A Sharon Springs 80.54 338 ⇑P P 18 35 20.9 +1.3
baz=81
WUAZ Wupatki 80.69 330 eP P 18 35 23.6 +3.0
comp=Z,73nm,2.1s
WUAZ LR LR
comp=Z,1µm,21.0s
WUAZ Wupatki 80.69 330 ⇑P P 18 35 22.7 +2.2
baz=81
KSCO Kaye Shedlock' 80.73 338 eP P 18 35 19.8 -0.9
comp=Z,56nm,1.4s
P29A Atwood 80.78 339 ⇑P P 18 35 22.2 +1.4
baz=81
R24A Sanders Place, 80.81 335 ⇑P P 18 35 22.9 +1.7
baz=81
Q26A Hugo 80.93 337 ⇓P P 18 35 23.4 +1.7
baz=81
S22A 4UR Ranch, Cre 80.95 334 ⇑P P 18 35 23.6 +1.5
baz=81
R23A Moffat 81.01 335 ⇑P P 18 35 24.3 +1.9
baz=81
MVCO Mesa Verde 81.07 333 eP P 18 35 23.8 +1.2
MVCO epP pP 18 35 29.9 -2.3
MVCO LR LR
comp=Z,1µm,21.0s
MVCO Mesa Verde 81.07 333 ⇑P P 18 35 24.4 +1.7
baz=81
O30A MW Ranch, Wils 81.08 340 ⇓P P 18 35 23.8 +1.4
baz=81
SCIA State Center 81.10 345 PFAKE 18 35 30.0 +7.6
SCIA LR LR
comp=Z,2µm,21.0s
NCB Newcomb 81.19 360 PFAKE 18 35 30.0 +7.2
NCB LR LR
comp=Z,3µm,20.0s

PFO Pinyon Flat Ob 81.24 325 P P 18 35 22.8 -0.7
PFO MLR MLR
comp=Z,2μm,19.0s
PFO Pinyon Flat Ob 81.24 325 P P 18 35 22.8 -0.7
comp=Z,5.3nm,0.9s,baz=194,slow=4.2,SNR=3.1
PFO Pinyon Flat Ob 81.24 325 P P 18 35 22.8 -0.7
PFO LR LR
comp=Z,2μm,19.0s
P26A Davis Ranch, A 81.46 337 ⇑P P 18 35 26.7 +2.1
baz=82
LBNH Lisbon 81.47 1 PFAKE 18 35 40.0 +16
LBNH LR LR
comp=Z,2μm,20.0s
Q24A Divide 81.48 336 ⇑P P 18 35 26.6 +1.7
baz=82
O28A Krutsinger Ran 81.51 339 ⇓P P 18 35 26.7 +2.0
baz=82
JFWS Jewell Farm 81.53 348 PFAKE 18 35 40.0 +15
JFWS LR LR
comp=Z,3μm,19.0s
P25A Willow Gulch B 81.67 337 ⇑P P 18 35 27.9 +2.2
baz=82
LONY Lake Ozonia 81.84 359 PFAKE 18 35 40.0 +14
LONY LR LR
comp=Z,3μm,19.0s
U15A North Rim 81.84 329 ⇑P P 18 35 29.0 +2.1
baz=82
GMRC Granite Mounta 81.86 326 ⇓P P 18 35 29.4 +2.7
baz=82
M31A Lambtecht Ranc 81.88 341 ⇑P P 18 35 29.3 +2.7
baz=82
PV01 Paradox Valley 81.92 333 eP P 18 35 28.7 +1.6
LBTB Lobatse 82.04 115 eP P 18 35 28.4 +0.3
LBTB pmax pmax
comp=Z,62nm,1.1s
LBTB Lobatse 82.04 115 eP P 18 35 28.4 +0.3
comp=Z,62nm,1.1s
PV05 Paradox Valley 82.06 333 eP P 18 35 28.9 +1.0
P23A Jefferson 82.08 335 ⇓P P 18 35 29.9 +1.8
baz=82
PV04 Paradox Valley 82.27 333 eP P 18 35 30.5 +1.7
SMCO Snowmass 82.29 335 eP P 18 35 30.7 +1.5
comp=Z,34nm,1.4s
SSK Sunset Peak 82.30 325 eP P 18 35 29.5 +0.4
OGNE Ogallala 82.34 339 PFAKE 18 35 40.0 +11
OGNE LR LR
comp=Z,2μm,20.0s
N27A Anderson Farm, 82.36 338 ⇓P P 18 35 31.1 +1.9
baz=83
ISCO Idaho Springs 82.39 336 eP P 18 35 30.6 +0.9
ISCO pmax pmax
comp=Z,102nm,2.8s
ISCO MLR MLR
comp=Z,1μm,19.0s
ISCO Idaho Springs 82.39 336 eP P 18 35 30.6 +0.9
comp=Z,102nm,2.8s
ISCO LR LR
comp=Z,1μm,19.0s
ISCO Idaho Springs 82.39 336 ⇓P P 18 35 31.4 +1.7
baz=83
KNB Kanab 82.57 329 eP P 18 35 32.8 +2.3
KNB pmax pmax
comp=Z,40nm,1.4s
KNB Kanab 82.57 329 eP P 18 35 32.8 +2.3
comp=Z,40nm,1.4s
PKME Peaks-Kenny Pk 82.58 3 PFAKE 18 35 40.0 +10
PKME LR LR
comp=Z,6μm,22.0s
P22A Eagle 82.59 335 ⇓P P 18 35 32.2 +1.6
baz=83
L31A Butterfield Fa 82.63 341 ⇓P P 18 35 32.1 +1.6
baz=83
L30A Spencer Herefo 82.64 341 ⇑P P 18 35 32.5 +1.9
baz=83
RAO Raoul Island 82.80 239 PFAKE 18 35 40.0 +8.1
RAO LR LR
comp=Z,3μm,19.0s
O23A Lake Granby, G 82.86 336 ⇑P P 18 35 33.7 +1.6
baz=83
O22A Kremmling 83.03 335 ⇑P P 18 35 34.2 +1.3
baz=83
N24A Carr 83.09 337 ⇓P P 18 35 35.6 +2.5
baz=83
SHPR Sheep Range 83.10 328 eP P 18 35 35.5 +2.2
CCUT Cedar City 83.25 329 eP P 18 35 36.4 +2.4
comp=Z,13nm,1.1s
K30A Basset 83.29 341 ⇑P P 18 35 35.5 +1.6
baz=84
LRMC Laurel Mountai 83.35 325 ⇑P P 18 35 36.7 +2.2
baz=84
ARUT Antelope Range 83.48 329 P P 18 35 36.1 +0.9
ARUT Antelope Range 83.48 329 P P 18 35 36.1 +0.9
N23A Red Feather La 83.49 336 ⇓P P 18 35 37.2 +1.9
baz=84
SRU San Rafael 83.50 332 eP P 18 35 36.6 +1.4
SRU pmax pmax
comp=Z,21nm,1.5s
SRU San Rafael 83.50 332 eP P 18 35 36.6 +1.4
comp=Z,21nm,1.5s
ECSD EROS Data Cent 83.57 344 eP P 18 35 34.5 -0.8
comp=Z,78nm,1.6s
ECSD LR LR
comp=Z,2μm,21.0s
ECSD EROS Data Cent 83.57 344 ⇓P P 18 35 36.2 +1.0
baz=84
N22A Wattenberg Ran 83.57 336 ⇑P P 18 35 37.3 +1.6
baz=84
O20A White River Ci 83.58 334 ⇓P P 18 35 37.3 +1.6
baz=84
MVU Marysvale 83.61 331 eP P 18 35 37.3 +1.4
comp=Z,30nm,1.7s
M24A Cheyenne 83.66 337 ⇑P P 18 35 37.7 +1.8
baz=84
PHWY Pilot Hill 83.70 337 eP P 18 35 37.6 +1.2
comp=Z,40nm,1.8s
ISA Isabella 83.86 325 eP P 18 35 36.0 -1.1
ISA e*PP pP 18 35 43.5 -3.2
ISA Isabella 83.86 325 eP P 18 35 36.0 -1.1
ISA epP pP 18 35 43.5 -3.2
ISA Isabella 83.86 325 ⇑P P 18 35 38.7 +1.6
baz=84
J30A Dallas 83.87 341 ⇑P P 18 35 39.2 +2.4
baz=84
TMUT Trail Mountain 83.91 332 eP P 18 35 38.8 +1.3
comp=Z,178nm,2.9s
K27A Flueckinger Fa 84.02 339 ⇑P P 18 35 39.4 +1.6
baz=84
J29A Okreek 84.16 341 ⇑P P 18 35 39.9 +1.6
baz=84
N20A Spence Gulch, 84.21 334 ⇓P P 18 35 40.3 +1.4
baz=84
I30A Oacoma 84.41 342 ⇓P P 18 35 39.7 +0.1
baz=85
J28A Allard Ranch, 84.42 340 ⇓P P 18 35 41.1 +1.4
baz=85
COWI Conover 84.46 349 PFAKE 18 35 50.0 +10
COWI LR LR
comp=Z,2μm,19.0s
J27A Elkhorn Farm, 84.47 340 ⇑P P 18 35 41.9 +1.9
baz=85,SNR=5.8
L23A Garrett 84.52 337 ⇑P P 18 35 41.3 +0.9
baz=85
MPU Maple Canyon 84.70 332 eP P 18 35 42.9 +1.6
comp=Z,30nm,1.4s
BRSD Miller 84.79 342 eP P 18 35 40.5 -0.9
comp=Z,37nm,1.4s
NLU North Lily Min 84.81 331 eP P 18 35 42.4 +0.4
comp=Z,51nm,1.8s
J26A Sides Ranch, S 84.82 339 ⇑P P 18 35 42.8 +1.0
baz=85,SNR=5.5
R11A Troy Canyon, C 84.84 328 eP P 18 35 43.4 +1.3
comp=Z,11nm,1.1s
R11A Troy Canyon, C 84.84 328 ⇓P P 18 35 43.5 +1.4
baz=85
I28A Midland 84.93 341 ⇑P P 18 35 43.3 +1.1
baz=85
K23A Bowen Ranch, D 85.07 337 ⇓P P 18 35 44.6 +1.5
baz=85
J25A Sunshine Ranch 85.10 338 ⇓P P 18 35 45.1 +1.9
baz=86
I27A Quinn 85.24 340 ⇓P P 18 35 44.8 +1.1
baz=86
K22A Casper 85.26 336 eP P 18 35 44.8 +0.7
comp=Z,37nm,1.4s
K22A Casper 85.26 336 ⇓P P 18 35 45.3 +1.3
baz=86
J24A Dixon Ranch, L 85.30 338 ⇑P P 18 35 45.6 +1.4
baz=86
DUG Dugway 85.31 331 eP P 18 35 46.0 +1.7
DUG pmax pmax
comp=Z,26nm,1.4s
DUG MLR MLR
comp=Z,2μm,19.0s
DUG Dugway 85.31 331 eP P 18 35 46.0 +1.7
comp=Z,26nm,1.4s
DUG LR LR
comp=Z,2μm,19.0s
DUG Dugway 85.31 331 ⇓P P 18 35 46.3 +2.0
baz=86
TPH Tonopah 85.31 327 eP P 18 35 45.2 +0.8
TPH pmax pmax
comp=Z,23nm,1.3s
TPH Tonopah 85.31 327 eP P 18 35 45.2 +0.8
comp=Z,24nm,1.3s
I26A New Underwood 85.42 339 ⇑P P 18 35 46.1 +1.3
baz=86
G30A Faulkton 85.48 342 ⇓P P 18 35 45.0 +0.2
baz=86
K21A Alcova 85.48 336 ⇓P P 18 35 46.3 +1.1
baz=86
H28A Mission Ridge 85.52 341 ⇓P P 18 35 46.3 +1.1
baz=86
TCUT Toone Canyon 85.58 332 eP P 18 35 45.7 -0.1
comp=Z,24nm,1.1s
I25A Rochford 85.66 339 ⇑P P 18 35 46.9 +0.9
baz=86
H27A Howes 85.77 340 ⇑P P 18 35 46.7 +0.3
baz=86
RSSD Black Hills 85.84 339 eP P 18 35 47.5 +0.5
RSSD pmax pmax
comp=Z,15nm,1.2s
RSSD Black Hills 85.84 339 eP P 18 35 47.5 +0.5
comp=Z,15nm,1.2s
G28A Parade 85.87 341 ⇑P P 18 35 48.3 +1.4
baz=86
BGU Big Grassy Mou 86.02 331 eP P 18 35 49.7 +1.8
comp=Z,27nm,2.4s
HWUT Hardware Ranch 86.06 333 eP P 18 35 48.8 +0.7
comp=Z,34nm,1.4s
NV01 Mina Array Sit 86.07 326 eP P 18 35 49.6 +1.3
NVAR Mina Array Bea 86.07 326 P P 18 35 48.7 +0.5
comp=Z,0.7nm,0.7s,baz=144,slow=6.7,SNR=3.5
F30A Leola 86.11 343 ⇑P P 18 35 49.2 +1.2
baz=86
SPUT South Promonto 86.13 332 eP P 18 35 47.0 -1.5
comp=Z,35nm,1.5s
H25A Fruitdale 86.17 339 ⇓P P 18 35 49.5 +1.0
baz=86
J21A Lysite 86.18 336 ⇑P P 18 35 50.0 +1.4
baz=86
XMAS Kiritimati 86.25 275 PFAKE 18 36 00.0 +11
XMAS LR LR
comp=Z,4μm,21.0s
F29A Eureka 86.30 342 ⇓P P 18 35 49.5 +0.6
baz=87
BW06 Boulder Array 86.37 334 eP P 18 35 49.1 -0.6
BW06 LR LR
comp=Z,2μm,20.0s
I22A 9 Mile Ranch, 86.37 337 ⇓P P 18 35 50.2 +0.7
baz=87
PDAR Pinedale Array 86.37 334 P P 18 35 49.5 -0.2
comp=Z,7.4nm,1.2s,baz=161,slow=5.7,SNR=12
J20A Shoshoni 86.40 336 ⇓P P 18 35 51.4 +1.7
baz=87
G27A Dupree 86.42 341 ⇓P P 18 35 50.4 +0.8
baz=87
G26A Maurine 86.52 340 ⇓P P 18 35 50.4 +0.3
baz=87,SNR=8.8
I21A Big Trails, Te 86.55 336 ⇑P P 18 35 51.1 +0.7
baz=87
H24A Dirks Ranch, A 86.56 339 ⇓P P 18 35 50.7 +0.4
baz=87
EYMN Ely 86.62 348 PFAKE 18 36 00.0 +10
EYMN LR LR
comp=Z,2μm,20.0s
J19A Crowheart 86.64 335 ⇓P P 18 35 52.1 +1.2
baz=87
G25A Newell 86.65 339 ⇓P P 18 35 51.5 +0.7
baz=87
HVU Hansel Valley 86.66 332 eP P 18 35 51.9 +0.9
HVU pmax pmax
comp=Z,17nm,1.2s
HVU Hansel Valley 86.66 332 eP P 18 35 51.9 +0.9
comp=Z,17nm,1.2s
E30A Jud 86.71 343 ⇑P P 18 35 51.4 +0.4
baz=87
TOA0 Torodi Ar. Sit 86.71 71 eP P 18 35 51.7 0.0
TORD Torodi Ar. Bea 86.71 71 P P 18 35 51.9 +0.2
comp=Z,17nm,1.1s,baz=230,slow=4.7,SNR=21
TORD PP PP 18 39 12.6 -1.9
comp=Z,2.6nm,1.0s,baz=230,slow=6.1,SNR=4.2
ELK Elko 86.73 330 P P 18 35 50.1 -1.4
comp=Z,3.0nm,0.9s,baz=127,slow=4.1,SNR=5.8
ELK Elko 86.73 330 eP P 18 35 52.2 +0.8
comp=Z,98nm,2.8s
MSKU Masuku 86.90 90 PFAKE 18 36 00.0 +7.3
MSKU LR LR
comp=Z,2.0nm,22.0s
F27A Lemmon 86.90 341 ⇑P P 18 35 52.4 +0.5
baz=87,SNR=5.9
AHID Auburn Hatcher 86.91 333 PFAKE 18 36 00.0 +7.8
AHID LR LR
comp=Z,2μm,20.0s
I20A Worland 86.94 336 ⇓P P 18 35 52.7 +0.4
baz=87
F26A Lodgepole 87.05 340 ⇓P P 18 35 53.4 +0.8
baz=87
E28A Huff 87.21 342 ⇑P P 18 35 54.2 +0.8
baz=88
G23A Biddle 87.22 338 ⇑P P 18 35 53.8 +0.2
baz=88
D30A Buchanan 87.25 343 ⇑P P 18 35 53.5 0.0
baz=88
I19A Meeteetse 87.30 335 ⇑P P 18 35 54.7 +0.6
baz=88
REDW Red Top Meadow 87.34 334 eP P 18 35 54.5 +0.1
comp=Z,19nm,1.2s
H20A Greybull 87.38 336 ⇑P P 18 35 54.8 +0.4
baz=88
D29A Pettibone, Tap 87.40 343 ⇓P P 18 35 55.6 +1.3
baz=88
LOHW Long Hollow 87.47 334 eP P 18 35 55.2 +0.2
comp=Z,17nm,1.5s
TPAW Teton Pass 87.49 334 eP P 18 35 55.4 +0.3
comp=Z,16nm,1.1s
E26A Carlson Angus 87.57 341 ⇑P P 18 35 56.3 +1.2
baz=88
FXWY Fox Creek 87.64 334 eP P 18 35 56.2 +0.4
comp=Z,12nm,1.4s
PAF Port-aux-Franc 87.73 157 PFAKE 18 36 10.0 +14
PAF LR LR
comp=Z,6μm,19.0s
C30A Mose, Pekin 87.75 344 ⇑P P 18 35 56.5 +0.6
baz=88,SNR=12
AGMN Agassiz Nation 87.75 345 PFAKE 18 36 10.0 +14
AGMN LR LR
comp=Z,3μm,21.0s
D28A Regan 87.76 342 ⇓P P 18 35 57.0 +1.0
baz=88,SNR=8.8
IMW Indian Meadow 87.84 334 eP P 18 35 57.2 +0.3
comp=Z,9.9nm,1.1s
H19A Powell 87.86 336 ⇑P P 18 35 57.5 +0.8
baz=88
AFI Afiamalu 87.87 254 PFAKE 18 36 10.0 +13
AFI LR LR
comp=Z,4μm,22.0s
FLWY Flagg Ranch 87.92 334 eP P 18 35 57.8 +0.7
comp=Z,77nm,2.0s
D26A Manning 88.08 341 ⇓P P 18 35 58.4 +0.9
baz=88,SNR=6.9
H18A Shoshone NF, C 88.09 335 ⇓P P 18 35 59.0 +1.1
baz=88
G20A Bridger 88.11 336 ⇑P P 18 35 57.6 -0.2
baz=88
YFT Old Faithful 88.29 334 eP P 18 35 58.7 -0.2
comp=Z,8.5nm,0.9s
RLMT Red Lodge 88.36 336 eP P 18 36 00.1 +0.9
comp=Z,64nm,2.2s
RLMT LR LR
comp=Z,2μm,20.0s
B30A Myrvik Farm, E 88.42 344 ⇑P P 18 35 59.8 +0.7
baz=89,SNR=18
C27A Sayler Ranch, 88.47 342 ⇓P P 18 36 00.6 +1.2
baz=89
YMR Madison River 88.53 334 eP P 18 36 01.0 +1.1
comp=Z,24nm,1.3s
B29A Wagenman Farm, 88.66 343 ⇑P P 18 36 00.8 +0.6
baz=89,SNR=7.5
C26A Wahner Farm, P 88.73 341 ⇓P P 18 36 01.9 +1.4
baz=89
HLID Hailey 88.81 332 eP P 18 36 02.6 +1.3
comp=Z,13nm,1.3s
HLID LR LR
comp=Z,2μm,20.0s
HLID Hailey 88.81 332 ⇑P P 18 36 02.8 +1.5
baz=89
LAO LASA Array 88.82 338 PFAKE 18 36 10.0 +8.9
LAO LR LR
comp=Z,1μm,19.0s
A30A Hoffart Farm, 88.87 344 ⇑P P 18 36 01.6 +0.4
baz=89,SNR=5.9
B28A Dugan Ranch, T 88.88 343 ⇑P P 18 36 02.2 +1.0
baz=89,SNR=6.7
F19A Roth Farm, Mol 88.90 336 ⇑P P 18 36 02.1 +0.5
baz=89
A29A Manning Farm, 89.06 344 ⇑P P 18 36 02.4 +0.3
baz=89,SNR=12
C24A Savage 89.07 340 ⇑P P 18 36 03.1 +0.9
baz=89
MFID Camas Ranch 89.22 331 eP P 18 36 04.6 +1.4
comp=Z,101nm,2.6s
E20A Meyer Farm, Mu 89.23 337 ⇓P P 18 36 03.8 +0.8
baz=90
MCMT McKenzie Canyo 89.32 333 eP P 18 36 05.5 +1.8
E19A Rath Farm, Rou 89.39 337 ⇓P P 18 36 06.0 +2.2
baz=90
C23A Lambert 89.53 339 ⇑P P 18 36 05.2 +0.9
baz=90
WVOR Wild Horse Val 89.53 328 eP P 18 36 06.3 +1.7
WVOR pmax pmax
comp=Z,14nm,1.3s
WVOR MLR MLR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 89.53 328 eP P 18 36 06.3 +1.7
comp=Z,14nm,1.3s
WVOR LR LR
comp=Z,1μm,20.0s
BOZ Bozeman (W) 89.61 334 PFAKE 18 36 20.0 +15
BOZ LR LR
comp=Z,2μm,20.0s
ULM Lac du Bonnet 89.62 346 eP P 18 36 03.8 -0.8
ULM pmax pmax
comp=Z,17nm,1.1s
ULM Lac du Bonnet 89.62 346 P P 18 36 03.2 -1.4
comp=Z,7.1nm,1.0s,baz=182,slow=5.1,SNR=4.5
ULM Lac du Bonnet 89.62 346 eP P 18 36 03.8 -0.8
comp=Z,17nm,1.1s
DLMT Dillon 89.70 334 eP P 18 36 07.7 +2.3
comp=Z,13nm,1.3s
DGMT Dagmar 89.87 340 PFAKE 18 36 20.0 +14
DGMT LR LR
comp=Z,2μm,19.0s
LSZ Lusaka 89.96 109 eP P 18 36 09.4 +2.0
LSZ pmax pmax
comp=Z,158nm,2.3s
LSZ MLR MLR
comp=Z,4μm,19.0s
LSZ Lusaka 89.96 109 P P 18 36 09.2 +1.8
comp=Z,11nm,1.0s,baz=33,slow=9.6,SNR=8.9
LSZ Lusaka 89.96 109 eP P 18 36 09.4 +2.0
comp=Z,158nm,2.3s
LSZ LR LR
comp=Z,4μm,19.0s
BMO Blue Mountains 91.01 331 PFAKE 18 36 20.0 +8.6
BMO LR LR
comp=Z,2μm,22.0s
EGMT Eagleton 91.08 337 PFAKE 18 36 20.0 +8.3
EGMT LR LR
comp=Z,1μm,20.0s
TAU Tasmania Unive 91.60 209 PFAKE 18 36 30.0 +16
TAU LR LR
comp=Z,3μm,21.0s
G08A Pilot Rock 92.02 330 eP P 18 36 18.3 +2.1
comp=Z,59nm,2.6s
BLMT Blacktail Moun 92.60 334 P P 18 36 17.7 -1.1
comp=Z,9.5nm,1.0s
MSVF Nonsavu 93.02 245 PFAKE 18 36 30.0 +8.5
MSVF LR LR
comp=Z,2μm,19.0s
HAWA Hanford 93.16 330 PFAKE 18 36 30.0 +8.8
HAWA LR LR
comp=Z,2μm,19.0s
WALA Waterton Lakes 93.34 335 eP P 18 36 22.8 +0.7
NEW Newport 93.80 333 PFAKE 18 36 40.0 +16
NEW LR LR
comp=Z,2μm,21.0s
FFC Flin Flon 95.10 344 eP P 18 36 34.8 +4.9
FFC pmax pmax
comp=Z,55nm,2.5s
FFC MLR MLR
comp=Z,3μm,20.0s
FFC Flin Flon 95.10 344 eP P 18 36 34.8 +4.9
comp=Z,55nm,2.5s
FFC LR LR
comp=Z,3μm,20.0s
POHA Pohakuloa 95.59 291 PFAKE 18 36 40.0 +6.7
POHA LR LR
comp=Z,3μm,19.0s
TAM Tamanrasset 95.59 66 PFAKE 18 36 40.0 +6.9
TAM LR LR
comp=Z,4μm,22.0s
NLWA Neilton Lookou 95.72 328 PFAKE 18 36 40.0 +7.0
NLWA LR LR
comp=Z,2μm,19.0s
CAN Canberra 97.32 214 PFAKE 18 36 50.0 +9.1
CAN LR LR
comp=Z,2μm,19.0s
MTE Manteigas 98.47 45 PFAKE 18 37 00.0 +14
MTE LR LR
comp=Z,9μm,21.0s
PAB San Pablo 99.73 47 PFAKE 18 37 00.0 +8.7
PAB LR LR
comp=Z,7μm,20.0s
ESLA Sonseca Array 100.04 47 ePdif Pdif 18 36 53.5 +0.9
ABPO Ambohimpanom 100.95 124 PFAKE 18 37 10.0 +13
ABPO LR LR
comp=Z,4μm,21.0s
RER Riviere de l'E 104.68 132 PFAKE 18 37 30.0 +16
RER LR LR
comp=Z,2μm,22.0s
YKA Yellowknife Ar 105.02 342 Pdiff Pdif 18 37 13.0 -1.1
comp=Z,0.1nm,0.6s,baz=147,slow=4.5,SNR=3.5
YKA PP PP 18 41 40.3 +4.9
comp=Z,0.3nm,0.8s,baz=140,slow=9.3,SNR=4.9
SFJD Kangerlussuaq 105.75 9 PFAKE 18 41 40.0
SFJD LR LR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 105.82 104 PFAKE 18 41 40.0
KMBO LR LR
comp=Z,3μm,19.0s
WRAK Wrangell Islan 105.97 330 PFAKE 18 41 40.0
WRAK LR LR
comp=Z,2μm,19.0s
VSL Villasalto 108.13 54 PFAKE 18 41 50.0
VSL LR LR
comp=Z,3μm,20.0s
SSB Saint Sauveur 108.44 47 PFAKE 18 41 50.0
SSB LR LR
comp=Z,3μm,19.0s
TARA Tarawa 109.20 256 PFAKE 18 41 50.0
TARA LR LR
comp=Z,3μm,22.0s
BNI Bardonecchia 109.56 48 PFAKE 18 41 50.0
BNI LR LR
comp=Z,6μm,20.0s
WDD Wield Dalam 109.56 59 PFAKE 18 41 50.0
WDD LR LR
comp=Z,8μm,21.0s
BORG Borgarnes 109.93 21 PFAKE 18 41 50.0
BORG LR LR
comp=Z,2μm,21.0s
ESK Eskdalemuir 110.31 35 PFAKE 18 41 50.0
ESK LR LR
comp=Z,4μm,19.0s
VLC Villacollemand 111.30 50 PFAKE 18 41 50.0
VLC LR LR
comp=Z,2μm,19.0s
CTAO Charters Tower 111.38 220 PFAKE 18 41 50.0
CTAO LR LR
comp=Z,2μm,20.0s
HNR Honiara 111.42 239 PFAKE 18 41 50.0

HNR LR LR
comp=Z,402nm,20.0s
ECH Echery 111.56 45 PFAKE 18 41 50.0
ECH LR LR
comp=Z,4µm,21.0s
CEL Celeste 111.75 58 PFAKE 18 41 50.0
CEL LR LR
comp=Z,4µm,19.0s
WLF Walferdange 111.79 44 PFAKE 18 41 50.0
WLF LR LR
comp=Z,4µm,20.0s
TUE Stuetta 111.90 48 PFAKE 18 41 50.0
TUE LR LR
comp=Z,3µm,20.0s
BFO Black Forest 112.29 46 PFAKE 18 41 50.0
BFO LR LR
comp=Z,3µm,21.0s
CUC Castrocucco 112.59 56 PFAKE 18 42 00.0
CUC LR LR
comp=Z,2µm,19.0s
TIP Timpagrande 112.80 57 PFAKE 18 42 00.0
TIP LR LR
comp=Z,5µm,22.0s
EGAK Eagle 114.72 334 PFAKE 18 42 00.0 +13
EGAK LR LR
comp=Z,1µm,20.0s
KDAK Kodiak Island 115.51 324 PFAKE 18 42 00.0 +12
KDAK LR LR
comp=Z,2µm,21.0s
GERES GERESS Array B 115.63 47 PKP PKPdf 18 41 47.9 -1.3
comp=Z,2.1nm,0.8s,baz=222,slow=1.3,SNR=13
CLL Collm 116.39 44 ePKIKP PKiKP 18 41 51.0 +0.6
CLL e 18 42 05.0
CLL pmax pmax
comp=Z,15nm,1.6s
CLL Collm 116.39 44 ePKiKP PKiKP 18 41 51.0 +0.6
comp=Z,15nm,1.6s
CLL e 18 42 05.0
CLL e 18 43 45.0
IL1 Eielson Array 116.75 333 ePKPdf PKPdf 18 41 50.3 -0.4
ILAR Eielson Array 116.75 333 PKP PKPdf 18 41 50.1 -0.6
comp=Z,1.2nm,1.1s,baz=151,slow=2.1,SNR=5.8
MIDW Midway 116.80 286 PFAKE 18 42 00.0 +8.1
MIDW LR LR
comp=Z,3µm,22.0s
MSEY Mahe Island 116.83 120 PFAKE 18 42 00.0 +7.4
MSEY LR LR
comp=Z,3µm,21.0s
WRA Warramunga Arr 116.96 210 PKP PKPdf 18 41 51.8 -0.9
comp=Z,1.1nm,1.1s,baz=156,slow=1.7,SNR=4.4
WRAB Tennant Creek 116.97 210 PFAKE 18 42 00.0 +7.3
WRAB LR LR
comp=Z,3µm,20.0s
COLA College 117.16 333 PFAKE 18 42 00.0 +8.6
COLA LR LR
comp=Z,2µm,21.0s
KONO Kongsberg 118.46 35 PFAKE 18 42 10.0 +16
KONO LR LR
comp=Z,4µm,19.0s
VYHS Vyhne 118.51 49 ePKIKP PKPdf 18 41 54.9 +0.3
VYHS Vyhne 118.51 49 ePKP PKPdf 18 41 54.8 +0.2
OKC Ostrava-Krasne 118.68 48 AMS AMS 18 37 50.0
comp=Z,3µm,17.1s
PSZ Piszkesteto 118.90 50 PFAKE 18 42 10.0 +15
PSZ LR LR
comp=Z,2µm,20.0s
BZS Buzias 119.00 53 ⇑PKIKP PKPdf 18 41 56.0 +0.4
BZS Buzias 119.00 53⇑iP PKPdf 18 41 56.0 +0.4
PMG Port Moresby 119.59 228 PFAKE 18 42 10.0 +12
PMG LR LR
comp=Z,1µm,19.0s
NOA NORSAR Array B 119.78 34 PKP PKPdf 18 41 56.9 +0.1
comp=Z,1.9nm,1.0s,baz=252,slow=2.2,SNR=2.9
MBWA Marble Bar 120.20 195 PFAKE 18 42 10.0 +11
MBWA LR LR
comp=Z,2µm,19.0s
STHS Stebnicka Huta 120.34 49 ePKIKP PKPdf 18 41 58.8 +0.7
STHS Stebnicka Huta 120.34 49 ePKP PKPdf 18 41 58.8 +0.7
HFS Hagfors 120.54 35 PKP PKPdf 18 41 56.8 -1.3
comp=Z,2.2nm,0.8s,baz=183,slow=2.7,SNR=3.8
TRPA Tarpa 120.61 51⇑iP PKPdf 18 41 58.8 +0.2
KOLS Kolonicke sedl 120.77 50 ePKIKP PKPdf 18 41 59.6 +0.6
KOLS Kolonicke sedl 120.77 50 ePKP PKPdf 18 41 59.5 +0.6
KWP Kalwaria Pacla 121.30 49 PFAKE 18 42 10.0 +10
KWP LR LR
comp=Z,3µm,20.0s
DOPR Dopca 121.55 54⇑iP PKPdf 18 41 59.3 -1.3
MLR Muntele Rosu 121.72 55 PKP PKPdf 18 42 01.2 +0.1
comp=Z,0.5nm,0.7s,baz=194,slow=4.2,SNR=3.8
ISP Isparta 121.73 64 PFAKE 18 42 10.0 +8.7
ISP LR LR
comp=Z,3µm,21.0s
BUR04 Bucovina Ar. S 122.07 52 ePKPdf PKPdf 18 42 01.8 +0.2
BURAR Bucovina Array 122.07 52 ⇓PKIKP PKPdf 18 42 02.7 +1.1
BURAR Bucovina Array 122.07 52⇓iP PKPdf 18 42 02.7 +1.1
VRI Vrincioaia 122.37 54 ⇓PKIKP PKPdf 18 42 01.4 -0.7
VRI Vrincioaia 122.37 54⇓iP PKPdf 18 42 01.4 -0.7
TESR Tescani 122.56 54⇑iP PKPdf 18 42 01.9 -0.6
CFR Carcaliu 123.03 56 ⇑PKIKP PKPdf 18 42 01.1 -2.3
CFR Carcaliu 123.03 56⇑iP PKPdf 18 42 01.1 -2.3
SUW Suwalki 123.15 44 ePKIKP PKPdf 18 42 02.3 -1.0
SUW Suwalki 123.15 44 ePKPdf PKPdf 18 42 02.3 -1.0
MMAI Mount Meron Ar 123.25 72 PKP PKPdf 18 42 04.3 0.0
comp=Z,2.9nm,0.8s,baz=236,slow=0.5,SNR=4.1
BR231 Keskin MP Arra 124.16 63 ePKPdf PKPdf 18 42 06.6 +0.7
ANTO Ankara 124.18 63 PFAKE 18 42 20.0 +14
ANTO LR LR
comp=Z,3µm,22.0s
BRTR Keskin Array B 124.73 64 PKP PKPdf 18 42 07.1 0.0
comp=Z,4.4nm,0.8s,baz=207,slow=3.5,SNR=21
DGAR Diego Garcia 125.22 138 PFAKE 18 42 20.0 +11
DGAR LR LR
comp=Z,2µm,20.0s
AK11 Malin Array Si 125.56 50 ePKPdf PKPdf 18 42 07.9 -0.1
KIEV Kiev 125.59 50 PFAKE 18 42 20.0 +12
KIEV LR LR
comp=Z,2µm,20.0s
AKASG Malin Array Be 125.60 50 PKP PKPdf 18 42 07.7 -0.4
comp=Z,3.2nm,0.8s,baz=269,slow=2.7,SNR=14
AKASG PP PP 18 43 56.6 -4.0
comp=Z,2.1nm,0.8s,baz=256,slow=6.5,SNR=12
KBS Kingsbay 125.76 14 PFAKE 18 42 20.0 +12
KBS LR LR
comp=Z,1µm,19.0s
MNK Minsk 125.90 45 ePKHKP PKPpre 18 41 48.0
GAMB Gambell 126.38 327 ePKPdf PKPdf 18 42 08.9 -0.2
SPITS Spitsbergen Ar 126.49 15 PKP PKPdf 18 42 08.9 -0.2
comp=Z,27nm,1.2s,baz=141,slow=4.8,SNR=4.1
RAYN Ar Rayn 126.67 87 ePKPdf PKPdf 18 42 11.7 +0.6
FINES FINESS Array B 126.71 36 PKP PKPdf 18 42 09.6 -0.3
comp=Z,3.0nm,1.0s,baz=208,slow=4.7,SNR=6.4
MALT Malatya 127.65 67 ⇑PKIKP PKPdf 18 42 13.8 +1.2
MALT Malatya 127.65 67⇑iP PKPdf 18 42 13.8 +1.2
ARCES ARCESS Array B 127.84 26 PKP PKPdf 18 42 12.1 +0.2
comp=Z,4.0nm,0.9s,baz=258,slow=2.7,SNR=3.7
KEV Kevo 128.39 26 PFAKE 18 42 20.0 +7.1
KEV LR LR
comp=Z,2µm,20.0s
COCO West Island 129.70 168 PFAKE 18 42 30.0 +13
COCO LR LR
comp=Z,2µm,19.0s
OBN Obninsk 130.96 46 i PKIKP PKPdf 18 42 18.9 +0.7
OBN pmax pmax
comp=Z,20nm,1.3s
OBN Obninsk 130.96 46 PFAKE 18 42 30.0 +12
OBN LR LR
comp=Z,3µm,18.8s
LVZ Lovozero 131.08 28 PFAKE 18 42 30.0 +12
LVZ LR LR
comp=Z,2µm,22.0s
KIV Kislovodsk 132.49 61 ePKIKP PKPdf 18 42 22.7 +1.1
KIV Kislovodsk 132.49 61 ePKPdf PKPdf 18 42 22.7 +1.1
KIV LR LR
comp=Z,959nm,20.0s
KBZ Khabaz 132.58 62 PKP PKPdf 18 42 23.7 +2.1
comp=Z,3.1nm,1.1s,baz=242,slow=6.6,SNR=3.8
GNI Garni 132.88 67 ePKIKP PKPdf 18 42 23.1 +0.5
GNI MLR MLR
comp=Z,1µm,19.0s
GNI Garni 132.88 67 ePKPdf PKPdf 18 42 23.1 +0.5
GNI LR LR
comp=Z,1µm,19.0s
ZEI Tsey 133.03 63 i PKIKP PKPdf 18 42 23.0 +0.2
ZEI pmax pmax
comp=Z,10.0nm,1.3s

KLMR Klimovskoe 133.10 38 ePKIKP PKPdf 18 42 21.2 -0.8
KLMR pmax pmax
comp=Z,57nm,1.9s
BILL Bilibino 135.41 332 ePKIKP PKPdf 18 42 24.6 -1.6
BILL pmax pmax
comp=Z,5.0nm,1.5s
BILL Bilibino 135.41 332 PFAKE 18 42 40.0 +14
BILL LR LR
comp=Z,2µm,21.0s
KAPI Kappang 135.79 199 PFAKE 18 42 40.0 +11
KAPI LR LR
comp=Z,1µm,19.0s
GUMO Guam 138.19 246 PFAKE 18 42 50.0 +17
GUMO LR LR
comp=Z,3µm,21.0s
PET Petropavlovsk 140.98 311 PFAKE 18 42 50.0 +13
PET LR LR
comp=Z,2µm,19.0s
GEYT Alibeck 142.28 74 PKhKP PKPpre 18 42 35.9
comp=Z,5.5nm,0.9s,baz=242,slow=3.1,SNR=11
ARU Arti 143.33 43 i PKIKP PKPab 18 42 37.7 +0.7
ARU Arti 143.33 43 ePKPpre PKPab 18 42 37.0 0.0
ARU LR LR
comp=Z,4µm,20.0s
AKTO Aktyubinsk 143.64 54 PKhKP PKPpre 18 42 38.9
comp=Z,24nm,1.1s,baz=274,slow=3.6,SNR=23
KSM Kuching 143.86 187 ePKPpre PKPpre 18 42 40.6
KSM LR LR
comp=Z,1µm,19.0s
TIXI Tiksi 143.95 348 ePKHKP PKPpre 18 42 37.6
TIXI MLR MLR
comp=Z,2µm,21.0s
TIXI Tiksi 143.95 348 ePKPpre PKPpre 18 42 37.6
TIXI LR LR
comp=Z,2µm,21.0s
SVE Sverdlovsk 144.37 42 ePKIKP PKPbc 18 42 42.1 +0.8
SVE pmax pmax
comp=Z,38nm,1.4s
SBUM Sibu 144.60 190 ePKPdf PKPbc 18 42 44.0 +0.7
PSI Prapat 144.73 167 PKP PKPab 18 43 43.4 -0.3
comp=Z,42nm,1.0s,baz=236,slow=3.6,SNR=26
DAV Davao City (W) 144.91 215 PFAKE 18 43 00.0 +15
DAV LR LR
comp=Z,1µm,19.0s
ABKAR Akbulak array 144.92 56 ePKPdf PKPab 18 42 43.4 +0.2
MYLDM Lahad Datu 145.86 202 ePKPdf PKPab 18 42 48.4 +0.7
LHMI Lhok Sumawe 146.68 163 ePKPdf PKPbc 18 42 49.2 -0.5
IPM Ipoh 146.70 170 ePKPdf PKPdf 18 42 48.0 -0.2
KKM Kota Kinabalu 147.31 199 PFAKE 18 43 00.0 +6.6
KKM LR LR
comp=Z,2µm,21.0s
HYB Hyderabad 148.44 122 i PKP PKPbc 18 42 53.0 -1.5
KBL Kabul 149.89 84 ePKPdf PKPdf 18 42 53.6 +0.6
KBL ePKPbc PKPbc 18 42 57.7 -0.2
BRVK Borovoye 150.73 46 ePKIKP PKPbc 18 42 59.5 +0.5
BRVK MLR MLR
comp=Z,2µm,20.0s
BRVK Borovoye 150.73 46 ePKPbc PKPbc 18 42 59.5 +0.5
BRVK LR LR
comp=Z,2µm,20.0s
BVAR Borovoye Array 150.80 47 PKP PKPdf 18 42 55.1 +1.5
comp=Z,5.8nm,1.0s,baz=300,slow=3.2,SNR=5.4
BVAR PKPbc PKiKP 18 43 00.1 +0.3
comp=Z,26nm,1.0s,baz=296,slow=3.2,SNR=5.5
ERM Erimo 151.46 291 PFAKE 18 43 10.0 +0.5
ERM LR LR
comp=Z,2µm,19.0s
YAK Yakutsk 151.57 337 ePKIKP PKPdf 18 42 53.5 -0.9
YAK e 18 43 00.0
YAK e 18 43 07.3
YAK Yakutsk 151.57 337 ePKPdf PKPdf 18 42 53.5 -0.9
YAK ePKPbc PKPbc 18 42 60.0 -0.7
YAK ePKPab PKPab 18 43 07.3 -2.0
YAK LR LR
comp=Z,2µm,21.0s
YSS Yuzh-Sakhalins 151.64 301 ePKIKP PKPbc 18 43 00.0 -1.3
YSS e 18 43 11.1
YSS Yuzh-Sakhalins 151.64 301 ePKPbc PKPbc 18 43 00.2 -1.1
YSS LR LR
comp=Z,499nm,21.0s
ASAJ Asahikawa 151.92 295 PKPbc PKPbc 18 43 01.4 -0.6
comp=Z,21nm,1.0s,baz=124,slow=3.6,SNR=6.6
KKAR Karatay Array 152.34 67 ePKIKP PKPdf 18 42 56.3 0.0
KKAR e 18 43 02.5
KKAR e 18 43 13.4
KKAR Karatay Array 152.34 67 ePKPdf PKPdf 18 42 56.3 0.0
KKAR ePKPbc PKPbc 18 43 02.5 -0.6
KKAR ePKPab PKPab 18 43 13.3 +0.1
MJAR Matsushiro Arr 154.55 277 PKPab PKPab 18 43 22.5 -0.3
comp=Z,2.1nm,0.7s,baz=136,slow=3.2,SNR=5.2
MAJO Matsushiro 154.55 277 PFAKE 18 43 10.0 +1.9
MAJO LR LR
comp=Z,2µm,22.0s
EKS2 Erkin-Say 154.75 68 ePKIKP PKPdf 18 42 57.5 -2.3
EKS2 MLR MLR
comp=Z,2µm,19.0s
EKS2 Erkin-Say 154.75 68 ePKPdf PKPdf 18 42 57.5 -2.3
EKS2 LR LR
comp=Z,2µm,19.0s
AAK Ala-Archa 155.28 68 ePKIKP PKPdf 18 43 01.4 +0.7
AAK e 18 43 10.5
AAK 18 43 26.3
AAK MLR MLR
comp=Z,1µm,19.0s
AAK Ala-Archa 155.28 68 PKP PKPdf 18 43 00.8 +0.2
comp=Z,2.7nm,0.8s,baz=194,slow=8.3,SNR=3.1
AAK PKPab PKPab 18 43 26.3 +0.4
comp=Z,12nm,0.8s,baz=191,slow=3.7,SNR=15
AAK Ala-Archa 155.28 68 ePKPdf PKPdf 18 43 01.4 +0.7
AAK ePKPbc PKPbc 18 43 10.5
AAK PKPab PKPab 18 43 26.3 +0.4
AAK LR LR
comp=Z,1µm,19.0s
TKM2 Tokmak 2 156.08 68 ePKIKP PKPdf 18 43 02.5 +0.7
TKM2 MLR MLR
comp=Z,2µm,20.0s
TKM2 Tokmak 2 156.08 68 ePKPdf PKPdf 18 43 02.5 +0.7
TKM2 LR LR
comp=Z,2µm,20.0s
KSH Kashi 156.29 76 ePKP PKPdf 18 43 02.3 +0.3
KSH epPKP pPKPdf 18 43 14.0 +2.0
KSH esPKP 18 43 16.8
KSH eSKS SKSdf 18 50 04.0 -2.1
KSH eSKKS SKKSac 18 53 54.0 -1.5
KSH eSS SS 19 06 54.8 -2.3
KSH AMB AMB
comp=Z,120nm,4.9s
KURK Kurchatov 156.38 47 PFAKE 18 43 10.0 +8.4
KURK LR LR
comp=Z,794nm,19.0s
NVS Novosibirsk 156.69 35 ePKIKP PKPdf 18 43 00.1 -1.7
NVS e 18 47 14.9
NVS pmax pmax
comp=Z,51nm,1.6s
NVS pmax pmax
comp=E,16nm,1.8s
ZAA0 Zalesovo Array 157.97 35 ePKPdf PKPdf 18 43 02.0 -1.4
ZAA0 ePKPab PKPab 18 43 37.0 +0.2
ZAA0 ePKPab PKPab 18 43 37.6 +0.7
ZALV Zalesovo Beam 157.97 35 PKP PKPdf 18 43 02.7 -0.8
comp=E,11nm,1.1s,baz=270,slow=1.4,SNR=14
ZALV PKPab PKPab 18 43 37.5 +0.7
comp=E,18nm,0.8s,baz=307,slow=5.2,SNR=17
KOLN Koldanda 158.60 111 eP PKPdf 18 43 05.2 -0.2
DANN Dangsing 159.03 109 eP PKPdf 18 43 05.7 -0.3
BOD Bodaibo 159.13 348 ePKP2 PKPab 18 43 33.9 -7.8
BOD pmax pmax
comp=Z,10.0nm,1.8s
GKN Gorkha 159.50 111 eP PKPdf 18 43 05.9 -0.5
PKIN Phulchoki 159.82 114 eP PKPdf 18 43 06.4 -0.5
PKI Pulchoki 159.82 114 eP PKPdf 18 43 06.3 -0.7
CM01 Chiang Mai Arr 159.85 159 ePKPdf PKPdf 18 43 07.0 +0.2
CMAR Chiang Mai Arr 159.89 159 PKP PKPdf 18 43 06.6 -0.2
comp=Z,0.7nm,0.3s,baz=240,slow=1.8,SNR=8.4
CMAR PKPab PKPab 18 43 44.5 -1.5
comp=Z,3.2nm,1.0s,baz=224,slow=4.9,SNR=6.4
CMAR PP PP 18 47 23.6 -3.1
comp=Z,0.2nm,0.3s,baz=216,slow=5.6,SNR=3.0
MK31 Makanchi Array 160.06 55 ePKIKP PKPdf 18 43 06.7 +0.5
MK31 Makanchi Array 160.06 55 ePKPdf PKPdf 18 43 06.7 +0.5
MKAR Makanchi Array 160.06 55 ePKIKP PKPdf 18 43 07.1 +0.8
MKAR e 18 43 15.1
MKAR 18 43 46.0
MKAR 18 47 25.6

MKAR Makanchi Array 160.06 55 PKP PKPdf 18 43 06.6 +0.4
comp=Z,9.7nm,1.2s,baz=306,slow=1.2,SNR=11
MKAR PKPab PKPab 18 43 46.0 -0.3
comp=Z,2.2nm,0.8s,baz=294,slow=4.6,SNR=7.0
MKAR PP PP 18 47 25.6 -3.1
comp=Z,3.4nm,1.1s,baz=268,slow=4.0,SNR=4.6
MKAR Makanchi Array 160.06 55 ePKPdf PKPdf 18 43 07.0 +0.8
MKAR ePKPdif PKPdf 18 43 15.1 +8.9
MKAR PKPab PKPab 18 43 46.0 -0.3
MKAR PP PP 18 47 25.6 -3.1
MK01 Makanchi Array 160.08 55 ePKPdf PKPdf 18 43 06.2 -0.1
MK01 ePP PP 18 47 26.1 -2.7
CHTO Chiang Mai 160.22 159 ePKIKP PKPdf 18 43 06.9 -0.3
CHTO e 18 43 47.4
CHTO MLR MLR
comp=Z,2µm,20.0s
CHTO Chiang Mai 160.22 159 ePKPdf PKPdf 18 43 06.9 -0.3
CHTO ePKPab PKPab 18 43 47.4 -0.1
CHTO LR LR
comp=Z,2µm,20.0s
RAMN Ramite 160.31 117 eP PKPdf 18 43 07.5 +0.1
JIRN Jiri 160.44 115 eP PKPdf 18 43 07.2 -0.5
ODAN Odare 160.81 118 eP PKPdf 18 43 08.0 0.0
MDJ Mudanjiang 161.11 299 PFAKE 18 43 20.0 +13
MDJ LR LR
comp=Z,2µm,20.0s
QIZ Qiongzhong 161.24 191 PFAKE 18 43 20.0 +12
QIZ LR LR
comp=Z,2µm,22.0s
TAPN Taplejung 161.34 118 eP PKPdf 18 43 08.7 +0.1
YHNB Yeheng 161.77 229 PFAKE 18 43 20.0 +11
YHNB LR LR
comp=Z,2µm,21.0s
TATO Taipei 161.93 230 PFAKE 18 43 20.0 +11
TATO LR LR
comp=Z,2µm,20.0s
KS01 Wonju Array Si 162.84 276 ePKPdf PKPdf 18 43 07.9 -1.5
INCN Inchon 163.84 276 PFAKE 18 43 20.0 +10
INCN LR LR
comp=Z,2µm,20.0s
WMQ Urumqi 164.62 60 ePKP PKPdf 18 43 11.0 0.0
WMQ LR LR
comp=Z,980nm,20.0s
WMQ LR LR
comp=Z,1µm,21.0s
WMQ LR LR
comp=Z,1µm,20.8s
HIA Hailar 164.79 324 PFAKE 18 43 20.0 +9.1
HIA LR LR
comp=Z,2µm,19.0s
LSA Lhasa 165.17 118 ePKIKP PKPdf 18 43 12.6 +0.2
LSA e 18 44 10.2
LSA MLR MLR
comp=Z,3µm,19.0s
LSA Lhasa 165.17 118 ePKPdf PKPdf 18 43 12.6 +0.2
LSA ePKPab PKPab 18 44 10.2 +0.5
LSA LR LR
comp=Z,3µm,19.0s
TLY Talaya 165.79 7 ePKIKP PKPdf 18 43 10.9 -0.7
TLY e 18 44 12.0
TLY MLR MLR
comp=Z,2µm,21.0s
TLY Talaya 165.79 7 PKPab PKPab 18 44 10.4 -0.7
comp=Z,0.8nm,0.4s,baz=28,slow=4.5,SNR=5.9
TLY Talaya 165.79 7 ePKPdf PKPdf 18 43 10.9 -0.7
TLY ePKPab PKPab 18 44 12.0 +0.9
TLY LR LR
comp=Z,2µm,21.0s
ZAK Zakamensk 167.04 9 ePKP2 PKPab 18 44 17.4 +0.7
ZAK e 18 48 05.4
ZAK pmax pmax
comp=Z,7.0nm,1.4s
NJ2 Nanjing 168.27 246 ePKP PKPdf 18 43 14.8 +0.8
GYA Guiyang 168.89 182 PKP PKPdf 18 43 14.3 -0.5
GYA pPKP pPKPdf 18 43 26.8 +2.0
GYA PKPab PKPab 18 44 27.0 +1.5
GYA PKS PKSdf 18 46 46.8 -0.7
GYA PP PP 18 48 17.5 +3.6
GYA SKKS 18 54 59.3
GYA SS SS 19 09 05.0 0.0
GYA AMB AMB
comp=Z,130nm,8.5s
GYA LR LR
comp=Z,120nm,21.5s
GYA LR LR
comp=Z,110nm,21.0s
ULN Ulaanbaatar 169.72 357 PFAKE 18 43 30.0 +15
ULN LR LR
comp=Z,2µm,20.0s
SONA1 Songino Array 169.75 359 ePKPab PKPab 18 44 29.6 +0.7
SONA1 eppPKPab pPKPab 18 44 36.5 -2.0
SONM Songino Array 169.76 359 PKPab PKPab 18 44 28.5 -0.3
comp=Z,5.8nm,1.1s,baz=342,slow=3.5,SNR=8.8
SONM PP PP 18 48 19.9 +1.6
comp=Z,2.1nm,1.2s,baz=359,slow=6.1,SNR=3.9
BJT Baijiatuau 171.90 290 PFAKE 18 43 30.0 +14
BJT LR LR
comp=Z,2µm,21.0s
ENH Enshi 172.22 201 PFAKE 18 43 30.0 +14
ENH LR LR
comp=Z,1µm,22.0s
CD2 Chengdu 173.02 162 PKP PKPdf 18 43 16.3 -0.4
CD2 pPKP pPKPdf 18 43 27.5 +0.7
CD2 sPKP 18 43 31.3
CD2 PKS PKSdf 18 46 47.0 -2.1
CD2 PP PP 18 48 37.8 +3.3
CD2 SKS SKSdf 18 50 14.0 -3.8
CD2 SKKS SKKSac 18 55 19.5 -0.1
CD2 SS SS 19 09 45.5 -0.3
CD2 AMB AMB
comp=Z,220nm,6.6s
GTA Gaotai 174.63 68 ePKP PKPdf 18 43 18.0 +0.9
GTA pPKP pPKPdf 18 43 28.8 +1.6
GTA sPKP 18 43 32.3
GTA PKPab PKPab 18 44 52.5 +1.5
GTA PP PP 18 48 46.0 +2.2
GTA SKS SKSdf 18 50 14.8 -3.3
GTA SKKS SKKSac 18 55 27.5 -0.2
GTA SS SS 19 10 00.5 -3.5
GTA AMB AMB
comp=Z,370nm,7.2s
GTA LR LR
comp=Z,2µm,19.8s
GTA LR LR
comp=Z,2µm,19.8s
GTA LR LR
comp=Z,4µm,20.7s
HHC Hu-ho-hao-te 174.75 310 ePKP PKPdf 18 43 14.0 -3.1
HHC sPKP 18 43 28.8
LZH Lanzhou 177.55 127 ePKP PKPdf 18 43 18.3 +0.3
LZH pPKP pPKPdf 18 43 29.5 +1.5
LZH sPKP 18 43 34.3
LZH PP PP 18 49 01.3 +4.0
LZH eSKKS 18 55 42.0
LZH SS SS 19 10 30.0 -1.1
LZH AMB AMB
comp=Z,610nm,8.8s
LZH LR LR
comp=Z,2µm,20.5s
LZH LR LR
comp=Z,3µm,20.6s
LZH LR LR
comp=Z,3µm,21.0s

ISCJB 27 18:32:35.9±1.2, 34°.1S±0°.2×72°.4W±0°.4, h17km, mb4.0/3, Error ellipse: s-maj=53.2km s-min=21.6km az=4.8
IDC 27 18:32:35.1±1.2, 34°.09S×72°.40W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/31, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=55.7km s-min=32.5km az=88.0
ISC 27 18:32:37.8±1.1, 34°.1S±0°.2×72°.4W±0°.4, h17km, n7, σ0s97/7, mb4.2/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	18.09	13	P	Pn	18 36 47.9	-1.0
	0.1nm,0.3s,baz=182,slow=16,SNR=1.7						
QSPA	South Pole Qui	56.19	180	P	P	18 42 16.0	-0.6
	2.7nm,1.0s,baz=173,slow=6.1,SNR=3.0						
TXAR	Lajitas Array	69.65	331	P	P	18 43 47.0	+0.6
	0.4nm,0.5s,baz=161,slow=9.2,SNR=5.4						
TORD	Torodi Ar. Bea	84.47	70	P	P	18 45 10.4	+0.4
	1.6nm,1.0s,baz=242,slow=4.3,SNR=4.5						
BRTR	Keskin Array B	122.08	61	PKP	PKPdf	18 51 32.0	+0.5

0.3nm,0.8s,baz=336,slow=3.2,SNR=2.4
ZALV Zalesovo Beam 154.40 32 PKPbc PKPbc 18 52 35.7 -1.0
0.8nm,0.3s,baz=333,slow=5.7,SNR=4.3
MKAR Makanchi Array 156.99 49 PKPab PKPab 18 53 03.3 +0.9
0.5nm,0.9s,baz=297,slow=3.4,SNR=3.0

GUC 27 18:37:11.6±0.5, 33°.71S×71°.69W, h16km±4km, ML3.8, 2C-1D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
IHA Instituto Hidr 0.68 4⇑iP Pb 18 37 25.3 +0.2
IHA iS Sb 18 37 35.1 +0.9
RCDM Rinconada Maip 0.77 74⇑iP Pg 18 37 27.1 +0.3
RCDM iS Sn 18 37 38.5 -0.6
STL Santa Lucia 0.92 73⇓iP Pg 18 37 29.5 0.0
STL iS Sn 18 37 43.5 +0.7
ROCH El Roble 0.93 38 eP Pn 18 37 30.3 0.0
ROCH iS Sn 18 37 44.1 +0.7
ROCH AML AML 18 37 46.9
comp=N,5μm,0.3s
PEL Peldehue 1.01 57 eP Pg 18 37 32.1 +0.8
PEL iS Sn 18 37 47.1 +2.0
PEL AML AML 18 37 47.8
comp=E,6μm,0.3s

IDC 27 18:41:44.9±0.5, 37°.71S×73°.52W, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.4/33, mbtmp4.5/13, ML3.6/1, MS4.1/2, Ms1 4.2/2, ms1mx4.0/32, Error ellipse: s-maj=21.5km s-min=14.2km az=91.0
ISCJB 27 18:41:47.8±0.3, 37°.54S±0°.06×73°.50W±0°.08, h23km, mb4.7/21, Error ellipse: s-maj=9.7km s-min=7.0km az=138.4
BJI 27 18:41:49.7, 37°.60S×73°.50W, h34km, mB5.3/2, Ms5.8/2, Ms7 5.6/2
NEIC 27 18:41:50.2±0.3, 37°.63S×73°.60W, h35km, mb5.0/14, Error ellipse: s-maj=10.3km s-min=7.3km az=89.0
ISC 27 18:41:48.5±0.3, 37°.66S±0°.06×73°.59W±0°.10, h23km, n207, σ1°01/225, mb4.7/21, 1D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.87 143 Pn Pn 18 42 48.5 +1.8
3.6nm,0.3s,baz=312,slow=12,SNR=4.0
PLCA Pg Pb 18 42 53.6 -2.5
8.5nm,0.3s,baz=328,slow=16,SNR=6.5
PLCA Lg Lg 18 43 50.6
19nm,0.3s,baz=243,slow=12,SNR=7.1
PLCA Paso Flores 3.87 143 ePn Pn 18 42 51.6 +4.9
PLCA eSn Sb 18 43 49.4 +6.9
CFAA Coronel Fontan 7.47 38 Pn Pn 18 43 35.1 -1.1
1.0nm,0.3s,baz=222,slow=10,SNR=5.7
CFAA Sn Sn 18 44 50.2 -10
0.7nm,0.3s,baz=222,slow=14,SNR=2.2
CFAA Lg Lg 18 45 43.4
0.9nm,0.3s,baz=153,slow=14,SNR=4.1
CFAA LR LR 18 46 33.9
comp=Z,406nm,19.4s,baz=222,slow=39
TRQA Tornquist 9.19 96 ePn Pn 18 44 01.9 +2.3
LVC Limon Verde 15.53 16 Pn Pn 18 45 27.4 +1.1
USHA Ushuaia 17.53 170 P Pn 18 45 49.6 -1.6
baz=319,slow=11,SNR=3.8
CPUP Villa Florida 17.80 55 LR LR 18 53 46.8
comp=Z,2μm,18.3s,baz=220,slow=41
CPUP Villa Florida 17.80 55 Pn P 18 45 55.1 -0.2
LPAZ La Paz 21.83 14 P P 18 46 40.5 +0.6
12nm,1.0s,baz=178,slow=11,SNR=10.0
LPAZ La Paz 21.83 14 eP P 18 46 41.1 +1.2
12nm,0.8s
SIV San Ignacio 24.25 30 P P 18 47 02.9 -1.0
9.9nm,0.9s,baz=227,slow=12,SNR=9.8
SAML Samuel 30.09 21 eP P 18 47 55.1 -1.2
82nm,2.7s
BDFB Brasilia 31.49 53 P P 18 48 08.7 -0.1
1.2nm,0.5s,baz=355,slow=2.7,SNR=3.1
OTAV Otavalo 37.98 352 eP P 18 49 05.9 +0.7
6.6nm,1.0s
SDV Santo Domingo 46.38 4 ePn P 18 50 11.3 -2.1
7.8nm,0.9s
VNA3 Neumayer Olymp 46.48 156 P P 18 50 15.1 +1.7
VNA2 Neumayer--Watz 47.16 156 P P 18 50 20.6 +1.9
SNAA Sanae 48.70 157 P P 18 50 28.8 -1.9
5.7nm,0.9s,baz=277,slow=6.4,SNR=18
SNAA Sanae 48.70 157 eP P 18 50 31.5 +0.8
26nm,1.1s
QSPA South Pole Qui 52.58 180 P P 18 51 00.7 +0.6
9.5nm,0.9s,baz=135,slow=5.3,SNR=15
QSPA South Pole Qui 52.58 180 eP P 18 51 01.6 +1.5
13nm,1.0s
GTBY Guantanamo Bay 57.30 358 P P 18 51 34.0 -0.4
SYO Syowa Base 62.94 158⇓eP P 18 52 10.0 -2.6
834A Tilden 69.50 337 P P 18 52 56.1 +1.0
baz=70
833A Chaparral WMA, 69.96 336 P P 18 52 58.3 +0.4
baz=70
832A Faith Ranch, C 70.11 335 P P 18 52 58.8 -0.1
baz=70
632A Uvalde 71.18 336 P P 18 53 05.9 +0.5
baz=72
532A Rocksprings 71.79 336 P P 18 53 09.8 +0.6
baz=72
531A Rocksprings 72.03 336 P P 18 53 11.0 +0.5
baz=72
336A Riesel 72.05 339 P P 18 53 11.0 +0.5
baz=72
JCT Junction City 72.08 336 eP P 18 53 11.3 +0.4
8.4nm,0.8s
JCT Junction City 72.08 336 P P 18 53 11.2 +0.4
baz=72
433A Art 72.12 337 P P 18 53 11.1 +0.1
baz=72
530A J-C Ranch, Com 72.28 335 P P 18 53 12.4 +0.4
baz=73
TX31 Lajitas Ar. Si 72.36 333 eP P 18 53 12.7 +0.1
TXAR Lajitas Array 72.36 333 P P 18 53 13.0 +0.5
2.8nm,0.8s,baz=157,slow=8.4,SNR=12
334A Lometa 72.40 338 P P 18 53 13.2 +0.5
baz=73
432A Menard 72.45 337 P P 18 53 12.8 -0.2
baz=73
431A Sonora 72.53 336 P P 18 53 13.7 +0.2
baz=73
529A Stev Forest Ra 72.56 334 P P 18 53 14.2 +0.4
baz=73
333A Richland Sprin 72.61 337 P P 18 53 13.7 -0.3
baz=73
430A Baggett Ranch, 72.83 335 P P 18 53 15.5 +0.2
baz=73
332A Millersview 72.90 337 P P 18 53 15.8 +0.1
baz=73
429A Davenport Ranc 72.91 335 P P 18 53 16.4 +0.6
baz=73
234A Clairette 73.00 338 P P 18 53 16.3 +0.1
baz=73
331A San Angelo 73.05 336 P P 18 53 16.6 0.0
baz=73
233A Rising Star 73.24 338 P P 18 53 17.7 0.0
baz=74
232A Coleman 73.34 337 P P 18 53 18.3 0.0
baz=74
330A Mertzon 73.39 336 P P 18 53 18.4 -0.1
baz=74
SWET Sewanee 73.41 349 eP P 18 53 18.1 -0.5
231A Bronte 73.60 337 P P 18 53 19.7 -0.1
baz=74
329A Wagon Wheel Ra 73.73 335 P P 18 53 20.9 +0.3
baz=74
133A Hamilton Ranch 73.79 338 P P 18 53 21.1 +0.2
baz=74
230A Sterling City 73.81 336 P P 18 53 21.4 +0.4
baz=74
ABTX Abilene, Hawle 74.03 337 P P 18 53 22.7 +0.4
baz=74
229A Bryant Ranch, 74.11 335 P P 18 53 23.3 +0.5
baz=74
131A Roby 74.30 337 P P 18 53 24.3 +0.4
baz=75
Z33A Whitaker Ranch 74.38 338 P P 18 53 24.6 +0.3
baz=75
130A Snyder 74.41 336 P P 18 53 24.6 +0.1
baz=75
228A UT Block 9, Go 74.51 335 P P 18 53 25.4 +0.3
baz=75
Z32A Haskell 74.61 338 P P 18 53 25.9 +0.3
baz=75
Z31A Sharp Cattle R 74.82 337 P P 18 53 26.8 -0.1
baz=75
128A Castleberry Fa 74.93 335 P P 18 53 27.8 +0.2
baz=75
Z30A Sanderson Ranc 75.10 336 P P 18 53 28.7 +0.1
baz=75
Z29A Hungry Hill Ra 75.26 336 P P 18 53 29.3 -0.2
baz=76
Y29A Porterfield Fa 75.80 336 P P 18 53 32.6 0.0
baz=76
X31A McDonald Ranch 75.99 338 P P 18 53 33.8 +0.2
baz=76
Z26A Caprock 76.04 334 P P 18 53 34.0 +0.1
baz=76
W33A Caddo, Fort Co 76.04 339 P P 18 53 34.8 +1.0
baz=76
X30A Coker Ranch, T 76.09 337 P P 18 53 35.5 +1.4
baz=76
W32A Sentinel 76.23 339 P P 18 53 35.2 +0.3
baz=76
MSTX Muleshoe 76.26 335 P P 18 53 35.4 +0.1
baz=77
CASY Casey 76.34 182 P P 18 53 36.3 +1.1
X29A Tulia 76.35 336 P P 18 53 35.9 +0.2
baz=77
W31A Holland Ranch, 76.50 338 P P 18 53 36.6 +0.1
baz=77
Y26A Elida 76.58 334 P P 18 53 37.8 +0.8
baz=77
Z24A Sheeppen Canyo 76.58 333 P P 18 53 37.7 +0.5
baz=77
V33A Lossen Ranch, 76.61 340 P P 18 53 37.8 +0.8
baz=77
AMTX Amarillo 76.75 337 P P 18 53 38.3 +0.3
baz=77
Y25A Mesa, Roswell 76.88 334 P P 18 53 39.3 +0.5
baz=77
W29A Amraillo 76.96 337 P P 18 53 39.4 +0.3
baz=77
X26A CR and CF Fran 77.14 335 P P 18 53 40.8 +0.6
baz=77
MVL Millersville 77.33 358 eP P 18 53 40.0 -0.9
248nm,2.5s
W27A Bowe Ranch, En 77.36 336 P P 18 53 41.7 +0.3
baz=78
X25A Clemmons Ranch 77.41 334 P P 18 53 42.4 +0.6
baz=78
DBIC Dimbokro 77.54 71 P P 18 53 43.6 +0.8
15nm,0.9s,baz=192,slow=5.9,SNR=17
DBIC Dimbokro 77.54 71 eP P 18 53 43.3 +0.6
19nm,1.1s
U31A Nine Bar Ranch 77.57 339 P P 18 53 43.3 +0.8
baz=78
W26A Owens Ranch, T 77.62 335 P P 18 53 43.6 +0.7
baz=78
U30A WK&E Inc. Balk 77.96 338 P P 18 53 45.7 +1.1
baz=78
W25A X Bar L Ranch, 77.97 335 P P 18 53 45.3 +0.5
baz=78
X23A Hourglass Bar 78.00 333 P P 18 53 46.4 +1.3
baz=78
W24A Lazy 6 Ranch, 78.29 334 P P 18 53 47.2 +0.5
baz=79
214A Organ Pipe Nat 78.34 327 P P 18 53 47.9 +1.1
baz=79
V25A Rancho No Teng 78.58 335 P P 18 53 48.6 +0.3
baz=79
T28A Walsh 78.94 337 P P 18 53 50.4 +0.3
baz=79
U25A Circle Dot Ran 79.02 335 P P 18 53 51.3 +0.6
baz=79
V23A Ortiz Mt. (NFS 79.04 333 P P 18 53 52.0 +1.2
baz=79
R31A Burdett 79.27 339 P P 18 53 52.8 +1.0
baz=80
S28A Manter 79.31 337 P P 18 53 52.9 +0.8
baz=80
TSUM Tsumeb 79.42 106 eP P 18 53 54.3 +1.0
5.8nm,1.1s
V22A San Miguel Ran 79.45 333 P P 18 53 54.1 +0.9
baz=80
T26A Comanche Natio 79.46 336 P P 18 53 53.7 +0.7
baz=80
BOSA Boshof 79.48 118 P P 18 53 53.4 -0.1
6.4nm,0.9s,baz=191,slow=6.9,SNR=6.0
BOSA Boshof 79.48 118 eP P 18 53 55.1 +1.6
238nm,2.8s
T25A Trinidad 79.70 335 P P 18 53 55.4 +1.0
baz=80
S27A Las Animas 79.71 337 P P 18 53 54.8 +0.5
baz=80
S26A Kim 79.83 336 P P 18 53 55.9 +0.9
baz=80
X16A Lo Mia Camp, P 79.88 329 P P 18 53 56.1 +0.7
baz=80
T24B San Luis 79.95 335 P P 18 53 56.8 +0.9
baz=80
R28A Tribune 79.98 338 P P 18 53 56.1 +0.4
baz=80
S25A Robets Cordova 80.18 336 P P 18 53 57.9 +1.0
baz=80
R27A Eads 80.23 337 P P 18 53 57.6 +0.5
baz=80
Q29A Oakley 80.24 339 P P 18 53 57.6 +0.5
baz=81
P31A Stockton 80.38 340 P P 18 53 58.3 +0.5
baz=81
S24A Houchin Ranch, 80.42 335 P P 18 53 59.5 +1.1
baz=81
R26A Arlington 80.44 337 P P 18 53 59.5 +1.3
baz=81
WUAZ Wupatki 80.81 330 P P 18 54 01.0 +0.6
baz=81
R24A Sanders Place, 80.92 335 P P 18 54 01.8 +0.9
baz=81
Q26A Hugo 81.04 337 P P 18 54 02.4 +0.9
baz=81
S22A 4UR Ranch, Cre 81.07 334 P P 18 54 02.6 +0.8
baz=81
R23A Moffat 81.12 335 P P 18 54 03.0 +0.9
baz=81
MVCO Mesa Verde 81.19 332 P P 18 54 03.2 +0.8
baz=82
Q25A Bedland, Calha 81.26 336 P P 18 54 03.8 +1.1
baz=82
P26A Davis Ranch, A 81.57 337 P P 18 54 05.1 +0.9
baz=82
LBTB Lobatse 81.90 115 eP P 18 54 07.5 +0.9
11nm,1.0s
SMCO Snowmass 82.40 334 eP P 18 54 10.4 +1.5
73nm,2.8s
FLSC Flash Two Peak 82.76 325 ePKiKP PKiKP 18 59 31.0 +0.6
O22A Kremmling 83.14 335 P P 18 54 13.5 +0.8
baz=84
N23A Red Feather La 83.60 336 P P 18 54 15.9 +0.9
baz=84
N22A Wattenberg Ran 83.68 336 P P 18 54 16.2 +0.8
baz=84
ISA Isabella 83.99 325 P P 18 54 18.2 +1.3
baz=84
M22A Cedar Creek Ra 84.27 336 P P 18 54 19.2 +0.8
baz=85
R11A Troy Canyon, C 84.96 328 P P 18 54 23.2 +1.4
baz=85
J25A Sunshine Ranch 85.21 338 P P 18 54 23.5 +0.6
baz=86
K22A Casper 85.37 336 P P 18 54 24.2 +0.5
baz=86
J24A Dixon Ranch, L 85.41 338 P P 18 54 25.0 +1.2
baz=86
DUG Dugway 85.42 331 P P 18 54 24.9 +0.9
baz=86
I26A New Underwood 85.53 339 P P 18 54 25.6 +1.2
baz=86
I25A Rochford 85.77 339 P P 18 54 26.2 +0.4
baz=86
HWUT Hardware Ranch 86.18 332 eP P 18 54 27.9 +0.1
62nm,2.5s
NVAR Mina Array Bea 86.20 326 P P 18 54 29.4 +1.4
1.2nm,0.8s,baz=159,slow=5.7,SNR=6.6
BW06 Boulder Array 86.48 334 eP P 18 54 29.4 +0.1
PDAR Pinedale Array 86.48 334 P P 18 54 29.0 -0.4
1.7nm,0.9s,baz=156,slow=4.7,SNR=7.8
J20A Shoshoni 86.51 336 P P 18 54 30.7 +1.4
baz=87
G27A Dupree 86.52 340 P P 18 54 29.2 -0.1
baz=87
G26A Maurine 86.62 340 P P 18 54 29.7 -0.1
baz=87
TOA0 Torodi Ar. Sit 86.62 71 eP P 18 54 28.8 -1.6
TORD Torodi Ar. Bea 86.62 71 P P 18 54 30.4 +0.1
2.6nm,0.6s,baz=234,slow=3.9,SNR=12
I21A Big Trails, Te 86.66 336 P P 18 54 30.0 -0.1
baz=87
J19A Crowheart 86.75 335 P P 18 54 31.3 +0.8
baz=87
F27A Lemmon 87.00 341 P P 18 54 32.0 +0.4
baz=87
C30A Mose, Pekin 87.84 343 P P 18 54 36.2 +0.6
baz=88
AGMN Agassiz Nation 87.85 345 P P 18 54 35.8 +0.3
baz=88
B30A Myrvik Farm, E 88.52 344 P P 18 54 39.2 +0.5
baz=89
C27A Sayler Ranch, 88.58 342 P P 18 54 39.8 +0.8
baz=89
B29A Wagenman Farm, 88.76 343 P P 18 54 40.5 +0.6
baz=89
HLID Hailey 88.93 332 P P 18 54 41.9 +0.9
baz=89
A29A Manning Farm, 89.16 343 P P 18 54 42.1 +0.3
baz=90
ULM Lac du Bonnet 89.72 346 P P 18 54 43.8 -0.4
1.6nm,0.6s,baz=196,slow=6.5,SNR=3.1
GERES GERESS Array B 115.59 47 PKP PKPdf 19 00 28.2 -0.1
1.2nm,0.8s,baz=246,slow=2.6,SNR=7.4
ILAR Eielson Array 116.87 333 PKP PKPdf 19 00 30.0 -0.2
0.6nm,1.0s,baz=126,slow=1.2,SNR=3.6
WRA Warramunga Arr 116.96 210 PKP PKPdf 19 00 31.4 -0.5
0.4nm,0.8s,baz=158,slow=1.7,SNR=3.0
BUR04 Bucovina Ar. S 122.02 52 ePKPdf PKPdf 19 00 40.9 +0.2
BR231 Keskin MP Arra 124.08 63 ePKPdf PKPdf 19 00 45.5 +0.6
BRTR Keskin Array B 124.65 64 PKP PKPdf 19 00 46.4 +0.3
2.0nm,0.8s,baz=225,slow=1.8,SNR=12
AKASG Malin Array Be 125.55 50 PKP PKPdf 19 00 46.1 -1.1
0.5nm,0.5s,baz=258,slow=3.0,SNR=7.2
AKASG PP PP 19 02 31.9 -7.5
0.7nm,0.8s,baz=254,slow=3.7,SNR=4.5
GEYT Alibeck 142.18 74 PKhKP PKPpre 19 01 14.3
1.8nm,0.7s,baz=230,slow=3.7,SNR=5.9
SEY Seymchan 142.50 327 PKP PKPdf 19 01 19.1 +0.6
1.0nm,0.3s,baz=75,slow=9.6,SNR=3.8
TIXI Tiksi 144.04 348 ePKPdf PKPab 19 01 17.2 -1.3
PSI Prapat 144.63 167 PKP PKPab 19 01 22.4 -0.2
18nm,0.6s,baz=216,slow=5.1,SNR=22
ABKAR Akbulak array 144.86 56 ePKPdf PKPdf 19 01 22.8 -0.3
IPM Ipoh 146.61 170 ePKPdf PKPdf 19 01 25.1 -2.1
HYB Hyderabad 148.31 122 iPKP PKPdf 19 01 33.0 -0.3
BRVK Borovoye 150.69 47 ePKPbc PKPbc 19 01 38.7 +0.6
YAK Yakutsk 151.68 337 ePKPbc PKPbc 19 01 39.3 -0.7
KKAR Karatay Array 152.26 67 ePKPdf PKPdf 19 01 34.7 -0.6
KKAR ePKPbc PKPbc 19 01 41.8 -0.3
KKAR ePKPab PKPab 19 01 51.5 -0.6
MJAR Matsushiro Arr 154.68 277 PKPab PKPab 19 02 03.2 +0.7
2.3nm,0.8s,baz=124,slow=4.4,SNR=4.7
AAK Ala-Archa 155.19 68 ePKPdf PKPdf 19 01 39.5 -0.2
AAK ePKPab PKPab 19 02 05.3 +0.6
KSH Kashi 156.18 76 ePKP PKPdf 19 01 48.3 +7.2
KSH epPKP PKPab 19 01 59.5 -10
KSH esPKP 19 02 03.3
KSH ePP PP 19 05 59.5 +12
KSH eSKS SKSdf 19 08 50.0 +4.1
KSH Kashi 156.18 76 eSKKS 19 12 39.5
ZAA0 Zalesovo Array 157.96 35 ePKPdf PKPdf 19 01 41.9 -0.8
ZAA0 ePKPab PKPab 19 02 16.4 +0.5
ZALV Zalesovo Beam 157.96 35 PKP PKPdf 19 01 42.1 -0.5
2.1nm,0.9s,baz=270,slow=2.6,SNR=9.5
ZALV PKPab PKPab 19 02 16.4 +0.5
3.1nm,0.6s,baz=300,slow=5.1,SNR=9.2
DANN Dangsing 158.90 109 eP PKPab 19 02 21.4 +0.2
GKN Gorkha 159.36 111 eP PKPab 19 02 23.0 -0.1
DMN Daman 159.49 113 eP PKPab 19 02 23.8 +0.1
PKI Pulchoki 159.69 114 eP PKPab 19 02 24.6 -0.1
KKN Kakani 159.72 113 eP PKPab 19 02 24.8 +0.1
CM01 Chiang Mai Arr 159.75 159 ePKPab PKPab 19 02 24.4 -0.2
CMAR Chiang Mai Arr 159.78 159 PKPab PKPab 19 02 25.2 +0.5
1.1nm,1.0s,baz=212,slow=3.2,SNR=6.0
MK31 Makanchi Array 160.00 55 ePKPdf PKPdf 19 01 44.8 -0.5
MK31 ePKPab PKPab 19 02 25.0 -0.1
MKAR Makanchi Array 160.00 55 PKP PKPdf 19 01 45.2 -0.2
1.9nm,1.0s,baz=176,slow=1.5,SNR=9.5
MKAR PKPab PKPab 19 02 24.7 -0.4
2.2nm,0.8s,baz=275,slow=4.1,SNR=12
MKAR Makanchi Array 160.00 55 ePKPdf PKPdf 19 01 45.6 +0.2
MKAR ePKPab PKPab 19 02 25.5 +0.3
MK01 Makanchi Array 160.02 55 ePKPdf PKPdf 19 01 45.2 -0.2
MK01 ePKPab PKPab 19 02 25.2 0.0
CHTO Chiang Mai 160.12 159 ePKPab PKPab 19 02 26.5 +0.3
RAMN Ramite 160.18 117 eP PKPab 19 02 27.2 +0.5
GUN Gumba 160.22 113 eP PKPab 19 02 27.2 +0.2
JIRN Jiri 160.30 115 eP PKPab 19 02 27.4 0.0
ODAN Odare 160.68 118 eP PKPab 19 02 29.1 +0.2
TAPN Taplejung 161.20 118 eP PKPab 19 02 31.2 -0.1
WMQ Urumqi 164.55 61 ePKP PKPdf 19 01 50.0 -0.1
WMQ LR LR
comp=N,980nm,21.0s
WMQ LR LR
comp=E,1μm,22.4s
WMQ LR LR
comp=Z,980nm,20.8s
NJ2 Nanjing 168.35 245 ePKP PKPdf 19 01 53.5 +0.2
SONM Songino Array 169.83 0 PKP PKPdf 19 01 52.7 -1.3
0.8nm,1.1s,baz=204,slow=3.2,SNR=4.1
SONM PKPab PKPab 19 03 08.3 0.0
0.9nm,0.9s,baz=341,slow=4.6,SNR=6.5
SONM PP PP 19 06 56.5 -1.3
0.3nm,0.8s,baz=350,slow=5.9,SNR=2.9
CD2 Chengdu 172.92 161 PKP PKPdf 19 01 55.3 -0.6
CD2 pPKP pPKPdf 19 02 06.5 +2.8
CD2 sPKP 19 02 10.3
CD2 PKS PKSdf 19 05 26.0 -2.2
CD2 PP PP 19 07 16.5 +3.3
CD2 SKS SKSdf 19 08 53.0 -4.7
CD2 SKKS SKKSac 19 13 58.3 -0.7
CD2 SS SS 19 28 24.0 -0.7
GTA Gaotai 174.54 69 ePKP PKPdf 19 01 56.5 +0.2
GTA pPKP pPKPdf 19 02 07.3 +3.2
GTA sPKP 19 02 10.8
GTA PKPab PKPab 19 03 30.8 +1.1
HHC Hu-ho-hao-te 174.89 310 ePKP PKPdf 19 01 54.0 -2.3
HHC pPKP pPKPdf 19 02 04.5 +0.3
HHC sPKP 19 02 08.5
LZH Lanzhou 177.41 127 ePKP PKPdf 19 01 57.8 +0.7
LZH pPKP pPKPdf 19 02 08.3 +3.4
LZH sPKP 19 02 12.0

IDC 27 18:46:47.9±0.7, 35°.85S×73°.22W, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.2/34, mbtmp4.2/13, ML3.1/1, Error ellipse: s-maj=27.4km s-min=18.3km az=80.0
ISCJB 27 18:46:50.6±0.6, 35°.75S±0°.08×73°.2W±0°.1, h28km, mb4.4/15, Error ellipse: s-maj=15.3km s-min=11.1km az=162.9
NEIC 27 18:46:53.2±6.8, 35°.75S×73°.27W, h34km±47km, mb4.7/5, Error ellipse: s-maj=27.2km s-min=12.6km az=74.0
ISC 27 18:46:52.2±0.6, 35°.76S±0°.09×73°.2W±0°.1, h28km, n25, σ1°20/25, mb4.4/15, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.85 46 Pn Pn 18 48 15.7 -1.4
0.5nm,0.3s,baz=220,slow=16,SNR=3.1
CFAA Lg Lg 18 49 48.4
0.5nm,0.3s,baz=270,slow=20,SNR=3.6
TRQA Tornquist 9.27 108 ePn Pn 18 49 07.1 +3.1
LPAZ La Paz 19.91 14 P Pn 18 51 24.2 +0.2
2.0nm,0.7s,baz=220,slow=9.1,SNR=2.7
SIV San Ignacio 22.46 32 P P 18 51 50.8 +1.6
11nm,1.1s,baz=232,slow=12,SNR=7.2
SAML Samuel 28.21 21 P P 18 52 41.1 -1.5
11nm,1.5s
OTAV Otavalo 36.15 351 eP P 18 53 55.5 +2.9
3.1nm,0.8s
SDV Santo Domingo 44.47 4 P P 18 55 01.8 +0.5
BCIP Isla Barro Col 45.12 351 P P 18 55 04.8 -1.4
RCBR Riachuelo 45.38 58 P P 18 55 09.8 +1.5
JTS JuntasAbangare 47.13 344 P P 18 55 20.1 -1.9
SNAA Sanae 50.33 157 P P 18 55 45.4 -0.7
4.2nm,0.9s,baz=273,slow=8.1,SNR=13
FDF Fort de France 51.49 15 P P 18 55 54.3 -1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	44nm,1.2s						
QSPA	South Pole Qui	54.48	180	P	P	18 56 16.4	-0.7
	6.8nm,0.9s,baz=138,slow=9.8,SNR=9.5						
QSPA	South Pole Qui	54.48	180	eP	P	18 56 16.3	-0.7
	12nm,1.2s						
TXAR	Lajitas Array	70.82	332	P	P	18 58 06.9	+0.6
	1.1nm,0.6s,baz=152,slow=8.5,SNR=15						
DBIC	Dimbokro	76.64	72	P	P	18 58 40.3	-0.4
	3.7nm,0.9s,baz=249,slow=7.6,SNR=7.2						
CASY	Casey	78.25	182	eP	P	18 58 48.8	-0.1
	24nm,1.3s						
BOSA	Boshof	80.09	118	P	P	18 59 01.6	+1.8
	8.2nm,1.1s,baz=241,slow=5.6,SNR=3.2						
NVAR	Mina Array Bea	84.79	326	P	P	18 59 25.1	+1.1
	1.0nm,0.7s,baz=164,slow=7.7,SNR=4.8						
PDAR	Pinedale Array	84.91	334	P	P	18 59 24.6	0.0
	0.8nm,0.9s,baz=147,slow=5.1,SNR=5.6						
ELK	Elko	85.37	329	P	P	18 59 27.3	+0.4
	1.1nm,0.8s,baz=210,slow=9.1,SNR=4.1						
TORD	Torodi Ar. Bea	85.70	71	P	P	18 59 28.8	0.0
	0.7nm,1.1s,baz=246,slow=3.1,SNR=1.9						
ULM	Lac du Bonnet	87.95	346	P	P	18 59 38.7	-0.2
	2.7nm,0.6s,baz=187,slow=5.0,SNR=5.7						
YAK	Yakutsk	150.04	338	ePKPbc	PKPbc	19 06 38.8	-0.4
YAK				ePKPab	PKPab	19 06 45.2	+0.1
SONM	Songino Array	167.93	1	PKPab	PKPab	19 08 03.7	+0.8
	0.3nm,0.7s,baz=337,slow=3.3,SNR=2.4						

ISCJB **27** *18:49:45.8±1.3, 35°.23S±0°.09×71°.9W±0°.3, h35km, mb4.2/7, Error ellipse: s-maj=33.1km s-min=12.6km az=172.3*
NEIC **27** *18:49:47.5±2.3, 35°.24S×71°.94W, h37km±18km, mb4.2/2, Error ellipse: s-maj=31.9km s-min=15.5km az=90.0*
IDC **27** *18:49:47.6±1.9, 35°.19S×70°.62W, h0km, mb4.3/5, mb1 4.4/6, mb1mx4.0/32, mbtmp4.3/6, ML4.1/1, Error ellipse: s-maj=57.8km s-min=30.8km az=64.0*
ISC 27 18:49:47.0±1.1, 35°.2S±0°.1×72°.0W±0°.2, h35km, n16, σ1s21/14, mb4.4/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.63	169	ePn	Pn	18 51 08.1	-0.1
TRQA	Tornquist	8.55	112	ePn	Pn	18 51 47.8	-0.4
	417nm,2.0s						
LPAZ	La Paz	19.16	11	P	Pn	18 54 09.5	+0.4
	0.3nm,0.3s,baz=172,slow=8.9,SNR=6.7						
SIV	San Ignacio	21.50	30	P	P	18 54 32.9	0.0
	3.9nm,0.6s,baz=216,slow=10,SNR=8.3						
SAML	Samuel	27.36	19	P	P	18 55 28.3	-0.6
	4.4nm,1.2s						
APG	El Apazote	52.92	337	P	P	18 59 09.2	+9.2
	3.1nm,0.4s,baz=138,slow=7.5,SNR=3.9						
DBIC	Dimbokro	75.55	71	P	P	19 01 29.5	+1.3
	3.5nm,0.7s,baz=215,slow=6.0,SNR=5.6						
TSUM	Tsumeb	78.86	106	P	P	19 01 48.4	+1.3
	5.7nm,1.2s						
BOSA	Boshof	79.49	117	P	P	19 01 50.4	0.0
	2.5nm,0.6s,baz=235,slow=5.5,SNR=6.6						
TOA0	Torodi Ar. Sit	84.60	70	eP	P	19 02 14.6	-2.5
TORD	Torodi Ar. Bea	84.60	70	P	P	19 02 17.6	+0.6
	1.4nm,0.8s,baz=234,slow=4.7,SNR=9.5						
ABKAR	Akbulak array	142.40	53	ePKPpre	PKPpre	19 09 09.7	
YAK	Yakutsk	149.88	340	ePKPdf	PKPdf	19 09 28.8	+1.1
AAK	Ala-Archa	153.04	64	ePKPdf	PKPdf	19 09 32.3	-1.1
AAK				ePKPbc	PKPbc	19 09 39.0	-1.7
ZALV	Zalesovo Beam	155.23	34	PKP	PKPdf	19 09 42.3	+6.5
	1.2nm,0.6s,baz=328,slow=3.5,SNR=4.6						
MKAR	Makanchi Array	157.52	51	PKPab	PKPab	19 10 11.1	0.0
	0.5nm,0.9s,baz=266,slow=4.7,SNR=3.6						

IDC **27** *18:52:25.1±0.9, 35°.55S×74°.07W, h0km, mb4.1/8, mb1 4.3/12, mb1mx4.1/34, mbtmp4.1/12, ML4.2/4, Error ellipse: s-maj=30.4km s-min=17.3km az=76.0*
ISC 27 18:52:30.5±0.9, 35°.48S±0°.08×73°.9W±0°.2, h35km, n13, σ1s68/14, mb4.1/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.89	154	Pn	Pn	18 53 52.2	-2.1
	4.3nm,0.3s,baz=337,slow=13,SNR=3.2						
PLCA				Sn	Sn	18 55 04.1	+2.5
	9.6nm,0.3s,baz=270,slow=20,SNR=4.8						
CFAA	Coronel Fontan	6.13	53	Pn	Pn	18 53 57.5	-1.0
	0.5nm,0.3s,baz=221,slow=14,SNR=2.7						
CFAA				Sn	Sn	18 55 15.3	+7.8
	1.0nm,0.3s,baz=285,slow=20,SNR=2.1						
USHA	Ushuaia	19.73	171	P	P	18 56 55.6	-1.2
	0.7nm,0.3s,baz=350,slow=11,SNR=5.2						
LPAZ	La Paz	19.80	17	P	Pn	18 56 59.5	-0.8
	0.2nm,0.3s,baz=185,slow=6.8,SNR=5.7						
SIV	San Ignacio	22.56	34	P	P	18 57 27.2	-0.6
	5.7nm,0.9s,baz=208,slow=12,SNR=5.2						
SNAA	Sanae	50.82	157	P	P	19 01 25.3	-1.9
	4.8nm,1.0s,baz=277,slow=7.8,SNR=11						
TXAR	Lajitas Array	70.29	333	P	P	19 03 41.2	+0.9
	0.7nm,0.5s,baz=150,slow=8.6,SNR=7.0						
DBIC	Dimbokro	77.13	72	P	P	19 04 22.2	+1.5
	2.6nm,0.7s,baz=202,slow=6.6,SNR=3.6						
BOSA	Boshof	80.76	118	P	P	19 04 43.1	+2.4
	3.0nm,0.7s,baz=240,slow=8.1,SNR=3.1						
NVAR	Mina Array Bea	84.22	327	P	P	19 04 59.3	+0.9
	0.7nm,0.6s,baz=137,slow=6.8,SNR=4.0						
PDAR	Pinedale Array	84.39	334	P	P	19 04 58.8	-0.3
	0.2nm,0.7s,baz=113,slow=6.0,SNR=2.7						
TORD	Torodi Ar. Bea	86.18	71	P	P	19 05 09.6	+1.2
	1.3nm,1.0s,baz=235,slow=5.0,SNR=2.9						
SONM	Songino Array	167.65	359	PKPab	PKPab	19 13 37.3	-1.6
	0.5nm,0.9s,baz=326,slow=2.1,SNR=3.6						

IDC 27 18:54:37.6±2.3, 34°.94S×73°.41W, h0km, mb4.2/3, Error ellipse: s-maj=67.7km s-min=37.8km az=11.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	San Ignacio	21.88	33	P	P	18 59 32.4	+0.1
	baz=224,slow=12						
TXAR	Lajitas Array	70.02	332	P	P	19 05 50.7	-0.5
	0.6nm,0.5s,baz=147,slow=8.4,SNR=4.6						
DBIC	Dimbokro	76.55	72	P	P	19 06 30.5	+0.4
	2.4nm,0.7s,baz=211,slow=12,SNR=4.0						
NVAR	Mina Array Bea	84.02	326	P	P	19 07 10.6	+0.6
	baz=151,slow=7.7						
TORD	Torodi Ar. Bea	85.59	71	P	P	19 07 17.8	-0.5
	1.9nm,0.8s,baz=248,slow=3.9,SNR=5.5						

IDC **27** *19:00:02.1±0.3, 33°.39S×71°.90W, h0km, mb5.3/32, mb1 5.4/36, mb1mx5.3/40, mbtmp5.3/36, ML5.3/4, MS5.9/22, Ms1 5.9/22, ms1mx5.7/33, Error ellipse: s-maj=15.4km s-min=9.7km az=71.0*
GUC **27** *19:00:02.8±0.7, 33°.55S×72°.31W, h32km±6km, ML5.9*
ISCJB **27** *19:00:04.4±0.1, 33°.36S±0°.03×71°.85W±0°.04, h19km, mb5.7/234, MS5.9/388, Error ellipse: s-maj=5.1km s-min=3.2km az=43.9*
NEIC **27** *19:00:06.9±0.7, 33°.42S×71°.83W, h31km±5km, mb5.9/210, MS5.9/297, MW6.1, Error ellipse: s-maj=5.3km s-min=3.5km az=68.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{18}Nm; M_{rr}1.44; $M_{\theta\theta}$-0.60; $M_{\phi\phi}$-0.83; $M_{r\theta}$0.24; $M_{\theta\phi}$0.86; $M_{\phi r}$-0.84; Best double couple: $M_0$1.70000×10^{18} NP1:ϕ_s152.00000°, δ60.00000°, λ104.00000°. NP2:ϕ_s305.00000°, δ33.00000°, λ68.00000°. Principal axes: T 1.7200, Plg71.0000°, Azm93.0000°; N 0.0700, Plg11.0000°, Azm324.0000°; P -1.7800, Plg14.0000°, Azm231.0000°;*
NEIC Felt [VII] at Vina del Mar, [V] at Santiago and [IV] at Coquimbo. Also felt at Copiapo, Illapel, La Serena, Ovalle, Puente Alto, Rancagua, San Antonio, San Felipe, Vallenar and Valparaiso. Felt at Alta Gracia, Mendoza, San Juan, San Luis, San Martin and San Rafael, Argentina.
GCMT **27** *19:00:06.9±0.2, 33°.62S×72°.29W, h24km, MW6.2/104, Moment Tensor Solution. s53,c71; s104,c168; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}2.42±.10; $M_{\theta\theta}$-0.34±.05; $M_{\phi\phi}$-2.08±.06; $M_{r\theta}$0.26±.08; $M_{\theta\phi}$0.01±.03; $M_{\phi r}$-1.70±.09; Best double couple: $M_0$2.83100×10^{18} NP1:ϕ_s175.00000°, δ64.00000°, λ86.00000°. NP2:ϕ_s3.00000°, δ27.00000°, λ97.00000°. Principal axes: T 3.0080, Plg71.0000°, Azm77.0000°; N -0.3570, Plg3.0000°, Azm177.0000°; P -2.6540, Plg19.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS **27** *19:00:07.3±0.9, 33°.06S×71°.77W, h33km, mb5.8/59, MS5.9/54 Error ellipse: s-maj=12.1km s-min=7.3km az=96.0*
ISC 27 19:00:05.6±0.2, 33°.47S±0°.04×72°.03W±0°.04, h19km, n1387, σ1s29/1178, mb5.8/236, MS5.9/390, 255C-221D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.55	36	⇓iP	Pb	19 00 17.1	+0.5
TACH	Talagante	0.93	102	⇑iP	Pb	19 00 22.6	-0.6
ROCH	El Roble	0.98	60	⇓iP	Pb	19 00 24.5	+0.2
ROCH				iS	Sn	19 00 41.4	+3.2
ROCH				AML	AML	19 00 51.3	
	comp=E,318μm,0.5s						
RCDM	Rinconada Maip	1.02	92	⇑iP	Pb	19 00 24.4	-0.3
RCDM				iS	Sg	19 00 41.0	+2.0
SAN	Santiago	1.14	90	⇓iP	Pn	19 00 26.6	-0.1
STL	Santa Lucia	1.16	89	⇓iP	Pn	19 00 25.9	-0.9
STL				iS	Sn	19 00 44.1	+1.9
PEL	Peldehue	1.17	74	⇑iP	Pn	19 00 27.8	+0.7
PEL				iS	Sg	19 00 46.0	+2.4
PEL				AML	AML	19 00 53.6	
	comp=E,598μm,0.6s						
PCH	Pirque	1.27	97	iP	Pn	19 00 29.2	+0.7
FCH	Farellones	1.46	85	⇑iP	Pb	19 00 34.8	+2.4
FCH				eS	Sg	19 00 57.5	+4.5
FCH				AML	AML	19 01 05.4	
	comp=N,176μm,0.5s						
CMCH	Combarbala	2.45	21	⇓iP	Pn	19 00 44.3	-0.3
CFAA	Coronel Fontan	3.70	61	Pn	Pn	19 01 02.4	+0.6
	comp=N,12nm,0.3s,baz=253,slow=8.1,SNR=27						
CFAA				LR	LR	19 01 52.4	
	comp=N,8μm,21.5s,baz=248,slow=31						
CFAA				Lg	Lg	19 01 57.8	
	comp=N,97nm,0.3s,baz=231,slow=23,SNR=4.6						
PLCA	Paso Flores	7.35	171	Pn	Pn	19 01 52.5	+0.5
	comp=N,32nm,0.3s,baz=325,slow=9.5,SNR=10						
PLCA				Lg	Lg	19 03 49.6	
	comp=N,8.6nm,0.3s,baz=312,slow=11,SNR=2.9						
PLCA				LR	LR	19 04 55.5	
	comp=N,124μm,18.0s,baz=350,slow=40						
PLCA	Paso Flores	7.35	171	ePn	Pn	19 01 51.9	-0.1
PLCA				Lg	Lg	19 03 49.6	
TRQA	Tornquist	9.36	122	ePn	Pn	19 02 19.7	+0.2
LVC	Limon Verde	11.16	15	ePn	Pn	19 02 39.6	-4.9
CPUP	Villa Florida	14.59	65	Pn	Pn	19 03 27.8	-3.3
	comp=N,0.8nm,0.3s,baz=234,slow=8.0,SNR=4.9						
CPUP				LR	LR	19 09 37.4	
	comp=N,153μm,19.4s,baz=228,slow=40						
CPUP	Villa Florida	14.59	65	ePn	Pn	19 03 26.7	-4.4
LPAZ	La Paz	17.46	13	⇑eP	Pn	19 04 07.9	-0.9
LPAZ	La Paz	17.46	13	P	Pn	19 04 07.2	-1.6
	comp=N,4.0nm,0.3s,baz=182,slow=7.9,SNR=94						
LPAZ	La Paz	17.46	13	⇑ePn	Pn	19 04 07.9	-0.9
SIV	San Ignacio	20.02	32	P	P	19 04 36.3	-1.2
	comp=N,7.7nm,0.3s,baz=226,slow=13,SNR=74						
SIV				LR	LR	19 13 50.9	
	comp=N,118μm,19.2s,baz=228,slow=42						
EFI	East Falkland	20.84	155	eP	P	19 04 42.3	-3.7
EFI				pmax	pmax		
	comp=Z,718nm,0.7s						
EFI				MLR	MLR		
	comp=Z,42μm,18.0s						
EFI	East Falkland	20.84	155	eP	P	19 04 42.3	-3.7
	comp=Z,718nm,0.7s						
EFI				LR	LR		
	comp=Z,42μm,18.0s						
USHA	Ushuaia	21.51	174	P	P	19 04 54.2	+1.0
	comp=Z,36nm,0.6s,baz=1.9,slow=10,SNR=21						
USHA				LR	LR	19 14 11.6	
	comp=Z,27μm,19.5s,baz=339,slow=39						
NNA	Nana	21.83	347	iP	P	19 04 57.9	+0.9
NNA	Nana	21.83	347	P	P	19 04 56.5	-0.5
	comp=Z,73nm,1.1s,baz=188,slow=12,SNR=15						
NNA	Nana	21.83	347	⇑eP	P	19 04 57.2	+0.2
	comp=Z,655nm,1.3s						
NNA				LR	LR		
	comp=Z,13μm,20.2s						
SAML	Samuel	25.73	20	⇑eP	P	19 05 34.0	-0.9
	comp=Z,295nm,0.8s						
SAML				LR	LR		
	comp=Z,22μm,20.0s						
ATAH	Atahualpa	26.86	346	P	P	19 05 44.9	-0.8
	comp=Z,14nm,0.8s,baz=166,slow=9.0,SNR=6.5						
BDFB	Brasilia	28.03	57	eP	P	19 05 54.4	-1.5
BDFB	Brasilia	28.03	57	P	P	19 05 53.4	-2.5
	comp=Z,92nm,0.8s,baz=225,slow=8.4,SNR=83						
BDFB				LR	LR	19 18 49.4	
	comp=Z,96μm,18.7s,baz=224,slow=40						
BDFB	Brasilia	28.03	57	eP	P	19 05 54.4	-1.5
PMSA	Palmer Station	31.71	174	P	P	19 06 27.1	-0.7
	comp=Z,54nm,1.2s,baz=344,slow=18,SNR=2.3						
PMSA				LR	LR	19 19 05.6	
	comp=Z,29μm,19.9s,baz=342,slow=36						
PMSA	Palmer Station	31.71	174	eP	P	19 06 27.9	+0.1
HOPE	Hope Point	32.49	141	P	P	19 06 35.0	+0.2
	comp=Z,2μm,0.8s,SNR=17						
HOPE	Hope Point	32.49	141	eP	P	19 06 34.0	-0.7
	comp=Z,170nm,0.8s						
HOPE				LR	LR		
	comp=Z,36μm,19.0s						
OTAV	Otavalo	34.07	348	⇑eP	P	19 06 50.4	+1.0
	comp=Z,183nm,1.4s						
OTAV				LR	LR		
	comp=Z,8μm,19.0s						
PAYG	Puerto Ayora	36.85	329	eP	P	19 07 11.8	-1.1
	comp=Z,188nm,1.3s						
ROSC	El Rosal	38.18	356	P	P	19 07 23.4	-1.1
	comp=Z,16nm,0.6s,baz=116,slow=4.4,SNR=8.4						
ROSC	El Rosal	38.18	356	eP	P	19 07 26.6	+2.1
SDV	Santo Domingo	42.14	2	⇑eP	P	19 07 56.0	-1.1
	comp=Z,162nm,0.9s						
SDV				LR	LR		
	comp=Z,24μm,18.3s						
BCIP	Isla Barro Col	43.04	349	eP	P	19 08 01.6	-2.6
	comp=Z,97nm,1.0s						
BCIP				LR	LR		
	comp=Z,9μm,20.4s						
RCBR	Riachuelo	43.36	59	P	P	19 08 06.2	-0.8
	comp=Z,41nm,0.8s,baz=226,slow=15,SNR=4.9						
RCBR				LR	LR	19 27 16.9	
	comp=Z,68μm,18.9s,baz=211,slow=38						
RCBR	Riachuelo	43.36	59	eP	P	19 08 06.1	-0.8
	comp=Z,136nm,1.0s						
TPP	Pointe-a-Pierr	44.69	15	e	P	19 08 18.1	+0.7
TBH	Brigand Hill	44.94	15	e	P	19 08 20.6	+1.2
TRN	Trinidad (W)	45.02	15	e	P	19 08 19.5	-0.6
JTS	JuntasAbangare	45.22	342	⇑eP	P	19 08 23.0	+1.3
JTS				pmax	pmax		
	comp=Z,126nm,2.1s						
JTS	JuntasAbangare	45.22	342	P	P	19 08 21.5	-0.2
	comp=Z,8.1nm,0.8s,baz=215,slow=6.5,SNR=7.4						
JTS	JuntasAbangare	45.22	342	eP	P	19 08 21.1	-0.7
	comp=Z,158nm,1.6s						
JTS				eS	S	19 15 00.1	-0.8
JTS				LR	LR		
	comp=Z,8μm,18.6s						
TPR	Prospect	45.68	16	e	P	19 08 25.5	+0.2
GRGR	Grenville	46.41	14	eP	P	19 08 29.7	-1.4
	comp=Z,364nm,0.7s						
GRGR				LR	LR		
	comp=Z,14μm,20.0s						
FCV	Fort Charlotte	47.49	14	e	P	19 08 39.9	+0.4
SVV	Soufriere Volc	47.65	14	e	P	19 08 41.0	+0.2
BBGH	Gun Hill	47.85	16	PFAKE		19 08 50.0	+7.7
BBGH				LR	LR		
	comp=Z,14μm,20.9s						
SLB	Belfond	48.18	14	e	P	19 08 45.1	+0.1
TRIS	Tristan da Cun	48.19	112	P	P	19 08 42.4	-2.5
	comp=Z,545nm,1.0s						
TRIS				LR	LR		
	comp=Z,21μm,20.4s						
H05S1	Guadeloupe/Mar	48.81	14	P	P	19 08 47.1	-2.5
	SNR=27						
FDF	Fort de France	49.04	14	⇑eP	P	19 08 49.2	-2.3
FDF				pmax	pmax		
	comp=Z,103nm,0.6s						
FDF	Fort de France	49.04	14	eP	P	19 08 49.6	-2.0
FDF	Fort de France	49.04	14	⇑eP	P	19 08 49.2	-2.3
	comp=Z,104nm,0.6s						
VNA3	Neumayer Olymp	49.85	158	P	P	19 08 57.1	0.0
LKG	Breislack	50.22	13	eP	P	19 08 57.6	-3.0
SSG	Sans Toucher	50.26	13	eP	P	19 08 58.6	-2.3
VNA2	Neumayer--Watz	50.50	157	P	P	19 09 01.9	-0.1
DEG	La Desirade	50.60	14	eP	P	19 09 00.9	-2.4
SEG	Port Louis	50.60	13	eP	P	19 09 01.7	-1.5
H05N1	Guadeloupe/Mar	50.60	14	P	P	19 09 00.8	-2.6
	SNR=19						
PTCN	Pitcairn Islan	50.78	263	PFAKE		19 09 20.0	+15
PTCN				LR	LR		
	comp=Z,10μm,22.0s						
ICMP	Isla Caja de M	51.33	7	eP	P	19 09 07.4	-1.4
CRPR	Cabo Rojo, PR	51.40	6	⇑eP	P	19 09 07.9	-1.4
	comp=Z,206nm,1.0s						
CRPR				LR	LR		
	comp=Z,7μm,20.4s						
SEUS	St. Eustatius	51.41	11	eP	P	19 09 08.5	-0.8
	comp=Z,494nm,1.0s						
SEUS				LR	LR		
	comp=Z,20μm,19.8s						
OBIP	Obispado Ponce	51.48	7	⇑eP	P	19 09 08.2	-1.7
	comp=Z,237nm,0.9s						
OBIP				LR	LR		
	comp=Z,1μm,18.6s						
SABA	Saba	51.49	11	eP	P	19 09 09.4	-0.6
	comp=Z,808nm,0.8s						
SABA				LR	LR		
	comp=Z,25μm,19.4s						
CELP	Cerrillos	51.52	7	eP	P	19 09 08.9	-1.2
CPD	Cerro la Pandu	51.55	7	eP	P	19 09 09.1	-1.4
CPD				pmax	pmax		
	comp=Z,157nm,1.3s						
CPD				MLR	MLR		
	comp=Z,10μm,19.9s						
CPD	Cerro la Pandu	51.55	7	eP	P	19 09 09.1	-1.4
	comp=Z,157nm,1.3s						
CPD				LR	LR		
	comp=Z,10μm,19.9s						
LSP	Las Mesas	51.57	6	eP	P	19 09 09.5	-1.1
MPR	Mayaguez	51.60	6	eP	P	19 09 10.7	-0.1
	comp=Z,97nm,1.2s						
MPR				LR	LR		
	comp=Z,5μm,21.2s						
HUMP	Col San Antoni	51.66	7	eP	P	19 09 10.2	-1.0
	comp=Z,257nm,1.6s						
HUMP				LR	LR		
	comp=Z,13μm,21.7s						
MTDJ	Mount Denham	51.67	353	eP	P	19 09 10.1	-1.3
	comp=Z,154nm,1.4s						
MTDJ				LR	LR		
	comp=Z,6μm,20.1s						
PAPH	Port-au-Prince	51.70	360	eP	P	19 09 11.8	+0.2
LRS	Lares	51.70	6	eP	P	19 09 09.6	-2.1
AOPR	Arecibo Observ	51.77	6	eP	P	19 09 10.7	-1.4
	comp=Z,296nm,1.5s						
AOPR				LR	LR		
	comp=Z,12μm,21.2s						
ANWB	Willy Bob	51.78	12	eP	P	19 09 09.3	-2.8
	comp=Z,780nm,1.2s						
ANWB				LR	LR		
	comp=Z,9μm,20.5s						
CBYP	Canovanas	51.78	7	eP	P	19 09 10.2	-2.0
	comp=Z,410nm,1.6s						
CBYP				LR	LR		
	comp=Z,12μm,20.3s						
AGP	Aguadilla	51.79	6	PFAKE		19 09 20.0	+7.7
AGP				LR	LR		
	comp=Z,12μm,21.9s						
AGPR	Aguadilla, PR	51.86	6	P	P	19 09 07.8	-4.9
	comp=Z,223nm,1.3s						
SMRT	St. Maarten	51.94	11	eP	P	19 09 11.4	-1.9
	comp=Z,248nm,1.1s						
SMRT				LR	LR		
	comp=Z,20μm,19.5s						
STVI	Saint Thomas	51.97	9	eP	P	19 09 11.3	-2.3
	comp=Z,186nm,1.3s						
STVI				LR	LR		
	comp=Z,11μm,19.6s						
SNAA	Sanae	52.07	158	P	P	19 09 13.5	-0.3
SNAA	Sanae	52.07	158	eP	P	19 09 13.1	-0.8
SNAA	Sanae	52.07	158	⇑iP	P	19 09 13.4	-0.5
SNAA				pmax	pmax		
	comp=Z,348nm,1.7s						
SNAA	Sanae	52.07	158	P	P	19 09 13.9	0.0
	comp=Z,61nm,0.8s,baz=288,slow=7.1						
SNAA				LR	LR	19 31 09.7	
	comp=Z,2μm,18.3s,baz=294,slow=36						
SNAA	Sanae	52.07	158	eP	P	19 09 13.0	-0.8
	comp=Z,310nm,1.0s						
SDDR	Presa de Saban	52.16	1	eP	P	19 09 13.8	-1.2
	comp=Z,37nm,0.8s						
SDDR				LR	LR		
	comp=Z,15μm,18.4s						
SMN1	Samana, DR	52.42	3	eP	P	19 09 14.7	-2.3
GTBY	Guantanamo Bay	53.18	356	eP	P	19 09 21.7	-0.7
	comp=Z,69nm,0.8s						
GTBY				LR	LR		
	comp=Z,6μm,21.3s						
GRTK	Grand Turk	54.68	1	PFAKE		19 09 40.0	+6.6
GRTK				LR	LR		
	comp=Z,11μm,19.0s						
TEIG	Tepich	55.60	341	LR	LR	19 30 15.5	
	comp=Z,2μm,21.2s,baz=168,slow=33						
TEIG	Tepich	55.60	341	eP	P	19 09 39.8	-0.3
	comp=Z,101nm,0.6s						
RKT	Rikitea	55.65	263	eS	S	19 17 25.9	0.0
	comp=Z,8μm,27.5s						
RKT				eSS	SS	19 21 12.2	+1.1
	comp=Z,3μm,31.8s						
RKT				eLR	LR	19 25 54.0	
	comp=Z,12μm,28.8s,baz=122						
RKT	Rikitea	55.65	263	eT	T	20 09 28.4	
	comp=Z,5.5nm,0.2s						
QSPA	South Pole Qui	56.77	180	P	P	19 09 48.7	+0.5
	comp=Z,114nm,0.9s,baz=148,slow=4.6,SNR=2.7						
QSPA				LR	LR	19 33 10.4	
	comp=Z,4μm,21.3s,baz=162,slow=35						
QSPA	South Pole Qui	56.77	180	eP	P	19 09 47.3	-0.9
	comp=Z,261nm,1.0s						
NVL	N'lazarevskaya	56.80	157	eP	P	19 09 48.2	0.0
NVL				eS	S	19 17 42.2	+2.2
NVL				pmax	pmax		
	comp=Z,134nm,1.5s						
NVL				MLR	MLR		
	comp=Z,8μm,15.0s						
H10S3	ASCENSION HYDR	57.98	79	P	P	19 09 57.1	+0.2
	baz=250,slow=9.7,SNR=16						
H10S2	ASCENSION HYDR	57.99	79	P	P	19 09 57.4	+0.4
	baz=250,slow=9.7,SNR=21						
H10S1	ASCENSION HYDR	58.00	79	P	P	19 09 57.4	+0.2
	baz=250,slow=9.7,SNR=16						
H10N3	ASCENSION HYDR	58.73	78	P	P	19 10 03.1	+0.9
	baz=81,slow=75,SNR=6.9						
H10N1	ASCENSION HYDR	58.75	78	P	P	19 10 02.9	+0.5
	baz=81,slow=75,SNR=8.9						
H10N2	ASCENSION HYDR	58.75	78	P	P	19 10 03.2	+0.9
	baz=81,slow=75,SNR=5.8						
ASCN	Ascension	58.80	78	eP	P	19 10 01.2	-1.8
	comp=Z,371nm,0.9s						
ASCN				LR	LR		
	comp=Z,24μm,21.9s						
SHEL	Horse Pasture	61.74	91	eP	P	19 10 23.5	+0.3
SHEL				pmax	pmax		
	comp=Z,250nm,0.8s						
SHEL				MLR	MLR		
	comp=Z,7μm,18.2s						
SHEL	Horse Pasture	61.74	91	eP	P	19 10 23.4	+0.3
	comp=Z,250nm,0.8s						
SHEL				LR	LR		
	comp=Z,7μm,18.2s						
SBA	Scott Base	63.60	192	eP	P	19 10 32.5	-2.1
SBA				MLR	MLR		
	comp=Z,6μm,18.1s						
SBA	Scott Base	63.60	192	eP	P	19 10 32.5	-2.1
SBA				LR	LR		
	comp=Z,6μm,18.1s						
VNDA	Vanda	64.62	191	P	P	19 10 41.8	+0.5
VNDA				pmax	pmax		
	comp=Z,12nm,1.0s						
VNDA				MLR	MLR		
	comp=Z,4μm,21.2s						
VNDA	Vanda	64.62	191	P	P	19 10 41.8	+0.5
	comp=Z,12nm,1.0s,baz=65,slow=4.1,SNR=2.8						
VNDA				LR	LR	19 34 50.0	
	comp=Z,4μm,21.2s,baz=140,slow=32						
035A	Encino	64.98	334	⇑P	P	19 10 45.9	+1.7
	baz=65						
034A	Hebbronville	65.31	334	⇓P	P	19 10 47.6	+1.2
	baz=66						

KVTX Kingsville 65.46 335 eP P 19 10 45.9 -1.4
comp=Z,306nm,1.4s
KVTX LR LR
comp=Z,4μm,19.4s
TIGA Tifton 65.47 349 eP P 19 10 46.0 -1.3
comp=Z,90nm,0.9s
TIGA LR LR
comp=Z,5μm,21.5s
TIGA Tifton 65.47 349 ⇑P P 19 10 47.4 +0.1
baz=66
BRAL Brewton 65.69 346 PFAKE 19 11 00.0 +11
BRAL LR LR
comp=Z,3μm,19.0s
934A Benavides 65.73 334 ⇓P P 19 10 50.2 +1.1
baz=66
BBSR BB Station 65.85 7 eP P 19 10 48.8 -0.9
BBSR LR LR
comp=Z,4μm,19.6s
933A Laredo 66.02 334 ⇑P P 19 10 52.2 +1.2
baz=66,SNR=7.7
834A Tilden 66.22 334 ⇓P P 19 10 53.8 +1.6
baz=67,SNR=11
SYO Syowa Base 66.36 159⇑eP P 19 10 48.8 -3.8
735A Kenedy 66.62 335 ⇑P P 19 10 56.2 +1.4
baz=67
NHSC New Hope 66.66 353 eP P 19 10 54.6 -0.3
comp=Z,210nm,1.3s
NHSC LR LR
comp=Z,5μm,21.0s
833A Chaparral WMA, 66.71 334 ⇑P P 19 10 56.7 +1.3
baz=67,SNR=17
SACV Santiago Islan 66.72 52 eP P 19 10 54.1 -1.6
comp=Z,381nm,1.6s
SACV LR LR
comp=Z,10μm,18.8s
734A La Parita Cree 66.88 335 ⇓P P 19 10 57.8 +1.4
baz=67
832A Faith Ranch, C 66.89 333 ⇑P P 19 10 57.6 +1.1
baz=67,SNR=11
636A Smothers Creek 66.94 336 ⇑P P 19 10 58.4 +1.6
baz=67
HKT Hockley 66.98 338 eP P 19 10 58.1 +1.2
HKT pmax pmax
comp=Z,205nm,1.7s
HKT MLR MLR
comp=Z,7μm,21.8s
HKT Hockley 66.98 338 eP P 19 10 58.1 +1.2
comp=Z,205nm,1.7s
HKT LR LR
comp=Z,7μm,21.8s
733A Divot King Ran 67.03 334 ⇑P P 19 10 58.6 +1.2
baz=67
635A Leesville 67.10 336 ⇓P P 19 10 59.3 +1.5
baz=67
537A Green Hill Far 67.25 337 ⇓P P 19 11 00.5 +1.8
baz=68
732A Laxson Ranch, 67.29 334 ⇓P P 19 11 00.2 +1.1
baz=68,SNR=13
GOGA Godfrey 67.39 350 eP P 19 10 58.2 -1.4
GOGA pmax pmax
comp=Z,34nm,0.8s
GOGA MLR MLR
comp=Z,2μm,20.6s
GOGA Godfrey 67.39 350 eP P 19 10 58.2 -1.4
comp=Z,34nm,0.8s
GOGA ePKiKP PKiKP 19 17 31.7 +6.2
GOGA LR LR
comp=Z,2μm,20.6s
TBI Tubuai 67.45 256 eT T 20 24 13.5
comp=Z,39nm,0.2s
438A Sam Houston St 67.61 338 ⇓P P 19 11 02.5 +1.5
baz=68
VBMS Vicksburg 67.62 343 eP P 19 11 01.8 +0.8
comp=Z,134nm,1.0s
VBMS LR LR
comp=Z,3μm,22.0s
LRAL Lakeview Retre 67.63 346 eP P 19 10 59.5 -1.6
comp=Z,53nm,1.2s
LRAL LR LR
comp=Z,5μm,19.2s
633A Saathoff Ranch 67.66 335 ⇓P P 19 11 03.3 +1.9
baz=68
340A Bronson 67.76 340 ⇑P P 19 11 02.4 +0.5
baz=68
LPIG La Paz 67.87 322 P P 19 11 01.7 -1.1
comp=Z,26nm,0.3s,baz=90,slow=2.0,SNR=1.8
339A Huntington 67.87 339 ⇓P P 19 11 04.6 +2.0
baz=68
632A Uvalde 67.92 334 ⇑P P 19 11 03.9 +0.9
baz=68,SNR=19
534A Blanco 67.93 335 ⇑P P 19 11 04.5 +1.4
baz=68
436A Wall Ranch, Ga 68.05 337 ⇓P P 19 11 08.6 +4.9
baz=68
631A Perdido Creek 68.13 333 ⇓P P 19 11 05.2 +0.9
baz=68
533A Kerrville 68.17 335 ⇑P P 19 11 06.0 +1.4
baz=68,SNR=8.0
NATX Nacogdoches 68.30 339 eP P 19 11 05.4 +0.1
comp=Z,218nm,1.1s
NATX LR LR
comp=Z,1μm,19.0s
435B Jarrell 68.32 336 ⇑P P 19 11 07.4 +1.9
baz=69
239A Gary 68.49 340 ⇓P P 19 11 08.0 +1.5
baz=69
532A Rocksprings 68.53 334 ⇑P P 19 11 07.7 +0.8
baz=69,SNR=18
CNNC Cliffs of the 68.57 355 eP P 19 11 06.1 -0.8
CNNC LR LR
comp=Z,6μm,21.8s
434A Burnet 68.58 336 ⇑P P 19 11 07.6 +0.4
baz=69,SNR=13
336A Riesel 68.63 337 ⇑P P 19 11 07.9 +0.5
baz=69,SNR=10
238A Jacksonville 68.67 339 ⇓P P 19 11 08.1 +0.5
baz=69
531A Rocksprings 68.80 334 ⇓P P 19 11 09.9 +1.3
baz=69,SNR=15
433A Art 68.81 335 ⇑P P 19 11 09.0 +0.4
baz=69,SNR=20
KMSC Kings Mountain 68.81 352 eP P 19 11 08.0 -0.5
comp=Z,32nm,0.8s
KMSC LR LR
comp=Z,4μm,19.8s
KMSC Kings Mountain 68.81 352 ⇑P P 19 11 08.5 +0.1
baz=69
JCT Junction City 68.81 334 eP P 19 11 08.2 -0.4
JCT pmax pmax
comp=Z,371nm,1.5s
JCT MLR MLR
comp=Z,2μm,20.7s
JCT Junction City 68.81 334 eP P 19 11 08.2 -0.4
comp=Z,371nm,1.5s
JCT LR LR
comp=Z,2μm,20.7s
JCT Junction City 68.81 334 ⇓P P 19 11 09.5 +0.9
baz=69,SNR=14
237A Washetta, Mont 68.87 338 ⇑P P 19 11 09.4 +0.5
baz=69
MEH Mehetia 68.93 262 eT T 20 26 04.7
comp=Z,64nm,0.2s
334A Lometa 69.04 336 ⇑P P 19 11 10.4 +0.4
baz=69,SNR=9.8
530A J-C Ranch, Com 69.08 333 ⇓P P 19 11 10.2 -0.1
baz=69,SNR=17
432A Menard 69.17 335 ⇑P P 19 11 10.2 -0.6
baz=70,SNR=12
138A Matatall Enter 69.27 339 ⇓P P 19 11 11.9 +0.5
baz=70
TXAR Lajitas Array 69.28 331 P P 19 11 11.5 -0.1
TXAR pmax pmax
comp=Z,8.0nm,0.9s
TXAR MLR MLR
comp=Z,13μm,18.2s
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 69.28 331 P P 19 11 11.5 -0.1
comp=Z,7.8nm,0.9s,baz=151,slow=7.4,SNR=23
TXAR LR LR 19 37 29.6
comp=Z,13μm,18.2s,baz=0.0,slow=32
TXAR PKPPKP P'P'df 19 39 25.1 +9.3
comp=Z,1.2nm,1.0s,baz=270,slow=3.8,SNR=4.2
TX31 Lajitas Ar. Si 69.28 331 eP P 19 11 11.5 -0.1
431A Sonora 69.29 334 ⇓P P 19 11 11.9 +0.3
baz=70
333A Richland Sprin 69.29 335 ⇑P P 19 11 11.0 -0.6
baz=70,SNR=13

WHTX Lake Whitney 69.39 337 eP P 19 11 11.5 -0.6
comp=Z,220nm,1.2s
WHTX LR LR
comp=Z,2μm,20.7s
WHTX Lake Whitney 69.39 337 ⇑P P 19 11 12.1 0.0
baz=70,SNR=12
529A Stev Forest Ra 69.40 332 ⇓P P 19 11 12.6 +0.3
baz=70,SNR=20
137A Heron Place, G 69.41 339 ⇑P P 19 11 12.3 0.0
baz=70
OXF Oxford 69.56 345⇑eP P 19 11 11.8 -1.3
OXF pmax pmax
comp=Z,261nm,1.1s
OXF MLR MLR
comp=Z,4μm,19.4s
OXF Oxford 69.56 345⇑eP P 19 11 11.8 -1.3
comp=Z,261nm,1.1s
OXF LR LR
comp=Z,4μm,19.4s
332A Millersview 69.61 335 ⇓P P 19 11 14.9 +1.4
baz=70,SNR=9.4
430A Baggett Ranch, 69.61 333 ⇓P P 19 11 13.5 -0.2
baz=70,SNR=14
234A Clairette 69.62 336 ⇓P P 19 11 13.5 0.0
baz=70,SNR=14
TKL Tuckaleechee C 69.64 350 P P 19 11 12.8 -0.8
TKL pmax pmax
comp=Z,33nm,0.8s
TKL Tuckaleechee C 69.64 350 P P 19 11 12.8 -0.8
comp=Z,33nm,0.8s,baz=171,slow=6.8,SNR=26
TKL Tuckaleechee C 69.64 350 eP P 19 11 12.4 -1.2
429A Davenport Ranc 69.72 333 ⇑P P 19 11 14.6 +0.3
baz=70,SNR=17
331A San Angelo 69.78 334 ⇓P P 19 11 15.0 +0.4
baz=70,SNR=14
135A Vickery Place, 69.89 337 ⇓P P 19 11 20.1 +4.9
baz=70
233A Rising Star 69.89 336 ⇑P P 19 11 15.2 -0.1
baz=70,SNR=12
232A Coleman 70.03 335 ⇑P P 19 11 17.0 +0.9
baz=70,SNR=11
134A White-Moore Ra 70.12 337 ⇓P P 19 11 20.5 +3.9
baz=70
TIAR Tiarei 70.14 262 eT T 20 27 35.8
comp=Z,8.6nm,0.2s
330A Mertzon 70.15 334 ⇑P P 19 11 16.3 -0.6
baz=70,SNR=11
PAE Paea 70.29 261 eP P 19 11 21.1 +3.0
comp=Z,22nm,1.0s
PAE Paea 70.29 261 eT T 20 27 46.5
comp=Z,1.8nm,0.3s
231A Bronte 70.31 335 ⇑P P 19 11 18.3 +0.4
baz=71,SNR=13
PPT2 Papeete2 70.32 262 eP P 19 11 21.6 +3.2
comp=Z,92nm,1.1s
PPT2 eS S 19 20 29.0 -1.0
comp=Z,15μm,24.0s
PPT2 Papeete2 70.32 262 eLR LR 19 32 48.9
comp=Z,19μm,29.5s,baz=116
PPT2 Papeete2 70.32 262 eT T 20 27 48.1
comp=Z,3.4nm,0.3s
PPT Papeete 70.33 262 LR LR 19 35 03.8
comp=Z,7μm,18.8s,baz=145,slow=30
133A Hamilton Ranch 70.44 336 ⇑P P 19 11 18.5 0.0
baz=71,SNR=13
TZTN Tazewell 70.48 350 eP P 19 11 18.1 -0.7
comp=Z,142nm,1.5s
TZTN LR LR
comp=Z,6μm,20.6s
UALR University of 70.51 342 eP P 19 11 17.7 -1.2
comp=Z,40nm,0.9s
329A Wagon Wheel Ra 70.52 333 ⇑P P 19 11 19.0 -0.2
baz=71,SNR=16
Z35A Perchaven, San 70.56 338 ⇓P P 19 11 18.3 -1.0
baz=71,SNR=10
230A Sterling City 70.56 334 ⇓P P 19 11 19.3 -0.1
baz=71,SNR=9.3
MIAR Mount Ida 70.61 341 PFAKE 19 11 30.0 +10
MIAR LR LR
comp=Z,2μm,20.0s
ABTX Abilene, Hawle 70.70 336 eP P 19 11 19.7 -0.5
comp=Z,431nm,1.5s
ABTX LR LR
comp=Z,2μm,21.5s
ABTX Abilene, Hawle 70.70 336 ⇑P P 19 11 20.6 +0.4
baz=71,SNR=9.3
VWCC Virginia Weste 70.74 353 eP P 19 11 18.6 -1.7
BLA Blacksburg 70.75 353 eP P 19 11 19.5 -0.9
BLA pmax pmax
comp=Z,34nm,0.9s
BLA MLR MLR
comp=Z,3μm,20.0s
BLA Blacksburg 70.75 353 eP P 19 11 19.5 -0.9
comp=Z,34nm,0.9s
BLA LR LR
comp=Z,3μm,20.0s
WVT Waverly 70.80 346 eP P 19 11 19.4 -1.3
WVT MLR MLR
comp=Z,3μm,22.0s
WVT Waverly 70.80 346 eP P 19 11 19.4 -1.3
WVT LR LR
comp=Z,3μm,22.0s
Z34A Collier Ranch, 70.81 337 ⇑P P 19 11 21.3 +0.5
baz=71,SNR=8.7
HBAR Harrisburg 70.84 344 P P 19 11 19.7 -1.2
URVA University of 70.86 355 eP P 19 11 21.3 +0.3
229A Bryant Ranch, 70.89 333 ⇑P P 19 11 24.7 +3.3
baz=71
131A Roby 71.01 335 ⇓P P 19 11 21.5 -0.6
baz=71,SNR=12
Z33A Whitaker Ranch 71.01 337 ⇑P P 19 11 22.5 +0.5
baz=71,SNR=14
JSRW J. Sargeant Re 71.01 355 eP P 19 11 21.6 -0.3
130A Snyder 71.14 334 ⇑P P 19 11 23.3 +0.4
baz=72,SNR=7.5
Z32A Haskell 71.26 336 ⇑P P 19 11 23.1 -0.5
baz=72,SNR=22
Y34A Reagan Ranch, 71.29 338 ⇑P P 19 11 22.8 -1.0
baz=72,SNR=15
228A UT Block 9, Go 71.32 333 ⇑P P 19 11 24.8 +0.8
baz=72,SNR=17
BBTS Babate 71.32 57 P P 19 11 23.0 -1.3
comp=Z,75nm,0.9s,baz=219,slow=2.5
PVMO Portageville 71.45 345 eP P 19 11 24.8 +0.1
comp=Z,617nm,1.3s
PVMO LR LR
comp=Z,3μm,20.0s
CBN Corbin 71.48 356 eP P 19 11 22.1 -2.6
comp=Z,41nm,0.6s
CBN LR LR
comp=Z,6μm,21.8s
129A Stewart Farms, 71.50 334 ⇓P P 19 11 29.9 +4.7
baz=72
Z31A Sharp Cattle R 71.50 335 ⇑P P 19 11 25.5 +0.4
baz=72,SNR=18
Y33A Hilltop Ranch, 71.62 337 ⇓P P 19 11 25.7 0.0
baz=72
PARMO Parma 71.71 345 eP P 19 11 25.2 -0.9
128A Castleberry Fa 71.72 333 ⇑P P 19 11 27.8 +1.3
baz=72,SNR=17
Z30A Sanderson Ranc 71.82 335 ⇓P P 19 11 27.4 +0.4
baz=72,SNR=12
Y32A R-V Farms, Ver 71.89 336 ⇑P P 19 11 28.3 +0.9
baz=72
X34A Smith Ranch, M 71.91 338 ⇑P P 19 11 29.9 +2.4
baz=72,SNR=14
PBMO Poplar Bluff 71.97 345 eP P 19 11 27.2 -0.5
comp=Z,128nm,1.3s
PBMO LR LR
comp=Z,1μm,18.8s
Z29A Hungry Hill Ra 72.01 334 ⇓P P 19 11 30.5 +2.3
baz=72,SNR=15
MNTX Cornudas Mount 72.05 330 eP P 19 11 26.9 -1.4
comp=Z,34nm,1.0s
MNTX LR LR
comp=Z,10μm,18.4s
X33A Lawton 72.07 337 ⇑P P 19 11 30.8 +2.4
baz=72
GDL2 Guadalupe Moun 72.08 332 eP P 19 11 28.4 -0.2
127A Arkansas Junct 72.11 333 ⇑P P 19 11 29.6 +0.8
baz=72
Y31A Rekieta Farm, 72.13 336 ⇓P P 19 11 29.2 +0.4
baz=72,SNR=10
X32A Elmer 72.22 337 ⇑P P 19 11 33.2 +3.9
baz=73
Y30A Stafford Cattl 72.27 335 ⇑P P 19 11 33.5 +3.8
baz=73
W34A Bridge Creek, 72.48 338 eP P 19 11 30.1 -0.7

comp=Z,144nm,1.1s
W34A LR LR
comp=Z,3μm,21.9s
TUL1 Tulsa 72.51 340 eP P 19 11 30.1 -0.9
comp=Z,217nm,1.5s
TUL1 LR LR
comp=Z,2μm,21.4s
TUL1 Tulsa 72.51 340 ⇑P P 19 11 35.4 +4.5
baz=73,SNR=10
Y29A Porterfield Fa 72.53 334 ⇑P P 19 11 34.1 +2.8
baz=73,SNR=13
USIN University of 72.54 347 eP P 19 11 30.2 -1.0
comp=Z,204nm,1.1s
USIN LR LR
comp=Z,5μm,19.7s
WCI Wyandotte Cave 72.56 348 eP P 19 11 29.4 -1.8
WCI pmax pmax
comp=Z,42nm,0.9s
WCI Wyandotte Cave 72.56 348 eP P 19 11 29.4 -1.8
comp=Z,42nm,0.9s
SIUC Southern Illin 72.61 346 PFAKE 19 11 40.0 +8.5
SIUC LR LR
comp=Z,3μm,21.9s
CPRX Cap Rock 72.62 332 eP P 19 11 31.7 -0.2
comp=Z,15nm,0.9s
W33A Caddo, Fort Co 72.62 338 ⇑P P 19 11 32.7 +1.0
baz=73,SNR=12
Z27A Tatum 72.62 333 ⇓P P 19 11 32.6 +0.8
baz=73,SNR=12
X31A McDonald Ranch 72.64 336 ⇓P P 19 11 32.3 +0.4
baz=73,SNR=15
SDMD Soldier's Deli 72.65 356 eP P 19 11 31.6 -0.1
comp=Z,67nm,1.1s
SDMD LR LR
comp=Z,6μm,20.0s
X30A Coker Ranch, T 72.78 335 ⇓P P 19 11 32.7 0.0
baz=73
Y28A McKinney Farm, 72.79 334 ⇓P P 19 11 33.5 +0.6
baz=73
W32A Sentinel 72.84 337 ⇑P P 19 11 33.0 0.0
baz=73,SNR=28
Z26A Caprock 72.87 332 ⇓P P 19 11 33.6 +0.3
baz=73,SNR=33
V34A Guthrie 72.95 339 eP P 19 11 32.5 -1.2
comp=Z,502nm,1.8s
V34A LR LR
comp=Z,2μm,18.5s
V34A Guthrie 72.95 339 ⇓P P 19 11 34.0 +0.4
baz=73
MSTX Muleshoe 73.04 334 PFAKE 19 11 50.0 +16
MSTX LR LR
comp=Z,5μm,19.5s
MSTX Muleshoe 73.04 334 ⇑P P 19 11 34.1 -0.2
baz=73,SNR=17
X29A Tulia 73.07 335 ⇓P P 19 11 34.5 0.0
baz=73,SNR=6.2
Y27A Causey 73.11 333 ⇑P P 19 11 35.1 +0.3
baz=74
W31A Holland Ranch, 73.13 336 ⇓P P 19 11 34.7 -0.1
baz=74,SNR=7.8
Z25A Roswell 73.17 332 ⇓P P 19 11 35.8 +0.7
baz=74
V33A Lossen Ranch, 73.18 338 ⇓P P 19 11 35.0 0.0
baz=74,SNR=13
ELIM Elim 73.21 121 eP P 19 11 35.6 +0.1
ELIM AMB AMB 19 11 54.5
comp=Z,177nm,2.6s
MVL Millersville 73.21 357 eP P 19 11 35.5 +0.5
comp=Z,100nm,1.3s
MVL LR LR
comp=Z,8μm,21.4s
V32A Arapaho 73.33 337 ⇓P P 19 11 36.5 +0.6
baz=74
OLIL Olney 73.37 347 eP P 19 11 34.5 -1.5
comp=Z,225nm,1.5s
Y26A Elida 73.39 333 ⇑P P 19 11 37.2 +0.7
baz=74
319A Douglas 73.46 327 ⇓P P 19 11 37.5 +0.6
baz=74
AMTX Amarillo 73.46 335 eP P 19 11 35.5 -1.2
comp=Z,292nm,1.3s
AMTX LR LR
comp=Z,3μm,20.5s
AMTX Amarillo 73.46 335 ⇑P P 19 11 37.4 +0.7
baz=74
Z24A Sheeppen Canyo 73.47 331 ⇑P P 19 11 37.9 +0.8
baz=74,SNR=12
CER Ceres 73.48 119 eP P 19 11 37.8 +0.7
CER AMB AMB 19 11 54.2
comp=Z,114nm,3.1s
U34A Anderson Ranch 73.51 339 eP P 19 11 36.0 -0.9
comp=Z,116nm,0.9s
U34A LR LR
comp=Z,2μm,20.9s
U34A Anderson Ranch 73.51 339 ⇑P P 19 11 37.1 +0.2
baz=74,SNR=14
BLO Bloomington 73.51 348 eP P 19 11 35.3 -1.5
BLO pmax pmax
comp=Z,56nm,0.7s
BLO MLR MLR
comp=Z,4μm,21.0s
BLO Bloomington 73.51 348 eP P 19 11 35.3 -1.5
comp=Z,56nm,0.7s
BLO LR LR
comp=Z,4μm,21.0s
V31A Spring Creek L 73.64 337 ⇑P P 19 11 39.0 +1.3
baz=74,SNR=7.8
W29A Amraillo 73.66 335 ⇑P P 19 11 38.5 +0.5
baz=74,SNR=7.0
MAW Mawson 73.69 164 P P 19 11 37.2 -0.4
comp=Z,70nm,0.9s,baz=276,slow=4.2,SNR=6.5
MAW LR LR 19 46 52.8
comp=Z,12μm,18.3s,baz=230,slow=38
MAW Mawson 73.69 164 eP P 19 11 36.8 -0.8
comp=Z,33nm,1.1s
U33A Lingo Farm, Me 73.69 338 ⇑P P 19 11 38.1 +0.1
baz=74,SNR=6.1
SLM Saint Louis 73.71 345 eP P 19 11 36.8 -1.2
SLM pmax pmax
comp=Z,205nm,1.0s
SLM MLR MLR
comp=Z,3μm,19.9s
SLM Saint Louis 73.71 345 eP P 19 11 36.8 -1.2
comp=Z,205nm,1.0s
SLM LR LR
comp=Z,3μm,19.9s
Y25A Mesa, Roswell 73.73 332 ⇑P P 19 11 39.0 +0.5
baz=74
X27A F and S Farms, 73.76 334 ⇑P P 19 11 39.8 +1.3
baz=74
LUPA Lehigh Univers 73.76 357 eP P 19 11 38.8 +0.5
comp=Z,18nm,1.4s
LUPA LR LR
comp=Z,1μm,19.7s
121A Cookes Peak, D 73.79 329 eP P 19 11 39.5 +0.6
comp=Z,172nm,1.4s
121A Cookes Peak, D 73.79 329 ⇓P P 19 11 40.2 +1.4
baz=74,SNR=15
KOMG Komaggas 73.89 115 eP P 19 11 40.5 +1.0
KOMG AMB AMB 19 11 47.0
comp=Z,169nm,1.4s
V30A Spur Ranch, Mi 73.91 336 ⇑P P 19 11 40.6 +1.2
baz=74
CPNY Central Park 73.91 358 PFAKE 19 11 50.0 +11
CPNY LR LR
comp=Z,7μm,20.3s
U32A Winter Ranch, 73.92 338 ⇑P P 19 11 39.7 +0.4
baz=74,SNR=13
SSPA Standing Stone 73.94 355 eP P 19 11 38.7 -0.5
comp=Z,273nm,1.8s
SSPA LR LR
comp=Z,5μm,20.3s
X26A CR and CF Fran 73.94 333 ⇓P P 19 11 40.1 +0.4
baz=74,SNR=22
Y24A Capitan 74.02 332 ⇑P P 19 11 40.5 +0.3
baz=74,SNR=17
ACSO Alum Creek Sta 74.03 351 eP P 19 11 38.5 -1.4
comp=Z,108nm,0.6s
ACSO LR LR
comp=Z,5μm,19.0s
Z22A Elephant Butte 74.06 330 ⇓P P 19 11 40.8 +0.3
baz=74,SNR=16
W27A Bowe Ranch, En 74.12 334 ⇑P P 19 11 41.1 +0.5
baz=74,SNR=12
PAL Palisades 74.13 359 PFAKE 19 11 50.0 +10
PAL LR LR
comp=Z,7μm,21.0s
ODNJ Ogdensburg 74.22 358 eP P 19 11 41.3 +0.3

comp=Z,256nm,1.8s
ODNJ LR LR
comp=Z,8µm,20.4s
X25A Clemmons Ranch 74.25 332 ⇑P P 19 11 41.6 +0.1
baz=75,SNR=8.3
Y23A Lovelace Mesa, 74.28 331 ⇑P P 19 11 42.6 +0.8
baz=75,SNR=11
T33A Patterson Ranc 74.33 338 ⇑P P 19 11 42.2 +0.5
baz=75,SNR=14
W26A Owens Ranch, T 74.40 333 ⇓P P 19 11 43.3 +1.0
baz=75,SNR=16
YLE Yale 74.42 359 eP P 19 11 43.0 +0.9
comp=Z,341nm,1.6s
YLE LR LR
comp=Z,8µm,20.8s
X24A Lazy VL Ranch, 74.58 332 ⇑P P 19 11 44.6 +1.1
baz=75
U30A WK&E Inc. Balk 74.59 336 ⇓P P 19 11 44.4 +1.1
baz=75
LIC Lamto 74.60 72 ⇑iP P 19 11 43.1 -0.7
comp=Z,338nm,1.3s,baz=240
LIC eR
comp=Z,14µm,17.5s
LIC Lamto 74.60 72 eP P 19 11 43.1 -0.7
comp=Z,344nm,1.3s
LIC Lamto 74.60 72 ⇑iP P 19 11 43.1 -0.7
comp=Z,338nm,1.3s
T32A Huddler Ranch, 74.63 338 ⇓P P 19 11 44.5 +1.0
baz=75,SNR=6.7
V27A Dan Oppiter Fa 74.66 334 ⇑P P 19 11 44.8 +1.0
baz=75
BNM Barren Site 74.70 331 eP P 19 11 44.8 +0.6
S33A Kaszmaul Farm, 74.72 339 ⇑P P 19 11 45.6 +1.6
baz=75
KSPA Keystone Colle 74.74 357 eP P 19 11 44.4 +0.5
comp=Z,147nm,1.7s
KSPA LR LR
comp=Z,6µm,18.9s
W25A X Bar L Ranch, 74.78 333 ⇑P P 19 11 44.5 0.0
baz=75,SNR=14
SFIN Scholer Farm 74.79 348 eP P 19 11 42.4 -1.8
comp=Z,226nm,1.6s
SFIN LR LR
comp=Z,3µm,21.4s
SFIN Scholer Farm 74.79 348 ⇑P P 19 11 43.4 -0.8
baz=75
T31A Randall Ranch, 74.79 337 ⇓P P 19 11 44.9 +0.5
baz=75
LPM Los Pinos Moun 74.84 331 eP P 19 11 45.3 +0.3
LENM Lemitar 74.85 331 eP P 19 11 44.4 -0.7
TIC Toumodi 74.86 71 eP P 19 11 44.7 -0.6
comp=Z,66nm,0.7s
KIC Kosan Boka 74.91 72 eP P 19 11 45.1 -0.5
comp=Z,246nm,1.0s
TUC Tucson 74.93 327 eP P 19 11 45.1 -0.3
TUC pmax pmax
comp=Z,168nm,1.8s
TUC MLR MLR
comp=Z,6µm,19.3s
TUC Tucson 74.93 327 eP P 19 11 45.1 -0.3
comp=Z,168nm,1.8s
TUC LR LR
comp=Z,6µm,19.3s
U28A Mallet 75.00 335 ⇑P P 19 11 46.5 +0.8
baz=75,SNR=7.0
DBIC Dimbokro 75.00 71 eP P 19 11 47.0 +0.8
DBIC Dimbokro 75.00 71 ⇑eP P 19 11 45.2 -0.9
DBIC pmax pmax
comp=Z,213nm,1.3s
DBIC Dimbokro 75.00 71 P P 19 11 44.4 -1.7
comp=Z,41nm,0.8s,baz=207,slow=6.1,SNR=42
DBIC LR LR 19 45 10.7
comp=Z,9µm,18.1s,baz=216,slow=36
DBIC Dimbokro 75.00 71 ⇑eP P 19 11 45.2 -0.9
comp=Z,213nm,1.3s
BRYW Bryant College 75.02 0 eP P 19 11 46.2 +0.6
comp=Z,686nm,2.3s
BRYW LR LR
comp=Z,4µm,19.6s
T30A Plains 75.03 337 ⇑P P 19 11 46.5 +0.7
baz=75
V26A Tequesquite Ra 75.04 334 ⇓P P 19 11 46.5 +0.4
baz=75,SNR=12
SUR Sutherland 75.08 119 LR LR 19 39 32.1
comp=Z,7µm,21.9s,baz=238,slow=32
SUR Sutherland 75.08 119 eP P 19 11 46.8 +0.2
comp=Z,128nm,1.0s
S32A Newby Ranch, P 75.11 338 ⇓P P 19 11 45.9 -0.3
baz=76,SNR=6.4
ALLY Alegheny Colle 75.12 354 eP P 19 11 45.1 -1.1
comp=Z,423nm,2.3s
ALLY LR LR
comp=Z,5µm,20.0s
W24A Lazy 6 Ranch, 75.14 332 ⇓P P 19 11 47.4 +0.7
baz=76,SNR=13
S31A Mullinville 75.20 338 ⇓P P 19 11 47.6 +0.8
baz=76
U27A Thompson Grove 75.25 335 ⇑P P 19 11 48.2 +1.0
baz=76
ANMO Albuquerque 75.32 331 c iP P 19 11 48.5 +0.8
ANMO pmax pmax
comp=Z,129nm,1.0s
ANMO Albuquerque 75.32 331 P P 19 11 47.8 +0.1
comp=Z,22nm,1.1s,baz=162,slow=8.5,SNR=20
ANMO Albuquerque 75.32 331 eP P 19 11 47.8 +0.1
comp=Z,124nm,1.4s
ANMO LR LR
comp=Z,11µm,19.0s
T29A Hugoton 75.38 336 ⇑P P 19 11 49.1 +1.2
baz=76
QUA2 Belchertown 75.38 360 eP P 19 11 48.4 +0.8
comp=Z,84nm,1.1s
QUA2 LR LR
comp=Z,5µm,20.7s
R33A Olander Ranch, 75.38 339 ⇑P P 19 11 48.3 +0.5
baz=76,SNR=6.0
W23A Werner Place, 75.39 332 ⇑P P 19 11 49.2 +1.1
baz=76
BINY Binghamton 75.39 357 eP P 19 11 47.8 0.0
comp=Z,114nm,1.4s
BINY LR LR
comp=Z,7µm,19.4s
V25A Rancho No Teng 75.39 333 ⇑P P 19 11 48.7 +0.6
baz=76,SNR=16
WES Weston 75.49 1 PFAKE 19 12 00.0 +12
WES LR LR
comp=Z,6µm,18.6s
V24A Rampart Ranch, 75.54 333 ⇓P P 19 11 50.0 +1.0
baz=76,SNR=11
S30A Montezuma 75.54 337 ⇓P P 19 11 49.6 +0.9
baz=76,SNR=10
U26A Atchley Ranch, 75.55 334 ⇑P P 19 11 50.0 +0.9
baz=76,SNR=11
214A Organ Pipe Nat 75.59 325 eP P 19 11 49.1 0.0
comp=Z,3µm,0.7s
214A Organ Pipe Nat 75.59 325 ⇑P P 19 11 50.6 +1.4
baz=76,SNR=13
HRV Adam Dziewonsk 75.61 0 eP P 19 11 49.1 +0.2
HRV pmax pmax
comp=Z,461nm,2.1s
HRV MLR MLR
comp=Z,3µm,19.8s
HRV Adam Dziewonsk 75.61 0 eP P 19 11 49.1 +0.2
comp=Z,461nm,2.1s
HRV LR LR
comp=Z,3µm,19.8s
T28A Walsh 75.62 336 ⇑P P 19 11 50.0 +0.6
baz=76,SNR=18
R32A Long Quarter, 75.70 339 ⇑P P 19 11 49.9 +0.3
baz=76,SNR=16
KSU1 Kansas State U 75.72 340 eP P 19 11 48.4 -1.3
comp=Z,218nm,1.7s
KSU1 LR LR
comp=Z,4µm,20.3s
KSU1 Kansas State U 75.72 340 ⇓P P 19 11 49.6 -0.1
baz=76,SNR=6.5
S29A Ulysses 75.74 337 ⇑P P 19 11 50.2 +0.3
baz=76,SNR=8.1
T27A Campo 75.78 335 ⇑P P 19 11 50.2 -0.1
baz=76,SNR=27
U25A Circle Dot Ran 75.80 334 ⇓P P 19 11 51.6 +1.2
baz=76
R31A Burdett 75.83 338 ⇓P P 19 11 51.0 +0.6
baz=76
TRY Troy 75.84 359 eP P 19 11 50.9 +0.6
comp=Z,85nm,1.0s
TRY LR LR
comp=Z,5µm,19.5s
V23A Ortiz Mt. (NFS 75.91 332 ⇓P P 19 11 52.0 +0.8
baz=76
Q33A Connelly Farm, 75.97 340 ⇑P P 19 11 51.3 +0.2
baz=76,SNR=6.9
S28A Manter 75.97 336 ⇓P P 19 11 51.8 +0.5
baz=76,SNR=24
R30A Dighton 76.07 337 ⇓P P 19 11 52.1 +0.3
baz=76
U24A Moreno Valley 76.14 333 ⇓P P 19 11 53.4 +0.9
baz=76
AAM Ann Arbor 76.15 351 eP P 19 11 50.1 -1.9
AAM pmax pmax
comp=Z,45nm,0.8s
AAM MLR MLR
comp=Z,4µm,20.3s
AAM Ann Arbor 76.15 351 eP P 19 11 50.1 -1.9
comp=Z,45nm,0.8s
AAM LR LR
comp=Z,4µm,20.3s
Q32A Meitler Ranch, 76.18 339 ⇓P P 19 11 52.6 +0.3
baz=76,SNR=15
T26A Comanche Natio 76.19 334 ⇑P P 19 11 52.9 +0.2
baz=76,SNR=21
P33A Williams Farm, 76.34 340 ⇓P P 19 11 53.2 0.0
baz=77
V22A San Miguel Ran 76.34 331 ⇑P P 19 11 54.5 +0.9
baz=77,SNR=25
S27A Las Animas 76.40 335 ⇑P P 19 11 54.4 +0.6
baz=77,SNR=12
U23A El Rito 76.42 332 ⇓P P 19 11 55.4 +1.4
baz=77,SNR=10.0
X18A Snowflake 76.43 329 ⇓P P 19 11 55.5 +1.5
baz=77,SNR=8.7
Q31A Ellis 76.45 338 ⇑P P 19 11 54.7 +0.8
baz=77,SNR=12
T25A Trinidad 76.46 334 ⇑P P 19 11 54.8 +0.6
baz=77,SNR=35
R29A Marienthal 76.47 337 ⇑P P 19 11 54.8 +0.7
baz=77
ACCN Adirondack Com 76.50 359 eP P 19 11 53.7 -0.3
comp=Z,116nm,1.4s
ACCN LR LR
comp=Z,5µm,20.5s
S26A Kim 76.55 335 ⇓P P 19 11 55.2 +0.6
baz=77,SNR=34
FFD Franklin Falls 76.57 0 PFAKE 19 12 10.0 +16
FFD LR LR
comp=Z,4µm,21.0s
R28A Tribune 76.62 336 ⇑P P 19 11 55.4 +0.4
baz=77,SNR=18
Q30A Quinter 76.68 338 ⇑P P 19 11 55.7 +0.5
baz=77,SNR=19
113A Mohawk Valley, 76.71 325 ⇑P P 19 11 55.9 +0.4
baz=77
U22A Llaves 76.72 332 ⇓P P 19 11 57.1 +1.4
baz=77,SNR=9.9
T24B San Luis 76.75 333 ⇓P P 19 11 56.7 +0.8
baz=77,SNR=20
P32A Huiting Farm, 76.78 339 ⇓P P 19 11 56.0 +0.3
baz=77
HNH Hanover 76.80 360 eP P 19 11 56.6 +0.9
comp=Z,272nm,1.8s
RAR Rarotonga 76.81 253 LR LR 19 38 44.2
comp=Z,4µm,18.8s,baz=156,slow=30
W18A Petrified Fore 76.83 329 eP P 19 11 55.5 -0.9
W18A LR LR
comp=Z,4µm,19.1s
W18A Petrified Fore 76.83 329 ⇓P P 19 11 57.4 +1.1
baz=77
Q29A Oakley 76.84 337 ⇑P P 19 11 56.2 0.0
baz=77,SNR=11
R27A Eads 76.91 336 ⇑P P 19 11 56.8 +0.2
baz=77,SNR=29
P31A Stockton 76.92 339 ⇓P P 19 11 56.7 +0.2
baz=77,SNR=20
S25A Robets Cordova 76.93 334 ⇑P P 19 11 57.6 +0.8
baz=77,SNR=20
T23A Casias Ranch, 76.98 333 ⇓P P 19 11 58.3 +1.1
baz=77
X16A Lo Mia Camp, P 76.99 327 ⇓P P 19 11 58.2 +0.9
baz=77,SNR=28
NCB Newcomb 77.09 358 eP P 19 11 56.9 -0.5
comp=Z,145nm,1.6s
NCB LR LR
comp=Z,5µm,21.1s
MDV Middlebury 77.11 359 eP P 19 11 57.0 -0.4
R26A Arlington 77.15 335 ⇑P P 19 11 58.4 +0.5
baz=78,SNR=13
S24A Houchin Ranch, 77.20 334 ⇑P P 19 11 59.1 +0.6
baz=78,SNR=28
P30A Selden 77.21 338 ⇑P P 19 11 58.6 +0.5
baz=78
DRV Dumont d'Urvil 77.22 193 S S 19 21 32.0 -14
DRV SS SS 19 26 39.0 -3.9
DRV L L 19 32 00.0
DRV R 19 36 00.0
WIN Windhoek 77.22 109 eP P 19 11 58.7 -0.3
WIN AMB AMB 19 12 06.8
comp=Z,40nm,1.2s
O32A Brockman Farm, 77.27 340 ⇑P P 19 11 59.1 +0.7
baz=78
Q28A Sharon Springs 77.28 337 ⇑P P 19 11 59.0 +0.4
baz=78,SNR=11
R25A Fountain Ranch 77.31 334 ⇓P P 19 12 00.1 +1.2
baz=78
Y14A Wickenburg 77.31 326 ⇓P P 19 11 59.5 +0.6
baz=78,SNR=9.4
LBNH Lisbon 77.34 0 eP P 19 11 58.5 -0.2
LBNH pmax pmax
comp=Z,53nm,0.9s
LBNH MLR MLR
comp=Z,4µm,18.0s
LBNH Lisbon 77.34 0 eP P 19 11 58.5 -0.2
comp=Z,53nm,0.9s
LBNH LR LR
comp=Z,4µm,18.0s
SDCO Great Sand Dun 77.40 333 eP P 19 11 59.4 -0.2
comp=Z,124nm,1.6s
SDCO LR LR
comp=Z,8µm,19.1s
UPI Upington 77.45 116 eP P 19 11 57.9 -2.2
UPI AMB AMB 19 12 06.2
comp=Z,121nm,3.3s
GLA Glamis 77.46 324 eP P 19 11 59.8 +0.1
GLA pmax pmax
comp=Z,167nm,1.6s
GLA Glamis 77.46 324 eP P 19 11 59.8 +0.1
comp=Z,167nm,1.6s
GLA Glamis 77.46 324 ⇓P P 19 12 01.4 +1.7
baz=78
P29A Atwood 77.47 338 ⇑P P 19 12 00.4 +0.7
baz=78,SNR=14
O31A Woolen Ranch, 77.48 339 ⇑P P 19 12 00.4 +0.8
baz=78
SCIA State Center 77.49 344 PFAKE 19 12 10.0 +10
SCIA LR LR
comp=Z,4µm,19.0s
KSCO Kaye Shedlock' 77.50 336 eP P 19 11 57.3 -2.6
comp=Z,440nm,1.6s
KSCO LR LR
comp=Z,4µm,20.8s
KSCO Kaye Shedlock' 77.50 336 ⇓P P 19 12 00.5 +0.6
baz=78,SNR=13
S23A Nye Farm, Mont 77.55 333 ⇓P P 19 12 01.8 +1.3
baz=78
R24A Sanders Place, 77.68 334 ⇑P P 19 12 02.3 +1.3
baz=78,SNR=39
WVL Waterville 77.69 2 eP P 19 12 02.7 +2.1
comp=Z,380nm,1.8s
P28A Saint Francis 77.72 337 ⇓P P 19 12 02.0 +0.9
baz=78
PTN Potsdam (NY) 77.72 358 eP P 19 12 00.5 -0.3
PTN MLR MLR
comp=Z,14µm,21.3s
PTN Potsdam (NY) 77.72 358 eP P 19 12 00.5 -0.3
comp=Z,1µm,2.8s
PTN LR LR
comp=Z,14µm,21.3s
O30A MW Ranch, Wils 77.73 338 ⇓P P 19 12 01.9 +0.9
baz=78,SNR=6.7
Q26A Hugo 77.73 335 ⇑P P 19 12 02.5 +1.2
baz=78,SNR=11
N32A Stulken Farm, 77.74 340 ⇑P P 19 12 01.6 +0.5
baz=78
LONY Lake Ozonia 77.75 358 eP P 19 12 00.2 -0.8
comp=Z,78nm,1.3s
LONY LR LR
comp=Z,6µm,20.8s
JFWS Jewell Farm 77.82 346 eP P 19 12 00.6 -0.8
JFWS MLR MLR
comp=Z,5µm,22.0s
JFWS Jewell Farm 77.82 346 eP P 19 12 00.6 -0.8
comp=Z,765nm,2.2s
JFWS LR LR
comp=Z,5µm,22.0s
SWSC Sam W. Stewart 77.85 323 ⇓P P 19 12 01.2 -0.6
baz=78
WUAZ Wupatki 77.88 328 eP P 19 12 01.4 -0.8
comp=Z,215nm,1.5s
WUAZ LR LR
comp=Z,3µm,18.9s
WUAZ Wupatki 77.88 328 ⇑P P 19 12 03.3 +1.1
baz=78
S22A 4UR Ranch, Cre 77.91 332 ⇓P P 19 12 03.4 +1.0
baz=78,SNR=7.5
O29A 4D Ranch, Culb 77.91 338 ⇓P P 19 12 03.2 +1.1
baz=78
R23A Moffat 77.91 333 ⇓P P 19 12 03.5 +1.0
baz=78,SNR=16
EMMW East Machias 77.92 3 eP P 19 12 02.9 +1.0
comp=Z,94nm,0.8s
EMMW LR LR
comp=Z,4µm,20.1s
FRNY Flat Rock 77.95 359 PFAKE 19 12 10.0 +7.9
FRNY LR LR
comp=Z,1µm,21.9s
P27A Ficken Ranch, 77.97 336 ⇓P P 19 12 03.7 +1.2
baz=78
Q25A Bedland, Calha 77.98 335 ⇓P P 19 12 03.6 +0.9
baz=78,SNR=9.4
BAR Barrett 78.08 323 PFAKE 19 12 10.0 +6.8
BAR LR LR
comp=Z,6µm,18.8s
MVCO Mesa Verde 78.10 331 eP P 19 12 03.1 -0.4
comp=Z,77nm,1.1s
MVCO LR LR
comp=Z,14µm,18.5s
MVCO Mesa Verde 78.10 331 ⇑P P 19 12 04.5 +1.0
baz=78,SNR=6.8
PDMCI Parker Dam,Lak 78.14 325 ⇑P P 19 12 04.8 +1.4
baz=78
O28A Krutsinger Ran 78.22 337 ⇓P P 19 12 04.7 +0.8
baz=79
P26A Davis Ranch, A 78.24 336 ⇓P P 19 12 04.6 +0.6
baz=79,SNR=9.1
BC3 Big Chuckawall 78.25 324 ⇓P P 19 12 05.5 +1.3
baz=79
BGNE Belgrade 78.30 340 eP P 19 12 03.3 -0.9
comp=Z,223nm,1.3s
BGNE LR LR
comp=Z,3µm,19.0s
BGNE Belgrade 78.30 340 ⇑P P 19 12 04.4 +0.3
baz=79,SNR=9.8
Q24A Divide 78.34 334 ⇓P P 19 12 05.7 +0.9
baz=79,SNR=17
PKME Peaks-Kenny Pk 78.40 2 ePcP P 19 12 10.8 +6.2
M31A Lambtecht Ranc 78.47 340 ⇓P P 19 12 05.8 +0.6
baz=79,SNR=14
P25A Willow Gulch B 78.48 335 ⇓P P 19 12 06.5 +1.1
baz=79,SNR=6.3
N29A Votaw Ranch, W 78.49 338 ⇑P P 19 12 06.3 +1.0
baz=79
O27A Beecher Island 78.51 337 ⇓P P 19 12 06.7 +1.2
baz=79,SNR=6.2
IRM Iron Mountain 78.51 325 ⇑P P 19 12 06.7 +1.1
baz=79,SNR=9.7
N28A Pribbeno Ranch 78.66 338 ⇑P P 19 12 07.1 +0.8
baz=79
W13A Hualapai Mount 78.68 326 ⇓P P 19 12 07.8 +1.1
baz=79
GRM Grahamstown 78.69 122 eP P 19 12 07.5 +0.6
GRM AMB AMB 19 12 25.7
comp=Z,193nm,2.6s
PFO Pinyon Flat Ob 78.71 323 P P 19 12 06.6 -0.2
PFO pmax pmax
comp=Z,15nm,0.3s
PFO Pinyon Flat Ob 78.71 323 P P 19 12 06.6 -0.2
comp=Z,15nm,0.3s,baz=257,slow=9.0,SNR=16
PFO Pinyon Flat Ob 78.71 323 eP P 19 12 06.6 -0.2
comp=Z,121nm,1.3s
PFO LR LR
comp=Z,6µm,21.1s
PFO Pinyon Flat Ob 78.71 323 ⇑P P 19 12 08.2 +1.4
baz=79
P24A Kohler Place, 78.74 335 ⇓P P 19 12 08.1 +1.2
baz=79
BELC Belle Mtn. Jos 78.80 324 ⇓P P 19 12 08.1 +0.9
baz=79
O26A Horse Wrangler 78.84 336 ⇑P P 19 12 08.6 +1.3
baz=79,SNR=7.3
PV01 Paradox Valley 78.93 331 eP P 19 12 08.3 +0.3
P23A Jefferson 78.96 334 ⇑P P 19 12 09.1 +0.8
baz=79
O25A Wiggins 79.00 335 ⇑P P 19 12 09.2 +1.0
baz=79
OGNE Ogallala 79.05 337 eP P 19 12 07.9 -0.5
comp=Z,185nm,1.5s
OGNE Ogallala 79.05 337 ⇓P P 19 12 09.3 +0.9
baz=79
U15A North Rim 79.05 328 ⇓P P 19 12 09.6 +0.8
baz=79,SNR=16
M29A Burnside Ranch 79.08 338 ⇓P P 19 12 09.6 +1.1
baz=79
N27A Anderson Farm, 79.08 337 ⇑P P 19 12 09.4 +0.8
baz=79,SNR=8.0
PV05 Paradox Valley 79.09 331 eP P 19 12 09.3 +0.4
L31A Butterfield Fa 79.20 340 ⇑P P 19 12 09.5 +0.4
baz=80,SNR=18
SMCO Snowmass 79.21 333 eP P 19 12 10.4 +0.7
comp=Z,104nm,1.1s
SMCO LR LR
comp=Z,6µm,18.7s
LDFC Landfair 79.24 325 eP P 19 12 10.5 +0.9
comp=Z,120nm,1.2s
LDFC LR LR
comp=Z,6µm,18.4s
M28A Bar X Bar Ranc 79.24 338 ⇑P P 19 12 10.5 +1.1
baz=80
L30A Spencer Herefo 79.25 339 ⇓P P 19 12 10.3 +0.9
baz=80
ISCO Idaho Springs 79.25 334 PFAKE 19 12 20.0 +10
ISCO LR LR
comp=Z,4µm,18.4s
ISCO Idaho Springs 79.25 334 ⇓P P 19 12 10.3 +0.5
baz=80,SNR=10
GMRC Granite Mounta 79.26 325 ⇑P P 19 12 10.7 +0.9
baz=80,SNR=12
N26A Koester Ranch, 79.33 336 ⇓P P 19 12 10.9 +0.9
baz=80,SNR=7.6
O24A Longmont 79.34 335 ⇑P P 19 12 11.1 +0.9
baz=80
TSUM Tsumeb 79.35 106 P P 19 12 10.5 -0.2
comp=Z,41nm,0.9s,baz=248,slow=3.9,SNR=2.7
TSUM Tsumeb 79.35 106 eP P 19 12 10.0 -0.8
comp=Z,192nm,1.1s
TSUM LR LR
comp=Z,18µm,20.8s
HVD Gariep Dam 79.42 120 eP P 19 12 10.9 -0.1
HVD AMB AMB 19 12 17.2
comp=Z,142nm,3.3s
PV09 Paradox Valley 79.47 331 eP P 19 12 11.8 +0.8
P22A Eagle 79.49 333 ⇑P P 19 12 12.4 +1.4
baz=80
L29A Maesberg Ranch 79.58 339 ⇑P P 19 12 12.6 +1.4
baz=80
HEC Hector,Ludlow 79.63 324 ⇑P P 19 12 13.2 +1.5
baz=80
M27A Reverse DX Ran 79.69 337 ⇑P P 19 12 13.3 +1.5
baz=80
O23A Lake Granby, G 79.72 334 ⇓P P 19 12 13.5 +1.2
baz=80,SNR=17
KNB Kanab 79.78 328 eP P 19 12 13.8 +1.2
KNB pmax pmax
comp=Z,254nm,1.5s
KNB MLR MLR
comp=Z,4µm,19.1s
KNB Kanab 79.78 328 eP P 19 12 13.8 +1.2
comp=Z,254nm,1.5s
KNB LR LR
comp=Z,4µm,19.1s
PQI Presque Isle 79.85 3 PFAKE 19 12 20.0 +7.5
PQI LR LR
comp=Z,3µm,18.6s
K30A Basset 79.88 340 ⇓P P 19 12 13.7 +0.9
baz=80,SNR=13
N24A Carr 79.90 335 ⇓P P 19 12 14.3 +1.2

baz=80
O22A Kremmling 79.91 334 ⇓P P 19 12 14.2 +0.9
baz=80,SNR=14
TUQ Turquoise Moun 79.92 325 ⇑P P 19 12 14.7 +1.4
baz=80
RRX Edison Barstow 80.00 324 ⇓P P 19 12 15.3 +1.6
baz=80
MWC Mount Wilson 80.00 323 eP P 19 12 11.3 -2.6
MWC pmax pmax
comp=Z,69nm,1.0s
MWC MLR MLR
comp=Z,4µm,18.7s
MWC Mount Wilson 80.00 323 eP P 19 12 11.3 -2.6
comp=Z,69nm,1.0s
MWC LR LR
comp=Z,4µm,18.7s
PASC Pasadena Art C 80.03 323 P P 19 12 12.3 -1.5
comp=Z,64nm,1.2s
PASC LR LR
comp=Z,4µm,20.3s
ECSD EROS Data Cent 80.05 342 eP P 19 12 12.9 -0.8
comp=Z,205nm,1.4s
ECSD LR LR
comp=Z,3µm,20.9s
ECSD EROS Data Cent 80.05 342 ⇓P P 19 12 13.4 -0.3
baz=80,SNR=26
M25A Palm-Egli Farm 80.15 336 ⇑P P 19 12 15.4 +0.9
baz=80,SNR=9.0
K29A Lazy Trails An 80.17 339 ⇓P P 19 12 15.0 +0.6
baz=80
GSC Goldstone 80.24 324 eP P 19 12 15.4 +0.4
GSC MLR MLR
comp=Z,5µm,19.8s
GSC Goldstone 80.24 324 eP P 19 12 15.4 +0.4
GSC LR LR
comp=Z,5µm,19.8s
GSC Goldstone 80.24 324 ⇓P P 19 12 16.6 +1.6
baz=81
BOSA Boshof 80.31 118 eP P 19 12 18.8 +3.0
BOSA AMB AMB 19 12 20.0
comp=Z,155nm,3.5s
BOSA Boshof 80.31 118 P P 19 12 14.9 -1.0
comp=Z,33nm,0.7s,baz=259,slow=3.4,SNR=28
BOSA LR LR 19 43 11.1
comp=Z,7µm,21.4s,baz=240,slow=32
BOSA Boshof 80.31 118 eP P 19 12 14.6 -1.3
comp=Z,157nm,1.1s
N23A Red Feather La 80.33 335 ⇑P P 19 12 16.5 +0.9
baz=81
L26A Underwood Farm 80.37 337 ⇑P P 19 12 16.7 +1.2
baz=81
SHPR Sheep Range 80.42 326 eP P 19 12 16.5 +0.4
comp=Z,166nm,1.4s
N22A Wattenberg Ran 80.44 334 ⇑P P 19 12 17.6 +1.4
baz=81,SNR=14
K28A Ten Mile Ranch 80.44 339 ⇑P P 19 12 17.3 +1.4
baz=81
J30A Dallas 80.44 340 ⇓P P 19 12 15.9 +0.1
baz=81,SNR=11
M24A Cheyenne 80.45 336 ⇓P P 19 12 17.3 +1.2
baz=81,SNR=6.7
CCUT Cedar City 80.46 328 eP P 19 12 17.3 +0.9
comp=Z,111nm,1.3s
CCUT LR LR
comp=Z,4µm,20.1s
SHOC Shoshone 80.46 325 ⇓P P 19 12 17.5 +1.4
baz=81
EDW2 Edwards Air Fo 80.49 323 ⇓P P 19 12 16.8 +0.5
baz=81
PHWY Pilot Hill 80.52 335 eP P 19 12 17.0 +0.3
comp=Z,179nm,1.6s
PHWY LR LR
comp=Z,2µm,21.0s
O20A White River Ci 80.52 333 eP P 19 12 16.4 -0.1
comp=Z,131nm,1.4s
O20A LR LR
comp=Z,6µm,19.9s
O20A White River Ci 80.52 333 ⇓P P 19 12 17.0 +0.4
baz=81
CASY Casey 80.55 181 eP P 19 12 15.6 -0.6
comp=Z,218nm,1.3s
CASY LR LR
comp=Z,8µm,20.0s
SRU San Rafael 80.55 331 PFAKE 19 12 30.0 +13
SRU LR LR
comp=Z,9µm,18.6s
SPMN St. Paul 80.56 345 eP P 19 12 15.1 -1.3
comp=Z,349nm,2.3s
SPMN LR LR
comp=Z,3µm,19.6s
SPMN St. Paul 80.56 345 ⇑P P 19 12 15.5 -0.9
baz=81,SNR=8.8
OSI Osito Adit 80.65 323 eP P 19 12 17.2 0.0
comp=Z,130nm,1.1s
OSI Osito Adit 80.65 323 ⇓P P 19 12 18.1 +0.9
baz=81
ARUT Antelope Range 80.69 328 eP P 19 12 18.1 +0.6
ARUT Antelope Range 80.69 328 eP P 19 12 18.1 +0.6
COWI Conover 80.70 348 eP P 19 12 15.6 -1.5
comp=Z,622nm,2.9s
COWI LR LR
comp=Z,4µm,21.4s
K27A Flueckinger Fa 80.70 338 ⇓P P 19 12 17.8 +0.5
baz=81,SNR=8.6
MSU Marysvale 80.74 329 eP P 19 12 18.7 +0.9
MSU Marysvale 80.74 329 eP P 19 12 18.7 +0.9
MVU Marysvale 80.75 329 eP P 19 12 18.3 +0.4
comp=Z,159nm,1.6s
MVU LR LR
comp=Z,6µm,22.0s
J29A Okreek 80.76 340 ⇑P P 19 12 17.5 -0.1
baz=81,SNR=31
M23A Laramie 80.76 335 ⇑P P 19 12 18.1 +0.3
baz=81,SNR=9.9
L25A Engebretsen Ra 80.77 337 ⇓P P 19 12 18.8 +1.1
baz=81
LRMC Laurel Mountai 80.81 324 ⇓P P 19 12 18.7 +0.6
baz=81
I30A Oacoma 80.97 340 ⇓P P 19 12 18.6 0.0
baz=81,SNR=9.8
TMUT Trail Mountain 80.99 330 eP P 19 12 19.1 -0.1
comp=Z,45nm,1.0s
TMUT LR LR
comp=Z,11µm,21.0s
L24A Wheatland 81.00 336 ⇑P P 19 12 19.6 +0.7
baz=81
K26A Motz Farm, Whi 81.00 337 ⇓P P 19 12 19.4 +0.5
baz=81
M22A Cedar Creek Ra 81.02 334 ⇓P P 19 12 19.3 +0.1
baz=81
J28A Allard Ranch, 81.05 339 ⇑P P 19 12 19.7 +0.6
baz=81,SNR=22
J27A Elkhorn Farm, 81.13 338 ⇑P P 19 12 20.8 +1.2
baz=82,SNR=18
N20A Spence Gulch, 81.14 333 ⇑P P 19 12 20.4 +0.5
baz=82
SWZ Schweizer 81.14 117 eP P 19 12 18.8 -1.5
SWZ AMB AMB 19 12 24.1
comp=Z,94nm,1.1s
K25A Mack Ranch, Ha 81.14 337 ⇑P P 19 12 20.4 +0.7
baz=82
FURC Furnace Creek, 81.20 325 ⇓P P 19 12 21.0 +1.1
baz=82
I29A Vivian Onida 81.32 340 ⇑P P 19 12 20.4 -0.1
baz=82
L23A Garrett 81.32 335 ⇓P P 19 12 21.2 +0.4
baz=82
BRSD Miller 81.33 341 eP P 19 12 19.4 -1.1
comp=Z,70nm,0.8s
BRSD LR LR
comp=Z,3µm,19.3s
BRSD Miller 81.33 341 ⇓P P 19 12 20.2 -0.3
baz=82,SNR=7.4
ISA Isabella 81.35 323 eP P 19 12 21.6 +0.7
ISA pmax pmax
comp=Z,38nm,0.9s
ISA MLR MLR
comp=Z,4µm,19.5s
ISA Isabella 81.35 323 eP P 19 12 21.6 +0.7
comp=Z,38nm,0.9s
ISA LR LR
comp=Z,4µm,19.5s
ISA Isabella 81.35 323 ⇑P P 19 12 21.7 +0.7
baz=82
WOFM Oak Flat 81.37 323 ePKiKP PKiKP 19 17 45.9 -0.3
RWWY Rawlins 81.49 334 PFAKE 19 12 30.0 +8.2
RWWY LR LR
comp=Z,4µm,19.0s

L22A Ellis Ranch, M 81.51 335 ⇑P P 19 12 22.2 +0.4
baz=82
J26A Sides Ranch, S 81.52 338 ⇑P P 19 12 22.4 +0.8
baz=82,SNR=13
I28A Midland 81.55 339 ⇓P P 19 12 21.8 +0.1
baz=82,SNR=16
K24A Anderson Ranch 81.56 336 ⇑P P 19 12 23.0 +1.1
baz=82,SNR=7.0
RUDU RUNDU 81.75 106 eP P 19 12 23.4 -0.2
RUDU AMB AMB 19 12 31.6
comp=Z,272nm,1.1s
H07S1 FLORES T-PHASE 81.75 31 eLQ LQ 19 34 44.2
H07S1 eLR LR 19 39 04.6
MPU Maple Canyon 81.78 330 eP P 19 12 23.0 -0.3
comp=Z,69nm,1.1s
MPU LR LR
comp=Z,12µm,19.7s
VES Vestal, Richgr 81.79 323 ⇑P P 19 12 24.4 +1.3
baz=82
J25A Sunshine Ranch 81.82 337 ⇓P P 19 12 23.6 +0.3
baz=82,SNR=14
SMMC Simmler 81.84 322 ⇓P P 19 12 25.1 +1.6
baz=82
H29A Onida 81.85 340 ⇑P P 19 12 22.9 -0.3
baz=82,SNR=36
K23A Bowen Ranch, D 81.86 336 ⇑P P 19 12 23.7 +0.1
baz=82,SNR=7.7
GRAC Grapevine Rang 81.87 325 ⇑P P 19 12 24.5 +0.9
baz=82
I27A Quinn 81.88 339 ⇑P P 19 12 23.8 +0.3
baz=82,SNR=14
NLU North Lily Min 81.91 330 eP P 19 12 23.7 -0.3
comp=Z,83nm,1.2s
NLU LR LR
comp=Z,9µm,20.3s
G30A Faulkton 82.01 341 ⇓P P 19 12 24.2 +0.1
baz=82,SNR=20
MCQ Macquarie Isla 82.02 207 PFAKE 19 12 40.0 +16
MCQ LR LR
comp=Z,505µm,19.8s
J24A Dixon Ranch, L 82.05 337 ⇑P P 19 12 24.9 +0.4
baz=82,SNR=14
K22A Casper 82.08 335 eP P 19 12 24.6 -0.2
comp=Z,192nm,1.4s
K22A LR LR
comp=Z,4µm,21.9s
K22A Casper 82.08 335 ⇓P P 19 12 25.8 +1.0
baz=82,SNR=9.6
I26A New Underwood 82.09 338 ⇓P P 19 12 25.3 +0.7
baz=82
R11A Troy Canyon, C 82.12 327 eP P 19 12 24.5 -0.5
comp=Z,92nm,1.4s
R11A Troy Canyon, C 82.12 327 ⇓P P 19 12 26.0 +1.0
baz=82,SNR=10
H28A Mission Ridge 82.12 340 ⇓P P 19 12 24.6 -0.1
baz=82,SNR=20
JLU Jordanelle 82.19 331 eP P 19 12 25.2 -0.3
comp=Z,91nm,1.4s
JLU LR LR
comp=Z,8µm,18.9s
SEK Senekal 82.21 119 eP P 19 12 25.4 -0.6
SEK AMB AMB 19 12 31.7
comp=Z,131nm,2.7s
RCTC Rector, Farmer 82.24 323 ⇓P P 19 12 26.5 +1.0
baz=83
KSD Kokstad 82.27 121 eP P 19 12 26.8 +0.6
KSD AMB AMB 19 12 31.1
comp=Z,36nm,2.1s
G29A Hoven 82.28 340 ⇓P P 19 12 25.5 -0.1
baz=83,SNR=8.5
K21A Alcova 82.33 335 ⇑P P 19 12 26.5 +0.4
baz=83,SNR=16
I25A Rochford 82.36 338 ⇑P P 19 12 26.8 +0.6
baz=83,SNR=19
CTU Camp Tracy 82.39 331 PFAKE 19 12 40.0 +14
CTU LR LR
comp=Z,7µm,19.6s
BFSD Buffelsfontein 82.40 117 eP P 19 12 26.8 -0.2
BFSD AMB AMB 19 12 33.0
comp=Z,174nm,5.8s
H27A Howes 82.40 339 ⇓P P 19 12 26.3 +0.2
baz=83,SNR=8.8
DUG Dugway 82.42 330 eP P 19 12 26.1 -0.4
DUG MLR MLR
comp=Z,7µm,19.0s
DUG Dugway 82.42 330 eP P 19 12 26.1 -0.4
DUG LR LR
comp=Z,7µm,19.0s
DUG Dugway 82.42 330 ⇑P P 19 12 27.3 +0.8
baz=83
G28A Parade 82.46 340 ⇑P P 19 12 26.9 +0.4
baz=83,SNR=12
I24A Kuemmerle Ranc 82.51 337 ⇑P P 19 12 27.3 +0.4
baz=83,SNR=6.8
LBTB Lobatse 82.52 115 eP P 19 12 26.8 -0.8
LBTB AMB AMB 19 12 34.7
comp=Z,219nm,1.1s
LBTB Lobatse 82.52 115 P P 19 12 26.6 -1.0
LBTB pmax pmax
comp=Z,35nm,0.8s
LBTB Lobatse 82.52 115 P P 19 12 26.6 -1.0
comp=Z,35nm,0.8s,baz=254,slow=6.2,SNR=2.6
LBTB Lobatse 82.52 115 eP P 19 12 26.6 -1.0
comp=Z,277nm,1.1s
LBTB LR LR
comp=Z,15µm,20.3s
ROSA Rosais 82.52 33 eLR LR 19 38 24.3
comp=Z,1µm,19.7s
RSSD Black Hills 82.55 337 eP P 19 12 26.9 -0.3
RSSD pmax pmax
comp=Z,36nm,0.9s
RSSD MLR MLR
comp=Z,3µm,19.1s
RSSD Black Hills 82.55 337 eP P 19 12 26.9 -0.3
comp=Z,36nm,0.9s
RSSD LR LR
comp=Z,3µm,19.1s
TCUT Toone Canyon 82.61 331 eP P 19 12 26.9 -0.7
F30A Leola 82.63 341 ⇑P P 19 12 27.3 -0.1
baz=83,SNR=13
TPH Tonopah 82.66 326 eP P 19 12 28.1 +0.2
TPH pmax pmax
comp=Z,141nm,1.4s
TPH MLR MLR
comp=Z,4µm,20.0s
TPH Tonopah 82.66 326 eP P 19 12 28.1 +0.2
comp=Z,141nm,1.4s
TPH LR LR
comp=Z,4µm,20.0s
PSMN Pico do Norte, 82.66 36 eLR LR 19 39 17.7
comp=Z,1µm,17.3s
MTUM Tungsten Hills 82.73 324 eP P 19 12 29.2 +1.0
J22A Midwest 82.74 335 ⇓P P 19 12 28.1 0.0
baz=83,SNR=6.8
PRYS Parys 82.79 117 eP P 19 12 30.2 +1.2
PRYS AMB AMB 19 12 34.3
comp=Z,57nm,3.0s
F29A Eureka 82.85 341 ⇓P P 19 12 28.5 +0.1
baz=83,SNR=25
H25A Fruitdale 82.86 338 ⇑P P 19 12 29.2 +0.6
baz=83,SNR=7.0
PGRA Graciosa 82.89 33 eLQ LQ 19 35 02.7
PGRA eLR LR 19 39 50.4
comp=Z,657nm,17.3s
EYMN Ely 82.90 347 eP P 19 12 27.0 -1.7
EYMN LR LR
comp=Z,4µm,21.9s
PSET Sete Cidades 82.99 35 eLQ LQ 19 35 09.2
J21A Lysite 83.02 335 ⇑P P 19 12 29.5 -0.1
baz=83
G27A Dupree 83.03 339 ⇓P P 19 12 29.5 0.0
baz=83,SNR=19
KSR Koster 83.04 116 eP P 19 12 32.5 +2.1
KSR AMB AMB 19 12 37.5
comp=Z,89nm,1.3s
BFZ Birch Farm 83.05 225 eP P 19 12 36.8 +6.9
comp=Z,54nm,1.0s
BFZ LR LR
comp=Z,5µm,18.9s
RSUT Red Spur Mount 83.06 331 eP P 19 12 29.6 -0.4
HWUT Hardware Ranch 83.09 331 eP P 19 12 30.1 +0.1
comp=Z,172nm,1.6s
HWUT LR LR
comp=Z,11µm,19.4s
WDLM Western Deep L 83.11 117 eP P 19 12 29.1 -1.7
WDLM AMB AMB 19 12 36.2
comp=Z,71nm,3.0s

BGU Big Grassy Mou 83.12 330 eP P 19 12 29.3 -0.9
comp=Z,66nm,1.6s
BGU LR LR
comp=Z,4µm,19.5s
F28A McLaughlin 83.13 340 ⇓P P 19 12 30.3 +0.3
baz=84,SNR=7.1
G26A Maurine 83.15 339 ⇑P P 19 12 30.2 +0.1
baz=84,SNR=23
I22A 9 Mile Ranch, 83.16 336 ⇓P P 19 12 29.9 -0.4
baz=84,SNR=14
SPUT South Promonto 83.20 331 eP P 19 12 29.9 -0.6
comp=Z,31nm,0.9s
SPUT LR LR
comp=Z,6µm,19.4s
E30A Jud 83.22 342 ⇑P P 19 12 30.0 -0.3
baz=84,SNR=17
EPU East Promontor 83.25 331 eP P 19 12 30.6 -0.2
BMUT Black Mountain 83.25 332 eP P 19 12 30.4 -0.6
J20A Shoshoni 83.25 334 ⇓P P 19 12 30.7 -0.1
baz=84,SNR=13
H24A Dirks Ranch, A 83.27 337 ⇓P P 19 12 30.4 -0.4
baz=84,SNR=20
BW06 Boulder Array 83.29 333 eP P 19 12 30.1 -1.0
BW06 LR LR
comp=Z,10µm,18.0s
PDAR Pinedale Array 83.29 333 P P 19 12 28.8 -2.3
comp=Z,7.7nm,0.8s,baz=142,slow=7.2,SNR=11
PDAR PKPPbc PKKPdf 19 30 49.7 +4.8
comp=Z,1.5nm,0.7s,baz=101,slow=1.5,SNR=10
KLOF Kloof 83.30 117 eP P 19 12 31.0 -0.7
KLOF AMB AMB 19 12 37.0
comp=Z,114nm,3.2s
G25A Newell 83.31 338 ⇑P P 19 12 30.9 0.0
baz=84,SNR=11
LTU Little Mountai 83.35 331 eP P 19 12 31.1 -0.3
DRLN Deer Lake 83.37 10 eP P 19 12 31.3 +0.3
comp=Z,578nm,1.8s
I21A Big Trails, Te 83.37 335 ⇑P P 19 12 31.3 -0.1
baz=84,SNR=8.7
NV11 Mina Array Sit 83.38 325 eP P 19 12 30.6 -1.0
ODZ Otahua Downs 83.39 219 eP P 19 12 31.1 -0.5
comp=Z,52nm,1.0s
ODZ LR LR
comp=Z,9µm,19.3s
NV01 Mina Array Sit 83.45 325 eP P 19 12 32.3 +0.3
NVAR Mina Array Bea 83.45 325 P P 19 12 31.8 -0.3
comp=Z,11nm,0.7s,baz=156,slow=6.3,SNR=55
NVAR PKKPbc PKKPbc 19 30 54.9 +2.9
comp=Z,1.4nm,0.9s,baz=276,slow=1.2,SNR=4.1
NVAR PKPPKP P'P'df 19 39 04.8 +13
comp=Z,0.3nm,0.4s,baz=258,slow=3.4,SNR=3.6
E29A Napoleon 83.47 341 ⇓P P 19 12 31.1 -0.6
baz=84,SNR=7.0
F27A Lemmon 83.51 339 ⇓P P 19 12 31.9 0.0
baz=84,SNR=28
KHZ Kahutara 83.52 223 ePcP PcP 19 12 39.0 +2.4
KHZ LR LR
comp=Z,4µm,21.6s
J19A Crowheart 83.53 334 ⇓P P 19 12 32.7 +0.4
baz=84
SNZO South Karori 83.56 224 PFAKE 19 12 40.0 +7.5
SNZO LR LR
comp=Z,5µm,22.0s
CRWM Crown Mines 83.66 117 eP P 19 12 35.9 +2.4
CRWM AMB AMB 19 12 37.6
comp=Z,136nm,3.2s
MLI Malad Range 83.67 331 eP P 19 12 32.5 -0.5
F26A Lodgepole 83.68 339 ⇓P P 19 12 32.5 -0.3
baz=84,SNR=11
SAO San Andreas Ge 83.71 322 PFAKE 19 12 40.0 +6.9
SAO LR LR
comp=Z,5µm,19.7s
HVU Hansel Valley 83.72 331 eP P 19 12 32.7 -0.6
HVU pmax pmax
comp=Z,71nm,0.9s
HVU Hansel Valley 83.72 331 eP P 19 12 32.7 -0.6
comp=Z,71nm,0.9s
PMOZ Porto Moniz, M 83.73 44 eLR LR 19 42 37.6
comp=Z,9µm,20.0s
H22A Clearmont 83.73 336 ⇓P P 19 12 33.3 +0.1
baz=84
OBSV Observatory 83.73 117 eP P 19 12 32.6 -1.4
OBSV AMB AMB 19 12 39.2
comp=Z,128nm,3.3s
D30A Buchanan 83.74 342 ⇓P P 19 12 33.0 -0.1
baz=84,SNR=14
G24A Alzada 83.75 338 ⇑P P 19 12 33.3 0.0
baz=84,SNR=7.0
E28A Huff 83.77 341 ⇑P P 19 12 33.5 +0.3
baz=84,SNR=11
ERPM east rand prop 83.77 117 eP P 19 12 35.9 +1.8
ERPM AMB AMB 19 12 39.9
comp=Z,105nm,3.2s
I20A Worland 83.79 335 ⇓P P 19 12 33.6 +0.1
baz=84,SNR=12
BKZ Black Stump Fm 83.84 227 ePcP PcP 19 12 40.1 +2.0
BKZ LR LR
comp=Z,11µm,19.1s
E27A Carson 83.88 340 ⇓P P 19 12 33.9 +0.1
baz=84,SNR=7.2
AHID Auburn Hatcher 83.88 332 PFAKE 19 12 50.0 +16
AHID LR LR
comp=Z,7µm,18.6s
D29A Pettibone, Tap 83.91 341 ⇑P P 19 12 34.0 +0.1
baz=84,SNR=20
ELK Elko 83.91 328 eP P 19 12 34.7 +0.3
ELK pmax pmax
comp=Z,34nm,0.9s
ELK MLR MLR
comp=Z,5µm,18.4s
ELK Elko 83.91 328 P P 19 12 34.2 -0.2
comp=Z,16nm,0.8s,baz=193,slow=2.4,SNR=18
ELK Elko 83.91 328 eP P 19 12 34.7 +0.3
comp=Z,34nm,0.9s
ELK LR LR
comp=Z,5µm,18.4s
NPI North Pocatell 83.93 331 eP P 19 12 33.7 -0.6
G23A Biddle 83.95 337 ⇑P P 19 12 34.0 -0.2
baz=84,SNR=7.6
F25A Bowman 83.98 339 ⇓P P 19 12 34.3 0.0
baz=84,SNR=11
H21A Big Horn, Sher 84.00 336 ⇓P P 19 12 34.1 -0.4
baz=84,SNR=11
TOA0 Torodi Ar. Sit 84.02 70 eP P 19 12 33.8 -1.4
TORD Torodi Ar. Bea 84.02 70 P P 19 12 34.4 -0.8
comp=Z,58nm,0.7s,baz=252,slow=4.2,SNR=146
TORD LR LR 19 47 15.3
comp=Z,10µm,21.9s,baz=235,slow=34
URZ Urewera 84.02 228 PFAKE 19 12 50.0 +15
URZ LR LR
comp=Z,9µm,21.8s
RPZ Rata Peaks 84.05 221 eP P 19 12 35.2 +0.2
comp=Z,95nm,1.0s
RPZ LR LR
comp=Z,8µm,20.6s
WAKR Walker 84.06 324 eP P 19 12 35.0 -0.1
SLR Silverton 84.14 117 eP P 19 12 35.1 -0.9
SLR AMB AMB 19 12 42.7
comp=Z,156nm,1.2s
AGMN Agassiz Nation 84.15 344 eP P 19 12 34.1 -1.0
comp=Z,49nm,1.0s
AGMN LR LR
comp=Z,4µm,19.9s
AGMN Agassiz Nation 84.15 344 ⇓P P 19 12 34.6 -0.4
baz=84,SNR=22
CMB Columbia Colle 84.16 324 eP P 19 12 35.0 -0.4
CMB pmax pmax
comp=Z,73nm,1.2s
CMB MLR MLR
comp=Z,3µm,20.4s
CMB Columbia Colle 84.16 324 eP P 19 12 35.0 -0.4
comp=Z,73nm,1.2s
CMB LR LR
comp=Z,3µm,20.4s
I19A Meeteetse 84.18 334 ⇓P P 19 12 35.5 0.0
baz=84
E26A Carlson Angus 84.18 339 ⇑P P 19 12 35.2 -0.2
baz=84,SNR=11
H20A Greybull 84.21 335 ⇑P P 19 12 35.3 -0.3
baz=85,SNR=22
C30A Mose, Pekin 84.22 342 ⇑P P 19 12 35.5 +0.1
baz=85,SNR=39
WHZ Wether Hill Ro 84.22 217 PFAKE 19 12 50.0 +14
WHZ LR LR
comp=Z,3µm,19.7s
F24A Ekalaka 84.22 338 ⇑P P 19 12 35.2 -0.4
baz=85,SNR=7.3

G22A Birney 84.26 336 ⇓P P 19 12 35.6 -0.3
baz=85,SNR=6.5
REDW Red Top Meadow 84.29 333 PFAKE 19 12 50.0 +14
REDW LR LR
comp=Z,5μm,19.1s
D28A Regan 84.30 341 ⇓P P 19 12 35.8 -0.1
baz=85,SNR=28
SNOW Snow King Moun 84.34 333 eP P 19 12 36.5 0.0
comp=Z,42nm,1.0s
SNOW LR LR
comp=Z,7μm,18.4s
LOHW Long Hollow 84.41 333 PFAKE 19 12 50.0 +13
LOHW LR LR
comp=Z,9μm,18.7s
F23A Volborg 84.42 337 ⇑P P 19 12 36.4 -0.2
baz=85,SNR=10
TPAW Teton Pass 84.44 333 eP P 19 12 37.0 0.0
comp=Z,68nm,1.3s
TPAW LR LR
comp=Z,4μm,18.9s
E25A Miller Ranch, 84.48 339 ⇑P P 19 12 37.0 +0.1
baz=85,SNR=8.3
D27A Center 84.49 340 ⇓P P 19 12 37.1 +0.3
baz=85
BMN Battle Mountai 84.55 327 eP P 19 12 36.3 -1.2
BMN pmax pmax
comp=Z,13nm,0.9s
BMN MLR MLR
comp=Z,6μm,18.8s
BMN Battle Mountai 84.55 327 eP P 19 12 36.3 -1.2
comp=Z,13nm,0.9s
BMN LR LR
comp=Z,6μm,18.8s
G21A Lodge Grass 84.58 336 ⇑P P 19 12 37.4 0.0
baz=85,SNR=8.1
FXWY Fox Creek 84.59 333 eP P 19 12 37.5 -0.2
comp=Z,100nm,1.8s
FXWY LR LR
comp=Z,4μm,18.9s
I17A Pilgrim Ck. 84.66 333 ⇓P P 19 12 38.5 +0.5
baz=85,SNR=11
D26A Manning 84.68 340 ⇑P P 19 12 38.1 +0.3
baz=85,SNR=14
H19A Powell 84.72 334 ⇑P P 19 12 38.3 0.0
baz=85,SNR=16
F22A Rosebud 84.75 337 ⇓P P 19 12 38.0 -0.2
baz=85,SNR=10
IMW Indian Meadow 84.78 333 eP P 19 12 38.8 0.0
comp=Z,86nm,1.4s
IMW LR LR
comp=Z,6μm,18.4s
E24A Baker 84.82 338 ⇓P P 19 12 38.5 -0.1
baz=85
FLWY Flagg Ranch 84.85 333 eP P 19 12 39.1 +0.1
comp=Z,82nm,1.0s
FLWY LR LR
comp=Z,9μm,18.5s
B30A Myrvik Farm, E 84.88 343 ⇓P P 19 12 38.8 +0.1
baz=85,SNR=62
DCZ Deep Cove 84.91 217 PFAKE 19 12 50.0 +11
DCZ LR LR
comp=Z,2μm,20.0s
G20A Bridger 84.92 335 ⇓P P 19 12 38.7 -0.5
baz=85,SNR=26
YTP The Promontory 84.96 334 eP P 19 12 39.4 -0.1
H18A Shoshone NF, C 84.97 334 ⇑P P 19 12 39.3 -0.4
baz=85,SNR=62
C27A Sayler Ranch, 85.03 341 ⇓P P 19 12 39.9 +0.3
baz=85,SNR=26
D25A Fairfield 85.05 339 ⇓P P 19 12 40.2 +0.5
baz=85,SNR=11
H17A Grant Village 85.07 333 eP P 19 12 40.9 +0.7
comp=Z,52nm,1.4s
H17A LR LR
comp=Z,12μm,18.3s
H17A Grant Village 85.07 333 ⇑P P 19 12 41.1 +0.9
baz=85,SNR=7.1
F21A Absaloka Mine, 85.07 336 ⇑P P 19 12 40.4 +0.6
baz=85
MCID Moose Creek 85.12 333 eP P 19 12 40.5 +0.1
B29A Wagenman Farm, 85.15 342 ⇑P P 19 12 40.0 -0.1
baz=86,SNR=27
RLMT Red Lodge 85.21 335 eP P 19 12 40.3 -0.5
comp=Z,192nm,1.7s
RLMT LR LR
comp=Z,3μm,21.5s
YFT Old Faithful 85.21 333 eP P 19 12 41.6 +0.8
comp=Z,58nm,1.0s
YFT LR LR
comp=Z,14μm,19.7s
E22A Miles City 85.23 337 ⇑P P 19 12 40.8 +0.2
baz=86
C26A Wahner Farm, P 85.30 340 ⇑P P 19 12 41.0 +0.1
baz=86,SNR=10
D24A Glendive 85.32 339 ⇓P P 19 12 41.8 +0.8
baz=86
A30A Hoffart Farm, 85.32 343 ⇓P P 19 12 40.8 -0.2
baz=86,SNR=28
YNR Norris Junctio 85.38 333 eP P 19 12 45.8 +4.1
comp=Z,88nm,1.6s
YNR LR LR
comp=Z,8μm,19.8s
B28A Dugan Ranch, T 85.39 342 ⇓P P 19 12 41.2 -0.1
baz=86,SNR=20
F20A Billings 85.40 336 ⇓P P 19 12 41.3 -0.3
baz=86,SNR=8.4
YMR Madison River 85.45 333 eP P 19 12 41.7 -0.3
comp=Z,121nm,0.9s
YMR LR LR
comp=Z,8μm,19.3s
MSKU Masuku 85.45 89 PFAKE 19 12 50.0 +7.4
MSKU LR LR
comp=Z,200nm,19.2s
YHH Holmes Hill 85.51 333 eP P 19 12 42.6 +0.2
LAO LASA Array 85.54 337 eP P 19 12 41.2 -1.0
comp=Z,85nm,1.1s
LAO LR LR
comp=Z,4μm,18.1s
A29A Manning Farm, 85.54 342 ⇑P P 19 12 41.1 -0.9
baz=86,SNR=24
D23A Lindsay 85.64 338 ⇓P P 19 12 43.0 +0.3
baz=86,SNR=15
E21A Keefer Ranch, 85.69 337 ⇑P P 19 12 43.5 +0.6
baz=86
OHCM Honcut 85.71 324 eP P 19 12 44.7 +1.6
C24A Savage 85.72 339 ⇓P P 19 12 43.2 +0.2
baz=86,SNR=28
F19A Roth Farm, Mol 85.73 335 ⇓P P 19 12 42.9 -0.3
baz=86,SNR=18
QLMT Earthquake Lak 85.76 333 eP P 19 12 43.8 +0.3
A28A Rude Farm, Bot 85.79 342 ⇑P P 19 12 43.3 0.0
baz=86,SNR=6.0
HLID Hailey 85.88 331 eP P 19 12 44.4 +0.3
comp=Z,106nm,1.4s
HLID ePKKPbc PKKPbc 19 30 48.1 +1.7
HLID LR LR
comp=Z,3μm,19.4s
HLID Hailey 85.88 331 ⇓P P 19 12 44.7 +0.6
baz=86,SNR=15
D22A Cohagen 85.93 337 ⇑P P 19 12 44.3 +0.2
baz=86,SNR=15
GCMT Greycliff 85.93 335 eP P 19 12 43.1 -1.1
comp=Z,52nm,1.0s
ULM Lac du Bonnet 85.99 345 P P 19 12 42.9 -1.3
ULM pmax pmax
comp=Z,25nm,0.8s
ULM Lac du Bonnet 85.99 345 P P 19 12 42.9 -1.3
comp=Z,24nm,0.8s,baz=156,slow=4.5,SNR=36
ULM Lac du Bonnet 85.99 345 eP P 19 12 42.8 -1.5
comp=Z,41nm,0.9s
B25A Knox Farm, Ray 86.01 340 ⇑P P 19 12 45.1 +0.6
baz=86
E20A Meyer Farm, Mu 86.01 336 ⇑P P 19 12 44.5 0.0
baz=86,SNR=51
D21A La Casta Ranch 86.12 337 ⇓P P 19 12 45.1 0.0
baz=86,SNR=14
RAO Raoul Island 86.17 237 LR LR 19 41 58.3
comp=Z,3μm,21.9s,baz=142,slow=29
C23A Lambert 86.19 338 ⇑P P 19 12 45.3 -0.1
baz=86,SNR=28
E19A Rath Farm, Rou 86.20 336 ⇓P P 19 12 45.3 -0.2
baz=87,SNR=51
HOPS Hopland 86.24 323 PFAKE 19 13 00.0 +14
HOPS LR LR
comp=Z,4μm,19.8s
A26A Wade Farm, Ken 86.26 341 ⇓P P 19 12 45.4 -0.3
baz=87,SNR=10
MCMT McKenzie Canyo 86.30 332 eP P 19 12 46.5 +0.3
MFID Camas Ranch 86.35 330 eP P 19 12 46.7 +0.3
comp=Z,50nm,1.1s
MFID LR LR
comp=Z,4μm,19.1s
C22A Vida 86.36 338 ⇑P P 19 12 45.9 -0.3
baz=87,SNR=12
DGMT Dagmar 86.49 339 eP P 19 12 46.2 -0.6
comp=Z,507nm,1.6s
DGMT LR LR
comp=Z,3μm,20.4s
DGMT Dagmar 86.49 339 ⇓P P 19 12 47.0 +0.2
baz=87,SNR=27
D20A Manuel Ranch, 86.52 336 ⇑P P 19 12 46.9 -0.1
baz=87,SNR=46
BOZ Bozeman (W) 86.53 333 eP P 19 12 45.7 -1.5
BOZ pmax pmax
comp=Z,48nm,1.3s
BOZ MLR MLR
comp=Z,6μm,20.0s
BOZ Bozeman (W) 86.53 333 eP P 19 12 45.7 -1.5
comp=Z,48nm,1.3s
BOZ LR LR
comp=Z,6μm,20.0s
A25A Svangstu Ranch 86.60 340 ⇓P P 19 12 47.4 +0.1
baz=87
DLMT Dillon 86.65 333 eP P 19 12 48.2 +0.4
comp=Z,100nm,1.4s
DLMT LR LR
comp=Z,6μm,18.9s
B23A Brockton 86.72 339 ⇓P P 19 12 48.0 +0.1
baz=87,SNR=12
LCCM Lewis and Clar 86.78 333 P P 19 12 48.5 0.0
WVOR Wild Horse Val 86.78 327 eP P 19 12 48.1 -0.4
WVOR pmax pmax
comp=Z,47nm,1.1s
WVOR MLR MLR
comp=Z,5μm,19.2s
WVOR Wild Horse Val 86.78 327 eP P 19 12 48.1 -0.4
comp=Z,47nm,1.1s
WVOR LR LR
comp=Z,5μm,19.2s
C21A Desert Coulee 86.82 337 ⇑P P 19 12 48.5 0.0
baz=87
D19A Cripps Ranch, 86.84 336 ⇑P P 19 12 48.4 -0.2
baz=87,SNR=17
A24A Westby 86.84 340 ⇑P P 19 12 48.6 +0.1
baz=87,SNR=14
B22A Reddig Ranch S 86.89 338 ⇓P P 19 12 48.7 -0.1
baz=87,SNR=41
LRM Limekiln Ridge 86.98 333 eP P 19 12 49.1 -0.4
comp=Z,2μm,1.9s
C20A Veseth Ranch, 87.02 337 ⇑P P 19 12 49.0 -0.4
baz=87
KCPM Cahto Peak 87.02 323 eP P 19 12 49.4 -0.4
comp=Z,46nm,0.9s
KCPM LR LR
comp=Z,2μm,20.1s
KIPM Iron Peak 87.06 323 eP P 19 12 50.4 +0.5
comp=Z,138nm,1.2s
MOD Modoc 87.13 326 eP P 19 12 50.1 -0.1
comp=Z,105nm,1.4s
MOD LR LR
comp=Z,4μm,19.9s
A23A Redstone 87.13 339 ⇑P P 19 12 50.0 +0.1
baz=88,SNR=8.9
WDC Whiskeytown Da 87.18 324 eP P 19 12 48.8 -1.5
WDC pmax pmax
comp=Z,66nm,1.1s
WDC MLR MLR
comp=Z,2μm,20.0s
WDC Whiskeytown Da 87.18 324 eP P 19 12 48.8 -1.5
comp=Z,66nm,1.1s
WDC LR LR
comp=Z,2μm,20.0s
XMAS Kiritimati 87.29 274 PFAKE 19 13 00.0 +8.5
XMAS LR LR
comp=Z,7μm,21.1s
B21A Ellsworth Farm 87.32 338 ⇑P P 19 12 50.9 0.0
baz=88,SNR=27
MSNA Messina 87.37 115 eP P 19 12 52.4 +0.5
MSNA AMB AMB 19 12 57.9
comp=Z,113nm,3.6s
C19A Slack Wire Ran 87.39 336 ⇓P P 19 12 50.8 -0.5
baz=88,SNR=15
A22A Carney Farms, 87.47 338 ⇓P P 19 12 51.6 0.0
baz=88,SNR=42
KMRM Mail Ridge 87.49 323 eP P 19 12 53.8 +1.9
comp=Z,165nm,1.1s
KMRM LR LR
comp=Z,4μm,20.0s
HRY Holter Researc 87.50 334 eP P 19 12 51.1 -0.8
N02D Trinity Center 87.56 324 ⇓P P 19 12 52.5 +0.2
baz=88
B20A Solberg Farm, 87.66 337 ⇓P P 19 12 52.1 -0.4
baz=88,SNR=24
M04C Macdoel 87.76 325 ⇑P P 19 12 54.0 +0.7
baz=88
A21A Bergtoll Ranch 87.79 338 ⇑P P 19 12 53.0 -0.1
baz=88
EGMT Eagleton 87.88 336 eP P 19 12 52.2 -1.4
comp=Z,76nm,1.2s
EGMT ePKKPbc PKKPbc 19 30 42.1 +0.5
EGMT LR LR
comp=Z,3μm,20.4s
EGMT Eagleton 87.88 336 ⇓P P 19 12 53.0 -0.6
baz=88,SNR=14
M02C Callahan 87.95 324 ⇓P P 19 12 54.6 +0.5
baz=88
B19A Brinkman Farms 87.98 336 ⇑P P 19 12 53.7 -0.3
baz=88,SNR=23
KHMM Horse Mountain 87.99 323 eP P 19 12 54.6 +0.2
KHMM LR LR
comp=Z,5μm,18.2s
A20A Cobblestone Ra 88.01 337 ⇓P P 19 12 53.6 -0.6
baz=88,SNR=39
K05A Summer Lake 88.04 326 eP P 19 12 55.6 +1.0
comp=Z,153nm,1.3s
K05A LR LR
comp=Z,5μm,19.2s
HOG Hogback Mounta 88.05 325 P P 19 12 55.2 +0.4
SCHQ Schefferville 88.06 3 P P 19 12 53.0 -1.1
comp=Z,29nm,0.8s,baz=174,slow=3.9,SNR=14
SCHQ Schefferville 88.06 3 eP P 19 12 53.5 -0.6
comp=Z,294nm,1.7s
OUZ Omahuta 88.13 228 PFAKE 19 13 10.0 +15
OUZ LR LR
comp=Z,22μm,22.0s
BMO Blue Mountains 88.13 330 eP P 19 12 54.5 -0.4
comp=Z,40nm,1.2s
BMO LR LR
comp=Z,5μm,20.0s
YBH Yreka Blue Hor 88.14 325 P P 19 12 54.5 -0.5
YBH pmax pmax
comp=Z,15nm,0.7s
YBH Yreka Blue Hor 88.14 325 P P 19 12 54.5 -0.5
comp=Z,15nm,0.7s,baz=73,slow=6.8,SNR=38
YBH Yreka Blue Hor 88.14 325 eP P 19 12 54.3 -0.7
comp=Z,34nm,0.8s
YBH LR LR
comp=Z,4μm,21.5s
CHMT Chamberlain Mo 88.20 333 eP P 19 12 55.3 0.0
A19A Klindworth Far 88.32 337 ⇓P P 19 12 55.1 -0.6
baz=89,SNR=22
K04D Chiloquin, OR 88.37 326 ⇓P P 19 12 57.0 +0.9
baz=89
MSO Missoula 88.39 333 eP P 19 12 55.9 -0.2
comp=Z,40nm,1.3s
MSO LR LR
comp=Z,6μm,19.9s
MSO Missoula 88.39 333 ⇓P P 19 12 56.6 +0.5
baz=89
I07A Izee 88.47 328 eP P 19 12 57.3 +0.7
comp=Z,68nm,1.2s
I07A LR LR
comp=Z,6μm,18.7s
SLMT Seeley Lake 88.56 333 eP P 19 12 55.9 -1.1
KTRM Thompson Ridge 88.60 324 P P 19 12 58.3 +1.0
J05D Fort Rock, OR 88.64 326 ⇓P P 19 12 58.0 +0.6
baz=89
PINOR Pinor Mountain 88.88 327 eP P 19 12 58.8 +0.5
L02D Cave Junction, 88.90 324 ⇓P P 19 12 59.4 +1.0
baz=89
HUMO Hull Mountain 88.93 325 eP P 19 12 57.9 -0.7
comp=Z,237nm,2.4s
HUMO LR LR
comp=Z,4μm,19.9s
SWMT Swartz Lake 88.98 333 eP P 19 12 58.9 0.0
F10A Beach Ranch, E 89.00 330 eP P 19 12 58.7 -0.3
comp=Z,63nm,1.0s
F10A LR LR
comp=Z,3μm,19.7s
J04D Umpqua Nationa 89.01 326 ⇓P P 19 12 60.0 +0.8
baz=89
G08A Pilot Rock 89.19 329 eP P 19 13 00.2 +0.3
comp=Z,147nm,2.0s
G08A LR LR
comp=Z,5μm,18.9s
KBO Bosley Butte 89.24 324 PFAKE 19 13 10.0 +10
KBO LR LR
comp=Z,6μm,20.1s
YBMT Yellow Bay 89.28 333 eP P 19 12 59.6 -0.7
JTMT Jette 89.28 333 eP P 19 13 00.3 0.0
BLMT Blacktail Moun 89.53 333 eP P 19 13 00.6 -0.9
I04A Tendick Farm, 89.57 326 ⇑P P 19 13 02.6 +1.0
baz=90
KEBM Edson Butte 89.79 324 PFAKE 19 13 10.0 +7.3
KEBM LR LR
comp=Z,5μm,20.4s
E09A Wood Farm, Sta 89.82 330 eP P 19 13 01.6 -1.1
comp=Z,15nm,0.9s
E09A LR LR
comp=Z,5μm,19.0s
G06A Carlson Farm, 89.88 328 eP P 19 13 03.8 +0.8
comp=Z,367nm,2.3s
G06A LR LR
comp=Z,5μm,19.9s
I03D Drain, OR 89.94 326 ⇑P P 19 13 04.2 +0.9
baz=90
LSZ Lusaka 89.96 108 P P 19 13 03.7 -0.7
LSZ pmax pmax
comp=Z,6.0nm,0.9s
LSZ Lusaka 89.96 108 P P 19 13 03.7 -0.7
comp=Z,6.2nm,0.9s,baz=62,slow=9.1,SNR=11
LSZ Lusaka 89.96 108 eP P 19 13 04.2 -0.2
comp=Z,106nm,1.3s
LSZ LR LR
comp=Z,21μm,20.2s
H04A Detroit Lake 90.15 327 eP P 19 13 05.2 +0.9
comp=Z,30nm,1.0s
H04A LR LR
comp=Z,5μm,20.3s
VGB Gordon Butte 90.16 328 P P 19 13 05.3 +0.9
VGB Gordon Butte 90.16 328 P P 19 13 05.3 +0.9
G05D Wamic, OR 90.19 328 ⇑P P 19 13 05.8 +1.3
baz=90
BLTW Bickleton 90.21 329 P P 19 13 05.2 +0.6
WALA Waterton Lakes 90.23 334 eP P 19 13 04.1 -0.6
HAWA Hanford 90.31 329 eP P 19 13 04.6 -0.3
comp=Z,63nm,1.3s
HAWA LR LR
comp=Z,5μm,21.1s
AFI Afiamalu 90.36 253 PFAKE 19 13 20.0 +14
AFI LR LR
comp=Z,43μm,19.6s
D08A Wollman Farm, 90.57 330 eP P 19 13 06.3 +0.1
comp=Z,112nm,1.8s
E07A Sunnyside 90.57 329 eP P 19 13 06.7 +0.4
comp=Z,18nm,0.8s
E07A LR LR
comp=Z,5μm,18.8s
COR Corvallis 90.59 326 PFAKE 19 13 20.0 +14
COR LR LR
comp=Z,2μm,19.9s
OD2 Odessa Site #2 90.75 330 P P 19 13 07.0 -0.1
NEW Newport 90.81 332 P P 19 13 06.2 -1.1
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW Newport 90.81 332 P P 19 13 06.2 -1.1
comp=Z,6.5nm,0.9s,baz=140,slow=6.2,SNR=12
NEW Newport 90.81 332 eP P 19 13 05.3 -2.0
comp=Z,12nm,0.8s
NEW LR LR
comp=Z,6μm,18.3s
NEW Newport 90.81 332 ⇑P P 19 13 06.6 -0.7
baz=91
C09A Chrisman Ranch 90.90 331 eP P 19 13 07.8 +0.1
comp=Z,37nm,0.8s
C09A LR LR
comp=Z,6μm,20.8s
DPW Davenport 90.92 331 P P 19 13 07.7 -0.2
DPW Davenport 90.92 331 P P 19 13 07.7 -0.2
PAF Port-aux-Franc 90.97 156 S S 19 23 23.0 -42
PAF SS SS 19 29 18.0 -48
PAF L L 19 39 00.0
PAF R 19 43 00.0
ASR Mount Adams--S 91.01 328 P P 19 13 08.9 +0.5
F04A Amboy 91.21 327 eP P 19 13 09.1 0.0
comp=Z,199nm,1.9s
F04A LR LR
comp=Z,4μm,21.5s
LTY Liberty 91.47 329 eP P 19 13 10.5 +0.1
comp=Z,218nm,2.5s
LTY LR LR
comp=Z,6μm,18.0s
MDT Midelt 91.47 51 LR LR 19 53 40.2
comp=Z,8μm,21.2s,slow=35
FFC Flin Flon 91.55 343 eP P 19 13 09.2 -1.3
FFC pmax pmax
comp=Z,76nm,1.8s
FFC MLR MLR
comp=Z,6μm,21.5s
FFC Flin Flon 91.55 343 eP P 19 13 09.2 -1.3
comp=Z,76nm,1.8s
FFC LR LR
comp=Z,6μm,21.5s
LON Longmire 91.57 328 eP P 19 13 10.3 -0.6
LON pmax pmax
comp=Z,12nm,0.9s
LON MLR MLR
comp=Z,4μm,19.1s
LON Longmire 91.57 328 eP P 19 13 10.3 -0.6
comp=Z,12nm,0.9s
LON LR LR
comp=Z,4μm,19.1s
ETW Entiat 91.60 330 P P 19 13 11.0 -0.1
F03A Seaside 91.73 327 PFAKE 19 13 20.0 +8.4
F03A LR LR
comp=Z,5μm,18.1s
B08A Colville Reser 91.77 331 eP P 19 13 11.1 -0.7
comp=Z,88nm,1.9s
B08A LR LR
comp=Z,4μm,18.1s
PTEO Sao Teotonio 91.98 45 eP P 19 13 13.8 +0.9
comp=Z,231nm,1.5s
D05A Enumclaw 91.98 328 eP P 19 13 13.4 +0.7
comp=Z,44nm,1.0s
D05A LR LR
comp=Z,4μm,19.8s
E03A Lebam 92.19 327 PFAKE 19 13 20.0 +6.3
E03A LR LR
comp=Z,5μm,19.6s
PBDV Barranco-do-Ve 92.26 46 eP P 19 13 18.9 +4.6
PVAQ Vaqueiros 92.49 46 eLQ LQ 19 42 53.2
PVAQ eLR LR 19 46 58.7
comp=Z,9μm,20.0s
TAM Tamanrasset 92.59 64 eP P 19 13 15.6 -0.7
TAM pmax pmax
comp=Z,58nm,1.3s
TAM Tamanrasset 92.59 64 eP P 19 13 15.6 -0.7
comp=Z,58nm,1.3s
B06A Marblemount 92.79 330 eP P 19 13 21.7 +5.3
comp=Z,105nm,1.9s
B06A LR LR
comp=Z,5μm,18.2s
NLWA Neilton Lookou 92.97 328 PFAKE 19 13 30.0 +13
NLWA LR LR
comp=Z,4μm,19.1s
PBAR Barrancos 93.40 46 eP P 19 13 26.0 +6.5
comp=Z,207nm,1.9s
A05A Maple Falls 93.42 330 PFAKE 19 13 30.0 +11
A05A LR LR
comp=Z,5μm,18.3s
EDM Edmonton 93.50 337 eP P 19 13 17.0 -2.6
EDM Edmonton 93.50 337 eP P 19 13 17.0 -2.6
PESTR Estremoz 93.52 45 eP P 19 13 24.2 +4.1
comp=Z,140nm,1.8s
FCC Fort Churchill 93.71 349 eP P 19 13 20.0 -0.3
FCC Fort Churchill 93.71 349 eP P 19 13 20.0 -0.3
PMRV Marv??o 94.01 45 eLQ LQ 19 43 37.0
PMRV eLR LR 19 47 42.4
comp=Z,7μm,18.0s
MTE Manteigas 94.55 44 eP P 19 13 31.5 +6.7
MTE Manteigas 94.55 44 eLQ LQ 19 43 53.0

MTE eLR LR 19 47 43.7
comp=Z,10µm,18.0s
MTE Manteigas 94.55 44 PFAKE 19 13 30.0 +5.2
MTE LR LR
comp=Z,10µm,18.4s
MVO Moncorvo 95.35 43 eP P 19 13 28.4 -0.1
comp=Z,60nm,1.2s
MVO Moncorvo 95.35 43 eLR LR 19 48 15.7
comp=Z,8µm,18.0s
POHA Pohakuloa 95.47 290 PFAKE 19 13 40.0 +10
POHA LR LR
comp=Z,4µm,21.2s
TAU Tasmania Unive 95.89 208 PFAKE 19 13 40.0 +9.0
TAU LR LR
comp=Z,3µm,19.9s
PAB San Pablo 95.89 46 eP P 19 13 35.3 +4.3
PAB MLR MLR
comp=Z,10µm,20.1s
PAB San Pablo 95.89 46 eP P 19 13 35.3 +4.3
comp=Z,471nm,2.9s
PAB LR LR
comp=Z,10µm,20.1s
PBRG Braganca 95.93 43 eP P 19 13 33.3 +2.2
MSVF Nonsavu 96.04 244 PFAKE 19 13 40.0 +7.7
MSVF LR LR
comp=Z,4µm,21.8s
ESDC Sonseca Array 96.20 46 P P 19 13 30.9 -1.5
comp=Z,4.2nm,0.7s,baz=236,slow=3.9,SNR=13
ESDC LR LR 19 56 00.4
comp=Z,6µm,19.0s,baz=245,slow=35
ESLA Sonseca Array 96.20 46 P P 19 13 30.9 -1.5
ES19 SONSECA Array 96.26 46 eP P 19 13 31.9 -0.7
KIP Kipapa 98.33 290 PFAKE 19 13 50.0 +7.7
KIP LR LR
comp=Z,5µm,18.5s
SJPF Ste Jean 99.93 45 eP Pdif 19 13 48.1 -0.9
comp=Z,72nm,1.1s
SJPF Ste Jean 99.93 45 eP Pdif 19 13 48.1 -0.9
SJPF pmax pmax
comp=Z,72nm,1.1s
SJPF Ste Jean 99.93 45 eP Pdif 19 13 48.1 -0.9
comp=Z,72nm,1.1s
ETSF Etsaut 100.20 45 eP Pdif 19 13 49.2 -1.1
comp=Z,65nm,1.1s
ETSF Etsaut 100.20 45 eP Pdif 19 13 49.2 -1.1
ETSF pmax pmax
comp=Z,65nm,1.1s
ETSF Etsaut 100.20 45 eP Pdif 19 13 49.2 -1.1
comp=Z,65nm,1.1s
EPF Esparros 100.81 45 eP Pdif 19 13 51.7 -1.3
comp=Z,18nm,0.8s
EPF Esparros 100.81 45 eP Pdif 19 13 51.7 -1.3
EPF pmax pmax
comp=Z,18nm,0.8s
EPF Esparros 100.81 45 eP Pdif 19 13 51.7 -1.3
comp=Z,18nm,0.8s
SFJD Kangerlussuaq 101.47 8 PFAKE 19 14 10.0 +15
SFJD LR LR
comp=Z,4µm,18.0s
YKA Yellowknife Ar 101.56 341 P Pdif 19 13 54.5 -1.1
comp=Z,1.9nm,0.6s,baz=143,slow=4.6,SNR=49
YKA PKiKP PKiKP 19 18 20.0 +0.7
comp=Z,0.3nm,0.4s,baz=160,slow=1.9,SNR=4.9
YKA PKKPbc PKKPbc 19 30 05.2 +0.2
comp=Z,0.6nm,0.7s,baz=323,slow=2.7,SNR=3.9
DZM Mont Dzumac 101.56 234 eSKSac SKSac 19 24 34.2 -1.7
comp=Z,3µm,27.0s
DZM Mont Dzumac 101.56 234 ePS PS 19 27 16.6 +5.9
comp=Z,2µm,27.9s
DZM eSS SS 19 32 43.7 +5.7
comp=Z,9µm,27.8s
DZM Mont Dzumac 101.56 234 eLQ LQ 19 43 04.8
comp=Z,4µm,36.8s
DZM eLR LR 19 47 17.9
comp=Z,12µm,28.8s
ABPO Ambohimpanom 102.05 122 PFAKE 19 14 10.0 +11
ABPO LR LR
comp=Z,4µm,20.0s
MTLF Montolieu 102.11 46 eP Pdif 19 13 57.0 -1.7
comp=Z,120nm,1.8s
MTLF Montolieu 102.11 46 eP Pdif 19 13 57.0 -1.7
MTLF pmax pmax
comp=Z,120nm,1.8s
MTLF Montolieu 102.11 46 eP Pdif 19 13 57.0 -1.7
comp=Z,120nm,1.8s
LFF La Frestale 102.15 44 eP Pdif 19 13 57.5 -1.3
comp=Z,70nm,0.9s
LFF La Frestale 102.15 44 eP Pdif 19 13 57.5 -1.3
LFF pmax pmax
comp=Z,70nm,0.9s
LFF La Frestale 102.15 44 eP Pdif 19 13 57.5 -1.3
comp=Z,70nm,0.9s
MFF Saint Martin d 102.61 42 eP Pdif 19 13 59.3 -1.5
comp=Z,197nm,1.8s
MFF Saint Martin d 102.61 42 eP Pdif 19 13 59.3 -1.5
MFF pmax pmax
comp=Z,197nm,1.8s
MFF Saint Martin d 102.61 42 eP Pdif 19 13 59.3 -1.5
comp=Z,197nm,1.8s
CRAG Craig 102.78 329 PFAKE 19 14 10.0 +8.7
CRAG LR LR
comp=Z,3µm,20.2s
RJF Les Rejaudoux 102.81 44 eP Pdif 19 14 00.2 -1.6
comp=Z,46nm,1.2s
RJF eR
comp=Z,14µm,20.8s
RJF Les Rejaudoux 102.81 44 eP Pdif 19 14 00.2 -1.6
RJF pmax pmax
comp=Z,46nm,1.2s
RJF Les Rejaudoux 102.81 44 eP Pdif 19 14 00.2 -1.6
comp=Z,46nm,1.2s
CAF Calviac 102.92 45 eP Pdif 19 14 00.9 -1.4
CAF Calviac 102.92 45 eP Pdif 19 14 00.9 -1.4
CAF Calviac 102.92 45 eP Pdif 19 14 00.9 -1.4
WRAK Wrangell Islan 103.08 330 PFAKE 19 14 10.0 +7.4
WRAK LR LR
comp=Z,2µm,18.5s
DSB Dublin 103.39 34 PFAKE 19 14 10.0 +5.9
DSB LR LR
comp=Z,6µm,20.6s
LASF Ste Croix 103.51 46 eP Pdif 19 14 03.6 -1.3
LASF Ste Croix 103.51 46 eP Pdif 19 14 03.6 -1.3
LDF La Druitiere 103.78 41 eP Pdif 19 14 04.3 -1.6
LDF La Druitiere 103.78 41 eP Pdif 19 14 04.3 -1.6
LDF La Druitiere 103.78 41 eP Pdif 19 14 04.3 -1.6
ARMA Armidale 104.23 218 PFAKE 19 14 20.0 +11
ARMA LR LR
comp=Z,2µm,20.3s
VIVF Saint-Julien-l 104.42 46 eP Pdif 19 14 08.1 -0.9
comp=Z,46nm,1.3s
VIVF Saint-Julien-l 104.42 46 eP Pdif 19 14 08.1 -0.9
VIVF pmax pmax
comp=Z,46nm,1.3s
VIVF Saint-Julien-l 104.42 46 eP Pdif 19 14 08.1 -0.9
comp=Z,46nm,1.3s
VSL Villasalto 104.54 52 PFAKE 19 14 20.0 +10
VSL LR LR
comp=Z,11µm,18.6s
SIT Sitka 104.74 330 PFAKE 19 14 20.0 +10
SIT LR LR
comp=Z,2µm,19.9s
SMF Signal de Mont 104.91 44 eP Pdif 19 14 09.9 -1.1
comp=Z,127nm,1.5s
SMF Signal de Mont 104.91 44 eP Pdif 19 14 09.9 -1.1
SMF pmax pmax
comp=Z,127nm,1.5s
SMF Signal de Mont 104.91 44 eP Pdif 19 14 09.9 -1.1
comp=Z,127nm,1.5s
LOR Lormes 105.25 43 eP Pdif 19 14 11.6 -1.0
LOR eR
comp=Z,11µm,22.2s
LOR Lormes 105.25 43 eP Pdif 19 14 11.6 -1.0
LOR Lormes 105.25 43 eP Pdif 19 14 11.6 -1.0
KMBO Kilima Mbogo 105.38 102 eP Pdif 19 14 28.3 +14
KMBO MLR MLR
comp=Z,9µm,19.3s
KMBO Kilima Mbogo 105.38 102 eP Pdif 19 14 28.3 +14
KMBO LR LR
comp=Z,9µm,19.3s
BORG Borgarnes 105.59 20 PFAKE 19 18 40.0
BORG LR LR
comp=Z,7µm,18.0s
BNI Bardonecchia 105.73 46 PFAKE 19 18 40.0
BNI LR LR
comp=Z,9µm,19.9s
LPL La Plagne 106.01 46 eP Pdif 19 14 14.8 -1.4
comp=Z,25nm,1.1s
LPL La Plagne 106.01 46 eP Pdif 19 14 14.8 -1.4
LPL pmax pmax
comp=Z,25nm,1.1s
LPL La Plagne 106.01 46 eP Pdif 19 14 14.8 -1.4
comp=Z,25nm,1.1s
LPG La Plagne 106.01 46 eP Pdif 19 14 14.9 -1.4
comp=Z,48nm,1.3s
LPG La Plagne 106.01 46 eP Pdif 19 14 14.9 -1.4
LPG pmax pmax
comp=Z,48nm,1.3s
LPG La Plagne 106.01 46 eP Pdif 19 14 14.9 -1.4
comp=Z,48nm,1.3s
ESK Eskdalemuir 106.13 34 PFAKE 19 18 40.0
ESK LR LR
comp=Z,26µm,20.0s
WDD Wield Dalam 106.22 58 PFAKE 19 18 40.0
WDD LR LR
comp=Z,33µm,18.6s
EDI Edinburgh 106.49 33 PFAKE 19 18 40.0
EDI LR LR
comp=Z,6µm,20.3s
VLC Villacollemand 107.56 48 PFAKE 19 18 40.0
VLC LR LR
comp=Z,6µm,19.0s
STKA Stephens Creek 107.68 210 PFAKE 19 18 40.0
STKA LR LR
comp=Z,1µm,19.9s
WLF Walferdange 107.82 42 P Pdif 19 14 25.0 +1.2
comp=Z,19nm,1.9s
WLF Walferdange 107.82 42 PFAKE 19 18 40.0
WLF LR LR
comp=Z,16µm,19.6s
TUE Stuetta 108.06 46 PFAKE 19 18 40.0
TUE LR LR
comp=Z,6µm,18.9s
MEM Membach 108.22 41 PFAKE 19 18 40.0
MEM LR LR
comp=Z,8µm,20.0s
SUMG Summit 108.27 10 iP PP 19 18 56.7 +0.2
comp=Z,10nm,1.0s
SUMG Summit 108.27 10 PFAKE 19 18 40.0
SUMG LR LR
comp=Z,5µm,18.3s
CEL Celeste 108.34 56 PFAKE 19 18 40.0
CEL LR LR
comp=Z,19µm,19.6s
BFO Black Forest 108.38 44 PFAKE 19 18 40.0
BFO LR LR
comp=Z,6µm,21.8s
DAVOX Davos/Dischmat 108.53 46 PKKP 19 29 55.7
comp=Z,2.1nm,0.8s,baz=257,slow=4.2,SNR=3.3
EIDS Eidsvold 108.55 221 PFAKE 19 18 40.0
EIDS LR LR
comp=Z,4µm,20.0s
FUORN Ofenpass-Fuorn 108.69 46 PFAKE 19 18 40.0
FUORN LR LR
comp=Z,10µm,21.9s
CUC Castrocucco 109.10 54 PFAKE 19 18 40.0
CUC LR LR
comp=Z,10µm,18.6s
STU Stuttgart 109.10 44 PFAKE 19 18 40.0
STU LR LR
comp=Z,6µm,21.2s
TIP Timpagrande 109.36 55 PFAKE 19 18 50.0
TIP LR LR
comp=Z,16µm,22.0s
RAGM Ragged Mountai 110.65 330 PFAKE 19 18 50.0
RAGM LR LR
comp=Z,3µm,18.7s
GRF Grafenberg Arr 110.71 44 ePP PP 19 19 13.1 -1.1
MID Middleton Isla 110.87 328 PFAKE 19 18 50.0
MID LR LR
comp=Z,3µm,21.3s
BMRM Bremner River 110.92 330 PFAKE 19 18 50.0
BMRM LR LR
comp=Z,2µm,21.0s
DIV Divide 111.49 330 PFAKE 19 18 50.0
DIV LR LR
comp=Z,2µm,20.3s
TARA Tarawa 111.51 257 PFAKE 19 18 50.0
TARA LR LR
comp=Z,4µm,18.4s
EGAK Eagle 111.61 334 PFAKE 19 18 50.0
EGAK LR LR
comp=Z,3µm,19.0s
GEC2 GERESS Array S 111.77 45 ePKIKP PKiKP 19 18 40.0 +1.1
GEC2 GERESS Array S 111.77 45 ePKiKP PKiKP 19 18 40.0 +1.1
GERES GERESS Array B 111.77 45 P Pdif 19 14 47.6 +6.0
GERES i 19 18 38.0
GERES 19 29 48.9
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 111.77 45 Pdiff Pdif 19 14 47.6 +6.0
comp=Z,0.3nm,0.7s,baz=165,slow=5.5,SNR=3.5
GERES PKiKP PKiKP 19 18 38.0 -0.9
comp=Z,2.2nm,0.7s,baz=200,slow=2.7,SNR=8.4
GERES PKKP PKKPdf 19 29 48.9 -3.5
comp=Z,1.4nm,0.9s,baz=54,slow=2.3,SNR=4.8
KHC Kasperske Hory 111.83 45 ePKIKP PKiKP 19 18 33.0 -5.9
KHC e 19 18 48.1
KHC e 19 19 21.7
KHC MLR MLR
comp=Z,7µm,17.4s
KHC Kasperske Hory 111.83 45 ePKP PKiKP 19 18 33.0 -5.9
KHC epPKP PP 19 18 48.1 -34
KHC ePP PP 19 19 21.7 -0.6
KHC AMS AMS 20 16 30.0
comp=Z,7µm,17.4s
KHC Kasperske Hory 111.83 45 PFAKE 19 18 50.0
KHC LR LR
comp=Z,5µm,18.9s
DOT Dot Lake 112.09 333 PFAKE 19 18 50.0
DOT LR LR
comp=Z,5µm,21.0s
FURI Furi 112.11 94 PFAKE 19 18 50.0
FURI LR LR
comp=Z,11µm,20.0s
PAX Paxson 112.30 332 ePKKPbc PKKPbc 19 29 33.5 +2.1
PAX LR LR
comp=Z,2µm,18.5s
CLL Collm 112.45 43 ePKIKP PKiKP 19 18 43.7 +3.8
CLL MLR MLR
comp=Z,12µm,20.1s
CLL Collm 112.45 43 epPdif pPdif 19 14 52.0 +1.2
ePKiKP PKiKP 19 18 42.0 +2.1
comp=Z,14nm,1.3s
CLL esPKiKP sPKiKP 19 18 53.0 +4.4
CLL ePP PP 19 19 26.0 -0.6
CLL ePS PS 19 29 01.0 +0.6
CLL ePPS PPS 19 30 09.0
CLL eSS SS 19 35 12.0 +5.8
CLL eSSS SSS 19 39 12.0
CLL eSSSS 19 43 00.0
CLL e 19 46 12.0
CLL Lm MLR 20 04 00.0
comp=Z,10µm,20.1s
CLL Collm 112.45 43 ePKiKP PKiKP 19 18 43.7 +3.8
CLL LR LR
comp=Z,12µm,20.1s
SEW Seward 112.57 328 PFAKE 19 18 50.0
SEW LR LR
comp=Z,3µm,20.5s
PRA Prague 112.74 44 PP PP 19 19 27.0 -1.7
PRU Pruhonice 112.77 44 ePP PP 19 19 26.1 -2.8
PRU AMS AMS 20 07 00.0
comp=Z,6µm,19.6s
BRG Berggiesshubel 112.80 43 ePKP PKiKP 19 18 38.7 -1.9
comp=Z,5.0nm,0.9s
BRG ePP PP 19 19 30.1 +1.0
comp=Z,11nm,1.2s
comp=N,5µm,22.0s
comp=E,7µm,19.4s
comp=Z,10µm,20.0s
BRG Berggiesshubel 112.80 43 ePKIKP PKiKP 19 18 38.7 -1.9
BRG e 19 19 30.1
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,11nm,1.2s
BRG MLR MLR
comp=N,5µm,22.0s
BRG MLR MLR
comp=E,7µm,19.4s
BRG MLR MLR
comp=Z,10µm,20.0s
SML Sawmill 112.90 330 PFAKE 19 18 50.0
SML LR LR
comp=Z,800nm,20.3s
KDAK Kodiak Island 112.95 325 PFAKE 19 18 50.0
KDAK LR LR
comp=Z,5µm,18.9s
PVCC Panska Ves 113.01 44 AMS AMS 20 06 40.0
comp=Z,8µm,18.5s
TREC Trest 113.03 45 ePKIKP PKiKP 19 18 43.0 +1.9
TREC MLR MLR
comp=Z,5µm,18.8s
TREC Trest 113.03 45 ePKP PKiKP 19 18 43.0 +1.9
TREC ex x 19 19 13.3
TREC AMS AMS 20 11 30.0
comp=Z,5µm,18.8s
PMR Palmer 113.13 330 PFAKE 19 18 50.0
PMR LR LR
comp=Z,3µm,19.9s
SII Sitkinak Islan 113.20 323 PFAKE 19 18 50.0
SII LR LR
comp=Z,5µm,21.7s
FORT Forrest 113.34 199 PFAKE 19 18 50.0
FORT LR LR
comp=Z,3µm,19.2s
RUE Ruedersdorf 113.38 42 PFAKE 19 18 50.0
RUE LR LR
comp=Z,9µm,19.9s
ILAR Eielson Array 113.72 333 iPKIKP PKiKP 19 18 41.0 -1.0
ILAR 19 19 34.0
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR Eielson Array 113.72 333 PKiKP PKiKP 19 18 41.0 -1.0
comp=Z,1.0nm,0.7s,baz=167,slow=2.2,SNR=9.9
ILAR PP PP 19 19 34.0 -1.4
comp=Z,2.9nm,1.0s,baz=140,slow=2.0,SNR=4.8
ILAR PKKPbc PKKPab 19 29 31.4 +1.8
comp=Z,1.2nm,0.8s,baz=308,slow=3.8,SNR=4.9
UPC Upice 113.84 44 ePKIKP PKiKP 19 18 46.5 +3.9
UPC Upice 113.84 44 ePKP PKiKP 19 18 46.5 +3.9
DPC Dobruska-Polom 113.96 44 ePKIKP PKiKP 19 18 41.7 -1.2
DPC Dobruska-Polom 113.96 44 ePKP PKiKP 19 18 41.7 -1.2
DPC ex x 19 19 03.7
DPC Dobruska-Polom 113.96 44 ePKIKP PKiKP 19 18 43.1 +0.2
DPC LR LR
comp=Z,29µm,19.0s
RGN Rugen 113.99 39 PFAKE 19 18 50.0
RGN LR LR
comp=Z,9µm,21.0s
MCK McKinley 114.03 332 PFAKE 19 18 50.0 +7.4
MCK LR LR
comp=Z,2µm,19.8s
KRLC Kraliky 114.12 45 ePKIKP PKPdf 19 18 45.9 +2.7
KRLC e 19 19 41.1
KRLC Kraliky 114.12 45 ePKP PKPdf 19 18 45.9 +2.7
KRLC ePP PP 19 19 41.1 +2.5
COLA College 114.14 333 PFAKE 19 18 50.0 +7.3
COLA LR LR
comp=Z,4µm,19.8s
KSP Ksiaz 114.14 44 iPKIKP PKPdf 19 18 43.0 -0.2
KSP Ksiaz 114.14 44 ePKP PKPdf 19 18 43.4 +0.2
KONO Kongsberg 114.27 33 PFAKE 19 18 50.0 +6.9
KONO LR LR
comp=Z,6µm,20.4s
MORC Moravsky Berou 114.45 45 ⇓PKIKP PKPdf 19 18 43.8 -0.1
MORC Moravsky Berou 114.45 45 ⇓iP PKPdf 19 18 43.8 -0.1
MORC Moravsky Berou 114.45 45 PFAKE 19 18 50.0 +6.1
MORC LR LR
comp=Z,6µm,19.0s
TRF Thorofare Moun 114.45 331 ePKiKP PKPdf 19 18 43.2 -0.4
TRF LR LR
comp=Z,3µm,18.4s
VYHS Vyhne 114.72 47 ePKIKP PKPdf 19 18 43.8 -0.6
VYHS e 19 19 43.8
VYHS Vyhne 114.72 47 ePKP PKPdf 19 18 43.8 -0.6
VYHS ePP PP 19 19 43.8 +0.9
HNR Honiara 114.75 239 PFAKE 19 19 00.0 +14
HNR LR LR
comp=Z,2µm,20.0s
KTH Kantishna Hill 114.75 331 PFAKE 19 19 00.0 +16
KTH LR LR
comp=Z,3µm,19.8s
DAG Danmarks Havn 114.79 12 ePKIKP PKPdf 19 18 41.8 -1.9
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 114.79 12 iP PKPdf 19 18 41.8 -1.9
comp=Z,2.4nm,0.9s
OKC Ostrava-Krasne 114.83 46 AMS AMS 20 13 20.0
comp=Z,3µm,17.3s
PPLA Purkeypile 114.99 330 PFAKE 19 19 00.0 +15
PPLA LR LR
comp=Z,3µm,18.9s
PSZ Piszkesteto 115.15 48 PFAKE 19 19 00.0 +15
PSZ LR LR
comp=Z,8µm,20.5s
CAST Castle Rocks 115.17 331 PFAKE 19 19 00.0 +15
CAST LR LR
comp=Z,3µm,21.1s
BZS Buzias 115.36 51 ⇑PKIKP PKPdf 19 18 45.4 -0.3
BZS Buzias 115.36 51 ⇑iP PKPdf 19 18 45.4 -0.3
CTAO Charters Tower 115.42 220 PFAKE 19 19 00.0 +13
CTAO LR LR
comp=Z,3µm,18.0s
NB2 NORSAR Subarra115.57 32 PKPdf PKPdf 19 18 44.3 -1.4
comp=Z,11nm,1.4s,baz=248,slow=1.9
NB2 NORSAR Subarra115.57 32 PKPdf PKPdf 19 18 44.3 -1.4
baz=248,slow=1.9
NOA NORSAR Array B115.57 32 PKiKP PKPdf 19 18 44.0 -1.7
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B115.57 32 PKP PKPdf 19 18 44.0 -1.7
comp=Z,2.1nm,0.7s,baz=251,slow=2.2,SNR=8.1
GKP Gorka Klasztor 115.62 42 ePKIKP PKPdf 19 18 50.1 +4.2
GKP Gorka Klasztor 115.62 42 ePKP PKPdf 19 18 50.0 +4.2
SVW2 Sparrevohn 115.73 328 PFAKE 19 19 00.0 +14
SVW2 LR LR
comp=Z,3µm,19.3s
SDPT Sand Point 115.95 321 PFAKE 19 19 00.0 +14
SDPT LR LR
comp=Z,4µm,19.8s
OJC Ojcow 115.96 46 PFAKE 19 19 00.0 +13
OJC LR LR
comp=Z,5µm,19.3s
COLD Coldfoot 116.03 335 PFAKE 19 19 00.0 +14
COLD LR LR
comp=Z,3µm,20.4s
HFS Hagfors 116.36 34 PKIKP PKPdf 19 18 45.4 -1.7
HFS pmax pmax
comp=Z,3.0nm,0.7s
HFS Hagfors 116.36 34 PKP PKPdf 19 18 45.4 -1.7
comp=Z,3.2nm,0.7s,baz=130,slow=5.8,SNR=3.8
CRVS Cervenica-Dubn 116.49 47 ePKIKP PKPdf 19 18 50.1 +2.3
CRVS e 19 19 55.5
CRVS Cervenica-Dubn 116.49 47 ePKP PKPdf 19 18 50.1 +2.3
CRVS ePP PP 19 19 55.5 +0.2
DRGR 116.50 50 ⇑PKIKP PKPdf 19 18 47.6 -0.4
DRGR 116.50 50 ⇑iP PKPdf 19 18 47.5 -0.4
STHS Stebnicka Huta 116.54 47 ePKIKP PKPdf 19 18 49.4 +1.5
STHS e 19 19 57.1
STHS Stebnicka Huta 116.54 47 ePKP PKPdf 19 18 49.4 +1.5
STHS ePP PP 19 19 57.1 +1.4
LOT Lotru 116.70 52 ⇑iP PKPdf 19 18 49.7 +1.3
TRPA Tarpa 116.88 48 ⇓iP PKPdf 19 18 48.2 -0.3
UZH Uzhgorod 116.90 48 ePKIKP PKPdf 19 18 51.0 +2.5
MIDW Midway 116.96 287 PFAKE 19 19 00.0 +11
MIDW LR LR
comp=Z,3µm,19.6s
KOLS Kolonicke sedl 117.00 48 ePKIKP PKPdf 19 18 52.3 +3.5
KOLS e 19 19 58.2
KOLS Kolonicke sedl 117.00 48 ePKP PKPdf 19 18 52.3 +3.5
KOLS ePP PP 19 19 58.2 -0.7
ARR Arges 117.24 52 ⇑iP PKPdf 19 18 48.3 -1.1
FALS False Pass 117.36 319 PFAKE 19 19 00.0 +11
FALS LR LR
comp=Z,1µm,19.0s
JMB Yambol 117.51 56 ⇑PKIKP PKPdf 19 18 48.4 -1.5
JMB Yambol 117.51 56 ⇑iP PKPdf 19 18 48.4 -1.5
KWP Kalwaria Pacla 117.51 47 ePKIKP PKPdf 19 18 42.6 -7.1
KWP Kalwaria Pacla 117.51 47 ePKP PKPdf 19 18 42.6 -7.1
KWP Kalwaria Pacla 117.51 47 ⇑iP PKPdf 19 18 41.5 -8.2
KWP Kalwaria Pacla 117.51 47 PFAKE 19 19 00.0 +10
KWP LR LR

comp=Z,7µm,19.4s
VOIR 117.53 52 ⇑PKIKP PKPdf 19 18 49.5 -0.5
VOIR 117.53 52⇑iP PKPdf 19 18 49.5 -0.5
MSEY Mahe Island 117.57 117 PFAKE 19 19 00.0 +9.0
MSEY LR LR
comp=Z,4µm,19.0s
DOPR Dopca 117.94 52⇑iP PKPdf 19 18 51.6 +0.9
AS31 Alice Springs 118.05 207 ePKPdf PKPdf 19 18 50.0 -1.8
MLR Muntele Rosu 118.14 52 ⇑PKIKP PKPdf 19 18 50.2 -1.0
MLR Muntele Rosu 118.14 52⇑iP PKPdf 19 18 50.2 -1.0
MLR Muntele Rosu 118.14 52 PP PP 19 20 06.0 -1.1
comp=Z,12nm,1.3s,baz=254,slow=4.5,SNR=8.1
PRD Provadia 118.33 55 ⇑PKIKP PKPdf 19 18 45.7 -5.7
LVV L'vov 118.38 47 ePKIKP PKPdf 19 18 54.2 +2.8
BUR08 Bucovina Ar. S 118.39 50 ePKPdf PKPdf 19 18 50.6 -1.1
BURAR Bucovina Array 118.39 50 ⇓PKIKP PKPdf 19 18 51.6 0.0
BURAR Bucovina Array 118.39 50⇓iP PKPdf 19 18 51.6 0.0
ISP Isparta 118.62 62 PFAKE 19 19 00.0 +7.6
ISP LR LR
comp=Z,9µm,19.9s
PLOR Plostina 118.73 52 ⇓PKIKP PKPdf 19 18 50.8 -1.4
PLOR Plostina 118.73 52⇓iP PKPdf 19 18 50.8 -1.4
UNV Unalaska Valle 118.74 318 PFAKE 19 19 00.0 +8.1
UNV LR LR
comp=Z,3µm,19.2s
VRI Vrincioaia 118.79 52 ⇓PKIKP PKPdf 19 18 50.6 -1.7
VRI Vrincioaia 118.79 52⇓iP PKPdf 19 18 50.6 -1.7
EIL Elat 118.87 72 PKP PKPdf 19 18 51.1 -1.8
comp=Z,6.1nm,0.7s,baz=357,slow=0.1,SNR=7.3
TESR Tescani 118.95 51⇑iP PKPdf 19 18 51.0 -1.6
PSN Preselentsi 119.03 55 ⇑PKIKP PKPdf 19 18 51.4 -1.4
PSN Preselentsi 119.03 55⇑iP PKPdf 19 18 51.3 -1.5
SUW Suwalki 119.20 42 ePKIKP PKPdf 19 18 51.9 -0.9
SUW Suwalki 119.20 42 ePKP PKPdf 19 18 51.8 -1.0
SUW Suwalki 119.20 42 ePKPdf PKPdf 19 18 50.1 -2.7
SUW LR LR
comp=Z,9µm,21.0s
TIRR Tirgusor 119.44 54 ⇓PKIKP PKPdf 19 18 52.7 -0.9
TIRR Tirgusor 119.44 54⇓iP PKPdf 19 18 52.7 -0.9
TIRR Tirgusor 119.44 54 PFAKE 19 19 00.0 +6.4
TIRR LR LR
comp=Z,11µm,20.8s
CFR Carcaliu 119.50 53 ⇓PKIKP PKPdf 19 18 52.9 -0.7
CFR Carcaliu 119.50 53⇓iP PKPdf 19 18 52.8 -0.8
KIS Kishinev 120.52 51 ePKIKP PKPdf 19 18 59.0 +3.4
KIS e 19 20 24.0
KIS Kishinev 120.52 51 ePKP PKPdf 19 18 59.0 +3.4
KIS LRM MLR 20 14 36.0
comp=Z,17µm,20.0s
MMAI Mount Meron Ar 120.53 69 PKP PKPdf 19 18 55.1 -1.1
comp=Z,9.5nm,0.6s,baz=64,slow=1.9,SNR=13
BR231 Keskin MP Arra 120.98 60 ePKPdf PKPdf 19 18 56.9 0.0
ANTO Ankara 121.00 60 ePKIKP PKPdf 19 18 55.0 -1.8
ANTO MLR MLR
comp=Z,6µm,20.5s
ANTO Ankara 121.00 60 ePKPdf PKPdf 19 18 55.0 -1.8
ANTO LR LR
comp=Z,6µm,20.5s
WRA Warramunga Arr 121.23 209 PKP PKPdf 19 18 56.0 -1.9
comp=Z,7.2nm,0.8s,baz=167,slow=1.5,SNR=26
WRA SKKPbc SKKPbc 19 32 53.1 +10
comp=Z,3.7nm,1.1s,baz=340,slow=4.7,SNR=5.6
WRAB Tennant Creek 121.23 209 ePKIKP PKPdf 19 18 56.0 -1.9
WRAB MLR MLR
comp=Z,5µm,22.0s
WRAB Tennant Creek 121.23 209 ePKPdf PKPdf 19 18 56.0 -1.9
WRAB LR LR
comp=Z,5µm,22.0s
ASF Jabal al Asfar 121.38 70 PKIKP PKPdf 19 18 56.5 -1.3
ASF pmax pmax
comp=Z,5.0nm,0.8s
ASF Jabal al Asfar 121.38 70 PKP PKPdf 19 18 56.5 -1.3
comp=Z,5.4nm,0.8s,baz=188,slow=2.3,SNR=6.3
KBS Kingsbay 121.44 13 PFAKE 19 19 10.0 +14
KBS LR LR
comp=Z,4µm,22.0s
NACGM Naroch 121.47 42 e PKPdf 19 18 52.0 -5.1
BR131 Keskin Array S 121.57 61 ePKPdf PKPdf 19 18 56.7 -1.3
BRTR Keskin Array B 121.57 61 PKIKP PKPdf 19 18 56.9 -1.2
BRTR 19 20 27.5
BRTR pmax pmax
comp=Z,7.0nm,0.7s
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 121.57 61 PKP PKPdf 19 18 56.9 -1.2
comp=Z,6.9nm,0.7s,baz=189,slow=2.8,SNR=22
BRTR PP PP 19 20 27.5 -3.3
comp=Z,4.7nm,0.9s,baz=254,slow=4.6,SNR=4.5
AK02 Malin Array Si 121.80 47 ePKPdf PKPdf 19 18 55.5 -2.4
KIEV Kiev 121.81 47 ePKIKP PKPdf 19 18 56.4 -1.5
KIEV MLR MLR
comp=Z,6µm,21.1s
KIEV Kiev 121.81 47 ePKPdf PKPdf 19 18 56.4 -1.5
KIEV LR LR
comp=Z,6µm,21.1s
AK01 Malin Array Si 121.82 47 ePKPdf PKPdf 19 18 55.8 -2.2
AKASG Malin Array Be 121.83 47 PKIKP PKPdf 19 18 56.1 -1.9
AKASG 19 20 30.2
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 121.83 47 PKP PKPdf 19 18 56.0 -1.9
comp=Z,10nm,0.7s,baz=262,slow=2.9,SNR=41
AKASG PP PP 19 20 30.2 -1.8
comp=Z,2.5nm,0.8s,baz=246,slow=8.9,SNR=4.8
AKBB Malin Array Si 121.83 47 ePKIKP PKPdf 19 18 55.8 -2.1
AKBB Malin Array Si 121.83 47 ePKPdf PKPdf 19 18 55.8 -2.1
MNK Minsk 121.96 43 ePKIKP PKPdf 19 18 52.0 -6.1
MICGM Minsk 121.99 43 e PKPdf 19 18 52.0 -6.1
COEN Coen 122.11 221 PFAKE 19 19 10.0 +10
COEN LR LR
comp=Z,22µm,19.0s
VSU Vasula 122.27 38⇓ePKIKP PKPdf 19 18 57.5 -1.0
TNA Tin City 122.33 331 ePKPdf PKPdf 19 18 57.2 -1.2
TNA LR LR
comp=Z,2µm,20.0s
FINES FINESS Array B 122.55 34 PKP PKPdf 19 18 58.3 -0.7
comp=Z,5.2nm,0.7s,baz=166,slow=1.6,SNR=12
FINES PKKPbc PKKPab 19 28 52.3 +0.9
comp=Z,1.5nm,0.7s,baz=48,slow=2.8,SNR=4.4
KAF Kangasniemi 122.78 34 ePKIKP PKPdf 19 18 58.0 -1.4
KAF Kangasniemi 122.78 34 ep PKPdf 19 18 58.0 -1.4
PMG Port Moresby 123.38 228 ePKIKP PKPdf 19 19 01.0 -1.1
PMG MLR MLR
comp=Z,3µm,19.1s
PMG Port Moresby 123.38 228 ePKPdf PKPdf 19 19 01.0 -1.1
PMG LR LR
comp=Z,3µm,19.1s
SIM Simferopol' 123.47 55 iPKIKP PKPdf 19 19 01.3 0.0
SIM pmax pmax
comp=Z,22nm,1.0s
ARCES ARCESS Array B 123.53 25 PKP PKPdf 19 18 59.8 -1.0
comp=Z,6.5nm,0.6s,baz=244,slow=4.0,SNR=26
ARCES PKKPbc PKKPab 19 28 44.5 -2.4
comp=Z,5.1nm,1.0s,baz=352,slow=5.3,SNR=4.1
GAMB Gambell 123.65 328 ePKPdf PKPdf 19 19 00.1 -0.9
KEV Kevo 124.07 25 PFAKE 19 19 10.0 +8.3
KEV LR LR
comp=Z,6µm,20.9s
MBWA Marble Bar 124.53 193 ePKPdf PKPdf 19 19 02.7 -1.5
MBWA LR LR
comp=Z,3µm,21.4s
MALT Malatya 124.66 64 ⇑PKIKP PKPdf 19 19 03.6 -0.4
MALT Malatya 124.66 64⇑iP PKPdf 19 19 03.6 -0.4
RAYN Ar Rayn 124.92 83 ePKPdf PKPdf 19 19 04.1 -0.7
RAYN LR LR
comp=Z,8µm,19.6s
JOF Joensuu 125.19 33 ePKIKP PKPdf 19 19 03.4 -0.6
JOF Joensuu 125.19 33 ep PKPdf 19 19 03.4 -0.6
ANN Anapa 125.71 56 iPKIKP PKPdf 19 19 04.6 -1.0
ANN e 19 20 53.3
ANN e 19 26 04.6
ANN eSP SP 19 31 00.4 +3.1
ANN pmax pmax
comp=Z,77nm,1.7s
H11S2 WAKE ISLAND Hy 125.79 270 T T 21 38 03.6
baz=118,slow=75,SNR=242
H11S1 WAKE ISLAND Hy 125.80 270 T T 21 38 04.5
baz=118,slow=75,SNR=216
H11S3 WAKE ISLAND Hy 125.80 270 T T 21 38 05.1
baz=118,slow=75,SNR=190
FITZ Fitzroy Crossi 126.02 201 ePKPdf PKPdf 19 19 05.9 -1.1
H11N3 WAKE ISLAND Hy 126.19 271 T T 21 38 27.4
baz=113,slow=78,SNR=41
H11N1 WAKE ISLAND Hy 126.20 271 T T 21 38 28.7
baz=113,slow=78,SNR=39
H11N2 WAKE ISLAND Hy 126.20 271 T T 21 38 19.9
baz=113,slow=78,SNR=96
APA Apatity 126.31 27⇑iPKIKP PKPdf 19 19 06.2 +0.1
APA i 19 23 50.0
APA i 19 26 18.0
APA MLR MLR
comp=Z,6µm,22.0s
LVZ Lovozero 126.79 27 ePKIKP PKPdf 19 19 06.2 -0.8
LVZ MLR MLR
comp=Z,6µm,20.5s
LVZ Lovozero 126.79 27 ePKPdf PKPdf 19 19 06.2 -0.8
LVZ LR LR
comp=Z,6µm,20.5s
OBN Obninsk 127.04 43 ePKIKP PKPdf 19 19 07.2 -0.6
OBN pmax pmax
comp=Z,41nm,1.1s
OBN Obninsk 127.04 43 PKP PKPdf 19 19 06.6 -1.2
comp=Z,14nm,0.7s,baz=309,slow=0.9,SNR=10
OBN Obninsk 127.04 43 ePKPdf PKPdf 19 19 07.3 -0.5
OBN LR LR
comp=Z,6µm,20.0s
DGAR Diego Garcia 127.19 134 PFAKE 19 19 20.0 +11
DGAR LR LR
comp=Z,6µm,18.9s
MOS Moscow 127.71 42 ePKIKP PKPdf 19 19 11.9 +2.9
MOS e 19 21 12.8
MOS MLR MLR
comp=Z,6µm,19.0s
MOS MLR MLR
comp=Z,6µm,20.0s
VSR Storozhevoye 128.08 48 ePKIKP PKPdf 19 19 09.5 -0.4
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR MLR MLR
comp=N,4µm,20.0s
VSR MLR MLR
comp=Z,7µm,20.0s
VSR MLR MLR
comp=E,4µm,19.0s
VORD Divnogorie 128.13 48 ePKIKP PKPdf 19 19 08.2 -1.8
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.9s
VORD MLR MLR
comp=E,3µm,19.0s
VORD MLR MLR
comp=Z,5µm,19.0s
VORD MLR MLR
comp=N,3µm,20.0s
TMCR Tamitsa 128.25 32 ePKIKP PKPdf 19 19 09.7 -0.1
TMCR pmax pmax
comp=Z,33nm,0.7s
KLMR Klimovskoe 128.97 36 ePKIKP PKPdf 19 19 10.2 -1.1
KLMR pmax pmax
comp=Z,114nm,1.2s
KIV Kislovodsk 129.20 58 ePKIKP PKPdf 19 19 12.7 +0.3
KIV MLR MLR
comp=Z,5µm,22.0s
KIV Kislovodsk 129.20 58 ePKPdf PKPdf 19 19 12.7 +0.3
KIV LR LR
comp=Z,5µm,22.0s
AKH Akhalkalaki 129.24 61 P PKPdf 19 19 12.7 0.0
AKH Akhalkalaki 129.24 61 P PKPdf 19 19 13.0 +0.3
KBZ Khabaz 129.31 58 PKhKP PKPpre 19 19 02.2
comp=Z,1.2nm,0.8s,baz=119,slow=4.9,SNR=3.6
KBZ PKP PKPdf 19 19 12.6 +0.1
comp=Z,7.2nm,0.9s,baz=171,slow=2.5,SNR=11
ONI Oni 129.47 60 P PKPdf 19 19 12.1 -0.8
ONI Oni 129.47 60 P PKPdf 19 19 12.3 -0.6
VRHR Novokhopersk 129.60 49 ePKIKP PKPdf 19 19 12.4 -0.4
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.4s
GOF Gofitskoye 129.66 57 ePKIKP PKPdf 19 19 13.4 +0.3
GOF pmax pmax
comp=Z,90nm,1.3s
ZEI Tsey 129.83 60 iPKIKP PKPdf 19 19 15.6 +1.8
ZEI pmax pmax
comp=Z,30nm,1.2s
GNI Garni 129.87 63 ePKIKP PKPdf 19 19 13.9 0.0
GNI MLR MLR
comp=Z,4µm,20.0s
GNI Garni 129.87 63 PKP PKPdf 19 19 14.2 +0.2
comp=Z,7.4nm,0.6s,baz=40,slow=17,SNR=3.8
GNI Garni 129.87 63 ePKPdf PKPdf 19 19 13.9 0.0
GNI LR LR
comp=Z,4µm,20.0s
SMY Shemya 129.90 314 PFAKE 19 19 20.0 +6.7
SMY LR LR
comp=Z,4µm,19.4s
TBLG Delisi 130.22 61 P PP 19 21 24.6 -3.6
DUS Dusheti 130.27 61 P PKPdf 19 19 22.7 +8.2
DGRG David-gareji 130.63 62 P PKPdf 19 19 07.3 -7.8
DGRG David-gareji 130.63 62 P PP 19 21 28.5 -2.4
BILL Bilibino 132.36 334⇓ePKIKP PKPdf 19 19 17.4 -0.2
BILL i 19 19 30.6
BILL ePS PS 19 31 56.2 -0.9
BILL MLR MLR
comp=Z,3µm,19.0s
BILL Bilibino 132.36 334 ePKPdf PKPdf 19 19 16.5 -1.1
BILL LR LR
comp=Z,3µm,21.0s
SAUI Saumlaki 133.20 213 PFAKE 19 19 30.0 +9.2
SAUI LR LR
comp=Z,4µm,20.0s
COCO West Island 133.37 165 PFAKE 19 19 30.0 +8.9
COCO LR LR
comp=Z,4µm,19.5s
SOEI Soe 134.30 203 PFAKE 19 19 30.0 +6.9
SOEI LR LR
comp=Z,5µm,21.7s
MMRI Maumere 135.99 201 PFAKE 19 19 40.0 +14
MMRI LR LR
comp=Z,2µm,20.0s
XMIS Christmas Isla 136.24 177 PFAKE 19 19 40.0 +13
XMIS LR LR
comp=Z,8µm,19.8s
FAKI Fak Fak 137.16 217 PFAKE 19 19 40.0 +12
FAKI LR LR
comp=Z,2µm,18.4s
SOKR Solikamsk 137.66 36d iPKIKP PKPdf 19 19 29.7 +2.1
SOKR pmax pmax
comp=Z,70nm,1.6s
JAGI Jajag, Banyuwa 137.88 189 PFAKE 19 19 40.0 +10
JAGI LR LR
comp=Z,2µm,21.9s
UGM Wanagama 138.78 184 PFAKE 19 19 40.0 +8.7
UGM LR LR
comp=Z,4µm,20.7s
CISI Cisompet, Garu 139.20 180 ePKPdf PKPdf 19 19 33.0 +0.9
CISI LR LR
comp=Z,2µm,19.9s
PET Petropavlovsk 139.23 314 iPKIKP PKPdf 19 19 34.1 +3.4
PET pmax pmax
comp=Z,12nm,1.0s
PET Petropavlovsk 139.23 314 PFAKE 19 19 40.0 +9.3
PET LR LR
comp=Z,2µm,19.0s
ARU Arti 139.34 40 iPKIKP PKPdf 19 19 30.9 0.0
ARU 19 22 23.2
ARU PPP PPP 19 25 24.6
ARU SS SS 19 40 34.8 -7.7
ARU Arti 139.34 40 ePKPpre PKPpre 19 19 21.6
ARU LR LR
comp=Z,8µm,20.6s
SMRI Semarang 139.64 184 ePKPpre PKPpre 19 19 29.7
GEYT Alibeck 139.65 69 PKhKP PKPpre 19 19 21.8
comp=Z,1.9nm,0.7s,baz=343,slow=4.6,SNR=6.8
GEYT PKP PKPdf 19 19 31.7 -0.4
comp=Z,14nm,0.7s,baz=251,slow=4.5,SNR=12
GEYT PP PP 19 22 29.1 +1.1
comp=Z,5.2nm,0.8s,baz=290,slow=4.3,SNR=3.6
PETK Petropavlovsk- 139.79 315 PKIKP PKPdf 19 19 32.8 +1.0
PETK pmax pmax
comp=Z,10.0nm,0.8s
PETK Petropavlovsk- 139.79 315 PKP PKPdf 19 19 32.8 +1.0
comp=Z,10nm,0.8s,baz=116,slow=5.1,SNR=7.6
AKTO Aktyubinsk 139.99 50 PKHKP PKPpre 19 19 22.1
AKTO pmax pmax
comp=Z,38nm,1.4s
AKTO Aktyubinsk 139.99 50 PKhKP PKPpre 19 19 23.3
comp=Z,6.5nm,0.9s,baz=310,slow=3.7,SNR=9.7
AKTO PKP PKPdf 19 19 32.7 +0.4
comp=Z,9.3nm,0.7s,baz=278,slow=3.4,SNR=9.3
KAPI Kappang 140.13 198 epPKPdf pPKPdf 19 19 43.9 +3.7
KAPI LR LR
comp=Z,2µm,20.0s
TIXI Tiksi 140.17 350⇓iPKIKP PKPdf 19 19 31.7 -0.2
TIXI pmax pmax
comp=Z,10.0nm,0.7s
TIXI Tiksi 140.17 350 ePKPpre PKPpre 19 19 20.9
TIXI ePKPdf PKPdf 19 19 30.6 -1.3
TIXI LR LR
comp=Z,2µm,18.7s
SVE Sverdlovsk 140.35 39 ePKIKP PKPdf 19 19 29.4 -3.3
SVE pmax pmax
comp=Z,35nm,1.5s
GUMO Guam 141.09 248 PFAKE 19 19 50.0 +15
GUMO LR LR
comp=Z,3µm,19.9s
AB31 Akbulak array 141.34 51 iPKHKP PKPpre 19 19 27.5
AB31 pmax pmax
comp=Z,16nm,0.7s
ABKAR Akbulak array 141.34 51 ePKPpre PKPpre 19 19 27.3
ABKAR ePKPdf PKPdf 19 19 32.7 -2.0
MNAI Manna 142.08 172 PFAKE 19 19 50.0 +13
MNAI LR LR
comp=Z,3µm,20.4s
TNTI Ternate 142.72 213 PFAKE 19 19 50.0 +12
TNTI LR LR
comp=Z,2µm,21.9s
LUWI Luwuk 142.95 205 ePKPdf PKPdf 19 19 38.5 -0.3
LUWI LR LR
comp=Z,1µm,19.9s
PMBI Palembang 143.68 175 ePKPdf PKPbc 19 19 40.1 +2.7
PMBI LR LR
comp=Z,3µm,19.0s
PALK Pallekele 143.72 130 PKHKP PKPpre 19 19 34.7
PALK 19 19 41.1
PALK pmax pmax
comp=Z,32nm,0.9s
PALK pmax pmax
comp=Z,68nm,0.9s
PALK Pallekele 143.72 130 PKhKP PKPpre 19 19 34.7
comp=Z,32nm,0.9s,baz=238,slow=5.6,SNR=8.3
PALK PKP PKPdf 19 19 41.1 +1.0
comp=Z,68nm,0.9s,baz=211,slow=4.9,SNR=11
PALK Pallekele 143.72 130 ePKPpre PKPpre 19 19 35.9
PALK PKP PKPdf 19 19 41.1 +1.0
PALK LR LR
comp=Z,6µm,19.5s
GOA Goa 144.36 112 eP PKPab 19 19 38.8 -0.3
GOA AMS AMS 20 11 27.1
comp=Z,2µm,24.6s
BHJ Bhuj 144.95 97 eP PKPab 19 19 39.9 -1.3
BHJ AMS AMS 20 14 25.8
comp=Z,2µm,21.3s
TOLI Toli-Toli 145.65 203 ePKPdf PKPdf 19 19 41.8 -1.7
TOLI LR LR
comp=Z,2µm,20.3s
POO Poona 146.09 107⇑iP PKPdf 19 19 43.0 -1.0
comp=Z,100nm,1.0s
POO Poona 146.09 107 eP PKPdf 19 19 42.3 -1.8
POO AMS AMS 20 17 08.6
comp=Z,5µm,17.8s
BKNI Bangkinang 146.40 167 ePKPdf PKPdf 19 19 43.7 -1.0
BKNI LR LR
comp=Z,4µm,22.0s
GSI Gunungsitoli 146.55 161 ePKPdf PKPdf 19 19 44.7 -0.3
GSI LR LR
comp=Z,7µm,21.2s
BRVK Borovoye 146.81 42 ePKP2 PKPdf 19 19 44.2 0.0
BRVK Borovoye 146.81 42 ePKPdf PKPdf 19 19 44.1 0.0
BRVK LR LR
comp=Z,12µm,20.5s
BVA0 Borovoye Array 146.88 42 iPKP2 PKPdf 19 19 44.1 -0.2
BVA0 pmax pmax
comp=Z,110nm,0.8s
BVAR Borovoye Array 146.88 42 PKP2 PKPdf 19 19 44.3 0.0
BVAR pmax pmax
comp=Z,42nm,0.7s
BVAR Borovoye Array 146.88 42 PKPbc PKPdf 19 19 44.3 0.0
comp=Z,42nm,0.7s,baz=273,slow=2.9,SNR=70
KUR Kuril'sk 147.31 303 ePKP2 PKPab 19 19 52.5 +3.1
KUR pmax pmax
comp=Z,880nm,1.7s
KUR pmax pmax
comp=Z,382nm,1.1s
VOSK Vostochnaya 147.33 43 PFAKE 19 20 00.0 +11
VOSK LR LR
comp=Z,9µm,20.1s
MDRS Chennai 147.60 122 eP PKPdf 19 19 45.1 -1.5
KBL Kabul 147.84 77 ePKIKP PKPdf 19 19 46.2 -0.6
KBL MLR MLR
comp=Z,5µm,19.4s
KBL Kabul 147.84 77 ePKPdf PKPdf 19 19 46.2 -0.6
KBL LR LR
comp=Z,5µm,19.4s
KSM Kuching 148.10 184 ePKPbc PKPdf 19 19 49.5 +2.0
KSM LR LR
comp=Z,2µm,21.7s
YAK Yakutsk 148.23 341 ePKIKP PKPdf 19 19 44.8 -1.4
YAK pmax pmax
comp=E,22nm,1.2s
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=Z,154nm,1.1s
YAK Yakutsk 148.23 341 ePKPdf PKPdf 19 19 44.8 -1.4
YAK ePKPbc PKPbc 19 19 48.5 -1.0
YAK LR LR
comp=Z,3µm,21.0s
MYKOM Kota Tinggi 148.25 172 ePKPdf PKPdf 19 19 49.9 +2.1
MYKOM LR LR
comp=Z,3µm,21.6s
SBUM Sibu 148.89 188 ePKPdf PKPdf 19 19 50.7 +1.8
SBUM LR LR
comp=Z,3µm,21.0s
DAV Davao City (W) 149.08 216 PFAKE 19 20 00.0 +2.6
DAV LR LR
comp=Z,2µm,19.6s
HYB Hyderabad 149.14 114 iPKP PKPdf 19 19 50.0 +0.9
HYB Hyderabad 149.14 114 eP PKPdf 19 19 47.4 -1.7
KK31 Karatay Array 149.28 61 iPKIKP PKPdf 19 19 49.1 +0.5
KK31 pmax pmax
comp=Z,19nm,0.6s
KKAR Karatay Array 149.28 61 ePKIKP PKPdf 19 19 48.0 -0.6
KKAR Karatay Array 149.28 61 ePKPdf PKPdf 19 19 48.0 -0.6
KKAR ePKPbc PKPbc 19 19 51.6 -1.3
CBIJ Chichi jima 149.87 267 PFAKE 19 20 00.0 -0.4
CBIJ LR LR
comp=Z,1µm,18.6s
LHMI Lhok Sumawe 150.09 158 ePKPdf PKPdf 19 19 53.9 +3.1
LHMI LR LR
comp=Z,4µm,21.1s
MYLDM Lahad Datu 150.20 201 ePKPdf PKPbc 19 19 57.6 +1.6
MYLDM LR LR
comp=Z,3µm,20.2s
IPM Ipoh 150.44 166 ePKPdf PKPdf 19 19 49.8 -1.5
IPM LR LR
comp=Z,3µm,20.7s
YSS Yuzh-Sakhalins 150.48 308⇑iPKIKP PKPdf 19 19 54.2 +4.0
YSS e 19 20 00.0
YSS e 19 20 08.0
YSS pmax pmax
comp=Z,40nm,0.8s
YSS Yuzh-Sakhalins 150.48 308 ePKPdf PKPdf 19 19 54.3 +4.0
YSS LR LR
comp=Z,500nm,20.0s
CMBY CAMPBELL BAY 150.63 151 eP PKPdf 19 19 50.3 -1.2
ERM Erimo 151.06 297 PFAKE 19 20 00.0 +2.9
ERM LR LR
comp=Z,3µm,21.0s
ASAJ Asahikawa 151.19 302 ePKPdf PKPbc 19 19 56.9 -0.5
ASAJ LR LR
comp=Z,1µm,19.9s
BHPL Bhopal 151.34 103 eP PKPdf 19 19 51.7 -0.7

BHPL AMS AMS 20 16 53.8
comp=Z,2μm,21.8s
KKM Kota Kinabalu 151.66 197 ePKPdf **PKPdf** **19 19 57.9 +4.6**
KKM LR LR
comp=Z,3μm,20.0s
EKS2 Erkin-Say 151.72 61 P **PKPbc** **19 20 01.2 +2.3**
SNR=13
EKS2 Erkin-Say 151.72 61 ePKIKP **PKPdf** **19 19 52.1 -0.4**
EKS2 e 19 19 57.6
EKS2 MLR MLR
comp=Z,5μm,20.2s
EKS2 Erkin-Say 151.72 61 ePKPdf **PKPdf** **19 19 52.1 -0.4**
EKS2 ePKPbc **PKPbc** **19 19 57.6 -1.3**
EKS2 LR LR
comp=Z,5μm,20.2s
AML Almayashu 151.72 62 P **PKPdf** **19 19 57.5 +4.6**
SNR=10
USP Ospenovka 152.15 60 P **PKPbc** **19 20 04.1 +4.4**
SNR=6.0
AAK Ala-Archa 152.24 61 P **PKPdf** **19 19 53.8 +0.3**
SNR=17
AAK Ala-Archa 152.24 61 PKIKP **PKPdf** **19 19 52.8 -0.6**
AAK pmax pmax
comp=Z,99nm,0.9s
AAK Ala-Archa 152.24 61 PKP **PKPdf** **19 19 52.0 -1.4**
comp=Z,4.9nm,0.8s,baz=221,slow=10,SNR=8.6
AAK PKPbc **PKPbc** **19 20 00.0 -0.1**
comp=Z,32nm,0.8s,baz=135,slow=4.7,SNR=15
AAK Ala-Archa 152.24 61 ePKPdf **PKPdf** **19 19 52.8 -0.6**
AAK ePKPdf **PKPdf** **19 19 53.7 +0.3**
AAK ePKPbc **PKiKP** **19 20 00.2 -0.2**
AAK LR LR
comp=Z,5μm,21.6s
UCH Uchtor 152.31 62 P **PKPdf** **19 19 54.5 +0.6**
SNR=14
CHMS Chumysh 152.38 60 P **PKPbc** **19 20 00.3 +0.1**
SNR=11
CHMS Chumysh 152.38 60 i PKIKP **PKPbc** **19 20 00.3 +0.1**
KURK Kurchatov 152.48 42 ePKIKP **PKPdf** **19 19 54.0 +0.8**
KURK e 19 19 59.6
KURK MLR MLR
comp=Z,3μm,19.1s
KURK Kurchatov 152.48 42 ePKPdf **PKPdf** **19 19 54.0 +0.8**
KURK ePKPbc **PKPbc** **19 19 59.6 -0.5**
KURK LR LR
comp=Z,3μm,19.1s
NVS Novosibirsk 152.49 32 ePKIKP **PKPdf** **19 19 51.0 -2.1**
NVS pmax pmax
comp=Z,197nm,1.4s
NVS pmax pmax
comp=E,55nm,1.1s
VIS Vishakhapatnam 152.90 119 eP **PKPdf** **19 19 53.2 -1.6**
TKM2 Tokmak 2 153.00 60 P **PKPdf** **19 19 53.8 -0.8**
SNR=11
TKM2 Tokmak 2 153.00 60 PKIKP **PKPdf** **19 19 53.2 -1.3**
TKM2 pmax pmax
comp=Z,77nm,1.1s
TKM2 Tokmak 2 153.00 60 ePKPdf **PKPdf** **19 19 53.7 -0.8**
TKM2 LR LR
comp=Z,4μm,21.0s
BHK Bhakra 153.34 86 ex PKPab 19 20 10.2 -4.6
DHRM DHARAMSHALA 153.42 84 eP **PKPdf** **19 19 54.3 -1.2**
KSH Kashi 153.66 68 ePKPbc **PKPdf** **19 19 55.0 -0.5**
KSH epPKP **PKiKP** **19 20 06.0 +2.6**
KSH sPKP 19 20 08.5
KSH eSKS **SKSdf** **19 26 56.8 -4.7**
KSH eSKKS **SKKSac** **19 30 36.3 -3.4**
KSH eSS **SS** **19 43 21.3 -5.3**
KSH LR LR
comp=Z,2μm,22.1s
KSH LR LR
comp=Z,610nm,15.1s
KSH LR LR
comp=Z,810nm,9.9s
ZAA0 Zalesovo Array 153.77 32 ePKPdf **PKPdf** **19 19 53.1 -1.9**
ZALV Zalesovo Beam 153.77 32 PKP **PKPdf** **19 19 54.1 -0.9**
comp=Z,16nm,0.8s,baz=280,slow=2.6,SNR=31
ZALV PKPbc **PKPbc** **19 20 01.6 -1.2**
comp=Z,43nm,0.6s,baz=299,slow=3.0,SNR=50
ZALV PKPab **PKPab** **19 20 15.0 -0.8**
comp=Z,33nm,0.6s,baz=300,slow=3.2,SNR=6.7
SMLA Simla 153.90 87 eP **PKPdf** **19 19 54.5 -1.4**
PBA Port Blair 154.20 144 eP PKPdf 19 19 57.0 +0.2
DDI Dehra Dun 154.45 89 eP **PKPdf** **19 19 53.8 -3.0**
DDI AMS AMS 20 07 28.4
comp=Z,2μm,15.4s
HABR Khabarovsk 154.82 315 ePKP2 **PKPab** **19 20 20.0 -0.5**
HABR e 19 23 56.0
HABR e 19 26 59.4
HABR ePPP PPP 19 27 26.8
HABR eSSS SSS 19 49 31.5
MJAR Matsushiro Arr 155.09 286 PKIKP **PKPdf** **19 19 58.2 +0.7**
MJAR 19 20 04.6
MJAR pmax pmax
comp=Z,1.0nm,0.7s
MJAR pmax pmax
comp=Z,4.0nm,0.9s
MJAR Matsushiro Arr 155.09 286 PKP **PKPdf** **19 19 58.2 +0.7**
comp=Z,1.1nm,0.7s,baz=134,slow=5.4,SNR=4.2
MJAR PKPbc PKPbc 19 20 04.6
comp=Z,4.1nm,0.9s,baz=122,slow=2.4,SNR=7.0
MAJO Matsushiro 155.09 286 PFAKE 19 20 10.0 -12
MAJO LR LR
comp=Z,3μm,21.0s
BOD Bodaibo 155.30 352 ePKIKP **PKPdf** **19 19 54.2 -2.8**
BOD pmax pmax
comp=Z,52nm,1.9s
DGPR DIGLIPUR 155.59 142 eP **PKPdf** **19 19 58.1 -0.6**
DGPR AMS AMS 20 11 53.5
comp=Z,525nm,14.6s
KLR Kul'dur 156.34 319 ePKIKP PKPdf 19 19 53.4 -5.3
MK31 Makanchi Array 156.41 48 ePKIKP **PKPdf** **19 19 57.5 -1.4**
MK31 Makanchi Array 156.41 48 eP **PKPdf** **19 19 57.5 -1.4**
MKAR Makanchi Array 156.41 48 PKIKP **PKPdf** **19 19 57.9 -1.0**
MKAR 19 24 07.7
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 156.41 48 PKP **PKPdf** **19 19 57.9 -1.0**
comp=Z,9.4nm,0.8s,baz=304,slow=1.2,SNR=32
MKAR PKPab **PKPab** **19 20 26.3 -1.1**
comp=Z,22nm,0.8s,baz=296,slow=2.2,SNR=7.7
MKAR PP **PP** **19 24 07.7 +2.2**
comp=Z,4.6nm,0.8s,baz=255,slow=7.4,SNR=3.6
KOLN Koldanda 158.29 99 eP **PKPdf** **19 20 00.9 -1.2**
BOK Bokaro 158.39 111 eP **PKPdf** **19 20 01.4 -0.6**
USRK Ussuriysk Arra 158.51 307 PKP **PKPdf** **19 20 01.2 -0.3**
comp=Z,1.2nm,0.7s,baz=148,slow=29,SNR=4.4
USRK PKPab **PKPab** **19 20 37.0 +0.4**
comp=Z,3.1nm,0.8s,baz=82,slow=10,SNR=4.5
DANN Dangsing 158.63 97 eP **PKPdf** **19 20 01.8 -0.8**
GKN Gorkha 159.23 99 eP **PKPdf** **19 20 01.9 -1.2**
DMN Daman 159.47 100 eP **PKPdf** **19 20 02.4 -1.2**
KKN Kakani 159.69 100 eP **PKPdf** **19 20 02.6 -1.1**
PKIN Phulchoki 159.70 101 eP **PKPdf** **19 20 02.4 -1.4**
PKI Pulchoki 159.71 101 eP **PKPdf** **19 20 02.4 -1.5**
MDJ Mudanjiang 159.91 310 PKP **PKPdf** **19 20 03.5 +0.3**
MDJ pPKP **pPKPdf** **19 20 14.0 +4.3**
MDJ sPKP 19 20 17.0
MDJ PKS **PKSdf** **19 23 37.0 +0.5**
MDJ PP **PP** **19 24 24.8 +0.2**
MDJ SKS **SKSdf** **19 27 06.5 -0.9**
MDJ SS **SS** **19 44 34.0 +1.4**
MDJ AMB AMB
comp=Z,580nm,7.8s
MDJ LR LR
comp=Z,3μm,19.6s
MDJ LR LR
comp=Z,1μm,18.7s
MDJ LR LR
comp=Z,3μm,21.3s
MDJ Mudanjiang 159.91 310 ePKPdf PKPdf 19 19 59.0 -4.1
MDJ LR LR
comp=Z,3μm,22.0s
GUN Gumba 160.22 100 eP **PKPdf** **19 20 03.6 -0.9**
JIRN Jiri 160.38 101 eP **PKPdf** **19 20 03.5 -1.2**
RAMN Ramite 160.44 104 eP **PKPdf** **19 20 03.9 -0.7**
ODAN Odare 161.04 105 eP **PKPdf** **19 20 04.3 -1.0**
IRK Irkutsk 161.04 7 ePKP2 PKPab 19 20 42.5 -4.7
IRK e 19 24 25.0
IRK pmax pmax
comp=Z,81nm,1.6s
MOY Mondy 161.12 14 ePKIKP **PKPdf** **19 20 03.9 -0.5**
MOY pmax pmax
comp=Z,70nm,2.7s
WMQ Urumqi 161.13 51 PKP **PKPdf** **19 20 04.3 -0.3**
WMQ pPKP **pPKPdf** **19 20 15.0 +3.8**
WMQ sPKP 19 20 18.5
WMQ PKS **PKSdf** **19 23 36.3 -1.6**
WMQ PP **PP** **19 24 33.8 +2.5**
WMQ SKS **SKSdf** **19 27 04.3 -4.4**
WMQ SKKS **SKKSac** **19 31 16.8 -1.9**
WMQ SS **SS** **19 44 41.8 -3.8**
WMQ AMB AMB
comp=Z,770nm,10.8s
WMQ LR LR
comp=Z,4μm,21.8s
WMQ LR LR
comp=Z,3μm,19.6s
WMQ LR LR
comp=Z,4μm,22.8s
TAPN Taplejung 161.50 104 eP **PKPdf** **19 20 04.9 -0.9**
TLY Talaya 161.53 9 ePKIKP **PKPdf** **19 20 06.2 +1.5**
TLY pmax pmax
comp=Z,11nm,1.3s
HIA Hailar 161.95 334 ePKP2 **PKPab** **19 20 50.1 -1.2**
HIA Hailar 161.95 334 ePKPab **PKPab** **19 20 50.1 -1.2**
ZAK Zakamensk 162.75 10 ePKIKP **PKPdf** **19 20 05.5 -0.6**
ZAK pmax pmax
comp=Z,9.0nm,1.5s
CN2 Changchun 162.92 312 ePKP **PKPdf** **19 20 06.5 +0.2**
CN2 ePP **PP** **19 24 44.3 +3.6**
CN2 SKKS 19 31 27.0
CN2 eSS **SS** **19 45 03.3 -0.5**
CN2 LR LR
comp=Z,3μm,21.0s
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,2μm,21.0s
CMAR Chiang Mai Arr 163.00 149 PKIKP **PKPdf** **19 20 06.2 -1.0**
CMAR 19 20 57.0
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR pmax pmax
comp=Z,17nm,1.2s
CMAR Chiang Mai Arr 163.00 149 PKP **PKPdf** **19 20 06.2 -1.0**
comp=Z,4.1nm,0.8s,baz=252,slow=2.4,SNR=25
CMAR PKPab **PKPab** **19 20 57.0 +0.4**
comp=Z,17nm,1.2s,baz=220,slow=3.5,SNR=4.6
CHTO Chiang Mai 163.32 149 ePKIKP **PKPdf** **19 20 05.5 -2.0**
CHTO e 19 20 56.0
CHTO Chiang Mai 163.32 149 ePKPdf **PKPdf** **19 20 05.5 -2.0**
CHTO ePKPab **PKPab** **19 20 56.0 -2.0**
SHL Shillong 163.95 115 ex **PKPdf** **19 20 11.0 +2.9**
SHL Shillong 163.95 115 eP **PKPdf** **19 20 05.2 -3.0**
SHL AMS AMS 20 20 41.6
comp=Z,1μm,19.2s
SNY Shenyang 165.10 309 ⇓PKP PKPdf 19 20 18.5 +10
LSA Lhasa 165.18 100 ePKIKP **PKPdf** **19 20 08.8 -0.7**
LSA e 19 21 06.6
LSA Lhasa 165.18 100 ePKPdf **PKPdf** **19 20 08.8 -0.7**
LSA ePKPab **PKPab** **19 21 06.6 -0.2**
QIZ Qiongzhong 165.52 187 PKP **PKPdf** **19 20 09.0 -0.4**
QIZ PP **PP** **19 24 54.5 +1.2**
QIZ SS SS 19 45 30.8 +2.0
QIZ LR LR
comp=Z,2μm,20.3s
QIZ LR LR
comp=Z,1μm,21.5s
QIZ LR LR
comp=Z,4μm,21.1s
QIZ Qiongzhong 165.52 187 PKPdf PKPdf 19 20 05.7 -3.8
SONM Songino Array 165.60 4 PKIKP **PKPdf** **19 20 07.3 -1.5**
SONM 19 24 57.1
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM pmax pmax
comp=Z,11nm,1.2s
SONM Songino Array 165.60 4 PKP **PKPdf** **19 20 07.3 -1.5**
comp=Z,1.4nm,0.8s,baz=183,slow=1.4,SNR=12
SONM PKPab **PKPab** **19 21 07.5 0.0**
comp=Z,10nm,1.0s,baz=329,slow=2.6,SNR=9.2
SONM PP **PP** **19 24 57.1 +3.2**
comp=Z,11nm,1.2s,baz=316,slow=4.0,SNR=5.4
ULN Ulaanbaatar 165.60 2 ePKIKP **PKPdf** **19 20 06.6 -2.2**
ULN Ulaanbaatar 165.60 2 ePKPdf **PKPdf** **19 20 06.6 -2.2**
ULN ePKPab **PKPab** **19 21 07.9 +0.4**
KMI Kunming 170.52 150 PKP **PKPdf** **19 20 16.5 +3.5**
NJ2 Nanjing 170.73 264 ePKP **PKPdf** **19 20 12.0 -0.6**
NJ2 pPKP **pPKPdf** **19 20 24.3 +5.2**
NJ2 sPKP 19 20 26.3
NJ2 PP **PP** **19 25 22.0 +0.3**
NJ2 AMB AMB
comp=Z,4μm,10.4s
NJ2 LR LR
comp=Z,1μm,23.8s
NJ2 LR LR
comp=Z,4μm,21.3s
NJ2 LR LR
comp=Z,11μm,18.8s
GTA Gaotai 171.15 46 ePKP **PKPdf** **19 20 12.5 -0.3**
GTA pPKP **pPKPdf** **19 20 23.3 +4.0**
GTA sPKP 19 20 27.0
GTA PKPab **PKPab** **19 21 32.0 -0.4**
GTA PP **PP** **19 25 24.5 +1.4**
GTA SKS **SKSdf** **19 27 10.8 -4.5**
GTA SKKS **SKKSac** **19 32 07.0 -2.0**
GTA SS **SS** **19 46 22.5 -4.7**
GTA AMB AMB
comp=Z,2μm,9.1s
GTA LR LR
comp=Z,4μm,22.3s
GTA LR LR
comp=Z,4μm,20.7s
GTA LR LR
comp=Z,11μm,21.9s
TIA Tai'an 171.99 293 ePKP **PKPdf** **19 20 12.0 -1.1**
HHC Hu-ho-hao-te 172.09 340 ePKP **PKPdf** **19 20 15.5 +2.3**
HHC pPKP **pPKPdf** **19 20 24.8 +5.1**
HHC sPKP 19 20 30.5
HHC SKKS 19 32 11.8
HHC AMB AMB
comp=Z,2μm,5.6s
HHC LR LR
comp=Z,2μm,16.7s
HHC LR LR
comp=Z,8μm,18.2s
HHC LR LR
comp=Z,14μm,19.6s
GYA Guiyang 172.92 170 i PKP **PKPdf** **19 20 17.3 +3.3**
GYA pPKP **pPKPdf** **19 20 24.8 +4.3**
GYA PKPab **PKPab** **19 21 44.0 +3.6**
GYA PKS **PKSdf** **19 23 44.0 -2.5**
GYA PP **PP** **19 25 32.3 +1.4**
GYA SKKS 19 32 15.5
GYA SS **SS** **19 46 41.5 -1.3**
GYA AMB AMB
comp=Z,8μm,11.5s
GYA LR LR
comp=Z,5μm,21.9s
GYA LR LR
comp=Z,3μm,21.2s
GYA LR LR
comp=Z,7μm,24.6s
WHN Wuhan 173.85 243 PKP **PKPdf** **19 20 13.0 -1.0**
LZH Lanzhou 175.71 51 ePKP **PKPdf** **19 20 19.3 +4.6**
LZH pPKP pPKPdf 19 20 30.5 +9.3
LZH PP **PP** **19 25 43.0 -2.6**
LZH SKKS 19 32 33.0
LZH SS **SS** **19 47 11.0 -0.8**
LZH AMB AMB
comp=Z,1μm,6.3s
LZH LR LR
comp=Z,3μm,18.4s
LZH LR LR
comp=Z,4μm,19.7s
LZH LR LR
comp=Z,6μm,19.7s
XAN Xi'an 179.03 306 PKP **PKPdf** **19 20 18.8 +3.7**

*IDC **27** 19:06:11.5±0.5, 37.°66S×73.°63W, h0km, mb5.0/21, mb1 5.1/24, mb1mx4.9/41, mbtmp5.0/24, ML3.8/2, MS5.6/3, Ms1 5.6/3, ms1mx4.9/31, Error ellipse: s-maj=18.8km s-min=12.4km az=56.0*

*ISCJB **27** 19:06:14.4±0.2, 37.°51S±0.°05×73.°39W±0.°08, h23km, mb5.1/68, MS5.5/3, Error ellipse: s-maj=9.8km s-min=6.4km az=155.8*
*MOS **27** 19:06:15.9±0.9, 37.°56S×73.°56W, h33km, mb5.4/17, Error ellipse: s-maj=21.0km s-min=9.7km az=104.4*
*BJI **27** 19:06:16.6, 37.°88S×73.°26W, h35km, mB5.5/6, Ms7.5/6, Ms7 5.4/3*
*NEIC **27** 19:06:17.6±1.2, 37.°55S×73.°35W, h40km±10km, mb5.2/59, Error ellipse: s-maj=11.1km s-min=6.1km az=73.0*
ISC 27 19:06:15.6±0.3, 37.°53S±0.°05×73.°46W±0.°09, h23km, n433, σ1°06/451, mb5.2/68, MS5.4/3, 131C-125D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	3.92	146	eP	**Pn**	**19 07 14.0**	**-0.5**
PLCA	**Paso Flores**	3.92	146	Pn	**Pn**	**19 07 12.1**	**-2.3**
	baz=292,slow=5.4,SNR=1.4						
PLCA				Pg	**Pb**	**19 07 24.0**	**0.0**
	20nm,0.3s,baz=308,slow=13,SNR=2.9						
PLCA				Lg	Lg	19 08 19.9	
	32nm,0.3s,baz=42,slow=20,SNR=5.0						
PLCA	**Paso Flores**	3.92	146	ePn	**Pn**	**19 07 13.9**	**-0.5**
PLCA				Pg	**Pb**	**19 07 24.0**	**0.0**
PLCA				Lg	Lg	19 08 19.9	
CFAA	**Coronel Fontan**	7.32	38	Pn	**Pn**	**19 08 01.8**	**+0.7**
	1.3nm,0.3s,baz=219,slow=15,SNR=3.9						
LVC	**Limon Verde**	15.38	16	ePn	**Pn**	**19 09 51.4**	**0.0**
USHA	**Ushuaia**	17.64	170	P	**Pn**	**19 10 17.8**	**-1.8**
	0.3nm,0.3s,baz=4.1,slow=14,SNR=3.3						
LPAZ	**La Paz**	21.68	14	eP	**P**	**19 11 06.6**	**+1.2**
LPAZ				pmax	pmax		
	comp=Z,47nm,0.8s						
LPAZ	**La Paz**	21.68	14	P	**P**	**19 11 06.8**	**+1.4**
	comp=Z,28nm,0.8s,baz=158,slow=5.4,SNR=6.6						
LPAZ	**La Paz**	21.68	14	eP	**P**	**19 11 06.6**	**+1.2**
	comp=Z,47nm,0.8s						
SIV	**San Ignacio**	24.09	30	P	**P**	**19 11 30.6**	**+1.0**
	comp=Z,27nm,0.9s,baz=288,slow=20,SNR=5.0						
NNA	**Nana**	25.62	352	eP	**P**	**19 11 43.2**	**-0.2**
NNA				pmax	pmax		
	comp=Z,170nm,1.8s						
NNA	**Nana**	25.62	352	P	**P**	**19 11 43.0**	**-0.4**
	comp=Z,7.9nm,0.3s,baz=64,slow=15,SNR=5.4						
NNA				LR	LR	19 18 59.8	
	comp=Z,10μm,21.2s,baz=128,slow=30						
NNA	**Nana**	25.62	352	eP	**P**	**19 11 43.2**	**-0.2**
	comp=Z,170nm,1.8s						
PMSA	**Palmer Station**	27.85	171	eP	**P**	**19 12 05.3**	**+2.3**
	comp=Z,358nm,1.6s						
SAML	**Samuel**	29.94	21	eP	**P**	**19 12 21.9**	**-0.1**
ATAH	**Atahualpa**	30.59	350	LR	LR	19 21 59.7	
	comp=Z,9μm,21.4s,baz=143,slow=31						
BDFB	**Brasilia**	31.34	53	P	**P**	**19 12 35.1**	**+0.5**
	comp=Z,27nm,1.0s,baz=120,slow=16,SNR=2.7						
OTAV	**Otavalo**	37.86	352	eP	**P**	**19 13 33.0**	**+1.7**
SDV	**Santo Domingo**	46.25	4	eP	**P**	**19 14 37.6**	**-1.8**
	comp=Z,33nm,0.9s						
RCBR	**Riachuelo**	46.52	57	P	**P**	**19 14 42.8**	**+1.3**
	comp=Z,20nm,0.8s,baz=229,slow=9.8,SNR=4.7						
RCBR	**Riachuelo**	46.52	57	eP	**P**	**19 14 39.6**	**-1.8**
	comp=Z,24nm,0.9s						
JTS	**JuntasAbangare**	48.77	345	eP	**P**	**19 14 59.1**	**+0.2**
JTS				pmax	pmax		
	comp=Z,29nm,1.1s						
JTS	**JuntasAbangare**	48.77	345	P	**P**	**19 14 59.4**	**+0.6**
	comp=Z,16nm,1.0s,baz=253,slow=6.4,SNR=5.8						
JTS				LR	LR	19 31 35.2	
	comp=Z,13μm,20.4s,baz=144,slow=31						
JTS	**JuntasAbangare**	48.77	345	eP	**P**	**19 14 59.0**	**+0.2**
	comp=Z,29nm,1.1s						
SNAA	**Sanae**	48.78	157	eP	**P**	**19 14 58.5**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,68nm,1.2s						
SNAA	**Sanae**	48.78	157	P	**P**	**19 14 57.2**	**-1.2**
	comp=Z,12nm,1.0s,baz=278,slow=5.3,SNR=6.5						
SNAA	**Sanae**	48.78	157	eP	**P**	**19 14 58.5**	**+0.1**
	comp=Z,68nm,1.2s						
QSPA	**South Pole Qui**	52.71	180	eP	**P**	**19 15 27.3**	**-0.8**
	comp=Z,39nm,1.1s						
FDF	**Fort de France**	53.26	15	eP	P	19 15 28.8	-3.8
FDF	**Fort de France**	53.26	15	eP	P	19 15 28.8	-3.8
MTDJ	**Mount Denham**	55.59	355	P	P	19 15 46.2	-3.3
GTBY	**Guantanamo Bay**	57.17	358	eP	**P**	**19 15 58.3**	**-2.3**
	comp=Z,42nm,1.0s						
TEIG	**Tepich**	59.12	344	P	**P**	**19 16 14.1**	**-0.2**
	comp=Z,42nm,0.9s,baz=174,slow=5.6,SNR=8.1						
TEIG	**Tepich**	59.12	344	eP	**P**	**19 16 14.1**	**-0.2**
	comp=Z,59nm,0.9s						
SBA	**Scott Base**	59.39	192	eP	**P**	**19 16 16.6**	**+1.1**
SBA	**Scott Base**	59.39	192	eP	**P**	**19 16 16.6**	**+1.1**
034A	**Hebbronville**	68.48	336	⇓P	**P**	**19 17 15.9**	**0.0**
	baz=69						
PPT	**Papeete**	68.65	264	P	**P**	**19 17 15.9**	**-1.4**
	comp=Z,39nm,0.9s,baz=203,slow=4.8,SNR=3.6						
933A	**Laredo**	69.18	336	⇑P	**P**	**19 17 20.7**	**+0.5**
	baz=70						
833A	**Chaparral WMA,**	69.88	336	⇓P	**P**	**19 17 25.2**	**+0.7**
	baz=70,SNR=8.7						
832A	**Faith Ranch, C**	70.03	335	⇑P	**P**	**19 17 24.5**	**-1.0**
	baz=70						
636A	**Smothers Creek**	70.23	338	⇑P	**P**	**19 17 24.1**	**-2.5**
	baz=71						
732A	**Laxson Ranch,**	70.44	335	⇓P	**P**	**19 17 28.2**	**+0.2**
	baz=71,SNR=9.6						
633A	**Saathoff Ranch**	70.86	336	⇓P	**P**	**19 17 30.7**	**+0.2**
	baz=71						
632A	**Uvalde**	71.10	336	⇓P	**P**	**19 17 32.2**	**+0.2**
	baz=72,SNR=6.7						
631A	**Perdido Creek**	71.28	335	⇑P	**P**	**19 17 33.1**	**+0.1**
	baz=72						
LRAL	**Lakeview Retre**	71.33	348	eP	**P**	**19 17 33.4**	**+0.1**
	comp=Z,21nm,1.0s						
533A	**Kerrville**	71.39	337	⇑P	**P**	**19 17 34.3**	**+0.6**
	baz=72,SNR=8.9						
532A	**Rocksprings**	71.72	336	⇓P	**P**	**19 17 36.8**	**+1.1**
	baz=72,SNR=12						
434A	**Burnet**	71.84	338	⇑P	**P**	**19 17 36.7**	**+0.2**
	baz=72,SNR=8.9						
531A	**Rocksprings**	71.96	336	⇓P	**P**	**19 17 37.6**	**+0.4**
	baz=72,SNR=7.8						
336A	**Riesel**	71.96	339	⇓P	**P**	**19 17 37.6**	**+0.6**
	baz=72,SNR=5.4						
JCT	**Junction City**	72.01	336	eP	**P**	**19 17 37.1**	**-0.4**
JCT				pmax	pmax		
	comp=Z,23nm,0.8s						
JCT	**Junction City**	72.01	336	eP	**P**	**19 17 37.1**	**-0.4**
	comp=Z,23nm,0.8s						
JCT	**Junction City**	72.01	336	⇓P	**P**	**19 17 37.7**	**+0.2**
	baz=72,SNR=7.2						
433A	**Art**	72.04	337	⇑P	**P**	**19 17 37.4**	**-0.2**
	baz=72,SNR=11						
530A	**J-C Ranch, Com**	72.21	335	⇑P	**P**	**19 17 39.4**	**+0.7**
	baz=73,SNR=11						
TXAR	**Lajitas Array**	72.29	333	P	**P**	**19 17 39.3**	**+0.1**
	comp=Z,8.4nm,0.8s,baz=158,slow=8.1,SNR=17						
TX31	**Lajitas Ar. Si**	72.29	333	eP	**P**	**19 17 39.2**	**0.0**
334A	**Lometa**	72.32	338	⇑P	**P**	**19 17 39.5**	**+0.3**
	baz=73,SNR=8.5						
432A	**Menard**	72.37	336	⇓P	**P**	**19 17 39.4**	**-0.2**
	baz=73						
431A	**Sonora**	72.46	336	⇓P	**P**	**19 17 40.0**	**-0.1**
	baz=73,SNR=6.1						
529A	**Stev Forest Ra**	72.49	334	⇓P	**P**	**19 17 40.4**	**+0.1**
	baz=73,SNR=6.4						
333A	**Richland Sprin**	72.53	337	⇓P	**P**	**19 17 40.1**	**-0.5**
	baz=73,SNR=7.1						
KMSC	**Kings Mountain**	72.67	353	eP	**P**	**19 17 41.0**	**-0.3**
	comp=Z,17nm,0.8s						
WHTX	**Lake Whitney**	72.70	339	eP	**P**	**19 17 41.6**	**+0.1**
	comp=Z,22nm,0.9s						
WHTX	**Lake Whitney**	72.70	339	⇓P	**P**	**19 17 39.7**	**-1.8**
	baz=73						
430A	**Baggett Ranch,**	72.76	335	⇑P	**P**	**19 17 41.3**	**-0.7**
	baz=73,SNR=11						
332A	**Millersview**	72.83	337	⇓P	**P**	**19 17 41.1**	**-1.2**
	baz=73,SNR=6.6						
429A	**Davenport Ranc**	72.83	335	⇑P	**P**	**19 17 43.0**	**+0.6**
	baz=73,SNR=9.5						
234A	**Clairette**	72.91	338	⇑P	**P**	**19 17 42.8**	**+0.1**
	baz=73,SNR=5.3						
331A	**San Angelo**	72.97	336	⇓P	**P**	**19 17 43.0**	**-0.2**
	baz=73,SNR=14						
233A	**Rising Star**	73.15	338	⇑P	**P**	**19 17 43.4**	**-0.8**
	baz=74,SNR=5.2						
232A	**Coleman**	73.26	337	⇑P	**P**	**19 17 44.7**	**-0.2**

baz=74,SNR=8.3
TKL Tuckaleechee C 73.45 351 P P 19 17 44.6 -1.2
comp=Z,7.2nm,0.7s,baz=150,slow=6.6,SNR=4.3
231A Bronte 73.52 336 ⇑P P 19 17 45.9 -0.5
baz=74,SNR=11
329A Wagon Wheel Ra 73.65 335 ⇑P P 19 17 47.7 +0.4
baz=74,SNR=7.1
133A Hamilton Ranch 73.71 338 ⇓P P 19 17 47.7 +0.2
baz=74,SNR=7.2
230A Sterling City 73.73 336 ⇑P P 19 17 47.7 +0.1
baz=74,SNR=5.9
Z35A Perchaven, San 73.90 339 ⇓P P 19 17 48.3 -0.3
baz=74
ABTX Abilene, Hawle 73.94 337 eP P 19 17 48.6 -0.3
comp=Z,27nm,0.9s
ABTX Abilene, Hawle 73.94 337 ⇑P P 19 17 48.6 -0.3
baz=74,SNR=8.1
229A Bryant Ranch, 74.03 335 ⇓P P 19 17 49.5 0.0
baz=74
SUR Sutherland 74.15 119 P P 19 17 50.1 -0.5
comp=Z,22nm,1.0s,baz=335,slow=4.0,SNR=5.0
SUR Sutherland 74.15 119 eP P 19 17 51.5 +1.0
comp=Z,31nm,1.4s
131A Roby 74.22 337 ⇓P P 19 17 50.7 +0.2
baz=75,SNR=7.1
Z33A Whitaker Ranch 74.30 338 ⇓P P 19 17 50.8 0.0
baz=75,SNR=6.3
130A Snyder 74.34 336 ⇓P P 19 17 50.8 -0.4
baz=75
228A UT Block 9, Go 74.44 335 ⇑P P 19 17 52.4 +0.5
baz=75,SNR=7.8
WVT Waverly 74.49 348 eP P 19 17 50.7 -1.2
WVT pmax pmax
comp=Z,32nm,1.1s
WVT Waverly 74.49 348 eP P 19 17 50.7 -1.2
comp=Z,32nm,1.1s
Z32A Haskell 74.53 338 ⇑P P 19 17 52.3 0.0
baz=75,SNR=8.6
Y34A Reagan Ranch, 74.63 339 ⇑P P 19 17 52.6 -0.2
baz=75
Z31A Sharp Cattle R 74.74 337 ⇓P P 19 17 53.2 -0.3
baz=75,SNR=7.8
128A Castleberry Fa 74.86 335 ⇑P P 19 17 54.5 +0.2
baz=75,SNR=8.8
Y33A Hilltop Ranch, 74.93 339 ⇓P P 19 17 52.3 -2.2
baz=75
Z30A Sanderson Ranc 75.02 336 ⇓P P 19 17 54.9 -0.3
baz=75,SNR=7.0
MNTX Cornudas Mount 75.05 332 eP P 19 17 54.5 -0.8
comp=Z,6.9nm,1.0s
Y32A R-V Farms, Ver 75.17 338 ⇓P P 19 17 55.9 0.0
baz=76
Z29A Hungry Hill Ra 75.19 336 ⇓P P 19 17 56.2 +0.1
baz=76,SNR=11
Y31A Rekieta Farm, 75.38 337 ⇑P P 19 17 57.0 -0.1
baz=76
X33A Lawton 75.39 339 ⇑P P 19 17 56.4 -0.7
baz=76
Y30A Stafford Cattl 75.50 337 ⇑P P 19 17 58.2 +0.4
baz=76
X32A Elmer 75.51 338 ⇓P P 19 17 57.8 0.0
baz=76
Y29A Porterfield Fa 75.73 336 ⇓P P 19 17 59.0 -0.3
baz=76
Z27A Tatum 75.74 335 ⇑P P 19 17 58.9 -0.4
baz=76
W34A Bridge Creek, 75.84 340 ⇑P P 19 18 00.6 +0.9
baz=76
X31A McDonald Ranch 75.91 338 ⇓P P 19 17 59.7 -0.4
baz=76,SNR=6.8
TUL1 Tulsa 75.95 341 eP P 19 17 59.9 -0.5
comp=Z,28nm,0.9s
TUL1 Tulsa 75.95 341 ⇓P P 19 18 00.1 -0.2
baz=76,SNR=5.4
W33A Caddo, Fort Co 75.95 339 ⇓P P 19 18 00.5 +0.1
baz=76,SNR=6.3
Y28A McKinney Farm, 75.96 336 ⇑P P 19 18 00.0 -0.5
baz=76
Z26A Caprock 75.96 334 ⇑P P 19 18 01.1 +0.5
baz=76,SNR=11
X30A Coker Ranch, T 76.01 337 ⇓P P 19 18 02.0 +1.2
baz=76
W32A Sentinel 76.15 338 ⇓P P 19 18 01.4 -0.1
baz=76,SNR=8.2
MSTX Muleshoe 76.19 335 eP P 19 18 01.8 -0.1
comp=Z,28nm,1.3s
MSTX Muleshoe 76.19 335 ⇑P P 19 18 01.8 -0.1
baz=77
Y27A Causey 76.24 335 ⇑P P 19 18 02.5 +0.3
baz=77
X29A Tulia 76.27 336 ⇓P P 19 18 02.8 +0.4
baz=77
W31A Holland Ranch, 76.42 338 ⇑P P 19 18 03.0 -0.1
baz=77
CASY Casey 76.47 182 eP P 19 18 02.6 -0.4
Y26A Elida 76.50 334 ⇓P P 19 18 04.1 +0.4
baz=77,SNR=5.8
Z24A Sheeppen Canyo 76.51 333 ⇓P P 19 18 05.4 +1.6
baz=77
V33A Lossen Ranch, 76.53 339 ⇑P P 19 18 02.6 -1.0
baz=77,SNR=5.2
V32A Arapaho 76.65 339 ⇑P P 19 18 04.3 -0.1
baz=77
AMTX Amarillo 76.67 336 eP P 19 18 03.8 -0.8
comp=Z,47nm,1.1s
AMTX Amarillo 76.67 336 ⇑P P 19 18 05.0 +0.5
baz=77
Y25A Mesa, Roswell 76.80 334 ⇑P P 19 18 06.3 +0.8
baz=77
W29A Amraillo 76.88 337 ⇑P P 19 18 06.0 +0.3
baz=77,SNR=8.5
U34A Anderson Ranch 76.90 340 eP P 19 18 05.8 0.0
comp=Z,48nm,1.4s
U34A Anderson Ranch 76.90 340 ⇑P P 19 18 05.9 +0.2
baz=77
X27A F and S Farms, 76.92 335 ⇑P P 19 18 06.6 +0.6
baz=77
V31A Spring Creek L 76.93 338 ⇑P P 19 18 06.8 +0.8
baz=77
X26A CR and CF Fran 77.07 335 ⇓P P 19 18 07.4 +0.5
baz=78,SNR=6.4
Y24A Capitan 77.07 333 ⇓P P 19 18 07.7 +0.7
baz=78,SNR=5.5
W27A Bowe Ranch, En 77.28 335 ⇑P P 19 18 08.5 +0.5
baz=78,SNR=10
Y23A Lovelace Mesa, 77.30 333 ⇑P P 19 18 09.6 +1.3
baz=78
X25A Clemmons Ranch 77.34 334 ⇓P P 19 18 08.1 -0.3
baz=78
DBIC Dimbokro 77.41 71 eP P 19 18 10.0 +0.9
DBIC pmax pmax
comp=Z,40nm,0.8s
DBIC Dimbokro 77.41 71 P P 19 18 10.1 +0.9
comp=Z,31nm,0.7s,baz=196,slow=5.3,SNR=18
DBIC Dimbokro 77.41 71 eP P 19 18 10.0 +0.9
comp=Z,40nm,0.8s
W26A Owens Ranch, T 77.54 335 ⇓P P 19 18 10.2 +0.7
baz=78
T33A Patterson Ranc 77.70 340 ⇑P P 19 18 11.0 +0.8
baz=78,SNR=5.2
TUC Tucson 77.72 328 eP P 19 18 11.0 +0.5
TUC Tucson 77.72 328 eP P 19 18 11.0 +0.5
LPM Los Pinos Moun 77.85 332 eP P 19 18 12.3 +1.0
U30A WK&E Inc. Balk 77.88 338 ⇑P P 19 18 12.0 +0.8
baz=78
ACSO Alum Creek Sta 77.88 353 eP P 19 18 10.4 -0.7
comp=Z,89nm,1.8s
W25A X Bar L Ranch, 77.89 334 ⇑P P 19 18 11.7 +0.2
baz=78,SNR=6.3
T32A Huddler Ranch, 77.98 339 ⇓P P 19 18 12.1 +0.3
baz=78
T31A Randall Ranch, 78.12 339 ⇑P P 19 18 13.5 +0.9
baz=78
LAZ Ladron 78.12 332 eP P 19 18 14.1 +1.2
V26A Tequesquite Ra 78.19 335 ⇓P P 19 18 13.5 +0.4
baz=79
W24A Lazy 6 Ranch, 78.22 334 ⇓P P 19 18 14.5 +1.1
baz=79
U28A Mallet 78.22 337 ⇑P P 19 18 13.8 +0.6
baz=79
ANMO Albuquerque 78.36 333 eP P 19 18 14.2 +0.1
ANMO pmax pmax
comp=Z,22nm,1.1s
ANMO Albuquerque 78.36 333 P P 19 18 15.0 +0.9
comp=Z,13nm,1.0s,baz=171,slow=5.6,SNR=10
ANMO Albuquerque 78.36 333 eP P 19 18 14.2 +0.1
comp=Z,22nm,1.1s
W23A Werner Place, 78.44 333 ⇑P P 19 18 16.2 +1.6
baz=79
U27A Thompson Grove 78.45 336 ⇓P P 19 18 15.9 +1.3
baz=79
S32A Newby Ranch, P 78.47 340 ⇓P P 19 18 15.1 +0.6
baz=79
V25A Rancho No Teng 78.51 335 ⇑P P 19 18 15.8 +0.8
baz=79,SNR=6.2
V24A Rampart Ranch, 78.63 334 ⇑P P 19 18 16.7 +1.0
baz=79
T29A Hugoton 78.65 338 ⇓P P 19 18 16.0 +0.5
baz=79
U26A Atchley Ranch, 78.72 335 ⇓P P 19 18 16.7 +0.6
baz=79
S30A Montezuma 78.85 338 ⇓P P 19 18 17.2 +0.6
baz=79
T28A Walsh 78.86 337 ⇑P P 19 18 17.2 +0.4
baz=79,SNR=11
U25A Circle Dot Ran 78.95 335 ⇑P P 19 18 18.5 +1.2
baz=79
T27A Campo 79.00 337 ⇑P P 19 18 17.6 +0.1
baz=79
S29A Ulysses 79.02 338 ⇑P P 19 18 18.2 +0.7
baz=79
R32A Long Quarter, 79.08 340 ⇑P P 19 18 18.1 +0.3
baz=80
KSU1 Kansas State U 79.18 342 eP P 19 18 17.5 -0.8
comp=Z,41nm,0.6s
R31A Burdett 79.18 339 ⇓P P 19 18 18.9 +0.4
baz=80
S28A Manter 79.23 337 ⇑P P 19 18 19.3 +0.5
baz=80,SNR=6.3
TSUM Tsumeb 79.36 106 P P 19 18 21.0 +0.9
comp=Z,4.7nm,0.8s,baz=204,slow=5.3,SNR=6.7
TSUM Tsumeb 79.36 106 eP P 19 18 20.4 +0.3
comp=Z,18nm,1.1s
V22A San Miguel Ran 79.38 333 ⇑P P 19 18 21.6 +1.8
baz=80,SNR=6.1
T26A Comanche Natio 79.39 336 ⇑P P 19 18 20.4 +0.7
baz=80,SNR=5.4
Q33A Connelly Farm, 79.39 341 ⇑P P 19 18 18.0 -1.5
baz=80
R30A Dighton 79.39 339 ⇑P P 19 18 20.0 +0.4
baz=80
BOSA Boshof 79.45 118 P P 19 18 20.6 +0.1
comp=Z,15nm,0.9s,baz=190,slow=6.1,SNR=5.6
U23A El Rito 79.50 334 ⇑P P 19 18 21.6 +1.2
baz=80,SNR=5.8
Q32A Meitler Ranch, 79.58 340 ⇑P P 19 18 21.3 +0.8
baz=80
T25A Trinidad 79.62 335 ⇓P P 19 18 22.1 +1.1
baz=80,SNR=7.5
S27A Las Animas 79.63 337 ⇓P P 19 18 22.1 +1.1
baz=80
W18A Petrified Fore 79.75 330 eP P 19 18 23.3 +1.6
comp=Z,18nm,1.0s
W18A Petrified Fore 79.75 330 ⇑P P 19 18 23.9 +2.2
baz=80,SNR=5.5
S26A Kim 79.75 336 ⇓P P 19 18 22.4 +0.8
baz=80,SNR=8.2
R29A Marienthal 79.77 338 ⇓P P 19 18 22.4 +0.7
baz=80
X16A Lo Mia Camp, P 79.82 329 ⇑P P 19 18 23.4 +1.3
baz=80
T24B San Luis 79.88 335 ⇓P P 19 18 23.5 +1.0
baz=80
R28A Tribune 79.90 338 ⇑P P 19 18 22.5 +0.1
baz=80,SNR=7.5
Q30A Quinter 80.02 339 ⇓P P 19 18 23.2 +0.2
baz=80,SNR=5.5
T23A Casias Ranch, 80.08 334 ⇑P P 19 18 25.5 +1.9
baz=80
S25A Robets Cordova 80.10 336 ⇓P P 19 18 24.0 +0.4
baz=80
R27A Eads 80.15 337 ⇑P P 19 18 24.1 +0.4
baz=80,SNR=9.0
Q29A Oakley 80.16 339 ⇑P P 19 18 23.8 0.0
baz=81
P32A Huiting Farm, 80.18 341 ⇓P P 19 18 22.8 -1.0
baz=81
P31A Stockton 80.29 340 ⇑P P 19 18 24.3 -0.1
baz=81
S24A Houchin Ranch, 80.34 335 ⇓P P 19 18 26.6 +1.6
baz=81,SNR=9.1
R26A Arlington 80.37 336 ⇑P P 19 18 26.3 +1.3
baz=81,SNR=6.9
SDCO Great Sand Dun 80.53 335 eP P 19 18 26.7 +0.7
comp=Z,13nm,1.1s
P30A Selden 80.56 339 ⇑P P 19 18 25.2 -0.6
baz=81
O32A Brockman Farm, 80.69 341 ⇓P P 19 18 26.3 -0.2
baz=81
WUAZ Wupatki 80.75 329 eP P 19 18 26.8 -0.2
comp=Z,18nm,1.1s
KSCO Kaye Shedlock' 80.76 337 ⇓P P 19 18 27.9 +0.9
baz=81
P29A Atwood 80.80 339 ⇓P P 19 18 28.4 +1.2
baz=81
R24A Sanders Place, 80.84 335 ⇓P P 19 18 28.9 +1.3
baz=81,SNR=9.4
Q26A Hugo 80.96 337 ⇓P P 19 18 29.4 +1.3
baz=81
S22A 4UR Ranch, Cre 80.99 334 ⇓P P 19 18 30.6 +2.1
baz=81
P28A Saint Francis 81.02 338 ⇑P P 19 18 29.8 +1.4
baz=81
O30A MW Ranch, Wils 81.09 340 ⇓P P 19 18 28.9 +0.3
baz=82
MVCO Mesa Verde 81.12 332 eP P 19 18 30.0 +0.9
comp=Z,18nm,1.1s
MVCO Mesa Verde 81.12 332 ⇑P P 19 18 29.9 +0.8
baz=82,SNR=5.7
Q25A Bedland, Calha 81.18 336 ⇑P P 19 18 30.4 +1.1
baz=82
P27A Ficken Ranch, 81.25 338 ⇑P P 19 18 30.1 +0.5
baz=82
PFO Pinyon Flat Ob 81.31 325 P P 19 18 29.7 -0.4
baz=287,slow=19
W13A Hualapai Mount 81.43 327 ⇓P P 19 18 32.1 +1.3
baz=82
P26A Davis Ranch, A 81.49 337 ⇓P P 19 18 32.8 +1.8
baz=82
Q24A Divide 81.52 336 ⇓P P 19 18 32.6 +1.3
baz=82,SNR=5.6
O28A Krutsinger Ran 81.53 338 ⇓P P 19 18 32.2 +1.1
baz=82
P25A Willow Gulch B 81.70 336 ⇓P P 19 18 33.0 +0.9
baz=82
BGNE Belgrade 81.74 341 ⇑P P 19 18 32.4 +0.3
baz=82
LBTB Lobatse 81.86 115 eP P 19 18 33.0 -0.4
LBTB pmax pmax
comp=Z,30nm,0.9s
LBTB Lobatse 81.86 115 P P 19 18 33.5 +0.1
comp=Z,21nm,0.8s,baz=250,slow=4.6,SNR=9.4
LBTB Lobatse 81.86 115 eP P 19 18 33.0 -0.4
comp=Z,30nm,0.9s
M31A Lambtecht Ranc 81.89 341 ⇑P P 19 18 32.7 -0.2
baz=82
U15A North Rim 81.90 329 ⇓P P 19 18 34.9 +1.5
baz=82
GMRC Granite Mounta 81.93 326 ⇓P P 19 18 35.2 +1.8
baz=82
PV01 Paradox Valley 81.96 333 eP P 19 18 34.5 +0.9
O26A Horse Wrangler 82.10 337 ⇑P P 19 18 34.8 +0.7
baz=82
PV05 Paradox Valley 82.11 332 eP P 19 18 35.1 +0.8
SMCO Snowmass 82.33 334 eP P 19 18 36.9 +1.2
comp=Z,22nm,1.0s
PV10 Paradox Valley 82.35 333 eP P 19 18 36.1 +0.5
ISCO Idaho Springs 82.43 336 eP P 19 18 35.9 -0.2
ISCO pmax pmax
comp=Z,10.0nm,1.1s
ISCO Idaho Springs 82.43 336 eP P 19 18 35.9 -0.2
comp=Z,9.9nm,1.1s
ISCO Idaho Springs 82.43 336 ⇑P P 19 18 37.1 +1.0
baz=83
KNB Kanab 82.63 329 eP P 19 18 38.4 +1.4
KNB pmax pmax
comp=Z,22nm,1.1s
KNB Kanab 82.63 329 eP P 19 18 38.4 +1.4
comp=Z,22nm,1.1s
P22A Eagle 82.63 335 ⇓P P 19 18 38.5 +1.6
baz=83
L31A Butterfield Fa 82.64 341 ⇓P P 19 18 38.3 +1.5
baz=83
L30A Spencer Herefo 82.66 341 ⇑P P 19 18 37.7 +0.8
baz=83
O23A Lake Granby, G 82.90 336 ⇑P P 19 18 40.2 +1.8
baz=83
L29A Maesberg Ranch 82.97 340 ⇑P P 19 18 38.6 +0.1
baz=83
O22A Kremmling 83.06 335 ⇑P P 19 18 40.4 +1.1
baz=84,SNR=7.4
N24A Carr 83.12 337 ⇓P P 19 18 41.2 +1.7
baz=84
SHPR Sheep Range 83.17 327 eP P 19 18 40.9 +1.1
K30A Basset 83.30 341 ⇓P P 19 18 41.5 +1.3
baz=84,SNR=6.8
M25A Palm-Egli Farm 83.42 337 ⇑P P 19 18 42.6 +1.7
baz=84
N23A Red Feather La 83.52 336 ⇓P P 19 18 42.7 +1.0
baz=84
ARUT Antelope Range 83.54 329 eP P 19 18 43.3 +1.6
ARUT Antelope Range 83.54 329 eP P 19 18 43.3 +1.6
ECSD EROS Data Cent 83.57 343 eP P 19 18 41.0 -0.5
comp=Z,58nm,1.2s
ECSD EROS Data Cent 83.57 343 ⇓P P 19 18 41.8 +0.3
baz=84,SNR=13
N22A Wattenberg Ran 83.61 335 ⇓P P 19 18 43.5 +1.4
baz=84
MVU Marysvale 83.66 330 eP P 19 18 42.8 +0.3
comp=Z,13nm,1.2s
M24A Cheyenne 83.69 337 ⇑P P 19 18 43.7 +1.3
baz=84
PHWY Pilot Hill 83.73 336 eP P 19 18 43.2 +0.4
comp=Z,26nm,1.4s
ISA Isabella 83.94 325 ⇓P P 19 18 45.2 +1.5
baz=84
TMUT Trail Mountain 83.96 331 eP P 19 18 43.2 -0.8
comp=Z,20nm,1.1s
M23A Laramie 83.97 336 ⇓P P 19 18 44.9 +1.0
baz=84
K27A Flueckinger Fa 84.05 339 ⇓P P 19 18 45.4 +1.3
baz=84
J29A Okreek 84.17 341 ⇓P P 19 18 45.5 +0.8
baz=85,SNR=5.3
SPMN St. Paul 84.21 346 eP P 19 18 44.5 -0.2
comp=Z,43nm,1.6s
SPMN St. Paul 84.21 346 ⇓P P 19 18 44.6 -0.1
baz=85
N20A Spence Gulch, 84.25 334 ⇑P P 19 18 46.1 +0.8
baz=85
VES Vestal, Richgr 84.37 324 ⇑P P 19 18 47.6 +1.9
baz=85
I30A Oacoma 84.42 341 ⇓P P 19 18 45.5 -0.3
baz=85
J27A Elkhorn Farm, 84.49 339 ⇓P P 19 18 47.5 +1.3
baz=85,SNR=6.4
L23A Garrett 84.55 337 ⇓P P 19 18 46.5 -0.3
baz=85
L22A Ellis Ranch, M 84.71 336 ⇓P P 19 18 48.2 +0.6
baz=85
MPU Maple Canyon 84.75 332 eP P 19 18 48.5 +0.7
comp=Z,19nm,1.1s
K24A Anderson Ranch 84.82 337 ⇓P P 19 18 50.0 +1.9
baz=85
J26A Sides Ranch, S 84.84 339 ⇑P P 19 18 49.1 +1.1
baz=85
R11A Troy Canyon, C 84.91 328 eP P 19 18 49.6 +1.0
comp=Z,11nm,1.0s
R11A Troy Canyon, C 84.91 328 ⇑P P 19 18 50.3 +1.7
baz=85
I28A Midland 84.95 340 ⇓P P 19 18 48.9 +0.4
baz=85,SNR=7.0
K23A Bowen Ranch, D 85.10 337 ⇓P P 19 18 50.3 +0.8
baz=86
J25A Sunshine Ranch 85.13 338 ⇓P P 19 18 50.4 +0.9
baz=86
I27A Quinn 85.25 340 ⇑P P 19 18 50.6 +0.6
baz=86
H29A Onida 85.28 341 ⇑P P 19 18 50.7 +0.5
baz=86,SNR=5.5
K22A Casper 85.29 336 eP P 19 18 51.0 +0.6
comp=Z,52nm,1.7s
J24A Dixon Ranch, L 85.33 338 ⇑P P 19 18 51.6 +1.0
baz=86,SNR=5.2
DUG Dugway 85.36 331 eP P 19 18 51.8 +1.0
DUG pmax pmax
comp=Z,20nm,1.1s
DUG Dugway 85.36 331 eP P 19 18 51.8 +1.0
comp=Z,20nm,1.1s
DUG Dugway 85.36 331 ⇑P P 19 18 52.6 +1.8
baz=86
TPH Tonopah 85.38 327 eP P 19 18 52.2 +1.2
TPH pmax pmax
comp=Z,21nm,1.1s
TPH Tonopah 85.38 327 eP P 19 18 52.2 +1.2
comp=Z,20nm,1.1s
I26A New Underwood 85.44 339 ⇑P P 19 18 52.0 +0.9
baz=86
G30A Faulkton 85.49 342 ⇓P P 19 18 51.3 +0.1
baz=86
H28A Mission Ridge 85.54 341 ⇑P P 19 18 51.2 -0.2
baz=86
I25A Rochford 85.68 339 ⇓P P 19 18 53.5 +1.1
baz=86
G29A Hoven 85.74 342 ⇓P P 19 18 52.9 +0.5
baz=86
H27A Howes 85.78 340 ⇓P P 19 18 52.4 -0.2
baz=86
I24A Kuemmerle Ranc 85.80 338 ⇑P P 19 18 53.7 +0.8
baz=86
RSSD Black Hills 85.86 338 eP P 19 18 52.8 -0.5
RSSD Black Hills 85.86 338 eP P 19 18 52.8 -0.5
HWUT Hardware Ranch 86.11 332 eP P 19 18 55.0 +0.4
comp=Z,34nm,1.1s
F30A Leola 86.12 342 ⇓P P 19 18 54.3 +0.1
baz=86
NVAR Mina Array Bea 86.14 326 P P 19 18 55.8 +1.0
comp=Z,4.3nm,0.8s,baz=158,slow=6.0,SNR=9.0
H25A Fruitdale 86.20 339 ⇓P P 19 18 56.0 +1.3
baz=87
F29A Eureka 86.31 342 ⇑P P 19 18 55.3 +0.1
baz=87,SNR=5.9
I22A 9 Mile Ranch, 86.40 337 ⇓P P 19 18 55.9 0.0
baz=87
BW06 Boulder Array 86.41 334 eP P 19 18 54.9 -1.1
PDAR Pinedale Array 86.41 334 P P 19 18 55.9 -0.2
comp=Z,10nm,1.1s,baz=144,slow=5.5,SNR=8.9
J20A Shoshoni 86.43 335 ⇓P P 19 18 57.1 +1.0
baz=87,SNR=8.8
G27A Dupree 86.43 340 ⇑P P 19 18 55.6 -0.3
baz=87
TOA0 Torodi Ar. Sit 86.49 71 eP P 19 18 55.9 -0.9
TORD Torodi Ar. Bea 86.49 71 P P 19 18 56.8 0.0
comp=Z,7.9nm,0.7s,baz=221,slow=4.1,SNR=13
G26A Maurine 86.53 340 ⇓P P 19 18 56.3 -0.1
baz=87,SNR=9.3
F28A McLaughlin 86.57 341 ⇑P P 19 18 57.4 +0.8
baz=87
I21A Big Trails, Te 86.58 336 ⇑P P 19 18 56.2 -0.6
baz=87
G25A Newell 86.67 339 ⇑P P 19 18 57.4 +0.4
baz=87,SNR=6.1
J19A Crowheart 86.68 335 ⇓P P 19 18 57.9 +0.6
baz=87,SNR=12
HVU Hansel Valley 86.71 332 eP P 19 18 57.7 +0.2
HVU pmax pmax
comp=Z,17nm,1.0s
HVU Hansel Valley 86.71 332 eP P 19 18 57.7 +0.2
comp=Z,17nm,1.0s
E30A Jud 86.72 343 ⇑P P 19 18 57.8 +0.6
baz=87,SNR=5.3
ELK Elko 86.79 330 eP P 19 18 58.6 +0.6
ELK pmax pmax
comp=Z,11nm,1.0s
ELK Elko 86.79 330 eP P 19 18 58.6 +0.6
comp=Z,11nm,1.0s
F27A Lemmon 86.91 340 ⇑P P 19 18 58.1 -0.1
baz=87,SNR=7.3
E29A Napoleon 86.96 342 ⇑P P 19 18 58.5 +0.1
baz=87
I20A Worland 86.98 336 ⇑P P 19 18 59.5 +0.9
baz=87
F26A Lodgepole 87.07 340 ⇓P P 19 18 59.2 +0.2
baz=88
G24A Alzada 87.08 339 ⇓P P 19 18 59.5 +0.5
baz=88
E28A Huff 87.22 342 ⇓P P 19 19 00.3 +0.6
baz=88
G23A Biddle 87.25 338 ⇑P P 19 18 59.8 -0.1
baz=88
D30A Buchanan 87.25 343 ⇑P P 19 19 00.3 +0.5
baz=88,SNR=5.9
E27A Carson 87.31 341 ⇑P P 19 19 00.2 +0.1
baz=88

F25A Bowman 87.35 340 ⇓P P 19 19 00.6 +0.2
baz=88
REDW Red Top Meadow 87.38 334 eP P 19 19 00.9 +0.1
comp=Z,100nm,2.3s
D29A Pettibone, Tap 87.41 342 ⇑P P 19 19 00.8 +0.3
baz=88,SNR=5.4
H20A Greybull 87.41 336 ⇓P P 19 19 01.2 +0.4
baz=88
SNOW Snow King Moun 87.44 334 eP P 19 19 01.4 +0.3
comp=Z,8.3nm,0.8s
LOHW Long Hollow 87.52 334 eP P 19 19 01.5 +0.1
comp=Z,7.7nm,0.9s
TPAW Teton Pass 87.53 334 eP P 19 19 01.9 +0.3
comp=Z,12nm,0.9s
E26A Carlson Angus 87.58 340 ⇓P P 19 19 01.7 +0.2
baz=88
C30A Mose, Pekin 87.75 343 ⇓P P 19 19 02.7 +0.6
baz=88,SNR=13
AGMN Agassiz Nation 87.75 345 eP P 19 19 02.0 -0.1
comp=Z,44nm,1.4s
AGMN Agassiz Nation 87.75 345 ⇑P P 19 19 02.3 +0.2
baz=88,SNR=7.3
D28A Regan 87.77 342 ⇓P P 19 19 02.5 +0.2
baz=88,SNR=6.5
I17A Pilgrim Ck. 87.78 334 ⇑P P 19 19 03.7 +1.1
baz=88
IMW Indian Meadow 87.88 334 eP P 19 19 03.6 +0.3
comp=Z,11nm,1.0s
FLWY Flagg Ranch 87.96 334 eP P 19 19 04.2 +0.7
comp=Z,13nm,0.8s
D26A Manning 88.09 341 ⇓P P 19 19 04.3 +0.5
baz=88,SNR=7.2
H18A Shoshone NF, C 88.13 335 ⇑P P 19 19 04.5 +0.2
baz=88
B30A Myrvik Farm, E 88.42 344 ⇓P P 19 19 05.8 +0.4
baz=89,SNR=20
C27A Sayler Ranch, 88.48 341 ⇓P P 19 19 06.4 +0.7
baz=89,SNR=6.6
YMR Madison River 88.57 334 eP P 19 19 07.5 +1.1
comp=Z,20nm,1.0s
B29A Wagenman Farm, 88.67 343 ⇑P P 19 19 07.1 +0.6
baz=89,SNR=8.5
C26A Wahner Farm, P 88.74 341 ⇓P P 19 19 07.7 +0.9
baz=89
HLID Hailey 88.86 332 eP P 19 19 08.8 +1.0
comp=Z,15nm,1.2s
HLID e 19 22 47.1
HLID Hailey 88.86 332 ⇑P P 19 19 09.3 +1.6
baz=89
A30A Hoffart Farm, 88.88 344 ⇑P P 19 19 07.4 0.0
baz=89
B28A Dugan Ranch, T 88.89 342 ⇑P P 19 19 08.2 +0.7
baz=89,SNR=7.3
A29A Manning Farm, 89.07 343 ⇓P P 19 19 08.3 0.0
baz=90,SNR=14
E20A Meyer Farm, Mu 89.26 337 ⇑P P 19 19 09.1 -0.3
baz=90
MFID Camas Ranch 89.28 331 eP P 19 19 10.3 +0.7
comp=Z,11nm,1.1s
A28A Rude Farm, Bot 89.30 343 ⇑P P 19 19 09.4 -0.1
baz=90
MCMT McKenzie Canyo 89.37 333 eP P 19 19 11.1 +1.0
ULM Lac du Bonnet 89.62 346 eP P 19 19 10.6 -0.2
ULM pmax pmax
comp=Z,21nm,1.2s
ULM Lac du Bonnet 89.62 346 P P 19 19 10.2 -0.6
comp=Z,14nm,1.0s,baz=161,slow=3.5,SNR=5.9
ULM Lac du Bonnet 89.62 346 eP P 19 19 10.6 -0.2
comp=Z,21nm,1.2s
LSZ Lusaka 89.78 109 eP P 19 19 14.0 +1.2
LSZ Lusaka 89.78 109 eP P 19 19 14.0 +1.2
B22A Reddig Ranch S 90.23 339 ⇓P P 19 19 13.6 -0.3
baz=91
A22A Carney Farms, 90.84 339 ⇑P P 19 19 17.1 +0.5
baz=91
WALA Waterton Lakes 93.38 335 eP P 19 19 29.1 +0.6
GERES GERESS Array B 115.43 47 PKP PKPdf 19 24 54.7 -0.4
comp=Z,2.3nm,0.7s,baz=211,slow=1.6,SNR=14
BZS Buzias 118.78 53⇑iP PKPdf 19 25 01.3 -0.2
NOA NORSAR Array B 119.61 34 PKP PKPdf 19 25 01.1 -1.6
comp=Z,1.6nm,0.9s,baz=246,slow=2.1,SNR=4.3
HFS Hagfors 120.36 35 PKP PKPdf 19 25 02.6 -1.5
comp=Z,2.3nm,0.7s,baz=134,slow=4.3,SNR=4.7
TRPA Tarpa 120.40 51⇓iP PKPdf 19 25 04.5 0.0
VOIR 120.91 54 ⇑PKIKP PKPdf 19 25 05.9 +0.2
VOIR 120.91 54⇑iP PKPdf 19 25 05.9 +0.2
KWP Kalwaria Pacla 121.09 49 ⇓PKIKP PKPdf 19 25 05.9 +0.1
KWP Kalwaria Pacla 121.09 49⇓iP PKPdf 19 25 05.9 +0.1
DOPR Dopca 121.33 54⇑iP PKPdf 19 25 06.6 +0.2
MLR Muntele Rosu 121.51 54⇑iP PKPdf 19 25 06.4 -0.5
MLR Muntele Rosu 121.51 54 PKP PKPdf 19 25 06.4 -0.5
comp=Z,0.8nm,0.8s,baz=76,slow=0.5,SNR=5.9
BURAR Bucovina Array 121.86 52 ⇑PKIKP PKPdf 19 25 07.4 -0.1
BURAR Bucovina Array 121.86 52⇑iP PKPdf 19 25 07.4 -0.1
PLOR Plostina 122.10 54 ⇓PKIKP PKPdf 19 25 07.1 -0.8
PLOR Plostina 122.10 54⇓iP PKPdf 19 25 07.1 -0.8
VRI Vrincioaia 122.16 54 ⇓PKIKP PKPdf 19 25 07.5 -0.5
VRI Vrincioaia 122.16 54⇓iP PKPdf 19 25 07.5 -0.5
TESR Tescani 122.35 54⇓iP PKPdf 19 25 07.4 -0.9
CFR Carcaliu 122.81 56 ⇑PKIKP PKPdf 19 25 08.9 -0.3
CFR Carcaliu 122.81 56⇑iP PKPdf 19 25 08.9 -0.3
BR231 Keskin MP Arra 123.94 63 ePKPdf PKPdf 19 25 12.3 +0.6
BR131 Keskin Array S 124.50 63 ePKPdf PKPdf 19 25 12.4 -0.5
BRTR Keskin Array B 124.50 63 PKP PKPdf 19 25 12.8 -0.1
comp=Z,4.6nm,0.8s,baz=199,slow=3.0,SNR=16
AK02 Malin Array Si 125.37 50 ePKPdf PKPdf 19 25 12.5 -1.4
AK01 Malin Array Si 125.39 50 ePKPdf PKPdf 19 25 12.7 -1.3
AKASG Malin Array Be 125.39 50 PKP PKPdf 19 25 12.9 -1.1
comp=Z,2.3nm,0.6s,baz=258,slow=2.9,SNR=14
AKASG PP PP 19 27 02.9 -2.6
comp=Z,0.7nm,0.7s,baz=255,slow=6.7,SNR=5.4
MALT Malatya 127.42 67 ⇑PKIKP PKPdf 19 25 19.3 +0.8
MALT Malatya 127.42 67⇑iP PKPdf 19 25 19.3 +0.8
OBN Obninsk 130.77 45 i PKIKP PKPdf 19 25 23.4 -0.7
OBN pmax pmax
comp=Z,12nm,1.1s
GEYT Alibeck 142.05 74 PKhKP PKPpre 19 25 40.4
comp=Z,5.3nm,0.8s,baz=247,slow=6.0,SNR=6.6
AKTO Aktyubinsk 143.43 54 PKhKP PKPpre 19 25 43.5
comp=Z,5.6nm,0.8s,baz=304,slow=3.8,SNR=5.2
TIXI Tiksi 143.93 348 ePKPdf PKPab 19 25 43.9 -1.2
KSM Kuching 143.95 186 ePKPdf PKPdf 19 25 46.4 -0.5
ABKAR Akbulak array 144.71 55 ePKPdf PKPbc 19 25 48.8 -0.1
PSI Prapat 144.74 167 PKIKP PKPab 19 25 49.0 -1.0
PSI Prapat 144.74 167 PKP PKPab 19 25 49.0 -1.0
comp=Z,56nm,0.8s,baz=175,slow=2.8,SNR=22
IPM Ipoh 146.72 170 eP PKPdf 19 25 54.1 -0.4
HYB Hyderabad 148.29 122 i PKP PKPbc 19 25 59.0 -1.3
KBL Kabul 149.66 84 ePKPdf PKPbc 19 25 58.2 -0.7
KBL ePKPbc PKPbc 19 26 03.2 -0.4
BVAR Borovoye Array 150.60 47 PKPbc PKPbc 19 26 05.5 +0.5
comp=Z,18nm,0.7s,baz=285,slow=4.0,SNR=25
YAK Yakutsk 151.59 337 ePKIKP PKPbc 19 26 05.4 -1.5
YAK pmax pmax
comp=Z,63nm,0.8s
YAK Yakutsk 151.59 337 ePKPbc PKPbc 19 26 05.9 -1.0
YSS Yuzh-Sakhalins 151.80 301⇑ePKIKP PKPbc 19 26 07.0 -0.9
YSS e 19 26 17.0
YSS pmax pmax
comp=Z,20nm,0.6s
YSS Yuzh-Sakhalins 151.80 301 ePKPdf PKPab 19 26 16.4 -0.6
KKAR Karatay Array 152.12 67 ePKIKP PKPbc 19 26 08.3 -0.5
KKAR e 19 26 17.6
KKAR Karatay Array 152.12 67 ePKPbc PKPbc 19 26 08.3 -0.5
KKAR ePKPab PKPab 19 26 17.6 -0.9
MJAR Matsushiro Arr 154.76 277 PKPab PKPab 19 26 29.9 -0.1
comp=Z,3.7nm,0.7s,baz=123,slow=3.4,SNR=8.3
AAK Ala-Archa 155.05 68 ePKIKP PKPdf 19 26 06.6 0.0
AAK e 19 26 16.0
AAK e 19 26 31.5
AAK Ala-Archa 155.05 68 PKPab PKPab 19 26 31.9 +0.7
comp=Z,23nm,0.8s,baz=195,slow=2.7,SNR=15
AAK Ala-Archa 155.05 68 ePKPdf PKPdf 19 26 06.6 0.0
AAK ePKPbc PKPbc 19 26 15.9
AAK ePKPab PKPab 19 26 31.5 +0.3
KSH Kashi 156.06 76 ePKP PKPdf 19 26 09.3 +1.3
NVS Novosibirsk 156.52 35 ePKP2 PKPab 19 26 36.3 -0.5
ZALV Zalesovo Beam 157.80 35 PKP PKPdf 19 26 08.6 -1.0
comp=Z,8.4nm,1.0s,baz=253,slow=1.5,SNR=4.7
ZALV PKPab PKPab 19 26 43.0 +0.6
comp=Z,9.3nm,0.6s,baz=301,slow=3.8,SNR=7.2
MK31 Makanchi Array 159.85 55 ePKIKP PKPdf 19 26 11.4 -0.9
MK31 Makanchi Array 159.85 55 ePKPbc PKPdf 19 26 11.4 -0.9
MKAR Makanchi Array 159.85 55 PKP PKPdf 19 26 09.7 -2.6
comp=Z,6.7nm,1.1s,baz=282,slow=2.8,SNR=3.5

MKAR PKPab PKPab 19 26 51.6 +0.1
comp=Z,6.0nm,0.8s,baz=279,slow=4.4,SNR=5.9
WMQ Urumqi 164.40 60 ePKP PKPdf 19 26 17.8 +0.8
ZAK Zakamensk 166.94 9 ePKP2 PKPab 19 27 22.6 +0.1
ZAK pmax pmax
comp=Z,4.0nm,1.1s
NJ2 Nanjing 168.50 245 ePKP PKPdf 19 26 21.8 +1.3
GYA Guiyang 168.96 181 PKP PKPdf 19 26 21.5 +0.4
GYA pPKP pPKPdf 19 26 32.8 +3.9
GYA PKPab PKPab 19 27 34.0 +2.0
GYA PKS PKSdf 19 29 51.5 -2.3
GYA PP PP 19 31 24.5 +4.1
GYA SKKS 19 38 06.0
GYA SS SS 19 52 13.3 +0.7
GYA AMB AMB
comp=Z,130nm,8.2s
GYA LR LR
comp=Z,120nm,21.9s
GYA LR LR
comp=Z,110nm,21.5s
SONM Songino Array 169.70 1 PKP2 PKPab 19 27 35.0 +0.2
SONM Songino Array 169.70 1 PKPab PKPab 19 27 35.0 +0.2
comp=Z,3.2nm,0.9s,baz=338,slow=3.6,SNR=4.3
CD2 Chengdu 173.01 160 PKP PKPdf 19 26 23.3 +0.3
CD2 pPKP pPKPdf 19 26 34.5 +3.7
CD2 sPKP 19 26 38.5
CD2 PKS PKSdf 19 29 54.0 -1.3
CD2 PP PP 19 31 45.0 +4.3
CD2 SKS SKSdf 19 33 21.0 -3.9
CD2 SKKS SKKSac 19 38 26.8 +0.2
CD2 AMB AMB
comp=Z,220nm,6.4s
GTA Gaotai 174.40 68 ePKP PKPdf 19 26 24.8 +1.5
GTA pPKP pPKPdf 19 26 35.5 +4.3
GTA sPKP 19 26 39.3
GTA PKPab PKPab 19 27 55.0 -1.2
GTA PP PP 19 31 53.5 +4.6
GTA SKS SKSdf 19 33 22.0 -3.0
GTA SKKS SKKSac 19 38 34.3 +0.7
GTA SS SS 19 53 07.5 -1.3
GTA AMB AMB
comp=Z,480nm,7.6s
LZH Lanzhou 177.40 123 ePKP PKPdf 19 26 24.3 +0.1
LZH pPKP pPKPdf 19 26 35.0 +3.0
LZH sPKP 19 26 39.0
LZH PP PP 19 32 05.0 +2.0
LZH eSKKS 19 38 48.0
LZH eSS SS 19 53 32.5 -4.4
LZH LR LR
comp=Z,1μm,18.4s
LZH LR LR
comp=Z,2μm,19.9s
LZH LR LR
comp=Z,1μm,21.0s

*IDC **27** 19:09:41.9±0.7, 34°.10S×72°.03W, h0km, mb4.5/11, mb1 4.6/13, mb1mx4.4/37, mbtmp4.5/13, ML4.5/1, Error ellipse: s-maj=24.2km s-min=17.2km az=114.0*
*ISCJB **27** 19:09:42.2±0.5, 34°.09S±0°.06×72°.32W±0°.07, h19km, mb4.6/16, Error ellipse: s-maj=9.6km s-min=6.0km az=136.5*
*GUC **27** 19:09:45.2±0.7, 34°.04S×72°.21W, h15km±999km, ML4.9*
*NEIC **27** 19:09:46.8±0.3, 34°.02S×72°.14W, h35km, mb4.8/8, Error ellipse: s-maj=10.1km s-min=7.7km az=91.0*
ISC 27 19:09:44.4±0.5, 34°.05S±0°.07×72°.19W±0°.07, h19km, n42, σ0°.68/47, mb4.7/16, 3C-3D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TACH Talagante 1.12 70⇑iP Pn 19 10 04.4 -0.6
IHA Instituto Hidr 1.12 25⇑iP Pn 19 10 04.8 -0.2
IHA i S Sb 19 10 19.2 -0.1
SAN Santiago 1.41 65⇓iP Pn 19 10 09.5 +0.5
ROCH El Roble 1.46 43⇓iP Pn 19 10 10.5 +0.6
ROCH i S Sb 19 10 29.5 +0.2
ROCH AML AML 19 10 36.3
comp=N,29μm,0.5s
PEL Peldehue 1.55 55⇑iP Pb 19 10 11.9 -0.6
PEL i S Sb 19 10 32.2 +0.5
PEL AML AML 19 10 40.4
comp=E,46μm,0.3s
FCH Farellones 1.74 66⇓iP Pn 19 10 12.6 -1.3
FCH i S Sn 19 10 35.9 +0.1
FCH AML AML 19 10 42.8
comp=N,17μm,0.3s
CFAA Coronel Fontan 4.13 55 Pn Pn 19 10 45.9 -0.6
comp=N,0.4nm,0.3s,baz=270,slow=20,SNR=2.2
CFAA Lg Lg 19 11 48.8
comp=N,24nm,0.3s,baz=291,slow=6.7,SNR=5.4
CPUP Villa Florida 14.97 63 Pn Pn 19 13 15.9 +1.0
LPAZ La Paz 18.06 13 P Pn 19 13 55.0 +0.1
comp=N,0.7nm,0.3s,baz=189,slow=8.1,SNR=6.5
SIV San Ignacio 20.58 32 P P 19 14 22.3 0.0
comp=N,29nm,1.0s,baz=205,slow=8.7,SNR=5.8
NNA Nana 22.37 348 P P 19 14 42.5 +1.0
comp=N,10nm,0.8s
SAML Samuel 26.32 20 eP P 19 15 19.1 0.0
comp=N,23nm,0.8s
SDV Santo Domingo 42.72 2 eP P 19 17 40.2 -0.4
comp=N,14nm,1.0s
RCBR Riachuelo 43.78 58 P P 19 17 49.1 0.0
comp=N,5.8nm,0.7s,baz=225,slow=15,SNR=4.5
RCBR Riachuelo 43.78 58 P P 19 17 48.6 -0.4
comp=N,12nm,0.9s
SNAA Sanae 51.59 158 P P 19 18 49.3 +0.3
comp=N,3.3nm,0.8s,baz=292,slow=8.0,SNR=5.7
CELP Cerrillos 52.11 7 eP P 19 18 51.9 -1.4
TEIG Tepich 56.10 342 P P 19 19 21.9 -0.5
comp=N,36nm,1.1s
QSPA South Pole Qui 56.19 180 P P 19 19 23.1 +0.3
comp=N,8.4nm,1.0s,baz=164,slow=5.5,SNR=4.5
QSPA South Pole Qui 56.19 180 eP P 19 19 22.4 -0.4
comp=N,13nm,1.0s
TXAR Lajitas Array 69.71 331 P P 19 20 54.0 +0.9
comp=N,0.6nm,0.6s,baz=158,slow=8.3,SNR=5.8
WVT Waverly 71.33 347 eP P 19 21 00.8 -1.8
comp=N,12nm,0.8s
DBIC Dimbokro 75.32 71 P P 19 21 27.1 +0.4
comp=N,5.6nm,0.7s,baz=203,slow=5.7,SNR=6.7
TSUM Tsumeb 79.33 106 P P 19 21 49.0 -0.3
comp=N,3.6nm,0.9s,baz=194,slow=7.1,SNR=4.0
BOSA Boshof 80.16 118 P P 19 21 52.8 -1.0
comp=N,5.1nm,0.8s,baz=230,slow=3.3,SNR=9.6
ECSD EROS Data Cent 80.56 342 eP P 19 21 55.1 0.0
comp=N,54nm,0.8s
LBTB Lobatse 82.40 115 P P 19 22 05.2 -0.4
comp=N,3.6nm,0.5s,baz=260,slow=7.0,SNR=7.9
TOA0 Torodi Ar. Sit 84.35 70 eP P 19 22 15.9 +0.4
TOA0 Torodi Ar. Sit 84.35 70 e P 19 22 15.9 +0.3
TORD Torodi Ar. Bea 84.35 70 P P 19 22 15.7 +0.1
comp=N,10nm,0.8s,baz=293,slow=6.3,SNR=20
ULM Lac du Bonnet 86.51 345 P P 19 22 25.8 +0.2
comp=N,2.4nm,0.7s,baz=81,slow=4.1,SNR=3.3
WRA Warramunga Arr 120.66 209 PKP PKPdf 19 28 35.6 +0.1
comp=N,0.7nm,0.6s,baz=164,slow=1.5,SNR=7.5
BRTR Keskin Array B 121.97 61 PKP PKPdf 19 28 37.4 -0.1
comp=N,1.1nm,0.9s,baz=210,slow=2.0,SNR=4.2
AKASG Malin Array Be 122.32 48 PKP PKPdf 19 28 37.4 -0.2
comp=N,0.9nm,0.6s,baz=260,slow=2.9,SNR=4.4
ABKAR Akbulak array 141.81 52 ePKPpre PKPpre 19 29 05.4
BVAR Borovoye Array 147.40 43 PKP PKPdf 19 29 24.8 +1.0
comp=N,5.8nm,0.6s,baz=270,slow=0.9,SNR=25
BVAR PKPbc PKPbc 19 29 27.0 +0.6
comp=N,5.7nm,0.6s,baz=292,slow=2.6,SNR=19
PSI Prapat 147.83 163 PKPbc PKPbc 19 29 28.4 -0.4
comp=N,5.4nm,0.4s,baz=345,slow=2.4,SNR=4.1
YAK Yakutsk 148.73 340 ePKPbc PKPbc 19 29 29.8 +0.2
HYB Hyderabad 149.03 115 i PKP PKPbc 19 29 31.5 -0.2
KKAR Karatay Array 149.68 62 ePKPbc PKPbc 19 29 30.3 +0.4
AAK Ala-Archa 152.64 62 PKPbc PKPbc 19 29 41.0 +1.3
comp=N,5.2nm,0.7s,baz=178,slow=1.8,SNR=6.9
ZALV Zalesovo Beam 154.34 32 PKPbc PKPbc 19 29 43.9 +1.1
comp=N,9.0nm,0.6s,baz=298,slow=3.2,SNR=19
ZALV PKPab PKPab 19 29 58.1 +1.2
comp=N,9.1nm,0.8s,baz=305,slow=5.6,SNR=5.3

*IDC **27** 19:10:07.5±0.5, 35°.08S×72°.54W, h0km, mb5.0/20, mb1 5.1/23, mb1mx5.0/37, mbtmp5.0/23, ML4.9/3, Error ellipse: s-maj=20.1km s-min=12.0km az=68.0*
*ISCJB **27** 19:10:09.0±0.3, 35°.00S±0°.06×72°.31W±0°.09, h18km, mb5.2/68, Error ellipse: s-maj=11.3km s-min=6.5km az=146.7*
*MOS **27** 19:10:11.6±1.0, 35°.02S×72°.49W, h33km, mb5.5/15, Error ellipse: s-maj=31.2km s-min=10.2km az=103.5*
*NEIC **27** 19:10:13.1±1.1, 35°.05S×72°.38W, h39km±9km, mb5.2/52, Error ellipse: s-maj=10.5km s-min=5.7km az=69.0*
ISC 27 19:10:10.4±0.4, 35°.04S±0°.06×72°.5W±0°.1, h18km, n242, σ1°.01/251, mb5.3/68, 42C-42D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.92 47 Pn Pn 19 11 25.6 +2.1
8.0nm,0.3s,baz=227,slow=14,SNR=4.0
CFAA Lg Lg 19 12 29.5
23nm,0.3s,baz=62,slow=9.4,SNR=3.2
PLCA Paso Flores 5.88 166 Pn Pn 19 11 37.1 +0.4
15nm,0.3s,baz=342,slow=12,SNR=8.2
PLCA Lg Lg 19 13 12.9
9.1nm,0.3s,baz=309,slow=18,SNR=3.1
PLCA Paso Flores 5.88 166 Pn Pn 19 11 37.1 +0.4
PLCA ePn Pn 19 11 38.7 +2.0
PLCA Lg Lg 19 13 12.9
TRQA Tornquist 8.96 113 ePn Pn 19 12 17.5 -1.4
LVC Limon Verde 12.76 15 ePn Pn 19 13 05.0 -6.2
LPAZ La Paz 19.07 13 eP Pn 19 14 33.8 +0.4
LPAZ pmax pmax
comp=Z,49nm,0.8s
LPAZ La Paz 19.07 13 P Pn 19 14 34.3 +1.0
comp=Z,1.3nm,0.3s,baz=196,slow=10,SNR=8.6
LPAZ La Paz 19.07 13 eP Pn 19 14 33.8 +0.4
comp=Z,49nm,0.8s
LPAZ P Pn 19 14 34.3 +1.0
SIV San Ignacio 21.54 31 P P 19 14 58.9 +0.1
comp=Z,109nm,0.8s,baz=216,slow=9.4,SNR=21
NNA Nana 23.29 349 eP P 19 15 18.0 +0.7
NNA Nana 23.29 349 P P 19 15 18.2 +1.0
comp=Z,18nm,0.7s,baz=197,slow=11,SNR=6.2
NNA Nana 23.29 349 eP P 19 15 17.9 +0.7
NNA P P 19 15 18.2 +1.0
SAML Samuel 27.32 20 eP P 19 15 53.9 -0.3
comp=Z,33nm,0.8s
OTAV Otavalo 35.54 350 eP P 19 17 07.7 +0.7
comp=Z,34nm,1.4s
ROSC El Rosal 39.72 357 P P 19 17 43.5 +1.2
comp=Z,13nm,0.5s,baz=116,slow=22,SNR=6.3
ROSC El Rosal 39.72 357 P P 19 17 43.5 +1.2
ROSC eP pP 19 17 45.6 -2.3
SDV Santo Domingo 43.72 3 eP P 19 18 14.2 -0.6
comp=Z,50nm,0.9s
RCBR Riachuelo 44.49 58 P P 19 18 21.5 +0.6
comp=Z,10nm,0.7s,baz=212,slow=8.4,SNR=6.0
RCBR Riachuelo 44.49 58 eP P 19 18 20.7 -0.2
comp=Z,34nm,1.2s
RCBR P P 19 18 21.5 +0.6
BCIP Isla Barro Col 44.51 350 eP P 19 18 21.2 +0.3
JTS JuntasAbangare 46.61 343 eP P 19 18 36.7 -0.8
JTS pmax pmax
comp=Z,19nm,1.2s
JTS JuntasAbangare 46.61 343 P P 19 18 38.2 +0.7
comp=Z,8.3nm,0.8s,baz=301,slow=1.7,SNR=4.2
JTS JuntasAbangare 46.61 343 eP P 19 18 36.7 -0.8
comp=Z,19nm,1.2s
JTS P P 19 18 38.2 +0.7
FDF Fort de France 50.65 14 eP P 19 19 05.8 -2.8
FDF pmax pmax
comp=Z,47nm,0.8s
FDF Fort de France 50.65 14 eP P 19 19 05.8 -2.8
comp=Z,47nm,0.8s
SNAA Sanae 50.76 157 eP P 19 19 09.2 +0.3
SNAA Sanae 50.76 157 P P 19 19 09.7 +0.8
comp=Z,9.0nm,1.0s,baz=276,slow=6.5,SNR=8.1
SNAA Sanae 50.76 157 eP P 19 19 09.2 +0.3
SNAA P P 19 19 09.7 +0.8
CELP Cerrillos 53.11 7 eP P 19 19 26.3 -0.6
MTDJ Mount Denham 53.19 354 eP P 19 19 27.2 -0.3
LRS Lares 53.30 7 eP P 19 19 27.2 -1.1
ANWB Willy Bob 53.39 13 eP P 19 19 23.4 -5.5
SDDR Presa de Saban 53.73 1 eP P 19 19 30.7 -0.8
GTBY Guantanamo Bay 54.72 357 eP P 19 19 38.0 -0.6
QSPA South Pole Qui 55.20 180 P P 19 19 42.1 +0.2
comp=Z,21nm,0.9s,baz=186,slow=1.0,SNR=14
QSPA South Pole Qui 55.20 180 P P 19 19 42.1 +0.2
QSPA eP P 19 19 42.5 +0.7
TEIG Tepich 56.98 342 P P 19 19 55.0 +0.2
comp=Z,67nm,0.8s,baz=183,slow=11,SNR=14
TEIG Tepich 56.98 342 eP P 19 19 54.8 0.0
TEIG P P 19 19 55.0 +0.2
035A Encino 66.24 335 ⇑P P 19 20 59.4 +2.2
baz=67,SNR=5.1
034A Hebbronville 66.56 335 ⇓P P 19 21 01.3 +2.0
baz=67,SNR=6.6
TIGA Tifton 66.95 350 eP P 19 21 00.6 -1.0
comp=Z,51nm,0.9s
934A Benavides 66.99 335 ⇓P P 19 21 04.2 +2.2
baz=67
933A Laredo 67.27 334 ⇓P P 19 21 05.6 +1.7
baz=68,SNR=7.6
834A Tilden 67.49 335 ⇓P P 19 21 07.4 +2.3
baz=68,SNR=7.9
735A Kenedy 67.91 336 ⇑P P 19 21 09.8 +2.1
baz=68
833A Chaparral WMA, 67.96 334 ⇓P P 19 21 09.6 +1.5
baz=68,SNR=10
832A Faith Ranch, C 68.13 334 ⇓P P 19 21 10.5 +1.3
baz=68,SNR=9.0
734A La Parita Cree 68.15 335 ⇑P P 19 21 10.8 +1.5
baz=68
636A Smothers Creek 68.24 337 ⇑P P 19 21 12.2 +2.3
baz=69,SNR=6.6
733A Divot King Ran 68.29 335 ⇓P P 19 21 11.1 +0.9
baz=69
MEH Mehetia 68.37 263 eT T 19 22 07.8
comp=Z,27nm,0.2s
732A Laxson Ranch, 68.54 334 ⇓P P 19 21 12.9 +1.1
baz=69,SNR=12
537A Green Hill Far 68.56 338 ⇓P P 19 21 14.0 +2.2
baz=69
536A Bastrop 68.79 337 ⇑P P 19 21 14.9 +1.6
baz=69
535A Dale 68.91 337 ⇓P P 19 21 15.3 +1.2
baz=69
633A Saathoff Ranch 68.92 335 ⇑P P 19 21 15.5 +1.3
baz=69,SNR=7.8
438A Sam Houston St 68.93 339 ⇑P P 19 21 16.5 +2.4
baz=69
632A Uvalde 69.18 335 ⇑P P 19 21 17.2 +1.5
baz=70,SNR=10
534A Blanco 69.21 336 ⇑P P 19 21 16.0 +0.1
baz=70
339A Huntington 69.21 340 ⇓P P 19 21 17.7 +1.8
baz=70
631A Perdido Creek 69.37 334 ⇑P P 19 21 17.6 +0.6
baz=70,SNR=9.8
533A Kerrville 69.44 336 ⇑P P 19 21 18.7 +1.4
baz=70,SNR=11
338A Crockett 69.45 339 ⇓P P 19 21 16.9 -0.5
baz=70
337A Centerville 69.58 339 ⇓P P 19 21 20.1 +1.9
baz=70
435B Jarrell 69.61 337 ⇑P P 19 21 19.6 +1.2
baz=70
532A Rocksprings 69.79 335 ⇓P P 19 21 20.7 +1.1
baz=70,SNR=13
434A Burnet 69.86 336 ⇑P P 19 21 20.9 +0.9
baz=70,SNR=11
336A Riesel 69.94 338 ⇑P P 19 21 21.6 +1.2
baz=70,SNR=7.1
335A Moody 70.03 337 ⇑P P 19 21 22.1 +1.2
baz=70,SNR=7.0
531A Rocksprings 70.05 334 ⇓P P 19 21 22.5 +1.3
baz=70,SNR=9.7
JCT Junction City 70.07 335 eP P 19 21 21.5 +0.2
JCT pmax pmax
comp=Z,85nm,1.2s
JCT Junction City 70.07 335 eP P 19 21 21.5 +0.2
JCT Junction City 70.07 335 ⇑P P 19 21 22.3 +1.0
baz=70,SNR=10.0
433A Art 70.08 336 ⇑P P 19 21 22.0 +0.6
baz=70,SNR=13
KMSC Kings Mountain 70.31 352 eP P 19 21 22.1 -0.4
comp=Z,37nm,1.1s
530A J-C Ranch, Com 70.32 334 ⇑P P 19 21 24.5 +1.7
baz=71,SNR=12
334A Lometa 70.33 337 ⇓P P 19 21 23.8 +1.0
baz=71,SNR=9.6

432A Menard 70.43 335 ⇑P P 19 21 24.2 +0.7
baz=71,SNR=6.7
TXAR Lajitas Array 70.47 331 P P 19 21 24.6 +0.8
comp=Z,13nm,0.7s,baz=156,slow=8.9,SNR=35
431A Sonora 70.54 334 ⇑P P 19 21 25.4 +1.2
baz=71,SNR=9.7
333A Richland Sprin 70.57 336 ⇑P P 19 21 24.9 +0.6
baz=71,SNR=11
138A Matatall Enter 70.61 340 ⇑P P 19 21 25.5 +1.1
baz=71
529A Stev Forest Ra 70.62 333 ⇑P P 19 21 25.7 +1.0
baz=71,SNR=13
WHTX Lake Whitney 70.69 338 eP P 19 21 25.2 +0.2
comp=Z,52nm,0.8s
WHTX Lake Whitney 70.69 338 ⇑P P 19 21 25.9 +1.0
baz=71,SNR=11
137A Heron Place, G 70.74 339 ⇑P P 19 21 26.9 +1.6
baz=71
430A Baggett Ranch, 70.86 334 ⇑P P 19 21 27.1 +0.9
baz=71,SNR=11
332A Millersview 70.88 335 ⇑P P 19 21 26.4 +0.3
baz=71,SNR=12
234A Clairette 70.92 337 ⇓P P 19 21 27.4 +1.0
baz=71,SNR=9.2
429A Davenport Ranc 70.95 333 ⇓P P 19 21 27.8 +1.1
baz=71,SNR=10
CPCT Cooper Cave 71.02 350 eP P 19 21 28.7 +1.8
331A San Angelo 71.05 335 ⇑P P 19 21 28.0 +0.8
baz=71,SNR=18
TKL Tuckaleechee C 71.12 350 P P 19 21 27.3 -0.2
comp=Z,20nm,0.8s,baz=170,slow=7.5,SNR=14
233A Rising Star 71.18 336 ⇓P P 19 21 28.2 +0.2
baz=72,SNR=13
135A Vickery Place, 71.20 338 ⇑P P 19 21 28.7 +0.7
baz=72
232A Coleman 71.31 336 ⇓P P 19 21 29.4 +0.6
baz=72,SNR=12
330A Mertzon 71.40 334 ⇓P P 19 21 30.1 +0.8
baz=72,SNR=8.5
134A White-Moore Ra 71.43 337 ⇓P P 19 21 30.3 +0.9
baz=72
231A Bronte 71.58 335 ⇑P P 19 21 31.0 +0.5
baz=72,SNR=14
133A Hamilton Ranch 71.73 337 ⇓P P 19 21 31.9 +0.6
baz=72,SNR=13
329A Wagon Wheel Ra 71.76 334 ⇓P P 19 21 32.9 +1.3
baz=72,SNR=9.7
230A Sterling City 71.81 335 ⇑P P 19 21 32.6 +0.8
baz=72,SNR=8.4
Z35A Perchaven, San 71.87 338 ⇓P P 19 21 32.9 +0.8
baz=72,SNR=11
ABTX Abilene, Hawle 71.98 336 eP P 19 21 33.1 +0.3
comp=Z,68nm,1.0s
ABTX Abilene, Hawle 71.98 336 ⇓P P 19 21 33.6 +0.8
baz=72,SNR=11
Z34A Collier Ranch, 72.11 338 ⇓P P 19 21 34.2 +0.7
baz=72,SNR=5.8
229A Bryant Ranch, 72.13 334 ⇓P P 19 21 34.4 +0.6
baz=72,SNR=8.1
131A Roby 72.28 336 ⇓P P 19 21 35.4 +0.8
baz=73,SNR=10
Z33A Whitaker Ranch 72.30 337 ⇓P P 19 21 35.5 +0.8
baz=73,SNR=12
130A Snyder 72.40 335 ⇓P P 19 21 36.2 +0.8
baz=73,SNR=8.3
JSRW J. Sargeant Re 72.54 355 eP P 19 21 36.1 +0.2
228A UT Block 9, Go 72.55 333 ⇑P P 19 21 37.2 +0.9
baz=73,SNR=12
Z32A Haskell 72.55 337 ⇑P P 19 21 37.2 +1.0
baz=73,SNR=14
Y34A Reagan Ranch, 72.61 338 ⇑P P 19 21 37.0 +0.5
baz=73,SNR=11
Z31A Sharp Cattle R 72.78 336 ⇑P P 19 21 38.5 +0.9
baz=73,SNR=9.9
Y33A Hilltop Ranch, 72.92 337 ⇓P P 19 21 38.8 +0.4
baz=73,SNR=8.2
128A Castleberry Fa 72.97 334 ⇓P P 19 21 39.6 +0.9
baz=73,SNR=12
Z30A Sanderson Ranc 73.09 335 ⇓P P 19 21 39.9 +0.5
baz=74,SNR=12
Y32A R-V Farms, Ver 73.18 337 ⇑P P 19 21 40.7 +0.8
baz=74,SNR=6.2
X34A Smith Ranch, M 73.23 338 ⇑P P 19 21 41.0 +0.9
baz=74,SNR=9.8
MNTX Cornudas Mount 73.24 331 eP P 19 21 39.4 -1.0
comp=Z,16nm,0.8s
Z29A Hungry Hill Ra 73.26 335 ⇑P P 19 21 40.9 +0.4
baz=74,SNR=14
127A Arkansas Junct 73.33 333 ⇑P P 19 21 42.5 +1.5
baz=74
X33A Lawton 73.38 338 ⇓P P 19 21 41.2 +0.2
baz=74,SNR=5.3
Y31A Rekieta Farm, 73.41 336 ⇓P P 19 21 42.3 +1.0
baz=74,SNR=9.0
X32A Elmer 73.51 337 ⇓P P 19 21 42.4 +0.5
baz=74,SNR=6.8
Y29A Porterfield Fa 73.80 335 ⇑P P 19 21 44.5 +0.9
baz=74,SNR=14
W34A Bridge Creek, 73.80 339 eP P 19 21 43.4 -0.1
comp=Z,15nm,0.8s
W34A Bridge Creek, 73.80 339 ⇑P P 19 21 44.0 +0.5
baz=74,SNR=5.4
Z27A Tatum 73.86 334 ⇓P P 19 21 44.8 +0.8
baz=74,SNR=5.8
TUL1 Tulsa 73.86 340 eP P 19 21 43.2 -0.6
comp=Z,46nm,0.8s
TUL1 Tulsa 73.86 340 ⇑P P 19 21 44.4 +0.6
baz=74,SNR=9.3
X31A McDonald Ranch 73.93 337 ⇓P P 19 21 44.8 +0.5
baz=74,SNR=13
W33A Caddo, Fort Co 73.93 338 ⇓P P 19 21 45.6 +1.3
baz=74,SNR=14
USIN University of 73.99 348 eP P 19 21 43.7 -0.9
comp=Z,68nm,1.0s
X30A Coker Ranch, T 74.06 336 ⇓P P 19 21 45.7 +0.6
baz=74
MSTX Muleshoe 74.28 334 eP P 19 21 46.4 -0.1
comp=Z,50nm,0.9s
SUR Sutherland 74.64 119 P P 19 21 50.3 +1.3
comp=Z,24nm,0.8s,baz=241,slow=8.0,SNR=8.5
AMTX Amarillo 74.73 335 eP P 19 21 49.4 +0.3
comp=Z,80nm,1.1s
121A Cookes Peak, D 74.95 330 eP P 19 21 51.8 +1.3
comp=Z,43nm,0.9s
SLM Saint Louis 75.13 346 eP P 19 21 50.8 -0.3
SLM pmax pmax
comp=Z,32nm,0.8s
SLM Saint Louis 75.13 346 eP P 19 21 50.8 -0.3
comp=Z,32nm,0.8s
DBIC Dimbokro 75.84 71 eP P 19 21 56.3 +0.5
DBIC Dimbokro 75.84 71 P P 19 21 56.5 +0.6
comp=Z,29nm,0.7s,baz=214,slow=6.3,SNR=19
DBIC Dimbokro 75.84 71 eP P 19 21 56.3 +0.5
DBIC P P 19 21 56.5 +0.6
LPM Los Pinos Moun 76.04 331 eP P 19 21 57.3 +0.6
comp=Z,20nm,0.9s
TUC Tucson 76.05 327 eP P 19 21 57.4 +0.7
TUC pmax pmax
comp=Z,24nm,1.2s
TUC Tucson 76.05 327 eP P 19 21 57.4 +0.7
comp=Z,24nm,1.2s
ANMO Albuquerque 76.53 332 eP P 19 22 00.5 +1.0
ANMO pmax pmax
comp=Z,28nm,1.0s
ANMO Albuquerque 76.53 332 eP P 19 22 00.5 +1.0
comp=Z,28nm,1.0s
214A Organ Pipe Nat 76.67 326 eP P 19 22 01.3 +1.2
comp=Z,18nm,1.0s
KSU1 Kansas State U 77.08 341 eP P 19 22 01.0 -1.2
comp=Z,18nm,0.7s
W18A Petrified Fore 77.99 329 eP P 19 22 08.7 +1.0
comp=Z,56nm,1.1s
KSCO Kaye Shedlock' 78.79 336 eP P 19 22 12.7 +0.8
comp=Z,36nm,1.1s
CASY Casey 78.98 181 P P 19 22 11.6 -1.0
WUAZ Wupatki 79.03 329 eP P 19 22 13.9 +0.6
comp=Z,30nm,1.0s
JFWS Jewell Farm 79.26 347 eP P 19 22 13.2 -1.1
JFWS pmax pmax
comp=Z,35nm,1.0s
JFWS Jewell Farm 79.26 347 eP P 19 22 13.2 -1.1
comp=Z,35nm,1.0s
TSUM Tsumeb 79.27 106 P P 19 22 15.3 +0.1
comp=Z,9.0nm,0.9s,baz=220,slow=6.4,SNR=8.8
TSUM Tsumeb 79.27 106 P P 19 22 15.3 +0.1
TSUM eP P 19 22 16.2 +1.0
MVCO Mesa Verde 79.30 331 eP P 19 22 15.8 +0.8
comp=Z,40nm,1.3s
BGNE Belgrade 79.65 341 eP P 19 22 15.5 -1.0
comp=Z,47nm,1.0s
BOSA Boshof 79.90 118 eP P 19 22 18.8 +0.3
BOSA pmax pmax
comp=Z,60nm,1.3s
BOSA Boshof 79.90 118 P P 19 22 19.0 +0.5
comp=Z,27nm,0.7s,baz=240,slow=4.4,SNR=22
BOSA Boshof 79.90 118 eP P 19 22 18.8 +0.3
comp=Z,60nm,1.3s
BOSA P P 19 22 19.0 +0.5
ISCO Idaho Springs 80.51 335 eP P 19 22 21.8 +0.3
ISCO pmax pmax
comp=Z,11nm,0.8s
ISCO Idaho Springs 80.51 335 eP P 19 22 21.8 +0.3
comp=Z,11nm,0.8s
SHPR Sheep Range 81.52 326 eP P 19 22 28.1 +1.3
comp=Z,37nm,1.3s
SRU San Rafael 81.74 331 eP P 19 22 28.3 +0.4
SRU pmax pmax
comp=Z,16nm,0.9s
SRU San Rafael 81.74 331 eP P 19 22 28.3 +0.4
comp=Z,16nm,0.9s
ARUT Antelope Range 81.83 328 eP P 19 22 29.4 +1.0
ARUT Antelope Range 81.83 328 eP P 19 22 29.4 +1.0
comp=Z,354nm,1.0s
MVU Marysvale 81.91 330 eP P 19 22 29.8 +0.9
comp=Z,24nm,1.1s
SPMN St. Paul 81.99 346 eP P 19 22 27.9 -0.9
comp=Z,16nm,0.7s
TMUT Trail Mountain 82.18 331 eP P 19 22 31.1 +0.7
comp=Z,17nm,1.0s
LBTB Lobatse 82.19 115 eP P 19 22 30.9 +0.2
LBTB pmax pmax
comp=Z,12nm,0.6s
LBTB Lobatse 82.19 115 P P 19 22 31.2 +0.5
comp=Z,13nm,0.5s,baz=251,slow=5.7,SNR=18
LBTB Lobatse 82.19 115 eP P 19 22 30.9 +0.2
comp=Z,12nm,0.6s
LBTB P P 19 22 31.2 +0.5
BRSD Miller 82.69 341 eP P 19 22 32.0 -0.5
comp=Z,44nm,0.9s
K22A Casper 83.36 335 eP P 19 22 36.6 +0.4
comp=Z,75nm,1.5s
JLU Jordanelle 83.39 331 eP P 19 22 37.0 +0.4
comp=Z,12nm,0.8s
DUG Dugway 83.59 330 eP P 19 22 38.1 +0.6
DUG pmax pmax
comp=Z,41nm,1.2s
DUG Dugway 83.59 330 eP P 19 22 38.1 +0.6
comp=Z,41nm,1.2s
TCUT Toone Canyon 83.81 331 eP P 19 22 39.2 +0.5
comp=Z,14nm,0.8s
RSSD Black Hills 83.86 338 eP P 19 22 38.4 -0.4
RSSD pmax pmax
comp=Z,15nm,0.8s
RSSD Black Hills 83.86 338 eP P 19 22 38.4 -0.4
comp=Z,15nm,0.8s
PDAR Pinedale Array 84.53 334 P P 19 22 41.5 -0.8
comp=Z,6.1nm,1.0s,baz=148,slow=5.7,SNR=14
NVAR Mina Array Bea 84.54 326 P P 19 22 43.0 +0.5
comp=Z,8.1nm,0.7s,baz=160,slow=6.4,SNR=26
TOA0 Torodi Ar. Sit 84.89 70 eP P 19 22 44.4 -0.1
TORD Torodi Ar. Bea 84.89 70 P P 19 22 43.6 -0.9
comp=Z,9.9nm,0.7s,baz=255,slow=3.7,SNR=10.0
WAKR Walker 85.13 325 eP P 19 22 46.8 +1.4
comp=Z,10nm,1.0s
RLMT Red Lodge 86.47 335 eP P 19 22 51.1 -0.8
comp=Z,8.2nm,0.6s
YMR Madison River 86.69 334 eP P 19 22 53.9 +0.9
comp=Z,36nm,0.9s
LAO LASA Array 86.84 337 eP P 19 22 53.2 -0.3
comp=Z,39nm,1.0s
ULM Lac du Bonnet 87.41 345 P P 19 22 54.6 -1.4
comp=Z,21nm,0.9s,baz=164,slow=3.3,SNR=18
ULM Lac du Bonnet 87.41 345 P P 19 22 54.6 -1.4
ULM eP P 19 22 55.1 -0.9
MCMT McKenzie Canyo 87.52 333 eP P 19 22 57.3 +0.2
comp=Z,21nm,1.2s
WVOR Wild Horse Val 87.91 328 eP P 19 22 55.2 -3.6
WVOR pmax pmax
comp=Z,21nm,1.6s
WVOR Wild Horse Val 87.91 328 eP P 19 22 55.2 -3.6
comp=Z,21nm,1.6s
LSZ Lusaka 89.81 108 P P 19 23 08.3 -0.2
comp=Z,2.8nm,0.7s,baz=117,slow=16,SNR=4.3
LSZ Lusaka 89.81 108 P P 19 23 08.3 -0.2
LSZ P P 19 23 10.0 +1.5
YBMT Yellow Bay 90.52 333 eP P 19 23 10.2 -0.7
comp=Z,3.7nm,0.9s
YKA Yellowknife Ar 102.92 341 P Pdif 19 24 05.9 -0.7
comp=Z,1.0nm,0.8s,baz=140,slow=4.5,SNR=8.2
YKA PP PKiKP 19 28 24.7 -2.0
comp=Z,0.7nm,0.9s,baz=140,slow=7.5,SNR=5.1
CLL Collm 113.84 43 ePKiKP PKiKP 19 28 48.0 +0.6
CLL ePP PP 19 29 43.0 +1.6
ILAR Eielson Array 114.96 333 PKP PKPdf 19 28 49.0 -0.2
comp=Z,1.1nm,0.8s,baz=141,slow=2.0,SNR=6.1
ILAR PKKPbc PKKPab 19 39 30.4 +1.5
comp=Z,0.4nm,0.9s,baz=307,slow=5.2,SNR=4.4
MLR Muntele Rosu 119.38 53 PKiKP PKPdf 19 28 58.0 -0.5
MLR Muntele Rosu 119.38 53 PKP PKPdf 19 28 58.0 -0.5
comp=Z,0.5nm,0.8s,baz=219,slow=9.1,SNR=4.5
WRA Warramunga Arr 119.69 209 PKP PKPdf 19 28 59.1 -0.7
comp=Z,1.6nm,0.6s,baz=157,slow=1.7,SNR=14
BRTR Keskin Array B 122.64 62 PKP PKPdf 19 29 03.6 -1.3
comp=Z,3.0nm,0.7s,baz=190,slow=2.1,SNR=13
AKASG Malin Array Be 123.15 48 PKP PKPdf 19 29 04.1 -1.3
comp=Z,2.9nm,0.7s,baz=263,slow=3.0,SNR=11
ARCES ARCESS Array B 125.10 25 PKP PKPdf 19 29 08.6 +0.1
comp=Z,4.9nm,0.9s,baz=0.0,slow=6.7,SNR=3.6
H11S2 WAKE ISLAND Hy125.40 269 T T 21 47 05.4
baz=118,slow=75,SNR=5.6
H11S1 WAKE ISLAND Hy125.41 269 T T 21 47 05.4
baz=118,slow=75,SNR=7.5
H11S3 WAKE ISLAND Hy125.42 269 T T 21 47 05.4
baz=118,slow=75,SNR=6.4
H11N3 WAKE ISLAND Hy125.84 270 T T 21 47 36.4
baz=116,slow=78,SNR=6.5
H11N1 WAKE ISLAND Hy125.85 270 T T 21 47 36.0
baz=116,slow=78,SNR=11
H11N2 WAKE ISLAND Hy125.86 270 T T 21 47 43.4
baz=116,slow=78,SNR=7.3
OBN Obninsk 128.43 44 i PKIKP PKPdf 19 29 14.1 -1.2
OBN pmax pmax
comp=Z,11nm,1.4s
AKTO Aktyubinsk 141.26 51 PKhKP PKPpre 19 29 32.7
comp=Z,1.7nm,0.7s,baz=150,slow=2.4,SNR=3.5
AKTO PKP PKPdf 19 29 39.6 +0.2
comp=Z,3.0nm,0.8s,baz=224,slow=3.0,SNR=4.5
ABKAR Akbulak array 142.59 53 ePKPpre PKPpre 19 29 36.8
GSI Gunungsitoli 145.18 162 ePKPdf PKPbc 19 29 46.4 -0.6
PSI Prapat 146.94 164 PKPbc PKPbc 19 29 51.6 -0.9
comp=Z,20nm,0.9s,baz=206,slow=8.5,SNR=10
BVAR Borovoye Array 148.27 44 PKPbc PKPbc 19 29 54.8 -0.1
comp=Z,8.2nm,0.7s,baz=290,slow=4.4,SNR=7.7
HYB Hyderabad 148.80 117 i PKP PKPbc 19 29 56.0 -1.3
YAK Yakutsk 149.58 339 ePKHKP PKPpre 19 29 56.1
YAK pmax pmax
comp=Z,53nm,1.0s
YSS Yuzh-Sakhalins 151.12 305 ⇓i PKIKP PKPbc 19 30 02.0 0.0
YSS e 19 30 10.0
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 151.12 305 ePKPbc PKPbc 19 30 01.6 -0.3
EKS2 Erkin-Say 152.76 64 ePKIKP PKPdf 19 30 00.0 +1.1
EKS2 e 19 30 06.4
EKS2 Erkin-Say 152.76 64 ePKPdf PKPdf 19 30 00.0 +1.1
EKS2 ePKPbc PKiKP 19 30 06.4 +1.1
AAK Ala-Archa 153.29 64 ePKIKP PKPbc 19 30 07.5 +0.2
AAK Ala-Archa 153.29 64 PKPbc PKPbc 19 30 08.1 +0.8
comp=Z,15nm,0.7s,baz=148,slow=3.2,SNR=13
AAK Ala-Archa 153.29 64 ePKPbc PKPbc 19 30 07.5 +0.2
AAK PKPbc PKPbc 19 30 08.1 +0.8
MJAR Matsushiro Arr 155.12 282 PKPab PKPab 19 30 27.1 0.0
comp=Z,1.5nm,0.8s,baz=152,slow=5.1,SNR=5.3
ZAA0 Zalesovo Array 155.29 33 ePKPdf PKPdf 19 29 58.0 -3.9
ZAA0 ePKPbc PKPbc 19 30 10.9
ZALV Zalesovo Beam 155.29 33 PKP PKPdf 19 30 02.1 +0.1
comp=Z,9.1nm,0.8s,baz=304,slow=5.0,SNR=5.2
ZALV PKPbc PKPbc 19 30 11.1
comp=Z,14nm,0.9s,baz=293,slow=3.6,SNR=6.7
ZALV PKPab PKPab 19 30 27.2 +0.1
comp=Z,9.4nm,0.8s,baz=297,slow=4.0,SNR=6.1
BOD Bodaibo 156.80 351 ePKP2 PKPab 19 30 32.2 -1.3
BOD pmax pmax
comp=Z,17nm,1.1s
MK31 Makanchi Array 157.70 51 ePKIKP PKPdf 19 30 05.2 -0.2
MK31 e 19 30 37.8
MK31 Makanchi Array 157.70 51 ePKPdf PKPdf 19 30 05.2 -0.2
MK31 ePKPab PKPab 19 30 37.8 0.0
MKAR Makanchi Array 157.70 51 PKP PKPdf 19 30 04.7 -0.7
comp=Z,2.4nm,0.6s,baz=257,slow=1.7,SNR=7.7
MKAR PKPab PKPab 19 30 37.6 -0.3
comp=Z,5.6nm,0.8s,baz=278,slow=3.4,SNR=8.0
CMAR Chiang Mai Arr 161.81 153 PKP PKPdf 19 30 09.2 -1.7
comp=Z,2.0nm,0.9s,baz=256,slow=2.8,SNR=4.7
ZAK Zakamensk 164.35 10 ePKP2 PKPab 19 31 07.0 +0.3
ZAK pmax pmax
comp=Z,6.0nm,1.3s
SONM Songino Array 167.19 3 PKPab PKPab 19 31 20.2 +0.8
comp=Z,5.8nm,0.8s,baz=335,slow=3.6,SNR=13

IDC 27 19:11:38.8±2.9, 26°.00N×128°.72E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.5/44, mbtmp3.8/3, Error ellipse: s-maj=56.1km s-min=35.9km az=74.0
JMA 27 19:11:42.1±0.3, 25°.93N×128°.66E, h35km, M3.0
ISC 27 19:11:39.7±2.5, 25°.88N±0°.06×128°.70E±0°.04, h14km±15km, n15, σ1.00/25, mb3.7/3, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.88 317 P Pb 19 11 56.9 +0.2
JNTH S Sb 19 12 08.0 -0.3
JJT2 Tamagusuku 2 0.89 287 P Pn 19 11 57.8 +0.1
JJT2 S Sb 19 12 09.2 +0.6
JOW Kunigami 1.02 338 P Pn 19 11 59.7 +0.1
JOW S Sg 19 12 12.3 -0.6
JOW Kunigami 1.02 338 Pn Pn 19 11 59.5 -0.1
5.2nm,0.3s,baz=154,slow=15,SNR=38
JOW Sn Sb 19 12 12.2 -0.3
15nm,0.3s,baz=345,slow=20,SNR=24
JIH Iheya 1.33 331 P Pb 19 12 04.3 0.0
JIH S Sb 19 12 20.1 -1.1
JOKE Okinoerabujima 1.48 356 P Pb 19 12 06.6 -0.4
JOKE S Sn 19 12 23.8 -1.3
JAGN Aguni-jima 1.48 299 P Pn 19 12 06.3 +0.4
JKE Kume jima 2 1.77 285 P Pn 19 12 09.7 -0.2
JKE S Sn 19 12 30.4 -1.8
JTK Tokunoshima 1.92 7 P Pn 19 12 12.5 +0.6
JTK S Sn 19 12 34.7 -1.1
JMZ Minamidaito 2 2.28 91 P Pn 19 12 16.7 -0.1
JMZ S Sn 19 12 42.8 -1.8
JAMN Amaminishikomi 2.40 10 P Pn 19 12 19.3 +0.8
JAM Amami Oshima 2.65 18 P Pn 19 12 23.1 +1.1
JAM S Sn 19 12 53.2 -0.7
SONM Songino Array 28.08 327 P P 19 17 33.2 +2.4
0.6nm,0.4s,baz=142,slow=11,SNR=11
MKAR Makanchi Array 42.08 312 P P 19 19 31.1 +0.1
0.4nm,0.7s,baz=95,slow=12,SNR=4.1
FINES FINESS Array B 73.38 331 P P 19 23 10.3 -0.5
1.4nm,0.8s,baz=64,slow=4.4,SNR=3.3

IDC 27 19:14:22.5±1.0, 34°.99S×73°.69W, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.0/32, mbtmp4.0/6, ML3.5/1, Error ellipse: s-maj=32.5km s-min=27.4km az=51.0
ISCJB 27 19:14:25.9±0.7, 34°.98S±0°.09×73°.6W±0°.1, h33km, mb4.3/8, Error ellipse: s-maj=15.3km s-min=10.4km az=35.8
NEIC 27 19:14:27.7±5.3, 34°.92S×73°.63W, h32km±37km, mb4.7/3, Error ellipse: s-maj=28.9km s-min=13.3km az=94.0
ISC 27 19:14:28.0±0.8, 34°.94S±0°.10×73°.7W±0°.1, h35km, n14, σ1.12/13, mb4.2/8, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.66 55 Pn Pn 19 15 49.8 +0.2
1.4nm,0.3s,baz=250,slow=10,SNR=3.3
CFAA Sn Sn 19 16 54.4 +1.1
1.2nm,0.3s,baz=311,slow=19,SNR=5.3
PLCA Paso Flores 6.29 158 Pn Pn 19 15 57.5 -0.9
PMSA Palmer Station 30.43 172 eP P 19 20 32.1 -4.7
173nm,1.3s
SDV Santo Domingo 43.68 4 P P 19 22 28.8 -1.0
5.7nm,1.0s
SNAA Sanae 51.24 157 P P 19 23 27.1 -0.7
0.7nm,0.8s,baz=236,slow=9.7,SNR=2.9
QSPA South Pole Qui 55.30 180 P P 19 24 00.1 +2.3
6.3nm,1.1s
TXAR Lajitas Array 69.91 332 P P 19 25 35.6 +0.1
3.2nm,0.8s,baz=157,slow=8.4,SNR=17
NVAR Mina Array Bea 83.89 326 P P 19 26 54.1 -0.1
0.8nm,0.6s,baz=165,slow=5.5,SNR=4.1
PDAR Pinedale Array 84.00 334 P P 19 26 55.1 +0.4
0.4nm,0.6s,baz=188,slow=4.0,SNR=3.7
TORD Torodi Ar. Bea 85.82 71 P P 19 27 02.7 -1.5
1.3nm,1.1s,baz=236,slow=6.1,SNR=2.5
BRTR Keskin Array B 123.49 62 PKP PKPdf 19 33 22.1 +0.5
0.4nm,0.7s,baz=201,slow=1.2,SNR=2.5
BVAR Borovoye Array 148.90 43 PKPbc PKPbc 19 34 12.4 +1.0
1.0nm,0.5s,baz=274,slow=1.9,SNR=6.1
ZALV Zalesovo Beam 155.75 32 PKPbc PKPdf 19 34 26.0 +8.5
0.8nm,0.6s,baz=306,slow=3.4,SNR=2.9
MKAR Makanchi Array 158.41 49 PKPab PKPab 19 34 55.6 -0.4
0.7nm,0.7s,baz=348,slow=2.4,SNR=2.7

IDC 27 19:19:07.2±0.8, 36°.56S×73°.40W, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.2/29, mbtmp4.2/11, ML4.2/1, MS5.4/1, Ms1 5.3/1, ms1mx3.9/36, Error ellipse: s-maj=31.4km s-min=18.7km az=66.0
ISCJB 27 19:19:09.6±0.7, 36°.6S±0°.1×73°.6W±0°.2, h27km, mb4.2/11, MS5.3/1, Error ellipse: s-maj=19.5km s-min=13.0km az=152.4
NEIC 27 19:19:12.3±0.7, 36°.53S×73°.53W, h35km, mb4.7/2, Error ellipse: s-maj=20.9km s-min=14.8km az=64.0
ISC 27 19:19:11.1±0.8, 36°.63S±0°.10×73°.4W±0°.2, h27km, n22, σ0.80/19, mb4.3/11, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.65 153 Pn Pn 19 20 18.2 -1.4
2.4nm,0.3s,baz=292,slow=16,SNR=3.1
TRQA Tornquist 9.18 102 ePn Pn 19 21 26.3 +4.6
LVC Limon Verde 14.49 17 Pn Pn 19 22 35.0 +0.4
CPUP Villa Florida 17.08 58 P Pn 19 22 59.7 -8.2
SIV San Ignacio 23.28 31 P P 19 24 16.5 -0.1
4.5nm,0.9s,baz=201,slow=11,SNR=2.9
BDFB Brasilia 30.73 54 LR LR 19 38 51.6
comp=Z,6μm,18.1s,baz=36,slow=39
SDV Santo Domingo 45.34 4 eP P 19 27 26.2 -1.0
8.7nm,1.0s
SNAA Sanae 49.58 157 P P 19 28 05.6 +6.2
QSPA South Pole Qui 53.61 180 P P 19 28 30.8 +1.1
3.4nm,0.9s,baz=121,slow=0.5,SNR=10
TEIG Tepich 58.27 343 P P 19 29 03.0 -0.3
8.9nm,0.7s,baz=58,slow=12,SNR=4.3
BBSR BB Station 69.12 8 eP P 19 30 14.6 0.0
TXAR Lajitas Array 71.52 332 P P 19 30 30.4 +0.8
1.3nm,0.7s,baz=152,slow=8.3,SNR=12
DBIC Dimbokro 77.04 72 P P 19 31 02.0 +0.1
1.5nm,0.6s,baz=140,slow=5.8,SNR=3.8
DBIC Dimbokro 77.04 72 P P 19 30 58.5 -3.5
8.5nm,1.1s
BOSA Boshof 79.81 118 P P 19 31 18.5 +1.2
2.4nm,0.8s,baz=256,slow=4.2,SNR=2.0
LBTB Lobatse 82.18 115 P P 19 31 31.0 +1.1
2.6nm,0.7s,baz=239,slow=7.9,SNR=3.9
NVAR Mina Array Bea 85.44 326 P P 19 31 45.1 -1.1
1.0nm,0.7s,baz=146,slow=6.6,SNR=3.8
PDAR Pinedale Array 85.63 334 P P 19 31 46.4 -0.7
0.9nm,0.8s,baz=131,slow=2.7,SNR=2.5
TORD Torodi Ar. Bea 86.11 71 P P 19 31 49.4 -0.4
0.8nm,1.0s,baz=216,slow=4.4,SNR=3.9
ZALV Zalesovo Beam 157.01 34 PKP PKPdf 19 39 03.1 -0.3
0.4nm,0.3s,baz=274,slow=4.0,SNR=2.5
ZALV PKPab PKPab 19 39 34.5 +0.6
0.7nm,0.4s,baz=298,slow=3.1,SNR=3.5
MKAR Makanchi Array 159.26 53 PKP PKPdf 19 39 06.4 -0.1
0.4nm,0.7s,baz=23,slow=0.9,SNR=3.4
MKAR PKPab PKPab 19 39 44.0 +0.1
0.4nm,0.7s,baz=268,slow=3.0,SNR=3.4
SONM Songino Array 168.80 1 PKPab PKPab 19 40 26.0 +0.3
0.4nm,0.7s,baz=318,slow=1.9,SNR=3.2

IDC 27 19:19:54.6±0.8, 36°.19S×72°.93W, h0km, mb4.2/10, mb1 4.3/12, mb1mx4.2/29, mbtmp4.2/12, ML4.2/2, MS5.4/1, Ms1 5.4/1, ms1mx3.8/40, Error ellipse: s-maj=29.7km

s-min=18.6km az=82.0

ISCJB 27 19:19:57.2±0.6, 36.20S±0.08×72.7W±0.2, h28km, mb4.4/12, MS5.3/1, Error ellipse: s-maj=19.7km s-min=11.1km az=177.7

NEIC 27 19:19:57.7±4.0, 36.20S×72.68W, h22km±27km, mb4.5/2, Error ellipse: s-maj=23.7km s-min=9.5km az=92.0

ISC 27 19:19:58.8±0.7, 36.21S±0.09×72.8W±0.2, h28km, n23, σ1§17/21, mb4.4/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.84	160	Pn	Pn	19 21 09.3	-0.6
	4.6nm,0.3s,baz=48,slow=20,SNR=2.9						
PLCA				Lg	Lg	19 22 23.7	
	11nm,0.3s,baz=261,slow=4.9,SNR=3.6						
CFAA	Coronel Fontan	5.94	41	Pn	Pn	19 21 23.5	-1.4
	0.8nm,0.3s,baz=225,slow=11,SNR=3.7						
CFAA				Lg	Lg	19 22 60.0	
	0.6nm,0.3s,baz=77,slow=10.0,SNR=3.7						
LPAZ	La Paz	20.27	13	P	P	19 24 30.8	-1.9
	3.8nm,0.6s,baz=211,slow=6.4,SNR=5.7						
SIV	San Ignacio	22.67	30	P	P	19 24 57.2	-0.9
	6.1nm,0.7s,baz=222,slow=16,SNR=4.4						
ROSC	El Rosal	40.88	358	LR	LR	19 44 29.3	
	comp=Z,4μm,18.6s,baz=262,slow=36						
SNAA	Sanae	49.78	157	P	P	19 28 49.1	+0.5
	2.9nm,0.9s,baz=269,slow=6.1,SNR=7.2						
BBGH	Gun Hill	50.65	17	P	P	19 28 57.0	+1.4
	178nm,0.9s						
QSPA	South Pole Qui	54.03	180	P	P	19 29 19.0	-1.3
	4.2nm,1.0s,baz=143,slow=7.1,SNR=3.6						
TXAR	Lajitas Array	71.38	332	P	P	19 31 16.2	-0.1
	0.7nm,0.8s,baz=163,slow=6.6,SNR=2.4						
DBIC	Dimbokro	76.45	71	P	P	19 31 48.8	+2.6
	4.4nm,0.7s,baz=186,slow=6.8,SNR=6.1						
SRU	San Rafael	82.65	331	eP	P	19 32 19.2	-0.3
	4.8nm,1.0s						
JLU	Jordanelle	84.29	331	eP	P	19 32 28.1	0.0
	2.1nm,0.8s						
NVAR	Mina Array Bea	85.36	326	P	P	19 32 34.3	+0.9
	1.0nm,0.7s,baz=154,slow=7.0,SNR=2.9						
PDAR	Pinedale Array	85.47	334	P	P	19 32 33.2	-0.7
	0.8nm,0.8s,baz=133,slow=7.5,SNR=3.0						
TOA0	Torodi Ar. Sit	85.52	70	eP	P	19 32 34.1	-0.4
TORD	Torodi Ar. Bea	85.52	70	P	P	19 32 36.2	+1.7
	1.7nm,0.7s,baz=258,slow=4.3,SNR=6.4						
ULM	Lac du Bonnet	88.47	345	P	P	19 32 48.0	0.0
	2.1nm,0.7s,baz=135,slow=1.4,SNR=2.8						
ABKAR	Akbulak array	143.49	54	ePKPdf	PKPbc	19 39 28.4	+0.8
HYB	Hyderabad	148.47	119	iPKP	PKPbc	19 39 43.0	-0.3
ZALV	Zalesovo Beam	156.40	34	PKPab	PKPab	19 40 19.2	+0.5
	0.6nm,0.5s,baz=320,slow=6.6,SNR=3.6						
MK31	Makanchi Array	158.62	53	ePKPdf	PKPdf	19 39 52.7	-0.7
MKAR	Makanchi Array	158.62	53	PKPab	PKPab	19 40 27.6	-1.2
	0.8nm,0.8s,baz=287,slow=3.6,SNR=5.0						
SONM	Songino Array	168.37	3	PKPab	PKPab	19 41 12.1	+0.7
	0.7nm,0.8s,baz=327,slow=2.2,SNR=4.6						

ISCJB 27 19:30:10.9±1.1, 34.6S±0.1×72.1W±0.3, h16km, mb4.0/6, Error ellipse: s-maj=32.6km s-min=16.7km az=19.9

IDC 27 19:30:10.3±1.1, 34.64S×72.20W, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/31, mbtmp4.0/7, ML3.1/1, Error ellipse: s-maj=38.3km s-min=23.2km az=95.0

ISC 27 19:30:13.0±1.1, 34.6S±0.1×72.1W±0.2, h16km, n8, σ1§41/8, mb4.0/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.40	48	Pn	Pn	19 31 18.4	-0.9
	0.9nm,0.3s,baz=32,slow=2.5,SNR=5.7						
SIV	San Ignacio	21.02	31	P	P	19 34 56.9	+0.8
	1.9nm,0.5s,baz=208,slow=9.7,SNR=3.5						
SNAA	Sanae	51.02	158	P	P	19 39 13.3	-0.5
	0.7nm,0.8s,baz=280,slow=7.9,SNR=5.1						
QSPA	South Pole Qui	55.61	180	P	P	19 39 48.3	+0.4
	7.6nm,1.0s,baz=332,slow=2.6,SNR=6.2						
TXAR	Lajitas Array	70.27	331	P	P	19 41 24.6	-1.0
	0.3nm,0.6s,baz=146,slow=8.3,SNR=2.5						
BOSA	Boshof	79.80	118	P	P	19 42 20.0	-0.9
	2.8nm,0.8s,baz=202,slow=8.1,SNR=3.8						
TORD	Torodi Ar. Bea	84.44	70	P	P	19 42 46.1	+0.9
	1.0nm,0.6s,baz=253,slow=2.5,SNR=9.3						
MKAR	Makanchi Array	157.18	50	PKPab	PKPab	19 50 41.0	+2.3
	0.7nm,1.0s,baz=270,slow=2.3,SNR=3.7						

ISCJB 27 19:32:32.8±0.5, 35.70S±0.07×72.0W±0.1, h52km, mb4.4/17, Error ellipse: s-maj=14.0km s-min=8.9km az=164.7

NEIC 27 19:32:34.0±0.4, 35.71S×72.01W, mb4.7/6, Error ellipse: s-maj=11.2km s-min=7.1km az=76.0

IDC 27 19:32:34.4±0.7, 35.72S×71.90W, h50km±5km, mb4.0/12, mb1 4.2/14, mb1mx4.1/33, mbtmp4.3/14, Error ellipse: s-maj=21.7km s-min=14.3km az=72.0

ISC 27 19:32:34.2±0.5, 35.71S±0.08×72.0W±0.1, h52km, n34, σ0§84/38, mb4.5/17, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.14	168	P	Pn	19 33 48.6	-0.1
	3.0nm,0.3s,baz=8.1,slow=14,SNR=2.8						
TRQA	Tornquist	8.36	109	ePn	Pn	19 34 33.4	+0.6
	40nm,0.9s						
LVC	Limon Verde	13.32	12	P	Pn	19 35 40.1	-0.8
CPUP	Villa Florida	15.65	57	P	Pn	19 36 11.8	+0.4
LPAZ	La Paz	19.65	11	P	P	19 36 60.0	+0.6
	0.6nm,0.3s,baz=188,slow=6.0,SNR=11						
SIV	San Ignacio	21.93	29	P	P	19 37 23.6	+0.3
	4.5nm,0.6s,baz=222,slow=9.1,SNR=9.2						
SAML	Samuel	27.83	19	P	P	19 38 13.3	-5.4
BDFB	Brasilia	29.30	53	P	P	19 38 31.5	-0.5
	4.7nm,0.8s,baz=224,slow=13,SNR=4.6						
SDV	Santo Domingo	44.37	2	P	P	19 40 39.6	-0.2
SNAA	Sanae	49.99	157	P	P	19 41 22.6	-0.3
	0.5nm,0.5s,baz=237,slow=6.0,SNR=8.5						
SNAA	Sanae	49.99	157	eP	P	19 41 21.2	-1.7
	7.1nm,1.2s						
QSPA	South Pole Qui	54.53	180	P	P	19 41 57.1	+0.5
	2.6nm,0.5s,baz=330,slow=1.3,SNR=15						
TEIG	Tepich	57.73	342	pP	pP	19 42 33.7	-0.3
	9.9nm,0.6s,baz=260,slow=4.5,SNR=2.7						
TEIG	Tepich	57.73	342	P	P	19 42 20.7	+1.0
TEIG				pP	pP	19 42 33.7	-0.3
BBSR	BB Station	68.07	7	P	P	19 43 33.8	+5.5
	72nm,1.2s						
TXAR	Lajitas Array	71.24	331	P	P	19 43 49.1	+1.1
	0.7nm,0.6s,baz=148,slow=8.5,SNR=6.7						
TXAR				pP	pP	19 44 02.6	0.0
	1.8nm,0.6s,baz=152,slow=8.4,SNR=12						
WVT	Waverly	72.98	347	P	P	19 43 57.9	-0.2
	18nm,0.8s						
WVT				e		19 44 12.6	
SUR	Sutherland	73.98	118	eP	P	19 44 06.3	+1.7
	9.1nm,0.9s						
DBIC	Dimbokro	75.70	71	P	P	19 44 14.6	+0.1
	6.2nm,0.7s,baz=186,slow=5.5,SNR=9.2						
DBIC				pP	pP	19 44 29.6	+0.4
	2.7nm,0.6s,baz=187,slow=7.9,SNR=3.0						
ANMO	Albuquerque	77.30	332	P	P	19 44 22.3	-0.9
	2.6nm,1.0s						
ANMO				e		19 44 39.1	
TSUM	Tsumeb	78.72	105	P	P	19 44 33.0	+1.4
	6.1nm,1.1s						
BOSA	Boshof	79.25	117	P	P	19 44 34.5	+0.1
	10.0nm,0.8s,baz=236,slow=5.0,SNR=15						
BOSA				pP	pP	19 44 47.6	-1.6
	2.9nm,0.6s,baz=245,slow=2.0,SNR=2.5						
LBTB	Lobatse	81.56	115	P	P	19 44 47.0	+0.2
	7.5nm,0.8s,baz=227,slow=6.8						
TOA0	Torodi Ar. Sit	84.76	70	eP	P	19 45 02.1	-1.1
TORD	Torodi Ar. Bea	84.76	70	P	P	19 45 02.7	-0.4
	1.7nm,0.8s,baz=237,slow=5.3,SNR=8.3						
TORD				pP	pP	19 45 17.9	-0.2
	1.4nm,0.7s,baz=250,slow=3.9,SNR=5.3						
PDAR	Pinedale Array	85.30	333	P	P	19 45 06.1	+0.6
	0.3nm,0.6s,baz=113,slow=8.2,SNR=2.6						
PDAR				pP	pP	19 45 20.6	+0.1
	0.6nm,0.8s,baz=145,slow=5.4,SNR=3.4						
NVAR	Mina Array Bea	85.31	325	P	P	19 45 06.3	+0.7
	0.5nm,0.7s,baz=173,slow=8.6,SNR=3.1						
NVAR				pP	pP	19 45 21.1	+0.5
	0.9nm,0.7s,baz=136,slow=7.7,SNR=3.8						
ULM	Lac du Bonnet	88.16	345	P	P	19 45 18.8	-0.1
	2.6nm,0.7s,baz=150,slow=4.3,SNR=3.5						
ESLA	Sonseca Array	97.73	46	eP	P	19 46 02.5	-0.9
ABKAR	Akbulak array	142.69	54	ePKPpre	PKPpre	19 51 57.1	
HYB	Hyderabad	148.15	117	iPKP	PKPbc	19 52 14.5	-0.3
KKAR	Karatay Array	150.29	64	ePKPbc	PKPbc	19 52 20.0	+0.6
ZALV	Zalesovo Beam	155.63	34	PKPbc	PKPdf	19 52 31.1	+10
	1.0nm,0.7s,baz=276,slow=2.8,SNR=5.1						
ZALV				PKPab	PKPab	19 52 45.9	-2.0
	2.1nm,0.5s,baz=292,slow=4.0,SNR=7.1						
MKAR	Makanchi Array	157.82	52	PKP	PKPdf	19 52 24.1	-0.5
	0.1nm,0.6s,baz=341,slow=2.8,SNR=2.2						
MKAR				PKPbc	PKPbc	19 52 37.2	
	0.1nm,0.5s,baz=2.9,slow=2.9,SNR=2.9						
MKAR				PKPab	PKPab	19 52 58.5	+0.8
	1.0nm,0.8s,baz=285,slow=3.9,SNR=8.3						

ISCJB 27 19:34:37.0±0.4, 37.05N±0.03×31.05E±0.03, h113km±5km, mb3.6/3, Error ellipse: s-maj=5.6km s-min=3.8km az=18.8

IDC 27 19:34:37.3±2.5, 36.98N×31.18E, h105km±24km, mb3.4/3, mb1 3.2/7, mb1mx3.0/43, mbtmp3.5/7, Error ellipse: s-maj=33.1km s-min=10.9km az=84.0

ISK 27 19:34:37.4, 37.06N×31.11E, h89km, ML3.2

CSEM 27 19:34:38.9±0.2, 37.10N×31.06E, h91km±3km, ML3.2, Error ellipse: s-maj=3.9km s-min=2.7km az=11.0

DDA 27 19:34:40.5, 36.74N×31.00E, h7km, MD3.2

ISC 27 19:34:37.8±0.8, 37.03N±0.03×31.05E±0.03, h100km±6km, n90, σ1§23/113, mb3.5/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	Antalya	0.34	248	ePG	Pn	19 34 52.1	-0.5
ANTB				eSG	Sn	19 35 02.2	-1.4
ANTB	Antalya	0.34	248	ePg	Pn	19 34 52.1	-0.5
ANTB				eSg	Sn	19 35 02.2	-1.4
KORT	Korkueli	0.56	267	iP	Pn	19 34 54.6	+0.4
KORT				iS	Sn	19 35 07.7	+1.2
KORT	Korkueli	0.56	267	iP	Pn	19 34 54.6	+0.4
KORT				iS	Sn	19 35 07.7	+1.2
BCK	Bucak	0.57	320	ePG	Pn	19 34 53.8	-0.4
BCK	Bucak	0.57	320	ePg	Pn	19 34 53.8	-0.4
ISP	Isparta	0.90	332	ePG	Pn	19 34 57.2	0.0
ISP	Isparta	0.90	332	ePg	Pn	19 34 57.3	0.0
ELL	Elmali	0.96	253	ePG	Pn	19 34 58.9	+1.0
ELL	Elmali	0.96	253	ePg	Pn	19 34 58.9	+1.0
GOLH	Golhisar	1.21	280	iP	Pn	19 35 01.7	+1.0
GOLH				iS	Sn	19 35 19.8	+1.9
GOLH	Golhisar	1.21	280	iP	Pn	19 35 01.7	+1.0
GOLH				iS	Sn	19 35 19.8	+1.9
GAZI	Gazipasa	1.29	127	iP	Pn	19 35 02.8	+1.2
GAZI				iS	Sn	19 35 20.9	+1.4
GAZI	Gazipasa	1.29	127	iP	Pn	19 35 02.8	+1.2
GAZI				iS	Sn	19 35 20.9	+1.4
KONT	Konya--Tatoy	1.39	48	ePN	Pn	19 35 02.7	0.0
KONT	Konya--Tatoy	1.39	48	ePn	Pn	19 35 02.7	0.0
AKAS	Kas	1.41	236	iP	Pn	19 35 04.1	+1.1
AKAS				iS	Sn	19 35 22.8	+0.6
AKAS	Kas	1.41	236	iP	Pn	19 35 04.1	+1.1
AKAS				iS	Sn	19 35 22.8	+0.6
ERMK	Ermenek	1.54	104	iP	Pn	19 35 06.3	+1.5
ERMK				iS	Sn	19 35 27.2	+1.9
ERMK	Ermenek	1.54	104	iP	Pn	19 35 06.3	+1.5
ERMK				iS	Sn	19 35 27.2	+1.9
LADK	Ladik-KONYA	1.57	41	ePN	Pn	19 35 03.9	-1.1
LADK	Ladik-KONYA	1.57	41	ePN	Pn	19 35 03.9	-1.1
SHUT	Suhut-Afyon	1.57	346	ePN	Pn	19 35 05.2	+0.1
SHUT	Suhut-Afyon	1.57	346	ePn	Pn	19 35 05.2	+0.1
KDHN	Kadinhani	1.71	29	iP	Pn	19 35 07.0	+0.2
KDHN	Kadinhani	1.71	29	iP	Pn	19 35 07.0	+0.2
KHL	Karahalli	1.77	317	ePN	Pn	19 35 07.3	-0.2
KHL	Karahalli	1.77	317	ePn	Pn	19 35 07.3	-0.2
KHAL	Karahalli	1.82	318	iP	Pn	19 35 08.0	-0.2
KHAL				iS	Sn	19 35 31.7	+0.4
KHAL	Karahalli	1.82	318	iP	Pn	19 35 08.0	-0.2
KHAL				iS	Sn	19 35 31.7	+0.4
DALY	Dalyan (Mu˘la	1.93	264	ePN	Pn	19 35 10.4	+0.9
DALY	Dalyan (Mu˘la	1.93	264	ePn	Pn	19 35 10.4	+0.9
KIZT	Kizilcal	1.96	19	ePN	Pn	19 35 09.9	-0.1
KIZT	Kizilcal	1.96	19	ePn	Pn	19 35 09.9	-0.1
ALT	Altintas	2.15	340	ePN	Pn	19 35 12.7	+0.2
ALT	Altintas	2.15	340	ePn	Pn	19 35 12.7	+0.2
YER	Yerkesik	2.21	274	ePN	Pn	19 35 14.1	+0.9
YER	Yerkesik	2.21	274	ePn	Pn	19 35 14.1	+0.9
SULT	Sultanhani-AKS	2.28	58	ePN	Pn	19 35 14.0	-0.1
SULT	Sultanhani-AKS	2.28	58	ePn	Pn	19 35 14.0	-0.1
AKDN	Akdeniz- K¨–br	2.32	137	ePN	Pn	19 35 14.4	-0.2
AKDN	Akdeniz- K¨–br	2.32	137	ePn	Pn	19 35 14.4	-0.2
KULA	Kula-Manisa	2.40	309	ePN	Pn	19 35 15.7	0.0
KULA	Kula-Manisa	2.40	309	ePn	Pn	19 35 15.7	0.0
LEF	Lefka	2.42	141	ePN	Pn	19 35 14.3	-1.6
SVRH	Sivrihisar-ESK	2.44	9	ePN	Pn	19 35 15.4	-0.9
SVRH	Sivrihisar-ESK	2.44	9	ePn	Pn	19 35 15.4	-0.9
MANT	Manisa	2.46	307	iP	Pn	19 35 16.5	0.0
ARG	Arkhangelos	2.49	252	ePN	Pn	19 35 18.5	+1.8
ARG	Arkhangelos	2.49	252	ePn	Pn	19 35 18.5	+1.8
SEYT	Eskypehyr	2.49	356	iP	Pn	19 35 16.8	-0.1
SEYT	Eskypehyr	2.49	356	iP	Pn	19 35 16.8	-0.1
KIZK	Mersin	2.54	101	iP	Pn	19 35 19.9	+2.4
KIZK				iS	Sn	19 35 49.9	+1.9
KIZK	Mersin	2.54	101	iP	Pn	19 35 19.9	+2.4
KIZK				iS	Sn	19 35 49.9	+1.9
TVSB	Tavsanli	2.72	333	ePN	Pn	19 35 20.1	+0.1
TVSB	Tavsanli	2.72	333	ePn	Pn	19 35 20.1	+0.1
MERS	Mersin	2.79	92	ePN	Pn	19 35 21.3	+0.5
MERS	Mersin	2.79	92	ePn	Pn	19 35 21.3	+0.5
BDRM	Kayabasi	2.88	272	iP	Pn	19 35 22.0	0.0
BDRM				iS	Sn	19 35 53.1	-3.0
BDRM	Kayabasi	2.88	272	iP	Pn	19 35 22.0	0.0
BDRM				iS	Sn	19 35 53.1	-3.0
AFSR	Af¨ar-Bala (A	2.89	33	ePN	Pn	19 35 21.9	-0.3
AFSR	Af¨ar-Bala (A	2.89	33	ePn	Pn	19 35 21.9	-0.3
EREN	Erenkoy	2.93	120	ePN	Pn	19 35 23.5	+0.9
EREN	Erenkoy	2.93	120	ePn	Pn	19 35 23.5	+0.9
GULE	Gulek	2.99	84	iP	Pn	19 35 25.4	+1.8
GULE	Gulek	2.99	84	iP	Pn	19 35 25.4	+1.8
BODT	Bodrum	2.99	272	ePN	Pn	19 35 25.5	+2.1
BODT	Bodrum	2.99	272	ePn	Pn	19 35 25.5	+2.1
ANTO	Ankara	3.15	25	ePN	Pn	19 35 25.2	-0.4
ANTO	Ankara	3.15	25	ePn	Pn	19 35 25.2	-0.4
AKHS	Akhisar	3.15	307	iP	Pn	19 35 25.9	+0.3
AKHS				iS	Sn	19 36 03.8	+1.3
AKHS	Akhisar	3.15	307	iP	Pn	19 35 25.9	+0.3
AKHS				iS	Sn	19 36 03.8	+1.3
AKS	Akhisar	3.15	307	ePN	Pn	19 35 26.0	+0.4
AKS	Akhisar	3.15	307	ePn	Pn	19 35 26.0	+0.4
KARA	Karaisali	3.21	85	ePN	Pn	19 35 26.5	+0.1
KARA	Karaisali	3.21	85	ePn	Pn	19 35 26.5	+0.1
BRTR	Keskin Array B	3.38	36	P	Pn	19 35 28.9	+0.2
	1.0nm,0.3s,baz=217,slow=15,SNR=34						
BRTR				S	Sn	19 36 07.2	-0.7
	0.8nm,0.3s,baz=209,slow=17,SNR=5.2						
GULT	Gulveren	3.42	353	ePN	Pn	19 35 29.4	+0.1
GULT	Gulveren	3.42	353	ePn	Pn	19 35 29.4	+0.1
MDUB	Mudurnu	3.44	2	ePN	Pn	19 35 30.2	+0.7
MDUB	Mudurnu	3.44	2	ePn	Pn	19 35 30.2	+0.7
BLCB	Balcova	3.45	294	ePN	Pn	19 35 30.6	+1.0
BLCB	Balcova	3.45	294	ePn	Pn	19 35 30.6	+1.0
ZEY	˜zmir	3.81	290	iP	Pn	19 35 34.2	-0.1
MMAI	Mount Meron Ar	5.37	137	P	Pn	19 35 54.8	-0.7
	7.8nm,0.3s,baz=315,slow=12,SNR=57						
MMAI				S	Sn	19 36 53.0	-3.1
	4.7nm,0.3s,baz=331,slow=30,SNR=7.0						
EIL	Elat	8.03	155	P	Pn	19 36 30.8	-0.9
	0.4nm,0.3s,baz=333,slow=2.0,SNR=15						
EIL				S	Sn	19 37 55.9	-5.0
	0.7nm,0.3s,baz=59,slow=12,SNR=4.9						
AKASG	Malin Array Be	13.73	355	P	Pn	19 37 49.9	+1.9
	0.2nm,0.3s,baz=175,slow=9.6,SNR=7.8						
FINES	FINESS Array B	24.64	354	P	P	19 39 46.6	-2.0
	0.6nm,0.6s,baz=153,slow=13,SNR=6.0						
ARCES	ARCESS Array B	32.70	356	P	P	19 40 59.4	-0.9
	2.3nm,0.9s,baz=169,slow=9.8,SNR=4.7						
MKAR	Makanchi Array	38.75	59	P	P	19 41 51.9	-0.4
	0.5nm,0.6s,baz=274,slow=7.7,SNR=6.5						

IDC 27 19:35:52.5±0.9, 35.91S×72.88W, h0km, mb3.9/7, mb1 4.1/9, mb1mx4.0/37, mbtmp3.9/9, ML3.8/2, Error ellipse: s-maj=36.7km s-min=18.0km az=92.0

ISCJB 27 19:35:55.0±0.8, 35.91S±0.08×72.8W±0.2, h28km, mb4.0/6, Error ellipse: s-maj=25.8km s-min=11.8km az=4.0

ISC 27 19:35:56.8±0.9, 35.91S±0.10×72.8W±0.2, h28km, n11, σ0§51/11, mb4.0/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.13	160	Pn	Pn	19 37 12.0	+0.1
	1.4nm,0.3s,baz=347,slow=16,SNR=3.3						
CFAA	Coronel Fontan	5.75	43	Pn	Pn	19 37 20.8	+0.4
	0.6nm,0.3s,baz=235,slow=11,SNR=5.3						
LPAZ	La Paz	19.99	13	P	P	19 40 26.9	-0.9
	5.2nm,0.9s,baz=169,slow=6.8,SNR=8.5						
SIV	San Ignacio	22.45	31	P	P	19 40 53.5	-0.2
	8.8nm,0.8s,baz=227,slow=14,SNR=13						
SNAA	Sanae	50.07	157	P	P	19 44 48.4	-0.3
	1.5nm,0.8s,baz=240,slow=6.4,SNR=7.0						
QSPA	South Pole Qui	54.33	180	P	P	19 45 20.7	+0.2
	4.2nm,0.8s,baz=338,slow=1.4,SNR=9.1						
TXAR	Lajitas Array	71.10	332	P	P	19 47 12.3	-0.2
	0.5nm,0.7s,baz=151,slow=8.9,SNR=4.8						
NVAR	Mina Array Bea	85.09	326	P	P	19 48 30.8	+0.7
	0.7nm,0.6s,baz=153,slow=5.7,SNR=4.3						
TORD	Torodi Ar. Bea	85.47	70	P	P	19 48 32.1	-0.1
	0.4nm,0.8s,baz=244,slow=4.7,SNR=2.6						
PSI	Prapat	146.18	165	PKPbc	PKPdf	19 55 33.6	-0.5
	3.0nm,0.4s,baz=257,slow=7.6,SNR=3.8						
ZALV	Zalesovo Beam	156.18	34	PKPab	PKPab	19 56 16.1	+0.3
	1.2nm,0.7s,baz=302,slow=1.4,SNR=4.2						

NEIC 27 19:36:10.6±4.2, 35.70S×73.42W, h2km±25km, mb4.8/5, Error ellipse: s-maj=14.4km s-min=7.9km az=90.0

IDC 27 19:36:10.5±0.6, 35.72S×73.35W, h0km, mb4.5/14, mb1 4.5/18, mb1mx4.4/36, mbtmp4.5/18, ML4.5/4, Error ellipse: s-maj=22.4km s-min=15.1km az=88.0

ISCJB 27 19:36:13.9±0.5, 35.72S±0.06×73.3W±0.1, h33km, mb4.6/18, Error ellipse: s-maj=12.9km s-min=8.6km az=177.5

ISC 27 19:36:15.4±0.5, 35.72S±0.07×73.4W±0.1, h35km, n47, σ1§11/47, mb4.7/18, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.48	157	Pn	Pn	19 37 32.1	-2.5
	5.5nm,0.3s,baz=308,slow=16,SNR=4.2						
PLCA				Lg	Lg	19 38 59.8	
	8.7nm,0.3s,baz=257,slow=18,SNR=2.7						
PLCA	Paso Flores	5.48	157	Pn	Pn	19 37 32.6	-2.0
	129nm,0.8s						
PLCA				Lg	Lg	19 38 59.8	
CFAA	Coronel Fontan	5.93	48	Pn	Pn	19 37 38.8	-2.0
	3.2nm,0.3s,baz=218,slow=11,SNR=11						
CFAA				Lg	Lg	19 39 13.7	
	1.6nm,0.3s,baz=44,slow=21,SNR=4.7						
TRQA	Tornquist	9.42	108	ePn	Pn	19 38 28.8	+0.1
	18nm,0.7s						
CPUP	Villa Florida	16.62	60	Pn	Pn	19 40 05.1	-0.5
	0.9nm,0.3s,baz=243,slow=17,SNR=3.4						
USHA	Ushuaia	19.42	171	P	Pn	19 40 39.0	-0.8
	1.0nm,0.3s,baz=343,slow=9.6,SNR=5.6						
SIV	San Ignacio	22.51	32	P	P	19 41 12.6	+0.4
	10nm,0.7s,baz=229,slow=13,SNR=12						
SAML	Samuel	28.22	22	P	P	19 42 01.2	-3.9
BDFB	Brasilia	30.21	55	P	P	19 42 21.1	-1.8
	5.0nm,0.8s,baz=180,slow=7.4,SNR=5.0						
OTAV	Otavalo	36.08	351	P	P	19 43 14.7	+0.3
	19nm,1.4s						
SDV	Santo Domingo	44.44	4	P	P	19 44 21.6	-1.7
RCBR	Riachuelo	45.48	58	P	P	19 44 32.5	+1.0
	6.4nm,0.7s,baz=225,slow=7.3,SNR=5.5						
VNA3	Neumayer Olymp	48.20	157	P	P	19 44 53.5	+1.5
VNA2	Neumayer--Watz	48.87	157	P	P	19 44 57.8	+0.6
BBGH	Gun Hill	50.32	18	P	P	19 45 09.4	+0.6
	272nm,1.0s						
SNAA	Sanae	50.42	157	P	P	19 45 09.6	+0.6
SNAA	Sanae	50.42	157	P	P	19 45 09.7	+0.6
	7.1nm,0.8s,baz=262,slow=5.5,SNR=30						
SNAA	Sanae	50.42	157	eP	P	19 45 09.4	+0.4
	85nm,1.4s						
QSPA	South Pole Qui	54.52	180	P	P	19 45 39.6	0.0
	6.8nm,0.6s,baz=259,slow=0.6,SNR=21						
TXAR	Lajitas Array	70.72	332	P	P	19 47 27.8	-0.1
	0.4nm,0.5s,baz=162,slow=8.9,SNR=5.6						
SUR	Sutherland	74.96	119	P	P	19 47 55.0	+1.6
	5.1nm,0.6s,baz=238,slow=6.2,SNR=6.7						
DBIC	Dimbokro	76.77	72	P	P	19 48 04.0	+0.3
	17nm,0.8s,baz=204,slow=6.5,SNR=33						
DBIC	Dimbokro	76.77	72	eP	P	19 48 03.9	+0.3
	13nm,0.6s						
CASY	Casey	78.28	182	eP	P	19 48 10.9	-0.3
TSUM	Tsumeb	79.80	106	eP	P	19 48 23.6	+3.0
	9.0nm,1.2s						
BOSA	Boshof	80.24	118	P	P	19 48 22.5	-0.3
	9.4nm,0.6s,baz=246,slow=4.2,SNR=24						
LBTB	Lobatse	82.57	115	P	P	19 48 35.6	+0.3
	4.0nm,0.6s,baz=246,slow=4.5,SNR=7.8						
NVAR	Mina Array Bea	84.68	326	P	P	19 48 47.9	+2.2
	0.5nm,0.5s,baz=144,slow=4.5,SNR=3.6						
PDAR	Pinedale Array	84.81	334	P	P	19 48 46.9	+0.7
	0.4nm,0.7s,baz=150,slow=7.3,SNR=2.8						
TOA0	Torodi Ar. Sit	85.82	71	eP	P	19 48 51.1	-0.6
TORD	Torodi Ar. Bea	85.82	71	P	P	19 48 52.1	+0.5
	4.1nm,1.0s,baz=246,slow=3.3,SNR=14						
MCMT	McKenzie Canyo	87.79	333	P	P	19 48 60.0	-0.8
	3.5nm,1.3s						
ULM	Lac du Bonnet	87.88	346	P	P	19 49 00.6	-0.2
	3.6nm,0.8s,baz=149,slow=5.3,SNR=4.5						
YKA	Yellowknife Ar	103.33	342	Pdiff	Pdif	19 50 11.4	+0.5
	0.3nm,0.9s,baz=143,slow=4.9,SNR=2.8						
BRTR	Keskin Array B	123.62	62	PKP	PKPdf	19 55 09.3	0.0
	0.5nm,0.8s,baz=225,slow=3.7,SNR=3.3						
AKASG	Malin Array Be	124.16	49	PKP	PKPdf	19 55 08.9	-0.8
	0.3nm,0.4s,baz=261,slow=2.9,SNR=4.4						
ARCES	ARCESS Array B	126.03	25	PKP	PKPdf	19 55 11.6	-1.2
	3.4nm,0.9s,baz=318,slow=7.1,SNR=4.2						
ABKAR	Akbulak array	143.60	53	ePKPdf	PKPbc	19 55 43.0	-0.5
PSI	Prapat	146.48	166	PKPbc	PKPbc	19 55 53.9	+0.2
	3.6nm,0.4s,baz=193,slow=3.5,SNR=5.6						
HYB	Hyderabad	149.14	119	iPKP	PKPbc	19 55 59.5	-1.1
BVAR	Borovoye Array	149.28	44	PKP	PKPdf	19 55 56.1	+0.7
	0.7nm,0.7s,baz=343,slow=4.5,SNR=1.7						
BVAR				PKPbc	PKiKP	19 56 00.7	-0.3
	1.1nm,0.5s,baz=297,slow=2.3,SNR=5.4						
YAK	Yakutsk	149.95	338	ePKPbc	PKPbc	19 56 02.1	+0.9
AAK	Ala-Archa	154.26	65	PKPab	PKPab	19 56 26.7	+0.8
	3.8nm,0.7s,baz=211,slow=6.3,SNR=8.2						
ZALV	Zalesovo Beam	156.26	33	PKP	PKPdf	19 56 06.5	+0.9
	0.7nm,0.6s,baz=293,slow=1.1,SNR=6.0						
ZALV				PKPab	PKPab	19 56 35.4	+1.6
	3.6nm,0.5s,baz=304,slow=5.3,SNR=12						
MK31	Makanchi Array	158.71	51	ePKPdf	PKPdf	19 56 09.8	+0.8
MKAR	Makanchi Array	158.71	51	PKPab	PKPab	19 56 44.6	-0.1
	0.9nm,0.6s,baz=301,slow=3.9,SNR=6.5						
SONM	Songino Array	167.89	1	PKPab	PKPab	19 57 25.3	+0.4
	0.9nm,0.9s,baz=336,slow=4.8,SNR=4.5						

IDC 27 19:41:08.1±9.1, 17.58S×175.06W, h226km±85km, mb3.4/9, mb1 3.7/9, mb1mx3.5/41, mbtmp3.9/9, Error ellipse: s-maj=28.9km s-min=24.1km az=145.0

ISCJB 27 19:41:10.1±0.7, 17.6S±0.2×175.2W±0.2, h256km, mb3.6/9, Error ellipse: s-maj=33.2km s-min=15.8km az=38.1

ISC 27 19:41:11.2±0.7, 17.6S±0.2×175.1W±0.2, h256km, n12, σ0§61/12, mb3.6/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	21.69	197	P	P	19 45 41.3	-0.5
	5.9nm,0.8s,baz=28,slow=5.3,SNR=6.3						
STKA	Stephens Creek	41.53	242	P	P	19 48 34.6	+0.7
	2.3nm,0.7s,baz=347,slow=6.5,SNR=3.6						
WRA	Warramunga Arr	47.77	259	P	P	19 49 23.0	-0.3
	0.7nm,0.4s,baz=97,slow=7.1,SNR=13						
QSPA	South Pole Qui	72.46	180	P	P	19 52 09.8	+0.1
	2.3nm,0.8s,baz=26,slow=5.8,SNR=3.3						
NVAR	Mina Array Bea	77.05	42	P	P	19 52 36.0	-0.5
	0.9nm,0.7s,baz=226,slow=9.4,SNR=5.0						
TXAR	Lajitas Array	83.19	56	P	P	19 53 10.2	+0.9
	0.6nm,0.8s,baz=219,slow=7.0,SNR=3.6						
ILAR	Eielson Array	84.91	12	P	P	19 53 16.9	-0.1
	0.7nm,0.5s,baz=224,slow=5.5,SNR=26						
PDAR	Pinedale Array	84.99	42	P	P	19 53 17.5	-0.7
	0.6nm,0.9s,baz=241,slow=3.1,SNR=4.3						
YKA	Yellowknife Ar	92.75	24	P	P	19 53 54.4	+0.4
	0.2nm,0.5s,baz=222,slow=4.7,SNR=3.7						
ARCES	ARCESS Array B	126.52	351	PKP	PKPdf	19 59 42.5	-0.7
	3.4nm,0.9s,baz=84,slow=3.8,SNR=5.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BRTR	Keskin Array B	146.73	317	PKPbc	PKPbc	20 00 23.8	+0.4
	1.0nm,0.8s,baz=117,slow=3.6,SNR=5.6						
GERES	GERESS Array B	148.01	349	PKPbc	PKPbc	20 00 26.0	-0.5
	0.9nm,0.8s,baz=33,slow=3.8,SNR=5.3						

IDC **27** *19:41:17.4±1.0, 34°.97S×72°.56W, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.9/33, mbtmp3.8/9, ML3.7/2, Error ellipse: s-maj=32.6km s-min=23.2km az=70.0*
ISCJB **27** *19:41:18.6±0.9, 35°.0S±0°.1×72°.4W±0°.2, h18km, mb3.8/8, Error ellipse: s-maj=24.3km s-min=17.4km az=18.5*
NEIC **27** *19:41:23.1±0.9, 34°.91S×72°.39W, h35km, mb4.4/2, Error ellipse: s-maj=25.6km s-min=18.6km az=102.0*
ISC 27 19:41:20.3±1.0, 35°.0S±0°.1×72°.5W±0°.2, h18km, n13, σ1s.36/12, mb4.0/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.87	48	Pn	Pn	19 42 32.0	-0.8
	0.9nm,0.3s,baz=139,slow=20,SNR=4.2						
CFAA				Lg	Lg	19 43 43.8	
	0.8nm,0.3s,baz=106,slow=20,SNR=4.6						
LPAZ	La Paz	19.00	13	P	P	19 45 40.9	-0.7
	0.2nm,0.3s,baz=187,slow=4.1,SNR=3.5						
SIV	San Ignacio	21.48	31	P	P	19 46 07.2	-0.8
	4.7nm,0.9s,baz=235,slow=15,SNR=4.3						
SAML	Samuel	27.25	20	P	P	19 47 04.7	+1.1
	5.1nm,1.0s						
PMSA	Palmer Station	30.28	173	P	P	19 47 21.4	-8.6
SNAA	Sanae	50.84	158	P	P	19 50 17.8	-1.7
	1.6nm,1.1s,baz=248,slow=12,SNR=4.9						
SNAA	Sanae	50.84	158	eP	P	19 50 17.7	-1.7
	10nm,1.1s						
TXAR	Lajitas Array	70.40	331	P	P	19 52 32.3	-1.0
	0.2nm,0.7s,baz=143,slow=2.3,SNR=2.3						
LBTB	Lobatse	82.22	115	P	P	19 53 42.9	+2.0
	0.9nm,0.5s,baz=286,slow=7.4,SNR=2.8						
PDAR	Pinedale Array	84.46	334	P	P	19 53 53.2	+1.4
	0.4nm,0.9s,baz=111,slow=9.7,SNR=2.5						
NVAR	Mina Array Bea	84.47	326	P	P	19 53 51.9	-0.1
	0.4nm,0.6s,baz=156,slow=4.6,SNR=2.7						
TORD	Torodi Ar. Bea	84.87	70	P	P	19 53 55.1	+0.8
	1.3nm,1.1s,baz=264,slow=4.1,SNR=3.6						
ZALV	Zalesovo Beam	155.22	33	PKPbc	PKPdf	20 01 21.2	+9.4
	1.5nm,0.9s,baz=336,slow=3.3,SNR=4.4						
ZALV				PKPab	PKPab	20 01 37.2	+0.5
	1.1nm,0.7s,baz=336,slow=3.3,SNR=3.9						

IDC **27** *19:43:33.1±1.4, 37°.77S×73°.91W, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.9/33, mbtmp3.8/8, ML4.0/1, Error ellipse: s-maj=40.6km s-min=19.3km az=54.0*
ISCJB **27** *19:43:34.7±1.3, 37°.7S±0°.1×73°.9W±0°.3, h18km, mb3.7/7, Error ellipse: s-maj=32.8km s-min=16.0km az=155.0*
ISC 27 19:43:36.0±1.3, 37°.8S±0°.2×73°.9W±0°.2, h18km, n11, σ0s.89/11, mb3.7/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.96	140	Pn	Pn	19 44 36.4	+0.4
	2.3nm,0.3s,baz=241,slow=22,SNR=2.9						
PLCA				Lg	Lg	19 45 38.1	
	6.4nm,0.3s,baz=341,slow=18,SNR=4.8						
LPAZ	La Paz	21.99	15	P	P	19 48 30.2	+0.4
	2.1nm,0.8s,baz=182,slow=7.9,SNR=3.8						
SIV	San Ignacio	24.48	31	P	P	19 48 52.9	-1.3
	2.6nm,0.7s,baz=239,slow=14,SNR=3.3						
BDFB	Brasilia	31.77	53	P	P	19 50 00.6	+1.1
	2.0nm,0.6s,baz=254,slow=14,SNR=3.3						
TXAR	Lajitas Array	72.32	333	P	P	19 55 01.4	+0.8
	0.3nm,0.7s,baz=144,slow=7.8,SNR=2.6						
DBIC	Dimbokro	77.83	72	P	P	19 55 32.8	+0.1
	2.2nm,0.9s,baz=239,slow=5.1,SNR=2.6						
PDAR	Pinedale Array	86.45	335	P	P	19 56 17.1	-0.4
	0.4nm,0.8s,baz=123,slow=5.9,SNR=2.5						
TORD	Torodi Ar. Bea	86.92	71	P	P	19 56 19.1	-1.0
	0.2nm,0.5s,baz=254,slow=5.4,SNR=3.1						
BVAR	Borovoye Array	151.03	47	PKPbc	PKPbc	20 03 27.4	+0.2
	1.4nm,0.6s,baz=300,slow=3.1,SNR=8.7						
AAK	Ala-Archa	155.48	69	PKPab	PKPab	20 03 53.4	-0.8
	0.7nm,0.7s,baz=175,slow=4.1,SNR=4.4						
MKAR	Makanchi Array	160.29	55	PKPab	PKPab	20 04 13.9	-0.8
	0.4nm,0.6s,baz=266,slow=3.2,SNR=5.2						

IDC 27 19:45:26.1±3.0, 35°.18S×72°.72W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.7/35, mbtmp4.0/4, ML3.1/1, Error ellipse: s-maj=88.5km s-min=43.7km az=3.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.17	48	Pn	Pn	19 46 45.0	+0.1
	0.7nm,0.3s,baz=233,slow=5.1,SNR=4.2						
TXAR	Lajitas Array	70.50	332	P	P	19 56 43.2	+0.5
	0.7nm,0.6s,baz=149,slow=9.0,SNR=7.9						
TORD	Torodi Ar. Bea	85.14	70	P	P	19 58 04.6	+0.2
	0.2nm,0.4s,baz=251,slow=4.4,SNR=4.8						
ULM	Lac du Bonnet	87.49	345	P	P	19 58 13.9	-1.2
	2.1nm,0.9s,baz=156,slow=10.0,SNR=3.1						

IDC **27** *19:46:01.3±0.5, 36°.53S×73°.48W, h0km, mb4.6/17, mb1 4.7/21, mb1mx4.6/40, mbtmp4.6/21, ML4.3/4, MS4.7/1, Ms1 4.7/1, ms1mx4.0/29, Error ellipse: s-maj=20.7km s-min=13.2km az=75.0*
ISCJB **27** *19:46:04.8±0.3, 36°.44S±0°.05×73°.16W±0°.07, h27km, mb4.9/63, Error ellipse: s-maj=9.5km s-min=6.3km az=138.7*
NEIC **27** *19:46:07.2±0.2, 36°.48S×73°.20W, h35km, mb5.0/53, Error ellipse: s-maj=9.3km s-min=6.1km az=61.0*
ISC 27 19:46:06.3±0.4, 36°.44S±0°.06×73°.30W±0°.10, h27km, n362, σ0s.99/369, mb5.0/64, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.80	154	Pn	Pn	19 47 15.1	-1.7
	5.4nm,0.3s,baz=325,slow=13,SNR=4.0						
PLCA				Lg	Lg	19 48 29.9	
	32nm,0.3s,baz=274,slow=12,SNR=5.1						
PLCA	Paso Flores	4.80	154	ePn	Pn	19 47 16.1	-0.7
PLCA				Lg	Lg	19 48 29.9	
CFAA	Coronel Fontan	6.40	43	Pn	Pn	19 47 40.2	+1.4
	1.7nm,0.3s,baz=190,slow=14,SNR=4.9						
CFAA				Lg	Lg	19 49 16.1	
	1.4nm,0.3s,baz=108,slow=12,SNR=4.8						
TRQA	Tornquist	9.17	104	ePn	Pn	19 48 17.4	+0.6
LVC	Limon Verde	14.30	17	ePn	Pn	19 49 22.9	-4.3
CPUP	Villa Florida	16.93	58	P	Pn	19 50 02.1	+0.8
	0.6nm,0.3s,baz=188,slow=15,SNR=5.9						
CPUP				LR	LR	19 57 49.2	
	comp=Z,2μm,20.0s,baz=244,slow=41						
CPUP	Villa Florida	16.93	58	ePn	Pn	19 49 59.5	-1.8
	5.4nm,1.3s						
USHA	Ushuaia	18.70	171	P	P	19 50 21.3	-1.0
	0.3nm,0.3s,baz=178,slow=6.4,SNR=3.3						
LPAZ	La Paz	20.59	14	P	P	19 50 44.6	+0.7
	14nm,1.0s,baz=180,slow=8.7,SNR=8.6						
LPAZ	La Paz	20.59	14	ePn	Pn	19 50 46.1	-0.4
	25nm,0.8s						
SIV	San Ignacio	23.09	31	P	P	19 51 10.1	+0.1
	32nm,1.0s,baz=230,slow=12,SNR=18						
NNA	Nana	24.56	352	P	P	19 51 23.3	-0.7
	14nm,0.8s,baz=194,slow=9.6,SNR=6.0						
NNA	Nana	24.56	352	P	P	19 51 23.8	-0.2
	20nm,0.9s						
SAML	Samuel	28.87	21	eP	P	19 52 02.6	-0.1
	8.5nm,1.1s						
BDFB	Brasilia	30.58	54	P	P	19 52 19.4	+1.3
	7.4nm,0.9s,baz=194,slow=6.2,SNR=7.7						
BDFB	Brasilia	30.58	54	eP	P	19 52 19.7	+1.7
HOPE	Hope Point	30.95	137	P	P	19 52 19.8	-1.0
	51nm,1.2s						
SDV	Santo Domingo	45.15	4	eP	P	19 54 20.5	-0.4
	32nm,0.9s						
GRGR	Grenville	49.54	15	P	P	19 54 53.9	-1.0
SNAA	Sanae	49.73	157	P	P	19 54 54.8	-1.0
	6.1nm,1.0s,baz=264,slow=6.0,SNR=12						
SNAA	Sanae	49.73	157	eP	P	19 54 54.3	-1.5
	20nm,1.1s						
FDF	Fort de France	52.17	15	P	P	19 55 12.7	-2.0
QSPA	South Pole Qui	53.80	180	P	P	19 55 24.5	-1.8
	13nm,0.8s,baz=297,slow=0.9,SNR=37						
QSPA	South Pole Qui	53.80	180	eP	P	19 55 24.8	-1.5
	16nm,0.9s						
CELP	Cerrillos	54.59	8	eP	P	19 55 31.3	-1.0
AGPR	Aguadilla, PR	54.92	7	P	P	19 55 33.2	-1.5
SDDR	Presa de Saban	55.15	2	eP	P	19 55 36.4	0.0
GTBY	Guantanamo Bay	56.09	358	eP	P	19 55 42.4	-0.6
	36nm,0.9s						
TEIG	Tepich	58.11	343	P	P	19 55 56.8	-0.6
	19nm,0.8s,baz=94,slow=6.9,SNR=5.2						
TEIG	Tepich	58.11	343	eP	P	19 55 54.6	-2.8
934A	Benavides	67.98	336	P	P	19 57 04.6	+1.7
	baz=68						
834A	Tilden	68.48	336	P	P	19 57 07.8	+1.9
	baz=69						
833A	Chaparral WMA,	68.94	335	P	P	19 57 09.7	+0.8
	baz=69						
832A	Faith Ranch, C	69.10	335	P	P	19 57 10.6	+0.8
	baz=70						
636A	Smothers Creek	69.27	338	P	P	19 57 12.5	+1.7
	baz=70						
732A	Laxson Ranch,	69.51	335	P	P	19 57 12.7	+0.3
	baz=70						
632A	Uvalde	70.16	336	P	P	19 57 17.2	+0.8
	baz=71						
339A	Huntington	70.30	341	P	P	19 57 18.8	+1.6
	baz=71						
631A	Perdido Creek	70.34	335	P	P	19 57 18.3	+0.8
	baz=71						
533A	Kerrville	70.44	336	P	P	19 57 18.9	+0.8
	baz=71						
532A	Rocksprings	70.77	336	P	P	19 57 20.6	+0.4
	baz=71						
434A	Burnet	70.89	337	P	P	19 57 21.3	+0.5
	baz=71						
336A	Riesel	70.99	339	P	P	19 57 22.0	+0.7
	baz=71						
531A	Rocksprings	71.02	335	P	P	19 57 22.2	+0.5
	baz=71						
335A	Moody	71.06	338	P	P	19 57 22.9	+1.1
	baz=72						
JCT	Junction City	71.06	336	eP	P	19 57 22.7	+0.8
	11nm,1.0s						
JCT	Junction City	71.06	336	P	P	19 57 22.4	+0.5
	baz=72						
433A	Art	71.09	337	P	P	19 57 21.9	-0.1
	baz=72						
530A	J-C Ranch, Com	71.28	335	P	P	19 57 23.6	+0.4
	baz=72						
334A	Lometa	71.36	338	P	P	19 57 23.3	-0.3
	baz=72						
TXAR	Lajitas Array	71.38	332	P	P	19 57 24.2	+0.3
	3.0nm,0.7s,baz=150,slow=8.7,SNR=20						
431A	Sonora	71.52	335	P	P	19 57 25.0	+0.3
	baz=72						
529A	Stev Forest Ra	71.57	334	P	P	19 57 25.1	+0.1
	baz=72						
333A	Richland Sprin	71.58	337	P	P	19 57 25.2	+0.2
	baz=72						
KMSC	Kings Mountain	71.61	353	P	P	19 57 25.4	+0.4
	baz=72						
138A	Matatall Enter	71.70	341	P	P	19 57 26.8	+1.2
	baz=72						
WHTX	Lake Whitney	71.74	339	eP	P	19 57 26.6	+0.7
	18nm,0.9s						
WHTX	Lake Whitney	71.74	339	P	P	19 57 26.2	+0.3
	baz=72						
137A	Heron Place, G	71.82	340	P	P	19 57 27.4	+1.1
	baz=72						
430A	Baggett Ranch,	71.83	335	P	P	19 57 26.9	+0.4
	baz=72						
332A	Millersview	71.88	336	P	P	19 57 26.9	+0.1
	baz=72						
429A	Davenport Ranc	71.91	334	P	P	19 57 27.1	+0.1
	baz=72						
234A	Clairette	71.95	338	P	P	19 57 27.2	+0.1
	baz=72						
331A	San Angelo	72.03	336	P	P	19 57 27.8	+0.1
	baz=72						
233A	Rising Star	72.20	337	P	P	19 57 28.8	+0.1
	baz=73						
135A	Vickery Place,	72.25	339	P	P	19 57 29.5	+0.5
	baz=73						
SWET	Sewanee	72.26	349	eP	P	19 57 28.5	-0.5
	35nm,0.8s						
232A	Coleman	72.31	337	P	P	19 57 29.6	+0.2
	baz=73						
330A	Mertzon	72.37	335	P	P	19 57 29.9	+0.2
	baz=73						
TKL	Tuckaleechee C	72.39	351	P	P	19 57 28.9	-0.9
	5.1nm,0.7s,baz=164,slow=7.2,SNR=5.7						
TKL	Tuckaleechee C	72.39	351	eP	P	19 57 28.7	-1.0
134A	White-Moore Ra	72.47	338	P	P	19 57 30.4	+0.2
	baz=73						
231A	Bronte	72.57	336	P	P	19 57 30.6	-0.4
	baz=73						
329A	Wagon Wheel Ra	72.72	335	P	P	19 57 31.8	-0.1
	baz=73						
133A	Hamilton Ranch	72.75	338	P	P	19 57 32.1	+0.2
	baz=73						
230A	Sterling City	72.79	335	P	P	19 57 32.3	+0.1
	baz=73						
Z35A	Perchaven, San	72.93	339	P	P	19 57 33.2	+0.2
	baz=73						
ABTX	Abilene, Hawle	72.99	337	eP	P	19 57 33.0	-0.4
	14nm,1.1s						
ABTX	Abilene, Hawle	72.99	337	P	P	19 57 33.4	0.0
	baz=73						
229A	Bryant Ranch,	73.10	335	P	P	19 57 34.1	0.0
	baz=74						
MIAR	Mount Ida	73.11	343	eP	P	19 57 34.2	+0.2
	8.3nm,0.8s						
MIAR				epP	PcP	19 58 22.9	+32
Z34A	Collier Ranch,	73.16	339	P	P	19 57 34.5	+0.2
	baz=74						
131A	Roby	73.28	336	P	P	19 57 35.1	0.0
	baz=74						
Z33A	Whitaker Ranch	73.34	338	P	P	19 57 35.3	-0.1
	baz=74						
130A	Snyder	73.39	336	P	P	19 57 35.6	-0.2
	baz=74						
WVT	Waverly	73.46	348	eP	P	19 57 35.4	-0.6
	18nm,0.9s						
228A	UT Block 9, Go	73.51	334	P	P	19 57 36.6	+0.1
	baz=74						
Z32A	Haskell	73.57	337	P	P	19 57 37.1	+0.3
	baz=74						
Y34A	Reagan Ranch,	73.66	339	P	P	19 57 37.6	+0.3
	baz=74						
129A	Stewart Farms,	73.73	335	P	P	19 57 37.6	-0.2
	baz=74						
Z31A	Sharp Cattle R	73.79	337	P	P	19 57 38.0	-0.1
	baz=74						
128A	Castleberry Fa	73.93	335	P	P	19 57 38.9	-0.1
	baz=74						
Y33A	Hilltop Ranch,	73.97	338	P	P	19 57 38.9	-0.2
	baz=74						
Z30A	Sanderson Ranc	74.08	336	P	P	19 57 39.5	-0.3
	baz=74						
Y32A	R-V Farms, Ver	74.21	338	P	P	19 57 40.0	-0.5
	baz=75						
Z29A	Hungry Hill Ra	74.25	336	P	P	19 57 40.5	-0.3
	baz=75						
X34A	Smith Ranch, M	74.29	339	P	P	19 57 41.2	+0.3
	baz=75						
Y31A	Rekieta Farm,	74.42	337	P	P	19 57 42.3	+0.5
	baz=75						
X32A	Elmer	74.55	338	P	P	19 57 42.6	+0.2
	baz=75						
Y30A	Stafford Cattl	74.55	336	P	P	19 57 42.8	+0.3
	baz=75						
SUR	Sutherland	74.56	119	eP	P	19 57 45.7	+2.6
	46nm,1.3s						
PBMO	Poplar Bluff	74.56	346	eP	P	19 57 42.9	+0.4
	15nm,1.0s						
Y29A	Porterfield Fa	74.79	336	P	P	19 57 44.2	+0.3
	baz=75						
Z27A	Tatum	74.81	334	P	P	19 57 45.2	+1.0
	baz=75						
W34A	Bridge Creek,	74.86	339	P	P	19 57 44.2	0.0
	baz=75						
X31A	McDonald Ranch	74.95	337	P	P	19 57 44.5	-0.3
	baz=75						
TUL1	Tulsa	74.96	341	eP	P	19 57 44.2	-0.6
	20nm,0.8s						
TUL1	Tulsa	74.96	341	P	P	19 57 44.7	-0.1
	baz=75						
W33A	Caddo, Fort Co	74.98	339	P	P	19 57 46.0	+1.0
	baz=75						
Z26A	Caprock	75.05	334	P	P	19 57 45.9	+0.4
	baz=75						
W32A	Sentinel	75.19	338	P	P	19 57 46.5	+0.4
	baz=76						
SIUC	Southern Illin	75.24	347	eP	P	19 57 46.9	+0.5
	26nm,1.1s						
MSTX	Muleshoe	75.26	335	eP	P	19 57 47.1	+0.5
	151nm,2.8s						
MSTX	Muleshoe	75.26	335	P	P	19 57 46.4	-0.3
	baz=76						
WCI	Wyandotte Cave	75.27	349	P	P	19 57 45.0	-1.5
	36nm,1.0s						
Z25A	Roswell	75.32	333	P	P	19 57 47.9	+0.9
	baz=76						
X29A	Tulia	75.33	336	P	P	19 57 47.2	+0.1
	baz=76						
V34A	Guthrie	75.35	340	P	P	19 57 47.3	+0.2
	baz=76						
319A	Douglas	75.42	329	P	P	19 57 49.6	+1.9
	baz=76						
V33A	Lossen Ranch,	75.56	339	P	P	19 57 48.1	-0.2
	baz=76						
Z24A	Sheeppen Canyo	75.60	333	P	P	19 57 49.6	+0.9
	baz=76						
V32A	Arapaho	75.68	339	P	P	19 57 49.7	+0.7
	baz=76						
AMTX	Amarillo	75.73	336	eP	P	19 57 50.5	+1.2
	17nm,1.0s						
AMTX	Amarillo	75.73	336	P	P	19 57 50.3	+1.0
	baz=76						
121A	Cookes Peak, D	75.82	330	P	P	19 57 51.3	+1.3
	baz=76						
Y25A	Mesa, Roswell	75.89	333	P	P	19 57 50.8	+0.5
	baz=76						
U34A	Anderson Ranch	75.92	340	P	P	19 57 51.2	+0.9
	baz=76						
W29A	Amraillo	75.93	336	P	P	19 57 51.2	+0.7
	baz=76						
V31A	Spring Creek L	75.97	338	P	P	19 57 52.2	+1.5
	baz=76						
X27A	F and S Farms,	75.98	335	P	P	19 57 51.6	+0.8
	baz=76						
U33A	Lingo Farm, Me	76.08	340	P	P	19 57 51.6	+0.4
	baz=76						
Z22A	Elephant Butte	76.14	331	P	P	19 57 52.9	+1.1
	baz=76						
X26A	CR and CF Fran	76.14	334	P	P	19 57 52.0	+0.3
	baz=76						
Y24A	Capitan	76.16	333	P	P	19 57 52.5	+0.5
	baz=77						
U32A	Winter Ranch,	76.28	339	P	P	19 57 53.3	+0.9
	baz=77						
W27A	Bowe Ranch, En	76.35	335	P	P	19 57 53.4	+0.4
	baz=77						
Y23A	Lovelace Mesa,	76.39	332	P	P	19 57 53.8	+0.5
	baz=77						
W26A	Owens Ranch, T	76.61	335	P	P	19 57 55.1	+0.6
	baz=77						
V28A	Channing	76.70	336	P	P	19 57 55.7	+0.8
	baz=77						
T33A	Patterson Ranc	76.72	340	P	P	19 57 55.9	+1.0
	baz=77						
ACSO	Alum Creek Sta	76.82	352	eP	P	19 57 54.6	-0.7
	33nm,0.8s						
ACSO				epP	PcP	19 58 41.1	+35
TUC	Tucson	76.86	328	eP	P	19 57 57.2	+1.4
	5.5nm,1.1s						
U30A	WK&E Inc. Balk	76.92	338	P	P	19 57 56.7	+0.7
	baz=77						
DBIC	Dimbokro	76.94	72	P	P	19 57 56.9	+0.3
	14nm,0.9s,baz=211,slow=6.6,SNR=13						
DBIC	Dimbokro	76.94	72	eP	P	19 57 57.3	+0.7
	13nm,0.8s						
W25A	X Bar L Ranch,	76.97	334	P	P	19 57 57.0	+0.5
	baz=77						
T32A	Huddler Ranch,	77.01	339	P	P	19 57 57.2	+0.7
	baz=77						
V26A	Tequesquite Ra	77.26	335	P	P	19 57 58.4	+0.3
	baz=78						
W24A	Lazy 6 Ranch,	77.30	334	P	P	19 57 59.0	+0.6
	baz=78						
ANMO	Albuquerque	77.45	333	P	P	19 57 58.6	-0.6
	5.7nm,1.0s,baz=155,slow=7.4,SNR=13						
ANMO	Albuquerque	77.45	333	eP	P	19 58 00.1	+0.9
	12nm,1.2s						
S32A	Newby Ranch, P	77.50	339	P	P	19 57 59.7	+0.5
	baz=78						
U27A	Thompson Grove	77.51	336	P	P	19 57 59.5	+0.1
	baz=78						
CASY	Casey	77.56	182	P	P	19 58 05.5	+6.2
S31A	Mullinville	77.58	339	P	P	19 58 00.4	+0.7
	baz=78						
V25A	Rancho No Teng	77.58	334	P	P	19 58 00.3	+0.3
	baz=78						
T29A	Hugoton	77.69	337	P	P	19 58 01.4	+1.0
	baz=78						
V24A	Rampart Ranch,	77.71	334	P	P	19 58 01.6	+0.8
	baz=78						
U26A	Atchley Ranch,	77.79	335	P	P	19 58 01.6	+0.6
	baz=78						
S30A	Montezuma	77.89	338	P	P	19 58 02.2	+0.8
	baz=78						
T28A	Walsh	77.92	337	P	P	19 58 02.0	+0.4
	baz=78						
U25A	Circle Dot Ran	78.02	335	P	P	19 58 03.5	+1.1
	baz=78						
T27A	Campo	78.06	336	P	P	19 58 03.4	+0.9
	baz=78						
S29A	Ulysses	78.06	338	P	P	19 58 03.8	+1.3
	baz=78						
R32A	Long Quarter,	78.11	340	P	P	19 58 03.3	+0.8
	baz=78						
KSU1	Kansas State U	78.19	342	P	P	19 58 03.3	+0.4
	baz=79						
R31A	Burdett	78.21	339	P	P	19 58 03.4	+0.3
	baz=79						
S28A	Manter	78.28	337	P	P	19 58 03.8	+0.2
	baz=79						
T26A	Comanche Natio	78.44	336	P	P	19 58 05.3	+0.6
	baz=79						
V22A	San Miguel Ran	78.47	333	P	P	19 58 06.1	+1.1
	baz=79						
U23A	El Rito	78.58	333	P	P	19 58 06.8	+1.3
	baz=79						
T25A	Trinidad	78.69	335	P	P	19 58 07.3	+1.2
	baz=79						
S26A	Kim	78.81	336	P	P	19 58 07.2	+0.5
	baz=79						
U22A	Llaves	78.87	333	P	P	19 58 07.8	+0.7
	baz=79						
R28A	Tribune	78.94	338	P	P	19 58 07.4	+0.1
	baz=79						
T24B	San Luis	78.95	334	P	P	19 58 08.6	+1.0
	baz=79						
X16A	Lo Mia Camp, P	78.96	329	P	P	19 58 08.5	+1.0
	baz=79						
Q30A	Quinter	79.05	339	P	P	19 58 08.6	+0.8
	baz=80						
S25A	Robets Cordova	79.17	335	P	P	19 58 09.3	+0.7
	baz=80						
P32A	Huiting Farm,	79.20	340	P	P	19 58 09.0	+0.4
	baz=80						
R27A	Eads	79.20	337	P	P	19 58 08.9	+0.2
	baz=80						
P31A	Stockton	79.32	340	P	P	19 58 10.0	+0.7
	baz=80						
S24A	Houchin Ranch,	79.41	335	P	P	19 58 11.2	+1.1
	baz=80						
R26A	Arlington	79.42	336	P	P	19 58 11.5	+1.6
	baz=80						
TSUM	Tsumeb	79.54	106	eP	P	19 58 12.0	+0.8
	15nm,1.3s						
R25A	Fountain Ranch	79.56	336	P	P	19 58 11.1	+0.4
	baz=80						
P30A	Selden	79.58	339	P	P	19 58 11.4	+0.7
	baz=80						
Q28A	Sharon Springs	79.61	338	P	P	19 58 11.9	+0.9
	baz=80						
P29A	Atwood	79.84	339	P	P	19 58 12.6	+0.5
	baz=80						
BOSA	Boshof	79.85	118	P	P	19 58 12.3	-0.4
	7.8nm,1.0s,baz=256,slow=4.1,SNR=8.0						
WUAZ	Wupatki	79.87	329	P	P	19 58 13.8	+1.2
	baz=80						
R24A	Sanders Place,	79.91	335	P	P	19 58 13.8	+1.1
	baz=80						
Q26A	Hugo	80.01	337	P	P	19 58 14.4	+1.2
	baz=80						
S22A	4UR Ranch, Cre	80.08	334	P	P	19 58 14.7	+0.9
	baz=80						

R23A Moffat 80.12 335 P P 19 58 14.6 +0.6
baz=80
MVCO Mesa Verde 80.22 332 P P 19 58 15.5 +1.1
baz=81
Q25A Bedland, Calha 80.24 336 P P 19 58 15.1 +0.6
baz=81
IRM Iron Mountain 80.36 326 P P 19 58 16.5 +1.5
baz=81
P26A Davis Ranch, A 80.53 337 P P 19 58 17.4 +1.4
baz=81
Q24A Divide 80.58 335 P P 19 58 17.1 +0.6
baz=81
W13A Hualapai Mount 80.58 327 P P 19 58 17.8 +1.3
baz=81
P25A Willow Gulch B 80.75 336 P P 19 58 18.3 +1.1
baz=81
U15A North Rim 81.04 329 P P 19 58 19.6 +0.7
baz=81
PV01 Paradox Valley 81.06 333 eP P 19 58 19.1 +0.2
488nm,0.9s
GMRC Granite Mounta 81.10 326 P P 19 58 20.1 +0.9
baz=82
O26A Horse Wrangler 81.15 337 P P 19 58 20.4 +1.2
baz=82
P23A Jefferson 81.19 335 P P 19 58 20.6 +0.9
baz=82
SMCO Snowmass 81.40 334 eP P 19 58 22.5 +1.5
13nm,1.2s
N27A Anderson Farm, 81.42 338 P P 19 58 21.9 +1.3
baz=82
ISCO Idaho Springs 81.49 335 eP P 19 58 22.3 +1.0
48nm,2.5s
ISCO Idaho Springs 81.49 335 P P 19 58 22.2 +1.0
baz=82
P22A Eagle 81.70 334 P P 19 58 23.6 +1.4
baz=82
TUQ Turquoise Moun 81.77 326 P P 19 58 24.0 +1.4
baz=82
O23A Lake Granby, G 81.96 335 P P 19 58 24.3 +0.6
baz=82
O22A Kremmling 82.13 335 P P 19 58 25.0 +0.3
baz=82
N24A Carr 82.18 336 P P 19 58 25.0 +0.3
baz=83
LBTB Lobatse 82.21 115 eP P 19 58 25.0 -0.4
22nm,0.8s
K30A Basset 82.32 341 P P 19 58 26.3 +1.1
baz=83
CCUT Cedar City 82.44 329 eP P 19 58 28.3 +2.1
5.4nm,1.0s
ECSD EROS Data Cent 82.57 343 eP P 19 58 26.3 -0.1
20nm,0.9s
ECSD EROS Data Cent 82.57 343 P P 19 58 26.5 +0.1
baz=83
N23A Red Feather La 82.58 336 P P 19 58 27.9 +1.0
baz=83
SRU San Rafael 82.65 332 eP P 19 58 27.7 +0.6
6.9nm,0.8s
N22A Wattenberg Ran 82.67 335 P P 19 58 28.8 +1.4
baz=83
O20A White River Ci 82.70 334 P P 19 58 28.6 +1.1
baz=83
M24A Cheyenne 82.74 337 P P 19 58 29.1 +1.5
baz=83
MVU Marysvale 82.78 330 eP P 19 58 29.6 +1.7
11nm,1.4s
PHWY Pilot Hill 82.79 336 eP P 19 58 28.5 +0.4
111nm,2.8s
TMUT Trail Mountain 83.07 331 eP P 19 58 30.7 +1.2
6.8nm,0.9s
ISA Isabella 83.13 324 P P 19 58 31.4 +1.7
baz=84
N20A Spence Gulch, 83.33 334 P P 19 58 31.9 +1.2
baz=84
J27A Elkhorn Farm, 83.51 339 P P 19 58 32.7 +1.3
baz=84
L23A Garrett 83.60 336 P P 19 58 32.8 +0.7
baz=84
MPU Maple Canyon 83.86 331 eP P 19 58 34.9 +1.5
9.6nm,1.0s
I28A Midland 83.97 340 P P 19 58 34.3 +0.6
baz=84
R11A Troy Canyon, C 84.05 328 eP P 19 58 36.0 +1.6
74nm,3.0s
R11A Troy Canyon, C 84.05 328 P P 19 58 35.7 +1.2
baz=84
K23A Bowen Ranch, D 84.15 337 P P 19 58 35.9 +1.1
baz=85
JLU Jordanelle 84.29 332 eP P 19 58 36.7 +1.0
6.8nm,0.9s
H29A Onida 84.30 341 P P 19 58 35.4 +0.1
baz=85
K22A Casper 84.35 336 eP P 19 58 35.0 -0.9
101nm,2.4s
K22A Casper 84.35 336 P P 19 58 36.3 +0.5
baz=85
J24A Dixon Ranch, L 84.37 338 P P 19 58 36.5 +0.6
baz=85
DUG Dugway 84.47 331 eP P 19 58 37.7 +1.2
8.2nm,1.0s
DUG Dugway 84.47 331 P P 19 58 37.2 +0.8
baz=85
G30A Faulkton 84.49 342 P P 19 58 36.6 +0.3
baz=85
K21A Alcova 84.58 336 P P 19 58 37.2 +0.2
baz=85
I25A Rochford 84.72 338 P P 19 58 38.1 +0.4
baz=85
H27A Howes 84.81 340 P P 19 58 38.1 +0.1
baz=85
I24A Kuemmerle Ranc 84.84 338 P P 19 58 38.3 +0.1
baz=85
G28A Parade 84.90 341 P P 19 58 38.3 -0.1
baz=85
RSSD Black Hills 84.90 338 eP P 19 58 38.6 0.0
11nm,1.0s
J22A Midwest 85.02 336 P P 19 58 39.0 -0.2
baz=85
F30A Leola 85.12 342 P P 19 58 39.4 0.0
baz=86
H25A Fruitdale 85.23 339 P P 19 58 41.1 +1.0
baz=86
NVAR Mina Array Bea 85.31 326 P P 19 58 40.5 -0.4
1.7nm,0.8s,baz=151,slow=6.6,SNR=8.7
F29A Eureka 85.32 342 P P 19 58 40.4 0.0
baz=86
I22A 9 Mile Ranch, 85.45 337 P P 19 58 41.1 -0.2
baz=86
G27A Dupree 85.45 340 P P 19 58 41.0 -0.1
baz=86
PDAR Pinedale Array 85.49 334 P P 19 58 41.8 +0.1
3.8nm,1.1s,baz=150,slow=4.1,SNR=15
J20A Shoshoni 85.50 335 P P 19 58 41.8 +0.3
baz=86
G26A Maurine 85.56 340 P P 19 58 41.6 -0.1
baz=86
H24A Dirks Ranch, A 85.62 338 P P 19 58 41.9 -0.2
baz=86
I21A Big Trails, Te 85.64 336 P P 19 58 41.9 -0.3
baz=86
G25A Newell 85.70 339 P P 19 58 42.5 +0.1
baz=86
E30A Jud 85.72 343 P P 19 58 42.5 +0.1
baz=86
J19A Crowheart 85.75 335 P P 19 58 42.8 0.0
baz=86
HVU Hansel Valley 85.81 332 eP P 19 58 43.7 +0.5
12nm,1.0s
ELK Elko 85.92 329 P P 19 58 43.4 -0.4
2.9nm,0.8s,baz=127,slow=1.9,SNR=11
F27A Lemmon 85.93 340 P P 19 58 43.7 +0.2
baz=86
TOA0 Torodi Ar. Sit 86.00 71 eP P 19 58 43.9 -0.6
TORD Torodi Ar. Bea 86.00 71 P P 19 58 44.0 -0.5
6.5nm,1.0s,baz=222,slow=4.2,SNR=16
AHID Auburn Hatcher 86.04 333 eP P 19 58 44.2 -0.1
8.9nm,1.0s
H22A Clearmont 86.04 337 P P 19 58 44.6 +0.4
baz=86
I20A Worland 86.04 336 P P 19 58 44.1 -0.1
baz=86
F26A Lodgepole 86.09 340 P P 19 58 44.4 +0.1
baz=86
G24A Alzada 86.11 339 P P 19 58 44.4 -0.1
baz=86
E28A Huff 86.23 341 P P 19 58 45.0 +0.1
baz=87
D30A Buchanan 86.25 343 P P 19 58 45.1 +0.1
baz=87
G23A Biddle 86.29 338 P P 19 58 44.8 -0.6
baz=87
H21A Big Horn, Sher 86.29 337 P P 19 58 45.0 -0.4
baz=87
E27A Carson 86.32 341 P P 19 58 45.3 -0.1
baz=87
F25A Bowman 86.38 339 P P 19 58 45.8 +0.1
baz=87
I19A Meeteetse 86.41 335 P P 19 58 45.8 -0.3
baz=87
REDW Red Top Meadow 86.47 334 eP P 19 58 47.3 +0.9
15nm,1.1s
H20A Greybull 86.47 336 P P 19 58 45.9 -0.4
baz=87
G22A Birney 86.58 337 P P 19 58 46.7 -0.1
baz=87
F24A Ekalaka 86.59 339 P P 19 58 46.7 -0.1
baz=87
LOHW Long Hollow 86.60 334 eP P 19 58 47.6 +0.5
4.4nm,0.9s
E26A Carlson Angus 86.60 340 P P 19 58 46.8 0.0
baz=87
TPAW Teton Pass 86.61 334 eP P 19 58 47.7 +0.5
8.3nm,0.9s
AGMN Agassiz Nation 86.73 345 P P 19 58 47.4 +0.1
baz=87
C30A Mose, Pekin 86.74 343 P P 19 58 47.5 +0.1
baz=87
F23A Volborg 86.76 338 P P 19 58 47.4 -0.2
baz=87
FXWY Fox Creek 86.77 334 eP P 19 58 48.1 +0.1
4.1nm,1.0s
D28A Regan 86.77 342 P P 19 58 47.9 +0.3
baz=87
I17A Pilgrim Ck. 86.85 334 P P 19 58 48.9 +0.6
baz=87
E25A Miller Ranch, 86.89 340 P P 19 58 49.0 +0.8
baz=87
IMW Indian Meadow 86.96 334 eP P 19 58 49.2 +0.2
8.6nm,1.0s
H19A Powell 86.96 335 P P 19 58 48.8 +0.1
baz=87
FLWY Flagg Ranch 87.04 334 eP P 19 58 50.2 +0.9
14nm,0.9s
F22A Rosebud 87.07 338 P P 19 58 49.0 -0.1
baz=88
D26A Manning 87.11 341 P P 19 58 49.2 0.0
baz=88
G20A Bridger 87.19 336 P P 19 58 49.0 -0.8
baz=88
H18A Shoshone NF, C 87.20 335 P P 19 58 50.0 0.0
baz=88
E24A Baker 87.20 339 P P 19 58 50.6 +0.8
baz=88
B30A Myrvik Farm, E 87.41 344 P P 19 58 50.8 +0.2
baz=88
D25A Fairfield 87.46 340 P P 19 58 51.7 +0.7
baz=88
C27A Sayler Ranch, 87.50 341 P P 19 58 51.6 +0.6
baz=88
E22A Miles City 87.57 338 P P 19 58 51.4 -0.1
baz=88
YMR Madison River 87.64 334 eP P 19 58 52.5 +0.3
11nm,1.0s
B29A Wagenman Farm, 87.66 343 P P 19 58 52.1 +0.3
baz=88
F20A Billings 87.69 336 P P 19 58 52.4 +0.3
baz=88
D24A Glendive 87.71 339 P P 19 58 52.7 +0.5
baz=88
C26A Wahner Farm, P 87.75 341 P P 19 58 52.5 +0.2
baz=88
A30A Hoffart Farm, 87.87 344 P P 19 58 52.5 -0.3
baz=88
B28A Dugan Ranch, T 87.89 342 P P 19 58 53.1 +0.1
baz=88
HLID Hailey 87.97 331 eP P 19 58 54.9 +1.3
23nm,2.0s
HLID Hailey 87.97 331 P P 19 58 54.5 +0.8
baz=88
D23A Lindsay 88.02 339 P P 19 58 54.0 +0.3
baz=88
A29A Manning Farm, 88.06 343 P P 19 58 53.6 -0.1
baz=88
C24A Savage 88.12 339 P P 19 58 54.8 +0.7
baz=88
D22A Cohagen 88.28 338 P P 19 58 55.3 +0.5
baz=89
A28A Rude Farm, Bot 88.30 343 P P 19 58 55.0 +0.1
baz=89
E20A Meyer Farm, Mu 88.31 337 P P 19 58 55.4 +0.4
baz=89
MCMT McKenzie Canyo 88.46 333 eP P 19 58 56.8 +0.8
3.5nm,1.0s
E19A Rath Farm, Rou 88.48 336 P P 19 58 56.0 +0.1
baz=89
ULM Lac du Bonnet 88.59 346 P P 19 58 54.6 -1.5
4.4nm,0.8s,baz=140,slow=2.2,SNR=7.4
D20A Manuel Ranch, 88.83 337 P P 19 58 57.0 -0.5
baz=89
DGMT Dagmar 88.91 340 P P 19 58 58.6 +0.9
baz=89
B22A Reddig Ranch S 89.26 339 P P 19 59 00.2 +0.7
baz=90
A22A Carney Farms, 89.86 339 P P 19 59 02.5 +0.2
baz=90
B20A Solberg Farm, 89.99 338 P P 19 59 03.0 +0.1
baz=90
LSZ Lusaka 90.01 109 eP P 19 59 11.0 +7.1
11nm,1.4s
A21A Bergtoll Ranch 90.16 339 P P 19 59 03.0 -0.6
baz=91
A20A Cobblestone Ra 90.36 338 P P 19 59 04.1 -0.5
baz=91
A19A Klindworth Far 90.65 338 P P 19 59 05.5 -0.4
baz=91
PSZ Piszkesteto 117.89 49 ePKPdf PKPdf 20 04 48.3 -1.6
BRTR Keskin Array B 123.89 63 PKP PKPdf 20 05 00.2 -1.6
0.8nm,0.8s,baz=177,slow=4.9,SNR=6.0
AKASG Malin Array Be 124.58 49 PKP PKPdf 20 05 00.3 -2.2
0.7nm,0.6s,baz=261,slow=3.1,SNR=7.2
GEYT Alibeck 141.61 73 PKhKP PKPpre 20 05 29.0
1.0nm,0.4s,baz=225,slow=1.0,SNR=5.2
ABKAR Akbulak array 143.97 54 ePKPpre PKPpre 20 05 35.5
HYB Hyderabad 148.73 120 i PKP PKPdf 20 05 49.5 +1.7
KBL Kabul 149.41 82 ePKPbc PKPbc 20 05 51.3 -1.8
BRVK Borovoye 149.68 45 ePKPdf PKPbc 20 05 52.1 -0.7
BVAR Borovoye Array 149.75 45 PKP PKPdf 20 05 47.7 -0.6
0.5nm,0.6s,baz=346,slow=0.6,SNR=2.5
BVAR PKPbc PKPbc 20 05 53.0 0.0
2.0nm,0.7s,baz=290,slow=4.3,SNR=8.7
YAK Yakutsk 150.64 338 ePKPdf PKPdf 20 05 47.8 -1.5
YAK ePKPbc PKPbc 20 05 53.4 -1.4
KKAR Karatay Array 151.56 65 ePKPbc PKPbc 20 05 55.7 -2.0
AAK Ala-Archa 154.50 66 PKPbc PKPbc 20 06 03.4 -1.0
1.4nm,0.6s,baz=120,slow=4.2,SNR=5.4
AAK PKPab PKPab 20 06 19.2 +0.2
7.0nm,0.9s,baz=200,slow=2.9,SNR=7.7
AAK Ala-Archa 154.50 66 ePKPdf PKPdf 20 05 57.2 +1.2
AAK ePKPbc PKiKP 20 06 04.6 +0.2
AAK ePKPab PKPab 20 06 18.8 -0.1
TKM2 Tokmak 2 155.29 65 ePKPab PKPab 20 06 22.6 +0.2
KSH Kashi 155.64 73 PKP PKPab 20 06 23.0 -0.9
ZALV Zalesovo Beam 156.83 34 PKP PKPdf 20 05 56.9 -1.5
2.8nm,0.9s,baz=282,slow=2.9,SNR=7.1
ZALV PKPab PKPab 20 06 28.8 +0.6
2.7nm,0.6s,baz=307,slow=5.4,SNR=7.7
MK31 Makanchi Array 159.10 53 ePKPdf PKPdf 20 06 00.7 -0.8
MK31 ePKPab PKPab 20 06 36.7 -1.7
MKAR Makanchi Array 159.10 53 PKP PKPdf 20 05 59.7 -1.8
1.3nm,1.0s,baz=302,slow=2.3,SNR=5.7
MKAR PKPab PKPab 20 06 37.6 -0.8
2.3nm,0.8s,baz=284,slow=2.7,SNR=8.1
MKAR Makanchi Array 159.10 53 ePKPdf PKPdf 20 06 00.7 -0.8
MKAR PKPab PKPab 20 06 37.6 -0.8
CMAR Chiang Mai Arr 160.82 157 PKPab PKPab 20 06 46.5 +0.1
0.9nm,1.0s,baz=180,slow=3.2,SNR=2.5
SONM Songino Array 168.61 1 PKPab PKPab 20 07 19.3 -0.8
1.3nm,0.9s,baz=332,slow=2.6,SNR=8.0
NJ2 Nanjing 169.03 250 ePKP PKPdf 20 06 15.5 +4.6
GYA Guiyang 170.05 180 ePKP PKPdf 20 06 12.8 +0.9
GYA pPKP pPKPdf 20 06 25.0 +4.1
GYA PKPab PKPab 20 07 31.5 +4.5
GYA PKS PKSdf 20 09 44.3 -0.2
GYA PP PP 20 11 23.8 +7.8
GYA SKKS 20 18 04.5
GYA SS SS 20 32 18.5 +5.4
GYA AMB AMB
comp=Z,120nm,8.1s
GYA LR LR
comp=N,120nm,21.2s
GYA LR LR
comp=E,110nm,21.0s
GYA LR LR
comp=Z,120nm,24.6s
GTA Gaotai 173.80 59 ePKP PKPdf 20 06 19.5 +6.3
GTA pPKP pPKPdf 20 06 30.3 +8.0
GTA sPKP 20 06 34.0
GTA PKPab PKPab 20 07 50.5 +6.9
LZH Lanzhou 177.66 98 ePKP PKPdf 20 06 16.5 +2.2
LZH pPKP pPKPdf 20 06 26.8 +3.4
LZH sPKP 20 06 31.5

IDC **27** *19:48:08.5±2.9, 25°.71N×128°.75E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/38, mbtmp3.9/8, ML3.7/1, MS4.7/1, Ms1 4.7/1, ms1mx3.6/32, Error ellipse: s-maj=70.2km s-min=40.8km az=99.0*
JMA **27** *19:48:14.4±0.3, 25°.96N×128°.55E, h36km±5km, M3.6*
ISC 27 19:48:13.6±2.1**, 25°.90N**±0°.05×**128°.55E**±0°.04**, h25**km±15km**, n28, σ1s.65**/47**, mb3.7**/7**, Ryukyu Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JJT2 Tamagusuku 2 0.76 289 P Pn 19 48 28.4 -0.3
JJT2 S Sb 19 48 38.7 +0.6
JNTH Nagotoyohara 0.78 323 P Pn 19 48 27.9 -1.1
JNTH S Sb 19 48 38.1 -0.5
JOW Kunigami 0.96 345 P Pn 19 48 31.1 -0.5
JOW S Sn 19 48 41.8 -2.7
JOW Kunigami 0.96 345 Pn Pn 19 48 31.2 -0.5
15nm,0.3s,baz=152,slow=16,SNR=149
JOW Sn Sn 19 48 42.0 -2.5
28nm,0.3s,baz=107,slow=19,SNR=44
JIH Iheya 1.25 335 P Pn 19 48 35.6 +0.1
JIH S Sn 19 48 49.7 -1.8
JAGN Aguni-jima 1.36 301 P Pn 19 48 37.0 0.0
JAGN S Sn 19 48 54.6 +0.3
JOKE Okinoerabujima 1.46 1 P Pn 19 48 38.5 +0.1
JOKE S Sn 19 48 54.7 -2.0
JKE Kume jima 2 1.64 285 P Pn 19 48 40.5 -0.4
JKE S Sn 19 48 58.9 -2.3
JTK Tokunoshima 1.92 11 P Pn 19 48 44.8 +0.1
JTK S Sn 19 49 05.7 -2.3
JAMN Amaminishikomi 2.40 13 P Pn 19 48 51.4 0.0
JAMN S Sn 19 49 18.1 -1.9
JMZ Minamidaito 2 2.41 91 P Pn 19 48 51.5 0.0
JMZ S Sn 19 49 16.5 -3.7
JAM Amami Oshima 2.68 20 P Pn 19 48 55.0 -0.1
JAM S Sn 19 49 24.5 -2.3
JZK Kikaishima 2.72 27 P Pn 19 48 57.1 +1.3
JZK S Sn 19 49 27.5 -0.4
JOGS Gusukube 3.06 249 P Pn 19 49 01.2 +0.8
JOGS eS Sn 19 49 37.3 +1.1
JIRB Irabujima 3.23 251 P Pn 19 49 02.9 +0.1
JIRB eS Sn 19 49 39.6 -0.9
JTAJ Takarajima 3.29 10 P Pn 19 49 03.5 -0.1
JTAJ eS Sn 19 49 39.4 -2.6
JTJ Tarama 3.70 251 P Pn 19 49 07.9 -1.3
JTJ eS Sn 19 49 49.6 -2.4
JISG Ishigakijimahi 4.05 252 P Pn 19 49 12.9 -1.2
JISG eS Sn 19 49 57.3 -3.4
JIJ Ishigaki jima 4.27 250 P Pn 19 49 17.3 +0.2
JIJ eS Sn 19 50 02.4 -3.8
JNU Nakatsue 7.48 15 Pn Pn 19 50 02.0 +0.8
1.1nm,0.3s,baz=200,slow=9.2,SNR=12
JNU Sn Sn 19 51 23.9 -1.4
0.7nm,0.3s,baz=49,slow=19,SNR=5.2
SONM Songino Array 27.99 327 P P 19 54 04.9 +2.4
0.8nm,0.5s,baz=142,slow=11,SNR=12
PETK Petropavlovsk- 34.83 31 LR LR 20 11 15.9
comp=Z,1μm,19.7s,baz=53,slow=40
MKAR Makanchi Array 41.97 312 P P 19 56 03.0 +0.5
0.5nm,0.5s,baz=95,slow=11,SNR=16
BVAR Borovoye Array 50.71 318 P P 19 57 12.2 +1.1
1.2nm,0.8s,baz=92,slow=10,SNR=2.9
FINES FINESS Array B 73.29 331 P P 19 59 43.0 +0.3
1.3nm,0.7s,baz=31,slow=7.8,SNR=5.3
AKASG Malin Array Be 75.97 320 P P 19 59 59.0 +0.6
0.5nm,0.5s,baz=60,slow=6.1,SNR=5.1
BRTR Keskin Array B 77.46 308 P P 20 00 08.2 +0.9
0.5nm,0.7s,baz=86,slow=6.3,SNR=3.6
GERES GERESS Array B 85.64 323 P P 20 00 48.8 -1.5
0.2nm,0.4s,baz=28,slow=4.4,SNR=2.9

IDC **27** *19:52:41.7±1.6, 34°.69S×72°.89W, h0km, mb4.0/4, mb1 4.3/6, mb1mx4.0/37, mbtmp4.0/6, ML3.7/2, Error ellipse: s-maj=38.0km s-min=37.4km az=177.0*
ISCJB **27** *19:52:45.2±1.5, 34°.6S±0°.2×72°.7W±0°.2, h33km, mb3.9/4, Error ellipse: s-maj=29.7km s-min=23.8km az=146.7*
ISC 27 19:52:46.7±1.5**, 34°.7S**±0°.2×**72°.8W**±0°.2**, h35**km**, n7, σ0s.71**/7**, mb4.0**/4**, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CFAA Coronel Fontan 4.85 53 Pn Pn 19 53 57.2 0.0
0.9nm,0.3s,baz=248,slow=18,SNR=6.1
LPAZ La Paz 18.74 14 P Pn 19 57 04.0 +0.1
0.3nm,0.3s,baz=201,slow=8.5,SNR=11
SIV San Ignacio 21.33 32 P P 19 57 31.1 +0.3
6.3nm,0.9s,baz=212,slow=11,SNR=5.8
TXAR Lajitas Array 70.02 331 P P 20 03 54.4 -0.6
0.6nm,0.7s,baz=155,slow=9.9,SNR=5.2
BOSA Boshof 80.29 118 P P 20 04 54.6 +0.2
3.3nm,0.9s,baz=206,slow=21,SNR=3.1
NVAR Mina Array Bea 84.08 326 P P 20 05 14.7 +0.7
0.5nm,0.6s,baz=152,slow=5.9,SNR=3.8
BVAR Borovoye Array 148.15 43 PKPbc PKPab 20 12 30.3 -1.0
0.5nm,0.6s,baz=297,slow=2.2,SNR=5.9

IDC 27 19:53:24.9±4.2**, 11°.87N×88°.18W, h92**km±24km**, mb3.0**/2**, mb1 3.3**/4**, mb1mx3.2**/46**, mbtmp3.3**/4**, Error ellipse: s-maj=151.0km s-min=24.7km az=42.0, Off coast of central America**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JTS JuntasAbangare 3.54 116 P Pn 19 54 18.1 +0.4
1.9nm,0.3s,baz=294,slow=20,SNR=8.3
JTS S Sn 19 54 48.2 -10
2.6nm,0.3s,baz=266,slow=10,SNR=4.3
APG El Apazote 3.83 325 P Pn 19 54 20.9 -1.0
0.8nm,0.3s,baz=90,slow=23,SNR=37
TXAR Lajitas Array 22.58 323 P P 19 58 18.7 +0.8
0.9nm,0.5s,baz=137,slow=10,SNR=5.0
YKA Yellowknife Ar 53.98 345 P P 20 02 39.1 0.0
0.2nm,0.7s,baz=138,slow=7.7,SNR=4.2
CMAR Chiang Mai Arr 149.06 347 PKPbc PKPbc 20 13 02.5 -0.9
0.4nm,0.8s,baz=349,slow=1.8,SNR=3.6

IDC **27** *19:54:27.0±0.3, 10°.92N×43°.41W, h0km, mb5.0/41, mb1 5.1/42, mb1mx5.1/48, mbtmp5.0/42, ML4.6/1, MS5.1/31, Ms1 5.1/31, ms1mx5.1/39, Error ellipse: s-maj=11.1km s-min=8.9km az=161.0*
MOS **27** *19:54:27.2±0.9, 10°.89N×43°.43W, h10km, mb5.6/100, MS5.3/10, Error ellipse: s-maj=6.0km s-min=4.0km az=52.2*
ISCJB **27** *19:54:28.1±0.1, 10°.88N±0°.03×43°.44W±0°.01, h16km, mb5.3/304, MS5.2/104, Error ellipse: s-maj=4.7km s-min=1.9km az=179.1*
NEIC **27** *19:54:28.7±0.1, 10°.84N×43°.41W, h10km, mb5.5/230, MS5.3/67, Error ellipse: s-maj=4.1km s-min=2.3km az=182.0*
GCMT **27** *19:54:28.7±0.4, 10°.83N×43°.39W, h14km±3km, MW5.8/74, Moment Tensor Solution. s9,c9; s74,c107; Duration: 2s.0 Moment tensor: Scale 10^{17}Nm; M_{rr}1.37±.48; $M_{\theta\theta}$-2.28±.38; $M_{\phi\phi}$0.90±.32; $M_{r\theta}$-1.60±.90; $M_{\theta\phi}$-5.28±.25; $M_{\phi r}$4.32±1.42; Best double couple: $M_0$7.18000×10^{17} NP1:ϕ_s12.00000°, δ75.00000°, λ34.00000°. NP2: ϕ_s272.00000°, δ57.00000°, λ162.00000°. Principal axes: T 7.8860, Plg35.0000°, Azm237.0000°; N -1.4140, Plg53.0000°, Azm33.0000°; P -6.4740, Plg12.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s.*

nsta2 refers to surface waves, cutoff=50s.
BJI **27** 19:54:28.5, 10.90N×43.40W, h10km, mB5.8/4, Ms5.9/7, Ms7 5.7/6
ISC 27 19:54:29.8±0.2, **10.80N**±0.05×**43.40W**±0.04, **h16**km, **n1226**, σ0.98/1186, **mb5.4**/305, **MS5.3**/104, **217C-191D, Northern Mid-Atlantic Ridge**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BBGH Gun Hill 15.98 280 *e*Pn Pn 19 58 15.0 +0.9
TBH Brigand Hill 17.37 271 *e* Pn 19 58 31.8 +0.1
H05S1 Guadeloupe/Mar 17.39 284 T T 20 16 26.6
SNR=796
SVB Belmont 17.63 280 *e*P Pn 19 58 34.4 -0.6
TRN Trinidad (W) 17.69 271 *e* P 19 58 37.9 +1.4
FDF Fort de France 17.75 285 *e*P Pn 19 58 35.7 -0.7
FDF pmax pmax
comp=Z,845nm,1.3s
FDF Fort de France 17.75 285 *e*P Pn 19 58 35.9 -0.5
FDF Fort de France 17.75 285 *e*Pn Pn 19 58 35.7 -0.7
comp=Z,845nm,1.3s
TPP Pointe-a-Pierr 17.75 270 *e* P 19 58 39.5 +2.3
GRGR Grenville 17.94 276 *e*Pn Pn 19 58 38.0 -0.8
comp=Z,459nm,0.9s
GRW Mount Saint Ca 17.95 276 *e* Pn 19 58 38.3 -0.7
DLPL La Plaine 17.95 286 *e*P Pn 19 58 38.5 -0.4
H05N1 Guadeloupe/Mar 18.01 290 T T 20 17 12.4
SNR=552
RCBR Riachuelo 18.13 155 P Pn 19 58 41.2 +0.1
comp=Z,1.8nm,0.3s,baz=343,slow=14,SNR=22
RCBR S Sn 20 01 52.4 -11
comp=Z,1.4nm,0.3s,baz=60,slow=20,SNR=5.7
RCBR LR LR 20 03 59.7
comp=Z,9μm,19.2s,baz=336,slow=31
RCBR Riachuelo 18.13 155 *e*Pn Pn 19 58 41.0 -0.2
comp=Z,599nm,1.6s
RCBR P Pn 19 58 41.2 +0.1
RCBR *e*Sn Sn 20 01 47.2 -16
RCBR S S 20 01 52.4 -16
TBG Guadaloupe-3 18.45 288 *e*P P 19 58 44.4 -0.5
SEG Port Louis 18.45 290 *e*P Pn 19 58 45.7 +0.7
PHG Guadaloupe-2 18.48 288 *e*P Pn 19 58 45.0 -0.5
ECG Echelle 18.50 288 *e*P Pn 19 58 45.6 -0.2
LKG Breislack 18.50 288 *e*P Pn 19 58 45.5 -0.3
CRG Carmichael 18.51 288 *e*P Pn 19 58 46.0 +0.1
SSG Sans Toucher 18.53 288 *e*P Pn 19 58 45.7 -0.4
FNG Fond-Bernard 18.53 288 *e*P Pn 19 58 46.0 -0.1
ANWB Willy Bob 19.07 293 *e*P P 19 58 51.3 -0.5
comp=Z,304nm,0.9s
SACV Santiago Islan 19.73 76 P P 19 58 56.4 -2.6
comp=Z,1μm,0.6s,SNR=25
SACV Santiago Islan 19.73 76 *e*P P 19 58 54.3 -4.7
comp=Z,231nm,0.9s
SACV *e*S S 20 02 20.0 -21
SEUS St. Eustatius 20.11 292 PFAKE 19 59 20.0 +15
SEUS LR LR
comp=Z,4μm,20.7s
SMRT St. Maarten 20.36 293 *e*P P 19 59 05.0 -0.8
comp=Z,255nm,1.4s
SMRT LR LR
comp=Z,4μm,21.6s
SABA Saba 20.38 292 *e*P P 19 59 06.5 +0.5
comp=Z,132nm,0.9s
SABA LR LR
comp=Z,6μm,19.3s
PCRV Puerto La Cruz 20.89 270 P P 19 59 10.6 -1.0
comp=Z,105nm,0.9s,baz=214,slow=7.5,SNR=12
PCRV LR LR 20 07 33.1
comp=Z,5μm,20.6s,baz=72,slow=38
STVI Saint Thomas 22.15 292 *e*P P 19 59 24.4 -0.7
comp=Z,315nm,1.0s
STVI LR LR
comp=Z,4μm,18.3s
HUMP Col San Antoni 22.91 291 *e*P P 19 59 34.1 +0.9
HUMP LR LR
comp=Z,5μm,20.2s
CPD Cerro la Pandu 22.94 291 PFAKE 19 59 40.0 +6.4
CPD LR LR
comp=Z,13μm,19.5s
CBYP Canovanas 22.95 291 *e*P P 19 59 32.4 -1.3
comp=Z,79nm,0.9s
CBYP LR LR
comp=Z,4μm,20.3s
ICMP Isla Caja de M 23.47 290 *e*P P 19 59 37.9 -1.0
ICMP *e* 19 59 47.9
CELP Cerrillos 23.56 291 *e*P P 19 59 39.1 -0.7
CELP *e* 19 59 49.0
OBIP Obispado Ponce 23.58 290 *e*P P 19 59 39.5 -0.4
comp=Z,108nm,0.7s
OBIP *e* 19 59 49.0
OBIP LR LR
comp=Z,4μm,20.6s
AOPR Arecibo Observ 23.79 291 *e*P P 19 59 41.7 -0.3
comp=Z,152nm,0.6s
AOPR LR LR
comp=Z,5μm,21.2s
LRS Lares 23.86 291 *e*P P 19 59 42.4 -0.4
LRS *e* 19 59 52.0
CRPR Cabo Rojo, PR 24.04 290 *e*P P 19 59 43.5 -0.8
comp=Z,199nm,0.8s
CRPR LR LR
comp=Z,5μm,19.8s
LSP Las Mesas 24.06 290 *e*P P 19 59 44.0 -0.5
MPR Mayaguez 24.11 291 PFAKE 20 00 00.0 +15
MPR LR LR
comp=Z,3μm,21.1s
AGPR Aguadilla, PR 24.15 291 *e*P P 19 59 44.5 -0.9
comp=Z,308nm,1.0s
AGP Aguadilla 24.16 291 PFAKE 20 00 00.0 +14
AGP LR LR
comp=Z,3μm,20.3s
SMN1 Samana, DR 26.32 292 *e*P P 20 00 05.1 0.0
BBTS Babate 26.48 79 P P 20 00 05.9 -0.6
comp=Z,168nm,0.8s,baz=280,slow=2.0,SNR=30
BBTS LR LR 20 07 45.6
comp=Z,6μm,20.9s,baz=258,slow=30
BDFB Brasilia 26.67 190 P P 20 00 09.1 +0.8
BDFB *e* 20 00 10.2
BDFB Brasilia 26.67 190 P P 20 00 09.1 +0.8
comp=Z,7.7nm,0.6s,baz=5.9,slow=12,SNR=9.4
BDFB LR LR 20 09 59.7
comp=Z,8μm,18.6s,baz=360,slow=35
BDFB Brasilia 26.67 190 P P 20 00 09.1 +0.8
BDFB *e*P pP 20 00 10.2 -3.0
SDV Santo Domingo 26.90 268 *e*P P 20 00 09.8 -0.8
comp=Z,183nm,0.8s
SAML Samuel 27.79 226 *e*P P 20 00 19.0 +0.7
comp=Z,74nm,0.9s
SAML LR LR
comp=Z,3μm,20.3s
SDDR Presa de Saban 28.12 290 *e*P P 20 00 21.5 +0.2
comp=Z,106nm,0.9s
SDDR LR LR
comp=Z,8μm,22.0s
GRTK Grand Turk 28.64 295 PFAKE 20 00 40.0 +14
GRTK LR LR
comp=Z,2μm,21.6s
BBSR BB Station 29.09 321 PFAKE 20 00 40.0 +10
BBSR LR LR
comp=Z,3μm,20.0s
H07S1 FLORES T-PHASE 30.46 19 *e*LQ LQ 20 07 47.9
H07S1 *e*LR LR 20 08 34.5
PSMN Pico do Norte, 30.88 29 *e*LQ LQ 20 08 22.6
PSMN *e*LR LR 20 08 33.6
comp=Z,4μm,20.0s
ROSA Rosais 30.92 23 *e*LQ LQ 20 07 19.4
ROSA *e*LR LR 20 08 36.9
comp=Z,3μm,21.9s
ROSC El Rosal 31.19 261 P P 20 00 49.3 +0.3
comp=Z,71nm,0.8s,baz=93,slow=7.5,SNR=29
ROSC LR LR 20 14 20.7
comp=Z,11μm,18.4s,baz=95,slow=38
ROSC El Rosal 31.19 261 P P 20 00 49.3 +0.3
ROSC *e*P pP 20 00 50.3 -3.6
PSET Sete Cidades 31.24 28 *e*LQ LQ 20 07 52.6
PSET *e*LR LR 20 08 34.4
comp=Z,3μm,18.5s
PGRA Graciosa 31.29 23 *e*LQ LQ 20 07 32.0
PGRA *e*LR LR 20 08 37.3
comp=Z,4μm,20.9s
GTBY Guantanamo Bay 31.84 290 *e*P P 20 00 54.9 +0.6
comp=Z,46nm,0.8s
GTBY LR LR
comp=Z,3μm,20.8s
SIV San Ignacio 31.86 214 P P 20 00 55.9 +1.6
comp=Z,28nm,0.8s,baz=60,slow=8.3,SNR=32
SIV LR LR 20 13 32.8
comp=Z,7μm,21.4s,baz=53,slow=36
PMOZ Porto Moniz, M 32.57 44 *e*P P 20 01 01.8 +1.2
comp=Z,347nm,1.5s
GWJ Greenwich 33.03 287 *i* P P 20 01 06.3 +1.4
HOJ Hope 33.04 286 *i* P P 20 01 06.9 +2.1
STH Stony Hill 33.11 286 *i* P P 20 01 06.9 +1.5
MTDJ Mount Denham 33.81 287 *e*P P 20 01 12.6 +1.0
comp=Z,52nm,0.8s
MTDJ LR LR
comp=Z,4μm,22.0s
H10N3 ASCENSION HYDR 34.21 122 T T 20 37 36.0
baz=302,slow=75,SNR=384
H10N2 ASCENSION HYDR 34.22 122 T T 20 37 36.3
baz=302,slow=75,SNR=400
H10N1 ASCENSION HYDR 34.23 122 T T 20 37 37.5
baz=302,slow=75,SNR=492
ASCN Ascension 34.38 122 PFAKE 20 01 30.0 +14
ASCN LR LR
comp=Z,5μm,19.9s
H10S3 ASCENSION HYDR 34.68 123 T T 20 37 34.9
baz=304,slow=75,SNR=320
H10S1 ASCENSION HYDR 34.69 123 T T 20 37 35.3
baz=304,slow=75,SNR=252
H10S2 ASCENSION HYDR 34.70 123 T T 20 37 36.3
baz=304,slow=75,SNR=271
BCIP Isla Barro Col 35.91 271 *e*P P 20 01 30.2 +0.5
comp=Z,74nm,1.0s
BCIP LR LR
comp=Z,2μm,20.9s
LPAZ La Paz 36.38 223 *e*P P 20 01 35.1 +0.8
LPAZ pmax pmax
comp=Z,76nm,0.8s
LPAZ La Paz 36.38 223 P P 20 01 35.1 +0.8
comp=Z,68nm,0.7s,baz=37,slow=7.6,SNR=52
LPAZ LR LR 20 17 25.1
comp=Z,5μm,19.0s,baz=32,slow=38
LPAZ La Paz 36.38 223 *e*P P 20 01 35.1 +0.8
comp=Z,76nm,0.8s
OTAV Otavalo 36.38 256 *e*P P 20 01 34.9 +0.7
comp=Z,59nm,0.9s
OTAV LR LR
comp=Z,4μm,20.8s
LIC Lamto 38.20 94⇓*i*P P 20 01 47.7 -1.5
comp=Z,506nm,1.3s,baz=277
LIC *e*R
comp=Z,5μm,21.2s
LIC Lamto 38.20 94⇓*i*P P 20 01 47.7 -1.5
comp=Z,506nm,1.3s
DBIC Dimbokro 38.30 93 *e*P P 20 01 48.6 -1.3
DBIC Dimbokro 38.30 93 *e*P P 20 01 48.7 -1.3
DBIC pmax pmax
comp=Z,217nm,1.0s
DBIC Dimbokro 38.30 93 P P 20 01 48.7 -1.3
comp=Z,109nm,0.8s,baz=266,slow=8.6,SNR=85
DBIC LR LR 20 15 18.7
comp=Z,3μm,21.9s,baz=254,slow=33
DBIC Dimbokro 38.30 93 *e*P P 20 01 48.7 -1.3
comp=Z,217nm,1.0s
ATAH Atahualpa 39.13 244 P P 20 01 58.3 +0.9
comp=Z,146nm,0.9s,baz=73,slow=5.6,SNR=38
ATAH LR LR 20 18 18.9
comp=Z,4μm,19.5s,baz=59,slow=37
CPUP Villa Florida 39.32 200 *e*P P 20 01 58.3 0.0
CPUP 20 01 59.5
CPUP pmax pmax
comp=Z,2.0nm,0.9s
CPUP Villa Florida 39.32 200 P P 20 01 59.5 +1.2
comp=Z,11nm,0.8s,baz=22,slow=11,SNR=4.3
CPUP LR LR 20 19 00.3
comp=Z,3μm,18.2s,baz=1.5,slow=37
CPUP Villa Florida 39.32 200 *e*P P 20 01 58.2 0.0
comp=Z,1.5nm,0.9s
CPUP P P 20 01 59.5 +1.2
BRYW Bryant College 39.59 326 PFAKE 20 02 10.0 +9.5
BRYW LR LR
comp=Z,7μm,20.4s
EMMW East Machias 39.62 333 PFAKE 20 02 10.0 +9.4
EMMW LR LR
comp=Z,5μm,19.0s
CNNC Cliffs of the 39.66 313 PFAKE 20 02 10.0 +8.9
CNNC LR LR
comp=Z,6μm,20.8s
WES Weston 39.80 327 PFAKE 20 02 10.0 +7.8
WES LR LR
comp=Z,7μm,21.9s
YLE Yale 39.97 325 PFAKE 20 02 10.0 +6.4
YLE LR LR
comp=Z,5μm,20.8s
HRV Adam Dziewonsk 40.01 327 PFAKE 20 02 20.0 +16
HRV LR LR
comp=Z,6μm,19.4s
NNA Nana 40.20 237*c*eP P 20 02 05.5 -0.4
NNA Nana 40.20 237 P P 20 02 05.0 -0.9
comp=Z,35nm,0.7s,baz=50,slow=7.4,SNR=13
NNA PP PnPn 20 03 44.6 +2.4
comp=Z,5.4nm,0.3s,baz=41,slow=5.8,SNR=3.7
NNA LR LR 20 18 35.3
comp=Z,4μm,21.0s,baz=50,slow=36
NNA Nana 40.20 237 *e*P P 20 02 04.6 -1.3
comp=Z,36nm,0.8s
NNA P P 20 02 05.0 -0.9
NNA PP PnPn 20 03 44.6 +2.4
CPNY Central Park 40.22 323 PFAKE 20 02 20.0 +14
CPNY LR LR
comp=Z,3μm,18.6s
QUA2 Belchertown 40.28 326 PFAKE 20 02 20.0 +14
QUA2 LR LR
comp=Z,5μm,19.7s
PAL Palisades 40.33 324 PFAKE 20 02 20.0 +13
PAL LR LR
comp=Z,4μm,21.8s
NHSC New Hope 40.38 309 PFAKE 20 02 20.0 +13
NHSC LR LR
comp=Z,5μm,19.0s
BRNJ Basking Ridge 40.51 323 PFAKE 20 02 20.0 +12
BRNJ LR LR
comp=Z,2μm,19.3s
WVL Waterville 40.53 331 PFAKE 20 02 20.0 +12
WVL LR LR
comp=Z,7μm,19.3s
FFD Franklin Falls 40.73 328 PFAKE 20 02 20.0 +10
FFD LR LR
comp=Z,4μm,19.0s
ODNJ Ogdensburg 40.78 323 PFAKE 20 02 20.0 +10
ODNJ LR LR
comp=Z,4μm,19.8s
JTS JuntasAbangare 40.83 273⇓*e*P P 20 02 11.0 -0.1
JTS pmax pmax
comp=Z,45nm,1.2s
JTS JuntasAbangare 40.83 273 P P 20 02 09.9 -1.2
comp=Z,18nm,0.9s,baz=104,slow=2.9,SNR=6.3
JTS LR LR 20 21 19.0
comp=Z,2μm,18.6s,baz=78,slow=40
JTS JuntasAbangare 40.83 273 *e*P P 20 02 07.4 -3.7
comp=Z,21nm,1.0s
JTS P P 20 02 09.9 -1.2
CBN Corbin 40.83 318 PFAKE 20 02 20.0 +9.2
CBN LR LR
comp=Z,3μm,18.8s
MORF Marmelete 40.88 44 *e*P P 20 02 11.9 +0.6
MORF AMb AMB 20 02 16.9
comp=N,213nm,2.1s
MORF AMb AMB 20 02 18.2
comp=E,264nm,1.4s
MORF Marmelete 40.88 44 *e*P P 20 02 12.4 +1.1
comp=E,146nm,1.3s
MORF Marmelete 40.88 44 *e*P P 20 02 11.9 +0.6
MORF pmax pmax
comp=Z,213nm,2.1s
MORF pmax pmax
comp=E,264nm,1.5s
JSRW J. Sargeant Re 40.90 317 *e*P P 20 02 11.7 +0.4
LUPA Lehigh Univers 40.94 322 PFAKE 20 02 20.0 +8.3
LUPA LR LR
comp=Z,700nm,20.9s
SDMD Soldier's Deli 41.16 320 *e*P P 20 02 14.6 +1.1
comp=Z,29nm,1.0s
SDMD LR LR
comp=Z,3μm,18.9s
MVL Millersville 41.19 321 *e*P P 20 02 14.5 +0.8
comp=Z,63nm,1.3s
MVL LR LR
comp=Z,3μm,19.6s
HNH Hanover 41.23 328 PFAKE 20 02 30.0 +16
HNH LR LR
comp=Z,5μm,20.3s
TRY Troy 41.31 326 PFAKE 20 02 30.0 +15
TRY LR LR
comp=Z,3μm,20.9s
PBDV Barranco-do-Ve 41.34 45 *e*P P 20 02 18.4 +3.4
comp=Z,291nm,1.7s
PQI Presque Isle 41.40 334 PFAKE 20 02 30.0 +15
PQI LR LR
comp=Z,6μm,19.8s
LBNH Lisbon 41.41 329 PFAKE 20 02 30.0 +14
LBNH LR LR
comp=Z,6μm,19.5s
MESJ Messejana 41.45 44 *e*P P 20 02 16.6 +0.7
MESJ Messejana 41.45 44 *e*P P 20 02 17.1 +1.2
MESJ Messejana 41.45 44 *e*P P 20 02 16.5 +0.7
PCVE Castro Verde 41.46 44 *e*P P 20 02 17.7 +1.7
comp=Z,205nm,1.7s
PVAQ Vaqueiros 41.57 44 *e*P P 20 02 19.2 +2.3
comp=Z,144nm,1.9s
LVC Limon Verde 41.57 217 PFAKE 20 02 30.0 +13
LVC LR LR
comp=Z,3μm,22.0s
ACCN Adirondack Com 41.74 326 PFAKE 20 02 30.0 +12
ACCN LR LR
comp=Z,6μm,21.5s
KSPA Keystone Colle 41.77 323 PFAKE 20 02 30.0 +12
KSPA LR LR
comp=Z,3μm,20.8s
EVO Evora 41.95 43 *e*P P 20 02 21.0 +1.0
comp=Z,171nm,1.8s
KMSC Kings Mountain 42.11 311 *e*P P 20 02 21.4 0.0
comp=Z,57nm,1.4s
KMSC LR LR
comp=Z,5μm,19.5s
BINY Binghamton 42.29 324 PFAKE 20 02 30.0 +7.3
BINY LR LR
comp=Z,4μm,20.7s
BLA Blacksburg 42.40 315 *e*P P 20 02 24.0 +0.2
BLA pmax pmax
comp=Z,32nm,0.8s
BLA MLR MLR
comp=Z,5μm,19.1s
BLA Blacksburg 42.40 315 *e*P P 20 02 23.9 +0.2
comp=Z,32nm,0.8s
BLA LR LR
comp=Z,5μm,19.1s
PESTR Estremoz 42.41 43 *e*P P 20 02 26.3 +2.6
comp=Z,96nm,1.5s
PBAR Barrancos 42.42 44 *e*P P 20 02 24.6 +0.8
comp=Z,209nm,1.7s
TIGA Tifton 42.42 305 *e*P P 20 02 24.8 +0.8
comp=Z,90nm,0.9s
TIGA LR LR
comp=Z,4μm,21.5s
NCB Newcomb 42.44 327 PFAKE 20 02 40.0 +16
NCB LR LR
comp=Z,4μm,21.3s
PCAS Casmilo, Conde 42.45 41 *e*P P 20 02 25.0 +0.9
SSPA Standing Stone 42.51 320 *e*P P 20 02 26.2 +1.6
comp=Z,260nm,2.7s
SSPA LR LR
comp=Z,5μm,22.0s
FRNY Flat Rock 42.68 328 PFAKE 20 02 40.0 +14
FRNY LR LR
comp=Z,1μm,19.9s
PMRV Marv??o 42.83 42 *e*P P 20 02 30.8 +3.6
comp=Z,138nm,2.0s
PCBR Castelo Branco 42.99 41 *e*P P 20 02 29.4 +1.0
comp=Z,111nm,1.6s
GOGA Godfrey 43.03 308 PFAKE 20 02 40.0 +11
GOGA LR LR
comp=Z,4μm,18.9s
LONY Lake Ozonia 43.06 327 PFAKE 20 02 40.0 +11
LONY LR LR
comp=Z,4μm,21.2s
PTN Potsdam (NY) 43.24 327 PFAKE 20 02 40.0 +10
PTN LR LR
comp=Z,9μm,21.1s
MTE Manteigas 43.25 41 *e*P P 20 02 33.6 +3.0
comp=Z,151nm,1.6s
MTE Manteigas 43.25 41 *e*P P 20 02 30.8 +0.2
comp=Z,78nm,1.1s
POLO Lamas de Olo 43.63 39 *e*P P 20 02 36.6 +2.9
comp=Z,55nm,1.4s
TEIG Tepich 44.12 288 P P 20 02 36.2 -1.6
comp=Z,48nm,0.7s,baz=70,slow=6.0,SNR=16
TEIG LR LR 20 19 02.5
comp=Z,1μm,19.5s,baz=96,slow=34
TEIG Tepich 44.12 288 P P 20 02 36.2 -1.6
TEIG *e*P P 20 02 38.0 +0.2
TEIG *e* 20 02 47.5
TOA0 Torodi Ar. Sit 44.13 82 *e*P P 20 02 36.3 -1.7
TOA0 *e* 20 02 47.8
TORD Torodi Ar. Bea 44.13 82 P P 20 02 36.6 -1.4
comp=Z,108nm,0.7s,baz=277,slow=6.5,SNR=208
TORD LR LR 20 18 31.5
comp=Z,3μm,20.8s,baz=300,slow=33
TKL Tuckaleechee C 44.14 311 P P 20 02 37.0 -0.8
TKL *e* 20 02 37.7
TKL Tuckaleechee C 44.14 311 P P 20 02 37.0 -0.8
comp=Z,26nm,0.9s,baz=130,slow=7.1,SNR=15
TKL Tuckaleechee C 44.14 311 P P 20 02 37.0 -0.8
TKL *e*P P 20 02 37.6 -0.1
TZTN Tazewell 44.34 312 *e*P P 20 02 40.3 +0.9
comp=Z,56nm,1.1s
TZTN LR LR
comp=Z,5μm,19.4s
ALLY Alegheny Colle 44.49 320 *e*P P 20 02 40.3 -0.2
comp=Z,74nm,1.3s
PAB San Pablo 44.92 44 PFAKE 20 03 00.0 +16
PAB LR LR
comp=Z,5μm,19.2s
BRAL Brewton 45.11 303 PFAKE 20 03 00.0 +14
BRAL LR LR
comp=Z,4μm,18.0s
ESDC Sonseca Array 45.25 44 P P 20 02 47.1 +0.5
comp=Z,11nm,0.8s,baz=244,slow=8.2,SNR=20
ESDC LR LR 20 18 48.7
comp=Z,3μm,19.1s,baz=240,slow=32
ESLA Sonseca Array 45.25 44 *e*P P 20 02 46.3 -0.3
comp=Z,6.5nm,0.9s
SWET Sewanee 45.59 309 *e*P P 20 02 50.0 +0.5
comp=Z,67nm,0.9s
ACSO Alum Creek Sta 45.61 317 *e*P P 20 02 50.0 +0.6
comp=Z,33nm,0.8s
ACSO LR LR
comp=Z,4μm,18.0s
LRAL Lakeview Retre 45.67 306 *e*P P 20 02 50.4 +0.4
comp=Z,25nm,0.9s
LRAL LR LR
comp=Z,3μm,21.8s
SHEL Horse Pasture 45.78 125 P P 20 02 50.8 -0.3
SHEL MLR MLR
comp=Z,3μm,18.9s
SHEL Horse Pasture 45.78 125 P P 20 02 50.8 -0.3
SHEL LR LR
comp=Z,3μm,18.9s
APG El Apazote 46.00 280 LR LR 20 21 29.4
comp=Z,1μm,19.1s,baz=74,slow=35
WCI Wyandotte Cave 47.03 313 *e*P P 20 03 00.7 +0.1
WCI pmax pmax
comp=Z,25nm,0.7s
WCI Wyandotte Cave 47.03 313 *e*P P 20 03 00.7 +0.1
comp=Z,25nm,0.7s
AAM Ann Arbor 47.07 319 *e*P P 20 03 01.4 +0.6
AAM pmax pmax
comp=Z,47nm,0.9s
AAM MLR MLR
comp=Z,3μm,19.4s
AAM Ann Arbor 47.07 319 *e*P P 20 03 01.4 +0.6
comp=Z,47nm,0.9s
AAM LR LR
comp=Z,3μm,19.4s
WVT Waverly 47.36 310 *e*P P 20 03 03.1 -0.1
WVT pmax pmax
comp=Z,36nm,0.8s
WVT MLR MLR
comp=Z,4μm,20.4s
WVT Waverly 47.36 310 *e*P P 20 03 03.1 -0.1
comp=Z,36nm,0.8s
WVT LR LR
comp=Z,4μm,20.4s
BLO Bloomington 47.58 314 *e*P P 20 03 06.6 +1.8
BLO pmax pmax
comp=Z,16nm,0.8s

BLO MLR MLR
comp=Z,4µm,19.1s
BLO Bloomington 47.58 314 eP P 20 03 06.6 +1.8
comp=Z,16nm,0.8s
BLO LR LR
comp=Z,4µm,19.1s
SCHQ Schefferville 47.66 342 P P 20 03 04.6 -0.7
comp=Z,36nm,0.8s,baz=148,slow=6.1,SNR=39
SCHQ LR LR 20 20 10.0
comp=Z,2µm,21.0s,baz=160,slow=32
SCHQ Schefferville 47.66 342 P P 20 03 04.6 -0.7
SCHQ eP P 20 03 04.7 -0.6
USIN University of 47.92 312 eP P 20 03 08.2 +0.7
comp=Z,49nm,0.8s
OXF Oxford 48.05 307 eP P 20 03 07.9 -0.7
OXF pmax pmax
comp=Z,90nm,0.9s
OXF MLR MLR
comp=Z,4µm,19.4s
OXF Oxford 48.05 307 eP P 20 03 07.9 -0.7
comp=Z,90nm,0.9s
OXF LR LR
comp=Z,4µm,19.4s
TAM Tamanrasset 48.13 69 eP P 20 03 10.1 +0.5
TAM e 20 05 00.4
TAM pmax pmax
comp=Z,107nm,1.4s
TAM Tamanrasset 48.13 69 eP P 20 03 10.1 +0.5
comp=Z,108nm,1.4s
TAM ePP PP 20 05 00.4 -1.5
VBMS Vicksburg 48.28 304 PFAKE 20 03 20.0 +10
VBMS LR LR
comp=Z,4µm,18.7s
CFAA Coronel Fontan 48.42 209 LR LR 20 27 10.2
comp=Z,242nm,18.2s,baz=36,slow=40
SFIN Scholer Farm 48.48 315 eP P 20 03 10.2 -1.6
OLIL Olney 48.53 313 eP P 20 03 12.3 +0.1
comp=Z,60nm,0.8s
SJPF Ste Jean 48.70 41 eP P 20 03 12.8 -0.7
comp=Z,69nm,1.1s
SJPF Ste Jean 48.70 41 eP P 20 03 12.8 -0.7
SJPF pmax pmax
comp=Z,69nm,1.1s
SJPF Ste Jean 48.70 41 eP P 20 03 12.8 -0.7
comp=Z,69nm,1.1s
SIUC Southern Illin 48.97 311 eP P 20 03 15.7 +0.1
comp=Z,80nm,0.9s
PARMO Parma 49.00 310 eP P 20 03 15.1 -0.8
ETSF Etsaut 49.03 41 eP P 20 03 15.6 -0.5
comp=Z,206nm,1.7s
ETSF Etsaut 49.03 41 eP P 20 03 15.6 -0.5
ETSF pmax pmax
comp=Z,207nm,1.7s
ETSF Etsaut 49.03 41 eP P 20 03 15.6 -0.5
comp=Z,206nm,1.7s
HBAR Harrisburg 49.34 308 eP P 20 03 16.6 -1.9
PBMO Poplar Bluff 49.55 309 eP P 20 03 19.5 -0.6
comp=Z,20nm,0.9s
EPF Esparros 49.67 42 eP P 20 03 21.6 +0.6
EPF Esparros 49.67 42 eP P 20 03 21.6 +0.6
EPF Esparros 49.67 42 eP P 20 03 21.6 +0.6
QUIF Quistinic 50.03 35 eP P 20 03 23.2 -0.4
comp=Z,97nm,1.3s
QUIF Quistinic 50.03 35 eP P 20 03 23.2 -0.4
QUIF pmax pmax
comp=Z,97nm,1.3s
QUIF Quistinic 50.03 35 eP P 20 03 23.2 -0.4
comp=Z,97nm,1.3s
ROSF Rostrenen 50.21 34 eP P 20 03 24.2 -0.7
comp=Z,120nm,1.2s
ROSF Rostrenen 50.21 34 eP P 20 03 24.2 -0.7
ROSF pmax pmax
comp=Z,120nm,1.2s
ROSF Rostrenen 50.21 34 eP P 20 03 24.2 -0.7
comp=Z,120nm,1.2s
UALR University of 50.43 306 eP P 20 03 26.4 -0.4
comp=Z,29nm,0.9s
SGMF Saint Gilles 50.56 34 eP P 20 03 27.0 -0.6
comp=Z,85nm,1.2s
SGMF Saint Gilles 50.56 34 eP P 20 03 27.0 -0.6
SGMF pmax pmax
comp=Z,85nm,1.2s
SGMF Saint Gilles 50.56 34 eP P 20 03 27.0 -0.6
comp=Z,85nm,1.2s
LFF La Frestale 50.81 40 eP P 20 03 29.4 -0.1
comp=Z,76nm,1.1s
LFF La Frestale 50.81 40 eP P 20 03 29.4 -0.1
LFF pmax pmax
comp=Z,76nm,1.0s
LFF La Frestale 50.81 40 eP P 20 03 29.4 -0.1
comp=Z,76nm,1.0s
MTLF Montolieu 51.04 42 eP P 20 03 30.7 -0.6
comp=Z,85nm,1.3s
MTLF Montolieu 51.04 42 eP P 20 03 30.7 -0.6
MTLF pmax pmax
comp=Z,85nm,1.3s
MTLF Montolieu 51.04 42 eP P 20 03 30.7 -0.6
comp=Z,85nm,1.3s
MFF Saint Martin d 51.08 37 eP P 20 03 30.8 -0.7
comp=Z,121nm,1.1s
MFF Saint Martin d 51.08 37 eP P 20 03 30.8 -0.7
MFF pmax pmax
comp=Z,121nm,1.1s
MFF Saint Martin d 51.08 37 eP P 20 03 30.8 -0.7
comp=Z,121nm,1.1s
MIAR Mount Ida 51.35 306 eP P 20 03 33.8 0.0
MIAR pmax pmax
comp=Z,28nm,1.1s
MIAR Mount Ida 51.35 306 eP P 20 03 33.8 0.0
comp=Z,28nm,1.1s
RJF Les Rejaudoux 51.47 40 eP P 20 03 34.7 +0.2
RJF eR
comp=Z,8µm,22.8s
RJF Les Rejaudoux 51.47 40 eP P 20 03 34.7 +0.2
RJF Les Rejaudoux 51.47 40 eP P 20 03 34.7 +0.2
GRR Gorron 51.59 35 eP P 20 03 35.8 +0.5
GRR Gorron 51.59 35 eP P 20 03 35.8 +0.5
GRR Gorron 51.59 35 eP P 20 03 35.8 +0.5
NATX Nacogdoches 51.59 302 eP P 20 03 34.4 -1.2
comp=Z,21nm,0.6s
CAF Calviac 51.64 40 eP P 20 03 35.5 -0.3
comp=Z,95nm,1.1s
CAF Calviac 51.64 40 eP P 20 03 35.5 -0.3
CAF pmax pmax
comp=Z,95nm,1.1s
CAF Calviac 51.64 40 eP P 20 03 35.5 -0.3
comp=Z,95nm,1.1s
JFWS Jewell Farm 51.68 317 eP P 20 03 34.5 -1.6
JFWS pmax pmax
comp=Z,30nm,0.8s
JFWS Jewell Farm 51.68 317 eP P 20 03 34.5 -1.6
comp=Z,30nm,0.8s
FLN La Foliniere 51.99 35 eP P 20 03 37.7 -0.6
comp=Z,158nm,1.4s
FLN eR
comp=Z,3µm,18.0s
FLN La Foliniere 51.99 35 eP P 20 03 37.7 -0.6
FLN pmax pmax
comp=Z,158nm,1.4s
FLN La Foliniere 51.99 35 eP P 20 03 37.7 -0.6
comp=Z,158nm,1.4s
238A Jacksonville 52.02 302 ⇓P P 20 03 39.7 +0.9
baz=52
338A Crockett 52.05 301 ⇓P P 20 03 39.9 +0.9
baz=52
438A Sam Houston St 52.07 301 ⇓P P 20 03 39.1 -0.1
baz=52
LDF La Druitiere 52.11 35 eP P 20 03 38.6 -0.6
comp=Z,74nm,1.2s
LDF La Druitiere 52.11 35 eP P 20 03 38.6 -0.6
LDF pmax pmax
comp=Z,74nm,1.2s
LDF La Druitiere 52.11 35 eP P 20 03 38.6 -0.6
comp=Z,74nm,1.2s
138A Matatall Enter 52.13 303 ⇓P P 20 03 39.5 -0.2
baz=52
HKT Hockley 52.24 300 eP P 20 03 39.7 -0.6
HKT pmax pmax
comp=Z,34nm,1.4s
HKT Hockley 52.24 300 eP P 20 03 39.7 -0.6
comp=Z,34nm,1.4s
TCF Toulx Ste Croi 52.35 39 eP P 20 03 40.9 -0.2
comp=Z,93nm,1.1s
TCF Toulx Ste Croi 52.35 39 eP P 20 03 40.9 -0.2
TCF pmax pmax
comp=Z,93nm,1.1s
TCF Toulx Ste Croi 52.35 39 eP P 20 03 40.9 -0.2
comp=Z,93nm,1.1s
LASF Ste Croix 52.43 42 eP P 20 03 41.8 +0.1
comp=Z,90nm,1.2s
LASF Ste Croix 52.43 42 eP P 20 03 41.8 +0.1
comp=Z,90nm,1.2s
337A Centerville 52.53 301 ⇑P P 20 03 42.5 -0.1
baz=52
LBL Lubilhac 52.53 40 eP P 20 03 39.7 -2.8
237A Washetta, Mont 52.59 302 ⇓P P 20 03 42.3 -0.8
baz=53
PYM Petit Puy Mans 52.60 40 eP P 20 03 41.6 -1.4
AGO Saint Agoulin 52.82 39 eP P 20 03 42.1 -2.4
BGF Bois d'Agland 52.87 39 eP P 20 03 44.6 -0.3
comp=Z,146nm,1.1s
BGF Bois d'Agland 52.87 39 eP P 20 03 44.6 -0.3
BGF pmax pmax
comp=Z,146nm,1.1s
BGF Bois d'Agland 52.87 39 eP P 20 03 44.6 -0.3
comp=Z,146nm,1.1s
HYF Humbligny 53.07 38 eP P 20 03 46.3 0.0
HYF Humbligny 53.07 38 eP P 20 03 46.3 0.0
436A Wall Ranch, Ga 53.20 300 ⇑P P 20 03 47.8 +0.2
baz=53
636A Smothers Creek 53.21 299 ⇑P P 20 03 48.4 +0.7
baz=53,SNR=7.9
AVF Avril sur Loir 53.28 39 eP P 20 03 47.5 -0.4
comp=Z,95nm,1.1s
AVF Avril sur Loir 53.28 39 eP P 20 03 47.5 -0.4
AVF pmax pmax
comp=Z,95nm,1.1s
AVF Avril sur Loir 53.28 39 eP P 20 03 47.5 -0.4
comp=Z,95nm,1.1s
VIVF Saint-Julien-l 53.28 41 eP P 20 03 48.4 +0.4
comp=Z,89nm,1.1s
VIVF Saint-Julien-l 53.28 41 eP P 20 03 48.4 +0.4
VIVF pmax pmax
comp=Z,89nm,1.1s
VIVF Saint-Julien-l 53.28 41 eP P 20 03 48.4 +0.4
comp=Z,89nm,1.1s
536A Bastrop 53.31 299 ⇓P P 20 03 47.9 -0.5
baz=53
336A Riesel 53.35 301 ⇑P P 20 03 48.3 -0.3
baz=53
SSB Saint Sauveur 53.38 41 eP P 20 03 50.5 +1.8
SSB pmax pmax
comp=Z,88nm,1.8s
SSB Saint Sauveur 53.38 41 eP P 20 03 50.5 +1.8
comp=Z,88nm,1.8s
TUL1 Tulsa 53.45 307 eP P 20 03 48.5 -0.9
comp=Z,37nm,0.8s
TUL1 Tulsa 53.45 307 ⇓P P 20 03 48.8 -0.5
baz=53,SNR=10
SSF Saint Saulge 53.50 38 eP P 20 03 48.9 -0.6
comp=Z,86nm,1.2s
SSF Saint Saulge 53.50 38 eP P 20 03 48.9 -0.6
SSF pmax pmax
comp=Z,86nm,1.2s
SSF Saint Saulge 53.50 38 eP P 20 03 48.9 -0.6
comp=Z,86nm,1.2s
SMF Signal de Mont 53.52 39 eP P 20 03 49.2 -0.5
comp=Z,79nm,1.3s
SMF Signal de Mont 53.52 39 eP P 20 03 49.2 -0.5
SMF pmax pmax
comp=Z,79nm,1.3s
SMF Signal de Mont 53.52 39 eP P 20 03 49.2 -0.5
comp=Z,79nm,1.3s
SMRF Simiane la Rot 53.53 43 eP P 20 03 49.3 -0.5
SMRF Simiane la Rot 53.53 43 eP P 20 03 49.3 -0.5
KVTX Kingsville 53.67 296 eP P 20 03 51.7 +0.6
comp=Z,194nm,0.9s
KEST Kesra 53.69 53 P P 20 03 52.2 +1.0
comp=Z,4.4nm,0.7s,baz=234,slow=1.0,SNR=11
KEST LR LR 20 23 11.7
comp=Z,1µm,22.0s,baz=212,slow=32
835A Beeville 53.71 297 ⇑P P 20 03 52.4 +1.0
baz=54,SNR=7.9
735A Kenedy 53.77 298 ⇓P P 20 03 52.4 +0.6
baz=54,SNR=8.8
035A Encino 53.79 295 ⇑P P 20 03 52.8 +0.9
baz=54
LOR Lormes 53.81 38 eP P 20 03 51.2 -0.6
comp=Z,65nm,1.0s
LOR eR
comp=Z,5µm,21.2s
LOR Lormes 53.81 38 eP P 20 03 51.2 -0.6
LOR pmax pmax
comp=Z,65nm,1.0s
LOR Lormes 53.81 38 eP P 20 03 51.2 -0.6
comp=Z,65nm,1.0s
635A Leesville 53.81 298 ⇓P P 20 03 51.8 -0.3
baz=54,SNR=11
335A Moody 53.82 301 ⇑P P 20 03 51.5 -0.6
baz=54
435B Jarrell 53.87 300 ⇑P P 20 03 51.9 -0.6
baz=54,SNR=7.4
LMR La Mourre 53.91 44 eP P 20 03 52.7 +0.1
comp=Z,103nm,1.3s
LMR La Mourre 53.91 44 eP P 20 03 52.7 +0.1
LMR pmax pmax
comp=Z,103nm,1.3s
LMR La Mourre 53.91 44 eP P 20 03 52.7 +0.1
comp=Z,103nm,1.3s
WHTX Lake Whitney 53.97 302 eP P 20 03 52.4 -0.8
comp=Z,42nm,1.2s
WHTX Lake Whitney 53.97 302 ⇑P P 20 03 52.3 -0.8
baz=54
135A Vickery Place, 54.03 302 ⇓P P 20 03 53.1 -0.6
baz=54
Z35A Perchaven, San 54.05 303 ⇓P P 20 03 53.7 -0.1
baz=54
FRF La Foret Royal 54.09 43 eP P 20 03 53.8 -0.1
comp=Z,86nm,1.1s
FRF La Foret Royal 54.09 43 eP P 20 03 53.8 -0.1
FRF pmax pmax
comp=Z,86nm,1.1s
FRF La Foret Royal 54.09 43 eP P 20 03 53.8 -0.1
comp=Z,86nm,1.1s
ORIF Oris-en-Rattie 54.09 42 eP P 20 03 54.0 0.0
ORIF eR
comp=Z,6µm,20.8s
ORIF Oris-en-Rattie 54.09 42 eP P 20 03 54.0 0.0
ORIF Oris-en-Rattie 54.09 42 eP P 20 03 54.0 0.0
934A Benavides 54.23 296 ⇑P P 20 03 56.5 +1.3
baz=54,SNR=27
SPMN St. Paul 54.30 319 ⇓P P 20 03 55.1 -0.2
baz=54,SNR=5.6
034A Hebbronville 54.32 296 ⇑P P 20 03 57.0 +1.1
baz=54,SNR=24
834A Tilden 54.33 297 ⇑P P 20 03 56.4 +0.5
baz=54,SNR=12
734A La Parita Cree 54.42 298 ⇓P P 20 03 56.4 -0.1
baz=54
434A Burnet 54.45 300 ⇓P P 20 03 55.6 -1.2
baz=54,SNR=12
334A Lometa 54.51 301 ⇑P P 20 03 56.1 -1.1
baz=54,SNR=12
534A Blanco 54.51 299 ⇓P P 20 03 56.8 -0.4
baz=54,SNR=14
234A Clairette 54.54 302 ⇑P P 20 03 56.2 -1.1
baz=54,SNR=8.1
Y34A Reagan Ranch, 54.59 304 ⇑P P 20 03 57.2 -0.4
baz=55,SNR=12
134A White-Moore Ra 54.59 302 ⇑P P 20 03 57.0 -0.7
baz=55
Z34A Collier Ranch, 54.60 303 ⇓P P 20 03 57.6 -0.2
baz=55,SNR=8.7
MBDF Montbardon 54.61 42 eP P 20 03 58.0 +0.2
comp=Z,116nm,1.4s
MBDF Montbardon 54.61 42 eP P 20 03 58.0 +0.2
MBDF pmax pmax
comp=Z,116nm,1.4s
MBDF Montbardon 54.61 42 eP P 20 03 58.0 +0.2
comp=Z,116nm,1.4s
BNI Bardonecchia 54.67 42 eP P 20 03 58.7 +0.5
BNI pmax pmax
comp=Z,24nm,0.9s
BNI Bardonecchia 54.67 42 eP P 20 03 58.7 +0.5
comp=Z,24nm,0.9s
VSL Villasalto 54.70 49 eP P 20 03 57.1 -1.3
comp=Z,79nm,1.6s
SBF Sospel 54.73 43 eP P 20 03 58.6 0.0
comp=Z,92nm,0.9s
SBF Sospel 54.73 43 eP P 20 03 58.6 0.0
SBF pmax pmax
comp=Z,92nm,0.9s
SBF Sospel 54.73 43 eP P 20 03 58.6 0.0
comp=Z,92nm,0.9s
X34A Smith Ranch, M 54.78 305 ⇑P P 20 03 58.8 -0.3
baz=55,SNR=6.7
V34A Guthrie 54.80 306 ⇑P P 20 03 58.9 -0.3
baz=55,SNR=12
W34A Bridge Creek, 54.87 306 ⇑P P 20 03 59.1 -0.6
baz=55
LPL La Plagne 54.88 41 eP P 20 03 59.4 -0.5
comp=Z,56nm,1.3s
LPL La Plagne 54.88 41 eP P 20 03 59.4 -0.5
LPL pmax pmax
comp=Z,56nm,1.3s
LPL La Plagne 54.88 41 eP P 20 03 59.4 -0.5
comp=Z,56nm,1.3s
LPG La Plagne 54.89 41 eP P 20 03 59.8 -0.2
comp=Z,67nm,1.3s
LPG La Plagne 54.89 41 eP P 20 03 59.8 -0.2
LPG pmax pmax
comp=Z,67nm,1.3s
LPG La Plagne 54.89 41 eP P 20 03 59.8 -0.2
comp=Z,67nm,1.3s
933A Laredo 54.90 296 ⇓P P 20 04 00.5 +0.5
baz=55,SNR=6.4
CABF La Chapelle 54.91 40 eP P 20 03 59.8 -0.1
comp=Z,116nm,1.2s
CABF La Chapelle 54.91 40 eP P 20 03 59.8 -0.1
CABF pmax pmax
comp=Z,116nm,1.2s
CABF La Chapelle 54.91 40 eP P 20 03 59.8 -0.1
comp=Z,116nm,1.2s
KSU1 Kansas State U 54.91 310 eP P 20 03 57.8 -2.2
comp=Z,48nm,0.8s
KSU1 Kansas State U 54.91 310 ⇓P P 20 03 58.7 -1.3
baz=55,SNR=7.3
SFTF Sexfontaines 54.94 38 eP P 20 03 59.3 -0.7
comp=Z,202nm,1.4s
SFTF Sexfontaines 54.94 38 eP P 20 03 59.3 -0.7
comp=Z,202nm,1.4s
U34A Anderson Ranch 54.95 307 eP P 20 03 59.5 -0.8
comp=Z,251nm,2.3s
U34A Anderson Ranch 54.95 307 ⇑P P 20 03 59.8 -0.4
baz=55
533A Kerrville 55.00 299 ⇑P P 20 04 00.3 -0.5
baz=55,SNR=16
633A Saathoff Ranch 55.04 298 ⇑P P 20 04 00.8 -0.2
baz=55,SNR=20
733A Divot King Ran 55.05 297 ⇑P P 20 04 00.7 -0.4
baz=55
MEZF Maizieres J'vi 55.08 37 eP P 20 03 59.8 -1.1
comp=Z,269nm,1.5s
MEZF Maizieres J'vi 55.08 37 eP P 20 03 59.8 -1.1
comp=Z,269nm,1.5s
833A Chaparral WMA, 55.09 297 ⇓P P 20 04 01.4 +0.1
baz=55,SNR=22
333A Richland Sprin 55.14 301 ⇑P P 20 04 00.8 -0.9
baz=55,SNR=27
433A Art 55.14 300 ⇓P P 20 04 00.8 -1.0
baz=55,SNR=14
233A Rising Star 55.18 301 ⇑P P 20 04 01.0 -1.0
baz=55,SNR=9.5
Z33A Whitaker Ranch 55.29 303 ⇓P P 20 04 01.9 -0.8
baz=55,SNR=13
133A Hamilton Ranch 55.29 302 ⇑P P 20 04 02.0 -0.9
baz=55,SNR=6.8
BAIF Baives 55.30 35 eP P 20 04 01.1 -1.4
comp=Z,100nm,1.1s
BAIF Baives 55.30 35 eP P 20 04 01.1 -1.4
BAIF pmax pmax
comp=Z,100nm,1.1s
BAIF Baives 55.30 35 eP P 20 04 01.1 -1.4
comp=Z,100nm,1.1s
Y33A Hilltop Ranch, 55.31 304 ⇑P P 20 04 02.1 -0.8
baz=55,SNR=12
X33A Lawton 55.31 305 ⇑P P 20 04 02.2 -0.7
baz=55
PGF Pioggiola 55.36 45 eP P 20 04 03.3 +0.1
comp=Z,98nm,1.2s
PGF Pioggiola 55.36 45 eP P 20 04 03.3 +0.1
PGF pmax pmax
comp=Z,98nm,1.2s
PGF Pioggiola 55.36 45 eP P 20 04 03.3 +0.1
comp=Z,98nm,1.2s
U33A Lingo Farm, Me 55.40 307 ⇑P P 20 04 03.3 -0.3
baz=55
V33A Lossen Ranch, 55.40 306 ⇑P P 20 04 03.3 -0.2
baz=55,SNR=5.5
W33A Caddo, Fort Co 55.41 305 ⇓P P 20 04 03.2 -0.4
baz=55,SNR=5.9
PAGF Fort de Pagny 55.50 38 eP P 20 04 02.9 -1.1
comp=Z,22nm,0.9s
PAGF Fort de Pagny 55.50 38 eP P 20 04 02.9 -1.1
comp=Z,22nm,0.9s
THEF They Montfort 55.52 38 eP P 20 04 02.2 -2.0
DOU Dourbes 55.53 35 P P 20 04 05.0 +0.8
SNF Seneffe 55.55 35 P P 20 04 04.6 +0.3
632A Uvalde 55.57 298 ⇓P P 20 04 04.9 0.0
baz=56,SNR=23
SENIN Lac Senin/Sane 55.58 41 eP P 20 04 07.3 +2.5
832A Faith Ranch, C 55.59 297 ⇓P P 20 04 05.1 0.0
baz=56,SNR=6.2
732A Laxson Ranch, 55.64 297 ⇑P P 20 04 04.8 -0.5
baz=56,SNR=15
HAU Haudompre 55.65 38 eP P 20 04 04.2 -0.9
comp=Z,84nm,1.2s
HAU eR
comp=Z,5µm,19.8s
HAU Haudompre 55.65 38 eP P 20 04 04.2 -0.9
HAU pmax pmax
comp=Z,84nm,1.2s
HAU Haudompre 55.65 38 eP P 20 04 04.2 -0.9
comp=Z,84nm,1.2s
T33A Patterson Ranc 55.65 308 ⇓P P 20 04 04.9 -0.4
baz=56
GIVF Givet 55.67 36 eP P 20 04 05.1 -0.1
comp=Z,17nm,0.8s
GIVF Givet 55.67 36 eP P 20 04 05.1 -0.1
GIVF pmax pmax
comp=Z,17nm,0.8s
GIVF Givet 55.67 36 eP P 20 04 05.1 -0.1
comp=Z,17nm,0.8s
LOMF Lomont 55.67 39 eP P 20 04 06.0 +0.6
JCT Junction City 55.71 300 eP P 20 04 04.8 -1.1
JCT pmax pmax
comp=Z,47nm,0.8s
JCT Junction City 55.71 300 eP P 20 04 04.8 -1.1
comp=Z,47nm,0.8s
JCT Junction City 55.71 300 ⇓P P 20 04 05.0 -0.9
baz=56,SNR=16
R33A Olander Ranch, 55.74 309 ⇑P P 20 04 05.7 -0.3
baz=56,SNR=9.1
532A Rocksprings 55.75 299 ⇑P P 20 04 05.8 -0.5
baz=56,SNR=20
432A Menard 55.76 300 ⇑P P 20 04 05.6 -0.7
baz=56,SNR=20
232A Coleman 55.79 301 ⇓P P 20 04 05.7 -0.7
baz=56,SNR=7.3
332A Millersview 55.79 301 ⇑P P 20 04 05.7 -0.8
baz=56,SNR=22
Q33A Connelly Farm, 55.80 310 ⇑P P 20 04 05.6 -0.8
baz=56
H09N1 TRISTAN DA CUN 55.86 150 T T 21 04 12.0
SNR=4.8
TRIS Tristan da Cun 55.86 150 P P 20 04 08.2 +1.5
H09W1 TRISTAN DA CUN 55.87 150 T T 21 04 12.6
SNR=7.3
HINF Hinteralfeld 55.88 39 eP P 20 04 05.8 -1.0
comp=Z,102nm,1.4s
HINF Hinteralfeld 55.88 39 eP P 20 04 05.8 -1.0
HINF pmax pmax
comp=Z,102nm,1.4s
HINF Hinteralfeld 55.88 39 eP P 20 04 05.8 -1.0
comp=Z,102nm,1.4s
Z32A Haskell 55.88 303 ⇓P P 20 04 06.2 -0.9
baz=56,SNR=11
ABTX Abilene, Hawle 55.90 302 eP P 20 04 05.9 -1.3
comp=Z,28nm,0.9s
ABTX Abilene, Hawle 55.90 302 ⇓P P 20 04 06.6 -0.6
baz=56,SNR=15
X32A Elmer 55.92 304 ⇑P P 20 04 06.5 -0.8
baz=56,SNR=11
Y32A R-V Farms, Ver 55.97 304 ⇑P P 20 04 06.8 -0.9
baz=56,SNR=9.4
W32A Sentinel 56.02 305 ⇑P P 20 04 07.2 -0.9
baz=56,SNR=16
MOF Molkenrain 56.06 39 eP P 20 04 07.6 -0.6
BCLA Clavier 56.09 35 P P 20 04 08.6 +0.5
comp=Z,38nm,2.2s
U32A Winter Ranch, 56.09 307 ⇑P P 20 04 07.8 -0.7

baz=56
T32A Huddler Ranch, 56.20 308 ⇓P P 20 04 08.9 -0.4
baz=56
ECH Echery 56.23 38 eP P 20 04 08.0 -1.3
ECH pmax pmax
comp=Z,77nm,1.8s
ECH Echery 56.23 38 eP P 20 04 09.1 -0.2
ECH Echery 56.23 38 eP P 20 04 08.0 -1.3
comp=Z,77nm,1.8s
WLF Walferdange 56.24 36 P P 20 04 10.2 +0.9
comp=Z,31nm,1.5s
WLF Walferdange 56.24 36 eP P 20 04 09.3 0.0
WLF pmax pmax
comp=Z,34nm,1.0s
WLF Walferdange 56.24 36 eP P 20 04 09.3 0.0
comp=Z,34nm,1.0s
631A Perdido Creek 56.24 298 ⇓P P 20 04 09.1 -0.6
baz=56,SNR=9.1
ECSD EROS Data Cent 56.30 316 eP P 20 04 09.6 -0.3
comp=Z,129nm,2.1s
ECSD EROS Data Cent 56.30 316 ⇑P P 20 04 09.4 -0.5
baz=56
531A Rocksprings 56.31 299 ⇓P P 20 04 09.8 -0.4
baz=56
R32A Long Quarter, 56.33 309 ⇓P P 20 04 09.7 -0.4
baz=56,SNR=8.1
S32A Newby Ranch, P 56.33 308 ⇑P P 20 04 09.8 -0.4
baz=56
SFJD Kangerlussuaq 56.34 357 iP P 20 04 09.3 -0.3
SFJD pmax pmax
comp=Z,17nm,0.7s
SFJD Kangerlussuaq 56.34 357 iP P 20 04 09.3 -0.3
comp=Z,17nm,0.7s
Q32A Meitler Ranch, 56.35 310 ⇑P P 20 04 09.4 -0.9
baz=56,SNR=5.4
231A Bronte 56.36 301 ⇑P P 20 04 09.9 -0.6
baz=56,SNR=6.8
331A San Angelo 56.36 300 ⇑P P 20 04 10.1 -0.5
baz=56,SNR=5.4
CDF Champ du Feu 56.38 38 eP P 20 04 10.1 -0.3
CDF Champ du Feu 56.38 38 eP P 20 04 10.1 -0.3
CDF Champ du Feu 56.38 38 eP P 20 04 10.1 -0.3
431A Sonora 56.43 300 ⇓P P 20 04 10.6 -0.4
baz=56,SNR=34
Z31A Sharp Cattle R 56.43 303 ⇓P P 20 04 10.3 -0.7
baz=56,SNR=21
O32A Brockman Farm, 56.46 311 ⇓P P 20 04 10.1 -1.0
baz=56,SNR=7.0
BEBN Eben Emael 56.47 35 P P 20 04 11.5 +0.6
X31A McDonald Ranch 56.52 304 ⇓P P 20 04 10.0 -1.6
baz=56,SNR=13
131A Roby 56.53 302 ⇑P P 20 04 11.3 -0.4
baz=56,SNR=9.0
P32A Huiting Farm, 56.54 311 ⇑P P 20 04 10.9 -0.7
baz=56
MEM Membach 56.57 35 P P 20 04 12.4 +0.8
MEM Membach 56.57 35 eP P 20 04 12.8 +1.2
MEM pmax pmax
comp=Z,63nm,0.9s
MEM Membach 56.57 35 eP P 20 04 12.8 +1.2
comp=Z,63nm,0.9s
W31A Holland Ranch, 56.60 305 ⇑P P 20 04 11.3 -0.9
baz=57
V31A Spring Creek L 56.63 306 ⇑P P 20 04 12.0 -0.4
baz=57
Y31A Rekieta Farm, 56.63 304 ⇑P P 20 04 11.9 -0.6
baz=57,SNR=27
BGNE Belgrade 56.68 313 eP P 20 04 11.2 -1.4
comp=Z,84nm,0.8s
BGNE Belgrade 56.68 313 ⇓P P 20 04 12.0 -0.7
baz=57,SNR=11
S31A Mullinville 56.73 308 ⇓P P 20 04 12.6 -0.5
baz=57,SNR=8.3
U31A Nine Bar Ranch 56.76 306 ⇑P P 20 04 12.1 -1.2
baz=57
T31A Randall Ranch, 56.77 307 ⇑P P 20 04 12.9 -0.4
baz=57,SNR=7.5
R31A Burdett 56.92 309 ⇑P P 20 04 14.3 -0.1
baz=57,SNR=15
LANF Langenberg 56.93 38 eP P 20 04 14.7 +0.4
TUE Stuetta 56.93 41 eP P 20 04 14.6 +0.1
comp=Z,84nm,1.8s
430A Baggett Ranch, 56.98 300 ⇑P P 20 04 15.2 +0.2
baz=57,SNR=9.3
Q31A Ellis 56.98 310 ⇓P P 20 04 14.4 -0.4
baz=57
530A J-C Ranch, Com 56.99 299 ⇓P P 20 04 14.6 -0.4
baz=57,SNR=20
BFO Black Forest 56.99 39 P P 20 04 14.9 +0.2
comp=Z,185nm,1.0s,SNR=11
BFO Black Forest 56.99 39ceP P 20 04 15.4 +0.7
BFO Black Forest 56.99 39 eP P 20 04 13.8 -0.8
comp=Z,45nm,1.1s
130A Snyder 57.00 302 ⇑P P 20 04 14.6 -0.5
baz=57,SNR=8.5
330A Mertzon 57.01 300 ⇑P P 20 04 14.6 -0.6
baz=57,SNR=19
230A Sterling City 57.02 301 ⇓P P 20 04 14.5 -0.8
baz=57,SNR=7.2
PLCA Paso Flores 57.09 204 LR LR 20 31 25.6
comp=Z,3μm,18.1s,baz=356,slow=39
P31A Stockton 57.09 310 ⇓P P 20 04 14.9 -0.7
baz=57,SNR=8.0
Y30A Stafford Cattl 57.14 303 ⇑P P 20 04 15.5 -0.6
baz=57,SNR=17
O31A Woolen Ranch, 57.21 311 ⇑P P 20 04 16.2 -0.3
baz=57
X30A Coker Ranch, T 57.22 304 ⇓P P 20 04 15.6 -1.0
baz=57,SNR=12
Z30A Sanderson Ranc 57.24 303 ⇓P P 20 04 15.7 -1.0
baz=57,SNR=29
L31A Butterfield Fa 57.39 313 ⇑P P 20 04 17.2 -0.5
baz=57,SNR=6.1
U30A WK&E Inc. Balk 57.42 306 ⇑P P 20 04 17.4 -0.6
baz=57,SNR=6.1
R30A Dighton 57.49 309 ⇓P P 20 04 18.4 -0.1
baz=58,SNR=12
S30A Montezuma 57.50 308 ⇑P P 20 04 17.8 -0.7
baz=58,SNR=10
429A Davenport Ranc 57.52 299 ⇓P P 20 04 18.4 -0.4
baz=58,SNR=19
FUORN Ofenpass-Fuorn 57.58 41 eP P 20 04 19.9 +0.7
comp=Z,109nm,1.7s
Q30A Quinter 57.60 309 ⇑P P 20 04 19.2 -0.1
baz=58
229A Bryant Ranch, 57.62 301 ⇓P P 20 04 19.6 +0.1
baz=58,SNR=11
STU Stuttgart 57.69 38 eP P 20 04 19.6 0.0
STU pmax pmax
comp=Z,34nm,1.0s
STU Stuttgart 57.69 38 eP P 20 04 19.6 0.0
comp=Z,34nm,1.0s
329A Wagon Wheel Ra 57.70 300 ⇑P P 20 04 20.1 0.0
baz=58
Z29A Hungry Hill Ra 57.71 303 ⇓P P 20 04 19.8 -0.4
baz=58,SNR=10
529A Stev Forest Ra 57.74 299 ⇓P P 20 04 20.4 0.0
baz=58,SNR=22
P30A Selden 57.75 310 ⇑P P 20 04 19.7 -0.6
baz=58,SNR=16
129A Stewart Farms, 57.76 302 ⇑P P 20 04 20.4 0.0
baz=58
O30A MW Ranch, Wils 57.76 311 ⇑P P 20 04 19.8 -0.6
baz=58
Y29A Porterfield Fa 57.77 303 ⇓P P 20 04 20.0 -0.5
baz=58,SNR=10
X29A Tulia 57.89 304 ⇓P P 20 04 20.6 -0.8
baz=58
N30A Hueftle Ranch, 57.94 312 ⇓P P 20 04 21.5 -0.1
baz=58
AMTX Amarillo 57.95 304 eP P 20 04 19.9 -1.8
comp=Z,24nm,0.8s
AMTX Amarillo 57.95 304 ⇑P P 20 04 21.6 -0.2
baz=58
W29A Amraillo 57.96 305 ⇑P P 20 04 21.2 -0.7
baz=58,SNR=15
L30A Spencer Herefo 57.96 313 ⇑P P 20 04 21.3 -0.4
baz=58,SNR=10
V29A Stinnett 57.99 306 ⇓P P 20 04 21.8 -0.2
baz=58
S29A Ulysses 58.00 308 ⇑P P 20 04 21.7 -0.4
baz=58,SNR=6.1
FETA Feichten 58.01 41⇑iP P 20 04 21.5 -0.6
comp=Z,17nm,0.9s,SNR=7.3
T29A Hugoton 58.05 307 ⇓P P 20 04 22.4 0.0
baz=58
K30A Basset 58.08 314 ⇑P P 20 04 23.1 +0.6
baz=58

BRSD Miller 58.13 316 eP P 20 04 21.2 -1.6
comp=Z,51nm,0.8s
Q29A Oakley 58.16 309 ⇑P P 20 04 22.4 -0.8
baz=58,SNR=9.5
J30A Dallas 58.17 315 ⇓P P 20 04 22.4 -0.8
baz=58
R29A Marienthal 58.18 309 ⇑P P 20 04 22.8 -0.6
baz=58
RETA Reutte 58.20 40⇑iP P 20 04 22.8 -0.5
comp=Z,39nm,1.3s,SNR=15
ULM Lac du Bonnet 58.20 323 eP P 20 04 20.2 -2.9
ULM 20 04 21.2
ULM Lac du Bonnet 58.20 323 P P 20 04 21.2 -1.9
comp=Z,11nm,0.8s,baz=97,slow=5.5,SNR=12
ULM LR LR 20 25 15.1
comp=Z,3μm,21.8s,baz=115,slow=32
ULM Lac du Bonnet 58.20 323 eP P 20 04 20.2 -2.9
ULM P P 20 04 21.2 -1.9
Y28A McKinney Farm, 58.26 303 ⇓P P 20 04 23.3 -0.6
baz=58,SNR=12
128A Castleberry Fa 58.27 302 ⇑P P 20 04 23.5 -0.6
baz=58
P29A Atwood 58.28 310 ⇓P P 20 04 23.9 -0.1
baz=58,SNR=7.7
Z28A Tucker Farm, M 58.28 302 ⇑P P 20 04 24.2 0.0
baz=58
228A UT Block 9, Go 58.30 301 ⇓P P 20 04 23.6 -0.7
baz=58,SNR=5.3
I30A Oacoma 58.30 315 ⇓P P 20 04 23.3 -0.6
baz=58
O29A 4D Ranch, Culb 58.30 311 ⇓P P 20 04 24.0 -0.1
baz=58
N29A Votaw Ranch, W 58.34 311 ⇓P P 20 04 23.3 -1.1
baz=58
MOTA Moosalm 58.37 41⇑iP P 20 04 23.7 -0.9
comp=Z,32nm,1.0s,SNR=23
G30A Faulkton 58.46 317 ⇓P P 20 04 24.4 -0.7
baz=58,SNR=16
L29A Maesberg Ranch 58.54 313 ⇑P P 20 04 25.2 -0.5
baz=58
F30A Leola 58.60 317 ⇓P P 20 04 25.5 -0.6
baz=59,SNR=9.8
K29A Lazy Trails An 58.60 314 ⇑P P 20 04 26.0 -0.2
baz=59,SNR=13
S28A Manter 58.60 307 ⇑P P 20 04 26.1 -0.2
baz=59,SNR=12
U28A Mallet 58.64 306 ⇓P P 20 04 26.0 -0.6
baz=59
WATA Walderalm 58.66 41⇑iP P 20 04 26.0 -0.6
comp=Z,6.0nm,0.5s,SNR=10
WTTA Wattenberg 58.68 41⇑iP P 20 04 27.1 +0.3
comp=Z,41nm,1.0s,SNR=13
R28A Tribune 58.68 308 ⇑P P 20 04 26.5 -0.4
baz=59,SNR=19
T28A Walsh 58.68 307 ⇓P P 20 04 26.6 -0.4
baz=59,SNR=12
MSTX Muleshoe 58.70 303 eP P 20 04 25.8 -1.2
comp=Z,38nm,0.9s
MSTX Muleshoe 58.70 303 ⇑P P 20 04 26.8 -0.3
baz=59,SNR=11
E30A Jud 58.74 318 ⇑P P 20 04 26.3 -0.7
baz=59,SNR=5.9
J29A Okreek 58.78 314 ⇑P P 20 04 26.5 -0.8
baz=59,SNR=9.3
D30A Buchanan 58.83 319 ⇓P P 20 04 26.8 -0.8
baz=59,SNR=7.9
Q28A Sharon Springs 58.85 309 ⇑P P 20 04 27.7 -0.3
baz=59,SNR=12
C30A Mose, Pekin 58.85 320 ⇑P P 20 04 26.7 -1.1
baz=59,SNR=13
P28A Saint Francis 58.90 310 ⇓P P 20 04 28.1 -0.3
baz=59
TXAR Lajitas Array 58.92 298 P P 20 04 28.0 -0.7
comp=Z,14nm,0.8s,baz=124,slow=7.4,SNR=48
TXAR LR LR 20 28 03.4
comp=Z,375nm,21.7s,baz=0.0,slow=34
I29A Vivian Onida 58.94 315 ⇑P P 20 04 28.1 -0.3
baz=59
Z27A Tatum 58.97 302 ⇓P P 20 04 27.9 -1.1
baz=59,SNR=14
Y27A Causey 59.01 303 ⇓P P 20 04 28.7 -0.5
baz=59,SNR=5.6
B30A Myrvik Farm, E 59.01 321 ⇓P P 20 04 27.9 -1.0
baz=59
M28A Bar X Bar Ranc 59.02 312 ⇓P P 20 04 29.0 -0.2
baz=59
O28A Krutsinger Ran 59.03 310 ⇑P P 20 04 29.0 -0.3
baz=59,SNR=10
H29A Onida 59.04 316 ⇓P P 20 04 28.5 -0.7
baz=59
X27A F and S Farms, 59.06 304 ⇓P P 20 04 29.4 -0.3
baz=59,SNR=6.4
ABTA Abfaltersbach 59.08 42⇑iP P 20 04 29.7 +0.2
comp=Z,46nm,1.1s,SNR=18
W27A Bowe Ranch, En 59.10 304 ⇑P P 20 04 29.5 -0.3
baz=59,SNR=6.9
U27A Thompson Grove 59.12 306 ⇓P P 20 04 29.5 -0.5
baz=59,SNR=5.4
F29A Eureka 59.13 317 ⇑P P 20 04 29.0 -0.8
baz=59,SNR=7.5
T27A Campo 59.15 307 ⇓P P 20 04 29.9 -0.3
baz=59
A30A Hoffart Farm, 59.17 321 ⇑P P 20 04 28.5 -1.5
baz=59
E29A Napoleon 59.24 318 ⇓P P 20 04 29.7 -0.8
baz=59
K28A Ten Mile Ranch 59.34 313 ⇓P P 20 04 31.0 -0.3
baz=59
D29A Pettibone, Tap 59.36 319 ⇑P P 20 04 30.5 -0.9
baz=59
S27A Las Animas 59.40 307 ⇑P P 20 04 31.8 -0.1
baz=59,SNR=6.7
J28A Allard Ranch, 59.43 314 ⇓P P 20 04 31.6 -0.3
baz=59,SNR=7.9
R27A Eads 59.43 308 ⇑P P 20 04 32.3 +0.2
baz=59,SNR=16
KSCO Kaye Shedlock' 59.44 309 ⇓P P 20 04 32.3 +0.1
baz=59
P27A Ficken Ranch, 59.52 310 ⇓P P 20 04 32.5 -0.2
baz=60
I28A Midland 59.53 315 ⇑P P 20 04 32.1 -0.4
baz=60,SNR=8.4
Z26A Caprock 59.60 302 ⇑P P 20 04 33.3 -0.1
baz=60,SNR=14
H28A Mission Ridge 59.61 316 ⇑P P 20 04 32.5 -0.6
baz=60,SNR=5.3
X26A CR and CF Fran 59.63 304 ⇓P P 20 04 33.3 -0.2
baz=60
CUC Castrocucco 59.63 50 eP P 20 04 32.1 -1.3
comp=Z,25nm,1.1s
G28A Parade 59.65 316 ⇓P P 20 04 32.9 -0.5
baz=60,SNR=7.9
B29A Wagenman Farm, 59.66 320 ⇓P P 20 04 32.5 -0.8
baz=60
W26A Owens Ranch, T 59.67 304 ⇑P P 20 04 34.3 +0.5
baz=60
KBA Koelnbreinsper 59.72 41 iP P 20 04 33.1 -0.9
comp=Z,31nm,0.9s,SNR=18
CADS Cadrg 59.72 42 iP P 20 04 34.4 +0.5
A29A Manning Farm, 59.74 321 ⇑P P 20 04 32.4 -1.5
baz=60,SNR=8.7
N27A Anderson Farm, 59.75 311 ⇑P P 20 04 34.3 +0.1
baz=60,SNR=7.8
MYKA Terra Mystica 59.78 42⇑iP P 20 04 33.8 -0.4
comp=Z,43nm,1.0s,SNR=15
V26A Tequesquite Ra 59.79 305 ⇑P P 20 04 34.6 0.0
baz=60
GDL2 Guadalupe Moun 59.80 301 eP P 20 04 34.9 +0.2
S26A Kim 59.84 307 ⇑P P 20 04 34.8 -0.1
baz=60,SNR=16
U26A Atchley Ranch, 59.85 306 ⇑P P 20 04 34.8 -0.3
baz=60,SNR=12
T26A Comanche Natio 59.86 307 ⇓P P 20 04 34.7 -0.4
baz=60,SNR=14
J27A Elkhorn Farm, 59.93 314 ⇓P P 20 04 34.9 -0.5
baz=60
E28A Huff 59.93 318 ⇓P P 20 04 34.5 -0.7
baz=60,SNR=5.5
R26A Arlington 59.94 308 ⇑P P 20 04 35.8 +0.2
baz=60,SNR=22
K27A Flueckinger Fa 59.96 313 ⇑P P 20 04 35.0 -0.7
baz=60
D28A Regan 60.03 319 ⇑P P 20 04 35.6 -0.3
baz=60
P26A Davis Ranch, A 60.10 309 ⇓P P 20 04 37.1 +0.4
baz=60,SNR=7.8
Q26A Hugo 60.11 309 ⇑P P 20 04 36.9 +0.1
baz=60,SNR=7.0

I27A Quinn 60.16 315 ⇑P P 20 04 37.5 +0.6
baz=60
O26A Horse Wrangler 60.21 310 ⇓P P 20 04 38.0 +0.5
baz=60,SNR=12
Z25A Roswell 60.22 302 ⇓P P 20 04 38.1 +0.5
baz=60,SNR=18
W25A X Bar L Ranch, 60.25 304 ⇑P P 20 04 38.3 +0.5
baz=60
N26A Koester Ranch, 60.26 311 ⇑P P 20 04 38.1 +0.4
baz=60
Y25A Mesa, Roswell 60.27 303 ⇓P P 20 04 38.5 +0.5
baz=60,SNR=15
X25A Clemmons Ranch 60.32 304 ⇑P P 20 04 38.2 -0.1
baz=60,SNR=7.0
M26A McRoberts Ranc 60.34 312 ⇓P P 20 04 38.5 +0.2
baz=60,SNR=9.6
A28A Rude Farm, Bot 60.38 321 ⇑P P 20 04 38.0 -0.3
baz=60
U25A Circle Dot Ran 60.38 306 ⇓P P 20 04 39.8 +1.0
baz=60
L26A Underwood Farm 60.41 312 ⇓P P 20 04 39.1 +0.3
baz=60
G27A Dupree 60.42 316 ⇓P P 20 04 38.4 -0.3
baz=60,SNR=8.7
V25A Rancho No Teng 60.47 305 ⇓P P 20 04 38.7 -0.6
baz=60,SNR=9.4
T25A Trinidad 60.50 307 ⇑P P 20 04 39.3 -0.2
baz=60,SNR=12
GEC2 GERESS Array S 60.51 40 eP P 20 04 39.0 -0.2
GEC2 GERESS Array S 60.51 40 eP P 20 04 39.0 -0.2
GERES GERESS Array B 60.51 40 P P 20 04 39.0 -0.2
comp=Z,5.0nm,1.0s,baz=256,slow=5.4,SNR=14
GERES LR LR 20 28 56.8
comp=Z,3μm,18.9s,baz=205,slow=34
KHC Kasperske Hory 60.52 39 eP P 20 04 39.0 -0.3
KHC Kasperske Hory 60.52 39 eP P 20 04 39.0 -0.3
KHC ex x 20 04 49.2
KHC ex x 20 05 03.0
KHC Kasperske Hory 60.52 39 eP P 20 04 38.2 -1.0
comp=Z,191nm,2.3s
MOA Molln 60.55 41⇑iP P 20 04 38.4 -1.1
SNR=9.0
R25A Fountain Ranch 60.56 308 ⇑P P 20 04 39.5 -0.4
baz=60,SNR=7.2
S25A Robets Cordova 60.60 307 ⇓P P 20 04 40.6 +0.4
baz=61,SNR=12
F27A Lemmon 60.61 317 ⇑P P 20 04 39.8 -0.1
baz=61,SNR=8.9
D27A Center 60.63 318 ⇑P P 20 04 39.7 -0.4
baz=61
K26A Motz Farm, Whi 60.63 313 ⇓P P 20 04 40.5 +0.3
baz=61
Q25A Bedland, Calha 60.66 309 ⇓P P 20 04 41.2 +0.5
baz=61,SNR=15
J26A Sides Ranch, S 60.70 314 ⇑P P 20 04 40.8 +0.1
baz=61,SNR=8.5
P25A Willow Gulch B 60.71 309 ⇑P P 20 04 41.5 +0.5
baz=61
SOKA Soboth 60.71 42⇑iP P 20 04 40.7 0.0
comp=Z,15nm,1.2s
I26A New Underwood 60.72 315 ⇑P P 20 04 41.2 +0.4
baz=61,SNR=7.5
PERS Pernice 60.76 42 iP P 20 04 41.1 +0.2
Z24A Sheeppen Canyo 60.76 302 ⇑P P 20 04 42.0 +0.6
baz=61,SNR=24
O25A Wiggins 60.79 310 ⇓P P 20 04 41.6 +0.2
baz=61,SNR=10
C27A Sayler Ranch, 60.79 319 ⇓P P 20 04 40.7 -0.5
baz=61
G26A Maurine 60.85 316 ⇓P P 20 04 40.7 -0.9
baz=61,SNR=5.6
Y24A Capitan 60.89 303 ⇑P P 20 04 43.1 +0.8
baz=61,SNR=22
MUD Monsted U'grnd 60.90 30 iP P 20 04 41.5 -0.1
MUD pmax pmax
comp=Z,19nm,0.9s
MUD Monsted U'grnd 60.90 30 iP P 20 04 41.5 -0.1
comp=Z,19nm,0.8s
CLL Collm 60.91 37 iP P 20 04 42.6 +0.8
CLL pmax pmax
comp=Z,218nm,2.5s
CLL MLR MLR
comp=Z,3μm,19.9s
CLL Collm 60.91 37 iP P 20 04 42.6 +0.8
comp=Z,218nm,2.5s
CLL e 20 04 52.0
CLL ePP PP 20 06 57.0 +1.0
CLL Lm MLR 20 27 00.0
comp=N,1μm,19.7s
CLL Lm MLR 20 27 00.0
comp=E,2μm,18.4s
CLL Lm MLR 20 27 00.0
comp=Z,3μm,19.9s
CLL Collm 60.91 37 eP P 20 04 42.5 +0.7
comp=Z,341nm,2.5s
V24A Rampart Ranch, 60.98 305 ⇑P P 20 04 43.5 +0.6
baz=61,SNR=10
M25A Palm-Egli Farm 61.00 311 ⇓P P 20 04 43.9 +1.1
baz=61
W24A Lazy 6 Ranch, 61.02 304 ⇑P P 20 04 44.0 +0.9
baz=61,SNR=36
F26A Lodgepole 61.05 317 ⇑P P 20 04 42.7 -0.3
baz=61,SNR=7.4
E26A Carlson Angus 61.07 317 ⇑P P 20 04 43.1 0.0
baz=61
L25A Engebretsen Ra 61.08 312 ⇓P P 20 04 44.5 +1.2
baz=61
FCC Fort Churchill 61.09 333 eP P 20 04 41.8 -1.1
FCC Fort Churchill 61.09 333 eP P 20 04 41.8 -1.1
K25A Mack Ranch, Ha 61.11 313 ⇓P P 20 04 44.4 +0.8
baz=61
ARSA Arzberg 61.20 42⇑iP P 20 04 42.8 -1.1
comp=Z,19nm,1.1s,SNR=18
S24A Houchin Ranch, 61.20 307 ⇑P P 20 04 44.8 +0.3
baz=61,SNR=15
D26A Manning 61.21 318 ⇑P P 20 04 44.3 +0.3
baz=61
C26A Wahner Farm, P 61.21 319 ⇓P P 20 04 43.9 -0.1
baz=61
R24A Sanders Place, 61.22 308 ⇓P P 20 04 44.8 +0.3
baz=61,SNR=13
J25A Sunshine Ranch 61.23 314 ⇑P P 20 04 44.9 +0.6
baz=61
T24B San Luis 61.25 306 ⇓P P 20 04 46.0 +1.2
baz=61,SNR=33
P24A Kohler Place, 61.28 309 ⇑P P 20 04 46.8 +2.0
baz=61
BRG Berggiesshubel 61.31 37 eP P 20 04 45.3 +0.7
comp=Z,109nm,2.0s
BRG e 20 04 55.7
comp=Z,32nm,1.5s
BRG Berggiesshubel 61.31 37 eP P 20 04 45.3 +0.7
BRG pmax pmax
comp=Z,109nm,2.1s
I25A Rochford 61.33 314 ⇓P P 20 04 44.7 -0.3
baz=61,SNR=23
PRA Prague 61.35 38 P P 20 04 46.0 +1.2
Q24A Divide 61.37 309 ⇓P P 20 04 45.7 +0.1
baz=61,SNR=7.9
H25A Fruitdale 61.37 315 ⇑P P 20 04 44.9 -0.3
baz=61
G25A Newell 61.39 316 ⇓P P 20 04 44.9 -0.4
baz=61,SNR=8.5
PRU Pruhonice 61.39 39 eP P 20 04 45.5 +0.4
PRU Pruhonice 61.39 39 eP P 20 04 45.5 +0.4
PRU ex x 20 04 55.0
Y23A Lovelace Mesa, 61.40 303 ⇓P P 20 04 45.8 +0.1
baz=61,SNR=44
SDCO Great Sand Dun 61.45 307 eP P 20 04 46.1 0.0
comp=Z,15nm,0.8s
A26A Wade Farm, Ken 61.49 320 ⇑P P 20 04 44.1 -1.7
baz=62,SNR=5.4
N24A Carr 61.49 311 ⇑P P 20 04 45.6 -0.6
baz=62
O24A Longmont 61.51 310 ⇑P P 20 04 47.0 +0.7
baz=62
RSSD Black Hills 61.56 314 eP P 20 04 45.1 -1.6
RSSD pmax pmax
comp=Z,12nm,1.0s
RSSD Black Hills 61.56 314 eP P 20 04 45.1 -1.6
comp=Z,12nm,1.0s
M24A Cheyenne 61.57 311 ⇑P P 20 04 46.8 0.0
baz=62,SNR=8.9
PVCC Panska Ves 61.58 38 eP P 20 04 47.0 +0.6
PVCC ex x 20 04 54.9
CONA Conrad Observa 61.60 41⇑iP P 20 04 45.7 -1.0
comp=Z,51nm,1.2s,SNR=27

W23A Werner Place, 61.62 304 ⇑P P 20 04 47.2 0.0
baz=62,SNR=5.3
E25A Miller Ranch, 61.71 317 ⇓P P 20 04 47.6 +0.2
baz=62
V23A Ortiz Mt. (NFS 61.72 305 ⇑P P 20 04 48.5 +0.7
baz=62,SNR=16
TREC Trest 61.76 40 eP P 20 04 48.5 +0.8
TREC e 20 04 57.6
TREC Trest 61.76 40 eP P 20 04 48.5 +0.8
TREC ex x 20 04 57.6
T23A Casias Ranch, 61.77 306 ⇓P P 20 04 48.8 +0.6
baz=62,SNR=6.5
R23A Moffat 61.77 308 ⇑P P 20 04 48.7 +0.4
baz=62,SNR=20
RUE Ruedersdorf 61.77 36 eP P 20 04 48.3 +0.7
comp=Z,71nm,1.0s
U23A El Rito 61.80 305 ⇑P P 20 04 49.7 +1.3
baz=62,SNR=19
SUMG Summit 61.80 2 iP P 20 04 48.3 +0.3
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG Summit 61.80 2 iP P 20 04 48.3 +0.3
comp=Z,14nm,1.0s
SUMG Summit 61.80 2 eP P 20 04 44.5 -3.5
comp=Z,48nm,1.2s
D25A Fairfield 61.82 318 ⇑P P 20 04 46.9 -1.3
baz=62
J24A Dixon Ranch, L 61.83 313 ⇓P P 20 04 48.2 -0.2
baz=62,SNR=5.3
S23A Nye Farm, Mont 61.83 307 ⇑P P 20 04 49.2 +0.5
baz=62
ANMO Albuquerque 61.84 304⇓iP P 20 04 49.1 +0.4
ANMO pmax pmax
comp=Z,34nm,1.2s
ANMO Albuquerque 61.84 304 P P 20 04 48.0 -0.7
comp=Z,4.8nm,0.8s,baz=120,slow=6.1,SNR=10
ANMO Albuquerque 61.84 304 eP P 20 04 48.1 -0.7
comp=Z,36nm,1.8s
ISCO Idaho Springs 61.86 309 eP P 20 04 49.1 +0.2
ISCO pmax pmax
comp=Z,51nm,1.0s
ISCO Idaho Springs 61.86 309 eP P 20 04 49.1 +0.2
comp=Z,51nm,1.0s
ISCO Idaho Springs 61.86 309 ⇑P P 20 04 49.4 +0.5
baz=62,SNR=50
Q23A Hartsel 61.88 308 ⇑P P 20 04 49.9 +0.8
baz=62
LPM Los Pinos Moun 61.91 303 eP P 20 04 49.0 -0.2
P23A Jefferson 61.96 309 ⇓P P 20 04 50.6 +1.0
baz=62,SNR=23
SOP Sopron 61.99 41 ePKPdf P 20 04 49.2 0.0
PHWY Pilot Hill 62.01 311 eP P 20 04 49.3 -0.5
comp=Z,14nm,1.0s
H24A Dirks Ranch, A 62.06 315 ⇑P P 20 04 49.8 -0.1
baz=62,SNR=14
Z22A Elephant Butte 62.08 302 ⇓P P 20 04 50.2 -0.2
baz=62,SNR=7.6
G24A Alzada 62.10 316 ⇓P P 20 04 50.5 +0.4
baz=62
O23A Lake Granby, G 62.16 310 ⇑P P 20 04 50.9 0.0
baz=62
A25A Svangstu Ranch 62.18 320 ⇑P P 20 04 50.1 -0.3
baz=62,SNR=6.0
LENM Lemitar 62.18 303 eP P 20 04 52.8 +1.9
F24A Ekalaka 62.25 316 ⇓P P 20 04 50.9 -0.2
baz=62,SNR=6.7
N23A Red Feather La 62.30 311 ⇑P P 20 04 51.8 +0.1
baz=62,SNR=8.3
V22A San Miguel Ran 62.32 305 ⇑P P 20 04 52.2 +0.2
baz=62,SNR=8.9
U22A Llaves 62.33 305 ⇓P P 20 04 52.6 +0.6
baz=62
L23A Garrett 62.34 312 ⇓P P 20 04 51.8 -0.2
baz=62,SNR=13
K23A Bowen Ranch, D 62.41 313 ⇑P P 20 04 52.8 +0.5
baz=62
UPC Upice 62.45 38 eP P 20 04 53.0 +0.8
UPC Upice 62.45 38 eP P 20 04 53.0 +0.8
UPC ex x 20 05 03.8
VRAC Vranov 62.46 40⇓iP P 20 04 52.1 -0.2
D24A Glendive 62.48 318 ⇓P P 20 04 52.7 +0.1
baz=62
J23A Dilts Ranch, B 62.48 313 ⇑P P 20 04 53.0 +0.2
baz=62
S22A 4UR Ranch, Cre 62.49 307 ⇑P P 20 04 53.7 +0.6
baz=62,SNR=28
KONO Kongsberg 62.57 27 eP P 20 04 53.3 +0.5
KONO pmax pmax
comp=Z,52nm,1.2s
KONO Kongsberg 62.57 27 eP P 20 04 53.3 +0.5
comp=Z,52nm,1.2s
DPC Dobruska-Polom 62.59 39 eP P 20 04 53.4 +0.2
DPC Dobruska-Polom 62.59 39 eP P 20 04 52.8 -0.4
DPC Dobruska-Polom 62.59 39 eP P 20 04 53.4 +0.2
H23A Clabaugh Cattl 62.62 315 ⇑P P 20 04 54.0 +0.4
baz=63
O22A Kremmling 62.63 310 ⇑P P 20 04 53.1 -1.0
baz=63
C24A Savage 62.65 318 ⇓P P 20 04 53.4 -0.3
baz=63
N22A Wattenberg Ran 62.66 310 ⇑P P 20 04 54.1 -0.1
baz=63
P22A Eagle 62.70 309 ⇓P P 20 04 54.0 -0.4
baz=63,SNR=8.7
121A Cookes Peak, D 62.71 301 ⇓P P 20 04 55.0 +0.5
baz=63,SNR=21
KSP Ksiaz 62.72 38 eP P 20 04 54.3 +0.3
KSP Ksiaz 62.72 38 eP P 20 04 55.9 +1.9
A24A Westby 62.74 320 ⇑P P 20 04 54.4 +0.2
baz=63
DGMT Dagmar 62.74 319 eP P 20 04 53.7 -0.6
comp=Z,27nm,0.8s
DGMT Dagmar 62.74 319 ⇓P P 20 04 54.0 -0.3
baz=63,SNR=6.2
G23A Biddle 62.75 315 ⇓P P 20 04 54.0 -0.4
baz=63,SNR=8.1
KRLC Kraliky 62.79 39 eP P 20 04 55.3 +0.7
KRLC e 20 05 03.3
KRLC Kraliky 62.79 39 eP P 20 04 55.3 +0.7
KRLC ex x 20 05 03.3
SMCO Snowmass 62.80 309 eP P 20 04 55.8 +0.4
comp=Z,19nm,1.0s
PKST T˘'s 62.85 42 e P 20 04 54.7 -0.3
PKS9 Tamasi 62.85 43 e P 20 04 55.0 0.0
L22A Ellis Ranch, M 62.86 312 ⇑P P 20 04 55.7 +0.3
baz=63,SNR=16
M22A Cedar Creek Ra 62.87 311 ⇓P P 20 04 55.4 -0.2
baz=63
F23A Volborg 62.87 316 ⇓P P 20 04 54.3 -0.9
baz=63,SNR=8.2
E23A Ismay 62.98 317 ⇑P P 20 04 56.0 +0.1
baz=63
PKSM Moragy 63.01 44⇑iP P 20 04 55.5 -0.5
PKSM Moragy 63.01 44 e P 20 04 56.1 +0.1
CSKK Cs˘‡kako 63.02 42 ePKPdf P 20 04 57.0 +0.9
K22A Casper 63.04 312 ⇑P P 20 04 55.5 -1.0
comp=Z,28nm,1.4s
K22A Casper 63.04 312 ⇓P P 20 04 55.9 -0.6
baz=63
D23A Lindsay 63.07 318 ⇓P P 20 04 56.7 +0.2
baz=63
J22A Midwest 63.15 313 ⇑P P 20 04 56.4 -0.9
baz=63
MORC Moravsky Berou 63.18 39 eP P 20 04 54.9 -2.3
MORC Moravsky Berou 63.18 39⇑iP P 20 04 58.0 +0.8
MORC Moravsky Berou 63.18 39 ePKPdf P 20 04 54.9 -2.3
C23A Lambert 63.21 318 ⇑P P 20 04 57.3 -0.1
baz=63,SNR=7.1
I22A 9 Mile Ranch, 63.24 314 ⇓P P 20 04 57.1 -0.7
baz=63,SNR=18
B23A Brockton 63.25 319 ⇑P P 20 04 57.2 -0.5
baz=63,SNR=11
H22A Clearmont 63.29 315 ⇑P P 20 04 58.4 +0.4
baz=63
A23A Redstone 63.30 320 ⇑P P 20 04 58.3 +0.3
baz=63
FFC Flin Flon 63.33 326 P P 20 04 57.0 -1.0
comp=Z,95nm,0.9s,SNR=6.0
FFC Flin Flon 63.33 326 eP P 20 04 56.6 -1.4
FFC pmax pmax
comp=Z,96nm,1.9s
FFC Flin Flon 63.33 326 eP P 20 04 56.5 -1.4
comp=Z,96nm,1.9s
G22A Birney 63.37 315 ⇑P P 20 04 58.1 -0.5
baz=63,SNR=6.7
E22A Miles City 63.40 317 ⇑P P 20 04 58.0 -0.7
baz=63,SNR=6.2

F22A Rosebud 63.47 316 ⇓P P 20 04 58.7 -0.5
baz=63
K21A Alcova 63.56 312 ⇑P P 20 04 59.4 -0.7
baz=64
OKC Ostrava-Krasne 63.58 39 eP P 20 05 00.0 +0.3
OKC e 20 05 08.2
OKC Ostrava-Krasne 63.58 39 eP P 20 05 00.0 +0.3
OKC ex x 20 05 08.2
LAO LASA Array 63.64 317 eP P 20 04 58.6 -1.7
comp=Z,30nm,1.1s
C22A Vida 63.66 318 ⇑P P 20 05 00.1 -0.3
baz=64,SNR=8.6
VYHS Vyhne 63.67 41 eP P 20 05 01.7 +1.3
VYHS pmax pmax
comp=Z,31nm,1.6s
VYHS Vyhne 63.67 41 eP P 20 05 01.7 +1.3
NAO01 NORSAR Array S 63.69 26 eP P 20 04 58.4 -1.8
comp=Z,6.1nm,0.7s
D22A Cohagen 63.71 317 ⇓P P 20 05 00.6 -0.2
baz=64,SNR=12
MVCO Mesa Verde 63.74 306 eP P 20 05 01.0 -0.4
comp=Z,45nm,1.4s
MVCO Mesa Verde 63.74 306 ⇓P P 20 05 01.3 -0.1
baz=64,SNR=8.3
H21A Big Horn, Sher 63.78 315 ⇑P P 20 05 00.9 -0.4
baz=64,SNR=12
I21A Big Trails, Te 63.80 314 ⇓P P 20 05 00.3 -1.3
baz=64,SNR=16
J21A Lysite 63.83 313 ⇑P P 20 05 01.2 -0.6
baz=64,SNR=12
B22A Reddig Ranch S 63.86 319 ⇓P P 20 05 01.7 0.0
baz=64
319A Douglas 63.90 300 ⇓P P 20 05 02.8 +0.4
baz=64,SNR=28
PV01 Paradox Valley 63.90 307 eP P 20 05 02.4 0.0
comp=Z,2μm,0.9s
O20A White River Ci 63.91 309 ⇑P P 20 05 02.6 +0.2
baz=64,SNR=12
NB2 NORSAR Subarra 63.92 26 P P 20 05 01.1 -0.8
comp=Z,0.9nm,0.7s,baz=240,slow=6.9
NOA NORSAR Array B 63.92 26 P P 20 05 01.8 -0.1
comp=Z,10.0nm,0.8s,baz=243,slow=6.7,SNR=22
NOA LR LR 20 27 09.4
comp=Z,2μm,21.7s,baz=235,slow=31
A22A Carney Farms, 63.97 319 ⇑P P 20 05 02.2 -0.3
baz=64,SNR=5.6
G21A Lodge Grass 64.01 315 ⇓P P 20 05 02.2 -0.7
baz=64
N20A Spence Gulch, 64.02 310 ⇑P P 20 05 02.7 -0.5
baz=64
F21A Absaloka Mine, 64.07 316 ⇓P P 20 05 03.1 -0.1
baz=64
SKO Skopje 64.18 49 eP P 20 05 06.7 +2.9
E21A Keefer Ranch, 64.18 317 ⇓P P 20 05 03.5 -0.4
baz=64
PV04 Paradox Valley 64.20 307 eP P 20 05 05.2 +0.9
PSZ Piszkesteto 64.23 42 eP P 20 05 04.4 +0.3
PSZ pmax pmax
comp=Z,349nm,2.5s
PSZ Piszkesteto 64.23 42⇑iP P 20 05 03.7 -0.4
PSZ Piszkesteto 64.23 42 eP P 20 05 04.4 +0.3
comp=Z,349nm,2.5s
PSZ Piszkesteto 64.23 42 e P 20 05 05.0 +0.9
D21A La Casta Ranch 64.24 317 ⇓P P 20 05 03.9 -0.4
baz=64
J20A Shoshoni 64.29 313 ⇓P P 20 05 04.5 -0.3
baz=64,SNR=12
PV10 Paradox Valley 64.30 307 eP P 20 05 04.9 -0.1
comp=Z,570nm,1.0s
I20A Worland 64.42 314 ⇓P P 20 05 05.5 0.0
baz=64,SNR=7.8
H20A Greybull 64.42 314 ⇑P P 20 05 05.5 0.0
baz=64,SNR=10
C21A Desert Coulee 64.47 318 ⇓P P 20 05 05.7 -0.1
baz=64
W18A Petrified Fore 64.54 304 eP P 20 05 06.3 -0.2
comp=Z,16nm,0.9s
W18A Petrified Fore 64.54 304 ⇑P P 20 05 06.4 -0.2
baz=64
B21A Ellsworth Farm 64.55 319 ⇓P P 20 05 06.9 +0.7
baz=64
A21A Bergtoll Ranch 64.62 319 ⇓P P 20 05 06.2 -0.4
baz=65
X18A Snowflake 64.67 303 ⇑P P 20 05 06.9 -0.5
baz=65,SNR=16
OJC Ojcow 64.70 39 eP P 20 05 08.6 +1.5
OJC Ojcow 64.70 39 eP P 20 05 08.6 +1.5
G20A Bridger 64.71 315 ⇓P P 20 05 06.3 -1.2
baz=65,SNR=17
F20A Billings 64.77 316 ⇑P P 20 05 07.2 -0.6
baz=65,SNR=12
NIE Niedzica 64.84 40 eP P 20 05 09.2 +1.1
NIE Niedzica 64.84 40 eP P 20 05 09.2 +1.1
E20A Meyer Farm, Mu 64.89 316 ⇓P P 20 05 07.9 -0.6
baz=65,SNR=13
BZS Buzias 64.92 45⇑iP P 20 05 08.9 +0.3
VAY Valandovo 64.92 49 iP P 20 05 11.1 +2.4
J19A Crowheart 64.97 313 ⇓P P 20 05 08.2 -1.1
baz=65,SNR=8.7
D20A Manuel Ranch, 65.01 317 ⇑P P 20 05 08.4 -0.8
baz=65,SNR=8.5
I19A Meeteetse 65.05 314 ⇓P P 20 05 08.8 -1.0
baz=65,SNR=14
H19A Powell 65.15 314 ⇓P P 20 05 09.5 -0.8
baz=65,SNR=13
B20A Solberg Farm, 65.20 318 ⇑P P 20 05 10.2 -0.3
baz=65,SNR=12
TUC Tucson 65.23 301 eP P 20 05 11.0 0.0
TUC pmax pmax
comp=Z,21nm,0.8s
TUC Tucson 65.23 301 eP P 20 05 11.0 0.0
comp=Z,20nm,0.8s
A20A Cobblestone Ra 65.24 319 ⇑P P 20 05 10.3 -0.4
baz=65,SNR=6.8
PDAR Pinedale Array 65.26 312 P P 20 05 10.2 -1.1
comp=Z,8.6nm,1.1s,baz=104,slow=6.3,SNR=20
PDAR LR LR 20 30 24.6
comp=Z,3μm,22.0s,baz=124,slow=33
BW06 Boulder Array 65.26 312 eP P 20 05 09.7 -1.6
comp=Z,14nm,0.9s
F19A Roth Farm, Mol 65.32 316 ⇓P P 20 05 10.7 -0.7
baz=65
E19A Rath Farm, Rou 65.33 316 ⇑P P 20 05 11.6 +0.2
baz=65,SNR=7.8
KKB Krupnik 65.38 49 eP P 20 05 15.3 +3.6
RLMT Red Lodge 65.42 315 eP P 20 05 10.5 -1.7
comp=Z,34nm,1.3s
STHS Stebnicka Huta 65.43 40 eP P 20 05 13.4 +1.5
STHS pmax pmax
comp=Z,37nm,2.3s
STHS Stebnicka Huta 65.43 40 eP P 20 05 13.3 +1.4
SOH Sokhos 65.44 50 P P 20 05 14.0 +1.8
SOH Sokhos 65.44 50 P P 20 05 14.0 +1.8
SOH Sokhos 65.44 50 P P 20 05 14.0 +1.8
CRVS Cervenica-Dubn 65.46 41 eP P 20 05 13.3 +1.2
CRVS pmax pmax
comp=Z,129nm,2.1s
CRVS Cervenica-Dubn 65.46 41 eP P 20 05 13.3 +1.2
D19A Cripps Ranch, 65.52 317 ⇓P P 20 05 11.9 -0.8
baz=66,SNR=6.4
SRU San Rafael 65.53 308 eP P 20 05 12.8 -0.2
SRU pmax pmax
comp=Z,22nm,0.8s
SRU San Rafael 65.53 308 eP P 20 05 12.8 -0.2
comp=Z,22nm,0.8s
H18A Shoshone NF, C 65.63 314 ⇓P P 20 05 12.4 -1.1
baz=66,SNR=9.1
SRS Serrai 65.66 50 P P 20 05 15.4 +1.9
SRS Serrai 65.66 50 P P 20 05 15.4 +1.9
SRS Serrai 65.66 50 P P 20 05 15.4 +1.9
GZR Gura Zlata 65.68 45⇑iP P 20 05 13.6 -0.1
C19A Slack Wire Ran 65.74 318 ⇓P P 20 05 13.3 -0.7
baz=66,SNR=7.2
A19A Klindworth Far 65.78 319 ⇑P P 20 05 13.9 -0.3
baz=66,SNR=18
B19A Brinkman Farms 65.81 318 ⇓P P 20 05 13.9 -0.5
baz=66,SNR=23
GCMT Greycliff 65.81 315 eP P 20 05 13.7 -0.9
comp=Z,18nm,1.2s
MMB Musomiste 65.82 49 eP P 20 05 16.9 +2.3
MMB Musomiste 65.82 49⇓iP P 20 05 15.6 +1.0
DEV Deva 65.85 45⇓iP P 20 05 15.7 +1.0
DRGR 65.88 43⇓iP P 20 05 14.8 -0.1
X16A Lo Mia Camp, P 65.89 303 ⇑P P 20 05 15.4 +0.1
baz=66,SNR=17
NVR Nevrokopi 65.89 50 P P 20 05 16.2 +1.1

NVR Nevrokopi 65.89 50 P P 20 05 16.2 +1.1
WUAZ Wupatki 65.90 304 eP P 20 05 15.5 +0.1
comp=Z,30nm,0.9s
WUAZ Wupatki 65.90 304 ⇓P P 20 05 15.5 +0.1
baz=66,SNR=14
UZH Uzhgorod 65.94 41 eP P 20 05 15.1 -0.1
UZH e 20 05 22.7
KOLS Kolonicke sedl 65.99 41 eP P 20 05 16.8 +1.3
KOLS pmax pmax
comp=Z,77nm,2.1s
KOLS Kolonicke sedl 65.99 41 eP P 20 05 16.8 +1.3
TRPA Tarpa 66.01 42⇓iP P 20 05 15.7 +0.1
TMUT Trail Mountain 66.08 308 eP P 20 05 16.5 -0.1
comp=Z,16nm,0.8s
LOHW Long Hollow 66.14 313 eP P 20 05 16.2 -0.6
comp=Z,10nm,0.9s
I17A Pilgrim Ck. 66.16 313 ⇓P P 20 05 17.1 +0.1
baz=66,SNR=7.0
H17A Grant Village 66.23 314 eP P 20 05 19.5 +2.0
comp=Z,22nm,1.4s
H17A Grant Village 66.23 314 ⇓P P 20 05 18.1 +0.6
baz=66
DAU Daniels Canyon 66.23 309 eP P 20 05 17.4 -0.2
DAU Daniels Canyon 66.23 309 eP P 20 05 17.4 -0.2
EGMT Eagleton 66.26 318 eP P 20 05 16.2 -1.2
comp=Z,18nm,0.9s
EGMT Eagleton 66.26 318 ⇑P P 20 05 16.7 -0.7
baz=66,SNR=10
FLWY Flagg Ranch 66.27 313 eP P 20 05 17.6 -0.1
comp=Z,40nm,1.1s
REDW Red Top Meadow 66.28 313 eP P 20 05 17.2 -0.6
comp=Z,35nm,1.3s
KAVA Kavala 66.34 50 P P 20 05 18.7 +0.8
KAVA Kavala 66.34 50 P P 20 05 18.7 +0.8
TPAW Teton Pass 66.37 313 eP P 20 05 17.6 -0.8
comp=Z,31nm,1.2s
LOT Lotru 66.38 45⇑iP P 20 05 19.1 +0.9
AHID Auburn Hatcher 66.39 312 eP P 20 05 16.4 -2.0
comp=Z,29nm,1.1s
JLU Jordanelle 66.40 310 eP P 20 05 18.2 -0.4
comp=Z,112nm,2.0s
KWP Kalwaria Pacla 66.41 40 eP P 20 05 20.0 +1.8
KWP Kalwaria Pacla 66.41 40 eP P 20 05 19.9 +1.8
KWP Kalwaria Pacla 66.41 40⇓iP P 20 05 19.3 +1.1
KWP Kalwaria Pacla 66.41 40 eP P 20 05 18.0 -0.2
comp=Z,44nm,0.6s
IMW Indian Meadow 66.42 313 eP P 20 05 18.0 -0.7
comp=Z,28nm,1.0s
TCUT Toone Canyon 66.42 310 eP P 20 05 17.6 -1.2
comp=Z,32nm,0.9s
YFT Old Faithful 66.42 314 eP P 20 05 20.8 +2.2
comp=Z,24nm,1.0s
FXWY Fox Creek 66.45 313 eP P 20 05 18.3 -0.6
comp=Z,17nm,1.3s
CJR Cluj-Napoca 66.47 44⇑iP P 20 05 19.3 +0.6
MPU Maple Canyon 66.48 309 eP P 20 05 20.8 +1.7
comp=Z,33nm,1.6s
YMR Madison River 66.54 314 eP P 20 05 19.1 -0.4
comp=Z,42nm,0.9s
RZN Rozhen 66.57 49 eP P 20 05 21.0 +1.4
PLD Plovdiv 66.60 49 eP P 20 05 29.5 +10
CTU Camp Tracy 66.64 310 eP P 20 05 20.2 +0.2
comp=Z,9.4nm,0.7s
U15A North Rim 66.70 305 ⇑P P 20 05 21.2 +0.5
baz=67,SNR=24
MVU Marysvale 66.79 307 eP P 20 05 21.7 +0.5
comp=Z,18nm,1.1s
NLU North Lily Min 66.81 309 eP P 20 05 21.5 +0.3
comp=Z,75nm,2.0s
QLMT Earthquake Lak 66.89 314 eP P 20 05 21.2 -0.4
214A Organ Pipe Nat 66.93 300 eP P 20 05 22.0 +0.1
comp=Z,17nm,0.9s
214A Organ Pipe Nat 66.93 300 P P 20 05 22.4 +0.5
baz=67
ARR Arges 66.97 45⇓iP P 20 05 23.3 +1.4
TSUM Tsumeb 67.08 116 eP P 20 05 22.8 -0.2
comp=Z,149nm,1.6s
KDZ Kurdzhali 67.08 49⇑iP P 20 05 23.9 +1.2
Z14A Wintersburg 67.09 302 P P 20 05 23.2 +0.4
baz=67
RDO Rodhopi 67.12 50 P P 20 05 23.9 +1.0
RDO Rodhopi 67.12 50 P P 20 05 23.9 +1.0
BOZ Bozeman (W) 67.15 315 eP P 20 05 22.6 -0.6
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ Bozeman (W) 67.15 315 eP P 20 05 22.6 -0.6
comp=Z,6.6nm,0.8s
Y14A Wickenburg 67.16 302 ⇓P P 20 05 23.5 +0.2
baz=67,SNR=6.6
SPUT South Promonto 67.22 310 eP P 20 05 23.1 -0.7
comp=Z,36nm,1.0s
DAG Danmarks Havn 67.25 6 iP P 20 05 23.7 +0.7
DAG pmax pmax
comp=Z,13nm,0.9s
DAG Danmarks Havn 67.25 6 iP P 20 05 23.7 +0.7
comp=Z,16nm,0.9s
ZIMR 67.27 47⇑iP P 20 05 24.3 +0.6
VOIR 67.27 45⇑iP P 20 05 23.9 0.0
LVV L'vov 67.29 40 eP P 20 05 23.6 -0.1
DUG Dugway 67.40 309 eP P 20 05 23.7 -1.2
DUG pmax pmax
comp=Z,19nm,1.1s
DUG Dugway 67.40 309 eP P 20 05 23.7 -1.2
comp=Z,20nm,1.1s
DUG Dugway 67.40 309 ⇓P P 20 05 24.5 -0.3
baz=67,SNR=7.2
HRY Holter Researc 67.44 316 eP P 20 05 23.9 -1.0
ALN Alexandroupoli 67.48 50 P P 20 05 25.1 -0.1
ALN Alexandroupoli 67.48 50 P P 20 05 25.1 -0.1
ALN Alexandroupoli 67.48 50 P P 20 05 25.1 -0.1
HVU Hansel Valley 67.51 311 eP P 20 05 18.6 -7.0
HVU pmax pmax
comp=Z,41nm,1.4s
HVU Hansel Valley 67.51 311 eP P 20 05 18.6 -7.0
comp=Z,41nm,1.4s
DOPR Dopca 67.58 45⇑iP P 20 05 26.6 +0.9
SUW Suwalki 67.62 36 eP P 20 05 26.3 +0.5
SUW Suwalki 67.62 36 eP P 20 05 26.2 +0.5
SUW Suwalki 67.62 36 eP P 20 05 24.9 -0.8
comp=Z,65nm,1.2s
BGU Big Grassy Mou 67.62 310 eP P 20 05 25.8 -0.4
comp=Z,33nm,1.2s
CCUT Cedar City 67.63 306 eP P 20 05 27.4 +0.9
comp=Z,24nm,1.1s
SZH Strazhica 67.64 48 eP P 20 05 27.5 +1.4
BUR08 Bucovina Ar. S 67.69 43 eP P 20 05 26.4 -0.1
BURAR Bucovina Array 67.70 43⇓iP P 20 05 26.8 +0.3
ARUT Antelope Range 67.71 306 eP P 20 05 26.8 -0.1
ARUT Antelope Range 67.71 306 eP P 20 05 26.8 -0.1
comp=Z,171nm,0.3s
LRM Limekiln Ridge 67.74 315 eP P 20 05 26.4 -0.7
113A Mohawk Valley, 67.76 301 P P 20 05 27.3 +0.2
baz=68
DLMT Dillon 67.78 315 eP P 20 05 27.4 +0.2
comp=Z,34nm,1.3s
MLR Muntele Rosu 67.90 45⇑iP P 20 05 28.0 +0.1
WIN Windhoek 67.91 120 eP P 20 05 27.8 -0.6
WIN AMB AMB 20 05 28.6
comp=Z,20nm,2.6s
WIN Windhoek 67.91 120 P P 20 05 27.8 -0.6
WIN pmax pmax
comp=Z,20nm,2.6s
WIN Windhoek 67.91 120 P P 20 05 27.8 -0.6
comp=Z,20nm,2.6s
W13A Hualapai Mount 67.93 303 ⇓P P 20 05 28.6 +0.2
baz=68,SNR=22
SULR 68.03 46⇑iP P 20 05 28.6 +0.1
JMB Yambol 68.03 49 P P 20 05 29.4 +0.8
JMB Yambol 68.03 49 P P 20 05 29.4 +0.8
JMB Yambol 68.03 49⇑iP P 20 05 28.6 0.0
JMB Yambol 68.03 49 P P 20 05 29.4 +0.8
EDRB Edirne 68.09 49 P P 20 05 27.6 -1.4
EDRB Edirne 68.09 49 P P 20 05 27.6 -1.4
PDMCI Parker Dam,Lak 68.11 303 P P 20 05 29.5 +0.2
baz=68
PRAR RASCA 68.34 43⇓iP P 20 05 31.6 +1.1
CHMT Chamberlain Mo 68.43 316 eP P 20 05 30.2 -1.1
PLOR Plostina 68.44 45⇑iP P 20 05 31.9 +0.8
VRI Vrincioaia 68.49 45⇑iP P 20 05 32.2 +0.7
TESR Tescani 68.52 44⇓iP P 20 05 31.8 +0.2
RUDU RUNDU 68.53 114 eP P 20 05 31.9 -0.3
RUDU AMB AMB 20 05 33.1
comp=Z,84nm,2.4s
RUDU RUNDU 68.53 114 P P 20 05 31.9 -0.3
comp=Z,84nm,2.4s

GRER 68.61 45⇑iP P 20 05 32.6 +0.4
SLMT Seeley Lake 68.64 317 eP P 20 05 31.4 -1.1
PRD Provadia 68.70 48 eP P 20 05 34.9 +2.2
USHA Ushuaia 68.71 195 LR LR 20 35 52.7
comp=Z,3μm,22.0s,baz=4.0,slow=36
HLID Hailey 68.88 313 ⇓P P 20 05 33.8 -0.4
baz=69,SNR=12
MSO Missoula 68.89 316 eP P 20 05 34.0 0.0
comp=Z,10nm,1.0s
MSO Missoula 68.89 316 P P 20 05 33.8 -0.3
baz=69
LDFC Landfair 68.93 303 eP P 20 05 34.3 -0.3
comp=Z,78nm,1.1s
IRM Iron Mountain 68.95 302 ⇓P P 20 05 35.1 +0.6
baz=69
SWMT Swartz Lake 69.01 317 eP P 20 05 33.8 -1.0
YBMT Yellow Bay 69.06 317 eP P 20 05 33.8 -1.3
MSAB Monastry St. A 69.08 47⇓iP P 20 05 35.8 +0.7
WALA Waterton Lakes 69.15 318 eP P 20 05 33.9 -1.8
JTMT Jette 69.23 317 eP P 20 05 35.2 -0.9
MANT Manisa 69.25 53 iP P 20 05 37.3 +0.7
ELK Elko 69.28 309 P P 20 05 36.4 -0.4
ELK e 20 05 36.7
ELK Elko 69.28 309 P P 20 05 36.4 -0.4
comp=Z,12nm,0.8s,baz=341,slow=0.6,SNR=30
ELK Elko 69.28 309 P P 20 05 36.4 -0.4
ELK eP P 20 05 36.7 -0.1
PSN Preselentsi 69.31 47 eP P 20 05 37.7 +1.2
PSN Preselentsi 69.31 47⇓iP P 20 05 37.1 +0.6
BLMT Blacktail Moun 69.32 317 eP P 20 05 35.0 -1.7
GMRC Granite Mounta 69.38 303 P P 20 05 37.3 0.0
baz=69
CFR Carcaliu 69.41 46⇓iP P 20 05 38.6 +1.5
R11A Troy Canyon, C 69.43 307 eP P 20 05 37.7 +0.1
comp=Z,8.3nm,0.8s
R11A Troy Canyon, C 69.43 307 ⇑P P 20 05 37.9 +0.3
baz=69,SNR=9.8
EDM Edmonton 69.43 323 eP P 20 05 35.0 -2.2
EDM Edmonton 69.43 323 eP P 20 05 35.0 -2.2
SWSC Sam W. Stewart 69.47 301 P P 20 05 38.4 +0.6
baz=69
TIRR Tirgusor 69.54 47 eP P 20 05 37.7 -0.2
TIRR pmax pmax
comp=Z,215nm,1.8s
TIRR Tirgusor 69.54 47⇑iP P 20 05 38.1 +0.2
TIRR Tirgusor 69.54 47 eP P 20 05 37.7 -0.2
comp=Z,215nm,1.8s
BSMT Bassoo Peak 69.58 317 eP P 20 05 37.4 -1.0
TUQ Turquoise Moun 69.61 304 P P 20 05 39.2 +0.5
baz=70
LEOM Leova 69.61 44⇓iP P 20 05 38.8 +0.5
BELC Belle Mtn. Jos 69.65 302 P P 20 05 39.5 +0.5
baz=70
ULDT Uludag 69.78 51 iP P 20 05 40.5 +0.8
NACGM Naroch 69.85 35 e P 20 05 37.0 -2.7
MFID Camas Ranch 69.90 312 eP P 20 05 39.8 -0.6
comp=Z,28nm,0.9s
SHOC Shoshone 69.91 304 P P 20 05 41.0 +0.6
baz=70
HEC Hector,Ludlow 69.93 303 P P 20 05 41.3 +0.7
baz=70
KHAL Karahalli 69.98 53 iP P 20 05 41.4 +0.4
MONP Monument Peak 70.00 301 P P 20 05 41.1 -0.2
baz=70
GDZ Gediz 70.00 52 iP P 20 05 41.2 +0.1
GOLH Golhisar 70.00 54 iP P 20 05 42.2 +1.1
PFO Pinyon Flat Ob 70.03 302 eP P 20 05 42.0 +0.6
PFO Pinyon Flat Ob 70.03 302 eP P 20 05 42.0 +0.6
PFO Pinyon Flat Ob 70.03 302 P P 20 05 42.0 +0.6
baz=70
KIS Kishinev 70.05 44 eP P 20 05 42.0 +0.9
KIS Kishinev 70.05 44 eP P 20 05 42.0 +0.9
BAR Barrett 70.21 301 eP P 20 05 42.6 +0.2
comp=Z,39nm,1.3s
GSC Goldstone 70.33 304 eP P 20 05 43.1 0.0
GSC pmax pmax
comp=Z,17nm,0.9s
GSC Goldstone 70.33 304 eP P 20 05 43.1 0.0
comp=Z,18nm,0.9s
GSC Goldstone 70.33 304 P P 20 05 43.4 +0.3
baz=70
VSU Vasula 70.49 32⇓iP P 20 05 44.3 +0.8
VSU pmax pmax
comp=Z,36nm,0.8s
AK02 Malin Array Si 70.69 40 eP P 20 05 43.6 -1.3
KIEV Kiev 70.70 40⇓eP P 20 05 45.1 +0.2
KIEV Kiev 70.70 40 eP P 20 05 43.7 -1.2
comp=Z,77nm,1.7s
AK01 Malin Array Si 70.70 40 eP P 20 05 43.6 -1.4
TPH Tonopah 70.71 307 eP P 20 05 45.4 -0.1
TPH pmax pmax
comp=Z,25nm,1.1s
TPH Tonopah 70.71 307 eP P 20 05 45.4 -0.1
comp=Z,25nm,1.1s
AKASG Malin Array Be 70.71 40 eP P 20 05 43.9 -1.1
comp=Z,5.6nm,0.6s,baz=274,slow=4.1,SNR=40
AKASG LR LR 20 33 06.3
comp=Z,2μm,21.8s,baz=245,slow=33
AKBB Malin Array Si 70.71 40 eP P 20 05 44.0 -1.0
AKBB Malin Array Si 70.71 40 eP P 20 05 44.0 -1.0
BMN Battle Mountai 70.78 309 eP P 20 05 45.5 -0.3
BMN pmax pmax
comp=Z,19nm,1.1s
BMN Battle Mountai 70.78 309 eP P 20 05 45.5 -0.3
comp=Z,19nm,1.1s
BORA Eskisehir 70.78 52 iP P 20 05 45.0 -0.8
ISP Isparta 70.78 54 eP P 20 05 46.9 +1.0
ISP Isparta 70.78 54 eP P 20 05 46.9 +1.0
FINES FINESS Array B 70.80 28 P P 20 05 44.0 -1.4
FINES FINESS Array B 70.80 28 P P 20 05 44.0 -1.4
comp=Z,13nm,0.8s,baz=249,slow=3.7,SNR=26
FIA1 FINESS Array S 70.80 28 eP P 20 05 45.5 +0.2
BFSC Mount Baldy Ra 71.03 303 P P 20 05 47.4 -0.1
baz=71
LRMC Laurel Mountai 71.05 304 P P 20 05 47.8 +0.2
baz=71
BMO Blue Mountains 71.06 314 eP P 20 05 46.8 -0.6
BMO pmax pmax
comp=Z,11nm,1.0s
BMO Blue Mountains 71.06 314 eP P 20 05 46.8 -0.6
comp=Z,11nm,1.0s
KAF Kangasniemi 71.06 28 eP P 20 05 46.3 -0.6
KAF Kangasniemi 71.06 28 ep P 20 05 46.3 -0.6
F10A Beach Ranch, E 71.08 315 eP P 20 05 46.4 -1.1
comp=Z,9.3nm,0.8s
SEYT Eskypehyr 71.08 52 iP P 20 05 48.4 +0.8
NEW Newport 71.18 317 eP P 20 05 46.5 -1.5
NEW 20 05 47.1
NEW pmax pmax
comp=Z,20nm,0.9s
NEW Newport 71.18 317 P P 20 05 47.1 -0.9
comp=Z,13nm,0.8s,baz=112,slow=5.8,SNR=23
NEW Newport 71.18 317 eP P 20 05 46.5 -1.5
comp=Z,20nm,0.9s
NEW P P 20 05 47.1 -0.9
NEW Newport 71.18 317 P P 20 05 47.3 -0.7
baz=71
EDW2 Edwards Air Fo 71.30 303 P P 20 05 49.3 +0.3
baz=71
NVAR Mina Array Bea 71.56 307 P P 20 05 50.6 -0.1
comp=Z,2.3nm,0.8s,baz=91,slow=5.9,SNR=10
CIS Catalina Islan 71.66 302 P P 20 05 51.6 +0.5
baz=72
ISA Isabella 71.69 304 P P 20 05 51.6 +0.2
baz=72
E09A Wood Farm, Sta 71.75 315 eP P 20 05 50.8 -0.6
comp=Z,29nm,1.1s
YKA Yellowknife Ar 71.83 332 P P 20 05 49.8 -1.7
comp=Z,8.8nm,1.0s,baz=102,slow=6.5,SNR=37
WVOR Wild Horse Val 71.91 311 eP P 20 05 52.2 -0.4
WVOR pmax pmax
comp=Z,32nm,1.3s
WVOR Wild Horse Val 71.91 311 eP P 20 05 52.1 -0.4
comp=Z,32nm,1.3s
C09A Chrisman Ranch 71.92 317 eP P 20 05 51.9 -0.5
comp=Z,66nm,2.0s
BCAM Yenicaga 72.04 51 iP P 20 05 52.5 -0.9
G08A Pilot Rock 72.25 314 eP P 20 05 53.8 -0.8
comp=Z,13nm,1.1s
D08A Wollman Farm, 72.31 316 eP P 20 05 54.2 -0.6
comp=Z,217nm,3.0s
WAKR Walker 72.45 307 eP P 20 05 56.3 +0.2
ANTO Ankara 72.58 52 eP P 20 05 56.8 +0.2
ANTO pmax pmax
comp=Z,232nm,2.4s
ANTO Ankara 72.58 52⇓iP P 20 05 57.6 +1.0
ANTO Ankara 72.58 52 eP P 20 05 56.8 +0.2
comp=Z,232nm,2.4s
ARCES ARCESS Array B 72.62 20 P P 20 05 55.5 -0.7
comp=Z,4.9nm,0.6s,baz=251,slow=5.2,SNR=14
ARE0 ARCESS Array S 72.62 20 P P 20 05 57.2 +1.1
HAWA Hanford 72.70 315 eP P 20 05 56.8 -0.3
comp=Z,26nm,1.2s
BBAL Bala 72.83 52 iP P 20 05 58.6 +0.4
E07A Sunnyside 72.93 315 eP P 20 05 58.4 -0.1
comp=Z,19nm,1.1s
KBS Kingsbay 73.10 10 eP P 20 05 59.7 +0.9
KBS pmax pmax
comp=Z,32nm,0.9s
KBS Kingsbay 73.10 10 eP P 20 05 59.7 +0.9
comp=Z,32nm,0.9s
MOD Modoc 73.13 311 eP P 20 05 59.8 -0.2
comp=Z,48nm,1.3s
KEV Kevo 73.19 20 eP P 20 05 59.2 -0.3
KEV Kevo 73.19 20 eP P 20 05 59.2 -0.3
CMB Columbia Colle 73.20 307 eP P 20 06 00.5 +0.2
CMB pmax pmax
comp=Z,8.0nm,0.9s
CMB Columbia Colle 73.20 307 eP P 20 06 00.5 +0.2
comp=Z,8.3nm,0.9s
BR131 Keskin Array S 73.23 52 eP P 20 06 00.1 -0.5
comp=Z,10nm,0.9s
BRTR Keskin Array B 73.23 52 P P 20 05 59.9 -0.7
comp=Z,9.4nm,0.9s,baz=258,slow=4.7,SNR=32
ILGA Ilgaz 73.29 50 iP P 20 06 01.3 +0.4
G06A Carlson Farm, 73.43 314 eP P 20 06 02.3 +0.8
comp=Z,40nm,1.0s
SPITS Spitsbergen Ar 73.49 11 P P 20 06 01.1 -0.1
comp=Z,2.8nm,0.6s,baz=183,slow=8.5,SNR=5.5
JOF Joensuu 73.49 27 eP P 20 06 02.1 +0.7
JOF Joensuu 73.49 27 ep P 20 06 02.1 +0.7
LTY Liberty 73.51 316 eP P 20 06 00.9 -1.1
comp=Z,23nm,1.3s
K05A Summer Lake 73.58 311 eP P 20 06 03.6 +0.9
comp=Z,52nm,1.1s
UPI Upington 73.58 124 eP P 20 06 01.9 -0.8
UPI AMB AMB 20 06 04.4
comp=Z,106nm,1.6s
UPI Upington 73.58 124 P P 20 06 01.9 -0.8
comp=Z,106nm,1.6s
SIM Simferopol' 73.62 46 eP P 20 06 07.0 +4.4
SIM pmax pmax
comp=Z,300nm,10.8s
CDAG Cicekdag 73.80 52 iP P 20 06 03.4 -0.5
CER Ceres 74.02 129 eP P 20 06 04.3 -0.8
CER AMB AMB 20 06 07.0
comp=Z,98nm,1.0s
CER Ceres 74.02 129 P P 20 06 04.3 -0.8
comp=Z,98nm,1.0s
OHCM Honcut 74.04 308 eP P 20 06 05.4 +0.3
GULE Gulek 74.16 54 iP P 20 06 06.9 +0.7
RPN Rapa Nui 74.18 238 P P 20 06 07.1 +1.0
comp=Z,94nm,1.0s,baz=53,slow=2.1,SNR=4.4
BOYT Boyabat 74.18 50 iP P 20 06 06.4 +0.4
M04C Macdoel 74.28 310 P P 20 06 06.6 -0.1
baz=74
J04D Umpqua Nationa 74.47 312 P P 20 06 07.7 -0.2
baz=74
SUR Sutherland 74.79 128 P P 20 06 09.3 -0.5
comp=Z,445nm,0.7s,SNR=26
SUR Sutherland 74.79 128 eP P 20 06 09.6 -0.2
comp=Z,57nm,0.8s
ELIM Elim 74.88 130 eP P 20 06 09.9 -0.2
ELIM AMB AMB 20 06 11.9
comp=Z,170nm,1.7s
ELIM Elim 74.88 130 P P 20 06 09.9 -0.2
comp=Z,170nm,1.7s
YBH Yreka Blue Hor 74.94 310 P P 20 06 09.2 -1.2
comp=Z,3.6nm,0.9s,baz=76,slow=6.4,SNR=6.0
APA Apatity 75.05 23⇑iP P 20 06 13.0 +2.6
APA i 20 06 21.0
APA iS S 20 15 52.0 +4.4
APA i 20 16 18.0
APA iSS SS 20 20 44.0 +7.9
APA MLR MLR
comp=Z,2μm,17.0s
BRBR Barbar 75.29 58 eP P 20 06 15.0 +2.2
TCHB Talchebab 75.35 59 eP P 20 06 14.8 +1.9
OBN Obninsk 75.48 36⇑iP P 20 06 14.0 +0.9
OBN pmax pmax
comp=Z,103nm,2.5s
OBN Obninsk 75.48 36 eP P 20 06 13.2 +0.1
comp=Z,67nm,1.4s
LSZ Lusaka 75.48 109 eP P 20 06 14.5 +0.5
LSZ pmax pmax
comp=Z,101nm,1.8s
LSZ Lusaka 75.48 109 eP P 20 06 14.5 +0.5
comp=Z,101nm,1.8s
E03A Leban 75.48 315 eP P 20 06 13.2 -0.1
comp=Z,49nm,0.8s
BTCH Batrach 75.56 55 eP P 20 06 15.3 +1.2
MARH Ras Al Marh 75.69 58 eP P 20 06 16.5 +1.3
ANN Anapa 75.98 46 eP P 20 06 17.1 +0.9
ANN e 20 09 05.9
ANN eS S 20 16 03.1 +4.3
ANN pmax pmax
comp=Z,97nm,1.8s
ANN MLR MLR
comp=Z,1μm,16.0s
LBTB Lobatse 76.04 119 eP P 20 06 16.1 -1.0
LBTB AMB AMB 20 06 17.9
comp=Z,51nm,5.0s
LBTB Lobatse 76.04 119 eP P 20 06 16.3 -0.8
LBTB pmax pmax
comp=Z,30nm,0.7s
LBTB Lobatse 76.04 119 eP P 20 06 16.3 -0.8
comp=Z,30nm,0.7s
MOS Moscow 76.10 35 eP P 20 06 17.3 +0.7
MOS e 20 09 11.2
MOS pmax pmax
comp=Z,90nm,1.7s
MOS MLR MLR
comp=Z,3μm,18.0s
SWZ Schweizer 76.54 121 eP P 20 06 18.3 -1.5
SWZ AMB AMB 20 06 21.2
comp=Z,94nm,2.1s
SWZ Schweizer 76.54 121 P P 20 06 18.3 -1.5
comp=Z,94nm,2.1s
TMCR Tamitsa 76.61 26 eP P 20 06 20.5 +1.1
TMCR pmax pmax
comp=Z,39nm,1.5s
BOSA Boshof 76.96 123 eP P 20 06 19.9 -2.3
BOSA AMB AMB 20 06 23.1
comp=Z,67nm,1.4s
BOSA Boshof 76.96 123 eP P 20 06 21.2 -1.0
BOSA 20 06 21.3
BOSA pmax pmax
comp=Z,43nm,1.0s
BOSA Boshof 76.96 123 P P 20 06 21.3 -0.9
comp=Z,27nm,0.6s,baz=296,slow=4.6,SNR=53
BOSA LR LR 20 34 32.1
comp=Z,930nm,19.3s,baz=321,slow=31
BOSA Boshof 76.96 123 eP P 20 06 21.2 -1.0
comp=Z,43nm,1.0s
BOSA P P 20 06 21.3 -0.9
KEMA Kemaliye 77.00 52 iP P 20 06 23.4 +1.2
MALT Malatya 77.01 53⇓iP P 20 06 22.6 +0.3
VSR Storozhevoye 77.01 40⇑eP P 20 06 22.3 +0.4
VSR pmax pmax
comp=Z,27nm,1.0s
VORD Divnogorie 77.10 40 eP P 20 06 20.2 -2.2
VORD pmax pmax
comp=N,50nm,0.6s
VORD pmax pmax
comp=E,40nm,0.6s
KLMR Klimovskoe 77.19 30 eP P 20 06 21.8 -0.9
KLMR pmax pmax
comp=Z,111nm,1.7s
SOC Sochi 77.67 48 eP P 20 06 26.9 +1.1
SOC pmax pmax
comp=Z,45nm,0.8s
HVD Gariep Dam 77.84 125 eP P 20 06 26.0 -1.1
HVD AMB AMB 20 06 29.0
comp=Z,117nm,1.4s
HVD Gariep Dam 77.84 125 P P 20 06 26.0 -1.1
HVD pmax pmax
comp=Z,117nm,1.4s
HVD Gariep Dam 77.84 125 P P 20 06 26.0 -1.1
comp=Z,117nm,1.4s
PRYS Parys 78.16 121 eP P 20 06 28.3 -0.6
PRYS AMB AMB 20 06 36.7
comp=Z,26nm,5.5s
PRYS Parys 78.16 121 P P 20 06 28.3 -0.6
comp=Z,26nm,5.5s
SFNV Sufian 78.48 55 eP P 20 06 31.6 +1.1
CRWM Crown Mines 78.50 120 eP P 20 06 30.7 -0.2
CRWM AMB AMB 20 06 31.2
comp=Z,43nm,2.2s
OBSV Observatory 78.54 120 eP P 20 06 30.9 -0.3
OBSV AMB AMB 20 06 32.3
comp=Z,52nm,2.1s
VRHR Novokhopersk 78.56 40 eP P 20 06 29.8 -0.8
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,1.0s
SLR Silverton 78.58 119 eP P 20 06 31.4 +0.1
SLR AMB AMB 20 06 32.8
comp=Z,74nm,2.2s
SLR Silverton 78.58 119 P P 20 06 31.4 +0.1
SLR pmax pmax
comp=Z,74nm,2.2s
SLR Silverton 78.58 119 P P 20 06 31.4 +0.1
comp=Z,74nm,2.2s
ERPM east rand prop 78.73 120 eP P 20 06 30.5 -1.6
ERPM AMB AMB 20 06 33.4
comp=Z,60nm,2.3s
ERPM east rand prop 78.73 120 P P 20 06 30.5 -1.6
comp=Z,60nm,2.3s
SEK Senekal 78.83 122 eP P 20 06 32.3 -0.4
SEK AMB AMB 20 06 33.7
comp=Z,76nm,0.9s
SEK Senekal 78.83 122 P P 20 06 32.3 -0.4
comp=Z,76nm,0.9s
MSNA Messina 79.10 115 eP P 20 06 33.0 -1.1
MSNA AMB AMB 20 06 36.0
comp=Z,66nm,2.4s
MSNA Messina 79.10 115 P P 20 06 33.0 -1.1
comp=Z,66nm,2.4s
DBAD Bademkaya 79.32 50 iP P 20 06 35.9 +0.8
DAGI Agillar 79.48 50 iP P 20 06 36.9 +0.9
GRM Grahamstown 79.58 127 eP P 20 06 36.5 0.0
GRM AMB AMB 20 06 37.2
comp=Z,81nm,2.2s
GRM Grahamstown 79.58 127 P P 20 06 36.5 0.0
GRM pmax pmax
comp=Z,81nm,2.2s
GRM Grahamstown 79.58 127 P P 20 06 36.5 0.0
comp=Z,81nm,2.2s
EKAR Karacoban 79.76 52 iP P 20 06 39.8 +2.1
KIV Kislovodsk 79.79 47 P P 20 06 39.5 +1.9
comp=Z,137nm,1.0s,SNR=7.4
KIV Kislovodsk 79.79 47 eP P 20 06 38.9 +1.3
KIV pmax pmax
comp=Z,269nm,2.4s
KIV Kislovodsk 79.79 47 eP P 20 06 38.9 +1.3
comp=Z,269nm,2.4s
GOF Gofitskoye 79.94 46 eP P 20 06 38.4 +0.1
GOF pmax pmax
comp=Z,30nm,0.9s
KBZ Khabaz 79.96 47 P P 20 06 38.9 +0.6
comp=Z,13nm,0.9s,baz=256,slow=2.7,SNR=20
EATA Eleskirt 80.03 51 iP P 20 06 39.7 +0.4
ONI Oni 80.48 48 P P 20 06 42.1 +0.8
ONI Oni 80.48 48 P P 20 06 39.7 -1.6
AKH Akhalkalaki 80.63 50 P P 20 06 45.3 +3.0
AKH Akhalkalaki 80.63 50 P P 20 06 41.5 -0.8
ZEI Tsey 80.79 48 eP P 20 06 42.9 -0.2
ZEI pmax pmax
comp=Z,39nm,1.7s
KMBO Kilima Mbogo 81.03 93 P P 20 06 45.4 +0.4
KMBO e 20 06 46.5
KMBO 20 09 50.5
KMBO Kilima Mbogo 81.03 93 P P 20 06 45.4 +0.4
comp=Z,7.1nm,1.1s,baz=271,slow=6.2,SNR=12
KMBO PP PP 20 09 50.5 +0.4
comp=Z,0.8nm,0.6s,baz=264,slow=7.5,SNR=5.2
KMBO LR LR 20 42 19.2
comp=Z,851nm,18.3s,baz=298,slow=35
KMBO Kilima Mbogo 81.03 93 P P 20 06 45.4 +0.4
KMBO eP pP 20 06 46.5 -3.8
KMBO PP PP 20 09 50.5 +0.4
HAKT HAKKARI 81.23 53 iP P 20 06 46.5 +0.9
DUS Dusheti 81.45 49 P P 20 06 48.2 +1.7
DUS Dusheti 81.45 49 P P 20 06 49.4 +2.9
TBLG Delisi 81.52 49 P P 20 06 49.9 +3.0
TBLG Delisi 81.52 49 P P 20 06 49.9 +3.0
GNI Garni 81.72 51 eP P 20 06 48.5 +0.4
GNI pmax pmax
comp=Z,180nm,1.9s
GNI Garni 81.72 51 eP P 20 06 48.5 +0.4
comp=Z,180nm,1.9s
DGRG David-gareji 82.03 49 P P 20 06 49.3 -0.2
DGRG David-gareji 82.03 49 P P 20 06 49.8 +0.3
HYT Haines Junctio 82.65 330 eP P 20 06 52.3 -0.2
EGAK Eagle 83.60 335 eP P 20 06 58.5 +1.4
comp=Z,18nm,1.4s
RAYN Ar Rayn 84.77 67 P P 20 07 04.9 +0.9
comp=Z,1.0nm,1.0s,SNR=6.5
RAYN Ar Rayn 84.77 67 eP P 20 07 04.4 +0.4
comp=Z,222nm,2.4s
DOT Dot Lake 85.09 334 eP P 20 07 01.0 -3.8
comp=Z,134nm,2.8s
SOKR Solikamsk 85.88 30 eP P 20 07 09.3 +0.7
SOKR pmax pmax
comp=Z,20nm,1.0s
PAX Paxson 85.88 333 eP P 20 07 08.0 -0.8
PAX pmax pmax
comp=Z,20nm,1.1s
PAX Paxson 85.88 333 eP P 20 07 08.0 -0.8
comp=Z,20nm,1.1s
ILAR Eielson Array 85.98 335 P P 20 07 08.8 -0.3
comp=Z,9.2nm,0.7s,baz=78,slow=3.4,SNR=94
ILAR LR LR 20 44 17.2
comp=Z,995nm,18.3s,baz=42,slow=35
BMRM Bremner River 86.02 331 eP P 20 07 08.7 -0.8
comp=Z,34nm,1.3s
COLA College 86.35 336 iP P 20 07 11.2 +0.3
COLA pmax pmax
comp=Z,80nm,0.6s
COLA College 86.35 336 eP P 20 07 10.4 -0.4
comp=Z,55nm,1.0s
COLD Coldfoot 86.50 338 eP P 20 07 11.6 -0.1
comp=Z,18nm,1.1s
DIV Divide 86.52 332 eP P 20 07 11.2 -0.7
comp=Z,36nm,1.2s
SNAA Sanae 86.59 168 eP P 20 07 12.7 +0.8
SNAA Sanae 86.59 168 ceP P 20 07 13.7 +1.7
SNAA pmax pmax
comp=Z,20nm,1.2s
SNAA Sanae 86.59 168 P P 20 07 12.5 +0.6
comp=Z,2.6nm,0.7s,baz=293,slow=7.8,SNR=10
SNAA LR LR 20 38 35.6
comp=Z,688nm,20.7s,baz=332,slow=30
SNAA Sanae 86.59 168 eP P 20 07 12.2 +0.2
comp=Z,31nm,0.9s
SNAA P P 20 07 12.5 +0.6
MCK McKinley 87.15 335 eP P 20 07 14.9 0.0
MCK pmax pmax
comp=Z,50nm,1.5s
MCK McKinley 87.15 335 eP P 20 07 14.9 0.0
comp=Z,50nm,1.5s
ARU Arti 87.61 33 P P 20 07 18.0 +0.8
comp=Z,109nm,2.0s,SNR=7.6
ARU Arti 87.61 33diP P 20 07 18.3 +1.0
ARU 20 10 45.5
ARU S SKSac 20 17 45.6 +1.0
ARU SS SS 20 23 38.1 -5.5
ARU pmax pmax
comp=Z,44nm,1.7s
ARU Arti 87.61 33 eP P 20 07 18.2 +1.0
comp=Z,27nm,1.1s
TRF Thorofare Moun 87.81 335 eP P 20 07 17.8 -0.5
comp=Z,30nm,1.1s
PMR Palmer 87.93 333 eP P 20 07 17.6 -1.0
PMR pmax pmax
comp=Z,39nm,1.5s
PMR Palmer 87.93 333 eP P 20 07 17.6 -1.0
comp=Z,39nm,1.5s
KTH Kantishna Hill 88.05 335 eP P 20 07 19.4 +0.1
comp=Z,270nm,2.9s
IM04 Indian Mountai 88.29 337 eP P 20 07 20.2 -0.1
RC01 Rabbit Creek A 88.37 332 eP P 20 07 22.4 +1.7
comp=Z,96nm,2.0s

SVE	Sverdlovsk	88.59	32	eP	P	20 07 24.1	+2.2
SVE				pmax	pmax		
	comp=Z,56nm,2.0s						
PPLA	Purkeypile	88.82	334	eP	P	20 07 22.1	-1.0
	comp=Z,56nm,1.4s						
NVL	N'lazarevskaya	89.43	164	eP	P	20 07 38.6	+13
NVL				pmax	pmax		
	comp=Z,23nm,1.0s						
ABKAR	Akbulak array	90.45	40	eP	P	20 07 32.4	+1.6
GEYT	Alibeck	92.36	51	P	P	20 07 39.9	-0.1
	comp=Z,4.8nm,0.7s,baz=272,slow=6.0,SNR=13						
BRVK	Borovoye	95.15	34	⇓iP	P	20 07 54.2	+1.8
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
BRVK	Borovoye	95.15	34	eP	P	20 07 51.0	-1.4
BVAR	Borovoye Array	95.22	34	P	P	20 07 52.9	+0.1
	comp=Z,2.3nm,0.8s,baz=292,slow=4.5,SNR=3.8						
GAMB	Gambell	95.95	339	eP	P	20 07 54.8	-1.0
	comp=Z,2.2nm,0.4s						
TIXI	Tiksi	97.57	2	P	Pdif	20 08 06.9	+3.9
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TIXI	Tiksi	97.57	2	P	Pdif	20 08 06.9	+3.9
	comp=Z,4.8nm,0.8s						
BILL	Bilibino	98.54	349	eP	Pdif	20 08 10.2	+2.8
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ZALV	Zalesovo Beam	102.07	28	PP	PP	20 12 33.8	-0.6
	comp=Z,3.1nm,0.9s,baz=302,slow=8.4,SNR=7.1						
AAK	Ala-Archa	102.33	42	PP	PP	20 12 40.1	+3.0
	comp=Z,2.3nm,0.9s,baz=211,slow=10.0,SNR=3.7						
MKAR	Makanchi Array	104.98	35	PKKPbc	PKKPbc	20 24 25.1	+4.9
	comp=Z,1.2nm,1.1s,baz=153,slow=1.4,SNR=4.5						
SONM	Songino Array	115.75	22	PKP	PKPdf	20 13 11.4	-0.5
	comp=Z,0.7nm,1.0s,baz=270,slow=3.0,SNR=3.8						
GTA	Gaotai	119.46	32	ePKP	PKPdf	20 13 20.3	+1.0
GTA				sPKP		20 13 28.0	
LSA	Lhasa	120.52	46	ePKIKP	PKPdf	20 13 21.5	-0.5
LSA	Lhasa	120.52	46	ePKPdf	PKPdf	20 13 21.5	-0.5
HHC	Hu-ho-hao-te	123.64	23	ePKP	PKPdf	20 13 21.3	-5.9
HHC				sPKP		20 13 35.0	
HHC				LR	LR		
	comp=Z,790nm,17.5s						
HHC				LR	LR		
	comp=Z,1μm,16.7s						
LZH	Lanzhou	124.06	32	ePKP	PKPdf	20 13 25.0	-3.2
LZH				sPKP		20 13 30.0	
LZH				PP	PP	20 15 13.0	+1.6
LZH				eSKKS		20 22 02.3	
LZH				AMB	AMB		
	comp=Z,270nm,9.6s						
LZH				LR	LR		
	comp=Z,2μm,18.3s						
LZH				LR	LR		
	comp=Z,1μm,18.0s						
LZH				LR	LR		
	comp=Z,1μm,20.0s						
CD2	Chengdu	127.90	36	PKP	PKPdf	20 13 35.0	-0.6
CD2				PP	PP	20 15 40.0	+3.1
CD2				PKS	PKSdf	20 17 10.0	-2.3
CD2				SKS	SKSdf	20 20 44.0	-3.1
CD2				SKKS	SKKSac	20 22 31.0	-4.2
CD2				SS	SS	20 32 48.5	-0.5
CD2				AMB	AMB		
	comp=Z,220nm,6.4s						
ENH	Enshi	131.54	32	ePKPdf	PKPdf	20 13 45.0	+2.5
ENH				eSKP		20 17 06.4	
CHTO	Chiang Mai	132.62	52	ePKIKP	PKPdf	20 13 48.3	+3.5
CHTO	Chiang Mai	132.62	52	ePKPdf	PKPdf	20 13 48.3	+3.5
CM31	Chiang Mai Arr	132.82	52	ePKPdf	PKPdf	20 13 46.7	+1.6
CMAR	Chiang Mai Arr	132.82	52	PKP	PKPdf	20 13 45.0	-0.1
	comp=Z,3.9nm,0.8s,baz=291,slow=3.5,SNR=25						
MJAR	Matsushiro Arr	132.88	358	PKP	PKPdf	20 13 44.6	-0.2
	comp=Z,1.3nm,0.9s,baz=16,slow=0.9,SNR=3.3						
GYA	Guiyang	132.90	38	ePdif	Pdif	20 10 40.3	-1.0
GYA				PP	PP	20 16 12.8	+3.2
GYA				PKS	PKSdf	20 17 20.0	-2.0
GYA				SKKS		20 23 02.0	
GYA				SS	SS	20 33 51.5	+0.8
GYA				AMB	AMB		
	comp=Z,140nm,7.7s						
GYA				LR	LR		
	comp=Z,140nm,20.8s						
GYA				LR	LR		
	comp=Z,150nm,20.8s						
NJ2	Nanjing	134.13	21	ePKP	PKPdf	20 13 47.0	-0.2
IPM	Ipoh	141.47	69	ePKPpre	PKPpre	20 13 55.1	
IPM				ePKPdf	PKiKP	20 14 03.7	-0.4
IPM	Ipoh	141.47	69	⇑P	PKPdf	20 13 56.7	-4.6
MYKOM	Kota Tinggi	145.10	71	⇑P	PKPbc	20 14 05.4	-1.7
TAU	Tasmania Unive	146.68	194	ePKP2	PKPab	20 14 13.4	+1.3
TAU	Tasmania Unive	146.68	194	ePKPbc	PKPab	20 14 13.4	+1.3
DZM	Mont Dzumac	149.32	245	ePKPdf	PKPdf	20 14 14.7	+0.1
KSM	Kuching	151.14	67	ePKPbc	PKPbc	20 14 22.2	-1.2
CISI	Cisompet, Garu	151.41	86	ePKPdf	PKPdf	20 14 18.6	+0.7
NWAO	Narrogin (SRO)	151.68	144	PKPbc	PKPbc	20 14 23.1	-1.0
	comp=Z,18nm,1.1s,baz=68,slow=1.1,SNR=3.5						
SBUM	Sibu	152.40	63	ePKPdf	PKPbc	20 14 26.9	+0.6
KKM	Kota Kinabalu	153.69	51	ePKPdf	PKPdf	20 14 22.1	+0.7
KKM				ePKPbc	PKiKP	20 14 30.5	+1.1
KKM				ePKPab	PKPab	20 14 39.0	-2.9
SDKM	Sandakan	154.70	51	⇓P	PKPab	20 14 42.4	-3.7
PMG	Port Moresby	169.51	277	ePKIKP	PKPdf	20 14 37.7	+0.1
PMG	Port Moresby	169.51	277	ePKPdf	PKPdf	20 14 37.7	+0.1
WRA	Warramunga Arr	170.66	167	PKP	PKPdf	20 14 38.2	+0.1
	comp=Z,1.2nm,0.9s,baz=289,slow=1.0,SNR=5.6						
WRA				PKPab	PKPab	20 15 55.4	+0.1
	comp=Z,2.3nm,0.9s,baz=196,slow=4.0,SNR=6.0						

IDC 27 19:56:19.6±1.4, 33.30S×72.45W, h0km, mb4.4/3, mb1 4.3/6, mb1mx4.1/39, mbtmp4.2/6, ML4.0/3, Error ellipse: s-maj=52.5km s-min=24.6km az=110.0
ISCJB 27 19:56:23.3±1.2, 33.37S±0.08×72.07W±0.06, h32km±8km, mb4.6/4, Error ellipse: s-maj=12.8km s-min=8.0km az=4.3
GUC 27 19:56:24.1±0.6, 33.34S×71.95W, h41km±2km, ML4.2
NEIC 27 19:56:26.0±2.6, 33.32S×72.26W, h42km±21km, mb4.7/4, Error ellipse: s-maj=28.7km s-min=11.8km az=81.0
ISC 27 19:56:23.7±2.4, 33.31S±0.07×71.97W±0.09, h24km±15km, n25, σ0.83/35, mb4.6/4, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.40	44	⇓iP	Pn	19 56 33.7	-0.3
IHA				iS	Sn	19 56 40.7	-0.1
ROCH	El Roble	0.88	67	⇓iP	Pn	19 56 40.9	+0.1
ROCH				iS	Sn	19 56 53.6	+0.7
ROCH				AML	AML	19 56 56.2	
	comp=N,10μm,0.4s						
TACH	Talagante	0.93	112	⇑iP	Pb	19 56 40.7	-0.4
RCDM	Rinconada Maip	0.99	100	iP	Pn	19 56 41.6	-0.5
RCDM				iS	Sb	19 56 54.9	0.0
PEL	Peldehue	1.09	81	⇑iP	Pb	19 56 44.3	+0.4
PEL				iS	Sb	19 56 59.1	+1.4
PEL				AML	AML	19 57 06.1	
	comp=N,19μm,0.4s						
SAN	Santiago	1.11	98	⇑iP	Pn	19 56 44.1	+0.3
SAN				iS	Sb	19 56 58.7	+0.5
STL	Santa Lucia	1.12	97	⇓iP	Pn	19 56 43.3	-0.7
STL				iS	Sn	19 56 58.1	-0.5
FCH	Farellones	1.41	91	⇓iP	Pb	19 56 48.4	+0.3
FCH				iS	Sb	19 57 07.7	+0.5
FCH				AML	AML	19 57 12.4	
	comp=N,8μm,0.8s						
CFAA	Coronel Fontan	3.59	63	Pn	Pb	19 57 22.9	-3.6
	comp=N,2.7nm,0.3s,baz=232,slow=14,SNR=6.9						
TRQA	Tornquist	9.40	123	ePn	Pn	19 58 41.7	+4.0
CPUP	Villa Florida	14.48	65	Pn	P	19 59 51.0	-2.7
	comp=N,0.6nm,0.3s,baz=235,slow=11,SNR=3.1						
LPAZ	La Paz	17.30	12	P	P	20 00 25.9	+0.2
	comp=N,0.2nm,0.3s,baz=200,slow=5.7,SNR=6.6						
LPAZ	La Paz	17.30	12	ePn	P	20 00 25.3	-0.3
	comp=N,6.5nm,0.9s						
SNAA	Sanae	52.20	158	P	P	20 05 32.3	+0.1
	comp=N,3.0nm,1.0s,baz=284,slow=5.4,SNR=6.8						
SNAA	Sanae	52.20	158	eP	P	20 05 32.1	-0.1
	comp=N,9.6nm,1.0s						
TEIG	Tepich	55.47	341	P	P	20 05 55.5	-1.1
QSPA	South Pole Qui	56.92	180	P	P	20 06 07.4	+0.8
	comp=N,6.3nm,0.9s,baz=148,slow=3.4,SNR=8.0						
QSPA	South Pole Qui	56.92	180	eP	P	20 06 06.9	+0.3
	comp=N,7.8nm,1.0s						
WVT	Waverly	70.66	346	eP	P	20 07 37.9	+0.7
	comp=N,16nm,1.0s						
TORD	Torodi Ar. Bea	83.92	70	P	P	20 08 52.8	+0.8
	comp=N,3.1nm,0.8s,baz=251,slow=4.4,SNR=6.7						
AAK	Ala-Archa	152.13	61	ePKP	PKPdf	20 16 12.4	+1.9
AAK				ePKPbc	PKiKP	20 16 17.8	+0.3
AAK				ePKPab	PKPab	20 16 27.2	+0.3
ZAA0	Zalesovo Array	153.62	32	ePKPdf	PKPdf	20 16 12.3	+0.3
ZAA0				ePKPbc	PKPbc	20 16 19.7	-0.1
ZALV	Zalesovo Beam	153.62	32	PKP	PKPdf	20 16 10.8	-1.3
	comp=N,1.0nm,0.8s,baz=318,slow=2.0,SNR=4.1						
ZALV				PKPbc	PKiKP	20 16 20.1	+0.2
	comp=N,3.7nm,0.7s,baz=312,slow=2.8,SNR=11						
MK31	Makanchi Array	156.27	48	ePKPdf	PKPdf	20 16 16.2	+0.2
MK31				ePKPab	PKPab	20 16 44.6	+0.4
MKAR	Makanchi Array	156.27	48	PKPab	PKPab	20 16 44.6	+0.5
	comp=N,2.4nm,0.6s,baz=279,slow=3.0,SNR=18						

IDC 27 20:00:03.9±1.1, 35.68S×72.21W, h0km, mb4.2/5, mb1 4.4/7, mb1mx4.1/35, mbtmp4.2/7, ML4.5/2, MS3.2/1, Ms1 3.2/1, ms1mx3.2/28, Error ellipse: s-maj=43.0km s-min=27.1km az=52.0
ISCJB 27 20:00:08.2±0.9, 35.8S±0.1×72.2W±0.2, h35km, mb4.1/5, Error ellipse: s-maj=24.2km s-min=16.9km az=178.9
ISC 27 20:00:09.5±0.9, 35.7S±0.1×72.2W±0.2, h35km, n12, σ1.53/13, mb4.2/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.18	166	Pn	Pn	20 01 24.6	0.0
	1.0nm,0.3s,baz=356,slow=13,SNR=1.8						
CFAA	Coronel Fontan	5.26	40	LR	LR	20 03 40.9	
	comp=Z,254nm,19.5s,baz=273,slow=41						
CPUP	Villa Florida	15.80	58	Pn	Pn	20 03 49.5	+0.2
	3.2nm,0.3s,baz=171,slow=13,SNR=3.5						
TXAR	Lajitas Array	71.16	331	P	P	20 11 24.8	+0.1
	1.0nm,0.9s,baz=159,slow=5.8,SNR=4.6						
DBIC	Dimbokro	75.86	71	P	P	20 11 53.2	+0.7
	3.6nm,0.8s,baz=159,slow=2.7,SNR=3.2						
BOSA	Boshof	79.40	118	P	P	20 12 12.1	-0.3
	4.7nm,1.0s,baz=180,slow=4.0,SNR=3.0						
TORD	Torodi Ar. Bea	84.92	70	P	P	20 12 41.2	0.0
	2.0nm,1.1s,baz=255,slow=5.8,SNR=3.7						
NVAR	Mina Array Bea	85.21	325	P	P	20 12 43.4	+1.0
	0.5nm,0.7s,baz=139,slow=5.8,SNR=2.5						
BVAR	Borovoye Array	148.61	45	PKPbc	PKPdf	20 19 51.3	+2.8
	0.9nm,0.5s,baz=298,slow=2.2,SNR=4.3						
ZALV	Zalesovo Beam	155.73	34	PKP	PKPdf	20 19 56.0	-3.0
	0.4nm,0.5s,baz=338,slow=1.6,SNR=2.9						
ZALV				PKPab	PKPab	20 20 24.7	-0.9
	0.8nm,0.6s,baz=299,slow=4.6,SNR=3.6						
MKAR	Makanchi Array	157.96	52	PKP	PKPdf	20 20 01.9	-0.3
	0.2nm,0.8s,baz=208,slow=4.9,SNR=2.0						
MKAR				PKPab	PKPab	20 20 35.3	-0.2
	0.6nm,0.8s,baz=290,slow=3.5,SNR=4.3						
SONM	Songino Array	167.84	4	PKPab	PKPab	20 21 16.8	-1.9
	0.4nm,0.5s,baz=138,slow=9.4,SNR=6.0						

IDC 27 20:04:26.3±3.6, 34.01S×73.57W, h0km, mb3.5/2, mb1 4.1/2, mb1mx3.7/30, mbtmp3.5/2, Error ellipse: s-maj=165.3km s-min=52.7km az=27.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	69.14	332	P	P	20 15 33.5	-1.0
	0.4nm,0.6s,baz=149,slow=8.5,SNR=3.7						
NVAR	Mina Array Bea	83.17	326	P	P	20 16 55.1	+0.7
	0.1nm,0.3s,baz=161,slow=6.5,SNR=2.5						
BRTR	Keskin Array B	122.95	61	PKP	PKPdf	20 23 23.3	-1.3
	0.6nm,0.8s,baz=211,slow=4.2,SNR=3.7						
BVAR	Borovoye Array	148.15	42	PKPbc	PKPbc	20 24 13.9	+0.3
	1.0nm,0.6s,baz=297,slow=4.3,SNR=6.8						
ZALV	Zalesovo Beam	154.90	31	PKPab	PKPab	20 24 45.3	+0.8
	1.3nm,0.7s,baz=290,slow=6.1,SNR=4.0						
MKAR	Makanchi Array	157.72	48	PKPab	PKPab	20 24 55.3	-1.6
	0.6nm,0.8s,baz=270,slow=1.4,SNR=3.7						

IDC 27 20:05:16.5±0.5, 34.61S×73.06W, h0km, mb4.6/13, mb1 4.7/16, mb1mx4.5/31, mbtmp4.5/16, ML4.1/3, Error ellipse: s-maj=19.6km s-min=14.7km az=96.0
ISCJB 27 20:05:20.7±0.3, 34.59S±0.06×72.79W±0.09, h33km, mb4.8/52, Error ellipse: s-maj=11.3km s-min=7.7km az=156.9
NEIC 27 20:05:22.2±0.2, 34.63S×72.82W, h35km, mb4.9/39, Error ellipse: s-maj=8.5km s-min=6.2km az=67.0
ISC 27 20:05:23.1±0.4, 34.54S±0.07×72.80W±0.10, h35km, n92, σ1.90/105, mb4.8/52, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.82	54	Pn	Pn	20 06 32.7	-0.6
	1.0nm,0.3s,baz=237,slow=12,SNR=9.9						
CFAA				Lg	Lg	20 07 57.0	
	1.0nm,0.3s,baz=318,slow=22,SNR=4.5						
PLCA	Paso Flores	6.44	165	Pn	Pn	20 06 52.9	-2.5
	1.5nm,0.3s,baz=246,slow=20,SNR=1.8						
PLCA	Paso Flores	6.44	165	Pn	Pn	20 06 52.9	-2.5
PLCA				ePn	Pn	20 06 58.2	+2.7
CPUP	Villa Florida	15.64	63	Pn	Pn	20 09 02.1	+1.2
	0.5nm,0.3s,baz=229,slow=9.3,SNR=5.4						
CPUP	Villa Florida	15.64	63	Pn	Pn	20 09 02.1	+1.2
CPUP				ePn	P	20 09 03.7	-0.9
LPAZ	La Paz	18.65	14	ePn	P	20 09 29.6	-9.1
USHA	Ushuaia	20.52	173	P	P	20 09 56.8	-1.3
	21nm,0.8s,baz=301,slow=1.8,SNR=5.3						
SIV	San Ignacio	21.27	33	P	P	20 10 06.9	+0.4
	19nm,0.7s,baz=204,slow=8.4,SNR=6.2						
BDFB	Brasilia	29.16	56	P	P	20 11 19.8	-1.5
	9.2nm,0.8s,baz=306,slow=4.1,SNR=3.1						
OTAV	Otavalo	35.00	350	P	P	20 12 06.4	-6.4
	55nm,1.7s						
SDV	Santo Domingo	43.24	3	eP	P	20 13 18.8	-2.5
	14nm,0.9s						
JTS	JuntasAbangare	46.05	343	P	P	20 13 37.6	-5.9
	16nm,1.3s						
VNA3	Neumayer Olymp	49.10	158	P	P	20 14 06.7	0.0
VNA2	Neumayer--Watz	49.76	157	P	P	20 14 11.6	-0.1
FDF	Fort de France	50.24	15	P	P	20 14 09.2	-6.7
SNAA	Sanae	51.33	158	P	P	20 14 23.3	-0.2
SNAA	Sanae	51.33	158	P	P	20 14 20.7	-2.8
	3.5nm,0.9s,baz=285,slow=7.0,SNR=11						
SNAA	Sanae	51.33	158	P	P	20 14 20.7	-2.8
SNAA				eP	P	20 14 21.8	-1.7
APG	El Apazote	52.05	338	P	P	20 14 24.3	-5.5
	4.8nm,0.9s,baz=104,slow=4.2,SNR=4.2						
QSPA	South Pole Qui	55.70	180	P	P	20 14 54.8	-1.0
	10nm,0.9s,baz=152,slow=2.7,SNR=9.3						
QSPA	South Pole Qui	55.70	180	P	P	20 14 54.8	-1.0
QSPA				eP	P	20 14 55.0	-0.8
QSPA				e		20 15 02.0	
TEIG	Tepich	56.42	342	P	P	20 14 59.9	-1.3
	20nm,0.8s						
JCT	Junction City	69.50	335	eP	P	20 16 27.8	-0.3
	17nm,1.0s						
TXAR	Lajitas Array	69.90	332	P	P	20 16 29.2	-1.4
	1.4nm,0.7s,baz=151,slow=7.6,SNR=12						
TKL	Tuckaleechee C	70.58	351	P	P	20 16 32.7	-1.8
	4.8nm,0.8s,baz=155,slow=6.3,SNR=4.4						
ABTX	Abilene, Hawle	71.41	336	eP	P	20 16 37.9	-1.7
	14nm,0.9s						
WVT	Waverly	71.69	347	eP	P	20 16 40.4	-0.8
	25nm,1.1s						
TUL1	Tulsa	73.30	341	eP	P	20 16 50.0	-0.8
	10nm,0.8s						
MSTX	Muleshoe	73.71	334	eP	P	20 16 52.7	-0.7
	12nm,1.0s						
AMTX	Amarillo	74.16	336	eP	P	20 16 55.6	-0.4
	13nm,1.0s						
ACSO	Alum Creek Sta	74.99	352	eP	P	20 16 58.8	-1.8
	16nm,0.8s						
DBIC	Dimbokro	75.95	72	P	P	20 17 06.8	+0.1
	9.6nm,0.8s,baz=201,slow=5.9,SNR=12						
DBIC	Dimbokro	75.95	72	P	P	20 17 06.8	+0.1
DBIC				eP	P	20 17 06.9	+0.2
ANMO	Albuquerque	75.96	332	eP	P	20 17 06.7	+0.2
	8.2nm,1.2s						
MVCO	Mesa Verde	78.73	332	eP	P	20 17 22.8	+0.7
	10.0nm,1.3s						
CASY	Casey	79.47	181	eP	P	20 17 23.9	-1.6
	16nm,1.1s						
TSUM	Tsumeb	79.67	106	eP	P	20 17 27.3	-0.3
	19nm,1.5s						
SMCO	Snowmass	79.88	334	eP	P	20 17 28.9	+0.5
	14nm,1.3s						
ISCO	Idaho Springs	79.94	335	eP	P	20 17 28.7	0.0
	88nm,2.9s						
BOSA	Boshof	80.38	118	P	P	20 17 30.4	-0.9
	12nm,0.9s,baz=216,slow=5.6,SNR=9.8						
ECSD	EROS Data Cent	80.87	343	eP	P	20 17 32.6	-0.6
	14nm,0.9s						
CCUT	Cedar City	81.03	328	eP	P	20 17 35.5	+1.1
	101nm,2.8s						
SRU	San Rafael	81.17	331	eP	P	20 17 35.3	+0.2
	5.3nm,1.0s						
PHWY	Pilot Hill	81.22	336	eP	P	20 17 35.3	-0.2
	14nm,1.4s						
MVU	Marysvale	81.34	330	eP	P	20 17 36.4	+0.3
	12nm,1.5s						
R11A	Troy Canyon, C	82.67	327	eP	P	20 17 43.3	+0.3
	11nm,1.4s						
K22A	Casper	82.79	336	eP	P	20 17 43.9	+0.4
	12nm,1.1s						
JLU	Jordanelle	82.82	331	eP	P	20 17 44.2	+0.4
	6.3nm,1.0s						
DUG	Dugway	83.02	330	eP	P	20 17 44.8	0.0
	14nm,1.4s						
TPH	Tonopah	83.18	326	eP	P	20 17 46.0	+0.3
	7.0nm,1.0s						
BGU	Big Grassy Mou	83.73	331	eP	P	20 17 48.0	-0.4
	6.7nm,1.6s						
PDAR	Pinedale Array	83.96	334	P	P	20 17 48.0	-1.6
	3.6nm,1.2s,baz=177,slow=3.0,SNR=8.8						
NVAR	Mina Array Bea	83.97	326	P	P	20 17 48.2	-1.5
	1.0nm,0.8s,baz=142,slow=5.6,SNR=4.5						
HVU	Hansel Valley	84.34	331	eP	P	20 17 51.1	-0.4
	6.2nm,0.9s						
REDW	Red Top Meadow	84.95	333	eP	P	20 17 53.9	-0.7
	16nm,1.5s						
TOA0	Torodi Ar. Sit	84.99	70	eP	P	20 17 55.3	+0.1
TOA0				e		20 18 03.1	
TORD	Torodi Ar. Bea	84.99	70	P	P	20 17 55.4	+0.2
	7.3nm,0.8s,baz=260,slow=3.8,SNR=30						
LOHW	Long Hollow	85.08	333	eP	P	20 17 54.7	-0.5
	13nm,1.8s						
IMW	Indian Meadow	85.44	333	eP	P	20 17 57.1	0.0
	6.6nm,1.3s						
FLWY	Flagg Ranch	85.52	334	eP	P	20 17 57.3	-0.1
	22nm,1.6s						
LAO	LASA Array	86.28	338	eP	P	20 18 00.2	-0.7
	12nm,1.0s						
HLID	Hailey	86.50	331	eP	P	20 18 02.4	+0.1
	9.4nm,1.4s						
ULM	Lac du Bonnet	86.86	345	P	P	20 18 02.2	-1.3
	5.4nm,1.1s,baz=192,slow=4.2,SNR=4.8						
MCMT	McKenzie Canyo	86.95	333	eP	P	20 18 04.0	-0.5
	5.9nm,1.3s						
DGMT	Dagmar	87.27	340	eP	P	20 18 05.0	-0.7
	72nm,1.6s						
DGMT				e		20 18 12.5	
DLMT	Dillon	87.31	333	eP	P	20 18 06.6	+0.5
	10.0nm,1.2s						
LRM	Limekiln Ridge	87.65	333	eP	P	20 18 07.8	-0.1
LSZ	Lusaka	90.24	109	P	P	20 18 23.0	+2.3
	11nm,1.2s						
YKA	Yellowknife Ar	102.36	342	P	Pdif	20 19 12.9	-1.4
	0.2nm,0.7s,baz=142,slow=4.3,SNR=3.5						
WRA	Warramunga Arr	119.98	210	PKP	PKPdf	20 24 08.1	-2.4
	1.3nm,0.8s,baz=172,slow=1.6,SNR=6.1						
BRTR	Keskin Array B	122.65	61	PKP	PKPdf	20 24 14.4	-0.6
	1.1nm,0.8s,baz=198,slow=1.5,SNR=7.2						
AKASG	Malin Array Be	123.02	48	PKP	PKPdf	20 24 13.5	-1.7
	0.1nm,0.2s,baz=268,slow=2.5,SNR=4.2						
MICGM	Minsk	123.21	43	e	Pdif	20 20 42.0	-5.2
SEY	Seymchan	140.18	330	PKP	PKPdf	20 24 46.5	-0.7
	2.3nm,0.8s,baz=198,slow=0.3,SNR=6.0						
PSI	Prapat	147.50	164	PKPbc	PKPdf	20 25 02.5	+0.8
	5.1nm,0.6s,baz=201,slow=8.2,SNR=4.9						
BRVK	Borovoye	148.03	43	ePKPdf	PKPbc	20 25 05.0	+0.7
BVAR	Borovoye Array	148.11	43	PKPbc	PKPbc	20 25 05.0	+0.5
	3.5nm,0.7s,baz=288,slow=4.0,SNR=12						
YAK	Yakutsk	149.02	339	ePKPbc	PKPbc	20 25 05.2	-1.4
HYB	Hyderabad	149.27	116	iPKP	PKPbc	20 25 07.0	-1.6
AAK	Ala-Archa	153.32	63	PKPbc	PKPbc	20 25 18.1	+0.6
	3.8nm,0.8s,baz=171,slow=2.6,SNR=9.0						
AAK	Ala-Archa	153.32	63	ePKPdf	PKPbc	20 25 17.8	+0.3
AAK				PKPbc	PKPbc	20 25 18.1	+0.6
KSH	Kashi	154.66	70	ePKPbc	PKPbc	20 25 19.5	-0.9
KSH				epPKP	pPKPdf	20 25 29.0	+5.7
KSH				esPKP		20 25 33.5	
KSH				ePP	PP	20 29 11.5	0.0
KSH				eSKS	SKSdf	20 32 20.5	+4.6
KSH				eSKKS	SKKSac	20 36 00.5	+2.2
KSH				eSS	SS	20 48 49.5	-1.5
KSH				LR	LR		
	comp=Z,110nm,4.9s						
ZALV	Zalesovo Beam	155.02	32	PKP	PKPdf	20 25 09.2	-2.4
	1.2nm,0.9s,baz=258,slow=2.9,SNR=4.1						
ZALV				PKPbc	PKPbc	20 25 18.3	
	5.3nm,1.1s,baz=253,slow=4.5,SNR=11						
ZALV				PKPab	PKPab	20 25 36.7	+0.5
	2.7nm,0.7s,baz=313,slow=5.6,SNR=5.3						
MKAR	Makanchi Array	157.59	49	PKPab	PKPab	20 25 47.8	+0.2
	3.4nm,0.7s,baz=298,slow=4.2,SNR=17						
WMQ	Urumqi	162.30	53	PKP	PKPdf	20 25 24.5	+3.7
WMQ				LR	LR		
	comp=N,440nm,21.0s						
WMQ				LR	LR		
	comp=E,330nm,20.8s						
WMQ				LR	LR		
	comp=Z,210nm,19.0s						
SONM	Songino Array	166.70	2	PKPab	PKPab	20 26 26.6	-0.8
	2.3nm,0.9s,baz=332,slow=4.2,SNR=6.5						
NJ2	Nanjing	169.93	259	ePKP	PKPdf	20 25 31.0	+3.9
GYA	Guiyang	171.93	177	ePKP	PKPdf	20 25 32.8	+4.3
GYA				pPKP	pPKPdf	20 25 44.0	+4.4
GYA				PKPab	PKPab	20 27 01.5	+10
GYA				PKS	PKSdf	20 29 03.8	+2.8
GYA				PP	PP	20 30 53.5	+12
GYA				SKKS		20 37 34.5	
GYA				SS	SS	20 52 02.3	+16
GYA				AMB	AMB		
	comp=Z,120nm,8.0s						
GYA				LR	LR		
	comp=N,120nm,21.5s						
GYA				LR	LR		
	comp=E,110nm,21.4s						
GYA				LR	LR		
	comp=Z,120nm,24.8s						
GTA	Gaotai	172.35	48	ePKP	PKPdf	20 25 36.0	+7.7
GTA				pPKP	pPKPdf	20 25 47.0	+7.2
GTA				sPKP		20 25 50.5	
HHC	Hu-ho-hao-te	172.81	332	ePKP	PKPdf	20 25 31.0	+2.6
HHC				pPKP	pPKPdf	20 25 40.0	+0.1
HHC				sPKP		20 25 46.5	
CD2	Chengdu	175.36	140	PKP	PKPdf	20 25 33.0	+3.5
CD2				pPKP	pPKPdf	20 25 44.5	+3.5
CD2				sPKP		20 25 48.3	
CD2				PKS	PKSdf	20 29 03.8	+2.0
CD2				PP	PP	20 31 08.3	+10
CD2				SKS	SKSdf	20 32 30.5	+0.5
CD2				SKKS	SKKSac	20 37 49.0	+6.5
CD2				SS	SS	20 52 28.8	+7.8
CD2				AMB	AMB		
	comp=Z,220nm,6.4s						
LZH	Lanzhou	176.85	60	ePKP	PKPdf	20 25 33.5	+3.6
LZH				pPKP	pPKPdf	20 25 44.0	+2.6
LZH				sPKP		20 25 50.3	

IDC 27 20:09:11.7±0.8, 35.67S×72.95W, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.2/28, mbtmp4.2/11, ML3.7/2, Error ellipse: s-maj=28.6km s-min=19.3km az=86.0
ISCJB 27 20:09:12.9±0.7, 35.54S±0.09×73.0W±0.2, h17km, mb4.2/12, Error ellipse: s-maj=19.2km s-min=13.6km az=178.6
NEIC 27 20:09:16.8±0.7, 35.69S×72.75W, h35km, mb4.8/4, Error ellipse: s-maj=17.9km s-min=13.3km az=68.0
ISC 27 20:09:14.6±0.7, 35.53S±0.10×73.0W±0.2, h17km, n26, σ1.34/23, mb4.3/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.57	47	Pn	Pn	20 10 37.1	+0.3
	0.2nm,0.3s,baz=252,slow=20,SNR=2.3						
TRQA	Tornquist	9.19	109	ePn	Pn	20 11 21.3	-5.2
LPAZ	La Paz	19.65	14	P	Pn	20 13 44.5	-0.2

0.5nm,0.3s,baz=190,slow=7.1,SNR=8.6
SIV San Ignacio 22.18 32 P P 20 14 09.4 -0.7
12nm,0.9s,baz=231,slow=13,SNR=10
NNA Nana 23.69 351 P P 20 14 22.7 -2.9
SDV Santo Domingo 44.23 3 eP P 20 17 22.6 -0.7
5.1nm,0.8s
SNAA Sanae 50.48 157 P P 20 18 10.4 -0.9
1.4nm,0.9s,baz=289,slow=6.9,SNR=5.2
FDF Fort de France 51.23 15 P P 20 18 19.5 +2.1
AGPR Aguadilla, PR 53.98 7 P P 20 18 34.5 -3.2
QSPA South Pole Qui 54.71 180 P P 20 18 40.4 -2.4
1.3nm,0.8s,baz=200,slow=2.3,SNR=3.2
QSPA South Pole Qui 54.71 180 P P 20 18 39.0 -3.8
TXAR Lajitas Array 70.69 332 P P 20 20 30.3 +0.7
0.7nm,0.9s,baz=145,slow=4.6,SNR=4.4
SWET Sewanee 71.41 349 eP P 20 20 32.4 -1.3
9.2nm,0.8s
DBIC Dimbokro 76.41 72 P P 20 21 04.0 +0.5
7.0nm,0.8s,baz=206,slow=6.2,SNR=9.8
DBIC Dimbokro 76.41 72 eP P 20 21 03.6 +0.1
8.4nm,0.8s
CASY Casey 78.48 181 P P 20 21 17.1 +2.8
BOSA Boshof 80.06 118 P P 20 21 23.9 +0.1
1.7nm,0.6s,baz=255,slow=4.3,SNR=3.8
NVAR Mina Array Bea 84.69 326 P P 20 21 49.0 +1.4
0.1nm,0.3s,baz=150,slow=3.3,SNR=4.0
PDAR Pinedale Array 84.77 334 P P 20 21 48.5 +0.6
0.3nm,0.6s,baz=132,slow=6.6,SNR=2.8
TOA0 Torodi Ar. Sit 85.47 70 eP P 20 21 52.0 +0.2
TORD Torodi Ar. Bea 85.47 70 P P 20 21 50.8 -1.0
2.8nm,0.8s,baz=258,slow=4.1,SNR=10.0
ULM Lac du Bonnet 87.77 346 P P 20 22 01.9 -0.3
3.6nm,0.8s,baz=152,slow=4.4,SNR=5.9
BVAR Borovoye Array 148.93 44 PKPbc PKPbc 20 29 01.0 +0.1
2.5nm,0.7s,baz=307,slow=3.0,SNR=5.6
ZALV Zalesovo Beam 155.93 33 PKPbc PKPdf 20 29 16.2 +8.9
1.7nm,0.7s,baz=323,slow=2.2,SNR=4.8
ZALV PKPab PKPab 20 29 35.1 +0.8
1.4nm,0.5s,baz=284,slow=4.6,SNR=4.9
MKAR Makanchi Array 158.35 51 PKPab PKPab 20 29 44.8 -0.3
0.6nm,0.8s,baz=319,slow=3.7,SNR=3.1
SONM Songino Array 167.69 2 PKPab PKPab 20 30 27.1 +1.1
0.7nm,0.9s,baz=332,slow=2.3,SNR=4.8

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*IDC **27** 20:12:02.0±0.7, 36°.65S×73°.64W, h0km, mb4.4/10, mb1 4.5/13, mb1mx4.3/31, mbtmp4.4/13, ML4.1/3, Error ellipse: s-maj=23.1km s-min=14.3km az=86.0*
*ISCJB **27** 20:12:04.7±0.5, 36°.65S±0°.06×73°.54W±0°.1, h27km, mb4.6/17, Error ellipse: s-maj=16.0km s-min=9.1km az=175.0*
*NEIC **27** 20:12:04.2±4.8, 36°.69S×73°.55W, h17km±28km, mb4.9/11, Error ellipse: s-maj=20.4km s-min=9.2km az=78.0*
ISC 27 20:12:05.9±0.6, **36°.63S**±0°.08×**73°.5W**±0°.1, **h27km, n42, σ1°.03/43, mb4.7/17, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
PLCA Paso Flores 4.71 151 Pn Pn 20 13 15.2 -0.1
4.1nm,0.3s,baz=319,slow=20,SNR=3.0
PLCA Lg Lg 20 14 33.0
14nm,0.3s,baz=239,slow=23,SNR=4.2
PLCA Paso Flores 4.71 151 ePn Pn 20 13 12.9 -2.4
PLCA Lg Lg 20 14 33.0
CFAA Coronel Fontan 6.67 43 Pn Pn 20 13 42.9 +0.8
0.9nm,0.3s,baz=233,slow=12,SNR=5.2
CFAA Lg Lg 20 15 34.9
8.3nm,0.3s,baz=148,slow=17,SNR=5.8
LVC Limon Verde 14.53 17 ePn Pn 20 15 29.1 -1.0
67nm,0.5s
CPUP Villa Florida 17.20 58 P P 20 16 05.5 -0.1
0.1nm,0.3s,baz=212,slow=14,SNR=2.2
CPUP Villa Florida 17.20 58 ePn Pn 20 15 58.1 -6.1
LPAZ La Paz 20.82 15 Pn Pn 20 16 47.9 -0.8
4.4nm,0.6s,baz=178,slow=7.2,SNR=5.5
SIV San Ignacio 23.35 32 P P 20 17 13.2 +1.0
8.1nm,0.9s,baz=244,slow=14,SNR=7.8
OTAV Otavalo 36.97 352 P P 20 19 11.1 -2.3
SDV Santo Domingo 45.36 4 eP P 20 20 21.3 -0.8
15nm,0.9s
SNAA Sanae 49.63 157 P P 20 20 55.3 +0.7
4.4nm,1.1s,baz=260,slow=6.9,SNR=9.3
SNAA Sanae 49.63 157 eP P 20 20 54.5 -0.1
16nm,1.1s
BBGH Gun Hill 51.23 18 P P 20 21 10.6 +3.4
QSPA South Pole Qui 53.61 180 P P 20 21 25.2 +0.8
10nm,0.9s,baz=123,slow=2.1,SNR=20
QSPA South Pole Qui 53.61 180 eP P 20 21 24.6 +0.2
13nm,1.0s
TXAR Lajitas Array 71.46 332 P P 20 23 25.0 +1.0
1.5nm,0.8s,baz=154,slow=8.3,SNR=12
SWET Sewanee 72.41 349 eP P 20 23 30.1 +0.7
39nm,1.1s
SUR Sutherland 74.63 119 eP P 20 23 44.7 +1.6
22nm,1.1s
DBIC Dimbokro 77.17 72 P P 20 23 58.6 +1.1
7.5nm,0.7s,baz=217,slow=6.6,SNR=11
DBIC Dimbokro 77.17 72 eP P 20 23 57.9 +0.4
9.4nm,0.8s
CASY Casey 77.37 182 eP P 20 23 58.2 +0.4
11nm,1.0s
TSUM Tsumeb 79.67 106 P P 20 24 11.3 -0.2
BOSA Boshof 79.92 118 P P 20 24 13.1 +0.3
6.4nm,0.9s,baz=210,slow=5.3,SNR=5.0
LBTB Lobatse 82.30 115 eP P 20 24 25.4 0.0
8.6nm,0.9s
R11A Troy Canyon, C 84.11 328 P P 20 24 35.5 +1.2
2.4nm,1.0s
PDAR Pinedale Array 85.57 334 P P 20 24 41.6 0.0
1.3nm,1.0s,baz=182,slow=3.7,SNR=6.0
TOA0 Torodi Ar. Sit 86.25 71 eP P 20 24 45.1 -0.2
TORD Torodi Ar. Bea 86.25 71 P P 20 24 45.7 +0.4
3.0nm,0.9s,baz=228,slow=4.6,SNR=14
MCMT McKenzie Canyo 88.54 333 eP P 20 24 57.9 +1.9
2.7nm,1.3s
ULM Lac du Bonnet 88.73 346 P P 20 24 55.8 -0.6
1.3nm,0.5s,baz=244,slow=4.5,SNR=4.0
LSZ Lusaka 90.13 109 eP P 20 25 02.6 -1.5
4.7nm,1.0s
GERES GERESS Array B 114.86 47 PKP PKPdf 20 30 43.6 0.0
0.8nm,0.9s,baz=177,slow=2.7,SNR=5.2
AKASG Malin Array Be 124.85 49 PKP PKPdf 20 31 01.0 -1.6
1.3nm,0.8s,baz=260,slow=2.9,SNR=4.2
ABKAR Akbulak array 144.24 54 ePKPdf PKPbc 20 31 37.0 0.0
HYB Hyderabad 148.80 120 i PKP PKPbc 20 31 51.0 -0.3
BVAR Borovoye Array 150.02 45 PKPbc PKPbc 20 31 54.1 +0.9
3.8nm,0.9s,baz=289,slow=4.2,SNR=12
KKAR Karatay Array 151.81 66 ePKPbc PKPbc 20 31 57.8 0.0
KKAR ePKPab PKPab 20 32 06.8 -0.2
AAK Ala-Archa 154.75 66 ePKPdf PKPdf 20 31 56.2 +0.3
AAK ePKPbc PKiKP 20 32 05.3 +0.8
AAK ePKPab PKPab 20 32 20.3 +0.7
ZALV Zalesovo Beam 157.09 34 PKP PKPdf 20 31 57.1 -1.2
1.8nm,0.8s,baz=282,slow=2.9,SNR=6.2
ZALV PKPab PKPab 20 32 29.0 0.0
2.6nm,0.8s,baz=294,slow=4.7,SNR=6.2
MK31 Makanchi Array 159.37 53 ePKPdf PKPdf 20 31 59.2 -2.2
MK31 ePKPab PKPab 20 32 38.3 -0.8
MKAR Makanchi Array 159.37 53 PKP PKPdf 20 32 01.7 +0.3
1.3nm,0.9s,baz=333,slow=1.4,SNR=7.2
MKAR PKPab PKPab 20 32 39.9 +0.7
1.3nm,0.8s,baz=292,slow=3.5,SNR=8.1
SONM Songino Array 168.80 0 PKPab PKPab 20 33 21.6 +1.0
0.6nm,0.8s,baz=336,slow=4.2,SNR=5.5

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*SJA **27** 20:13:42.6±1.1, 33°.55S×72°.44W, h14km±226km, ML4.6*
*IDC **27** 20:13:42.9±0.6, 33°.34S×71°.95W, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.3/28, mbtmp4.4/11, ML3.1/2, Error ellipse: s-maj=24.8km s-min=18.9km az=77.0*
*ISCJB **27** 20:13:45.3±1.0, 33°.37S±0°.06×72°.04W±0°.05, h30km±6km, mb4.6/17, Error ellipse: s-maj=9.9km s-min=6.3km az=15.3*
*GUC **27** 20:13:46.2±0.6, 33°.40S×72°.00W, h15km±13km, ML4.7*
*NEIC **27** 20:13:49.2±1.7, 33°.28S×71°.89W, h42km±13km, mb4.9/10, Error ellipse: s-maj=16.7km s-min=8.6km az=68.0*
ISC 27 20:13:45.1±1.9, **33°.39S**±0°.05×**71°.99W**±0°.06, **h15km**±10km, **n62, σ0°.99/68, mb4.6/17, 5C-3D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
IHA Instituto Hidr 0.47 39⇓iP Pb 20 13 55.5 +0.5
LNV Longovilo 0.74 139⇑iP Pb 20 13 59.7 0.0
TACH Talagante 0.92 107⇑iP Pg 20 14 02.6 -0.3
ROCH El Roble 0.92 63 eP Pb 20 14 02.7 -0.2
ROCH iS Sn 20 14 16.1 -0.7
RCDM Rinconada Maip 1.00 96⇓iP Pb 20 14 03.8 -0.2
RCDM iS Sg 20 14 17.1 -0.3
SAN Santiago 1.11 93⇑iP Pn 20 14 05.9 -0.3
SAN iS Sb 20 14 19.9 -0.6
PEL Peldehue 1.12 78⇑iP Pn 20 14 06.2 -0.1
PEL iS Sn 20 14 20.7 -0.8
PEL AML AML 20 14 29.4
comp=E,42μm,0.3s
STL Santa Lucia 1.13 93⇓iP Pb 20 14 05.1 -1.2
STL iS Sb 20 14 20.1 -0.8
FCH Farellones 1.43 88⇑iP Pn 20 14 10.5 -0.2
FCH iS Sb 20 14 29.9 +0.2
FCH AML AML 20 14 39.0
comp=E,21μm,0.5s
AUSP Uspallata 2.48 63 iP Pb 20 14 30.6 +1.0
ARCO CERRO ARCO 2.63 79 iP Pb 20 14 33.3 +1.4
ARCO iS Sg 20 15 10.0 +0.5
ARCO AML AML 20 15 13.7
comp=Z,2μm,0.4s
AAGR Agrelo 2.67 84 iP Pb 20 14 32.9 +0.3
ASAL Salagasta 2.77 74 iP Pb 20 14 35.5 +1.1
ASAL iS Sg 20 15 13.7 -0.5
RTLS Leoncito 2.77 56 iP Pb 20 14 35.1 +0.6
RTLS iP Pb 20 14 35.1 +0.6
AVIZ Vizcacheras 2.91 93 iP Pb 20 14 36.6 -0.1
RTCV Cerro Valdivia 3.29 63 iP Pb 20 14 43.0 -0.1
RTCV iS Sb 20 15 26.4 +3.3
RTLL Cerro Villicun 3.62 56 iP Pb 20 14 47.1 -1.7
RTLL iS Sb 20 15 35.0 +2.4
CFAA Coronel Fontan 3.64 62 Pn Pn 20 14 41.9 +0.9
comp=Z,0.8nm,0.3s,baz=233,slow=13,SNR=6.0
TRQA Tornquist 9.37 123 ePn Pn 20 16 02.5 +2.8
CPUP Villa Florida 14.53 65 Pn Pn 20 17 09.9 -0.3
LPAZ La Paz 17.39 12 P Pn 20 17 47.0 -0.8
comp=Z,0.0nm,0.3s,baz=89,slow=0.7,SNR=2.0
SAML Samuel 25.65 20 eP P 20 19 14.7 +0.4
comp=Z,19nm,0.9s
BDFB Brasilia 27.96 57 P P 20 19 35.1 -0.3
comp=Z,9.0nm,0.9s,baz=205,slow=5.0,SNR=4.2
SDV Santo Domingo 42.06 2 eP P 20 21 36.2 -0.4
comp=Z,12nm,1.0s
BCIP Isla Barro Col 42.98 349 P P 20 21 41.7 -2.0
comp=Z,47nm,1.1s
SNAA Sanae 52.13 158 P P 20 22 54.6 +0.2
comp=Z,4.1nm,0.8s,baz=283,slow=6.9,SNR=12
SNAA Sanae 52.13 158 eP P 20 22 54.1 -0.3
comp=Z,14nm,0.9s
TEIG Tepich 55.54 341 P P 20 23 20.0 +0.2
comp=Z,21nm,0.9s
QSPA South Pole Qui 56.84 180 P P 20 23 29.9 +1.1
comp=Z,12nm,0.9s,baz=146,slow=3.7,SNR=12
QSPA South Pole Qui 56.84 180 eP P 20 23 29.5 +0.7
comp=Z,16nm,1.0s
TXAR Lajitas Array 69.23 331 P P 20 24 51.1 -0.3
comp=Z,0.8nm,0.8s,baz=152,slow=8.1,SNR=3.2
MSTX Muleshoe 72.98 334 P P 20 25 14.2 +0.1
comp=Z,21nm,1.0s
DBIC Dimbokro 74.95 71 P P 20 25 26.1 +0.2
comp=Z,3.8nm,0.8s,baz=212,slow=6.2,SNR=3.4
DBIC Dimbokro 74.95 71 eP P 20 25 25.2 -0.7
comp=Z,3.8nm,0.7s
TSUM Tsumeb 79.34 106 eP P 20 25 51.7 +0.9
comp=Z,8.1nm,1.3s
BOSA Boshof 80.32 118 P P 20 25 56.5 +0.6
comp=Z,6.4nm,1.1s,baz=237,slow=8.9,SNR=3.7
LBTB Lobatse 82.52 115 eP P 20 26 07.2 -0.5
comp=Z,15nm,1.2s
TPH Tonopah 82.61 326 P P 20 26 03.6 -4.2
PDAR Pinedale Array 83.24 333 P P 20 26 10.6 -0.3
comp=Z,0.9nm,0.8s,baz=149,slow=6.0,SNR=4.8
NVAR Mina Array Bea 83.41 325 P P 20 26 13.4 +1.4
comp=Z,0.7nm,0.3s,baz=147,slow=5.4,SNR=2.1
TOA0 Torodi Ar. Sit 83.97 70 eP P 20 26 13.3 -1.7
TORD Torodi Ar. Bea 83.97 70 P P 20 26 13.9 -1.1
comp=Z,6.0nm,0.9s,baz=253,slow=4.3,SNR=14
ULM Lac du Bonnet 85.92 345 P P 20 26 23.4 -0.6
comp=Z,2.9nm,0.7s,baz=7.1,slow=0.7,SNR=4.6
LSZ Lusaka 89.96 108 P P 20 26 45.5 +1.0
YKA Yellowknife Ar 101.50 341 P Pdif 20 27 36.2 +0.7
comp=Z,0.1nm,0.5s,baz=146,slow=4.5,SNR=3.9
WRA Warramunga Arr 121.31 209 PKP PKPdf 20 32 37.8 -0.4
comp=Z,0.7nm,0.7s,baz=153,slow=1.8,SNR=5.4
BRTR Keskin Array B 121.50 61 PKP PKPdf 20 32 38.3 +0.2
comp=Z,0.7nm,0.8s,baz=323,slow=0.8,SNR=3.2
AKASG Malin Array Be 121.75 47 PKP PKPdf 20 32 37.4 -0.5
comp=Z,0.6nm,0.5s,baz=266,slow=2.5,SNR=5.1
H11S2 WAKE ISLAND Hy125.82 270 T T 22 51 37.4
baz=118,slow=75,SNR=90
H11S1 WAKE ISLAND Hy125.83 270 T T 22 51 32.5
baz=118,slow=75,SNR=101
H11S3 WAKE ISLAND Hy125.83 270 T T 22 51 37.2
baz=118,slow=75,SNR=73
H11N3 WAKE ISLAND Hy126.22 271 T T 22 52 02.3
baz=113,slow=78,SNR=4.7
H11N1 WAKE ISLAND Hy126.23 271 T T 22 52 10.2
baz=113,slow=78,SNR=2.7
H11N2 WAKE ISLAND Hy126.23 271 T T 22 52 09.2
baz=113,slow=78,SNR=10.0
KAD Karad 145.68 109 eP PKPab 20 33 24.3 +0.1
HYB Hyderabad 149.14 114 i PKP PKPbc 20 33 33.5 +0.1
KKAR Karatay Array 149.22 61 ePKPbc PKPbc 20 33 32.5 -0.4
AAK Ala-Archa 152.18 61 ePKPbc PKPbc 20 33 39.4 -0.8
ZALV Zalesovo Beam 153.69 32 PKP PKPdf 20 33 34.6 -0.3
comp=Z,1.3nm,0.6s,baz=256,slow=2.4,SNR=4.3
ZALV PKPbc PKPbc 20 33 42.1 -0.7
comp=Z,5.0nm,0.6s,baz=301,slow=2.6,SNR=14
MKAR Makanchi Array 156.33 48 PKP PKPdf 20 33 39.1 +0.2
comp=Z,1.5nm,1.0s,baz=316,slow=3.3,SNR=4.2
MKAR PKPab PKPab 20 34 06.5 -0.7
comp=Z,3.4nm,0.6s,baz=299,slow=2.7,SNR=22
CMAR Chiang Mai Arr 163.05 149 PKP PKPdf 20 33 48.6 +1.2
comp=Z,0.8nm,0.9s,baz=265,slow=2.9,SNR=4.7
SONM Songino Array 165.52 4 PKPab PKPab 20 34 49.1 +1.9
comp=Z,0.8nm,0.9s,baz=90,slow=1.5,SNR=4.9

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*NIED **27** 20:18:00, 25°.90N×128°.70E, h11km, Mw4.7 Best double couple: $M_0$1.11000×10^{16} NP1:ϕ_s351.00000°, δ72.00000°, λ179.00000°. NP2:ϕ_s82.00000°, δ89.00000°, λ18.00000°.*
*IDC **27** 20:18:10.1±0.7, 25°.92N×128°.55E, h0km, mb4.3/19, mb1 4.3/22, mb1mx4.2/40, mbtmp4.2/22, ML4.3/2, Error ellipse: s-maj=19.7km s-min=15.2km az=91.0*
*ISCJB **27** 20:18:10.3±0.9, 25°.90N±0°.03×128°.59E±0°.03, h15km±5km, mb4.4/33, Error ellipse: s-maj=6.6km s-min=3.3km az=138.4*
*JMA **27** 20:18:11.4±0.4, 25°.94N×128°.70E, h31km, M4.6*
*MOS **27** 20:18:13.0±1.3, 25°.93N×128°.64E, h33km, mb4.8/13, Error ellipse: s-maj=11.8km s-min=7.3km az=107.4*
*NEIC **27** 20:18:14.3±0.5, 25°.84N×128°.51E, h35km, mb4.7/15, MW4.6(NIED), Error ellipse: s-maj=12.3km s-min=6.9km az=140.0*
ISC 27 20:18:11.1±1.6, **25°.94N**±0°.04×**128°.63E**±0°.04, **h8km**±9km, **n131, σ1°.54/146, mb4.5/33, 7C-13D, Ryukyu Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
JNTH Nagotoyohara 0.79 317 P Pg 20 18 26.5 +0.2
JNTH S Sn 20 18 39.3 -1.2
JJT2 Tamagusuku 2 0.81 284 P Pb 20 18 27.8 +0.3
JJT2 S Sb 20 18 39.4 +0.8
JOW Kunigami 0.94 341 P Pg 20 18 29.2 0.0
JOW S Sg 20 18 40.3 -1.1
JOW Kunigami 0.94 341 Pn Pg 20 18 29.4 +0.2
98nm,0.3s,baz=133,slow=28,SNR=72
JOW Sn Sg 20 18 41.1 -0.3
186nm,0.3s,baz=90,slow=20,SNR=31
JIH Iheya 1.24 332 P Pn 20 18 34.0 -0.7
JIH S Sb 20 18 48.8 -2.1
JAGN Aguni-jima 1.40 298 P Pn 20 18 36.0 -0.9
JAGN S Sb 20 18 53.7 -1.8
JOKE Okinoerabujima 1.42 358 P Pn 20 18 36.4 -0.7
JOKE S Sn 20 18 54.4 -1.6
JKE Kume jima 2 1.70 283 P Pn 20 18 39.7 -1.3
JKE S Sn 20 19 00.1 -2.8
JTK Tokunoshima 1.86 9 P Pn 20 18 42.4 -0.8
JTK S Sn 20 19 03.8 -3.1
JMZ Minamidaito 2 2.34 92 P Pn 20 18 47.9 -1.9
JMZ S Sn 20 19 15.0 -3.8
JAMN Amaminishikomi 2.34 12 P Pn 20 18 49.5 -0.4
JAMN S Sn 20 19 17.4 -1.5
JAM Amami Oshima 2.61 19 P Pn 20 18 51.6 -2.0
JAM S Sn 20 19 22.2 -3.2
JZK Kikaishima 2.65 27 P Pn 20 18 53.9 -0.2
JZK S Sn 20 19 25.8 -0.7
JOGS Gusukube 3.14 249 P Pn 20 18 58.5 -2.4
JOGS S Sn 20 19 35.7 -2.9
JMJ Miyako jima 2 3.22 250 P Pn 20 19 01.7 -0.2
JMJ S Sn 20 19 37.8 -2.6
JIKM Ikemajima 3.22 252 P Pn 20 19 01.9 0.0
JIKM S Sn 20 19 36.6 -3.9
JTAJ Takarajima 3.24 9 P Pn 20 19 01.3 -0.9
JTAJ S Sn 20 19 36.3 -4.7
JIRB Irabujima 3.31 251 P Pn 20 19 02.6 -0.6
JIRB S Sn 20 19 39.3 -3.5
JTJ Tarama 3.78 251 P Pn 20 19 09.1 -0.6
JTJ S Sn 20 19 50.3 -4.0
JISG Ishigakijimahi 4.13 252 P Pn 20 19 13.0 -1.5
JISG S Sn 20 19 59.3 -3.7
JIJ Ishigaki jima 4.36 250 P Pn 20 19 16.5 -1.1
JIJ eS Sn 20 20 01.6 -6.9
IRIF Iriomote-Funau 4.72 251 P Pn 20 19 20.0 -2.5
IRIF eS Sn 20 20 12.4 -5.0
TATO Taipei 6.52 263 ePn Pn 20 19 48.1 +0.8
NACB Ninganchiao 6.62 256 ePn Pn 20 19 45.9 -2.7
40nm,0.3s
NACB eSn Sn 20 20 54.8 -9.5
YHNB Yeheng 6.68 261 ePn Pn 20 19 49.5 -0.2
33nm,0.6s
YULB Yu-li 7.13 251 ePn Pn 20 19 51.4 -4.4
16nm,0.3s
YULB eSn Sn 20 21 00.1 -17
SSLB Suanglung 7.29 255 ePn Pn 20 19 55.0 -3.0
33nm,0.4s
SSLB eSn Sn 20 21 04.7 -16
JNU Nakatsue 7.42 15 Pn Pn 20 20 01.1 +1.4
9.8nm,0.3s,baz=318,slow=2.5,SNR=80
JNU Sn Sn 20 21 21.4 -2.7
2.0nm,0.3s,baz=222,slow=11,SNR=2.7
JNU Nakatsue 7.42 15 ePn Pn 20 20 00.7 +1.0
11nm,0.5s
JNU Sn Sn 20 21 21.4 -2.7
TWG Pinlang 7.55 247 ePn Pn 20 19 56.7 -4.9
108nm,0.3s
TWG eSn Sn 20 21 14.1 -13
TPUB Ta-pu 7.74 252 ePn Pn 20 20 01.9 -2.1
26nm,0.6s
TPUB eSn Sn 20 21 22.9 -9.1
MAJO Matsushiro 13.36 35 P Pn 20 21 21.9 +0.8
MAJO Matsushiro 13.36 35 Pn Pn 20 21 21.9 +0.8
MJAR Matsushiro Arr 13.36 35 Pn Pn 20 21 21.5 +0.4
0.3nm,0.3s,baz=234,slow=14,SNR=6.6
BJT Baijiatuau 17.47 327 eP P 20 22 16.2 -0.1
BJT pmax pmax
comp=Z,21nm,0.5s
BJT Baijiatuau 17.47 327 ePn P 20 22 16.2 -0.1
comp=Z,21nm,0.5s
USRK Ussuriysk Arra 18.42 8 P Pn 20 22 27.1 +0.4
comp=Z,0.4nm,0.3s,baz=177,slow=8.7,SNR=8.5
ASAJ Asahikawa 21.39 28 P P 20 22 59.8 +0.8
ASAJ pmax pmax
comp=Z,3.0nm,0.5s
ASAJ Asahikawa 21.39 28 P P 20 22 59.8 +0.8
comp=Z,2.9nm,0.5s,baz=272,slow=8.1,SNR=7.1
YSS Yuzh-Sakhalins 23.78 24⇑eP P 20 23 25.3 +1.3
YSS e 20 23 34.1
YSS Yuzh-Sakhalins 23.78 24 eP P 20 23 25.0 +1.0
comp=Z,158nm,1.6s
ULN Ulaanbaatar 27.69 328 eP P 20 24 01.1 +1.3
ULN pmax pmax
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 27.69 328 eP P 20 24 01.1 +1.3
comp=Z,6.0nm,0.6s
SONM Songino Array 27.99 327 P P 20 24 02.5 +0.1
comp=Z,4.3nm,0.5s,baz=141,slow=10,SNR=57
CMAR Chiang Mai Arr 28.43 261 P P 20 24 06.6 +0.1
comp=Z,0.7nm,0.5s,baz=48,slow=8.7,SNR=5.8
YAK Yakutsk 36.09 1 eP P 20 25 04.4 -8.6
YAK pmax pmax
comp=Z,16nm,1.0s
TAPN Taplejung 36.48 282 eP P 20 25 17.5 +0.2
ODAN Odare 36.83 281 eP P 20 25 20.3 +0.1
comp=Z,49nm,0.8s
RAMN Ramite 37.52 281 eP P 20 25 26.5 +0.5
comp=Z,14nm,0.6s
JIRN Jiri 37.78 282 eP P 20 25 29.0 +0.6
comp=Z,8.6nm,0.4s
GUN Gumba 38.02 283 eP P 20 25 30.6 +0.2
comp=Z,18nm,0.4s
PKI Pulchoki 38.48 282 eP P 20 25 33.9 -0.3
comp=Z,16nm,0.3s
PKIN Phulchoki 38.49 282 eP P 20 25 33.9 -0.3
comp=Z,14nm,0.3s
KKN Kakani 38.57 283 eP P 20 25 34.6 -0.2
comp=Z,24nm,0.5s
DMN Daman 38.74 282 eP P 20 25 36.3 0.0
GKN Gorkha 39.10 283 eP P 20 25 39.0 -0.2
comp=Z,18nm,0.4s
DANN Dangsing 39.83 284 eP P 20 25 45.8 +0.4
comp=Z,44nm,0.4s
KOLN Koldanda 40.04 283 eP P 20 25 47.2 +0.1
comp=Z,25nm,0.9s
SEY Seymchan 40.19 17 P P 20 25 48.7 +1.1
comp=Z,0.9nm,0.5s,baz=193,slow=8.7,SNR=7.0
MK31 Makanchi Array 41.99 312 eP P 20 26 01.5 -1.2
MK31 e 20 26 10.5
MK31 Makanchi Array 41.99 312 eP P 20 26 01.5 -1.2
MK31 e 20 26 10.5
MKAR Makanchi Array 41.99 312 P P 20 26 02.0 -0.7
MKAR Makanchi Array 41.99 312 P P 20 26 02.0 -0.7
comp=Z,3.6nm,0.5s,baz=96,slow=9.5,SNR=56
ZALV Zalesovo Beam 42.69 323 P P 20 26 06.9 -1.4
comp=Z,3.4nm,0.6s,baz=112,slow=8.6,SNR=11
KURK Kurchatov 45.27 317 P P 20 26 28.0 -1.0
KURK e 20 26 37.3
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 45.27 317 P P 20 26 28.0 -1.0
comp=Z,4.4nm,0.8s
KURK e 20 26 37.2
WRAB Tennant Creek 45.94 172 eP P 20 26 34.8 +0.2
WRAB pmax pmax
comp=Z,12nm,0.9s
WRAB Tennant Creek 45.94 172 eP P 20 26 34.8 +0.2
comp=Z,12nm,0.9s
WRA Warramunga Arr 45.95 173 P P 20 26 34.0 -0.6
comp=Z,4.8nm,0.6s,baz=353,slow=8.4,SNR=23
TKM2 Tokmak 2 46.13 306 eP P 20 26 36.3 0.0
TKM2 pmax pmax
comp=Z,6.0nm,0.7s
TKM2 Tokmak 2 46.13 306 eP P 20 26 36.3 0.0
comp=Z,6.2nm,0.7s
AAK Ala-Archa 46.93 305 eP P 20 26 41.8 -0.6
AAK Ala-Archa 46.93 305 eP P 20 26 41.8 -0.6
BILL Bilibino 47.83 18 eP P 20 26 49.8 +0.9
BILL pmax pmax
comp=Z,9.0nm,1.8s
BILL Bilibino 47.83 18 eP P 20 26 50.4 +1.5
comp=Z,11nm,1.2s
BVAR Borovoye Array 50.73 318 P P 20 27 11.4 +0.1
comp=Z,2.1nm,0.5s,baz=101,slow=9.2,SNR=22
BRVK Borovoye 50.79 318 eP P 20 27 11.7 0.0
BRVK pmax pmax
comp=Z,5.0nm,0.4s
BRVK Borovoye 50.79 318 eP P 20 27 11.7 0.0
comp=Z,4.5nm,0.4s
KBL Kabul 51.55 295 eP P 20 27 18.1 +0.1
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 51.55 295 eP P 20 27 18.1 +0.1
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 57.10 313 eP P 20 27 57.3 -0.7
comp=Z,2.3nm,0.5s
ARU Arti 57.84 322 P P 20 28 02.1 -0.9
ARU Arti 57.84 322 P P 20 28 02.1 -0.9
STKA Stephens Creek 58.81 167 P P 20 28 10.0 0.0
STKA pmax pmax
comp=Z,4.0nm,1.0s
STKA Stephens Creek 58.81 167 P P 20 28 10.0 0.0
comp=Z,4.1nm,1.0s,baz=1.4,slow=6.2,SNR=4.4
STKA Stephens Creek 58.81 167 P P 20 28 06.6 -3.3
comp=Z,1.3nm,1.0s
GEYT Alibeck 59.74 300 P P 20 28 17.6 +1.0
comp=Z,3.2nm,0.7s,baz=73,slow=3.1,SNR=8.6
MCK McKinley 63.75 29 eP P 20 28 43.2 0.0
MCK pmax pmax

comp=Z,7.0nm,1.0s
MCK McKinley 63.75 29 eP P 20 28 43.2 0.0
comp=Z,6.8nm,1.0s
SML Sawmill 64.23 32 P P 20 28 44.8 -1.6
SML Sawmill 64.23 32 P P 20 28 44.8 -1.6
ILAR Eielson Array 64.52 28 P P 20 28 48.9 +0.7
comp=Z,0.7nm,0.7s,baz=267,slow=7.9,SNR=8.7
KBZ Khabaz 69.62 310 P P 20 29 21.6 +0.7
comp=Z,2.2nm,0.6s,baz=74,slow=2.6,SNR=14
KIV Kislovodsk 69.70 310 eP P 20 29 22.1 +0.5
KIV pmax pmax
comp=Z,7.0nm,0.8s
KIV Kislovodsk 69.70 310 eP P 20 29 22.1 +0.5
comp=Z,7.2nm,0.8s
ARCES ARCESS Array B 70.40 339 P P 20 29 27.4 +2.1
comp=Z,9.2nm,1.1s,baz=22,slow=3.9,SNR=4.1
FINES FINESS Array B 73.29 331 P P 20 29 42.7 0.0
comp=Z,2.4nm,0.6s,baz=77,slow=4.8,SNR=23
MALT Malatya 74.56 305 ⇑P P 20 29 52.6 +1.8
MALT Malatya 74.56 305 ⇑iP P 20 29 52.6 +1.8
AKASG Malin Array Be 75.98 320 P P 20 29 58.2 -0.4
comp=Z,5.9nm,0.6s,baz=60,slow=6.4,SNR=34
AK01 Malin Array Si 75.99 320 eP P 20 29 58.0 -0.7
KIEV Kiev 75.99 320 eP P 20 29 57.6 -1.0
KIEV pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 75.99 320 eP P 20 29 57.6 -1.0
comp=Z,6.9nm,0.6s
AK02 Malin Array Si 76.01 320 eP P 20 29 57.7 -1.0
BRTR Keskin Array B 77.49 308 P P 20 30 07.8 +0.3
comp=Z,3.3nm,0.7s,baz=97,slow=5.1,SNR=20
YKA Yellowknife Ar 78.64 25 P P 20 30 14.1 +0.9
comp=Z,0.4nm,0.5s,baz=299,slow=5.7,SNR=8.7
TESR Tescani 79.30 317 ⇑iP P 20 30 17.2 -0.1
VRI Vrincioaia 79.54 316 ⇓P P 20 30 20.4 +1.8
VRI Vrincioaia 79.54 316 ⇓iP P 20 30 20.4 +1.8
PLOR Plostina 79.60 316 ⇓P P 20 30 20.1 +1.2
PLOR Plostina 79.60 316 ⇓iP P 20 30 20.1 +1.2
BUR08 Bucovina Ar. S 79.68 318 eP P 20 30 19.1 -0.3
BURAR Bucovina Array 79.68 318 ⇓P P 20 30 19.7 +0.3
BURAR Bucovina Array 79.68 318 ⇓iP P 20 30 19.7 +0.3
NB2 NORSAR Subarra 79.73 334 P P 20 30 18.4 -0.9
comp=Z,1.6nm,0.6s,baz=53,slow=5.6
NOA NORSAR Array B 79.73 334 P P 20 30 19.1 -0.3
comp=Z,2.4nm,0.7s,baz=52,slow=5.6,SNR=14
MLR Muntele Rosu 80.20 316 ⇓P P 20 30 24.6 +2.3
MLR Muntele Rosu 80.20 316 ⇓iP P 20 30 24.6 +2.3
KWP Kalwaria Pacla 80.21 321 ⇓P P 20 30 19.2 -2.9
KWP Kalwaria Pacla 80.21 321 ⇓iP P 20 30 19.2 -2.9
DOPR Dopca 80.33 316 ⇑iP P 20 30 24.1 +1.2
ARR Arges 81.08 316 ⇓iP P 20 30 27.8 +0.9
SUMG Summit 81.35 356 eP P 20 30 27.8 -0.5
SUMG pmax pmax
comp=Z,5.0nm,0.7s
SUMG Summit 81.35 356 iP P 20 30 33.0 +4.7
comp=Z,5.2nm,0.7s
SUMG i 20 30 41.9
SUMG Summit 81.35 356 eP P 20 30 27.8 -0.5
comp=Z,5.2nm,0.7s
LOT Lotru 81.58 317 ⇓iP P 20 30 30.3 +0.7
DRGR 81.58 318 ⇓iP P 20 30 39.2 +10
BZS Buzias 82.82 317 ⇑P P 20 30 43.1 +7.1
BZS Buzias 82.82 317 ⇑iP P 20 30 43.1 +7.1
CLL Collm 84.59 325 iP P 20 30 45.3 +0.4
GERES GERESS Array B 85.64 323 P P 20 30 51.3 +0.9
comp=Z,0.7nm,0.7s,baz=57,slow=4.9,SNR=6.1

IDC 27 20:22:42.6±1.3, 33.68S×72.08W, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.9/29, mbtmp3.8/7, ML3.4/2, Error ellipse: s-maj=37.2km s-min=27.6km az=60.0
ISCJB 27 20:22:46.1±1.3, 33.74S±0.06×71.91W±0.10, h38km±12km, mb4.0/8, Error ellipse: s-maj=14.1km s-min=9.7km az=165.4
NEIC 27 20:22:47.6±0.7, 33.68S×72.10W, h35km, mb4.4/3, Error ellipse: s-maj=18.2km s-min=13.4km az=69.0
GUC 27 20:22:47.0±0.6, 33.73S×71.85W, h15km±9km, ML4.2
ISC 27 20:22:46.2±1.7, 33.73S±0.07×71.88W±0.08, h27km±11km, n20, σ1ş25/23, mb4.0/8, 3C, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LNV Longovilo 0.45 120 ⇑iP Pb 20 22 55.7 0.0
IHA Instituto Hidr 0.73 16 eP Pn 20 23 00.1 -0.7
IHA iS Sb 20 23 10.1 0.0
RCDM Rinconada Maip 0.93 75 ⇑iP Pn 20 23 03.0 -0.6
RCDM eS Sn 20 23 14.8 -1.2
ROCH El Roble 1.05 44 eP Pn 20 23 05.3 -0.1
ROCH iS Sn 20 23 19.9 +0.6
ROCH AML AML 20 23 23.6
comp=N,11μm,0.3s
STL Santa Lucia 1.07 74 eP Pn 20 23 04.3 -1.3
STL iS Sn 20 23 18.1 -1.5
PEL Peldehue 1.16 60 ⇑iP Pn 20 23 07.2 +0.4
PEL iS Sn 20 23 22.1 +0.4
PEL AML AML 20 23 28.4
comp=E,17μm,0.7s
FCH Farellones 1.39 73 eP Pb 20 23 19.5 +7.8
FCH iS Sb 20 23 38.1 +9.0
FCH AML AML 20 23 43.3
comp=N,8μm,0.2s
CFAA Coronel Fontan 3.73 56 Pn Pn 20 23 45.1 +2.9
comp=N,1.0nm,0.3s,baz=204,slow=12,SNR=5.2
CFAA Lg Lg 20 24 37.8
comp=N,3.4nm,0.3s,baz=335,slow=23,SNR=8.2
TRQA Tornquist 9.12 121 ePn Pn 20 24 59.8 +3.8
comp=N,19nm,0.9s
LPAZ La Paz 17.70 12 P Pn 20 26 51.3 -0.2
comp=N,0.1nm,0.3s,baz=166,slow=7.2,SNR=4.2
SAML Samuel 25.93 20 eP P 20 28 15.1 -1.3
comp=N,3.2nm,0.8s
SNAA Sanae 51.78 158 P P 20 31 52.9 +1.7
comp=N,1.2nm,0.9s,baz=293,slow=10,SNR=6.1
SNAA Sanae 51.78 158 P P 20 31 52.9 +1.7
SNAA e 20 31 59.1
TEIG Tepich 55.89 341 P P 20 32 21.6 -0.1
comp=N,19nm,0.8s
QSPA South Pole Qui 56.50 180 P P 20 32 24.6 -1.2
comp=N,3.9nm,1.1s
TXAR Lajitas Array 69.57 331 P P 20 33 51.2 -1.7
comp=N,0.5nm,0.7s,baz=148,slow=7.4,SNR=5.0
PDAR Pinedale Array 83.59 333 P P 20 35 13.1 +1.1
comp=N,0.3nm,0.6s,baz=134,slow=9.1,SNR=3.2
NVAR Mina Array Bea 83.74 325 P P 20 35 14.1 +1.1
comp=N,0.3nm,0.3s,baz=181,slow=7.8,SNR=2.9
TORD Torodi Ar. Bea 83.99 70 P P 20 35 14.8 +0.3
comp=N,1.2nm,0.8s,baz=256,slow=4.6,SNR=7.1
ZALV Zalesovo Beam 153.93 32 PKPbc PKPbc 20 42 42.9 +0.3
comp=N,0.7nm,0.5s,baz=287,slow=6.0,SNR=4.7

IDC 27 20:25:35.5±1.1, 34.38S×73.39W, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/28, mbtmp4.2/7, ML2.6/1, Error ellipse: s-maj=36.4km s-min=21.8km az=99.0
ISCJB 27 20:25:39.2±0.9, 34.4S±0.1×73.3W±0.2, h33km, mb4.1/7, Error ellipse: s-maj=24.4km s-min=16.2km az=18.0
NEIC 27 20:25:41.1±0.7, 34.45S×73.25W, h35km, mb4.6/1, Error ellipse: s-maj=20.3km s-min=14.0km az=103.0
ISC 27 20:25:41.4±0.9, 34.5S±0.1×73.2W±0.2, h35km, n14, σ0ş85/13, mb4.3/7, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.07 57 Pn Pn 20 26 55.4 +0.4
0.2nm,0.3s,baz=234,slow=10,SNR=1.7
LVC Limon Verde 12.39 19 P Pn 20 28 28.3 -7.2
24nm,0.8s
SIV San Ignacio 21.39 34 P P 20 30 25.5 -0.6
2.6nm,0.8s,baz=236,slow=12,SNR=4.6
OTAV Otavalo 34.85 351 P P 20 32 31.4 +1.7
SNAA Sanae 51.55 158 P P 20 34 43.5 +0.1
2.3nm,0.8s,baz=276,slow=7.5,SNR=10
QSPA South Pole Qui 55.79 180 P P 20 35 15.2 +0.6
6.2nm,0.9s,baz=155,slow=0.9,SNR=12
TXAR Lajitas Array 69.65 332 P P 20 36 46.1 -1.2
0.2nm,0.4s,baz=204,slow=11,SNR=5.8
DBIC Dimbokro 76.27 72 P P 20 37 27.3 +0.5
2.9nm,0.8s,baz=192,slow=12,SNR=4.7
DBIC Dimbokro 76.27 72 P P 20 37 26.9 +0.1
4.8nm,0.8s
BOSA Boshof 80.74 118 P P 20 37 51.4 -0.1
2.9nm,0.9s,baz=321,slow=5.0,SNR=3.4
TOA0 Torodi Ar. Sit 85.30 71 eP P 20 38 14.6 -0.4
TORD Torodi Ar. Bea 85.30 71 P P 20 38 14.0 -1.0
1.6nm,0.7s,baz=258,slow=3.4,SNR=8.0
ZALV Zalesovo Beam 155.13 32 PKPbc PKPdf 20 45 37.4 +7.3
0.7nm,0.6s,baz=48,slow=2.2,SNR=3.6
ZALV PKPab PKPab 20 45 54.1 -0.8
0.4nm,0.3s,baz=319,slow=4.2,SNR=3.6
MKAR Makanchi Array 157.81 49 PKPab PKPab 20 46 06.6 -0.2
0.4nm,0.7s,baz=298,slow=2.6,SNR=4.2

IDC 27 20:28:27.4±1.4, 26.07N×128.49E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/28, mbtmp3.6/4, Error ellipse: s-maj=43.3km s-min=20.8km az=75.0
JMA 27 20:28:29.3±0.6, 26.00N×128.61E, h26km, M3.0
ISC 27 20:28:28.1±2.0, 26.05N±0.07×128.60E±0.06, h11km±12km, n12, σ1ş48/18, mb3.5/4, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.70 312 P Pb 20 28 42.9 +0.4
JNTH S Sn 20 28 53.8 -1.2
JJT2 Tamagusuku 2 0.78 277 P Pb 20 28 44.2 +0.5
JJT2 eS Sb 20 28 54.8 +0.6
JOW Kunigami 0.84 339 P Pn 20 28 46.0 0.0
JOW S Sb 20 28 56.3 +0.2
JOW Kunigami 0.84 339 Pn Pb 20 28 45.3 +0.5
14nm,0.3s,baz=167,slow=17,SNR=11
JOW Sn Sg 20 28 53.4 -1.9
14nm,0.3s,baz=157,slow=18,SNR=7.2
JIH Iheya 1.14 330 P Pg 20 28 50.5 +0.4
JIH eS Sn 20 29 05.3 -0.4
JAGN Aguni-jima 1.34 294 P Pn 20 28 53.0 +0.2
JKE Kume jima 2 1.66 280 P Pn 20 28 56.3 -0.9
JKE eS Sn 20 29 15.1 -3.4
JMZ Minamidaito 2 2.37 95 eS Sn 20 29 33.3 -2.7
SONM Songino Array 27.89 327 P P 20 34 20.0 +1.8
0.3nm,0.5s,baz=133,slow=10,SNR=3.8
MKAR Makanchi Array 41.91 312 P P 20 36 18.5 -0.2
1.0nm,1.0s,baz=99,slow=9.5,SNR=4.0
WRA Warramunga Arr 46.05 172 P P 20 36 53.1 +1.0
0.4nm,0.8s,baz=349,slow=8.4,SNR=3.1
FINES FINESS Array B 73.19 331 P P 20 39 58.9 +0.1
1.7nm,1.0s,baz=68,slow=5.1,SNR=3.8

IDC 27 20:29:15.1±0.5, 35.04S×73.93W, h0km, mb4.6/12, mb1 4.7/15, mb1mx4.6/31, mbtmp4.6/15, ML4.5/3, MS4.6/3, Ms1 4.5/3, ms1mx3.9/41, Error ellipse: s-maj=21.2km s-min=14.6km az=84.0
MOS 27 20:29:19.8±1.1, 34.87S×73.64W, h33km, mb5.2/22, Error ellipse: s-maj=23.2km s-min=9.7km az=102.7
ISCJB 27 20:29:20.1±0.2, 34.88S±0.05×73.59W±0.07, h33km, mb4.9/70, MS4.9/2, Error ellipse: s-maj=9.8km s-min=5.4km az=146.8
BJI 27 20:29:20.8, 35.23S×72.68W, h38km, mB5.3/6, Ms5.3/4, Ms7 5.1/4
NEIC 27 20:29:21.2±0.2, 34.91S×73.71W, h35km, mb5.0/62, Error ellipse: s-maj=10.1km s-min=6.4km az=63.0
ISC 27 20:29:20.9±0.3, 34.91S±0.06×73.86W±0.09, h35km, n368, σ1ş39/374, mb5.0/70, 91C-93D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.75 57 Pn Pn 20 30 43.8 0.0
2.5nm,0.3s,baz=231,slow=11,SNR=16
PLCA Paso Flores 6.37 157 eP Pn 20 30 51.4 -1.0
PLCA Paso Flores 6.37 157 Pn Pn 20 30 50.5 -1.9
7.6nm,0.3s,baz=319,slow=9.4,SNR=6.4
PLCA Paso Flores 6.37 157 ePn Pn 20 30 51.4 -1.0
TRQA Tornquist 10.06 112 ePn Pn 20 31 44.2 +1.2
LVC Limon Verde 13.00 21 ePn Pn 20 32 16.2 -7.2
CPUP Villa Florida 16.59 63 LR LR 20 40 47.4
comp=Z,651nm,18.9s,baz=314,slow=42
LPAZ La Paz 19.25 17 eP P 20 33 43.3 +0.3
LPAZ pmax pmax
comp=Z,16nm,1.0s
LPAZ La Paz 19.25 17 P P 20 33 43.4 +0.3
comp=Z,0.5nm,0.3s,baz=188,slow=10,SNR=11
LPAZ La Paz 19.25 17 ePn P 20 33 43.2 +0.3
comp=Z,16nm,1.0s
USHA Ushuaia 20.27 171 P P 20 33 50.9 -2.3
comp=Z,14nm,0.8s,baz=333,slow=8.0,SNR=6.0
SIV San Ignacio 22.06 35 P P 20 34 12.5 -0.3
comp=Z,15nm,0.7s,baz=240,slow=9.6,SNR=7.3
SAML Samuel 27.63 23 eP P 20 35 04.7 -0.6
comp=Z,36nm,2.5s
BDFB Brasilia 30.09 57 eP P 20 35 26.4 -0.9
BDFB Brasilia 30.09 57 P P 20 35 26.5 -0.8
comp=Z,7.9nm,0.8s,baz=232,slow=7.6,SNR=9.9
BDFB Brasilia 30.09 57 eP P 20 35 26.4 -0.9
PMSA Palmer Station 30.48 172 P P 20 35 33.3 +3.2
comp=Z,64nm,0.8s
OTAV Otavalo 35.23 352 eP P 20 36 13.4 +0.8
comp=Z,24nm,1.2s
SDV Santo Domingo 43.67 5 eP P 20 37 22.5 -0.1
comp=Z,9.3nm,0.9s
RCBR Riachuelo 45.40 59 eP P 20 37 35.6 -0.8
comp=Z,50nm,1.7s
RCBR P pP 20 37 37.1 -10
JTS JuntasAbangare 46.17 345 P P 20 37 42.3 0.0
JTS JuntasAbangare 46.17 345 P P 20 37 42.3 0.0
VNA3 Neumayer Olymp 49.09 157 P P 20 38 04.8 +0.4
VNA2 Neumayer--Watz 49.76 157 P P 20 38 10.1 +0.6
FDF Fort de France 50.83 16 eP P 20 38 16.4 -1.8
FDF pmax pmax
comp=Z,31nm,0.5s
FDF Fort de France 50.83 16 eP P 20 38 16.4 -1.8
comp=Z,31nm,0.5s
SNAA Sanae 51.31 157 P P 20 38 21.8 +0.5
SNAA Sanae 51.31 157 eP P 20 38 21.4 +0.1
SNAA pmax pmax
comp=Z,42nm,1.1s
SNAA Sanae 51.31 157 P P 20 38 21.5 +0.1
comp=Z,8.8nm,0.8s,baz=275,slow=6.5,SNR=35
SNAA Sanae 51.31 157 eP P 20 38 21.4 +0.1
comp=Z,42nm,1.1s
CELP Cerrillos 53.15 9 eP P 20 38 34.0 -1.4
RKT Rikitea 53.99 265 eLR LR 20 39 02.6
comp=Z,2μm,25.8s
QSPA South Pole Qui 55.32 180 P P 20 38 49.9 -1.0
comp=Z,8.6nm,1.0s,baz=155,slow=1.6,SNR=16
QSPA South Pole Qui 55.32 180 eP P 20 38 50.5 -0.4
comp=Z,19nm,1.2s
NVL N'lazarevskaya 56.08 157 eP P 20 38 56.4 +0.3
NVL pmax pmax
comp=Z,16nm,0.9s
TEIG Tepich 56.52 344 eP P 20 38 57.8 -2.0
comp=Z,54nm,1.3s
TEIG eP P 20 38 58.7 -1.1
DWPF Disney 63.09 352 P P 20 39 43.5 -1.2
933A Laredo 66.67 335 ⇑P P 20 40 10.1 +2.0
baz=67
833A Chaparral WMA, 67.37 336 ⇓P P 20 40 14.3 +1.8
baz=68,SNR=8.9
832A Faith Ranch, C 67.53 335 ⇓P P 20 40 13.8 +0.2
baz=68
633A Saathoff Ranch 68.34 336 ⇑P P 20 40 20.0 +1.4
baz=69
632A Uvalde 68.59 336 ⇓P P 20 40 21.8 +1.6
baz=69
533A Kerrville 68.86 337 ⇓P P 20 40 23.6 +1.7
baz=69
532A Rocksprings 69.20 336 ⇓P P 20 40 25.2 +1.2
baz=70,SNR=11
434A Burnet 69.30 338 ⇑P P 20 40 26.0 +1.3
baz=70,SNR=7.6
531A Rocksprings 69.45 335 ⇓P P 20 40 26.7 +1.1
baz=70,SNR=6.7
JCT Junction City 69.49 336 eP P 20 40 27.2 +1.4
JCT pmax pmax
comp=Z,19nm,1.0s
JCT Junction City 69.49 336 eP P 20 40 27.2 +1.4
comp=Z,19nm,1.0s
JCT Junction City 69.49 336 ⇑P P 20 40 27.0 +1.2
baz=70,SNR=5.8
433A Art 69.51 337 ⇓P P 20 40 26.4 +0.5
baz=70,SNR=9.5
530A J-C Ranch, Com 69.71 335 ⇓P P 20 40 29.2 +2.0
baz=70,SNR=9.4
334A Lometa 69.78 338 ⇓P P 20 40 26.9 -0.6
baz=70
TXAR Lajitas Array 69.82 332 P P 20 40 27.8 -0.2
comp=Z,4.0nm,0.7s,baz=154,slow=7.8,SNR=31
432A Menard 69.85 336 ⇑P P 20 40 29.0 +1.0
baz=70
529A Stev Forest Ra 70.00 334 ⇑P P 20 40 30.5 +1.5
baz=70,SNR=6.8
333A Richland Sprin 70.00 337 ⇓P P 20 40 30.1 +1.2
baz=70
430A Baggett Ranch, 70.25 335 ⇓P P 20 40 31.3 +0.7
baz=71,SNR=5.4
332A Millersview 70.30 337 ⇑P P 20 40 30.9 +0.2
baz=71,SNR=5.6
429A Davenport Ranc 70.34 335 ⇓P P 20 40 32.4 +1.3
baz=71,SNR=6.8
331A San Angelo 70.46 336 ⇑P P 20 40 32.5 +0.8
baz=71
233A Rising Star 70.62 338 ⇓P P 20 40 33.8 +1.1
baz=71
232A Coleman 70.73 337 ⇑P P 20 40 33.5 +0.1
baz=71
330A Mertzon 70.80 335 ⇓P P 20 40 35.0 +1.2
baz=71
231A Bronte 71.00 336 ⇓P P 20 40 35.3 +0.4
baz=71,SNR=5.6
133A Hamilton Ranch 71.17 338 ⇑P P 20 40 36.7 +0.7
baz=72
Z35A Perchaven, San 71.35 339 ⇑P P 20 40 37.2 +0.2
baz=72
ABTX Abilene, Hawle 71.41 337 eP P 20 40 36.9 -0.6
comp=Z,23nm,1.2s
ABTX Abilene, Hawle 71.41 337 ⇑P P 20 40 38.6 +1.1
baz=72,SNR=5.8
MIAR Mount Ida 71.52 343 eP P 20 40 37.6 -0.4
MIAR pmax pmax
comp=Z,75nm,2.5s
MIAR Mount Ida 71.52 343 eP P 20 40 37.6 -0.4
comp=Z,75nm,2.5s
131A Roby 71.70 337 ⇓P P 20 40 39.7 +0.4
baz=72
Z33A Whitaker Ranch 71.75 338 ⇓P P 20 40 40.7 +1.2
baz=72
WVT Waverly 71.87 348 eP P 20 40 39.4 -0.7
WVT pmax pmax
comp=Z,30nm,1.1s
WVT Waverly 71.87 348 eP P 20 40 39.4 -0.7
comp=Z,30nm,1.1s
228A UT Block 9, Go 71.94 335 ⇑P P 20 40 42.3 +1.6
baz=72
Z32A Haskell 71.99 338 ⇓P P 20 40 42.4 +1.5
baz=72,SNR=8.1
Z31A Sharp Cattle R 72.21 337 ⇓P P 20 40 41.6 -0.7
baz=73
128A Castleberry Fa 72.36 335 ⇑P P 20 40 43.7 +0.4
baz=73,SNR=8.8
Y33A Hilltop Ranch, 72.38 339 ⇓P P 20 40 43.0 -0.2
baz=73
Z30A Sanderson Ranc 72.50 336 ⇓P P 20 40 44.0 -0.1
baz=73,SNR=5.5
Y32A R-V Farms, Ver 72.63 338 ⇓P P 20 40 46.1 +1.4
baz=73
Z29A Hungry Hill Ra 72.67 336 ⇑P P 20 40 45.4 +0.3
baz=73
X34A Smith Ranch, M 72.70 339 ⇓P P 20 40 46.8 +1.7
baz=73
Y30A Stafford Cattl 72.97 337 ⇓P P 20 40 46.4 -0.4
baz=73
PBMO Poplar Bluff 72.98 346 eP P 20 40 47.8 +1.1
comp=Z,12nm,0.9s
Y29A Porterfield Fa 73.21 336 ⇓P P 20 40 49.3 +1.0
baz=74
Z27A Tatum 73.24 335 ⇓P P 20 40 50.3 +1.8
baz=74
TUL1 Tulsa 73.37 342 eP P 20 40 48.7 -0.3
comp=Z,19nm,0.9s
TUL1 Tulsa 73.37 342 ⇑P P 20 40 50.1 +1.0
baz=74,SNR=5.4
X31A McDonald Ranch 73.37 338 ⇓P P 20 40 50.4 +1.3
baz=74
W33A Caddo, Fort Co 73.40 339 ⇓P P 20 40 50.6 +1.3
baz=74,SNR=5.4
Z26A Caprock 73.48 334 ⇑P P 20 40 50.5 +0.6
baz=74,SNR=9.6
W32A Sentinel 73.61 339 ⇓P P 20 40 51.3 +0.8
baz=74,SNR=9.6
MSTX Muleshoe 73.68 335 eP P 20 40 49.9 -1.2
comp=Z,10nm,0.9s
MSTX Muleshoe 73.68 335 ⇑P P 20 40 52.4 +1.3
baz=74
WCI Wyandotte Cave 73.69 350 eP P 20 40 51.4 +0.5
WCI pmax pmax
comp=Z,96nm,2.2s
WCI Wyandotte Cave 73.69 350 eP P 20 40 51.4 +0.5
comp=Z,96nm,2.2s
X29A Tulia 73.75 336 ⇑P P 20 40 52.5 +1.1
baz=74
V33A Lossen Ranch, 73.97 340 ⇑P P 20 40 53.2 +0.6
baz=74,SNR=6.3
Z24A Sheeppen Canyo 74.04 333 ⇓P P 20 40 54.5 +1.2
baz=74,SNR=6.6
AMTX Amarillo 74.15 336 ⇑P P 20 40 55.4 +1.6
baz=74
W29A Amraillo 74.36 337 ⇓P P 20 40 55.5 +0.5
baz=75
X26A CR and CF Fran 74.57 335 ⇑P P 20 40 57.9 +1.6
baz=75
Z22A Elephant Butte 74.58 332 ⇑P P 20 40 59.2 +2.8
baz=75
Y24A Capitan 74.60 333 ⇓P P 20 40 57.6 +1.0
baz=75,SNR=6.3
U32A Winter Ranch, 74.70 339 ⇓P P 20 40 58.2 +1.4
baz=75
W27A Bowe Ranch, En 74.78 335 ⇑P P 20 40 58.3 +0.8
baz=75
Y23A Lovelace Mesa, 74.83 333 ⇑P P 20 41 00.1 +2.2
baz=75
RAR Rarotonga 74.95 255 LR LR 21 06 12.6
comp=Z,587nm,19.9s,baz=248,slow=30
W26A Owens Ranch, T 75.04 335 ⇓P P 20 41 00.8 +1.8
baz=75
T33A Patterson Ranc 75.14 340 ⇑P P 20 41 00.9 +1.6
baz=76
ACSO Alum Creek Sta 75.25 353 eP P 20 40 59.0 -0.9
comp=Z,23nm,0.9s
TUC Tucson 75.33 328 eP P 20 41 01.6 +0.9
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC Tucson 75.33 328 eP P 20 41 01.6 +0.9
comp=Z,7.9nm,1.1s
V26A Tequesquite Ra 75.69 335 ⇑P P 20 41 03.5 +0.8
baz=76
SUR Sutherland 75.70 120 LR LR 21 09 41.0
comp=Z,530nm,19.2s,baz=272,slow=32
SUR Sutherland 75.70 120 P P 20 41 03.4 +0.2
S32A Newby Ranch, P 75.91 340 ⇓P P 20 41 05.1 +1.3
baz=76
U27A Thompson Grove 75.93 336 ⇓P P 20 41 04.9 +0.8
baz=76
W23A Werner Place, 75.96 333 ⇓P P 20 41 07.0 +2.6
baz=76
S31A Mullinville 75.99 339 ⇓P P 20 41 05.7 +1.4
baz=76
V25A Rancho No Teng 76.01 335 ⇓P P 20 41 06.4 +1.8
baz=76,SNR=5.2
R33A Olander Ranch, 76.21 341 ⇓P P 20 41 07.0 +1.5
baz=77
U26A Atchley Ranch, 76.21 336 ⇑P P 20 41 07.4 +1.6
baz=77
S30A Montezuma 76.30 339 ⇓P P 20 41 07.7 +1.6
baz=77
T28A Walsh 76.34 337 ⇑P P 20 41 07.5 +1.2
baz=77,SNR=7.2
U25A Circle Dot Ran 76.45 335 ⇓P P 20 41 09.1 +2.0
baz=77
T27A Campo 76.48 337 ⇑P P 20 41 08.7 +1.6
baz=77
S29A Ulysses 76.48 338 ⇑P P 20 41 09.0 +1.9
baz=77
R32A Long Quarter, 76.52 340 ⇓P P 20 41 09.1 +1.9
baz=77
R31A Burdett 76.63 339 ⇓P P 20 41 09.6 +1.8
baz=77
S28A Manter 76.70 337 ⇓P P 20 41 08.5 +0.2
baz=77
R30A Dighton 76.84 339 ⇑P P 20 41 10.4 +1.3
baz=77
T26A Comanche Natio 76.87 336 ⇓P P 20 41 11.5 +2.0
baz=77
DBIC Dimbokro 76.89 72 eP P 20 41 10.4 +0.5
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC Dimbokro 76.89 72 P P 20 41 10.7 +0.8

comp=Z,3.8nm,0.6s,baz=216,slow=5.1,SNR=9.6
DBIC Dimbokro 76.89 72 eP P 20 41 10.3 +0.5
comp=Z,5.9nm,0.8s
V22A San Miguel Ran 76.91 333 ⇓P P 20 41 12.3 +2.6
baz=77,SNR=7.9
Q32A Meitler Ranch, 77.01 340 ⇑P P 20 41 11.4 +1.4
baz=77
T25A Trinidad 77.11 335 ⇓P P 20 41 12.9 +2.1
baz=78,SNR=11
S26A Kim 77.23 336 ⇑P P 20 41 13.3 +1.9
baz=78,SNR=6.6
U22A Llaves 77.30 333 ⇓P P 20 41 15.6 +3.6
baz=78
R28A Tribune 77.36 338 ⇓P P 20 41 14.0 +1.9
baz=78,SNR=6.3
T24B San Luis 77.38 335 ⇓P P 20 41 13.9 +1.5
baz=78
X16A Lo Mia Camp, P 77.42 329 ⇑P P 20 41 14.6 +2.0
baz=78,SNR=7.0
Q30A Quinter 77.47 339 ⇑P P 20 41 13.7 +1.1
baz=78,SNR=6.1
S25A Robets Cordova 77.59 336 ⇑P P 20 41 14.7 +1.3
baz=78
R27A Eads 77.62 337 ⇓P P 20 41 15.4 +1.9
baz=78
P31A Stockton 77.73 340 ⇑P P 20 41 15.9 +1.9
baz=78
S24A Houchin Ranch, 77.84 335 ⇓P P 20 41 17.5 +2.5
baz=78,SNR=7.7
R26A Arlington 77.84 337 ⇓P P 20 41 16.3 +1.6
baz=78,SNR=5.7
R25A Fountain Ranch 77.98 336 ⇓P P 20 41 17.7 +2.1
baz=78
P30A Selden 78.00 339 ⇓P P 20 41 16.0 +0.5
baz=78
Q28A Sharon Springs 78.03 338 ⇑P P 20 41 15.9 +0.2
baz=78
O32A Brockman Farm, 78.12 341 ⇓P P 20 41 17.8 +1.6
baz=78
O31A Woolen Ranch, 78.30 340 ⇑P P 20 41 18.8 +1.6
baz=79
R24A Sanders Place, 78.34 335 ⇓P P 20 41 19.4 +1.8
baz=79,SNR=7.6
P28A Saint Francis 78.47 338 ⇓P P 20 41 20.3 +2.1
baz=79
S22A 4UR Ranch, Cre 78.51 334 ⇓P P 20 41 21.3 +2.6
baz=79
R23A Moffat 78.55 335 ⇓P P 20 41 21.3 +2.4
baz=79
MVCO Mesa Verde 78.66 332 eP P 20 41 19.9 +0.5
comp=Z,14nm,1.2s
MVCO Mesa Verde 78.66 332 ⇓P P 20 41 21.7 +2.3
baz=79
P26A Davis Ranch, A 78.95 337 ⇓P P 20 41 23.1 +2.2
baz=79
CASY Casey 79.07 182 eP P 20 41 21.0 -0.2
BGNE Belgrade 79.16 342 ⇑P P 20 41 21.8 0.0
baz=80
P25A Willow Gulch B 79.18 337 ⇑P P 20 41 23.8 +1.7
baz=80,SNR=5.9
N29A Votaw Ranch, W 79.29 340 ⇑P P 20 41 24.3 +1.7
baz=80
O26A Horse Wrangler 79.56 337 ⇑P P 20 41 26.0 +1.7
baz=80
O25A Wiggins 79.70 337 ⇑P P 20 41 27.4 +2.5
baz=80
SMCO Snowmass 79.83 334 eP P 20 41 27.0 +1.0
comp=Z,25nm,1.4s
N27A Anderson Farm, 79.84 338 ⇑P P 20 41 27.5 +1.8
baz=80
PV04 Paradox Valley 79.85 333 eP P 20 41 28.1 +2.2
ISCO Idaho Springs 79.92 336 eP P 20 41 27.5 +1.1
ISCO pmax pmax
comp=Z,32nm,2.1s
ISCO Idaho Springs 79.92 336 eP P 20 41 27.5 +1.1
comp=Z,32nm,2.1s
ISCO Idaho Springs 79.92 336 ⇓P P 20 41 28.5 +2.2
baz=80
N26A Koester Ranch, 80.07 338 ⇑P P 20 41 29.6 +2.7
baz=80
P22A Eagle 80.13 335 ⇓P P 20 41 30.4 +3.0
baz=80
O23A Lake Granby, G 80.39 336 ⇓P P 20 41 31.3 +2.4
baz=81,SNR=7.3
TSUM Tsumeb 80.40 107 eP P 20 41 30.0 +0.6
comp=Z,17nm,1.4s
O22A Kremmling 80.56 335 ⇑P P 20 41 32.4 +2.5
baz=81,SNR=7.1
K30A Basset 80.73 341 ⇓P P 20 41 32.6 +2.3
baz=81,SNR=5.1
SHPR Sheep Range 80.80 327 eP P 20 41 32.1 +1.1
comp=Z,5.7nm,1.1s
CCUT Cedar City 80.90 329 eP P 20 41 33.3 +1.7
comp=Z,8.6nm,1.0s
BOSA Boshof 80.97 118 eP P 20 41 32.5 +0.2
BOSA e 20 41 40.7
BOSA pmax pmax
comp=Z,16nm,0.9s
BOSA Boshof 80.97 118 P P 20 41 32.5 +0.2
comp=Z,15nm,0.8s,baz=236,slow=5.4,SNR=16
BOSA Boshof 80.97 118 eP P 20 41 32.5 +0.2
comp=Z,16nm,0.9s
BOSA e 20 41 40.7
ECSD EROS Data Cent 80.98 344 eP P 20 41 31.2 -0.4
comp=Z,28nm,1.1s
ECSD EROS Data Cent 80.98 344 ⇑P P 20 41 31.5 -0.1
baz=81,SNR=12
N23A Red Feather La 81.01 336 ⇑P P 20 41 34.8 +2.6
baz=81
SRU San Rafael 81.09 332 eP P 20 41 34.5 +2.0
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael 81.09 332 eP P 20 41 34.5 +2.0
comp=Z,6.3nm,0.9s
N22A Wattenberg Ran 81.10 336 ⇑P P 20 41 36.2 +3.6
baz=82,SNR=5.0
PHWY Pilot Hill 81.21 336 eP P 20 41 34.8 +1.5
comp=Z,10nm,1.1s
MVU Marysvale 81.23 330 eP P 20 41 36.0 +2.6
comp=Z,14nm,1.4s
SPMN St. Paul 81.59 347 eP P 20 41 35.4 +0.6
comp=Z,17nm,1.1s
J29A Okreek 81.60 341 ⇑P P 20 41 35.7 +0.8
baz=82,SNR=6.6
N20A Spence Gulch, 81.76 334 ⇓P P 20 41 38.5 +2.4
baz=82
J28A Allard Ranch, 81.87 340 ⇓P P 20 41 38.5 +2.1
baz=82
J27A Elkhorn Farm, 81.93 340 ⇑P P 20 41 40.1 +3.4
baz=82,SNR=5.8
MPU Maple Canyon 82.30 332 eP P 20 41 40.2 +1.3
comp=Z,13nm,1.1s
I28A Midland 82.38 340 ⇑P P 20 41 41.0 +1.9
baz=83
R11A Troy Canyon, C 82.52 328 eP P 20 41 40.2 +0.1
comp=Z,9.4nm,1.4s
K23A Bowen Ranch, D 82.58 337 ⇑P P 20 41 42.4 +2.2
baz=83
H29A Onida 82.71 341 ⇓P P 20 41 41.3 +0.7
baz=83,SNR=6.2
JLU Jordanelle 82.74 332 eP P 20 41 42.9 +1.7
comp=Z,8.6nm,1.1s
K22A Casper 82.77 336 eP P 20 41 43.4 +2.1
comp=Z,24nm,1.1s
G30A Faulkton 82.90 342 ⇓P P 20 41 42.9 +1.3
baz=83
DUG Dugway 82.92 331 eP P 20 41 44.0 +2.0
DUG pmax pmax
comp=Z,17nm,1.3s
DUG Dugway 82.92 331 eP P 20 41 44.0 +2.0
comp=Z,17nm,1.3s
DUG Dugway 82.92 331 ⇑P P 20 41 44.6 +2.5
baz=83,SNR=8.2
K21A Alcova 83.00 336 ⇓P P 20 41 44.4 +1.9
baz=83,SNR=6.0
TPH Tonopah 83.02 327 eP P 20 41 43.1 +0.4
TPH e 20 41 51.0
TPH pmax pmax
comp=Z,15nm,1.3s
TPH Tonopah 83.02 327 eP P 20 41 43.1 +0.4
comp=Z,15nm,1.3s
TPH e 20 41 51.0
I25A Rochford 83.13 339 ⇑P P 20 41 44.4 +1.3
baz=84,SNR=5.4
H27A Howes 83.22 340 ⇑P P 20 41 44.1 +0.7
baz=84
I24A Kuemmerle Ranc 83.26 338 ⇑P P 20 41 45.6 +1.9
baz=84
LBTB Lobatse 83.28 116 eP P 20 41 45.1 +0.7
LBTB pmax pmax
comp=Z,15nm,0.9s
LBTB Lobatse 83.28 116 eP P 20 41 45.1 +0.7
comp=Z,14nm,0.9s
RSSD Black Hills 83.32 339 eP P 20 41 45.8 +1.7
RSSD pmax pmax
comp=Z,6.0nm,1.1s
RSSD Black Hills 83.32 339 eP P 20 41 45.8 +1.7
comp=Z,5.8nm,1.1s
F30A Leola 83.53 343 ⇓P P 20 41 46.6 +1.7
baz=84
BGU Big Grassy Mou 83.63 331 eP P 20 41 47.1 +1.4
comp=Z,7.1nm,1.5s
J21A Lysite 83.70 336 ⇓P P 20 41 48.6 +2.6
baz=84
NVAR Mina Array Bea 83.79 326 P P 20 41 47.2 +0.5
comp=Z,1.9nm,0.8s,baz=146,slow=6.4,SNR=9.0
I22A 9 Mile Ranch, 83.87 337 ⇓P P 20 41 48.7 +1.8
baz=84
PDAR Pinedale Array 83.92 334 P P 20 41 47.0 -0.2
comp=Z,4.0nm,1.1s,baz=146,slow=6.6,SNR=14
J20A Shoshoni 83.92 336 ⇑P P 20 41 49.6 +2.5
baz=84,SNR=11
H24A Dirks Ranch, A 84.04 339 ⇑P P 20 41 48.6 +1.0
baz=84
I21A Big Trails, Te 84.06 336 ⇑P P 20 41 49.7 +1.8
baz=84,SNR=6.7
E30A Jud 84.13 343 ⇓P P 20 41 48.4 +0.5
baz=84
J19A Crowheart 84.18 335 ⇑P P 20 41 49.5 +1.0
baz=85,SNR=11
HVU Hansel Valley 84.26 332 eP P 20 41 50.2 +1.3
HVU pmax pmax
comp=Z,19nm,1.1s
HVU Hansel Valley 84.26 332 eP P 20 41 50.2 +1.3
comp=Z,19nm,1.1s
ELK Elko 84.37 330 eP P 20 41 51.2 +1.6
ELK pmax pmax
comp=Z,6.0nm,1.1s
ELK Elko 84.37 330 eP P 20 41 51.2 +1.6
comp=Z,6.4nm,1.1s
H22A Clearmont 84.46 337 ⇑P P 20 41 51.6 +1.8
baz=85
I20A Worland 84.46 336 ⇓P P 20 41 51.5 +1.6
baz=85,SNR=6.0
F26A Lodgepole 84.50 340 ⇑P P 20 41 51.6 +1.7
baz=85
G23A Biddle 84.70 338 ⇓P P 20 41 51.9 +0.9
baz=85
D29A Pettibone, Tap 84.82 343 ⇓P P 20 41 51.8 +0.4
baz=85
I19A Meeteetse 84.83 335 ⇑P P 20 41 53.8 +2.0
baz=85
H20A Greybull 84.90 336 ⇓P P 20 41 51.8 -0.1
baz=85,SNR=9.4
REDW Red Top Meadow 84.90 334 eP P 20 41 52.1 -0.1
comp=Z,25nm,1.5s
G22A Birney 85.00 338 ⇑P P 20 41 54.5 +2.0
baz=85
LOHW Long Hollow 85.03 334 eP P 20 41 52.7 -0.1
comp=Z,9.4nm,1.3s
TPAW Teton Pass 85.05 334 eP P 20 41 54.4 +1.4
comp=Z,10nm,1.1s
C30A Mose, Pekin 85.15 344 ⇓P P 20 41 53.7 +0.7
baz=86,SNR=8.6
F23A Volborg 85.18 338 ⇑P P 20 41 54.3 +1.0
baz=86,SNR=5.4
D28A Regan 85.19 342 ⇓P P 20 41 54.5 +1.2
baz=86
FXWY Fox Creek 85.20 334 eP P 20 41 54.9 +1.1
comp=Z,57nm,2.8s
I17A Pilgrim Ck. 85.28 334 ⇑P P 20 41 56.6 +2.5
baz=86,SNR=6.8
G21A Lodge Grass 85.30 337 ⇓P P 20 41 55.1 +1.2
baz=86
E25A Miller Ranch, 85.30 340 ⇓P P 20 41 56.1 +2.2
baz=86
IMW Indian Meadow 85.39 334 eP P 20 41 56.1 +1.4
comp=Z,21nm,1.5s
FLWY Flagg Ranch 85.47 334 eP P 20 41 55.2 +0.2
comp=Z,26nm,1.4s
F22A Rosebud 85.49 338 ⇑P P 20 41 56.2 +1.3
baz=86
D26A Manning 85.52 341 ⇓P P 20 41 57.0 +2.0
baz=86
G20A Bridger 85.62 336 ⇓P P 20 41 56.3 +0.7
baz=86,SNR=9.9
H18A Shoshone NF, C 85.63 335 ⇓P P 20 41 57.4 +1.6
baz=86,SNR=7.2
B30A Myrvik Farm, E 85.82 344 ⇑P P 20 41 56.1 -0.3
baz=86,SNR=13
D25A Fairfield 85.87 340 ⇑P P 20 41 58.7 +2.0
baz=86
C27A Sayler Ranch, 85.91 342 ⇑P P 20 41 56.7 -0.1
baz=86
TOA0 Torodi Ar. Sit 85.93 71 eP P 20 41 57.6 -0.1
TORD Torodi Ar. Bea 85.93 71 P P 20 41 56.4 -1.3
comp=Z,6.6nm,1.0s,baz=253,slow=4.0,SNR=22
E22A Miles City 85.99 338 ⇑P P 20 41 58.9 +1.5
baz=86
YMR Madison River 86.07 334 eP P 20 41 58.7 +0.7
comp=Z,27nm,1.2s
D24A Glendive 86.12 340 ⇑P P 20 41 59.9 +1.9
baz=86
C26A Wahner Farm, P 86.16 341 ⇓P P 20 41 59.2 +1.1
baz=86
B28A Dugan Ranch, T 86.30 343 ⇑P P 20 41 59.2 +0.5
baz=87
QLMT Earthquake Lak 86.38 334 eP P 20 42 00.1 +0.6
comp=Z,0.7nm,0.9s
HLID Hailey 86.41 332 eP P 20 42 01.7 +2.0
comp=Z,8.9nm,1.1s
HLID Hailey 86.41 332 ⇑P P 20 42 01.6 +2.0
baz=87,SNR=5.6
F19A Roth Farm, Mol 86.42 336 ⇑P P 20 42 00.9 +1.4
baz=87
D23A Lindsay 86.43 339 ⇑P P 20 42 00.6 +1.1
baz=87,SNR=8.3
A29A Manning Farm, 86.47 344 ⇑P P 20 41 59.4 -0.2
baz=87,SNR=12
C24A Savage 86.53 340 ⇑P P 20 42 01.0 +1.0
baz=87,SNR=8.8
D22A Cohagen 86.70 339 ⇑P P 20 42 02.6 +1.8
baz=87
A28A Rude Farm, Bot 86.71 343 ⇑P P 20 42 01.6 +0.8
baz=87
E20A Meyer Farm, Mu 86.73 337 ⇑P P 20 42 01.7 +0.8
baz=87,SNR=11
MFID Camas Ranch 86.84 331 eP P 20 42 03.9 +2.2
comp=Z,74nm,2.7s
B25A Knox Farm, Ray 86.86 341 ⇑P P 20 42 02.7 +1.2
baz=87
MCMT McKenzie Canyo 86.89 333 eP P 20 42 02.4 +0.3
comp=Z,6.2nm,1.0s
E19A Rath Farm, Rou 86.90 337 ⇓P P 20 42 03.8 +1.9
baz=87,SNR=5.3
C23A Lambert 86.99 339 ⇑P P 20 42 03.1 +0.9
baz=87,SNR=6.4
ULM Lac du Bonnet 87.00 346 eP P 20 42 02.8 +0.7
ULM Lac du Bonnet 87.00 346 P P 20 42 00.8 -1.3
comp=Z,8.7nm,0.9s,baz=177,slow=3.1,SNR=10.0
ULM Lac du Bonnet 87.00 346 eP P 20 42 02.8 +0.7
A26A Wade Farm, Ken 87.14 342 ⇓P P 20 42 02.8 0.0
baz=88
WVOR Wild Horse Val 87.20 329 eP P 20 42 05.6 +2.1
WVOR pmax pmax
comp=Z,12nm,1.3s
WVOR Wild Horse Val 87.20 329 eP P 20 42 05.6 +2.1
comp=Z,12nm,1.3s
D20A Manuel Ranch, 87.25 337 ⇑P P 20 42 03.9 +0.5
baz=88,SNR=5.6
DLMT Dillon 87.26 334 eP P 20 42 06.1 +2.4
comp=Z,21nm,1.4s
DGMT Dagmar 87.32 340 eP P 20 42 03.3 -0.4
comp=Z,38nm,1.0s
DGMT Dagmar 87.32 340 ⇑P P 20 42 03.8 +0.1
baz=88,SNR=5.4
MOD Modoc 87.50 327 eP P 20 42 05.4 +0.5
comp=Z,19nm,1.3s
B23A Brockton 87.54 340 ⇑P P 20 42 06.8 +2.0
baz=88
LRM Limekiln Ridge 87.60 334 eP P 20 42 06.5 +1.0
A24A Westby 87.68 341 ⇓P P 20 42 07.4 +1.9
baz=88
A22A Carney Farms, 88.28 340 ⇑P P 20 42 10.1 +1.8
baz=89
B20A Solberg Farm, 88.41 338 ⇑P P 20 42 10.9 +1.9
baz=89
K05A Summer Lake 88.42 327 eP P 20 42 11.8 +2.5
comp=Z,202nm,2.5s
A21A Bergtoll Ranch 88.57 339 ⇑P P 20 42 11.2 +1.5
baz=89
BMO Blue Mountains 88.63 331 eP P 20 42 11.4 +1.2
comp=Z,7.3nm,1.2s
A20A Cobblestone Ra 88.77 338 ⇓P P 20 42 11.7 +1.0
baz=89
I07A Izee 88.91 329 eP P 20 42 13.8 +2.3
comp=Z,13nm,1.2s
G08A Pilot Rock 89.66 330 eP P 20 42 17.4 +2.4
comp=Z,13nm,1.4s
LSZ Lusaka 90.94 109 P P 20 42 22.6 +0.8
LSZ Lusaka 90.94 109 P P 20 42 22.6 +0.8
YKA Yellowknife Ar 102.45 342 P Pdif 20 43 11.6 -0.9
comp=Z,0.6nm,1.0s,baz=142,slow=4.0,SNR=6.4
BORG Borgarnes 107.47 21 ePKPdf PKiKP 20 47 36.8 -6.1
DOT Dot Lake 112.69 333 ePP PP 20 48 34.8 -6.3
GERES GERESS Array B 113.87 46 PKP PKiKP 20 47 54.9 -0.8
comp=Z,0.2nm,0.6s,baz=177,slow=2.7,SNR=4.2
ILAR Eielson Array 114.33 333 PKP PKPdf 20 47 54.0 -1.9
comp=Z,0.3nm,0.7s,baz=207,slow=1.4,SNR=5.1
PPLA Purkeypile 115.49 330 ePP PP 20 48 51.0 -10
WRA Warramunga Arr 119.22 211 PKP PKPdf 20 48 05.8 -1.1
comp=Z,0.8nm,0.8s,baz=160,slow=1.6,SNR=5.9
BRTR Keskin Array B 123.59 62 PKP PKPdf 20 48 14.7 -0.1
comp=Z,2.2nm,0.7s,baz=194,slow=3.1,SNR=17
BR131 Keskin Array S 123.59 62 ePKPdf PKPdf 20 48 14.2 -0.5
AKASG Malin Array Be 123.92 48 PKP PKPdf 20 48 13.7 -1.1
comp=Z,0.6nm,0.6s,baz=255,slow=2.7,SNR=3.7
OBN Obninsk 129.13 44 iPKIKP PKPdf 20 48 24.0 -0.6
OBN e*PP PP 20 50 34.1 +0.5
OBN pmax pmax
comp=Z,9.0nm,1.5s
KLMR Klimovskoe 131.03 37 ePKIKP PKPdf 20 48 27.4 -0.6
KLMR pmax pmax
comp=Z,36nm,2.0s
BILL Bilibino 132.99 334 ePKIKP PKPdf 20 48 32.2 +0.7
BILL pmax pmax
comp=Z,4.0nm,1.2s
GEYT Alibeck 141.57 71 PKhKP PKPpre 20 48 42.1
comp=Z,1.5nm,0.7s,baz=280,slow=8.9,SNR=6.6
ABKAR Akbulak array 143.43 53 ePKPpre PKPpre 20 48 47.3
SBUM Sibu 147.21 191 ePKPdf PKPbc 20 49 01.1 0.0
BRVK Borovoye 148.90 43 ePKIKP PKPdf 20 49 00.5 +0.1
BRVK e 20 49 05.1
BRVK Borovoye 148.90 43 ePKPdf PKPdf 20 49 00.5 +0.1
BRVK ePKPbc PKPbc 20 49 05.1 +0.7
YAK Yakutsk 149.06 339 ePKIKP PKPdf 20 49 02.4 +2.1
YAK pmax pmax
comp=Z,26nm,1.0s
YAK Yakutsk 149.06 339 ePKPbc PKPbc 20 49 03.6 -0.8
LHMI Lhok Sumawe 149.26 162 ePKPdf PKPbc 20 49 05.9 -0.6
IPM Ipoh 149.35 170 ePKPbc PKPbc 20 49 05.6 -1.1
KBL Kabul 149.62 80 ePKIKP PKPdf 20 49 01.0 -1.4
KBL e 20 49 06.8
KBL Kabul 149.62 80 ePKPdf PKPdf 20 49 01.0 -1.4
KBL ePKPbc PKPbc 20 49 06.8 -0.3
HYB Hyderabad 149.87 118 iPKP PKPbc 20 49 06.5 -1.4
HYB Hyderabad 149.87 118 iPKP PKPbc 20 49 06.5 -1.4
YSS Yuzh-Sakhalins 150.11 305 ePKIKP PKPbc 20 49 06.8 -0.7
YSS e 20 49 14.0
KKAR Karatay Array 151.30 63 ePKIKP PKPbc 20 49 09.9 -0.6
KKAR Karatay Array 151.30 63 ePKPdf PKPbc 20 49 09.9 -0.6
MJAR Matsushiro Arr 153.98 283 PKPab PKPab 20 49 29.6 -0.6
comp=Z,0.8nm,0.8s,baz=105,slow=4.1,SNR=4.4
AAK Ala-Archa 154.26 63 ePKIKP PKPbc 20 49 17.7 +0.3
AAK Ala-Archa 154.26 63 ePKPbc PKPbc 20 49 17.6 +0.3
AAK ePKPdf PKiKP 20 49 18.3 +0.9
NVS Novosibirsk 154.51 32 ePKIKP PKPdf 20 49 06.7 -2.1
NVS pmax pmax
comp=Z,22nm,2.0s
KSH Kashi 155.60 70 ePKPbc PKPdf 20 49 13.0 +2.0
KSH epPKP pPKPdf 20 49 25.0 +2.5
KSH eSKS SKSdf 20 56 14.0 -0.8
KSH AMB AMB
comp=Z,160nm,10.1s
ZAA0 Zalesovo Array 155.80 32 ePKPdf PKPdf 20 49 08.8 -1.7
ZALV Zalesovo Beam 155.80 32 PKP PKPdf 20 49 08.9 -1.6
comp=Z,1.7nm,0.8s,baz=294,slow=1.5,SNR=7.7
ZALV PKPab PKPab 20 49 38.4 +1.1
comp=Z,4.9nm,0.9s,baz=305,slow=5.2,SNR=7.0
MK31 Makanchi Array 158.50 49 ePKIKP PKPdf 20 49 12.9 -1.4
MK31 Makanchi Array 158.50 49 ePKPdf PKPdf 20 49 12.9 -1.4
MKAR Makanchi Array 158.50 49 ePKIKP PKPdf 20 49 14.8 +0.5
MKAR Makanchi Array 158.50 49 PKP PKPdf 20 49 14.1 -0.2
comp=Z,1.5nm,1.0s,baz=242,slow=2.1,SNR=7.0
MKAR PKPab PKPab 20 49 49.5 +0.2
comp=Z,3.5nm,0.6s,baz=276,slow=3.8,SNR=27
MKAR Makanchi Array 158.50 49 ePKPdf PKPdf 20 49 14.8 +0.5
MKAR PKPab PKPab 20 49 49.5 +0.2
KOLN Koldanda 159.50 104 eP PKPdf 20 49 15.5 -0.8
DANN Dangsing 159.87 103 eP PKPdf 20 49 16.3 -0.5
GKN Gorkha 160.42 105 eP PKPdf 20 49 16.3 -1.0
PKIN Phulchoki 160.83 107 eP PKPdf 20 49 16.9 -1.0
PKI Pulchoki 160.84 107 eP PKPdf 20 49 16.9 -1.1
GUN Gumba 161.37 106 eP PKPdf 20 49 17.5 -1.0
RAMN Ramite 161.47 110 eP PKPdf 20 49 18.1 -0.4
JIRN Jiri 161.50 108 eP PKPdf 20 49 17.8 -0.9
ODAN Odare 162.03 111 eP PKPdf 20 49 18.5 -0.6
CMAR Chiang Mai Arr 162.40 157 PKP PKPdf 20 49 19.4 0.0
comp=Z,0.8nm,0.9s,baz=230,slow=1.8,SNR=6.3
CMAR PKPab PKPab 20 50 05.8 -1.0
comp=Z,0.4nm,1.0s,baz=219,slow=7.0,SNR=4.8
WMQ Urumqi 163.22 52 PKP PKPdf 20 49 20.3 +0.8
WMQ LR LR
comp=Z,120nm,23.4s
WMQ LR LR
comp=Z,140nm,20.8s
WMQ LR LR
comp=Z,190nm,21.0s
ZAK Zakamensk 164.40 7 ePKIKP PKPpre 20 49 03.3
ZAK e 20 50 14.9
ZAK pmax pmax
comp=Z,2.0nm,3.9s
SONM Songino Array 167.09 359 PKP PKPdf 20 49 21.7 -1.1
comp=Z,0.8nm,0.9s,baz=101,slow=1.5,SNR=5.3
SONM PKPab PKPab 20 50 27.4 +0.5
comp=Z,1.9nm,0.9s,baz=346,slow=4.5,SNR=8.0
NJ2 Nanjing 169.01 259 ePKP PKPdf 20 49 26.8 +2.4
GYA Guiyang 171.56 183 ePKP PKPdf 20 49 27.3 +1.1
GYA pPKP pPKPdf 20 49 39.5 +1.8
GYA PKPab PKPab 20 50 51.5 +4.3
GYA PKS PKSdf 20 52 58.0 -0.7
GYA AMB AMB
comp=Z,120nm,8.5s
GYA LR LR
comp=Z,130nm,21.8s
GYA LR LR
comp=Z,110nm,21.4s
GYA LR LR
comp=Z,120nm,24.0s
HHC Hu-ho-hao-te 172.69 326 ePKP PKPdf 20 49 24.3 -1.9
GTA Gaotai 173.24 47 ePKP PKPdf 20 49 27.0 +0.5
GTA pPKP pPKPdf 20 49 37.5 -0.5
GTA sPKP 20 49 41.5
GTA PKPab PKPab 20 50 55.8 +1.2
CD2 Chengdu 175.53 153 PKP PKPdf 20 49 28.0 +0.6
CD2 pPKP pPKPdf 20 49 39.3 +0.4
CD2 sPKP 20 49 43.0
CD2 PKS PKSdf 20 52 58.8 -0.9
CD2 SKS SKSdf 20 56 25.5 -2.4
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 177.79 57 ePKP PKPdf 20 49 28.5 +0.7
LZH pPKP pPKPdf 20 49 38.5 -0.9
LZH sPKP 20 49 43.5

IDC 27 20:31:02.6±1.9, 25.18S×65.83W, h0km, mb4.0/3, mb1 4.1/6, mb1mx3.9/28, mbtmp3.9/6, ML4.2/3, Error ellipse: s-maj=54.1km s-min=23.7km az=24.0
SJA 27 20:31:06.7±0.9, 24.95S×65.60W, h3km±4km, ML4.0
NEIC 27 20:31:06.6±5.1, 25.02S×65.75W, h24km±33km, mb4.8/2, Error ellipse: s-maj=29.1km s-min=14.1km az=53.0
ISCJB 27 20:31:08.1±0.7, 24.77S±0.06×65.5W±0.1, h35km±7km, mb4.2/5, Error ellipse: s-maj=17.5km s-min=8.9km az=10.2
ISC 27 20:31:07.3±1.1, 24.89S±0.04×65.68W±0.07, h18km±5km, n23, σ1.09/27, mb4.3/5, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	0.23	43	eP	Pg	20 31 12.3	-0.6
SLA				eP	Pg	20 31 12.3	-0.6
SLA				eS	Sg	20 31 16.5	-0.1
SLA				AML	AML	20 31 17.8	
	comp=Z,19μm,0.5s						
AZAP	Zapla	0.86	40	eP	Pb	20 31 24.5	+0.6
AZAP				eS1	Sn	20 31 37.5	+0.4
AZAP				AML	AML	20 31 45.5	
	comp=Z,4μm,0.6s						
FSA	Cafayete	1.23	194	eP	Pb	20 31 30.5	+0.3
FSA				eS2	Sg	20 31 47.9	+0.4
FSA				AML	AML	20 31 53.8	
	comp=Z,5μm,0.3s						
ASTB	Santa Barbara	1.43	49	eP	Pg	20 31 35.2	+0.2
ASTB				eS2	Sg	20 31 55.0	+1.3
ALOL	LOMAS DE OLMED	1.89	56	eP	Pb	20 31 41.7	+0.5
ALOL				eS2	Sg	20 32 08.4	+0.2
AHML	Horco Molle	1.91	171	eP	Pb	20 31 41.9	+0.2
AHML				AML	AML	20 32 11.4	
	comp=Z,2μm,0.6s						
YJA	Yavi	2.71	3	eP	Pb	20 31 56.0	+0.5
CPUP	Villa Florida	7.67	103	Pn	Pn	20 32 58.4	+0.3
	comp=Z,2.1nm,0.3s,baz=262,slow=10,SNR=7.8						
CPUP				Lg	Lg	20 35 09.8	
	comp=Z,28nm,0.3s,baz=9.3,slow=11,SNR=5.5						
CPUP	Villa Florida	7.67	103	ePn	Pn	20 32 58.1	0.0
	comp=Z,2.2nm,0.6s						
CPUP				Lg	Lg	20 35 09.8	
LPAZ	La Paz	8.86	345	Pn	Pn	20 33 17.4	+2.3
	comp=Z,0.4nm,0.3s,baz=153,slow=5.0,SNR=5.9						
LPAZ	La Paz	8.86	345	ePn	Pn	20 33 16.1	+1.0
	comp=Z,14nm,0.9s						
SIV	San Ignacio	9.85	27	Pn	Pn	20 33 29.2	+1.2
	comp=Z,2.0nm,0.3s,baz=224,slow=13,SNR=17						
SIV				Sn	Sn	20 35 16.0	-2.3
	comp=Z,1.6nm,0.3s,baz=323,slow=20,SNR=3.0						
SAML	Samuel	16.03	9	eP	Pn	20 34 49.6	-2.3
	comp=Z,3.1nm,0.7s						
RCBR	Riachuelo	34.26	61	P	P	20 38 01.9	+9.4
AGPR	Aguadilla, PR	43.12	358	P	P	20 39 06.5	-0.1
SNAA	Sanae	58.11	161	P	P	20 41 00.5	+1.2
	comp=Z,13nm,1.2s						
QSPA	South Pole Qui	65.32	180	P	P	20 41 44.4	-3.7
	comp=Z,4.9nm,0.7s						
TOA0	Torodi Ar. Sit	75.77	68	eP	P	20 42 51.0	-1.4
TORD	Torodi Ar. Bea	75.77	68	P	P	20 42 51.5	-1.0
	comp=Z,1.7nm,0.6s,baz=252,slow=5.6,SNR=8.5						
PDAR	Pinedale Array	78.53	329	P	P	20 43 07.2	-0.5
	comp=Z,0.5nm,0.7s,baz=133,slow=6.6,SNR=3.0						
YKA	Yellowknife Ar	95.38	339	P	P	20 44 29.3	-0.7
	comp=Z,0.2nm,0.5s,baz=131,slow=4.2,SNR=4.1						
MK31	Makanchi Array	146.42	41	ePKPbc	PKPdf	20 50 46.5	+0.7
MKAR	Makanchi Array	146.42	41	PKPbc	PKPdf	20 50 45.8	0.0
	comp=Z,2.5nm,0.7s,baz=298,slow=3.6,SNR=8.7						

*NEIC **27** 20:31:25.6±4.9, 34°.41S×72°.11W, h4km±29km, mb4.6/7, Error ellipse: s-maj=18.5km s-min=9.9km az=76.0*
*IDC **27** 20:31:25.3±0.7, 34°.37S×72°.01W, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.4/13, mbtmp4.4/13, ML4.6/1, Error ellipse: s-maj=26.1km s-min=17.7km az=80.0*
*ISCJB **27** 20:31:26.8±0.6, 34°.34S±0°.08×71°.9W±0°.1, h16km, mb4.4/15, Error ellipse: s-maj=17.6km s-min=10.4km az=155.0*
ISC 27 20:31:28.0±0.6, 34°.3S±0°.1×72°.1W±0°.1, h16km, n44, σ1°.05/34, mb4.5/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.50	170	Pn	Pn	20 32 58.7	-4.3
TRQA	Tornquist	8.97	117	Pn	Pn	20 33 38.8	+1.8
LVC	Limon Verde	12.01	14	P	Pn	20 34 14.1	-4.7
CPUP	Villa Florida	15.02	62	P	Pn	20 34 53.2	-6.4
LPAZ	La Paz	18.32	12	P	P	20 35 42.4	+0.2
	0.9nm,0.3s,baz=173,slow=4.2,SNR=8.4						
SIV	San Ignacio	20.78	31	P	P	20 36 08.0	-0.5
	6.7nm,0.4s,baz=228,slow=13,SNR=4.0						
NNA	Nana	22.66	348	P	P	20 36 30.0	+1.3
	8.8nm,0.7s,baz=198,slow=13,SNR=3.8						
NNA	Nana	22.66	348	P	P	20 36 29.2	+0.4
	19nm,0.9s						
SAML	Samuel	26.56	20	eP	P	20 37 03.8	-1.5
	7.4nm,1.0s						
BDFB	Brasilia	28.56	55	P	P	20 37 22.7	-0.7
	5.9nm,0.8s,baz=215,slow=10,SNR=4.9						
OTAV	Otavalo	34.91	349	eP	P	20 38 21.3	+1.9
SDV	Santo Domingo	43.01	2	P	P	20 39 26.9	-0.1
	9.3nm,0.9s						
BBGH	Gun Hill	48.70	16	P	P	20 40 15.1	+3.4
SNAA	Sanae	51.29	158	P	P	20 40 30.8	-0.1
	0.9nm,0.5s,baz=279,slow=7.9,SNR=5.7						
SNAA	Sanae	51.29	158	eP	P	20 40 30.2	-0.7
	6.1nm,1.0s						
QSPA	South Pole Qui	55.90	180	P	P	20 41 05.1	+0.2
	12nm,0.9s,baz=272,slow=0.7,SNR=13						
QSPA	South Pole Qui	55.90	180	eP	P	20 41 05.0	+0.2
	18nm,1.0s						
TEIG	Tepich	56.40	342	P	P	20 41 06.2	-2.5
	45nm,1.3s						
H06S1	SOCORRO T	64.45	319	T	T	21 52 55.5	
	SNR=27						
TXAR	Lajitas Array	70.01	331	P	P	20 42 39.1	+0.2
	0.4nm,0.4s,baz=149,slow=9.0,SNR=5.8						
CLNB	Carlsbad	72.69	332	eP	P	20 42 57.7	+2.7
	4.1nm,0.8s						
DBIC	Dimbokro	75.33	71	P	P	20 43 10.8	0.0
	6.1nm,0.7s,baz=212,slow=5.6,SNR=8.1						
TSUM	Tsumeb	79.16	106	P	P	20 43 32.6	0.0
BOSA	Boshof	79.95	118	P	P	20 43 36.2	-0.5
	2.2nm,0.8s,baz=203,slow=7.7,SNR=5.5						
PDAR	Pinedale Array	84.04	333	P	P	20 43 59.1	+1.3
	0.8nm,0.7s,baz=156,slow=5.6,SNR=4.7						
NVAR	Mina Array Bea	84.14	325	P	P	20 43 58.6	+0.2
	0.7nm,0.6s,baz=166,slow=6.0,SNR=4.5						
TOA0	Torodi Ar. Sit	84.36	70	eP	P	20 43 59.0	-0.8
TORD	Torodi Ar. Bea	84.36	70	P	P	20 43 59.0	-0.8
	3.3nm,0.9s,baz=283,slow=6.6,SNR=7.7						
ULM	Lac du Bonnet	86.81	345	P	P	20 44 10.3	-0.7
	2.6nm,0.7s,baz=162,slow=5.8,SNR=3.3						
YKA	Yellowknife Ar	102.36	341	P	Pdif	20 45 21.4	-0.6
	0.2nm,0.7s,baz=143,slow=4.8,SNR=4.5						
BORG	Borgarnes	106.42	20	P	PKiKP	20 49 52.4	+1.4
KTH	Kantishna Hill	115.48	331	eP	PKPdf	20 50 08.3	0.0
WRA	Warramunga Arr	120.45	209	PKP	PKPdf	20 50 17.9	-1.4
	0.4nm,0.5s,baz=157,slow=1.6,SNR=9.2						
BRTR	Keskin Array B	122.03	61	PKP	PKPdf	20 50 21.5	-0.2
	0.4nm,0.8s,baz=168,slow=1.6,SNR=3.5						
H11S2	WAKE ISLAND Hy	125.72	269	T	T	23 08 45.4	
	baz=119,slow=76,SNR=5.5						
H11S1	WAKE ISLAND Hy	125.74	269	T	T	23 08 43.9	
	baz=119,slow=76,SNR=8.0						
H11S3	WAKE ISLAND Hy	125.74	269	T	T	23 08 46.2	
	baz=119,slow=76,SNR=6.8						
H11N3	WAKE ISLAND Hy	126.14	270	T	T	23 09 17.7	
	baz=115,slow=78,SNR=9.8						
H11N1	WAKE ISLAND Hy	126.16	270	T	T	23 09 20.1	
	baz=115,slow=78,SNR=12						
H11N2	WAKE ISLAND Hy	126.16	270	T	T	23 09 17.7	
	baz=115,slow=78,SNR=12						
AAK	Ala-Archa	152.70	62	ePKPbc	PKPbc	20 51 23.2	-0.8
ZALV	Zalesovo Beam	154.53	33	PKPbc	PKPbc	20 51 27.1	-0.2
	1.4nm,0.7s,baz=302,slow=3.1,SNR=3.7						
ZALV				PKPab	PKPab	20 51 41.9	0.0
	3.4nm,0.7s,baz=302,slow=4.9,SNR=5.3						
MK31	Makanchi Array	157.01	50	ePKPab	PKPab	20 51 52.6	-0.2
MKAR	Makanchi Array	157.01	50	PKPab	PKPab	20 51 52.8	-0.1
	1.2nm,0.7s,baz=303,slow=3.1,SNR=5.8						

*IDC **27** 20:31:45.9±3.1, 34°.78S×179°.33W, h0km, mb3.3/1, mb1 3.6/2, mb1mx3.5/28, mbtmp3.4/2, ML3.3/1, Error ellipse: s-maj=88.6km s-min=34.4km az=120.0*
*ISCJB **27** 20:31:46.9±1.6, 34°.9S±0°.1×178°.9W±0°.3, h43km, mb3.3/1, Error ellipse: s-maj=38.6km s-min=11.5km az=29.3*
ISC 27 20:31:50.2±2.1, 34°.9S±0°.2×179°.0W±0°.3, h43km, n14, σ1°.10/19, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.42	219	ePN	Pn	20 32 41.1	+0.1
WMGZ	Wamatatini S	3.56	215	ePN	Pn	20 32 42.6	-0.4
HAZ	Te Kaha	3.84	222	ePN	Pn	20 32 46.7	0.0
HAZ				SN	Sn	20 33 32.3	+1.7
PUZ	Puketiti	3.84	214	PN	Pn	20 32 46.0	-0.8
PUZ				SN	Sn	20 33 31.6	+0.8
TWGZ	Tauwhareparae	4.06	216	ePN	Pn	20 32 49.5	-0.3
CNGZ	Carnagh Statio	4.20	211	ePN	Pn	20 32 51.0	-0.8
MWZ	Matawai	4.40	218	ePN	Pn	20 32 53.4	-1.1
MWZ				SN	Sn	20 33 45.2	+0.6
URZ	Urewera	4.57	222	Pn	Pn	20 32 55.9	-0.9
	1.5nm,0.3s,baz=270,slow=4.2,SNR=17						
URZ				Sn	Sn	20 33 48.6	0.0
	2.5nm,0.3s,baz=300,slow=22,SNR=8.5						
URZ	Urewera	4.57	222	PN	Pn	20 32 55.8	-0.9
RIGZ	Rimuhau	4.58	214	PN	Pn	20 32 55.8	-1.2
RIGZ				SN	Sn	20 33 49.6	+0.6
BKZ	Black Stump Fm	5.56	219	ePN	Pn	20 33 09.4	-1.1
WRA	Warramunga Arr	43.63	277	P	P	20 39 49.5	-1.3
	0.2nm,0.3s,baz=119,slow=7.7,SNR=5.6						
FINES	FINESS Array B	149.03	337	PKPbc	PKPbc	20 51 32.6	-0.1
	0.6nm,0.7s,baz=48,slow=2.8,SNR=4.1						
AKASG	Malin Array Be	154.19	316	PKPab	PKPab	20 52 01.4	+2.5
	0.2nm,0.2s,baz=65,slow=5.2,SNR=4.2						

*IDC **27** 20:34:50.8±0.8, 36°.46S×73°.03W, h0km, mb3.9/9, mb1 4.1/12, mb1mx4.1/30, mbtmp4.0/12, ML3.7/3, Error ellipse: s-maj=33.0km s-min=16.6km az=79.0*
*ISCJB **27** 20:34:52.7±0.7, 36°.46S±0°.08×73°.0W±0°.2, h25km, mb4.0/9, Error ellipse: s-maj=22.3km s-min=10.8km az=0.3*
*NEIC **27** 20:34:55.6±0.6, 36°.44S×73°.00W, h35km, mb4.4/4, Error ellipse: s-maj=21.7km s-min=10.1km az=88.0*
ISC 27 20:34:54.4±0.8, 36°.44S±0°.07×73°.1W±0°.2, h25km, n19, σ1°.15/22, mb4.2/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.72	156	Pn	Pn	20 36 04.8	+0.7
	1.3nm,0.3s,baz=323,slow=13,SNR=2.1						
PLCA				Pg	Pb	20 36 17.6	+1.1
	3.6nm,0.3s,baz=345,slow=14,SNR=4.2						
PLCA				Lg	Lg	20 37 13.3	
	12nm,0.3s,baz=44,slow=22,SNR=5.2						
PLCA	Paso Flores	4.72	156	Pn	Pn	20 36 04.8	+0.7
PLCA				Pg	Pb	20 36 17.6	+1.1
PLCA				eSg	Sb	20 37 11.2	-1.7
PLCA				Lg	Lg	20 37 13.3	
CFAA	Coronel Fontan	6.27	41	Pn	Pn	20 36 26.2	+0.9
	0.7nm,0.3s,baz=215,slow=3.6,SNR=6.3						
CFAA				Lg	Lg	20 37 58.7	
	0.4nm,0.3s,baz=30,slow=8.5,SNR=4.2						
USHA	Ushuaia	18.68	172	P	P	20 39 09.9	-0.5
	0.1nm,0.3s,baz=47,slow=5.0,SNR=3.0						
LPAZ	La Paz	20.54	14	P	P	20 39 32.2	+0.5
	1.1nm,0.5s,baz=225,slow=4.3,SNR=3.5						
LPAZ	La Paz	20.54	14	eP	P	20 39 32.1	+0.4
	5.3nm,0.8s						
SDV	Santo Domingo	45.14	3	P	P	20 43 06.8	-2.3
	7.6nm,1.1s						
SNAA	Sanae	49.67	157	P	P	20 43 43.3	-0.3
	1.3nm,0.9s,baz=268,slow=5.8,SNR=3.8						
QSPA	South Pole Qui	53.81	180	P	P	20 44 15.1	+0.4
	1.5nm,0.8s,baz=111,slow=0.7,SNR=5.2						
QSPA	South Pole Qui	53.81	180	P	P	20 44 14.7	0.0
	4.2nm,1.0s						
TXAR	Lajitas Array	71.46	332	P	P	20 46 13.3	+0.5
	0.7nm,0.8s,baz=146,slow=9.1,SNR=3.4						
DBIC	Dimbokro	76.76	71	P	P	20 46 45.0	+1.0
	2.5nm,0.7s,baz=209,slow=7.5,SNR=3.6						
DBIC	Dimbokro	76.76	71	P	P	20 46 44.6	+0.6
	2.9nm,0.7s						
BOSA	Boshof	79.69	118	P	P	20 47 00.1	-0.1
	2.3nm,0.8s,baz=256,slow=3.7,SNR=3.3						
NVAR	Mina Array Bea	85.41	326	P	P	20 47 31.5	+1.8
	0.5nm,0.6s,baz=157,slow=4.9,SNR=2.9						
PDAR	Pinedale Array	85.56	334	P	P	20 47 30.6	+0.2
	0.2nm,0.4s,baz=124,slow=4.5,SNR=3.0						
TOA0	Torodi Ar. Sit	85.83	70	P	P	20 47 30.3	-1.7
TORD	Torodi Ar. Bea	85.83	70	P	P	20 47 30.6	-1.5
	1.3nm,0.9s,baz=236,slow=5.5,SNR=3.9						
PSI	Prapat	145.72	166	PKPbc	PKPdf	20 54 30.2	-1.2
	3.5nm,0.5s,baz=160,slow=20,SNR=4.9						

*IDC **27** 20:37:35.2±0.6, 37°.53S×73°.55W, h0km, mb4.5/11, mb1 4.5/14, mb1mx4.4/30, mbtmp4.4/14, ML3.4/3, Error ellipse: s-maj=27.4km s-min=13.9km az=79.0*
*ISCJB **27** 20:37:38.1±0.3, 37°.45S±0°.05×73°.35W±0°.09, h23km, mb4.8/30, Error ellipse: s-maj=11.0km s-min=6.5km az=150.2*
*NEIC **27** 20:37:38.2±4.7, 37°.46S×73°.36W, h18km±28km, mb4.9/20, Error ellipse: s-maj=18.3km s-min=8.9km az=80.0*
*BJI **27** 20:37:39.4, 37°.52S×74°.01W, h35km, mB5.0/1, Ms5.0/1, Ms7 4.6/1*
ISC 27 20:37:39.0±0.4, 37°.47S±0°.06×73°.4W±0°.1, h23km, n176, σ1°.08/189, mb4.8/30, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.93	147	Pn	Pn	20 38 38.2	+0.1
	0.5nm,0.3s,baz=314,slow=13,SNR=1.1						
PLCA				Pg	Pb	20 38 47.6	-0.1
	14nm,0.3s,baz=329,slow=9.7,SNR=5.2						
PLCA				Lg	Lg	20 39 41.4	
	11nm,0.3s,baz=347,slow=13,SNR=3.1						
PLCA	Paso Flores	3.93	147	Pn	Pn	20 38 38.2	+0.1
PLCA				ePn	Pb	20 38 39.8	-7.8
PLCA				Pg		20 38 47.6	
PLCA				Lg	Lg	20 39 41.4	
CFAA	Coronel Fontan	7.23	37	Pn	Pn	20 39 23.8	+0.4
	0.6nm,0.3s,baz=209,slow=12,SNR=5.1						
TRQA	Tornquist	9.05	97	Pn	Pn	20 39 39.6	-8.6
LVC	Limon Verde	15.30	16	ePn	Pn	20 41 08.8	-5.0
	204nm,1.0s						
CPUP	Villa Florida	17.56	55	Pn	Pn	20 41 38.8	-3.5
USHA	Ushuaia	17.69	171	P	P	20 41 44.3	-0.1
	0.3nm,0.3s,baz=334,slow=6.5,SNR=6.2						
LPAZ	La Paz	21.61	14	P	P	20 42 29.9	+1.8
	6.7nm,0.8s,baz=196,slow=8.7,SNR=14						
LPAZ	La Paz	21.61	14	P	P	20 42 29.9	+1.8
LPAZ				eP	pP	20 42 30.0	-4.5
SIV	San Ignacio	24.01	30	P	P	20 42 53.3	+1.1
	12nm,0.9s,baz=230,slow=11,SNR=11						
NNA	Nana	25.57	352	P	P	20 43 05.8	-0.5
	7.3nm,0.7s,baz=151,slow=4.8,SNR=4.0						
NNA	Nana	25.57	352	eP	P	20 43 05.8	-0.5
	15nm,0.9s						
SAML	Samuel	29.86	21	eP	P	20 43 45.1	+0.4
	4.6nm,0.8s						
SAML				e		20 43 51.8	
OTAV	Otavalo	37.81	352	eP	P	20 44 56.6	+2.3
	26nm,1.4s						
SDV	Santo Domingo	46.19	4	eP	P	20 46 01.7	-0.6
	11nm,0.9s						
RCBR	Riachuelo	46.43	57	P	P	20 46 04.6	+0.4
VNA3	Neumayer Olymp	46.59	156	P	P	20 46 05.5	+0.8
BCIP	Isla Barro Col	46.79	351	eP	P	20 46 05.9	-0.9
	95nm,1.3s						
VNA2	Neumayer--Watz	47.27	156	P	P	20 46 11.2	+1.2
JTS	JuntasAbangare	48.73	345	P	P	20 46 23.0	+1.0
SNAA	Sanae	48.81	157	P	P	20 46 22.7	+0.6
SNAA	Sanae	48.81	157	Pg	P	20 46 21.5	-0.5
	8.4nm,1.1s,baz=279,slow=6.7,SNR=16						
SNAA	Sanae	48.81	157	P	P	20 46 21.5	-0.5
SNAA				eP	P	20 46 22.4	+0.4
QSPA	South Pole Qui	52.77	180	P	P	20 46 51.8	-0.2
	7.8nm,1.0s,baz=138,slow=5.7,SNR=9.3						
QSPA	South Pole Qui	52.77	180	eP	P	20 46 51.4	-0.6
	14nm,1.1s						
QSPA				P	P	20 46 51.8	-0.2
FDF	Fort de France	53.19	15	P	P	20 46 55.8	+0.4
	27nm,0.8s						
TEIG	Tepich	59.08	344	P	P	20 47 35.4	-2.0
	125nm,1.7s						
034A	Hebbronville	68.45	336	P	P	20 48 40.3	+1.2
	baz=69						
933A	Laredo	69.16	336	P	P	20 48 44.7	+1.2
	baz=70						
834A	Tilden	69.40	336	P	P	20 48 46.4	+1.5
	baz=70						
833A	Chaparral WMA,	69.85	336	P	P	20 48 49.1	+1.3
	baz=70						
832A	Faith Ranch, C	70.01	335	P	P	20 48 49.5	+0.7
	baz=70						
636A	Smothers Creek	70.20	338	P	P	20 48 51.3	+1.4
	baz=70						
732A	Laxson Ranch,	70.42	335	P	P	20 48 52.3	+1.1
	baz=71						
632A	Uvalde	71.07	336	P	P	20 48 56.1	+0.9
	baz=71						
533A	Kerrville	71.36	337	P	P	20 48 57.8	+0.8
	baz=72						
532A	Rocksprings	71.69	336	P	P	20 48 60.0	+1.0
	baz=72						
434A	Burnet	71.81	338	P	P	20 49 00.2	+0.6
	baz=72						
336A	Riesel	71.93	339	P	P	20 49 01.2	+0.9
	baz=72						
531A	Rocksprings	71.93	335	P	P	20 49 01.1	+0.7
	baz=72						
JCT	Junction City	71.98	336	P	P	20 49 01.4	+0.7
	baz=72						
433A	Art	72.01	337	P	P	20 49 01.1	+0.3
	baz=72						
530A	J-C Ranch, Com	72.18	335	P	P	20 49 02.8	+0.8
	baz=72						
TXAR	Lajitas Array	72.26	332	P	P	20 49 03.1	+0.6
	1.5nm,0.6s,baz=152,slow=8.9,SNR=18						
334A	Lometa	72.28	338	P	P	20 49 03.0	+0.5
	baz=73						
432A	Menard	72.34	336	P	P	20 49 03.2	+0.3
	baz=73						
431A	Sonora	72.43	336	P	P	20 49 03.8	+0.4
	baz=73						
529A	Stev Forest Ra	72.46	334	P	P	20 49 04.4	+0.7
	baz=73						
333A	Richland Sprin	72.50	337	P	P	20 49 04.2	+0.4
	baz=73						
430A	Baggett Ranch,	72.73	335	P	P	20 49 05.8	+0.5
	baz=73						
332A	Millersview	72.80	337	P	P	20 49 05.9	+0.3
	baz=73						
429A	Davenport Ranc	72.81	334	P	P	20 49 06.4	+0.7
	baz=73						
234A	Clairette	72.88	338	P	P	20 49 06.6	+0.6
	baz=73						
331A	San Angelo	72.95	336	P	P	20 49 06.9	+0.5
	baz=73						
232A	Coleman	73.23	337	P	P	20 49 08.5	+0.3
	baz=74						
SWET	Sewanee	73.26	349	eP	P	20 49 08.2	0.0
	9.0nm,0.6s						
231A	Bronte	73.49	336	P	P	20 49 09.7	+0.1
	baz=74						
329A	Wagon Wheel Ra	73.62	335	P	P	20 49 11.3	+0.8
	baz=74						
ABTX	Abilene, Hawle	73.92	337	P	P	20 49 12.5	+0.4
	baz=74						
229A	Bryant Ranch,	74.01	335	P	P	20 49 13.5	+0.8
	baz=74						
Z34A	Collier Ranch,	74.10	339	P	P	20 49 13.7	+0.6
	baz=74						
SUR	Sutherland	74.12	119	eP	P	20 49 15.2	+1.3
131A	Roby	74.19	337	P	P	20 49 14.4	+0.6
	baz=74						
Z33A	Whitaker Ranch	74.27	338	P	P	20 49 14.8	+0.7
	baz=75						
130A	Snyder	74.31	336	P	P	20 49 14.7	+0.3
	baz=75						
228A	UT Block 9, Go	74.41	335	P	P	20 49 15.5	+0.5
	baz=75						
Z32A	Haskell	74.50	338	P	P	20 49 15.8	+0.3
	baz=75						
Z31A	Sharp Cattle R	74.71	337	P	P	20 49 17.0	+0.3
	baz=75						
128A	Castleberry Fa	74.83	335	P	P	20 49 17.8	+0.2
	baz=75						
Z30A	Sanderson Ranc	75.00	336	P	P	20 49 18.7	+0.3
	baz=75						
Z29A	Hungry Hill Ra	75.16	336	P	P	20 49 19.3	-0.1
	baz=76						
Y30A	Stafford Cattl	75.47	337	P	P	20 49 21.6	+0.5
	baz=76						
Y29A	Porterfield Fa	75.70	336	P	P	20 49 22.8	+0.4
	baz=76						
X31A	McDonald Ranch	75.88	338	P	P	20 49 23.6	+0.2
	baz=76						
TUL1	Tulsa	75.92	341	P	P	20 49 23.8	+0.3
	baz=76						
W33A	Caddo, Fort Co	75.92	339	P	P	20 49 24.4	+0.8
	baz=76						
Z26A	Caprock	75.94	334	P	P	20 49 24.2	+0.3
	baz=76						
W32A	Sentinel	76.12	338	P	P	20 49 25.0	+0.2
	baz=76						
MSTX	Muleshoe	76.16	335	P	P	20 49 25.6	+0.5
	baz=76						
Z25A	Roswell	76.21	333	P	P	20 49 25.8	+0.3
	baz=76						
X29A	Tulia	76.25	336	P	P	20 49 26.1	+0.5
	baz=77						
Y26A	Elida	76.48	334	P	P	20 49 27.8	+0.8
	baz=77						
CASY	Casey	76.53	182	P	P	20 49 23.8	-3.0
	9.1nm,0.9s						
AMTX	Amarillo	76.64	336	P	P	20 49 28.6	+0.7
	baz=77						
W29A	Amarillo	76.85	337	P	P	20 49 29.9	+0.9
	baz=77						
LIC	Lamto	76.91	72	eP	P	20 49 30.8	+1.1
	54nm,1.2s						
X26A	CR and CF Fran	77.04	335	P	P	20 49 30.9	+0.8
	baz=77						
Y24A	Capitan	77.05	333	P	P	20 49 31.0	+0.7
	baz=77						
TIC	Toumodi	77.19	71	eP	P	20 49 32.2	+0.9
	5.9nm,0.2s						
KIC	Kosan Boka	77.22	72	eP	P	20 49 32.6	+1.1
	49nm,1.1s						
W27A	Bowe Ranch, En	77.26	335	P	P	20 49 32.1	+0.8
	baz=78						
DBIC	Dimbokro	77.33	71	P	P	20 49 33.4	+1.3
	8.7nm,0.7s,baz=199,slow=4.8,SNR=14						
DBIC	Dimbokro	77.33	71	eP	P	20 49 33.0	+0.9
	14nm,0.8s						
DBIC				P	P	20 49 33.4	+1.3
W24A	Lazy 6 Ranch,	78.19	334	P	P	20 49 37.7	+1.0
	baz=78						
214A	Organ Pipe Nat	78.27	327	P	P	20 49 38.0	+1.1
	baz=78						
ANMO	Albuquerque	78.33	333	eP	P	20 49 37.5	+0.1
	4.4nm,1.0s						
V25A	Rancho No Teng	78.48	335	P	P	20 49 39.1	+0.9
	baz=79						
T28A	Walsh	78.84	337	P	P	20 49 40.8	+0.8
	baz=79						
U25A	Circle Dot Ran	78.92	335	P	P	20 49 41.4	+0.8
	baz=79						
R32A	Long Quarter,	79.05	340	P	P	20 49 42.4	+1.3
	baz=79						
S28A	Manter	79.20	337	P	P	20 49 42.8	+0.8
	baz=80						
TSUM	Tsumeb	79.32	106	eP	P	20 49 44.4	+1.1
	13nm,1.4s						
T26A	Comanche Natio	79.36	336	P	P	20 49 43.9	+1.0
	baz=80						
V22A	San Miguel Ran	79.36	333	P	P	20 49 44.6	+1.5
	baz=80						
BOSA	Boshof	79.42	118	P	P	20 49 44.5	+0.8
	6.1nm,1.0s,baz=247,slow=4.0,SNR=4.4						
U23A	El Rito	79.47	334	P	P	20 49 45.1	+1.4
	baz=80						
T25A	Trinidad	79.59	335	P	P	20 49 45.7	+1.4
	baz=80						
S26A	Kim	79.72	336	P	P	20 49 46.3	+1.4
	baz=80						
X16A	Lo Mia Camp, P	79.80	329	P	P	20 49 47.0	+1.6
	baz=80						
T24B	San Luis	79.85	334	P	P	20 49 47.5	+1.7
	baz=80						
R28A	Tribune	79.87	338	P	P	20 49 46.7	+1.1
	baz=80						
S25A	Robets Cordova	80.08	335	P	P	20 49 48.0	+1.1
	baz=80						
R27A	Eads	80.12	337	P	P	20 49 47.9	+0.9
	baz=80						
S24A	Houchin Ranch,	80.32	335	P	P	20 49 49.6	+1.3
	baz=81						
R26A	Arlington	80.34	336	P	P	20 49 49.7	+1.5
	baz=81						
R24A	Sanders Place,	80.81	335	P	P	20 49 52.1	+1.3
	baz=81						
S22A	4UR Ranch, Cre	80.97	334	P	P	20 49 53.0	+1.2
	baz=81						

Q24A Divide 81.49 335 P P 20 49 55.7 +1.1
baz=82
P25A Willow Gulch B 81.67 336 P P 20 49 56.7 +1.4
baz=82
U15A North Rim 81.89 329 P P 20 49 58.3 +1.7
baz=82
SMCO Snowmass 82.30 334 eP P 20 49 59.7 +0.8
16nm,1.5s
BFSC Mount Baldy Ra 82.38 324 P P 20 49 59.6 +0.5
baz=83
O22A Kremmling 83.04 335 P P 20 50 03.7 +1.1
baz=83
K30A Basset 83.27 341 P P 20 50 04.7 +1.3
baz=84
ECSD EROS Data Cent 83.53 343 eP P 20 50 05.2 +0.4
31nm,1.5s
ECSD EROS Data Cent 83.53 343 P P 20 50 05.1 +0.4
baz=84
R11A Troy Canyon, C 84.89 328 eP P 20 50 12.8 +0.8
60nm,2.9s
R11A Troy Canyon, C 84.89 328 P P 20 50 13.2 +1.2
baz=85
I28A Midland 84.92 340 P P 20 50 12.7 +1.0
baz=85
J25A Sunshine Ranch 85.10 338 P P 20 50 13.1 +0.3
baz=85
JLU Jordanelle 85.17 332 eP P 20 50 13.9 +0.5
2.1nm,0.4s
I27A Quinn 85.22 340 P P 20 50 13.6 +0.3
baz=86
H29A Onida 85.25 341 P P 20 50 13.9 +0.5
baz=86
DUG Dugway 85.34 331 eP P 20 50 14.3 +0.2
4.8nm,1.0s
DUG Dugway 85.34 331 P P 20 50 15.2 +1.0
baz=86
NVAR Mina Array Bea 86.13 326 P P 20 50 19.6 +1.4
1.0nm,0.8s,baz=149,slow=6.1
BW06 Boulder Array 86.38 334 eP P 20 50 12.0 -7.4
4.8nm,1.0s
J20A Shoshoni 86.40 335 P P 20 50 20.5 +1.2
baz=87
TOA0 Torodi Ar. Sit 86.41 71 eP P 20 50 19.9 +0.1
TORD Torodi Ar. Bea 86.41 71 P P 20 50 19.9 0.0
2.4nm,0.8s,baz=218,slow=4.6,SNR=14
G25A Newell 86.64 339 P P 20 50 21.1 +0.8
baz=87
J19A Crowheart 86.65 335 P P 20 50 21.6 +1.0
baz=87
C30A Mose, Pekin 87.71 343 P P 20 50 26.2 +0.9
baz=88
D28A Regan 87.73 342 P P 20 50 26.5 +1.0
baz=88
I17A Pilgrim Ck. 87.75 334 P P 20 50 27.1 +1.1
baz=88
B30A Myrvik Farm, E 88.38 344 P P 20 50 29.3 +0.8
baz=89
C27A Sayler Ranch, 88.45 341 P P 20 50 29.7 +0.8
baz=89
B29A Wagenman Farm, 88.63 343 P P 20 50 30.5 +0.8
baz=89
A30A Hoffart Farm, 88.84 344 P P 20 50 30.8 +0.1
baz=89
B28A Dugan Ranch, T 88.85 342 P P 20 50 31.5 +0.8
baz=89
A29A Manning Farm, 89.03 343 P P 20 50 32.0 +0.4
baz=89
ULM Lac du Bonnet 89.57 346 P P 20 50 32.4 -1.7
2.5nm,0.8s,baz=216,slow=11,SNR=4.3
B19A Brinkman Farms 91.22 337 P P 20 50 43.1 +1.3
baz=92
GERES GERESS Array B 115.35 47 PKP PKPdf 20 56 18.1 -0.2
0.6nm,0.7s,baz=242,slow=2.9,SNR=5.5
BRTR Keskin Array B 124.42 63 PKP PKPdf 20 56 35.2 -0.9
1.0nm,0.7s,baz=190,slow=4.0,SNR=8.6
AKASG Malin Array Be 125.31 50 PKP PKPdf 20 56 35.6 -1.6
0.4nm,0.5s,baz=264,slow=2.7,SNR=4.0
GEYT Alibeck 141.97 74 PKhKP PKPpre 20 57 03.6
1.6nm,0.9s,baz=253,slow=4.5,SNR=5.0
TIXI Tiksi 143.89 348 ePKPdf PKPab 20 57 07.9 -0.4
ABKAR Akbulak array 144.62 55 ePKPdf PKPdf 20 57 12.7 -0.4
SBUM Sibu 144.77 190 ePKPdf PKPbc 20 57 13.8 +0.3
PSI Prapat 144.78 167 PKP PKPab 20 57 12.7 -0.8
18nm,0.8s,baz=162,slow=3.1,SNR=17
KAD Karad 145.15 116 eP PKPbc 20 57 14.4 -0.2
HYB Hyderabad 148.27 121 iP PKPbc 20 57 23.0 -0.7
BRVK Borovoye 150.44 46 ePKPbc PKPbc 20 57 28.9 +0.9
KKAR Karatay Array 152.04 67 ePKPdf PKPdf 20 57 24.7 -0.8
KKAR ePKPbc PKPbc 20 57 31.3 -0.7
AAK Ala-Archa 154.97 68 ePKPdf PKPdf 20 57 30.1 +0.2
AAK ePKPab PKPab 20 57 54.8 +0.6
ZALV Zalesovo Beam 157.72 35 PKP PKPdf 20 57 32.5 -0.4
3.1nm,1.0s,baz=270,slow=1.5,SNR=10.0
ZALV PKPab PKPab 20 58 06.4 +1.0
3.2nm,0.7s,baz=299,slow=5.7,SNR=9.1
JOW Kunigami 158.86 246 ePKPdf PKPdf 20 57 33.2 -1.9
MK31 Makanchi Array 159.77 55 ePKPdf PKPdf 20 57 35.7 +0.1
MK31 ePKPab PKPab 20 58 14.8 +0.2
MKAR Makanchi Array 159.77 55 PKP PKPdf 20 57 34.5 -1.1
2.2nm,1.1s,baz=336,slow=2.7,SNR=7.6
MKAR PKPab PKPab 20 58 15.0 +0.4
1.8nm,0.8s,baz=285,slow=4.3,SNR=8.9
MKAR Makanchi Array 159.77 55 PKP PKPdf 20 57 34.5 -1.1
MKAR ePKPdf PKPdf 20 57 36.2 +0.6
MKAR PKPab PKPab 20 58 15.0 +0.4
CMAR Chiang Mai Arr 159.90 158 PKP PKPdf 20 57 36.6 0.0
0.8nm,1.0s,baz=259,slow=1.3,SNR=4.5
CMAR PKPab PKPab 20 58 15.1 -0.6
1.9nm,1.1s,baz=224,slow=6.3,SNR=7.0
NJ2 Nanjing 168.58 245 ePKP PKPdf 20 57 44.3 +0.4
GYA Guiyang 169.02 180 ePKP PKPdf 20 57 43.3 -1.3
GYA pPKP pPKPdf 20 57 55.0 +2.6
GYA PKS PKSdf 21 01 15.5 -1.8
GYA PP PP 21 02 46.8 +2.7
GYA SKKS 21 09 29.5
GYA SS SS 21 23 35.5 -1.1
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=N,130nm,21.6s
GYA LR LR
comp=E,110nm,21.2s
GYA LR LR
comp=Z,120nm,24.6s
SONM Songino Array 169.64 1 PKPab PKPab 20 58 57.1 -0.9
0.7nm,0.8s,baz=339,slow=4.3,SNR=5.3
GTA Gaotai 174.32 68 ePKP PKPdf 20 57 47.3 +0.6
GTA pPKP pPKPdf 20 57 58.0 +3.5
GTA sPKP 20 58 01.5
GTA PKPab PKPab 20 59 21.3 +2.0

IDC 27 20:41:22.6±1.1,37.°91S×73.°82W,h0km,mb3.8/6, mb1 4.1/7,mb1mx4.0/29,mbtmp4.4/1,ML4.4/1,Error ellipse: s-maj=43.4km s-min=22.7km az=63.0
ISCJB 27 20:41:23.8±0.8,37.°9S±0.°1×73.°8W±0.°2,h18km,mb4.2/10, Error ellipse: s-maj=27.7km s-min=8.2km az=152.0
NEIC 27 20:41:28.2±2.4,37.°89S×73.°77W,h37km±21km,mb4.5/5, Error ellipse: s-maj=34.7km s-min=12.2km az=78.0
ISC 27 20:41:25.6±0.8,37.°9S±0.°1×73.°8W±0.°2,h18km,n21, σ0§93/20,mb4.2/10,Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.79 139 Pn Pn 20 42 24.2 +1.0
5.8nm,0.3s,baz=286,slow=5.5,SNR=7.3
PLCA Lg Lg 20 43 19.5
14nm,0.3s,baz=41,slow=21,SNR=7.6
PLCA Paso Flores 3.79 139 Pn Pn 20 42 24.2 +1.0
PLCA eSn Sn 20 43 06.8 -0.6
PLCA Lg Lg 20 43 19.5
LVC Limon Verde 15.80 17 ePn Pn 20 45 00.3 -7.2
LPAZ La Paz 22.10 15 P P 20 46 21.3 +0.8
4.9nm,0.9s,baz=165,slow=9.2,SNR=4.1
LPAZ La Paz 22.10 15 eP P 20 46 21.0 +0.5
116nm,0.4s
NNA Nana 25.94 353 P P 20 46 55.0 -2.0
OTAV Otavalo 38.19 352 P P 20 48 46.5 +1.8
7.5nm,1.0s
SDV Santo Domingo 46.63 4 eP P 20 49 52.7 -0.4
4.7nm,0.7s
SNAA Sanae 48.56 156 P P 20 50 07.1 -0.2
0.4nm,0.9s,baz=201,slow=14,SNR=2.1
SNAA Sanae 48.56 156 P P 20 50 06.7 -0.6
10nm,1.4s
QSPA South Pole Qui 52.35 180 P P 20 50 36.4 +0.2
4.1nm,1.0s
APG El Apazote 54.90 340 P P 20 50 51.5 -4.0
1.3nm,0.6s,baz=218,slow=23,SNR=3.7
TXAR Lajitas Array 72.49 333 P P 20 52 51.5 +0.4
1.6nm,0.8s,baz=153,slow=8.4,SNR=5.3
DBIC Dimbokro 77.78 72 P P 20 53 21.6 -0.3
2.0nm,0.8s,baz=237,slow=11,SNR=2.9
DBIC Dimbokro 77.78 72 eP P 20 53 16.2 -5.7
3.4nm,0.8s
NVAR Mina Array Bea 86.30 327 P P 20 54 05.8 -0.6
0.2nm,0.4s,baz=174,slow=1.8,SNR=2.6
TORD Torodi Ar. Bea 86.86 71 P P 20 54 08.1 -1.2
0.2nm,0.5s,baz=217,slow=5.4,SNR=2.9
BRVK Borovoye 150.97 47 ePKPbc PKPbc 21 01 17.4 +0.8
ZALV Zalesovo Beam 158.25 36 PKP PKPdf 21 01 20.0 -0.9
0.5nm,0.6s,baz=25,slow=3.8,SNR=2.9
ZALV PKPab PKPab 21 01 55.3 +0.3
2.0nm,1.0s,baz=279,slow=3.9,SNR=5.0
MKAR Makanchi Array 160.28 56 PKPab PKPab 21 02 04.5 +0.3
0.8nm,0.8s,baz=286,slow=3.2,SNR=4.9
SONM Songino Array 170.07 359 PKPab PKPab 21 02 47.5 +0.3
0.2nm,0.5s,baz=333,slow=2.6,SNR=3.7

IDC 27 20:42:02.9±1.1,34.°05S×73.°56W,h0km,mb4.0/6, mb1 4.2/6,mb1mx4.0/30,mbtmp4.0/6,Error ellipse: s-maj=48.1km s-min=21.5km az=91.0
ISCJB 27 20:42:06.7±0.8,34.°12S±0.°08×73.°3W±0.°2,h33km,mb4.0/6, Error ellipse: s-maj=23.9km s-min=11.3km az=173.4
NEIC 27 20:42:08.6±0.7,34.°09S×73.°41W,h35km,mb4.4/3,Error ellipse: s-maj=22.0km s-min=10.5km az=82.0
ISC 27 20:42:08.7±0.8,34.°08S±0.°09×73.°3W±0.°2,h35km,n15, σ1§13/15,mb4.0/7,Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 7.00 162 ePn Pn 20 43 50.3 +1.5
TRQA Tornquist 10.01 117 ePn Pn 20 44 29.8 -0.2
USHA Ushuaia 21.03 172 P P 20 46 50.1 +0.8
12nm,0.8s,baz=317,slow=11,SNR=5.9
SIV San Ignacio 21.12 35 P P 20 46 50.3 -0.2
2.2nm,0.6s,baz=218,slow=13,SNR=3.5
SAML Samuel 26.69 23 eP P 20 47 46.4 +1.8
2.5nm,0.8s
ROSC El Rosal 38.73 358 P P 20 49 31.2 +1.1
SNAA Sanae 51.92 158 P P 20 51 12.6 -1.0
1.3nm,0.9s,baz=285,slow=8.9,SNR=7.5
SNAA Sanae 51.92 158 eP P 20 51 12.0 -1.6
4.6nm,0.9s
QSPA South Pole Qui 56.16 180 P P 20 51 44.4 -0.3
3.9nm,1.0s,baz=159,slow=5.8,SNR=4.2
QSPA South Pole Qui 56.16 180 P P 20 51 43.5 -1.2
4.7nm,0.9s
TXAR Lajitas Array 69.29 332 P P 20 53 11.1 -1.4
1.3nm,0.8s,baz=156,slow=9.5,SNR=4.0
TORD Torodi Ar. Bea 85.24 71 P P 20 54 42.9 +0.8
0.8nm,0.9s,baz=251,slow=4.6,SNR=3.6
MK31 Makanchi Array 157.62 48 PKPdf PKPdf 21 02 00.6 -0.5
MKAR Makanchi Array 157.62 48 PKPab PKPab 21 02 33.3 0.0
0.8nm,0.7s,baz=273,slow=3.5,SNR=5.4
SONM Songino Array 166.25 1 PKPab PKPab 21 03 10.8 -0.2
0.5nm,1.0s,baz=343,slow=1.5,SNR=3.5

IDC 27 20:43:33.2±3.7,35.°64S×72.°56W,h0km,mb4.4/1, mb1 4.4/2,mb1mx3.7/31,mbtmp4.3/2,ML4.6/1,Error ellipse: s-maj=133.3km s-min=72.4km az=7.0,Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CPUP Villa Florida 16.00 59 Pn Pn 20 47 19.4 -0.3
0.6nm,0.3s,baz=246,slow=12,SNR=3.5
TORD Torodi Ar. Bea 85.17 70 P P 20 56 11.8 +0.1
1.6nm,0.5s,baz=241,slow=3.2,SNR=21
ZALV Zalesovo Beam 155.83 34 PKPab PKPab 21 03 56.6 +1.3
1.1nm,0.5s,baz=332,slow=4.9,SNR=4.9
MKAR Makanchi Array 158.14 52 PKPab PKPab 21 04 04.1 -1.5
0.6nm,0.7s,baz=277,slow=3.8,SNR=5.5
SONM Songino Array 167.79 3 PKPab PKPab 21 04 46.8 -0.9
0.3nm,0.7s,baz=349,slow=1.5,SNR=2.8

IDC 27 20:44:28.2±0.6,37.°99S×73.°89W,h0km,mb4.4/11, mb1 4.5/15,mb1mx4.4/32,mbtmp4.3/15,ML4.4/4,MS4.1/2, Ms1 4.1/2,ms1mx3.7/34,Error ellipse: s-maj=22.7km s-min=15.1km az=82.0
ISCJB 27 20:44:30.8±0.3,37.°94S±0.°06×73.°58W±0.°08,h22km, mb4.7/34,Error ellipse: s-maj=10.5km s-min=6.8km az=147.5
NEIC 27 20:44:34.0±1.5,37.°92S×73.°53W,h37km±13km,mb4.9/27, Error ellipse: s-maj=15.6km s-min=8.5km az=77.0
BJI 27 20:44:34.4,37.°90S×73.°40W,h30km,mB5.3/6,Ms5.0/4, Ms7 4.9/4
ISC 27 20:44:31.9±0.4,37.°91S±0.°06×73.°68W±0.°09,h22km,n182, σ1§42/199,mb4.8/35,Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.72 140 Pn Pn 20 45 27.9 -0.2
8.9nm,0.3s,baz=309,slow=8.9,SNR=3.5
PLCA Pg Pb 20 45 37.0 +0.2
106nm,0.3s,baz=316,slow=15,SNR=30
PLCA Lg Lg 20 46 22.4
56nm,0.3s,baz=35,slow=10,SNR=4.6
PLCA Paso Flores 3.72 140 ePn Pn 20 45 28.3 +0.3
PLCA Pg Pb 20 45 37.0 +0.2
PLCA Lg Lg 20 46 22.4
CFAA Coronel Fontan 7.72 37 Pn Pn 20 46 23.1 0.0
1.9nm,0.3s,baz=40,slow=8.2,SNR=6.5
TRQA Tornquist 9.24 94 ePn Pn 20 46 45.2 +1.5
USHA Ushuaia 17.30 170 P Pn 20 48 31.0 -0.7
0.5nm,0.3s,baz=339,slow=9.9,SNR=5.8
USHA LR LR 20 55 24.7
comp=Z,579nm,19.9s,baz=350,slow=38
CPUP Villa Florida 18.00 55 Pn P 20 48 41.9 +0.9
0.9nm,0.3s,baz=264,slow=18,SNR=3.3
CPUP LR LR 20 55 31.5
comp=Z,631nm,21.3s,baz=200,slow=36
CPUP Villa Florida 18.00 55 ePn Pn 20 48 37.8 -2.9
LPAZ La Paz 22.09 14 P P 20 49 27.6 +1.4
8.6nm,0.7s,baz=162,slow=6.6,SNR=8.5
LPAZ La Paz 22.09 14 eP P 20 49 27.1 +0.8
16nm,0.8s
SIV San Ignacio 24.51 30 P P 20 49 51.5 +1.7
5.7nm,0.8s,baz=214,slow=12,SNR=4.9
NNA Nana 25.97 353 eP P 20 50 03.8 +0.7
SAML Samuel 30.35 21 eP P 20 50 40.3 -1.8
12nm,1.2s
BDFB Brasilia 31.70 53 P P 20 50 57.1 +3.0
3.3nm,0.6s,baz=243,slow=11,SNR=3.3
OTAV Otavalo 38.22 352 eP P 20 51 48.5 -2.1
26nm,1.5s
ROSC El Rosal 42.55 359 P P 20 52 26.3 -0.2
VNA3 Neumayer Olymp 46.28 156 P P 20 52 55.7 +0.4
SDV Santo Domingo 46.64 4 eP P 20 52 57.3 -1.5
11nm,0.8s
VNA2 Neumayer--Watz 46.96 156 P P 20 53 01.2 +0.6
SNAA Sanae 48.50 156 P P 20 53 13.1 +0.5
SNAA Sanae 48.50 156 P P 20 53 13.0 +0.3
6.4nm,0.8s,baz=284,slow=6.5,SNR=26
SNAA Sanae 48.50 156 eP P 20 53 12.5 -0.1
19nm,0.9s
QSPA South Pole Qui 52.33 180 P P 20 53 41.7 -0.1
7.1nm,0.8s,baz=166,slow=2.2,SNR=15
QSPA South Pole Qui 52.33 180 eP P 20 53 41.5 -0.2
8.3nm,0.9s
APG El Apazote 54.95 340 P P 20 53 58.4 -3.1
6.7nm,0.9s,baz=180,slow=21,SNR=3.6
GTBY Guantanamo Bay 57.55 358 eP P 20 54 23.3 +3.6
GOGA Godfrey 71.54 351 eP P 20 55 50.9 0.0
37nm,1.5s
532A Rocksprings 71.99 336 P P 20 55 55.0 +1.2
baz=72
434A Burnet 72.13 338 P P 20 55 55.2 +0.6
baz=72
531A Rocksprings 72.23 336 P P 20 55 56.5 +1.3
baz=73
336A Riesel 72.26 339 P P 20 55 56.6 +1.4
baz=73
JCT Junction City 72.29 336 eP P 20 55 56.5 +0.9
22nm,1.3s
JCT Junction City 72.29 336 P P 20 55 56.6 +1.1
baz=73
433A Art 72.32 337 P P 20 55 56.4 +0.6
baz=73
530A J-C Ranch, Com 72.48 335 P P 20 55 58.3 +1.6
baz=73
TXAR Lajitas Array 72.55 333 P P 20 55 58.1 +1.0
1.2nm,0.5s,baz=151,slow=8.5,SNR=6.8
334A Lometa 72.61 338 P P 20 55 58.7 +1.4
baz=73
432A Menard 72.65 337 P P 20 55 58.4 +0.7
baz=73
529A Stev Forest Ra 72.76 334 P P 20 55 59.3 +1.0
baz=73
333A Richland Sprin 72.82 337 P P 20 55 59.7 +1.0
baz=73
430A Baggett Ranch, 73.03 335 P P 20 56 00.9 +0.9
baz=73
429A Davenport Ranc 73.11 335 P P 20 56 01.4 +1.0
baz=74
332A Millersview 73.11 337 P P 20 56 01.0 +0.6
baz=74
331A San Angelo 73.25 336 P P 20 56 02.5 +1.2
baz=74
232A Coleman 73.55 337 P P 20 56 03.7 +0.7
baz=74
329A Wagon Wheel Ra 73.92 335 P P 20 56 06.1 +0.9
baz=74
133A Hamilton Ranch 74.00 338 P P 20 56 06.5 +1.0
baz=74
ABTX Abilene, Hawle 74.23 337 eP P 20 56 07.3 +0.3
29nm,1.4s
ABTX Abilene, Hawle 74.23 337 P P 20 56 07.6 +0.6
baz=75
131A Roby 74.51 337 P P 20 56 09.0 +0.4
baz=75
Z33A Whitaker Ranch 74.59 338 P P 20 56 09.8 +0.8
baz=75
228A UT Block 9, Go 74.71 335 P P 20 56 10.5 +0.6
baz=75
Z32A Haskell 74.82 338 P P 20 56 11.2 +0.9
baz=75
WVT Waverly 74.83 348 eP P 20 56 11.5 +1.2
24nm,1.2s
129A Stewart Farms, 74.94 336 P P 20 56 12.0 +0.9
baz=75
Z31A Sharp Cattle R 75.03 337 P P 20 56 12.6 +1.0
baz=75
128A Castleberry Fa 75.13 335 P P 20 56 13.2 +0.9
baz=76
Y33A Hilltop Ranch, 75.22 339 P P 20 56 13.2 +0.6
baz=76
Z30A Sanderson Ranc 75.31 336 P P 20 56 13.8 +0.6
baz=76
Y32A R-V Farms, Ver 75.46 338 P P 20 56 14.7 +0.7
baz=76
Z29A Hungry Hill Ra 75.47 336 P P 20 56 14.5 +0.4
baz=76
X32A Elmer 75.80 338 P P 20 56 17.0 +1.1
baz=76
Y29A Porterfield Fa 76.01 336 P P 20 56 17.6 +0.4
baz=76
Z27A Tatum 76.01 335 P P 20 56 17.6 +0.3
baz=76
X31A McDonald Ranch 76.20 338 P P 20 56 18.6 +0.4
baz=77
Z26A Caprock 76.23 334 P P 20 56 18.8 +0.2
baz=77
W33A Caddo, Fort Co 76.25 339 P P 20 56 18.9 +0.4
baz=77
TUL1 Tulsa 76.26 342 eP P 20 56 19.4 +0.9
19nm,1.0s
TUL1 Tulsa 76.26 342 P P 20 56 18.9 +0.4
baz=77
W32A Sentinel 76.44 339 P P 20 56 20.7 +1.1
baz=77
Z25A Roswell 76.50 334 P P 20 56 20.7 +0.6
baz=77
X29A Tulia 76.56 336 P P 20 56 21.3 +0.9
baz=77
V34A Guthrie 76.63 340 P P 20 56 21.5 +0.9
baz=77
W31A Holland Ranch, 76.71 338 P P 20 56 22.1 +1.0
baz=77
Z24A Sheeppen Canyo 76.77 333 P P 20 56 22.6 +0.9
baz=77
Y26A Elida 76.77 335 P P 20 56 22.8 +1.2
baz=77
V33A Lossen Ranch, 76.83 340 P P 20 56 22.4 +0.7
baz=77
AMTX Amarillo 76.95 337 eP P 20 56 23.5 +0.9
AMTX Amarillo 76.95 337 P P 20 56 23.6 +1.1
baz=77
U34A Anderson Ranch 77.20 340 P P 20 56 25.0 +1.2
baz=78
V31A Spring Creek L 77.22 338 P P 20 56 25.1 +1.1
baz=78
Y24A Capitan 77.33 333 P P 20 56 25.7 +0.8
baz=78
W27A Bowe Ranch, En 77.56 336 P P 20 56 26.8 +0.8
baz=78
Y23A Lovelace Mesa, 77.56 333 P P 20 56 27.5 +1.4
baz=78
DBIC Dimbokro 77.69 71 P P 20 56 26.7 -0.4
12nm,1.0s,baz=220,slow=8.6,SNR=4.6
DBIC Dimbokro 77.69 71 eP P 20 56 27.4 +0.3
30nm,1.3s
TUC Tucson 77.96 329 eP P 20 56 29.3 +1.0
6.9nm,1.1s
T33A Patterson Ranc 78.00 340 P P 20 56 29.2 +0.9
baz=78
W25A X Bar L Ranch, 78.17 335 P P 20 56 29.7 +0.3
baz=79
LAZ Ladron 78.38 332 eP P 20 56 30.8 +0.1
7.6nm,1.5s
T31A Randall Ranch, 78.41 339 P P 20 56 32.2 +1.6
baz=79
214A Organ Pipe Nat 78.51 327 P P 20 56 32.1 +0.8
baz=79
ANMO Albuquerque 78.62 333 eP P 20 56 33.4 +1.4
12nm,1.2s
W23A Werner Place, 78.70 333 P P 20 56 33.5 +1.0
baz=79
U27A Thompson Grove 78.73 336 P P 20 56 33.3 +0.8
baz=79
S32A Newby Ranch, P 78.77 340 P P 20 56 33.5 +0.9
baz=79
V25A Rancho No Teng 78.78 335 P P 20 56 33.5 +0.6
baz=79
U26A Atchley Ranch, 79.00 336 P P 20 56 35.1 +1.1
baz=79
T28A Walsh 79.15 337 P P 20 56 36.2 +1.5
baz=80
U25A Circle Dot Ran 79.22 335 P P 20 56 36.4 +1.1
baz=80
T27A Campo 79.28 337 P P 20 56 36.2 +0.7
baz=80
R32A Long Quarter, 79.39 340 P P 20 56 37.3 +1.4
baz=80
TSUM Tsumeb 79.42 106 eP P 20 56 34.3 -2.5
6.4nm,1.2s
BOSA Boshof 79.42 118 P P 20 56 35.6 -1.1
6.7nm,0.9s,baz=188,slow=3.2,SNR=6.6
R31A Burdett 79.48 340 P P 20 56 37.5 +1.0
baz=80
S28A Manter 79.52 338 P P 20 56 37.9 +1.2
baz=80
V22A San Miguel Ran 79.65 333 P P 20 56 39.6 +2.0
baz=80
T26A Comanche Natio 79.66 336 P P 20 56 39.1 +1.5
baz=80
R30A Dighton 79.69 339 P P 20 56 38.8 +1.2
baz=80
U23A El Rito 79.77 334 P P 20 56 40.2 +1.9
baz=80
T25A Trinidad 79.90 335 P P 20 56 40.1 +1.1
baz=80
S26A Kim 80.03 336 P P 20 56 41.2 +1.6
baz=80
X16A Lo Mia Camp, P 80.06 329 P P 20 56 41.1 +1.3
baz=80
T24B San Luis 80.15 335 P P 20 56 42.3 +1.9
baz=80
R28A Tribune 80.19 338 P P 20 56 41.6 +1.3
baz=81
Y14A Wickenburg 80.29 328 P P 20 56 42.5 +1.5
baz=81
GLA Glamis 80.33 326 P P 20 56 42.2 +1.0
baz=81
S25A Robets Cordova 80.38 336 P P 20 56 42.9 +1.4

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
	baz=81						
R27A	Eads	80.43	337	P	P	20 56 42.8	+1.1
	baz=81						
S24A	Houchin Ranch,	80.62	335	P	P	20 56 44.2	+1.3
	baz=81						
R26A	Arlington	80.65	337	P	P	20 56 44.1	+1.3
	baz=81						
R24A	Sanders Place,	81.12	335	P	P	20 56 47.3	+1.8
	baz=82						
S22A	4UR Ranch, Cre	81.26	334	P	P	20 56 47.7	+1.3
	baz=82						
MVCO	Mesa Verde	81.38	333	eP	P	20 56 47.4	+0.5
	16nm,1.3s						
MVCO	Mesa Verde	81.38	333	P	P	20 56 48.7	+1.7
	baz=82						
W13A	Hualapai Mount	81.66	328	P	P	20 56 48.7	+0.3
	baz=82						
P25A	Willow Gulch B	81.98	337	P	P	20 56 51.4	+1.5
	baz=82						
U15A	North Rim	82.14	329	P	P	20 56 53.1	+2.0
	baz=82						
SMCO	Snowmass	82.60	335	eP	P	20 56 55.1	+1.6
	17nm,1.2s						
P22A	Eagle	82.90	335	P	P	20 56 56.2	+1.4
	baz=83						
O23A	Lake Granby, G	83.18	336	P	P	20 56 57.4	+1.1
	baz=84						
CCUT	Cedar City	83.55	329	eP	P	20 56 59.1	+0.8
	7.1nm,1.1s						
ECSD	EROS Data Cent	83.89	343	eP	P	20 57 00.0	+0.5
	17nm,1.0s						
ECSD	EROS Data Cent	83.89	343	P	P	20 57 00.3	+0.8
	baz=84						
MVU	Marysvale	83.91	331	eP	P	20 57 07.7	+7.7
	44nm,3.0s						
TMUT	Trail Mountain	84.22	332	eP	P	20 57 03.9	+2.2
	104nm,2.6s						
J27A	Elkhorn Farm,	84.78	340	P	P	20 57 05.6	+1.5
	baz=85						
R11A	Troy Canyon, C	85.14	328	eP	P	20 57 08.1	+1.9
	71nm,2.8s						
R11A	Troy Canyon, C	85.14	328	P	P	20 57 08.0	+1.8
	baz=86						
J25A	Sunshine Ranch	85.42	338	P	P	20 57 09.0	+1.6
	baz=86						
TPH	Tonopah	85.60	327	eP	P	20 57 10.4	+1.8
	6.9nm,0.9s						
DUG	Dugway	85.61	331	eP	P	20 57 09.7	+1.2
	9.7nm,1.3s						
DUG	Dugway	85.61	331	P	P	20 57 09.6	+1.2
	baz=86						
NVAR	Mina Array Bea	86.37	326	P	P	20 57 10.7	-1.6
	0.8nm,0.8s,baz=156,slow=6.7,SNR=4.3						
H25A	Fruitdale	86.49	339	P	P	20 57 13.8	+1.1
	baz=87						
PDAR	Pinedale Array	86.68	334	P	P	20 57 12.4	-1.4
	1.0nm,0.9s,baz=155,slow=4.2,SNR=5.5						
J20A	Shoshoni	86.71	336	P	P	20 57 14.9	+1.1
	baz=87						
TORD	Torodi Ar. Bea	86.77	71	P	P	20 57 16.4	+1.8
	3.2nm,0.9s,baz=245,slow=4.1,SNR=8.5						
J19A	Crowheart	86.95	335	P	P	20 57 15.8	+0.8
	baz=87						
HVU	Hansel Valley	86.97	332	eP	P	20 57 16.1	+0.9
	52nm,2.4s						
C30A	Mose, Pekin	88.07	344	P	P	20 57 21.3	+1.3
	baz=88						
B30A	Myrvik Farm, E	88.74	344	P	P	20 57 23.9	+0.7
	baz=89						
HLID	Hailey	89.11	332	eP	P	20 57 26.4	+1.0
	4.8nm,1.1s						
A29A	Manning Farm,	89.39	343	P	P	20 57 26.3	0.0
	baz=90						
GERES	GERESS Array B	115.82	47	PKP	PKPdf	21 03 12.3	+0.1
	0.3nm,0.4s,baz=264,slow=4.4,SNR=6.0						
WRA	Warramunga Arr	116.71	210	PKP	PKPdf	21 03 13.2	-1.7
	0.5nm,0.6s,baz=159,slow=1.6,SNR=4.8						
VYHS	Vyhne	118.68	49	ePKP	PKPdf	21 03 17.8	+0.2
KOLS	Kolonicke sedl	120.94	50	ePKP	PKPdf	21 03 22.8	+0.8
BRTR	Keskin Array B	124.83	64	PKP	PKPdf	21 03 28.9	-1.0
	0.9nm,0.8s,baz=189,slow=2.6,SNR=5.6						
AKASG	Malin Array Be	125.77	50	PKP	PKPdf	21 03 30.2	-0.9
	0.2nm,0.4s,baz=269,slow=3.5,SNR=3.6						
FINES	FINESS Array B	126.94	36	PKP	PKPdf	21 03 32.9	-0.1
	1.9nm,1.0s,baz=243,slow=0.3,SNR=3.4						
GEYT	Alibeck	142.32	75	PKP	PKPdf	21 04 03.5	+1.0
	1.3nm,0.6s,baz=274,slow=1.9,SNR=5.6						
ABKAR	Akbulak array	145.06	56	ePKPdf	PKPbc	21 04 06.3	-0.1
KAD	Karad	145.16	117	eP	PKPbc	21 04 06.8	-0.9
HYB	Hyderabad	148.23	122	iPKP	PKPbc	21 04 15.0	-1.6
KBL	Kabul	149.87	85	ePKPbc	PKPbc	21 04 20.8	+0.2
BRVK	Borovoye	150.91	47	ePKPbc	PKPbc	21 04 22.7	+0.6
KKAR	Karatay Array	152.42	68	ePKPbc	PKPbc	21 04 24.3	-1.6
MJAR	Matsushiro Arr	154.63	277	PKPab	PKPab	21 04 45.3	-0.5
	2.4nm,0.9s,baz=161,slow=3.8,SNR=4.4						
AAK	Ala-Archa	155.35	69	PKPdf	PKPdf	21 04 22.5	-0.9
AAK				ePKPbc	PKPbc	21 04 29.3	
KSH	Kashi	156.31	77	ePKP	PKPdf	21 04 24.3	-0.4
KSH				epPKP	pPKPdf	21 04 36.0	+3.8
KSH				esPKP		21 04 38.3	
KSH				eSKS	SKSdf	21 11 25.0	-4.7
KSH				eSKKS	SKKSac	21 15 15.0	-4.1
KSH				eSS	SS	21 28 12.5	-8.4
KSH				AMB	AMB		
	comp=Z,120nm,8.5s						
ZALV	Zalesovo Beam	158.21	36	PKP	PKPdf	21 04 27.2	+0.7
	1.2nm,0.7s,baz=321,slow=1.8,SNR=3.0						
CMAR	Chiang Mai Arr	159.57	160	PKP	PKPdf	21 04 29.3	+0.1
	0.5nm,0.8s,baz=235,slow=1.7,SNR=4.6						
MK31	Makanchi Array	160.21	56	ePKPab	PKPab	21 05 08.4	-1.1
MKAR	Makanchi Array	160.21	56	PKP	PKPdf	21 04 28.9	-0.2
	0.8nm,0.9s,baz=288,slow=3.5,SNR=3.2						
MKAR				PKPab	PKPab	21 05 09.7	+0.1
	0.9nm,0.7s,baz=300,slow=3.6,SNR=3.3						
WMQ	Urumqi	164.73	61	PKP	PKPdf	21 04 34.0	+0.3
WMQ				LR	LR		
	comp=N,110nm,20.0s						
WMQ				LR	LR		
	comp=E,93nm,20.8s						
WMQ				LR	LR		
	comp=Z,210nm,20.8s						
NJ2	Nanjing	168.18	244	ePKP	PKPdf	21 04 38.0	+1.3
GYA	Guiyang	168.57	182	ePKP	PKPdf	21 04 36.3	-1.0
GYA				pPKP	pPKPdf	21 04 48.5	+3.7
GYA				PKPab	PKPab	21 05 48.0	+1.3
GYA				PKS	PKSdf	21 08 08.0	-2.0
GYA				PP	PP	21 09 38.5	+3.6
GYA				SKKS		21 16 20.3	
GYA				SS	SS	21 30 25.5	+0.2
GYA				AMB	AMB		
	comp=Z,120nm,8.5s						
GYA				LR	LR		
	comp=N,130nm,21.4s						
GYA				LR	LR		
	comp=E,110nm,21.6s						
GYA				LR	LR		
	comp=Z,120nm,24.1s						
SONM	Songino Array	170.08	360	PKPab	PKPab	21 05 53.3	+0.4
	1.3nm,1.0s,baz=132,slow=2.2,SNR=3.8						
CD2	Chengdu	172.70	162	PKP	PKPdf	21 04 39.0	-0.3
CD2				pPKP	pPKPdf	21 04 50.5	+3.7
CD2				sPKP		21 04 54.3	
CD2				PKS	PKSdf	21 08 10.0	-1.6
CD2				PP	PP	21 09 59.0	+3.4
CD2				SKS	SKSdf	21 11 37.0	-4.3
CD2				SKKS	SKKSac	21 16 40.8	-0.8
CD2				SS	SS	21 31 05.0	-1.1
CD2				AMB	AMB		
	comp=Z,220nm,6.4s						
GTA	Gaotai	174.69	72	ePKP	PKPdf	21 04 40.3	+0.5
GTA				pPKP	pPKPdf	21 04 51.0	+3.6
GTA				sPKP		21 04 54.5	
GTA				PKPab	PKPab	21 06 14.3	+0.4
HHC	Hu-ho-hao-te	174.99	307	ePKP	PKPdf	21 04 35.0	-4.9
HHC				sPKP		21 04 49.8	
HHC				AMB	AMB		
	comp=Z,300nm,9.6s						
LZH	Lanzhou	177.31	132	ePKP	PKPdf	21 04 39.5	-1.1
LZH				pPKP	pPKPdf	21 04 50.0	+1.9
LZH				sPKP		21 04 54.5	

IDC 27 20:48:43.4±2.9, 5°.82S×152°.81E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/36, mbtmp3.8/3, ML2.8/1, Error ellipse: s-maj=192.1km s-min=28.1km az=134.0, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
PMG	Port Moresby	6.63	237	Pn	Pn	20 50 22.4	+0.2
	1.1nm,0.3s,baz=29,slow=19,SNR=3.9						
PMG				Sn	Sn	20 51 32.8	-5.8
	1.3nm,0.3s,baz=156,slow=19,SNR=3.7						
WRA	Warramunga Arr	22.79	230	P	P	20 53 47.1	-0.8
	1.3nm,1.1s,baz=55,slow=10.0,SNR=4.0						
ILAR	Eielson Array	83.10	22	P	P	21 01 10.4	-0.3
	1.2nm,0.7s,baz=246,slow=5.3,SNR=12						
TORD	Torodi Ar. Bea	150.62	286	PKPbc	PKPbc	21 08 39.0	+0.5
	0.5nm,0.7s,baz=74,slow=2.5,SNR=4.0						

IDC 27 20:49:18.8±0.6, 34°.69S×72°.79W, h0km, mb4.5/12, mb1 4.5/15, mb1mx4.4/35, mbtmp4.4/15, ML4.4/3, Error ellipse: s-maj=23.7km s-min=15.6km az=83.0
NEIC 27 20:49:21.1±3.4, 34°.65S×72°.86W, h17km±20km, mb4.5/5, Error ellipse: s-maj=13.4km s-min=6.7km az=76.0
ISCJB 27 20:49:22.2±0.5, 34°.63S±0°.07×72°.7W±0°.1, h33km, mb4.5/18, Error ellipse: s-maj=13.9km s-min=8.9km az=164.0
ISC 27 20:49:24.0±0.5, 34°.62S±0°.07×72°.7W±0°.1, h35km, n42, σ1s12/47, mb4.5/18, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
CFAA	Coronel Fontan	4.81	53	Pn	Pn	20 50 34.3	+0.3
	3.6nm,0.3s,baz=232,slow=9.6,SNR=4.7						
PLCA	Paso Flores	6.33	165	Pn	Pn	20 50 53.0	-1.9
	2.0nm,0.3s,baz=325,slow=8.3,SNR=3.2						
TRQA	Tornquist	9.31	115	ePn	Pn	20 51 37.2	+1.5
LVC	Limon Verde	12.42	17	Pn	Pn	20 52 17.0	-1.6
CPUP	Villa Florida	15.61	62	Pn	Pn	20 52 57.5	-3.9
LPAZ	La Paz	18.72	14	P	Pn	20 53 41.8	+1.0
	1.0nm,0.3s,baz=191,slow=5.6,SNR=15						
LPAZ	La Paz	18.72	14	P	Pn	20 53 41.8	+1.0
LPAZ				ePn	P	20 53 42.3	+2.0
SIV	San Ignacio	21.30	32	P	P	20 54 07.3	-0.4
	22nm,0.9s,baz=231,slow=14,SNR=16						
NNA	Nana	22.85	350	P	P	20 54 24.4	+0.1
	4.6nm,0.4s,baz=198,slow=9.9,SNR=3.6						
SAML	Samuel	27.01	21	eP	P	20 55 02.1	-0.7
	7.5nm,0.9s						
BDFB	Brasilia	29.14	56	P	P	20 55 22.5	+0.5
	5.0nm,0.9s,baz=343,slow=4.4,SNR=3.8						
OTAV	Otavalo	35.09	350	eP	P	20 56 16.1	+1.6
	6.0nm,0.9s						
SDV	Santo Domingo	43.32	3	eP	P	20 57 22.5	-0.4
	10nm,0.9s						
SNAA	Sanae	51.22	158	P	P	20 58 23.9	+0.3
	3.7nm,0.9s,baz=286,slow=7.0,SNR=12						
APG	El Apazote	52.16	338	P	P	20 58 28.4	-3.0
	3.7nm,0.5s,baz=136,slow=9.1,SNR=4.6						
QSPA	South Pole Qui	55.61	180	P	P	20 58 55.7	-0.3
	7.6nm,1.1s,baz=140,slow=4.2,SNR=8.4						
TEIG	Tepich	56.52	342	P	P	20 59 01.3	-1.5
	13nm,0.9s						
TXAR	Lajitas Array	70.01	331	P	P	21 00 32.5	+0.3
	1.2nm,0.6s,baz=156,slow=6.8,SNR=9.7						
SUR	Sutherland	75.01	119	P	P	21 01 02.9	+0.6
DBIC	Dimbokro	75.91	72	P	P	21 01 07.4	0.0
	6.5nm,0.7s,baz=225,slow=5.2,SNR=9.1						
TSUM	Tsumeb	79.58	106	eP	P	21 01 28.6	+0.6
	7.4nm,1.2s						
BOSA	Boshof	80.27	118	P	P	21 01 32.3	+0.7
	11nm,1.0s,baz=235,slow=3.7,SNR=8.5						
PDAR	Pinedale Array	84.07	334	P	P	21 01 51.2	+0.1
	0.9nm,0.7s,baz=149,slow=3.2,SNR=7.9						
NVAR	Mina Array Bea	84.08	326	P	P	21 01 52.2	+1.0
	1.0nm,0.6s,baz=155,slow=6.1,SNR=6.9						
TOA0	Torodi Ar. Sit	84.94	70	eP	P	21 01 56.1	+0.2
TORD	Torodi Ar. Bea	84.94	70	P	P	21 01 56.3	+0.4
	5.9nm,0.7s,baz=266,slow=5.2,SNR=33						
ULM	Lac du Bonnet	86.96	345	P	P	21 02 05.2	+0.2
	4.0nm,0.9s,baz=109,slow=2.9,SNR=4.6						
FCC	Fort Churchill	94.73	349	P	P	21 02 40.6	-0.3
YKA	Yellowknife Ar	102.47	341	P	Pdif	21 03 15.6	-0.1
	0.4nm,0.8s,baz=140,slow=4.8,SNR=5.3						
WRA	Warramunga Arr	119.95	210	PKP	PKPdf	21 08 10.1	-1.3
	0.8nm,0.6s,baz=171,slow=1.7,SNR=9.6						
BRTR	Keskin Array B	122.62	61	PKP	PKPdf	21 08 16.3	+0.4
	1.3nm,0.8s,baz=199,slow=3.4,SNR=7.8						
AKASG	Malin Array Be	123.02	48	PKP	PKPdf	21 08 15.8	-0.3
	0.2nm,0.3s,baz=264,slow=2.2,SNR=4.4						
SPITS	Spitsbergen Ar	123.42	14	PKP	PKPdf	21 08 16.4	+0.2
	3.8nm,0.9s,baz=169,slow=5.0,SNR=5.1						
ABKAR	Akbulak array	142.50	52	ePKPpre	PKPpre	21 08 48.3	
KKAR	Karatay Array	150.33	62	ePKPdf	PKPdf	21 09 05.3	-0.8
KKAR				ePKPbc	PKPbc	21 09 11.7	+0.3
AAK	Ala-Archa	153.29	63	ePKPdf	PKPdf	21 09 11.7	+0.9
AAK				ePKPbc	PKiKP	21 09 18.8	+0.4
ZAA0	Zalesovo Array	155.05	32	ePKPdf	PKPdf	21 09 12.1	-0.5
ZAA0				ePKPbc	PKPbc	21 09 21.6	
ZAA0				ePKPab	PKPab	21 09 38.2	+1.0
ZALV	Zalesovo Beam	155.05	32	PKP	PKP	21 09 12.8	
	1.0nm,0.6s,baz=333,slow=1.7,SNR=5.6						
ZALV				PKPbc	PKPbc	21 09 21.9	
	3.9nm,0.8s,baz=314,slow=3.5,SNR=12						
ZALV				PKPab	PKPab	21 09 38.5	+1.3
	5.2nm,0.7s,baz=305,slow=5.2,SNR=12						
MK31	Makanchi Array	157.59	50	ePKPdf	PKPdf	21 09 15.9	-0.4
MK31				ePKPab	PKPab	21 09 48.8	+0.3
MKAR	Makanchi Array	157.59	50	PKP	PKPdf	21 09 16.0	-0.3
	0.8nm,0.8s,baz=62,slow=1.3,SNR=5.3						
MKAR				PKPab	PKPab	21 09 49.0	+0.6
	0.9nm,0.7s,baz=304,slow=4.7,SNR=5.2						
CMAR	Chiang Mai Arr	162.27	153	PKP	PKPdf	21 09 22.6	+0.3
	1.6nm,1.1s,baz=257,slow=1.1,SNR=5.6						
SONM	Songino Array	166.78	3	PKPab	PKPab	21 10 29.5	+0.8
	1.1nm,0.9s,baz=340,slow=5.5,SNR=6.9						

IDC 27 20:49:50.5±2.0, 14°.03N×145°.34E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/44, mbtmp3.9/6, Error ellipse: s-maj=72.7km s-min=21.3km az=77.0
NEIC 27 20:50:03.8±1.4, 13°.92N×145°.14E, h107km±7km, mb4.3/3, Error ellipse: s-maj=42.5km s-min=12.0km az=80.0
ISCJB 27 20:50:04.2±1.2, 13°.91N±0°.10×145°.1E±0°.3, h125km, mb4.0/8, Error ellipse: s-maj=35.3km s-min=12.3km az=169.9
ISC 27 20:50:05.7±1.5, 13°.9N±0°.1×145°.1E±0°.3, h125km, n24, σ0s55/23, mb4.2/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
GUMO	Guam	0.43	217	ePn	Pn	20 50 19.8	-4.1
GUMO				eSn	Sn	20 50 30.1	-7.5
FAKI	Fak Fak	21.07	218	P	P	20 54 41.2	+1.0
	baz=15,SNR=7.1						
COEN	Coen	27.78	184	P	P	20 55 43.8	+0.7
	baz=22,SNR=5.7						
KDU	Kakadu	29.28	206	P	P	20 55 55.5	-0.9
	baz=23,SNR=4.5						
KNRA	Kununurra	33.58	209	P	P	20 56 34.0	-0.2
	baz=28,SNR=3.8						
QIS	Mount Isa	34.71	189	P	P	20 56 44.3	+0.5
	baz=29,SNR=4.1						
WRAB	Tennant Creek	35.29	198	eP	P	20 56 48.4	-0.4
	14nm,0.9s						
WRA	Warramunga Arr	35.30	198	P	P	20 56 48.6	-0.3
	3.7nm,0.6s,baz=25,slow=9.3,SNR=36						
FITZ	Fitzroy Crossi	37.19	212	P	P	20 57 04.9	-0.1
	baz=31,SNR=11						
AS31	Alice Springs	38.95	197	eP	P	20 57 19.9	+0.1
QLP	Quilpie	40.28	181	P	P	20 57 30.8	+0.1
	baz=34,SNR=4.6						
WRKA	Warakurna	42.08	203	P	P	20 57 45.4	-0.1
	baz=36,SNR=41						
MBWA	Marble Bar	42.88	216	eP	P	20 57 51.1	-0.9
	4.0nm,0.6s						
CMAR	Chiang Mai Arr	44.50	282	P	P	20 58 04.8	-0.3
	0.6nm,0.7s,baz=89,slow=5.7,SNR=7.3						
STKA	Stephens Creek	45.68	184	P	P	20 58 14.3	+0.2
	2.9nm,0.4s,baz=26,slow=6.3,SNR=16						
STKA	Stephens Creek	45.68	184	eP	P	20 58 14.1	0.0
	0.6nm,0.4s						
STKA	Stephens Creek	45.68	184	P	P	20 58 14.5	+0.4
	baz=40,SNR=9.1						
SONM	Songino Array	46.60	325	P	P	20 58 22.0	+0.6
	0.2nm,0.4s,baz=123,slow=6.9,SNR=2.8						
BBOO	Buckleboo	47.28	190	P	P	20 58 26.9	+0.3
	baz=41,SNR=25						
MEEK	Meekatharra	47.87	213	P	P	20 58 30.9	-0.4
	baz=42,SNR=3.1						
MORW	Morawa	51.17	213	P	P	20 58 55.6	-0.6
	baz=45,SNR=4.1						
BLDU	Ballidu	52.06	211	P	P	20 59 02.2	-0.6
	baz=46,SNR=9.7						
MKAR	Makanchi Array	61.43	316	P	P	21 00 09.3	+0.4
	0.3nm,0.3s,baz=92,slow=8.5,SNR=16						
FINES	FINESS Array B	90.96	335	P	P	21 02 54.6	-0.7
	3.6nm,1.2s,baz=43,slow=2.9,SNR=4.4						

IDC 27 20:50:40.2±0.7, 34°.25S×72°.28W, h0km, mb4.2/9, mb1 4.4/12, mb1mx4.2/36, mbtmp4.2/12, ML4.4/3, Error ellipse: s-maj=28.2km s-min=17.6km az=86.0
ISCJB 27 20:50:41.3±0.6, 34°.30S±0°.07×72°.2W±0°.1, h16km, mb4.2/9, Error ellipse: s-maj=17.9km s-min=9.9km az=11.1
NEIC 27 20:50:46.5±1.3, 34°.29S×72°.14W, h43km±11km, mb4.1/2, Error ellipse: s-maj=16.8km s-min=7.3km az=100.0
ISC 27 20:50:43.0±0.7, 34°.27S±0°.09×72°.3W±0°.1, h16km, n17, σ0s89/17, mb4.2/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
CFAA	Coronel Fontan	4.30	53	Pn	Pn	20 51 48.6	+0.8
	3.5nm,0.3s,baz=26,slow=16,SNR=7.0						
CFAA				Lg	Lg	20 52 51.0	
	4.6nm,0.3s,baz=84,slow=19,SNR=2.9						
PLCA	Paso Flores	6.59	169	Pn	Pn	20 52 20.1	+0.8
	3.7nm,0.3s,baz=333,slow=7.7,SNR=3.0						
CPUP	Villa Florida	15.12	62	Pn	Pn	20 54 15.7	-0.2
	0.6nm,0.3s,baz=192,slow=13,SNR=3.3						
LPAZ	La Paz	18.29	13	eP	P	20 54 58.9	+2.1
	9.6nm,0.8s						
SIV	San Ignacio	20.80	32	P	P	20 55 23.6	-0.1
	3.2nm,0.6s,baz=228,slow=15,SNR=2.6						
SAML	Samuel	26.55	20	P	P	20 56 19.9	-0.2
	3.7nm,0.6s						
PMSA	Palmer Station	30.94	173	P	P	20 56 59.2	+0.4
	16nm,0.8s,baz=74,slow=22,SNR=8.5						
SNAA	Sanae	51.41	158	P	P	20 59 47.3	+0.6
	2.6nm,0.8s,baz=294,slow=6.9,SNR=3.9						
QSPA	South Pole Qui	55.97	180	P	P	21 00 19.8	-0.5
	8.1nm,0.9s,baz=210,slow=1.2,SNR=6.1						
TXAR	Lajitas Array	69.88	331	P	P	21 01 53.3	+0.2
	0.4nm,0.6s,baz=156,slow=8.9,SNR=2.2						
DBIC	Dimbokro	75.44	71	P	P	21 02 25.9	-0.6
BOSA	Boshof	80.11	118	P	P	21 02 52.4	-0.1
	5.0nm,1.0s,baz=256,slow=6.4,SNR=2.9						
PDAR	Pinedale Array	83.92	333	P	P	21 03 11.8	-0.4
	0.7nm,0.9s,baz=115,slow=4.1,SNR=3.2						
NVAR	Mina Array Bea	84.00	325	P	P	21 03 13.2	+0.5
	0.5nm,0.7s,baz=144,slow=7.0,SNR=3.8						
TORD	Torodi Ar. Bea	84.48	70	P	P	21 03 13.9	-1.5
	2.0nm,1.0s,baz=232,slow=3.9,SNR=2.6						
WRA	Warramunga Arr	120.44	209	PKP	PKPdf	21 09 33.0	-1.2
	0.3nm,0.6s,baz=164,slow=1.5,SNR=5.9						
ZALV	Zalesovo Beam	154.55	32	PKPbc	PKPbc	21 10 42.2	-0.1
	1.8nm,0.6s,baz=300,slow=3.9,SNR=3.6						

ISCJB 27 20:51:10.3±0.7, 34°.68S±0°.08×72°.7W±0°.2, h10km, mb4.4/11, Error ellipse: s-maj=26.3km s-min=11.6km az=179.7
IDC 27 20:51:10.3±0.7, 34°.59S×72°.71W, h0km, mb4.4/10, mb1 4.6/10, mb1mx4.4/33, mbtmp4.5/10, Error ellipse: s-maj=32.6km s-min=19.6km az=82.0
NEIC 27 20:51:15.5±0.4, 34°.67S×72°.75W, h35km, mb4.4/4, Error ellipse: s-maj=20.1km s-min=9.2km az=91.0
ISC 27 20:51:11.9±0.7, 34°.65S±0°.10×72°.8W±0°.2, h10km, n27, σ0s98/23, mb4.4/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
LPAZ	La Paz	18.75	14	P	Pn	20 55 33.0	+1.0
	12nm,0.8s						
USHA	Ushuaia	20.41	173	P	P	20 55 49.6	+0.8
	28nm,0.9s,baz=318,slow=9.7,SNR=5.6						
SIV	San Ignacio	21.33	32	P	P	20 55 59.0	-0.2
	9.4nm,0.7s,baz=241,slow=16,SNR=5.0						
SAML	Samuel	27.04	21	P	P	20 56 55.8	+1.4
	6.6nm,0.9s						
SDV	Santo Domingo	43.34	3	eP	P	20 59 14.8	+0.3
	6.4nm,0.8s						
SNAA	Sanae	51.21	158	P	P	21 00 15.6	+0.6
	7.1nm,1.0s,baz=310,slow=5.3,SNR=7.2						
SNAA	Sanae	51.21	158	eP	P	21 00 15.3	+0.2
	26nm,1.0s						
QSPA	South Pole Qui	55.59	180	P	P	21 00 48.4	+1.0
	8.2nm,0.9s,baz=321,slow=1.2,SNR=4.0						
QSPA	South Pole Qui	55.59	180	eP	P	21 00 47.6	+0.2
TXAR	Lajitas Array	70.02	331	P	P	21 02 23.9	+0.1
	1.2nm,0.7s,baz=152,slow=8.4,SNR=4.7						
DBIC	Dimbokro	75.94	72	P	P	21 02 58.7	-0.5
	4.5nm,0.7s,baz=209,slow=4.8,SNR=6.3						
BOSA	Boshof	80.29	118	P	P	21 03 23.7	+0.3
	9.3nm,1.1s,baz=240,slow=9.9,SNR=3.8						
PDAR	Pinedale Array	84.08	334	P	P	21 03 41.7	-1.1
	1.4nm,1.0s,baz=170,slow=4.4,SNR=4.0						
NVAR	Mina Array Bea	84.08	326	P	P	21 03 43.4	+0.4
	0.7nm,0.5s,baz=158,slow=5.6,SNR=3.7						
TORD	Torodi Ar. Bea	84.98	70	P	P	21 03 47.1	-0.6
	4.5nm,0.9s,baz=262,slow=5.7,SNR=12						
WRA	Warramunga Arr	119.91	210	PKP	PKPdf	21 10 01.8	-1.3
	0.5nm,1.0s,baz=156,slow=1.5,SNR=5.0						
BRTR	Keskin Array B	122.66	62	PKP	PKPdf	21 10 06.1	-1.8
	0.8nm,0.8s,baz=310,slow=4.2,SNR=4.4						
ARCES	ARCESS Array B	124.85	25	PKP	PKPdf	21 10 11.2	+0.3
	6.5nm,1.0s,baz=347,slow=5.0,SNR=3.6						
H11S2	WAKE ISLAND Hy	125.17	269	T	T	23 27 53.5	
	baz=120,slow=74,SNR=5.7						
H11S1	WAKE ISLAND Hy	125.19	269	T	T	23 27 51.5	
	baz=210,slow=74,SNR=10						
H11N1	WAKE ISLAND Hy	125.62	270	T	T	23 28 21.5	
	baz=272,slow=74,SNR=4.7						
H11N2	WAKE ISLAND Hy	125.62	271	T	T	23 28 22.3	
	baz=122,slow=74,SNR=5.6						
ZALV	Zalesovo Beam	155.09	32	PKPbc	PKPdf	21 11 13.8	+9.2
	2.6nm,0.8s,baz=277,slow=3.7,SNR=3.8						
ZALV				PKPab	PKPab	21 11 30.0	+0.9
	5.6nm,0.8s,baz=312,slow=4.8,SNR=5.1						
MK31	Makanchi Array	157.63	50	ePKPdf	PKPdf	21 11 06.0	-2.2
MKAR	Makanchi Array	157.63	50	PKP	PKPdf	21 11 07.2	-1.0
	0.9nm,0.7s,baz=278,slow=1.9,SNR=4.4						
CMAR	Chiang Mai Arr	162.26	153	PKP	PKPdf	21 11 14.4	+0.2
	0.6nm,0.8s,baz=254,slow=3.4,SNR=4.6						
SONM	Songino Array	166.81	3	PKPab	PKPab	21 12 21.2	+0.7
	0.4nm,0.8s,baz=335,slow=5.6,SNR=3.6						

IDC 27 20:56:37.1±3.4, 24°.22S×179°.97E, h516km±30km, mb3.6/6, mb1 3.8/7, mb1mx3.4/37, mbtmp4.5/7, Error ellipse: s-maj=50.0km s-min=24.2km az=152.0
ISC 27 20:56:38.6±1.0, 24°.05S±0°.2×179°.8E±0°.1, h526km, n24, σ1s34/26, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
DZM	Mont Dzumac	12.44	276	P	P	20 59 23.8	+2.0
	1.5nm,0.3s,baz=214,slow=21,SNR=12						
RMQ	Roma	28.14	258	P	P	21 01 50.0	+1.6
	baz=28,SNR=4.6						
CMSA	Cobar Meteorol	30.99	248	P	P	21 02 12.8	-0.2
	baz=31,SNR=12						
CTA	Charters Tower	31.28	271	P	P	21 02 16.9	+1.2
	12nm,0.4s,baz=93,slow=11,SNR=39						
QLP	Quilpie	32.18	258	P	P	21 02 23.6	+0.3
	baz=32,SNR=5.4						
STKA	Stephens Creek	34.50	248	P	P	21 02 42.5	-0.2
	1.7nm,0.4s,baz=94,slow=6.1,SNR=17						
STKA	Stephens Creek	34.50	248	P	P	21 02 42.5	-0.2
	baz=34,SNR=11						
HTT	Hallett	36.85	246	P	P	21 03 01.6	-0.7
	baz=37,SNR=4.1						
BBOO	Buckleboo	39.22	247	P	P	21 03 20.4	-1.2
	baz=39,SNR=9.2						
WRA	Warramunga Arr	42.20	266	P	P	21 03 45.1	-0.4
	7.6nm,0.5s,baz=100,slow=8.3,SNR=99						
WRA				ScP	ScP	21 08 30.6	+2.5
	0.8nm,0.9s,baz=107,slow=3.7,SNR=5.8						
JAY	Jayapura	43.38	294	S	S	21 09 41.7	-3.1
	baz=42,SNR=3.3						
KDU	Kakadu	46.10	275	P	P	21 04 15.7	0.0
	baz=45,SNR=4.2						
WRKA	Warakurna	46.62	258	P	P	21 04 19.0	-0.6
	baz=46,SNR=35						

KNRA Kununurra 48.49 270 P P 21 04 34.1 +0.5
baz=48,SNR=12
FITZ Fitzroy Crossi 50.63 266 P P 21 04 49.7 +0.3
baz=50,SNR=7.4
MORW Morawa 56.65 250 P P 21 05 30.8 -1.1
baz=56,SNR=4.6
MJAR Matsushiro Arr 71.88 326 P P 21 07 08.6 +0.3
2.0nm,0.8s,baz=146,slow=4.7,SNR=4.5
CMAR Chiang Mai Arr 89.39 290 P P 21 08 40.5 +0.9
1.3nm,0.8s,baz=146,slow=2.6,SNR=9.9
TXAR Lajitas Array 90.66 58 P P 21 08 46.0 +0.6
0.6nm,0.7s,baz=201,slow=6.7,SNR=6.4
MKAR Makanchi Array 112.09 313 PKiKP PKiKP 21 14 12.6 -1.5
0.2nm,0.6s,baz=109,slow=2.3,SNR=3.0
FINES FINESS Array B 138.49 341 PKhKP PKPpre 21 14 53.8
0.6nm,0.6s,baz=34,slow=0.7,SNR=9.6
FINES PKP PKPdf 21 15 04.2 +0.5
0.7nm,0.7s,baz=112,slow=3.2,SNR=7.5
NOA NORSAR Array B 142.16 351 PKP PKPdf 21 15 07.7 -2.8
0.5nm,0.8s,baz=348,slow=2.1,SNR=2.9
AKASG Malin Array Be 144.96 327 PKPbc PKPdf 21 15 15.7 +0.1
1.0nm,0.8s,baz=44,slow=4.2,SNR=10
BRTR Keskin Array B 147.49 307 PKPbc PKPbc 21 15 22.6 -1.2
1.2nm,0.7s,baz=144,slow=5.4,SNR=7.1
BRTR PKPab PKPab 21 15 28.6 +0.8
1.9nm,0.6s,baz=101,slow=3.5,SNR=11

IDC 27 20:57:45.5±1.1, 36.72S×72.08W, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.9/36, mbtmp3.9/9, ML3.9/1, MS4.3/2, Ms1 4.3/2, ms1mx3.6/26, Error ellipse: s-maj=40.3km s-min=15.2km az=83.0, Near coast of Central Chile

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

PLCA Paso Flores 4.18 164 Pn Pn 20 58 51.0 +0.3
1.7nm,0.3s,baz=334,slow=13,SNR=3.3
PLCA Pg Pb 20 59 02.4 +2.3
4.4nm,0.3s,baz=298,slow=15,SNR=5.0
PLCA Lg Lg 20 59 56.5
5.2nm,0.3s,baz=59,slow=16,SNR=7.6
LPAZ La Paz 20.65 11 P P 21 02 27.5 0.0
3.5nm,0.9s,baz=150,slow=8.8,SNR=6.1
SIV San Ignacio 22.84 28 P P 21 02 50.4 0.0
4.7nm,0.9s,baz=225,slow=9.5,SNR=5.0
ATAH Atahualpa 30.01 347 LR LR 21 13 51.2
comp=Z,537nm,19.4s,baz=304,slow=32
SNAA Sanae 49.09 157 P P 21 06 35.0 +0.8
0.3nm,0.5s,baz=64,slow=3.1,SNR=3.6
QSPA South Pole Qui 53.52 180 P P 21 07 06.5 -1.1
4.1nm,1.0s,baz=113,slow=2.8,SNR=5.5
LPIG La Paz 70.43 323 LR LR 21 33 56.6
comp=Z,211nm,19.0s,baz=294,slow=31
TXAR Lajitas Array 72.09 331 P P 21 09 11.9 +0.3
0.2nm,0.5s,baz=143,slow=9.1,SNR=3.9
DBIC Dimbokro 76.09 71 P P 21 09 35.0 -0.4
1.5nm,0.6s,baz=200,slow=5.5,SNR=3.9
BOSA Boshof 78.84 117 P P 21 09 52.6 +1.8
4.3nm,1.0s,baz=264,slow=4.1,SNR=2.3
TORD Torodi Ar. Bea 85.17 70 P P 21 10 22.2 -1.7
0.7nm,1.1s,baz=232,slow=7.1,SNR=2.7

IDC 27 21:00:31.2±0.4, 33.90S×73.15W, h0km, mb4.9/25, mb1 4.9/28, mb1mx4.9/33, mbtmp4.9/28, ML4.6/3, MS4.2/11, Ms1 4.2/11, ms1mx4.0/34, Error ellipse: s-maj=16.8km s-min=11.2km az=67.0
ISCJB 27 21:00:34.8±0.2, 33.94S±0.04×73.06W±0.05, h33km, mb5.2/126, MS5.0/100, Error ellipse: s-maj=6.5km s-min=4.4km az=144.6
MOS 27 21:00:35.3±1.0, 33.77S×73.14W, h33km, mb5.4/38, MS4.7/6, Error ellipse: s-maj=16.0km s-min=8.3km az=102.1
BJI 27 21:00:35.3, 33.91S×73.33W, h35km, mB5.3/10, Ms5.5/9, Ms7 5.3/9
NEIC 27 21:00:35.0±1.9, 33.92S×73.15W, h27km±3km, mb5.2/122, MS5.0/96, Error ellipse: s-maj=16.4km s-min=5.4km az=94.0
NEIC Felt at Limache and Santiago.
ISC 27 21:00:36.2±0.3, 33.95S±0.05×73.16W±0.07, h35km, n679, σ1.10/658, mb5.2/127, MS5.0/100, 131C-132D, Off coast of central Chile

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

CFAA Coronel Fontan 4.76 62 Pn Pn 21 01 45.7 +0.2
1.7nm,0.3s,baz=240,slow=12,SNR=10
CFAA Sn Sn 21 02 41.2 +1.7
7.2nm,0.3s,baz=227,slow=19,SNR=8.2
CFAA LR LR 21 03 50.6
comp=Z,314nm,21.5s,baz=230,slow=42
PLCA Paso Flores 7.08 164 eP Pn 21 02 17.2 -0.2
PLCA Paso Flores 7.08 164 Pn Pn 21 02 16.4 -0.9
2.9nm,0.3s,baz=336,slow=14,SNR=3.2
PLCA LR LR 21 05 08.5
comp=Z,2μm,18.2s,baz=352,slow=39
PLCA Paso Flores 7.08 164 ePn Pn 21 02 17.2 -0.2
TRQA Tornquist 9.94 118 ePn Pn 21 02 57.0 +0.5
CPUP Villa Florida 15.65 65 eP Pn 21 04 13.5 -0.6
CPUP Villa Florida 15.65 65 Pn Pn 21 04 13.8 -0.3
0.8nm,0.3s,baz=219,slow=9.4,SNR=5.8
CPUP LR LR 21 10 01.3
comp=Z,772nm,18.4s,baz=163,slow=36
CPUP Villa Florida 15.65 65 ePn Pn 21 04 13.5 -0.6
LPAZ La Paz 18.16 16 eP Pn 21 04 45.4 -0.9
LPAZ La Paz 18.16 16 P P 21 04 46.5 +0.2
0.6nm,0.3s,baz=185,slow=6.0,SNR=27
LPAZ S S 21 08 18.5 +5.6
0.3nm,0.3s,baz=197,slow=8.9,SNR=4.2
LPAZ LR LR 21 10 28.3
comp=Z,665nm,21.6s,baz=93,slow=33
LPAZ La Paz 18.16 16 ePn Pn 21 04 45.4 -0.9
LPAZ eP P 21 04 45.6 -0.7
LPAZ eSn S 21 08 18.5 +5.6
EFI East Falkland 20.82 153 eP P 21 05 12.3 -2.1
EFI pmax pmax
comp=Z,183nm,1.4s
EFI MLR MLR
comp=Z,1μm,21.0s
EFI East Falkland 20.82 153 eP P 21 05 12.3 -2.1
comp=Z,183nm,1.4s
EFI LR LR
comp=Z,1μm,21.0s
SIV San Ignacio 20.94 34 P P 21 05 15.2 -0.9
comp=Z,20nm,0.8s,baz=221,slow=12,SNR=30
SIV LR LR 21 13 20.6
comp=Z,424nm,20.9s,baz=102,slow=37
USHA Ushuaia 21.14 172 P P 21 05 18.6 +0.7
comp=Z,95nm,1.0s,baz=328,slow=4.3,SNR=7.3
USHA LR LR 21 14 37.6
comp=Z,574nm,18.3s,baz=346,slow=40
NNA Nana 22.12 350 eP P 21 05 27.9 -0.8
NNA Nana 22.12 350 P P 21 05 27.8 -1.0
comp=Z,16nm,0.9s,baz=213,slow=14,SNR=3.8
NNA LR LR 21 11 57.2
comp=Z,436nm,18.5s,baz=179,slow=31
NNA Nana 22.12 350 eP P 21 05 27.9 -0.8
SAML Samuel 26.52 23 eP P 21 06 10.2 -0.4
comp=Z,10.0nm,0.8s
SAML LR LR
comp=Z,700nm,20.0s
BDFB Brasilia 29.09 57 eP P 21 06 31.6 -2.1
BDFB Brasilia 29.09 57 P P 21 06 32.0 -1.6
comp=Z,8.6nm,0.8s,baz=233,slow=7.7,SNR=9.8
BDFB LR LR 21 18 37.6
comp=Z,840nm,20.1s,baz=208,slow=37
BDFB Brasilia 29.09 57 eP P 21 06 31.6 -2.1
RPN Rapa Nui 31.77 272 LR LR 21 15 49.8
comp=Z,717nm,21.6s,baz=72,slow=29
OTAV Otavalo 34.37 351 eP P 21 07 22.1 +1.6
comp=Z,16nm,1.1s
ROSC El Rosal 38.61 358 P P 21 07 56.0 -0.6
comp=Z,16nm,0.6s,baz=252,slow=22,SNR=11
ROSC El Rosal 38.61 358 eP P 21 07 57.7 +1.1
SDV Santo Domingo 42.67 4 eP P 21 08 28.9 -0.9
comp=Z,22nm,0.8s
JTS JuntasAbangare 45.40 344⇓eP P 21 08 52.0 +0.5
JTS pmax pmax
comp=Z,23nm,1.2s
JTS JuntasAbangare 45.40 344 P P 21 08 51.5 0.0
comp=Z,5.5nm,0.9s,baz=114,slow=20,SNR=3.2
JTS JuntasAbangare 45.40 344 eP P 21 08 51.5 0.0
comp=Z,19nm,1.1s
GRGR Grenville 47.12 15 PFAKE 21 09 20.0 +15
GRGR LR LR
comp=Z,300nm,22.0s
VNA3 Neumayer Olymp 49.76 158 P P 21 09 25.9 +1.1
VNA2 Neumayer--Watz 50.42 157 P P 21 09 30.9 +1.1
APG El Apazote 51.40 338 P P 21 09 33.9 -4.1
comp=Z,12nm,0.9s,baz=122,slow=6.2,SNR=11
SNAA Sanae 51.98 158 P P 21 09 42.5 +1.0
SNAA Sanae 51.98 158 eP P 21 09 40.9 -0.6
SNAA Sanae 51.98 158 d iP P 21 09 42.6 +1.1
SNAA pmax pmax
comp=Z,116nm,1.7s
SNAA Sanae 51.98 158 P P 21 09 42.5 +1.0
comp=Z,18nm,0.8s,baz=280,slow=8.1,SNR=110
SNAA Sanae 51.98 158 eP P 21 09 42.1 +0.6
comp=Z,79nm,1.1s
SNAA LR LR
comp=Z,800nm,19.4s
CELP Cerrillos 52.11 8 eP P 21 09 42.7 -0.2
CPD Cerro la Pandu 52.16 9 PFAKE 21 10 00.0 +17
CPD LR LR
comp=Z,4μm,18.0s
AOPR Arecibo Observ 52.36 8 PFAKE 21 10 00.0 +15
AOPR LR LR
comp=Z,2μm,20.4s
TEIG Tepich 55.77 343 P P 21 10 09.3 -0.3
comp=Z,25nm,0.7s,baz=123,slow=3.8,SNR=7.9
TEIG Tepich 55.77 343 eP P 21 10 08.6 -1.0
comp=Z,40nm,0.8s
QSPA South Pole Qui 56.28 180 P P 21 10 14.1 +1.0
comp=Z,35nm,0.9s,baz=140,slow=3.3,SNR=45
QSPA South Pole Qui 56.28 180 eP P 21 10 13.8 +0.8
comp=Z,53nm,1.0s
NVL N'lazarevskaya 56.73 157 eP P 21 10 16.8 +0.8
NVL pmax pmax
comp=Z,28nm,0.9s
ASCN Ascension 59.82 79 PFAKE 21 10 50.0 +12
ASCN LR LR
comp=Z,3μm,19.0s
SHEL Horse Pasture 62.68 91 PFAKE 21 11 10.0 +12
SHEL LR LR
comp=Z,2μm,19.0s
035A Encino 65.02 335 ⇓P P 21 11 14.4 +1.7
baz=65,SNR=5.1
034A Hebbronville 65.33 335 ⇓P P 21 11 16.2 +1.5
baz=66,SNR=6.2
TIGA Tifton 65.78 350 PFAKE 21 11 30.0 +12
TIGA LR LR
comp=Z,600nm,18.7s
BRAL Brewton 65.93 347 PFAKE 21 11 30.0 +11
BRAL LR LR
comp=Z,800nm,21.0s
933A Laredo 66.04 335 ⇓P P 21 11 20.4 +1.0
baz=66
SYO Syowa Base 66.25 159⇑eP P 21 11 19.0 -1.2
834A Tilden 66.26 336 ⇓P P 21 11 22.9 +2.1
baz=66,SNR=6.2
833A Chaparral WMA, 66.73 335 ⇑P P 21 11 24.8 +1.0
baz=67,SNR=18
832A Faith Ranch, C 66.91 334 ⇓P P 21 11 25.8 +1.0
baz=67,SNR=16
734A La Parita Cree 66.92 336 ⇓P P 21 11 26.7 +1.7
baz=67
636A Smothers Creek 67.02 337 ⇑P P 21 11 27.4 +1.9
baz=67,SNR=6.3
NHSC New Hope 67.03 354 PFAKE 21 11 40.0 +15
NHSC LR LR
comp=Z,500nm,19.0s
HKT Hockley 67.07 339 eP P 21 11 26.0 +0.2
HKT pmax pmax
comp=Z,66nm,2.1s
HKT Hockley 67.07 339 eP P 21 11 26.0 +0.2
comp=Z,66nm,2.1s
732A Laxson Ranch, 67.31 335 ⇑P P 21 11 28.3 +0.9
baz=68
537A Green Hill Far 67.34 338 ⇓P P 21 11 29.3 +1.8
baz=68
633A Saathoff Ranch 67.70 336 ⇓P P 21 11 30.5 +0.6
baz=68,SNR=8.2
GOGA Godfrey 67.70 351 PFAKE 21 11 40.0 +10
GOGA LR LR
comp=Z,800nm,22.0s
SACV Santiago Islan 67.76 53 PFAKE 21 11 40.0 +9.5
SACV LR LR
comp=Z,800nm,19.9s
VBMS Vicksburg 67.82 344 eP P 21 11 29.4 -1.1
comp=Z,41nm,0.7s
VBMS LR LR
comp=Z,1μm,20.0s
632A Uvalde 67.95 335 ⇑P P 21 11 32.6 +1.1
baz=68,SNR=13
534A Blanco 67.98 336 ⇓P P 21 11 32.4 +0.7
baz=68
631A Perdido Creek 68.15 334 ⇑P P 21 11 33.3 +0.6
baz=68,SNR=5.6
533A Kerrville 68.21 336 ⇑P P 21 11 33.9 +0.8
baz=68,SNR=8.0
NATX Nacogdoches 68.43 340 eP P 21 11 33.2 -1.2
comp=Z,52nm,0.9s
532A Rocksprings 68.56 335 ⇓P P 21 11 36.4 +1.1
baz=69,SNR=39
434A Burnet 68.64 337 ⇑P P 21 11 36.1 +0.3
baz=69,SNR=12
531A Rocksprings 68.82 335 ⇓P P 21 11 38.1 +1.2
baz=69,SNR=14
JCT Junction City 68.85 335 eP P 21 11 37.1 0.0
JCT pmax pmax
comp=Z,41nm,0.9s
JCT Junction City 68.85 335 eP P 21 11 37.1 0.0
comp=Z,41nm,0.9s
JCT Junction City 68.85 335 ⇓P P 21 11 37.7 +0.6
baz=69,SNR=12
433A Art 68.86 336 ⇓P P 21 11 37.1 0.0
baz=69,SNR=26
CNNC Cliffs of the 68.97 356 PFAKE 21 11 50.0 +12
CNNC LR LR
comp=Z,600nm,21.3s
530A J-C Ranch, Com 69.09 334 ⇓P P 21 11 39.6 +1.0
baz=69,SNR=21
KMSC Kings Mountain 69.16 353 eP P 21 11 38.7 -0.2
comp=Z,164nm,2.5s
KMSC LR LR
comp=Z,600nm,19.0s
432A Menard 69.21 336 ⇓P P 21 11 39.6 +0.3
baz=70,SNR=7.3
TXAR Lajitas Array 69.24 332 P P 21 11 40.2 +0.5
comp=Z,7.2nm,0.7s,baz=158,slow=8.7,SNR=69
LTX Lajitas 69.24 332 eP P 21 11 40.2 +0.5
LTX Lajitas 69.24 332 eP P 21 11 40.2 +0.5
TX31 Lajitas Ar. Si 69.24 332 eP P 21 11 40.0 +0.3
431A Sonora 69.31 335 ⇓P P 21 11 40.6 +0.6
baz=70
333A Richland Sprin 69.34 337 ⇑P P 21 11 40.3 +0.2
baz=70,SNR=12
529A Stev Forest Ra 69.39 333 ⇓P P 21 11 41.4 +0.8
baz=70,SNR=27
WHTX Lake Whitney 69.47 338 eP P 21 11 40.8 0.0
comp=Z,32nm,0.8s
WHTX Lake Whitney 69.47 338 ⇓P P 21 11 41.6 +0.7
baz=70,SNR=6.4
430A Baggett Ranch, 69.63 334 ⇓P P 21 11 42.5 +0.5
baz=70,SNR=9.6
332A Millersview 69.65 336 ⇓P P 21 11 42.3 +0.3
baz=70,SNR=8.9
234A Clairette 69.70 338 ⇑P P 21 11 42.4 +0.1
baz=70,SNR=8.4
429A Davenport Ranc 69.72 334 ⇑P P 21 11 43.5 +0.9
baz=70,SNR=10
OXF Oxford 69.79 346 eP P 21 11 42.2 -0.5
OXF pmax pmax
comp=Z,51nm,0.8s
OXF Oxford 69.79 346 eP P 21 11 42.2 -0.5
comp=Z,51nm,0.8s
331A San Angelo 69.82 335 ⇓P P 21 11 43.8 +0.7
baz=70,SNR=15
233A Rising Star 69.95 337 ⇑P P 21 11 44.6 +0.7
baz=70,SNR=9.3
TKL Tuckaleechee C 69.96 351 eP P 21 11 42.9 -0.9
TKL Tuckaleechee C 69.96 351 P P 21 11 43.1 -0.7
comp=Z,7.6nm,0.8s,baz=150,slow=7.4,SNR=8.5
TKL Tuckaleechee C 69.96 351 eP P 21 11 42.9 -0.9
232A Coleman 70.08 336 ⇑P P 21 11 44.9 +0.2
baz=70,SNR=9.8
330A Mertzon 70.17 335 ⇑P P 21 11 45.6 +0.3
baz=70,SNR=5.5
231A Bronte 70.35 336 ⇓P P 21 11 46.7 +0.3
baz=71,SNR=18
133A Hamilton Ranch 70.50 337 ⇑P P 21 11 47.5 +0.3
baz=71,SNR=8.0
329A Wagon Wheel Ra 70.53 334 ⇓P P 21 11 48.8 +1.3
baz=71,SNR=6.3
UALR University of 70.69 343 eP P 21 11 48.0 -0.2
comp=Z,28nm,1.3s
ABTX Abilene, Hawle 70.76 337 eP P 21 11 48.6 -0.1
comp=Z,33nm,0.8s
ABTX Abilene, Hawle 70.76 337 ⇓P P 21 11 49.4 +0.6
baz=71,SNR=11
MIAR Mount Ida 70.78 342 eP P 21 11 48.7 -0.1
MIAR pmax pmax
comp=Z,16nm,1.0s
MIAR Mount Ida 70.78 342 eP P 21 11 48.7 -0.1
comp=Z,16nm,1.0s
Z34A Collier Ranch, 70.89 338 ⇑P P 21 11 50.0 +0.5
baz=71
229A Bryant Ranch, 70.91 334 ⇓P P 21 11 50.0 +0.3
baz=71
131A Roby 71.05 336 ⇑P P 21 11 51.5 +0.9
baz=71,SNR=8.3
WVT Waverly 71.05 347 eP P 21 11 49.8 -0.6
WVT pmax pmax
comp=Z,61nm,0.9s
WVT Waverly 71.05 347 eP P 21 11 49.8 -0.6
comp=Z,61nm,0.9s
Z33A Whitaker Ranch 71.08 338 ⇑P P 21 11 51.5 +0.8
baz=71,SNR=9.1
130A Snyder 71.18 335 ⇑P P 21 11 51.8 +0.4
baz=72
228A UT Block 9, Go 71.32 334 ⇓P P 21 11 52.9 +0.6
baz=72,SNR=10
Z32A Haskell 71.33 337 ⇓P P 21 11 52.7 +0.5
baz=72,SNR=12
Y34A Reagan Ranch, 71.39 339 ⇓P P 21 11 53.3 +0.7
baz=72,SNR=6.3
129A Stewart Farms, 71.53 335 ⇓P P 21 11 54.0 +0.5
baz=72
Z31A Sharp Cattle R 71.56 336 ⇓P P 21 11 54.3 +0.7
baz=72,SNR=12
Y33A Hilltop Ranch, 71.70 338 ⇓P P 21 11 55.2 +0.7
baz=72
128A Castleberry Fa 71.74 334 ⇑P P 21 11 55.4 +0.6
baz=72,SNR=12
Z30A Sanderson Ranc 71.86 336 ⇓P P 21 11 55.9 +0.4
baz=72,SNR=12
Y32A R-V Farms, Ver 71.96 337 ⇓P P 21 11 56.4 +0.4
baz=72,SNR=6.0
X34A Smith Ranch, M 72.01 339 ⇑P P 21 11 56.8 +0.6
baz=72,SNR=6.1
MNTX Cornudas Mount 72.02 331 eP P 21 11 55.9 -0.5
comp=Z,13nm,0.9s
MNTX LR LR
comp=Z,600nm,18.0s
Z29A Hungry Hill Ra 72.04 335 ⇓P P 21 11 56.8 +0.2
baz=72,SNR=8.6
GDL2 Guadalupe Moun 72.06 333 eP P 21 11 56.9 +0.2
PBMO Poplar Bluff 72.19 346 eP P 21 11 56.8 -0.4
comp=Z,24nm,0.9s
PBMO LR LR
comp=Z,1μm,19.8s
Y31A Rekieta Farm, 72.19 337 ⇑P P 21 11 57.9 +0.5
baz=72,SNR=8.0
X32A Elmer 72.29 338 ⇑P P 21 11 58.6 +0.6
baz=73
Y30A Stafford Cattl 72.32 336 ⇓P P 21 11 59.0 +0.7
baz=73
BBTS Babate 72.38 58 P P 21 11 59.7 +0.9
comp=Z,34nm,0.8s,baz=243,slow=4.8,SNR=5.3
Y29A Porterfield Fa 72.57 335 ⇓P P 21 12 00.4 +0.6
baz=73,SNR=11
W34A Bridge Creek, 72.58 339 eP P 21 11 59.2 -0.4
comp=Z,37nm,1.2s
W34A Bridge Creek, 72.58 339 ⇑P P 21 12 00.1 +0.4
baz=73
Z27A Tatum 72.63 334 ⇓P P 21 12 00.6 +0.5
baz=73,SNR=7.4
TUL1 Tulsa 72.65 341 eP P 21 11 59.8 -0.3
comp=Z,39nm,0.8s
TUL1 Tulsa 72.65 341 ⇓P P 21 12 00.2 +0.1
baz=73,SNR=5.5
W33A Caddo, Fort Co 72.71 338 ⇓P P 21 12 01.6 +1.1
baz=73,SNR=14
USIN University of 72.81 348 eP P 21 12 00.4 -0.5
comp=Z,46nm,1.1s
Y28A McKinney Farm, 72.82 335 ⇑P P 21 12 01.9 +0.7
baz=73
SIUC Southern Illin 72.85 347 eP P 21 12 00.2 -0.9
comp=Z,21nm,0.8s
SIUC LR LR
comp=Z,702nm,21.3s
Z26A Caprock 72.87 333 ⇑P P 21 12 02.5 +0.9
baz=73,SNR=30
W32A Sentinel 72.93 338 ⇓P P 21 12 02.7 +1.0
baz=73,SNR=20
MSTX Muleshoe 73.06 335 eP P 21 12 02.9 +0.2
comp=Z,38nm,0.9s
MSTX LR LR
comp=Z,900nm,20.6s
MSTX Muleshoe 73.06 335 ⇓P P 21 12 03.3 +0.6
baz=73,SNR=12
V34A Guthrie 73.06 339 eP P 21 12 02.2 -0.3
comp=Z,25nm,0.9s
V34A Guthrie 73.06 339 ⇑P P 21 12 02.4 -0.1
baz=73
X29A Tulia 73.11 336 ⇓P P 21 12 03.7 +0.7
baz=73,SNR=8.2
Z25A Roswell 73.16 333 ⇓P P 21 12 04.4 +1.1
baz=73
W31A Holland Ranch, 73.20 337 ⇓P P 21 12 03.9 +0.5
baz=74
V33A Lossen Ranch, 73.28 339 ⇓P P 21 12 04.0 +0.2
baz=74,SNR=8.0
319A Douglas 73.36 328 ⇓P P 21 12 07.4 +2.8
baz=74
Y26A Elida 73.40 334 ⇑P P 21 12 05.7 +1.0
baz=74
V32A Arapaho 73.41 338 ⇑P P 21 12 05.5 +0.9
baz=74
Z24A Sheeppen Canyo 73.45 332 ⇓P P 21 12 06.5 +1.4
baz=74,SNR=6.2
AMTX Amarillo 73.50 336 eP P 21 12 05.5 +0.2
comp=Z,54nm,1.3s
AMTX Amarillo 73.50 336 ⇑P P 21 12 06.5 +1.2
baz=74
U34A Anderson Ranch 73.63 340 eP P 21 12 05.8 -0.1
comp=Z,28nm,0.9s
U34A Anderson Ranch 73.63 340 ⇑P P 21 12 06.2 +0.4
baz=74
W29A Amraillo 73.71 336 ⇑P P 21 12 07.2 +0.7
baz=74,SNR=5.4
V31A Spring Creek L 73.71 338 ⇑P P 21 12 08.2 +1.8
baz=74
Y25A Mesa, Roswell 73.72 333 ⇑P P 21 12 07.3 +0.7
baz=74
121A Cookes Peak, D 73.72 330 ⇓P P 21 12 08.9 +2.2
baz=74,SNR=7.4
SLM Saint Louis 73.94 346 eP P 21 12 07.1 -0.5
SLM pmax pmax
comp=Z,38nm,0.9s
SLM MLR MLR
comp=Z,800nm,20.4s
SLM Saint Louis 73.94 346 eP P 21 12 07.1 -0.5
comp=Z,38nm,0.9s
SLM LR LR
comp=Z,800nm,20.4s
X26A CR and CF Fran 73.95 334 ⇓P P 21 12 08.8 +0.9
baz=74,SNR=7.6
Y24A Capitan 74.00 332 ⇑P P 21 12 09.8 +1.5
baz=74,SNR=10.0
U32A Winter Ranch, 74.01 339 ⇑P P 21 12 08.7 +0.6
baz=74
Z22A Elephant Butte 74.02 331 ⇑P P 21 12 10.4 +2.0
baz=74,SNR=5.6
W27A Bowe Ranch, En 74.14 335 ⇑P P 21 12 10.0 +1.0
baz=74,SNR=9.2
X25A Clemmons Ranch 74.25 333 ⇓P P 21 12 10.5 +0.8
baz=74
Y23A Lovelace Mesa, 74.25 332 ⇑P P 21 12 11.6 +1.9
baz=74
ACSO Alum Creek Sta 74.37 352 eP P 21 12 09.3 -0.7
comp=Z,45nm,1.3s
W26A Owens Ranch, T 74.42 334 ⇑P P 21 12 12.2 +1.6
baz=75
V28A Channing 74.47 336 ⇑P P 21 12 11.9 +1.0
baz=75
U30A WK&E Inc. Balk 74.66 337 ⇓P P 21 12 13.5 +1.6
baz=75
V27A Dan Oppiter Fa 74.69 335 ⇑P P 21 12 13.0 +0.8

	baz=75						
W25A	X Bar L Ranch,	74.79	334	⇑P	P	21 12 13.8	+1.0
	baz=75,SNR=5.4						
LPM	Los Pinos Moun	74.81	332	eP	P	21 12 13.5	+0.5
TUC	Tucson	74.82	328	eP	P	21 12 13.3	+0.3
TUC				pmax	pmax		
	comp=Z,14nm,1.1s						
TUC	Tucson	74.82	328	eP	P	21 12 13.3	+0.3
	comp=Z,14nm,1.1s						
T31A	Randall Ranch,	74.88	338	⇑P	P	21 12 13.9	+0.8
	baz=75						
U28A	Mallet	75.04	336	⇑P	P	21 12 15.3	+1.1
	baz=75						
V26A	Tequesquite Ra	75.06	335	⇓P	P	21 12 15.3	+1.0
	baz=75,SNR=5.6						
LAZ	Ladron	75.09	331	eP	P	21 12 15.9	+1.3
W24A	Lazy 6 Ranch,	75.13	333	⇑P	P	21 12 15.8	+0.9
	baz=75,SNR=5.4						
U27A	Thompson Grove	75.29	336	⇑P	P	21 12 16.6	+1.0
	baz=76						
ANMO	Albuquerque	75.30	332	⇓eP	P	21 12 17.1	+1.3
ANMO				pmax	pmax		
	comp=Z,113nm,2.5s						
ANMO	Albuquerque	75.30	332	P	P	21 12 16.8	+1.0
	comp=Z,5.9nm,0.9s,baz=166,slow=7.6,SNR=13						
ANMO	Albuquerque	75.30	332	eP	P	21 12 15.5	-0.3
	comp=Z,14nm,1.1s						
ANMO				LR	LR		
	comp=Z,1μm,20.0s						
S31A	Mullinville	75.30	339	⇓P	P	21 12 16.1	+0.5
	baz=76						
W23A	Werner Place,	75.37	333	⇑P	P	21 12 18.3	+2.1
	baz=76						
V25A	Rancho No Teng	75.40	334	⇓P	P	21 12 17.7	+1.3
	baz=76,SNR=9.9						
T29A	Hugoton	75.44	337	⇑P	P	21 12 18.0	+1.5
	baz=76						
214A	Organ Pipe Nat	75.45	326	⇓P	P	21 12 18.5	+2.0
	baz=76						
V24A	Rampart Ranch,	75.54	333	⇓P	P	21 12 18.9	+1.7
	baz=76						
U26A	Atchley Ranch,	75.58	335	⇑P	P	21 12 18.4	+1.0
	baz=76						
S30A	Montezuma	75.62	338	⇑P	P	21 12 18.6	+1.1
	baz=76						
LIC	Lamto	75.64	72	eP	P	21 12 18.3	+0.2
	comp=Z,59nm,0.7s						
SUR	Sutherland	75.67	119	P	P	21 12 20.7	+2.4
	comp=Z,232nm,0.9s,SNR=6.8						
SUR	Sutherland	75.67	119	P	P	21 12 19.9	+1.6
	comp=Z,31nm,0.8s,baz=240,slow=4.9,SNR=13						
SUR	Sutherland	75.67	119	eP	P	21 12 19.0	+0.8
	comp=Z,36nm,0.9s						
T28A	Walsh	75.68	336	⇓P	P	21 12 18.6	+0.8
	baz=76,SNR=12						
S29A	Ulysses	75.81	337	⇑P	P	21 12 19.6	+1.0
	baz=76						
R32A	Long Quarter,	75.82	340	⇑P	P	21 12 18.8	+0.3
	baz=76						
U25A	Circle Dot Ran	75.82	334	⇑P	P	21 12 19.8	+1.0
	baz=76,SNR=6.6						
T27A	Campo	75.83	336	P	P	21 12 19.5	+0.8
	baz=76,SNR=11						
KSU1	Kansas State U	75.86	341	eP	P	21 12 18.2	-0.5
	comp=Z,12nm,0.9s						
KSU1	Kansas State U	75.86	341	⇑P	P	21 12 19.2	+0.5
	baz=76						
V23A	Ortiz Mt. (NFS	75.90	333	⇑P	P	21 12 21.1	+1.9
	baz=76						
TIC	Toumodi	75.90	72	eP	P	21 12 19.7	+0.1
	comp=Z,53nm,1.0s						
R31A	Burdett	75.93	339	⇑P	P	21 12 20.0	+0.8
	baz=76,SNR=5.3						
KIC	Kosan Boka	75.95	72	eP	P	21 12 20.3	+0.5
	comp=Z,125nm,1.0s						
S28A	Manter	76.03	337	⇓P	P	21 12 20.7	+0.8
	baz=76,SNR=8.7						
DBIC	Dimbokro	76.05	72	eP	P	21 12 19.3	-1.0
DBIC	Dimbokro	76.05	72	eP	P	21 12 20.2	-0.1
DBIC				pmax	pmax		
	comp=Z,30nm,0.7s						
DBIC	Dimbokro	76.05	72	P	P	21 12 20.9	+0.5
	comp=Z,27nm,0.6s,baz=208,slow=5.8,SNR=45						
DBIC	Dimbokro	76.05	72	eP	P	21 12 20.2	-0.1
	comp=Z,30nm,0.7s						
R30A	Dighton	76.16	338	⇓P	P	21 12 21.3	+0.8
	baz=76						
T26A	Comanche Natio	76.23	335	⇓P	P	21 12 22.4	+1.3
	baz=76,SNR=6.5						
Q32A	Meitler Ranch,	76.30	340	⇑P	P	21 12 22.1	+0.9
	baz=77						
TRY	Troy	76.31	360	eP	P	21 12 21.5	+0.4
	comp=Z,324nm,2.5s						
V22A	San Miguel Ran	76.32	332	⇑P	P	21 12 23.6	+1.9
	baz=77,SNR=18						
U23A	El Rito	76.42	333	⇓P	P	21 12 24.5	+2.3
	baz=77						
T25A	Trinidad	76.48	335	PFAKE		21 12 30.0	+7.4
T25A				LR	LR		
	comp=Z,600nm,20.0s						
T25A	Trinidad	76.48	335	⇑P	P	21 12 24.2	+1.6
	baz=77,SNR=17						
R29A	Marienthal	76.55	338	⇑P	P	21 12 22.4	-0.3
	baz=77						
Q31A	Ellis	76.56	339	⇓P	P	21 12 23.3	+0.6
	baz=77						
S26A	Kim	76.59	336	⇑P	P	21 12 24.6	+1.5
	baz=77,SNR=14						
R28A	Tribune	76.69	337	⇓P	P	21 12 24.4	+0.9
	baz=77,SNR=8.9						
U22A	Llaves	76.71	333	⇑P	P	21 12 26.3	+2.4
	baz=77,SNR=5.8						
T24B	San Luis	76.77	334	⇑P	P	21 12 25.9	+1.7
	baz=77,SNR=9.6						
W18A	Petrified Fore	76.77	330	eP	P	21 12 23.6	-0.5
	comp=Z,24nm,1.0s						
Q30A	Quinter	76.78	339	⇓P	P	21 12 24.9	+0.9
	baz=77,SNR=7.2						
P32A	Huiting Farm,	76.90	340	⇑P	P	21 12 25.1	+0.5
	baz=77						
Q29A	Oakley	76.93	338	⇑P	P	21 12 25.5	+0.7
	baz=77						
S25A	Robets Cordova	76.96	335	⇑P	P	21 12 26.5	+1.3
	baz=77,SNR=11						
R27A	Eads	76.96	336	⇓P	P	21 12 25.9	+0.7
	baz=77,SNR=9.5						
T23A	Casias Ranch,	76.98	334	⇓P	P	21 12 26.9	+1.4
	baz=77						
P31A	Stockton	77.03	339	⇓P	P	21 12 25.7	+0.4
	baz=77						
R26A	Arlington	77.19	336	⇑P	P	21 12 27.5	+1.1
	baz=78,SNR=8.2						
S24A	Houchin Ranch,	77.22	334	⇓P	P	21 12 28.6	+1.8
	baz=78,SNR=14						
GLA	Glamis	77.31	325	eP	P	21 12 25.1	-2.0
GLA				pmax	pmax		
	comp=Z,22nm,1.4s						
GLA	Glamis	77.31	325	eP	P	21 12 25.1	-2.0
	comp=Z,22nm,1.4s						
P30A	Selden	77.31	339	⇑P	P	21 12 27.5	+0.6
	baz=78						
R25A	Fountain Ranch	77.34	335	⇑P	P	21 12 29.0	+1.7
	baz=78						
Q28A	Sharon Springs	77.35	337	⇑P	P	21 12 28.0	+0.8
	baz=78						
SDCO	Great Sand Dun	77.42	334	eP	P	21 12 28.3	+0.4
	comp=Z,8.1nm,1.0s						
SDCO				LR	LR		
	comp=Z,700nm,20.0s						
S23A	Nye Farm, Mont	77.56	334	⇓P	P	21 12 30.6	+2.0
	baz=78						
KSCO	Kaye Shedlock'	77.56	337	eP	P	21 12 28.8	+0.3
	comp=Z,30nm,1.0s						
KSCO				LR	LR		
	comp=Z,600nm,19.1s						
P29A	Atwood	77.57	338	⇑P	P	21 12 29.8	+1.4
	baz=78,SNR=6.5						
MDV	Middlebury	77.58	360	eP	P	21 12 27.1	-1.1
SCIA	State Center	77.70	345	eP	P	21 12 28.5	-0.5
	comp=Z,68nm,1.4s						
R24A	Sanders Place,	77.71	335	⇓P	P	21 12 31.2	+1.8
	baz=78,SNR=15						
Q26A	Hugo	77.78	336	⇓P	P	21 12 31.1	+1.4
	baz=78						
P28A	Saint Francis	77.80	338	⇓P	P	21 12 30.2	+0.4
	baz=78						
O30A	MW Ranch, Wils	77.83	339	⇓P	P	21 12 31.0	+1.2
	baz=78						

S22A	4UR Ranch, Cre	77.90	333	PFAKE		21 12 40.0	+9.4
S22A				LR	LR		
	comp=Z,700nm,18.0s						
S22A	4UR Ranch, Cre	77.90	333	⇓P	P	21 12 31.7	+1.1
	baz=78						
R23A	Moffat	77.93	334	⇓P	P	21 12 32.3	+1.5
	baz=78						
Q25A	Bedland, Calha	78.02	336	⇑P	P	21 12 32.4	+1.3
	baz=78						
P27A	Ficken Ranch,	78.04	337	⇓P	P	21 12 32.4	+1.3
	baz=78						
MVCO	Mesa Verde	78.08	332	eP	P	21 12 31.6	+0.1
	comp=Z,14nm,0.8s						
MVCO				LR	LR		
	comp=Z,800nm,19.0s						
MVCO	Mesa Verde	78.08	332	⇓P	P	21 12 32.9	+1.4
	baz=78,SNR=6.7						
JFWS	Jewell Farm	78.08	347	eP	P	21 12 30.3	-0.8
JFWS				pmax	pmax		
	comp=Z,105nm,1.9s						
JFWS	Jewell Farm	78.08	347	eP	P	21 12 30.3	-0.8
	comp=Z,104nm,1.9s						
WVL	Waterville	78.21	3	PFAKE		21 12 40.0	+8.3
WVL				LR	LR		
	comp=Z,2μm,20.0s						
P26A	Davis Ranch, A	78.30	337	⇑P	P	21 12 33.9	+1.3
	baz=79						
O28A	Krutsinger Ran	78.31	338	⇓P	P	21 12 33.6	+1.1
	baz=79						
Q24A	Divide	78.38	335	PFAKE		21 12 40.0	+6.8
Q24A				LR	LR		
	comp=Z,700nm,18.0s						
Q24A	Divide	78.38	335	⇓P	P	21 12 34.7	+1.5
	baz=79,SNR=6.1						
FRNY	Flat Rock	78.42	360	PFAKE		21 12 40.0	+7.1
FRNY				LR	LR		
	comp=Z,1μm,20.2s						
BGNE	Belgrade	78.44	341	eP	P	21 12 32.7	-0.4
	comp=Z,22nm,0.7s						
P25A	Willow Gulch B	78.53	336	⇑P	P	21 12 35.5	+1.6
	baz=79,SNR=9.9						
PFO	Pinyon Flat Ob	78.54	324	eP	P	21 12 35.9	+1.9
PFO				pmax	pmax		
	comp=Z,15nm,1.0s						
PFO	Pinyon Flat Ob	78.54	324	P	P	21 12 35.9	+1.9
	comp=Z,6.1nm,0.9s,baz=129,slow=7.0,SNR=3.9						
PFO				LR	LR	21 41 29.4	
	comp=Z,654nm,19.8s,baz=20,slow=31						
PFO	Pinyon Flat Ob	78.54	324	eP	P	21 12 35.9	+1.9
	comp=Z,15nm,1.0s						
O27A	Beecher Island	78.59	338	⇑P	P	21 12 35.6	+1.5
	baz=79,SNR=6.1						
O26A	Horse Wrangler	78.90	337	⇓P	P	21 12 37.7	+1.9
	baz=79						
PV01	Paradox Valley	78.91	332	eP	P	21 12 35.9	-0.1
U15A	North Rim	78.97	329	⇓P	P	21 12 38.4	+1.9
	baz=79						
P23A	Jefferson	78.98	335	⇓P	P	21 12 38.5	+1.9
	baz=79						
O25A	Wiggins	79.05	336	⇓P	P	21 12 38.9	+2.2
	baz=79						
PV05	Paradox Valley	79.06	332	eP	P	21 12 36.2	-0.7
LDFC	Landfair	79.10	326	eP	P	21 12 36.2	-0.9
	comp=Z,13nm,0.4s						
N27A	Anderson Farm,	79.17	338	⇓P	P	21 12 39.0	+1.8
	baz=80,SNR=5.9						
SMCO	Snowmass	79.22	334	eP	P	21 12 37.0	-1.0
	comp=Z,18nm,1.0s						
PV04	Paradox Valley	79.26	332	eP	P	21 12 36.5	-1.4
ISCO	Idaho Springs	79.28	335	eP	P	21 12 38.0	-0.2
ISCO				pmax	pmax		
	comp=Z,48nm,2.0s						
ISCO				MLR	MLR		
	comp=Z,900nm,19.0s						
ISCO	Idaho Springs	79.28	335	eP	P	21 12 38.0	-0.2
	comp=Z,48nm,2.0s						
ISCO				LR	LR		
	comp=Z,900nm,19.0s						
ISCO	Idaho Springs	79.28	335	⇑P	P	21 12 39.4	+1.3
	baz=80,SNR=5.2						
PV10	Paradox Valley	79.30	332	eP	P	21 12 38.4	+0.2
N26A	Koester Ranch,	79.40	337	⇑P	P	21 12 40.2	+1.7
	baz=80						
PV09	Paradox Valley	79.44	332	eP	P	21 12 40.0	+0.9
P22A	Eagle	79.51	334	⇓P	P	21 12 41.4	+2.1
	baz=80						
KNB	Kanab	79.69	329	eP	P	21 12 40.9	+0.6
KNB				pmax	pmax		
	comp=Z,23nm,0.9s						
KNB	Kanab	79.69	329	eP	P	21 12 40.9	+0.6
	comp=Z,23nm,0.9s						
O23A	Lake Granby, G	79.75	335	⇑P	P	21 12 42.2	+1.5
	baz=80,SNR=8.9						
O22A	Kremmling	79.93	335	⇓P	P	21 12 43.4	+1.7
	baz=80,SNR=10						
N24A	Carr	79.95	336	⇑P	P	21 12 43.7	+2.1
	baz=80						
HVD	Gariep Dam	80.00	120	eP	P	21 12 42.8	+0.5
HVD				AMB	AMB	21 12 52.2	
	comp=Z,41nm,3.1s						
CASY	Casey	80.05	182	eP	P	21 12 42.5	+0.8
	comp=Z,18nm,1.0s						
TSUM	Tsumeb	80.12	106	P	P	21 12 44.1	+1.0
	comp=Z,19nm,1.1s,baz=226,slow=11,SNR=18						
TSUM	Tsumeb	80.12	106	eP	P	21 12 43.7	+0.6
	comp=Z,43nm,1.4s						
ECSD	EROS Data Cent	80.22	343	eP	P	21 12 42.3	-0.5
	comp=Z,27nm,1.1s						
ECSD	EROS Data Cent	80.22	343	⇑P	P	21 12 42.7	-0.1
	baz=80,SNR=8.2						
SHPR	Sheep Range	80.30	327	eP	P	21 12 44.6	+1.0
CCUT	Cedar City	80.37	329	eP	P	21 12 45.5	+1.4
	comp=Z,15nm,0.9s						
PQI	Presque Isle	80.39	4	PFAKE		21 12 50.0	+6.5
PQI				LR	LR		
	comp=Z,2μm,19.4s						
N22A	Wattenberg Ran	80.47	335	⇓P	P	21 12 46.6	+2.0
	baz=81,SNR=7.1						
SRU	San Rafael	80.52	331	eP	P	21 12 44.6	-0.1
SRU				pmax	pmax		
	comp=Z,14nm,1.0s						
SRU	San Rafael	80.52	331	eP	P	21 12 44.6	-0.1
	comp=Z,14nm,1.0s						
O20A	White River Ci	80.53	333	eP	P	21 12 45.0	+0.2
	comp=Z,16nm,0.9s						
O20A	White River Ci	80.53	333	⇑P	P	21 12 46.8	+2.0
	baz=81						
PHWY	Pilot Hill	80.57	336	eP	P	21 12 44.2	-0.9
	comp=Z,30nm,1.4s						
ARUT	Antelope Range	80.61	329	eP	P	21 12 46.0	+0.8
ARUT	Antelope Range	80.61	329	eP	P	21 12 46.0	+0.8
MVU	Marysvale	80.69	330	eP	P	21 12 46.3	+0.6
	comp=Z,10nm,1.0s						
SPMN	St. Paul	80.80	346	eP	P	21 12 44.8	-1.0
	comp=Z,17nm,1.0s						
SPMN	St. Paul	80.80	346	⇓P	P	21 12 45.2	-0.6
	baz=81						
J29A	Okreek	80.89	340	⇓P	P	21 12 46.9	+0.5
	baz=81,SNR=6.0						
BOSA	Boshof	80.92	118	eP	P	21 12 47.0	-0.3
BOSA				AMB	AMB	21 12 55.5	
	comp=Z,54nm,3.9s						
BOSA	Boshof	80.92	118	eP	P	21 12 47.4	+0.1
BOSA				pmax	pmax		
	comp=Z,44nm,1.1s						
BOSA	Boshof	80.92	118	P	P	21 12 47.7	+0.4
	comp=Z,20nm,0.9s,baz=221,slow=5.8,SNR=16						
BOSA				LR	LR	21 47 32.1	
	comp=Z,232nm,18.1s,baz=338,slow=35						
BOSA	Boshof	80.92	118	eP	P	21 12 47.4	+0.1
	comp=Z,44nm,1.1s						
TMUT	Trail Mountain	80.95	331	eP	P	21 12 46.3	-0.9
	comp=Z,8.9nm,0.9s						
N20A	Spence Gulch,	81.14	334	⇑P	P	21 12 50.4	+2.3
	baz=81						
J28A	Allard Ranch,	81.16	340	⇑P	P	21 12 48.7	+0.8
	baz=82						
ISA	Isabella	81.18	324	eP	P	21 12 46.8	-1.4
ISA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ISA	Isabella	81.18	324	eP	P	21 12 46.8	-1.4
	comp=Z,9.0nm,1.0s						
I28A	Midland	81.67	340	⇑P	P	21 12 51.4	+0.9
	baz=82						
MPU	Maple Canyon	81.73	331	eP	P	21 12 51.4	+0.2
	comp=Z,16nm,1.0s						
SWZ	Schweizer	81.76	117	eP	P	21 12 50.2	-1.6

SWZ				AMB	AMB	21 13 00.1	
	comp=Z,31nm,4.5s						
NLU	North Lily Min	81.86	331	eP	P	21 12 52.4	+0.5
	comp=Z,22nm,1.4s						
H29A	Onida	81.98	341	⇑P	P	21 12 52.1	0.0
	baz=82,SNR=5.7						
R11A	Troy Canyon, C	82.01	328	eP	P	21 12 53.2	+0.5
	comp=Z,9.9nm,1.0s						
JLU	Jordanelle	82.16	332	eP	P	21 12 53.8	+0.3
	comp=Z,67nm,2.0s						
G30A	Faulkton	82.17	342	⇑P	P	21 12 53.7	+0.6
	baz=82						
CTU	Camp Tracy	82.36	331	eP	P	21 12 54.6	+0.2
	comp=Z,7.2nm,0.9s						
DUG	Dugway	82.36	330	eP	P	21 12 54.8	+0.3
DUG				pmax	pmax		
	comp=Z,47nm,1.5s						
DUG	Dugway	82.36	330	eP	P	21 12 54.8	+0.3
	comp=Z,47nm,1.5s						
K21A	Alcova	82.36	335	⇓P	P	21 12 55.5	+1.1
	baz=83						
G29A	Hoven	82.43	341	⇑P	P	21 12 54.3	-0.2
	baz=83						
KHZ	Kahutara	82.52	223	eP	P	21 12 56.0	+0.7
	comp=Z,549nm,2.6s						
RUDU	RUNDU	82.52	106	eP	P	21 12 55.5	-0.4
RUDU				AMB	AMB	21 13 01.7	
	comp=Z,41nm,1.5s						
TPH	Tonopah	82.53	326	eP	P	21 12 55.4	0.0
TPH				pmax	pmax		
	comp=Z,14nm,1.1s						
TPH	Tonopah	82.53	326	eP	P	21 12 55.4	0.0
	comp=Z,14nm,1.1s						
SNZO	South Karori	82.55	225	PFAKE		21 13 10.0	+15
SNZO				LR	LR		
	comp=Z,1μm,20.4s						
TCUT	Toone Canyon	82.58	332	eP	P	21 12 55.8	+0.1
	comp=Z,14nm,0.8s						
F30A	Leola	82.79	342	⇓P	P	21 12 56.5	+0.2
	baz=83,SNR=6.2						
SEK	Senekal	82.81	119	eP	P	21 12 57.2	-0.1
SEK				AMB	AMB	21 13 21.9	
	comp=Z,46nm,2.6s						
BKZ	Black Stump Fm	82.82	227	PFAKE		21 13 10.0	+13
BKZ				LR	LR		
	comp=Z,900nm,22.0s						
URZ	Urewera	83.00	228	eP	P	21 12 58.7	+0.9
	comp=Z,68nm,1.8s						
HWUT	Hardware Ranch	83.06	332	eP	P	21 12 57.7	-0.4
	comp=Z,24nm,1.1s						
BGU	Big Grassy Mou	83.07	331	eP	P	21 12 59.0	+0.9
	comp=Z,4.5nm,1.0s						
RPZ	Rata Peaks	83.07	221	eP	P	21 12 59.2	+1.1
	comp=Z,672nm,2.7s						
SPUT	South Promonto	83.16	331	eP	P	21 12 58.6	+0.1
	comp=Z,27nm,1.1s						
SPUT				LR	LR		
	comp=Z,800nm,18.3s						
LBTB	Lobatse	83.17	115	eP	P	21 12 59.0	-0.1
LBTB				AMB	AMB	21 13 00.1	
	comp=Z,49nm,1.1s						
LBTB	Lobatse	83.17	115	eP	P	21 12 59.8	+0.7
LBTB				pmax	pmax		
	comp=Z,47nm,1.0s						
LBTB	Lobatse	83.17	115	eP	P	21 12 59.8	+0.7
	comp=Z,47nm,1.0s						
WHZ	Wether Hill Ro	83.26	218	eP	P	21 12 59.4	+0.3
	comp=Z,833nm,2.8s						
J20A	Shoshoni	83.29	335	⇑P	P	21 13 01.1	+2.0
	baz=84						
NV01	Mina Array Sit	83.32	326	eP	P	21 12 59.8	+0.3
NVAR	Mina Array Bea	83.32	326	P	P	21 13 00.7	+1.2
	comp=Z,1.5nm,0.7s,baz=154,slow=6.0,SNR=9.4						
H24A	Dirks Ranch, A	83.36	338	⇓P	P	21 13 01.0	+1.5
	baz=84						
E30A	Jud	83.38	342	⇑P	P	21 12 59.7	+0.3
	baz=84,SNR=5.6						
PRYS	Parys	83.40	118	eP	P	21 12 56.1	-4.3
PRYS				AMB	AMB	21 12 58.1	
	comp=Z,18nm,3.1s						
G25A	Newell	83.42	339	⇓P	P	21 13 00.5	+0.8
	baz=84						
J19A	Crowheart	83.55	334	⇑P	P	21 13 01.5	+1.0
	baz=84,SNR=6.0						
F27A	Lemmon	83.63	340	⇑P	P	21 13 00.6	-0.2
	baz=84						
HVU	Hansel Valley	83.69	331	eP	P	21 13 01.8	+0.6
HVU				pmax	pmax		
	comp=Z,16nm,0.8s						
HVU	Hansel Valley	83.69	331	eP	P	21 13 01.8	+0.6
	comp=Z,16nm,0.8s						
F26A	Lodgepole	83.80	340	⇑P	P	21 13 02.3	+0.7
	baz=84						
ELK	Elko	83.84	329	eP	P	21 13 02.4	+0.2
ELK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ELK	Elko	83.84	329	P	P	21 13 03.0	+0.8
	comp=Z,6.1nm,0.9s,baz=173,slow=1.3,SNR=18						
ELK	Elko	83.84	329	eP	P	21 13 02.4	+0.2
	comp=Z,8.2nm,0.9s						
AHID	Auburn Hatcher	83.88	333	eP	P	21 13 00.9	-1.3
	comp=Z,9.8nm,0.7s						
D30A	Buchanan	83.91	343	⇓P	P	21 13 02.7	+0.6
	baz=84,SNR=5.3						
D29A	Pettibone, Tap	84.08	342	⇑P	P	21 13 03.0	+0.1
	baz=84,SNR=6.3						
REDW	Red Top Meadow	84.30	333	eP	P	21 13 04.4	0.0
	comp=Z,20nm,1.4s						
AGMN	Agassiz Nation	84.36	345	eP	P	21 13 03.8	-0.5
	comp=Z,12nm,0.9s						
AGMN				LR	LR		
	comp=Z,700nm,19.0s						
AGMN	Agassiz Nation	84.36	345	⇓P	P	21 13 04.7	+0.4
	baz=85						
C30A	Mose, Pekin	84.40	343	⇑P	P	21 13 05.3	+0.7
	baz=85,SNR=22						
BMN	Battle Mountai	84.44	328	PFAKE		21 13 20.0	+15
BMN				LR	LR		
	comp=Z,800nm,19.0s						
D28A	Regan	84.45	342	⇑P	P	21 13 05.4	+0.6
	baz=85,SNR=6.5						
FXWY	Fox Creek	84.60	333	eP	P	21 13 03.8	-2.2
	comp=Z,127nm,3.0s						
I17A	Pilgrim Ck.	84.67	334	⇑P	P	21 13 07.4	+1.1
	baz=85						
H19A	Powell	84.75	335	⇓P	P	21 13 08.4	+1.9
	baz=85						
IMW	Indian Meadow	84.79	334	PFAKE		21 13 20.0	+13
IMW				LR	LR		
	comp=Z,500nm,18.3s						
D26A	Manning	84.81	340	⇑P	P	21 13 07.5	+0.9
	baz=85						
F22A	Rosebud	84.82	337	⇓P	P	21 13 07.9	+1.1
	baz=85						
FLWY	Flagg Ranch	84.86	334	eP	P	21 13 08.1	+0.9
	comp=Z,14nm,0.9s						
G20A	Bridger	84.97	336	⇓P	P	21 13 08.6	+1.0
	baz=85						
H18A	Shoshone NF, C	85.00	335	⇑P	P	21 13 08.7	+0.7
	baz=85						
B30A	Myrvik Farm, E	85.06	343	⇑P	P	21 13 08.2	+0.3
	baz=85,SNR=27						
TOA0	Torodi Ar. Sit	85.07	71	eP	P	21 13 08.8	+0.2
TOA0				ePP	PP	21 16 26.2	-0.1
TOA0				ePKiKP	PKiKP	21 18 15.3	-5.3
TORD	Torodi Ar. Bea	85.07	71	P	P	21 13 08.8	+0.2
	comp=Z,17nm,0.8s,baz=258,slow=4.0,SNR=90						
TORD				PP	PP	21 16 26.2	-0.1
	comp=Z,1.5nm,0.9s,baz=249,slow=5.4,SNR=4.7						
F21A	Absaloka Mine,	85.14	337	⇓P	P	21 13 09.6	+1.2
	baz=85						
D25A	Fairfield	85.17	340	⇓P	P	21 13 09.9	+1.4
	baz=86						
C27A	Sayler Ranch,	85.18	341	⇑P	P	21 13 09.6	+1.1
	baz=86						
RLMT	Red Lodge	85.25	335	eP	P	21 13 09.9	+0.8
	comp=Z,13nm,1.1s						
B29A	Wagenman Farm,	85.32	343	⇓P	P	21 13 09.7	+0.5
	baz=86,SNR=8.5						
D24A	Glendive	85.43	339	⇑P	P	21 13 10.8	+1.1
	baz=86						
C26A	Wahner Farm, P	85.44	341	⇓P	P	21 13 11.0	+1.2
	baz=86						
YMR	Madison River	85.46	334	eP	P	21 13 10.7	+0.5
	comp=Z,23nm,1.2s						
A30A	Hoffart Farm,	85.51	344	⇓P	P	21 13 09.9	-0.2
	baz=86,SNR=7.8						

B28A Dugan Ranch, T 85.56 342 ⇓P P 21 13 11.5 +1.2
baz=86,SNR=6.9
LAO LASA Array 85.62 338 eP P 21 13 09.7 -1.1
comp=Z,19nm,1.1s
A29A Manning Farm, 85.72 343 ⇓P P 21 13 11.8 +0.7
baz=86,SNR=11
D23A Lindsay 85.74 339 ⇓P P 21 13 12.2 +0.9
baz=86,SNR=9.1
E21A Keefer Ranch, 85.76 337 ⇑P P 21 13 12.9 +1.5
baz=86
QLMT Earthquake Lak 85.77 334 eP P 21 13 10.6 -1.2
C24A Savage 85.83 339 ⇑P P 21 13 12.8 +1.1
baz=86,SNR=9.3
HLID Hailey 85.84 331 eP P 21 13 12.7 +0.6
comp=Z,22nm,1.4s
HLID Hailey 85.84 331 ⇓P P 21 13 14.3 +2.2
baz=86
D22A Cohagen 86.02 338 ⇑P P 21 13 13.9 +1.2
baz=86
E20A Meyer Farm, Mu 86.07 337 ⇑P P 21 13 13.8 +0.8
baz=86,SNR=12
B25A Knox Farm, Ray 86.14 340 ⇑P P 21 13 15.2 +2.0
baz=86
ULM Lac du Bonnet 86.21 346 eP P 21 13 12.6 -0.9
ULM Lac du Bonnet 86.21 346 P P 21 13 13.2 -0.3
comp=Z,12nm,1.0s,baz=176,slow=4.8,SNR=11
ULM Lac du Bonnet 86.21 346 eP P 21 13 12.6 -0.9
ULM epP PcP 21 13 12.8 -3.2
E19A Rath Farm, Rou 86.25 336 ⇓P P 21 13 15.0 +1.1
baz=87,SNR=9.2
MFID Camas Ranch 86.29 330 eP P 21 13 13.5 -0.8
comp=Z,16nm,1.3s
MFID LR LR
comp=Z,600nm,19.0s
MCMT McKenzie Canyo 86.30 333 eP P 21 13 13.4 -1.0
C23A Lambert 86.30 339 ⇓P P 21 13 14.5 +0.4
baz=87,SNR=6.4
A26A Wade Farm, Ken 86.41 341 ⇓P P 21 13 15.3 +0.8
baz=87
BOZ Bozeman (W) 86.54 334 eP P 21 13 14.3 -1.2
BOZ pmax pmax
comp=Z,8.0nm,1.1s
BOZ Bozeman (W) 86.54 334 eP P 21 13 14.2 -1.2
comp=Z,7.6nm,1.1s
D20A Manuel Ranch, 86.59 337 ⇑P P 21 13 16.5 +1.0
baz=87
DGMT Dagmar 86.61 340 eP P 21 13 15.5 0.0
comp=Z,54nm,1.0s
DGMT Dagmar 86.61 340 ⇓P P 21 13 16.8 +1.2
baz=87
DLMT Dillon 86.65 333 eP P 21 13 15.6 -0.4
comp=Z,20nm,1.2s
WVOR Wild Horse Val 86.69 328 eP P 21 13 16.4 +0.2
WVOR pmax pmax
comp=Z,79nm,2.5s
WVOR Wild Horse Val 86.69 328 eP P 21 13 16.4 +0.2
comp=Z,79nm,2.5s
A25A Svangstu Ranch 86.73 341 ⇑P P 21 13 17.0 +0.9
baz=87
C21A Desert Coulee 86.91 338 ⇑P P 21 13 17.3 +0.3
baz=87
A24A Westby 86.97 340 ⇓P P 21 13 18.3 +1.0
baz=87,SNR=5.6
LRM Limekiln Ridge 86.99 334 eP P 21 13 17.2 -0.5
MOD Modoc 87.01 327 eP P 21 13 18.6 +0.7
comp=Z,16nm,0.9s
WDC Whiskeytown Da 87.02 325 eP P 21 13 17.7 0.0
WDC pmax pmax
comp=Z,18nm,1.1s
WDC Whiskeytown Da 87.02 325 eP P 21 13 17.7 0.0
comp=Z,18nm,1.1s
OUZ Omahuta 87.10 229 PFAKE 21 13 30.0 +12
OUZ LR LR
comp=Z,5µm,20.0s
A23A Redstone 87.25 340 ⇑P P 21 13 19.6 +0.9
baz=88
B21A Ellsworth Farm 87.41 338 ⇓P P 21 13 20.3 +0.9
baz=88,SNR=5.5
C19A Slack Wire Ran 87.45 337 ⇑P P 21 13 21.0 +1.3
baz=88
A22A Carney Farms, 87.58 339 ⇑P P 21 13 20.6 +0.3
baz=88,SNR=10
B20A Solberg Farm, 87.74 338 ⇓P P 21 13 21.5 +0.5
baz=88,SNR=6.6
A21A Bergtoll Ranch 87.89 339 ⇓P P 21 13 22.6 +0.9
baz=88
K05A Summer Lake 87.93 327 eP P 21 13 23.6 +1.3
comp=Z,31nm,0.9s
EGMT Eagleton 87.94 336 eP P 21 13 21.7 -0.3
comp=Z,13nm,1.0s
EGMT Eagleton 87.94 336 ⇑P P 21 13 23.1 +1.1
baz=88
YBH Yreka Blue Hor 87.99 325 eP P 21 13 22.3 -0.2
YBH pmax pmax
comp=Z,191nm,2.8s
YBH Yreka Blue Hor 87.99 325 P P 21 13 22.6 +0.1
comp=Z,6.0nm,0.8s,baz=85,slow=4.2,SNR=12
YBH Yreka Blue Hor 87.99 325 eP P 21 13 22.3 -0.2
comp=Z,191nm,2.8s
MSNA Messina 88.02 116 eP P 21 13 24.0 +0.8
MSNA AMB AMB 21 13 42.1
comp=Z,26nm,3.3s
B19A Brinkman Farms 88.05 337 ⇓P P 21 13 23.6 +1.1
baz=88
BMO Blue Mountains 88.08 330 eP P 21 13 23.5 +0.7
comp=Z,8.6nm,1.2s
BMO LR LR
comp=Z,800nm,22.0s
A20A Cobblestone Ra 88.09 338 ⇑P P 21 13 23.5 +0.7
baz=88,SNR=7.6
CHMT Chamberlain Mo 88.21 334 eP P 21 13 24.1 +0.5
I07A Izee 88.39 329 eP P 21 13 25.1 +0.8
comp=Z,12nm,1.0s
A19A Klindworth Far 88.40 337 ⇑P P 21 13 24.9 +0.7
baz=89
SLMT Seeley Lake 88.58 334 eP P 21 13 24.1 -1.1
SCHQ Schefferville 88.59 4 P P 21 13 24.7 -0.2
comp=Z,6.0nm,1.0s,baz=203,slow=6.8,SNR=6.2
SCHQ Schefferville 88.59 4 eP P 21 13 24.3 -0.6
comp=Z,48nm,1.5s
PINOR Pine Mountain 88.77 328 eP P 21 13 26.4 +0.4
comp=Z,194nm,2.7s
F10A Beach Ranch, E 88.96 331 eP P 21 13 27.2 +0.3
comp=Z,125nm,2.8s
SWMT Swartz Lake 88.99 334 eP P 21 13 27.4 +0.3
G08A Pilot Rock 89.12 330 eP P 21 13 27.0 -0.7
comp=Z,75nm,2.6s
JTMT Jette 89.29 334 eP P 21 13 28.3 -0.2
AFI Afiamalu 89.32 254 PFAKE 21 13 40.0 +11
AFI LR LR
comp=Z,2µm,18.0s
BLMT Blacktail Moun 89.54 334 eP P 21 13 29.8 0.0
BSMT Bassoo Peak 89.56 333 eP P 21 13 29.8 -0.1
E09A Wood Farm, Sta 89.77 331 PFAKE 21 13 40.0 +9.4
E09A LR LR
comp=Z,500nm,18.8s
G06A Carlson Farm, 89.79 329 eP P 21 13 30.1 -0.7
comp=Z,207nm,2.8s
WALA Waterton Lakes 90.26 335 eP P 21 13 32.6 -0.4
comp=Z,189nm,2.8s
LSZ Lusaka 90.70 109 eP P 21 13 37.0 +1.0
LSZ pmax pmax
comp=Z,16nm,1.3s
LSZ MLR MLR
comp=Z,300nm,21.4s
LSZ Lusaka 90.70 109 eP P 21 13 37.0 +1.0
comp=Z,16nm,1.3s
LSZ LR LR
comp=Z,300nm,21.4s
NEW Newport 90.79 332 eP P 21 13 34.6 -0.8
NEW pmax pmax
comp=Z,12nm,1.4s
NEW Newport 90.79 332 P P 21 13 35.5 +0.1
comp=Z,0.6nm,0.3s,baz=288,slow=2.0,SNR=4.0
NEW Newport 90.79 332 eP P 21 13 34.6 -0.8
comp=Z,12nm,1.4s
F04A Amboy 91.12 328 PFAKE 21 13 50.0 +13
F04A LR LR
comp=Z,500nm,21.4s
LTY Liberty 91.41 330 PFAKE 21 13 50.0 +12
LTY LR LR
comp=Z,400nm,18.1s
F03A Seaside 91.62 327 PFAKE 21 13 50.0 +11
F03A LR LR
comp=Z,1µm,20.8s
E03A Lebam 92.09 328 PFAKE 21 13 50.0 +8.6
E03A LR LR
comp=Z,800nm,18.0s
B06A Marblemount 92.74 330 PFAKE 21 14 00.0 +16
B06A LR LR
comp=Z,500nm,18.8s
NLWA Neilton Lookou 92.88 328 PFAKE 21 14 00.0 +15
NLWA LR LR
comp=Z,900nm,20.0s
EDM Edmonton 93.57 337 eP P 21 13 46.2 -1.9
EDM pmax pmax
comp=Z,14nm,1.0s
EDM Edmonton 93.57 337 eP P 21 13 46.2 -1.9
comp=Z,14nm,1.0s
FCC Fort Churchill 94.00 349 eP P 21 13 49.5 -0.3
FCC pmax pmax
comp=Z,8.0nm,0.9s
FCC Fort Churchill 94.00 349 eP P 21 13 49.5 -0.3
comp=Z,8.1nm,0.9s
YKA Yellowknife Ar 101.72 342 P Pdif 21 14 23.8 -0.7
comp=Z,1.8nm,1.1s,baz=141,slow=4.4,SNR=14
YKA PP PKiKP 21 18 41.9 -5.8
comp=Z,0.4nm,0.8s,baz=142,slow=7.9,SNR=4.0
ABPO Ambohimpanom 102.58 123 PFAKE 21 14 40.0 +10
ABPO LR LR
comp=Z,300nm,21.0s
BNI Bardonecchia 106.75 47 PFAKE 21 19 10.0
BNI LR LR
comp=Z,400nm,21.0s
MEM Membach 109.20 42 PFAKE 21 19 10.0
MEM LR LR
comp=Z,577µm,18.0s
DIV Divide 111.44 330 PFAKE 21 19 20.0
DIV LR LR
comp=Z,700nm,19.7s
DOT Dot Lake 112.09 333 PFAKE 21 19 20.0
DOT LR LR
comp=Z,1µm,19.2s
PAX Paxson 112.28 332 PFAKE 21 19 20.0
PAX LR LR
comp=Z,500nm,20.3s
GEC2 GERESS Array S 112.78 46 ePKiKP PKiKP 21 19 08.2 -0.7
GEC2 GERESS Array S 112.78 46 ePKiKP PKiKP 21 19 08.2 -0.7
GERES GERESS Array B 112.78 46 PKiKP PKiKP 21 19 08.2 -0.7
comp=Z,1.7nm,0.8s,baz=243,slow=1.2,SNR=10
SML Sawmill 112.84 330 PFAKE 21 19 20.0
SML LR LR
comp=Z,200nm,21.9s
PMR Palmer 113.07 330 PFAKE 21 19 20.0
PMR LR LR
comp=Z,700nm,21.0s
CLL Collm 113.44 43 ePKiKP PKiKP 21 19 09.0 -0.9
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 113.44 43 ePKiKP PKiKP 21 19 09.0 -0.9
comp=Z,7.0nm,1.2s
CLL Collm 113.44 43 PFAKE 21 19 20.0
CLL LR LR
comp=Z,300nm,21.0s
HNR Honiara 113.69 240 PFAKE 21 19 20.0
HNR LR LR
comp=Z,600nm,22.0s
IL1 Eielson Array 113.73 333 ePKiKP PKiKP 21 19 09.8 -0.2
ILAR Eielson Array 113.73 333 PKiKP PKiKP 21 19 10.1 0.0
comp=Z,0.5nm,0.7s,baz=171,slow=1.5,SNR=6.5
ILAR PP PP 21 20 05.1 +1.4
comp=Z,0.4nm,0.9s,baz=128,slow=5.0,SNR=4.4
TRF Thorofare Moun 114.42 331 ePKiKP PKPdf 21 19 11.6 -0.1
TRF LR LR
comp=Z,800nm,19.0s
CTAO Charters Tower 114.44 221 PFAKE 21 19 20.0 +7.1
CTAO LR LR
comp=Z,400nm,21.0s
PKSM Moragy 114.72 50 ⇑PKIKP PKPdf 21 19 12.9 +0.4
PKSM Moragy 114.72 50 ⇑iP PKPdf 21 19 12.9 +0.4
PPLA Purkeypile 114.94 330 ePKIKP PKPdf 21 19 12.4 -0.2
CAST Castle Rocks 115.13 331 PFAKE 21 19 20.0 +7.2
CAST LR LR
comp=Z,800nm,21.2s
KONO Kongsberg 115.19 34 PFAKE 21 19 20.0 +7.0
KONO LR LR
comp=Z,300nm,19.0s
VYHS Vyhne 115.74 48 ePKIKP PKPdf 21 19 15.0 +0.6
VYHS Vyhne 115.74 48 ePKP PKPdf 21 19 15.0 +0.6
BZS Buzias 116.39 51 ⇓PKIKP PKPdf 21 19 15.8 +0.1
BZS Buzias 116.39 51 ⇓iP PKPdf 21 19 15.8 +0.1
IM04 Indian Mountai 116.85 333 ePKPdf PKPdf 21 19 16.6 +0.5
FALS False Pass 117.11 319 PFAKE 21 19 30.0 +13
FALS LR LR
comp=Z,700nm,18.5s
AS01 Alice Springs 117.17 208 ePKPdf PKPdf 21 19 17.4 -0.7
DRGR 117.54 50 ⇑PKIKP PKPdf 21 19 18.5 +0.5
DRGR 117.54 50 ⇑iP PKPdf 21 19 18.5 +0.5
TRPA Tarpa 117.91 49 ⇑iP PKPdf 21 19 19.2 +0.7
ARR Arges 118.28 52 ⇓iP PKPdf 21 19 19.4 -0.1
KWP Kalwaria Pacla 118.53 47 ePKIKP PKPdf 21 19 19.7 -0.1
KWP Kalwaria Pacla 118.53 47 ePKP PKPdf 21 19 19.6 -0.2
KWP Kalwaria Pacla 118.53 47 ⇓iP PKPdf 21 19 14.4 -5.4
KWP Kalwaria Pacla 118.53 47 PFAKE 21 19 30.0 +10
KWP LR LR
comp=Z,300nm,20.0s
VOIR 118.58 53 ⇑PKIKP PKPdf 21 19 19.7 -0.4
VOIR 118.58 53 ⇑iP PKPdf 21 19 19.7 -0.4
DOPR Dopca 118.98 52 ⇑iP PKPdf 21 19 22.7 +1.9
MLR Muntele Rosu 119.19 53 ⇑PKIKP PKPdf 21 19 21.1 -0.2
MLR Muntele Rosu 119.19 53 ⇑iP PKPdf 21 19 21.1 -0.2
BUR04 Bucovina Ar. S 119.42 50 ePKPdf PKPdf 21 19 22.2 +0.5
BURAR Bucovina Array 119.42 50 ⇓PKIKP PKPdf 21 19 23.1 +1.4
BURAR Bucovina Array 119.42 50 ⇓iP PKPdf 21 19 23.1 +1.4
VRI Vrincioaia 119.83 53 ⇑PKIKP PKPdf 21 19 22.0 -0.4
VRI Vrincioaia 119.83 53 ⇑iP PKPdf 21 19 22.0 -0.4
TESR Tescani 119.99 52 ⇑iP PKPdf 21 19 21.9 -0.8
SUW Suwalki 120.19 43 ePKIKP PKPdf 21 19 22.6 -0.2
SUW Suwalki 120.19 43 ePKP PKPdf 21 19 22.6 -0.2
SUW Suwalki 120.19 43 ePKPdf PKPdf 21 19 22.6 -0.2
SUW LR LR
comp=Z,200nm,22.0s
WRA Warramunga Arr 120.34 210 PKP PKPdf 21 19 23.8 -0.5
comp=Z,3.2nm,0.6s,baz=162,slow=1.7,SNR=42
TIRR Tirgusor 120.49 55 PFAKE 21 19 40.0 +16
TIRR LR LR
comp=Z,200nm,21.0s
CFR Carcaliu 120.54 54 ⇑PKIKP PKPdf 21 19 23.5 -0.2
CFR Carcaliu 120.54 54 ⇑iP PKPdf 21 19 23.5 -0.2
BR231 Keskin MP Arra 122.04 61 ePKPdf PKPdf 21 19 27.9 +1.0
ANTO Ankara 122.06 61 PFAKE 21 19 40.0 +13
ANTO LR LR
comp=Z,300nm,22.0s
KBS Kingsbay 122.12 13 PFAKE 21 19 40.0 +14
KBS LR LR
comp=Z,300nm,19.0s
BR101 Keskin Array S 122.63 61 ePKPdf PKPdf 21 19 28.0 -0.2
BRTR Keskin Array B 122.63 61 PKP PKPdf 21 19 28.0 -0.1
comp=Z,3.8nm,0.8s,baz=182,slow=3.1,SNR=24
AK11 Malin Array Si 122.81 48 ePKPdf PKPdf 21 19 27.0 -0.9
KIEV Kiev 122.83 48 ePKIKP PKPdf 21 19 26.8 -1.2
KIEV Kiev 122.83 48 ePKPdf PKPdf 21 19 26.8 -1.2
AKASG Malin Array Be 122.85 48 PKP PKPdf 21 19 27.1 -0.9
comp=Z,4.6nm,0.8s,baz=263,slow=2.8,SNR=24
AKBB Malin Array Si 122.85 48 ePKIKP PKPdf 21 19 27.1 -0.9
AKBB Malin Array Si 122.85 48 ePKPdf PKPdf 21 19 27.1 -0.9
FIA0 FINESS Array S 123.48 35 ePKIKP PKPdf 21 19 28.4 -0.4
FIA0 FINESS Array S 123.48 35 ePKPdf PKPdf 21 19 28.4 -0.4
FINES FINESS Array B 123.48 35 PKP PKPdf 21 19 28.4 -0.4
comp=Z,2.4nm,0.9s,baz=2.7,slow=8.0,SNR=5.3
MBWA Marble Bar 123.84 195 PFAKE 21 19 40.0 +9.1
MBWA LR LR
comp=Z,300nm,20.0s
ARA0 ARCESS Array S 124.36 25 ePKPdf PKPdf 21 19 30.3 -0.1
ARCES ARCESS Array B 124.36 25 PKP PKPdf 21 19 30.2 -0.2
comp=Z,3.4nm,0.9s,baz=226,slow=2.4,SNR=5.3
MALT Malatya 125.72 64 ⇓PKIKP PKPdf 21 19 35.2 +1.1
MALT Malatya 125.72 64 ⇓iP PKPdf 21 19 35.2 +1.1
RAYN Ar Rayn 125.92 84 ePKPdf PKPdf 21 19 35.5 +0.7
RAYN LR LR
comp=Z,200nm,21.0s
DGAR Diego Garcia 127.52 135 PFAKE 21 19 50.0 +12
DGAR LR LR
comp=Z,600nm,18.0s
OBN Obninsk 128.04 43 ⇓iPKIKP PKPdf 21 19 38.9 +1.2
OBN pmax pmax
comp=Z,22nm,2.5s
OBN Obninsk 128.04 43 ePKPdf PKPdf 21 19 38.2 +0.4
KLMR Klimovskoe 129.91 36 ePKIKP PKPdf 21 19 39.1 -2.1
KLMR pmax pmax
comp=Z,44nm,1.4s
KIV Kislovodsk 130.26 58 ePKIKP PKPdf 21 19 41.1 -1.4
KIV Kislovodsk 130.26 58 ePKPdf PKPdf 21 19 41.1 -1.4
KBZ Khabaz 130.36 59 PKP PKPdf 21 19 43.1 +0.6
comp=Z,3.9nm,1.0s,baz=222,slow=9.4,SNR=6.6
ZEI Tsey 130.89 60 iPKIKP PKPdf 21 19 41.1 -2.8
ZEI pmax pmax
comp=Z,6.0nm,1.2s
GNI Garni 130.93 64 ⇓iPKIKP PKPdf 21 19 45.6 +1.6
GNI pmax pmax
comp=Z,26nm,2.5s
GNI Garni 130.93 64 PFAKE 21 20 00.0 +16
GNI LR LR
comp=Z,200nm,20.0s
BILL Bilibino 132.38 334 ePKIKP PKPdf 21 19 46.3 +0.6
BILL pmax pmax
comp=Z,7.0nm,1.2s
BILL Bilibino 132.38 334 ePKPdf PKPdf 21 19 46.3 +0.6
BILL LR LR
comp=Z,400nm,20.6s
FAKI Fak Fak 136.20 218 PFAKE 21 20 10.0 +15
FAKI LR LR
comp=Z,200nm,21.0s
UGM Wanagama 138.22 185 PFAKE 21 20 10.0 +12
UGM LR LR
comp=Z,900nm,21.0s
CISI Cisompet, Garu 138.71 181 PFAKE 21 20 10.0 +11
CISI LR LR
comp=Z,300nm,20.0s
SEY Seymchan 139.52 330 PKP PKPdf 21 19 59.6 +0.6
comp=Z,8.3nm,1.0s,baz=122,slow=1.2,SNR=11
ARU Arti 140.31 40 PKIKP PKPdf 21 20 00.8 +0.1
ARU Arti 140.31 40 ePKPdf PKPdf 21 20 00.9 +0.2
TIXI Tiksi 140.47 349 PFAKE 21 20 10.0 +9.4
TIXI LR LR
comp=Z,200nm,20.0s
GEYT Alibeck 140.71 70 PKhKP PKPpre 21 19 54.0
comp=Z,1.6nm,0.8s,baz=289,slow=4.5,SNR=5.1
GEYT PKP PKPdf 21 20 01.6 -0.5
comp=Z,3.5nm,0.7s,baz=270,slow=5.9,SNR=8.7
TNTI Ternate 141.80 215 PFAKE 21 20 20.0 +15
TNTI LR LR
comp=Z,300nm,21.0s
LUWI Luwuk 142.11 207 PFAKE 21 20 20.0 +15
LUWI LR LR
comp=Z,100nm,20.0s
ABKAR Akbulak array 142.38 52 ePKPpre PKPpre 21 20 00.6
PALK Pallekele 144.12 132 ePKIKP PKPbc 21 20 06.7 -0.2
PALK MLR MLR
comp=Z,200nm,20.0s
PALK Pallekele 144.12 132 ePKPdf PKPbc 21 20 06.7 -0.2
PALK LR LR
comp=Z,200nm,20.0s
TOLI Toli-Toli 144.82 205 PFAKE 21 20 20.0 +10
TOLI LR LR
comp=Z,100nm,22.0s
BKNI Bangkinang 146.11 170 ePKPdf PKPdf 21 20 12.2 -0.1
GSI Gunungsitoli 146.38 163 ePKPdf PKPbc 21 20 13.9 -0.1
POO Poona 146.84 109 eP PKPdf 21 20 08.0 -5.4
KSM Kuching 147.53 186 ePKPbc PKPbc 21 20 17.1 -0.2
BRVK Borovoye 147.81 42 ⇓ePKIKP PKPdf 21 20 14.6 +0.7
BRVK i 21 20 19.7
BRVK Borovoye 147.81 42 ePKPdf PKPdf 21 20 14.6 +0.7
MYKOM Kota Tinggi 147.88 174 ePKPdf PKPdf 21 20 14.4 -0.9
MYKOM LR LR
comp=Z,100nm,18.0s
SBUM Sibu 148.26 190 ePKPdf PKPdf 21 20 16.0 +0.1
VOSK Vostochnaya 148.32 43 ePKIKP PKPdf 21 20 15.1 +0.3
VOSK MLR MLR
comp=Z,100nm,19.3s
VOSK Vostochnaya 148.32 43 ePKPdf PKPdf 21 20 15.1 +0.3
VOSK LR LR
comp=Z,100nm,19.3s
YAK Yakutsk 148.37 340 ePKP2 PKPbc 21 20 17.2 -0.8
YAK pmax pmax
comp=Z,48nm,0.9s
YAK Yakutsk 148.37 340 ePKPdf PKPdf 21 20 13.7 -0.8
KBL Kabul 148.87 78 ePKIKP PKPdf 21 20 15.9 -0.6
KBL Kabul 148.87 78 ePKPdf PKPdf 21 20 15.9 -0.6
MYLDM Lahad Datu 149.39 203 ePKPdf PKPdf 21 20 17.4 -0.3
MYLDM LR LR
comp=Z,300nm,19.0s
HYB Hyderabad 149.79 116 iPKP PKPbc 21 20 22.5 -0.5
LHMI Lhok Sumawe 149.98 160 ePKPdf PKPdf 21 20 17.8 -0.8
LHMI LR LR
comp=Z,400nm,18.0s
YSS Yuzh-Sakhalins 150.01 306 ⇑ePKP2 PKPbc 21 20 22.5 -0.1
YSS Yuzh-Sakhalins 150.01 306 ePKPdf PKPdf 21 20 19.8 +2.2
IPM Ipoh 150.18 168 ePKPbc PKPbc 21 20 23.5 -0.6
IPM LR LR
comp=Z,300nm,22.0s
KKAR Karatay Array 150.34 61 ePKPdf PKPdf 21 20 17.0 -1.3
KKAR ePKPbc PKPbc 21 20 23.6 +0.1
ASAJ Asahikawa 150.63 301 PKPbc PKPbc 21 20 24.5 +0.3
comp=Z,14nm,1.1s,baz=61,slow=19,SNR=5.2
ASAJ Asahikawa 150.63 301 PFAKE 21 20 30.0 -1.2
ASAJ LR LR
comp=Z,200nm,21.7s
KKM Kota Kinabalu 150.90 199 ePKPbc PKPbc 21 20 25.7 -0.1
KKM LR LR
comp=Z,100nm,21.0s
EKS2 Erkin-Say 152.78 62 ePKIKP PKPbc 21 20 30.3 +0.9
EKS2 e 21 20 40.0
EKS2 MLR MLR
comp=Z,100nm,20.0s
EKS2 Erkin-Say 152.78 62 ePKPbc PKPbc 21 20 30.2 +0.9
EKS2 ePKPab PKPab 21 20 40.0 -0.4
EKS2 LR LR
comp=Z,100nm,20.0s
AAK Ala-Archa 153.30 61 ⇓iPKIKP PKPbc 21 20 31.8 +1.2
AAK pmax pmax
comp=Z,53nm,1.2s
AAK Ala-Archa 153.30 61 ePKPbc PKPbc 21 20 31.7 +1.2
AAK ePKPab PKPab 21 20 41.2 -1.5
NVS Novosibirsk 153.39 31 iPKIKP PKPdf 21 20 22.4 0.0
NVS pmax pmax
comp=Z,31nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.2s
KURK Kurchatov 153.47 42 ePKIKP PKPdf 21 20 22.5 -0.2
KURK Kurchatov 153.47 42 ePKPdf PKPdf 21 20 22.5 -0.2
MAJO Matsushiro 154.31 285 PFAKE 21 20 40.0 -6.9
MAJO LR LR
comp=Z,600nm,18.0s
ZAA1 Zalesovo Array 154.67 31 ePKPdf PKPdf 21 20 24.2 -0.1
ZAA1 ePKPbc PKiKP 21 20 33.1 +0.2
ZAA1 ePKPab PKPab 21 20 48.6 +0.8
ZAA0 Zalesovo Array 154.67 31 ePKPdf PKPdf 21 20 24.1 -0.2
ZAA0 ePKPbc PKiKP 21 20 33.3 +0.4
ZALV Zalesovo Beam 154.67 31 PKP PKPdf 21 20 24.2 -0.1
comp=Z,5.4nm,0.8s,baz=279,slow=2.9,SNR=18
ZALV PKPbc PKiKP 21 20 33.1 +0.2
comp=Z,12nm,0.8s,baz=295,slow=3.1,SNR=20
ZALV PKPab PKPab 21 20 48.6 +0.8
comp=Z,5.4nm,0.7s,baz=316,slow=4.1,SNR=5.2
KSH Kashi 154.72 68 ePKPbc PKPdf 21 20 25.8 +0.8
KSH epPKP pPKPdf 21 20 36.5 0.0
KSH esPKP 21 20 40.5
KSH eSKS SKSdf 21 27 27.3 -1.8
KSH eSKKS SKSac 21 31 08.5 -3.3
KSH eSS SS 21 44 03.0 -1.8
KSH AMB AMB
comp=Z,110nm,4.3s
BOD Bodaibo 155.64 351 ePKIKP PKPdf 21 20 23.9 -1.6
BOD pmax pmax
comp=Z,16nm,1.1s
MK32 Makanchi Array 157.43 48 ePKPdf PKPdf 21 20 28.4 +0.1
MK32 ePKPdif PKPdf 21 20 38.2 +10
MK32 ePKPab PKPab 21 20 59.6 -0.3
MKAR Makanchi Array 157.43 48 ePKIKP PKPdf 21 20 28.2 -0.1
MKAR Makanchi Array 157.43 48 PKP PKP 21 20 28.4
comp=Z,2.3nm,0.8s,baz=27,slow=0.5,SNR=9.8
MKAR PKPbc PKPbc 21 20 38.2
comp=Z,2.4nm,0.9s,baz=268,slow=0.9,SNR=5.9
MKAR PKPab PKPab 21 20 59.6 -0.3
comp=Z,2.8nm,0.8s,baz=291,slow=2.3,SNR=4.7
MKAR Makanchi Array 157.43 48 ePKPdf PKPdf 21 20 28.2 -0.1
MKAR ePKPab PKPab 21 20 59.5 -0.5
MK01 Makanchi Array 157.45 48 ePKPdf PKPdf 21 20 27.9 -0.3
MK01 ePKPab PKPab 21 20 59.8 -0.2
KOLN Koldanda 159.14 101 eP PKPdf 21 20 30.9 -0.3
comp=Z,35nm,1.3s
MDJ Mudanjiang 159.48 308 PFAKE 21 20 40.0 +9.3
MDJ LR LR
comp=Z,200nm,18.0s

DANN Dangsing 159.49 100 eP PKPdf 21 20 32.0 +0.3
comp=Z,52nm,0.9s
GKN Gorkha 160.08 101 eP PKPdf 21 20 31.8 -0.4
comp=Z,26nm,1.1s
DMN Daman 160.30 103 eP PKPdf 21 20 32.5 -0.1
KKN Kakani 160.52 103 eP PKPdf 21 20 32.6 -0.1
comp=Z,25nm,1.2s
PKIN Phulchoki 160.53 103 eP PKPdf 21 20 32.5 -0.3
PKI Pulchoki 160.53 103 eP PKPdf 21 20 32.6 -0.3
comp=Z,17nm,1.1s
GUN Gumba 161.05 103 eP PKPdf 21 20 33.4 -0.1
JIRN Jiri 161.20 104 eP PKPdf 21 20 33.6 -0.1
RAMN Ramite 161.22 106 eP PKPdf 21 20 33.8 +0.2
ODAN Odare 161.81 108 eP PKPdf 21 20 34.4 +0.2
WMQ Urumqi 162.17 51 PKP PKPdf 21 20 34.5 +0.7
WMQ LR LR
comp=Z,180nm,21.2s
WMQ LR LR
comp=Z,170nm,21.6s
WMQ LR LR
comp=Z,260nm,21.2s
TAPN Taplejung 162.29 107 eP PKPdf 21 20 34.5 -0.2
KS01 Wonju Array Si 162.55 288 ePKPdf PKPdf 21 20 32.6 -1.7
CM01 Chiang Mai Arr 163.00 154 ePKPdf PKPdf 21 20 35.6 +0.3
CM01 ePKPab PKPab 21 21 24.3 -0.4
CM31 Chiang Mai Arr 163.03 153 ePKPdf PKPdf 21 20 35.9 +0.6
CM31 ePKPab PKPab 21 21 24.6 -0.2
CMAR Chiang Mai Arr 163.03 153 PKP PKPdf 21 20 35.9 +0.6
comp=Z,4.4nm,1.0s,baz=252,slow=2.5,SNR=25
CMAR PKPab PKPab 21 21 24.6 -0.2
comp=Z,1.6nm,1.0s,baz=230,slow=5.2,SNR=5.9
CHTO Chiang Mai 163.36 153 ePKIKP PKPdf 21 20 34.8 -0.8
CHTO e 21 21 26.0
CHTO Chiang Mai 163.36 153 ePKPdf PKPdf 21 20 34.8 -0.8
CHTO ePKPab PKPab 21 21 26.0 -0.4
ZAK Zakamensk 163.37 8 ePKIKP PKPpre 21 20 21.6
ZAK e 21 21 25.6
ZAK pmax pmax
comp=Z,1.0nm,1.6s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
LSA Lhasa 166.00 103 ePKIKP PKPdf 21 20 37.0 -1.2
LSA e 21 21 39.6
LSA Lhasa 166.00 103 ePKPdf PKPdf 21 20 37.0 -1.2
LSA ePKPab PKPab 21 21 39.5 +1.0
ULN Ulaanbaatar 166.10 359 ePKIKP PKPdf 21 20 36.4 -0.9
ULN Ulaanbaatar 166.10 359 ePKPdf PKPdf 21 20 36.4 -0.9
ULN ePKPab PKPab 21 21 38.4 +0.6
SONA1 Songino Array 166.11 1 ePKPdf PKPdf 21 20 36.7 -0.6
SONA1 ePKPab PKPab 21 21 37.9 +0.1
SONA0 Songino Array 166.12 1 ePKPdf PKPdf 21 20 36.5 -0.8
SONA0 ePKPab PKPab 21 21 38.4 +0.4
SONM Songino Array 166.12 1 PKP PKPdf 21 20 36.5 -0.8
comp=Z,1.3nm,0.8s,baz=90,slow=0.7,SNR=10
SONM PKPab PKPab 21 21 38.4 +0.4
comp=Z,3.3nm,0.9s,baz=336,slow=4.1,SNR=16
NJ2 Nanjing 169.73 263 ePKP PKPdf 21 20 43.0 +2.9
HHC Hu-ho-hao-te 172.16 333 ePKP PKPdf 21 20 38.5 -2.8
HHC pPKP pPKPdf 21 20 47.5 -5.3
HHC sPKP 21 20 53.5
GTA Gaotai 172.16 44 ePKP PKPdf 21 20 41.5 +0.2
GTA pPKP pPKPdf 21 20 52.3 -0.5
GTA sPKP 21 20 56.0
GTA PKPab PKPab 21 22 06.0 +1.0
GTA PP PP 21 25 59.3 +3.1
GTA SKS SKSdf 21 27 39.8 -2.2
GTA SKKS SKKSac 21 32 39.8 -0.5
GTA SS SS 21 47 02.0 -1.6
GTA AMB AMB
comp=Z,690nm,7.4s
GYA Guiyang 172.53 179 PKP PKPdf 21 20 41.8 -0.1
GYA pPKP pPKPdf 21 20 53.8 +0.4
GYA PKPab PKPab 21 22 09.0 +2.2
GYA PKS PKSdf 21 24 12.3 -2.1
GYA PP PP 21 26 01.5 +4.4
GYA SKKS 21 32 44.0
GYA SS SS 21 47 07.8 +2.3
GYA AMB AMB
comp=Z,140nm,8.3s
GYA LR LR
comp=Z,150nm,21.4s
GYA LR LR
comp=Z,120nm,21.6s
GYA LR LR
comp=Z,140nm,24.1s
CD2 Chengdu 176.00 138 PKP PKPdf 21 20 43.0 +0.2
CD2 pPKP pPKPdf 21 20 54.5 +0.2
CD2 sPKP 21 20 58.3
CD2 PKS PKSdf 21 24 13.8 -1.2
CD2 PP PP 21 26 18.8 +4.2
CD2 SKS SKSdf 21 27 40.5 -2.7
CD2 SKKS SKKSac 21 32 59.5 +0.8
CD2 SS SS 21 47 39.5 -0.8
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 176.75 48 ePKP PKPdf 21 20 43.8 +0.8
LZH pPKP pPKPdf 21 20 53.8 -0.7
LZH sPKP 21 20 59.3
LZH PP PP 21 26 22.5 +3.9
LZH eSKKS 21 33 04.3
LZH SS SS 21 47 46.0 -2.1
LZH AMB AMB
comp=Z,180nm,5.1s
LZH LR LR
comp=Z,680nm,19.2s
LZH LR LR
comp=Z,740nm,18.9s
LZH LR LR
comp=Z,750nm,19.9s

MEX 27 21:02:16.9±0.9, 17.96N×101.61W, h10km±6km, MD4.1, Near coast of Guerrero
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ZIIG Zihuatanejo 0.38 159 eP Pg 21 02 23.8 -0.7
ZIIG eS Sg 21 02 29.8 +0.3
ARIG Puente Sto Nin 1.24 75 eP Pn 21 02 35.7 -4.7
ARIG eS Sb 21 02 52.1 -4.5
CAIG El Cayaco 1.57 125 eP Pn 21 02 42.0 -2.9
CAIG eS Sn 21 03 00.0 -5.3
MMIG Aquila 1.68 281 eP Pn 21 02 43.4 -3.1
MMIG iS Sn 21 03 03.0 -5.1
MOIG Morelia 1.75 13 eP Pn 21 02 43.7 -4.0
MOIG eS Sn 21 03 05.6 -4.7
MEIG Mezcala 1.89 91 eP Pn 21 02 46.7 -2.7
MEIG iS Sn 21 03 08.9 -4.6
ACX Acapulco 1.99 123 eP Pb 21 02 53.9 +0.6
ACX iS Sn 21 03 17.0 +1.2
PLIG Platanillo 2.05 78 eP Pn 21 02 48.7 -2.9
PLIG iS Sn 21 03 13.4 -3.9
SFJM Santa Fe 2.85 332 iP Pn 21 03 04.0 +1.2
TLIG Tlapa 2.93 97 eP Pn 21 03 01.2 -2.5
TLIG iS Sn 21 03 34.6 -4.5

IDC 27 21:03:31.4±1.4, 36.06S×73.04W, h0km, mb4.1/5, mb1 4.5/6, mb1mx4.0/40, mbtmp4.1/6, ML4.6/1, Error ellipse: s-maj=63.9km s-min=30.9km az=47.0
ISCJB 27 21:03:34.2±0.7, 36.10S±0.09×72.9W±0.2, h28km, mb4.1/6, Error ellipse: s-maj=25.8km s-min=8.9km az=154.9
NEIC 27 21:03:36.7±0.7, 36.17S×73.04W, h35km, mb4.4/1, Error ellipse: s-maj=25.5km s-min=11.4km az=51.0
ISC 27 21:03:36.0±0.9, 36.11S±0.10×73.0W±0.2, h28km, n11, σ0.88/12, mb4.2/6, Near coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 5.00 158 Pn Pn 21 04 49.2 -0.1
4.7nm,0.3s,baz=323,slow=12,SNR=3.0
PLCA Paso Flores 5.00 158 ePn Pn 21 04 49.2 -0.1
PLCA eSn Sn 21 05 46.7 +0.6
TRQA Tornquist 9.02 106 ePn Pn 21 05 44.4 0.0
OTAV Otavalo 36.52 351 eP P 21 10 40.8 +1.2
2.7nm,0.5s
TXAR Lajitas Array 71.20 332 P P 21 14 52.6 +0.2
1.6nm,0.9s,baz=153,slow=8.4,SNR=5.2
NVAR Mina Array Bea 85.17 326 P P 21 16 09.3 -0.4
1.0nm,0.9s,baz=161,slow=5.7,SNR=4.1
PDAR Pinedale Array 85.30 334 P P 21 16 09.5 -0.7
1.0nm,0.9s,baz=172,slow=7.1,SNR=2.4
TORD Torodi Ar. Bea 85.67 70 P P 21 16 11.5 -0.9
1.8nm,1.1s,baz=225,slow=3.9,SNR=2.9
ELK Elko 85.76 329 P P 21 16 10.9 -1.7
1.3nm,0.8s,baz=173,slow=7.3,SNR=4.5
MKAR Makanchi Array 158.71 52 PKPab PKPab 21 24 06.3 0.0
0.5nm,0.7s,baz=271,slow=4.3,SNR=4.2
SONM Songino Array 168.28 2 PKPab PKPab 21 24 49.2 +1.0
0.5nm,0.9s,baz=332,slow=5.2,SNR=3.9

IDC 27 21:05:42.6±1.3, 34.30S×71.62W, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.9/41, mbtmp4.0/6, ML5.0/1, Error ellipse: s-maj=41.3km s-min=28.4km az=90.0
ISCJB 27 21:05:44.9±0.9, 34.48S±0.10×71.77W±0.2, h35km, mb4.0/4, Error ellipse: s-maj=21.3km s-min=10.8km az=30.2
NEIC 27 21:05:47.5±1.0, 34.39S×71.54W, h35km, mb4.2/1, Error ellipse: s-maj=31.4km s-min=15.8km az=98.0
ISC 27 21:05:47.1±0.9, 34.4S±0.1×71.7W±0.2, h35km, n11, σ1.61/13, mb4.2/4, Near coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.04 47 Pn Pn 21 06 44.6 -2.0
0.9nm,0.3s,baz=198,slow=20,SNR=3.6
CFAA Sn Sn 21 07 34.8 +2.0
3.5nm,0.3s,baz=146,slow=3.6,SNR=6.4
PLCA Paso Flores 6.36 172 Pn Pn 21 07 17.6 -0.9
7.1nm,0.3s,baz=195,slow=5.4,SNR=2.8
PLCA Paso Flores 6.36 172 ePn Pn 21 07 17.2 -1.2
SIV San Ignacio 20.69 30 P P 21 10 21.7 -2.6
2.4nm,0.6s,baz=214,slow=15,SNR=5.3
SAML Samuel 26.54 19 eP P 21 11 21.8 +0.2
2.8nm,0.4s
TXAR Lajitas Array 70.24 331 P P 21 16 57.8 +1.1
0.2nm,0.4s,baz=151,slow=8.6,SNR=4.9
SWET Sewanee 70.55 348 eP P 21 16 57.8 -0.6
BOSA Boshof 79.62 117 P P 21 17 53.6 +2.4
2.6nm,0.9s,baz=275,slow=4.5,SNR=3.5
TORD Torodi Ar. Bea 84.09 70 P P 21 18 15.3 +0.6
2.2nm,0.8s,baz=260,slow=6.6,SNR=9.5
ZALV Zalesovo Beam 154.43 33 PKPbc PKPbc 21 25 43.7 +0.4
0.9nm,0.5s,baz=313,slow=2.4,SNR=3.9
ZALV PKPab PKPab 21 25 56.9 -0.8
0.8nm,0.6s,baz=321,slow=6.1,SNR=2.8
MKAR Makanchi Array 156.82 50 PKPab PKPab 21 26 08.4 +0.2
0.3nm,0.7s,baz=285,slow=3.5,SNR=4.4

SJA 27 21:08:03.8±0.6, 24.91S×65.68W, h6km, ML3.6, Salta Province
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SLA San Lorenzo 0.25 40 iP Pg 21 08 09.3 +0.4
SLA iS Sg 21 08 14.3 +1.9
SLA AML AML 21 08 15.2
comp=Z,10μm,0.7s
AZAP Zapla 0.88 39 iP Pb 21 08 22.2 +0.3
FSA Cafayete 1.21 194 iP Pn 21 08 27.9 +0.3
ASTB Santa Barbara 1.45 49 iP Pg 21 08 32.3 +0.4
ALOL LOMAS DE OLMED 1.90 55 iP Pb 21 08 38.7 -0.4

IDC 27 21:09:08.4±0.7, 36.88S×73.29W, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.1/41, mbtmp4.2/14, ML3.9/2, Error ellipse: s-maj=27.9km s-min=14.1km az=74.0
ISCJB 27 21:09:09.2±0.7, 36.84S±0.08×73.3W±0.2, h14km, mb4.2/11, Error ellipse: s-maj=20.4km s-min=11.1km az=172.5
ISC 27 21:09:10.8±0.7, 36.80S±0.08×73.2W±0.1, h14km, n21, σ0.93/23, mb4.2/11, Near coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.44 153 Pn Pn 21 10 18.5 +0.7
2.3nm,0.3s,baz=311,slow=9.5,SNR=5.3
PLCA Lg Lg 21 11 27.6
12nm,0.3s,baz=29,slow=15,SNR=5.1
CFAA Coronel Fontan 6.62 40 Pn Pn 21 10 49.1 +1.5
0.6nm,0.3s,baz=217,slow=15,SNR=1.8
CFAA Sn Sb 21 12 22.6 -2.0
0.7nm,0.3s,baz=151,slow=19,SNR=3.9
LPAZ La Paz 20.92 14 P P 21 13 52.4 -1.3
2.2nm,0.3s,baz=203,slow=6.2,SNR=9.9
SIV San Ignacio 23.36 31 P P 21 14 20.1 +1.1
7.2nm,0.9s,baz=234,slow=12,SNR=6.4
JTS JuntasAbangare 48.13 344 P P 21 17 51.3 +0.9
3.7nm,0.6s,baz=161,slow=8.5,SNR=3.5
SNAA Sanae 49.37 157 P P 21 17 58.8 -0.6
2.6nm,1.0s,baz=277,slow=10,SNR=7.9
QSPA South Pole Qui 53.44 180 P P 21 18 28.9 -1.1
6.2nm,1.0s,baz=147,slow=2.7,SNR=8.4
H06E1 SOCORRO T-PHAS 55.76 321 T T 22 31 23.3
TXAR Lajitas Array 71.74 332 P P 21 20 32.5 0.0
1.0nm,0.9s,baz=146,slow=9.1,SNR=6.4
DBIC Dimbokro 76.98 71 P P 21 21 03.9 +0.5
4.9nm,0.6s,baz=194,slow=5.0,SNR=10.0
ANMO Albuquerque 77.80 333 P P 21 21 08.4 +0.7
1.4nm,0.8s,baz=186,slow=7.7,SNR=3.8
TSUM Tsumeb 79.36 106 P P 21 21 17.5 +0.7
2.3nm,0.8s,baz=246,slow=6.7,SNR=4.6
BOSA Boshof 79.61 118 P P 21 21 17.9 -0.1
3.1nm,0.8s,baz=188,slow=6.1,SNR=3.4
PDAR Pinedale Array 85.84 334 P P 21 21 49.9 0.0
0.4nm,0.9s,baz=160,slow=4.7,SNR=3.7
TORD Torodi Ar. Bea 86.05 71 P P 21 21 51.2 -0.1
1.6nm,1.1s,baz=238,slow=4.0,SNR=5.2
BRTR Keskin Array B 123.99 63 PKP PKPdf 21 28 07.8 -0.8
0.3nm,0.6s,baz=230,slow=8.9,SNR=2.8
SEY Seymchan 141.94 328 PKP PKPdf 21 28 40.6 -0.7
0.3nm,0.3s,baz=105,slow=6.8,SNR=4.4
BVAR Borovoye Array 149.95 46 PKPbc PKPbc 21 29 00.3 +0.2
2.3nm,0.9s,baz=289,slow=4.4,SNR=3.6
ZALV Zalesovo Beam 157.08 35 PKP PKPdf 21 29 04.3 -1.0
1.6nm,0.9s,baz=242,slow=3.2,SNR=4.8
ZALV PKPab PKPab 21 29 36.2 +0.3
1.0nm,0.5s,baz=289,slow=4.5,SNR=4.5
MKAR Makanchi Array 159.26 54 PKP PKPdf 21 29 07.1 -1.2
0.9nm,1.0s,baz=327,slow=2.0,SNR=3.9
MKAR PKPab PKPab 21 29 45.7 0.0
1.7nm,0.8s,baz=289,slow=3.7,SNR=11
SONM Songino Array 168.97 1 PKPab PKPab 21 30 28.2 0.0
0.8nm,0.8s,baz=343,slow=6.3,SNR=6.4

IDC 27 21:09:54.5±0.9, 35.69S×73.05W, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.1/37, mbtmp4.2/7, Error ellipse: s-maj=49.7km s-min=23.1km az=71.0
ISCJB 27 21:09:55.6±0.8, 35.7S±0.2×73.1W±0.4, h17km, mb4.2/7, Error ellipse: s-maj=44.5km s-min=20.6km az=157.8
ISC 27 21:09:57.2±0.8, 35.7S±0.2×73.0W±0.3, h17km, n10, σ0.39/9, mb4.3/7, Off coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 5.40 159 Lg Lg 21 12 41.7
baz=270,slow=20,SNR=1.2
SNAA Sanae 50.34 157 P P 21 18 52.7 0.0
2.8nm,0.9s,baz=274,slow=6.9,SNR=5.8
QSPA South Pole Qui 54.54 180 P P 21 19 24.1 0.0
3.3nm,0.8s,baz=139,slow=2.3,SNR=3.6
TXAR Lajitas Array 70.82 332 P P 21 21 12.9 -0.1
0.7nm,0.7s,baz=153,slow=8.4,SNR=4.3
BOSA Boshof 80.01 118 P P 21 22 06.2 +0.1
5.2nm,0.8s,baz=194,slow=2.7,SNR=4.7
NVAR Mina Array Bea 84.81 326 P P 21 22 31.3 +0.5
0.7nm,0.7s,baz=168,slow=6.1,SNR=3.6
TORD Torodi Ar. Bea 85.56 70 P P 21 22 34.7 -0.1
1.7nm,1.0s,baz=253,slow=3.5,SNR=3.8
ULM Lac du Bonnet 87.92 346 P P 21 22 44.8 -0.7
0.4nm,0.9s,baz=131,slow=3.5,SNR=4.9
ZALV Zalesovo Beam 156.10 33 PKPab PKPab 21 30 17.9 +0.4
1.0nm,0.8s,baz=328,slow=5.4,SNR=3.7
SONM Songino Array 167.86 2 PKPab PKPab 21 31 09.5 +0.2
0.6nm,0.8s,baz=347,slow=6.1,SNR=3.5

IDC 27 21:11:19.7±0.7, 26.02N×128.65E, h0km, mb4.0/16, mb1 4.1/18, mb1mx4.0/40, mbtmp4.0/18, ML3.5/2, Error ellipse: s-maj=23.1km s-min=13.2km az=74.0
JMA 27 21:11:21.8±0.2, 25.95N×128.67E, h36km, M3.9
NEIC 27 21:11:25.0±0.7, 25.96N×128.43E, h35km, mb4.4/5, Error ellipse: s-maj=14.4km s-min=9.1km az=133.0
ISC 27 21:11:20.4±1.9, 25.97N±0.05×128.60E±0.04, h6km±11km, n64, σ1.43/79, mb4.2/21, Ryukyu Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.76 317 P Pn 21 11 36.5 -1.1
JNTH eS Sn 21 11 47.7 -1.6
JJT2 Tamagusuku 2 0.78 283 P Pn 21 11 37.5 -0.5
JJT2 eS Sn 21 11 49.2 -0.8
JOW Kunigami 0.91 341 P Pn 21 11 39.1 -0.7
JOW Kunigami 0.91 341 Pn Pn 21 11 39.2 -0.5
40nm,0.3s,baz=146,slow=17,SNR=218
JOW Sn Sb 21 11 50.5 -0.5
46nm,0.3s,baz=115,slow=19,SNR=18
JIH Iheya 1.21 332 P Pg 21 11 43.6 +0.1
JIH eS Sn 21 11 58.7 -1.8
JAGN Aguni-jima 1.37 297 P Pb 21 11 45.9 -0.5
JAGN S Sg 21 12 03.6 -0.7
JOKE Okinoerabujima 1.39 359 P Pn 21 11 46.1 -0.3
JOKE S Sn 21 12 02.4 -2.7
JKE Kume jima 2 1.67 283 P Pn 21 11 49.6 -0.5
JKE S Sn 21 12 09.1 -2.8
JTK Tokunoshima 1.84 10 P Pn 21 11 52.3 -0.2
JTK eS Sn 21 12 13.8 -2.3
JAMN Amaminishikomi 2.33 13 P Pn 21 11 59.2 0.0
JMZ Minamidaito 2 2.37 93 P Pn 21 11 58.4 -1.4
JMZ S Sn 21 12 24.0 -5.1
JAM Amami Oshima 2.60 20 P Pn 21 12 02.4 -0.5
JAM S Sn 21 12 31.7 -3.1
JZK Kikaishima 2.64 27 P Pn 21 12 05.2 +1.7
JZK eS Sn 21 12 34.8 -1.1
JOGS Gusukube 3.13 248 P Pn 21 12 10.4 +0.2
JOGS S Sn 21 12 45.7 -2.2
JTJ Tarama 3.77 250 P Pn 21 12 18.9 -0.1
JTJ S Sn 21 12 59.8 -3.8
JNN Nakanoshima 4.02 16 P Pn 21 12 23.3 +0.7
JNN S Sn 21 13 07.4 -2.6
JISG Ishigakijimahi 4.12 251 P Pn 21 12 22.6 -1.2
JISG S Sn 21 13 08.9 -3.4
JIJ Ishigaki jima 4.34 249 P Pn 21 12 26.0 -0.9
YOJ Yonaguni jima 5.28 255 ePn Pn 21 12 39.7 -0.1
NACB Ninganchiao 6.60 256 ePn Pn 21 12 55.6 -2.3
YHNB Yeheng 6.66 260 ePn Pn 21 12 59.9 +0.9
YULB Yu-li 7.12 250 ePn Pn 21 13 01.6 -3.6
SSLB Suanglung 7.27 254 ePn Pn 21 13 04.8 -2.5
15nm,0.6s
SSLB eSn Sn 21 14 26.0 -4.2
JNU Nakatsue 7.40 15 Pn Pn 21 13 09.6 +0.6
1.7nm,0.3s,baz=185,slow=5.3,SNR=38
JNU Sn Sn 21 14 31.5 -1.9
0.4nm,0.3s,baz=232,slow=18,SNR=3.3
JNU Nakatsue 7.40 15 ePn Pn 21 13 10.3 +1.3
JNU Sn Sn 21 14 31.5 -1.9
TPUB Ta-pu 7.72 252 ePn Pn 21 13 11.8 -1.6
12nm,0.5s
USRK Ussuriysk Arra 18.40 8 P P 21 15 35.0 -1.0
0.2nm,0.3s,baz=178,slow=9.5,SNR=5.6
YSS Yuzh-Sakhalins 23.77 25 eP P 21 16 33.5 -0.1
14nm,0.7s
SONM Songino Array 27.95 327 P P 21 17 13.5 +1.8
2.7nm,0.8s,baz=136,slow=10.0,SNR=25
CHTO Chiang Mai 28.28 262 eP P 21 17 16.5 +1.7
8.6nm,1.4s
CMAR Chiang Mai Arr 28.41 261 P P 21 17 17.6 +1.7
0.8nm,0.8s,baz=64,slow=6.9,SNR=7.1
TAPN Taplejung 36.45 282 eP P 21 18 26.1 -0.5
38nm,1.4s
ODAN Odare 36.80 281 eP P 21 18 30.0 +0.5
21nm,0.6s
RAMN Ramite 37.49 281 eP P 21 18 35.8 +0.4
JIRN Jiri 37.75 282 eP P 21 18 38.3 +0.6
GUN Gumba 37.99 283 eP P 21 18 40.3 +0.5
PKI Pulchoki 38.45 282 eP P 21 18 43.7 +0.1
PKIN Phulchoki 38.46 282 eP P 21 18 43.6 0.0
8.7nm,0.6s
KKN Kakani 38.54 283 eP P 21 18 44.6 +0.4
DMN Daman 38.71 282 eP P 21 18 46.2 +0.5
GKN Gorkha 39.07 283 eP P 21 18 48.8 +0.2
DANN Dangsing 39.80 284 eP P 21 18 55.5 +0.7
20nm,0.5s
KOLN Koldanda 40.01 283 eP P 21 18 57.0 +0.5
28nm,1.1s
MK31 Makanchi Array 41.96 312 eP P 21 19 10.8 -1.2
MKAR Makanchi Array 41.96 312 P P 21 19 11.7 -0.3
1.1nm,0.5s,baz=95,slow=11,SNR=23
ZALV Zalesovo Beam 42.66 323 P P 21 19 16.5 -1.1
0.9nm,0.6s,baz=99,slow=9.2,SNR=6.0
TIXI Tiksi 45.72 0 eP P 21 19 42.8 +0.9
4.4nm,0.8s
WRA Warramunga Arr 45.97 172 P P 21 19 45.0 +0.5
3.3nm,0.7s,baz=354,slow=8.5,SNR=20
TKM2 Tokmak 2 46.10 305 eP P 21 19 45.7 +0.1
CTA Charters Tower 48.88 158 P P 21 20 08.1 +0.9
4.3nm,0.9s,baz=342,slow=12,SNR=3.2
KKAR Karatay Array 49.83 306 eP P 21 20 16.5 +2.2
18nm,1.0s
STKA Stephens Creek 58.84 167 P P 21 21 19.6 -0.3
0.5nm,0.4s,baz=346,slow=12,SNR=2.6
GEYT Alibeck 59.71 300 P P 21 21 26.6 +0.6
0.9nm,0.5s,baz=74,slow=6.2,SNR=3.2
ILAR Eielson Array 64.51 28 P P 21 21 57.1 -0.7
0.4nm,0.8s,baz=265,slow=4.0,SNR=3.9
KBZ Khabaz 69.58 310 P P 21 22 29.9 -0.4
2.9nm,1.0s,baz=57,slow=7.3,SNR=3.5
FINES FINESS Array B 73.25 331 P P 21 22 52.0 -0.1
2.1nm,0.8s,baz=308,slow=4.6,SNR=12
AKASG Malin Array Be 75.95 320 P P 21 23 07.9 -0.1
2.9nm,0.7s,baz=59,slow=6.5,SNR=9.6
BR131 Keskin Array S 77.46 308 eP P 21 23 17.6 +0.6
2.1nm,0.9s
BRTR Keskin Array B 77.46 308 P P 21 23 17.6 +0.6
1.1nm,0.7s,baz=95,slow=5.6,SNR=7.2
YKA Yellowknife Ar 78.62 25 P P 21 23 23.9 +1.1
0.3nm,0.6s,baz=295,slow=5.3,SNR=5.7
NB2 NORSAR Subarra 79.69 334 P P 21 23 28.4 -0.4
comp=Z,1.0nm,0.6s,baz=53,slow=5.6
NOA NORSAR Array B 79.69 334 P P 21 23 28.8 0.0
comp=Z,1.0nm,0.6s,baz=52,slow=5.5,SNR=7.2
SUMG Summit 81.32 356 iP P 21 23 42.6 +4.8
comp=Z,5.2nm,0.8s
SUMG i 21 23 51.4
GERES GERESS Array B 85.61 323 P P 21 24 00.8 +0.9
comp=Z,0.3nm,0.7s,baz=44,slow=6.0,SNR=3.4

IDC 27 21:14:48.0±2.1, 38.50S×74.24W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/33, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=72.4km s-min=32.1km az=53.0
ISCJB 27 21:14:51.2±2.3, 38.6S±0.3×74.3W±0.5, h33km, mb3.5/3, Error ellipse: s-maj=65.4km s-min=19.3km az=144.6
ISC 27 21:14:53.5±2.0, 38.5S±0.3×74.1W±0.4, h35km, n6, σ1.18/6, mb3.6/3, Off coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.52 130 Pn Pn 21 15 45.4 -0.4
0.7nm,0.3s,baz=304,slow=2.3,SNR=2.7
LPAZ La Paz 22.75 15 P P 21 19 52.9 -0.4
2.1nm,1.0s,baz=186,slow=6.7,SNR=3.8
TXAR Lajitas Array 72.93 333 P P 21 26 18.9 -0.2
0.5nm,0.8s,baz=162,slow=9.2,SNR=4.4
TORD Torodi Ar. Bea 87.28 71 P P 21 27 38.3 +1.5
0.2nm,0.7s,baz=238,slow=7.4,SNR=2.4
BVAR Borovoye Array 151.63 48 PKPbc PKPbc 21 34 43.7 +0.3
0.7nm,0.8s,baz=299,slow=3.1,SNR=4.1
MKAR Makanchi Array 160.81 57 PKPab PKPab 21 35 30.7 -1.2
0.2nm,0.6s,baz=311,slow=2.9,SNR=3.0

IDC 27 21:16:41.1±1.0, 34.35S×73.59W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/31, mbtmp4.0/5, Error ellipse: s-maj=42.7km s-min=27.0km az=90.0
ISCJB 27 21:16:44.9±1.1, 34.4S±0.2×73.5W±0.4, h33km, mb4.0/5, Error ellipse: s-maj=43.7km s-min=26.2km az=174.8
ISC 27 21:16:46.6±1.0, 34.4S±0.2×73.6W±0.3, h35km, n8, σ0.98/8, mb4.2/5, Off coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SNAA Sanae 51.74 158 P P 21 25 50.3 +0.2
0.9nm,0.6s,baz=264,slow=8.4,SNR=7.3
QSPA South Pole Qui 55.88 180 P P 21 26 21.0 +0.5
1.6nm,0.7s,baz=134,slow=3.3,SNR=6.9
TXAR Lajitas Array 69.44 332 P P 21 27 52.0 +0.7
0.3nm,0.5s,baz=155,slow=8.4,SNR=4.8
DBIC Dimbokro 76.50 72 P P 21 28 33.5 +0.2
2.8nm,0.9s,baz=192,slow=6.9,SNR=3.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	85.53	71	P	P	21 29 21.4	0.0
	1.2nm,0.7s,baz=252,slow=5.3,SNR=5.7						
WRA	Warramunga Arr	119.82	211	PKP	PKPdf	21 35 31.9	-1.8
	0.6nm,0.9s,baz=181,slow=1.3,SNR=2.9						
BVAR	Borovoye Array	148.41	43	PKPbc	PKPbc	21 36 28.0	-0.9
	0.5nm,0.4s,baz=283,slow=3.0,SNR=6.1						
MKAR	Makanchi Array	157.96	48	PKPab	PKPab	21 37 12.8	+0.1
	0.2nm,0.7s,baz=302,slow=2.7,SNR=2.7						

IDC 27 21:19:47.3±0.9, 36.64S×73.35W, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/32, mbtmp3.9/9, ML3.7/2, Error ellipse: s-maj=31.8km s-min=17.0km az=82.0
ISCJB 27 21:19:49.9±0.9, 36.65S±0.09×73.2W±0.2, h27km, mb4.0/6, Error ellipse: s-maj=20.3km s-min=12.7km az=165.7
NEIC 27 21:19:52.7±0.6, 36.62S×73.20W, h35km, mb4.3/1, Error ellipse: s-maj=15.2km s-min=9.9km az=83.0
ISC 27 21:19:51.3±0.9, 36.61S±0.10×73.3W±0.2, h27km, n15, σ0.72/15, mb4.0/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.64	153	Pn	Pn	21 20 59.8	+0.1
	1.8nm,0.3s,baz=318,slow=14,SNR=4.8						
PLCA				Lg	Lg	21 22 15.3	
	3.4nm,0.3s,baz=272,slow=17,SNR=2.9						
PLCA	Paso Flores	4.64	153	ePn	Pn	21 20 59.5	-0.2
PLCA				Lg	Lg	21 22 15.3	
CFAA	Coronel Fontan	6.52	41	Pn	Pn	21 21 23.8	-1.7
	0.3nm,0.3s,baz=191,slow=18,SNR=2.3						
CFAA				Sn	Sn	21 22 49.1	+10
	0.5nm,0.3s,baz=190,slow=18,SNR=3.2						
TRQA	Tornquist	9.12	102	ePn	Pn	21 22 01.3	+0.1
LPAZ	La Paz	20.75	14	P	P	21 24 31.8	+1.1
	1.2nm,0.5s,baz=208,slow=9.1,SNR=4.0						
SIV	San Ignacio	23.23	31	P	P	21 24 56.7	+0.2
	2.7nm,1.0s,baz=223,slow=14,SNR=4.2						
QSPA	South Pole Qui	53.63	180	P	P	21 29 09.6	-0.5
	1.7nm,0.5s,baz=128,slow=2.7,SNR=15						
QSPA	South Pole Qui	53.63	180	eP	P	21 29 09.4	-0.7
	1.6nm,0.5s						
TXAR	Lajitas Array	71.54	332	P	P	21 31 10.4	+0.5
	0.8nm,0.6s,baz=151,slow=8.9,SNR=8.9						
DBIC	Dimbokro	76.98	71	P	P	21 31 42.5	+0.7
	2.3nm,0.6s,baz=213,slow=5.2,SNR=5.2						
PDAR	Pinedale Array	85.64	334	P	P	21 32 27.2	-0.2
	1.1nm,1.1s,baz=171,slow=6.4,SNR=3.7						
TORD	Torodi Ar. Bea	86.05	71	P	P	21 32 30.1	+0.2
	0.9nm,0.8s,baz=240,slow=6.0,SNR=4.8						
BVAR	Borovoye Array	149.86	45	PKPbc	PKPbc	21 39 38.6	+0.3
	0.7nm,0.6s,baz=296,slow=4.9,SNR=6.8						
ZALV	Zalesovo Beam	156.97	34	PKPab	PKPab	21 40 14.3	+0.5
	0.2nm,0.3s,baz=301,slow=6.4,SNR=3.6						
MKAR	Makanchi Array	159.20	53	PKPab	PKPab	21 40 24.4	+0.5
	0.6nm,0.9s,baz=272,slow=4.4,SNR=5.0						

IDC 27 21:23:14.6±1.3, 26.17N×128.95E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.6/48, mbtmp3.8/9, Error ellipse: s-maj=51.6km s-min=17.7km az=64.0
ISCJB 27 21:23:17.2±0.9, 25.97N±0.04×128.64E±0.05, h27km±6km, mb3.7/9, Error ellipse: s-maj=7.1km s-min=6.6km az=4.3
JMA 27 21:23:17.5±0.3, 25.93N×128.59E, h34km±5km, M3.2
ISC 27 21:23:16.2±1.5, 26.04N±0.05×128.66E±0.04, h10km±9km, n21, σ1.55/31, mb3.9/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.75	310	P	Pb	21 23 31.8	+0.4
JNTH				eS	Sb	21 23 42.2	+0.6
JJT2	Tamagusuku 2	0.82	277	P	Pg	21 23 32.2	0.0
JJT2				S	Sg	21 23 42.9	0.0
JOW	Kunigami	0.86	336	P	Pn	21 23 34.6	+0.1
JOW				S	Sn	21 23 46.4	-0.8
JOW	Kunigami	0.86	336	Pn	Pn	21 23 34.9	+0.4
	15nm,0.3s,baz=148,slow=15,SNR=18						
JOW				Sn	Sn	21 23 46.1	-1.2
	18nm,0.3s,baz=91,slow=25,SNR=13						
JIH	Iheya	1.17	328	P	Pg	21 23 39.3	+0.5
JIH				S	Sg	21 23 54.4	+0.4
JOKE	Okinoerabujima	1.32	357	P	Pg	21 23 42.0	+0.4
JOKE				S	Sg	21 23 58.4	-0.4
JAGN	Aguni-jima	1.39	294	P	Pn	21 23 40.9	-0.8
JAGN				S	Sn	21 23 59.0	-1.1
JKE	Kume jima 2	1.71	280	P	Pn	21 23 44.3	-1.8
JKE				S	Sn	21 24 02.4	-5.6
JTK	Tokunoshima	1.76	8	P	Pg	21 23 48.7	-1.3
JTK				S	Sb	21 24 10.3	-0.5
JAMN	Amaminishikomi	2.24	12	P	Pb	21 23 55.4	-1.5
JMZ	Minamidaito 2	2.32	95	P	Pn	21 23 54.6	+0.1
JMZ				S	Sn	21 24 20.1	-3.0
JAM	Amami Oshima	2.51	19	eS	Sn	21 24 28.0	+0.2
SONM	Songino Array	27.92	327	P	P	21 29 08.8	+2.0
	0.7nm,0.7s,baz=141,slow=9.3,SNR=14						
CMAR	Chiang Mai Arr	28.47	261	P	P	21 29 14.2	+2.4
	0.2nm,0.3s,baz=55,slow=7.8,SNR=2.7						
MKAR	Makanchi Array	41.95	312	P	P	21 31 06.7	-0.6
	0.3nm,0.5s,baz=94,slow=10,SNR=8.1						
WRA	Warramunga Arr	46.04	173	P	P	21 31 41.1	+0.9
	1.3nm,1.0s,baz=351,slow=9.9,SNR=2.8						
BVAR	Borovoye Array	50.67	318	P	P	21 32 16.0	+0.2
	0.4nm,0.6s,baz=91,slow=8.4,SNR=5.2						
STKA	Stephens Creek	58.90	167	P	P	21 33 16.0	+0.5
	3.0nm,1.0s,baz=171,slow=14,SNR=2.9						
FINES	FINESS Array B	73.22	331	P	P	21 34 46.8	-0.5
	1.6nm,0.9s,baz=64,slow=4.4,SNR=4.1						
AKASG	Malin Array Be	75.93	320	P	P	21 35 03.1	-0.1
	0.9nm,0.5s,baz=62,slow=6.5,SNR=3.8						
BRTR	Keskin Array B	77.45	308	P	P	21 35 12.2	0.0
	1.0nm,1.0s,baz=72,slow=4.7,SNR=4.3						

IDC 27 21:26:52.0±0.9, 37.41S×73.71W, h0km, mb3.9/8, mb1 4.1/11, mb1mx4.0/35, mbtmp4.0/11, ML4.4/3, Error ellipse: s-maj=27.0km s-min=17.1km az=71.0
ISCJB 27 21:26:53.8±0.8, 37.42S±0.07×73.6W±0.1, h23km, mb4.0/9, Error ellipse: s-maj=16.2km s-min=8.3km az=157.4
NEIC 27 21:26:56.5±0.5, 37.53S×73.61W, h35km, mb4.5/2, Error ellipse: s-maj=11.5km s-min=9.1km az=74.0
ISC 27 21:26:55.3±0.8, 37.42S±0.08×73.6W±0.1, h23km, n17, σ0.97/18, mb3.9/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.09	145	Pn	Pn	21 27 58.0	+1.5
	4.5nm,0.3s,baz=46,slow=15,SNR=5.0						
PLCA				Lg	Lg	21 29 03.3	
	12nm,0.3s,baz=17,slow=22,SNR=3.1						
PLCA	Paso Flores	4.09	145	ePn	Pn	21 27 55.9	-0.7
PLCA				eSn	Sn	21 28 44.5	+0.8
CFAA	Coronel Fontan	7.31	39	Pn	Pn	21 28 41.2	+0.4
	3.5nm,0.3s,baz=260,slow=11,SNR=14						
TRQA	Tornquist	9.26	97	ePn	Pn	21 29 06.5	-1.0
CPUP	Villa Florida	17.70	56	P	P	21 31 01.4	+0.4
	0.5nm,0.3s,baz=170,slow=18,SNR=2.6						
LPAZ	La Paz	21.61	15	P	P	21 31 45.5	+1.2
	2.1nm,0.7s,baz=166,slow=7.8,SNR=3.0						
SIV	San Ignacio	24.07	31	P	P	21 32 08.7	-0.3
	2.6nm,0.7s,baz=219,slow=12,SNR=4.2						
QSPA	South Pole Qui	52.82	180	P	P	21 36 09.2	+0.5
	3.4nm,0.9s,baz=326,slow=11,SNR=6.5						
QSPA	South Pole Qui	52.82	180	eP	P	21 36 06.2	-2.6
	4.3nm,0.9s						
TXAR	Lajitas Array	72.12	333	P	P	21 38 18.5	+0.6
	0.8nm,0.6s,baz=158,slow=10,SNR=8.6						
SWET	Sewanee	73.17	350	eP	P	21 38 23.6	-0.3
	4.9nm,0.6s						
DBIC	Dimbokro	77.50	72	P	P	21 38 49.8	+0.4
	2.3nm,0.9s,baz=218,slow=7.2,SNR=2.8						
ANMO	Albuquerque	78.19	333	P	P	21 38 52.6	-0.3
	0.9nm,0.6s,baz=175,slow=8.5,SNR=4.1						
PDAR	Pinedale Array	86.25	334	P	P	21 39 35.3	+0.3
	0.6nm,0.9s,baz=132,slow=5.4,SNR=3.5						
TORD	Torodi Ar. Bea	86.58	71	P	P	21 39 36.4	-0.6
	0.4nm,0.6s,baz=225,slow=5.5,SNR=3.1						
ZALV	Zalesovo Beam	157.79	35	PKPab	PKPab	21 47 22.0	0.0
	0.7nm,0.5s,baz=310,slow=6.1,SNR=3.2						
MKAR	Makanchi Array	159.90	55	PKP	PKPdf	21 46 52.0	0.0
	0.3nm,0.8s,baz=291,slow=4.0,SNR=2.2						

IDC 27 21:31:11.9±0.6, 36.28S×73.07W, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.4/30, mbtmp4.4/17, ML4.2/2, Error ellipse: s-maj=21.5km s-min=15.4km az=85.0
ISCJB 27 21:31:14.4±0.6, 36.23S±0.07×73.0W±0.1, h25km, mb4.4/20, Error ellipse: s-maj=12.6km s-min=9.9km az=161.7
NEIC 27 21:31:17.0±0.4, 36.30S×72.98W, h35km, mb4.5/11, Error ellipse: s-maj=10.9km s-min=7.7km az=80.0
ISC 27 21:31:15.5±0.5, 36.31S±0.07×73.1W±0.1, h25km, n42, σ0.95/43, mb4.4/20, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.84	157	Pn	Pn	21 32 30.9	+4.2
	1.9nm,0.3s,baz=328,slow=14,SNR=1.9						
PLCA				Lg	Lg	21 33 44.3	
	6.3nm,0.3s,baz=295,slow=19,SNR=3.4						
PLCA	Paso Flores	4.84	157	ePn	Pn	21 32 24.2	-2.5
PLCA				Lg	Lg	21 33 44.3	
CFAA	Coronel Fontan	6.18	42	Pn	Pn	21 32 44.5	-0.7
	1.3nm,0.3s,baz=209,slow=13,SNR=6.6						
CFAA				Sn	Sb	21 34 06.8	-9.1
	1.3nm,0.3s,baz=316,slow=11,SNR=7.3						
TRQA	Tornquist	9.02	104	ePn	Pn	21 33 24.1	0.0
LVC	Limon Verde	14.12	16	ePn	Pn	21 34 33.4	-0.7
CPUP	Villa Florida	16.71	58	Pn	Pn	21 35 08.4	+0.5
	0.5nm,0.3s,baz=198,slow=10,SNR=3.9						
LPAZ	La Paz	20.42	14	P	Pn	21 35 52.8	-1.1
	9.4nm,0.8s,baz=204,slow=6.8,SNR=11						
LPAZ	La Paz	20.42	14	ePn	Pn	21 35 53.0	-0.9
	10nm,0.8s						
SIV	San Ignacio	22.89	31	P	P	21 36 16.7	-0.6
	7.0nm,0.7s,baz=232,slow=14,SNR=9.9						
NNA	Nana	24.46	351	P	P	21 36 31.4	-1.1
	9.1nm,0.8s,baz=202,slow=11,SNR=4.2						
SAML	Samuel	28.69	21	eP	P	21 37 09.8	-0.8
	1.1nm,0.5s						
BDFB	Brasilia	30.36	54	P	P	21 37 25.8	+0.3
	2.6nm,0.8s,baz=235,slow=11,SNR=3.6						
OTAV	Otavalo	36.71	351	eP	P	21 38 23.4	+2.3
	1.6nm,0.4s						
SDV	Santo Domingo	45.02	3	eP	P	21 39 28.9	-0.3
	5.8nm,0.6s						
RCBR	Riachuelo	45.59	57	P	P	21 39 34.3	+0.6
	2.7nm,0.6s,baz=206,slow=13,SNR=3.5						
RCBR	Riachuelo	45.59	57	eP	P	21 39 34.3	+0.6
	16nm,1.2s						
SNAA	Sanae	49.78	157	P	P	21 40 06.7	+1.2
	1.8nm,0.8s,baz=295,slow=7.2,SNR=9.3						
SNAA	Sanae	49.78	157	eP	P	21 40 06.0	+0.4
	5.8nm,0.9s						
APG	El Apazote	53.62	339	P	P	21 40 32.7	-2.3
	4.3nm,0.6s,baz=165,slow=6.2,SNR=6.4						
QSPA	South Pole Qui	53.93	180	P	P	21 40 38.0	+1.3
	7.7nm,0.8s,baz=165,slow=1.8,SNR=20						
QSPA	South Pole Qui	53.93	180	eP	P	21 40 38.3	+1.6
	8.4nm,0.8s						
CELP	Cerrillos	54.44	8	eP	P	21 40 39.5	-1.1
TEIG	Tepich	58.04	343	P	P	21 41 06.7	+0.4
	15nm,0.6s,baz=232,slow=1.2,SNR=6.6						
TXAR	Lajitas Array	71.36	332	P	P	21 42 32.8	-0.4
	2.4nm,0.7s,baz=154,slow=7.3,SNR=19						
DBIC	Dimbokro	76.72	71	P	P	21 43 04.7	-0.2
	1.3nm,0.7s,baz=200,slow=4.8,SNR=9.5						
DBIC	Dimbokro	76.72	71	eP	P	21 43 04.5	-0.3
	3.7nm,0.6s						
ANMO	Albuquerque	77.42	332	eP	P	21 43 09.8	+1.3
	1.0nm,0.5s						
BOSA	Boshof	79.74	118	P	P	21 43 21.7	0.0
	5.9nm,0.8s,baz=241,slow=5.8,SNR=7.5						
BOSA	Boshof	79.74	118	eP	P	21 43 21.6	0.0
	7.0nm,0.8s						
RSSD	Black Hills	84.85	338	eP	P	21 43 48.0	+0.2
	1.8nm,0.6s						
NVAR	Mina Array Bea	85.31	326	P	P	21 43 51.8	+1.5
	2.6nm,0.9s,baz=154,slow=6.2,SNR=11						
PDAR	Pinedale Array	85.45	334	P	P	21 43 51.8	+0.9
	1.2nm,1.0s,baz=156,slow=4.0,SNR=5.2						
TORD	Torodi Ar. Bea	85.79	70	P	P	21 43 52.6	-0.3
	2.1nm,0.9s,baz=253,slow=4.1,SNR=9.9						
ULM	Lac du Bonnet	88.51	346	P	P	21 44 05.4	+0.2
	3.3nm,0.8s,baz=192,slow=3.8,SNR=6.7						
WRA	Warramunga Arr	118.33	209	PKP	PKPdf	21 50 00.6	-0.6
	0.6nm,0.6s,baz=161,slow=1.5,SNR=4.2						
BRTR	Keskin Array B	123.67	63	PKP	PKPdf	21 50 10.9	0.0
	0.8nm,0.7s,baz=193,slow=5.4,SNR=5.9						
AKASG	Malin Array Be	124.36	49	PKP	PKPdf	21 50 10.9	-0.7
	0.6nm,0.7s,baz=270,slow=1.5,SNR=5.4						
ZALV	Zalesovo Beam	156.62	34	PKP	PKPdf	21 51 07.6	0.0
	1.9nm,0.8s,baz=288,slow=2.3,SNR=10						
ZALV				PKPbc	PKPbc	21 51 17.9	
	1.1nm,0.6s,baz=310,slow=3.8,SNR=5.3						
ZALV				PKPab	PKPab	21 51 37.3	+0.5
	1.3nm,0.7s,baz=289,slow=4.5,SNR=4.2						
MK31	Makanchi Array	158.88	53	ePKPdf	PKPdf	21 51 11.0	+0.2
MK31				ePKPab	PKPab	21 51 46.0	-0.9
MKAR	Makanchi Array	158.88	53	PKP	PKPdf	21 51 11.1	+0.4
	1.5nm,0.8s,baz=349,slow=0.7,SNR=13						
MKAR				PKPab	PKPab	21 51 47.1	+0.1
	1.0nm,0.8s,baz=289,slow=3.0,SNR=7.0						
CMAR	Chiang Mai Arr	160.87	156	PKP	PKPdf	21 51 13.9	+0.1
	0.7nm,0.8s,baz=234,slow=2.6,SNR=4.5						
CMAR				PKPab	PKPab	21 51 56.0	-0.1
	0.6nm,0.9s,baz=205,slow=4.0,SNR=4.8						
SONM	Songino Array	168.48	2	PKPab	PKPab	21 52 29.5	+0.5
	0.8nm,0.8s,baz=336,slow=6.0,SNR=7.2						

IDC 27 21:34:51.3±2.4, 37.95S×75.47W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/27, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=102.5km s-min=29.9km az=45.0
ISCJB 27 21:34:55.0±2.3, 37.9S±0.5×75.4W±0.7, h33km, mb3.8/4, Error ellipse: s-maj=102.1km s-min=21.2km az=137.9
NEIC 27 21:34:57.7±2.0, 37.67S×74.97W, h35km, mb4.3/1, Error ellipse: s-maj=81.5km s-min=20.5km az=53.0
ISC 27 21:34:57.3±2.3, 37.8S±0.4×75.2W±0.5, h35km, n7, σ1.35/7, mb4.0/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.64	131	Pn	Pn	21 36 05.0	+0.1
	1.4nm,0.3s,baz=342,slow=9.5,SNR=2.3						
PLCA				Sn	Sn	21 37 07.8	+10
	4.4nm,0.3s,baz=255,slow=15,SNR=3.9						
TXAR	Lajitas Array	71.90	334	P	P	21 46 16.8	-0.1
	0.2nm,0.5s,baz=150,slow=7.3,SNR=2.7						
DBIC	Dimbokro	78.77	72	P	P	21 46 57.6	+1.0
	1.4nm,0.7s,baz=197,slow=6.2,SNR=4.3						
DBIC	Dimbokro	78.77	72	eP	P	21 46 54.3	-2.3
	2.4nm,0.7s						
BOSA	Boshof	80.52	119	P	P	21 47 06.0	-0.2
	2.2nm,0.8s,baz=180,slow=20,SNR=1.8						
TORD	Torodi Ar. Bea	87.85	72	P	P	21 47 43.9	+0.5
	0.4nm,0.6s,baz=230,slow=3.1,SNR=4.1						
MKAR	Makanchi Array	161.10	54	PKPab	PKPab	21 55 37.7	+0.7
	0.1nm,0.4s,baz=292,slow=4.4,SNR=4.0						

IDC 27 21:41:20.8±0.6, 37.34S×73.79W, h0km, mb4.6/13, mb1 4.7/14, mb1mx4.6/27, mbtmp4.6/14, ML3.9/1, MS4.9/3, Ms1 4.8/3, ms1mx4.2/33, Error ellipse: s-maj=24.9km s-min=15.6km az=78.0
ISCJB 27 21:41:23.0±0.2, 37.26S±0.06×73.76W±0.09, h23km, mb4.8/38, MS4.8/3, Error ellipse: s-maj=11.5km s-min=6.2km az=147.1
NEIC 27 21:41:26.0±0.2, 37.33S×73.84W, h35km, mb5.0/27, Error ellipse: s-maj=10.3km s-min=6.0km az=62.0
ISC 27 21:41:25.1±0.4, 37.23S±0.07×73.69W±0.07, h23km, n223, σ1.33/232, mb4.9/38, MS4.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.27	146	Lg	Lg	21 43 41.2	
	7.1nm,0.3s,baz=44,slow=21,SNR=3.1						
PLCA	Paso Flores	4.27	146	ePn	Pn	21 42 29.5	+0.7
TRQA	Tornquist	9.32	99	ePn	Pn	21 43 39.2	+1.0
	73nm,1.1s						
TRQA				eSn	Sn	21 45 20.8	-1.4
USHA	Ushuaia	17.97	170	P	Pn	21 45 31.9	-1.3
	0.4nm,0.3s,baz=329,slow=7.8,SNR=4.8						
LPAZ	La Paz	21.43	15	eP	P	21 46 13.8	+1.6
PMSA	Palmer Station	28.18	171	LR	LR	21 59 31.5	
	comp=Z,3μm,18.2s,baz=318,slow=39						
ATAH	Atahualpa	30.26	351	P	P	21 47 36.2	+1.4
	4.0nm,0.6s,baz=145,slow=5.6,SNR=4.2						
BDFB	Brasilia	31.30	53	P	P	21 47 43.5	-0.2
	9.5nm,0.9s,baz=208,slow=8.7,SNR=11						
BDFB				LR	LR	22 00 19.8	
	comp=Z,3μm,18.1s,baz=229,slow=36						
RPN	Rapa Nui	31.65	278	LR	LR	21 56 44.3	
	comp=Z,1μm,21.9s,baz=122,slow=29						
OTAV	Otavalo	37.54	352	eP	P	21 48 39.5	+1.5
	27nm,1.3s						
ROSC	El Rosal	41.87	359	P	P	21 49 15.5	+1.4
	3.4nm,0.3s,baz=106,slow=20,SNR=3.5						
SDV	Santo Domingo	45.96	4	eP	P	21 49 45.1	-1.5
	18nm,0.9s						
RCBR	Riachuelo	46.50	57	P	P	21 49 51.6	+0.8
	6.2nm,0.9s,baz=240,slow=20,SNR=2.9						
VNA3	Neumayer Olymp	46.91	157	P	P	21 49 53.1	-0.2
VNA2	Neumayer--Watz	47.59	156	P	P	21 49 58.2	-0.4
SNAA	Sanae	49.13	157	P	P	21 50 10.0	-0.5
SNAA	Sanae	49.13	157	P	P	21 50 09.9	-0.7
	18nm,1.1s,baz=276,slow=6.7,SNR=25						
SNAA	Sanae	49.13	157	eP	P	21 50 09.4	-1.1
	62nm,1.2s						
QSPA	South Pole Qui	53.01	180	P	P	21 50 38.8	-1.1
	18nm,1.1s,baz=151,slow=5.9,SNR=14						
QSPA	South Pole Qui	53.01	180	eP	P	21 50 38.7	-1.2
	32nm,1.3s						
RKT	Rikitea	53.97	267	eS	S	21 58 21.7	-0.1
	549nm,27.5s						
RKT				eLR	LR	22 06 21.9	
	2μm,28.8s						
RKT	Rikitea	53.97	267	eT	T	22 48 29.0	
	1.6nm,0.2s						
APG	El Apazote	54.30	340	P	P	21 50 40.6	-9.3
	8.4nm,0.9s,baz=119,slow=6.7,SNR=41						
MEH	Mehetia	67.14	264	eT	T	23 04 59.1	
	22nm,0.2s						
034A	Hebbronville	68.13	336	P	P	21 52 23.7	+0.5
	baz=68						
PPT2	Papeete2	68.50	264	eS	S	22 01 29.4	+2.5
	804nm,28.2s						
PPT2	Papeete2	68.50	264	eLR	LR	22 13 06.6	
	1μm,24.5s						
933A	Laredo	68.83	336	P	P	21 52 28.2	+0.6
	baz=69						
834A	Tilden	69.08	337	P	P	21 52 29.8	+0.7
	baz=69						
833A	Chaparral WMA,	69.53	336	P	P	21 52 32.1	+0.2
	baz=70						
832A	Faith Ranch, C	69.69	335	P	P	21 52 32.0	-0.8
	baz=70						
732A	Laxson Ranch,	70.09	336	P	P	21 52 34.8	-0.6
	baz=70						
633A	Saathoff Ranch	70.51	337	P	P	21 52 37.7	-0.2
	baz=71						
632A	Uvalde	70.75	336	P	P	21 52 39.1	-0.3
	baz=71						
631A	Perdido Creek	70.92	335	P	P	21 52 40.1	-0.3
	baz=71						
533A	Kerrville	71.04	337	P	P	21 52 40.8	-0.3
	baz=71						
532A	Rocksprings	71.36	336	P	P	21 52 42.5	-0.6
	baz=72						
434A	Burnet	71.49	338	P	P	21 52 43.4	-0.4
	baz=72						
531A	Rocksprings	71.61	336	P	P	21 52 44.2	-0.4
	baz=72						
336A	Riesel	71.61	339	P	P	21 52 43.9	-0.6
	baz=72						
JCT	Junction City	71.66	336	eP	P	21 52 44.8	-0.1
	18nm,1.3s						
JCT	Junction City	71.66	336	P	P	21 52 44.1	-0.8
	baz=72						
433A	Art	71.69	337	P	P	21 52 43.9	-1.2
	baz=72						
530A	J-C Ranch, Com	71.86	335	P	P	21 52 45.6	-0.4
	baz=72						
TXAR	Lajitas Array	71.94	333	P	P	21 52 45.8	-0.8
	3.5nm,0.9s,baz=152,slow=8.6,SNR=14						
334A	Lometa	71.97	338	P	P	21 52 45.9	-0.8
	baz=72						
432A	Menard	72.02	337	P	P	21 52 47.4	+0.4
	baz=72						
431A	Sonora	72.11	336	P	P	21 52 48.2	+0.6
	baz=72						
529A	Stev Forest Ra	72.14	334	P	P	21 52 47.8	0.0
	baz=72						
333A	Richland Sprin	72.19	337	P	P	21 52 47.3	-0.7
	baz=73						
KMSC	Kings Mountain	72.35	353	P	P	21 52 48.5	-0.4
	baz=73						
430A	Baggett Ranch,	72.41	335	P	P	21 52 48.7	-0.7
	baz=73						
332A	Millersview	72.48	337	P	P	21 52 48.4	-1.3
	baz=73						
429A	Davenport Ranc	72.48	335	P	P	21 52 48.7	-1.1
	baz=73						
331A	San Angelo	72.62	336	P	P	21 52 49.3	-1.3
	baz=73						
233A	Rising Star	72.81	338	P	P	21 52 50.9	-0.8
	baz=73						
232A	Coleman	72.91	337	P	P	21 52 51.3	-1.1
	baz=73						
SWET	Sewanee	72.97	350	eP	P	21 52 51.1	-1.5
	44nm,1.2s						
231A	Bronte	73.17	337	P	P	21 52 52.6	-1.2
	baz=74						
133A	Hamilton Ranch	73.36	338	P	P	21 52 53.8	-1.1
	baz=74						
Z35A	Perchaven, San	73.56	340	P	P	21 52 55.3	-0.7
	baz=74						
ABTX	Abilene, Hawle	73.60	337	eP	P	21 52 55.8	-0.6
	79nm,2.1s						
ABTX	Abilene, Hawle	73.60	337	P	P	21 52 55.1	-1.3
	baz=74						
229A	Bryant Ranch,	73.68	335	P	P	21 52 55.6	-1.3
	baz=74						
131A	Roby	73.88	337	P	P	21 52 57.1	-0.9
	baz=74						
Z33A	Whitaker Ranch	73.95	338	P	P	21 52 56.9	-1.5
	baz=74						
228A	UT Block 9, Go	74.09	335	P	P	21 52 58.8	-0.5
	baz=74						
WVT	Waverly	74.16	348	eP	P	21 52 58.3	-1.2
	18nm,1.2s						
Z32A	Haskell	74.18	338	P	P	21 52 58.9	-0.8
	baz=75						
Z31A	Sharp Cattle R	74.39	337	P	P	21 52 59.4	-1.6
	baz=75						
128A	Castleberry Fa	74.51	335	P	P	21 53 00.2	-1.5
	baz=75						
Z30A	Sanderson Ranc	74.67	336	P	P	21 53 01.3	-1.3
	baz=75						
Z29A	Hungry Hill Ra	74.84	336	P	P	21 53 02.2	-1.4
	baz=75						
Y31A	Rekieta Farm,	75.03	337	P	P	21 53 04.2	-0.4
	baz=75						
X31A	McDonald Ranch	75.56	338	P	P	21 53 06.3	-1.4
	baz=76						
W33A	Caddo, Fort Co	75.61	339	P	P	21 53 06.8	-1.2
	baz=76						
Z26A	Caprock	75.61	334	P	P	21 53 06.5	-1.6
	baz=76						
W32A	Sentinel	75.80	339	P	P	21 53 08.0	-1.1
	baz=76						
MSTX	Muleshoe	75.84	335	eP	P	21 53 07.9	-1.5
	46nm,1.8s						
MSTX	Muleshoe	75.84	335	P	P	21 53 08.2	-1.2
	baz=76						
319A	Douglas	75.93	329	P	P	21 53 08.9	-1.1
	baz=76						
V34A	Guthrie	75.98	340	P	P	21 53 09.6	-0.5
	baz=76						
Y26A	Elida	76.15	335	P	P	21 53 10.4	-0.9
	baz=76						
V33A	Lossen Ranch,	76.18	340	P	P	21 53 10.7	-0.5
	baz=77						
AMTX	Amarillo	76.32	337	eP	P	21 53 11.3	-0.8
	14nm,1.0s						
AMTX	Amarillo	76.32	337	P	P	21 53 11.2	-0.9
	baz=77						
121A	Cookes Peak, D	76.35	331	P	P	21 53 12.3	-0.1
	baz=77						
Y25A	Mesa, Roswell	76.45	334	P	P	21 53 11.5	-1.4
	baz=77						
X26A	CR and CF Fran	76.72	335	P	P	21 53 14.7	+0.3
	baz=77						
Y24A	Capitan	76.72	333	P	P	21 53 14.0	-0.5
	baz=77						
U32A	Winter Ranch,	76.91	339	P	P	21 53 14.5	-0.8
	baz=77						

W27A Bowe Ranch, En 76.93 336 P P 21 53 14.9 -0.7
baz=77
Y23A Lovelace Mesa, 76.95 333 P P 21 53 15.1 -0.7
baz=77
W26A Owens Ranch, T 77.19 335 P P 21 53 17.3 +0.2
baz=78
V28A Channing 77.29 337 P P 21 53 17.5 -0.1
baz=78
TUC Tucson 77.37 328 eP P 21 53 22.6 +4.5
DBIC Dimbokro 77.48 72 P P 21 53 18.9 -0.1
16nm,1.0s,baz=214,slow=6.6,SNR=9.5
DBIC Dimbokro 77.48 72 eP P 21 53 19.7 +0.7
28nm,1.2s
W25A X Bar L Ranch, 77.54 335 P P 21 53 17.8 -1.3
baz=78
ACSO Alum Creek Sta 77.56 353 eP P 21 53 18.1 -0.7
28nm,1.1s
V26A Tequesquite Ra 77.84 335 P P 21 53 21.1 +0.4
baz=78
T30A Plains 77.97 338 P P 21 53 21.8 +0.5
baz=78
ANMO Albuquerque 78.00 333 eP P 21 53 21.7 0.0
9.9nm,1.2s
W23A Werner Place, 78.08 333 P P 21 53 22.5 +0.3
baz=78
V25A Rancho No Teng 78.16 335 P P 21 53 22.3 -0.2
baz=78
U26A Atchley Ranch, 78.37 336 P P 21 53 23.1 -0.6
baz=79
T28A Walsh 78.52 337 P P 21 53 23.4 -1.0
baz=79
U25A Circle Dot Ran 78.60 335 P P 21 53 24.1 -0.8
baz=79
R32A Long Quarter, 78.74 340 P P 21 53 25.7 +0.2
baz=79
S28A Manter 78.88 337 P P 21 53 25.7 -0.6
baz=79
V22A San Miguel Ran 79.03 333 P P 21 53 27.4 0.0
baz=79
T26A Comanche Natio 79.03 336 P P 21 53 26.9 -0.5
baz=79
U23A El Rito 79.15 334 P P 21 53 28.1 +0.1
baz=80
Q32A Meitler Ranch, 79.23 341 P P 21 53 27.5 -0.6
baz=80
T25A Trinidad 79.27 335 P P 21 53 28.6 0.0
baz=80
S26A Kim 79.40 336 P P 21 53 29.2 -0.1
baz=80
T24B San Luis 79.53 335 P P 21 53 30.8 +0.6
baz=80
R28A Tribune 79.55 338 P P 21 53 29.9 -0.1
baz=80
BOSA Boshof 79.75 118 P P 21 53 31.1 -0.5
14nm,1.1s,baz=254,slow=7.5,SNR=7.3
S25A Robets Cordova 79.75 336 P P 21 53 30.7 -0.5
baz=80
R27A Eads 79.80 337 P P 21 53 30.8 -0.6
baz=80
P31A Stockton 79.95 340 P P 21 53 31.1 -1.0
baz=80
S24A Houchin Ranch, 79.99 335 P P 21 53 32.2 -0.5
baz=80
R26A Arlington 80.02 337 P P 21 53 32.7 +0.1
baz=80
R25A Fountain Ranch 80.14 336 P P 21 53 33.8 +0.5
baz=80
R24A Sanders Place, 80.49 335 P P 21 53 35.2 0.0
baz=81
URZ Urewera 80.51 229 eP P 21 53 33.2 -2.1
BC3 Big Chuckawall 80.54 326 P P 21 53 36.4 +0.9
baz=81
S22A 4UR Ranch, Cre 80.64 334 P P 21 53 35.4 -0.7
baz=81
MVCO Mesa Verde 80.77 332 P P 21 53 36.5 -0.3
baz=81
Q24A Divide 81.17 336 P P 21 53 39.2 +0.3
baz=82
P25A Willow Gulch B 81.35 337 P P 21 53 39.7 -0.1
baz=82
SCI San Clemente I 81.42 323 P P 21 53 39.8 -0.2
baz=82
M31A Lambtecht Ranc 81.55 341 P P 21 53 41.2 +0.6
baz=82
U15A North Rim 81.55 329 P P 21 53 39.8 -1.2
baz=82
PV01 Paradox Valley 81.61 333 eP P 21 53 40.4 -0.8
341nm,1.0s
CIS Catalina Islan 81.70 324 P P 21 53 40.9 -0.7
baz=82
SMCO Snowmass 81.97 334 eP P 21 53 43.9 +0.6
18nm,1.3s
N27A Anderson Farm, 82.04 338 P P 21 53 44.1 +0.8
baz=82
ISCO Idaho Springs 82.08 336 P P 21 53 43.5 -0.3
baz=82
LBTB Lobatse 82.16 115 eP P 21 53 44.1 -0.4
27nm,1.2s
L31A Butterfield Fa 82.29 341 P P 21 53 45.3 +0.8
baz=83
O23A Lake Granby, G 82.55 336 P P 21 53 45.6 -0.6
baz=83
CCUT Cedar City 82.95 329 eP P 21 53 47.8 -0.5
5.8nm,1.1s
N23A Red Feather La 83.17 336 P P 21 53 49.9 +0.5
baz=84
ECSD EROS Data Cent 83.23 343 eP P 21 53 48.2 -1.0
38nm,1.4s
ECSD EROS Data Cent 83.23 343 P P 21 53 48.3 -1.0
baz=84
N22A Wattenberg Ran 83.26 336 P P 21 53 49.9 +0.1
baz=84
MVU Marysvale 83.31 331 eP P 21 53 50.5 +0.4
6.1nm,1.3s
J29A Okreek 83.83 341 P P 21 53 52.5 +0.1
baz=84
K26A Motz Farm, Whi 83.97 339 P P 21 53 52.6 -0.6
baz=84
J28A Allard Ranch, 84.09 340 P P 21 53 53.8 +0.1
baz=84
J27A Elkhorn Farm, 84.14 340 P P 21 53 54.0 -0.1
baz=84
R11A Troy Canyon, C 84.55 328 eP P 21 53 54.7 -1.7
13nm,1.5s
R11A Troy Canyon, C 84.55 328 P P 21 53 56.9 +0.5
baz=85
J24A Dixon Ranch, L 84.98 338 P P 21 53 58.9 +0.5
baz=85
DUG Dugway 85.01 331 eP P 21 53 58.3 -0.3
11nm,1.3s
DUG Dugway 85.01 331 P P 21 53 59.1 +0.5
baz=85
I25A Rochford 85.34 339 P P 21 53 58.9 -1.2
baz=86
RSSD Black Hills 85.52 339 eP P 21 54 00.4 -0.7
58nm,2.6s
G28A Parade 85.54 341 P P 21 54 00.6 -0.3
baz=86
NVAR Mina Array Bea 85.79 326 P P 21 54 02.6 -0.1
0.4nm,0.5s,baz=148,slow=6.9,SNR=4.9
SPUT South Promonto 85.83 332 eP P 21 54 03.3 +0.6
3.8nm,0.9s
H25A Fruitdale 85.85 339 P P 21 54 02.9 +0.3
baz=86
F29A Eureka 85.97 342 P P 21 54 03.1 0.0
baz=86
I22A 9 Mile Ranch, 86.05 337 P P 21 54 03.4 -0.3
baz=86
PDAR Pinedale Array 86.06 334 P P 21 54 03.5 -0.3
3.0nm,1.1s,baz=149,slow=4.3,SNR=11
J20A Shoshoni 86.08 336 P P 21 54 03.6 -0.2
baz=86
G27A Dupree 86.09 340 P P 21 54 03.0 -0.7
baz=86
G26A Maurine 86.19 340 P P 21 54 03.6 -0.6
baz=87
I21A Big Trails, Te 86.23 336 P P 21 54 03.2 -1.4
baz=87
H24A Dirks Ranch, A 86.24 339 P P 21 54 03.4 -1.1
baz=87
J19A Crowheart 86.33 335 P P 21 54 04.6 -0.5
baz=87
HVU Hansel Valley 86.36 332 eP P 21 54 04.8 -0.5
9.2nm,1.3s
TORD Torodi Ar. Bea 86.56 71 P P 21 54 05.8 -0.9
3.3nm,0.7s,baz=219,slow=4.2,SNR=16
F27A Lemmon 86.57 341 P P 21 54 04.4 -1.6
baz=87
I20A Worland 86.63 336 P P 21 54 06.3 -0.2
baz=87
H22A Clearmont 86.64 337 P P 21 54 06.0 -0.5
baz=87
I19A Meeteetse 86.99 335 P P 21 54 08.5 +0.2
baz=87
D29A Pettibone, Tap 87.06 343 P P 21 54 08.1 -0.3
baz=88
H20A Greybull 87.06 336 P P 21 54 08.1 -0.5
baz=88
C30A Mose, Pekin 87.41 344 P P 21 54 10.2 +0.2
baz=88
AGMN Agassiz Nation 87.41 345 P P 21 54 09.3 -0.7
baz=88
D28A Regan 87.42 342 P P 21 54 10.0 -0.1
baz=88
I17A Pilgrim Ck. 87.42 334 P P 21 54 10.3 -0.2
baz=88
H19A Powell 87.55 336 P P 21 54 09.5 -1.5
baz=88
H18A Shoshone NF, C 87.78 335 P P 21 54 11.4 -0.8
baz=88
G20A Bridger 87.79 336 P P 21 54 11.4 -0.7
baz=88
B30A Myrvik Farm, E 88.08 344 P P 21 54 12.9 -0.3
baz=88
D25A Fairfield 88.09 340 P P 21 54 14.1 +0.7
baz=88
B29A Wagenman Farm, 88.32 343 P P 21 54 14.2 -0.2
baz=89
C26A Wahner Farm, P 88.39 341 P P 21 54 13.7 -1.0
baz=89
HLID Hailey 88.51 332 eP P 21 54 16.8 +1.2
22nm,1.9s
HLID Hailey 88.51 332 P P 21 54 15.7 +0.1
baz=89
A30A Hoffart Farm, 88.53 344 P P 21 54 14.3 -1.0
baz=89
B28A Dugan Ranch, T 88.55 343 P P 21 54 15.1 -0.3
baz=89
F19A Roth Farm, Mol 88.59 336 P P 21 54 15.7 -0.1
baz=89
A29A Manning Farm, 88.73 343 P P 21 54 15.6 -0.6
baz=89
MCMT McKenzie Canyo 89.02 333 eP P 21 54 18.2 +0.2
2.2nm,1.0s
ULM Lac du Bonnet 89.28 346 P P 21 54 18.3 -0.5
3.2nm,0.9s,baz=171,slow=7.4,SNR=5.3
ULM Lac du Bonnet 89.28 346 eP P 21 54 16.9 -1.9
7.7nm,1.1s
TAM Tamanrasset 95.40 66 eP P 21 54 48.7 +0.7
4.1nm,1.2s
DZM Mont Dzumac 98.26 234 eLR LR 22 27 09.4
587nm,28.7s
GERES GERESS Array B 115.36 47 PKP PKPdf 22 00 03.8 -0.7
1.0nm,0.9s,baz=202,slow=1.4,SNR=4.8
WRA Warramunga Arr 117.30 210 PKP PKPdf 22 00 06.8 -2.3
0.4nm,0.6s,baz=161,slow=1.5,SNR=4.8
BRTR Keskin Array B 124.53 63 PKP PKPdf 22 00 21.7 -0.8
1.3nm,0.9s,baz=194,slow=4.5,SNR=6.3
AKASG Malin Array Be 125.33 49 PKP PKPdf 22 00 22.3 -1.1
0.7nm,0.7s,baz=270,slow=2.5,SNR=6.3
SEY Seymchan 142.09 328 PKP PKPdf 22 00 51.3 -3.1
0.8nm,0.8s,baz=17,slow=19,SNR=2.1
GEYT Alibeck 142.14 74 PKhKP PKPpre 22 00 50.5
4.1nm,1.1s,baz=242,slow=3.2,SNR=8.8
KAD Karad 145.47 116 eP PKPdf 22 01 01.2 -0.6
POO Poona 146.02 114 eP PKPdf 22 01 03.0 +0.3
HYB Hyderabad 148.60 121 i PKP PKPbc 22 01 09.5 -1.2
KSH Kashi 156.16 75 ePKP PKPdf 22 01 17.3 -0.3
KSH epPKP pPKPdf 22 01 29.0 +3.6
KSH esPKP 22 01 31.5
KSH eSKS SKSdf 22 08 19.0 -3.5
KSH eSKKS SKKSac 22 12 07.0 -4.3
KSH eSS SS 22 25 04.8 -7.3
KSH AMB AMB
comp=Z,77nm,4.2s
ZALV Zalesovo Beam 157.65 35 PKP PKPdf 22 01 17.9 -0.9
6.7nm,1.1s,baz=274,slow=4.0,SNR=12
ZALV PKPab PKPab 22 01 51.3 +0.1
6.1nm,0.6s,baz=302,slow=3.8,SNR=13
MKAR Makanchi Array 159.82 54 PKP PKPdf 22 01 21.1 -0.6
2.6nm,1.1s,baz=288,slow=1.2,SNR=9.1
MKAR PKPab PKPab 22 02 00.7 -0.3
1.9nm,0.8s,baz=286,slow=4.4,SNR=8.1
MKAR PP PP 22 05 46.1 +3.0
1.2nm,1.0s,baz=267,slow=2.4,SNR=3.6
CMAR Chiang Mai Arr 160.21 159 PKP PKPdf 22 01 22.1 -1.0
0.5nm,0.8s,baz=254,slow=4.0,SNR=5.4
CMAR PKPab PKPab 22 02 02.1 -1.1
1.1nm,1.1s,baz=216,slow=4.2,SNR=5.4
NJ2 Nanjing 168.46 247 ePKP PKPdf 22 01 32.5 +2.5
GYA Guiyang 169.26 182 ePKP PKPdf 22 01 33.0 +2.2
GYA pPKP pPKPdf 22 01 45.3 +6.7
GYA PKPab PKPab 22 02 51.0 +8.1
GYA PKS PKSdf 22 05 03.5 0.0
GYA PP PP 22 06 42.0 +11
GYA SKKS 22 13 23.0
GYA SS SS 22 27 34.3 +9.2
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=N,130nm,21.8s
GYA LR LR
comp=E,110nm,21.5s
GYA LR LR
comp=Z,120nm,24.4s
SONM Songino Array 169.40 360 PKPab PKPab 22 02 41.7 -1.4
2.2nm,1.1s,baz=337,slow=3.4,SNR=8.8
CD2 Chengdu 173.35 161 PKP PKPdf 22 01 37.3 +4.6
CD2 Chengdu 173.35 161 PKP PKPdf 22 01 34.5 +1.8
CD2 pPKP pPKPdf 22 01 45.8 +5.3
CD2 sPKP 22 01 49.5
CD2 PKS PKSdf 22 05 05.3 +0.3
CD2 PP PP 22 07 00.3 +8.4
CD2 SKS SKSdf 22 08 32.3 -2.2
CD2 SKKS SKKSac 22 13 41.0 +3.3
CD2 SS SS 22 28 11.8 +6.3
CD2 AMB AMB
comp=Z,220nm,6.4s
GTA Gaotai 174.44 65 ePKP PKPdf 22 01 33.0 +0.1
GTA pPKP pPKPdf 22 01 43.8 +3.1
GTA sPKP 22 01 47.3
GTA PKPab PKPab 22 03 05.0 -0.9
HHC Hu-ho-hao-te 174.54 313 ePKP PKPdf 22 01 34.0 +1.2
HHC pPKP pPKPdf 22 01 44.0 +3.4
HHC sPKP 22 01 48.8
HHC PP PP 22 06 56.8 -1.7
HHC AMB AMB
comp=Z,41nm,3.9s

IDC 27 21:41:51.1±2.9, 33.43S×72.62W, h0km, mb3.9/1, mb1 4.2/4, mb1mx4.0/30, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=69.9km s-min=45.6km az=158.0
ISCJB 27 21:41:53.4±1.8, 33.6S±0.1×72.28W±0.08, h28km±9km, Error ellipse: s-maj=17.3km s-min=10.9km az=13.4
GUC 27 21:41:54.7±0.4, 33.56S×72.20W, h15km±999km, ML4.3
ISC 27 21:41:53.1±1.6, 33.58S±0.09×72.23W±0.08, h18km±6km, n19, σ1§03/24, 3C-5D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
LCCH Las Cruces 0.56 79 ⇑iP Pg 21 42 04.7 +0.5
IHA Instituto Hidr 0.74 42 ⇓iP Pg 21 42 07.7 +0.1
IHA iS Sb 21 42 17.4 +0.2
TACH Talagante 1.08 94 ⇑iP Pb 21 42 13.2 0.0
ROCH El Roble 1.19 59 eP Pn 21 42 15.3 +0.3
ROCH iS Sn 21 42 31.1 +0.4
ROCH AML AML 21 42 38.2
comp=E,7μm,0.5s
RCDM Rinconada Maip 1.19 86 ⇓iP Pn 21 42 14.9 +0.1
RCDM iS Sb 21 42 30.1 -0.1
SAN Santiago 1.31 85 ⇓iP Pb 21 42 17.4 +0.1
SAN iS Sb 21 42 34.0 +0.2
STL Santa Lucia 1.33 84 ⇓iP Pn 21 42 16.8 -0.1
STL iS Sn 21 42 34.0 -0.1
PEL Peldehue 1.36 72 ⇑iP Pb 21 42 17.9 -0.1
PEL iS Sb 21 42 35.4 +0.2
PEL AML AML 21 42 39.6
comp=E,16μm,0.6s
FCH Farellones 1.64 82 ⇓iP Pg 21 42 31.7 +7.0
FCH iS Sg 21 42 53.3 +7.2
FCH AML AML 21 42 58.9
comp=E,6μm,0.7s
CFAA Coronel Fontan 3.90 61 Pn Pn 21 42 56.3 +4.1
comp=E,1.4nm,0.3s,baz=240,slow=15,SNR=15
CFAA Sn Sb 21 43 49.0 +0.7
comp=E,2.0nm,0.3s,baz=313,slow=9.7,SNR=5.7
CPUP Villa Florida 14.79 65 Pn P 21 45 24.9 -2.3
comp=E,0.4nm,0.3s,baz=228,slow=12,SNR=2.5
CPUP Villa Florida 14.79 65 Pn P 21 45 24.9 -2.3
LPAZ La Paz 17.61 13 P Pn 21 45 58.5 +0.3
comp=E,0.4nm,0.3s,baz=183,slow=8.0,SNR=10
SIV San Ignacio 20.21 33 P P 21 46 27.1 +0.1
comp=E,4.6nm,0.7s,baz=227,slow=11,SNR=9.0
SAML Samuel 25.90 21 eP P 21 47 24.2 +0.2
YKA Yellowknife Ar 101.61 341 P Pdif 21 55 44.1 +0.7
comp=E,0.2nm,0.7s,baz=136,slow=5.1,SNR=4.9
SEY Seymchan 139.59 330 PKP PKPdf 22 01 17.2 -1.5
comp=E,1.4nm,0.8s,baz=53,slow=20,SNR=4.0
HYB Hyderabad 149.25 114 ePKP PKPab 22 01 48.0 +2.4
MKAR Makanchi Array 156.61 48 PKPab PKPab 22 02 17.1 +1.2
comp=E,1.6nm,0.6s,baz=296,slow=4.6,SNR=11

IDC 27 21:43:05.3±0.6, 35.20S×72.65W, h0km, mb4.7/13, mb1 4.8/15, mb1mx4.6/28, mbtmp4.7/15, ML4.3/2, MS5.2/1, Ms1 5.2/1, ms1mx4.0/32, Error ellipse: s-maj=28.1km s-min=15.3km az=75.0
ISCJB 27 21:43:07.3±0.3, 35.11S±0.05×72.4W±0.1, h18km, mb5.0/53, MS5.2/1, Error ellipse: s-maj=13.2km s-min=6.6km az=164.3
MOS 27 21:43:09.1±0.8, 35.20S×72.77W, h33km, mb5.3/12, Error ellipse: s-maj=35.9km s-min=11.2km az=101.4
NEIC 27 21:43:10.9±0.2, 35.16S×72.52W, h35km, mb5.2/44, Error ellipse: s-maj=10.6km s-min=5.4km az=77.0
BJI 27 21:43:10.9, 35.10S×72.40W, h30km, mB5.3/7, Ms4.4/3, Ms7 5.2/4
ISC 27 21:43:08.3±0.3, 35.14S±0.06×72.4W±0.1, h18km, n490, σ1§03/506, mb5.1/53, 195C-172D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.95 46 Lg Lg 21 45 42.5
2.8nm,0.3s,baz=291,slow=18,SNR=2.9
PLCA Paso Flores 5.77 166 eP Pn 21 44 34.6 +1.5
PLCA Paso Flores 5.77 166 Lg Lg 21 46 03.5
13nm,0.3s,baz=282,slow=10,SNR=3.3
PLCA Paso Flores 5.77 166 ePn Pn 21 44 34.6 +1.5
LVC Limon Verde 12.84 15 Pn Pn 21 46 11.1 +0.9
LPAZ La Paz 19.15 13 eP Pn 21 47 33.6 +1.3
LPAZ pmax pmax
comp=Z,45nm,1.2s
LPAZ La Paz 19.15 13 P Pn 21 47 32.4 +0.2
comp=Z,0.3nm,0.3s,baz=214,slow=7.3,SNR=1.9
LPAZ La Paz 19.15 13 eP Pn 21 47 33.6 +1.3
comp=Z,45nm,1.2s
USHA Ushuaia 19.89 173 P P 21 47 38.8 +0.3
comp=Z,1.2nm,0.3s,baz=333,slow=9.1,SNR=7.6
SIV San Ignacio 21.59 31 P P 21 47 59.2 +2.0
comp=Z,14nm,0.8s,baz=219,slow=12,SNR=4.1
NNA Nana 23.40 349 eP P 21 48 16.6 +0.3
NNA pmax pmax
comp=Z,27nm,0.8s
NNA Nana 23.40 349 P P 21 48 15.8 -0.4
comp=Z,16nm,0.7s,baz=190,slow=8.4,SNR=7.1
NNA Nana 23.40 349 eP P 21 48 16.6 +0.3
comp=Z,27nm,0.8s
SAML Samuel 27.39 20 eP P 21 48 52.7 0.0
comp=Z,6.0nm,0.9s
OTAV Otavalo 35.64 350 eP P 21 50 07.5 +1.7
comp=Z,9.9nm,0.8s
ROSC El Rosal 39.82 357 P P 21 50 42.0 +1.0
comp=Z,9.6nm,0.5s,baz=203,slow=4.2,SNR=5.3
ROSC El Rosal 39.82 357 eP P 21 50 42.2 +1.2
BCIP Isla Barro Col 44.62 350 eP P 21 51 20.3 +0.6
comp=Z,53nm,1.1s
PCRV Puerto La Cruz 45.66 11 LR LR 22 14 05.7
comp=Z,3μm,18.6s,baz=170,slow=41
JTS JuntasAbangare 46.72 343 eP P 21 51 35.5 -0.8
JTS pmax pmax
comp=Z,25nm,1.3s
JTS JuntasAbangare 46.72 343 eP P 21 51 35.5 -0.8
comp=Z,25nm,1.3s
VNA3 Neumayer Olymp 48.42 157 P P 21 51 49.5 +0.6
VNA2 Neumayer--Watz 49.08 157 P P 21 51 54.6 +0.5
SNAA Sanae 50.65 157 P P 21 52 06.6 +0.6
SNAA Sanae 50.65 157 eP P 21 52 06.1 +0.1
SNAA pmax pmax
comp=Z,15nm,0.7s
SNAA Sanae 50.65 157 P P 21 52 05.7 -0.3
comp=Z,4.8nm,0.7s,baz=273,slow=7.8,SNR=11
SNAA Sanae 50.65 157 eP P 21 52 06.1 +0.1
comp=Z,15nm,0.7s
OBIP Obispado Ponce 53.17 7 eP P 21 52 25.3 0.0
comp=Z,32nm,0.9s
CELP Cerrillos 53.20 7 eP P 21 52 26.1 +0.6
QSPA South Pole Qui 55.10 180 P P 21 52 39.0 -0.1
comp=Z,24nm,0.9s,baz=149,slow=0.4,SNR=3.4
QSPA South Pole Qui 55.10 180 eP P 21 52 40.1 +1.1
comp=Z,48nm,1.1s
H06E1 SOCORRO T-PHAS 64.91 319 T T 23 04 24.8
035A Encino 66.36 335 ⇑P P 21 53 57.1 +1.3
baz=67
936A North Padre Is 66.53 336 ⇓P P 21 53 58.0 +1.0
baz=67
034A Hebbronville 66.67 335 ⇑P P 21 53 59.3 +1.4
baz=67
934A Benavides 67.11 335 ⇑P P 21 54 02.6 +1.9
baz=67
933A Laredo 67.39 334 ⇓P P 21 54 04.1 +1.7
baz=68
834A Tilden 67.60 335 ⇑P P 21 54 05.3 +1.5
baz=68,SNR=5.1
735A Kenedy 68.02 336 ⇑P P 21 54 08.1 +1.7
baz=68
833A Chaparral WMA, 68.08 334 ⇑P P 21 54 07.6 +0.9
baz=68,SNR=8.4
832A Faith Ranch, C 68.25 334 ⇑P P 21 54 08.4 +0.6
baz=68,SNR=7.4
636A Smothers Creek 68.35 337 ⇑P P 21 54 10.1 +1.6
baz=69,SNR=5.9
733A Divot King Ran 68.40 335 ⇓P P 21 54 10.1 +1.2
baz=69
635A Leesville 68.50 336 ⇑P P 21 54 10.1 +0.7
baz=69
732A Laxson Ranch, 68.65 334 ⇑P P 21 54 11.4 +1.0
baz=69,SNR=6.8
537A Green Hill Far 68.67 338 ⇓P P 21 54 12.2 +1.7
baz=69
536A Bastrop 68.91 337 ⇓P P 21 54 12.8 +0.9
baz=69
535A Dale 69.03 337 ⇑P P 21 54 13.9 +1.2
baz=69
633A Saathoff Ranch 69.04 335 ⇓P P 21 54 13.5 +0.7
baz=69,SNR=6.1
438A Sam Houston St 69.05 339 ⇓P P 21 54 13.6 +0.8
baz=69
340A Bronson 69.22 340 ⇓P P 21 54 14.9 +1.1
baz=70
632A Uvalde 69.29 335 ⇑P P 21 54 15.3 +0.9
baz=70,SNR=8.7
534A Blanco 69.32 336 ⇑P P 21 54 14.2 -0.4
baz=70
339A Huntington 69.33 340 ⇑P P 21 54 15.6 +1.1
baz=70
436A Wall Ranch, Ga 69.47 338 ⇓P P 21 54 16.0 +0.6
baz=70
631A Perdido Creek 69.49 334 ⇑P P 21 54 15.8 +0.3
baz=70
533A Kerrville 69.55 335 ⇓P P 21 54 16.6 +0.7
baz=70,SNR=5.5
338A Crockett 69.57 339 ⇑P P 21 54 17.4 +1.4
baz=70
337A Centerville 69.70 339 ⇑P P 21 54 18.6 +1.8
baz=70
435B Jarrell 69.73 337 ⇓P P 21 54 18.0 +1.0
baz=70
532A Rocksprings 69.90 335 ⇑P P 21 54 19.0 +0.9
baz=70,SNR=11
239A Gary 69.95 340 ⇑P P 21 54 19.3 +0.9
baz=70
434A Burnet 69.98 336 ⇓P P 21 54 19.1 +0.5
baz=70,SNR=8.7
336A Riesel 70.05 338 ⇑P P 21 54 19.0 0.0
baz=70,SNR=6.6
238A Jacksonville 70.12 340 ⇓P P 21 54 20.5 +1.1
baz=70

335A Moody 70.14 337 ⇑P P 21 54 20.3 +0.8
baz=70
531A Rocksprings 70.16 334 ⇑P P 21 54 20.6 +0.9
baz=70,SNR=6.4
JCT Junction City 70.19 335 eP P 21 54 20.2 +0.3
JCT pmax pmax
comp=Z,32nm,1.0s
JCT Junction City 70.19 335 eP P 21 54 20.2 +0.3
comp=Z,32nm,1.0s
JCT Junction City 70.19 335 ⇓P P 21 54 20.4 +0.5
baz=70,SNR=6.6
433A Art 70.19 336 ⇓P P 21 54 20.4 +0.5
baz=70,SNR=12
KMSC Kings Mountain 70.41 352 ⇓P P 21 54 21.3 +0.2
baz=71
530A J-C Ranch, Com 70.43 334 ⇑P P 21 54 22.4 +1.0
baz=71,SNR=10
334A Lometa 70.44 337 ⇑P P 21 54 22.1 +0.7
baz=71,SNR=8.1
432A Menard 70.55 335 ⇓P P 21 54 22.3 +0.2
baz=71,SNR=5.7
TXAR Lajitas Array 70.58 331 P P 21 54 22.7 +0.2
comp=Z,4.8nm,0.7s,baz=152,slow=8.7,SNR=12
431A Sonora 70.65 334 ⇑P P 21 54 23.3 +0.5
baz=71
333A Richland Sprin 70.68 336 ⇓P P 21 54 23.1 +0.2
baz=71,SNR=7.6
138A Matatall Enter 70.72 340 ⇓P P 21 54 24.4 +1.4
baz=71
529A Stev Forest Ra 70.74 333 ⇑P P 21 54 24.7 +1.4
baz=71,SNR=7.9
WHTX Lake Whitney 70.81 338 eP P 21 54 23.5 -0.1
comp=Z,37nm,0.9s
WHTX Lake Whitney 70.81 338 ⇓P P 21 54 24.2 +0.6
baz=71,SNR=5.7
137A Heron Place, G 70.86 339 ⇓P P 21 54 25.2 +1.4
baz=71
430A Baggett Ranch, 70.97 334 ⇓P P 21 54 25.3 +0.5
baz=71,SNR=8.3
332A Millersview 70.99 335 ⇓P P 21 54 25.0 +0.2
baz=71,SNR=8.4
234A Clairette 71.03 337 ⇓P P 21 54 25.1 +0.1
baz=71,SNR=6.8
429A Davenport Ranc 71.06 333 ⇑P P 21 54 26.2 +0.9
baz=71,SNR=6.6
SWET Sewanee 71.12 348 eP P 21 54 25.4 -0.1
comp=Z,17nm,0.8s
331A San Angelo 71.16 335 ⇓P P 21 54 25.9 +0.1
baz=72,SNR=10
233A Rising Star 71.29 336 ⇓P P 21 54 26.7 +0.2
baz=72,SNR=7.3
135A Vickery Place, 71.32 338 ⇓P P 21 54 27.0 +0.3
baz=72
232A Coleman 71.42 336 ⇓P P 21 54 27.8 +0.4
baz=72,SNR=7.7
330A Mertzon 71.51 334 ⇓P P 21 54 28.5 +0.5
baz=72,SNR=5.2
134A White-Moore Ra 71.54 337 ⇑P P 21 54 28.3 +0.2
baz=72
231A Bronte 71.69 335 ⇑P P 21 54 29.2 +0.2
baz=72,SNR=10
133A Hamilton Ranch 71.84 337 ⇑P P 21 54 30.2 +0.3
baz=72,SNR=9.6
329A Wagon Wheel Ra 71.88 334 ⇓P P 21 54 30.9 +0.7
baz=72,SNR=5.8
230A Sterling City 71.93 335 ⇓P P 21 54 30.5 +0.1
baz=72,SNR=5.2
Z35A Perchaven, San 71.99 338 ⇓P P 21 54 31.1 +0.5
baz=72,SNR=9.0
ABTX Abilene, Hawle 72.09 336 eP P 21 54 31.1 -0.3
comp=Z,34nm,0.9s
ABTX Abilene, Hawle 72.09 336 ⇓P P 21 54 31.8 +0.4
baz=72,SNR=9.0
Z34A Collier Ranch, 72.23 338 ⇓P P 21 54 32.8 +0.7
baz=72
229A Bryant Ranch, 72.25 334 ⇓P P 21 54 32.9 +0.5
baz=72,SNR=5.4
WVT Waverly 72.35 347 eP P 21 54 32.1 -0.7
WVT pmax pmax
comp=Z,43nm,0.8s
WVT Waverly 72.35 347 eP P 21 54 32.1 -0.7
comp=Z,43nm,0.8s
131A Roby 72.39 335 ⇑P P 21 54 33.4 +0.2
baz=73,SNR=7.5
Z33A Whitaker Ranch 72.42 337 ⇑P P 21 54 33.3 +0.1
baz=73,SNR=11
130A Snyder 72.52 335 ⇑P P 21 54 34.3 +0.3
baz=73,SNR=5.4
228A UT Block 9, Go 72.67 333 ⇓P P 21 54 35.2 +0.4
baz=73,SNR=8.3
Z32A Haskell 72.67 336 ⇓P P 21 54 35.0 +0.2
baz=73,SNR=14
Y34A Reagan Ranch, 72.72 338 ⇑P P 21 54 35.1 0.0
baz=73,SNR=6.4
129A Stewart Farms, 72.87 334 ⇓P P 21 54 36.4 +0.3
baz=73
Z31A Sharp Cattle R 72.90 336 ⇓P P 21 54 36.6 +0.4
baz=73,SNR=9.2
Y33A Hilltop Ranch, 73.04 337 ⇑P P 21 54 37.0 0.0
baz=73,SNR=7.5
128A Castleberry Fa 73.08 334 ⇓P P 21 54 37.8 +0.5
baz=73,SNR=9.9
Z30A Sanderson Ranc 73.20 335 ⇓P P 21 54 38.2 +0.2
baz=74,SNR=10
Y32A R-V Farms, Ver 73.29 337 ⇑P P 21 54 38.6 +0.1
baz=74,SNR=6.0
X34A Smith Ranch, M 73.34 338 ⇑P P 21 54 39.2 +0.5
baz=74,SNR=8.0
MNTX Cornudas Mount 73.36 331 eP P 21 54 37.6 -1.3
comp=Z,9.8nm,0.9s
Z29A Hungry Hill Ra 73.38 335 ⇑P P 21 54 39.3 +0.2
baz=74,SNR=9.5
127A Arkansas Junct 73.45 333 ⇑P P 21 54 40.6 +1.1
baz=74,SNR=5.5
X33A Lawton 73.49 338 ⇑P P 21 54 39.4 -0.3
baz=74
Y31A Rekieta Farm, 73.53 336 ⇑P P 21 54 40.4 +0.5
baz=74,SNR=8.4
X32A Elmer 73.63 337 ⇑P P 21 54 40.7 +0.3
baz=74
Y30A Stafford Cattl 73.66 336 ⇓P P 21 54 41.7 +1.0
baz=74
Y29A Porterfield Fa 73.91 335 ⇑P P 21 54 42.3 +0.1
baz=74,SNR=8.6
W34A Bridge Creek, 73.91 339 ⇓P P 21 54 42.4 +0.3
baz=74
Z27A Tatum 73.97 333 ⇑P P 21 54 43.4 +0.8
baz=74,SNR=6.8
TUL1 Tulsa 73.97 340 eP P 21 54 41.8 -0.6
comp=Z,31nm,0.8s
TUL1 Tulsa 73.97 340 ⇓P P 21 54 42.3 -0.1
baz=74,SNR=6.6
X31A McDonald Ranch 74.04 337 ⇑P P 21 54 43.2 +0.3
baz=74,SNR=6.6
W33A Caddo, Fort Co 74.05 338 ⇓P P 21 54 43.5 +0.6
baz=74,SNR=10
Y28A McKinney Farm, 74.16 335 ⇑P P 21 54 44.0 +0.4
baz=74
X30A Coker Ranch, T 74.17 336 ⇓P P 21 54 43.9 +0.2
baz=74
Z26A Caprock 74.21 333 ⇑P P 21 54 44.4 +0.4
baz=74,SNR=22
W32A Sentinel 74.26 337 ⇓P P 21 54 44.6 +0.5
baz=75,SNR=13
V34A Guthrie 74.39 339 ⇓P P 21 54 44.9 0.0
baz=75
MSTX Muleshoe 74.40 334 eP P 21 54 44.8 -0.3
comp=Z,34nm,0.9s
MSTX Muleshoe 74.40 334 ⇓P P 21 54 45.5 +0.4
baz=75,SNR=8.6
X29A Tulia 74.45 335 ⇓P P 21 54 45.8 +0.4
baz=75,SNR=6.3
Y27A Causey 74.46 334 ⇓P P 21 54 45.5 +0.1
baz=75
Z25A Roswell 74.50 332 ⇑P P 21 54 46.6 +0.9
baz=75
W31A Holland Ranch, 74.54 337 ⇓P P 21 54 46.0 +0.2
baz=75
V33A Lossen Ranch, 74.61 338 ⇓P P 21 54 46.7 +0.6
baz=75,SNR=7.5
X28A Dimmitt 74.69 335 ⇑P P 21 54 47.2 +0.5
baz=75
319A Douglas 74.70 328 ⇓P P 21 54 47.9 +1.0
baz=75
Y26A Elida 74.74 333 ⇑P P 21 54 48.1 +1.0
baz=75,SNR=5.1
V32A Arapaho 74.75 338 ⇑P P 21 54 47.7 +0.8
baz=75
Z24A Sheeppen Canyo 74.79 332 ⇑P P 21 54 48.4 +0.8
baz=75,SNR=11
AMTX Amarillo 74.84 335 eP P 21 54 47.4 -0.2
comp=Z,58nm,1.1s
AMTX Amarillo 74.84 335 ⇑P P 21 54 47.8 +0.2
baz=75
U34A Anderson Ranch 74.96 339 ⇑P P 21 54 48.5 +0.4
baz=75
W29A Amraillo 75.05 336 ⇑P P 21 54 49.6 +0.8
baz=75,SNR=8.6
V31A Spring Creek L 75.05 337 ⇑P P 21 54 49.8 +1.0
baz=75
Y25A Mesa, Roswell 75.06 333 ⇓P P 21 54 48.6 -0.3
baz=75,SNR=5.4
121A Cookes Peak, D 75.06 330 eP P 21 54 49.5 +0.5
comp=Z,19nm,1.0s
121A Cookes Peak, D 75.06 330 ⇑P P 21 54 50.2 +1.1
baz=75,SNR=9.7
X27A F and S Farms, 75.12 334 ⇑P P 21 54 49.9 +0.6
baz=75
U33A Lingo Farm, Me 75.12 339 ⇑P P 21 54 49.3 +0.2
baz=75
X26A CR and CF Fran 75.29 334 ⇑P P 21 54 51.0 +0.7
baz=76,SNR=12
U32A Winter Ranch, 75.34 338 ⇑P P 21 54 51.1 +0.7
baz=76,SNR=8.9
Y24A Capitan 75.35 332 ⇓P P 21 54 51.2 +0.5
baz=76,SNR=8.1
Z22A Elephant Butte 75.36 331 ⇓P P 21 54 52.6 +1.9
baz=76
W27A Bowe Ranch, En 75.49 334 ⇓P P 21 54 52.0 +0.6
baz=76
Y23A Lovelace Mesa, 75.59 332 ⇓P P 21 54 53.0 +0.9
baz=76,SNR=5.3
ACSO Alum Creek Sta 75.63 352 eP P 21 54 51.6 -0.3
comp=Z,44nm,0.8s
V29A Stinnett 75.69 336 ⇓P P 21 54 52.9 +0.4
baz=76
W26A Owens Ranch, T 75.76 334 ⇓P P 21 54 53.8 +0.8
baz=76,SNR=7.8
T33A Patterson Ranc 75.77 339 ⇓P P 21 54 53.4 +0.7
baz=76
V28A Channing 75.81 335 ⇓P P 21 54 54.2 +1.0
baz=76,SNR=8.4
DBIC Dimbokro 75.82 71 P P 21 54 55.4 +1.8
comp=Z,5.2nm,0.8s,baz=227,slow=7.3,SNR=3.9
X24A Lazy VL Ranch, 75.91 332 ⇓P P 21 54 55.3 +1.4
baz=76,SNR=5.7
U30A WK&E Inc. Balk 76.00 337 ⇑P P 21 54 54.6 +0.4
baz=76,SNR=5.1
V27A Dan Oppiter Fa 76.03 335 ⇑P P 21 54 55.1 +0.6
baz=76
T32A Huddler Ranch, 76.06 338 ⇑P P 21 54 55.1 +0.6
baz=76
W25A X Bar L Ranch, 76.13 333 ⇑P P 21 54 55.4 +0.4
baz=76,SNR=7.9
LPM Los Pinos Moun 76.15 331 eP P 21 54 55.8 +0.5
T31A Randall Ranch, 76.21 338 ⇓P P 21 54 56.2 +0.8
baz=76
SFIN Scholer Farm 76.36 348 ⇑P P 21 54 56.0 0.0
baz=77
U28A Mallet 76.38 336 ⇓P P 21 54 56.6 +0.2
baz=77,SNR=6.0
V26A Tequesquite Ra 76.40 334 ⇓P P 21 54 56.7 +0.2
baz=77,SNR=5.3
T30A Plains 76.44 337 ⇑P P 21 54 56.9 +0.3
baz=77
W24A Lazy 6 Ranch, 76.47 333 ⇑P P 21 54 57.7 +0.6
baz=77,SNR=8.1
S32A Newby Ranch, P 76.55 339 ⇓P P 21 54 57.7 +0.5
baz=77
U27A Thompson Grove 76.63 335 ⇑P P 21 54 58.5 +0.7
baz=77,SNR=6.3
S31A Mullinville 76.64 338 ⇑P P 21 54 58.3 +0.6
baz=77,SNR=5.6
ANMO Albuquerque 76.64 332 eP P 21 54 58.3 +0.2
ANMO pmax pmax
comp=Z,22nm,1.1s
ANMO Albuquerque 76.64 332 eP P 21 54 58.3 +0.2
comp=Z,22nm,1.1s
W23A Werner Place, 76.71 332 ⇓P P 21 54 59.6 +1.1
baz=77,SNR=8.9
V25A Rancho No Teng 76.74 334 ⇑P P 21 54 59.1 +0.5
baz=77,SNR=12
T29A Hugoton 76.78 337 ⇑P P 21 54 59.1 +0.5
baz=77
214A Organ Pipe Nat 76.78 326 ⇑P P 21 54 60.0 +1.3
baz=77
R33A Olander Ranch, 76.83 340 ⇓P P 21 54 59.3 +0.5
baz=77
V24A Rampart Ranch, 76.88 333 ⇓P P 21 55 00.0 +0.6
baz=77,SNR=5.5
U26A Atchley Ranch, 76.92 334 ⇓P P 21 55 00.2 +0.6
baz=77
S30A Montezuma 76.96 337 ⇓P P 21 55 00.5 +0.9
baz=77,SNR=7.5
R32A Long Quarter, 77.15 339 ⇑P P 21 55 01.1 +0.5
baz=78,SNR=5.9
S29A Ulysses 77.15 337 ⇑P P 21 55 01.5 +0.8
baz=78,SNR=8.1
U25A Circle Dot Ran 77.16 334 ⇓P P 21 55 02.0 +1.0
baz=78,SNR=8.9
T27A Campo 77.17 336 ⇑P P 21 55 01.5 +0.6
baz=78,SNR=11
KSU1 Kansas State U 77.19 341 eP P 21 54 59.1 -1.7
KSU1 Kansas State U 77.19 341 ⇑P P 21 55 00.6 -0.2
baz=78
V23A Ortiz Mt. (NFS 77.24 332 ⇓P P 21 55 02.4 +1.0
baz=78
R31A Burdett 77.27 338 ⇓P P 21 55 01.9 +0.7
baz=78
S28A Manter 77.37 336 ⇑P P 21 55 02.7 +0.7
baz=78,SNR=17
Q33A Connelly Farm, 77.43 340 ⇓P P 21 55 02.6 +0.4
baz=78
U24A Moreno Valley 77.49 333 ⇓P P 21 55 04.3 +1.4
baz=78
R30A Dighton 77.49 338 ⇑P P 21 55 02.9 +0.4
baz=78
T26A Comanche Natio 77.57 335 ⇑P P 21 55 04.3 +1.1
baz=78,SNR=9.4
Q32A Meitler Ranch, 77.63 339 ⇑P P 21 55 03.4 +0.1
baz=78,SNR=7.2
V22A San Miguel Ran 77.67 332 ⇑P P 21 55 05.3 +1.4
baz=78,SNR=14
X18A Snowflake 77.69 329 ⇑P P 21 55 05.3 +1.4
baz=78
U23A El Rito 77.76 333 ⇓P P 21 55 06.1 +1.7
baz=78,SNR=7.6
T25A Trinidad 77.83 334 ⇑P P 21 55 06.0 +1.3
baz=78,SNR=14
Q31A Ellis 77.89 339 ⇑P P 21 55 05.6 +0.8
baz=78
R29A Marienthal 77.89 337 ⇓P P 21 55 05.3 +0.5
baz=78
S26A Kim 77.93 335 ⇑P P 21 55 06.2 +1.1
baz=78,SNR=13
R28A Tribune 78.03 337 ⇓P P 21 55 06.6 +1.0
baz=78,SNR=9.8
U22A Llaves 78.05 332 ⇓P P 21 55 07.4 +1.5
baz=78,SNR=5.9
T24B San Luis 78.11 334 ⇑P P 21 55 07.5 +1.1
baz=78,SNR=6.9
W18A Petrified Fore 78.11 329 eP P 21 55 06.9 +0.6
comp=Z,38nm,1.1s
W18A Petrified Fore 78.11 329 ⇑P P 21 55 07.8 +1.5
baz=78,SNR=6.4
Q30A Quinter 78.11 338 ⇓P P 21 55 06.7 +0.7
baz=78,SNR=5.9
P32A Huiting Farm, 78.23 340 ⇓P P 21 55 07.3 +0.7
baz=79
X16A Lo Mia Camp, P 78.24 328 ⇓P P 21 55 08.3 +1.3
baz=78
Q29A Oakley 78.26 338 ⇓P P 21 55 07.3 +0.5
baz=79
S25A Robets Cordova 78.30 335 ⇑P P 21 55 08.2 +1.0
baz=79,SNR=8.5
R27A Eads 78.30 336 ⇑P P 21 55 07.6 +0.5
baz=79,SNR=12
T23A Casias Ranch, 78.33 333 ⇓P P 21 55 08.7 +1.2
baz=79
P31A Stockton 78.36 339 ⇓P P 21 55 08.0 +0.6
baz=79
Y14A Wickenburg 78.53 326 ⇓P P 21 55 09.5 +1.1
baz=79
R26A Arlington 78.53 336 ⇓P P 21 55 09.5 +1.1
baz=79,SNR=8.5
S24A Houchin Ranch, 78.56 334 ⇑P P 21 55 10.2 +1.3
baz=79,SNR=13
GLA Glamis 78.64 325 ⇑P P 21 55 10.1 +1.0
baz=79
P30A Selden 78.64 338 ⇑P P 21 55 10.0 +1.1
baz=79
R25A Fountain Ranch 78.68 335 ⇓P P 21 55 10.1 +0.8
baz=79
Q28A Sharon Springs 78.69 337 ⇓P P 21 55 09.7 +0.4
baz=79,SNR=5.6
SDCO Great Sand Dun 78.76 334 eP P 21 55 10.0 +0.1
comp=Z,6.4nm,0.8s
P29A Atwood 78.90 338 ⇑P P 21 55 11.3 +1.0
baz=79,SNR=7.6
O31A Woolen Ranch, 78.93 339 ⇓P P 21 55 11.3 +0.9
baz=79
SWSC Sam W. Stewart 79.01 324 ⇓P P 21 55 08.2 -2.8
baz=79
R24A Sanders Place, 79.05 334 ⇑P P 21 55 12.6 +1.2
baz=79,SNR=11
Y12C Blythe 79.07 325 ⇓P P 21 55 12.4 +1.0
baz=79
Q26A Hugo 79.12 336 ⇓P P 21 55 12.8 +1.1
baz=79
P28A Saint Francis 79.13 337 ⇓P P 21 55 12.4 +0.7
baz=79
WUAZ Wupatki 79.14 328 eP P 21 55 12.3 +0.4
comp=Z,6.9nm,0.8s
WUAZ Wupatki 79.14 328 ⇑P P 21 55 13.0 +1.1
baz=79
O30A MW Ranch, Wils 79.17 339 ⇓P P 21 55 12.5 +0.7
baz=80
S22A 4UR Ranch, Cre 79.25 333 ⇑P P 21 55 13.6 +1.0
baz=80
R23A Moffat 79.27 334 ⇓P P 21 55 13.5 +0.8
baz=80,SNR=6.8
Q25A Bedland, Calha 79.36 335 ⇓P P 21 55 13.7 +0.7
baz=80
MVCO Mesa Verde 79.42 331 ⇑P P 21 55 14.7 +1.2
baz=80,SNR=6.2
P26A Davis Ranch, A 79.64 336 ⇓P P 21 55 15.3 +0.8
baz=80
O28A Krutsinger Ran 79.64 338 ⇑P P 21 55 15.9 +1.5
baz=80
Q24A Divide 79.72 335 ⇑P P 21 55 16.4 +1.3
baz=80,SNR=8.6
BGNE Belgrade 79.76 341 ⇓P P 21 55 15.2 +0.2
baz=80
BOSA Boshof 79.80 118 P P 21 55 17.7 +1.8
comp=Z,4.8nm,0.8s,baz=235,slow=5.7,SNR=2.8
P25A Willow Gulch B 79.87 336 ⇑P P 21 55 17.0 +1.3
baz=80,SNR=8.6
W13A Hualapai Mount 79.90 327 ⇓P P 21 55 17.1 +1.1
baz=80
O27A Beecher Island 79.92 337 ⇑P P 21 55 17.1 +1.2
baz=80
N29A Votaw Ranch, W 79.92 339 ⇓P P 21 55 16.9 +1.0
baz=80
M31A Lambtecht Ranc 79.93 340 ⇑P P 21 55 16.7 +0.8
baz=80,SNR=5.3
BELC Belle Mtn. Jos 79.97 324 ⇑P P 21 55 17.3 +0.9
baz=80
MURC Murrieta 80.23 323 ⇑P P 21 55 18.7 +1.0
baz=80
O26A Horse Wrangler 80.24 336 ⇓P P 21 55 19.1 +1.4
baz=81,SNR=6.3
PV01 Paradox Valley 80.25 332 eP P 21 55 18.6 +0.6
comp=Z,490nm,0.8s
U15A North Rim 80.31 328 ⇑P P 21 55 19.6 +1.2
baz=81
P23A Jefferson 80.32 334 ⇑P P 21 55 19.9 +1.5
baz=81
O25A Wiggins 80.39 336 ⇓P P 21 55 19.8 +1.3
baz=81
GMRC Granite Mounta 80.45 325 ⇓P P 21 55 20.2 +1.2
baz=81
N27A Anderson Farm, 80.50 337 ⇑P P 21 55 20.5 +1.4
baz=81
ISCO Idaho Springs 80.62 335 ⇓P P 21 55 20.8 +0.7
baz=81,SNR=8.0
L31A Butterfield Fa 80.66 340 ⇑P P 21 55 20.5 +0.7
baz=81
L30A Spencer Herefo 80.70 340 ⇑P P 21 55 20.9 +0.9
baz=81
N26A Koester Ranch, 80.74 337 ⇑P P 21 55 20.9 +0.5
baz=81
HEC Hector,Ludlow 80.81 325 ⇓P P 21 55 22.2 +1.4
baz=81
P22A Eagle 80.85 334 ⇓P P 21 55 22.6 +1.5
baz=81
O23A Lake Granby, G 81.09 335 ⇑P P 21 55 23.5 +1.0
baz=81,SNR=9.9
M27A Reverse DX Ran 81.11 338 ⇓P P 21 55 23.0 +0.7
baz=81
O22A Kremmling 81.27 334 ⇑P P 21 55 24.1 +0.6
baz=82,SNR=9.2
N24A Carr 81.29 336 ⇑P P 21 55 24.5 +1.2
baz=82
K30A Basset 81.34 340 ⇓P P 21 55 24.3 +0.8
baz=82,SNR=5.3
GSC Goldstone 81.42 325 ⇑P P 21 55 25.0 +1.0
baz=82
ECSD EROS Data Cent 81.54 343 eP P 21 55 24.1 -0.3
comp=Z,34nm,0.8s
ECSD EROS Data Cent 81.54 343 ⇑P P 21 55 24.6 +0.2
baz=82,SNR=11
M25A Palm-Egli Farm 81.56 336 ⇓P P 21 55 25.3 +0.6
baz=82
K29A Lazy Trails An 81.62 340 ⇓P P 21 55 25.9 +1.0
baz=82
SHPR Sheep Range 81.64 326 eP P 21 55 25.8 +0.4
EDW2 Edwards Air Fo 81.64 324 ⇓P P 21 55 25.8 +0.5
baz=82
N23A Red Feather La 81.71 335 ⇑P P 21 55 26.7 +1.0
baz=82,SNR=6.2
CCUT Cedar City 81.71 328 eP P 21 55 26.6 +0.8
comp=Z,17nm,0.9s
N22A Wattenberg Ran 81.81 335 ⇑P P 21 55 27.4 +1.2
baz=82,SNR=7.2
M24A Cheyenne 81.84 336 ⇑P P 21 55 27.6 +1.3
baz=82
SRU San Rafael 81.86 331 eP P 21 55 26.3 -0.2
SRU pmax pmax
comp=Z,12nm,0.8s
SRU San Rafael 81.86 331 eP P 21 55 26.3 -0.2
comp=Z,12nm,0.8s
O20A White River Ci 81.87 333 ⇓P P 21 55 27.5 +1.0
baz=82
K28A Ten Mile Ranch 81.88 339 ⇓P P 21 55 28.1 +1.8
baz=82
MVU Marysvale 82.03 330 eP P 21 55 27.9 +0.4
comp=Z,10nm,0.9s
SPMN St. Paul 82.10 346 eP P 21 55 26.1 -1.1
comp=Z,23nm,0.9s
SPMN St. Paul 82.10 346 ⇑P P 21 55 26.8 -0.4
baz=82
M23A Laramie 82.14 335 ⇑P P 21 55 28.9 +0.9
baz=82,SNR=5.9
J29A Okreek 82.22 340 ⇑P P 21 55 28.7 +0.7
baz=82,SNR=7.1
TMUT Trail Mountain 82.29 331 eP P 21 55 29.3 +0.4
comp=Z,16nm,0.9s
FURC Furnace Creek, 82.39 325 ⇓P P 21 55 30.5 +1.5
baz=83
I30A Oacoma 82.44 341 ⇑P P 21 55 29.2 +0.1
baz=83
N20A Spence Gulch, 82.49 333 ⇓P P 21 55 30.3 +0.6
baz=83
J28A Allard Ranch, 82.49 339 ⇑P P 21 55 30.2 +0.7
baz=83
ISA Isabella 82.51 324 ⇓P P 21 55 31.1 +1.3
baz=83
K25A Mack Ranch, Ha 82.56 337 ⇑P P 21 55 30.1 +0.1
baz=83
J27A Elkhorn Farm, 82.56 339 ⇑P P 21 55 31.3 +1.4
baz=83,SNR=5.9
L23A Garrett 82.71 336 ⇓P P 21 55 31.5 +0.6
baz=83
BRSD Miller 82.80 341 ⇓P P 21 55 31.5 +0.5
baz=83
L22A Ellis Ranch, M 82.89 335 ⇑P P 21 55 32.9 +1.1
baz=83
J26A Sides Ranch, S 82.94 338 ⇑P P 21 55 33.1 +1.3
baz=83
VES Vestal, Richgr 82.95 323 ⇑P P 21 55 33.1 +1.1
baz=83
K24A Anderson Ranch 82.96 337 ⇑P P 21 55 33.0 +0.9
baz=83,SNR=5.6
I28A Midland 83.00 340 ⇓P P 21 55 32.9 +0.8

baz=83
GRAC Grapevine Rang 83.06 325 ⇑P P 21 55 33.9 +1.3
baz=83
J25A Sunshine Ranch 83.24 338 ⇑P P 21 55 34.1 +0.7
baz=84,SNR=12
K23A Bowen Ranch, D 83.26 336 ⇑P P 21 55 34.2 +0.6
baz=84
I27A Quinn 83.32 339 ⇑P P 21 55 34.0 +0.3
baz=84
R11A Troy Canyon, C 83.35 327 eP P 21 55 35.0 +0.7
comp=Z,9.8nm,0.8s
R11A Troy Canyon, C 83.35 327 ⇓P P 21 55 35.6 +1.3
baz=84
J24A Dixon Ranch, L 83.46 337 ⇑P P 21 55 35.4 +0.8
baz=84,SNR=5.6
K22A Casper 83.47 335 eP P 21 55 35.0 +0.3
comp=Z,23nm,1.1s
K22A Casper 83.47 335 ⇑P P 21 55 35.4 +0.7
baz=84
G30A Faulkton 83.49 341 ⇓P P 21 55 34.4 -0.1
baz=84
JLU Jordanelle 83.50 331 eP P 21 55 35.2 +0.1
comp=Z,11nm,0.8s
I26A New Underwood 83.53 338 ⇑P P 21 55 35.4 +0.5
baz=84
H28A Mission Ridge 83.58 340 ⇑P P 21 55 35.3 +0.2
baz=84,SNR=6.1
K21A Alcova 83.70 335 ⇓P P 21 55 36.4 +0.4
baz=84,SNR=8.6
DUG Dugway 83.71 330 eP P 21 55 36.5 +0.5
DUG pmax pmax
comp=Z,26nm,1.3s
DUG Dugway 83.71 330 eP P 21 55 36.5 +0.5
comp=Z,26nm,1.3s
DUG Dugway 83.71 330 ⇑P P 21 55 36.8 +0.8
baz=84
G29A Hoven 83.75 341 ⇑P P 21 55 35.5 -0.4
baz=84
I25A Rochford 83.78 338 ⇑P P 21 55 37.0 +0.7
baz=84,SNR=8.5
H27A Howes 83.84 339 ⇑P P 21 55 37.1 +0.7
baz=84
G28A Parade 83.92 340 ⇓P P 21 55 37.4 +0.6
baz=84,SNR=6.5
I24A Kuemmerle Ranc 83.92 337 ⇓P P 21 55 37.5 +0.6
baz=84
TCUT Toone Canyon 83.93 331 eP P 21 55 37.2 0.0
comp=Z,24nm,1.2s
F30A Leola 84.11 342 ⇑P P 21 55 37.8 0.0
baz=84
J22A Midwest 84.13 336 ⇑P P 21 55 37.9 -0.2
baz=84
MLAC Mammoth Lakes 84.26 325 ⇑P P 21 55 40.0 +1.0
baz=84
H25A Fruitdale 84.29 338 ⇓P P 21 55 39.2 +0.5
baz=85
F29A Eureka 84.32 341 ⇑P P 21 55 39.0 +0.2
baz=85,SNR=8.6
J21A Lysite 84.40 335 ⇓P P 21 55 40.4 +0.9
baz=85
G27A Dupree 84.48 340 ⇑P P 21 55 40.0 +0.3
baz=85
I22A 9 Mile Ranch, 84.56 336 ⇑P P 21 55 40.3 +0.2
baz=85,SNR=5.9
F28A McLaughlin 84.60 340 ⇑P P 21 55 41.3 +1.1
baz=85
G26A Maurine 84.60 339 ⇑P P 21 55 40.3 +0.1
baz=85
J20A Shoshoni 84.63 335 ⇓P P 21 55 41.6 +1.1
baz=85,SNR=12
PDAR Pinedale Array 84.64 333 P P 21 55 40.2 -0.5
comp=Z,2.5nm,0.7s,baz=152,slow=4.8,SNR=8.3
NVAR Mina Array Bea 84.65 325 P P 21 55 41.4 +0.5
comp=Z,5.2nm,0.8s,baz=154,slow=6.1,SNR=15
H24A Dirks Ranch, A 84.69 338 ⇓P P 21 55 40.8 -0.1
baz=85,SNR=5.1
E30A Jud 84.70 342 ⇑P P 21 55 40.8 +0.1
baz=85
G25A Newell 84.75 339 ⇑P P 21 55 41.5 +0.4
baz=85,SNR=5.9
I21A Big Trails, Te 84.76 335 ⇑P P 21 55 41.5 +0.2
baz=85,SNR=8.4
TORD Torodi Ar. Bea 84.87 70 P P 21 55 43.5 +1.2
comp=Z,3.4nm,0.8s,baz=253,slow=4.6,SNR=6.5
J19A Crowheart 84.89 334 ⇓P P 21 55 42.3 +0.3
baz=85,SNR=5.8
E29A Napoleon 84.95 342 ⇑P P 21 55 42.2 +0.2
baz=85
F27A Lemmon 84.96 340 ⇑P P 21 55 42.4 +0.3
baz=85,SNR=6.0
HVU Hansel Valley 85.03 331 eP P 21 55 42.3 -0.4
HVU pmax pmax
comp=Z,16nm,0.8s
HVU Hansel Valley 85.03 331 eP P 21 55 42.3 -0.4
comp=Z,16nm,0.8s
F26A Lodgepole 85.13 339 ⇓P P 21 55 42.9 0.0
baz=86
H22A Clearmont 85.14 336 ⇓P P 21 55 43.3 +0.3
baz=85,SNR=5.5
I20A Worland 85.17 335 ⇑P P 21 55 43.6 +0.4
baz=86,SNR=13
AHID Auburn Hatcher 85.22 332 eP P 21 55 42.9 -0.7
comp=Z,28nm,1.7s
D30A Buchanan 85.23 342 ⇑P P 21 55 43.7 +0.4
baz=86
E28A Huff 85.24 341 ⇓P P 21 55 43.8 +0.4
baz=86
WAKR Walker 85.24 325 eP P 21 55 44.9 +1.0
comp=Z,11nm,1.1s
E27A Carson 85.34 340 ⇓P P 21 55 44.1 +0.2
baz=86
G23A Biddle 85.37 337 ⇑P P 21 55 44.6 +0.4
baz=86,SNR=5.3
H21A Big Horn, Sher 85.39 336 ⇑P P 21 55 44.1 -0.2
baz=86,SNR=6.6
D29A Pettibone, Tap 85.40 342 ⇓P P 21 55 44.3 +0.1
baz=86
F25A Bowman 85.43 339 ⇓P P 21 55 44.7 +0.3
baz=86
I19A Meeteetse 85.55 334 ⇓P P 21 55 45.8 +0.6
baz=86
H20A Greybull 85.59 335 ⇓P P 21 55 45.8 +0.5
baz=86,SNR=14
E26A Carlson Angus 85.63 340 ⇑P P 21 55 45.4 0.0
baz=86
F24A Ekalaka 85.65 338 ⇑P P 21 55 45.7 +0.1
baz=86
AGMN Agassiz Nation 85.67 345 ⇑P P 21 55 45.6 +0.2
baz=86
G22A Birney 85.67 337 ⇑P P 21 55 46.1 +0.4
baz=86
C30A Mose, Pekin 85.72 343 ⇓P P 21 55 46.2 +0.4
baz=86,SNR=9.2
D28A Regan 85.77 341 ⇑P P 21 55 46.0 -0.1
baz=86
F23A Volborg 85.84 337 ⇑P P 21 55 46.4 -0.1
baz=86,SNR=11
G21A Lodge Grass 85.98 336 ⇓P P 21 55 47.2 0.0
baz=86,SNR=10.0
I17A Pilgrim Ck. 86.01 333 ⇑P P 21 55 48.5 +0.9
baz=86,SNR=8.1
H19A Powell 86.09 335 ⇓P P 21 55 48.1 +0.3
baz=86,SNR=9.2
D26A Manning 86.13 340 ⇓P P 21 55 48.3 +0.4
baz=86,SNR=6.6
F22A Rosebud 86.16 337 ⇓P P 21 55 48.0 -0.1
baz=86,SNR=6.5
E24A Baker 86.25 339 ⇑P P 21 55 49.0 +0.6
baz=87
G20A Bridger 86.31 336 ⇓P P 21 55 48.7 -0.2
baz=87,SNR=18
H18A Shoshone NF, C 86.34 334 ⇑P P 21 55 49.3 +0.1
baz=87,SNR=20
B30A Myrvik Farm, E 86.38 343 ⇓P P 21 55 49.0 0.0
baz=87,SNR=10
H17A Grant Village 86.42 334 ⇓P P 21 55 46.9 -2.7
baz=87,SNR=7.5
F21A Absaloka Mine, 86.48 336 ⇑P P 21 55 49.9 +0.2
baz=87
D25A Fairfield 86.50 339 ⇓P P 21 55 50.5 +0.8
baz=87,SNR=6.6
E23A Ismay 86.50 338 ⇓P P 21 55 50.1 +0.4
baz=87
C27A Sayler Ranch, 86.50 341 ⇑P P 21 55 50.4 +0.7
baz=87,SNR=7.0
RLMT Red Lodge 86.59 335 eP P 21 55 49.7 -0.7
comp=Z,4.4nm,0.5s
B29A Wagenman Farm, 86.64 342 ⇑P P 21 55 50.4 +0.1
baz=87,SNR=6.3
E22A Miles City 86.65 337 ⇑P P 21 55 50.2 -0.2
baz=87
D24A Glendive 86.76 339 ⇓P P 21 55 51.7 +0.8
baz=87,SNR=5.1
C26A Wahner Farm, P 86.77 340 ⇑P P 21 55 51.4 +0.5
baz=87
F20A Billings 86.80 336 ⇓P P 21 55 51.0 -0.2
baz=87
YMR Madison River 86.80 334 eP P 21 55 51.7 +0.3
comp=Z,21nm,0.9s
A30A Hoffart Farm, 86.83 343 ⇓P P 21 55 50.8 -0.4
baz=87,SNR=6.2
B28A Dugan Ranch, T 86.88 342 ⇑P P 21 55 52.3 +0.9
baz=87,SNR=8.6
LAO LASA Array 86.95 337 eP P 21 55 51.7 -0.3
comp=Z,20nm,0.9s
A29A Manning Farm, 87.03 343 ⇓P P 21 55 52.3 +0.1
baz=87,SNR=11
D23A Lindsay 87.07 338 ⇑P P 21 55 53.2 +0.7
baz=87,SNR=11
E21A Keefer Ranch, 87.10 337 ⇓P P 21 55 52.6 0.0
baz=87,SNR=6.7
F19A Roth Farm, Mol 87.11 335 ⇑P P 21 55 52.8 0.0
baz=87
C24A Savage 87.16 339 ⇓P P 21 55 53.6 +0.7
baz=88,SNR=16
HLID Hailey 87.18 331 ⇓P P 21 55 54.2 +1.0
baz=88,SNR=9.1
B26A Jensen Ranch, 87.31 341 ⇑P P 21 55 54.5 +0.9
baz=88
D22A Cohagen 87.35 338 ⇓P P 21 55 54.2 +0.4
baz=88
E20A Meyer Farm, Mu 87.41 336 ⇑P P 21 55 54.5 +0.3
baz=88,SNR=11
B25A Knox Farm, Ray 87.47 340 ⇓P P 21 55 55.1 +0.7
baz=88,SNR=6.4
ULM Lac du Bonnet 87.52 345 eP P 21 55 53.4 -1.0
ULM pmax pmax
comp=Z,14nm,0.9s
ULM Lac du Bonnet 87.52 345 P P 21 55 53.9 -0.5
comp=Z,14nm,0.8s,baz=169,slow=2.9,SNR=13
ULM Lac du Bonnet 87.52 345 eP P 21 55 53.4 -1.0
comp=Z,14nm,0.9s
D21A La Casta Ranch 87.53 337 ⇓P P 21 55 55.0 +0.3
baz=88
A27A Ledoux Ranch, 87.57 341 ⇑P P 21 55 55.5 +0.7
baz=88
E19A Rath Farm, Rou 87.59 336 ⇓P P 21 55 55.1 +0.1
baz=88,SNR=11
C23A Lambert 87.63 339 ⇑P P 21 55 55.5 +0.3
baz=88,SNR=9.9
A26A Wade Farm, Ken 87.73 341 ⇓P P 21 55 56.0 +0.4
baz=88,SNR=6.7
C22A Vida 87.79 338 ⇓P P 21 55 56.0 +0.1
baz=88
D20A Manuel Ranch, 87.92 336 ⇓P P 21 55 56.6 0.0
baz=88,SNR=7.3
DGMT Dagmar 87.94 339 eP P 21 55 56.8 +0.2
comp=Z,53nm,1.0s
DGMT Dagmar 87.94 339 ⇑P P 21 55 57.2 +0.6
baz=88,SNR=9.3
A25A Svangstu Ranch 88.06 340 ⇓P P 21 55 57.8 +0.6
baz=88
B23A Brockton 88.17 339 ⇓P P 21 55 57.7 +0.1
baz=88
D19A Cripps Ranch, 88.23 336 ⇓P P 21 55 58.0 -0.1
baz=88
C21A Desert Coulee 88.24 337 ⇓P P 21 55 58.1 0.0
baz=89,SNR=5.5
A24A Westby 88.30 340 ⇑P P 21 55 58.9 +0.6
baz=89
MOD Modoc 88.34 326 eP P 21 55 59.1 +0.3
comp=Z,16nm,0.7s
C20A Veseth Ranch, 88.43 337 ⇑P P 21 55 58.9 0.0
baz=89
N02D Trinity Center 88.74 324 ⇑P P 21 56 00.9 +0.3
baz=89
C19A Slack Wire Ran 88.79 336 ⇑P P 21 56 00.9 +0.2
baz=89
A22A Carney Farms, 88.91 339 ⇑P P 21 55 56.3 -4.9
baz=89
M04C Macdoel 88.96 325 ⇑P P 21 56 02.6 +0.9
baz=89
B20A Solberg Farm, 89.07 337 ⇑P P 21 56 02.2 +0.3
baz=89
M02C Callahan 89.13 325 ⇑P P 21 56 03.6 +1.1
baz=89
A21A Bergtoll Ranch 89.22 338 ⇑P P 21 56 02.3 -0.3
baz=90
EGMT Eagleton 89.28 336 ⇓P P 21 56 02.5 -0.4
baz=90
B19A Brinkman Farms 89.38 337 ⇓P P 21 56 03.6 +0.2
baz=90
A20A Cobblestone Ra 89.43 337 ⇓P P 21 56 03.3 -0.4
baz=90
A19A Klindworth Far 89.73 337 ⇑P P 21 56 04.7 -0.3
baz=90
SCHQ Schefferville 89.73 3 P P 21 56 04.5 -0.3
comp=Z,5.6nm,1.0s,baz=322,slow=1.4,SNR=3.6
MSO Missoula 89.73 333 ⇑P P 21 56 05.7 +0.5
baz=90
J05D Fort Rock, OR 89.86 327 ⇑P P 21 56 06.6 +0.7
baz=90
J04D Umpqua Nationa 90.22 326 ⇑P P 21 56 08.9 +1.3
baz=90
I04A Tendick Farm, 90.79 326 ⇑P P 21 56 11.0 +0.9
baz=91
YKA Yellowknife Ar 103.04 341 Pdiff Pdif 21 57 04.2 -0.8
comp=Z,0.6nm,0.7s,baz=140,slow=4.4,SNR=11
YKA PP PP 22 01 21.4 +1.2
comp=Z,0.1nm,0.3s,baz=140,slow=7.1,SNR=4.5
GERES GERESS Array B 113.16 46 PKiKP PKiKP 22 01 43.3 -0.9
comp=Z,0.4nm,0.6s,baz=252,slow=0.4,SNR=3.6
VYHS Vyhne 116.07 48 ePKIKP PKPdf 22 01 49.5 -0.2
VYHS Vyhne 116.07 48 ePKP PKPdf 22 01 49.5 -0.2
NOA NORSAR Array B 117.13 33 PKP PKPdf 22 01 51.2 -0.2
comp=Z,0.7nm,0.8s,baz=252,slow=2.3,SNR=3.4
WRA Warramunga Arr 119.63 209 PKP PKPdf 22 01 55.8 -1.8
comp=Z,0.8nm,0.6s,baz=168,slow=1.7,SNR=5.2
BRTR Keskin Array B 122.63 62 PKP PKPdf 22 02 02.8 -0.1
comp=Z,1.0nm,0.8s,baz=239,slow=2.2,SNR=4.7
AKASG Malin Array Be 123.17 48 PKP PKPdf 22 02 02.4 -0.9
comp=Z,1.9nm,0.8s,baz=260,slow=2.5,SNR=6.6
FINES FINESS Array B 124.09 35 PKP PKPdf 22 02 04.6 -0.1
comp=Z,1.6nm,0.9s,baz=204,slow=4.2,SNR=4.2
OBN Obninsk 128.46 44 i PKIKP PKPdf 22 02 13.5 +0.3
OBN pmax pmax
comp=Z,10.0nm,1.8s
KLMR Klimovskoe 130.49 37 ePKIKP PKPdf 22 02 15.3 -1.6
KLMR pmax pmax
comp=Z,35nm,1.9s
ONI Oni 130.55 61 P PKPdf 22 02 15.9 -1.9
BILL Bilibino 133.72 334 ePKIKP PKPdf 22 02 22.7 -0.2
BILL pmax pmax
comp=Z,4.0nm,1.2s
SEY Seymchan 140.86 329 PKP PKPdf 22 02 33.2 -3.0
comp=Z,5.7nm,0.8s,baz=118,slow=5.2,SNR=9.6
GSI Gunungsitoli 145.07 162 ePKPbc PKPab 22 02 44.7 +0.2
HYB Hyderabad 148.70 117 i PKP PKPbc 22 02 53.5 -1.4
YAK Yakutsk 149.69 339 ePKP2 PKPbc 22 02 55.2 -0.8
YAK pmax pmax
comp=Z,49nm,0.9s
YAK Yakutsk 149.69 339 ePKPbc PKPbc 22 02 55.4 -0.6
YAK ePKPab PKPab 22 03 00.3 -1.0
YSS Yuzh-Sakhalins 151.22 305 ePKIKP PKPbc 22 02 59.1 -1.0
YSS Yuzh-Sakhalins 151.22 305 ePKPbc PKPbc 22 02 59.4 -0.8
YSS ePKPab PKPab 22 03 06.3 -1.8
AAK Ala-Archa 153.28 64 ePKIKP PKPbc 22 03 06.3 +1.1
AAK Ala-Archa 153.28 64 PKPbc PKPbc 22 03 06.2 +1.0
comp=Z,5.0nm,0.8s,baz=327,slow=1.8,SNR=4.9
NVS Novosibirsk 154.05 33 ePKIKP PKPbc 22 03 05.5 -0.7
NVS pmax pmax
comp=Z,10.0nm,1.1s
KSH Kashi 154.54 71 ePKPbc PKPdf 22 02 58.8 -0.7
KSH epPKP PKiKP 22 03 09.0 +1.0
KSH esPKP 22 03 14.3
KSH eSKS SKSdf 22 10 00.5 -4.9
KSH eSKKS SKKSac 22 13 44.5 -2.7
KSH eSS SS 22 26 34.3 -4.8
KSH AMB AMB
comp=Z,100nm,5.2s
KSH LR LR
comp=Z,91nm,5.3s
ZALV Zalesovo Beam 155.34 33 PKPbc PKPdf 22 03 08.9 +9.0
comp=Z,2.1nm,0.6s,baz=311,slow=3.2,SNR=3.0
ZALV PKPab PKPab 22 03 25.7 +0.4
comp=Z,2.7nm,0.6s,baz=301,slow=5.3,SNR=3.9
BOD Bodaibo 156.91 351 ePKP2 PKPab 22 03 31.3 -0.5
BOD pmax pmax
comp=Z,10.0nm,0.9s
MKAR Makanchi Array 157.72 51 PKPab PKPab 22 03 35.1 -0.8
comp=Z,1.6nm,0.8s,baz=289,slow=3.6,SNR=3.5
USRK Ussuriysk Arra 159.22 303 PKPab PKPab 22 03 42.0 -0.4
comp=Z,2.8nm,0.8s,baz=83,slow=3.1,SNR=9.2
ZAK Zakamensk 164.44 10 ePKP2 PKPab 22 04 04.8 -0.2
ZAK e 22 07 48.5
ZAK pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 167.28 4 PKPab PKPab 22 04 18.5 +0.9
comp=Z,2.8nm,0.8s,baz=338,slow=5.0,SNR=16
NJ2 Nanjing 170.13 255 ePKP PKPdf 22 03 16.5 +1.5
GYA Guiyang 171.31 174 PKP PKPdf 22 03 15.5 -0.5
GYA pPKP pPKPdf 22 03 26.5 +4.3
GYA PKPab PKPab 22 04 37.0 +1.0
GYA PKS PKSdf 22 06 46.3 -2.3
GYA PP PP 22 08 29.8 +4.1
GYA SKKS 22 15 10.3
GYA SS SS 22 29 28.5 -1.4
GYA AMB AMB
comp=Z,140nm,8.6s
GYA LR LR
comp=Z,130nm,21.2s
GYA LR LR
comp=Z,110nm,21.8s
GYA LR LR
comp=Z,120nm,24.5s
GTA Gaotai 172.46 53 pPKP PKPdf 22 03 15.8 -0.4
GTA sPKP 22 03 19.5
GTA PKPab PKPab 22 04 32.5 -8.5
WHN Wuhan 172.71 233 PKP PKPdf 22 03 16.5 +0.2
HHC Hu-ho-hao-te 173.50 332 ePKP PKPdf 22 03 15.5 -1.0
HHC pPKP pPKPdf 22 03 24.8 +2.1
HHC sPKP 22 03 30.5
HHC PP PP 22 08 36.0 -0.8
HHC AMB AMB
comp=Z,430nm,11.8s
CD2 Chengdu 174.69 141 PKP PKPdf 22 03 15.8 -1.4
CD2 pPKP pPKPdf 22 03 27.0 +3.6
CD2 sPKP 22 03 30.8
CD2 PKS PKSdf 22 06 46.5 -2.9
CD2 PP PP 22 08 45.3 +2.4
CD2 SKS SKSdf 22 10 13.3 -6.2
CD2 SKKS SKKSac 22 15 26.0 -2.9
CD2 SS SS 22 30 00.8 -3.0
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 176.79 72 ePKP PKPdf 22 03 17.8 +0.1
LZH pPKP pPKPdf 22 03 27.8 +3.9
LZH sPKP 22 03 31.5

IDC 27 21:46:32.9±1.1, 37.63S×74.14W, h0km, mb4.2/3, mb1 4.4/4, mb1mx4.0/27, mbtmp4.2/4, Error ellipse: s-maj=48.8km s-min=29.4km az=74.0
ISCJB 27 21:46:36.3±1.0, 37.7S±0.1×73.9W±0.3, h33km, mb4.2/6, Error ellipse: s-maj=37.2km s-min=14.2km az=161.2
NEIC 27 21:46:38.1±0.7, 37.68S×73.99W, h35km, mb4.4/3, Error ellipse: s-maj=28.3km s-min=12.2km az=74.0
ISC 27 21:46:38.3±0.9, 37.7S±0.1×73.9W±0.3, h35km, n17, σ0§82/15, mb4.3/6, Near coast of central Chile

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PLCA Paso Flores 4.04 141 Pn Pn 21 47 36.7 -1.1
baz=298,slow=15,SNR=0.9
PLCA Lg Lg 21 48 51.5
3.1nm,0.3s,baz=270,slow=13,SNR=2.0
LPAZ La Paz 21.88 15 eP P 21 51 28.1 -0.7
8.4nm,0.9s
OTAV Otavalo 37.93 353 eP P 21 53 52.8 -0.1
3.1nm,0.5s
QSPA South Pole Qui 52.59 180 P P 21 55 49.1 +0.7
5.7nm,0.9s,baz=149,slow=7.9,SNR=3.6
QSPA South Pole Qui 52.59 180 eP P 21 55 48.7 +0.3
7.1nm,0.9s
APG El Apazote 54.63 340 P P 21 55 57.9 -6.0
2.7nm,0.6s,baz=161,slow=19,SNR=3.8
TXAR Lajitas Array 72.22 333 P P 21 57 59.0 -0.8
0.8nm,0.7s,baz=159,slow=7.6,SNR=4.4
TXAR Lajitas Array 72.22 333 P P 21 57 59.0 -0.8
TORD Torodi Ar. Bea 86.87 71 P P 21 59 20.4 +0.8
1.3nm,0.9s,baz=228,slow=4.9,SNR=4.3
GERES GERESS Array B 115.78 47 PKP PKPdf 22 05 15.9 -0.7
0.3nm,0.7s,baz=224,slow=2.7,SNR=2.7
BRTR Keskin Array B 124.88 64 PKP PKPdf 22 05 35.0 +0.5
0.6nm,0.6s,baz=194,slow=3.0,SNR=3.7
GEYT Alibeck 142.43 74 PKhKP PKPpre 22 06 03.9
0.6nm,0.6s,baz=188,slow=2.2,SNR=2.4
PSI Prapat 144.70 168 PKP PKPab 22 06 10.4 -0.4
6.5nm,0.7s,baz=218,slow=4.0,SNR=6.8
BVAR Borovoye Array 150.94 47 PKPbc PKPbc 22 06 27.7 +1.1
2.6nm,0.6s,baz=286,slow=2.6,SNR=8.1
AAK Ala-Archa 155.43 68 PKPab PKPab 22 06 54.8 +1.1
1.3nm,0.6s,baz=251,slow=5.9,SNR=3.8
ZALV Zalesovo Beam 158.10 35 PKPab PKPab 22 07 05.2 +0.6
0.8nm,0.7s,baz=331,slow=5.3,SNR=2.6
MKAR Makanchi Array 160.22 55 PKPab PKPab 22 07 14.2 +0.1
0.9nm,0.9s,baz=276,slow=4.2,SNR=3.4

SJA 27 21:48:06.6±0.9, 34.15S×73.85W, h7km±77km, ML4.9
IDC 27 21:48:21.4±0.5, 34.03S×72.23W, h0km, mb4.6/15, mb1 4.7/18, mb1mx4.6/31, mbtmp4.7/18, ML4.6/3, Error ellipse: s-maj=19.7km s-min=13.1km az=83.0
ISCJB 27 21:48:23.7±1.2, 34.08S±0.04×72.34W±0.04, h24km±8km, mb4.9/45, MS5.1/118, Error ellipse: s-maj=6.5km s-min=5.5km az=1.3
GUC 27 21:48:24.4±0.6, 34.01S×72.28W, h36km±6km, ML5.0
NEIC 27 21:48:25.2±1.8, 34.03S×72.29W, h25km±3km, mb5.1/43, MS5.1/125, Error ellipse: s-maj=18.9km s-min=12.2km az=85.0
MOS 27 21:48:25.4±0.9, 33.98S×72.18W, h33km, mb5.4/11, MS4.9/4, Error ellipse: s-maj=19.5km s-min=11.0km az=92.8
BJI 27 21:48:28.2, 34.00S×72.10W, h28km, mB5.4/6, Ms5.1/3, Ms7 5.1/4
ISC 27 21:48:25.8±0.8, 34.03S±0.05×72.23W±0.06, h29km±5km, n405, σ1§03/338, mb5.1/48, MS5.0/118, 5C-5D, Near coast of central Chile

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LCCH Las Cruces 0.78 45 ⇑iP Pn 21 48 40.2 -0.7
IHA Instituto Hidr 1.12 26 ⇑iP Pn 21 48 44.9 -0.6
IHA iS Sb 21 49 00.3 -0.2
TACH Talagante 1.14 71 ⇑iP Pn 21 48 45.7 -0.1
RCDM Rinconada Maip 1.30 66 ⇓iP Pn 21 48 48.5 +0.4
RCDM iS Sb 21 49 06.4 +0.5
SAN Santiago 1.43 67 ⇓iP Pn 21 48 50.4 +0.6
SAN iS Sb 21 49 10.1 +0.6
STL Santa Lucia 1.45 66 ⇑iP Pn 21 48 49.7 -0.4
STL iS Sb 21 49 09.8 -0.4
ROCH El Roble 1.47 44 ⇓iP Pn 21 48 50.9 +0.4
ROCH iS Sb 21 49 11.6 +0.8
ROCH AML AML 21 49 20.5
comp=E,23µm,0.6s
PEL Peldehue 1.56 56 ⇓iP Pn 21 48 52.6 +0.9
PEL iS Sb 21 49 14.1 +0.6
PEL AML AML 21 49 22.6
comp=E,65µm,0.5s
FCH Farellones 1.76 67 AML AML 21 49 24.2
comp=N,15µm,0.7s
AUSP Uspallata 2.99 54 iP Pn 21 49 14.6 +3.1
AAGR Agrelo 2.99 73 iP Pb 21 49 16.0 -2.4
ARCO CERRO ARCO 3.00 68 iP Pb 21 49 17.3 -1.3
ARCO ⇓iS Sb 21 50 07.4 +12
ARCO AML AML 21 50 14.3
comp=Z,1µm,0.7s
AVIZ Vizcacheras 3.14 81 iP Pb 21 49 18.2 -2.7
RTLS Leoncito 3.32 49 iP Pn 21 49 19.0 +3.0
CFAA Coronel Fontan 4.14 55 Pn Pn 21 49 27.9 +0.8
comp=Z,0.9nm,0.3s,baz=230,slow=14,SNR=2.8
CFAA Lg Lg 21 50 29.2
comp=Z,5.7nm,0.3s,baz=306,slow=17,SNR=4.8
CFAA Coronel Fontan 4.14 55 iP Pn 21 49 30.7 +3.5
CFAA iS Sb 21 50 33.0 +5.5
AMOG MOGNA 4.41 47 iP Pn 21 49 33.1 +2.2

AMOG iP Pn 21 49 33.1 +2.2
PLCA Paso Flores 6.82 169 eP Pn 21 50 05.2 +1.3
PLCA Paso Flores 6.82 169 Pn Pn 21 50 04.8 +0.8
comp=Z,3.9nm,0.3s,baz=328,slow=14,SNR=2.0
PLCA Lg Lg 21 51 57.5
comp=Z,1.9nm,0.3s,baz=287,slow=19,SNR=2.4
PLCA Paso Flores 6.82 169 ePn Pn 21 50 05.2 +1.3
TRQA Tornquist 9.22 119 ePn Pn 21 50 38.7 +2.0
CPUP Villa Florida 14.98 63 ePn Pn 21 51 55.3 -0.3
CPUP Villa Florida 14.98 63 Pn Pn 21 51 56.0 +0.4
comp=Z,0.6nm,0.3s,baz=253,slow=11,SNR=2.5
CPUP Villa Florida 14.98 63 ePn Pn 21 51 55.3 -0.3
LPAZ La Paz 18.05 13 eP Pn 21 52 35.8 +0.3
LPAZ La Paz 18.05 13 P Pn 21 52 35.1 0.0
comp=Z,0.6nm,0.3s,baz=145,slow=11,SNR=9.5
LPAZ La Paz 18.05 13 ePn P 21 52 35.8 +0.3
LPAZ eP Pn 21 52 36.0 +0.9
EFI East Falkland 20.40 154 eP P 21 52 57.1 -3.1
EFI pmax pmax
comp=Z,312nm,1.9s
EFI East Falkland 20.40 154 eP P 21 52 57.1 -3.1
comp=Z,312nm,1.9s
SIV San Ignacio 20.58 32 P P 21 53 02.2 -0.3
comp=Z,15nm,0.6s,baz=209,slow=9.9,SNR=18
NNA Nana 22.35 348 eP P 21 53 21.3 -0.2
NNA MLR MLR
comp=Z,1µm,20.0s
NNA Nana 22.35 348 P P 21 53 21.3 -0.2
comp=Z,8.6nm,0.6s,baz=185,slow=9.6,SNR=4.4
NNA Nana 22.35 348 eP P 21 53 21.3 -0.2
NNA LR LR
comp=Z,1µm,20.0s
SAML Samuel 26.31 21 eP P 21 53 58.6 -0.5
comp=Z,20nm,0.8s
SAML LR LR
comp=Z,1µm,18.0s
BDFB Brasilia 28.48 56 eP P 21 54 17.7 -1.0
BDFB Brasilia 28.48 56 P P 21 54 17.9 -0.8
comp=Z,18nm,0.8s,baz=205,slow=5.6,SNR=9.7
BDFB Brasilia 28.48 56 eP P 21 54 17.7 -1.0
HOPE Hope Point 32.16 140 eP P 21 54 51.9 +1.1
comp=Z,146nm,1.5s
SDV Santo Domingo 42.71 2 eP P 21 56 20.4 -0.1
comp=Z,13nm,1.1s
SDV LR LR
comp=Z,1µm,20.0s
RCBR Riachuelo 43.79 58 P P 21 56 28.8 -0.5
comp=Z,15nm,0.9s,baz=217,slow=11,SNR=10
RCBR Riachuelo 43.79 58 eP P 21 56 28.8 -0.5
RCBR eP P 21 56 28.8 -0.5
RCBR LR LR
comp=Z,2µm,20.0s
JTS JuntasAbangare 45.71 342 PFAKE 21 57 00.0 +16
JTS LR LR
comp=Z,100nm,19.0s
GRGR Grenville 47.00 14 eP P 21 56 53.8 -0.7
comp=Z,113nm,1.1s
BBGH Gun Hill 48.44 17 PFAKE 21 57 20.0 +14
BBGH LR LR
comp=Z,2µm,22.0s
VNA3 Neumayer Olymp 49.39 158 P P 21 57 13.5 +1.1
VNA2 Neumayer--Watz 50.04 157 P P 21 57 18.3 +1.0
SNAA Sanae 51.61 158 P P 21 57 29.9 +0.6
SNAA Sanae 51.61 158 eP P 21 57 29.8 +0.6
SNAA pmax pmax
comp=Z,34nm,1.1s
SNAA Sanae 51.61 158 P P 21 57 29.9 +0.6
comp=Z,7.5nm,0.9s,baz=286,slow=7.2,SNR=18
SNAA Sanae 51.61 158 eP P 21 57 29.8 +0.6
comp=Z,34nm,1.1s
APG El Apazote 51.77 337 P P 21 57 27.8 -3.3
comp=Z,3.6nm,0.6s,baz=100,slow=7.0,SNR=4.9
CRPR Cabo Rojo, PR 51.98 6 eP P 21 57 31.4 -1.0
comp=Z,26nm,0.9s
SEUS St. Eustatius 51.99 11 PFAKE 21 57 40.0 +7.5
SEUS LR LR
comp=Z,1µm,21.3s
CELP Cerrillos 52.09 7 eP P 21 57 33.0 -0.3
HUMP Col San Antoni 52.24 8 PFAKE 21 57 50.0 +16
HUMP LR LR
comp=Z,900nm,21.1s
AOPR Arecibo Observ 52.35 7 PFAKE 21 57 50.0 +15
AOPR LR LR
comp=Z,1µm,21.3s
ANWB Willy Bob 52.37 13 PFAKE 21 57 50.0 +15
ANWB LR LR
comp=Z,1µm,19.0s
AGP Aguadilla 52.37 6 PFAKE 21 57 50.0 +15
AGP LR LR
comp=Z,1µm,19.5s
SMRT St. Maarten 52.52 11 PFAKE 21 57 50.0 +14
SMRT LR LR
comp=Z,1µm,21.9s
STVI Saint Thomas 52.55 9 PFAKE 21 57 50.0 +13
STVI LR LR
comp=Z,1µm,18.0s
SDDR Presa de Saban 52.73 1 PFAKE 21 57 50.0 +12
SDDR LR LR
comp=Z,1µm,20.0s
TEIG Tepich 56.08 342 P P 21 58 02.6 +0.3
comp=Z,18nm,0.5s,baz=183,slow=2.8
TEIG Tepich 56.08 342 eP P 21 58 02.5 +0.2
comp=Z,61nm,1.2s
QSPA South Pole Qui 56.20 180 P P 21 58 03.9 +0.9
comp=Z,22nm,1.0s,baz=144,slow=3.6,SNR=16
QSPA South Pole Qui 56.20 180 eP P 21 58 03.8 +0.9
comp=Z,19nm,0.9s
QSPA eP P 21 58 03.9 +0.9
ASCN Ascension 59.07 78 PFAKE 21 58 40.0 +16
ASCN LR LR
comp=Z,2µm,19.0s
SHEL Horse Pasture 61.90 91 PFAKE 21 59 00.0 +17
SHEL LR LR
comp=Z,2µm,22.0s
H06E1 SOCORRO T-PHAS 64.17 319 T T 23 08 54.4
034A Hebbronville 65.74 334 P P 21 59 09.5 +1.6
baz=66
SYO Syowa Base 65.89 159⇑eP P 21 59 07.2 -1.2
933A Laredo 66.45 334 P P 21 59 13.7 +1.2
baz=67
834A Tilden 66.66 335 P P 21 59 15.3 +1.5
baz=67
833A Chaparral WMA, 67.14 334 P P 21 59 17.5 +0.6
baz=67
SACV Santiago Islan 67.19 52 PFAKE 21 59 30.0 +13
SACV LR LR
comp=Z,600nm,21.0s
832A Faith Ranch, C 67.32 334 P P 21 59 18.3 +0.3
baz=68
732A Laxson Ranch, 67.72 334 P P 21 59 21.6 +1.1
baz=68
633A Saathoff Ranch 68.10 335 P P 21 59 23.4 +0.5
baz=68
LRAL Lakeview Retre 68.14 347 PFAKE 21 59 40.0 +17
LRAL LR LR
comp=Z,502nm,19.9s
339A Huntington 68.34 340 P P 21 59 25.3 +1.0
baz=69
632A Uvalde 68.36 334 P P 21 59 25.0 +0.5
baz=69
532A Rocksprings 68.97 334 P P 21 59 29.4 +1.0
baz=69
434A Burnet 69.02 336 P P 21 59 29.5 +0.8
baz=69
531A Rocksprings 69.23 334 P P 21 59 30.9 +0.9
baz=70
JCT Junction City 69.25 335 eP P 21 59 30.8 +0.7
JCT pmax pmax
comp=Z,21nm,1.3s
JCT Junction City 69.25 335 eP P 21 59 30.8 +0.7
comp=Z,21nm,1.3s
JCT Junction City 69.25 335 P P 21 59 31.1 +1.0
baz=70
433A Art 69.25 335 P P 21 59 30.3 +0.2
baz=70
KMSC Kings Mountain 69.34 352 PFAKE 21 59 40.0 +10
KMSC LR LR
comp=Z,400nm,20.6s
334A Lometa 69.49 336 P P 21 59 31.9 +0.4
baz=70
530A J-C Ranch, Com 69.51 333 P P 21 59 32.6 +0.8
baz=70
LTX Lajitas 69.69 331 eP P 21 59 33.7 +0.8
LTX Lajitas 69.69 331 eP P 21 59 33.7 +0.8
TXAR Lajitas Array 69.69 331 P P 21 59 33.7 +0.8
comp=Z,0.8nm,0.6s,baz=158,slow=8.3,SNR=10

TX31 Lajitas Ar. Si 69.69 331 eP P 21 59 32.7 -0.2
333A Richland Sprin 69.73 336 P P 21 59 33.1 +0.1
baz=70
529A Stev Forest Ra 69.82 333 P P 21 59 34.0 +0.4
baz=70
430A Baggett Ranch, 70.05 334 P P 21 59 36.0 +1.0
baz=70
332A Millersview 70.05 335 P P 21 59 35.9 +0.9
baz=70
OXF Oxford 70.06 345 PFAKE 21 59 50.0 +15
OXF LR LR
comp=Z,300nm,19.0s
429A Davenport Ranc 70.14 333 P P 21 59 36.2 +0.5
baz=70
331A San Angelo 70.22 335 P P 21 59 36.4 +0.3
baz=70
233A Rising Star 70.34 336 P P 21 59 37.0 +0.2
baz=71
232A Coleman 70.47 335 P P 21 59 37.4 -0.2
baz=71
231A Bronte 70.75 335 P P 21 59 39.5 +0.2
baz=71
133A Hamilton Ranch 70.89 336 P P 21 59 40.6 +0.6
baz=71
329A Wagon Wheel Ra 70.95 333 P P 21 59 41.5 +1.0
baz=71
TZTN Tazewell 71.00 350 PFAKE 21 59 50.0 +9.3
TZTN LR LR
comp=Z,600nm,19.9s
Z35A Perchaven, San 71.02 338 P P 21 59 41.6 +0.8
baz=71
ABTX Abilene, Hawle 71.14 336 eP P 21 59 42.2 +0.5
comp=Z,9.3nm,0.7s
ABTX Abilene, Hawle 71.14 336 P P 21 59 42.0 +0.4
baz=71
WVT Waverly 71.31 347 eP P 21 59 42.1 -0.4
WVT pmax pmax
comp=Z,67nm,1.6s
WVT MLR MLR
comp=Z,400nm,19.0s
WVT Waverly 71.31 347 eP P 21 59 42.1 -0.4
comp=Z,67nm,1.6s
WVT LR LR
comp=Z,400nm,19.0s
Z33A Whitaker Ranch 71.46 337 P P 21 59 43.5 0.0
baz=72
JSRW J. Sargeant Re 71.56 355 eP P 21 59 44.7 +0.8
Z32A Haskell 71.71 336 P P 21 59 45.3 +0.3
baz=72
228A UT Block 9, Go 71.74 333 P P 21 59 45.4 +0.1
baz=72
Z31A Sharp Cattle R 71.95 336 P P 21 59 46.7 +0.2
baz=72
PVMO Portageville 71.96 345 PFAKE 22 00 00.0 +14
PVMO LR LR
comp=Z,399nm,19.8s
Y33A Hilltop Ranch, 72.08 337 P P 21 59 48.2 +1.1
baz=72
128A Castleberry Fa 72.16 333 P P 21 59 48.0 +0.2
baz=72
Z30A Sanderson Ranc 72.26 335 P P 21 59 48.7 +0.3
baz=73
Y32A R-V Farms, Ver 72.34 337 P P 21 59 49.8 +1.0
baz=73
X34A Smith Ranch, M 72.37 338 P P 21 59 49.7 +0.8
baz=73
Z29A Hungry Hill Ra 72.44 334 P P 21 59 49.6 +0.1
baz=73
MNTX Cornudas Mount 72.46 331 eP P 21 59 48.8 -0.8
comp=Z,3.4nm,0.9s
MNTX LR LR
comp=Z,700nm,22.0s
W34A Bridge Creek, 72.94 338 PFAKE 22 00 00.0 +7.7
W34A LR LR
comp=Z,900nm,20.0s
Y29A Porterfield Fa 72.97 335 P P 21 59 53.5 +0.9
baz=73
Z27A Tatum 73.05 333 P P 21 59 53.9 +0.8
baz=73
USIN University of 73.06 347 PFAKE 22 00 00.0 +7.1
USIN LR LR
comp=Z,1µm,18.0s
X31A McDonald Ranch 73.09 336 P P 21 59 54.0 +0.7
baz=73
SIUC Southern Illin 73.11 346 PFAKE 22 00 10.0 +17
SIUC LR LR
comp=Z,702nm,21.7s
Z26A Caprock 73.30 333 P P 21 59 54.8 +0.2
baz=74
W32A Sentinel 73.30 337 P P 21 59 55.4 +0.9
baz=74
MSTX Muleshoe 73.47 334 eP P 21 59 55.6 0.0
comp=Z,59nm,2.1s
MSTX LR LR
comp=Z,600nm,20.0s
MSTX Muleshoe 73.47 334 P P 21 59 56.3 +0.7
baz=74
V33A Lossen Ranch, 73.64 338 P P 21 59 57.1 +0.7
baz=74
Z24A Sheeppen Canyo 73.89 332 P P 21 59 58.8 +0.6
baz=74
AMTX Amarillo 73.90 335 PFAKE 22 00 10.0 +12
AMTX LR LR
comp=Z,800nm,19.0s
AMTX Amarillo 73.90 335 P P 21 59 58.8 +0.8
baz=74
121A Cookes Peak, D 74.19 329 P P 22 00 01.2 +1.3
baz=74
X26A CR and CF Fran 74.37 333 P P 22 00 02.6 +1.7
baz=75
Y24A Capitan 74.44 332 P P 22 00 01.5 +0.1
baz=75
SSPA Standing Stone 74.48 356 eP P 22 00 01.3 +0.1
comp=Z,136nm,2.3s
W27A Bowe Ranch, En 74.55 334 P P 22 00 02.2 +0.3
baz=75
ACSO Alum Creek Sta 74.56 351 eP P 22 00 01.5 -0.2
comp=Z,13nm,0.7s
Y23A Lovelace Mesa, 74.69 331 P P 22 00 04.4 +1.5
baz=75
ODNJ Ogdensburg 74.78 358 eP P 22 00 04.0 +1.1
comp=Z,450nm,3.0s
LIC Lamto 74.93 72 eP P 22 00 04.3 -0.2
comp=Z,47nm,1.4s
SUR Sutherland 74.95 119 eP P 22 00 05.7 +1.0
comp=Z,291nm,2.7s
TIC Toumodi 75.19 71 eP P 22 00 05.9 -0.1
comp=Z,18nm,0.9s
KIC Kosan Boka 75.24 72 eP P 22 00 06.4 +0.1
comp=Z,52nm,1.1s
DBIC Dimbokro 75.34 71 eP P 22 00 06.4 -0.4
DBIC pmax pmax
comp=Z,24nm,1.1s
DBIC Dimbokro 75.34 71 P P 22 00 07.0 +0.2
comp=Z,7.3nm,0.6s,baz=213,slow=5.9,SNR=8.5
DBIC Dimbokro 75.34 71 eP P 22 00 06.4 -0.4
comp=Z,24nm,1.1s
V25A Rancho No Teng 75.81 333 P P 22 00 09.4 +0.1
baz=76
T27A Campo 76.22 335 P P 22 00 12.4 +0.9
baz=76
S28A Manter 76.42 336 P P 22 00 13.2 +0.7
baz=77
V22A San Miguel Ran 76.76 332 P P 22 00 15.8 +1.1
baz=77
U23A El Rito 76.84 332 P P 22 00 16.4 +1.2
baz=77
T25A Trinidad 76.89 334 P P 22 00 16.6 +1.2
baz=77
S26A Kim 76.99 335 P P 22 00 16.5 +0.7
baz=77
T24B San Luis 77.18 333 P P 22 00 18.5 +1.3
baz=78
R27A Eads 77.35 336 P P 22 00 18.0 +0.2
baz=78
R26A Arlington 77.59 335 P P 22 00 20.0 +0.9
baz=78
S24A Houchin Ranch, 77.63 334 P P 22 00 20.8 +1.2
baz=78
NCB Newcomb 77.65 359 PFAKE 22 00 30.0 +11
NCB LR LR
comp=Z,2µm,18.6s
SDCO Great Sand Dun 77.83 334 eP P 22 00 21.8 +1.1
comp=Z,49nm,2.5s
R24A Sanders Place, 78.12 334 P P 22 00 22.9 +0.7
baz=78
JFWS Jewell Farm 78.33 347 PFAKE 22 00 30.0 +7.0
JFWS LR LR

comp=Z,700nm,18.0s
R23A Moffat 78.34 334 P P 22 00 24.6 +1.1
baz=79
EMMW East Machias 78.49 3 eP P 22 00 24.9 +1.1
comp=Z,1µm,3.0s
MVCO Mesa Verde 78.52 331 P P 22 00 26.0 +1.5
baz=79
Q24A Divide 78.78 334 P P 22 00 26.9 +0.9
baz=79
TSUM Tsumeb 79.35 106 eP P 22 00 30.1 +0.6
comp=Z,21nm,1.4s
TSUM LR LR
comp=Z,700nm,19.0s
O23A Lake Granby, G 80.16 334 P P 22 00 34.4 +0.9
baz=80
KNB Kanab 80.17 328 eP P 22 00 33.3 -0.1
KNB pmax pmax
comp=Z,63nm,2.3s
KNB Kanab 80.17 328 eP P 22 00 33.3 -0.1
comp=Z,63nm,2.3s
BOSA Boshof 80.19 118 P P 22 00 33.8 -0.1
comp=Z,6.0nm,0.5s,baz=246,slow=4.2,SNR=22
BOSA Boshof 80.19 118 eP P 22 00 33.8 -0.1
BOSA eP P 22 00 34.0 +0.1
O22A Kremmling 80.34 334 P P 22 00 35.6 +1.2
baz=81
PQI Presque Isle 80.42 3 PFAKE 22 00 50.0 +16
PQI LR LR
comp=Z,3µm,19.4s
ECSD EROS Data Cent 80.53 342 eP P 22 00 34.9 -0.1
comp=Z,11nm,1.0s
ECSD LR LR
comp=Z,600nm,21.0s
ECSD EROS Data Cent 80.53 342 P P 22 00 35.2 +0.2
baz=81
N23A Red Feather La 80.77 335 PFAKE 22 00 50.0 +13
N23A LR LR
comp=Z,600nm,18.0s
N23A Red Feather La 80.77 335 P P 22 00 36.3 -0.4
baz=81
N22A Wattenberg Ran 80.87 334 P P 22 00 38.8 +1.5
baz=81
M23A Laramie 81.20 335 P P 22 00 40.1 +1.2
baz=82
J29A Okreek 81.23 340 P P 22 00 39.1 +0.4
baz=82
J27A Elkhorn Farm, 81.59 338 P P 22 00 42.5 +1.7
baz=82
L22A Ellis Ranch, M 81.95 335 P P 22 00 43.7 +0.9
baz=82
MPU Maple Canyon 82.18 331 PFAKE 22 01 00.0 +16
MPU LR LR
comp=Z,1µm,19.0s
NLU North Lily Min 82.31 330 PFAKE 22 01 00.0 +15
NLU LR LR
comp=Z,699nm,20.6s
LBTB Lobatse 82.43 115 eP P 22 00 46.2 +0.4
LBTB pmax pmax
comp=Z,30nm,1.2s
LBTB Lobatse 82.43 115 eP P 22 00 46.2 +0.4
comp=Z,30nm,1.2s
R11A Troy Canyon, C 82.50 327 eP P 22 00 46.4 +0.7
comp=Z,42nm,2.5s
R11A Troy Canyon, C 82.50 327 P P 22 00 47.3 +1.5
baz=83
K22A Casper 82.53 335 P P 22 00 46.0 +0.2
baz=83
BFZ Birch Farm 82.53 226 PFAKE 22 01 00.0 +14
BFZ LR LR
comp=Z,900nm,18.0s
H28A Mission Ridge 82.59 340 P P 22 00 46.3 +0.4
baz=83
JLU Jordanelle 82.61 331 PFAKE 22 01 00.0 +14
JLU LR LR
comp=Z,501nm,21.8s
I25A Rochford 82.82 338 P P 22 00 48.6 +1.3
baz=83
DUG Dugway 82.82 330 eP P 22 00 47.2 -0.1
DUG pmax pmax
comp=Z,13nm,1.5s
DUG MLR MLR
comp=Z,600nm,19.0s
DUG Dugway 82.82 330 eP P 22 00 47.2 -0.1
comp=Z,13nm,1.5s
DUG LR LR
comp=Z,600nm,19.0s
DUG Dugway 82.82 330 P P 22 00 49.4 +2.1
baz=83
G28A Parade 82.93 340 P P 22 00 48.9 +1.2
baz=83
TCUT Toone Canyon 83.03 331 eP P 22 00 45.9 -2.6
comp=Z,10nm,1.1s
TPH Tonopah 83.03 326 eP P 22 00 47.6 -1.0
TPH pmax pmax
comp=Z,45nm,2.4s
TPH Tonopah 83.03 326 eP P 22 00 47.5 -1.0
comp=Z,45nm,2.4s
URZ Urewera 83.52 228 PFAKE 22 01 00.0 +8.9
URZ LR LR
comp=Z,1µm,20.0s
SPUT South Promonto 83.61 331 eP P 22 00 50.7 -0.7
comp=Z,8.1nm,1.2s
SPUT LR LR
comp=Z,499nm,21.7s
J20A Shoshoni 83.69 335 P P 22 00 53.1 +1.4
baz=84
PD31 Pinedale Array 83.72 333 eP P 22 00 51.9 -0.2
PDAR Pinedale Array 83.72 333 P P 22 00 51.9 -0.2
comp=Z,0.7nm,0.9s,baz=170,slow=9.0,SNR=3.8
BW06 Boulder Array 83.72 333 eP P 22 00 51.6 -0.4
NV01 Mina Array Sit 83.82 325 eP P 22 00 53.1 +0.4
NVAR Mina Array Bea 83.82 325 P P 22 00 53.8 +1.2
comp=Z,0.9nm,0.8s,baz=182,slow=5.7,SNR=5.1
J19A Crowheart 83.97 334 P P 22 00 53.9 +0.7
baz=84
HVU Hansel Valley 84.14 331 eP P 22 00 54.6 +0.5
HVU pmax pmax
comp=Z,6.0nm,0.9s
HVU Hansel Valley 84.14 331 eP P 22 00 54.6 +0.5
comp=Z,5.7nm,0.9s
I20A Worland 84.23 335 P P 22 00 55.4 +1.0
baz=84
AHID Auburn Hatcher 84.31 332 PFAKE 22 01 10.0 +15
AHID LR LR
comp=Z,900nm,19.0s
ELK Elko 84.31 329 PFAKE 22 01 10.0 +15
ELK LR LR
comp=Z,400nm,19.0s
TOA0 Torodi Ar. Sit 84.37 70 eP P 22 00 55.5 -0.1
TOA0 eP P 22 00 55.9 +0.2
TORD Torodi Ar. Bea 84.37 70 P P 22 00 55.9 +0.2
comp=Z,12nm,0.7s,baz=291,slow=6.9,SNR=48
C30A Mose, Pekin 84.70 343 P P 22 00 57.3 +0.7
baz=85
REDW Red Top Meadow 84.72 333 PFAKE 22 01 10.0 +13
REDW LR LR
comp=Z,500nm,19.0s
SNOW Snow King Moun 84.77 333 PFAKE 22 01 10.0 +13
SNOW LR LR
comp=Z,1µm,19.5s
LOHW Long Hollow 84.84 333 PFAKE 22 01 10.0 +12
LOHW LR LR
comp=Z,1µm,20.3s
TPAW Teton Pass 84.87 333 PFAKE 22 01 10.0 +12
TPAW LR LR
comp=Z,500nm,21.3s
FXWY Fox Creek 85.02 333 PFAKE 22 01 10.0 +11
FXWY LR LR
comp=Z,600nm,18.4s
I17A Pilgrim Ck. 85.09 333 P P 22 00 59.0 0.0
baz=85
H19A Powell 85.16 335 P P 22 00 59.6 +0.5
baz=86
F22A Rosebud 85.20 337 P P 22 01 00.4 +1.2
baz=86
FLWY Flagg Ranch 85.28 333 PFAKE 22 01 10.0 +10
FLWY LR LR
comp=Z,700nm,18.8s
B30A Myrvik Farm, E 85.36 343 P P 22 01 00.2 +0.3
baz=86
G20A Bridger 85.36 335 P P 22 01 00.3 +0.2
baz=86
H18A Shoshone NF, C 85.41 334 P P 22 01 00.5 0.0
baz=86
H17A Grant Village 85.50 334 PFAKE 22 01 10.0 +9.0
H17A LR LR
comp=Z,1µm,18.3s

LKWY Lake 85.58 334 PFAKE 22 01 10.0 +8.6
LKWY LR LR
comp=Z,800nm,18.0s
B29A Wagenman Farm, 85.63 342 P **P 22 01 01.8 +0.6**
baz=86
YFT Old Faithful 85.64 333 PFAKE 22 01 10.0 +8.3
YFT LR LR
comp=Z,1μm,19.4s
RLMT Red Lodge 85.65 335 *e*P **P 22 01 01.5 -0.1**
comp=Z,20nm,1.7s
A30A Hoffart Farm, 85.81 343 P **P 22 01 01.7 -0.5**
baz=86
B28A Dugan Ranch, T 85.88 342 P **P 22 01 03.0 +0.5**
baz=86
LAO LASA Array 85.99 337 PFAKE 22 01 10.0 +6.9
LAO LR LR
comp=Z,700nm,19.0s
A29A Manning Farm, 86.03 343 P **P 22 01 02.9 -0.3**
baz=86
D23A Lindsay 86.10 338 P **P 22 01 04.5 +0.8**
baz=86
E21A Keefer Ranch, 86.14 337 P **P 22 01 04.5 +0.6**
baz=86
F19A Roth Farm, Mol 86.17 335 P **P 22 01 04.2 +0.1**
baz=86
C24A Savage 86.18 339 P **P 22 01 04.7 +0.7**
baz=86
HLID Hailey 86.29 331 *e*P **P 22 01 03.4 -1.5**
comp=Z,59nm,2.8s
HLID LR LR
comp=Z,600nm,18.0s
HLID Hailey 86.29 331 P **P 22 01 05.1 +0.3**
baz=87
D22A Cohagen 86.39 338 P **P 22 01 06.0 +1.0**
baz=87
E20A Meyer Farm, Mu 86.46 336 P **P 22 01 06.0 +0.6**
baz=87
ULM Lac du Bonnet 86.49 345 *e*P **P 22 01 04.4 -1.0**
ULM MLR MLR
comp=Z,400nm,20.0s
ULM Lac du Bonnet 86.49 345 P **P 22 01 04.4 -1.0**
comp=Z,3.3nm,0.8s,baz=162,slow=4.1,SNR=5.2
ULM Lac du Bonnet 86.49 345 *e*P **P 22 01 04.4 -1.0**
ULM LR LR
comp=Z,400nm,20.0s
D21A La Casta Ranch 86.57 337 P **P 22 01 06.8 +0.8**
baz=87
E19A Rath Farm, Rou 86.64 336 P **P 22 01 06.5 +0.1**
baz=87
C23A Lambert 86.66 338 P **P 22 01 06.6 +0.3**
baz=87
MCMT McKenzie Canyo 86.72 332 *e*P **P 22 01 07.8 +0.8**
A26A Wade Farm, Ken 86.73 341 P **P 22 01 07.2 +0.5**
baz=87
MFID Camas Ranch 86.75 330 PFAKE 22 01 20.0 +13
MFID LR LR
comp=Z,600nm,21.6s
BOZ Bozeman (W) 86.96 334 PFAKE 22 01 20.0 +12
BOZ LR LR
comp=Z,700nm,19.0s
DGMT Dagmar 86.96 339 *e*P **P 22 01 07.7 0.0**
comp=Z,15nm,0.8s
DGMT Dagmar 86.96 339 P **P 22 01 08.7 +0.9**
baz=87
D20A Manuel Ranch, 86.97 336 P **P 22 01 08.1 +0.2**
baz=87
DLMT Dillon 87.08 333 PFAKE 22 01 20.0 +11
DLMT LR LR
comp=Z,400nm,18.2s
B23A Brockton 87.19 339 P **P 22 01 10.1 +1.1**
baz=88
C21A Desert Coulee 87.28 337 P **P 22 01 09.7 +0.3**
baz=88
WDC Whiskeytown Da 87.54 324 *e*P **P 22 01 10.1 -0.6**
WDC Whiskeytown Da 87.54 324 *e*P **P 22 01 10.1 -0.6**
comp=Z,262nm,3.0s
OUZ Omahuta 87.63 228 PFAKE 22 01 20.0 +8.4
OUZ LR LR
comp=Z,6μm,20.0s
A22A Carney Farms, 87.94 339 P **P 22 01 13.2 +0.6**
baz=88
B20A Solberg Farm, 88.11 337 P **P 22 01 14.1 +0.7**
baz=88
A21A Bergtoll Ranch 88.25 338 P **P 22 01 14.2 +0.2**
baz=89
K05A Summer Lake 88.42 326 *e*P **P 22 01 16.8 +1.7**
A20A Cobblestone Ra 88.47 337 P **P 22 01 15.3 +0.3**
baz=89
SCHQ Schefferville 88.63 3 P **P 22 01 15.3 -0.3**
comp=Z,2.7nm,0.8s,baz=190,slow=4.5,SNR=5.8
SCHQ Schefferville 88.63 3 *e*P **P 22 01 15.2 -0.3**
comp=Z,172nm,2.6s
C09A Chrisman Ranch 91.31 331 PFAKE 22 01 40.0 +12
C09A LR LR
comp=Z,500nm,20.6s
B08A Colville Reser 92.18 331 PFAKE 22 01 40.0 +7.6
B08A LR LR
comp=Z,900nm,19.6s
PAB San Pablo 96.40 46 PFAKE 22 02 00.0 +8.0
PAB LR LR
comp=Z,2μm,19.5s
YKA Yellowknife Ar 102.04 341 P **Pdif 22 02 16.1 -0.4**
comp=Z,0.3nm,0.6s,baz=141,slow=4.5,SNR=4.7
DSB Dublin 103.95 34 PFAKE 22 02 40.0 +15
DSB LR LR
comp=Z,1μm,19.0s
VSL Villasalto 105.02 52 PFAKE 22 07 00.0
VSL LR LR
comp=Z,600nm,20.0s
KMBO Kilima Mbogo 105.42 102 PFAKE 22 07 00.0
KMBO LR LR
comp=Z,1μm,18.0s
EIDS Eidsvold 108.02 221 PFAKE 22 07 00.0
EIDS LR LR
comp=Z,400nm,20.1s
VLC Villacollemand 108.05 49 PFAKE 22 07 00.0
VLC LR LR
comp=Z,200nm,19.0s
BBOO Buckleboo 108.39 205 PFAKE 22 07 00.0
BBOO LR LR
comp=Z,4μm,19.9s
TUE Stuetta 108.57 46 PFAKE 22 07 00.0
TUE LR LR
comp=Z,500nm,20.0s
MEM Membach 108.75 41 PFAKE 22 07 00.0
MEM LR LR
comp=Z,848μm,19.0s
CEL Celeste 108.79 56 PFAKE 22 07 00.0
CEL LR LR
comp=Z,500nm,20.0s
SUMG Summit 108.86 10 PFAKE 22 07 00.0
SUMG LR LR
comp=Z,600nm,20.0s
FUORN Ofenpass-Fuorn 109.19 46 PFAKE 22 07 00.0
FUORN LR LR
comp=Z,500nm,18.5s
CUC Castrocucco 109.56 55 PFAKE 22 07 10.0
CUC LR LR
comp=Z,500nm,22.0s
TIP Timpagrande 109.82 56 PFAKE 22 07 10.0
TIP LR LR
comp=Z,400nm,20.0s
RAGM Ragged Mountai 111.05 330 PFAKE 22 07 10.0
RAGM LR LR
comp=Z,900nm,19.7s
TARA Tarawa 111.22 257 PFAKE 22 07 10.0
TARA LR LR
comp=Z,1μm,21.0s
FURI Furi 112.23 94 PFAKE 22 07 10.0
FURI LR LR
comp=Z,200nm,18.4s
GEC2 GERESS Array S 112.29 45 *e*P **Pdif 22 03 01.6 -1.0**
GEC2 GERESS Array S 112.29 45 *e*Pdif **Pdif 22 03 01.6 -1.0**
GERES GERESS Array B 112.29 45 Pdif **Pdif 22 03 01.6 -1.0**
comp=Z,0.3nm,0.6s,baz=169,slow=1.0,SNR=2.5
KHC Kasperske Hory 112.34 45 PFAKE 22 07 10.0
KHC LR LR
comp=Z,300nm,19.1s
DOT Dot Lake 112.52 333 PFAKE 22 07 10.0
DOT LR LR
comp=Z,800nm,21.8s
FORT Forrest 112.75 199 PFAKE 22 07 10.0
FORT LR LR
comp=Z,600nm,18.4s
SEW Seward 112.96 328 PFAKE 22 07 10.0
SEW LR LR
comp=Z,700nm,19.1s
SML Sawmill 113.30 330 PFAKE 22 07 10.0
SML LR LR
comp=Z,200nm,20.4s
PMR Palmer 113.53 329 PFAKE 22 07 10.0
PMR LR LR
comp=Z,700nm,18.7s
RUE Ruedersdorf 113.91 42 PFAKE 22 07 10.0
RUE LR LR
comp=Z,500nm,19.0s
HNR Honiara 114.32 239 PFAKE 22 07 10.0 +6.7
HNR LR LR
comp=Z,400nm,20.0s
MCK McKinley 114.45 332 PFAKE 22 07 10.0 +7.9
MCK LR LR
comp=Z,400nm,18.2s
RGN Rugen 114.53 40 PFAKE 22 07 10.0 +7.6
RGN LR LR
comp=Z,300nm,21.0s
KONO Kongsberg 114.83 34 PFAKE 22 07 10.0 +7.2
KONO LR LR
comp=Z,400nm,21.0s
CAST Castle Rocks 115.58 331 PFAKE 22 07 20.0 +16
CAST LR LR
comp=Z,400nm,18.3s
AS01 Alice Springs 117.45 207 *e*PKPdf **PKPdf 22 07 08.1 -1.1**
BUR04 Bucovina Ar. S 118.88 50 *e*PKPdf **PKPdf 22 07 11.5 +0.3**
ISP Isparta 119.03 62 PFAKE 22 07 20.0 +8.2
ISP LR LR
comp=Z,300nm,20.0s
SUW Suwalki 119.73 43 *e*PKIKP **PKPdf 22 07 11.6 -0.8**
SUW MLR MLR
comp=Z,300nm,22.0s
SUW Suwalki 119.73 43 *e*PKPdf **PKPdf 22 07 11.6 -0.8**
SUW LR LR
comp=Z,300nm,22.0s
TIRR Tirgusor 119.91 54 PFAKE 22 07 20.0 +6.9
TIRR LR LR
comp=Z,500nm,22.0s
WRA Warramunga Arr 120.66 209 PKP **PKPdf 22 07 14.7 -0.8**
comp=Z,1.3nm,0.6s,baz=159,slow=1.7,SNR=18
MMAI Mount Meron Ar 120.89 69 PKP **PKPdf 22 07 15.6 +0.1**
comp=Z,1.3nm,0.6s,baz=204,slow=2.0,SNR=5.5
BR231 Keskin MP Arra 121.40 61 *e*PKPdf **PKPdf 22 07 16.5 +0.2**
BR101 Keskin Array S 121.98 61 *e*PKPdf **PKPdf 22 07 17.4 -0.1**
BRTR Keskin Array B 121.98 61 PKP **PKPdf 22 07 17.4 -0.1**
comp=Z,1.8nm,0.9s,baz=195,slow=3.9,SNR=7.7
KBS Kingsbay 122.02 13 PFAKE 22 07 30.0 +14
KBS LR LR
comp=Z,300nm,18.0s
AK11 Malin Array Si 122.29 48 *e*PKPdf **PKPdf 22 07 16.2 -1.2**
KIEV Kiev 122.32 48 *e*PKIKP **PKPdf 22 07 16.0 -1.5**
KIEV Kiev 122.32 48 *e*PKPdf **PKPdf 22 07 16.0 -1.5**
AKASG Malin Array Be 122.33 48 PKP **PKPdf 22 07 16.8 -0.7**
comp=Z,2.1nm,0.7s,baz=262,slow=2.8,SNR=14
AKBB Malin Array Si 122.33 48 *e*PKIKP **PKPdf 22 07 16.8 -0.7**
AKBB Malin Array Si 122.33 48 *e*PKPdf **PKPdf 22 07 16.8 -0.7**
TNA Tin City 122.74 331 PFAKE 22 07 30.0 +12
TNA LR LR
comp=Z,500nm,21.3s
PMG Port Moresby 122.88 228 PFAKE 22 07 30.0 +10
PMG LR LR
comp=Z,600nm,22.0s
FIA0 FINESS Array S 123.11 35 *e*PKIKP **PKPdf 22 07 18.9 +0.2**
FIA0 FINESS Array S 123.11 35 *e*PKPdf **PKPdf 22 07 18.9 +0.2**
FINES FINESS Array B 123.11 35 PKP **PKPdf 22 07 18.9 +0.2**
comp=Z,3.7nm,1.0s,baz=239,slow=1.1,SNR=6.7
MBWA Marble Bar 123.95 193 PFAKE 22 07 30.0 +8.3
MBWA LR LR
comp=Z,600nm,18.0s
GAMB Gambell 124.04 328 PFAKE 22 07 30.0 +10
GAMB LR LR
comp=Z,500nm,21.5s
ARA0 ARCESS Array S 124.11 25 *e*PKPdf **PKPdf 22 07 20.4 -0.1**
ARA0 *e*PKPdf **PKiKP 22 07 20.6 -0.1**
ARCES ARCESS Array B 124.11 25 PKP **PKPdf 22 07 20.4 -0.1**
comp=Z,3.3nm,0.9s,baz=291,slow=3.4,SNR=7.4
KEV Kevo 124.65 25 PFAKE 22 07 30.0 +8.6
KEV LR LR
comp=Z,600nm,19.7s
DGAR Diego Garcia 126.91 134 PFAKE 22 07 40.0 +12
DGAR LR LR
comp=Z,500nm,20.0s
OBN Obninsk 127.57 43 *i* PKIKP **PKPdf 22 07 26.8 -0.6**
OBN pmax pmax
comp=Z,13nm,1.4s
KLMR Klimovskoe 129.52 36 *e*PKIKP **PKPdf 22 07 29.5 -1.5**
KLMR pmax pmax
comp=Z,35nm,1.5s
KIV Kislovodsk 129.64 58 PFAKE 22 07 40.0 +8.1
KIV LR LR
comp=Z,200nm,18.4s
GNI Garni 130.27 64 PKP **PKPdf 22 07 33.2 -0.1**
comp=Z,1.5nm,0.6s,baz=196,slow=15,SNR=3.0
SOEI Soe 133.72 203 PFAKE 22 07 50.0 +9.4
SOEI LR LR
comp=Z,900nm,20.0s
MMRI Maumere 135.40 201 PFAKE 22 08 00.0 +16
MMRI LR LR
comp=Z,300nm,18.0s
CISI Cisompet, Garu 138.64 180 PFAKE 22 08 00.0 +10
CISI LR LR
comp=Z,200nm,19.0s
KAPI Kappang 139.55 199 PFAKE 22 08 00.0 +8.7
KAPI LR LR
comp=Z,200nm,20.0s
SEY Seymchan 139.98 330 PKP **PKPdf 22 07 49.2 -1.3**
comp=Z,2.9nm,0.8s,baz=72,slow=9.6,SNR=5.9
GEYT Alibeck 140.01 70 PKP **PKPdf 22 07 52.4 +1.0**
comp=Z,0.9nm,0.5s,baz=253,slow=8.8,SNR=3.7
ABKAR Akbulak array 141.82 52 *e*PKPpre PKPpre 22 07 49.3
PMBI Palembang 143.13 175 PFAKE 22 08 10.0 +12
PMBI LR LR
comp=Z,400nm,21.0s
PALK Pallekele 143.48 131 PFAKE 22 08 10.0 +12
PALK LR LR
comp=Z,300nm,20.0s
TOLI Toli-Toli 145.06 203 PFAKE 22 08 10.0 +8.9
TOLI LR LR
comp=Z,200nm,20.0s
KAD Karad 145.65 111 *ex* **PKPdf 22 08 02.3 +0.3**
BVAR Borovoye Array 147.41 43 PKPbc **PKPdf 22 08 04.9 +1.1**
comp=Z,12nm,0.6s,baz=278,slow=2.0,SNR=37
PSI Prapat 147.85 163 PKPbc **PKPdf 22 08 05.9 -0.1**
comp=Z,15nm,0.8s,baz=170,slow=5.6,SNR=9.4
VOSK Vostochnaya 147.85 43 *e*PKIKP **PKPdf 22 08 05.3 +0.7**
VOSK MLR MLR
comp=Z,600nm,20.9s
VOSK Vostochnaya 147.85 43 *e*PKPdf **PKPdf 22 08 05.3 +0.7**
VOSK LR LR
comp=Z,600nm,20.9s
KBL Kabul 148.12 78 *e*PKIKP **PKPdf 22 08 06.3 +0.4**
KBL Kabul 148.12 78 *e*PKPdf **PKPdf 22 08 06.3 +0.4**
SBUM Sibu 148.31 188 *e*PKPbc **PKPbc 22 08 10.2 +0.3**
SBUM LR LR
comp=Z,300nm,22.0s
DAV Davao City (W) 148.53 216 PFAKE 22 08 20.0 +6.2
DAV LR LR
comp=Z,300nm,22.0s
YAK Yakutsk 148.71 340 *e*PKP2 **PKPbc 22 08 08.7 -0.7**
YAK pmax pmax
comp=Z,26nm,1.0s
YAK Yakutsk 148.71 340 *e*PKPdf **PKPdf 22 08 05.4 -0.2**
YAK *e*PKPbc **PKPbc 22 08 09.4 0.0**
HYB Hyderabad 149.06 115 *i* PKP **PKPbc 22 08 11.0 -0.7**
LHMI Lhok Sumawe 149.63 158 PFAKE 22 08 20.0 +1.8
LHMI LR LR
comp=Z,500nm,22.0s
KKAR Karatay Array 149.70 62 *e*PKPdf **PKPdf 22 08 07.9 0.0**
KKAR *e*PKPbc **PKPbc 22 08 12.7 +0.1**
IPM Ipoh 149.93 166 *e*PKPbc **PKPbc 22 08 13.5 -0.5**
ASAJ Asahikawa 151.34 301 PKPbc **PKPbc 22 08 16.3 -0.1**
comp=Z,5.8nm,0.9s,baz=180,slow=19,SNR=3.7
ASAJ Asahikawa 151.34 301 PFAKE 22 08 20.0 +3.6
ASAJ LR LR
comp=Z,400nm,20.9s
EKS2 Erkin-Say 152.13 62 *e*PKIKP **PKPdf 22 08 11.7 -0.1**
EKS2 Erkin-Say 152.13 62 *e*PKPdf **PKPdf 22 08 11.7 -0.1**
EKS2 LR LR
comp=Z,20μm,18.0s
AAK Ala-Archa 152.66 62 PKPbc **PKPbc 22 08 20.7 +1.0**
comp=Z,8.6nm,0.8s,baz=182,slow=3.2,SNR=12
AAK Ala-Archa 152.66 62 *e*PKPbc **PKPbc 22 08 20.7 +1.0**
AAK LR LR
comp=Z,9μm,18.0s
KURK Kurchatov 153.01 43 PFAKE 22 08 20.0 +0.1
KURK LR LR
comp=Z,5μm,21.0s
NVS Novosibirsk 153.05 32 *e*PKIKP **PKPdf 22 08 11.5 -1.0**
NVS pmax pmax
comp=Z,25nm,1.0s
NVS pmax pmax
comp=E,5.0nm,1.0s
TKM2 Tokmak 2 153.42 61 PFAKE 22 08 30.0 -3.7
TKM2 LR LR
comp=Z,17μm,19.0s
KSH Kashi 154.03 69 *e*PKPbc **PKPbc 22 08 21.3 -1.4**
KSH *e*SKS **SKSdf 22 15 21.8 +2.3**
KSH *e*SKKS **SKKSac 22 19 02.8 +3.5**
KSH AMB AMB
comp=Z,160nm,4.0s
KSH LR LR
comp=Z,120nm,5.2s
ZAA1 Zalesovo Array 154.33 32 *e*PKPdf **PKPdf 22 08 14.3 -0.1**
ZAA1 *e*PKPbc **PKiKP 22 08 22.9 +0.2**
ZAA0 Zalesovo Array 154.34 32 *e*PKPdf **PKPdf 22 08 14.3 -0.1**
ZAA0 *e*PKPbc **PKiKP 22 08 23.0 +0.2**
ZALV Zalesovo Beam 154.34 32 PKP **PKPdf 22 08 14.3 -0.1**
comp=Z,4.0nm,0.9s,baz=299,slow=3.1,SNR=8.2
ZALV PKPbc **PKiKP 22 08 22.9 +0.2**
comp=Z,13nm,0.6s,baz=301,slow=3.2,SNR=33
BOD Bodaibo 155.84 352 *e*PKP2 **PKPab 22 08 42.1 -1.0**
BOD pmax pmax
comp=Z,9.0nm,1.0s
MK32 Makanchi Array 156.90 49 *e*PKPdf **PKPdf 22 08 18.2 0.0**
MK32 *e*PKPab **PKPab 22 08 48.5 +0.2**
MKAR Makanchi Array 156.90 49 PKP **PKPdf 22 08 18.2 0.0**
comp=Z,1.6nm,0.9s,baz=336,slow=2.7,SNR=4.8
MKAR PKPab **PKPab 22 08 48.5 +0.2**
comp=Z,3.3nm,0.6s,baz=274,slow=3.7,SNR=16
MK01 Makanchi Array 156.92 49 *e*PKPdf **PKPdf 22 08 18.2 +0.1**
MK01 *e*PKPab **PKPab 22 08 48.3 0.0**
WMQ Urumqi 161.61 52 *e*PKP **PKPdf 22 08 23.0 -0.8**
WMQ LR LR
comp=Z,120nm,23.4s
WMQ LR LR
comp=Z,140nm,20.8s
WMQ LR LR
comp=Z,190nm,21.0s
CM01 Chiang Mai Arr 162.57 151 *e*PKPdf **PKPdf 22 08 25.6 +0.2**
CM31 Chiang Mai Arr 162.60 151 *e*PKPdf **PKPdf 22 08 25.6 +0.2**
CMAR Chiang Mai Arr 162.60 151 PKP **PKPdf 22 08 25.6 +0.2**
comp=Z,1.4nm,0.9s,baz=242,slow=2.9,SNR=8.3
ZAK Zakamensk 163.33 10 *e*PKP2 **PKPab 22 09 15.1 -1.0**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
ULN Ulaanbaatar 166.17 2 *e*PKP2 **PKPab 22 09 29.8 +1.1**
ULN Ulaanbaatar 166.17 2 *e*PKPab **PKPab 22 09 29.8 +1.1**
SONA0 Songino Array 166.17 4 *e*PKPab **PKPab 22 09 29.2 +0.6**
SONM Songino Array 166.17 4 PKPab **PKPab 22 09 29.2 +0.6**
comp=Z,2.0nm,0.9s,baz=336,slow=4.7,SNR=9.8
NJ2 Nanjing 170.49 261 *e*PKP **PKPdf 22 08 31.5 +0.4**
GTA Gaotai 171.66 48 *e*PKP **PKPdf 22 08 32.5 +0.8**
GTA pPKP **pPKPdf 22 08 43.5 +2.3**
GTA sPKP 22 08 47.0
GTA PKPab **PKPab 22 09 54.5 +1.2**
GYA Guiyang 172.39 172 *e*PKP **PKPdf 22 08 31.0 -1.4**
GYA PKPab **PKPab 22 09 58.3 +1.6**
GYA PKS **PKSdf 22 12 01.5 -3.4**
GYA PP **PP 22 13 50.5 +3.6**
GYA SKKS 22 20 32.0
GYA SS **SS 22 34 56.0 +0.7**
GYA AMB AMB
comp=Z,120nm,8.0s
GYA LR LR
comp=Z,130nm,21.4s
GYA LR LR
comp=Z,110nm,21.7s
GYA LR LR
comp=Z,120nm,24.8s
HHC Hu-ho-hao-te 172.56 337 *e*PKP **PKPdf 22 08 31.5 -0.5**
HHC pPKP **pPKPdf 22 08 40.5 -1.0**
HHC sPKP 22 08 46.8
HHC PP PP 22 13 54.5 +6.5
HHC AMB AMB
comp=Z,250nm,6.3s
CD2 Chengdu 175.39 131 PKP **PKPdf 22 08 33.0 -0.2**
CD2 pPKP **pPKPdf 22 08 43.8 +1.0**
CD2 sPKP 22 08 47.3
CD2 PKS **PKSdf 22 12 03.8 -1.7**
CD2 PP **PP 22 14 05.5 +3.0**
CD2 SKS **SKSdf 22 15 31.3 -3.1**
CD2 SKKS **SKKSac 22 20 47.0 +0.1**
CD2 SS **SS 22 35 24.5 -1.6**
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 176.18 56 *e*PKP **PKPdf 22 08 31.8 -1.6**
LZH pPKP **pPKPdf 22 08 42.3 -0.6**
LZH sPKP 22 08 47.5

IDC 27 21:54:56.2±0.7, 33.84S×71.99W, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/31, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=40.7km s-min=18.7km az=81.0
NEIC 27 21:55:01.4±0.5, 33.90S×72.34W, h35km, mb5.0/3, Error ellipse: s-maj=19.9km s-min=10.3km az=91.0
ISC 27 21:54:59.2±0.7, 33.81S±0.09×71.8W±0.1, h19km, n18, σ0.63/17, mb4.2/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.75**	**55**	Pn	**Pb**	**21 56 04.4**	**-0.4**
	2.1nm,0.3s,baz=302,slow=0.4,SNR=11						
CFAA				Lg	Lg	21 56 54.2	
	2.2nm,0.3s,baz=202,slow=17,SNR=4.9						
PLCA	**Paso Flores**	**6.99**	**172**	Pn	Pn	21 56 46.0	+5.4
	3.8nm,0.3s,baz=307,slow=9.9,SNR=3.4						
PLCA	**Paso Flores**	**6.99**	**172**	*e*Pn	**Pn**	**21 56 40.3**	**-0.3**
LPAZ	**La Paz**	**17.76**	**12**	P	**P**	**21 59 08.0**	**+1.1**
	0.1nm,0.3s,baz=186,slow=7.6,SNR=5.1						
USHA	**Ushuaia**	**21.16**	**175**	P	**P**	**21 59 44.0**	**+1.0**
	7.4nm,0.6s,baz=331,slow=8.3,SNR=5.5						
SNAA	**Sanae**	**51.70**	**158**	P	**P**	**22 04 04.5**	**-0.2**
	0.6nm,0.7s,baz=287,slow=5.3,SNR=3.9						
SNAA	**Sanae**	**51.70**	**158**	*e*P	**P**	**22 04 04.8**	**+0.1**
	31nm,1.4s						
TEIG	**Tepich**	**55.97**	**341**	*e*P	**P**	**22 04 35.8**	**-0.5**
	12nm,0.8s						
QSPA	**South Pole Qui**	**56.43**	**180**	P	**P**	**22 04 39.5**	**+0.1**
	9.3nm,1.0s,baz=136,slow=1.9,SNR=14						
QSPA	**South Pole Qui**	**56.43**	**180**	*e*P	**P**	**22 04 39.4**	**0.0**
	14nm,1.2s						
TXAR	**Lajitas Array**	**69.65**	**331**	P	**P**	**22 06 07.6**	**+0.1**
	0.3nm,0.7s,baz=159,slow=7.7,SNR=3.2						
PDAR	**Pinedale Array**	**83.67**	**333**	P	**P**	**22 07 26.5**	**-0.1**
	0.3nm,0.7s,baz=153,slow=6.1,SNR=2.9						
NVAR	**Mina Array Bea**	**83.82**	**325**	P	**P**	**22 07 27.6**	**+0.1**
	0.7nm,0.8s,baz=166,slow=8.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**83.99**	**70**	P	**P**	**22 07 29.0**	**+0.4**
	1.1nm,0.8s,baz=275,slow=4.8,SNR=5.0						
WRA	**Warramunga Arr**	**121.01**	**209**	PKP	**PKPdf**	**22 13 49.5**	**-1.5**
	0.6nm,0.9s,baz=155,slow=1.7,SNR=2.4						
BVAR	**Borovoye Array**	**147.03**	**43**	PKPbc	**PKPbc**	**22 14 40.5**	**+0.3**
	0.8nm,0.6s,baz=282,slow=1.1,SNR=5.3						
ZALV	**Zalesovo Beam**	**153.98**	**32**	PKPab	**PKPab**	**22 15 10.2**	**0.0**
	0.5nm,0.5s,baz=310,slow=5.6,SNR=2.9						
MKAR	**Makanchi Array**	**156.52**	**49**	PKPab	**PKPab**	**22 15 21.6**	**+0.1**
	0.3nm,0.6s,baz=304,slow=3.8,SNR=4.6						

IDC 27 21:55:38.1±1.3, 31.04S×71.71W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/30, mbtmp3.9/4, ML5.5/1, Error ellipse: s-maj=53.9km s-min=33.5km az=55.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.72**	**175**	Pn	Pn	21 57 59.3	0.0
	11nm,0.3s,baz=337,slow=7.4,SNR=4.8						
TXAR	**Lajitas Array**	**67.31**	**330**	P	P	22 06 34.8	-0.1
	0.6nm,0.5s,baz=159,slow=8.1,SNR=10						
DBIC	**Dimbokro**	**73.98**	**72**	P	P	22 07 15.9	+0.1
	2.0nm,0.6s,baz=149,slow=1.7,SNR=4.4						
PDAR	**Pinedale Array**	**81.26**	**333**	P	P	22 07 57.4	+1.3
	0.5nm,0.8s,baz=158,slow=2.6,SNR=2.6						
NVAR	**Mina Array Bea**	**81.63**	**325**	P	P	22 07 57.1	-1.1
	0.6nm,0.6s,baz=152,slow=6.0,SNR=4.0						
SONM	**Songino Array**	**163.16**	**4**	PKPab	PKPab	22 16 31.6	-0.9
	0.5nm,0.8s,baz=343,slow=1.5,SNR=4.0						

IDC 27 21:57:30.5±0.7, 35.57S×73.32W, h0km, mb4.4/8, mb1 4.5/9, mb1mx4.3/31, mbtmp4.3/9, ML4.3/1, Error ellipse: s-maj=36.5km s-min=22.0km az=54.0
ISCJB 27 21:57:31.2±0.6, 35.4S±0.1×73.2W±0.1, h17km, mb4.5/15, Error ellipse: s-maj=19.7km s-min=10.8km az=143.2
NEIC 27 21:57:36.0±0.3, 35.37S×73.15W, h35km, mb4.7/9, Error ellipse: s-maj=14.6km s-min=8.6km az=58.0
ISC 27 21:57:33.3±0.6, 35.4S±0.1×73.2W±0.1, h17km, n40, σ0.69/43, mb4.6/15, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.75	159	ePn	Pn	21 58 56.6	-1.2
TRQA	Tornquist	9.41	110	ePn	Pn	21 59 48.1	0.0
LPAZ	La Paz	19.55	15	P	Pn	22 02 02.4	+0.4
	0.4nm,0.3s,baz=162,slow=3.3,SNR=3.6						
SIV	San Ignacio	22.15	32	P	P	22 02 26.6	-1.7
	8.2nm,0.6s,baz=224,slow=8.5,SNR=9.0						
TXAR	Lajitas Array	70.47	332	P	P	22 08 47.5	+0.6
	2.6nm,0.6s,baz=156,slow=9.1,SNR=25						
ABTX	Abilene, Hawle	72.04	337	eP	P	22 08 55.4	-0.9
	8.3nm,0.6s						
MSTX	Muleshoe	74.32	335	eP	P	22 09 09.6	-0.2
	4.4nm,0.4s						
AMTX	Amarillo	74.78	336	eP	P	22 09 11.6	-0.8
	3.6nm,0.3s						
TUC	Tucson	76.00	328	eP	P	22 09 19.4	0.0
	9.3nm,1.5s						
DBIC	Dimbokro	76.53	72	P	P	22 09 22.9	+0.1
	5.4nm,0.8s,baz=183,slow=8.7,SNR=5.4						
DBIC	Dimbokro	76.53	72	eP	P	22 09 22.1	-0.7
	4.8nm,0.7s						
ANMO	Albuquerque	76.54	332	P	P	22 09 22.5	-0.1
	3.0nm,1.0s,baz=167,slow=7.7,SNR=4.3						
ANMO	Albuquerque	76.54	332	eP	P	22 09 21.8	-0.8
	2.9nm,0.8s						
BOSA	Boshof	80.29	118	P	P	22 09 43.8	+0.1
	11nm,0.8s,baz=245,slow=4.6,SNR=14						
BOSA	Boshof	80.29	118	eP	P	22 09 44.2	+0.6
	8.9nm,0.7s						
NVAR	Mina Array Bea	84.47	326	P	P	22 10 05.2	0.0
	1.1nm,0.7s,baz=142,slow=6.4,SNR=5.5						
PDAR	Pinedale Array	84.56	334	P	P	22 10 05.2	-0.4
	0.8nm,0.9s,baz=197,slow=5.8,SNR=3.0						
HVU	Hansel Valley	84.91	331	eP	P	22 10 06.9	-0.3
	3.6nm,0.6s						
TORD	Torodi Ar. Bea	85.59	71	P	P	22 10 10.5	-0.5
	2.5nm,1.0s,baz=264,slow=3.7,SNR=4.9						
YMR	Madison River	86.72	334	eP	P	22 10 15.8	-0.4
	3.6nm,0.7s						
ULM	Lac du Bonnet	87.58	346	P	P	22 10 19.6	-0.3
	2.2nm,0.8s,baz=244,slow=2.2,SNR=3.2						
YKA	Yellowknife Ar	103.05	342	Pdiff	Pdif	22 11 29.5	-0.7
	0.1nm,0.6s,baz=163,slow=4.5,SNR=3.3						
GERES	GERESS Array B	113.81	46	PKP	PKiKP	22 16 11.0	+0.4
	0.3nm,0.5s,baz=298,slow=2.9,SNR=3.8						
WRA	Warramunga Arr	119.09	210	PKP	PKPdf	22 16 22.0	+0.3
	0.5nm,0.6s,baz=161,slow=1.7,SNR=3.8						
BRTR	Keskin Array B	123.34	62	PKP	PKPdf	22 16 29.4	+0.1
	1.6nm,0.8s,baz=189,slow=4.0,SNR=9.8						
AKASG	Malin Array Be	123.83	48	PKP	PKPdf	22 16 29.6	-0.1
	0.4nm,0.2s,baz=261,slow=3.2,SNR=5.0						
GEYT	Alibeck	141.22	71	PKP	PKPdf	22 17 04.1	+1.2
	0.7nm,0.7s,baz=246,slow=6.1,SNR=2.7						
KSM	Kuching	146.11	166	ePKPdf	PKPbc	22 17 13.1	+0.1
PSI	Prapat	146.78	166	PKPbc	PKPbc	22 17 15.6	+0.4
	6.1nm,0.4s,baz=194,slow=6.1,SNR=5.8						
BRVK	Borovoye	148.87	44	ePKPdf	PKPdf	22 17 15.9	+0.4
BRVK				ePKPbc	PKiKP	22 17 20.3	-0.5
BVAR	Borovoye Array	148.94	44	PKP	PKPdf	22 17 17.1	+1.5
	4.5nm,0.9s,baz=326,slow=2.1,SNR=3.7						
BVAR				PKPbc	PKiKP	22 17 20.5	-0.5
	3.3nm,0.8s,baz=291,slow=4.6,SNR=6.7						
HYB	Hyderabad	149.19	118	iPKP	PKPbc	22 17 21.0	-0.3
KKAR	Karatay Array	151.04	63	ePKPbc	PKPbc	22 17 25.0	-0.1
EKS2	Erkin-Say	153.47	64	ePKPbc	PKPbc	22 17 31.7	+1.0
AAK	Ala-Archa	154.00	64	PKPbc	PKPbc	22 17 33.4	+1.5
	5.5nm,0.8s,baz=221,slow=2.7,SNR=9.1						
KSH	Kashi	155.25	71	ePKP	PKPab	22 17 58.5	+7.7
ZALV	Zalesovo Beam	155.91	33	PKP	PKPdf	22 17 26.2	+0.4
	1.2nm,0.7s,baz=285,slow=2.9,SNR=4.3						
ZALV				PKPbc	PKPbc	22 17 34.5	
	1.7nm,0.8s,baz=302,slow=2.8,SNR=4.6						
ZALV				PKPab	PKPab	22 17 53.2	+0.4
	2.2nm,0.7s,baz=297,slow=5.8,SNR=4.4						
MKAR	Makanchi Array	158.39	51	PKPab	PKPab	22 18 04.0	+0.1
	0.9nm,0.6s,baz=287,slow=3.5,SNR=5.6						
CMAR	Chiang Mai Arr	161.77	156	PKP	PKPdf	22 17 33.6	-0.2
	0.9nm,0.9s,baz=239,slow=2.2,SNR=5.1						
CMAR				PKPab	PKPab	22 18 20.1	+0.9
	0.4nm,0.7s,baz=238,slow=5.2,SNR=4.8						
SONM	Songino Array	167.55	1	PKPab	PKPab	22 18 44.2	+0.3
	1.1nm,0.9s,baz=350,slow=3.3,SNR=5.9						

IDC 27 21:59:02.4±0.5, 36.79S×73.40W, h0km, mb4.8/17, mb1 4.9/21, mb1mx4.8/33, mbtmp4.8/21, ML4.3/4, MS5.1/7, Ms1 5.1/7, ms1mx4.5/29, Error ellipse: s-maj=18.5km s-min=11.6km az=75.0
ISCJB 27 21:59:03.7±0.2, 36.73S±0.04×73.13W±0.06, h14km, mb5.1/96, MS5.2/134, Error ellipse: s-maj=7.8km s-min=5.1km az=144.7
NEIC 27 21:59:06.7±1.9, 36.80S×73.32W, h31km±2km, mb5.2/92, MS5.1/134, Error ellipse: s-maj=16.0km s-min=9.2km az=74.0
MOS 27 21:59:06.0±1.0, 36.71S×73.16W, h33km, mb5.5/20, MS5.1/8, Error ellipse: s-maj=18.6km s-min=8.8km az=101.5
BJI 27 21:59:08.3, 36.80S×73.30W, h24km, mB5.3/8, Ms5.2/4, Ms7 5.0/4
ISC 27 21:59:04.3±0.3, 36.79S±0.06×73.35W±0.07, h14km, n669, σ1.31/592, mb5.2/96, MS5.1/134, 152C-151D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.51	152	ePn	Pn	22 00 13.8	+1.6
PLCA	Paso Flores	4.51	152	Pn	Pn	22 00 12.7	+0.5
	7.9nm,0.3s,baz=326,slow=12,SNR=2.9						
PLCA				Pg	Pb	22 00 26.3	+3.1
	28nm,0.3s,baz=338,slow=13,SNR=6.6						
PLCA				Lg	Lg	22 01 25.3	
	21nm,0.3s,baz=256,slow=17,SNR=5.4						
PLCA	Paso Flores	4.51	152	ePn	Pn	22 00 13.8	+1.6
CFAA	Coronel Fontan	6.69	41	Pn	Pn	22 00 42.7	+0.5
	1.0nm,0.3s,baz=177,slow=11,SNR=3.4						
CFAA				Sn	Sb	22 02 09.9	-10
	1.9nm,0.3s,baz=176,slow=16,SNR=2.8						
TRQA	Tornquist	9.14	101	ePn	Pn	22 01 17.8	+2.1
CPUP	Villa Florida	17.16	57	eP	Pn	22 03 02.6	-1.0
CPUP	Villa Florida	17.16	57	P	Pn	22 03 04.5	+0.8
	0.6nm,0.3s,baz=216,slow=13,SNR=8.6						
CPUP				LR	LR	22 10 20.2	
	comp=Z,8μm,18.3s,baz=220,slow=39						
CPUP	Villa Florida	17.16	57	ePn	Pn	22 03 02.6	-1.0
USHA	Ushuaia	18.36	171	P	P	22 03 19.6	+1.3
	0.3nm,0.3s,baz=352,slow=6.4,SNR=3.3						
EFI	East Falkland	18.42	149	eP	P	22 03 18.0	-1.0
EFI				pmax	pmax		
	comp=Z,88nm,1.2s						
EFI	East Falkland	18.42	149	eP	P	22 03 18.0	-1.0
	comp=Z,88nm,1.2s						
LPAZ	La Paz	20.94	14	eP	Pn	22 03 48.9	-1.2
LPAZ				pmax	pmax		
	comp=Z,43nm,0.8s						
LPAZ	La Paz	20.94	14	P	Pn	22 03 49.5	-0.6
	comp=Z,17nm,0.7s,baz=172,slow=9.1,SNR=10						
LPAZ	La Paz	20.94	14	eP	Pn	22 03 48.9	-1.1
	comp=Z,42nm,0.8s						
SIV	San Ignacio	23.41	31	P	P	22 04 13.1	+0.1
	comp=Z,10nm,0.7s,baz=206,slow=8.2,SNR=7.2						
SIV				LR	LR	22 15 02.8	
	comp=Z,4μm,19.3s,baz=226,slow=41						
NNA	Nana	24.89	352	eP	P	22 04 26.1	-0.8
NNA				pmax	pmax		
	comp=Z,35nm,1.3s						
NNA				MLR	MLR		
	comp=Z,1μm,19.0s						
NNA	Nana	24.89	352	P	P	22 04 26.3	-0.5
	comp=Z,6.4nm,0.6s,baz=199,slow=12,SNR=3.6						
NNA	Nana	24.89	352	eP	P	22 04 26.1	-0.8
	comp=Z,36nm,1.3s						
NNA				eP	P	22 04 26.3	-0.5
NNA				LR	LR		
	comp=Z,1μm,19.0s						
SAML	Samuel	29.21	21	eP	P	22 05 05.0	-0.6
	comp=Z,12nm,1.0s						
SAML				LR	LR		
	comp=Z,2μm,20.0s						
HOPE	Hope Point	30.73	136	PFAKE		22 05 30.0	+11
HOPE				LR	LR		
	comp=Z,2μm,20.0s						
BDFB	Brasilia	30.82	54	eP	P	22 05 19.0	-1.0
BDFB	Brasilia	30.82	54	P	P	22 05 19.5	-0.5
	comp=Z,12nm,0.8s,baz=197,slow=7.9,SNR=7.1						
BDFB				LR	LR	22 19 12.5	
	comp=Z,5μm,18.2s,baz=222,slow=39						
BDFB	Brasilia	30.82	54	eP	P	22 05 18.9	-1.0
BDFB				e		22 19 12.5	
RPN	Rapa Nui	31.85	277	LR	LR	22 14 41.8	
	comp=Z,3μm,20.0s,baz=140,slow=30						
OTAV	Otavalo	37.14	352	eP	P	22 06 16.8	+1.5
	comp=Z,45nm,1.5s						
ROSC	El Rosal	41.44	359	P	P	22 06 55.0	+4.0
	comp=Z,15nm,0.6s,baz=119,slow=3.5,SNR=8.5						
ROSC	El Rosal	41.44	359	eP	P	22 06 53.4	+2.4
SDV	Santo Domingo	45.50	4	eP	P	22 07 23.3	-0.3
	comp=Z,27nm,0.8s						
RCBR	Riachuelo	46.04	57	P	P	22 07 29.0	+1.2
	comp=Z,17nm,0.7s,baz=213,slow=10,SNR=9.7						
RCBR				LR	LR	22 27 31.5	
	comp=Z,3μm,18.6s,baz=206,slow=37						
RCBR	Riachuelo	46.04	57	eP	P	22 07 27.2	-0.5
	comp=Z,23nm,0.9s						
RCBR				eP	P	22 07 29.0	+1.2
VNA3	Neumayer Olymp	47.21	157	P	P	22 07 37.8	+1.6
VNA2	Neumayer--Watz	47.88	156	P	P	22 07 42.6	+1.1
SNAA	Sanae	49.43	157	P	P	22 07 54.6	+1.2
SNAA	Sanae	49.43	157	eP	P	22 07 53.5	+0.1
SNAA				pmax	pmax		
	comp=Z,104nm,1.6s						
SNAA	Sanae	49.43	157	P	P	22 07 54.3	+0.9
	comp=Z,8.6nm,1.1s,baz=272,slow=10,SNR=7.3						
SNAA	Sanae	49.43	157	eP	P	22 07 53.5	+0.1
	comp=Z,104nm,1.6s						
GRGR	Grenville	49.89	15	eP	P	22 07 57.2	-0.2
	comp=Z,143nm,0.8s						
QSPA	South Pole Qui	53.45	180	P	P	22 08 24.7	+1.0
	comp=Z,26nm,1.0s,baz=143,slow=2.6,SNR=15						
QSPA	South Pole Qui	53.45	180	eP	P	22 08 24.5	+0.8
	comp=Z,26nm,1.0s						
QSPA				eP	P	22 08 24.7	+1.0
APG	El Apazote	53.98	339	P	P	22 08 24.9	-3.3
	comp=Z,17nm,0.9s,baz=138,slow=4.0,SNR=12						
APG				LR	LR	22 26 13.5	
	comp=Z,867nm,19.3s,baz=127,slow=30						
RKT	Rikitea	54.26	266	eS	S	22 16 06.6	-0.7
	comp=Z,649nm,25.2s						
RKT				eLR	LR	22 24 17.5	
	comp=Z,2μm,28.5s						
RKT	Rikitea	54.26	266	eT	T	23 06 37.7	
	comp=Z,7.0nm,0.2s						
CRPR	Cabo Rojo, PR	54.82	7	eP	P	22 08 33.1	-0.7
	comp=Z,31nm,0.8s						
SEUS	St. Eustatius	54.87	12	PFAKE		22 08 50.0	+16
SEUS				LR	LR		
	comp=Z,600nm,19.1s						
OBIP	Obispado Ponce	54.91	8	eP	P	22 08 33.9	-0.6
	comp=Z,32nm,0.7s						
CELP	Cerrillos	54.94	8	eP	P	22 08 33.9	-0.9
SABA	Saba	54.95	12	PFAKE		22 08 50.0	+15
SABA				LR	LR		
	comp=Z,1μm,19.6s						
CPD	Cerro la Pandu	54.98	9	eP	P	22 08 34.8	-0.3
CPD				pmax	pmax		
	comp=Z,251nm,2.8s						
CPD	Cerro la Pandu	54.98	9	eP	P	22 08 34.8	-0.3
	comp=Z,251nm,2.8s						
LRS	Lares	55.12	8	eP	P	22 08 34.8	-1.4
CBYP	Canovanas	55.22	9	eP	P	22 08 35.5	-1.3
	comp=Z,66nm,1.6s						
CBYP				LR	LR		
	comp=Z,1μm,20.4s						
ANWB	Willy Bob	55.25	13	PFAKE		22 08 50.0	+13
ANWB				LR	LR		
	comp=Z,600nm,20.0s						
SMRT	St. Maarten	55.40	12	PFAKE		22 08 50.0	+12
SMRT				LR	LR		
	comp=Z,800nm,20.6s						
SDDR	Presa de Saban	55.50	2	eP	P	22 08 40.1	+1.2
	comp=Z,15nm,1.0s						
GTBY	Guantanamo Bay	56.43	358	eP	P	22 08 44.7	-0.8
	comp=Z,38nm,1.0s						
TEIG	Tepich	58.43	344	P	P	22 08 59.5	-0.1
	comp=Z,36nm,0.7s,baz=94,slow=1.7,SNR=16						
TEIG	Tepich	58.43	344	eP	P	22 08 59.5	-0.1
	comp=Z,38nm,0.7s						
TEIG				LR	LR		
	comp=Z,400nm,19.0s						
TEIG	Tepich	58.43	344	e	P	22 08 59.8	+0.2
VNDA	Vanda	61.16	192	PFAKE		22 09 30.0	+12
VNDA				LR	LR		
	comp=Z,3μm,20.7s						
SYO	Syowa Base	63.67	158	⇑eP	P	22 09 30.7	-3.9
TBI	Tubuai	65.66	258	eT	T	23 20 50.0	
	comp=Z,6.7nm,0.3s						
H06E1	SOCORRO T-PHAS	65.67	321	T	T	23 21 15.4	
MEH	Mehetia	67.45	264	eT	T	23 23 05.7	
	comp=Z,138nm,0.2s						
034A	Hebbronville	67.84	336	⇓P	P	22 10 04.3	+2.4
	baz=68						
934A	Benavides	68.28	336	⇑P	P	22 10 07.5	+2.8
	baz=69						
TVO	Taravao	68.45	264	eT	T	23 24 20.2	
	comp=Z,2.3nm,0.2s						
933A	Laredo	68.55	335	⇓P	P	22 10 08.7	+2.3
	baz=69						
TIAR	Tiarei	68.64	264	eT	T	23 24 35.1	
	comp=Z,15nm,0.2s						
PAE	Paea	68.78	263	eT	T	23 24 44.8	
	comp=Z,1.0nm,0.2s						
834A	Tilden	68.78	336	⇑P	P	22 10 10.4	+2.6
	baz=69,SNR=5.8						
PPT2	Papeete2	68.81	263	eS	S	22 19 09.9	-2.3
	comp=Z,583nm,23.5s						
PPT2	Papeete2	68.81	263	eLR	LR	22 30 58.8	
	comp=Z,2μm,24.2s						
PPT2	Papeete2	68.81	263	eT	T	23 24 46.8	
	comp=Z,2.3nm,0.2s						
833A	Chaparral WMA,	69.24	336	⇑P	P	22 10 12.4	+1.7
	baz=70,SNR=6.7						
832A	Faith Ranch, C	69.40	335	⇓P	P	22 10 13.1	+1.4
	baz=70,SNR=6.1						
636A	Smothers Creek	69.58	338	⇓P	P	22 10 14.7	+2.0
	baz=70						
732A	Laxson Ranch,	69.81	335	⇑P	P	22 10 15.4	+1.2
	baz=70						
537A	Green Hill Far	69.92	339	⇑P	P	22 10 16.8	+1.9
	baz=70						
536A	Bastrop	70.14	338	⇓P	P	22 10 18.2	+2.0
	baz=70						
535A	Dale	70.24	338	⇓P	P	22 10 18.6	+1.8
	baz=71						
438A	Sam Houston St	70.31	340	⇑P	P	22 10 19.2	+2.0
	baz=71						
632A	Uvalde	70.46	336	⇑P	P	22 10 19.7	+1.5
	baz=71,SNR=6.4						
340A	Bronson	70.52	341	⇑P	P	22 10 20.6	+2.1
	baz=71						
339A	Huntington	70.62	341	⇓P	P	22 10 20.6	+1.6
	baz=71						
LRAL	Lakeview Retre	70.62	348	eP	P	22 10 19.0	0.0
	comp=Z,34nm,1.5s						
631A	Perdido Creek	70.64	335	⇓P	P	22 10 20.1	+0.8
	baz=71						
533A	Kerrville	70.74	337	⇑P	P	22 10 21.4	+1.5
	baz=71,SNR=6.5						
338A	Crockett	70.84	340	⇓P	P	22 10 23.2	+2.7
	baz=71						
435B	Jarrell	70.95	338	⇑P	P	22 10 23.2	+2.0
	baz=71						
337A	Centerville	70.96	340	⇑P	P	22 10 23.6	+2.4
	baz=71						
NATX	Nacogdoches	71.05	341	eP	P	22 10 22.3	+0.6
	comp=Z,30nm,0.9s						
532A	Rocksprings	71.07	336	⇓P	P	22 10 23.4	+1.5
	baz=71,SNR=16						
434A	Burnet	71.19	337	⇓P	P	22 10 23.6	+1.0
	baz=72,SNR=11						
239A	Gary	71.25	341	⇑P	P	22 10 25.1	+2.2
	baz=72						
336A	Riesel	71.30	339	⇓P	P	22 10 24.4	+1.2
	baz=72,SNR=5.4						
531A	Rocksprings	71.32	335	⇓P	P	22 10 24.9	+1.4
	baz=72,SNR=8.3						
JCT	Junction City	71.36	336	eP	P	22 10 23.4	-0.3
JCT				pmax	pmax		
	comp=Z,19nm,0.9s						
JCT	Junction City	71.36	336	eP	P	22 10 23.4	-0.3
	comp=Z,19nm,0.9s						
JCT	Junction City	71.36	336	⇑P	P	22 10 25.4	+1.7
	baz=72,SNR=5.5						
335A	Moody	71.37	338	⇑P	P	22 10 25.7	+2.0
	baz=72						
433A	Art	71.39	337	⇓P	P	22 10 24.7	+0.9
	baz=72,SNR=10						
238A	Jacksonville	71.40	341	⇑P	P	22 10 26.3	+2.5
	baz=72						
530A	J-C Ranch, Com	71.58	335	⇑P	P	22 10 26.3	+1.3
	baz=72,SNR=12						
237A	Washetta, Mont	71.59	340	⇓P	P	22 10 26.3	+1.3
	baz=72						
334A	Lometa	71.66	338	⇑P	P	22 10 26.5	+1.0
	baz=72,SNR=16						
LTX	Lajitas	71.67	332	eP	P	22 10 26.3	+0.6
LTX	Lajitas	71.67	332	eP	P	22 10 26.2	+0.6
TX31	Lajitas Ar. Si	71.67	332	eP	P	22 10 26.1	+0.4
TXAR	Lajitas Array	71.67	332	P	P	22 10 26.2	+0.6
	comp=Z,4.2nm,0.7s,baz=152,slow=8.6,SNR=21						
432A	Menard	71.73	336	⇑P	P	22 10 26.3	+0.4
	baz=72						
431A	Sonora	71.82	335	⇑P	P	22 10 27.8	+1.3
	baz=72,SNR=7.2						
529A	Stev Forest Ra	71.86	334	⇓P	P	22 10 27.7	+1.0
	baz=72,SNR=9.4						
333A	Richland Sprin	71.89	337	⇑P	P	22 10 27.6	+0.8
	baz=72,SNR=7.6						
KMSC	Kings Mountain	71.95	353	⇓P	P	22 10 27.5	+0.4
	baz=72,SNR=5.1						
138A	Matatall Enter	72.02	341	⇑P	P	22 10 28.9	+1.3
	baz=72						
WHTX	Lake Whitney	72.05	339	eP	P	22 10 28.1	+0.4
	comp=Z,27nm,0.9s						
WHTX	Lake Whitney	72.05	339	⇑P	P	22 10 28.6	+0.9
	baz=72,SNR=6.5						
430A	Baggett Ranch,	72.12	335	⇑P	P	22 10 29.2	+0.9
	baz=72,SNR=9.3						
137A	Heron Place, G	72.14	340	⇑P	P	22 10 28.9	+0.7
	baz=72						
332A	Millersview	72.18	336	⇓P	P	22 10 29.5	+0.9
	baz=72,SNR=10						
429A	Davenport Ranc	72.20	334	⇓P	P	22 10 29.9	+1.1
	baz=72,SNR=7.9						
234A	Clairette	72.26	338	⇑P	P	22 10 29.9	+0.9
	baz=73						
331A	San Angelo	72.33	336	⇑P	P	22 10 30.3	+0.7
	baz=73,SNR=15						
OXF	Oxford	72.50	346	eP	P	22 10 30.3	0.0
OXF				pmax	pmax		
	comp=Z,54nm,1.0s						
OXF	Oxford	72.50	346	eP	P	22 10 30.3	0.0
	comp=Z,54nm,1.0s						
233A	Rising Star	72.50	337	⇓P	P	22 10 31.1	+0.6
	baz=73,SNR=9.1						
232A	Coleman	72.62	337	⇑P	P	22 10 32.0	+0.8
	baz=73,SNR=9.4						
330A	Mertzon	72.67	335	⇑P	P	22 10 32.1	+0.6
	baz=73						
TKL	Tuckaleechee C	72.73	351	eP	P	22 10 31.0	-0.7
TKL	Tuckaleechee C	72.73	351	eP	P	22 10 31.0	-0.7
134A	White-Moore Ra	72.77	338	⇓P	P	22 10 33.6	+1.6
	baz=73						
231A	Bronte	72.88	336	⇑P	P	22 10 33.3	+0.5
	baz=73,SNR=13						
329A	Wagon Wheel Ra	73.02	335	⇓P	P	22 10 34.6	+1.0
	baz=73,SNR=5.1						
133A	Hamilton Ranch	73.06	338	⇑P	P	22 10 34.6	+0.8
	baz=73,SNR=7.3						
230A	Sterling City	73.09	336	⇓P	P	22 10 34.4	+0.4
	baz=73						
Z35A	Perchaven, San	73.24	339	⇑P	P	22 10 35.5	+0.7
	baz=74,SNR=5.4						
ABTX	Abilene, Hawle	73.30	337	eP	P	22 10 35.1	-0.1
	comp=Z,31nm,1.3s						
ABTX				LR	LR		
	comp=Z,302nm,18.9s						
ABTX	Abilene, Hawle	73.30	337	⇓P	P	22 10 35.9	+0.7
	baz=74,SNR=9.2						
UALR	University of	73.36	344	PFAKE		22 10 50.0	+15
UALR				LR	LR		
	comp=Z,398nm,19.6s						
229A	Bryant Ranch,	73.40	335	⇑P	P	22 10 36.8	+0.9
	baz=74						
Z34A	Collier Ranch,	73.47	339	⇓P	P	22 10 36.8	+0.6
	baz=74						
131A	Roby	73.58	336	⇑P	P	22 10 37.7	+0.9
	baz=74						
Z33A	Whitaker Ranch	73.64	338	⇓P	P	22 10 38.0	+0.8
	baz=74,SNR=5.9						
130A	Snyder	73.69	336	⇓P	P	22 10 38.2	+0.6
	baz=74,SNR=5.3						
WVT	Waverly	73.79	348	eP	P	22 10 37.4	-0.6
WVT				pmax	pmax		
	comp=Z,36nm,1.2s						
WVT	Waverly	73.79	348	eP	P	22 10 37.4	-0.6
	comp=Z,36nm,1.2s						
228A	UT Block 9, Go	73.81	334	⇑P	P	22 10 39.3	+1.1
	baz=74,SNR=8.5						
Z32A	Haskell	73.88	337	⇓P	P	22 10 39.4	+0.8
	baz=74,SNR=9.9						
Y34A	Reagan Ranch,	73.97	339	⇓P	P	22 10 39.3	+0.2
	baz=74						
129A	Stewart Farms,	74.03	335	⇓P	P	22 10 41.0	+1.4
	baz=74						
Z31A	Sharp Cattle R	74.10	337	⇓P	P	22 10 40.9	+1.0
	baz=74,SNR=9.0						
128A	Castleberry Fa	74.23	335	⇓P	P	22 10 41.6	+0.9
	baz=75,SNR=13						
JSRW	J. Sargeant Re	74.23	356	eP	P	22 10 39.6	-0.8
Y33A	Hilltop Ranch,	74.27	338	⇑P	P	22 10 41.6	+0.7
	baz=75						
Z30A	Sanderson Ranc	74.38	336	⇓P	P	22 10 42.6	+1.0
	baz=75,SNR=10						
PVMO	Portageville	74.40	346	PFAKE		22 10 50.0	+8.5
PVMO				LR	LR		
	comp=Z,399nm,21.5s						
SUR	Sutherland	74.43	119	eP	P	22 10 41.4	-0.9
	comp=Z,90nm,1.4s						
MNTX	Cornudas Mount	74.44	332	eP	P	22 10 41.3	-0.6
	comp=Z,7.5nm,0.9s						
Y32A	R-V Farms, Ver	74.51	338	⇓P	P	22 10 43.0	+0.7
	baz=75						
Z29A	Hungry Hill Ra	74.55	336	⇑P	P	22 10 43.0	+0.5
	baz=75,SNR=9.1						
127A	Arkansas Junct	74.58	334	⇑P	P	22 10 44.3	+1.5
	baz=75						
X34A	Smith Ranch, M	74.60	339	⇑P	P	22 10 43.4	+0.7
	baz=75,SNR=5.4						
Y31A	Rekieta Farm,	74.73	337	⇑P	P	22 10 44.4	+0.9
	baz=75						
Y30A	Stafford Cattl	74.85	337	⇓P	P	22 10 44.9	+0.6
	baz=75						
X32A	Elmer	74.85	338	⇑P	P	22 10 45.1	+0.8
	baz=75						
PBMO	Poplar Bluff	74.89	346	eP	P	22 10 43.9	-0.4
	comp=Z,13nm,0.7s						
Y29A	Porterfield Fa	75.09	336	⇓P	P	22 10 46.4	+0.7
	baz=75,SNR=6.2						
Z27A	Tatum	75.11	334	⇓P	P	22 10 47.3	+1.5
	baz=76						
W34A	Bridge Creek,	75.17	340	PFAKE		22 11 00.0	+14
W34A				LR	LR		
	comp=Z,600nm,19.0s						
W34A	Bridge Creek,	75.17	340	⇓P	P	22 10 46.6	+0.5
	baz=76						
X31A	McDonald Ranch	75.26	338	⇓P	P	22 10 47.4	+0.8
	baz=76,SNR=6.8						
TUL1	Tulsa	75.28	341	eP	P	22 10 46.5	-0.1
	comp=Z,54nm,1.4s						
TUL1				LR	LR		
	comp=Z,300nm,19.3s						
TUL1	Tulsa	75.28	341	⇑P	P	22 10 46.9	+0.3
	baz=76						
W33A	Caddo, Fort Co	75.29	339	⇑P	P	22 10 48.7	+1.9
	baz=76,SNR=7.8						
Y28A	McKinney Farm,	75.32	335	⇓P	P	22 10 48.4	+1.3
	baz=76						
Z26A	Caprock	75.34	334	⇑P	P	22 10 48.8	+1.7

baz=76,SNR=15
W32A Sentinel 75.50 338 ⇓P P 22 10 49.0 +1.0
baz=76,SNR=11
USIN University of 75.55 348 PFAKE 22 11 00.0 +12
USIN LR LR
comp=Z,698nm,19.4s
MSTX Muleshoe 75.55 335 eP P 22 10 48.1 -0.3
comp=Z,33nm,1.5s
MSTX Muleshoe 75.55 335 ⇑P P 22 10 49.1 +0.7
baz=76
SIUC Southern Illin 75.57 347 eP P 22 10 47.9 -0.4
comp=Z,20nm,0.9s
SIUC LR LR
comp=Z,502nm,20.0s
Y27A Causey 75.61 335 ⇓P P 22 10 50.5 +1.8
baz=76
Z25A Roswell 75.61 333 ⇑P P 22 10 50.6 +1.8
baz=76
X29A Tulia 75.63 336 ⇑P P 22 10 49.7 +0.9
baz=76
V34A Guthrie 75.67 340 eP P 22 10 47.9 -0.9
comp=Z,58nm,1.7s
V34A Guthrie 75.67 340 ⇑P P 22 10 49.3 +0.5
baz=76
319A Douglas 75.70 329 ⇑P P 22 10 51.3 +2.0
baz=76
W31A Holland Ranch, 75.76 338 ⇑P P 22 10 50.2 +0.7
baz=76
X28A Dimmitt 75.86 336 ⇑P P 22 10 51.4 +1.3
baz=76
V33A Lossen Ranch, 75.87 339 ⇓P P 22 10 50.8 +0.8
baz=76
Y26A Elida 75.87 334 ⇑P P 22 10 51.6 +1.3
baz=76
Z24A Sheeppen Canyo 75.89 333 ⇑P P 22 10 52.0 +1.5
baz=76
V32A Arapaho 75.99 339 ⇑P P 22 10 51.8 +1.0
baz=76
AMTX Amarillo 76.03 336 eP P 22 10 51.2 +0.2
comp=Z,33nm,1.2s
AMTX Amarillo 76.03 336 ⇑P P 22 10 51.9 +0.8
baz=76
121A Cookes Peak, D 76.10 331 ⇓P P 22 10 53.8 +2.1
baz=76
Y25A Mesa, Roswell 76.18 334 ⇓P P 22 10 53.5 +1.5
baz=76
U34A Anderson Ranch 76.23 340 PFAKE 22 11 00.0 +7.9
U34A LR LR
comp=Z,500nm,20.0s
W29A Amraillo 76.23 336 ⇓P P 22 10 53.3 +1.0
baz=77,SNR=6.5
V31A Spring Creek L 76.28 338 ⇓P P 22 10 54.8 +2.4
baz=77,SNR=6.0
X26A CR and CF Fran 76.44 335 ⇑P P 22 10 55.1 +1.6
baz=77,SNR=5.9
Y24A Capitan 76.45 333 ⇑P P 22 10 54.6 +1.0
baz=77,SNR=5.8
BLO Bloomington 76.56 350 eP P 22 10 53.1 -0.7
BLO pmax pmax
comp=Z,35nm,1.4s
BLO Bloomington 76.56 350 eP P 22 10 53.1 -0.7
comp=Z,35nm,1.4s
U32A Winter Ranch, 76.59 339 ⇓P P 22 10 55.2 +1.0
baz=77
W27A Bowe Ranch, En 76.65 335 ⇓P P 22 10 55.8 +1.2
baz=77,SNR=10
SLM Saint Louis 76.65 346 PFAKE 22 11 10.0 +16
SLM LR LR
comp=Z,600nm,19.0s
LIC Lamto 76.67 72 eP P 22 10 55.9 +0.8
comp=Z,74nm,1.2s
Y23A Lovelace Mesa, 76.68 333 ⇑P P 22 10 56.6 +1.6
baz=77
W26A Owens Ranch, T 76.91 335 ⇑P P 22 10 58.0 +1.9
baz=77
TIC Toumodi 76.94 71 eP P 22 10 57.3 +0.6
comp=Z,46nm,1.1s
KIC Kosan Boka 76.98 72 eP P 22 10 57.7 +0.8
comp=Z,62nm,1.0s
V28A Channing 77.00 336 ⇑P P 22 10 58.5 +1.9
baz=77
X24A Lazy VL Ranch, 77.02 333 ⇓P P 22 10 58.5 +1.6
baz=77,SNR=11
T33A Patterson Ranc 77.03 340 ⇑P P 22 10 58.0 +1.4
baz=77,SNR=5.4
DBIC Dimbokro 77.09 71 eP P 22 10 57.7 +0.3
DBIC pmax pmax
comp=Z,24nm,1.0s
DBIC MLR MLR
comp=Z,1μm,19.0s
DBIC Dimbokro 77.09 71 P P 22 10 58.4 +0.9
comp=Z,12nm,0.7s,baz=211,slow=6.5,SNR=20
DBIC Dimbokro 77.09 71 eP P 22 10 57.7 +0.3
comp=Z,24nm,1.0s
DBIC LR LR
comp=Z,1μm,19.0s
BNM Barren Site 77.09 332 eP P 22 10 58.4 +1.1
TUC Tucson 77.14 328 eP P 22 10 57.8 +0.4
TUC pmax pmax
comp=Z,8.0nm,1.0s
TUC Tucson 77.14 328 eP P 22 10 57.8 +0.4
comp=Z,7.8nm,1.0s
ACSO Alum Creek Sta 77.16 352 eP P 22 10 56.2 -1.0
comp=Z,20nm,0.6s
SSPA Standing Stone 77.16 356 eP P 22 10 57.2 0.0
comp=Z,279nm,2.9s
CASY Casey 77.22 182 eP P 22 10 58.5 +1.1
comp=Z,19nm,1.0s
U30A WK&E Inc. Balk 77.22 338 ⇑P P 22 10 59.5 +1.7
baz=78
LPM Los Pinos Moun 77.24 332 eP P 22 10 58.8 +0.7
W25A X Bar L Ranch, 77.27 334 ⇑P P 22 10 59.5 +1.4
baz=78,SNR=8.4
T32A Huddler Ranch, 77.32 339 ⇓P P 22 10 59.3 +1.0
baz=78
T31A Randall Ranch, 77.46 339 ⇓P P 22 10 59.2 +0.2
baz=78
ODNJ Ogdensburg 77.50 359 eP P 22 10 59.7 +0.6
comp=Z,184nm,2.2s
LAZ Ladron 77.51 332 eP P 22 11 00.8 +1.3
V26A Tequesquite Ra 77.56 335 ⇓P P 22 11 00.4 +0.7
baz=78
U28A Mallet 77.57 336 ⇑P P 22 11 01.1 +1.3
baz=78
W24A Lazy 6 Ranch, 77.59 334 ⇓P P 22 11 01.1 +1.1
baz=78
214A Organ Pipe Nat 77.71 326 ⇑P P 22 11 01.2 +0.6
baz=78
YLE Yale 77.73 0 PFAKE 22 11 10.0 +10
YLE LR LR
comp=Z,2μm,20.1s
ANMO Albuquerque 77.74 333 eP P 22 11 01.4 +0.6
ANMO pmax pmax
comp=Z,16nm,1.1s
ANMO Albuquerque 77.74 333 P P 22 11 01.7 +0.9
comp=Z,14nm,1.1s,baz=161,slow=8.2,SNR=13
ANMO Albuquerque 77.74 333 eP P 22 11 01.4 +0.6
comp=Z,16nm,1.1s
S32A Newby Ranch, P 77.81 339 ⇓P P 22 11 01.9 +0.9
baz=78
U27A Thompson Grove 77.81 336 ⇓P P 22 11 02.1 +0.9
baz=78
W23A Werner Place, 77.81 333 ⇓P P 22 11 03.2 +1.9
baz=78
V25A Rancho No Teng 77.88 334 ⇑P P 22 11 02.9 +1.2
baz=78,SNR=9.4
S31A Mullinville 77.89 339 ⇑P P 22 11 02.9 +1.4
baz=78
V24A Rampart Ranch, 78.01 334 ⇑P P 22 11 03.6 +1.2
baz=78
U26A Atchley Ranch, 78.08 335 ⇑P P 22 11 04.7 +1.9
baz=78
R33A Olander Ranch, 78.11 340 ⇓P P 22 11 03.6 +1.0
baz=78
S30A Montezuma 78.19 338 ⇑P P 22 11 04.2 +1.1
baz=79
T28A Walsh 78.22 337 ⇓P P 22 11 04.2 +0.9
baz=79,SNR=7.1
U25A Circle Dot Ran 78.31 335 ⇓P P 22 11 05.3 +1.3
baz=79,SNR=7.2
V23A Ortiz Mt. (NFS 78.35 333 ⇓P P 22 11 06.0 +1.7
baz=79
T27A Campo 78.36 336 ⇑P P 22 11 05.2 +1.1
baz=79
S29A Ulysses 78.37 338 ⇓P P 22 11 05.4 +1.3
baz=79
R32A Long Quarter, 78.42 340 ⇑P P 22 11 05.6 +1.3
baz=79,SNR=5.3
R31A Burdett 78.52 339 ⇑P P 22 11 05.8 +0.9
baz=79
S28A Manter 78.58 337 ⇑P P 22 11 06.3 +1.0
baz=79
QUA2 Belchertown 78.70 1 eP P 22 11 06.5 +0.9
X18A Snowflake 78.72 330 ⇑P P 22 11 07.5 +1.2
baz=79
Q33A Connelly Farm, 78.72 341 ⇓P P 22 11 07.2 +1.2
baz=79
T26A Comanche Natio 78.74 336 ⇑P P 22 11 07.6 +1.3
baz=79,SNR=6.5
V22A San Miguel Ran 78.77 333 ⇑P P 22 11 08.7 +2.1
baz=79,SNR=12
U23A El Rito 78.88 333 ⇓P P 22 11 09.1 +1.9
baz=79,SNR=5.5
Q32A Meitler Ranch, 78.91 340 ⇓P P 22 11 08.0 +1.0
baz=79
T25A Trinidad 78.98 335 ⇑P P 22 11 09.4 +1.7
baz=79,SNR=13
S26A Kim 79.11 336 ⇓P P 22 11 09.6 +1.4
baz=80,SNR=11
R29A Marienthal 79.12 338 ⇓P P 22 11 09.7 +1.5
baz=80
W18A Petrified Fore 79.14 330 eP P 22 11 09.8 +1.2
comp=Z,16nm,0.9s
W18A LR LR
comp=Z,700nm,18.4s
W18A Petrified Fore 79.14 330 ⇑P P 22 11 11.0 +2.4
baz=80
Q31A Ellis 79.15 340 ⇓P P 22 11 09.8 +1.4
baz=80
X16A Lo Mia Camp, P 79.23 329 ⇑P P 22 11 09.8 +0.7
baz=80
R28A Tribune 79.25 338 ⇓P P 22 11 10.3 +1.3
baz=80,SNR=5.5
T24B San Luis 79.25 334 ⇓P P 22 11 11.1 +1.8
baz=80,SNR=7.7
Q30A Quinter 79.36 339 ⇓P P 22 11 10.4 +0.9
baz=80,SNR=5.9
T23A Casias Ranch, 79.45 334 ⇓P P 22 11 12.1 +1.8
baz=80
S25A Robets Cordova 79.47 335 ⇓P P 22 11 11.8 +1.5
baz=80,SNR=5.4
TSUM Tsumeb 79.48 106 eP P 22 11 09.6 -1.3
comp=Z,27nm,1.3s
TSUM LR LR
comp=Z,1μm,19.0s
Y14A Wickenburg 79.48 327 ⇑P P 22 11 12.7 +2.4
baz=80
R27A Eads 79.50 337 ⇑P P 22 11 11.2 +0.9
baz=80,SNR=8.1
P31A Stockton 79.63 340 ⇑P P 22 11 12.0 +1.0
baz=80
S24A Houchin Ranch, 79.71 335 ⇓P P 22 11 12.9 +1.1
baz=80,SNR=12
BOSA Boshof 79.72 118 eP P 22 11 11.1 -1.0
BOSA pmax pmax
comp=Z,52nm,1.4s
BOSA Boshof 79.72 118 P P 22 11 12.5 +0.4
comp=Z,15nm,1.0s,baz=265,slow=3.9,SNR=8.1
BOSA Boshof 79.72 118 eP P 22 11 11.1 -1.0
comp=Z,52nm,1.4s
BOSA eP P 22 11 12.5 +0.4
R26A Arlington 79.72 336 ⇓P P 22 11 12.9 +1.3
baz=80,SNR=9.2
R25A Fountain Ranch 79.86 336 ⇑P P 22 11 13.6 +1.2
baz=80
P30A Selden 79.89 339 ⇑P P 22 11 14.2 +1.8
baz=80
SDCO Great Sand Dun 79.90 335 eP P 22 11 13.6 +0.7
comp=Z,8.2nm,1.0s
BFZ Birch Farm 79.96 226 PFAKE 22 11 20.0 +7.0
BFZ LR LR
comp=Z,1μm,19.0s
Y12C Blythe 80.00 326 ⇓P P 22 11 15.3 +2.3
baz=80
S23A Nye Farm, Mont 80.04 334 ⇑P P 22 11 15.6 +2.1
baz=80
P29A Atwood 80.14 339 ⇑P P 22 11 15.3 +1.5
baz=80
WUAZ Wupatki 80.15 329 eP P 22 11 14.7 +0.6
comp=Z,185nm,3.0s
WUAZ LR LR
comp=Z,600nm,20.0s
O31A Woolen Ranch, 80.20 340 ⇑P P 22 11 15.8 +1.8
baz=81
R24A Sanders Place, 80.21 335 ⇑P P 22 11 16.1 +1.7
baz=81,SNR=12
Q26A Hugo 80.31 337 ⇑P P 22 11 17.0 +2.2
baz=81
S22A 4UR Ranch, Cre 80.37 334 ⇓P P 22 11 17.1 +1.8
baz=81,SNR=6.1
MDV Middlebury 80.41 0 eP P 22 11 15.6 +0.6
R23A Moffat 80.42 335 ⇑P P 22 11 17.4 +1.9
baz=81
O30A MW Ranch, Wils 80.43 340 ⇓P P 22 11 16.6 +1.3
baz=81
SNZO South Karori 80.44 225 PFAKE 22 11 30.0 +14
SNZO LR LR
comp=Z,900nm,22.0s
MVCO Mesa Verde 80.50 332 eP P 22 11 16.8 +0.8
comp=Z,25nm,1.4s
MVCO Mesa Verde 80.50 332 ⇓P P 22 11 17.9 +2.0
baz=81,SNR=6.4
Q25A Bedland, Calha 80.54 336 ⇓P P 22 11 18.1 +2.0
baz=81
LBNH Lisbon 80.66 1 eP P 22 11 16.9 +0.5
LBNH Lisbon 80.66 1 eP P 22 11 16.9 +0.5
comp=Z,626nm,2.8s
PFO Pinyon Flat Ob 80.76 325 LR LR 22 40 52.5
comp=Z,471nm,18.4s,baz=144,slow=31
BKZ Black Stump Fm 80.79 228 PFAKE 22 11 30.0 +12
BKZ LR LR
comp=Z,1μm,18.0s
P26A Davis Ranch, A 80.84 337 ⇓P P 22 11 19.2 +1.5
baz=81
W13A Hualapai Mount 80.85 327 ⇑P P 22 11 19.8 +1.9
baz=81
O28A Krutsinger Ran 80.88 338 ⇑P P 22 11 19.5 +1.8
baz=81
Q24A Divide 80.88 335 ⇓P P 22 11 19.5 +1.4
baz=81,SNR=5.1
WHZ Wether Hill Ro 80.94 218 eP P 22 11 17.7 -0.4
comp=Z,574nm,2.4s
URZ Urewera 81.00 229 PFAKE 22 11 30.0 +11
URZ LR LR
comp=Z,1μm,20.0s
LONY Lake Ozonia 81.04 359 eP P 22 11 19.2 +0.8
comp=Z,392nm,2.9s
P25A Willow Gulch B 81.06 336 ⇓P P 22 11 20.9 +2.1
baz=81
EMMW East Machias 81.30 4 PFAKE 22 11 30.0 +10
EMMW LR LR
comp=Z,3μm,18.9s
U15A North Rim 81.31 329 ⇓P P 22 11 22.2 +1.8
baz=82
PV01 Paradox Valley 81.34 333 eP P 22 11 21.2 +0.7
GMRC Granite Mounta 81.37 326 ⇓P P 22 11 22.5 +2.0
baz=82
O26A Horse Wrangler 81.45 337 ⇑P P 22 11 22.7 +1.9
baz=82,SNR=5.6
P23A Jefferson 81.48 335 ⇓P P 22 11 23.6 +2.3
baz=82
PV05 Paradox Valley 81.49 332 eP P 22 11 21.9 +0.7
O25A Wiggins 81.59 337 ⇑P P 22 11 23.8 +2.3
baz=82
PV04 Paradox Valley 81.70 333 eP P 22 11 22.7 +0.4
SMCO Snowmass 81.70 334 eP P 22 11 23.2 +0.7
comp=Z,18nm,1.1s
SMCO LR LR
comp=Z,900nm,20.9s
HEC Hector,Ludlow 81.71 325 ⇑P P 22 11 24.9 +2.6
baz=82
N27A Anderson Farm, 81.73 338 ⇑P P 22 11 23.9 +1.6
baz=82
PV10 Paradox Valley 81.73 332 eP P 22 11 22.5 0.0
ISCO Idaho Springs 81.79 335 eP P 22 11 22.8 0.0
ISCO pmax pmax
comp=Z,80nm,2.7s
ISCO MLR MLR
comp=Z,600nm,18.0s
ISCO Idaho Springs 81.79 335 eP P 22 11 22.8 0.0
comp=Z,80nm,2.7s
ISCO LR LR
comp=Z,600nm,18.0s
ISCO Idaho Springs 81.79 335 ⇑P P 22 11 24.4 +1.5
baz=82
BFSC Mount Baldy Ra 81.84 324 ⇑P P 22 11 25.3 +2.2
baz=82
PV09 Paradox Valley 81.87 332 eP P 22 11 23.2 -0.2
O24A Longmont 81.90 336 ⇑P P 22 11 25.7 +2.5
baz=82
N26A Koester Ranch, 81.96 338 ⇑P P 22 11 25.3 +1.8
baz=82
L31A Butterfield Fa 81.97 341 ⇑P P 22 11 24.8 +1.4
baz=82
P22A Eagle 82.00 335 ⇓P P 22 11 25.4 +1.6
baz=82
KNB Kanab 82.03 329 eP P 22 11 25.1 +1.0
KNB pmax pmax
comp=Z,62nm,1.9s
KNB MLR MLR
comp=Z,800nm,21.7s
KNB Kanab 82.03 329 eP P 22 11 25.1 +1.0
comp=Z,62nm,1.9s
KNB LR LR
comp=Z,800nm,21.7s
LBTB Lobatse 82.10 115 eP P 22 11 25.1 +0.3
LBTB pmax pmax
comp=Z,24nm,0.8s
LBTB MLR MLR
comp=Z,800nm,21.7s
LBTB Lobatse 82.10 115 eP P 22 11 25.1 +0.3
comp=Z,24nm,0.8s
LBTB LR LR
comp=Z,800nm,21.7s
O23A Lake Granby, G 82.26 335 ⇓P P 22 11 27.2 +1.9
baz=83,SNR=7.2
GSC Goldstone 82.32 325 ⇑P P 22 11 26.9 +1.4
baz=83
O22A Kremmling 82.43 335 ⇑P P 22 11 28.2 +2.0
baz=83,SNR=7.7
N24A Carr 82.48 336 ⇓P P 22 11 28.5 +2.2
baz=83
EDW2 Edwards Air Fo 82.52 324 ⇓P P 22 11 28.8 +2.4
baz=83
SHPR Sheep Range 82.59 327 eP P 22 11 27.4 +0.5
K30A Basset 82.63 341 ⇓P P 22 11 29.6 +2.7
baz=83
OSI Osito Adit 82.65 324 ⇓P P 22 11 29.6 +2.4
baz=83
CCUT Cedar City 82.71 329 eP P 22 11 28.1 +0.4
comp=Z,113nm,2.6s
CCUT LR LR
comp=Z,900nm,18.1s
M25A Palm-Egli Farm 82.77 337 ⇓P P 22 11 29.9 +2.1
baz=83
N23A Red Feather La 82.88 336 ⇑P P 22 11 30.6 +2.1
baz=83,SNR=5.4
ECSD EROS Data Cent 82.89 343 eP P 22 11 27.9 -0.2
comp=Z,20nm,0.8s
ECSD LR LR
comp=Z,300nm,20.0s
ECSD EROS Data Cent 82.89 343 ⇑P P 22 11 28.8 +0.6
baz=83,SNR=16
SRU San Rafael 82.93 332 eP P 22 11 28.5 -0.2
SRU pmax pmax
comp=Z,11nm,1.1s
SRU San Rafael 82.93 332 eP P 22 11 28.5 -0.2
comp=Z,10nm,1.1s
ARUT Antelope Range 82.95 329 eP P 22 11 29.4 +0.6
ARUT Antelope Range 82.95 329 eP P 22 11 29.4 +0.6
N22A Wattenberg Ran 82.97 335 ⇓P P 22 11 30.9 +1.9
baz=83,SNR=6.6
O20A White River Ci 82.99 334 ⇓P P 22 11 30.3 +1.3
baz=83
M24A Cheyenne 83.04 337 ⇑P P 22 11 31.1 +1.9
baz=83
MVU Marysvale 83.06 330 eP P 22 11 30.7 +1.2
comp=Z,13nm,1.4s
PHWY Pilot Hill 83.09 336 eP P 22 11 29.9 +0.2
comp=Z,18nm,1.4s
PHWY LR LR
comp=Z,600nm,20.4s
K28A Ten Mile Ranch 83.15 340 ⇓P P 22 11 31.8 +2.2
baz=84
M23A Laramie 83.33 336 ⇓P P 22 11 32.3 +1.6
baz=84
ISA Isabella 83.39 324 ⇑P P 22 11 33.2 +2.2
baz=84
J29A Okreek 83.50 341 ⇑P P 22 11 32.7 +1.4
baz=84,SNR=9.4
SPMN St. Paul 83.51 346 PFAKE 22 11 40.0 +8.7
SPMN LR LR
comp=Z,500nm,21.0s
SPMN St. Paul 83.51 346 ⇓P P 22 11 31.9 +0.6
baz=84
N20A Spence Gulch, 83.62 334 ⇑P P 22 11 34.1 +1.8
baz=84
COWI Conover 83.73 349 eP P 22 11 32.8 +0.4
comp=Z,51nm,1.7s
COWI LR LR
comp=Z,600nm,18.0s
J28A Allard Ranch, 83.77 340 ⇓P P 22 11 33.3 +0.6
baz=84
J27A Elkhorn Farm, 83.83 339 ⇑P P 22 11 34.6 +1.5
baz=84
L23A Garrett 83.90 336 ⇓P P 22 11 34.6 +0.9
baz=84
GRAC Grapevine Rang 83.98 326 ⇓P P 22 11 35.9 +1.9
baz=84
RWWY Rawlins 84.02 335 PFAKE 22 11 50.0 +16
RWWY LR LR
comp=Z,1μm,21.0s
L22A Ellis Ranch, M 84.07 336 ⇓P P 22 11 36.0 +1.5
baz=84
BRSD Miller 84.12 342 eP P 22 11 34.4 -0.1
comp=Z,22nm,0.6s
BRSD LR LR
comp=Z,601nm,21.6s
BRSD Miller 84.12 342 ⇑P P 22 11 34.9 +0.5
baz=84
MPU Maple Canyon 84.14 331 eP P 22 11 34.3 -0.6
comp=Z,18nm,1.2s
MPU LR LR
comp=Z,2μm,21.9s
J26A Sides Ranch, S 84.19 339 ⇓P P 22 11 36.0 +1.1
baz=85
NLU North Lily Min 84.26 331 eP P 22 11 36.3 +0.8
comp=Z,36nm,1.7s
I28A Midland 84.28 340 ⇑P P 22 11 36.7 +1.4
baz=85,SNR=5.5
R11A Troy Canyon, C 84.32 328 eP P 22 11 36.7 +0.8
comp=Z,31nm,1.8s
R11A Troy Canyon, C 84.32 328 ⇓P P 22 11 37.8 +1.9
baz=85
K23A Bowen Ranch, D 84.46 337 ⇑P P 22 11 37.5 +1.1
baz=85,SNR=5.3
J25A Sunshine Ranch 84.47 338 ⇓P P 22 11 37.6 +1.2
baz=85
JLU Jordanelle 84.58 332 eP P 22 11 37.4 +0.2
comp=Z,41nm,2.0s
JLU LR LR
comp=Z,700nm,18.0s
H29A Onida 84.61 341 ⇑P P 22 11 37.8 +0.9
baz=85,SNR=5.8
K22A Casper 84.65 336 eP P 22 11 37.6 +0.2
comp=Z,15nm,1.0s
K22A LR LR
comp=Z,501nm,19.6s
K22A Casper 84.65 336 ⇑P P 22 11 38.4 +1.0
baz=85
J24A Dixon Ranch, L 84.68 338 ⇑P P 22 11 39.1 +1.6
baz=85,SNR=6.2
DUG Dugway 84.75 331 PFAKE 22 11 50.0 +12
DUG LR LR
comp=Z,600nm,19.0s
DUG Dugway 84.75 331 ⇓P P 22 11 39.6 +1.6
baz=85
I26A New Underwood 84.78 339 ⇑P P 22 11 39.5 +1.6
baz=85
TPH Tonopah 84.81 327 eP P 22 11 38.7 +0.4
TPH pmax pmax
comp=Z,60nm,2.1s
TPH MLR MLR
comp=Z,800nm,21.7s
TPH Tonopah 84.81 327 eP P 22 11 38.7 +0.4
comp=Z,60nm,2.1s
TPH LR LR
comp=Z,800nm,21.7s
G30A Faulkton 84.81 342 ⇑P P 22 11 38.6 +0.7
baz=85,SNR=5.2
K21A Alcova 84.88 336 ⇓P P 22 11 39.6 +1.0
baz=85,SNR=7.3
TCUT Toone Canyon 85.01 332 eP P 22 11 38.9 -0.4
comp=Z,22nm,1.2s

TCUT LR LR
comp=Z,800nm,18.5s
I25A Rochford 85.03 339 ⇓P P 22 11 40.2 +0.9
baz=85,SNR=10.0
G29A Hoven 85.06 341 ⇑P P 22 11 39.9 +0.7
baz=85
H27A Howes 85.12 340 ⇑P P 22 11 40.4 +0.9
baz=86
OUZ Omahuta 85.12 229 PFAKE 22 11 50.0 +10
OUZ LR LR
comp=Z,7μm,20.0s
I24A Kuemmerle Ranc 85.15 338 ⇑P P 22 11 40.7 +0.9
baz=86,SNR=5.1
RSSD Black Hills 85.21 338 eP P 22 11 39.7 -0.5
RSSD pmax pmax
comp=Z,13nm,0.8s
RSSD MLR MLR
comp=Z,300nm,18.0s
RSSD Black Hills 85.21 338 eP P 22 11 39.7 -0.5
comp=Z,13nm,0.8s
RSSD LR LR
comp=Z,300nm,18.0s
G28A Parade 85.21 341 ⇓P P 22 11 40.9 +0.9
baz=86
J22A Midwest 85.32 336 ⇑P P 22 11 40.9 +0.2
baz=86
F30A Leola 85.44 342 ⇓P P 22 11 41.6 +0.6
baz=86
BGU Big Grassy Mou 85.47 331 eP P 22 11 41.8 +0.3
HWUT Hardware Ranch 85.49 332 eP P 22 11 41.4 -0.3
comp=Z,15nm,0.9s
HWUT LR LR
comp=Z,800nm,19.0s
H25A Fruitdale 85.54 339 ⇓P P 22 11 43.2 +1.6
baz=86,SNR=5.9
SPUT South Promonto 85.57 332 eP P 22 11 40.6 -1.4
comp=Z,36nm,1.7s
SPUT LR LR
comp=Z,700nm,19.2s
NV01 Mina Array Sit 85.58 326 eP P 22 11 41.9 -0.4
NVAR Mina Array Bea 85.58 326 P P 22 11 43.4 +1.1
comp=Z,1.3nm,0.7s,baz=144,slow=6.5,SNR=7.3
F29A Eureka 85.64 342 ⇑P P 22 11 42.4 +0.3
baz=86
I22A 9 Mile Ranch, 85.75 337 ⇑P P 22 11 43.4 +0.6
baz=86,SNR=7.5
BW06 Boulder Array 85.78 334 eP P 22 11 42.8 -0.3
comp=Z,12nm,1.3s
BW06 eP P 22 11 43.0 -0.1
BW06 LR LR
comp=Z,1μm,18.0s
PD31 Pinedale Array 85.78 334 eP P 22 11 43.1 -0.1
PDAR Pinedale Array 85.78 334 P P 22 11 43.8 +0.6
comp=Z,3.0nm,0.9s,baz=158,slow=5.1,SNR=12
J20A Shoshoni 85.79 335 ⇑P P 22 11 44.4 +1.3
baz=86,SNR=8.1
G26A Maurine 85.87 340 ⇑P P 22 11 44.4 +1.1
baz=86
H24A Dirks Ranch, A 85.93 338 ⇑P P 22 11 44.1 +0.5
baz=86,SNR=9.7
I21A Big Trails, Te 85.94 336 ⇑P P 22 11 44.2 +0.5
baz=86,SNR=8.0
G25A Newell 86.01 339 ⇑P P 22 11 44.8 +0.9
baz=86,SNR=6.1
E30A Jud 86.04 343 ⇑P P 22 11 45.4 +1.4
baz=86
J19A Crowheart 86.04 335 ⇑P P 22 11 45.4 +1.0
baz=86,SNR=7.1
HVU Hansel Valley 86.10 332 eP P 22 11 44.6 0.0
HVU pmax pmax
comp=Z,73nm,2.2s
HVU Hansel Valley 86.10 332 eP P 22 11 44.6 0.0
comp=Z,73nm,2.2s
TOA0 Torodi Ar. Sit 86.16 71 eP P 22 11 45.0 -0.4
TOA0 eP P 22 11 45.5 +0.1
TORD Torodi Ar. Bea 86.16 71 P P 22 11 45.5 +0.1
comp=Z,9.4nm,1.2s,baz=236,slow=3.9,SNR=12
ELK Elko 86.19 329 eP P 22 11 44.4 -0.8
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK MLR MLR
comp=Z,500nm,19.6s
ELK Elko 86.19 329 eP P 22 11 44.4 -0.8
comp=Z,4.9nm,1.0s
ELK LR LR
comp=Z,500nm,19.6s
F27A Lemmon 86.24 340 ⇓P P 22 11 45.7 +0.6
baz=87,SNR=11
E29A Napoleon 86.28 342 ⇓P P 22 11 46.4 +1.2
baz=87
I20A Worland 86.34 336 ⇓P P 22 11 46.5 +0.8
baz=87,SNR=7.4
H22A Clearmont 86.34 337 ⇑P P 22 11 46.6 +1.0
baz=87
F26A Lodgepole 86.40 340 ⇓P P 22 11 46.5 +0.7
baz=87
G24A Alzada 86.42 339 ⇓P P 22 11 46.8 +0.8
baz=87
E28A Huff 86.55 341 ⇓P P 22 11 47.3 +0.7
baz=87
D30A Buchanan 86.57 343 ⇓P P 22 11 47.4 +0.8
baz=87
H21A Big Horn, Sher 86.59 337 ⇑P P 22 11 47.2 +0.3
baz=87
G23A Biddle 86.59 338 ⇓P P 22 11 47.4 +0.5
baz=87
E27A Carson 86.64 341 ⇓P P 22 11 47.6 +0.6
baz=87
F25A Bowman 86.69 339 ⇑P P 22 11 48.1 +0.8
baz=87,SNR=6.1
I19A Meeteetse 86.70 335 ⇑P P 22 11 48.4 +0.8
baz=87
D29A Pettibone, Tap 86.73 342 ⇓P P 22 11 48.2 +0.8
baz=87
REDW Red Top Meadow 86.76 334 eP P 22 11 48.5 +0.5
comp=Z,18nm,1.4s
H20A Greybull 86.77 336 ⇓P P 22 11 48.5 +0.7
baz=87
G22A Birney 86.89 337 ⇓P P 22 11 49.5 +1.2
baz=87
LOHW Long Hollow 86.89 334 eP P 22 11 47.9 -0.7
comp=Z,28nm,2.0s
LOHW LR LR
comp=Z,1μm,20.4s
F24A Ekalaka 86.90 339 ⇓P P 22 11 49.1 +0.8
baz=87,SNR=5.3
TPAW Teton Pass 86.91 334 eP P 22 11 48.6 -0.1
comp=Z,8.6nm,0.9s
E26A Carlson Angus 86.92 340 ⇑P P 22 11 49.0 +0.7
baz=87,SNR=6.2
AGMN Agassiz Nation 87.06 345 eP P 22 11 48.7 -0.3
comp=Z,10nm,0.8s
AGMN Agassiz Nation 87.06 345 ⇓P P 22 11 49.4 +0.5
baz=87,SNR=7.9
FXWY Fox Creek 87.06 334 eP P 22 11 48.5 -0.9
comp=Z,7.3nm,1.3s
C30A Mose, Pekin 87.06 343 ⇓P P 22 11 50.1 +1.1
baz=87,SNR=7.6
F23A Volborg 87.07 338 ⇓P P 22 11 50.1 +0.9
baz=87
D28A Regan 87.09 342 ⇑P P 22 11 50.2 +1.0
baz=88
I17A Pilgrim Ck. 87.15 334 ⇓P P 22 11 51.1 +1.3
baz=88
G21A Lodge Grass 87.18 337 ⇑P P 22 11 51.1 +1.3
baz=88
D27A Center 87.25 341 ⇑P P 22 11 50.9 +0.9
baz=88
IMW Indian Meadow 87.26 334 eP P 22 11 50.7 +0.3
comp=Z,17nm,1.4s
H19A Powell 87.26 335 ⇑P P 22 11 51.3 +1.1
baz=88
FLWY Flagg Ranch 87.33 334 eP P 22 11 50.9 +0.2
comp=Z,90nm,2.3s
F22A Rosebud 87.38 338 ⇓P P 22 11 51.7 +1.1
baz=88
D26A Manning 87.42 341 ⇑P P 22 11 51.8 +1.0
baz=88,SNR=12
G20A Bridger 87.50 336 ⇓P P 22 11 52.5 +1.2
baz=88
H18A Shoshone NF, C 87.50 335 ⇓P P 22 11 52.3 +0.8
baz=88,SNR=6.1
E24A Baker 87.51 339 ⇑P P 22 11 52.5 +1.2
baz=88
H17A Grant Village 87.56 334 ⇓P P 22 11 53.9 +2.0
baz=88
F21A Absaloka Mine, 87.69 337 ⇓P P 22 11 53.7 +1.6
baz=88

B30A Myrvik Farm, E 87.73 344 ⇓P P 22 11 52.8 +0.6
baz=88,SNR=9.4
D25A Fairfield 87.77 340 ⇓P P 22 11 53.7 +1.2
baz=88
C27A Sayler Ranch, 87.81 341 ⇓P P 22 11 53.7 +1.1
baz=88,SNR=12
YMR Madison River 87.94 334 eP P 22 11 53.7 +0.1
comp=Z,19nm,1.2s
B29A Wagenman Farm, 87.98 343 ⇓P P 22 11 54.3 +0.9
baz=88
D24A Glendive 88.02 339 ⇓P P 22 11 55.1 +1.4
baz=88
C26A Wahner Farm, P 88.07 341 ⇓P P 22 11 54.6 +0.8
baz=88
A30A Hoffart Farm, 88.19 344 ⇑P P 22 11 55.7 +1.4
baz=89,SNR=8.8
B28A Dugan Ranch, T 88.21 342 ⇓P P 22 11 55.5 +1.0
baz=89,SNR=7.0
QLMT Earthquake Lak 88.24 334 eP P 22 11 53.3 -1.7
HLID Hailey 88.25 331 eP P 22 11 53.3 -1.7
comp=Z,78nm,2.7s
HLID Hailey 88.25 331 ⇑P P 22 11 56.9 +1.8
baz=89
F19A Roth Farm, Mol 88.29 336 ⇓P P 22 11 56.0 +0.9
baz=89
E21A Keefer Ranch, 88.31 337 ⇓P P 22 11 56.8 +1.7
baz=89
D23A Lindsay 88.33 339 ⇑P P 22 11 56.2 +1.1
baz=89
AFI Afiamalu 88.38 254 PFAKE 22 12 10.0 +14
AFI LR LR
comp=Z,10μm,20.9s
A29A Manning Farm, 88.38 343 ⇓P P 22 11 55.8 +0.5
baz=89,SNR=13
B27A Peters Farms, 88.39 342 ⇑P P 22 11 56.4 +1.1
baz=89
C24A Savage 88.43 340 ⇑P P 22 11 56.4 +0.8
baz=89
D22A Cohagen 88.59 338 ⇓P P 22 11 57.6 +1.2
baz=89
E20A Meyer Farm, Mu 88.61 337 ⇑P P 22 11 57.6 +1.1
baz=89
A28A Rude Farm, Bot 88.61 343 ⇓P P 22 11 57.6 +1.2
baz=89
MCMT McKenzie Canyo 88.75 333 eP P 22 11 57.0 -0.5
E19A Rath Farm, Rou 88.78 336 ⇓P P 22 11 58.0 +0.7
baz=89
ULM Lac du Bonnet 88.92 346 eP P 22 11 56.9 -0.8
ULM pmax pmax
comp=Z,105nm,2.5s
ULM Lac du Bonnet 88.92 346 P P 22 11 56.7 -1.0
comp=Z,5.5nm,0.7s,baz=149,slow=2.7,SNR=8.8
ULM Lac du Bonnet 88.92 346 eP P 22 11 56.9 -0.8
comp=Z,104nm,2.5s
WVOR Wild Horse Val 89.01 328 eP P 22 11 58.9 +0.3
WVOR pmax pmax
comp=Z,23nm,1.6s
WVOR Wild Horse Val 89.01 328 eP P 22 11 58.9 +0.3
comp=Z,23nm,1.6s
A26A Wade Farm, Ken 89.04 342 ⇑P P 22 11 59.3 +0.9
baz=89
DLMT Dillon 89.12 334 eP P 22 11 57.0 -2.0
comp=Z,18nm,1.6s
D20A Manuel Ranch, 89.13 337 ⇑P P 22 11 59.7 +0.7
baz=90
DGMT Dagmar 89.22 340 eP P 22 11 57.8 -1.5
comp=Z,39nm,1.5s
DGMT LR LR
comp=Z,700nm,19.0s
DGMT Dagmar 89.22 340 ⇓P P 22 12 00.8 +1.6
baz=90
LSZ Lusaka 89.94 109 eP P 22 12 01.2 -2.5
LSZ pmax pmax
comp=Z,13nm,1.0s
LSZ MLR MLR
comp=Z,1μm,18.0s
LSZ Lusaka 89.94 109 eP P 22 12 01.2 -2.5
comp=Z,13nm,1.0s
LSZ LR LR
comp=Z,1μm,18.0s
A22A Carney Farms, 90.17 339 ⇓P P 22 12 04.0 +0.2
baz=90
BMO Blue Mountains 90.46 330 PFAKE 22 12 20.0 +15
BMO LR LR
comp=Z,600nm,22.0s
A21A Bergtoll Ranch 90.46 339 ⇓P P 22 12 04.9 -0.2
baz=91
EGMT Eagleton 90.47 337 PFAKE 22 12 20.0 +15
EGMT LR LR
comp=Z,400nm,21.0s
A20A Cobblestone Ra 90.66 338 ⇓P P 22 12 06.9 +0.9
baz=91
MSO Missoula 90.86 333 PFAKE 22 12 20.0 +13
MSO LR LR
comp=Z,800nm,22.0s
L02D Cave Junction, 90.98 325 ⇑P P 22 12 09.7 +2.1
baz=91
G06A Carlson Farm, 92.13 329 PFAKE 22 12 20.0 +7.1
G06A LR LR
comp=Z,1μm,20.7s
E07A Sunnyside 92.88 330 PFAKE 22 12 30.0 +14
E07A LR LR
comp=Z,700nm,21.6s
F04A Amboy 93.44 328 PFAKE 22 12 30.0 +11
F04A LR LR
comp=Z,1μm,20.6s
LTY Liberty 93.78 330 PFAKE 22 12 30.0 +9.5
LTY LR LR
comp=Z,700nm,19.3s
B06A Marblemount 95.12 330 PFAKE 22 12 40.0 +14
B06A LR LR
comp=Z,500nm,20.3s
A05A Maple Falls 95.74 330 PFAKE 22 12 40.0 +11
A05A LR LR
comp=Z,600nm,18.9s
PGC Sidney 96.02 329 PFAKE 22 12 40.0 +9.4
PGC LR LR
comp=Z,900nm,18.1s
EDM Edmonton 96.12 337 PFAKE 22 12 40.0 +8.9
EDM LR LR
comp=Z,700nm,19.5s
FCC Fort Churchill 96.76 349 PFAKE 22 12 40.0 +6.3
FCC LR LR
comp=Z,800nm,21.0s
DZM Mont Dzumac 98.73 234 eLR LR 22 44 57.9
comp=Z,1μm,24.1s
ESDC Sonseca Array 99.27 47 P Pdif 22 12 45.3 -0.3
comp=Z,1.5nm,0.8s,baz=232,slow=4.2,SNR=3.8
ABPO Ambohimpanom 101.14 124 PFAKE 22 13 10.0 +15
ABPO LR LR
comp=Z,600nm,20.0s
YKA Yellowknife Ar 104.35 342 Pdiff Pdif 22 13 08.5 +1.0
comp=Z,0.1nm,0.5s,baz=139,slow=4.8,SNR=3.6
BNI Bardonecchia 108.79 48 PFAKE 22 17 40.0
BNI LR LR
comp=Z,700nm,19.0s
WDD Wield Dalam 108.88 59 PFAKE 22 17 40.0
WDD LR LR
comp=Z,2μm,20.0s
FORT Forrest 109.85 200 PFAKE 22 17 50.0
FORT LR LR
comp=Z,600nm,21.1s
VLC Villacollemand 110.55 50 PFAKE 22 17 50.0
VLC LR LR
comp=Z,400nm,21.0s
WLF Walferdange 110.99 43 PFAKE 22 17 50.0
WLF LR LR
comp=Z,800nm,21.0s
CEL Celeste 111.06 58 PFAKE 22 17 50.0
CEL LR LR
comp=Z,2μm,19.0s
TUE Stuetta 111.13 47 PFAKE 22 17 50.0
TUE LR LR
comp=Z,1μm,18.0s
MEM Membach 111.42 42 PFAKE 22 17 50.0
MEM LR LR
comp=Z,497μm,18.0s
SUMG Summit 111.73 11 PFAKE 22 17 50.0
SUMG LR LR
comp=Z,500nm,19.0s
FUORN Ofenpass-Fuorn 111.75 48 PFAKE 22 17 50.0
FUORN LR LR
comp=Z,600nm,20.4s
CUC Castrocucco 111.89 56 PFAKE 22 17 50.0
CUC LR LR
comp=Z,800nm,18.0s
HNR Honiara 112.10 239 PFAKE 22 17 50.0

HNR LR LR
comp=Z,800nm,19.0s
TIP Timpagrande 112.11 57 PFAKE 22 17 50.0
TIP LR LR
comp=Z,700nm,20.0s
STU Stuttgart 112.23 45 PFAKE 22 17 50.0
STU LR LR
comp=Z,500nm,19.0s
FURI Furi 112.90 96 PFAKE 22 17 50.0
FURI LR LR
comp=Z,400nm,22.0s
DOT Dot Lake 114.54 332 PFAKE 22 17 50.0 +7.0
DOT LR LR
comp=Z,1μm,22.0s
PAX Paxson 114.69 331 PFAKE 22 18 00.0 +17
PAX LR LR
comp=Z,400nm,19.8s
SEW Seward 114.80 328 PFAKE 22 18 00.0 +16
SEW LR LR
comp=Z,700nm,19.1s
GEC2 GERESS Array S 114.86 47 ePKIKP PKPdf 22 17 43.9 -0.3
GEC2 GERESS Array S 114.86 47 ePKiKP PKPdf 22 17 43.9 -0.3
GERES GERESS Array B 114.86 47 PKP PKPdf 22 17 43.9 -0.3
comp=Z,1.3nm,0.7s,baz=191,slow=1.4,SNR=13
RC01 Rabbit Creek A 115.42 328 PFAKE 22 18 00.0 +15
RC01 LR LR
comp=Z,600nm,18.3s
PMR Palmer 115.43 329 PFAKE 22 18 00.0 +15
PMR LR LR
comp=Z,700nm,18.7s
CLL Collm 115.60 44 eSS SS 22 34 54.0 +6.2
CLL Collm 115.60 44 PFAKE 22 18 00.0 +15
CLL LR LR
comp=Z,600nm,18.0s
ILAR Eielson Array 116.18 333 PKP PKPdf 22 17 45.7 -0.4
comp=Z,0.7nm,1.0s,baz=159,slow=2.7,SNR=3.1
MCK McKinley 116.43 331 PFAKE 22 18 00.0 +13
MCK LR LR
comp=Z,400nm,19.6s
RUE Ruedersdorf 116.56 43 PFAKE 22 18 00.0 +13
RUE LR LR
comp=Z,500nm,20.0s
COLA College 116.59 333 PFAKE 22 18 00.0 +13
COLA LR LR
comp=Z,400nm,20.4s
TRF Thorofare Moun 116.82 331 PFAKE 22 18 00.0 +12
TRF LR LR
comp=Z,800nm,19.8s
MSEY Mahe Island 116.97 119 PFAKE 22 18 00.0 +11
MSEY LR LR
comp=Z,400nm,21.0s
CAST Castle Rocks 117.51 330 PFAKE 22 18 00.0 +11
CAST LR LR
comp=Z,500nm,21.1s
VYHS Vyhne 117.75 49 ePKIKP PKPdf 22 17 49.8 +0.2
VYHS Vyhne 117.75 49 ePKP PKPdf 22 17 49.8 +0.2
WRA Warramunga Arr 117.81 210 PKP PKPdf 22 17 50.9 +0.1
comp=Z,1.7nm,1.1s,baz=121,slow=2.1,SNR=5.1
KWAJ Kwajalein Atol 118.41 259 PFAKE 22 18 00.0 +8.1
KWAJ LR LR
comp=Z,900nm,20.8s
FALS False Pass 119.14 319 PFAKE 22 18 00.0 +8.0
FALS LR LR
comp=Z,1μm,18.5s
IM04 Indian Mountai 119.30 332 ePKPdf PKPdf 22 17 51.8 -0.4
KOLS Kolonicke sedl 120.01 49 ePKIKP PKPdf 22 17 55.4 +1.4
KOLS Kolonicke sedl 120.01 49 ePKP PKPdf 22 17 55.4 +1.4
PMG Port Moresby 120.36 228 PFAKE 22 18 10.0 +14
PMG LR LR
comp=Z,400nm,19.0s
KWP Kalwaria Pacla 120.54 49 ePKIKP PKPdf 22 17 55.2 +0.2
KWP Kalwaria Pacla 120.54 49 ePKP PKPdf 22 17 55.1 +0.1
MBWA Marble Bar 121.06 194 ePKPdf PKPdf 22 17 55.7 -1.2
MBWA LR LR
comp=Z,600nm,18.0s
BUR04 Bucovina Ar. S 121.33 52 ePKPdf PKPdf 22 17 57.0 +0.4
SUW Suwalki 122.36 44 ePKIKP PKPdf 22 17 57.3 -1.0
SUW Suwalki 122.36 44 ePKP PKPdf 22 17 57.9 -0.4
SUW Suwalki 122.36 44 ePKPdf PKPdf 22 17 57.3 -1.0
BR231 Keskin MP Arra 123.52 63 ePKPdf PKPdf 22 18 01.2 +0.1
BR101 Keskin Array S 124.09 63 ePKPdf PKPdf 22 18 01.6 -0.8
BRTR Keskin Array B 124.09 63 PKP PKPdf 22 18 01.6 -0.8
comp=Z,2.0nm,0.9s,baz=208,slow=3.9,SNR=8.3
TNA Tin City 124.67 330 PFAKE 22 18 10.0 +7.7
TNA LR LR
comp=Z,300nm,19.3s
AK11 Malin Array Si 124.80 49 ePKPdf PKPdf 22 18 02.1 -1.0
AKASG Malin Array Be 124.84 49 PKP PKPdf 22 18 02.2 -1.0
comp=Z,1.3nm,0.5s,baz=268,slow=2.5,SNR=8.9
AKBB Malin Array Si 124.84 49 ePKIKP PKPdf 22 18 02.2 -1.0
AKBB Malin Array Si 124.84 49 ePKPdf PKPdf 22 18 02.2 -1.0
DGAR Diego Garcia 125.60 137 PFAKE 22 18 20.0 +14
DGAR LR LR
comp=Z,500nm,19.0s
GAMB Gambell 125.87 327 PFAKE 22 18 20.0 +15
GAMB LR LR
comp=Z,800nm,20.8s
FIA0 FINESS Array S 125.88 36 ePKIKP PKPdf 22 18 04.5 -0.3
FIA0 FINESS Array S 125.88 36 ePKPdf PKPdf 22 18 04.5 -0.3
FINES FINESS Array B 125.88 36 PKP PKPdf 22 18 04.5 -0.3
comp=Z,1.4nm,0.8s,baz=240,slow=3.8,SNR=4.9
RAYN Ar Rayn 126.32 86 ePKPdf PKPdf 22 18 06.6 -0.3
RAYN LR LR
comp=Z,800nm,22.0s
ARA0 ARCESS Array S 126.99 26 ePKPdf PKPdf 22 18 06.3 -0.4
ARA0 ePKPdf PKiKP 22 18 06.7 -0.6
ARCES ARCESS Array B 126.99 26 PKP PKPdf 22 18 06.7 -0.1
comp=Z,2.0nm,0.6s,baz=336,slow=2.7,SNR=6.8
KEV Kevo 127.53 26 PFAKE 22 18 20.0 +12
KEV LR LR
comp=Z,800nm,18.0s
OBN Obninsk 130.18 45 iPKIKP PKPdf 22 18 21.0 +7.8
OBN pmax pmax
comp=Z,16nm,1.7s
SOEI Soe 130.83 203 PFAKE 22 18 30.0 +14
SOEI LR LR
comp=Z,900nm,19.7s
KIV Kislovodsk 131.83 61 ePKIKP PKPdf 22 18 14.5 -2.3
KIV Kislovodsk 131.83 61 ePKPdf PKPdf 22 18 14.5 -2.3
MMRI Maumere 132.50 201 PFAKE 22 18 30.0 +11
MMRI LR LR
comp=Z,300nm,18.0s
FAKI Fak Fak 133.86 217 PFAKE 22 18 30.0 +8.5
FAKI LR LR
comp=Z,300nm,19.0s
CISI Cisompet, Garu 135.88 182 PFAKE 22 18 40.0 +15
CISI LR LR
comp=Z,300nm,22.0s
KAPI Kappang 136.65 199 PFAKE 22 18 40.0 +13
KAPI LR LR
comp=Z,200nm,20.0s
MNAI Manna 138.92 174 PFAKE 22 18 40.0 +9.1
MNAI LR LR
comp=Z,500nm,21.0s
LUWI Luwuk 139.49 205 PFAKE 22 18 40.0 +8.0
LUWI LR LR
comp=Z,500nm,22.0s
PMBI Palembang 140.45 177 PFAKE 22 18 50.0 +16
PMBI LR LR
comp=Z,600nm,22.0s
PET Petropavlovsk 140.69 311 PFAKE 22 18 40.0 +7.2
PET LR LR
comp=Z,500nm,21.0s
GEYT Alibeck 141.76 73 PKhKP PKPpre 22 18 29.6
comp=Z,2.0nm,0.7s,baz=260,slow=5.9,SNR=7.2
TOLI Toli-Toli 142.17 203 PFAKE 22 18 50.0 +13
TOLI LR LR
comp=Z,200nm,20.0s
TIXI Tiksi 143.22 348 ePKHKP PKPpre 22 18 31.6
TIXI Tiksi 143.22 348 ePKPpre PKPpre 22 18 31.6
ABKAR Akbulak array 144.21 55 ePKPdf PKPbc 22 18 37.4 -0.1
KSM Kuching 144.70 186 ePKPdf PKPab 22 18 38.5 -1.4
KSM LR LR
comp=Z,500nm,18.0s
MYKOM Kota Tinggi 145.08 175 ePKPbc PKPbc 22 18 41.1 -0.2
PSI Prapat 145.44 166 PKPbc PKPbc 22 18 42.1 -0.4
comp=Z,21nm,0.8s,baz=167,slow=3.7,SNR=14
SBUM Sibu 145.44 190 ePKPdf PKPbc 22 18 42.1 -0.3
SBUM LR LR
comp=Z,300nm,22.0s
DAV Davao City (W) 145.75 215 PFAKE 22 18 50.0 +6.3
DAV LR LR
comp=Z,700nm,20.0s
POO Poona 145.96 113 ⇓iP PKPdf 22 18 42.0 -1.2
comp=Z,30nm,1.0s

LHMI Lhok Sumawe 147.35 162 ePKPdf PKPdf 22 18 45.6 -0.1
LHMI LR LR
comp=Z,800nm,18.0s
IPM Ipoh 147.43 170 ePKPdf PKPdf 22 18 45.2 -0.7
KKM Kota Kinabalu 148.17 198 PFAKE 22 19 00.0 +6.8
KKM LR LR
comp=Z,200nm,20.0s
HYB Hyderabad 148.60 120 i PKP PKPbc 22 18 50.5 -0.8
KBL Kabul 149.49 83 ePKP2 PKPbc 22 18 53.1 -0.3
KBL Kabul 149.49 83 ePKPbc PKPbc 22 18 53.1 -0.3
BRVK Borovoye 149.95 46 ePKP2 PKPbc 22 18 53.4 -0.2
BRVK Borovoye 149.95 46 ePKPbc PKPbc 22 18 53.4 -0.2
BRVK LR LR
comp=Z,10µm,22.0s
BVAR Borovoye Array 150.02 46 PKP PKPdf 22 18 49.8 +1.0
comp=Z,6.3nm,0.8s,baz=270,slow=2.9,SNR=3.0
BVAR PKPbc PKiKP 22 18 54.6 -0.1
comp=Z,12nm,0.9s,baz=298,slow=3.2,SNR=20
VOSK Vostochnaya 150.46 46 ePKIKP PKPbc 22 18 55.4 +0.6
VOSK Vostochnaya 150.46 46 ePKPbc PKPbc 22 18 55.4 +0.6
VOSK LR LR
comp=Z,7µm,18.6s
YAK Yakutsk 150.94 338 ePKIKP PKPbc 22 18 54.7 -0.9
YAK pmax pmax
comp=Z,76nm,1.3s
YAK Yakutsk 150.94 338 ePKPbc PKPbc 22 18 55.2 -0.4
YSS Yuzh-Sakhalins 151.49 302 ePKIKP PKPbc 22 18 57.0 -0.4
YSS e 22 19 05.0
KKAR Karatay Array 151.74 66 ePKIKP PKPdf 22 18 49.6 -2.3
KKAR Karatay Array 151.74 66 ePKPdf PKPdf 22 18 49.6 -2.3
EKS2 Erkin-Say 154.15 67 PFAKE 22 19 10.0 +6.3
EKS2 LR LR
comp=Z,20µm,18.0s
AAK Ala-Archa 154.68 67 ePKIKP PKPdf 22 18 54.5 -1.8
AAK e 22 19 04.4
AAK e 22 19 05.2
AAK Ala-Archa 154.68 67 PKPbc PKPbc 22 19 05.2 +0.3
comp=Z,4.0nm,0.8s,baz=190,slow=3.9,SNR=6.7
AAK PKPab PKPab 22 19 20.1 +0.3
comp=Z,11nm,0.9s,baz=198,slow=3.0,SNR=8.8
AAK Ala-Archa 154.68 67 ePKPdf PKPdf 22 18 54.5 -1.8
AAK ePKPdf PKPdf 22 18 55.2 -1.1
AAK ePKPbc PKPbc 22 19 04.4 -0.5
AAK ePKPbc PKPbc 22 19 04.6 -0.2
AAK ePKPbc PKPbc 22 19 05.2 +0.3
AAK ePKPab PKPab 22 19 20.1 +0.3
AAK ePKPab PKPab 22 19 20.1 +0.3
AAK ePKPab PKPab 22 19 20.1 +0.3
AAK LR LR
comp=Z,24µm,22.0s
MJAR Matsushiro Arr 154.74 279 PKPab PKPab 22 19 20.0 0.0
comp=Z,3.2nm,1.0s,baz=135,slow=3.6,SNR=4.9
MAJO Matsushiro 154.74 279 ePKP2 PKPab 22 19 20.0 0.0
MAJO MLR MLR
comp=Z,500nm,22.0s
MAJO Matsushiro 154.74 279 ePKPab PKPab 22 19 20.0 0.0
MAJO LR LR
comp=Z,500nm,22.0s
TKM2 Tokmak 2 155.48 66 PFAKE 22 19 10.0 +13
TKM2 LR LR
comp=Z,17µm,19.0s
KURK Kurchatov 155.61 46 PFAKE 22 19 10.0 +13
KURK LR LR
comp=Z,5µm,21.0s
KSH Kashi 155.78 74 ePKP PKPdf 22 19 05.3 +7.5
KSH eSS SS 22 42 51.5 +1.8
NVS Novosibirsk 155.86 34 ePKIKP PKPdf 22 18 56.2 -1.0
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=E,6.0nm,1.3s
ZAA1 Zalesovo Array 157.14 34 ePKPdf PKPdf 22 18 58.3 -0.6
ZAA1 ePKPab PKPab 22 19 30.5 +0.9
ZAA0 Zalesovo Array 157.14 34 ePKPdf PKPdf 22 18 57.9 -1.1
ZAA0 ePKPab PKPab 22 19 30.1 +0.5
ZALV Zalesovo Beam 157.14 34 PKP PKPdf 22 18 58.3 -0.6
comp=E,8.1nm,1.0s,baz=304,slow=2.7,SNR=12
ZALV PKPab PKPab 22 19 30.5 +0.9
comp=E,6.8nm,0.7s,baz=308,slow=5.3,SNR=8.6
BOD Bodaibo 158.40 349 ePKP2 PKPab 22 19 33.8 -1.1
BOD pmax pmax
comp=Z,8.0nm,1.4s
JOW Kunigami 159.15 248 PFAKE 22 19 10.0 +7.7
JOW LR LR
comp=Z,600nm,21.1s
MK32 Makanchi Array 159.35 53 ePKPdf PKPdf 22 19 01.7 -0.2
MK32 ePKPab PKPab 22 19 39.8 +0.3
MKAR Makanchi Array 159.35 53 PKP PKPdf 22 19 01.7 -0.2
comp=Z,5.1nm,1.1s,baz=336,slow=2.7,SNR=9.7
MKAR PKPab PKPab 22 19 39.8 +0.3
comp=Z,5.8nm,0.8s,baz=289,slow=4.8,SNR=13
MK01 Makanchi Array 159.36 54 ePKPdf PKPdf 22 19 01.3 -0.6
MK01 ePKPab PKPab 22 19 38.8 -0.8
CM31 Chiang Mai Arr 160.52 158 ePKPab PKPab 22 19 43.3 -1.8
CMAR Chiang Mai Arr 160.52 158 PKPab PKPab 22 19 43.3 -1.8
comp=Z,0.3nm,0.3s,baz=213,slow=3.1,SNR=3.1
WMQ Urumqi 163.94 58 PKP PKPdf 22 19 07.3 +0.5
WMQ LR LR
comp=Z,190nm,21.2s
WMQ LR LR
comp=Z,170nm,21.6s
WMQ LR LR
comp=Z,260nm,21.2s
LSA Lhasa 165.24 114 ePKIKP PKPdf 22 19 09.4 +0.4
LSA Lhasa 165.24 114 ePKPdf PKPdf 22 19 09.4 +0.4
LSA ePKPab PKPab 22 20 06.9 +0.5
NJ2 Nanjing 168.87 248 ePKP PKPdf 22 19 08.5 -2.4
ULN Ulaanbaatar 168.93 359 ePKP2 PKPab 22 20 21.8 +0.2
ULN Ulaanbaatar 168.93 359 ePKPab PKPab 22 20 21.8 +0.2
SONA1 Songino Array 168.95 1 ePKPab PKPab 22 20 21.3 -0.4
SONA0 Songino Array 168.96 1 ePKPab PKPab 22 20 22.3 +0.6
SONM Songino Array 168.96 1 PKPab PKPab 22 20 22.3 +0.6
comp=Z,2.6nm,1.0s,baz=343,slow=3.3,SNR=9.3
GYA Guiyang 169.70 180 PKP PKPdf 22 19 11.3 -0.5
GYA pPKP pPKPdf 22 19 22.3 +5.7
GYA PKPab PKPab 22 20 27.8 +2.3
GYA PKS PKSdf 22 22 42.0 -2.5
GYA PP PP 22 24 17.0 +2.7
GYA SS SS 22 45 10.5 -0.6
GYA AMB AMB
comp=Z,140nm,8.2s
GYA LR LR
comp=Z,140nm,21.5s
GYA LR LR
comp=Z,120nm,21.6s
GYA LR LR
comp=Z,150nm,24.7s
CD2 Chengdu 173.66 157 PKP PKPdf 22 19 13.5 0.0
CD2 pPKP pPKPdf 22 19 24.8 +6.5
CD2 sPKP 22 19 28.5
CD2 PKS PKSdf 22 22 44.3 -1.5
CD2 PP PP 22 24 38.0 +3.9
CD2 SKS SKSdf 22 26 11.3 -5.0
CD2 SKKS SKKSac 22 31 19.0 -1.9
CD2 SS SS 22 45 48.5 -1.8
CD2 AMB AMB
comp=Z,220nm,6.6s
GTA Gaotai 174.01 62 ePKP PKPdf 22 19 13.5 +0.1
GTA pPKP pPKPdf 22 19 24.3 +6.0
GTA sPKP 22 19 28.0
GTA PKPab PKPab 22 20 46.8 +2.2
HHC Hu-ho-hao-te 174.42 318 ePKP PKPdf 22 19 11.5 -2.0
HHC pPKP pPKPdf 22 19 20.5 +2.2
HHC sPKP 22 19 26.0
HHC AMB AMB
comp=Z,180nm,4.7s
LZH Lanzhou 177.63 106 ePKP PKPdf 22 19 14.5 0.0
LZH pPKP pPKPdf 22 19 24.3 +5.0
LZH sPKP 22 19 30.0

IDC 27 22:03:26.7±1.2, 7.15S×155.08E, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.2/18, mbtmp4.2/8, ML2.6/1, Error ellipse: s-maj=38.4km s-min=21.5km az=130.0
ISCJB 27 22:03:31.4±1.0, 7.25±0.2×154.9E±0.1, h41km, mb4.1/7, Error ellipse: s-maj=27.8km s-min=11.3km az=149.6
ISC 27 22:03:32.8±1.1, 7.25S±0.2×155.0E±0.2, h41km, n9, σ1.21/11, mb4.2/7, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 8.08 254 Pn Pn 22 05 26.3 -1.4
0.5nm,0.3s,baz=57,slow=12,SNR=4.1
PMG Sn Sn 22 06 58.8 +1.0
1.0nm,0.3s,baz=40,slow=17,SNR=6.0
WRA Warramunga Arr 23.73 236 P P 22 08 39.9 -1.4
5.9nm,0.9s,baz=61,slow=9.6,SNR=27
STKA Stephens Creek 27.57 205 P P 22 09 17.3 +1.3
5.6nm,0.8s,baz=12,slow=13,SNR=5.7
CMAR Chiang Mai Arr 60.89 296 P P 22 13 43.4 +1.6
1.5nm,0.7s,baz=121,slow=5.2,SNR=16
SONM Songino Array 69.51 327 P P 22 14 37.1 -0.2
1.1nm,0.8s,baz=133,slow=5.8,SNR=9.6
ILAR Eielson Array 83.55 21 P P 22 15 55.1 -1.1
0.6nm,0.8s,baz=240,slow=5.1,SNR=11
MKAR Makanchi Array 83.57 319 P P 22 15 56.4 -0.4
1.6nm,0.7s,baz=90,slow=5.5,SNR=14
YKA Yellowknife Ar 96.50 28 P P 22 16 58.3 +0.7
1.1nm,0.8s,baz=170,slow=4.4,SNR=18
TORD Torodi Ar. Bea 153.10 285 PKPbc PKPbc 22 23 26.9 -0.2
1.0nm,0.8s,baz=73,slow=2.3,SNR=6.6
TORD PKPab PKPab 22 23 39.5 +0.8
0.9nm,0.8s,baz=90,slow=2.4,SNR=6.0

IDC 27 22:04:03.9±1.4, 28.28N×86.41E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.5/26, mbtmp3.8/6, ML4.1/1, Error ellipse: s-maj=63.6km s-min=28.4km az=57.0
ISCJB 27 22:04:04.2±1.0, 28.3N±0.2×86.2E±0.2, h10km, mb3.8/5, Error ellipse: s-maj=37.7km s-min=14.2km az=135.4
ISC 27 22:04:05.5±1.3, 28.2N±0.2×86.2E±0.1, h10km, n9, σ1.07/7, mb3.9/5, Xizang

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SHL Shillong 5.74 116 eP Pn 22 05 33.0 +2.0
NDI New Delhi 7.89 276 ex Sn 22 07 29.0 -0.9
CHCP Chirah Chowk 12.34 299 P Pn 22 07 07.7 +6.4
MKAR Makanchi Array 18.80 352 P Pn 22 08 25.6 0.0
0.6nm,0.3s,baz=176,slow=11,SNR=35
FINES FINESS Array B 51.41 328 P P 22 13 10.8 +0.5
1.7nm,0.9s,baz=122,slow=8.8,SNR=13
ARCES ARCESS Array B 53.68 338 P P 22 13 26.9 -0.3
2.4nm,1.0s,baz=104,slow=7.6,SNR=9.3
NOA NORSAR Array B 58.52 327 P P 22 14 01.2 -0.6
0.7nm,0.7s,baz=88,slow=6.9,SNR=3.7
WRA Warramunga Arr 66.78 130 P P 22 14 56.8 -0.7
0.2nm,0.5s,baz=318,slow=6.7,SNR=3.4
TORD Torodi Ar. Bea 79.10 279 P P 22 16 12.4 +1.6
0.5nm,0.9s,baz=69,slow=4.5,SNR=3.4

IDC 27 22:05:50.6±0.7, 35.75S×73.16W, h0km, mb4.2/9, mb1 4.3/12, mb1mx4.2/32, mbtmp4.2/12, ML4.0/3, Error ellipse: s-maj=30.1km s-min=16.7km az=86.0
ISCJB 27 22:05:51.8±0.5, 35.75S±0.07×73.1W±0.1, h17km, mb4.4/15, Error ellipse: s-maj=15.0km s-min=10.1km az=162.5
NEIC 27 22:05:55.9±0.4, 35.74S×73.07W, h35km, mb4.9/8, Error ellipse: s-maj=11.3km s-min=7.4km az=75.0
ISC 27 22:05:53.2±0.6, 35.72S±0.08×73.1W±0.1, h17km, n29, σ0.77/30, mb4.6/15, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 5.40 159 Pn Pn 22 07 13.1 0.0
3.6nm,0.3s,baz=340,slow=11,SNR=3.4
PLCA Paso Flores 5.40 159 ePn Pn 22 07 13.7 +0.7
CFAA Coronel Fontan 5.79 46 Pn Pn 22 07 19.7 +1.3
0.9nm,0.3s,baz=221,slow=13,SNR=6.3
CFAA Lg Lg 22 08 49.2
0.6nm,0.3s,baz=270,slow=20,SNR=2.3
TRQA Tornquist 9.23 108 ePn Pn 22 08 06.2 +0.6
LPAZ La Paz 19.86 14 P Pn 22 10 25.5 -0.3
0.1nm,0.3s,baz=218,slow=12,SNR=2.5
SIV San Ignacio 22.41 32 P P 22 10 51.4 +0.3
5.5nm,0.9s,baz=230,slow=14,SNR=5.8
SAML Samuel 28.16 21 eP P 22 11 42.3 -2.4
1.7nm,0.7s
SNAA Sanae 50.34 157 P P 22 14 49.0 +0.2
5.0nm,0.9s,baz=302,slow=6.1,SNR=17
SNAA Sanae 50.34 157 eP P 22 14 48.1 -0.7
19nm,1.1s
QSPA South Pole Qui 54.52 180 P P 22 15 20.4 +0.5
7.2nm,0.9s,baz=298,slow=2.7,SNR=17
QSPA South Pole Qui 54.52 180 eP P 22 15 20.8 +0.9
3.9nm,0.5s
TXAR Lajitas Array 70.81 332 P P 22 17 09.4 +0.5
0.5nm,0.7s,baz=155,slow=8.5,SNR=5.1
SWET Sewanee 71.58 349 eP P 22 17 13.8 +0.4
43nm,1.6s
DBIC Dimbokro 76.58 72 P P 22 17 43.1 0.0
4.6nm,0.8s,baz=174,slow=7.8,SNR=5.0
ANMO Albuquerque 76.88 332 eP P 22 17 45.4 +1.0
3.9nm,1.2s
BOSA Boshof 80.06 118 eP P 22 18 02.4 +0.1
12nm,0.9s
ECSD EROS Data Cent 81.92 343 eP P 22 18 11.3 -0.2
7.7nm,0.8s
NVAR Mina Array Bea 84.79 326 P P 22 18 27.4 +0.7
1.0nm,0.8s,baz=147,slow=5.3,SNR=6.2
PDAR Pinedale Array 84.90 334 P P 22 18 27.2 +0.1
0.6nm,0.9s,baz=194,slow=4.3,SNR=4.0
TOA0 Torodi Ar. Sit 85.64 71 eP P 22 18 30.6 -0.6
TORD Torodi Ar. Bea 85.64 71 P P 22 18 31.3 +0.1
3.2nm,1.1s,baz=239,slow=5.3,SNR=7.6
ULM Lac du Bonnet 87.93 346 P P 22 18 41.3 -0.3
4.7nm,0.9s,baz=218,slow=5.1,SNR=6.5
DGMT Dagmar 88.28 340 eP P 22 18 43.6 +0.3
6.0nm,0.6s
YKA Yellowknife Ar 103.40 342 Pdiff Pdif 22 19 51.5 -0.2
0.3nm,0.9s,baz=140,slow=4.0,SNR=3.5
BRTR Keskin Array B 123.44 62 PKP PKPdf 22 24 49.0 -0.4
0.2nm,0.4s,baz=256,slow=2.0,SNR=3.6
HYB Hyderabad 148.96 119 i PKP PKPbc 22 25 40.0 -0.7
ZALV Zalesovo Beam 156.16 33 PKP PKPdf 22 25 45.2 -0.9
0.3nm,0.4s,baz=242,slow=2.9,SNR=4.0
ZALV PKPab PKPab 22 26 13.9 0.0
1.6nm,0.8s,baz=305,slow=6.5,SNR=4.5
CMAR Chiang Mai Arr 161.43 156 PKPab PKPab 22 26 36.2 -1.3
0.3nm,0.3s,baz=216,slow=4.5,SNR=3.6
SONM Songino Array 167.89 2 PKPab PKPab 22 27 06.0 +0.6
0.8nm,0.9s,baz=346,slow=3.1,SNR=4.9

IDC 27 22:07:08.1±0.9, 37.95S×73.45W, h0km, mb4.6/6, mb1 4.7/7, mb1mx4.3/27, mbtmp4.6/7, ML4.8/1, Error ellipse: s-maj=35.8km s-min=16.7km az=70.0
ISCJB 27 22:07:10.5±0.7, 37.96S±0.08×73.4W±0.1, h22km, mb4.5/9, Error ellipse: s-maj=16.9km s-min=11.0km az=166.0
NEIC 27 22:07:13.6±0.5, 37.97S×73.44W, h35km, mb4.7/6, Error ellipse: s-maj=15.9km s-min=10.2km az=77.0
ISC 27 22:07:11.5±0.7, 38.01S±0.09×73.6W±0.1, h22km, n26, σ0.95/25, mb4.6/9, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.58 140 Pn Pn 22 08 06.5 +0.7
17nm,0.3s,baz=302,slow=6.0,SNR=5.5
PLCA Lg Lg 22 09 00.2
59nm,0.3s,baz=198,slow=23,SNR=3.3
PLCA Paso Flores 3.58 140 ePn Pn 22 08 04.7 -1.1
PLCA Lg Lg 22 09 00.2
TRQA Tornquist 9.13 94 ePn Pn 22 09 23.4 +1.4
USHA Ushuaia 17.19 170 P P 22 11 13.4 +2.0
1.2nm,0.3s,baz=309,slow=8.0,SNR=6.9
CPUP Villa Florida 17.97 54 ePn Pn 22 11 19.3 -0.7
0.3nm,0.5s
LPAZ La Paz 22.16 14 P P 22 12 05.5 -1.1
1.0nm,0.6s,baz=180,slow=4.0,SNR=1.7
OTAV Otavalo 38.33 352 eP P 22 14 33.0 +1.7
2.0nm,0.2s
SNAA Sanae 48.37 156 P P 22 15 51.9 +0.6
8.6nm,0.9s,baz=284,slow=6.7,SNR=9.3
SNAA Sanae 48.37 156 eP P 22 15 51.3 0.0
27nm,1.0s
QSPA South Pole Qui 52.24 180 P P 22 16 21.0 +0.3
6.6nm,0.8s,baz=328,slow=2.5,SNR=6.6
QSPA South Pole Qui 52.24 180 eP P 22 16 20.5 -0.1
4.3nm,0.6s
TXAR Lajitas Array 72.68 333 P P 22 18 38.2 +0.6
0.8nm,0.7s,baz=159,slow=8.7,SNR=6.6
DBIC Dimbokro 77.62 71 P P 22 19 06.7 +0.3
17nm,0.8s,baz=197,slow=5.7,SNR=21
DBIC Dimbokro 77.62 71 eP P 22 19 06.3 0.0
11nm,0.6s
ANMO Albuquerque 78.75 333 eP P 22 19 12.8 +0.5
4.0nm,1.0s
BOSA Boshof 79.29 118 P P 22 19 15.7 +0.1
8.3nm,0.9s,baz=218,slow=6.3,SNR=5.5
BOSA Boshof 79.29 118 eP P 22 19 14.7 -1.0
9.9nm,1.0s
TORD Torodi Ar. Bea 86.71 71 P P 22 19 53.4 -0.6
5.2nm,0.9s,baz=219,slow=4.5,SNR=19
GERES GERESS Array B 115.80 47 PKP PKPdf 22 25 50.1 -1.7
0.6nm,0.8s,baz=222,slow=1.8,SNR=4.2
BRTR Keskin Array B 124.77 64 PKP PKPdf 22 26 09.3 -0.1
1.4nm,0.7s,baz=207,slow=3.6,SNR=8.4
AKASG Malin Array Be 125.75 50 PKP PKPdf 22 26 10.1 -0.7
0.2nm,0.3s,baz=318,slow=1.3,SNR=4.4
FINES FINESS Array B 126.96 36 PKP PKPdf 22 26 12.4 -0.3
1.8nm,0.9s,baz=135,slow=1.1,SNR=4.5
KBZ Khabaz 132.64 62 PKP PKPdf 22 26 24.0 0.0
0.9nm,0.7s,baz=18,slow=3.2,SNR=4.0
GEYT Alibeck 142.24 75 PKhKP PKPpre 22 26 37.0
1.7nm,0.9s,baz=169,slow=1.5,SNR=3.7
HYB Hyderabad 148.09 122 i PKP PKPbc 22 26 54.5 -1.4
MKAR Makanchi Array 160.17 56 PKPab PKPab 22 27 48.6 -0.4
1.4nm,0.7s,baz=273,slow=3.7,SNR=7.0

SJA 27 22:13:07.7±0.3, 37.53S×76.14W, h240km±264km, ML5.1
IDC 27 22:13:40.5±0.5, 35.83S×73.37W, h0km, mb4.8/15, mb1 4.8/19, mb1mx4.7/38, mbtmp4.8/19, ML4.6/4, Error ellipse: s-maj=20.8km s-min=11.6km az=86.0
NEIC 27 22:13:44.4±2.0, 35.78S×73.36W, h24km±3km, mb5.1/60, MS5.1/78, Error ellipse: s-maj=18.4km s-min=11.6km az=86.0
MOS 27 22:13:44.2±0.9, 35.86S×73.29W, h33km, mb4.9/14, Error ellipse: s-maj=19.7km s-min=10.2km az=100.7
ISCJB 27 22:13:44.3±0.2, 35.81S±0.04×73.27W±0.05, h33km, mb5.2/61, MS5.2/76, Error ellipse: s-maj=6.2km s-min=5.5km az=172.4
BJI 27 22:13:48.7, 34.40S×72.50W, h35km, mB5.1/4, Ms5.0/2, Ms7 4.8/2
ISC 27 22:13:46.1±0.3, 35.78S±0.05×73.26W±0.09, h35km, n255, σ1.21/212, mb5.2/64, MS5.1/76, 1C, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AAGR Agrelo 4.54 55 i P Pn 22 14 54.7 +2.2
AAGR i P Pn 22 14 54.7 +2.2
ARCO CERRO ARCO 4.63 52 i P Pn 22 14 55.6 +1.9
ARCO AML AML 22 16 27.6
comp=Z,189nm,0.8s
AUSP Uspallata 4.79 43 i P Pn 22 14 57.9 +1.9
AUSP i S Sn 22 16 19.5 +29
RTLS Leoncito 5.16 41 i P Pn 22 15 02.6 +1.5
PLCA Paso Flores 5.38 158 eP Pn 22 15 04.0 0.0
PLCA Paso Flores 5.38 158 Pn Pn 22 15 02.7 -1.3
comp=Z,6.5nm,0.3s,baz=326,slow=7.9,SNR=3.5
PLCA Lg Lg 22 16 28.0
comp=Z,2.8nm,0.3s,baz=60,slow=21,SNR=3.6
PLCA Paso Flores 5.38 158 ePn Pn 22 15 04.0 0.0
CFAA Coronel Fontan 5.90 47 Pn Pn 22 15 10.5 -0.6
comp=Z,3.3nm,0.3s,baz=216,slow=12,SNR=16
CFAA Lg Lg 22 16 45.2
comp=Z,0.7nm,0.3s,baz=37,slow=12,SNR=4.3
CFAA Coronel Fontan 5.90 47 ePn Pn 22 15 10.5 -0.6
CFAA Coronel Fontan 5.90 47 i P Pn 22 15 11.4 +0.3
RTLL Cerro Villicun 5.97 43 i P Pn 22 15 12.4 +0.3
ACAN Cantantal 6.13 57 i P Pn 22 15 14.8 +0.5
AMOG MOGNA 6.26 41 i P Pn 22 15 16.2 +0.1
TRQA Tornquist 9.31 107 ePn Pn 22 15 59.8 +2.0
CPUP Villa Florida 16.57 60 eP P 22 17 37.4 -0.5
CPUP Villa Florida 16.57 60 Pn P 22 17 37.1 -0.8
comp=Z,1.1nm,0.3s,baz=219,slow=9.3,SNR=6.1
CPUP Villa Florida 16.57 60 ePn P 22 17 37.4 -0.5
EFI East Falkland 19.25 150 eP P 22 18 05.8 -1.4
EFI pmax pmax
comp=Z,176nm,1.6s
EFI East Falkland 19.25 150 eP P 22 18 05.8 -1.4
comp=Z,176nm,1.6s
USHA Ushuaia 19.34 172 P P 22 18 08.5 +0.3
comp=Z,0.7nm,0.3s,baz=358,slow=9.8,SNR=6.3
LPAZ La Paz 19.95 15 eP Pn 22 18 17.1 -0.5
LPAZ La Paz 19.95 15 P Pn 22 18 17.0 -0.6
comp=Z,24nm,0.8s,baz=176,slow=4.9,SNR=27
LPAZ La Paz 19.95 15 eP Pn 22 18 17.1 -0.5
LPAZ ePn Pn 22 18 17.8 +2.0
SIV San Ignacio 22.51 32 P P 22 18 42.9 +0.1
comp=Z,17nm,0.8s,baz=234,slow=13,SNR=32
NNA Nana 23.91 351 P P 22 18 56.5 -0.4
comp=Z,9.0nm,0.7s,baz=179,slow=10,SNR=5.8
SAML Samuel 28.25 21 eP P 22 19 35.5 -0.4
comp=Z,12nm,1.3s
ATAH Atahualpa 28.90 349 P P 22 19 42.2 0.0
comp=Z,7.5nm,1.1s,baz=165,slow=4.7,SNR=5.1
BDFB Brasilia 30.17 55 eP P 22 19 52.5 -0.7
BDFB Brasilia 30.17 55 P P 22 19 52.7 -0.5
comp=Z,11nm,0.9s,baz=202,slow=7.5,SNR=10
BDFB Brasilia 30.17 55 eP P 22 19 52.5 -0.7
OTAV Otavalo 36.16 351 eP P 22 20 47.6 +1.8
comp=Z,32nm,1.5s
SDV Santo Domingo 44.50 4 eP P 22 21 53.6 -0.8
comp=Z,10nm,0.8s
RCBR Riachuelo 45.43 58 P P 22 22 03.1 +1.3
comp=Z,11nm,0.9s,baz=182,slow=6.5,SNR=3.6
RCBR Riachuelo 45.43 58 eP P 22 22 03.1 +1.3
VNA3 Neumayer Olymp 48.10 157 P P 22 22 22.7 +0.8
VNA2 Neumayer--Watz 48.77 156 P P 22 22 27.4 +0.3
GRGR Grenville 48.90 15 eP P 22 22 28.7 0.0
comp=Z,223nm,1.3s
SNAA Sanae 50.33 157 P P 22 22 39.1 +0.1
SNAA Sanae 50.33 157 eP P 22 22 38.8 -0.2
SNAA e 22 23 57.3
SNAA pmax pmax
comp=Z,63nm,1.1s
SNAA Sanae 50.33 157 P P 22 22 39.1 +0.1
comp=Z,13nm,0.8s,baz=291,slow=6.1,SNR=47
SNAA Sanae 50.33 157 eP P 22 22 38.8 -0.2
comp=Z,63nm,1.1s
SNAA ePcP PcP 22 23 57.2 0.0
APG El Apazote 53.07 339 P P 22 22 56.0 -4.3
comp=Z,3.4nm,0.6s,baz=270,slow=24,SNR=46
CRPR Cabo Rojo, PR 53.81 7 eP P 22 23 04.0 -1.3
comp=Z,15nm,0.8s
OBIP Obispado Ponce 53.90 8 eP P 22 23 05.5 -0.5
comp=Z,30nm,0.8s
CELP Cerrillos 53.93 8 eP P 22 23 06.2 -0.1
CBYP Canovanas 54.21 9 eP P 22 23 07.3 -1.0
comp=Z,17nm,0.8s
QSPA South Pole Qui 54.46 180 P P 22 23 09.6 -0.2
comp=Z,25nm,0.9s,baz=150,slow=2.7,SNR=35
QSPA South Pole Qui 54.46 180 eP P 22 23 09.6 -0.2
comp=Z,29nm,0.9s
QSPA eP P 22 23 09.7 -0.2
TEIG Tepich 57.49 343 P P 22 23 31.2 -0.5
comp=Z,14nm,0.7s,baz=86,slow=4.6,SNR=6.6
TEIG Tepich 57.49 343 eP P 22 23 31.9 +0.1
comp=Z,175nm,2.0s
SACV Santiago Islan 68.94 52 PFAKE 22 25 00.0 +12
SACV LR LR
comp=Z,700nm,22.0s
GOGA Godfrey 69.49 351 eP P 22 24 50.7 -0.1
GOGA pmax pmax
comp=Z,14nm,0.7s
GOGA Godfrey 69.49 351 eP P 22 24 50.7 -0.1
comp=Z,14nm,0.7s
JCT Junction City 70.48 336 PFAKE 22 25 10.0 +13
JCT LR LR
comp=Z,300nm,18.0s
KMSC Kings Mountain 70.96 353 PFAKE 22 25 10.0 +10
KMSC LR LR
comp=Z,600nm,20.2s
WHTX Lake Whitney 71.14 338 PFAKE 22 25 10.0 +9.1
WHTX LR LR
comp=Z,300nm,21.2s
ABTX Abilene, Hawle 72.40 337 PFAKE 22 25 20.0 +11
ABTX LR LR
comp=Z,200nm,19.3s
MIAR Mount Ida 72.49 343 PFAKE 22 25 20.0 +11
MIAR LR LR
comp=Z,400nm,21.0s
TZTN Tazewell 72.59 351 PFAKE 22 25 20.0 +10
TZTN LR LR
comp=Z,600nm,21.9s
WVT Waverly 72.82 348 PFAKE 22 25 20.0 +9.1
WVT LR LR
comp=Z,200nm,19.4s

BLA Blacksburg 72.93 354 PFAKE 22 25 20.0 +8.4
BLA LR LR
comp=Z,600nm,18.0s
JSRW J. Sargeant Re 73.23 356 eP P 22 25 13.7 +0.4
PVMO Portageville 73.44 346 PFAKE 22 25 30.0 +15
PVMO LR LR
comp=Z,600nm,18.7s
MNTX Cornudas Mount 73.59 332 PFAKE 22 25 30.0 +14
MNTX LR LR
comp=Z,400nm,20.0s
SUR Sutherland 74.84 119 eP P 22 25 24.8 +1.4
comp=Z,51nm,1.2s
SSPA Standing Stone 76.16 356 eP P 22 25 30.6 +0.3
comp=Z,151nm,2.1s
CPNY Central Park 76.20 359 PFAKE 22 25 40.0 +10
CPNY LR LR
comp=Z,1µm,19.6s
TUC Tucson 76.33 328 eP P 22 25 31.8 +0.3
TUC pmax pmax
comp=Z,23nm,1.5s
TUC MLR MLR
comp=Z,300nm,18.0s
TUC Tucson 76.33 328 eP P 22 25 31.8 +0.3
comp=Z,24nm,1.5s
TUC LR LR
comp=Z,300nm,18.0s
ODNJ Ogdensburg 76.50 359 eP P 22 25 33.0 +0.9
comp=Z,636nm,3.0s
DBIC Dimbokro 76.69 72 eP P 22 25 34.5 +0.6
DBIC pmax pmax
comp=Z,24nm,0.8s
DBIC Dimbokro 76.69 72 P P 22 25 34.7 +0.8
comp=Z,19nm,0.6s,baz=207,slow=5.6,SNR=37
DBIC Dimbokro 76.69 72 eP P 22 25 34.5 +0.6
comp=Z,24nm,0.8s
ANMO Albuquerque 76.88 332 PFAKE 22 25 50.0 +15
ANMO LR LR
comp=Z,700nm,20.8s
BRYW Bryant College 77.34 1 PFAKE 22 25 50.0 +13
BRYW LR LR
comp=Z,2µm,21.8s
QUA2 Belchertown 77.69 1 eP P 22 25 39.6 +0.8
comp=Z,441nm,2.5s
HRV Adam Dziewonsk 77.93 1 eP P 22 25 41.5 +1.4
HRV Adam Dziewonsk 77.93 1 eP P 22 25 41.5 +1.4
comp=Z,880nm,2.8s
TRY Troy 78.14 360 PFAKE 22 25 50.0 +8.8
TRY LR LR
comp=Z,1µm,21.6s
CASY Casey 78.22 182 eP P 22 25 41.8 +0.2
comp=Z,29nm,1.0s
W18A Petrified Fore 78.31 330 eP P 22 25 42.6 0.0
comp=Z,74nm,1.0s
GLA Glamis 78.76 325 eP P 22 25 45.0 0.0
GLA Glamis 78.76 325 eP P 22 25 45.0 0.0
SDCO Great Sand Dun 79.03 334 PFAKE 22 26 00.0 +13
SDCO LR LR
comp=Z,500nm,20.0s
KSCO Kaye Shedlock' 79.22 337 PFAKE 22 26 00.0 +13
KSCO LR LR
comp=Z,400nm,18.1s
WUAZ Wupatki 79.33 329 eP P 22 25 47.0 -1.2
comp=Z,26nm,1.0s
WUAZ LR LR
comp=Z,600nm,22.0s
MDV Middlebury 79.41 0 eP P 22 25 48.7 +0.6
LBNH Lisbon 79.66 1 eP P 22 25 50.6 +1.0
LBNH Lisbon 79.66 1 eP P 22 25 50.6 +1.0
comp=Z,944nm,3.0s
TSUM Tsumeb 79.69 106 eP P 22 25 51.0 +0.4
comp=Z,28nm,1.8s
JFWS Jewell Farm 79.84 347 PFAKE 22 26 00.0 +9.4
JFWS LR LR
comp=Z,400nm,21.2s
PFO Pinyon Flat Ob 79.98 325 eP P 22 25 52.5 +0.7
PFO pmax pmax
comp=Z,21nm,1.2s
PFO Pinyon Flat Ob 79.98 325 P P 22 25 52.5 +0.7
comp=Z,5.5nm,0.9s,baz=137,slow=4.9,SNR=4.0
PFO Pinyon Flat Ob 79.98 325 eP P 22 25 52.5 +0.7
comp=Z,21nm,1.2s
LONY Lake Ozonia 80.04 359 eP P 22 25 52.4 +0.7
comp=Z,212nm,2.5s
BOSA Boshof 80.12 118 eP P 22 25 53.0 +0.1
BOSA pmax pmax
comp=Z,18nm,0.9s
BOSA Boshof 80.12 118 P P 22 25 53.1 +0.2
comp=Z,16nm,0.8s,baz=238,slow=5.1,SNR=17
BOSA Boshof 80.12 118 eP P 22 25 53.0 +0.1
comp=Z,18nm,0.9s
BOSA eP P 22 25 53.1 +0.2
BFZ Birch Farm 80.71 226 PFAKE 22 26 10.0 +14
BFZ LR LR
comp=Z,1µm,19.0s
SMCO Snowmass 80.83 334 PFAKE 22 26 10.0 +13
SMCO LR LR
comp=Z,500nm,18.3s
BKZ Black Stump Fm 81.53 228 PFAKE 22 26 10.0 +10
BKZ LR LR
comp=Z,800nm,18.0s
SHPR Sheep Range 81.79 327 eP P 22 26 02.0 +0.6
CCUT Cedar City 81.89 329 eP P 22 26 01.9 -0.2
comp=Z,18nm,1.1s
ECSD EROS Data Cent 81.95 343 PFAKE 22 26 10.0 +8.2
ECSD LR LR
comp=Z,500nm,19.0s
ARUT Antelope Range 82.13 329 eP P 22 26 04.4 +1.3
ARUT Antelope Range 82.13 329 eP P 22 26 04.4 +1.3
LBTB Lobatse 82.46 115 eP P 22 26 04.8 -0.5
LBTB pmax pmax
comp=Z,34nm,1.4s
LBTB MLR MLR
comp=Z,1µm,21.1s
LBTB Lobatse 82.46 115 eP P 22 26 04.8 -0.5
comp=Z,34nm,1.4s
LBTB LR LR
comp=Z,1µm,21.1s
TMUT Trail Mountain 82.51 331 eP P 22 26 05.5 +0.2
comp=Z,58nm,0.9s
SPMN St. Paul 82.55 346 PFAKE 22 26 20.0 +15
SPMN LR LR
comp=Z,500nm,19.0s
ISA Isabella 82.61 324 eP P 22 26 06.1 +0.5
ISA pmax pmax
comp=Z,8.0nm,0.9s
ISA Isabella 82.61 324 eP P 22 26 06.1 +0.5
comp=Z,8.1nm,0.9s
MPU Maple Canyon 83.30 331 eP P 22 26 09.4 +0.2
comp=Z,20nm,1.0s
NLU North Lily Min 83.42 331 eP P 22 26 09.8 -0.1
comp=Z,35nm,1.5s
R11A Troy Canyon, C 83.51 328 eP P 22 26 09.5 -0.9
comp=Z,12nm,1.0s
JLU Jordanelle 83.73 332 eP P 22 26 11.0 -0.5
comp=Z,32nm,0.9s
DUG Dugway 83.92 331 eP P 22 26 12.3 0.0
DUG pmax pmax
comp=Z,33nm,1.3s
DUG Dugway 83.92 331 eP P 22 26 12.3 0.0
comp=Z,33nm,1.3s
TPH Tonopah 84.01 327 eP P 22 26 13.4 +0.5
TPH pmax pmax
comp=Z,19nm,1.1s
TPH Tonopah 84.01 327 eP P 22 26 13.4 +0.5
comp=Z,19nm,1.1s
TCUT Toone Canyon 84.16 332 eP P 22 26 13.7 0.0
comp=Z,71nm,1.0s
TCUT LR LR
comp=Z,1µm,19.5s
BGU Big Grassy Mou 84.62 331 eP P 22 26 15.1 -0.8
comp=Z,3.2nm,0.9s
HWUT Hardware Ranch 84.64 332 eP P 22 26 16.1 +0.1
comp=Z,49nm,1.0s
SPUT South Promonto 84.72 331 eP P 22 26 15.9 -0.5
comp=Z,25nm,1.0s
SPUT LR LR
comp=Z,500nm,18.2s
NV01 Mina Array Sit 84.79 326 eP P 22 26 16.4 -0.5
NVAR Mina Array Bea 84.79 326 P P 22 26 17.9 +1.0
comp=Z,3.8nm,0.7s,baz=158,slow=6.3,SNR=26
BW06 Boulder Array 84.91 334 eP P 22 26 15.3 -2.0
comp=Z,140nm,0.9s
BW06 eP P 22 26 16.2 -1.2
BW06 LR LR
comp=Z,500nm,18.0s
HVU Hansel Valley 85.25 331 eP P 22 26 18.5 -0.5
HVU pmax pmax
comp=Z,22nm,0.9s
HVU Hansel Valley 85.25 331 eP P 22 26 18.5 -0.5
comp=Z,22nm,0.9s
WAKR Walker 85.37 325 eP P 22 26 19.9 +0.2
TOA0 Torodi Ar. Sit 85.75 71 eP P 22 26 22.1 +0.1
TOA0 eP PcP 22 26 22.2 -2.5
TORD Torodi Ar. Bea 85.75 71 P P 22 26 22.1 +0.1
comp=Z,6.2nm,1.0s,baz=234,slow=4.4,SNR=19
DRLN Deer Lake 85.81 10 eP P 22 26 20.9 -0.5
comp=Z,179nm,1.8s
REDW Red Top Meadow 85.89 334 eP P 22 26 22.5 +0.2
comp=Z,493nm,2.3s
BMN Battle Mountai 85.95 328 PFAKE 22 26 30.0 +7.5
BMN LR LR
comp=Z,700nm,21.0s
LOHW Long Hollow 86.02 334 PFAKE 22 26 30.0 +7.1
LOHW LR LR
comp=Z,400nm,19.5s
IMW Indian Meadow 86.39 334 eP P 22 26 24.6 -0.1
comp=Z,52nm,1.4s
FLWY Flagg Ranch 86.46 334 eP P 22 26 25.1 +0.1
comp=Z,58nm,1.3s
FLWY LR LR
comp=Z,500nm,21.5s
YFT Old Faithful 86.83 334 PFAKE 22 26 40.0 +13
YFT LR LR
comp=Z,900nm,20.6s
YMR Madison River 87.07 334 eP P 22 26 28.5 +0.5
comp=Z,36nm,1.2s
LAO LASA Array 87.28 338 eP P 22 26 30.1 +1.3
comp=Z,118nm,0.9s
QLMT Earthquake Lak 87.37 334 eP P 22 26 29.0 -0.5
HLID Hailey 87.41 331 eP P 22 26 29.0 -0.6
comp=Z,11nm,1.2s
HLID LR LR
comp=Z,400nm,19.0s
MFID Camas Ranch 87.84 330 eP P 22 26 31.2 -0.5
comp=Z,13nm,1.1s
MCMT McKenzie Canyo 87.89 333 eP P 22 26 31.6 -0.4
BOZ Bozeman (W) 88.15 334 PFAKE 22 26 40.0 +6.9
BOZ LR LR
comp=Z,600nm,19.0s
WVOR Wild Horse Val 88.20 328 eP P 22 26 33.1 -0.3
WVOR pmax pmax
comp=Z,17nm,1.2s
WVOR Wild Horse Val 88.20 328 eP P 22 26 33.1 -0.3
comp=Z,17nm,1.2s
DLMT Dillon 88.25 333 eP P 22 26 34.3 +0.7
comp=Z,17nm,1.3s
MOD Modoc 88.49 327 eP P 22 26 34.8 0.0
comp=Z,22nm,1.3s
K05A Summer Lake 89.42 327 eP P 22 26 40.4 +1.3
comp=Z,36nm,1.4s
JTMT Jette 90.89 334 eP P 22 26 47.0 +1.1
BLMT Blacktail Moun 91.14 334 eP P 22 26 47.2 +0.1
G06A Carlson Farm, 91.31 329 PFAKE 22 27 00.0 +12
G06A LR LR
comp=Z,2µm,20.6s
NEW Newport 92.37 332 eP P 22 26 51.0 -1.6
NEW pmax pmax
comp=Z,12nm,1.4s
NEW Newport 92.37 332 P P 22 26 51.7 -0.9
comp=Z,1.8nm,0.8s,baz=68,slow=7.1,SNR=4.1
NEW Newport 92.37 332 eP P 22 26 51.0 -1.6
comp=Z,12nm,1.4s
LON Longmire 93.01 329 PFAKE 22 27 10.0 +14
LON LR LR
comp=Z,500nm,19.2s
A05A Maple Falls 94.91 330 PFAKE 22 27 20.0 +16
A05A LR LR
comp=Z,600nm,21.4s
FCC Fort Churchill 95.78 349 eP P 22 27 07.4 -0.5
FCC Fort Churchill 95.78 349 eP P 22 27 07.4 -0.5
comp=Z,157nm,3.0s
ABPO Ambohimpanom 101.64 124 PFAKE 22 27 50.0 +14
ABPO LR LR
comp=Z,500nm,22.0s
ARMA Armidale 101.79 219 PFAKE 22 27 50.0 +14
ARMA LR LR
comp=Z,500nm,19.3s
YKA Yellowknife Ar 103.42 342 Pdiff Pdif 22 27 41.0 -1.0
comp=Z,0.4nm,0.8s,baz=142,slow=4.7,SNR=7.7
SFJD Kangerlussuaq 103.91 9 PFAKE 22 28 00.0 +16
SFJD LR LR
comp=Z,300nm,19.0s
WRAK Wrangell Islan 104.59 330 PFAKE 22 28 00.0 +13
WRAK LR LR
comp=Z,900nm,22.0s
STKA Stephens Creek 105.17 210 PFAKE 22 32 20.0
STKA LR LR
comp=Z,100nm,19.8s
WDD Wield Dalam 108.30 59 PFAKE 22 32 20.0
WDD LR LR
comp=Z,2µm,20.0s
FORT Forrest 110.83 200 PFAKE 22 32 30.0
FORT LR LR
comp=Z,500nm,20.4s
HNR Honiara 112.69 239 PFAKE 22 32 30.0
HNR LR LR
comp=Z,800nm,19.0s
GEC2 GERESS Array S 114.11 46 ePKIKP PKPdf 22 32 19.8 -1.4
GEC2 GERESS Array S 114.11 46 ePKiKP PKPdf 22 32 19.8 -1.4
GERES GERESS Array B 114.11 46 PKP PKPdf 22 32 19.8 -1.4
comp=Z,0.5nm,0.7s,baz=235,slow=4.7,SNR=4.1
ILAR Eielson Array 115.32 333 PKP PKPdf 22 32 22.7 -0.3
comp=Z,0.4nm,0.7s,baz=117,slow=5.2,SNR=3.6
COLA College 115.73 333 PFAKE 22 32 40.0 +16
COLA LR LR
comp=Z,400nm,22.0s
TRF Thorofare Moun 115.98 331 PFAKE 22 32 40.0 +16
TRF LR LR
comp=Z,600nm,20.0s
VYHS Vyhne 117.03 48 ePKIKP PKPdf 22 32 26.5 -0.3
VYHS Vyhne 117.03 48 ePKP PKPdf 22 32 26.5 -0.3
PSZ Piszkesteto 117.44 49 PFAKE 22 32 40.0 +12
PSZ LR LR
comp=Z,300nm,19.0s
IM04 Indian Mountain 118.44 333 ePKPdf PKPdf 22 32 29.3 +0.4
WRA Warramunga Arr 118.72 210 PKP PKPdf 22 32 29.6 -1.4
comp=Z,0.6nm,0.7s,baz=163,slow=1.6,SNR=3.7
KWP Kalwaria Pacla 119.81 48 PFAKE 22 32 40.0 +7.9
KWP LR LR
comp=Z,500nm,18.0s
BR231 Keskin MP Arra 122.98 62 ePKPdf PKPdf 22 32 38.4 -0.2
BR101 Keskin Array S 123.56 62 ePKPdf PKPdf 22 32 39.5 -0.3
BRTR Keskin Array B 123.56 62 PKP PKPdf 22 32 39.5 -0.3
comp=Z,0.9nm,0.8s,baz=217,slow=3.9,SNR=5.3
AKASG Malin Array Be 124.12 49 PKP PKPdf 22 32 38.5 -1.7
comp=Z,0.9nm,0.6s,baz=262,slow=2.7,SNR=4.3
AKBB Malin Array Si 124.12 49 ePKIKP PKPdf 22 32 38.5 -1.8
AKBB Malin Array Si 124.12 49 ePKPdf PKPdf 22 32 38.5 -1.8
GAMB Gambell 125.07 328 PFAKE 22 32 50.0 +8.3
GAMB LR LR
comp=Z,300nm,20.8s
ARA0 ARCESS Array S 126.05 25 ePKPdf PKPdf 22 32 41.6 -1.8
ARCES ARCESS Array B 126.05 25 PKP PKPdf 22 32 41.6 -1.8
comp=Z,7.5nm,1.0s,baz=12,slow=6.2,SNR=4.3
RAYN Ar Rayn 126.16 85 PFAKE 22 33 00.0 +15
RAYN LR LR
comp=Z,4µm,22.0s
LVZ Lovozero 129.30 28 PFAKE 22 33 00.0 +10
LVZ LR LR
comp=Z,2µm,21.0s
OBN Obninsk 129.41 44 i PKIKP PKPdf 22 32 49.6 -0.6
OBN pmax pmax
comp=Z,8.0nm,1.4s
OBN Obninsk 129.41 44 PFAKE 22 33 00.0 +10
OBN LR LR
comp=Z,2µm,19.0s
COCO West Island 131.38 167 PFAKE 22 33 10.0 +15
COCO LR LR
comp=Z,800nm,21.9s
MMRI Maumere 133.47 201 PFAKE 22 33 10.0 +11
MMRI LR LR
comp=Z,400nm,18.0s
BILL Bilibino 133.98 333 ePKIKP PKPdf 22 32 57.1 -1.4
BILL pmax pmax
comp=Z,3.0nm,1.1s
FAKI Fak Fak 134.71 217 PFAKE 22 33 10.0 +8.4
FAKI LR LR
comp=Z,500nm,20.0s
JAGI Jajag, Banyuwa 135.44 190 PFAKE 22 33 10.0 +7.0
JAGI LR LR
comp=Z,900nm,21.0s
KAPI Kappang 137.62 199 PFAKE 22 33 20.0 +13
KAPI LR LR
comp=Z,300nm,21.0s
MNAI Manna 139.91 174 PFAKE 22 33 20.0 +8.8
MNAI LR LR
comp=Z,900nm,20.0s
LUWI Luwuk 140.43 206 PFAKE 22 33 20.0 +7.8
LUWI LR LR
comp=Z,500nm,18.0s
GEYT Alibeck 141.38 72 PKhKP PKPpre 22 33 09.2
comp=Z,1.0nm,0.6s,baz=246,slow=2.5,SNR=3.2
PMBI Palembang 141.45 177 PFAKE 22 33 30.0 +16
PMBI LR LR
comp=Z,600nm,22.0s
ARU Arti 141.74 42 PFAKE 22 33 30.0 +17
ARU LR LR
comp=Z,5µm,19.0s
PALK Pallekele 142.94 134 PFAKE 22 33 30.0 +13
PALK LR LR
comp=Z,2µm,19.0s
TOLI Toli-Toli 143.12 204 PFAKE 22 33 30.0 +13
TOLI LR LR
comp=Z,100nm,20.0s
ABKAR Akbulak array 143.56 54 ePKPpre PKPpre 22 33 14.1
GSI Gunungsitoli 144.65 164 ePKPdf PKPab 22 33 17.2 -1.1
SBUM Sibu 146.45 190 ePKPdf PKPdf 22 33 23.3 +0.5
MYLDM Lahad Datu 147.68 202 PFAKE 22 33 40.0 +10
MYLDM LR LR
comp=Z,2µm,19.0s
HYB Hyderabad 149.02 119 i PKP PKPbc 22 33 29.0 -1.9
KULM Kulim 149.14 168 PFAKE 22 33 40.0 +4.4
KULM LR LR
comp=Z,1µm,20.0s
KKM Kota Kinabalu 149.15 199 PFAKE 22 33 40.0 +4.3
KKM LR LR
comp=Z,900nm,21.0s
BRVK Borovoye 149.19 44 ePKP2 PKPbc 22 33 30.7 +0.5
BRVK Borovoye 149.19 44 ePKPbc PKPbc 22 33 30.7 +0.5
KBL Kabul 149.28 81 ePKPdf PKPdf 22 33 26.7 -0.3
KBL LR LR
comp=Z,300nm,18.5s
VOSK Vostochnaya 149.70 45 ePKPdf PKPdf 22 33 27.3 +0.5
VOSK LR LR
comp=Z,7µm,18.6s
YAK Yakutsk 150.04 338 ePKIKP PKPbc 22 33 30.6 -1.4
YAK pmax pmax
comp=Z,89nm,1.3s
YAK Yakutsk 150.04 338 ePKPbc PKPbc 22 33 31.7 -0.3
KKAR Karatay Array 151.25 64 ePKIKP PKPbc 22 33 35.2 -0.4
KKAR Karatay Array 151.25 64 ePKPbc PKPbc 22 33 35.2 -0.4
EKS2 Erkin-Say 153.67 65 PFAKE 22 33 40.0 -1.1
EKS2 LR LR
comp=Z,20µm,18.0s
AAK Ala-Archa 154.20 65 ePKP2 PKPab 22 33 56.9 +0.6
AAK Ala-Archa 154.20 65 ePKPab PKPab 22 33 56.9 +0.6
AAK ePKPab PKPab 22 33 56.9 +0.6
AAK LR LR
comp=Z,24µm,22.0s
MAJO Matsushiro 154.64 281 PFAKE 22 33 50.0 +6.7
MAJO LR LR
comp=Z,700nm,19.0s
KURK Kurchatov 154.85 45 PFAKE 22 33 50.0 +6.8
KURK LR LR
comp=Z,5µm,21.0s
NVS Novosibirsk 154.98 33 ePKIKP PKPdf 22 33 32.0 -2.5
NVS pmax pmax
comp=Z,25nm,2.1s
TKM2 Tokmak 2 154.98 64 PFAKE 22 33 50.0 +6.0
TKM2 LR LR
comp=Z,17µm,20.0s
KSH Kashi 155.41 72 ePKPbc PKPdf 22 33 36.3 +0.4
KSH epPKP pPKPdf 22 33 47.5 +0.2
KSH esPKP 22 33 50.3
KSH eSKS SKSdf 22 40 39.3 -0.4
KSH eSKKS SKKSac 22 44 20.3 -5.0
KSH eSS SS 22 57 12.3 -10
KSH AMB AMB
comp=Z,64nm,5.6s
ZAA1 Zalesovo Array 156.26 33 ePKPdf PKPdf 22 33 35.7 -0.6
ZAA1 ePKPab PKPab 22 34 04.6 +0.1
ZAA0 Zalesovo Array 156.26 33 ePKPdf PKPdf 22 33 36.1 -0.2
ZAA0 ePKPab PKPab 22 34 05.4 +0.9
ZALV Zalesovo Beam 156.26 33 PKP PKPdf 22 33 35.7 -0.6
comp=Z,6.3nm,1.0s,baz=270,slow=1.5,SNR=19
ZALV PKPab PKPab 22 34 04.6 +0.1
comp=Z,6.8nm,0.6s,baz=308,slow=5.0,SNR=14
BOD Bodaibo 157.43 350 ePKP2 PKPab 22 34 08.3 -1.0
BOD pmax pmax
comp=Z,12nm,1.0s
MK32 Makanchi Array 158.67 51 ePKPdf PKPdf 22 33 39.5 -0.2
MK32 ePKPab PKPab 22 34 15.2 0.0
MKAR Makanchi Array 158.67 51 PKP PKPdf 22 33 39.5 -0.2
comp=Z,4.0nm,1.0s,baz=356,slow=1.7,SNR=18
MKAR PKPab PKPab 22 34 15.2 0.0
comp=Z,1.6nm,0.9s,baz=298,slow=3.6,SNR=6.0
MK01 Makanchi Array 158.69 51 ePKPdf PKPdf 22 33 39.6 -0.1
JOW Kunigami 159.59 250 PFAKE 22 33 50.0 +8.7
JOW LR LR
comp=Z,1µm,21.1s
CM31 Chiang Mai Arr 161.41 156 ePKPdf PKPdf 22 33 43.2 -0.3
CM31 ePKPab PKPab 22 34 26.6 -1.1
CMAR Chiang Mai Arr 161.41 156 PKP PKPdf 22 33 43.2 -0.3
comp=Z,0.2nm,0.3s,baz=244,slow=3.9,SNR=4.3
CMAR PKPab PKPab 22 34 26.6 -1.1
comp=Z,0.7nm,0.6s,baz=217,slow=5.2,SNR=5.5
KS01 Wonju Array Si 162.94 282 ePKPdf PKPdf 22 33 43.8 -0.6
KS01 ePKPab PKPab 22 34 33.8 -0.3
WMQ Urumqi 163.33 55 PKP PKPdf 22 33 45.5 +0.7
WMQ LR LR
comp=Z,120nm,23.0s
WMQ LR LR
comp=Z,140nm,20.6s
WMQ LR LR
comp=Z,190nm,20.0s
ZAK Zakamensk 165.19 9⇑i PKP2 PKPab 22 34 44.1 +0.5
ZAK pmax pmax
comp=Z,3.0nm,1.3s
ULN Ulaanbaatar 167.92 359 ePKP2 PKPab 22 34 56.0 +0.3
ULN Ulaanbaatar 167.92 359 ePKPab PKPab 22 34 56.0 +0.3
SONA1 Songino Array 167.94 1 ePKPdf PKPdf 22 33 46.6 -1.9
SONA1 ePKPab PKPab 22 34 55.5 -0.3
SONA0 Songino Array 167.95 1 ePKPdf PKPdf 22 33 46.8 -1.7
SONA0 ePKPab PKPab 22 34 56.4 +0.6
SONM Songino Array 167.95 1 PKP PKPdf 22 33 46.8 -1.7
comp=Z,0.5nm,0.8s,baz=22,slow=1.6,SNR=4.1
SONM PKPab PKPab 22 34 56.4 +0.6
comp=Z,2.3nm,0.8s,baz=341,slow=4.8,SNR=18
NJ2 Nanjing 169.27 253 ePKP PKPdf 22 33 55.8 +6.1
GYA Guiyang 170.71 180 ePKP PKPdf 22 33 56.3 +5.4
GYA pPKP pPKPdf 22 34 08.0 +5.6
GYA PKPab PKPab 22 35 21.8 +13
GYA PKS PKSdf 22 37 27.5 +4.0
GYA PP PP 22 39 12.5 +15
GYA SKKS 22 45 55.0
GYA SS SS 23 00 15.5 +18
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=Z,130nm,21.2s
GYA LR LR
comp=Z,110nm,21.4s
GYA LR LR
comp=Z,120nm,24.0s
GTA Gaotai 173.41 55 ePKP PKPdf 22 33 55.5 +3.8
GTA pPKP pPKPdf 22 34 06.3 +3.1
GTA sPKP 22 34 10.0
GTA PKPab PKPab 22 35 20.5 0.0
HHC Hu-ho-hao-te 173.68 325 ePKP PKPdf 22 33 52.5 +0.8
HHC pPKP pPKPdf 22 34 01.8 -1.4
HHC sPKP 22 34 08.3
CD2 Chengdu 174.54 152 PKP PKPdf 22 33 57.0 +4.7
CD2 pPKP pPKPdf 22 34 08.3 +4.5
CD2 sPKP 22 34 12.0
CD2 PKS PKSdf 22 37 27.8 +3.3
CD2 PP PP 22 39 29.0 +12
CD2 SKS SKSdf 22 40 54.5 +1.7
CD2 SKKS SKKSac 22 46 09.8 +8.4
CD2 SS SS 23 00 47.0 +12
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 177.63 82 ePKP PKPdf 22 33 57.0 +4.0
LZH pPKP pPKPdf 22 34 07.5 +3.0
LZH sPKP 22 34 12.0

IDC **27** *22:16:08.0±0.5, 36.°55S×73.°24W, h0km, mb4.8/18, mb1 4.7/22, mb1mx4.7/39, mbtmp4.7/22, ML4.1/3, Error ellipse: s-maj=20.6km s-min=12.7km az=79.0*
ISCJB **27** *22:16:10.6±0.3, 36.°47S±0.°05×73.°14W±0.°09, h25km, mb5.2/51, MS5.1/103, Error ellipse: s-maj=10.5km s-min=7.2km az=160.1*
MOS **27** *22:16:11.8±1.0, 36.°50S×73.°24W, h33km, mb5.4/10, Error ellipse: s-maj=21.1km s-min=11.6km az=101.1*
BJI **27** *22:16:11.7, 36.°50S×73.°40W, h35km, mB5.3/8, Ms5.8/5, Ms7 5.3/6*
NEIC **27** *22:16:13.8±2.1, 36.°49S×73.°30W, h38km±4km, mb5.3/50, MS5.0/106, Error ellipse: s-maj=19.4km s-min=12.0km az=83.0*
ISC 27 22:16:12.0±0.3, 36.°46S±0.°06×73.°22W±0.°10, h25km, n236, σ1§27/177, mb5.2/51, MS5.0/103, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.75	155	eP	Pn	22 17 21.3	-0.8
PLCA	Paso Flores	4.75	155	Pn	Pn	22 17 20.9	-1.2
	baz=344,slow=9.4,SNR=1.6						
PLCA	Paso Flores	4.75	155	ePn	Pn	22 17 21.3	-0.8
CFAA	Coronel Fontan	6.37	42	Pn	Pn	22 17 45.2	+1.0
	1.9nm,0.3s,baz=201,slow=9.8,SNR=11						
TRQA	Tornquist	9.10	103	ePn	Pn	22 18 27.4	+5.7
CPUP	Villa Florida	16.89	58	eP	P	22 20 08.4	-0.1
CPUP	Villa Florida	16.89	58	Pn	P	22 20 08.2	-0.4
	0.6nm,0.3s,baz=198,slow=9.8,SNR=3.3						
CPUP	Villa Florida	16.89	58	ePn	P	22 20 08.4	-0.1
EFI	East Falkland	18.65	149	eP	Pn	22 20 27.8	-0.3
EFI				pmax	pmax		
	comp=Z,187nm,1.7s						
EFI	East Falkland	18.65	149	eP	P	22 20 27.8	-0.3
	comp=Z,187nm,1.7s						
USHA	Ushuaia	18.67	171	P	P	22 20 25.2	-2.7
	comp=Z,0.2nm,0.3s,baz=320,slow=15,SNR=2.0						
LPAZ	La Paz	20.59	14	eP	P	22 20 49.9	+0.1
LPAZ				MLR	MLR		
	comp=Z,1μm,19.3s						
LPAZ	La Paz	20.59	14	P	Pn	22 20 51.4	-0.9
	comp=Z,10nm,0.8s,baz=200,slow=5.6,SNR=7.0						
LPAZ	La Paz	20.59	14	eP	P	22 20 49.9	+0.1
LPAZ				ePn	Pn	22 20 50.9	-1.3
LPAZ				LR	LR		
	comp=Z,1μm,19.3s						
SIV	San Ignacio	23.07	31	P	P	22 21 15.4	-0.3
	comp=Z,21nm,0.9s,baz=226,slow=13,SNR=8.9						
NNA	Nana	24.58	351	eP	P	22 21 29.2	-0.9
NNA				MLR	MLR		
	comp=Z,2μm,18.0s						
NNA	Nana	24.58	351	P	P	22 21 29.2	-0.9
	comp=Z,14nm,0.7s,baz=196,slow=9.0,SNR=6.3						
NNA	Nana	24.58	351	eP	P	22 21 29.2	-0.9
NNA				eP	P	22 21 29.4	-0.7
NNA				LR	LR		
	comp=Z,2μm,18.0s						
SAML	Samuel	28.87	21	eP	P	22 22 08.8	+0.1
	comp=Z,12nm,1.3s						
SAML				LR	LR		
	comp=Z,400nm,18.0s						
ATAH	Atahualpa	29.57	350	P	P	22 22 17.5	+2.2
	comp=Z,2.3nm,0.5s,baz=192,slow=20,SNR=3.0						
BDFB	Brasilia	30.54	54	P	P	22 22 24.7	+1.1
	comp=Z,9.0nm,0.9s,baz=193,slow=8.2,SNR=4.2						
BDFB	Brasilia	30.54	54	eP	P	22 22 24.6	+1.0
OTAV	Otavalo	36.83	351	eP	P	22 23 20.4	+1.7
	comp=Z,28nm,1.5s						
OTAV				LR	LR		
	comp=Z,600nm,19.0s						
ROSC	El Rosal	41.11	358	P	P	22 23 55.9	+1.5
	comp=Z,2.6nm,0.3s,baz=207,slow=5.4,SNR=4.7						
ROSC	El Rosal	41.11	358	eP	P	22 23 55.2	+0.8
SDV	Santo Domingo	45.17	4	eP	P	22 24 26.3	-0.6
	comp=Z,22nm,0.9s						
PCRV	Puerto La Cruz	47.09	12	P	P	22 24 42.6	+0.7
	comp=Z,28nm,1.0s,baz=323,slow=5.3,SNR=3.9						
JTS	JuntasAbangare	47.79	344	PFAKE		22 25 00.0	+13
JTS				LR	LR		
	comp=Z,400nm,21.6s						
GRGR	Grenville	49.55	15	eP	P	22 25 01.1	+0.3
	comp=Z,115nm,0.6s						
SNAA	Sanae	49.69	157	eP	P	22 25 02.4	+1.0
SNAA				pmax	pmax		
	comp=Z,17nm,1.0s						
SNAA	Sanae	49.69	157	P	P	22 25 02.3	+0.9
	comp=Z,5.2nm,0.9s,baz=288,slow=7.4,SNR=6.5						
SNAA	Sanae	49.69	157	eP	P	22 25 02.4	+1.0
	comp=Z,17nm,1.0s						
APG	El Apazote	53.71	339	P	P	22 25 29.1	-3.0
	comp=Z,4.1nm,0.8s,baz=176,slow=7.7,SNR=3.9						
QSPA	South Pole Qui	53.78	180	P	P	22 25 33.1	+1.0
	comp=Z,14nm,1.0s,baz=319,slow=1.4,SNR=7.2						
QSPA	South Pole Qui	53.78	180	eP	P	22 25 32.1	0.0
	comp=Z,15nm,0.9s						
QSPA				eP	P	22 25 33.1	+1.0
CRPR	Cabo Rojo, PR	54.48	7	eP	P	22 25 36.5	-0.9
	comp=Z,29nm,0.8s						
CRPR				LR	LR		
	comp=Z,400nm,19.9s						
OBIP	Obispado Ponce	54.56	8	eP	P	22 25 37.6	-0.5
	comp=Z,42nm,0.8s						
CELP	Cerrillos	54.60	8	eP	P	22 25 38.1	-0.2
AOPR	Arecibo Observ	54.85	8	PFAKE		22 25 50.0	+10
AOPR				LR	LR		
	comp=Z,2μm,21.1s						
CBYP	Canovanas	54.88	9	eP	P	22 25 39.6	-0.8
	comp=Z,28nm,0.8s						
GTBY	Guantanamo Bay	56.11	358	eP	P	22 25 48.8	-0.3
	comp=Z,21nm,0.9s						
TEIG	Tepich	58.15	343	P	P	22 26 02.6	-1.0
	comp=Z,14nm,0.8s,baz=152,slow=17,SNR=3.6						
TEIG	Tepich	58.15	343	eP	P	22 26 03.7	+0.1
	comp=Z,45nm,1.1s						
SACV	Santiago Islan	69.33	52	PFAKE		22 27 30.0	+12
SACV				LR	LR		
	comp=Z,700nm,20.9s						
CNNC	Cliffs of the	71.47	356	PFAKE		22 27 40.0	+10
CNNC				LR	LR		
	comp=Z,300nm,20.0s						
KMSC	Kings Mountain	71.64	353	eP	P	22 27 30.5	-0.7
	comp=Z,121nm,0.9s						
KMSC				LR	LR		
	comp=Z,600nm,20.2s						
WHTX	Lake Whitney	71.78	338	PFAKE		22 27 40.0	+7.9
WHTX				LR	LR		
	comp=Z,300nm,21.3s						
ABTX	Abilene, Hawle	73.03	337	PFAKE		22 27 50.0	+10
ABTX				LR	LR		
	comp=Z,300nm,18.3s						
MIAR	Mount Ida	73.15	343	PFAKE		22 27 50.0	+10
MIAR				LR	LR		
	comp=Z,300nm,22.0s						
TZTN	Tazewell	73.27	351	PFAKE		22 27 50.0	+9.2
TZTN				LR	LR		
	comp=Z,600nm,21.8s						
MNTX	Cornudas Mount	74.19	332	PFAKE		22 28 00.0	+14
MNTX				LR	LR		
	comp=Z,400nm,18.0s						
SUR	Sutherland	74.49	119	P	P	22 27 47.3	-1.4
	comp=Z,15nm,1.0s,baz=88,slow=4.5,SNR=2.5						
SUR	Sutherland	74.49	119	eP	P	22 27 47.3	-1.4
	comp=Z,119nm,1.7s						
PBMO	Poplar Bluff	74.60	346	PFAKE		22 28 00.0	+11
PBMO				LR	LR		
	comp=Z,2μm,19.1s						
MSTX	Muleshoe	75.30	335	PFAKE		22 28 00.0	+7.1
MSTX				LR	LR		
	comp=Z,400nm,19.7s						
AMTX	Amarillo	75.77	336	PFAKE		22 28 10.0	+14
AMTX				LR	LR		
	comp=Z,500nm,21.0s						
MVL	Millersville	76.14	358	PFAKE		22 28 10.0	+13
MVL				LR	LR		
	comp=Z,700nm,19.6s						
BRNJ	Basking Ridge	76.78	359	PFAKE		22 28 10.0	+9.0
BRNJ				LR	LR		
	comp=Z,1μm,19.6s						
DBIC	Dimbokro	76.88	71	eP	P	22 28 02.3	+0.1
DBIC				pmax	pmax		
	comp=Z,21nm,0.8s						
DBIC	Dimbokro	76.88	71	P	P	22 28 02.4	+0.1
	comp=Z,9.5nm,0.6s,baz=188,slow=5.0,SNR=11						
DBIC	Dimbokro	76.88	71	eP	P	22 28 02.3	+0.1
	comp=Z,21nm,0.8s						
TRY	Troy	78.82	360	eP	P	22 28 12.4	+0.1
	comp=Z,75nm,1.4s						
W18A	Petrified Fore	78.91	330	PFAKE		22 28 20.0	+6.7
W18A				LR	LR		
	comp=Z,400nm,19.1s						
SDCO	Great Sand Dun	79.65	335	PFAKE		22 28 30.0	+13
SDCO				LR	LR		
	comp=Z,500nm,20.0s						
BOSA	Boshof	79.78	118	eP	P	22 28 18.0	-0.4
BOSA	Boshof	79.78	118	P	P	22 28 17.9	-0.4
	comp=Z,12nm,1.0s,baz=274,slow=6.3,SNR=5.9						
BOSA	Boshof	79.78	118	eP	P	22 28 17.9	-0.4
BOSA				eP	P	22 28 19.1	+0.7
S22A	4UR Ranch, Cre	80.12	334	PFAKE		22 28 30.0	+10
S22A				LR	LR		
	comp=Z,400nm,18.0s						
MVCO	Mesa Verde	80.26	332	PFAKE		22 28 30.0	+9.4
MVCO				LR	LR		
	comp=Z,500nm,21.0s						
PFO	Pinyon Flat Ob	80.55	325	eP	P	22 28 22.9	+0.7
PFO				pmax	pmax		
	comp=Z,18nm,1.1s						
PFO				MLR	MLR		
	comp=Z,700nm,20.0s						
PFO	Pinyon Flat Ob	80.55	325	P	P	22 28 22.9	+0.7
	comp=Z,7.6nm,0.9s,baz=22,slow=2.3,SNR=3.6						
PFO	Pinyon Flat Ob	80.55	325	eP	P	22 28 22.9	+0.7
	comp=Z,18nm,1.1s						
PFO				LR	LR		
	comp=Z,700nm,20.0s						
Q24A	Divide	80.63	335	PFAKE		22 28 30.0	+7.3
Q24A				LR	LR		
	comp=Z,600nm,19.0s						
KHZ	Kahutara	80.67	224	PFAKE		22 28 30.0	+7.3
KHZ				LR	LR		
	comp=Z,2μm,22.0s						
SNZO	South Karori	80.74	225	PFAKE		22 28 30.0	+6.9
SNZO				LR	LR		
	comp=Z,800nm,22.0s						
BKZ	Black Stump Fm	81.09	228	PFAKE		22 28 40.0	+15
BKZ				LR	LR		
	comp=Z,700nm,20.0s						
LDFC	Landfair	81.16	326	PFAKE		22 28 40.0	+15
LDFC				LR	LR		
	comp=Z,500nm,21.6s						
ISCO	Idaho Springs	81.53	335	PFAKE		22 28 40.0	+13
ISCO				LR	LR		
	comp=Z,600nm,18.0s						
KNB	Kanab	81.81	329	PFAKE		22 28 40.0	+11
KNB				LR	LR		
	comp=Z,500nm,21.7s						
LBTB	Lobatse	82.14	115	eP	P	22 28 31.7	+0.7
LBTB				pmax	pmax		
	comp=Z,16nm,0.8s						
LBTB				MLR	MLR		
	comp=Z,400nm,18.5s						
LBTB	Lobatse	82.14	115	eP	P	22 28 31.7	+0.7
	comp=Z,16nm,0.8s						
LBTB				LR	LR		
	comp=Z,400nm,18.5s						
SHPR	Sheep Range	82.37	327	eP	P	22 28 32.5	+0.7
CCUT	Cedar City	82.49	329	eP	P	22 28 32.9	+0.4
	comp=Z,18nm,1.1s						
CCUT				LR	LR		
	comp=Z,500nm,20.1s						
ECSD	EROS Data Cent	82.60	343	PFAKE		22 28 40.0	+7.4
ECSD				LR	LR		
	comp=Z,700nm,18.8s						
SRU	San Rafael	82.69	332	PFAKE		22 28 40.0	+6.6
SRU				LR	LR		
	comp=Z,500nm,21.5s						
O20A	White River Ci	82.75	334	PFAKE		22 28 50.0	+16
O20A				LR	LR		
	comp=Z,600nm,21.0s						
TMUT	Trail Mountain	83.12	331	PFAKE		22 28 50.0	+14
TMUT				LR	LR		
	comp=Z,1μm,20.3s						
SPMN	St. Paul	83.21	346	PFAKE		22 28 50.0	+14
SPMN				LR	LR		
	comp=Z,500nm,18.9s						
COWI	Conover	83.42	349	PFAKE		22 28 50.0	+13
COWI				LR	LR		
	comp=Z,400nm,22.0s						
R11A	Troy Canyon, C	84.10	328	eP	P	22 28 41.5	+0.9
	comp=Z,12nm,1.0s						
JLU	Jordanelle	84.34	332	eP	P	22 28 40.5	-1.4
	comp=Z,53nm,1.2s						
JLU				LR	LR		
	comp=Z,500nm,20.1s						
K22A	Casper	84.39	336	PFAKE		22 28 50.0	+8.0
K22A				LR	LR		
	comp=Z,300nm,19.1s						
DUG	Dugway	84.52	331	eP	P	22 28 43.4	+0.7
DUG				pmax	pmax		
	comp=Z,40nm,1.4s						
DUG	Dugway	84.52	331	eP	P	22 28 43.4	+0.7
	comp=Z,40nm,1.4s						
TPH	Tonopah	84.59	327	eP	P	22 28 43.5	+0.3
TPH				pmax	pmax		
	comp=Z,20nm,1.1s						
TPH				MLR	MLR		
	comp=Z,400nm,18.0s						
TPH	Tonopah	84.59	327	eP	P	22 28 43.5	+0.3
	comp=Z,20nm,1.1s						
TPH				LR	LR		
	comp=Z,400nm,18.0s						
BGU	Big Grassy Mou	85.23	331	eP	P	22 28 46.5	+0.3
	comp=Z,11nm,1.2s						
HWUT	Hardware Ranch	85.25	332	eP	P	22 28 45.6	-0.8
	comp=Z,46nm,0.8s						
HWUT				LR	LR		
	comp=Z,500nm,18.0s						
SPUT	South Promonto	85.33	331	eP	P	22 28 46.9	+0.1
	comp=Z,32nm,0.9s						
SPUT				LR	LR		
	comp=Z,500nm,18.1s						
NV01	Mina Array Sit	85.36	326	eP	P	22 28 48.1	+1.1
NVAR	Mina Array Bea	85.36	326	P	P	22 28 48.2	+1.1
	comp=Z,4.8nm,0.8s,baz=147,slow=5.7,SNR=13						
BW06	Boulder Array	85.53	334	PFAKE		22 29 00.0	+12
BW06				LR	LR		
	comp=Z,400nm,18.0s						
HVU	Hansel Valley	85.86	331	eP	P	22 28 48.8	-0.6
HVU	Hansel Valley	85.86	331	eP	P	22 28 48.8	-0.6
	comp=Z,42nm,1.0s						
TOA0	Torodi Ar. Sit	85.95	71	eP	P	22 28 50.1	-0.1
TOA0				eP	P	22 28 50.5	+0.2
TORD	Torodi Ar. Bea	85.95	71	P	P	22 28 50.5	+0.2
	comp=Z,14nm,1.2s,baz=234,slow=4.5,SNR=16						
ELK	Elko	85.96	329	eP	P	22 28 50.4	+0.4
ELK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ELK				MLR	MLR		
	comp=Z,400nm,18.5s						
ELK	Elko	85.96	329	P	P	22 28 50.6	+0.6
	comp=Z,7.2nm,1.0s,baz=169,slow=3.6,SNR=10.0						
ELK	Elko	85.96	329	eP	P	22 28 50.4	+0.4
	comp=Z,8.3nm,1.0s						
ELK				LR	LR		
	comp=Z,400nm,18.5s						
AHID	Auburn Hatcher	86.08	333	PFAKE		22 29 00.0	+9.5
AHID				LR	LR		
	comp=Z,600nm,19.0s						
BMN	Battle Mountai	86.53	328	PFAKE		22 29 00.0	+7.3
BMN				LR	LR		
	comp=Z,700nm,21.0s						
TPAW	Teton Pass	86.66	334	PFAKE		22 29 00.0	+6.6
TPAW				LR	LR		
	comp=Z,400nm,18.5s						
AGMN	Agassiz Nation	86.77	345	PFAKE		22 29 00.0	+6.6
AGMN				LR	LR		
	comp=Z,800nm,21.8s						
IMW	Indian Meadow	87.01	334	eP	P	22 28 54.8	-0.3
	comp=Z,60nm,0.9s						
H17A	Grant Village	87.31	334	PFAKE		22 29 10.0	+13
H17A				LR	LR		
	comp=Z,700nm,18.7s						
LKWY	Lake	87.40	334	PFAKE		22 29 10.0	+13
LKWY				LR	LR		
	comp=Z,600nm,18.0s						
YFT	Old Faithful	87.45	334	eP	P	22 28 57.2	0.0
	comp=Z,287nm,2.2s						
RLMT	Red Lodge	87.50	335	PFAKE		22 29 10.0	+13
RLMT				LR	LR		
	comp=Z,800nm,22.0s						
YMR	Madison River	87.69	334	eP	P	22 28 57.8	-0.5
	comp=Z,58nm,1.1s						
HLID	Hailey	88.01	331	eP	P	22 29 00.6	+0.7
	comp=Z,20nm,1.4s						
HLID				LR	LR		
	comp=Z,400nm,19.0s						
MFID	Camas Ranch	88.44	330	eP	P	22 29 02.3	+0.5
	comp=Z,13nm,1.1s						
MFID				LR	LR		
	comp=Z,600nm,19.0s						
MCMT	McKenzie Canyo	88.50	333	eP	P	22 29 03.0	+0.8
ULM	Lac du Bonnet	88.63	346	PFAKE		22 29 10.0	+7.7
ULM				LR	LR		
	comp=Z,500nm,20.7s						
BOZ	Bozeman (W)	88.77	334	PFAKE		22 29 10.0	+6.7
BOZ				LR	LR		
	comp=Z,600nm,20.0s						
WVOR	Wild Horse Val	88.79	328	eP	P	22 29 04.0	+0.5
WVOR				pmax	pmax		
	comp=Z,17nm,1.2s						
WVOR	Wild Horse Val	88.79	328	eP	P	22 29 04.0	+0.5
	comp=Z,17nm,1.2s						
MOD	Modoc	89.08	327	eP	P	22 29 05.8	+0.9
	comp=Z,22nm,1.3s						
K05A	Summer Lake	90.00	327	eP	P	22 29 10.8	+1.6
	comp=Z,174nm,2.5s						
I07A	Izee	90.50	329	eP	P	22 29 11.5	+0.1
HUMO	Hull Mountain	90.83	326	PFAKE		22 29 20.0	+7.2
HUMO				LR	LR		
	comp=Z,1μm,18.0s						
PINOR	Pine Mountain	90.86	328	eP	P	22 29 14.6	+1.8
	comp=Z,144nm,2.8s						
F10A	Beach Ranch, E	91.13	331	eP	P	22 29 14.7	+0.5
	comp=Z,33nm,1.6s						
G08A	Pilot Rock	91.25	330	eP	P	22 29 14.8	-0.1
	comp=Z,6.3nm,1.0s						
BLMT	Blacktail Moun	91.76	334	eP	P	22 29 17.6	+0.3
BSMT	Bassoo Peak	91.78	333	eP	P	22 29 16.9	-0.4
HAWA	Hanford	92.39	330	eP	P	22 29 20.1	+0.2
	comp=Z,16nm,1.1s						
D08A	Wollman Farm,	92.68	331	eP	P	22 29 20.9	-0.4
	comp=Z,135nm,2.8s						
NEW	Newport	92.98	332	eP	P	22 29 21.4	-1.3
NEW				pmax	pmax		
	comp=Z,12nm,1.4s						
NEW	Newport	92.98	332	P	P	22 29 22.9	+0.2
	comp=Z,4.3nm,1.0s,baz=150,slow=8.6,SNR=3.3						
NEW	Newport	92.98	332	eP	P	22 29 21.4	-1.3
	comp=Z,12nm,1.4s						
LON	Longmire	93.61	329	PFAKE		22 29 40.0	+14
LON				LR	LR		
	comp=Z,500nm,19.2s						
B06A	Marblemount	94.88	330	PFAKE		22 29 40.0	+8.7
B06A				LR	LR		
	comp=Z,400nm,20.5s						
EDM	Edmonton	95.86	337	PFAKE		22 29 50.0	+14
EDM				LR	LR		
	comp=Z,800nm,19.7s						
FCC	Fort Churchill	96.45	349	PFAKE		22 29 50.0	+12
FCC				LR	LR		
	comp=Z,800nm,18.5s						
ABPO	Ambohimpanom	101.24	124	PFAKE		22 30 10.0	+8.9
ABPO				LR	LR		
	comp=Z,400nm,21.0s						
ARMA	Armidale	101.28	218	PFAKE		22 30 10.0	+9.0
ARMA				LR	LR		
	comp=Z,500nm,19.3s						
STKA	Stephens Creek	104.61	210	PFAKE		22 30 30.0	+14
STKA				LR	LR		
	comp=Z,100nm,20.5s						
EIDS	Eidsvold	105.66	221	PFAKE		22 34 40.0	
EIDS				LR	LR		
	comp=Z,200nm,19.5s						
BBOO	Buckleboo	105.85	205	PFAKE		22 34 40.0	
BBOO				LR	LR		
	comp=Z,3μm,20.3s						
HNR	Honiara	112.36	239	PFAKE		22 35 00.0	
HNR				LR	LR		
	comp=Z,800nm,19.0s						
CTAO	Charters Tower	112.51	220	PFAKE		22 35 00.0	
CTAO				LR	LR		
	comp=Z,300nm,19.7s						
FURI	Furi	112.83	96	PFAKE		22 35 00.0	
FURI				LR	LR		
	comp=Z,400nm,20.0s						
EGAK	Eagle	113.88	334	PFAKE		22 35 00.0	
EGAK				LR	LR		
	comp=Z,400nm,21.0s						
GEC2	GERESS Array S	114.56	46	ePKIKP	PKPdf	22 34 48.8	-0.7
GEC2	GERESS Array S	114.56	46	ePKiKP	PKPdf	22 34 48.8	-0.7
GERES	GERESS Array B	114.56	46	PKP	PKPdf	22 34 48.8	-0.7
	comp=Z,0.8nm,0.9s,baz=124,slow=2.4,SNR=4.6						
SML	Sawmill	114.98	330	PFAKE		22 35 00.0	+10
SML				LR	LR		
	comp=Z,100nm,18.8s						
RC01	Rabbit Creek A	115.20	329	PFAKE		22 35 00.0	+10
RC01				LR	LR		
	comp=Z,800nm,21.4s						
CLL	Collm	115.29	44	ePP	PP	22 35 52.0	-0.2
ILAR	Eielson Array	115.94	333	PKP	PKPdf	22 34 50.7	-0.8
	comp=Z,0.4nm,0.8s,baz=134,slow=2.6,SNR=3.8						
COLA	College	116.35	333	PFAKE		22 35 00.0	+7.8
COLA				LR	LR		
	comp=Z,200nm,19.0s						
TRF	Thorofare Moun	116.58	331	PFAKE		22 35 00.0	+7.0
TRF				LR	LR		
	comp=Z,800nm,19.7s						
MORC	Moravsky Berou	117.22	47	PFAKE		22 35 10.0	+16
MORC				LR	LR		
	comp=Z,600nm,21.0s						
SVW2	Sparrevohn	117.72	327	PFAKE		22 35 10.0	+15
SVW2				LR	LR		
	comp=Z,900nm,18.6s						
PSZ	Piszkesteto	117.86	49	PFAKE		22 35 10.0	+14
PSZ				LR	LR		
	comp=Z,500nm,21.0s						
WRA	Warramunga Arr	118.15	210	PKP	PKPdf	22 34 55.4	-1.9
	comp=Z,0.8nm,0.7s,baz=169,slow=1.7,SNR=3.6						
COLD	Coldfoot	118.31	334	PFAKE		22 35 10.0	+14
COLD				LR	LR		
	comp=Z,400nm,21.9s						
PMG	Port Moresby	120.66	228	PFAKE		22 35 10.0	+7.8
PMG				LR	LR		
	comp=Z,100nm,22.0s						
BUR04	Bucovina Ar. S	121.04	51	ePKPdf	PKPdf	22 35 01.2	-0.8
BR231	Keskin MP Arra	123.27	62	ePKPdf	PKPdf	22 35 06.0	-0.5
BR101	Keskin Array S	123.85	63	ePKPdf	PKPdf	22 35 07.7	0.0
BRTR	Keskin Array B	123.85	63	PKP	PKPdf	22 35 07.7	0.0
	comp=Z,1.6nm,0.8s,baz=203,slow=5.8,SNR=9.1						
AK11	Malin Array Si	124.51	49	ePKPdf	PKPdf	22 35 06.7	-1.7
AKASG	Malin Array Be	124.55	49	PKP	PKPdf	22 35 07.2	-1.2
	comp=Z,0.3nm,0.4s,baz=269,slow=2.9,SNR=4.5						
AKBB	Malin Array Si	124.55	49	ePKIKP	PKPdf	22 35 07.2	-1.2
AKBB	Malin Array Si	124.55	49	ePKPdf	PKPdf	22 35 07.2	-1.2
KBS	Kingsbay	124.57	14	PFAKE		22 35 20.0	+12
KBS				LR	LR		
	comp=Z,1μm,18.0s						
GAMB	Gambell	125.65	327	PFAKE		22 35 20.0	+10
GAMB				LR	LR		
	comp=Z,300nm,20.8s						
DGAR	Diego Garcia	125.77	136	PFAKE		22 35 20.0	+8.0
DGAR				LR	LR		
	comp=Z,800nm,22.0s						
RAYN	Ar Rayn	126.19	86	PFAKE		22 35 20.0	+7.5
RAYN				LR	LR		
	comp=Z,4μm,22.0s						
KEV	Kevo	127.19	25	PFAKE		22 35 20.0	+7.1
KEV				LR	LR		
	comp=Z,2μm,19.0s						
OBN	Obninsk	129.87	45	PFAKE		22 35 30.0	+12
OBN				LR	LR		
	comp=Z,2μm,19.0s						
LVZ	Lovozero	129.89	28	PFAKE		22 35 30.0	+12
LVZ				LR	LR		
	comp=Z,2μm,18.0s						
COCO	West Island	130.71	167	PFAKE		22 35 30.0	+8.6
COCO				LR	LR		
	comp=Z,700nm,21.0s						
FAKI	Fak Fak	134.18	217	PFAKE		22 35 40.0	+12
FAKI				LR	LR		
	comp=Z,500nm,20.0s						
JAGI	Jajag, Banyuwa	134.78	190	PFAKE		22 35 40.0	+11
JAGI				LR	LR		
	comp=Z,900nm,21.0s						
KAPI	Kappang	136.99	199	PFAKE		22 35 40.0	+6.8

KAPI LR LR
comp=Z,200nm,18.0s
MNAI Manna 139.24 174 PFAKE 22 35 50.0 +13
MNAI LR LR
comp=Z,900nm,20.0s
LUWI Luwuk 139.83 205 PFAKE 22 35 50.0 +12
LUWI LR LR
comp=Z,500nm,18.0s
GEYT Alibeck 141.56 73 PKhKP PKPpre 22 35 34.0
comp=Z,1.2nm,0.5s,baz=59,slow=0.9,SNR=4.1
TOLI Toli-Toli 142.52 203 PFAKE 22 35 50.0 +6.7
TOLI LR LR
comp=Z,100nm,20.0s
ABKAR Akbulak array 143.93 54 *e*PKPdf PKPbc 22 35 42.4 -0.1
KSM Kuching 145.03 186 *e*PKPbc **PKPab 22 35 47.1 +0.1**
SBUM Sibu 145.79 190 *e*PKPdf **PKPdf 22 35 49.0 0.0**
LHMI Lhok Sumawe 147.63 161 *e*PKPbc **PKPbc 22 35 55.0 +0.3**
IPM Ipoh 147.74 169 *e*PKPdf **PKPdf 22 35 51.4 -0.8**
KULM Kulim 148.47 168 PFAKE 22 36 00.0 -0.2
KULM LR LR
comp=Z,1μm,20.0s
HYB Hyderabad 148.67 120 *i* PKP **PKPbc 22 35 56.5 -0.9**
BRVK Borovoye 149.65 45 *e*PKPdf **PKPdf 22 35 54.7 +0.6**
BRVK LR LR
comp=Z,10μm,21.6s
VOSK Vostochnaya 150.15 46 *e*PKIKP **PKPbc 22 35 59.7 -0.3**
VOSK Vostochnaya 150.15 46 *e*PKPbc **PKPbc 22 35 59.7 -0.3**
VOSK LR LR
comp=Z,7μm,18.6s
YAK Yakutsk 150.68 338 *e*PKIKP **PKPbc 22 35 59.2 -1.7**
YAK pmax pmax
comp=Z,81nm,1.1s
YAK Yakutsk 150.68 338 *e*PKPdf **PKPdf 22 35 54.1 -1.3**
YAK *e*PKPbc **PKPbc 22 36 00.5 -0.4**
KKAR Karatay Array 151.51 65 *e*PKIKP **PKPbc 22 36 02.8 -0.7**
KKAR Karatay Array 151.51 65 *e*PKPbc **PKPbc 22 36 02.8 -0.7**
ASAJ Asahikawa 151.80 297 PFAKE 22 36 10.0 -3.2
ASAJ LR LR
comp=Z,799nm,21.3s
EKS2 Erkin-Say 153.92 66 PFAKE 22 36 10.0 +0.9
EKS2 LR LR
comp=Z,20μm,18.0s
AAK Ala-Archa 154.45 66 *e*PKIKP **PKPdf 22 36 02.5 +0.6**
AAK *e* 22 36 11.0
AAK *e* 22 36 11.0
AAK Ala-Archa 154.45 66 *e*PKPdf **PKPdf 22 36 02.5 +0.6**
AAK *e*PKPbc **PKPbc 22 36 11.0 +0.8**
AAK *e*PKPbc **PKPbc 22 36 11.0 +0.8**
AAK *e*PKPab **PKPab 22 36 25.5 +0.8**
AAK *e*PKPab **PKPab 22 36 25.8 +1.1**
MJAR Matsushiro Arr 154.79 280 PKPab **PKPab 22 36 25.9 -0.2**
comp=Z,4.3nm,1.2s,baz=138,slow=1.2,SNR=4.8
MAJO Matsushiro 154.79 280 *e*PKP2 **PKPab 22 36 25.9 -0.2**
MAJO Matsushiro 154.79 280 *e*PKPab **PKPab 22 36 25.9 -0.2**
KURK Kurchatov 155.31 46 PFAKE 22 36 10.0 +7.5
KURK LR LR
comp=Z,5μm,21.0s
NVS Novosibirsk 155.53 34 *e*PKIKP **PKPdf 22 36 00.2 -2.4**
KSH Kashi 155.59 73 *e*PKP **PKPdf 22 36 03.8 +0.4**
KSH *e*pPKP **pPKPdf 22 36 13.3 +1.4**
KSH *e*sPKP 22 36 17.5
KSH *e*SKS **SKSdf 22 43 04.0 -4.3**
KSH *e*SKKS **SKKSac 22 46 55.5 +0.9**
KSH *e*SS **SS 22 59 49.0 -3.4**
KSH AMB AMB
comp=Z,140nm,5.0s
KSH LR LR
comp=Z,190nm,10.5s
ZAA1 Zalesovo Array 156.81 34 *e*PKPdf **PKPdf 22 36 03.8 -0.5**
ZAA1 *e*PKPab **PKPab 22 36 34.5 +0.3**
ZAA0 Zalesovo Array 156.81 34 *e*PKPdf **PKPdf 22 36 04.0 -0.3**
ZAA0 *e*PKPab **PKPab 22 36 34.1 0.0**
ZALV Zalesovo Beam 156.81 34 PKP **PKPdf 22 36 03.8 -0.5**
comp=Z,4.8nm,0.8s,baz=282,slow=1.7,SNR=11
ZALV PKPab **PKPab 22 36 34.5 +0.3**
comp=Z,4.5nm,0.8s,baz=305,slow=5.2,SNR=7.6
BOD Bodaibo 158.10 350 *e*PKP2 **PKPab 22 36 36.6 -2.9**
BOD pmax pmax
comp=Z,7.0nm,1.1s
MK32 Makanchi Array 159.06 53 *e*PKPdf **PKPdf 22 36 07.5 +0.1**
MK32 *e*PKPab **PKPab 22 36 44.3 +0.1**
MKAR Makanchi Array 159.06 53 PKP **PKPdf 22 36 07.5 0.0**
comp=Z,2.3nm,0.8s,baz=294,slow=1.2,SNR=9.2
MKAR PKPab **PKPab 22 36 44.3 +0.1**
comp=Z,2.5nm,0.8s,baz=289,slow=4.8,SNR=8.1
MK01 Makanchi Array 159.08 53 *e*PKPdf **PKPdf 22 36 07.2 -0.2**
MK01 *e*PKPab **PKPab 22 36 43.7 -0.6**
JOW Kunigami 159.37 248 PFAKE 22 36 20.0 +12
JOW LR LR
comp=Z,1μm,21.1s
CM31 Chiang Mai Arr 160.78 157 *e*PKPdf **PKPdf 22 36 10.4 +0.2**
CM31 *e*PKPab **PKPab 22 36 51.0 -1.3**
CMAR Chiang Mai Arr 160.78 157 PKP **PKPdf 22 36 10.4 +0.2**
comp=Z,0.6nm,0.7s,baz=251,slow=2.8,SNR=4.2
CMAR PKPab **PKPab 22 36 51.0 -1.3**
comp=Z,0.5nm,0.4s,baz=226,slow=4.5,SNR=5.4
WMQ Urumqi 163.68 57 *e*PKP **PKPdf 22 36 09.3 -3.2**
WMQ LR LR
comp=Z,880nm,22.8s
WMQ LR LR
comp=Z,630nm,23.4s
WMQ LR LR
comp=Z,630nm,24.6s
ZAK Zakamensk 165.85 9 *e*PKP2 **PKPab 22 37 14.4 +0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
SONA1 Songino Array 168.62 1 *e*PKPab **PKPab 22 37 27.0 +0.9**
SONA0 Songino Array 168.63 1 *e*PKPab **PKPab 22 37 26.6 +0.4**
SONM Songino Array 168.63 1 PKPab **PKPab 22 37 26.6 +0.4**
comp=Z,2.3nm,0.8s,baz=340,slow=4.7,SNR=13
NJ2 Nanjing 169.09 250 *e*PKP **PKPdf 22 36 20.5 +3.6**
GYA Guiyang 170.03 179 PKP **PKPdf 22 36 18.0 +0.2**
GYA pPKP **pPKPdf 22 36 30.5 +4.2**
GYA PKPab **PKPab 22 37 35.3 +2.4**
GYA PKS **PKSdf 22 39 49.5 -1.0**
GYA PP **PP 22 41 26.0 +4.1**
GYA SKKS 22 48 08.0
GYA SS **SS 23 02 20.5 +1.4**
GYA AMB AMB
comp=Z,140nm,8.3s
GYA LR LR
comp=Z,140nm,21.0s
GYA LR LR
comp=Z,120nm,21.2s
GYA LR LR
comp=Z,150nm,24.1s
GTA Gaotai 173.76 60 *e*PKP **PKPdf 22 36 19.5 +0.3**
GTA pPKP **pPKPdf 22 36 30.0 +2.4**
GTA sPKP 22 36 34.0
GTA PKPab **PKPab 22 37 50.5 +1.1**
CD2 Chengdu 173.92 155 PKP **PKPdf 22 36 19.5 +0.1**
CD2 pPKP **pPKPdf 22 36 30.8 +3.0**
CD2 sPKP 22 36 34.5
CD2 PKS **PKSdf 22 39 50.3 -1.4**
CD2 PP **PP 22 41 45.5 +4.1**
CD2 SKS **SKSdf 22 43 17.3 -3.7**
CD2 SKKS **SKKSac 22 48 26.3 -0.5**
CD2 AMB AMB
comp=Z,220nm,6.4s
HHC Hu-ho-hao-te 174.24 321 *e*PKP PKPdf 22 36 13.3 -6.0
HHC sPKP 22 36 28.0
HHC AMB AMB
comp=Z,200nm,7.5s
HHC LR LR
comp=Z,2μm,18.6s
HHC LR LR
comp=Z,520nm,14.9s
HHC LR LR
comp=Z,680nm,15.7s
LZH Lanzhou 177.60 98 *e*PKP **PKPdf 22 36 21.0 +0.7**
LZH pPKP **pPKPdf 22 36 32.3 +3.6**
LZH sPKP 22 36 37.8

IDC **27** *22:18:16.0±0.7, 37.°51S×73.°57W, h0km, mb4.5/12, mb1 4.6/16, mb1mx4.4/43, mbtmp4.5/16, ML4.3/3, Error ellipse: s-maj=25.3km s-min=15.3km az=92.0*
ISCJB **27** *22:18:18.4±0.7, 37.°48S±0.°06×73.°4W±0.°1, h23km, mb4.6/15, Error ellipse: s-maj=15.6km s-min=8.3km az=177.4*
NEIC **27** *22:18:21.2±0.4, 37.°49S×73.°46W, h35km, mb4.8/11, Error ellipse: s-maj=11.3km s-min=7.1km az=90.0*

ISC 27 22:18:19.5±0.6, 37.°49S±0.°07×73.°5W±0.°1, h23km, n39, σ0.°86/40, mb4.7/15, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.98 145 Pn **Pn 22 19 19.1 0.0**
baz=315,slow=20,SNR=1.5
PLCA Paso Flores 3.98 145 *e*Pn **Pn 22 19 18.2 -0.9**
CFAA Coronel Fontan 7.32 38 Pn **Pn 22 20 04.5 -0.5**
2.6nm,0.3s,baz=5.1,slow=5.4,SNR=7.6
TRQA Tornquist 9.16 97 *e*Pn **Pn 22 20 30.7 +0.5**
LVC Limon Verde 15.36 16 *e*Pn **Pn 22 21 54.3 -0.7**
29nm,0.9s
CPUP Villa Florida 17.66 56 P **Pn 22 22 24.1 +0.1**
0.7nm,0.3s,baz=210,slow=12,SNR=2.4
CPUP Villa Florida 17.66 56 *e*Pn **Pn 22 22 22.4 -1.6**
0.6nm,0.6s
USHA Ushuaia 17.69 170 P **Pn 22 22 23.9 -0.2**
0.3nm,0.3s,baz=334,slow=9.4,SNR=4.0
LPAZ La Paz 21.66 14 P **P 22 23 10.4 +1.3**
5.9nm,0.6s,baz=204,slow=2.3,SNR=9.2
LPAZ La Paz 21.66 14 *e*P **P 22 23 10.4 +1.3**
10.0nm,0.7s
SIV San Ignacio 24.09 31 P **P 22 23 33.5 +0.1**
14nm,0.7s,baz=225,slow=12,SNR=9.4
NNA Nana 25.57 352 P **P 22 23 47.1 +0.3**
5.8nm,0.5s,baz=203,slow=7.8,SNR=3.9
NNA Nana 25.57 352 *e*P **P 22 23 47.0 +0.1**
6.8nm,0.4s
BDFB Brasilia 31.35 53 P **P 22 24 40.5 +1.9**
9.0nm,0.8s,baz=210,slow=10,SNR=5.8
OTAV Otavalo 37.82 352 *e*P **P 22 25 34.5 -0.3**
10nm,1.1s
RCBR Riachuelo 46.54 57 *e*P **P 22 26 43.8 -1.6**
11nm,1.0s
SNAA Sanae 48.84 157 P **P 22 27 03.8 +1.1**
7.8nm,1.1s,baz=264,slow=6.3,SNR=5.1
SNAA Sanae 48.84 157 *e*P **P 22 27 03.3 +0.6**
18nm,1.0s
QSPA South Pole Qui 52.75 180 P **P 22 27 33.2 +0.9**
7.4nm,0.9s,baz=152,slow=3.6,SNR=5.5
QSPA South Pole Qui 52.75 180 *e*P **P 22 27 33.1 +0.8**
7.9nm,0.8s
SUR Sutherland 74.21 119 P **P 22 29 55.4 +0.5**
11nm,0.9s,baz=238,slow=3.8,SNR=3.1
SUR Sutherland 74.21 119 *e*P **P 22 29 55.7 +0.9**
18nm,0.9s
DBIC Dimbokro 77.44 71 P **P 22 30 14.0 +0.8**
9.4nm,0.7s,baz=203,slow=6.8,SNR=7.6
DBIC Dimbokro 77.44 71 *e*P **P 22 30 13.7 +0.5**
21nm,0.8s
TSUM Tsumeb 79.42 106 P **P 22 30 24.1 -0.2**
2.5nm,0.8s,baz=225,slow=2.7,SNR=8.2
BOSA Boshof 79.52 118 P **P 22 30 24.6 -0.1**
9.0nm,1.1s,baz=222,slow=9.5,SNR=4.2
BOSA Boshof 79.52 118 *e*P **P 22 30 24.1 -0.6**
5.5nm,0.4s
LBTB Lobatse 81.93 115 *e*P **P 22 30 37.7 +0.1**
15nm,0.7s
NVAR Mina Array Bea 86.08 326 P **P 22 30 58.8 +0.3**
1.0nm,0.7s,baz=183,slow=7.2,SNR=3.8
TORD Torodi Ar. Bea 86.52 71 P **P 22 31 00.8 0.0**
1.8nm,0.7s,baz=226,slow=4.0,SNR=4.3
GERES GERESS Array B 115.44 47 PKP **PKPdf 22 36 58.8 -0.1**
0.5nm,0.6s,baz=186,slow=2.5,SNR=3.6
BRTR Keskin Array B 124.53 63 PKP **PKPdf 22 37 16.6 -0.3**
0.9nm,0.6s,baz=206,slow=4.9,SNR=9.1
AKASG Malin Array Be 125.41 50 PKP **PKPdf 22 37 17.4 -0.5**
0.5nm,0.4s,baz=268,slow=2.9,SNR=3.4
FINES FINESS Array B 126.53 36 PKP **PKPdf 22 37 19.7 0.0**
1.5nm,0.9s,baz=194,slow=0.8,SNR=4.6
PSI Prapat 144.78 167 PKP PKPbc 22 37 54.1 0.0
12nm,0.4s,baz=242,slow=5.0,SNR=9.4
MJAR Matsushiro Arr 154.70 278 PKPab **PKPab 22 38 34.5 +0.9**
1.6nm,0.7s,baz=144,slow=3.2,SNR=5.1
ZALV Zalesovo Beam 157.80 35 PKP **PKPdf 22 38 12.5 -0.9**
1.7nm,0.9s,baz=241,slow=1.5,SNR=4.1
ZALV PKPab **PKPab 22 38 46.2 0.0**
1.8nm,0.5s,baz=298,slow=4.7,SNR=7.1
MKAR Makanchi Array 159.87 55 PKPab **PKPab 22 38 55.5 0.0**
1.9nm,0.8s,baz=298,slow=3.2,SNR=7.5
CMAR Chiang Mai Arr 159.92 159 PKP **PKPdf 22 38 14.8 -2.3**
0.7nm,0.3s,baz=7.8,slow=2.0,SNR=6.0
CMAR PKPab **PKPab 22 38 55.6 -0.7**
0.4nm,0.3s,baz=220,slow=4.0,SNR=3.8

IDC **27** *22:19:57.7±0.4, 34.°96S×72.°75W, h0km, mb4.9/23, mb1 5.0/27, mb1mx4.8/43, mbtmp4.9/27, ML4.9/4, MS4.7/3, Ms1 4.6/3, ms1mx4.0/27, Error ellipse: s-maj=17.1km s-min=11.6km az=78.0*
ISCJB **27** *22:19:58.2±0.2, 34.°94S±0.°04×72.°62W±0.°07, h10km, mb5.2/59, MS5.2/102, Error ellipse: s-maj=8.4km s-min=5.1km az=151.4*
NEIC **27** *22:20:01.1±1.8, 34.°93S×72.°71W, h21km±3km, mb5.2/55, MS5.1/103, Error ellipse: s-maj=17.7km s-min=10.9km az=91.0*
MOS **27** *22:20:02.3±1.1, 34.°81S×72.°62W, h33km, mb5.6/16, Error ellipse: s-maj=18.6km s-min=11.1km az=94.1*
BJI **27** *22:20:02.2, 35.°42S×72.°26W, h35km, mB5.3/7, Ms5.7/4, Ms7 5.3/5*

ISC 27 22:19:59.4±0.3, 34.°95S±0.°05×72.°72W±0.°08, h10km, n433, σ1.°12/378, mb5.3/59, MS5.1/102, 1C-1D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.03 50 Pn **Pn 22 21 15.6 +0.7**
6.7nm,0.3s,baz=222,slow=12,SNR=10
CFAA Lg Lg 22 22 27.9
4.5nm,0.3s,baz=303,slow=23,SNR=4.0
PLCA Paso Flores 6.02 164 *e*Pn **Pn 22 21 28.2 -0.4**
PLCA Paso Flores 6.02 164 Pn **Pn 22 21 27.9 -0.7**
24nm,0.3s,baz=335,slow=9.9,SNR=2.4
PLCA Lg Lg 22 23 01.6
4.9nm,0.3s,baz=232,slow=19,SNR=1.8
PLCA Paso Flores 6.02 164 *e*Pn **Pn 22 21 28.2 -0.4**
TRQA Tornquist 9.19 113 *e*Pn **Pn 22 22 14.7 +2.7**
CPUP Villa Florida 15.78 61 *e*P **Pn 22 23 43.1 +1.4**
CPUP Villa Florida 15.78 61 Pn **Pn 22 23 43.4 +1.7**
1.1nm,0.3s,baz=221,slow=14,SNR=2.1
CPUP Villa Florida 15.78 61 *e*Pn **Pn 22 23 43.0 +1.4**
LPAZ La Paz 19.04 14 *e*P **P 22 24 20.4 -1.9**
LPAZ La Paz 19.04 14 P **P 22 24 23.8 +1.5**
1.2nm,0.3s,baz=183,slow=4.7,SNR=9.1
LPAZ La Paz 19.04 14 *e*P **P 22 24 20.4 -1.9**
LPAZ *e*Pn **Pn 22 24 22.4 -0.7**
EFI East Falkland 19.77 152 *e*P **P 22 24 27.2 -2.2**
EFI pmax pmax
comp=Z,462nm,2.2s
EFI East Falkland 19.77 152 *e*P **P 22 24 27.2 -2.2**
comp=Z,462nm,2.2s
USHA Ushuaia 20.10 173 P **P 22 24 33.8 +0.8**
comp=Z,46nm,0.8s,baz=4.1,slow=7.9,SNR=16
USHA LR LR 22 33 21.3
comp=Z,2μm,18.4s,baz=328,slow=40
SIV San Ignacio 21.58 32 P **P 22 24 48.5 -0.8**
comp=Z,28nm,0.8s,baz=225,slow=10,SNR=8.9
NNA Nana 23.17 350 P **P 22 25 05.8 -0.4**
comp=Z,9.9nm,0.7s,baz=200,slow=8.8,SNR=5.0
SAML Samuel 27.32 21 *e*P **P 22 25 45.2 +0.8**
comp=Z,34nm,1.3s
BDFB Brasilia 29.34 55 *e*P **P 22 26 01.2 -1.4**
BDFB Brasilia 29.34 55 P **P 22 26 01.6 -1.0**
comp=Z,6.6nm,0.6s,baz=210,slow=8.1,SNR=3.4
BDFB LR LR 22 39 34.6
comp=Z,2μm,18.2s,baz=216,slow=40
BDFB Brasilia 29.34 55 *e*P **P 22 26 01.2 -1.4**
PMSA Palmer Station 30.31 173 P **P 22 26 10.2 -0.4**
comp=Z,15nm,0.8s,baz=151,slow=23,SNR=5.9
PMSA LR LR 22 36 38.9
comp=Z,902nm,19.1s,baz=314,slow=33
HOPE Hope Point 31.74 139 *e*P **P 22 26 23.6 +0.3**
comp=Z,153nm,1.5s
HOPE LR LR
comp=Z,2μm,18.9s
OTAV Otavalo 35.41 350 *e*P **P 22 26 56.5 +0.3**
comp=Z,15nm,1.1s
ROSC El Rosal 39.62 357 *e*P **P 22 27 31.1 -0.6**
SDV Santo Domingo 43.64 3 *e*P **P 22 28 03.8 -0.7**
comp=Z,20nm,1.0s
RCBR Riachuelo 44.62 58 P **P 22 28 12.3 0.0**
comp=Z,5.6nm,0.8s,baz=228,slow=14,SNR=4.0
RCBR Riachuelo 44.62 58 *e*P **P 22 28 11.8 -0.4**
comp=Z,45nm,1.4s
RCBR *e*P **P 22 28 12.3 0.0**
RCBR LR LR
comp=Z,3μm,19.0s
PCRV Puerto La Cruz 45.53 11 P **P 22 28 19.0 -0.4**
comp=Z,24nm,0.9s,baz=171,slow=1.5,SNR=3.8
GRGR Grenville 47.99 15 PFAKE 22 28 50.0 +11
GRGR LR LR
comp=Z,700nm,18.0s
VNA3 Neumayer Olymp 48.70 157 P **P 22 28 44.8 +1.4**
VNA2 Neumayer--Watz 49.36 157 P **P 22 28 49.0 +0.4**
SNAA Sanae 50.92 157 P **P 22 29 01.3 +0.9**
SNAA Sanae 50.92 157 *e*P **P 22 29 00.8 +0.3**
SNAA pmax pmax
comp=Z,59nm,1.1s
SNAA Sanae 50.92 157 P **P 22 29 00.5 0.0**
comp=Z,15nm,0.9s,baz=287,slow=6.0,SNR=14
SNAA Sanae 50.92 157 *e*P **P 22 29 00.8 +0.3**
comp=Z,59nm,1.1s
CRPR Cabo Rojo, PR 52.93 7 *e*P **P 22 29 14.8 -1.1**
comp=Z,57nm,1.4s
SEUS St. Eustatius 52.97 12 PFAKE 22 29 30.0 +14
SEUS LR LR
comp=Z,800nm,19.2s
SABA Saba 53.05 11 PFAKE 22 29 30.0 +13
SABA LR LR
comp=Z,2μm,20.5s
CELP Cerrillos 53.05 7 *e*P **P 22 29 16.5 -0.3**
LRS Lares 53.24 7 *e*P **P 22 29 17.1 -1.2**
CBYP Canovanas 53.33 8 *e*P **P 22 29 18.3 -0.6**
comp=Z,20nm,0.9s
SMRT St. Maarten 53.50 11 PFAKE 22 29 30.0 +10
SMRT LR LR
comp=Z,900nm,19.6s
GTBY Guantanamo Bay 54.62 357 *e*P **P 22 29 27.6 -0.6**
comp=Z,26nm,1.0s
RKT Rikitea 54.92 265 *e*T T 23 28 32.3
comp=Z,1.6nm,0.3s
QSPA South Pole Qui 55.29 180 P **P 22 29 33.8 +1.0**
comp=Z,13nm,0.8s,baz=159,slow=1.9,SNR=8.8
QSPA South Pole Qui 55.29 180 *e*P **P 22 29 33.6 +0.8**
comp=Z,187nm,2.3s
QSPA *e*P **P 22 29 33.8 +1.0**
NVL N'lazarevskaya 55.67 156 *e*P **P 22 29 36.8 +1.5**
NVL pmax pmax
comp=Z,28nm,0.9s
TEIG Tepich 56.83 342 P **P 22 29 44.1 0.0**
comp=Z,21nm,0.6s,baz=252,slow=22,SNR=5.6
TEIG Tepich 56.83 342 *e*P **P 22 29 43.8 -0.3**
comp=Z,88nm,1.4s
H06S1 SOCORRO T 64.57 320 T T 23 39 42.8
SNR=13
SYO Syowa Base 65.19 158 *e*P **P 22 30 39.0 -1.3**
BRAL Brewton 66.99 347 *e*P **P 22 30 51.7 -0.6**
comp=Z,209nm,1.2s
834A Tilden 67.32 335 P **P 22 30 54.8 +0.3**
baz=68
735A Kenedy 67.74 336 P **P 22 30 57.6 +0.5**
baz=68
833A Chaparral WMA, 67.79 335 P **P 22 30 58.1 +0.7**
baz=68
832A Faith Ranch, C 67.96 334 P **P 22 30 58.9 +0.4**
baz=68
636A Smothers Creek 68.08 337 P **P 22 30 59.4 +0.2**
baz=68
SACV Santiago Islan 68.08 52 PFAKE 22 31 10.0 +10
SACV LR LR
comp=Z,700nm,20.9s
MEH Mehetia 68.17 263 *e*T T 23 45 05.5
comp=Z,20nm,0.3s
TVO Taravao 69.18 262 *e*T T 23 46 21.5
comp=Z,1.3nm,0.3s
338A Crockett 69.30 339 P **P 22 31 08.6 +1.8**
baz=70
PPT2 Papeete2 69.54 262 *e*LR LR 22 52 05.8
comp=Z,733nm,24.5s
237A Washetta, Mont 70.05 339 P **P 22 31 12.5 +1.2**
baz=70
530A J-C Ranch, Com 70.15 334 P **P 22 31 13.0 +0.9**
baz=70
334A Lometa 70.17 337 P **P 22 31 13.5 +1.3**
baz=70
LTX Lajitas 70.29 332 *e*P **P 22 31 13.4 +0.3**
LTX Lajitas 70.29 332 *e*P **P 22 31 13.4 +0.3**
TXAR Lajitas Array 70.29 332 P **P 22 31 13.4 +0.3**
comp=Z,4.0nm,0.7s,baz=296,slow=37,SNR=2.9
333A Richland Sprin 70.41 336 P **P 22 31 15.5 +1.8**
baz=71
WHTX Lake Whitney 70.53 338 P **P 22 31 14.6 +0.2**
baz=71
234A Clairette 70.76 337 P **P 22 31 16.4 +0.6**
baz=71
331A San Angelo 70.88 335 P **P 22 31 17.4 +0.9**
baz=71
233A Rising Star 71.02 337 P **P 22 31 17.7 +0.4**
baz=71
330A Mertzon 71.23 335 P **P 22 31 19.4 +0.7**
baz=72
231A Bronte 71.41 335 P **P 22 31 20.3 +0.5**
baz=72
133A Hamilton Ranch 71.56 337 P **P 22 31 21.1 +0.5**
baz=72
329A Wagon Wheel Ra 71.59 334 P **P 22 31 21.6 +0.7**
baz=72
Z35A Perchaven, San 71.72 339 P **P 22 31 22.2 +0.7**
baz=72
UALR University of 71.75 343 PFAKE 22 31 30.0 +8.3
UALR LR LR
comp=Z,200nm,18.2s
ABTX Abilene, Hawle 71.82 336 P **P 22 31 22.2 0.0**
baz=72
TZTN Tazewell 71.84 351 PFAKE 22 31 30.0 +7.8
TZTN LR LR
comp=Z,500nm,19.2s
229A Bryant Ranch, 71.96 334 P **P 22 31 23.7 +0.6**
baz=72
WVT Waverly 72.11 347 *e*P **P 22 31 23.5 -0.3**
WVT pmax pmax
comp=Z,35nm,0.8s
WVT Waverly 72.11 347 *e*P **P 22 31 23.5 -0.3**
comp=Z,35nm,0.8s
228A UT Block 9, Go 72.38 334 P **P 22 31 25.6 0.0**
baz=73
BBTS Babate 72.61 57 P **P 22 31 28.1 +0.9**
comp=Z,15nm,0.8s,baz=153,slow=1.8,SNR=3.4
Y33A Hilltop Ranch, 72.76 338 P **P 22 31 28.3 +0.5**
baz=73
128A Castleberry Fa 72.80 334 P **P 22 31 28.8 +0.7**
baz=73
Z30A Sanderson Ranc 72.92 335 P **P 22 31 29.1 +0.3**
baz=73
Y32A R-V Farms, Ver 73.02 337 P **P 22 31 30.2 +0.9**
baz=73
X34A Smith Ranch, M 73.07 339 P **P 22 31 31.6 +2.0**
baz=73
Z29A Hungry Hill Ra 73.10 335 P **P 22 31 29.8 -0.1**
baz=73
PBMO Poplar Bluff 73.25 345 PFAKE 22 31 40.0 +9.5
PBMO LR LR
comp=Z,1μm,18.7s
Y29A Porterfield Fa 73.63 335 P **P 22 31 33.5 +0.5**
baz=74
W33A Caddo, Fort Co 73.77 338 P **P 22 31 35.3 +1.6**
baz=74
X30A Coker Ranch, T 73.89 336 P **P 22 31 35.3 +0.8**
baz=74
Z26A Caprock 73.93 333 P **P 22 31 35.7 +0.9**
baz=74
W32A Sentinel 73.99 338 P **P 22 31 35.4 +0.4**
baz=74
SUR Sutherland 74.86 119 P **P 22 31 41.5 +0.8**
comp=Z,16nm,0.9s,baz=226,slow=5.9,SNR=7.1
SUR Sutherland 74.86 119 *e*P **P 22 31 41.9 +1.3**
comp=Z,570nm,2.7s
W27A Bowe Ranch, En 75.20 335 P **P 22 31 42.4 +0.2**
baz=76
LUPA Lehigh Univers 75.22 358 *e*P P 22 31 39.1 -2.8
comp=Z,14nm,1.0s
BRNJ Basking Ridge 75.28 359 *e*P **P 22 31 44.1 +1.8**
comp=Z,508nm,1.8s
BRNJ LR LR
comp=Z,1μm,19.6s
W26A Owens Ranch, T 75.48 334 P **P 22 31 45.0 +1.2**
baz=76
DBIC Dimbokro 76.02 71 *e*P **P 22 31 46.7 -0.5**
DBIC pmax pmax
comp=Z,29nm,1.0s
DBIC Dimbokro 76.02 71 P **P 22 31 46.9 -0.3**
comp=Z,14nm,0.7s,baz=215,slow=6.5,SNR=10

DBIC Dimbokro 76.02 71 eP P 22 31 46.7 -0.5
comp=Z,29nm,1.0s
BRYW Bryant College 76.51 1 PFAKE 22 32 00.0 +11
BRYW LR LR
comp=Z,2µm,21.7s
R33A Olander Ranch, 76.56 340 P P 22 31 50.2 +0.5
baz=77
T28A Walsh 76.74 336 P P 22 31 51.6 +0.7
baz=77
S29A Ulysses 76.87 337 P P 22 31 52.7 +1.1
baz=77
R32A Long Quarter, 76.88 339 P P 22 31 52.0 +0.5
baz=77
T27A Campo 76.89 336 P P 22 31 52.3 +0.6
baz=77
HRV Adam Dziewonsk 77.09 1 eP P 22 31 54.0 +1.4
HRV pmax pmax
comp=Z,182nm,1.4s
HRV Adam Dziewonsk 77.09 1 eP P 22 31 54.0 +1.4
comp=Z,182nm,1.4s
S28A Manter 77.10 337 P P 22 31 53.1 +0.2
baz=77
V22A San Miguel Ran 77.38 332 P P 22 31 56.5 +1.8
baz=77
X18A Snowflake 77.40 329 P P 22 31 55.1 +0.3
baz=78
T25A Trinidad 77.54 335 P P 22 31 57.0 +1.5
baz=78
S26A Kim 77.65 335 P P 22 31 56.8 +0.8
baz=78
R28A Tribune 77.75 337 P P 22 31 57.5 +1.0
baz=78
U22A Llaves 77.76 332 P P 22 31 57.5 +0.7
baz=78
W18A Petrified Fore 77.81 330 eP P 22 31 56.6 -0.5
comp=Z,32nm,1.1s
W18A Petrified Fore 77.81 330 P P 22 31 57.7 +0.7
baz=78
T24B San Luis 77.82 334 P P 22 31 58.5 +1.3
baz=78
Q30A Quinter 77.84 338 P P 22 31 57.8 +0.8
baz=78
X16A Lo Mia Camp, P 77.94 328 P P 22 31 58.6 +0.8
baz=78
Q29A Oakley 77.99 338 P P 22 31 58.2 +0.4
baz=78
R27A Eads 78.02 336 P P 22 31 59.0 +1.0
baz=78
P31A Stockton 78.09 339 P P 22 31 59.2 +0.9
baz=78
Y14A Wickenburg 78.23 327 P P 22 32 00.5 +1.3
baz=78
R26A Arlington 78.25 336 P P 22 32 00.5 +1.1
baz=79
S24A Houchin Ranch, 78.28 334 P P 22 32 00.6 +0.9
baz=79
GLA Glamis 78.33 325 P P 22 32 00.6 +0.8
baz=79
S23A Nye Farm, Mont 78.62 334 P P 22 32 01.3 -0.2
baz=79
P29A Atwood 78.63 338 P P 22 32 02.0 +0.7
baz=79
O31A Woolen Ranch, 78.66 340 P P 22 32 02.9 +1.5
baz=79
SCIA State Center 78.76 345 PFAKE 22 32 10.0 +8.1
SCIA LR LR
comp=Z,600nm,18.0s
R24A Sanders Place, 78.77 335 P P 22 32 03.5 +1.2
baz=79
P28A Saint Francis 78.86 338 P P 22 32 04.0 +1.3
baz=79
CASY Casey 79.06 181 eP P 22 32 04.1 +0.7
comp=Z,38nm,0.9s
BC3 Big Chuckawall 79.12 325 P P 22 32 04.3 0.0
baz=79
MVCO Mesa Verde 79.13 332 P P 22 32 04.3 0.0
baz=79
N31A Bailey Ranch, 79.18 340 P P 22 32 05.4 +1.1
baz=80
PTN Potsdam (NY) 79.18 358 eP P 22 32 05.5 +1.4
PTN pmax pmax
comp=Z,102nm,0.8s
PTN Potsdam (NY) 79.18 358 eP P 22 32 05.5 +1.4
comp=Z,102nm,0.8s
LONY Lake Ozonia 79.22 359 eP P 22 32 03.0 -1.3
comp=Z,145nm,1.4s
P26A Davis Ranch, A 79.36 336 P P 22 32 06.1 +0.7
baz=80
IRM Iron Mountain 79.40 325 P P 22 32 06.4 +0.8
baz=80
Q24A Divide 79.43 335 P P 22 32 06.6 +0.5
baz=80
TSUM Tsumeb 79.50 106 P P 22 32 07.0 +0.2
comp=Z,4.4nm,0.8s,baz=232,slow=8.7,SNR=6.0
TSUM Tsumeb 79.50 106 eP P 22 32 05.8 -1.0
comp=Z,28nm,0.9s
TSUM eP P 22 32 07.0 +0.2
TSUM LR LR
comp=Z,1µm,20.0s
BGNE Belgrade 79.50 341 PFAKE 22 32 20.0 +14
BGNE LR LR
comp=Z,900nm,21.4s
PFO Pinyon Flat Ob 79.56 324 eP P 22 32 07.0 +0.3
PFO pmax pmax
comp=Z,28nm,1.4s
PFO Pinyon Flat Ob 79.56 324 P P 22 32 07.0 +0.3
comp=Z,7.9nm,0.8s,baz=139,slow=3.1,SNR=4.7
PFO Pinyon Flat Ob 79.56 324 eP P 22 32 07.0 +0.3
comp=Z,28nm,1.4s
P25A Willow Gulch B 79.59 336 P P 22 32 08.1 +1.4
baz=80
W13A Hualapai Mount 79.59 327 P P 22 32 07.8 +0.9
baz=80
O26A Horse Wrangler 79.96 337 P P 22 32 09.8 +1.1
baz=80
U15A North Rim 80.01 329 P P 22 32 10.5 +1.3
baz=80
O25A Wiggins 80.11 336 P P 22 32 11.0 +1.5
baz=80
PV05 Paradox Valley 80.11 332 eP P 22 32 09.5 -0.1
BOSA Boshof 80.13 118 eP P 22 32 09.4 -0.7
BOSA pmax pmax
comp=Z,55nm,0.9s
BOSA MLR MLR
comp=Z,600nm,21.9s
BOSA Boshof 80.13 118 P P 22 32 10.1 0.0
comp=Z,35nm,0.8s,baz=240,slow=4.5,SNR=24
BOSA Boshof 80.13 118 eP P 22 32 09.3 -0.7
comp=Z,54nm,0.9s
BOSA eP P 22 32 10.1 0.0
BOSA LR LR
comp=Z,600nm,21.9s
N27A Anderson Farm, 80.23 337 P P 22 32 11.1 +1.1
baz=81
HEC Hector,Ludlow 80.50 325 P P 22 32 12.8 +1.2
baz=81
KNB Kanab 80.73 329 PFAKE 22 32 20.0 +7.0
KNB LR LR
comp=Z,200nm,18.4s
TUQ Turquoise Moun 80.81 326 P P 22 32 13.5 +0.1
baz=81
N24A Carr 81.01 336 P P 22 32 14.9 +0.6
baz=81
M26A McRoberts Ranc 81.02 337 P P 22 32 14.7 +0.4
baz=81
K30A Basset 81.08 340 P P 22 32 15.6 +1.1
baz=81
GSC Goldstone 81.11 325 P P 22 32 15.6 +0.7
baz=81
ECSD EROS Data Cent 81.28 343 eP P 22 32 15.3 -0.2
comp=Z,30nm,0.8s
ECSD EROS Data Cent 81.28 343 P P 22 32 16.0 +0.5
baz=82
SHPR Sheep Range 81.34 327 eP P 22 32 16.9 +0.7
CCUT Cedar City 81.41 328 eP P 22 32 17.4 +0.7
comp=Z,14nm,1.0s
SRU San Rafael 81.57 331 eP P 22 32 17.6 +0.2
SRU pmax pmax
comp=Z,27nm,1.2s
SRU San Rafael 81.57 331 eP P 22 32 17.6 +0.2
comp=Z,27nm,1.2s
ARUT Antelope Range 81.65 329 eP P 22 32 17.5 -0.3
ARUT Antelope Range 81.65 329 eP P 22 32 17.5 -0.3
L25A Engebretsen Ra 81.90 337 P P 22 32 19.5 +0.6
baz=82
J29A Okreek 81.95 340 P P 22 32 20.0 +0.9
baz=82
KHZ Kahutara 82.04 223 PFAKE 22 32 30.0 +10
KHZ LR LR
comp=Z,2µm,22.0s
FURC Furnace Creek, 82.09 325 P P 22 32 21.1 +1.2
baz=82
ISA Isabella 82.20 324 P P 22 32 21.6 +0.9
baz=82
BKZ Black Stump Fm 82.41 227 PFAKE 22 32 30.0 +8.1
BKZ LR LR
comp=Z,800nm,18.0s
LBTB Lobatse 82.42 115 eP P 22 32 20.9 -1.4
LBTB pmax pmax
comp=Z,37nm,0.8s
LBTB MLR MLR
comp=Z,800nm,19.3s
LBTB Lobatse 82.42 115 P P 22 32 22.3 0.0
comp=Z,22nm,0.7s,baz=259,slow=6.3,SNR=12
LBTB Lobatse 82.42 115 eP P 22 32 20.9 -1.4
comp=Z,37nm,0.8s
LBTB LR LR
comp=Z,800nm,19.3s
URZ Urewera 82.60 228 PFAKE 22 32 30.0 +7.1
URZ LR LR
comp=Z,700nm,21.0s
WHZ Wether Hill Ro 82.69 218 PFAKE 22 32 30.0 +6.8
WHZ LR LR
comp=Z,1µm,18.9s
I28A Midland 82.74 340 P P 22 32 23.3 +0.2
baz=83
MPU Maple Canyon 82.78 331 PFAKE 22 32 30.0 +6.3
MPU LR LR
comp=Z,1µm,18.8s
K23A Bowen Ranch, D 82.98 336 P P 22 32 25.7 +1.1
baz=83
H29A Onida 83.05 341 P P 22 32 24.8 +0.1
baz=83
R11A Troy Canyon, C 83.05 327 eP P 22 32 25.6 +0.5
comp=Z,8.7nm,0.9s
R11A LR LR
comp=Z,700nm,20.5s
R11A Troy Canyon, C 83.05 327 P P 22 32 25.9 +0.8
baz=83
J24A Dixon Ranch, L 83.18 337 P P 22 32 26.6 +1.0
baz=84
K22A Casper 83.19 336 P P 22 32 26.6 +0.9
baz=84
JLU Jordanelle 83.21 331 PFAKE 22 32 40.0 +14
JLU LR LR
comp=Z,500nm,18.7s
H28A Mission Ridge 83.31 340 P P 22 32 27.0 +0.9
baz=84
DCZ Deep Cove 83.38 218 PFAKE 22 32 40.0 +13
DCZ LR LR
comp=Z,2µm,21.0s
DUG Dugway 83.41 330 eP P 22 32 27.3 +0.4
DUG pmax pmax
comp=Z,19nm,1.1s
DUG MLR MLR
comp=Z,400nm,18.0s
DUG Dugway 83.41 330 eP P 22 32 27.3 +0.4
comp=Z,20nm,1.1s
DUG LR LR
comp=Z,400nm,18.0s
DUG Dugway 83.41 330 P P 22 32 27.5 +0.6
baz=84
K21A Alcova 83.42 335 P P 22 32 27.6 +0.6
baz=84
TPH Tonopah 83.56 326 eP P 22 32 27.6 -0.2
TPH pmax pmax
comp=Z,25nm,1.5s
TPH MLR MLR
comp=Z,300nm,18.4s
TPH Tonopah 83.56 326 eP P 22 32 27.6 -0.2
comp=Z,25nm,1.5s
TPH LR LR
comp=Z,300nm,18.4s
F30A Leola 83.85 342 P P 22 32 28.6 -0.2
baz=84
F29A Eureka 84.06 341 P P 22 32 30.7 +0.8
baz=84
HWUT Hardware Ranch 84.11 332 eP P 22 32 30.9 +0.4
comp=Z,27nm,1.0s
HWUT LR LR
comp=Z,300nm,18.0s
SPUT South Promonto 84.21 331 eP P 22 32 31.3 +0.3
comp=Z,25nm,1.1s
SPUT LR LR
comp=Z,499nm,18.2s
EYMN Ely 84.22 347 PFAKE 22 32 40.0 +9.3
EYMN LR LR
comp=Z,700nm,22.0s
F28A McLaughlin 84.33 341 P P 22 32 32.3 +1.0
baz=85
NV01 Mina Array Sit 84.34 326 eP P 22 32 32.2 +0.4
NVAR Mina Array Bea 84.34 326 P P 22 32 32.4 +0.5
comp=Z,3.7nm,0.8s,baz=162,slow=5.8,SNR=9.3
J20A Shoshoni 84.35 335 P P 22 32 32.7 +1.1
baz=85
BW06 Boulder Array 84.36 334 eP P 22 32 31.7 -0.1
BW06 LR LR
comp=Z,500nm,18.0s
PD31 Pinedale Array 84.36 334 eP P 22 32 31.7 -0.1
PDAR Pinedale Array 84.36 334 P P 22 32 31.7 -0.1
comp=Z,4.0nm,1.0s,baz=174,slow=2.4,SNR=4.2
G25A Newell 84.48 339 P P 22 32 32.4 +0.3
baz=85
J19A Crowheart 84.61 334 P P 22 32 33.4 +0.4
baz=85
F27A Lemmon 84.69 340 P P 22 32 33.5 +0.4
baz=85
ELK Elko 84.88 329 eP P 22 32 34.1 -0.4
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK MLR MLR
comp=Z,400nm,18.0s
ELK Elko 84.88 329 P P 22 32 34.4 -0.1
comp=Z,5.8nm,0.9s,baz=194,slow=3.2,SNR=5.4
ELK Elko 84.88 329 eP P 22 32 34.1 -0.4
comp=Z,6.5nm,0.9s
ELK LR LR
comp=Z,400nm,18.0s
I20A Worland 84.89 335 P P 22 32 34.9 +0.6
baz=85
DRLN Deer Lake 84.92 10 eP P 22 32 34.8 +0.6
comp=Z,408nm,2.3s
AHID Auburn Hatcher 84.93 333 PFAKE 22 32 50.0 +15
AHID LR LR
comp=Z,400nm,19.0s
D30A Buchanan 84.97 342 P P 22 32 35.2 +0.7
baz=85
TOA0 Torodi Ar. Sit 85.06 70 eP P 22 32 35.3 -0.4
TOA0 eP P 22 32 35.3 -0.4
TORD Torodi Ar. Bea 85.06 70 P P 22 32 35.3 -0.4
comp=Z,14nm,0.7s,baz=270,slow=5.4,SNR=32
H20A Greybull 85.31 335 P P 22 32 36.0 -0.4
baz=86
REDW Red Top Meadow 85.35 333 PFAKE 22 32 50.0 +13
REDW LR LR
comp=Z,800nm,20.6s
AGMN Agassiz Nation 85.42 345 PFAKE 22 32 50.0 +13
AGMN LR LR
comp=Z,800nm,21.0s
C30A Mose, Pekin 85.46 343 P P 22 32 36.9 0.0
baz=86
TPAW Teton Pass 85.50 333 PFAKE 22 32 50.0 +12
TPAW LR LR
comp=Z,400nm,18.5s
FXWY Fox Creek 85.65 333 PFAKE 22 32 50.0 +12
FXWY LR LR
comp=Z,600nm,21.4s
H19A Powell 85.81 335 P P 22 32 39.4 +0.4
baz=86
IMW Indian Meadow 85.84 333 PFAKE 22 32 50.0 +11
IMW LR LR
comp=Z,200nm,20.9s
F22A Rosebud 85.88 337 P P 22 32 39.1 -0.1
baz=86
FLWY Flagg Ranch 85.91 334 eP P 22 32 40.9 +1.3
comp=Z,40nm,1.4s
FLWY LR LR
comp=Z,400nm,20.2s
E24A Baker 85.98 339 P P 22 32 39.8 +0.2
baz=86
G20A Bridger 86.03 336 P P 22 32 39.4 -0.6
baz=86
H18A Shoshone NF, C 86.06 335 P P 22 32 40.1 -0.2
baz=86
B30A Myrvik Farm, E 86.12 343 P P 22 32 40.7 +0.6
baz=86
H17A Grant Village 86.14 334 PFAKE 22 32 50.0 +9.3
H17A LR LR
comp=Z,600nm,20.0s
F21A Absaloka Mine, 86.20 337 P P 22 32 41.2 +0.4
baz=86
LKWY Lake 86.22 334 PFAKE 22 32 50.0 +8.9
LKWY LR LR
comp=Z,600nm,18.0s
D25A Fairfield 86.23 340 P P 22 32 41.8 +1.0
baz=87
RLMT Red Lodge 86.31 335 PFAKE 22 32 50.0 +8.5
RLMT LR LR
comp=Z,800nm,22.0s
B29A Wagenman Farm, 86.38 343 P P 22 32 42.1 +0.7
baz=87
YNR Norris Junctio 86.45 334 PFAKE 22 32 50.0 +7.8
YNR LR LR
comp=Z,1µm,21.3s
C26A Wahner Farm, P 86.50 341 P P 22 32 43.0 +0.9
baz=87
YMR Madison River 86.52 334 PFAKE 22 32 50.0 +7.5
YMR LR LR
comp=Z,997nm,19.6s
B28A Dugan Ranch, T 86.62 342 P P 22 32 42.1 -0.5
baz=87
LAO LASA Array 86.68 338 PFAKE 22 32 50.0 +6.9
LAO LR LR
comp=Z,500nm,22.0s
C25A Freed Ranch, W 86.72 340 P P 22 32 43.3 +0.1
baz=87
A29A Manning Farm, 86.78 343 P P 22 32 43.4 0.0
baz=87
D23A Lindsay 86.80 338 P P 22 32 44.1 +0.5
baz=87
B27A Peters Farms, 86.81 341 P P 22 32 43.9 +0.3
baz=87
E21A Keefer Ranch, 86.82 337 P P 22 32 43.5 -0.2
baz=87
HLID Hailey 86.89 331 eP P 22 32 45.2 +0.9
comp=Z,8.3nm,0.9s
HLID LR LR
comp=Z,400nm,19.0s
HLID Hailey 86.89 331 P P 22 32 45.2 +0.9
baz=87
C24A Savage 86.89 339 P P 22 32 44.7 +0.6
baz=87
E20A Meyer Farm, Mu 87.13 336 P P 22 32 45.3 +0.1
baz=88
E19A Rath Farm, Rou 87.31 336 P P 22 32 46.4 +0.3
baz=88
MFID Camas Ranch 87.34 330 PFAKE 22 33 00.0 +14
MFID LR LR
comp=Z,500nm,19.3s
MCMT McKenzie Canyo 87.35 333 eP P 22 32 46.7 +0.1
C23A Lambert 87.36 339 P P 22 32 47.1 +0.8
baz=88
C22A Vida 87.52 338 P P 22 32 47.4 +0.4
baz=88
BOZ Bozeman (W) 87.60 334 PFAKE 22 33 00.0 +12
BOZ LR LR
comp=Z,600nm,20.0s
D20A Manuel Ranch, 87.65 337 P P 22 32 48.3 +0.5
baz=88
DGMT Dagmar 87.67 340 eP P 22 32 48.6 +0.8
comp=Z,59nm,0.8s
DGMT Dagmar 87.67 340 P P 22 32 48.3 +0.5
baz=88
DLMT Dillon 87.71 333 PFAKE 22 33 00.0 +12
DLMT LR LR
comp=Z,600nm,20.7s
MOD Modoc 88.04 327 eP P 22 32 50.4 +0.5
comp=Z,10nm,0.9s
WDC Whiskeytown Da 88.04 324 eP P 22 32 49.3 -0.4
WDC pmax pmax
comp=Z,64nm,1.9s
WDC Whiskeytown Da 88.04 324 eP P 22 32 49.3 -0.4
comp=Z,64nm,1.9s
M04C Macdoel 88.65 326 P P 22 32 53.2 +0.4
baz=89
K05A Summer Lake 88.96 327 eP P 22 32 55.4 +1.1
comp=Z,22nm,1.0s
YBH Yreka Blue Hor 89.02 325 eP P 22 32 54.0 -0.4
YBH pmax pmax
comp=Z,173nm,2.8s
YBH Yreka Blue Hor 89.02 325 P P 22 32 54.4 0.0
comp=Z,5.4nm,1.0s,baz=169,slow=5.2,SNR=6.6
YBH Yreka Blue Hor 89.02 325 eP P 22 32 54.0 -0.4
comp=Z,173nm,2.8s
I07A Izee 89.43 328 eP P 22 32 57.2 +0.9
comp=Z,113nm,2.7s
J05D Fort Rock, OR 89.56 327 P P 22 32 57.9 +0.9
baz=90
PINOR Pine Mountain 89.81 327 eP P 22 32 56.4 -1.5
comp=Z,111nm,2.4s
LSZ Lusaka 90.04 109 PFAKE 22 33 10.0 +10
LSZ LR LR
comp=Z,800nm,20.0s
E09A Wood Farm, Sta 90.82 331 PFAKE 22 33 10.0 +7.4
E09A LR LR
comp=Z,500nm,20.0s
NEW Newport 91.84 332 eP P 22 33 05.4 -2.0
NEW pmax pmax
comp=Z,13nm,1.1s
NEW MLR MLR
comp=Z,600nm,20.0s
NEW Newport 91.84 332 eP P 22 33 05.4 -2.0
comp=Z,13nm,1.1s
NEW LR LR
comp=Z,600nm,20.0s
C09A Chrisman Ranch 91.91 331 eP P 22 33 06.2 -1.5
comp=Z,36nm,1.7s
LON Longmire 92.53 329 eP P 22 33 11.4 +0.8
LON pmax pmax
comp=Z,53nm,2.0s
LON Longmire 92.53 329 eP P 22 33 11.4 +0.8
comp=Z,53nm,2.0s
DZM Mont Dzumac 100.22 234 eLR LR 23 06 12.0
comp=Z,528nm,27.6s
ARMA Armidale 102.71 218 PFAKE 22 34 10.0 +13
ARMA LR LR
comp=Z,500nm,19.6s
YKA Yellowknife Ar 102.78 341 P Pdif 22 33 55.5 -0.9
comp=Z,0.6nm,0.7s,baz=144,slow=5.1,SNR=5.4
DLBC Dease Lake 104.58 333 PFAKE 22 34 20.0 +15
DLBC LR LR
comp=Z,400nm,19.3s
EIDS Eidsvold 107.06 221 PFAKE 22 38 40.0
EIDS LR LR
comp=Z,300nm,19.6s
BBOO Buckleboo 107.38 205 PFAKE 22 38 40.0
BBOO LR LR
comp=Z,3µm,18.9s
VLC Villacollemand 108.97 49 PFAKE 22 38 40.0
VLC LR LR
comp=Z,600nm,18.0s
WLF Walferdange 109.30 42 PFAKE 22 38 40.0
WLF LR LR
comp=Z,1µm,21.1s
MEM Membach 109.71 42 PFAKE 22 38 40.0
MEM LR LR
comp=Z,858µm,20.0s
STU Stuttgart 110.56 44 PFAKE 22 38 40.0
STU LR LR
comp=Z,600nm,19.0s
BMRM Bremner River 111.92 330 PFAKE 22 38 50.0
BMRM LR LR
comp=Z,500nm,19.4s
FURI Furi 112.57 95 PFAKE 22 38 50.0
FURI LR LR
comp=Z,400nm,20.0s
EGAK Eagle 112.70 334 PFAKE 22 38 50.0
EGAK LR LR
comp=Z,400nm,21.0s
GEC2 GERESS Array S 113.22 46 ePKIKP PKiKP 22 38 36.0 -0.9
GEC2 GERESS Array S 113.22 46 ePKIKP PKiKP 22 38 36.0 -0.9
GERES GERESS Array B 113.22 46 PKP PKiKP 22 38 36.0 -0.9
comp=Z,0.4nm,0.5s,baz=234,slow=4.3,SNR=5.3
KHC Kasperske Hory 113.28 46 PFAKE 22 38 50.0
KHC LR LR
comp=Z,500nm,18.2s
PAX Paxson 113.33 332 PFAKE 22 38 50.0
PAX LR LR
comp=Z,400nm,19.8s
HNR Honiara 113.49 239 PFAKE 22 38 50.0
HNR LR LR
comp=Z,400nm,20.0s

SEW Seward 113.52 328 PFAKE 22 38 50.0
SEW LR LR
comp=Z,1μm,21.3s
KDAK Kodiak Island 113.83 325 PFAKE 22 38 50.0
KDAK LR LR
comp=Z,1μm,18.6s
SML Sawmill 113.89 330 PFAKE 22 38 50.0
SML LR LR
comp=Z,100nm,18.8s
CLL Collm 113.92 43 PFAKE 22 38 50.0
CLL LR LR
comp=Z,600nm,20.0s
PMR Palmer 114.11 329 PFAKE 22 38 50.0 +12
PMR LR LR
comp=Z,500nm,18.2s
RC01 Rabbit Creek A 114.13 329 PFAKE 22 38 50.0 +12
RC01 LR LR
comp=Z,800nm,21.4s
ILAR Eielson Array 114.78 333 PKP PKPdf 22 38 38.6 -0.7
comp=Z,0.5nm,0.8s,baz=189,slow=0.8,SNR=4.3
RUE Ruedersdorf 114.87 42 PFAKE 22 38 50.0 +10
RUE LR LR
comp=Z,1μm,21.0s
COLA College 115.19 333 PFAKE 22 38 50.0 +10
COLA LR LR
comp=Z,700nm,19.0s
TRF Thorofare Moun 115.47 331 ePKPdf PKPdf 22 38 40.2 -0.6
TRF LR LR
comp=Z,800nm,19.7s
MORC Moravsky Berou 115.89 46 PFAKE 22 38 50.0 +8.1
MORC LR LR
comp=Z,900nm,19.0s
PPLA Purkeypile 115.99 330 PFAKE 22 38 50.0 +8.2
PPLA LR LR
comp=Z,1μm,21.1s
CAST Castle Rocks 116.17 330 PFAKE 22 38 50.0 +8.0
CAST LR LR
comp=Z,400nm,18.5s
AS01 Alice Springs 116.45 207 ePKPdf PKPdf 22 38 42.8 -1.2
SVW2 Sparrevohn 116.67 327 PFAKE 22 38 50.0 +7.0
SVW2 LR LR
comp=Z,900nm,18.6s
COLD Coldfoot 117.13 335 PFAKE 22 39 00.0 +16
COLD LR LR
comp=Z,400nm,21.9s
NB200 NORSAR Array S 117.13 33 ePKPdf PKPdf 22 38 44.1 +0.2
NOA NORSAR Array B 117.13 33 PKP PKPdf 22 38 44.2 +0.2
comp=Z,1.1nm,0.9s,baz=244,slow=4.0,SNR=3.1
IM04 Indian Mountai 117.91 333 ePKPdf PKPdf 22 38 45.7 +0.4
WRA Warramunga Arr 119.66 210 PKP PKPdf 22 38 48.4 -1.8
comp=Z,3.6nm,0.8s,baz=161,slow=1.7,SNR=17
WRAB Tennant Creek 119.66 210 PFAKE 22 39 00.0 +10
WRAB LR LR
comp=Z,300nm,18.0s
BUR04 Bucovina Ar. S 119.78 51 ePKPdf PKPdf 22 38 49.6 0.0
TIRR Tirgusor 120.78 55 PFAKE 22 39 00.0 +8.6
TIRR LR LR
comp=Z,700nm,21.0s
BR231 Keskin MP Arra 122.20 61 ePKPdf PKPdf 22 38 55.3 +0.8
BR101 Keskin Array S 122.78 62 ePKPdf PKPdf 22 38 55.1 -0.5
BRTR Keskin Array B 122.78 62 PKP PKPdf 22 38 55.1 -0.5
comp=Z,3.2nm,0.8s,baz=190,slow=2.7,SNR=17
MBWA Marble Bar 122.96 194 ePKPdf PKPdf 22 38 54.5 -1.9
MBWA LR LR
comp=Z,500nm,18.0s
KBS Kingsbay 123.01 13 PFAKE 22 39 10.0 +15
KBS LR LR
comp=Z,1μm,18.0s
AK11 Malin Array Si 123.21 48 ePKPdf PKPdf 22 38 54.4 -1.4
AKASG Malin Array Be 123.25 48 PKP PKPdf 22 38 55.2 -0.7
comp=Z,1.1nm,0.5s,baz=266,slow=2.9,SNR=6.6
AKBB Malin Array Si 123.25 48 ePKIKP PKPdf 22 38 55.2 -0.7
AKBB Malin Array Si 123.25 48 ePKPdf PKPdf 22 38 55.2 -0.7
SPA0 Spitsbergen Ar 123.74 14 ePKPdf PKPdf 22 38 55.8 -0.4
SPITS Spitsbergen Ar 123.74 14 PKP PKPdf 22 38 55.8 -0.4
comp=Z,6.3nm,1.0s,baz=270,slow=7.1,SNR=4.4
FIA0 FINESS Array S 124.09 35 ePKIKP PKPdf 22 38 56.6 -0.6
FIA0 FINESS Array S 124.09 35 ePKPdf PKPdf 22 38 56.6 -0.6
FINES FINESS Array B 124.09 35 PKP PKPdf 22 38 56.6 -0.6
comp=Z,1.5nm,0.8s,baz=153,slow=0.9,SNR=4.1
ARA0 ARCESS Array S 125.11 25 ePKPdf PKPdf 22 38 57.8 -1.3
ARCES ARCESS Array B 125.11 25 PKP PKPdf 22 38 57.8 -1.3
comp=Z,10nm,1.1s,baz=288,slow=3.7,SNR=4.0
RAYN Ar Rayn 125.66 84 PFAKE 22 39 10.0 +8.5
RAYN LR LR
comp=Z,4μm,22.0s
KEV Kevo 125.66 25 PFAKE 22 39 10.0 +10
KEV LR LR
comp=Z,3μm,21.0s
LVZ Lovozero 128.37 27 PFAKE 22 39 20.0 +15
LVZ LR LR
comp=Z,2μm,18.0s
OBN Obninsk 128.51 44 i PKIKP PKPdf 22 39 06.0 +0.2
OBN pmax pmax
comp=Z,12nm,1.7s
KIV Kislovodsk 130.47 59 ePKIKP PKPdf 22 39 09.0 -1.1
KIV Kislovodsk 130.47 59 ePKPdf PKPdf 22 39 09.0 -1.1
KLMR Klimovskoe 130.50 37 ePKIKP PKPdf 22 39 09.6 +0.1
KLMR pmax pmax
comp=Z,31nm,1.5s
KBZ Khabaz 130.57 59 PKP PKPdf 22 39 10.8 +0.6
comp=Z,2.8nm,0.8s,baz=247,slow=3.7,SNR=5.2
ZEI Tsey 131.07 61 i PKIKP PKPdf 22 39 11.3 -0.1
ZEI pmax pmax
comp=Z,4.0nm,1.1s
BILL Bilibino 133.44 334 ePKIKP PKPdf 22 39 15.6 +0.7
BILL pmax pmax
comp=Z,3.0nm,1.0s
MMRI Maumere 134.40 201 PFAKE 22 39 30.0 +12
MMRI LR LR
comp=Z,400nm,18.0s
GEYT Alibeck 140.70 71 PKhKP PKPpre 22 39 25.7
comp=Z,1.3nm,0.7s,baz=303,slow=2.9,SNR=2.9
TNTI Ternate 141.17 213 PFAKE 22 39 40.0 +9.2
TNTI LR LR
comp=Z,800nm,19.0s
TIXI Tiksi 141.52 349 PFAKE 22 39 40.0 +10
TIXI LR LR
comp=Z,2μm,21.0s
PMBI Palembang 142.25 176 PFAKE 22 39 40.0 +7.2
PMBI LR LR
comp=Z,800nm,21.0s
TOLI Toli-Toli 144.06 203 PFAKE 22 39 50.0 +14
TOLI LR LR
comp=Z,200nm,21.0s
BKNI Bangkinang 145.06 169 PFAKE 22 39 50.0 +12
BKNI LR LR
comp=Z,700nm,22.0s
GSI Gunungsitoli 145.32 163 ePKPbc PKPab 22 39 39.0 +1.0
POO Poona 146.16 110 eP PKPdf 22 39 39.0 -0.4
POO ⇓ix x 22 42 50.0
comp=Z,40nm,1.0s
KSM Kuching 146.57 186 ePKPdf PKPdf 22 39 39.7 -0.6
KSM LR LR
comp=Z,500nm,21.0s
MYKOM Kota Tinggi 146.85 174 PFAKE 22 39 50.0 +6.3
MYKOM LR LR
comp=Z,700nm,20.0s
PSI Prapat 147.08 165 PKPbc PKPdf 22 39 42.7 +1.4
comp=Z,23nm,0.7s,baz=173,slow=2.1,SNR=13
SBUM Sibu 147.34 189 ePKPbc PKPbc 22 39 44.1 +0.3
BRVK Borovoye 148.29 44 ePKIKP PKPdf 22 39 42.3 +0.4
BRVK Borovoye 148.29 44 ePKPdf PKPdf 22 39 42.3 +0.4
KBL Kabul 148.71 80 ePKPdf PKPdf 22 39 42.0 -1.5
VOSK Vostochnaya 148.80 44 ePKIKP PKPdf 22 39 43.3 +0.5
VOSK Vostochnaya 148.80 44 ePKPdf PKPdf 22 39 43.3 +0.5
LHMI Lhok Sumawe 148.92 160 ePKPdf PKPdf 22 39 44.2 +0.1
HYB Hyderabad 149.03 117 i PKP PKPdf 22 39 47.0 +2.8
IPM Ipoh 149.13 168 ePKPdf PKPdf 22 39 44.4 -0.2
YAK Yakutsk 149.43 339 ePKPdf PKPdf 22 39 45.6 +2.2
KKM Kota Kinabalu 150.07 198 ePKPdf PKPdf 22 39 46.7 +0.6
KKM LR LR
comp=Z,900nm,21.0s
KKAR Karatay Array 150.49 63 ePKIKP PKPdf 22 39 45.6 -0.2
KKAR Karatay Array 150.49 63 ePKPdf PKPdf 22 39 45.6 -0.2
YSS Yuzh-Sakhalins 150.89 305 ePKIKP PKPbc 22 39 51.3 -0.6
YSS e 22 39 58.5
ASAJ Asahikawa 151.45 299 PKPbc PKPbc 22 39 52.4 -0.9
ASAJ Asahikawa 151.45 299 ePKPdf PKPdf 22 39 46.0 -1.2
ASAJ LR LR
comp=Z,799nm,21.3s
EKS2 Erkin-Say 152.91 63 ePKIKP PKPbc 22 39 57.6 +0.8
EKS2 Erkin-Say 152.91 63 ePKPbc PKPbc 22 39 57.6 +0.8
AAK Ala-Archa 153.44 63 ePKIKP PKPdf 22 39 50.1 -0.3
AAK Ala-Archa 153.44 63 ePKPdf PKPdf 22 39 50.1 -0.3
AAK ePKPdf PKPdf 22 39 50.1 -0.3
KURK Kurchatov 153.96 44 ePKIKP PKPdf 22 39 50.4 -0.2
KURK Kurchatov 153.96 44 ePKPdf PKPdf 22 39 50.4 -0.2
KURK LR LR
comp=Z,5μm,21.0s
NVS Novosibirsk 154.04 33 ePKIKP PKPdf 22 39 48.7 -1.9
NVS pmax pmax
comp=Z,16nm,0.9s
KSH Kashi 154.73 70 ePKPbc PKPdf 22 39 52.3 0.0
KSH epPKP PKiKP 22 40 02.3 +1.4
KSH esPKP 22 40 06.0
KSH PP PP 22 43 53.5 +1.5
KSH eSKS SKSdf 22 46 53.8 -5.2
KSH eSKKS SKKSac 22 50 37.5 -4.2
KSH AMB AMB
comp=Z,210nm,5.9s
KSH LR LR
comp=Z,180nm,5.1s
ZAA1 Zalesovo Array 155.33 33 ePKPdf PKPdf 22 39 51.2 -1.2
ZAA1 ePKPab PKPab 22 40 18.2 +0.5
ZAA0 Zalesovo Array 155.33 33 ePKPdf PKPdf 22 39 51.3 -1.1
ZAA0 ePKPbc PKPbc 22 40 01.9
ZAA0 ePKPab PKPab 22 40 18.2 +0.5
ZALV Zalesovo Beam 155.33 33 PKP PKPdf 22 39 51.2 -1.2
comp=Z,4.8nm,0.8s,baz=297,slow=1.6,SNR=8.7
ZALV PKPab PKPab 22 40 18.2 +0.5
comp=Z,8.2nm,0.7s,baz=308,slow=5.5,SNR=9.0
BOD Bodaibo 156.68 351 ePKP2 PKPab 22 40 22.2 -1.1
BOD pmax pmax
comp=Z,10.0nm,1.0s
MK32 Makanchi Array 157.81 50 ePKPdf PKPdf 22 39 55.0 -0.9
MK32 ePKPab PKPab 22 40 28.2 -0.5
MKAR Makanchi Array 157.81 50 PKP PKPdf 22 39 55.0 -0.9
comp=Z,1.8nm,0.8s,baz=17,slow=1.3,SNR=4.8
MKAR PKPab PKPab 22 40 28.2 -0.5
comp=Z,2.7nm,0.8s,baz=293,slow=3.7,SNR=3.5
MK01 Makanchi Array 157.82 50 ePKPdf PKPdf 22 39 55.4 -0.5
KOLN Koldanda 158.58 103 eP PKPdf 22 39 56.9 -0.8
comp=Z,14nm,1.0s
DANN Dangsing 158.95 102 eP PKPdf 22 39 57.8 -0.5
comp=Z,32nm,0.8s
GKN Gorkha 159.51 104 eP PKPdf 22 39 57.9 -0.8
comp=Z,11nm,0.8s
DMN Daman 159.71 105 eP PKPdf 22 39 57.9 -1.2
PKIN Phulchoki 159.93 105 eP PKPdf 22 39 57.8 -1.6
RAMN Ramite 160.58 109 eP PKPdf 22 39 59.0 -1.1
JIRN Jiri 160.59 106 eP PKPdf 22 39 58.6 -1.6
ODAN Odare 161.15 110 eP PKPdf 22 39 59.6 -1.1
TAPN Taplejung 161.63 109 eP PKPdf 22 39 59.4 -1.9
CM01 Chiang Mai Arr 161.95 154 ePKPdf PKPdf 22 40 01.0 -0.4
CM01 ePKPab PKPab 22 40 47.2 0.0
CM31 Chiang Mai Arr 161.98 154 ePKPdf PKPdf 22 40 01.2 -0.3
CM31 ePKPab PKPab 22 40 46.5 -0.9
CMAR Chiang Mai Arr 161.98 154 PKP PKPdf 22 40 01.2 -0.3
comp=Z,1.9nm,0.8s,baz=248,slow=2.7,SNR=8.5
CMAR PKPab PKPab 22 40 46.5 -0.9
comp=Z,0.5nm,0.3s,baz=225,slow=5.1,SNR=6.1
WMQ Urumqi 162.49 54 PKP PKPdf 22 40 01.0 -0.3
WMQ LR LR
comp=Z,130nm,23.4s
WMQ LR LR
comp=Z,140nm,20.8s
WMQ LR LR
comp=Z,200nm,21.0s
KS01 Wonju Array Si 163.17 285 ePKPdf PKPdf 22 40 00.6 -1.4
KS01 ePKPab PKPab 22 40 52.0 -0.3
SHL Shillong 163.76 121 ex PKPab 22 40 56.5 +1.1
ZAK Zakamensk 164.31 9 ePKP2 PKPab 22 40 57.5 +0.6
ZAK pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 167.10 1 ePKP2 PKPab 22 41 09.6 +0.3
ULN Ulaanbaatar 167.10 1 ePKPab PKPab 22 41 09.6 +0.3
SONA1 Songino Array 167.10 3 ePKPdf PKPdf 22 40 02.6 -2.7
SONA1 ePKPab PKPab 22 41 09.5 +0.2
SONA0 Songino Array 167.11 3 ePKPdf PKPdf 22 40 05.2 -0.1
SONA0 ePKPab PKPab 22 41 10.1 +0.7
SONM Songino Array 167.11 3 PKP PKPdf 22 40 05.2 -0.1
comp=Z,0.6nm,0.8s,baz=340,slow=0.9,SNR=3.6
SONM PKPab PKPab 22 41 10.1 +0.7
comp=Z,2.2nm,0.8s,baz=337,slow=4.9,SNR=9.8
NJ2 Nanjing 169.91 257 ePKP PKPdf 22 40 08.8 +1.4
GTA Gaotai 172.57 51 eP PKPab 22 41 35.3 +1.3
GTA pP 22 41 42.8
GTA sP 22 41 45.5
GTA pmax pmax
comp=Z,8.0nm,1.3s
GTA Gaotai 172.57 51 ePKP PKPdf 22 40 09.5 +0.8
GTA pPKP pPKPdf 22 40 20.3 +8.1
GTA sPKP 22 40 23.8
GTA PKPab PKPab 22 41 35.3 +1.3
HHC Hu-ho-hao-te 173.21 331 ePKP PKPdf 22 40 05.0 -3.9
HHC pPKP pPKPdf 22 40 15.0 +2.6
HHC sPKP 22 40 20.0
HHC AMB AMB
comp=Z,190nm,6.9s
HHC LR LR
comp=Z,860nm,17.8s
HHC LR LR
comp=Z,790nm,20.6s
HHC LR LR
comp=Z,400nm,14.2s
CD2 Chengdu 175.00 143 PKP PKPdf 22 40 08.8 -1.0
CD2 pPKP pPKPdf 22 40 20.0 +6.8
CD2 PKS PKSdf 22 43 39.5 -2.5
CD2 PP PP 22 45 39.3 +2.5
CD2 SKS SKSdf 22 47 06.5 -6.5
CD2 SKKS SKKSac 22 52 19.8 -4.0
CD2 AMB AMB
comp=Z,220nm,6.6s
LZH Lanzhou 176.98 67 ePKP PKPdf 22 40 09.5 -0.7
LZH pPKP pPKPdf 22 40 21.0 +7.3
LZH sPKP 22 40 25.8
LZH PP PP 22 45 49.0 +1.7
LZH SKKS 22 52 29.5
LZH eSS SS 23 07 15.0 -5.9
LZH AMB AMB
comp=Z,120nm,7.3s
LZH LR LR
comp=Z,950nm,20.2s
LZH LR LR
comp=Z,590nm,20.0s
LZH LR LR
comp=Z,690nm,20.3s

INMG **27** *22:20:22.5±1.4, 34.°50N×13.°95W, h10km, ML2.8, Error ellipse: s-maj=24.5km s-min=3.8km az=139.0*
MDD **27** *22:20:22.8±3.0, 34.°86N×13.°59W, h0km, mb4.0/5, Error ellipse: s-maj=59.5km s-min=24.0km az=142.0, PRXIMO*
CSEM **27** *22:20:26.9±0.5, 35.°02N×13.°28W, h10km, ML3.3/9, Error ellipse: s-maj=18.4km s-min=8.6km az=138.0*
ISC 27 22:20:26.3±4.3, 35.°0N±0.°2×13.°3W±0.°2, h10km, n38, σ0.°95/66, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	4.21	59	ePn	Pn	22 21 30.8	+0.2
PFVI				eSn	Sn	22 22 20.4	+0.6
PFVI				A	A	22 22 26.4	
	16nm,1.1s						
PFVI	Vila Bisbo	4.21	59	P	Pn	22 21 30.0	-0.6
	2.8nm,0.2s,SNR=4.0						
PFVI				S	Sn	22 22 19.9	0.0
	3.9nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	4.21	59	P	Pn	22 21 30.0	-0.6
	2.8nm,0.2s,SNR=4.0						
PFVI	Vila Bisbo	4.21	59	ePn	Pn	22 21 30.8	+0.2
PFVI				S	Sn	22 22 19.9	0.0
	3.9nm,0.1s,SNR=7.9						
PFVI				eSn	Sn	22 22 20.4	+0.6
	16nm,1.1s						
MORF	Marmelete	4.42	57	ePn	Pn	22 21 33.6	+0.1
MORF				eSn	Sn	22 22 26.0	+1.0
MORF				A	A	22 22 31.8	
	7.4nm,0.6s						
MORF	Marmelete	4.42	57	P	Pn	22 21 33.6	+0.1
MORF				S	Sn	22 22 26.0	+1.0
	7.4nm,0.6s						
MORF	Marmelete	4.42	57	ePn	Pn	22 21 33.6	+0.1
MORF				eSn	Sn	22 22 26.0	+1.0
	7.4nm,0.6s						
PTEO	Sao Teotonio	4.50	54	eSn	Sn	22 22 28.8	+2.0
PTEO				A	A	22 22 40.6	
	15nm,0.7s						
PTEO	Sao Teotonio	4.50	54	S	Sn	22 22 28.8	+2.0
	7.4nm,0.7s						
PTEO	Sao Teotonio	4.50	54	eSn	Sn	22 22 28.8	+2.0
	15nm,0.7s						
PBDV	Barranco-do-Ve	4.90	61	ePn	Pn	22 21 40.0	0.0
PBDV				eSn	Sn	22 22 37.3	+0.5
PBDV				A	A	22 22 42.3	
	8.3nm,0.5s						
PBDV	Barranco-do-Ve	4.90	61	P	Pn	22 21 40.0	0.0
PBDV				S	Sn	22 22 37.3	+0.5
	8.3nm,0.5s						
PBDV	Barranco-do-Ve	4.90	61	ePn	Pn	22 21 40.0	0.0
PBDV				eSn	Sn	22 22 37.3	+0.5
	8.3nm,0.5s						
PNCL	Nicolau / Gran	4.95	50	ePn	Pn	22 21 41.0	+0.4
PNCL				eSn	Sn	22 22 38.7	+0.8
PNCL	Nicolau / Gran	4.95	50	ePn	Pn	22 21 41.0	+0.4
PNCL				eSn	Sn	22 22 38.7	+0.8
MESJ	Messejana	4.99	54	ePn	Pn	22 21 41.9	+0.7
MESJ				eSn	Sn	22 22 40.3	+1.3
MESJ	Messejana	4.99	54	P	Pn	22 21 41.9	+0.7
MESJ				S	Sn	22 22 40.3	+1.3
MESJ	Messejana	4.99	54	ePn	Pn	22 21 41.9	+0.7
MESJ				eSn	Sn	22 22 40.3	+1.3
PMAFR	Mafra	5.09	38	eSn	Sn	22 22 40.8	-0.8
PMAFR				A	A	22 22 47.0	
	17nm,0.7s						
PMAFR	Mafra	5.09	38	S	Sn	22 22 40.1	-1.5
	7.2nm,0.1s,SNR=7.9						
PMAFR	Mafra	5.09	38	S	Sn	22 22 40.1	-1.5
	7.2nm,0.1s,SNR=7.9						
PMAFR				eSn	Sn	22 22 40.8	-0.8
	17nm,0.7s						
PVAQ	Vaqueiros	5.12	61	ePn	Pn	22 21 43.4	+0.3
PVAQ				eSn	Sn	22 22 42.0	-0.3
PVAQ				A	A	22 22 47.9	
	5.3nm,0.6s						
PVAQ	Vaqueiros	5.12	61	P	Pn	22 21 43.4	+0.3
PVAQ				S	Sn	22 22 42.0	-0.3
	5.3nm,0.6s						
PVAQ	Vaqueiros	5.12	61	ePn	Pn	22 21 43.4	+0.3
PVAQ				eSn	Sn	22 22 42.0	-0.3
	5.3nm,0.6s						
EGRO	El Granado	5.35	60	P	Pn	22 21 45.7	-0.5
	1.1nm,0.2s,SNR=7.9						
EGRO				S	Sn	22 22 47.1	-0.7
	1.1nm,0.1s,SNR=7.9						
PBAR	Barrancos	5.96	56	ePn	Pn	22 21 55.1	+0.5
PBAR				eSn	Sn	22 23 02.9	0.0
PBAR				A	A	22 23 15.8	
	5.2nm,0.8s						
PBAR	Barrancos	5.96	56	P	Pn	22 21 55.1	+0.5
PBAR				S	Sn	22 23 02.9	0.0
	5.2nm,0.8s						
PBAR	Barrancos	5.96	56	ePn	Pn	22 21 55.1	+0.5
PBAR				eSn	Sn	22 23 02.9	0.0
	5.2nm,0.8s						
EMIN	Mina Concepcio	6.03	61	P	Pn	22 21 55.0	-0.5
	0.4nm,0.2s,SNR=7.9						
EMIN				S	Sn	22 23 02.1	-2.5
	0.6nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	6.03	61	P	Pn	22 21 55.0	-0.5
	0.4nm,0.2s,SNR=7.9						
EMIN				S	Sn	22 23 02.1	-2.5
	0.6nm,0.1s,SNR=7.9						
EBAD	Badajoz	6.29	52	P	Pn	22 21 59.7	+0.6
	0.4nm,0.1s,SNR=4.0						
EBAD				S	Sn	22 23 09.5	-1.5
	2.5nm,0.2s,SNR=7.9						
EBAD	Badajoz	6.29	52	P	Pn	22 21 59.7	+0.6
	0.4nm,0.1s,SNR=4.0						
EBAD				S	Sn	22 23 09.5	-1.5
	2.5nm,0.2s,SNR=7.9						
PCAS	Casmilo, Conde	6.33	36	eSn	Sn	22 23 12.0	+0.1
PCAS				A	A	22 23 15.4	
	5.9nm,0.7s						
PCAS	Casmilo, Conde	6.33	36	eSn	Sn	22 23 12.0	+0.1
	5.9nm,0.7s						
ESPR	Espera	6.34	71	P	Pn	22 22 00.1	+0.4
	2.5nm,0.2s,SNR=4.0						
ESPR				S	Sn	22 23 10.8	-1.4
	2.6nm,0.2s,SNR=4.0						
PMRV	Marv??o	6.47	45	eSn	Sn	22 23 14.3	-1.1
PMRV				A	A	22 23 17.4	
	4.8nm,0.9s						
PMRV	Marv??o	6.47	45	S	Sn	22 23 14.3	-1.1
	4.8nm,0.9s						
PMRV	Marv??o	6.47	45	eSn	Sn	22 23 14.3	-1.1
	4.8nm,0.9s						

ISCJB **27** *22:22:26.0±0.4, 35.°60N±0.°01×96.°71W±0.°01, h15km±2km, mb3.7/3, Error ellipse: s-maj=2.0km s-min=1.7km az=32.8*
IDC **27** *22:22:26.3±0.8, 35.°59N×96.°80W, h0km, mb3.8/3, mb1 4.2/9, mb1mx3.8/52, mbtmp4.0/9, ML4.0/6, MS3.3/1, Ms1 3.3/1, ms1mx3.1/58, Error ellipse: s-maj=13.7km s-min=10.0km az=165.0*
NEIC **27** *22:22:27.3±0.5, 35.°55N×96.°75W, h5km±4km, MN4.3, MW4.1, Error ellipse: s-maj=3.8km s-min=2.4km az=171.0, Moment Tensor Solution. s84 Moment tensor: Scale 10^15Nm; Mrr0.11; Mθθ1.63; Mϕϕ-1.74; Mrθ0.57; Mθϕ0.35; Mϕr-0.28; Best double couple: M0 1.80000×10^15 NP1: ϕs38.00000°, δ70.00000°, λ175.00000°. NP2: ϕs130.00000°, δ85.00000°, λ20.00000°. Principal axes: T 1.8400, Plg17.0000°, Azm355.0000°; N 0.0000, Plg69.0000°, Azm143.0000°; P -1.8400, Plg10.0000°, Azm262.0000°;*
NEIC Felt [IV] at Boley, Claremore, Meeker, Prague and Sparks; [III] at Arcadia, Carney, Chandler, Davenport, Earlsboro, Harrah, Jones, Luther, McLoud, Newalla, Norman, Oklahoma City, Paden, Shawnee, Stroud, Tecumseh, Tulsa, Wellston, Wewoka and Yukon; [II] at Bethany, Bixby, Bristow, Broken Arrow, Choctaw, Cleveland, Cushing, Depew, Edmond, Enid, Guthrie, Jenks, Noble, Okemah, Piedmont, Purcell, Sand Springs, Sapulpa, Seminole and Stillwater. Felt in much of central and eastern Oklahoma, in the Fayetteville area, Arkansas and at Arkansas City and Baxter Springs, Kansas.
ISC 27 22:22:26.4±0.9, 35.°59N±0.°02×96.°75W±0.°02, h4km±7km, n360, σ1.°01/393, mb3.5/3, 142C-145D, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	Luther M Schoo	0.37	281	i P	Pb	22 22 34.9	-0.7
OK005				eS	Sb	22 22 40.3	-1.4
OK002	Wilshire Harra	0.37	264	eP	Pb	22 22 35.0	-0.6
OK002				Sg	Sg	22 22 39.9	+1.5
OK001	Jones High Sch	0.45	267	i P	Pb	22 22 36.1	-0.8
OK001				eS	Sb	22 22 42.3	-1.5
OK006	Choctaw High	0.45	256	eP	Pg	22 22 35.9	+0.8
OK006				eS	Sg	22 22 42.2	+1.3
OK003	Hefner Road	0.48	266	eP	Pb	22 22 36.8	-0.7
OK003				eS	Sb	22 22 43.6	-1.4
OKCSW	OKLAHOMA CITY	0.59	252	P	Pg	22 22 38.0	+0.2
OKCSW				S	Sg	22 22 46.0	+0.5
OK004	Okla Sci Mus	0.60	264	i P	Pg	22 22 38.7	+0.8
OK004				eS	Sb	22 22 47.0	-1.3
V34A	Guthrie	0.68	292	ePg	Pb	22 22 40.3	-0.4
V34A				eSg	Sb	22 22 50.0	-0.6
V34A	Guthrie	0.68	292	⇑P	Pb	22 22 40.4	-0.4
	baz=0.7						
V34A				⇓S	Sb	22 22 50.1	-0.5
	baz=0.7						
TUL	Tulsa	0.84	67	Pg	Pb	22 22 43.8	+0.2
TUL				Sg	Sb	22 22 55.3	+0.3
TUL1	Tulsa	0.84	67	ePg	Pb	22 22 43.8	+0.2
TUL1				eSg	Sb	22 22 55.3	+0.1
TUL1	Tulsa	0.84	67	⇓P	Pb	22 22 43.8	+0.2
	baz=0.9						
TUL1				⇓S	Sb	22 22 55.7	+0.5
	baz=0.9						
W34A	Bridge Creek,	0.91	248	ePg	Pb	22 22 44.0	+0.1
W34A				eSg	Sb	22 22 56.5	-0.7
W34A	Bridge Creek,	0.91	248	⇓P	Pg	22 22 44.0	+0.1
	baz=0.9						
W34A				⇑S	Sg	22 22 56.3	+0.6
	baz=0.9						
U34A	Anderson Ranch	1.06	323	ePg	Pb	22 22 47.6	+0.2
U34A				eSg	Sn	22 23 03.8	+0.4

U34A	Anderson Ranch	1.06	323	⇓P	Pb	22 22 47.6	+0.2
	baz=1.1						
U34A				⇑S	Sb	22 23 02.8	+1.2
	baz=1.1						
PCO	Ponca City	1.12	350	Pg	Pb	22 22 48.8	+0.4
PCO				Sn	Sn	22 23 11.9	+7.1
V33A	Lossen Ranch,	1.28	281	⇑P	Pg	22 22 50.9	0.0
	baz=1.3						
X34A	Smith Ranch, M	1.33	223	⇓P	Pn	22 22 51.5	-0.2
	baz=1.3						
X34A				⇓S	Sn	22 23 10.0	0.0
	baz=1.3						
U33A	Lingo Farm, Me	1.39	308	⇓P	Pn	22 22 53.1	+0.1
	baz=1.4						
U33A				⇓S	Sn	22 23 13.1	+1.6
	baz=1.4						
W33A	Caddo, Fort Co	1.48	253	⇓P	Pb	22 22 54.3	-0.1
	baz=1.5						
W33A				⇑S	Sg	22 23 14.2	+0.4
	baz=1.5						
X33A	Lawton	1.78	235	⇑P	Pn	22 22 58.3	+0.3
	baz=1.8						
X33A				⇓S	Sb	22 23 22.4	+0.1
	baz=1.8						
Y34A	Reagan Ranch,	1.83	207	⇓P	Pn	22 22 58.9	+0.3
	baz=1.8						
Y34A				⇓S	Sb	22 23 23.3	-0.4
	baz=1.8						
V32A	Arapaho	1.88	275	⇑P	Pb	22 23 00.8	-0.5
	baz=1.9						
T33A	Patterson Ranc	1.92	321	⇓P	Pn	22 23 01.0	+1.1
	baz=1.9						
T33A				⇓S	Sb	22 23 27.5	+1.1
	baz=1.9						
U32A	Winter Ranch,	1.99	294	⇑P	Pn	22 23 02.2	+1.2
	baz=2.0						
W32A	Sentinel	2.10	258	⇑P	Pn	22 23 03.4	+1.1
	baz=2.1						
Y33A	Hilltop Ranch,	2.21	225	⇑P	Pn	22 23 05.0	+1.1
	baz=2.2						
S33A	Kaszmaul Farm,	2.24	334	⇓P	Pn	22 23 05.8	+1.4
	baz=2.3						
Z35A	Perchaven, San	2.29	191	⇓P	Pn	22 23 05.6	+0.6
	baz=2.3						
T32A	Huddler Ranch,	2.37	313	⇑P	Pn	22 23 07.6	+1.4
	baz=2.4						
X32A	Elmer	2.39	242	⇓P	Pn	22 23 07.7	+1.3
	baz=2.4						
Z34A	Collier Ranch,	2.41	204	⇓P	Pn	22 23 07.7	+1.0
	baz=2.4						
V31A	Spring Creek L	2.53	275	⇑P	Pn	22 23 10.0	+1.6
	baz=2.5						
U31A	Nine Bar Ranch	2.64	288	⇓P	Pn	22 23 11.3	+1.4
	baz=2.6						
W31A	Holland Ranch,	2.64	262	⇑P	Pn	22 23 10.9	+1.0
	baz=2.6						
Y32A	R-V Farms, Ver	2.73	235	⇓P	Pn	22 23 11.9	+0.9
	baz=2.7						
S32A	Newby Ranch, P	2.75	321	⇑P	Pn	22 23 12.5	+1.2
	baz=2.8						
MIAR	Mount Ida	2.80	111	ePn	Pn	22 23 13.6	+1.6
MIAR				eSn	Sn	22 23 46.2	-0.1
T31A	Randall Ranch,	2.81	303	⇑P	Pn	22 23 13.6	+1.5
	baz=2.8						
X31A	McDonald Ranch	2.82	251	⇑P	Pn	22 23 13.7	+1.4
	baz=2.8						
Z33A	Whitaker Ranch	2.84	217	⇓P	Pn	22 23 13.5	+0.9
	baz=2.8						
R33A	Olander Ranch,	2.89	340	⇓P	Pn	22 23 14.8	+1.5
	baz=2.9						
S31A	Mullinville	3.00	313	⇑P	Pn	22 23 16.0	+1.3
	baz=3.0						
135A	Vickery Place,	3.07	191	⇓P	Pn	22 23 16.3	+0.6
	baz=3.0						
W30A	Crocket Farms	3.16	264	⇑P	Pn	22 23 17.9	+0.9
	baz=3.1						
134A	White-Moore Ra	3.21	201	⇑P	Pn	22 23 18.0	+0.4
	baz=3.2						
Z32A	Haskell	3.21	226	⇓P	Pn	22 23 18.1	+0.5
	baz=3.2						
V30A	Spur Ranch, Mi	3.22	274	⇑P	Pn	22 23 19.4	+1.5
	baz=3.2						
R32A	Long Quarter,	3.24	331	⇓P	Pn	22 23 19.1	+1.1
	baz=3.3						
U30A	WK&E Inc. Balk	3.30	288	⇑P	Pn	22 23 20.2	+1.3
	baz=3.3						
Y31A	Rekieta Farm,	3.32	242	⇑P	Pn	22 23 20.0	+0.9
	baz=3.3						
T30A	Plains	3.39	297	⇓P	Pn	22 23 21.3	+1.2
	baz=3.4						
133A	Hamilton Ranch	3.48	212	⇓P	Pn	22 23 21.5	+0.2
	baz=3.4						
R31A	Burdett	3.50	321	⇑P	Pn	22 23 22.6	+1.0
	baz=3.5						
KSU1	Kansas State U	3.51	2	ePn	Pn	22 23 23.0	+1.2
KSU1				ePg	Pg	22 23 32.2	-1.4
KSU1				eSn	Sn	22 24 03.8	0.0
KSU1				eSg	Sg	22 24 20.2	+1.1
KSU1	Kansas State U	3.51	2	⇑P	Pn	22 23 22.9	+1.1
	baz=3.5						
Q33A	Connelly Farm,	3.51	346	⇑P	Pn	22 23 23.3	+1.4
	baz=3.6						
X30A	Coker Ranch, T	3.58	253	⇓P	Pn	22 23 23.5	+0.7
	baz=3.6						
Z31A	Sharp Cattle R	3.61	232	⇑P	Pn	22 23 23.7	+0.6
	baz=3.6						
S30A	Montezuma	3.63	305	⇓P	Pn	22 23 24.5	+1.0
	baz=3.6						
WHTX	Lake Whitney	3.64	190	ePn	Pn	22 23 24.1	+0.6
WHTX	Lake Whitney	3.64	190	⇓P	Pn	22 23 23.8	+0.3
	baz=3.6						
Q32A	Meitler Ranch,	3.69	337	⇑P	Pn	22 23 25.3	+1.0
	baz=3.7						
UALR	University of	3.69	101	ePn	Pn	22 23 25.9	+1.6
UALR				eSn	Sn	22 24 11.4	+3.1
234A	Clairette	3.76	198	⇓P	Pn	22 23 25.3	+0.1
	baz=3.7						
U29A	Oasis Ranch, S	3.77	285	⇑P	Pn	22 23 26.5	+1.1
	baz=3.8						
ABTX	Abilene, Hawle	3.81	220	ePn	Pn	22 23 26.0	0.0
ABTX				eSn	Sn	22 24 14.0	+2.8
ABTX	Abilene, Hawle	3.81	220	⇑P	Pn	22 23 25.9	0.0
	baz=3.8						
Y30A	Stafford Cattl	3.82	245	⇑P	Pn	22 23 27.2	+1.0
	baz=3.8						
V29A	Stinnett	3.90	276	⇓P	Pn	22 23 28.0	+0.9
	baz=3.9						
R30A	Dighton	3.91	315	⇓P	Pn	22 23 28.2	+0.9
	baz=3.9						
P33A	Williams Farm,	3.92	349	⇓P	Pn	22 23 28.5	+1.2
	baz=4.0						
233A	Rising Star	3.99	207	⇓P	Pn	22 23 28.2	-0.1
	baz=4.0						
T29A	Hugoton	3.99	294	⇑P	Pn	22 23 29.6	+1.1
	baz=4.0						
Q31A	Ellis	4.01	329	⇓P	Pn	22 23 29.5	+0.8
	baz=4.0						
W29A	Amraillo	4.03	265	⇑P	Pn	22 23 29.7	+0.6
	baz=4.0						
S29A	Ulysses	4.06	301	⇑P	Pn	22 23 30.8	+1.4
	baz=4.1						
AMTX	Amarillo	4.10	262	ePn	Pn	22 23 31.1	+1.2
AMTX				eSn	Sn	22 24 20.8	+2.3
AMTX	Amarillo	4.10	262	⇓P	Pn	22 23 30.9	+1.0
	baz=4.1						
336A	Riesel	4.19	181	⇓P	Pn	22 23 31.0	-0.2
	baz=4.2						
131A	Roby	4.19	227	⇑P	Pn	22 23 31.2	0.0
	baz=4.2						
NATX	Nacogdoches	4.19	155	ePn	Pn	22 23 31.8	+0.6
X29A	Tulia	4.22	256	⇓P	Pn	22 23 32.5	+0.8
	baz=4.2						
P32A	Huiting Farm,	4.29	340	⇑P	Pn	22 23 32.9	+0.4
	baz=4.3						
Z30A	Sanderson Ranc	4.29	239	⇓P	Pn	22 23 32.8	+0.3
	baz=4.3						
337A	Centerville	4.32	170	⇓P	Pn	22 23 32.6	-0.3
	baz=4.3						
335A	Moody	4.33	188	⇑P	Pn	22 23 32.8	-0.2
	baz=4.3						
Q30A	Quinter	4.37	322	⇑P	Pn	22 23 34.9	+1.2
	baz=4.4						
Y29A	Porterfield Fa	4.41	248	⇑P	Pn	22 23 35.2	+1.0
	baz=4.4						
232A	Coleman	4.41	214	⇓P	Pn	22 23 33.9	-0.3
	baz=4.4						
334A	Lometa	4.42	197	⇑P	Pn	22 23 34.1	-0.3
	baz=4.4						
P31A	Stockton	4.45	333	⇑P	Pn	22 23 35.5	+0.7
	baz=4.5						
V28A	Channing	4.46	274	⇑P	Pn	22 23 35.3	+0.3
	baz=4.5						
W28A	Vega	4.47	267	⇓P	Pn	22 23 35.5	+0.4
	baz=4.5						
U28A	Mallet	4.51	282	⇑P	Pn	22 23 36.3	+0.7
	baz=4.5						
R29A	Marienthal	4.51	310	⇑P	Pn	22 23 37.0	+1.3
	baz=4.5						
T28A	Walsh	4.59	291	⇓P	Pn	22 23 37.7	+0.9
	baz=4.6						
X28A	Dimmitt	4.60	258	⇓P	Pn	22 23 36.9	+0.1
	baz=4.6						
130A	Snyder	4.60	231	⇑P	Pn	22 23 36.5	-0.3
	baz=4.6						
S28A	Manter	4.60	297	⇑P	Pn	22 23 38.2	+1.3
	baz=4.6						
333A	Richland Sprin	4.64	204	⇓P	Pn	22 23 36.9	-0.5
	baz=4.6						
231A	Bronte	4.70	220	⇓P	Pn	22 23 37.6	-0.6
	baz=4.7						
Z29A	Hungry Hill Ra	4.71	242	⇑P	Pn	22 23 38.7	+0.3
	baz=4.7						
Q29A	Oakley	4.72	316	⇑P	Pn	22 23 39.8	+1.3
	baz=4.7						
340A	Bronson	4.79	149	⇑P	Pn	22 23 39.1	-0.3
	baz=4.8						
436A	Wall Ranch, Ga	4.80	181	⇓P	Pn	22 23 39.9	+0.4
	baz=4.8						
O32A	Brockman Farm,	4.82	346	⇓P	Pn	22 23 40.4	+0.6
	baz=4.9						
P30A	Selden	4.83	326	⇑P	Pn	22 23 40.9	+0.9
	baz=4.9						
Y28A	McKinney Farm,	4.83	251	⇓P	Pn	22 23 40.6	+0.6
	baz=4.8						
435B	Jarrell	4.84	189	⇓P	Pn	22 23 40.2	0.0
	baz=4.8						
332A	Millersview	4.88	212	⇑P	Pn	22 23 40.3	-0.4
	baz=4.9						
R28A	Tribune	4.90	306	⇑P	Pn	22 23 42.1	+1.1
	baz=4.9						
434A	Burnet	4.93	195	⇑P	Pn	22 23 41.1	-0.3
	baz=4.9						
HBAR	Harrisburg	4.96	89	ePn	Pn	22 23 43.3	+1.6
V27A	Dan Oppiter Fa	4.96	274	⇓P	Pn	22 23 42.2	+0.3
	baz=4.9						
O31A	Woolen Ranch,	4.99	337	⇓P	Pn	22 23 42.5	+0.3
	baz=5.0						
U27A	Thompson Grove	5.00	281	⇑P	Pn	22 23 42.6	+0.3
	baz=5.0						
T27A	Campo	5.04	289	⇑P	Pn	22 23 43.6	+0.6
	baz=5.0						
129A	Stewart Farms,	5.17	237	⇑P	Pn	22 23 44.8	+0.1
	baz=5.1						
230A	Sterling City	5.18	226	⇓P	Pn	22 23 44.0	-0.8
	baz=5.2						
Z28A	Tucker Farm, M	5.20	245	⇑P	Pn	22 23 45.0	0.0
	baz=5.2						
433A	Art	5.21	203	⇑P	Pn	22 23 44.5	-0.6
	baz=5.2						
P29A	Atwood	5.21	322	⇑P	Pn	22 23 46.4	+1.2
	baz=5.2						
MSTX	Muleshoe	5.22	254	ePn	Pn	22 23 45.5	+0.2
MSTX	Muleshoe	5.22	254	⇓P	Pn	22 23 45.5	+0.2
	baz=5.2						
PBMO	Poplar Bluff	5.24	75	ePn	Pn	22 23 46.7	+1.1
331A	San Angelo	5.26	217	⇑P	Pn	22 23 45.3	-0.6
	baz=5.2						
O30A	MW Ranch, Wils	5.28	331	⇓P	Pn	22 23 47.1	+1.0
	baz=5.3						
X27A	F and S Farms,	5.29	262	⇑P	Pn	22 23 46.5	+0.1
	baz=5.3						
N32A	Stulken Farm,	5.31	347	⇑P	Pn	22 23 46.9	+0.4
	baz=5.3						
Q28A	Sharon Springs	5.33	312	⇓P	Pn	22 23 47.4	+0.5
	baz=5.3						
432A	Menard	5.35	209	⇓P	Pn	22 23 46.9	-0.2
	baz=5.3						
S27A	Las Animas	5.37	295	⇓P	Pn	22 23 48.0	+0.5
	baz=5.4						
GNAR	Gosnell	5.48	84	ePn	Pn	22 23 48.4	-0.5
GNAR				eSg	Sg	22 25 20.1	-2.4
536A	Bastrop	5.50	183	⇓P	Pn	22 23 49.4	+0.2
	baz=5.5						
N31A	Bailey Ranch,	5.51	342	⇓P	Pn	22 23 49.9	+0.6
	baz=5.5						
R27A	Eads	5.55	301	⇓P	Pn	22 23 50.5	+0.6
	baz=5.6						
O29A	4D Ranch, Culb	5.55	326	⇓P	Pn	22 23 50.7	+0.8
	baz=5.6						
229A	Bryant Ranch,	5.55	231	⇓P	Pn	22 23 49.9	-0.1
	baz=5.5						
Y27A	Causey	5.55	254	⇑P	Pn	22 23 50.0	0.0
	baz=5.5						
330A	Mertzon	5.58	223	⇑P	Pn	22 23 49.5	-0.8
	baz=5.5						
128A	Castleberry Fa	5.61	240	⇓P	Pn	22 23 50.7	0.0
	baz=5.6						
P28A	Saint Francis	5.63	316	⇓P	Pn	22 23 52.1	+1.1
	baz=5.6						
HKT	Hockley	5.67	172	ePn	Pn	22 23 51.3	-0.2
HKT				ePg	Pg	22 24 14.2	-0.9
WADM	Wardell	5.69	80	ePn	Pn	22 23 53.5	+1.8
WADM				eSn	Sn	22 24 57.8	+0.4
JCT	Junction City	5.70	208	ePn	Pn	22 23 51.7	-0.3
JCT	Junction City	5.70	208	⇑P	Pn	22 23 51.3	-0.6
	baz=5.7						
534A	Blanco	5.73	195	⇑P	Pn	22 23 51.7	-0.7
	baz=5.7						
U26A	Atchley Ranch,	5.73	280	⇑P	Pn	22 23 52.4	-0.1
	baz=5.7						
V26A	Tequesquite Ra	5.73	274	⇓P	Pn	22 23 52.7	+0.2
	baz=5.7						
T26A	Comanche Natio	5.75	288	⇑P	Pn	22 23 53.0	+0.3
	baz=5.7						
PARMO	Parma	5.76	77	ePn	Pn	22 23 53.8	+1.1
PARMO				eSg	Sg	22 25 29.0	-2.4
W26A	Owens Ranch, T	5.76	267	⇓P	Pn	22 23 53.1	+0.3
	baz=5.7						
S26A	Kim	5.78	293	⇓P	Pn	22 23 53.5	+0.4
	baz=5.8						
KSCO	Kaye Shedlock'	5.80	308	ePn	Pn	22 23 54.6	+1.2
KSCO				ePg	Pb	22 24 13.4	+5.1
KSCO				eSg	Sg	22 25 33.7	+0.9
KSCO	Kaye Shedlock'	5.80	308	⇑P	Pn	22 23 54.1	+0.7
	baz=5.8						
Z27A	Tatum	5.81	249	⇓P	Pn	22 23 53.2	-0.2
	baz=5.8						
533A	Kerrville	5.83	200	⇑P	Pn	22 23 53.1	-0.6
	baz=5.8						
N30A	Hueftle Ranch,	5.83	334	⇓P	Pn	22 23 54.2	+0.5
	baz=5.9						
431A	Sonora	5.87	215	⇓P	Pn	22 23 53.6	-0.7
	baz=5.8						
X26A	CR and CF Fran	5.89	262	⇓P	Pn	22 23 54.4	-0.2
	baz=5.9						
BGNE	Belgrade	5.92	350	ePn	Pn	22 23 55.4	+0.5
BGNE	Belgrade	5.92	350	⇓P	Pn	22 23 55.3	+0.5
	baz=6.0						
228A	UT Block 9, Go	5.97	236	⇑P	Pn	22 23 55.1	-0.6
	baz=5.9						
329A	Wagon Wheel Ra	5.99	228	⇑P	Pn	22 23 55.4	-0.5
	baz=6.0						
M31A	Lambtecht Ranc	6.01	344	⇑P	Pn	22 23 56.4	+0.3
	baz=6.0						
R26A	Arlington	6.01	299	⇓P	Pn	22 23 56.5	+0.3
	baz=6.0						
SLM	Saint Louis	6.03	58	Pn	Pn	22 23 59.9	+3.5
O28A	Krutsinger Ran	6.03	320	⇑P	Pn	22 23 57.7	+1.2
	baz=6.1						
HALT	Halls	6.03	85	ePn	Pn	22 23 56.9	+0.5
HALT				eSg	Sg	22 25 36.4	-3.7
N29A	Votaw Ranch, W	6.05	331	⇑P	Pn	22 23 57.8	+1.0
	baz=6.1						
532A	Rocksprings	6.06	207	⇓P	Pn	22 23 56.2	-0.7
	baz=6.0						
Y26A	Elida	6.06	256	⇓P	Pn	22 23 56.8	-0.2
	baz=6.0						
GLST	Glass	6.09	81	ePn	Pn	22 23 59.5	+2.3
430A	Baggett Ranch,	6.09	219	⇑P	Pn	22 23 56.7	-0.6
	baz=6.1						
636A	Smothers Creek	6.09	183	⇓P	Pn	22 23 57.4	+0.1
	baz=6.1						
P27A	Ficken Ranch,	6.09	312	⇑P	Pn	22 23 58.0	+0.6
	baz=6.1						
OXF	Oxford	6.11	98	ePn	Pn	22 23 58.5	+1.0
OXF				eSn	Sn	22 25 08.9	+1.0
VBMS	Vicksburg	6.17	121	ePg	Pb	22 24 15.6	+1.2
127A	Arkansas Junct	6.21	244	⇑P	Pn	22 23 59.1	+0.2
	baz=6.2						
635A	Leesville	6.24	188	⇓P	Pn	22 23 59.2	-0.1
	baz=6.2						
U25A	Circle Dot Ran	6.27	280	⇑P	Pn	22 23 59.9	+0.1
	baz=6.3						
531A	Rocksprings	6.28	212	⇓P	Pn	22 23 58.9	-1.0
	baz=6.3						
W25A	X Bar L Ranch,	6.31	269	⇑P	Pn	22 24 00.7	+0.2
	baz=6.3						
634A	China Grove, S	6.33	193	⇑P	Pn	22 23 60.0	-0.6
	baz=6.3						
N28A	Pribbeno Ranch	6.34	325	⇓P	Pn	22 24 01.3	+0.6
	baz=6.4						
Q26A	Hugo	6.35	304	⇓P	Pn	22 24 01.7	+0.8
	baz=6.4						
T25A	Trinidad	6.38	286	⇓P	Pn	22 24 01.6	+0.2
	baz=6.4						
V25A	Rancho No Teng	6.41	275	⇓P	Pn	22 24 01.9	+0.1
	baz=6.4						
Z26A	Caprock	6.41	251	⇓P	Pn	22 24 01.8	0.0
	baz=6.4						
SIUC	Southern Illin	6.41	68	ePn	Pn	22 24 02.7	+1.1
SIUC				eSn	Sn	22 25 14.1	-1.2
M30A	Dale-Ortello V	6.42	339	⇓P	Pn	22 24 02.3	+0.4
	baz=6.5						
633A	Saathoff Ranch	6.45	199	⇓P	Pn	22 24 01.8	-0.4
	baz=6.4						
O27A	Beecher Island	6.46	317	⇓P	Pn	22 24 02.7	+0.3
	baz=6.5						
S25A	Robets Cordova	6.52	291	⇓P	Pn	22 24 03.7	+0.3
	baz=6.5						
R25A	Fountain Ranch	6.56	295	⇓P	Pn	22 24 04.4	+0.6
	baz=6.6						
429A	Davenport Ranc	6.57	223	⇓P	Pn	22 24 02.8	-1.0
	baz=6.5						
P26A	Davis Ranch, A	6.57	309	⇑P	Pn	22 24 05.0	+0.9
	baz=6.6						
X25A	Clemmons Ranch	6.58	263	⇑P	Pn	22 24 04.0	-0.1
	baz=6.6						
632A	Uvalde	6.58	204	⇓P	Pn	22 24 03.6	-0.5
	baz=6.6						
M29A	Burnside Ranch	6.61	333	⇓P	Pn	22 24 05.3	+0.8
	baz=6.6						
530A	J-C Ranch, Com	6.66	217	⇑P	Pn	22 24 04.1	-1.0
	baz=6.6						
Y25A	Mesa, Roswell	6.75	258	⇑P	Pn	22 24 06.7	+0.2
	baz=6.7						
L30A	Spencer Herefo	6.76	341	⇑P	Pn	22 24 07.0	+0.5
	baz=6.8						
735A	Kenedy	6.77	188	⇓P	Pn	22 24 06.8	+0.1
	baz=6.8						
OGNE	Ogallala	6.78	324	ePn	Pn	22 24 08.0	+1.3
OGNE				ePg	Pg	22 24 36.1	-0.1
OGNE				eSg	Sg	22 26 00.8	-3.1
OGNE	Ogallala	6.78	324	⇑P	Pn	22 24 07.4	+0.7
	baz=6.8						
L31A	Butterfield Fa	6.78	347	⇓P	Pn	22 24 07.3	+0.6
	baz=6.8						
CLNB	Carlsbad	6.79	243	ePn	Pn	22 24 08.0	+1.0
M28A	Bar X Bar Ranc	6.84	329	⇓P	Pn	22 24 08.5	+0.9
	baz=6.9						
Q25A	Bedland, Calha	6.84	301	⇓P	Pn	22 24 09.2	+1.4
	baz=6.8						
SCIA	State Center	6.88	23	ePn	Pn	22 24 09.2	+1.1
SCIA				ePg	Pg	22 24 37.6	-0.7
N27A	Anderson Farm,	6.92	321	⇓P	Pn	22 24 09.6	+0.9
	baz=6.9						
V24A	Rampart Ranch,	6.94	274	⇑P	Pn	22 24 09.1	-0.1
	baz=6.9						
631A	Perdido Creek	6.96	209	⇑P	Pn	22 24 08.5	-0.6
	baz=6.9						
O26A	Horse Wrangler	6.97	314	⇑P	Pn	22 24 10.5	+1.1
	baz=7.0						
Z25A	Roswell	6.98	253	⇑P	Pn	22 24 09.3	-0.2
	baz=7.0						
P25A	Willow Gulch B	7.08	306	⇑P	Pn	22 24 12.2	+1.2
	baz=7.1						
W24A	Lazy 6 Ranch,	7.08	269	⇓P	Pn	22 24 11.8	+0.7
	baz=7.1						
L29A	Maesberg Ranch	7.09	337	⇑P	Pn	22 24 11.2	+0.1
	baz=7.1						
S24A	Houchin Ranch,	7.11	289	⇓P	Pn	22 24 12.5	+0.9
	baz=7.1						
T24B	San Luis	7.13	284	⇑P	Pn	22 24 12.3	+0.6
	baz=7.1						
529A	Stev Forest Ra	7.13	222	⇓P	Pn	22 24 11.2	-0.4
	baz=7.1						
GDL2	Guadalupe Moun	7.18	244	ePn	Pn	22 24 13.5	+1.2
733A	Divot King Ran	7.18	198	⇓P	Pn	22 24 12.6	+0.4
	baz=7.2						
X24A	Lazy VL Ranch,	7.20	264	⇓P	Pn	22 24 12.5	-0.2
	baz=7.2						
WVT	Waverly	7.26	83	ePn	Pn	22 24 13.0	-0.3
N26A	Koester Ranch,	7.30	318	⇑P	Pn	22 24 13.9	-0.1
	baz=7.3						
Y24A	Capitan	7.34	259	⇓P	Pn	22 24 14.5	-0.1
	baz=7.3						
SDCO	Great Sand Dun	7.36	290	ePn	Pn	22 24 16.0	+1.1
SDCO				ePg	Pg	22 24 43.5	-3.9
SDCO				eSg	Sg	22 26 19.1	-3.6
O25A	Wiggins	7.38	310	⇑P	Pn	22 24 16.2	+1.1
	baz=7.4						
M27A	Reverse DX Ran	7.40	325	⇑P	Pn	22 24 16.5	+1.2
	baz=7.4						
K30A	Basset	7.42	343	⇑P	Pn	22 24 16.2	+0.7
	baz=7.5						
Z24A	Sheeppen Canyo	7.47	255	⇑P	Pn	22 24 16.5	+0.1
	baz=7.4						
Q24A	Divide	7.50	299	⇓P	Pn	22 24 17.5	+0.6
	baz=7.5						
P24A	Kohler Place,	7.58	304	⇓P	Pn	22 24 18.9	+1.1
	baz=7.6						
OLIL	Olney	7.58	63	ePn	Pn	22 24 21.0	+3.3
833A	Chaparral WMA,	7.58	198	⇑P	Pn	22 24 17.7	-0.1
	baz=7.6						
USIN	University of	7.66	69	ePn	Pn	22 24 19.4	+0.6
K29A	Lazy Trails An	7.68	340	⇑P	Pn	22 24 19.7	+0.6
	baz=7.7						
V23A	Ortiz Mt. (NFS	7.68	274	⇑P	Pn	22 24 19.7	+0.3
	baz=7.7						
W23A	Werner Place,	7.70	270	⇑P	Pn	22 24 19.7	+0.2
	baz=7.7						
U23A	El Rito	7.70	278	⇓P	Pn	22 24 20.1	+0.6
	baz=7.7						
M26A	McRoberts Ranc	7.72	321	⇑P	Pn	22 24 20.2	+0.5
	baz=7.7						
R23A	Moffat	7.73	292	⇑P	Pn	22 24 20.9	+0.9
	baz=7.7						
S23A	Nye Farm, Mont	7.74	289	⇑P	Pn	22 24 20.1	+0.1
	baz=7.7						
832A	Faith Ranch, C	7.78	202	⇓P	Pn	22 24 21.1	+0.6
	baz=7.8						
N25A	Grover	7.79	314	⇑P	Pn	22 24 21.0	+0.4
	baz=7.8						
L27A	T5 Ranch, Ells	7.81	328	⇓P	Pn	22 24 22.2	+1.3
	baz=7.8						
X23A	Hourglass Bar	7.81	265	⇓P	Pn	22 24 21.1	+0.1
	baz=7.8						
Y23A	Lovelace Mesa,	7.84	261	⇓P	Pn	22 24 21.9	+0.4
	baz=7.8						
K28A	Ten Mile Ranch	7.97	335	⇑P	Pn	22 24 24.0	+0.9
	baz=8.0						
ANMO	Albuquerque	7.97	268	Pn	Pn	22 24 24.1	+0.9
	0.9nm,0.3s,baz=91,slow=14,SNR=15						
ANMO				Pg	Pb	22 24 52.1	+6.9
	3.4nm,0.3s,baz=84,slow=15,SNR=32						
ANMO				Lg	Lg	22 26 37.1	
	13nm,0.3s,baz=36,slow=19,SNR=4.8						
ANMO				LR	LR	22 28 04.6	
	comp=Z,245nm,21.6s,baz=126,slow=43						
ANMO	Albuquerque	7.97	268	ePn	Pn	22 24 23.5	+0.3
ANMO				Pg	Pb	22 24 52.1	+6.9
ANMO				ePg	Pg	22 24 54.5	-4.5
ANMO				Lg	Lg	22 26 37.1	
O24A	Longmont	7.99	307	⇓P	Pn	22 24 24.5	+1.1
	baz=8.0						
J30A	Dallas	8.01	345	⇑P	Pn	22 24 23.9	+0.2
	baz=8.1						
KVTX	Kingsville	8.08	187	ePn	Pn	22 24 28.8	+4.3
L26A	Underwood Farm	8.12	324	⇑P	Pn	22 24 25.4	+0.2
	baz=8.1						
ECSD	EROS Data Cent	8.14	1	ePn	Pn	22 24 25.1	-0.2
ECSD				ePg	Pg	22 24 58.5	-3.7
ECSD				eSn	Sn	22 25 58.2	+0.4

ECSD EROS Data Cent 8.14 1 ⇑P Pn 22 24 25.4 +0.1
baz=8.2
P23A Jefferson 8.16 300 ⇑P Pn 22 24 27.2 +1.3
baz=8.2
M25A Palm-Egli Farm 8.18 318 ⇑P Pn 22 24 26.3 +0.3
baz=8.2
MNTX Cornudas Mount 8.18 244 ePn Pn 22 24 25.9 0.0
ISCO Idaho Springs 8.19 304 ePn Pn 22 24 27.4 +1.1
ISCO ePg Pb 22 24 56.4 +7.4
ISCO eSg Sg 22 26 46.7 -2.6
ISCO Idaho Springs 8.19 304 ⇓P Pn 22 24 26.5 +0.2
baz=8.2
LPM Los Pinos Moun 8.22 264 ePn Pn 22 24 26.1 -0.5
LPM ePg Pb 22 24 56.1 +6.6
933A Laredo 8.24 196 ⇓P Pn 22 24 26.5 -0.2
baz=8.2
BNM Barren Site 8.25 263 ePn Pn 22 24 27.2 +0.1
N24A Carr 8.27 312 ⇑P Pn 22 24 27.8 +0.5
baz=8.3
J29A Okreek 8.28 342 ⇓P Pn 22 24 28.1 +0.7
baz=8.3
K27A Flueckinger Fa 8.29 331 ⇓P Pn 22 24 27.7 +0.3
baz=8.3
S22A 4UR Ranch, Cre 8.38 288 ⇑P Pn 22 24 29.9 +0.8
baz=8.4
LRAL Lakeview Retre 8.46 105 ePn Pn 22 24 30.1 +0.4
LRAL eSg Sg 22 26 58.4 +0.5
TX31 Lajitas Ar. Si 8.55 225 ePn Pn 22 24 30.1 -1.0
TXAR Lajitas Array 8.55 225 Pn Pn 22 24 29.0 -2.1
2.5nm,0.3s,baz=46,slow=14,SNR=65
TXAR Lg Lg 22 26 50.3
17nm,0.3s,baz=46,slow=25,SNR=6.3
I30A Oacoma 8.57 347 ⇑P Pn 22 24 31.9 +0.6
baz=8.6
O23A Lake Granby, G 8.59 305 ⇑P Pn 22 24 32.9 +1.0
baz=8.6
M24A Cheyenne 8.63 315 ⇓P Pn 22 24 32.5 +0.2
baz=8.6
L25A Engebretsen Ra 8.64 322 ⇑P Pn 22 24 32.5 +0.1
baz=8.7
034A Hebbronville 8.66 192 ⇓P Pn 22 24 32.3 -0.1
baz=8.6
J27A Elkhorn Farm, 8.67 334 ⇓P Pn 22 24 33.0 +0.3
baz=8.7
WCI Wyandotte Cave 8.78 69 ePn Pn 22 24 35.8 +1.7
SWET Sewanee 8.84 89 ePn Pn 22 24 36.4 +1.5
I29A Vivian Onida 8.86 343 ⇓P Pn 22 24 35.1 -0.1
baz=8.9
JFWS Jewell Farm 8.88 33 ePn Pn 22 24 37.5 +2.0
JFWS eLg Lg 22 27 09.5
BLO Bloomington 8.89 63 ePn Pn 22 24 36.5 +0.9
SMCO Snowmass 8.89 297 ePn Pn 22 24 39.7 +3.6
PHWY Pilot Hill 8.90 312 ePn Pn 22 24 36.7 +0.7
K25A Mack Ranch, Ha 8.93 324 ⇑P Pn 22 24 36.4 0.0
baz=9.0
N23A Red Feather La 8.97 309 ⇓P Pn 22 24 37.9 +0.9
baz=9.0
SFIN Scholer Farm 8.99 55 ePn Pn 22 24 39.0 +2.0
O22A Kremmling 8.99 303 ⇑P Pn 22 24 37.8 +0.4
baz=9.0
BRSD Miller 9.01 350 ePn Pn 22 24 38.5 +1.3
BRSD Miller 9.01 350 ⇓P Pn 22 24 37.5 +0.2
baz=9.0
I28A Midland 9.06 339 ⇑P Pn 22 24 38.4 +0.4
baz=9.1
J26A Sides Ranch, S 9.13 330 ⇑P Pn 22 24 39.4 +0.3
baz=9.2
M23A Laramie 9.16 313 ⇓P Pn 22 24 40.2 +0.7
baz=9.2
N22A Wattenberg Ran 9.24 307 ⇑P Pn 22 24 40.2 -0.5
baz=9.2
I27A Quinn 9.40 336 ⇑P Pn 22 24 42.8 +0.1
baz=9.4
H29A Onida 9.41 345 ⇑P Pn 22 24 42.4 -0.4
baz=9.4
J25A Sunshine Ranch 9.51 327 ⇓P Pn 22 24 44.4 +0.2
baz=9.5
L23A Garrett 9.55 316 ⇑P Pn 22 24 44.4 -0.5
baz=9.6
MVCO Mesa Verde 9.61 283 ePn Pn 22 24 48.1 +2.3
H28A Mission Ridge 9.65 341 ⇓P Pn 22 24 45.6 -0.5
baz=9.7
121A Cookes Peak, D 9.65 255 ePn Pn 22 24 46.9 +0.6
M22A Cedar Creek Ra 9.66 310 ⇓P Pn 22 24 47.8 +1.4
baz=9.7
G30A Faulkton 9.71 350 ⇓P Pn 22 24 46.0 -0.8
baz=9.7
PV01 Paradox Valley 9.81 288 ePn Pn 22 24 49.5 +1.0
J24A Dixon Ranch, L 9.86 324 ⇓P Pn 22 24 49.1 +0.1
baz=9.9
G29A Hoven 9.89 347 ⇓P Pn 22 24 48.9 -0.5
baz=9.9
H27A Howes 9.91 337 ⇑P Pn 22 24 49.6 -0.1
baz=9.9
L22A Ellis Ranch, M 9.92 313 ⇑P Pn 22 24 50.4 +0.4
baz=9.9
CPCT Cooper Cave 9.96 87 ePn Pn 22 24 50.4 0.0
I25A Rochford 9.99 330 ⇑P Pn 22 24 51.5 +0.7
baz=10.0
G28A Parade 9.99 343 ⇑P Pn 22 24 50.6 -0.2
baz=10.0
SPMN St. Paul 10.08 16 ePn Pn 22 24 50.8 -1.2
SPMN eSn Sn 22 26 41.1 -4.4
SPMN St. Paul 10.08 16 ⇑P Pn 22 24 51.5 -0.5
baz=10
PV04 Paradox Valley 10.12 290 ePn Pn 22 24 55.8 +3.1
H26A Fairpoint 10.13 335 ⇑P Pn 22 24 52.6 -0.1
baz=10
RSSD Black Hills 10.20 329 ePn Pn 22 24 54.0 +0.3
RSSD eLg Lg 22 27 49.5
K22A Casper 10.36 316 ePn Pn 22 24 56.3 +0.4
F29A Eureka 10.50 348 ⇓P Pn 22 24 56.5 -1.2
baz=10
G27A Dupree 10.54 340 ⇓P Pn 22 24 57.3 -1.1
baz=11
TKL Tuckaleechee C 10.56 86 Pn Pn 22 24 58.0 -0.5
1.0nm,0.3s,baz=232,slow=9.3,SNR=13
TKL Lg Lg 22 27 55.5
6.6nm,0.3s,baz=154,slow=15,SNR=5.5
G26A Maurine 10.67 337 ⇑P Pn 22 24 59.1 -1.0
baz=11
F28A McLaughlin 10.70 345 ⇑P Pn 22 25 00.4 -0.1
baz=11
J22A Midwest 10.84 319 ⇑P Pn 22 25 01.2 -1.3
baz=11
G25A Newell 10.86 334 ⇓P Pn 22 25 02.0 -0.7
baz=11
H24A Dirks Ranch, A 10.92 329 ⇑P Pn 22 25 02.9 -0.7
baz=11
F27A Lemmon 11.02 340 ⇓P Pn 22 25 04.3 -0.6
baz=11
E29A Napoleon 11.19 350 ⇑P Pn 22 25 05.6 -1.4
baz=11
F26A Lodgepole 11.19 338 ⇑P Pn 22 25 06.0 -1.2
baz=11
E27A Carson 11.42 343 ⇓P Pn 22 25 09.3 -1.1
baz=12
F25A Bowman 11.51 336 ⇓P Pn 22 25 10.4 -1.1
baz=12
SRU San Rafael 11.52 292 ePn Pn 22 25 12.9 +1.1
I21A Big Trails, Te 11.54 319 ⇓P Pn 22 25 11.3 -0.8
baz=12
D30A Buchanan 11.61 353 ⇑P Pn 22 25 10.1 -2.8
baz=12
ACSO Alum Creek Sta 11.81 63 ePn Pn 22 25 14.8 -0.9
D28A Regan 11.94 347 ⇓P Pn 22 25 15.6 -1.8
baz=12
COWI Conover 11.97 26 ePn Pn 22 25 18.0 +0.2
PDAR Pinedale Array 12.25 310 Pn Pn 22 25 20.8 -1.0
0.5nm,0.3s,baz=125,slow=14,SNR=9.9
PDAR Lg Lg 22 28 47.3
0.5nm,0.3s,baz=117,slow=32,SNR=3.6
MVU Marysvale 12.70 288 ePn Pn 22 25 30.8 +2.8
AGMN Agassiz Nation 12.72 3 ⇑P Pn 22 25 25.0 -3.0
baz=13
C26A Wahner Farm, P 12.86 344 ⇑P Pn 22 25 28.1 -1.9
baz=13
B30A Myrvik Farm, E 12.91 355 ⇑P Pn 22 25 27.2 -3.4
baz=13
B28A Dugan Ranch, T 13.13 349 ⇓P Pn 22 25 31.0 -2.6
baz=13
A30A Hoffart Farm, 13.39 356 ⇓P Pn 22 25 33.6 -3.6
baz=13
A29A Manning Farm, 13.45 353 ⇑P Pn 22 25 34.6 -3.4
baz=14
A26A Wade Farm, Ken 13.86 345 ⇑P Pn 22 25 40.7 -3.0
baz=14
DGMT Dagmar 14.00 339 ⇓P Pn 22 25 43.0 -2.6
baz=14
B23A Brockton 14.24 337 ⇓P Pn 22 25 46.4 -2.4
baz=14
A24A Westby 14.36 340 ⇑P Pn 22 25 46.7 -3.7
baz=14
A23A Redstone 14.64 338 ⇓P Pn 22 25 51.4 -2.9
baz=15
ULM Lac du Bonnet 14.67 2 Pn Pn 22 25 49.5 -5.2
3.1nm,0.3s,baz=178,slow=13,SNR=26
ULM Lg Lg 22 30 04.7
1.2nm,0.3s,baz=154,slow=5.2,SNR=4.5
ELK Elko 15.43 295 Pn Pn 22 26 06.2 +1.1
0.1nm,0.3s,baz=86,slow=19,SNR=4.7
YBH Yreka Blue Hor 21.14 295 P P 22 27 13.5 +1.0
9.4nm,0.7s,baz=100,slow=3.1,SNR=3.1
EDM Edmonton 21.16 332 eP P 22 27 13.3 +0.8
YKA Yellowknife Ar 29.15 343 P P 22 28 29.1 +0.8
0.5nm,0.6s,baz=141,slow=8.1,SNR=9.2
ILAR Eielson Array 41.64 330 P P 22 30 16.8 +1.3
0.7nm,0.7s,baz=102,slow=7.3,SNR=11

BJI 27 22:22:30.8, 33.47S×71.01W, h35km, mB5.2/6, Ms5.5/4, Ms7 5.4/5
MOS 27 22:22:30.7±0.9, 33.94S×71.18W, h33km, mb5.4/9, Error ellipse: s-maj=25.0km s-min=12.0km az=96.5
NEIC 27 22:22:31.6±0.2, 33.99S×71.38W, h35km, mb5.3/26, MS5.0/94, Error ellipse: s-maj=9.0km s-min=5.7km az=71.0
IDC 27 22:22:33.4±0.7, 34.03S×71.48W, h49km±6km, mb4.6/19, mb1 4.7/22, mb1mx4.5/41, mbtmp4.9/22, Error ellipse: s-maj=13.4km s-min=11.1km az=108.0
GUC 27 22:22:33.6±0.4, 33.98S×71.39W, h45km±2km, ML5.2
SJA 27 22:22:33.0±0.7, 33.96S×71.58W, h72km±999km, ML4.5
ISCJB 27 22:22:33.2±0.6, 34.02S±0.04×71.37W±0.07, h62km±5km, mb5.0/31, Error ellipse: s-maj=9.4km s-min=6.3km az=161.1
ISC 27 22:22:32.8±0.5, 34.00S±0.04×71.41W±0.05, h45km±4km, h45km:pP-P, n268, σ1.27/221, mb5.2/32, MS5.0/98, 6C-3D,
Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TACH Talagante 0.52 49⇑iP Pn 22 22 45.0 +0.8
RCDM Rinconada Maip 0.71 45⇓iP Pn 22 22 47.2 +0.5
RCDM iS Sn 22 22 57.5 +0.9
SAN Santiago 0.83 49⇑iP Pn 22 22 49.0 +0.9
SAN eS Sn 22 23 00.8 +1.5
STL Santa Lucia 0.85 49⇓iP Pn 22 22 48.3 -0.2
STL iS Sn 22 23 00.3 +0.5
IHA Instituto Hidr 0.99 349⇑iP Pn 22 22 51.4 +1.1
IHA iS Sn 22 23 05.4 +2.3
PEL Peldehue 1.04 36⇑iP Pn 22 22 52.6 +1.4
PEL iS Sn 22 23 06.6 +2.0
PEL AML AML 22 23 17.1
comp=E,69μm,0.7s
ROCH El Roble 1.07 18⇑iP Pn 22 22 53.3 +1.6
ROCH iS Sn 22 23 07.9 +2.3
ROCH AML AML 22 23 10.5
comp=N,416μm,0.4s
FCH Farellones 1.15 55⇓iP Pn 22 22 52.2 -0.6
FCH iS Sn 22 23 08.2 +0.6
FCH AML AML 22 23 11.6
comp=N,45μm,0.2s
AAGR Agrelo 2.34 68 iP Pn 22 23 12.9 +3.9
AAGR iP Pn 22 23 12.9 +3.9
ARCO CERRO ARCO 2.37 62 iP Pn 22 23 13.7 +4.3
ARCO iS Sn 22 23 42.8 +5.4
ARCO AML AML 22 23 47.7
comp=Z,2μm,0.5s
AUSP Uspallata 2.45 44 iP Pn 22 23 14.3 +3.6
AVIZ Vizcacheras 2.47 79 iP Pn 22 23 14.7 +4.1
ASAL Salagasta 2.57 58 iP Pn 22 23 16.2 +4.1
ASAL iS Sn 22 23 47.9 +5.7
RTLS Leoncito 2.82 40 iP Pn 22 23 19.2 +3.5
CFAA Coronel Fontan 3.58 49 P Pn 22 23 29.2 +3.3
comp=Z,21nm,0.3s,baz=210,slow=18,SNR=13
CFAA S Sn 22 24 11.8 +4.8
comp=Z,79nm,0.3s,baz=338,slow=18,SNR=6.1
PLCA Paso Flores 6.76 174 eP Pn 22 24 12.2 +2.7
PLCA Paso Flores 6.76 174 P Pn 22 24 11.4 +1.8
comp=Z,7.1nm,0.3s,baz=338,slow=12,SNR=6.6
PLCA Paso Flores 6.76 174 ePn Pn 22 24 12.2 +2.7
TRQA Tornquist 8.65 121 ePn Pn 22 24 36.4 +1.0
CPUP Villa Florida 14.37 62 ePn Pn 22 25 52.8 -0.7
LPAZ La Paz 17.88 10 eP Pn 22 26 38.1 -0.7
LPAZ pmax pmax
comp=Z,126nm,1.3s
LPAZ La Paz 17.88 10 P P 22 26 40.3 +1.2
comp=Z,0.8nm,0.3s,baz=149,slow=8.6,SNR=4.2
LPAZ La Paz 17.88 10 ePn Pn 22 26 38.1 -0.7
comp=Z,126nm,1.3s
EFI East Falkland 20.14 155 eP P 22 27 01.9 -1.0
EFI pmax pmax
comp=Z,73nm,0.7s
EFI MLR MLR
comp=Z,3μm,19.0s
EFI East Falkland 20.14 155 eP P 22 27 01.9 -1.0
comp=Z,73nm,0.7s
EFI LR LR
comp=Z,3μm,19.0s
SIV San Ignacio 20.20 30 P P 22 27 03.8 -0.2
comp=Z,36nm,0.7s,baz=212,slow=9.0,SNR=26
USHA Ushuaia 20.94 175 P P 22 27 11.7 +0.2
comp=Z,50nm,1.2s,baz=10,slow=12,SNR=2.6
SAML Samuel 26.05 19 eP P 22 28 04.1 +2.1
comp=Z,37nm,0.8s
SAML LR LR
comp=Z,600nm,20.0s
BDFB Brasilia 27.90 55 eP P 22 28 17.8 -1.0
BDFB Brasilia 27.90 55 P P 22 28 18.2 -0.6
comp=Z,39nm,0.8s,baz=221,slow=7.0,SNR=11
BDFB Brasilia 27.90 55 eP P 22 28 17.8 -1.0
ROSC El Rosal 38.74 355 P P 22 29 55.3 +2.1
comp=Z,9.2nm,0.6s,baz=83,slow=9.0,SNR=4.9
ROSC El Rosal 38.74 355 eP P 22 29 53.6 +0.3
SDV Santo Domingo 42.65 1 eP P 22 30 24.5 -0.7
comp=Z,20nm,1.0s
RCBR Riachuelo 43.20 58 PFAKE 22 30 40.0 +10
RCBR LR LR
comp=Z,3μm,20.0s
JTS JuntasAbangare 45.88 341 PFAKE 22 31 00.0 +9.1
JTS LR LR
comp=Z,400nm,22.0s
VNA3 Neumayer Olymp 49.17 158 P P 22 31 16.9 +1.1
VNA2 Neumayer--Watz 49.81 157 P P 22 31 21.7 +0.9
SNAA Sanae 51.39 158 P P 22 31 33.7 +0.9
SNAA Sanae 51.39 158 eP P 22 31 33.6 +0.9
SNAA pmax pmax
comp=Z,58nm,1.0s
SNAA Sanae 51.39 158 P P 22 31 33.3 +0.7
comp=Z,16nm,0.9s,baz=282,slow=6.4,SNR=13
SNAA Sanae 51.39 158 eP P 22 31 33.6 +0.9
comp=Z,58nm,1.0s
CRPR Cabo Rojo, PR 51.87 5 eP P 22 31 36.0 -0.7
comp=Z,42nm,1.0s
CRPR LR LR
comp=Z,300nm,20.1s
SABA Saba 51.91 10 eP P 22 31 36.1 -0.9
comp=Z,96nm,0.8s
SABA LR LR
comp=Z,2μm,20.5s
OBIP Obispado Ponce 51.95 6 eP P 22 31 36.9 -0.4
comp=Z,40nm,0.9s
JAKH Jacmel 51.95 359 PFAKE 22 31 50.0 +13
JAKH LR LR
comp=Z,500nm,19.8s
CELP Cerrillos 51.98 6 eP P 22 31 37.0 -0.5
LRS Lares 52.18 5 eP P 22 31 38.2 -0.8
MTDJ Mount Denham 52.26 353 PFAKE 22 31 50.0 +10
MTDJ LR LR
comp=Z,500nm,20.0s
SMRT St. Maarten 52.36 10 PFAKE 22 31 50.0 +10
SMRT LR LR
comp=Z,900nm,20.0s
GTBY Guantanamo Bay 53.74 356 eP P 22 31 50.2 -0.3
comp=Z,37nm,1.1s
GTBY LR LR
comp=Z,400nm,20.0s
QSPA South Pole Qui 56.24 180 P P 22 32 09.9 +1.7
comp=Z,15nm,0.9s,baz=143,slow=4.5,SNR=5.1
QSPA South Pole Qui 56.24 180 eP P 22 32 09.6 +1.3
comp=Z,29nm,1.1s
QSPA eP pP 22 32 09.9 -11
TEIG Tepich 56.26 341 P P 22 32 09.1 +0.4
comp=Z,19nm,0.8s,baz=207,slow=15,SNR=3.8
TEIG Tepich 56.26 341 eP P 22 32 09.4 +0.7
comp=Z,73nm,1.4s
TEIG LR LR
comp=Z,400nm,21.0s
SYO Syowa Base 65.68 158⇑eP P 22 33 10.2 -1.8
SACV Santiago Islan 66.64 51 PFAKE 22 33 30.0 +11
SACV LR LR
comp=Z,700nm,19.0s
LTX Lajitas 69.99 330 eP P 22 33 41.0 +1.3
LTX e*PP pP 22 33 52.6 -0.3
LTX Lajitas 69.99 330 eP P 22 33 41.0 +1.3
LTX epP pP 22 33 52.6 -0.3
TXAR Lajitas Array 69.99 330 P P 22 33 41.0 +1.3
comp=Z,1.4nm,0.6s,baz=152,slow=5.8,SNR=3.4
TXAR pP pP 22 33 52.6 -0.3
comp=Z,0.9nm,0.5s,baz=155,slow=9.4,SNR=2.5
WVT Waverly 71.43 346 eP P 22 33 48.6 +0.4
WVT pmax pmax
comp=Z,35nm,0.8s
WVT Waverly 71.43 346 eP P 22 33 48.5 +0.4
comp=Z,35nm,0.8s
PBMO Poplar Bluff 72.61 344 PFAKE 22 34 10.0 +15
PBMO LR LR
comp=Z,800nm,21.3s
SUR Sutherland 74.37 119 P P 22 34 06.9 +0.6
comp=Z,21nm,0.9s,baz=277,slow=3.3,SNR=5.2
SUR Sutherland 74.37 119 eP P 22 34 06.9 +0.6
comp=Z,481nm,2.8s
SSPA Standing Stone 74.50 355 PFAKE 22 34 20.0 +14
SSPA LR LR
comp=Z,600nm,20.6s
DBIC Dimbokro 74.69 71 eP P 22 34 07.8 -0.2
DBIC pmax pmax
comp=Z,29nm,1.0s
DBIC Dimbokro 74.69 71 P P 22 34 07.0 -0.9
comp=Z,16nm,0.8s,baz=210,slow=7.0,SNR=9.0
DBIC Dimbokro 74.69 71 eP P 22 34 07.8 -0.2
comp=Z,29nm,1.0s
ANMO Albuquerque 76.03 331 PFAKE 22 34 30.0 +15
ANMO LR LR
comp=Z,700nm,20.0s
TRY Troy 76.39 358 PFAKE 22 34 30.0 +13
TRY LR LR
comp=Z,1μm,18.1s
KSU1 Kansas State U 76.39 340 PFAKE 22 34 30.0 +13
KSU1 LR LR
comp=Z,700nm,22.0s
T25A Trinidad 77.16 333 PFAKE 22 34 30.0 +8.1
T25A LR LR
comp=Z,600nm,22.0s
W18A Petrified Fore 77.55 329 PFAKE 22 34 40.0 +16
W18A LR LR
comp=Z,600nm,19.7s
SCIA State Center 78.14 344 PFAKE 22 34 40.0 +13
SCIA LR LR
comp=Z,600nm,19.0s
EMMW East Machias 78.42 3 PFAKE 22 34 40.0 +12
EMMW LR LR
comp=Z,3μm,18.9s
JFWS Jewell Farm 78.46 346 PFAKE 22 34 40.0 +11
JFWS LR LR
comp=Z,500nm,18.0s
TSUM Tsumeb 78.71 106 P P 22 34 31.3 +0.4
comp=Z,22nm,0.9s,baz=242,slow=5.0,SNR=18
TSUM Tsumeb 78.71 106 eP P 22 34 30.9 0.0
comp=Z,28nm,0.9s
TSUM eP P 22 34 31.3 +0.4
BOSA Boshof 79.61 117 P P 22 34 35.9 +0.2
comp=Z,46nm,0.9s,baz=234,slow=5.4,SNR=23
BOSA Boshof 79.61 117 eP P 22 34 35.9 +0.2
BOSA eP P 22 34 36.0 +0.2
SMCO Snowmass 79.91 333 PFAKE 22 34 50.0 +13
SMCO LR LR
comp=Z,600nm,18.0s
KNB Kanab 80.50 328 PFAKE 22 34 50.0 +10
KNB LR LR
comp=Z,600nm,20.3s
ECSD EROS Data Cent 80.71 342 eP P 22 34 39.9 -0.9
comp=Z,23nm,1.0s
CCUT Cedar City 81.18 327 PFAKE 22 35 00.0 +16
CCUT LR LR
comp=Z,500nm,20.4s
TMUT Trail Mountain 81.71 330 PFAKE 22 35 00.0 +13
TMUT LR LR
comp=Z,900nm,18.9s
LBTB Lobatse 81.83 115 eP P 22 34 47.3 -0.3
LBTB pmax pmax
comp=Z,37nm,0.8s
LBTB Lobatse 81.83 115 P P 22 34 47.6 0.0
comp=Z,28nm,0.8s,baz=257,slow=5.2,SNR=16
LBTB Lobatse 81.83 115 eP P 22 34 47.3 -0.3
comp=Z,37nm,0.8s
R11A Troy Canyon, C 82.84 326 eP P 22 34 53.7 +1.2
comp=Z,7.4nm,1.0s
R11A LR LR
comp=Z,700nm,20.5s
JLU Jordanelle 82.91 330 PFAKE 22 35 00.0 +7.2
JLU LR LR
comp=Z,400nm,18.3s
DUG Dugway 83.13 329 PFAKE 22 35 10.0 +16
DUG LR LR
comp=Z,400nm,18.0s
TPH Tonopah 83.38 325 eP P 22 34 55.5 +0.2
TPH pmax pmax
comp=Z,11nm,1.2s
TPH Tonopah 83.38 325 eP P 22 34 55.5 +0.2
comp=Z,11nm,1.2s
KHZ Kahutara 83.48 222 PFAKE 22 35 10.0 +14
KHZ LR LR
comp=Z,2μm,22.0s
SNZO South Karori 83.53 224 PFAKE 22 35 10.0 +14
SNZO LR LR
comp=Z,600nm,18.0s
TOA0 Torodi Ar. Sit 83.72 70 eP P 22 34 56.6 -0.7
TOA0 eP PcP 22 34 57.0 -4.3
TORD Torodi Ar. Bea 83.72 70 P P 22 34 57.0 -0.2
comp=Z,27nm,0.8s,baz=252,slow=4.4,SNR=25
HWUT Hardware Ranch 83.80 331 eP P 22 34 58.0 +0.7
comp=Z,128nm,2.8s
HWUT LR LR
comp=Z,300nm,18.0s
SPUT South Promonto 83.91 330 PFAKE 22 35 10.0 +12
SPUT LR LR
comp=Z,500nm,18.1s
BW06 Boulder Array 84.00 333 eP P 22 34 57.6 -0.7
PDAR Pinedale Array 84.00 333 P P 22 34 58.1 -0.3
comp=Z,2.6nm,1.0s,baz=132,slow=15,SNR=5.4
PDAR pP pP 22 35 12.4 +0.6
comp=Z,1.2nm,0.7s,baz=134,slow=8.5,SNR=3.5
NV01 Mina Array Sit 84.18 325 eP P 22 34 59.2 -0.2
NVAR Mina Array Bea 84.18 325 P P 22 35 00.8 +1.5
comp=Z,2.0nm,0.8s,baz=151,slow=5.4,SNR=4.6
AHID Auburn Hatcher 84.59 332 PFAKE 22 35 10.0 +8.7
AHID LR LR
comp=Z,300nm,18.0s
ELK Elko 84.63 328 eP P 22 35 01.8 +0.2
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK MLR MLR
comp=Z,400nm,18.5s
ELK Elko 84.63 328 P P 22 35 02.5 +0.9
comp=Z,3.6nm,0.8s,baz=167,slow=1.3,SNR=5.5
ELK pP pP 22 35 15.8 +0.7
comp=Z,2.5nm,0.8s,baz=212,slow=0.8,SNR=4.4
ELK Elko 84.63 328 eP P 22 35 01.8 +0.2
comp=Z,5.7nm,1.0s
ELK LR LR
comp=Z,400nm,18.5s
AGMN Agassiz Nation 84.80 344 PFAKE 22 35 10.0 +8.1
AGMN LR LR
comp=Z,800nm,21.0s
REDW Red Top Meadow 85.00 332 PFAKE 22 35 10.0 +6.6
REDW LR LR
comp=Z,800nm,20.6s
SNOW Snow King Moun 85.05 332 PFAKE 22 35 20.0 +16
SNOW LR LR
comp=Z,600nm,20.1s
LOHW Long Hollow 85.12 333 PFAKE 22 35 20.0 +16
LOHW LR LR
comp=Z,400nm,19.7s
TPAW Teton Pass 85.15 332 PFAKE 22 35 20.0 +16
TPAW LR LR

comp=Z,400nm,18.5s
BMN Battle Mountai 85.27 327 PFAKE 22 35 20.0 +15
BMN LR LR
comp=Z,700nm,21.0s
FXWY Fox Creek 85.30 332 PFAKE 22 35 20.0 +15
FXWY LR LR
comp=Z,600nm,21.4s
H17A Grant Village 85.77 333 PFAKE 22 35 20.0 +13
H17A LR LR
comp=Z,600nm,20.0s
LKWY Lake 85.85 333 PFAKE 22 35 20.0 +12
LKWY LR LR
comp=Z,600nm,18.0s
RLMT Red Lodge 85.91 334 PFAKE 22 35 20.0 +12
RLMT LR LR
comp=Z,800nm,22.0s
QLMT Earthquake Lak 86.46 333 eP P 22 35 12.0 +1.4
HLID Hailey 86.59 330 eP P 22 35 12.1 +0.9
comp=Z,6.7nm,1.0s
HLID LR LR
comp=Z,400nm,19.0s
ULM Lac du Bonnet 86.63 345 PFAKE 22 35 20.0 +9.0
ULM LR LR
comp=Z,400nm,18.7s
MCMT McKenzie Canyo 87.01 332 eP P 22 35 14.5 +1.2
MFID Camas Ranch 87.06 329 PFAKE 22 35 20.0 +6.6
MFID LR LR
comp=Z,600nm,19.0s
DGMT Dagmar 87.17 339 eP P 22 35 12.6 -1.1
comp=Z,24nm,0.8s
DGMT LR LR
comp=Z,500nm,19.6s
DLMT Dillon 87.36 332 PFAKE 22 35 30.0 +15
DLMT LR LR
comp=Z,500nm,20.7s
WVOR Wild Horse Val 87.50 327 PFAKE 22 35 30.0 +14
WVOR LR LR
comp=Z,800nm,19.1s
LRM Limekiln Ridge 87.69 333 eP P 22 35 17.7 +1.1
MOD Modoc 87.85 326 eP P 22 35 18.9 +1.5
comp=Z,128nm,3.0s
OUZ Omahuta 88.16 228 PFAKE 22 35 30.0 +11
OUZ LR LR
comp=Z,4µm,19.6s
YBH Yreka Blue Hor 88.87 324 eP P 22 35 22.0 0.0
YBH Yreka Blue Hor 88.87 324 P P 22 35 21.8 -0.3
comp=Z,2.6nm,0.7s,baz=72,slow=6.4,SNR=5.6
YBH Yreka Blue Hor 88.87 324 eP P 22 35 22.0 0.0
comp=Z,173nm,2.8s
LSZ Lusaka 89.31 108 eP P 22 35 23.2 -1.7
LSZ pmax pmax
comp=Z,11nm,0.9s
LSZ Lusaka 89.31 108 eP P 22 35 23.2 -1.7
comp=Z,11nm,0.9s
G06A Carlson Farm, 90.60 328 PFAKE 22 35 40.0 +10
G06A LR LR
comp=Z,2µm,20.5s
FFC Flin Flon 92.20 343 PFAKE 22 35 50.0 +13
FFC LR LR
comp=Z,700nm,18.0s
ESDC Sonseca Array 96.20 46 P P 22 35 54.5 -1.5
comp=Z,1.0nm,0.8s,baz=254,slow=4.7,SNR=3.4
ABPO Ambohimpanom 101.33 122 PFAKE 22 36 30.0 +10
ABPO LR LR
comp=Z,300nm,18.0s
YKA Yellowknife Ar 102.22 341 P Pdif 22 36 21.6 -0.6
comp=Z,0.5nm,0.8s,baz=139,slow=4.4,SNR=3.7
ARMA Armidale 104.13 217 PFAKE 22 36 40.0 +8.1
ARMA LR LR
comp=Z,400nm,18.2s
STKA Stephens Creek 107.47 209 PFAKE 22 41 10.0
STKA LR LR
comp=Z,100nm,19.6s
VLC Villacollemand 107.52 48 PFAKE 22 41 10.0
VLC LR LR
comp=Z,600nm,18.0s
WLF Walferdange 107.87 42 PFAKE 22 41 10.0
WLF LR LR
comp=Z,1µm,22.0s
MEM Membach 108.28 41 PFAKE 22 41 10.0
MEM LR LR
comp=Z,858µm,20.0s
EIDS Eidsvold 108.49 220 PFAKE 22 41 10.0
EIDS LR LR
comp=Z,300nm,19.6s
FUORN Ofenpass-Fuorn 108.68 46 PFAKE 22 41 10.0
FUORN LR LR
comp=Z,500nm,21.5s
STU Stuttgart 109.13 44 PFAKE 22 41 10.0
STU LR LR
comp=Z,600nm,19.0s
FURI Furi 111.56 94 PFAKE 22 41 10.0
FURI LR LR
comp=Z,500nm,18.0s
BMRM Bremner River 111.63 330 PFAKE 22 41 10.0
BMRM LR LR
comp=Z,600nm,21.8s
KHC Kasperske Hory 111.84 45 PFAKE 22 41 10.0
KHC LR LR
comp=Z,500nm,21.3s
CLL Collm 112.49 43 PFAKE 22 41 20.0
CLL LR LR
comp=Z,1µm,20.0s
PAX Paxson 113.00 331 PFAKE 22 41 20.0
PAX LR LR
comp=Z,400nm,18.5s
RUE Ruedersdorf 113.44 42 PFAKE 22 41 20.0
RUE LR LR
comp=Z,1µm,21.0s
PMR Palmer 113.85 329 PFAKE 22 41 20.0
PMR LR LR
comp=Z,700nm,18.8s
DPC Dobruska-Polom 113.97 44 PFAKE 22 41 20.0
DPC LR LR
comp=Z,2µm,21.0s
KONO Kongsberg 114.43 33 PFAKE 22 41 20.0 +13
KONO LR LR
comp=Z,1µm,20.7s
VYHS Vyhne 114.70 47 ePKIKP PKPdf 22 41 07.7 -0.1
VYHS Vyhne 114.70 47 ePKP PKPdf 22 41 07.7 -0.1
COLA College 114.84 333 PFAKE 22 41 20.0 +13
COLA LR LR
comp=Z,700nm,19.0s
TRF Thorofare Moun 115.16 331 PFAKE 22 41 20.0 +12
TRF LR LR
comp=Z,800nm,21.5s
OJC Ojcow 115.96 46 PFAKE 22 41 20.0 +10
OJC LR LR
comp=Z,600nm,20.3s
COLD Coldfoot 116.73 335 PFAKE 22 41 20.0 +8.9
COLD LR LR
comp=Z,400nm,21.9s
MSEY Mahe Island 116.88 117 PFAKE 22 41 20.0 +6.9
MSEY LR LR
comp=Z,600nm,18.0s
KOLS Kolonicke sedl 116.97 48 ePKIKP PKPdf 22 41 12.3 +0.1
KOLS Kolonicke sedl 116.97 48 ePKP PKPdf 22 41 12.3 +0.1
KWP Kalwaria Pacla 117.49 47 PFAKE 22 41 20.0 +6.9
KWP LR LR
comp=Z,1µm,22.0s
IM04 Indian Mountai 117.56 333 ePKPdf PKPdf 22 41 13.8 +1.0
BUR04 Bucovina Ar. S 118.34 50 ePKPdf PKPdf 22 41 14.5 -0.5
SUW Suwalki 119.25 42 ePKIKP PKPdf 22 41 15.8 -0.5
SUW Suwalki 119.25 42 ePKPdf PKPdf 22 41 15.8 -0.5
WRA Warramunga Arr 121.02 208 PKP PKPdf 22 41 20.3 -0.6
comp=Z,2.2nm,0.9s,baz=161,slow=1.8,SNR=6.8
BR101 Keskin Array S 121.38 61 ePKPdf PKPdf 22 41 20.6 -0.5
BRTR Keskin Array B 121.38 61 PKP PKPdf 22 41 20.6 -0.5
comp=Z,1.8nm,0.8s,baz=176,slow=3.7,SNR=6.4
AK11 Malin Array Si 121.76 47 ePKPdf PKPdf 22 41 19.9 -1.3
AKASG Malin Array Be 121.81 47 PKP PKPdf 22 41 20.4 -1.0
comp=Z,2.9nm,0.7s,baz=263,slow=2.7,SNR=8.8
AKBB Malin Array Si 121.81 47 ePKIKP PKPdf 22 41 20.4 -0.9
AKBB Malin Array Si 121.81 47 ePKPdf PKPdf 22 41 20.4 -0.9
KBS Kingsbay 121.83 13 PFAKE 22 41 30.0 +9.3
KBS LR LR
comp=Z,1µm,18.0s
COEN Coen 122.05 221 PFAKE 22 41 30.0 +7.0
COEN LR LR
comp=Z,4µm,21.3s
FIA0 FINESS Array S 122.69 34 ePKIKP PKPdf 22 41 21.1 -1.6
FIA0 FINESS Array S 122.69 34 ePKPdf PKPdf 22 41 21.1 -1.6
FINES FINESS Array B 122.69 34 PKP PKPdf 22 41 21.1 -1.6
comp=Z,2.1nm,0.9s,baz=207,slow=3.8,SNR=4.0
TNA Tin City 123.05 330 PFAKE 22 41 30.0 +6.7
TNA LR LR
comp=Z,303nm,18.9s
ARA0 ARCESS Array S 123.79 25 ePKPdf PKPdf 22 41 24.0 -0.7
ARA0 epPKPdf pPKPdf 22 41 38.5 -0.2
ARCES ARCESS Array B 123.79 25 PKP PKPdf 22 41 24.0 -0.7
comp=Z,6.8nm,1.1s,baz=241,slow=4.0,SNR=6.0
ARCES pPKP pPKPdf 22 41 38.5 -0.2
comp=Z,4.5nm,0.9s,baz=45,slow=10,SNR=1.6
GAMB Gambell 124.37 328 PFAKE 22 41 40.0 +14
GAMB LR LR
comp=Z,301nm,20.9s
RAYN Ar Rayn 124.48 83 PFAKE 22 41 40.0 +13
RAYN LR LR
comp=Z,28µm,22.0s
LVZ Lovozero 127.02 27 PFAKE 22 41 40.0 +9.1
LVZ LR LR
comp=Z,2µm,18.0s
OBN Obninsk 127.08 43 i PKIKP PKPdf 22 41 31.1 -0.2
OBN pmax pmax
comp=Z,11nm,1.3s
KLMR Klimovskoe 129.09 36 ePKIKP PKPdf 22 41 34.6 -0.4
KLMR pmax pmax
comp=Z,21nm,1.4s
BILL Bilibino 133.06 334 ePKIKP PKPdf 22 41 42.1 -0.2
BILL pmax pmax
comp=Z,5.0nm,1.3s
SOEI Soe 134.01 202 PFAKE 22 42 00.0 +14
SOEI LR LR
comp=Z,700nm,20.0s
MMRI Maumere 135.67 200 PFAKE 22 42 00.0 +11
MMRI LR LR
comp=Z,400nm,18.0s
CISI Cisompet, Garu 138.67 179 PFAKE 22 42 10.0 +15
CISI LR LR
comp=Z,500nm,21.0s
GEYT Alibeck 139.36 69 PKP PKPdf 22 41 52.8 -2.2
comp=Z,2.1nm,0.7s,baz=270,slow=4.4,SNR=4.6
ARU Arti 139.40 41 PFAKE 22 42 10.0 +16
ARU LR LR
comp=Z,5µm,19.0s
KAPI Kappang 139.79 197 PFAKE 22 42 10.0 +13
KAPI LR LR
comp=Z,300nm,19.0s
ABKAR Akbulak array 141.27 52 ePKPpre PKPpre 22 41 51.3
LUWI Luwuk 142.68 204 PFAKE 22 42 10.0 +8.3
LUWI LR LR
comp=Z,500nm,18.0s
PALK Pallekele 142.99 130 PFAKE 22 42 10.0 +7.7
PALK LR LR
comp=Z,3µm,19.0s
PMBI Palembang 143.10 174 PFAKE 22 42 10.0 +7.6
PMBI LR LR
comp=Z,800nm,21.0s
TOLI Toli-Toli 145.36 202 PFAKE 22 42 20.0 +14
TOLI LR LR
comp=Z,300nm,21.0s
BKNI Bangkinang 145.77 166 ePKPdf PKPdf 22 42 06.7 -0.4
GSI Gunungsitoli 145.88 160 ePKPdf PKPdf 22 42 06.1 -1.2
BRVK Borovoye 146.85 43 ePKP2 PKPdf 22 42 08.1 +0.5
BRVK Borovoye 146.85 43 ePKPdf PKPdf 22 42 08.1 +0.5
VOSK Vostochnaya 147.36 43 ePKIKP PKPdf 22 42 08.9 +0.4
VOSK Vostochnaya 147.36 43 ePKPdf PKPdf 22 42 08.9 +0.4
VOSK LR LR
comp=Z,7µm,18.5s
KSM Kuching 147.61 183 PFAKE 22 42 20.0 +5.0
KSM LR LR
comp=Z,500nm,21.0s
PSI Prapat 147.68 162 PKPbc PKPbc 22 42 12.5 -0.7
comp=Z,22nm,0.9s,baz=231,slow=4.3,SNR=11
HYB Hyderabad 148.46 114 i PKP PKPbc 22 42 14.0 -1.0
YAK Yakutsk 148.90 341 ePKP2 PKPbc 22 42 14.0 -0.7
YAK pmax pmax
comp=Z,35nm,1.0s
YAK Yakutsk 148.90 341 ePKPbc PKPbc 22 42 14.6 -0.1
KKAR Karatay Array 149.09 62 ePKP2 PKPbc 22 42 15.7 -0.2
KKAR Karatay Array 149.09 62 ePKPbc PKPbc 22 42 15.7 -0.2
IPM Ipoh 149.80 165 ePKPbc PKPbc 22 42 17.9 -0.7
YSS Yuzh-Sakhalins 151.21 307 ePKIKP PKPbc 22 42 23.0 +2.2
KKM Kota Kinabalu 151.30 196 PFAKE 22 42 30.0 -0.1
KKM LR LR
comp=Z,900nm,21.0s
AML Almayashu 151.50 63 P PKPbc 22 42 23.0 +0.8
SNR=6.7
EKS2 Erkin-Say 151.51 62 P PKPbc 22 42 22.9 +1.0
SNR=6.9
EKS2 Erkin-Say 151.51 62 ePKIKP PKPbc 22 42 22.3 +0.5
EKS2 Erkin-Say 151.51 62 ePKPbc PKPbc 22 42 22.3 +0.5
ASAJ Asahikawa 151.90 301 PFAKE 22 42 30.0 -1.9
ASAJ LR LR
comp=Z,799nm,21.3s
USP Ospenovka 151.97 61 P PKPbc 22 42 23.2 +0.4
SNR=7.5
AAK Ala-Archa 152.04 62 P PKPbc 22 42 24.3 +1.2
SNR=8.0
AAK Ala-Archa 152.04 62 PKPbc PKPbc 22 42 23.9 +0.8
comp=Z,18nm,0.8s,baz=201,slow=2.2,SNR=18
UCH Uchtor 152.10 63 P PKPbc 22 42 24.0 +0.3
SNR=10
CHMS Chumysh 152.19 61 P PKPbc 22 42 23.8 +0.5
SNR=7.0
KBK Karagaybulak 152.37 62 P PKPbc 22 42 24.6 +0.7
SNR=5.3
KURK Kurchatov 152.52 43 ePKIKP PKPbc 22 42 24.0 +0.4
KURK Kurchatov 152.52 43 ePKPbc PKPbc 22 42 24.0 +0.4
NVS Novosibirsk 152.66 33 ePKIKP PKPbc 22 42 22.1 -1.7
NVS e 22 42 34.7
NVS pmax pmax
comp=Z,45nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.4s
TKM2 Tokmak 2 152.81 61 P PKPbc 22 42 25.1 +0.2
SNR=5.5
TKM2 Tokmak 2 152.81 61 ePKIKP PKPdf 22 42 17.3 -0.4
TKM2 Tokmak 2 152.81 61 ePKPdf PKPdf 22 42 17.2 -0.4
KSH Kashi 153.38 69 ePKPbc PKPbc 22 42 25.0 -1.1
KSH epPKP PKPab 22 42 36.0 -2.5
KSH esPKP 22 42 40.5
KSH ePP PP 22 46 18.5 +5.6
KSH eSKS SKSdf 22 49 28.8 +6.9
ZAA1 Zalesovo Array 153.94 33 ePKPdf PKPdf 22 42 18.5 -0.2
ZAA1 ePKPdf PKiKP 22 42 26.9 +0.2
ZAA1 ePKPab PKPab 22 42 40.5 +0.4
ZAA0 Zalesovo Array 153.94 33 ePKPdf PKPdf 22 42 18.2 -0.5
ZAA0 ePKPdf PKiKP 22 42 26.9 +0.1
ZAA0 ePKPab PKPab 22 42 40.5 +0.5
ZALV Zalesovo Beam 153.94 33 PKP PKPdf 22 42 18.5 -0.2
comp=E,5.3nm,0.9s,baz=311,slow=2.9,SNR=4.6
ZALV PKPbc PKiKP 22 42 26.9 +0.2
comp=E,18nm,0.8s,baz=305,slow=2.9,SNR=17
ZALV PKPab PKPab 22 42 40.5 +0.4
comp=E,16nm,0.9s,baz=296,slow=4.8,SNR=8.7
MAJO Matsushiro 155.73 284 PFAKE 22 42 30.0 +8.3
MAJO LR LR
comp=Z,700nm,19.0s
MK32 Makanchi Array 156.37 49 ePKPdf PKPdf 22 42 22.2 0.0
MK32 ePKPdf PKPdf 22 42 31.9 +10
MK32 ePKPab PKPab 22 42 50.6 -0.1
MKAR Makanchi Array 156.37 49 PKP PKPdf 22 42 22.2 0.0
comp=Z,2.6nm,0.9s,baz=298,slow=2.6,SNR=4.2
MKAR PKPbc PKPbc 22 42 31.9
comp=Z,3.3nm,0.9s,baz=318,slow=1.6,SNR=5.4
MKAR PKPab PKPab 22 42 50.6 -0.1
comp=Z,5.0nm,0.8s,baz=298,slow=5.1,SNR=8.4
MK01 Makanchi Array 156.38 49 ePKPdf PKPdf 22 42 21.9 -0.4
MK01 ePKPab PKPab 22 42 50.6 -0.3
KOLN Koldanda 157.70 99 eP PKPdf 22 42 24.2 -0.6
comp=Z,24nm,1.1s
DANN Dangsing 158.05 98 eP PKPdf 22 42 25.4 +0.1
comp=Z,41nm,0.9s
GKN Gorkha 158.64 100 eP PKPdf 22 42 25.5 -0.4
comp=Z,23nm,1.1s
DMN Daman 158.87 101 eP PKPdf 22 42 26.0 -0.3
KKN Kakani 159.08 101 eP PKPdf 22 42 26.1 -0.4
PKIN Phulchoki 159.09 102 eP PKPdf 22 42 26.1 -0.5
PKI Pulchoki 159.10 102 eP PKPdf 22 42 26.1 -0.5
GUN Gumba 159.62 101 eP PKPdf 22 42 27.2 -0.1
JIRN Jiri 159.77 102 eP PKPdf 22 42 27.2 -0.3
RAMN Ramite 159.81 104 eP PKPdf 22 42 27.5 +0.1
ODAN Odare 160.40 106 eP PKPdf 22 42 28.0 0.0
TAPN Taplejung 160.87 105 eP PKPdf 22 42 28.6 0.0
WMQ Urumqi 161.06 53 PKP PKPdf 22 42 28.3 +0.3
WMQ LR LR
comp=Z,880nm,22.4s
WMQ LR LR
comp=Z,620nm,23.0s
WMQ LR LR
comp=Z,640nm,24.2s
CM31 Chiang Mai Arr 162.29 148 ePKPdf PKPdf 22 42 30.4 +0.4
CM31 ePKPab PKPab 22 43 16.7 -0.4
CMAR Chiang Mai Arr 162.29 148 PKP PKPdf 22 42 30.4 +0.4
comp=Z,1.8nm,1.0s,baz=250,slow=2.8,SNR=6.0
CMAR PKPab PKPab 22 43 16.7 -0.4
comp=Z,0.4nm,0.3s,baz=240,slow=6.6,SNR=5.7
LSA Lhasa 164.58 101 ePKIKP PKPdf 22 42 32.8 +0.4
LSA Lhasa 164.58 101 ePKPdf PKPdf 22 42 32.8 +0.4
LSA ePKPab PKPab 22 43 28.1 +0.4
SONA0 Songino Array 166.08 6 ePKPdf PKPdf 22 42 32.0 -0.6
SONA0 ePKPab PKPab 22 43 32.7 -0.5
SONM Songino Array 166.08 6 PKP PKPdf 22 42 32.0 -0.6
comp=Z,0.8nm,0.8s,baz=324,slow=2.0,SNR=2.5
SONM PKPab PKPab 22 43 32.7 -0.5
comp=Z,1.9nm,1.0s,baz=344,slow=4.8,SNR=5.7
GTA Gaotai 171.12 50 ePKP PKPdf 22 42 36.8 +0.6
GTA pPKP pPKPdf 22 42 47.8 -2.5
GTA sPKP 22 42 51.3
GTA PKPab PKPab 22 43 57.0 +1.1
NJ2 Nanjing 171.16 260 ePKP PKPdf 22 42 36.0 -0.2
GYA Guiyang 172.31 167 PKP PKPdf 22 42 37.5 +0.4
GYA pPKP pPKPdf 22 42 49.0 -2.2
GYA PKPab PKPab 22 44 02.8 +1.6
GYA PKS PKSdf 22 46 07.5 -2.1
GYA PP PP 22 47 55.0 +3.5
GYA SKKS 22 54 37.3
GYA SS SS 23 08 59.5 +1.5
GYA AMB AMB
comp=Z,140nm,8.5s
GYA LR LR
comp=Z,140nm,21.8s
GYA LR LR
comp=Z,120nm,21.4s
GYA LR LR
comp=Z,150nm,24.5s
HHC Hu-ho-hao-te 172.76 342 ePKP PKPdf 22 42 33.8 -3.1
HHC pPKP pPKPdf 22 42 43.5 -7.5
HHC sPKP 22 42 48.5
HHC AMB AMB
comp=Z,130nm,4.3s
HHC LR LR
comp=Z,530nm,14.5s
HHC LR LR
comp=Z,470nm,12.4s
HHC LR LR
comp=Z,520nm,14.1s
CD2 Chengdu 174.89 126 PKP PKPdf 22 42 37.8 -0.1
CD2 pPKP pPKPdf 22 42 49.0 -3.0
CD2 sPKP 22 42 53.0
CD2 PKS PKSdf 22 46 08.5 -1.6
CD2 PP PP 22 48 07.5 +2.3
CD2 SKS SKSdf 22 49 35.3 -2.0
CD2 SKKS SKKSac 22 54 48.0 +0.1
CD2 SS SS 23 09 23.3 -1.6
CD2 AMB AMB
comp=Z,220nm,6.8s
LZH Lanzhou 175.58 60 ePKP PKPdf 22 42 39.5 +1.5
LZH pPKP pPKPdf 22 42 52.0 -0.1

IDC 27 22:31:13.4±1.0, 33.81S×71.95W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/36, mbtmp4.2/4, ML2.4/1, Error ellipse: s-maj=38.6km s-min=28.7km az=88.0
ISCJB 27 22:31:14.5±0.9, 33.8S±0.1×72.0W±0.2, h19km, mb4.2/5, Error ellipse: s-maj=19.4km s-min=15.1km az=163.3
NEIC 27 22:31:19.0±0.6, 33.75S×71.96W, h35km, mb4.7/2, Error ellipse: s-maj=15.8km s-min=12.1km az=71.0
ISC 27 22:31:16.7±0.9, 33.7S±0.1×72.0W±0.2, h19km, n12, σ0§77/12, mb4.2/5, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 3.83 57 Pn Pn 22 32 14.2 -0.4
0.3nm,0.3s,baz=212,slow=12,SNR=2.2
CFAA Lg Lg 22 33 10.3
2.6nm,0.3s,baz=27,slow=22,SNR=9.7
TRQA Tornquist 9.22 121 ePn Pn 22 33 29.4 +0.8
SAML Samuel 25.97 20 eP P 22 36 49.1 +1.0
SNAA Sanae 51.83 158 eP P 22 40 23.4 +0.3
2.4nm,0.7s
TEIG Tepich 55.85 341 P P 22 40 53.4 +0.5
12nm,1.1s,baz=156,slow=20,SNR=5.8
TEIG Tepich 55.85 341 eP P 22 40 53.4 +0.5
28nm,1.1s
QSPA South Pole Qui 56.51 180 P P 22 40 56.6 -0.8
1.5nm,0.8s,baz=233,slow=1.8,SNR=5.5
QSPA South Pole Qui 56.51 180 eP P 22 40 56.1 -1.2
TXAR Lajitas Array 69.50 331 P P 22 42 24.3 +0.2
0.6nm,0.9s,baz=152,slow=8.3,SNR=3.9
TORD Torodi Ar. Bea 84.10 70 P P 22 43 45.7 -0.9
1.7nm,0.8s,baz=253,slow=3.9,SNR=8.9
BVAR Borovoye Array 147.07 43 PKPbc PKPbc 22 50 57.9 +0.2
0.6nm,0.6s,baz=298,slow=5.3,SNR=4.7
ZALV Zalesovo Beam 153.99 32 PKPbc PKPbc 22 51 14.2 -0.1
0.7nm,0.5s,baz=285,slow=2.9,SNR=5.1

SJA 27 22:36:12.1±0.5, 35.92S×74.87W, h216km±438km, ML4.5
ISCJB 27 22:36:16.3±0.5, 35.48S±0.06×73.1W±0.1, h10km, mb4.3/16, MS4.2/1, Error ellipse: s-maj=12.4km s-min=8.9km az=174.6
IDC 27 22:36:16.4±0.7, 35.48S×72.99W, h0km, mb4.3/11, mb1 4.3/15, mb1mx4.2/41, mbtmp4.2/15, ML4.1/4, MS4.4/1, Ms1 4.4/1, ms1mx3.5/30, Error ellipse: s-maj=24.8km s-min=15.6km az=89.0
NEIC 27 22:36:21.8±0.3, 35.43S×73.03W, h35km, mb4.6/11, Error ellipse: s-maj=9.9km s-min=7.3km az=84.0
ISC 27 22:36:17.6±0.5, 35.47S±0.07×73.29W±0.07, h10km, n46, σ1§25/52, mb4.5/16, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AAGR Agrelo 4.39 59 i P Pb 22 37 37.5 +2.6
AAGR i S Sg 22 38 39.5 +0.9
AVIZ Vizcacheras 4.41 65 i P Pb 22 37 37.0 +1.6
AVIZ i S Sg 22 38 41.0 +1.6
ARCO CERRO ARCO 4.46 55 i P Pb 22 37 37.5 +1.3
ARCO i S Sg 22 38 41.0 +0.1
ARCO AML AML 22 38 43.6
comp=Z,160nm,0.9s
AUSP Uspallata 4.58 46 i P Pb 22 37 39.2 +0.9
ASAL Salagasta 4.68 53 i P Pb 22 37 40.6 +0.7
ASAL i P Pb 22 37 40.6 +0.7
RTLS Leoncito 4.95 43 i P Pb 22 37 43.2 -1.3
PLCA Paso Flores 5.68 159 Pn Pn 22 37 40.0 -2.2
comp=Z,0.8nm,0.3s,baz=90,slow=16,SNR=2.4
PLCA Lg Lg 22 39 08.9
comp=Z,4.5nm,0.3s,baz=109,slow=21,SNR=3.0
PLCA Paso Flores 5.68 159 ePn Pn 22 37 43.4 +1.2
comp=Z,88nm,0.6s
PLCA Lg Lg 22 39 08.9
CFAA Coronel Fontan 5.71 49 Pn Pn 22 37 42.1 -0.4
comp=Z,0.3nm,0.3s,baz=243,slow=16,SNR=2.9
CFAA Lg Lg 22 39 06.2
comp=Z,0.5nm,0.3s,baz=99,slow=18,SNR=6.8
TRQA Tornquist 9.43 109 ePn Pn 22 38 33.7 +0.1
comp=Z,47nm,0.9s
CPUP Villa Florida 16.43 61 Pn Pn 22 40 06.6 -1.7
comp=Z,0.4nm,0.3s,baz=255,slow=12,SNR=2.7
LPAZ La Paz 19.65 15 P P 22 40 48.2 +1.0
comp=Z,0.3nm,0.3s,baz=202,slow=7.4,SNR=7.0
LPAZ La Paz 19.65 15 eP P 22 40 48.3 +1.0
comp=Z,5.3nm,0.7s
USHA Ushuaia 19.66 172 P P 22 40 47.7 +1.3
comp=Z,0.3nm,0.3s,baz=350,slow=1.3,SNR=3.6
SIV San Ignacio 22.26 32 P P 22 41 14.2 -0.7
comp=Z,14nm,0.9s,baz=219,slow=14,SNR=13
SIV LR LR 22 51 37.7
comp=Z,938nm,20.5s,baz=226,slow=42
SAML Samuel 27.96 22 eP P 22 42 07.6 -0.8
comp=Z,1.0nm,0.5s
BDFB Brasilia 30.01 55 P P 22 42 25.1 -1.7
comp=Z,5.9nm,0.9s,baz=237,slow=8.3,SNR=4.1
SNAA Sanae 50.62 157 P P 22 45 16.4 0.0
comp=Z,3.4nm,0.8s,baz=297,slow=7.1,SNR=14
SNAA Sanae 50.62 157 eP P 22 45 16.5 0.0
comp=Z,29nm,1.2s
QSPA South Pole Qui 54.77 180 P P 22 45 47.7 +0.4
comp=Z,2.6nm,0.8s,baz=198,slow=1.1,SNR=7.5
QSPA South Pole Qui 54.77 180 eP P 22 45 47.0 -0.3

comp=Z,9.7nm,1.0s
TXAR Lajitas Array 70.53 332 P P 22 47 33.9 +1.2
comp=Z,0.6nm,0.7s,baz=157,slow=6.8,SNR=5.1
ANMO Albuquerque 76.59 332 P P 22 48 09.6 +1.1
comp=Z,1.1nm,0.7s,baz=175,slow=8.1,SNR=3.7
ANMO Albuquerque 76.59 332 eP P 22 48 10.0 +1.6
comp=Z,3.3nm,1.0s
DBIC Dimbokro 76.62 72 P P 22 48 08.2 -0.7
comp=Z,3.3nm,0.7s,baz=227,slow=5.0,SNR=6.7
DBIC Dimbokro 76.62 72 eP P 22 48 08.1 -0.7
comp=Z,11nm,0.8s
BOSA Boshof 80.29 118 P P 22 48 28.2 -1.0
comp=Z,4.1nm,0.7s,baz=209,slow=7.4,SNR=6.3
BOSA Boshof 80.29 118 eP P 22 48 28.5 -0.7
comp=Z,4.7nm,0.7s
DUG Dugway 83.63 331 eP P 22 48 47.7 +1.5
comp=Z,4.2nm,0.9s
NVAR Mina Array Bea 84.51 326 P P 22 48 52.5 +1.6
comp=Z,0.8nm,0.8s,baz=160,slow=5.8,SNR=4.5
BW06 Boulder Array 84.62 334 eP P 22 48 50.5 -0.8
comp=Z,2.9nm,0.5s
TORD Torodi Ar. Bea 85.67 71 P P 22 48 55.7 -1.3
comp=Z,1.2nm,0.9s,baz=255,slow=2.5,SNR=5.5
AGMN Agassiz Nation 85.80 345 eP P 22 48 57.2 +0.4
comp=Z,3.0nm,0.5s
MCMT McKenzie Canyo 87.59 333 eP P 22 49 05.7 -0.3
comp=Z,1.7nm,1.0s
ULM Lac du Bonnet 87.65 346 P P 22 49 05.6 -0.2
comp=Z,3.6nm,0.8s,baz=162,slow=6.6,SNR=5.7
BRTR Keskin Array B 123.44 62 PKP PKPdf 22 55 13.8 -1.3
comp=Z,0.6nm,0.8s,baz=338,slow=3.4,SNR=3.6
BVAR Borovoye Array 149.05 44 PKPbc PKPbc 22 56 06.4 +0.9
comp=Z,3.0nm,0.6s,baz=297,slow=3.3,SNR=18
HYB Hyderabad 149.20 118 i PKP PKPdf 22 56 05.5 +2.8
YAK Yakutsk 149.74 339 ePKPbc PKPbc 22 56 06.9 +0.1
YAK ePKPab PKPab 22 56 12.8 +0.7
KKAR Karatay Array 151.13 64 ePKPbc PKPbc 22 56 10.6 -0.2
AAK Ala-Archa 154.09 64 PKPab PKPab 22 56 28.1 -3.2
comp=Z,1.4nm,0.8s,baz=264,slow=4.5,SNR=4.9
ZALV Zalesovo Beam 156.01 33 PKP PKPdf 22 56 11.4 -0.1
comp=Z,0.5nm,0.6s,baz=252,slow=2.9,SNR=2.8
ZALV PKPab PKPab 22 56 38.4 -0.5
comp=Z,1.6nm,0.7s,baz=300,slow=4.1,SNR=5.5
MKAR Makanchi Array 158.49 51 PKPab PKPab 22 56 48.6 -1.3
comp=Z,0.2nm,0.5s,baz=289,slow=3.7,SNR=3.9
TLY Talaya 163.64 7 PKP PKPdf 22 56 20.4 +0.1
comp=Z,1.0nm,0.4s,baz=280,slow=5.9,SNR=4.0
LSA Lhasa 165.68 109 ePKPdf PKPdf 22 56 25.0 +1.7
SONM Songino Array 167.64 1 PKPab PKPab 22 57 30.6 +0.7
comp=Z,0.5nm,0.8s,baz=294,slow=1.4,SNR=5.2

IDC 27 22:39:45.3±2.8, 26.°09N×128.°72E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/59, mbtmp3.6/3, MS4.1/1, Ms1 4.1/1, ms1mx3.2/41, Error ellipse: s-maj=49.7km s-min=34.5km az=72.0
ISCJB 27 22:39:48.4±1.1, 25.°93N±0.°07×128.°58E±0.°06, h36km±11km, mb3.4/3, MS4.1/1, Error ellipse: s-maj=11.5km s-min=8.9km az=157.5
JMA 27 22:39:48.2±0.3, 25.°94N×128.°59E, h38km, M3.1
ISC 27 22:39:48.3±1.8, 25.°94N±0.°07×128.°57E±0.°06, h24km±13km, n15, σ0.°75/19, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.76	319	P	Pb	22 40 02.4	-0.4
JNTH				eS	Sb	22 40 13.3	+0.6
JJT2	Tamagusuku 2	0.77	285	P	Pb	22 40 03.1	+0.2
JJT2				eS	Sb	22 40 13.7	+0.8
JOW	Kunigami	0.93	343	P	Pn	22 40 05.3	-0.5
JOW				eS	Sb	22 40 17.3	-0.3
JOW	Kunigami	0.93	343	Pn	Pn	22 40 05.2	-0.7
	9.1nm,0.3s,baz=151,slow=15,SNR=91						
JOW				Sn	Sb	22 40 16.8	-0.8
	11nm,0.3s,baz=352,slow=19,SNR=17						
JIH	Iheya	1.22	334	P	Pn	22 40 09.5	-0.3
JAGN	Aguni-jima	1.36	299	P	Pn	22 40 11.5	-0.2
JOKE	Okinoerabujima	1.41	360	P	Pn	22 40 12.7	+0.2
JOKE				eS	Sn	22 40 29.4	-1.0
JKE	Kume jima 2	1.65	284	P	Pn	22 40 15.0	-0.8
JTK	Tokunoshima	1.87	10	P	Pn	22 40 19.2	+0.4
JTK				eS	Sn	22 40 41.6	0.0
JAMN	Amaminishikomi	2.35	13	P	Pn	22 40 26.2	+0.7
JMZ	Minamidaito 2	2.39	92	P	Pn	22 40 25.5	-0.4
SONM	Songino Array	27.96	327	P	P	22 45 38.9	+1.8
	0.9nm,0.8s,baz=137,slow=9.2,SNR=4.5						
MKAR	Makanchi Array	41.95	312	P	P	22 47 37.2	0.0
	0.2nm,0.5s,baz=90,slow=9.8,SNR=6.2						
FX1	Attu Island--F	42.72	39	LR	LR	23 03 60.0	
	comp=Z,254nm,20.8s,baz=106,slow=34						
FINES	FINESS Array B	73.26	331	P	P	22 51 16.7	-0.6
	1.1nm,0.8s,baz=72,slow=4.5,SNR=3.8						

SJA 27 22:43:38.9±0.8, 33.°69S×73.°68W, h29km±92km, ML4.5
ISCJB 27 22:43:44.2±1.6, 34.°37S±0.°06×72.°48W±0.°07, h9km±11km, mb4.2/10, MS0.0/2, Error ellipse: s-maj=11.9km s-min=6.7km az=136.7
GUC 27 22:43:44.4±0.9, 34.°48S×72.°54W, h39km±9km, ML4.8
IDC 27 22:43:44.7±0.7, 34.°31S×72.°20W, h0km, mb4.2/9, mb1 4.4/12, mb1mx4.2/30, mbtmp4.2/12, ML4.2/3, MS3.8/4, Ms1 3.8/4, ms1mx3.5/32, Error ellipse: s-maj=25.5km s-min=16.7km az=85.0
NEIC 27 22:43:50.0±0.3, 34.°27S×72.°20W, h35km, mb4.5/5, Error ellipse: s-maj=10.3km s-min=7.5km az=91.0
ISC 27 22:43:46.7±2.7, 34.°25S±0.°07×72.°3W±0.°1, h13km±15km, n55, σ1.°05/63, mb4.4/10, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.79	68⇓	i P	Pn	22 44 03.6	+0.1
TACH	Talagante	1.27	62⇑	i P	Pg	22 44 10.8	-0.4
IHA	Instituto Hidr	1.33	24⇑	i P	Pb	22 44 11.2	-0.4
RCDM	Rinconada Maip	1.45	59	eP	Pg	22 44 14.3	-0.2
RCDM				i S	Sg	22 44 35.8	+2.4
SAN	Santiago	1.57	60⇓	i P	Pb	22 44 15.5	-0.2
SAN				i S	Sg	22 44 37.4	+0.1
STL	Santa Lucia	1.59	60⇑	i P	Pn	22 44 14.8	+0.1
STL				i S	Sg	22 44 38.2	+0.2
ROCH	El Roble	1.66	40⇑	i P	Pb	22 44 16.9	-0.4
ROCH				i S	Sg	22 44 42.1	+1.9
ROCH				AML	AML	22 44 52.8	
	comp=E,9µm,0.4s						
PEL	Peldehue	1.73	51⇓	i P	Pb	22 44 18.0	-0.4
PEL				i S	Sg	22 44 42.6	+0.1
PEL				AML	AML	22 44 54.5	
	comp=E,15µm,0.7s						
FCH	Farellones	1.90	62⇑	i P	Pn	22 44 20.0	+0.9
FCH				AML	AML	22 44 53.4	
	comp=E,9µm,0.5s						
AAGR	Agrelo	3.11	69	i P	Pb	22 44 43.1	+1.1
ARCO	CERRO ARCO	3.13	64	i P	Pb	22 44 42.9	+0.4
ARCO				i S	Sg	22 45 29.4	+2.0
ARCO				AML	AML	22 45 36.2	
	comp=Z,672nm,0.6s						
AUSP	Uspallata	3.16	51	i P	Pb	22 44 40.0	-2.9
AUSP				i S	Sg	22 45 26.6	-1.7
AVIZ	Vizcacheras	3.23	77	i P	Pg	22 44 46.6	-2.1
ASAL	Salagasta	3.33	61	i P	Pb	22 44 44.4	-1.3
ASAL				i S	Sg	22 45 33.5	-0.1
RTLS	Leoncito	3.50	47	i P	Pn	22 44 44.9	+3.7
CFAA	Coronel Fontan	4.31	53	Pn	Pn	22 44 52.6	+0.6
	comp=Z,3.0nm,0.3s,baz=229,slow=12,SNR=19						
CFAA				Lg	Lg	22 45 56.7	
	comp=Z,1.9nm,0.3s,baz=53,slow=15,SNR=7.7						
CFAA				LR	LR	22 46 56.9	
	comp=Z,208nm,21.4s,baz=231,slow=45						
AMOG	MOGNA	4.60	45	i P	Pn	22 44 58.0	+1.9
AMOG				i P	Pn	22 44 58.0	+1.9
PLCA	Paso Flores	6.62	168	Pn	Pn	22 45 24.3	+0.6
	comp=Z,0.9nm,0.3s,baz=313,slow=11,SNR=1.8						
PLCA				Lg	Lg	22 47 11.6	
	comp=Z,1.3nm,0.3s,baz=260,slow=14,SNR=4.2						
PLCA	Paso Flores	6.62	168	ePn	Pn	22 45 21.9	-1.8
PLCA				Lg	Lg	22 47 11.6	
TRQA	Tornquist	9.16	117	ePn	Pn	22 46 00.5	+1.9
LVC	Limon Verde	11.97	15	ePn	Pn	22 46 32.1	-5.2
CPUP	Villa Florida	15.13	63	Pn	Pn	22 47 22.2	+2.0
	comp=Z,0.8nm,0.3s,baz=205,slow=10,SNR=3.2						
CPUP				LR	LR	22 53 35.0	
	comp=Z,577nm,19.8s,baz=216,slow=39						
CPUP	Villa Florida	15.13	63	ePn	Pn	22 47 19.5	-0.7
LPAZ	La Paz	18.27	13	P	P	22 48 02.1	+1.3
	comp=Z,1.2nm,0.3s,baz=190,slow=7.7,SNR=20						
LPAZ	La Paz	18.27	13	ePn	P	22 48 01.6	+0.8
	comp=Z,8.1nm,0.6s						
USHA	Ushuaia	20.76	174	LR	LR	22 56 25.9	
	comp=Z,419nm,19.0s,baz=332,slow=37						
SIV	San Ignacio	20.80	32	P	P	22 48 27.4	-0.4
	comp=Z,14nm,0.8s,baz=207,slow=7.0,SNR=18						
SAML	Samuel	26.54	20	eP	P	22 49 24.1	-0.1
	comp=Z,4.3nm,0.8s						
BDFB	Brasilia	28.64	56	P	P	22 49 42.5	-0.8
	comp=Z,4.3nm,0.5s,baz=233,slow=5.7,SNR=8.4						
SNAA	Sanae	51.43	158	P	P	22 52 51.0	-0.2
	comp=Z,1.0nm,0.7s,baz=263,slow=8.6,SNR=8.1						
SNAA	Sanae	51.43	158	eP	P	22 52 51.3	+0.1
	comp=Z,14nm,1.0s						
QSPA	South Pole Qui	55.99	180	eP	P	22 53 25.5	+0.8
	comp=Z,21nm,1.2s						
TEIG	Tepich	56.27	342	LR	LR	23 14 44.2	
	comp=Z,138nm,18.3s,baz=328,slow=33						
TEIG	Tepich	56.27	342	eP	P	22 53 26.6	-0.3
TXAR	Lajitas Array	69.85	331	P	P	22 54 57.7	+0.5
	comp=Z,0.4nm,0.5s,baz=156,slow=7.8,SNR=6.1						
DBIC	Dimbokro	75.45	71	P	P	22 55 30.1	-0.7
	comp=Z,3.1nm,0.6s,baz=210,slow=4.8,SNR=7.4						
BOSA	Boshof	80.14	118	P	P	22 55 56.7	-0.2
	comp=Z,4.8nm,0.8s,baz=264,slow=2.7,SNR=6.8						
BOSA	Boshof	80.14	118	eP	P	22 55 57.1	+0.1
	comp=Z,4.6nm,0.6s						
PDAR	Pinedale Array	83.89	333	P	P	22 56 17.3	+1.1
	comp=Z,0.2nm,0.5s,baz=141,slow=7.3,SNR=4.6						
NVAR	Mina Array Bea	83.97	325	P	P	22 56 17.6	+0.8
	comp=Z,0.3nm,0.5s,baz=145,slow=6.1,SNR=3.8						
TORD	Torodi Ar. Bea	84.49	70	P	P	22 56 19.6	-0.1
	comp=Z,2.5nm,0.7s,baz=293,slow=6.1,SNR=14						
WRA	Warramunga Arr	120.44	209	PKP	PKPdf	23 02 37.2	-1.3
	comp=Z,0.3nm,0.4s,baz=132,slow=1.4,SNR=6.2						
BRTR	Keskin Array B	122.14	61	PKP	PKPdf	23 02 40.5	-0.7
	comp=Z,0.5nm,0.8s,baz=177,slow=2.9,SNR=3.4						
FINES	FINESS Array B	123.31	35	PKP	PKPdf	23 02 41.8	-0.8
	comp=Z,1.6nm,1.0s,baz=356,slow=5.7,SNR=5.3						
ARCES	ARCESS Array B	124.33	25	PKP	PKPdf	23 02 44.4	+0.1
	comp=Z,1.8nm,0.7s,baz=242,slow=2.6,SNR=4.7						
BRVK	Borovoye	147.53	43	ePKPbc	PKPbc	23 03 29.6	-0.5
BVAR	Borovoye Array	147.60	43	PKPbc	PKPbc	23 03 30.9	+0.6
	comp=Z,3.8nm,0.5s,baz=291,slow=2.1,SNR=48						
HYB	Hyderabad	149.01	115	i PKP	PKPbc	23 03 35.0	-0.1
KKAR	Karatay Array	149.85	62	ePKPbc	PKPbc	23 03 36.1	-0.3
AAK	Ala-Archa	152.81	62	PKPbc	PKPbc	23 03 43.8	+0.3
	comp=Z,1.9nm,0.7s,baz=166,slow=3.5,SNR=7.2						
AAK				PKPab	PKPab	23 03 54.0	-0.5
	comp=Z,1.7nm,0.5s,baz=140,slow=2.5,SNR=7.2						
KURK	Kurchatov	153.20	43	ePKPbc	PKPbc	23 03 43.9	+0.1
ZAA0	Zalesovo Array	154.55	32	ePKPbc	PKPbc	23 03 46.1	-0.5
ZALV	Zalesovo Beam	154.55	32	PKP	PKPdf	23 03 38.6	+0.5
	comp=Z,0.5nm,0.6s,baz=255,slow=4.0,SNR=4.2						
ZALV				PKPbc	PKiKP	23 03 46.5	-0.2
	comp=Z,3.6nm,0.7s,baz=292,slow=3.0,SNR=16						
ZALV				PKPab	PKPab	23 04 01.6	+0.4
	comp=Z,2.5nm,0.5s,baz=301,slow=4.8,SNR=7.0						
MKAR	Makanchi Array	157.08	49	PKPab	PKPab	23 04 11.4	-1.0
	comp=Z,0.9nm,0.6s,baz=289,slow=4.4,SNR=10						
SONM	Songino Array	166.39	4	PKPab	PKPab	23 04 53.4	+0.4
	comp=Z,0.7nm,0.8s,baz=337,slow=4.2,SNR=6.0						

IDC 27 22:47:00.8±1.2, 34.°83S×72.°58W, h0km, mb4.0/5, mb1 4.2/7, mb1mx4.1/17, mbtmp4.0/7, ML4.0/2, Error ellipse: s-maj=42.1km s-min=29.2km az=73.0
ISCJB 27 22:47:01.6±0.7, 34.°85S±0.°09×72.°5W±0.°2, h18km, mb4.1/8, Error ellipse: s-maj=28.1km s-min=12.7km az=176.5
NEIC 27 22:47:06.0±0.6, 34.°84S×72.°49W, h35km, mb4.1/4, Error ellipse: s-maj=23.6km s-min=11.3km az=87.0
ISC 27 22:47:03.4±0.8, 34.°9S±0.°1×72.°5W±0.°2, h18km, n17, σ0.°80/17, mb4.1/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.07	166	Pn	Pn	22 48 31.2	-1.0
	0.9nm,0.3s,baz=333,slow=2.3,SNR=1.7						
PLCA	Paso Flores	6.07	166	ePn	Pn	22 48 31.8	-0.5
LPAZ	La Paz	18.90	13	P	P	22 51 23.6	-0.1
	0.2nm,0.3s,baz=223,slow=5.4,SNR=4.6						
LPAZ	La Paz	18.90	13	eP	P	22 51 23.0	-0.6
	3.3nm,0.9s						
SIV	San Ignacio	21.40	31	P	P	22 51 49.3	-0.9
	3.5nm,0.8s,baz=239,slow=10,SNR=4.0						
QSPA	South Pole Qui	55.39	180	eP	P	22 56 37.1	+0.9
	1.9nm,0.8s						
TXAR	Lajitas Array	70.29	331	P	P	22 58 15.7	0.0
	0.8nm,0.7s,baz=152,slow=8.2,SNR=5.9						
DBIC	Dimbokro	75.81	71	eP	P	22 58 49.6	+1.0
	18nm,1.6s						
ANMO	Albuquerque	76.35	332	eP	P	22 58 51.0	-0.5
	1.1nm,0.7s						
PDAR	Pinedale Array	84.35	334	P	P	22 59 34.5	+0.1
	0.8nm,0.9s,baz=134,slow=4.3,SNR=4.1						
TORD	Torodi Ar. Bea	84.86	70	P	P	22 59 37.9	+0.5
	2.0nm,0.7s,baz=259,slow=4.1,SNR=8.8						
ULM	Lac du Bonnet	87.22	345	P	P	22 59 47.8	-0.3
	0.6nm,0.4s,baz=188,slow=2.9,SNR=3.6						
YKA	Yellowknife Ar	102.74	341	P	Pdif	23 00 57.9	-0.9
	0.1nm,0.6s,baz=128,slow=4.0,SNR=3.1						
BVAR	Borovoye Array	148.16	44	PKPbc	PKPab	23 06 49.0	-1.6
	0.7nm,0.7s,baz=255,slow=2.9,SNR=4.8						
ZALV	Zalesovo Beam	155.15	33	PKPab	PKPab	23 07 20.3	+0.8
	2.1nm,0.8s,baz=313,slow=5.5,SNR=5.6						
MKAR	Makanchi Array	157.60	50	PKPab	PKPab	23 07 30.6	+0.1
	0.5nm,0.9s,baz=297,slow=5.0,SNR=3.4						
SONM	Songino Array	167.00	3	PKPab	PKPab	23 08 12.0	+0.5
	0.5nm,0.9s,baz=316,slow=8.3,SNR=3.9						

IDC 27 22:53:48.9±1.6, 35.°06S×72.°86W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/30, mbtmp4.1/5, ML4.2/1, Error ellipse: s-maj=47.0km s-min=38.7km az=40.0
ISCJB 27 22:53:49.9±1.2, 35.°2S±0.°1×72.°4W±0.°2, h18km, mb4.0/4, Error ellipse: s-maj=29.7km s-min=13.6km az=169.1
NEIC 27 22:53:54.0±0.8, 35.°18S×72.°42W, h35km, mb4.1/2, Error ellipse: s-maj=24.6km s-min=13.4km az=74.0
ISC 27 22:53:52.0±1.0, 35.°1S±0.°1×72.°4W±0.°2, h18km, n13, σ1.°30/14, mb4.0/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.79	166	ePn	Pn	22 55 16.7	-0.3
TRQA	Tornquist	8.90	112	ePn	Pn	22 55 58.0	-1.7
LPAZ	La Paz	19.16	13	P	P	22 58 15.1	0.0
	0.3nm,0.3s,baz=178,slow=9.6,SNR=4.5						
LPAZ	La Paz	19.16	13	eP	P	22 58 15.3	+0.2
	2.4nm,0.6s						
SIV	San Ignacio	21.61	31	P	P	22 58 41.1	0.0
	2.6nm,0.6s,baz=212,slow=7.2,SNR=5.6						
TXAR	Lajitas Array	70.56	331	P	P	23 05 04.7	-1.4
	0.5nm,0.5s,baz=156,slow=8.0,SNR=6.3						
DBIC	Dimbokro	75.85	71	P	P	23 05 39.3	+1.8
	4.4nm,0.6s,baz=204,slow=6.2,SNR=13						
DBIC	Dimbokro	75.85	71	eP	P	23 05 39.0	+1.5
	4.2nm,0.5s						
TORD	Torodi Ar. Bea	84.90	70	P	P	23 06 27.1	+0.9
	1.4nm,0.9s,baz=228,slow=3.7,SNR=5.7						
BRTR	Keskin Array B	122.66	62	PKP	PKPdf	23 12 46.4	-0.2
	0.4nm,0.6s,baz=229,slow=2.7,SNR=3.5						
KKAR	Karatay Array	150.36	63	ePKPbc	PKPbc	23 13 41.6	-0.4
MKAR	Makanchi Array	157.74	51	PKP	PKPdf	23 13 46.2	-0.8
	0.7nm,0.8s,baz=304,slow=2.6,SNR=5.6						
MKAR				PKPab	PKPab	23 14 21.8	+2.2
	1.0nm,0.8s,baz=304,slow=2.8,SNR=8.8						
SONM	Songino Array	167.28	4	PKPab	PKPab	23 15 00.0	-1.3
	0.3nm,0.7s,baz=354,slow=1.4,SNR=2.9						

IDC 27 22:54:49.4±1.4, 25.°98N×96.°28E, h0km, mb3.6/6, mb1 3.6/7, mb1mx3.4/47, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=47.0km s-min=21.5km az=70.0
ISCJB 27 22:54:52.0±0.9, 25.°9N±0.°1×96.°4E±0.°3, h33km, mb3.6/6, Error ellipse: s-maj=39.8km s-min=14.2km az=160.7
ISC 27 22:54:54.1±1.1, 26.°0N±0.°1×96.°4E±0.°3, h35km, n8, σ0.°97/7, mb3.7/6, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	4.12	265	eP	Pn	22 56 01.5	+6.8
CMAR	Chiang Mai Arr	7.87	162	Pn	Pn	22 56 46.1	+0.1
	0.2nm,0.3s,baz=339,slow=14,SNR=5.4						
CMAR				Lg	Lg	22 58 59.1	
	0.1nm,0.3s,baz=334,slow=28,SNR=5.2						
SONM	Songino Array	23.16	17	P	P	22 59 58.0	+0.5
	0.5nm,0.9s,baz=187,slow=9.0,SNR=3.7						
MKAR	Makanchi Array	23.59	335	P	P	23 00 02.2	+0.7
	3.9nm,0.8s,baz=142,slow=8.5,SNR=34						
AAK	Ala-Archa	24.45	318	P	P	23 00 10.7	+0.9
	1.8nm,0.8s,baz=122,slow=4.8,SNR=5.9						
ZALV	Zalesovo Beam	29.21	346	P	P	23 00 51.2	-1.0
	0.7nm,0.6s,baz=170,slow=9.0,SNR=4.5						
BVAR	Borovoye Array	33.28	331	P	P	23 01 28.7	+0.6
	1.0nm,0.7s,baz=128,slow=9.6,SNR=4.9						
AKASG	Malin Array Be	56.06	315	P	P	23 04 28.5	-1.0
	0.2nm,0.3s,baz=74,slow=6.8,SNR=4.4						

IDC 27 22:56:47.8±2.0, 31.°97S×70.°21W, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.9/32, mbtmp4.0/5, ML3.9/2, Error ellipse: s-maj=58.1km s-min=43.6km az=17.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	15.73	7	Pn	Pn	23 00 32.6	+1.1
	0.3nm,0.3s,baz=191,slow=10.0,SNR=4.9						
SIV	San Ignacio	17.95	30	P	Pn	23 00 57.4	-1.5
	0.3nm,0.3s,baz=225,slow=14,SNR=7.5						
TXAR	Lajitas Array	68.76	329	P	P	23 07 54.6	+0.9
	0.4nm,0.6s,baz=150,slow=8.4,SNR=5.7						
TORD	Torodi Ar. Bea	82.06	69	P	P	23 09 11.7	+1.3
	0.6nm,0.5s,baz=250,slow=4.4,SNR=6.8						
PDAR	Pinedale Array	82.68	332	P	P	23 09 13.0	-0.3
	0.7nm,0.9s,baz=150,slow=8.5,SNR=3.2						
ZALV	Zalesovo Beam	151.70	32	PKPbc	PKPbc	23 16 41.4	-2.3
	1.1nm,0.7s,baz=318,slow=2.0,SNR=4.0						

MOS 27 23:02:00.3±1.2, 37.°58S×72.°80W, h33km, mb6.0/57, MS5.5/33, Error ellipse: s-maj=13.7km s-min=6.6km az=101.7
ISCJB 27 23:02:01.0±1.1, 37.°57S±0.°03×72.°47W±0.°06, h41km±9km, mb5.6/220, MS5.5/180, Error ellipse: s-maj=8.6km s-min=4.6km az=151.7
IDC 27 23:02:01.7±0.6, 37.°70S×72.°85W, h40km±4km, mb5.0/26, mb1 5.0/30, mb1mx4.9/38, mbtmp5.1/30, ML4.9/4, MS5.4/19, Ms1 5.4/19, ms1mx5.2/30, Error ellipse: s-maj=14.5km s-min=10.1km az=81.0
GCMT 27 23:02:02.2±0.4, 37.°94S×73.°33W, h53km±2km, MW5.9/68, Moment Tensor Solution. s47,c59; s68,c110; Duration: 2s1 Moment tensor: Scale 10^18Nm; Mrr0.70±.04; Mθθ-0.12±.03; Mφφ-0.58±.03; Mrθ0.09±.03; Mrφ0.10±.02; Mθφ-0.46±.03; Best double couple: M0 0.80400×10^18 NP1:φs169.00000°, δ63.00000°, λ90.00000°. NP2: φs349.00000°, δ27.00000°, λ90.00000°. Principal axes: T 0.8560, Plg72.0000°, Azm79.0000°; N -0.1030, Plg0.0000°, Azm349.0000°; P -0.7530, Plg18.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 27 23:02:02.2±1.9, 37.°70S×72.°83W, h45km±4km, mb5.8/198, MS5.5/172, MW5.9 Error ellipse: s-maj=14.5km s-min=11.3km az=85.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^17Nm; Mrr7.50; Mθθ-3.43; Mφφ-4.07; Mrθ1.16; Mrφ-0.86; Mθφ-6.19; Best double couple: M0 9.10000×10^17 NP1:φs180.00000°, δ68.00000°, λ82.00000°. NP2:φs21.00000°, δ23.00000°, λ110.00000°. Principal axes: T 10.3000, Plg65.0000°, Azm75.0000°; N -3.5000, Plg7.0000°, Azm183.0000°; P -6.8000, Plg22.0000°, Azm276.0000°;
ISC 27 23:02:01.7±0.4, 37.°68S±0.°04×72.°77W±0.°06, h40km±3km, h40km:pP-P, n1077, σ1.°08/1024, mb5.7/220, MS5.5/181, 217C-229D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.50	151	eP	Pn	23 02 55.6	+1.8
PLCA	Paso Flores	3.50	151	P	Pn	23 02 55.4	+1.7
	22nm,0.3s,baz=326,slow=16,SNR=18						
PLCA				S	Sn	23 03 36.1	+2.1
	66nm,0.3s,baz=331,slow=17,SNR=2.5						
PLCA				LR	LR	23 04 29.6	
	comp=Z,59µm,19.2s,baz=331,slow=42						
PLCA	Paso Flores	3.50	151	ePn	Pn	23 02 55.6	+1.8
CFAA	Coronel Fontan	7.11	33	P	Pn	23 03 43.7	+0.4
	8.7nm,0.3s,baz=203,slow=13,SNR=38						
CFAA				S	Sn	23 05 05.9	+3.1
	16nm,0.3s,baz=214,slow=15,SNR=7.8						
TRQA	Tornquist	8.54	96	ePn	Pn	23 04 06.2	+3.4
CPUP	Villa Florida	17.28	54	eP	Pn	23 05 59.3	-0.6
CPUP	Villa Florida	17.28	54	P	Pn	23 05 59.8	-0.1
	5.6nm,0.3s,baz=216,slow=14,SNR=23						
CPUP	Villa Florida	17.28	54	ePn	Pn	23 05 59.3	-0.6
USHA	Ushuaia	17.41	172	P	Pn	23 06 01.0	-0.4
	1.4nm,0.3s,baz=326,slow=11,SNR=7.8						
USHA				LR	LR	23 13 12.7	
	comp=Z,18µm,18.5s,baz=332,slow=39						
EFI	East Falkland	17.42	148	eP	Pn	23 06 01.0	-0.5
EFI				pmax	pmax		
	comp=Z,346nm,0.8s						
EFI	East Falkland	17.42	148	ePn	Pn	23 06 01.0	-0.5
	comp=Z,346nm,0.8s						
LPAZ	La Paz	21.70	12	eP	P	23 06 51.4	+1.6
LPAZ				pmax	pmax		
	comp=Z,755nm,1.3s						
LPAZ				MLR	MLR		
	comp=Z,10µm,21.8s						
LPAZ	La Paz	21.70	12	P	P	23 06 51.6	+1.8
	comp=Z,199nm,1.2s,baz=181,slow=8.9,SNR=99						
LPAZ				LR	LR	23 16 55.6	
	comp=Z,9µm,21.6s,baz=160,slow=41						
LPAZ	La Paz	21.70	12	eP	P	23 06 51.4	+1.6
	comp=Z,755nm,1.3s						
LPAZ				LR	LR		
	comp=Z,10µm,21.8s						
SIV	San Ignacio	23.95	29	P	P	23 07 11.9	-0.3
	comp=Z,63nm,1.0s,baz=226,slow=11,SNR=93						
SIV				pP	pP	23 07 24.2	+1.0
	comp=Z,77nm,0.9s,baz=213,slow=11,SNR=14						
SIV				LR	LR	23 18 08.3	
	comp=Z,12µm,19.2s,baz=219,slow=40						
NNA	Nana	25.84	351	ceP	P	23 07 30.3	+0.8
NNA	Nana	25.84	351	P	P	23 07 29.4	0.0
	comp=Z,40nm,0.9s,baz=198,slow=12,SNR=12						
NNA	Nana	25.84	351	eP	P	23 07 29.5	0.0
NNA				LR	LR		
	comp=Z,5µm,18.0s						
PMSA	Palmer Station	27.62	172	LR	LR	23 18 18.6	
	comp=Z,16µm,20.0s,baz=334,slow=35						
PMSA	Palmer Station	27.62	172	PFAKE		23 08 00.0	+15
PMSA				eScS	ScS	23 18 18.6	-12
PMSA				LR	LR		
	comp=Z,17µm,21.0s						
HOPE	Hope Point	29.76	136	eP	P	23 08 04.8	+0.6
	comp=Z,151nm,1.3s						
HOPE				LR	LR		
	comp=Z,3µm,19.0s						
SAML	Samuel	29.88	19	eP	P	23 08 05.4	-0.1
	comp=Z,126nm,1.3s						
SAML				LR	LR		
	comp=Z,7µm,22.0s						
ATAH	Atahualpa	30.83	349	P	P	23 08 13.8	-0.6
	comp=Z,51nm,1.0s,baz=175,slow=6.4,SNR=23						
BDFB	Brasilia	30.99	52	eP	P	23 08 15.2	-0.3
BDFB	Brasilia	30.99	52	P	P	23 08 14.9	-0.6
	comp=Z,17nm,0.6s,baz=215,slow=9.6,SNR=23						
BDFB				LR	LR	23 22 13.9	
	comp=Z,20µm,18.2s,baz=217,slow=39						
BDFB	Brasilia	30.99	52	eP	P	23 08 15.2	-0.3
RPN	Rapa Nui	32.44	278	P	P	23 08 28.4	+0.3
	comp=Z,27nm,0.6s,baz=127,slow=5.1,SNR=2.0						
OTAV	Otavalo	38.09	351	eP	P	23 09 18.3	+1.1
	comp=Z,245nm,1.5s						
OTAV				LR	LR		
	comp=Z,2µm,20.0s						
ROSC	El Rosal	42.34	358	P	P	23 09 53.2	+0.9
	comp=Z,17nm,0.5s,baz=181,slow=2.3,SNR=22						
ROSC	El Rosal	42.34	358	eP	P	23 09 53.0	+0.7
RCBR	Riachuelo	46.13	56	P	P	23 10 23.2	+0.9
	comp=Z,28nm,0.7s,baz=221,slow=9.1,SNR=22						
RCBR				LR	LR	23 31 10.3	
	comp=Z,49µm,18.4s,baz=202,slow=38						
RCBR	Riachuelo	46.13	56	eP	P	23 10 23.8	+1.4

RCBR LR LR
comp=Z,24µm,18.0s
VNA3 Neumayer Olymp 46.21 156 P **P 23 10 22.1 -0.2**
SDV Santo Domingo 46.36 3 eP **P 23 10 23.8 -0.5**
comp=Z,62nm,0.9s
SDV LR LR
comp=Z,4µm,20.0s
VNA1 Neumayer--Stat 46.55 156 P **P 23 10 25.8 +0.9**
VNA2 Neumayer--Watz 46.88 156 P **P 23 10 27.9 +0.4**
BCIP Isla Barro Col 47.06 350 eP **P 23 10 29.5 +0.1**
comp=Z,258nm,1.6s
BCIP LR LR
comp=Z,1µm,21.0s
PCRV Puerto La Cruz 48.21 11 P **P 23 10 38.6 +0.2**
comp=Z,34nm,0.9s,baz=192,slow=5.2,SNR=8.1
SNAA Sanae 48.43 157 P **P 23 10 39.9 +0.4**
SNAA Sanae 48.43 157 eP **P 23 10 39.0 -0.5**
SNAA Sanae 48.43 157c iP **P 23 10 39.6 0.0**
SNAA pmax pmax
comp=Z,162nm,0.8s
SNAA Sanae 48.43 157 P **P 23 10 39.6 0.0**
comp=Z,61nm,0.9s,baz=280,slow=6.4,SNR=96
SNAA LR LR 23 31 17.9
comp=Z,1µm,19.0s,baz=287,slow=36
SNAA Sanae 48.43 157 eP **P 23 10 39.5 -0.1**
comp=Z,886nm,1.9s
SNAA LR LR
comp=Z,4µm,20.0s
JTS JuntasAbangare 49.06 344ceP **P 23 10 46.5 +1.5**
JTS pmax pmax
comp=Z,68nm,1.7s
JTS JuntasAbangare 49.06 344 P **P 23 10 45.0 +0.1**
comp=Z,11nm,0.8s,baz=158,slow=6.0,SNR=8.6
JTS JuntasAbangare 49.06 344 eP **P 23 10 45.3 +0.3**
comp=Z,70nm,1.1s
PTCN Pitcairn Islan 49.84 267 PFAKE 23 11 00.0 +9.1
PTCN LR LR
comp=Z,9µm,21.5s
GRGR Grenville 50.63 14 eP **P 23 10 57.3 +0.5**
comp=Z,505nm,0.9s
GRGR LR LR
comp=Z,5µm,20.0s
BBGH Gun Hill 52.05 16 PFAKE 23 11 20.0 +13
BBGH LR LR
comp=Z,4µm,20.0s
QSPA South Pole Qui 52.57 180 P **P 23 11 11.0 0.0**
comp=Z,44nm,0.9s,baz=143,slow=5.2,SNR=48
QSPA South Pole Qui 52.57 180 eP **P 23 11 10.7 -0.3**
comp=Z,187nm,1.5s
NVL N'lazarevskaya 53.20 156 eP **P 23 11 17.5 +2.1**
NVL pmax pmax
comp=Z,50nm,0.8s
RKT Rikitea 54.67 267 eP P 23 11 34.4 +7.6
comp=Z,76nm,1.2s
RKT eS **S 23 19 07.0 +2.8**
comp=Z,3µm,31.0s
RKT eSS **SS 23 22 50.3 +3.0**
comp=Z,1µm,30.8s
RKT eLQ LQ 23 25 04.2
comp=Z,2µm,26.2s
RKT eLR LR 23 27 21.6
comp=Z,15µm,26.0s,baz=124
RKT Rikitea 54.67 267 eT T 00 09 24.9
comp=Z,5.0nm,0.2s
APG El Apazote 54.98 339 P P 23 11 25.6 -3.6
comp=Z,25nm,0.9s,baz=179,slow=6.8,SNR=21
JAKH Jacmel 55.62 0 PFAKE 23 11 50.0 +17
JAKH LR LR
comp=Z,2µm,20.7s
CRPR Cabo Rojo, PR 55.64 7 eP **P 23 11 32.5 -1.1**
comp=Z,116nm,1.4s
SEUS St. Eustatius 55.64 11 PFAKE 23 11 50.0 +16
SEUS LR LR
comp=Z,5µm,22.0s
OBIP Obispado Ponce 55.72 7 eP **P 23 11 33.4 -0.8**
comp=Z,126nm,1.2s
SABA Saba 55.73 11 eP **P 23 11 33.3 -1.0**
comp=Z,151nm,1.0s
SABA LR LR
comp=Z,5µm,20.4s
CELP Cerrillos 55.76 7 eP **P 23 11 34.1 -0.4**
CPD Cerro la Pandu 55.79 8 eP **P 23 11 33.5 -1.2**
CPD pmax pmax
comp=Z,558nm,2.8s
CPD Cerro la Pandu 55.79 8 eP **P 23 11 33.5 -1.2**
comp=Z,558nm,2.8s
PAPH Port-au-Prince 55.90 1 eP **P 23 11 34.1 -1.3**
comp=Z,166nm,1.3s
PAPH LR LR
comp=Z,3µm,20.4s
HUMP Col San Antoni 55.90 8 eP **P 23 11 34.5 -0.9**
comp=Z,28nm,0.9s
HUMP LR LR
comp=Z,4µm,21.0s
LRS Lares 55.95 7 eP **P 23 11 34.8 -1.0**
AOPR Arecibo Observ 56.01 7 eP **P 23 11 34.7 -1.6**
comp=Z,73nm,1.2s
AOPR LR LR
comp=Z,3µm,21.9s
ANWB Willy Bob 56.01 13 eP **P 23 11 34.4 -1.9**
comp=Z,143nm,0.9s
ANWB LR LR
comp=Z,3µm,21.0s
CBYP Canovanas 56.03 8 eP **P 23 11 35.0 -1.4**
comp=Z,97nm,1.1s
CBYP LR LR
comp=Z,4µm,20.7s
SMRT St. Maarten 56.17 11 PFAKE 23 11 50.0 +13
SMRT LR LR
comp=Z,5µm,21.9s
STVI Saint Thomas 56.21 9 eP **P 23 11 36.4 -1.2**
comp=Z,58nm,1.1s
STVI LR LR
comp=Z,4µm,21.7s
SDDR Presa de Saban 56.37 2 eP **P 23 11 38.0 -0.9**
comp=Z,39nm,0.9s
SDDR LR LR
comp=Z,2µm,20.0s
GTBY Guantanamo Bay 57.34 357 eP **P 23 11 44.2 -1.4**
comp=Z,157nm,0.6s
GTBY LR LR
comp=Z,2µm,20.0s
GRTK Grand Turk 58.89 2 PFAKE 23 12 10.0 +14
GRTK LR LR
comp=Z,2µm,22.0s
TEIG Tepich 59.42 343 P **P 23 11 59.6 -0.6**
comp=Z,42nm,0.9s,baz=152,slow=8.5,SNR=8.6
TEIG Tepich 59.42 343 eP **P 23 12 00.1 -0.1**
comp=Z,68nm,0.8s
TEIG LR LR
comp=Z,900nm,18.0s
ASCN Ascension 60.32 76 eP **P 23 12 07.0 +0.3**
comp=Z,2µm,2.2s
VNDA Vanda 60.39 192 LR LR 23 34 18.2
comp=Z,2µm,19.8s,baz=133,slow=32
VNDA Vanda 60.39 192 PFAKE 23 12 20.0 +14
VNDA LR LR
comp=Z,4µm,20.2s
SHEL Horse Pasture 62.34 89 eP **P 23 12 19.8 -0.6**
SHEL Horse Pasture 62.34 89 eP **P 23 12 19.8 -0.6**
comp=Z,1µm,2.1s
SYO Syowa Base 62.68 158⇑eP P 23 12 18.4 -3.3
SYO Syowa Base 62.68 158⇑eP **P 23 12 21.2 -0.5**
TBI Tubuai 65.94 258 eT T 00 23 29.7
comp=Z,7.9nm,0.3s
MEH Mehetia 67.83 264 eT T 00 25 51.2
comp=Z,47nm,0.2s
035Z Hargill 68.08 336 ⇓P **P 23 12 58.7 +1.5**
baz=68
035A Encino 68.53 336 ⇓P **P 23 13 01.9 +2.0**
baz=69
TVO Taravao 68.81 264 eT T 00 27 05.3
comp=Z,2.7nm,0.3s
034A Hebbronville 68.84 335 ⇓P **P 23 13 04.4 +2.5**
baz=69
TIAR Tiarei 69.01 264 eP P 23 13 11.5 +8.1
comp=Z,21nm,1.0s
TIAR Tiarei 69.01 264 eT T 00 27 20.3
comp=Z,11nm,0.3s
KVTX Kingsville 69.03 336 eP **P 23 13 05.1 +2.0**
comp=Z,425nm,1.9s
PAE Paea 69.14 263 eT T 00 27 29.8
comp=Z,1.7nm,0.3s
PPT2 Papeete2 69.18 263 eP P 23 13 12.9 +8.4
comp=Z,106nm,1.4s
PPT2 eS **S 23 22 08.5 +0.8**
comp=Z,2µm,26.8s

PPT2 Papeete2 69.18 263 eLR LR 23 34 05.5
comp=Z,10µm,25.2s,baz=116
PPT2 Papeete2 69.18 263 eT T 00 27 31.7
comp=Z,4.0nm,0.3s
PPT Papeete 69.19 264 LR LR 23 36 31.6
comp=Z,3µm,18.1s,baz=111,slow=30
934A Benavides 69.29 336 ⇑P **P 23 13 07.5 +2.9**
baz=70
TIGA Tifton 69.50 350 PFAKE 23 13 20.0 +14
TIGA LR LR
comp=Z,1µm,20.5s
933A Laredo 69.55 335 ⇑P **P 23 13 07.9 +1.6**
baz=70
BRAL Brewton 69.63 347 PFAKE 23 13 20.0 +13
BRAL LR LR
comp=Z,1µm,21.5s
835A Beeville 69.70 337 ⇓P P 23 13 10.4 +3.2
baz=70
834A Tilden 69.78 336 ⇑P **P 23 13 09.3 +1.6**
baz=70,SNR=11
SACV Santiago Islan 69.80 51 eP **P 23 13 07.8 -0.3**
comp=Z,421nm,1.8s
SACV LR LR
comp=Z,8µm,20.0s
MAW Mawson 69.83 163 eP **P 23 13 07.5 -0.1**
MAW pmax pmax
comp=Z,19nm,0.9s
MAW Mawson 69.83 163 P **P 23 13 07.0 -0.5**
comp=Z,59nm,0.9s,baz=202,slow=8.1,SNR=6.9
MAW LR LR 23 43 23.2
comp=Z,7µm,22.0s,baz=228,slow=36
MAW Mawson 69.83 163 eP **P 23 13 07.5 -0.1**
comp=Z,19nm,0.9s
735A Kenedy 70.22 337 ⇓P **P 23 13 12.4 +2.0**
baz=71
833A Chaparral WMA, 70.24 335 ⇑P **P 23 13 12.3 +1.8**
baz=71,SNR=12
832A Faith Ranch, C 70.40 335 ⇓P **P 23 13 13.0 +1.5**
baz=71,SNR=18
734A La Parita Cree 70.45 336 ⇓P **P 23 13 13.4 +1.6**
baz=71
733A Divot King Ran 70.57 335 ⇑P **P 23 13 13.8 +1.3**
baz=71
HKT Hockley 70.66 339 eP **P 23 13 14.0 +1.1**
HKT pmax pmax
comp=Z,122nm,1.7s
HKT Hockley 70.66 339 eP **P 23 13 14.0 +1.1**
comp=Z,122nm,1.7s
635A Leesville 70.71 337 ⇓P **P 23 13 14.8 +1.5**
baz=71
NHSC New Hope 70.76 353 eP **P 23 13 13.5 -0.1**
comp=Z,246nm,1.4s
NHSC LR LR
comp=Z,2µm,20.0s
732A Laxson Ranch, 70.81 335 ⇑P **P 23 13 15.0 +1.0**
baz=71,SNR=10
634A China Grove, S 70.88 336 ⇓P **P 23 13 17.0 +2.6**
baz=71
537A Green Hill Far 70.92 339 ⇑P **P 23 13 16.5 +1.9**
baz=71
536A Bastrop 71.13 338 ⇓P **P 23 13 17.2 +1.3**
baz=72
633A Saathoff Ranch 71.22 336 ⇓P **P 23 13 15.8 -0.7**
baz=72
535A Dale 71.24 337 ⇓P **P 23 13 17.9 +1.3**
baz=72
438A Sam Houston St 71.31 339 ⇓P **P 23 13 18.4 +1.4**
baz=72
GOGA Godfrey 71.42 351 eP **P 23 13 17.3 -0.3**
GOGA pmax pmax
comp=Z,107nm,1.5s
GOGA MLR MLR
comp=Z,2µm,21.0s
GOGA Godfrey 71.42 351 eP **P 23 13 17.2 -0.3**
comp=Z,107nm,1.5s
GOGA LR LR
comp=Z,2µm,21.0s
632A Uvalde 71.46 335 ⇓P **P 23 13 19.6 +1.6**
baz=72,SNR=9.9
VBMS Vicksburg 71.48 344 eP **P 23 13 17.9 -0.1**
comp=Z,212nm,1.4s
340A Bronson 71.51 341 ⇓P **P 23 13 18.9 +0.8**
baz=72
534A Blanco 71.52 337 ⇑P **P 23 13 17.9 -0.4**
baz=72
437A Phaontom Ranch 71.57 339 ⇑P **P 23 13 19.7 +1.2**
baz=72
LRAL Lakeview Retre 71.59 347 eP **P 23 13 18.6 0.0**
comp=Z,103nm,1.4s
339A Huntington 71.61 340 ⇑P **P 23 13 19.5 +0.8**
baz=72
631A Perdido Creek 71.64 335 ⇓P **P 23 13 20.3 +1.3**
baz=72
533A Kerrville 71.74 336 ⇓P **P 23 13 20.5 +0.9**
baz=72,SNR=13
338A Crockett 71.83 340 ⇓P **P 23 13 21.3 +1.2**
baz=72,SNR=5.6
435B Jarrell 71.95 338 ⇓P **P 23 13 21.8 +1.0**
baz=72
337A Centerville 71.96 339 ⇑P **P 23 13 21.9 +1.1**
baz=72
CER Ceres 71.98 118 eP **P 23 13 19.2 -2.1**
CER AMB AMB 23 13 24.1
comp=Z,116nm,2.4s
NATX Nacogdoches 72.04 340 eP **P 23 13 21.8 +0.5**
comp=Z,95nm,1.0s
532A Rocksprings 72.08 335 ⇑P **P 23 13 22.9 +1.2**
baz=72,SNR=6.7
434A Burnet 72.19 337 ⇓P **P 23 13 22.6 +0.3**
baz=73,SNR=15
239A Gary 72.24 341 ⇓P **P 23 13 22.8 +0.3**
baz=73
336A Riesel 72.30 339 ⇑P **P 23 13 22.9 0.0**
baz=73,SNR=6.5
531A Rocksprings 72.32 335 ⇓P **P 23 13 24.4 +1.3**
baz=73,SNR=11
JCT Junction City 72.36 336 eP **P 23 13 23.9 +0.5**
JCT pmax pmax
comp=Z,103nm,1.1s
JCT Junction City 72.36 336 eP **P 23 13 23.9 +0.5**
comp=Z,103nm,1.1s
JCT Junction City 72.36 336 ⇑P **P 23 13 24.7 +1.3**
baz=73,SNR=7.9
335A Moody 72.37 338 ⇑P **P 23 13 24.7 +1.4**
baz=73
433A Art 72.39 336 ⇑P **P 23 13 24.5 +1.0**
baz=73,SNR=11
530A J-C Ranch, Com 72.58 334 ⇓P **P 23 13 26.0 +1.3**
baz=73,SNR=21
334A Lometa 72.66 337 ⇓P **P 23 13 25.3 +0.2**
baz=73,SNR=8.9
LTX Lajitas 72.67 332 eP **P 23 13 25.5 +0.2**
LTX e*PP **pP 23 13 36.9 -0.5**
LTX Lajitas 72.67 332 eP **P 23 13 25.5 +0.2**
LTX epP **pP 23 13 36.9 -0.5**
TX31 Lajitas Ar. Si 72.67 332 eP **P 23 13 25.5 +0.2**
TXAR Lajitas Array 72.67 332 P **P 23 13 25.5 +0.2**
comp=Z,7.2nm,0.8s,baz=148,slow=7.4,SNR=22
TXAR pP **pP 23 13 36.9 -0.5**
comp=Z,5.7nm,0.8s,baz=158,slow=7.8,SNR=7.5
TXAR LR LR 23 39 43.4
comp=Z,2µm,21.0s,baz=0.0,slow=31
CNNC Cliffs of the 72.70 356 eP **P 23 13 24.7 -0.5**
comp=Z,37nm,0.8s
CNNC LR LR
comp=Z,2µm,21.0s
432A Menard 72.73 336 ⇑P **P 23 13 26.3 +0.7**
baz=73,SNR=5.2
431A Sonora 72.82 335 ⇓P **P 23 13 26.4 +0.3**
baz=73,SNR=11
529A Stev Forest Ra 72.86 334 ⇑P **P 23 13 27.9 +1.5**
baz=73,SNR=16
333A Richland Sprin 72.89 337 ⇓P **P 23 13 27.4 +0.9**
baz=73,SNR=8.3
KMSC Kings Mountain 72.89 353 eP **P 23 13 26.1 -0.2**
comp=Z,103nm,1.5s
KMSC LR LR
comp=Z,2µm,21.5s
KMSC Kings Mountain 72.89 353 ⇑P **P 23 13 25.4 -0.9**
baz=73,SNR=8.2
DRV Dumont d'Urvil 72.99 193 P P 23 13 18.0 -8.6
DRV S S 23 22 38.0 -12
DRV SS SS 23 27 51.0 +21
DRV L L 23 31 00.0
DRV R 23 35 00.0
138A Matatall Enter 73.01 340 ⇓P **P 23 13 26.8 -0.2**
baz=73

WHTX Lake Whitney 73.04 338 eP **P 23 13 26.9 -0.4**
comp=Z,70nm,1.0s
WHTX Lake Whitney 73.04 338 ⇑P **P 23 13 28.4 +1.2**
baz=74,SNR=7.0
430A Baggett Ranch, 73.13 335 ⇓P **P 23 13 28.8 +0.9**
baz=74,SNR=11
137A Heron Place, G 73.13 340 ⇓P **P 23 13 29.8 +2.0**
baz=74
332A Millersview 73.18 336 ⇓P **P 23 13 28.6 +0.4**
baz=74,SNR=15
429A Davenport Ranc 73.20 334 ⇑P **P 23 13 29.2 +0.8**
baz=74,SNR=13
234A Clairette 73.26 338 ⇓P **P 23 13 28.9 +0.3**
baz=74,SNR=8.6
331A San Angelo 73.33 335 ⇑P **P 23 13 29.3 +0.2**
baz=74,SNR=15
OXF Oxford 73.47 346 eP **P 23 13 29.7 -0.1**
OXF pmax pmax
comp=Z,76nm,0.9s
OXF MLR MLR
comp=Z,1µm,19.0s
OXF Oxford 73.47 346 eP **P 23 13 29.7 -0.1**
comp=Z,76nm,0.9s
OXF LR LR
comp=Z,1µm,19.0s
233A Rising Star 73.50 337 ⇓P **P 23 13 30.6 +0.5**
baz=74,SNR=6.7
SUR Sutherland 73.59 118 LR LR 23 43 29.0
comp=Z,2µm,18.3s,baz=222,slow=34
SUR Sutherland 73.59 118 eP **P 23 13 30.0 -1.1**
comp=Z,484nm,2.1s
232A Coleman 73.62 336 ⇓P **P 23 13 30.9 +0.1**
baz=74,SNR=12
330A Mertzon 73.67 335 ⇑P **P 23 13 31.9 +0.8**
baz=74,SNR=5.2
TKL Tuckaleechee C 73.68 351 eP **P 23 13 30.4 -0.6**
TKL Tuckaleechee C 73.68 351 P **P 23 13 29.8 -1.2**
comp=Z,15nm,0.8s,baz=168,slow=7.0,SNR=12
TKL Tuckaleechee C 73.68 351 eP **P 23 13 30.4 -0.6**
134A White-Moore Ra 73.77 338 ⇓P **P 23 13 28.7 -2.9**
baz=74
231A Bronte 73.88 336 ⇓P **P 23 13 31.8 -0.5**
baz=74,SNR=9.5
329A Wagon Wheel Ra 74.02 334 ⇓P **P 23 13 33.9 +0.7**
baz=74,SNR=12
133A Hamilton Ranch 74.06 337 ⇑P **P 23 13 33.8 +0.5**
baz=74,SNR=12
230A Sterling City 74.09 335 ⇑P **P 23 13 33.7 +0.1**
baz=74
BBTS Babate 74.11 57 LR LR 23 45 01.3
comp=Z,6µm,20.4s,baz=222,slow=35
Z35A Perchaven, San 74.24 339 ⇑P **P 23 13 34.7 +0.4**
baz=75,SNR=5.9
ABTX Abilene, Hawle 74.30 337 eP **P 23 13 34.6 -0.1**
comp=Z,116nm,1.3s
ABTX LR LR
comp=Z,700nm,18.6s
ABTX Abilene, Hawle 74.30 337 ⇓P **P 23 13 34.9 +0.2**
baz=75,SNR=13
UALR University of 74.35 343 eP **P 23 13 35.1 +0.2**
comp=Z,49nm,1.3s
229A Bryant Ranch, 74.40 335 ⇑P **P 23 13 36.0 +0.6**
baz=75,SNR=6.3
MIAR Mount Ida 74.42 342 eP **P 23 13 34.8 -0.5**
MIAR pmax pmax
comp=Z,357nm,2.8s
MIAR Mount Ida 74.42 342 eP **P 23 13 34.8 -0.5**
comp=Z,357nm,2.8s
Z34A Collier Ranch, 74.47 338 ⇑P **P 23 13 34.9 -0.7**
baz=75
TZTN Tazewell 74.52 351 eP **P 23 13 35.4 -0.5**
comp=Z,103nm,1.4s
131A Roby 74.58 336 ⇑P **P 23 13 37.4 +1.1**
baz=75,SNR=10
Z33A Whitaker Ranch 74.64 338 ⇑P **P 23 13 36.9 +0.3**
baz=75,SNR=5.9
130A Snyder 74.69 336 ⇓P **P 23 13 38.0 +0.9**
baz=75,SNR=5.8
HBAR Harrisburg 74.73 345 eP **P 23 13 36.7 -0.4**
WVT Waverly 74.75 347 eP **P 23 13 36.8 -0.4**
WVT pmax pmax
comp=Z,111nm,1.2s
WVT Waverly 74.75 347 eP **P 23 13 36.8 -0.4**
comp=Z,111nm,1.2s
228A UT Block 9, Go 74.81 334 ⇓P **P 23 13 38.6 +0.8**
baz=75,SNR=11
VWCC Virginia Weste 74.85 354 eP **P 23 13 37.5 -0.3**
BLA Blacksburg 74.85 354 eP **P 23 13 38.0 +0.2**
BLA pmax pmax
comp=Z,299nm,2.2s
BLA MLR MLR
comp=Z,1µm,18.0s
BLA Blacksburg 74.85 354 eP **P 23 13 38.0 +0.2**
comp=Z,299nm,2.2s
BLA LR LR
comp=Z,1µm,18.0s
Z32A Haskell 74.88 337 ⇑P **P 23 13 38.2 +0.2**
baz=75,SNR=14
Y34A Reagan Ranch, 74.97 339 ⇑P **P 23 13 38.1 -0.4**
baz=75,SNR=6.3
URVA University of 75.00 356 eP **P 23 13 38.6 0.0**
129A Stewart Farms, 75.03 335 ⇑P **P 23 13 40.3 +1.3**
baz=75
RAR Rarotonga 75.07 255 LR LR 23 39 13.4
comp=Z,1µm,20.1s,baz=164,slow=30
Z31A Sharp Cattle R 75.10 337 ⇓P **P 23 13 39.6 +0.3**
baz=76,SNR=9.6
JSRW J. Sargeant Re 75.15 356 eP **P 23 13 39.6 +0.2**
128A Castleberry Fa 75.23 334 ⇑P **P 23 13 40.8 +0.6**
baz=76,SNR=12
Y33A Hilltop Ranch, 75.27 338 ⇑P **P 23 13 41.6 +1.3**
baz=76,SNR=8.4
PVMO Portageville 75.37 346 eP **P 23 13 41.5 +0.8**
comp=Z,224nm,0.5s
Z30A Sanderson Ranc 75.38 336 ⇓P **P 23 13 41.4 +0.4**
baz=76,SNR=8.6
CLNB Carlsbad 75.39 333 eP **P 23 13 42.0 +0.9**
MNTX Cornudas Mount 75.44 332 eP **P 23 13 40.5 -0.8**
comp=Z,27nm,1.4s
MNTX LR LR
comp=Z,2µm,19.0s
GDL2 Guadalupe Moun 75.51 333 eP **P 23 13 41.0 -0.9**
Y32A R-V Farms, Ver 75.51 337 ⇓P **P 23 13 42.8 +1.1**
baz=76,SNR=5.7
Z29A Hungry Hill Ra 75.55 335 ⇓P **P 23 13 41.9 -0.1**
baz=76,SNR=13
127A Arkansas Junct 75.58 334 ⇑P **P 23 13 44.6 +2.4**
baz=76
X34A Smith Ranch, M 75.59 339 ⇑P **P 23 13 43.2 +1.1**
baz=76,SNR=7.7
Y31A Rekieta Farm, 75.73 337 ⇑P **P 23 13 44.4 +1.5**
baz=76,SNR=6.3
Y30A Stafford Cattl 75.85 336 ⇑P **P 23 13 44.7 +1.0**
baz=76
X32A Elmer 75.85 338 ⇓P **P 23 13 44.3 +0.7**
baz=76,SNR=7.9
PBMO Poplar Bluff 75.87 345 eP **P 23 13 43.5 0.0**
comp=Z,194nm,1.8s
Y29A Porterfield Fa 76.09 336 ⇓P **P 23 13 45.8 +0.8**
baz=76,SNR=5.9
Z27A Tatum 76.11 334 ⇓P **P 23 13 46.7 +1.4**
baz=76,SNR=8.7
W34A Bridge Creek, 76.17 339 eP **P 23 13 45.7 +0.3**
comp=Z,110nm,1.4s
W34A Bridge Creek, 76.17 339 ⇓P **P 23 13 45.9 +0.5**
baz=77
UPI Upington 76.19 115 eP **P 23 13 45.6 -0.4**
UPI AMB AMB 23 14 04.7
comp=Z,107nm,2.6s
X31A McDonald Ranch 76.26 337 ⇑P **P 23 13 46.1 +0.2**
baz=77,SNR=14
TUL1 Tulsa 76.27 341 eP **P 23 13 45.4 -0.5**
comp=Z,354nm,2.0s
TUL1 Tulsa 76.27 341 ⇓P **P 23 13 46.4 +0.6**
baz=77,SNR=14
W33A Caddo, Fort Co 76.29 339 ⇑P **P 23 13 47.3 +1.2**
baz=77,SNR=9.3
Y28A McKinney Farm, 76.32 335 ⇑P **P 23 13 47.3 +0.9**
baz=77
Z26A Caprock 76.34 333 ⇓P **P 23 13 47.3 +0.7**
baz=77,SNR=22
CASY Casey 76.34 181 eP **P 23 13 45.9 -0.1**
comp=Z,76nm,1.0s
CASY LR LR
comp=Z,3µm,22.0s
X30A Coker Ranch, T 76.37 336 ⇓P **P 23 13 47.4 +0.8**
baz=77,SNR=7.7
WIN Windhoek 76.47 108 eP **P 23 13 48.5 +0.7**

WIN AMB AMB 23 14 06.7
comp=Z,22nm,1.5s
W32A Sentinel 76.49 338 ⇓P P 23 13 47.6 +0.4
baz=77,SNR=24
LIC Lamto 76.51 71 eP P 23 13 47.8 0.0
comp=Z,468nm,1.4s
USIN University of 76.52 348 eP P 23 13 45.9 -1.4
comp=Z,156nm,1.4s
SIUC Southern Illin 76.54 347 eP P 23 13 46.8 -0.6
comp=Z,50nm,1.1s
MSTX Muleshoe 76.55 335 eP P 23 13 47.5 -0.2
comp=Z,82nm,1.2s
MSTX Muleshoe 76.55 335 ⇑P P 23 13 48.4 +0.7
baz=77,SNR=9.6
WCI Wyandotte Cave 76.56 349 eP P 23 13 46.7 -0.8
WCI pmax pmax
comp=Z,49nm,1.5s
WCI Wyandotte Cave 76.56 349 eP P 23 13 46.6 -0.8
comp=Z,49nm,1.5s
Y27A Causey 76.61 334 ⇓P P 23 13 49.5 +1.5
baz=77,SNR=5.9
Z25A Roswell 76.61 333 ⇓P P 23 13 50.0 +1.9
baz=77,SNR=7.0
X29A Tulia 76.63 336 ⇑P P 23 13 48.8 +0.6
baz=77,SNR=11
V34A Guthrie 76.66 340 eP P 23 13 47.4 -0.7
comp=Z,416nm,2.1s
V34A Guthrie 76.66 340 ⇓P P 23 13 48.5 +0.4
baz=77,SNR=9.6
319A Douglas 76.70 328 ⇓P P 23 13 50.8 +2.2
baz=77,SNR=8.2
W31A Holland Ranch, 76.76 337 ⇓P P 23 13 49.9 +1.2
baz=77,SNR=6.1
TIC Toumodi 76.79 71 eP P 23 13 49.5 +0.1
comp=Z,425nm,1.5s
SDMD Soldier's Deli 76.80 357 eP P 23 13 49.2 +0.4
comp=Z,248nm,2.2s
KIC Kosan Boka 76.81 71 eP P 23 13 49.7 +0.2
comp=Z,547nm,1.4s
V33A Lossen Ranch, 76.86 339 ⇓P P 23 13 50.2 +0.9
baz=77,SNR=13
X28A Dimmitt 76.86 335 ⇑P P 23 13 50.8 +1.4
baz=77
Y26A Elida 76.88 334 ⇓P P 23 13 50.4 +0.9
baz=77,SNR=6.0
Z24A Sheeppen Canyo 76.89 332 ⇑P P 23 13 51.7 +2.0
baz=77,SNR=13
DBIC Dimbokro 76.93 71 eP P 23 13 50.5 +0.3
DBIC Dimbokro 76.93 71 eP P 23 13 50.3 +0.1
DBIC pmax pmax
comp=Z,530nm,1.8s
DBIC Dimbokro 76.93 71 P P 23 13 50.5 +0.3
comp=Z,46nm,0.8s,baz=204,slow=5.9,SNR=46
DBIC LR LR 23 44 45.0
comp=Z,2μm,19.6s,baz=210,slow=33
DBIC Dimbokro 76.93 71 eP P 23 13 50.3 +0.1
comp=Z,530nm,1.8s
GRM Grahamstown 76.96 122 eP P 23 13 50.6 +0.3
GRM AMB AMB 23 14 08.6
comp=Z,109nm,1.9s
V32A Arapaho 76.99 338 ⇓P P 23 13 50.9 +0.9
baz=77,SNR=8.2
AMTX Amarillo 77.03 336 eP P 23 13 50.3 0.0
comp=Z,98nm,1.1s
AMTX Amarillo 77.03 336 ⇓P P 23 13 50.9 +0.6
baz=78
121A Cookes Peak, D 77.11 330 ⇓P P 23 13 52.8 +1.9
baz=78,SNR=12
Y25A Mesa, Roswell 77.18 333 ⇑P P 23 13 52.3 +1.0
baz=78
U34A Anderson Ranch 77.23 340 eP P 23 13 50.6 -0.7
comp=Z,126nm,1.4s
U34A Anderson Ranch 77.23 340 ⇓P P 23 13 52.3 +1.0
baz=78,SNR=7.5
W29A Amraillo 77.23 336 ⇓P P 23 13 51.9 +0.4
baz=78,SNR=9.5
V31A Spring Creek L 77.28 338 ⇓P P 23 13 53.3 +1.6
baz=78,SNR=10
X27A F and S Farms, 77.28 335 ⇓P P 23 13 53.2 +1.4
baz=78
OLIL Olney 77.34 348 eP P 23 13 50.6 -1.2
comp=Z,139nm,1.8s
MVL Millersville 77.37 357 eP P 23 13 52.3 +0.3
comp=Z,65nm,1.4s
Z22A Elephant Butte 77.43 331 ⇑P P 23 13 54.7 +2.0
baz=78,SNR=12
X26A CR and CF Fran 77.44 334 ⇑P P 23 13 53.4 +0.7
baz=78,SNR=12
Y24A Capitan 77.45 333 ⇑P P 23 13 54.1 +1.2
baz=78,SNR=11
BLO Bloomington 77.52 349 eP P 23 13 52.5 -0.4
BLO pmax pmax
comp=Z,203nm,1.8s
BLO Bloomington 77.52 349 eP P 23 13 52.5 -0.4
comp=Z,203nm,1.8s
V30A Spur Ranch, Mi 77.52 337 ⇓P P 23 13 55.0 +1.9
baz=78
W28A Vega 77.54 336 ⇑P P 23 13 54.3 +1.1
baz=78
U32A Winter Ranch, 77.59 339 ⇑P P 23 13 53.5 +0.2
baz=78
SLM Saint Louis 77.63 346 eP P 23 13 53.0 -0.5
SLM pmax pmax
comp=Z,150nm,1.3s
SLM Saint Louis 77.63 346 eP P 23 13 53.0 -0.5
comp=Z,150nm,1.3s
W27A Bowe Ranch, En 77.65 335 ⇓P P 23 13 54.3 +0.5
baz=78,SNR=16
Y23A Lovelace Mesa, 77.69 332 ⇓P P 23 13 55.6 +1.4
baz=78,SNR=12
X25A Clemmons Ranch 77.72 333 ⇓P P 23 13 55.3 +1.0
baz=78
HVD Gariep Dam 77.88 119 eP P 23 13 56.7 +1.1
HVD AMB AMB 23 14 17.7
comp=Z,123nm,1.5s
V29A Stinnett 77.89 336 ⇑P P 23 13 56.2 +1.1
baz=78
W26A Owens Ranch, T 77.91 334 ⇑P P 23 13 57.0 +1.7
baz=78,SNR=8.3
LUPA Lehigh Univers 77.94 358 eP P 23 13 54.8 -0.3
comp=Z,22nm,1.8s
V28A Channing 78.00 336 ⇓P P 23 13 56.9 +1.1
baz=78,SNR=7.2
T33A Patterson Ranc 78.03 339 ⇑P P 23 13 56.2 +0.4
baz=78,SNR=8.7
SSPA Standing Stone 78.08 356 eP P 23 13 55.6 -0.3
comp=Z,242nm,2.2s
BNM Barren Site 78.09 332 eP P 23 13 57.2 +0.7
ACSO Alum Creek Sta 78.10 352 eP P 23 13 55.1 -0.9
comp=Z,443nm,1.9s
TUC Tucson 78.14 328 eP P 23 13 57.8 +1.2
TUC pmax pmax
comp=Z,154nm,1.8s
TUC Tucson 78.14 328 eP P 23 13 57.8 +1.2
comp=Z,154nm,1.8s
V27A Dan Oppiter Fa 78.20 335 ⇑P P 23 13 58.7 +1.8
baz=79,SNR=5.7
U30A WK&E Inc. Balk 78.22 337 ⇓P P 23 13 58.0 +1.1
baz=79,SNR=8.0
LENM Lemitar 78.24 332 eP P 23 13 58.1 +0.9
LPM Los Pinos Moun 78.24 332 eP P 23 13 57.2 0.0
W25A X Bar L Ranch, 78.27 334 ⇑P P 23 13 58.3 +0.9
baz=79,SNR=14
T32A Huddler Ranch, 78.31 339 ⇑P P 23 13 57.8 +0.4
baz=79,SNR=6.1
X23A Hourglass Bar 78.31 332 ⇓P P 23 13 59.8 +2.1
baz=79,SNR=7.3
ODNJ Ogdensburg 78.40 359 eP P 23 13 57.4 -0.3
comp=Z,312nm,2.1s
T31A Randall Ranch, 78.45 338 ⇑P P 23 13 59.3 +1.1
baz=79,SNR=5.6
LAZ Ladron 78.51 332 eP P 23 13 59.1 +0.3
V26A Tequesquite Ra 78.56 335 ⇓P P 23 13 59.7 +0.8
baz=79,SNR=8.1
U28A Mallet 78.57 336 ⇓P P 23 13 59.7 +0.7
baz=79,SNR=8.9
W24A Lazy 6 Ranch, 78.59 333 ⇑P P 23 14 00.1 +0.9
baz=79,SNR=23
YLE Yale 78.61 360 eP P 23 13 58.1 -0.7
comp=Z,476nm,1.8s
YLE LR LR
comp=Z,2μm,18.9s
T30A Plains 78.67 338 ⇓P P 23 14 00.5 +1.2
baz=79
ANMO Albuquerque 78.74 332 c iP P 23 14 00.9 +0.9
ANMO pmax pmax
comp=Z,310nm,2.0s
ANMO Albuquerque 78.74 332 eP P 23 14 00.3 +0.3
comp=Z,66nm,1.2s
ANMO LR LR
comp=Z,2μm,19.0s
SFIN Scholer Farm 78.78 349 eP P 23 13 59.2 -0.7
comp=Z,263nm,2.4s
TSUM Tsumeb 78.79 106 eP P 23 14 01.1 +0.4
comp=Z,111nm,1.4s
TSUM LR LR
comp=Z,4μm,20.0s
S32A Newby Ranch, P 78.80 339 ⇓P P 23 14 00.7 +0.6
baz=79
U27A Thompson Grove 78.81 336 ⇓P P 23 14 01.5 +1.3
baz=79,SNR=8.0
W23A Werner Place, 78.82 333 ⇓P P 23 14 02.5 +2.0
baz=79,SNR=9.4
V25A Rancho No Teng 78.88 334 ⇑P P 23 14 01.9 +1.1
baz=79,SNR=18
BOSA Boshof 78.89 117 eP P 23 14 01.0 -0.2
BOSA AMB AMB 23 14 21.8
comp=Z,126nm,3.8s
BOSA Boshof 78.89 117 eP P 23 14 00.7 -0.4
BOSA pmax pmax
comp=Z,105nm,1.1s
BOSA MLR MLR
comp=Z,3μm,18.2s
BOSA Boshof 78.89 117 P P 23 14 00.8 -0.4
comp=Z,72nm,0.9s,baz=226,slow=5.9,SNR=62
BOSA LR LR 23 48 55.8
comp=Z,2μm,18.0s,baz=249,slow=36
BOSA Boshof 78.89 117 eP P 23 14 00.7 -0.4
comp=Z,105nm,1.1s
BOSA LR LR
comp=Z,3μm,18.2s
T29A Hugoton 79.00 337 ⇓P P 23 14 03.1 +1.9
baz=79
V24A Rampart Ranch, 79.01 334 ⇑P P 23 14 03.1 +1.6
baz=79,SNR=8.2
U26A Atchley Ranch, 79.09 335 ⇓P P 23 14 02.7 +0.9
baz=80,SNR=9.3
R33A Olander Ranch, 79.11 340 ⇓P P 23 14 02.1 +0.4
baz=80,SNR=5.1
S30A Montezuma 79.19 338 ⇓P P 23 14 02.8 +0.6
baz=80,SNR=12
T28A Walsh 79.22 336 ⇓P P 23 14 03.0 +0.5
baz=80,SNR=19
BRYW Bryant College 79.22 1 eP P 23 14 02.7 +0.5
comp=Z,90nm,1.1s
ALLY Alegheny Colle 79.24 354 eP P 23 14 02.2 -0.1
comp=Z,60nm,1.2s
U25A Circle Dot Ran 79.32 334 ⇑P P 23 14 04.8 +1.7
baz=80,SNR=21
V23A Ortiz Mt. (NFS 79.35 333 ⇓P P 23 14 05.7 +2.4
baz=80,SNR=7.4
T27A Campo 79.36 336 ⇑P P 23 14 04.2 +0.9
baz=80,SNR=9.8
S29A Ulysses 79.37 337 ⇓P P 23 14 04.3 +1.0
baz=80,SNR=7.3
R32A Long Quarter, 79.41 340 ⇓P P 23 14 04.4 +1.0
baz=80,SNR=8.3
KSU1 Kansas State U 79.49 341 eP P 23 14 03.7 -0.1
comp=Z,46nm,1.0s
R31A Burdett 79.52 339 ⇓P P 23 14 05.3 +1.3
baz=80,SNR=7.8
BINY Binghamton 79.55 358 eP P 23 14 03.8 -0.2
comp=Z,110nm,1.4s
QUA2 Belchertown 79.58 0 eP P 23 14 04.2 +0.1
comp=Z,71nm,0.9s
S28A Manter 79.58 337 ⇓P P 23 14 05.1 +0.7
baz=80,SNR=13
U24A Moreno Valley 79.63 334 ⇑P P 23 14 08.2 +3.3
baz=80
BFZ Birch Farm 79.69 226 PFAKE 23 14 20.0 +15
BFZ LR LR
comp=Z,2μm,21.0s
Q33A Connelly Farm, 79.71 340 ⇓P P 23 14 05.2 +0.2
baz=80
X18A Snowflake 79.72 330 ⇑P P 23 14 08.4 +3.1
baz=80,SNR=7.0
R30A Dighton 79.73 338 ⇑P P 23 14 05.8 +0.6
baz=80,SNR=8.5
T26A Comanche Natio 79.75 335 ⇑P P 23 14 06.6 +1.2
baz=80,SNR=16
V22A San Miguel Ran 79.77 332 ⇓P P 23 14 07.3 +1.7
baz=80,SNR=26
SWZ Schweizer 79.80 116 eP P 23 14 05.3 -0.9
SWZ AMB AMB 23 14 28.6
comp=Z,110nm,2.8s
HRV Adam Dziewonsk 79.81 1 eP P 23 14 05.8 +0.4
HRV pmax pmax
comp=Z,245nm,1.6s
HRV Adam Dziewonsk 79.81 1 eP P 23 14 05.8 +0.4
comp=Z,245nm,1.6s
113A Mohawk Valley, 79.83 326 ⇑P P 23 14 08.8 +3.1
baz=80,SNR=7.5
U23A El Rito 79.88 333 ⇓P P 23 14 08.2 +1.9
baz=80,SNR=8.9
Q32A Meitler Ranch, 79.90 340 ⇑P P 23 14 07.0 +1.0
baz=80,SNR=8.5
Z14A Wintersburg 79.97 327 ⇑P P 23 14 20.4 +14
baz=80
T25A Trinidad 79.99 335 ⇑P P 23 14 08.1 +1.4
baz=80,SNR=56
TRY Troy 80.03 359 eP P 23 14 06.6 0.0
comp=Z,98nm,1.0s
KHZ Kahutara 80.04 224 PFAKE 23 14 20.0 +13
KHZ LR LR
comp=Z,2μm,19.0s
P33A Williams Farm, 80.09 341 ⇑P P 23 14 08.4 +1.4
baz=80
S26A Kim 80.11 336 ⇓P P 23 14 08.2 +0.9
baz=80,SNR=27
R29A Marienthal 80.11 338 ⇑P P 23 14 08.2 +0.9
baz=80,SNR=7.7
SNZO South Karori 80.14 225 PFAKE 23 14 20.0 +12
SNZO LR LR
comp=Z,2μm,20.0s
Q31A Ellis 80.15 339 ⇑P P 23 14 07.7 +0.3
baz=81
W18A Petrified Fore 80.15 330 eP P 23 14 08.9 +1.2
comp=Z,172nm,1.5s
W18A LR LR
comp=Z,2μm,18.9s
U22A Llaves 80.16 333 ⇓P P 23 14 09.7 +2.0
baz=81,SNR=14
AAM Ann Arbor 80.22 352 eP P 23 14 06.9 -0.7
AAM pmax pmax
comp=Z,276nm,2.0s
AAM Ann Arbor 80.22 352 eP P 23 14 06.9 -0.7
comp=Z,276nm,2.0s
X16A Lo Mia Camp, P 80.23 328 ⇑P P 23 14 11.1 +3.0
baz=81,SNR=9.9
R28A Tribune 80.24 337 ⇑P P 23 14 08.5 +0.6
baz=81,SNR=24
T24B San Luis 80.25 334 ⇑P P 23 14 10.0 +1.7
baz=81,SNR=14
Q30A Quinter 80.36 339 ⇓P P 23 14 09.6 +1.1
baz=81,SNR=19
T23A Casias Ranch, 80.45 334 ⇓P P 23 14 11.4 +2.1
baz=81
S25A Robets Cordova 80.47 335 ⇓P P 23 14 10.1 +0.8
baz=81,SNR=20
Y14A Wickenburg 80.48 327 ⇑P P 23 14 12.3 +2.9
baz=81,SNR=8.1
RPZ Rata Peaks 80.48 221 PFAKE 23 14 20.0 +11
RPZ LR LR
comp=Z,5μm,21.0s
Q29A Oakley 80.50 338 ⇓P P 23 14 09.4 +0.1
baz=81,SNR=13
R27A Eads 80.50 336 ⇑P P 23 14 10.0 +0.6
baz=81,SNR=15
P32A Huiting Farm, 80.50 340 ⇑P P 23 14 09.6 +0.3
baz=81,SNR=5.4
BKZ Black Stump Fm 80.54 227 eP P 23 14 08.5 -1.3
comp=Z,456nm,2.5s
BKZ LR LR
comp=Z,2μm,18.0s
GLA Glamis 80.54 325 eP P 23 14 09.9 +0.3
GLA pmax pmax
comp=Z,82nm,1.4s
GLA MLR MLR
comp=Z,2μm,19.3s
GLA Glamis 80.54 325 eP P 23 14 09.9 +0.3
comp=Z,82nm,1.4s
GLA LR LR
comp=Z,2μm,19.3s
GLA Glamis 80.54 325 ⇑P pP 23 14 24.8 +2.9
baz=81
KSD Kokstad 80.60 121 eP P 23 14 10.1 -0.4
KSD AMB AMB 23 14 28.4
comp=Z,34nm,2.1s
P31A Stockton 80.62 339 ⇓P P 23 14 11.1 +1.2
baz=81,SNR=6.9
ACCN Adirondack Com 80.69 359 eP P 23 14 09.9 -0.2
comp=Z,81nm,1.1s
S24A Houchin Ranch, 80.71 334 ⇓P P 23 14 12.2 +1.4
baz=81,SNR=22
R26A Arlington 80.72 336 ⇓P P 23 14 11.5 +0.9
baz=81,SNR=22
SEK Senekal 80.73 119 eP P 23 14 10.8 -0.4
SEK AMB AMB 23 14 28.0
comp=Z,127nm,2.5s
URZ Urewera 80.77 228 P P 23 14 10.8 -0.1
comp=Z,6.3nm,0.8s,baz=135,slow=2.9,SNR=3.9
URZ LR LR 23 42 15.8
comp=Z,2μm,20.1s,baz=183,slow=30
R25A Fountain Ranch 80.86 335 ⇑P P 23 14 13.6 +2.2
baz=81
P30A Selden 80.89 339 ⇓P P 23 14 11.7 +0.4
baz=81,SNR=6.3
SDCO Great Sand Dun 80.91 334 eP P 23 14 12.0 +0.2
comp=Z,25nm,1.1s
Q28A Sharon Springs 80.91 337 ⇑P P 23 14 12.7 +1.1
baz=81
Y12C Blythe 80.99 326 ⇑P pP 23 14 26.5 +2.3
baz=81
HNH Hanover 81.00 0 eP P 23 14 12.6 +0.8
comp=Z,631nm,2.7s
O32A Brockman Farm, 81.02 341 ⇑P P 23 14 13.4 +1.4
baz=82
BFSD Buffelsfontein 81.03 117 eP P 23 14 11.0 -1.8
BFSD AMB AMB 23 14 34.1
comp=Z,119nm,2.2s
S23A Nye Farm, Mont 81.04 334 ⇑P P 23 14 15.2 +2.7
baz=82
BAR Barrett 81.08 324 eP P 23 14 10.9 -1.6
KSCO Kaye Shedlock' 81.11 337 eP P 23 14 13.6 +0.9
comp=Z,409nm,2.1s
KSCO Kaye Shedlock' 81.11 337 ⇓P P 23 14 15.0 +2.4
baz=82
P29A Atwood 81.14 338 ⇓P P 23 14 12.7 0.0
baz=82
WUAZ Wupatki 81.15 329 eP P 23 14 13.1 +0.1
WUAZ ePcP PcP 23 14 13.7 -5.5
WUAZ Wupatki 81.15 329 ⇑P P 23 14 15.3 +2.3
baz=82,SNR=6.6
RUDU RUNDU 81.19 106 eP P 23 14 14.3 +0.7
RUDU AMB AMB 23 14 32.7
comp=Z,154nm,1.7s
O31A Woolen Ranch, 81.20 340 ⇑P P 23 14 13.5 +0.6
baz=82
R24A Sanders Place, 81.21 335 P P 23 14 14.5 +1.2
baz=82,SNR=28
NCB Newcomb 81.28 359 eP P 23 14 12.8 -0.5
comp=Z,95nm,1.3s
PDMCI Parker Dam,Lak 81.29 326 ⇓P pP 23 14 28.0 +2.2
baz=82
MDV Middlebury 81.30 360 eP P 23 14 13.3 0.0
LBTB Lobatse 81.30 115 eP P 23 14 13.4 -0.9
LBTB AMB AMB 23 14 32.2
comp=Z,137nm,2.0s
LBTB Lobatse 81.30 115 eP P 23 14 13.3 -0.9
LBTB pmax pmax
comp=Z,106nm,0.8s
LBTB MLR MLR
comp=Z,3μm,20.1s
LBTB Lobatse 81.30 115 eP P 23 14 13.3 -0.9
comp=Z,106nm,0.8s
LBTB LR LR
comp=Z,3μm,20.1s
Q26A Hugo 81.31 336 ⇓P P 23 14 15.0 +1.2
baz=82
P28A Saint Francis 81.36 338 ⇓P P 23 14 14.8 +0.9
baz=82
S22A 4UR Ranch, Cre 81.37 333 PFAKE 23 14 30.0 +16
S22A LR LR
comp=Z,2μm,18.0s
S22A 4UR Ranch, Cre 81.37 333 ⇓P P 23 14 17.0 +2.7
baz=82,SNR=23
SCIA State Center 81.38 345 eP P 23 14 14.0 +0.2
comp=Z,84nm,1.2s
PRYS Parys 81.40 117 eP P 23 14 14.3 -0.4
PRYS AMB AMB 23 14 36.2
comp=Z,43nm,2.3s
R23A Moffat 81.42 334 ⇓P P 23 14 16.8 +2.3
baz=82,SNR=15
O30A MW Ranch, Wils 81.42 339 ⇓P P 23 14 13.4 -0.8
baz=82
MVCO Mesa Verde 81.50 332 eP P 23 14 15.4 +0.4
comp=Z,199nm,1.8s
MVCO LR LR
comp=Z,3μm,18.0s
MVCO Mesa Verde 81.50 332 ⇓P P 23 14 16.3 +1.4
baz=82,SNR=11
Q25A Bedland, Calha 81.54 336 ⇓P P 23 14 15.9 +0.9
baz=82,SNR=7.5
LBNH Lisbon 81.54 1 eP P 23 14 15.3 +0.7
LBNH pmax pmax
comp=Z,538nm,2.5s
LBNH Lisbon 81.54 1 eP P 23 14 15.3 +0.7
comp=Z,538nm,2.5s
O29A 4D Ranch, Culb 81.59 339 ⇓P P 23 14 15.6 +0.6
baz=82
P27A Ficken Ranch, 81.59 337 ⇑P P 23 14 17.0 +1.8
baz=82
IRM Iron Mountain 81.62 326 ⇓P P 23 14 19.2 +3.8
baz=82
KSR Koster 81.72 116 eP P 23 14 17.0 +0.5
KSR AMB AMB 23 14 34.6
comp=Z,58nm,2.0s
WDLM Western Deep L 81.75 117 eP P 23 14 16.6 0.0
WDLM AMB AMB 23 14 34.7
comp=Z,64nm,1.7s
PFO Pinyon Flat Ob 81.75 324 eP P 23 14 17.6 +1.4
PFO pmax pmax
comp=Z,298nm,2.1s
PFO MLR MLR
comp=Z,2μm,20.0s
PFO Pinyon Flat Ob 81.75 324 eP P 23 14 17.6 +1.4
comp=Z,298nm,2.1s
PFO LR LR
comp=Z,2μm,20.0s
JFWS Jewell Farm 81.78 347 eP P 23 14 15.8 -0.1
JFWS pmax pmax
comp=Z,199nm,1.8s
JFWS MLR MLR
comp=Z,2μm,20.0s
JFWS Jewell Farm 81.78 347 eP P 23 14 15.8 -0.1
comp=Z,199nm,1.8s
JFWS LR LR
comp=Z,2μm,20.0s
P26A Davis Ranch, A 81.84 337 ⇑P P 23 14 17.6 +1.1
baz=82,SNR=7.5
W13A Hualapai Mount 81.85 327 ⇑P P 23 14 20.0 +3.2
baz=82
BELC Belle Mtn. Jos 81.87 325 ⇓P pP 23 14 31.3 +2.3
baz=82
O28A Krutsinger Ran 81.87 338 ⇓P P 23 14 17.4 +0.8
baz=82,SNR=5.7
Q24A Divide 81.88 335 PFAKE 23 14 30.0 +13
Q24A LR LR
comp=Z,800nm,18.0s
Q24A Divide 81.88 335 ⇑P P 23 14 18.3 +1.4
baz=82,SNR=14
NEE2 Needles Airpor 81.89 326 ⇓P P 23 14 31.4 +15
baz=82
PTN Potsdam (NY) 81.89 358 eP P 23 14 16.6 +0.2
PTN pmax pmax
comp=Z,95nm,0.9s
PTN Potsdam (NY) 81.89 358 eP P 23 14 16.6 +0.2
comp=Z,95nm,0.9s
KLOF Kloof 81.92 117 eP P 23 14 18.2 +0.7
KLOF AMB AMB 23 14 35.5
comp=Z,76nm,1.9s
LONY Lake Ozonia 81.93 359 eP P 23 14 16.9 +0.2
comp=Z,73nm,1.0s
P25A Willow Gulch B 82.06 336 ⇓P P 23 14 19.7 +2.1
baz=82,SNR=11
BGNE Belgrade 82.06 341 eP P 23 14 17.5 0.0
comp=Z,567nm,2.1s
BGNE LR LR
comp=Z,1μm,18.2s
BGNE Belgrade 82.06 341 ⇓P P 23 14 17.2 -0.3
baz=82
MURC Murrieta 82.09 324 ⇓P P 23 14 21.3 +3.4
baz=82

O27A Beecher Island 82.14 337 ⇑P P 23 14 20.5 +2.4
baz=83
EMMW East Machias 82.15 4 eP P 23 14 17.8 0.0
comp=Z,586nm,2.2s
EMMW LR LR
comp=Z,2µm,18.8s
N29A Votaw Ranch, W 82.18 339 ⇓P P 23 14 16.8 -1.3
baz=83,SNR=5.4
M31A Lambtecht Ranc 82.21 340 ⇑P P 23 14 20.3 +2.0
baz=83,SNR=6.2
CRWM Crown Mines 82.28 117 eP P 23 14 19.4 -0.1
CRWM AMB AMB 23 14 36.2
comp=Z,90nm,2.5s
P24A Kohler Place, 82.30 335 ⇑P P 23 14 21.4 +2.4
baz=83
U15A North Rim 82.31 329 ⇑P P 23 14 21.0 +1.8
baz=83,SNR=12
N28A Pribbeno Ranch 82.32 338 ⇑P P 23 14 20.8 +1.8
baz=83
PV01 Paradox Valley 82.35 332 eP P 23 14 19.8 +0.5
OBSV Observatory 82.35 117 eP P 23 14 19.0 -0.8
OBSV AMB AMB 23 14 37.6
comp=Z,86nm,1.9s
GMRC Granite Mounta 82.36 326 ⇑P P 23 14 22.4 +3.0
baz=83
LDFC Landfair 82.37 326 eP P 23 14 20.9 +1.5
comp=Z,84nm,1.2s
LDFC LR LR
comp=Z,2µm,19.5s
ERPM east rand prop 82.38 117 eP P 23 14 20.5 +0.6
ERPM AMB AMB 23 14 38.3
comp=Z,102nm,2.0s
O26A Horse Wrangler 82.45 337 ⇓P P 23 14 21.0 +1.3
baz=83,SNR=9.0
P23A Jefferson 82.48 335 ⇑P P 23 14 22.4 +2.2
baz=83,SNR=7.4
PV05 Paradox Valley 82.49 332 eP P 23 14 20.2 +0.1
O25A Wiggins 82.59 336 ⇓P P 23 14 21.9 +1.5
baz=83
M30A Dale-Ortello V 82.64 340 ⇓P P 23 14 20.0 -0.6
baz=83
CRZF Crozet Islands 82.66 145 S S 23 25 09.0 +34
CRZF R 23 40 00.0
PV04 Paradox Valley 82.70 332 eP P 23 14 22.0 +0.9
SMCO Snowmass 82.70 334 eP P 23 14 22.5 +1.2
comp=Z,134nm,1.5s
SMCO LR LR
comp=Z,2µm,19.1s
OGNE Ogallala 82.70 338 ⇑P P 23 14 22.8 +1.9
baz=83
HEC Hector,Ludlow 82.71 325 ⇓P pP 23 14 35.8 +2.5
baz=83
N27A Anderson Farm, 82.73 338 ⇑P P 23 14 22.4 +1.3
baz=83,SNR=7.4
PV10 Paradox Valley 82.73 332 eP P 23 14 20.7 -0.6
M29A Burnside Ranch 82.78 339 ⇓P P 23 14 23.4 +2.1
baz=83
SLR Silverton 82.78 117 eP P 23 14 21.2 -0.8
SLR AMB AMB 23 14 39.6
comp=Z,109nm,2.2s
ISCO Idaho Springs 82.79 335 eP P 23 14 21.9 +0.2
ISCO pmax pmax
comp=Z,51nm,1.3s
ISCO Idaho Springs 82.79 335 eP P 23 14 21.9 +0.2
comp=Z,51nm,1.3s
ISCO Idaho Springs 82.79 335 ⇓P P 23 14 22.8 +1.2
baz=83,SNR=19
PV09 Paradox Valley 82.88 332 eP P 23 14 22.5 +0.4
M28A Bar X Bar Ranc 82.93 339 ⇑P P 23 14 24.3 +2.3
baz=83
L31A Butterfield Fa 82.96 341 ⇓P P 23 14 23.0 +0.9
baz=83,SNR=7.9
L30A Spencer Herefo 82.98 340 ⇓P P 23 14 22.8 +0.6
baz=83,SNR=5.9
P22A Eagle 83.00 334 ⇓P P 23 14 24.6 +1.9
baz=83,SNR=10.0
MWC Mount Wilson 83.01 324 PFAKE 23 14 30.0 +7.2
MWC LR LR
comp=Z,2µm,18.6s
PASC Pasadena Art C 83.02 323 PFAKE 23 14 30.0 +7.4
PASC LR LR
comp=Z,2µm,19.0s
TUQ Turquoise Moun 83.03 326 ⇓P P 23 14 25.8 +3.0
baz=83
KNB Kanab 83.04 329 eP P 23 14 24.1 +1.2
KNB pmax pmax
comp=Z,148nm,1.4s
KNB Kanab 83.04 329 eP P 23 14 24.1 +1.2
comp=Z,148nm,1.4s
O23A Lake Granby, G 83.26 335 ⇓P P 23 14 25.4 +1.3
baz=84,SNR=20
L29A Maesberg Ranch 83.29 340 ⇓P P 23 14 24.8 +0.9
baz=84
GSC Goldstone 83.32 325 eP P 23 14 24.7 +0.5
GSC pmax pmax
comp=Z,93nm,1.6s
GSC Goldstone 83.32 325 eP P 23 14 24.7 +0.5
comp=Z,92nm,1.6s
RAO Raoul Island 83.42 238 LR LR 23 42 24.7
comp=Z,2µm,21.8s,baz=150,slow=29
O22A Kremmling 83.43 335 ⇓P P 23 14 26.3 +1.3
baz=84,SNR=16
N24A Carr 83.48 336 ⇑P P 23 14 27.2 +2.1
baz=84
M26A McRoberts Ranc 83.52 338 ⇑P P 23 14 26.2 +1.1
baz=84
SHPR Sheep Range 83.59 327 eP P 23 14 26.9 +1.2
OSI Osito Adit 83.64 323 eP P 23 14 24.8 -1.1
comp=Z,69nm,1.1s
OSI Osito Adit 83.64 323 ⇓P P 23 14 26.9 +1.0
baz=84
CCUT Cedar City 83.72 329 eP P 23 14 27.7 +1.3
comp=Z,170nm,1.7s
M25A Palm-Egli Farm 83.77 337 ⇓P P 23 14 27.7 +1.2
baz=84
L27A T5 Ranch, Ells 83.83 338 ⇓P P 23 14 28.4 +1.7
baz=84,SNR=8.6
LRMC Laurel Mountai 83.86 325 ⇓P pP 23 14 41.6 +2.3
baz=84
ECSD EROS Data Cent 83.87 343 eP P 23 14 26.4 -0.4
comp=Z,92nm,1.0s
ECSD EROS Data Cent 83.87 343 ⇑P P 23 14 26.7 -0.1
baz=84,SNR=35
N23A Red Feather La 83.89 335 ⇓P P 23 14 28.6 +1.4
baz=84,SNR=10
SRU San Rafael 83.94 331 eP P 23 14 27.6 +0.2
SRU pmax pmax
comp=Z,87nm,1.5s
SRU San Rafael 83.94 331 eP P 23 14 27.6 +0.2
comp=Z,87nm,1.5s
ARUT Antelope Range 83.95 329 eP P 23 14 28.4 +0.9
ARUT Antelope Range 83.95 329 eP P 23 14 28.4 +0.9
N22A Wattenberg Ran 83.97 335 ⇓P P 23 14 29.4 +1.7
baz=84,SNR=6.9
O20A White River Ci 84.00 333 eP P 23 14 28.0 +0.3
comp=Z,108nm,1.6s
O20A White River Ci 84.00 333 ⇑P P 23 14 29.1 +1.3
baz=84,SNR=13
L26A Underwood Farm 84.02 338 ⇑P P 23 14 28.5 +0.8
baz=84
M24A Cheyenne 84.04 336 ⇑P P 23 14 29.8 +1.9
baz=84,SNR=9.9
MVU Marysvale 84.07 330 eP P 23 14 29.1 +0.9
comp=Z,99nm,1.7s
PHWY Pilot Hill 84.09 336 eP P 23 14 28.0 -0.3
comp=Z,71nm,1.4s
PHWY LR LR
comp=Z,900nm,21.8s
K28A Ten Mile Ranch 84.14 339 ⇑P P 23 14 29.2 +0.9
baz=85,SNR=6.0
FURC Furnace Creek, 84.31 326 ⇓P pP 23 14 43.4 +2.0
baz=85
M23A Laramie 84.33 336 ⇓P P 23 14 27.4 -2.0
baz=85
TMUT Trail Mountain 84.36 331 eP P 23 14 30.6 +0.9
comp=Z,100nm,1.4s
K27A Flueckinger Fa 84.38 339 ⇓P P 23 14 31.2 +1.8
baz=85,SNR=5.3
ISA Isabella 84.38 324 eP P 23 14 30.2 +0.6
ISA pmax pmax
comp=Z,48nm,1.3s
ISA Isabella 84.38 324 eP P 23 14 30.2 +0.6
comp=Z,48nm,1.3s
ISA Isabella 84.38 324 ⇑P P 23 14 32.8 +3.1
baz=85
SPMN St. Paul 84.48 346 eP P 23 14 28.9 -0.9
comp=Z,30nm,0.9s
SPMN LR LR
comp=Z,1µm,20.9s
SPMN St. Paul 84.48 346 ⇓P P 23 14 29.2 -0.6
baz=85,SNR=7.8
J29A Okreek 84.50 340 ⇓P P 23 14 30.6 +0.6
baz=85,SNR=12
M22A Cedar Creek Ra 84.56 335 ⇑P P 23 14 33.0 +2.3
baz=85
N20A Spence Gulch, 84.62 334 ⇓P P 23 14 32.4 +1.5
baz=85,SNR=8.6
COWI Conover 84.69 349 eP P 23 14 31.3 +0.4
comp=Z,42nm,1.1s
I30A Oacoma 84.73 341 ⇓P P 23 14 31.4 +0.3
baz=85,SNR=5.6
J28A Allard Ranch, 84.76 340 ⇓P P 23 14 32.6 +1.2
baz=85,SNR=14
K25A Mack Ranch, Ha 84.78 337 ⇓P P 23 14 33.1 +1.5
baz=85,SNR=6.7
VES Vestal, Richgr 84.81 324 ⇓P P 23 14 34.5 +2.8
baz=85
J27A Elkhorn Farm, 84.82 339 ⇑P P 23 14 33.3 +1.6
baz=85,SNR=28
OUZ Omahuta 84.90 229 PFAKE 23 14 40.0 +7.6
OUZ LR LR
comp=Z,9µm,20.0s
L23A Garrett 84.90 336 ⇑P P 23 14 32.9 +0.6
baz=85,SNR=11
GRAC Grapevine Rang 84.98 326 ⇓P P 23 14 35.0 +2.4
baz=85
I29A Vivian Onida 85.06 340 ⇑P P 23 14 33.3 +0.5
baz=86,SNR=5.2
L22A Ellis Ranch, M 85.07 336 ⇓P P 23 14 35.1 +2.0
baz=86
BRSD Miller 85.11 342 eP P 23 14 33.1 +0.1
comp=Z,472nm,2.1s
BRSD Miller 85.11 342 ⇑P P 23 14 32.7 -0.3
baz=86
MPU Maple Canyon 85.14 331 eP P 23 14 33.6 +0.1
comp=Z,102nm,1.4s
J26A Sides Ranch, S 85.18 338 ⇓P P 23 14 34.4 +0.9
baz=86,SNR=20
NLU North Lily Min 85.26 331 eP P 23 14 34.9 +0.7
comp=Z,116nm,1.6s
NLU LR LR
comp=Z,2µm,20.8s
I28A Midland 85.28 340 ⇓P P 23 14 33.0 -0.9
baz=86,SNR=15
R11A Troy Canyon, C 85.32 328 eP P 23 14 35.4 +0.9
comp=Z,156nm,1.8s
R11A LR LR
comp=Z,1µm,19.7s
R11A Troy Canyon, C 85.32 328 ⇓P P 23 14 37.2 +2.8
baz=86
DAU Daniels Canyon 85.34 332 eP P 23 14 35.1 +0.4
DAU Daniels Canyon 85.34 332 eP P 23 14 35.1 +0.4
TIN Tinemaha 85.41 325 ⇑P pP 23 14 49.8 +2.6
baz=86
K23A Bowen Ranch, D 85.46 336 ⇑P P 23 14 35.9 +0.9
baz=86,SNR=13
J25A Sunshine Ranch 85.47 338 ⇓P P 23 14 36.0 +1.0
baz=86,SNR=13
JLU Jordanelle 85.58 331 eP P 23 14 36.0 +0.2
comp=Z,50nm,1.2s
JLU LR LR
comp=Z,2µm,18.1s
I27A Quinn 85.58 339 ⇑P P 23 14 35.0 -0.4
baz=86,SNR=7.5
H29A Onida 85.60 341 ⇑P P 23 14 36.9 +1.4
baz=86,SNR=13
K22A Casper 85.65 336 eP P 23 14 36.0 0.0
comp=Z,127nm,1.4s
K22A Casper 85.65 336 ⇓P P 23 14 36.9 +1.0
baz=86,SNR=15
J24A Dixon Ranch, L 85.68 337 ⇓P P 23 14 36.1 +0.1
baz=86,SNR=15
DUG Dugway 85.76 330 eP P 23 14 37.4 +0.9
DUG pmax pmax
comp=Z,166nm,1.7s
DUG MLR MLR
comp=Z,2µm,18.0s
DUG Dugway 85.76 330 eP P 23 14 37.4 +0.9
comp=Z,166nm,1.7s
DUG LR LR
comp=Z,2µm,18.0s
DUG Dugway 85.76 330 ⇓P P 23 14 39.1 +2.5
baz=86
CTU Camp Tracy 85.78 331 eP P 23 14 36.5 -0.1
comp=Z,85nm,2.1s
I26A New Underwood 85.78 339 ⇓P P 23 14 37.0 +0.5
baz=86,SNR=5.7
G30A Faulkton 85.80 342 ⇓P P 23 14 37.5 +1.1
baz=86,SNR=5.9
TPH Tonopah 85.80 326 eP P 23 14 37.1 +0.2
TPH pmax pmax
comp=Z,62nm,1.1s
TPH MLR MLR
comp=Z,2µm,20.0s
TPH Tonopah 85.80 326 eP P 23 14 37.1 +0.2
comp=Z,62nm,1.1s
TPH LR LR
comp=Z,2µm,20.0s
H28A Mission Ridge 85.86 340 ⇓P P 23 14 36.8 +0.1
baz=86,SNR=9.1
K21A Alcova 85.88 335 ⇑P P 23 14 37.8 +0.7
baz=86,SNR=22
TCUT Toone Canyon 86.01 332 eP P 23 14 38.6 +0.7
comp=Z,386nm,2.0s
TCUT LR LR
comp=Z,2µm,19.4s
TOA0 Torodi Ar. Sit 86.01 70 eP P 23 14 38.1 0.0
TORD Torodi Ar. Bea 86.01 70 P P 23 14 38.1 0.0
comp=Z,35nm,1.0s,baz=231,slow=3.3,SNR=92
TORD LR LR 23 50 13.9
comp=Z,1µm,20.4s,baz=260,slow=34
I25A Rochford 86.02 338 ⇓P P 23 14 38.0 +0.2
baz=86,SNR=25
G29A Hoven 86.05 341 ⇓P P 23 14 37.7 0.0
baz=86
H27A Howes 86.11 339 ⇑P P 23 14 38.5 +0.5
baz=87,SNR=7.4
MSNA Messina 86.13 115 eP P 23 14 38.1 -0.8
MSNA AMB AMB 23 14 57.7
comp=Z,90nm,3.6s
I24A Kuemmerle Ranc 86.14 337 ⇑P P 23 14 38.8 +0.4
baz=87,SNR=11
MLAC Mammoth Lakes 86.16 325 ⇑P pP 23 14 53.5 +2.5
baz=87
G28A Parade 86.20 340 ⇑P P 23 14 38.7 +0.3
baz=87,SNR=9.9
RSSD Black Hills 86.20 338 eP P 23 14 38.3 -0.4
RSSD pmax pmax
comp=Z,39nm,1.0s
RSSD Black Hills 86.20 338 eP P 23 14 38.3 -0.4
comp=Z,39nm,1.0s
J22A Midwest 86.32 336 ⇑P P 23 14 39.7 +0.5
baz=87,SNR=13
F30A Leola 86.43 342 ⇑P P 23 14 40.9 +1.4
baz=87,SNR=5.3
BGU Big Grassy Mou 86.47 331 eP P 23 14 40.8 +0.8
comp=Z,43nm,1.7s
HWUT Hardware Ranch 86.50 332 eP P 23 14 40.7 +0.5
comp=Z,70nm,1.0s
H25A Fruitdale 86.53 338 ⇑P P 23 14 40.8 +0.7
baz=87,SNR=15
SPUT South Promonto 86.57 331 eP P 23 14 40.8 +0.3
comp=Z,165nm,1.7s
NV01 Mina Array Sit 86.57 326 eP P 23 14 41.6 +0.9
NVAR Mina Array Bea 86.57 326 P P 23 14 40.0 -0.7
comp=Z,3.8nm,0.8s,baz=147,slow=5.2,SNR=20
NVAR pP pP 23 14 53.6 +0.6
comp=Z,14nm,0.9s,baz=136,slow=6.4,SNR=15
J21A Lysite 86.58 335 ⇑P P 23 14 42.5 +2.0
baz=87
F29A Eureka 86.63 341 ⇓P P 23 14 40.5 0.0
baz=87,SNR=15
I22A 9 Mile Ranch, 86.75 336 ⇑P P 23 14 41.5 +0.2
baz=87,SNR=13
G27A Dupree 86.76 340 ⇑P P 23 14 41.5 +0.3
baz=87,SNR=13
BW06 Boulder Array 86.78 334 eP P 23 14 41.5 -0.2
PD31 Pinedale Array 86.78 334 eP P 23 14 41.2 -0.4
PDAR Pinedale Array 86.78 334 P P 23 14 41.5 -0.1
comp=Z,8.4nm,0.8s,baz=145,slow=6.5,SNR=34
PDAR pP pP 23 14 53.1 -0.8
comp=Z,24nm,1.2s,baz=189,slow=1.6,SNR=8.5
J20A Shoshoni 86.80 335 ⇑P P 23 14 42.7 +1.1
baz=87,SNR=24
G26A Maurine 86.86 339 ⇑P P 23 14 42.0 +0.3
baz=87,SNR=12
EYMN Ely 86.87 348 eP P 23 14 41.7 +0.1
comp=Z,226nm,2.2s
H24A Dirks Ranch, A 86.93 338 ⇓P P 23 14 42.0 -0.1
baz=87,SNR=12
I21A Big Trails, Te 86.94 336 ⇓P P 23 14 42.4 +0.1
baz=87,SNR=17
G25A Newell 87.00 339 ⇓P P 23 14 42.9 +0.5
baz=87,SNR=20
E30A Jud 87.02 342 ⇑P P 23 14 43.1 +0.7
baz=88,SNR=6.5
J19A Crowheart 87.05 334 ⇑P P 23 14 43.8 +1.0
baz=88,SNR=21
HVU Hansel Valley 87.10 331 eP P 23 14 42.5 -0.6
HVU pmax pmax
comp=Z,317nm,2.3s
HVU Hansel Valley 87.10 331 eP P 23 14 42.5 -0.6
comp=Z,317nm,2.3s
WAKR Walker 87.14 325 eP P 23 14 44.5 +1.0
ELK Elko 87.19 329 eP P 23 14 43.8 +0.1
ELK pmax pmax
comp=Z,132nm,2.1s
ELK Elko 87.19 329 eP P 23 14 43.8 +0.1
comp=Z,132nm,2.1s
F27A Lemmon 87.24 340 ⇑P P 23 14 43.9 +0.4
baz=88,SNR=23
E29A Napoleon 87.27 342 ⇑P P 23 14 44.5 +0.9
baz=88,SNR=10
AHID Auburn Hatcher 87.33 333 eP P 23 14 44.4 +0.1
comp=Z,145nm,1.8s
I20A Worland 87.34 335 ⇑P P 23 14 45.5 +1.4
baz=88,SNR=10.0
H22A Clearmont 87.34 337 ⇑P P 23 14 45.0 +0.9
baz=88
PAF Port-aux-Franc 87.35 157 S SKSac 23 24 52.0 -17
PAF R 23 44 00.0
F26A Lodgepole 87.39 340 ⇓P P 23 14 44.4 +0.1
baz=88,SNR=12
G24A Alzada 87.42 338 ⇓P P 23 14 45.0 +0.6
baz=88
E28A Huff 87.54 341 ⇑P P 23 14 45.5 +0.6
baz=88,SNR=12
D30A Buchanan 87.56 343 ⇓P P 23 14 45.4 +0.5
baz=88,SNR=20
H21A Big Horn, Sher 87.59 336 ⇓P P 23 14 45.8 +0.5
baz=88,SNR=7.4
G23A Biddle 87.59 338 ⇑P P 23 14 44.9 -0.4
baz=88,SNR=7.2
DRLN Deer Lake 87.61 10 eP P 23 14 45.7 +0.6
comp=Z,58nm,1.1s
E27A Carson 87.63 341 ⇑P P 23 14 44.7 -0.7
baz=88,SNR=8.0
F25A Bowman 87.68 339 ⇑P P 23 14 46.2 +0.5
baz=88,SNR=8.8
I19A Meeteetse 87.71 335 ⇓P P 23 14 48.5 +2.4
baz=88
D29A Pettibone, Tap 87.71 342 ⇑P P 23 14 46.0 +0.3
baz=88,SNR=14
BMN Battle Mountai 87.76 328 eP P 23 14 45.8 -0.5
BMN pmax pmax
comp=Z,70nm,2.3s
BMN Battle Mountai 87.76 328 eP P 23 14 45.8 -0.5
comp=Z,70nm,2.3s
REDW Red Top Meadow 87.76 333 eP P 23 14 46.5 +0.1
comp=Z,86nm,1.5s
REDW LR LR
comp=Z,2µm,19.9s
H20A Greybull 87.77 336 ⇓P P 23 14 47.0 +0.8
baz=88
SNOW Snow King Moun 87.81 333 eP P 23 14 46.5 -0.1
comp=Z,45nm,1.3s
SNOW LR LR
comp=Z,2µm,20.9s
G22A Birney 87.88 337 ⇓P P 23 14 47.5 +0.8
baz=88
LOHW Long Hollow 87.89 334 eP P 23 14 46.6 -0.3
comp=Z,113nm,2.0s
LOHW LR LR
comp=Z,2µm,19.4s
F24A Ekalaka 87.89 338 ⇓P P 23 14 47.0 +0.3
baz=88,SNR=8.4
E26A Carlson Angus 87.91 340 ⇑P P 23 14 46.3 -0.4
baz=88
TPAW Teton Pass 87.91 333 eP P 23 14 47.3 +0.2
comp=Z,206nm,2.2s
TPAW LR LR
comp=Z,2µm,20.6s
AGMN Agassiz Nation 88.03 345 eP P 23 14 46.8 -0.4
comp=Z,284nm,1.9s
AGMN LR LR
comp=Z,1µm,20.0s
AGMN Agassiz Nation 88.03 345 ⇓P P 23 14 46.9 -0.3
baz=88,SNR=22
C30A Mose, Pekin 88.05 343 ⇑P P 23 14 47.6 +0.3
baz=88,SNR=24
FXWY Fox Creek 88.06 333 eP P 23 14 47.4 -0.4
comp=Z,76nm,1.8s
F23A Volborg 88.07 338 ⇑P P 23 14 48.1 +0.6
baz=88
D28A Regan 88.08 341 ⇑P P 23 14 48.0 +0.5
baz=88,SNR=24
I17A Pilgrim Ck. 88.15 334 ⇓P P 23 14 49.6 +1.4
baz=89,SNR=13
G21A Lodge Grass 88.18 336 ⇓P P 23 14 48.7 +0.6
baz=89
E25A Miller Ranch, 88.19 339 ⇓P P 23 14 49.7 +1.6
baz=89
D27A Center 88.25 341 ⇓P P 23 14 46.9 -1.3
baz=89
IMW Indian Meadow 88.26 333 eP P 23 14 48.5 -0.2
comp=Z,158nm,2.0s
H19A Powell 88.26 335 ⇓P P 23 14 50.1 +1.5
baz=89
FLWY Flagg Ranch 88.33 334 eP P 23 14 48.9 -0.1
comp=Z,380nm,2.4s
FLWY LR LR
comp=Z,2µm,19.3s
F22A Rosebud 88.38 337 ⇑P P 23 14 49.5 +0.5
baz=89
D26A Manning 88.42 340 ⇓P P 23 14 49.4 +0.3
baz=89,SNR=13
G20A Bridger 88.50 336 ⇓P P 23 14 49.6 0.0
baz=89,SNR=9.8
H18A Shoshone NF, C 88.50 335 ⇓P P 23 14 50.7 +0.9
baz=89,SNR=18
E24A Baker 88.50 339 ⇓P P 23 14 50.8 +1.3
baz=89
C28A Hausauer Farms 88.52 342 ⇓P P 23 14 51.1 +1.6
baz=89
H17A Grant Village 88.56 334 eP P 23 14 51.7 +1.5
comp=Z,15nm,1.1s
H17A LR LR
comp=Z,4µm,20.8s
AFI Afiamalu 88.58 254 PFAKE 23 15 00.0 +9.2
AFI LR LR
comp=Z,157µm,19.0s
LKWY Lake 88.65 334 eP P 23 14 50.3 -0.3
LKWY pmax pmax
comp=Z,75nm,1.8s
LKWY MLR MLR
comp=Z,2µm,18.0s
LKWY Lake 88.65 334 eP P 23 14 50.3 -0.3
comp=Z,75nm,1.8s
LKWY LR LR
comp=Z,2µm,18.0s
F21A Absaloka Mine, 88.68 337 ⇑P P 23 14 50.8 +0.4
baz=89
YFT Old Faithful 88.70 334 eP P 23 14 51.9 +1.2
comp=Z,58nm,1.3s
YFT LR LR
comp=Z,3µm,21.5s
B30A Myrvik Farm, E 88.72 343 ⇓P P 23 14 50.4 0.0
baz=89,SNR=28
RLMT Red Lodge 88.76 335 eP P 23 14 50.9 0.0
comp=Z,75nm,1.8s
D25A Fairfield 88.77 340 ⇑P P 23 14 51.7 +0.9
baz=89,SNR=5.4
C27A Sayler Ranch, 88.80 341 ⇑P P 23 14 51.6 +0.8
baz=89,SNR=15
E22A Miles City 88.88 338 ⇑P P 23 14 52.0 +0.8
baz=89
YNR Norris Junctio 88.88 334 eP P 23 14 51.8 +0.2
comp=Z,39nm,1.6s
YNR LR LR
comp=Z,2µm,18.2s
YMR Madison River 88.94 334 eP P 23 14 53.0 +1.2
comp=Z,288nm,2.1s
YMR LR LR

comp=Z,2μm,20.2s
B29A Wagenman Farm, 88.97 343 ⇑P P 23 14 52.0 +0.4
baz=89,SNR=17
F20A Billings 88.99 336 ⇑P P 23 14 52.9 +1.0
baz=89
C26A Wahner Farm, P 89.06 341 ⇓P P 23 14 52.8 +0.8
baz=90,SNR=9.1
A30A Hoffart Farm, 89.17 343 ⇓P P 23 14 52.9 +0.3
baz=90,SNR=15
LAO LASA Array 89.18 338 eP P 23 14 52.2 -0.5
comp=Z,53nm,1.6s
B28A Dugan Ranch, T 89.20 342 ⇑P P 23 14 53.1 +0.4
baz=90,SNR=15
LSZ Lusaka 89.21 109 eP P 23 14 54.6 +0.8
LSZ pmax pmax
comp=Z,32nm,0.9s
LSZ MLR MLR
comp=Z,3μm,20.0s
LSZ Lusaka 89.21 109 eP P 23 14 54.6 +0.8
comp=Z,32nm,0.9s
LSZ LR LR
comp=Z,3μm,20.0s
QLMT Earthquake Lak 89.24 334 eP P 23 14 54.9 +1.7
HLID Hailey 89.25 331 eP P 23 14 54.8 +1.5
comp=Z,121nm,1.8s
HLID LR LR
comp=Z,1μm,20.0s
HLID Hailey 89.25 331 ⇑P P 23 14 55.4 +2.1
baz=90,SNR=25
C25A Freed Ranch, W 89.26 340 ⇑P P 23 14 53.6 +0.5
baz=90
F19A Roth Farm, Mol 89.30 336 ⇓P P 23 14 54.4 +1.1
baz=90,SNR=5.8
E21A Keefer Ranch, 89.31 337 ⇑P P 23 14 55.1 +1.8
baz=90
D23A Lindsay 89.32 339 ⇑P P 23 14 54.7 +1.3
baz=90,SNR=6.9
A29A Manning Farm, 89.37 343 ⇑P P 23 14 53.5 0.0
baz=90,SNR=28
B27A Peters Farms, 89.38 341 ⇑P P 23 14 54.6 +1.0
baz=90
C24A Savage 89.42 339 ⇑P P 23 14 54.3 +0.5
baz=90,SNR=13
D22A Cohagen 89.59 338 ⇓P P 23 14 55.9 +1.3
baz=90
B26A Jensen Ranch, 89.60 341 ⇓P P 23 14 55.8 +1.2
baz=90
A28A Rude Farm, Bot 89.60 342 ⇓P P 23 14 52.7 -1.9
baz=90
E20A Meyer Farm, Mu 89.61 336 ⇑P P 23 14 55.7 +1.0
baz=90,SNR=8.4
B25A Knox Farm, Ray 89.75 340 ⇓P P 23 14 55.9 +0.6
baz=90
D21A La Casta Ranch 89.76 337 ⇓P P 23 14 56.6 +1.2
baz=90
E19A Rath Farm, Rou 89.78 336 ⇑P P 23 14 56.7 +1.1
baz=90,SNR=15
C23A Lambert 89.88 339 ⇓P P 23 14 56.0 +0.1
baz=90
ULM Lac du Bonnet 89.89 345 eP P 23 14 55.5 -0.4
ULM pmax pmax
comp=Z,80nm,1.4s
ULM MLR MLR
comp=Z,1μm,21.1s
ULM Lac du Bonnet 89.89 345 P P 23 14 55.5 -0.4
comp=Z,12nm,0.8s,baz=180,slow=2.7,SNR=18
ULM Lac du Bonnet 89.89 345 eP P 23 14 55.5 -0.4
comp=Z,80nm,1.4s
ULM LR LR
comp=Z,1μm,21.1s
BOZ Bozeman (W) 90.02 334 eP P 23 14 56.5 -0.3
BOZ pmax pmax
comp=Z,50nm,1.8s
BOZ Bozeman (W) 90.02 334 eP P 23 14 56.5 -0.3
comp=Z,50nm,1.8s
A26A Wade Farm, Ken 90.03 341 ⇑P P 23 14 55.3 -1.3
baz=90,SNR=7.6
C22A Vida 90.03 338 ⇓P P 23 14 57.4 +0.7
baz=90
DLMT Dillon 90.12 333 eP P 23 14 58.4 +1.2
comp=Z,98nm,1.8s
DLMT LR LR
comp=Z,2μm,19.0s
D20A Manuel Ranch, 90.13 337 ⇑P P 23 14 57.7 +0.5
baz=91,SNR=11
DGMT Dagmar 90.21 340 eP P 23 14 57.3 -0.1
comp=Z,46nm,0.9s
DGMT LR LR
comp=Z,1μm,20.0s
DGMT Dagmar 90.21 340 ⇑P P 23 14 58.7 +1.2
baz=91
MOD Modoc 90.29 327 eP P 23 14 59.3 +1.1
comp=Z,46nm,1.4s
A25A Svangstu Ranch 90.35 341 ⇑P P 23 14 58.8 +0.8
baz=91
B23A Brockton 90.43 339 ⇓P P 23 14 59.4 +0.9
baz=91
D19A Cripps Ranch, 90.43 336 ⇑P P 23 15 01.0 +2.4
baz=91
LRM Limekiln Ridge 90.46 333 eP P 23 14 59.0 0.0
C21A Desert Coulee 90.47 338 ⇓P P 23 14 59.1 +0.4
baz=91,SNR=6.7
A24A Westby 90.57 340 ⇓P P 23 14 60.0 +0.8
baz=91
N02D Trinity Center 90.62 325 ⇑P pP 23 15 13.7 +1.7
baz=91
C20A Veseth Ranch, 90.64 337 ⇓P P 23 15 00.4 +0.8
baz=91
A23A Redstone 90.85 339 ⇑P P 23 15 01.4 +1.0
baz=91
M04C Macdoel 90.88 326 ⇑P pP 23 15 14.8 +1.6
baz=91
C19A Slack Wire Ran 90.99 336 ⇓P P 23 15 02.5 +1.3
baz=91
HRY Holter Researc 91.02 334 eP P 23 15 02.8 +1.4
M02C Callahan 91.02 325 ⇑P pP 23 15 19.3 +5.4
baz=91
A22A Carney Farms, 91.17 339 ⇑P P 23 15 01.8 -0.2
baz=92,SNR=7.5
K05A Summer Lake 91.22 327 eP P 23 15 02.9 +0.4
comp=Z,227nm,2.1s
B20A Solberg Farm, 91.30 337 ⇑P P 23 15 03.1 +0.5
baz=92
A21A Bergtoll Ranch 91.46 338 ⇑P P 23 15 03.9 +0.6
baz=92
BMO Blue Mountains 91.46 330 eP P 23 15 03.5 0.0
comp=Z,57nm,1.9s
BMO LR LR
comp=Z,2μm,21.0s
EGMT Eagleton 91.47 336 eP P 23 15 02.4 -1.0
comp=Z,37nm,1.6s
EGMT LR LR
comp=Z,800nm,20.0s
EGMT Eagleton 91.47 336 ⇓P P 23 15 02.5 -0.8
baz=92
B19A Brinkman Farms 91.59 337 ⇑P P 23 15 04.8 +0.8
baz=92,SNR=7.8
A20A Cobblestone Ra 91.66 338 ⇑P P 23 15 03.4 -0.8
baz=92,SNR=5.5
CHMT Chamberlain Mo 91.69 334 eP P 23 15 05.0 +0.4
I07A Izee 91.72 328 eP P 23 15 04.4 -0.3
comp=Z,27nm,1.3s
I07A LR LR
comp=Z,2μm,21.7s
J05D Fort Rock, OR 91.81 327 ⇓P P 23 15 07.8 +2.6
baz=92
MSO Missoula 91.86 333 eP P 23 15 04.8 -0.5
comp=Z,68nm,1.9s
MSO Missoula 91.86 333 ⇑P P 23 15 06.5 +1.2
baz=92,SNR=6.2
A19A Klindworth Far 91.95 337 ⇓P P 23 15 05.4 -0.2
baz=92,SNR=7.1
SLMT Seeley Lake 92.05 334 eP P 23 15 05.0 -1.2
PINOR Pine Mountain 92.08 327 eP P 23 15 06.9 +0.8
comp=Z,35nm,1.4s
SCHQ Schefferville 92.28 3 P P 23 15 06.4 -0.5
comp=Z,4.6nm,0.8s,baz=199,slow=3.6,SNR=4.5
SCHQ Schefferville 92.28 3 eP P 23 15 06.0 -0.9
comp=Z,127nm,2.1s
SCHQ LR LR
comp=Z,2μm,20.5s
F10A Beach Ranch, E 92.36 331 eP P 23 15 07.7 +0.1
comp=Z,118nm,2.1s
SWMT Swartz Lake 92.46 333 eP P 23 15 07.3 -0.7
G08A Pilot Rock 92.49 329 eP P 23 15 09.0 +0.8
comp=Z,56nm,1.6s
G08A LR LR
comp=Z,1μm,21.7s
JTMT Jette 92.76 333 eP P 23 15 09.6 +0.2
YBMT Yellow Bay 92.77 334 eP P 23 15 09.8 +0.4
BLMT Blacktail Moun 93.02 333 eP P 23 15 10.3 -0.4
BSMT Bassoo Peak 93.03 333 eP P 23 15 10.3 -0.4
G06A Carlson Farm, 93.13 328 eP P 23 15 09.4 -1.7
comp=Z,79nm,1.8s
E09A Wood Farm, Sta 93.17 331 eP P 23 15 09.5 -1.6
comp=Z,9.8nm,1.0s
HAWA Hanford 93.62 330 eP P 23 15 13.3 0.0
comp=Z,111nm,2.0s
HAWA LR LR
comp=Z,1μm,20.0s
WALA Waterton Lakes 93.75 334 eP P 23 15 13.7 -0.3
comp=Z,24nm,1.1s
WALA LR LR
comp=Z,2μm,19.9s
E07A Sunnyside 93.88 330 eP P 23 15 14.9 +0.4
comp=Z,69nm,2.0s
D08A Wollman Farm, 93.92 330 eP P 23 15 15.1 +0.5
comp=Z,103nm,2.0s
NEW Newport 94.23 332 eP P 23 15 15.0 -1.1
NEW pmax pmax
comp=Z,68nm,2.0s
NEW MLR MLR
comp=Z,1μm,18.0s
NEW Newport 94.23 332 P P 23 15 14.9 -1.2
comp=Z,3.6nm,0.8s,baz=142,slow=6.4,SNR=7.5
NEW Newport 94.23 332 eP P 23 15 15.0 -1.1
comp=Z,68nm,2.0s
NEW LR LR
comp=Z,1μm,18.0s
NEW Newport 94.23 332 ⇓P P 23 15 15.9 -0.2
baz=95
C09A Chrisman Ranch 94.28 331 eP P 23 15 16.1 -0.2
comp=Z,55nm,1.6s
F03A Seaside 94.92 327 PFAKE 23 15 30.0 +11
F03A LR LR
comp=Z,2μm,20.6s
B08A Colville Reser 95.14 331 eP P 23 15 20.2 0.0
comp=Z,148nm,2.9s
B08A LR LR
comp=Z,1μm,20.8s
D05A Enumclaw 95.26 329 PFAKE 23 15 30.0 +9.3
D05A LR LR
comp=Z,2μm,21.2s
FFC Flin Flon 95.40 343 eP P 23 15 20.3 -0.9
FFC pmax pmax
comp=Z,139nm,3.0s
FFC MLR MLR
comp=Z,2μm,22.0s
FFC Flin Flon 95.40 343 eP P 23 15 20.3 -0.9
comp=Z,138nm,3.0s
FFC LR LR
comp=Z,2μm,22.0s
B06A Marblemount 96.12 330 PFAKE 23 15 40.0 +15
B06A LR LR
comp=Z,1μm,21.8s
NLWA Neilton Lookou 96.20 328 PFAKE 23 15 40.0 +15
NLWA LR LR
comp=Z,2μm,21.0s
EDM Edmonton 97.12 337 eP P 23 15 27.3 -1.8
EDM pmax pmax
comp=Z,90nm,1.9s
EDM Edmonton 97.12 337 eP P 23 15 27.3 -1.8
comp=Z,90nm,1.9s
FCC Fort Churchill 97.72 349 eP P 23 15 31.3 -0.3
FCC pmax pmax
comp=Z,25nm,1.5s
FCC Fort Churchill 97.72 349 eP P 23 15 31.3 -0.3
comp=Z,25nm,1.5s
DZM Mont Dzumac 98.59 234 eSP SP 23 28 28.0 +0.6
comp=Z,962nm,37.9s
DZM eSS SS 23 33 52.7 +4.9
comp=Z,1μm,25.0s
DZM Mont Dzumac 98.59 234 eLR LR 23 47 48.5
comp=Z,8μm,24.6s
ESDC Sonseca Array 99.53 47 P Pdif 23 15 41.6 +1.3
comp=Z,2.6nm,0.9s,baz=254,slow=3.4,SNR=6.9
ABPO Ambohimpanom 100.26 124 PFAKE 23 16 00.0 +16
ABPO LR LR
comp=Z,2μm,20.0s
ARMA Armidale 100.55 218 PFAKE 23 16 00.0 +15
ARMA LR LR
comp=Z,1μm,20.6s
STKA Stephens Creek 103.73 210 PFAKE 23 16 10.0 +11
STKA LR LR
comp=Z,500nm,20.3s
BBOO Buckleboo 104.90 205 PFAKE 23 16 20.0 +15
BBOO LR LR
comp=Z,7μm,18.6s
YKA Yellowknife Ar 105.34 341 Pdiff Pdif 23 16 04.8 -0.7
comp=Z,0.6nm,0.8s,baz=145,slow=4.6,SNR=9.9
YKA PKKPbc PKKPbc 23 31 44.5 -1.7
comp=Z,0.9nm,0.9s,baz=330,slow=2.0,SNR=5.8
WDD Wield Dalam 108.94 59 PFAKE 23 20 40.0
WDD LR LR
comp=Z,10μm,20.0s
BNI Bardonecchia 109.04 47 PFAKE 23 20 40.0
BNI LR LR
comp=Z,2μm,20.0s
VLC Villacollemand 110.76 50 PFAKE 23 20 40.0
VLC LR LR
comp=Z,3μm,20.0s
CEL Celeste 111.14 58 PFAKE 23 20 40.0
CEL LR LR
comp=Z,3μm,20.0s
WLF Walferdange 111.32 43 PFAKE 23 20 40.0
WLF LR LR
comp=Z,6μm,21.0s
TUE Stuetta 111.38 47 PFAKE 23 20 40.0
TUE LR LR
comp=Z,3μm,22.0s
MEM Membach 111.76 42 PFAKE 23 20 40.0
MEM LR LR
comp=Z,6291μm,22.0s
CUC Castrocucco 112.00 56 PFAKE 23 20 40.0
CUC LR LR
comp=Z,3μm,21.0s
FUORN Ofenpass-Fuorn 112.00 48 PFAKE 23 20 40.0
FUORN LR LR
comp=Z,4μm,20.2s
TIP Timpagrande 112.20 57 PFAKE 23 20 40.0
TIP LR LR
comp=Z,5μm,22.0s
FURI Furi 112.34 96 PFAKE 23 20 50.0
FURI LR LR
comp=Z,2μm,20.0s
STU Stuttgart 112.52 45 PFAKE 23 20 40.0
STU LR LR
comp=Z,2μm,21.0s
RES Resolute Bay 113.04 354 PFAKE 23 20 40.0
RES LR LR
comp=Z,1μm,18.1s
AS01 Alice Springs 114.01 207 ePKiKP PKiKP 23 20 35.2 -1.6
DAWY Dawson 114.09 334 PFAKE 23 20 50.0 +14
DAWY LR LR
comp=Z,2μm,21.2s
BMRM Bremner River 114.25 329 PFAKE 23 20 50.0 +14
BMRM LR LR
comp=Z,1μm,20.8s
GEB3 GERESS Array S 115.12 47 ePKiKP PKPdf 23 20 37.7 -0.4
GEC2 GERESS Array S 115.13 47 ePKIKP PKPdf 23 20 38.9 +0.8
GEC2 GERESS Array S 115.13 47 ePKiKP PKPdf 23 20 38.9 +0.8
GERES GERESS Array B 115.13 47 PKP PKPdf 23 20 37.5 -0.6
comp=Z,5.2nm,0.8s,baz=240,slow=0.8,SNR=41
KHC Kasperske Hory 115.19 46 ePKIKP PKPdf 23 20 38.1 0.0
KHC e 23 20 51.2
KHC Kasperske Hory 115.19 46 ePKP PKPdf 23 20 38.1 0.0
KHC epPKP PKiKP 23 20 51.2 +13
KHC ex x 23 21 54.5
KHC Kasperske Hory 115.19 46 ePKiKP PKPdf 23 20 37.6 -0.6
KHC LR LR
comp=Z,3μm,21.0s
CLL Collm 115.92 44 i PKIKP PKPdf 23 20 40.5 +1.1
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL MLR MLR
comp=Z,2μm,20.2s
CLL Collm 115.92 44 i PKiKP PKPdf 23 20 40.5 +1.1
comp=Z,9.0nm,1.1s
CLL e 23 30 56.0
CLL eSP SP 23 31 18.0 -2.2
CLL esPS 23 31 40.0
CLL esPPS 23 32 58.0
CLL esSS 23 38 08.0
CLL ePPPrev 23 38 56.0
CLL Lm MLR 00 08 00.0
comp=N,1μm,21.7s
CLL Lm MLR 00 08 00.0
comp=E,1μm,20.8s
CLL Lm MLR 00 08 00.0
comp=Z,2μm,20.2s
PRA Prague 116.13 46 PKP PKPdf 23 20 41.0 +1.2
PRU Pruhonice 116.16 46 ePKIKP PKPdf 23 20 40.8 +0.9
PRU Pruhonice 116.16 46 ePKP PKPdf 23 20 40.8 +0.9
PRU ex x 23 20 59.3
PRU ex x 23 21 58.8
BRG Berggiesshubel 116.23 45 ePKP PKPdf 23 20 40.2 +0.2
comp=Z,9.5nm,1.1s
BRG Berggiesshubel 116.23 45 ePKIKP PKPdf 23 20 40.2 +0.2
BRG pmax pmax
comp=Z,10.0nm,1.2s
PKSM Moragy 116.84 51 ⇓PKIKP PKPdf 23 20 41.5 +0.2
PKSM Moragy 116.84 51⇓iP PKPdf 23 20 41.5 +0.2
RUE Ruedersdorf 116.89 43 PFAKE 23 20 50.0 +8.8
RUE LR LR
comp=Z,4μm,21.0s
VRAC Vranov 117.02 47 ⇓PKIKP PKPdf 23 20 43.2 +1.6
VRAC Vranov 117.02 47⇓iP PKPdf 23 20 43.2 +1.6
IL1 Eielson Array 117.19 332 ePKPdf PKPdf 23 20 41.3 -0.1
ILAR Eielson Array 117.19 332 PKP PKPdf 23 20 40.2 -1.2
comp=Z,1.7nm,0.7s,baz=144,slow=1.5,SNR=19
ILB Eielson Array 117.19 332 ePKPdf PKPdf 23 20 40.9 -0.5
WRA Warramunga Arr 117.27 209 PKP PKPdf 23 20 41.7 -1.4
comp=Z,4.5nm,0.9s,baz=157,slow=1.6,SNR=14
WRA PKKPbc PKKPbc 23 31 06.4 +0.5
comp=Z,2.4nm,0.8s,baz=340,slow=4.3,SNR=5.3
WRAB Tennant Creek 117.27 209 PFAKE 23 20 50.0 +6.9
WRAB LR LR
comp=Z,2μm,20.1s
DPC Dobruska-Polom 117.34 46 ePKIKP PKPdf 23 20 42.9 +0.6
DPC e 23 20 55.9
DPC e 23 21 59.3
DPC Dobruska-Polom 117.34 46 ePKP PKPdf 23 20 42.9 +0.6
DPC epPKP pPKPdf 23 20 55.9 +0.9
DPC ePP PP 23 21 59.3 +4.9
DPC Dobruska-Polom 117.34 46 ePKPdf PKPdf 23 20 42.8 +0.6
KRLC Kraliky 117.48 47 ePKIKP PKPdf 23 20 43.4 +0.9
KRLC Kraliky 117.48 47 ePKP PKPdf 23 20 43.4 +0.9
KSP Ksiaz 117.54 46 ePKP PKPdf 23 20 44.3 +1.8
COLA College 117.59 332 PFAKE 23 20 50.0 +7.8
COLA LR LR
comp=Z,2μm,20.0s
MORC Moravsky Berou 117.79 47 ePKIKP PKPdf 23 20 43.7 +0.6
MORC MLR MLR
comp=Z,1μm,20.0s
MORC Moravsky Berou 117.79 47⇑iP PKPdf 23 20 43.1 0.0
MORC Moravsky Berou 117.79 47 ePKPdf PKPdf 23 20 43.7 +0.6
MORC LR LR
comp=Z,1μm,20.0s
TRF Thorofare Moun 117.82 330 ePKPdf PKPdf 23 20 42.0 -0.9
TRF LR LR
comp=Z,1μm,20.4s
VYHS Vyhne 117.98 49 ePKIKP PKPdf 23 20 43.9 +0.4
VYHS Vyhne 117.98 49 ePKP PKPdf 23 20 43.9 +0.4
KTH Kantishna Hill 118.12 330 ePKPdf PKPdf 23 20 44.3 +1.0
OKC Ostrava-Krasne 118.16 47 ePKIKP PKPdf 23 20 44.4 +0.6
OKC e 23 21 59.8
OKC Ostrava-Krasne 118.16 47 ePKP PKPdf 23 20 44.4 +0.6
OKC ePP PP 23 21 59.8 -0.3
PPLA Purkeypile 118.31 329 ePKPdf PKPdf 23 20 44.6 +0.8
PSZ Piszkesteto 118.37 50 ⇑PKIKP PKPdf 23 20 41.4 -2.9
PSZ Piszkesteto 118.37 50⇑iP PKPdf 23 20 41.4 -2.9
PSZ Piszkesteto 118.37 50 PFAKE 23 21 00.0 +16
PSZ LR LR
comp=Z,2μm,22.0s
BZS Buzias 118.43 53 ⇑PKIKP PKPdf 23 20 44.2 -0.2
BZS Buzias 118.43 53⇑iP PKPdf 23 20 44.2 -0.2
CAST Castle Rocks 118.52 330 ePKPdf PKPdf 23 20 44.2 +0.2
CAST LR LR
comp=Z,800nm,20.1s
COEN Coen 118.54 220 PFAKE 23 21 00.0 +14
COEN LR LR
comp=Z,3μm,18.1s
GZR Gura Zlata 119.07 53 ⇑PKIKP PKPdf 23 20 45.4 -0.3
GZR Gura Zlata 119.07 53⇑iP PKPdf 23 20 45.4 -0.3
GKP Gorka Klasztor 119.12 43 ePKIKP PKPdf 23 20 46.3 +0.8
GKP Gorka Klasztor 119.12 43 ePKP PKPdf 23 20 46.2 +0.8
KDZ Kurdzhali 119.18 58 ⇓PKIKP PKPdf 23 20 45.2 -0.8
KDZ Kurdzhali 119.18 58⇓iP PKPdf 23 20 45.2 -0.8
OJC Ojcow 119.29 47 ePKIKP PKPdf 23 20 45.7 -0.3
OJC MLR MLR
comp=Z,1μm,19.5s
OJC Ojcow 119.29 47 ePKPdf PKPdf 23 20 45.7 -0.3
OJC LR LR
comp=Z,1μm,19.5s
DEV Deva 119.36 53 ⇑PKIKP PKPdf 23 20 46.6 +0.4
DEV Deva 119.36 53⇑iP PKPdf 23 20 46.6 +0.4
NB2 NORSAR Subarra 119.42 34 PKPdf PKPdf 23 20 45.0 -0.9
comp=Z,7.2nm,1.1s,baz=248,slow=1.9
NB2 NORSAR Subarra 119.42 34 PKPdf PKPdf 23 20 45.0 -0.9
baz=248,slow=1.9
NB200 NORSAR Array S 119.42 34 ePKPdf PKPdf 23 20 45.4 -0.5
NOA NORSAR Array B 119.42 34 PKP PKPdf 23 20 45.4 -0.5
comp=Z,2.1nm,0.8s,baz=249,slow=2.1,SNR=10
DRGR 119.62 52 ⇓PKIKP PKPdf 23 20 46.5 -0.3
DRGR 119.62 52⇓iP PKPdf 23 20 46.5 -0.3
LOT Lotru 119.73 54⇑iP PKPdf 23 20 47.7 +0.6
CRVS Cervenica-Dubn 119.73 49 ePKIKP PKPdf 23 20 47.7 +0.9
CRVS Cervenica-Dubn 119.73 49 ePKP PKPdf 23 20 47.7 +0.9
STHS Stebnicka Huta 119.81 49 ePKIKP PKPdf 23 20 48.3 +1.3
STHS Stebnicka Huta 119.81 49 ePKP PKPdf 23 20 48.3 +1.3
TRPA Tarpa 120.07 50⇓iP PKPdf 23 20 47.6 +0.2
PMG Port Moresby 120.11 227 PFAKE 23 21 00.0 +11
PMG LR LR
comp=Z,2μm,22.0s
FALS False Pass 120.12 318 PFAKE 23 21 00.0 +13
FALS LR LR
comp=Z,2μm,19.0s
UZH Uzhgorod 120.12 50 ePKIKP PKPdf 23 20 45.9 -1.6
UZH e 23 20 53.7
KOLS Kolonicke sedl 120.23 49 ePKIKP PKPdf 23 20 48.9 +1.1
KOLS Kolonicke sedl 120.23 49 ePKP PKPdf 23 20 48.9 +1.1
ARR Arges 120.25 54⇓iP PKPdf 23 20 47.2 -0.8
IM04 Indian Mountai 120.30 332 ePKPdf PKPdf 23 20 47.0 -0.4
JMB Yambol 120.32 58 ⇓PKIKP PKPdf 23 20 46.4 -1.7
JMB Yambol 120.32 58⇓iP PKPdf 23 20 46.4 -1.7
VOIR 120.54 54 ⇓PKIKP PKPdf 23 20 49.5 +0.9
VOIR 120.54 54⇓iP PKPdf 23 20 49.5 +0.9
KWP Kalwaria Pacla 120.77 49 ⇑PKIKP PKPdf 23 20 49.1 +0.3
KWP Kalwaria Pacla 120.77 49 ePKP PKPdf 23 20 48.9 +0.1
KWP Kalwaria Pacla 120.77 49⇑iP PKPdf 23 20 49.1 +0.3
KWP Kalwaria Pacla 120.77 49 ePKPdf PKPdf 23 20 48.9 +0.1
KWP LR LR
comp=Z,2μm,20.0s
DOPR Dopca 120.97 54⇓iP PKPdf 23 20 50.3 +1.0
SECR 121.04 55⇓iP PKPdf 23 20 50.6 +1.1
MLR Muntele Rosu 121.14 54 ⇑PKIKP PKPdf 23 20 48.9 -0.9
MLR Muntele Rosu 121.14 54⇑iP PKPdf 23 20 48.9 -0.9
PRD Provadia 121.17 57 ⇑PKIKP PKPdf 23 20 50.1 +0.4
BUR04 Bucovina Ar. S 121.51 52 ePKPdf PKPdf 23 20 49.9 -0.5
BURAR Bucovina Array 121.52 52 ⇓PKIKP PKPdf 23 20 51.8 +1.4
BURAR Bucovina Array 121.52 52⇓iP PKPdf 23 20 51.8 +1.4
PLOR Plostina 121.74 54 ⇑PKIKP PKPdf 23 20 51.2 +0.4
PLOR Plostina 121.74 54⇑iP PKPdf 23 20 51.2 +0.4
VRI Vrincioaia 121.79 54 ⇓PKIKP PKPdf 23 20 50.0 -0.9
VRI Vrincioaia 121.79 54⇓iP PKPdf 23 20 50.0 -0.9
TESR Tescani 121.99 53⇑iP PKPdf 23 20 50.6 -0.7
TIRR Tirgusor 122.34 56 ePKIKP PKPdf 23 20 51.5 -0.5
TIRR MLR MLR
comp=Z,2μm,20.0s
TIRR Tirgusor 122.34 56 ePKPdf PKPdf 23 20 51.5 -0.5
TIRR LR LR
comp=Z,2μm,20.0s
CFR Carcaliu 122.44 55 ⇑PKIKP PKPdf 23 20 51.4 -0.7
CFR Carcaliu 122.44 55⇑iP PKPdf 23 20 51.4 -0.7
SUW Suwalki 122.67 44 ePKIKP PKPdf 23 20 52.2 -0.1
SUW MLR MLR
comp=Z,3μm,22.0s
SUW Suwalki 122.67 44 ePKP PKPdf 23 20 52.0 -0.3
SUW Suwalki 122.67 44 ePKPdf PKPdf 23 20 52.2 -0.1
SUW LR LR
comp=Z,3μm,22.0s
TCHB Talchebab 122.81 72 eP PKPdf 23 20 50.0 -3.3
TLCR 122.89 56 ⇓PKIKP PKPdf 23 20 52.4 -0.6
TLCR 122.89 56⇓iP PKPdf 23 20 52.4 -0.6
LEOM Leova 123.00 54 ⇑PKIKP PKPdf 23 20 53.8 +0.7
LEOM Leova 123.00 54⇑iP PKPdf 23 20 53.8 +0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BR231	Keskin MP Arra	123.51	63	ePKPdf	PKPdf	23 20 54.9	+0.4
ANTO	Ankara	123.53	63	⇑PKIKP	PKPdf	23 20 55.0	+0.5
ANTO	Ankara	123.53	63	⇑iP	PKPdf	23 20 55.0	+0.5
ANTO	Ankara	123.53	63	ePKPdf	PKPdf	23 20 54.7	+0.1
KIS	Kishinev	123.56	54	ePKIKP	PKPdf	23 20 55.0	+0.8
KIS	Kishinev	123.56	54	ePKP	PKPdf	23 20 55.0	+0.8
KIS				LRM	MLR	00 10 20.0	
	comp=Z,3μm,25.0s						
MARH	Ras Al Marh	123.80	71	eP	PKPdf	23 20 55.5	0.0
BR101	Keskin Array S	124.07	63	ePKPdf	PKPdf	23 20 55.2	-0.4
BRTR	Keskin Array B	124.07	63	PKP	PKPdf	23 20 55.2	-0.4
	comp=Z,9.0nm,0.8s,baz=208,slow=3.7,SNR=41						
DGAR	Diego Garcia	124.63	137	PFAKE		23 21 10.0	+13
DGAR				LR	LR		
	comp=Z,1μm,21.0s						
NACGM	Naroch	124.95	44	eLR	LR	23 20 54.0	
AK11	Malin Array Si	125.03	49	ePKPdf	PKPdf	23 20 55.8	-1.1
KIEV	Kiev	125.06	49	ePKIKP	PKPdf	23 20 56.8	-0.2
KIEV	Kiev	125.06	49	ePKPdf	PKPdf	23 20 56.8	-0.2
AKASG	Malin Array Be	125.07	49	PKP	PKPdf	23 20 56.0	-1.0
	comp=Z,7.5nm,0.7s,baz=262,slow=2.9,SNR=43						
AKBB	Malin Array Si	125.07	49	ePKIKP	PKPdf	23 20 56.0	-1.0
AKBB	Malin Array Si	125.07	49	ePKPdf	PKPdf	23 20 56.0	-1.0
TNA	Tin City	125.67	329	ePKPdf	PKPdf	23 20 57.9	+0.2
RAYN	Ar Rayn	125.91	86	ePKPdf	PKPdf	23 20 60.0	+0.4
VSU	Vasula	125.92	40	⇑ePKIKP	PKPdf	23 20 58.4	+0.1
FIA0	FINESS Array S	126.33	36	ePKIKP	PKPdf	23 20 59.0	0.0
FIA0	FINESS Array S	126.33	36	ePKPdf	PKPdf	23 20 59.0	0.0
FINES	FINESS Array B	126.33	36	PKP	PKPdf	23 20 59.0	0.0
	comp=Z,5.3nm,0.9s,baz=165,slow=2.6,SNR=16						
GAMB	Gambell	126.87	327	ePKPdf	PKPdf	23 20 60.0	0.0
GAMB				LR	LR		
	comp=Z,1μm,19.9s						
MALT	Malatya	126.97	67	⇑PKIKP	PKPdf	23 21 01.8	+0.6
MALT	Malatya	126.97	67	⇑iP	PKPdf	23 21 01.8	+0.6
SFNV	Sufian	127.48	69	eP	PKPdf	23 21 02.6	+0.4
ARA0	ARCESS Array S	127.58	26	ePKPdf	PKPdf	23 21 01.6	+0.3
ARCES	ARCESS Array B	127.58	26	PKP	PKPdf	23 21 01.6	+0.3
	comp=Z,6.8nm,0.9s,baz=252,slow=1.2,SNR=9.0						
KBSD	Kabsdagh	128.03	69	eP	PKPdf	23 21 03.6	+0.5
KEV	Kevo	128.13	26	PFAKE		23 21 10.0	+7.7
KEV				LR	LR		
	comp=Z,2μm,22.0s						
ANN	Anapa	128.50	59	i PKIKP	PKPdf	23 21 03.6	-0.1
ANN				e		23 21 16.2	
ANN				e		23 23 06.1	
ANN				i PPP	PPP	23 25 53.4	
ANN				eSS	SS	23 40 24.9	+1.2
ANN				pmax	pmax		
	comp=Z,79nm,1.9s						
ANN				MLR	MLR		
	comp=Z,1μm,24.0s						
SOC	Sochi	129.69	61	ePKIKP	PKPdf	23 21 06.5	+0.5
SOC				e		23 23 14.9	
SOC				pmax	pmax		
	comp=Z,23nm,0.8s						
APA	Apatity	130.30	29	⇓iPKIKP	PKPdf	23 21 02.6	-3.9
APA				MLR	MLR		
	comp=Z,2μm,18.0s						
OBN	Obninsk	130.47	45	i PKIKP	PKPdf	23 21 09.3	+2.2
OBN	Obninsk	130.47	45	ePKPdf	PKPdf	23 21 07.3	+0.2
MOS	Moscow	131.17	45	ePKIKP	PKPdf	23 21 08.5	+0.1
MOS				e		23 21 19.2	
MOS				e		23 23 25.9	
MOS				pmax	pmax		
	comp=Z,84nm,1.6s						
VSR	Storozhevoye	131.27	51	⇑ePKIKP	PKPdf	23 21 08.9	+0.1
KIV	Kislovodsk	131.85	61	ePKIKP	PKPdf	23 21 10.4	+0.1
KIV	Kislovodsk	131.85	61	ePKPdf	PKPdf	23 21 10.4	+0.1
KBZ	Khabaz	131.94	61	PKhKP	PKPpre	23 21 04.4	
	comp=Z,4.2nm,0.8s,baz=218,slow=3.1,SNR=6.6						
KBZ				PKP	PKiKP	23 21 10.9	-0.4
	comp=Z,5.2nm,0.8s,baz=154,slow=3.1,SNR=9.9						
TMCR	Tamitsa	132.11	34	ePKIKP	PKPdf	23 21 10.9	+1.0
TMCR				pmax	pmax		
	comp=Z,26nm,0.7s						
GNI	Garni	132.21	67	⇑ePKIKP	PKPdf	23 21 11.0	-0.2
GNI				pmax	pmax		
	comp=Z,43nm,1.7s						
GNI	Garni	132.21	67	PKP	PKPdf	23 21 11.3	+0.1
	comp=Z,4.5nm,0.8s,baz=131,slow=3.8,SNR=9.0						
GNI	Garni	132.21	67	ePKPdf	PKPdf	23 21 12.4	+1.2
ZEI	Tsey	132.38	63	i PKIKP	PKPdf	23 21 10.8	-0.7
ZEI				pmax	pmax		
	comp=Z,34nm,2.1s						
GOF	Gofitskoye	132.39	60	ePKIKP	PKPpre	23 21 05.3	
GOF				pmax	pmax		
	comp=Z,20nm,0.7s						
KLMR	Klimovskoe	132.69	38	ePKIKP	PKPdf	23 21 11.3	+0.1
KLMR				pmax	pmax		
	comp=Z,95nm,1.6s						
FAKI	Fak Fak	133.42	216	PFAKE		23 21 30.0	+16
FAKI				LR	LR		
	comp=Z,800nm,22.0s						
MAK	Makhachkala	134.98	64	i PKIKP	PKPdf	23 21 18.0	+2.0
MAK				e		23 23 48.0	
MAK				pmax	pmax		
	comp=Z,181nm,1.4s						
MAK				MLR	MLR		
	comp=Z,2μm,22.0s						
CISI	Cisompet, Garu	135.00	181	PFAKE		23 21 30.0	+13
CISI				LR	LR		
	comp=Z,1μm,21.0s						
BILL	Bilibino	135.85	332	⇑ePKIKP	PKPdf	23 21 17.7	+0.8
BILL				e		23 23 58.5	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.6s						
BILL	Bilibino	135.85	332	ePKPdf	PKPdf	23 21 18.1	+1.1
KAPI	Kappang	135.96	198	PFAKE		23 21 30.0	+11
KAPI				LR	LR		
	comp=Z,600nm,19.0s						
TNTI	Ternate	138.85	212	PFAKE		23 21 40.0	+16
TNTI				LR	LR		
	comp=Z,400nm,18.0s						
LUWI	Luwuk	138.88	204	PFAKE		23 21 40.0	+16
LUWI				LR	LR		
	comp=Z,500nm,21.0s						
PALK	Pallekele	141.33	135	PFAKE		23 21 40.0	+11
PALK				LR	LR		
	comp=Z,2μm,20.0s						
SOKR	Solikamsk	141.35	39	i PKHKP	PKPpre	23 21 21.8	
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SOKR				MLR	MLR		
	comp=Z,2μm,19.0s						
GEYT	Alibeck	141.56	74	PKhKP	PKPpre	23 21 23.4	
	comp=Z,16nm,0.8s,baz=258,slow=4.0,SNR=47						
PEA2	Petropavlovsk-	142.19	311	ePKPdf	PKPdf	23 21 26.9	-2.0
PETK	Petropavlovsk-	142.19	311	PKP	PKPdf	23 21 26.9	-2.0
	comp=Z,4.1nm,0.7s,baz=126,slow=4.6,SNR=4.1						
BKNI	Bangkinang	142.40	170	PFAKE		23 21 40.0	+9.4
BKNI				LR	LR		
	comp=Z,800nm,20.0s						
GSI	Gunungsitoli	142.73	164	ePKPdf	PKPdf	23 21 29.2	-2.0
GSI				LR	LR		
	comp=Z,1μm,19.0s						
ARU	Arti	142.86	44	i PKIKP	PKPpre	23 21 27.0	
ARU				MLR	MLR		
	comp=Z,3μm,22.0s						
ARU	Arti	142.86	44	ePKPpre	PKPpre	23 21 25.6	
ARU				LR	LR		
	comp=Z,3μm,22.0s						
SEY	Seymchan	142.87	328	PKhKP	PKPpre	23 21 26.6	
	comp=Z,8.3nm,0.7s,baz=132,slow=5.5,SNR=24						
AKTO	Aktyubinsk	143.07	54	PKhKP	PKPpre	23 21 26.6	
	comp=Z,17nm,0.8s,baz=270,slow=3.0,SNR=46						
SKR	Severo-Kuril's	143.28	307	ePKHKP	PKPpre	23 21 22.0	
KSM	Kuching	143.86	185	ePKPpre	PKPpre	23 21 29.9	
KSM				LR	LR		
	comp=Z,1μm,20.0s						
SVE	Sverdlovsk	143.91	43	ePKIKP	PKPbc	23 21 30.7	+0.9
SVE				pmax	pmax		
	comp=Z,73nm,2.1s						
MYKOM	Kota Tinggi	144.15	174	ePKPdf	PKPab	23 21 30.2	-1.1
MYKOM				LR	LR		
	comp=Z,1μm,22.0s						
ABKAR	Akbulak array	144.33	56	ePKPdf	PKPbc	23 21 31.8	+0.5
PSI	Prapat	144.46	166	PKP	PKPab	23 21 31.9	-0.7
	comp=Z,144nm,0.8s,baz=169,slow=3.9,SNR=80						
SBUM	Sibu	144.65	189	ePKPdf	PKPab	23 21 32.8	-0.3
MYLDM	Lahad Datu	146.06	200	ePKPdf	PKPbc	23 21 37.8	+0.1
LHMI	Lhok Sumawe	146.37	161	ePKPdf	PKPdf	23 21 36.7	-0.8
IPM	Ipoh	146.47	169	ePKPdf	PKPdf	23 21 37.7	+0.1
IPM				LR	LR		
	comp=Z,1μm,20.0s						
KULM	Kulim	147.21	168	ePKPdf	PKPdf	23 21 39.8	+0.9
KULM				LR	LR		
	comp=Z,1μm,20.0s						
KKM	Kota Kinabalu	147.47	197	ePKPbc	PKPbc	23 21 42.2	+0.2
HYB	Hyderabad	147.74	121	i PKP	PKPdf	23 21 40.0	+0.4
BRVK	Borovoye	150.22	47	ePKIKP	PKPdf	23 21 43.5	+1.0
BRVK				MLR	MLR		
	comp=Z,2μm,21.0s						
BRVK	Borovoye	150.22	47	ePKPdf	PKPdf	23 21 43.5	+1.0
BRVK				LR	LR		
	comp=Z,2μm,21.0s						
BVAR	Borovoye Array	150.29	47	PKP	PKPdf	23 21 42.8	+0.2
	comp=Z,18nm,1.2s,baz=278,slow=2.2,SNR=26						
BVAR				PKPbc	PKiKP	23 21 48.3	-0.3
	comp=Z,42nm,0.8s,baz=286,slow=3.4,SNR=86						
YUK	Yuzh-Kuril'sk	150.30	295	i PKIKP	PKPdf	23 21 42.7	-0.2
YUK				i		23 21 49.7	
YUK				i SS	SS	23 44 38.9	-1.2
YUK				i SSS	SSS	23 50 19.7	
VOSK	Vostochnaya	150.72	47	ePKIKP	PKPdf	23 21 44.0	+0.7
VOSK	Vostochnaya	150.72	47	ePKPdf	PKPdf	23 21 44.0	+0.7
KKAR	Karatay Array	151.66	67	ePKIKP	PKPdf	23 21 45.2	+0.1
KKAR				e		23 21 52.3	
KKAR	Karatay Array	151.66	67	ePKPdf	PKPdf	23 21 45.2	+0.1
KKAR				ePKPbc	PKiKP	23 21 52.3	+0.5
YAK	Yakutsk	151.94	337	ePKIKP	PKPbc	23 21 49.9	-1.5
YAK				pmax	pmax		
	comp=N,11nm,1.5s						
YAK				pmax	pmax		
	comp=Z,86nm,0.9s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.3s						
YAK	Yakutsk	151.94	337	ePKPdf	PKPdf	23 21 44.0	-0.8
YAK				ePKPbc	PKPbc	23 21 50.8	-0.6
YAK				LR	LR		
	comp=Z,600nm,20.0s						
YSS	Yuzh-Sakhalins	152.35	301	ePKIKP	PKPbc	23 21 51.1	-1.7
YSS				e		23 22 04.5	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	Yuzh-Sakhalins	152.35	301	ePKPbc	PKPbc	23 21 51.1	-1.7
ASAJ	Asahikawa	152.66	295	PKPbc	PKPbc	23 21 53.2	-0.4
	comp=Z,17nm,0.8s,baz=165,slow=1.9,SNR=12						
ASAJ	Asahikawa	152.66	295	ePKPbc	PKPbc	23 21 52.6	-1.0
ASAJ				LR	LR		
	comp=Z,1μm,20.9s						
EKS2	Erkin-Say	154.06	68	ePKIKP	PKPdf	23 21 49.8	+1.0
EKS2				MLR	MLR		
	comp=Z,1μm,20.0s						
EKS2	Erkin-Say	154.06	68	ePKPdf	PKPdf	23 21 49.8	+1.0
EKS2				LR	LR		
	comp=Z,1μm,20.0s						
AAK	Ala-Archa	154.59	68	ePKIKP	PKPdf	23 21 50.3	+0.7
AAK				e		23 21 58.7	
AAK				MLR	MLR		
	comp=Z,1μm,22.0s						
AAK	Ala-Archa	154.59	68	ePKPdf	PKPdf	23 21 50.3	+0.7
AAK				ePKPbc	PKiKP	23 21 58.7	+0.6
AAK				LR	LR		
	comp=Z,1μm,22.0s						
FRU	Bishkek	154.68	68	i PKIKP	PKPdf	23 21 52.0	+2.5
MAJO	Matsushiro	155.33	277	PFAKE		23 22 00.0	+9.4
MAJO				LR	LR		
	comp=Z,1μm,20.0s						
TKM2	Tokmak 2	155.40	68	ePKIKP	PKPdf	23 21 51.7	+1.0
TKM2				e		23 22 17.3	
TKM2				MLR	MLR		
	comp=Z,1μm,20.0s						
TKM2	Tokmak 2	155.40	68	ePKPdf	PKPdf	23 21 51.7	+1.0
TKM2				ePKPab	PKPab	23 22 17.3	+0.9
TKM2				LR	LR		
	comp=Z,1μm,20.0s						
KSH	Kashi	155.56	76	ePKP	PKPdf	23 21 51.5	+0.6
KSH				epPKP	pPKPdf	23 22 00.8	-2.9
KSH				esPKP		23 22 06.5	
KSH				eSKS	SKSdf	23 28 53.8	-0.3
KSH				eSKKS	SKKSac	23 32 40.8	+0.3
KSH				eSS	SS	23 45 35.5	-2.8
KSH				LR	LR		
	comp=Z,1μm,23.4s						
KSH				LR	LR		
	comp=Z,150nm,12.3s						
KSH				LR	LR		
	comp=Z,820nm,15.0s						
KURK	Kurchatov	155.87	48	ePKIKP	PKPdf	23 21 52.3	+1.5
KURK				e		23 22 17.3	
KURK				MLR	MLR		
	comp=Z,800nm,20.0s						
KURK	Kurchatov	155.87	48	ePKPdf	PKPdf	23 21 52.3	+1.5
KURK				ePKPab	PKPab	23 22 17.3	-0.6
KURK				LR	LR		
	comp=Z,800nm,20.0s						
NVS	Novosibirsk	156.31	36	ePKIKP	PKPdf	23 21 50.5	-0.7
NVS				pmax	pmax		
	comp=Z,253nm,2.1s						
NVS				pmax	pmax		
	comp=E,34nm,1.7s						
HABR	Khabarovsk	157.12	307	cePKP2	PKPab	23 22 23.0	-0.3
HABR						23 26 02.4	
HABR				e		23 28 55.3	
HABR				eSS	SS	23 45 55.4	+1.5
HABR				eSSS	SSS	23 51 56.3	
HABR				pmax	pmax		
	comp=E,45nm,2.0s						
HABR				pmax	pmax		
	comp=Z,103nm,2.0s						
HABR				pmax	pmax		
	comp=N,32nm,2.0s						
ZAA1	Zalesovo Array	157.59	36	ePKPdf	PKPdf	23 21 52.5	-0.4
ZAA1				ePKPdif	PKPdf	23 22 04.2	+11
ZAA1				ePKPab	PKPab	23 22 25.2	+0.1
ZAA0	Zalesovo Array	157.59	36	ePKPdf	PKPdf	23 21 52.4	-0.5
ZAA0				ePKPab	PKPab	23 22 25.5	+0.4
ZALV	Zalesovo Beam	157.59	36	PKP	PKPdf	23 21 52.5	-0.4
	comp=N,16nm,0.9s,baz=288,slow=1.4,SNR=36						
ZALV				pPKP	pPKPdf	23 22 04.2	-1.5
	comp=N,13nm,0.8s,baz=299,slow=3.1,SNR=9.4						
ZALV				PKPab	PKPab	23 22 25.2	+0.1
	comp=N,12nm,0.7s,baz=301,slow=5.3,SNR=8.4						
KOLN	Koldanda	157.85	110	eP	PKPdf	23 21 53.9	-0.5
DANN	Dangsing	158.28	108	eP	PKPdf	23 21 54.9	-0.1
GKN	Gorkha	158.75	110	eP	PKPdf	23 21 55.3	-0.1
DMN	Daman	158.88	112	eP	PKPdf	23 21 55.8	+0.1
KLR	Kul'dur	158.89	311	ePKIKP	PKPdf	23 22 01.6	+7.0
PKIN	Phulchoki	159.07	112	eP	PKPdf	23 21 55.7	-0.2
PKI	Pulchoki	159.08	112	eP	PKPdf	23 21 55.8	-0.2
KKN	Kakani	159.11	112	eP	PKPdf	23 21 56.0	+0.1
JOW	Kunigami	159.22	245	PFAKE		23 22 10.0	+14
JOW				LR	LR		
	comp=Z,1μm,21.1s						
BOD	Bodaibo	159.36	350	ePKP2	PKPab	23 22 30.5	-2.1
BOD				pmax	pmax		
	comp=Z,29nm,1.4s						
MK32	Makanchi Array	159.48	56	ePKPdf	PKPdf	23 21 55.0	-0.5
MK32				ePKPab	PKPab	23 22 34.0	+0.3
MKAR	Makanchi Array	159.48	56	PKP	PKPdf	23 21 55.0	-0.5
	comp=Z,5.8nm,0.8s,baz=290,slow=0.5,SNR=40						
MKAR				PKPab	PKPab	23 22 34.0	+0.3
	comp=Z,26nm,0.8s,baz=295,slow=3.4,SNR=21						
MK01	Makanchi Array	159.49	56	ePKPdf	PKPdf	23 21 55.3	-0.2
MK01				ePKPab	PKPab	23 22 33.1	-0.6
CM01	Chiang Mai Arr	159.49	157	ePKPdf	PKPdf	23 21 56.1	-0.2
CM01				ePKPab	PKPab	23 22 34.0	-0.3
CM31	Chiang Mai Arr	159.52	157	ePKPdf	PKPdf	23 21 55.9	-0.4
CM31				ePKPab	PKPab	23 22 34.2	-0.1
CMAR	Chiang Mai Arr	159.52	157	PKP	PKPdf	23 21 55.9	-0.4
	comp=Z,0.7nm,0.3s,baz=226,slow=2.6,SNR=8.3						
CMAR				PKPab	PKPab	23 22 34.2	-0.1
	comp=Z,4.9nm,0.9s,baz=224,slow=5.1,SNR=9.2						
RAMN	Ramite	159.59	116	eP	PKPdf	23 21 56.8	+0.3
GUN	Gumba	159.62	112	eP	PKPdf	23 21 56.3	-0.3
JIRN	Jiri	159.70	113	eP	PKPdf	23 21 56.4	-0.4
CHTO	Chiang Mai	159.86	157	ePKIKP	PKPdf	23 21 56.8	+0.1
CHTO				e		23 22 35.8	
CHTO				MLR	MLR		
	comp=Z,900nm,21.0s						
CHTO	Chiang Mai	159.86	157	ePKPdf	PKPdf	23 21 56.8	+0.1
CHTO				ePKPab	PKPab	23 22 35.8	0.0
CHTO				LR	LR		
	comp=Z,900nm,21.0s						
ODAN	Odare	160.09	117	eP	PKPdf	23 21 57.1	0.0
TAPN	Taplejung	160.62	116	eP	PKPdf	23 21 57.6	-0.1
MDJ	Mudanjiang	161.82	299	PKP	PKPdf	23 21 59.0	+1.0
MDJ				pPKP	pPKPdf	23 22 09.0	-1.8
MDJ				sPKP		23 22 12.0	
MDJ				PKS	PKSdf	23 25 30.0	-1.1
MDJ				PP	PP	23 26 28.8	+0.6
MDJ				AMB	AMB		
	comp=Z,340nm,4.4s						
MDJ				LR	LR		
	comp=Z,210nm,18.3s						
MDJ				LR	LR		
	comp=Z,870nm,24.0s						
MDJ				LR	LR		
	comp=Z,1μm,22.9s						
KS01	Wonju Array Si	163.62	276	ePKPdf	PKPdf	23 21 58.4	-1.6
WMQ	Urumqi	163.99	61	PKP	PKPdf	23 22 00.0	-0.3
WMQ				LR	LR		
	comp=Z,900nm,21.2s						
WMQ				LR	LR		
	comp=Z,1μm,21.2s						
WMQ				LR	LR		
	comp=Z,1μm,20.5s						
LSA	Lhasa	164.44	116	ePKIKP	PKPdf	23 22 01.2	-0.4
LSA				e		23 22 56.8	
LSA	Lhasa	164.44	116	ePKPdf	PKPdf	23 22 01.2	-0.4
LSA				ePKPab	PKPab	23 22 56.8	+0.4
IRK	Irkutsk	165.29	7	ePKIKP	PKPdf	23 22 00.6	-0.4
IRK				e		23 22 57.8	
IRK				pmax	pmax		
	comp=Z,49nm,2.3s						
HIA	Hailar	165.31	326	ePKIKP	PKPdf	23 21 58.8	-2.4
HIA				e		23 22 59.7	
HIA	Hailar	165.31	326	ePKPdf	PKPdf	23 21 58.8	-2.4
HIA				ePKPab	PKPab	23 22 59.7	+0.7
MOY	Mondy	165.33	16	ePKIKP	PKPdf	23 22 01.4	+0.2
MOY				pmax	pmax		
	comp=Z,56nm,3.5s						
TLY	Talaya	165.77	9	ePKIKP	PKPdf	23 22 02.4	+0.9
TLY				pmax	pmax		
	comp=Z,18nm,2.2s						
TLY	Talaya	165.77	9	ePKPdf	PKPdf	23 22 01.1	-0.4
TLY				ePKPab	PKPab	23 23 01.9	+0.9
KMI	Kunming	166.91	162	PKP	PKPdf	23 22 04.8	+1.3
ZAK	Zakamensk	166.99	11	ePKIKP	PKPdf	23 22 01.6	-1.0
ZAK				e		23 23 06.2	
ZAK				pmax	pmax		
	comp=Z,5.0nm,2.3s						
GYA	Guiyang	168.80	177	i PKP	PKPdf	23 22 04.3	-0.3
GYA				pPKP	pPKPdf	23 22 15.8	-1.7
GYA				PKPab	PKPab	23 23 14.8	-0.2
GYA				PKS	PKSdf	23 25 35.0	-2.3
GYA				PP	PP	23 27 05.5	+2.1
GYA				SKKS		23 33 49.0	
GYA				AMB	AMB		
	comp=Z,240nm,10.9s						
GYA				LR	LR		
	comp=Z,240nm,21.5s						
GYA				LR	LR		
	comp=Z,190nm,21.7s						
GYA				LR	LR		
	comp=Z,220nm,24.0s						
NJ2	Nanjing	168.93	243	ePKP	PKPdf	23 22 03.8	-0.5
ULN	Ulaanbaatar	169.82	1	ePKIKP	PKPdf	23 22 03.3	-1.3
ULN				e		23 23 20.0	
ULN	Ulaanbaatar	169.82	1	ePKPdf	PKPdf	23 22 03.3	-1.3
ULN				ePKPab	PKPab	23 23 20.0	+0.9
SONA1	Songino Array	169.82	3	ePKPdf	PKPdf	23 22 03.6	-1.0
SONA1				ePKPab	PKPab	23 23 19.0	0.0
SONA0	Songino Array	169.83	3	ePKPdf	PKPdf	23 22 04.8	+0.2
SONA0				ePKPab	PKPab	23 23 19.3	+0.2
SONM	Songino Array	169.83	3	PKP	PKPdf	23 22 04.8	+0.2
	comp=Z,2.3nm,0.9s,baz=355,slow=0.4,SNR=17						
SONM				PKPab	PKPab	23 23 19.3	+0.2
	comp=Z,6.9nm,0.8s,baz=336,slow=3.9,SNR=19						
TIA	Tai'an	171.95	263	ePKP	PKPdf	23 22 06.0	+0.1
ENH	Enshi	172.38	195	ePKPdf	PKPdf	23 22 06.2	-0.2
BJI	Beijing	172.64	291	PKP	PKPdf	23 22 06.5	+0.5
BJI				PP	PP	23 27 23.0	-0.8
BJI				AMB	AMB		
	comp=Z,290nm,4.4s						
BJT	Baijiatuau	172.65	291	ePKIKP	PKPdf	23 22 04.8	-1.3
BJT	Baijiatuau	172.65	291	ePKPdf	PKPdf	23 22 04.8	-1.3
CD2	Chengdu	172.66	156	PKP	PKPdf	23 22 06.0	-0.4
CD2				pPKP	pPKPdf	23 22 17.5	-1.8
CD2				sPKP		23 22 21.3	
CD2				PKS	PKSdf	23 25 37.0	-1.8
CD2				PP	PP	23 27 25.5	+2.7
CD2				SKS	SKSdf	23 29 03.8	-2.7
CD2				SKKS	SKKSac	23 34 07.3	+0.5
CD2				AMB	AMB		
	comp=Z,620nm,6.4s						
GTA	Gaotai	173.93	71	ePKP	PKPdf	23 22 07.0	+0.2
GTA				pPKP	pPKPdf	23 22 18.0	-1.6
GTA				sPKP		23 22 21.5	
GTA				PKPab	PKPab	23 23 39.0	+1.2
GTA				PP	PP	23 27 33.0	+2.6
GTA				SKS	SKSdf	23 29 05.0	-1.7
GTA				SKKS	SKKSac	23 34 13.5	+0.3
GTA				SS	SS	23 48 44.5	-1.9
GTA				AMB	AMB		
	comp=Z,890nm,5.9s						
GTA				LR	LR		
	comp=Z,1μm,22.3s						
GTA				LR	LR		
	comp=Z,1μm,23.6s						
GTA				LR	LR		
	comp=Z,3μm,22.4s						
HHC	Hu-ho-hao-te	175.38	315	ePKP	PKPdf	23 22 06.5	-0.6
HHC				pPKP	pPKPdf	23 22 19.5	-0.5
HHC				sPKP		23 22 25.5	
HHC				AMB	AMB		
	comp=Z,540nm,4.1s						
HHC				LR	LR		
	comp=Z,3μm,20.6s						
HHC				LR	LR		
	comp=Z,2μm,19.6s						
HHC				LR	LR		
	comp=Z,3μm,21.6s						
XAN	Xi'an	176.12	201	PKP	PKPdf	23 22 07.5	0.0
LZH	Lanzhou	176.85	119	ePKP	PKPdf	23 22 09.0	+1.3
LZH				pPKP	pPKPdf	23 22 20.5	-0.1
LZH				PP	PP	23 27 48.0	+3.8
LZH				eSS	SS	23 49 13.3	-0.7
LZH				AMB	AMB		
	comp=Z,1μm,7.8s						
LZH				LR	LR		
	comp=Z,430nm,18.3s						
LZH				LR	LR		
	comp=Z,860nm,19.0s						
LZH				LR	LR		
	comp=Z,2μm,20.0s						

IDC 27 23:09:06.9±1.3, 13.°92N×144.°36E, h0km, mb4.0/8, mb1 4.0/8, mb1mx3.7/49, mbtmp4.0/8, Error ellipse: s-maj=65.9km s-min=16.3km az=70.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	23.34	173	P	P	23 14 18.0	+1.1
	5.6nm,0.7s,baz=322,slow=12,SNR=5.4						
WRA	Warramunga Arr	35.06	197	P	P	23 16 02.1	+0.3
	1.5nm,0.7s,baz=17,slow=9.7,SNR=11						
DZM	Mont Dzumac	41.81	148	P	P	23 16 58.2	-0.5
	8.3nm,0.9s,baz=352,slow=7.1,SNR=5.3						
STKA	Stephens Creek	45.61	183	P	P	23 17 28.0	-1.0
	1.0nm,0.5s,baz=19,slow=7.2,SNR=6.6						
SONM	Songino Array	46.18	325	P	P	23 17 34.7	+1.1
	0.3nm,0.6s,baz=137,slow=6.9,SNR=3.8						
MKAR	Makanchi Array	60.91	316	P	P	23 19 21.4	-0.3
	0.7nm,0.5s,baz=85,slow=8.6,SNR=12						
ZALV	Zalesovo Beam	61.07	324	P	P	23 19 23.4	+0.9
	0.3nm,0.3s,baz=123,slow=5.3,SNR=2.9						
BVAR	Borovoye Array	69.36	322	P	P	23 20 15.1	-1.3
	1.3nm,0.4s,baz=108,slow=7.5,SNR=13						

KRSC 27 23:09:43.7±0.8, 55.°16N×163.°27E, h60km±17km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	1.07	237	eP	Pn	23 10 03.7	+1.0
MKZ				eS	Sn	23 10 17.2	+0.4
KBTR	Krutoberegovo	1.08	347	i P	Pn	23 10 03.9	+1.0
KBTR				eS	Sn	23 10 17.4	+0.3

KBG	**Krutoberegovo**	**1.15**	**344**	eP	Pn	23 10 05.1	+1.4
KBG				eS	Sn	23 10 19.9	+1.4
BKI	**Bering**	**1.55**	**87**	eS	Sn	23 10 31.2	+3.1
KZV	**Kizimen**	**1.71**	**270**	eP	Pn	23 10 13.3	+1.9
SMKR	**Semkarok**	**1.75**	**325**	eP	Pn	23 10 14.2	+2.3
SMKR				eS	Sn	23 10 35.9	+2.6
TUMR	**Tumrok**	**1.79**	**275**	eP	Pn	23 10 14.8	+2.3
TUMR				eS	Sn	23 10 36.3	+1.9
KMNR	**Kamenistaya**	**1.83**	**290**	eP	Pn	23 10 15.6	+2.6
KMNR				eS	Sn	23 10 38.7	+3.5
BDR	**Baidarnaya**	**1.83**	**321**	eP	Pn	23 10 15.5	+2.5
BDR				eS	Sn	23 10 38.1	+2.9
KLY	**Klyuchi**	**1.88**	**309**	eP	Pn	23 10 14.6	+1.1
KLY				eS	Sn	23 10 35.6	-0.6
KPT	**Kopyto**	**1.91**	**296**	eP	Pn	23 10 17.0	+2.9
KPT				eS	Sn	23 10 41.0	+3.8
SRKR	**Sorokina**	**1.91**	**323**	iP	Pn	23 10 16.6	+2.5
SRKR				eS	Sn	23 10 40.0	+2.9
KOZ	**Kozyrevsk**	**2.13**	**297**	eP	Pn	23 10 20.0	+3.1
SRDR	**Sredinnyy**	**2.32**	**302**	eP	Pn	23 10 22.2	+2.6
SRDR				eS	Sn	23 10 49.8	+2.7
KII	**Karymskiy**	**2.49**	**245**	eP	Pn	23 10 24.8	+2.9
KII				eS	Sn	23 10 54.1	+2.9
ESO	**Esso**	**2.71**	**288**	eP	Pn	23 10 27.2	+2.3
SDLR	**Sedlovina**	**3.19**	**236**	eP	Pn	23 10 34.9	+3.3
SDLR				eS	Sn	23 11 10.2	+1.7
KRER	**Koryakskii**	**3.24**	**237**	eP	Pn	23 10 35.5	+3.2
KRER				eS	Sn	23 11 12.5	+2.7
SMAR	**Somma**	**3.24**	**236**	eP	Pn	23 10 35.9	+3.6
SMAR				eS	Sn	23 11 12.2	+2.4
KRX	**Arik**	**3.25**	**238**	eP	Pn	23 10 35.8	+3.3
KRX				eS	Sn	23 11 12.3	+2.2
AVH	**Avacha**	**3.27**	**236**	eP	Pn	23 10 36.6	+4.0
AVH				eS	Sn	23 11 13.0	+2.7
KOK	**Koryaka**	**3.30**	**237**	eP	Pn	23 10 36.6	+3.6
GNL	**Ganaly**	**3.44**	**247**	eP	Pn	23 10 38.9	+3.9
PET	**Petropavlovsk**	**3.46**	**234**	eP	Pn	23 10 37.7	+2.7
PET				eS	Sn	23 11 16.1	+1.4
RUS	**Russkaya**	**3.92**	**228**	eP	Pn	23 10 43.8	+2.4
MTVR	**Mutnovka**	**4.03**	**230**	eP	Pn	23 10 46.4	+3.3
MTVR				eS	Sn	23 11 31.1	+1.9
OSSR	**Ossora**	**4.11**	**358**	eP	Pn	23 10 46.7	+2.8
OSSR				eS	Sn	23 11 32.1	+1.6
ASAK	**Asacha**	**4.23**	**231**	eP	Pn	23 10 49.7	+4.0

*IDC **27** 23:10:51.4±0.6, 34.69S×72.86W, h0km, mb4.3/14, mb1 4.5/16, mb1mx4.4/36, mbtmp4.4/16, ML4.4/2, Error ellipse: s-maj=28.7km s-min=15.1km az=74.0*

*ISCJB **27** 23:10:54.4±0.4, 34.72S±0.07×72.9W±0.2, h33km, mb4.5/21, Error ellipse: s-maj=18.3km s-min=8.8km az=166.0*

*NEIC **27** 23:10:56.4±1.5, 34.70S×72.89W, h36km±14km, mb4.7/10, Error ellipse: s-maj=14.7km s-min=7.7km az=81.0*

ISC 27 23:10:56.4±0.6, 34.69S±0.08×72.9W±0.2, h35km, n32, σ0.84/32, mb4.5/21, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.31**	**164**	Pn	**Pn**	**23 12 26.1**	**-0.9**
	3.9nm,0.3s,baz=334,slow=16,SNR=2.6						
PLCA	**Paso Flores**	**6.31**	**164**	ePn	**Pn**	**23 12 26.8**	**-0.2**
LPAZ	**La Paz**	**18.81**	**14**	P	**Pn**	**23 15 14.6**	**+0.2**
	0.2nm,0.3s,baz=190,slow=9.2,SNR=4.6						
USHA	**Ushuaia**	**20.38**	**173**	P	**P**	**23 15 29.6**	**-0.2**
	23nm,1.0s,baz=6.3,slow=9.2,SNR=3.5						
SIV	**San Ignacio**	**21.42**	**33**	P	**P**	**23 15 41.5**	**0.0**
	5.6nm,1.0s,baz=219,slow=13,SNR=2.7						
SAML	**Samuel**	**27.12**	**21**	eP	**P**	**23 16 35.8**	**-0.3**
OTAV	**Otavalo**	**35.13**	**350**	eP	**P**	**23 17 45.4**	**-1.8**
SNAA	**Sanae**	**51.22**	**158**	P	**P**	**23 19 56.5**	**+0.5**
	4.0nm,1.0s,baz=269,slow=7.2,SNR=6.9						
SNAA	**Sanae**	**51.22**	**158**	eP	**P**	**23 19 56.0**	**0.0**
	16nm,1.1s						
APG	**El Apazote**	**52.17**	**338**	P	**P**	**23 20 05.1**	**+1.2**
	2.1nm,0.6s,baz=135,slow=10.0,SNR=2.4						
QSPA	**South Pole Qui**	**55.55**	**180**	P	**P**	**23 20 29.0**	**+1.0**
	8.6nm,1.0s,baz=135,slow=5.8,SNR=8.6						
QSPA	**South Pole Qui**	**55.55**	**180**	eP	**P**	**23 20 27.9**	**-0.1**
	12nm,1.0s						
TEIG	**Tepich**	**56.54**	**343**	eP	**P**	**23 20 35.8**	**+0.5**
TXAR	**Lajitas Array**	**70.00**	**332**	P	**P**	**23 22 05.4**	**+0.9**
	1.4nm,0.8s,baz=152,slow=8.2,SNR=7.3						
ANMO	**Albuquerque**	**76.06**	**332**	eP	**P**	**23 22 38.5**	**-1.8**
	4.1nm,1.1s						
DBIC	**Dimbokro**	**76.06**	**72**	P	**P**	**23 22 41.9**	**+1.3**
	5.5nm,1.0s,baz=224,slow=4.5,SNR=3.9						
BOSA	**Boshof**	**80.36**	**118**	P	**P**	**23 23 04.5**	**0.0**
	6.8nm,1.0s,baz=197,slow=5.0,SNR=4.5						
ECSD	**EROS Data Cent**	**80.99**	**343**	eP	**P**	**23 23 07.0**	**-0.1**
	10nm,1.1s						
LBTB	**Lobatse**	**82.64**	**115**	P	**P**	**23 23 16.2**	**-0.4**
	1.9nm,0.4s,baz=271,slow=5.6,SNR=4.9						
DUG	**Dugway**	**83.12**	**330**	eP	**P**	**23 23 17.6**	**-0.9**
	11nm,1.3s						
RSSD	**Black Hills**	**83.41**	**338**	eP	**P**	**23 23 20.3**	**+0.3**
	6.7nm,1.5s						
HWUT	**Hardware Ranch**	**83.82**	**332**	eP	**P**	**23 23 22.3**	**+0.1**
	24nm,1.6s						
NVAR	**Mina Array Bea**	**84.05**	**326**	P	**P**	**23 23 24.4**	**+0.9**
	1.5nm,0.8s,baz=154,slow=6.5,SNR=6.7						
PDAR	**Pinedale Array**	**84.06**	**334**	P	**P**	**23 23 23.6**	**+0.2**
	1.2nm,0.8s,baz=131,slow=6.1,SNR=4.8						
HVU	**Hansel Valley**	**84.44**	**331**	eP	**P**	**23 23 25.4**	**+0.1**
	7.3nm,1.2s						
TOA0	**Torodi Ar. Sit**	**85.10**	**70**	eP	**P**	**23 23 28.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**85.10**	**70**	P	**P**	**23 23 29.2**	**+0.2**
	2.6nm,0.8s,baz=255,slow=3.9,SNR=7.2						
RLMT	**Red Lodge**	**86.01**	**335**	eP	**P**	**23 23 31.7**	**-1.4**
	6.3nm,1.3s						
ULM	**Lac du Bonnet**	**86.98**	**345**	P	**P**	**23 23 36.2**	**-1.2**
	2.8nm,1.0s,baz=196,slow=7.4,SNR=2.8						
MCMT	**McKenzie Canyo**	**87.06**	**333**	eP	**P**	**23 23 39.0**	**+0.7**
	5.1nm,1.3s						
YBH	**Yreka Blue Hor**	**88.73**	**325**	P	**P**	**23 23 46.7**	**+0.5**
	2.4nm,0.9s,baz=162,slow=3.2,SNR=4.4						
WRA	**Warramunga Arr**	**119.82**	**210**	PKP	**PKPdf**	**23 29 43.3**	**-0.2**
	0.6nm,0.8s,baz=166,slow=1.7,SNR=2.8						

IDC 27 23:12:12.5±2.6, 35.44S×72.50W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/29, mbtmp4.3/4, Error ellipse: s-maj=73.1km s-min=45.6km az=9.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**21.90**	**31**	P	P	23 17 07.5	+0.2
	12nm,0.9s,baz=206,slow=9.5,SNR=5.6						
TXAR	**Lajitas Array**	**70.81**	**331**	P	P	23 23 31.5	+0.6
	1.2nm,0.6s,baz=158,slow=9.0,SNR=12						
TORD	**Torodi Ar. Bea**	**85.06**	**70**	P	P	23 24 51.0	+0.6
	0.7nm,0.5s,baz=232,slow=5.6,SNR=6.2						
ULM	**Lac du Bonnet**	**87.79**	**345**	P	P	23 25 02.0	-0.9
	2.9nm,0.9s,baz=164,slow=7.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**155.64**	**34**	PKPab	PKPab	23 32 32.4	-1.4
	39nm,0.8s,baz=324,slow=3.2,SNR=6.1						

*SJA **27** 23:12:24.5±0.4, 34.91S×72.49W, h277km±43km, ML5.7*

*IDC **27** 23:12:29.9±0.4, 34.73S×71.87W, h0km, mb5.4/28, mb1 5.5/31, mb1mx5.4/33, mbtmp5.4/31, ML4.9/4, Error ellipse: s-maj=14.7km s-min=9.7km az=86.0*

*ISCJB **27** 23:12:31.2±0.1, 34.65S±0.03×71.73W±0.04, h16km, mb5.8/252, MS5.5/188, Error ellipse: s-maj=4.9km s-min=3.4km az=158.2*

*MOS **27** 23:12:33.0±0.7, 34.70S×71.78W, h33km, mb6.1/52, MS5.3/25, Error ellipse: s-maj=16.7km s-min=7.2km az=99.2*

*BJI **27** 23:12:33.8, 34.66S×72.18W, h39km, mB5.8/12, Ms7.5/13, Ms7 5.6/14*

*NEIC **27** 23:12:34.9±0.1, 34.70S×71.83W, h35km, mb6.0/216, MS5.4/184, Error ellipse: s-maj=4.4km s-min=2.9km az=77.0*

NEIC Felt at Santiago.

ISC 27 23:12:32.6±0.2, 34.73S±0.04×71.82W±0.05, h16km, n1051, σ0.86/878, mb6.0/254, MS5.4/188, 256C-208D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**2.98**	**57**	iP	**Pb**	**23 13 25.2**	**-0.1**
AAGR				iP	**Pb**	**23 13 25.2**	**-0.1**
ARCO	**CERRO ARCO**	**3.05**	**53**	iP	**Pb**	**23 13 25.5**	**-1.1**
ARCO				iS	**Sg**	**23 14 11.0**	**+0.4**
ARCO				AML	AML	23 14 16.0	
	comp=Z,8μm,0.5s						
AUSP	**Uspallata**	**3.22**	**40**	iP	Pn	23 13 27.6	+4.9
ASAL	**Salagasta**	**3.27**	**50**	iP	Pn	23 13 28.2	+4.9
CFAA	**Coronel Fontan**	**4.32**	**45**	Pn	**Pn**	**23 13 38.7**	**+1.0**
	comp=Z,7.5nm,0.3s,baz=16,slow=3.0,SNR=18						
CFAA				Sn	**Sn**	**23 14 28.3**	**+0.4**
	comp=Z,15nm,0.3s,baz=221,slow=20,SNR=4.3						
CFAA				LR	LR	23 14 57.6	
	comp=Z,852nm,19.8s,baz=278,slow=34						
AMOG	**MOGNA**	**4.70**	**37**	iP	**Pn**	**23 13 44.0**	**+1.1**
PLCA	**Paso Flores**	**6.08**	**171**	Pn	**Pn**	**23 14 02.6**	**+0.7**
	comp=Z,15nm,0.3s,baz=347,slow=13,SNR=10.0						
PLCA				Sn	**Sn**	**23 15 14.6**	**+3.5**
	comp=Z,8.4nm,0.3s,baz=314,slow=18,SNR=3.2						
PLCA	**Paso Flores**	**6.08**	**171**	ePn	**Pn**	**23 14 02.5**	**+0.6**
TRQA	**Tornquist**	**8.60**	**116**	ePn	Pn	23 14 39.8	+3.4
CPUP	**Villa Florida**	**15.02**	**60**	eP	**Pn**	**23 16 04.4**	**+0.3**
CPUP	**Villa Florida**	**15.02**	**60**	Pn	**Pn**	**23 16 04.9**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=222,slow=15,SNR=4.2						
CPUP	**Villa Florida**	**15.02**	**60**	ePn	**Pn**	**23 16 04.4**	**+0.3**
LPAZ	**La Paz**	**18.66**	**11**	eP	**P**	**23 16 50.3**	**-0.2**
LPAZ	**La Paz**	**18.66**	**11**	P	**P**	**23 16 51.0**	**+0.5**
	comp=Z,2.6nm,0.3s,baz=199,slow=8.1,SNR=25						
LPAZ	**La Paz**	**18.66**	**11**	eP	**P**	**23 16 50.3**	**-0.2**
LPAZ				ePn	**Pn**	**23 16 51.6**	**+0.8**
EFI	**East Falkland**	**19.63**	**154**	eP	P	23 16 57.1	-3.1
EFI				pmax	pmax		
	comp=Z,475nm,1.5s						
EFI	**East Falkland**	**19.63**	**154**	eP	P	23 16 57.1	-3.1
	comp=Z,475nm,1.5s						
USHA	**Ushuaia**	**20.24**	**174**	P	**P**	**23 17 07.3**	**+0.4**
	comp=Z,98nm,0.8s,baz=334,slow=7.9,SNR=22						
SIV	**San Ignacio**	**21.00**	**30**	P	**P**	**23 17 15.5**	**+0.1**
	comp=Z,83nm,0.9s,baz=215,slow=9.5,SNR=41						
NNA	**Nana**	**23.09**	**347**	eP	**P**	**23 17 37.8**	**0.0**
NNA				pmax	pmax		
	comp=Z,350nm,1.3s						
NNA				MLR	MLR		
	comp=Z,6μm,20.0s						
NNA	**Nana**	**23.09**	**347**	P	**P**	**23 17 38.1**	**+0.4**
	comp=Z,127nm,0.9s,baz=188,slow=11,SNR=40						
NNA	**Nana**	**23.09**	**347**	eP	**P**	**23 17 37.8**	**0.0**
	comp=Z,350nm,1.3s						
NNA				LR	LR		
	comp=Z,6μm,20.0s						
SAML	**Samuel**	**26.85**	**19**	eP	**P**	**23 18 11.6**	**-0.9**
	comp=Z,56nm,1.0s						
SAML				LR	LR		
	comp=Z,6μm,19.0s						
ATAH	**Atahualpa**	**28.12**	**346**	P	**P**	**23 18 24.6**	**+0.3**
	comp=Z,26nm,0.9s,baz=176,slow=6.3,SNR=16						
BDFB	**Brasilia**	**28.60**	**54**	eP	**P**	**23 18 27.9**	**-0.4**
BDFB	**Brasilia**	**28.60**	**54**	P	**P**	**23 18 28.4**	**+0.1**
	comp=Z,25nm,0.7s,baz=234,slow=8.5,SNR=12						
BDFB	**Brasilia**	**28.60**	**54**	eP	**P**	**23 18 27.9**	**-0.4**
PMSA	**Palmer Station**	**30.45**	**173**	P	**P**	**23 18 44.2**	**+0.2**
	comp=Z,59nm,1.0s,baz=342,slow=9.8,SNR=5.5						
PMSA	**Palmer Station**	**30.45**	**173**	eP	**P**	**23 18 44.2**	**+0.2**
PMSA				LR	LR		
	comp=Z,3μm,19.0s						
HOPE	**Hope Point**	**31.42**	**139**	eP	P	23 18 51.6	-1.2
	comp=Z,230nm,1.4s						
HOPE				ePcP	**PcP**	**23 21 46.6**	**+0.7**
HOPE				LR	LR		
	comp=Z,3μm,20.0s						
OTAV	**Otavalo**	**35.33**	**348**	eP	**P**	**23 19 28.6**	**+0.9**
	comp=Z,239nm,1.4s						
OTAV				ePcP	**PcP**	**23 21 58.0**	**0.0**
OTAV				LR	LR		
	comp=Z,3μm,20.0s						
PAYG	**Puerto Ayora**	**38.02**	**329**	PFAKE		23 20 00.0	+10
PAYG				LR	LR		
	comp=Z,6μm,21.0s						
ROSC	**El Rosal**	**39.44**	**356**	P	**P**	**23 20 02.4**	**0.0**
	comp=Z,25nm,0.6s,baz=98,slow=4.4,SNR=14						
ROSC	**El Rosal**	**39.44**	**356**	eP	**P**	**23 20 01.8**	**-0.7**
SDV	**Santo Domingo**	**43.39**	**2**	eP	P	23 20 32.9	-1.8
	comp=Z,120nm,1.0s						
SDV				LR	LR		
	comp=Z,5μm,20.0s						
RCBR	**Riachuelo**	**43.87**	**57**	P	**P**	**23 20 38.1**	**-0.3**
	comp=Z,21nm,0.9s,baz=218,slow=11,SNR=13						
RCBR	**Riachuelo**	**43.87**	**57**	eP	**P**	**23 20 37.6**	**-0.9**
	comp=Z,260nm,1.7s						
RCBR				LR	LR		
	comp=Z,6μm,19.0s						
BCIP	**Isla Barro Col**	**44.31**	**349**	eP	**P**	**23 20 41.8**	**0.0**
	comp=Z,597nm,1.9s						
BCIP				LR	LR		
	comp=Z,2μm,19.0s						
PCRV	**Puerto La Cruz**	**45.17**	**10**	P	**P**	**23 20 49.0**	**+0.2**
	comp=Z,56nm,0.9s,baz=193,slow=4.6,SNR=8.8						
JTS	**JuntasAbangare**	**46.47**	**342**	eP	**P**	**23 20 59.5**	**+0.5**
JTS				e		23 22 31.6	
JTS				pmax	pmax		
	comp=Z,446nm,1.8s						
JTS				MLR	MLR		
	comp=Z,2μm,21.0s						
JTS	**JuntasAbangare**	**46.47**	**342**	P	**P**	**23 20 58.9**	**-0.1**
	comp=Z,41nm,1.1s,baz=172,slow=6.0,SNR=16						
JTS	**JuntasAbangare**	**46.47**	**342**	eP	**P**	**23 20 59.5**	**+0.5**
	comp=Z,446nm,1.8s						
JTS				ePcP	**PcP**	**23 22 31.6**	**-1.9**
JTS				LR	LR		
	comp=Z,2μm,21.0s						
TRIS	**Tristan da Cun**	**47.57**	**111**	eP	**P**	**23 21 08.4**	**+0.9**
	comp=Z,523nm,1.4s						
TRIS				LR	LR		
	comp=Z,2μm,20.0s						
GRGR	**Grenville**	**47.59**	**14**	eP	**P**	**23 21 07.1**	**-0.6**
	comp=Z,218nm,0.9s						
GRGR				LR	LR		
	comp=Z,5μm,20.0s						
VNA3	**Neumayer Olymp**	**48.62**	**158**	P	**P**	**23 21 15.8**	**+0.7**
SVB	**Belmont**	**48.77**	**14**	eP	P	23 21 15.4	-1.4
VNA1	**Neumayer--Stat**	**48.94**	**157**	P	**P**	**23 21 19.2**	**+1.7**
BBGH	**Gun Hill**	**49.01**	**16**	PFAKE		23 21 30.0	+11
BBGH				LR	LR		
	comp=Z,5μm,20.0s						
VNA2	**Neumayer--Watz**	**49.27**	**157**	P	**P**	**23 21 20.1**	**0.0**
FDF	**Fort de France**	**50.22**	**13**	eP	P	23 21 26.1	-1.8
FDF	**Fort de France**	**50.22**	**13**	PFAKE		23 21 40.0	+12
FDF				LR	LR		
	comp=Z,4μm,20.0s						
PTCN	**Pitcairn Islan**	**50.82**	**264**	PFAKE		23 21 40.0	+7.5
PTCN				LR	LR		
	comp=Z,1μm,19.0s						
SNAA	**Sanae**	**50.85**	**158**	P	**P**	**23 21 32.6**	**+0.4**
SNAA	**Sanae**	**50.85**	**158**	eP	**P**	**23 21 32.1**	**0.0**
SNAA	**Sanae**	**50.85**	**158**	eP	**P**	**23 21 32.5**	**+0.4**
SNAA				pmax	pmax		
	comp=Z,179nm,1.1s						
SNAA	**Sanae**	**50.85**	**158**	P	**P**	**23 21 32.6**	**+0.4**
	comp=Z,34nm,0.9s,baz=283,slow=6.5,SNR=38						
SNAA	**Sanae**	**50.85**	**158**	eP	**P**	**23 21 32.5**	**+0.4**
	comp=Z,179nm,1.1s						
BBL	**Barber's Block**	**50.93**	**13**	eP	P	23 21 31.7	-1.5
PHG	**Guadaloupe-2**	**51.38**	**13**	eP	**P**	**23 21 35.7**	**-1.0**
DOG	**Dongo Capester**	**51.40**	**13**	eP	**P**	**23 21 35.6**	**-1.1**
LKG	**Breislack**	**51.40**	**13**	eP	P	23 21 34.8	-2.2
MLG	**Mont-d'or**	**51.41**	**12**	eP	**P**	**23 21 35.8**	**-1.1**
FNG	**Fond-Bernard**	**51.41**	**12**	eP	P	23 21 35.7	-1.2
DEG	**La Desirade**	**51.78**	**13**	eP	P	23 21 37.8	-1.8
SEG	**Port Louis**	**51.78**	**13**	eP	P	23 21 37.8	-1.8
SEUS	**St. Eustatius**	**52.60**	**11**	eP	**P**	**23 21 44.7**	**-1.0**
	comp=Z,1μm,1.9s						
CRPR	**Cabo Rojo, PR**	**52.63**	**6**	eP	P	23 21 44.4	-1.4
	comp=Z,317nm,1.7s						
SABA	**Saba**	**52.69**	**10**	eP	**P**	**23 21 45.2**	**-1.2**
	comp=Z,2μm,2.1s						
OBIP	**Obispado Ponce**	**52.71**	**6**	eP	**P**	**23 21 45.4**	**-1.0**
	comp=Z,115nm,0.9s						
CELP	**Cerrillos**	**52.74**	**6**	eP	**P**	**23 21 46.2**	**-0.4**
CPD	**Cerro la Pandu**	**52.77**	**7**	eP	**P**	**23 21 46.1**	**-0.8**
CPD				pmax	pmax		
	comp=Z,95nm,1.4s						
CPD	**Cerro la Pandu**	**52.77**	**7**	eP	**P**	**23 21 46.1**	**-0.8**
	comp=Z,95nm,1.4s						
LSP	**Las Mesas**	**52.80**	**6**	eP	**P**	**23 21 46.3**	**-0.8**
MPR	**Mayaguez**	**52.83**	**6**	eP	**P**	**23 21 46.2**	**-1.1**
	comp=Z,68nm,1.3s						
HUMP	**Col San Antoni**	**52.88**	**7**	eP	P	23 21 46.0	-1.7
	comp=Z,76nm,1.3s						
LRS	**Lares**	**52.93**	**6**	eP	P	23 21 46.9	-1.3
MTDJ	**Mount Denham**	**52.94**	**353**	eP	**P**	**23 21 47.6**	**-0.6**
	comp=Z,502nm,1.8s						
MTDJ				LR	LR		
	comp=Z,1μm,20.0s						
PAPH	**Port-au-Prince**	**52.95**	**359**	eP	**P**	**23 21 47.8**	**-0.5**
	comp=Z,314nm,1.3s						
ANWB	**Willy Bob**	**52.97**	**12**	eP	P	23 21 46.4	-1.9
	comp=Z,218nm,0.6s						
ANWB				LR	LR		
	comp=Z,3μm,21.0s						
AOPR	**Arecibo Observ**	**53.00**	**6**	eP	P	23 21 46.5	-2.1
	comp=Z,100nm,1.3s						
AOPR				LR	LR		
	comp=Z,3μm,19.1s						
CBYP	**Canovanas**	**53.01**	**7**	eP	P	23 21 47.0	-1.8
	comp=Z,120nm,1.2s						
SMRT	**St. Maarten**	**53.14**	**10**	eP	P	23 21 47.2	-2.4
	comp=Z,187nm,1.4s						
SDDR	**Presa de Saban**	**53.41**	**1**	eP	P	23 21 50.0	-1.7
	comp=Z,190nm,2.1s						
SDDR				LR	LR		
	comp=Z,2μm,20.0s						
GTBY	**Guantanamo Bay**	**54.44**	**356**	eP	P	23 21 56.4	-2.7
	comp=Z,289nm,1.6s						
GTBY				LR	LR		
	comp=Z,2μm,19.0s						
QSPA	**South Pole Qui**	**55.51**	**180**	P	**P**	**23 22 06.8**	**+0.2**
	comp=Z,99nm,1.1s,baz=146,slow=3.0,SNR=38						
QSPA	**South Pole Qui**	**55.51**	**180**	eP	**P**	**23 22 06.5**	**-0.1**
	comp=Z,215nm,1.3s						
QSPA				LR	LR		
	comp=Z,1μm,21.0s						
NVL	**N'lazarevskaya**	**55.58**	**156**	eP	**P**	**23 22 08.1**	**+1.2**
NVL				pmax	pmax		
	comp=Z,78nm,1.0s						
RKT	**Rikitea**	**55.68**	**264**	eLQ	LQ	23 35 52.6	
	comp=Z,3μm,31.5s						
RKT				eLR	LR	23 38 06.9	
	comp=Z,1μm,34.5s						
RKT	**Rikitea**	**55.68**	**264**	eT	T	00 21 27.5	
	comp=Z,4.5nm,0.2s						
GRTK	**Grand Turk**	**55.93**	**1**	PFAKE		23 22 20.0	+10
GRTK				LR	LR		
	comp=Z,2μm,22.0s						
TEIG	**Tepich**	**56.84**	**341**	eP	P	23 22 14.8	-1.6
	comp=Z,554nm,1.5s						
TEIG				LR	LR		
	comp=Z,900nm,21.0s						
ASCN	**Ascension**	**58.89**	**77**	PFAKE		23 22 40.0	+8.9
ASCN				LR	LR		
	comp=Z,2μm,22.0s						
SHEL	**Horse Pasture**	**61.56**	**90**	eP	**P**	**23 22 48.8**	**-0.6**
SHEL				pmax	pmax		
	comp=Z,102nm,0.9s						
SHEL				MLR	MLR		
	comp=Z,1μm,19.0s						
SHEL	**Horse Pasture**	**61.56**	**90**	eP	**P**	**23 22 48.8**	**-0.6**
	comp=Z,102nm,0.9s						
SHEL				LR	LR		
	comp=Z,1μm,19.0s						
VNDA	**Vanda**	**63.43**	**191**	P	**P**	**23 23 00.7**	**-0.2**
	comp=Z,17nm,1.1s,baz=128,slow=4.9,SNR=3.0						
SYO	**Syowa Base**	**65.13**	**158**	⇑eP	P	23 23 10.0	-2.1
035Z	**Hargill**	**65.74**	**334**	⇓P	**P**	**23 23 17.3**	**+0.8**
	baz=66						
035A	**Encino**	**66.19**	**334**	⇓P	**P**	**23 23 20.2**	**+0.8**
	baz=66,SNR=16						
936A	**North Padre Is**	**66.35**	**335**	⇑P	**P**	**23 23 21.3**	**+0.9**
	baz=67						
034A	**Hebbronville**	**66.51**	**334**	⇓P	**P**	**23 23 22.3**	**+0.8**
	baz=67,SNR=19						
KVTX	**Kingsville**	**66.67**	**335**	eP	**P**	**23 23 22.8**	**+0.3**
	comp=Z,183nm,0.9s						
KVTX				LR	LR		
	comp=Z,1μm,19.0s						
TIGA	**Tifton**	**66.74**	**349**	eP	**P**	**23 23 22.1**	**-0.8**
	comp=Z,137nm,0.9s						
TIGA	**Tifton**	**66.74**	**349**	⇑P	**P**	**23 23 22.8**	**-0.1**
	baz=67,SNR=5.6						
934A	**Benavides**	**66.94**	**334**	⇓P	**P**	**23 23 25.3**	**+1.0**
	baz=67,SNR=8.1						
BRAL	**Brewton**	**66.94**	**346**	eP	**P**	**23 23 25.1**	**+0.9**
	comp=Z,183nm,0.8s						
BRAL				LR	LR		
	comp=Z,956nm,20.0s						
BBSR	**BB Station**	**67.08**	**7**	PFAKE		23 23 40.0	+15
BBSR				LR	LR		
	comp=Z,2μm,21.0s						
738A	**Farr-Stevens R**	**67.11**	**337**	⇓P	**P**	**23 23 26.4**	**+1.1**
	baz=67						
933A	**Laredo**	**67.22**	**334**	⇑P	**P**	**23 23 26.8**	**+0.8**
	baz=68,SNR=16						
835A	**Beeville**	**67.33**	**335**	⇑P	**P**	**23 23 27.7**	**+1.1**
	baz=68,SNR=5.6						
TBI	**Tubuai**	**67.33**	**257**	eT	T	00 36 00.3	
	comp=Z,12nm,0.3s						
SACV	**Santiago Islan**	**67.36**	**51**	PFAKE		23 23 40.0	+13
SACV				LR	LR		
	comp=Z,8μm,20.0s						
834A	**Tilden**	**67.43**	**335**	⇓P	**P**	**23 23 28.6**	**+1.3**
	baz=68,SNR=27						
735A	**Kenedy**	**67.84**	**335**	⇑P	**P**	**23 23 31.0**	**+1.1**
	baz=68,SNR=16						
833A	**Chaparral WMA,**	**67.91**	**334**	⇓P	**P**	**23 23 31.1**	**+0.7**
	baz=68,SNR=49						
NHSC	**New Hope**	**67.93**	**352**	eP	**P**	**23 23 30.2**	**-0.1**
	comp=Z,504nm,1.4s						
NHSC				LR	LR		
	comp=Z,2μm,20.0s						
832A	**Faith Ranch, C**	**68.09**	**333**	⇓P	**P**	**23 23 31.8**	**+0.3**
	baz=68,SNR=44						
734A	**La Parita Cree**	**68.09**	**335**	⇑P	**P**	**23 23 32.0**	**+0.5**
	baz=68						
636A	**Smothers Creek**	**68.16**	**336**	⇓P	**P**	**23 23 33.1**	**+1.2**
	baz=68,SNR=23						
HKT	**Hockley**	**68.20**	**338**	eP	**P**	**23 23 32.3**	**+0.2**
HKT				pmax	pmax		
	comp=Z,506nm,2.1s						
HKT	**Hockley**	**68.20**	**338**	eP	**P**	**23 23 32.3**	**+0.2**
	comp=Z,506nm,2.1s						
733A	**Divot King Ran**	**68.23**	**334**	⇓P	**P**	**23 23 32.9**	**+0.5**
	baz=68,SNR=17						
635A	**Leesville**	**68.32**	**336**	⇓P	**P**	**23 23 33.4**	**+0.6**
	baz=69,SNR=11						
538A	**Harpers Horsep**	**68.35**	**338**	⇓P	**P**	**23 23 34.2**	**+1.2**
	baz=69						
537A	**Green Hill Far**	**68.48**	**337**	⇓P	**P**	**23 23 34.8**	**+0.9**
	baz=69,SNR=11						
732A	**Laxson Ranch,**	**68.49**	**334**	⇑P	**P**	**23 23 34.5**	**+0.5**
	baz=69,SNR=40						
634A	**China Grove, S**	**68.51**	**335**	⇑P	**P**	**23 23 34.7**	**+0.6**
	baz=69						
GOGA	**Godfrey**	**68.66**	**350**	eP	**P**	**23 23 34.3**	**-0.6**
GOGA				pmax	pmax		
	comp=Z,103nm,1.0s						
GOGA				MLR	MLR		
	comp=Z,1μm,21.0s						
GOGA	**Godfrey**	**68.66**	**350**	eP	**P**	**23 23 34.3**	**-0.6**
	comp=Z,103nm,1.0s						
GOGA				LR	LR		
	comp=Z,1μm,21.0s						
536A	**Bastrop**	**68.71**	**337**	⇑P	**P**	**23 23 36.3**	**+0.9**
	baz=69,SNR=12						
438A	**Sam Houston St**	**68.84**	**338**	⇑P	**P**	**23 23 37.6**	**+1.5**
	baz=69						
535A	**Dale**	**68.84**	**336**	⇑P	**P**	**23 23 37.0**	**+0.9**
	baz=69,SNR=9.7						
633A	**Saathoff Ranch**	**68.87**	**335**	⇓P	**P**	**23 23 37.2**	**+0.8**
	baz=69,SNR=32						
VBMS	**Vicksburg**	**68.87**	**343**	eP	**P**	**23 23 36.1**	**-0.1**
	comp=Z,193nm,0.9s						
VBMS				LR	LR		
	comp=Z,900nm,20.0s						
LRAL	**Lakeview Retre**	**68.89**	**346**	eP	**P**	**23 23 35.6**	**-0.8**
	comp=Z,82nm,1.0s						
MEH	**Mehetia**	**68.93**	**262**	eP	**P**	**23 23 37.6**	**+0.4**
	comp=Z,53nm,1.2s						
MEH	**Mehetia**	**68.93**	**262**	eT	T	00 38 01.3	
	comp=Z,124nm,0.2s						
340A	**Bronson**	**68.99**	**340**	⇑P	**P**	**23 23 38.0**	**+1.0**
	baz=69,SNR=11						
339A	**Huntington**	**69.11**	**339**	⇓P	**P**	**23 23 38.8**	**+1.0**
	baz=69,SNR=15						
437A	**Phaontom Ranch**	**69.11**	**338**	⇑P	**P**	**23 23 39.0**	**+1.2**
	baz=69						

632A Uvalde 69.13 334 ⇓P P 23 23 39.0 +1.0
baz=69,SNR=38
534A Blanco 69.14 335 ⇑P P 23 23 38.3 +0.3
baz=69,SNR=14
436A Wall Ranch, Ga 69.27 337 ⇓P P 23 23 39.9 +1.1
baz=70
631A Perdido Creek 69.33 333 ⇓P P 23 23 39.6 +0.4
baz=70
338A Crockett 69.35 339 ⇑P P 23 23 40.8 +1.5
baz=70,SNR=10
533A Kerrville 69.38 335 ⇓P P 23 23 40.3 +0.8
baz=70,SNR=22
337A Centerville 69.49 338 ⇑P P 23 23 41.8 +1.7
baz=70,SNR=16
435B Jarrell 69.54 336 P P 23 23 41.5 +1.1
baz=70,SNR=8.6
NATX Nacogdoches 69.54 339 eP P 23 23 40.5 +0.1
comp=Z,186nm,0.9s
239A Gary 69.72 340 ⇑P P 23 23 42.7 +1.1
baz=70
532A Rocksprings 69.73 334 ⇓P P 23 23 42.7 +1.0
baz=70,SNR=43
434A Burnet 69.79 336 ⇑P P 23 23 42.7 +0.6
baz=70,SNR=48
CNNC Cliffs of the 69.83 355 eP P 23 23 42.1 -0.1
comp=Z,154nm,1.0s
CNNC LR LR
comp=Z,2µm,21.0s
336A Riesel 69.86 337 ⇑P P 23 23 42.8 +0.4
baz=70,SNR=24
238A Jacksonville 69.90 339 ⇑P P 23 23 43.6 +0.9
baz=70
VAH Vaihoa 69.94 265 eP P 23 23 43.6 +0.2
comp=Z,137nm,1.1s
335A Moody 69.94 337 ⇑P P 23 23 43.4 +0.4
baz=70,SNR=20
TVO Taravao 69.95 262 eP P 23 23 42.8 -0.7
comp=Z,50nm,1.4s
TVO Taravao 69.95 262 eT T 00 39 17.4
comp=Z,5.1nm,0.2s
531A Rocksprings 70.00 334 ⇓P P 23 23 44.1 +0.7
baz=70,SNR=37
JCT Junction City 70.02 334 eP P 23 23 42.8 -0.7
JCT pmax pmax
comp=Z,229nm,1.1s
JCT MLR MLR
comp=Z,800nm,21.0s
JCT Junction City 70.02 334 eP P 23 23 42.8 -0.7
comp=Z,229nm,1.1s
JCT LR LR
comp=Z,800nm,21.0s
JCT Junction City 70.02 334 ⇓P P 23 23 43.8 +0.3
baz=70,SNR=48
433A Art 70.02 335 P P 23 23 43.5 +0.1
baz=70,SNR=55
KMSC Kings Mountain 70.07 352 eP P 23 23 42.5 -1.1
comp=Z,106nm,1.0s
KMSC Kings Mountain 70.07 352 ⇓P P 23 23 44.1 +0.4
baz=70,SNR=19
237A Washetta, Mont 70.10 338 ⇓P P 23 23 44.4 +0.5
baz=70
TIAR Tiarei 70.14 262 eP P 23 23 45.1 +0.5
comp=Z,23nm,0.9s
TIAR Tiarei 70.14 262 eT T 00 39 31.9
comp=Z,18nm,0.2s
334A Lometa 70.26 336 ⇓P P 23 23 45.2 +0.3
baz=71,SNR=31
530A J-C Ranch, Com 70.28 333 ⇑P P 23 23 45.8 +0.7
baz=71,SNR=61
PAE Paea 70.28 262 eP P 23 23 45.8 +0.4
comp=Z,25nm,1.0s
PAE Paea 70.28 262 eT T 00 39 42.1
comp=Z,2.0nm,0.2s
PPT2 Papeete2 70.31 262 eP P 23 23 46.5 +0.7
comp=Z,151nm,1.1s
PPT2 Papeete2 70.31 262 eLR LR 23 44 58.3
comp=Z,2µm,28.8s
PPT2 Papeete2 70.31 262 eT T 00 39 43.8
comp=Z,4.4nm,0.2s
PPT Papeete 70.32 262 eP P 23 23 44.9 -0.9
PPT Papeete 70.32 262 P P 23 23 46.1 +0.3
comp=Z,147nm,0.9s,baz=122,slow=1.2,SNR=8.8
PPT Papeete 70.32 262 eP P 23 23 44.9 -0.9
432A Menard 70.37 335 ⇑P P 23 23 45.6 0.0
baz=71,SNR=28
LTX Lajitas 70.45 331 eP P 23 23 45.9 -0.3
LTX Lajitas 70.45 331 eP P 23 23 45.9 -0.3
TX31 Lajitas Ar. Si 70.45 331 eP P 23 23 45.5 -0.7
TXAR Lajitas Array 70.45 331 P P 23 23 45.9 -0.3
comp=Z,21nm,0.7s,baz=152,slow=7.3,SNR=92
431A Sonora 70.49 334 ⇓P P 23 23 46.6 +0.2
baz=71,SNR=38
333A Richland Sprin 70.50 336 ⇑P P 23 23 46.3 -0.1
baz=71,SNR=28
138A Matatall Enter 70.51 339 ⇑P P 23 23 47.1 +0.8
baz=71
529A Stev Forest Ra 70.59 332 ⇓P P 23 23 47.5 +0.4
baz=71,SNR=62
WHTX Lake Whitney 70.61 337 eP P 23 23 46.0 -1.0
comp=Z,150nm,0.9s
WHTX LR LR
comp=Z,1µm,19.0s
WHTX Lake Whitney 70.61 337 ⇓P P 23 23 47.2 +0.2
baz=71,SNR=41
137A Heron Place, G 70.64 339 ⇑P P 23 23 48.0 +0.8
baz=71
430A Baggett Ranch, 70.81 333 ⇑P P 23 23 48.5 +0.1
baz=71,SNR=44
332A Millersview 70.82 335 ⇑P P 23 23 48.3 0.0
baz=71,SNR=34
OXF Oxford 70.82 345 eP P 23 23 47.5 -0.7
OXF pmax pmax
comp=Z,286nm,1.0s
OXF Oxford 70.82 345 eP P 23 23 47.5 -0.7
comp=Z,286nm,1.0s
234A Clairette 70.84 336 ⇑P P 23 23 48.7 +0.3
baz=71,SNR=32
TKL Tuckaleechee C 70.91 350 eP P 23 23 47.5 -1.2
TKL Tuckaleechee C 70.91 350 eP P 23 23 47.5 -1.2
429A Davenport Ranc 70.91 333 ⇓P P 23 23 49.6 +0.6
baz=71,SNR=34
331A San Angelo 70.99 334 ⇓P P 23 23 49.4 0.0
baz=71,SNR=49
233A Rising Star 71.11 336 ⇓P P 23 23 50.2 +0.1
baz=71,SNR=38
135A Vickery Place, 71.12 337 ⇓P P 23 23 50.8 +0.7
baz=71,SNR=8.1
232A Coleman 71.24 335 ⇑P P 23 23 51.0 +0.1
baz=72,SNR=31
134A White-Moore Ra 71.35 337 ⇑P P 23 23 51.5 0.0
baz=72,SNR=16
330A Mertzon 71.35 334 ⇓P P 23 23 51.6 0.0
baz=72,SNR=35
231A Bronte 71.52 335 ⇓P P 23 23 52.5 -0.1
baz=72,SNR=36
133A Hamilton Ranch 71.65 336 ⇓P P 23 23 53.6 +0.2
baz=72,SNR=42
329A Wagon Wheel Ra 71.72 333 ⇓P P 23 23 54.0 +0.1
baz=72,SNR=46
TZTN Tazewell 71.74 350 eP P 23 23 52.5 -1.3
comp=Z,343nm,1.6s
UALR University of 71.76 342 eP P 23 23 52.8 -1.0
comp=Z,60nm,0.9s
UALR LR LR
comp=Z,700nm,20.6s
230A Sterling City 71.76 334 ⇓P P 23 23 54.5 +0.4
baz=72,SNR=30
Z35A Perchaven, San 71.78 338 ⇑P P 23 23 54.2 +0.1
baz=72,SNR=26
MIAR Mount Ida 71.86 341 eP P 23 23 53.8 -0.7
MIAR pmax pmax
comp=Z,336nm,1.9s
MIAR MLR MLR
comp=Z,880nm,19.0s
MIAR Mount Ida 71.86 341 eP P 23 23 53.8 -0.7
comp=Z,336nm,1.9s
MIAR LR LR
comp=Z,880nm,19.0s
ABTX Abilene, Hawle 71.91 336 eP P 23 23 53.9 -1.1
comp=Z,167nm,0.9s
ABTX Abilene, Hawle 71.91 336 ⇑P P 23 23 55.0 +0.1
baz=72,SNR=46
VWCC Virginia Weste 72.01 353 eP P 23 23 54.3 -1.0
BLA Blacksburg 72.02 353 eP P 23 23 54.7 -0.8
BLA pmax pmax
comp=Z,97nm,1.1s
BLA MLR MLR
comp=Z,980nm,19.0s
BLA Blacksburg 72.02 353 eP P 23 23 54.7 -0.8
comp=Z,97nm,1.1s
BLA LR LR
comp=Z,980nm,19.0s
Z34A Collier Ranch, 72.03 337 ⇑P P 23 23 55.6 0.0
baz=72,SNR=27
WVT Waverly 72.06 346 eP P 23 23 54.5 -1.2
WVT pmax pmax
comp=Z,435nm,1.0s
WVT Waverly 72.06 346 eP P 23 23 54.5 -1.2
comp=Z,435nm,1.0s
229A Bryant Ranch, 72.09 333 ⇑P P 23 23 56.0 -0.1
baz=72,SNR=16
HBAR Harrisburg 72.10 344 eP P 23 23 54.6 -1.3
URVA University of 72.13 355 eP P 23 23 55.8 -0.2
131A Roby 72.22 335 ⇓P P 23 23 56.8 0.0
baz=72,SNR=31
Z33A Whitaker Ranch 72.23 337 ⇓P P 23 23 56.9 +0.1
baz=72,SNR=30
JSRW J. Sargeant Re 72.27 355 eP P 23 23 56.8 -0.1
130A Snyder 72.35 334 ⇑P P 23 23 57.5 -0.1
baz=73,SNR=22
MAW Mawson 72.43 163 P P 23 23 57.2 -0.4
comp=Z,89nm,0.9s,baz=203,slow=9.1,SNR=7.2
Z32A Haskell 72.48 336 ⇑P P 23 23 58.5 +0.2
baz=73,SNR=47
228A UT Block 9, Go 72.51 333 ⇑P P 23 23 58.5 -0.1
baz=73,SNR=48
Y34A Reagan Ranch, 72.52 338 ⇑P P 23 23 58.5 0.0
baz=73,SNR=25
129A Stewart Farms, 72.70 334 ⇓P P 23 23 59.6 -0.2
baz=73
PVMO Portageville 72.71 345 eP P 23 23 59.2 -0.4
comp=Z,649nm,1.2s
Z31A Sharp Cattle R 72.72 335 ⇓P P 23 23 59.9 +0.2
baz=73,SNR=37
CER Ceres 72.72 119 eP P 23 24 00.4 +0.3
CER AMB AMB 23 24 02.4
comp=Z,127nm,2.4s
CBN Corbin 72.75 355 PFAKE 23 24 10.0 +10
CBN LR LR
comp=Z,2µm,22.0s
Y33A Hilltop Ranch, 72.84 337 ⇑P P 23 24 00.4 0.0
baz=73,SNR=24
128A Castleberry Fa 72.92 333 ⇓P P 23 24 01.1 +0.1
baz=73,SNR=32
Z30A Sanderson Ranc 73.03 335 ⇓P P 23 24 02.0 +0.3
baz=73,SNR=38
Y32A R-V Farms, Ver 73.11 336 ⇑P P 23 24 02.1 +0.1
baz=73,SNR=22
CLNB Carlsbad 73.13 332 eP P 23 24 02.2 -0.2
X34A Smith Ranch, M 73.14 338 ⇑P P 23 24 02.4 +0.2
baz=73,SNR=28
Z29A Hungry Hill Ra 73.21 334 ⇓P P 23 24 02.5 -0.2
baz=74,SNR=39
PBMO Poplar Bluff 73.22 344 eP P 23 24 01.3 -1.2
comp=Z,347nm,1.4s
MNTX Cornudas Mount 73.23 331 eP P 23 24 01.3 -1.5
comp=Z,53nm,0.9s
MNTX LR LR
comp=Z,2µm,19.0s
GDL2 Guadalupe Moun 73.27 332 eP P 23 24 03.1 0.0
X33A Lawton 73.29 337 ⇑P P 23 24 03.4 +0.3
baz=74,SNR=14
127A Arkansas Junct 73.30 333 ⇓P P 23 24 03.5 +0.2
baz=74,SNR=33
Y31A Rekieta Farm, 73.34 336 ⇓P P 23 24 03.5 +0.1
baz=74,SNR=28
X32A Elmer 73.44 337 ⇓P P 23 24 03.8 -0.2
baz=74,SNR=17
Y30A Stafford Cattl 73.48 335 ⇓P P 23 24 04.1 -0.2
baz=74,SNR=13
Z28A Tucker Farm, M 73.48 334 ⇑P P 23 24 04.0 -0.4
baz=74,SNR=6.6
W34A Bridge Creek, 73.70 338 eP P 23 24 04.5 -1.0
comp=Z,545nm,1.8s
W34A Bridge Creek, 73.70 338 ⇓P P 23 24 05.5 0.0
baz=74,SNR=20
Y29A Porterfield Fa 73.74 334 ⇑P P 23 24 05.8 -0.1
baz=74,SNR=37
TUL1 Tulsa 73.75 340 eP P 23 24 04.4 -1.4
comp=Z,131nm,0.8s
TUL1 Tulsa 73.75 340 ⇑P P 23 24 05.8 +0.1
baz=74,SNR=29
USIN University of 73.81 347 eP P 23 24 04.5 -1.4
comp=Z,325nm,1.2s
Z27A Tatum 73.81 333 ⇓P P 23 24 06.2 -0.2
baz=74,SNR=24
WCI Wyandotte Cave 73.82 348 eP P 23 24 04.5 -1.6
WCI pmax pmax
comp=Z,491nm,2.0s
WCI Wyandotte Cave 73.82 348 eP P 23 24 04.5 -1.6
comp=Z,491nm,2.0s
W33A Caddo, Fort Co 73.84 338 ⇓P P 23 24 07.0 +0.6
baz=74,SNR=38
X31A McDonald Ranch 73.86 336 ⇑P P 23 24 06.4 0.0
baz=74,SNR=34
SIUC Southern Illin 73.86 346 eP P 23 24 05.2 -1.1
comp=Z,187nm,1.1s
SIUC LR LR
comp=Z,1µm,20.9s
SDMD Soldier's Deli 73.91 356 eP P 23 24 06.4 -0.2
comp=Z,116nm,1.1s
Y28A McKinney Farm, 73.99 334 ⇓P P 23 24 07.7 +0.4
baz=74,SNR=11
X30A Coker Ranch, T 73.99 335 ⇓P P 23 24 07.2 -0.1
baz=74,SNR=13
Z26A Caprock 74.07 332 ⇑P P 23 24 08.0 +0.2
baz=74,SNR=61
W32A Sentinel 74.07 337 ⇓P P 23 24 07.7 +0.1
baz=74,SNR=69
V34A Guthrie 74.18 339 eP P 23 24 06.9 -1.4
comp=Z,151nm,0.9s
V34A Guthrie 74.18 339 ⇓P P 23 24 08.5 +0.3
baz=74,SNR=27
MSTX Muleshoe 74.24 334 eP P 23 24 07.5 -1.2
comp=Z,180nm,1.0s
MSTX LR LR
comp=Z,1µm,19.0s
MSTX Muleshoe 74.24 334 ⇓P P 23 24 08.7 -0.1
baz=74,SNR=31
X29A Tulia 74.28 335 ⇓P P 23 24 09.0 0.0
baz=75,SNR=11
Y27A Causey 74.30 333 ⇑P P 23 24 08.8 -0.3
baz=75,SNR=16
SUR Sutherland 74.32 119 P P 23 24 10.0 +0.3
comp=Z,32nm,0.8s,baz=245,slow=5.3,SNR=18
SUR Sutherland 74.32 119 eP P 23 24 10.2 +0.5
comp=Z,791nm,2.3s
SUR LR LR
comp=Z,3µm,20.0s
W31A Holland Ranch, 74.35 336 ⇑P P 23 24 09.4 +0.1
baz=75,SNR=14
Z25A Roswell 74.36 332 ⇑P P 23 24 09.3 -0.2
baz=75,SNR=22
V33A Lossen Ranch, 74.41 338 ⇑P P 23 24 09.8 +0.2
baz=75,SNR=40
MVL Millersville 74.47 356 eP P 23 24 10.0 +0.1
comp=Z,170nm,1.4s
X28A Dimmitt 74.52 334 ⇓P P 23 24 10.4 0.0
baz=75,SNR=8.3
V32A Arapaho 74.55 337 ⇓P P 23 24 10.9 +0.5
baz=75,SNR=14
W30A Crocket Farms 74.56 336 ⇑P P 23 24 10.8 +0.2
baz=75
Y26A Elida 74.59 333 ⇓P P 23 24 11.6 +0.7
baz=75,SNR=20
319A Douglas 74.61 327 ⇓P P 23 24 11.5 +0.5
baz=75,SNR=26
OLIL Olney 74.63 347 eP P 23 24 09.4 -1.3
comp=Z,326nm,1.5s
Z24A Sheeppen Canyo 74.66 331 ⇑P P 23 24 11.8 +0.4
baz=75,SNR=47
AMTX Amarillo 74.67 335 eP P 23 24 10.7 -0.5
comp=Z,240nm,1.2s
AMTX Amarillo 74.67 335 ⇓P P 23 24 11.6 +0.3
baz=75
U34A Anderson Ranch 74.75 339 eP P 23 24 10.5 -1.1
comp=Z,194nm,1.1s
U34A Anderson Ranch 74.75 339 ⇓P P 23 24 11.9 +0.4
baz=75,SNR=31
BLO Bloomington 74.78 348 eP P 23 24 10.4 -1.2
BLO pmax pmax
comp=Z,583nm,1.8s
BLO Bloomington 74.78 348 eP P 23 24 10.4 -1.2
comp=Z,583nm,1.8s
V31A Spring Creek L 74.86 337 ⇑P P 23 24 13.1 +0.8
baz=75,SNR=21
W29A Amraillo 74.87 335 ⇑P P 23 24 12.7 +0.2
baz=75,SNR=22
U33A Lingo Farm, Me 74.92 338 ⇑P P 23 24 13.0 +0.5
baz=75,SNR=13
Y25A Mesa, Roswell 74.92 332 ⇓P P 23 24 13.4 +0.6
baz=75,SNR=32
121A Cookes Peak, D 74.95 329 ⇑P P 23 24 14.1 +1.1
baz=75,SNR=61
X27A F and S Farms, 74.96 334 ⇓P P 23 24 13.5 +0.5
baz=75,SNR=14
SLM Saint Louis 74.96 345 eP P 23 24 11.6 -1.1
SLM pmax pmax
comp=Z,214nm,0.9s
SLM Saint Louis 74.96 345 eP P 23 24 11.6 -1.1
comp=Z,214nm,0.9s
LUPA Lehigh Univers 75.03 357 eP P 23 24 12.1 -0.9
comp=Z,119nm,2.5s
BRNJ Basking Ridge 75.08 358 eP P 23 24 13.6 +0.3
comp=Z,2µm,3.0s
V30A Spur Ranch, Mi 75.12 336 ⇓P P 23 24 14.5 +0.7
baz=75,SNR=6.7
X26A CR and CF Fran 75.14 333 ⇑P P 23 24 14.4 +0.4
baz=75,SNR=46
U32A Winter Ranch, 75.14 338 ⇑P P 23 24 14.4 +0.6
baz=76,SNR=27
CPNY Central Park 75.17 358 eP P 23 24 13.2 -0.6
comp=Z,191nm,1.8s
W28A Vega 75.19 335 ⇑P P 23 24 14.6 +0.4
baz=76,SNR=6.9
SSPA Standing Stone 75.20 355 eP P 23 24 13.2 -0.8
comp=Z,305nm,1.7s
Y24A Capitan 75.21 332 ⇓P P 23 24 15.0 +0.5
baz=76,SNR=55
Z22A Elephant Butte 75.23 330 ⇓P P 23 24 15.7 +1.1
baz=76,SNR=38
DBIC Dimbokro 75.24 71 eP P 23 24 15.1 +0.2
DBIC Dimbokro 75.24 71 eP P 23 24 14.3 -0.6
DBIC pmax pmax
comp=Z,81nm,0.9s
DBIC Dimbokro 75.24 71 P P 23 24 15.3 +0.4
comp=Z,40nm,0.6s,baz=212,slow=6.2,SNR=60
DBIC Dimbokro 75.24 71 eP P 23 24 14.3 -0.6
comp=Z,81nm,0.9s
DBIC Dimbokro 75.24 71 e P 23 24 15.3 +0.4
DBIC Dimbokro 75.24 71 e P 23 24 15.3 +0.4
ACSO Alum Creek Sta 75.30 351 eP P 23 24 13.3 -1.3
comp=Z,223nm,0.9s
ACSO LR LR
comp=Z,1µm,19.0s
W27A Bowe Ranch, En 75.32 334 ⇑P P 23 24 15.4 +0.3
baz=76,SNR=36
PAL Palisades 75.39 358 eP P 23 24 14.9 -0.2
PAL pmax pmax
comp=Z,98nm,1.3s
PAL Palisades 75.39 358 eP P 23 24 14.9 -0.2
comp=Z,98nm,1.3s
U31A Nine Bar Ranch 75.40 337 ⇓P P 23 24 15.8 +0.4
baz=76
X25A Clemmons Ranch 75.44 332 ⇓P P 23 24 15.8 0.0
baz=76
Y23A Lovelace Mesa, 75.46 331 ⇑P P 23 24 17.0 +1.0
baz=76,SNR=41
ODNJ Ogdensburg 75.48 358 eP P 23 24 15.6 -0.1
comp=Z,315nm,1.6s
V29A Stinnett 75.51 335 ⇓P P 23 24 16.3 +0.2
baz=76,SNR=5.8
T33A Patterson Ranc 75.56 338 ⇑P P 23 24 16.7 +0.5
baz=76,SNR=23
W26A Owens Ranch, T 75.60 333 ⇑P P 23 24 17.1 +0.5
baz=76,SNR=27
V28A Channing 75.64 335 ⇑P P 23 24 17.3 +0.4
baz=76,SNR=28
YLE Yale 75.68 359 eP P 23 24 17.1 +0.4
comp=Z,240nm,1.0s
YLE LR LR
comp=Z,2µm,20.6s
X24A Lazy VL Ranch, 75.77 332 ⇑P P 23 24 18.5 +0.7
baz=76,SNR=7.7
U30A WK&E Inc. Balk 75.81 336 ⇓P P 23 24 18.2 +0.5
baz=76,SNR=21
T32A Huddler Ranch, 75.85 338 ⇑P P 23 24 18.3 +0.4
baz=76,SNR=18
V27A Dan Oppiter Fa 75.86 334 ⇓P P 23 24 18.7 +0.5
baz=76,SNR=15
BNM Barren Site 75.88 331 eP P 23 24 17.9 -0.5
U29A Oasis Ranch, S 75.95 336 ⇓P P 23 24 18.9 +0.4
baz=76
S33A Kaszmaul Farm, 75.96 339 ⇓P P 23 24 19.2 +0.7
baz=76,SNR=6.2
W25A X Bar L Ranch, 75.97 333 ⇓P P 23 24 18.9 +0.1
baz=76,SNR=38
KSPA Keystone Colle 76.00 357 eP P 23 24 18.0 -0.6
comp=Z,102nm,1.3s
T31A Randall Ranch, 76.02 337 ⇑P P 23 24 19.4 +0.6
baz=76,SNR=15
LPM Los Pinos Moun 76.02 331 eP P 23 24 18.9 -0.2
LENM Lemitar 76.03 331 eP P 23 24 19.3 +0.1
SFIN Scholer Farm 76.05 348 eP P 23 24 17.1 -1.8
comp=Z,240nm,1.5s
SFIN Scholer Farm 76.05 348 ⇑P P 23 24 19.8 +0.9
baz=76,SNR=14
TUC Tucson 76.07 327 eP P 23 24 19.2 -0.2
TUC pmax pmax
comp=Z,223nm,1.6s
TUC MLR MLR
comp=Z,1µm,22.0s
TUC Tucson 76.07 327 eP P 23 24 19.2 -0.2
comp=Z,223nm,1.6s
TUC LR LR
comp=Z,1µm,22.0s
X23A Hourglass Bar 76.08 331 ⇓P P 23 24 20.6 +1.1
baz=76
U28A Mallet 76.21 335 ⇓P P 23 24 20.4 +0.3
baz=76,SNR=25
V26A Tequesquite Ra 76.24 334 ⇑P P 23 24 20.4 +0.1
baz=76,SNR=23
T30A Plains 76.25 337 ⇑P P 23 24 20.5 +0.3
baz=77,SNR=8.5
BRYW Bryant College 76.27 0 eP P 23 24 20.1 -0.1
comp=Z,178nm,1.2s
LAZ Ladron 76.30 331 eP P 23 24 21.1 +0.3
W24A Lazy 6 Ranch, 76.33 332 ⇑P P 23 24 21.4 +0.5
baz=77,SNR=30
S32A Newby Ranch, P 76.34 338 ⇑P P 23 24 21.0 +0.4
baz=77,SNR=20
ALLY Alegheny Colle 76.39 354 eP P 23 24 20.0 -0.8
comp=Z,166nm,1.2s
S31A Mullinville 76.43 338 ⇑P P 23 24 21.6 +0.3
baz=77,SNR=5.4
U27A Thompson Grove 76.45 335 ⇓P P 23 24 22.0 +0.5
baz=77,SNR=28
ANMO Albuquerque 76.50 331 eP P 23 24 21.4 -0.5
ANMO pmax pmax
comp=Z,147nm,1.3s
ANMO MLR MLR
comp=Z,2µm,19.0s
ANMO Albuquerque 76.50 331 eP P 23 24 21.4 -0.5
comp=Z,147nm,1.3s
ANMO LR LR
comp=Z,2µm,19.0s
W23A Werner Place, 76.57 332 ⇑P P 23 24 23.2 +0.9
baz=77,SNR=30
V25A Rancho No Teng 76.58 333 ⇓P P 23 24 22.6 +0.3
baz=77,SNR=36
T29A Hugoton 76.59 336 ⇓P P 23 24 22.4 +0.2
baz=77,SNR=15
R33A Olander Ranch, 76.61 339 ⇓P P 23 24 22.6 +0.4
baz=77,SNR=15
QUA2 Belchertown 76.63 360 eP P 23 24 22.6 +0.4
comp=Z,121nm,1.1s
BINY Binghamton 76.65 357 eP P 23 24 22.1 -0.2
comp=Z,460nm,2.1s
BINY LR LR
comp=Z,2µm,20.0s
WIN Windhoek 76.66 108 eP P 23 24 24.3 +1.1
WIN AMB AMB 23 24 25.6
comp=Z,26nm,1.9s
214A Organ Pipe Nat 76.72 325 ⇑P P 23 24 24.1 +1.1
baz=77,SNR=24
V24A Rampart Ranch, 76.73 333 ⇓P P 23 24 23.7 +0.4
baz=77,SNR=26
WES Weston 76.74 0 eP P 23 24 23.3 +0.6
WES pmax pmax
comp=Z,441nm,1.8s
WES MLR MLR
comp=Z,3µm,21.4s
WES Weston 76.74 0 eP P 23 24 23.3 +0.6
comp=Z,441nm,1.8s

WES LR LR
comp=Z,3µm,21.4s
UPI Upington 76.76 115 eP P 23 24 24.0 +0.4
UPI AMB AMB 23 24 24.9
comp=Z,120nm,1.8s
U26A Atchley Ranch, 76.76 334 ⇑P P 23 24 23.5 +0.2
baz=77,SNR=21
S30A Montezuma 76.76 337 ⇓P P 23 24 23.5 +0.4
baz=77,SNR=24
T28A Walsh 76.84 336 ⇑P P 23 24 23.8 +0.2
baz=77,SNR=41
HRV Adam Dziewonsk 76.86 0 eP P 23 24 24.2 +0.7
HRV pmax pmax
comp=Z,605nm,1.9s
HRV Adam Dziewonsk 76.86 0 eP P 23 24 24.1 +0.7
comp=Z,605nm,1.9s
R32A Long Quarter, 76.93 339 ⇑P P 23 24 24.3 +0.2
baz=77,SNR=32
S29A Ulysses 76.96 336 ⇑P P 23 24 24.6 +0.4
baz=77,SNR=31
KSU1 Kansas State U 76.96 340 eP P 23 24 23.5 -0.7
comp=Z,91nm,0.9s
KSU1 LR LR
comp=Z,1µm,21.0s
KSU1 Kansas State U 76.96 340 ⇑P P 23 24 24.1 0.0
baz=77,SNR=15
T27A Campo 76.99 335 ⇑P P 23 24 24.9 +0.3
baz=77,SNR=8.1
U25A Circle Dot Ran 77.00 334 ⇑P P 23 24 25.3 +0.6
baz=77,SNR=45
R31A Burdett 77.06 338 ⇓P P 23 24 25.0 +0.3
baz=77,SNR=25
V23A Ortiz Mt. (NFS 77.10 332 ⇓P P 23 24 26.2 +0.9
baz=77,SNR=20
TRY Troy 77.10 359 eP P 23 24 24.9 +0.1
comp=Z,212nm,1.1s
S28A Manter 77.19 336 ⇓P P 23 24 25.6 +0.1
baz=78,SNR=48
Q33A Connelly Farm, 77.21 339 ⇑P P 23 24 25.6 0.0
baz=78,SNR=13
R30A Dighton 77.29 337 ⇑P P 23 24 26.1 0.0
baz=78,SNR=20
U24A Moreno Valley 77.34 333 ⇓P P 23 24 27.5 +0.9
baz=78,SNR=9.9
T26A Comanche Natio 77.40 334 ⇓P P 23 24 27.6 +0.7
baz=78,SNR=46
Q32A Meitler Ranch, 77.41 339 ⇑P P 23 24 27.2 +0.5
baz=78,SNR=30
AAM Ann Arbor 77.42 351 eP P 23 24 26.0 -0.6
AAM pmax pmax
comp=Z,376nm,1.6s
AAM MLR MLR
comp=Z,1µm,20.0s
AAM Ann Arbor 77.42 351 eP P 23 24 26.0 -0.6
comp=Z,376nm,1.6s
AAM LR LR
comp=Z,1µm,20.0s
V22A San Miguel Ran 77.53 331 ⇓P P 23 24 28.2 +0.5
baz=78,SNR=47
P33A Williams Farm, 77.58 340 ⇑P P 23 24 27.7 +0.1
baz=78,SNR=9.7
X18A Snowflake 77.59 329 ⇓P P 23 24 28.4 +0.4
baz=78,SNR=25
U23A El Rito 77.61 332 ⇓P P 23 24 28.3 +0.2
baz=78,SNR=30
S27A Las Animas 77.61 335 ⇑P P 23 24 28.3 +0.2
baz=78,SNR=5.3
T25A Trinidad 77.66 334 PFAKE 23 24 40.0 +12
T25A LR LR
comp=Z,1µm,20.0s
T25A Trinidad 77.66 334 ⇑P P 23 24 29.3 +0.9
baz=78,SNR=65
Q31A Ellis 77.68 338 ⇑P P 23 24 28.7 +0.5
baz=78,SNR=17
R29A Marienthal 77.69 337 ⇑P P 23 24 28.7 +0.3
baz=78,SNR=28
ACCN Adirondack Com 77.76 359 eP P 23 24 28.4 -0.1
comp=Z,177nm,1.3s
S26A Kim 77.76 335 ⇓P P 23 24 29.6 +0.8
baz=78,SNR=50
FFD Franklin Falls 77.82 0 eP P 23 24 30.4 +1.6
comp=Z,169nm,0.9s
113A Mohawk Valley, 77.84 325 ⇑P P 23 24 30.1 +0.9
baz=78,SNR=24
R28A Tribune 77.84 336 ⇓P P 23 24 29.5 +0.3
baz=78,SNR=47
GRM Grahamstown 77.87 122 eP P 23 24 30.1 +0.4
GRM AMB AMB 23 24 30.6
comp=Z,148nm,1.8s
Q30A Quinter 77.91 338 ⇓P P 23 24 29.7 +0.2
baz=78,SNR=26
U22A Llaves 77.91 332 ⇓P P 23 24 30.5 +0.7
baz=78,SNR=39
Z14A Wintersburg 77.94 326 ⇑P P 23 24 30.5 +0.7
baz=78,SNR=12
T24B San Luis 77.95 333 ⇑P P 23 24 30.9 +0.8
baz=78,SNR=41
W18A Petrified Fore 78.00 329 eP P 23 24 30.2 0.0
comp=Z,389nm,1.4s
W18A Petrified Fore 78.00 329 ⇓P P 23 24 31.2 +1.0
baz=78,SNR=24
P32A Huiting Farm, 78.01 339 ⇑P P 23 24 30.4 +0.4
baz=78,SNR=18
HNH Hanover 78.06 360 eP P 23 24 30.9 +0.7
comp=Z,112nm,1.0s
Q29A Oakley 78.07 337 ⇓P P 23 24 30.4 0.0
baz=78,SNR=30
R27A Eads 78.12 336 ⇓P P 23 24 30.9 +0.2
baz=78,SNR=46
S25A Robets Cordova 78.14 334 ⇓P P 23 24 31.1 +0.1
baz=78,SNR=52
X16A Lo Mia Camp, P 78.14 327 ⇓P P 23 24 31.0 0.0
baz=78,SNR=62
P31A Stockton 78.15 339 ⇑P P 23 24 31.3 +0.5
baz=78,SNR=24
T23A Casias Ranch, 78.17 333 ⇑P P 23 24 31.6 +0.3
baz=78,SNR=12
NCB Newcomb 78.35 358 eP P 23 24 30.8 -1.0
comp=Z,97nm,1.1s
NCB LR LR
comp=Z,2µm,22.0s
R26A Arlington 78.36 335 ⇓P P 23 24 32.2 +0.1
baz=79,SNR=34
MDV Middlebury 78.36 359 eP P 23 24 31.2 -0.6
S24A Houchin Ranch, 78.40 334 ⇓P P 23 24 32.9 +0.3
baz=79,SNR=48
P30A Selden 78.43 338 ⇓P P 23 24 32.8 +0.4
baz=79,SNR=11
Y14A Wickenburg 78.45 326 ⇓P P 23 24 32.8 +0.2
baz=79,SNR=39
Q28A Sharon Springs 78.50 337 ⇑P P 23 24 33.4 +0.6
baz=79,SNR=15
O32A Brockman Farm, 78.51 340 ⇑P P 23 24 33.2 +0.5
baz=79,SNR=9.6
R25A Fountain Ranch 78.52 334 ⇓P P 23 24 33.5 +0.5
baz=79,SNR=14
GLA Glamis 78.58 324 eP P 23 24 34.2 +0.9
GLA pmax pmax
comp=Z,458nm,1.9s
GLA Glamis 78.58 324 eP P 23 24 34.2 +0.9
comp=Z,458nm,1.9s
GLA Glamis 78.58 324 ⇑P P 23 24 33.5 +0.2
baz=79,SNR=21
LBNH Lisbon 78.59 360 eP P 23 24 33.6 +0.5
LBNH pmax pmax
comp=Z,124nm,1.0s
LBNH MLR MLR
comp=Z,2µm,21.0s
LBNH Lisbon 78.59 360 eP P 23 24 33.6 +0.5
comp=Z,124nm,1.0s
LBNH LR LR
comp=Z,2µm,21.0s
SDCO Great Sand Dun 78.60 333 eP P 23 24 33.4 -0.3
comp=Z,595nm,2.5s
SDCO LR LR
comp=Z,1µm,18.8s
HVD Gariep Dam 78.65 119 eP P 23 24 35.5 +1.3
HVD AMB AMB 23 24 36.4
comp=Z,185nm,1.2s
P29A Atwood 78.70 337 ⇓P P 23 24 34.3 +0.4
baz=79
O31A Woolen Ranch, 78.71 339 ⇑P P 23 24 34.3 +0.4
baz=79,SNR=17
KSCO Kaye Shedlock' 78.72 336 eP P 23 24 33.8 -0.3
comp=Z,515nm,1.6s
KSCO LR LR
comp=Z,800nm,19.4s
KSCO Kaye Shedlock' 78.72 336 ⇓P P 23 24 34.2 +0.1

baz=79,SNR=11
SCIA State Center 78.75 344 eP P 23 24 33.1 -0.9
comp=Z,319nm,1.3s
SCIA LR LR
comp=Z,1µm,21.0s
S23A Nye Farm, Mont 78.75 333 ⇑P P 23 24 35.2 +0.8
baz=79
TSUM Tsumeb 78.84 106 eP P 23 24 36.1 +0.8
comp=Z,157nm,1.4s
TSUM LR LR
comp=Z,3µm,20.0s
R24A Sanders Place, 78.89 334 ⇑P P 23 24 36.0 +0.9
baz=79,SNR=61
P28A Saint Francis 78.94 337 ⇑P P 23 24 36.0 +0.7
baz=79,SNR=16
Q26A Hugo 78.94 335 ⇓P P 23 24 36.4 +1.1
baz=79,SNR=26
WVL Waterville 78.94 2 eP P 23 24 35.2 +0.2
comp=Z,267nm,1.4s
O30A MW Ranch, Wils 78.96 338 ⇑P P 23 24 35.9 +0.7
baz=79,SNR=14
SWSC Sam W. Stewart 78.96 323 ⇑P P 23 24 36.0 +0.7
baz=79
PTN Potsdam (NY) 78.97 358 eP P 23 24 34.7 -0.5
PTN pmax pmax
comp=Z,795nm,1.9s
PTN Potsdam (NY) 78.97 358 eP P 23 24 34.7 -0.5
comp=Z,795nm,1.9s
N32A Stulken Farm, 78.98 340 ⇓P P 23 24 35.9 +0.6
baz=79,SNR=5.9
Y12C Blythe 79.00 325 ⇓P P 23 24 36.1 +0.5
baz=79
LONY Lake Ozonia 79.01 358 eP P 23 24 35.0 -0.4
comp=Z,210nm,1.4s
LONY LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 79.04 328 eP P 23 24 35.5 -0.4
comp=Z,243nm,1.4s
WUAZ LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 79.04 328 ⇑P P 23 24 36.1 +0.1
baz=79,SNR=21
JFWS Jewell Farm 79.08 346 eP P 23 24 34.8 -1.0
JFWS pmax pmax
comp=Z,212nm,1.1s
JFWS MLR MLR
comp=Z,2µm,20.0s
JFWS Jewell Farm 79.08 346 eP P 23 24 34.8 -1.0
comp=Z,212nm,1.1s
JFWS LR LR
comp=Z,2µm,20.0s
S22A 4UR Ranch, Cre 79.10 332 ⇑P P 23 24 36.3 -0.1
baz=79,SNR=31
R23A Moffat 79.11 333 ⇓P P 23 24 36.3 -0.1
baz=79,SNR=35
O29A 4D Ranch, Culb 79.14 338 ⇑P P 23 24 37.0 +0.7
baz=80,SNR=13
EMMW East Machias 79.16 3 eP P 23 24 35.0 -1.2
comp=Z,455nm,1.6s
BAR Barrett 79.18 323 eP P 23 24 36.4 -0.2
comp=Z,198nm,1.6s
Q25A Bedland, Calha 79.19 335 ⇑P P 23 24 37.5 +0.7
baz=80,SNR=7.0
P27A Ficken Ranch, 79.19 336 ⇓P P 23 24 37.5 +0.9
baz=80,SNR=16
N31A Bailey Ranch, 79.22 339 ⇑P P 23 24 37.5 +0.8
baz=80,SNR=6.2
MONP Monument Peak 79.22 323 ⇑P P 23 24 37.2 +0.1
baz=80,SNR=5.5
PDMCI Parker Dam,Lak 79.28 325 ⇓P P 23 24 37.9 +0.8
baz=80,SNR=9.9
MVCO Mesa Verde 79.28 331 eP P 23 24 36.9 -0.5
comp=Z,115nm,1.2s
MVCO LR LR
comp=Z,3µm,19.0s
MVCO Mesa Verde 79.28 331 ⇓P P 23 24 38.1 +0.7
baz=80,SNR=32
CASY Casey 79.30 181 eP P 23 24 36.3 -0.6
comp=Z,179nm,1.0s
CASY LR LR
comp=Z,2µm,19.0s
BC3 Big Chuckawall 79.37 324 ⇑P P 23 24 38.4 +0.6
baz=80,SNR=32
O28A Krutsinger Ran 79.44 337 ⇑P P 23 24 39.0 +1.0
baz=80,SNR=19
P26A Davis Ranch, A 79.45 336 ⇓P P 23 24 39.0 +0.9
baz=80,SNR=19
BGNE Belgrade 79.53 340 eP P 23 24 37.4 -1.0
comp=Z,247nm,1.0s
BGNE Belgrade 79.53 340 ⇑P P 23 24 39.0 +0.7
baz=80,SNR=19
N30A Hueftle Ranch, 79.53 339 ⇑P P 23 24 39.2 +0.8
baz=80,SNR=5.9
Q24A Divide 79.55 334 ⇑P P 23 24 39.1 +0.2
baz=80,SNR=38
109C Camp Elliot, M 79.56 323 ⇓P P 23 24 39.6 +0.9
baz=80
BOSA Boshof 79.57 117 eP P 23 24 38.2 -1.1
BOSA AMB AMB 23 24 40.9
comp=Z,145nm,1.1s
BOSA Boshof 79.57 117 eP P 23 24 38.2 -1.1
BOSA pmax pmax
comp=Z,127nm,0.8s
BOSA MLR MLR
comp=Z,2µm,18.3s
BOSA Boshof 79.57 117 P P 23 24 39.1 -0.1
comp=Z,101nm,0.8s,baz=240,slow=3.7,SNR=95
BOSA Boshof 79.57 117 eP P 23 24 38.2 -1.1
comp=Z,127nm,0.8s
BOSA LR LR
comp=Z,2µm,18.3s
IRM Iron Mountain 79.64 325 ⇓P P 23 24 39.5 +0.4
baz=80,SNR=31
PKME Peaks-Kenny Pk 79.65 2 PFAKE 23 24 50.0 +11
PKME LR LR
comp=Z,5µm,19.0s
P25A Willow Gulch B 79.69 335 ⇑P P 23 24 40.0 +0.6
baz=80,SNR=39
M31A Lambtecht Ranc 79.71 340 ⇓P P 23 24 40.2 +0.9
baz=80,SNR=16
N29A Votaw Ranch, W 79.72 338 ⇑P P 23 24 40.5 +1.1
baz=80,SNR=14
O27A Beecher Island 79.73 337 ⇓P P 23 24 40.8 +1.2
baz=80,SNR=18
W13A Hualapai Mount 79.82 326 ⇓P P 23 24 41.0 +0.7
baz=80,SNR=34
PFO Pinyon Flat Ob 79.82 323 eP P 23 24 40.1 -0.1
PFO pmax pmax
comp=Z,114nm,1.0s
PFO MLR MLR
comp=Z,2µm,20.0s
PFO Pinyon Flat Ob 79.82 323 eP P 23 24 40.1 -0.1
comp=Z,114nm,1.0s
PFO LR LR
comp=Z,2µm,20.0s
PFO Pinyon Flat Ob 79.82 323 ⇓P P 23 24 41.2 +0.9
baz=80,SNR=5.4
N28A Pribbeno Ranch 79.88 337 ⇓P P 23 24 41.2 +0.8
baz=80,SNR=15
NEE2 Needles Airpor 79.88 325 ⇓P P 23 24 41.5 +1.1
baz=80
BELC Belle Mtn. Jos 79.92 324 ⇓P P 23 24 41.8 +1.0
baz=80,SNR=8.3
P24A Kohler Place, 79.95 335 ⇑P P 23 24 41.9 +1.0
baz=80,SNR=7.2
O26A Horse Wrangler 80.05 336 ⇑P P 23 24 42.5 +1.2
baz=80,SNR=18
PV01 Paradox Valley 80.11 331 eP P 23 24 41.8 -0.1
M30A Dale-Ortello V 80.15 339 ⇑P P 23 24 42.5 +0.7
baz=80
P23A Jefferson 80.16 334 ⇑P P 23 24 43.1 +0.8
baz=80,SNR=23
MURC Murrieta 80.18 323 ⇑P P 23 24 43.0 +0.9
baz=80,SNR=11
U15A North Rim 80.21 328 ⇑P P 23 24 43.2 +0.7
baz=80,SNR=49
O25A Wiggins 80.21 335 ⇑P P 23 24 43.1 +0.9
baz=80,SNR=20
OGNE Ogallala 80.27 337 PFAKE 23 24 50.0 +7.6
OGNE LR LR
comp=Z,786nm,21.0s
OGNE Ogallala 80.27 337 ⇓P P 23 24 43.3 +0.8
baz=81,SNR=11
PV05 Paradox Valley 80.27 331 eP P 23 24 42.0 -0.7
M29A Burnside Ranch 80.31 338 ⇑P P 23 24 43.6 +1.0
baz=81,SNR=12
N27A Anderson Farm, 80.31 337 ⇑P P 23 24 43.6 +1.0
baz=81,SNR=30

SCI San Clemente I 80.37 322 ⇓P P 23 24 44.2 +1.2
baz=81
LDFC Landfair 80.37 325 eP P 23 24 43.8 +0.7
comp=Z,324nm,1.6s
GMRC Granite Mounta 80.39 325 ⇓P P 23 24 44.1 +0.9
baz=81,SNR=38
SMCO Snowmass 80.41 333 eP P 23 24 43.5 -0.1
comp=Z,432nm,1.6s
SWZ Schweizer 80.42 116 eP P 23 24 44.1 +0.2
SWZ AMB AMB 23 24 44.5
comp=Z,117nm,1.7s
L31A Butterfield Fa 80.44 340 ⇑P P 23 24 44.1 +0.9
baz=81,SNR=32
ISCO Idaho Springs 80.46 334 eP P 23 24 42.8 -1.0
ISCO pmax pmax
comp=Z,242nm,1.8s
ISCO MLR MLR
comp=Z,899nm,19.0s
ISCO Idaho Springs 80.46 334 eP P 23 24 42.8 -1.0
comp=Z,242nm,1.8s
ISCO LR LR
comp=Z,899nm,19.0s
ISCO Idaho Springs 80.46 334 ⇓P P 23 24 44.1 +0.4
baz=81,SNR=39
PV04 Paradox Valley 80.47 331 eP P 23 24 42.2 -1.4
M28A Bar X Bar Ranc 80.47 338 ⇑P P 23 24 44.2 +0.7
baz=81,SNR=16
L30A Spencer Herefo 80.48 339 ⇑P P 23 24 44.5 +1.0
baz=81,SNR=17
PV10 Paradox Valley 80.51 331 eP P 23 24 43.3 -0.7
O24A Longmont 80.55 335 ⇑P P 23 24 44.7 +0.7
baz=81,SNR=6.8
N26A Koester Ranch, 80.55 336 ⇑P P 23 24 45.3 +1.3
baz=81,SNR=8.2
BBRC Big Bear Solar 80.58 324 ⇑P P 23 24 44.8 +0.4
baz=81
CIS Catalina Islan 80.63 322 ⇓P P 23 24 45.4 +0.9
baz=81
PV09 Paradox Valley 80.65 331 eP P 23 24 44.7 -0.1
P22A Eagle 80.69 333 ⇓P P 23 24 45.9 +1.0
baz=81,SNR=50
HEC Hector,Ludlow 80.75 324 ⇓P P 23 24 46.0 +0.8
baz=81,SNR=32
L29A Maesberg Ranch 80.81 339 ⇑P P 23 24 46.4 +1.2
baz=81,SNR=24
FMP Fort Macarthur 80.82 322 ⇑P P 23 24 46.2 +0.8
baz=81
N25A Grover 80.83 336 ⇑P P 23 24 46.7 +1.2
baz=81
M27A Reverse DX Ran 80.91 337 ⇑P P 23 24 47.1 +1.2
baz=81,SNR=11
BFSC Mount Baldy Ra 80.92 323 ⇑P P 23 24 47.0 +0.9
baz=81,SNR=13
O23A Lake Granby, G 80.93 334 ⇑P P 23 24 47.1 +0.9
baz=81,SNR=36
KNB Kanab 80.93 328 eP P 23 24 46.5 +0.3
KNB pmax pmax
comp=Z,543nm,1.6s
KNB Kanab 80.93 328 eP P 23 24 46.5 +0.3
comp=Z,543nm,1.6s
TUQ Turquoise Moun 81.05 325 ⇓P P 23 24 47.8 +1.0
baz=81,SNR=6.1
L28A Connealy Angus 81.08 338 ⇓P P 23 24 48.2 +1.4
baz=81
M26A McRoberts Ranc 81.10 337 ⇑P P 23 24 48.5 +1.5
baz=81
MWC Mount Wilson 81.11 323 eP P 23 24 46.7 -0.5
MWC pmax pmax
comp=Z,95nm,1.0s
MWC Mount Wilson 81.11 323 eP P 23 24 46.6 -0.5
comp=Z,95nm,1.0s
N24A Carr 81.11 335 ⇑P P 23 24 48.1 +1.1
baz=81,SNR=6.8
O22A Kremmling 81.11 334 ⇓P P 23 24 47.9 +0.7
baz=81,SNR=47
RRX Edison Barstow 81.11 324 ⇑P P 23 24 48.1 +1.1
baz=81
K30A Basset 81.12 340 ⇓P P 23 24 47.6 +0.7
baz=81,SNR=31
PASC Pasadena Art C 81.13 323 eP P 23 24 46.7 -0.4
comp=Z,108nm,1.2s
RUDU RUNDU 81.24 106 eP P 23 24 49.1 +0.7
RUDU AMB AMB 23 24 51.0
comp=Z,230nm,1.3s
DECC Green Verdugo 81.26 323 ⇑P P 23 24 48.7 +0.8
baz=82,SNR=5.8
ECSD EROS Data Cent 81.29 342 eP P 23 24 47.1 -0.6
comp=Z,286nm,1.1s
ECSD LR LR
comp=Z,1µm,19.0s
ECSD EROS Data Cent 81.29 342 ⇑P P 23 24 47.1 -0.6
baz=82,SNR=65
GSC Goldstone 81.36 324 eP P 23 24 49.2 +0.8
GSC pmax pmax
comp=Z,274nm,1.8s
GSC Goldstone 81.36 324 eP P 23 24 49.2 +0.8
comp=Z,274nm,1.8s
GSC Goldstone 81.36 324 ⇑P P 23 24 49.1 +0.8
baz=82,SNR=21
M25A Palm-Egli Farm 81.37 336 ⇑P P 23 24 49.4 +1.0
baz=82,SNR=14
L27A T5 Ranch, Ells 81.39 338 ⇑P P 23 24 49.5 +1.1
baz=82,SNR=22
K29A Lazy Trails An 81.40 339 ⇓P P 23 24 49.3 +0.9
baz=82,SNR=20
SEK Senekal 81.46 118 eP P 23 24 49.4 -0.1
SEK AMB AMB 23 24 51.1
comp=Z,207nm,1.2s
N23A Red Feather La 81.54 335 ⇓P P 23 24 49.4 0.0
baz=82,SNR=30
SHPR Sheep Range 81.56 326 eP P 23 24 49.7 +0.2
SHOC Shoshone 81.59 325 ⇑P P 23 24 50.3 +0.8
baz=82
L26A Underwood Farm 81.59 337 ⇑P P 23 24 50.4 +0.9
baz=82
EDW2 Edwards Air Fo 81.60 323 ⇓P P 23 24 50.2 +0.5
baz=82,SNR=20
N22A Wattenberg Ran 81.64 334 ⇓P P 23 24 50.6 +0.7
baz=82,SNR=56
M24A Cheyenne 81.66 336 ⇓P P 23 24 50.6 +0.6
baz=82,SNR=23
K28A Ten Mile Ranch 81.67 338 ⇑P P 23 24 51.2 +1.4
baz=82,SNR=21
BFSD Buffelsfontein 81.67 117 eP P 23 24 49.0 -1.6
BFSD AMB AMB 23 24 51.8
comp=Z,144nm,1.6s
J30A Dallas 81.68 340 ⇑P P 23 24 50.1 +0.3
baz=82,SNR=19
O20A White River Ci 81.72 333 eP P 23 24 50.9 +0.5
comp=Z,321nm,1.8s
O20A White River Ci 81.72 333 ⇑P P 23 24 50.8 +0.5
baz=82,SNR=28
PHWY Pilot Hill 81.73 335 eP P 23 24 50.2 -0.3
comp=Z,242nm,1.6s
PHWY LR LR
comp=Z,700nm,19.7s
SRU San Rafael 81.73 331 eP P 23 24 49.5 -0.9
SRU San Rafael 81.73 331 eP P 23 24 49.5 -0.9
SRU ePcP pP 23 24 49.8 -5.9
OSI Osito Adit 81.75 323 eP P 23 24 51.2 +0.8
comp=Z,147nm,1.0s
OSI Osito Adit 81.75 323 ⇓P P 23 24 51.6 +1.1
baz=82,SNR=8.7
SPMN St. Paul 81.82 345 eP P 23 24 49.0 -1.4
comp=Z,111nm,1.0s
SPMN LR LR
comp=Z,1µm,20.9s
SPMN St. Paul 81.82 345 ⇓P P 23 24 49.6 -0.9
baz=82,SNR=21
LBTB Lobatse 81.83 115 eP P 23 24 51.4 +0.1
LBTB AMB AMB 23 24 53.0
comp=Z,169nm,2.1s
LBTB Lobatse 81.83 115 eP P 23 24 51.5 +0.1
LBTB pmax pmax
comp=Z,113nm,0.8s
LBTB MLR MLR
comp=Z,3µm,19.4s
LBTB Lobatse 81.83 115 P P 23 24 51.7 +0.3
comp=Z,74nm,0.7s,baz=256,slow=5.2,SNR=56
LBTB Lobatse 81.83 115 eP P 23 24 51.5 +0.1
comp=Z,113nm,0.8s
LBTB LR LR
comp=Z,3µm,19.4s
ARUT Antelope Range 81.85 328 eP P 23 24 51.3 +0.3
ARUT Antelope Range 81.85 328 eP P 23 24 51.3 +0.3
MVU Marysvale 81.92 329 eP P 23 24 51.3 -0.2
comp=Z,266nm,1.8s

LRMC Laurel Mountai 81.93 324 ⇑P P 23 24 52.1 +0.6
baz=82,SNR=5.5
K27A Flueckinger Fa 81.93 338 ⇓P P 23 24 52.2 +1.0
baz=82,SNR=18
COWI Conover 81.96 348 eP P 23 24 49.6 -1.6
comp=Z,115nm,1.2s
COWI LR LR
comp=Z,1µm,19.0s
M23A Laramie 81.97 335 ⇓P P 23 24 52.4 +0.7
baz=82,SNR=23
L25A Engebretsen Ra 81.99 336 ⇑P P 23 24 52.6 +1.0
baz=82
J29A Okreek 82.00 339 ⇑P P 23 24 51.6 +0.1
baz=82,SNR=75
PRYS Parys 82.06 117 eP P 23 24 52.5 -0.1
PRYS AMB AMB 23 24 54.0
comp=Z,66nm,1.4s
SBC Santa Barbara 82.11 322 ⇑P P 23 24 53.3 +1.0
baz=82
TMUT Trail Mountain 82.17 330 eP P 23 24 52.6 -0.2
comp=Z,796nm,2.4s
TMUT LR LR
comp=Z,2µm,19.9s
I30A Oacoma 82.21 340 ⇓P P 23 24 52.8 +0.2
baz=82,SNR=27
ARVC Arvin 82.21 323 ⇓P P 23 24 53.9 +1.1
baz=82
L24A Wheatland 82.21 336 ⇓P P 23 24 53.5 +0.7
baz=82
M22A Cedar Creek Ra 82.22 334 ⇑P P 23 24 53.6 +0.6
baz=82,SNR=13
K26A Motz Farm, Whi 82.22 337 ⇓P P 23 24 53.7 +0.9
baz=82
J28A Allard Ranch, 82.28 339 ⇓P P 23 24 53.9 +0.9
baz=83,SNR=39
BFZ Birch Farm 82.29 225 eP P 23 24 53.8 +0.5
comp=Z,127nm,1.1s
BFZ LR LR
comp=Z,1µm,18.0s
FURC Furnace Creek, 82.33 325 ⇓P P 23 24 54.4 +1.1
baz=83,SNR=11
KSR Koster 82.33 116 eP P 23 24 54.5 +0.4
KSR AMB AMB 23 24 54.9
comp=Z,62nm,1.6s
N20A Spence Gulch, 82.33 333 ⇑P P 23 24 54.1 +0.6
baz=83,SNR=22
J27A Elkhorn Farm, 82.36 338 ⇓P P 23 24 54.5 +1.0
baz=83,SNR=61
K25A Mack Ranch, Ha 82.37 337 ⇑P P 23 24 54.6 +1.0
baz=83,SNR=17
ISA Isabella 82.46 323 eP P 23 24 54.8 +0.6
ISA pmax pmax
comp=Z,58nm,0.9s
ISA Isabella 82.46 323 eP P 23 24 54.8 +0.6
comp=Z,58nm,0.9s
ISA Isabella 82.46 323 ⇓P P 23 24 54.9 +0.8
baz=83,SNR=24
L23A Garrett 82.54 335 ⇑P P 23 24 55.0 +0.4
baz=83,SNR=24
I29A Vivian Onida 82.56 340 ⇑P P 23 24 54.7 +0.3
baz=83,SNR=20
BRSD Miller 82.57 341 eP P 23 24 53.3 -1.2
comp=Z,181nm,0.9s
BRSD LR LR
comp=Z,900nm,19.6s
BRSD Miller 82.57 341 ⇑P P 23 24 54.5 +0.1
baz=83,SNR=18
KLOF Kloof 82.57 117 eP P 23 24 55.6 +0.3
KLOF AMB AMB 23 24 55.9
comp=Z,100nm,2.0s
KHZ Kahutara 82.72 223 eP P 23 24 55.8 +0.2
comp=Z,87nm,1.2s
L22A Ellis Ranch, M 82.72 335 ⇑P P 23 24 56.2 +0.6
baz=83,SNR=20
J26A Sides Ranch, S 82.74 338 ⇓P P 23 24 56.5 +1.1
baz=83,SNR=40
K24A Anderson Ranch 82.78 336 ⇓P P 23 24 56.8 +1.1
baz=83
SNZO South Karori 82.78 224 PFAKE 23 25 10.0 +14
SNZO LR LR
comp=Z,663nm,20.0s
I28A Midland 82.78 339 ⇓P P 23 24 56.4 +0.8
baz=83,SNR=52
VES Vestal, Richgr 82.90 323 ⇓P P 23 24 57.4 +1.0
baz=83,SNR=21
CRWM Crown Mines 82.94 117 eP P 23 24 56.9 -0.3
CRWM AMB AMB 23 24 57.8
comp=Z,112nm,1.7s
SMMC Simmler 82.94 322 ⇑P P 23 24 57.5 +0.8
baz=83,SNR=5.9
MPU Maple Canyon 82.95 330 eP P 23 24 56.5 -0.3
comp=Z,385nm,1.8s
GRAC Grapevine Rang 83.00 325 ⇑P P 23 24 57.9 +1.0
baz=83,SNR=17
OBSV Observatory 83.01 117 eP P 23 24 57.3 -0.3
OBSV AMB AMB 23 24 58.1
comp=Z,94nm,1.9s
ERPM east rand prop 83.04 117 eP P 23 24 58.3 +0.5
ERPM AMB AMB 23 24 59.6
comp=Z,155nm,2.0s
J25A Sunshine Ranch 83.04 337 ⇑P P 23 24 58.1 +1.0
baz=83,SNR=11
K23A Bowen Ranch, D 83.08 336 ⇓P P 23 24 58.0 +0.7
baz=83,SNR=29
NLU North Lily Min 83.08 330 eP P 23 24 57.4 0.0
comp=Z,277nm,1.6s
H29A Onida 83.08 340 ⇑P P 23 24 57.3 +0.2
baz=83,SNR=28
BKZ Black Stump Fm 83.11 227 eP P 23 24 57.8 +0.1
comp=Z,172nm,1.5s
BKZ LR LR
comp=Z,2µm,18.0s
I27A Quinn 83.11 339 ⇓P P 23 24 57.8 +0.5
baz=83,SNR=28
DAU Daniels Canyon 83.14 331 eP P 23 24 58.0 +0.1
DAU Daniels Canyon 83.14 331 eP P 23 24 58.0 +0.1
RPZ Rata Peaks 83.21 221 eP P 23 24 58.1 0.0
comp=Z,172nm,1.2s
G30A Faulkton 83.25 341 ⇓P P 23 24 57.6 -0.3
baz=84,SNR=57
R11A Troy Canyon, C 83.26 327 eP P 23 24 58.3 -0.1
comp=Z,70nm,1.0s
R11A Troy Canyon, C 83.26 327 ⇓P P 23 24 59.2 +0.7
baz=84,SNR=50
J24A Dixon Ranch, L 83.27 337 ⇑P P 23 24 58.9 +0.7
baz=84,SNR=24
K22A Casper 83.30 335 eP P 23 24 58.2 -0.3
comp=Z,164nm,1.1s
K22A LR LR
comp=Z,1µm,18.3s
K22A Casper 83.30 335 ⇓P P 23 24 58.7 +0.3
baz=84,SNR=53
URZ Urewera 83.31 228 P P 23 24 58.6 -0.1
comp=Z,22nm,0.9s,baz=100,slow=4.0,SNR=11
URZ Urewera 83.31 228 eP P 23 24 57.9 -0.8
comp=Z,91nm,1.4s
URZ LR LR
comp=Z,1µm,20.0s
I26A New Underwood 83.32 338 ⇓P P 23 24 58.6 +0.1
baz=84,SNR=12
WHZ Wether Hill Ro 83.33 217 eP P 23 24 58.8 +0.1
comp=Z,251nm,1.6s
WHZ LR LR
comp=Z,2µm,19.8s
RCTC Rector, Farmer 83.35 323 ⇓P P 23 24 59.1 +0.4
baz=84,SNR=8.0
H28A Mission Ridge 83.36 339 ⇑P P 23 24 58.8 +0.2
baz=84,SNR=20
JLU Jordanelle 83.37 331 eP P 23 24 58.5 -0.5
comp=Z,467nm,2.0s
SLR Silverton 83.42 117 eP P 23 24 58.8 -0.9
SLR AMB AMB 23 25 00.1
comp=Z,149nm,1.7s
TIN Tinemaha 83.45 324 ⇑P P 23 25 00.1 +0.8
baz=84,SNR=12
G29A Hoven 83.52 340 ⇑P P 23 24 59.4 +0.1
baz=84,SNR=26
K21A Alcova 83.53 334 ⇑P P 23 24 59.6 -0.2
baz=84,SNR=36
CTU Camp Tracy 83.57 331 eP P 23 24 59.5 -0.4
comp=Z,24nm,0.8s
I25A Rochford 83.58 337 ⇓P P 23 25 00.7 +0.7
baz=84,SNR=36
DUG Dugway 83.59 330 eP P 23 24 59.9 -0.1
DUG pmax pmax
comp=Z,359nm,1.5s
DUG MLR MLR
comp=Z,1µm,19.0s

DUG Dugway 83.59 330 eP P 23 24 59.9 -0.1
comp=Z,359nm,1.5s
DUG LR LR
comp=Z,1µm,19.0s
DUG Dugway 83.59 330 ⇓P P 23 25 00.7 +0.7
baz=84,SNR=61
J23A Dilts Ranch, B 83.63 336 ⇓P P 23 25 00.3 +0.2
baz=84
H27A Howes 83.63 339 P P 23 25 00.5 +0.6
baz=84,SNR=34
G28A Parade 83.69 340 ⇑P P 23 25 00.7 +0.5
baz=84,SNR=21
I24A Kuemmerle Ranc 83.73 337 ⇑P P 23 25 01.0 +0.4
baz=84,SNR=18
RSSD Black Hills 83.77 337 eP P 23 24 59.8 -1.1
RSSD pmax pmax
comp=Z,64nm,1.0s
RSSD Black Hills 83.77 337 eP P 23 24 59.8 -1.1
comp=Z,64nm,1.0s
TPH Tonopah 83.79 326 eP P 23 25 01.0 -0.1
TPH pmax pmax
comp=Z,204nm,1.4s
TPH Tonopah 83.79 326 eP P 23 25 01.0 -0.1
comp=Z,204nm,1.4s
TCUT Toone Canyon 83.79 331 eP P 23 25 00.0 -1.1
comp=Z,472nm,1.8s
H26A Fairpoint 83.83 338 ⇓P P 23 25 01.2 +0.2
baz=84,SNR=7.2
F30A Leola 83.88 341 ⇓P P 23 25 01.4 +0.3
baz=84,SNR=34
J22A Midwest 83.95 335 ⇑P P 23 25 01.8 0.0
baz=84,SNR=26
H25A Fruitdale 84.08 338 ⇓P P 23 25 02.8 +0.4
baz=84,SNR=26
F29A Eureka 84.09 341 ⇑P P 23 25 02.2 0.0
baz=84,SNR=35
I23A Meade Ranch, G 84.09 336 ⇑P P 23 25 02.4 0.0
baz=84
EYMN Ely 84.17 347 eP P 23 25 01.2 -1.3
comp=Z,185nm,1.4s
EYMN LR LR
comp=Z,1µm,21.0s
MLAC Mammoth Lakes 84.20 324 ⇑P P 23 25 03.3 0.0
baz=84,SNR=13
J21A Lysite 84.23 335 ⇑P P 23 25 03.3 +0.1
baz=84,SNR=20
G27A Dupree 84.27 339 ⇓P P 23 25 03.5 +0.3
baz=85,SNR=23
HWUT Hardware Ranch 84.27 331 eP P 23 25 02.7 -0.8
comp=Z,297nm,1.4s
TOA0 Torodi Ar. Sit 84.29 70 eP P 23 25 03.7 -0.2
TORD Torodi Ar. Bea 84.29 70 P P 23 25 03.7 -0.2
comp=Z,36nm,0.9s,baz=247,slow=3.0,SNR=90
BGU Big Grassy Mou 84.29 330 eP P 23 25 02.8 -0.8
comp=Z,92nm,1.7s
F28A McLaughlin 84.37 340 ⇑P P 23 25 03.8 +0.1
baz=85
SPUT South Promonto 84.37 330 eP P 23 25 03.5 -0.5
comp=Z,576nm,1.8s
I22A 9 Mile Ranch, 84.38 336 ⇓P P 23 25 03.8 -0.1
baz=85,SNR=30
G26A Maurine 84.39 339 ⇓P P 23 25 04.0 +0.1
baz=85,SNR=22
J20A Shoshoni 84.46 334 ⇑P P 23 25 04.1 -0.3
baz=85,SNR=51
E30A Jud 84.46 342 ⇑P P 23 25 04.0 -0.1
baz=85,SNR=28
BW06 Boulder Array 84.49 333 eP P 23 25 03.2 -1.4
comp=Z,66nm,1.1s
BW06 LR LR
comp=Z,2µm,19.0s
PD31 Pinedale Array 84.49 333 eP P 23 25 03.7 -1.0
PDAR Pinedale Array 84.49 333 P P 23 25 04.5 -0.1
comp=Z,33nm,1.0s,baz=160,slow=4.7,SNR=55
H24A Dirks Ranch, A 84.50 337 ⇓P P 23 25 04.2 -0.2
baz=85,SNR=23
G25A Newell 84.54 338 ⇓P P 23 25 04.3 -0.3
baz=85,SNR=22
DRLN Deer Lake 84.58 9 eP P 23 25 04.3 -0.2
comp=Z,134nm,1.0s
NV01 Mina Array Sit 84.58 325 eP P 23 25 05.0 -0.2
NVAR Mina Array Bea 84.58 325 P P 23 25 05.1 -0.1
comp=Z,20nm,0.8s,baz=153,slow=5.0,SNR=90
I21A Big Trails, Te 84.58 335 ⇑P P 23 25 04.8 -0.2
baz=85,SNR=48
H23A Clabaugh Cattl 84.61 337 ⇓P P 23 25 04.6 -0.4
baz=85
E29A Napoleon 84.72 341 ⇓P P 23 25 05.4 0.0
baz=85,SNR=22
J19A Crowheart 84.73 334 ⇓P P 23 25 05.3 -0.5
baz=85,SNR=48
F27A Lemmon 84.74 339 ⇑P P 23 25 05.7 +0.1
baz=85,SNR=32
SAO San Andreas Ge 84.81 322 eP P 23 25 04.2 -1.9
SAO pmax pmax
comp=Z,406nm,2.5s
SAO San Andreas Ge 84.81 322 eP P 23 25 04.2 -1.9
comp=Z,406nm,2.5s
HVU Hansel Valley 84.90 331 eP P 23 25 05.8 -0.9
HVU pmax pmax
comp=Z,122nm,1.1s
HVU Hansel Valley 84.90 331 eP P 23 25 05.8 -0.9
comp=Z,122nm,1.1s
F26A Lodgepole 84.91 339 ⇑P P 23 25 06.6 +0.1
baz=85,SNR=24
H22A Clearmont 84.95 336 ⇑P P 23 25 06.5 -0.3
baz=85,SNR=28
G24A Alzada 84.97 338 ⇓P P 23 25 06.2 -0.7
baz=85,SNR=11
D30A Buchanan 84.98 342 ⇑P P 23 25 06.5 -0.3
baz=85,SNR=54
I20A Worland 85.00 335 ⇑P P 23 25 06.7 -0.3
baz=85,SNR=41
E28A Huff 85.01 340 ⇑P P 23 25 06.8 -0.1
baz=85,SNR=17
AHID Auburn Hatcher 85.07 332 eP P 23 25 06.5 -1.1
comp=Z,669nm,2.3s
AHID LR LR
comp=Z,2µm,19.0s
ELK Elko 85.07 328 eP P 23 25 06.8 -0.8
ELK pmax pmax
comp=Z,59nm,1.1s
ELK Elko 85.07 328 eP P 23 25 06.8 -0.8
comp=Z,59nm,1.1s
E27A Carson 85.12 340 ⇑P P 23 25 07.3 -0.2
baz=85,SNR=20
D29A Pettibone, Tap 85.16 341 ⇑P P 23 25 07.2 -0.4
baz=86,SNR=19
G23A Biddle 85.17 337 ⇓P P 23 25 07.5 -0.3
baz=86,SNR=24
WAKR Walker 85.18 324 eP P 23 25 08.9 +0.8
H21A Big Horn, Sher 85.21 336 ⇑P P 23 25 07.4 -0.7
baz=86,SNR=17
F25A Bowman 85.22 338 ⇑P P 23 25 07.9 -0.1
baz=86,SNR=15
CMB Columbia Colle 85.27 324 eP P 23 25 07.3 -1.2
CMB pmax pmax
comp=Z,47nm,1.1s
CMB Columbia Colle 85.27 324 eP P 23 25 07.2 -1.2
comp=Z,47nm,1.1s
MSKU Masuku 85.30 89 PFAKE 23 25 20.0 +11
MSKU LR LR
comp=Z,2.0nm,20.0s
I19A Meeteetse 85.38 334 ⇑P P 23 25 08.9 -0.1
baz=86,SNR=34
AGMN Agassiz Nation 85.40 344 eP P 23 25 07.3 -1.4
comp=Z,69nm,0.8s
AGMN LR LR
comp=Z,2µm,19.0s
AGMN Agassiz Nation 85.40 344 ⇓P P 23 25 08.4 -0.4
baz=86,SNR=31
E26A Carlson Angus 85.41 339 ⇓P P 23 25 08.6 -0.3
baz=86,SNR=7.4
H20A Greybull 85.42 335 ⇑P P 23 25 08.7 -0.4
baz=86,SNR=39
F24A Ekalaka 85.45 338 ⇑P P 23 25 08.9 -0.3
baz=86,SNR=30
C30A Mose, Pekin 85.47 342 ⇑P P 23 25 09.4 +0.3
baz=86,SNR=43
G22A Birney 85.48 336 ⇑P P 23 25 09.0 -0.4
baz=86,SNR=19
REDW Red Top Meadow 85.49 333 eP P 23 25 08.8 -0.9
comp=Z,158nm,1.5s
SNOW Snow King Moun 85.54 333 eP P 23 25 09.4 -0.5
comp=Z,190nm,1.7s
D28A Regan 85.54 341 ⇓P P 23 25 09.7 +0.2
baz=86,SNR=21
LOHW Long Hollow 85.61 333 eP P 23 25 09.1 -1.1

comp=Z,158nm,1.7s
TPAW Teton Pass 85.64 333 eP P 23 25 09.5 -0.9
comp=Z,376nm,1.9s
RAO Raoul Island 85.64 237 PFAKE 23 25 20.0 +9.3
RAO LR LR
comp=Z,4µm,20.0s
F23A Volborg 85.64 337 ⇑P P 23 25 09.8 -0.3
baz=86,SNR=45
BMN Battle Mountai 85.69 327 eP P 23 25 09.6 -1.0
BMN pmax pmax
comp=Z,12nm,1.1s
BMN Battle Mountai 85.69 327 eP P 23 25 09.6 -1.0
comp=Z,12nm,1.1s
E25A Miller Ranch, 85.72 339 ⇑P P 23 25 10.3 -0.2
baz=86,SNR=16
D27A Center 85.73 340 ⇑P P 23 25 10.5 0.0
baz=86,SNR=6.2
FXWY Fox Creek 85.79 333 eP P 23 25 10.4 -0.7
comp=Z,146nm,1.8s
G21A Lodge Grass 85.79 336 ⇓P P 23 25 10.7 -0.2
baz=86,SNR=23
I17A Pilgrim Ck. 85.86 333 ⇑P P 23 25 11.2 -0.3
baz=86,SNR=24
D26A Manning 85.91 340 ⇑P P 23 25 11.7 +0.3
baz=86,SNR=37
H19A Powell 85.93 334 ⇑P P 23 25 11.6 0.0
baz=86,SNR=37
F22A Rosebud 85.97 337 ⇑P P 23 25 11.2 -0.5
baz=86,SNR=29
C28A Hausauer Farms 85.97 341 ⇑P P 23 25 11.7 0.0
baz=86,SNR=8.1
IMW Indian Meadow 85.98 333 eP P 23 25 11.1 -1.0
comp=Z,109nm,1.2s
E24A Baker 86.05 338 ⇑P P 23 25 12.3 +0.2
baz=86,SNR=24
FLWY Flagg Ranch 86.05 333 eP P 23 25 11.9 -0.5
comp=Z,103nm,0.9s
B30A Myrvik Farm, E 86.12 343 ⇓P P 23 25 12.3 -0.1
baz=86,SNR=62
G20A Bridger 86.13 335 ⇑P P 23 25 12.1 -0.5
baz=86,SNR=57
H18A Shoshone NF, C 86.18 334 ⇑P P 23 25 12.8 -0.2
baz=86,SNR=57
H17A Grant Village 86.27 333 eP P 23 25 13.7 +0.2
comp=Z,63nm,1.4s
H17A Grant Village 86.27 333 ⇑P P 23 25 14.0 +0.5
baz=87,SNR=20
C27A Sayler Ranch, 86.27 340 ⇑P P 23 25 13.4 +0.3
baz=87,SNR=30
D25A Fairfield 86.28 339 ⇑P P 23 25 13.7 +0.5
baz=87,SNR=28
F21A Absaloka Mine, 86.29 336 ⇑P P 23 25 13.4 +0.1
baz=87,SNR=22
E23A Ismay 86.30 338 ⇑P P 23 25 13.3 0.0
baz=87,SNR=5.3
LKWY Lake 86.35 333 eP P 23 25 13.7 -0.2
LKWY pmax pmax
comp=Z,150nm,1.8s
LKWY MLR MLR
comp=Z,4µm,22.0s
LKWY Lake 86.35 333 eP P 23 25 13.7 -0.2
comp=Z,150nm,1.8s
LKWY LR LR
comp=Z,4µm,22.0s
B29A Wagenman Farm, 86.39 342 ⇑P P 23 25 13.6 -0.1
baz=87,SNR=32
YFT Old Faithful 86.41 333 eP P 23 25 14.1 -0.1
comp=Z,207nm,1.6s
RLMT Red Lodge 86.42 334 eP P 23 25 13.5 -0.7
comp=Z,81nm,0.9s
RLMT LR LR
comp=Z,1µm,20.0s
E22A Miles City 86.45 337 ⇑P P 23 25 14.0 -0.1
baz=87,SNR=13
C26A Wahner Farm, P 86.54 340 ⇑P P 23 25 14.9 +0.4
baz=87,SNR=26
D24A Glendive 86.55 338 ⇑P P 23 25 15.1 +0.5
baz=87,SNR=23
A30A Hoffart Farm, 86.57 343 ⇑P P 23 25 14.4 -0.2
baz=87,SNR=25
YNR Norris Junctio 86.58 333 eP P 23 25 14.5 -0.6
comp=Z,359nm,2.4s
F20A Billings 86.62 335 ⇑P P 23 25 14.7 -0.3
baz=87,SNR=16
B28A Dugan Ranch, T 86.64 341 ⇓P P 23 25 15.1 +0.2
baz=87,SNR=42
YMR Madison River 86.64 333 eP P 23 25 14.6 -0.7
comp=Z,202nm,1.1s
MSNA Messina 86.68 115 eP P 23 25 16.5 +0.5
MSNA AMB AMB 23 25 18.2
comp=Z,113nm,1.2s
LAO LASA Array 86.76 337 eP P 23 25 14.6 -1.0
comp=Z,172nm,1.1s
LAO LR LR
comp=Z,1µm,20.0s
C25A Freed Ranch, W 86.77 339 ⇑P P 23 25 16.1 +0.6
baz=87,SNR=23
A29A Manning Farm, 86.79 342 ⇑P P 23 25 15.3 -0.3
baz=87,SNR=39
B27A Peters Farms, 86.84 341 ⇑P P 23 25 16.3 +0.5
baz=87,SNR=9.3
D23A Lindsay 86.87 338 ⇑P P 23 25 16.4 +0.3
baz=87,SNR=57
E21A Keefer Ranch, 86.91 336 ⇓P P 23 25 16.3 0.0
baz=87,SNR=39
F19A Roth Farm, Mol 86.94 335 ⇑P P 23 25 16.2 -0.4
baz=87,SNR=43
C24A Savage 86.95 339 ⇓P P 23 25 16.9 +0.4
baz=87,SNR=53
QLMT Earthquake Lak 86.96 333 eP P 23 25 16.8 0.0
A28A Rude Farm, Bot 87.04 342 ⇑P P 23 25 17.4 +0.5
baz=87,SNR=17
HLID Hailey 87.06 330 eP P 23 25 16.8 -0.5
comp=Z,275nm,1.7s
HLID LR LR
comp=Z,1µm,20.0s
HLID Hailey 87.06 330 ⇑P P 23 25 18.2 +0.9
baz=87,SNR=65
B26A Jensen Ranch, 87.08 340 ⇓P P 23 25 17.9 +0.8
baz=87,SNR=12
GCMT Greycliff 87.14 335 eP P 23 25 16.8 -0.8
D22A Cohagen 87.15 337 ⇑P P 23 25 17.8 +0.3
baz=88,SNR=37
E20A Meyer Farm, Mu 87.22 336 ⇓P P 23 25 17.9 0.0
baz=88,SNR=66
ULM Lac du Bonnet 87.24 345 eP P 23 25 15.9 -1.9
ULM Lac du Bonnet 87.24 345 P P 23 25 17.0 -0.8
comp=Z,68nm,1.0s,baz=164,slow=3.8,SNR=58
ULM Lac du Bonnet 87.24 345 eP P 23 25 15.8 -1.9
ULM ePcP PcP 23 25 16.1 -3.7
B25A Knox Farm, Ray 87.25 340 ⇓P P 23 25 18.4 +0.5
baz=88,SNR=24
A27A Ledoux Ranch, 87.33 341 ⇓P P 23 25 19.1 +0.9
baz=88
D21A La Casta Ranch 87.34 337 ⇑P P 23 25 18.6 +0.2
baz=88,SNR=26
E19A Rath Farm, Rou 87.41 335 ⇑P P 23 25 18.6 -0.2
baz=88,SNR=60
C23A Lambert 87.42 338 ⇓P P 23 25 18.8 +0.1
baz=88,SNR=55
MCMT McKenzie Canyo 87.49 332 eP P 23 25 19.2 -0.3
A26A Wade Farm, Ken 87.50 341 ⇓P P 23 25 19.1 +0.1
baz=88,SNR=28
MFID Camas Ranch 87.52 330 eP P 23 25 19.1 -0.4
comp=Z,59nm,1.1s
XMAS Kiritimati 87.56 274 PFAKE 23 25 30.0 +10
XMAS LR LR
comp=Z,3µm,22.0s
C22A Vida 87.59 338 ⇑P P 23 25 19.3 -0.3
baz=88,SNR=32
BOZ Bozeman (W) 87.72 333 eP P 23 25 19.3 -1.1
BOZ pmax pmax
comp=Z,41nm,1.1s
BOZ MLR MLR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 87.72 333 eP P 23 25 19.3 -1.1
comp=Z,41nm,1.1s
BOZ LR LR
comp=Z,2µm,20.0s
DGMT Dagmar 87.72 339 eP P 23 25 19.7 -0.5
comp=Z,294nm,0.9s
DGMT LR LR
comp=Z,1µm,20.0s
DGMT Dagmar 87.72 339 ⇑P P 23 25 19.9 -0.3
baz=88,SNR=42
D20A Manuel Ranch, 87.74 336 ⇑P P 23 25 19.6 -0.7
baz=88,SNR=68
A25A Svangstu Ranch 87.83 340 ⇑P P 23 25 20.9 +0.2

baz=88,SNR=23
DLMT Dillon 87.85 333 eP P 23 25 20.9 -0.1
comp=Z,210nm,1.4s
WVOR Wild Horse Val 87.93 327 eP P 23 25 20.9 -0.6
WVOR pmax pmax
comp=Z,76nm,1.3s
WVOR MLR MLR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 87.93 327 eP P 23 25 20.9 -0.6
comp=Z,76nm,1.3s
WVOR LR LR
comp=Z,1μm,20.0s
B23A Brockton 87.96 339 ⇓P P 23 25 21.4 +0.1
baz=88,SNR=28
C21A Desert Coulee 88.04 337 ⇑P P 23 25 21.8 +0.1
baz=88,SNR=45
D19A Cripps Ranch, 88.05 336 ⇓P P 23 25 21.7 -0.2
baz=88,SNR=6.9
A24A Westby 88.08 339 ⇓P P 23 25 21.7 -0.2
baz=88,SNR=25
B22A Reddig Ranch S 88.12 338 ⇓P P 23 25 22.3 +0.2
baz=88,SNR=16
KCPM Cahto Peak 88.13 323 eP P 23 25 20.0 -2.5
comp=Z,275nm,2.0s
KIPM Iron Peak 88.17 323 eP P 23 25 21.6 -1.1
LRM Limekiln Ridge 88.18 333 eP P 23 25 22.1 -0.6
C20A Veseth Ranch, 88.24 336 ⇑P P 23 25 22.5 -0.2
baz=88,SNR=24
MOD Modoc 88.27 326 eP P 23 25 22.9 -0.2
comp=Z,72nm,0.9s
WDC Whiskeytown Da 88.30 324 eP P 23 25 22.2 -0.9
WDC pmax pmax
comp=Z,54nm,0.9s
WDC Whiskeytown Da 88.30 324 eP P 23 25 22.2 -0.9
comp=Z,54nm,0.9s
A23A Redstone 88.36 339 ⇑P P 23 25 23.3 +0.1
baz=89,SNR=17
B21A Ellsworth Farm 88.55 337 ⇓P P 23 25 24.2 +0.1
baz=89,SNR=10
KMRM Mail Ridge 88.60 323 eP P 23 25 23.0 -1.6
comp=Z,269nm,1.6s
C19A Slack Wire Ran 88.61 336 ⇓P P 23 25 24.4 -0.1
baz=89,SNR=31
N02D Trinity Center 88.68 324 ⇓P P 23 25 24.9 0.0
baz=89
HRY Holter Researc 88.70 334 eP P 23 25 24.9 -0.1
A22A Carney Farms, 88.71 338 ⇑P P 23 25 24.9 0.0
baz=89,SNR=58
B20A Solberg Farm, 88.88 337 ⇑P P 23 25 25.4 -0.3
baz=89,SNR=39
M04C Macdoel 88.89 325 ⇓P P 23 25 26.5 +0.5
baz=89
A21A Bergtoll Ranch 89.02 338 ⇑P P 23 25 25.8 -0.5
baz=89
M02C Callahan 89.07 324 ⇑P P 23 25 26.2 -0.6
baz=89
EGMT Eagleton 89.09 336 eP P 23 25 25.6 -1.1
comp=Z,127nm,1.5s
EGMT LR LR
comp=Z,1μm,21.0s
EGMT Eagleton 89.09 336 ⇑P P 23 25 26.2 -0.5
baz=89,SNR=19
KHMM Horse Mountain 89.10 323 eP P 23 25 26.4 -0.6
comp=Z,130nm,1.4s
K05A Summer Lake 89.18 326 eP P 23 25 27.3 -0.2
comp=Z,136nm,1.0s
B19A Brinkman Farms 89.20 336 ⇓P P 23 25 26.9 -0.3
baz=90,SNR=42
A20A Cobblestone Ra 89.23 337 ⇓P P 23 25 27.1 -0.3
baz=90,SNR=31
YBH Yreka Blue Hor 89.27 324 eP P 23 25 26.8 -0.9
YBH pmax pmax
comp=Z,33nm,1.0s
YBH Yreka Blue Hor 89.27 324 P P 23 25 27.1 -0.6
comp=Z,26nm,0.9s,baz=144,slow=5.0,SNR=37
YBH Yreka Blue Hor 89.27 324 eP P 23 25 26.8 -0.9
comp=Z,33nm,1.0s
SCHQ Schefferville 89.30 3 P P 23 25 26.5 -0.9
comp=Z,31nm,1.1s,baz=165,slow=3.4,SNR=12
SCHQ Schefferville 89.30 3 eP P 23 25 26.2 -1.2
comp=Z,143nm,1.6s
BMO Blue Mountains 89.30 330 eP P 23 25 26.9 -0.9
comp=Z,44nm,1.3s
BMO LR LR
comp=Z,1μm,21.0s
CHMT Chamberlain Mo 89.40 333 eP P 23 25 27.5 -0.9
LSZ Lusaka 89.41 108 PFAKE 23 25 40.0 +11
LSZ LR LR
comp=Z,4μm,20.0s
K04D Chiloquin, OR 89.50 326 ⇑P P 23 25 29.3 +0.5
baz=90
A19A Klindworth Far 89.54 337 ⇑P P 23 25 28.5 -0.3
baz=90,SNR=32
MSO Missoula 89.59 333 eP P 23 25 28.9 -0.2
comp=Z,90nm,1.7s
MSO Missoula 89.59 333 ⇑P P 23 25 29.5 +0.4
baz=90,SNR=8.0
I07A Izee 89.63 328 eP P 23 25 29.2 -0.2
comp=Z,235nm,1.9s
PAF Port-aux-Franc 89.75 156 PFAKE 23 25 40.0 +10
PAF LR LR
comp=Z,3μm,19.0s
SLMT Seeley Lake 89.76 333 eP P 23 25 29.5 -0.5
J05D Fort Rock, OR 89.78 326 ⇓P P 23 25 31.0 +0.8
baz=90
L02D Cave Junction, 90.02 324 ⇑P P 23 25 32.1 +1.0
baz=90
PINOR Pine Mountain 90.02 327 eP P 23 25 31.4 +0.3
comp=Z,87nm,1.1s
PINOR LR LR
comp=Z,1μm,20.6s
HUMO Hull Mountain 90.05 325 eP P 23 25 30.6 -0.7
comp=Z,90nm,1.9s
J04D Umpqua Nationa 90.14 326 ⇑P P 23 25 32.6 +0.6
baz=90
AFI Afiamalu 90.17 253 PFAKE 23 25 40.0 +7.3
AFI LR LR
comp=Z,159μm,19.0s
SWMT Swartz Lake 90.18 333 eP P 23 25 31.5 -0.4
F10A Beach Ranch, E 90.18 330 eP P 23 25 31.0 -0.9
comp=Z,164nm,1.7s
G08A Pilot Rock 90.35 329 eP P 23 25 32.3 -0.5
comp=Z,156nm,1.8s
YBMT Yellow Bay 90.47 333 eP P 23 25 31.8 -1.5
JTMT Jette 90.48 333 eP P 23 25 32.6 -0.7
I05D Terrebonne, OR 90.65 327 ⇑P P 23 25 34.8 +0.7
baz=91
I04A Tendick Farm, 90.71 326 ⇓P P 23 25 34.3 -0.1
baz=91
BLMT Blacktail Moun 90.73 333 eP P 23 25 33.8 -0.7
BSMT Bassoo Peak 90.76 333 eP P 23 25 34.1 -0.5
E09A Wood Farm, Sta 90.99 330 eP P 23 25 34.0 -1.5
comp=Z,83nm,2.0s
G06A Carlson Farm, 91.03 328 eP P 23 25 36.3 +0.4
comp=Z,119nm,1.6s
I03D Drain, OR 91.07 325 ⇑P P 23 25 36.4 +0.5
baz=91
H04A Detroit Lake 91.30 327 eP P 23 25 36.0 -1.1
comp=Z,63nm,1.2s
G05D Wamic, OR 91.34 327 ⇑P P 23 25 38.3 +1.1
baz=92
WALA Waterton Lakes 91.44 334 eP P 23 25 37.0 -0.7
comp=Z,98nm,1.4s
HAWA Hanford 91.47 329 eP P 23 25 37.3 -0.5
comp=Z,74nm,1.2s
HAWA LR LR
comp=Z,1μm,22.0s
COR Corvallis 91.73 326 eP P 23 25 37.8 -1.2
COR pmax pmax
comp=Z,106nm,1.2s
COR Corvallis 91.73 326 eP P 23 25 37.8 -1.2
comp=Z,106nm,1.2s
E07A Sunnyside 91.74 329 eP P 23 25 38.0 -1.1
comp=Z,31nm,1.0s
D08A Wollman Farm, 91.75 330 eP P 23 25 38.5 -0.5
comp=Z,67nm,1.2s
NEW Newport 91.99 332 eP P 23 25 39.1 -1.1
NEW pmax pmax
comp=Z,43nm,1.4s
NEW MLR MLR
comp=Z,1μm,19.0s
NEW Newport 91.99 332 eP P 23 25 39.1 -1.1
comp=Z,43nm,1.4s
NEW LR LR
comp=Z,1μm,19.0s
NEW Newport 91.99 332 ⇓P P 23 25 40.1 -0.1
baz=92,SNR=15
C09A Chrisman Ranch 92.08 331 eP P 23 25 39.7 -0.8
comp=Z,103nm,1.4s
G03D McMinnville, O 92.19 326 ⇑P P 23 25 41.6 +0.5
baz=92
F04A Amboy 92.36 327 eP P 23 25 41.2 -0.7
comp=Z,37nm,0.9s
LTY Liberty 92.64 329 eP P 23 25 42.8 -0.5
comp=Z,157nm,2.1s
LON Longmire 92.73 328 eP P 23 25 43.1 -0.6
LON pmax pmax
comp=Z,19nm,0.9s
LON Longmire 92.73 328 eP P 23 25 43.1 -0.6
comp=Z,19nm,0.9s
F04D Rainier, OR 92.74 327 ⇓P P 23 25 44.4 +0.8
baz=93
FFC Flin Flon 92.80 343 eP P 23 25 41.8 -1.9
FFC pmax pmax
comp=Z,189nm,2.5s
FFC MLR MLR
comp=Z,2μm,22.0s
FFC Flin Flon 92.80 343 eP P 23 25 41.8 -1.9
comp=Z,189nm,2.5s
FFC LR LR
comp=Z,2μm,22.0s
B08A Colville Reser 92.95 330 eP P 23 25 43.6 -1.1
comp=Z,65nm,1.5s
TAM Tamanrasset 92.97 64 PFAKE 23 26 00.0 +14
TAM LR LR
comp=Z,2μm,21.0s
D05A Enumclaw 93.14 328 eP P 23 25 44.5 -0.9
comp=Z,39nm,0.9s
E03A Lebam 93.34 327 eP P 23 25 46.3 -0.1
comp=Z,87nm,1.2s
B06A Marblemount 93.96 329 eP P 23 25 48.1 -1.1
comp=Z,25nm,1.0s
NLWA Neilton Lookou 94.12 328 PFAKE 23 26 00.0 +10
NLWA LR LR
comp=Z,2μm,20.0s
A05A Maple Falls 94.59 329 eP P 23 25 51.5 -0.6
comp=Z,180nm,1.8s
EDM Edmonton 94.72 336 eP P 23 25 50.6 -2.0
EDM Edmonton 94.72 336 eP P 23 25 50.6 -2.0
TAU Tasmania Unive 94.86 208 PFAKE 23 26 00.0 +6.2
TAU LR LR
comp=Z,1μm,19.0s
FCC Fort Churchill 94.97 349 eP P 23 25 53.0 -0.5
FCC pmax pmax
comp=Z,34nm,0.8s
FCC Fort Churchill 94.97 349 eP P 23 25 53.0 -0.5
comp=Z,34nm,0.8s
MTE Manteigas 95.34 44 PFAKE 23 26 10.0 +14
MTE LR LR
comp=Z,4μm,20.0s
MSVF Nonsavu 95.66 244 PFAKE 23 26 10.0 +12
MSVF LR LR
comp=Z,1μm,20.0s
POHA Pohakuloa 96.06 290 PFAKE 23 26 10.0 +10
POHA LR LR
comp=Z,2μm,21.0s
PAB San Pablo 96.64 46 PFAKE 23 26 10.0 +8.2
PAB LR LR
comp=Z,4μm,20.0s
ESDC Sonseca Array 96.95 46 P P 23 26 03.1 -0.1
comp=Z,1.9nm,0.8s,baz=236,slow=3.0,SNR=5.9
CAN Canberra 100.57 213 PFAKE 23 26 30.0 +10
CAN LR LR
comp=Z,814nm,19.0s
DZM Mont Dzumac 100.96 233 eLR LR 23 59 01.0
comp=Z,848nm,23.4s
ABPO Ambohimpanom 101.22 123 PFAKE 23 26 30.0 +6.9
ABPO LR LR
comp=Z,1μm,21.0s
SFJD Kangerlussuaq 102.69 8 PFAKE 23 26 40.0 +12
SFJD LR LR
comp=Z,1μm,22.0s
YKA Yellowknife Ar 102.80 341 P Pdif 23 26 28.0 -0.6
comp=Z,3.9nm,0.8s,baz=140,slow=4.3,SNR=36
YKA PP PP 23 30 43.5 +0.4
comp=Z,2.8nm,1.1s,baz=140,slow=8.0,SNR=5.8
WRAK Wrangell Islan 104.26 330 PFAKE 23 26 50.0 +15
WRAK LR LR
comp=Z,1μm,22.0s
KMBO Kilima Mbogo 104.95 102 PFAKE 23 26 50.0 +10
KMBO LR LR
comp=Z,3μm,20.0s
VSL Villasalto 105.17 52 PFAKE 23 31 10.0
VSL LR LR
comp=Z,4μm,19.0s
SSB Saint Sauveur 105.33 45 PFAKE 23 31 10.0
SSB LR LR
comp=Z,2μm,19.0s
RER Riviere de l'E 105.38 130 PFAKE 23 31 10.0
RER LR LR
comp=Z,2μm,19.0s
BNI Bardonecchia 106.47 46 PFAKE 23 31 10.0
BNI LR LR
comp=Z,2μm,20.0s
WDD Wield Dalam 106.74 58 PFAKE 23 31 10.0
WDD LR LR
comp=Z,10μm,20.0s
ESK Eskdalemuir 107.07 34 PFAKE 23 31 10.0
ESK LR LR
comp=Z,2μm,20.0s
VLC Villacollemand 108.26 49 PFAKE 23 31 10.0
VLC LR LR
comp=Z,3μm,20.0s
ECH Echery 108.44 44 PFAKE 23 31 10.0
ECH LR LR
comp=Z,4μm,20.0s
WLF Walferdange 108.63 42 PFAKE 23 31 10.0
WLF LR LR
comp=Z,6μm,21.0s
TUE Stuetta 108.81 46 PFAKE 23 31 10.0
TUE LR LR
comp=Z,3μm,22.0s
CEL Celeste 108.89 56 PFAKE 23 31 10.0
CEL LR LR
comp=Z,3μm,20.0s
BFO Black Forest 109.16 44 PFAKE 23 31 10.0
BFO LR LR
comp=Z,3μm,20.0s
CUC Castrocucco 109.69 55 PFAKE 23 31 10.0
CUC LR LR
comp=Z,3μm,21.0s
TIP Timpagrande 109.93 56 PFAKE 23 31 10.0
TIP LR LR
comp=Z,5μm,22.0s
RES Resolute Bay 110.20 354 PFAKE 23 31 10.0
RES LR LR
comp=Z,1μm,18.1s
EGAK Eagle 112.82 334 PFAKE 23 31 20.0
EGAK LR LR
comp=Z,1μm,20.0s
KDAK Kodiak Island 114.08 325 PFAKE 23 31 20.0 +10
KDAK LR LR
comp=Z,2μm,22.0s
RUE Ruedersdorf 114.20 42 PFAKE 23 31 20.0 +9.4
RUE LR LR
comp=Z,4μm,21.0s
HNR Honiara 114.25 238 PFAKE 23 31 20.0 +8.0
HNR LR LR
comp=Z,234nm,19.0s
CTAO Charters Tower 114.57 220 PFAKE 23 31 20.0 +7.5
CTAO LR LR
comp=Z,598nm,20.0s
RGN Rugen 114.85 40 PFAKE 23 31 20.0 +8.2
RGN LR LR
comp=Z,2μm,21.0s
IL1 Eielson Array 114.92 333 ePKiKP PKPdf 23 31 10.6 -1.0
ILAR Eielson Array 114.92 333 PKP PKPdf 23 31 11.5 -0.2
comp=Z,1.7nm,0.8s,baz=152,slow=3.0,SNR=12
ILB Eielson Array 114.92 333 ePKiKP PKPdf 23 31 10.9 -0.8
KONO Kongsberg 115.22 34 PFAKE 23 31 20.0 +7.7
KONO LR LR
comp=Z,2μm,20.0s
COLA College 115.33 333 PFAKE 23 31 20.0 +7.6
COLA LR LR
comp=Z,1μm,20.0s
TRF Thorofare Moun 115.63 331 ePKPdf PKPdf 23 31 12.6 -0.7
PSZ Piszkesteto 115.86 48 PFAKE 23 31 30.0 +16
PSZ LR LR
comp=Z,2μm,22.0s
CAST Castle Rocks 116.34 330 PFAKE 23 31 30.0 +16
CAST LR LR
comp=Z,800nm,20.1s
MSEY Mahe Island 116.84 117 PFAKE 23 31 30.0 +13
MSEY LR LR
comp=Z,2μm,20.0s
AS01 Alice Springs 116.99 207 ePKPdf PKPdf 23 31 15.5 -1.6
COLD Coldfoot 117.24 335 ePKPdf PKPdf 23 31 16.6 +0.6
UZH Uzhgorod 117.61 48 ePKIKP PKPdf 23 31 24.1 +6.8
IM04 Indian Mountai 118.05 333 ePKPdf PKPdf 23 31 18.2 +0.5
KWP Kalwaria Pacla 118.23 47 PFAKE 23 31 30.0 +11
KWP LR LR
comp=Z,2μm,20.0s
FALS False Pass 118.42 319 PFAKE 23 31 30.0 +11
FALS LR LR
comp=Z,2μm,19.1s
ISP Isparta 119.06 62 PFAKE 23 31 30.0 +9.4
ISP LR LR
comp=Z,2μm,20.0s
PETR Petresti 119.70 53 ⇑iP Pdif 23 27 43.8 -0.4
WRA Warramunga Arr 120.22 209 PKP PKPdf 23 31 21.2 -2.2
comp=Z,10nm,1.0s,baz=160,slow=1.4,SNR=16
WRAB Tennant Creek 120.22 209 PFAKE 23 31 30.0 +6.6
WRAB LR LR
comp=Z,1μm,19.0s
COEN Coen 121.28 221 PFAKE 23 31 40.0 +15
COEN LR LR
comp=Z,4μm,18.3s
ANTO Ankara 121.47 61 PFAKE 23 31 40.0 +15
ANTO LR LR
comp=Z,1μm,20.0s
BRTR Keskin Array B 122.02 61 PKP PKPdf 23 31 25.9 -0.4
comp=Z,7.1nm,0.8s,baz=207,slow=2.9,SNR=4.0
BR101 Keskin Array S 122.02 61 ePKPdf PKPdf 23 31 25.9 -0.4
AK11 Malin Array Si 122.50 48 ePKPdf PKPdf 23 31 25.3 -1.4
KIEV Kiev 122.53 48 PFAKE 23 31 40.0 +13
KIEV LR LR
comp=Z,1μm,22.0s
AKASG Malin Array Be 122.54 48 PKP PKPdf 23 31 26.0 -0.7
comp=Z,8.9nm,0.7s,baz=258,slow=2.8,SNR=4.1
AKBB Malin Array Si 122.54 48 ePKIKP PKPdf 23 31 26.0 -0.7
AKBB Malin Array Si 122.54 48 ePKPdf PKPdf 23 31 26.0 -0.7
KBS Kingsbay 122.62 13 PFAKE 23 31 40.0 +14
KBS LR LR
comp=Z,935nm,22.0s
PMG Port Moresby 122.67 228 ePKIKP PKPdf 23 31 27.2 -1.0
PMG MLR MLR
comp=Z,565nm,19.0s
PMG Port Moresby 122.67 228 PKP PKPdf 23 31 27.2 -1.0
comp=Z,12nm,0.8s,baz=117,slow=4.5,SNR=6.6
PMG Port Moresby 122.67 228 ePKPdf PKPdf 23 31 27.2 -1.0
PMG LR LR
comp=Z,565nm,19.0s
MBWA Marble Bar 123.35 193 PFAKE 23 31 40.0 +11
MBWA LR LR
comp=Z,2μm,21.0s
TNA Tin City 123.51 330 ePKPdf PKPdf 23 31 27.7 -0.4
GAMB Gambell 124.81 328 ePKPdf PKPdf 23 31 29.9 -0.8
GAMB LR LR
comp=Z,900nm,20.4s
RAYN Ar Rayn 124.89 84 PFAKE 23 31 40.0 +7.8
RAYN LR LR
comp=Z,3μm,20.0s
KEV Kevo 125.14 25 PFAKE 23 31 40.0 +8.9
KEV LR LR
comp=Z,1μm,19.0s
ADK Adak 125.17 313 PFAKE 23 31 40.0 +8.3
ADK LR LR
comp=Z,1μm,19.0s
DGAR Diego Garcia 126.19 134 PFAKE 23 31 50.0 +15
DGAR LR LR
comp=Z,1μm,21.0s
APA Apatity 127.35 28 ⇑iPKIKP PKPdf 23 31 41.0 +5.6
APA MLR MLR
comp=Z,2μm,17.0s
LVZ Lovozero 127.83 27 PFAKE 23 31 50.0 +14
LVZ LR LR
comp=Z,1μm,20.0s
OBN Obninsk 127.83 44 PFAKE 23 31 50.0 +13
OBN LR LR
comp=Z,2μm,21.0s
KIV Kislovodsk 129.71 59 PFAKE 23 31 50.0 +9.2
KIV LR LR
comp=Z,797nm,22.0s
GNI Garni 130.28 64 PFAKE 23 31 50.0 +7.9
GNI LR LR
comp=Z,1μm,20.0s
COCO West Island 132.12 165 PFAKE 23 32 00.0 +14
COCO LR LR
comp=Z,2μm,20.0s
BILL Bilibino 133.56 334 PFAKE 23 32 00.0 +13
BILL LR LR
comp=Z,900nm,21.0s
KAPI Kappang 139.00 198 PFAKE 23 32 10.0 +11
KAPI LR LR
comp=Z,800nm,22.0s
ARU Arti 140.17 41 PFAKE 23 32 10.0 +10
ARU LR LR
comp=Z,3μm,22.0s
PET Petropavlovsk 140.23 313 PFAKE 23 32 10.0 +10
PET LR LR
comp=Z,1μm,19.0s
GUMO Guam 140.77 247 PFAKE 23 32 10.0 +7.9
GUMO LR LR
comp=Z,2μm,21.0s
TIXI Tiksi 141.44 350 PFAKE 23 32 10.0 +8.4
TIXI LR LR
comp=Z,872nm,22.0s
LUWI Luwuk 141.88 204 PFAKE 23 32 20.0 +16
LUWI LR LR
comp=Z,500nm,21.0s
PALK Pallekele 142.77 131 PFAKE 23 32 20.0 +14
PALK LR LR
comp=Z,2μm,20.0s
TOLI Toli-Toli 144.56 202 PFAKE 23 32 20.0 +11
TOLI LR LR
comp=Z,500nm,20.0s
BKNI Bangkinang 145.13 167 ePKPbc PKPbc 23 32 08.8 -0.7
GSI Gunungsitoli 145.31 161 ePKPbc PKPbc 23 32 08.3 -1.7
GSI LR LR
comp=Z,2μm,22.0s
KSM Kuching 146.86 184 ePKPdf PKPdf 23 32 11.9 -1.0
KSM LR LR
comp=Z,1μm,20.0s
MYKOM Kota Tinggi 146.99 172 ePKPdf PKPdf 23 32 12.3 -0.8
BRVK Borovoye 147.61 44 PFAKE 23 32 20.0 +2.2
BRVK LR LR
comp=Z,2μm,22.0s
SBUM Sibu 147.67 188 ePKPdf PKPdf 23 32 13.2 -1.0
SBUM LR LR
comp=Z,900nm,21.0s
KBL Kabul 147.93 79 ePKIKP PKPdf 23 32 13.8 -0.5
KBL Kabul 147.93 79 ePKPdf PKPdf 23 32 13.8 -0.5
VOSK Vostochnaya 148.12 44 ePKPdf PKPdf 23 32 12.2 -1.6
DAV Davao City (W) 148.15 214 PFAKE 23 32 30.0 +9.0
DAV LR LR
comp=Z,759nm,22.0s
LHMI Lhok Sumawe 148.86 158 ePKPdf PKPdf 23 32 15.3 -0.8
IPM Ipoh 149.18 166 ePKPdf PKPdf 23 32 16.4 -0.3
YAK Yakutsk 149.47 340 ePKPdf PKPdf 23 32 15.1 -0.5
YAK LR LR
comp=Z,800nm,21.0s
KULM Kulim 149.89 165 ePKPdf PKPdf 23 32 16.2 -1.7
KULM LR LR
comp=Z,951nm,20.0s
KKM Kota Kinabalu 150.51 196 ePKPbc PKPdf 23 32 22.5 +3.6
KKM LR LR
comp=Z,600nm,22.0s
YSS Yuzh-Sakhalins 151.37 306 ePKIKP PKPdf 23 32 23.0 +3.9
YSS Yuzh-Sakhalins 151.37 306 ePKPbc PKPdf 23 32 23.0 +3.9
ERM Erimo 151.77 295 PFAKE 23 32 30.0 +3.8
ERM LR LR
comp=Z,1μm,21.0s
ASAJ Asahikawa 151.98 300 ePKPdf PKPdf 23 32 18.2 -1.8
EKS2 Erkin-Say 152.15 63 PFAKE 23 32 30.0 +2.7
EKS2 LR LR
comp=Z,1μm,20.0s
AAK Ala-Archa 152.68 63 PFAKE 23 32 30.0 +1.5
AAK LR LR
comp=Z,1μm,22.0s
KURK Kurchatov 153.28 44 PFAKE 23 32 30.0 +0.7
KURK LR LR
comp=Z,755nm,20.0s
TKM2 Tokmak 2 153.45 62 PFAKE 23 32 30.0 -0.3
TKM2 LR LR
comp=Z,1μm,20.0s
KSH Kashi 153.96 70 ePKPbc PKPdf 23 32 22.5 -0.8
KSH epPKP PKiKP 23 32 33.8 +2.4
KSH esPKP 23 32 37.3

KSH eSKS SKSdf 23 39 25.0 -4.6
KSH eSKKS SKKSac 23 43 06.0 -3.0
KSH eSS SS 23 55 53.0 -4.6
KSH LR LR
comp=Z,290nm,14.6s
KSH LR LR
comp=Z,560nm,15.6s
KSH LR LR
comp=Z,190nm,8.0s
ZAA1 Zalesovo Array 154.73 33 ePKPbc **PKPbc 23 32 32.4 +0.1**
MAJO Matsushiro 155.57 283 PFAKE 23 32 40.0 -12
MAJO LR LR
comp=Z,1μm,21.0s
USRK Ussuriysk Arra 159.39 304 PKPab **PKPab 23 33 07.6 -0.1**
comp=Z,7.8nm,0.9s,baz=52,slow=3.1,SNR=4.4
USRK PP **PP 23 36 47.5 -1.8**
comp=Z,0.6nm,0.6s,baz=76,slow=8.0,SNR=4.7
MDJ Mudanjiang 160.84 307 PFAKE 23 32 40.0 +8.4
MDJ LR LR
comp=Z,812nm,21.0s
WMQ Urumqi 161.76 54 ePKP **PKPdf 23 32 32.3 -0.4**
WMQ LR LR
comp=Z,650nm,20.8s
WMQ LR LR
comp=Z,470nm,22.0s
WMQ LR LR
comp=Z,740nm,21.2s
CHTO Chiang Mai 162.15 150 PFAKE 23 32 40.0 +6.2
CHTO LR LR
comp=Z,904nm,21.0s
TLY Talaya 162.74 10 PFAKE 23 32 40.0 +6.6
TLY LR LR
comp=Z,2μm,20.0s
HIA Hailar 163.15 333 PFAKE 23 32 40.0 +6.1
HIA LR LR
comp=Z,1μm,21.0s
KS01 Wonju Array Si 163.83 285 ePKPdf **PKPdf 23 32 32.9 -1.9**
KS01 ePKPab **PKPab 23 33 27.5 +0.1**
QIZ Qiongzhong 164.30 186 PFAKE 23 32 50.0 +14
QIZ LR LR
comp=Z,1μm,20.0s
LSA Lhasa 164.74 104 PFAKE 23 32 50.0 +13
LSA LR LR
comp=Z,2μm,20.0s
YHNB Yeheng 164.79 232 PFAKE 23 32 50.0 +14
YHNB LR LR
comp=Z,1μm,22.0s
INCN Inchon 164.83 286 PFAKE 23 32 50.0 +14
INCN LR LR
comp=Z,880nm,19.0s
TATO Taipei 164.93 233 PFAKE 23 32 50.0 +14
TATO LR LR
comp=Z,854nm,21.0s
QZH Quanzhou 166.72 226 iPKP **PKPdf 23 32 39.8 +2.2**
QZH PKPab **PKPab 23 33 40.3 0.0**
QZH PP PP 23 37 26.3 -1.5
SONA1 Songino Array 166.82 5 ePKPdf **PKPdf 23 32 36.2 -1.0**
SONA1 ePKPab **PKPab 23 33 40.7 +0.4**
SONA0 Songino Array 166.83 5 ePKPdf **PKPdf 23 32 37.0 -0.2**
SONA0 ePKPab **PKPab 23 33 41.0 +0.7**
SONM Songino Array 166.83 5 PKP **PKPdf 23 32 37.0 -0.2**
comp=Z,6.3nm,0.9s,baz=21,slow=2.2,SNR=3.3
SONM PKPab **PKPab 23 33 41.0 +0.7**
comp=Z,11nm,0.9s,baz=344,slow=4.9,SNR=6.5
ULN Ulaanbaatar 166.84 3 ePKIKP **PKPdf 23 32 36.6 -0.6**
ULN Ulaanbaatar 166.84 3 ePKPdf **PKPdf 23 32 36.6 -0.6**
ULN ePKPab **PKPab 23 33 40.9 +0.5**
ULN LR LR
comp=Z,2μm,19.0s
NJ2 Nanjing 170.69 256 ePKP **PKPdf 23 32 39.3 -0.7**
GYA Guiyang 171.66 171 iPKP **PKPdf 23 32 39.5 -1.3**
GYA pPKP **pPKPdf 23 32 51.5 +5.2**
GYA PKPab **PKPab 23 34 03.0 +0.9**
GYA PKS **PKSdf 23 36 10.8 -2.6**
GYA PP **PP 23 37 53.3 +1.2**
GYA SKKS 23 44 36.5
GYA SS **SS 23 58 56.0 -2.2**
GYA AMB AMB
comp=Z,210nm,10.4s
GYA LR LR
comp=Z,220nm,21.8s
GYA LR LR
comp=Z,190nm,21.6s
GYA LR LR
comp=Z,250nm,24.0s
BJI Beijing 171.72 312 PKP **PKPdf 23 32 39.5 -0.7**
BJI PP **PP 23 37 55.0 +1.8**
BJI LR LR
comp=Z,910nm,22.3s
BJI LR LR
comp=Z,1μm,20.3s
BJI LR LR
comp=Z,2μm,22.3s
BJT Baijiatuau 171.74 312 ePKIKP **PKPdf 23 32 38.5 -1.8**
BJT Baijiatuau 171.74 312 ePKPdf **PKPdf 23 32 38.5 -1.8**
BJT ePKPab **PKPab 23 34 00.3 -2.0**
BJT LR LR
comp=Z,2μm,20.0s
GTA Gaotai 171.84 53 ePKP **PKPdf 23 32 40.8 +0.3**
GTA pPKP **pPKPdf 23 32 51.5 +5.4**
GTA sPKP 23 32 55.0
GTA PKPab **PKPab 23 34 05.3 +2.4**
HHC Hu-ho-hao-te 173.33 337 ePKP **PKPdf 23 32 39.5 -1.6**
HHC pPKP **pPKPdf 23 32 49.0 +2.4**
HHC sPKP 23 32 54.3
HHC PP **PP 23 37 59.3 -1.2**
HHC AMB AMB
comp=Z,1μm,6.9s
HHC LR LR
comp=Z,3μm,22.1s
HHC LR LR
comp=Z,2μm,18.6s
HHC LR LR
comp=Z,3μm,21.4s
CD2 Chengdu 174.68 134 PKP **PKPdf 23 32 40.8 -1.0**
CD2 pPKP **pPKPdf 23 32 52.0 +4.7**
CD2 sPKP 23 32 55.8
CD2 PKS **PKSdf 23 36 11.5 -2.6**
CD2 PP **PP 23 38 10.0 +2.3**
CD2 SKS SKSdf 23 39 38.3 -6.1
CD2 SKKS **SKKSac 23 44 50.8 -3.0**
CD2 SS **SS 23 59 25.5 -3.5**
CD2 AMB AMB
comp=Z,620nm,6.4s
ENH Enshi 175.43 194 PFAKE 23 32 50.0 +8.0
ENH LR LR
comp=Z,467nm,20.0s
LZH Lanzhou 176.21 68 ePKP **PKPdf 23 32 42.3 +0.1**
LZH pPKP pPKPdf 23 32 55.5 +7.8
LZH sPKP 23 32 59.0
LZH PP **PP 23 38 18.3 +2.5**
LZH eSKKS 23 44 59.5
LZH eSS **SS 23 59 40.0 -5.1**
LZH AMB AMB
comp=Z,940nm,4.6s
LZH LR LR
comp=Z,1μm,19.2s
LZH LR LR
comp=Z,2μm,19.1s
LZH LR LR
comp=Z,2μm,20.0s
XAN Xi'an 179.08 222 PKP **PKPdf 23 32 40.5 -2.0**

*IDC **27** 23:18:45.0±0.8, 34.27S×73.67W, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.2/27, mbtmp4.2/10, ML5.1/1, Error ellipse: s-maj=27.1km s-min=18.3km az=81.0*
*ISCJB **27** 23:18:47.8±0.5, 34.34S±0.07×73.58W±0.09, h33km, mb4.3/11, Error ellipse: s-maj=10.7km s-min=9.4km az=34.2*
*NEIC **27** 23:18:49.9±0.4, 34.30S×73.60W, h35km, mb4.6/7, Error ellipse: s-maj=12.6km s-min=8.4km az=69.0*
ISC 27 23:18:49.9±0.7, 34.32S±0.09×73.6W±0.1, h35km, n22, σ0.73/22, mb4.3/11, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.29 61 Pn **Pn 23 20 06.0 -0.4**
0.7nm,0.3s,baz=233,slow=15,SNR=3.3
CFAA Sn **Sn 23 21 06.5 +0.4**
1.8nm,0.3s,baz=122,slow=18,SNR=4.3
PLCA Paso Flores 6.85 160 Pn **Pn 23 20 27.6 -0.2**
7.7nm,0.3s,baz=342,slow=12,SNR=8.2
PLCA Paso Flores 6.85 160 ePn **Pn 23 20 26.9 -1.0**
TRQA Tornquist 10.13 115 ePn **Pn 23 21 11.5 -1.3**
USHA Ushuaia 20.83 172 Pn Pn 23 23 29.8 -1.0
19nm,0.9s,baz=34,slow=7.3,SNR=2.8
OTAV Otavalo 34.68 352 eP **P 23 25 36.2 -0.6**
7.3nm,1.1s
RCBR Riachuelo 44.95 60 eP **P 23 27 01.8 +0.1**
SNAA Sanae 51.79 158 P **P 23 27 54.1 +0.4**
1.2nm,0.8s,baz=269,slow=8.7,SNR=6.8
SNAA Sanae 51.79 158 eP **P 23 27 53.9 +0.1**
7.4nm,0.9s
QSPA South Pole Qui 55.91 180 P **P 23 28 24.3 +0.2**
4.5nm,0.9s,baz=117,slow=4.5,SNR=4.6
QSPA South Pole Qui 55.91 180 eP **P 23 28 24.3 +0.2**
3.3nm,0.7s
TXAR Lajitas Array 69.39 332 P **P 23 29 54.0 -0.2**
2.1nm,0.7s,baz=158,slow=8.3,SNR=13
WVT Waverly 71.33 348 eP **P 23 30 05.1 -0.7**
9.8nm,0.8s
DBIC Dimbokro 76.54 72 P **P 23 30 37.3 +0.5**
3.9nm,0.7s,baz=205,slow=3.8,SNR=4.6
DBIC Dimbokro 76.54 72 eP **P 23 30 37.3 +0.5**
4.9nm,0.7s
SDCO Great Sand Dun 77.58 335 eP **P 23 30 40.8 -1.7**
1.2nm,0.6s
HWUT Hardware Ranch 83.21 332 eP **P 23 31 11.8 -0.6**
3.2nm,0.6s
NVAR Mina Array Bea 83.40 326 P **P 23 31 14.4 +0.7**
0.5nm,0.6s,baz=153,slow=6.1,SNR=3.5
PDAR Pinedale Array 83.47 334 P **P 23 31 14.2 +0.4**
2.0nm,1.1s,baz=134,slow=5.2,SNR=4.6
TORD Torodi Ar. Bea 85.57 71 P **P 23 31 25.3 +0.5**
1.4nm,0.8s,baz=269,slow=4.2,SNR=6.0
BVAR Borovoye Array 148.42 43 PKPbc **PKPbc 23 38 33.1 +1.0**
1.6nm,0.4s,baz=297,slow=2.9,SNR=12
MKAR Makanchi Array 157.97 48 PKPab **PKPab 23 39 16.2 +0.3**
1.1nm,0.7s,baz=288,slow=3.6,SNR=4.0

*ISCJB **27** 23:21:09.0±0.3, 35.92N±0.01×70.09E±0.01, h79km±2km, mb5.7/407, Error ellipse: s-maj=2.3km s-min=1.6km az=15.9*
*MOS **27** 23:21:10.7±0.8, 35.96N×70.01E, h90km, mb5.8/91, MS4.9/21, Error ellipse: s-maj=5.5km s-min=3.4km az=122.8*
*BJI **27** 23:21:11.8, 36.09N×70.14E, h95km, mB5.7/45, mb5.6/76*
*NEIC **27** 23:21:12.6±0.5, 35.94N×70.07E, h100km±4km, mb5.7/152, Error ellipse: s-maj=3.5km s-min=2.3km az=195.0*
NEIC Felt [III] at Bagrami, Charikar, Jabal os Saraj, Jalalabad and Kabul. Also felt at Baghlan, Faizabad, Mahmud-e Raqi and Pul-e Khumri. Felt [II] at Dushanbe, Tajikistan. Also felt at Khorugh. Felt [II] at Samarqand, Uzbekistan. Felt at Islamabad and Peshawar, Pakistan.
*IDC **27** 23:21:12.9±2.2, 35.86N×70.04E, h105km±19km, mb5.1/33, mb1 5.2/37, mb1mx5.2/39, mbtmp5.5/37, MS4.8/15, Ms1 4.8/15, ms1mx4.6/32, Error ellipse: s-maj=12.3km s-min=7.5km az=177.0*
*GCMT **27** 23:21:14.0±0.3, 35.75N×69.96E, h115km±4km, MW5.7/83, Moment Tensor Solution. s25,c30; s83,c143; Duration: 1s8 Moment tensor: Scale 10^{17}Nm; Mrr3.04±.23; Mθθ-3.50±.19; Mφφ0.46±.17; Mrθ3.30±.14; Mrφ1.16±.17; Mθφ-0.36±.13; Best double couple: Mo4.77800×10^{17} NP1:φs98.00000°, δ67.00000°, λ83.00000°. NP2: φs295.00000°, δ24.00000°, λ106.00000°. Principal axes: T 4.4190, Plg67.0000°, Azm356.0000°; N 0.7190, Plg6.0000°, Azm101.0000°; P -5.1380, Plg22.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NNC **27** 23:21:16.0±2.8, 36.45N×69.72E, h118km±46km, mb5.9, mpv6.3 Error ellipse: s-maj=24.5km s-min=14.6km az=156.0*
*SZGRF **27** 23:21:17.8, 36.34N×70.11E, h126km, mb5.9, Hindu Kush, Afghanistan, region*
ISC 27 23:21:12.3±0.2, 35.93N±0.03×70.02E±0.02, h99km±1km, h99km:pP-P, n1354, σ1.50/1473, mb5.8/409, 202C-117D, Hindu Kush region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KBL Kabul 1.60 210 ePn **Pn 23 21 39.2 -0.8**
KBL eSn **Sn 23 22 01.5 +0.5**
CEP Cherat 2.62 143 P **Pn 23 21 52.2 -0.9**
CEP S **Sn 23 22 26.0 +1.6**
CHCP Chirah Chowk 3.50 129 P **Pn 23 22 04.4 -0.5**
KSH Kashi 5.92 51 Pn Pn 23 22 33.0 -4.6
KSH Sn Sn 23 23 31.5 -13
KSH smax smax
comp=N,45μm,0.9s
KSH smax smax
comp=E,24μm,0.5s
KSH Kashi 5.92 51 P Pn 23 22 33.5 -4.1
KSH esP sP 23 22 59.3
KSH S Sn 23 23 34.0 -10
KSH pmax pmax
comp=E,4μm,1.4s
KSH LR LR
comp=E,19μm,4.8s
KSH LR LR
comp=E,19μm,2.3s
KSH LR LR
comp=E,22μm,3.7s
DLH Dalhousie 5.97 123 eP **Pn 23 22 38.0 -0.5**
DLH eS **Sn 23 23 42.0 -3.7**
DHRM DHARAMSHALA 6.38 123 eP **Pn 23 22 42.0 -1.9**
DHRM eS **Sn 23 23 51.7 -3.7**
DHRM AML AML 23 24 36.9
comp=E,16μm,0.9s
DHRM AML AML 23 24 39.1
comp=N,11μm,0.4s
AML Almayashu 6.82 24 P **Pn 23 22 48.8 -1.2**
SNR=4563
BHK Bhakra 6.98 128 eP **Pn 23 22 50.0 -2.0**
BHK ex **Sn 23 24 08.8 -1.0**
KK31 Karatay Array 7.17 3 ⇓P **Pn 23 22 53.4 -1.1**
comp=N,464nm,0.5s
KK31 ⇓S Sn 23 24 07.8 -6.5
comp=N,935nm,0.6s,baz=192,slow=21,SNR=5.3
KKAR Karatay Array 7.17 3 ePN **Pn 23 22 52.9 -1.6**
KKAR Karatay Array 7.17 3 ePn **Pn 23 22 52.9 -1.6**
UCH Uchtor 7.19 28 P **Pn 23 22 54.3 -0.9**
SNR=282
SDNR Sundarnagar 7.29 125 eP **Pn 23 22 54.0 -2.1**
EKS2 Erkin-Say 7.32 22 P **Pn 23 22 55.7 -1.0**
SNR=549
EKS2 Erkin-Say 7.32 22 ePN **Pn 23 22 56.0 -0.7**
EKS2 Erkin-Say 7.32 22 ePn **Pn 23 22 56.0 -0.7**
EKS2 eSn **Sn 23 24 14.5 -3.7**
KZA Kyzart 7.36 32 P **Pn 23 22 56.2 -1.2**
SNR=428
AAK Ala-Archa 7.54 26 Pn **Pn 23 22 59.9 +0.3**
comp=N,19μm,0.7s
AAK Ala-Archa 7.54 26 ⇓P **Pn 23 22 59.2 -0.3**
comp=N,2μm,0.8s
AAK ⇑S **Sn 23 24 18.5 -5.0**
comp=N,5μm,0.8s
AAK Ala-Archa 7.54 26 P **Pn 23 22 58.7 -0.9**
SNR=237
AAK Ala-Archa 7.54 26 d iPN **Pn 23 22 59.6 0.0**
AAK pmax pmax
comp=Z,6μm,0.8s
AAK Ala-Archa 7.54 26 P **Pn 23 22 59.5 -0.1**
comp=Z,199nm,0.3s,baz=190,slow=7.4,SNR=312
AAK S **Sn 23 24 19.7 -3.8**
comp=Z,278nm,0.3s,baz=192,slow=14,SNR=13
AAK Ala-Archa 7.54 26 ePn **Pn 23 22 59.3 -0.3**
AAK eSn **Sn 23 24 18.2 -5.3**
SMLA Simla 7.65 127 eP **Pn 23 22 59.0 -2.0**
SMLA eS Sn 23 24 18.8 -7.4
KBK Karagaybulak 7.72 28 P **Pn 23 23 02.0 -0.2**
SNR=165
KBK Karagaybulak 7.72 28 iPN **Pn 23 23 02.0 -0.2**
FRU Bishkek 7.75 26 iPN **Pn 23 23 02.9 +0.4**
FRU pmax pmax
comp=Z,2μm,0.6s
ULHL Ulahol 7.95 36 P **Pn 23 23 03.9 -1.3**
SNR=100
CHMS Chumysh 7.95 26 P **Pn 23 23 04.0 -1.1**
SNR=419
IMYA Miami 8.04 276 ePn **Pn 23 23 04.6 -1.9**
USP Ospenovka 8.10 24 P **Pn 23 23 05.6 -1.6**
SNR=358
TKM2 Tokmak 2 8.20 30 ⇑P **Pn 23 23 08.0 -0.7**
comp=Z,3μm,0.8s
TKM2 ⇑S **Sn 23 24 38.6 -1.2**
comp=Z,3μm,1.4s
TKM2 Tokmak 2 8.20 30 P **Pn 23 23 07.6 -1.1**
SNR=277
TKM2 Tokmak 2 8.20 30 iPN **Pn 23 23 08.0 -0.7**
TKM2 pmax pmax
comp=Z,3μm,0.7s
TKM2 Tokmak 2 8.20 30 ePn **Pn 23 23 07.8 -0.9**
TKM2 eSn **Sn 23 24 39.0 -0.7**
ISRO Mashad 8.54 276 ePn **Pn 23 23 10.9 -2.4**
IMOG Moghan 8.65 274 ePn **Pn 23 23 14.0 -1.0**
DDI Dehra Dun 8.76 127 eP **Pn 23 23 14.4 -1.7**
DDI eS Sn 23 24 45.2 -8.0
DDI eS **Sn 23 24 49.3 -3.9**
DDI AML AML 23 25 53.2
comp=E,3μm,0.7s
DDI AML AML 23 25 57.1
comp=N,4μm,0.5s
IPAY Payeh 8.93 277 ePn **Pn 23 23 17.1 -1.5**
IDAH Dahanechah 8.98 252 ePn **Pn 23 23 17.8 -1.6**
KNDC Almaty 9.04 34 ⇓P **Pn 23 23 19.6 -0.3**
KNDC ⇑S **Sn 23 24 55.2 -4.6**
AAA Alma-Ata 9.07 34 iPN **Pn 23 23 19.0 -1.3**
AAA pmax pmax
comp=Z,6μm,1.9s
IQHU Qucahn 9.31 280 ePn **Pn 23 23 22.0 -1.8**
ASHT Ashkhabad 9.53 286 ⇓P **Pn 23 23 24.6 -1.9**
ASHT ⇑S **Sn 23 25 07.3 -4.5**
ABKT Ailbek 9.73 285 Pn **Pn 23 23 26.7 -2.7**
comp=Z,4μm,0.6s,SNR=69
GEYT Alibeck 9.73 285 P **Pn 23 23 27.7 -1.7**
comp=Z,63nm,0.3s,baz=118,slow=11,SNR=189
GEYT S Sn 23 25 10.1 -6.8
comp=Z,77nm,0.3s,baz=95,slow=16,SNR=5.1
GEYT LR LR 23 28 23.7
comp=Z,5μm,18.3s,baz=110,slow=44
ISFR Sfrayin 9.74 280 ePn **Pn 23 23 27.2 -2.5**
IKOO Kooshah 9.77 252 ePn **Pn 23 23 29.4 -0.8**
ITEG Tejag 9.79 255 ePn **Pn 23 23 28.7 -1.7**
ISHV Shirvan 10.02 283 ePn Pn 23 23 30.2 -3.2
AJM Ajmer 10.22 156 ex Pn 23 23 32.0 -4.1
AJM ex x 23 25 14.0
PDGK Podgornoye 10.38 42 ⇓P **Pn 23 23 36.0 -2.0**
PTH Pithoragarh 10.68 124 ex Pn 23 23 45.9 +3.4
PTH ex x 23 25 44.8
LGTI Lohaghat 10.77 124 ex Pn 23 23 36.5 -7.0
LGTI eS Sn 23 25 31.1 -11
OTUK Ortayu 12.42 7 ⇓P **Pn 23 24 02.9 -2.7**
OTUK ⇑S Sn 23 26 14.2 -7.8
BHJ Bhuj 12.64 182 eP Pn 23 24 04.6 -3.9
BHJ AMB AMB 23 24 05.9
comp=Z,1μm,1.4s
BHJ eS Sn 23 26 15.0 -13
IBAF Bafgh 12.78 254 ePn **Pn 23 24 10.4 -0.1**
IGLO Ghaloghah 13.09 277 ePn **Pn 23 24 14.4 -0.1**
IANJ Anjilo 13.10 273 ePn **Pn 23 24 14.3 -0.5**
ICHK Chekchek 13.45 259 ePn Pn 23 24 15.6 -3.7
IMEH Mehriz 13.61 255 ePn Pn 23 24 17.1 -4.4
DANN Dangsing 13.87 119 eP Pn 23 24 20.6 -4.3
comp=Z,494nm,0.4s
ILAS Lasjerd 13.89 273 ePn Pn 23 24 20.2 -4.8
IALA Alasht 13.94 276 ePn **Pn 23 24 25.7 0.0**
IFIR Firoozkooh 14.02 274 ePn **Pn 23 24 25.5 -1.3**
KOLN Koldanda 14.11 121 eP Pn 23 24 23.6 -4.4
comp=Z,529nm,0.5s
ISAD Sadrabad 14.14 258 ePn **Pn 23 24 29.7 +1.3**
BHPL Bhopal 14.19 151 ex Pn 23 24 24.0 -4.8
BHPL ex x 23 26 53.1
MK09 Makanchi Array 14.20 37 ⇑P **Pn 23 24 26.1 -2.6**
comp=Z,1μm,0.8s
MK01 Makanchi Array 14.20 37 ePn **Pn 23 24 26.3 -2.6**
MK32 Makanchi Array 14.22 36 ePn **Pn 23 24 28.9 -0.1**
MKAR Makanchi Array 14.22 36 P **Pn 23 24 28.9 -0.1**
MKAR pmax pmax
comp=Z,6.0nm,0.3s
MKAR Makanchi Array 14.22 36 P **Pn 23 24 28.9 -0.1**
comp=Z,6.1nm,0.3s,baz=231,slow=12,SNR=35
IPRN Peran 14.30 276 ePn **Pn 23 24 31.4 +1.1**
IDMV Damavand 14.61 274 ePn **Pn 23 24 33.6 -0.9**
GKN Gorkha 14.70 118 eP Pn 23 24 31.5 -4.0
comp=Z,668nm,0.5s
IZEF Zefreh 14.91 263 ePn **Pn 23 24 37.7 -0.6**
IVRN Varamin 14.94 272 ePn **Pn 23 24 37.5 -0.9**
AB31 Akbulak array 15.22 334 ⇓P **Pn 23 24 39.3 -2.4**
comp=Z,244nm,0.6s,baz=158,slow=12
AB31 ⇓S Sn 23 27 16.6 -13
comp=Z,214nm,0.5s,baz=153,slow=24
ABKAR Akbulak array 15.22 334 ePn **Pn 23 24 38.9 -2.9**
ABKAR eSn Sn 23 27 16.2 -13
DMN Daman 15.27 119 eP **Pn 23 24 38.8 -4.0**
comp=Z,1μm,0.8s
KKN Kakani 15.29 118 eP **Pn 23 24 38.9 -4.0**
comp=Z,627nm,0.6s
IKLH Kolahrood 15.40 266 ePn **Pn 23 24 43.6 -0.8**
BANOM Banah 15.41 233 Pn **P 23 24 46.8 0.0**
SNR=19
PKIN Phulchoki 15.49 118 eP **Pn 23 24 41.8 -3.8**
comp=Z,285nm,0.3s
PKI Pulchoki 15.51 118 eP **Pn 23 24 41.9 -3.9**
comp=Z,831nm,0.7s
GUN Gumba 15.65 116 eP **Pn 23 24 43.6 -4.0**
ISRV Sarvestan 15.66 250 ePn **Pn 23 24 47.6 -0.1**
WMQ Urumqi 15.67 54 P **Pn 23 24 46.3 -1.2**
WMQ pP pP 23 25 00.3 -7.7
WMQ PP PP 23 25 02.3
WMQ sP sP 23 25 14.5 -6.1
WMQ S **Sn 23 27 37.3 -3.4**
WMQ sS S 23 27 59.8 +11
WMQ PcP **PcP 23 29 41.0 -1.0**
WMQ PcS **PcS 23 33 15.0 -2.4**
WMQ ScS **ScS 23 36 42.5 -3.2**
WMQ pmax pmax
comp=Z,900nm,0.7s
WMQ pmax pmax
comp=Z,3μm,3.6s
WMQ LR LR
comp=Z,8μm,6.4s
WMQ LR LR
comp=Z,9μm,8.6s
WMQ LR LR
comp=Z,5μm,23.8s
IMHD Mahdasht 15.71 275 ePn **Pn 23 24 48.7 +0.7**
KURBB Kurchatov Arra 15.92 20 ⇓P **Pn 23 24 46.4 -4.0**
comp=Z,1μm,0.9s
KURBB ⇓S **Sn 23 27 43.0 -3.5**
comp=Z,642nm,0.9s
IGZV Ghazvin 16.00 277 eP **P 23 24 53.4 0.0**
JIRN Jiri 16.02 116 eP **Pn 23 24 48.2 -4.1**
comp=Z,402nm,0.5s
KURK Kurchatov 16.03 20 Pn **Pn 23 24 48.2 -3.6**
comp=Z,3μm,1.0s,SNR=57
KURK Kurchatov 16.03 20 ⇑P **Pn 23 24 48.3 -3.5**
comp=Z,714nm,1.1s
KURK ⇑S **Sn 23 27 42.4 -6.7**
comp=Z,355nm,1.4s
KURK Kurchatov 16.03 20 eP **Pn 23 24 47.7 -4.1**
KURK pmax pmax
comp=Z,560nm,1.0s
KURK Kurchatov 16.03 20 ePn **Pn 23 24 47.7 -4.1**
comp=Z,560nm,1.0s
IPIR Pirpir 16.13 264 ePn **Pn 23 24 50.1 -3.5**
UOSS Wadi Hilu 16.16 231 Pn **Pn 23 24 54.2 +0.5**
comp=Z,1μm,0.9s,SNR=11
HATD Hatta, Dubai 16.29 231 ⇓iP **Pn 23 24 55.7 +0.4**
SNR=13
IRAZ Razeghan 16.34 274 ePn **Pn 23 24 55.9 -0.1**
WBK Wadi Bani Khal 16.39 219 Pn **Pn 23 24 56.8 +0.3**
SNR=28
ASHO Ashiyiah 16.44 231 Pn **Pn 23 24 57.5 +0.3**
SNR=28
NAZ Nazwa, Dubai 16.48 232 ⇑iP **Pn 23 24 57.8 +0.2**
SNR=22
SMDO Samad 16.51 222 Pn **Pn 23 24 57.3 -0.8**
SNR=18
HOQ Hoqain 16.51 225 Pn **Pn 23 24 56.5 -1.5**
SNR=11
FAQ Al Faqa, Dubai 16.69 232 ⇑iP **P 23 25 00.7 -0.2**
SNR=24
NGP Nagpur 16.71 149 ex **Pn 23 24 57.3 -3.2**
NGP ex x 23 25 47.6
comp=Z,591nm,1.2s
NGP ex x 23 27 50.6

RAMN Ramite 16.73 118 eP Pn 23 24 57.3 -3.6
VOSK Vostochnaya 16.80 2 ⇓P Pn 23 24 58.5 -2.9
comp=Z,1µm,1.0s
VOSK ⇓S Sn 23 27 56.3 -12
comp=Z,359nm,1.1s
VOSK Vostochnaya 16.80 2 eP Pn 23 24 59.7 -1.6
VOSK pmax pmax
comp=Z,851nm,0.9s
VOSK Vostochnaya 16.80 2 ePn Pn 23 24 59.7 -1.6
comp=Z,851nm,0.9s
AKTO Aktyubinsk 16.90 333 ⇓P Pn 23 25 00.8 -1.8
comp=Z,998nm,0.9s
AKTO ⇓S Sn 23 27 58.0 -12
comp=Z,1µm,1.4s
AKTO Aktyubinsk 16.90 333 P Pn 23 25 02.4 -0.1
AKTO S Sn 23 27 57.2 -13
AKTO pmax pmax
comp=Z,20nm,0.3s
AKTO smax smax
comp=N,7.0nm,0.3s
AKTO Aktyubinsk 16.90 333 P Pn 23 25 02.4 -0.1
comp=N,20nm,0.3s,baz=142,slow=12,SNR=196
AKTO S Sn 23 27 57.2 -13
comp=N,6.9nm,0.3s,baz=345,slow=20,SNR=5.5
ASUD Al Ashush, Dub 16.95 232 ⇓iP Pn 23 25 02.9 -0.4
SNR=8.7
JMDO Jabal Madar 17.04 221 Pn P 23 25 04.6 -0.1
SNR=47
BVA0 Borovoye Array 17.09 1 ⇓P Pn 23 25 03.4 -1.5
comp=N,1µm,1.2s,baz=162,slow=11,SNR=1014
BVA0 ⇓S Sn 23 28 04.3 -10
comp=N,272nm,1.2s,baz=183,slow=23,SNR=3.8
BVAR Borovoye Array 17.09 1 P Pn 23 25 04.4 -0.5
BVAR S Sn 23 28 07.8 -6.9
BVAR pmax pmax
comp=Z,21nm,0.3s
BVAR smax smax
comp=N,7.0nm,0.3s
BVAR Borovoye Array 17.09 1 P Pn 23 25 04.4 -0.5
comp=N,21nm,0.3s,baz=158,slow=11,SNR=121
BVAR S Sn 23 28 07.8 -6.9
comp=N,7.1nm,0.3s,baz=188,slow=24,SNR=4.7
BRVK Borovoye 17.12 1 Pn P 23 25 04.3 -1.0
comp=N,7µm,1.1s
BRVK Borovoye 17.12 1 ⇑P Pn 23 25 04.5 -0.8
comp=N,3µm,1.2s
BRVK ⇑S Sn 23 28 05.1 -10
comp=N,370nm,1.0s
BRVK Borovoye 17.12 1 d iP Pn 23 25 04.3 -1.0
BRVK pmax pmax
comp=Z,2µm,1.2s
BRVK Borovoye 17.12 1 eP Pn 23 25 03.9 -1.4
comp=Z,2µm,1.1s
ARQ Araqi 17.16 227 P P 23 25 06.6 +0.5
SNR=26
TAPN Taplejung 17.31 115 eP P 23 25 04.8 -3.2
comp=Z,699nm,0.6s
ODAN Odare 17.35 117 eP P 23 25 05.4 -3.0
POO Poona 17.66 168 eP P 23 25 09.1 -2.6
POO AMB AMB 23 25 13.2
comp=Z,169nm,0.3s
BOK Bokaro 18.29 127 eP P 23 25 17.4 -1.1
BOK AMB AMB 23 25 35.4
comp=Z,206nm,0.4s
BOK ex x 23 28 22.1
IHRS Heris 18.47 284 ePn Pn 23 25 22.3 +0.4
MAK Makhachkala 18.72 299 eP P 23 25 22.2 -0.8
MAK eS S 23 28 48.5 -2.3
MAK pmax pmax
comp=Z,294nm,0.9s
MAK MLR MLR
comp=Z,3µm,11.0s
LSA Lhasa 18.80 103 P Pn 23 25 25.8 -0.3
LSA Lhasa 18.80 103 eP Pn 23 25 26.2 +0.1
LSA pmax pmax
comp=Z,321nm,0.9s
LSA Lhasa 18.80 103 eP Pn 23 25 26.2 +0.1
comp=Z,321nm,0.9s
LSA eScP ScP 23 33 16.0 +1.6
KAD Karad 18.92 168 eP P 23 25 24.2 -1.2
KAD eS S 23 28 56.6 +1.4
IFTB Fath-abad 18.98 283 ePn Pn 23 25 31.0 +3.0
ITBZ Tabriz 19.18 284 ePn Pn 23 25 30.9 +0.7
IGHG Ghaleghazi 19.24 272 ePn Pn 23 25 30.3 -0.7
IDHR Dehrash 19.32 273 ePn Pn 23 25 31.1 -0.9
HYB Hyderabad 19.94 155 iP P 23 25 36.0 -0.5
HYB e 23 29 00.0
HYB eS S 23 29 12.0 -3.5
HYB Hyderabad 19.94 155 eP P 23 25 35.8 -0.7
DGRG David-gareji 19.98 293 P Pn 23 25 39.7 +0.3
GNI Garni 20.32 290 eP P 23 25 42.0 +1.3
GNI Garni 20.32 290c iP Pn 23 25 43.9 +0.3
GNI pmax pmax
comp=Z,888nm,1.2s
GNI Garni 20.32 290 P P 23 25 41.8 +1.2
comp=Z,269nm,0.5s,baz=41,slow=1.0,SNR=451
GNI Garni 20.32 290 eP Pn 23 25 43.5 -0.1
comp=Z,1µm,1.1s
GNI Garni 20.32 290⇑iP P 23 25 41.7 +1.0
SNR=140
SEAG Tbilisi Sea 20.45 294 P P 23 25 43.2 +1.3
TBLG Delisi 20.49 294 eP Pn 23 25 43.8 -1.6
TBLG Delisi 20.49 294 P Pn 23 25 44.1 -1.2
DUS Dusheti 20.57 295 P Pn 23 25 45.4 -1.0
GOA Goa 20.64 170 eP P 23 25 43.9 -0.1
ZAA0 Zalesovo Array 20.76 25 eP P 23 25 45.6 +0.6
ZALV Zalesovo Beam 20.76 25 P P 23 25 46.0 +1.0
ZALV S S 23 29 31.9 +0.8
ZALV smax smax
comp=N,40nm,0.7s
ZALV MLR MLR
comp=Z,1µm,20.8s
ZALV Zalesovo Beam 20.76 25 P P 23 25 46.0 +1.0
comp=Z,2µm,0.6s,baz=221,slow=9.7,SNR=856
ZALV S S 23 29 31.9 +0.8
comp=Z,40nm,0.7s,baz=212,slow=29,SNR=2.5
ZALV LR LR 23 35 18.6
comp=Z,1µm,20.8s,baz=250,slow=41
ZAA1 Zalesovo Array 20.77 25 eP P 23 25 46.0 +1.0
ZAA1 eS S 23 29 31.9 +0.7
CLDR Caldiran 20.92 287 eP P 23 25 47.3 +0.1
NVS Novosibirsk 21.00 22⇑iP P 23 25 48.2 +0.7
NVS eS S 23 29 36.6 +1.0
NVS pmax pmax
comp=Z,3µm,1.5s
NVS pmax pmax
comp=N,3µm,1.6s
NVS pmax pmax
comp=E,620nm,1.0s
NVS smax smax
comp=E,471nm,1.2s
HKR Hakkari 21.10 282 eP P 23 25 51.6 +2.5
CUKT Cukurca 21.23 281 eP P 23 26 00.0 +10
ZEI Tsey 21.27 297 eP P 23 25 51.3 +0.4
ZEI pmax pmax
comp=Z,724nm,1.4s
VANB Van 21.34 285 eP P 23 25 53.8 +2.3
AKH Akhalkalaki 21.38 293 eP P 23 25 54.2 +2.3
AKH Akhalkalaki 21.38 293 P P 23 25 54.7 +2.7
SHL Shillong 21.40 113 eP P 23 25 51.8 -0.5
SHL ex x 23 29 39.3
ONI Oni 21.57 296 P P 23 25 56.6 +2.8
KARS Kars 21.62 291 eP P 23 25 58.0 +3.4
NCK Nalchik 21.62 299 d iP P 23 25 55.7 +1.3
VIS Vishakhapatnam 21.64 143 eP P 23 25 55.8 +1.1
VIS ix x 23 29 48.6
SVE Sverdlovsk 21.84 346 d iP P 23 25 57.3 +0.8
SVE eS S 23 29 53.6 +1.8
SVE pmax pmax
comp=Z,1µm,1.4s
SVE MLR MLR
comp=Z,7µm,15.0s
ARU Arti 21.92 343 P P 23 25 58.2 +0.8
comp=Z,9µm,0.8s
ARU Arti 21.92 343c iP P 23 25 58.6 +1.2
ARU 23 26 21.4
ARU S S 23 29 55.5 +2.1
ARU SS SnSn 23 30 34.9 +6.7
ARU pmax pmax
comp=Z,5µm,2.5s
ARU Arti 21.92 343 eP P 23 25 58.9 +1.5
comp=Z,2µm,0.9s
SIRT Sirnak 22.14 282 eP P 23 26 01.3 +1.3
KBZ Khabaz 22.17 299 P P 23 26 00.6 +0.5
KBZ S S 23 29 57.7 -0.1
KBZ pmax pmax
comp=Z,156nm,0.8s
KBZ smax smax
comp=N,34nm,0.9s
KBZ Khabaz 22.17 299 P P 23 26 00.6 +0.5
comp=N,156nm,0.8s,baz=126,slow=8.7,SNR=48
KBZ S S 23 29 57.7 -0.1
comp=N,34nm,0.9s,baz=173,slow=8.1,SNR=2.0
KBZ LR LR 23 36 54.0
comp=N,2µm,18.1s,baz=97,slow=42
KIV Kislovodsk 22.36 299 P P 23 26 02.6 +0.4
comp=N,3µm,0.9s,SNR=37
KIV Kislovodsk 22.36 299 eP P 23 26 02.2 0.0
KIV Kislovodsk 22.36 299c eP P 23 26 02.8 +0.5
KIV e*PP pP 23 26 19.6 -2.0
KIV iS S 23 30 00.6 -0.7
KIV pmax pmax
comp=Z,1µm,1.8s
KIV Kislovodsk 22.36 299 eP P 23 26 02.7 +0.4
comp=Z,384nm,0.7s
KIV Kislovodsk 22.36 299⇑iP P 23 26 02.3 0.0
SNR=135
GOF Gofitskoye 22.36 302 eP P 23 26 03.3 +1.1
GOF eS S 23 30 05.8 +4.7
GOF pmax pmax
comp=Z,900nm,1.0s
GOF smax smax
comp=N,920nm,1.4s
HVS Khovu-Aksy 22.79 41 d iP P 23 26 07.1 +0.6
HVS pmax pmax
comp=Z,2µm,1.5s
VRTB Varto-Mus 22.84 287 eP P 23 26 09.9 +2.7
EZM Erzurum 22.91 289 eP P 23 26 11.1 +3.0
SVAN Silvan-Diyarba 23.07 284 eP P 23 26 11.1 +1.7
RBK Rabkut 23.10 222 P P 23 26 10.0 +0.1
SNR=36
MNGI Mangalore 23.30 168 eP9 P 23 26 05.2 -6.4
MNGI eS S 23 30 12.1 -4.3
PZAR Pazar-Rize 23.31 292 eP P 23 26 13.9 +2.4
BNGB Bing¨¶l 23.44 286 eP P 23 26 14.7 +1.8
KBSD Kabsdagh 23.69 281 eP P 23 26 18.5 +3.4
MAZI Mazidag 23.72 283 eP P 23 26 16.4 +1.0
ABTO Aybut 23.72 223 P P 23 26 16.2 +0.8
SNR=70
MZRK Al-Mazaregh 23.76 278 eP P 23 26 19.4 +3.7
GTA Gaotai 23.79 73 ⇑P P 23 26 16.8 +0.8
GTA pP pP 23 26 40.0 +3.0
GTA sP sP 23 26 53.5 +4.3
GTA S S 23 30 25.5 +1.1
GTA pmax pmax
comp=Z,450nm,1.8s
GTA pmax pmax
comp=Z,3µm,4.6s
GTA LR LR
comp=Z,3µm,15.0s
GTA LR LR
comp=Z,3µm,15.2s
GTA LR LR
comp=Z,3µm,15.8s
BAYT Ayd¨−ntepe-Bay 23.85 290 eP P 23 26 18.7 +2.1
DYBB Diyarbakir 23.92 284 eP P 23 26 21.2 +4.1
SFNV Sufian 24.11 280 eP P 23 26 20.6 +1.8
KTUT Trabzon 24.15 291 eP P 23 26 20.5 +1.3
GUMT Gumushane 24.36 290 eP P 23 26 23.1 +2.0
SOC Sochi 24.42 298c iP P 23 26 22.2 +0.7
SOC e*PP pP 23 26 41.7 -1.4
SOC e*SP sP 23 26 54.7 -0.4
SOC iS S 23 30 34.8 +0.6
SOC pmax pmax
comp=Z,387nm,0.9s
SOC MLR MLR
comp=Z,2µm,16.0s
RAYN Ar Rayn 24.55 246 P P 23 26 22.6 -0.3
comp=Z,1.0nm,1.0s,SNR=93
RAYN Ar Rayn 24.55 246 eP P 23 26 22.7 -0.2
comp=Z,107nm,0.8s
MNKR ALMNKUR 24.85 279 eP P 23 26 27.9 +2.3
ESPY Espiye-Giresun 24.94 291 eP P 23 26 28.1 +1.8
URFA Urfa 25.01 283 eP P 23 26 29.1 +2.0
SOKR Solikamsk 25.19 344c iP P 23 26 29.5 +1.2
SOKR *PP pP 23 26 58.8 +8.6
SOKR pmax pmax
comp=Z,770nm,1.0s
SOKR MLR MLR
comp=Z,4µm,13.0s
MALT Malatya 25.24 285 eP P 23 26 31.1 +2.0
MALT Malatya 25.24 285⇑iP P 23 26 31.2 +2.0
VRHR Novokhopersk 25.36 316 eP P 23 26 28.4 -1.5
VRHR eS S 23 30 44.2 -4.7
VRHR pmax pmax
comp=Z,660nm,1.5s
VRHR pmax pmax
comp=N,410nm,1.4s
VRHR pmax pmax
comp=E,670nm,1.0s
VRHR smax smax
comp=E,920nm,4.1s
VRHR smax smax
comp=Z,410nm,3.7s
VRHR smax smax
comp=N,380nm,2.0s
DARE Darende-Malaty 25.96 286 eP P 23 26 37.5 +1.8
RSDY Resadiye-TOKAT 26.00 290 eP P 23 26 36.5 +0.6
ANN Anapa 26.22 300c iP P 23 26 38.0 +0.2
ANN i*PP pP 23 26 59.6 -0.1
ANN i 23 27 25.3
ANN iS S 23 31 04.7 +2.1
ANN pmax pmax
comp=Z,454nm,1.4s
SVSK Karacayir 26.26 289 eP P 23 26 40.0 +1.7
KMRS Kahramanmaras 26.52 283 eP P 23 26 41.4 +0.7
VORD Divnogorie 26.65 314 eP P 23 26 39.6 -2.0
VORD eS S 23 31 14.3 +5.0
VORD pmax pmax
comp=E,400nm,0.9s
VORD pmax pmax
comp=Z,230nm,0.9s
VORD pmax pmax
comp=N,250nm,1.1s
VORD smax smax
comp=N,230nm,0.9s
VORD smax smax
comp=E,280nm,0.9s
VORD smax smax
comp=Z,40nm,1.5s
RABH Abou Rabah 26.79 276 eP P 23 26 45.5 +2.3
VSR Storozhevoye 26.82 314 eP P 23 26 42.1 -1.0
VSR eS S 23 31 16.3 +4.3
VSR pmax pmax
comp=Z,550nm,1.6s
VSR pmax pmax
comp=N,80nm,0.8s
VSR pmax pmax
comp=E,430nm,1.1s
VSR smax smax
comp=E,740nm,2.8s
VSR smax smax
comp=Z,20nm,2.9s
VSR smax smax
comp=N,320nm,2.4s
KVT Kavak 26.97 291 eP P 23 26 46.0 +1.3
VOR Voronezh 27.00 315 eP P 23 26 45.0 +0.2
VOR pmax pmax
comp=Z,1µm,1.8s
MOY Mondy 27.07 45 eP P 23 26 47.5 +2.0
MOY pmax pmax
comp=Z,167nm,2.6s
BTCH Batrach 27.08 280 eP P 23 26 47.4 +1.6
BNN Bunyan 27.21 286 eP P 23 26 48.5 +1.6
LZH Lanzhou 27.29 80 ⇑P P 23 26 49.0 +1.3
LZH pP pP 23 27 13.8 +4.1
LZH sP sP 23 27 26.8 +5.5
LZH PP PnPn 23 27 40.5 +3.3
LZH eS S 23 31 24.0 +4.0
LZH sS sS 23 31 58.3 -0.1
LZH SS SnSn 23 32 41.0 +1.9
LZH pmax pmax
comp=Z,190nm,1.1s
LZH pmax pmax
comp=Z,790nm,4.0s
ASF Jabal al Asfar 27.62 272 P P 23 26 51.4 +0.7
comp=Z,6.4nm,1.0s,baz=224,slow=3.5,SNR=5.0
ZAK Zakamensk 27.96 48⇑iP P 23 26 54.7 +1.2
ZAK e 23 27 16.8
ZAK pmax pmax
comp=Z,40nm,1.5s
TRD Trivandrum 28.02 165 eP P 23 26 53.4 -0.8
TRD AMB AMB 23 26 56.2
comp=Z,84nm,0.4s
CORM Corum 28.07 289 eP P 23 26 56.0 +1.4
MUKL Al Mukalla 28.46 227 eP P 23 26 58.8 +0.7
CD2 Chengdu 28.52 90 eP P 23 26 59.8 +1.3
CD2 pP pP 23 27 23.0 +2.3
CD2 sP sP 23 27 35.8 +3.6
CD2 PP PnPn 23 27 55.8 +2.4
CD2 S S 23 31 38.0 -1.2
CD2 sS sS 23 32 18.8 +1.1
CD2 SS SnSn 23 33 11.0 +2.1
CD2 pmax pmax
comp=Z,120nm,0.5s
CD2 pmax pmax
comp=Z,820nm,6.4s
CD2 LR LR
comp=Z,2µm,24.5s
CD2 LR LR
comp=Z,2µm,18.6s
CD2 LR LR
comp=Z,3µm,21.5s
SIM Simferopol' 28.58 299 eP P 23 27 00.0 +1.1
SIM eS S 23 31 42.0 +2.2
SIM pmax pmax
comp=Z,93nm,0.9s
MMAI Mount Meron Ar 28.60 274 P P 23 27 00.0 +0.7
comp=Z,5.8nm,0.8s,baz=66,slow=10,SNR=12
MMAI PcP PcP 23 30 07.7 -0.3
comp=Z,8.0nm,0.8s,baz=79,slow=5.2,SNR=4.6
TLY Talaya 28.61 46 P P 23 27 00.6 +1.5
comp=Z,225nm,0.8s,SNR=7.2
TLY Talaya 28.61 46 eP P 23 27 00.8 +1.7
TLY pmax pmax
comp=Z,29nm,0.8s
TLY MLR MLR
comp=Z,479nm,11.0s
TLY Talaya 28.61 46 P P 23 27 00.2 +1.1
comp=Z,20nm,0.6s,baz=234,slow=7.8,SNR=22
TLY Talaya 28.61 46 eP P 23 27 01.2 +2.1
comp=Z,27nm,0.7s
BR101 Keskin Array S 28.86 289 eP P 23 27 02.5 +0.9
BRTR Keskin Array B 28.86 289 P P 23 27 02.5 +0.9
comp=Z,40nm,0.7s,baz=98,slow=8.9,SNR=177
BRTR LR LR 23 40 30.3
comp=Z,607nm,18.3s,baz=68,slow=40
SONA0 Songino Array 29.31 55 eP P 23 27 06.7 +1.2
SONM Songino Array 29.31 55 P P 23 27 06.7 +1.2
comp=Z,56nm,0.8s,baz=254,slow=9.5,SNR=143
SONM LR LR 23 40 31.4
comp=Z,5µm,20.3s,baz=264,slow=40
AFSR Af¨ar-Bala (A 29.32 288 eP P 23 27 06.1 +0.5
SONA1 Songino Array 29.32 55 eP P 23 27 06.2 +0.7
ANTO Ankara 29.50 289 eP P 23 27 08.7 +1.5
ANTO Ankara 29.50 289 eP P 23 27 08.1 +0.9
ANTO pmax pmax
comp=Z,279nm,1.9s
ANTO Ankara 29.50 289⇑iP P 23 27 08.3 +1.1
ANTO Ankara 29.50 289 eP P 23 27 08.1 +0.9
comp=Z,279nm,1.9s
SAFT Safranbolu 29.50 292 eP P 23 27 09.0 +1.9
BR231 Keskin MP Arra 29.51 289 eP P 23 27 03.8 -3.6
MOS Moscow 29.61 322 eP P 23 27 07.2 -0.7
MOS e*PP pP 23 27 29.8 -0.2
MOS i*SP sP 23 27 37.5 -4.1
MOS e 23 28 09.7
MOS eS S 23 32 01.4 +5.7
MOS pmax pmax
comp=Z,367nm,1.2s
MOS pmax pmax
comp=Z,1µm,1.8s
ULN Ulaanbaatar 29.75 55c iP P 23 27 10.4 +1.0
ULN pmax pmax
comp=Z,68nm,1.1s
ULN Ulaanbaatar 29.75 55 eP P 23 27 10.0 +0.5
comp=Z,70nm,0.9s
OBN Obninsk 29.86 321 P P 23 27 11.8 +1.7
comp=Z,4µm,0.5s,SNR=61
OBN Obninsk 29.86 321c iP P 23 27 10.1 0.0
OBN i*PP pP 23 27 35.5 +3.2
OBN i*PP PP 23 28 08.3 -11
OBN iS S 23 31 56.8 -2.8
OBN pmax pmax
comp=Z,268nm,0.9s
OBN Obninsk 29.86 321 P P 23 27 11.0 +0.9
comp=Z,318nm,0.5s,baz=359,slow=1.3,SNR=82
OBN LR LR 23 42 19.6
comp=Z,2µm,19.1s,baz=170,slow=42
OBN Obninsk 29.86 321 eP P 23 27 10.9 +0.9
comp=Z,1µm,1.6s
LADK Ladik-KONYA 30.00 286 eP P 23 27 13.0 +1.3
KONT Konya--Tatoy 30.04 285 eP P 23 27 13.5 +1.6
CMAI Chiengmai2 30.04 114 P P 23 27 12.4 +0.1
comp=Z,37nm,1.1s
KMI Kunming 30.05 102 P P 23 27 13.0 +0.7
KMI S S 23 32 05.5 +1.9
KMI ScP ScP 23 33 45.0 -0.2
KMI PcS PcS 23 33 54.5 -1.4
KMI ScS ScS 23 37 40.5 -0.7
KMI pmax pmax
comp=Z,65nm,0.9s
KMI LR LR
comp=Z,710nm,20.6s
KMI LR LR
comp=Z,440nm,21.9s
KMI LR LR
comp=Z,930nm,21.1s
PALK Pallekele 30.16 159 eP P 23 27 14.1 +1.0
PALK pmax pmax
comp=Z,113nm,1.2s
PALK Pallekele 30.16 159 eP P 23 27 14.1 +1.0
comp=Z,113nm,1.2s
KIZT Kizilcal 30.29 287 eP P 23 27 14.8 +0.6
MHMT Maesarieng 30.35 118 P P 23 27 16.4 +1.6
comp=Z,36nm,1.0s,comp=Z,618nm
DGPR DIGLIPUR 30.63 132 eP P 23 27 17.6 +0.4
DGPR AMB AMB 23 27 51.7
comp=Z,134nm,0.4s
CHTO Chiang Mai 30.67 116 eP P 23 27 19.0 +1.3
CHTO pmax pmax
comp=Z,60nm,0.9s
CHTO Chiang Mai 30.67 116 P P 23 27 18.9 +1.3
comp=Z,110nm,1.2s,comp=Z,8µm
CHTO Chiang Mai 30.67 116 eP P 23 27 19.0 +1.3
comp=Z,60nm,0.9s
MDUB Mudurnu 30.67 290 eP P 23 27 19.2 +1.6
CRAI Chiangrai 30.86 112 P P 23 27 19.1 -0.2
comp=Z,90nm,0.7s,comp=Z,10µm
CM31 Chiang Mai Arr 30.89 117 eP P 23 27 19.8 +0.1
CM31 ePcP PcP 23 30 13.8 -0.3
CM31 eScP ScP 23 33 46.9 -0.8
CMAR Chiang Mai Arr 30.89 117 P P 23 27 19.8 +0.2
CMAR 23 30 13.8
CMAR pmax pmax
comp=Z,20nm,0.9s
CMAR MLR MLR
comp=Z,863nm,20.4s
CMAR Chiang Mai Arr 30.89 117 P P 23 27 19.8 +0.2
comp=Z,19nm,0.8s,baz=301,slow=8.3,SNR=59
CMAR PcP PcP 23 30 13.8 -0.3
comp=Z,15nm,0.8s,baz=302,slow=5.3,SNR=4.1
CMAR ScP ScP 23 33 46.9 -0.8
comp=Z,23nm,0.9s,baz=294,slow=4.5,SNR=10
CMAR LR LR 23 42 58.3
comp=Z,863nm,20.4s,baz=312,slow=42
CM01 Chiang Mai Arr 30.93 117 eP P 23 27 20.3 +0.4
CM01 ePcP PcP 23 30 14.2 0.0
CM01 eScP ScP 23 33 47.3 -0.6
GULT Gulveren 31.19 290 eP P 23 27 23.1 +1.0
SPNC Sapanca-Adapaz 31.33 291 eP P 23 27 24.1 +0.9
LAMP Lampang 31.36 116 P P 23 27 24.5 +0.8
comp=Z,13nm,0.9s,comp=Z,137nm
SHUT Suhut-Afyon 31.36 287 eP P 23 27 24.8 +1.1
ISP Isparta 31.49 285 eP P 23 27 25.5 +0.7
ISP pmax pmax
comp=Z,43nm,0.9s
ISP Isparta 31.49 285⇑iP P 23 27 26.1 +1.3
ISP Isparta 31.49 285 eP P 23 27 25.5 +0.7
comp=Z,43nm,0.9s
BTO Baotou 31.56 69 eP P 23 27 26.5 +1.1
KLMR Klimovskoe 31.59 332c iP P 23 27 25.9 +0.6
KLMR e*PP pP 23 27 53.9 +6.4
KLMR pmax pmax
comp=Z,722nm,1.4s

KLMR MLR MLR
comp=Z,2μm,17.0s
ALT Altintas 31.64 288 P P 23 27 27.3 +1.2
PBA Port Blair 31.72 134 eP P 23 27 27.7 +0.8
PBA AMB AMB 23 28 02.3
comp=Z,168nm,0.6s
XAN Xi'an 31.79 82 P P 23 27 27.5 +0.1
XAN pP pP 23 27 52.5 +2.8
XAN sP sP 23 28 03.5 +2.3
XAN PP PnPn 23 28 38.0 +2.4
XAN S S 23 32 31.3 +0.9
XAN pmax pmax
comp=Z,37nm,1.0s
XAN pmax pmax
comp=Z,180nm,8.2s
XAN LR LR
comp=Z,2μm,14.5s
XAN LR LR
comp=Z,470nm,19.1s
XAN LR LR
comp=Z,620nm,19.1s
TVSB Tavsanli 32.10 289 eP P 23 27 30.8 +0.6
ELL Elmali 32.16 284 eP P 23 27 31.7 +1.0
ISK Istanbul-Kandi 32.25 292 eP P 23 27 32.8 +1.5
ISK Istanbul-Kandi 32.25 292 eP P 23 27 32.4 +1.2
ISK Istanbul-Kandi 32.25 292 P P 23 27 32.8 +1.5
ISK Istanbul-Kandi 32.25 292 P P 23 27 32.8 +1.5
TLCR 32.34 299⇑iP P 23 27 33.0 +1.0
KIS Kishinev 32.45 303⇓iP P 23 27 34.0 +1.1
KIS i*PP pP 23 28 03.0 +7.8
KIS e 23 28 48.0
KIS iS S 23 32 48.0 +7.8
KIS pmax pmax
comp=Z,800nm,1.0s
KIS Kishinev 32.45 303⇑iP P 23 27 33.8 +0.9
KIS Kishinev 32.45 303⇓iP P 23 27 34.0 +1.1
comp=Z,800nm,1.0s
KIS ipP pP 23 28 03.0 +7.8
KIS Kishinev 32.45 303 ePP PP 23 28 48.0 +0.1
KIS iS S 23 32 48.0 +7.8
KIS eS ScP 23 33 36.0 -17
KIS eSS SS 23 34 55.0 -8.4
KIS eSSS SSS 23 35 44.0
TRBA At Turbah 32.46 232 eP P 23 27 34.2 +0.6
ORLT Orhaneli 32.46 290 eP P 23 27 31.9 -1.4
MANR Mangalia 32.48 297⇑iP P 23 27 35.0 +1.7
UTTA Uttaradit 32.52 116 P P 23 27 34.7 +0.8
comp=Z,23nm,1.1s,comp=Z,208nm
GYA Guiyang 32.58 96⇑iP P 23 27 35.3 +0.8
GYA pP pP 23 27 59.5 +2.7
GYA sP sP 23 28 12.0 +3.8
GYA PP PnPn 23 28 47.5 +1.8
GYA PcP PcP 23 30 19.8 +1.1
GYA S S 23 32 43.3 +0.3
GYA sS sS 23 33 23.3 +1.6
GYA ScP ScP 23 33 53.0 -0.5
GYA ScS ScS 23 37 50.5 -3.0
GYA pmax pmax
comp=Z,180nm,0.9s
GYA pmax pmax
comp=Z,210nm,5.2s
GYA LR LR
comp=Z,1μm,11.5s
GYA LR LR
comp=Z,1μm,14.6s
GYA LR LR
comp=Z,1μm,13.2s
TIRR Tirgusor 32.61 298 eP P 23 27 35.1 +0.7
TIRR pmax pmax
comp=Z,168nm,1.5s
TIRR Tirgusor 32.61 298⇓iP P 23 27 35.3 +0.9
TIRR Tirgusor 32.61 298 eP P 23 27 35.1 +0.7
comp=Z,168nm,1.5s
AKASG Malin Array Be 32.69 310 P P 23 27 35.8 +0.8
AKASG pmax pmax
comp=Z,107nm,0.7s
AKASG MLR MLR
comp=Z,2μm,19.9s
AKASG Malin Array Be 32.69 310 P P 23 27 35.8 +0.8
comp=Z,107nm,0.7s,baz=84,slow=7.2,SNR=367
AKASG LR LR 23 43 29.6
comp=Z,2μm,19.9s,baz=95,slow=41
AKBB Malin Array Si 32.69 310 eP P 23 27 35.8 +0.8
AKBB Malin Array Si 32.69 310 eP P 23 27 35.8 +0.8
KIEV Kiev 32.70 310 eP P 23 27 35.1 +0.1
KIEV pmax pmax
comp=Z,716nm,1.6s
KIEV Kiev 32.70 310 eP P 23 27 35.1 +0.1
comp=Z,716nm,1.6s
HHC Hu-ho-hao-te 32.71 69 eP P 23 27 37.0 +1.6
HHC pP pP 23 28 00.5 +2.7
HHC sP sP 23 28 15.3 +6.1
HHC PP PnPn 23 28 49.0 +1.9
HHC S S 23 32 43.3 -1.4
HHC SS SnSn 23 34 43.0 -7.3
HHC pmax pmax
comp=Z,160nm,1.0s
HHC LR LR
comp=Z,2μm,12.9s
HHC LR LR
comp=Z,6μm,12.1s
HHC LR LR
comp=Z,6μm,13.7s
AK11 Malin Array Si 32.72 310 eP P 23 27 35.8 +0.5
PSN Preselentsi 32.78 297 eP P 23 27 35.6 -0.3
PSN Preselentsi 32.78 297⇑iP P 23 27 37.5 +1.6
GIUM Giurgiulesti 32.78 300⇓iP P 23 27 37.2 +1.4
LEOM Leova 32.80 302⇓iP P 23 27 37.1 +1.1
CFR Carcaliu 32.82 299⇑iP P 23 27 37.4 +1.2
KULA Kula-Manisa 32.84 287 P P 23 27 37.0 +0.4
KULA Kula-Manisa 32.84 287 eP P 23 27 37.3 +0.7
HARR Harsova 32.96 298⇑iP P 23 27 38.8 +1.4
MSAB Monastry St. A 33.03 297⇑iP P 23 27 39.3 +1.2
KHLT Khaolaem Dam 33.10 122 P P 23 27 40.4 +1.4
comp=Z,40nm,0.9s,comp=Z,463nm
LOEI Loei 33.20 115 P P 23 27 46.8 +7.0
comp=Z,84nm,1.1s
IAS Iasi 33.32 303⇓iP P 23 27 41.5 +1.0
PHSR Pinarhisar 33.36 293 eP P 23 27 41.6 +0.7
PRD Provadia 33.36 296 eP P 23 27 42.3 +1.4
ENH Enshi 33.38 88 eP P 23 27 42.3 +1.0
comp=Z,87nm,1.0s
AMRR Amara 33.38 298⇓iP P 23 27 43.2 +2.1
NEF NEVSHA 33.45 296 eP P 23 27 43.9 +2.2
PBKT Sadao Pong 33.59 117 P P 23 27 44.4 +1.3
comp=Z,177nm,1.0s,comp=Z,3μm
PGOR Pogoanele 33.63 299⇑iP P 23 27 46.0 +2.7
GRER 33.64 300⇑iP P 23 27 46.5 +3.1
SRDT SRDT 33.78 122 P P 23 27 46.1 +1.3
comp=Z,379nm,0.9s
TIY Taiyuan 33.79 74 eP P 23 27 46.3 +1.4
TIY sP sP 23 28 15.5 -3.2
TIY S S 23 33 02.5 +1.0
TIY sS sS 23 33 39.8 -0.5
TIY pmax pmax
comp=Z,190nm,0.9s
TIY LR LR
comp=Z,3μm,9.7s
TIY LR LR
comp=Z,1μm,10.3s
VRI Vrincioaia 33.83 301⇑iP P 23 27 46.4 +1.4
PLOR Plostina 33.88 301⇓iP P 23 27 46.9 +1.4
TESR Tescani 33.90 302⇑iP P 23 27 46.6 +1.0
EDRB Edirne 33.92 293 P P 23 27 46.9 +1.1
EDRB Edirne 33.92 293 P P 23 27 46.9 +1.1
ISR Istrita 33.95 299⇓iP P 23 27 48.2 +2.1
JMB Yambol 34.00 295 P P 23 27 45.1 -1.4
JMB Yambol 34.00 295 eP P 23 27 46.8 +0.3
JMB Yambol 34.00 295⇑iP P 23 27 47.4 +0.9
JMB Yambol 34.00 295 P P 23 27 45.1 -1.4
SULR 34.15 298⇑iP P 23 27 50.0 +2.2
TMCR Tamitsa 34.23 336 eP P 23 27 49.6 +1.4
TMCR e 23 29 09.7
TMCR eS S 23 33 14.3 +7.0
TMCR pmax pmax
comp=Z,799nm,1.4s
PRAR RASCA 34.23 303⇑iP P 23 27 49.5 +1.0
SECR 34.28 299⇓iP P 23 27 51.9 +3.0
PLAR PLOIESTI 34.31 299⇑iP P 23 27 52.1 +2.9
MICGM Minsk 34.35 316⇑iP P 23 27 48.0 -1.4
MLR Muntele Rosu 34.37 300⇑iP P 23 27 51.6 +1.8
MNK Minsk 34.38 316c iP P 23 27 48.0 -1.6
MNK e*PP pP 23 28 17.0 +5.0
MNK e 23 29 08.0
MNK ePPP PPP 23 29 34.0
MNK eS S 23 33 08.0 -1.9
MNK e*SS sS 23 33 46.0 -2.8
SMG Samos 34.39 286 P P 23 27 50.8 +0.8
CIOR Ciorogarla 34.42 298⇑iP P 23 27 52.6 +2.5
SZH Strazhica 34.43 296 eP P 23 27 51.4 +1.2
ALN Alexandroupoli 34.53 292 P P 23 27 51.9 +0.8
ALN Alexandroupoli 34.53 292 P P 23 27 51.9 +0.8
ALN Alexandroupoli 34.53 292 P P 23 27 51.9 +0.8
CIT Chita 34.62 49 eP P 23 27 52.8 +1.0
CIT e 23 28 15.3
CIT e 23 28 23.7
CIT e 23 33 19.4
CIT pmax pmax
comp=Z,343nm,1.6s
DOPR Dopca 34.76 301⇓iP P 23 27 54.8 +1.7
ZIMR 34.82 297⇑iP P 23 27 55.7 +2.1
PVL Pavlikeni 34.87 296 eP P 23 27 56.5 +2.5
CHOS Chios island 34.88 287 P P 23 27 52.4 -1.8
RDO Rodhopi 34.89 292 P P 23 27 54.5 +0.3
RDO Rodhopi 34.89 292 P P 23 27 54.5 +0.3
PUL Pulkovo 34.92 326c iP P 23 27 55.3 +1.1
PUL pmax pmax
comp=Z,410nm,1.1s
KDZ Kurdzhali 34.93 293⇓iP P 23 27 57.0 +2.5
BURAR Bucovina Array 34.93 304⇓iP P 23 27 55.9 +1.3
BUR04 Bucovina Ar. S 34.94 304 eP P 23 27 55.5 +0.9
SMTH Samothraki Isl 34.97 291 P P 23 27 52.2 -2.7
SMTH Samothraki Isl 34.97 291 P P 23 27 52.2 -2.7
VOIR 35.00 300⇑iP P 23 27 56.2 +1.0
GOLR 35.07 299⇑iP P 23 27 58.0 +2.7
NACGM Naroch 35.07 316 eP P 23 27 52.0 -3.6
IDID Didziasalis 35.20 317 eP P 23 27 57.7 +1.0
IDID AMB AMB 23 28 01.3
comp=Z,122nm,1.0s
ARR Arges 35.29 300⇓iP P 23 27 58.8 +1.1
PLD Plovdiv 35.41 294 P P 23 27 57.0 -1.7
PLD Plovdiv 35.41 294 P P 23 27 57.0 -1.7
PLD Plovdiv 35.41 294 eP P 23 27 59.3 +0.6
PLD Plovdiv 35.41 294 P P 23 27 57.0 -1.7
ZKR Zakros 35.44 282 P P 23 27 59.8 +0.8
ZKR Zakros 35.44 282 P P 23 27 59.8 +0.8
RZN Rozhen 35.45 293 eP P 23 27 59.4 +0.2
IIGN Ignalina 35.50 317 eP P 23 27 59.9 +0.7
IIGN AMB AMB 23 28 03.3
comp=Z,161nm,0.7s
APE Apeiranthos 35.53 285 P P 23 27 59.4 -0.4
APE Apeiranthos 35.53 285⇑iP P 23 28 01.1 +1.3
APE pmax pmax
comp=Z,81nm,0.9s
APE Apeiranthos 35.53 285⇑iP P 23 28 00.8 +1.0
APE Apeiranthos 35.53 285 P P 23 27 59.4 -0.4
ISAL Salakas 35.61 317 eP P 23 28 01.2 +1.1
ISAL AMB AMB 23 28 05.0
comp=Z,122nm,1.2s
KAVA Kavala 35.67 292 P P 23 28 01.8 +0.9
KAVA Kavala 35.67 292 P P 23 28 01.8 +0.9
PGB Panagyurishte 35.77 295 eP P 23 28 03.6 +1.8
LVV L'vov 35.87 307 eP P 23 28 03.0 +0.5
LVV e*PP pP 23 28 31.0 +6.0
LVV eS S 23 33 30.0 -2.9
LVV MLR MLR
comp=Z,720nm,16.0s
NPS Neapolis 35.88 282 P P 23 28 02.8 0.0
NPS Neapolis 35.88 282 P P 23 28 02.8 0.0
NPS Neapolis 35.88 282 P P 23 28 02.8 0.0
LOT Lotru 35.90 300⇓iP P 23 28 04.1 +1.1
CRAR CRAIOVA 35.92 298⇓iP P 23 28 04.6 +1.7
JOF Joensuu 35.97 331 ep P 23 28 03.5 +0.4
comp=Z,320nm,0.5s
CJR Cluj-Napoca 36.01 302⇓iP P 23 28 05.4 +1.6
LAST Lasithi 36.01 282 P P 23 28 04.8 +0.8
LAST Lasithi 36.01 282 P P 23 28 04.8 +0.8
NVR Nevrokopi 36.12 293 P P 23 28 02.0 -2.8
NVR Nevrokopi 36.12 293 P P 23 28 02.0 -2.8
CMBY CAMPBELL BAY 36.17 137 eP P 23 28 05.7 +0.3
CMBY AMB AMB 23 28 27.2
comp=Z,120nm,0.0s
MMB Musomiste 36.19 293 eP P 23 28 06.7 +1.3
MMB Musomiste 36.19 293⇑iP P 23 28 06.6 +1.2
BOD Bodaibo 36.29 39 eP P 23 28 05.4 -0.5
BOD pmax pmax
comp=Z,92nm,1.8s
BJT Baijiatuau 36.29 69 eP P 23 28 07.1 +0.9
BJT pmax pmax
comp=Z,92nm,0.9s
BJT Baijiatuau 36.29 69 eP P 23 28 07.0 +0.9
comp=Z,92nm,0.9s
BJT eScP ScP 23 34 04.8 -1.6
BJI Beijing 36.30 69 P P 23 28 06.8 +0.6
BJI PcP PcP 23 30 28.8 -0.2
BJI S S 23 33 42.3 +2.7
BJI ScS ScS 23 38 09.5 -3.1
BJI pmax pmax
comp=Z,100nm,0.9s
BJI pmax pmax
comp=Z,470nm,4.2s
BJI LR LR
comp=Z,2μm,18.4s
BJI LR LR
comp=Z,4μm,19.4s
BJI LR LR
comp=Z,4μm,20.8s
SRE Strehaia 36.33 299⇓iP P 23 28 07.8 +1.3
SRS Serrai 36.35 293 P P 23 28 06.6 -0.1
SRS Serrai 36.35 293 P P 23 28 06.6 -0.1
SRS Serrai 36.35 293 P P 23 28 06.6 -0.1
DEV Deva 36.50 301⇓iP P 23 28 09.6 +1.7
PLG Polygyros 36.56 291 P P 23 28 08.4 -0.2
SOH Sokhos 36.57 292 P P 23 28 09.8 +1.2
SOH Sokhos 36.57 292 P P 23 28 09.8 +1.2
SOH Sokhos 36.57 292 P P 23 28 09.8 +1.2
GZR Gura Zlata 36.60 300⇑iP P 23 28 09.7 +0.8
DRGR 36.62 302⇑iP P 23 28 10.3 +1.3
PTL Penteli 36.64 287 P P 23 28 09.7 +0.5
KKB Krupnik 36.64 294 eP P 23 28 10.4 +1.2
KWP Kalwaria Pacla 36.71 307 eP P 23 28 11.2 +1.5
KWP e*PP pP 23 28 40.2 +7.9
KWP pmax pmax
comp=Z,800nm,1.4s
KWP Kalwaria Pacla 36.71 307 eP P 23 28 11.2 +1.5
KWP epP pP 23 28 40.1 +7.8
KWP Kalwaria Pacla 36.71 307⇑iP P 23 28 11.1 +1.5
KWP Kalwaria Pacla 36.71 307 eP P 23 28 11.2 +1.5
comp=Z,385nm,0.9s
ATHU Athens Univers 36.72 287 P P 23 28 10.8 +1.0
MRKA Markates 36.73 289 P P 23 28 10.3 +0.3
TRPA Tarpa 36.75 304⇑iP P 23 28 10.7 +0.7
ATH Athens Observa 36.77 287 P P 23 28 11.9 +1.7
HORT Hortiatis 36.79 292 P P 23 28 11.3 +0.7
HORT Hortiatis 36.79 292 P P 23 28 11.3 +0.7
KNT Kendrikon 36.87 293 P P 23 28 11.6 +0.5
KNT Kendrikon 36.87 293 P P 23 28 11.6 +0.5
KNT Kendrikon 36.87 293 P P 23 28 11.6 +0.5
XOR Xorichti 36.91 290 P P 23 28 12.0 +0.5
XOR Xorichti 36.91 290 P P 23 28 12.0 +0.5
UZH Uzhgorod 36.93 305⇑iP P 23 28 11.7 +0.2
UZH e 23 28 29.9
UZH e 23 29 45.1
UZH eS S 23 33 48.1 -1.0
UZH e 23 34 24.3
UZH e 23 36 17.3
SUW Suwalki 36.94 314 eP P 23 28 12.0 +0.5
SUW e*PP pP 23 28 40.7 +6.6
SUW eS S 23 33 49.3 +0.2
SUW pmax pmax
comp=Z,400nm,1.0s
SUW Suwalki 36.94 314 eP P 23 28 11.9 +0.5
SUW epP pP 23 28 40.6 +6.5
SUW eS S 23 33 49.2 +0.2
SUW Suwalki 36.94 314 eP P 23 28 11.5 +0.1
comp=Z,266nm,1.0s
KOLS Kolonicke sedl 36.96 306 eP P 23 28 13.3 +1.5
KOLS pmax pmax
comp=Z,107nm,1.0s
KOLS Kolonicke sedl 36.96 306 eP P 23 28 13.3 +1.5
VAM Vamos 36.96 283 P P 23 28 09.0 -3.0
VAM Vamos 36.96 283 P P 23 28 09.0 -3.0
VAM Vamos 36.96 283 P P 23 28 09.0 -3.0
SMIA Simia 36.99 289 P P 23 28 12.8 +0.6
VAY Valandovo 37.09 293 P P 23 28 12.2 -0.8
VAY Valandovo 37.09 293 P P 23 28 12.2 -0.8
VAY Valandovo 37.09 293 iP P 23 28 15.7 +2.8
VAY Valandovo 37.09 293 P P 23 28 12.2 -0.8
CHBT CHBT 37.12 120 P P 23 28 14.5 +1.1
comp=Z,72nm,0.9s,comp=Z,2μm
LKR Lokris 37.19 289 P P 23 28 14.1 +0.3
LKR Lokris 37.19 289 P P 23 28 14.1 +0.3
WHN Wuhan 37.22 85⇑P P 23 28 15.3 +1.1
WHN pP pP 23 28 42.3 +5.4
WHN S S 23 33 53.0 -0.9
WHN LR LR
comp=Z,3μm,10.5s
WHN LR LR
comp=Z,2μm,8.2s
DID Didima 37.23 287 P P 23 28 13.6 -0.7
DID Didima 37.23 287 P P 23 28 13.6 -0.7
GRG Griva 37.27 292 P P 23 28 14.9 +0.4
GRG Griva 37.27 292 P P 23 28 14.9 +0.4
GRG Griva 37.27 292 P P 23 28 14.9 +0.4
LIT Litokhoron 37.33 291 P P 23 28 16.3 +1.3
BZS Buzias 37.41 300⇓iP P 23 28 16.7 +1.1
AXAR Agios Charalam 37.43 289 P P 23 28 16.8 +0.9
AXAR Agios Charalam 37.43 289 P P 23 28 16.8 +0.9
CRVS Cervenica-Dubn 37.49 306 eP P 23 28 17.4 +1.1
CRVS pmax pmax
comp=Z,51nm,1.2s
CRVS Cervenica-Dubn 37.49 306 eP P 23 28 17.4 +1.1
FIA0 FINESS Array S 37.52 327 eP P 23 28 17.0 +0.7
FIA0 eS S 23 34 00.4 +2.8
FIA0 FINESS Array S 37.52 327 eP P 23 28 17.0 +0.7
FIA0 eS S 23 34 00.4 +2.8
FINES FINESS Array B 37.52 327 P P 23 28 17.0 +0.7
FINES S S 23 34 00.4 +2.8
FINES pmax pmax
comp=Z,151nm,0.7s
FINES smax smax
comp=N,26nm,1.0s
FINES MLR MLR
comp=Z,3μm,21.1s
FINES FINESS Array B 37.52 327 P P 23 28 17.0 +0.7
comp=Z,151nm,0.7s,baz=117,slow=12,SNR=437
FINES S S 23 34 00.4 +2.8
comp=Z,26nm,1.0s,baz=109,slow=21,SNR=4.5
FINES LR LR 23 44 41.5
comp=Z,3μm,21.1s,baz=90,slow=38
SURT Suratani 37.52 129 P P 23 28 18.0 +1.2
comp=Z,41nm,1.0s,comp=Z,538nm
DSF Desfina 37.60 288 P P 23 28 17.3 -0.1
DSF Desfina 37.60 288 P P 23 28 17.3 -0.1
AGG Agios Georgios 37.63 289 P P 23 28 17.9 +0.3
VLI Veliai 37.64 286 P P 23 28 15.5 -2.2
VLI Veliai 37.64 286 P P 23 28 15.5 -2.2
STHS Stebnicka Huta 37.65 306 eP P 23 28 18.5 +0.9
STHS pmax pmax
comp=Z,39nm,0.8s
STHS Stebnicka Huta 37.65 306 eP P 23 28 18.5 +0.9
KYTH Kithira 37.66 285 P P 23 28 18.2 +0.3
KYTH Kithira 37.66 285 P P 23 28 18.2 +0.3
KAF Kangasniemi 37.68 328 eP P 23 28 18.1 +0.5
KAF pmax pmax
comp=Z,165nm,0.7s
KAF Kangasniemi 37.68 328 ep P 23 28 18.1 +0.5
comp=Z,165nm,0.7s
LVZ Lovozero 37.70 339 P P 23 28 18.2 +0.4
comp=Z,2μm,0.7s,SNR=58
LVZ Lovozero 37.70 339c iP P 23 28 18.9 +1.1
LVZ pmax pmax
comp=Z,517nm,1.7s
LVZ Lovozero 37.70 339 eP P 23 28 18.6 +0.8
comp=Z,230nm,0.8s
UBPT Khong Chiam 37.72 114 P P 23 28 18.3 -0.2
comp=Z,51nm,1.3s,comp=Z,1μm
BANR Banloc 37.76 300⇓iP P 23 28 20.3 +1.8
THL Klokotos Trika 37.78 290 P P 23 28 18.4 -0.4
TIA Tai'an 37.78 75⇑P P 23 28 20.0 +1.1
TIA S S 23 34 05.5 +3.2
TIA sS sS 23 34 42.3 +0.8
TIA pmax pmax
comp=Z,240nm,1.1s
TIA LR LR
comp=Z,2μm,18.4s
TIA LR LR
comp=Z,1μm,15.6s
TIA LR LR
comp=Z,3μm,17.0s
MAKR Makrakomi, Fth 37.79 289 P P 23 28 19.5 +0.6
GUR Goura 37.84 288 P P 23 28 18.3 -1.1
KZN Kozani 37.84 292 P P 23 28 19.9 +0.5
SKO Skopje 37.85 294 iP P 23 28 20.2 +0.9
APA Apatity 37.86 338⇓iP P 23 28 20.0 +0.9
APA i*PP pP 23 28 43.0 +1.2
APA i 23 29 45.0
APA iS S 23 34 02.0 -0.7
APA iSS SS 23 36 50.0 -2.5
APA pmax pmax
comp=Z,213nm,1.0s
APA MLR MLR
comp=Z,3μm,10.0s
KALE Kalithea 37.90 288 P P 23 28 19.3 -0.6
VLX Vlachokerasia 37.93 287 P P 23 28 19.2 -1.0
KLV Kalavryta, Ach 37.96 288 P P 23 28 19.6 -0.9
PKDT Phuket 38.05 130 P P 23 28 31.3 +10
EVR Evrytania 38.05 289 P P 23 28 20.7 -0.5
LAKA Lakka 38.06 288 P P 23 28 20.1 -1.1
FNA Florina 38.06 292 P P 23 28 21.2 0.0
EFP Efpalio 38.07 289 P P 23 28 21.1 -0.2
BEL Belsk 38.09 310 eP P 23 28 22.3 +1.0
BEL e*PP pP 23 28 50.6 +6.6
BEL e 23 29 51.4
BEL pmax pmax
comp=Z,500nm,1.3s
BEL Belsk 38.09 310 eP P 23 28 22.2 +1.0
BEL epP pP 23 28 50.5 +6.6
BEL ePP PnPn 23 29 51.3 -1.3
NIE Niedzica 38.26 306⇑iP P 23 28 24.1 +1.3
NIE i*PP pP 23 28 53.9 +8.4
NIE Niedzica 38.26 306 iP P 23 28 24.1 +1.3
NIE ipP pP 23 28 53.9 +8.4
HIA Hailar 38.27 54 eP P 23 28 23.8 +1.0
HIA pmax pmax
comp=Z,50nm,0.9s
HIA Hailar 38.27 54 eP P 23 28 23.8 +1.0
comp=Z,50nm,0.9s
DRO Drossia 38.32 288 P P 23 28 23.4 0.0
ITM Ithomi 38.32 287 P P 23 28 21.2 -2.2
KBN Korca 38.53 292 P P 23 28 24.6 -0.6
PSZ Piszkesteto 38.53 304 eP P 23 28 26.6 +1.5
PSZ pmax pmax
comp=Z,172nm,1.1s
PSZ Piszkesteto 38.53 304⇑iP P 23 28 25.4 +0.3
PSZ Piszkesteto 38.53 304 eP P 23 28 26.6 +1.5
comp=Z,172nm,1.1s
PYL PYLOS 38.53 286 P P 23 28 21.3 -3.9
DSL Palaion Diasel 38.56 290 P P 23 28 25.6 +0.2
PDO Prodromos 38.59 289 P P 23 28 24.5 -1.2
OJC Ojcow 38.62 308⇑iP P 23 28 26.0 +0.3
OJC i*PP pP 23 28 55.6 +7.1
OJC e 23 29 57.0
OJC Ojcow 38.62 308 iP P 23 28 26.0 +0.3
OJC ipP pP 23 28 55.6 +7.1
OJC ePP PP 23 29 57.0 +1.2
OJC Ojcow 38.62 308 eP P 23 28 26.8 +1.1
comp=Z,254nm,1.1s
PHP Peshkopia 38.62 294 P P 23 28 25.6 -0.3
PHP Peshkopia 38.62 294 P P 23 28 25.6 -0.3
PHP Peshkopia 38.62 294 P P 23 28 25.6 -0.3
JAN Janina 38.65 291 P P 23 28 24.9 -1.2
DIVS Divibare 38.67 298 P P 23 28 26.1 -0.2
QIZ Qiongzhong 38.83 105 eP P 23 28 27.8 0.0
comp=Z,69nm,1.1s
PVY Plav 38.86 296⇓iP P 23 28 29.9 +1.9
IVA Berane 38.87 296⇓iP P 23 28 29.8 +1.8
LKD2 Lefkada island 38.96 289 P P 23 28 27.8 -0.9
KFL Anninata 39.00 288 P P 23 28 28.8 -0.3
IGT Igoumenitsa 39.06 291 P P 23 28 28.6 -1.0
VLS Valsamata 39.14 288 P P 23 28 28.7 -1.5
PLE Pljevlja 39.18 297⇓iP P 23 28 31.7 +1.1
FURI Furi 39.22 234 eP P 23 28 33.9 +2.4
comp=Z,42nm,0.9s
FURI eS S 23 34 22.7 -2.3
FURI Furi 39.22 234 iP P 23 28 34.2 +2.7
VYHS Vyhne 39.23 305 eP P 23 28 31.8 +1.0
VYHS pmax pmax

comp=Z,80nm,1.3s
VYHS Vyhne 39.23 305 eP P 23 28 31.8 +1.0
VYHS ePP PnPn 23 30 05.2 -1.0
SRN Sarande 39.25 291 P P 23 28 30.9 -0.2
LHMI Lhok Sumawe 39.33 135 eP P 23 28 33.3 +1.3
comp=Z,167nm,1.0s
PDG Podgorica 39.39 295 P P 23 28 32.5 +0.3
TTG Podgorica 39.39 295⇓iP P 23 28 32.6 +0.3
TTG Podgorica 39.39 295 P P 23 28 32.5 +0.3
TTG Podgorica 39.39 295 P P 23 28 32.5 +0.3
PKSM Moragy 39.45 301⇑iP P 23 28 33.2 +0.5
ULC Ulcinj 39.47 295⇑iP P 23 28 36.5 +3.6
GZH Guangzhou 39.51 97 P P 23 28 34.0 +0.5
GZH S S 23 34 30.8 +2.2
GZH LR LR
comp=Z,1μm,14.3s
GZH LR LR
comp=Z,3μm,13.3s
VLO Vlora 39.52 292 P P 23 28 34.6 +1.3
NKY Niksic 39.53 296⇓iP P 23 28 34.5 +0.9
UPM Unac-Piva 39.55 297⇓iP P 23 28 34.5 +0.7
RAC Raciborz 39.65 307 eP P 23 28 34.6 +0.4
RAC e*PP pP 23 28 55.4 -1.7
RAC e 23 30 05.3
RAC MLR MLR
comp=Z,2μm,25.2s
OKC Ostrava-Krasne 39.67 307 eP P 23 28 35.6 +1.1
OKC e*PP pP 23 29 04.7 +7.3
OKC eS S 23 34 33.8 +3.4
OKC e 23 37 27.9
OKC Ostrava-Krasne 39.67 307 eP P 23 28 35.6 +1.1
OKC ex x 23 29 04.7
OKC eS S 23 34 33.8 +3.4
OKC eSS SS 23 37 27.9 -1.4
BUM Brajici-Budva 39.68 295⇓iP P 23 28 34.4 -0.3
HCY Herceg Novi 39.95 296⇓iP P 23 28 36.9 0.0
MORC Moravsky Berou 40.07 307 eP P 23 28 38.7 +0.9
MORC pmax pmax
comp=Z,144nm,1.0s
MORC Moravsky Berou 40.07 307⇑iP P 23 28 38.8 +0.9
MORC Moravsky Berou 40.07 307 eP P 23 28 38.7 +0.9
comp=Z,144nm,1.0s
SMOL Smolenice 40.16 305 eP P 23 28 39.9 +1.3
SMOL Smolenice 40.16 305 eP P 23 28 39.9 +1.3
NJ2 Nanjing 40.34 81 eP P 23 28 41.0 +0.8
NJ2 pP pP 23 29 03.5 +0.3
NJ2 sP sP 23 29 13.8 -0.7
NJ2 ScP ScP 23 34 21.5 -0.5
NJ2 S S 23 34 41.0 +0.2
NJ2 pmax pmax
comp=Z,80nm,0.9s
NJ2 pmax pmax
comp=Z,810nm,10.0s
NJ2 LR LR
comp=Z,2μm,16.0s
NJ2 LR LR
comp=Z,4μm,18.0s
NJ2 LR LR
comp=Z,4μm,20.0s
GKP Gorka Klasztor 40.36 312 eP P 23 28 40.4 +0.3
GKP e*PP pP 23 29 09.8 +6.7
GKP eS S 23 34 43.8 +3.2
GKP pmax pmax
comp=Z,500nm,0.8s
GKP Gorka Klasztor 40.36 312 eP P 23 28 40.4 +0.3
GKP epP pP 23 29 09.7 +6.7
GKP eS S 23 34 43.8 +3.2
STON Ston 40.47 296 P P 23 28 41.1 0.0
KRLC Kraliky 40.56 307 eP P 23 28 43.3 +1.5
KRLC e*PP pP 23 29 12.6 +7.8
KRLC Kraliky 40.56 307 eP P 23 28 43.3 +1.5
KRLC ex x 23 29 12.6
VRAC Vranov 40.69 306⇑iP P 23 28 43.9 +1.0
DPC Dobruska-Polom 40.85 308 eP P 23 28 45.4 +1.1
DPC pmax pmax
comp=Z,964nm,0.9s
DPC Dobruska-Polom 40.85 308 eP P 23 28 45.2 +1.0
DPC ex x 23 29 14.7
DPC Dobruska-Polom 40.85 308 eP P 23 28 45.4 +1.1
comp=Z,964nm,0.9s
KSP Ksiaz 40.87 309⇑eP P 23 28 45.4 +1.1
KSP e*PP pP 23 29 14.0 +6.7
KSP e 23 30 17.7
KSP eSS SS 23 37 42.5 -10
KSP Ksiaz 40.87 309 eP P 23 28 45.6 +1.3
KSP epP pP 23 29 14.0 +6.7
KEV Kevo 41.04 339 eP P 23 28 46.0 +0.5
KEV pmax pmax
comp=Z,224nm,1.0s
KEV Kevo 41.04 339 ep P 23 28 45.9 +0.5
comp=Z,188nm,0.8s
KEV Kevo 41.04 339 eP P 23 28 46.0 +0.5
comp=Z,224nm,1.0s
KOGS Kog 41.08 302 iP P 23 28 46.6 +0.5
KOGS epP pP 23 29 16.6 +7.4
KCSI Kotacane, Aceh 41.19 135 P P 23 28 48.7 +1.3
comp=Z,63nm,1.0s,comp=Z,914nm
CONA Conrad Observa 41.24 304⇑iP P 23 28 49.0 +1.5
comp=Z,372nm,1.1s,SNR=131
SNSI Sinabang, Aceh 41.30 138 P P 23 28 50.9 +2.7
comp=Z,244nm,0.7s,comp=Z,8μm
ARA0 ARCESS Array S 41.37 338 eP P 23 28 49.3 +1.1
ARCES ARCESS Array B 41.37 338 P P 23 28 48.8 +0.6
ARCES pmax pmax
comp=Z,218nm,0.7s
ARCES MLR MLR
comp=Z,2μm,21.7s
ARCES ARCESS Array B 41.37 338 P P 23 28 48.8 +0.6
comp=Z,218nm,0.7s,baz=117,slow=6.0,SNR=422
ARCES LR LR 23 46 43.5
comp=Z,2μm,21.7s,baz=129,slow=37
TREC Trest 41.41 306 eP P 23 28 50.6 +1.7
TREC e*PP pP 23 29 18.9 +7.0
TREC MLR MLR
comp=Z,1μm,24.3s
TREC Trest 41.41 306 eP P 23 28 50.6 +1.7
TREC ex x 23 29 18.9
TREC AMS AMS 23 45 30.0
comp=Z,1μm,24.3s
KULM Kulim 41.51 130 eP P 23 28 50.0 +0.1
comp=Z,91nm,1.1s
KULM Kulim 41.51 130⇓P P 23 28 50.9 +1.0
ARSA Arzberg 41.51 303 iP P 23 28 51.0 +1.2
comp=Z,125nm,1.4s,SNR=56
SNY Shenyang 41.54 65⇑P P 23 28 49.3 -0.6
SNY S S 23 35 03.3 +4.9
SNY pmax pmax
comp=Z,38nm,1.9s
SNY LR LR
comp=Z,2μm,12.6s
SNY LR LR
comp=Z,3μm,15.0s
SNY LR LR
comp=Z,5μm,16.8s
KTK1 Kautokeino 41.82 337 eP P 23 28 52.2 +0.3
BSD Bornholm Skovb 41.84 315⇑iP P 23 28 51.6 -0.6
BSD pmax pmax
comp=Z,120nm,0.9s
BSD Bornholm Skovb 41.84 315⇑iP P 23 28 51.6 -0.6
comp=Z,118nm,0.8s
TIP Timpagrande 41.85 291 P P 23 28 52.5 -0.1
TIP Timpagrande 41.85 291 eP P 23 28 52.5 -0.1
comp=Z,71nm,1.4s
SOKA Soboth 41.90 302 iP P 23 28 54.4 +1.5
comp=Z,258nm,0.9s,SNR=130
PVCC Panska Ves 41.97 308 iP P 23 28 54.8 +1.5
PVCC ex x 23 29 09.5
PRU Pruhonice 42.00 307 eP P 23 28 55.1 +1.5
PRU e*PP pP 23 29 24.1 +7.4
PRU eS S 23 35 08.8 +3.8
PRU MLR MLR
comp=Z,900nm,17.5s
PRU Pruhonice 42.00 307 eP P 23 28 55.1 +1.5
PRU ex x 23 29 24.1
PRU eS S 23 35 08.8 +3.8
PRU eSS SS 23 38 22.7 +7.4
PRU AMS AMS 23 46 30.0
comp=Z,900nm,17.5s
PRA Prague 42.07 307⇑P P 23 28 55.0 +0.9
PRA S S 23 35 10.0 +4.1
OBKA Obir 42.25 302⇑iP P 23 28 57.4 +1.6
comp=Z,132nm,1.1s,SNR=65
NVLJ Novalja 42.26 299 P P 23 28 55.4 -0.4
LJU Ljubljana 42.31 302 iP P 23 28 57.1 +0.8
LJU i 23 29 00.0
LJU epP pP 23 29 27.1 +7.8
LJU e 23 30 41.2
MOA Molln 42.31 304 iP P 23 28 57.4 +1.2
comp=Z,206nm,1.0s,SNR=62
BRG Berggiesshubel 42.35 309 iP P 23 28 57.9 +1.5
comp=Z,75nm,0.7s
BRG i 23 29 00.5
comp=Z,229nm,0.9s
BRG ipP pP 23 29 16.2 -3.3
comp=Z,35nm,0.7s
BRG S S 23 35 14.0 +3.9
BRG SS S 23 35 14.0 +3.9
comp=N,480nm,13.6s
comp=E,757nm,16.4s
comp=Z,1μm,14.2s
BRG Berggiesshubel 42.35 309 iP P 23 28 57.9 +1.5
BRG i*PP pP 23 29 16.2 -3.3
BRG S S 23 35 14.0 +3.9
BRG pmax pmax
comp=Z,75nm,0.7s
BRG MLR MLR
comp=N,480nm,13.6s
BRG MLR MLR
comp=E,757nm,16.4s
BRG MLR MLR
comp=Z,1μm,14.2s
BRG Berggiesshubel 42.35 309 eP P 23 28 57.5 +1.0
comp=Z,228nm,0.9s
IPM Ipoh 42.37 130 eP P 23 28 56.7 -0.2
comp=Z,128nm,0.9s
IPM Ipoh 42.37 130⇑P P 23 28 57.5 +0.5
CUC Castrocucco 42.38 292 eP P 23 28 58.0 +1.2
comp=Z,674nm,1.8s
RUE Ruedersdorf 42.43 311 eP P 23 28 57.4 +0.4
comp=Z,235nm,0.9s
RUE Ruedersdorf 42.43 311 eP P 23 28 57.6 +0.6
comp=Z,173nm,0.9s
SSE Sheshan 42.54 81⇑P P 23 28 58.5 +0.3
SSE pP pP 23 29 22.0 +0.7
SSE sP sP 23 29 33.3 +0.7
SSE S S 23 35 12.0 -1.3
SSE sS sS 23 35 52.5 -0.6
SSE pmax pmax
comp=Z,81nm,0.9s
SSE pmax pmax
comp=Z,580nm,8.4s
SSE LR LR
comp=Z,600nm,26.0s
SSE LR LR
comp=Z,440nm,25.9s
SSE LR LR
comp=Z,1μm,24.1s
CN2 Changchun 42.57 62 eP P 23 28 58.8 +0.5
CN2 epP pP 23 29 21.5 +0.1
CN2 eS S 23 35 12.5 -1.0
CN2 pmax pmax
comp=Z,30nm,1.4s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
GEC2 GERESS Array S 42.61 306 eP P 23 28 59.6 +0.9
GEC2 e 23 30 38.1
GEC2 GERESS Array S 42.61 306 eP P 23 28 59.6 +0.9
comp=Z,125nm,1.1s
GEC2 GERESS Array S 42.61 306 eP P 23 28 59.5 +0.9
GEC2 ePP PP 23 30 38.1 -1.1
GERES GERESS Array B 42.61 306 P P 23 28 59.4 +0.7
GERES 23 30 38.1
GERES pmax pmax
comp=Z,42nm,0.9s
GERES pmax pmax
comp=Z,19nm,1.0s
GERES GERESS Array B 42.61 306 P P 23 28 59.4 +0.7
comp=Z,42nm,0.9s,baz=88,slow=7.4,SNR=94
GERES PP PP 23 30 38.1 -1.1
comp=Z,19nm,1.0s,baz=81,slow=8.6,SNR=4.3
MSEY Mahe Island 42.63 202 P P 23 29 00.4 +1.3
comp=Z,631nm,0.7s,SNR=13
MSEY Mahe Island 42.63 202 eP P 23 28 59.8 +0.7
MSEY pmax pmax
comp=Z,85nm,0.8s
MSEY Mahe Island 42.63 202 eP P 23 28 59.8 +0.7
comp=Z,85nm,0.8s
MSEY Mahe Island 42.63 202⇑iP P 23 28 59.7 +0.6
SNR=15
KHC Kasperske Hory 42.67 306 eP P 23 29 00.2 +1.1
KHC e*PP pP 23 29 28.3 +6.1
KHC e 23 30 43.0
KHC eS S 23 35 18.3 +3.3
KHC MLR MLR
comp=Z,2μm,22.9s
KHC Kasperske Hory 42.67 306 eP P 23 29 00.2 +1.1
KHC ex x 23 29 28.3
KHC ePP PP 23 30 43.0 +3.2
KHC ex x 23 31 07.0
KHC eS S 23 35 18.3 +3.3
KHC AMS AMS 23 46 00.0
comp=Z,2μm,22.9s
KHC Kasperske Hory 42.67 306 eP P 23 29 00.2 +1.1
comp=Z,86nm,1.2s
CEL Celeste 42.72 290 eP P 23 29 00.2 +0.6
comp=Z,118nm,1.1s
RGN Rugen 42.74 314 eP P 23 29 00.4 +0.9
comp=Z,1μm,1.4s
RGN Rugen 42.74 314 eP P 23 29 00.6 +1.1
comp=Z,689nm,1.0s
CADS Cadrg 42.84 302 iP P 23 29 00.7 +0.2
CADS ipP pP 23 29 30.6 +7.0
MYKA Terra Mystica 42.86 302⇑iP P 23 29 02.0 +1.3
comp=Z,95nm,1.0s,SNR=41
GSI Gunungsitoli 42.90 137 P P 23 29 03.0 +1.8
comp=Z,101nm,0.9s,comp=Z,4μm
GSI Gunungsitoli 42.90 137 eP P 23 29 02.4 +1.2
comp=Z,190nm,0.8s
QZH Quanzhou 42.90 91⇑iP P 23 29 00.5 -0.7
QZH S S 23 35 18.5 -0.2
QZH sS sS 23 35 58.0 -0.5
QZH pmax pmax
comp=Z,100nm,1.2s
QZH pmax pmax
comp=Z,740nm,5.7s
QZH LR LR
comp=Z,2μm,11.3s
QZH LR LR
comp=Z,1μm,6.5s
QZH LR LR
comp=Z,2μm,14.7s
CLL Collm 42.93 309 iP P 23 29 01.9 +0.8
CLL e 23 29 19.0
CLL e 23 29 31.0
CLL eS S 23 35 19.0 +0.4
CLL pmax pmax
comp=Z,124nm,0.9s
CLL Collm 42.93 309 eP P 23 29 01.7 +0.6
comp=Z,124nm,0.9s
CLL Collm 42.93 309 iP P 23 29 01.9 +0.8
comp=Z,140nm,1.6s
CLL ⇓iPmax 23 29 04.6
comp=Z,124nm,0.9s
CLL e 23 29 19.0
CLL e 23 29 31.0
CLL e 23 30 51.0
CLL epPP 23 31 03.0
CLL esPP 23 31 15.0
CLL e(ScP) 23 34 27.0
CLL eS S 23 35 19.0 +0.4
CLL esS sS 23 36 00.0 +1.6
CLL e(sSS) 23 39 02.0
CLL Collm 42.93 309 eP P 23 29 02.0 +0.9
comp=Z,114nm,0.9s
KBA Koelnbreinsper 43.01 303 iP P 23 29 03.0 +1.0
comp=Z,183nm,1.4s,SNR=59
HFS Hagfors 43.03 322 LR LR 23 48 08.8
comp=Z,3μm,21.1s,baz=99,slow=38
KTGM Kuala Trenggan 43.05 127⇓P P 23 29 03.7 +1.2
WET Wettzell 43.13 306 eP P 23 29 03.9 +1.1
comp=Z,104nm,1.7s
COP Copenhagen 43.29 316⇑iP P 23 29 05.0 +1.1
COP pmax pmax
comp=Z,97nm,1.0s
COP Copenhagen 43.29 316⇑iP P 23 29 05.0 +1.1
comp=Z,97nm,0.9s
RJOB Jochberg 43.31 304 eP P 23 29 05.1 +0.8
comp=Z,139nm,1.2s
TANN Tannenbergstha 43.32 308 eP P 23 29 05.5 +1.2
comp=Z,134nm,1.1s
WERN Wernitzgruen 43.38 308 eP P 23 29 06.2 +1.4
comp=Z,150nm,1.6s
WERN epP pP 23 29 34.8 +6.8
LLD Lille Linde 43.40 315 iP P 23 29 06.0 +1.2
LLD pmax pmax
comp=Z,41nm,0.9s
LLD Lille Linde 43.40 315 iP P 23 29 06.0 +1.2
comp=Z,41nm,0.9s
GUNZ Gunzen 43.40 308 eP P 23 29 06.1 +1.1
comp=Z,132nm,1.0s
GUNZ epP pP 23 29 34.9 +6.8
WERD Werda 43.41 308 eP P 23 29 06.1 +1.0
comp=Z,138nm,1.1s
WERD epP pP 23 29 34.7 +6.5
TRO Tromso 43.47 337 eP P 23 29 06.7 +1.6
TRO eSS SS 23 38 44.4 +1.1
PLN Plauen 43.51 308 eP P 23 29 06.9 +1.1
comp=Z,166nm,1.1s
PLN epP pP 23 29 35.7 +6.8
ROTZ Rotzenmuhle 43.52 307 eP P 23 29 07.8 +1.9
comp=Z,321nm,1.4s
ROTZ epP pP 23 29 36.3 +7.2
ABTA Abfaltersbach 43.62 303⇑iP P 23 29 07.1 +0.3
comp=Z,85nm,1.1s,SNR=29
NEUB Neuenburg 43.71 309 eP P 23 29 08.2 +0.9
comp=Z,251nm,1.0s
MOX Moxa 43.84 308 eP P 23 29 09.6 +1.1
comp=Z,161nm,1.1s
MOX epP pP 23 29 38.1 +6.4
MOR8 Moi Rana 43.92 331 eP P 23 29 08.5 -0.4
MOR8 IAmb IAmb 23 29 09.5
comp=Z,377nm,0.8s
STEI Steigen 44.12 334 eP P 23 29 11.3 +0.9
STEI IAmb IAmb 23 29 13.5
comp=Z,179nm,0.6s
WTTA Wattenberg 44.15 304⇑iP P 23 29 11.4 +0.2
comp=Z,230nm,1.0s,SNR=44
GRF Grafenberg Arr 44.16 307 eP P 23 29 13.1 +2.0
comp=Z,377nm,1.3s
GRF epP pP 23 29 41.6 +7.3
WATA Walderalm 44.18 304⇓iP P 23 29 11.3 0.0
comp=Z,75nm,0.7s,SNR=66
FUR Furstenfeldbru 44.28 305 eP P 23 29 13.1 +1.1
comp=Z,275nm,1.0s
FUR epP pP 23 29 41.7 +6.4
NB2 NORSAR Subarra 44.36 323 P P 23 29 12.6 +0.1
comp=Z,204nm,0.7s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.36 323 P P 23 29 12.6 +0.1
baz=97,slow=7.9
NB200 NORSAR Array S 44.36 323 eP P 23 29 12.5 0.0
NOA NORSAR Array B 44.36 323 P P 23 29 12.5 +0.1
NOA pmax pmax
comp=Z,182nm,0.6s
NOA MLR MLR
comp=Z,2μm,21.6s
NOA NORSAR Array B 44.36 323 P P 23 29 12.5 0.0
comp=Z,182nm,0.6s,baz=98,slow=8.0,SNR=827
NOA LR LR 23 48 49.1
comp=Z,2μm,21.6s,baz=95,slow=37
FLOS Flostrand 44.39 331 eP P 23 29 13.0 +0.5
WDD Wield Dalam 44.42 287 eP P 23 29 13.8 +0.5
comp=Z,164nm,0.8s
MNSI Mandailing Nat 44.45 135 P P 23 29 14.2 +0.6
comp=Z,117nm,0.8s,comp=Z,3μm
OSL Oslo 44.48 322 eP P 23 29 12.8 -0.5
OSL IAmb IAmb 23 29 14.4
comp=Z,127nm,0.7s
MOTA Moosalm 44.49 304⇑iP P 23 29 13.7 -0.2
comp=Z,130nm,0.8s,SNR=100
BSEG Bad Segeberg 44.50 313 eP P 23 29 14.6 +1.0
comp=Z,235nm,1.0s
STOK Stokkvaagen 44.52 331 eP P 23 29 14.9 +1.3
KONS Konsvik 44.52 331 eP P 23 29 14.1 +0.4
KONS IAmb IAmb 23 29 16.8
comp=Z,198nm,0.3s
NBO02 NORSAR Array S 44.53 323 eP P 23 29 14.0 +0.1
CLZ Clausthal 44.55 310 eP P 23 29 15.2 +1.1
comp=Z,284nm,1.4s
CLZ epP pP 23 29 43.8 +6.4
NRDL Niedersach Rie 44.68 311 eP P 23 29 16.1 +1.1
comp=Z,166nm,1.0s
NRDL epP pP 23 29 44.9 +6.7
RETA Reutte 44.71 304⇑iP P 23 29 15.6 +0.1
comp=Z,71nm,0.9s,SNR=23
FETA Feichten 44.79 303⇑iP P 23 29 16.4 +0.2
comp=Z,151nm,1.0s,SNR=34
LOF Lofoten 44.80 334 eP P 23 29 15.7 0.0
LOF eSS SS 23 39 04.5 -3.8
INCN Inchon 44.82 70 eP P 23 29 16.3 -0.1
comp=Z,533nm,2.0s
UBBA Unterbreizbach 44.85 309 eP P 23 29 17.4 +1.0
comp=Z,201nm,1.6s
YAK Yakutsk 44.89 35 iP P 23 29 16.4 -0.2
YAK e*PP pP 23 29 40.6 +0.8
YAK eS S 23 35 47.7 +1.1
YAK e*SS sS 23 36 30.0 +3.3
YAK e 23 38 55.6
YAK pmax pmax
comp=E,49nm,1.0s
YAK pmax pmax
comp=Z,211nm,0.9s
YAK pmax pmax
comp=N,33nm,1.1s
YAK smax smax
comp=E,557nm,1.6s
YAK smax smax
comp=N,324nm,1.4s
YAK Yakutsk 44.89 35 eP P 23 29 16.9 +0.3
comp=N,218nm,0.8s
KONO Kongsberg 45.03 321 eP P 23 29 17.7 0.0
KONO pmax pmax
comp=Z,129nm,0.8s
KONO Kongsberg 45.03 321 eP P 23 29 17.1 -0.7
KONO eSS SS 23 39 15.0 +2.4
KONO Kongsberg 45.03 321 eP P 23 29 17.7 0.0
comp=Z,128nm,0.8s
MUD Monsted U'grnd 45.13 317 iP P 23 29 19.8 +1.2
MUD pmax pmax
comp=Z,100nm,1.1s
MUD Monsted U'grnd 45.13 317 iP P 23 29 19.8 +1.2
comp=Z,101nm,1.0s
FUORN Ofenpass-Fuorn 45.17 303 eP P 23 29 19.3 -0.1
comp=Z,117nm,1.1s
YHNB Yeheng 45.28 90 eP P 23 29 21.4 +1.1
comp=Z,519nm,2.3s
TPUB Ta-pu 45.31 92 eP P 23 29 21.0 +0.6
comp=Z,71nm,1.2s
DAVA Damuels 45.33 304 iP P 23 29 20.9 +0.4
comp=Z,360nm,0.9s,SNR=77
SSLB Suanglung 45.34 91 eP P 23 29 22.0 +1.3
comp=Z,60nm,0.9s
HOPEN Hopen 45.36 347 eP P 23 29 21.8 +1.7
HOPEN eSS SS 23 39 21.1 +3.5
MDJ Mudanjiang 45.37 60 P P 23 29 21.3 +0.6
MDJ pP pP 23 29 42.8 -1.2
MDJ sP sP 23 29 55.8 +0.6
MDJ PcP PcP 23 30 57.5 -1.0
MDJ PP PP 23 31 13.5 +5.0
MDJ ScP ScP 23 34 41.8 -0.3
MDJ PcS PcS 23 34 51.3 -1.1
MDJ S S 23 35 53.3 -0.9
MDJ sS sS 23 36 33.5 -0.8
MDJ pmax pmax
comp=Z,38nm,1.3s
MDJ pmax pmax
comp=Z,280nm,5.0s
MDJ LR LR
comp=Z,3μm,12.8s
MDJ LR LR
comp=Z,1μm,10.9s
MDJ LR LR
comp=Z,2μm,18.2s
MDJ Mudanjiang 45.37 60 eP P 23 29 20.6 -0.1
comp=Z,78nm,1.4s
DOMB Dombas 45.49 325 eP P 23 29 22.4 +0.9
VLC Villacollemand 45.50 299 eP P 23 29 23.2 +1.5
comp=Z,201nm,1.0s
STU Stuttgart 45.58 306 eP P 23 29 23.6 +1.3
STU pmax pmax
comp=Z,154nm,1.0s
STU Stuttgart 45.58 306 eP P 23 29 23.4 +1.1
comp=Z,205nm,1.0s

STU Stuttgart 45.58 306 eP P 23 29 23.6 +1.3
comp=Z,154nm,1.0s
BKNI Bangkinang 45.67 134 P P 23 29 23.9 +0.6
comp=Z,210nm,0.9s,comp=Z,4μm
BKNI Bangkinang 45.67 134 eP P 23 29 23.4 +0.1
comp=Z,304nm,0.8s
NACB Ninganchiao 45.69 90 eP P 23 29 21.8 -1.7
comp=Z,198nm,1.6s
KS01 Wonju Array Si 45.79 70 eP P 23 29 23.8 -0.3
YULB Yu-li 45.81 91 eP P 23 29 25.7 +1.3
comp=Z,64nm,1.0s
TUE Stuetta 45.81 303 eP P 23 29 24.0 -0.4
comp=Z,53nm,0.8s
TWG Pinlang 45.89 92 eP P 23 29 26.6 +1.5
comp=Z,729nm,1.1s
TNS Taunus Mts 45.90 308 eP P 23 29 25.9 +1.1
comp=Z,116nm,1.3s
HLG Helgoland 45.92 314 eP P 23 29 25.9 +1.1
comp=Z,380nm,1.2s
KLR Kul'dur 46.12 53 eP P 23 29 22.8 -3.7
KLR eS S 23 36 00.0 -4.8
KLR pmax pmax
comp=E,140nm,2.0s
KLR pmax pmax
comp=Z,250nm,2.0s
KLR MLR MLR
comp=Z,4μm,12.0s
IBBN Ibbenburen 46.13 311 eP P 23 29 27.4 +0.9
comp=Z,325nm,0.9s
BFO Black Forest 46.21 306 P P 23 29 27.0 -0.3
comp=Z,563nm,1.1s,SNR=32
BFO Black Forest 46.21 306 P P 23 29 27.0 -0.3
comp=Z,96nm,0.7s,SNR=32
BFO Black Forest 46.21 306 iP P 23 29 28.0 +0.7
BFO Black Forest 46.21 306 eP P 23 29 27.7 +0.4
comp=Z,123nm,1.1s
BFO Black Forest 46.21 306 eP P 23 29 27.8 +0.4
comp=Z,98nm,1.0s
SNART Snartemo 46.21 319 eP P 23 29 28.0 +0.9
SNART IAmb IAmb 23 29 30.6
MYKOM Kota Tinggi 46.21 130 eP P 23 29 27.8 +0.2
comp=Z,73nm,0.8s
MOL Molde 46.25 325 eP P 23 29 27.4 +0.1
LANF Langenberg 46.47 306 eP P 23 29 30.0 +0.8
BUG Bochum--Univer 46.51 310 eP P 23 29 30.5 +1.0
comp=Z,265nm,1.1s
ODD1 Odda 46.54 322 eP P 23 29 30.4 +0.7
STR Strasbourg 46.55 306 eP P 23 29 32.1 +2.3
TIXI Tiksi 46.59 22⇓iP P 23 29 30.5 +0.6
TIXI pmax pmax
comp=Z,355nm,1.2s
TIXI Tiksi 46.59 22 eP P 23 29 30.0 +0.1
comp=Z,221nm,0.8s
WTSB Winterswijk 46.74 311 iP P 23 29 32.3 +1.0
comp=Z,429nm,1.3s
WTSB epP pP 23 30 01.8 +7.0
WTSB ePP PP 23 31 18.2 -4.0
PGF Pioggiola 46.83 298 eP P 23 29 32.6 +0.3
comp=Z,399nm,1.1s
PGF Pioggiola 46.83 298 eP P 23 29 32.6 +0.3
PGF Pioggiola 46.83 298 eP P 23 29 32.6 +0.3
WLS Welschbruch 46.84 306 eP P 23 29 32.2 -0.1
CDF Champ du Feu 46.90 306 eP P 23 29 32.9 +0.2
comp=Z,108nm,0.9s
CDF Champ du Feu 46.90 306 eP P 23 29 32.9 +0.2
CDF Champ du Feu 46.90 306 eP P 23 29 32.9 +0.2
ECH Echery 47.00 306 eP P 23 29 33.8 +0.3
MOF Molkenrain 47.08 305 eP P 23 29 34.4 +0.3
USRK Ussuriysk Arra 47.14 60 P P 23 29 34.3 -0.2
comp=Z,10nm,0.8s,baz=278,slow=5.9,SNR=17
USRK LR LR 23 51 53.4
comp=Z,3μm,19.2s,baz=275,slow=39
RUND Rundenannen 47.18 322 eP P 23 29 34.4 -0.3
BER Bergen 47.20 322 eP P 23 29 35.4 +0.7
SENIN Lac Senin/Sane 47.23 303 eP P 23 29 35.2 -0.3
KMY Karmoy 47.24 321 eP P 23 29 35.1 +0.1
HINF Hinteralfeld 47.27 305 eP P 23 29 35.9 +0.3
comp=Z,338nm,1.0s
HINF Hinteralfeld 47.27 305 eP P 23 29 35.9 +0.3
HINF Hinteralfeld 47.27 305 eP P 23 29 35.9 +0.3
VLA Vladivostok 47.30 61⇓iP P 23 29 35.6 -0.2
VLA 23 31 03.6
VLA 23 31 25.8
VLA eS S 23 36 20.0 -1.7
VLA pmax pmax
comp=Z,124nm,1.4s
TPRI Tanjung Pinang 47.31 130 P P 23 29 38.3 +2.1
comp=Z,95nm,1.1s
VSL Villasalto 47.31 293 eP P 23 29 35.2 -0.7
comp=Z,41nm,1.1s
FOO Floro 47.37 324 eP P 23 29 44.5 +8.5
LOMF Lomont 47.37 304 eP P 23 29 36.3 -0.1
MEM Membach 47.40 309 P P 23 29 37.3 +0.9
comp=Z,91nm,1.1s
MEM Membach 47.40 309 eP P 23 29 37.7 +1.3
MEM pmax pmax
comp=Z,153nm,1.0s
MEM Membach 47.40 309 eP P 23 29 37.7 +1.3
comp=Z,152nm,1.0s
HGN Heimansgroeve 47.43 309 eP P 23 29 37.5 +0.9
comp=Z,52nm,0.9s
WLF Walferdange 47.44 308 P P 23 29 38.6 +1.9
comp=Z,206nm,1.4s
WLF Walferdange 47.44 308 eP P 23 29 38.4 +1.6
WLF pmax pmax
comp=Z,267nm,1.0s
WLF Walferdange 47.44 308 eP P 23 29 38.2 +1.4
comp=Z,330nm,1.1s
WLF Walferdange 47.44 308 eP P 23 29 38.4 +1.6
comp=Z,267nm,1.0s
HSP Hornsund 47.48 346 eP P 23 29 38.5 +1.8
HSPB Hornsund (broa 47.48 346 eP P 23 29 38.4 +1.7
HAU Haudompre 47.57 305 eP P 23 29 38.4 +0.5
comp=Z,521nm,1.2s
HAU Haudompre 47.57 305 eP P 23 29 38.4 +0.5
HAU Haudompre 47.57 305 eP P 23 29 38.4 +0.5
BEBN Eben Emael 47.58 309 P P 23 29 40.0 +2.1
AUTN L'Aution 47.62 300 eP P 23 29 40.0 +1.5
SBF Sospel 47.64 300 eP P 23 29 39.3 +0.8
comp=Z,608nm,1.1s
SBF Sospel 47.64 300 eP P 23 29 39.3 +0.8
SBF Sospel 47.64 300 eP P 23 29 39.3 +0.8
REVF Revere 47.72 300 eP P 23 29 39.2 +0.1
TOUF Mont Tournerai 47.74 300 eP P 23 29 39.9 +0.5
LPG La Plagne 47.77 302 eP P 23 29 40.7 +0.9
comp=Z,222nm,0.8s
LPG La Plagne 47.77 302 eP P 23 29 40.7 +0.9
LPG La Plagne 47.77 302 eP P 23 29 40.7 +0.9
THEF They Montfort 47.77 306 eP P 23 29 40.1 +0.7
LPL La Plagne 47.78 302 eP P 23 29 40.6 +0.8
comp=Z,530nm,1.2s
LPL La Plagne 47.78 302 eP P 23 29 40.6 +0.8
LPL La Plagne 47.78 302 eP P 23 29 40.6 +0.8
MVIF Mont Vial 47.84 300 eP P 23 29 40.3 +0.2
KMBO Kilima Mbogo 47.86 227 P P 23 29 40.6 -0.1
comp=Z,10nm,0.6s,baz=34,slow=12,SNR=18
KMBO Kilima Mbogo 47.86 227 eP P 23 29 40.4 -0.3
SPA0 Spitsbergen Ar 47.87 347 eP P 23 29 41.5 +1.9
BCLA Clavier 47.87 309 P P 23 29 40.9 +0.8
comp=Z,38nm,1.3s
PAGF Fort de Pagny 47.89 306 eP P 23 29 41.5 +1.2
comp=Z,192nm,1.1s
PAGF Fort de Pagny 47.89 306 eP P 23 29 41.5 +1.2
BNI Bardonecchia 47.91 301 eP P 23 29 41.4 +0.7
BNI pmax pmax
comp=Z,212nm,1.4s
BNI Bardonecchia 47.91 301 eP P 23 29 41.4 +0.7
comp=Z,212nm,1.4s
MBDF Montbardon 47.92 301 eP P 23 29 41.0 +0.2
comp=Z,251nm,0.8s
MBDF Montbardon 47.92 301 eP P 23 29 41.0 +0.2
MBDF Montbardon 47.92 301 eP P 23 29 41.0 +0.2
SURF Saint Ours 47.95 301 eP P 23 29 41.6 +0.6
CABF La Chapelle 48.00 304 eP P 23 29 42.1 +0.8
comp=Z,601nm,1.1s
CABF La Chapelle 48.00 304 eP P 23 29 42.1 +0.8
CABF La Chapelle 48.00 304 eP P 23 29 42.1 +0.8
CALN Calern 48.05 300 eP P 23 29 41.1 -0.7
GIVF Givet 48.22 308 eP P 23 29 43.8 +1.0
comp=Z,411nm,1.4s
GIVF Givet 48.22 308 eP P 23 29 43.8 +1.0
GIVF Givet 48.22 308 eP P 23 29 43.8 +1.0
FRF La Foret Royal 48.27 299 eP P 23 29 43.7 +0.4
comp=Z,248nm,1.1s
FRF La Foret Royal 48.27 299 eP P 23 29 43.7 +0.4

FRF La Foret Royal 48.27 299 eP P 23 29 43.7 +0.4
GDM Grand'Maison 48.27 302 eP P 23 29 43.5 0.0
MEZF Maizieres J'vi 48.34 306 eP P 23 29 44.8 +1.1
comp=Z,374nm,0.8s
MEZF Maizieres J'vi 48.34 306 eP P 23 29 44.8 +1.1
DOU Dourbes 48.37 308 P P 23 29 45.1 +1.2
comp=Z,98nm,1.6s
HABR Khabarovsk 48.39 54deP P 23 29 42.4 -1.7
HABR e*PP pP 23 30 06.0 -1.7
HABR e*SP sP 23 30 17.4 -1.4
HABR e 23 31 07.2
HABR e 23 31 35.4
HABR ePPP PPP 23 32 27.2
HABR eS S 23 36 35.5 -1.4
HABR e*SS sS 23 37 16.5 -0.9
HABR e 23 39 24.3
HABR SS SS 23 40 07.6 +0.2
HABR eSSS SSS 23 41 27.1
HABR pmax pmax
comp=Z,104nm,1.1s
HABR MLR MLR
comp=Z,2μm,23.0s
SFTF Sexfontaines 48.40 306 eP P 23 29 45.0 +0.8
comp=Z,751nm,1.3s
SFTF Sexfontaines 48.40 306 eP P 23 29 45.0 +0.8
UCC Uccle 48.41 309 P P 23 29 46.0 +1.8
LMR La Mourre 48.42 299 eP P 23 29 46.3 +1.9
comp=Z,204nm,1.4s
LMR La Mourre 48.42 299 eP P 23 29 46.3 +1.9
LMR La Mourre 48.42 299 eP P 23 29 46.3 +1.9
KEST Kesra 48.46 289 P P 23 29 46.1 +1.1
comp=Z,20nm,0.7s,baz=8.2,slow=1.5,SNR=81
KEST Kesra 48.46 289 eP P 23 29 45.8 +0.9
ORIF Oris-en-Rattie 48.50 301 eP P 23 29 44.9 -0.2
comp=Z,83nm,0.9s
ORIF Oris-en-Rattie 48.50 301 eP P 23 29 44.9 -0.2
ORIF Oris-en-Rattie 48.50 301 eP P 23 29 44.9 -0.2
SNF Seneffe 48.50 309 P P 23 29 46.2 +1.3
GRN Grenoble 48.52 302 eP P 23 29 45.7 +0.4
BAIF Baives 48.62 308 eP P 23 29 47.2 +1.3
comp=Z,645nm,1.1s
BAIF Baives 48.62 308 eP P 23 29 47.2 +1.3
BAIF Baives 48.62 308 eP P 23 29 47.2 +1.3
SMRF Simiane la Rot 48.93 300 eP P 23 29 49.0 +0.6
comp=Z,167nm,1.2s
SMRF Simiane la Rot 48.93 300 eP P 23 29 49.0 +0.6
OG26 St.-Nazaire-De 48.98 301 eP P 23 29 49.4 +0.7
KBS Kingsbay 48.99 347 eP P 23 29 49.7 +1.4
KBS pmax pmax
comp=Z,384nm,0.9s
KBS Kingsbay 48.99 347 eP P 23 29 49.9 +1.6
KBS Kingsbay 48.99 347 eP P 23 29 49.7 +1.4
comp=Z,384nm,0.9s
SSB Saint Sauveur 49.34 302 eP P 23 29 51.8 +0.3
VIVF Saint-Julien-l 49.35 302 eP P 23 29 52.4 +0.9
comp=Z,869nm,1.4s
VIVF Saint-Julien-l 49.35 302 eP P 23 29 52.4 +0.9
VIVF Saint-Julien-l 49.35 302 eP P 23 29 52.4 +0.9
LOR Lormes 49.37 305 eP P 23 29 51.6 0.0
comp=Z,269nm,1.4s
LOR Lormes 49.37 305 eP P 23 29 51.6 0.0
LOR Lormes 49.37 305 eP P 23 29 51.6 0.0
JNU Nakatsue 49.51 75 P P 23 29 53.3 +0.4
comp=Z,132nm,0.9s,baz=309,slow=3.7,SNR=50
JNU Nakatsue 49.51 75 eP P 23 29 53.0 +0.1
comp=Z,174nm,0.9s
SMF Signal de Mont 49.51 304 eP P 23 29 53.4 +0.7
comp=Z,620nm,0.9s
SMF Signal de Mont 49.51 304 eP P 23 29 53.4 +0.7
SMF Signal de Mont 49.51 304 eP P 23 29 53.4 +0.7
CMAH Djebel Manchou 49.65 290 P P 23 29 54.8 +0.8
SSF Saint Saulge 49.65 305 eP P 23 29 54.0 +0.3
comp=Z,417nm,1.4s
SSF Saint Saulge 49.65 305 eP P 23 29 54.0 +0.3
SSF Saint Saulge 49.65 305 eP P 23 29 54.0 +0.3
ABSA Djebel Ababsia 49.72 290 P P 23 29 55.4 +0.8
AVF Avril sur Loir 49.81 304 eP P 23 29 55.5 +0.6
comp=Z,502nm,0.9s
AVF Avril sur Loir 49.81 304 eP P 23 29 55.5 +0.6
AVF Avril sur Loir 49.81 304 eP P 23 29 55.5 +0.6
PLDF La Plantade 49.81 303 eP P 23 29 55.1 0.0
JOW Kunigami 49.92 83 LR LR 23 53 55.1
comp=Z,50nm,20.1s,baz=298,slow=39
CAEH 'Ain El Ouahch 50.03 291 P P 23 30 00.0 +3.2
LASF Ste Croix 50.10 301 eP P 23 29 58.4 +1.1
comp=Z,530nm,1.1s
LASF Ste Croix 50.10 301 eP P 23 29 58.4 +1.1
HYF Humbligny 50.18 305 eP P 23 29 58.8 +1.0
HYF Humbligny 50.18 305 eP P 23 29 58.8 +1.0
BGF Bois d'Agland 50.20 304 eP P 23 29 58.4 +0.5
comp=Z,209nm,1.0s
BGF Bois d'Agland 50.20 304 eP P 23 29 58.4 +0.5
BGF Bois d'Agland 50.20 304 eP P 23 29 58.4 +0.5
LBL Lubilhac 50.24 302 eP P 23 29 58.9 +0.6
CKFL Kef-Lekhel 50.25 290 P P 23 29 59.1 +0.5
PYM Petit Puy Mans 50.28 303 eP P 23 29 58.7 +0.1
TGY Tagaytay City 50.37 102 P P 23 30 00.1 +0.5
TGY pmax pmax
comp=Z,109nm,0.3s
TGY Tagaytay City 50.37 102 P P 23 30 00.1 +0.5
comp=Z,109nm,0.3s,baz=229,slow=2.4,SNR=6.5
LRW Lerwick 50.45 322 eP P 23 29 59.5 -0.1
LRW AMB AMB 23 30 03.0
comp=Z,188nm,1.2s
LHSI Lahat 50.47 134 P P 23 30 04.8 +4.5
comp=Z,49nm,0.9s,comp=Z,2μm
CASM Ain Smara 50.47 290 P P 23 30 00.0 -0.2
MNAI Manna 50.58 135 eP P 23 29 59.2 -1.9
comp=Z,214nm,0.8s
CTEI Djebel Teioual 50.60 290 P P 23 30 02.1 +0.8
FRNF Fournols 50.67 303 eP P 23 30 02.4 +0.9
KSM Kuching 50.67 123 eP P 23 30 01.2 -0.6
comp=Z,44nm,0.8s
KSM Kuching 50.67 123 ⇑P P 23 30 02.9 +1.1
TCF Toulx Ste Croi 50.69 304 eP P 23 30 02.6 +0.9
comp=Z,651nm,1.1s
TCF Toulx Ste Croi 50.69 304 eP P 23 30 02.6 +0.9
TCF Toulx Ste Croi 50.69 304 eP P 23 30 02.6 +0.9
DFRA Djebel Bou Aff 50.84 291 P P 23 30 03.7 +0.6
CAF Calviac 51.13 302 eP P 23 30 06.1 +1.1
comp=Z,386nm,1.1s
CAF Calviac 51.13 302 eP P 23 30 06.1 +1.1
CAF Calviac 51.13 302 eP P 23 30 06.1 +1.1
SJAF Saint Jean de 51.22 299 eP P 23 30 06.0 +0.4
SBUM Sibu 51.28 121 eP P 23 30 07.7 +1.3
comp=Z,36nm,0.9s
SBUM Sibu 51.28 121 ⇑P P 23 30 08.1 +1.7
CKHR Kef el Ahmar 51.30 290 P P 23 30 07.4 +0.9
SET Setif 51.32 291 P P 23 30 07.0 +0.4
LRDF Laroque-de-Fa 51.33 300 eP P 23 30 07.5 +1.0
BTM Bintulu 51.36 119 ⇑P P 23 30 09.3 +2.3
MDSI Maura Dua 51.38 134 P P 23 30 04.1 -3.0
comp=Z,20nm,1.0s,comp=Z,937nm
RJF Les Rejaudoux 51.40 303 eP P 23 30 08.3 +1.3
comp=Z,326nm,1.2s
RJF Les Rejaudoux 51.40 303 eP P 23 30 08.3 +1.3
RJF Les Rejaudoux 51.40 303 eP P 23 30 08.3 +1.3
FILF Fillols 51.42 299 eP P 23 30 07.8 +0.6
MTLF Montolieu 51.44 300 eP P 23 30 08.2 +0.9
comp=Z,275nm,1.2s
MTLF Montolieu 51.44 300 eP P 23 30 08.2 +0.9
MTLF Montolieu 51.44 300 eP P 23 30 08.2 +0.9
HPK Haverah Park 51.51 314⇑eP P 23 30 07.8 +0.1
HPK AMB AMB 23 30 11.3
comp=Z,289nm,1.4s
DRUM Mains of Drumt 51.51 318⇑eP P 23 30 07.3 -0.2
KBI1 Birley Grange 51.58 313⇑eP P 23 30 08.1 -0.1
LDF La Druitiere 51.69 307 eP P 23 30 09.2 +0.2
comp=Z,135nm,0.6s
LDF La Druitiere 51.69 307 eP P 23 30 09.2 +0.2
LDF La Druitiere 51.69 307 eP P 23 30 09.2 +0.2
XAL Allendale 51.69 315⇑eP P 23 30 09.1 +0.1
KKM Kota Kinabalu 51.70 114 eP P 23 30 10.8 +1.2
comp=Z,309nm,1.1s
MME1 Meikle Cairn 51.71 319⇑eP P 23 30 08.8 -0.3
LHO Holmfirth 51.72 314 eP P 23 30 08.8 -0.4
ESY Stoneypath 51.74 317⇑iP P 23 30 09.3 0.0
LWLI Liwa 51.74 135 P P 23 30 09.7 -0.2
comp=Z,103nm,0.9s,comp=Z,4μm
MLA1 Latheron 51.78 320⇑iP P 23 30 09.5 0.0
WOL Wolverton 51.78 311⇑eP P 23 30 10.0 +0.3
WOL AMB AMB 23 30 13.6
comp=Z,508nm,1.4s

MCD Coleburn Disti 51.83 319⇑iP P 23 30 10.2 +0.3
FLN La Foliniere 51.88 308 eP P 23 30 10.6 +0.1
comp=Z,214nm,0.8s
FLN La Foliniere 51.88 308 eP P 23 30 10.6 +0.1
FLN La Foliniere 51.88 308 eP P 23 30 10.6 +0.1
EBL Broad Law 52.00 317⇑eP P 23 30 11.2 -0.1
LFF La Frestale 52.03 303 eP P 23 30 12.7 +1.1
comp=Z,466nm,1.0s
LFF La Frestale 52.03 303 eP P 23 30 12.7 +1.1
LFF La Frestale 52.03 303 eP P 23 30 12.7 +1.1
SWN1 Swindon 52.09 311⇑eP P 23 30 12.1 +0.1
SWN1 AMB AMB 23 30 16.0
comp=Z,453nm,1.0s
TPI Tanjungpandan 52.12 129 P P 23 30 12.7 +0.1
comp=Z,66nm,1.1s,comp=Z,2μm
ECK Cauldkaine Hil 52.15 316⇑iP P 23 30 12.1 -0.3
ESK Eskdalemuir 52.17 316 P P 23 30 12.6 +0.1
comp=Z,735nm,1.0s,SNR=11
ESK Eskdalemuir 52.17 316⇑eP P 23 30 12.3 -0.2
ESK AMB AMB 23 30 15.1
comp=Z,249nm,1.6s
ESK Eskdalemuir 52.17 316 eP P 23 30 12.8 +0.3
ESK pmax pmax
comp=Z,591nm,1.1s
ESK Eskdalemuir 52.17 316 eP P 23 30 12.8 +0.3
comp=Z,591nm,1.1s
MFF Saint Martin d 52.19 305 eP P 23 30 13.0 +0.2
comp=Z,323nm,1.1s
MFF Saint Martin d 52.19 305 eP P 23 30 13.0 +0.2
MFF Saint Martin d 52.19 305 eP P 23 30 13.0 +0.2
GRR Gorron 52.21 307 eP P 23 30 13.1 +0.2
comp=Z,327nm,1.1s
GRR Gorron 52.21 307 eP P 23 30 13.1 +0.2
GRR Gorron 52.21 307 eP P 23 30 13.1 +0.2
KESW Keswick, Cumbr 52.25 315⇑eP P 23 30 13.3 +0.2
KESW AMB AMB 23 30 16.9
comp=Z,250nm,1.5s
STRD Stroud 52.26 312⇑eP P 23 30 12.9 -0.3
STRD AMB AMB 23 30 16.5
comp=Z,235nm,1.0s
MVH1 Achvaich 52.26 320⇑iP P 23 30 12.7 -0.4
MLS Moulis 52.34 300 eP P 23 30 14.0 0.0
KASI Kota Agung 52.40 135 P P 23 30 12.4 -2.3
comp=Z,60nm,1.0s,comp=Z,1μm
MDO Dochfour 52.44 319⇑iP P 23 30 14.3 -0.1
STKI Sintang 52.49 123 P P 23 30 16.7 +1.3
comp=Z,86nm,1.1s,comp=Z,16μm
HLM1 Long Mynd 52.53 313⇑eP P 23 30 15.1 -0.2
HLM1 AMB AMB 23 30 19.0
comp=Z,227nm,1.3s
MONM Monmouth 52.63 312⇑eP P 23 30 15.7 -0.3
MONM AMB AMB 23 30 19.4
comp=Z,260nm,1.4s
EAB Aberfoyle 52.65 317⇑eP P 23 30 15.9 -0.1
FOEL Foel Wylfa 52.65 313⇑eP P 23 30 16.2 +0.1
FOEL AMB AMB 23 30 20.1
comp=Z,269nm,1.4s
SDKM Sandakan 52.69 113 ⇑P P 23 30 17.9 +0.9
BLSI Bandar Lampung 52.71 134 P P 23 30 14.4 -2.6
comp=Z,65nm,1.0s,comp=Z,2μm
MCH1 Michaelchurch 52.72 312⇑eP P 23 30 16.6 +0.1
MCH1 AMB AMB 23 30 20.4
comp=Z,349nm,1.1s
PGBU Glenifferbraes 52.80 317⇑eP P 23 30 17.3 +0.2
PGBU AMB AMB 23 30 20.8
comp=Z,208nm,1.2s
EPF Esparros 52.85 300 eP P 23 30 17.6 -0.2
comp=Z,59nm,0.7s
EPF Esparros 52.85 300 eP P 23 30 17.6 -0.2
EPF Esparros 52.85 300 eP P 23 30 17.6 -0.2
KAC Achnashellach 52.93 319⇑iP P 23 30 18.0 0.0
WPM1 Penmaenmawr 52.98 314⇑eP P 23 30 18.6 +0.1
KSB Sheil Bridge 53.05 319⇑iP P 23 30 18.6 -0.3
GAL1 Galloway 53.11 316⇑eP P 23 30 19.2 -0.2
GAL1 AMB AMB 23 30 23.0
comp=Z,222nm,1.6s
KPL Plockton 53.14 319⇑eP P 23 30 19.9 +0.3
KPL AMB AMB 23 30 23.4
comp=Z,270nm,1.2s
WLF1 Llynfaes 53.26 314⇑eP P 23 30 20.5 0.0
WLF1 AMB AMB 23 30 23.5
comp=Z,195nm,1.4s
LPW Lampeter 53.33 312⇑eP P 23 30 21.1 0.0
LPW AMB AMB 23 30 25.0
comp=Z,244nm,1.1s
SGMF Saint Gilles 53.34 307 eP P 23 30 21.7 +0.5
comp=Z,158nm,0.7s
SGMF Saint Gilles 53.34 307 eP P 23 30 21.7 +0.5
SGMF Saint Gilles 53.34 307 eP P 23 30 21.7 +0.5
YRE Yr Eifl 53.35 313⇑iP P 23 30 21.2 0.0
YRC Rhoscolyn 53.38 314⇑eP P 23 30 21.2 -0.2
HEX Exmoor 53.42 311⇑eP P 23 30 21.3 -0.5
ETSF Etsaut 53.52 300 eP P 23 30 23.8 +1.1
comp=Z,162nm,0.7s
ETSF Etsaut 53.52 300 eP P 23 30 23.8 +1.1
ETSF Etsaut 53.52 300 eP P 23 30 23.8 +1.1
DYA Yadsworthy 53.65 310 eP P 23 30 23.5 0.0
ROSF Rostrenen 53.78 308 eP P 23 30 24.8 +0.3
comp=Z,240nm,0.9s
ROSF Rostrenen 53.78 308 eP P 23 30 24.8 +0.3
ROSF Rostrenen 53.78 308 eP P 23 30 24.8 +0.3
YSS Yuzh-Sakhalins 53.80 54⇑eP P 23 30 24.2 -0.4
YSS e*PP pP 23 30 54.2 +5.6
YSS eS S 23 37 48.0 -3.5
YSS pmax pmax
comp=Z,230nm,1.1s
YSS MLR MLR
comp=E,1μm,14.0s
YSS MLR MLR
comp=Z,1μm,14.0s
YSS Yuzh-Sakhalins 53.80 54 eP P 23 30 24.9 +0.3
comp=Z,188nm,1.0s
QUIF Quistinic 53.83 307 eP P 23 30 25.0 +0.2
comp=Z,287nm,1.1s
QUIF Quistinic 53.83 307 eP P 23 30 25.0 +0.2
QUIF Quistinic 53.83 307 eP P 23 30 25.0 +0.2
MAJO Matsushiro 53.90 68⇑iP P 23 30 25.1 -0.4
MAJO Matsushiro 53.90 68 eP P 23 30 24.9 -0.6
comp=Z,78nm,0.8s
MAJO ePKKSdf PKKSdf 23 55 54.8 +3.6
MAT Matsushiro 53.90 68 P P 23 30 24.4 -1.1
MAT S S 23 37 42.0 -11
MJAR Matsushiro Arr 53.90 68 P P 23 30 25.0 -0.5
comp=Z,48nm,0.9s,baz=289,slow=9.7,SNR=98
MJAR LR LR 23 55 54.8
comp=Z,417nm,18.5s,baz=295,slow=39
SJPF Ste Jean 53.92 301 eP P 23 30 26.9 +1.3
comp=Z,35nm,0.7s
SJPF Ste Jean 53.92 301 eP P 23 30 26.9 +1.3
SJPF Ste Jean 53.92 301 eP P 23 30 26.9 +1.3
MYLDM Lahad Datu 53.97 113 eP P 23 30 28.3 +2.0
comp=Z,206nm,1.1s
CGJI Cibinong 53.98 134 P P 23 30 23.7 -2.5
comp=Z,62nm,0.8s,comp=Z,2μm
ECHA Ech Chlef 54.39 292 P P 23 30 30.0 +1.0
DSB Dublin 54.43 314 eP P 23 30 28.7 -0.4
comp=Z,462nm,2.7s
ASAJ Asahikawa 54.53 58 P P 23 30 29.4 -0.6
ASAJ pmax pmax
comp=Z,19nm,0.8s
ASAJ Asahikawa 54.53 58 P P 23 30 29.4 -0.6
comp=Z,19nm,0.8s,baz=281,slow=17,SNR=9.5
ASAJ Asahikawa 54.53 58 eP P 23 30 29.3 -0.6
comp=Z,155nm,1.3s
EANR 'Ain N'Sour 54.66 292 P P 23 30 32.0 +0.9
PBKI Pangkalan Bun 54.66 126 P P 23 30 32.7 +1.5
comp=Z,157nm,1.0s,comp=Z,2μm
ETRT Tiaret 54.72 291 P P 23 30 33.0 +1.3
DAG Danmarks Havn 55.05 344⇑iP P 23 30 34.0 +0.8
DAG i 23 31 03.6
DAG pmax pmax
comp=Z,190nm,0.9s
DAG Danmarks Havn 55.05 344⇑iP P 23 30 34.0 +0.8
comp=Z,223nm,0.9s
DAG i 23 31 03.6
SEY Seymchan 55.33 33 P P 23 30 36.5 +1.1
SEY pmax pmax
comp=Z,23nm,0.7s
SEY Seymchan 55.33 33 P P 23 30 36.5 +1.1
comp=Z,23nm,0.7s,baz=279,slow=6.5,SNR=76
MTKI Muara Teweh, K 55.56 121 P P 23 30 40.0 +2.3
comp=Z,69nm,0.7s
ERM Erimo 55.60 60 eP P 23 30 37.5 -0.1
ERM pmax pmax
comp=Z,196nm,1.4s

ERM Erimo 55.60 60 eP P 23 30 37.5 -0.1
comp=Z,196nm,1.4s
CISI Cisompet, Garu 55.98 133 eP P 23 30 39.3 -1.4
comp=Z,123nm,1.0s
KPJI Karang Pucung 56.47 132 P P 23 30 44.7 +0.5
comp=Z,23nm,1.4s
YUK Yuzh-Kuril'sk 56.78 57c iP P 23 30 45.1 -0.9
ES19 SONSECA Array 56.96 298 eP P 23 30 47.5 +0.1
UWJI Ujung Watu 57.01 129 P P 23 30 48.3 +0.3
comp=Z,208nm,0.9s,comp=Z,5µm
ESDC Sonseca Array 57.02 298 P P 23 30 48.1 +0.2
comp=Z,44nm,0.8s,baz=59,slow=7.6,SNR=81
VAL Valentia 57.06 313⇓iP P 23 30 48.3 +0.5
MRIV Mauritius Mete 57.17 194 eP P 23 30 50.4 +1.5
BKB Balikpapan 57.19 120 P P 23 30 52.1 +2.8
comp=Z,240nm,1.6s,comp=Z,4µm
PAB San Pablo 57.34 298 eP P 23 30 50.3 +0.1
PAB pmax pmax
comp=Z,145nm,1.3s
PAB San Pablo 57.34 298 eP P 23 30 50.3 +0.1
comp=Z,145nm,1.3s
BBKI Banjar Baru 57.35 123 P P 23 30 51.1 +0.7
comp=Z,113nm,1.0s,comp=Z,3µm
NGJI Ngawi 58.06 129 P P 23 30 56.3 +1.0
comp=Z,74nm,0.9s
DAV Davao City (W) 58.20 106 eP P 23 30 57.8 +1.4
comp=Z,208nm,0.4s
PBRG Braganca 58.20 301 eP P 23 31 00.0 +3.9
comp=Z,155nm,1.7s
MPSI Mapaga 58.24 116 P P 23 30 57.9 +1.3
comp=Z,381nm,1.2s,comp=Z,4µm
TOLI Toli-Toli 58.37 115 eP P 23 30 57.8 +0.3
comp=Z,184nm,1.1s
MVO Moncorvo 58.64 300 eP P 23 31 00.1 +0.9
comp=Z,115nm,2.2s
MVO Moncorvo 58.64 300 eLR LR 23 49 21.7
comp=Z,4µm,18.0s
BORG Borgarnes 58.70 330 eP P 23 31 01.6 +2.5
BORG Borgarnes 58.70 330 eP P 23 31 01.6 +2.5
comp=Z,1µm,2.5s
ABPO Ambohimpanom 58.76 205 P P 23 31 01.9 +1.6
comp=Z,127nm,0.6s,SNR=6.0
ABPO Ambohimpanom 58.76 205 eP P 23 31 01.4 +1.2
ABPO pmax pmax
comp=Z,78nm,1.1s
ABPO Ambohimpanom 58.76 205 eP P 23 31 01.4 +1.2
comp=Z,78nm,1.1s
POLO Lamas de Olo 59.09 301 eP P 23 31 03.1 +0.7
comp=Z,78nm,1.8s
MTE Manteigas 59.29 300 eP P 23 31 04.9 +1.2
comp=Z,197nm,1.4s
MTE Manteigas 59.29 300 eLR LR 23 50 11.2
comp=Z,3µm,20.0s
MTE Manteigas 59.29 300 eP P 23 31 04.9 +1.2
comp=Z,120nm,0.9s
PCBR Castelo Branco 59.46 299 eP P 23 31 08.8 +4.0
comp=Z,131nm,1.4s
BILL Bilibino 59.46 26c iP P 23 31 05.3 +0.9
BILL e*PP pP 23 31 26.6 -2.1
BILL e 23 31 54.4
BILL i 23 33 17.6
BILL pmax pmax
comp=Z,126nm,1.5s
BILL MLR MLR
comp=Z,2µm,17.0s
BILL Bilibino 59.46 26 eP P 23 31 05.5 +1.1
comp=Z,262nm,1.5s
PMRV Marv??o 59.56 299 eP P 23 31 06.7 +1.1
comp=Z,126nm,1.5s
PMRV Marv??o 59.56 299 eLR LR 23 48 05.2
comp=Z,3µm,22.0s
MRSI Marisa 59.65 114 P P 23 31 07.1 +0.7
comp=Z,890nm,0.9s,comp=Z,7µm
PBAR Barrancos 59.81 297 eP P 23 31 07.8 +0.6
comp=Z,309nm,1.4s
PESTR Estremoz 59.93 298 eP P 23 31 08.7 +0.6
comp=Z,111nm,1.5s
PCAS Casmilo, Conde 60.10 300 eP P 23 31 10.2 +1.0
comp=Z,172nm,1.8s
ABJI Asem Bagus 60.16 127 P P 23 31 09.3 -0.5
comp=Z,80nm,1.0s
PTOM Tomar 60.21 299 eP P 23 31 11.3 +1.4
comp=Z,232nm,1.1s
APSI Ampana 60.36 116 P P 23 31 11.9 +0.6
comp=Z,750nm,1.4s,comp=Z,7µm
EVO Evora 60.37 298 eP P 23 31 11.9 +0.9
comp=Z,123nm,1.3s
TTSI Tana Toraja 60.51 119 P P 23 31 12.1 -0.1
comp=Z,103nm,1.1s,comp=Z,1µm
JAGI Jajag, Banyuwa 60.61 128 eP P 23 31 10.9 -2.0
comp=Z,43nm,0.8s
PVAQ Vaqueiros 60.62 297 eP P 23 31 13.3 +0.6
comp=Z,154nm,1.7s
PVAQ A A 23 31 31.7
comp=Z,154nm,1.7s
PVAQ Vaqueiros 60.62 297 eLR LR 23 49 04.5
comp=Z,3µm,20.0s
MESJ Messejana 60.80 297 eP P 23 31 14.5 +0.6
MESJ AMb AMB 23 31 20.0
comp=Z,154nm,2.2s
MESJ eS S 23 39 24.5 +0.9
MESJ Messejana 60.80 297 eP P 23 31 15.1 +1.1
MESJ Messejana 60.80 297 eP P 23 31 14.5 +0.6
MESJ eS S 23 39 24.5 +0.9
MESJ pmax pmax
comp=Z,154nm,2.2s
PBDV Barranco-do-Ve 60.84 297 eP P 23 31 15.5 +1.2
comp=Z,221nm,1.5s
PNCL Nicolau / Gran 60.91 298 eP P 23 31 15.7 +1.0
comp=Z,214nm,1.6s
PEA0 Petropavlovsk- 60.93 44 eP P 23 31 13.9 -0.7
PETK Petropavlovsk- 60.93 44 P P 23 31 14.5 -0.1
PETK pmax pmax
comp=Z,17nm,0.9s
PETK MLR MLR
comp=Z,512nm,19.1s
PETK Petropavlovsk- 60.93 44 P P 23 31 14.5 -0.1
comp=Z,17nm,0.9s,baz=305,slow=5.1,SNR=8.6
PETK LR LR 23 58 59.3
comp=Z,512nm,19.1s,baz=28,slow=37
PEA2 Petropavlovsk- 60.93 44 eP P 23 31 14.5 -0.1
SRBI Singaraja 61.01 127 P P 23 31 17.0 +1.4
comp=Z,37nm,1.3s,comp=Z,1µm
KMSI Cibinong 61.10 113 P P 23 31 17.4 +1.1
comp=Z,601nm,0.9s,comp=Z,7µm
SPSI Sidrap Palu 61.12 120 P P 23 31 16.5 +0.1
comp=Z,46nm,1.3s,comp=Z,861nm
LUWI Luwuk 61.28 115 P P 23 31 21.7 +4.2
comp=Z,207nm,1.0s,comp=Z,2µm
LUWI Luwuk 61.28 115 eP P 23 31 15.6 -1.8
comp=Z,184nm,0.9s
MORF Marmelete 61.33 297 eS S 23 39 32.2 +1.7
SUMG Summit 61.34 341 eP P 23 31 18.8 +1.2
SUMG pmax pmax
comp=Z,296nm,0.9s
SUMG Summit 61.34 341⇑iP P 23 31 18.7 +1.2
comp=Z,274nm,1.0s
SUMG i 23 31 48.2
SUMG Summit 61.34 341 eP P 23 31 18.8 +1.2
comp=Z,296nm,0.9s
PET Petropavlovsk 61.49 43 eP P 23 31 16.0 -2.4
PET e*SP sP 23 31 52.0 -1.8
PET e 23 31 56.9
PET eS S 23 39 27.7 -4.1
PET pmax pmax
comp=Z,60nm,1.0s
PET MLR MLR
comp=Z,900nm,14.0s
PET Petropavlovsk 61.49 43 eP P 23 31 16.8 -1.6
comp=Z,52nm,1.0s
BNSI Bone 61.66 120 P P 23 31 19.5 -0.5
comp=Z,76nm,1.2s
KAPI Kappang 61.84 120 P P 23 31 20.6 -0.7
comp=Z,418nm,1.2s,SNR=8.1
KAPI Kappang 61.84 120 eP P 23 31 20.5 -0.7
comp=Z,128nm,1.2s
BKSI Bulukumba 62.32 120 P P 23 31 24.5 +0.1
comp=Z,79nm,1.5s,comp=Z,1µm
BSSI Bau Bau, Buton 63.16 121 P P 23 31 31.3 +1.3
comp=Z,251nm,1.1s,comp=Z,6µm
TNTI Ternate 63.53 110 P P 23 31 34.2 +1.7
comp=Z,538nm,1.6s,comp=Z,8µm
TNTI Ternate 63.53 110 eP P 23 31 33.0 +0.5
comp=Z,2µm,1.9s
SANI Sanana 64.33 113 P P 23 31 37.5 -0.2
comp=Z,228nm,1.0s,comp=Z,3µm
KULLO Kullorsuaq 64.43 346⇑iP P 23 31 37.8 +0.3
KULLO pmax pmax
comp=Z,130nm,0.9s
KULLO Kullorsuaq 64.43 346⇑iP P 23 31 37.8 +0.3
comp=Z,127nm,0.9s
LSZ Lusaka 64.49 225 eP P 23 31 39.0 +0.2
LSZ pmax pmax
comp=Z,56nm,1.0s
LSZ Lusaka 64.49 225 eP P 23 31 39.0 +0.2
comp=Z,56nm,1.0s
LBMI Labuha 64.55 111 P P 23 31 39.9 +0.8
comp=Z,190nm,1.2s,comp=Z,3µm
TOA0 Torodi Ar. Sit 64.91 268 eP P 23 31 40.3 -1.2
TORD Torodi Ar. Bea 64.91 268 P P 23 31 40.2 -1.3
comp=Z,41nm,0.7s,baz=44,slow=5.7,SNR=146
WBSI Waikabubak, Su 64.92 124 P P 23 31 41.0 -0.6
comp=Z,173nm,1.0s,comp=Z,5µm
NLAI Namlea 65.95 113 P P 23 31 51.7 +3.5
comp=Z,146nm,0.7s,comp=Z,1µm
BASI Baing, Sumba 66.14 124 P P 23 31 49.7 +0.4
comp=Z,393nm,1.4s,comp=Z,6µm
MMRI Maumere 66.14 121 P P 23 31 49.2 -0.2
MMRI Maumere 66.14 121 eP P 23 31 47.5 -1.9
comp=Z,136nm,1.0s
ILULI Ilulissat 66.67 341⇑iP P 23 31 52.6 +0.6
ILULI e 23 32 18.3
ILULI pmax pmax
comp=Z,180nm,1.0s
ILULI Ilulissat 66.67 341⇑iP P 23 31 52.6 +0.6
comp=Z,176nm,1.0s
ILULI e 23 32 18.3
SFJD Kangerlussuaq 68.00 339 iP P 23 32 02.2 +1.8
SFJD pmax pmax
comp=Z,63nm,0.9s
SFJD Kangerlussuaq 68.00 339 iP P 23 32 02.2 +1.8
comp=Z,63nm,0.9s
SFJD Kangerlussuaq 68.00 339 eP P 23 32 01.2 +0.9
comp=Z,110nm,1.0s
SOEI Soe 68.34 121 eP P 23 32 02.1 -1.3
comp=Z,403nm,0.9s
RES Resolute Bay 69.21 356 eP P 23 32 08.4 +0.7
RES pmax pmax
comp=Z,40nm,1.1s
RES Resolute Bay 69.21 356 eP P 23 32 08.4 +0.7
comp=Z,40nm,1.1s
MSNA Messina 69.22 220 eP P 23 32 08.7 +0.1
MSNA AMB AMB 23 32 32.8
comp=Z,113nm,1.8s
FX1 Attu Island--F 69.34 39 P P 23 32 09.4 +0.5
FX1 pmax pmax
comp=Z,87nm,0.9s
FX1 Attu Island--F 69.34 39 P P 23 32 09.4 +0.5
comp=Z,87nm,0.9s,baz=313,slow=11,SNR=7.3
FX1 Attu Island--F 69.34 39 eP P 23 32 08.1 -0.9
GAMB Gambell 69.35 25 eP P 23 32 09.2 +0.4
comp=Z,49nm,1.2s
TNA Tin City 69.39 22 eP P 23 32 09.3 +0.3
comp=Z,128nm,1.6s
FAKI Fak Fak 69.63 109 eP P 23 32 11.6 +0.2
comp=Z,170nm,1.0s
SMY Shemya 69.90 39 eP P 23 32 12.6 +0.2
SMY pmax pmax
comp=Z,2µm,1.9s
SMY Shemya 69.90 39 eP P 23 32 12.6 +0.2
comp=Z,2µm,1.9s
RUDU RUNDU 71.64 231 eP P 23 32 25.5 +2.0
RUDU AMB AMB 23 32 47.6
comp=Z,122nm,2.4s
SAUI Saumlaki 72.20 114 eP P 23 32 26.4 -0.5
comp=Z,1µm,1.0s
COLD Coldfoot 72.73 15 eP P 23 32 29.4 +0.2
comp=Z,96nm,0.9s
SLR Silverton 72.91 219 eP P 23 32 31.5 +0.5
SLR AMB AMB 23 32 54.0
comp=Z,103nm,1.8s
IM04 Indian Mountai 72.95 17 eP P 23 32 30.6 +0.1
OBSV Observatory 73.38 219 eP P 23 32 33.4 -0.4
OBSV AMB AMB 23 32 56.7
comp=Z,92nm,1.9s
ERPM east rand prop 73.43 219 eP P 23 32 33.3 -0.8
ERPM AMB AMB 23 32 57.5
comp=Z,111nm,1.4s
CRWM Crown Mines 73.45 219 eP P 23 32 34.7 +0.5
CRWM AMB AMB 23 32 58.2
comp=Z,97nm,2.9s
KSR Koster 73.72 220 eP P 23 32 33.9 -1.9
KSR AMB AMB 23 32 59.7
comp=Z,60nm,1.2s
LBTB Lobatse 73.73 221 eP P 23 32 36.7 +1.0
LBTB AMB AMB 23 33 00.1
comp=Z,156nm,1.1s
LBTB Lobatse 73.73 221 eP P 23 32 36.2 +0.5
LBTB pmax pmax
comp=Z,209nm,1.3s
LBTB Lobatse 73.73 221 eP P 23 32 36.1 +0.5
comp=Z,209nm,1.3s
MBWA Marble Bar 73.73 132 eP P 23 32 35.2 -0.5
comp=Z,111nm,1.2s
KLOF Kloof 73.75 219 eP P 23 32 35.9 0.0
KLOF AMB AMB 23 32 59.9
comp=Z,116nm,1.0s
DBIC Dimbokro 73.87 267 eP P 23 32 35.7 -1.0
DBIC Dimbokro 73.87 267 P P 23 32 35.9 -0.9
DBIC pmax pmax
comp=Z,30nm,0.8s
DBIC Dimbokro 73.87 267 P P 23 32 35.9 -0.9
comp=Z,30nm,0.8s,baz=33,slow=7.4,SNR=27
DBIC Dimbokro 73.87 267 eP P 23 32 35.8 -1.0
comp=Z,51nm,1.0s
TSUM Tsumeb 73.94 231 eP P 23 32 37.4 +0.3
comp=Z,65nm,1.1s
LIC Lamto 74.27 266⇑iP P 23 32 38.2 -0.9
comp=Z,66nm,0.8s
LIC Lamto 74.27 266 eP P 23 32 38.2 -0.9
PRYS Parys 74.35 219 eP P 23 32 39.5 +0.2
PRYS AMB AMB 23 33 03.0
comp=Z,62nm,1.8s
FITZ Fitzroy Crossi 75.20 126 eP P 23 32 44.6 +0.4
COLA College 75.24 16c iP P 23 32 44.2 +0.4
COLA pmax pmax
comp=Z,538nm,1.0s
COLA College 75.24 16 eP P 23 32 43.9 +0.1
comp=Z,130nm,0.9s
SEK Senekal 75.36 218 eP P 23 32 43.0 -2.2
SEK AMB AMB 23 33 09.0
comp=Z,162nm,0.9s
CAST Castle Rocks 75.47 18 eP P 23 32 45.5 +0.3
comp=Z,124nm,1.0s
IL1 Eielson Array 75.54 15 eP P 23 32 45.1 -0.5
ILAR Eielson Array 75.54 15 P P 23 32 45.1 -0.5
ILAR 23 35 38.1
ILAR pmax pmax
comp=Z,28nm,0.9s
ILAR pmax pmax
comp=Z,20nm,1.0s
ILAR Eielson Array 75.54 15 P P 23 32 45.1 -0.5
comp=Z,28nm,0.9s,baz=320,slow=4.3,SNR=83
ILAR PP PP 23 35 38.0 +2.7
comp=Z,20nm,1.0s,baz=323,slow=7.3,SNR=5.4
ILB Eielson Array 75.54 15 eP P 23 32 44.9 -0.7
SWZ Schweizer 75.61 220 eP P 23 32 46.7 +0.1
SWZ AMB AMB 23 33 10.6
comp=Z,200nm,1.7s
KTH Kantishna Hill 75.65 18 eP P 23 32 46.5 +0.2
comp=Z,123nm,1.1s
PPLA Purkeypile 75.88 18 eP P 23 32 47.4 -0.3
comp=Z,185nm,1.6s
TRF Thorofare Moun 75.89 17 eP P 23 32 47.1 -0.7
comp=Z,44nm,1.0s
MCK McKinley 75.97 17 eP P 23 32 47.3 -0.8
MCK pmax pmax
comp=Z,77nm,1.2s
MCK McKinley 75.97 17 eP P 23 32 47.2 -0.8
comp=Z,77nm,1.2s
KSD Kokstad 76.34 215 eP P 23 32 47.9 -2.8
KSD AMB AMB 23 33 26.6
comp=Z,39nm,3.4s
SVW2 Sparrevohn 76.42 21 eP P 23 32 50.4 -0.3
comp=Z,65nm,1.4s
EGAK Eagle 76.68 13 eP P 23 32 51.2 -0.8
comp=Z,239nm,2.0s
WIN Windhoek 76.74 229 eP P 23 32 54.8 +1.6
WIN AMB AMB 23 33 16.5
comp=Z,16nm,3.4s
BOSA Boshof 76.80 219 eP P 23 32 53.5 +0.2
BOSA AMB AMB 23 33 17.3
comp=Z,155nm,1.1s
BOSA Boshof 76.80 219 eP P 23 32 53.8 +0.5
BOSA pmax pmax
comp=Z,119nm,0.8s
BOSA Boshof 76.80 219 P P 23 32 53.3 0.0
comp=Z,14nm,0.7s,baz=19,slow=3.1,SNR=14
BOSA Boshof 76.80 219 eP P 23 32 53.8 +0.5
comp=Z,119nm,0.8s
DOT Dot Lake 77.12 15 eP P 23 32 54.3 -0.3
comp=Z,30nm,0.9s
PAX Paxson 77.42 16 eP P 23 32 56.2 -0.2
PAX pmax pmax
comp=Z,111nm,1.3s
PAX Paxson 77.42 16 eP P 23 32 56.1 -0.2
comp=Z,111nm,1.3s
DAWY Dawson 77.65 13 eP P 23 32 57.6 0.0
RSO Redoubt South 77.74 20 eP P 23 32 57.9 -0.4
PMR Palmer 77.75 18 eP P 23 32 58.1 +0.1
PMR pmax pmax
comp=Z,60nm,1.1s
PMR Palmer 77.75 18 eP P 23 32 58.1 +0.1
comp=Z,60nm,1.1s
MENT Mentasta 77.83 15 eP P 23 32 59.1 +0.6
RC01 Rabbit Creek A 78.03 19 eP P 23 32 59.6 0.0
comp=Z,48nm,0.9s
UNV Unalaska Valle 78.15 30 eP P 23 32 58.7 -1.6
comp=Z,1µm,2.8s
HVD Gariep Dam 78.29 218 eP P 23 33 01.5 -0.1
HVD AMB AMB 23 33 25.8
comp=Z,165nm,1.2s
UPI Upington 78.74 223 eP P 23 33 05.0 +1.1
UPI AMB AMB 23 33 28.7
comp=Z,144nm,1.3s
BBTS Babate 78.80 280 P P 23 33 05.0 +0.4
comp=Z,65nm,1.0s,baz=74,slow=1.6,SNR=7.4
SEW Seward 78.94 19 eP P 23 33 04.0 -0.7
comp=Z,66nm,1.2s
DIV Divide 78.97 17 eP P 23 33 05.1 +0.2
comp=Z,52nm,0.9s
BMRM Bremner River 79.38 16 eP P 23 33 07.0 -0.1
comp=Z,102nm,1.2s
RAGM Ragged Mountai 79.88 17 eP P 23 33 09.9 +0.1
comp=Z,47nm,0.8s
GRM Grahamstown 80.01 216 eP P 23 33 09.9 -0.8
GRM AMB AMB 23 33 33.7
comp=Z,196nm,3.6s
KDAK Kodiak Island 80.02 22 P P 23 33 10.3 -0.2
comp=Z,505nm,1.1s,SNR=8.6
KDAK Kodiak Island 80.02 22 iP P 23 33 10.4 -0.1
KDAK Kodiak Island 80.02 22 eP P 23 33 10.1 -0.4
comp=Z,148nm,1.3s
OHAK Old Harbor 80.27 22 eP P 23 33 10.7 -1.2
comp=Z,88nm,1.0s
HYT Haines Junctio 80.99 13 eP P 23 33 16.2 +0.4
YKA Yellowknife Ar 81.84 2 P P 23 33 20.2 +0.1
YKA 23 36 27.6
YKA pmax pmax
comp=Z,41nm,0.9s
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 81.84 2 P P 23 33 20.2 +0.1
comp=Z,41nm,0.8s,baz=348,slow=5.3,SNR=249
YKA PP PP 23 36 27.6 -0.2
comp=Z,2.9nm,0.6s,baz=352,slow=7.5,SNR=3.9
YKA PKPKP P'P'df 23 59 57.1 +0.3
comp=Z,0.2nm,0.7s,baz=157,slow=1.5,SNR=4.5
SUR Sutherland 82.11 220 eP P 23 33 23.0 +0.9
comp=Z,93nm,1.0s
SUR eS S 23 43 29.0 +0.1
SCHQ Schefferville 82.30 336 P P 23 33 23.0 +0.3
comp=Z,25nm,1.0s,baz=47,slow=5.0,SNR=16
SCHQ PP PP 23 36 29.4 -2.3
comp=Z,15nm,0.9s,baz=43,slow=9.2,SNR=4.1
SCHQ Schefferville 82.30 336 eP P 23 33 23.1 +0.4
comp=Z,52nm,1.1s
WRA Warramunga Arr 82.37 121 P P 23 33 22.7 -0.8
WRA pmax pmax
comp=Z,28nm,0.9s
WRA Warramunga Arr 82.37 121 P P 23 33 22.7 -0.8
comp=Z,33nm,0.9s,baz=323,slow=5.1,SNR=82
WRA PKKPbc PKKPbc 23 51 49.9 +0.4
comp=Z,1.3nm,0.7s,baz=131,slow=2.2,SNR=5.2
WRAB Tennant Creek 82.37 121 P P 23 33 22.2 -1.3
comp=Z,349nm,1.0s,SNR=12
WRAB Tennant Creek 82.37 121c iP P 23 33 22.9 -0.6
WRAB pmax pmax
comp=Z,161nm,1.5s
WRAB Tennant Creek 82.37 121 eP P 23 33 21.4 -2.1
comp=Z,191nm,1.5s
DRLN Deer Lake 83.25 328 eP P 23 33 28.2 +0.5
comp=Z,576nm,2.5s
CER Ceres 83.67 221 eP P 23 33 30.8 +0.9
CER AMB AMB 23 33 55.6
comp=Z,175nm,1.2s
ELIM Elim 84.39 220 eP P 23 33 35.7 +2.1
ELIM AMB AMB 23 33 58.1
comp=Z,149nm,1.2s
DLBC Dease Lake 84.50 10 eP P 23 33 34.5 +0.6
AS01 Alice Springs 84.62 124 eP P 23 33 34.6 -0.4
FCC Fort Churchill 84.73 352 eP P 23 33 35.2 +0.2
FCC pmax pmax
comp=Z,97nm,1.1s
FCC Fort Churchill 84.73 352 eP P 23 33 35.2 +0.2
comp=Z,96nm,1.1s
COEN Coen 84.94 111 eP P 23 33 35.5 -1.2
comp=Z,216nm,0.8s
PMG Port Moresby 85.22 105 P P 23 33 38.0 -0.2
PMG pmax pmax
comp=Z,17nm,0.8s
PMG Port Moresby 85.22 105 P P 23 33 38.0 -0.2
comp=Z,17nm,0.8s,baz=322,slow=6.0,SNR=12
PMG Port Moresby 85.22 105 eP P 23 33 37.0 -1.1
comp=Z,37nm,1.0s
FORT Forrest 85.86 133 eP P 23 33 40.0 -0.9
comp=Z,255nm,0.7s
WRAK Wrangell Islan 86.06 12 eP P 23 33 41.7 +0.1
comp=Z,53nm,1.1s
FFC Flin Flon 89.44 355 P P 23 33 58.6 +0.7
comp=Z,280nm,1.3s,SNR=20
FFC Flin Flon 89.44 355 eP P 23 33 58.0 +0.1
FFC pmax pmax
comp=Z,88nm,1.3s
FFC Flin Flon 89.44 355 eP P 23 33 58.0 +0.1
comp=Z,88nm,1.3s
CTAO Charters Tower 91.03 114 eP P 23 34 04.4 -1.3
CTAO pmax pmax
comp=Z,22nm,0.8s
CTAO Charters Tower 91.03 114 eP P 23 34 04.4 -1.3
comp=Z,22nm,0.8s
EDM Edmonton 91.17 2 eP P 23 34 06.3 +0.3
EDM Edmonton 91.17 2 eP P 23 34 06.3 +0.3
BBOO Buckleboo 92.15 130 eP P 23 34 10.2 -0.5
comp=Z,391nm,1.4s
ULM Lac du Bonnet 93.29 351 eP P 23 34 15.6 -0.2
ULM pmax pmax
comp=Z,42nm,1.3s
ULM Lac du Bonnet 93.29 351 P P 23 34 15.2 -0.6
comp=Z,19nm,1.0s,baz=8.2,slow=4.8,SNR=17
ULM Lac du Bonnet 93.29 351 eP P 23 34 15.6 -0.2
comp=Z,42nm,1.3s
A30A Hoffart Farm, 94.86 352 ⇓Pdiff P 23 34 23.2 +0.2
baz=94,SNR=30
EYMN Ely 94.87 348 eP P 23 34 21.9 -1.3
comp=Z,46nm,1.2s
A29A Manning Farm, 94.98 353 ⇓Pdiff P 23 34 23.7 +0.2
baz=95,SNR=8.4
A28A Rude Farm, Bot 95.09 354 ⇓Pdiff P 23 34 24.2 +0.1
baz=95
STKA Stephens Creek 95.10 126 P P 23 34 23.1 -1.1
STKA pmax pmax
comp=Z,7.0nm,0.9s
STKA Stephens Creek 95.10 126 P P 23 34 23.1 -1.1
comp=Z,6.8nm,0.9s,baz=282,slow=1.6,SNR=8.5
STKA Stephens Creek 95.10 126 eP P 23 34 22.6 -1.6
comp=Z,7.1nm,1.5s
AGMN Agassiz Nation 95.20 351 eP P 23 34 23.5 -1.1
comp=Z,36nm,1.2s
AGMN Agassiz Nation 95.20 351 ⇓Pdiff P 23 34 24.4 -0.2
baz=95,SNR=10.0
A26A Wade Farm, Ken 95.25 355 ⇑Pdiff P 23 34 26.0 +1.2
baz=95,SNR=7.4
A25A Svangstu Ranch 95.28 355 ⇑Pdiff P 23 34 25.8 +0.8
baz=95
WALA Waterton Lakes 95.31 3 eP P 23 34 25.0 -0.2
comp=Z,21nm,0.9s
A24A Westby 95.35 356 ⇓Pdiff P 23 34 26.4 +1.1
baz=95,SNR=6.1
B30A Myrvik Farm, E 95.35 352 ⇓Pdiff P 23 34 25.3 0.0

	baz=95,SNR=7.4						
A23A	Redstone	95.36	357	⇓Pdiff	P	23 34 25.9	+0.6
	baz=95						
A22A	Carney Farms,	95.37	357	⇑Pdiff	P	23 34 26.1	+0.7
	baz=95						
A21A	Bergtoll Ranch	95.41	358	⇑Pdiff	P	23 34 26.4	+0.8
	baz=95						
B29A	Wagenman Farm,	95.44	353	⇑Pdiff	P	23 34 25.6	-0.1
	baz=95,SNR=8.8						
A19A	Klindworth Far	95.50	359	⇑Pdiff	P	23 34 26.6	+0.5
	baz=95,SNR=8.9						
A20A	Cobblestone Ra	95.54	359	⇑Pdiff	P	23 34 27.2	+1.0
	baz=95,SNR=9.8						
B28A	Dugan Ranch, T	95.55	354	⇓Pdiff	P	23 34 26.5	+0.3
	baz=95						
B08A	Colville Reser	95.67	6	eP	P	23 34 26.1	-0.7
	comp=Z,64nm,1.8s						
B27A	Peters Farms,	95.68	354	⇓Pdiff	P	23 34 28.3	+1.5
	baz=95						
B26A	Jensen Ranch,	95.78	355	⇓Pdiff	P	23 34 27.8	+0.6
	baz=95,SNR=5.0						
DGMT	Dagmar	95.81	356	eP	P	23 34 27.5	+0.1
	comp=Z,61nm,1.4s						
DGMT	Dagmar	95.81	356	⇓Pdiff	P	23 34 28.9	+1.5
	baz=95						
B23A	Brockton	95.86	357	⇑Pdiff	P	23 34 28.6	+0.9
	baz=96,SNR=5.6						
NEW	Newport	95.94	5	eP	P	23 34 28.3	+0.3
NEW				pmax	pmax		
	comp=Z,79nm,2.0s						
NEW	Newport	95.94	5	eP	P	23 34 28.3	+0.3
	comp=Z,79nm,2.0s						
NEW	Newport	95.94	5	⇑Pdiff	P	23 34 28.3	+0.3
	baz=96,SNR=7.2						
B25A	Knox Farm, Ray	95.95	355	⇑Pdiff	P	23 34 29.5	+1.5
	baz=96						
B21A	Ellsworth Farm	95.97	358	⇑Pdiff	P	23 34 29.2	+1.0
	baz=96						
B19A	Brinkman Farms	95.98	359	⇓Pdiff	P	23 34 28.5	+0.3
	baz=96,SNR=8.4						
B20A	Solberg Farm,	95.98	359	⇑Pdiff	P	23 34 28.8	+0.5
	baz=96,SNR=13						
B22A	Reddig Ranch S	96.06	357	⇓Pdiff	P	23 34 30.8	+2.2
	baz=96						
C30A	Mose, Pekin	96.10	352	⇑Pdiff	P	23 34 29.3	+0.6
	baz=96,SNR=5.5						
C09A	Chrisman Ranch	96.31	6	eP	P	23 34 29.3	-0.3
	comp=Z,99nm,0.1s						
C26A	Wahner Farm, P	96.32	355	⇓Pdiff	P	23 34 30.4	+0.7
	baz=96,SNR=8.8						
BLMT	Blacktail Moun	96.34	3	eP	P	23 34 30.4	+0.4
C27A	Sayler Ranch,	96.38	354	⇑Pdiff	P	23 34 31.0	+1.0
	baz=96						
EGMT	Eagleton	96.42	360	⇑Pdiff	P	23 34 30.7	+0.5
	baz=96,SNR=8.9						
BSMT	Bassoo Peak	96.48	3	eP	P	23 34 30.3	-0.4
YBMT	Yellow Bay	96.50	3	eP	P	23 34 30.8	+0.1
C23A	Lambert	96.53	357	⇓Pdiff	P	23 34 31.9	+1.2
	baz=96,SNR=5.8						
C21A	Desert Coulee	96.58	358	⇑Pdiff	P	23 34 31.7	+0.7
	baz=96,SNR=11						
JTMT	Jette	96.61	3	eP	P	23 34 30.5	-0.6
C22A	Vida	96.61	357	⇑Pdiff	P	23 34 32.2	+1.1
	baz=96,SNR=8.1						
C19A	Slack Wire Ran	96.70	359	⇓Pdiff	P	23 34 32.0	+0.5
	baz=96,SNR=8.1						
D30A	Buchanan	96.72	352	⇑Pdiff	P	23 34 31.6	+0.1
	baz=96,SNR=11						
C24A	Savage	96.76	356	⇑Pdiff	P	23 34 32.4	+0.7
	baz=96						
D28A	Regan	96.82	354	⇓Pdiff	P	23 34 32.7	+0.6
	baz=96						
SWMT	Swartz Lake	96.85	3	eP	P	23 34 31.5	-0.8
D29A	Pettibone, Tap	96.86	353	⇓Pdiff	P	23 34 32.2	+0.1
	baz=96						
D27A	Center	96.99	354	⇓Pdiff	P	23 34 32.5	-0.3
	baz=97						
D08A	Wollman Farm,	97.00	6	eP	P	23 34 32.7	-0.1
	comp=Z,139nm,2.7s						
D25A	Fairfield	97.08	355	⇑Pdiff	Pdif	23 34 35.2	+1.9
	baz=97						
D26A	Manning	97.13	355	⇓Pdiff	Pdif	23 34 34.5	+1.0
	baz=97,SNR=7.2						
SLMT	Seeley Lake	97.14	2	eP	P	23 34 32.8	-0.9
D22A	Cohagen	97.22	357	⇓Pdiff	Pdif	23 34 35.0	+1.1
	baz=97,SNR=5.1						
D19A	Cripps Ranch,	97.27	359	⇑Pdiff	Pdif	23 34 34.7	+0.5
	baz=97						
D21A	La Casta Ranch	97.33	358	⇑Pdiff	Pdif	23 34 35.1	+0.7
	baz=97,SNR=5.5						
D20A	Manuel Ranch,	97.33	359	⇓Pdiff	Pdif	23 34 34.8	+0.4
	baz=97,SNR=5.7						
E30A	Jud	97.34	352	⇑Pdiff	Pdif	23 34 34.6	+0.2
	baz=97						
E29A	Napoleon	97.35	353	⇑Pdiff	P	23 34 34.3	-0.1
	baz=97						
E28A	Huff	97.44	354	⇑Pdiff	Pdif	23 34 35.5	+0.6
	baz=97						
CHMT	Chamberlain Mo	97.47	2	eP	P	23 34 34.5	-0.7
MSO	Missoula	97.54	3	eP	P	23 34 32.7	-2.6
MSO				ePcP	Pdif	23 34 33.6	-1.8
MSO	Missoula	97.54	3	⇓Pdiff	Pdif	23 34 36.1	+0.7
	baz=97						
E09A	Wood Farm, Sta	97.60	6	eP	Pdif	23 34 36.0	+0.5
	comp=Z,78nm,2.3s						
E27A	Carson	97.66	354	⇑Pdiff	Pdif	23 34 36.9	+1.0
	baz=97						
LAO	LASA Array	97.68	357	eP	P	23 34 35.3	-0.7
	comp=Z,142nm,2.1s						
HRY	Holter Researc	97.71	1	eP	Pdif	23 34 36.6	+0.4
SPMN	St. Paul	97.74	348	⇑Pdiff	Pdif	23 34 36.2	0.0
	baz=97						
E20A	Meyer Farm, Mu	97.92	359	⇑Pdiff	Pdif	23 34 37.3	+0.2
	baz=98,SNR=7.1						
E22A	Miles City	97.92	357	⇑Pdiff	Pdif	23 34 37.5	+0.4
	baz=98						
E19A	Rath Farm, Rou	97.97	359	⇑Pdiff	Pdif	23 34 38.0	+0.7
	baz=98						
F30A	Leola	98.01	352	⇓Pdiff	Pdif	23 34 37.6	+0.1
	baz=98						
F29A	Eureka	98.09	353	⇓Pdiff	Pdif	23 34 38.4	+0.6
	baz=98						
F10A	Beach Ranch, E	98.21	5	eP	P	23 34 37.7	-0.6
	comp=Z,72nm,2.1s						
F27A	Lemmon	98.25	354	⇑Pdiff	Pdif	23 34 38.5	0.0
	baz=98						
F25A	Bowman	98.30	355	⇓Pdiff	Pdif	23 34 40.0	+1.2
	baz=98						
F24A	Ekalaka	98.44	356	⇓Pdiff	Pdif	23 34 40.6	+1.2
	baz=98						
F19A	Roth Farm, Mol	98.58	359	⇑Pdiff	Pdif	23 34 41.0	+0.9
	baz=98						
LRM	Limekiln Ridge	98.59	2	eP	Pdif	23 34 40.4	+0.1
F23A	Volborg	98.62	357	⇑Pdiff	Pdif	23 34 40.2	+0.1
	baz=98						
GCMT	Greycliff	98.65	360	eP	Pdif	23 34 41.1	+0.7
G30A	Faulkton	98.72	352	⇑Pdiff	Pdif	23 34 40.7	+0.1
	baz=98						
BOZ	Bozeman (W)	98.78	1	eP	P	23 34 40.1	-0.9
BOZ				pmax	pmax		
	comp=Z,12nm,1.0s						
BOZ	Bozeman (W)	98.78	1	eP	P	23 34 40.1	-0.9
	comp=Z,12nm,1.0s						
G26A	Maurine	98.87	355	⇑Pdiff	Pdif	23 34 41.7	+0.4
	baz=98						
G28A	Parade	98.95	354	⇑Pdiff	Pdif	23 34 41.9	+0.3
	baz=99						
G25A	Newell	99.03	355	⇑Pdiff	Pdif	23 34 42.0	0.0
	baz=99						
DLMT	Dillon	99.05	2	eP	Pdif	23 34 42.0	-0.2
	comp=Z,22nm,1.4s						
G23A	Biddle	99.13	357	⇓Pdiff	Pdif	23 34 41.5	-1.0
	baz=99						
G22A	Birney	99.16	357	⇓Pdiff	Pdif	23 34 43.1	+0.5
	baz=99						
G21A	Lodge Grass	99.18	358	⇑Pdiff	Pdif	23 34 43.4	+0.6
	baz=99						
G20A	Bridger	99.21	359	⇓Pdiff	Pdif	23 34 43.6	+0.7
	baz=99						
H29A	Onida	99.33	353	⇓Pdiff	Pdif	23 34 43.4	+0.1
	baz=99						
H27A	Howes	99.49	354	⇓Pdiff	Pdif	23 34 44.1	0.0
	baz=99						
H24A	Dirks Ranch, A	99.54	356	⇑Pdiff	Pdif	23 34 45.1	+0.8
	baz=99						
H26A	Fairpoint	99.56	355	⇓Pdiff	Pdif	23 34 44.9	+0.5
	baz=99						
H25A	Fruitdale	99.61	355	⇓Pdiff	Pdif	23 34 45.4	+0.8
	baz=99						
H19A	Powell	99.77	359	⇓Pdiff	Pdif	23 34 46.3	+0.8
	baz=99						
H21A	Big Horn, Sher	99.77	358	⇑Pdiff	Pdif	23 34 46.7	+1.3
	baz=99						
ECSD	EROS Data Cent	99.78	350	⇑Pdiff	Pdif	23 34 37.2	-8.1
	baz=99						
H22A	Clearmont	99.78	357	⇑Pdiff	Pdif	23 34 45.5	0.0
	baz=99						
I03D	Drain, OR	99.82	10	⇓Pdiff	Pdif	23 34 45.0	-0.5
	baz=99						
I04A	Tendick Farm,	99.85	9	⇑Pdiff	Pdif	23 34 45.4	-0.3
	baz=100						
H20A	Greybull	99.94	359	⇓Pdiff	Pdif	23 34 47.1	+1.0
	baz=100						
I29A	Vivian Onida	99.94	353	⇓Pdiff	Pdif	23 34 46.9	+0.9
	baz=100						
I30A	Oacoma	99.95	352	⇓Pdiff	Pdif	23 34 46.2	+0.1
	baz=100						
I28A	Midland	100.04	354	⇓Pdiff	Pdif	23 34 46.9	+0.4
	baz=100						
H17A	Grant Village	100.05	0	⇓Pdiff	Pdif	23 34 46.7	-0.1
	baz=100						
I27A	Quinn	100.05	354	⇓Pdiff	Pdif	23 34 46.7	+0.1
	baz=100						
I26A	New Underwood	100.15	355	⇓Pdiff	Pdif	23 34 46.8	-0.3
	baz=100						
I25A	Rochford	100.22	355	⇑Pdiff	Pdif	23 34 47.7	+0.2
	baz=100						
I23A	Meade Ranch, G	100.38	357	⇑Pdiff	Pdif	23 34 47.6	-0.5
	baz=100						
I19A	Meeteetse	100.40	359	⇓Pdiff	Pdif	23 34 49.2	+0.9
	baz=100						
J04D	Umpqua Nationa	100.43	9	⇓Pdiff	Pdif	23 34 47.5	-0.9
	baz=100						
I20A	Worland	100.47	359	⇑Pdiff	Pdif	23 34 48.2	-0.4
	baz=100						
I22A	9 Mile Ranch,	100.49	357	⇓Pdiff	Pdif	23 34 49.1	+0.5
	baz=100						
J05D	Fort Rock, OR	100.49	8	⇓Pdiff	Pdif	23 34 47.5	-1.2
	baz=100						
I17A	Pilgrim Ck.	100.52	0	⇓Pdiff	Pdif	23 34 49.1	+0.2
	baz=100						
J29A	Okreek	100.55	353	⇑Pdiff	Pdif	23 34 49.4	+0.7
	baz=100						
I21A	Big Trails, Te	100.59	358	⇑Pdiff	Pdif	23 34 49.3	+0.2
	baz=100						
J28A	Allard Ranch,	100.62	354	⇑Pdiff	Pdif	23 34 50.4	+1.2
	baz=100						
HLID	Hailey	100.78	3	⇓Pdiff	Pdif	23 34 49.5	-0.5
	baz=100						
J25A	Sunshine Ranch	100.85	355	⇑Pdiff	Pdif	23 34 49.1	-1.1
	baz=100						
J26A	Sides Ranch, S	100.88	355	⇑Pdiff	Pdif	23 34 51.2	+0.9
	baz=100						
J22A	Midwest	100.97	357	⇑Pdiff	Pdif	23 34 50.5	-0.3
	baz=101						
J20A	Shoshoni	101.07	359	⇑Pdiff	Pdif	23 34 46.9	-4.3
	baz=101						
J19A	Crowheart	101.17	359	⇓Pdiff	Pdif	23 34 52.8	+1.0
	baz=101						
K26A	Motz Farm, Whi	101.49	355	⇓Pdiff	Pdif	23 34 52.4	-0.7
	baz=101						
PDAR	Pinedale Array	101.67	360	P	Pdif	23 34 54.1	0.0
	comp=Z,0.5nm,0.7s,baz=12,slow=4.6,SNR=3.0						
M04C	Macdoel	101.90	9	⇓Pdiff	Pdif	23 34 52.3	-2.7
	baz=102						
N23A	Red Feather La	103.46	357	⇑Pdiff	Pdif	23 35 02.2	+0.1
	baz=103						
N20A	Spence Gulch,	103.59	359	⇑Pdiff	Pdif	23 35 02.6	0.0
	baz=103						
O20A	White River Ci	104.29	359	⇑Pdiff	Pdif	23 35 06.8	+1.1
	baz=104						
NVAR	Mina Array Bea	105.61	7	PKKPbc	PKKPbc	23 50 49.8	+1.5
	comp=Z,1.0nm,0.6s,baz=194,slow=5.8,SNR=3.7						
R23A	Moffat	106.15	357	⇑PKiKP	PKiKP	23 39 24.8	-0.6
	baz=106						
S28A	Manter	106.46	353	⇓PKiKP	PKiKP	23 39 26.9	+1.2
	baz=106						
S22A	4UR Ranch, Cre	106.63	357	⇓PKiKP	PKiKP	23 39 30.8	+4.5
	baz=106						
U27A	Thompson Grove	107.70	354	⇓PKiKP	PKiKP	23 39 24.9	-3.3
	baz=107						
U26A	Atchley Ranch,	107.81	355	⇑PKiKP	PKiKP	23 39 27.0	-1.4
	baz=107						
U25A	Circle Dot Ran	107.85	355	⇑PKiKP	PKiKP	23 39 27.0	-1.6
	baz=108						
LTX	Lajitas	114.81	354	ePKIKP	PKPdf	23 39 41.6	-0.2
LTX				e		23 40 41.0	
LTX				e		23 50 19.5	
LTX	Lajitas	114.81	354	ePKiKP	PKiKP	23 39 41.6	-0.2
LTX				ePP	PP	23 40 41.0	+1.2
LTX				ePKKPbc	PKKPbc	23 50 19.4	+1.0
TXAR	Lajitas Array	114.81	354	PKIKP	PKPdf	23 39 41.6	-0.2
TXAR						23 40 41.0	
TXAR						23 50 19.5	
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR	Lajitas Array	114.81	354	PKP	PKPdf	23 39 41.6	-0.2
	comp=Z,0.8nm,0.8s,baz=0.0,slow=2.6,SNR=3.4						
TXAR				PP	PP	23 40 41.0	+1.2
	comp=Z,1.7nm,0.8s,baz=4.8,slow=7.5,SNR=5.0						
TXAR				PKKPbc	PKKPbc	23 50 19.4	+1.0
	comp=Z,2.5nm,0.8s,baz=176,slow=6.3,SNR=8.7						
BKZ	Black Stump Fm	123.12	117	ePKPdf	PKPdf	23 39 55.2	-1.9
URZ	Urewera	123.23	116	PKP	PKPdf	23 39 55.0	-2.4
	comp=Z,32nm,0.7s,baz=257,slow=2.3,SNR=24						
URZ	Urewera	123.23	116	ePKPdf	PKPdf	23 39 54.8	-2.5
BFZ	Birch Farm	123.49	119	ePKPdf	PKPdf	23 39 56.4	-1.4
QSPA	South Pole Qui	125.73	180	PKP	PKPdf	23 40 01.1	-0.3
	comp=Z,20nm,0.8s,baz=271,slow=1.1,SNR=33						

IDC 27 23:22:04.7±1.8,38°21S×74°14W,h0km,mb3.8/1, mb1 4.3/3,mb1mx4.0/26,mbtmp4.0/3,ML4.3/2,Error ellipse: s-maj=58.5km s-min=28.0km az=51.0

NEIC 27 23:22:09.9±1.0,38°25S×73°81W,h35km,mb4.1/2,Error ellipse: s-maj=26.6km s-min=14.5km az=67.0

ISC 27 23:22:07.6±1.3,38°3S±0°1×73°9W±0°2,h18km,n9, σ1°45/11,mb3.9/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.53	135	Pn	Pn	23 23 04.0	+2.5
	14nm,0.3s,baz=302,slow=10,SNR=12						
PLCA				Sn	Sb	23 23 50.6	-1.4
	9.0nm,0.3s,baz=17,slow=17,SNR=5.1						
PLCA	Paso Flores	3.53	135	ePn	Pn	23 23 02.1	+0.6
PLCA				Sn	Sb	23 23 50.6	-1.4
CFAA	Coronel Fontan	8.10	36	Pn	Pn	23 24 05.3	+1.0
	0.6nm,0.3s,baz=185,slow=4.3,SNR=6.1						
LPAZ	La Paz	22.49	14	eP	P	23 27 05.1	-1.6
	3.4nm,0.7s						
OTAV	Otavalo	38.57	353	eP	P	23 29 29.1	-0.8
	4.5nm,0.9s						
TEIG	Tepich	59.76	344	eP	P	23 32 12.5	+1.1
TXAR	Lajitas Array	72.82	333	P	P	23 33 34.4	-0.7
	0.6nm,0.6s,baz=156,slow=8.4,SNR=7.1						
BVAR	Borovoye Array	151.34	47	PKPbc	PKPbc	23 41 59.8	+0.4
	1.5nm,0.7s,baz=284,slow=4.1						
ZALV	Zalesovo Beam	158.59	36	PKPab	PKPab	23 42 37.7	-0.8
	1.9nm,0.9s,baz=299,slow=3.0,SNR=3.1						

IDC 27 23:26:44.7±1.1,35°59S×73°32W,h0km,mb3.8/3, mb1 4.0/6,mb1mx3.9/33,mbtmp3.8/6,ML3.9/3,MS4.6/1, Ms1 4.6/1,ms1mx3.5/29,Error ellipse: s-maj=40.8km s-min=20.6km az=103.0

ISCJB 27 23:26:47.1±0.7,35°61S±0°06×73°31W±0°10,h33km, mb4.3/7,MS4.7/1,Error ellipse: s-maj=12.4km s-min=7.0km az=29.5

NEIC 27 23:26:50.0±1.5,35°58S×73°18W,h37km±12km,mb4.4/6, Error ellipse: s-maj=21.1km s-min=7.9km az=87.0

SJA 27 23:26:57.8±1.1,34°00S×72°54W,h379km±45km,ML4.1

ISC 27 23:26:49.5±0.8,35°60S±0°07×73°3W±0°1,h35km,n26, σ1°39/25,mb4.4/7,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	Agrelo	4.48	57	iP	Pn	23 28 01.9	+6.9
AVIZ	Vizcacheras	4.49	63	iP	Pn	23 28 03.8	+8.6
ARCO	CERRO ARCO	4.55	54	iP	Pn	23 28 02.6	+6.6
ARCO				iS	Sn	23 28 49.1	+1.2
ARCO				AML	AML	23 28 49.5	
	comp=Z,152nm,0.5s						
AUSP	Uspallata	4.69	45	iP	Pn	23 28 01.2	+3.2
AUSP				iS	Sn	23 28 50.0	-1.3
RTLS	Leoncito	5.06	43	iP	Pn	23 28 05.2	+2.2
PLCA	Paso Flores	5.57	158	Pn	Pn	23 28 09.5	-0.3
	comp=Z,1.2nm,0.3s,baz=320,slow=12,SNR=3.7						
PLCA				Lg	Lg	23 29 36.4	
	comp=Z,4.0nm,0.3s,baz=249,slow=22,SNR=4.3						
CFAA	Coronel Fontan	5.81	48	Pn	Pn	23 28 12.8	-0.5
	comp=Z,0.8nm,0.3s,baz=214,slow=15,SNR=4.9						
CFAA				Sn	Sn	23 29 22.4	+3.6
	comp=Z,0.5nm,0.3s,baz=285,slow=13,SNR=4.9						
CFAA	Coronel Fontan	5.81	48	iP	Pn	23 28 12.3	-1.0
RTLL	Cerro Villicun	5.87	45	iP	Pn	23 28 12.7	-1.4
AMOG	MOGNA	6.16	42	iP	Pn	23 28 15.8	-2.2
AMOG				iP	Pn	23 28 15.8	-2.2
TRQA	Tornquist	9.41	108	ePn	Pn	23 29 02.2	-0.4
LVC	Limon Verde	13.50	18	ePn	Pn	23 29 58.4	-0.3
LPAZ	La Paz	19.78	15	P	Pn	23 31 18.9	-0.2
	comp=Z,0.3nm,0.3s,baz=200,slow=8.3,SNR=8.3						
LPAZ	La Paz	19.78	15	eP	Pn	23 31 18.6	-0.4
	comp=Z,6.6nm,0.7s						
SIV	San Ignacio	22.38	32	P	P	23 31 43.6	-1.3
	comp=Z,5.9nm,0.8s,baz=220,slow=11,SNR=5.0						
SAML	Samuel	28.10	22	eP	P	23 32 36.5	-1.5
	comp=Z,9.6nm,1.2s						
SNAA	Sanae	50.51	157	eP	P	23 35 43.7	0.0
	comp=Z,7.6nm,1.0s						
QSPA	South Pole Qui	54.64	180	P	P	23 36 15.3	+0.8
	comp=Z,1.1nm,0.6s,baz=196,slow=4.2,SNR=7.6						
QSPA	South Pole Qui	54.64	180	eP	P	23 36 15.6	+1.1
	comp=Z,3.1nm,0.9s						
TEIG	Tepich	57.31	343	LR	LR	23 56 17.2	
	comp=Z,491nm,18.3s,baz=102,slow=31						
TEIG	Tepich	57.31	343	eP	P	23 36 33.8	0.0
	comp=Z,23nm,1.0s						
TXAR	Lajitas Array	70.64	332	P	P	23 38 02.0	+0.6
	comp=Z,0.2nm,0.5s,baz=154,slow=10,SNR=4.1						
BOSA	Boshof	80.25	118	eP	P	23 38 56.8	-0.1
	comp=Z,3.0nm,0.7s						
BVAR	Borovoye Array	149.16	44	PKPbc	PKPbc	23 46 34.1	+0.6
	comp=Z,1.0nm,0.6s,baz=305,slow=4.1,SNR=6.6						
ZALV	Zalesovo Beam	156.14	33	PKPab	PKPab	23 47 07.9	+0.6
	comp=Z,1.6nm,0.8s,baz=333,slow=4.1,SNR=4.9						
MKAR	Makanchi Array	158.59	51	PKPab	PKPab	23 47 17.2	-1.0
	comp=Z,0.9nm,1.0s,baz=298,slow=2.6,SNR=3.8						

IDC 27 23:30:41.7±1.7,34°14S×71°37W,h0km,mb4.0/4, mb1 4.3/5,mb1mx4.0/32,mbtmp4.0/5,ML3.7/1,Error ellipse: s-maj=50.9km s-min=45.1km az=4.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	18.01	10	P	P	23 34 54.8	-0.1
	0.1nm,0.3s,baz=198,slow=8.7,SNR=2.7						
SIV	San Ignacio	20.31	30	P	P	23 35 18.4	-1.0
	3.3nm,0.7s,baz=210,slow=9.0,SNR=6.4						
TORD	Torodi Ar. Bea	83.74	70	P	P	23 43 14.5	+1.6
	0.8nm,0.6s,baz=249,slow=3.9,SNR=7.6						
PDAR	Pinedale Array	84.14	333	P	P	23 43 15.4	+0.7
	1.2nm,0.8s,baz=142,slow=5.2,SNR=4.2						
NVAR	Mina Array Bea	84.31	325	P	P	23 43 15.8	+0.1
	1.2nm,0.8s,baz=132,slow=4.5,SNR=4.1						
ZALV	Zalesovo Beam	154.04	33	PKPbc	PKPbc	23 50 41.0	-1.7
	1.8nm,0.7s,baz=302,slow=2.2,SNR=8.7						
ZALV				PKPab	PKPab	23 50 55.0	-1.2
	1.0nm,0.6s,baz=299,slow=6.1,SNR=3.5						
MKAR	Makanchi Array	156.43	50	PKPab	PKPab	23 51 06.1	-0.7
	0.7nm,0.8s,baz=289,slow=3.7,SNR=5.5						

JMA 27 23:32:57.9±0.3,26°01N×128°50E,h46km±5km,M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.66	320	P	Pn	23 33 10.8	-0.2
JNTH				eS	Sn	23 33 20.2	-0.3
JJT2	Tamagusuku 2	0.69	281	P	Pn	23 33 11.3	0.0
JJT2				eS	Sn	23 33 21.8	+0.8
JOW	Kunigami	0.84	346	P	Pn	23 33 13.8	+0.3
JOW				eS	Sn	23 33 25.0	+0.2
JIH	Iheya	1.13	335	P	Pn	23 33 18.0	+0.7
JAGN	Aguni-jima	1.27	297	P	Pn	23 33 19.7	+0.5
JAGN				S	Sn	23 33 35.7	+0.7
JOKE	Okinoerabujima	1.35	3	P	Pn	23 33 20.8	+0.5
JOKE				S	Sn	23 33 37.2	+0.1
JKE	Kume jima 2	1.57	282	P	Pn	23 33 23.1	-0.2
JKE				S	Sn	23 33 41.8	-0.7
JTK	Tokunoshima	1.81	13	P	Pn	23 33 27.4	+0.7
JTK				S	Sn	23 33 48.4	-0.1
JAMN	Amaminishikomi	2.30	15	P	Pn	23 33 34.0	+0.6
JMZ	Minamidaito 2	2.46	94	P	Pn	23 33 33.2	-2.3
JMZ				S	Sn	23 33 59.6	-4.7
JAM	Amami Oshima	2.59	22	P	Pn	23 33 37.4	+0.1

SJA 27 23:34:57.0±0.6,33°54S×74°08W,h46km±17km,ML6.2

ISCJB 27 23:35:11.2±2.3,33°84S±0°04×72°14W±0°06,h19km±16km, mb5.2/151,MS5.1/57,Error ellipse: s-maj=8.0km s-min=6.1km az=159.5

NEIC 27 23:35:13.6±1.7,33°86S×72°24W,h29km±3km,mb5.2/147, Error ellipse: s-maj=13.7km s-min=11.3km az=88.0

IDC 27 23:35:13.5±0.5,33°85S×72°22W,h26km±3km,mb4.9/24, mb1 4.9/28,mb1mx4.9/34,mbtmp5.0/28,ML4.4/3,MS4.7/8, Ms1 4.7/8,ms1mx4.4/29,Error ellipse: s-maj=12.2km s-min=10.0km az=95.0

BJI 27 23:35:13.2,34°23S×71°87W,h34km,mB5.4/12,Ms5.6/9, Ms7 5.4/9

MOS 27 23:35:13.2±1.0,33°79S×72°32W,h33km,mb5.3/37,Error ellipse: s-maj=14.6km s-min=7.2km az=101.1

ISC 27 23:35:13.6±0.4,33°89S±0°05×72°20W±0°06,h30km±2km, h30km:pP-P,n850,σ1°16/890,mb5.2/151,MS5.2/57, 221C-194D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	Uspallata	2.89	56	iP	Pn	23 36 01.1	+3.3
ARCO	CERRO ARCO	2.93	70	iP	Pb	23 36 04.6	-0.7
ARCO				iS	Sb	23 36 53.7	+13
ARCO				AML	AML	23 36 57.5	
	comp=Z,23μm,1.2s						
AAGR	Agrelo	2.93	75	iP	Pb	23 36 04.5	-0.8
ASAL	Salagasta	3.11	66	iP	Pb	23 36 05.8	-2.5
RTLS	Leoncito	3.21	50	iP	Pn	23 36 05.1	+2.8
RTLS				iP	Pn	23 36 05.1	+2.8
SJA	San Juan	3.87	54	iP	Pn	23 36 13.5	+2.3
CFAA	Coronel Fontan	4.04	57	Pn	Pn	23 36 14.9	+1.4
	comp=Z,3.0nm,0.3s,baz=240,slow=14,SNR=6.7						
CFAA				Sn	Sn	23 37 01.9	+2.0
	comp=Z,13nm,0.3s,baz=229,slow=15,SNR=4.8						
CFAA				Lg	Lg	23 37 22.2	
	comp=Z,20nm,0.3s,baz=216,slow=19,SNR=3.7						
PLCA	Paso Flores	6.96	170	eP	Pn	23 36 56.0	+2.4
PLCA	Paso Flores	6.96	170	Pn	Pn	23 36 56.1	+2.6
	baz=338,slow=16,SNR=1.1						
PLCA				Lg	Lg	23 38 52.6	
	comp=Z,2.3nm,0.3s,baz=306,slow=19,SNR=3.6						
PLCA	Paso Flores	6.96	170	ePn	Pn	23 36 56.0	+2.4
TRQA	Tornquist	9.27	120	ePn	Pn	23 37 26.2	+1.0
CPUP	Villa Florida	14.90	64	eP	Pn	23 38 43.3	+1.1
CPUP	Villa Florida	14.90	64	Pn	Pn	23 38 44.2	+2.0
	comp=Z,0.8nm,0.3s,baz=237,slow=13,SNR=3.0						
CPUP				LR	LR	23 44 05.3	
	comp=Z,1μm,19.1s,baz=220,slow=36						
CPUP	Villa Florida	14.90	64	ePn	Pn	23 38 43.2	+1.1
LPAZ	La Paz	17.91	13	eP	Pn	23 39 21.4	+0.3
LPAZ	La Paz	17.91	13	P	P	23 39 21.9	+0.4
	comp=Z,1.4nm,0.3s,baz=199,slow=10,SNR=51						
LPAZ	La Paz	17.91	13	ePn	Pn	23 39 21.4	+0.3
LPAZ				eP	P	23 39 21.6	+0.1
SIV	San Ignacio	20.45	32	P	P	23 39 48.9	+0.1
	comp=Z,98nm,0.8s,baz=227,slow=12,SNR=63						
SIV				LR	LR	23 49 19.7	
	comp=Z,3μm,18.5s,baz=240,slow=41						
EFI	East Falkland	20.52	154	eP	P	23 39 46.7	-2.5
EFI				pmax	pmax		
	comp=Z,72nm,0.6s						
EFI				MLR	MLR		
	comp=Z,2μm,22.0s						

EFI East Falkland 20.52 154 eP P 23 39 46.7 -2.5
comp=Z,72nm,0.6s
EFI LR LR
comp=Z,2µm,22.0s
USHA Ushuaia 21.11 174 P P 23 39 56.9 +1.4
comp=Z,89nm,0.9s,baz=324,slow=12,SNR=7.5
NNA Nana 22.21 348 eP P 23 40 07.6 -0.1
NNA pmax pmax
comp=Z,80nm,1.0s
NNA MLR MLR
comp=Z,2µm,18.0s
NNA Nana 22.21 348 P P 23 40 07.9 +0.2
comp=Z,25nm,0.9s,baz=194,slow=11,SNR=8.7
NNA LR LR 23 46 29.3
comp=Z,624nm,21.1s,baz=134,slow=30
NNA Nana 22.21 348 eP P 23 40 07.6 -0.1
comp=Z,80nm,1.0s
NNA eP P 23 40 07.9 +0.2
NNA LR LR
comp=Z,2µm,18.0s
SAML Samuel 26.18 21 eP P 23 40 45.4 -0.1
comp=Z,56nm,0.8s
ATAH Atahualpa 27.23 346 LR LR 23 50 27.2
comp=Z,976nm,18.1s,baz=165,slow=34
BDFB Brasilia 28.39 56 eP P 23 41 05.4 -0.2
BDFB Brasilia 28.39 56 P P 23 41 05.5 0.0
comp=Z,48nm,0.7s,baz=227,slow=9.1,SNR=48
BDFB LR LR 23 53 33.5
comp=Z,4µm,19.1s,baz=235,slow=39
BDFB Brasilia 28.39 56 eP P 23 41 05.3 -0.2
HOPE Hope Point 32.26 140 eP P 23 41 40.5 +1.2
comp=Z,68nm,0.9s
RPN Rapa Nui 32.56 272 P P 23 41 42.7 +0.5
comp=Z,19nm,0.3s,baz=354,slow=11,SNR=5.2
RPN LR LR 23 51 15.2
comp=Z,1µm,19.4s,baz=113,slow=30
OTAV Otavalo 34.45 349 eP P 23 41 57.4 -1.9
comp=Z,20nm,1.1s
SDV Santo Domingo 42.56 2 eP P 23 43 06.3 -0.8
comp=Z,28nm,0.9s
RCBR Riachuelo 43.70 58 P P 23 43 16.3 +0.1
comp=Z,38nm,1.2s,baz=223,slow=9.7,SNR=6.0
RCBR LR LR 00 03 22.5
comp=Z,1µm,18.2s,baz=221,slow=39
RCBR Riachuelo 43.70 58 eP P 23 43 16.3 +0.1
RCBR eP P 23 43 16.7 +0.5
RCBR LR LR
comp=Z,3µm,18.0s
PCRV Puerto La Cruz 44.41 11 P P 23 43 21.0 -0.7
comp=Z,14nm,0.8s,baz=207,slow=14,SNR=2.3
JTS JuntasAbangare 45.58 342 eP P 23 43 30.9 -0.1
JTS pmax pmax
comp=Z,17nm,1.1s
JTS JuntasAbangare 45.58 342 P P 23 43 30.9 -0.1
comp=Z,5.0nm,0.7s,baz=166,slow=11,SNR=2.3
JTS JuntasAbangare 45.58 342 eP P 23 43 30.9 -0.1
comp=Z,17nm,1.1s
GRGR Grenville 46.85 14 eP P 23 43 38.4 -2.6
comp=Z,159nm,0.9s
VNA3 Neumayer Olymp 49.51 158 P P 23 44 01.8 +0.8
VNA2 Neumayer--Watz 50.17 157 P P 23 44 06.7 +0.8
SNAA Sanae 51.74 158 P P 23 44 18.5 +0.7
SNAA Sanae 51.74 158 eP P 23 44 18.3 +0.5
SNAA pmax pmax
comp=Z,111nm,1.1s
SNAA Sanae 51.74 158 P P 23 44 18.4 +0.6
comp=Z,18nm,0.9s,baz=288,slow=6.7,SNR=16
SNAA pP pP 23 44 26.2 -0.8
comp=Z,34nm,1.1s,baz=271,slow=9.4,SNR=18
SNAA Sanae 51.74 158 eP P 23 44 18.3 +0.5
comp=Z,111nm,1.1s
CRPR Cabo Rojo, PR 51.83 6 eP P 23 44 18.6 -0.4
comp=Z,60nm,0.8s
SEUS St. Eustatius 51.85 11 eP P 23 44 18.0 -1.1
comp=Z,186nm,0.9s
OBIP Obispado Ponce 51.92 7 eP P 23 44 18.7 -0.9
comp=Z,100nm,0.8s
SABA Saba 51.93 11 eP P 23 44 19.3 -0.4
comp=Z,215nm,0.8s
CELP Cerrillos 51.95 7 eP P 23 44 19.3 -0.6
CPD Cerro la Pandu 51.98 8 eP P 23 44 19.5 -0.6
CPD pmax pmax
comp=Z,23nm,0.8s
CPD Cerro la Pandu 51.98 8 eP P 23 44 19.5 -0.6
comp=Z,23nm,0.8s
HUMP Col San Antoni 52.09 8 eP P 23 44 20.1 -0.8
comp=Z,32nm,1.0s
LRS Lares 52.14 6 eP P 23 44 20.1 -1.2
AOPR Arecibo Observ 52.20 7 PFAKE 23 44 30.0 +8.2
AOPR LR LR
comp=Z,2µm,18.0s
CBYP Canovanas 52.22 8 eP P 23 44 20.4 -1.6
comp=Z,56nm,1.0s
ANWB Willy Bob 52.22 13 eP P 23 44 20.5 -1.4
comp=Z,120nm,0.8s
GTBY Guantanamo Bay 53.59 357 eP P 23 44 31.5 -0.4
comp=Z,38nm,0.8s
TEIG Tepich 55.95 342 eP P 23 44 49.5 +0.4
comp=Z,64nm,1.0s
TEIG LR LR
comp=Z,600nm,18.0s
QSPA South Pole Qui 56.35 180 P P 23 44 52.3 +0.6
comp=Z,21nm,1.0s,baz=170,slow=5.0,SNR=18
QSPA South Pole Qui 56.35 180 eP P 23 44 52.2 +0.6
comp=Z,51nm,1.0s
QSPA eP P 23 44 52.2 +0.6
NVL N'lazarevskaya 56.48 157 eP P 23 44 52.8 +0.6
NVL pmax pmax
comp=Z,14nm,0.9s
035A Encino 65.30 335 ⇓P P 23 45 54.0 +1.4
baz=66
034A Hebbronville 65.62 334 ⇓P P 23 45 56.1 +1.3
baz=66,SNR=6.3
TIGA Tifton 65.86 349 ⇑P P 23 45 58.3 +2.1
baz=66
SYO Syowa Base 66.02 159⇓eP P 23 45 55.4 -1.4
SYO Syowa Base 66.02 159⇓epP pP 23 46 05.0 -1.2
934A Benavides 66.05 335 ⇑P P 23 45 59.3 +1.7
baz=66
738A Farr-Stevens R 66.22 338 ⇑P P 23 46 00.3 +1.7
baz=66
933A Laredo 66.33 334 ⇑P P 23 46 00.7 +1.4
baz=67,SNR=8.4
835A Beeville 66.43 335 ⇑P P 23 46 01.5 +1.6
baz=67
834A Tilden 66.54 335 ⇑P P 23 46 02.3 +1.6
baz=67,SNR=10
735A Kenedy 66.95 336 ⇓P P 23 46 04.7 +1.4
baz=67
833A Chaparral WMA, 67.02 334 ⇑P P 23 46 04.8 +1.0
baz=67,SNR=17
NHSC New Hope 67.06 353 eP P 23 46 04.0 +0.2
comp=Z,83nm,1.0s
SACV Santiago Islan 67.09 52 eP P 23 46 03.0 -1.4
comp=Z,34nm,0.9s
SACV LR LR
comp=Z,500nm,18.5s
734A La Parita Cree 67.20 335 ⇑P P 23 46 05.8 +1.0
baz=68
832A Faith Ranch, C 67.20 334 ⇓P P 23 46 05.6 +0.8
baz=68,SNR=16
636A Smothers Creek 67.27 337 ⇓P P 23 46 07.0 +1.7
baz=68,SNR=8.2
HKT Hockley 67.31 338 eP P 23 46 05.9 +0.5
HKT pmax pmax
comp=Z,70nm,2.1s
HKT Hockley 67.31 338 eP P 23 46 05.9 +0.5
comp=Z,70nm,2.1s
733A Divot King Ran 67.35 334 ⇑P P 23 46 07.2 +1.5
baz=68
635A Leesville 67.42 336 ⇓P P 23 46 07.5 +1.2
baz=68
538A Harpers Horsep 67.46 338 ⇑P P 23 46 08.0 +1.6
baz=68
537A Green Hill Far 67.58 337 ⇓P P 23 46 08.5 +1.3
baz=68,SNR=5.4
732A Laxson Ranch, 67.60 334 ⇓P P 23 46 08.3 +0.9
baz=68
634A China Grove, S 67.62 335 ⇑P P 23 46 08.9 +1.4
baz=68
GOGA Godfrey 67.78 350 eP P 23 46 07.9 -0.5
GOGA pmax pmax
comp=Z,16nm,0.8s
GOGA Godfrey 67.78 350 eP P 23 46 07.9 -0.5
comp=Z,16nm,0.8s
536A Bastrop 67.82 337 ⇑P P 23 46 10.3 +1.6
baz=68,SNR=5.9
438A Sam Houston St 67.94 338 ⇓P P 23 46 10.9 +1.4
baz=68
535A Dale 67.95 336 ⇓P P 23 46 10.8 +1.3
baz=68
633A Saathoff Ranch 67.98 335 ⇑P P 23 46 10.7 +1.0
baz=68,SNR=7.7
VBMS Vicksburg 67.98 343 eP P 23 46 08.7 -0.9
comp=Z,54nm,0.9s
LRAL Lakeview Retre 68.01 347 eP P 23 46 09.2 -0.7
comp=Z,223nm,2.8s
340A Bronson 68.10 340 ⇑P P 23 46 11.6 +1.1
baz=68
339A Huntington 68.22 339 ⇑P P 23 46 12.5 +1.4
baz=68,SNR=6.3
632A Uvalde 68.24 334 ⇓P P 23 46 13.0 +1.6
baz=68,SNR=15
534A Blanco 68.25 336 ⇑P P 23 46 13.0 +1.5
baz=68
436A Wall Ranch, Ga 68.38 337 ⇓P P 23 46 13.6 +1.4
baz=69
631A Perdido Creek 68.44 334 ⇑P P 23 46 14.5 +1.8
baz=69
338A Crockett 68.46 339 ⇑P P 23 46 14.3 +1.6
baz=69,SNR=6.0
533A Kerrville 68.48 335 ⇑P P 23 46 14.3 +1.3
baz=69,SNR=14
337A Centerville 68.60 338 ⇓P P 23 46 15.2 +1.6
baz=69
435B Jarrell 68.64 337 ⇓P P 23 46 15.4 +1.5
baz=69
NATX Nacogdoches 68.64 340 eP P 23 46 12.8 -1.0
comp=Z,52nm,0.9s
239A Gary 68.83 340 ⇑P P 23 46 16.7 +1.7
baz=69
532A Rocksprings 68.84 334 ⇓P P 23 46 16.6 +1.3
baz=69,SNR=29
434A Burnet 68.90 336 ⇑P P 23 46 16.6 +1.1
baz=69,SNR=23
336A Riesel 68.96 338 ⇓P P 23 46 17.3 +1.4
baz=69,SNR=9.1
CNNC Cliffs of the 68.98 355 eP P 23 46 16.0 +0.2
comp=Z,40nm,0.6s
238A Jacksonville 69.01 339 ⇑P P 23 46 17.5 +1.3
baz=69
335A Moody 69.05 337 ⇓P P 23 46 17.5 +1.0
baz=69,SNR=6.5
531A Rocksprings 69.11 334 ⇑P P 23 46 18.0 +1.1
baz=69,SNR=13
433A Art 69.13 335 ⇑P P 23 46 17.9 +1.0
baz=69,SNR=25
JCT Junction City 69.13 335 eP P 23 46 17.1 +0.1
JCT pmax pmax
comp=Z,38nm,0.9s
JCT Junction City 69.13 335 eP P 23 46 17.1 +0.1
comp=Z,38nm,0.9s
JCT Junction City 69.13 335 ⇑P P 23 46 17.6 +0.6
baz=69,SNR=12
KMSC Kings Mountain 69.20 352 eP P 23 46 16.3 -1.0
comp=Z,20nm,0.8s
KMSC LR LR
comp=Z,700nm,19.9s
KMSC Kings Mountain 69.20 352 ⇑P P 23 46 18.8 +1.6
baz=70,SNR=7.0
237A Washetta, Mont 69.21 339 ⇑P P 23 46 18.6 +1.2
baz=70
334A Lometa 69.37 336 ⇑P P 23 46 19.2 +0.8
baz=70,SNR=22
530A J-C Ranch, Com 69.39 333 ⇑P P 23 46 19.6 +1.0
baz=70,SNR=20
432A Menard 69.48 335 ⇓P P 23 46 20.2 +1.0
baz=70,SNR=8.4
LTX Lajitas 69.57 331 eP P 23 46 20.2 +0.4
LTX Lajitas 69.57 331 eP P 23 46 20.2 +0.4
TXAR Lajitas Array 69.57 331 P P 23 46 20.2 +0.4
comp=Z,4.8nm,0.6s,baz=152,slow=8.5,SNR=38
TX31 Lajitas Ar. Si 69.57 331 eP P 23 46 20.0 +0.2
431A Sonora 69.60 334 ⇓P P 23 46 21.2 +1.3
baz=70,SNR=6.0
333A Richland Sprin 69.61 336 ⇑P P 23 46 20.8 +0.9
baz=70,SNR=18
529A Stev Forest Ra 69.70 332 ⇑P P 23 46 21.9 +1.4
baz=70,SNR=26
WHTX Lake Whitney 69.72 337 ⇓P P 23 46 21.7 +1.2
baz=70,SNR=15
137A Heron Place, G 69.75 339 ⇑P P 23 46 22.5 +1.8
baz=70
430A Baggett Ranch, 69.92 334 ⇑P P 23 46 23.4 +1.5
baz=70,SNR=15
332A Millersview 69.93 335 ⇑P P 23 46 22.8 +1.0
baz=70,SNR=13
OXF Oxford 69.93 345 eP P 23 46 21.0 -0.7
OXF pmax pmax
comp=Z,73nm,0.8s
OXF Oxford 69.93 345 eP P 23 46 21.0 -0.7
comp=Z,73nm,0.8s
234A Clairette 69.95 337 ⇑P P 23 46 22.9 +1.0
baz=70,SNR=13
429A Davenport Ranc 70.03 333 ⇓P P 23 46 23.5 +0.9
baz=70,SNR=15
TKL Tuckaleechee C 70.03 350 eP P 23 46 21.6 -0.8
TKL Tuckaleechee C 70.03 350 eP P 23 46 21.6 -0.8
331A San Angelo 70.10 335 ⇓P P 23 46 23.8 +0.9
baz=70,SNR=14
PPT Papeete 70.12 262 P P 23 46 23.8 +0.3
comp=Z,28nm,0.8s,baz=9.0,slow=19,SNR=2.7
233A Rising Star 70.22 336 ⇑P P 23 46 24.6 +1.0
baz=70,SNR=12
135A Vickery Place, 70.22 338 ⇑P P 23 46 24.4 +0.7
baz=70
232A Coleman 70.35 335 ⇓P P 23 46 25.4 +0.9
baz=71,SNR=5.3
134A White-Moore Ra 70.45 337 ⇓P P 23 46 25.8 +0.7
baz=71
330A Mertzon 70.46 334 ⇓P P 23 46 25.9 +0.8
baz=71,SNR=11
231A Bronte 70.63 335 ⇓P P 23 46 26.4 +0.3
baz=71,SNR=18
133A Hamilton Ranch 70.76 336 ⇑P P 23 46 27.5 +0.5
baz=71,SNR=13
329A Wagon Wheel Ra 70.83 333 ⇑P P 23 46 28.1 +0.7
baz=71,SNR=12
UALR University of 70.87 343 eP P 23 46 27.5 0.0
comp=Z,23nm,1.1s
TZTN Tazewell 70.87 350 eP P 23 46 27.2 -0.3
comp=Z,61nm,1.6s
230A Sterling City 70.87 334 ⇑P P 23 46 28.5 +0.8
baz=71,SNR=6.2
Z35A Perchaven, San 70.89 338 ⇓P P 23 46 28.2 +0.5
baz=71,SNR=15
MIAR Mount Ida 70.97 341 eP P 23 46 27.7 -0.4
MIAR pmax pmax
comp=Z,75nm,1.9s
MIAR Mount Ida 70.97 341 eP P 23 46 27.7 -0.4
comp=Z,75nm,1.9s
ABTX Abilene, Hawle 71.02 336 eP P 23 46 28.4 -0.1
comp=Z,36nm,0.9s
ABTX LR LR
comp=Z,600nm,21.1s
ABTX Abilene, Hawle 71.02 336 ⇓P P 23 46 29.4 +0.9
baz=71,SNR=18
Z34A Collier Ranch, 71.14 337 ⇑P P 23 46 30.5 +1.3
baz=71,SNR=6.5
VWCC Virginia Weste 71.14 353 eP P 23 46 28.4 -0.8
WVT Waverly 71.17 347 eP P 23 46 28.8 -0.5
WVT pmax pmax
comp=Z,92nm,0.8s
WVT Waverly 71.17 347 eP P 23 46 28.8 -0.5
comp=Z,92nm,0.8s
229A Bryant Ranch, 71.20 334 ⇓P P 23 46 30.1 +0.5
baz=72,SNR=6.3
URVA University of 71.27 356 eP P 23 46 30.4 +0.5
131A Roby 71.33 335 ⇑P P 23 46 30.9 +0.5
baz=72,SNR=8.0
Z33A Whitaker Ranch 71.33 337 ⇓P P 23 46 31.0 +0.6
baz=72,SNR=12
JSRW J. Sargeant Re 71.42 355 eP P 23 46 30.4 -0.3
130A Snyder 71.46 335 ⇓P P 23 46 31.5 +0.3
baz=72,SNR=9.0
Z32A Haskell 71.59 336 ⇑P P 23 46 32.3 +0.4
baz=72,SNR=16
228A UT Block 9, Go 71.62 333 ⇑P P 23 46 32.7 +0.5
baz=72,SNR=12
Y34A Reagan Ranch, 71.63 338 ⇑P P 23 46 32.4 +0.3
baz=72,SNR=8.8
BBTS Babate 71.67 57 P P 23 46 32.0 -0.7
comp=Z,80nm,1.1s,baz=227,slow=3.4,SNR=7.1
BBTS LR LR 00 16 13.3
comp=Z,1µm,19.8s,baz=226,slow=34
129A Stewart Farms, 71.82 334 ⇑P P 23 46 33.7 +0.3
baz=72,SNR=6.5
PVMO Portageville 71.82 345 PFAKE 23 46 50.0 +17
PVMO LR LR
comp=Z,500nm,18.3s
Z31A Sharp Cattle R 71.83 336 ⇓P P 23 46 33.6 +0.3
baz=72,SNR=14
Y33A Hilltop Ranch, 71.95 337 ⇓P P 23 46 34.3 +0.3
baz=72
128A Castleberry Fa 72.03 333 ⇓P P 23 46 35.2 +0.5
baz=72,SNR=12
Z30A Sanderson Ranc 72.14 335 ⇓P P 23 46 36.0 +0.8
baz=72,SNR=14
Y32A R-V Farms, Ver 72.21 336 ⇑P P 23 46 36.0 +0.3
baz=72,SNR=6.0
X34A Smith Ranch, M 72.25 338 ⇑P P 23 46 36.2 +0.4
baz=72,SNR=8.2
Z29A Hungry Hill Ra 72.32 334 ⇓P P 23 46 36.4 0.0
baz=73,SNR=11
PBMO Poplar Bluff 72.33 345 eP P 23 46 35.7 -0.6
comp=Z,24nm,0.8s
MNTX Cornudas Mount 72.35 331 eP P 23 46 35.5 -1.0
comp=Z,11nm,0.8s
MNTX LR LR
comp=Z,500nm,20.0s
X33A Lawton 72.40 337 ⇓P P 23 46 38.0 +1.2
baz=73
Y31A Rekieta Farm, 72.45 336 ⇑P P 23 46 38.1 +0.9
baz=73,SNR=9.5
Y30A Stafford Cattl 72.59 335 ⇑P P 23 46 38.7 +0.7
baz=73
Z28A Tucker Farm, M 72.60 334 ⇓P P 23 46 38.6 +0.5
baz=73,SNR=7.8
W34A Bridge Creek, 72.81 338 eP P 23 46 39.0 -0.3
comp=Z,57nm,1.5s
W34A Bridge Creek, 72.81 338 ⇓P P 23 46 40.0 +0.8
baz=73
Y29A Porterfield Fa 72.85 335 ⇑P P 23 46 40.3 +0.7
baz=73,SNR=16
TUL1 Tulsa 72.86 340 eP P 23 46 39.1 -0.3
comp=Z,25nm,0.8s
TUL1 Tulsa 72.86 340 ⇑P P 23 46 40.0 +0.6
baz=73,SNR=7.5
USIN University of 72.92 347 eP P 23 46 39.1 -0.6
comp=Z,46nm,0.9s
Z27A Tatum 72.93 333 ⇓P P 23 46 40.8 +0.8
baz=73,SNR=6.6
WCI Wyandotte Cave 72.94 348 eP P 23 46 38.7 -1.2
WCI pmax pmax
comp=Z,17nm,0.9s
WCI Wyandotte Cave 72.94 348 eP P 23 46 38.7 -1.2
comp=Z,17nm,0.9s
W33A Caddo, Fort Co 72.95 338 ⇑P P 23 46 41.3 +1.3
baz=73,SNR=11
SIUC Southern Illin 72.98 346 eP P 23 46 39.6 -0.5
comp=Z,26nm,0.8s
SIUC LR LR
comp=Z,1µm,18.1s
SDMD Soldier's Deli 73.06 356 eP P 23 46 39.9 -0.7
comp=Z,23nm,1.0s
X30A Coker Ranch, T 73.10 336 ⇑P P 23 46 41.7 +0.7
baz=73
Y28A McKinney Farm, 73.10 334 ⇓P P 23 46 41.9 +0.9
baz=73
W32A Sentinel 73.17 337 ⇓P P 23 46 42.4 +1.0
baz=74,SNR=23
Z26A Caprock 73.18 333 ⇑P P 23 46 41.9 +0.3
baz=74,SNR=35
V34A Guthrie 73.29 339 eP P 23 46 41.9 -0.1
comp=Z,25nm,0.9s
V34A Guthrie 73.29 339 ⇑P P 23 46 42.7 +0.7
baz=74,SNR=6.5
MAW Mawson 73.32 164 eP P 23 46 42.6 +0.7
MAW pmax pmax
comp=Z,54nm,1.6s
MAW Mawson 73.32 164 P P 23 46 42.4 +0.6
comp=Z,32nm,0.8s,baz=210,slow=8.1,SNR=3.4
MAW Mawson 73.32 164 eP P 23 46 42.6 +0.7
comp=Z,54nm,1.6s
MSTX Muleshoe 73.35 334 eP P 23 46 42.3 -0.2
comp=Z,27nm,0.8s
MSTX Muleshoe 73.35 334 ⇑P P 23 46 43.6 +1.1
baz=74,SNR=9.6
X29A Tulia 73.39 335 ⇓P P 23 46 43.2 +0.4
baz=74,SNR=5.3
Y27A Causey 73.42 333 ⇓P P 23 46 43.3 +0.3
baz=74
W31A Holland Ranch, 73.46 337 ⇑P P 23 46 43.6 +0.6
baz=74
Z25A Roswell 73.47 332 ⇓P P 23 46 44.5 +1.2
baz=74,SNR=5.4
V33A Lossen Ranch, 73.51 338 ⇑P P 23 46 44.2 +0.9
baz=74,SNR=8.5
MVL Millersville 73.62 357 eP P 23 46 43.9 +0.1
comp=Z,24nm,1.3s
X28A Dimmitt 73.63 335 ⇑P P 23 46 45.6 +1.4
baz=74
V32A Arapaho 73.66 337 ⇑P P 23 46 45.6 +1.4
baz=74
W30A Crocket Farms 73.67 336 ⇓P P 23 46 45.0 +0.7
baz=74
Y26A Elida 73.70 333 ⇓P P 23 46 45.4 +0.8
baz=74
319A Douglas 73.73 328 ⇑P P 23 46 46.1 +1.2
baz=74,SNR=7.8
OLIL Olney 73.75 347 eP P 23 46 44.2 -0.3
comp=Z,51nm,1.5s
Z24A Sheeppen Canyo 73.77 332 ⇑P P 23 46 46.0 +0.9
baz=74,SNR=8.6
AMTX Amarillo 73.78 335 eP P 23 46 44.6 -0.4
comp=Z,23nm,0.9s
AMTX LR LR
comp=Z,800nm,20.0s
AMTX Amarillo 73.78 335 ⇑P P 23 46 45.6 +0.6
baz=74
U34A Anderson Ranch 73.85 339 eP P 23 46 45.0 -0.3
comp=Z,25nm,0.8s
U34A LR LR
comp=Z,900nm,20.0s
U34A Anderson Ranch 73.85 339 ⇓P P 23 46 46.8 +1.5
baz=74,SNR=5.9
BLO Bloomington 73.90 348 eP P 23 46 44.5 -1.0
BLO pmax pmax
comp=Z,22nm,0.8s
BLO Bloomington 73.90 348 eP P 23 46 44.5 -1.0
comp=Z,22nm,0.8s
V31A Spring Creek L 73.96 337 ⇑P P 23 46 47.2 +1.1
baz=74
W29A Amraillo 73.98 335 ⇓P P 23 46 46.9 +0.7
baz=74,SNR=5.4
U33A Lingo Farm, Me 74.02 338 ⇑P P 23 46 47.6 +1.3
baz=74
Y25A Mesa, Roswell 74.03 332 ⇑P P 23 46 47.9 +1.3
baz=74
121A Cookes Peak, D 74.07 329 ⇑P P 23 46 47.9 +1.1
baz=74,SNR=13
X27A F and S Farms, 74.07 334 ⇓P P 23 46 47.6 +0.8
baz=74
SLM Saint Louis 74.08 345 eP P 23 46 46.2 -0.3
SLM pmax pmax
comp=Z,38nm,0.7s
SLM Saint Louis 74.08 345 eP P 23 46 46.2 -0.3
comp=Z,38nm,0.7s
V30A Spur Ranch, Mi 74.23 336 ⇑P P 23 46 48.7 +1.1
baz=74
U32A Winter Ranch, 74.25 338 ⇓P P 23 46 48.3 +0.7
baz=74,SNR=7.2
X26A CR and CF Fran 74.25 333 ⇓P P 23 46 48.5 +0.7
baz=74,SNR=9.7
W28A Vega 74.30 335 ⇑P P 23 46 49.2 +1.1
baz=75
Y24A Capitan 74.32 332 ⇑P P 23 46 49.2 +0.8
baz=75,SNR=9.2
SSPA Standing Stone 74.34 356 eP P 23 46 48.8 +0.7
comp=Z,44nm,1.4s
Z22A Elephant Butte 74.35 330 ⇑P P 23 46 49.9 +1.4
baz=75,SNR=6.9
ACSO Alum Creek Sta 74.42 351 eP P 23 46 48.2 -0.3
comp=Z,41nm,0.8s
W27A Bowe Ranch, En 74.43 334 ⇑P P 23 46 49.8 +1.0
baz=75,SNR=12
U31A Nine Bar Ranch 74.51 337 ⇑P P 23 46 50.6 +1.4
baz=75
X25A Clemmons Ranch 74.55 333 ⇑P P 23 46 50.4 +0.8
baz=75
Y23A Lovelace Mesa, 74.57 331 ⇓P P 23 46 50.9 +1.1
baz=75,SNR=9.4
V29A Stinnett 74.62 336 ⇓P P 23 46 50.8 +0.9

baz=75
ODNJ Ogdensburg 74.64 358 eP P 23 46 50.2 +0.5
comp=Z,268nm,2.7s
T33A Patterson Ranc 74.66 339 ⇓P P 23 46 51.2 +1.2
baz=75,SNR=6.4
W26A Owens Ranch, T 74.71 334 ⇓P P 23 46 51.4 +0.9
baz=75,SNR=7.7
V28A Channing 74.75 335 ⇑P P 23 46 51.5 +0.8
baz=75
LIC Lamto 74.87 72 eP P 23 46 51.9 +0.1
comp=Z,134nm,1.2s
X24A Lazy VL Ranch, 74.88 332 ⇑P P 23 46 52.5 +0.9
baz=75
U30A WK&E Inc. Balk 74.92 337 ⇑P P 23 46 53.2 +1.6
baz=75
T32A Huddler Ranch, 74.96 338 ⇑P P 23 46 53.0 +1.2
baz=75
V27A Dan Oppiter Fa 74.97 335 ⇑P P 23 46 52.9 +0.9
baz=75
BNM Barren Site 74.99 331 eP P 23 46 53.0 +0.7
SUR Sutherland 75.00 119 P P 23 46 54.1 +1.5
comp=Z,308nm,1.0s,SNR=5.7
SUR Sutherland 75.00 119 P P 23 46 53.3 +0.8
comp=Z,20nm,0.9s,baz=249,slow=8.8,SNR=11
SUR Sutherland 75.00 119 eP P 23 46 53.7 +1.1
SUR epP P 23 46 54.0 +1.5
Y22D IRIS PASSCAL I 75.05 331 ⇓P P 23 46 53.8 +1.4
baz=75
U29A Oasis Ranch, S 75.06 336 ⇑P P 23 46 53.8 +1.4
baz=75
W25A X Bar L Ranch, 75.09 333 ⇑P P 23 46 54.0 +1.3
baz=75,SNR=7.0
T31A Randall Ranch, 75.12 338 ⇓P P 23 46 54.7 +2.0
baz=75
TIC Toumodi 75.13 71 eP P 23 46 53.8 +0.5
comp=Z,48nm,0.9s
LPM Los Pinos Moun 75.14 331 eP P 23 46 53.3 +0.2
KIC Kosan Boka 75.18 72 eP P 23 46 54.3 +0.8
comp=Z,122nm,0.8s
X23A Hourglass Bar 75.19 332 ⇑P P 23 46 54.9 +1.5
baz=76
TUC Tucson 75.20 327 eP P 23 46 52.5 -0.8
TUC pmax pmax
comp=Z,32nm,1.8s
TUC Tucson 75.20 327 eP P 23 46 52.5 -0.8
comp=Z,32nm,1.8s
DBIC Dimbokro 75.27 71 eP P 23 46 54.7 +0.6
DBIC pmax pmax
comp=Z,50nm,0.8s
DBIC Dimbokro 75.27 71 P P 23 46 54.8 +0.6
comp=Z,40nm,0.7s,baz=211,slow=6.8,SNR=62
DBIC Dimbokro 75.27 71 eP P 23 46 54.7 +0.6
comp=Z,50nm,0.8s
U28A Mallet 75.32 335 ⇑P P 23 46 55.2 +1.2
baz=76
V26A Tequesquite Ra 75.35 334 ⇓P P 23 46 55.3 +1.1
baz=76,SNR=6.5
T30A Plains 75.36 337 ⇓P P 23 46 55.4 +1.3
baz=76
LAZ Ladron 75.42 331 eP P 23 46 55.8 +1.2
W24A Lazy 6 Ranch, 75.44 332 ⇑P P 23 46 55.7 +0.9
baz=76
S32A Newby Ranch, P 75.44 338 ⇑P P 23 46 55.7 +1.1
baz=76
S31A Mullinville 75.54 338 ⇓P P 23 46 56.7 +1.6
baz=76
U27A Thompson Grove 75.56 335 ⇑P P 23 46 56.3 +0.9
baz=76,SNR=5.3
ANMO Albuquerque 75.62 331 eP P 23 46 56.3 +0.5
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO MLR MLR
comp=Z,1μm,21.0s
ANMO Albuquerque 75.62 331 eP P 23 46 56.3 +0.5
comp=Z,13nm,1.0s
ANMO LR LR
comp=Z,1μm,21.0s
W23A Werner Place, 75.69 332 ⇑P P 23 46 57.6 +1.4
baz=76
V25A Rancho No Teng 75.70 333 ⇓P P 23 46 56.9 +0.7
baz=76,SNR=12
T29A Hugoton 75.70 336 ⇓P P 23 46 57.7 +1.6
baz=76
R33A Olander Ranch, 75.72 339 ⇑P P 23 46 57.0 +0.9
baz=76
V24A Rampart Ranch, 75.84 333 ⇑P P 23 46 57.9 +0.7
baz=76
214A Organ Pipe Nat 75.85 325 ⇓P P 23 46 59.0 +2.0
baz=76
U26A Atchley Ranch, 75.87 334 ⇓P P 23 46 57.8 +0.6
baz=76
S30A Montezuma 75.87 337 ⇑P P 23 46 58.0 +1.0
baz=76
T28A Walsh 75.95 336 ⇑P P 23 46 58.2 +0.7
baz=76,SNR=11
R32A Long Quarter, 76.04 339 ⇑P P 23 46 59.1 +1.1
baz=76,SNR=7.8
S29A Ulysses 76.06 337 ⇑P P 23 46 59.1 +0.9
baz=76,SNR=5.3
KSU1 Kansas State U 76.07 341 eP P 23 46 57.1 -0.9
comp=Z,12nm,0.8s
KSU1 Kansas State U 76.07 341 ⇓P P 23 46 58.9 +0.9
baz=76
T27A Campo 76.10 335 ⇓P P 23 46 59.4 +1.0
baz=76
U25A Circle Dot Ran 76.12 334 ⇓P P 23 46 59.4 +0.8
baz=76,SNR=7.1
R31A Burdett 76.17 338 ⇑P P 23 46 59.6 +0.9
baz=76
V23A Ortiz Mt. (NFS 76.21 332 ⇑P P 23 47 00.5 +1.3
baz=76
TRY Troy 76.26 359 eP P 23 47 00.5 +1.5
comp=Z,476nm,2.5s
TRY LR LR
comp=Z,2μm,20.5s
S28A Manter 76.30 336 ⇓P P 23 47 00.6 +1.1
baz=77,SNR=13
Q33A Connelly Farm, 76.32 340 ⇑P P 23 47 01.2 +1.8
baz=77
R30A Dighton 76.40 338 ⇓P P 23 47 01.3 +1.3
baz=77
U24A Moreno Valley 76.45 333 ⇓P P 23 47 02.4 +1.8
baz=77
T26A Comanche Natio 76.51 335 ⇑P P 23 47 01.7 +0.9
baz=77,SNR=7.5
Q32A Meitler Ranch, 76.52 339 ⇓P P 23 47 01.8 +1.2
baz=77,SNR=6.0
AAM Ann Arbor 76.55 351 eP P 23 46 59.5 -1.1
AAM pmax pmax
comp=Z,17nm,0.6s
AAM Ann Arbor 76.55 351 eP P 23 46 59.5 -1.1
comp=Z,18nm,0.6s
RAR Rarotonga 76.55 253 P P 23 47 02.6 +1.3
comp=Z,27nm,0.9s,baz=122,slow=15,SNR=1.9
V22A San Miguel Ran 76.64 332 ⇓P P 23 47 03.2 +1.6
baz=77,SNR=17
P33A Williams Farm, 76.68 340 ⇑P P 23 47 02.4 +0.9
baz=77
X18A Snowflake 76.71 329 ⇓P P 23 47 03.5 +1.5
baz=77
U23A El Rito 76.73 332 ⇑P P 23 47 03.4 +1.3
baz=77
T25A Trinidad 76.77 334 ⇑P P 23 47 03.5 +1.1
baz=77,SNR=14
DRV Dumont d'Urvil 76.78 193 R 23 47 00.0
Q31A Ellis 76.78 339 ⇓P P 23 47 03.1 +1.0
baz=77,SNR=5.6
R29A Marienthal 76.80 337 ⇓P P 23 47 03.6 +1.3
baz=77
S26A Kim 76.87 335 ⇓P P 23 47 03.8 +1.1
baz=77,SNR=14
R28A Tribune 76.95 336 ⇑P P 23 47 04.3 +1.2
baz=77,SNR=6.6
113A Mohawk Valley, 76.97 325 ⇓P P 23 47 04.4 +1.2
baz=77
Q30A Quinter 77.01 338 ⇓P P 23 47 04.5 +1.0
baz=77
U22A Llaves 77.03 332 ⇓P P 23 47 05.5 +1.7
baz=77,SNR=6.3
T24B San Luis 77.06 333 ⇑P P 23 47 05.7 +1.6
baz=77,SNR=7.4
P32A Huiting Farm, 77.12 339 ⇑P P 23 47 05.0 +1.0
baz=77
W18A Petrified Fore 77.12 329 eP P 23 47 03.2 -1.1
comp=Z,35nm,1.3s
Q29A Oakley 77.17 337 ⇓P P 23 47 05.5 +1.1
baz=78
R27A Eads 77.23 336 ⇑P P 23 47 06.3 +1.5
baz=78,SNR=12
S25A Robets Cordova 77.25 334 ⇑P P 23 47 06.2 +1.2
baz=78,SNR=8.6
P31A Stockton 77.25 339 ⇓P P 23 47 06.1 +1.3
baz=78
X16A Lo Mia Camp, P 77.27 328 ⇓P P 23 47 06.9 +1.7
baz=78,SNR=9.4
T23A Casias Ranch, 77.29 333 ⇓P P 23 47 06.7 +1.4
baz=78
R26A Arlington 77.47 335 ⇑P P 23 47 07.4 +1.3
baz=78,SNR=7.6
S24A Houchin Ranch, 77.51 334 ⇑P P 23 47 08.0 +1.4
baz=78,SNR=14
P30A Selden 77.54 338 ⇓P P 23 47 08.1 +1.7
baz=78
Y14A Wickenburg 77.58 326 ⇑P P 23 47 08.1 +1.3
baz=78
Q28A Sharon Springs 77.61 337 ⇑P P 23 47 07.8 +0.9
baz=78,SNR=5.3
R25A Fountain Ranch 77.62 335 ⇓P P 23 47 08.2 +1.2
baz=78
SDCO Great Sand Dun 77.71 334 eP P 23 47 08.2 +0.5
comp=Z,6.1nm,0.8s
SDCO LR LR
comp=Z,1μm,18.0s
GLA Glamis 77.72 324 eP P 23 47 07.1 -0.4
GLA pmax pmax
comp=Z,24nm,1.5s
GLA Glamis 77.72 324 eP P 23 47 07.1 -0.4
comp=Z,24nm,1.5s
GLA Glamis 77.72 324 ⇓P P 23 47 09.1 +1.6
baz=78
O31A Woolen Ranch, 77.82 339 ⇓P P 23 47 08.9 +1.0
baz=78
KSCO Kaye Shedlock' 77.83 336 eP P 23 47 08.3 +0.3
comp=Z,23nm,0.9s
KSCO LR LR
comp=Z,900nm,20.3s
KSCO Kaye Shedlock' 77.83 336 ⇓P P 23 47 09.4 +1.3
baz=78
SCIA State Center 77.86 344 eP P 23 47 06.6 -1.4
comp=Z,26nm,0.8s
S23A Nye Farm, Mont 77.86 333 ⇓P P 23 47 10.0 +1.5
baz=78
R24A Sanders Place, 78.00 334 ⇓P P 23 47 10.3 +1.2
baz=78,SNR=15
P28A Saint Francis 78.05 337 ⇓P P 23 47 10.6 +1.4
baz=78
Q26A Hugo 78.05 336 ⇑P P 23 47 10.7 +1.3
baz=78
O30A MW Ranch, Wils 78.06 339 ⇓P P 23 47 10.7 +1.4
baz=78
N32A Stulken Farm, 78.08 340 ⇑P P 23 47 11.5 +2.1
baz=78
WVL Waterville 78.12 2 PFAKE 23 47 20.0 +11
WVL LR LR
comp=Z,3μm,19.3s
Y12C Blythe 78.14 325 ⇓P P 23 47 11.3 +1.5
baz=78
WUAZ Wupatki 78.16 328 eP P 23 47 09.1 -1.0
comp=Z,16nm,0.8s
WUAZ LR LR
comp=Z,800nm,20.0s
WUAZ Wupatki 78.16 328 ⇓P P 23 47 11.6 +1.5
baz=78
LONY Lake Ozonia 78.17 358 eP P 23 47 10.0 +0.3
comp=Z,261nm,2.5s
JFWS Jewell Farm 78.20 347 eP P 23 47 09.2 -0.7
JFWS pmax pmax
comp=Z,22nm,0.8s
JFWS Jewell Farm 78.20 347 eP P 23 47 09.2 -0.7
comp=Z,22nm,0.8s
S22A 4UR Ranch, Cre 78.21 333 PFAKE 23 47 20.0 +10
S22A LR LR
comp=Z,1μm,22.0s
S22A 4UR Ranch, Cre 78.21 333 ⇑P P 23 47 11.6 +1.1
baz=78
R23A Moffat 78.22 334 ⇑P P 23 47 11.8 +1.3
baz=78
P27A Ficken Ranch, 78.30 336 ⇓P P 23 47 12.1 +1.4
baz=79
N31A Bailey Ranch, 78.33 340 ⇓P P 23 47 12.2 +1.5
baz=79
EMMW East Machias 78.35 3 PFAKE 23 47 20.0 +9.4
EMMW LR LR
comp=Z,2μm,19.4s
MVCO Mesa Verde 78.40 331 eP P 23 47 11.5 0.0
comp=Z,13nm,1.0s
MVCO LR LR
comp=Z,900nm,20.0s
MVCO Mesa Verde 78.40 331 ⇑P P 23 47 12.4 +1.0
baz=79,SNR=7.6
PDMCI Parker Dam,Lak 78.41 326 ⇑P P 23 47 12.3 +1.1
baz=79
BC3 Big Chuckawall 78.51 324 ⇑P P 23 47 13.7 +1.7
baz=79,SNR=5.1
O28A Krutsinger Ran 78.55 337 ⇓P P 23 47 13.3 +1.3
baz=79
P26A Davis Ranch, A 78.56 336 ⇓P P 23 47 13.5 +1.3
baz=79
Q24A Divide 78.66 334 PFAKE 23 47 20.0 +7.0
Q24A LR LR
comp=Z,1μm,19.0s
Q24A Divide 78.66 334 ⇑P P 23 47 13.9 +0.9
baz=79,SNR=7.2
IRM Iron Mountain 78.77 325 ⇑P P 23 47 14.6 +1.2
baz=79
P25A Willow Gulch B 78.80 335 ⇓P P 23 47 15.1 +1.6
baz=79,SNR=5.1
M31A Lambtecht Ranc 78.82 340 ⇑P P 23 47 14.8 +1.4
baz=79
N29A Votaw Ranch, W 78.82 338 ⇑P P 23 47 14.7 +1.2
baz=79
O27A Beecher Island 78.84 337 ⇑P P 23 47 15.0 +1.4
baz=79
W13A Hualapai Mount 78.95 326 ⇑P P 23 47 16.0 +1.6
baz=79
O26A Horse Wrangler 79.16 336 ⇑P P 23 47 16.8 +1.3
baz=80
PV01 Paradox Valley 79.23 332 eP P 23 47 16.5 +0.5
P23A Jefferson 79.27 334 ⇑P P 23 47 17.5 +1.2
baz=80
MURC Murrieta 79.32 323 ⇓P P 23 47 17.7 +1.3
baz=80
U15A North Rim 79.33 328 ⇓P P 23 47 17.8 +1.1
baz=80,SNR=11
TSUM Tsumeb 79.38 106 eP P 23 47 18.1 +0.8
comp=Z,25nm,1.0s
TSUM LR LR
comp=Z,1μm,18.0s
PV05 Paradox Valley 79.39 331 eP P 23 47 17.4 +0.5
N27A Anderson Farm, 79.42 337 ⇑P P 23 47 18.1 +1.4
baz=80
SMCO Snowmass 79.52 333 eP P 23 47 17.8 0.0
comp=Z,18nm,1.0s
SMCO LR LR
comp=Z,1μm,19.6s
GMRC Granite Mounta 79.52 325 ⇑P P 23 47 19.2 +1.6
baz=80,SNR=6.6
L31A Butterfield Fa 79.55 340 ⇑P P 23 47 18.8 +1.4
baz=80
ISCO Idaho Springs 79.57 334 eP P 23 47 18.1 +0.2
ISCO pmax pmax
comp=Z,8.0nm,1.1s
ISCO Idaho Springs 79.57 334 eP P 23 47 18.1 +0.2
comp=Z,8.0nm,1.1s
ISCO Idaho Springs 79.57 334 ⇑P P 23 47 19.1 +1.2
baz=80,SNR=5.5
PV04 Paradox Valley 79.58 331 eP P 23 47 17.9 0.0
L30A Spencer Herefo 79.59 339 ⇓P P 23 47 19.0 +1.4
baz=80
PV10 Paradox Valley 79.62 331 eP P 23 47 18.4 +0.2
PV09 Paradox Valley 79.77 331 eP P 23 47 19.3 +0.4
P22A Eagle 79.80 334 ⇑P P 23 47 20.4 +1.3
baz=80
HEC Hector,Ludlow 79.88 324 ⇑P P 23 47 21.1 +1.7
baz=80
L29A Maesberg Ranch 79.92 339 ⇑P P 23 47 20.9 +1.5
baz=80
O23A Lake Granby, G 80.04 334 ⇑P P 23 47 21.6 +1.2
baz=80,SNR=10
KNB Kanab 80.06 328 eP P 23 47 21.5 +1.1
KNB pmax pmax
comp=Z,20nm,1.0s
KNB Kanab 80.06 328 eP P 23 47 21.5 +1.1
comp=Z,20nm,1.0s
BFSC Mount Baldy Ra 80.06 323 ⇑P P 23 47 21.3 +0.8
baz=80
TUQ Turquoise Moun 80.18 325 ⇓P P 23 47 22.6 +1.5
baz=80
O22A Kremmling 80.22 334 ⇓P P 23 47 22.4 +1.0
baz=80,SNR=9.1
BOSA Boshof 80.24 118 eP P 23 47 22.4 +0.6
BOSA e*PP pP 23 47 31.4 0.0
BOSA MLR MLR
comp=Z,1μm,18.3s
BOSA Boshof 80.24 118 P P 23 47 22.4 +0.6
comp=Z,20nm,0.8s,baz=233,slow=5.4,SNR=24
BOSA pP pP 23 47 31.4 0.0
comp=Z,39nm,0.9s,baz=235,slow=4.3,SNR=17
BOSA Boshof 80.24 118 eP P 23 47 22.4 +0.6
BOSA eP P 23 47 22.6 +0.8
BOSA epP pP 23 47 31.4 0.0
BOSA LR LR
comp=Z,1μm,18.3s
ECSD EROS Data Cent 80.40 342 eP P 23 47 21.7 -0.2
comp=Z,24nm,0.8s
ECSD EROS Data Cent 80.40 342 ⇑P P 23 47 22.6 +0.7
baz=81,SNR=13
M25A Palm-Egli Farm 80.48 336 ⇑P P 23 47 24.3 +1.7
baz=81
GSC Goldstone 80.49 324 ⇑P P 23 47 23.7 +1.0
baz=81
K29A Lazy Trails An 80.51 339 ⇑P P 23 47 23.9 +1.3
baz=81
N23A Red Feather La 80.65 335 PFAKE 23 47 40.0 +16
N23A LR LR
comp=Z,1μm,20.0s
N23A Red Feather La 80.65 335 ⇓P P 23 47 24.5 +0.8
baz=81,SNR=5.9
SHPR Sheep Range 80.69 326 eP P 23 47 25.1 +1.2
EDW2 Edwards Air Fo 80.74 323 ⇑P P 23 47 25.5 +1.5
baz=81
CCUT Cedar City 80.74 328 eP P 23 47 25.1 +1.0
comp=Z,15nm,1.1s
N22A Wattenberg Ran 80.75 334 ⇑P P 23 47 25.8 +1.6
baz=81
M24A Cheyenne 80.77 336 ⇑P P 23 47 25.2 +1.0
baz=81
K28A Ten Mile Ranch 80.78 339 ⇓P P 23 47 25.9 +1.8
baz=81
J30A Dallas 80.79 340 ⇑P P 23 47 25.4 +1.4
baz=81
O20A White River Ci 80.83 333 eP P 23 47 25.1 +0.5
comp=Z,39nm,1.5s
O20A White River Ci 80.83 333 ⇑P P 23 47 25.9 +1.4
baz=81
PHWY Pilot Hill 80.84 335 eP P 23 47 24.9 +0.2
comp=Z,6.9nm,0.8s
PHWY LR LR
comp=Z,800nm,18.9s
SRU San Rafael 80.85 331 eP P 23 47 24.9 +0.2
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael 80.85 331 eP P 23 47 24.9 +0.2
comp=Z,8.8nm,0.8s
SPMN St. Paul 80.93 345 eP P 23 47 23.6 -1.0
comp=Z,78nm,1.8s
SPMN St. Paul 80.93 345 ⇑P P 23 47 26.5 +1.8
baz=81
ARUT Antelope Range 80.97 328 eP P 23 47 25.8 +0.5
ARUT Antelope Range 80.97 328 eP P 23 47 25.8 +0.5
K27A Flueckinger Fa 81.04 338 ⇑P P 23 47 27.0 +1.5
baz=81
MVU Marysvale 81.04 329 eP P 23 47 26.6 +0.9
comp=Z,9.5nm,1.1s
LRMC Laurel Mountai 81.06 324 ⇑P P 23 47 27.3 +1.5
baz=81
M23A Laramie 81.08 335 ⇓P P 23 47 27.6 +1.7
baz=81
L25A Engebretsen Ra 81.09 337 ⇓P P 23 47 26.9 +1.1
baz=81
J29A Okreek 81.10 340 ⇓P P 23 47 26.9 +1.2
baz=81,SNR=11
TMUT Trail Mountain 81.29 330 eP P 23 47 27.1 0.0
comp=Z,173nm,2.8s
I30A Oacoma 81.32 340 ⇓P P 23 47 28.0 +1.2
baz=82
M22A Cedar Creek Ra 81.33 335 ⇓P P 23 47 28.8 +1.6
baz=82
J28A Allard Ranch, 81.39 339 ⇓P P 23 47 28.9 +1.7
baz=82,SNR=6.2
N20A Spence Gulch, 81.45 333 ⇓P P 23 47 29.1 +1.2
baz=82
J27A Elkhorn Farm, 81.46 338 ⇓P P 23 47 29.7 +2.0
baz=82,SNR=6.4
ISA Isabella 81.60 324 eP P 23 47 29.6 +1.0
ISA pmax pmax
comp=Z,10.0nm,1.0s
ISA Isabella 81.60 324 eP P 23 47 29.6 +1.0
comp=Z,10nm,1.0s
ISA Isabella 81.60 324 ⇑P P 23 47 30.3 +1.7
baz=82
L23A Garrett 81.64 335 ⇓P P 23 47 30.0 +1.2
baz=82
I29A Vivian Onida 81.66 340 ⇓P P 23 47 29.6 +1.0
baz=82
BRSD Miller 81.68 341 eP P 23 47 28.4 -0.2
comp=Z,21nm,0.6s
RWWY Rawlins 81.80 334 PFAKE 23 47 40.0 +10
RWWY LR LR
comp=Z,1μm,19.6s
L22A Ellis Ranch, M 81.83 335 ⇓P P 23 47 31.6 +1.8
baz=82
K24A Anderson Ranch 81.88 336 ⇓P P 23 47 31.8 +1.8
baz=82
I28A Midland 81.89 339 ⇑P P 23 47 30.9 +1.1
baz=82,SNR=5.6
VES Vestal, Richgr 82.04 323 ⇑P P 23 47 32.4 +1.6
baz=82
MPU Maple Canyon 82.07 330 eP P 23 47 31.5 +0.4
comp=Z,12nm,1.0s
GRAC Grapevine Rang 82.13 325 ⇓P P 23 47 33.0 +1.7
baz=82
K23A Bowen Ranch, D 82.19 336 ⇑P P 23 47 33.2 +1.6
baz=82
H29A Onida 82.19 340 ⇑P P 23 47 32.6 +1.2
baz=82,SNR=5.3
NLU North Lily Min 82.20 330 eP P 23 47 30.7 -1.1
comp=Z,27nm,1.8s
I27A Quinn 82.22 339 ⇓P P 23 47 33.1 +1.5
baz=82
DAU Daniels Canyon 82.25 331 eP P 23 47 31.1 -1.1
DAU Daniels Canyon 82.25 331 eP P 23 47 31.1 -1.1
G30A Faulkton 82.36 341 ⇑P P 23 47 33.3 +1.0
baz=83,SNR=6.9
J24A Dixon Ranch, L 82.38 337 ⇓P P 23 47 33.6 +1.1
baz=83,SNR=5.6
R11A Troy Canyon, C 82.39 327 eP P 23 47 33.5 +0.7
comp=Z,9.2nm,0.9s
R11A Troy Canyon, C 82.39 327 ⇓P P 23 47 34.3 +1.5
baz=83,SNR=14
K22A Casper 82.40 335 eP P 23 47 33.0 +0.3
comp=Z,15nm,0.9s
K22A Casper 82.40 335 ⇓P P 23 47 34.4 +1.6
baz=83
H28A Mission Ridge 82.47 340 ⇑P P 23 47 34.0 +1.2
baz=83
LBTB Lobatse 82.47 115 eP P 23 47 33.7 0.0
LBTB pmax pmax
comp=Z,50nm,0.9s
LBTB MLR MLR
comp=Z,2μm,18.0s
LBTB Lobatse 82.47 115 eP P 23 47 33.7 0.0
comp=Z,50nm,0.9s
LBTB LR LR
comp=Z,2μm,18.0s
JLU Jordanelle 82.49 331 eP P 23 47 33.2 -0.1
comp=Z,5.7nm,0.8s
TIN Tinemaha 82.58 325 ⇓P P 23 47 35.1 +1.4
baz=83
G29A Hoven 82.63 341 ⇑P P 23 47 34.6 +0.9
baz=83
BFZ Birch Farm 82.64 225 PFAKE 23 47 50.0 +16
BFZ LR LR
comp=Z,1μm,19.0s
K21A Alcova 82.64 335 ⇑P P 23 47 34.6 +0.6
baz=83,SNR=7.1
I25A Rochford 82.69 338 ⇓P P 23 47 35.3 +1.0
baz=83,SNR=6.2
DUG Dugway 82.71 330 eP P 23 47 34.9 +0.5
DUG pmax pmax
comp=Z,11nm,1.0s
DUG Dugway 82.71 330 eP P 23 47 34.9 +0.5
comp=Z,11nm,1.0s

DUG Dugway 82.71 330 ⇑P P 23 47 35.4 +1.0
baz=83,SNR=9.8
H27A Howes 82.74 339 ⇑P P 23 47 35.1 +0.8
baz=83,SNR=6.5
G28A Parade 82.80 340 ⇓P P 23 47 35.7 +1.1
baz=83
I24A Kuemmerle Ranc 82.84 337 ⇓P P 23 47 35.8 +0.8
baz=83
RSSD Black Hills 82.88 337 eP P 23 47 35.0 -0.3
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD Black Hills 82.88 337 eP P 23 47 35.0 -0.3
comp=Z,9.8nm,0.9s
TCUT Toone Canyon 82.91 331 eP P 23 47 35.8 +0.2
comp=Z,23nm,1.3s
TPH Tonopah 82.92 326 eP P 23 47 36.1 +0.5
TPH pmax pmax
comp=Z,14nm,1.0s
TPH Tonopah 82.92 326 eP P 23 47 36.1 +0.5
comp=Z,14nm,1.0s
F30A Leola 82.98 341 ⇑P P 23 47 36.5 +1.0
baz=83
J22A Midwest 83.06 336 ⇓P P 23 47 37.3 +1.1
baz=83
KHZ Kahutara 83.11 223 PFAKE 23 47 50.0 +13
KHZ LR LR
comp=Z,1µm,20.0s
H25A Fruitdale 83.19 338 ⇑P P 23 47 38.3 +1.6
baz=84
F29A Eureka 83.20 341 ⇑P P 23 47 36.8 +0.2
baz=84
EYMN Ely 83.28 347 eP P 23 47 36.1 -0.9
comp=Z,20nm,1.0s
MLAC Mammoth Lakes 83.33 324 ⇓P P 23 47 39.8 +2.0
baz=84
G27A Dupree 83.37 339 ⇓P P 23 47 38.8 +1.3
baz=84
HWUT Hardware Ranch 83.39 331 eP P 23 47 38.2 +0.3
comp=Z,16nm,0.9s
BGU Big Grassy Mou 83.41 330 eP P 23 47 38.0 0.0
comp=Z,8.9nm,1.5s
F28A McLaughlin 83.48 340 ⇓P P 23 47 39.2 +1.1
baz=84
I22A 9 Mile Ranch, 83.48 336 ⇑P P 23 47 38.8 +0.5
baz=84
SPUT South Promonto 83.49 331 eP P 23 47 37.7 -0.7
comp=Z,14nm,1.0s
G26A Maurine 83.49 339 ⇓P P 23 47 38.9 +0.7
baz=84
E30A Jud 83.57 342 ⇑P P 23 47 39.4 +0.9
baz=84
J20A Shoshoni 83.57 335 ⇑P P 23 47 39.4 +0.7
baz=84,SNR=9.0
BW06 Boulder Array 83.60 333 eP P 23 47 38.2 -0.9
BW06 eP P 23 47 38.5 -0.5
PD31 Pinedale Array 83.60 333 eP P 23 47 38.5 -0.6
PDAR Pinedale Array 83.60 333 P P 23 47 39.1 0.0
comp=Z,2.6nm,0.9s,baz=159,slow=5.4,SNR=13
PDAR pP pP 23 47 47.6 -1.0
comp=Z,3.5nm,0.8s,baz=161,slow=4.7,SNR=8.9
H24A Dirks Ranch, A 83.61 337 ⇑P P 23 47 39.5 +0.6
baz=84
G25A Newell 83.65 338 ⇑P P 23 47 40.5 +1.5
baz=84
I21A Big Trails, Te 83.69 335 ⇓P P 23 47 40.0 +0.6
baz=84
NV01 Mina Array Sit 83.72 325 eP P 23 47 40.1 +0.4
NVAR Mina Array Bea 83.72 325 P P 23 47 40.4 +0.6
comp=Z,3.6nm,0.8s,baz=158,slow=5.9,SNR=16
DRLN Deer Lake 83.81 10 eP P 23 47 40.3 +0.7
comp=Z,805nm,2.9s
E29A Napoleon 83.82 341 ⇑P P 23 47 41.1 +1.3
baz=84
J19A Crowheart 83.84 334 ⇓P P 23 47 41.3 +1.1
baz=84,SNR=8.5
F27A Lemmon 83.85 340 ⇓P P 23 47 40.8 +0.8
baz=84
F26A Lodgepole 84.02 339 ⇑P P 23 47 42.4 +1.5
baz=84
HVU Hansel Valley 84.02 331 eP P 23 47 40.7 -0.4
HVU pmax pmax
comp=Z,13nm,0.9s
HVU Hansel Valley 84.02 331 eP P 23 47 40.6 -0.4
comp=Z,12nm,0.9s
H22A Clearmont 84.06 336 ⇑P P 23 47 41.8 +0.6
baz=84
D30A Buchanan 84.09 342 ⇑P P 23 47 43.1 +1.9
baz=84,SNR=7.9
I20A Worland 84.11 335 ⇑P P 23 47 42.5 +1.1
baz=84
E28A Huff 84.11 341 ⇑P P 23 47 42.2 +0.9
baz=84
ELK Elko 84.20 329 eP P 23 47 42.3 +0.2
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 84.20 329 eP P 23 47 42.3 +0.2
comp=Z,6.9nm,0.9s
D29A Pettibone, Tap 84.27 342 ⇓P P 23 47 43.4 +1.4
baz=85,SNR=7.2
G23A Biddle 84.28 337 ⇑P P 23 47 44.3 +2.0
baz=85
TOA0 Torodi Ar. Sit 84.30 70 eP P 23 47 43.4 +0.5
TOA0 eP P 23 47 43.4 +0.5
TOA0 epP pP 23 47 52.1 -0.4
TORD Torodi Ar. Bea 84.30 70 P P 23 47 43.4 +0.5
comp=Z,38nm,0.8s,baz=241,slow=4.8,SNR=139
TORD pP pP 23 47 52.1 -0.4
comp=Z,47nm,0.8s,baz=244,slow=4.7,SNR=23
WAKR Walker 84.32 325 eP P 23 47 43.8 +1.0
F25A Bowman 84.32 339 ⇓P P 23 47 43.7 +1.2
baz=85
I19A Meeteetse 84.49 334 ⇑P P 23 47 44.7 +1.2
baz=85
AGMN Agassiz Nation 84.51 344 eP P 23 47 43.0 -0.2
comp=Z,13nm,0.8s
AGMN Agassiz Nation 84.51 344 ⇑P P 23 47 44.2 +1.0
baz=85,SNR=5.0
H20A Greybull 84.53 335 ⇑P P 23 47 44.2 +0.7
baz=85,SNR=8.0
F24A Ekalaka 84.55 338 ⇑P P 23 47 44.3 +0.7
baz=85
C30A Mose, Pekin 84.58 343 ⇑P P 23 47 44.5 +0.9
baz=85,SNR=9.9
G22A Birney 84.59 337 ⇑P P 23 47 45.3 +1.5
baz=85
REDW Red Top Meadow 84.60 333 eP P 23 47 43.9 -0.2
comp=Z,9.5nm,1.0s
D28A Regan 84.65 341 ⇑P P 23 47 45.0 +1.0
baz=85,SNR=6.4
LOHW Long Hollow 84.72 333 eP P 23 47 44.7 0.0
comp=Z,5.4nm,0.8s
F23A Volborg 84.75 337 ⇑P P 23 47 46.3 +1.7
baz=85
TPAW Teton Pass 84.75 333 eP P 23 47 44.7 -0.2
comp=Z,13nm,1.0s
E25A Miller Ranch, 84.83 339 ⇓P P 23 47 45.7 +0.8
baz=85
D27A Center 84.83 340 ⇓P P 23 47 46.8 +1.9
baz=85
FXWY Fox Creek 84.90 333 eP P 23 47 44.4 -1.3
comp=Z,41nm,1.9s
G21A Lodge Grass 84.90 336 ⇓P P 23 47 46.2 +0.7
baz=85
I17A Pilgrim Ck. 84.97 333 ⇓P P 23 47 46.9 +1.0
baz=85,SNR=6.6
D26A Manning 85.02 340 ⇓P P 23 47 47.7 +1.8
baz=85,SNR=5.2
H19A Powell 85.04 335 ⇓P P 23 47 47.2 +1.0
baz=85
F22A Rosebud 85.07 337 ⇓P P 23 47 47.3 +1.1
baz=85
C28A Hausauer Farms 85.08 341 ⇓P P 23 47 47.2 +1.0
baz=85
IMW Indian Meadow 85.09 333 eP P 23 47 45.9 -0.8
comp=Z,13nm,1.3s
E24A Baker 85.15 338 ⇓P P 23 47 48.3 +1.7
baz=86
FLWY Flagg Ranch 85.16 333 eP P 23 47 47.0 +0.1
comp=Z,17nm,0.8s
B30A Myrvik Farm, E 85.23 343 ⇑P P 23 47 48.5 +1.7
baz=86,SNR=22
G20A Bridger 85.24 335 ⇓P P 23 47 47.9 +0.7
baz=86,SNR=7.7
H18A Shoshone NF, C 85.29 334 ⇑P P 23 47 48.8 +1.3
baz=86,SNR=15
H17A Grant Village 85.38 333 eP P 23 47 48.2 +0.2
comp=Z,9.4nm,1.3s
H17A Grant Village 85.38 333 ⇓P P 23 47 49.6 +1.6
baz=86
C27A Sayler Ranch, 85.38 341 ⇓P P 23 47 48.7 +1.0
baz=86
D25A Fairfield 85.39 339 ⇓P P 23 47 49.0 +1.2
baz=86
F21A Absaloka Mine, 85.40 336 ⇑P P 23 47 48.8 +0.9
baz=86
LKWY Lake 85.46 334 eP P 23 47 48.4 -0.1
LKWY pmax pmax
comp=Z,6.0nm,1.0s
LKWY Lake 85.46 334 eP P 23 47 48.4 -0.1
comp=Z,6.3nm,1.0s
B29A Wagenman Farm, 85.50 342 ⇓P P 23 47 49.0 +0.8
baz=86,SNR=5.7
YFT Old Faithful 85.52 333 eP P 23 47 47.5 -1.3
comp=Z,9.3nm,0.8s
RLMT Red Lodge 85.53 335 eP P 23 47 47.5 -1.2
comp=Z,9.9nm,0.8s
C26A Wahner Farm, P 85.65 340 ⇓P P 23 47 50.3 +1.4
baz=86
D24A Glendive 85.66 339 ⇓P P 23 47 50.8 +1.7
baz=86
A30A Hoffart Farm, 85.68 343 ⇑P P 23 47 49.6 +0.6
baz=86,SNR=5.6
B28A Dugan Ranch, T 85.75 342 ⇑P P 23 47 51.0 +1.6
baz=86,SNR=7.4
YMR Madison River 85.76 333 eP P 23 47 49.7 -0.2
comp=Z,25nm,0.9s
LAO LASA Array 85.87 337 eP P 23 47 49.6 -0.5
comp=Z,14nm,0.9s
A29A Manning Farm, 85.90 343 ⇓P P 23 47 52.2 +2.1
baz=86,SNR=7.2
B27A Peters Farms, 85.94 341 ⇑P P 23 47 51.3 +0.9
baz=86
D23A Lindsay 85.98 338 ⇓P P 23 47 51.5 +0.8
baz=86,SNR=9.8
E21A Keefer Ranch, 86.01 337 ⇑P P 23 47 52.0 +1.2
baz=86
F19A Roth Farm, Mol 86.05 335 ⇑P P 23 47 51.5 +0.4
baz=86
C24A Savage 86.06 339 ⇑P P 23 47 52.3 +1.2
baz=86,SNR=5.4
QLMT Earthquake Lak 86.07 333 eP P 23 47 52.3 +0.9
A28A Rude Farm, Bot 86.15 342 ⇓P P 23 47 52.0 +0.5
baz=86
HLID Hailey 86.17 331 eP P 23 47 51.3 -0.6
comp=Z,23nm,1.5s
HLID Hailey 86.17 331 ⇑P P 23 47 52.7 +0.8
baz=86,SNR=8.1
B26A Jensen Ranch, 86.19 340 ⇓P P 23 47 52.7 +1.0
baz=86
GCMT Greycliff 86.25 335 eP P 23 47 51.5 -0.7
D22A Cohagen 86.26 338 ⇓P P 23 47 53.0 +1.0
baz=87
E20A Meyer Farm, Mu 86.33 336 ⇑P P 23 47 53.2 +0.8
baz=87,SNR=12
B25A Knox Farm, Ray 86.35 340 ⇑P P 23 47 54.3 +1.8
baz=87
ULM Lac du Bonnet 86.36 345 eP P 23 47 51.6 -0.8
ULM pmax pmax
comp=Z,13nm,1.0s
ULM Lac du Bonnet 86.36 345 P P 23 47 51.8 -0.6
comp=Z,10nm,1.0s,baz=163,slow=4.1,SNR=11
ULM Lac du Bonnet 86.36 345 eP P 23 47 51.6 -0.8
comp=Z,13nm,1.0s
D21A La Casta Ranch 86.45 337 ⇓P P 23 47 53.9 +0.9
baz=87
E19A Rath Farm, Rou 86.52 336 ⇑P P 23 47 54.2 +0.8
baz=87,SNR=7.7
C23A Lambert 86.53 338 ⇑P P 23 47 54.6 +1.3
baz=87,SNR=8.9
A26A Wade Farm, Ken 86.61 341 ⇓P P 23 47 55.4 +1.8
baz=87
MCMT McKenzie Canyo 86.61 332 eP P 23 47 54.7 +0.6
MFID Camas Ranch 86.64 330 eP P 23 47 54.2 +0.2
comp=Z,33nm,1.8s
C22A Vida 86.70 338 ⇓P P 23 47 55.7 +1.5
baz=87
DGMT Dagmar 86.83 339 eP P 23 47 54.6 -0.2
comp=Z,42nm,0.9s
DGMT Dagmar 86.83 339 ⇓P P 23 47 55.7 +0.9
baz=87
BOZ Bozeman (W) 86.84 334 eP P 23 47 54.3 -0.8
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 86.84 334 eP P 23 47 54.3 -0.8
comp=Z,4.4nm,0.8s
D20A Manuel Ranch, 86.85 336 ⇓P P 23 47 56.3 +1.3
baz=87,SNR=9.6
A25A Svangstu Ranch 86.94 340 ⇑P P 23 47 56.7 +1.3
baz=87
DLMT Dillon 86.96 333 eP P 23 47 56.3 +0.6
comp=Z,18nm,1.4s
WVOR Wild Horse Val 87.06 328 eP P 23 47 56.5 +0.3
WVOR pmax pmax
comp=Z,10.0nm,1.1s
WVOR Wild Horse Val 87.06 328 eP P 23 47 56.5 +0.3
comp=Z,10nm,1.1s
B23A Brockton 87.06 339 ⇓P P 23 47 57.0 +1.1
baz=87
C21A Desert Coulee 87.15 337 ⇑P P 23 47 56.9 +0.5
baz=87,SNR=7.9
A24A Westby 87.18 340 ⇓P P 23 47 57.6 +1.1
baz=88
B22A Reddig Ranch S 87.22 338 ⇑P P 23 47 57.7 +0.9
baz=88
LRM Limekiln Ridge 87.29 333 eP P 23 47 56.9 -0.5
MOD Modoc 87.40 326 eP P 23 47 57.8 -0.1
comp=Z,7.7nm,0.8s
WDC Whiskeytown Da 87.44 324 eP P 23 47 57.3 -0.6
WDC pmax pmax
comp=Z,20nm,1.1s
WDC Whiskeytown Da 87.44 324 eP P 23 47 57.3 -0.6
comp=Z,20nm,1.1s
B21A Ellsworth Farm 87.66 338 ⇓P P 23 47 59.7 +0.9
baz=88
C19A Slack Wire Ran 87.71 336 ⇑P P 23 48 00.6 +1.5
baz=88
A22A Carney Farms, 87.81 339 ⇓P P 23 48 00.1 +0.6
baz=88,SNR=7.5
HRY Holter Researc 87.81 334 eP P 23 47 59.6 -0.1
N02D Trinity Center 87.82 324 ⇓P P 23 48 00.7 +0.9
baz=88
B20A Solberg Farm, 87.99 337 ⇑P P 23 48 01.8 +1.4
baz=88,SNR=5.7
M04C Macdoel 88.02 325 ⇑P P 23 48 02.2 +1.3
baz=88
A21A Bergtoll Ranch 88.12 338 ⇑P P 23 48 02.7 +1.7
baz=88
EGMT Eagleton 88.20 336 ⇓P P 23 48 02.6 +1.1
baz=88
B19A Brinkman Farms 88.30 337 ⇑P P 23 48 03.7 +1.8
baz=89
K05A Summer Lake 88.31 326 eP P 23 48 03.5 +1.2
comp=Z,37nm,1.4s
A20A Cobblestone Ra 88.34 337 ⇓P P 23 48 03.3 +1.2
baz=89,SNR=5.4
YBH Yreka Blue Hor 88.40 325 eP P 23 48 02.3 -0.3
YBH pmax pmax
comp=Z,83nm,2.2s
YBH Yreka Blue Hor 88.40 325 eP P 23 48 02.2 -0.3
comp=Z,82nm,2.2s
BMO Blue Mountains 88.42 330 eP P 23 48 02.5 -0.1
comp=Z,9.3nm,1.3s
SCHQ Schefferville 88.48 3 P P 23 48 02.3 -0.2
comp=Z,7.9nm,0.9s,baz=166,slow=5.3,SNR=8.4
SCHQ Schefferville 88.48 3 eP P 23 48 01.2 -1.3
comp=Z,284nm,3.0s
CHMT Chamberlain Mo 88.51 333 eP P 23 48 02.2 -0.9
A19A Klindworth Far 88.65 337 ⇓P P 23 48 04.6 +1.1
baz=89
MSO Missoula 88.70 333 ⇑P P 23 48 05.3 +1.4
baz=89
I07A Izee 88.75 328 eP P 23 48 04.5 +0.2
comp=Z,68nm,2.1s
SLMT Seeley Lake 88.88 333 eP P 23 48 04.7 -0.1
J05D Fort Rock, OR 88.91 327 ⇓P P 23 48 06.7 +1.7
baz=89
SWMT Swartz Lake 89.29 333 eP P 23 48 05.8 -0.8
F10A Beach Ranch, E 89.30 330 eP P 23 48 07.3 +0.6
comp=Z,9.1nm,1.0s
G08A Pilot Rock 89.47 329 eP P 23 48 06.9 -0.6
comp=Z,12nm,1.4s
YBMT Yellow Bay 89.59 333 eP P 23 48 07.7 -0.4
JTMT Jette 89.59 333 eP P 23 48 07.3 -0.8
I05D Terrebonne, OR 89.77 327 ⇑P P 23 48 10.5 +1.6
baz=90
BLMT Blacktail Moun 89.84 333 eP P 23 48 08.2 -1.2
BSMT Bassoo Peak 89.87 333 eP P 23 48 09.2 -0.2
LSZ Lusaka 89.97 108 eP P 23 48 10.3 -0.4
LSZ pmax pmax
comp=Z,14nm,1.1s
LSZ MLR MLR
comp=Z,900nm,20.0s
LSZ Lusaka 89.97 108 eP P 23 48 10.3 -0.4
comp=Z,14nm,1.1s
LSZ LR LR
comp=Z,900nm,20.0s
AFI Afiamalu 90.10 253 PFAKE 23 48 20.0 +8.7
AFI LR LR
comp=Z,2µm,20.0s
WALA Waterton Lakes 90.55 334 eP P 23 48 12.4 -0.1
comp=Z,143nm,2.7s
EDM Edmonton 93.83 337 eP P 23 48 25.7 -1.7
EDM Edmonton 93.83 337 eP P 23 48 25.7 -1.7
ESDC Sonseca Array 96.60 46 P P 23 48 40.5 0.0
comp=Z,0.9nm,0.8s,baz=248,slow=3.3,SNR=6.5
ESDC pP pP 23 48 48.8 -1.4
comp=Z,0.6nm,0.6s,baz=268,slow=28,SNR=2.0
YKA Yellowknife Ar 101.91 341 P Pdif 23 49 03.1 -0.4
comp=Z,0.2nm,0.4s,baz=145,slow=4.6,SNR=11
ABPO Ambohimpanom 101.94 123 PFAKE 23 49 20.0 +15
ABPO LR LR
comp=Z,900nm,18.0s
ORIF Oris-en-Rattie 105.58 46 eSKSac SKSac 00 00 00.0 +1.7
LOR Lormes 105.66 43 eSKSac SKSac 00 00 00.0 +1.6
STKA Stephens Creek 107.24 210 PFAKE 23 53 50.0
STKA LR LR
comp=Z,200nm,20.1s
HAU Haudompre 107.48 44 eSKSac SKSac 00 00 00.0 -6.3
DOT Dot Lake 112.40 333 PFAKE 23 54 00.0
DOT LR LR
comp=Z,1µm,20.3s
PKSM Moragy 114.07 50 ⇓PKIKP PKPdf 23 53 49.8 +0.4
PKSM Moragy 114.07 50 ⇓iP PKPdf 23 53 49.8 +0.4
HNR Honiara 114.41 239 PFAKE 23 54 00.0 +8.9
HNR LR LR
comp=Z,400nm,18.0s
KSP Ksiaz 114.54 44 ePKP PKPdf 23 53 51.1 +0.9
KONO Kongsberg 114.70 34 PFAKE 23 54 00.0 +10
KONO LR LR
comp=Z,500nm,19.0s
VYHS Vyhne 115.12 47 ePKIKP PKPdf 23 53 51.8 +0.4
VYHS e 23 54 00.6
VYHS Vyhne 115.12 47 ePKP PKPdf 23 53 51.8 +0.4
VYHS e 23 54 00.5
BZS Buzias 115.74 51 ⇑PKIKP PKPdf 23 53 51.8 -0.9
BZS Buzias 115.74 51 ⇑iP PKPdf 23 53 51.8 -0.9
GZR Gura Zlata 116.41 52 ⇑PKIKP PKPdf 23 53 58.9 +4.8
GZR Gura Zlata 116.41 52 ⇑iP PKPdf 23 53 58.9 +4.8
KDZ Kurdzhali 116.75 56 ⇑PKIKP PKPdf 23 53 53.3 -1.5
KDZ Kurdzhali 116.75 56 ⇑iP PKPdf 23 53 53.3 -1.5
CRVS Cervenica-Dubn 116.88 48 ePKP PKPdf 23 54 05.8 +11
DRGR 116.89 50 ⇑PKIKP PKPdf 23 53 55.2 +0.2
DRGR 116.89 50 ⇑iP PKPdf 23 53 55.2 +0.2
STHS Stebnicka Huta 116.94 47 ePKP PKPdf 23 54 04.2 +9.3
IM04 Indian Mountai 117.16 333 ePKPdf PKPdf 23 53 54.9 0.0
TRPA Tarpa 117.27 49 ⇓iP PKPdf 23 53 56.1 +0.6
KOLS Kolonicke sedl 117.39 48 ePKIKP PKPdf 23 53 56.2 +0.4
KOLS Kolonicke sedl 117.39 48 ePKP PKPdf 23 53 56.2 +0.4
MSEY Mahe Island 117.51 117 PFAKE 23 54 10.0 +13
MSEY LR LR
comp=Z,500nm,18.4s
AS01 Alice Springs 117.59 207 ePKPdf PKPdf 23 53 55.5 -1.6
ARR Arges 117.61 52 ⇑iP PKPdf 23 53 56.6 +0.2
JMB Yambol 117.86 56 ⇓PKIKP PKPdf 23 53 55.5 -1.4
JMB Yambol 117.86 56 ⇓iP PKPdf 23 53 55.5 -1.4
KWP Kalwaria Pacla 117.90 47 ePKIKP PKPdf 23 53 56.9 +0.2
KWP Kalwaria Pacla 117.90 47 ePKP PKPdf 23 53 57.1 +0.4
KWP Kalwaria Pacla 117.90 47 ⇓iP PKPdf 23 53 57.4 +0.7
KWP Kalwaria Pacla 117.90 47 ⇑iP PKPdf 23 54 00.4 +3.7
KWP Kalwaria Pacla 117.90 47 ePKPdf PKPdf 23 53 56.9 +0.2
DOPR Dopca 118.32 52 ⇓iP PKPdf 23 53 57.6 -0.1
MLR Muntele Rosu 118.52 52 ⇑PKIKP PKPdf 23 53 55.5 -2.7
MLR Muntele Rosu 118.52 52 ⇑iP PKPdf 23 53 55.5 -2.7
BUR04 Bucovina Ar. S 118.77 50 ePKPdf PKPdf 23 53 59.0 +0.3
BURAR Bucovina Array 118.78 50 ⇓PKIKP PKPdf 23 53 58.9 +0.3
BURAR Bucovina Array 118.78 50 ⇓iP PKPdf 23 53 58.9 +0.3
PLOR Plostina 119.11 52 ⇓PKIKP PKPdf 23 53 58.8 -0.4
PLOR Plostina 119.11 52 ⇓iP PKPdf 23 53 58.8 -0.4
VRI Vrincioaia 119.16 52 ⇑PKIKP PKPdf 23 53 58.8 -0.5
VRI Vrincioaia 119.16 52 ⇑iP PKPdf 23 53 58.8 -0.5
TESR Tescani 119.33 52 ⇑iP PKPdf 23 53 58.8 -0.8
SUW Suwalki 119.61 43 ePKIKP PKPdf 23 53 59.7 -0.1
SUW Suwalki 119.61 43 ePKP PKPdf 23 53 59.5 -0.3
SUW Suwalki 119.61 43 ePKPdf PKPdf 23 53 59.7 -0.1
TIRR Tirgusor 119.81 54 ePKIKP PKPdf 23 54 00.4 -0.1
TIRR Tirgusor 119.81 54 ePKPdf PKPdf 23 54 00.4 -0.1
CFR Carcaliu 119.86 53 ⇓PKIKP PKPdf 23 54 00.5 -0.1
CFR Carcaliu 119.86 53 ⇓iP PKPdf 23 54 00.5 -0.1
TLCR 120.32 54 ⇓PKIKP PKPdf 23 54 01.7 +0.2
TLCR 120.32 54 ⇓iP PKPdf 23 54 01.7 +0.2
WRA Warramunga Arr 120.79 209 PKP PKPdf 23 54 02.1 -1.3
comp=Z,1.5nm,0.5s,baz=157,slow=1.8,SNR=8.8
BR231 Keskin MP Arra 121.31 61 ePKPdf PKPdf 23 54 04.7 +0.9
ANTO Ankara 121.33 61 ePKIKP PKPdf 23 54 04.4 +0.6
ANTO Ankara 121.33 61 ⇑iP PKPdf 23 54 04.7 +1.0
ANTO Ankara 121.33 61 ePKPdf PKPdf 23 54 04.4 +0.6
BR101 Keskin Array S 121.90 61 ePKPdf PKPdf 23 54 05.3 +0.4
BR101 epPKPdf pPKPdf 23 54 13.8 -1.1
BRTR Keskin Array B 121.90 61 PKP PKPdf 23 54 05.3 +0.4
comp=Z,5.7nm,0.7s,baz=191,slow=3.1,SNR=40
BRTR pPKP pPKPdf 23 54 13.8 -1.1
comp=Z,4.6nm,0.8s,baz=176,slow=3.3,SNR=11
AK11 Malin Array Si 122.18 47 ePKPdf PKPdf 23 54 03.6 -1.3
AK11 ePKPdf PKiKP 23 54 03.8 -1.2
KIEV Kiev 122.21 47 ePKIKP PKPdf 23 54 03.4 -1.5
KIEV Kiev 122.21 47 ePKPdf PKPdf 23 54 03.4 -1.5
AKBB Malin Array Si 122.22 47 ePKIKP PKPdf 23 54 04.3 -0.6
AKBB e 23 54 13.3
AKBB Malin Array Si 122.22 47 ePKPdf PKPdf 23 54 04.3 -0.6
AKBB epPKPdf pPKPdf 23 54 13.3 -1.6
AKASG Malin Array Be 122.22 47 PKP PKPdf 23 54 04.3 -0.6
comp=Z,5.2nm,0.7s,baz=263,slow=3.0,SNR=26
AKASG pPKP pPKPdf 23 54 13.3 -1.5
comp=Z,6.2nm,0.7s,baz=266,slow=2.5,SNR=8.3
FIA0 FINESS Array S 122.98 35 ePKIKP PKPdf 23 54 06.1 0.0
FIA0 FINESS Array S 122.98 35 ePKPdf PKPdf 23 54 06.1 0.0
FINES FINESS Array B 122.98 35 PKP PKPdf 23 54 06.1 0.0
comp=Z,2.0nm,0.8s,baz=265,slow=5.0,SNR=6.7
GAMB Gambell 123.93 328 PFAKE 23 54 20.0 +12
GAMB LR LR
comp=Z,900nm,20.4s
ARA0 ARCESS Array S 123.97 25 ePKPdf PKPdf 23 54 07.8 -0.1
ARCES ARCESS Array B 123.97 25 PKP PKPdf 23 54 07.8 -0.1
comp=Z,1.9nm,0.5s,baz=247,slow=3.7,SNR=12
MALT Malatya 124.98 64 ⇓PKIKP PKPdf 23 54 11.6 +0.8
MALT Malatya 124.98 64 ⇓iP PKPdf 23 54 11.6 +0.8
RAYN Ar Rayn 125.12 83 ePKPdf PKPdf 23 54 12.2 +0.7
OBN Obninsk 127.45 43 iPKIKP PKPdf 23 54 14.6 -0.2
OBN i 23 54 23.6
OBN i*PP PP 23 56 14.8 -1.1
OBN pmax pmax
comp=Z,11nm,1.3s
KLMR Klimovskoe 129.40 36 ePKIKP PKPdf 23 54 17.7 -0.7
KLMR pmax pmax
comp=Z,50nm,1.4s
KIV Kislovodsk 129.55 58 ePKIKP PKPdf 23 54 20.0 +0.7
KIV Kislovodsk 129.55 58 ePKPdf PKPdf 23 54 20.0 +0.7
KIV Kislovodsk 129.55 58 ⇓iPKIKP PKiKP 23 54 20.5 +0.4
SNR=6.5
KBZ Khabaz 129.65 58 PKP PKPdf 23 54 19.6 +0.2
comp=Z,5.2nm,1.0s,baz=220,slow=5.1,SNR=8.2
GOF Gofitskoye 130.02 57 ePKIKP PKPdf 23 54 20.4 +0.3
ZEI Tsey 130.17 60 iPKIKP PKPdf 23 54 20.1 -0.6
ZEI pmax pmax
comp=Z,12nm,1.4s
GNI Garni 130.19 63 ePKIKP PKPdf 23 54 20.5 -0.3
GNI Garni 130.19 63 ePKPdf PKPdf 23 54 20.5 -0.3
GNI Garni 130.19 63 ⇓iPKIKP PKPdf 23 54 20.8 0.0
SNR=5.9
BILL Bilibino 132.68 334 ePKIKP PKPdf 23 54 23.4 -1.0
BILL pmax pmax
comp=Z,3.0nm,1.1s
FAKI Fak Fak 136.73 217 PFAKE 23 54 50.0 +16
FAKI LR LR
comp=Z,400nm,20.0s
SOKR Solikamsk 138.08 36 ePKIKP PKPdf 23 54 36.2 +1.5
SOKR pmax pmax
comp=Z,10.0nm,1.1s
KAPI Kappang 139.69 199 PFAKE 23 54 50.0 +11

KAPI LR LR
comp=Z,400nm,19.0s
ARU Arti 139.75 41 PKIKP PKPdf 23 54 38.3 +0.4
ARU Arti 139.75 41 ePKPdf PKPdf 23 54 38.6 +0.7
GEYT Alibeck 139.94 70 PKP PKPdf 23 54 38.5 -0.4
comp=Z,5.7nm,0.7s,baz=266,slow=4.2,SNR=12
ABKAR Akbulak array 141.72 52 ePKPpre PKPpre 23 54 36.2
PALK Pallekele 143.56 130 ePKIKP PKPbc 23 54 43.5 +0.1
PALK MLR MLR
comp=Z,700nm,18.0s
PALK Pallekele 143.56 130 ePKPpre PKPbc 23 54 43.5 +0.1
PALK LR LR
comp=Z,700nm,18.0s
PALK Pallekele 143.56 130 ⇑iPKPdf PKPbc 23 54 43.2 -0.2
SNR=6.1
BKNI Bangkinang 146.02 168 ePKPdf PKPdf 23 54 49.7 -0.6
GSI Gunungsitoli 146.20 161 ePKPdf PKPdf 23 54 50.7 0.0
GSI LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 147.22 43 ePKP2 PKPdf 23 54 52.0 +0.9
BRVK Borovoye 147.22 43 ePKPdf PKPdf 23 54 52.0 +0.9
KSM Kuching 147.67 185 ePKPbc PKPbc 23 54 55.1 -0.7
VOSK Vostochnaya 147.74 43 ePKIKP PKPdf 23 54 52.4 +0.4
VOSK Vostochnaya 147.74 43 ePKPdf PKPdf 23 54 52.4 +0.4
MYKOM Kota Tinggi 147.85 173 ePKPbc PKPbc 23 54 55.5 -0.8
KBL Kabul 148.08 78 ePKIKP PKPdf 23 54 53.5 +0.1
KBL Kabul 148.08 78 ePKPdf PKPdf 23 54 53.5 +0.1
SBUM Sibu 148.45 188 ePKPbc PKPbc 23 54 56.3 -1.6
SBUM LR LR
comp=Z,700nm,22.0s
YAK Yakutsk 148.58 340 ePKP2 PKPbc 23 54 55.6 -1.1
YAK pmax pmax
comp=Z,39nm,0.9s
YAK Yakutsk 148.58 340 ePKPbc PKPbc 23 54 56.3 -0.4
YAK LR LR
comp=Z,800nm,21.0s
DAV Davao City (W) 148.65 216 PFAKE 23 55 10.0 +8.0
DAV LR LR
comp=Z,600nm,19.0s
HYB Hyderabad 149.10 115 i PKP PKPbc 23 54 58.5 -1.0
KKAR Karatay Array 149.61 61 ePKPdf PKPdf 23 54 54.9 -0.5
KKAR ePKPbc PKPbc 23 55 00.5 +0.5
MYLDM Lahad Datu 149.75 202 ePKPdf PKPdf 23 54 54.7 -1.7
LHMI Lhok Sumawe 149.75 158 ePKPdf PKPdf 23 54 54.6 -1.8
LHMI ePKPbc PKPbc 23 55 01.2 +0.1
LHMI LR LR
comp=Z,900nm,21.0s
IPM Ipoh 150.07 166 ePKPbc PKPbc 23 55 01.7 -0.3
IPM LR LR
comp=Z,600nm,19.0s
YSS Yuzh-Sakhalins 150.62 307 ePKIKP PKPbc 23 55 00.0 -2.2
YSS e 23 55 12.0
YSS Yuzh-Sakhalins 150.62 307 ePKPdf PKPdf 23 54 55.4 -1.4
KULM Kulim 150.78 165 ePKPbc PKPbc 23 55 03.1 -0.5
ASAJ Asahikawa 151.28 301 ePKPdf PKPdf 23 54 57.6 -0.3
ASAJ LR LR
comp=Z,800nm,19.8s
AML Almayashu 152.04 63 P PKPbc 23 55 07.1 +0.9
SNR=16
EKS2 Erkin-Say 152.05 62 P PKPbc 23 55 06.8 +0.9
SNR=14
EKS2 Erkin-Say 152.05 62 ePKIKP PKPdf 23 55 00.2 +0.9
EKS2 e 23 55 07.0
EKS2 Erkin-Say 152.05 62 ePKPdf PKPdf 23 55 00.2 +0.9
EKS2 ePKPbc PKiKP 23 55 07.0 +0.8
USP Ospenovka 152.49 60 P PKPbc 23 55 07.4 +0.7
SNR=11
AAK Ala-Archa 152.57 62 P PKPbc 23 55 08.3 +1.2
SNR=18
AAK Ala-Archa 152.57 62 ePKIKP PKPdf 23 55 01.0 +0.9
AAK e 23 55 01.1
AAK e 23 55 08.4
AAK e 23 55 08.5
AAK Ala-Archa 152.57 62 ePKPdf PKPdf 23 55 01.0 +0.9
AAK ePKPdf PKPdf 23 55 01.1 +0.9
AAK ePKPbc PKiKP 23 55 08.4 +1.1
AAK ePKPbc PKiKP 23 55 08.5 +1.1
FRU Bishkek 152.64 61 ePKIKP PKPbc 23 55 08.5 +1.4
UCH Uchtor 152.64 62 P PKPbc 23 55 08.9 +1.3
SNR=14
CHMS Chumysh 152.71 61 P PKPbc 23 55 08.0 +0.7
SNR=8.7
KURK Kurchatov 152.89 43 ePKIKP PKPdf 23 55 00.1 0.0
KURK e 23 55 07.7
KURK Kurchatov 152.89 43 ePKPdf PKPdf 23 55 00.1 0.0
KURK ePKPbc PKiKP 23 55 07.7 +0.2
KBK Karagaybulak 152.90 61 P PKPbc 23 55 09.2 +1.3
SNR=6.2
NVS Novosibirsk 152.92 32 ePKIKP PKPdf 23 54 59.7 -0.3
NVS pmax pmax
comp=Z,50nm,0.9s
KZA Kyzart 153.20 63 P PKPbc 23 55 10.3 +1.5
SNR=7.6
TKM2 Tokmak 2 153.34 61 P PKPbc 23 55 09.6 +0.7
SNR=7.7
TKM2 Tokmak 2 153.34 61 ePKIKP PKPdf 23 55 01.4 +0.1
TKM2 e 23 55 09.5
TKM2 Tokmak 2 153.34 61 ePKPdf PKPdf 23 55 01.4 +0.1
TKM2 ePKPbc PKiKP 23 55 09.5 +0.5
KSH Kashi 153.96 68 ePKPbc PKPdf 23 55 02.5 +0.3
KSH epPKP pPKPdf 23 55 13.0 +0.9
KSH esPKP 23 55 17.3
KSH eSKS SKSdf 00 02 03.5 -3.4
KSH eSKKS SKKSac 00 05 44.3 -2.1
KSH eSS SS 00 18 32.3 -2.9
KSH AMB AMB
comp=Z,290nm,7.4s
ZAA1 Zalesovo Array 154.20 32 ePKPdf PKPdf 23 55 01.8 0.0
ZAA1 ePKPbc PKiKP 23 55 10.6 +0.5
ZAA1 ePKPab PKPab 23 55 24.3 +0.3
ZAA0 Zalesovo Array 154.21 32 ePKPdf PKPdf 23 55 01.5 -0.3
ZAA0 ePKPbc PKiKP 23 55 10.6 +0.5
ZALV Zalesovo Beam 154.21 32 PKP PKPdf 23 55 01.8 0.0
comp=Z,3.3nm,0.7s,baz=280,slow=2.6,SNR=11
ZALV PKPbc PKiKP 23 55 10.6 +0.5
comp=Z,14nm,0.6s,baz=305,slow=3.2,SNR=26
ZALV PKPab PKPab 23 55 24.3 +0.3
comp=Z,20nm,0.8s,baz=323,slow=3.9,SNR=8.3
MAJO Matsushiro 155.06 285 PFAKE 23 55 10.0 +6.3
MAJO LR LR
comp=Z,700nm,21.0s
BOD Bodaibo 155.70 352 ePKIKP PKPdf 23 55 11.6 +7.8
BOD pmax pmax
comp=Z,20nm,1.0s
MK32 Makanchi Array 156.79 49 ePKPdf PKPdf 23 55 05.8 +0.1
MK32 ePKPab PKPab 23 55 35.9 +0.5
MKAR Makanchi Array 156.79 49 PKP PKPdf 23 55 05.8 +0.1
comp=Z,2.2nm,0.8s,baz=259,slow=1.9,SNR=13
MKAR PKPab PKPab 23 55 35.9 +0.5
comp=Z,11nm,0.7s,baz=303,slow=3.6,SNR=18
MK01 Makanchi Array 156.81 49 ePKPdf PKPdf 23 55 06.2 +0.5
MK01 ePKPab PKPab 23 55 36.2 +0.8
KOLN Koldanda 158.37 100 eP PKPdf 23 55 08.2 -0.2
comp=Z,64nm,1.4s
DANN Dangsing 158.72 99 eP PKPdf 23 55 09.2 +0.2
comp=Z,59nm,0.9s
GKN Gorkha 159.31 100 eP PKPdf 23 55 09.1 -0.4
comp=Z,44nm,1.3s
DMN Daman 159.54 102 eP PKPdf 23 55 09.6 -0.3
KKN Kakani 159.75 101 eP PKPdf 23 55 09.8 -0.3
PKIN Phulchoki 159.76 102 eP PKPdf 23 55 09.8 -0.4
PKI Pulchoki 159.77 102 eP PKPdf 23 55 09.9 -0.3
comp=Z,19nm,1.1s
MDJ Mudanjiang 160.07 309 PKP PKPdf 23 55 12.3 +2.7
GUN Gumba 160.29 102 eP PKPdf 23 55 10.7 -0.1
JIRN Jiri 160.44 103 eP PKPdf 23 55 10.8 -0.2
comp=Z,21nm,1.0s
RAMN Ramite 160.47 105 eP PKPdf 23 55 10.9 0.0
comp=Z,34nm,1.0s
ODAN Odare 161.07 106 eP PKPdf 23 55 11.7 +0.1
comp=Z,25nm,0.9s
WMQ Urumqi 161.51 52 PKP PKPdf 23 55 11.0 -0.3
WMQ LR LR
comp=Z,880nm,22.8s
WMQ LR LR
comp=Z,630nm,23.4s
WMQ LR LR
comp=Z,630nm,24.6s
TAPN Taplejung 161.54 105 eP PKPdf 23 55 12.2 +0.1
comp=Z,28nm,1.3s
TLY Talaya 161.97 8 ePKIKP PKPdf 23 55 10.1 -1.3
TLY Talaya 161.97 8 ePKPdf PKPdf 23 55 10.1 -1.3
TLY ePKPab PKPab 23 55 58.4 +0.8
CM01 Chiang Mai Arr 162.69 151 ePKPdf PKPdf 23 55 13.4 +0.2
CM01 ePKPab PKPab 23 56 00.4 -1.1
CM31 Chiang Mai Arr 162.71 151 ePKPdf PKPdf 23 55 13.5 +0.3
CM31 ePKPab PKPab 23 56 02.3 +0.6
CMAR Chiang Mai Arr 162.71 151 PKP PKPdf 23 55 13.5 +0.3
comp=Z,2.0nm,0.4s,baz=239,slow=2.7,SNR=18
CMAR PKPab PKPab 23 56 02.3 +0.6
comp=Z,0.9nm,0.3s,baz=220,slow=5.5,SNR=3.0
CHTO Chiang Mai 163.03 150 ePKIKP PKPdf 23 55 12.2 -1.3
CHTO e 23 56 01.9
CHTO Chiang Mai 163.03 150 ePKPdf PKPdf 23 55 12.2 -1.3
CHTO ePKPab PKPab 23 56 01.9 -1.1
ZAK Zakamensk 163.19 10 ePKIKP PKPdf 23 55 10.2 -2.6
ZAK e 23 56 03.6
ZAK pmax pmax
comp=Z,2.0nm,1.6s
KS01 Wonju Array Si 163.29 288 ePKPdf PKPdf 23 55 12.6 -0.6
SHL Shillong 163.89 117 eP PKPdf 23 55 16.0 +1.7
LSA Lhasa 165.24 102 ePKIKP PKPdf 23 55 15.8 0.0
LSA e 23 56 13.3
LSA Lhasa 165.24 102 ePKPdf PKPdf 23 55 15.8 0.0
LSA ePKPab PKPab 23 56 13.3 -0.1
SONA1 Songino Array 166.02 4 ePKPdf PKPdf 23 55 14.8 -0.6
SONA1 ePKPab PKPab 23 56 15.9 +0.3
ULN Ulaanbaatar 166.03 2 ePKIKP PKPdf 23 55 14.2 -1.2
ULN e 23 56 16.2
ULN Ulaanbaatar 166.03 2 ePKPdf PKPdf 23 55 14.2 -1.2
ULN ePKPab PKPab 23 56 16.2 +0.5
SONA0 Songino Array 166.03 4 ePKPdf PKPdf 23 55 15.0 -0.5
SONA0 ePKPab PKPab 23 56 16.6 +0.9
SONM Songino Array 166.03 4 PKP PKPdf 23 55 15.0 -0.5
comp=Z,0.8nm,0.7s,baz=321,slow=1.8,SNR=7.5
SONM PKPab PKPab 23 56 16.6 +0.9
comp=Z,4.3nm,0.8s,baz=326,slow=3.6,SNR=15
NJ2 Nanjing 170.53 262 ePKP PKPdf 23 55 19.0 +0.3
GTA Gaotai 171.55 47 ePKP PKPdf 23 55 19.8 +0.6
GTA pPKP pPKPdf 23 55 30.8 +1.6
GTA sPKP 23 55 34.3
GTA PKPab PKPab 23 56 41.8 +1.3
GTA PP PP 00 00 34.3 +2.9
GTA SKS SKSdf 00 02 18.5 -2.0
GTA SKKS SKKSac 00 07 16.0 -0.1
GTA SS SS 00 21 34.5 -1.9
GTA AMB AMB
comp=Z,250nm,5.5s
GTA LR LR
comp=Z,180nm,18.1s
GTA LR LR
comp=Z,160nm,19.0s
GTA LR LR
comp=Z,370nm,19.8s
HHC Hu-ho-hao-te 172.43 338 ePKP PKPdf 23 55 16.0 -3.6
HHC pPKP pPKPdf 23 55 25.0 -4.6
HHC sPKP 23 55 31.5
HHC PP PP 00 00 39.0 +4.0
HHC AMB AMB
comp=Z,330nm,7.5s
HHC LR LR
comp=Z,510nm,16.2s
GYA Guiyang 172.53 172 PKP PKPdf 23 55 20.5 +0.4
GYA pPKP pPKPdf 23 55 31.3 +1.2
GYA PKPab PKPab 23 56 47.0 +2.1
GYA PKS PKSdf 23 58 50.0 -2.6
GYA PP PP 00 00 38.3 +3.0
GYA SKKS 00 07 20.3
GYA SS SS 00 21 44.0 -0.2
GYA AMB AMB
comp=Z,140nm,8.2s
GYA LR LR
comp=Z,140nm,21.6s
GYA LR LR
comp=Z,120nm,21.9s
GYA LR LR
comp=Z,150nm,24.2s
CD2 Chengdu 175.47 130 PKP PKPdf 23 55 20.0 -0.9
CD2 pPKP pPKPdf 23 55 31.3 +0.4
CD2 sPKP 23 55 35.0
CD2 PKS PKSdf 23 58 50.8 -2.3
CD2 PP PP 00 00 53.3 +2.7
CD2 SKS SKSdf 00 02 17.5 -4.4
CD2 SKKS SKKSac 00 07 34.0 -1.0
CD2 SS SS 00 22 12.0 -2.4
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 176.09 55 ePKP PKPdf 23 55 21.0 0.0
LZH pPKP pPKPdf 23 55 33.0 +2.0
LZH sPKP 23 55 38.8
LZH PP PP 00 00 57.0 +3.2
LZH SKKS 00 07 38.0
LZH eSS SS 00 22 18.0 -2.8
LZH AMB AMB
comp=Z,240nm,5.5s
LZH LR LR
comp=Z,490nm,16.9s
LZH LR LR
comp=Z,740nm,18.0s
LZH LR LR
comp=Z,760nm,18.1s

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*SJA **27** 23:46:02.1±0.3, 35.87S×70.22W, h257km±11km, ML4.4*
*ISCJB **27** 23:46:05.0±0.5, 35.50S±0.05×70.4W±0.1, h10km, mb4.2/13, Error ellipse: s-maj=14.0km s-min=6.6km az=3.8*
*IDC **27** 23:46:05.1±0.7, 35.41S×70.30W, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.2/28, mbtmp4.1/11, ML4.1/2, Error ellipse: s-maj=28.6km s-min=15.7km az=87.0*
*NEIC **27** 23:46:09.9±0.4, 35.47S×70.29W, h35km, mb4.5/8, Error ellipse: s-maj=13.2km s-min=7.6km az=84.0*
ISC 27 23:46:06.2±0.6, 35.41S±0.05×70.4W±0.1, h10km, n34, σ1.30/36, mb4.2/13, Chile-Argentina border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AAGR Agrelo 2.64 29 i P Pg 23 46 55.8 -1.0
ARCO CERRO ARCO 2.82 25 i P Pg 23 46 57.6 -2.6
ARCO i S Sg 23 47 39.0 +2.1
ARCO AML AML 23 47 56.2
comp=Z,528nm,0.7s
AUSP Uspallata 3.28 15 i P Pb 23 47 03.9 -0.7
RTLS Leoncito 3.71 14 i P Pb 23 47 08.9 -3.0
RTLS i P Pb 23 47 08.9 -3.0
RTCV Cerro Valdivia 3.85 24 i P Pb 23 47 09.4 -4.8
SJA San Juan 4.15 22 i P Pb 23 47 13.4 -6.0
CFAA Coronel Fontan 4.19 26 Pn Pn 23 47 10.0 -0.2
comp=Z,0.2nm,0.3s,baz=193,slow=14,SNR=3.1
CFAA Coronel Fontan 4.19 26 i P Pn 23 47 13.4 +3.3
ACHE Chepes 5.24 37 i P Pn 23 47 25.6 +0.8
PLCA Paso Flores 5.32 182 Pn Pn 23 47 23.7 -2.0
comp=Z,1.1nm,0.3s,baz=27,slow=18,SNR=2.8
PLCA Pg Pg 23 47 42.8 -5.2
comp=Z,5.5nm,0.3s,baz=6.7,slow=17,SNR=7.1
PLCA Paso Flores 5.32 182 Pn Pn 23 47 23.7 -2.0
PLCA ePg Pg 23 47 46.4 -1.7
PLCA eSn Sn 23 48 28.6 +1.5
TRQA Tornquist 7.23 114 ePn Pn 23 47 52.5 +0.6
comp=Z,35nm,0.6s
LVC Limon Verde 12.81 6 ePn Pn 23 49 10.5 +1.8
LPAZ La Paz 19.14 7 P Pn 23 50 31.4 +0.4
comp=Z,0.3nm,0.3s,baz=175,slow=7.0,SNR=9.9
SIV San Ignacio 21.05 26 P P 23 50 50.4 0.0
comp=Z,2.7nm,0.6s,baz=219,slow=13,SNR=6.7
SNAA Sanae 49.76 157 P P 23 54 59.7 +1.2
comp=Z,1.8nm,0.9s,baz=288,slow=8.1,SNR=7.6
SNAA Sanae 49.76 157 eP P 23 54 57.6 -0.9
comp=Z,11nm,1.1s
QSPA South Pole Qui 54.83 180 P P 23 55 37.1 +0.8
comp=Z,6.1nm,1.0s,baz=314,slow=2.1,SNR=8.2
QSPA South Pole Qui 54.83 180 eP P 23 55 37.1 +0.8
comp=Z,8.6nm,1.1s
TXAR Lajitas Array 71.64 330 P P 23 57 29.0 +1.0
comp=Z,1.1nm,0.7s,baz=152,slow=8.4,SNR=11
DBIC Dimbokro 74.34 70 P P 23 57 44.4 +0.1
comp=Z,2.2nm,0.7s,baz=110,slow=5.0,SNR=4.1
DBIC Dimbokro 74.34 70 eP P 23 57 44.9 +0.6
comp=Z,2.2nm,0.6s
ANMO Albuquerque 77.68 330 eP P 23 58 03.4 +0.3
comp=Z,1.1nm,0.7s
BOSA Boshof 78.20 117 P P 23 58 06.5 +0.2
comp=Z,3.9nm,0.8s,baz=244,slow=3.4,SNR=10
BOSA Boshof 78.20 117 eP P 23 58 06.5 +0.2
comp=Z,2.8nm,0.6s
TORD Torodi Ar. Bea 83.41 69 P P 23 58 34.0 -0.1
comp=Z,1.1nm,0.8s,baz=297,slow=4.9,SNR=9.6
HWUT Hardware Ranch 85.45 330 eP P 23 58 44.2 +0.2
comp=Z,2.0nm,0.5s
PDAR Pinedale Array 85.64 332 P P 23 58 45.2 +0.2
comp=Z,1.2nm,0.7s,baz=165,slow=4.9,SNR=8.9
NVAR Mina Array Bea 85.83 324 P P 23 58 46.9 +0.9
comp=Z,0.6nm,0.8s,baz=152,slow=4.1,SNR=3.8
HVU Hansel Valley 86.09 330 eP P 23 58 46.9 -0.2
comp=Z,3.1nm,0.8s
HLID Hailey 88.24 330 eP P 23 58 58.6 +1.0
comp=Z,0.8nm,0.6s
WRA Warramunga Arr 120.17 207 PKP PKPdf 00 04 57.6 -0.3
comp=Z,0.7nm,0.9s,baz=163,slow=1.8,SNR=2.7
ZALV Zalesovo Beam 154.62 35 PKPbc PKPbc 00 06 07.0 +0.3
comp=Z,1.9nm,0.6s,baz=320,slow=3.6,SNR=7.7
MKAR Makanchi Array 156.58 53 PKP PKPdf 00 06 01.4 +0.3
comp=Z,0.5nm,0.9s,baz=277,slow=3.8,SNR=2.5
MKAR PKPab PKPab 00 06 30.4 +0.3
comp=Z,0.6nm,0.6s,baz=264,slow=3.5,SNR=8.0

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*IDC **27** 23:51:14.6±0.7, 36.69S×73.31W, h0km, mb3.9/12, mb1 4.1/14, mb1mx4.1/29, mbtmp4.0/14, ML4.3/2, Error ellipse: s-maj=25.0km s-min=14.8km az=80.0*
*ISCJB **27** 23:51:17.1±0.7, 36.65S±0.06×73.3W±0.1, h27km, mb4.0/11, Error ellipse: s-maj=16.6km s-min=8.2km az=165.0*
*NEIC **27** 23:51:19.8±0.6, 36.66S×73.42W, h35km, mb4.5/4, Error ellipse: s-maj=15.9km s-min=11.3km az=83.0*
ISC 27 23:51:18.7±0.7, 36.67S±0.07×73.3W±0.1, h27km, n24, σ0.88/29, mb4.1/11, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.59 153 Pn Pn 23 52 25.5 -0.9
6.3nm,0.3s,baz=331,slow=13,SNR=7.8
PLCA Pg Pb 23 52 37.4 -1.2
11nm,0.3s,baz=318,slow=10.0,SNR=6.3
PLCA Sn Sn 23 53 20.9 +2.1
8.0nm,0.3s,baz=315,slow=16,SNR=2.2
PLCA Paso Flores 4.59 153 ePn Pn 23 52 25.9 -0.5
PLCA Pg Pb 23 52 37.4 -1.2
PLCA Sn Sn 23 53 20.9 +2.1
CFAA Coronel Fontan 6.56 41 Pn Pn 23 52 53.1 -0.4
1.4nm,0.3s,baz=234,slow=7.3,SNR=8.2
TRQA Tornquist 9.12 102 ePn Pn 23 53 33.1 +4.6
LPAZ La Paz 20.81 14 P P 23 55 59.0 +0.3
1.1nm,0.7s,baz=266,slow=15,SNR=2.3
SIV San Ignacio 23.29 31 P P 23 56 23.8 -0.6
1.8nm,0.7s,baz=222,slow=12,SNR=2.8
BDFB Brasilia 30.71 54 P P 23 57 32.0 +0.3
2.8nm,1.0s,baz=207,slow=12,SNR=1.9
SNAA Sanae 49.52 157 P P 00 00 05.9 -0.7
1.8nm,0.8s,baz=284,slow=9.5,SNR=9.1
SNAA Sanae 49.52 157 eP P 00 00 05.6 -1.0
2.4nm,0.5s
QSPA South Pole Qui 53.57 180 P P 00 00 37.1 0.0
4.4nm,0.7s,baz=155,slow=9.1,SNR=16
QSPA South Pole Qui 53.57 180 eP P 00 00 37.0 -0.1
5.0nm,0.7s
TXAR Lajitas Array 71.59 332 P P 00 02 37.8 +0.2
0.4nm,0.6s,baz=150,slow=9.3,SNR=4.4
DBIC Dimbokro 77.00 71 P P 00 03 09.2 -0.1
6.6nm,0.8s,baz=218,slow=5.4,SNR=3.7
DBIC Dimbokro 77.00 71 eP P 00 03 09.6 +0.2
5.9nm,0.6s
BOSA Boshof 79.74 118 P P 00 03 25.4 +0.8
2.0nm,0.7s,baz=224,slow=5.1,SNR=5.4
BOSA Boshof 79.74 118 eP P 00 03 26.3 +1.7
1.7nm,0.6s
NVAR Mina Array Bea 85.50 326 P P 00 03 54.5 +0.2
0.1nm,0.3s,baz=137,slow=6.1,SNR=2.1
PDAR Pinedale Array 85.69 334 P P 00 03 55.3 +0.2
0.4nm,0.7s,baz=151,slow=4.1,SNR=3.6
TORD Torodi Ar. Bea 86.08 71 P P 00 03 56.6 -0.8
0.5nm,0.6s,baz=245,slow=3.0,SNR=3.8
ULM Lac du Bonnet 88.81 346 P P 00 04 09.7 +0.1
0.9nm,0.6s,baz=142,slow=12,SNR=2.1
ILAR Eielson Array 116.10 333 PKP PKPdf 00 09 58.1 -0.1
0.4nm,1.1s,baz=108,slow=2.3,SNR=2.5
AKASG Malin Array Be 124.73 49 PKP PKPdf 00 10 16.0 +0.7
0.1nm,0.2s,baz=262,slow=1.9,SNR=2.6
ZALV Zalesovo Beam 157.02 34 PKP PKPdf 00 11 10.8 -0.3
1.5nm,0.8s,baz=338,slow=3.1,SNR=2.3
ZALV PKPab PKPab 00 11 42.0 +0.5
0.4nm,0.4s,baz=305,slow=5.1,SNR=2.5
MKAR Makanchi Array 159.24 53 PKP PKPdf 00 11 13.8 -0.3
0.5nm,0.8s,baz=318,slow=1.9,SNR=2.7
MKAR PKPab PKPab 00 11 51.8 +0.4
0.3nm,0.6s,baz=278,slow=4.2,SNR=3.9

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*IDC **27** 23:55:47.0±1.0, 36.57S×72.58W, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.1/32, mbtmp4.1/9, ML4.0/2, MS4.5/1, Ms1 4.5/1, ms1mx3.7/24, Error ellipse: s-maj=32.6km s-min=21.2km az=70.0*
*ISCJB **27** 23:55:50.4±0.7, 36.61S±0.05×72.6W±0.1, h35km, mb4.1/9, MS4.6/1, Error ellipse: s-maj=15.0km s-min=7.4km az=0.2*
*NEIC **27** 23:55:52.2±0.6, 36.57S×72.47W, h35km, mb4.0/3, Error ellipse: s-maj=19.7km s-min=11.7km az=87.0*
ISC 27 23:55:52.0±0.8, 36.62S±0.07×72.6W±0.1, h35km, n16, σ1.33/17, mb4.0/9, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.42 159 Pn Pn 23 56 55.5 -1.2
5.2nm,0.3s,baz=308,slow=12,SNR=5.0
PLCA Sn Sn 23 57 47.7 +0.7
5.1nm,0.3s,baz=58,slow=19,SNR=3.6
CFAA Coronel Fontan 6.19 37 Pn Pn 23 57 19.8 -1.1
0.4nm,0.3s,baz=218,slow=12,SNR=3.4
CFAA Sn Sn 23 58 32.5 +2.1
0.4nm,0.3s,baz=54,slow=17,SNR=2.7
LPAZ La Paz 20.64 12 P P 00 00 27.4 -1.9
8.8nm,0.7s,baz=187,slow=7.2,SNR=16
LPAZ La Paz 20.64 12 eP P 00 00 27.1 -2.1
9.7nm,0.7s
SIV San Ignacio 22.97 30 P P 00 00 51.9 -1.6
14nm,1.0s,baz=224,slow=14,SNR=12
SAML Samuel 28.85 20 eP P 00 01 45.7 -1.5
2.2nm,0.7s
QSPA South Pole Qui 53.63 180 LR LR 00 29 05.6
comp=Z,450nm,18.5s,baz=254,slow=37
TXAR Lajitas Array 71.79 332 P P 00 07 12.0 +1.1
1.0nm,0.8s,baz=148,slow=7.1,SNR=6.2
ANMO Albuquerque 77.85 332 eP P 00 07 46.2 +0.2
1.1nm,0.8s
TSUM Tsumeb 78.97 106 P P 00 07 53.2 +0.5
3.2nm,1.2s,baz=243,slow=9.0,SNR=4.3
TORD Torodi Ar. Bea 85.56 70 P P 00 08 28.2 +1.3
0.3nm,0.5s,baz=222,slow=5.2,SNR=7.2
NVAR Mina Array Bea 85.76 326 P P 00 08 28.5 +0.9
1.1nm,0.8s,baz=177,slow=8.1,SNR=2.4
PDAR Pinedale Array 85.88 334 P P 00 08 27.5 -0.6
0.4nm,0.6s,baz=215,slow=6.2,SNR=2.8
ULM Lac du Bonnet 88.90 345 P P 00 08 42.6 +0.5
3.0nm,0.8s,baz=176,slow=3.0,SNR=6.0
BRTR Keskin Array B 123.50 63 PKP PKPdf 00 14 45.5 -0.1
0.4nm,0.8s,baz=260,slow=2.6,SNR=2.9
ZALV Zalesovo Beam 156.67 35 PKPab PKPab 00 16 11.8 -0.4
0.4nm,0.4s,baz=322,slow=4.4,SNR=3.0

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*IDC **27** 23:59:27.5±1.1, 34.27S×69.61W, h0km, mb4.0/4, mb1 4.4/4, mb1mx4.0/30, mbtmp4.0/4, MS4.9/7, Ms1 4.9/7, ms1mx4.3/25, Error ellipse: s-maj=55.9km s-min=33.8km az=71.0*
ISC 27 23:59:29.1±1.1, 34.3S±0.2×69.6W±0.4, h10km, n12, σ1.66/7, mb4.0/4, MS4.9/7, Chile-Argentina border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
USHA Ushuaia 20.57 178 LR LR 00 13 17.3
comp=Z,4μm,18.7s,baz=326,slow=40
RPN Rapa Nui 34.75 271 LR LR 00 16 19.4
comp=Z,2μm,20.6s,baz=119,slow=29
QSPA South Pole Qui 55.97 180 P P 00 09 07.3 -0.1
1.9nm,0.9s,baz=319,slow=5.7,SNR=3.2
TXAR Lajitas Array 70.99 329 P P 00 10 47.4 +0.3
1.7nm,0.5s,baz=156,slow=8.7,SNR=20
PPT Papeete 72.22 261 LR LR 00 33 57.7
comp=Z,1μm,18.5s,baz=95,slow=29
MAW Mawson 72.33 163 LR LR 00 43 06.0
comp=Z,963nm,20.0s,baz=232,slow=36
BOSA Boshof 78.13 116 LR LR 00 45 27.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,335nm,18.1s,baz=216,slow=35						
TORD	Torodi Ar. Bea	82.40	69	LR	LR	00 49 53.2	
	comp=Z,300nm,18.2s,baz=235,slow=37						
PDAR	Pinedale Array	84.95	332	P	P	00 12 04.7	+0.2
	0.7nm,0.8s,baz=141,slow=9.2,SNR=4.1						
PDAR				LR	LR	00 47 47.1	
	comp=Z,780nm,18.2s,baz=154,slow=34						
NVAR	Mina Array Bea	85.29	324	P	P	00 12 06.2	-0.1
	0.7nm,0.7s,baz=148,slow=5.4,SNR=5.5						
ZALV	Zalesovo Beam	153.33	35	PKPbc	PKPbc	00 19 26.9	0.0
	0.4nm,0.4s,baz=292,slow=3.1,SNR=3.7						
ZALV				PKPab	PKPab	00 19 36.2	-2.6
	1.0nm,0.7s,baz=324,slow=3.5,SNR=3.8						
MKAR	Makanchi Array	155.38	51	PKPab	PKPab	00 19 49.9	+2.0
	0.4nm,0.6s,baz=291,slow=5.6,SNR=3.3						

IDC **28** *00:00:43.1±0.5, 36.67S×73.49W, h0km, mb5.0/22, mb1 5.0/26, mb1mx4.9/35, mbtmp4.9/26, ML4.4/4, MS4.8/7, Ms1 4.8/7, ms1mx4.5/18, Error ellipse: s-maj=16.6km s-min=10.6km az=86.0*

ISCJB **28** *00:00:46.5±0.2, 36.55S±0.04×73.20W±0.05, h27km, mb5.3/162, MS5.2/81, Error ellipse: s-maj=7.2km s-min=3.8km az=140.7*

BJI **28** *00:00:47.3, 35.84S×73.61W, h35km, mB5.3/20, Ms6.6/12, Ms7 5.3/11*

MOS **28** *00:00:47.4±1.0, 36.47S×73.35W, h33km, mb5.5/40, MS5.1/11, Error ellipse: s-maj=16.5km s-min=7.6km az=101.0*

NEIC **28** *00:00:49.8±0.7, 36.62S×73.37W, h48km±5km, mb5.3/131, MS5.3/75, Error ellipse: s-maj=5.7km s-min=3.0km az=65.0*

ISC 28 00:00:47.4±0.3, 36.63S±0.05×73.37W±0.07, h27km, n845, σ1.06/852, mb5.3/162, MS5.2/81, 201C-185D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.66	153	ePn	Pn	00 01 57.3	+1.2
PLCA	Paso Flores	4.66	153	Pn	Pn	00 01 56.0	0.0
	4.0nm,0.3s,baz=320,slow=14,SNR=3.3						
PLCA				Lg	Lg	00 03 10.3	
	24nm,0.3s,baz=51,slow=17,SNR=5.4						
PLCA	Paso Flores	4.66	153	ePn	Pn	00 01 57.2	+1.2
CFAA	Coronel Fontan	6.57	42	Pn	Pn	00 02 23.1	+0.8
	2.2nm,0.3s,baz=207,slow=6.9,SNR=5.2						
CFAA				Lg	Lg	00 04 12.3	
	2.1nm,0.3s,baz=237,slow=17,SNR=3.1						
CFAA				LR	LR	00 04 59.8	
	comp=Z,1μm,21.6s,baz=226,slow=38						
TRQA	Tornquist	9.18	102	ePn	Pn	00 03 00.9	+2.8
CPUP	Villa Florida	17.08	58	eP	Pn	00 04 44.7	+0.4
CPUP	Villa Florida	17.08	58	P	Pn	00 04 45.0	+0.7
	1.2nm,0.3s,baz=212,slow=10,SNR=12						
CPUP				Lg	Lg	00 09 47.0	
	0.4nm,0.3s,baz=162,slow=20,SNR=1.7						
CPUP				LR	LR	00 12 31.5	
	comp=Z,6μm,18.5s,baz=220,slow=41						
CPUP	Villa Florida	17.08	58	ePn	Pn	00 04 44.7	+0.4
USHA	Ushuaia	18.52	171	P	P	00 05 01.5	-0.1
	0.3nm,0.3s,baz=314,slow=9.8,SNR=6.4						
EFI	East Falkland	18.57	149	eP	P	00 05 01.4	-0.6
EFI				pmax	pmax		
	comp=Z,145nm,1.3s						
EFI	East Falkland	18.57	149	eP	P	00 05 01.4	-0.6
	comp=Z,145nm,1.3s						
LPAZ	La Paz	20.78	14	eP	P	00 05 27.2	+0.1
LPAZ				pmax	pmax		
	comp=Z,80nm,0.9s						
LPAZ				MLR	MLR		
	comp=Z,2μm,21.0s						
LPAZ	La Paz	20.78	14	P	P	00 05 27.3	+0.1
	comp=Z,37nm,1.1s,baz=181,slow=9.2,SNR=21						
LPAZ	La Paz	20.78	14	eP	P	00 05 27.2	+0.1
	comp=Z,80nm,0.9s						
LPAZ				LR	LR		
	comp=Z,2μm,21.0s						
SIV	San Ignacio	23.28	31	P	P	00 05 53.4	+0.3
	comp=Z,55nm,1.0s,baz=226,slow=10,SNR=45						
SIV				S	S	00 10 08.8	+5.0
	comp=Z,0.8nm,0.5s,baz=211,slow=18,SNR=2.3						
SIV				LR	LR	00 16 48.5	
	comp=Z,6μm,19.4s,baz=226,slow=41						
NNA	Nana	24.73	352	eP	P	00 06 06.7	0.0
NNA				pmax	pmax		
	comp=Z,49nm,1.1s						
NNA	Nana	24.73	352	P	P	00 06 06.8	0.0
	comp=Z,5.9nm,0.4s,baz=151,slow=9.1,SNR=4.9						
NNA				LR	LR	00 13 40.3	
	comp=Z,1μm,20.0s,baz=173,slow=31						
NNA	Nana	24.73	352	eP	P	00 06 06.7	0.0
	comp=Z,49nm,1.1s						
SAML	Samuel	29.06	21	eP	P	00 06 45.3	-0.2
	comp=Z,40nm,1.3s						
SAML				LR	LR		
	comp=Z,1μm,21.9s						
ATAH	Atahualpa	29.71	350	P	P	00 06 51.8	0.0
	comp=Z,4.4nm,0.8s,baz=164,slow=6.3,SNR=4.5						
ATAH				LR	LR	00 16 23.5	
	comp=Z,834nm,21.1s,baz=171,slow=32						
BDFB	Brasilia	30.73	54	eP	P	00 07 00.1	-0.4
BDFB	Brasilia	30.73	54	P	P	00 07 00.5	0.0
	comp=Z,22nm,0.9s,baz=225,slow=5.8,SNR=15						
BDFB				LR	LR	00 20 32.6	
	comp=Z,5μm,18.4s,baz=222,slow=39						
BDFB	Brasilia	30.73	54	eP	P	00 07 00.1	-0.4
HOPE	Hope Point	30.85	137	eP	P	00 07 01.7	+0.6
	comp=Z,123nm,1.1s						
HOPE				LR	LR		
	comp=Z,3μm,19.0s						
OTAV	Otavalo	36.98	352	eP	P	00 07 56.6	+1.5
	comp=Z,44nm,1.4s						
ROSC	El Rosal	41.27	359	P	P	00 08 31.8	+0.9
	comp=Z,15nm,0.8s,baz=176,slow=3.0,SNR=12						
ROSC	El Rosal	41.27	359	eP	P	00 08 31.5	+0.6
SDV	Santo Domingo	45.34	4	eP	P	00 09 02.8	-0.7
	comp=Z,41nm,0.9s						
SDV				LR	LR		
	comp=Z,2μm,20.1s						
BCIP	Isla Barro Col	45.95	351	PFAKE		00 09 20.0	+12
BCIP				LR	LR		
	comp=Z,400nm,20.0s						
RCBR	Riachuelo	45.96	57	P	P	00 09 09.1	+0.8
	comp=Z,48nm,1.2s,baz=205,slow=8.8,SNR=8.4						
RCBR	Riachuelo	45.96	57	eP	P	00 09 09.1	+0.8
RCBR				eP	P	00 09 09.6	+1.3
RCBR				LR	LR		
	comp=Z,5μm,21.0s						
PCRV	Puerto La Cruz	47.27	12	P	P	00 09 18.6	+0.1
	comp=Z,35nm,1.0s,baz=327,slow=4.4,SNR=3.9						
VNA3	Neumayer Olymp	47.36	157	P	P	00 09 19.2	+0.6
VNA1	Neumayer--Stat	47.71	156	P	P	00 09 22.8	+1.6
JTS	JuntasAbangare	47.92	345	eP	P	00 09 22.0	-1.5
JTS				pmax	pmax		
	comp=Z,30nm,1.3s						
JTS	JuntasAbangare	47.92	345	P	P	00 09 23.9	+0.4
	comp=Z,3.9nm,0.7s,baz=297,slow=18,SNR=2.0						
JTS	JuntasAbangare	47.92	345	eP	P	00 09 22.0	-1.5
	comp=Z,30nm,1.3s						
VNA2	Neumayer--Watz	48.04	156	P	P	00 09 24.4	+0.5
SNAA	Sanae	49.59	157	P	P	00 09 36.7	+0.9
SNAA	Sanae	49.59	157	eP	P	00 09 32.4	-3.4
SNAA	Sanae	49.59	157	eP	P	00 09 36.2	+0.4
SNAA				pmax	pmax		
	comp=Z,105nm,1.1s						
SNAA				MLR	MLR		
	comp=Z,1μm,20.0s						
SNAA	Sanae	49.59	157	P	P	00 09 36.3	+0.5
	comp=Z,28nm,1.1s,baz=282,slow=6.5,SNR=43						
SNAA	Sanae	49.59	157	eP	P	00 09 36.1	+0.4
	comp=Z,105nm,1.1s						
SNAA				LR	LR		
	comp=Z,1μm,20.0s						
GRGR	Grenville	49.74	15	eP	P	00 09 37.9	+0.5
	comp=Z,358nm,1.0s						
QSPA	South Pole Qui	53.62	180	P	P	00 10 06.6	+0.5
	comp=Z,68nm,1.0s,baz=137,slow=3.5,SNR=42						
QSPA	South Pole Qui	53.62	180	eP	P	00 10 06.6	+0.5
	comp=Z,77nm,1.0s						
QSPA				eP	P	00 10 06.7	+0.5
RKT	Rikitea	54.26	266	eS	S	00 17 49.7	+2.5
	comp=Z,607nm,26.2s						
RKT				eLR	LR	00 26 07.2	
	comp=Z,2μm,30.5s						
RKT	Rikitea	54.26	266	eT	T	01 08 12.5	
	comp=Z,1.9nm,0.2s						
NVL	N'lazarevskaya	54.36	156	eP	P	00 10 12.5	+1.3
NVL				pmax	pmax		
	comp=Z,68nm,1.0s						
CRPR	Cabo Rojo, PR	54.66	7	eP	P	00 10 13.0	-0.9
	comp=Z,86nm,1.3s						
MTDJ	Mount Denham	54.70	355	PFAKE		00 10 30.0	+16
MTDJ				LR	LR		
	comp=Z,600nm,19.0s						
OBIP	Obispado Ponce	54.74	8	eP	P	00 10 13.9	-0.7
	comp=Z,81nm,1.0s						
CELP	Cerrillos	54.78	8	eP	P	00 10 14.6	-0.2
CPD	Cerro la Pandu	54.82	9	eP	P	00 10 14.1	-1.0
CPD				pmax	pmax		
	comp=Z,50nm,1.4s						
CPD	Cerro la Pandu	54.82	9	eP	P	00 10 14.1	-1.0
	comp=Z,50nm,1.4s						
LSP	Las Mesas	54.83	7	eP	P	00 10 14.4	-0.8
HUMP	Col San Antoni	54.93	9	eP	P	00 10 14.9	-1.0
	comp=Z,43nm,1.3s						
LRS	Lares	54.97	8	eP	P	00 10 15.4	-0.8
CBYP	Canovanas	55.06	9	eP	P	00 10 16.0	-0.9
	comp=Z,51nm,1.0s						
GTBY	Guantanamo Bay	56.27	358	PFAKE		00 10 40.0	+15
GTBY				LR	LR		
	comp=Z,600nm,20.0s						
ASCN	Ascension	60.54	77	eP	P	00 10 56.9	+1.3
	comp=Z,150nm,1.1s						
SHEL	Horse Pasture	62.81	90	eP	P	00 11 10.9	-0.1
SHEL	Horse Pasture	62.81	90	eP	P	00 11 10.9	-0.1
	comp=Z,613nm,2.1s						
SYO	Syowa Base	63.83	158	⇓eP	P	00 11 15.2	-1.6
TBI	Tubuai	65.68	258	eT	T	01 22 29.5	
	comp=Z,6.5nm,0.3s						
MEH	Mehetia	67.46	264	eT	T	01 24 41.7	
	comp=Z,50nm,0.2s						
034A	Hebbronville	67.69	336	⇓P	P	00 11 44.2	+2.1
	baz=68						
934A	Benavides	68.13	336	⇑P	P	00 11 46.9	+2.0
	baz=68						
933A	Laredo	68.39	335	⇓P	P	00 11 48.5	+1.9
	baz=69						
TVO	Taravao	68.45	263	eT	T	01 25 56.5	
	comp=Z,1.4nm,0.2s						
835A	Beeville	68.55	337	⇑P	P	00 11 49.7	+2.2
	baz=69						
834A	Tilden	68.63	336	⇓P	P	00 11 50.0	+2.0
	baz=69						
TIAR	Tiarei	68.65	264	eT	T	01 26 11.3	
	comp=Z,7.2nm,0.3s						
PAE	Paea	68.78	263	eT	T	01 26 21.1	
	comp=Z,0.9nm,0.3s						
PPT2	Papeete2	68.82	263	eS	S	00 20 55.2	+3.1
	comp=Z,680nm,24.5s						
PPT2	Papeete2	68.82	263	eLR	LR	00 32 45.1	
	comp=Z,2μm,24.5s						
PPT2	Papeete2	68.82	263	eT	T	01 26 23.0	
	comp=Z,2.7nm,0.3s						
735A	Kenedy	69.07	337	⇑P	P	00 11 52.6	+1.8
	baz=69						
833A	Chaparral WMA,	69.09	336	⇑P	P	00 11 52.2	+1.3
	baz=69,SNR=6.3						
832A	Faith Ranch, C	69.25	335	⇑P	P	00 11 52.9	+1.0
	baz=70,SNR=7.9						
636A	Smothers Creek	69.42	338	⇑P	P	00 11 54.6	+1.7
	baz=70						
HKT	Hockley	69.50	339	eP	P	00 11 52.9	-0.4
HKT				pmax	pmax		
	comp=Z,25nm,1.4s						
HKT	Hockley	69.50	339	eP	P	00 11 52.9	-0.4
	comp=Z,25nm,1.4s						
SACV	Santiago Islan	69.53	52	PFAKE		00 12 10.0	+16
SACV				LR	LR		
	comp=Z,1μm,21.3s						
635A	Leesville	69.55	337	⇓P	P	00 11 55.1	+1.4
	baz=70						
732A	Laxson Ranch,	69.65	335	⇑P	P	00 11 55.4	+1.1
	baz=70,SNR=10						
537A	Green Hill Far	69.76	339	⇓P	P	00 11 57.0	+2.0
	baz=70						
536A	Bastrop	69.98	338	⇓P	P	00 11 57.9	+1.5
	baz=70						
633A	Saathoff Ranch	70.06	336	⇓P	P	00 11 58.1	+1.2
	baz=70						
535A	Dale	70.09	338	⇓P	P	00 11 58.5	+1.5
	baz=70						
438A	Sam Houston St	70.16	340	⇑P	P	00 11 59.2	+1.8
	baz=70						
632A	Uvalde	70.31	336	⇑P	P	00 11 59.8	+1.4
	baz=71						
GOGA	Godfrey	70.31	351	eP	P	00 11 57.4	-0.9
GOGA				pmax	pmax		
	comp=Z,26nm,1.0s						
GOGA	Godfrey	70.31	351	eP	P	00 11 57.4	-0.9
	comp=Z,26nm,1.0s						
VBMS	Vicksburg	70.34	345	eP	P	00 11 59.1	+0.6
	comp=Z,272nm,0.3s						
340A	Bronson	70.36	341	⇓P	P	00 11 60.0	+1.3
	baz=71						
534A	Blanco	70.37	337	⇑P	P	00 11 59.9	+1.1
	baz=71						
339A	Huntington	70.46	341	⇓P	P	00 12 00.1	+0.9
	baz=71						
LRAL	Lakeview Retre	70.46	348	eP	P	00 11 58.6	-0.6
	comp=Z,77nm,1.8s						
631A	Perdido Creek	70.49	335	⇓P	P	00 12 01.9	+2.5
	baz=71						
533A	Kerrville	70.58	337	⇑P	P	00 12 01.2	+1.1
	baz=71,SNR=7.0						
338A	Crockett	70.68	340	⇓P	P	00 12 02.1	+1.4
	baz=71						
435B	Jarrell	70.80	338	⇑P	P	00 12 02.5	+1.1
	baz=71						
337A	Centerville	70.80	340	⇑P	P	00 12 03.4	+2.1
	baz=71						
NATX	Nacogdoches	70.89	341	eP	P	00 12 02.2	+0.3
	comp=Z,44nm,0.9s						
532A	Rocksprings	70.92	336	⇑P	P	00 12 03.5	+1.4
	baz=71,SNR=15						
434A	Burnet	71.03	337	⇑P	P	00 12 03.9	+1.1
	baz=71,SNR=12						
239A	Gary	71.09	341	⇑P	P	00 12 04.2	+1.2
	baz=71						
336A	Riesel	71.14	339	⇑P	P	00 12 04.5	+1.0
	baz=71,SNR=5.7						
531A	Rocksprings	71.17	335	⇓P	P	00 12 05.0	+1.4
	baz=71,SNR=9.7						
JCT	Junction City	71.21	336	eP	P	00 12 04.1	+0.2
JCT				pmax	pmax		
	comp=Z,30nm,1.0s						
JCT	Junction City	71.21	336	eP	P	00 12 04.1	+0.2
	comp=Z,30nm,1.0s						
JCT	Junction City	71.21	336	⇑P	P	00 12 05.0	+1.1
	baz=72,SNR=6.4						
335A	Moody	71.22	338	⇓P	P	00 12 04.5	+0.6
	baz=72						
433A	Art	71.23	337	⇑P	P	00 12 04.3	+0.2
	baz=72,SNR=12						
238A	Jacksonville	71.24	341	⇓P	P	00 12 05.6	+1.6
	baz=72						
530A	J-C Ranch, Com	71.42	335	⇑P	P	00 12 06.5	+1.3
	baz=72,SNR=13						
237A	Washetta, Mont	71.43	340	⇓P	P	00 12 06.7	+1.6
	baz=72						
334A	Lometa	71.51	338	⇓P	P	00 12 06.0	+0.4
	baz=72,SNR=6.3						
LTX	Lajitas	71.52	332	eP	P	00 12 05.6	-0.3
LTX	Lajitas	71.52	332	eP	P	00 12 05.6	-0.3
LTX				ePKiKP	PKiKP	00 18 12.2	+0.2
TXAR	Lajitas Array	71.52	332	P	P	00 12 05.6	-0.3
	comp=Z,3.5nm,0.8s,baz=151,slow=8.3,SNR=16						
TX31	Lajitas Ar. Si	71.52	332	eP	P	00 12 06.0	+0.2
432A	Menard	71.57	336	⇑P	P	00 12 06.3	+0.2
	baz=72						
CNNC	Cliffs of the	71.62	356	eP	P	00 12 05.4	-0.8
	comp=Z,26nm,0.6s						
431A	Sonora	71.66	335	⇓P	P	00 12 07.6	+0.9
	baz=72						
529A	Stev Forest Ra	71.71	334	⇓P	P	00 12 07.7	+0.7
	baz=72,SNR=12						
333A	Richland Sprin	71.73	337	⇑P	P	00 12 06.9	-0.1
	baz=72,SNR=6.8						
KMSC	Kings Mountain	71.79	353	eP	P	00 12 06.6	-0.6
	comp=Z,24nm,1.0s						
KMSC	Kings Mountain	71.79	353	⇑P	P	00 12 07.3	+0.1
	baz=72,SNR=5.6						
138A	Matatall Enter	71.86	341	⇑P	P	00 12 08.5	+0.8
	baz=72						
WHTX	Lake Whitney	71.89	339	eP	P	00 12 07.3	-0.6
	comp=Z,34nm,0.8s						
WHTX	Lake Whitney	71.89	339	⇓P	P	00 12 08.3	+0.4
	baz=72,SNR=6.7						
430A	Baggett Ranch,	71.97	335	⇑P	P	00 12 09.3	+0.8
	baz=72,SNR=10						
137A	Heron Place, G	71.98	340	⇓P	P	00 12 09.6	+1.2
	baz=72						
332A	Millersview	72.03	336	⇓P	P	00 12 09.6	+0.8
	baz=72,SNR=9.4						
429A	Davenport Ranc	72.05	334	⇓P	P	00 12 09.6	+0.6
	baz=72,SNR=8.7						
234A	Clairette	72.10	338	⇓P	P	00 12 09.9	+0.7
	baz=72						
331A	San Angelo	72.18	336	⇑P	P	00 12 10.0	+0.3
	baz=72,SNR=11						
OXF	Oxford	72.33	346	eP	P	00 12 10.5	0.0
OXF				pmax	pmax		
	comp=Z,60nm,1.0s						
OXF	Oxford	72.33	346	eP	P	00 12 10.5	0.0
	comp=Z,60nm,1.0s						
233A	Rising Star	72.35	337	⇑P	P	00 12 10.8	+0.1
	baz=73,SNR=7.4						
135A	Vickery Place,	72.40	339	⇓P	P	00 12 11.4	+0.4
	baz=73						
232A	Coleman	72.46	337	⇑P	P	00 12 11.5	+0.1
	baz=73,SNR=8.6						
330A	Mertzon	72.52	335	⇑P	P	00 12 11.8	+0.1
	baz=73,SNR=6.5						
TKL	Tuckaleechee C	72.56	351	eP	P	00 12 11.0	-0.9
TKL	Tuckaleechee C	72.56	351	eP	P	00 12 11.0	-0.9
134A	White-Moore Ra	72.61	338	⇑P	P	00 12 12.9	+0.6
	baz=73						
231A	Bronte	72.72	336	⇑P	P	00 12 12.9	-0.1
	baz=73,SNR=9.9						
329A	Wagon Wheel Ra	72.87	335	⇑P	P	00 12 14.4	+0.5
	baz=73						
133A	Hamilton Ranch	72.90	338	⇑P	P	00 12 14.9	+1.0
	baz=73,SNR=6.2						
CER	Ceres	72.91	119	eP	P	00 12 14.6	+0.2
CER				AMB	AMB	00 12 17.0	
	comp=Z,89nm,1.1s						
230A	Sterling City	72.94	336	⇑P	P	00 12 15.0	+0.7
	baz=73						
Z35A	Perchaven, San	73.08	339	⇓P	P	00 12 15.7	+0.7
	baz=73,SNR=7.8						
ABTX	Abilene, Hawle	73.14	337	eP	P	00 12 15.2	-0.2
	comp=Z,28nm,0.9s						
ABTX	Abilene, Hawle	73.14	337	⇑P	P	00 12 15.9	+0.5
	baz=73,SNR=8.8						
UALR	University of	73.20	344	eP	P	00 12 15.2	-0.5
	comp=Z,14nm,1.0s						
229A	Bryant Ranch,	73.25	335	⇑P	P	00 12 16.5	+0.4
	baz=74						
MIAR	Mount Ida	73.27	343	eP	P	00 12 15.5	-0.5
MIAR				pmax	pmax		
	comp=Z,15nm,1.1s						
MIAR	Mount Ida	73.27	343	eP	P	00 12 15.5	-0.5
	comp=Z,15nm,1.1s						
Z34A	Collier Ranch,	73.31	339	⇓P	P	00 12 16.8	+0.4
	baz=74						
TZTN	Tazewell	73.41	351	eP	P	00 12 16.5	-0.4
	comp=Z,69nm,1.4s						
131A	Roby	73.42	336	⇑P	P	00 12 17.5	+0.4
	baz=74,SNR=6.4						
Z33A	Whitaker Ranch	73.49	338	⇑P	P	00 12 17.5	+0.1
	baz=74,SNR=5.8						
130A	Snyder	73.54	336	⇑P	P	00 12 18.6	+0.9
	baz=74						
WVT	Waverly	73.62	348	eP	P	00 12 17.1	-1.0
WVT				pmax	pmax		
	comp=Z,45nm,1.1s						
WVT	Waverly	73.62	348	eP	P	00 12 17.1	-1.0
	comp=Z,45nm,1.1s						
228A	UT Block 9, Go	73.65	334	⇑P	P	00 12 18.7	+0.2
	baz=74						
Z32A	Haskell	73.72	337	⇓P	P	00 12 19.5	+0.7
	baz=74,SNR=9.9						
VWCC	Virginia Weste	73.76	355	eP	P	00 12 18.8	0.0
Y34A	Reagan Ranch,	73.81	339	⇑P	P	00 12 19.8	+0.5
	baz=74						
129A	Stewart Farms,	73.87	335	⇓P	P	00 12 20.4	+0.6
	baz=74						
URVA	University of	73.93	357	eP	P	00 12 19.8	0.0
Z31A	Sharp Cattle R	73.94	337	⇓P	P	00 12 20.5	+0.4
	baz=74,SNR=6.0						
BBTS	Babate	73.95	57	P	P	00 12 20.9	+0.4
	comp=Z,86nm,1.1s,baz=182,slow=3.5,SNR=6.2						
JSRW	J. Sargeant Re	74.07	356	eP	P	00 12 21.0	+0.4
128A	Castleberry Fa	74.07	335	⇑P	P	00 12 21.5	+0.5
	baz=74,SNR=6.0						
Y33A	Hilltop Ranch,	74.12	338	⇓P	P	00 12 21.2	+0.1
	baz=74						
Z30A	Sanderson Ranc	74.23	336	⇓P	P	00 12 22.3	+0.5
	baz=74,SNR=7.8						
PVMO	Portageville	74.24	346	eP	P	00 12 22.3	+0.7
	comp=Z,293nm,0.4s						
MNTX	Cornudas Mount	74.28	332	eP	P	00 12 21.1	-1.0
	comp=Z,6.9nm,0.9s						
GDL2	Guadalupe Moun	74.36	333	eP	P	00 12 22.8	+0.2
Y32A	R-V Farms, Ver	74.36	338	⇑P	P	00 12 23.1	+0.6
	baz=75						
Z29A	Hungry Hill Ra	74.39	336	⇓P	P	00 12 23.4	+0.6
	baz=75,SNR=8.0						
127A	Arkansas Junct	74.43	334	⇑P	P	00 12 23.8	+0.8
	baz=75						
X34A	Smith Ranch, M	74.44	339	⇓P	P	00 12 23.9	+1.0
	baz=75,SNR=5.3						
SUR	Sutherland	74.52	119	eP	P	00 12 25.5	+1.5
	comp=Z,62nm,1.0s						
Y31A	Rekieta Farm,	74.57	337	⇓P	P	00 12 24.6	+0.8
	baz=75						
X33A	Lawton	74.58	339	⇑P	P	00 12 23.8	0.0
	baz=75						
Z28A	Tucker Farm, M	74.65	335	⇓P	P	00 12 24.7	+0.4
	baz=75						
X32A	Elmer	74.70	338	⇓P	P	00 12 25.3	+0.8
	baz=75						
PBMO	Poplar Bluff	74.73	346	eP	P	00 12 23.8	-0.7
	comp=Z,18nm,0.9s						
Y29A	Porterfield Fa	74.93	336	⇓P	P	00 12 27.1	+1.2
	baz=75						
W34A	Bridge Creek,	75.02	340	eP	P	00 12 26.1	-0.2
	comp=Z,31nm,1.0s						
W34A	Bridge Creek,	75.02	340	⇑P	P	00 12 27.0	+0.7
	baz=75						
X31A	McDonald Ranch	75.10	338	⇓P	P	00 12 26.9	+0.1
	baz=75						
TUL1	Tulsa	75.12	341	eP	P	00 12 26.6	-0.2
	comp=Z,38nm,0.8s						
TUL1	Tulsa	75.12	341	⇓P	P	00 12 27.0	+0.2
	baz=75,SNR=8.9						
W33A	Caddo, Fort Co	75.14	339	⇑P	P	00 12 27.9	+1.0
	baz=75,SNR=9.9						
Z26A	Caprock	75.19	334	⇑P	P	00 12 28.3	+0.9
	baz=76,SNR=13						
X30A	Coker Ranch, T	75.21	337	⇓P	P	00 12 28.5	+1.1
	baz=76						
W32A	Sentinel	75.34	338	⇑P	P	00 12 28.4	+0.3
	baz=76,SNR=15						
USIN	University of	75.39	348	eP	P	00 12 27.4	-0.9
	comp=Z,50nm,0.9s						
MSTX	Muleshoe	75.40	335	eP	P	00 12 28.7	+0.1
	comp=Z,21nm,1.0s						
MSTX	Muleshoe	75.40	335	⇑P	P	00 12 29.0	+0.4
	baz=76						
SIUC	Southern Illin	75.41	347	eP	P	00 12 28.0	-0.5
	comp=Z,25nm,1.0s						
WCI	Wyandotte Cave	75.44	350	eP	P	00 12 27.5	-1.1
WCI				pmax	pmax		
	comp=Z,84nm,2.1s						
WCI	Wyandotte Cave	75.44	350	eP	P	00 12 27.5	-1.1
	comp=Z,84nm,2.1s						
Y27A	Causey	75.45	335	⇑P	P	00 12 29.5	+0.5
	baz=76						
Z25A	Roswell	75.46	333	⇓P	P	00 12 29.8	+0.8
	baz=76						
X29A	Tulia	75.48	336	⇓P	P	00 12 30.3	+1.3
	baz=76						
V34A	Guthrie	75.51	340	eP	P	00 12 28.2	-0.8
	comp=Z,48nm,1.0s						
V34A	Guthrie	75.51	340	⇓P	P	00 12 29.6	+0.6
	baz=76						
319A	Douglas	75.55	329	⇑P	P	00 12 31.3	+1.7
	baz=76						
W31A	Holland Ranch,	75.61	338	⇑P	P	00 12 29.9	+0.2
	baz=76						
V33A	Lossen Ranch,	75.71	339	⇑P	P	00 12 30.3	0.0

baz=76,SNR=7.2
Y26A Elida 75.72 334 ⇑P P 00 12 31.6 +1.0
baz=76
Z24A Sheeppen Canyo 75.74 333 ⇑P P 00 12 31.9 +1.2
baz=76,SNR=9.5
V32A Arapaho 75.83 339 ⇑P P 00 12 32.0 +1.0
baz=76
AMTX Amarillo 75.87 336 eP P 00 12 31.5 +0.2
comp=Z,35nm,0.9s
AMTX Amarillo 75.87 336 ⇑P P 00 12 32.0 +0.7
baz=76
121A Cookes Peak, D 75.95 331 ⇓P P 00 12 33.3 +1.3
baz=76
Y25A Mesa, Roswell 76.03 334 ⇑P P 00 12 33.1 +0.8
baz=76
U34A Anderson Ranch 76.08 340 eP P 00 12 32.5 +0.2
comp=Z,54nm,1.4s
U34A Anderson Ranch 76.08 340 ⇓P P 00 12 33.2 +0.9
baz=76
W29A Amraillo 76.08 336 ⇓P P 00 12 32.9 +0.4
baz=76,SNR=6.6
V31A Spring Creek L 76.12 338 ⇓P P 00 12 33.6 +0.9
baz=76
U33A Lingo Farm, Me 76.23 340 ⇑P P 00 12 33.8 +0.6
baz=76
Z22A Elephant Butte 76.27 331 ⇑P P 00 12 35.4 +1.7
baz=76
X26A CR and CF Fran 76.28 335 ⇑P P 00 12 34.5 +0.8
baz=77
Y24A Capitan 76.30 333 ⇑P P 00 12 34.5 +0.6
baz=77,SNR=8.2
V30A Spur Ranch, Mi 76.37 337 ⇓P P 00 12 35.9 +1.8
baz=77
BLO Bloomington 76.39 350 eP P 00 12 33.2 -0.8
BLO pmax pmax
comp=Z,24nm,1.0s
BLO Bloomington 76.39 350 eP P 00 12 33.1 -0.8
comp=Z,24nm,1.0s
U32A Winter Ranch, 76.44 339 ⇓P P 00 12 34.7 +0.3
baz=77
SLM Saint Louis 76.49 346 eP P 00 12 34.1 -0.5
SLM pmax pmax
comp=Z,40nm,0.9s
SLM Saint Louis 76.49 346 eP P 00 12 34.1 -0.5
comp=Z,40nm,0.9s
W27A Bowe Ranch, En 76.49 335 ⇓P P 00 12 35.5 +0.6
baz=77,SNR=7.9
Y23A Lovelace Mesa, 76.53 333 ⇑P P 00 12 36.6 +1.4
baz=77
LIC Lamto 76.63 72 eP P 00 12 36.6 +0.6
comp=Z,168nm,1.1s
W26A Owens Ranch, T 76.75 335 ⇑P P 00 12 37.1 +0.8
baz=77
V28A Channing 76.84 336 ⇑P P 00 12 38.1 +1.3
baz=77
X24A Lazy VL Ranch, 76.87 333 ⇓P P 00 12 38.2 +1.1
baz=77
T33A Patterson Ranc 76.88 340 ⇓P P 00 12 38.0 +1.2
baz=77
TIC Toumodi 76.90 71 eP P 00 12 38.1 +0.5
comp=Z,91nm,1.0s
KIC Kosan Boka 76.94 72 eP P 00 12 38.4 +0.7
comp=Z,178nm,1.0s
BNM Barren Site 76.94 332 eP P 00 12 36.5 -1.1
ACSO Alum Creek Sta 76.99 352 eP P 00 12 36.9 -0.5
comp=Z,36nm,0.9s
TUC Tucson 76.99 328 eP P 00 12 37.6 -0.1
TUC pmax pmax
comp=Z,12nm,1.0s
TUC Tucson 76.99 328 eP P 00 12 37.6 -0.1
comp=Z,12nm,1.0s
DBIC Dimbokro 77.05 72 eP P 00 12 38.1 -0.2
DBIC Dimbokro 77.05 72 eP P 00 12 38.3 0.0
DBIC pmax pmax
comp=Z,69nm,1.0s
DBIC MLR MLR
comp=Z,1µm,18.5s
DBIC Dimbokro 77.05 72 P P 00 12 39.2 +0.9
comp=Z,50nm,1.0s,baz=205,slow=6.0,SNR=39
DBIC Dimbokro 77.05 72 eP P 00 12 38.3 0.0
comp=Z,69nm,1.0s
DBIC LR LR
comp=Z,1µm,18.5s
V27A Dan Oppiter Fa 77.05 336 ⇑P P 00 12 38.4 +0.4
baz=77
U30A WK&E Inc. Balk 77.06 338 ⇑P P 00 12 38.9 +0.9
baz=77
UPI Upington 77.08 116 eP P 00 12 39.2 +0.7
UPI AMB AMB 00 12 40.2
comp=Z,45nm,1.2s
LPM Los Pinos Moun 77.09 332 eP P 00 12 39.5 +1.2
W25A X Bar L Ranch, 77.11 334 ⇓P P 00 12 38.9 +0.5
baz=77,SNR=6.4
T32A Huddler Ranch, 77.16 339 ⇑P P 00 12 39.5 +1.0
baz=78
WIN Windhoek 77.26 109 eP P 00 12 40.2 +0.4
WIN AMB AMB 00 12 41.8
comp=Z,15nm,1.3s
T31A Randall Ranch, 77.30 339 ⇓P P 00 12 40.1 +0.9
baz=78
LAZ Ladron 77.36 332 eP P 00 12 40.6 +0.7
CASY Casey 77.38 182 eP P 00 12 40.0 +0.6
comp=Z,36nm,1.1s
V26A Tequesquite Ra 77.40 335 ⇓P P 00 12 40.3 +0.3
baz=78
U28A Mallet 77.42 336 ⇓P P 00 12 40.7 +0.7
baz=78
W24A Lazy 6 Ranch, 77.44 334 ⇑P P 00 12 41.1 +0.8
baz=78,SNR=5.5
T30A Plains 77.51 338 ⇓P P 00 12 42.1 +1.6
baz=78
214A Organ Pipe Nat 77.57 326 ⇓P P 00 12 42.0 +1.1
baz=78
ANMO Albuquerque 77.58 333 eP P 00 12 41.6 +0.5
ANMO pmax pmax
comp=Z,31nm,1.4s
ANMO Albuquerque 77.58 333 eP P 00 12 41.6 +0.5
comp=Z,31nm,1.4s
U27A Thompson Grove 77.65 336 ⇓P P 00 12 42.2 +0.8
baz=78
W23A Werner Place, 77.66 333 ⇑P P 00 12 42.9 +1.3
baz=78,SNR=6.1
V25A Rancho No Teng 77.73 334 ⇑P P 00 12 42.3 +0.4
baz=78,SNR=9.6
S31A Mullinville 77.73 339 ⇓P P 00 12 42.5 +0.8
baz=78
T29A Hugoton 77.84 337 ⇓P P 00 12 43.3 +1.0
baz=78
V24A Rampart Ranch, 77.85 334 ⇑P P 00 12 43.4 +0.8
baz=78
GRM Grahamstown 77.93 122 eP P 00 12 42.5 -0.6
GRM AMB AMB 00 12 45.0
comp=Z,68nm,3.0s
U26A Atchley Ranch, 77.93 335 ⇑P P 00 12 43.8 +0.8
baz=78
R33A Olander Ranch, 77.95 340 ⇑P P 00 12 43.7 +0.8
baz=78
S30A Montezuma 78.03 338 ⇑P P 00 12 44.1 +0.7
baz=78
T28A Walsh 78.06 337 ⇑P P 00 12 44.3 +0.7
baz=78
U25A Circle Dot Ran 78.16 335 ⇓P P 00 12 45.2 +0.9
baz=78,SNR=5.6
BRYW Bryant College 78.19 1 eP P 00 12 43.6 -0.4
comp=Z,576nm,2.5s
BRYW LR LR
comp=Z,2µm,21.9s
V23A Ortiz Mt. (NFS 78.20 333 ⇑P P 00 12 46.1 +1.6
baz=78
T27A Campo 78.20 336 ⇓P P 00 12 45.4 +0.9
baz=78
S29A Ulysses 78.21 338 ⇓P P 00 12 45.7 +1.3
baz=78
R32A Long Quarter, 78.26 340 ⇓P P 00 12 45.4 +0.8
baz=79,SNR=5.4
KSU1 Kansas State U 78.34 342 eP P 00 12 44.3 -0.7
comp=Z,22nm,1.1s
KSU1 Kansas State U 78.34 342 ⇑P P 00 12 45.3 +0.3
baz=79
R31A Burdett 78.36 339 ⇑P P 00 12 46.2 +1.0
baz=79
S28A Manter 78.42 337 ⇓P P 00 12 46.3 +0.7
baz=79,SNR=9.4
U24A Moreno Valley 78.47 334 ⇓P P 00 12 47.7 +1.6
baz=79
Q33A Connelly Farm, 78.56 341 ⇓P P 00 12 47.3 +1.1
baz=79
X18A Snowflake 78.57 330 ⇓P P 00 12 48.7 +2.2
baz=79
R30A Dighton 78.58 339 ⇑P P 00 12 47.2 +0.9
baz=79
T26A Comanche Natio 78.59 336 ⇑P P 00 12 48.4 +1.8
baz=79,SNR=5.7
V22A San Miguel Ran 78.61 333 ⇑P P 00 12 48.4 +1.5
baz=79,SNR=13
113A Mohawk Valley, 78.69 326 ⇑P P 00 12 47.9 +0.9
baz=79
U23A El Rito 78.72 333 ⇓P P 00 12 48.2 +0.8
baz=79
Q32A Meitler Ranch, 78.75 340 ⇓P P 00 12 47.7 +0.5
baz=79
HVD Gariep Dam 78.81 120 eP P 00 12 48.5 +0.3
HVD AMB AMB 00 12 49.8
comp=Z,74nm,1.3s
T25A Trinidad 78.83 335 ⇓P P 00 12 49.0 +1.1
baz=79,SNR=13
P33A Williams Farm, 78.94 341 ⇑P P 00 12 49.1 +0.8
baz=79
S26A Kim 78.96 336 ⇑P P 00 12 48.9 +0.4
baz=79,SNR=10.0
R29A Marienthal 78.96 338 ⇓P P 00 12 49.3 +0.8
baz=79
TRY Troy 78.98 360 eP P 00 12 48.7 +0.4
comp=Z,104nm,1.5s
Q31A Ellis 78.99 340 ⇓P P 00 12 51.0 +2.4
baz=79
W18A Petrified Fore 79.00 330 eP P 00 12 49.0 +0.2
comp=Z,31nm,1.3s
W18A Petrified Fore 79.00 330 ⇑P P 00 12 49.9 +1.0
baz=79
U22A Llaves 79.01 333 ⇑P P 00 12 51.1 +2.1
baz=79
X16A Lo Mia Camp, P 79.08 329 ⇑P P 00 12 50.8 +1.4
baz=79
R28A Tribune 79.09 338 ⇑P P 00 12 50.1 +0.9
baz=79,SNR=6.5
T24B San Luis 79.09 334 ⇑P P 00 12 50.8 +1.2
baz=79,SNR=8.8
AAM Ann Arbor 79.11 352 eP P 00 12 48.1 -1.0
AAM pmax pmax
comp=Z,28nm,1.0s
AAM Ann Arbor 79.11 352 eP P 00 12 48.1 -1.0
comp=Z,28nm,1.0s
Q30A Quinter 79.20 339 ⇓P P 00 12 50.9 +1.1
baz=80,SNR=5.3
T23A Casias Ranch, 79.30 334 ⇑P P 00 12 52.3 +1.6
baz=80
S25A Robets Cordova 79.31 335 ⇓P P 00 12 51.4 +0.8
baz=80
Y14A Wickenburg 79.34 327 ⇑P P 00 12 52.3 +1.6
baz=80
Q29A Oakley 79.34 338 ⇑P P 00 12 51.2 +0.6
baz=80
R27A Eads 79.35 337 ⇓P P 00 12 51.6 +1.0
baz=80,SNR=6.8
P32A Huiting Farm, 79.35 340 ⇑P P 00 12 51.5 +1.0
baz=80
GLA Glamis 79.40 326 ⇓P P 00 12 52.8 +1.8
baz=80
P31A Stockton 79.47 340 ⇓P P 00 12 51.7 +0.5
baz=80
TSUM Tsumeb 79.54 106 P P 00 12 53.3 +0.9
comp=Z,16nm,1.1s,baz=224,slow=5.6,SNR=15
TSUM Tsumeb 79.54 106 eP P 00 12 52.7 +0.3
comp=Z,32nm,1.2s
TSUM eP P 00 12 53.3 +0.9
TSUM LR LR
comp=Z,1µm,18.0s
S24A Houchin Ranch, 79.56 335 ⇑P P 00 12 52.9 +0.8
baz=80,SNR=15
R26A Arlington 79.57 336 ⇓P P 00 12 52.8 +0.9
baz=80,SNR=10
R25A Fountain Ranch 79.70 336 ⇓P P 00 12 54.4 +1.8
baz=80
P30A Selden 79.74 339 ⇑P P 00 12 54.8 +2.1
baz=80
SDCO Great Sand Dun 79.75 335 eP P 00 12 53.2 +0.2
comp=Z,7.5nm,0.9s
Q28A Sharon Springs 79.76 338 ⇑P P 00 12 53.9 +1.0
baz=80
BOSA Boshof 79.81 118 eP P 00 12 53.7 0.0
BOSA AMB AMB 00 12 54.9
comp=Z,57nm,1.4s
BOSA Boshof 79.81 118 eP P 00 12 53.6 0.0
BOSA pmax pmax
comp=Z,77nm,1.2s
BOSA Boshof 79.81 118 P P 00 12 54.1 +0.5
comp=Z,40nm,1.0s,baz=231,slow=6.2,SNR=23
BOSA Boshof 79.81 118 eP P 00 12 53.6 0.0
comp=Z,77nm,1.2s
BOSA eP P 00 12 54.1 +0.5
Y12C Blythe 79.85 326 ⇓P P 00 12 54.6 +1.3
baz=80
O32A Brockman Farm, 79.86 341 ⇓P P 00 12 53.9 +0.6
baz=80
S23A Nye Farm, Mont 79.89 334 ⇑P P 00 12 55.6 +1.8
baz=80
KSCO Kaye Shedlock' 79.96 337 eP P 00 12 53.1 -0.9
comp=Z,35nm,0.6s
KSCO Kaye Shedlock' 79.96 337 ⇑P P 00 12 55.8 +1.8
baz=80
MONP Monument Peak 80.00 324 ⇑P P 00 12 56.0 +1.6
baz=80
WUAZ Wupatki 80.00 329 eP P 00 12 53.7 -0.6
comp=Z,22nm,1.2s
WUAZ LR LR
comp=Z,800nm,22.0s
WUAZ Wupatki 80.00 329 ⇓P P 00 12 56.3 +1.9
baz=80
O31A Woolen Ranch, 80.05 340 ⇓P P 00 12 55.1 +0.8
baz=80
R24A Sanders Place, 80.05 335 ⇓P P 00 12 56.0 +1.4
baz=80,SNR=14
PDMCI Parker Dam,Lak 80.14 327 ⇑P P 00 12 56.8 +1.9
baz=80
Q26A Hugo 80.16 337 ⇓P P 00 12 56.8 +1.8
baz=80
P28A Saint Francis 80.20 338 ⇓P P 00 12 57.0 +1.8
baz=80
S22A 4UR Ranch, Cre 80.22 334 ⇑P P 00 12 57.2 +1.6
baz=80,SNR=8.2
SCIA State Center 80.24 345 eP P 00 12 54.7 -0.5
comp=Z,21nm,0.8s
MDV Middlebury 80.25 0 eP P 00 12 54.3 -0.9
R23A Moffat 80.26 335 ⇓P P 00 12 57.6 +1.8
baz=81
O30A MW Ranch, Wils 80.27 340 ⇑P P 00 12 56.6 +1.1
baz=81
MVCO Mesa Verde 80.35 332 eP P 00 12 55.5 -0.7
comp=Z,16nm,1.0s
MVCO LR LR
comp=Z,1µm,18.0s
MVCO Mesa Verde 80.35 332 ⇓P P 00 12 57.1 +0.9
baz=81
Q25A Bedland, Calha 80.38 336 ⇑P P 00 12 57.1 +0.7
baz=81
O29A 4D Ranch, Culb 80.43 339 ⇑P P 00 12 57.9 +1.5
baz=81
KHZ Kahutara 80.47 224 PFAKE 00 13 10.0 +13
KHZ LR LR
comp=Z,2µm,18.0s
IRM Iron Mountain 80.48 326 ⇓P P 00 12 58.1 +1.4
baz=81
JFWS Jewell Farm 80.64 348 eP P 00 12 56.8 -0.6
JFWS pmax pmax
comp=Z,36nm,1.3s
JFWS Jewell Farm 80.64 348 eP P 00 12 56.8 -0.6
comp=Z,36nm,1.3s
P26A Davis Ranch, A 80.68 337 ⇓P P 00 12 58.3 +0.4
baz=81
SWZ Schweizer 80.70 117 eP P 00 12 57.8 -0.7
SWZ AMB AMB 00 13 17.3
comp=Z,44nm,4.1s
W13A Hualapai Mount 80.71 327 ⇓P P 00 12 59.6 +1.4
baz=81
O28A Krutsinger Ran 80.72 338 ⇓P P 00 12 59.2 +1.2
baz=81
Q24A Divide 80.73 335 ⇓P P 00 12 59.1 +0.8
baz=81,SNR=5.8
BELC Belle Mtn. Jos 80.73 325 ⇓P P 00 13 00.2 +1.9
baz=81
LONY Lake Ozonia 80.88 359 eP P 00 12 59.0 +0.4
comp=Z,401nm,2.6s
BKZ Black Stump Fm 80.89 228 PFAKE 00 13 10.0 +11
BKZ LR LR
comp=Z,800nm,18.0s
P25A Willow Gulch B 80.90 336 ⇓P P 00 13 00.3 +1.2
baz=81,SNR=8.3
BGNE Belgrade 80.91 341 eP P 00 12 58.7 -0.2
comp=Z,26nm,0.8s
BGNE Belgrade 80.91 341 ⇓P P 00 13 00.0 +1.1
baz=81
MURC Murrieta 80.96 324 ⇑P P 00 13 01.1 +1.8
baz=81
O27A Beecher Island 80.99 338 ⇑P P 00 13 01.4 +1.9
baz=81
N29A Votaw Ranch, W 81.03 339 ⇓P P 00 13 01.2 +1.6
baz=81
M31A Lambtecht Ranc 81.06 341 ⇑P P 00 13 01.3 +1.5
baz=81
SCI San Clemente I 81.09 323 ⇑P P 00 13 01.3 +1.3
baz=81
URZ Urewera 81.10 229 PFAKE 00 13 10.0 +10
URZ LR LR
comp=Z,1µm,20.0s
U15A North Rim 81.17 329 ⇓P P 00 13 02.7 +2.0
baz=81,SNR=7.1
PV01 Paradox Valley 81.19 333 eP P 00 13 01.0 +0.2
GMRC Granite Mounta 81.22 326 ⇑P P 00 13 02.5 +1.6
baz=82
LDFC Landfair 81.23 326 eP P 00 13 00.3 -0.5
comp=Z,20nm,1.2s
O26A Horse Wrangler 81.29 337 ⇓P P 00 13 02.4 +1.3
baz=82
P23A Jefferson 81.33 335 ⇑P P 00 13 03.0 +1.4
baz=82
PV05 Paradox Valley 81.34 332 eP P 00 13 01.6 +0.1
CIS Catalina Islan 81.37 323 ⇑P P 00 13 03.2 +1.7
baz=82
O25A Wiggins 81.43 337 ⇓P P 00 13 03.5 +1.7
baz=82
SMCO Snowmass 81.54 334 eP P 00 13 03.4 +0.6
comp=Z,37nm,1.3s
SMCO LR LR
comp=Z,1µm,19.8s
PV04 Paradox Valley 81.55 332 eP P 00 13 02.7 +0.1
HEC Hector,Ludlow 81.57 325 ⇑P P 00 13 03.9 +1.3
baz=82
N27A Anderson Farm, 81.57 338 ⇓P P 00 13 03.8 +1.2
baz=82
PV10 Paradox Valley 81.58 332 eP P 00 13 02.7 -0.1
M29A Burnside Ranch 81.62 340 ⇑P P 00 13 04.3 +1.6
baz=82
ISCO Idaho Springs 81.64 335 eP P 00 13 03.0 -0.1
ISCO pmax pmax
comp=Z,20nm,1.4s
ISCO Idaho Springs 81.64 335 eP P 00 13 03.0 -0.1
comp=Z,20nm,1.4s
ISCO Idaho Springs 81.64 335 ⇑P P 00 13 04.0 +0.9
baz=82,SNR=8.4
SEK Senekal 81.66 119 eP P 00 13 03.8 +0.2
SEK AMB AMB 00 13 11.8
comp=Z,45nm,1.7s
BFSC Mount Baldy Ra 81.70 324 ⇑P P 00 13 05.4 +2.1
baz=82
PV09 Paradox Valley 81.72 332 eP P 00 13 04.2 +0.6
O24A Longmont 81.75 336 ⇑P P 00 13 05.7 +2.2
baz=82
N26A Koester Ranch, 81.80 338 ⇓P P 00 13 05.3 +1.6
baz=82
L31A Butterfield Fa 81.81 341 ⇑P P 00 13 04.7 +1.1
baz=82
L30A Spencer Herefo 81.83 340 ⇓P P 00 13 05.3 +1.5
baz=82
P22A Eagle 81.84 335 ⇑P P 00 13 05.9 +1.7
baz=82
KNB Kanab 81.89 329 eP P 00 13 05.7 +1.3
KNB pmax pmax
comp=Z,72nm,1.5s
KNB Kanab 81.89 329 eP P 00 13 05.7 +1.3
comp=Z,72nm,1.5s
RUDU RUNDU 81.94 106 eP P 00 13 05.2 0.0
RUDU AMB AMB 00 13 07.4
comp=Z,67nm,1.4s
O23A Lake Granby, G 82.11 335 ⇓P P 00 13 07.3 +1.7
baz=82,SNR=8.0
LBTB Lobatse 82.18 115 eP P 00 13 06.5 +0.1
LBTB AMB AMB 00 13 07.4
comp=Z,58nm,1.2s
LBTB Lobatse 82.18 115 eP P 00 13 06.2 -0.1
LBTB pmax pmax
comp=Z,63nm,1.1s
LBTB MLR MLR
comp=Z,2µm,19.9s
LBTB Lobatse 82.18 115 eP P 00 13 06.2 -0.1
comp=Z,63nm,1.1s
LBTB LR LR
comp=Z,2µm,19.9s
O22A Kremmling 82.28 335 ⇑P P 00 13 06.9 +0.4
baz=83,SNR=11
PRYS Parys 82.31 118 eP P 00 13 06.5 -0.6
PRYS AMB AMB 00 13 07.7
comp=Z,19nm,1.3s
N24A Carr 82.32 336 ⇑P P 00 13 08.2 +1.6
baz=83
EDW2 Edwards Air Fo 82.38 324 ⇓P P 00 13 08.4 +1.5
baz=83
SHPR Sheep Range 82.45 327 eP P 00 13 07.3 0.0
K30A Basset 82.47 341 ⇑P P 00 13 08.2 +1.1
baz=83,SNR=8.5
CCUT Cedar City 82.57 329 eP P 00 13 07.2 -0.8
comp=Z,41nm,1.6s
M25A Palm-Egli Farm 82.61 337 ⇑P P 00 13 09.2 +1.2
baz=83
KSR Koster 82.62 117 eP P 00 13 08.7 0.0
KSR AMB AMB 00 13 09.7
comp=Z,26nm,1.2s
WDLM Western Deep L 82.65 117 eP P 00 13 08.9 0.0
WDLM AMB AMB 00 13 09.8
comp=Z,35nm,1.6s
ECSD EROS Data Cent 82.73 343 eP P 00 13 08.3 -0.1
comp=Z,35nm,0.9s
ECSD EROS Data Cent 82.73 343 ⇑P P 00 13 08.8 +0.5
baz=83,SNR=24
LRMC Laurel Mountai 82.73 325 ⇑P P 00 13 10.9 +2.2
baz=83
N23A Red Feather La 82.73 336 ⇓P P 00 13 10.1 +1.3
baz=83,SNR=7.6
SRU San Rafael 82.78 332 eP P 00 13 09.1 +0.1
SRU pmax pmax
comp=Z,17nm,1.0s
SRU San Rafael 82.78 332 eP P 00 13 09.1 +0.1
comp=Z,17nm,1.0s
ARUT Antelope Range 82.80 329 eP P 00 13 09.6 +0.4
ARUT Antelope Range 82.80 329 eP P 00 13 09.6 +0.4
N22A Wattenberg Ran 82.82 335 ⇑P P 00 13 10.5 +1.3
baz=83,SNR=9.4
KLOF Kloof 82.83 117 eP P 00 13 10.0 +0.2
KLOF AMB AMB 00 13 10.7
comp=Z,38nm,1.4s
O20A White River Ci 82.84 334 eP P 00 13 09.4 +0.1
comp=Z,34nm,1.3s
O20A White River Ci 82.84 334 ⇑P P 00 13 10.6 +1.3
baz=83
M24A Cheyenne 82.88 337 ⇑P P 00 13 11.0 +1.5
baz=83
MVU Marysvale 82.92 330 eP P 00 13 10.2 +0.4
comp=Z,37nm,1.7s
MVU LR LR
comp=Z,600nm,18.0s
PHWY Pilot Hill 82.94 336 eP P 00 13 10.1 +0.2
comp=Z,39nm,1.6s
J30A Dallas 83.05 341 ⇑P P 00 13 10.3 +0.3
baz=83
FURC Furnace Creek, 83.17 326 ⇑P P 00 13 12.4 +1.6
baz=83
M23A Laramie 83.17 336 ⇓P P 00 13 12.7 +1.7
baz=84,SNR=5.6
CRWM Crown Mines 83.19 118 eP P 00 13 11.0 -0.7
CRWM AMB AMB 00 13 12.5
comp=Z,54nm,3.3s
TMUT Trail Mountain 83.21 331 eP P 00 13 09.9 -1.4
comp=Z,16nm,1.0s
K27A Flueckinger Fa 83.23 339 ⇓P P 00 13 12.9 +1.7
baz=84
ISA Isabella 83.25 324 eP P 00 13 12.3 +0.9
ISA pmax pmax
comp=Z,8.0nm,0.9s
ISA Isabella 83.25 324 eP P 00 13 12.3 +0.9
comp=Z,8.2nm,0.9s
ISA Isabella 83.25 324 ⇑P P 00 13 12.9 +1.5
baz=84
OBSV Observatory 83.26 118 eP P 00 13 11.6 -0.5

OBSV AMB AMB 00 13 12.8
comp=Z,49nm,1.5s
ERPM east rand prop 83.29 118 eP P 00 13 12.6 +0.4
ERPM AMB AMB 00 13 14.1
comp=Z,52nm,4.1s
SPMN St. Paul 83.34 346 eP P 00 13 10.8 -0.8
comp=Z,17nm,1.0s
SPMN LR LR
comp=Z,500nm,20.5s
SPMN St. Paul 83.34 346 ⇓P P 00 13 11.3 -0.2
baz=84
J29A Okreek 83.35 341 ⇑P P 00 13 12.5 +0.8
baz=84,SNR=7.2
M22A Cedar Creek Ra 83.40 335 ⇑P P 00 13 13.8 +1.5
baz=84
N20A Spence Gulch, 83.47 334 ⇑P P 00 13 13.8 +1.2
baz=84,SNR=5.4
K26A Motz Farm, Whi 83.50 338 ⇑P P 00 13 13.2 +0.6
baz=84
I30A Oacoma 83.58 341 ⇑P P 00 13 13.0 +0.1
baz=84
J28A Allard Ranch, 83.61 340 ⇑P P 00 13 14.2 +1.2
baz=84,SNR=5.1
J27A Elkhorn Farm, 83.67 339 ⇑P P 00 13 14.8 +1.5
baz=84,SNR=5.2
VES Vestal, Richgr 83.68 324 ⇑P P 00 13 15.3 +1.8
baz=84
SLR Silverton 83.69 117 eP P 00 13 13.0 -1.2
SLR AMB AMB 00 13 14.9
comp=Z,63nm,1.3s
L23A Garrett 83.75 336 ⇓P P 00 13 14.1 +0.1
baz=84
GRAC Grapevine Rang 83.84 326 ⇓P P 00 13 16.2 +1.9
baz=84
I29A Vivian Onida 83.91 341 ⇓P P 00 13 15.5 +0.9
baz=84
L22A Ellis Ranch, M 83.91 336 ⇑P P 00 13 16.2 +1.4
baz=84
BRSD Miller 83.96 342 eP P 00 13 14.0 -0.7
comp=Z,25nm,0.9s
BRSD Miller 83.96 342 ⇓P P 00 13 15.4 +0.7
baz=84
MPU Maple Canyon 83.99 331 eP P 00 13 15.0 -0.2
comp=Z,51nm,1.5s
K24A Anderson Ranch 84.02 337 ⇓P P 00 13 15.3 +0.1
baz=84
NLU North Lily Min 84.11 331 eP P 00 13 16.1 +0.2
comp=Z,73nm,2.0s
I28A Midland 84.12 340 ⇓P P 00 13 16.6 +1.0
baz=84,SNR=5.9
R11A Troy Canyon, C 84.18 328 eP P 00 13 16.6 +0.4
comp=Z,44nm,1.6s
R11A Troy Canyon, C 84.18 328 ⇓P P 00 13 18.3 +2.0
baz=84
DAU Daniels Canyon 84.19 332 eP P 00 13 15.6 -0.8
DAU Daniels Canyon 84.19 332 eP P 00 13 15.6 -0.8
K23A Bowen Ranch, D 84.30 337 ⇑P P 00 13 18.2 +1.5
baz=85,SNR=5.1
J25A Sunshine Ranch 84.32 338 ⇑P P 00 13 18.0 +1.3
baz=85
JLU Jordanelle 84.43 332 eP P 00 13 16.9 -0.6
comp=Z,16nm,1.1s
I27A Quinn 84.43 340 ⇑P P 00 13 17.9 +0.7
baz=85
H29A Onida 84.45 341 ⇓P P 00 13 17.3 +0.1
baz=85,SNR=7.8
K22A Casper 84.50 336 eP P 00 13 16.5 -1.2
comp=Z,37nm,1.1s
K22A Casper 84.50 336 ⇓P P 00 13 18.8 +1.1
baz=85,SNR=7.9
J24A Dixon Ranch, L 84.52 338 ⇑P P 00 13 19.0 +1.3
baz=85,SNR=6.9
DUG Dugway 84.61 331 eP P 00 13 18.5 +0.2
DUG pmax pmax
comp=Z,29nm,1.3s
DUG Dugway 84.61 331 eP P 00 13 18.5 +0.2
comp=Z,29nm,1.3s
DUG Dugway 84.61 331 ⇓P P 00 13 19.5 +1.3
baz=85,SNR=17
CTU Camp Tracy 84.62 332 eP P 00 13 17.4 -1.0
comp=Z,8.6nm,1.0s
CTU LR LR
comp=Z,600nm,18.1s
G30A Faulkton 84.65 342 ⇑P P 00 13 18.4 +0.2
baz=85,SNR=5.8
TPH Tonopah 84.66 327 eP P 00 13 18.2 -0.5
TPH pmax pmax
comp=Z,65nm,1.7s
TPH Tonopah 84.66 327 eP P 00 13 18.2 -0.5
comp=Z,64nm,1.7s
H28A Mission Ridge 84.71 341 ⇑P P 00 13 19.3 +0.8
baz=85
K21A Alcova 84.72 336 ⇑P P 00 13 19.6 +0.7
baz=85,SNR=9.1
TCUT Toone Canyon 84.86 332 eP P 00 13 19.4 -0.3
comp=Z,27nm,1.0s
I25A Rochford 84.87 339 ⇓P P 00 13 20.3 +0.7
baz=85,SNR=13
H27A Howes 84.96 340 ⇓P P 00 13 20.3 +0.4
baz=85,SNR=8.4
I24A Kuemmerle Ranc 84.99 338 ⇑P P 00 13 20.8 +0.7
baz=85
RSSD Black Hills 85.05 338 eP P 00 13 20.1 -0.4
RSSD pmax pmax
comp=Z,17nm,0.9s
RSSD MLR MLR
comp=Z,400nm,19.0s
RSSD Black Hills 85.05 338 eP P 00 13 20.1 -0.4
comp=Z,17nm,0.9s
RSSD LR LR
comp=Z,400nm,19.0s
G28A Parade 85.05 341 ⇑P P 00 13 21.2 +0.9
baz=85
H26A Fairpoint 85.14 339 ⇓P P 00 13 21.8 +1.0
baz=86
J22A Midwest 85.17 336 ⇑P P 00 13 21.2 +0.2
baz=86,SNR=6.6
OUZ Omahuta 85.22 229 PFAKE 00 13 30.0 +8.4
OUZ LR LR
comp=Z,6µm,18.0s
F30A Leola 85.28 342 ⇓P P 00 13 22.3 +0.9
baz=86
BGU Big Grassy Mou 85.32 331 eP P 00 13 21.8 -0.1
comp=Z,20nm,1.7s
HWUT Hardware Ranch 85.34 332 eP P 00 13 21.8 -0.2
comp=Z,74nm,1.4s
H25A Fruitdale 85.38 339 ⇓P P 00 13 23.3 +1.3
baz=86,SNR=9.8
SPUT South Promonto 85.42 332 eP P 00 13 21.8 -0.5
comp=Z,32nm,1.2s
NV01 Mina Array Sit 85.43 326 eP P 00 13 22.6 0.0
NVAR Mina Array Bea 85.43 326 P P 00 13 23.2 +0.6
comp=Z,1.6nm,0.8s,baz=150,slow=6.0,SNR=8.8
F29A Eureka 85.48 342 ⇓P P 00 13 23.0 +0.7
baz=86,SNR=8.5
I22A 9 Mile Ranch, 85.60 337 ⇑P P 00 13 23.4 +0.2
baz=86,SNR=14
G27A Dupree 85.61 340 ⇓P P 00 13 23.5 +0.5
baz=86
BW06 Boulder Array 85.63 334 eP P 00 13 22.8 -0.6
BW06 eP PcP 00 13 23.4 -2.9
PD31 Pinedale Array 85.63 334 eP P 00 13 23.1 -0.4
PDAR Pinedale Array 85.63 334 P P 00 13 23.4 0.0
comp=Z,13nm,1.2s,baz=145,slow=5.4,SNR=25
J20A Shoshoni 85.64 335 ⇑P P 00 13 24.8 +1.5
baz=86
G26A Maurine 85.71 340 ⇑P P 00 13 23.7 +0.1
baz=86,SNR=9.4
F28A McLaughlin 85.74 341 ⇑P P 00 13 24.2 +0.5
baz=86
H24A Dirks Ranch, A 85.78 338 ⇑P P 00 13 23.9 0.0
baz=86,SNR=13
I21A Big Trails, Te 85.79 336 ⇓P P 00 13 24.5 +0.3
baz=86,SNR=16
G25A Newell 85.85 339 ⇓P P 00 13 24.7 +0.4
baz=86,SNR=9.3
H23A Clabaugh Cattl 85.86 338 ⇓P P 00 13 24.9 +0.5
baz=86
E30A Jud 85.88 343 ⇑P P 00 13 24.7 +0.4
baz=86
J19A Crowheart 85.89 335 ⇑P P 00 13 25.4 +0.7
baz=86,SNR=16
HVU Hansel Valley 85.95 332 eP P 00 13 23.9 -1.1
HVU pmax pmax
comp=Z,43nm,1.3s
HVU Hansel Valley 85.95 332 eP P 00 13 23.9 -1.1
comp=Z,43nm,1.3s
WAKR Walker 86.01 325 eP P 00 13 24.8 -0.6

ELK Elko 86.05 329 eP P 00 13 25.0 -0.6
ELK pmax pmax
comp=Z,19nm,1.3s
ELK Elko 86.05 329 eP P 00 13 25.0 -0.6
comp=Z,18nm,1.3s
F27A Lemmon 86.09 340 ⇓P P 00 13 25.3 -0.1
baz=86,SNR=15
TOA0 Torodi Ar. Sit 86.11 71 eP P 00 13 26.2 0.0
TOA0 eP P 00 13 26.2 0.0
TORD Torodi Ar. Bea 86.11 71 P P 00 13 26.2 0.0
comp=Z,26nm,1.1s,baz=239,slow=4.2,SNR=60
E29A Napoleon 86.12 342 ⇑P P 00 13 26.0 +0.5
baz=86
AHID Auburn Hatcher 86.18 333 eP P 00 13 25.4 -0.7
comp=Z,37nm,1.4s
I20A Worland 86.18 336 ⇓P P 00 13 26.4 +0.4
baz=86
H22A Clearmont 86.19 337 ⇑P P 00 13 26.1 +0.1
baz=86,SNR=6.6
F26A Lodgepole 86.24 340 ⇓P P 00 13 26.7 +0.5
baz=87,SNR=5.9
G24A Alzada 86.26 339 ⇓P P 00 13 26.5 +0.2
baz=87
D30A Buchanan 86.41 343 ⇓P P 00 13 27.1 +0.2
baz=87,SNR=11
H21A Big Horn, Sher 86.44 337 ⇓P P 00 13 27.4 +0.1
baz=87
G23A Biddle 86.44 338 ⇓P P 00 13 27.5 +0.3
baz=87,SNR=7.5
E27A Carson 86.48 341 ⇓P P 00 13 28.5 +1.1
baz=87
F25A Bowman 86.53 339 ⇑P P 00 13 28.2 +0.6
baz=87,SNR=8.9
I19A Meeteetse 86.55 335 ⇓P P 00 13 29.4 +1.4
baz=87,SNR=5.3
D29A Pettibone, Tap 86.57 342 ⇑P P 00 13 28.1 +0.4
baz=87,SNR=6.9
REDW Red Top Meadow 86.61 334 eP P 00 13 27.6 -0.7
comp=Z,43nm,1.3s
H20A Greybull 86.62 336 ⇓P P 00 13 28.7 +0.6
baz=87,SNR=11
SNOW Snow King Moun 86.66 334 eP P 00 13 28.9 +0.3
comp=Z,12nm,0.8s
G22A Birney 86.73 337 ⇑P P 00 13 28.5 -0.1
baz=87
LOHW Long Hollow 86.74 334 eP P 00 13 28.6 -0.2
comp=Z,112nm,2.5s
F24A Ekalaka 86.74 339 ⇓P P 00 13 29.0 +0.3
baz=87,SNR=5.8
TPAW Teton Pass 86.75 334 eP P 00 13 28.6 -0.4
comp=Z,21nm,1.1s
E26A Carlson Angus 86.76 340 ⇓P P 00 13 28.9 +0.2
baz=87,SNR=9.6
AGMN Agassiz Nation 86.89 345 eP P 00 13 28.7 -0.5
comp=Z,15nm,0.9s
AGMN Agassiz Nation 86.89 345 ⇓P P 00 13 29.5 +0.2
baz=87,SNR=8.3
C30A Mose, Pekin 86.90 343 ⇑P P 00 13 30.0 +0.7
baz=87,SNR=19
FXWY Fox Creek 86.91 334 eP P 00 13 29.6 -0.1
comp=Z,10nm,1.1s
F23A Volborg 86.91 338 ⇓P P 00 13 29.6 +0.2
baz=87,SNR=8.8
D28A Regan 86.93 342 ⇑P P 00 13 30.4 +0.9
baz=87,SNR=15
I17A Pilgrim Ck. 87.00 334 ⇓P P 00 13 31.6 +1.5
baz=87,SNR=13
MSNA Messina 87.02 116 eP P 00 13 30.5 -0.2
MSNA AMB AMB 00 13 40.5
comp=Z,40nm,3.5s
G21A Lodge Grass 87.02 337 ⇑P P 00 13 30.7 +0.6
baz=87,SNR=5.2
E25A Miller Ranch, 87.04 340 ⇑P P 00 13 30.7 +0.7
baz=87,SNR=6.8
D27A Center 87.10 341 ⇑P P 00 13 30.1 -0.2
baz=87
IMW Indian Meadow 87.10 334 eP P 00 13 30.6 -0.2
comp=Z,22nm,1.2s
H19A Powell 87.11 335 ⇑P P 00 13 31.7 +1.2
baz=87
FLWY Flagg Ranch 87.18 334 eP P 00 13 30.7 -0.3
comp=Z,45nm,1.3s
FLWY LR LR
comp=Z,1µm,19.6s
F22A Rosebud 87.22 338 ⇑P P 00 13 31.4 +0.4
baz=88
D26A Manning 87.26 341 ⇑P P 00 13 31.4 +0.3
baz=88,SNR=25
G20A Bridger 87.34 336 ⇑P P 00 13 32.1 +0.4
baz=88,SNR=7.0
H18A Shoshone NF, C 87.34 335 ⇓P P 00 13 32.6 +0.8
baz=88,SNR=13
E24A Baker 87.35 339 ⇑P P 00 13 32.1 +0.5
baz=88,SNR=5.7
C28A Hausauer Farms 87.37 342 ⇓P P 00 13 32.4 +0.8
baz=88
H17A Grant Village 87.41 334 eP P 00 13 32.8 +0.6
comp=Z,14nm,1.4s
H17A Grant Village 87.41 334 ⇓P P 00 13 33.6 +1.5
baz=88
LKWY Lake 87.50 334 eP P 00 13 31.9 -0.7
LKWY pmax pmax
comp=Z,13nm,1.3s
LKWY Lake 87.50 334 eP P 00 13 31.9 -0.7
comp=Z,13nm,1.3s
YFT Old Faithful 87.55 334 eP P 00 13 32.8 -0.1
comp=Z,40nm,1.5s
B30A Myrvik Farm, E 87.57 344 ⇑P P 00 13 33.0 +0.5
baz=88,SNR=26
RLMT Red Lodge 87.60 335 eP P 00 13 32.0 -1.0
comp=Z,24nm,1.5s
D25A Fairfield 87.61 340 ⇓P P 00 13 33.9 +1.1
baz=88
C27A Sayler Ranch, 87.65 341 ⇓P P 00 13 33.5 +0.5
baz=88,SNR=12
YNR Norris Junctio 87.73 334 eP P 00 13 32.0 -1.6
comp=Z,15nm,1.4s
YMR Madison River 87.78 334 eP P 00 13 33.1 -0.8
comp=Z,46nm,1.3s
YMR LR LR
comp=Z,2µm,21.7s
B29A Wagenman Farm, 87.82 343 ⇓P P 00 13 34.4 +0.7
baz=88,SNR=11
D24A Glendive 87.86 339 ⇓P P 00 13 34.7 +0.7
baz=88,SNR=5.8
C26A Wahner Farm, P 87.91 341 ⇑P P 00 13 34.6 +0.4
baz=88,SNR=5.8
A30A Hoffart Farm, 88.03 344 ⇓P P 00 13 34.6 -0.1
baz=88,SNR=10
LAO LASA Array 88.03 338 eP P 00 13 34.4 -0.4
comp=Z,33nm,1.5s
B28A Dugan Ranch, T 88.05 342 ⇑P P 00 13 35.3 +0.5
baz=88,SNR=13
QLMT Earthquake Lak 88.09 334 eP P 00 13 35.4 0.0
HLID Hailey 88.10 331 eP P 00 13 35.7 +0.3
comp=Z,19nm,1.4s
HLID Hailey 88.10 331 ⇓P P 00 13 36.7 +1.3
baz=88,SNR=7.6
C25A Freed Ranch, W 88.11 340 ⇑P P 00 13 36.0 +0.8
baz=88
F19A Roth Farm, Mol 88.14 336 ⇓P P 00 13 35.5 +0.1
baz=88
D23A Lindsay 88.17 339 ⇓P P 00 13 36.1 +0.6
baz=88,SNR=8.1
A29A Manning Farm, 88.22 343 ⇓P P 00 13 35.6 0.0
baz=88,SNR=24
B27A Peters Farms, 88.23 342 ⇓P P 00 13 36.2 +0.5
baz=88
C24A Savage 88.27 340 ⇑P P 00 13 36.4 +0.5
baz=89,SNR=12
GCMT Greycliff 88.32 336 eP P 00 13 35.9 -0.5
D22A Cohagen 88.43 338 ⇑P P 00 13 37.3 +0.6
baz=89
B26A Jensen Ranch, 88.45 341 ⇓P P 00 13 37.7 +1.0
baz=89
E20A Meyer Farm, Mu 88.45 337 ⇑P P 00 13 37.3 +0.5
baz=89,SNR=6.5
A28A Rude Farm, Bot 88.45 343 ⇑P P 00 13 37.7 +1.0
baz=89
MFID Camas Ranch 88.53 331 eP P 00 13 36.7 -0.7
comp=Z,18nm,1.3s
MCMT McKenzie Canyo 88.59 333 eP P 00 13 38.2 +0.4
D21A La Casta Ranch 88.60 338 ⇓P P 00 13 38.6 +1.0
baz=89
E19A Rath Farm, Rou 88.62 336 ⇓P P 00 13 37.7 0.0
baz=89,SNR=5.1
C23A Lambert 88.73 339 ⇓P P 00 13 38.4 +0.3
baz=89

ULM Lac du Bonnet 88.76 346 eP P 00 13 37.3 -0.8
ULM pmax pmax
comp=Z,22nm,1.1s
ULM Lac du Bonnet 88.76 346 P P 00 13 37.6 -0.5
comp=Z,14nm,1.0s,baz=156,slow=3.2,SNR=13
ULM Lac du Bonnet 88.76 346 eP P 00 13 37.3 -0.8
comp=Z,22nm,1.1s
WVOR Wild Horse Val 88.86 328 eP P 00 13 38.8 -0.2
WVOR pmax pmax
comp=Z,35nm,1.4s
WVOR MLR MLR
comp=Z,700nm,18.0s
WVOR Wild Horse Val 88.86 328 eP P 00 13 38.8 -0.2
comp=Z,35nm,1.4s
WVOR LR LR
comp=Z,700nm,18.0s
BOZ Bozeman (W) 88.87 334 eP P 00 13 38.9 0.0
BOZ pmax pmax
comp=Z,11nm,1.4s
BOZ Bozeman (W) 88.87 334 eP P 00 13 38.9 0.0
comp=Z,11nm,1.4s
A26A Wade Farm, Ken 88.88 342 ⇑P P 00 13 39.0 +0.3
baz=89,SNR=5.1
C22A Vida 88.88 339 ⇑P P 00 13 39.7 +0.9
baz=89
DLMT Dillon 88.96 334 eP P 00 13 39.4 0.0
comp=Z,30nm,1.5s
D20A Manuel Ranch, 88.98 337 ⇑P P 00 13 39.5 +0.2
baz=89
DGMT Dagmar 89.06 340 eP P 00 13 39.0 -0.6
comp=Z,61nm,1.4s
DGMT Dagmar 89.06 340 ⇑P P 00 13 40.0 +0.4
baz=89
MOD Modoc 89.15 327 eP P 00 13 40.7 +0.4
comp=Z,25nm,1.4s
A25A Svangstu Ranch 89.20 341 ⇓P P 00 13 41.5 +1.2
baz=90
B23A Brockton 89.28 340 ⇑P P 00 13 41.7 +1.1
baz=90
D19A Cripps Ranch, 89.28 337 ⇓P P 00 13 41.6 +0.9
baz=90
LRM Limekiln Ridge 89.31 334 eP P 00 13 41.2 +0.1
C21A Desert Coulee 89.31 338 ⇓P P 00 13 41.3 +0.4
baz=90
B22A Reddig Ranch S 89.42 339 ⇓P P 00 13 42.5 +1.2
baz=90
N02D Trinity Center 89.49 325 ⇓P P 00 13 44.0 +2.2
baz=90
M04C Macdoel 89.74 326 ⇑P P 00 13 45.8 +2.7
baz=90
C19A Slack Wire Ran 89.83 337 ⇑P P 00 13 43.9 +0.6
baz=90
HRY Holter Researc 89.86 335 eP P 00 13 42.9 -0.6
LSZ Lusaka 90.00 109 eP P 00 13 44.0 -1.0
LSZ pmax pmax
comp=Z,17nm,1.1s
LSZ MLR MLR
comp=Z,2µm,19.0s
LSZ Lusaka 90.00 109 eP P 00 13 44.0 -1.0
comp=Z,17nm,1.1s
LSZ LR LR
comp=Z,2µm,19.0s
A22A Carney Farms, 90.02 339 ⇓P P 00 13 44.6 +0.5
baz=90,SNR=5.0
K05A Summer Lake 90.07 327 eP P 00 13 44.5 -0.2
comp=Z,103nm,1.9s
A21A Bergtoll Ranch 90.31 339 ⇑P P 00 13 45.7 +0.3
baz=91
BMO Blue Mountains 90.31 330 eP P 00 13 45.2 -0.5
comp=Z,10nm,1.3s
EGMT Eagleton 90.31 337 ⇓P P 00 13 46.4 +0.8
baz=91
B19A Brinkman Farms 90.44 337 ⇑P P 00 13 46.2 +0.2
baz=91
A20A Cobblestone Ra 90.50 338 ⇓P P 00 13 46.3 -0.1
baz=91
CHMT Chamberlain Mo 90.53 334 eP P 00 13 46.5 -0.2
I07A Izee 90.58 329 eP P 00 13 45.7 -1.2
comp=Z,156nm,2.8s
J05D Fort Rock, OR 90.67 327 ⇓P P 00 13 49.3 +1.8
baz=91
MSO Missoula 90.70 333 eP P 00 13 47.0 -0.5
comp=Z,42nm,2.3s
MSO Missoula 90.70 333 ⇓P P 00 13 49.3 +1.9
baz=91
A19A Klindworth Far 90.80 338 ⇑P P 00 13 48.1 +0.3
baz=91
SLMT Seeley Lake 90.90 334 eP P 00 13 48.1 -0.3
F10A Beach Ranch, E 91.21 331 eP P 00 13 48.8 -1.0
comp=Z,119nm,2.6s
SWMT Swartz Lake 91.30 334 eP P 00 13 49.1 -1.1
G08A Pilot Rock 91.34 330 eP P 00 13 50.9 +0.5
comp=Z,12nm,1.4s
I04A Tendick Farm, 91.59 327 ⇑P P 00 13 54.8 +3.2
baz=92
JTMT Jette 91.61 334 eP P 00 13 51.8 +0.2
YBMT Yellow Bay 91.61 334 eP P 00 13 51.2 -0.4
BLMT Blacktail Moun 91.86 334 eP P 00 13 51.8 -1.1
BSMT Bassoo Peak 91.88 334 eP P 00 13 52.8 -0.1
HAWA Hanford 92.47 330 eP P 00 13 55.6 +0.1
comp=Z,41nm,1.8s
WALA Waterton Lakes 92.59 335 eP P 00 13 56.0 -0.2
comp=Z,44nm,1.8s
D08A Wollman Farm, 92.77 331 eP P 00 13 57.3 +0.4
comp=Z,18nm,1.4s
NEW Newport 93.08 332 PFAKE 00 14 10.0 +12
NEW LR LR
comp=Z,700nm,22.0s
C09A Chrisman Ranch 93.13 332 eP P 00 13 58.1 -0.4
comp=Z,27nm,1.6s
FFC Flin Flon 94.25 344 eP P 00 14 02.6 -0.9
FFC pmax pmax
comp=Z,67nm,2.5s
FFC Flin Flon 94.25 344 eP P 00 14 02.6 -0.9
comp=Z,67nm,2.5s
MDT Midelt 94.30 52 P P 00 14 05.2 +0.8
comp=Z,1.4nm,0.8s,baz=135,slow=0.7,SNR=3.7
FCC Fort Churchill 96.59 349 eP P 00 14 13.7 -0.3
FCC Fort Churchill 96.59 349 eP P 00 14 13.7 -0.3
comp=Z,111nm,2.9s
DZM Mont Dzumac 98.82 234 eLR LR 00 46 42.0
comp=Z,884nm,26.2s
ESDC Sonseca Array 99.17 47 P Pdif 00 14 26.1 -0.1
comp=Z,1.0nm,0.9s,baz=288,slow=4.9,SNR=4.0
ESDC LR LR 00 58 14.9
comp=Z,468nm,20.1s,baz=235,slow=35
YKA Yellowknife Ar 104.19 342 Pdiff Pdif 00 14 47.2 -0.7
comp=Z,0.7nm,1.1s,baz=148,slow=4.8,SNR=6.1
YKA PKKPbc PKKPbc 00 30 37.3 -0.1
comp=Z,0.1nm,0.3s,baz=309,slow=4.4,SNR=3.6
YKB5 Yellowknife Ar 104.19 342 ePKKPbc PKKPbc 00 30 37.4 -0.1
STKA Stephens Creek 104.40 210 PFAKE 00 15 00.0 +10
STKA LR LR
comp=Z,200nm,18.2s
KMBO Kilima Mbogo 105.76 104 PFAKE 00 19 20.0
KMBO LR LR
comp=Z,1µm,20.0s
BNI Bardonecchia 108.69 47 PFAKE 00 19 20.0
BNI LR LR
comp=Z,1µm,21.0s
WDD Wield Dalam 108.81 59 PFAKE 00 19 30.0
WDD LR LR
comp=Z,2µm,20.0s
EDI Edinburgh 109.72 34 PFAKE 00 19 30.0
EDI LR LR
comp=Z,400nm,20.4s
VLC Villacollemand 110.45 50 PFAKE 00 19 30.0
VLC LR LR
comp=Z,500nm,22.0s
WLF Walferdange 110.88 43 PFAKE 00 19 30.0
WLF LR LR
comp=Z,1µm,20.0s
CEL Celeste 110.98 57 PFAKE 00 19 30.0
CEL LR LR
comp=Z,1µm,18.0s
TUE Stuetta 111.03 47 PFAKE 00 19 30.0
TUE LR LR
comp=Z,1µm,18.0s
FUORN Ofenpass-Fuorn 111.64 47 PFAKE 00 19 30.0
FUORN LR LR
comp=Z,1µm,21.6s
CUC Castrocucco 111.81 56 PFAKE 00 19 30.0
CUC LR LR
comp=Z,900nm,18.0s
TIP Timpagrande 112.03 57 PFAKE 00 19 30.0
TIP LR LR
comp=Z,800nm,19.0s

STU Stuttgart 112.12 45 PFAKE 00 19 30.0
STU LR LR
comp=Z,800nm,20.0s
HNR Honiara 112.18 239 PFAKE 00 19 30.0
HNR LR LR
comp=Z,600nm,19.0s
FURI Furi 112.93 96 PFAKE 00 19 30.0
FURI LR LR
comp=Z,600nm,18.0s
DIV Divide 113.66 330 PFAKE 00 19 30.0
DIV LR LR
comp=Z,500nm,19.2s
GEC2 GERESS Array S 114.76 47 ePKIKP PKPdf 00 19 25.2 +0.2
GEC2 GERESS Array S 114.76 47 ePKiKP PKPdf 00 19 25.1 +0.2
GERES GERESS Array B 114.76 47 PKP PKPdf 00 19 25.1 +0.2
comp=Z,1.8nm,0.9s,baz=180,slow=0.9,SNR=5.5
KHC Kasperske Hory 114.82 46 PFAKE 00 19 40.0 +15
KHC LR LR
comp=Z,700nm,18.9s
CLL Collm 115.50 44 PFAKE 00 19 40.0 +14
CLL LR LR
comp=Z,600nm,20.0s
RUE Ruedersdorf 116.45 43 PFAKE 00 19 40.0 +12
RUE LR LR
comp=Z,700nm,21.0s
PKSM Moragy 116.55 51 ⇓PKIKP PKPdf 00 19 28.6 +0.2
PKSM Moragy 116.55 51 ⇓P PKPdf 00 19 28.6 +0.2
MSEY Mahe Island 117.06 119 PFAKE 00 19 40.0 +10
MSEY LR LR
comp=Z,500nm,19.0s
RGN Rugen 117.11 41 PFAKE 00 19 40.0 +11
RGN LR LR
comp=Z,600nm,19.0s
MORC Moravsky Berou 117.42 47 PFAKE 00 19 40.0 +10
MORC LR LR
comp=Z,400nm,21.0s
VYHS Vyhne 117.65 49 ePKIKP PKPdf 00 19 31.2 +0.7
VYHS Vyhne 117.65 49 ePKP PKPdf 00 19 31.2 +0.7
WRA Warramunga Arr 117.95 210 PKP PKPdf 00 19 30.8 -1.3
comp=Z,0.7nm,0.9s,baz=160,slow=1.8,SNR=4.2
PSZ Piszkesteto 118.06 50 PFAKE 00 19 40.0 +8.7
PSZ LR LR
comp=Z,600nm,21.0s
DRGR 119.35 52 ⇑PKIKP PKPdf 00 19 34.3 +0.4
DRGR 119.35 52 ⇑P PKPdf 00 19 34.3 +0.4
TRPA Tarpa 119.77 50 ⇑P PKPdf 00 19 34.3 -0.2
UZH Uzhgorod 119.81 50 ePKIKP PKPdf 00 19 45.1 +11
KOLS Kolonicke sedl 119.91 49 ePKIKP PKPdf 00 19 34.9 +0.1
KOLS Kolonicke sedl 119.91 49 ePKP PKPdf 00 19 34.9 +0.1
ARR Arges 120.02 54 ⇑P PKPdf 00 19 35.4 +0.2
VOIR 120.31 54 ⇑PKIKP PKPdf 00 19 36.5 +0.7
VOIR 120.31 54 ⇑P PKPdf 00 19 36.5 +0.7
KWP Kalwaria Pacla 120.44 49 ePKIKP PKPdf 00 19 36.4 +0.6
KWP Kalwaria Pacla 120.44 49 ePKP PKPdf 00 19 36.4 +0.6
KWP Kalwaria Pacla 120.44 49 ⇓P PKPdf 00 19 36.5 +0.6
KWP Kalwaria Pacla 120.44 49 PFAKE 00 19 50.0 +14
KWP LR LR
comp=Z,600nm,21.0s
BUR04 Bucovina Ar. S 121.24 51 ePKPdf PKPdf 00 19 37.4 -0.2
BURAR Bucovina Array 121.24 51 ⇑PKIKP PKPdf 00 19 38.1 +0.6
BURAR Bucovina Array 121.24 51 ⇑P PKPdf 00 19 38.1 +0.6
VRI Vrincioaia 121.56 54 ⇓PKIKP PKPdf 00 19 37.4 -0.7
VRI Vrincioaia 121.56 54 ⇓P PKPdf 00 19 37.4 -0.7
TESR Tescani 121.75 53 ⇓P PKPdf 00 19 38.0 -0.4
CFR Carcaliu 122.23 55 ⇑PKIKP PKPdf 00 19 39.4 +0.1
CFR Carcaliu 122.23 55 ⇑P PKPdf 00 19 39.3 0.0
SUW Suwalki 122.25 44 ePKIKP PKPdf 00 19 39.1 0.0
SUW Suwalki 122.25 44 ePKP PKPdf 00 19 39.1 0.0
SUW Suwalki 122.25 44 ePKPdf PKPdf 00 19 37.5 -1.6
SUW LR LR
comp=Z,700nm,20.0s
BR231 Keskin MP Arra 123.45 62 ePKPdf PKPdf 00 19 42.1 +0.1
BR101 Keskin Array S 124.03 63 ePKPdf PKPdf 00 19 42.8 -0.4
BR101 ePP PP 00 21 29.4 +1.3
BRTR Keskin Array B 124.03 63 PKP PKPdf 00 19 42.8 -0.4
comp=Z,3.0nm,0.9s,baz=194,slow=2.7,SNR=14
BRTR PP PP 00 21 29.4 +1.3
comp=Z,2.8nm,1.1s,baz=258,slow=5.9,SNR=3.7
AK11 Malin Array Si 124.70 49 ePKPdf PKPdf 00 19 42.1 -1.8
AK11 ePKPdf PKiKP 00 19 42.8 -1.4
KIEV Kiev 124.73 49 ePKIKP PKPdf 00 19 42.8 -1.2
KIEV Kiev 124.73 49 ePKPdf PKPdf 00 19 42.8 -1.2
AKASG Malin Array Be 124.75 49 PKP PKPdf 00 19 43.0 -0.9
comp=Z,3.1nm,0.8s,baz=264,slow=2.6,SNR=19
AKASG PP PP 00 21 29.6 -2.8
comp=Z,1.2nm,0.7s,baz=254,slow=7.8,SNR=8.0
AKBB Malin Array Si 124.75 49 ePKIKP PKPdf 00 19 43.1 -0.9
AKBB e 00 21 29.6
AKBB Malin Array Si 124.75 49 ePKPdf PKPdf 00 19 43.0 -0.9
AKBB ePP PP 00 21 29.6 -2.8
FIA0 FINESS Array S 125.76 36 ePKIKP PKPdf 00 19 44.6 -1.0
FIA0 FINESS Array S 125.76 36 ePKPdf PKPdf 00 19 44.6 -1.0
FINES FINESS Array B 125.76 36 PKP PKPdf 00 19 44.6 -1.0
comp=Z,2.8nm,1.0s,baz=318,slow=2.6,SNR=4.1
RAYN Ar Rayn 126.32 86 ePKPdf PKPdf 00 19 47.5 -0.5
ARA0 ARCESS Array S 126.85 26 ePKPdf PKPdf 00 19 46.2 -1.3
ARCES ARCESS Array B 126.85 26 PKP PKPdf 00 19 46.2 -1.3
comp=Z,2.6nm,0.8s,baz=275,slow=2.0,SNR=2.6
MALT Malatya 126.99 66 ⇓PKIKP PKPdf 00 19 49.9 +1.0
MALT Malatya 126.99 66 ⇓P PKPdf 00 19 49.9 +1.0
SAUI Saumlaki 129.95 213 PFAKE 00 20 10.0 +15
SAUI LR LR
comp=Z,700nm,21.0s
OBN Obninsk 130.07 45 ePKPdf PKPdf 00 19 53.4 -0.6
KIV Kislovodsk 131.76 60 ePKIKP PKPdf 00 19 59.1 +1.4
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 131.76 60 ePKPdf PKPdf 00 19 58.0 +0.3
KLMR Klimovskoe 132.15 37 ePKIKP PKPdf 00 19 55.8 -2.0
KLMR pmax pmax
comp=Z,35nm,1.7s
GOF Gofitskoye 132.27 59 ePKIKP PKPdf 00 19 56.2 -2.3
ZEI Tsey 132.33 62 ePKIKP PKPdf 00 19 57.5 -1.5
ZEI pmax pmax
comp=Z,4.0nm,1.2s
PRGR Permogore 135.08 36 ePKIKP PKPdf 00 20 02.4 -0.8
PRGR pmax pmax
comp=Z,12nm,0.9s
CISI Cisompet, Garu 136.04 182 PFAKE 00 20 20.0 +13
CISI LR LR
comp=Z,500nm,20.0s
TNTI Ternate 139.49 213 PFAKE 00 20 20.0 +7.0
TNTI LR LR
comp=Z,1µm,22.0s
LUWI Luwuk 139.63 205 PFAKE 00 20 20.0 +6.8
LUWI LR LR
comp=Z,400nm,22.0s
GEYT Alibeck 141.72 73 PKhKP PKPpre 00 20 11.1
comp=Z,4.9nm,1.0s,baz=267,slow=5.6,SNR=13
TOLI Toli-Toli 142.32 204 PFAKE 00 20 30.0 +12
TOLI LR LR
comp=Z,700nm,20.0s
PALK Pallekele 142.41 135 PFAKE 00 20 30.0 +12
PALK LR LR
comp=Z,400nm,20.0s
ARU Arti 142.42 43 ePKHKP PKPpre 00 20 11.5
ARU Arti 142.42 43 ePKPpre PKPpre 00 20 11.5
TIXI Tiksi 143.06 348 ePKHKP PKPpre 00 20 12.2
TIXI Tiksi 143.06 348 ePKPpre PKPpre 00 20 12.2
BKNI Bangkinang 143.51 171 ePKPpre PKPpre 00 20 16.2
BKNI LR LR
comp=Z,900nm,20.0s
GSI Gunungsitoli 143.87 165 ePKPpre PKPpre 00 20 18.1
ABKAR Akbulak array 144.12 54 ePKPdf PKPab 00 20 18.3 +0.5
KSM Kuching 144.86 186 ePKPdf PKPab 00 20 21.1 -0.4
MYKOM Kota Tinggi 145.24 175 ePKPbc PKPbc 00 20 21.9 -0.9
SBUM Sibu 145.60 190 ePKPdf PKPdf 00 20 23.3 -0.5
DAV Davao City (W) 145.87 215 PFAKE 00 20 40.0 +15
DAV LR LR
comp=Z,1µm,19.0s
MYLDM Lahad Datu 146.86 202 PFAKE 00 20 40.0 +11
MYLDM LR LR
comp=Z,1µm,20.0s
LHMI Lhok Sumawe 147.51 162 ePKPdf PKPdf 00 20 26.5 -0.5
IPM Ipoh 147.60 170 ePKPdf PKPdf 00 20 26.0 -1.2
IPM LR LR
comp=Z,800nm,19.0s
KKM Kota Kinabalu 148.32 198 PFAKE 00 20 40.0 +5.1
KKM LR LR
comp=Z,1µm,18.0s
KULM Kulim 148.34 169 ePKPdf PKPdf 00 20 27.3 -1.0
KULM LR LR
comp=Z,800nm,19.0s
HYB Hyderabad 148.69 120 iPKP PKPbc 00 20 32.0 -0.6
KBL Kabul 149.48 83 ePKPdf PKPdf 00 20 29.2 -0.6
KBL ePKPbc PKPbc 00 20 34.3 -0.1
KBL LR LR
comp=Z,399nm,21.7s
BRVK Borovoye 149.84 45 ePKPdf PKPdf 00 20 30.2 +0.7
BRVK ePKPbc PKPbc 00 20 35.5 +1.1
BRVK LR LR
comp=Z,800nm,20.0s
VOSK Vostochnaya 150.35 46 ePKIKP PKPdf 00 20 30.7 +0.3
VOSK e 00 20 36.2
VOSK Vostochnaya 150.35 46 ePKPdf PKPdf 00 20 30.7 +0.3
VOSK ePKPbc PKPbc 00 20 36.2 +0.6
YAK Yakutsk 150.79 338 ePKIKP PKPbc 00 20 35.2 -1.1
YAK pmax pmax
comp=Z,53nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.6s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK Yakutsk 150.79 338 ePKPdf PKPdf 00 20 29.1 -1.6
YAK ePKPbc PKPbc 00 20 36.0 -0.3
YSS Yuzh-Sakhalins 151.39 303 ePKIKP PKPab 00 20 45.0 -1.5
KKAR Karatay Array 151.69 66 ePKIKP PKPdf 00 20 32.6 -0.2
KKAR e 00 20 39.0
KKAR Karatay Array 151.69 66 ePKPdf PKPdf 00 20 32.6 -0.2
KKAR ePKPbc PKPbc 00 20 39.0 -0.1
ASAJ Asahikawa 151.77 297 PFAKE 00 20 40.0 +0.8
ASAJ LR LR
comp=Z,2µm,20.3s
AML Almayashu 154.05 68 P PKPab 00 20 58.5 0.0
SNR=5.7
EKS2 Erkin-Say 154.10 66 ePKIKP PKPdf 00 20 36.7 +0.2
EKS2 e 00 20 45.3
EKS2 e 00 20 57.1
EKS2 MLR MLR
comp=Z,400nm,18.0s
EKS2 Erkin-Say 154.10 66 ePKPdf PKPdf 00 20 36.7 +0.2
EKS2 ePKPbc PKPbc 00 20 45.3 +0.7
EKS2 ePKPab PKPab 00 20 57.1 -1.2
EKS2 LR LR
comp=Z,400nm,18.0s
AAK Ala-Archa 154.63 66 P PKPbc 00 20 46.9 +1.1
SNR=5.8
AAK Ala-Archa 154.63 66 ePKIKP PKPdf 00 20 36.9 -0.4
AAK e 00 20 46.8
AAK e 00 20 46.9
AAK MLR MLR
comp=Z,400nm,18.0s
AAK Ala-Archa 154.63 66 ePKPdf PKPdf 00 20 36.9 -0.4
AAK ePKPdf PKPdf 00 20 37.4 +0.2
AAK ePKPbc PKPbc 00 20 46.8 +1.1
AAK ePKPbc PKPbc 00 20 46.9 +1.1
AAK ePKPab PKPab 00 21 01.3 +0.7
AAK ePKPab PKPab 00 21 01.3 +0.7
AAK LR LR
comp=Z,400nm,18.0s
MAJO Matsushiro 154.70 279 PFAKE 00 20 50.0 +4.1
MAJO LR LR
comp=Z,2µm,20.0s
CHMS Chumysh 154.80 65 P PKPab 00 21 01.6 +0.4
SNR=6.6
KBK Karagaybulak 154.96 66 P PKPab 00 21 03.4 +1.4
SNR=5.6
KZA Kyzart 155.21 68 P PKPab 00 21 04.4 +0.9
SNR=6.9
TKM2 Tokmak 2 155.42 66 P PKPab 00 21 04.5 +0.5
SNR=7.5
TKM2 Tokmak 2 155.42 66 ePKIKP PKPdf 00 20 38.4 0.0
TKM2 e 00 21 04.0
TKM2 MLR MLR
comp=Z,200nm,19.0s
TKM2 Tokmak 2 155.42 66 ePKPdf PKPdf 00 20 38.4 0.0
TKM2 ePKPab PKPab 00 21 04.0 -0.1
TKM2 LR LR
comp=Z,200nm,19.0s
KURK Kurchatov 155.51 46 ePKIKP PKPdf 00 20 37.1 -0.8
KURK e 00 21 04.0
KURK Kurchatov 155.51 46 ePKPdf PKPdf 00 20 37.1 -0.8
KURK ePKPab PKPab 00 21 04.0 +0.2
NVS Novosibirsk 155.73 34 ePKIKP PKPdf 00 20 37.0 -1.1
NVS pmax pmax
comp=Z,34nm,1.8s
KSH Kashi 155.75 74 ePKP PKPdf 00 20 39.0 +0.2
KSH epPKP pPKPdf 00 20 49.3 +1.5
KSH esPKP 00 20 54.0
KSH eSKS SKSdf 00 27 40.8 -2.6
KSH eSKKS SKKSac 00 31 28.5 -2.0
KSH eSS SS 00 44 24.5 -4.6
KSH AMB AMB
comp=Z,68nm,8.4s
KSH LR LR
comp=Z,30nm,3.7s
KSH LR LR
comp=Z,32nm,3.9s
KSH LR LR
comp=Z,340nm,15.9s
ZAA1 Zalesovo Array 157.01 34 ePKPdf PKPdf 00 20 39.2 -0.6
ZAA1 ePKPab PKPab 00 21 11.2 +1.0
ZAA0 Zalesovo Array 157.01 34 ePKPdf PKPdf 00 20 38.3 -1.5
ZAA0 ePKPab PKPab 00 21 11.0 +0.9
ZALV Zalesovo Beam 157.01 34 PKP PKPdf 00 20 39.2 -0.6
comp=Z,10nm,1.0s,baz=282,slow=2.7,SNR=25
ZALV PKPab PKPab 00 21 11.2 +1.0
comp=Z,14nm,1.0s,baz=297,slow=6.5,SNR=9.4
BOD Bodaibo 158.24 349 ePKP2 PKPab 00 21 14.7 -0.6
BOD pmax pmax
comp=Z,16nm,1.3s
KOLN Koldanda 158.64 108 ePn PKPdf 00 20 42.3 -0.6
DANN Dangsing 159.05 107 ePn PKPdf 00 20 43.3 -0.2
JOW Kunigami 159.20 248 PFAKE 00 20 50.0 +6.6
JOW LR LR
comp=Z,3µm,19.3s
MK32 Makanchi Array 159.26 53 ePKPdf PKPdf 00 20 42.8 -0.1
MK32 ePKPab PKPab 00 21 20.4 +0.1
MK32 ePP PP 00 25 02.2 +0.4
MKAR Makanchi Array 159.26 53 PKP PKPdf 00 20 42.8 -0.1
comp=Z,5.8nm,1.0s,baz=307,slow=2.6,SNR=25
MKAR PKPab PKPab 00 21 20.4 +0.1
comp=Z,5.1nm,0.9s,baz=289,slow=3.7,SNR=8.1
MKAR PP PP 00 25 02.2 +0.4
comp=Z,4.3nm,1.0s,baz=282,slow=6.1,SNR=8.3
MK01 Makanchi Array 159.27 53 ePKPdf PKPdf 00 20 42.4 -0.5
MK01 ePKPab PKPab 00 21 20.5 +0.2
GKN Gorkha 159.55 109 ePn PKPdf 00 20 43.2 -0.7
PKIN Phulchoki 159.91 111 ePn PKPdf 00 20 43.7 -0.8
PKI Pulchoki 159.91 111 ePn PKPdf 00 20 43.8 -0.8
KKN Kakani 159.93 110 ePn PKPdf 00 20 43.6 -0.9
GUN Gumba 160.45 110 ePn PKPdf 00 20 44.5 -0.7
RAMN Ramite 160.46 114 ePn PKPdf 00 20 44.8 -0.3
JIRN Jiri 160.55 112 ePn PKPdf 00 20 44.4 -0.9
CM01 Chiang Mai Arr 160.65 158 ePKPdf PKPdf 00 20 44.5 -0.7
CM01 ePKPab PKPab 00 21 25.5 -1.3
CM31 Chiang Mai Arr 160.68 157 ePKPdf PKPdf 00 20 45.1 -0.1
CM31 ePKPab PKPab 00 21 25.1 -1.8
CMAR Chiang Mai Arr 160.68 157 PKP PKPdf 00 20 45.1 -0.1
comp=Z,0.8nm,0.3s,baz=230,slow=3.8,SNR=7.5
CMAR PKPab PKPab 00 21 25.1 -1.8
comp=Z,0.6nm,0.3s,baz=236,slow=3.3,SNR=5.1
ODAN Odare 160.99 115 ePn PKPdf 00 20 45.1 -0.6
CHTO Chiang Mai 161.01 157 ePKIKP PKPdf 00 20 43.6 -2.0
CHTO Chiang Mai 161.01 157 ePKPdf PKPdf 00 20 43.6 -2.0
TAPN Taplejung 161.50 115 ePn PKPdf 00 20 46.0 -0.3
WMQ Urumqi 163.87 58 PKP PKPdf 00 20 48.3 +0.5
WMQ LR LR
comp=Z,890nm,21.8s
WMQ LR LR
comp=Z,730nm,23.0s
WMQ LR LR
comp=Z,640nm,24.6s
CN2 Changchun 163.96 302 ePKP PKPdf 00 20 48.0 +0.2
CN2 epPKP pPKPdf 00 20 59.0 +2.2
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,600nm,21.0s
CN2 LR LR
comp=Z,700nm,21.0s
CN2 LR LR
comp=Z,600nm,22.0s
IRK Irkutsk 164.29 5 ePKP2 PKPab 00 21 40.9 -1.0
IRK pmax pmax
comp=Z,31nm,1.2s
TLY Talaya 164.80 7 ePKIKP PKPdf 00 20 47.5 -0.8
TLY e 00 21 44.0
TLY Talaya 164.80 7 ePKPdf PKPdf 00 20 47.5 -0.8
TLY ePKPab PKPab 00 21 44.0 -0.2
LSA Lhasa 165.32 114 ePKIKP PKPdf 00 20 50.2 +0.2
LSA e 00 21 48.4
LSA Lhasa 165.32 114 ePKPdf PKPdf 00 20 50.2 +0.2
LSA ePKPab PKPab 00 21 48.4 +0.6
ZAK Zakamensk 166.04 9 ⇑iPKP2 PKPab 00 21 49.8 0.0
ZAK pmax pmax
comp=Z,6.0nm,1.2s
KMI Kunming 168.06 163 PKP PKPdf 00 20 52.5 +0.6
ULN Ulaanbaatar 168.76 359 ePKIKP PKPdf 00 20 49.4 -2.2
ULN e 00 22 01.8
ULN Ulaanbaatar 168.76 359 ePKPdf PKPdf 00 20 49.4 -2.2
ULN ePKPab PKPab 00 22 01.8 -0.2
SONA1 Songino Array 168.78 1 ePKPdf PKPdf 00 20 49.8 -1.8
SONA1 ePKPab PKPab 00 22 01.9 -0.2
SONA0 Songino Array 168.80 1 ePKPdf PKPdf 00 20 50.0 -1.6
SONA0 ePKPab PKPab 00 22 03.1 +1.1
SONA0 ePP PP 00 25 51.8 +1.0
SONM Songino Array 168.80 1 PKP PKPdf 00 20 50.0 -1.6
comp=Z,2.0nm,1.1s,baz=127,slow=0.7,SNR=8.8
SONM PKPab PKPab 00 22 03.1 +1.1
comp=Z,2.9nm,0.9s,baz=343,slow=4.7,SNR=13
SONM PP PP 00 25 51.8 +1.0
comp=Z,1.6nm,1.1s,baz=352,slow=3.6,SNR=3.9
NJ2 Nanjing 168.92 249 ePKP PKPdf 00 20 54.0 +2.0
GYA Guiyang 169.87 180 PKP PKPdf 00 20 52.3 -0.6
GYA pPKP pPKPdf 00 21 04.0 +2.1
GYA PKPab PKPab 00 22 09.0 +1.7
GYA PKS PKSdf 00 24 23.5 -2.1
GYA PP PP 00 26 00.8 +4.6
GYA SKKS 00 32 41.8
GYA SS SS 00 46 53.5 +1.0
GYA AMB AMB
comp=Z,140nm,8.5s
GYA LR LR
comp=Z,140nm,21.5s
GYA LR LR
comp=Z,120nm,21.2s
GYA LR LR
comp=Z,150nm,24.4s
CD2 Chengdu 173.82 156 PKP PKPdf 00 20 54.5 0.0
CD2 pPKP pPKPdf 00 21 05.8 +2.2
CD2 sPKP 00 21 09.5
CD2 PKS PKSdf 00 24 25.3 -1.5
CD2 PP PP 00 26 20.0 +4.0
CD2 SKS SKSdf 00 27 52.3 -3.6
CD2 SKKS SKKSac 00 33 00.8 -0.5
CD2 AMB AMB
comp=Z,220nm,6.2s
GTA Gaotai 173.94 61 ePKP PKPdf 00 20 54.5 +0.1
GTA pPKP pPKPdf 00 21 04.8 +1.3
GTA sPKP 00 21 08.8
GTA PKPab PKPab 00 22 26.3 +0.9
GTA PP PP 00 26 20.3 +2.5
GTA SKS SKSdf 00 27 52.5 -3.2
GTA SKKS SKKSac 00 33 00.8 -1.4
GTA SS SS 00 47 31.3 -3.6
GTA AMB AMB
comp=Z,140nm,8.0s
GTA LR LR
comp=Z,2µm,16.9s
GTA LR LR
comp=Z,2µm,15.8s
HHC Hu-ho-hao-te 174.29 319 ePKP PKPdf 00 20 55.0 +0.5
HHC pPKP pPKPdf 00 21 05.5 +2.0
HHC sPKP 00 21 10.0
HHC PKS PKSdf 00 24 24.8 -1.9
HHC PP PP 00 26 18.5 -0.3
HHC SKS SKSdf 00 27 46.8 -8.9
HHC SKKS SKKSac 00 33 03.0 -0.5
HHC AMB AMB
comp=Z,220nm,9.4s
HHC LR LR
comp=Z,440nm,18.9s
HHC LR LR
comp=Z,430nm,20.7s
HHC LR LR
comp=Z,410nm,19.1s
XAN Xi'an 176.81 217 PKP PKPdf 00 20 54.5 -0.7
LZH Lanzhou 177.69 103 ePKP PKPdf 00 20 56.3 +0.8
LZH pPKP pPKPdf 00 21 06.8 +2.3
LZH sPKP 00 21 11.3
LZH PP PP 00 26 37.0 +1.0
LZH SKKS 00 33 19.5
LZH SS SS 00 48 07.0 -4.3
LZH AMB AMB
comp=Z,380nm,10.0s
LZH LR LR
comp=Z,2µm,20.3s
LZH LR LR
comp=Z,3µm,21.0s
LZH LR LR
comp=Z,1µm,16.3s

IDC 28 00:01:47.0±3.3, 38.°50S×74.°00W, h0km, mb4.9/4, mb1 5.1/4, mb1mx4.5/30, mbtmp4.9/4, MS4.9/1, Ms1 4.9/1, ms1mx4.1/16, Error ellipse: s-maj=144.0km s-min=36.5km az=27.0

ISC 28 00:01:52.3±3.5, 38.°5S±1.°0×74.°0W±0.°5, h35km, n9, σ0.s91/8, mb4.8/4, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ROSC El Rosal 43.15 360 LR LR 00 25 52.9
comp=Z,1µm,19.1s,baz=202,slow=34
TXAR Lajitas Array 72.96 333 P P 00 13 18.6 +0.4
9.0nm,0.8s,baz=155,slow=9.4,SNR=12
DBIC Dimbokro 78.14 72 P P 00 13 48.3 +0.1
27nm,0.8s,baz=200,slow=5.9,SNR=6.0
PDAR Pinedale Array 87.10 335 P P 00 14 34.5 +0.1
3.9nm,1.0s,baz=134,slow=4.3,SNR=3.9
TORD Torodi Ar. Bea 87.23 71 P P 00 14 35.6 +0.3
4.4nm,0.6s,baz=220,slow=5.4,SNR=7.6
GERES GERESS Array B 116.42 47 PKP PKPdf 00 20 30.4 -1.4
1.3nm,0.9s,baz=222,slow=1.8,SNR=3.5
BRTR Keskin Array B 125.33 64 PKP PKPdf 00 20 50.4 +1.0
2.0nm,0.8s,baz=203,slow=3.7,SNR=5.6
MKAR Makanchi Array 160.77 57 PKPab PKPab 00 22 30.2 -0.3
4.1nm,0.8s,baz=278,slow=2.9,SNR=5.6
SONM Songino Array 170.68 358 PKPab PKPab 00 23 13.3 -0.8
3.1nm,0.9s,baz=326,slow=3.7,SNR=6.1

IDC 28 00:07:00.7±2.4, 33.°83S×72.°09W, h0km, mb4.0/2, mb1 4.2/4, mb1mx3.8/29, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=56.9km s-min=35.7km az=174.0
SJA 28 00:07:03.0±0.6, 33.°48S×72.°48W, h52km±9km, ML4.1

ISC 28 00:07:05.3±3.7, 33.°5S±0.°2×72.°5W±0.°3, h40km±31km, n12, σ0.s42/17, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AUSP Uspallata 2.91 64 eP Pn 00 07 49.6 +0.2
AUSP eS Sn 00 08 23.5 +0.3
ARCO CERRO ARCO 3.06 78 eP Pn 00 07 51.4 +0.1
ARCO AML AML 00 08 31.8
comp=Z,578nm,0.4s
AAGR Agrelo 3.09 83 eP Pn 00 07 51.7 0.0
RTLS Leoncito 3.19 58 eP Pn 00 07 53.2 0.0
RTLS eS Sn 00 08 30.6 +0.5
ASAL Salagasta 3.20 74 eP Pn 00 07 53.2 +0.1
ASAL eS Sn 00 08 30.3 +0.2
AVIZ Vizcacheras 3.32 90 eP Pn 00 07 54.7 -0.1
RTLL Cerro Villicun 4.03 58 eP Pn 00 08 04.9 +0.3
RTLL eS Sn 00 08 50.6 0.0
CFAA Coronel Fontan 4.06 63 Pn Pn 00 08 03.9 -1.1
comp=Z,4.3nm,0.3s,baz=232,slow=12,SNR=16
CFAA Sn Sn 00 08 50.8 -0.6
comp=Z,1.6nm,0.3s,baz=103,slow=18,SNR=3.3
CFAA Coronel Fontan 4.06 63 eP Pn 00 08 04.6 -0.4
CFAA eP Pn 00 08 04.6 -0.4
LPAZ La Paz 17.61 14 P P 00 11 09.0 +0.1
comp=Z,0.2nm,0.3s,baz=192,slow=6.0,SNR=6.4
TXAR Lajitas Array 69.14 331 P P 00 18 12.2 +4.6
comp=Z,0.5nm,0.6s,baz=157,slow=7.9,SNR=5.0
TORD Torodi Ar. Bea 84.40 70 P P 00 19 33.9 0.0
comp=Z,1.7nm,0.7s,baz=238,slow=3.2,SNR=11

ISCJB 28 00:18:51.3±0.7, 35.°24S±0.°07×72.°8W±0.°1, h10km, mb4.0/7, Error ellipse: s-maj=13.4km s-min=9.1km az=22.2

IDC 28 00:18:51.4±0.9, 35.21S×72.80W, h0km, mb4.0/7, mb1 4.1/11, mb1mx4.0/28, mbtmp3.9/11, ML4.3/3, Error ellipse: s-maj=27.5km s-min=19.8km az=104.0

NEIC 28 00:18:56.8±0.7, 35.21S×72.71W, h35km, mb4.2/2, Error ellipse: s-maj=16.0km s-min=11.0km az=90.0

ISC 28 00:18:53.0±0.8, 35.23S±0.09×72.8W±0.1, h10km, n16, σ1.22/18, mb4.0/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.27	48	Pn	Pn	00 20 11.0	-0.9
	0.5nm,0.3s,baz=219,slow=6.1,SNR=9.7						
CFAA				Sn	Sn	00 21 13.4	+0.6
	1.0nm,0.3s,baz=106,slow=19,SNR=3.3						
PLCA	Paso Flores	5.78	163	Pn	Pn	00 20 18.9	0.0
	2.2nm,0.3s,baz=342,slow=9.0,SNR=3.7						
PLCA				Lg	Lg	00 21 50.6	
	4.1nm,0.3s,baz=263,slow=23,SNR=3.1						
TRQA	Tornquist	9.16	111	ePn	Pn	00 21 05.0	-0.3
LVC	Limon Verde	13.03	16	ePn	Pn	00 21 58.3	-0.2
	2.4nm,0.5s						
CPUP	Villa Florida	15.98	61	Pn	Pn	00 22 39.4	+1.4
	0.3nm,0.3s,baz=255,slow=18,SNR=1.9						
LPAZ	La Paz	19.33	14	P	P	00 23 19.9	+0.7
	0.2nm,0.3s,baz=178,slow=4.7,SNR=12						
LPAZ	La Paz	19.33	14	eP	P	00 23 19.6	+0.4
	4.5nm,0.7s						
SIV	San Ignacio	21.86	32	P	P	00 23 44.1	-1.9
	14nm,0.9s,baz=217,slow=9.4,SNR=20						
QSPA	South Pole Qui	55.01	180	P	P	00 28 24.4	0.0
	3.2nm,0.9s,baz=196,slow=0.7,SNR=9.8						
QSPA	South Pole Qui	55.01	180	eP	P	00 28 24.7	+0.2
	4.5nm,1.0s						
TXAR	Lajitas Array	70.50	332	P	P	00 30 08.8	+0.8
	0.4nm,0.5s,baz=157,slow=8.5,SNR=7.1						
DBIC	Dimbokro	76.19	71	P	P	00 30 43.6	+1.8
	2.8nm,0.9s,baz=246,slow=8.9,SNR=3.6						
NVAR	Mina Array Bea	84.53	326	P	P	00 31 26.6	+0.2
	0.8nm,0.9s,baz=85,slow=1.6,SNR=4.4						
PDAR	Pinedale Array	84.57	334	P	P	00 31 25.5	-1.0
	0.4nm,0.8s,baz=124,slow=4.7,SNR=3.1						
TORD	Torodi Ar. Bea	85.23	70	P	P	00 31 29.2	-1.0
	0.4nm,0.7s,baz=267,slow=5.5,SNR=3.4						
MKAR	Makanchi Array	158.05	51	PKP	PKPdf	00 38 50.5	+0.7
	0.6nm,1.0s,baz=222,slow=1.6,SNR=3.9						
MKAR				PKPab	PKPab	00 39 20.6	-2.8
	0.4nm,0.8s,baz=325,slow=1.9,SNR=3.6						

IDC 28 00:23:22.4±0.8, 37.29S×73.21W, h0km, mb3.9/9, mb1 4.1/10, mb1mx4.0/26, mbtmp4.0/10, ML4.0/1, Error ellipse: s-maj=34.3km s-min=16.6km az=80.0

ISCJB 28 00:23:26.1±0.8, 37.35S±0.09×72.9W±0.2, h33km, mb3.9/9, Error ellipse: s-maj=21.0km s-min=12.7km az=165.3

NEIC 28 00:23:27.7±0.6, 37.33S×73.01W, h35km, mb4.5/2, Error ellipse: s-maj=20.0km s-min=12.1km az=71.0

ISC 28 00:23:27.4±0.7, 37.35S±0.09×73.1W±0.1, h33km, n20, σ1.01/23, mb3.9/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.91	151	Pn	Pn	00 24 23.1	-2.1
	2.3nm,0.3s,baz=327,slow=13,SNR=4.7						
PLCA				Pg	Pb	00 24 35.2	-0.4
	4.7nm,0.3s,baz=350,slow=22,SNR=6.1						
PLCA				Lg	Lg	00 25 32.1	
	12nm,0.3s,baz=65,slow=17,SNR=6.7						
TRQA	Tornquist	8.82	98	ePn	Pn	00 25 31.4	-1.2
LPAZ	La Paz	21.43	13	P	P	00 28 12.9	-0.4
	2.0nm,0.6s,baz=181,slow=11,SNR=3.9						
SIV	San Ignacio	23.77	30	P	P	00 28 36.6	-0.5
	4.7nm,0.9s,baz=216,slow=9.9,SNR=5.0						
SNAA	Sanae	48.83	157	P	P	00 32 09.9	+0.7
	0.6nm,0.6s,baz=291,slow=7.1,SNR=13						
SNAA	Sanae	48.83	157	eP	P	00 32 10.5	+1.3
QSPA	South Pole Qui	52.90	180	P	P	00 32 41.0	+1.0
	4.9nm,0.8s,baz=307,slow=1.0,SNR=13						
QSPA	South Pole Qui	52.90	180	eP	P	00 32 41.2	+1.2
	5.2nm,0.8s						
TXAR	Lajitas Array	72.27	332	P	P	00 34 47.9	-1.6
	0.3nm,0.6s,baz=152,slow=8.1,SNR=3.5						
DBIC	Dimbokro	77.05	71	P	P	00 35 18.9	+1.4
	3.9nm,0.8s,baz=246,slow=1.5,SNR=5.1						
DBIC	Dimbokro	77.05	71	eP	P	00 35 18.6	+1.1
	3.5nm,0.6s						
BOSA	Boshof	79.26	118	P	P	00 35 29.9	+0.1
	2.0nm,0.7s,baz=200,slow=11,SNR=3.1						
BOSA	Boshof	79.26	118	eP	P	00 35 30.9	+1.1
TORD	Torodi Ar. Bea	86.13	70	P	P	00 36 05.8	+0.4
	0.5nm,0.7s,baz=214,slow=5.0,SNR=4.2						
NVAR	Mina Array Bea	86.17	326	P	P	00 36 05.0	-0.3
	0.2nm,0.4s,baz=156,slow=7.5,SNR=2.5						
BRTR	Keskin Array B	124.14	63	PKP	PKPdf	00 42 22.5	0.0
	0.4nm,0.8s,baz=243,slow=2.6,SNR=2.4						
BVAR	Borovoye Array	150.24	46	PKPbc	PKPbc	00 43 15.3	+0.9
	2.2nm,0.7s,baz=294,slow=3.2,SNR=12						
ZALV	Zalesovo Beam	157.47	35	PKP	PKPdf	00 43 18.2	-1.3
	0.3nm,0.5s,baz=117,slow=0.7,SNR=4.0						
ZALV				PKPab	PKPab	00 43 51.3	+0.1
	1.2nm,0.7s,baz=320,slow=4.4,SNR=5.7						
MKAR	Makanchi Array	159.49	55	PKP	PKPdf	00 43 22.2	+0.1
	0.7nm,0.9s,baz=225,slow=1.2,SNR=5.3						
MKAR				PKPab	PKPab	00 44 00.5	+0.2
	0.5nm,0.9s,baz=300,slow=5.3,SNR=4.0						
SONM	Songino Array	169.51	2	PKPab	PKPab	00 44 44.2	-0.2
	0.4nm,0.7s,baz=15,slow=6.0,SNR=3.4						

IDC 28 00:24:56.5±1.9, 38.62S×74.54W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/24, mbtmp3.9/4, Error ellipse: s-maj=70.7km s-min=38.2km az=63.0

ISC 28 00:25:02.6±1.7, 38.5S±0.3×74.5W±0.4, h35km, n7, σ1.43/7, mb4.0/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	22.84	16	P	P	00 30 04.5	+1.1
	7.3nm,1.1s,baz=158,slow=11,SNR=4.7						
TXAR	Lajitas Array	72.81	334	P	P	00 36 27.3	-0.2
	0.7nm,0.9s,baz=154,slow=9.7,SNR=3.8						
BOSA	Boshof	79.69	118	P	P	00 37 07.8	+0.9
	2.3nm,0.8s,baz=213,slow=3.8,SNR=3.1						
TORD	Torodi Ar. Bea	87.56	71	P	P	00 37 45.6	-1.6
	0.6nm,0.8s,baz=251,slow=4.4,SNR=2.3						
GEYT	Alibeck	143.07	76	PKP	PKPdf	00 44 34.1	+1.6
	0.6nm,0.5s,baz=242,slow=3.1,SNR=3.5						
BVAR	Borovoye Array	151.85	47	PKPbc	PKPbc	00 44 52.4	-0.5
	0.7nm,0.9s,baz=320,slow=3.8,SNR=3.5						
ZALV	Zalesovo Beam	159.06	36	PKPab	PKPab	00 45 32.1	-0.9
	0.4nm,0.6s,baz=320,slow=6.4,SNR=2.5						

GUC 28 00:30:08.8±0.6, 34.07S×72.35W, h20km, ML4.0, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.20	30	eP	Pb	00 30 30.6	-0.1
IHA				iS	Sn	00 30 47.9	+1.8
RCDM	Rinconada Maip	1.41	66	eP	Pb	00 30 34.7	+0.3
RCDM				AML	AML	00 30 57.3	
	comp=E,3μm,0.1s						
STL	Santa Lucia	1.56	67	eP	Pn	00 30 35.7	+0.2
STL				iS	Sb	00 30 56.7	+0.4
ROCH	El Roble	1.56	46	eP	Pn	00 30 32.0	-3.8
ROCH				iS	Sn	00 30 56.1	+0.5
ROCH				AML	AML	00 31 07.2	
	comp=N,2μm,0.6s						
PEL	Peldehue	1.67	57	⇑iP	Pb	00 30 38.6	-0.3
PEL				iS	Sb	00 31 01.6	+2.0
PEL				AML	AML	00 31 07.3	
	comp=N,5μm,0.8s						
FCH	Farellones	1.87	67	eP	Pb	00 30 45.7	+3.0
FCH				eS	Sn	00 31 04.1	+0.7
FCH				AML	AML	00 31 08.9	
	comp=N,4μm,0.2s						

IDC 28 00:35:22.9±0.8, 35.92S×73.03W, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.1/27, mbtmp4.0/14, ML3.7/2, MS3.8/1, Ms1 3.8/1, ms1mx3.3/28, Error ellipse: s-maj=21.9km s-min=14.1km az=91.0

ISCJB 28 00:35:25.5±0.6, 35.91S±0.06×73.1W±0.1, h28km, mb4.1/11, Error ellipse: s-maj=13.3km s-min=8.6km az=13.9

NEIC 28 00:35:28.1±0.7, 35.88S×73.06W, h35km, mb4.4/3, Error ellipse: s-maj=16.7km s-min=10.3km az=85.0

ISC 28 00:35:26.7±0.7, 35.90S±0.08×73.2W±0.1, h28km, n25, σ1.30/22, mb4.3/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.26	157	Pn	Pn	00 36 42.3	-1.3
	1.1nm,0.3s,baz=340,slow=12,SNR=3.0						
PLCA				Lg	Lg	00 38 07.5	
	1.9nm,0.3s,baz=78,slow=24,SNR=5.6						
PLCA	Paso Flores	5.26	157	ePn	Pn	00 36 42.5	-1.1
	46nm,0.8s						
PLCA				Lg	Lg	00 38 07.5	
CFAA	Coronel Fontan	5.97	46	Pn	Pn	00 36 50.2	-3.1
	0.7nm,0.3s,baz=139,slow=20,SNR=6.6						
CFAA				Sn	Sn	00 38 01.9	+1.1
	0.7nm,0.3s,baz=264,slow=19,SNR=2.0						
CFAA				Lg	Lg	00 38 28.1	
	0.9nm,0.3s,baz=343,slow=4.6,SNR=5.4						
TRQA	Tornquist	9.26	107	ePn	Pn	00 37 39.8	+1.4
	36nm,0.8s						
LVC	Limon Verde	13.77	17	ePn	Pn	00 38 38.6	-1.7
CPUP	Villa Florida	16.61	59	LR	LR	00 45 33.8	
	comp=Z,308nm,19.2s,baz=120,slow=37						
LPAZ	La Paz	20.06	14	P	Pn	00 40 00.2	-0.3
	3.6nm,0.7s,baz=182,slow=8.7,SNR=9.6						
LPAZ	La Paz	20.06	14	eP	Pn	00 39 59.7	-0.7
	5.2nm,0.7s						
SIV	San Ignacio	22.60	32	P	P	00 40 24.9	-0.3
	5.9nm,0.9s,baz=181,slow=2.8,SNR=9.5						
BDFB	Brasilia	30.22	55	P	P	00 41 34.6	-0.6
	5.4nm,0.9s,baz=236,slow=9.4,SNR=3.2						
VNA3	Neumayer Olymp	47.98	157	P	P	00 44 09.8	+7.2
VNA2	Neumayer--Watz	48.65	156	P	P	00 44 10.4	+2.7
SNAA	Sanae	50.21	157	P	P	00 44 19.8	+0.2
SNAA	Sanae	50.21	157	P	P	00 44 19.5	-0.2
	2.3nm,0.9s,baz=297,slow=6.5,SNR=8.4						
SNAA	Sanae	50.21	157	eP	P	00 44 18.8	-0.9
	6.3nm,0.9s						
QSPA	South Pole Qui	54.34	180	P	P	00 44 51.2	+0.7
	1.9nm,0.9s,baz=170,slow=2.0,SNR=4.9						
QSPA	South Pole Qui	54.34	180	eP	P	00 44 50.7	+0.2
	5.1nm,1.1s						
TXAR	Lajitas Array	70.93	332	P	P	00 46 42.2	+0.7
	0.7nm,0.6s,baz=156,slow=8.6,SNR=12						
DBIC	Dimbokro	76.71	72	P	P	00 47 15.6	-0.1
	3.1nm,0.7s,baz=213,slow=6.1,SNR=5.8						
BOSA	Boshof	80.05	118	P	P	00 47 33.7	-0.5
	4.1nm,0.9s,baz=211,slow=4.8,SNR=5.1						
BOSA	Boshof	80.05	118	eP	P	00 47 34.0	-0.1
NVAR	Mina Array Bea	84.90	326	P	P	00 48 00.6	+1.5
	0.8nm,0.7s,baz=159,slow=6.2,SNR=6.3						
PDAR	Pinedale Array	85.03	334	P	P	00 48 00.9	+1.3
	0.3nm,0.7s,baz=151,slow=4.5,SNR=3.1						
TORD	Torodi Ar. Bea	85.77	71	P	P	00 48 03.5	-0.2
	1.3nm,1.1s,baz=242,slow=3.7,SNR=4.1						
ULM	Lac du Bonnet	88.08	346	P	P	00 48 14.4	+0.4
	1.9nm,0.7s,baz=215,slow=1.0,SNR=3.9						

IDC 28 00:39:09.7±1.1, 23.77N×121.83E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/36, mbtmp3.6/6, Error ellipse: s-maj=45.1km s-min=24.7km az=60.0

JMA 28 00:39:15.6, 23.95N×121.73E, h27km±1km, M3.9

ISCJB 28 00:39:16.1±0.2, 23.95N±0.02×121.78E±0.02, h26km±2km, mb3.5/6, Error ellipse: s-maj=2.9km s-min=1.9km az=140.8

TAP 28 00:39:16.3, 23.97N×121.71E, h34km, ML4.2, B

ISC 28 00:39:16.2±0.8, 23.95N±0.02×121.75E±0.02, h31km±6km, n84, σ0.89/138, mb3.6/6, 15C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	Hwalien	0.13	280	⇓iP	Pn	00 39 22.4	+0.3
	baz=271						
HWA				iS	Sb	00 39 27.0	+1.3
	baz=271						
TWD	Chiawan	0.19	312	⇓iP	Pn	00 39 22.5	-0.4
	baz=320						
TWD				iS	Sb	00 39 26.9	+0.3
	baz=320						
ESF	Shoufeng Towns	0.23	250	P	Pn	00 39 23.7	+0.2
	baz=240						
TEGC	Jichi Village	0.31	218	eP	Pn	00 39 25.0	+0.5
	baz=200						
ESL	Shilin	0.32	244	P	Pn	00 39 24.0	-0.7
	baz=244						
EHP	Heping Village	0.35	359	eP	Pn	00 39 24.9	-0.3
	baz=11						
EHP				eS	Sn	00 39 31.6	+0.4
	baz=11						
ENA	Nanau	0.47	359	⇓P	Pb	00 39 25.9	-0.3
	baz=5.0						
WHF	Hehuan Shan	0.48	294	⇓iP	Pb	00 39 26.1	-0.5
	baz=287						
WHF				iS	Sb	00 39 32.5	-1.3
	baz=287						
EHY	Hungye	0.59	221	⇑iP	Pb	00 39 27.4	-0.8
	baz=226						
EHY				S	Sb	00 39 35.8	-0.5
	baz=226						
NNS	Nan Shan	0.59	325	⇓iP	Pb	00 39 27.8	-0.5
	baz=322						
NNS				S	Sb	00 39 36.0	-0.6
	baz=322						
TWT	Tachien	0.60	300	⇓iP	Pb	00 39 28.3	-0.1
	baz=299						
TWT				S	Sb	00 39 36.4	-0.5
	baz=299						
TWC	Suao	0.66	8	iP	Pn	00 39 29.1	-0.1
	baz=19						
TWC				iS	Sn	00 39 38.7	0.0
	baz=19						
ENTT	Nioudou	0.70	346	P	Pb	00 39 29.4	-0.6
	baz=350						
ENTT				eS	Sb	00 39 39.1	-0.4
	baz=350						
TWF1	Yuli	0.73	215	⇑iP	Pb	00 39 29.4	-1.0
	baz=223						
TWF1				S	Sb	00 39 39.4	-0.7
	baz=223						
SMLT	Sun Moon Lake	0.78	265	⇑iP	Pb	00 39 30.9	-0.4
	baz=259						
SMLT				S	Sb	00 39 40.9	-0.8
	baz=259						
NSK	Sanguang	0.80	334	⇓iP	Pb	00 39 31.1	-0.6
	baz=336						
NSK				S	Sb	00 39 41.1	-1.2
	baz=336						
ILA	Ilan	0.81	0	eP	Pn	00 39 31.8	+0.3
	baz=355						
TYC	Yuchr	0.81	267	⇑iP	Pb	00 39 31.2	-0.6
	baz=265						
TYC				S	Sb	00 39 41.7	-0.8
	baz=265						
YUS	Yu-Shan	0.86	238	⇑iP	Pn	00 39 32.8	+0.2
	baz=235						
YUS				S	Sb	00 39 43.6	-0.8
	baz=235						
EGS		0.90	11	eP	Pn	00 39 33.5	+0.7
	baz=15						
EGS				eS	Sn	00 39 47.2	+2.5
	baz=15						
CHKT	Chengkung	0.92	202	⇓eP	Pn	00 39 32.3	-0.7
	baz=186						
CHKT				eS	Sn	00 39 46.7	+1.6
	baz=186						
NSTT	Nanjuang	0.96	315	⇓iP	Pb	00 39 34.2	-0.1
	baz=316						
NSTT				iS	Sn	00 39 46.1	+0.1
	baz=316						
ALS	Alishan	0.97	243	⇑iP	Pb	00 39 34.4	-0.2
	baz=232						
ALS				eS	Sb	00 39 46.0	-1.2
	baz=232						
TWQ1	Liyutan	0.97	294	⇑iP	Pb	00 39 34.7	+0.2
	baz=294						
TWQ1				eS	Sn	00 39 47.0	+0.5
	baz=294						
WNT	Mingjian	0.97	266	⇑P	Pb	00 39 34.7	+0.1
	baz=265						
WNT				S	Sn	00 39 47.7	+1.2
	baz=265						
TCU	Taichung	1.00	281	⇑iP	Pb	00 39 35.1	+0.2
	baz=281						
TCU				eS	Sn	00 39 48.7	+1.7
	baz=281						
NSY	Sanyi	1.01	297	eP	Pb	00 39 34.8	-0.3
	baz=297						
NSY				eS	Sn	00 39 48.6	+1.2
	baz=297						
ELDTW	Lidau	1.01	221	eP	Pn	00 39 33.7	-0.7
	baz=210						
TWA	Mucha	1.03	352	eP	Pb	00 39 35.0	-0.6
	baz=344						
TWA				eS	Sb	00 39 47.8	-1.0
	baz=344						
CHN5	Tsauling	1.04	250	⇑iP	Pb	00 39 35.6	-0.1
	baz=238						
CHN5				iS	Sn	00 39 49.7	+1.5
	baz=238						
TWB1	Santiao Chiao	1.07	12	P	Pb	00 39 36.1	-0.1
	baz=15						
TWB1				S	Sb	00 39 50.8	+0.9
	baz=15						
TAP1	Taipei	1.10	349	eP	Pb	00 39 36.1	-0.6
	baz=351						
TAP1				eS	Sn	00 39 49.6	0.0
	baz=351						
HSN	Hsinchu	1.10	320	eP	Pb	00 39 36.9	+0.2
	baz=323						
HSN				S	Sb	00 39 51.5	+0.8
	baz=323						
NWF	Wu-fen Shan	1.11	2	P	Pb	00 39 36.6	-0.3
	baz=351						
NWF				eS	Sb	00 39 52.7	+1.6
	baz=351						
WGK	Gukeng	1.12	256	eP	Pb	00 39 36.6	-0.3
	baz=255						
NCU	National Centr	1.13	333	eP	Pb	00 39 36.6	-0.6
	baz=335						
NCU				S	Sb	00 39 52.3	+0.7
	baz=335						
TWS1	Kuangyinshan	1.18	345	eP	Pb	00 39 37.1	+0.5
	baz=356						
TWS1				eS	Sb	00 39 53.0	0.0
	baz=356						
JYNG	Yonagunijimaku	1.20	65	P	Pn	00 39 37.2	+0.4
JYNG				eS	Sn	00 39 52.9	+0.8
STYT	Tauyuan	1.20	229	⇑P	Pb	00 39 37.5	-0.8
	baz=222						
STYT				S	Sb	00 39 54.1	+0.5
	baz=222						
CHN4	Tsaushan	1.22	241	eP	Pb	00 39 38.5	-0.1
	baz=232						
CHN4				S	Sb	00 39 55.1	+1.1
	baz=232						
CHN2	Minshiung	1.24	250	eP	Pb	00 39 39.2	+0.2
	baz=250						
CHN2				eS	Sb	00 39 56.2	+1.6
	baz=250						
WTP	Ta-pu	1.25	236	⇑P	Pb	00 39 38.8	-0.5
	baz=235						
WTP				eS	Sb	00 39 55.8	+0.7
	baz=235						
YOJ	Yonaguni jima	1.26	66	P	Pn	00 39 38.0	+0.4
YOJ				eS	Sb	00 39 54.6	-0.6
YOJ	Yonaguni jima	1.26	66	iP	Pn	00 39 38.0	+0.4
	baz=68						
YOJ				S	Sn	00 39 54.4	+0.9
	baz=68						
TWG	Pinlang	1.29	209	⇓eP	Pn	00 39 36.9	-1.1
	baz=194						
CHY	Chiayi	1.29	250	eP	Pb	00 39 39.2	-0.7
	baz=249						
CHY				eS	Sb	00 39 57.0	+0.8
	baz=249						
TWY	Chenhua	1.32	354	eP	Pb	00 39 39.6	-0.8
TWK	Hsinying	1.34	240	P	Pb	00 39 40.0	-0.7
	baz=239						
TWK				eS	Sb	00 39 58.1	+0.6
	baz=239						
WTCT	Ta-ch'eng	1.34	266	eP	Pb	00 39 39.8	-0.9
	baz=276						
WTCT				eS	Sb	00 39 57.7	+0.1
	baz=276						
CHN1	Nanshi	1.35	236	⇑eP	Pb	00 39 40.2	-0.7
	baz=236						
CHN1				eS	Sb	00 39 59.9	+2.0
	baz=236						
SGST	Jiashian	1.38	231	⇑eP	Pb	00 39 41.0	-0.3
	baz=231						
SGST				eS	Sb	00 39 59.6	+1.0
	baz=231						
WSF	Szhu	1.43	258	P	Pb	00 39 41.6	-0.7
	baz=257						
WSF				eS	Sb	00 40 00.3	+0.3
	baz=257						
CHN8	Yiju	1.53	247	eP	Pb	00 39 42.8	-1.2
	baz=246						
SSD	Sandimen	1.58	221	eP	Pb	00 39 43.3	-1.4
	baz=221						
SSD				eS	Sb	00 40 04.5	+0.2
	baz=221						
TWM1	Shoushan	1.66	228	eP	Pb	00 39 46.2	+0.1
	baz=238						
TAI1	Yung-k'ang	1.66	237	eP	Pb	00 39 44.9	-1.3
	baz=237						
SGLT	Jiouru	1.68	224	eP	Pb	00 39 45.8	-0.6
	baz=225						
SGLT				eS	Sb	00 40 09.0	+1.8
	baz=225						
EAST	Anshuo	1.77	208	eP	Pn	00 39 44.0	-0.6
	baz=196						
IRIF	Iriomote-Funau	1.85	78	P	Pn	00 39 46.5	+0.7
IRIF				eS	Sn	00 40 09.1	+1.0
HATJ	Hateruma jima	1.89	86	P	Pn	00 39 47.0	+0.8
HATJ				eS	Sn	00 40 10.0	+1.1
KAU	Kaohsiung	1.91	224	eP	Pb	00 39 50.5	+0.1
	baz=240						
LAY	Lan-yu	1.91	185	eP	Pn	00 39 45.3	-1.4
	baz=181						
WDGT	Dungji	2.04	251	⇑P	Pn	00 39 48.8	+0.5
	baz=251						
WDGT				eS	Sn	00 40 14.7	+2.1
	baz=251						
PNG	Penghu	2.04	260	eP	Pn	00 39 48.6	+0.1
	baz=260						
PNG				eS	Sn	00 40 13.4	+0.6
	baz=260						
TWP	Hsiaoliuchiu	2.04	219	eP	Pn	00 39 50.1	+1.7
	baz=220						
JKRS	Kuro-shima	2.09	82	P	Pn	00 39 50.2	+1.2
JKRS				eS	Sn	00 40 15.4	+1.5
HEN	Hengchun	2.15	206	eP	Pb	00 39 53.6	-0.9
	baz=195						
TWK1	Hengchun	2.18	204	eP	Pn	00 39 52.1	+1.8
	baz=189						
TSEB	Hengchuen, Pin	2.19	201	eP	Pn	00 39 51.9	+1.5
	baz=188						
JIJ	Ishigaki jima	2.23	79	P	Pn	00 39 51.4	+0.5
JIJ				eS	Sn	00 40 16.9	-0.5
JISG	Ishigakijimahi	2.42	74	P	Pn	00 39 54.1	+0.5
JISG				eS	Sn	00 40 22.0	-0.2
JTJ	Tarama	2.78	75	P	Pn	00 40 00.2	+1.6
JTJ				eS	Sn	00 40 31.8	+0.7
KNM	Kinmen	3.06	279	eP	Pn	00 40 03.6	+1.2
	baz=277						
JIRB	Irabujima	3.24	74	P	Pn	00 40 04.8	-0.1
JIRB				eS	Sn	00 40 43.5	+1.0
JIKM	Ikemajima	3.33	72	P	Pn	00 40 07.3	+1.1
JIKM				eS	Sn	00 40 46.2	+1.5
JKE	Kume jima 2	5.14	62	P	Pn	00 40 31.6	+0.6
JOW	Kunigami	6.56	63	P	Pn	00 40 49.8	-0.8
JOKE	Okinoerabujima	7.03	60	P	Pn	00 40 55.6	-1.4
MKAR	Makanchi Array	38.86	316	P	P	00 46 38.5	0.0
	0.4nm,0.5s,baz=96,slow=10,SNR=16						
ZALV	Zalesovo Beam	40.72	327	P	P	00 46 52.5	-1.4
	0.7nm,0.5s,baz=121,slow=8.8,SNR=4.6						
WRA	Warramunga Arr	45.32	163	P	P	00 47 28.0	-3.5
	0.4nm,0.6s,baz=345,slow=8.8,SNR=3.2						
BVAR	Borovoye Array	48.18	321	P	P	00 47 53.3	-0.1
	0.5nm,0.5s,baz=104,slow=9.3,SNR=6.7						
ILAR	Eielson Array	69.18	27	P	P	00 50 19.0	-0.4
	0.2nm,0.5s,baz=294,slow=6.7,SNR=4.2						
YKA	Yellowknife Ar	82.98	23	P	P	00 51 37.1	-0.9
	0.4nm,0.6s,baz=312,slow=4.9,SNR=12						

IDC 28 00:44:51.6±0.9, 36.06S×74.21W, h0km, mb3.8/8,

mb1 4.1/8, mb1mx4.0/28, mbtmp3.9/8, Error ellipse: s-maj=38.8km s-min=20.4km az=86.0
ISCJB **28** 00:44:54.4±0.6, 36.°11S±0.°09×74.°1W±0.°3, h33km, mb4.0/9, Error ellipse: s-maj=29.8km s-min=12.6km az=171.9
NEIC **28** 00:44:56.8±0.8, 36.°04S×74.°14W, h35km, mb4.5/4, Error ellipse: s-maj=32.0km s-min=17.2km az=88.0
ISC 28 00:44:56.7±0.8, 36.°1S±0.°1×74.°1W±0.°3, h35km, n16, σ1s29/16, mb3.9/9, Off coast of central Chile

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

LPAZ La Paz 20.42 17 P P 00 49 30.3 -1.3
1.8nm,0.7s,baz=180,slow=13,SNR=2.9
SIV San Ignacio 23.14 34 P P 00 49 59.2 -0.8
3.4nm,0.9s,baz=243,slow=12,SNR=4.6
OTAV Otavalo 36.35 353 eP P 00 51 58.9 +0.9
1.3nm,0.6s
VNA3 Neumayer Olymp 48.11 157 P P 00 53 31.5 -1.2
VNA2 Neumayer--Watz 48.79 156 P P 00 53 37.0 -0.8
SNAA Sanae 50.33 157 P P 00 53 48.7 -1.0
SNAA Sanae 50.33 157 P P 00 53 48.5 -1.1
1.8nm,0.9s,baz=314,slow=6.9,SNR=7.8
SNAA Sanae 50.33 157 eP P 00 53 48.5 -1.1
6.0nm,0.9s
QSPA South Pole Qui 54.17 180 P P 00 54 18.9 +0.6
3.7nm,0.8s,baz=155,slow=2.0,SNR=11
QSPA South Pole Qui 54.17 180 eP P 00 54 18.7 +0.4
2.3nm,0.6s
TXAR Lajitas Array 70.75 333 P P 00 56 10.1 +0.7
0.8nm,0.7s,baz=163,slow=9.1,SNR=5.8
ABTX Abilene, Hawle 72.40 338 eP P 00 56 17.5 -1.7
10nm,0.7s
NVAR Mina Array Bea 84.64 327 P P 00 57 26.9 +0.2
0.9nm,0.9s,baz=169,slow=5.5,SNR=5.3
PDAR Pinedale Array 84.87 335 P P 00 57 26.4 -1.4
0.4nm,0.8s,baz=141,slow=6.0,SNR=3.1
TORD Torodi Ar. Bea 86.51 71 P P 00 57 37.6 +1.2
0.4nm,0.9s,baz=216,slow=7.1,SNR=2.6
BVAR Borovoye Array 149.96 44 PKPbc PKPbc 01 04 45.1 +2.4
1.1nm,0.5s,baz=274,slow=4.0,SNR=4.0

IDC **28** 00:46:34.6±0.9, 37.°16S×72.°14W, h0km, mb4.1/6, mb1 4.5/7, mb1mx4.1/30, mbtmp4.2/7, ML5.0/1, Error ellipse: s-maj=44.2km s-min=21.5km az=63.0
ISCJB **28** 00:46:37.8±0.6, 37.°3S±0.°1×72.°4W±0.°3, h33km, mb4.3/11, Error ellipse: s-maj=31.3km s-min=11.2km az=157.6
NEIC **28** 00:46:39.5±0.4, 37.°32S×72.°35W, h35km, mb4.6/6, Error ellipse: s-maj=21.5km s-min=9.2km az=66.0
ISC 28 00:46:39.5±0.8, 37.°2S±0.°1×72.°3W±0.°3, h33km, n24, σ1s10/23, mb4.2/11, Central Chile

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PLCA Paso Flores 3.79 159 Pn Pn 00 47 34.7 -0.9
26nm,0.3s,baz=278,slow=10,SNR=11
PLCA Sn **Sn** **00 48 21.2 +2.2**
15nm,0.3s,baz=35,slow=23,SNR=5.8
PLCA Paso Flores 3.79 159 ePn Pn 00 47 34.2 -1.4
PLCA Sn Sn **00 48 21.2 +2.2**
LPAZ La Paz 21.16 11 ePn P 00 51 24.2 +1.7
6.3nm,0.9s
SNAA Sanae 48.73 157 P P 00 55 19.7 -0.8
1.3nm,0.9s,baz=301,slow=4.5,SNR=4.2
SNAA Sanae 48.73 157 eP P 00 55 19.3 -1.2
QSPA South Pole Qui 53.04 180 P P 00 55 46.0 -7.0
4.5nm,1.0s
TXAR Lajitas Array 72.42 332 P P 00 58 03.4 +0.9
3.2nm,0.8s,baz=157,slow=8.1,SNR=13
ABTX Abilene, Hawle 74.00 336 eP P 00 58 12.3 +0.7
15nm,1.1s
TUL1 Tulsa 75.94 341 eP P 00 58 22.9 +0.2
13nm,0.9s
DBIC Dimbokro 76.44 71 P P 00 58 26.1 0.0
3.2nm,0.8s,baz=210,slow=5.3,SNR=4.3
DBIC Dimbokro 76.44 71 eP P 00 58 26.6 +0.5
12nm,0.9s
AMTX Amarillo 76.74 336 eP P 00 58 27.8 +0.4
LAZ Ladron 78.26 331 eP P 00 58 34.8 -1.2
1.9nm,1.1s
ANMO Albuquerque 78.48 332 eP P 00 58 37.0 -0.2
BOSA Boshof 78.80 117 eP P 00 58 34.5 -4.8
SDCO Great Sand Dun 80.63 334 eP P 00 58 49.9 +0.9
TORD Torodi Ar. Bea 85.52 70 P P 00 59 13.5 -0.9
0.6nm,0.5s,baz=217,slow=4.6,SNR=10
NVAR Mina Array Bea 86.38 326 P P 00 59 18.5 +0.1
0.7nm,0.8s,baz=161,slow=6.7,SNR=4.6
PDAR Pinedale Array 86.51 333 P P 00 59 19.1 +0.1
1.4nm,0.9s,baz=140,slow=4.8,SNR=7.1
GERES GERESS Array B 114.55 46 PKP PKPdf 01 05 16.8 +1.1
0.8nm,0.9s,baz=160,slow=4.3,SNR=4.8
BRTR Keskin Array B 123.55 63 PKP PKPdf 01 05 32.7 -0.7
1.0nm,0.8s,baz=151,slow=2.8,SNR=6.1
AKASG Malin Array Be 124.49 49 PKP PKPdf 01 05 35.0 +0.4
0.9nm,0.8s,baz=253,slow=2.1,SNR=3.6
BVAR Borovoye Array 149.72 47 PKPbc PKPbc 01 06 25.5 +0.3
4.9nm,0.8s,baz=266,slow=4.2,SNR=8.9
MKAR Makanchi Array 158.92 55 PKPab PKPab 01 07 08.8 -1.2
1.7nm,0.9s,baz=311,slow=3.2,SNR=3.1

IDC **28** 00:48:18.1±0.7, 34.°71S×73.°81W, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.2/30, mbtmp4.2/11, ML3.6/2, Error ellipse: s-maj=26.3km s-min=17.3km az=88.0
ISCJB **28** 00:48:21.5±0.5, 34.°69S±0.°07×73.°7W±0.°1, h33km, mb4.2/10, Error ellipse: s-maj=12.9km s-min=8.9km az=27.3
NEIC **28** 00:48:23.4±0.4, 34.°70S×73.°74W, h35km, mb4.6/4, Error ellipse: s-maj=12.1km s-min=7.4km az=91.0
ISC 28 00:48:23.5±0.7, 34.°68S±0.°09×73.°8W±0.°1, h35km, n23, σ0s53/24, mb4.2/10, Off coast of central Chile

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CFAA Coronel Fontan 5.57 58 Pn Pn 00 49 43.3 -0.6
0.5nm,0.3s,baz=250,slow=15,SNR=2.7
CFAA Sn **Sn 00 50 47.2 +0.6**
0.6nm,0.3s,baz=348,slow=18,SNR=2.2
LPAZ La Paz 19.01 17 P P 00 52 43.0 +0.1
0.2nm,0.3s,baz=200,slow=9.1,SNR=4.1
LPAZ La Paz 19.01 17 eP P 00 52 42.5 -0.4
7.1nm,0.8s
USHA Ushuaia 20.49 171 P P 00 52 58.5 +0.3
29nm,1.1s,baz=0.4,slow=3.9,SNR=4.2
SIV San Ignacio 21.83 35 P P 00 53 13.3 +0.4
7.1nm,0.9s,baz=212,slow=19,SNR=2.8
OTAV Otavalo 35.02 352 eP P 00 55 13.2 -0.1
12nm,1.5s
VNA3 Neumayer Olymp 49.27 157 P P 00 57 08.6 +0.2
VNA2 Neumayer--Watz 49.94 157 P P 00 57 14.0 +0.5
SNAA Sanae 51.50 158 P P 00 57 25.3 +0.1
SNAA Sanae 51.50 158 P P 00 57 24.8 -0.5
4.5nm,1.0s,baz=279,slow=8.6,SNR=12
SNAA Sanae 51.50 158 eP P 00 57 24.5 -0.7
23nm,1.4s
QSPA South Pole Qui 55.55 180 P P 00 57 55.0 -0.1
4.1nm,0.8s,baz=149,slow=1.8,SNR=7.7
QSPA South Pole Qui 55.55 180 eP P 00 57 54.4 -0.8
5.2nm,0.9s
TEIG Tepich 56.32 344 eP P 00 58 01.0 +0.1
TXAR Lajitas Array 69.65 332 P P 00 59 29.4 -0.1
1.3nm,0.7s,baz=152,slow=8.5,SNR=5.6
TSUM Tsumeb 80.40 107 P P 01 00 32.1 +0.1
2.7nm,1.1s,baz=241,slow=19,SNR=3.0
BOSA Boshof 81.02 118 P P 01 00 34.9 -0.2
4.5nm,0.9s,baz=235,slow=9.3,SNR=3.8
NVAR Mina Array Bea 83.64 326 P P 01 00 49.2 +0.7
0.7nm,0.8s,baz=147,slow=8.1,SNR=3.7
PDAR Pinedale Array 83.74 334 P P 01 00 48.7 -0.2
0.3nm,0.8s,baz=126,slow=4.6,SNR=2.7
TORD Torodi Ar. Bea 85.79 71 P P 01 00 59.5 -0.1
2.0nm,1.0s,baz=255,slow=2.9,SNR=5.1
YKA Yellowknife Ar 102.25 342 P Pdif 01 02 13.0 -1.2
0.2nm,0.9s,baz=134,slow=4.4,SNR=4.2
PSI Prapat 147.56 166 PKPbc PKPdf 01 08 03.2 +1.1
4.7nm,0.5s,baz=145,slow=5.6,SNR=6.0
BVAR Borovoye Array 148.76 43 PKPbc PKPbc 01 08 06.6 0.0
1.8nm,0.7s,baz=217,slow=7.1,SNR=4.7

ISCJB **28** 00:53:29.3±0.2, 38.°10S±0.°04×73.°52W±0.°06, h23km, mb5.0/99, MS5.1/46, Error ellipse: s-maj=7.0km s-min=4.9km az=149.1
NEIC **28** 00:53:30.0±0.1, 38.°15S×73.°74W, mb5.1/85, Error ellipse: s-maj=6.5km s-min=3.8km az=57.0
IDC **28** 00:53:30.1±0.6, 38.°16S×73.°72W, h22km±3km, mb4.5/18, mb1 4.6/22, mb1mx4.5/34, mbtmp4.6/22, ML4.4/4, MS3.8/1, Ms1 3.8/1, ms1mx3.6/35, Error ellipse: s-maj=15.9km s-min=10.6km az=69.0
MOS **28** 00:53:31.7±1.2, 38.°10S×73.°66W, h35km, mb5.3/27, MS5.2/13, Error ellipse: s-maj=18.4km s-min=8.4km az=106.2
BJI **28** 00:53:34.9, 38.°10S×73.°70W, h35km, mB5.3/15, Ms5.5/8, Ms7 5.3/8
ISC 28 00:53:31.4±0.5, 38.°10S±0.°05×73.°62W±0.°07, h29km±2km, h28km:pP-P, n627, σ1s29/636, mb5.1/99, MS5.1/46, 188C-154D, Near coast of central Chile

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PLCA Paso Flores 3.55 139 eP Pn 00 54 25.5 +0.9
PLCA Paso Flores 3.55 139 Pn Pn 00 54 24.2 -0.4
7.8nm,0.3s,baz=308,slow=12,SNR=5.4
PLCA Lg Lg 00 55 23.1
49nm,0.3s,baz=205,slow=21,SNR=7.2
PLCA Paso Flores 3.55 139 ePn Pn 00 54 25.5 +0.9
CFAA Coronel Fontan 7.84 36 Pn Pn 00 55 23.1 -0.5
2.2nm,0.3s,baz=93,slow=0.6,SNR=12
CFAA Sn **Sn 00 56 52.6 +1.1**
1.0nm,0.3s,baz=162,slow=16,SNR=3.2
CFAA Lg Lg 00 57 40.8
0.8nm,0.3s,baz=300,slow=20,SNR=3.6
CFAA LR LR 00 58 34.9
comp=Z,683nm,18.5s,baz=222,slow=38
CFAA Coronel Fontan 7.84 36 ePn Pn 00 55 23.1 -0.5
CFAA eSn **Sn 00 56 52.6 +1.1**
CFAA eLg Lg 00 57 40.8
TRQA Tornquist 9.18 93 ePn Pn 00 55 44.3 +2.5
USHA Ushuaia 17.11 170 P Pn 00 57 27.2 -0.9
0.3nm,0.3s,baz=297,slow=3.9,SNR=5.9
EFI East Falkland 17.43 146 eP Pn 00 57 31.5 -0.8
EFI pmax pmax
comp=Z,68nm,0.9s
EFI East Falkland 17.43 146 ePn Pn 00 57 31.4 -0.8
comp=Z,68nm,0.9s
CPUP Villa Florida 18.07 54 eP Pn 00 57 39.8 -0.5
CPUP Villa Florida 18.07 54 P Pn 00 57 39.5 -0.8
comp=Z,1.9nm,0.3s,baz=225,slow=7.7,SNR=11
CPUP Villa Florida 18.07 54 ePn Pn 00 57 39.8 -0.5
LPAZ La Paz 22.26 14 eP P 00 58 26.7 0.0
LPAZ La Paz 22.26 14 P P 00 58 28.4 +1.7
comp=Z,15nm,0.6s,baz=184,slow=4.3,SNR=14
LPAZ La Paz 22.26 14 eP P 00 58 26.7 0.0
LPAZ epP pP 00 58 26.8 -7.7
SIV San Ignacio 24.65 30 P P 00 58 49.3 -0.3
comp=Z,4.4nm,0.7s,baz=222,slow=11,SNR=7.3
NNA Nana 26.16 353 P P 00 59 02.4 -1.0
comp=Z,13nm,0.8s,baz=208,slow=11,SNR=4.6
NNA Nana 26.16 353 eP P 00 59 02.4 -1.0
NNA LR LR
comp=Z,900nm,19.0s
HOPE Hope Point 29.94 135 eP P 00 59 37.4 +0.7
comp=Z,700nm,2.5s
HOPE LR LR
comp=Z,2μm,20.0s
SAML Samuel 30.51 21 eP P 00 59 41.8 -0.2
comp=Z,5.5nm,0.8s
SAML LR LR
comp=Z,800nm,21.0s
ATAH Atahualpa 31.13 351 P P 00 59 48.9 +1.0
comp=Z,4.7nm,0.7s,baz=180,slow=7.6,SNR=5.3
BDFB Brasilia 31.78 52 eP P 00 59 55.0 +1.6
BDFB Brasilia 31.78 52 P P 00 59 53.8 +0.4
comp=Z,9.3nm,0.7s,baz=227,slow=7.9,SNR=9.1
BDFB Brasilia 31.78 52 eP P 00 59 55.0 +1.6
OTAV Otavalo 38.41 352 eP P 01 00 52.0 +1.1
comp=Z,60nm,1.6s
OTAV LR LR
comp=Z,400nm,21.0s
ROSC El Rosal 42.74 359 P P 01 01 26.2 -0.3
comp=Z,4.9nm,0.5s,baz=78,slow=19,SNR=2.0
ROSC El Rosal 42.74 359 eP P 01 01 26.0 -0.6
VNA3 Neumayer Olymp 46.09 156 P P 01 01 51.6 -0.8
VNA1 Neumayer--Stat 46.45 155 P P 01 01 59.0 +3.9
VNA2 Neumayer--Watz 46.78 156 P P 01 01 58.2 +0.5
SDV Santo Domingo 46.82 4 eP P 01 01 58.3 -0.6
comp=Z,15nm,0.9s
RCBR Riachuelo 46.93 56 P P 01 02 00.5 +0.9
comp=Z,6.1nm,0.6s,baz=232,slow=6.2,SNR=7.2
RCBR Riachuelo 46.93 56 eP P 01 01 58.8 -0.8
comp=Z,18nm,0.9s
RCBR eP **P 01 02 00.5 +0.9**
RCBR LR LR
comp=Z,2μm,18.0s
SNAA Sanae 48.31 156 P P 01 02 09.4 -0.3
SNAA Sanae 48.31 156 eP P 01 02 09.1 -0.6
SNAA pmax pmax
comp=Z,38nm,1.1s
SNAA Sanae 48.31 156 P P 01 02 09.3 -0.4
comp=Z,3.5nm,0.9s,baz=295,slow=5.7,SNR=14
SNAA Sanae 48.31 156 eP P 01 02 09.1 -0.6
comp=Z,38nm,1.1s
JTS JuntasAbangare 49.29 345 P P 01 02 18.2 +0.5
comp=Z,3.9nm,0.9s,baz=139,slow=16,SNR=4.3
QSPA South Pole Qui 52.14 180 P P 01 02 38.0 -0.9
comp=Z,11nm,0.9s,baz=134,slow=4.1,SNR=13
QSPA South Pole Qui 52.14 180 eP P 01 02 38.0 -0.9
NVL N'lazarevskaya 53.10 156 eP P 01 02 45.8 +0.1
NVL eS **S 01 10 10.2 -3.5**
NVL pmax pmax
comp=Z,11nm,0.8s
RKT Rikitea 53.97 267 eS S 01 10 35.5 +8.7
comp=Z,350nm,25.0s
RKT eLR LR 01 18 44.9
comp=Z,2μm,24.2s
TEIG Tepich 59.63 344 P P 01 03 31.9 -0.8
comp=Z,26nm,1.0s,baz=140,slow=18,SNR=3.9
TEIG Tepich 59.63 344 eP P 01 03 31.8 -0.8
comp=Z,72nm,1.4s
PPT2 Papeete2 68.46 264 eS S 01 13 39.0 +7.8
comp=Z,601nm,26.2s
PPT2 Papeete2 68.46 264 eLR LR 01 25 15.6
comp=Z,791nm,26.8s
035A Encino 68.65 337 ⇓P P 01 04 32.9 +1.2
baz=69
034A Hebbronville 68.95 336 ⇑P P 01 04 34.8 +1.1
baz=69
KVTX Kingsville 69.15 337 eP P 01 04 34.6 -0.3
comp=Z,90nm,0.4s
934A Benavides 69.40 336 ⇑P P 01 04 37.7 +1.3
baz=70
933A Laredo 69.65 336 ⇑P P 01 04 38.7 +0.7
baz=70,SNR=8.5
835A Beeville 69.82 337 ⇑P P 01 04 40.6 +1.5
baz=70
834A Tilden 69.89 337 ⇑P P 01 04 40.8 +1.3
baz=70,SNR=8.1
833A Chaparral WMA, 70.34 336 ⇑P P 01 04 42.8 +0.6
baz=71,SNR=7.9
832A Faith Ranch, C 70.50 335 ⇓P P 01 04 43.5 +0.3
baz=71,SNR=7.5
733A Divot King Ran 70.68 336 ⇑P P 01 04 44.9 +0.6
baz=71
636A Smothers Creek 70.71 338 ⇓P P 01 04 45.4 +0.9
baz=71
HKT Hockley 70.81 340 eP P 01 04 45.4 +0.4
HKT pmax pmax
comp=Z,30nm,1.9s
HKT Hockley 70.81 340 eP P 01 04 45.4 +0.4
comp=Z,30nm,1.9s
732A Laxson Ranch, 70.91 336 ⇓P P 01 04 46.0 +0.4
baz=71,SNR=6.5
537A Green Hill Far 71.06 339 ⇑P P 01 04 47.2 +0.6
baz=71
536A Bastrop 71.27 339 ⇑P P 01 04 48.5 +0.7
baz=72
633A Saathoff Ranch 71.33 337 ⇑P P 01 04 48.8 +0.5
baz=72,SNR=8.0
535A Dale 71.38 338 ⇓P P 01 04 49.0 +0.6
baz=72
438A Sam Houston St 71.47 340 ⇓P P 01 04 49.9 +0.9
baz=72
632A Uvalde 71.57 336 ⇑P P 01 04 50.6 +0.9
baz=72,SNR=8.4
534A Blanco 71.65 337 ⇓P P 01 04 51.1 +0.9
baz=72
340A Bronson 71.70 342 ⇑P P 01 04 51.6 +1.2
baz=72,SNR=5.6
437A Phaontom Ranch 71.72 340 ⇑P P 01 04 51.7 +1.2
baz=72
GOGA Godfrey 71.73 351 eP P 01 04 50.4 -0.2
GOGA pmax pmax
comp=Z,34nm,1.4s
GOGA MLR MLR
comp=Z,1μm,21.0s
GOGA Godfrey 71.73 351 eP P 01 04 50.4 -0.2
comp=Z,34nm,1.4s
GOGA LR LR
comp=Z,1μm,21.0s
631A Perdido Creek 71.74 335 ⇓P P 01 04 51.3 +0.6
baz=72,SNR=7.3
339A Huntington 71.78 341 ⇑P P 01 04 52.2 +1.3
baz=72
436A Wall Ranch, Ga 71.85 339 ⇑P P 01 04 52.9 +1.6
baz=72
533A Kerrville 71.86 337 ⇓P P 01 04 52.1 +0.7
baz=72,SNR=13
LRAL Lakeview Retre 71.86 348 eP P 01 04 51.1 -0.2
comp=Z,23nm,1.1s
LRAL LR LR
comp=Z,1μm,22.0s
338A Crockett 72.00 341 ⇓P P 01 04 54.7 +2.4
baz=72
435B Jarrell 72.09 338 ⇑P P 01 04 53.7 +0.9
baz=72
337A Centerville 72.12 340 ⇓P P 01 04 54.4 +1.5
baz=72,SNR=7.4
532A Rocksprings 72.18 336 ⇑P P 01 04 54.0 +0.5
baz=72,SNR=19
NATX Nacogdoches 72.22 341 eP P 01 04 54.0 +0.5
comp=Z,48nm,0.9s
NATX LR LR
comp=Z,600nm,19.0s
434A Burnet 72.32 338 ⇓P P 01 04 54.6 +0.4
baz=73,SNR=18
239A Gary 72.42 342 ⇓P P 01 04 55.2 +0.6
baz=73
531A Rocksprings 72.42 336 ⇓P P 01 04 55.2 +0.3
baz=73,SNR=10
336A Riesel 72.45 339 ⇓P P 01 04 55.3 +0.4
baz=73,SNR=8.3
JCT Junction City 72.48 336 eP P 01 04 55.0 -0.1
JCT pmax pmax
comp=Z,53nm,1.1s
JCT MLR MLR
comp=Z,900nm,20.0s
JCT Junction City 72.48 336 eP P 01 04 55.0 -0.1
comp=Z,53nm,1.1s
JCT LR LR
comp=Z,900nm,20.0s
JCT Junction City 72.48 336 ⇑P P 01 04 55.4 +0.2
baz=73,SNR=8.6
433A Art 72.51 337 ⇓P P 01 04 55.4 0.0
baz=73,SNR=12
335A Moody 72.51 339 ⇓P P 01 04 55.7 +0.5
baz=73
238A Jacksonville 72.57 341 ⇓P P 01 04 57.2 +1.7
baz=73
530A J-C Ranch, Com 72.67 335 ⇑P P 01 04 57.0 +0.7
baz=73,SNR=18
LTX Lajitas 72.73 333 eP P 01 04 56.9 +0.1
LTX Lajitas 72.73 333 eP P 01 04 56.9 +0.1
LTX epP **pP 01 05 03.9 -2.0**
TXAR Lajitas Array 72.73 333 P P 01 04 56.9 +0.2
comp=Z,5.2nm,0.8s,baz=156,slow=8.3,SNR=45
TXAR pP **pP 01 05 03.9 -2.0**
comp=Z,7.4nm,0.6s,baz=152,slow=8.8,SNR=28
TX31 Lajitas Ar. Si 72.73 333 eP P 01 04 56.8 0.0
237A Washetta, Mont 72.74 340 ⇓P P 01 04 57.4 +0.8
baz=73
334A Lometa 72.79 338 ⇓P P 01 04 57.2 +0.2
baz=73,SNR=26
432A Menard 72.84 337 ⇑P P 01 04 57.4 +0.1
baz=73,SNR=6.6
431A Sonora 72.92 336 ⇑P P 01 04 58.0 +0.2
baz=73,SNR=11
529A Stev Forest Ra 72.94 334 ⇑P P 01 04 58.3 +0.4
baz=73,SNR=10
333A Richland Sprin 73.01 337 ⇑P P 01 04 58.2 -0.1
baz=73,SNR=10
138A Matatall Enter 73.18 341 ⇓P P 01 05 00.0 +0.8
baz=74
WHTX Lake Whitney 73.19 339 eP P 01 04 58.7 -0.5
comp=Z,51nm,0.9s
WHTX LR LR
comp=Z,599nm,18.1s
WHTX Lake Whitney 73.19 339 ⇓P P 01 04 59.1 -0.1
baz=74
430A Baggett Ranch, 73.22 335 ⇓P P 01 04 59.5 -0.1
baz=74,SNR=15
KMSC Kings Mountain 73.22 353 ⇓P P 01 05 00.2 +0.8
baz=74
429A Davenport Ranc 73.29 335 ⇓P P 01 05 00.4 +0.4
baz=74,SNR=14
137A Heron Place, G 73.30 341 ⇓P P 01 05 01.2 +1.3
baz=74
332A Millersview 73.30 337 ⇑P P 01 05 00.0 0.0
baz=74,SNR=14
234A Clairette 73.39 338 ⇓P P 01 05 00.6 +0.1
baz=74,SNR=10
331A San Angelo 73.44 336 ⇑P P 01 05 00.9 0.0
baz=74,SNR=9.4
233A Rising Star 73.63 338 ⇓P P 01 05 01.9 0.0
baz=74,SNR=9.8
135A Vickery Place, 73.71 339 ⇓P P 01 05 02.2 -0.1
baz=74
OXF Oxford 73.72 346 eP P 01 05 01.6 -0.7
OXF MLR MLR
comp=Z,800nm,21.0s
OXF Oxford 73.72 346 eP P 01 05 01.6 -0.7
OXF LR LR
comp=Z,800nm,21.0s
232A Coleman 73.74 337 ⇑P P 01 05 02.5 -0.1
baz=74,SNR=10
330A Mertzon 73.77 336 ⇓P P 01 05 03.1 +0.2
baz=74,SNR=7.5
134A White-Moore Ra 73.91 339 ⇑P P 01 05 03.8 +0.2
baz=74
SUR Sutherland 73.99 119 eP P 01 05 05.2 +0.7
comp=Z,376nm,2.6s
231A Bronte 73.99 337 ⇓P P 01 05 03.8 -0.2
baz=74,SNR=11
329A Wagon Wheel Ra 74.11 335 ⇓P P 01 05 05.1 +0.3
baz=74,SNR=6.5
133A Hamilton Ranch 74.19 338 ⇑P P 01 05 05.5 +0.3
baz=74,SNR=9.3
230A Sterling City 74.20 336 ⇓P P 01 05 05.3 0.0
baz=74
Z35A Perchaven, San 74.39 340 ⇑P P 01 05 06.6 +0.3
baz=75,SNR=8.4
ABTX Abilene, Hawle 74.42 337 eP P 01 05 06.0 -0.5
comp=Z,33nm,0.8s
ABTX LR LR
comp=Z,600nm,20.7s
ABTX Abilene, Hawle 74.42 337 ⇓P P 01 05 06.7 +0.2
baz=75,SNR=11
229A Bryant Ranch, 74.50 335 ⇑P P 01 05 07.5 +0.4
baz=75,SNR=9.0
Z34A Collier Ranch, 74.61 339 ⇑P P 01 05 07.5 -0.1
baz=75
MIAR Mount Ida 74.61 343 eP P 01 05 07.2 -0.4
MIAR pmax pmax
comp=Z,12nm,1.0s
MIAR MLR MLR
comp=Z,700nm,18.0s
MIAR Mount Ida 74.61 343 eP P 01 05 07.2 -0.4
comp=Z,12nm,1.0s
MIAR LR LR
comp=Z,700nm,18.0s
131A Roby 74.69 337 ⇑P P 01 05 08.4 +0.3
baz=75
Z33A Whitaker Ranch 74.78 338 ⇑P P 01 05 08.6 0.0
baz=75,SNR=9.1
130A Snyder 74.80 336 ⇑P P 01 05 09.1 +0.3
baz=75
228A UT Block 9, Go 74.89 335 ⇓P P 01 05 09.7 +0.4
baz=75,SNR=8.7
Z32A Haskell 75.00 338 ⇑P P 01 05 09.9 0.0
baz=75,SNR=10
WVT Waverly 75.02 348 eP P 01 05 08.8 -1.1
WVT pmax pmax
comp=Z,27nm,1.1s
WVT Waverly 75.02 348 eP P 01 05 08.8 -1.1
comp=Z,27nm,1.1s
Y34A Reagan Ranch, 75.12 339 ⇑P P 01 05 10.5 -0.1
baz=76,SNR=7.3
129A Stewart Farms, 75.12 336 ⇓P P 01 05 11.0 +0.3
baz=76

Z31A Sharp Cattle R 75.22 337 ⇓P P 01 05 11.2 +0.1
baz=76,SNR=10.0
128A Castleberry Fa 75.32 335 ⇓P P 01 05 12.0 +0.2
baz=76,SNR=7.1
Y33A Hilltop Ranch, 75.41 339 ⇑P P 01 05 12.1 -0.1
baz=76,SNR=8.3
MNTX Cornudas Mount 75.49 332 eP P 01 05 11.5 -1.2
comp=Z,6.4nm,0.9s
MNTX LR LR
comp=Z,700nm,18.0s
Z30A Sanderson Ranc 75.49 336 ⇑P P 01 05 12.5 -0.2
baz=76,SNR=8.6
GDL2 Guadalupe Moun 75.58 333 eP P 01 05 13.0 -0.3
Y32A R-V Farms, Ver 75.64 338 ⇑P P 01 05 13.8 +0.2
baz=76
Z29A Hungry Hill Ra 75.65 336 ⇓P P 01 05 13.6 -0.1
baz=76,SNR=8.9
127A Arkansas Junct 75.66 334 ⇓P P 01 05 14.1 +0.2
baz=76
X34A Smith Ranch, M 75.75 340 ⇓P P 01 05 14.4 +0.3
baz=76,SNR=6.9
Y31A Rekieta Farm, 75.85 337 ⇑P P 01 05 15.1 +0.3
baz=76,SNR=8.1
X33A Lawton 75.88 339 ⇓P P 01 05 14.7 -0.2
baz=76
CASY Casey 75.90 182 eP P 01 05 13.7 -1.0
comp=Z,19nm,1.1s
Y30A Stafford Cattl 75.97 337 ⇓P P 01 05 15.8 +0.4
baz=76
X32A Elmer 75.99 338 ⇑P P 01 05 16.1 +0.6
baz=76
PBMO Poplar Bluff 76.11 346 eP P 01 05 15.3 -0.8
comp=Z,19nm,0.8s
Y29A Porterfield Fa 76.19 336 ⇑P P 01 05 16.9 +0.1
baz=76
W34A Bridge Creek, 76.33 340 eP P 01 05 16.4 -1.0
comp=Z,31nm,0.9s
W34A Bridge Creek, 76.33 340 ⇑P P 01 05 17.7 +0.3
baz=77
X31A McDonald Ranch 76.39 338 ⇓P P 01 05 18.0 +0.2
baz=77,SNR=7.0
Z26A Caprock 76.42 334 ⇑P P 01 05 18.3 +0.2
baz=77,SNR=11
Y28A McKinney Farm, 76.42 336 ⇓P P 01 05 18.3 +0.2
baz=77
W33A Caddo, Fort Co 76.44 339 ⇓P P 01 05 19.0 +0.9
baz=77,SNR=13
TUL1 Tulsa 76.45 342 eP P 01 05 17.4 -0.6
comp=Z,54nm,0.8s
TUL1 LR LR
comp=Z,800nm,19.6s
TUL1 Tulsa 76.45 342 ⇑P P 01 05 17.9 -0.2
baz=77,SNR=9.7
X30A Coker Ranch, T 76.49 337 ⇑P P 01 05 19.3 +0.9
baz=77,SNR=7.0
W32A Sentinel 76.63 339 ⇑P P 01 05 19.9 +0.7
baz=77
MSTX Muleshoe 76.65 335 eP P 01 05 18.7 -0.7
comp=Z,31nm,1.0s
MSTX LR LR
comp=Z,600nm,20.4s
MSTX Muleshoe 76.65 335 ⇓P P 01 05 19.4 0.0
baz=77
Z25A Roswell 76.68 334 ⇓P P 01 05 20.5 +0.9
baz=77
Y27A Causey 76.70 335 ⇓P P 01 05 20.5 +0.8
baz=77
319A Douglas 76.71 329 ⇑P P 01 05 20.7 +0.9
baz=77,SNR=6.2
X29A Tulia 76.74 336 ⇑P P 01 05 20.5 +0.6
baz=77
USIN University of 76.79 349 eP P 01 05 18.9 -1.0
comp=Z,24nm,0.4s
USIN LR LR
comp=Z,1µm,19.6s
SIUC Southern Illin 76.80 347 eP P 01 05 19.2 -0.7
comp=Z,16nm,0.8s
SIUC LR LR
comp=Z,900nm,19.9s
V34A Guthrie 76.82 340 eP P 01 05 19.3 -0.9
comp=Z,38nm,0.8s
V34A LR LR
comp=Z,900nm,22.0s
V34A Guthrie 76.82 340 ⇓P P 01 05 20.8 +0.7
baz=77
W31A Holland Ranch, 76.89 338 ⇓P P 01 05 21.0 +0.3
baz=77
Z24A Sheeppen Canyo 76.96 333 ⇓P P 01 05 21.9 +0.6
baz=77
Y26A Elida 76.96 335 ⇑P P 01 05 21.5 +0.3
baz=77
V33A Lossen Ranch, 77.02 340 ⇓P P 01 05 21.6 +0.3
baz=77,SNR=7.7
V32A Arapaho 77.13 339 ⇑P P 01 05 22.8 +0.8
baz=78
121A Cookes Peak, D 77.14 331 ⇓P P 01 05 23.6 +1.4
baz=78
AMTX Amarillo 77.14 337 eP P 01 05 21.1 -1.0
comp=Z,41nm,0.8s
AMTX LR LR
comp=Z,1µm,21.0s
AMTX Amarillo 77.14 337 ⇑P P 01 05 22.2 +0.1
baz=78
Y25A Mesa, Roswell 77.26 334 ⇑P P 01 05 22.7 -0.2
baz=78
W29A Amraillo 77.35 337 ⇓P P 01 05 23.7 +0.4
baz=78,SNR=7.8
U34A Anderson Ranch 77.39 340 eP P 01 05 23.0 -0.4
comp=Z,27nm,0.8s
U34A LR LR
comp=Z,700nm,21.4s
U34A Anderson Ranch 77.39 340 ⇑P P 01 05 23.9 +0.5
baz=78,SNR=5.0
V31A Spring Creek L 77.41 338 ⇑P P 01 05 24.9 +1.4
baz=78,SNR=6.6
Z22A Elephant Butte 77.47 332 ⇓P P 01 05 25.2 +1.1
baz=78
Y24A Capitan 77.52 333 ⇓P P 01 05 24.7 +0.3
baz=78,SNR=6.2
X26A CR and CF Fran 77.53 335 ⇑P P 01 05 25.6 +1.2
baz=78
U33A Lingo Farm, Me 77.54 340 ⇑P P 01 05 24.2 0.0
baz=78
W28A Vega 77.65 336 ⇑P P 01 05 26.1 +1.1
baz=78
DBIC Dimbokro 77.71 71 eP P 01 05 26.1 +0.4
DBIC pmax pmax
comp=Z,53nm,0.7s
DBIC MLR MLR
comp=Z,1µm,21.9s
DBIC Dimbokro 77.71 71 P P 01 05 26.2 +0.6
comp=Z,14nm,0.7s,baz=206,slow=6.0,SNR=23
DBIC pP pP 01 05 33.2 -1.6
comp=Z,50nm,0.7s,baz=203,slow=5.7,SNR=37
DBIC Dimbokro 77.71 71 eP P 01 05 26.1 +0.4
comp=Z,53nm,0.7s
DBIC LR LR
comp=Z,1µm,21.9s
U32A Winter Ranch, 77.74 339 ⇑P P 01 05 25.9 +0.6
baz=78
Y23A Lovelace Mesa, 77.75 333 ⇑P P 01 05 26.6 +1.0
baz=78
W27A Bowe Ranch, En 77.75 336 ⇑P P 01 05 26.0 +0.5
baz=78,SNR=9.8
X25A Clemmons Ranch 77.79 334 ⇑P P 01 05 25.8 -0.1
baz=78
BLO Bloomington 77.81 350 eP P 01 05 24.8 -0.8
BLO pmax pmax
comp=Z,18nm,0.9s
BLO MLR MLR
comp=Z,900nm,20.2s
BLO Bloomington 77.81 350 eP P 01 05 24.8 -0.8
comp=Z,18nm,0.9s
BLO LR LR
comp=Z,900nm,20.2s
SLM Saint Louis 77.88 347 eP P 01 05 25.3 -0.7
SLM pmax pmax
comp=Z,31nm,0.8s
SLM MLR MLR
comp=Z,900nm,21.6s
SLM Saint Louis 77.88 347 eP P 01 05 25.3 -0.7
comp=Z,31nm,0.8s
SLM LR LR
comp=Z,900nm,21.6s
W26A Owens Ranch, T 78.00 335 ⇑P P 01 05 27.3 +0.3
baz=78
X24A Lazy VL Ranch, 78.10 334 ⇓P P 01 05 28.3 +0.7
baz=78
V28A Channing 78.11 337 ⇑P P 01 05 28.4 +0.9
baz=78
TUC Tucson 78.14 328 eP P 01 05 26.8 -0.9
TUC pmax pmax
comp=Z,18nm,1.1s
TUC MLR MLR
comp=Z,1µm,22.0s
TUC Tucson 78.14 328 eP P 01 05 26.8 -0.9
comp=Z,18nm,1.1s
TUC LR LR
comp=Z,1µm,22.0s
BNM Barren Site 78.15 333 eP P 01 05 27.0 -0.9
T33A Patterson Ranc 78.19 340 ⇓P P 01 05 28.9 +1.0
baz=79,SNR=9.5
LPM Los Pinos Moun 78.30 333 eP P 01 05 28.5 -0.2
V27A Dan Oppiter Fa 78.31 336 ⇑P P 01 05 29.9 +1.2
baz=79
W25A X Bar L Ranch, 78.35 335 ⇓P P 01 05 29.2 +0.3
baz=79,SNR=6.9
U30A WK&E Inc. Balk 78.35 338 ⇑P P 01 05 30.2 +1.4
baz=79
X23A Hourglass Bar 78.38 333 ⇓P P 01 05 30.2 +1.0
baz=79
ACSO Alum Creek Sta 78.42 353 eP P 01 05 28.5 -0.5
comp=Z,18nm,0.8s
U29A Oasis Ranch, S 78.46 338 ⇓P P 01 05 30.1 +0.7
baz=79
T32A Huddler Ranch, 78.47 340 ⇑P P 01 05 31.0 +1.6
baz=79
LAZ Ladron 78.56 332 eP P 01 05 30.6 +0.4
T31A Randall Ranch, 78.60 339 ⇑P P 01 05 31.8 +1.7
baz=79
S33A Kaszmaul Farm, 78.61 340 ⇓P P 01 05 32.0 +1.9
baz=79
V26A Tequesquite Ra 78.65 335 ⇑P P 01 05 31.7 +1.2
baz=79
W24A Lazy 6 Ranch, 78.67 334 ⇑P P 01 05 31.8 +1.0
baz=79,SNR=7.1
214A Organ Pipe Nat 78.69 327 ⇓P P 01 05 31.8 +1.1
baz=79
U28A Mallet 78.69 337 ⇓P P 01 05 31.6 +0.9
baz=79
ANMO Albuquerque 78.80 333 eP P 01 05 31.4 -0.1
ANMO pmax pmax
comp=Z,24nm,1.1s
ANMO MLR MLR
comp=Z,700nm,20.0s
ANMO Albuquerque 78.80 333 eP P 01 05 31.4 -0.1
comp=Z,24nm,1.1s
ANMO LR LR
comp=Z,700nm,20.0s
W23A Werner Place, 78.89 333 ⇓P P 01 05 32.8 +0.8
baz=79
U27A Thompson Grove 78.92 336 ⇓P P 01 05 33.3 +1.3
baz=79
S32A Newby Ranch, P 78.96 340 ⇓P P 01 05 33.0 +0.9
baz=79
V25A Rancho No Teng 78.97 335 ⇓P P 01 05 33.0 +0.6
baz=79,SNR=8.3
S31A Mullinville 79.03 339 ⇓P P 01 05 33.4 +0.9
baz=79
SFIN Scholer Farm 79.07 350 ⇑P P 01 05 34.1 +1.6
baz=80
V24A Rampart Ranch, 79.09 334 ⇓P P 01 05 33.9 +0.8
baz=79
U26A Atchley Ranch, 79.19 336 ⇓P P 01 05 34.4 +0.9
baz=80
R33A Olander Ranch, 79.28 341 ⇑P P 01 05 34.6 +0.9
baz=80
BOSA Boshof 79.30 118 eP P 01 05 34.8 +0.3
BOSA e*PP PcP 01 05 41.9 -0.8
BOSA pmax pmax
comp=Z,29nm,1.0s
BOSA Boshof 79.30 118 P P 01 05 34.5 -0.1
comp=Z,20nm,0.8s,baz=226,slow=4.9,SNR=28
BOSA pP PcP 01 05 41.9 -0.8
comp=Z,22nm,0.8s,baz=235,slow=3.9,SNR=13
BOSA Boshof 79.30 118 eP P 01 05 34.8 +0.3
comp=Z,29nm,1.0s
BOSA epP PcP 01 05 41.9 -0.8
TSUM Tsumeb 79.33 106 eP P 01 05 34.5 -0.4
comp=Z,66nm,2.3s
S30A Montezuma 79.33 339 ⇑P P 01 05 35.1 +1.0
baz=80
T28A Walsh 79.34 337 ⇑P P 01 05 35.0 +0.8
baz=80
U25A Circle Dot Ran 79.41 335 ⇓P P 01 05 35.6 +0.8
baz=80,SNR=6.9
V23A Ortiz Mt. (NFS 79.42 334 ⇑P P 01 05 36.2 +1.3
baz=80
T27A Campo 79.47 337 ⇑P P 01 05 35.5 +0.5
baz=80
S29A Ulysses 79.50 338 ⇓P P 01 05 36.0 +0.9
baz=80
R32A Long Quarter, 79.58 340 ⇓P P 01 05 36.1 +0.7
baz=80
R31A Burdett 79.67 340 ⇓P P 01 05 36.9 +0.9
baz=80
KSU1 Kansas State U 79.68 342 ⇓P P 01 05 37.0 +1.1
baz=80
S28A Manter 79.71 338 ⇑P P 01 05 37.1 +0.9
baz=80,SNR=8.7
U24A Moreno Valley 79.71 335 ⇓P P 01 05 37.8 +1.2
baz=80
X18A Snowflake 79.74 330 ⇑P P 01 05 38.0 +1.3
baz=80
113A Mohawk Valley, 79.80 327 ⇓P P 01 05 37.9 +1.2
baz=80
V22A San Miguel Ran 79.83 333 ⇓P P 01 05 38.6 +1.5
baz=80,SNR=7.6
T26A Comanche Natio 79.85 336 ⇑P P 01 05 38.3 +1.2
baz=80,SNR=7.6
R30A Dighton 79.88 339 ⇑P P 01 05 38.1 +1.0
baz=80
Q33A Connelly Farm, 79.89 341 ⇑P P 01 05 37.9 +0.9
baz=80
U23A El Rito 79.95 334 ⇑P P 01 05 39.3 +1.5
baz=80,SNR=6.6
Z14A Wintersburg 79.95 327 ⇑P P 01 05 38.3 +0.7
baz=80
Q32A Meitler Ranch, 80.07 341 ⇓P P 01 05 39.4 +1.3
baz=80
T25A Trinidad 80.08 335 ⇑P P 01 05 39.5 +1.0
baz=80,SNR=12
W18A Petrified Fore 80.18 331 eP P 01 05 39.6 +0.6
comp=Z,29nm,1.2s
W18A LR LR
comp=Z,900nm,18.9s
W18A Petrified Fore 80.18 331 ⇑P P 01 05 40.6 +1.7
baz=80
S26A Kim 80.22 336 ⇓P P 01 05 40.1 +1.0
baz=81,SNR=13
U22A Llaves 80.23 333 ⇑P P 01 05 40.7 +1.5
baz=81
X16A Lo Mia Camp, P 80.24 329 ⇓P P 01 05 40.5 +1.2
baz=80,SNR=8.3
R29A Marienthal 80.25 338 ⇑P P 01 05 40.5 +1.4
baz=81
P33A Williams Farm, 80.27 341 ⇑P P 01 05 40.9 +1.8
baz=81
Q31A Ellis 80.31 340 ⇓P P 01 05 41.0 +1.6
baz=81
T24B San Luis 80.34 335 ⇑P P 01 05 41.1 +1.2
baz=81,SNR=6.0
R28A Tribune 80.38 338 ⇓P P 01 05 41.3 +1.5
baz=81,SNR=7.6
Y14A Wickenburg 80.47 328 ⇑P P 01 05 41.3 +0.9
baz=81
GLA Glamis 80.50 326 eP P 01 05 40.9 +0.3
GLA pmax pmax
comp=Z,18nm,1.3s
GLA Glamis 80.50 326 eP P 01 05 40.9 +0.3
comp=Z,18nm,1.3s
GLA Glamis 80.50 326 ⇓P P 01 05 41.9 +1.4
baz=81
Q30A Quinter 80.51 339 ⇑P P 01 05 42.1 +1.7
baz=81
T23A Casias Ranch, 80.53 334 ⇑P P 01 05 42.1 +1.1
baz=81
S25A Robets Cordova 80.57 336 ⇑P P 01 05 42.0 +1.1
baz=81
R27A Eads 80.62 337 ⇑P P 01 05 42.3 +1.1
baz=81,SNR=7.0
Q29A Oakley 80.64 339 ⇑P P 01 05 42.4 +1.2
baz=81
P32A Huiting Farm, 80.67 341 ⇑P P 01 05 42.1 +0.9
baz=81
P31A Stockton 80.78 340 ⇓P P 01 05 43.1 +1.1
baz=81
S24A Houchin Ranch, 80.80 335 ⇑P P 01 05 43.6 +1.2
baz=81,SNR=11
R26A Arlington 80.84 337 ⇑P P 01 05 43.7 +1.4
baz=81,SNR=8.6
SWSC Sam W. Stewart 80.84 325 ⇓P P 01 05 43.2 +0.9
baz=81
Y12C Blythe 80.96 326 ⇑P P 01 05 44.0 +1.0
baz=81
SDCO Great Sand Dun 81.00 335 eP P 01 05 43.3 -0.1
comp=Z,11nm,1.0s
P30A Selden 81.04 339 ⇑P P 01 05 44.5 +1.2
baz=81
Q28A Sharon Springs 81.05 338 ⇑P P 01 05 44.6 +1.2
baz=81
MONP Monument Peak 81.08 325 ⇓P P 01 05 44.3 +0.4
baz=81
S23A Nye Farm, Mont 81.13 335 ⇓P P 01 05 44.5 +0.4
baz=82
WUAZ Wupatki 81.17 330 eP P 01 05 42.5 -1.7
comp=Z,18nm,1.0s
WUAZ LR LR
comp=Z,2µm,21.0s
WUAZ Wupatki 81.17 330 ⇓P P 01 05 45.7 +1.4
baz=82
KSCO Kaye Shedlock' 81.24 338 eP P 01 05 43.2 -1.2
comp=Z,13nm,0.6s
KSCO LR LR
comp=Z,1µm,18.3s
KSCO Kaye Shedlock' 81.24 338 ⇑P P 01 05 45.5 +1.0
baz=82
P29A Atwood 81.29 339 ⇓P P 01 05 45.9 +1.2
baz=82
BC3 Big Chuckawall 81.29 326 ⇓P P 01 05 45.5 +0.6
baz=82
R24A Sanders Place, 81.31 335 ⇓P P 01 05 46.3 +1.4
baz=82,SNR=10
O31A Woolen Ranch, 81.36 340 ⇓P P 01 05 46.3 +1.4
baz=82
109C Camp Elliot, M 81.40 324 ⇑P P 01 05 45.9 +0.6
baz=82
Q26A Hugo 81.43 337 ⇑P P 01 05 46.7 +1.2
baz=82
S22A 4UR Ranch, Cre 81.45 334 ⇓P P 01 05 46.7 +0.9
baz=82,SNR=7.6
P28A Saint Francis 81.50 338 ⇓P P 01 05 47.0 +1.2
baz=82
R23A Moffat 81.51 335 ⇑P P 01 05 47.2 +1.1
baz=82
MVCO Mesa Verde 81.56 333 eP P 01 05 46.4 +0.1
comp=Z,17nm,1.1s
MVCO LR LR
comp=Z,1µm,20.0s
MVCO Mesa Verde 81.56 333 ⇑P P 01 05 47.3 +0.9
baz=82,SNR=6.0
O30A MW Ranch, Wils 81.58 340 ⇑P P 01 05 47.8 +1.6
baz=82
IRM Iron Mountain 81.58 326 ⇑P P 01 05 47.3 +1.0
baz=82
Q25A Bedland, Calha 81.65 336 ⇑P P 01 05 48.3 +1.6
baz=82
N32A Stulken Farm, 81.67 341 ⇑P P 01 05 48.6 +2.0
baz=82
PFO Pinyon Flat Ob 81.70 325 ⇓P P 01 05 48.3 +1.2
baz=82
MDV Middlebury 81.72 0 eP P 01 05 46.0 -0.7
P27A Ficken Ranch, 81.72 338 ⇓P P 01 05 48.9 +1.9
baz=82
O29A 4D Ranch, Culb 81.74 339 ⇓P P 01 05 48.5 +1.5
baz=82
LBTB Lobatse 81.74 115 eP P 01 05 46.9 -0.7
LBTB pmax pmax
comp=Z,24nm,0.9s
LBTB Lobatse 81.74 115 eP P 01 05 46.9 -0.7
comp=Z,24nm,0.9s
BELC Belle Mtn. Jos 81.83 326 ⇓P P 01 05 49.2 +1.4
baz=82
W13A Hualapai Mount 81.84 328 ⇑P P 01 05 49.2 +1.3
baz=82
N31A Bailey Ranch, 81.89 341 ⇓P P 01 05 49.7 +2.0
baz=82
P26A Davis Ranch, A 81.96 337 ⇑P P 01 05 49.5 +1.2
baz=82
Q24A Divide 81.98 336 ⇑P P 01 05 49.4 +0.8
baz=82
O28A Krutsinger Ran 82.01 339 ⇑P P 01 05 49.6 +1.1
baz=82
MURC Murrieta 82.03 324 ⇓P P 01 05 49.2 +0.5
baz=82
P25A Willow Gulch B 82.17 337 ⇑P P 01 05 50.6 +1.2
baz=82
BGNE Belgrade 82.24 342 eP P 01 05 49.6 0.0
comp=Z,35nm,0.9s
U15A North Rim 82.33 329 ⇑P P 01 05 52.0 +1.5
baz=83,SNR=7.5
M31A Lambtecht Ranc 82.39 341 ⇓P P 01 05 51.7 +1.3
baz=83
P24A Kohler Place, 82.41 336 ⇑P P 01 05 52.1 +1.4
baz=83
PV01 Paradox Valley 82.41 333 eP P 01 05 50.8 0.0
PV05 Paradox Valley 82.55 332 eP P 01 05 51.5 -0.1
O26A Horse Wrangler 82.58 338 ⇓P P 01 05 52.4 +0.9
baz=83
P23A Jefferson 82.58 335 ⇑P P 01 05 52.6 +0.8
baz=83
HEC Hector,Ludlow 82.67 326 ⇓P P 01 05 52.8 +0.7
baz=83
O25A Wiggins 82.70 337 ⇑P P 01 05 53.5 +1.4
baz=83
PV04 Paradox Valley 82.76 333 eP P 01 05 52.9 +0.3
SMCO Snowmass 82.78 334 eP P 01 05 51.0 -1.9
comp=Z,20nm,1.1s
PV10 Paradox Valley 82.79 333 eP P 01 05 51.8 -1.0
N27A Anderson Farm, 82.86 338 ⇓P P 01 05 54.1 +1.2
baz=83
ISCO Idaho Springs 82.89 336 eP P 01 05 53.2 -0.1
ISCO pmax pmax
comp=Z,68nm,2.7s
ISCO Idaho Springs 82.89 336 eP P 01 05 53.2 -0.1
comp=Z,68nm,2.7s
ISCO Idaho Springs 82.89 336 ⇑P P 01 05 54.4 +1.0
baz=83
PV09 Paradox Valley 82.94 333 eP P 01 05 52.7 -0.9
TUQ Turquoise Moun 83.00 326 ⇓P P 01 05 55.8 +2.0
baz=83
KNB Kanab 83.05 329 eP P 01 05 54.0 -0.1
KNB pmax pmax
comp=Z,37nm,1.4s
KNB Kanab 83.05 329 eP P 01 05 54.0 -0.1
comp=Z,37nm,1.4s
P22A Eagle 83.08 335 ⇑P P 01 05 56.0 +1.7
baz=83
L31A Butterfield Fa 83.14 341 ⇑P P 01 05 55.9 +1.7
baz=84
GSC Goldstone 83.28 326 ⇓P P 01 05 56.5 +1.3
baz=84
O23A Lake Granby, G 83.36 336 ⇓P P 01 05 57.1 +1.4
baz=84
L29A Maesberg Ranch 83.45 340 ⇑P P 01 05 57.8 +1.9
baz=84
EDW2 Edwards Air Fo 83.46 325 ⇓P P 01 05 57.2 +1.1
baz=84
O22A Kremmling 83.53 335 ⇓P P 01 05 57.9 +1.3
baz=84,SNR=5.8
SHOC Shoshone 83.55 326 ⇑P P 01 05 58.2 +1.7
baz=84
SHPR Sheep Range 83.58 327 eP P 01 05 56.0 -0.8
N24A Carr 83.59 337 ⇑P P 01 05 59.9 +3.1
baz=84
CCUT Cedar City 83.73 329 eP P 01 05 58.5 +0.9
comp=Z,9.9nm,1.0s
K30A Basset 83.80 341 ⇑P P 01 05 59.2 +1.6
baz=84
LRMC Laurel Mountai 83.82 325 ⇑P P 01 05 59.3 +1.3
baz=84
M25A Palm-Egli Farm 83.89 337 ⇑P P 01 05 59.9 +1.7
baz=84
ARUT Antelope Range 83.96 329 eP P 01 05 59.0 +0.2
ARUT Antelope Range 83.96 329 eP P 01 05 59.0 +0.2
SRU San Rafael 83.98 332 eP P 01 05 58.5 -0.4
SRU pmax pmax
comp=Z,10.0nm,0.8s
SRU MLR MLR
comp=Z,998nm,20.4s
SRU San Rafael 83.98 332 eP P 01 05 58.5 -0.4
comp=Z,10nm,0.8s
SRU LR LR
comp=Z,998nm,20.4s

N23A Red Feather La 83.99 336 ⇓P P 01 05 59.9 +0.9
baz=84
N22A Wattenberg Ran 84.07 336 ⇓P P 01 06 00.3 +0.9
baz=84
O20A White River Ci 84.07 334 ⇓P P 01 05 58.8 -0.5
comp=Z,12nm,0.9s
O20A White River Ci 84.07 334 ⇑P P 01 06 00.2 +1.0
baz=84
ECSD EROS Data Cent 84.08 343 eP P 01 05 58.1 -0.8
comp=Z,28nm,0.8s
ECSD LR LR
comp=Z,1μm,19.0s
ECSD EROS Data Cent 84.08 343 ⇑P P 01 05 59.2 +0.2
baz=84
MVU Marysvale 84.09 331 eP P 01 05 59.7 +0.2
comp=Z,8.0nm,1.0s
MVU LR LR
comp=Z,800nm,19.0s
M24A Cheyenne 84.16 337 ⇑P P 01 06 00.6 +0.9
baz=84
PHWY Pilot Hill 84.20 336 eP P 01 05 59.9 -0.1
comp=Z,17nm,1.4s
FURC Furnace Creek, 84.28 326 ⇑P P 01 06 02.7 +2.6
baz=85
ISA Isabella 84.33 325 eP P 01 06 00.4 -0.1
ISA pmax pmax
comp=Z,17nm,1.4s
ISA MLR MLR
comp=Z,3μm,19.4s
ISA Isabella 84.33 325 eP P 01 06 00.4 -0.1
comp=Z,17nm,1.4s
ISA LR LR
comp=Z,3μm,19.4s
ISA Isabella 84.33 325 ⇓P P 01 06 03.2 +2.6
baz=85
TMUT Trail Mountain 84.40 332 eP P 01 06 01.5 +0.4
comp=Z,21nm,1.1s
J29A Okreek 84.67 341 ⇑P P 01 06 03.0 +1.0
baz=85
N20A Spence Gulch, 84.70 334 ⇑P P 01 06 03.4 +0.9
baz=85
SPMN St. Paul 84.73 347 eP P 01 06 01.6 -0.6
comp=Z,11nm,0.8s
SPMN St. Paul 84.73 347 ⇓P P 01 06 02.5 +0.3
baz=85
VES Vestal, Richgr 84.75 324 ⇑P P 01 06 04.3 +1.7
baz=85
J28A Allard Ranch, 84.92 340 ⇓P P 01 06 04.5 +1.2
baz=85
GRAC Grapevine Rang 84.95 326 ⇑P P 01 06 04.8 +1.2
baz=85
J27A Elkhorn Farm, 84.97 340 ⇑P P 01 06 04.7 +1.1
baz=85
L23A Garrett 85.02 337 ⇑P P 01 06 04.8 +0.8
baz=85
MPU Maple Canyon 85.19 332 eP P 01 06 05.1 +0.2
comp=Z,16nm,1.0s
MPU LR LR
comp=Z,2μm,19.4s
NLU North Lily Min 85.30 331 eP P 01 06 05.6 +0.1
comp=Z,9.9nm,1.1s
NLU LR LR
comp=Z,1μm,19.3s
R11A Troy Canyon, C 85.32 328 eP P 01 06 05.8 +0.2
comp=Z,6.6nm,0.9s
R11A Troy Canyon, C 85.32 328 ⇑P P 01 06 06.9 +1.3
baz=86,SNR=7.7
J26A Sides Ranch, S 85.33 339 ⇓P P 01 06 06.6 +1.2
baz=86
DAU Daniels Canyon 85.40 332 eP P 01 06 05.8 -0.3
DAU Daniels Canyon 85.40 332 eP P 01 06 05.8 -0.3
I28A Midland 85.44 340 ⇑P P 01 06 07.3 +1.4
baz=86
K23A Bowen Ranch, D 85.57 337 ⇓P P 01 06 08.2 +1.5
baz=86
J25A Sunshine Ranch 85.61 338 ⇑P P 01 06 08.0 +1.2
baz=86
JLU Jordanelle 85.63 332 eP P 01 06 06.6 -0.6
comp=Z,6.8nm,0.9s
K22A Casper 85.76 336 eP P 01 06 06.3 -1.3
comp=Z,14nm,1.1s
K22A LR LR
comp=Z,700nm,20.1s
K22A Casper 85.76 336 ⇑P P 01 06 08.4 +0.7
baz=86
TPH Tonopah 85.78 327 eP P 01 06 06.2 -1.7
TPH pmax pmax
comp=Z,21nm,1.2s
TPH MLR MLR
comp=Z,3μm,21.0s
TPH Tonopah 85.78 327 eP P 01 06 06.2 -1.7
comp=Z,21nm,1.2s
TPH LR LR
comp=Z,3μm,21.0s
DUG Dugway 85.79 331 eP P 01 06 08.1 +0.2
DUG pmax pmax
comp=Z,14nm,1.1s
DUG MLR MLR
comp=Z,3μm,21.0s
DUG Dugway 85.79 331 eP P 01 06 08.1 +0.2
comp=Z,14nm,1.1s
DUG LR LR
comp=Z,3μm,21.0s
DUG Dugway 85.79 331 ⇑P P 01 06 08.9 +1.0
baz=86,SNR=6.5
K21A Alcova 85.98 336 ⇓P P 01 06 09.2 +0.4
baz=86
G30A Faulkton 85.99 342 ⇓P P 01 06 08.9 +0.4
baz=86
H28A Mission Ridge 86.03 341 ⇓P P 01 06 09.2 +0.4
baz=86
TCUT Toone Canyon 86.07 332 eP P 01 06 08.3 -1.0
comp=Z,11nm,0.9s
TCUT LR LR
comp=Z,1μm,19.6s
I25A Rochford 86.17 339 ⇑P P 01 06 10.1 +0.4
baz=86
H27A Howes 86.27 340 ⇑P P 01 06 09.9 0.0
baz=87
RSSD Black Hills 86.35 339 eP P 01 06 09.8 -0.8
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD Black Hills 86.35 339 eP P 01 06 09.8 -0.8
comp=Z,7.7nm,0.9s
G28A Parade 86.38 341 ⇑P P 01 06 11.0 +0.5
baz=87
J22A Midwest 86.44 337 ⇑P P 01 06 11.2 +0.3
baz=87
BGU Big Grassy Mou 86.51 331 eP P 01 06 10.1 -1.3
comp=Z,11nm,1.8s
NV01 Mina Array Sit 86.55 326 eP P 01 06 11.2 -0.5
NVAR Mina Array Bea 86.55 326 P P 01 06 11.6 -0.2
comp=Z,1.3nm,0.8s,baz=157,slow=6.3,SNR=8.6
NVAR pP pP 01 06 19.1 -1.9
comp=Z,2.0nm,0.8s,baz=156,slow=6.6,SNR=10
HWUT Hardware Ranch 86.55 332 eP P 01 06 11.3 -0.4
comp=Z,22nm,1.0s
HWUT LR LR
comp=Z,1μm,21.0s
SPUT South Promonto 86.62 332 eP P 01 06 10.8 -1.2
comp=Z,18nm,1.1s
SPUT LR LR
comp=Z,900nm,20.5s
F30A Leola 86.62 343 ⇑P P 01 06 12.7 +1.0
baz=87
H25A Fruitdale 86.68 339 ⇓P P 01 06 13.2 +1.2
baz=87
TOA0 Torodi Ar. Sit 86.80 71 eP P 01 06 12.1 -1.1
TOA0 eP P 01 06 13.1 -0.1
TOA0 epP pP 01 06 20.7 -1.8
TORD Torodi Ar. Bea 86.80 71 P P 01 06 13.1 -0.1
comp=Z,2.6nm,0.6s,baz=220,slow=4.5,SNR=29
TORD pP pP 01 06 20.7 -1.8
comp=Z,7.7nm,0.6s,baz=204,slow=4.2,SNR=30
F29A Eureka 86.81 342 ⇓P P 01 06 13.4 +0.8
baz=87
BW06 Boulder Array 86.86 334 eP P 01 06 12.2 -1.0
BW06 eP P 01 06 12.6 -0.6
PD31 Pinedale Array 86.86 334 eP P 01 06 12.4 -0.8
PDAR Pinedale Array 86.86 334 P P 01 06 12.8 -0.4
comp=Z,3.5nm,1.1s,baz=145,slow=5.4,SNR=13
J20A Shoshoni 86.89 336 ⇓P P 01 06 14.3 +1.1
baz=87
G27A Dupree 86.92 340 ⇑P P 01 06 14.1 +1.0
baz=87
G26A Maurine 87.02 340 ⇑P P 01 06 14.7 +1.0
baz=87
I21A Big Trails, Te 87.05 336 ⇑P P 01 06 14.2 +0.2
baz=87
H24A Dirks Ranch, A 87.07 338 ⇑P P 01 06 13.5 -0.5
baz=87
F28A McLaughlin 87.07 341 ⇓P P 01 06 14.5 +0.7
baz=87
WAKR Walker 87.11 326 eP P 01 06 13.5 -0.9
J19A Crowheart 87.14 335 ⇓P P 01 06 14.9 +0.5
baz=88
HVU Hansel Valley 87.15 332 eP P 01 06 14.4 -0.1
HVU pmax pmax
comp=Z,14nm,1.0s
HVU Hansel Valley 87.15 332 eP P 01 06 14.4 -0.1
comp=Z,14nm,1.0s
G25A Newell 87.16 339 ⇑P P 01 06 15.0 +0.7
baz=88
ELK Elko 87.21 330 eP P 01 06 14.3 -0.6
ELK pmax pmax
comp=Z,8.0nm,1.0s
ELK Elko 87.21 330 eP P 01 06 14.3 -0.6
comp=Z,8.3nm,1.0s
E30A Jud 87.22 343 ⇑P P 01 06 15.0 +0.5
baz=88
F27A Lemmon 87.41 341 ⇓P P 01 06 15.9 +0.4
baz=88
I20A Worland 87.44 336 ⇓P P 01 06 16.9 +1.1
baz=88
E29A Napoleon 87.46 342 ⇑P P 01 06 16.6 +0.9
baz=88
D30A Buchanan 87.76 343 ⇓P P 01 06 18.5 +1.4
baz=88
I19A Meeteetse 87.80 335 ⇑P P 01 06 19.0 +1.4
baz=88
REDW Red Top Meadow 87.84 334 eP P 01 06 16.8 -1.1
comp=Z,6.1nm,0.9s
D29A Pettibone, Tap 87.91 343 ⇓P P 01 06 18.7 +0.9
baz=88
LOHW Long Hollow 87.97 334 eP P 01 06 17.3 -1.1
comp=Z,8.8nm,1.4s
TPAW Teton Pass 87.98 334 eP P 01 06 18.0 -0.6
comp=Z,6.0nm,0.8s
E26A Carlson Angus 88.08 341 ⇑P P 01 06 19.1 +0.5
baz=88
FXWY Fox Creek 88.14 334 eP P 01 06 18.9 -0.4
comp=Z,8.6nm,1.4s
I17A Pilgrim Ck. 88.23 334 ⇓P P 01 06 20.6 +0.9
baz=89
C30A Mose, Pekin 88.26 343 ⇑P P 01 06 20.2 +0.8
baz=89
AGMN Agassiz Nation 88.27 345 eP P 01 06 18.6 -0.9
comp=Z,101nm,2.6s
AGMN Agassiz Nation 88.27 345 ⇑P P 01 06 19.9 +0.4
baz=89
D28A Regan 88.27 342 ⇑P P 01 06 20.4 +0.9
baz=89
IMW Indian Meadow 88.34 334 eP P 01 06 19.8 -0.5
comp=Z,12nm,1.2s
H19A Powell 88.36 336 ⇑P P 01 06 21.5 +1.3
baz=89
FLWY Flagg Ranch 88.42 334 eP P 01 06 20.6 0.0
comp=Z,8.6nm,0.9s
D26A Manning 88.59 341 ⇓P P 01 06 22.5 +1.5
baz=89
H18A Shoshone NF, C 88.59 335 ⇑P P 01 06 21.9 +0.5
baz=89
G20A Bridger 88.61 336 ⇓P P 01 06 21.9 +0.6
baz=89
RLMT Red Lodge 88.86 336 eP P 01 06 22.8 +0.2
comp=Z,12nm,1.3s
RLMT LR LR
comp=Z,1μm,18.4s
B30A Myrvik Farm, E 88.93 344 ⇓P P 01 06 23.3 +0.7
baz=89
D25A Fairfield 88.93 340 ⇓P P 01 06 24.8 +2.1
baz=89
C27A Sayler Ranch, 88.98 342 ⇓P P 01 06 24.0 +1.1
baz=89
YMR Madison River 89.02 334 eP P 01 06 22.4 -1.1
comp=Z,14nm,1.0s
B29A Wagenman Farm, 89.17 343 ⇑P P 01 06 24.6 +0.9
baz=90
HLID Hailey 89.30 332 eP P 01 06 24.4 -0.2
comp=Z,10nm,1.1s
HLID Hailey 89.30 332 ⇓P P 01 06 26.3 +1.6
baz=90
QLMT Earthquake Lak 89.32 334 eP P 01 06 23.4 -1.4
A30A Hoffart Farm, 89.39 344 ⇑P P 01 06 26.3 +1.6
baz=90
F19A Roth Farm, Mol 89.40 336 ⇑P P 01 06 26.3 +1.3
baz=90
A29A Manning Farm, 89.58 343 ⇑P P 01 06 26.4 +0.8
baz=90
C24A Savage 89.58 340 ⇓P P 01 06 26.6 +0.9
baz=90
MFID Camas Ranch 89.71 331 eP P 01 06 26.6 +0.1
comp=Z,11nm,1.2s
MFID LR LR
comp=Z,800nm,18.0s
LSZ Lusaka 89.71 109 eP P 01 06 25.2 -2.2
LSZ pmax pmax
comp=Z,6.0nm,0.9s
LSZ Lusaka 89.71 109 eP P 01 06 25.2 -2.2
comp=Z,6.1nm,0.9s
E20A Meyer Farm, Mu 89.73 337 ⇓P P 01 06 27.4 +0.9
baz=90
MCMT McKenzie Canyo 89.82 333 eP P 01 06 27.0 -0.1
E19A Rath Farm, Rou 89.89 337 ⇑P P 01 06 28.1 +0.9
baz=90
WVOR Wild Horse Val 90.01 328 eP P 01 06 27.0 -1.0
WVOR pmax pmax
comp=Z,20nm,1.5s
WVOR Wild Horse Val 90.01 328 eP P 01 06 27.0 -1.0
comp=Z,20nm,1.5s
C23A Lambert 90.04 339 ⇓P P 01 06 29.6 +1.8
baz=90
ULM Lac du Bonnet 90.13 346 P P 01 06 28.2 0.0
comp=Z,2.2nm,0.9s,baz=198,slow=3.2,SNR=3.0
D20A Manuel Ranch, 90.25 337 ⇑P P 01 06 29.2 +0.3
baz=91
LRM Limekiln Ridge 90.54 334 eP P 01 06 29.7 -0.8
CHMT Chamberlain Mo 91.76 334 eP P 01 06 33.6 -2.5
SWMT Swartz Lake 92.54 334 eP P 01 06 37.8 -1.7
JTMT Jette 92.84 334 eP P 01 06 39.2 -1.8
YBMT Yellow Bay 92.84 334 eP P 01 06 39.6 -1.3
BSMT Bassoo Peak 93.10 334 eP P 01 06 40.0 -2.2
WALA Waterton Lakes 93.84 335 eP P 01 06 45.5 0.0
comp=Z,16nm,1.3s
WALA LR LR
comp=Z,800nm,21.0s
DZM Mont Dzumac 97.79 234 eLR LR 01 39 06.9
comp=Z,2μm,23.7s
YKA Yellowknife Ar 105.53 342 Pdiff Pdif 01 07 39.7 +2.3
comp=Z,0.1nm,0.7s,baz=142,slow=4.5,SNR=3.2
GEB3 GERESS Array S 115.90 47 ePKPdf PKPdf 01 12 10.7 -0.1
GEC2 GERESS Array S 115.91 47 ePKIKP PKPdf 01 12 10.2 -0.6
GEC2 GERESS Array S 115.91 47 ePKPdf PKPdf 01 12 10.2 -0.6
GEC2 ePKPdf PKPdf 01 12 10.3 -0.6
GERES GERESS Array B 115.91 47 PKP PKPdf 01 12 10.1 -0.7
comp=Z,0.6nm,0.8s,baz=166,slow=0.6,SNR=3.8
KHC Kasperske Hory 115.98 47 ePKIKP PKPdf 01 12 17.3 +6.4
KHC Kasperske Hory 115.98 47 epPKP PKPdf 01 12 17.3 +6.4
WRA Warramunga Arr 116.57 210 PKP PKPdf 01 12 11.3 -1.7
comp=Z,0.6nm,0.7s,baz=161,slow=1.4,SNR=4.8
ILAR Eielson Array 117.25 333 PKP PKPdf 01 12 11.8 -1.0
comp=Z,0.7nm,1.1s,baz=160,slow=2.5,SNR=4.6
PKSM Moragy 117.63 52 ⇓PKIKP PKPdf 01 12 20.6 +6.5
PKSM Moragy 117.63 52 ⇓iP PKPdf 01 12 20.5 +6.5
UPC Upice 118.01 46 ePKIKP PKPdf 01 12 21.5 +6.8
UPC Upice 118.01 46 epPKP PKPdf 01 12 21.5 +6.8
DPC Dobruska-Polom 118.12 47 ePKIKP PKPdf 01 12 21.9 +6.9
DPC Dobruska-Polom 118.12 47 epPKP PKPdf 01 12 21.9 +6.9
VYHS Vyhne 118.77 49 ePKIKP PKPdf 01 12 16.6 +0.4
VYHS Vyhne 118.77 49 ePKP PKPdf 01 12 16.6 +0.4
VYHS e 01 12 22.7
OKC Ostrava-Krasne 118.95 48 ePKIKP PKPdf 01 12 23.4 +6.9
OKC Ostrava-Krasne 118.95 48 epPKP PKPdf 01 12 23.4 +6.9
BZS Buzias 119.23 53 ⇓PKIKP PKPdf 01 12 23.6 +6.4
BZS Buzias 119.23 53⇓iP PKPdf 01 12 23.6 +6.4
GZR Gura Zlata 119.87 54 ⇑PKIKP PKPdf 01 12 25.2 +6.7
GZR Gura Zlata 119.87 54⇑iP PKPdf 01 12 25.2 +6.7
GKP Gorka Klasztor 119.89 44 ePKIKP PKPdf 01 12 25.0 +6.8
GKP Gorka Klasztor 119.89 44 ePKP PKPdf 01 12 24.9 +6.8
KDZ Kurdzhali 119.98 59 ⇓PKIKP PKPdf 01 12 25.0 +6.2
KDZ Kurdzhali 119.98 59⇓iP PKPdf 01 12 25.0 +6.2
NB200 NORSAR Array S 120.15 34 ePKPdf PKPdf 01 12 18.6 0.0
NOA NORSAR Array B 120.15 34 PKP PKPdf 01 12 18.6 0.0
comp=Z,0.6nm,0.8s,baz=340,slow=3.9,SNR=2.4
IM04 Indian Mountai 120.36 332 ePKPdf PKPdf 01 12 18.3 -0.4
DRGR 120.42 52 ⇑PKIKP PKPdf 01 12 20.4 +0.9
DRGR 120.42 52⇑iP PKPdf 01 12 20.4 +0.9
LOT Lotru 120.52 54⇑iP PKPdf 01 12 23.0 +3.2
HFS Hagfors 120.90 36 PKP PKPdf 01 12 17.4 -2.5
comp=Z,0.8nm,0.6s,baz=241,slow=2.5,SNR=2.6
KOLS Kolonicke sedl 121.02 50 ePKIKP PKPdf 01 12 29.3 +8.8
KOLS Kolonicke sedl 121.02 50 ePKP PKPdf 01 12 29.3 +8.8
ARR Arges 121.04 55⇓iP PKPdf 01 12 21.1 +0.3
JMB Yambol 121.12 58 ⇑PKIKP PKPdf 01 12 26.4 +5.5
JMB Yambol 121.12 58⇑iP PKPdf 01 12 26.4 +5.5
VOIR 121.34 55 ⇑PKIKP PKPdf 01 12 29.0 +7.6
VOIR 121.34 55⇑iP PKPdf 01 12 29.0 +7.6
KWP Kalwaria Pacla 121.56 49 ⇓PKIKP PKPdf 01 12 28.4 +6.8
KWP Kalwaria Pacla 121.56 49 ePKP PKPdf 01 12 28.7 +7.1
KWP Kalwaria Pacla 121.56 49⇓iP PKPdf 01 12 28.4 +6.8
MLR Muntele Rosu 121.94 55 ⇑PKIKP PKPdf 01 12 28.4 +5.8
MLR Muntele Rosu 121.94 55⇑iP PKPdf 01 12 28.4 +5.8
PRD Provadia 121.97 58 ⇑PKIKP PKPdf 01 12 29.6 +7.1
BUR04 Bucovina Ar. S 122.31 52 ePKPdf PKPdf 01 12 23.2 0.0
BURAR Bucovina Array 122.31 52 ⇑PKIKP PKPdf 01 12 24.3 +1.1
BURAR Bucovina Array 122.31 52⇑iP PKPdf 01 12 24.3 +1.1
PLOR Plostina 122.53 55 ⇑PKIKP PKPdf 01 12 29.6 +6.0
PLOR Plostina 122.53 55⇑iP PKPdf 01 12 29.6 +6.0
VRI Vrincioaia 122.59 55 ⇓PKIKP PKPdf 01 12 27.9 +4.2
VRI Vrincioaia 122.59 55⇓iP PKPdf 01 12 27.9 +4.2
TESR Tescani 122.79 54⇓iP PKPdf 01 12 29.8 +5.8
PRAR RASCA 122.85 53⇑iP PKPdf 01 12 29.9 +5.8
SUW Suwalki 123.45 45 ePKIKP PKPdf 01 12 31.0 +6.0
SUW Suwalki 123.45 45 ePKP PKPdf 01 12 31.0 +6.0
TLCR 123.68 56 ⇑PKIKP PKPdf 01 12 32.3 +6.6
TLCR 123.68 56⇑iP PKPdf 01 12 32.3 +6.6
BR231 Keskin MP Arra 124.31 63 ePKPdf PKPdf 01 12 25.9 -1.4
BR101 Keskin Array S 124.87 64 ePKPdf PKPdf 01 12 28.3 -0.1
BRTR Keskin Array B 124.87 64 PKP PKPdf 01 12 28.3 -0.1
comp=Z,1.7nm,0.8s,baz=194,slow=3.4,SNR=9.3
AK11 Malin Array Si 125.82 50 ePKPdf PKPdf 01 12 29.1 -0.6
AKASG Malin Array Be 125.86 50 PKP PKPdf 01 12 28.5 -1.2
comp=Z,0.4nm,0.5s,baz=266,slow=3.0,SNR=5.6
AKASG pPKP pPKPdf 01 12 35.8 -3.5
comp=Z,2.4nm,0.7s,baz=260,slow=2.5,SNR=6.8
AKBB Malin Array Si 125.86 50 ePKIKP PKPdf 01 12 28.5 -1.2
AKBB Malin Array Si 125.86 50 ePKPdf PKPdf 01 12 28.5 -1.2
AKBB epPKPdf pPKPdf 01 12 35.8 -3.5
FIA0 FINESS Array S 127.07 36 ePKIKP PKPdf 01 12 31.6 -0.1
FIA0 FINESS Array S 127.07 36 ePKPdf PKPdf 01 12 31.6 -0.1
FINES FINESS Array B 127.07 36 PKP PKPdf 01 12 31.6 -0.1
comp=Z,1.0nm,0.8s,baz=90,slow=0.8,SNR=3.6
MALT Malatya 127.76 67 ⇑PKIKP PKPdf 01 12 34.7 +0.8
MALT Malatya 127.76 67⇑iP PKPdf 01 12 34.7 +0.8
KIV Kislovodsk 132.65 62 ePKIKP PKPdf 01 12 47.0 +4.0
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 132.74 62 PKP PKPdf 01 12 42.5 -0.6
comp=Z,2.6nm,1.0s,baz=247,slow=2.5,SNR=3.4
KLMR Klimovskoe 133.44 38 ePKIKP PKPdf 01 12 49.8 +6.0
KLMR pmax pmax
comp=Z,13nm,1.0s
GEYT Alibeck 142.32 75 PKhKP PKPpre 01 12 57.0
comp=Z,2.0nm,0.7s,baz=248,slow=1.6,SNR=4.7
SEY Seymchan 142.85 327 PKhKP PKPpre 01 12 57.0
comp=Z,1.5nm,0.6s,baz=120,slow=5.6,SNR=5.3
ARU Arti 143.63 44 PKIKP PKPbc 01 13 00.2 +0.1
ARU Arti 143.63 44 ePKPdf PKPbc 01 13 00.5 +0.3
AKTO Aktyubinsk 143.86 54 PKP PKPbc 01 13 01.2 +0.2
comp=Z,8.0nm,0.7s,baz=236,slow=1.6,SNR=16
SBUM Sibu 144.12 190 ePKPdf PKPbc 01 13 03.4 +0.6
SBUM LR LR
comp=Z,1μm,21.0s
PSI Prapat 144.21 167 PKP PKPab 01 13 01.6 -1.3
comp=Z,8.9nm,0.8s,baz=207,slow=3.2,SNR=10
TIXI Tiksi 144.46 348 ePKIKP PKPab 01 13 01.1 -0.8
TIXI Tiksi 144.46 348 ePKPdf PKPab 01 13 01.1 -0.8
KAD Karad 145.03 117 eP PKPbc 01 13 05.0 -0.7
ABKAR Akbulak array 145.13 56 ePKPbc PKPbc 01 13 04.7 -0.4
IPM Ipoh 146.18 170 ePKPdf PKPbc 01 13 05.8 -2.6
HYB Hyderabad 148.10 123 i PKP PKPbc 01 13 13.5 -1.2
KBL Kabul 149.84 85 ePKPdf PKPdf 01 13 14.6 +0.6
BRVK Borovoye 151.01 47 ePKIKP PKPbc 01 13 20.8 0.0
BRVK Borovoye 151.01 47 ePKPbc PKPbc 01 13 20.8 0.0
BVAR Borovoye Array 151.08 47 PKPbc PKPbc 01 13 21.1 +0.2
comp=Z,5.6nm,0.7s,baz=283,slow=3.5,SNR=25
BVAR PKPab PKPab 01 13 28.6 -0.1
comp=Z,25nm,0.9s,baz=311,slow=4.0,SNR=35
VOSK Vostochnaya 151.51 48 ePKIKP PKPbc 01 13 21.8 -0.2
VOSK Vostochnaya 151.51 48 ePKPbc PKPbc 01 13 21.8 -0.2
YAK Yakutsk 152.07 337 ePKIKP PKPbc 01 13 21.9 -1.0
YAK pmax pmax
comp=Z,20nm,0.7s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK Yakutsk 152.07 337 ePKPdf PKPbc 01 13 17.2 +0.9
KKAR Karatay Array 152.45 68 ePKIKP PKPbc 01 13 23.5 -0.9
KKAR Karatay Array 152.45 68 ePKPbc PKPbc 01 13 23.5 -0.9
EKS2 Erkin-Say 154.84 69 ePKIKP PKPdf 01 13 21.0 -0.1
EKS2 Erkin-Say 154.84 69 ePKPdf PKPdf 01 13 20.9 -0.1
AAK Ala-Archa 155.37 69 PKP PKPdf 01 13 21.3 -0.6
comp=E,1.5nm,0.8s,baz=121,slow=5.9,SNR=3.8
AAK PKPab PKPab 01 13 48.3 +0.8
comp=E,6.8nm,0.7s,baz=8.8,slow=1.2,SNR=9.2
AAK Ala-Archa 155.37 69 ePKPdf PKPdf 01 13 21.3 -0.6
AAK ePKPdf PKPdf 01 13 22.3 +0.4
AAK ePKPdf PKPdf 01 13 22.4 +0.6
AAK ePKPab PKPab 01 13 48.3 +0.8
TKM2 Tokmak 2 156.18 69 ePKIKP PKPdf 01 13 23.6 +0.6
TKM2 Tokmak 2 156.18 69 ePKPdf PKPdf 01 13 23.6 +0.6
KSH Kashi 156.31 77 ePKP PKPdf 01 13 24.3 +1.1
KSH epPKP pPKPdf 01 13 35.8 +3.0
KSH esPKP 01 13 40.0
KSH eSKS SKSdf 01 20 25.8 -1.6
KSH eSKKS SKKSac 01 24 16.5 -0.4
KSH eSS SS 01 37 16.3 -2.4
KSH AMB AMB
comp=E,150nm,4.6s
KSH LR LR
comp=E,93nm,5.5s
NVS Novosibirsk 157.05 36 ePKIKP PKPdf 01 13 27.9 +4.5
NVS pmax pmax
comp=Z,8.0nm,0.6s
ZAA1 Zalesovo Array 158.33 36 ePKPdf PKPdf 01 13 24.5 -0.5
ZAA1 ePKPab PKPab 01 13 59.5 0.0
ZAA0 Zalesovo Array 158.33 36 ePKPdf PKPdf 01 13 24.3 -0.8
ZALV Zalesovo Beam 158.33 36 PKP PKPdf 01 13 24.5 -0.5
comp=Z,1.1nm,0.8s,baz=228,slow=7.8,SNR=3.9
ZALV PKPab PKPab 01 13 59.5 0.0
comp=Z,8.3nm,1.0s,baz=300,slow=4.4,SNR=6.1
CM01 Chiang Mai Arr 159.35 160 ePKPdf PKPdf 01 13 27.6 +0.2
CM31 Chiang Mai Arr 159.38 160 ePKPdf PKPdf 01 13 27.0 -0.4
CMAR Chiang Mai Arr 159.38 160 PKP PKPdf 01 13 27.0 -0.4
comp=Z,0.5nm,0.3s,baz=214,slow=3.1,SNR=3.6
MK32 Makanchi Array 160.28 56 ePKPdf PKPdf 01 13 27.4 -0.2
MK32 ePKPab PKPab 01 14 08.7 +0.4
MKAR Makanchi Array 160.28 56 PKP PKPdf 01 13 27.4 -0.2
comp=Z,1.6nm,1.0s,baz=343,slow=3.8,SNR=5.3
MKAR PKPab PKPab 01 14 08.7 +0.4
comp=Z,4.4nm,0.7s,baz=284,slow=3.3,SNR=20
CN2 Changchun 164.52 298 ePKP PKPdf 01 13 33.8 +1.9
CN2 epPKP pPKPdf 01 13 44.0 +2.5
CN2 ePP PP 01 18 18.8 +5.2
CN2 eSS SS 01 38 44.0 -0.1
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,600nm,22.0s
WMQ Urumqi 164.78 62 PKP PKPdf 01 13 33.0 +0.8
WMQ AMB AMB
comp=Z,170nm,12.2s
WMQ LR LR
comp=Z,110nm,20.0s
WMQ LR LR
comp=Z,93nm,20.8s
WMQ LR LR
comp=Z,210nm,20.8s
LSA Lhasa 164.85 119 ePKIKP PKPdf 01 13 29.3 -4.0
LSA e 01 14 28.4
LSA Lhasa 164.85 119 ePKPdf PKPdf 01 13 29.2 -4.0
LSA ePKPab PKPab 01 14 28.4 -1.0

KMI Kunming 166.70 166 PKP PKPdf 01 13 37.5 +2.9
NJ2 Nanjing 168.14 243 ePKP PKPdf 01 13 37.5 +2.4
GYA Guiyang 168.39 181 PKP PKPdf 01 13 36.3 +0.7
GYA pPKP pPKPdf 01 13 48.0 +2.8
GYA PKPab PKPab 01 14 47.5 +3.1
GYA PKS PKSdf 01 17 08.0 -0.3
GYA PP PP 01 18 38.0 +5.6
GYA SKKS 01 25 21.0
GYA SS SS 01 39 24.5 +3.3
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=Z,120nm,21.1s
GYA LR LR
comp=Z,110nm,21.0s
GYA LR LR
comp=Z,130nm,24.2s
SONA1 Songino Array 170.26 360 ePKPdf PKPdf 01 13 34.5 -1.6
SONA1 ePKPab PKPab 01 14 52.2 0.0
SONA0 Songino Array 170.27 360 ePKPdf PKPdf 01 13 35.4 -0.7
SONA0 ePKPab PKPab 01 14 52.4 +0.2
SONM Songino Array 170.27 360 PKP PKPdf 01 13 35.4 -0.7
comp=Z,0.2nm,0.5s,baz=72,slow=4.7,SNR=2.8
SONM PKPab PKPab 01 14 52.4 +0.2
comp=Z,1.8nm,0.9s,baz=349,slow=4.6,SNR=8.8
CD2 Chengdu 172.51 162 PKP PKPdf 01 13 38.0 +0.4
CD2 pPKP pPKPdf 01 13 49.5 +2.3
CD2 sPKP 01 13 53.3
CD2 PKS PKSdf 01 17 09.0 -1.0
CD2 PP PP 01 18 58.0 +4.9
CD2 SKS SKSdf 01 20 36.0 -2.9
CD2 SKKS SKKSac 01 25 39.8 +1.4
CD2 SS SS 01 40 04.0 +1.9
CD2 AMB AMB
comp=Z,200nm,6.2s
GTA Gaotai 174.71 74 ePKP PKPdf 01 13 39.5 +1.2
GTA pPKP pPKPdf 01 13 50.3 +2.4
GTA sPKP 01 13 53.8
GTA PP PP 01 19 10.3 +4.9
GTA SKS SKSdf 01 20 37.3 -2.0
GTA SKKS SKKSac 01 25 50.3 +1.0
GTA SS SS 01 40 26.8 +0.7
GTA AMB AMB
comp=Z,210nm,5.9s
GTA LR LR
comp=Z,860nm,22.8s
GTA LR LR
comp=Z,670nm,24.5s
GTA LR LR
comp=Z,1µm,21.5s
HHC Hu-ho-hao-te 175.14 306 ePKP PKPdf 01 13 38.8 +0.5
HHC pPKP pPKPdf 01 13 49.8 +1.9
HHC sPKP 01 13 53.0
HHC PP PP 01 19 09.0 +2.0
HHC SS SS 01 40 25.8 -3.6
HHC AMB AMB
comp=Z,220nm,7.1s
HHC LR LR
comp=Z,230nm,20.2s
HHC LR LR
comp=Z,350nm,22.0s
HHC LR LR
comp=Z,630nm,19.7s
XAN Xi'an 175.46 208 PKP PKPdf 01 13 38.5 0.0
XAN AMB AMB
comp=Z,1.0nm,2.0s
LZH Lanzhou 177.15 134 ePKP PKPdf 01 13 41.8 +2.8
LZH pPKP pPKPdf 01 13 52.0 +3.4
LZH sPKP 01 13 55.5
LZH PP PP 01 19 20.5 +4.1
LZH SKKS 01 26 02.5
LZH SS SS 01 40 45.8 -2.4
LZH AMB AMB
comp=Z,260nm,10.3s
LZH LR LR
comp=Z,260nm,18.0s
LZH LR LR
comp=Z,490nm,19.0s
LZH LR LR
comp=Z,1µm,20.0s

*SJA **28** 01:00:27.3±0.3,39.11S×76.48W,h223km±999km,ML5.9*
*ISCJB **28** 01:01:09.3±2.0,36.80S±0.04×73.29W±0.07,h27km±13km, mb5.2/86,MS5.2/1,Error ellipse: s-maj=9.1km s-min=5.8km az=165.0*
*IDC **28** 01:01:09.8±0.6,36.84S×73.37W,h24km±3km,mb4.8/20, mb1 4.9/23,mb1mx4.8/33,mbtmp4.9/23,ML4.5/3,Error ellipse: s-maj=17.8km s-min=11.0km az=79.0*
*MOS **28** 01:01:10.6±0.9,36.63S×73.37W,h33km,mb5.4/26,Error ellipse: s-maj=23.5km s-min=11.8km az=100.9*
*NEIC **28** 01:01:10.4±0.7,36.82S×73.38W,h30km±4km,mb5.3/65, Error ellipse: s-maj=6.9km s-min=4.1km az=70.0*
*BJI **28** 01:01:10.3,36.74S×73.27W,h35km,mB5.2/16,Ms5.5/14, Ms7 5.4/13*
ISC 28 01:01:10.6±0.5,36.84S±0.04×73.30W±0.07,h30km±2km, h29km:pP-P,n719,σ1.01/767,mb5.3/85,205C-212D,Near coast of central Chile

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

PLCA Paso Flores 4.44 152 eP Pn 01 02 18.1 +2.1
PLCA e 01 03 03.6
PLCA Paso Flores 4.44 152 Pn Pn 01 02 17.5 +1.5
16nm,0.3s,baz=326,slow=9.9,SNR=21
PLCA Lg Lg 01 03 28.6
33nm,0.3s,baz=34,slow=20,SNR=3.9
PLCA Paso Flores 4.44 152 ePn Pn 01 02 18.1 +2.1
PLCA eSn Sn 01 03 03.5 -3.2
PLCA Lg Lg 01 03 28.6
AVIZ Vizcacheras 5.16 51 eP Pn 01 02 28.0 +2.1
AAGR Agrelo 5.25 46 eP Pn 01 02 29.3 +2.2
AAGR eS Sb 01 03 59.3 +15
ARCO CERRO ARCO 5.37 43 eP Pn 01 02 30.7 +1.9
ARCO eS Sb 01 04 01.7 +14
ARCO AML AML 01 04 04.1
comp=Z,560nm,0.8s
ASAL Salagasta 5.61 42 eP Pn 01 02 33.9 +1.8
ASAL eS Sb 01 04 08.2 +13
AUSP Uspallata 5.62 36 eP Pn 01 02 34.3 +1.9
RTLS Leoncito 6.02 35 eP Pn 01 02 39.6 +1.8
RTCV Cerro Valdivia 6.34 40 eP Pn 01 02 42.4 +0.4
CFAA Coronel Fontan 6.70 40 Pn Pn 01 02 46.9 0.0
comp=Z,2.2nm,0.3s,baz=213,slow=12,SNR=24
CFAA Sn Sn 01 04 04.4 +2.1
comp=Z,3.0nm,0.3s,baz=244,slow=17,SNR=3.4
CFAA Lg Lg 01 04 43.0
comp=Z,2.2nm,0.3s,baz=139,slow=20,SNR=4.3
RTLL Cerro Villicun 6.80 37 eP Pn 01 02 48.7 +0.3
AMOG MOGNA 7.11 36 eP Pn 01 02 52.7 0.0
AMOG eP Pn 01 02 52.7 0.0
TRQA Tornquist 9.09 101 ePn Pn 01 03 22.2 +2.5
LVC Limon Verde 14.68 16 ePn Pn 01 04 37.0 +0.5
CPUP Villa Florida 17.15 57 eP Pn 01 05 08.3 +0.3
CPUP pmax pmax
comp=Z,4.0nm,0.9s
CPUP Villa Florida 17.15 57 P Pn 01 05 05.2 -2.8
comp=Z,1.6nm,0.3s,baz=220,slow=11,SNR=8.8
CPUP Villa Florida 17.15 57 ePn Pn 01 05 08.3 +0.3
comp=Z,3.6nm,0.9s
USHA Ushuaia 18.30 171 P Pn 01 05 22.0 0.0
comp=Z,0.7nm,0.3s,baz=327,slow=10.0,SNR=12
LPAZ La Paz 20.98 14 eP P 01 05 53.0 +1.0
LPAZ pmax pmax
comp=Z,61nm,0.8s
LPAZ La Paz 20.98 14 P P 01 05 53.4 +1.4
comp=Z,24nm,0.7s,baz=178,slow=7.6,SNR=41
LPAZ La Paz 20.98 14 eP P 01 05 53.0 +1.0
comp=Z,61nm,0.8s
SIV San Ignacio 23.43 31 P P 01 06 16.8 -0.5
comp=Z,26nm,0.7s,baz=228,slow=11,SNR=33
NNA Nana 24.95 352 P P 01 06 30.6 -0.8
comp=Z,15nm,0.8s,baz=209,slow=12,SNR=6.7
NNA pP pP 01 06 38.3 -1.7
comp=Z,26nm,0.8s,baz=188,slow=8.8,SNR=6.0
SAML Samuel 29.25 21 eP P 01 07 10.0 0.0
comp=Z,6.2nm,0.9s
ATAH Atahualpa 29.93 350 P P 01 07 16.8 +0.3
comp=Z,2.3nm,0.5s,baz=173,slow=4.2,SNR=4.5
BDFB Brasilia 30.82 53 eP P 01 07 23.8 -0.2
BDFB Brasilia 30.82 53 P P 01 07 23.4 -0.7
comp=Z,18nm,0.8s,baz=212,slow=9.6,SNR=17
BDFB Brasilia 30.82 53 eP P 01 07 23.8 -0.2
OTAV Otavalo 37.20 351 eP P 01 08 21.1 +1.3
comp=Z,78nm,1.4s
ROSC El Rosal 41.49 358 P P 01 08 58.4 +2.9
comp=Z,20nm,0.6s,baz=225,slow=4.1,SNR=14
ROSC El Rosal 41.49 358 eP P 01 08 56.4 +0.9
SDV Santo Domingo 45.55 4 eP P 01 09 27.1 -0.8
comp=Z,60nm,0.9s
RCBR Riachuelo 46.03 57 P P 01 09 32.5 +0.8
comp=Z,26nm,0.7s,baz=213,slow=12,SNR=22
BCIP Isla Barro Col 46.17 351 eP P 01 09 32.2 -0.4
comp=Z,26nm,0.7s
VNA3 Neumayer Olymp 47.15 157 P P 01 09 41.0 +1.3
PCRV Puerto La Cruz 47.47 12 P P 01 09 42.7 -0.2
comp=Z,22nm,1.0s,baz=209,slow=4.7,SNR=3.6
VNA1 Neumayer--Stat 47.49 156 P P 01 09 50.7 +8.3
VNA2 Neumayer--Watz 47.82 156 P P 01 09 46.2 +1.3
JTS JuntasAbangare 48.14 345 eP P 01 09 49.1 +1.1
JTS pmax pmax
comp=Z,40nm,1.2s
JTS JuntasAbangare 48.14 345 P P 01 09 48.8 +0.8
comp=Z,6.4nm,0.9s,baz=195,slow=20,SNR=3.0
JTS JuntasAbangare 48.14 345 eP P 01 09 49.1 +1.1
comp=Z,40nm,1.2s
SNAA Sanae 49.37 157 P P 01 09 57.5 +0.6
SNAA Sanae 49.37 157 eP P 01 09 57.8 +0.9
SNAA pmax pmax
comp=Z,70nm,1.1s
SNAA Sanae 49.37 157 P P 01 09 57.4 +0.6
comp=Z,20nm,1.1s,baz=278,slow=10.0,SNR=40
SNAA Sanae 49.37 157 eP P 01 09 57.8 +0.9
comp=Z,70nm,1.1s
GRGR Grenville 49.93 15 eP P 01 10 03.0 +1.3
comp=Z,211nm,0.7s
QSPA South Pole Qui 53.40 180 P P 01 10 27.9 +0.7
comp=Z,49nm,0.9s,baz=143,slow=1.5,SNR=95
QSPA South Pole Qui 53.40 180 eP P 01 10 28.0 +0.7
comp=Z,55nm,0.9s
NVL N'lazarevskaya 54.14 156 eP P 01 10 33.6 +1.2
NVL eS S 01 17 58.9 -7.9
NVL pmax pmax
comp=Z,53nm,1.1s
MTDJ Mount Denham 54.91 355 eP P 01 10 39.2 +0.6
comp=Z,60nm,1.2s
OBIP Obispado Ponce 54.95 8 eP P 01 10 37.1 -1.7
comp=Z,74nm,0.9s
CELP Cerrillos 54.98 8 eP P 01 10 38.0 -1.1
LRS Lares 55.17 7 eP P 01 10 38.7 -1.8
CBYP Canovanas 55.26 9 eP P 01 10 38.9 -2.2
comp=Z,75nm,1.3s
SDDR Presa de Saban 55.55 2 eP P 01 10 42.8 -0.4
comp=Z,18nm,1.0s
GTBY Guantanamo Bay 56.48 358 eP P 01 10 48.5 -1.3
comp=Z,65nm,1.1s
TEIG Tepich 58.49 343 P P 01 11 03.5 -0.4
comp=Z,38nm,0.7s,baz=136,slow=2.2,SNR=14
ASCN Ascension 60.54 77 eP P 01 11 18.7 +0.4
comp=Z,121nm,1.0s
VNDA Vanda 61.12 192 eP P 01 11 20.5 -0.9
VNDA pmax pmax
comp=Z,144nm,1.7s
VNDA Vanda 61.12 192 eP P 01 11 20.5 -0.9
comp=Z,144nm,1.7s
SYO Syowa Base 63.61 158 ⇓eP P 01 11 37.0 -1.1
035A Encino 67.60 336 ⇑P P 01 12 05.4 +1.1
baz=68
034A Hebbronville 67.91 336 ⇓P P 01 12 07.3 +1.1
baz=68
934A Benavides 68.35 336 ⇑P P 01 12 10.0 +1.0
baz=69
TIGA Tifton 68.60 351 ⇓P P 01 12 11.0 +0.5
baz=69
933A Laredo 68.61 335 ⇑P P 01 12 11.7 +1.1
baz=69,SNR=5.9
835A Beeville 68.76 337 ⇑P P 01 12 13.0 +1.4
baz=69
834A Tilden 68.84 336 ⇓P P 01 12 13.5 +1.3
baz=69,SNR=10.0
735A Kenedy 69.28 337 ⇓P P 01 12 16.1 +1.3
baz=70
833A Chaparral WMA, 69.30 336 ⇑P P 01 12 15.7 +0.8
baz=70,SNR=6.3
832A Faith Ranch, C 69.46 335 ⇓P P 01 12 16.4 +0.4
baz=70,SNR=11
733A Divot King Ran 69.64 336 ⇑P P 01 12 17.5 +0.5
baz=70
636A Smothers Creek 69.64 338 ⇓P P 01 12 18.4 +1.4
baz=70,SNR=6.6
635A Leesville 69.77 337 ⇑P P 01 12 19.0 +1.2
baz=70
732A Laxson Ranch, 69.87 335 ⇓P P 01 12 19.1 +0.6
baz=70,SNR=5.6
537A Green Hill Far 69.98 339 ⇓P P 01 12 20.5 +1.4
baz=70
536A Bastrop 70.20 338 ⇑P P 01 12 21.3 +0.9
baz=70
633A Saathoff Ranch 70.28 336 ⇓P P 01 12 21.6 +0.6
baz=71,SNR=6.4
535A Dale 70.31 338 ⇑P P 01 12 21.9 +0.8
baz=71
438A Sam Houston St 70.38 340 ⇑P P 01 12 22.7 +1.3
baz=71
632A Uvalde 70.53 336 ⇓P P 01 12 23.3 +0.8
baz=71,SNR=8.1
GOGA Godfrey 70.53 351 eP P 01 12 21.2 -1.2
GOGA pmax pmax
comp=Z,29nm,1.2s
GOGA Godfrey 70.53 351 eP P 01 12 21.1 -1.2
comp=Z,29nm,1.2s
340A Bronson 70.58 341 ⇑P P 01 12 23.7 +0.9
baz=71,SNR=7.5
534A Blanco 70.58 337 ⇑P P 01 12 23.7 +0.9
baz=71
437A Phaontom Ranch 70.64 339 ⇓P P 01 12 24.7 +1.6
baz=71
339A Huntington 70.68 341 ⇑P P 01 12 24.2 +0.9
baz=71,SNR=6.8
LRAL Lakeview Retre 70.68 348 eP P 01 12 23.0 -0.3
comp=Z,29nm,1.2s
631A Perdido Creek 70.70 335 ⇓P P 01 12 24.3 +0.7
baz=71
MAW Mawson 70.75 164 P P 01 12 23.9 +0.5
comp=Z,30nm,0.8s,baz=184,slow=8.4,SNR=3.9
436A Wall Ranch, Ga 70.77 339 ⇑P P 01 12 25.0 +1.1
baz=71
533A Kerrville 70.80 337 ⇑P P 01 12 24.8 +0.6
baz=71,SNR=8.5
338A Crockett 70.90 340 ⇓P P 01 12 26.4 +1.7
baz=71
435B Jarrell 71.02 338 ⇓P P 01 12 26.5 +1.1
baz=71
337A Centerville 71.02 340 ⇑P P 01 12 26.9 +1.5
baz=71
NATX Nacogdoches 71.11 341 eP P 01 12 26.1 +0.1
comp=Z,64nm,1.0s
532A Rocksprings 71.14 336 ⇑P P 01 12 26.9 +0.7
baz=71,SNR=23
434A Burnet 71.25 337 ⇓P P 01 12 27.4 +0.5
baz=72,SNR=22
239A Gary 71.31 341 ⇑P P 01 12 28.1 +0.9
baz=72
336A Riesel 71.36 339 ⇑P P 01 12 28.2 +0.7
baz=72,SNR=10
531A Rocksprings 71.38 335 ⇓P P 01 12 28.6 +0.9
baz=72,SNR=14
JCT Junction City 71.43 336 eP P 01 12 27.7 -0.3
JCT pmax pmax
comp=Z,37nm,1.2s
JCT Junction City 71.43 336 eP P 01 12 27.7 -0.3
comp=Z,37nm,1.2s
JCT Junction City 71.43 336 ⇓P P 01 12 28.4 +0.5
baz=72,SNR=8.9
335A Moody 71.43 338 ⇑P P 01 12 28.6 +0.7
baz=72
433A Art 71.45 337 ⇓P P 01 12 28.4 +0.3
baz=72,SNR=15
238A Jacksonville 71.46 341 ⇑P P 01 12 29.1 +1.0
baz=72
530A J-C Ranch, Com 71.64 335 ⇑P P 01 12 30.2 +0.9
baz=72,SNR=18
237A Washetta, Mont 71.65 340 ⇑P P 01 12 30.1 +0.9
baz=72
334A Lometa 71.72 338 ⇓P P 01 12 30.1 +0.4
baz=72,SNR=23
TXAR Lajitas Array 71.73 332 P P 01 12 30.0 +0.1
TXAR Lajitas Array 71.73 332 P P 01 12 30.0 +0.1
comp=Z,5.2nm,0.7s,baz=150,slow=8.7,SNR=64
432A Menard 71.79 336 ⇑P P 01 12 30.4 +0.2
baz=72,SNR=6.3
431A Sonora 71.88 335 ⇓P P 01 12 31.0 +0.3
baz=72,SNR=10
529A Stev Forest Ra 71.92 334 ⇑P P 01 12 31.5 +0.5
baz=72,SNR=15
333A Richland Sprin 71.95 337 ⇑P P 01 12 31.8 +0.8
baz=72,SNR=11
KMSC Kings Mountain 72.00 353 eP P 01 12 30.5 -0.8
comp=Z,45nm,1.4s
KMSC Kings Mountain 72.00 353 ⇓P P 01 12 31.7 +0.4
baz=72,SNR=5.7
138A Matatall Enter 72.08 341 ⇓P P 01 12 33.0 +1.2
baz=72
WHTX Lake Whitney 72.11 339 eP P 01 12 32.0 0.0
comp=Z,29nm,0.9s
WHTX Lake Whitney 72.11 339 ⇓P P 01 12 32.6 +0.6
baz=72,SNR=8.1
430A Baggett Ranch, 72.19 335 ⇓P P 01 12 33.0 +0.4
baz=72,SNR=15
137A Heron Place, G 72.20 340 ⇑P P 01 12 33.6 +1.2
baz=72
332A Millersview 72.24 336 ⇓P P 01 12 33.2 +0.4
baz=72,SNR=14
429A Davenport Ranc 72.27 334 ⇑P P 01 12 33.7 +0.6
baz=72,SNR=15
234A Clairette 72.32 338 ⇓P P 01 12 33.6 +0.3
baz=73,SNR=13
331A San Angelo 72.40 336 ⇓P P 01 12 34.0 +0.2
baz=73,SNR=17
OXF Oxford 72.56 346 eP P 01 12 33.6 -1.0
OXF pmax pmax
comp=Z,46nm,1.1s
OXF Oxford 72.56 346 eP P 01 12 33.6 -1.0
comp=Z,46nm,1.1s
233A Rising Star 72.57 337 ⇓P P 01 12 35.3 +0.5
baz=73,SNR=9.9
135A Vickery Place, 72.62 339 ⇑P P 01 12 35.0 0.0
baz=73
SWET Sewanee 72.65 349 eP P 01 12 34.7 -0.5
comp=Z,58nm,0.8s
232A Coleman 72.68 337 ⇓P P 01 12 35.6 +0.1
baz=73,SNR=10
330A Mertzon 72.73 335 ⇓P P 01 12 35.7 -0.1
baz=73,SNR=8.4
TKL Tuckaleechee C 72.78 351 eP P 01 12 34.9 -1.0
TKL Tuckaleechee C 72.78 351 eP P 01 12 34.9 -1.0
134A White-Moore Ra 72.83 338 ⇓P P 01 12 36.3 0.0
baz=73
231A Bronte 72.94 336 ⇓P P 01 12 37.1 +0.1
baz=73,SNR=18
329A Wagon Wheel Ra 73.08 335 ⇓P P 01 12 38.3 +0.4
baz=73,SNR=5.4
133A Hamilton Ranch 73.12 338 ⇑P P 01 12 38.3 +0.3
baz=73,SNR=10
230A Sterling City 73.16 336 ⇑P P 01 12 38.2 -0.1
baz=73
Z35A Perchaven, San 73.30 339 ⇑P P 01 12 39.4 +0.4
baz=74,SNR=9.3
ABTX Abilene, Hawle 73.36 337 eP P 01 12 39.5 0.0
comp=Z,35nm,1.2s
ABTX Abilene, Hawle 73.36 337 ⇑P P 01 12 39.6 +0.2
baz=74,SNR=10
229A Bryant Ranch, 73.46 335 ⇓P P 01 12 40.3 +0.2
baz=74,SNR=7.0
MIAR Mount Ida 73.49 343 eP P 01 12 39.7 -0.4
MIAR pmax pmax
comp=Z,46nm,1.7s
MIAR Mount Ida 73.49 343 eP P 01 12 39.6 -0.4
comp=Z,46nm,1.7s
Z34A Collier Ranch, 73.53 339 ⇓P P 01 12 40.9 +0.5
baz=74,SNR=5.6
TZTN Tazewell 73.63 351 eP P 01 12 40.3 -0.6
comp=Z,46nm,1.4s
131A Roby 73.64 336 ⇑P P 01 12 41.4 +0.2
baz=74
Z33A Whitaker Ranch 73.70 338 ⇑P P 01 12 41.6 +0.2
baz=74,SNR=8.4
130A Snyder 73.76 336 ⇓P P 01 12 41.7 -0.1
baz=74
WVT Waverly 73.84 348 eP P 01 12 41.5 -0.6
WVT pmax pmax
comp=Z,34nm,1.0s
WVT Waverly 73.84 348 eP P 01 12 41.5 -0.6
comp=Z,34nm,1.0s
228A UT Block 9, Go 73.87 334 ⇓P P 01 12 42.6 +0.1
baz=74,SNR=8.4
Z32A Haskell 73.94 337 ⇑P P 01 12 43.0 +0.2
baz=74,SNR=8.9
Y34A Reagan Ranch, 74.03 339 ⇑P P 01 12 43.5 +0.1
baz=74,SNR=6.8
129A Stewart Farms, 74.09 335 ⇑P P 01 12 44.2 +0.4
baz=74
Z31A Sharp Cattle R 74.16 337 ⇓P P 01 12 44.5 +0.4
baz=74,SNR=13
128A Castleberry Fa 74.29 335 ⇑P P 01 12 45.2 +0.3
baz=75,SNR=13
Y33A Hilltop Ranch, 74.33 338 ⇑P P 01 12 45.2 +0.1
baz=75,SNR=6.9
SUR Sutherland 74.37 119 eP P 01 12 47.4 +1.6
comp=Z,37nm,0.9s
Z30A Sanderson Ranc 74.44 336 ⇑P P 01 12 45.7 -0.1
baz=75,SNR=12
MNTX Cornudas Mount 74.50 332 eP P 01 12 45.1 -1.0
comp=Z,7.3nm,1.0s
GDL2 Guadalupe Moun 74.57 333 eP P 01 12 43.9 -2.8
Y32A R-V Farms, Ver 74.58 338 ⇓P P 01 12 46.7 +0.1
baz=75
Z29A Hungry Hill Ra 74.61 336 ⇑P P 01 12 46.7 -0.1
baz=75,SNR=12
127A Arkansas Junct 74.64 334 ⇓P P 01 12 47.3 +0.2
baz=75
X34A Smith Ranch, M 74.66 339 ⇓P P 01 12 47.2 +0.3
baz=75,SNR=6.1
Y31A Rekieta Farm, 74.79 337 ⇓P P 01 12 48.4 +0.7
baz=75,SNR=6.9
X33A Lawton 74.80 339 ⇑P P 01 12 47.9 +0.1
baz=75
Y30A Stafford Cattl 74.91 336 ⇓P P 01 12 48.6 +0.1
baz=75
X32A Elmer 74.92 338 ⇓P P 01 12 49.1 +0.6
baz=75
PBMO Poplar Bluff 74.95 346 eP P 01 12 48.3 -0.2
comp=Z,34nm,1.3s
Y29A Porterfield Fa 75.15 336 ⇑P P 01 12 50.4 +0.4
baz=75,SNR=9.2
W34A Bridge Creek, 75.23 339 eP P 01 12 50.5 +0.2
comp=Z,47nm,1.4s
W34A Bridge Creek, 75.23 339 ⇓P P 01 12 50.4 +0.2
baz=76
X31A McDonald Ranch 75.32 337 ⇓P P 01 12 51.1 +0.3
baz=76,SNR=7.8
TUL1 Tulsa 75.34 341 eP P 01 12 50.5 -0.3
comp=Z,30nm,0.9s
TUL1 Tulsa 75.34 341 ⇓P P 01 12 50.7 -0.1
baz=76,SNR=11
W33A Caddo, Fort Co 75.36 339 ⇑P P 01 12 51.6 +0.6
baz=76,SNR=14
Y28A McKinney Farm, 75.38 335 ⇑P P 01 12 51.7 +0.4
baz=76
Z26A Caprock 75.40 334 ⇑P P 01 12 51.7 +0.3
baz=76,SNR=25
X30A Coker Ranch, T 75.43 337 ⇑P P 01 12 53.0 +1.5
baz=76
USIN University of 75.61 348 eP P 01 12 50.9 -1.4
comp=Z,33nm,0.8s
MSTX Muleshoe 75.62 335 eP P 01 12 52.9 +0.2
MSTX Muleshoe 75.62 335 ⇑P P 01 12 52.8 +0.2
baz=76
SIUC Southern Illin 75.63 347 eP P 01 12 52.1 -0.3
comp=Z,27nm,0.8s
Y27A Causey 75.67 335 ⇓P P 01 12 53.2 +0.2
baz=76
Z25A Roswell 75.67 333 ⇓P P 01 12 53.4 +0.4
baz=76,SNR=5.3
V34A Guthrie 75.73 340 eP P 01 12 53.0 0.0
comp=Z,27nm,1.0s
V34A Guthrie 75.73 340 ⇑P P 01 12 53.1 0.0
baz=76,SNR=6.0
319A Douglas 75.76 329 ⇓P P 01 12 54.2 +0.6
baz=76,SNR=6.1
W31A Holland Ranch, 75.83 338 ⇑P P 01 12 53.8 +0.1
baz=76
V33A Lossen Ranch, 75.93 339 ⇓P P 01 12 54.5 +0.3
baz=76,SNR=8.9
Y26A Elida 75.94 334 ⇓P P 01 12 55.1 +0.6
baz=76,SNR=5.6
Z24A Sheeppen Canyo 75.95 333 ⇓P P 01 12 55.7 +1.1

baz=76,SNR=6.6
V32A Arapaho 76.05 339 ⇓P P 01 12 55.7 +0.7
baz=76
AMTX Amarillo 76.09 336 eP P 01 12 55.2 -0.1
comp=Z,30nm,1.0s
AMTX Amarillo 76.09 336 ⇓P P 01 12 55.6 +0.3
baz=76
121A Cookes Peak, D 76.17 330 eP P 01 12 56.3 +0.4
comp=Z,11nm,1.0s
121A Cookes Peak, D 76.17 330 ⇓P P 01 12 57.4 +1.5
baz=76,SNR=5.1
Y25A Mesa, Roswell 76.24 334 ⇑P P 01 12 56.3 +0.1
baz=76
U34A Anderson Ranch 76.30 340 eP P 01 12 56.5 +0.1
U34A Anderson Ranch 76.30 340 ⇑P P 01 12 56.7 +0.4
baz=77,SNR=5.0
W29A Amraillo 76.30 336 ⇓P P 01 12 57.0 +0.6
baz=77,SNR=10.0
V31A Spring Creek L 76.34 338 ⇓P P 01 12 57.9 +1.3
baz=77,SNR=7.3
X27A F and S Farms, 76.34 335 ⇑P P 01 12 57.5 +0.7
baz=77
U33A Lingo Farm, Me 76.45 340 ⇓P P 01 12 57.0 -0.2
baz=77
Z22A Elephant Butte 76.49 331 ⇑P P 01 12 58.3 +0.6
baz=77,SNR=6.9
X26A CR and CF Fran 76.50 334 ⇓P P 01 12 58.5 +0.8
baz=77
Y24A Capitan 76.51 333 ⇑P P 01 12 58.4 +0.6
baz=77,SNR=12
V30A Spur Ranch, Mi 76.59 337 ⇑P P 01 12 58.9 +0.9
baz=77
BLO Bloomington 76.61 349 eP P 01 12 57.3 -0.7
BLO pmax pmax
comp=Z,20nm,0.8s
BLO Bloomington 76.61 349 eP P 01 12 57.3 -0.7
comp=Z,20nm,0.8s
LIC Lamto 76.65 72 eP P 01 12 59.6 +0.7
comp=Z,159nm,1.2s
U32A Winter Ranch, 76.66 339 ⇓P P 01 12 59.3 +0.9
baz=77
W27A Bowe Ranch, En 76.71 335 ⇓P P 01 12 59.5 +0.6
baz=77,SNR=12
Y23A Lovelace Mesa, 76.75 332 ⇓P P 01 13 00.6 +1.4
baz=77,SNR=6.2
TIC Toumodi 76.92 71 eP P 01 13 01.1 +0.7
comp=Z,63nm,1.0s
KIC Kosan Boka 76.95 72 eP P 01 13 01.4 +0.8
comp=Z,200nm,1.2s
W26A Owens Ranch, T 76.97 335 ⇓P P 01 13 01.2 +0.9
baz=77
V28A Channing 77.06 336 ⇑P P 01 13 01.6 +0.8
baz=77
DBIC Dimbokro 77.06 71 eP P 01 13 01.9 +0.7
DBIC pmax pmax
comp=Z,70nm,1.1s
DBIC Dimbokro 77.06 71 P P 01 13 02.1 +0.9
comp=Z,26nm,0.7s,baz=204,slow=5.4,SNR=45
DBIC Dimbokro 77.06 71 eP P 01 13 01.9 +0.7
comp=Z,70nm,1.1s
X24A Lazy VL Ranch, 77.09 333 ⇑P P 01 13 01.9 +0.8
baz=77
T33A Patterson Ranc 77.10 340 ⇑P P 01 13 01.9 +1.0
baz=77,SNR=11
CASY Casey 77.17 182 eP P 01 13 01.8 +0.9
comp=Z,46nm,0.9s
TUC Tucson 77.20 328 eP P 01 13 02.5 +0.9
TUC Tucson 77.20 328 eP P 01 13 02.5 +0.9
ACSO Alum Creek Sta 77.21 352 eP P 01 13 00.8 -0.6
comp=Z,34nm,0.7s
V27A Dan Oppiter Fa 77.27 336 ⇑P P 01 13 03.0 +1.0
baz=78
U30A WK&E Inc. Balk 77.28 338 ⇓P P 01 13 02.7 +0.8
baz=78
LPM Los Pinos Moun 77.30 332 eP P 01 13 02.8 +0.6
W25A X Bar L Ranch, 77.33 334 ⇓P P 01 13 02.9 +0.6
baz=78,SNR=9.3
T32A Huddler Ranch, 77.38 339 ⇓P P 01 13 02.9 +0.5
baz=78
T31A Randall Ranch, 77.52 339 ⇑P P 01 13 04.2 +1.0
baz=78
LAZ Ladron 77.57 332 eP P 01 13 04.4 +0.6
comp=Z,7.4nm,1.1s
V26A Tequesquite Ra 77.62 335 ⇑P P 01 13 04.2 +0.2
baz=78,SNR=5.0
U28A Mallet 77.64 336 ⇓P P 01 13 04.6 +0.6
baz=78
W24A Lazy 6 Ranch, 77.66 334 ⇓P P 01 13 04.8 +0.6
baz=78,SNR=10.0
T30A Plains 77.73 338 ⇓P P 01 13 05.9 +1.5
baz=78
214A Organ Pipe Nat 77.78 326 ⇑P P 01 13 05.5 +0.7
baz=78
ANMO Albuquerque 77.80 333 eP P 01 13 05.6 +0.5
ANMO pmax pmax
comp=Z,24nm,1.1s
ANMO Albuquerque 77.80 333 eP P 01 13 05.5 +0.5
comp=Z,24nm,1.1s
S32A Newby Ranch, P 77.87 339 ⇑P P 01 13 05.7 +0.6
baz=78
U27A Thompson Grove 77.87 336 ⇓P P 01 13 05.8 +0.5
baz=78
W23A Werner Place, 77.88 333 ⇓P P 01 13 06.8 +1.3
baz=78,SNR=7.4
V25A Rancho No Teng 77.94 334 ⇓P P 01 13 06.3 +0.5
baz=78,SNR=15
S31A Mullinville 77.95 339 ⇓P P 01 13 06.3 +0.7
baz=78
T29A Hugoton 78.06 337 ⇓P P 01 13 07.2 +0.9
baz=78
V24A Rampart Ranch, 78.07 334 ⇓P P 01 13 07.0 +0.4
baz=78,SNR=6.3
U26A Atchley Ranch, 78.15 335 ⇑P P 01 13 07.6 +0.7
baz=78
R33A Olander Ranch, 78.17 340 ⇑P P 01 13 07.2 +0.4
baz=78
S30A Montezuma 78.25 338 ⇓P P 01 13 08.1 +0.8
baz=79
T28A Walsh 78.28 337 ⇓P P 01 13 08.1 +0.6
baz=79
U25A Circle Dot Ran 78.38 335 ⇓P P 01 13 09.5 +1.3
baz=79,SNR=11
V23A Ortiz Mt. (NFS 78.41 333 ⇑P P 01 13 08.8 +0.3
baz=79
T27A Campo 78.42 336 ⇑P P 01 13 09.3 +0.9
baz=79,SNR=6.0
S29A Ulysses 78.43 338 ⇑P P 01 13 09.4 +1.0
baz=79
R32A Long Quarter, 78.48 340 ⇑P P 01 13 09.3 +0.8
baz=79,SNR=6.0
KSU1 Kansas State U 78.56 342 eP P 01 13 08.8 -0.1
KSU1 Kansas State U 78.56 342 ⇓P P 01 13 09.0 +0.1
baz=79
R31A Burdett 78.58 339 ⇑P P 01 13 09.7 +0.6
baz=79
S28A Manter 78.64 337 ⇓P P 01 13 10.4 +0.9
baz=79,SNR=8.3
U24A Moreno Valley 78.69 334 ⇑P P 01 13 10.7 +0.6
baz=79
X18A Snowflake 78.78 330 ⇑P P 01 13 11.3 +0.8
baz=79
Q33A Connelly Farm, 78.78 341 ⇓P P 01 13 10.7 +0.6
baz=79
R30A Dighton 78.80 339 ⇓P P 01 13 10.6 +0.3
baz=79
T26A Comanche Natio 78.81 336 ⇑P P 01 13 11.4 +0.8
baz=79,SNR=8.8
V22A San Miguel Ran 78.83 333 ⇑P P 01 13 12.5 +1.8
baz=79,SNR=11
U23A El Rito 78.94 333 ⇓P P 01 13 12.4 +1.1
baz=79,SNR=11
Q32A Meitler Ranch, 78.97 340 ⇑P P 01 13 11.5 +0.3
baz=79,SNR=6.7
T25A Trinidad 79.05 335 ⇓P P 01 13 13.4 +1.5
baz=79,SNR=15
P33A Williams Farm, 79.16 341 ⇑P P 01 13 13.4 +1.2
baz=80
S26A Kim 79.17 336 ⇑P P 01 13 13.6 +1.1
baz=80,SNR=20
R29A Marienthal 79.18 338 ⇑P P 01 13 13.1 +0.7
baz=80
W18A Petrified Fore 79.21 330 eP P 01 13 14.1 +1.3
comp=Z,35nm,1.3s
W18A Petrified Fore 79.21 330 ⇓P P 01 13 15.0 +2.2
baz=80
Q31A Ellis 79.21 340 ⇑P P 01 13 13.4 +0.9
baz=80
U22A Llaves 79.22 333 ⇑P P 01 13 14.7 +1.8

baz=80,SNR=5.9
X16A Lo Mia Camp, P 79.30 329 ⇑P P 01 13 14.9 +1.5
baz=80
R28A Tribune 79.31 338 ⇓P P 01 13 13.9 +0.7
baz=80,SNR=8.5
T24B San Luis 79.31 334 ⇓P P 01 13 15.2 +1.7
baz=80,SNR=9.3
AAM Ann Arbor 79.33 352 eP P 01 13 12.5 -0.5
AAM Ann Arbor 79.33 352 eP P 01 13 12.5 -0.5
Q30A Quinter 79.42 339 ⇑P P 01 13 14.5 +0.8
baz=80
TSUM Tsumeb 79.43 106 eP P 01 13 15.3 +0.9
comp=Z,57nm,1.4s
T23A Casias Ranch, 79.52 334 ⇓P P 01 13 15.7 +1.1
baz=80
S25A Robets Cordova 79.53 335 ⇑P P 01 13 15.5 +1.0
baz=80
Y14A Wickenburg 79.55 327 ⇑P P 01 13 15.2 +0.7
baz=80
Q29A Oakley 79.56 338 ⇓P P 01 13 15.2 +0.7
baz=80
R27A Eads 79.56 337 ⇑P P 01 13 15.1 +0.6
baz=80,SNR=9.5
P32A Huiting Farm, 79.57 340 ⇑P P 01 13 15.0 +0.5
baz=80
GLA Glamis 79.61 326 ⇑P P 01 13 15.4 +0.5
baz=80
BOSA Boshof 79.66 118 eP P 01 13 16.0 +0.4
BOSA pmax pmax
comp=Z,63nm,1.3s
BOSA Boshof 79.66 118 P P 01 13 15.8 +0.2
comp=Z,29nm,1.0s,baz=231,slow=5.9,SNR=22
BOSA Boshof 79.66 118 eP P 01 13 16.0 +0.4
comp=Z,63nm,1.3s
P31A Stockton 79.69 340 ⇓P P 01 13 15.8 +0.6
baz=80
S24A Houchin Ranch, 79.77 335 ⇑P P 01 13 17.3 +1.4
baz=80,SNR=22
R26A Arlington 79.78 336 ⇑P P 01 13 16.8 +1.0
baz=80,SNR=13
R25A Fountain Ranch 79.92 336 ⇑P P 01 13 17.5 +1.0
baz=80
P30A Selden 79.96 339 ⇓P P 01 13 17.7 +1.1
baz=80
SWSC Sam W. Stewart 79.96 325 ⇑P P 01 13 16.7 0.0
baz=80
SDCO Great Sand Dun 79.97 335 eP P 01 13 17.1 +0.1
comp=Z,6.0nm,0.9s
Q28A Sharon Springs 79.98 338 ⇑P P 01 13 17.8 +1.0
baz=80
Y12C Blythe 80.06 326 ⇑P P 01 13 18.5 +1.3
baz=80
O32A Brockman Farm, 80.08 341 ⇑P P 01 13 18.1 +0.9
baz=80
S23A Nye Farm, Mont 80.10 334 ⇑P P 01 13 17.9 +0.2
baz=80
KSCO Kaye Shedlock' 80.17 337 ⇑P P 01 13 18.3 +0.5
baz=80
P29A Atwood 80.21 339 ⇑P P 01 13 19.1 +1.2
baz=80
MONP Monument Peak 80.21 324 ⇓P P 01 13 18.4 0.0
baz=80
WUAZ Wupatki 80.22 329 ⇓P P 01 13 18.4 +0.2
baz=80
O31A Woolen Ranch, 80.26 340 ⇓P P 01 13 19.3 +1.1
baz=81
R24A Sanders Place, 80.27 335 ⇓P P 01 13 19.9 +1.4
baz=81,SNR=18
PDMCI Parker Dam,Lak 80.35 327 ⇑P P 01 13 19.4 +0.7
baz=81
Q26A Hugo 80.38 337 ⇑P P 01 13 19.6 +0.6
baz=81
BC3 Big Chuckawall 80.40 325 ⇑P P 01 13 20.1 +0.9
baz=81
P28A Saint Francis 80.42 338 ⇓P P 01 13 19.9 +0.8
baz=81
S22A 4UR Ranch, Cre 80.43 334 ⇑P P 01 13 20.4 +0.8
baz=81,SNR=8.1
R23A Moffat 80.48 335 ⇓P P 01 13 21.1 +1.4
baz=81
O30A MW Ranch, Wils 80.49 340 ⇓P P 01 13 20.4 +1.0
baz=81
MVCO Mesa Verde 80.57 332 eP P 01 13 20.7 +0.6
comp=Z,22nm,1.3s
MVCO Mesa Verde 80.57 332 ⇑P P 01 13 21.2 +1.0
baz=81,SNR=6.8
Q25A Bedland, Calha 80.60 336 ⇑P P 01 13 21.3 +1.0
baz=81
IRM Iron Mountain 80.68 326 ⇓P P 01 13 22.0 +1.4
baz=81
P26A Davis Ranch, A 80.90 337 ⇑P P 01 13 23.0 +1.2
baz=81
W13A Hualapai Mount 80.92 327 ⇓P P 01 13 23.4 +1.3
baz=81
O28A Krutsinger Ran 80.94 338 ⇑P P 01 13 23.1 +1.2
baz=81
Q24A Divide 80.94 335 ⇓P P 01 13 23.5 +1.2
baz=81,SNR=5.7
P25A Willow Gulch B 81.12 336 ⇑P P 01 13 24.3 +1.3
baz=81,SNR=15
BGNE Belgrade 81.13 341 ⇑P P 01 13 23.5 +0.7
baz=81
O27A Beecher Island 81.21 338 ⇓P P 01 13 24.7 +1.3
baz=82
N29A Votaw Ranch, W 81.25 339 ⇓P P 01 13 24.7 +1.2
baz=82
M31A Lambtecht Ranc 81.28 341 ⇓P P 01 13 24.7 +1.0
baz=82
P24A Kohler Place, 81.36 336 ⇓P P 01 13 25.6 +1.3
baz=82
U15A North Rim 81.38 329 ⇓P P 01 13 26.0 +1.4
baz=82,SNR=6.6
PV01 Paradox Valley 81.41 333 eP P 01 13 25.4 +0.8
comp=Z,2μm,1.3s
GMRC Granite Mounta 81.43 326 ⇑P P 01 13 26.5 +1.8
baz=82
LDFC Landfair 81.44 326 eP P 01 13 23.0 -1.7
comp=Z,31nm,1.3s
O26A Horse Wrangler 81.51 337 ⇓P P 01 13 26.3 +1.3
baz=82,SNR=6.6
P23A Jefferson 81.55 335 ⇑P P 01 13 26.5 +1.1
baz=82
CIS Catalina Islan 81.57 323 ⇑P P 01 13 27.9 +2.5
baz=82
O25A Wiggins 81.65 337 ⇓P P 01 13 27.5 +1.7
baz=82
M30A Dale-Ortello V 81.70 340 ⇑P P 01 13 26.9 +1.0
baz=82
HEC Hector,Ludlow 81.78 325 ⇑P P 01 13 28.6 +2.1
baz=82
N27A Anderson Farm, 81.79 338 ⇓P P 01 13 27.0 +0.6
baz=82
ISCO Idaho Springs 81.85 335 ⇑P P 01 13 28.0 +1.0
baz=82,SNR=7.2
BFSC Mount Baldy Ra 81.90 324 ⇑P P 01 13 28.5 +1.3
baz=82
N26A Koester Ranch, 82.02 338 ⇑P P 01 13 28.7 +1.1
baz=82
L31A Butterfield Fa 82.03 341 ⇓P P 01 13 28.7 +1.1
baz=82,SNR=5.8
LBTB Lobatse 82.04 115 eP P 01 13 28.7 +0.3
comp=Z,43nm,0.8s
L30A Spencer Herefo 82.05 340 ⇑P P 01 13 28.9 +1.2
baz=82
P22A Eagle 82.06 335 ⇑P P 01 13 29.3 +1.3
baz=82
TUQ Turquoise Moun 82.10 326 ⇓P P 01 13 29.4 +1.1
baz=82
O23A Lake Granby, G 82.32 335 ⇓P P 01 13 30.4 +0.9
baz=83,SNR=7.1
L29A Maesberg Ranch 82.36 340 ⇑P P 01 13 30.1 +0.8
baz=83,SNR=6.2
GSC Goldstone 82.39 325 ⇓P P 01 13 31.0 +1.3
baz=83
O22A Kremmling 82.49 335 ⇓P P 01 13 31.2 +0.9
baz=83,SNR=13
N24A Carr 82.54 336 ⇓P P 01 13 31.6 +1.2
baz=83
EDW2 Edwards Air Fo 82.58 324 ⇓P P 01 13 31.8 +1.1
baz=83
SHPR Sheep Range 82.66 327 eP P 01 13 32.3 +1.1
comp=Z,22nm,1.2s
K30A Basset 82.69 341 ⇓P P 01 13 31.8 +0.7
baz=83,SNR=6.4
M25A Palm-Egli Farm 82.83 337 ⇓P P 01 13 33.1 +1.2
baz=83
ECSD EROS Data Cent 82.95 343 eP P 01 13 31.9 -0.4
comp=Z,34nm,0.8s

ECSD EROS Data Cent 82.95 343 ⇓P P 01 13 32.6 +0.3
baz=83,SNR=32
N23A Red Feather La 82.95 336 ⇑P P 01 13 33.7 +1.0
baz=83,SNR=5.5
K29A Lazy Trails An 82.96 340 ⇓P P 01 13 33.2 +0.8
baz=83
ARUT Antelope Range 83.01 329 eP P 01 13 34.5 +1.5
ARUT Antelope Range 83.01 329 eP P 01 13 34.5 +1.5
comp=Z,478nm,1.3s
N22A Wattenberg Ran 83.03 335 ⇑P P 01 13 34.3 +1.1
baz=83,SNR=11
SBC Santa Barbara 83.05 323 ⇑P P 01 13 33.7 +0.7
baz=83
O20A White River Ci 83.06 334 ⇑P P 01 13 34.2 +1.1
baz=83,SNR=5.9
L26A Underwood Farm 83.08 338 ⇓P P 01 13 34.1 +0.9
baz=83
M24A Cheyenne 83.10 337 ⇓P P 01 13 34.5 +1.2
baz=83,SNR=6.1
MVU Marysvale 83.13 330 eP P 01 13 34.1 +0.5
comp=Z,16nm,1.3s
K28A Ten Mile Ranch 83.21 340 ⇓P P 01 13 35.4 +1.6
baz=84
J30A Dallas 83.27 341 ⇓P P 01 13 34.2 +0.3
baz=84,SNR=5.4
M23A Laramie 83.39 336 ⇓P P 01 13 35.9 +1.0
baz=84,SNR=7.1
K27A Flueckinger Fa 83.45 339 ⇓P P 01 13 36.0 +1.0
baz=84
J29A Okreek 83.56 341 ⇓P P 01 13 36.2 +0.7
baz=84,SNR=13
SPMN St. Paul 83.57 346 eP P 01 13 34.3 -1.1
comp=Z,9.6nm,0.9s
SPMN St. Paul 83.57 346 ⇓P P 01 13 36.1 +0.7
baz=84
M22A Cedar Creek Ra 83.62 335 ⇑P P 01 13 36.5 +0.4
baz=84
L24A Wheatland 83.66 337 ⇑P P 01 13 37.1 +0.9
baz=84
N20A Spence Gulch, 83.68 334 ⇓P P 01 13 37.2 +0.8
baz=84,SNR=6.0
I30A Oacoma 83.80 341 ⇑P P 01 13 37.1 +0.4
baz=84
J28A Allard Ranch, 83.83 340 ⇓P P 01 13 37.9 +1.1
baz=84
VES Vestal, Richgr 83.88 324 ⇑P P 01 13 37.7 +0.4
baz=84
J27A Elkhorn Farm, 83.89 339 ⇓P P 01 13 38.5 +1.2
baz=84,SNR=5.5
L23A Garrett 83.97 336 ⇑P P 01 13 38.8 +1.0
baz=84
GRAC Grapevine Rang 84.05 326 ⇓P P 01 13 39.8 +1.7
baz=84
L22A Ellis Ranch, M 84.13 336 ⇑P P 01 13 39.1 +0.5
baz=84
I29A Vivian Onida 84.13 341 ⇓P P 01 13 38.9 +0.5
baz=84
BRSD Miller 84.18 342 ⇑P P 01 13 39.1 +0.5
baz=84
J26A Sides Ranch, S 84.25 339 ⇓P P 01 13 40.0 +1.0
baz=85,SNR=7.8
I28A Midland 84.34 340 ⇓P P 01 13 40.6 +1.1
baz=85,SNR=6.5
R11A Troy Canyon, C 84.39 328 ⇓P P 01 13 41.1 +1.1
baz=85,SNR=8.5
K23A Bowen Ranch, D 84.52 337 ⇑P P 01 13 41.6 +1.1
baz=85,SNR=7.1
J25A Sunshine Ranch 84.53 338 ⇓P P 01 13 41.5 +0.9
baz=85,SNR=7.7
I27A Quinn 84.65 340 ⇓P P 01 13 41.7 +0.7
baz=85
H29A Onida 84.67 341 ⇓P P 01 13 41.5 +0.4
baz=85,SNR=5.2
K22A Casper 84.71 336 eP P 01 13 41.5 0.0
comp=Z,20nm,1.0s
K22A Casper 84.71 336 ⇑P P 01 13 42.5 +0.9
baz=85,SNR=8.3
J24A Dixon Ranch, L 84.74 338 ⇓P P 01 13 42.4 +0.8
baz=85,SNR=9.8
DUG Dugway 84.82 331 eP P 01 13 42.9 +0.8
DUG pmax pmax
comp=Z,34nm,1.4s
DUG Dugway 84.82 331 eP P 01 13 42.9 +0.8
comp=Z,34nm,1.4s
DUG Dugway 84.82 331 ⇑P P 01 13 43.4 +1.3
baz=85,SNR=10
I26A New Underwood 84.84 339 ⇑P P 01 13 42.7 +0.6
baz=85
G30A Faulkton 84.87 342 ⇓P P 01 13 42.3 +0.3
baz=85
TPH Tonopah 84.87 327 eP P 01 13 43.5 +1.0
TPH pmax pmax
comp=Z,32nm,1.3s
TPH Tonopah 84.87 327 eP P 01 13 43.5 +1.0
comp=Z,32nm,1.3s
H28A Mission Ridge 84.93 341 ⇑P P 01 13 42.7 +0.4
baz=85,SNR=6.1
K21A Alcova 84.94 336 ⇓P P 01 13 43.4 +0.7
baz=85,SNR=14
J23A Dilts Ranch, B 85.08 337 ⇓P P 01 13 44.1 +0.7
baz=85
I25A Rochford 85.09 338 ⇑P P 01 13 44.0 +0.6
baz=85,SNR=11
G29A Hoven 85.12 341 ⇑P P 01 13 44.0 +0.6
baz=85
H27A Howes 85.18 340 ⇑P P 01 13 44.0 +0.3
baz=86,SNR=9.4
I24A Kuemmerle Ranc 85.21 338 ⇑P P 01 13 44.8 +0.9
baz=86
MLAC Mammoth Lakes 85.23 325 ⇑P P 01 13 44.2 -0.1
baz=86
RSSD Black Hills 85.27 338 eP P 01 13 44.0 -0.4
RSSD pmax pmax
comp=Z,16nm,0.8s
RSSD Black Hills 85.27 338 eP P 01 13 44.0 -0.4
comp=Z,16nm,0.8s
G28A Parade 85.27 341 ⇓P P 01 13 44.8 +0.7
baz=86
J22A Midwest 85.38 336 ⇑P P 01 13 44.8 0.0
baz=86,SNR=6.7
F30A Leola 85.50 342 ⇓P P 01 13 45.9 +0.6
baz=86
HWUT Hardware Ranch 85.56 332 eP P 01 13 45.9 +0.1
comp=Z,24nm,1.1s
H25A Fruitdale 85.60 339 ⇑P P 01 13 46.6 +0.9
baz=86
J21A Lysite 85.64 336 ⇓P P 01 13 46.6 +0.5
baz=86
NVAR Mina Array Bea 85.64 326 P P 01 13 47.1 +0.7
comp=Z,2.2nm,0.7s,baz=148,slow=6.1,SNR=16
NVAR pP pP 01 13 54.6 -1.2
comp=Z,2.9nm,0.8s,baz=153,slow=6.1,SNR=9.3
NVAR PKKP PKKPbc 01 31 49.1 -0.8
comp=Z,1.1nm,0.7s,baz=313,slow=2.0,SNR=6.9
F29A Eureka 85.70 342 ⇑P P 01 13 46.7 +0.5
baz=86,SNR=8.7
I22A 9 Mile Ranch, 85.81 337 ⇓P P 01 13 47.1 +0.1
baz=86,SNR=8.5
G27A Dupree 85.83 340 ⇑P P 01 13 47.1 +0.2
baz=86,SNR=6.5
PDAR Pinedale Array 85.84 334 P P 01 13 47.1 -0.2
comp=Z,5.1nm,1.0s,baz=158,slow=4.3,SNR=23
PDAR PKKP PKKPbc 01 31 48.2 -1.4
comp=Z,0.9nm,0.6s,baz=80,slow=0.5,SNR=6.8
J20A Shoshoni 85.86 335 ⇑P P 01 13 48.0 +0.8
baz=86,SNR=12
G26A Maurine 85.93 340 ⇑P P 01 13 47.6 +0.2
baz=86,SNR=13
F28A McLaughlin 85.96 341 ⇓P P 01 13 47.9 +0.4
baz=86
H24A Dirks Ranch, A 85.99 338 ⇑P P 01 13 47.7 -0.1
baz=86,SNR=12
I21A Big Trails, Te 86.00 336 ⇑P P 01 13 47.4 -0.6
baz=86,SNR=10
G25A Newell 86.07 339 ⇑P P 01 13 48.6 +0.5
baz=86,SNR=9.5
H23A Clabaugh Cattl 86.08 338 ⇓P P 01 13 48.3 0.0
baz=86
E30A Jud 86.10 343 ⇑P P 01 13 48.3 +0.2
baz=86
J19A Crowheart 86.11 335 ⇓P P 01 13 48.7 +0.2
baz=86,SNR=14
TOA0 Torodi Ar. Sit 86.14 71 eP P 01 13 49.0 -0.1
TORD Torodi Ar. Bea 86.14 71 P P 01 13 49.1 0.0
comp=Z,9.3nm,0.9s,baz=227,slow=3.3,SNR=39
TORD pP pP 01 13 56.7 -1.9
comp=Z,17nm,1.0s,baz=245,slow=3.6,SNR=20
F27A Lemmon 86.31 340 ⇓P P 01 13 49.4 +0.2

	baz=87,SNR=18						
E29A	**Napoleon**	**86.34**	**342**	⇑P	**P**	**01 13 49.4**	**0.0**
	baz=87						
I20A	**Worland**	**86.40**	**336**	⇓P	**P**	**01 13 50.2**	**+0.3**
	baz=87,SNR=8.1						
H22A	**Clearmont**	**86.40**	**337**	⇓P	**P**	**01 13 49.7**	**-0.1**
	baz=87,SNR=5.5						
F26A	**Lodgepole**	**86.46**	**340**	⇓P	**P**	**01 13 50.3**	**+0.3**
	baz=87,SNR=8.3						
G24A	**Alzada**	**86.48**	**339**	⇓P	**P**	**01 13 50.6**	**+0.4**
	baz=87						
E28A	**Huff**	**86.61**	**341**	⇓P	**P**	**01 13 51.1**	**+0.5**
	baz=87						
D30A	**Buchanan**	**86.63**	**343**	⇓P	**P**	**01 13 51.0**	**+0.3**
	baz=87,SNR=9.7						
H21A	**Big Horn, Sher**	**86.65**	**337**	⇓P	**P**	**01 13 50.9**	**-0.2**
	baz=87						
G23A	**Biddle**	**86.66**	**338**	⇑P	**P**	**01 13 51.0**	**-0.1**
	baz=87						
E27A	**Carson**	**86.70**	**341**	⇑P	**P**	**01 13 51.5**	**+0.3**
	baz=87						
F25A	**Bowman**	**86.75**	**339**	⇑P	**P**	**01 13 51.6**	**+0.1**
	baz=87,SNR=10						
I19A	**Meeteetse**	**86.77**	**335**	⇑P	**P**	**01 13 51.7**	**-0.1**
	baz=87						
D29A	**Pettibone, Tap**	**86.79**	**342**	⇑P	**P**	**01 13 51.7**	**+0.1**
	baz=87,SNR=6.5						
H20A	**Greybull**	**86.84**	**336**	⇓P	**P**	**01 13 51.8**	**-0.2**
	baz=87,SNR=9.4						
G22A	**Birney**	**86.95**	**337**	⇑P	**P**	**01 13 52.2**	**-0.2**
	baz=87						
F24A	**Ekalaka**	**86.96**	**339**	⇑P	**P**	**01 13 52.3**	**-0.2**
	baz=87,SNR=6.1						
E26A	**Carlson Angus**	**86.98**	**340**	⇑P	**P**	**01 13 52.8**	**+0.3**
	baz=87,SNR=9.4						
AGMN	**Agassiz Nation**	**87.12**	**345**	*e*P	**P**	**01 13 52.2**	**-0.8**
	comp=Z,8.9nm,0.6s						
AGMN	**Agassiz Nation**	**87.12**	**345**	⇑P	**P**	**01 13 53.4**	**+0.4**
	baz=87,SNR=8.6						
C30A	**Mose, Pekin**	**87.12**	**343**	⇓P	**P**	**01 13 53.7**	**+0.5**
	baz=87,SNR=19						
F23A	**Volborg**	**87.13**	**338**	⇑P	**P**	**01 13 53.2**	**0.0**
	baz=87,SNR=6.2						
D28A	**Regan**	**87.15**	**342**	⇓P	**P**	**01 13 53.8**	**+0.5**
	baz=88,SNR=9.9						
I17A	**Pilgrim Ck.**	**87.21**	**334**	⇑P	**P**	**01 13 54.4**	**+0.5**
	baz=88,SNR=10.0						
G21A	**Lodge Grass**	**87.24**	**337**	⇑P	**P**	**01 13 54.3**	**+0.4**
	baz=88						
E25A	**Miller Ranch,**	**87.26**	**340**	⇑P	**P**	**01 13 54.7**	**+0.8**
	baz=88						
D27A	**Center**	**87.32**	**341**	⇓P	**P**	**01 13 54.5**	**+0.4**
	baz=88						
H19A	**Powell**	**87.33**	**335**	⇓P	**P**	**01 13 55.0**	**+0.6**
	baz=88						
F22A	**Rosebud**	**87.44**	**338**	⇑P	**P**	**01 13 55.3**	**+0.6**
	baz=88						
D26A	**Manning**	**87.48**	**341**	⇑P	**P**	**01 13 55.7**	**+0.7**
	baz=88,SNR=23						
G20A	**Bridger**	**87.56**	**336**	⇑P	**P**	**01 13 55.7**	**+0.3**
	baz=88						
H18A	**Shoshone NF, C**	**87.56**	**335**	⇑P	**P**	**01 13 55.5**	**-0.1**
	baz=88,SNR=8.1						
E24A	**Baker**	**87.57**	**339**	⇑P	**P**	**01 13 56.5**	**+1.1**
	baz=88						
C28A	**Hausauer Farms**	**87.59**	**342**	⇑P	**P**	**01 13 56.7**	**+1.3**
	baz=88						
H17A	**Grant Village**	**87.63**	**334**	⇑P	**P**	**01 13 56.8**	**+0.8**
	baz=88						
F21A	**Absaloka Mine,**	**87.75**	**337**	⇓P	**P**	**01 13 57.4**	**+1.1**
	baz=88						
B30A	**Myrvik Farm, E**	**87.79**	**344**	⇑P	**P**	**01 13 56.9**	**+0.6**
	baz=88,SNR=27						
E23A	**Ismay**	**87.80**	**339**	⇑P	**P**	**01 13 57.4**	**+0.9**
	baz=88						
D25A	**Fairfield**	**87.83**	**340**	⇓P	**P**	**01 13 57.4**	**+0.8**
	baz=88						
C27A	**Sayler Ranch,**	**87.87**	**341**	⇑P	**P**	**01 13 57.2**	**+0.4**
	baz=88,SNR=16						
E22A	**Miles City**	**87.94**	**338**	⇓P	**P**	**01 13 57.6**	**+0.5**
	baz=88						
B29A	**Wagenman Farm,**	**88.04**	**343**	⇑P	**P**	**01 13 57.9**	**+0.4**
	baz=88,SNR=9.4						
F20A	**Billings**	**88.05**	**336**	⇓P	**P**	**01 13 58.3**	**+0.5**
	baz=88						
D24A	**Glendive**	**88.08**	**339**	⇓P	**P**	**01 13 58.1**	**+0.4**
	baz=88						
C26A	**Wahner Farm, P**	**88.13**	**341**	⇑P	**P**	**01 13 58.5**	**+0.5**
	baz=88,SNR=6.9						
A30A	**Hoffart Farm,**	**88.25**	**344**	⇑P	**P**	**01 13 58.6**	**+0.1**
	baz=89,SNR=9.5						
B28A	**Dugan Ranch, T**	**88.27**	**342**	⇓P	**P**	**01 13 59.2**	**+0.6**
	baz=89,SNR=7.8						
HLID	**Hailey**	**88.31**	**331**	⇓P	**P**	**01 13 59.4**	**+0.2**
	baz=89						
C25A	**Freed Ranch, W**	**88.33**	**340**	⇓P	**P**	**01 13 59.8**	**+0.9**
	baz=89						
F19A	**Roth Farm, Mol**	**88.36**	**336**	⇓P	**P**	**01 13 59.6**	**+0.4**
	baz=89						
D23A	**Lindsay**	**88.39**	**339**	⇓P	**P**	**01 14 00.3**	**+1.1**
	baz=89						
A29A	**Manning Farm,**	**88.44**	**343**	⇓P	**P**	**01 13 59.5**	**+0.1**
	baz=89,SNR=15						
B27A	**Peters Farms,**	**88.45**	**342**	⇑P	**P**	**01 14 00.2**	**+0.7**
	baz=89						
C24A	**Savage**	**88.49**	**339**	⇑P	**P**	**01 14 00.4**	**+0.7**
	baz=89,SNR=8.2						
D22A	**Cohagen**	**88.65**	**338**	⇓P	**P**	**01 14 01.2**	**+0.7**
	baz=89						
E20A	**Meyer Farm, Mu**	**88.67**	**337**	⇑P	**P**	**01 14 01.1**	**+0.5**
	baz=89						
B26A	**Jensen Ranch,**	**88.67**	**341**	⇑P	**P**	**01 14 01.3**	**+0.7**
	baz=89						
A28A	**Rude Farm, Bot**	**88.67**	**343**	⇓P	**P**	**01 14 00.7**	**+0.2**
	baz=89,SNR=6.4						
MCMT	**McKenzie Canyo**	**88.81**	**333**	*e*P	**P**	**01 14 02.4**	**+0.8**
	comp=Z,9.2nm,1.4s						
B25A	**Knox Farm, Ray**	**88.82**	**341**	⇑P	**P**	**01 14 02.6**	**+1.4**
	baz=89						
D21A	**La Casta Ranch**	**88.82**	**338**	⇓P	**P**	**01 14 01.8**	**+0.4**
	baz=89						
E19A	**Rath Farm, Rou**	**88.84**	**336**	⇓P	**P**	**01 14 01.8**	**+0.3**
	baz=89						
C23A	**Lambert**	**88.95**	**339**	⇓P	**P**	**01 14 02.6**	**+0.7**
	baz=89						
A27A	**Ledoux Ranch,**	**88.95**	**342**	⇓P	**P**	**01 14 02.6**	**+0.8**
	baz=89						
ULM	**Lac du Bonnet**	**88.98**	**346**	P	**P**	**01 14 01.1**	**-0.7**
	comp=Z,7.1nm,0.7s,baz=165,slow=3.5,SNR=14						
C22A	**Vida**	**89.10**	**339**	⇓P	**P**	**01 14 03.4**	**+0.8**
	baz=89						
A26A	**Wade Farm, Ken**	**89.10**	**342**	⇑P	**P**	**01 14 03.5**	**+0.9**
	baz=89						
D20A	**Manuel Ranch,**	**89.19**	**337**	⇓P	**P**	**01 14 03.5**	**+0.4**
	baz=90						
DGMT	**Dagmar**	**89.28**	**340**	*e*P	**P**	**01 14 02.9**	**-0.5**
	comp=Z,32nm,1.3s						
DGMT	**Dagmar**	**89.28**	**340**	⇑P	**P**	**01 14 04.4**	**+1.0**
	baz=90						
A25A	**Svangstu Ranch**	**89.42**	**341**	⇑P	**P**	**01 14 04.8**	**+0.8**
	baz=90						
B23A	**Brockton**	**89.50**	**340**	⇓P	**P**	**01 14 04.2**	**-0.2**
	baz=90						
C21A	**Desert Coulee**	**89.53**	**338**	⇓P	**P**	**01 14 05.2**	**+0.6**
	baz=90						
B22A	**Reddig Ranch S**	**89.63**	**339**	⇑P	**P**	**01 14 05.5**	**+0.4**
	baz=90						
A24A	**Westby**	**89.64**	**340**	⇑P	**P**	**01 14 06.0**	**+0.9**
	baz=90						
N02D	**Trinity Center**	**89.69**	**325**	⇑P	**P**	**01 14 06.2**	**+0.6**
	baz=90						
C20A	**Veseth Ranch,**	**89.71**	**337**	⇓P	**P**	**01 14 06.3**	**+0.9**
	baz=90						
LSZ	**Lusaka**	**89.88**	**109**	*e*P	**P**	**01 14 09.0**	**+1.8**
LSZ				pmax	pmax		
	comp=Z,44nm,1.4s						
LSZ	**Lusaka**	**89.88**	**109**	*e*P	**P**	**01 14 09.0**	**+1.8**
	comp=Z,44nm,1.4s						
A23A	**Redstone**	**89.91**	**340**	⇑P	**P**	**01 14 07.5**	**+1.2**
	baz=90						
B21A	**Ellsworth Farm**	**90.05**	**338**	⇑P	**P**	**01 14 08.0**	**+1.0**
	baz=90						
C19A	**Slack Wire Ran**	**90.05**	**337**	⇓P	**P**	**01 14 07.2**	**+0.1**
	baz=90						
A22A	**Carney Farms,**	**90.23**	**339**	⇑P	**P**	**01 14 07.8**	**-0.1**
	baz=90						
B20A	**Solberg Farm,**	**90.36**	**338**	⇑P	**P**	**01 14 07.9**	**-0.6**
	baz=91						
A21A	**Bergtoll Ranch**	**90.53**	**339**	⇓P	**P**	**01 14 08.6**	**-0.7**
	baz=91						
EGMT	**Eagleton**	**90.53**	**336**	⇑P	**P**	**01 14 09.1**	**-0.3**
	baz=91						
B19A	**Brinkman Farms**	**90.66**	**337**	⇓P	**P**	**01 14 09.6**	**-0.3**
	baz=91						
A20A	**Cobblestone Ra**	**90.72**	**338**	⇑P	**P**	**01 14 10.1**	**-0.1**
	baz=91						
J05D	**Fort Rock, OR**	**90.88**	**327**	⇓P	**P**	**01 14 10.7**	**-0.4**
	baz=91						
A19A	**Klindworth Far**	**91.01**	**338**	⇑P	**P**	**01 14 12.1**	**+0.6**
	baz=91						
L02D	**Cave Junction,**	**91.04**	**325**	⇓P	**P**	**01 14 11.9**	**+0.2**
	baz=91						
J04D	**Umpqua Nationa**	**91.23**	**327**	⇑P	**P**	**01 14 13.2**	**+0.4**
	baz=92						
I05D	**Terrebonne, OR**	**91.77**	**328**	⇑P	**P**	**01 14 15.8**	**+0.7**
	baz=92						
I04A	**Tendick Farm,**	**91.80**	**327**	⇑P	**P**	**01 14 16.1**	**+0.9**
	baz=92						
NEW	**Newport**	**93.29**	**332**	⇓P	**P**	**01 14 22.4**	**+0.4**
	baz=94						
G03D	**McMinnville, O**	**93.30**	**327**	⇑P	**P**	**01 14 22.8**	**+0.8**
	baz=94						
F04D	**Rainier, OR**	**93.87**	**328**	⇑P	**P**	**01 14 25.8**	**+1.1**
	baz=94						
TAM	**Tamanrasset**	**94.96**	**65**	*e*P	**P**	**01 14 30.8**	**+0.3**
TAM				pmax	pmax		
	comp=Z,14nm,1.3s						
TAM	**Tamanrasset**	**94.96**	**65**	*e*P	**P**	**01 14 30.8**	**+0.3**
	comp=Z,14nm,1.3s						
FCC	**Fort Churchill**	**96.81**	**349**	*e*P	**P**	**01 14 37.2**	**-0.5**
FCC	**Fort Churchill**	**96.81**	**349**	*e*P	**P**	**01 14 37.2**	**-0.5**
	comp=Z,0.2nm,1.1s						
ESDC	**Sonseca Array**	**99.27**	**47**	P	**Pdif**	**01 14 49.9**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=242,slow=4.4,SNR=4.7						
ESDC				pP	**pP**	**01 14 57.3**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=240,slow=5.0,SNR=3.0						
YKA	**Yellowknife Ar**	**104.41**	**342**	Pdiff	**Pdif**	**01 15 10.1**	**-1.5**
	comp=Z,0.2nm,0.9s,baz=142,slow=4.9,SNR=2.9						
GERES	**GERESS Array B**	**114.87**	**47**	PKP	PKPdf	01 19 47.7	-0.3
	comp=Z,2.9nm,0.8s,baz=216,slow=1.1,SNR=23						
KHC	**Kasperske Hory**	**114.93**	**46**	*e*PKIKP	PKPdf	01 19 48.5	+0.5
KHC	**Kasperske Hory**	**114.93**	**46**	*e*PKP	PKPdf	01 19 48.5	+0.5
KHC				*e*x	x	01 37 28.3	
CLL	**Collm**	**115.61**	**44**	*e*PKIKP	**PKPdf**	**01 19 49.0**	**-0.1**
CLL	**Collm**	**115.61**	**44**	*e*PKiKP	**PKPdf**	**01 19 49.0**	**-0.1**
PRA	**Prague**	**115.86**	**46**	PKP	**PKPdf**	**01 19 50.0**	**+0.4**
PRU	**Pruhonice**	**115.88**	**46**	*e*PKIKP	**PKPdf**	**01 19 49.4**	**-0.3**
PRU	**Pruhonice**	**115.88**	**46**	*e*PKP	**PKPdf**	**01 19 49.4**	**-0.3**
PRU				*e*x	x	01 37 31.6	
BRG	**Berggiesshubel**	**115.94**	**45**	*e*PKP	**PKPdf**	**01 19 49.4**	**-0.4**
	comp=Z,11nm,1.6s						
BRG	**Berggiesshubel**	**115.94**	**45**	*e*PKIKP	**PKPdf**	**01 19 49.4**	**-0.4**
BRG				pmax	pmax		
	comp=Z,11nm,1.6s						
ILAR	**Eielson Array**	**116.25**	**333**	PKP	**PKPdf**	**01 19 49.5**	**-0.5**
	comp=Z,1.1nm,1.0s,baz=203,slow=1.8,SNR=7.7						
ILAR				PP	PP	01 21 04.9	+8.4
	comp=Z,1.4nm,1.2s,baz=114,slow=6.6,SNR=4.7						
ILAR				PKKPbc	**PKKPab**	**01 30 22.9**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=272,slow=2.5,SNR=4.5						
PKSM	**Moragy**	**116.65**	**51**	⇓PKIKP	**PKPdf**	**01 19 51.4**	**+0.1**
PKSM	**Moragy**	**116.65**	**51**	⇓*i*P	**PKPdf**	**01 19 51.4**	**+0.1**
COLA	**College**	**116.65**	**333**	*e*PKIKP	**PKPdf**	**01 19 50.4**	**-0.3**
COLA	**College**	**116.65**	**333**	*e*PKPdf	**PKPdf**	**01 19 50.4**	**-0.3**
UPC	**Upice**	**116.96**	**46**	*e*PKIKP	**PKPdf**	**01 19 52.1**	**+0.3**
UPC	**Upice**	**116.96**	**46**	*e*PKP	**PKPdf**	**01 19 52.1**	**+0.3**
DPC	**Dobruska-Polom**	**117.07**	**46**	*e*PKIKP	**PKPdf**	**01 19 52.4**	**+0.3**
DPC	**Dobruska-Polom**	**117.07**	**46**	*e*PKP	**PKPdf**	**01 19 52.4**	**+0.3**
KRLC	**Kraliky**	**117.21**	**46**	*e*PKIKP	**PKPdf**	**01 19 53.1**	**+0.7**
KRLC	**Kraliky**	**117.21**	**46**	*e*PKP	**PKPdf**	**01 19 53.1**	**+0.7**
KSP	**Ksiaz**	**117.26**	**45**	*e*PKP	**PKPdf**	**01 19 53.1**	**+0.7**
MORC	**Moravsky Berou**	**117.53**	**47**	*e*PKIKP	**PKPdf**	**01 19 52.8**	**-0.2**
MORC	**Moravsky Berou**	**117.53**	**47**	⇑*i*P	**PKPdf**	**01 19 53.3**	**+0.3**
MORC	**Moravsky Berou**	**117.53**	**47**	*e*PKPdf	**PKPdf**	**01 19 52.8**	**-0.2**
VYHS	**Vyhne**	**117.75**	**49**	*e*PKIKP	**PKPdf**	**01 19 53.4**	**0.0**
VYHS	**Vyhne**	**117.75**	**49**	*e*PKP	**PKPdf**	**01 19 53.4**	**0.0**
WRA	**Warramunga Arr**	**117.79**	**210**	PKP	**PKPdf**	**01 19 53.2**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=158,slow=1.9,SNR=10						
WRAB	**Tennant Creek**	**117.79**	**210**	*e*PKIKP	**PKPdf**	**01 19 52.7**	**-1.8**
WRAB	**Tennant Creek**	**117.79**	**210**	*e*PKPdf	**PKPdf**	**01 19 52.7**	**-1.8**
OKC	**Ostrava-Krasne**	**117.91**	**47**	*e*PKIKP	**PKPdf**	**01 19 53.7**	**+0.1**
OKC				*e*		01 20 01.6	
OKC	**Ostrava-Krasne**	**117.91**	**47**	*e*PKP	**PKPdf**	**01 19 53.7**	**+0.1**
OKC				*e*pPKP	**pPKPdf**	**01 20 01.6**	**-1.8**
OKC				*e*SKKS		01 37 49.9	
OKC				*e*x	x	01 39 11.9	
BZS	**Buzias**	**118.26**	**53**	⇑PKIKP	**PKPdf**	**01 19 53.6**	**-0.8**
BZS	**Buzias**	**118.26**	**53**	⇑*i*P	**PKPdf**	**01 19 53.6**	**-0.8**
NAO01	**NORSAR Array S**	**118.73**	**34**	*e*PKPdf	**PKPdf**	**01 19 55.0**	**+0.1**
GKP	**Gorka Klasztor**	**118.81**	**43**	*e*PKIKP	**PKPdf**	**01 19 55.6**	**+0.4**
GKP	**Gorka Klasztor**	**118.81**	**43**	*e*PKP	**PKPdf**	**01 19 55.6**	**+0.4**
COEN	**Coen**	**118.89**	**221**	*e*PKPdf	**PKPdf**	**01 19 56.4**	**-0.3**
NB2	**NORSAR Subarra**	**118.96**	**34**	PKPdf	**PKPdf**	**01 19 55.2**	**-0.2**
	comp=Z,3.0nm,1.1s,baz=248,slow=1.9						
NOA	**NORSAR Array B**	**118.96**	**34**	PKP	**PKPdf**	**01 19 54.7**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=252,slow=2.2,SNR=5.5						
DRGR		**119.44**	**52**	⇓PKIKP	**PKPdf**	**01 19 56.4**	**-0.4**
DRGR		**119.44**	**52**	⇓*i*P	**PKPdf**	**01 19 56.4**	**-0.4**
CRVS	**Cervenica-Dubn**	**119.51**	**49**	*e*PKIKP	**PKPdf**	**01 19 56.3**	**-0.5**
CRVS	**Cervenica-Dubn**	**119.51**	**49**	*e*PKP	**PKPdf**	**01 19 56.3**	**-0.5**
STHS	**Stebnicka Huta**	**119.58**	**48**	*e*PKIKP	**PKPdf**	**01 19 57.5**	**+0.6**
STHS	**Stebnicka Huta**	**119.58**	**48**	*e*PKP	**PKPdf**	**01 19 57.5**	**+0.6**
HFS	**Hagfors**	**119.72**	**35**	PKP	**PKPdf**	**01 19 55.2**	**-1.6**
	comp=Z,2.0nm,0.6s,baz=197,slow=4.5,SNR=6.8						
TRPA	**Tarpa**	**119.86**	**50**	⇑*i*P	**PKPdf**	**01 19 57.5**	**+0.1**
KOLS	**Kolonicke sedl**	**120.01**	**49**	*e*PKIKP	**PKPdf**	**01 20 00.5**	**+2.8**
KOLS	**Kolonicke sedl**	**120.01**	**49**	*e*PKP	**PKPdf**	**01 20 00.5**	**+2.8**
ARR	**Arges**	**120.10**	**54**	⇓*i*P	**PKPdf**	**01 19 58.0**	**-0.1**
VOIR		**120.40**	**54**	⇑PKIKP	**PKPdf**	**01 19 55.9**	**-2.8**
VOIR		**120.40**	**54**	⇑*i*P	**PKPdf**	**01 19 55.9**	**-2.8**
KWP	**Kalwaria Pacla**	**120.54**	**49**	⇓PKIKP	**PKPdf**	**01 19 59.0**	**+0.3**
KWP	**Kalwaria Pacla**	**120.54**	**49**	*e*PKP	**PKPdf**	**01 19 58.5**	**-0.3**
KWP	**Kalwaria Pacla**	**120.54**	**49**	⇓*i*P	**PKPdf**	**01 19 59.0**	**+0.3**
KWP	**Kalwaria Pacla**	**120.54**	**49**	*e*PKPdf	**PKPdf**	**01 19 58.4**	**-0.3**
MLR	**Muntele Rosu**	**121.00**	**54**	⇓PKIKP	**PKPdf**	**01 19 57.5**	**-2.4**
MLR	**Muntele Rosu**	**121.00**	**54**	⇓*i*P	**PKPdf**	**01 19 57.5**	**-2.4**
MBWA	**Marble Bar**	**121.02**	**194**	*e*PKPdf	**PKPdf**	**01 19 59.9**	**-0.7**
BUR08	**Bucovina Ar. S**	**121.33**	**52**	*e*PKPdf	**PKPdf**	**01 20 00.3**	**-0.1**
BURAR	**Bucovina Array**	**121.33**	**52**	⇓PKIKP	**PKPdf**	**01 20 00.9**	**+0.5**
BURAR	**Bucovina Array**	**121.33**	**52**	⇓*i*P	**PKPdf**	**01 20 00.9**	**+0.5**
VRI	**Vrincioaia**	**121.65**	**54**	⇑PKIKP	**PKPdf**	**01 20 00.4**	**-0.6**
VRI	**Vrincioaia**	**121.65**	**54**	⇑*i*P	**PKPdf**	**01 20 00.4**	**-0.6**
TESR	**Tescani**	**121.84**	**53**	⇓*i*P	**PKPdf**	**01 20 00.7**	**-0.6**
CFR	**Carcaliu**	**122.31**	**55**	⇓PKIKP	**PKPdf**	**01 20 02.4**	**+0.2**
CFR	**Carcaliu**	**122.31**	**55**	⇓*i*P	**PKPdf**	**01 20 02.3**	**+0.1**
SUW	**Suwalki**	**122.37**	**44**	*e*PKIKP	**PKPdf**	**01 20 02.0**	**0.0**
SUW	**Suwalki**	**122.37**	**44**	*e*PKP	**PKPdf**	**01 20 02.0**	**0.0**
SUW	**Suwalki**	**122.37**	**44**	*e*PKPdf	**PKPdf**	**01 20 01.5**	**-0.5**
BR131	**Keskin Array S**	**124.08**	**63**	*e*PKPdf	**PKPdf**	**01 20 05.7**	**-0.3**
BRTR	**Keskin Array B**	**124.08**	**63**	PKP	**PKPdf**	**01 20 05.7**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=188,slow=3.0,SNR=18						
BRTR				pPKP	**pPKPdf**	**01 20 14.2**	**-1.7**
	comp=Z,3.2nm,0.9s,baz=185,slow=2.7,SNR=8.8						
H11S2	**WAKE ISLAND Hy**	**124.66**	**268**	T	T	03 37 13.3	
	baz=122						
H11S1	**WAKE ISLAND Hy**	**124.68**	**268**	T	T	03 37 16.5	
	baz=122						
H11S3	**WAKE ISLAND Hy**	**124.68**	**268**	T	T	03 37 16.5	
	baz=122						
TNA	**Tin City**	**124.73**	**330**	*e*PKPdf	**PKPdf**	**01 20 06.2**	**0.0**
AK02	**Malin Array Si**	**124.82**	**49**	*e*PKPdf	**PKPdf**	**01 20 05.7**	**-1.2**
KIEV	**Kiev**	**124.84**	**49**	*e*PKIKP	**PKPdf**	**01 20 05.7**	**-1.2**
KIEV	**Kiev**	**124.84**	**49**	*e*PKPdf	**PKPdf**	**01 20 05.7**	**-1.2**
AK01	**Malin Array Si**	**124.84**	**49**	*e*PKPdf	**PKPdf**	**01 20 05.4**	**-1.5**
AKASG	**Malin Array Be**	**124.85**	**49**	PKP	**PKPdf**	**01 20 05.8**	**-1.1**
	comp=Z,6.2nm,0.9s,baz=262,slow=2.7,SNR=21						
AKASG				PP	**PP**	**01 21 52.4**	**-3.4**
	comp=Z,3.0nm,1.0s,baz=251,slow=7.4,SNR=10						
AKBB	**Malin Array Si**	**124.85**	**49**	*e*PKIKP	**PKPdf**	**01 20 06.2**	**-0.7**
AKBB	**Malin Array Si**	**124.85**	**49**	*e*PKPdf	**PKPdf**	**01 20 06.2**	**-0.7**
FINES	**FINESS Array B**	**125.90**	**36**	PKP	**PKPdf**	**01 20 07.9**	**-0.7**
	comp=Z,3.3nm,0.9s,baz=197,slow=2.0,SNR=7.4						
ARCES	**ARCESS Array B**	**127.02**	**26**	PKP	**PKPdf**	**01 20 09.6**	**-0.9**
	comp=Z,2.5nm,0.6s,baz=219,slow=1.6,SNR=6.5						
KIV	**Kislovodsk**	**131.82**	**61**	*e*PKIKP	**PKPdf**	**01 20 19.7**	**-0.9**
KIV				pmax	pmax		
	comp=Z,23nm,1.1s						
KIV	**Kislovodsk**	**131.82**	**61**	*e*PKPdf	**PKPdf**	**01 20 19.9**	**-0.7**
KBZ	**Khabaz**	**131.91**	**61**	PKhKP	PKPpre	01 20 17.1	
	comp=Z,2.6nm,0.9s,baz=241,slow=5.2,SNR=5.1						
GNI	**Garni**	**132.26**	**66**	*e*PKIKP	**PKPdf**	**01 20 22.5**	**+0.9**
GNI	**Garni**	**132.26**	**66**	*e*PKPdf	**PKPdf**	**01 20 22.5**	**+0.9**
KLMR	**Klimovskoe**	**132.29**	**38**	*e*PKIKP	**PKPdf**	**01 20 15.9**	**-4.9**
KLMR				pmax	pmax		
	comp=Z,45nm,1.5s						
GOF	**Gofitskoye**	**132.34**	**59**	*e*PKIKP	**PKPdf**	**01 20 21.3**	**-0.1**
BILL	**Bilibino**	**134.91**	**333**	*e*PKIKP	**PKPdf**	**01 20 26.2**	**+0.7**
BILL	**Bilibino**	**134.91**	**333**	*e*PKPdf	**PKPdf**	**01 20 26.2**	**+0.7**
PRGR	**Permogore**	**135.22**	**36**	*e*PKIKP	**PKPdf**	**01 20 26.6**	**+0.4**
PRGR				pmax	pmax		
	comp=Z,13nm,0.7s						
KAPI	**Kappang**	**136.61**	**199**	*e*PKPdf	**PKPdf**	**01 20 31.1**	**+0.6**
GEYT	**Alibeck**	**141.73**	**73**	PKhKP	PKPpre	01 20 33.3	
	comp=Z,4.7nm,0.8s,baz=255,slow=4.5,SNR=14						
SEY	**Seymchan**	**141.93**	**328**	PKhKP	PKPpre	01 20 33.7	
	comp=Z,9.2nm,1.0s,baz=84,slow=4.9,SNR=5.7						
SEY				PKP	**PKPdf**	**01 20 39.1**	**+0.6**
	comp=Z,15nm,1.0s,baz=111,slow=1.9,SNR=26						
PALK	**Pallekele**	**142.23**	**135**	*e*PKIKP	**PKPdf**	**01 20 40.7**	**+0.1**
PALK	**Pallekele**	**142.23**	**135**	*e*PKPdf	**PKPdf**	**01 20 40.7**	**+0.1**
ARU	**Arti**	**142.54**	**43**	*i* PKIKP	**PKPdf**	**01 20 35.9**	**-3.9**
ARU						01 23 45.6	
ARU				SS	SS	01 42 21.0	-1.3
ARU	**Arti**	**142.54**	**43**	*e*PKPpre	PKPpre	01 20 34.7	
AKTO	**Aktyubinsk**	**142.91**	**53**	PKHKP	PKPpre	01 20 35.7	
AKTO				pmax	pmax		
	comp=Z,17nm,1.0s						
TIXI	**Tiksi**	**143.28**	**348**	*e*PKHKP	PKPpre	01 20 36.2	
TIXI	**Tiksi**	**143.28**	**348**	*e*PKPpre	PKPpre	01 20 36.1	
AB31	**Akbulak array**	**144.21**	**55**	*i* PKIKP	**PKPab**	**01 20 41.0**	**+0.2**
AB31				pmax	pmax		
	comp=Z,19nm,0.6s						
ABKAR	**Akbulak array**	**144.21**	**55**	*e*PKPdf	PKPbc	01 20 41.4	+0.1
KSM	**Kuching**	**144.65**	**186**	*e*PKPdf	**PKPab**	**01 20 43.4**	**-0.1**
PSI	**Prapat**	**145.38**	**166**	PKPbc	**PKPbc**	**01 20 45.3**	**-0.9**
	comp=Z,57nm,0.8s,baz=181,slow=4.3,SNR=60						
IPM	**Ipoh**	**147.38**	**169**	*e*PKPdf	**PKPdf**	**01 20 49.3**	**-0.3**
IPM				*e*PKPbc	**PKPbc**	**01 20 52.2**	**+0.2**
IPM				*e*PKPab	**PKiKP**	**01 20 54.0**	**-0.2**
KULM	**Kulim**	**148.11**	**169**	*e*PKPbc	**PKPbc**	**01 20 53.3**	**-0.6**
KKM	**Kota Kinabalu**	**148.14**	**198**	*e*PKPbc	**PKPbc**	**01 20 53.6**	**-0.4**
HYB	**Hyderabad**	**148.54**	**120**	*i* PKP	**PKPbc**	**01 20 54.0**	**-0.9**
KBL	**Kabul**	**149.46**	**83**	*e*PKPdf	**PKPdf**	**01 20 52.6**	**+0.1**
KBL				*e*PKPbc	**PKPbc**	**01 20 57.0**	**0.0**
BRVK	**Borovoye**	**149.96**	**46**	PKIKP	**PKPdf**	**01 20 52.1**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,45nm,0.9s						
BRVK	**Borovoye**	**149.96**	**46**	*e*PKPdf	**PKPdf**	**01 20 53.1**	**+0.7**
BRVK				*e*PKPbc	**PKPbc**	**01 20 57.8**	**+0.4**
BVAR	**Borovoye Array**	**150.03**	**46**	PKP	**PKPdf**	**01 20 52.6**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=263,slow=2.0,SNR=11						
BVAR				PKPbc	**PKPbc**	**01 20 57.9**	**+0.4**
	comp=Z,20nm,0.8s,baz=250,slow=1.9,SNR=65						
YAK	**Yakutsk**	**151.01**	**338**	*e*PKIKP	**PKPdf**	**01 20 52.1**	**-1.7**
YAK				*e*		01 21 07.1	
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,68nm,1.0s						
YAK	**Yakutsk**	**151.01**	**338**	*e*PKPdf	**PKPdf**	**01 20 53.2**	**-0.6**
YAK				*e*PKPbc	**PKPbc**	**01 20 59.0**	**-0.6**
YAK				*e*PKPab	**PKPab**	**01 21 06.8**	**-0.4**
YSS	**Yuzh-Sakhalins**	**151.55**	**302**	*e*PKIKP	**PKPbc**	**01 21 01.0**	**-0.3**
YSS				*e*		01 21 09.2	
YSS	**Yuzh-Sakhalins**	**151.55**	**302**	*e*PKPbc	**PKPbc**	**01 21 01.0**	**-0.3**
YSS				*e*PKPab	**PKPab**	**01 21 09.2**	**-0.7**
KK31	**Karatay Array**	**151.73**	**66**	*i* PKIKP	**PKPbc**	**01 21 00.4**	**-1.5**
KK31				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KKAR	**Karatay Array**	**151.73**	**66**	*e*PKIKP	**PKPdf**	**01 20 55.0**	**-0.6**
KKAR				*e*		01 21 01.7	
KKAR				*e*		01 21 10.2	
KKAR	**Karatay Array**	**151.73**	**66**	*e*PKPdf	**PKPdf**	**01 20 55.0**	**-0.6**
KKAR				*e*PKPbc	**PKPbc**	**01 21 01.7**	**-0.2**
KKAR				*e*PKPab	**PKPab**	**01 21 10.2**	**-0.7**
ASAJ	**Asahikawa**	**151.91**	**296**	PKPbc	**PKPbc**	**01 21 01.7**	**-0.5**
	comp=Z,7.2nm,0.8s,baz=203,slow=8.9,SNR=7.9						
VIS	**Vishakhapatnam**	**151.95**	**126**	*i* x	PKPab	01 21 17.7	+5.3
VIS				*i* x	x	01 28 27.5	
EKS2	**Erkin-Say**	**154.14**	**67**	*e*PKIKP	**PKPdf**	**01 20 59.8**	**+0.6**
EKS2				*e*		01 21 07.6	
EKS2				*e*		01 21 21.4	
EKS2	**Erkin-Say**	**154.14**	**67**	*e*PKPdf	**PKPdf**	**01 20 59.8**	**+0.6**
EKS2				*e*PKPbc	**PKiKP**	**01 21 07.6**	**+0.2**
EKS2				*e*PKPab	**PKPab**	**01 21 21.4**	**+0.2**
AAK	**Ala-Archa**	**154.67**	**67**	PKP	**PKPdf**	**01 21 00.1**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=217,slow=3.6,SNR=10						
AAK				PKPbc	**PKiKP**	**01 21 08.8**	**+0.2**
	comp=Z,8.0nm,0.8s,baz=206,slow=2.5,SNR=16						
AAK				PKPab	**PKPab**	**01 21 24.1**	**+0.6**
	comp=Z,17nm,0.8s,baz=225,slow=6.5,SNR=18						
TKM2	**Tokmak 2**	**155.46**	**66**	*e*PKIKP	**PKPdf**	**01 21 01.3**	**+0.1**
TKM2				*e*		01 21 09.9	
TKM2				*e*		01 21 27.2	
TKM2	**Tokmak 2**	**155.46**	**66**	*e*PKPdf	**PKPdf**	**01 21 01.2**	**+0.1**
TKM2				*e*PKPbc	PKPbc	01 21 09.9	
TKM2				*e*PKPab	**PKPab**	**01 21 27.2**	**+0.2**
KURK	**Kurchatov**	**155.62**	**46**	*e*PKIKP	**PKPdf**	**01 21 00.5**	**-0.3**
KURK				*e*		01 21 10.3	
KURK	**Kurchatov**	**155.62**	**46**	*e*PKPdf	**PKPdf**	**01 21 00.5**	**-0.3**
KURK				*e*PKPbc	PKPbc	01 21 10.3	
KURK				*e*PKPab	**PKPab**	**01 21 27.8**	**+0.8**
KSH	**Kashi**	**155.76**	**74**	*e*PKP	**PKPdf**	**01 21 02.0**	**+0.4**
KSH				*e*pPKP	**pPKPdf**	**01 21 13.3**	**+1.9**
KSH				*e*sPKP		01 21 16.5	
KSH				*e*SKS	**SKSdf**	**01 28 02.5**	**-3.3**
KSH				*e*SKKS	**SKKSac**	**01 31 52.0**	**-1.0**
KSH				AMB	AMB		
	comp=Z,91nm,2.9s						
KSH				LR	LR		
	comp=Z,81nm,4.7s						
KSH				LR	LR		
	comp=Z,220nm,11.8s						
NVS	**Novosibirsk**	**155.88**	**34**	*e*PKIKP	**PKPdf**	**01 21 00.1**	**-0.9**
NVS				pmax	pmax		
	comp=Z,31nm,1.6s						
ZAA0	**Zalesovo Array**	**157.16**	**35**	*e*PKPdf	**PKPdf**	**01 21 02.0**	**-0.7**
ZAA0				*e*PKPab	**PKPab**	**01 21 33.9**	**+0.3**
ZALV	**Zalesovo Beam**	**157.16**	**35**	PKP	**PKPdf**	**01 21 01.8**	**-0.9**
	comp=Z,12nm,0.9s,baz=284,slow=2.4,SNR=41						
ZALV				PKPab	**PKPab**	**01 21 33.8**	**+0.3**
	comp=Z,16nm,0.9s,baz=306,slow=5.3,SNR=11						
BOD	**Bodaibo**	**158.46**	**349**	*e*PKP2	**PKPab**	**01 21 38.4**	**-0.6**
BOD				pmax	pmax		
	comp=Z,13nm,1.2s						
KOLN	**Koldanda**	**158.53**	**108**	*e*P	**PKPdf**	**01 21 04.8**	**-0.7**
DANN	**Dangsing**	**158.94**	**107**	*e*P	**PKPdf**	**01 21 05.8**	**-0.3**
MKAR	**Makanchi Array**	**159.34**	**54**	PKP	**PKPdf**	**01 21 05.5**	**-0.2**
	comp=Z,6.4nm,1.0s,baz=305,slow=2.5,SNR=28						
MKAR				pPKP	**pPKPdf**	**01 21 13.2**	**-2.2**
	comp=Z,3.0nm,0.8s,baz=4.4,slow=1.6,SNR=10						
MKAR				PKPab	**PKPab**	**01 21 43.6**	**+0.2**
	comp=Z,12nm,0.8s,baz=297,slow=4.0,SNR=23						
MKAR				PP	**PP**	**01 25 24.8**	**-0.2**
	comp=Z,4.4nm,1.0s,baz=299,slow=5.4,SNR=8.0						
GKN	**Gorkha**	**159.43**	**109**	*e*P	**PKPdf**	**01 21 05.9**	**-0.6**
DMN	**Daman**	**159.58**	**111**	*e*P	**PKPdf**	**01 21 06.4**	**-0.4**
PKIN	**Phulchoki**	**159.78**	**111**	*e*P	**PKPdf**	**01 21 06.5**	**-0.6**
PKI	**Pulchoki**	**159.79**	**111**	*e*P	**PKPdf**	**01 21 06.3**	**-0.9**
KKN	**Kakani**	**159.81**	**110**	*e*P	**PKPdf**	**01 21 05.8**	**-1.2**
GUN	**Gumba**	**160.32**	**111**	*e*P	**PKPdf**	**01 21 07.4**	**-0.4**
RAMN	**Ramite**	**160.33**	**114**	*e*P	**PKPdf**	**01 21 07.6**	**-0.1**
JIRN	**Jiri**	**160.42**	**112**	*e*P	**PKPdf**	**01 21 07.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**160.46**	**157**	PKP	**PKPdf**	**01 21 06.0**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=216,slow=1.7,SNR=8.4						
CMAR				PKPab	**PKPab**	**01 21 46.1**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=230,slow=5.6,SNR=5.5						
TAPN	**Taplejung**	**161.37**	**115**	*e*P	**PKPdf**	**01 21 08.5**	**-0.4**
WMQ	**Urumqi**	**163.94**	**58**	PKP	**PKPdf**	**01 21 11.3**	**+0.7**
WMQ				LR	LR		
	comp=Z,790nm,22.0s						
WMQ				LR	LR		
	comp=Z,830nm,21.8s						
WMQ				LR	LR		
	comp=Z,640nm,24.2s						
CN2	**Changchun**	**164.12**	**302**	*e*PKP	**PKPdf**	**01 21 11.0**	**+0.4**
CN2				*e*pPKP	**pPKPdf**	**01 21 22.0**	**+1.5**
CN2				*e*PP	**PP**	**01 25 53.5**	**+3.0**
CN2				*e*SS	SS	01 46 17.5	-1.4
CN2				AMB	AMB		
	comp=Z,200nm,10.0s						
CN2				LR	LR		
	comp=Z,1μm,22.0s						
CN2				LR	LR		
	comp=Z,1μm,22.0s						

CN2 LR LR
comp=Z,2µm,24.0s
MOY Mondy 164.63 14 ePKP2 PKPab 01 22 07.6 +1.3
TLY Talaya 165.00 7 ePKP2 PKPab 01 22 09.4 +1.6
TLY pmax pmax
comp=Z,9.0nm,1.0s
LSA Lhasa 165.18 114 ePKIKP PKPdf 01 21 13.2 +0.5
LSA e 01 22 10.6
LSA Lhasa 165.18 114 ePKPdf PKPdf 01 21 13.2 +0.5
LSA ePKPab PKPab 01 22 10.6 +0.6
ZAK Zakamensk 166.24 9⇑iPKP2 PKPab 01 22 13.6 +0.2
ZAK pmax pmax
comp=Z,8.0nm,1.1s
KMI Kunming 167.84 163 PKP PKPdf 01 21 15.0 +0.5
NJ2 Nanjing 168.89 248 ePKP PKPdf 01 21 14.8 +0.1
ULN Ulaanbaatar 168.98 359 ePKIKP PKPdf 01 21 13.2 -1.3
ULN e 01 22 26.0
ULN Ulaanbaatar 168.98 359 ePKPdf PKPdf 01 21 13.2 -1.3
ULN ePKPab PKPab 01 22 26.0 +0.3
SONM Songino Array 169.01 1 PKP PKPdf 01 21 13.4 -1.1
comp=Z,1.3nm,1.0s,baz=170,slow=2.2,SNR=6.3
SONM PKPab PKPab 01 22 26.3 +0.5
comp=Z,4.6nm,0.9s,baz=343,slow=2.9,SNR=16
GYA Guiyang 169.65 180 PKP PKPdf 01 21 15.3 -0.2
GYA pPKP pPKPdf 01 21 26.8 +1.5
GYA PKPab PKPab 01 22 31.0 +1.9
GYA PKS PKSdf 01 24 46.5 -1.7
GYA PP PP 01 26 21.5 +3.6
GYA SKKS 01 33 04.8
GYA SS SS 01 47 13.8 +1.0
GYA AMB AMB
comp=Z,140nm,8.0s
GYA LR LR
comp=Z,130nm,21.5s
GYA LR LR
comp=Z,120nm,21.2s
GYA LR LR
comp=Z,140nm,24.7s
CD2 Chengdu 173.60 157 PKP PKPdf 01 21 17.5 +0.3
CD2 sPKP 01 21 32.5
CD2 PKS PKSdf 01 24 48.3 -1.2
CD2 PP PP 01 26 42.0 +4.3
CD2 SKS SKSdf 01 28 15.0 -3.3
CD2 SKKS SKKSac 01 33 23.0 +0.3
CD2 SS SS 01 47 52.5 +0.6
CD2 AMB AMB
comp=Z,220nm,6.2s
GTA Gaotai 174.00 63 ePKP PKPdf 01 21 17.0 -0.2
GTA pPKP pPKPdf 01 21 27.5 +0.5
GTA sPKP 01 21 31.3
GTA PKPab PKPab 01 22 49.5 +1.1
GTA PP PP 01 26 42.5 +1.7
GTA SKS SKSdf 01 28 14.5 -3.7
GTA SKKS SKKSac 01 33 23.0 -1.9
GTA SS SS 01 47 53.5 -4.5
GTA AMB AMB
comp=Z,180nm,5.7s
GTA LR LR
comp=Z,880nm,21.1s
GTA LR LR
comp=Z,1µm,21.1s
GTA LR LR
comp=Z,2µm,21.5s
HHC Hu-ho-hao-te 174.48 318 ePKP PKPdf 01 21 17.8 +0.6
HHC pPKP pPKPdf 01 21 28.5 +1.4
HHC sPKP 01 21 32.5
HHC PP PP 01 26 46.0 +3.4
HHC SKKS 01 33 26.5
HHC AMB AMB
comp=Z,130nm,5.7s
HHC LR LR
comp=Z,210nm,20.9s
HHC LR LR
comp=Z,240nm,17.2s
HHC LR LR
comp=Z,390nm,19.7s
XAN Xi'an 176.67 214 PKP PKPdf 01 21 18.0 +0.1
XAN pPKP pPKPdf 01 21 28.0 +0.2
LZH Lanzhou 177.58 107 ePKP PKPdf 01 21 19.3 +1.1
LZH pPKP pPKPdf 01 21 29.5 +1.5
LZH sPKP 01 21 33.0
LZH LR LR
comp=Z,1µm,16.1s
LZH LR LR
comp=Z,3µm,19.3s
LZH LR LR
comp=Z,2µm,18.1s

IDC 28 01:01:30.9±1.0, 38°.17N×71°.60E, h0km, mb4.2/18, mb1 4.3/23, mb1mx4.1/54, mbtmp4.2/23, ML3.7/5, Error ellipse: s-maj=20.8km s-min=13.1km az=154.0
ISCJB 28 01:01:32.5±0.2, 38°.33N±0°.03×71°.37E±0°.04, h10km, mb4.2/43, MS3.8/1, Error ellipse: s-maj=4.5km s-min=3.9km az=151.4
MOS 28 01:01:35.9±1.2, 38°.31N×71°.35E, h33km, mb4.6/26, Error ellipse: s-maj=7.4km s-min=4.6km az=91.7
NNC 28 01:01:36.9±3.9, 38°.54N×71°.35E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=30.8km s-min=21.1km az=14.0
BJI 28 01:01:37.9, 38°.31N×71°.52E, h45km, mb4.1/7, ML4.1/4
NEIC 28 01:01:39.4±0.8, 38°.44N×71°.41E, h53km±8km, mb4.3/11, Error ellipse: s-maj=7.4km s-min=6.3km az=183.0
ISC 28 01:01:34.3±0.4, 38°.46N±0°.03×71°.36E±0°.04, h10km, n176, σ1§82/151, mb4.3/43, 18C-19D, Afghanistan-Tajikistan border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSH Kashi 3.75 72 P Pn 01 02 31.0 -1.3
KSH S Sn 01 03 09.5 -7.1
KSH smax smax
comp=N,630nm,0.6s
KSH smax smax
comp=E,400nm,0.6s
AML Almayashu 4.08 25 P Pn 01 02 40.8 +3.6
SNR=61
AML Almayashu 4.08 25 i PN Pn 01 02 40.8 +3.6
KBL Kabul 4.33 206 ePN Pn 01 02 42.4 +2.0
KBL e 01 03 36.8
KBL Kabul 4.33 206 ePn Pn 01 02 42.4 +2.0
KBL eSn Sn 01 03 36.8 +5.7
UCH Uchtor 4.47 32 P Pn 01 02 46.3 +3.7
SNR=28
UCH Uchtor 4.47 32 i PN Pn 01 02 46.2 +3.7
EKS2 Erkin-Say 4.59 23 P Pn 01 02 47.7 +3.9
SNR=20
EKS2 Erkin-Say 4.59 23 i PN Pn 01 02 47.7 +3.9
EKS2 Erkin-Say 4.59 23 ePn Pn 01 02 47.5 +3.6
CEP Cherat 4.64 174 P Pn 01 02 46.2 +1.5
CEP S Sb 01 03 48.0 -4.0
KZA Kyzart 4.68 38 P Pn 01 02 48.5 +3.0
SNR=7.8
KZA Kyzart 4.68 38 i PN Pn 01 02 48.4 +3.0
KK31 Karatay Array 4.69 352 ⇓Pn Pn 01 02 48.7 +3.5
8.9nm,0.5s,baz=175,slow=12,SNR=412
KK31 ⇑Pg Pg 01 03 04.5 +0.5
27nm,0.6s
KK31 ⇓Sn Sn 01 03 42.9 +3.4
51nm,0.7s,baz=175,slow=22
KK31 ⇑Lg Lg 01 04 01.8
26nm,0.5s,baz=167,slow=22,SNR=3.8
KK31 Karatay Array 4.69 352 ePN Pn 01 02 48.6 +3.5
KK31 S Sg 01 04 03.2 -1.6
KK31 pmax pmax
comp=Z,8.0nm,0.3s
KK31 smax smax
comp=Z,24nm,0.4s
KKAR Karatay Array 4.69 352 ePN Pn 01 02 48.6 +3.5
KKAR Karatay Array 4.69 352 ePn Pn 01 02 48.6 +3.5
KKAR eSn Sn 01 03 41.7 +2.2
AAK Ala-Archa 4.81 29 P Pn 01 02 50.9 +4.0
SNR=29
AAK Ala-Archa 4.81 29d iPN Pn 01 02 50.8 +3.9
AAK pmax pmax
comp=Z,50nm,0.7s
AAK Ala-Archa 4.81 29 Pn Pn 01 02 50.8 +3.9
comp=Z,5.8nm,0.3s,baz=195,slow=5.6,SNR=54
AAK Pg Pg 01 03 05.0 -1.4
comp=Z,9.1nm,0.3s,baz=198,slow=13,SNR=17
AAK Sn Sb 01 03 50.4 -6.3
comp=Z,2.9nm,0.3s,baz=308,slow=23,SNR=6.3
AAK Lg Lg 01 04 09.0
comp=Z,4.2nm,0.3s,baz=54,slow=19,SNR=3.0
KBK Karagaybulak 5.01 32 P Pn 01 02 53.6 +3.9
SNR=25
KBK Karagaybulak 5.01 32 i PN Pn 01 02 53.6 +3.9
FRU Bishkek 5.03 28 ePN Pn 01 02 54.5 +4.7
FRU i 01 03 11.0
FRU eS Sb 01 03 58.0 -4.8
FRU i 01 04 16.5
FRU pmax pmax
comp=Z,50nm,0.7s
CHCP Chirah Chowk 5.03 162 P Pn 01 02 51.8 +1.9
CHMS Chumysh 5.22 29 P Pn 01 02 56.4 +4.0
SNR=6.3
CHMS Chumysh 5.22 29 i PN Pn 01 02 56.4 +4.0
USP Ospenovka 5.36 25 P Pn 01 02 58.2 +3.8
SNR=21
USP Ospenovka 5.36 25 i PN Pn 01 02 58.2 +3.8
TKM2 Tokmak 2 5.50 34 ⇑Pn Pn 01 03 00.0 +3.5
comp=Z,16nm,0.7s
TKM2 ⇓Pg Pb 01 03 15.2 +4.6
comp=Z,55nm,1.4s
TKM2 ⇓Sn Sn 01 04 05.1 +5.2
comp=Z,38nm,0.7s
TKM2 Lg Lg 01 04 26.2
comp=Z,53nm,0.8s
TKM2 Tokmak 2 5.50 34 P Pn 01 02 59.9 +3.4
SNR=16
TKM2 Tokmak 2 5.50 34 i PN Pn 01 02 59.9 +3.4
TKM2 Tokmak 2 5.50 34 ePn Pn 01 02 59.6 +3.1
TKM2 eSn Sn 01 03 55.4 -4.5
KNDC Almaty 6.38 40 ⇑Pn Pn 01 03 14.0 +5.6
KNDC ⇓Lg Lg 01 04 59.9
DHRM DHARAMSHALA 7.39 145 eP Pn 01 03 22.4 -0.1
DHRM eS Sn 01 04 40.5 -5.9
DHRM AML AML 01 04 49.3
comp=E,137nm,0.7s
DHRM AML AML 01 04 56.6
comp=N,195nm,1.6s
PDGK Podgornoye 7.84 49 ⇓Pn Pn 01 03 30.6 +2.2
PDGK ⇓Lg Lg 01 05 43.0
SMLA Simla 8.73 145 eP Pn 01 03 40.1 -0.5
SMLA eS Sn 01 05 10.8 -8.3
OTUK Ortayu 9.81 4 ⇑Pn Pn 01 03 56.1 +0.6
OTUK ⇓Lg Lg 01 06 44.1
DDI Dehra Dun 9.82 144 ex x 01 03 45.7
DDI eS Sn 01 05 44.3 -1.6
DDI AML AML 01 05 49.5
comp=E,133nm,0.2s
DDI AML AML 01 05 50.2
comp=N,106nm,0.5s
GEYT Alibeck 10.44 271 Pn Pn 01 04 01.3 -2.8
comp=N,2.3nm,0.3s,baz=101,slow=11,SNR=35
GEYT Sn Sn 01 05 56.1 -5.0
comp=N,0.6nm,0.3s,baz=120,slow=14,SNR=6.0
MK09 Makanchi Array 11.56 41 ⇑Pn Pn 01 04 21.4 +2.1
comp=N,16nm,0.9s
MKAR Makanchi Array 11.58 40 Pn Pn 01 04 22.1 +2.5
comp=N,0.4nm,0.3s,baz=222,slow=14,SNR=28
KURBB Kurchatov Arra 13.19 20 ⇓Pn Pn 01 04 39.4 -2.1
comp=N,3.4nm,0.7s
KURK Kurchatov 13.29 20 ⇓Pn Pn 01 04 42.6 -0.4
comp=N,1.8nm,0.9s
KURK Kurchatov 13.29 20 P Pn 01 04 45.8 +2.8
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 13.29 20 ePn Pn 01 04 44.2 +1.2
AB31 Akbulak array 13.56 326 eP Pn 01 04 44.9 -1.7
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 13.56 326 ePn Pn 01 04 45.5 -1.1
comp=Z,3.1nm,0.4s
ABKAR eSn Sn 01 07 09.6 -7.7
VOSK Vostochnaya 14.27 359 ⇓Pn Pn 01 04 56.1 -0.3
comp=Z,4.9nm,1.0s
DANN Dangsing 14.44 131 eP Pn 01 04 52.2 -6.8
comp=Z,14nm,0.5s
BVAR Borovoye Array 14.59 358 P Pn 01 04 59.2 -1.5
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 14.59 358 Pn Pn 01 04 59.2 -1.5
comp=Z,1.0nm,0.3s,baz=148,slow=8.5,SNR=16
BRVK Borovoye 14.62 357d iP P 01 05 05.4 -2.1
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 14.62 357 ePn Pn 01 05 03.3 +2.1
comp=Z,7.6nm,0.7s
KOLN Koldanda 14.77 133 eP Pn 01 04 55.3 -8.2
comp=Z,10nm,0.5s
GKN Gorkha 15.22 129 eP Pn 01 05 02.1 -7.3
comp=Z,22nm,0.5s
AKTO Aktyubinsk 15.27 326 P Pn 01 05 10.3 +0.4
AKTO pmax pmax
comp=Z,22nm,0.9s
AKTO Aktyubinsk 15.27 326 Pn Pn 01 05 09.8 -0.1
comp=Z,0.2nm,0.3s,baz=113,slow=15,SNR=5.8
AKTO Sn Sn 01 07 56.2 -2.8
comp=Z,0.1nm,0.3s,baz=59,slow=15,SNR=3.2
AKTO Lg Lg 01 09 48.5
comp=Z,0.1nm,0.3s,baz=191,slow=16,SNR=3.4
KKN Kakani 15.76 128 eP Pn 01 05 10.4 -6.2
comp=Z,15nm,0.7s
DMN Daman 15.79 129 eP Pn 01 05 09.8 -7.2
comp=Z,18nm,0.8s
PKIN Phulchoki 15.99 129 eP Pn 01 05 12.9 -6.7
comp=Z,6.6nm,0.4s
PKI Pulchoki 16.00 129 eP Pn 01 05 12.9 -6.9
comp=Z,21nm,0.8s
BHPL Bhopal 16.03 159 eP Pn 01 05 19.4 -0.5
GUN Gumba 16.05 127 eP Pn 01 05 14.5 -6.0
comp=Z,39nm,1.0s
JIRN Jiri 16.42 127 eP Pn 01 05 17.9 -7.4
comp=Z,15nm,0.4s
RAMN Ramite 17.18 127 eP Pn 01 05 27.8 -6.9
comp=Z,24nm,0.6s
TAPN Taplejung 17.61 124 eP Pn 01 05 34.0 -6.1
comp=Z,11nm,0.6s
ZAA0 Zalesovo Array 18.03 26 ePn Pn 01 05 43.6 -1.2
ZALV Zalesovo Beam 18.03 26 P Pn 01 05 43.9 -0.9
comp=Z,0.4nm,0.3s,baz=223,slow=9.9,SNR=27
NVS Novosibirsk 18.26 22 eP Pn 01 05 46.3 -1.3
NVS eS S 01 09 19.3 +2.8
NVS pmax pmax
comp=Z,4.0nm,0.7s
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS smax smax
comp=N,8.0nm,1.6s
LSA Lhasa 18.55 112 eP Pn 01 05 53.2 +1.4
LSA pmax pmax
comp=Z,4.0nm,0.5s
LSA Lhasa 18.55 112 eP Pn 01 05 53.2 +1.4
comp=Z,3.5nm,0.5s
BOK Bokaro 19.15 136 eP P 01 05 56.6 -1.3
SVE Sverdlovsk 19.70 342 eP Pn 01 06 08.9 +3.8
SVE pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 19.90 339d iP P 01 06 06.1 +0.4
ARU 01 06 22.0
ARU S Sn 01 09 50.3 -0.5
ARU SS SnSn 01 10 06.5 +1.4
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 19.90 339 eP P 01 06 04.5 -1.2
comp=Z,8.8nm,0.9s
GNI Garni 20.65 283 P Pn 01 06 16.9 +0.4
GNI pmax pmax
comp=Z,4.0nm,0.5s
GNI Garni 20.65 283 P Pn 01 06 16.9 +0.3
comp=Z,4.3nm,0.5s,baz=8.7,slow=2.6,SNR=8.7
GNI Garni 20.65 283 eP Pn 01 06 16.5 0.0
comp=Z,25nm,1.4s
KBZ Khabaz 22.03 293 P P 01 06 28.7 -0.2
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 22.03 293 P P 01 06 28.6 -0.2
comp=Z,5.4nm,0.9s,baz=126,slow=8.1,SNR=12
GOF Gofitskoye 22.06 296 eP P 01 06 32.6 +3.4
GOF pmax pmax
comp=Z,20nm,1.0s
GTA Gaotai 22.12 79 eP P 01 06 33.3 +3.2
GTA pP pP 01 06 38.0 +5.1
GTA pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 22.20 293 eP P 01 06 31.1 +0.3
KIV pmax pmax
comp=Z,12nm,0.9s
KIV Kislovodsk 22.20 293 eP P 01 06 30.6 -0.2
comp=Z,10nm,0.7s
SOKR Solikamsk 23.11 341 eP P 01 06 42.3 +2.2
SOKR pmax pmax
comp=Z,10.0nm,0.8s
VRHR Novokhopersk 24.41 311 eP P 01 06 52.6 -0.2
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
ZAK Zakamensk 25.52 52 eP P 01 07 04.7 +1.7
ZAK pmax pmax
comp=Z,2.0nm,0.9s
MALT Malatya 25.74 280⇑iP P 01 07 08.2 +3.1
VORD Divnogorie 25.77 309 eP P 01 07 04.7 -0.4
VORD pmax pmax
comp=N,20nm,1.0s
VORD pmax pmax
comp=E,20nm,1.0s
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD MLR MLR
comp=N,200nm,20.0s
VORD MLR MLR
comp=E,190nm,20.0s
VORD MLR MLR
comp=Z,310nm,20.0s
VSR Storozhevoye 25.92 310⇑eP P 01 07 08.7 +2.2
VSR pmax pmax
comp=Z,25nm,0.8s
RAYN Ar Rayn 26.58 243 eP P 01 07 11.9 -0.8
comp=Z,14nm,1.4s
SONM Songino Array 27.03 58 P P 01 07 17.4 +0.7
comp=Z,0.3nm,0.7s,baz=245,slow=9.4,SNR=2.7
ULN Ulaanbaatar 27.47 58 eP P 01 07 19.8 -0.9
ULN pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 27.47 58 eP P 01 07 19.8 -0.9
comp=Z,1.1nm,0.6s
SIM Simferopol' 28.37 295 eP P 01 07 30.7 +2.2
SIM pmax pmax
comp=Z,11nm,1.2s
OBN Obninsk 28.67 317⇓eP P 01 07 32.0 +0.9
OBN pmax pmax
comp=Z,12nm,1.2s
OBN Obninsk 28.67 317 P P 01 07 31.9 +0.8
comp=Z,17nm,0.6s,baz=91,slow=3.6,SNR=11
BR131 Keskin Array S 29.17 284 eP P 01 07 36.6 +0.8
comp=Z,1.3nm,0.6s
BRTR Keskin Array B 29.17 284 P P 01 07 37.0 +1.1
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 29.17 284 P P 01 07 37.0 +1.1
comp=Z,0.8nm,0.5s,baz=100,slow=7.5,SNR=15
AKASG Malin Array Be 31.98 306 P P 01 08 00.6 +0.2
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 31.98 306 P P 01 08 00.6 +0.2
comp=Z,1.9nm,0.8s,baz=81,slow=7.6,SNR=14
AKBB Malin Array Si 31.98 306 eP P 01 08 00.6 +0.2
AKBB Malin Array Si 31.98 306 eP P 01 08 00.6 +0.2
AK02 Malin Array Si 31.99 306 eP P 01 08 00.6 +0.1
KIEV Kiev 31.99 306 eP P 01 08 00.7 +0.2
KIEV pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 31.99 306 eP P 01 08 00.7 +0.2
comp=Z,3.8nm,0.8s
PALK Pallekele 32.17 162 eP P 01 08 00.0 -2.4
PALK Pallekele 32.17 162 eP P 01 07 60.0 -2.4
CFR Carcaliu 32.60 296 ⇑P P 01 08 07.0 +1.2
CFR Carcaliu 32.60 296⇑iP P 01 08 07.0 +1.2
VRI Vrincioaia 33.54 297 ⇓P P 01 08 16.4 +2.2
VRI Vrincioaia 33.54 297⇓iP P 01 08 16.4 +2.2
TESR Tescani 33.56 298⇑iP P 01 08 15.4 +1.1
PLOR Plostina 33.60 297 ⇑P P 01 08 17.3 +2.6
PLOR Plostina 33.60 297⇑iP P 01 08 17.3 +2.6
MLR Muntele Rosu 34.12 297 ⇑P P 01 08 22.2 +2.9
MLR Muntele Rosu 34.12 297⇑iP P 01 08 22.2 +2.9
MLR Muntele Rosu 34.12 297 P P 01 08 21.8 +2.5
comp=Z,1.7nm,0.9s,baz=84,slow=9.2,SNR=8.9
JOF Joensuu 34.34 329 eP P 01 08 20.3 -0.5
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 34.34 329 ep P 01 08 20.3 -0.5
comp=Z,6.4nm,0.6s
BUR08 Bucovina Ar. S 34.51 301 eP P 01 08 23.8 +1.1
ARR Arges 35.05 297⇑iP P 01 08 28.7 +1.4
LOT Lotru 35.65 297⇓iP P 01 08 34.5 +2.0
FINES FINESS Array B 36.04 325 P P 01 08 36.3 +0.8
FINES pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 36.04 325 P P 01 08 36.3 +0.8
comp=Z,7.9nm,0.5s,baz=115,slow=9.5,SNR=94
KAF Kangasniemi 36.16 326 eP P 01 08 36.0 -0.5
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 36.16 326 ep P 01 08 36.0 -0.5
comp=Z,3.3nm,0.6s
UZH Uzhgorod 36.42 302 eP P 01 08 44.3 +5.4
UZH e 01 08 50.5
UZH e 01 09 00.5
KEV Kevo 39.10 337 eP P 01 09 00.6 -0.7
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 39.10 337 ep P 01 09 00.6 -0.7
comp=Z,1.5nm,0.4s
PKSM Moragy 39.11 299 ⇑P P 01 09 02.2 +0.5
PKSM Moragy 39.11 299⇑iP P 01 09 02.2 +0.5
ARCES ARCESS Array B 39.46 337 P P 01 09 05.1 +0.8
ARCES pmax pmax
comp=Z,8.0nm,0.6s
ARCES ARCESS Array B 39.46 337 P P 01 09 05.1 +0.8
comp=Z,8.4nm,0.6s,baz=110,slow=7.5,SNR=60
ARE0 ARCESS Array S 39.46 337 eP P 01 09 04.9 +0.6
BRG Berggiesshubel 41.66 307 i P P 01 09 23.8 +1.1
comp=Z,5.3nm,0.8s
BRG Berggiesshubel 41.66 307 i P P 01 09 23.8 +1.1
BRG pmax pmax
comp=Z,5.0nm,0.8s
HFS Hagfors 41.72 321 P P 01 09 23.7 +0.6
HFS pmax pmax
comp=Z,15nm,0.5s
HFS Hagfors 41.72 321 P P 01 09 23.7 +0.6
comp=Z,15nm,0.5s,baz=98,slow=11,SNR=85
GERES GERESS Array B 42.06 304 P P 01 09 27.3 +1.1
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 42.06 304 P P 01 09 27.3 +1.1
comp=Z,0.7nm,0.6s,baz=66,slow=7.6,SNR=6.3
CLL Collm 42.21 307 eP P 01 09 28.0 +0.8
CLL Collm 42.21 307 eP P 01 09 28.0 +0.8
KULM Kulim 42.39 134 eP P 01 09 29.8 +0.8
comp=Z,17nm,1.3s
NB2 NORSAR Subarra 43.01 322 P P 01 09 33.4 -0.2
comp=Z,4.0nm,0.7s,baz=93,slow=8.6
NOA NORSAR Array B 43.01 322 P P 01 09 33.8 +0.2
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA NORSAR Array B 43.01 322 P P 01 09 33.8 +0.2
comp=Z,3.7nm,0.6s,baz=93,slow=7.9,SNR=15
NAO01 NORSAR Array S 43.16 321 eP P 01 09 35.2 +0.4
comp=Z,3.5nm,0.7s
TIXI Tiksi 43.86 23⇓iP P 01 09 40.1 -0.2
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 43.86 23 eP P 01 09 39.8 -0.5
DAVOX Davos/Dischmat 44.97 301 P P 01 09 49.9 +0.2
DAVOX pmax pmax
comp=Z,2.0nm,0.6s
DAVOX Davos/Dischmat 44.97 301 P P 01 09 49.9 +0.2
comp=Z,2.4nm,0.6s,baz=108,slow=4.4,SNR=9.3
BNI Bardonecchia 47.56 300 eP P 01 10 10.4 +0.4
BNI pmax pmax
comp=Z,17nm,1.5s
BNI Bardonecchia 47.56 300 eP P 01 10 10.4 +0.4
comp=Z,17nm,1.5s
KEST Kesra 48.71 287 P P 01 10 19.9 +0.9
comp=Z,1.1nm,0.9s,baz=62,slow=17,SNR=2.9
MAJO Matsushiro 51.99 70 eP P 01 10 43.0 -0.8
MAJO pmax pmax
comp=Z,12nm,1.2s
MAJO Matsushiro 51.99 70 eP P 01 10 43.0 -0.8
comp=Z,12nm,1.2s

DAG Danmarks Havn 52.94 343 *i* P P 01 10 50.8 +0.6
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 52.94 343 *i* P P 01 10 50.8 +0.6
comp=Z,4.3nm,0.8s
ESDC Sonseca Array 56.81 297 P P 01 11 18.7 -0.2
comp=Z,1.1nm,0.6s,baz=56,slow=7.5,SNR=6.6
TAM Tamanrasset 57.65 275 *e*P P 01 11 25.3 +0.2
TAM pmax pmax
comp=Z,1.0nm,0.7s
TAM Tamanrasset 57.65 275 *e*P P 01 11 25.3 +0.2
comp=Z,1.3nm,0.7s
SUMG Summit 59.31 341 *i* P P 01 11 37.5 +1.2
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 59.31 341 *i* P P 01 11 37.5 +1.2
comp=Z,6.2nm,0.8s
KAPI Kappang 62.25 123 *e*P P 01 11 56.7 +0.2
TOA0 Torodi Ar. Sit 66.06 268 *e*P P 01 12 20.3 -1.4
TORD Torodi Ar. Bea 66.06 268 P P 01 12 20.3 -1.4
comp=Z,2.6nm,0.6s,baz=48,slow=5.7,SNR=41
COLA College 72.52 16 *e*P P 01 13 00.2 -0.7
COLA College 72.52 16 *e*P P 01 13 00.2 -0.7
comp=Z,1.7nm,0.6s
ILAR Eielson Array 72.82 16 P P 01 13 00.8 -2.0
comp=Z,0.7nm,0.8s,baz=322,slow=5.4,SNR=7.1
YKA Yellowknife Ar 79.28 3 P P 01 13 39.3 -0.2
comp=Z,1.6nm,0.7s,baz=351,slow=5.8,SNR=38
FCC Fort Churchill 82.38 352 *e*P P 01 13 55.8 -0.3
FCC Fort Churchill 82.38 352 *e*P P 01 13 55.8 -0.3
WRA Warramunga Arr 82.79 122 P P 01 13 55.9 -2.9
comp=Z,0.8nm,1.0s,baz=326,slow=4.4,SNR=4.2
FORT Forrest 86.81 134 *e*P P 01 14 18.4 -0.4

IDC 28 01:03:29.5±1.6, 36°.08S×72°.76W, h0km, mb4.0/4, mb1 4.3/4, mb1mx4.0/32, mbtmp4.0/4, Error ellipse: s-maj=160.1km s-min=25.2km az=70.0
ISCJB 28 01:03:32.8±0.5, 36°.11S±0°.08×72°.7W±0°.1, h35km, mb4.6/17, Error ellipse: s-maj=15.6km s-min=9.4km az=150.7
NEIC 28 01:03:34.4±0.4, 36°.11S×72°.71W, h35km, mb4.7/16, Error ellipse: s-maj=13.3km s-min=8.4km az=63.0
ISC 28 01:03:34.6±0.6, 36°.13S±0°.09×72°.7W±0°.1, h35km, n33, σ0§72/31, mb4.6/17, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.90 161 *e*Pn Pn 01 04 45.2 -0.7
TRQA Tornquist 8.78 106 *e*Pn Pn 01 05 38.6 -0.4
CPUP Villa Florida 16.35 58 *e*Pn Pn 01 07 22.3 +0.8
LPAZ La Paz 20.17 13 *e*P P 01 08 05.9 -0.8
12nm,1.0s
OTAV Otavalo 36.57 350 *e*P P 01 10 38.2 +0.4
18nm,1.3s
SDV Santo Domingo 44.81 3 *e*P P 01 11 42.1 -3.4
12nm,1.0s
SNAA Sanae 49.83 157 P P 01 12 24.6 +0.8
1.2nm,0.7s,baz=281,slow=10,SNR=6.3
SNAA Sanae 49.83 157 *e*P P 01 12 22.8 -0.9
16nm,1.2s
QSPA South Pole Qui 54.11 180 P P 01 12 56.7 +0.9
4.3nm,0.9s,baz=141,slow=1.7,SNR=2.4
QSPA South Pole Qui 54.11 180 *e*P P 01 12 56.5 +0.6
9.4nm,1.1s
ASCN Ascension 59.90 77 *e*P P 01 13 37.2 -0.1
52nm,0.8s
HKT Hockley 69.23 339 *e*P P 01 14 32.2 -5.5
5.3nm,1.1s
GOGA Godfrey 69.91 350 *e*P P 01 14 41.2 -0.7
37nm,1.6s
LRAL Lakeview Retre 70.09 347 *e*P P 01 14 42.5 -0.5
27nm,1.5s
TXAR Lajitas Array 71.34 332 P P 01 14 50.9 0.0
1.0nm,0.7s,baz=154,slow=9.6,SNR=5.2
SWET Sewanee 72.04 349 *e*P P 01 14 54.2 -0.7
ABTX Abilene, Hawle 72.90 336 *e*P P 01 14 59.8 -0.3
DBIC Dimbokro 76.37 71 *e*P P 01 15 21.4 +0.8
10.0nm,1.2s
ANMO Albuquerque 77.40 332 *e*P P 01 15 23.4 -2.7
3.5nm,1.1s
BOSA Boshof 79.56 118 *e*P P 01 15 38.8 +0.4
5.4nm,0.9s
LDFC Landfair 81.12 326 *e*P P 01 15 46.0 -0.4
30nm,1.3s
ISCO Idaho Springs 81.41 335 *e*P P 01 15 48.4 +0.4
1.4nm,0.8s
LBTB Lobatse 81.90 115 *e*P P 01 15 50.6 -0.3
9.8nm,1.2s
HWUT Hardware Ranch 85.16 332 *e*P P 01 16 08.2 +1.1
NVAR Mina Array Bea 85.33 326 P P 01 16 08.7 +0.6
0.4nm,0.6s,baz=149,slow=5.2,SNR=1.9
LSZ Lusaka 89.64 109 *e*P P 01 16 28.7 -0.8
4.0nm,1.1s
WRA Warramunga Arr 118.65 209 PKP PKPdf 01 22 17.9 -1.5
0.2nm,0.3s,baz=175,slow=1.4,SNR=7.9
WRAB Tennant Creek 118.65 209 *e*PKPdf PKPdf 01 22 20.1 +0.7
PALK Pallekele 142.37 133 *e*PKPdf PKPdf 01 23 05.1 +0.9
TKM2 Tokmak 2 154.72 65 *e*PKPbc PKPbc 01 23 32.2 +0.2
KURK Kurchatov 154.77 46 *e*PKPdf PKPdf 01 23 23.2 +0.3
KURK *e*PKPab PKPab 01 23 46.6 -0.1
ZAA0 Zalesovo Array 156.29 34 *e*PKPab PKPab 01 23 52.0 -1.1
ULN Ulaanbaatar 168.27 1 *e*PKPdf PKPdf 01 23 37.0 -0.2

IDC 28 01:05:54.9±0.7, 36°.04S×73°.49W, h0km, mb4.3/11, mb1 4.4/14, mb1mx4.3/34, mbtmp4.3/14, ML3.6/2, Error ellipse: s-maj=25.4km s-min=16.5km az=85.0
ISCJB 28 01:05:58.1±0.3, 36°.01S±0°.05×73°.37W±0°.10, h33km, mb4.6/34, Error ellipse: s-maj=11.9km s-min=7.0km az=162.9
NEIC 28 01:05:59.8±0.2, 36°.02S×73°.42W, h35km, mb4.7/27, Error ellipse: s-maj=9.2km s-min=5.8km az=76.0
ISC 28 01:05:59.6±0.4, 36°.01S±0°.07×73°.5W±0°.1, h35km, n63, σ1§18/62, mb4.6/34, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 5.25 155 Pn Pn 01 07 15.6 0.0
baz=312,slow=14,SNR=1.1
PLCA Lg Lg 01 08 37.2
2.3nm,0.3s,baz=52,slow=19,SNR=1.9
CFAA Coronel Fontan 6.21 46 Pn Pn 01 07 27.8 -1.0
0.8nm,0.3s,baz=228,slow=14,SNR=2.1
CFAA Lg Lg 01 09 04.0
0.5nm,0.3s,baz=81,slow=16,SNR=3.6
TRQA Tornquist 9.44 106 *e*Pn Pn 01 08 11.9 -1.2
USHA Ushuaia 19.14 171 P P 01 10 20.0 +0.4
0.4nm,0.3s,baz=330,slow=12,SNR=3.8
LPAZ La Paz 20.22 15 P Pn 01 10 35.4 +0.9
6.1nm,0.7s,baz=188,slow=7.9,SNR=3.9
LPAZ La Paz 20.22 15 *e*P P 01 10 33.0 +0.7
5.7nm,0.6s
SIV San Ignacio 22.82 32 P P 01 10 59.8 +0.3
8.1nm,1.0s,baz=232,slow=16,SNR=4.3
SAML Samuel 28.54 22 *e*P P 01 11 51.3 -0.7
13nm,1.5s
OTAV Otavalo 36.36 352 *e*P P 01 12 59.1 -1.9
4.8nm,1.1s
SDV Santo Domingo 44.74 4 *e*P P 01 14 10.0 +0.2
6.0nm,0.8s
BCIP Isla Barro Col 45.33 351 *e*P P 01 14 14.4 +0.1
21nm,0.7s
RCBR Riachuelo 45.73 58 P P 01 14 18.9 +1.3
5.9nm,0.9s,baz=262,slow=7.1,SNR=2.8
VNA3 Neumayer Olymp 47.97 157 P P 01 14 35.1 +0.7
VNA2 Neumayer--Watz 48.64 156 P P 01 14 40.5 +1.0
GRGR Grenville 49.18 15 *e*P P 01 14 44.8 +0.5
229nm,1.4s
SNAA Sanae 50.19 157 P P 01 14 51.7 +0.2
SNAA Sanae 50.19 157 P P 01 14 51.9 +0.5
3.6nm,0.8s,baz=293,slow=5.8,SNR=8.5
SNAA Sanae 50.19 157 *e*P P 01 14 51.6 +0.2
16nm,1.1s
OBIP Obispado Ponce 54.16 8 *e*P P 01 15 20.1 -1.3
27nm,1.1s
QSPA South Pole Qui 54.23 180 P P 01 15 22.1 +0.5
8.1nm,0.8s,baz=140,slow=4.0,SNR=7.3
QSPA South Pole Qui 54.23 180 *e*P P 01 15 21.9 +0.3
12nm,1.0s
VNDA Vanda 61.89 192 *e*P P 01 16 13.6 -1.3
55nm,1.4s
LRAL Lakeview Retre 69.84 348 *e*P P 01 17 05.3 -1.1
85nm,2.2s

TXAR Lajitas Array 70.93 332 P P 01 17 14.7 +1.4
1.5nm,0.7s,baz=151,slow=8.9,SNR=8.3
WHTX Lake Whitney 71.28 339 *e*P P 01 17 15.9 +0.7
9.5nm,0.9s
SWET Sewanee 71.81 349 *e*P P 01 17 19.0 +0.6
12nm,0.9s
ABTX Abilene, Hawle 72.54 337 *e*P P 01 17 23.5 +0.7
11nm,0.9s
WVT Waverly 73.00 348 *e*P P 01 17 25.4 -0.1
8.8nm,1.1s
MNTX Cornudas Mount 73.69 332 *e*P P 01 17 30.0 +0.3
2.0nm,1.0s
TUL1 Tulsa 74.50 341 *e*P P 01 17 34.7 +0.5
10.0nm,0.9s
DBIC Dimbokro 76.96 72 P P 01 17 49.6 +0.8
3.6nm,0.7s,baz=199,slow=6.8,SNR=4.9
DBIC Dimbokro 76.96 72 *e*P P 01 17 49.2 +0.3
5.6nm,0.8s
ANMO Albuquerque 76.99 333 *e*P P 01 17 50.4 +1.6
4.7nm,1.2s
CASY Casey 77.98 182 *e*P P 01 17 54.4 +0.7
16nm,1.1s
SDCO Great Sand Dun 79.15 335 *e*P P 01 18 02.3 +1.4
2.5nm,1.0s
WUAZ Wupatki 79.42 329 *e*P P 01 18 02.4 +0.2
MVCO Mesa Verde 79.76 332 *e*P P 01 18 03.6 -0.5
5.7nm,1.0s
TSUM Tsumeb 79.81 106 *e*P P 01 18 05.4 +0.6
6.9nm,1.3s
BOSA Boshof 80.19 118 P P 01 18 07.2 +0.4
5.5nm,0.9s,baz=205,slow=4.2,SNR=4.8
BOSA Boshof 80.19 118 *e*P P 01 18 07.4 +0.6
6.9nm,1.0s
ISCO Idaho Springs 81.03 336 *e*P P 01 18 12.3 +1.3
2.0nm,0.9s
LBTB Lobatse 82.54 115 *e*P P 01 18 19.3 +0.1
13nm,1.2s
DUG Dugway 84.02 331 *e*P P 01 18 28.3 +2.0
1.5nm,0.8s
HWUT Hardware Ranch 84.75 332 *e*P P 01 18 31.0 +0.9
5.3nm,1.0s
NVAR Mina Array Bea 84.87 326 P P 01 18 33.0 +2.3
1.1nm,0.7s,baz=153,slow=6.6,SNR=6.6
PDAR Pinedale Array 85.03 334 P P 01 18 32.3 +0.8
0.6nm,0.9s,baz=163,slow=6.6,SNR=2.4
TOA0 Torodi Ar. Sit 86.02 71 *e*P P 01 18 36.8 +0.1
TORD Torodi Ar. Bea 86.02 71 P P 01 18 36.5 -0.2
1.8nm,1.0s,baz=211,slow=5.1,SNR=3.4
ULM Lac du Bonnet 88.14 346 P P 01 18 46.5 +0.4
3.8nm,0.7s,baz=94,slow=1.7,SNR=6.3
WRA Warramunga Arr 118.42 210 PKP PKPdf 01 24 43.1 -0.8
0.5nm,0.8s,baz=184,slow=1.4,SNR=3.4
BR131 Keskin Array S 123.85 63 *e*PKPdf PKPdf 01 24 54.4 +0.6
TNA Tin City 123.94 330 *e*PKPdf PKPdf 01 24 54.0 +1.1
KAPI Kappang 137.34 200 *e*PKPdf PKPdf 01 25 15.2 -4.8
PALK Pallekele 142.92 134 *e*PKPdf PKPdf 01 25 26.8 -3.3
ABKAR Akbulak array 143.86 54 *e*PKPdf PKPbc 01 25 28.9 +0.5
PSI Prapat 146.22 166 PKPbc PKPdf 01 25 36.5 +0.5
11nm,0.8s,baz=208,slow=6.9,SNR=8.4
KKM Kota Kinabalu 148.87 199 *e*PKPab PKPab 01 25 48.4 +0.4
KULM Kulim 148.95 169 *e*PKPbc PKPbc 01 25 42.7 -1.6
KULM *e*PKPab PKiKP 01 25 47.1 +1.4
BRVK Borovoye 149.49 45 *e*PKPbc PKPbc 01 25 45.2 +0.8
YAK Yakutsk 150.18 338 *e*PKPbc PKPbc 01 25 45.1 -0.7
TKM2 Tokmak 2 155.26 64 *e*PKPdf PKPdf 01 25 49.1 0.0
TKM2 *e*PKPbc PKPab 01 25 57.6 -17
ZAA0 Zalesovo Array 156.57 33 *e*PKPdf PKPdf 01 25 49.8 -0.4
ZALV Zalesovo Beam 156.57 33 PKP PKPdf 01 25 49.8 -0.4
1.1nm,0.7s,baz=291,slow=4.0,SNR=3.2

SJA 28 01:08:11.9±0.5, 34°.77S×72°.85W, h19km±41km, MD4.2, ML5.5
IDC 28 01:08:17.8±0.4, 34°.18S×72°.07W, h0km, mb5.1/26, mb1 5.2/28, mb1mx5.2/32, mbtmp5.1/28, ML5.0/2, MS5.7/24, Ms1 5.7/24, ms1mx5.5/35, Error ellipse: s-maj=15.2km s-min=10.4km az=87.0
GUC 28 01:08:20.3±0.5, 34°.48S×72°.04W, h20km, ML5.5
BJI 28 01:08:21.5, 34°.86S×72°.67W, h30km, mB5.7/20, Ms5.9/17, Ms7 5.6/19
MOS 28 01:08:22.9±1.0, 33°.96S×71°.88W, h33km, mb5.6/71, MS5.5/28, Error ellipse: s-maj=21.1km s-min=10.1km az=115.2
ISCJB 28 01:08:23.1±0.8, 34°.18S±0°.03×71°.96W±0°.05, h41km±6km, mb5.5/215, MS5.7/174, Error ellipse: s-maj=7.5km s-min=4.3km az=150.7
NEIC 28 01:08:23.2±0.6, 34°.16S×71°.95W, h32km±4km, mb5.5/191, MS5.7/152, MW5.9, Error ellipse: s-maj=4.6km s-min=2.8km az=62.0, Moment Tensor Solution. s49 Moment tensor: Scale 10^17Nm; Mrr4.20; Mθθ-2.40; Mφφ-1.80; Mrθ-1.28; Mθφ-5.73; Mφr-4.52; Best double couple: M0 8.30000×10^17 NP1:φs199.00000°, δ69.00000°, λ56.00000°. NP2:φs81.00000°, δ39.00000°, λ146.00000°. Principal axes: T 7.0100, Plg52.0000°, Azm67.0000°; N 2.1000, Plg31.0000°, Azm211.0000°; P -9.1100, Plg17.0000°, Azm313.0000°;
GCMT 28 01:08:23.2±0.2, 34°.25S×72°.46W, h32km, MW5.9/104, Moment Tensor Solution. s77,c111; s104,c184; Duration: 2§2 Moment tensor: Scale 10^18Nm; Mrr0.74±.03; Mθθ-0.06±.02; Mφφ-0.67±.02; Mrθ-0.07±.03; Mθφ-0.12±.01; Mφr-0.65±.03; Best double couple: M0 0.97300×10^18 NP1:φs187.00000°, δ66.00000°, λ88.00000°. NP2:φs13.00000°, δ24.00000°, λ95.00000°. Principal axes: T 0.9920, Plg69.0000°, Azm93.0000°; N -0.0380, Plg2.0000°, Azm188.0000°; P -0.9540, Plg21.0000°, Azm279.0000°; nsta1 refers to body waves, nsta2 refers to surface waves, cutoff=50s.
ISC 28 01:08:23.1±0.7, 34°.21S±0°.04×72°.05W±0°.04, h33km±2km, n1079, σ1§06/1032, mb5.5/215, MS5.8/174, 232C-201D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IHA Instituto Hidr 1.22 16 *e*P Pn 01 08 42.8 -1.1
RCDM Rinconada Maip 1.25 56⇑*i*P Pn 01 08 43.9 -0.5
RCDM *i* S Sb 01 09 01.7 -0.4
RCDM AML AML 01 09 12.0
comp=E,76μm,0.4s
STL Santa Lucia 1.40 57⇑*i*P Pn 01 08 46.6 +0.3
STL *e*S Sb 01 09 06.3 +0.1
ROCH El Roble 1.50 35⇑*i*P Pn 01 08 49.1 +1.1
ROCH *i* S Sb 01 09 11.5 +2.1
ROCH AML AML 01 09 24.4
comp=N,145μm,0.7s
PEL Peldehue 1.55 47⇑*i*P Pn 01 08 49.6 +1.1
PEL *i* S Sb 01 09 11.5 +0.9
FCH Farellones 1.70 60⇓*i*P Pn 01 08 49.1 -1.7
FCH *i* S Sb 01 09 14.5 -0.8
AAGR Agrelo 2.91 68 *e*P Pb 01 09 12.3 -2.0
AAGR *e*P Pb 01 09 12.3 -2.0
ARCO CERRO ARCO 2.93 63 *e*P Pb 01 09 12.7 -2.2
ARCO *e*S Sb 01 09 57.4 +7.0
ARCO AML AML 01 10 04.0
comp=Z,8μm,0.7s
AUSP Uspallata 2.98 49 *e*P Pb 01 09 13.6 -2.0
AVIZ Vizcacheras 3.03 77 *e*P Pb 01 09 13.1 -3.3
ASAL Salagasta 3.13 60 *e*P Pb 01 09 15.7 -2.4
RTCV Cerro Valdivia 3.76 53 *e*P Pb 01 09 24.7 -4.1
RTCV *e*S Sb 01 10 18.8 +4.8
CFAA Coronel Fontan 4.12 52 Pn Pn 01 09 23.5 -0.3
comp=Z,1.6nm,0.3s,baz=254,slow=15,SNR=6.2
CFAA Pg Pb 01 09 31.9 -3.1
comp=Z,8.4nm,0.3s,baz=232,slow=9.6,SNR=10
CFAA Lg Lg 01 10 26.4
comp=Z,42nm,0.3s,baz=354,slow=19,SNR=12
CFAA LR LR 01 11 27.3
comp=Z,12μm,20.4s,baz=228,slow=46
ACAN Cantantal 4.50 66 *e*P Pn 01 09 34.5 +5.4
ACAN *e*S Sb 01 10 35.5 +0.2
PLCA Paso Flores 6.62 170 *e*P Pn 01 09 58.9 +0.7
PLCA Paso Flores 6.62 170 Pn Pn 01 09 58.5 +0.3
comp=Z,8.7nm,0.3s,baz=344,slow=14,SNR=7.8
PLCA Lg Lg 01 11 44.1
comp=Z,15nm,0.3s,baz=14,slow=21,SNR=3.1
PLCA LR LR 01 12 56.9
comp=Z,56μm,18.8s,baz=351,slow=42
PLCA Paso Flores 6.62 170 *e*Pn Pn 01 09 58.9 +0.7
PLCA Lg Lg 01 11 44.1
TRQA Tornquist 9.00 118 *e*Pn Pn 01 10 31.1 +0.3
TRQA *e*Lg Lg 01 13 04.5

LVC Limon Verde 11.87 14 *e*Pn Pn 01 11 05.6 -4.8
LVC *e*Lg Lg 01 14 08.2
CPUP Villa Florida 14.93 62 *e*P Pn 01 11 52.0 +0.2
CPUP 01 14 39.8
CPUP pmax pmax
comp=Z,15nm,1.0s
CPUP Villa Florida 14.93 62 Pn Pn 01 11 53.9 +2.1
comp=Z,3.2nm,0.3s,baz=204,slow=8.2,SNR=9.2
CPUP Sn Sn 01 14 39.8 +3.7
comp=Z,2.9nm,0.3s,baz=108,slow=20,SNR=2.4
CPUP LR LR 01 18 13.9
comp=Z,72μm,18.1s,baz=223,slow=40
CPUP Villa Florida 14.93 62 *e*Pn Pn 01 11 52.0 +0.2
comp=Z,15nm,1.0s
CPUP Sn Sn 01 14 39.8 +3.7
LPAZ La Paz 18.18 12 P Pn 01 12 33.9 +0.2
LPAZ pmax pmax
comp=Z,2.0nm,0.3s
LPAZ La Paz 18.18 12 P Pn 01 12 33.9 +0.2
comp=Z,1.6nm,0.3s,baz=186,slow=9.2,SNR=25
LPAZ La Paz 18.18 12 *e*P Pn 01 12 33.8 +0.2
comp=Z,197nm,0.9s
SIV San Ignacio 20.65 31 P P 01 12 59.3 -0.8
comp=Z,141nm,0.9s,baz=231,slow=14,SNR=49
SIV LR LR 01 22 26.2
comp=Z,42μm,19.3s,baz=226,slow=41
USHA Ushuaia 20.78 174 P P 01 13 01.3 +0.1
comp=Z,24nm,0.9s,baz=310,slow=6.7,SNR=6.6
USHA LR LR 01 21 46.3
comp=Z,15μm,19.8s,baz=325,slow=39
NNA Nana 22.55 348*c*eP P 01 13 21.4 +0.9
NNA Nana 22.55 348 P P 01 13 20.4 0.0
comp=Z,21nm,0.8s,baz=190,slow=11,SNR=11
NNA Nana 22.55 348 *e*P P 01 13 20.9 +0.4
comp=Z,139nm,1.1s
NNA LR LR
comp=Z,11μm,19.0s
SAML Samuel 26.42 20 *e*P P 01 13 56.9 -0.1
comp=Z,240nm,1.9s
SAML LR LR
comp=Z,24μm,20.0s
ATAH Atahualpa 27.57 346 P P 01 14 07.8 +0.1
comp=Z,4.7nm,0.9s,baz=124,slow=7.3,SNR=3.7
BDFB Brasilia 28.45 55 *e*P P 01 14 15.0 -0.3
BDFB Brasilia 28.45 55 P P 01 14 14.4 -0.9
comp=Z,74nm,1.1s,baz=226,slow=8.8,SNR=19
BDFB LR LR 01 26 52.1
comp=Z,37μm,18.6s,baz=222,slow=39
BDFB Brasilia 28.45 55 *e*P P 01 14 14.9 -0.3
PMSA Palmer Station 30.99 173 P P 01 14 38.0 +0.9
comp=Z,19nm,0.9s,baz=322,slow=18,SNR=2.9
PMSA LR LR 01 26 57.3
comp=Z,16μm,18.6s,baz=327,slow=36
PMSA Palmer Station 30.99 173 PFAKE 01 14 50.0 +13
PMSA LR LR
comp=Z,16μm,20.0s
HOPE Hope Point 31.94 140 *e*P P 01 14 46.8 +1.3
comp=Z,258nm,1.5s
HOPE LR LR
comp=Z,9μm,19.0s
RPN Rapa Nui 32.71 272 LR LR 01 24 34.1
comp=Z,24μm,18.8s,baz=73,slow=30
OTAV Otavalo 34.78 349 *e*P P 01 15 12.6 +1.3
comp=Z,63nm,1.2s
OTAV LR LR
comp=Z,6μm,22.0s
PAYG Puerto Ayora 37.48 329 PFAKE 01 15 50.0 +16
PAYG LR LR
comp=Z,13μm,19.0s
ROSC El Rosal 38.91 356 P P 01 15 48.1 +1.9
comp=Z,17nm,0.7s,baz=219,slow=3.6,SNR=11
SDV Santo Domingo 42.87 2 *e*P P 01 16 17.6 -1.1
comp=Z,80nm,0.9s
SDV *e*PcP PcP 01 18 08.1 -1.2
SDV LR LR
comp=Z,8μm,19.0s
RCBR Riachuelo 43.76 58 P P 01 16 25.9 +0.2
comp=Z,20nm,0.6s,baz=227,slow=11,SNR=17
RCBR LR LR 01 35 54.4
comp=Z,26μm,19.6s,baz=213,slow=38
RCBR Riachuelo 43.76 58 *e*P P 01 16 26.3 +0.6
comp=Z,113nm,1.3s
RCBR LR LR
comp=Z,23μm,19.0s
BCIP Isla Barro Col 43.76 349 *e*P P 01 16 25.0 -0.6
comp=Z,90nm,1.3s
BCIP LR LR
comp=Z,4μm,20.0s
PCRV Puerto La Cruz 44.69 10 P P 01 16 33.0 -0.1
comp=Z,52nm,1.0s,baz=141,slow=1.9,SNR=7.6
PCRV LR LR 01 37 27.3
comp=Z,11μm,20.1s,baz=169,slow=39
JTS JuntasAbangare 45.92 342 P P 01 16 43.5 +0.7
JTS pmax pmax
comp=Z,12nm,0.9s
JTS JuntasAbangare 45.92 342 P P 01 16 43.5 +0.7
comp=Z,12nm,0.9s,baz=135,slow=6.8,SNR=8.0
JTS JuntasAbangare 45.92 342 *e*P P 01 16 43.4 +0.5
comp=Z,51nm,1.1s
JTS LR LR
comp=Z,4μm,20.0s
GRGR Grenville 47.13 14 *e*P P 01 16 51.0 -1.3
comp=Z,248nm,0.8s
GRGR LR LR
comp=Z,7μm,20.0s
TRIS Tristan da Cun 47.93 111 PFAKE 01 17 10.0 +12
TRIS LR LR
comp=Z,11μm,21.0s
BBGH Gun Hill 48.56 16 PFAKE 01 17 20.0 +17
BBGH LR LR
comp=Z,5μm,19.0s
VNA3 Neumayer Olymp 49.17 158 P P 01 17 08.2 +0.7
VNA1 Neumayer--Stat 49.49 157 P P 01 17 11.2 +1.4
FDF Fort de France 49.76 14 *e*P P 01 17 11.1 -1.5
FDF pmax pmax
comp=Z,145nm,1.1s
FDF MLR MLR
comp=Z,8μm,21.0s
FDF Fort de France 49.76 14 *e*P P 01 17 11.1 -1.5
comp=Z,145nm,1.1s
FDF LR LR
comp=Z,8μm,21.0s
VNA2 Neumayer--Watz 49.83 157 P P 01 17 13.3 +0.9
VNA2 Neumayer--Watz 49.83 157 P P 01 17 13.4 +0.9
PTCN Pitcairn Islan 50.69 264 PFAKE 01 17 30.0 +10
PTCN LR LR
comp=Z,8μm,19.0s
SNAA Sanae 51.40 158 P P 01 17 25.1 +0.7
SNAA Sanae 51.40 158 *e*P P 01 17 24.5 +0.1
SNAA Sanae 51.40 158*c*eP P 01 17 24.9 +0.5
SNAA pmax pmax
comp=Z,322nm,1.7s
SNAA Sanae 51.40 158 P P 01 17 24.4 +0.1
comp=Z,38nm,1.1s,baz=286,slow=6.5,SNR=43
SNAA LR LR 01 38 45.3
comp=Z,2μm,18.8s,baz=292,slow=36
SNAA Sanae 51.40 158 *e*P P 01 17 24.9 +0.5
comp=Z,202nm,1.0s
APG El Apazote 51.98 337 P P 01 17 25.8 -3.8
comp=Z,19nm,0.6s,baz=181,slow=7.5,SNR=8.1
APG LR LR 01 35 05.5
comp=Z,5μm,19.3s,baz=134,slow=31
ICMP Isla Caja de M 52.07 7 *e*P P 01 17 28.3 -1.5
CRPR Cabo Rojo, PR 52.13 6 *e*P P 01 17 29.1 -1.1
comp=Z,76nm,0.8s
OBIP Obispado Ponce 52.21 7 *e*P P 01 17 29.7 -1.2
comp=Z,111nm,0.9s
SABA Saba 52.21 11 *e*P P 01 17 30.7 -0.2
comp=Z,304nm,1.0s
CELP Cerrillos 52.25 7 *e*P P 01 17 30.6 -0.6
LSP Las Mesas 52.30 6 *e*P P 01 17 30.4 -1.2
MTDJ Mount Denham 52.40 353 *e*P P 01 17 31.9 -0.6
comp=Z,59nm,0.9s
MTDJ LR LR
comp=Z,3μm,20.0s
LRS Lares 52.44 6 *e*P P 01 17 31.1 -1.5
AOPR Arecibo Observ 52.50 6 *e*P P 01 17 32.5 -0.6
comp=Z,50nm,0.9s
ANWB Willy Bob 52.50 12 *e*P P 01 17 31.6 -1.4
comp=Z,389nm,1.4s
ANWB LR LR
comp=Z,4μm,19.0s
CBYP Canovanas 52.52 7 *e*P P 01 17 31.6 -1.6
comp=Z,91nm,1.1s
SMRT St. Maarten 52.66 11 *e*P P 01 17 33.0 -1.2
comp=Z,135nm,1.3s
SDDR Presa de Saban 52.90 1 *e*P P 01 17 35.7 -0.4

comp=Z,94nm,1.5s
SDDR LR LR
comp=Z,4µm,19.0s
GTBY Guantanamo Bay 53.91 356 eP P 01 17 43.5 +0.1
GTBY LR LR
comp=Z,3µm,21.0s
GRTK Grand Turk 55.41 1 PFAKE 01 18 10.0 +16
GRTK LR LR
comp=Z,4µm,19.0s
RKT Rikitea 55.55 264 eS S 01 25 39.2 +0.3
comp=Z,3µm,27.2s
RKT eSS SS 01 29 24.6 +0.6
comp=Z,1µm,31.2s
RKT eLQ LQ 01 31 45.3
comp=Z,2µm,30.5s
RKT eLR LR 01 34 05.9
comp=Z,7µm,27.0s,baz=116
RKT Rikitea 55.55 264 eT T 02 17 37.0
comp=Z,2.6nm,0.2s
QSPA South Pole Qui 56.03 180 P P 01 17 58.8 +0.3
comp=Z,79nm,0.9s,baz=148,slow=3.2,SNR=48
QSPA LR LR 01 41 45.4
comp=Z,3µm,18.2s,baz=164,slow=36
QSPA South Pole Qui 56.03 180 eP P 01 17 58.8 +0.3
comp=Z,132nm,1.0s
QSPA LR LR
comp=Z,3µm,20.0s
NVL N'lazarevskaya 56.13 157 eP P 01 17 59.5 +0.6
NVL eS S 01 25 46.9 +1.5
NVL pmax pmax
comp=Z,87nm,0.8s
TEIG Tepich 56.29 342 P P 01 18 00.5 -0.1
comp=Z,89nm,0.8s,baz=161,slow=9.1,SNR=22
TEIG Tepich 56.29 342 eP P 01 17 60.0 -0.6
comp=Z,140nm,0.9s
TEIG LR LR
comp=Z,2µm,20.0s
ASCN Ascension 58.96 78 eP P 01 18 19.0 -0.7
ASCN LR LR
comp=Z,9µm,19.0s
SHEL Horse Pasture 61.75 91 PFAKE 01 18 50.0 +11
SHEL LR LR
comp=Z,6µm,20.0s
VNDA Vanda 63.90 191 eP P 01 18 53.3 +1.2
VNDA pmax pmax
comp=Z,55nm,1.3s
VNDA Vanda 63.90 191 P P 01 18 52.5 +0.4
comp=Z,8.4nm,0.8s,baz=149,slow=2.3,SNR=3.2
VNDA LR LR 01 41 19.3
comp=Z,2µm,22.0s,baz=132,slow=31
VNDA Vanda 63.90 191 eP P 01 18 53.3 +1.2
comp=Z,55nm,1.3s
035A Encino 65.64 335 ⇑P P 01 19 05.0 +1.0
baz=66,SNR=8.1
SYO Syowa Base 65.68 158⇓eP P 01 19 02.2 -1.5
SYO Syowa Base 65.68 158⇑/pP pP 01 19 12.6 -1.3
034A Hebbronville 65.96 334 ⇓P P 01 19 07.5 +1.4
baz=66,SNR=8.7
KVTX Kingsville 66.12 335 PFAKE 01 19 20.0 +13
KVTX LR LR
comp=Z,3µm,19.0s
TIGA Tifton 66.19 349 eP P 01 19 06.5 -0.9
comp=Z,1µm,2.8s
TIGA Tifton 66.19 349 ⇑P P 01 19 08.5 +1.1
baz=66
934A Benavides 66.39 334 ⇑P P 01 19 10.2 +1.4
baz=67
BRAL Brewton 66.39 346 PFAKE 01 19 20.0 +11
BRAL LR LR
comp=Z,2µm,20.0s
BBSR BB Station 66.58 7 PFAKE 01 19 20.0 +10
BBSR LR LR
comp=Z,2µm,19.0s
933A Laredo 66.67 334 ⇓P P 01 19 11.7 +1.1
baz=67,SNR=7.7
835A Beeville 66.78 335 ⇓P P 01 19 12.6 +1.4
baz=67
834A Tilden 66.88 335 ⇓P P 01 19 13.5 +1.6
baz=67,SNR=17
SACV Santiago Islan 67.18 52 eP P 01 19 13.2 -0.9
comp=Z,68nm,1.0s
SACV LR LR
comp=Z,5µm,20.0s
TBI Tubuai 67.27 257 eT T 02 32 24.3
comp=Z,9.1nm,0.3s
735A Kenedy 67.29 336 ⇓P P 01 19 16.0 +1.5
baz=68,SNR=6.0
833A Chaparral WMA, 67.36 334 ⇓P P 01 19 16.0 +1.0
baz=68,SNR=18
NHSC New Hope 67.39 353 PFAKE 01 19 30.0 +15
NHSC LR LR
comp=Z,2µm,22.0s
832A Faith Ranch, C 67.54 333 ⇓P P 01 19 16.9 +0.8
baz=68,SNR=16
636A Smothers Creek 67.61 337 ⇓P P 01 19 18.3 +1.8
baz=68,SNR=17
HKT Hockley 67.65 338 eP P 01 19 16.6 -0.1
HKT pmax pmax
comp=Z,85nm,1.5s
HKT Hockley 67.65 338 eP P 01 19 16.6 -0.1
comp=Z,85nm,1.5s
733A Divot King Ran 67.69 334 ⇓P P 01 19 18.7 +1.7
baz=68
538A Harpers Horsep 67.80 338 ⇓P P 01 19 20.5 +2.8
baz=68
537A Green Hill Far 67.92 337 ⇑P P 01 19 19.8 +1.3
baz=68,SNR=6.6
732A Laxson Ranch, 67.94 334 ⇓P P 01 19 19.6 +0.9
baz=68,SNR=11
634A China Grove, S 67.96 335 ⇑P P 01 19 20.1 +1.4
baz=68
GOGA Godfrey 68.11 350 eP P 01 19 19.0 -0.6
GOGA pmax pmax
comp=Z,70nm,1.3s
GOGA MLR MLR
comp=Z,3µm,21.0s
GOGA Godfrey 68.11 350 eP P 01 19 19.0 -0.6
comp=Z,70nm,1.3s
GOGA LR LR
comp=Z,3µm,21.0s
536A Bastrop 68.16 337 ⇑P P 01 19 21.2 +1.2
baz=68
438A Sam Houston St 68.28 338 ⇑P P 01 19 22.1 +1.3
baz=69
633A Saathoff Ranch 68.32 335 ⇓P P 01 19 21.8 +0.8
baz=69,SNR=7.0
VBMS Vicksburg 68.32 343 eP P 01 19 21.7 +0.8
comp=Z,80nm,0.7s
LRAL Lakeview Retre 68.35 347 eP P 01 19 20.3 -0.7
comp=Z,29nm,0.9s
340A Bronson 68.44 340 ⇓P P 01 19 22.8 +1.1
baz=69,SNR=8.7
339A Huntington 68.56 339 ⇑P P 01 19 23.4 +1.0
baz=69,SNR=8.8
437A Phaontom Ranch 68.56 338 ⇑P P 01 19 23.8 +1.3
baz=69
632A Uvalde 68.58 334 ⇑P P 01 19 23.8 +1.1
baz=69,SNR=18
534A Blanco 68.59 336 ⇓P P 01 19 23.5 +0.8
baz=69
436A Wall Ranch, Ga 68.72 337 ⇑P P 01 19 25.0 +1.6
baz=69
631A Perdido Creek 68.78 333 ⇓P P 01 19 25.0 +1.1
baz=69,SNR=5.9
338A Crockett 68.80 339 ⇓P P 01 19 25.4 +1.5
baz=69
MEH Mehetia 68.82 262 eT T 02 34 10.3
comp=Z,36nm,0.2s
533A Kerrville 68.83 335 ⇑P P 01 19 25.3 +1.1
baz=69,SNR=10
337A Centerville 68.94 338 ⇑P P 01 19 26.3 +1.5
baz=69,SNR=5.3
435B Jarrell 68.98 337 ⇑P P 01 19 26.0 +0.9
baz=69,SNR=5.6
NATX Nacogdoches 68.99 339 eP P 01 19 25.6 +0.5
comp=Z,62nm,0.9s
NATX LR LR
comp=Z,1µm,20.0s
239A Gary 69.17 340 ⇑P P 01 19 27.5 +1.3
baz=70
532A Rocksprings 69.19 334 ⇑P P 01 19 27.5 +1.1
baz=70,SNR=28
434A Burnet 69.24 336 ⇓P P 01 19 27.5 +0.8
baz=70,SNR=27
CNNC Cliffs of the 69.30 355 eP P 01 19 26.8 -0.1
comp=Z,78nm,1.0s
CNNC LR LR
comp=Z,2µm,20.0s
336A Riesel 69.30 337 ⇑P P 01 19 27.9 +0.8
baz=70,SNR=12
238A Jacksonville 69.35 339 ⇓P P 01 19 28.6 +1.3
baz=70
335A Moody 69.39 337 ⇓P P 01 19 28.4 +0.7
baz=70,SNR=6.0
531A Rocksprings 69.45 334 ⇑P P 01 19 29.1 +1.0
baz=70,SNR=13
433A Art 69.47 335 ⇑P P 01 19 28.5 +0.4
baz=70,SNR=27
JCT Junction City 69.47 335 eP P 01 19 28.5 +0.3
JCT pmax pmax
comp=Z,239nm,1.8s
JCT MLR MLR
comp=Z,1µm,20.0s
JCT Junction City 69.47 335 eP P 01 19 28.5 +0.3
comp=Z,239nm,1.8s
JCT LR LR
comp=Z,1µm,20.0s
JCT Junction City 69.47 335 ⇑P P 01 19 28.8 +0.6
baz=70,SNR=14
KMSC Kings Mountain 69.53 352 eP P 01 19 28.0 -0.4
comp=Z,34nm,0.9s
KMSC Kings Mountain 69.53 352 ⇓P P 01 19 28.9 +0.5
237A Washetta, Mont 69.55 339 ⇑P P 01 19 29.6 +1.1
baz=70
334A Lometa 69.71 336 ⇑P P 01 19 30.0 +0.4
baz=70,SNR=18
530A J-C Ranch, Com 69.73 333 ⇓P P 01 19 30.8 +1.0
baz=70,SNR=18
VAH Vaihoa 69.80 265 eP P 01 19 34.3 +3.7
comp=Z,81nm,1.1s
432A Menard 69.82 335 ⇑P P 01 19 30.7 +0.3
baz=70,SNR=12
TVO Taravao 69.84 262 eT T 02 35 26.0
comp=Z,2.1nm,0.3s
TXAR Lajitas Array 69.91 331 P P 01 19 31.0 0.0
comp=Z,4.8nm,0.7s,baz=151,slow=8.1,SNR=28
TXAR LR LR 01 45 53.0
comp=Z,9µm,18.5s,baz=0.0,slow=32
431A Sonora 69.94 334 ⇓P P 01 19 31.3 +0.2
baz=70,SNR=12
333A Richland Sprin 69.95 336 ⇓P P 01 19 31.5 +0.4
baz=70,SNR=15
138A Matatall Enter 69.95 339 ⇑P P 01 19 32.1 +1.1
baz=70
TIAR Tiarei 70.03 262 eT T 02 35 40.9
comp=Z,7.4nm,0.2s
529A Stev Forest Ra 70.04 332 ⇑P P 01 19 32.3 +0.6
baz=70,SNR=21
WHTX Lake Whitney 70.06 337 eP P 01 19 32.0 +0.3
comp=Z,52nm,0.9s
WHTX Lake Whitney 70.06 337 ⇓P P 01 19 32.1 +0.5
baz=70,SNR=9.1
137A Heron Place, G 70.09 339 ⇓P P 01 19 32.9 +1.0
baz=70
PAE Paea 70.17 262 eP P 01 19 37.8 +5.0
comp=Z,33nm,1.3s
PAE Paea 70.17 262 eT T 02 35 51.0
comp=Z,1.2nm,0.3s
PPT2 Papeete2 70.20 262 eP P 01 19 37.8 +4.7
comp=Z,80nm,1.1s
PPT2 eS S 01 28 42.8 +0.1
comp=Z,6µm,24.5s
PPT2 Papeete2 70.20 262 eLR LR 01 40 53.0
comp=Z,13µm,27.0s,baz=120
PPT Papeete 70.21 262 P P 01 19 32.4 -0.8
comp=Z,27nm,0.7s,baz=145,slow=7.5,SNR=3.4
PPT LR LR 01 42 49.7
comp=Z,5µm,19.1s,baz=132,slow=30
430A Baggett Ranch, 70.27 334 ⇑P P 01 19 33.6 +0.5
baz=71,SNR=17
332A Millersview 70.27 335 ⇓P P 01 19 33.2 +0.2
baz=71,SNR=11
OXF Oxford 70.27 345 eP P 01 19 32.1 -0.8
OXF pmax pmax
comp=Z,143nm,0.9s
OXF Oxford 70.27 345 eP P 01 19 32.1 -0.8
comp=Z,143nm,0.9s
CPCT Cooper Cave 70.27 349 eP P 01 19 34.1 +1.2
SWET Sewanee 70.27 348 eP P 01 19 32.5 -0.5
comp=Z,76nm,0.8s
234A Clairette 70.29 337 ⇑P P 01 19 33.6 +0.4
baz=71,SNR=8.9
TKL Tuckaleechee C 70.36 350 eP P 01 19 32.8 -0.7
TKL Tuckaleechee C 70.36 350 eP P 01 19 32.8 -0.7
429A Davenport Ranc 70.37 333 ⇓P P 01 19 34.6 +0.9
baz=71,SNR=12
331A San Angelo 70.44 334 ⇓P P 01 19 34.5 +0.3
baz=71,SNR=21
233A Rising Star 70.56 336 ⇓P P 01 19 35.2 +0.4
baz=71,SNR=13
135A Vickery Place, 70.56 337 ⇓P P 01 19 35.1 +0.3
baz=71
232A Coleman 70.69 335 ⇓P P 01 19 36.0 +0.4
baz=71,SNR=17
134A White-Moore Ra 70.80 337 ⇑P P 01 19 36.6 +0.4
baz=71
330A Mertzon 70.80 334 ⇓P P 01 19 36.6 +0.3
baz=71,SNR=13
231A Bronte 70.97 335 ⇑P P 01 19 38.0 +0.7
baz=71,SNR=24
133A Hamilton Ranch 71.10 336 ⇑P P 01 19 38.3 +0.2
baz=71,SNR=8.1
329A Wagon Wheel Ra 71.17 333 ⇓P P 01 19 39.1 +0.5
baz=72,SNR=11
TZTN Tazewell 71.20 350 eP P 01 19 37.9 -0.6
comp=Z,42nm,1.1s
UALR University of 71.21 342 eP P 01 19 38.8 +0.2
comp=Z,37nm,1.2s
230A Sterling City 71.21 334 ⇓P P 01 19 39.0 +0.2
baz=72,SNR=6.0
Z35A Perchaven, San 71.23 338 ⇑P P 01 19 39.4 +0.6
baz=72,SNR=16
MIAR Mount Ida 71.31 341 eP P 01 19 38.9 -0.4
MIAR pmax pmax
comp=Z,32nm,1.1s
MIAR MLR MLR
comp=Z,1µm,21.0s
MIAR Mount Ida 71.31 341 eP P 01 19 38.9 -0.4
comp=Z,32nm,1.1s
MIAR LR LR
comp=Z,1µm,21.0s
ABTX Abilene, Hawle 71.36 336 eP P 01 19 39.9 +0.2
comp=Z,330nm,2.0s
ABTX Abilene, Hawle 71.36 336 ⇑P P 01 19 40.1 +0.4
baz=72,SNR=13
VWCC Virginia Weste 71.47 353 eP P 01 19 40.1 -0.1
Z34A Collier Ranch, 71.48 337 ⇓P P 01 19 40.8 +0.5
baz=72,SNR=10
BLA Blacksburg 71.48 353 eP P 01 19 39.8 -0.5
BLA pmax pmax
comp=Z,185nm,1.8s
BLA MLR MLR
comp=Z,2µm,21.0s
BLA Blacksburg 71.48 353 eP P 01 19 39.8 -0.5
comp=Z,185nm,1.8s
BLA LR LR
comp=Z,2µm,21.0s
WVT Waverly 71.51 347 eP P 01 19 39.5 -0.9
WVT pmax pmax
comp=Z,149nm,0.8s
WVT Waverly 71.51 347 eP P 01 19 39.5 -0.9
comp=Z,149nm,0.8s
229A Bryant Ranch, 71.54 334 ⇓P P 01 19 41.0 +0.2
baz=72,SNR=5.6
131A Roby 71.67 335 ⇓P P 01 19 41.9 +0.4
baz=72,SNR=9.6
Z33A Whitaker Ranch 71.67 337 ⇓P P 01 19 41.8 +0.2
baz=72,SNR=11
JSRW J. Sargeant Re 71.74 355 eP P 01 19 42.2 +0.4
GNAR Gosnell 71.80 345 eP P 01 19 42.3 +0.1
comp=Z,1µm,1.2s
130A Snyder 71.80 335 ⇑P P 01 19 42.7 +0.4
baz=72,SNR=6.1
Z32A Haskell 71.93 336 ⇓P P 01 19 43.6 +0.5
baz=72,SNR=15
GLAT Glass 71.94 345 eP P 01 19 42.7 -0.3
228A UT Block 9, Go 71.97 333 ⇓P P 01 19 43.8 +0.4
baz=72,SNR=8.4
Y34A Reagan Ranch, 71.97 338 ⇑P P 01 19 43.4 +0.2
baz=72,SNR=7.8
129A Stewart Farms, 72.16 334 ⇓P P 01 19 44.6 +0.1
baz=72
Z31A Sharp Cattle R 72.17 336 ⇓P P 01 19 44.8 +0.3
baz=72,SNR=13
CBN Corbin 72.21 356 eP P 01 19 44.7 +0.1
comp=Z,62nm,1.0s
CBN LR LR
comp=Z,2µm,22.0s
Y33A Hilltop Ranch, 72.29 337 ⇑P P 01 19 45.4 +0.2
baz=73,SNR=9.3
128A Castleberry Fa 72.38 333 ⇓P P 01 19 46.1 +0.3
baz=73,SNR=12
PARMO Parma 72.41 345 eP P 01 19 45.3 -0.5
Z30A Sanderson Ranc 72.48 335 ⇓P P 01 19 46.4 0.0
baz=73,SNR=13
Y32A R-V Farms, Ver 72.56 336 ⇓P P 01 19 46.8 0.0
baz=73,SNR=6.6
X34A Smith Ranch, M 72.59 338 ⇓P P 01 19 47.3 +0.4
baz=73,SNR=9.2
Z29A Hungry Hill Ra 72.66 334 ⇑P P 01 19 47.5 -0.1
baz=73,SNR=12
PBMO Poplar Bluff 72.67 345 eP P 01 19 46.9 -0.4
comp=Z,38nm,0.9s
MNTX Cornudas Mount 72.69 331 eP P 01 19 46.4 -1.2
comp=Z,12nm,0.9s
MNTX LR LR
comp=Z,7µm,20.0s
GDL2 Guadalupe Moun 72.72 332 eP P 01 19 47.9 0.0
X33A Lawton 72.74 337 ⇓P P 01 19 48.1 +0.2
baz=73
127A Arkansas Junct 72.75 333 ⇑P P 01 19 48.8 +0.7
baz=73
Y31A Rekieta Farm, 72.79 336 ⇑P P 01 19 48.6 +0.4
baz=73,SNR=11
ELIM Elim 72.85 120 eP P 01 19 50.1 +1.3
ELIM AMB AMB 01 20 03.1
comp=Z,136nm,2.3s
ELIM Elim 72.85 120 P P 01 19 50.1 +1.3
comp=Z,136nm,2.3s
X32A Elmer 72.89 337 ⇑P P 01 19 49.4 +0.6
baz=73
Y30A Stafford Cattl 72.94 335 ⇓P P 01 19 49.8 +0.6
baz=73
MAW Mawson 72.98 164 P P 01 19 49.4 +0.5
comp=Z,47nm,0.9s,baz=222,slow=8.5,SNR=4.8
MAW LR LR 01 54 36.4
comp=Z,8µm,18.1s,baz=228,slow=38
CER Ceres 73.14 119 eP P 01 19 51.2 +0.7
CER AMB AMB 01 19 54.3
comp=Z,141nm,1.3s
CER Ceres 73.14 119 P P 01 19 51.2 +0.7
comp=Z,141nm,1.3s
W34A Bridge Creek, 73.15 338 eP P 01 19 50.5 +0.2
comp=Z,42nm,0.9s
W34A Bridge Creek, 73.15 338 ⇑P P 01 19 51.1 +0.8
baz=74
Y29A Porterfield Fa 73.19 335 ⇓P P 01 19 50.9 +0.2
baz=74,SNR=18
TUL1 Tulsa 73.20 340 eP P 01 19 50.5 0.0
comp=Z,28nm,0.8s
TUL1 Tulsa 73.20 340 ⇓P P 01 19 50.8 +0.2
baz=74,SNR=9.9
USIN University of 73.26 347 eP P 01 19 50.4 -0.4
comp=Z,132nm,1.1s
CPRX Cap Rock 73.26 332 eP P 01 19 51.6 +0.4
comp=Z,45nm,1.0s
WCI Wyandotte Cave 73.27 348 eP P 01 19 49.6 -1.3
WCI pmax pmax
comp=Z,32nm,0.9s
WCI Wyandotte Cave 73.27 348 eP P 01 19 49.6 -1.3
comp=Z,32nm,0.9s
W33A Caddo, Fort Co 73.29 338 ⇓P P 01 19 51.9 +0.8
baz=74,SNR=15
X31A McDonald Ranch 73.31 336 ⇓P P 01 19 51.6 +0.3
baz=74,SNR=13
SIUC Southern Illin 73.32 346 eP P 01 19 50.8 -0.4
comp=Z,47nm,0.9s
SDMD Soldier's Deli 73.38 356 eP P 01 19 52.4 +0.9
comp=Z,53nm,1.0s
X30A Coker Ranch, T 73.44 335 ⇓P P 01 19 52.6 +0.5
baz=74
Y28A McKinney Farm, 73.44 334 ⇓P P 01 19 52.3 +0.2
baz=74,SNR=5.3
W32A Sentinel 73.52 337 ⇑P P 01 19 53.3 +0.8
baz=74,SNR=13
Z26A Caprock 73.52 332 ⇑P P 01 19 53.1 +0.4
baz=74,SNR=44
KOMG Komaggas 73.58 115 eP P 01 19 54.5 +1.2
KOMG AMB AMB 01 20 08.1
comp=Z,120nm,2.0s
KOMG Komaggas 73.58 115 P P 01 19 54.5 +1.2
comp=Z,120nm,2.0s
V34A Guthrie 73.63 339 eP P 01 19 52.2 -0.9
comp=Z,53nm,1.0s
V34A Guthrie 73.63 339 ⇑P P 01 19 53.3 +0.2
baz=74,SNR=5.8
MSTX Muleshoe 73.69 334 eP P 01 19 53.6 0.0
comp=Z,31nm,0.9s
MSTX Muleshoe 73.69 334 ⇑P P 01 19 53.9 +0.3
baz=74,SNR=10
Y27A Causey 73.76 333 ⇑P P 01 19 54.1 +0.1
baz=74,SNR=7.1
W31A Holland Ranch, 73.80 336 ⇓P P 01 19 54.8 +0.6
baz=74
Z25A Roswell 73.81 332 ⇑P P 01 19 54.6 +0.2
baz=74,SNR=5.7
V33A Lossen Ranch, 73.85 338 ⇑P P 01 19 54.8 +0.4
baz=74,SNR=13
MVL Millersville 73.94 357 eP P 01 19 55.7 +0.9
comp=Z,59nm,1.1s
V32A Arapaho 74.00 337 ⇑P P 01 19 56.4 +1.1
baz=74
Y26A Elida 74.04 333 ⇓P P 01 19 56.7 +1.0
baz=74
319A Douglas 74.07 327 ⇑P P 01 19 57.1 +1.2
baz=74,SNR=11
OLIL Olney 74.08 347 eP P 01 19 55.0 -0.6
comp=Z,46nm,1.0s
Z24A Sheeppen Canyo 74.11 331 ⇓P P 01 19 56.7 +0.5
baz=74,SNR=16
AMTX Amarillo 74.12 335 eP P 01 19 56.3 +0.2
comp=Z,73nm,1.3s
AMTX Amarillo 74.12 335 ⇓P P 01 19 56.7 +0.6
baz=74
U34A Anderson Ranch 74.19 339 eP P 01 19 56.4 0.0
comp=Z,27nm,0.8s
U34A Anderson Ranch 74.19 339 ⇑P P 01 19 56.6 +0.2
baz=74,SNR=6.5
BLO Bloomington 74.23 348 eP P 01 19 55.6 -0.9
BLO pmax pmax
comp=Z,32nm,1.0s
BLO Bloomington 74.23 348 eP P 01 19 55.6 -0.9
comp=Z,32nm,1.0s
V31A Spring Creek L 74.31 337 ⇓P P 01 19 58.5 +1.4
baz=75,SNR=6.4
W29A Amraillo 74.32 335 ⇑P P 01 19 57.6 +0.3
baz=75,SNR=12
U33A Lingo Farm, Me 74.36 338 ⇑P P 01 19 58.6 +1.3
baz=75,SNR=5.8
Y25A Mesa, Roswell 74.37 332 ⇓P P 01 19 57.8 +0.2
baz=75
121A Cookes Peak, D 74.41 329 eP P 01 19 58.6 +0.6
comp=Z,102nm,1.4s
121A Cookes Peak, D 74.41 329 ⇑P P 01 19 59.3 +1.4
baz=75,SNR=16
SLM Saint Louis 74.41 345 eP P 01 19 57.5 -0.1
SLM pmax pmax
comp=Z,65nm,0.8s
SLM Saint Louis 74.41 345 eP P 01 19 57.5 -0.1
comp=Z,66nm,0.8s
X27A F and S Farms, 74.41 334 ⇑P P 01 19 59.1 +1.2
baz=75
U32A Winter Ranch, 74.59 338 ⇑P P 01 19 59.4 +0.7
baz=75,SNR=5.1
X26A CR and CF Fran 74.59 333 ⇓P P 01 19 59.8 +0.9
baz=75,SNR=6.1
W28A Vega 74.64 335 ⇓P P 01 20 00.3 +1.2
baz=75
Y24A Capitan 74.66 332 ⇑P P 01 20 00.0 +0.6
baz=75,SNR=12
SSPA Standing Stone 74.67 355 eP P 01 19 59.0 0.0
comp=Z,66nm,1.3s
Z22A Elephant Butte 74.69 330 ⇓P P 01 20 00.8 +1.2
baz=75,SNR=10
SUR Sutherland 74.73 119 P P 01 20 01.1 +1.0
comp=Z,552nm,1.0s,SNR=11
SUR Sutherland 74.73 119 eP P 01 20 01.4 +1.3
comp=Z,178nm,1.3s
SUR LR LR
comp=Z,5µm,21.0s
ACSO Alum Creek Sta 74.75 351 eP P 01 19 59.1 -0.5
comp=Z,107nm,1.1s
ACSO LR LR

comp=Z,2µm,21.0s
W27A Bowe Ranch, En 74.77 334 ⇑P P 01 20 00.3 +0.4
baz=75,SNR=14
U31A Nine Bar Ranch 74.85 337 ⇑P P 01 20 02.3 +2.1
baz=75
Y23A Lovelace Mesa, 74.91 331 ⇓P P 01 20 02.3 +1.5
baz=75,SNR=7.2
ODNJ Ogdensburg 74.95 358 eP P 01 20 01.6 +0.9
comp=Z,308nm,2.4s
T33A Patterson Ranc 75.00 339 ⇑P P 01 20 01.8 +0.7
baz=75,SNR=10.0
W26A Owens Ranch, T 75.05 333 ⇓P P 01 20 02.8 +1.2
baz=75
V28A Channing 75.09 335 ⇓P P 01 20 02.5 +0.8
baz=75,SNR=11
YLE Yale 75.16 359 eP P 01 20 03.1 +1.4
comp=Z,186nm,1.4s
X24A Lazy VL Ranch, 75.22 332 ⇑P P 01 20 03.9 +1.3
baz=76
DBIC Dimbokro 75.25 71 eP P 01 20 02.1 -0.9
DBIC Dimbokro 75.25 71 eP P 01 20 03.5 +0.5
DBIC pmax pmax
comp=Z,75nm,1.0s
DBIC Dimbokro 75.25 71 P P 01 20 03.0 0.0
comp=Z,31nm,0.9s,baz=208,slow=7.0,SNR=27
DBIC LR LR 01 51 34.2
comp=Z,6µm,19.0s,baz=219,slow=34
DBIC Dimbokro 75.25 71 eP P 01 20 03.5 +0.5
comp=Z,75nm,1.0s
U30A WK&E Inc. Balk 75.26 336 ⇓P P 01 20 03.9 +1.3
baz=76,SNR=6.3
T32A Huddler Ranch, 75.30 338 ⇑P P 01 20 03.7 +0.9
baz=76
V27A Dan Oppiter Fa 75.31 335 ⇓P P 01 20 03.6 +0.6
baz=76,SNR=6.2
W25A X Bar L Ranch, 75.43 333 ⇑P P 01 20 04.1 +0.4
baz=76,SNR=8.6
T31A Randall Ranch, 75.46 337 ⇑P P 01 20 05.1 +1.3
baz=76
LPM Los Pinos Moun 75.48 331 eP P 01 20 04.7 +0.6
LENM Lemitar 75.49 331 eP P 01 20 04.4 +0.3
SFIN Scholer Farm 75.50 348 eP P 01 20 02.9 -0.9
comp=Z,37nm,1.0s
SFIN Scholer Farm 75.50 348 ⇑P P 01 20 04.7 +0.8
baz=76
X23A Hourglass Bar 75.53 331 ⇓P P 01 20 06.0 +1.6
baz=76
TUC Tucson 75.54 327 eP P 01 20 05.5 +1.1
TUC pmax pmax
comp=Z,42nm,1.4s
TUC MLR MLR
comp=Z,3µm,21.0s
TUC Tucson 75.54 327 eP P 01 20 05.5 +1.1
comp=Z,42nm,1.4s
TUC LR LR
comp=Z,3µm,21.0s
U28A Mallet 75.66 335 ⇓P P 01 20 06.0 +1.0
baz=76
V26A Tequesquite Ra 75.69 334 ⇑P P 01 20 06.2 +0.9
baz=76
LAZ Ladron 75.76 331 eP P 01 20 06.5 +0.8
comp=Z,17nm,1.3s
W24A Lazy 6 Ranch, 75.78 332 ⇑P P 01 20 06.5 +0.7
baz=76,SNR=10
S32A Newby Ranch, P 75.78 338 ⇓P P 01 20 06.6 +1.1
baz=76
ALLY Alegheny Colle 75.85 354 eP P 01 20 05.1 -0.7
comp=Z,57nm,1.1s
S31A Mullinville 75.88 338 ⇑P P 01 20 06.9 +0.7
baz=76,SNR=5.3
U27A Thompson Grove 75.91 335 ⇑P P 01 20 07.1 +0.7
baz=76,SNR=6.4
ANMO Albuquerque 75.96 331 ceP P 01 20 07.9 +1.1
ANMO pmax pmax
comp=Z,166nm,2.5s
ANMO Albuquerque 75.96 331 eP P 01 20 07.6 +0.8
comp=Z,28nm,1.1s
ANMO LR LR
comp=Z,8µm,19.0s
W23A Werner Place, 76.03 332 ⇑P P 01 20 08.4 +1.2
baz=76,SNR=8.4
V25A Rancho No Teng 76.04 333 ⇓P P 01 20 07.9 +0.7
baz=76,SNR=12
T29A Hugoton 76.04 336 ⇑P P 01 20 08.1 +1.0
baz=76
R33A Olander Ranch, 76.06 339 ⇑P P 01 20 08.2 +1.1
baz=76,SNR=5.4
BINY Binghamton 76.12 357 eP P 01 20 07.2 -0.1
comp=Z,51nm,1.3s
BINY LR LR
comp=Z,3µm,20.0s
214A Organ Pipe Nat 76.18 325 eP P 01 20 07.7 -0.2
comp=Z,16nm,0.9s
214A Organ Pipe Nat 76.18 325 ⇑P P 01 20 09.5 +1.6
baz=76
V24A Rampart Ranch, 76.18 333 ⇓P P 01 20 08.9 +0.8
baz=76,SNR=7.5
U26A Atchley Ranch, 76.21 334 ⇓P P 01 20 09.0 +0.8
baz=76
S30A Montezuma 76.21 337 ⇑P P 01 20 08.9 +0.9
baz=76,SNR=5.1
T28A Walsh 76.29 336 ⇓P P 01 20 09.1 +0.5
baz=77,SNR=13
R32A Long Quarter, 76.38 339 ⇓P P 01 20 09.5 +0.6
baz=77,SNR=9.1
S29A Ulysses 76.41 337 ⇑P P 01 20 09.9 +0.8
baz=77,SNR=6.4
KSU1 Kansas State U 76.41 341 eP P 01 20 08.6 -0.5
comp=Z,33nm,0.8s
KSU1 LR LR
comp=Z,2µm,19.0s
KSU1 Kansas State U 76.41 341 ⇓P P 01 20 09.8 +0.7
baz=77,SNR=6.3
T27A Campo 76.44 335 ⇓P P 01 20 10.1 +0.7
baz=77,SNR=11
U25A Circle Dot Ran 76.46 334 ⇓P P 01 20 10.4 +0.8
baz=77,SNR=12
DRV Dumont d'Urvil 76.50 193 S S 01 29 42.0 -10
DRV SS SS 01 34 41.0 -5.3
DRV L L 01 39 00.0
DRV R 01 44 00.0
R31A Burdett 76.51 338 ⇑P P 01 20 10.2 +0.6
baz=77,SNR=9.6
V23A Ortiz Mt. (NFS 76.55 332 ⇓P P 01 20 10.5 +0.3
baz=77
TRY Troy 76.58 359 eP P 01 20 11.0 +1.1
comp=Z,120nm,1.1s
RAR Rarotonga 76.59 253 LR LR 01 46 28.0
comp=Z,4µm,18.0s,baz=106,slow=30
RAR Rarotonga 76.59 253 PFAKE 01 20 20.0 +9.4
RAR LR LR
comp=Z,6µm,19.0s
S28A Manter 76.64 336 ⇑P P 01 20 11.0 +0.6
baz=77,SNR=25
Q33A Connelly Farm, 76.66 340 ⇑P P 01 20 11.5 +1.0
baz=77
R30A Dighton 76.74 338 ⇑P P 01 20 11.7 +0.7
baz=77
U24A Moreno Valley 76.79 333 ⇓P P 01 20 12.9 +1.3
baz=77
T26A Comanche Natio 76.85 335 ⇑P P 01 20 12.3 +0.5
baz=77,SNR=7.4
Q32A Meitler Ranch, 76.86 339 ⇑P P 01 20 12.6 +1.0
baz=77,SNR=15
AAM Ann Arbor 76.88 351 eP P 01 20 11.3 -0.3
AAM pmax pmax
comp=Z,44nm,0.9s
AAM MLR MLR
comp=Z,3µm,21.0s
AAM Ann Arbor 76.88 351 eP P 01 20 11.2 -0.3
comp=Z,44nm,0.9s
AAM LR LR
comp=Z,3µm,21.0s
V22A San Miguel Ran 76.98 332 ⇓P P 01 20 13.8 +1.2
baz=77,SNR=28
WIN Windhoek 77.00 108 eP P 01 20 12.3 -0.9
WIN AMB AMB 01 20 16.7
comp=Z,22nm,1.5s
WIN Windhoek 77.00 108 P P 01 20 12.3 -0.9
WIN pmax pmax
comp=Z,22nm,1.5s
WIN Windhoek 77.00 108 P P 01 20 12.3 -0.9
comp=Z,22nm,1.5s
P33A Williams Farm, 77.02 340 ⇑P P 01 20 14.3 +1.8
baz=77
X18A Snowflake 77.05 329 ⇑P P 01 20 14.2 +1.2
baz=77,SNR=7.4
U23A El Rito 77.07 332 ⇑P P 01 20 14.5 +1.4
baz=77,SNR=14
T25A Trinidad 77.11 334 ⇓P P 01 20 14.6 +1.2
baz=77,SNR=20
Q31A Ellis 77.13 338 ⇑P P 01 20 14.6 +1.4
baz=78,SNR=6.6
R29A Marienthal 77.14 337 ⇑P P 01 20 14.1 +0.8
baz=78
UPI Upington 77.15 116 eP P 01 20 14.6 +0.8
UPI AMB AMB 01 20 17.2
comp=Z,116nm,1.6s
UPI Upington 77.15 116 P P 01 20 14.6 +0.8
comp=Z,116nm,1.6s
S26A Kim 77.21 335 ⇓P P 01 20 14.5 +0.8
baz=78,SNR=33
ACCN Adirondack Com 77.23 359 eP P 01 20 14.4 +0.9
comp=Z,101nm,1.5s
R28A Tribune 77.29 336 ⇓P P 01 20 14.9 +0.8
baz=78,SNR=20
113A Mohawk Valley, 77.31 325 ⇑P P 01 20 15.3 +1.0
baz=78
Q30A Quinter 77.36 338 ⇑P P 01 20 16.0 +1.5
baz=78,SNR=5.7
U22A Llaves 77.37 332 ⇑P P 01 20 15.8 +1.0
baz=78,SNR=9.4
T24B San Luis 77.40 333 ⇑P P 01 20 16.3 +1.2
baz=78,SNR=12
Z14A Wintersburg 77.41 326 ⇑P P 01 20 16.0 +1.2
baz=78
W18A Petrified Fore 77.46 329 eP P 01 20 15.9 +0.6
comp=Z,52nm,1.1s
W18A Petrified Fore 77.46 329 ⇑P P 01 20 16.5 +1.3
baz=78
P32A Huiting Farm, 77.46 339 ⇓P P 01 20 16.5 +1.6
baz=78
Q29A Oakley 77.52 337 ⇑P P 01 20 16.3 +0.9
baz=78,SNR=12
HNH Hanover 77.54 360 eP P 01 20 16.6 +1.3
comp=Z,88nm,1.3s
HNH epP PcP 01 20 25.3 -0.1
R27A Eads 77.57 336 ⇓P P 01 20 16.5 +0.7
baz=78,SNR=23
S25A Robets Cordova 77.59 334 ⇓P P 01 20 17.1 +1.2
baz=78
P31A Stockton 77.60 339 ⇓P P 01 20 16.6 +0.9
baz=78,SNR=9.8
X16A Lo Mia Camp, P 77.61 328 ⇑P P 01 20 17.5 +1.3
baz=78
T23A Casias Ranch, 77.63 333 ⇑P P 01 20 16.9 +0.7
baz=78,SNR=6.2
R26A Arlington 77.81 335 ⇑P P 01 20 17.7 +0.6
baz=78,SNR=15
NCB Newcomb 77.83 358 eP P 01 20 16.6 -0.3
comp=Z,419nm,2.6s
NCB LR LR
comp=Z,3µm,20.0s
MDV Middlebury 77.84 359 eP P 01 20 16.9 0.0
S24A Houchin Ranch, 77.85 334 ⇑P P 01 20 18.7 +1.1
baz=78,SNR=23
P30A Selden 77.88 338 ⇑P P 01 20 18.6 +1.2
baz=78
Y14A Wickenburg 77.92 326 ⇓P P 01 20 18.6 +0.9
baz=78
Q28A Sharon Springs 77.95 337 ⇓P P 01 20 18.7 +0.8
baz=78,SNR=6.2
O32A Brockman Farm, 77.95 340 ⇑P P 01 20 18.6 +0.9
baz=78
R25A Fountain Ranch 77.97 335 ⇓P P 01 20 18.8 +0.9
baz=78,SNR=6.0
GLA Glamis 78.05 324 eP P 01 20 19.9 +1.5
GLA pmax pmax
comp=Z,55nm,1.4s
GLA Glamis 78.05 324 eP P 01 20 19.9 +1.5
comp=Z,55nm,1.4s
GLA Glamis 78.05 324 ⇑P P 01 20 19.8 +1.3
baz=78
SDCO Great Sand Dun 78.05 333 eP P 01 20 19.1 +0.4
comp=Z,12nm,1.0s
SDCO LR LR
comp=Z,4µm,19.0s
LBNH Lisbon 78.07 0 eP P 01 20 19.0 +0.8
LBNH pmax pmax
comp=Z,40nm,0.8s
LBNH MLR MLR
comp=Z,4µm,22.0s
LBNH Lisbon 78.07 0 eP P 01 20 19.0 +0.8
comp=Z,40nm,0.8s
LBNH LR LR
comp=Z,4µm,22.0s
P29A Atwood 78.15 338 ⇑P P 01 20 20.4 +1.5
baz=78,SNR=6.1
O31A Woolen Ranch, 78.16 339 ⇑P P 01 20 19.9 +1.1
baz=78,SNR=5.7
KSCO Kaye Shedlock' 78.17 336 eP P 01 20 20.2 +1.2
comp=Z,46nm,0.9s
KSCO Kaye Shedlock' 78.17 336 ⇑P P 01 20 20.3 +1.2
baz=78
SCIA State Center 78.20 344 eP P 01 20 18.9 -0.1
comp=Z,42nm,0.8s
SCIA LR LR
comp=Z,2µm,19.0s
S23A Nye Farm, Mont 78.20 333 ⇑P P 01 20 20.6 +1.2
baz=78
GRM Grahamstown 78.31 122 eP P 01 20 20.7 +0.6
GRM AMB AMB 01 20 23.3
comp=Z,118nm,1.6s
GRM Grahamstown 78.31 122 P P 01 20 20.7 +0.6
GRM pmax pmax
comp=Z,118nm,1.6s
GRM Grahamstown 78.31 122 P P 01 20 20.7 +0.6
comp=Z,118nm,1.6s
R24A Sanders Place, 78.34 334 ⇓P P 01 20 21.3 +1.1
baz=79,SNR=23
P28A Saint Francis 78.39 337 ⇑P P 01 20 21.5 +1.2
baz=79
Q26A Hugo 78.39 335 ⇓P P 01 20 21.6 +1.2
baz=79,SNR=6.1
O30A MW Ranch, Wils 78.41 338 ⇓P P 01 20 21.0 +0.7
baz=79
N32A Stulken Farm, 78.43 340 ⇑P P 01 20 21.2 +0.9
baz=79
WVL Waterville 78.43 2 eP P 01 20 21.7 +1.6
comp=Z,149nm,1.3s
SWSC Sam W. Stewart 78.43 324 ⇑P P 01 20 21.8 +1.3
baz=79
Y12C Blythe 78.47 325 ⇓P P 01 20 22.0 +1.3
baz=79
LONY Lake Ozonia 78.49 358 eP P 01 20 20.6 +0.1
comp=Z,65nm,1.1s
LONY LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 78.50 328 eP P 01 20 22.0 +1.0
comp=Z,42nm,1.1s
WUAZ LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 78.50 328 ⇑P P 01 20 22.4 +1.4
baz=79
JFWS Jewell Farm 78.54 346 eP P 01 20 20.5 -0.3
JFWS pmax pmax
comp=Z,241nm,1.8s
JFWS MLR MLR
comp=Z,2µm,20.0s
JFWS Jewell Farm 78.54 346 eP P 01 20 20.5 -0.3
comp=Z,241nm,1.8s
JFWS LR LR
comp=Z,2µm,20.0s
S22A 4UR Ranch, Cre 78.55 333 ⇓P P 01 20 22.8 +1.4
baz=79,SNR=12
R23A Moffat 78.56 333 ⇓P P 01 20 22.4 +0.9
baz=79,SNR=11
O29A 4D Ranch, Culb 78.58 338 ⇓P P 01 20 22.3 +1.0
baz=79
Q25A Bedland, Calha 78.64 335 ⇓P P 01 20 22.5 +0.8
baz=79,SNR=7.2
P27A Ficken Ranch, 78.64 336 ⇑P P 01 20 22.4 +0.7
baz=79
N31A Bailey Ranch, 78.67 339 ⇑P P 01 20 22.8 +1.1
baz=79
MONP Monument Peak 78.70 323 ⇓P P 01 20 22.9 +0.7
baz=79
MVCO Mesa Verde 78.74 331 eP P 01 20 22.8 +0.4
comp=Z,42nm,1.1s
MVCO LR LR
comp=Z,10µm,19.0s
MVCO Mesa Verde 78.74 331 ⇑P P 01 20 23.4 +1.0
baz=79,SNR=9.7
BC3 Big Chuckawall 78.84 324 ⇑P P 01 20 24.0 +1.1
baz=79
O28A Krutsinger Ran 78.89 337 ⇓P P 01 20 24.4 +1.4
baz=79
P26A Davis Ranch, A 78.90 336 ⇑P P 01 20 24.3 +1.2
baz=79,SNR=6.9
BGNE Belgrade 78.98 340 eP P 01 20 23.2 -0.2
comp=Z,122nm,1.4s
BGNE Belgrade 78.98 340 ⇓P P 01 20 24.6 +1.2
baz=79
N30A Hueftle Ranch, 78.98 339 ⇓P P 01 20 24.7 +1.2
baz=79
Q24A Divide 79.00 334 ⇑P P 01 20 25.7 +1.8
baz=79,SNR=6.8
109C Camp Elliot, M 79.04 323 ⇓P P 01 20 25.6 +1.7
baz=79
HVD Gariep Dam 79.06 119 eP P 01 20 25.4 +0.9
HVD AMB AMB 01 20 28.6
comp=Z,120nm,1.8s
HVD Gariep Dam 79.06 119 P P 01 20 25.4 +0.9
HVD pmax pmax
comp=Z,120nm,1.8s
HVD Gariep Dam 79.06 119 P P 01 20 25.4 +0.9
comp=Z,120nm,1.8s
IRM Iron Mountain 79.11 325 ⇓P P 01 20 25.9 +1.7
baz=79
PKME Peaks-Kenny Pk 79.14 2 PFAKE 01 20 40.0 +16
PKME LR LR
comp=Z,6µm,20.0s
P25A Willow Gulch B 79.14 335 ⇑P P 01 20 25.7 +1.2
baz=80,SNR=24
M31A Lambtecht Ranc 79.16 340 ⇑P P 01 20 25.4 +1.1
baz=80,SNR=6.9
TSUM Tsumeb 79.16 106 eP P 01 20 25.8 +0.6
comp=Z,50nm,1.1s
TSUM LR LR
comp=Z,8µm,21.0s
N29A Votaw Ranch, W 79.17 338 ⇓P P 01 20 25.9 +1.5
baz=80
O27A Beecher Island 79.18 337 ⇓P P 01 20 26.1 +1.5
baz=80
Q23A Hartsel 79.20 334 ⇑P P 01 20 26.1 +1.1
baz=80
W13A Hualapai Mount 79.28 326 ⇑P P 01 20 26.7 +1.2
baz=80
PFO Pinyon Flat Ob 79.29 324 eP P 01 20 25.3 -0.1
PFO MLR MLR
comp=Z,4µm,22.0s
PFO Pinyon Flat Ob 79.29 324 eP P 01 20 25.3 -0.1
PFO LR LR
comp=Z,4µm,22.0s
PFO Pinyon Flat Ob 79.29 324 ⇓P P 01 20 26.3 +0.9
baz=80
N28A Pribbeno Ranch 79.33 338 ⇑P P 01 20 26.3 +1.0
baz=80
P24A Kohler Place, 79.40 335 ⇓P P 01 20 27.1 +1.2
baz=80
O26A Horse Wrangler 79.50 336 ⇓P P 01 20 27.8 +1.4
baz=80,SNR=10
PV01 Paradox Valley 79.57 331 eP P 01 20 27.5 +0.6
comp=Z,3µm,1.2s
M30A Dale-Ortello V 79.60 339 ⇑P P 01 20 27.6 +0.9
baz=80
MURC Murrieta 79.66 323 ⇑P P 01 20 28.3 +1.1
baz=80
O25A Wiggins 79.66 336 ⇓P P 01 20 28.8 +1.6
baz=80
OGNE Ogallala 79.72 337 eP P 01 20 27.4 -0.1
OGNE LR LR
comp=Z,2µm,19.0s
OGNE Ogallala 79.72 337 ⇓P P 01 20 28.7 +1.3
baz=80
M29A Burnside Ranch 79.75 339 ⇑P P 01 20 28.6 +1.0
baz=80
N27A Anderson Farm, 79.76 337 ⇓P P 01 20 28.6 +0.9
baz=80,SNR=5.9
CASY Casey 79.82 181 eP P 01 20 28.2 +0.5
comp=Z,57nm,1.0s
CASY LR LR
comp=Z,5µm,19.0s
LDFC Landfair 79.83 325 eP P 01 20 28.8 +0.5
SMCO Snowmass 79.86 333 eP P 01 20 29.7 +1.0
comp=Z,38nm,1.1s
L31A Butterfield Fa 79.89 340 ⇓P P 01 20 29.1 +0.8
baz=80,SNR=10
ISCO Idaho Springs 79.91 334 eP P 01 20 29.5 +0.7
ISCO pmax pmax
comp=Z,56nm,1.5s
ISCO MLR MLR
comp=Z,3µm,20.0s
ISCO Idaho Springs 79.91 334 eP P 01 20 29.5 +0.7
comp=Z,56nm,1.5s
ISCO LR LR
comp=Z,3µm,20.0s
ISCO Idaho Springs 79.91 334 ⇓P P 01 20 30.0 +1.2
baz=80,SNR=19
M28A Bar X Bar Ranc 79.92 338 ⇑P P 01 20 30.0 +1.5
baz=80
PV04 Paradox Valley 79.92 331 eP P 01 20 29.0 +0.3
L30A Spencer Herefo 79.93 339 ⇓P P 01 20 29.5 +0.9
baz=80,SNR=5.0
BOSA Boshof 79.98 118 eP P 01 20 29.5 0.0
BOSA AMB AMB 01 20 32.4
comp=Z,102nm,1.2s
BOSA Boshof 79.98 118 P P 01 20 29.8 +0.3
comp=Z,52nm,0.9s,baz=228,slow=5.4,SNR=51
BOSA LR LR 01 54 02.9
comp=Z,3µm,18.1s,baz=238,slow=34
BOSA Boshof 79.98 118 eP P 01 20 29.5 0.0
comp=Z,90nm,1.0s
N26A Koester Ranch, 80.00 336 ⇑P P 01 20 30.2 +1.2
baz=80
O24A Longmont 80.00 335 ⇑P P 01 20 30.3 +1.2
baz=80
P22A Eagle 80.14 333 ⇓P P 01 20 31.4 +1.4
baz=80,SNR=8.2
HEC Hector,Ludlow 80.22 324 ⇓P P 01 20 31.7 +1.4
baz=80
L29A Maesberg Ranch 80.26 339 ⇓P P 01 20 31.5 +1.1
baz=81,SNR=8.2
N25A Grover 80.28 336 ⇑P P 01 20 32.1 +1.5
baz=81
M27A Reverse DX Ran 80.36 337 ⇓P P 01 20 31.9 +0.9
baz=81
O23A Lake Granby, G 80.38 334 ⇓P P 01 20 32.5 +1.1
baz=81,SNR=5.9
TUQ Turquoise Moun 80.51 325 ⇑P P 01 20 33.0 +1.0
baz=81
N24A Carr 80.56 335 ⇑P P 01 20 33.3 +1.2
baz=81
O22A Kremmling 80.56 334 ⇓P P 01 20 33.1 +0.8
baz=81,SNR=15
K30A Basset 80.57 340 ⇑P P 01 20 32.8 +0.9
baz=81,SNR=9.6
DECC Green Verdugo 80.74 323 ⇓P P 01 20 33.5 +0.4
baz=81
ECSD EROS Data Cent 80.74 342 eP P 01 20 32.7 -0.2
comp=Z,60nm,0.8s
ECSD LR LR
comp=Z,1µm,20.0s
ECSD EROS Data Cent 80.74 342 ⇑P P 01 20 33.9 +1.1
baz=81,SNR=44
M25A Palm-Egli Farm 80.82 336 ⇑P P 01 20 34.5 +1.0
baz=81,SNR=5.3
SWZ Schweizer 80.82 117 eP P 01 20 33.6 -0.5
SWZ AMB AMB 01 20 50.7
comp=Z,84nm,5.2s
SWZ Schweizer 80.82 117 P P 01 20 33.6 -0.5
comp=Z,84nm,5.2s
GSC Goldstone 80.83 324 eP P 01 20 34.4 +0.8
GSC pmax pmax
comp=Z,35nm,1.3s
GSC Goldstone 80.83 324 eP P 01 20 34.4 +0.8
comp=Z,35nm,1.3s
GSC Goldstone 80.83 324 ⇑P P 01 20 34.4 +0.8
baz=81
K29A Lazy Trails An 80.85 339 ⇓P P 01 20 34.6 +1.1
baz=81,SNR=5.8
N23A Red Feather La 80.99 335 ⇓P P 01 20 35.5 +1.0
baz=81,SNR=9.0
SHPR Sheep Range 81.03 326 eP P 01 20 35.9 +1.2
L26A Underwood Farm 81.04 337 ⇑P P 01 20 35.7 +1.1
baz=81
EDW2 Edwards Air Fo 81.07 323 ⇓P P 01 20 36.2 +1.4
baz=81
CCUT Cedar City 81.08 328 eP P 01 20 36.6 +1.5
comp=Z,43nm,1.1s
N22A Wattenberg Ran 81.09 334 ⇓P P 01 20 36.5 +1.3
baz=81,SNR=13
M24A Cheyenne 81.11 336 ⇓P P 01 20 36.3 +1.2
baz=81,SNR=7.4

K28A Ten Mile Ranch 81.12 339 ⇓P P 01 20 36.2 +1.3
baz=82
J30A Dallas 81.13 340 ⇑P P 01 20 35.8 +0.9
baz=82,SNR=8.6
O20A White River Ci 81.17 333 eP P 01 20 36.0 +0.5
comp=Z,55nm,1.3s
O20A White River Ci 81.17 333 ⇓P P 01 20 36.5 +1.0
baz=82,SNR=6.7
PHWY Pilot Hill 81.18 335 eP P 01 20 36.0 +0.4
comp=Z,159nm,2.0s
SRU San Rafael 81.19 331 eP P 01 20 36.1 +0.5
SRU pmax pmax
comp=Z,24nm,0.9s
SRU San Rafael 81.19 331 eP P 01 20 36.0 +0.5
comp=Z,24nm,0.9s
BSC Santa Cruz Isl 81.20 322 ⇑P P 01 20 35.8 +0.3
baz=82
OSI Osito Adit 81.22 323 eP P 01 20 36.7 +1.0
comp=Z,42nm,0.9s
OSI Osito Adit 81.22 323 ⇑P P 01 20 35.9 +0.3
baz=82
SPMN St. Paul 81.27 345 eP P 01 20 34.8 -0.8
comp=Z,47nm,1.0s
SPMN St. Paul 81.27 345 ⇑P P 01 20 37.0 +1.5
baz=82,SNR=10
ARUT Antelope Range 81.31 328 eP P 01 20 37.0 +0.8
ARUT Antelope Range 81.31 328 eP P 01 20 37.0 +0.8
comp=Z,637nm,1.1s
MVU Marysvale 81.38 329 eP P 01 20 37.3 +0.7
comp=Z,40nm,1.4s
LRMC Laurel Mountai 81.40 324 ⇓P P 01 20 38.4 +1.8
baz=82
M23A Laramie 81.42 335 ⇑P P 01 20 38.0 +1.2
baz=82,SNR=10
L25A Engebretsen Ra 81.44 337 ⇓P P 01 20 37.5 +0.8
baz=82
J29A Okreek 81.44 340 ⇑P P 01 20 37.3 +0.7
baz=82,SNR=30
RUDU RUNDU 81.56 106 eP P 01 20 38.9 +0.8
RUDU AMB AMB 01 20 42.6
comp=Z,124nm,1.9s
RUDU RUNDU 81.56 106 P P 01 20 38.9 +0.8
comp=Z,124nm,1.9s
SBC Santa Barbara 81.59 322 ⇑P P 01 20 38.3 +0.7
baz=82
TMUT Trail Mountain 81.62 330 eP P 01 20 38.5 +0.5
comp=Z,22nm,0.9s
I30A Oacoma 81.66 340 ⇓P P 01 20 39.7 +2.1
baz=82,SNR=15
L24A Wheatland 81.66 336 ⇑P P 01 20 39.2 +1.3
baz=82
K26A Motz Farm, Whi 81.67 337 ⇑P P 01 20 39.4 +1.5
baz=82
M22A Cedar Creek Ra 81.67 334 ⇓P P 01 20 39.6 +1.5
baz=82
ARVC Arvin 81.68 323 ⇑P P 01 20 39.0 +1.0
baz=82
J28A Allard Ranch, 81.73 339 ⇓P P 01 20 39.2 +1.1
baz=82,SNR=9.1
N20A Spence Gulch, 81.79 333 ⇑P P 01 20 39.5 +0.8
baz=82,SNR=10
FURC Furnace Creek, 81.79 325 ⇓P P 01 20 40.3 +1.8
baz=82
J27A Elkhorn Farm, 81.80 338 ⇓P P 01 20 40.1 +1.5
baz=82,SNR=9.7
K25A Mack Ranch, Ha 81.81 337 ⇑P P 01 20 40.3 +1.6
baz=82
SEK Senekal 81.87 119 eP P 01 20 39.9 +0.2
SEK AMB AMB 01 20 43.3
comp=Z,115nm,2.0s
SEK Senekal 81.87 119 P P 01 20 39.9 +0.2
comp=Z,115nm,2.0s
ISA Isabella 81.93 323 eP P 01 20 40.8 +1.4
ISA pmax pmax
comp=Z,50nm,1.3s
ISA Isabella 81.93 323 eP P 01 20 40.8 +1.4
comp=Z,50nm,1.3s
ISA Isabella 81.93 323 ⇑P P 01 20 41.1 +1.7
baz=82
L23A Garrett 81.99 335 ⇑P P 01 20 40.7 +0.9
baz=82,SNR=5.1
I29A Vivian Onida 82.00 340 ⇓P P 01 20 40.1 +0.6
baz=82,SNR=6.9
BRSD Miller 82.02 341 eP P 01 20 39.7 +0.1
comp=Z,58nm,0.8s
BRSD Miller 82.02 341 ⇑P P 01 20 40.2 +0.6
baz=82,SNR=5.8
BFSD Buffelsfontein 82.08 117 eP P 01 20 39.8 -0.9
BFSD AMB AMB 01 20 54.6
comp=Z,91nm,1.9s
BFSD Buffelsfontein 82.08 117 P P 01 20 39.8 -0.9
comp=Z,91nm,1.9s
L22A Ellis Ranch, M 82.17 335 ⇓P P 01 20 41.8 +1.1
baz=82,SNR=5.3
J26A Sides Ranch, S 82.19 338 ⇓P P 01 20 41.9 +1.4
baz=82,SNR=10
LBTB Lobatse 82.22 115 eP P 01 20 39.8 -1.7
LBTB AMB AMB 01 20 44.9
comp=Z,114nm,1.8s
LBTB Lobatse 82.22 115 eP P 01 20 41.8 +0.4
LBTB Lobatse 82.22 115 eP P 01 20 41.8 +0.4
comp=Z,400nm,1.9s
K24A Anderson Ranch 82.22 336 ⇑P P 01 20 42.6 +1.7
baz=83
I28A Midland 82.23 339 ⇓P P 01 20 41.4 +0.6
baz=83,SNR=16
VES Vestal, Richgr 82.37 323 ⇑P P 01 20 42.9 +1.2
baz=83
MPU Maple Canyon 82.41 330 eP P 01 20 42.9 +0.9
comp=Z,111nm,1.8s
GRAC Grapevine Rang 82.46 325 ⇑P P 01 20 43.5 +1.4
baz=83
PRYS Parys 82.47 117 eP P 01 20 42.2 -0.5
PRYS AMB AMB 01 20 46.1
comp=Z,48nm,2.0s
PRYS Parys 82.47 117 P P 01 20 42.2 -0.5
comp=Z,48nm,2.0s
J25A Sunshine Ranch 82.49 337 ⇓P P 01 20 43.5 +1.3
baz=83,SNR=5.2
K23A Bowen Ranch, D 82.53 336 ⇑P P 01 20 43.4 +0.9
baz=83,SNR=12
H29A Onida 82.53 340 ⇑P P 01 20 43.0 +0.8
baz=83,SNR=26
NLU North Lily Min 82.54 330 eP P 01 20 43.2 +0.5
comp=Z,52nm,1.3s
I27A Quinn 82.56 339 ⇓P P 01 20 43.2 +0.7
baz=83,SNR=6.0
DAU Daniels Canyon 82.59 331 eP P 01 20 44.2 +1.2
DAU Daniels Canyon 82.59 331 eP P 01 20 44.2 +1.2
G30A Faulkton 82.70 341 ⇓P P 01 20 44.3 +1.2
baz=83,SNR=11
J24A Dixon Ranch, L 82.72 337 ⇓P P 01 20 44.6 +1.2
baz=83,SNR=7.5
R11A Troy Canyon, C 82.73 327 eP P 01 20 44.8 +1.1
comp=Z,65nm,1.5s
R11A Troy Canyon, C 82.73 327 ⇑P P 01 20 45.1 +1.5
baz=83
KSR Koster 82.73 116 eP P 01 20 43.9 -0.3
KSR AMB AMB 01 20 57.9
comp=Z,50nm,2.7s
KSR Koster 82.73 116 P P 01 20 43.9 -0.3
comp=Z,50nm,2.7s
K22A Casper 82.75 335 eP P 01 20 44.0 +0.4
comp=Z,55nm,1.1s
K22A Casper 82.75 335 ⇑P P 01 20 44.3 +0.7
baz=83,SNR=9.4
I26A New Underwood 82.77 338 ⇓P P 01 20 44.7 +1.1
baz=83
WDLM Western Deep L 82.79 117 eP P 01 20 45.2 +0.7
WDLM AMB AMB 01 20 48.2
comp=Z,52nm,2.2s
H28A Mission Ridge 82.81 340 ⇑P P 01 20 45.0 +1.3
baz=83,SNR=25
RCTC Rector, Farmer 82.82 323 ⇑P P 01 20 45.4 +1.4
baz=83
JLU Jordanelle 82.83 331 eP P 01 20 44.4 +0.1
comp=Z,19nm,1.0s
TIN Tinemaha 82.92 324 ⇓P P 01 20 45.8 +1.2
baz=83
G29A Hoven 82.97 341 ⇑P P 01 20 45.2 +0.6
baz=83,SNR=9.5
K21A Alcova 82.98 335 ⇑P P 01 20 45.4 +0.5
baz=83,SNR=22
SNZO South Karori 83.02 224 PFAKE 01 21 00.0 +15
SNZO LR LR
comp=Z,3μm,21.0s
CTU Camp Tracy 83.03 331 eP P 01 20 45.8 +0.7
comp=Z,11nm,0.9s

I25A Rochford 83.03 338 ⇑P P 01 20 45.9 +0.8
baz=83,SNR=15
DUG Dugway 83.05 330 eP P 01 20 45.9 +0.7
DUG pmax pmax
comp=Z,81nm,1.4s
DUG MLR MLR
comp=Z,5μm,19.0s
DUG Dugway 83.05 330 eP P 01 20 45.9 +0.7
comp=Z,81nm,1.4s
DUG LR LR
comp=Z,5μm,19.0s
DUG Dugway 83.05 330 ⇓P P 01 20 46.0 +0.8
baz=83,SNR=17
H27A Howes 83.08 339 ⇓P P 01 20 45.7 +0.5
baz=83,SNR=20
G28A Parade 83.14 340 ⇑P P 01 20 45.9 +0.4
baz=84,SNR=12
I24A Kuemmerle Ranc 83.18 337 ⇓P P 01 20 46.3 +0.6
baz=84,SNR=6.2
RSSD Black Hills 83.22 337 eP P 01 20 46.1 0.0
RSSD pmax pmax
comp=Z,16nm,0.9s
RSSD Black Hills 83.22 337 eP P 01 20 46.0 0.0
comp=Z,16nm,0.9s
TPH Tonopah 83.26 326 eP P 01 20 47.4 +1.0
TPH pmax pmax
comp=Z,44nm,1.1s
TPH Tonopah 83.26 326 eP P 01 20 47.4 +1.0
comp=Z,44nm,1.1s
MTUM Tungsten Hills 83.32 324 epP pP 01 20 56.3 -0.9
F30A Leola 83.32 341 ⇑P P 01 20 46.9 +0.5
baz=84,SNR=11
BKZ Black Stump Fm 83.32 227 eP P 01 20 48.5 +1.7
comp=Z,89nm,1.5s
CRWM Crown Mines 83.34 117 eP P 01 20 47.0 -0.3
CRWM AMB AMB 01 20 49.9
comp=Z,64nm,1.2s
J22A Midwest 83.40 335 ⇑P P 01 20 47.0 0.0
baz=84,SNR=12
ERPM east rand prop 83.44 117 eP P 01 20 45.9 -2.0
ERPM AMB AMB 01 20 48.9
comp=Z,68nm,2.3s
ERPM east rand prop 83.44 117 P P 01 20 45.9 -2.0
comp=Z,68nm,2.3s
RPZ Rata Peaks 83.49 221 eP P 01 20 48.5 +0.9
comp=Z,986nm,2.6s
URZ Urewera 83.52 228 eP P 01 20 48.1 +0.3
comp=Z,24nm,1.0s
H25A Fruitdale 83.53 338 ⇑P P 01 20 48.5 +1.0
baz=84
F29A Eureka 83.54 341 ⇑P P 01 20 48.0 +0.6
baz=84,SNR=19
EYMN Ely 83.62 347 eP P 01 20 47.6 -0.2
comp=Z,51nm,1.0s
EYMN LR LR
comp=Z,2μm,20.0s
MLAC Mammoth Lakes 83.67 324 ⇓P P 01 20 49.8 +1.2
baz=84
J21A Lysite 83.68 335 ⇑P P 01 20 48.9 +0.4
baz=84
G27A Dupree 83.71 339 ⇑P P 01 20 49.2 +0.8
baz=84,SNR=12
HWUT Hardware Ranch 83.73 331 eP P 01 20 48.4 -0.3
comp=Z,58nm,1.1s
HWUT LR LR
comp=Z,8μm,19.0s
BGU Big Grassy Mou 83.75 330 eP P 01 20 49.3 +0.5
comp=Z,30nm,1.6s
F28A McLaughlin 83.82 340 ⇑P P 01 20 49.3 +0.4
baz=84,SNR=11
SLR Silverton 83.82 117 eP P 01 20 49.5 -0.3
SLR AMB AMB 01 21 00.2
comp=Z,77nm,2.1s
SLR Silverton 83.82 117 P P 01 20 49.5 -0.3
SLR pmax pmax
comp=Z,77nm,2.1s
SLR Silverton 83.82 117 P P 01 20 49.5 -0.3
comp=Z,77nm,2.1s
I22A 9 Mile Ranch, 83.83 336 ⇓P P 01 20 49.3 +0.2
baz=84,SNR=16
SPUT South Promonto 83.83 331 eP P 01 20 49.2 -0.1
comp=Z,147nm,1.7s
G26A Maurine 83.83 339 ⇓P P 01 20 49.4 +0.4
baz=84,SNR=14
E30A Jud 83.91 342 ⇑P P 01 20 49.6 +0.3
baz=84,SNR=12
J20A Shoshoni 83.91 334 ⇓P P 01 20 50.1 +0.5
baz=84,SNR=25
PDAR Pinedale Array 83.94 333 P P 01 20 49.2 -0.6
comp=Z,5.2nm,0.8s,baz=166,slow=4.9,SNR=33
PDAR PKKP PKKPbc 01 39 03.4 -3.1
comp=Z,0.6nm,0.7s,baz=149,slow=0.8,SNR=4.1
PDAR LR LR 01 54 42.5
comp=Z,5μm,18.3s,baz=158,slow=33
BW06 Boulder Array 83.94 333 eP P 01 20 49.7 -0.2
comp=Z,15nm,0.9s
BW06 LR LR
comp=Z,6μm,19.0s
H24A Dirks Ranch, A 83.95 337 ⇓P P 01 20 49.8 +0.1
baz=84,SNR=11
NV11 Mina Array Sit 83.98 325 eP P 01 20 50.5 +0.4
G25A Newell 83.99 338 ⇓P P 01 20 50.5 +0.7
baz=84,SNR=5.8
I21A Big Trails, Te 84.03 335 ⇓P P 01 20 50.2 0.0
baz=84,SNR=11
NVAR Mina Array Bea 84.05 325 P P 01 20 51.0 +0.5
comp=Z,8.2nm,0.8s,baz=158,slow=6.2,SNR=47
NVAR PKKPbc PKKPbc 01 39 05.6 -0.3
comp=Z,1.0nm,0.9s,baz=342,slow=2.0,SNR=4.3
DRLN Deer Lake 84.09 10 eP P 01 20 50.8 +0.7
E29A Napoleon 84.16 341 ⇑P P 01 20 50.8 +0.2
baz=84,SNR=10.0
J19A Crowheart 84.19 334 ⇓P P 01 20 51.2 +0.1
baz=84,SNR=25
F27A Lemmon 84.19 339 ⇑P P 01 20 51.2 +0.4
baz=84,SNR=34
TOA0 Torodi Ar. Sit 84.28 70 eP P 01 20 51.7 -0.2
TORD Torodi Ar. Bea 84.28 70 P P 01 20 52.0 +0.1
comp=Z,46nm,0.9s,baz=249,slow=4.6,SNR=107
TORD LR LR 01 57 36.2
comp=Z,7μm,18.6s,baz=235,slow=35
HVU Hansel Valley 84.36 331 eP P 01 20 52.0 +0.1
HVU pmax pmax
comp=Z,36nm,1.1s
HVU Hansel Valley 84.36 331 eP P 01 20 52.0 +0.1
comp=Z,36nm,1.1s
F26A Lodgepole 84.36 339 ⇓P P 01 20 52.0 +0.3
baz=85,SNR=15
H22A Clearmont 84.40 336 ⇓P P 01 20 52.0 0.0
baz=85,SNR=5.4
G24A Alzada 84.42 338 ⇓P P 01 20 52.7 +0.6
baz=85
D30A Buchanan 84.43 342 ⇑P P 01 20 52.2 +0.3
baz=85,SNR=26
I20A Worland 84.45 335 ⇓P P 01 20 52.7 +0.4
baz=85,SNR=16
E28A Huff 84.45 341 ⇑P P 01 20 52.5 +0.4
baz=85,SNR=6.3
AHID Auburn Hatcher 84.53 332 PFAKE 01 21 00.0 +7.2
AHID LR LR
comp=Z,5μm,20.0s
ELK Elko 84.53 329 eP P 01 20 53.4 +0.5
ELK pmax pmax
comp=Z,23nm,1.0s
ELK Elko 84.53 329 eP P 01 20 53.4 +0.5
comp=Z,23nm,1.0s
E27A Carson 84.56 340 ⇑P P 01 20 53.0 +0.3
baz=85,SNR=8.1
D29A Pettibone, Tap 84.61 341 ⇓P P 01 20 53.2 +0.4
baz=85,SNR=14
G23A Biddle 84.62 337 ⇑P P 01 20 53.1 0.0
baz=85,SNR=7.5
WAKR Walker 84.65 325 eP P 01 20 54.5 +1.0
H21A Big Horn, Sher 84.66 336 ⇓P P 01 20 53.7 +0.3
baz=85
F25A Bowman 84.66 339 ⇓P P 01 20 53.6 +0.4
baz=85,SNR=9.4
CMB Columbia Colle 84.74 324 eP P 01 20 54.7 +0.9
CMB pmax pmax
comp=Z,21nm,1.1s
CMB Columbia Colle 84.74 324 eP P 01 20 54.7 +0.9
comp=Z,21nm,1.1s
I19A Meeteetse 84.83 334 ⇓P P 01 20 54.6 +0.3
baz=85,SNR=15
AGMN Agassiz Nation 84.85 344 eP P 01 20 53.6 -0.4
comp=Z,38nm,0.9s
AGMN LR LR
comp=Z,2μm,19.0s

AGMN Agassiz Nation 84.85 344 ⇑P P 01 20 54.6 +0.6
baz=85,SNR=17
E26A Carlson Angus 84.86 339 ⇑P P 01 20 54.5 +0.3
baz=85,SNR=8.5
H20A Greybull 84.87 335 ⇓P P 01 20 54.5 +0.2
baz=85,SNR=31
F24A Ekalaka 84.89 338 ⇓P P 01 20 54.5 +0.1
baz=85,SNR=8.5
C30A Mose, Pekin 84.91 342 ⇑P P 01 20 54.9 +0.6
baz=85,SNR=43
G22A Birney 84.93 336 ⇓P P 01 20 54.7 +0.1
baz=85
REDW Red Top Meadow 84.94 333 eP P 01 20 54.9 0.0
comp=Z,88nm,1.7s
D28A Regan 84.99 341 ⇑P P 01 20 55.4 +0.6
baz=85,SNR=12
LOHW Long Hollow 85.06 333 eP P 01 20 55.4 -0.1
comp=Z,16nm,1.1s
TPAW Teton Pass 85.09 333 eP P 01 20 55.8 +0.1
comp=Z,18nm,0.9s
F23A Volborg 85.09 337 ⇑P P 01 20 55.5 +0.1
baz=85,SNR=9.3
BMN Battle Mountai 85.16 327 eP P 01 20 55.8 -0.1
BMN pmax pmax
comp=Z,38nm,1.9s
BMN Battle Mountai 85.16 327 eP P 01 20 55.8 -0.1
comp=Z,38nm,1.9s
D27A Center 85.17 340 ⇑P P 01 20 56.3 +0.6
baz=86,SNR=5.5
FXWY Fox Creek 85.24 333 eP P 01 20 56.3 -0.1
comp=Z,45nm,1.8s
G21A Lodge Grass 85.24 336 ⇑P P 01 20 56.6 +0.4
baz=86,SNR=7.2
I17A Pilgrim Ck. 85.31 333 ⇓P P 01 20 57.6 +0.8
baz=86,SNR=18
D26A Manning 85.36 340 ⇑P P 01 20 57.2 +0.5
baz=86,SNR=14
H19A Powell 85.38 335 ⇓P P 01 20 57.3 +0.4
baz=86,SNR=16
F22A Rosebud 85.42 337 ⇑P P 01 20 57.4 +0.4
baz=86,SNR=7.2
C28A Hausauer Farms 85.42 341 ⇑P P 01 20 57.6 +0.7
baz=86
IMW Indian Meadow 85.43 333 eP P 01 20 57.5 +0.1
comp=Z,30nm,1.0s
MSKU Masuku 85.48 89 PFAKE 01 21 10.0 +12
MSKU LR LR
comp=Z,2.0nm,22.0s
E24A Baker 85.49 338 ⇓P P 01 20 58.4 +1.0
baz=86,SNR=6.7
FLWY Flagg Ranch 85.50 333 eP P 01 20 56.4 -1.3
comp=Z,286nm,2.0s
B30A Myrvik Farm, E 85.57 343 ⇓P P 01 20 57.9 +0.3
baz=86,SNR=48
G20A Bridger 85.58 335 ⇓P P 01 20 57.9 0.0
baz=86,SNR=36
H18A Shoshone NF, C 85.63 334 ⇑P P 01 20 58.6 +0.3
baz=86,SNR=55
H17A Grant Village 85.72 333 eP P 01 21 00.1 +1.3
comp=Z,17nm,1.1s
H17A Grant Village 85.72 333 ⇑P P 01 21 00.1 +1.3
baz=86,SNR=6.8
C27A Sayler Ranch, 85.72 341 ⇑P P 01 20 59.2 +0.8
baz=86,SNR=14
D25A Fairfield 85.73 339 ⇑P P 01 20 59.6 +1.1
baz=86
F21A Absaloka Mine, 85.74 336 ⇑P P 01 20 58.8 +0.2
baz=86,SNR=6.1
E23A Ismay 85.75 338 ⇓P P 01 20 59.2 +0.6
baz=86
LKWY Lake 85.80 334 PFAKE 01 21 10.0 +11
LKWY LR LR
comp=Z,5μm,19.0s
B29A Wagenman Farm, 85.84 342 ⇑P P 01 20 59.4 +0.5
baz=86,SNR=13
YFT Old Faithful 85.86 333 eP P 01 21 01.4 +1.9
comp=Z,26nm,0.9s
RLMT Red Lodge 85.87 335 eP P 01 20 59.2 -0.3
comp=Z,58nm,1.2s
RLMT LR LR
comp=Z,2μm,20.0s
E22A Miles City 85.90 337 ⇓P P 01 21 00.2 +0.8
baz=86,SNR=9.0
C26A Wahner Farm, P 85.99 340 ⇑P P 01 21 00.4 +0.7
baz=86,SNR=7.8
D24A Glendive 86.00 339 ⇓P P 01 21 00.5 +0.7
baz=86,SNR=9.9
A30A Hoffart Farm, 86.02 343 ⇓P P 01 21 01.4 +1.5
baz=86,SNR=26
YNR Norris Junctio 86.03 333 eP P 01 21 05.3 +4.9
comp=Z,16nm,1.1s
F20A Billings 86.07 336 ⇑P P 01 21 01.5 +1.2
baz=86,SNR=6.8
B28A Dugan Ranch, T 86.09 342 ⇓P P 01 21 00.7 +0.6
baz=86,SNR=9.1
YMR Madison River 86.10 333 eP P 01 21 01.6 +0.9
comp=Z,78nm,1.0s
LAO LASA Array 86.21 337 eP P 01 21 00.9 0.0
comp=Z,48nm,1.0s
LAO LR LR
comp=Z,2μm,19.0s
C25A Freed Ranch, W 86.22 339 ⇑P P 01 21 01.7 +0.8
baz=86
A29A Manning Farm, 86.23 342 ⇓P P 01 21 01.9 +1.0
baz=87,SNR=20
B27A Peters Farms, 86.29 341 ⇑P P 01 21 01.9 +0.7
baz=87
OHCM Honcut 86.29 324 eP P 01 21 02.1 +0.7
D23A Lindsay 86.32 338 ⇓P P 01 21 01.7 +0.2
baz=87,SNR=31
E21A Keefer Ranch, 86.36 337 ⇑P P 01 21 01.8 +0.2
baz=87,SNR=6.4
F19A Roth Farm, Mol 86.39 335 ⇓P P 01 21 02.2 +0.3
baz=87,SNR=18
C24A Savage 86.40 339 ⇑P P 01 21 02.5 +0.8
baz=87,SNR=39
QLMT Earthquake Lak 86.41 333 eP P 01 21 02.6 +0.4
A28A Rude Farm, Bot 86.49 342 ⇑P P 01 21 02.5 +0.3
baz=87
HLID Hailey 86.51 331 eP P 01 21 03.3 +0.7
comp=Z,37nm,1.3s
HLID LR LR
comp=Z,2μm,22.0s
HLID Hailey 86.51 331 ⇓P P 01 21 03.1 +0.5
baz=87,SNR=19
B26A Jensen Ranch, 86.53 340 ⇑P P 01 21 02.9 +0.5
baz=87
GCMT Greycliff 86.59 335 eP P 01 21 02.4 -0.5
comp=Z,15nm,0.9s
D22A Cohagen 86.60 337 ⇑P P 01 21 03.2 +0.4
baz=87,SNR=11
E20A Meyer Farm, Mu 86.67 336 ⇓P P 01 21 03.6 +0.4
baz=87,SNR=52
B25A Knox Farm, Ray 86.69 340 ⇓P P 01 21 04.7 +1.5
baz=87,SNR=10.0
ULM Lac du Bonnet 86.69 345 eP P 01 21 02.4 -0.7
ULM Lac du Bonnet 86.69 345 P P 01 21 02.2 -0.9
comp=Z,21nm,0.9s,baz=158,slow=3.3,SNR=25
ULM Lac du Bonnet 86.69 345 eP P 01 21 02.4 -0.7
A27A Ledoux Ranch, 86.78 341 ⇑P P 01 21 04.9 +1.3
baz=87
D21A La Casta Ranch 86.79 337 ⇑P P 01 21 04.6 +0.9
baz=87,SNR=6.1
E19A Rath Farm, Rou 86.86 336 ⇑P P 01 21 04.4 +0.2
baz=87,SNR=33
C23A Lambert 86.87 338 ⇑P P 01 21 04.5 +0.3
baz=87,SNR=33
A26A Wade Farm, Ken 86.95 341 ⇓P P 01 21 04.9 +0.5
baz=87,SNR=9.2
MCMT McKenzie Canyo 86.95 332 eP P 01 21 05.4 +0.6
comp=Z,42nm,1.4s
MFID Camas Ranch 86.97 330 eP P 01 21 04.3 -0.5
comp=Z,19nm,1.0s
C22A Vida 87.04 338 ⇑P P 01 21 05.4 +0.5
baz=87,SNR=14
MSNA Messina 87.07 115 eP P 01 21 04.3 -1.5
MSNA AMB AMB 01 21 15.0
comp=Z,57nm,4.8s
MSNA Messina 87.07 115 P P 01 21 04.3 -1.5
comp=Z,57nm,4.8s
DGMT Dagmar 87.17 339 eP P 01 21 05.2 -0.3
comp=Z,139nm,1.0s
DGMT LR LR
comp=Z,1μm,20.0s
DGMT Dagmar 87.17 339 ⇓P P 01 21 06.3 +0.8
baz=88,SNR=28
BOZ Bozeman (W) 87.18 333 eP P 01 21 05.5 -0.3
BOZ pmax pmax

comp=Z,12nm,1.0s
BOZ MLR MLR
comp=Z,4µm,20.0s
BOZ Bozeman (W) 87.18 333 *e*P **P 01 21 05.5 -0.3**
comp=Z,12nm,1.0s
BOZ LR LR
comp=Z,4µm,20.0s
D20A Manuel Ranch, 87.19 336 ⇑P **P 01 21 06.0 +0.3**
baz=88,SNR=26
A25A Svangstu Ranch 87.28 340 ⇑P **P 01 21 06.6 +0.6**
baz=88,SNR=5.7
DLMT Dillon 87.30 333 *e*P **P 01 21 07.4 +1.0**
comp=Z,43nm,1.3s
XMAS Kiritimati 87.33 274 PFAKE 01 21 20.0 +13
XMAS LR LR
comp=Z,4µm,19.0s
WVOR Wild Horse Val 87.39 327 *e*P **P 01 21 07.6 +0.7**
WVOR pmax pmax
comp=Z,44nm,1.3s
WVOR MLR MLR
comp=Z,4µm,19.0s
WVOR Wild Horse Val 87.39 327 *e*P **P 01 21 07.6 +0.7**
comp=Z,44nm,1.3s
WVOR LR LR
comp=Z,4µm,19.0s
B23A Brockton 87.40 339 ⇑P **P 01 21 06.9 +0.2**
baz=88,SNR=10
LCCM Lewis and Clar 87.43 333 P **P 01 21 07.5 +0.5**
C21A Desert Coulee 87.49 337 ⇓P **P 01 21 07.7 +0.6**
baz=88,SNR=29
D19A Cripps Ranch, 87.50 336 ⇓P **P 01 21 07.4 +0.1**
baz=88,SNR=7.8
A24A Westby 87.52 340 ⇓P **P 01 21 08.1 +0.8**
baz=88,SNR=6.4
B22A Reddig Ranch S 87.56 338 ⇓P **P 01 21 08.2 +0.8**
baz=88
LRM Limekiln Ridge 87.63 333 *e*P **P 01 21 08.5 +0.4**
C20A Veseth Ranch, 87.69 337 ⇑P **P 01 21 08.5 +0.5**
baz=88,SNR=11
MOD Modoc 87.73 326 *e*P **P 01 21 08.8 +0.3**
comp=Z,32nm,1.0s
WDC Whiskeytown Da 87.77 324 *e*P **P 01 21 08.2 -0.3**
WDC pmax pmax
comp=Z,29nm,0.9s
WDC Whiskeytown Da 87.77 324 *e*P **P 01 21 08.2 -0.3**
comp=Z,29nm,0.9s
A23A Redstone 87.81 339 ⇓P **P 01 21 09.1 +0.5**
baz=88
B21A Ellsworth Farm 88.00 338 ⇑P **P 01 21 10.0 +0.5**
baz=88,SNR=6.1
C19A Slack Wire Ran 88.06 336 ⇓P **P 01 21 10.2 +0.3**
baz=88,SNR=7.8
N02D Trinity Center 88.15 324 ⇑P **P 01 21 11.3 +0.8**
baz=88
A22A Carney Farms, 88.15 338 ⇑P **P 01 21 10.8 +0.6**
baz=88,SNR=27
HRY Holter Researc 88.15 334 *e*P **P 01 21 11.2 +0.8**
B20A Solberg Farm, 88.33 337 ⇑P **P 01 21 11.8 +0.7**
baz=89,SNR=15
M04C Macdoel 88.36 325 ⇑P **P 01 21 12.5 +1.0**
baz=89
A21A Bergtoll Ranch 88.46 338 ⇑P **P 01 21 12.2 +0.5**
baz=89
M02C Callahan 88.54 324 ⇑P **P 01 21 13.2 +0.8**
baz=89
EGMT Eagleton 88.54 336 *e*P **P 01 21 12.0 -0.2**
comp=Z,23nm,1.1s
EGMT LR LR
comp=Z,1µm,20.0s
EGMT Eagleton 88.54 336 ⇓P **P 01 21 12.4 +0.2**
baz=89,SNR=7.0
LAMM Antelope Mount 88.60 325 P **P 01 21 12.9 +0.2**
B19A Brinkman Farms 88.64 336 ⇑P **P 01 21 12.8 +0.3**
baz=89,SNR=5.9
K05A Summer Lake 88.65 326 *e*P **P 01 21 14.4 +1.5**
comp=Z,94nm,1.2s
A20A Cobblestone Ra 88.68 337 ⇑P **P 01 21 13.4 +0.6**
baz=89,SNR=15
YBH Yreka Blue Hor 88.73 325 *e*P **P 01 21 13.0 -0.2**
YBH pmax pmax
comp=Z,19nm,1.1s
YBH Yreka Blue Hor 88.73 325 P **P 01 21 12.7 -0.6**
comp=Z,13nm,0.9s,baz=106,slow=5.5,SNR=19
YBH Yreka Blue Hor 88.73 325 *e*P **P 01 21 13.0 -0.2**
comp=Z,19nm,1.1s
BMO Blue Mountains 88.76 330 *e*P **P 01 21 13.4 +0.1**
comp=Z,27nm,1.3s
BMO LR LR
comp=Z,4µm,20.0s
SCHQ Schefferville 88.79 3 P **P 01 21 12.3 -0.7**
comp=Z,8.9nm,0.9s,baz=161,slow=3.2,SNR=7.1
SCHQ LR LR 02 01 35.4
comp=Z,2µm,21.1s,baz=184,slow=36
SCHQ Schefferville 88.79 3 *e*P **P 01 21 12.9 -0.2**
CHMT Chamberlain Mo 88.85 333 *e*P **P 01 21 14.4 +0.6**
K04D Chiloquin, OR 88.97 326 ⇓P **P 01 21 15.7 +1.3**
baz=89
A19A Klindworth Far 88.99 337 ⇑P **P 01 21 15.3 +1.0**
baz=89,SNR=6.8
MSO Missoula 89.04 333 *e*P **P 01 21 17.2 +2.6**
comp=Z,35nm,1.6s
MSO Missoula 89.04 333 ⇑P **P 01 21 15.7 +1.2**
baz=89
I07A Izee 89.09 328 *e*P **P 01 21 15.8 +0.9**
comp=Z,65nm,1.5s
SLMT Seeley Lake 89.22 333 *e*P **P 01 21 15.9 +0.5**
J05D Fort Rock, OR 89.24 326 ⇑P **P 01 21 16.7 +1.1**
baz=90
PINOR Pine Mountain 89.49 327 *e*P **P 01 21 17.7 +1.2**
comp=Z,72nm,1.5s
J04D Umpqua Nationa 89.61 326 ⇑P **P 01 21 18.5 +1.0**
baz=90
SWMT Swartz Lake 89.63 333 *e*P **P 01 21 17.8 +0.5**
F10A Beach Ranch, E 89.64 330 *e*P **P 01 21 18.5 +1.1**
comp=Z,32nm,1.3s
LSZ Lusaka 89.75 108 *e*P **P 01 21 17.7 -1.0**
LSZ pmax pmax
comp=Z,31nm,1.0s
LSZ MLR MLR
comp=Z,9µm,21.0s
LSZ Lusaka 89.75 108 *e*P **P 01 21 17.7 -1.0**
comp=Z,31nm,1.0s
LSZ LR LR
comp=Z,9µm,21.0s
G08A Pilot Rock 89.81 329 *e*P **P 01 21 19.1 +0.9**
comp=Z,76nm,2.1s
YBMT Yellow Bay 89.93 333 *e*P **P 01 21 18.1 -0.6**
JTMT Jette 89.93 333 *e*P **P 01 21 18.3 -0.4**
I05D Terrebonne, OR 90.11 327 ⇑P **P 01 21 21.2 +1.6**
baz=90
AFI Afiamalu 90.14 253 PFAKE 01 21 30.0 +9.5
AFI LR LR
comp=Z,189µm,22.0s
BLMT Blacktail Moun 90.18 333 *e*P **P 01 21 20.5 +0.5**
BSMT Bassoo Peak 90.21 333 *e*P **P 01 21 20.5 +0.4**
PAF Port-aux-Franc 90.30 156 P P 01 21 04.0 -17
PAF Port-aux-Franc 90.30 156 S **SKSac 01 31 54.0 +4.8**
PAF R 01 51 00.0
PAF Port-aux-Franc 90.30 156 P P 01 21 04.0 -17
PAF Port-aux-Franc 90.30 156 S **SKSac 01 31 54.0 +4.8**
PAF R 01 51 00.0
E09A Wood Farm, Sta 90.45 330 *e*P **P 01 21 22.7 +1.7**
comp=Z,16nm,1.3s
G06A Carlson Farm, 90.50 328 *e*P **P 01 21 22.6 +1.3**
comp=Z,57nm,1.5s
H04A Detroit Lake 90.76 327 *e*P **P 01 21 23.0 +0.5**
comp=Z,106nm,2.0s
G05D Wamic, OR 90.80 328 ⇓P **P 01 21 24.0 +1.3**
baz=91
WALA Waterton Lakes 90.89 334 *e*P **P 01 21 23.1 0.0**
HAWA Hanford 90.93 329 *e*P **P 01 21 24.2 +0.9**
comp=Z,44nm,1.4s
HAWA LR LR
comp=Z,3µm,22.0s
E07A Sunnyside 91.20 329 *e*P **P 01 21 25.4 +0.9**
comp=Z,86nm,2.3s
D08A Wollman Farm, 91.20 330 *e*P **P 01 21 25.1 +0.6**
comp=Z,26nm,1.4s
OD2 Odessa Site #2 91.38 330 P **P 01 21 25.9 +0.6**
NEW Newport 91.45 332 *e*P **P 01 21 25.3 -0.4**
NEW pmax pmax
comp=Z,15nm,1.3s
NEW MLR MLR
comp=Z,3µm,19.0s
NEW Newport 91.45 332 P **P 01 21 24.7 -1.0**
comp=Z,3.4nm,1.0s,baz=93,slow=5.8,SNR=5.7
NEW Newport 91.45 332 *e*P **P 01 21 25.3 -0.4**
comp=Z,15nm,1.3s
NEW LR LR
comp=Z,3µm,19.0s
C09A Chrisman Ranch 91.53 331 *e*P **P 01 21 26.6 +0.6**
comp=Z,58nm,1.6s
ASR Mount Adams--S 91.63 328 P **P 01 21 27.7 +1.1**
LTY Liberty 92.09 329 *e*P P 01 21 37.1 +8.4
comp=Z,59nm,2.0s
WTV Waterville 92.14 330 P **P 01 21 29.3 +0.4**
LON Longmire 92.19 328 *e*P **P 01 21 28.5 -0.7**
LON pmax pmax
comp=Z,13nm,1.2s
LON Longmire 92.19 328 *e*P **P 01 21 28.5 -0.7**
comp=Z,13nm,1.2s
ETW Entiat 92.22 330 P **P 01 21 29.8 +0.4**
FFC Flin Flon 92.25 343 *e*P **P 01 21 28.2 -0.9**
FFC pmax pmax
comp=Z,20nm,1.4s
FFC MLR MLR
comp=Z,2µm,21.0s
FFC Flin Flon 92.25 343 *e*P **P 01 21 28.2 -0.9**
comp=Z,20nm,1.4s
FFC LR LR
comp=Z,2µm,21.0s
B08A Colville Reser 92.41 331 *e*P **P 01 21 30.6 +0.5**
comp=Z,24nm,1.4s
TAM Tamanrasset 92.92 64 *e*P **P 01 21 33.4 +0.2**
TAM pmax pmax
comp=Z,15nm,1.0s
TAM MLR MLR
comp=Z,5µm,22.0s
TAM Tamanrasset 92.92 64 *e*P **P 01 21 33.4 +0.2**
comp=Z,15nm,1.0s
TAM LR LR
comp=Z,5µm,22.0s
NLWA Neilton Lookou 93.58 328 PFAKE 01 21 50.0 +14
NLWA LR LR
comp=Z,3µm,21.0s
EDM Edmonton 94.17 337 *e*P **P 01 21 36.2 -1.9**
EDM Edmonton 94.17 337 *e*P **P 01 21 36.2 -1.9**
FCC Fort Churchill 94.43 349 *e*P **P 01 21 39.0 -0.1**
FCC Fort Churchill 94.43 349 *e*P **P 01 21 39.0 -0.1**
MTE Manteigas 95.09 44 PFAKE 01 21 50.0 +7.3
MTE LR LR
comp=Z,7µm,22.0s
TAU Tasmania Unive 95.23 208 PFAKE 01 22 00.0 +17
TAU LR LR
comp=Z,2µm,21.0s
POHA Pohakuloa 95.71 290 PFAKE 01 22 00.0 +14
POHA LR LR
comp=Z,3µm,22.0s
MSVF Nonsavu 95.71 244 PFAKE 01 22 00.0 +14
MSVF LR LR
comp=Z,4µm,20.0s
PAB San Pablo 96.41 46 PFAKE 01 22 00.0 +11
PAB LR LR
comp=Z,4µm,19.0s
ESDC Sonseca Array 96.72 46 P **P 01 21 49.9 -0.3**
comp=Z,2.7nm,0.9s,baz=242,slow=4.6,SNR=5.8
ESDC LR LR 02 05 59.9
comp=Z,2µm,18.0s,baz=245,slow=36
CAN Canberra 100.90 213 PFAKE 01 22 20.0 +11
CAN LR LR
comp=Z,1µm,19.0s
DZM Mont Dzumac 101.11 234 *e*SS SS 01 41 07.9 +22
comp=Z,2µm,23.7s
DZM Mont Dzumac 101.11 234 *e*LR LR 01 55 35.5
comp=Z,5µm,28.6s
ABPO Ambohimpanom 101.66 123 PFAKE 01 22 20.0 +7.0
ABPO LR LR
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 102.20 8 PFAKE 01 22 30.0 +16
SFJD LR LR
comp=Z,2µm,19.0s
YKA Yellowknife Ar 102.25 341 P **Pdif 01 22 13.2 -0.9**
YKA 01 26 35.0
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 102.25 341 P **Pdif 01 22 13.2 -0.9**
comp=Z,2.0nm,0.8s,baz=140,slow=4.4,SNR=30
YKA PP **PKiKP 01 26 35.0 -0.9**
comp=Z,1.1nm,1.0s,baz=140,slow=8.2,SNR=5.5
WRAK Wrangell Islan 103.71 330 PFAKE 01 22 30.0 +9.2
WRAK LR LR
comp=Z,2µm,22.0s
VSL Villasalto 105.00 52 PFAKE 01 22 40.0 +13
VSL LR LR
comp=Z,3µm,20.0s
SSB Saint Sauveur 105.10 45 PFAKE 01 26 50.0
SSB LR LR
comp=Z,4µm,19.0s
KMBO Kilima Mbogo 105.24 102 PFAKE 01 26 50.0
KMBO LR LR
comp=Z,4µm,21.0s
RER Riviere de l'E 105.86 130 PFAKE 01 27 00.0
RER LR LR
comp=Z,2µm,20.0s
BNI Bardonecchia 106.25 46 PFAKE 01 27 00.0
BNI LR LR
comp=Z,4µm,20.0s
WDD Wield Dalam 106.62 58 PFAKE 01 27 00.0
WDD LR LR
comp=Z,13µm,20.0s
ESK Eskdalemuir 106.75 34 PFAKE 01 27 00.0
ESK LR LR
comp=Z,4µm,19.0s
VLC Villacollemand 108.05 49 PFAKE 01 27 00.0
VLC LR LR
comp=Z,2µm,20.0s
ECH Echery 108.19 44 PFAKE 01 27 00.0
ECH LR LR
comp=Z,2µm,19.0s
WLF Walferdange 108.37 42 PFAKE 01 27 00.0
WLF LR LR
comp=Z,6µm,20.0s
TUE Stuetta 108.58 46 PFAKE 01 27 00.0
TUE LR LR
comp=Z,3µm,20.0s
CEL Celeste 108.76 56 PFAKE 01 27 00.0
CEL LR LR
comp=Z,10µm,19.0s
BFO Black Forest 108.92 44 PFAKE 01 27 00.0
BFO LR LR
comp=Z,3µm,20.0s
CUC Castrocucco 109.54 55 PFAKE 01 27 00.0
CUC LR LR
comp=Z,4µm,19.0s
TIP Timpagrande 109.79 56 PFAKE 01 27 00.0
TIP LR LR
comp=Z,6µm,21.0s
TARA Tarawa 111.33 257 PFAKE 01 27 10.0
TARA LR LR
comp=Z,3µm,22.0s
BMRM Bremner River 111.55 330 *e*PKP **PKiKP 01 26 53.5 +0.1**
EGAK Eagle 112.27 334 PFAKE 01 27 10.0
EGAK LR LR
comp=Z,2µm,19.0s
GERES GERESS Array B 112.30 45 *i* PKIKP **PKiKP 01 26 54.6 -0.6**
GERES pmax pmax
comp=Z,2.0nm,0.9s
GERES GERESS Array B 112.30 45 PKiKP **PKiKP 01 26 54.5 -0.6**
comp=Z,1.6nm,0.9s,baz=201,slow=1.1,SNR=7.8
NWAO Narrogin (SRO) 112.66 188 PFAKE 01 27 10.0
NWAO LR LR
comp=Z,1.0nm,19.0s
CLL Collm 113.00 43 *e*PKIKP **PKiKP 01 26 57.0 +0.7**
CLL *e* 01 27 52.0
CLL MLR MLR
comp=Z,3µm,21.2s
CLL Collm 113.00 43 *e*PKiKP **PKiKP 01 26 57.0 +0.7**
CLL *e*PP PP 01 27 52.0 +5.9
CLL *e*Sdif Sdif 01 35 36.0 +11
CLL *e*PS **PS 01 37 28.0 +6.9**
CLL *e*PPS PPS 01 38 38.0
CLL *e* 01 38 55.0
CLL *e*SS **SS 01 43 29.0 +1.3**
CLL *e*SSS SSS 01 47 30.0
CLL LmV 02 13 00.0
comp=N,1µm,20.9s
CLL LmV 02 13 00.0
comp=E,2µm,21.8s
CLL LmV 02 13 00.0
comp=Z,3µm,21.2s
KDAK Kodiak Island 113.55 325 PFAKE 01 27 10.0
KDAK LR LR
comp=Z,3µm,19.0s
ILAR Eielson Array 114.37 333 PKP PKPdf 01 26 58.2 -0.3
comp=Z,1.6nm,0.8s,baz=186,slow=1.9,SNR=13
ILAR PKKPab **PKKPbc 01 37 39.8 +0.2**
comp=Z,0.4nm,0.8s,baz=288,slow=5.8,SNR=5.0
DPC Dobruska-Polom 114.49 45 *e*PKIKP PKPdf 01 26 59.6 +0.4
DPC *e* 01 27 05.2
DPC Dobruska-Polom 114.49 45 *e*PKP PKPdf 01 26 59.6 +0.4
DPC *ex* x 01 27 05.2
COLA College 114.79 333 PFAKE 01 27 10.0 +11
COLA LR LR
comp=Z,2µm,19.0s
CTAO Charters Tower 114.85 220 PFAKE 01 27 10.0 +9.0
CTAO LR LR
comp=Z,2µm,19.0s
KONO Kongsberg 114.89 34 PFAKE 01 27 10.0 +10
KONO LR LR
comp=Z,2µm,20.0s
MORC Moravsky Berou 114.97 46 *e*PKIKP PKPdf 01 27 00.5 +0.3
MORC Moravsky Berou 114.97 46 *e*PKP PKPdf 01 27 00.5 +0.3
VYHS Vyhne 115.23 47 *e*PKIKP **PKPdf 01 27 00.7 0.0**
VYHS Vyhne 115.23 47 *e*PKP **PKPdf 01 27 00.7 0.0**
OKC Ostrava-Krasne 115.36 46 *e*PKIKP **PKPdf 01 27 01.3 +0.5**
OKC Ostrava-Krasne 115.36 46 *e*PKP **PKPdf 01 27 01.3 +0.5**
PSZ Piszkesteto 115.65 48 PFAKE 01 27 10.0 +8.4
PSZ LR LR
comp=Z,4µm,20.0s
NOA NORSAR Array B 116.20 33 PKKPbc PKKPbc 01 37 35.6 +2.4
comp=Z,1.2nm,0.8s,baz=69,slow=4.6,SNR=3.7
STHS Stebnicka Huta 117.05 47 *e*PKIKP **PKPdf 01 27 04.7 +0.5**
STHS Stebnicka Huta 117.05 47 *e*PKP **PKPdf 01 27 04.7 +0.5**
MIDW Midway 117.16 287 PFAKE 01 27 20.0 +15
MIDW LR LR
comp=Z,3µm,19.0s
MSEY Mahe Island 117.25 117 PFAKE 01 27 20.0 +14
MSEY LR LR
comp=Z,3µm,19.0s
UZH Uzhgorod 117.41 48 *e*PKIKP PKPdf 01 27 11.1 +6.3
UZH *e* 01 27 21.5
IM04 Indian Mountai 117.50 333 *e*PKPdf **PKPdf 01 27 04.5 0.0**
KOLS Kolonicke sedl 117.50 48 *e*PKIKP **PKPdf 01 27 04.3 -0.8**
KOLS Kolonicke sedl 117.50 48 *e*PKP **PKPdf 01 27 04.3 -0.8**
KWP Kalwaria Pacla 118.02 47 *e*PKIKP **PKPdf 01 27 06.2 +0.2**
KWP MLR MLR
comp=Z,3µm,19.0s
KWP Kalwaria Pacla 118.02 47 *e*PKP **PKPdf 01 27 06.8 +0.8**
KWP Kalwaria Pacla 118.02 47 *e*PKPdf **PKPdf 01 27 06.2 +0.2**
KWP LR LR
comp=Z,3µm,19.0s
BUR08 Bucovina Ar. S 118.88 50 *e*PKPdf **PKPdf 01 27 07.9 +0.1**
ISP Isparta 118.98 62 PFAKE 01 27 20.0 +12
ISP LR LR
comp=Z,3µm,21.0s
SUW Suwalki 119.75 43 *e*PKIKP **PKPdf 01 27 08.7 -0.5**
SUW Suwalki 119.75 43 *e*PKP **PKPdf 01 27 08.5 -0.7**
SUW Suwalki 119.75 43 *e*PKPdf **PKPdf 01 27 08.7 -0.5**
WRA Warramunga Arr 120.58 209 PKIKP **PKPdf 01 27 10.5 -1.5**
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 120.58 209 PKP **PKPdf 01 27 10.5 -1.5**
comp=Z,2.6nm,0.6s,baz=163,slow=1.7,SNR=20
WRAB Tennant Creek 120.58 209 *c i* PKIKP **PKPdf 01 27 11.7 -0.3**
WRAB pmax pmax
comp=Z,44nm,1.7s
WRAB Tennant Creek 120.58 209 *e*PKPdf **PKPdf 01 27 11.0 -1.0**
WRAB LR LR
comp=Z,2µm,20.0s
ANTO Ankara 121.38 61 PFAKE 01 27 20.0 +7.1
ANTO LR LR
comp=Z,2µm,22.0s
BR131 Keskin Array S 121.94 61 *e*PKPdf **PKPdf 01 27 14.0 -0.1**
BRTR Keskin Array B 121.94 61 PKIKP **PKPdf 01 27 13.8 -0.3**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 121.94 61 PKP **PKPdf 01 27 13.8 -0.3**
comp=Z,4.0nm,0.9s,baz=189,slow=3.2,SNR=19
KBS Kingsbay 122.16 13 PFAKE 01 27 20.0 +6.8
KBS LR LR
comp=Z,1µm,21.0s
AK02 Malin Array Si 122.31 48 *e*PKPdf **PKPdf 01 27 12.7 -1.5**
KIEV Kiev 122.32 48 *e*PKIKP **PKPdf 01 27 13.5 -0.7**
KIEV MLR MLR
comp=Z,2µm,19.0s
KIEV Kiev 122.32 48 *e*PKPdf **PKPdf 01 27 13.5 -0.7**
KIEV LR LR
comp=Z,2µm,19.0s
AK01 Malin Array Si 122.32 48 *e*PKPdf **PKPdf 01 27 13.2 -1.0**
AKASG Malin Array Be 122.33 48 PKIKP **PKPdf 01 27 13.0 -1.3**
AKASG 01 28 50.6
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 122.33 48 PKP **PKPdf 01 27 12.9 -1.3**
comp=Z,5.4nm,0.8s,baz=264,slow=2.6,SNR=24
AKASG PP **PP 01 28 50.6 -0.4**
comp=Z,0.2nm,0.2s,baz=252,slow=6.7,SNR=4.9
AKBB Malin Array Si 122.33 48 *e*PKIKP **PKPdf 01 27 13.2 -1.1**
AKBB Malin Array Si 122.33 48 *e*PKPdf **PKPdf 01 27 13.2 -1.1**
MNK Minsk 122.51 43 *e*PKIKP **PKPdf 01 27 11.0 -3.5**
MICGM Minsk 122.54 43 *e* **PKPdf 01 27 11.0 -3.5**
PMG Port Moresby 122.88 228 PFAKE 01 27 30.0 +14
PMG LR LR
comp=Z,2µm,19.0s
TNA Tin City 122.97 330 *e*PKPdf **PKPdf 01 27 15.3 +0.3**
FINES FINESS Array B 123.16 35 PKIKP **PKPdf 01 27 14.5 -1.0**
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 123.16 35 PKP **PKPdf 01 27 14.5 -1.0**
comp=Z,4.7nm,0.9s,baz=128,slow=3.1,SNR=8.3
KAF Kangasniemi 123.40 34 *e*PKIKP **PKPdf 01 27 14.1 -1.8**
KAF pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 123.40 34 *e*p **PKPdf 01 27 14.1 -1.8**
comp=Z,4.8nm,0.8s
MBWA Marble Bar 123.81 193 PFAKE 01 27 30.0 +12
MBWA LR LR
comp=Z,2µm,19.0s
ARCES ARCESS Array B 124.20 25 PKIKP **PKPdf 01 27 16.6 -0.7**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 124.20 25 PKP **PKPdf 01 27 16.6 -0.7**
comp=Z,5.0nm,0.7s,baz=329,slow=2.1,SNR=8.6
GAMB Gambell 124.27 328 *e*PKPdf **PKPdf 01 27 18.1 +0.5**
ADK Adak 124.68 313 PFAKE 01 27 30.0 +11
ADK LR LR
comp=Z,2µm,20.0s
KEV Kevo 124.75 25 PFAKE 01 27 30.0 +12
KEV LR LR
comp=Z,2µm,21.0s
RAYN Ar Rayn 125.02 84 *e*PKPdf **PKPdf 01 27 20.7 +0.4**
H11S2 WAKE ISLAND Hy125.76 269 T T 03 45 52.0
baz=119,slow=74,SNR=5.6
H11S1 WAKE ISLAND Hy125.78 269 T T 03 45 51.7
baz=119,slow=74,SNR=11
H11S3 WAKE ISLAND Hy125.78 269 T T 03 45 44.9
baz=119,slow=74,SNR=8.3
JOF Joensuu 125.81 33 *e*PKIKP **PKPdf 01 27 19.6 -0.9**
JOF pmax pmax
comp=Z,6.0nm,0.8s
JOF Joensuu 125.81 33 *e*p **PKPdf 01 27 19.6 -0.9**
comp=Z,5.6nm,0.8s
H11N3 WAKE ISLAND Hy126.18 270 T T 03 46 16.5
baz=115,slow=78,SNR=3.8
WAKE Wake Island 126.19 270 PFAKE 01 27 30.0 +7.4
WAKE LR LR
comp=Z,3µm,19.0s
H11N1 WAKE ISLAND Hy126.19 270 T T 03 46 15.8
baz=115,slow=78,SNR=9.9
H11N2 WAKE ISLAND Hy126.20 270 T T 03 46 16.5
baz=115,slow=78,SNR=7.4
DGAR Diego Garcia 126.69 134 PFAKE 01 27 40.0 +16
DGAR LR LR
comp=Z,2µm,20.0s
LVZ Lovozero 127.45 27 PFAKE 01 27 40.0 +16
LVZ LR LR
comp=Z,2µm,22.0s
OBN Obninsk 127.59 43 *i* PKIKP **PKPdf 01 27 23.8 -0.3**
OBN *e* 01 29 23.0
OBN *e*SS SS 01 46 49.8 +15
OBN pmax pmax
comp=Z,34nm,1.7s
OBN Obninsk 127.59 43 *e*PKPdf **PKPdf 01 27 24.1 0.0**
OBN LR LR
comp=Z,4µm,20.0s

MOS Moscow 128.26 43 ePKIKP PKPdf 01 27 23.3 -2.1
MOS e 01 27 35.3
MOS e 01 29 34.8
VSR Storozhevoye 128.58 49 ePKIKP PKPdf 01 27 24.5 -1.7
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 129.60 58 ePKIKP PKPdf 01 27 29.0 +0.5
KIV pmax pmax
comp=Z,16nm,1.0s
KIV Kislovodsk 129.60 58 ePKPdf PKPdf 01 27 29.1 +0.6
KIV LR LR
comp=Z,1μm,22.0s
AKH Akhalkalaki 129.60 62 P PP 01 29 38.0 -1.9
KBZ Khabaz 129.70 59 PKIKP PKPdf 01 27 28.9 +0.3
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 129.70 59 PKP PKPdf 01 27 28.9 +0.3
comp=Z,7.5nm,0.9s,baz=100,slow=3.8,SNR=11
ONI Oni 129.85 60 P PP 01 29 38.3 -3.0
GOF Gofitskoye 130.08 57 ePKIKP PKPdf 01 27 24.0 -5.3
GOF pmax pmax
comp=Z,20nm,0.9s
VRHR Novokhopersk 130.10 49 ePKIKP PKPdf 01 27 27.6 -1.5
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,6.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
GNI Garni 130.22 64c iPKIKP PKPdf 01 27 31.6 +1.7
GNI pmax pmax
comp=Z,23nm,1.7s
GNI Garni 130.22 64 ePKPdf PKPdf 01 27 31.0 +1.1
GNI LR LR
comp=Z,2μm,22.0s
TBLG Delisi 130.59 62 P PP 01 29 43.4 -2.7
DGRG David-gareji 130.99 62 P PP 01 29 47.1 -1.6
PRGR Permogore 132.49 35 ePKIKP PKPdf 01 27 32.0 -1.3
PRGR pmax pmax
comp=Z,9.0nm,0.5s
COCO West Island 132.67 165 PFAKE 01 27 50.0 +15
COCO LR LR
comp=Z,1μm,20.0s
MAK Makhachkala 132.85 61 ePKIKP PKPdf 01 27 35.8 +1.3
MAK e 01 30 00.6
MAK e 01 34 43.2
MAK ePS PS 01 40 16.4 -1.3
MAK pmax pmax
comp=Z,57nm,3.5s
BILL Bilibino 133.02 334 i PKIKP PKPdf 01 27 34.8 +0.7
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL MLR MLR
comp=Z,2μm,20.0s
BILL Bilibino 133.02 334 ePKPdf PKPdf 01 27 34.4 +0.3
BILL LR LR
comp=Z,2μm,20.0s
BATI Baumata 133.38 202 PKhKP PKPpre 01 27 32.3
comp=Z,57nm,0.8s,baz=228,slow=4.4,SNR=4.4
NGJI Ngawi 138.52 185 P PKPdf 01 27 44.9 -1.2
comp=Z,73nm,0.9s
KAPI Kappang 139.43 198 ePKPdf PKPdf 01 27 48.9 +1.1
KAPI LR LR
comp=Z,1μm,21.0s
PET Petropavlovsk 139.73 314 PFAKE 01 28 00.0 +13
PET LR LR
comp=Z,2μm,20.0s
ARU Arti 139.90 41 PKIKP PKPdf 01 27 44.3 -2.9
ARU Arti 139.90 41 ePKPpre PKPpre 01 27 41.2
ARU ePKPdf PKPdf 01 27 48.0 +0.8
ARU LR LR
comp=Z,2μm,19.0s
GEYT Alibeck 139.93 70 PKhKP PKPpre 01 27 40.9
comp=Z,2.6nm,0.8s,baz=251,slow=7.7,SNR=5.2
SEY Seymchan 140.21 330 PKHKP PKPpre 01 27 40.6
SEY 01 27 45.4
SEY pmax pmax
comp=Z,5.0nm,0.8s
SEY pmax pmax
comp=Z,11nm,0.9s
SEY Seymchan 140.21 330 PKhKP PKPpre 01 27 40.6
comp=Z,4.7nm,0.8s,baz=77,slow=2.6,SNR=9.1
SEY PKP PKPdf 01 27 45.4 -2.2
comp=Z,11nm,0.9s,baz=109,slow=6.0,SNR=20
PETK Petropavlovsk- 140.29 314 PKHKP PKPpre 01 27 40.1
PETK pmax pmax
comp=Z,5.0nm,0.8s
PETK Petropavlovsk- 140.29 314 PKhKP PKPpre 01 27 40.1
comp=Z,4.6nm,0.8s,baz=159,slow=4.5,SNR=3.5
AKTO Aktyubinsk 140.47 50 PKHKP PKPpre 01 27 41.0
AKTO pmax pmax
comp=Z,14nm,1.3s
GUMO Guam 140.80 248 PFAKE 01 28 00.0 +10
GUMO LR LR
comp=Z,2μm,21.0s
TIXI Tiksi 140.89 350c iPKIKP PKPdf 01 27 52.0 +3.4
TIXI pmax pmax
comp=Z,18nm,1.7s
TIXI Tiksi 140.89 350 ePKPpre PKPpre 01 27 40.0
TIXI LR LR
comp=Z,1μm,20.0s
AB31 Akbulak array 141.81 52 i PKHKP PKPpre 01 27 44.7
AB31 pmax pmax
comp=Z,50nm,1.4s
ABKAR Akbulak array 141.81 52 ePKPpre PKPpre 01 27 44.6
ABKAR ePKPdf PKPdf 01 27 51.8 +0.9
PALK Pallekele 143.25 131 ePKPdf PKPbc 01 27 51.4 -0.3
BKNI Bangkinang 145.68 168 ePKPbc PKPdf 01 27 58.1 -0.7
GSI Gunungsitoli 145.86 161 ePKPbc PKPab 01 27 59.9 -0.2
BRVK Borovoye 147.36 43 PKIKP PKPdf 01 28 00.5 +0.1
BRVK pmax pmax
comp=Z,42nm,0.8s
BRVK Borovoye 147.36 43 ePKPdf PKPdf 01 28 00.9 +0.5
BRVK ePKPbc PKPbc 01 28 03.5 +0.6
BRVK LR LR
comp=Z,3μm,20.0s
KSM Kuching 147.36 184 ePKPbc PKPbc 01 28 03.5 -0.6
KSM ePKPab PKPab 01 28 06.0 +0.2
KSM LR LR
comp=Z,2μm,20.0s
BVA0 Borovoye Array 147.43 43 i PKIKP PKPdf 01 28 00.5 0.0
BVA0 pmax pmax
comp=Z,50nm,0.9s
BVAR Borovoye Array 147.43 43 PKIKP PKPdf 01 28 01.1 +0.6
BVAR pmax pmax
comp=Z,16nm,0.7s
BVAR Borovoye Array 147.43 43 PKPbc PKPdf 01 28 01.1 +0.6
comp=Z,16nm,0.7s,baz=276,slow=2.8,SNR=2.9
MYKOM Kota Tinggi 147.53 172 ePKPdf PKPbc 01 28 03.9 -0.6
KBL Kabul 148.01 78 ePKIKP PKPdf 01 28 03.1 +0.7
KBL e 01 28 06.0
KBL e 01 28 08.1
KBL Kabul 148.01 78 ePKPdf PKPdf 01 28 03.1 +0.7
KBL ePKPbc PKPbc 01 28 06.0 +0.4
KBL ePKPab PKPab 01 28 08.1 -0.3
DAV Davao City (W) 148.47 215 PFAKE 01 28 20.0 +10
DAV LR LR
comp=Z,2μm,21.0s
HYB Hyderabad 148.85 115 i PKP PKPbc 01 28 07.0 -0.9
YAK Yakutsk 148.92 340 ePKIKP PKPdf 01 28 02.8 +0.2
YAK e 01 28 10.7
YAK Yakutsk 148.92 340 ePKPdf PKPdf 01 28 02.8 +0.2
YAK ePKPbc PKPbc 01 28 06.7 0.0
YAK ePKPab PKPab 01 28 10.7 -0.1
YAK LR LR
comp=Z,2μm,19.0s
MYLDM Lahad Datu 149.51 201 ePKPab PKPab 01 28 12.8 -1.7
KK31 Karatay Array 149.65 62 i PKHKP PKPdf 01 28 05.7 +1.2
KK31 pmax pmax
comp=Z,45nm,1.0s
KKAR Karatay Array 149.65 62 ePKPdf PKPdf 01 28 04.9 +0.4
KKAR ePKPbc PKPbc 01 28 09.3 +0.2
KKAR ePKPab PKPab 01 28 14.0 -0.4
IPM Ipoh 149.73 166 ePKPbc PKPbc 01 28 09.8 -0.4
IPM ePKPab PKPab 01 28 16.6 +1.2
KULM Kulim 150.44 165 ePKPbc PKPbc 01 28 11.1 -0.8
KULM LR LR
comp=Z,2μm,22.0s
YSS Yuzh-Sakhalins 150.91 306 ePKIKP PKPbc 01 28 11.3 -0.7
YSS MLR MLR
comp=Z,547nm,21.0s
YSS Yuzh-Sakhalins 150.91 306 ePKPbc PKPbc 01 28 11.3 -0.7
YSS LR LR
comp=Z,547nm,21.0s
KKM Kota Kinabalu 150.95 197 ePKPbc PKPbc 01 28 12.3 -0.9
KKM ePKPab PKPab 01 28 21.0 +0.5
KKM LR LR
comp=Z,845nm,20.0s
ERM Erimo 151.38 296 PFAKE 01 28 20.0 -1.5
ERM LR LR
comp=Z,3μm,22.0s
ASAJ Asahikawa 151.56 301 PKIKP PKPdf 01 28 07.6 +0.2
ASAJ 01 28 12.8
ASAJ pmax pmax
comp=Z,3.0nm,0.7s
ASAJ pmax pmax
comp=Z,52nm,1.2s
ASAJ Asahikawa 151.56 301 PKP PKPdf 01 28 07.6 +0.2
comp=Z,3.0nm,0.7s,baz=31,slow=5.9,SNR=3.4
ASAJ PKPbc PKPbc 01 28 12.8 -0.8
comp=Z,52nm,1.2s,baz=14,slow=4.2,SNR=9.0
ASAJ Asahikawa 151.56 301 ePKPdf PKPdf 01 28 07.5 +0.2
ASAJ PKP PKPdf 01 28 07.6 +0.2
ASAJ ePKPbc PKPbc 01 28 12.8 -0.8
ASAJ ePKPbc PKPab 01 28 13.5 -8.7
AML Almayashu 152.07 63 P PKPbc 01 28 16.3 +0.9
SNR=8.7
EKS2 Erkin-Say 152.08 62 P PKPbc 01 28 16.2 +1.2
SNR=7.0
EKS2 Erkin-Say 152.08 62 ePKIKP PKPdf 01 28 09.5 +1.1
EKS2 e 01 28 15.7
EKS2 e 01 28 25.1
EKS2 MLR MLR
comp=Z,2μm,20.0s
EKS2 Erkin-Say 152.08 62 ePKPdf PKPdf 01 28 09.5 +1.1
EKS2 ePKPbc PKiKP 01 28 15.7 +0.4
EKS2 ePKPab PKPab 01 28 25.1 +0.4
EKS2 LR LR
comp=Z,2μm,20.0s
USP Ospenovka 152.53 61 P PKPbc 01 28 16.5 +0.6
SNR=7.7
AAK Ala-Archa 152.61 62 P PKPbc 01 28 17.1 +0.8
SNR=12
AAK Ala-Archa 152.61 62c iPKIKP PKPbc 01 28 17.3 +1.0
AAK pmax pmax
comp=Z,197nm,2.5s
AAK Ala-Archa 152.61 62 ePKPdf PKPbc 01 28 13.1 -3.2
AAK ePKPbc PKiKP 01 28 16.4 -0.1
AAK ePKPab PKPab 01 28 26.5 -0.5
AAK LR LR
comp=Z,2μm,20.0s
UCH Uchtor 152.66 63 P PKPbc 01 28 17.8 +1.0
SNR=9.7
FRU Bishkek 152.67 62 ePKIKP PKPbc 01 28 15.0 -1.2
FRU e 01 35 30.0
FRU pmax pmax
comp=Z,150nm,2.0s
KURK Kurchatov 153.03 43 PKIKP PKPbc 01 28 13.9 -2.8
KURK pmax pmax
comp=Z,33nm,1.2s
KURK Kurchatov 153.03 43 ePKPdf PKPdf 01 28 09.3 0.0
KURK ePKPbc PKPbc 01 28 16.7 0.0
KURK ePKPab PKPab 01 28 28.2 +0.1
KURK LR LR
comp=Z,1μm,20.0s
NVS Novosibirsk 153.12 32 i PKIKP PKPdf 01 28 08.4 -0.9
NVS pmax pmax
comp=Z,156nm,1.6s
NVS pmax pmax
comp=E,40nm,1.8s
NDI New Delhi 153.26 93 ex PKPdf 01 28 11.5 +1.1
TKM2 Tokmak 2 153.37 61 ePKIKP PKPdf 01 28 10.9 +0.5
TKM2 e 01 28 17.9
TKM2 e 01 28 28.8
TKM2 MLR MLR
comp=Z,1μm,20.0s
TKM2 Tokmak 2 153.37 61 ePKPdf PKPdf 01 28 10.9 +0.5
TKM2 ePKPbc PKPbc 01 28 17.9 -0.1
TKM2 ePKPab PKPab 01 28 28.8 -1.4
TKM2 LR LR
comp=Z,1μm,20.0s
KSH Kashi 153.95 69 PKPbc PKPdf 01 28 11.8 +0.6
KSH epPKP pPKPdf 01 28 21.8 -0.3
KSH esPKP 01 28 25.0
KSH ePP PP 01 31 55.0 -13
KSH eSKS SKSdf 01 35 13.3 -2.4
KSH Kashi 153.95 69 PKPbc PKPdf 01 28 11.5 +0.3
KSH epPKP pPKPdf 01 28 21.8 -0.3
KSH esPKP 01 28 24.8
KSH eSKS SKSdf 01 35 13.3 -2.4
KSH SKKS SKKSac 01 38 54.0 -1.1
KSH SS SS 01 51 40.8 -3.1
KSH AMB AMB
comp=Z,200nm,10.1s
KSH LR LR
comp=Z,190nm,8.5s
KSH LR LR
comp=Z,130nm,11.4s
KSH LR LR
comp=Z,260nm,14.5s
AAA Alma-Ata 154.29 60 ePKIKP PKPdf 01 28 12.0 +0.5
AAA pmax pmax
comp=Z,600nm,4.9s
ZAA0 Zalesovo Array 154.40 33 ePKPdf PKPdf 01 28 10.2 -1.0
ZAA0 ePKPbc PKPbc 01 28 19.3 -0.2
ZALV Zalesovo Beam 154.40 33 PKIKP PKPdf 01 28 10.3 -0.9
ZALV 01 28 19.4
ZALV 01 28 31.3
ZALV pmax pmax
comp=Z,6.0nm,0.8s
ZALV pmax pmax
comp=Z,25nm,0.7s
ZALV Zalesovo Beam 154.40 33 PKP PKPdf 01 28 10.3 -0.9
comp=Z,5.5nm,0.8s,baz=282,slow=2.9,SNR=18
ZALV PKPbc PKPbc 01 28 19.4 -0.1
comp=Z,27nm,0.7s,baz=279,slow=2.9,SNR=13
ZALV PKPab PKPab 01 28 31.3 -2.5
comp=Z,25nm,0.7s,baz=294,slow=3.0,SNR=9.9
CLNS Chul'man 154.59 338 ePKIKP PKPbc 01 28 16.4 -3.5
CLNS pmax pmax
comp=N,6.0nm,1.3s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=Z,15nm,1.2s
MJAR Matsushiro Arr 155.27 284 PKIKP PKPdf 01 28 12.3 -0.7
MJAR 01 28 21.6
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MJAR Matsushiro Arr 155.27 284 PKP PKPdf 01 28 12.3 -0.7
comp=Z,2.1nm,0.9s,baz=90,slow=1.2,SNR=4.6
MJAR PKPbc PKPbc 01 28 21.6
comp=Z,3.5nm,1.0s,baz=136,slow=1.7,SNR=4.1
MAJO Matsushiro 155.27 284 PFAKE 01 28 20.0 +7.0
MAJO LR LR
comp=Z,2μm,19.0s
BOD Bodaibo 156.03 352 ePKIKP PKPdf 01 28 21.0 +7.7
BOD e 01 28 39.7
BOD pmax pmax
comp=Z,11nm,1.3s
BOD pmax pmax
comp=Z,48nm,1.2s
MKAR Makanchi Array 156.90 49 PKP PKPdf 01 28 14.0 -0.8
comp=Z,2.9nm,0.9s,baz=306,slow=1.0,SNR=10
MKAR PKPab PKPab 01 28 45.0 +0.1
comp=Z,9.8nm,0.8s,baz=354,slow=2.4,SNR=6.2
USRK Ussuriysk Arra 158.94 305 PKPab PKPab 01 28 53.2 -0.6
comp=Z,3.1nm,0.8s,baz=72,slow=4.7,SNR=3.8
MDJ Mudanjiang 160.37 308 PKP PKPdf 01 28 18.3 -0.7
MDJ PKS PKSdf 01 31 53.8 +1.6
MDJ LR LR
comp=Z,620nm,24.6s
MDJ LR LR
comp=Z,690nm,27.7s
MDJ LR LR
comp=Z,1μm,26.1s
MDJ Mudanjiang 160.37 308 PFAKE 01 28 30.0 +11
MDJ LR LR
comp=Z,2μm,21.0s
WMQ Urumqi 161.60 53 ePKP PKPdf 01 28 21.0 +0.6
WMQ AMB AMB
comp=Z,330nm,9.6s
WMQ LR LR
comp=Z,2μm,19.2s
WMQ LR LR
comp=Z,2μm,21.8s
WMQ LR LR
comp=Z,1μm,24.2s
TLY Talaya 162.26 9 PKP2 PKPab 01 29 07.6 -0.3
TLY 01 32 53.7
TLY MLR MLR
comp=Z,2μm,19.0s
TLY Talaya 162.26 9 PKPab PKPab 01 29 07.6 -0.3
comp=Z,3.7nm,0.7s,baz=279,slow=9.1,SNR=4.7
TLY PP PP 01 32 53.7 +2.1
comp=Z,1.2nm,0.5s,baz=33,slow=6.2,SNR=3.5
TLY Talaya 162.26 9 PKPab PKPab 01 29 07.6 -0.3
TLY PP PP 01 32 53.7 +2.1
TLY LR LR
comp=Z,2μm,19.0s
CMAR Chiang Mai Arr 162.38 151 PKIKP PKPdf 01 28 20.8 -1.1
CMAR 01 29 08.5
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 162.38 151 PKP PKPdf 01 28 20.8 -1.1
comp=Z,3.6nm,0.8s,baz=233,slow=3.3,SNR=8.2
CMAR PKPab PKPab 01 29 08.5 -0.7
comp=Z,1.5nm,0.4s,baz=284,slow=4.5,SNR=4.3
HIA Hailar 162.60 333 PFAKE 01 28 30.0 +8.8
HIA LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 162.69 150 PFAKE 01 28 30.0 +7.8
CHTO LR LR
comp=Z,2μm,20.0s
CN2 Changchun 163.39 310 ePKP PKPdf 01 28 23.0 +0.9
CN2 ePP PP 01 33 01.5 +2.9
CN2 eSS SS 01 53 21.5 -1.4
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,2μm,23.0s
CN2 LR LR
comp=Z,2μm,23.0s
CN2 LR LR
comp=Z,2μm,24.0s
INCN Inchon 164.50 288 PFAKE 01 28 30.0 +6.6
INCN LR LR
comp=Z,5μm,19.0s
QIZ Qiongzhong 164.79 187 PFAKE 01 28 40.0 +16
QIZ LR LR
comp=Z,3μm,20.0s
YHNB Yeheng 164.95 234 PFAKE 01 28 40.0 +16
YHNB LR LR
comp=Z,3μm,19.0s
LSA Lhasa 165.05 103 ePKIKP PKPdf 01 28 25.0 +0.3
LSA e 01 29 21.8
LSA MLR MLR
comp=Z,3μm,20.0s
LSA Lhasa 165.05 103 ePKPdf PKPdf 01 28 25.0 +0.3
LSA ePKPab PKPab 01 29 21.8 +0.3
LSA LR LR
comp=Z,3μm,20.0s
TATO Taipei 165.07 236 PFAKE 01 28 40.0 +16
TATO LR LR
comp=Z,3μm,19.0s
SONM Songino Array 166.33 4 PKIKP PKPdf 01 28 24.3 -0.4
SONM 01 29 26.0
SONM 01 33 11.6
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 166.33 4 PKP PKPdf 01 28 24.3 -0.4
comp=Z,1.9nm,0.9s,baz=239,slow=0.9,SNR=2.5
SONM PKPab PKPab 01 29 26.0 0.0
comp=Z,4.7nm,0.9s,baz=334,slow=4.0,SNR=6.4
SONM PP PP 01 33 11.6 -1.6
comp=Z,2.6nm,1.1s,baz=339,slow=3.6,SNR=5.0
ULN Ulaanbaatar 166.34 3 ePKIKP PKPdf 01 28 24.7 -0.1
ULN MLR MLR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 166.34 3 ePKPdf PKPdf 01 28 24.7 -0.1
ULN ePKPab PKPab 01 29 27.1 +1.0
ULN LR LR
comp=Z,2μm,20.0s
KMI Kunming 169.88 152 PKP PKPdf 01 28 26.3 -1.7
NJ2 Nanjing 170.61 260 ePKP PKPdf 01 28 27.5 -0.3
BJI Beijing 171.23 314 PKP PKPdf 01 28 29.3 +1.4
BJI PP PP 01 33 40.3 +1.6
BJI SS SS 01 54 44.0 +2.4
BJI AMB AMB
comp=Z,4μm,13.6s
BJI LR LR
comp=Z,910nm,21.2s
BJI LR LR
comp=Z,1μm,21.8s
BJI LR LR
comp=Z,950nm,21.8s
BJT Baijiatuan 171.25 314 PFAKE 01 28 40.0 +12
BJT LR LR
comp=Z,2μm,20.0s
GTA Gaotai 171.66 49 ePKP PKPdf 01 28 29.5 +1.2
GTA pPKP pPKPdf 01 28 40.5 +1.3
GTA sPKP 01 28 44.0
GTA PKPab PKPab 01 29 51.0 +0.9
GYA Guiyang 172.20 171 PKP PKPdf 01 28 28.5 -0.5
GYA pP 01 28 40.5
GYA PKPab PKPab 01 29 54.5 +2.0
GYA PKS PKSdf 01 31 59.0 -2.5
GYA PP PP 01 33 45.3 +2.6
GYA SKKS 01 40 28.5
GYA AMB AMB
comp=Z,170nm,8.8s
GYA LR LR
comp=Z,160nm,21.9s
GYA LR LR
comp=Z,150nm,21.7s
GYA LR LR
comp=Z,180nm,24.6s
HHC Hu-ho-hao-te 172.78 338 ePKP PKPdf 01 28 29.3 +0.5
HHC pPKP pPKPdf 01 28 40.5 +0.8
HHC sPKP 01 28 43.5
HHC PP PP 01 33 46.8 +1.0
HHC SKS SKSdf 01 35 28.5 -1.0
HHC SS SS 01 54 54.0 -1.8
HHC AMB AMB
comp=Z,2μm,7.7s
HHC LR LR
comp=Z,1μm,19.4s
HHC LR LR
comp=Z,250nm,19.7s
HHC LR LR
comp=Z,680nm,19.7s
CD2 Chengdu 175.17 132 PKP PKPdf 01 28 29.8 0.0
CD2 pPKP pPKPdf 01 28 41.3 +0.6
CD2 sPKP 01 28 45.0
CD2 PKS PKSdf 01 32 00.8 -1.3
CD2 PP PP 01 34 01.5 +3.4
CD2 SKS SKSdf 01 35 27.5 -3.0
CD2 SKKS SKKSac 01 40 42.3 0.0
CD2 SS SS 01 55 19.0 -1.2
CD2 AMB AMB
comp=Z,220nm,6.2s
ENH Enshi 175.87 199 PFAKE 01 28 40.0 +10
ENH LR LR
comp=Z,1μm,22.0s
LZH Lanzhou 176.14 60 ePKP PKPdf 01 28 31.3 +1.2
LZH pPKP pPKPdf 01 28 41.5 +0.5
LZH sPKP 01 28 45.8
LZH PP PP 01 34 11.0 +7.7
LZH SKKS 01 40 47.5
LZH AMB AMB
comp=Z,530nm,6.6s
LZH LR LR
comp=Z,2μm,19.1s
LZH LR LR
comp=Z,3μm,19.3s
LZH LR LR
comp=Z,2μm,20.3s
XAN Xi'an 179.18 259 PKP PKPdf 01 28 30.0 -0.4

IDC 28 01:12:16.8±1.0, 6.32N×126.28E, h0km, mb3.9/5,

mb1 4.1/5, mb1mx3.7/38, mbtmp3.9/5, MS4.5/1, Ms1 4.5/1, ms1mx3.2/45, Error ellipse: s-maj=86.5km s-min=25.2km az=75.0
*ISCJB **28** 01:12:25.3±0.8, 6.°10N±0.°08×126.°73E±0.°08, h68km, mb3.7/5, Error ellipse: s-maj=13.9km s-min=8.6km az=44.4*
*MAN **28** 01:12:27, 6.°29N×126.°89E, h33km, mb4.7, ML3.6, MS3.6*
ISC 28 01:12:26.2±0.9, 6.°15N±0.°09×126.°7E±0.°1, h68km, n12, σ1§39/11, mb4.0/5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.89**	**333**	*e*P	**Pn**	**01 12 42.9**	**-0.3**
MATI				*e*S	**Sn**	**01 12 56.3**	**+0.4**
MATI	**Mati**	**0.89**	**333⇑**	*e*P	Pn	01 12 53.0	+10
MATI				*e*S	Sn	01 13 14.6	+19
GSPH	**General Santos**	**1.71**	**268⇓**	*e*P	**Pn**	**01 12 53.6**	**-0.4**
GSPH				*e*S	**Sn**	**01 13 15.2**	**+0.1**
BUKP	**Musuan**	**2.34**	**317**	*e*P	Pn	01 13 05.6	+3.1
BUKP				*e*S	**Sn**	**01 13 32.7**	**+2.5**
PAGZ	**Pagadian**	**3.67**	**298**	*e*P	Pn	01 13 25.7	+5.1
WRA	**Warramunga Arr**	**27.01**	**164**	P	**P**	**01 18 04.0**	**+2.0**
	0.4nm,0.4s,baz=343,slow=10,SNR=2.9						
USRK	**Ussuriysk Arra**	**38.18**	**6**	LR	LR	01 32 08.7	
	comp=Z,677nm,22.0s,baz=169,slow=31						
STKA	**Stephens Creek**	**40.41**	**160**	P	**P**	**01 19 58.2**	**+0.3**
	2.5nm,0.9s,baz=320,slow=7.9,SNR=3.6						
ILAR	**Eielson Array**	**82.96**	**26**	P	**P**	**01 24 43.7**	**+0.1**
	0.2nm,0.5s,baz=251,slow=4.9,SNR=5.7						
ARCES	**ARCESS Array B**	**88.17**	**340**	P	**P**	**01 25 08.0**	**-1.4**
	3.0nm,0.9s,baz=88,slow=6.4,SNR=3.5						
FINES	**FINESS Array B**	**89.68**	**332**	P	**P**	**01 25 15.0**	**-1.6**
	0.7nm,0.7s,baz=68,slow=6.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**122.08**	**290**	PKP	**PKPdf**	**01 31 13.5**	**-0.6**
	1.2nm,1.0s,baz=74,slow=1.6,SNR=2.4						

*IDC **28** 01:12:33.9±0.8, 34.°37S×72.°20W, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.4/32, mbtmp4.4/13, ML4.5/1, Error ellipse: s-maj=26.9km s-min=21.9km az=56.0*
*ISCJB **28** 01:12:34.7±0.5, 34.°29S±0.°08×72.°2W±0.°1, h16km, mb4.6/33, Error ellipse: s-maj=14.5km s-min=8.4km az=144.9*
*NEIC **28** 01:12:38.6±3.2, 34.°34S×72.°16W, h33km±21km, mb4.8/25, Error ellipse: s-maj=12.4km s-min=6.2km az=59.0*
ISC 28 01:12:36.2±0.5, 34.°32S±0.°09×72.°2W±0.°1, h16km, n70, σ0§77/76, mb4.7/33, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.29**	**52**	Pn	Pn	01 13 44.3	+3.4
	2.8nm,0.3s,baz=276,slow=2.2,SNR=7.7						
CFAA				Lg	Lg	01 14 45.0	
	4.1nm,0.3s,baz=41,slow=16,SNR=4.2						
TRQA	**Tornquist**	**9.05**	**117**	*e*Pn	**Pn**	**01 14 45.9**	**-0.3**
LPAZ	**La Paz**	**18.33**	**12**	P	**P**	**01 16 52.0**	**+1.5**
	0.7nm,0.3s,baz=194,slow=9.2,SNR=6.5						
LPAZ	**La Paz**	**18.33**	**12**	*e*P	**P**	**01 16 51.8**	**+1.3**
	15nm,0.7s						
SIV	**San Ignacio**	**20.81**	**31**	P	**P**	**01 17 17.2**	**+0.1**
	24nm,0.9s,baz=216,slow=12,SNR=6.5						
SAML	**Samuel**	**26.58**	**20**	*e*P	**P**	**01 18 14.1**	**+0.4**
	7.7nm,0.7s						
BDFB	**Brasilia**	**28.62**	**55**	P	**P**	**01 18 32.0**	**-0.1**
	12nm,0.8s,baz=249,slow=17,SNR=4.2						
OTAV	**Otavalo**	**34.88**	**349**	*e*P	**P**	**01 19 27.9**	**+0.4**
	2.9nm,0.7s						
ROSC	**El Rosal**	**39.02**	**357**	*e*P	**P**	**01 20 02.0**	**-0.6**
SDV	**Santo Domingo**	**43.00**	**2**	*e*P	**P**	**01 20 33.9**	**-1.3**
	18nm,1.0s						
RCBR	**Riachuelo**	**43.92**	**58**	P	**P**	**01 20 43.0**	**+0.5**
	8.6nm,0.9s,baz=221,slow=9.3,SNR=3.6						
JTS	**JuntasAbangare**	**45.99**	**342**	*e*P	**P**	**01 20 59.2**	**+0.3**
	34nm,1.7s						
GRGR	**Grenville**	**47.27**	**14**	*e*P	**P**	**01 21 08.3**	**-0.6**
	228nm,1.4s						
SNAA	**Sanae**	**51.33**	**158**	P	**P**	**01 21 40.0**	**+0.6**
	0.8nm,0.6s,baz=288,slow=11,SNR=4.2						
SNAA	**Sanae**	**51.33**	**158**	*e*P	**P**	**01 21 39.3**	**-0.1**
	13nm,0.8s						
OBIP	**Obispado Ponce**	**52.35**	**7**	*e*P	**P**	**01 21 46.6**	**-0.8**
	17nm,0.8s						
SDDR	**Presa de Saban**	**53.02**	**1**	*e*P	**P**	**01 21 52.0**	**-0.5**
GTBY	**Guantanamo Bay**	**54.02**	**357**	*e*P	**P**	**01 21 59.6**	**-0.1**
	61nm,1.3s						
QSPA	**South Pole Qui**	**55.91**	**180**	*e*P	**P**	**01 22 13.5**	**+0.3**
	20nm,1.0s						
TEIG	**Tepich**	**56.37**	**342**	P	**P**	**01 22 16.7**	**0.0**
	10nm,0.8s,baz=131,slow=9.3,SNR=3.8						
ASCN	**Ascension**	**59.10**	**78**	*e*P	**P**	**01 22 35.7**	**-0.5**
	74nm,1.0s						
GOGA	**Godfrey**	**68.21**	**350**	*e*P	**P**	**01 23 35.1**	**-0.7**
	8.7nm,0.9s						
KMSC	**Kings Mountain**	**69.64**	**352**	*e*P	**P**	**01 23 44.0**	**-0.7**
	13nm,1.0s						
TXAR	**Lajitas Array**	**69.96**	**331**	P	**P**	**01 23 47.2**	**+0.3**
	0.5nm,0.5s,baz=154,slow=8.2,SNR=5.2						
WHTX	**Lake Whitney**	**70.12**	**337**	*e*P	**P**	**01 23 48.1**	**+0.4**
SWET	**Sewanee**	**70.37**	**348**	*e*P	**P**	**01 23 48.8**	**-0.3**
	15nm,0.9s						
WVT	**Waverly**	**71.60**	**347**	*e*P	**P**	**01 23 55.9**	**-0.7**
	19nm,0.9s						
MNTX	**Cornudas Mount**	**72.73**	**331**	*e*P	**P**	**01 24 03.0**	**-0.5**
	1.8nm,0.9s						
SUR	**Sutherland**	**74.78**	**119**	*e*P	**P**	**01 24 14.9**	**-1.1**
	17nm,0.9s						
DBIC	**Dimbokro**	**75.40**	**71**	P	**P**	**01 24 20.1**	**+0.6**
	7.5nm,0.7s,baz=203,slow=4.4,SNR=6.1						
DBIC	**Dimbokro**	**75.40**	**71**	*e*P	**P**	**01 24 19.9**	**+0.4**
	16nm,1.0s						
ANMO	**Albuquerque**	**76.01**	**332**	P	**P**	**01 24 24.1**	**+1.4**
	2.1nm,0.9s,baz=180,slow=8.1,SNR=2.7						
ANMO	**Albuquerque**	**76.01**	**332**	*e*P	**P**	**01 24 24.2**	**+1.4**
	7.9nm,1.4s						
SDCO	**Great Sand Dun**	**78.11**	**334**	*e*P	**P**	**01 24 35.5**	**+0.9**
	3.4nm,1.1s						
MVCO	**Mesa Verde**	**78.79**	**331**	*e*P	**P**	**01 24 38.2**	**-0.1**
	6.7nm,1.2s						
TSUM	**Tsumeb**	**79.24**	**106**	*e*P	**P**	**01 24 42.5**	**+1.2**
	13nm,1.2s						
ISCO	**Idaho Springs**	**79.96**	**334**	*e*P	**P**	**01 24 44.9**	**+0.1**
	4.9nm,1.1s						
BOSA	**Boshof**	**80.03**	**118**	P	**P**	**01 24 46.2**	**+0.8**
	5.6nm,0.9s,baz=219,slow=10.0,SNR=4.6						
BOSA	**Boshof**	**80.03**	**118**	*e*P	**P**	**01 24 46.3**	**+0.9**
	13nm,0.8s						
LBTB	**Lobatse**	**82.28**	**115**	*e*P	**P**	**01 24 57.7**	**+0.3**
	4.2nm,0.6s						
HWUT	**Hardware Ranch**	**83.78**	**331**	*e*P	**P**	**01 25 04.6**	**-0.1**
PDAR	**Pinedale Array**	**84.00**	**333**	P	**P**	**01 25 06.3**	**+0.5**
	0.6nm,0.7s,baz=140,slow=7.1,SNR=3.9						
NVAR	**Mina Array Bea**	**84.08**	**325**	P	**P**	**01 25 07.3**	**+1.0**
	0.8nm,0.8s,baz=140,slow=4.7,SNR=3.4						
TOA0	**Torodi Ar. Sit**	**84.44**	**70**	*e*P	**P**	**01 25 08.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**84.44**	**70**	P	**P**	**01 25 08.3**	**0.0**
	4.5nm,0.8s,baz=287,slow=5.5,SNR=4.8						
LSZ	**Lusaka**	**89.82**	**108**	*e*P	**P**	**01 25 34.1**	**-0.7**
	4.9nm,1.0s						
TAM	**Tamanrasset**	**93.07**	**65**	*e*P	**P**	**01 25 50.3**	**+0.7**
FCC	**Fort Churchill**	**94.52**	**349**	*e*P	**P**	**01 25 54.8**	**-0.4**
	0.1nm,0.8s						
KWP	**Kalwaria Pacla**	**118.19**	**47**	*e*PKPdf	**PKPdf**	**01 31 19.0**	**-3.1**
SUW	**Suwalki**	**119.92**	**43**	*e*PKPdf	**PKPdf**	**01 31 24.9**	**-0.3**
WRA	**Warramunga Arr**	**120.42**	**209**	PKP	**PKPdf**	**01 31 26.7**	**-0.7**
	1.2nm,0.9s,baz=158,slow=1.7,SNR=4.2						
WRAB	**Tennant Creek**	**120.42**	**209**	*e*PKPdf	**PKPdf**	**01 31 27.1**	**-0.3**
BRTR	**Keskin Array B**	**122.10**	**61**	PKP	**PKPdf**	**01 31 29.9**	**-0.2**
	1.0nm,0.7s,baz=132,slow=1.8,SNR=3.7						
KIEV	**Kiev**	**122.49**	**48**	*e*PKPdf	**PKPdf**	**01 31 29.5**	**-0.8**
AKASG	**Malin Array Be**	**122.50**	**48**	PKP	**PKPdf**	**01 31 29.2**	**-1.1**
	0.6nm,0.6s,baz=256,slow=2.5,SNR=4.3						
SPITS	**Spitsbergen Ar**	**123.02**	**14**	PKP	**PKPdf**	**01 31 30.6**	**0.0**
	8.4nm,1.0s,baz=305,slow=5.1,SNR=2.3						
FINES	**FINESS Array B**	**123.33**	**35**	PKP	**PKPdf**	**01 31 31.2**	**-0.3**
	1.7nm,0.9s,baz=124,slow=2.7,SNR=3.8						
ARCES	**ARCESS Array B**	**124.36**	**25**	PKP	**PKPdf**	**01 31 33.5**	**+0.1**
	4.9nm,0.9s,baz=246,slow=3.6,SNR=5.6						
PALK	**Pallekele**	**143.26**	**131**	*e*PKPdf	PKPbc	01 32 08.4	+1.0
KSM	**Kuching**	**147.24**	**185**	*e*PKPbc	**PKPbc**	**01 32 18.1**	**+0.9**
BRVK	**Borovoye**	**147.53**	**43**	*e*PKPbc	**PKPbc**	**01 32 17.5**	**+1.0**
BRVK				*e*PKPab	**PKPbc**	**01 32 19.8**	**+0.7**
BVAR	**Borovoye Array**	**147.60**	**43**	PKPbc	**PKPbc**	**01 32 20.2**	**+0.9**
	5.5nm,0.5s,baz=290,slow=1.9,SNR=13						
KBL	**Kabul**	**148.15**	**78**	*e*PKPbc	**PKPdf**	**01 32 19.1**	**+0.8**
KULM	**Kulim**	**150.35**	**165**	*e*PKPdf	**PKPdf**	**01 32 21.1**	**-1.1**
KULM				*e*PKPbc	**PKPbc**	**01 32 27.3**	**-0.2**
KULM				*e*PKPab	**PKPab**	**01 32 33.3**	**-0.3**
KURK	**Kurchatov**	**153.20**	**43**	*e*PKPdf	**PKPdf**	**01 32 25.8**	**+0.5**
KURK				*e*PKPbc	**PKiKP**	**01 32 33.0**	**+0.1**
TKM2	**Tokmak 2**	**153.53**	**61**	*e*PKPdf	**PKPdf**	**01 32 26.4**	**-0.1**
TKM2				*e*PKPbc	**PKPbc**	**01 32 33.3**	**-0.9**
TKM2				*e*PKPab	**PKPab**	**01 32 45.7**	**-1.0**
ZAA0	**Zalesovo Array**	**154.56**	**33**	*e*PKPbc	**PKPbc**	**01 32 35.5**	**-0.2**
ZAA0				*e*PKPab	**PKPab**	**01 32 49.8**	**-0.4**
ZALV	**Zalesovo Beam**	**154.56**	**33**	PKPbc	**PKPbc**	**01 32 36.1**	**+0.5**
	5.9nm,0.7s,baz=341,slow=3.0,SNR=4.3						
ZALV				PKPab	**PKPab**	**01 32 50.7**	**+0.5**
	4.3nm,0.6s,baz=308,slow=4.7,SNR=4.7						
MKAR	**Makanchi Array**	**157.07**	**49**	PKPab	**PKPab**	**01 33 01.3**	**0.0**
	1.3nm,0.8s,baz=262,slow=3.2,SNR=4.5						
ULN	**Ulaanbaatar**	**166.46**	**2**	*e*PKPdf	**PKPdf**	**01 32 41.1**	**+0.5**

*IDC **28** 01:14:28.6±0.7, 35.°94S×73.°51W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.2/33, mbtmp4.2/10, ML3.6/1, Error ellipse: s-maj=30.7km s-min=20.5km az=66.0*
*ISCJB **28** 01:14:32.0±0.4, 35.°90S±0.°07×73.°3W±0.°1, h33km, mb4.6/33, Error ellipse: s-maj=13.1km s-min=8.7km az=152.3*
*NEIC **28** 01:14:33.9±1.2, 35.°91S×73.°37W, h35km±10km, mb4.7/27, Error ellipse: s-maj=12.6km s-min=6.6km az=75.0*
ISC 28 01:14:33.7±0.5, 35.°94S±0.°08×73.°4W±0.°1, h35km, n59, σ1§06/58, mb4.6/33, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.09**	**46**	Pn	**Pn**	**01 16 01.9**	**+0.7**
	1.3nm,0.3s,baz=204,slow=12,SNR=5.2						
CFAA				Lg	Lg	01 17 35.2	
	baz=96,slow=19,SNR=3.0						
TRQA	**Tornquist**	**9.37**	**106**	*e*Pn	**Pn**	**01 16 45.2**	**-1.1**
LPAZ	**La Paz**	**20.12**	**15**	*e*P	**P**	**01 19 05.0**	**-0.3**
	8.0nm,0.7s						
PMSA	**Palmer Station**	**29.41**	**172**	*e*P	**P**	**01 20 33.8**	**+0.3**
	125nm,1.5s						
OTAV	**Otavalo**	**36.30**	**351**	*e*P	P	01 21 28.0	-6.5
	26nm,1.5s						
SDV	**Santo Domingo**	**44.66**	**4**	*e*P	**P**	**01 22 42.6**	**-0.7**
	76nm,1.8s						
BCIP	**Isla Barro Col**	**45.27**	**351**	*e*P	**P**	**01 22 48.4**	**+0.5**
GRGR	**Grenville**	**49.08**	**15**	*e*P	**P**	**01 23 16.3**	**-1.3**
	124nm,1.1s						
SNAA	**Sanae**	**50.23**	**157**	P	**P**	**01 23 26.1**	**+0.2**
	3.4nm,1.0s,baz=307,slow=8.2,SNR=4.2						
SNAA	**Sanae**	**50.23**	**157**	*e*P	**P**	**01 23 26.4**	**+0.6**
	17nm,1.3s						
OBIP	**Obispado Ponce**	**54.06**	**8**	*e*P	**P**	**01 23 55.1**	**+0.3**
	24nm,1.1s						
QSPA	**South Pole Qui**	**54.30**	**180**	P	**P**	**01 23 56.4**	**+0.1**
	6.1nm,0.9s,baz=173,slow=3.7,SNR=3.2						
QSPA	**South Pole Qui**	**54.30**	**180**	*e*P	**P**	**01 23 56.3**	**0.0**
	8.9nm,1.0s						
SDDR	**Presa de Saban**	**54.65**	**2**	*e*P	**P**	**01 23 58.2**	**-0.9**
	9.5nm,1.0s						
GTBY	**Guantanamo Bay**	**55.58**	**358**	*e*P	**P**	**01 24 05.8**	**+0.1**
	57nm,1.4s						
ASCN	**Ascension**	**60.41**	**78**	*e*P	**P**	**01 24 40.1**	**+0.2**
	61nm,1.0s						
JCT	**Junction City**	**70.58**	**336**	*e*P	**P**	**01 25 45.1**	**-0.1**
	6.4nm,1.0s						
TXAR	**Lajitas Array**	**70.90**	**332**	P	**P**	**01 25 47.3**	**0.0**
	0.7nm,0.6s,baz=157,slow=8.9,SNR=6.0						
SWET	**Sewanee**	**71.75**	**349**	*e*P	**P**	**01 25 51.9**	**-0.3**
	21nm,1.4s						
ABTX	**Abilene, Hawle**	**72.50**	**337**	*e*P	**P**	**01 25 56.7**	**0.0**
	14nm,1.2s						
WVT	**Waverly**	**72.95**	**348**	*e*P	**P**	**01 25 59.5**	**+0.2**
	6.7nm,1.0s						
MNTX	**Cornudas Mount**	**73.67**	**332**	*e*P	**P**	**01 26 03.9**	**+0.2**
	2.0nm,1.0s						
TUL1	**Tulsa**	**74.46**	**341**	*e*P	**P**	**01 26 08.2**	**+0.1**
	4.0nm,0.6s						
WCI	**Wyandotte Cave**	**74.76**	**349**	*e*P	**P**	**01 26 10.8**	**+0.9**
	3.6nm,0.7s						
LAZ	**Ladron**	**76.74**	**332**	*e*P	**P**	**01 26 22.7**	**+1.1**
DBIC	**Dimbokro**	**76.84**	**72**	P	**P**	**01 26 23.1**	**+0.8**
	4.1nm,1.1s,baz=194,slow=8.3,SNR=3.7						
DBIC	**Dimbokro**	**76.84**	**72**	*e*P	**P**	**01 26 22.2**	**-0.1**
ANMO	**Albuquerque**	**76.97**	**333**	P	**P**	**01 26 23.4**	**+0.6**
	2.3nm,0.9s,baz=162,slow=12,SNR=3.6						
ANMO	**Albuquerque**	**76.97**	**333**	*e*P	**P**	**01 26 23.7**	**+0.9**
	4.5nm,1.2s						
CASY	**Casey**	**78.06**	**182**	*e*P	**P**	**01 26 28.0**	**-0.4**
	12nm,1.1s						
SDCO	**Great Sand Dun**	**79.12**	**335**	*e*P	**P**	**01 26 35.1**	**+0.3**
	1.8nm,0.9s						
WUAZ	**Wupatki**	**79.41**	**329**	*e*P	**P**	**01 26 33.5**	**-2.8**
	5.6nm,0.8s						
MVCO	**Mesa Verde**	**79.74**	**332**	*e*P	**P**	**01 26 38.9**	**+0.8**
	8.7nm,1.2s						
TSUM	**Tsumeb**	**79.75**	**106**	*e*P	**P**	**01 26 37.3**	**-1.3**
	18nm,1.7s						
BOSA	**Boshof**	**80.15**	**118**	P	**P**	**01 26 42.2**	**+1.6**
	3.9nm,0.9s,baz=243,slow=2.3,SNR=2.2						
ISCO	**Idaho Springs**	**81.00**	**335**	*e*P	**P**	**01 26 45.0**	**+0.1**
	3.0nm,1.2s						
LBTB	**Lobatse**	**82.49**	**115**	*e*P	**P**	**01 26 53.7**	**+0.6**
DUG	**Dugway**	**84.00**	**331**	*e*P	**P**	**01 27 01.5**	**+1.2**
	6.6nm,1.1s						
NVAR	**Mina Array Bea**	**84.85**	**326**	P	**P**	**01 27 04.8**	**0.0**
	0.9nm,0.9s,baz=154,slow=6.5,SNR=3.5						
PDAR	**Pinedale Array**	**85.00**	**334**	P	**P**	**01 27 05.6**	**+0.1**
	0.9nm,1.0s,baz=144,slow=6.7,SNR=3.5						
TOA0	**Torodi Ar. Sit**	**85.90**	**71**	*e*P	**P**	**01 27 10.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**85.90**	**71**	P	**P**	**01 27 10.2**	**-0.1**
	1.0nm,0.9s,baz=214,slow=3.3,SNR=2.6						
LSZ	**Lusaka**	**90.24**	**109**	*e*P	**P**	**01 27 32.0**	**+0.7**
	4.3nm,1.0s						
TAM	**Tamanrasset**	**94.65**	**65**	*e*P	**P**	**01 27 52.2**	**+0.7**
	1.3nm,0.8s						
WLF	**Walferdange**	**110.39**	**43**	*e*PKP	**PKiKP**	**01 32 59.4**	**-2.2**
MORC	**Moravsky Berou**	**116.96**	**47**	*e*PKPdf	**PKPdf**	**01 33 14.6**	**+0.3**
NAO01	**NORSAR Array S**	**118.02**	**34**	*e*PKPdf	**PKPdf**	**01 33 11.8**	**-4.1**
COEN	**Coen**	**119.53**	**222**	*e*PKPdf	**PKPdf**	**01 33 21.0**	**+0.7**
BUR08	**Bucovina Ar. S**	**120.82**	**51**	*e*PKPdf	**PKPdf**	**01 33 22.7**	**+0.9**
SUW	**Suwalki**	**121.77**	**44**	*e*PKPdf	**PKPdf**	**01 33 23.9**	**+0.7**
TNA	**Tin City**	**123.92**	**330**	*e*PKPdf	**PKPdf**	**01 33 24.3**	**-2.7**
BILL	**Bilibino**	**134.07**	**333**	*e*PKPdf	**PKPdf**	**01 33 46.2**	**-0.1**
KAPI	**Kappang**	**137.44**	**200**	*e*PKPdf	**PKPdf**	**01 33 55.5**	**+1.2**
ARU	**Arti**	**141.93**	**42**	*e*PKPdf	**PKPdf**	**01 34 02.5**	**+1.5**
TIXI	**Tiksi**	**142.38**	**349**	*e*PKPdf	**PKPdf**	**01 34 01.5**	**+0.1**
PSI	**Prapat**	**146.27**	**166**	PKPbc	**PKPdf**	**01 34 10.4**	**+0.2**
	7.1nm,0.9s,baz=177,slow=7.7,SNR=4.7						
KKM	**Kota Kinabalu**	**148.97**	**199**	*e*PKPdf	**PKPdf**	**01 34 15.6**	**+1.0**
BVAR	**Borovoye Array**	**149.44**	**45**	PKPbc	**PKPbc**	**01 34 19.0**	**+0.5**
	0.6nm,0.5s,baz=291,slow=4.5,SNR=4.2						
ZAA0	**Zalesovo Array**	**156.45**	**33**	*e*PKPdf	**PKPdf**	**01 34 23.5**	**-0.7**

*IDC **28** 01:14:43.8±0.8, 37.°13S×73.°52W, h0km, mb4.5/9, mb1 4.6/11, mb1mx4.4/34, mbtmp4.5/11, ML3.9/2, MS5.1/2, Ms1 5.1/2, ms1mx4.4/30, Error ellipse: s-maj=35.2km s-min=17.4km az=70.0*
*ISCJB **28** 01:14:44.3±0.4, 37.°08S±0.°06×73.°5W±0.°1, h14km, mb4.7/39, MS5.2/2, Error ellipse: s-maj=15.7km s-min=7.2km az=161.0*
*NEIC **28** 01:14:48.8±0.2, 37.°14S×73.°51W, h35km, mb4.8/33, Error ellipse: s-maj=10.9km s-min=4.9km az=74.0*
ISC 28 01:14:45.7±0.4, 37.°11S±0.°07×73.°5W±0.°1, h14km, n85, σ0§82/92, mb4.8/38, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.28**	**149**	Pn	**Pn**	**01 15 50.6**	**+0.1**
	1.9nm,0.3s,baz=324,slow=16,SNR=3.0						
PLCA				Lg	Lg	01 17 00.3	
	5.6nm,0.3s,baz=243,slow=20,SNR=3.8						
PLCA	**Paso Flores**	**4.28**	**149**	*e*Pn	**Pn**	**01 15 51.0**	**+0.6**
CPUP	**Villa Florida**	**17.42**	**57**	*e*Pn	**Pn**	**01 18 45.1**	**-3.1**
USHA	**Ushuaia**	**18.06**	**171**	P	**P**	**01 18 57.5**	**+1.2**
	0.3nm,0.3s,baz=337,slow=6.8,SNR=3.9						
LPAZ	**La Paz**	**21.27**	**14**	*e*P	**P**	**01 19 32.4**	**0.0**
	17nm,0.8s						
SIV	**San Ignacio**	**23.74**	**31**	P	**P**	**01 19 58.2**	**+0.7**
	23nm,1.0s,baz=244,slow=16,SNR=4.9						
NNA	**Nana**	**25.20**	**352**	P	**P**	**01 20 10.3**	**-0.7**
	4.7nm,0.5s,baz=172,slow=12,SNR=3.4						
SAML	**Samuel**	**29.55**	**21**	*e*P	**P**	**01 20 50.5**	**+0.6**
	13nm,1.2s						
OTAV	**Otavalo**	**37.45**	**352**	*e*P	**P**	**01 21 59.1**	**0.0**
	17nm,1.2s						
SDV	**Santo Domingo**	**45.83**	**4**	*e*P	**P**	**01 23 09.0**	**+1.5**
	18nm,1.0s						
BCIP	**Isla Barro Col**	**46.42**	**351**	*e*P	**P**	**01 23 12.1**	**+0.2**
	20nm,0.9s						
JTS	**JuntasAbangare**	**48.37**	**345**	*e*P	**P**	**01 23 29.0**	**+1.9**
	3.3nm,0.7s						
SNAA	**Sanae**	**49.17**	**157**	P	**P**	**01 23 32.5**	**-0.3**
	6.9nm,1.0s,baz=283,slow=4.7,SNR=6.9						
SNAA	**Sanae**	**49.17**	**157**	*e*P	**P**	**01 23 32.9**	**+0.1**
	36nm,1.2s						
QSPA	**South Pole Qui**	**53.13**	**180**	*e*P	**P**	**01 24 03.1**	**+0.4**
	14nm,1.1s						
OBIP	**Obispado Ponce**	**55.24**	**8**	*e*P	**P**	**01 24 18.3**	**0.0**
	34nm,1.1s						
CBYP	**Canovanas**	**55.55**	**9**	*e*P	**P**	**01 24 19.7**	**-0.9**
	22nm,1.0s						
SDDR	**Presa de Saban**	**55.83**	**3**	*e*P	**P**	**01 24 23.4**	**+0.8**
	8.1nm,0.9s						
GTBY	**Guantanamo Bay**	**56.75**	**358**	*e*P	**P**	**01 24 29.8**	**+0.7**
	38nm,1.1s						
TEIG	**Tepich**	**58.71**	**344**	LR	LR	01 46 23.5	
	comp=Z,2μm,20.1s,baz=121,slow=32						
HKT	**Hockley**	**69.92**	**339**	*e*P	**P**	**01 25 55.0**	**-1.1**
	3.5nm,1.0s						
LRAL	**Lakeview Retre**	**70.92**	**348**	*e*P	**P**	**01 26 03.0**	**+0.8**
	15nm,1.2s						
JCT	**Junction City**	**71.62**	**336**	*e*P	**P**	**01 26 05.4**	**-1.2**
	15nm,1.2s						
TXAR	**Lajitas Array**	**71.91**	**332**	P	**P**	**01 26 08.9**	**+0.5**
	0.9nm,0.6s,baz=148,slow=9.7,SNR=4.7						
KMSC	**Kings Mountain**	**72.26**	**353**	*e*P	**P**	**01 26 10.6**	**+0.4**
SWET	**Sewanee**	**72.89**	**349**	*e*P	**P**	**01 26 13.8**	**-0.3**
	36nm,1.2s						
ABTX	**Abilene, Hawle**	**73.55**	**337**	*e*P	**P**	**01 26 17.8**	**-0.2**
	9.4nm,1.1s						
WVT	**Waverly**	**74.08**	**348**	*e*P	**P**	**01 26 20.8**	**-0.2**
	11nm,1.1s						
SUR	**Sutherland**	**74.36**	**119**	*e*P	**P**	**01 26 23.4**	**+0.1**
	76nm,1.6s						
MNTX	**Cornudas Mount**	**74.67**	**332**	*e*P	**P**	**01 26 23.6**	**-1.0**
	4.1nm,1.2s						
WCI	**Wyandotte Cave**	**75.90**	**350**	*e*P	**P**	**01 26 30.6**	**-0.9**
	8.1nm,1.0s						
CASY	**Casey**	**76.89**	**182**	*e*P	**P**	**01 26 36.6**	**-0.3**
	22nm,1.2s						
DBIC	**Dimbokro**	**77.28**	**71**	P	**P**	**01 26 41.4**	**+1.5**
	12nm,0.8s,baz=211,slow=6.9,SNR=10						
DBIC	**Dimbokro**	**77.28**	**71**	*e*P	**P**	**01 26 40.9**	**+0.9**
	15nm,0.8s						
LAZ	**Ladron**	**77.74**	**332**	*e*P	**P**	**01 26 42.2**	**0.0**
ANMO	**Albuquerque**	**77.98**	**333**	P	**P**	**01 26 44.7**	**+1.2**
	4.0nm,1.0s,baz=178,slow=6.3,SNR=4.8						
ANMO	**Albuquerque**	**77.98**	**333**	*e*P	**P**	**01 26 44.4**	**+0.8**
	6.4nm,1.1s						
TSUM	**Tsumeb**	**79.49**	**106**	*e*P	**P**	**01 26 53.3**	**+1.0**
	7.8nm,1.1s						
BOSA	**Boshof**	**79.66**	**118**	P	**P**	**01 26 52.7**	**-0.4**
	7.3nm,0.9s,baz=199,slow=7.9,SNR=5.1						
BOSA	**Boshof**	**79.66**	**118**	*e*P	**P**	**01 26 53.6**	**+0.5**
	11nm,0.9s						
SDCO	**Great Sand Dun**	**80.15**	**335**	*e*P	**P**	**01 26 56.3**	**+0.8**
	3.7nm,1.2s						
WUAZ	**Wupatki**	**80.38**	**329**	*e*P	**P**	**01 26 57.5**	**+0.9**
	6.8nm,0.9s						
MVCO	**Mesa Verde**	**80.74**	**332**	*e*P	**P**	**01 26 59.8**	**+1.1**
	11nm,1.4s						
LBTB	**Lobatse**	**82.06**	**115**	*e*P	**P**	**01 27 05.9**	**0.0**
	13nm,0.9s						
HWUT	**Hardware Ranch**	**85.73**	**332**	*e*P	**P**	**01 27 24.0**	**-0.2**
	11nm,1.1s						
PDAR	**Pinedale Array**	**86.03**	**334**	P	**P**	**01 27 25.6**	**0.0**
	1.3nm,1.0s,baz=140,slow=4.6,SNR=3.5						
TOA0	**Torodi Ar. Sit**	**86.36**	**71**	*e*P	**P**	**01 27 26.3**	**-1.4**
TORD	**Torodi Ar. Bea**	**86.36**	**71**	P	**P**	**01 27 27.4**	**-0.3**
	4.2nm,1.0s,baz=256,slow=4.6,SNR=4.9						
ULM	**Lac du Bonnet**	**89.20**	**346**	LR	LR	02 05 34.9	
	comp=Z,985nm,19.6s,baz=150,slow=34						
LSZ	**Lusaka**	**89.93**	**109**	*e*P	**P**	**01 27 45.2**	**+0.2**
	5.0nm,0.9s						
TAM	**Tamanrasset**	**95.20**	**65**	*e*P	**P**	**01 28 10.3**	**+1.2**
	4.7nm,1.2s						
FCC	**Fort Churchill**	**97.05**	**349**	*e*P	Pdif	01 28 17.3	+0.8
	0.1nm,0.8s						
TIP	**Timpagrande**	**112.37**	**57**	*e*PKPdf	**PKiKP**	**01 33 22.1**	**+1.0**
MORC	**Moravsky Berou**	**117.82**	**47**	*e*PKPdf	**PKPdf**	**01 33 31.8**	**+0.7**
COEN	**Coen**	**118.60**	**221**	*e*PKPdf	**PKPdf**	**01 33 32.7**	**-1.0**
MBWA	**Marble Bar**	**120.72**	**194**	*e*PKPdf	**PKPdf**	**01 33 37.4**	**-0.3**
SUW	**Suwalki**	**122.66**	**44**	*e*PKPdf	**PKPdf**	**01 33 40.3**	**+0.1**
BR131	**Keskin Array S**	**124.33**	**63**	*e*PKPdf	**PKPdf**	**01 33 43.4**	**-0.7**
BRTR	**Keskin Array B**	**124.33**	**63**	PKP	**PKPdf**	**01 33 43.9**	**-0.2**
	2.4nm,0.9s,baz=48,slow=2.1,SNR=1.6						
TNA	**Tin City**	**124.90**	**330**	*e*PKPdf	**PKPdf**	**01 33 44.4**	**+0.2**
BILL	**Bilibino**	**135.08**	**333**	*e*PKPdf	**PKPdf**	**01 34 02.9**	**-0.6**
KAPI	**Kappang**	**136.31**	**199**	*e*PKPdf	**PKPdf**	**01 34 07.1**	**-0.4**
GEYT	**Alibeck**	**141.94**	**74**	PKhKP	PKPpre	01 34 11.7	
	1.9nm,0.9s,baz=270,slow=2.9,SNR=3.6						
PALK	**Pallekele**	**142.13**	**135**	*e*PKPdf	**PKPdf**	**01 34 16.2**	**-1.9**
ARU	**Arti**	**142.84**	**43**	*e*PKPdf	**PKPdf**	**01 34 17.0**	**-0.9**
TIXI	**Tiksi**	**143.52**	**348**	*e*PKPdf	PKPab	01 34 15.2	+0.1
KSM	**Kuching**	**144.37**	**187**	*e*PKPdf	**PKPab**	**01 34 19.8**	**-0.2**
ABKAR	**Akbulak array**	**144.48**	**55**	*e*PKPbc	PKPbc	01 34 20.1	+0.4
PSI	**Prapat**	**145.15**	**167**	PKPbc	**PKPbc**	**01 34 22.2**	**-0.7**
	34nm,0.8s,baz=189,slow=1.6,SNR=18						
IPM	**Ipoh**	**147.13**	**170**	*e*PKPdf	**PKPdf**	**01 34 26.9**	**+0.1**
IPM				*e*PKPbc	**PKPbc**	**01 34 28.6**	**-0.3**
KKM	**Kota Kinabalu**	**147.84**	**198**	*e*PKPdf	**PKPdf**	**01 34 27.8**	**-0.2**
KKM				*e*PKPbc	**PKPbc**	**01 34 30.6**	**-0.3**
KULM	**Kulim**	**147.88**	**169**	*e*PKPdf	**PKPdf**	**01 34 27.5**	**-0.5**
KULM				*e*PKPbc	**PKPbc**	**01 34 30.3**	**-0.6**
KULM				*e*PKPab	**PKPab**	**01 34 33.1**	**-0.2**
HYB	**Hyderabad**	**148.52**	**121**	*i* PKP	**PKPdf**	**01 34 31.5**	**-1.0**
KBL	**Kabul**	**149.63**	**83**	*e*PKPdf	**PKPdf**	**01 34 30.3**	**-0.1**
KBL				*e*PKPbc	**PKPbc**	**01 34 34.4**	**-0.7**
KBL				*e*PKPab	**PKPab**	**01 34 40.3**	**0.0**
BRVK	**Borovoye**	**150.25**	**46**	*e*PKPdf	**PKPdf**	**01 34 29.8**	**-0.7**
BRVK				*e*PKPbc	**PKiKP**	**01 34 36.1**	**-0.4**
BVAR	**Borovoye Array**	**150.32**	**46**	PKPbc	**PKPbc**	**01 34 36.6**	**+0.8**
	3.9nm,0.7s,baz=292,slow=2.8,SNR=6.9						
YAK	**Yakutsk**	**151.20**	**337**	*e*PKPbc	**PKPbc**	**01 34 37.1**	**-0.5**
KKAR	**Karatay Array**	**151.97**	**66**	*e*PKPdf	**PKPdf**	**01 34 33.7**	**+0.1**
KKAR				*e*PKPbc	**PKPbc**	**01 34 40.2**	**+0.1**
KKAR				*e*PKPab	**PKPab**	**01 34 49.6**	**+0.1**
TKM2	**Tokmak 2**	**155.70**	**67**	*e*PKPdf	**PKPdf**	**01 34 38.0**	**-1.1**
TKM2				*e*PKPab	**PKPab**	**01 35 05.8**	**+0.2**
ZAA0	**Zalesovo Array**	**157.46**	**35**	*e*PKPdf	**PKPdf**	**01 34 39.8**	**-0.9**
ZAA0				*e*PKPab	**PKPab**	**01 35 13.4**	**+1.0**
ZALV	**Zalesovo Beam**	**157.46**	**35**	PKP	**PKPdf**	**01 34 39.9**	**-0.8**
	3.2nm,0.8s,baz=249,slow=1.3,SNR=3.8						
ZALV				PKPab	**PKPab**	**01 35 13.3**	**+0.9**
	1.3nm,1.0s,baz=324,slow=7.1,SNR=2.5						
MKAR	**Makanchi Array**	**159.62**	**54**	PKPab	**PKPab**	**01 35 22.4**	**+0.3**
	2.6nm,0.8s,baz=296,slow=3.9,SNR=4.7						
LSA	**Lhasa**	**165.20**	**115**	*e*PKPdf	**PKPdf**	**01 34 50.4**	**+0.1**
LSA				*e*PKPab	**PKPab**	**01 35 48.8**	**+1.2**
ULN	**Ulaanbaatar**	**169.25**	**358**	*e*PKPdf	**PKPdf**	**01 36 04.6**	**+0.2**
SONM	**Songino Array**	**169.28**	**0**	PKPab	**PKPab**	**01 36 05.5**	**+1.0**
	1.0nm,0.8s,baz=347,slow=1.9,SNR=4.0						

*ISCJB **28** 01:17:29.9±0.5, 34.°71S±0.°08×75.°0W±0.°2, h33km, mb4.5/20, Error ellipse: s-maj=22.6km s-min=9.8km az=166.1*
*NEIC **28** 01:17:31.9±0.5, 34.°61S×74.°55W, h35km, mb4.8/17, Error ellipse: s-maj=20.6km s-min=10.9km az=65.0*
*IDC **28** 01:17:34.3±0.9, 34.°89S×73.°12W, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.1/35, mbtmp4.2/9, ML3.8/1, Error ellipse: s-maj=36.3km s-min=20.5km az=84.0*
ISC 28 01:17:32.4±0.5, 34.°69S±0.°08×74.°7W±0.°1, h35km, n48, σ1§84/47, mb4.6/20, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.20**	**62**	Lg	Lg	01 20 17.1	
	0.4nm,0.3s,baz=306,slow=19,SNR=2.4						
PLCA	**Paso Flores**	**6.85**	**153**	*e*Pn	**Pn**	**01 19 10.6**	**+0.2**
	320nm,0.9s						
TRQA	**Tornquist**	**10.75**	**112**	Pn	**Pn**	**01 20 01.4**	**-2.5**
LPAZ	**La Paz**	**19.24**	**19**	P	**Pn**	**01 21 59.5**	**+4.1**
	0.1nm,0.3s,baz=193,slow=7.1,SNR=1.8						
LPAZ	**La Paz**	**19.24**	**19**	*e*Pn	**Pn**	**01 21 57.2**	**+1.7**
	8.3nm,0.7s						
USHA	**Ushuaia**	**20.60**	**170**	P	Pn	01 22 11.4	+0.8
	30nm,1.1s,baz=342,slow=6.0,SNR=5.1						

SIV San Ignacio 22.25 37 P P 01 22 27.4 +1.0
8.9nm,0.9s,baz=216,slow=14,SNR=4.1
SAML Samuel 27.70 25 eP P 01 23 13.9 -3.4
64nm,1.8s
OTAV Otavalo 34.93 353 eP P 01 24 21.8 +0.3
16nm,1.4s
JTS JuntasAbangare 45.79 346 eP P 01 25 50.6 -0.2
14nm,1.2s
SNAA Sanae 51.77 158 P P 01 26 38.7 +2.5
1.4nm,0.8s,baz=292,slow=9.3,SNR=5.7
SNAA Sanae 51.77 158 eP P 01 26 37.9 +1.7
21nm,1.3s
QSPA South Pole Qui 55.55 180 eP P 01 27 02.8 -1.2
6.6nm,1.0s
GOGA Godfrey 68.25 352 eP P 01 28 29.2 -0.1
14nm,1.2s
TXAR Lajitas Array 69.33 333 P P 01 28 47.8 +11
0.6nm,0.7s,baz=156,slow=7.9,SNR=4.5
SWET Sewanee 70.34 350 eP P 01 28 42.0 -0.4
16nm,1.3s
WVT Waverly 71.52 349 P P 01 28 49.0 -0.4
6.7nm,0.9s
ANMO Albuquerque 75.39 333 eP P 01 29 07.3 -5.3
4.7nm,1.3s
DBIC Dimbokro 77.45 73 P P 01 29 25.7 +1.2
3.6nm,0.9s,baz=209,slow=10.0,SNR=4.1
DBIC Dimbokro 77.45 73 eP P 01 29 22.0 -2.4
9.0nm,0.7s
MVCO Mesa Verde 78.16 333 eP P 01 29 25.8 -2.4
2.2nm,0.7s
CASY Casey 79.27 182 eP P 01 29 34.1 +0.4
22nm,1.3s
TSUM Tsumeb 81.09 107 eP P 01 29 43.0 -1.6
10nm,1.4s
BOSA Boshof 81.65 119 P P 01 29 47.7 +0.4
7.6nm,0.9s,baz=226,slow=6.2,SNR=7.7
BOSA Boshof 81.65 119 eP P 01 29 47.9 +0.5
8.9nm,0.9s
DUG Dugway 82.41 331 eP P 01 29 47.7 -3.2
4.2nm,1.1s
NVAR Mina Array Bea 83.25 327 P P 01 30 07.5 +12
0.7nm,0.8s,baz=167,slow=8.3,SNR=4.4
LBTB Lobatse 83.96 116 eP P 01 29 59.9 +0.5
13nm,1.1s
TOA0 Torodi Ar. Sit 86.48 72 eP P 01 30 12.7 +0.8
TORD Torodi Ar. Bea 86.48 72 P P 01 30 12.9 +1.1
3.1nm,1.0s,baz=251,slow=4.9,SNR=4.6
LSZ Lusaka 91.63 110 eP P 01 30 34.6 -1.9
WRAB Tennant Creek 119.08 211 ePKPdf PKPdf 01 36 17.3 -0.8
COEN Coen 119.74 223 ePKPdf PKPdf 01 36 20.0 +0.7
BR131 Keskin Array S 124.06 62 ePKPdf PKPdf 01 36 29.0 +2.0
BRTR Keskin Array B 124.06 62 PKP PKPdf 01 36 32.1 +5.0
0.5nm,0.7s,baz=219,slow=1.8,SNR=2.6
AKBB Malin Array Si 124.26 48 ePKPdf PKPdf 01 36 28.0 +1.2
ARU Arti 141.68 41 ePKPdf PKPdf 01 36 58.5 -0.9
AKTO Aktyubinsk 142.44 50 PKP PKPdf 01 37 07.0 +6.1
1.1nm,0.8s,baz=329,slow=1.4,SNR=4.0
ABKAR Akbulak array 143.81 52 ePKPdf PKPdf 01 37 03.5 +0.1
PALK Pallekele 144.51 135 ePKPdf PKPdf 01 37 05.2 -0.6
PSI Prapat 147.71 168 PKPbc PKPab 01 37 18.5 +2.2
2.0nm,0.4s,baz=195,slow=13,SNR=3.2
BRVK Borovoye 149.18 43 ePKPdf PKPdf 01 37 12.5 +0.2
BRVK ePKPbc PKiKP 01 37 17.5 -0.3
BRVK ePKPab PKPab 01 37 22.5 +1.4
BVAR Borovoye Array 149.25 43 PKPbc PKPab 01 37 23.5 +2.1
1.1nm,0.6s,baz=305,slow=2.1,SNR=3.7
KKM Kota Kinabalu 149.78 202 ePKPdf PKPdf 01 37 13.4 -1.2
KKM ePKPab PKiKP 01 37 22.0 +1.7
KULM Kulim 150.42 170 ePKPdf PKPdf 01 37 13.7 -1.8
KULM ePKPbc PKiKP 01 37 21.0 -0.6
KKAR Karatay Array 151.78 62 ePKPdf PKPdf 01 37 15.7 -1.0
KKAR ePKPbc PKPbc 01 37 22.3 -0.8
ZAA0 Zalesovo Array 155.94 31 ePKPdf PKPdf 01 37 20.3 -1.9
MKAR Makanchi Array 158.84 48 PKPab PKPab 01 38 05.5 +3.2
0.6nm,0.7s,baz=294,slow=3.6,SNR=4.7

IDC 28 01:17:34.6±12.0, 19.°45S×67.°67W, h238km±69km, mb3.3/2, mb1 3.6/5, mb1mx3.3/36, mbtmp4.0/5, Error ellipse: s-maj=214.1km s-min=25.0km az=18.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.17	352	P	Pn	01 18 29.3	+0.1
	4.2nm,0.3s,baz=174,slow=6.8,SNR=31						
SIV	San Ignacio	7.16	62	P	Pn	01 19 16.4	-1.0
	2.9nm,0.3s,baz=260,slow=11,SNR=14						
BDFB	Brasilia	19.12	82	P	P	01 21 40.6	+0.3
	0.6nm,0.3s,baz=276,slow=18,SNR=3.2						
TORD	Torodi Ar. Bea	75.57	70	P	P	01 28 54.0	+0.2
	1.2nm,0.7s,baz=256,slow=5.8,SNR=5.7						
YKA	Yellowknife Ar	89.65	340	P	P	01 30 05.3	+0.3
	0.3nm,0.6s,baz=134,slow=4.3,SNR=4.9						
MKAR	Makanchi Array	143.29	35	PKP	PKPbc	01 36 38.9	+0.5
	1.0nm,0.8s,baz=297,slow=1.3,SNR=6.4						

NIED 28 01:20:00, 25.°90N×128.°70E, h17km, Mw5.0 Best double couple: M₀4.04000×10^16 NP1:φs49.00000°, δ38.00000°, λ99.00000°. NP2:φs217.00000°, δ53.00000°, λ83.00000°.
IDC 28 01:20:28.7±0.5, 26.°00N×128.°60E, h0km, mb4.7/26, mb1 4.8/29, mb1mx4.7/44, mbtmp4.7/29, ML4.2/3, MS4.6/7, Ms1 4.7/7, ms1mx4.1/58, Error ellipse: s-maj=16.5km s-min=10.9km az=64.0
JMA 28 01:20:29.3±0.3, 25.°89N×128.°69E, h34km, M5.2
JMA Felt I J1.
NEIC 28 01:20:30.0±2.3, 25.°94N×128.°43E, h4km±14km, mb5.3/74, MW5.0(NIED), Error ellipse: s-maj=5.9km s-min=4.2km az=107.0
NEIC Felt at Ginowan, Naha and Okinawa, Okinawa. Recorded [1 JMA] on Okinawa.
ISCJB 28 01:20:30.3±0.6, 25.°96N±0.°02×128.°47E±0.°02, h15km±3km, mb5.0/148, MS5.1/32, Error ellipse: s-maj=3.6km s-min=2.6km az=136.2
BJI 28 01:20:30.9, 25.°90N×128.°62E, h34km, mB5.1/54, mb4.9/67, Ms5.3/72, Ms7 5.2/67
MOS 28 01:20:32.9±1.3, 25.°94N×128.°53E, h33km, mb5.3/60, MS5.0/13, Error ellipse: s-maj=8.7km s-min=4.7km az=109.8
SZGRF 28 01:20:51.5, 27.°67N×126.°89E, h33km, mb5.4, Northwest of Ryukyu Islands, Japan
ISC 28 01:20:34.0±0.3, 26.03N±0.°03×128.°53E±0.°03, h31km±1km, h31km:pP-P, n452, σ1°63/522, mb5.1/148, MS5.2/32, 33C-35D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.67	317	P	Pb	01 20 44.8	-2.4
JNTH				S	Sn	01 20 57.2	+0.5
JJT2	Tamagusuku 2	0.71	279	P	Pn	01 20 45.7	-2.2
JJT2				eS	Sb	01 20 57.9	+0.4
JOW	Kunigami	0.83	344	P	Pn	01 20 47.7	-1.8
JOW				S	Sn	01 21 00.6	-0.2
JOW	Kunigami	0.83	344	Pn	Pn	01 20 47.6	-2.0
	86nm,0.3s,baz=147,slow=16,SNR=290						
JOW				Sn	Sn	01 21 00.3	-0.5
	177nm,0.3s,baz=323,slow=20,SNR=24						
JOW				LR	LR	01 21 11.0	
	comp=Z,1μm,18.4s,baz=284,slow=48						
JOW	Kunigami	0.83	344	ePn	Pn	01 20 47.8	-1.8
JOW				eSn	Sb	01 21 02.8	+1.9
JIH	Iheya	1.12	333	P	Pn	01 20 52.0	-1.5
JIH				eS	Sn	01 21 07.4	-0.5
JAGN	Aguni-jima	1.28	296	P	Pn	01 20 54.2	-1.6
JAGN				S	Sn	01 21 12.7	+0.8
JOKE	Okinoerabujima	1.33	2	P	Pn	01 20 54.7	-1.7
JOKE				eS	Sn	01 21 12.3	-0.7
JKE	Kume jima 2	1.59	281	P	Pn	01 20 57.6	-2.4
JKE				S	Sn	01 21 18.8	-0.8
JTK	Tokunoshima	1.79	12	P	Pn	01 21 00.9	-1.8
JTK				S	Sn	01 21 21.1	-3.3
JAMN	Amaminishikomi	2.28	14	P	Pn	01 21 07.8	-1.7
JAMN				S	Sn	01 21 34.9	-1.6
JMZ	Minamidaito 2	2.43	94	P	Pn	01 21 06.7	-4.9
JMZ				S	Sn	01 21 32.8	-7.5
JAM	Amami Oshima	2.56	22	P	Pn	01 21 11.6	-1.7
JAM				S	Sn	01 21 41.5	-1.9
JZK	Kikaishima	2.61	29	P	Pn	01 21 13.7	-0.4
JZK				S	Sn	01 21 44.1	-0.6
JOGS	Gusukube	3.10	247	P	Pn	01 21 20.1	-0.6
JOGS				eS	Sn	01 21 54.1	-2.5
JIKM	Ikemajima	3.16	250	P	Pn	01 21 20.6	-1.0
JIKM				eS	Sn	01 21 57.1	-1.2
JMJ	Miyako jima 2	3.17	248	P	Pn	01 21 19.3	-2.4
JMJ				eS	Sn	01 21 56.3	-2.1
JTAJ	Takarajima	3.17	11	P	Pn	01 21 20.4	-1.3
JTAJ				eS	Sn	01 21 56.5	-1.9
JIRB	Irabujima	3.26	249	P	Pn	01 21 20.7	-2.3
JIRB				eS	Sn	01 21 58.1	-2.7
JTJ	Tarama	3.73	249	P	Pn	01 21 26.4	-3.0
JTJ				eS	Sn	01 22 09.0	-3.3
JNN	Nakanoshima	3.98	17	P	Pn	01 21 32.6	-0.3
JNN				eS	Sn	01 22 14.5	-4.0
JISG	Ishigakijimahi	4.08	250	P	Pn	01 21 30.7	-3.5
JIJ	Ishigaki jima	4.31	248	P	Pn	01 21 33.7	-3.7
JIJ				eS	Sn	01 22 21.8	-4.7
JKRS	Kuro-shima	4.47	247	P	Pn	01 21 36.4	-3.2
IRIF	Iriomote-Funau	4.66	250	P	Pn	01 21 39.2	-3.1
TATO	Taipei	6.45	262	ePn	Pn	01 22 07.2	+0.4
NACB	Ninganchiao	6.55	255	ePn	Pn	01 22 03.5	-4.7
	36nm,0.4s						
YHNB	Yeheng	6.61	260	ePn	Pn	01 22 08.1	-1.0
	372nm,1.4s						
YULB	Yu-li	7.08	250	ePn	Pn	01 22 10.8	-4.7
	20nm,0.3s						
SSLB	Suanglung	7.23	254	ePn	Pn	01 22 14.4	-3.1
SSLB				eSn	Sn	01 23 32.9	-5.8
JNU	Nakatsue	7.36	16	Pn	Pn	01 22 19.0	-0.3
	4.0nm,0.3s,baz=187,slow=6.1,SNR=48						
JNU				Sn	Sn	01 23 38.2	-3.6
	4.9nm,0.3s,baz=117,slow=24,SNR=6.4						
JNU				LR	LR	01 25 39.0	
	comp=Z,3μm,20.3s,baz=201,slow=42						
JNU	Nakatsue	7.36	16	ePn	Pn	01 22 19.6	+0.3
JNU				eSn	Sn	01 23 40.6	-1.1
SSE	Sheshan	8.19	310	eP	Pn	01 22 33.3	+2.6
SSE				S	Sn	01 24 03.8	+1.6
SSE				pmax	pmax		
	comp=Z,50nm,0.8s						
SSE				pmax	pmax		
	comp=Z,330nm,5.1s						
SSE				LR	LR		
	comp=N,10μm,10.8s						
SSE				LR	LR		
	comp=E,13μm,10.8s						
SSE				LR	LR		
	comp=Z,18μm,10.4s						
QZH	Quanzhou	9.04	265	⇑iP	Pn	01 22 41.0	-1.4
QZH				S	Sn	01 24 20.0	-3.2
QZH				LR	LR		
	comp=N,5μm,12.2s						
QZH				LR	LR		
	comp=E,8μm,11.3s						
QZH				LR	LR		
	comp=Z,13μm,12.9s						
NJ2	Nanjing	10.37	308	eP	Pn	01 23 03.0	+2.4
NJ2				S	Sn	01 24 57.0	+1.2
NJ2				pmax	pmax		
	comp=Z,30nm,1.3s						
NJ2				LR	LR		
	comp=N,8μm,10.7s						
NJ2				LR	LR		
	comp=E,15μm,11.7s						
NJ2				LR	LR		
	comp=Z,19μm,11.8s						
INCN	Inchon	11.53	352	ePn	Pn	01 23 16.1	-0.4
CBIJ	Chichi jima	12.27	82	Pn	Pn	01 23 24.4	-2.3
JCJ	Chichijima	12.27	82	Pn	Pn	01 23 24.4	-2.3
	11nm,0.3s,baz=278,slow=18,SNR=4.2						
JCJ				LR	LR	01 27 24.6	
	comp=Z,854nm,19.3s,baz=118,slow=34						
WHN	Wuhan	13.28	293	⇑P	Pn	01 23 43.5	+3.2
WHN				S	Sn	01 26 15.8	+8.9
WHN				LR	LR		
	comp=N,3μm,9.7s						
WHN				LR	LR		
	comp=E,21μm,12.6s						
WHN				LR	LR		
	comp=Z,25μm,12.9s						
MAJO	Matsushiro	13.34	36	⇑eP	Pn	01 23 43.6	+2.4
MAJO	Matsushiro	13.34	36	ePn	Pn	01 23 43.8	+2.6
MAT	Matsushiro	13.34	36	P	Pn	01 23 41.9	+0.7
MAT				S	S	01 26 28.6	-3.3
MJAR	Matsushiro Arr	13.34	36	Pn	Pn	01 23 39.9	-1.3
	0.2nm,0.3s,baz=240,slow=14,SNR=3.3						
TIA	Tai'an	14.07	319	⇓P	Pn	01 23 51.0	-0.2
TIA				pP	P	01 24 05.0	+6.4
TIA				pmax	pmax		
	comp=Z,20nm,1.1s						
TIA				pmax	pmax		
	comp=Z,840nm,9.5s						
TIA				LR	LR		
	comp=N,7μm,12.5s						
TIA				LR	LR		
	comp=E,6μm,13.7s						
TIA				LR	LR		
	comp=Z,11μm,13.1s						
DL2	Dalian	14.09	337	P	P	01 23 59.0	+0.3
DL2				pmax	pmax		
	comp=Z,170nm,1.4s						
DL2				pmax	pmax		
	comp=Z,700nm,5.2s						
DL2				LR	LR		
	comp=N,3μm,14.1s						
DL2				LR	LR		
	comp=Z,5μm,11.9s						
VLA	Vladivostok	17.27	8	⇑eP	P	01 24 35.5	+1.6
VLA				S	Sn	01 27 46.7	+2.9
ENH	Enshi	17.32	288	ePn	Pn	01 24 33.6	+0.2
	comp=Z,45nm,1.4s						
BJT	Baijiatuau	17.35	327	eP	P	01 24 34.9	0.0
BJT				pmax	pmax		
	comp=Z,61nm,0.6s						
BJT	Baijiatuau	17.35	327	ePn	P	01 24 34.9	0.0
	comp=Z,61nm,0.6s						
BJI	Beijing	17.37	327	P	Pn	01 24 34.5	+0.6
BJI				S	Sn	01 27 47.5	+1.3
BJI				pmax	pmax		
	comp=Z,85nm,1.2s						
BJI				pmax	pmax		
	comp=Z,1μm,8.7s						
BJI				LR	LR		
	comp=Z,12μm,13.4s						
BJI				LR	LR		
	comp=Z,4μm,13.9s						
BJI				LR	LR		
	comp=Z,3μm,14.8s						
CN2	Changchun	17.91	353	⇓P	P	01 24 41.5	+0.5
CN2				esP	sP	01 24 57.5	+4.2
CN2				eS	Sn	01 27 58.3	-1.0
CN2				pmax	pmax		
	comp=Z,30nm,1.1s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,3μm,14.0s						
CN2				LR	LR		
	comp=Z,3μm,14.0s						
CN2				LR	LR		
	comp=Z,4μm,16.0s						
TIY	Taiyuan	17.93	314	eP	P	01 24 41.5	+0.1
TIY				pmax	pmax		
	comp=Z,800nm,4.4s						
TIY				LR	LR		
	comp=Z,7μm,11.9s						
TIY				LR	LR		
	comp=Z,3μm,11.3s						
TIY				LR	LR		
	comp=Z,7μm,12.4s						
USRK	Ussuriysk Arra	18.34	8	P	Pn	01 24 47.0	+1.1
	comp=Z,0.6nm,0.3s,baz=188,slow=8.7,SNR=26						
MDJ	Mudanjiang	18.57	2	P	Pn	01 24 49.5	+0.9
MDJ				pP	pP	01 24 57.8	+1.2
MDJ				sP	sP	01 25 02.0	+1.4
MDJ				pmax	pmax		
	comp=Z,12nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.7s						
MDJ				LR	LR		
	comp=Z,2μm,13.6s						
MDJ				LR	LR		
	comp=Z,860nm,12.7s						
MDJ				LR	LR		
	comp=Z,2μm,15.3s						
QIZ	Qiongzhong	18.60	252	P	P	01 24 48.3	-0.6
QIZ				pP	pP	01 24 56.3	-0.9
QIZ				sP	sP	01 25 01.0	-0.2
QIZ				S	Sn	01 28 13.3	-3.2
QIZ				pmax	pmax		
	comp=Z,51nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,470nm,10.1s						
QIZ				LR	LR		
	comp=Z,3μm,20.7s						
QIZ				LR	LR		
	comp=Z,770nm,16.6s						
QIZ				LR	LR		
	comp=Z,2μm,18.9s						
QIZ	Qiongzhong	18.60	252	eP	P	01 24 46.2	-2.7
	comp=Z,112nm,1.4s						
XAN	Xi'an	18.74	300	P	P	01 24 50.5	+0.2
XAN				pP	pP	01 24 59.3	+0.7
XAN				S	Sn	01 28 15.8	-3.9
XAN				pmax	pmax		
	comp=Z,16nm,0.9s						
XAN				LR	LR		
	comp=Z,1μm,13.0s						
XAN				LR	LR		
	comp=Z,2μm,15.0s						
XAN				LR	LR		
	comp=Z,2μm,15.0s						
GYA	Guiyang	19.62	276	⇑iP	Pn	01 25 01.5	-0.1
GYA				pP	pP	01 25 09.8	+1.4
GYA				PP	PnPn	01 25 19.0	+3.6
GYA				S	S	01 28 33.5	-6.4
GYA				sS	Sn	01 28 46.3	+5.2
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,430nm,7.4s						
GYA				LR	LR		
	comp=Z,4μm,12.1s						
GYA				LR	LR		
	comp=Z,3μm,12.7s						
GYA				LR	LR		
	comp=Z,4μm,13.0s						
HHC	Hu-ho-hao-te	20.41	321	eP	P	01 25 09.0	+0.4
HHC				sP	sP	01 25 22.3	+1.3
HHC				S	S	01 28 49.0	-6.6
HHC				sS	sS	01 29 05.0	-4.0
HHC				PcP	PcP	01 29 20.5	+0.2
HHC				ScP	ScP	01 32 55.5	+1.0
HHC				pmax	pmax		
	comp=Z,78nm,0.7s						
HHC				pmax	pmax		
	comp=Z,960nm,6.3s						
HHC				LR	LR		
	comp=Z,10μm,13.5s						
HHC				LR	LR		
	comp=Z,9μm,12.6s						
HHC				LR	LR		
	comp=Z,14μm,11.5s						
BTO	Baotou	21.16	318	eP	P	01 25 16.8	+0.1
ASAJ	Asahikawa	21.35	29	P	P	01 25 17.2	-1.3
	comp=Z,6.8nm,0.7s,baz=201,slow=8.6,SNR=3.9						
ASAJ	Asahikawa	21.35	29	eP	P	01 25 20.1	+1.6
	comp=Z,17nm,1.1s						
CD2	Chengdu	22.30	288	⇓iP	P	01 25 27.5	-1.4
CD2				pP	pP	01 25 37.0	-0.3
CD2				sP	sP	01 25 41.3	0.0
CD2				PP	PnPn	01 25 54.3	+2.3
CD2				S	S	01 29 24.0	-8.4
CD2				sS	Sn	01 29 39.5	-5.8
CD2				SS	SnSn	01 30 04.5	+3.6
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
CD2				pmax	pmax		
	comp=Z,680nm,5.0s						
CD2				LR	LR		
	comp=Z,6μm,11.7s						
CD2				LR	LR		
	comp=Z,10μm,12.5s						
CD2				LR	LR		
	comp=Z,11μm,12.2s						
YUK	Yuzh-Kuril'sk	22.81	34	⇑iP	P	01 25 34.6	+0.5
YUK				iS	S	01 29 35.8	-5.4
YUK				pmax	pmax		
	comp=N,425nm,1.5s						
YUK				pmax	pmax		
	comp=E,300nm,1.5s						
YUK				pmax	pmax		
	comp=Z,473nm,1.5s						
MYLDM	Lahad Datu	22.85	207	eP	P	01 25 36.1	+1.3
	comp=Z,126nm,1.5s						
MYLDM				epP	pP	01 25 46.7	+3.5
HABR	Khabarovsk	22.98	11	ceP	P	01 25 35.6	-0.2
HABR				e*PP	pP	01 25 44.5	+0.2
HABR				e*SP	sP	01 25 49.0	+0.7
HABR				ePPP	PPP	01 26 09.9	
HABR				eS	S	01 29 45.3	+1.3
HABR				e*SS	Sn	01 30 01.5	+0.4
HABR				SS	SnSn	01 30 20.9	+3.5
HABR				e		01 36 45.7	
HABR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
HABR				pmax	pmax		
	comp=E,48nm,1.8s						
HABR				pmax	pmax		
	comp=N,13nm,1.2s						
HABR				MLR	MLR		
	comp=Z,2μm,15.0s						
KKM	Kota Kinabalu	23.09	213	eP	P	01 25 36.3	-1.1
	comp=Z,20nm,0.9s						
KMI	Kunming	23.27	273	⇑P	P	01 25 37.8	-1.5
KMI				pP	pP	01 25 49.8	+1.9
KMI				sP	sP	01 25 51.8	-0.1
KMI				PP	PnPn	01 26 09.0	+3.4
KMI				S	S	01 29 42.0	-7.8
KMI				sS	sS	01 29 57.5	-7.3
KMI				SS	SnSn	01 30 29.0	+3.8
KMI				pmax	pmax		
	comp=Z,75nm,1.2s						
KMI				pmax	pmax		
	comp=Z,330nm,3.7s						
KMI				LR	LR		
	comp=Z,4μm,10.2s						
KMI				LR	LR		
	comp=Z,3μm,9.0s						
KMI				LR	LR		
	comp=Z,3μm,10.5s						
KLR	Kul'dur	23.30	5	eP	P	01 25 34.9	-4.1
KLR				eS	S	01 29 46.0	-3.3
KLR				pmax	pmax		
	comp=Z,120nm,2.0s						
KLR				smax	smax		
	comp=N,1μm,12.0s						
KLR				smax	smax		
	comp=E,800nm,12.0s						
KLR				MLR	MLR		
	comp=Z,5μm,12.0s						
LZH	Lanzhou	23.35	301	eP	P	01 25 38.5	-1.4
LZH				pP	pP	01 25 48.5	0.0
LZH				sP	sP	01 25 52.3	-0.2
LZH				S	S	01 29 52.0	+1.3
LZH				sS	sS	01 29 58.3	-7.4
LZH				SS	SnSn	01 30 30.0	+3.2
LZH				pmax	pmax		
	comp=Z,200nm,1.3s						
LZH				pmax	pmax		
	comp=Z,650nm,4.0s						
LZH				LR	LR		
	comp=Z,3μm,11.8s						
LZH				LR	LR		
	comp=Z,3μm,10.5s						
LZH				LR	LR		
	comp=Z,4μm,15.2s						
YSS	Yuzh-Sakhalins	23.74	25	αiP	P	01 25 44.0	+0.7
YSS				i*SP	sP	01 25 53.0	-3.1
YSS				e		01 26 10.0	
YSS				pmax	pmax		
	comp=N,270nm,1.2s						
YSS				pmax	pmax		
	comp=Z,450nm,1.2s						
YSS				pmax	pmax		
	comp=E,120nm,1.0s						
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		

comp=E,900nm,14.0s
YSS Yuzh-Sakhalins 23.74 25 eP P 01 25 44.5 +1.2
comp=E,663nm,1.4s
UBPT Khong Chiam 24.04 248 P P 01 25 48.5 +2.0
comp=E,39nm,1.5s,comp=E,1µm
HIA Hailar 24.18 346 ceP P 01 25 49.3 +1.8
HIA pmax pmax
comp=Z,18nm,1.5s
KUR Kuril'sk 24.67 34 P P 01 25 52.1 +0.2
KUR eS S 01 30 07.1 -4.4
KUR pmax pmax
comp=E,18nm,0.5s
KUR pmax pmax
comp=N,36nm,1.0s
KUR pmax pmax
comp=Z,180nm,1.0s
KUR MLR MLR
comp=N,740nm,16.0s
KUR MLR MLR
comp=Z,287nm,16.0s
KUR MLR MLR
comp=E,397nm,16.0s
TNTI Ternate 25.14 183 P P 01 25 58.7 +2.3
comp=E,180nm,1.2s,comp=E,3µm
TNTI Ternate 25.14 183 eP P 01 25 56.3 -0.1
comp=E,249nm,1.2s
MRSI Marisa 26.19 195 P P 01 26 07.2 +1.3
comp=E,28nm,1.4s,comp=E,999nm
CRAI Chiangrai 26.50 263 P P 01 26 10.4 +1.6
comp=E,16nm,1.5s,comp=E,13µm
LBMI Labuha 26.53 182 P P 01 26 24.2 +15
LOEI Loei 26.66 257 P P 01 26 08.2 -2.1
comp=E,81nm,0.8s,comp=E,3µm
MPSI Mapaga 26.86 199 P P 01 26 11.7 -0.3
comp=E,22nm,1.2s,comp=E,516nm
PBKT Sadao Pong 27.30 255 P P 01 26 18.0 +2.0
comp=E,18nm,1.4s,comp=E,3µm
GTA Gaotai 27.47 306 ⇑P P 01 26 15.3 -2.2
GTA pP pP 01 26 24.5 -2.0
GTA sP sP 01 26 28.8 -1.6
GTA S S 01 30 51.5 -4.7
GTA sS sS 01 31 07.3 -3.9
GTA SS SnSn 01 32 10.3 +2.9
GTA pmax pmax
comp=E,76nm,1.7s
GTA pmax pmax
comp=E,370nm,8.2s
GTA LR LR
comp=E,3µm,12.2s
GTA LR LR
comp=E,2µm,14.8s
GTA LR LR
comp=E,5µm,13.1s
ULN Ulaanbaatar 27.57 328 deP P 01 26 20.3 +2.0
ULN pmax pmax
comp=Z,123nm,1.5s
ULN Ulaanbaatar 27.57 328 eP P 01 26 17.0 -1.3
comp=Z,189nm,1.6s
LAMP Lampang 27.72 260 P P 01 26 21.9 +2.1
comp=Z,6.3nm,0.9s
CMAI Chiengmai2 27.78 264 P P 01 26 23.2 +2.7
comp=Z,102nm,1.1s
SONM Songino Array 27.87 327 P P 01 26 20.0 -0.9
comp=Z,21nm,0.6s,baz=148,slow=9.4,SNR=30
SONM LR LR 01 39 27.0
comp=Z,2µm,18.8s,baz=144,slow=41
SANI Sanana 28.02 185 P P 01 26 21.2 -1.2
comp=Z,57nm,1.1s,comp=Z,958nm
SBUM Sibu 28.20 216 eP P 01 26 24.8 +0.7
comp=Z,46nm,1.5s
CHTO Chiang Mai 28.23 261 eP P 01 26 25.6 +1.3
CHTO pmax pmax
comp=Z,59nm,1.8s
CHTO Chiang Mai 28.23 261 P P 01 26 25.8 +1.5
comp=Z,82nm,1.4s,comp=Z,6µm
CHTO Chiang Mai 28.23 261 eP P 01 26 25.6 +1.3
comp=Z,59nm,1.8s
CMAR Chiang Mai Arr 28.36 261 P P 01 26 27.0 +1.5
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR Chiang Mai Arr 28.36 261 P P 01 26 26.9 +1.5
comp=Z,2.7nm,0.4s,baz=58,slow=7.3,SNR=20
CMAR LR LR 01 38 44.1
comp=Z,763nm,18.4s,baz=75,slow=39
FAKI Fak Fak 29.00 172 eP P 01 26 29.3 -1.9
comp=Z,76nm,1.3s
MHMT Maesarieng 29.36 261 P P 01 26 38.6 +4.3
comp=Z,14nm,1.4s
SMPI Sarmi 29.54 159 P P 01 26 36.3 +0.4
comp=Z,62nm,1.7s,comp=Z,9µm
KSM Kuching 30.06 219 eP P 01 26 41.8 +1.2
comp=Z,68nm,1.2s
GENI Genyem 30.60 157 P P 01 26 51.2 +5.9
comp=Z,48nm,1.7s,comp=Z,3µm
ZAK Zakamensk 31.10 328 eP P 01 26 47.5 -2.0
TLY Talaya 31.82 330 eP P 01 26 53.9 -1.9
TLY e 01 28 11.7
TLY eS S 01 32 02.5 -1.6
TLY pmax pmax
comp=Z,23nm,1.7s
TLY MLR MLR
comp=Z,3µm,14.0s
TLY Talaya 31.82 330 P P 01 26 55.1 -0.6
comp=Z,2.6nm,0.7s,baz=146,slow=11
TLY Talaya 31.82 330 eP P 01 26 54.9 -0.8
comp=Z,26nm,1.5s
IRK Irkutsk 31.94 331 eP P 01 26 54.8 -2.0
IRK e 01 28 12.1
IRK pmax pmax
comp=Z,30nm,1.5s
BBKI Banjar Baru 32.18 206 P P 01 27 00.1 +0.9
comp=Z,71nm,1.0s,comp=Z,4µmcomp=Z,137µm
SURT Suratani 32.93 244 P P 01 27 08.1 +2.3
comp=Z,9.9nm,1.1s,comp=Z,373nm
SHL Shillong 32.93 277 eP P 01 27 07.5 +1.5
SHL eS S 01 32 25.0 +2.8
MOY Mondy 33.03 328 eP P 01 27 05.6 -0.9
LSA Lhasa 33.16 285 eP P 01 27 08.0 -0.3
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 33.16 285 eP P 01 27 08.0 -0.3
comp=Z,7.9nm,0.8s
KULM Kulim 33.70 237 eP P 01 27 12.2 -0.4
comp=Z,30nm,1.4s
IPM Ipoh 33.95 236 eP P 01 27 15.4 +0.6
comp=Z,47nm,0.9s
IPM pP pP 01 27 23.7 -0.2
PETK Petropavlovsk- 34.73 31 P P 01 27 23.1 +2.0
comp=Z,13nm,1.0s,baz=222,slow=6.0,SNR=4.2
PETK LR LR 01 44 28.5
comp=Z,359nm,18.0s,baz=202,slow=42
TPI Tanjungpandan 35.03 218 P P 01 27 25.6 +1.6
comp=Z,22nm,1.5s
PET Petropavlovsk 35.12 32 eP P 01 27 25.6 +1.2
PET pmax pmax
comp=Z,59nm,1.6s
YAK Yakutsk 36.00 1 eP P 01 27 30.5 -1.3
YAK e 01 37 40.2
YAK pmax pmax
comp=Z,205nm,1.5s
YAK pmax pmax
comp=N,248nm,1.6s
YAK pmax pmax
comp=E,49nm,1.7s
YAK Yakutsk 36.00 1 eP P 01 27 31.9 +0.1
comp=E,123nm,0.8s
TAPN Taplejung 36.38 281 eP P 01 27 35.7 -0.3
comp=E,183nm,1.3s
HVS Khovu-Aksy 36.46 323 ⇓eP P 01 27 36.5 +0.4
HVS pmax pmax
comp=Z,151nm,1.4s
ODAN Odare 36.73 281 eP P 01 27 38.5 -0.4
comp=Z,400nm,1.3s
RAMN Ramite 37.42 281 eP P 01 27 44.3 -0.4
comp=Z,78nm,1.0s
WMQ Urumqi 37.45 309 P P 01 27 43.8 -0.8
WMQ pP pP 01 27 53.5 -0.3
WMQ sP sP 01 27 57.5 -0.1
WMQ PP PnPn 01 29 12.0 +0.9
WMQ PcP PcP 01 30 02.5 -0.2
WMQ S S 01 33 29.3 -1.8
WMQ sS sS 01 33 45.3 -1.0
WMQ PcS PcS 01 33 49.8 -1.4
WMQ Urumqi 37.45 309 ScS ScS 01 37 52.8 -3.1
WMQ pmax pmax
comp=Z,61nm,1.4s
WMQ pmax pmax
comp=Z,390nm,4.6s
WMQ LR LR
comp=N,3µm,12.6s
WMQ LR LR
comp=E,5µm,14.0s
WMQ LR LR
comp=Z,6µm,14.6s
MNSI Mandailing Nat 37.51 233 P P 01 27 46.8 +1.5
comp=Z,76nm,2.0s,comp=Z,3µm
PWJI Pagerwojo 37.55 208 P P 01 27 45.8 +0.3
comp=Z,36nm,1.3s
JIRN Jiri 37.68 282 eP P 01 27 46.7 -0.4
GUN Gumba 37.92 283 eP P 01 27 48.9 -0.2
KPJI Karang Pucung 38.24 213 P P 01 27 52.7 +1.3
comp=Z,68nm,1.4s
PKI Pulchoki 38.38 282 eP P 01 27 52.0 -0.9
PKIN Phulchoki 38.39 282 eP P 01 27 52.2 -0.7
comp=Z,36nm,0.5s
MDSI Maura Dua 38.44 221 P P 01 27 47.0 -6.0
comp=Z,17nm,1.6s
KKN Kakani 38.46 283 eP P 01 27 53.1 -0.4
DMN Daman 38.64 282 eP P 01 27 54.6 -0.4
comp=Z,229nm,1.3s
CISI Cisompet, Garu 38.98 214 P P 01 27 56.9 -0.8
CISI Cisompet, Garu 38.98 214 eP P 01 27 56.5 -1.1
comp=Z,50nm,0.6s
GKN Gorkha 39.00 283 eP P 01 27 57.4 -0.5
comp=Z,276nm,1.2s
PMG Port Moresby 39.61 150 iP P 01 28 03.4 +0.6
PMG pmax pmax
comp=Z,16nm,1.4s
PMG Port Moresby 39.61 150 eP P 01 28 01.3 -1.5
comp=Z,21nm,1.1s
DANN Dangsing 39.72 284 eP P 01 28 03.9 -0.2
KOLN Koldanda 39.94 283 eP P 01 28 05.4 -0.4
comp=Z,194nm,1.3s
MKAR Makanchi Array 41.87 312 P P 01 28 21.0 -0.3
MKAR pmax pmax
comp=Z,11nm,0.5s
MKAR Makanchi Array 41.87 312 P P 01 28 21.0 -0.3
comp=Z,10nm,0.5s,baz=93,slow=8.6,SNR=79
COEN Coen 42.23 159 eP P 01 28 23.5 -0.8
FITZ Fitzroy Crossi 43.96 184 eP P 01 28 37.4 -0.9
comp=Z,51nm,1.4s
KSH Kashi 45.59 301 eP P 01 28 54.0 +2.6
KSH esP sP 01 29 08.3 +3.7
KSH ePP PP 01 30 41.3 +2.9
KSH ePcS PcS 01 34 21.8 -2.0
KSH eS S 01 35 32.3 +0.3
KSH eSS ScS 01 38 48.5 +2.8
KSH pmax pmax
comp=Z,45nm,1.1s
KSH pmax pmax
comp=Z,160nm,2.6s
KSH LR LR
comp=Z,1µm,16.6s
KSH LR LR
comp=Z,260nm,14.3s
KSH LR LR
comp=Z,360nm,12.8s
TIXI Tiksi 45.66 0 ⇓eP P 01 28 52.0 +0.7
TIXI pmax pmax
comp=Z,30nm,1.5s
TIXI Tiksi 45.66 0 eP P 01 28 51.5 +0.2
comp=Z,120nm,1.7s
WRAB Tennant Creek 46.04 172 P P 01 28 54.5 -0.4
comp=Z,201nm,0.7s,SNR=5.6
WRAB Tennant Creek 46.04 172 diP P 01 28 54.3 -0.6
WRAB pmax pmax
comp=Z,93nm,1.1s
WRAB Tennant Creek 46.04 172 eP P 01 28 53.6 -1.3
comp=Z,118nm,1.5s
WRA Warramunga Arr 46.05 172 P P 01 28 52.7 -2.3
WRA pmax pmax
comp=Z,21nm,0.7s
WRA Warramunga Arr 46.05 172 P P 01 28 52.7 -2.3
comp=Z,21nm,0.7s,baz=353,slow=8.4,SNR=60
MBWA Marble Bar 47.68 191 eP P 01 29 06.3 -1.3
comp=Z,30nm,1.2s
BILL Bilibino 47.78 18 eP P 01 29 09.3 +1.4
BILL e 01 30 59.4
BILL eS S 01 36 03.1 +0.9
BILL pmax pmax
comp=Z,25nm,1.2s
BILL MLR MLR
comp=Z,854nm,16.0s
BILL Bilibino 47.78 18 eP P 01 29 08.5 +0.5
comp=Z,46nm,1.2s
CTA Charters Tower 48.97 158 P P 01 29 16.8 -0.9
CTA pmax pmax
comp=Z,12nm,0.7s
CTA Charters Tower 48.97 158 P P 01 29 16.8 -0.9
comp=Z,12nm,0.7s,baz=349,slow=10,SNR=19
CTAO Charters Tower 48.97 158 eP P 01 29 16.9 -0.7
CTAO pmax pmax
comp=Z,92nm,1.6s
CTAO Charters Tower 48.97 158 eP P 01 29 16.9 -0.7
comp=Z,92nm,1.6s
AS31 Alice Springs 49.67 174 eP P 01 29 22.1 -1.0
BVAR Borovoye Array 50.60 318 P P 01 29 30.1 +0.3
BVAR pmax pmax
comp=Z,15nm,1.0s
BVAR Borovoye Array 50.60 318 P P 01 29 30.1 +0.3
comp=Z,15nm,1.0s,baz=71,slow=8.9,SNR=10
BRVK Borovoye 50.67 318 ⇓iP P 01 29 31.3 +1.0
BRVK pmax pmax
comp=Z,51nm,1.7s
BRVK Borovoye 50.67 318 eP P 01 29 31.2 +0.9
comp=Z,50nm,1.1s
KBL Kabul 51.43 295 eP P 01 29 37.5 +0.9
KBL pmax pmax
comp=Z,100nm,1.3s
KBL Kabul 51.43 295 eP P 01 29 37.5 +0.9
comp=Z,100nm,1.3s
GAMB Gambell 53.68 28 eP P 01 29 55.2 +2.8
comp=Z,21nm,1.4s
EIDS Eidsvold 55.55 155 eP P 01 30 06.1 -0.3
comp=Z,36nm,1.5s
TNA Tin City 55.69 27 eP P 01 30 09.2 +2.2
comp=Z,53nm,1.2s
FORT Forrest 56.49 180 eP P 01 30 11.6 -1.4
comp=Z,84nm,1.0s
SVE Sverdlovsk 56.58 322 ⇓iP P 01 30 15.5 +2.0
SVE e 01 32 23.1
SVE ePPP PPP 01 33 45.3
SVE pmax pmax
comp=Z,61nm,1.5s
SVE MLR MLR
comp=E,3µm,14.0s
SVE MLR MLR
comp=Z,4µm,14.0s
ABKAR Akbulak array 56.98 313 eP P 01 30 16.1 -0.4
ARU Arti 57.72 322 diP P 01 30 22.4 +0.9
ARU 01 31 17.3
ARU 01 32 34.5
ARU S S 01 38 20.8 +2.7
ARU SS SS 01 42 16.7 +8.4
ARU pmax pmax
comp=Z,57nm,1.7s
ARU MLR MLR
comp=Z,2µm,15.0s
ARU Arti 57.72 322 eP P 01 30 21.6 0.0
comp=Z,39nm,1.2s
AKTO Aktyubinsk 58.16 315 P P 01 30 24.1 -0.7
AKTO pmax pmax
comp=Z,4.0nm,0.8s
AKTO Aktyubinsk 58.16 315 P P 01 30 24.1 -0.7
comp=Z,3.6nm,0.8s,baz=84,slow=9.6,SNR=3.7
SOKR Solikamsk 58.72 326 eP P 01 30 30.5 +2.0
SOKR pmax pmax
comp=Z,10.0nm,0.8s
SOKR MLR MLR
comp=Z,2µm,19.0s
STKA Stephens Creek 58.92 167 P P 01 30 28.7 -1.4
STKA pmax pmax
comp=Z,6.0nm,0.7s
STKA Stephens Creek 58.92 167 P P 01 30 28.6 -1.4
comp=Z,5.7nm,0.7s,baz=338,slow=7.8,SNR=14
STKA Stephens Creek 58.92 167 eP P 01 30 28.8 -1.4
comp=Z,3.8nm,1.1s
GEYT Alibeck 59.62 300 P P 01 30 35.7 +0.5
comp=Z,9.4nm,0.7s,baz=51,slow=4.7,SNR=15
DZM Mont Dzumac 60.31 139 P P 01 30 39.5 -0.5
comp=Z,5.4nm,0.6s,baz=270,slow=3.0,SNR=9.7
DZM Mont Dzumac 60.31 139 eP P 01 30 40.2 +0.2
comp=Z,38nm,1.2s
ARMA Armidale 60.33 157 eP P 01 30 39.9 -0.1
comp=Z,46nm,1.5s
SVW2 Sparrevohn 60.79 33 eP P 01 30 44.8 +2.0
comp=Z,41nm,1.5s
IM04 Indian Mountai 61.53 27 eP P 01 30 49.2 +1.5
PPLA Purkeypile 62.31 31 eP P 01 30 54.5 +1.4
comp=Z,73nm,1.5s
KTH Kantishna Hill 62.84 30 eP P 01 30 58.3 +1.7
comp=Z,66nm,1.8s
MCK McKinley 63.71 29 eP P 01 31 02.9 +0.6
MCK pmax pmax
comp=Z,37nm,1.2s
MCK McKinley 63.71 29 eP P 01 31 02.9 +0.6
comp=Z,37nm,1.2s
PMR Palmer 63.85 32 eP P 01 31 04.6 +1.4
PMR pmax pmax
comp=Z,69nm,1.6s
PMR Palmer 63.85 32 eP P 01 31 04.6 +1.4
comp=Z,69nm,1.6s
COLA College 64.06 28 eP P 01 31 05.2 +0.7
COLA pmax pmax
comp=Z,21nm,1.3s
COLA College 64.06 28 eP P 01 31 05.2 +0.7
comp=Z,21nm,1.3s
PRGR Permogore 64.11 328 eP P 01 30 58.0 -6.9
PRGR e 01 31 35.4
PRGR pmax pmax
comp=Z,35nm,1.6s
ILAR Eielson Array 64.48 28 P P 01 31 06.7 -0.6
comp=Z,1.1nm,0.7s,baz=258,slow=4.6,SNR=20
PAX Paxson 65.36 30 eP P 01 31 15.7 +2.5
PAX pmax pmax
comp=Z,35nm,1.5s
PAX Paxson 65.36 30 eP P 01 31 15.7 +2.5
comp=Z,35nm,1.5s
DOT Dot Lake 65.87 29 eP P 01 31 16.5 +0.1
comp=Z,16nm,1.1s
BMRM Bremner River 66.11 32 eP P 01 31 18.6 +0.7
comp=Z,126nm,1.9s
MENT Mentasta 66.15 30 eP P 01 31 18.7 +0.5
MAK Makhachkala 66.46 308 eP P 01 31 19.0 -1.4
MAK e 01 31 48.0
MAK ePPP PPP 01 35 19.3
MAK eS S 01 40 07.2 -1.6
MAK eSS SS 01 44 26.4 +0.9
EGAK Eagle 66.91 28 eP P 01 31 25.1 +2.2
comp=Z,30nm,1.7s
TMCR Tamitsa 67.11 332 eP P 01 31 24.3 +0.1
TMCR e 01 33 52.3
TMCR pmax pmax
comp=Z,44nm,1.2s
VRHR Novokhopersk 68.32 317 eP P 01 31 30.7 -1.4
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,20nm,1.0s
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR MLR MLR
comp=N,430nm,14.0s
VRHR MLR MLR
comp=E,570nm,14.0s
VRHR MLR MLR
comp=Z,900nm,14.0s
SPITS Spitsbergen Ar 69.08 348 P P 01 31 36.5 +0.1
SPITS pmax pmax
comp=Z,11nm,0.9s
SPITS Spitsbergen Ar 69.08 348 P P 01 31 36.5 +0.1
comp=Z,11nm,0.9s,baz=96,slow=7.7,SNR=11
GNI Garni 69.21 305 eP P 01 31 39.0 +0.9
GNI pmax pmax
comp=Z,65nm,1.4s
GNI Garni 69.21 305 eP P 01 31 39.0 +0.9
comp=Z,65nm,1.4s
MOS Moscow 69.39 323 eP P 01 31 38.6 -0.1
MOS e 01 34 14.1
MOS pmax pmax
comp=Z,54nm,1.2s
MOS MLR MLR
comp=Z,2µm,14.0s
MOS MLR MLR
comp=E,2µm,15.0s
KBZ Khabaz 69.49 309 P P 01 31 39.8 +0.3
KBZ pmax pmax
comp=Z,24nm,1.0s
KBZ Khabaz 69.49 309 P P 01 31 39.8 +0.3
comp=Z,24nm,1.0s,baz=127,slow=5.3,SNR=13
HYT Haines Junctio 69.51 31 eP P 01 31 41.0 +1.5
KIV Kislovodsk 69.58 310 eP P 01 31 41.5 +1.3
KIV eS S 01 40 48.1 +1.9
KIV pmax pmax
comp=Z,67nm,1.0s
KIV pmax pmax
comp=Z,40nm,3.1s
KIV MLR MLR
comp=Z,570nm,18.0s
KIV Kislovodsk 69.58 310 eP P 01 31 41.2 +1.1
comp=Z,108nm,1.2s
KEV Kevo 69.72 339 eP P 01 31 40.2 -0.2
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 69.72 339 ep P 01 31 40.2 -0.2
comp=Z,0.7nm,0.4s
VSR Storozhevoye 69.78 318 eP P 01 31 40.2 -0.9
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,20nm,1.4s
VSR pmax pmax
comp=Z,20nm,1.4s
VSR MLR MLR
comp=N,630nm,17.0s
VSR MLR MLR
comp=E,780nm,17.0s
VSR MLR MLR
comp=Z,2µm,17.0s
OBN Obninsk 70.15 322 eP P 01 31 43.1 -0.2
OBN i *PP PcP 01 32 13.4 +8.3
OBN e 01 34 15.3
OBN pmax pmax
comp=Z,43nm,1.2s
OBN MLR MLR
comp=Z,1µm,18.0s
OBN Obninsk 70.15 322 eP P 01 31 43.6 +0.3
comp=Z,99nm,1.7s
ARCES ARCESS Array B 70.29 339 P P 01 31 43.7 -0.3
ARCES pmax pmax
comp=Z,18nm,1.2s
ARCES ARCESS Array B 70.29 339 P P 01 31 43.7 -0.3
comp=Z,18nm,1.1s,baz=50,slow=6.5,SNR=6.7
JOF Joensuu 70.35 331 eP P 01 31 43.8 -0.6
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 70.35 331 ep P 01 31 43.8 -0.6
comp=Z,3.4nm,0.5s
SOC Sochi 71.74 310 eP P 01 31 51.9 -1.3
SOC eS S 01 41 11.1 -0.1
SOC e 01 42 00.0
SOC pmax pmax
comp=Z,46nm,1.1s
SOC MLR MLR
comp=Z,595nm,19.0s
KAF Kangasniemi 72.80 331 eP P 01 31 59.1 -0.1
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 72.80 331 ep P 01 31 59.1 -0.1
comp=Z,1.1nm,0.4s
ANN Anapa 72.89 312 eP P 01 32 00.9 +0.9
ANN eS S 01 41 25.1 +0.8
ANN pmax pmax
comp=Z,85nm,1.5s
FIA1 FINESS Array S 73.17 331 eP P 01 32 01.4 0.0
FINES FINESS Array B 73.17 331 P P 01 32 01.2 -0.2
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 73.17 331 P P 01 32 01.1 -0.2
comp=Z,5.5nm,0.6s,baz=76,slow=5.9,SNR=32
VSU Vasula 74.06 328 eP P 01 32 07.8 +1.2
VSU pmax pmax
comp=Z,154nm,1.3s
RAYN Ar Rayn 74.13 289 P P 01 32 08.2 +0.4
comp=Z,1.0nm,1.0s,SNR=7.3
RAYN Ar Rayn 74.13 289 eP P 01 32 07.8 0.0
comp=Z,32nm,1.3s
MALT Malatya 74.44 305 ⇓P P 01 32 11.2 +1.7

MALT	Malatya	74.44	305	⇓iP	P	01 32 11.2	+1.7
SIM	Simferopol'	75.04	313	⇓iP	P	01 32 13.9	+1.3
SIM				pmax	pmax		
	comp=Z,25nm,1.4s						
MICGM	Minsk	75.08	324	e	P	01 32 13.0	+0.4
MNK	Minsk	75.10	324	eP	P	01 32 13.0	+0.2
IDID	Didziasalis	75.34	325	eP	P	01 32 14.9	+0.8
IDID				AMB	AMB	01 32 17.3	
	comp=Z,21nm,1.3s						
DAG	Danmarks Havn	75.49	353	iP	P	01 32 15.0	+0.4
DAG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DAG	Danmarks Havn	75.49	353	iP	P	01 32 15.0	+0.4
	comp=Z,5.5nm,1.0s						
NACGM	Naroch	75.50	324	e	P	01 32 13.0	-2.0
ISAL	Salakas	75.56	325	eP	P	01 32 16.1	+0.8
ISAL				AMB	AMB	01 32 18.7	
	comp=Z,20nm,1.4s						
IIGN	Ignalina	75.60	325	eP	P	01 32 15.9	+0.3
IIGN				AMB	AMB	01 32 18.3	
	comp=Z,12nm,1.4s						
RES	Resolute Bay	75.69	11	eP	P	01 32 16.3	+0.5
RES				pmax	pmax		
	comp=Z,45nm,1.1s						
RES	Resolute Bay	75.69	11	eP	P	01 32 16.3	+0.5
	comp=Z,45nm,1.1s						
AKASG	Malin Array Be	75.86	320	P	P	01 32 16.6	-0.6
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.5s						
AKASG	Malin Array Be	75.86	320	P	P	01 32 16.6	-0.6
	comp=Z,9.8nm,0.5s,baz=53,slow=5.7,SNR=57						
AKBB	Malin Array Si	75.86	320	eP	P	01 32 16.9	-0.3
AKBB	Malin Array Si	75.86	320	eP	P	01 32 16.9	-0.3
AK01	Malin Array Si	75.87	320	eP	P	01 32 16.5	-0.7
KIEV	Kiev	75.87	320	eP	P	01 32 16.2	-1.1
KIEV				pmax	pmax		
	comp=Z,111nm,1.7s						
KIEV	Kiev	75.87	320	eP	P	01 32 16.1	-1.1
	comp=Z,111nm,1.7s						
AK02	Malin Array Si	75.89	320	eP	P	01 32 16.4	-0.9
BR131	Keskin Array S	77.37	308	eP	P	01 32 26.0	-0.1
	comp=Z,18nm,1.0s						
BRTR	Keskin Array B	77.37	308	P	P	01 32 26.1	-0.1
BRTR				pmax	pmax		
	comp=Z,28nm,1.2s						
BRTR	Keskin Array B	77.37	308	P	P	01 32 26.1	-0.1
	comp=Z,28nm,1.2s,baz=100,slow=3.8,SNR=39						
KIS	Kishinev	77.62	316	eP	P	01 32 28.0	+0.8
SUW	Suwalki	77.77	324	eP	P	01 32 29.0	+1.1
SUW				pmax	pmax		
	comp=Z,92nm,1.2s						
SUW	Suwalki	77.77	324	eP	P	01 32 28.7	+0.8
SUW	Suwalki	77.77	324	eP	P	01 32 29.0	+1.1
	comp=Z,92nm,1.2s						
ANTO	Ankara	77.91	308	eP	P	01 32 30.6	+1.5
ANTO				pmax	pmax		
	comp=Z,57nm,1.6s						
ANTO	Ankara	77.91	308	eP	P	01 32 30.6	+1.5
	comp=Z,57nm,1.6s						
URZ	Urewera	78.50	143	P	P	01 32 30.9	-1.1
	comp=Z,3.8nm,0.7s,baz=11,slow=9.7,SNR=4.1						
YKA	Yellowknife Ar	78.59	25	P	P	01 32 32.0	-0.3
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	78.59	25	P	P	01 32 32.0	-0.3
	comp=Z,1.8nm,0.7s,baz=300,slow=5.8,SNR=24						
CFR	Carcaliu	78.83	315	⇑iP	P	01 32 34.3	+0.4
CFR	Carcaliu	78.83	315	⇑iP	P	01 32 34.3	+0.4
TESR	Tescani	79.18	317	⇑iP	P	01 32 36.3	+0.4
LVV	L'vov	79.24	320	eP	P	01 32 37.0	+0.8
VRI	Vrincioaia	79.42	316	⇑P	P	01 32 38.3	+1.1
VRI	Vrincioaia	79.42	316	eP	P	01 32 38.4	+1.2
VRI	Vrincioaia	79.42	316	⇑iP	P	01 32 38.3	+1.1
PLOR	Plostina	79.47	316	⇑P	P	01 32 38.5	+1.0
PLOR	Plostina	79.47	316	⇑iP	P	01 32 38.5	+1.0
BUR08	Bucovina Ar. S	79.56	318	eP	P	01 32 38.4	+0.3
BURAR	Bucovina Array	79.56	318	⇑P	P	01 32 38.6	+0.5
BURAR	Bucovina Array	79.56	318	⇑iP	P	01 32 38.6	+0.5
NB2	NORSAR Subarra	79.61	334	P	P	01 32 37.3	-0.7
	comp=Z,19nm,1.2s,baz=53,slow=5.6						
NB2	NORSAR Subarra	79.61	334	P	P	01 32 37.3	-0.7
	baz=53,slow=5.6						
NOA	NORSAR Array B	79.61	334	P	P	01 32 37.6	-0.4
	comp=Z,7.0nm,0.9s,baz=52,slow=5.6,SNR=17						
NOA				LR	LR	02 12 18.4	
	comp=Z,549nm,19.1s,baz=245,slow=39						
NAO01	NORSAR Array S	79.86	334	eP	P	01 32 39.2	0.0
	comp=Z,31nm,1.3s						
ISR	Istrita	79.87	315	⇑P	P	01 32 42.3	+2.6
ISR	Istrita	79.87	315	⇑iP	P	01 32 42.3	+2.6
MLR	Muntele Rosu	80.08	316	⇑P	P	01 32 42.7	+1.8
MLR	Muntele Rosu	80.08	316	⇑iP	P	01 32 42.7	+1.8
BEL	Belsk	80.08	323	eP	P	01 32 42.0	+1.4
BEL	Belsk	80.08	323	eP	P	01 32 42.0	+1.4
KWP	Kalwaria Pacla	80.09	321	⇑P	P	01 32 42.8	+2.0
KWP	Kalwaria Pacla	80.09	321	eP	P	01 32 42.0	+1.2
KWP	Kalwaria Pacla	80.09	321	⇑iP	P	01 32 42.8	+2.0
KWP	Kalwaria Pacla	80.09	321	eP	P	01 32 40.9	+0.1
	comp=Z,150nm,1.6s						
NEF	NEVSHA	80.22	313	eP	P	01 32 46.2	+4.6
SULR		80.25	315	⇓iP	P	01 32 43.5	+1.8
ISP	Isparta	80.37	307	⇑P	P	01 32 43.7	+1.1
ISP	Isparta	80.37	307	⇑iP	P	01 32 43.7	+1.1
VOIR		80.66	316	⇓P	P	01 32 49.2	+5.2
VOIR		80.66	316	⇓iP	P	01 32 49.2	+5.2
KOLS	Kolonicke sedl	80.68	320	eP	P	01 32 45.6	+1.7
KOLS				pmax	pmax		
	comp=Z,21nm,1.5s						
KOLS	Kolonicke sedl	80.68	320	eP	P	01 32 45.6	+1.7
UZH	Uzhgorod	80.81	320	eP	P	01 32 44.1	-0.5
UZH				e		01 33 00.3	
UZH				eS	S	01 42 46.7	-3.9
UZH				e		01 44 02.9	
UZH				e		01 48 02.3	
UZH				MLR	MLR		
	comp=N,700nm,14.0s						
UZH				MLR	MLR		
	comp=E,1μm,14.0s						
UZH				MLR	MLR		
	comp=Z,500nm,14.0s						
TRPA	Tarpa	80.91	319	⇓iP	P	01 32 46.7	+1.6
ARR	Arges	80.95	316	⇑iP	P	01 32 46.5	+0.9
STHS	Stebnicka Huta	81.03	321	eP	P	01 32 47.5	+1.7
STHS				pmax	pmax		
	comp=Z,11nm,1.5s						
STHS	Stebnicka Huta	81.03	321	eP	P	01 32 47.5	+1.7
JMB	Yambol	81.04	313	⇓P	P	01 32 46.4	+0.4
JMB	Yambol	81.04	313	⇓iP	P	01 32 46.4	+0.4
SZH	Strazhica	81.10	314	eP	P	01 32 47.3	+1.0
CRVS	Cervenica-Dubn	81.16	320	eP	P	01 32 47.8	+1.3
CRVS				pmax	pmax		
	comp=Z,45nm,2.0s						
CRVS	Cervenica-Dubn	81.16	320	eP	P	01 32 47.8	+1.3
SUMG	Summit	81.25	356	eP	P	01 32 48.4	+1.3
SUMG				pmax	pmax		
	comp=Z,78nm,1.4s						
SUMG	Summit	81.25	356	iP	P	01 32 49.1	+2.1
	comp=Z,21nm,0.9s						
SUMG	Summit	81.25	356	eP	P	01 32 48.4	+1.3
	comp=Z,78nm,1.4s						
OJC	Ojcow	81.44	322	eP	P	01 32 50.0	+2.0
OJC	Ojcow	81.44	322	eP	P	01 32 50.0	+2.0
DRGR		81.45	318	⇓P	P	01 32 50.0	+1.8
DRGR		81.45	318	⇓iP	P	01 32 50.0	+1.8
NIE	Niedzica	81.56	321	eP	P	01 32 50.8	+2.2
NIE	Niedzica	81.56	321	eP	P	01 32 50.8	+2.2
DIM	Dimitrovgrad	81.92	313	eP	P	01 32 52.0	+1.4
GZR	Gura Zlata	82.09	317	⇓P	P	01 32 53.6	+2.0
GZR	Gura Zlata	82.09	317	⇓iP	P	01 32 53.6	+2.0
PLD	Plovdiv	82.44	313	eP	P	01 32 54.9	+1.5
OKC	Ostrava-Krasne	82.55	322	eP	P	01 32 54.7	+0.9
OKC				e		01 33 04.9	
OKC				e		01 33 07.6	
OKC				MLR	MLR		
	comp=Z,3μm,17.0s						
OKC	Ostrava-Krasne	82.55	322	eP	P	01 32 54.7	+0.9
OKC				ex	x	01 33 04.9	
OKC				ex	x	01 33 07.6	
OKC				AMS	AMS	02 20 20.0	
	comp=Z,3μm,17.0s						
PSZ	Piszkesteto	82.56	320	eP	P	01 32 54.8	+0.9
PSZ	Piszkesteto	82.56	320	eP	P	01 32 54.8	+0.9
BZS	Buzias	82.69	317	⇓P	P	01 32 56.2	+1.6
BZS	Buzias	82.69	317	⇓iP	P	01 32 56.2	+1.6
VYHS	Vyhne	82.86	321	eP	P	01 32 57.1	+1.6
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VYHS	Vyhne	82.86	321	eP	P	01 32 57.1	+1.6
MORC	Moravsky Berou	82.91	322	eP	P	01 32 56.4	+0.6
MORC				pmax	pmax		
	comp=Z,12nm,1.3s						
MORC	Moravsky Berou	82.91	322	⇓iP	P	01 32 59.8	+4.1
MORC	Moravsky Berou	82.91	322	eP	P	01 32 56.4	+0.6
	comp=Z,12nm,1.3s						
KSP	Ksiaz	83.01	324	eP	P	01 32 57.7	+1.5
KSP	Ksiaz	83.01	324	eP	P	01 33 00.0	+3.8
KRLC	Kraliky	83.17	323	eP	P	01 32 59.6	+2.5
KRLC				e		01 33 08.2	
KRLC	Kraliky	83.17	323	eP	P	01 32 59.6	+2.5
KRLC				ex	x	01 33 08.2	
DPC	Dobruska-Polom	83.27	323	eP	P	01 32 57.9	+0.3
DPC				e		01 33 07.8	
DPC				e		01 33 15.8	
DPC	Dobruska-Polom	83.27	323	eP	P	01 32 57.9	+0.3
DPC				ex	x	01 33 07.8	
DPC				ex	x	01 33 15.8	
DPC	Dobruska-Polom	83.27	323	eP	P	01 33 00.4	+2.9
MMB	Musomiste	83.33	313	⇓P	P	01 32 59.5	+1.5
MMB	Musomiste	83.33	313	⇓iP	P	01 32 59.5	+1.5
UPC	Upice	83.34	324	eP	P	01 32 58.2	+0.3
UPC	Upice	83.34	324	eP	P	01 32 58.2	+0.3
RUE	Ruedersdorf	83.40	326	eP	P	01 32 59.3	+1.2
	comp=Z,25nm,0.9s						
SMOL	Smolenice	83.65	321	eP	P	01 33 03.6	+4.0
SMOL	Smolenice	83.65	321	epP	P	01 33 03.5	+4.0
VRAC	Vranov	83.69	322	⇓P	P	01 33 00.1	+0.4
PVCC	Panska Ves	84.10	324	eP	P	01 33 03.9	+2.1
PVCC				AMS	AMS	02 14 50.0	
	comp=Z,4μm,15.5s						
PKSM	Moragy	84.17	319	⇓P	P	01 33 03.5	+1.3
PKSM	Moragy	84.17	319	⇓iP	P	01 33 03.5	+1.3
VAY	Valandovo	84.22	313	eP	P	01 33 04.5	+1.9
BRG	Berggiesshubel	84.23	325	eP	P	01 33 03.6	+1.2
	comp=Z,30nm,1.6s						
BRG				e		01 33 13.9	
	comp=Z,27nm,1.5s						
BRG							
	comp=N,2μm,18.0s						
BRG							
	comp=E,2μm,21.9s						
BRG							
	comp=Z,4μm,21.0s						
BRG	Berggiesshubel	84.23	325	eP	P	01 33 03.6	+1.2
BRG				e		01 33 13.9	
BRG				pmax	pmax		
	comp=Z,30nm,1.6s						
BRG				MLR	MLR		
	comp=N,2μm,18.0s						
BRG				MLR	MLR		
	comp=E,2μm,21.9s						
BRG				MLR	MLR		
	comp=Z,4μm,21.0s						
TREC	Trest	84.30	323	AMS	AMS	02 20 00.0	
	comp=Z,2μm,17.6s						
PRU	Pruhonice	84.42	324	eP	P	01 33 05.2	+1.8
PRU				e		01 33 14.2	
PRU				MLR	MLR		
	comp=Z,3μm,14.9s						
PRU	Pruhonice	84.42	324	eP	P	01 33 05.2	+1.8
PRU				ex	x	01 33 14.2	
PRU				AMS	AMS	02 15 10.0	
	comp=Z,3μm,14.9s						
PRA	Prague	84.43	324	P	P	01 33 05.0	+1.6
CLL	Collm	84.47	325	⇓iP	P	01 33 05.0	+1.4
CLL				i		01 33 17.5	
CLL				pmax	pmax		
	comp=Z,19nm,1.3s						
CLL	Collm	84.47	325	⇓iP	P	01 33 05.0	+1.4
	comp=Z,19nm,1.3s						
CLL				i		01 33 17.5	
	comp=Z,21nm,1.3s						
CLL				ePP	PP	01 36 18.0	-0.4
CONA	Conrad Observa	84.85	321	⇑iPcP	PcP	01 33 07.5	-1.5
	comp=Z,24nm,1.5s,SNR=7.0						
I04A	Tendick Farm,	84.94	43	P	P	01 33 07.4	+1.2
	baz=85						
D08A	Wollman Farm,	85.26	39	eP	P	01 33 10.0	+2.3
	comp=Z,91nm,2.5s						
HAWA	Hanford	85.28	40	eP	P	01 33 10.2	+2.5
	comp=Z,13nm,1.3s						
I05D	Terrebonne, OR	85.31	43	P	P	01 33 08.9	+0.8
	baz=85						
ARSA	Arzberg	85.41	321	⇓iPcP	PcP	01 33 10.5	-1.0
	comp=Z,9.5nm,1.3s						
J04D	Umpqua Nationa	85.41	44	P	P	01 33 10.0	+1.2
	baz=85						
KHC	Kasperske Hory	85.42	323	eP	P	01 33 10.2	+1.7
KHC				e		01 33 18.2	
KHC				e		01 33 23.1	
KHC				MLR	MLR		
	comp=Z,3μm,18.3s						
KHC	Kasperske Hory	85.42	323	eP	P	01 33 10.2	+1.7
KHC				ex	x	01 33 18.2	
KHC				ex	x	01 33 23.1	
KHC				AMS	AMS	02 14 10.0	
	comp=Z,3μm,18.3s						
GERES	GERESS Array B	85.52	323	P	P	01 33 09.9	+0.8
	comp=Z,0.7nm,0.6s,baz=60,slow=4.7,SNR=6.2						
IDI	Anoyia	85.56	307	LR	LR	02 16 29.2	
	comp=Z,3μm,21.5s,baz=254,slow=39						
NEW	Newport	85.59	38	eP	P	01 33 11.5	+2.1
NEW				pmax	pmax		
	comp=Z,14nm,1.4s						
NEW	Newport	85.59	38	eP	P	01 33 11.4	+2.1
	comp=Z,14nm,1.4s						
NEW	Newport	85.59	38	P	P	01 33 10.7	+1.3
	baz=86						
J05D	Fort Rock, OR	85.93	43	P	P	01 33 12.6	+1.3
	baz=86						
N02D	Trinity Center	86.22	46	P	P	01 33 13.8	+1.1
	baz=86						
GRF	Grafenberg Arr	86.34	325	eP	P	01 33 18.5	+5.5
	comp=Z,27nm,1.2s						
GRFO	Grafenberg	86.34	325	eP	P	01 33 19.1	+6.1
GRFO				pmax	pmax		
	comp=Z,33nm,1.2s						
GRFO	Grafenberg	86.34	325	eP	P	01 33 19.1	+6.1
	comp=Z,33nm,1.2s						
M04C	Macdoel	86.35	45	P	P	01 33 14.5	+1.2
	baz=86						
K05A	Summer Lake	86.44	44	eP	P	01 33 15.8	+1.9
	comp=Z,306nm,2.9s						
BSMT	Bassoo Peak	87.11	37	eP	P	01 33 17.5	+0.5
MOD	Modoc	87.26	44	eP	P	01 33 19.5	+1.7
	comp=Z,20nm,1.3s						
ABTA	Abfaltersbach	87.39	322	⇑iPcP	PcP	01 33 21.7	+1.4
	comp=Z,9.5nm,0.7s,SNR=6.5						
BMO	Blue Mountains	87.43	41	eP	P	01 33 20.1	+1.5
BMO				pmax	pmax		
	comp=Z,15nm,1.7s						
BMO	Blue Mountains	87.43	41	eP	P	01 33 20.1	+1.5
	comp=Z,14nm,1.7s						
WTTA	Wattenberg	87.57	323	⇑iPcP	PcP	01 33 24.5	+3.2
	comp=Z,19nm,1.4s						
SWMT	Swartz Lake	87.74	37	eP	P	01 33 20.8	+0.8
	comp=Z,2.9nm,1.0s						
WVOR	Wild Horse Val	88.00	43	eP	P	01 33 23.8	+2.4
WVOR				pmax	pmax		
	comp=Z,39nm,1.8s						
WVOR	Wild Horse Val	88.00	43	eP	P	01 33 23.8	+2.4
	comp=Z,39nm,1.8s						
SLMT	Seeley Lake	88.17	37	eP	P	01 33 23.8	+1.7
MSO	Missoula	88.18	38	P	P	01 33 23.7	+1.6
	baz=88						
FCC	Fort Churchill	88.43	21	eP	P	01 33 23.3	+0.5
FCC	Fort Churchill	88.43	21	eP	P	01 33 23.3	+0.5
FFC	Flin Flon	88.65	27	eP	P	01 33 24.8	+0.8
FFC				pmax	pmax		
	comp=Z,16nm,1.1s						
FFC	Flin Flon	88.65	27	eP	P	01 33 24.8	+0.8
	comp=Z,16nm,1.1s						
MFID	Camas Ranch	89.13	41	eP	P	01 33 29.3	+2.7
	comp=Z,20nm,1.7s						
TUE	Stuetta	89.30	323	eP	P	01 33 28.1	+0.6
	comp=Z,5.2nm,0.7s						
A19A	Klindworth Far	89.58	34	P	P	01 33 29.2	+0.6
	baz=90						
EGMT	Eagleton	89.66	35	P	P	01 33 30.0	+1.0
	baz=90						
HLID	Hailey	89.87	40	P	P	01 33 31.4	+1.2
	baz=90						
A20A	Cobblestone Ra	90.02	33	P	P	01 33 31.2	+0.5
	baz=90						
C19A	Slack Wire Ran	90.21	35	P	P	01 33 32.3	+0.7
	baz=90						
B20A	Solberg Farm,	90.27	34	P	P	01 33 33.2	+1.5
	baz=90						
A21A	Bergtoll Ranch	90.44	33	P	P	01 33 33.7	+1.2
	baz=90						
NVAR	Mina Array Bea	90.45	46	P	P	01 33 34.4	+1.3
	comp=Z,1.0nm,0.7s,baz=284,slow=5.2,SNR=6.6						
D19A	Cripps Ranch,	90.67	35	P	P	01 33 34.7	+1.0
	baz=90						
C20A	Veseth Ranch,	90.75	34	P	P	01 33 35.2	+1.2
	baz=91						
A22A	Carney Farms,	90.93	32	P	P	01 33 35.6	+0.7
	baz=91						
D20A	Manuel Ranch,	91.10	35	P	P	01 33 36.5	+0.8
	baz=91						
C21A	Desert Coulee	91.14	34	P	P	01 33 36.3	+0.4
	baz=91						
E19A	Rath Farm, Rou	91.17	36	P	P	01 33 36.8	+0.7
	baz=91						
F19A	Roth Farm, Mol	91.49	36	P	P	01 33 37.3	-0.2
	baz=91						
E20A	Meyer Farm, Mu	91.49	35	P	P	01 33 38.2	+0.7
	baz=91						
H17A	Grant Village	91.54	38	P	P	01 33 40.8	+2.8
	baz=91						
KMBO	Kilima Mbogo	91.64	270	P	P	01 33 39.4	+0.4
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KMBO	Kilima Mbogo	91.64	270	P	P	01 33 39.4	+0.4
	comp=Z,1.1nm,0.8s,baz=246,slow=4.1,SNR=5.1						
KMBO	Kilima Mbogo	91.64	270	eP	P	01 33 39.6	+0.6
	comp=Z,3.5nm,1.2s						
D21A	La Casta Ranch	91.70	34	P	P	01 33 39.9	+1.4
	baz=92						
B23A	Brockton	91.74	32	P	P	01 33 38.9	+0.3
	baz=92						
C22A	Vida	91.79	33	P	P	01 33 39.7	+0.9
	baz=92						
I17A	Pilgrim Ck.	91.84	38	P	P	01 33 40.6	+1.2
	baz=92						
H18A	Shoshone NF, C	91.86	37	P	P	01 33 41.1	+1.6
	baz=92						
A24A	Westby	91.89	32	P	P	01 33 41.0	+1.7
	baz=92						
H19A	Powell	92.23	37	P	P	01 33 43.0	+1.9
	baz=92						
R11A	Troy Canyon, C	92.24	45	P	P	01 33 42.1	+0.8
	baz=92						
G20A	Bridger	92.29	36	P	P	01 33 41.9	+0.6
	baz=92						
DUG	Dugway	92.86	42	eP	P	01 33 45.6	+1.5
DUG				pmax	pmax		
	comp=Z,8.0nm,1.4s						
DUG	Dugway	92.86	42	eP	P	01 33 45.6	+1.5
	comp=Z,7.9nm,1.4s						
DUG	Dugway	92.86	42	P	P	01 33 45.5	+1.5
	baz=93						
H20A	Greybull	92.89	37	P	P	01 33 45.3	+1.2
	baz=93						
J19A	Crowheart	93.11	38	P	P	01 33 44.8	-0.4
	baz=93						
PDAR	Pinedale Array	93.15	39	P	P	01 33 45.6	+0.1
	comp=Z,1.9nm,1.1s,baz=346,slow=1.9,SNR=6.4						
I20A	Worland	93.17	37	P	P	01 33 46.0	+0.6
	baz=93						
I21A	Big Trails, Te	93.72	37	P	P	01 33 47.9	-0.1
	baz=94						
TUQ	Turquoise Moun	93.72	48	P	P	01 33 48.3	+0.1
	baz=94						
HEC	Hector,Ludlow	93.80	48	P	P	01 33 48.8	+0.3
	baz=94						
J21A	Lysite	93.94	37	P	P	01 33 50.2	+1.2
	baz=94						
GMRC	Granite Mounta	94.28	48	P	P	01 33 51.4	+0.7
	baz=94						
J22A	Midwest	94.42	37	P	P	01 33 52.1	+0.9
	baz=94						
B30A	Myrvik Farm, E	94.81	29	P	P	01 33 54.5	+1.8
	baz=95						
G26A	Maurine	95.13	33	P	P	01 33 55.1	+0.9
	baz=95						
N20A	Spence Gulch,	95.14	40	P	P	01 33 55.2	+0.5
	baz=95						
I25A	Rochford	95.45	35	P	P	01 33 55.9	-0.1
	baz=95						
GLA	Glamis	95.85	49	P	P	01 33 59.4	+1.6
	baz=96						
SYO	Syowa Base	113.65	203	⇓eP	Pdif	01 35 16.8	+0.8
TORD	Torodi Ar. Bea	115.26	300	PKP	PKPdf	01 39 11.6	-1.5
	comp=Z,0.4nm,0.7s,baz=32,slow=2.7,SNR=3.2						
SDV	Santo Domingo	140.61	31	ePKPdf	PKPdf	01 40 01.1	-0.3

*SJA **28** 01:21:40.7±0.9, 32.°91S×73.°34W, h57km±22km, ML4.1*
*IDC **28** 01:21:42.9±1.0, 33.°30S×72.°29W, h0km, mb3.8/4, mb1 4.0/7, mb1mx3.9/33, mbtmp3.8/7, ML4.0/3, Error ellipse: s-maj=46.1km s-min=20.0km az=90.0*
*NEIC **28** 01:21:47.3±0.5, 33.°29S×72.°27W, h35km, mb4.3/10, Error ellipse: s-maj=20.3km s-min=8.8km az=88.0*
ISC 28 01:21:43.8±0.6, **33.°28S**±0.°07×**72.°33W**±0.°07, **h12**km, **n37**, σ**1.s23**/37, **mb4.2**/12, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUSP	Uspallata	2.69	68	eP	Pg	01 22 34.8	-0.6
AUSP				eS	Sg	01 23 13.8	+3.4
ARCO	CERRO ARCO	2.89	82	eP	Pg	01 22 38.1	-1.0
ARCO				eS	Sg	01 23 21.5	+4.9
ARCO				AML	AML	01 23 26.8	
	comp=Z,331nm,0.6s						
AAGR	Agrelo	2.94	87	eP	Pg	01 22 39.5	-0.7
RTLS	Leoncito	2.96	61	eP	Pg	01 22 37.7	-2.8
ASAL	Salagasta	3.02	78	eP	Pg	01 22 39.7	-1.9
AVIZ	Vizcacheras	3.20	95	eP	Pg	01 22 42.9	-2.2
CFAA	Coronel Fontan	3.84	65	Lg	Lg	01 23 45.1	
	comp=Z,1.0nm,0.3s,baz=97,slow=17,SNR=2.9						
AMOG	MOGNA	4.00	55	eP	Pb	01 22 49.5	-4.8
AMOG				eP	Pb	01 22 49.5	-4.8
PLCA	Paso Flores	7.58	170	Pn	Pn	01 23 33.5	-0.6
	comp=Z,0.9nm,0.3s,baz=305,slow=13,SNR=2.7						
PLCA	Paso Flores	7.58	170	ePn	Pn	01 23 33.6	-0.4
LVC	Limon Verde	11.04	17	ePn	Pn	01 24 21.4	-0.5
LPAZ	La Paz	17.34	14	P	Pn	01 25 46.2	0.0
	comp=Z,0.2nm,0.3s,baz=198,slow=9.4,SNR=3.7						
LPAZ	La Paz	17.34	14	ePn	P	01 25 47.7	0.0
SIV	San Ignacio	20.00	33	P	Pn	01 26 17.0	-1.1
	comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=4.3						
SAML	Samuel	25.64	21	eP	P	01 27 14.7	+1.3
	comp=Z,5.2nm,0.8s						
SDV	Santo Domingo	41.96	3	eP	P	01 29 34.6	-0.3
	comp=Z,2.0nm,0.4s						
BCIP	Isla Barro Col	42.81	349	eP	P	01 29 40.9	-0.6
JTS	JuntasAbangare	44.96	342	eP	P	01 30 00.6	+1.7
	comp=Z,1.9nm,0.6s						
GRGR	Grenville	46.29	15	eP	P	01 30 07.5	-1.8
OBIP	Obispado Ponce	51.32	7	eP	P	01 30 48.7	+0.8
SNAA	Sanae	52.34	158	P	P	01 30 56.0	+0.8
	comp=Z,0.8nm,0.9s,baz=265,slow=5.3,SNR=1.9						
SNAA	Sanae	52.34	158	eP	P	01 30 54.8	-0.4
	comp=Z,5.5nm,1.1s						
QSPA	South Pole Qui	56.96	180	P	P	01 31 29.5	+0.7
	comp=Z,1.3nm,0.7s,baz=187,slow=1.9,SNR=4.6						
QSPA	South Pole Qui	56.96	180	eP	P	01 31 29.4	+0.7
	comp=Z,2.2nm,0.6s						
LRAL	Lakeview Retre	67.39	347	eP	P	01 32 39.6	+0.8
	comp=Z,5.4nm,0.9s						
TXAR	Lajitas Array	68.99	331	P	P	01 32 50.3	+1.2
	comp=Z,0.2nm,0.7s,baz=148,slow=7.0,SNR=3.3						
WVT	Waverly	70.55	347	eP	P	01 32 59.0	+0.5
	comp=Z,4.2nm,0.9s						
MNTX	Cornudas Mount	71.76	331	eP	P	01 33 06.2	+0.2
	comp=Z,1.3nm,0.9s						
DBIC	Dimbokro	75.18	72	eP	P	01 33 26.2	-0.3
	comp=Z,5.4nm,1.0s						
TOA0	Torodi Ar. Sit	84.19	70	eP	P	01 34 16.1	+0.7
TORD	Torodi Ar. Bea	84.19	70	P	P	01 34 16.0	+0.6
	comp=Z,1.2nm,0.8s,baz=256,slow=4.6,SNR=5.0						
FCC	Fort Churchill	93.48	349	eP	P	01 34 56.6	-2.0
	comp=Z,0.3nm,1.4s						
BVAR	Borovoye Array	146.91	42	PKPbc	PKPab	01 41 27.0	0.0

comp=Z,1.0nm,1.0s,baz=336,slow=3.2,SNR=3.2
KURK Kurchatov 152.51 42 ePKPdf PKPdf 01 41 32.2 -0.4
TKM2 Tokmak 2 153.13 60 ePKPdf PKPdf 01 41 33.7 -0.3
TKM2 ePKPab PKPab 01 41 53.1 0.0
ZALV Zalesovo Beam 153.74 31 PKPbc PKPbc 01 41 42.7 +0.6
comp=Z,0.7nm,0.6s,baz=280,slow=0.9,SNR=3.3
MKAR Makanchi Array 156.47 48 PKPab PKPab 01 42 08.0 +1.0
comp=Z,0.4nm,0.7s,baz=318,slow=1.9,SNR=3.7

IDC **28** *01:24:35.2±0.6, 34°.86S×73°.02W, h0km, mb4.3/13, mb1 4.4/16, mb1mx4.3/32, mbtmp4.3/16, ML4.1/3, Error ellipse: s-maj=24.0km s-min=15.1km az=83.0*
ISCJB **28** *01:24:38.9±0.3, 34°.85S±0°.06×72°.93W±0°.09, h33km, mb4.6/37, Error ellipse: s-maj=11.5km s-min=7.6km az=158.6*
NEIC **28** *01:24:40.7±0.2, 34°.84S×72°.99W, h35km, mb4.7/30, Error ellipse: s-maj=9.3km s-min=6.0km az=72.0*
BJI **28** *01:24:42.1, 35°.00S×73°.81W, h44km*
ISC 28 01:24:40.8±0.4, 34°.85S±0°.07×73°.0W±0°.1, h35km, n82, σ1°.09/86, mb4.6/37, 1D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CFAA Coronel Fontan 5.12 52 Pn Pn 01 25 55.3 +0.3
1.1nm,0.3s,baz=234,slow=14,SNR=4.4
PLCA Paso Flores 6.18 163 Pn Pn 01 26 08.2 -1.4
2.1nm,0.3s,baz=336,slow=10.0,SNR=2.3
PLCA Lg Lg 01 27 45.7
1.5nm,0.3s,baz=58,slow=17,SNR=2.4
PLCA Paso Flores 6.18 163 ePn Pn 01 26 10.8 +1.2
PLCA Lg Lg 01 27 45.7
TRQA Tornquist 9.41 113 ePn Pn 01 26 55.4 +1.5
CPUP Villa Florida 15.90 62 ePn P 01 28 26.2 +1.0
LPAZ La Paz 18.98 14 P Pn 01 29 00.9 0.0
0.4nm,0.3s,baz=200,slow=7.8,SNR=8.6
LPAZ La Paz 18.98 14 eP Pn 01 29 02.2 +1.4
81nm,2.2s
USHA Ushuaia 20.23 172 P P 01 29 11.5 -1.1
19nm,0.9s,baz=295,slow=11,SNR=3.6
SIV San Ignacio 21.60 33 P P 01 29 26.9 -0.8
6.4nm,0.7s,baz=220,slow=9.3,SNR=9.1
SAML Samuel 27.29 21 eP P 01 30 21.2 -0.9
17nm,1.4s
BDFB Brasilia 29.45 56 P P 01 30 39.8 -1.7
3.0nm,0.7s,baz=215,slow=9.3,SNR=3.0
OTAV Otavalo 35.28 350 eP P 01 31 32.6 -0.4
4.0nm,1.0s
ROSC El Rosal 39.51 358 P P 01 32 09.2 +0.5
9.2nm,0.7s,baz=97,slow=19,SNR=4.8
ROSC El Rosal 39.51 358 eP P 01 32 08.7 0.0
SDV Santo Domingo 43.55 3 eP P 01 32 40.4 -1.2
8.7nm,0.8s
JTS JuntasAbangare 46.31 344 eP P 01 33 03.3 0.0
6.7nm,1.0s
SNAA Sanae 51.09 158 P P 01 33 39.3 -0.2
1.3nm,0.8s,baz=272,slow=8.0,SNR=9.0
SNAA Sanae 51.09 158 eP P 01 33 39.2 -0.2
18nm,1.3s
QSPA South Pole Qui 55.39 180 P P 01 34 11.2 0.0
2.6nm,0.9s,baz=160,slow=2.5,SNR=6.1
QSPA South Pole Qui 55.39 180 eP P 01 34 12.1 +0.9
6.6nm,1.1s
SYO Syowa Base 65.36 159⇓epP pP 01 35 26.0 -3.8
TXAR Lajitas Array 70.11 332 P P 01 35 49.2 -0.4
1.4nm,0.6s,baz=154,slow=8.3,SNR=15
SWET Sewanee 70.75 349 eP P 01 35 52.2 -1.1
9.0nm,1.0s
WVT Waverly 71.96 347 eP P 01 35 59.4 -1.1
8.2nm,1.0s
MSTX Muleshoe 73.94 335 eP P 01 36 12.0 -0.5
4.8nm,0.7s
ANMO Albuquerque 76.17 332 eP P 01 36 25.6 +0.2
5.4nm,1.2s
DBIC Dimbokro 76.18 72 P P 01 36 26.1 +0.4
6.8nm,0.8s,baz=199,slow=7.0,SNR=9.5
DBIC Dimbokro 76.18 72 eP P 01 36 25.9 +0.2
8.6nm,0.8s
SDCO Great Sand Dun 78.29 334 eP P 01 36 37.1 -0.2
1.4nm,0.8s
NCB Newcomb 78.45 359 eP P 01 36 40.3 +2.6
24nm,0.6s
CASY Casey 79.16 181 eP P 01 36 41.9 +0.4
22nm,1.4s
TSUM Tsumeb 79.72 106 eP P 01 36 48.9 +3.4
14nm,1.5s
BOSA Boshof 80.35 118 P P 01 36 49.0 +0.2
7.1nm,0.8s,baz=249,slow=3.1,SNR=10
BOSA Boshof 80.35 118 eP P 01 36 48.6 -0.2
6.6nm,0.8s
ECSD EROS Data Cent 81.13 343 eP P 01 36 51.6 -0.7
5.6nm,0.8s
CCUT Cedar City 81.22 329 eP P 01 36 54.5 +1.3
6.8nm,1.1s
SRU San Rafael 81.38 331 eP P 01 36 52.3 -1.6
62nm,2.8s
MPU Maple Canyon 82.60 331 eP P 01 37 00.8 +0.4
4.4nm,0.9s
LBTB Lobatse 82.64 115 eP P 01 37 01.2 +0.2
13nm,1.0s
R11A Troy Canyon, C 82.85 328 eP P 01 37 02.6 +0.9
24nm,2.2s
JLU Jordanelle 83.03 331 eP P 01 37 02.6 0.0
3.4nm,0.7s
DUG Dugway 83.22 330 eP P 01 37 04.0 +0.5
15nm,1.4s
TPH Tonopah 83.36 326 eP P 01 37 05.1 +0.7
59nm,2.6s
NVAR Mina Array Bea 84.15 326 P P 01 37 08.3 0.0
1.4nm,0.7s,baz=157,slow=6.3,SNR=10
PDAR Pinedale Array 84.18 334 P P 01 37 08.4 0.0
0.7nm,0.8s,baz=178,slow=3.9,SNR=4.9
HVU Hansel Valley 84.55 331 eP P 01 37 10.1 -0.1
4.8nm,0.8s
TOA0 Torodi Ar. Sit 85.22 71 eP P 01 37 13.7 -0.3
TORD Torodi Ar. Bea 85.22 71 P P 01 37 13.8 -0.3
2.8nm,0.8s,baz=261,slow=4.3,SNR=14
ULM Lac du Bonnet 87.12 346 P P 01 37 20.9 -1.6
2.6nm,0.8s,baz=110,slow=16,SNR=3.8
DGMT Dagmar 87.51 340 eP P 01 37 23.9 -0.6
20nm,1.2s
MOD Modoc 87.84 327 eP P 01 37 26.1 -0.3
6.8nm,0.8s
TAM Tamanrasset 93.88 65 eP P 01 37 55.4 +0.4
1.7nm,0.9s
BR131 Keskin Array S 122.91 62 ePKPdf PKPdf 01 43 33.0 0.0
BRTR Keskin Array B 122.91 62 PKP PKPdf 01 43 33.0 -0.3
1.2nm,0.7s,baz=186,slow=2.6,SNR=8.1
TNA Tin City 123.15 330 ePKPdf PKPdf 01 43 33.1 +0.4
KIV Kislovodsk 130.59 59 ePKPdf PKPdf 01 43 47.7 -0.1
GNI Garni 131.18 64 ePKPdf PKPdf 01 43 48.4 -0.7
KAPI Kappang 138.58 199 ePKPdf PKPdf 01 44 04.8 +1.3
SEY Seymchan 140.38 329 PKP PKPdf 01 44 05.0 -0.2
1.3nm,0.5s,baz=142,slow=2.1,SNR=6.3
AKTO Aktyubinsk 141.47 51 PKhKP PKPpre 01 44 04.0
0.7nm,0.7s,baz=306,slow=2.2,SNR=3.7
ABKAR Akbulak array 142.81 53 ePKPdf PKPpre 01 44 05.5
KSM Kuching 146.66 186 ePKPbc PKPbc 01 44 18.8 -0.6
BRVK Borovoye 148.35 43 ePKPdf PKPdf 01 44 19.7 +0.3
BRVK ePKPbc PKPbc 01 44 23.2 +0.4
BVAR Borovoye Array 148.42 44 PKP PKPdf 01 44 19.2 -0.3
2.2nm,0.8s,baz=298,slow=3.1,SNR=4.1
BVAR PKPbc PKPbc 01 44 23.7 +0.6
2.7nm,0.7s,baz=285,slow=2.8,SNR=9.7
KBL Kabul 148.88 80 ePKPbc PKPbc 01 44 26.6 +1.4
YAK Yakutsk 149.26 339 ePKPbc PKPbc 01 44 24.2 -0.6
IPM Ipoh 149.27 168 ePKPbc PKPbc 01 44 25.3 -1.2
KULM Kulim 150.00 167 ePKPbc PKPbc 01 44 26.1 -2.1
KKAR Karatay Array 150.62 63 ePKPbc PKPbc 01 44 28.5 -0.3
TKM2 Tokmak 2 154.35 62 ePKPbc PKPbc 01 44 37.3 -0.2
KSH Kashi 154.89 70 ePKPbc PKPbc 01 44 38.5 -0.1
KSH epPKP PKPab 01 44 49.3 -4.7
KSH esPKP 01 44 52.5
KSH ePP PP 01 48 44.3 +14
KSH eSKS SKSdf 01 51 36.8 +3.0
ZAA0 Zalesovo Array 155.35 32 ePKPbc PKPdf 01 44 38.3 +8.5
ZALV Zalesovo Beam 155.35 32 PKP PKPdf 01 44 28.2 -1.7
1.6nm,0.9s,baz=90,slow=1.6,SNR=4.7
ZALV PKPab PKPab 01 44 55.2 -0.1
3.3nm,0.6s,baz=304,slow=4.9,SNR=10
MKAR Makanchi Array 157.90 50 PKP PKPdf 01 44 32.6 -0.8
0.2nm,0.7s,baz=0.0,slow=2.0,SNR=2.8
MKAR PKPab PKPab 01 45 06.5 -0.1
1.9nm,0.7s,baz=306,slow=4.1,SNR=13
WMQ Urumqi 162.59 53 ePKP PKPdf 01 44 40.3 +1.5
ULN Ulaanbaatar 167.00 360 ePKPab PKPab 01 45 46.8 +0.4
SONM Songino Array 167.02 2 PKPab PKPab 01 45 46.3 -0.1
1.2nm,0.8s,baz=329,slow=4.7,SNR=8.8
KMI Kunming 169.62 158 PKP PKPdf 01 44 45.8 +0.6
NJ2 Nanjing 169.74 258 ePKP PKPdf 01 44 45.5 +0.8
HHC Hu-ho-hao-te 173.02 330 ePKP PKPdf 01 44 47.3 +1.1
HHC pPKP pPKPdf 01 45 00.3 +2.6
HHC PP PP 01 50 06.3 +1.7
HHC SS SS 02 11 13.5 -2.2
CD2 Chengdu 175.20 144 PKP PKPdf 01 44 48.0 +0.8
LZH Lanzhou 177.12 64 ePKP PKPdf 01 44 48.5 +0.9
LZH pPKP pPKPdf 01 44 58.3 -0.8
LZH sPKP 01 45 02.8

SJA **28** *01:31:48.3±0.5, 33°.71S×74°.29W, h31km±47km, ML4.8*
IDC **28** *01:31:50.9±1.1, 34°.86S×73°.78W, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/31, mbtmp3.7/5, Error ellipse: s-maj=44.8km s-min=28.5km az=81.0*
ISC 28 01:31:48.6±2.5, 33°.8S±0°.3×74°.5W±0°.2, h35km, n13, σ1°.36/13, mb3.7/5, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AUSP Uspallata 4.57 71 eP Pn 01 32 56.6 +1.1
ARCO CERRO ARCO 4.75 80 eP Pn 01 32 59.1 +1.2
ARCO AML AML 01 36 08.0
comp=Z,825nm,0.5s
AAGR Agrelo 4.79 83 eP Pn 01 32 59.4 +1.1
RTLS Leoncito 4.81 67 eP Pn 01 33 00.3 +1.5
RTLS eP Pn 01 33 00.3 +1.5
ASAL Salagasta 4.89 77 eP Pn 01 33 01.3 +1.5
RTCV Cerro Valdivia 5.37 70 eP Pn 01 33 07.8 +1.4
RTCV eS Sn 01 34 05.6 -1.4
RTLL Cerro Villicun 5.65 66 eP Pn 01 33 10.8 +0.7
RTLL eS Sn 01 34 12.5 -1.4
AMOG MOGNA 5.83 62 eP Pn 01 33 13.1 +0.5
SNAA Sanae 52.52 158 P P 01 40 58.3 +0.4
comp=Z,0.7nm,0.8s,baz=280,slow=11,SNR=3.6
QSPA South Pole Qui 56.41 180 P P 01 41 25.3 -1.1
comp=Z,0.4nm,0.5s,baz=135,slow=19,SNR=7.1
TXAR Lajitas Array 68.61 333 P P 01 43 03.5 +15
comp=Z,0.2nm,0.6s,baz=149,slow=9.0,SNR=3.6
DBIC Dimbokro 77.06 73 P P 01 43 44.1 +5.6
comp=Z,1.6nm,0.7s,baz=194,slow=8.3,SNR=2.9
TORD Torodi Ar. Bea 86.07 71 P P 01 44 33.2 +7.2
comp=Z,0.7nm,0.7s,baz=249,slow=5.4,SNR=6.7

ISCJB **28** *01:32:05.6±2.8, 34°.11S±0°.06×72°.21W±0°.06, h10km±17km, mb4.2/17, Error ellipse: s-maj=10.8km s-min=6.8km az=138.3*
IDC **28** *01:32:05.4±1.2, 34°.17S×72°.02W, h0km, mb4.0/7, mb1 4.2/9, mb1mx4.0/32, mbtmp4.0/9, ML3.7/2, Error ellipse: s-maj=38.8km s-min=26.0km az=174.0*
GUC **28** *01:32:08.9±0.4, 34°.06S×72°.24W, h22km±6km, ML4.4*
NEIC **28** *01:32:11.2±0.4, 34°.00S×72°.02W, h35km, mb4.4/13, Error ellipse: s-maj=10.5km s-min=9.4km az=44.0*
ISC 28 01:32:08.7±2.0, 34°.01S±0°.07×72°.16W±0°.07, h20km±10km, n40, σ0°.87/45, mb4.5/17, 1C, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
IHA Instituto Hidr 1.07 24⇑iP Pb 01 32 28.3 -0.3
IHA iS Sn 01 32 43.0 +0.1
RCDM Rinconada Maip 1.24 66 iP Pn 01 32 30.9 -0.1
RCDM iS Sn 01 32 47.6 +0.5
RCDM AML AML 01 32 55.0
comp=E,5μm,0.2s
STL Santa Lucia 1.39 66 iP Pn 01 32 32.6 -0.4
STL iS Sb 01 32 51.4 +0.1
ROCH El Roble 1.41 43 iP Pn 01 32 32.3 -1.2
ROCH eS Sn 01 32 51.8 +0.1
ROCH AML AML 01 33 04.8
comp=E,9μm,0.5s
PEL Peldehue 1.50 55 eP Pb 01 32 35.3 -0.7
PEL iS Sb 01 32 55.5 +0.8
PEL AML AML 01 33 04.0
comp=N,17μm,0.3s
FCH Farellones 1.70 67 iP Pg 01 32 41.6 +0.1
FCH iS Sg 01 33 04.3 +0.5
CFAA Coronel Fontan 4.08 55 Pn Pn 01 33 11.2 +1.1
comp=N,0.6nm,0.3s,baz=227,slow=11,SNR=10
CFAA Lg Lg 01 34 08.7
comp=N,3.2nm,0.3s,baz=257,slow=14,SNR=3.6
TRQA Tornquist 9.18 119 ePn Pn 01 34 19.6 -0.4
CPUP Villa Florida 14.93 63 Pn Pn 01 35 40.0 +1.4
comp=N,0.5nm,0.3s,baz=217,slow=12,SNR=3.8
CPUP Villa Florida 14.93 63 ePn Pn 01 35 38.0 -0.6
LPAZ La Paz 18.02 13 P P 01 36 19.2 +0.2
comp=N,0.5nm,0.3s,baz=187,slow=8.1,SNR=12
LPAZ La Paz 18.02 13 ePn Pn 01 36 18.1 -0.5
comp=N,8.1nm,0.8s
SIV San Ignacio 20.54 32 P P 01 36 45.3 -0.7
comp=N,5.2nm,0.7s,baz=175,slow=5.2,SNR=13
SAML Samuel 26.27 20 eP P 01 37 44.6 +1.8
comp=N,4.8nm,0.7s
BDFB Brasilia 28.42 56 P P 01 38 00.9 -1.3
comp=N,2.4nm,0.6s,baz=262,slow=7.1,SNR=3.7
RCBR Riachuelo 43.73 58 P P 01 40 13.1 +0.2
comp=N,5.3nm,0.7s,baz=204,slow=12,SNR=3.9
RCBR Riachuelo 43.73 58 eP P 01 40 11.8 -1.1
comp=N,7.9nm,0.9s
SNAA Sanae 51.61 158 eP P 01 41 12.9 -0.5
comp=N,2.7nm,0.8s
TXAR Lajitas Array 69.69 331 P P 01 43 18.5 +1.3
comp=N,0.1nm,0.5s,baz=158,slow=7.5,SNR=3.5
WVT Waverly 71.30 347 eP P 01 43 26.2 -0.4
comp=N,5.1nm,0.7s
MNTX Cornudas Mount 72.47 331 eP P 01 43 33.1 -0.7
comp=N,1.9nm,0.9s
DBIC Dimbokro 75.28 71 eP P 01 43 50.2 -0.4
comp=N,4.6nm,0.8s
TSUM Tsumeb 79.31 106 eP P 01 44 13.7 +0.2
comp=N,6.0nm,1.2s
LDFC Landfair 79.62 325 eP P 01 44 15.9 +1.2
comp=N,4.0nm,0.6s
CASY Casey 80.01 181 eP P 01 44 17.0 +0.8
comp=N,4.8nm,0.9s
CCUT Cedar City 80.86 328 eP P 01 44 22.3 +0.9
comp=N,3.2nm,1.1s
LBTB Lobatse 82.39 115 eP P 01 44 31.3 +1.5
comp=N,4.4nm,0.7s
HWUT Hardware Ranch 83.51 331 eP P 01 44 35.7 +0.6
comp=N,3.9nm,0.9s
PDAR Pinedale Array 83.73 333 P P 01 44 38.0 +1.7
comp=N,0.4nm,0.8s,baz=137,slow=6.8,SNR=2.4
NVAR Mina Array Bea 83.84 325 P P 01 44 37.7 +0.8
comp=N,0.4nm,0.7s,baz=167,slow=4.4,SNR=2.4
TORD Torodi Ar. Bea 84.31 70 P P 01 44 39.2 -0.3
comp=N,2.8nm,0.9s,baz=293,slow=6.7,SNR=14
BRTR Keskin Array B 121.93 61 PKP PKPdf 01 51 01.2 -0.4
comp=N,0.5nm,0.9s,baz=310,slow=1.9,SNR=3.3
H11S2 WAKE ISLAND Hy 125.67 269 T T 04 09 40.4
baz=118,slow=74
H11S1 WAKE ISLAND Hy 125.68 269 T T 04 09 40.4
baz=118,slow=74
H11S3 WAKE ISLAND Hy 125.69 269 T T 04 09 40.4
baz=118
KKAR Karatay Array 149.64 61 ePKPbc PKPbc 01 51 56.4 -0.3
AAK Ala-Archa 152.60 62 PKPbc PKPbc 01 52 04.3 +0.4
comp=N,1.6nm,0.7s,baz=273,slow=2.5,SNR=6.1
ZAA0 Zalesovo Array 154.29 32 ePKPbc PKPbc 01 52 05.3 -1.5
ZALV Zalesovo Beam 154.29 32 PKP PKPdf 01 51 57.3 -1.3
comp=N,0.4nm,0.5s,baz=48,slow=2.1,SNR=3.6
ZALV PKPbc PKPbc 01 52 06.9 +0.1
comp=N,2.7nm,0.6s,baz=298,slow=3.0,SNR=15
ZALV PKPab PKPab 01 52 21.0 0.0
comp=N,1.1nm,0.6s,baz=292,slow=5.8,SNR=3.1
MKAR Makanchi Array 156.85 49 PKPab PKPab 01 52 31.9 -0.3
comp=N,0.7nm,0.7s,baz=308,slow=4.5,SNR=7.5

BJI **28** *01:33:10.0, 36°.12S×73°.22W, h35km, mB5.3/15, Ms5.7/11, Ms7 5.5/12*
MOS **28** *01:33:10.4±1.0, 36°.58S×72°.80W, h33km, mb5.5/42, Error ellipse: s-maj=16.5km s-min=7.6km az=101.1*
ISCJB **28** *01:33:11.5±1.2, 36°.56S±0°.04×72°.60W±0°.06, h43km±10km, mb5.2/151, MS5.2/4, Error ellipse: s-maj=9.0km s-min=5.7km az=157.5*
NEIC **28** *01:33:11.6±0.1, 36°.63S×72°.71W, h35km, mb5.3/129, Error ellipse: s-maj=6.0km s-min=4.0km az=68.0*
IDC **28** *01:33:11.0±0.6, 36°.67S×72°.76W, h32km±3km, mb4.8/24, mb1 4.9/26, mb1mx4.8/32, mbtmp5.0/26, ML4.7/2, MS4.5/6, Ms1 4.5/6, ms1mx4.2/38, Error ellipse: s-maj=16.1km s-min=11.0km az=73.0*
ISC 28 01:33:11.3±0.5, 36°.62S±0°.05×72°.74W±0°.06, h33km±2km, h33km:pP-P, n824, σ0°.92/879, mb5.3/151, MS5.2/4, 226C-239D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PLCA Paso Flores 4.45 158 eP Pn 01 34 17.8 +1.3
PLCA Paso Flores 4.45 158 Pn Pn 01 34 18.4 +1.9
12nm,0.3s,baz=332,slow=9.1,SNR=7.8
PLCA Lg Lg 01 35 25.2
47nm,0.3s,baz=17,slow=10.0,SNR=4.0
PLCA LR LR 01 36 14.0
comp=Z,4μm,19.8s,baz=334,slow=42
PLCA Paso Flores 4.45 158 ePn Pn 01 34 17.8 +1.3
PLCA eLg Lg 01 35 23.7
CFAA Coronel Fontan 6.24 38 Pn Pn 01 34 42.8 +1.6
2.9nm,0.3s,baz=200,slow=12,SNR=1.8
CFAA Sn Sn 01 35 54.2 +2.9
2.2nm,0.3s,baz=75,slow=20,SNR=2.5
CFAA LR LR 01 37 17.1
comp=Z,576nm,19.3s,baz=226,slow=39
TRQA Tornquist 8.69 103 ePn Pn 01 35 16.6 +2.0
TRQA eSn Sn 01 36 52.1 +0.6
LVC Limon Verde 14.35 14 ePn Pn 01 36 32.9 +0.6
LVC eLg Lg 01 39 54.3
CPUP Villa Florida 16.65 56 eP P 01 37 03.3 -1.0
CPUP pmax pmax
comp=Z,1.0nm,0.6s
CPUP Villa Florida 16.65 56 Pn P 01 37 03.7 -0.6
comp=Z,1.9nm,0.3s,baz=221,slow=11,SNR=4.6
CPUP LR LR 01 44 02.6
comp=Z,3μm,19.4s,baz=192,slow=39
CPUP Villa Florida 16.65 56 ePn P 01 37 03.3 -1.0
comp=Z,1.4nm,0.6s
USHA Ushuaia 18.45 172 P Pn 01 37 25.7 +1.5
comp=Z,0.6nm,0.3s,baz=332,slow=4.6,SNR=7.3
USHA LR LR 01 45 48.0
comp=Z,1μm,18.0s,baz=336,slow=41
LPAZ La Paz 20.66 13 eP Pn 01 37 50.6 -1.0
LPAZ pmax pmax
comp=Z,44nm,0.8s
LPAZ La Paz 20.66 13 P Pn 01 37 50.7 -0.9
comp=Z,28nm,0.7s,baz=173,slow=4.9,SNR=20
LPAZ La Paz 20.66 13 eP Pn 01 37 50.6 -1.0
comp=Z,44nm,0.8s
SIV San Ignacio 23.02 30 P P 01 38 13.2 -0.4
comp=Z,81nm,1.0s,baz=221,slow=10.0,SNR=38
NNA Nana 24.80 350 eP P 01 38 30.5 +0.1
NNA pmax pmax
comp=Z,78nm,1.0s
NNA Nana 24.80 350 P P 01 38 29.9 -0.6
comp=Z,34nm,0.6s,baz=199,slow=10,SNR=22
NNA Nana 24.80 350 eP P 01 38 30.5 +0.1
comp=Z,78nm,1.0s
SAML Samuel 28.88 20 eP P 01 39 07.4 +0.4
comp=Z,13nm,1.1s
ATAH Atahualpa 29.80 349 P P 01 39 17.0 +1.3
comp=Z,11nm,0.7s,baz=197,slow=5.2,SNR=10
BDFB Brasilia 30.32 53 eP P 01 39 22.5 +2.5
BDFB Brasilia 30.32 53 P P 01 39 19.1 -0.9
comp=Z,7.2nm,0.7s,baz=211,slow=11,SNR=5.9
BDFB LR LR 01 51 04.5
comp=Z,2μm,19.0s,baz=206,slow=35
BDFB Brasilia 30.32 53 eP P 01 39 22.5 +2.5
OTAV Otavalo 37.05 350 eP P 01 40 19.8 +1.0
comp=Z,58nm,1.2s
ROSC El Rosal 41.29 358 P P 01 40 55.5 +1.4
comp=Z,15nm,0.7s,baz=206,slow=4.5,SNR=11
ROSC El Rosal 41.29 358 eP P 01 40 56.1 +2.0
SDV Santo Domingo 45.31 3 eP P 01 41 25.4 -0.9
comp=Z,21nm,0.8s
RCBR Riachuelo 45.53 57 P P 01 41 28.8 +0.8
comp=Z,9.0nm,0.9s,baz=223,slow=15,SNR=3.3
BCIP Isla Barro Col 46.03 350 eP P 01 41 32.1 +0.4
comp=Z,37nm,0.7s
VNA3 Neumayer Olymp 47.17 157 P P 01 41 41.1 +0.9
PCRV Puerto La Cruz 47.17 11 P P 01 41 40.8 0.0
comp=Z,16nm,0.9s,baz=148,slow=8.8,SNR=3.7
VNA1 Neumayer--Stat 47.51 156 P P 01 41 44.0 +1.3
VNA2 Neumayer--Watz 47.84 156 P P 01 41 46.3 +0.9
JTS JuntasAbangare 48.06 344 P P 01 41 49.5 +1.9
comp=Z,167nm,1.3s,SNR=5.2
JTS JuntasAbangare 48.06 344 eP P 01 41 48.8 +1.1
JTS pmax pmax
comp=Z,67nm,1.4s
JTS JuntasAbangare 48.06 344 P P 01 41 47.9 +0.3
comp=Z,12nm,0.7s,baz=225,slow=2.9,SNR=10
JTS JuntasAbangare 48.06 344 eP P 01 41 48.8 +1.1
comp=Z,67nm,1.4s
SNAA Sanae 49.39 157 P P 01 41 57.2 -0.2
SNAA Sanae 49.39 157 eP P 01 41 57.8 +0.4
SNAA pmax pmax
comp=Z,157nm,1.6s
SNAA Sanae 49.39 157 P P 01 41 57.6 +0.2
comp=Z,7.4nm,0.9s,baz=282,slow=6.4,SNR=19
SNAA Sanae 49.39 157 eP P 01 41 57.8 +0.4
comp=Z,157nm,1.6s
GRGR Grenville 49.60 14 eP P 01 42 00.6 +1.1
comp=Z,243nm,1.0s
QSPA South Pole Qui 53.62 180 P P 01 42 29.6 +0.5
comp=Z,48nm,1.1s,baz=151,slow=3.2,SNR=33
QSPA South Pole Qui 53.62 180 eP P 01 42 29.7 +0.5
comp=Z,62nm,1.2s
APG El Apazote 54.01 339 P P 01 42 28.9 -3.6
comp=Z,29nm,0.9s,baz=120,slow=8.5,SNR=11
NVL N'lazarevskaya 54.16 156 eP P 01 42 33.4 +0.6
NVL pmax pmax
comp=Z,22nm,0.9s
OBIP Obispado Ponce 54.67 7 eP P 01 42 35.8 -1.2
comp=Z,89nm,1.3s
CELP Cerrillos 54.71 7 eP P 01 42 36.5 -0.9
LRS Lares 54.90 7 eP P 01 42 36.9 -1.9
CBYP Canovanas 54.98 8 eP P 01 42 37.2 -2.1
comp=Z,39nm,0.8s
SDDR Presa de Saban 55.32 2 eP P 01 42 41.0 -0.8
comp=Z,21nm,1.0s
GTBY Guantanamo Bay 56.29 357 eP P 01 42 48.2 -0.5
comp=Z,32nm,0.7s
TEIG Tepich 58.41 343 P P 01 43 03.4 -0.2
comp=Z,56nm,0.7s,baz=144,slow=2.3,SNR=21
TEIG LR LR 02 03 45.7
comp=Z,728nm,20.1s,baz=238,slow=31
TEIG Tepich 58.41 343 eP P 01 43 03.8 +0.2
comp=Z,52nm,0.8s
SYO Syowa Base 63.65 158⇑eX 01 43 32.4
035Z Hargill 67.13 335 ⇑P P 01 44 03.0 +1.3
baz=68
035A Encino 67.58 336 ⇑P P 01 44 05.8 +1.3
baz=68,SNR=5.7
034A Hebbronville 67.90 335 ⇓P P 01 44 08.0 +1.5
baz=68,SNR=7.7
933A Laredo 68.60 335 ⇑P P 01 44 12.1 +1.2
baz=69,SNR=7.8
835A Beeville 68.74 336 ⇓P P 01 44 13.4 +1.7
baz=69
834A Tilden 68.83 336 ⇑P P 01 44 13.7 +1.5
baz=69,SNR=18
735A Kenedy 69.26 337 ⇑P P 01 44 16.6 +1.6
baz=70,SNR=10
833A Chaparral WMA, 69.30 335 ⇑P P 01 44 16.3 +1.1
baz=70,SNR=20
832A Faith Ranch, C 69.46 334 ⇓P P 01 44 16.9 +0.7
baz=70,SNR=17
734A La Parita Cree 69.50 336 ⇓P P 01 44 17.2 +0.8
baz=70
636A Smothers Creek 69.61 337 ⇑P P 01 44 18.7 +1.6
baz=70,SNR=14
733A Divot King Ran 69.62 335 ⇑P P 01 44 18.1 +0.9
baz=70,SNR=5.2
HKT Hockley 69.68 339 eP P 01 44 18.0 +0.6
HKT pmax pmax
comp=Z,93nm,2.1s
HKT Hockley 69.68 339 eP P 01 44 18.0 +0.6
comp=Z,93nm,2.1s
635A Leesville 69.75 337 ⇑P P 01 44 18.6 +0.7
baz=70
538A Harpers Horsep 69.84 339 ⇑P P 01 44 20.2 +1.8
baz=70
732A Laxson Ranch, 69.86 335 ⇑P P 01 44 19.5 +0.8
baz=70,SNR=13
634A China Grove, S 69.93 336 ⇓P P 01 44 19.7 +0.7
baz=70
537A Green Hill Far 69.94 338 ⇑P P 01 44 20.5 +1.4

baz=70,SNR=6.0
536A Bastrop 70.17 338 ⇑P P 01 44 21.4 +0.9
baz=70,SNR=7.1
633A Saathoff Ranch 70.27 336 ⇓P P 01 44 21.8 +0.6
baz=71,SNR=15
535A Dale 70.28 337 ⇑P P 01 44 22.1 +0.9
baz=71,SNR=5.2
438A Sam Houston St 70.33 339 ⇓P P 01 44 22.8 +1.3
baz=71
GOGA Godfrey 70.39 350 eP P 01 44 21.1 -0.7
GOGA pmax pmax
comp=Z,56nm,1.4s
GOGA Godfrey 70.39 350 eP P 01 44 21.1 -0.7
comp=Z,56nm,1.4s
VBMS Vicksburg 70.47 344 eP P 01 44 23.2 +0.9
comp=Z,47nm,0.8s
632A Uvalde 70.52 335 ⇑P P 01 44 23.4 +0.7
baz=71,SNR=26
340A Bronson 70.53 341 ⇑P P 01 44 23.3 +0.7
baz=71,SNR=8.8
534A Blanco 70.56 336 ⇑P P 01 44 23.3 +0.3
baz=71,SNR=5.7
LRAL Lakeview Retre 70.57 347 eP P 01 44 22.3 -0.6
comp=Z,50nm,1.5s
437A Phaontom Ranch 70.59 339 ⇑P P 01 44 23.8 +0.7
baz=71
339A Huntington 70.62 340 ⇑P P 01 44 24.3 +1.0
baz=71,SNR=12
631A Perdido Creek 70.70 334 ⇑P P 01 44 25.0 +1.2
baz=71
436A Wall Ranch, Ga 70.73 338 ⇑P P 01 44 24.9 +1.0
baz=71,SNR=6.0
533A Kerrville 70.79 336 ⇓P P 01 44 24.8 +0.5
baz=71,SNR=12
MAW Mawson 70.83 164 P P 01 44 24.4 +0.2
comp=Z,42nm,1.1s,baz=207,slow=4.5,SNR=2.5
338A Crockett 70.85 340 ⇓P P 01 44 26.0 +1.3
baz=71,SNR=10
337A Centerville 70.98 339 ⇓P P 01 44 27.0 +1.6
baz=71,SNR=8.2
435B Jarrell 70.98 338 ⇑P P 01 44 26.5 +1.0
baz=71
NATX Nacogdoches 71.06 340 eP P 01 44 26.4 +0.5
comp=Z,59nm,0.9s
532A Rocksprings 71.13 335 ⇑P P 01 44 27.3 +0.9
baz=72,SNR=36
434A Burnet 71.23 337 ⇓P P 01 44 27.5 +0.5
baz=72,SNR=32
239A Gary 71.25 341 ⇓P P 01 44 28.1 +1.0
baz=72
336A Riesel 71.33 338 ⇓P P 01 44 28.1 +0.6
baz=72,SNR=9.7
531A Rocksprings 71.38 335 ⇓P P 01 44 29.0 +1.0
baz=72,SNR=23
335A Moody 71.40 338 ⇓P P 01 44 28.6 +0.6
baz=72,SNR=5.6
238A Jacksonville 71.41 340 ⇑P P 01 44 29.0 +1.0
baz=72
JCT Junction City 71.42 336 eP P 01 44 28.5 +0.3
JCT pmax pmax
comp=Z,40nm,0.8s
JCT Junction City 71.42 336 eP P 01 44 28.5 +0.3
comp=Z,40nm,0.8s
JCT Junction City 71.42 336 ⇓P P 01 44 28.7 +0.6
baz=72,SNR=18
433A Art 71.43 336 ⇓P P 01 44 28.6 +0.4
baz=72,SNR=18
237A Washetta, Mont 71.60 339 ⇓P P 01 44 30.2 +1.0
baz=72
530A J-C Ranch, Com 71.64 334 ⇓P P 01 44 30.2 +0.7
baz=72,SNR=25
CNNC Cliffs of the 71.66 356 eP P 01 44 29.9 +0.5
comp=Z,37nm,0.9s
334A Lometa 71.70 337 ⇑P P 01 44 30.2 +0.4
baz=72,SNR=37
TXAR Lajitas Array 71.75 332 P P 01 44 30.7 +0.4
comp=Z,10nm,0.7s,baz=151,slow=8.7,SNR=65
TXAR pP pP 01 44 40.1 -0.4
comp=Z,2.8nm,0.7s,baz=295,slow=15,SNR=11
432A Menard 71.78 336 ⇑P P 01 44 30.6 +0.2
baz=72,SNR=9.6
KMSC Kings Mountain 71.84 353 eP P 01 44 30.2 -0.4
comp=Z,23nm,0.8s
KMSC Kings Mountain 71.84 353 ⇓P P 01 44 30.3 -0.3
baz=72,SNR=7.4
431A Sonora 71.87 335 ⇓P P 01 44 31.1 +0.2
baz=72,SNR=17
333A Richland Sprin 71.93 337 ⇑P P 01 44 31.6 +0.4
baz=72,SNR=16
529A Stev Forest Ra 71.93 333 ⇑P P 01 44 31.7 +0.4
baz=72,SNR=17
138A Matatall Enter 72.02 340 ⇑P P 01 44 32.9 +1.2
baz=72
WHTX Lake Whitney 72.07 338 eP P 01 44 32.1 +0.1
comp=Z,50nm,0.9s
WHTX Lake Whitney 72.07 338 ⇑P P 01 44 32.4 +0.4
baz=72,SNR=15
137A Heron Place, G 72.15 340 ⇑P P 01 44 33.7 +1.2
baz=72
430A Baggett Ranch, 72.18 334 ⇓P P 01 44 33.3 +0.5
baz=72,SNR=22
332A Millersview 72.23 336 ⇑P P 01 44 33.1 +0.2
baz=73,SNR=15
429A Davenport Ranc 72.27 334 ⇓P P 01 44 33.8 +0.5
baz=73,SNR=17
234A Clairette 72.29 338 ⇑P P 01 44 33.4 +0.1
baz=73,SNR=18
331A San Angelo 72.39 335 ⇑P P 01 44 34.0 0.0
baz=73,SNR=35
OXF Oxford 72.46 346 eP P 01 44 33.5 -0.7
OXF pmax pmax
comp=Z,61nm,1.1s
OXF Oxford 72.46 346 eP P 01 44 33.5 -0.7
comp=Z,61nm,1.1s
SWET Sewanee 72.52 349 eP P 01 44 34.5 -0.2
comp=Z,92nm,0.8s
CPCT Cooper Cave 72.54 350 eP P 01 44 36.2 +1.5
233A Rising Star 72.54 337 ⇑P P 01 44 35.2 +0.3
baz=73,SNR=9.9
TKL Tuckaleechee C 72.64 351 P P 01 44 34.5 -0.8
comp=Z,18nm,0.9s,baz=165,slow=7.1,SNR=16
TKL Tuckaleechee C 72.64 351 eP P 01 44 34.6 -0.7
232A Coleman 72.66 336 ⇑P P 01 44 35.7 +0.1
baz=73,SNR=16
330A Mertzon 72.73 335 ⇑P P 01 44 36.0 0.0
baz=73,SNR=12
134A White-Moore Ra 72.80 338 ⇑P P 01 44 36.6 +0.2
baz=73,SNR=6.6
231A Bronte 72.92 336 ⇑P P 01 44 37.1 -0.1
baz=73,SNR=22
329A Wagon Wheel Ra 73.08 334 ⇓P P 01 44 38.7 +0.5
baz=73,SNR=9.3
133A Hamilton Ranch 73.09 337 ⇓P P 01 44 38.7 +0.6
baz=73,SNR=13
230A Sterling City 73.15 335 ⇑P P 01 44 38.6 +0.1
baz=74
Z35A Perchaven, San 73.26 339 ⇑P P 01 44 39.3 +0.3
baz=74,SNR=22
ABTX Abilene, Hawle 73.34 337 eP P 01 44 39.6 0.0
comp=Z,57nm,1.2s
ABTX Abilene, Hawle 73.34 337 ⇑P P 01 44 40.0 +0.4
baz=74,SNR=11
UALR University of 73.34 343 eP P 01 44 39.5 0.0
comp=Z,14nm,0.9s
MIAR Mount Ida 73.42 342 eP P 01 44 39.1 -0.8
MIAR pmax pmax
comp=Z,18nm,1.2s
MIAR Mount Ida 73.42 342 eP P 01 44 39.1 -0.8
comp=Z,18nm,1.2s
229A Bryant Ranch, 73.46 334 ⇑P P 01 44 40.5 +0.2
baz=74,SNR=8.1
TZTN Tazewell 73.48 351 eP P 01 44 40.0 -0.3
comp=Z,77nm,1.4s
Z34A Collier Ranch, 73.50 338 ⇓P P 01 44 41.0 +0.6
baz=74
131A Roby 73.62 336 ⇓P P 01 44 41.3 0.0
baz=74,SNR=7.7
Z33A Whitaker Ranch 73.67 337 ⇑P P 01 44 41.7 +0.2
baz=74,SNR=5.0
WVT Waverly 73.73 347 eP P 01 44 41.2 -0.5
WVT pmax pmax
comp=Z,82nm,1.1s
WVT Waverly 73.73 347 eP P 01 44 41.2 -0.5
comp=Z,82nm,1.1s
130A Snyder 73.75 335 ⇑P P 01 44 41.9 -0.1
baz=74,SNR=8.8
VWCC Virginia Weste 73.80 354 eP P 01 44 41.5 -0.7
228A UT Block 9, Go 73.87 334 ⇓P P 01 44 42.8 0.0
baz=74,SNR=13
Z32A Haskell 73.92 337 ⇑P P 01 44 43.1 +0.2
baz=74,SNR=18
Y34A Reagan Ranch, 74.00 339 ⇓P P 01 44 43.6 +0.3
baz=74,SNR=9.8
SUR Sutherland 74.07 119 eP P 01 44 44.8 +0.4
comp=Z,26nm,0.8s
129A Stewart Farms, 74.08 335 ⇓P P 01 44 44.2 +0.2
baz=74
JSRW J. Sargeant Re 74.10 356 eP P 01 44 44.0 +0.2
GLAT Glass 74.13 346 eP P 01 44 43.0 -1.1
Z31A Sharp Cattle R 74.14 336 ⇓P P 01 44 44.5 +0.3
baz=74,SNR=20
128A Castleberry Fa 74.29 334 ⇑P P 01 44 45.4 +0.2
baz=75,SNR=10
Y33A Hilltop Ranch, 74.30 338 ⇓P P 01 44 45.3 +0.1
baz=75,SNR=12
Z30A Sanderson Ranc 74.43 336 ⇓P P 01 44 45.9 -0.1
baz=75,SNR=15
MNTX Cornudas Mount 74.52 332 eP P 01 44 45.6 -0.9
comp=Z,16nm,1.2s
Y32A R-V Farms, Ver 74.55 337 ⇓P P 01 44 46.8 +0.2
baz=75,SNR=7.5
Z29A Hungry Hill Ra 74.60 335 ⇓P P 01 44 47.1 +0.1
baz=75,SNR=21
X34A Smith Ranch, M 74.62 339 ⇓P P 01 44 47.0 0.0
baz=75
127A Arkansas Junct 74.65 334 ⇓P P 01 44 47.3 0.0
baz=75
X33A Lawton 74.76 338 ⇓P P 01 44 47.6 -0.2
baz=75,SNR=6.7
Y31A Rekieta Farm, 74.77 337 ⇑P P 01 44 48.7 +0.8
baz=75,SNR=7.6
PBMO Poplar Bluff 74.85 345 eP P 01 44 47.8 -0.5
comp=Z,28nm,0.8s
Z28A Tucker Farm, M 74.86 335 ⇓P P 01 44 48.5 -0.1
baz=75
Y30A Stafford Cattl 74.90 336 ⇑P P 01 44 49.0 +0.4
baz=75
Y29A Porterfield Fa 75.14 335 ⇑P P 01 44 50.3 +0.2
baz=76,SNR=8.2
CPRX Cap Rock 75.15 333 eP P 01 44 50.3 0.0
comp=Z,1.6nm,0.5s
W34A Bridge Creek, 75.19 339 eP P 01 44 50.1 -0.2
comp=Z,23nm,0.8s
W34A Bridge Creek, 75.19 339 ⇓P P 01 44 50.8 +0.5
baz=76
TUL1 Tulsa 75.28 341 eP P 01 44 50.4 -0.3
comp=Z,42nm,0.8s
TUL1 Tulsa 75.28 341 ⇓P P 01 44 50.7 0.0
baz=76,SNR=14
X31A McDonald Ranch 75.30 337 ⇓P P 01 44 51.1 +0.2
baz=76,SNR=14
W33A Caddo, Fort Co 75.32 338 ⇓P P 01 44 51.9 +0.8
baz=76,SNR=20
Y28A McKinney Farm, 75.38 335 ⇑P P 01 44 51.8 +0.3
baz=76,SNR=8.5
Z26A Caprock 75.41 333 ⇓P P 01 44 51.8 +0.1
baz=76,SNR=24
X30A Coker Ranch, T 75.41 336 ⇑P P 01 44 51.5 -0.1
baz=76
USIN University of 75.49 348 eP P 01 44 51.2 -0.7
comp=Z,63nm,0.9s
SIUC Southern Illin 75.52 347 eP P 01 44 51.9 -0.2
comp=Z,38nm,0.9s
W32A Sentinel 75.53 338 ⇑P P 01 44 52.3 +0.1
baz=76,SNR=27
WCI Wyandotte Cave 75.53 349 eP P 01 44 49.8 -2.3
WCI pmax pmax
comp=Z,14nm,0.9s
WCI Wyandotte Cave 75.53 349 eP P 01 44 49.8 -2.3
comp=Z,14nm,0.9s
MSTX Muleshoe 75.61 335 eP P 01 44 52.8 -0.1
comp=Z,44nm,1.4s
MSTX epP pP 01 45 02.9 -0.3
MSTX Muleshoe 75.61 335 ⇓P P 01 44 53.0 +0.2
baz=76,SNR=8.4
Y27A Causey 75.67 334 ⇑P P 01 44 52.9 -0.3
baz=76,SNR=5.3
V34A Guthrie 75.68 339 eP P 01 44 52.8 -0.3
comp=Z,44nm,1.1s
V34A Guthrie 75.68 339 ⇓P P 01 44 53.1 +0.1
baz=76,SNR=11
X29A Tulia 75.68 336 ⇑P P 01 44 53.3 +0.1
baz=76,SNR=7.6
Z25A Roswell 75.68 333 ⇓P P 01 44 53.3 0.0
baz=76,SNR=8.5
W31A Holland Ranch, 75.80 337 ⇓P P 01 44 54.1 +0.3
baz=76,SNR=5.4
319A Douglas 75.81 328 ⇑P P 01 44 55.2 +1.1
baz=76
V33A Lossen Ranch, 75.89 339 ⇓P P 01 44 54.5 +0.3
baz=76,SNR=14
X28A Dimmitt 75.91 335 ⇓P P 01 44 55.0 +0.4
baz=76
Y26A Elida 75.94 334 ⇓P P 01 44 55.5 +0.7
baz=76
Z24A Sheeppen Canyo 75.97 332 ⇓P P 01 44 55.4 +0.3
baz=76,SNR=11
W30A Crocket Farms 75.99 337 ⇑P P 01 44 56.2 +1.2
baz=76
V32A Arapaho 76.02 338 ⇑P P 01 44 55.7 +0.7
baz=76
AMTX Amarillo 76.08 336 eP P 01 44 55.7 +0.2
comp=Z,59nm,1.2s
AMTX Amarillo 76.08 336 ⇑P P 01 44 56.0 +0.6
baz=76
LIC Lamto 76.15 71 eP P 01 44 56.4 +0.1
comp=Z,59nm,0.6s
121A Cookes Peak, D 76.20 330 eP P 01 44 57.3 +1.0
comp=Z,19nm,1.0s
121A Cookes Peak, D 76.20 330 ⇓P P 01 44 57.4 +1.0
baz=76,SNR=12
U34A Anderson Ranch 76.25 340 eP P 01 44 56.5 +0.2
comp=Z,22nm,0.7s
U34A Anderson Ranch 76.25 340 ⇓P P 01 44 56.2 -0.1
baz=77,SNR=5.7
Y25A Mesa, Roswell 76.25 333 ⇓P P 01 44 56.9 +0.3
baz=77,SNR=5.2
W29A Amraillo 76.28 336 ⇑P P 01 44 56.5 -0.1
baz=77,SNR=10
V31A Spring Creek L 76.31 338 ⇓P P 01 44 58.1 +1.4
baz=77,SNR=10
X27A F and S Farms, 76.34 335 ⇑P P 01 44 57.3 +0.3
baz=77
U33A Lingo Farm, Me 76.41 339 ⇓P P 01 44 57.5 +0.3
baz=77,SNR=6.5
TIC Toumodi 76.42 71 eP P 01 44 57.9 0.0
comp=Z,42nm,0.9s
KIC Kosan Boka 76.45 71 eP P 01 44 58.2 +0.2
comp=Z,92nm,0.6s
BLO Bloomington 76.48 349 eP P 01 44 56.1 -1.5
BLO pmax pmax
comp=Z,36nm,0.8s
BLO Bloomington 76.48 349 eP P 01 44 56.1 -1.5
comp=Z,36nm,0.8s
X26A CR and CF Fran 76.50 334 ⇓P P 01 44 58.5 +0.6
baz=77,SNR=8.9
Z22A Elephant Butte 76.51 331 ⇓P P 01 44 59.4 +1.3
baz=77,SNR=11
Y24A Capitan 76.53 332 ⇑P P 01 44 58.5 +0.4
baz=77,SNR=11
V30A Spur Ranch, Mi 76.56 337 ⇓P P 01 44 59.1 +1.0
baz=77
DBIC Dimbokro 76.56 71 eP P 01 44 59.0 +0.4
DBIC *PP pP 01 45 08.7 -0.3
DBIC pmax pmax
comp=Z,38nm,0.6s
DBIC Dimbokro 76.56 71 P P 01 44 59.0 +0.4
comp=Z,20nm,0.6s,baz=197,slow=5.2,SNR=34
DBIC pP pP 01 45 08.7 -0.3
comp=Z,33nm,0.6s,baz=201,slow=5.1,SNR=19
DBIC Dimbokro 76.56 71 eP P 01 44 59.0 +0.4
comp=Z,38nm,0.6s
DBIC pP pP 01 45 08.7 -0.3
W28A Vega 76.59 336 ⇓P P 01 44 58.8 +0.4
baz=77
SLM Saint Louis 76.61 346 eP P 01 44 57.6 -0.7
SLM pmax pmax
comp=Z,60nm,0.8s
SLM Saint Louis 76.61 346 eP P 01 44 57.6 -0.7
comp=Z,60nm,0.8s
U32A Winter Ranch, 76.62 338 ⇑P P 01 44 58.8 +0.4
baz=77
W27A Bowe Ranch, En 76.70 335 ⇓P P 01 44 59.6 +0.5
baz=77,SNR=19
Y23A Lovelace Mesa, 76.76 332 ⇓P P 01 45 00.7 +1.2
baz=77,SNR=6.4
X25A Clemmons Ranch 76.78 333 ⇑P P 01 44 59.6 +0.1
baz=77
U31A Nine Bar Ranch 76.86 338 ⇓P P 01 45 00.4 +0.6
baz=77
V29A Stinnett 76.93 336 ⇓P P 01 45 01.9 +1.7
baz=77
W26A Owens Ranch, T 76.97 334 ⇓P P 01 45 01.5 +1.0
baz=77
V28A Channing 77.05 336 ⇑P P 01 45 01.6 +0.7
baz=77,SNR=5.2
T33A Patterson Ranc 77.05 339 ⇓P P 01 45 01.6 +0.8
baz=77,SNR=8.3
ACSO Alum Creek Sta 77.06 352 eP P 01 45 00.2 -0.6
comp=Z,57nm,0.7s
X24A Lazy VL Ranch, 77.10 333 ⇑P P 01 45 02.4 +1.0
baz=77
Y22D IRIS PASSCAL I 77.22 331 ⇑P P 01 45 03.0 +1.0
baz=78
U30A WK&E Inc. Balk 77.26 337 ⇓P P 01 45 02.7 +0.6
baz=78,SNR=7.9
V27A Dan Oppiter Fa 77.26 335 ⇑P P 01 45 02.5 +0.4
baz=78
TUC Tucson 77.26 328 eP P 01 45 02.2 0.0
TUC pmax pmax
comp=Z,16nm,1.0s
TUC Tucson 77.26 328 eP P 01 45 02.1 0.0
comp=Z,16nm,1.0s
LPM Los Pinos Moun 77.32 332 eP P 01 45 03.6 +0.9
W25A X Bar L Ranch, 77.33 334 ⇑P P 01 45 03.1 +0.5
baz=78,SNR=8.1
T32A Huddler Ranch, 77.34 339 ⇑P P 01 45 03.0 +0.6
baz=78
U29A Oasis Ranch, S 77.38 337 ⇑P P 01 45 03.6 +0.8
baz=78
X23A Hourglass Bar 77.39 332 ⇑P P 01 45 04.0 +0.9
baz=78,SNR=12
CASY Casey 77.39 181 eP P 01 45 03.2 +0.7
comp=Z,37nm,1.0s
S33A Kaszmaul Farm, 77.46 340 ⇓P P 01 45 03.7 +0.6
baz=78
T31A Randall Ranch, 77.48 338 ⇑P P 01 45 04.4 +1.2
baz=78
YLE Yale 77.56 360 eP P 01 45 04.7 +1.2
comp=Z,71nm,1.0s
LAZ Ladron 77.59 331 eP P 01 45 05.0 +0.9
comp=Z,16nm,1.3s
V26A Tequesquite Ra 77.62 335 ⇑P P 01 45 04.5 +0.4
baz=78
U28A Mallet 77.62 336 ⇑P P 01 45 04.6 +0.4
baz=78
W24A Lazy 6 Ranch, 77.66 333 ⇓P P 01 45 05.4 +0.8
baz=78,SNR=15
SFIN Scholer Farm 77.75 349 ⇑P P 01 45 05.6 +0.9
baz=78
ANMO Albuquerque 77.82 332 eP P 01 45 05.7 +0.3
ANMO pmax pmax
comp=Z,22nm,1.1s
ANMO Albuquerque 77.82 332 P P 01 45 06.2 +0.8
comp=Z,12nm,1.0s,baz=160,slow=8.0,SNR=22
ANMO Albuquerque 77.82 332 eP P 01 45 05.7 +0.3
comp=Z,22nm,1.1s
S32A Newby Ranch, P 77.83 339 ⇓P P 01 45 05.9 +0.7
baz=78,SNR=6.4
214A Organ Pipe Nat 77.85 326 ⇑P P 01 45 06.4 +1.0
baz=78
U27A Thompson Grove 77.86 336 ⇓P P 01 45 06.4 +0.9
baz=78,SNR=5.4
W23A Werner Place, 77.89 333 ⇓P P 01 45 06.9 +1.0
baz=78,SNR=9.6
S31A Mullinville 77.91 339 ⇑P P 01 45 06.2 +0.6
baz=78,SNR=6.0
V25A Rancho No Teng 77.94 334 ⇓P P 01 45 06.9 +0.9
baz=78,SNR=11
T29A Hugoton 78.03 337 ⇑P P 01 45 07.0 +0.6
baz=78,SNR=6.2
V24A Rampart Ranch, 78.08 333 ⇑P P 01 45 07.7 +0.8
baz=78,SNR=7.1
R33A Olander Ranch, 78.12 340 ⇓P P 01 45 07.1 +0.3
baz=78,SNR=5.5
U26A Atchley Ranch, 78.14 335 ⇓P P 01 45 07.3 +0.2
baz=78
S30A Montezuma 78.22 338 ⇑P P 01 45 08.1 +0.6
baz=79,SNR=5.7
T28A Walsh 78.26 336 ⇑P P 01 45 08.0 +0.3
baz=79,SNR=12
U25A Circle Dot Ran 78.38 334 ⇓P P 01 45 09.0 +0.5
baz=79,SNR=9.8
S29A Ulysses 78.40 337 ⇑P P 01 45 09.2 +0.7
baz=79,SNR=6.9
T27A Campo 78.40 336 ⇑P P 01 45 09.3 +0.8
baz=79,SNR=9.5
V23A Ortiz Mt. (NFS 78.42 333 ⇑P P 01 45 09.5 +0.7
baz=79
R32A Long Quarter, 78.43 339 ⇑P P 01 45 09.0 +0.5
baz=79,SNR=10
KSU1 Kansas State U 78.50 341 eP P 01 45 08.7 -0.1
comp=Z,23nm,0.8s
KSU1 Kansas State U 78.50 341 ⇑P P 01 45 08.8 0.0
baz=79,SNR=6.3
R31A Burdett 78.54 339 ⇑P P 01 45 09.7 +0.6
baz=79
S28A Manter 78.62 337 ⇓P P 01 45 10.1 +0.5
baz=79,SNR=12
U24A Moreno Valley 78.69 334 ⇓P P 01 45 10.6 +0.3
baz=79
Q33A Connelly Farm, 78.73 340 ⇓P P 01 45 10.7 +0.7
baz=79
R30A Dighton 78.76 338 ⇓P P 01 45 11.0 +0.7
baz=79,SNR=5.6
T26A Comanche Natio 78.80 335 ⇓P P 01 45 11.8 +1.0
baz=79,SNR=7.2
X18A Snowflake 78.82 329 ⇓P P 01 45 12.3 +1.3
baz=79,SNR=7.4
V22A San Miguel Ran 78.84 332 ⇑P P 01 45 12.5 +1.3
baz=79,SNR=17
Q32A Meitler Ranch, 78.92 340 ⇓P P 01 45 11.7 +0.5
baz=79,SNR=8.6
U23A El Rito 78.95 333 ⇓P P 01 45 12.4 +0.8
baz=79,SNR=9.0
113A Mohawk Valley, 78.97 326 ⇓P P 01 45 12.6 +1.1
baz=79
TRY Troy 78.98 359 eP P 01 45 12.3 +0.9
comp=Z,35nm,0.9s
S27A Las Animas 79.03 336 ⇓P P 01 45 12.9 +1.0
baz=79
T25A Trinidad 79.04 335 ⇓P P 01 45 13.4 +1.3
baz=79,SNR=16
TSUM Tsumeb 79.05 106 eP P 01 45 12.9 +0.2
comp=Z,23nm,1.3s
Z14A Wintersburg 79.10 327 ⇑P P 01 45 13.5 +1.2
baz=79
P33A Williams Farm, 79.10 341 ⇑P P 01 45 12.7 +0.5
baz=80
R29A Marienthal 79.15 338 ⇓P P 01 45 13.1 +0.6
baz=80
S26A Kim 79.16 336 ⇑P P 01 45 13.9 +1.2
baz=80,SNR=14
Q31A Ellis 79.17 339 ⇓P P 01 45 13.4 +0.8
baz=80,SNR=8.9
AAM Ann Arbor 79.18 352 eP P 01 45 11.3 -1.2
AAM pmax pmax
comp=Z,42nm,1.3s
AAM Ann Arbor 79.18 352 eP P 01 45 11.2 -1.2
comp=Z,42nm,1.3s
U22A Llaves 79.23 333 ⇑P P 01 45 13.8 +0.5
baz=80,SNR=9.0
W18A Petrified Fore 79.25 330 eP P 01 45 14.5 +1.2
comp=Z,47nm,1.2s
W18A Petrified Fore 79.25 330 ⇓P P 01 45 14.7 +1.5
baz=80
R28A Tribune 79.28 337 ⇓P P 01 45 14.1 +0.8
baz=80,SNR=16
T24B San Luis 79.31 334 ⇑P P 01 45 14.7 +1.0
baz=80,SNR=8.6
X16A Lo Mia Camp, P 79.35 328 ⇑P P 01 45 15.2 +1.4
baz=80,SNR=16
BOSA Boshof 79.36 118 eP P 01 45 13.5 -0.8
BOSA pmax pmax
comp=Z,34nm,1.0s
BOSA Boshof 79.36 118 P P 01 45 13.9 -0.3
comp=Z,6.8nm,0.6s,baz=243,slow=3.8,SNR=11
BOSA Boshof 79.36 118 eP P 01 45 13.4 -0.8
comp=Z,34nm,1.0s
Q30A Quinter 79.38 339 ⇑P P 01 45 14.4 +0.7
baz=80,SNR=17
P32A Huiting Farm, 79.52 340 ⇓P P 01 45 14.9 +0.5
baz=80,SNR=6.3
S25A Robets Cordova 79.52 335 ⇓P P 01 45 15.6 +0.9

	baz=80				
T23A	Casias Ranch,	79.52 333	⇓P	P	01 45 16.0 +1.2
	baz=80				
Q29A	Oakley	79.53 338	⇓P	P	01 45 15.1 +0.5
	baz=80,SNR=7.9				
R27A	Eads	79.54 336	⇑P	P	01 45 15.1 +0.4
	baz=80,SNR=13				
Y14A	Wickenburg	79.61 327	⇑P	P	01 45 16.0 +0.8
	baz=80,SNR=5.8				
ACCN	Adirondack Com	79.63 359	eP	P	01 45 15.3 +0.3
	comp=Z,79nm,1.4s				
P31A	Stockton	79.64 339	⇑P	P	01 45 15.8 +0.7
	baz=80,SNR=8.0				
GLA	Glamis	79.69 325	eP	P	01 45 17.0 +1.5
GLA			pmax	pmax	
	comp=Z,66nm,1.8s				
GLA	Glamis	79.69 325	eP	P	01 45 17.0 +1.5
	comp=Z,66nm,1.8s				
GLA	Glamis	79.69 325	⇑P	P	01 45 16.2 +0.7
	baz=80				
R26A	Arlington	79.77 336	⇑P	P	01 45 16.2 +0.3
	baz=80,SNR=7.7				
S24A	Houchin Ranch,	79.77 334	⇑P	P	01 45 17.5 +1.3
	baz=80,SNR=15				
R25A	Fountain Ranch	79.91 335	⇓P	P	01 45 17.0 +0.2
	baz=80				
P30A	Selden	79.92 339	⇑P	P	01 45 17.4 +0.8
	baz=80,SNR=5.5				
Q28A	Sharon Springs	79.95 337	⇓P	P	01 45 17.7 +0.8
	baz=80,SNR=5.8				
SDCO	Great Sand Dun	79.97 334	eP	P	01 45 17.6 +0.3
	comp=Z,4.7nm,0.9s				
O32A	Brockman Farm,	80.03 340	⇓P	P	01 45 18.3 +1.1
	baz=80				
SWSC	Sam W. Stewart	80.05 324	⇓P	P	01 45 17.8 +0.4
	baz=80				
S23A	Nye Farm, Mont	80.11 334	⇑P	P	01 45 19.2 +1.2
	baz=80				
Y12C	Blythe	80.13 326	⇓P	P	01 45 19.3 +1.5
	baz=80				
KSCO	Kaye Shedlock'	80.15 337	eP	P	01 45 19.2 +1.2
	comp=Z,97nm,1.8s				
KSCO	Kaye Shedlock'	80.15 337	⇓P	P	01 45 19.0 +1.0
	baz=80				
P29A	Atwood	80.17 338	⇑P	P	01 45 19.4 +1.3
	baz=80,SNR=5.6				
O31A	Woolen Ranch,	80.22 340	⇓P	P	01 45 18.7 +0.5
	baz=81,SNR=5.9				
NCB	Newcomb	80.23 359	eP	P	01 45 18.4 +0.2
	comp=Z,18nm,0.8s				
MDV	Middlebury	80.25 360	eP	P	01 45 18.4 +0.2
WUAZ	Wupatki	80.26 329	eP	P	01 45 18.4 -0.4
	comp=Z,31nm,1.1s				
WUAZ	Wupatki	80.26 329	⇑P	P	01 45 19.4 +0.6
	baz=81,SNR=7.1				
R24A	Sanders Place,	80.27 335	⇑P	P	01 45 19.9 +1.2
	baz=81,SNR=19				
MONP	Monument Peak	80.30 324	⇑P	P	01 45 20.2 +1.1
	baz=81				
Q26A	Hugo	80.36 336	⇓P	P	01 45 20.5 +1.3
	baz=81				
SCIA	State Center	80.37 345	eP	P	01 45 19.0 +0.1
	comp=Z,27nm,0.8s				
P28A	Saint Francis	80.39 338	⇑P	P	01 45 20.7 +1.4
	baz=81				
S22A	4UR Ranch, Cre	80.44 333	⇑P	P	01 45 21.0 +1.2
	baz=81,SNR=7.1				
O30A	MW Ranch, Wils	80.45 339	⇓P	P	01 45 20.3 +0.8
	baz=81,SNR=8.1				
R23A	Moffat	80.48 334	⇓P	P	01 45 21.5 +1.6
	baz=81,SNR=7.9				
BC3	Big Chuckawall	80.48 325	⇓P	P	01 45 21.3 +1.4
	baz=81,SNR=8.4				
N32A	Stulken Farm,	80.50 341	⇑P	P	01 45 21.2 +1.4
	baz=81				
MVCO	Mesa Verde	80.59 332	eP	P	01 45 21.4 +0.9
	comp=Z,26nm,1.2s				
MVCO	Mesa Verde	80.59 332	⇑P	P	01 45 21.5 +0.9
	baz=81,SNR=12				
Q25A	Bedland, Calha	80.59 336	⇓P	P	01 45 21.1 +0.6
	baz=81,SNR=7.9				
O29A	4D Ranch, Culb	80.61 339	⇓P	P	01 45 21.5 +1.1
	baz=81				
109C	Camp Elliot, M	80.62 323	⇑P	P	01 45 20.7 +0.2
	baz=81				
P27A	Ficken Ranch,	80.63 337	⇓P	P	01 45 21.6 +1.0
	baz=81				
N31A	Bailey Ranch,	80.74 340	⇓P	P	01 45 21.7 +0.7
	baz=81				
JFWS	Jewell Farm	80.75 347	eP	P	01 45 19.8 -1.2
JFWS			pmax	pmax	
	comp=Z,26nm,0.8s				
JFWS	Jewell Farm	80.75 347	eP	P	01 45 19.8 -1.2
	comp=Z,26nm,0.8s				
IRM	Iron Mountain	80.76 325	⇓P	P	01 45 22.6 +1.4
	baz=81,SNR=7.6				
P26A	Davis Ranch, A	80.88 337	⇓P	P	01 45 22.9 +0.9
	baz=81,SNR=7.4				
LONY	Lake Ozonia	80.88 359	eP	P	01 45 21.8 +0.2
	comp=Z,43nm,1.3s				
O28A	Krutsinger Ran	80.91 338	⇑P	P	01 45 22.8 +0.8
	baz=81,SNR=7.1				
PFO	Pinyon Flat Ob	80.91 324	eP	P	01 45 24.0 +1.8
PFO			pmax	pmax	
	comp=Z,21nm,0.9s				
PFO	Pinyon Flat Ob	80.91 324	eP	P	01 45 24.0 +1.8
	comp=Z,21nm,0.9s				
PFO	Pinyon Flat Ob	80.91 324	⇓P	P	01 45 22.9 +0.7
	baz=81				
Q24A	Divide	80.94 335	⇑P	P	01 45 23.4 +0.9
	baz=81,SNR=15				
W13A	Hualapai Mount	80.98 327	⇓P	P	01 45 24.0 +1.3
	baz=81				
BELC	Belle Mtn. Jos	81.02 325	⇓P	P	01 45 24.5 +1.7
	baz=81				
NEE2	Needles Airpor	81.03 326	⇓P	P	01 45 24.1 +1.5
	baz=81				
N30A	Hueftle Ranch,	81.03 339	⇓P	P	01 45 24.2 +1.6
	baz=81				
BGNE	Belgrade	81.07 341	eP	P	01 45 23.0 +0.3
	comp=Z,81nm,1.4s				
BGNE	Belgrade	81.07 341	⇑P	P	01 45 24.4 +1.7
	baz=81				
P25A	Willow Gulch B	81.10 336	⇓P	P	01 45 23.9 +0.8
	baz=82,SNR=14				
Q23A	Hartsel	81.12 334	⇑P	P	01 45 24.2 +0.8
	baz=82				
O27A	Beecher Island	81.18 337	⇑P	P	01 45 24.5 +1.0
	baz=82,SNR=5.8				
N29A	Votaw Ranch, W	81.20 339	⇓P	P	01 45 23.9 +0.4
	baz=82				
M31A	Lambtecht Ranc	81.23 340	⇓P	P	01 45 24.4 +0.8
	baz=82,SNR=9.7				
MURC	Murrieta	81.25 324	⇓P	P	01 45 23.9 0.0
	baz=82				
BKZ	Black Stump Fm	81.27 227	eP	P	01 45 25.7 +1.5
	comp=Z,14nm,0.8s				
P24A	Kohler Place,	81.35 335	⇓P	P	01 45 25.6 +1.1
	baz=82				
N28A	Pribbeno Ranch	81.35 338	⇓P	P	01 45 25.2 +0.8
	baz=82				
U15A	North Rim	81.42 329	⇑P	P	01 45 26.0 +0.9
	baz=82,SNR=21				
PV01	Paradox Valley	81.42 332	eP	P	01 45 25.3 +0.4
	comp=Z,2µm,1.1s				
URZ	Urewera	81.48 228	eP	P	01 45 25.8 +0.6
	comp=Z,17nm,0.7s				
O26A	Horse Wrangler	81.49 337	⇑P	P	01 45 26.6 +1.4
	baz=82,SNR=5.5				
LDFC	Landfair	81.51 326	eP	P	01 45 26.4 +1.1
	comp=Z,42nm,1.3s				
GMRC	Granite Mounta	81.51 325	⇓P	P	01 45 26.3 +0.9
	baz=82				
P23A	Jefferson	81.54 335	⇑P	P	01 45 26.0 +0.3
	baz=82				
O25A	Wiggins	81.63 336	⇓P	P	01 45 27.2 +1.3
	baz=82				
LBTB	Lobatse	81.72 115	eP	P	01 45 26.9 0.0
LBTB			pmax	pmax	
	comp=Z,38nm,0.6s				
LBTB	Lobatse	81.72 115	eP	P	01 45 26.9 0.0
	comp=Z,38nm,0.6s				
OGNE	Ogallala	81.73 338	⇓P	P	01 45 27.2 +0.8
	baz=82				
N27A	Anderson Farm,	81.76 338	⇓P	P	01 45 27.4 +0.9
	baz=82,SNR=5.4				
SMCO	Snowmass	81.76 334	eP	P	01 45 28.4 +1.4
	comp=Z,22nm,1.0s				
PV04	Paradox Valley	81.78 332	eP	P	01 45 27.9 +1.1
M29A	Burnside Ranch	81.80 339	⇓P	P	01 45 27.6 +1.0
	baz=82				
ISCO	Idaho Springs	81.84 335	eP	P	01 45 27.9 +0.6
ISCO			pmax	pmax	
	comp=Z,8.0nm,0.9s				
ISCO	Idaho Springs	81.84 335	eP	P	01 45 27.9 +0.6
	comp=Z,7.7nm,0.9s				
ISCO	Idaho Springs	81.84 335	⇑P	P	01 45 27.8 +0.6
	baz=82,SNR=7.8				
HEC	Hector,Ludlow	81.86 325	⇓P	P	01 45 27.6 +0.5
	baz=82				
FMP	Fort Macarthur	81.87 323	⇑P	P	01 45 27.8 +0.7
	baz=82				
M28A	Bar X Bar Ranc	81.95 339	⇓P	P	01 45 28.3 +0.8
	baz=82				
O24A	Longmont	81.95 336	⇓P	P	01 45 28.4 +0.8
	baz=82				
L31A	Butterfield Fa	81.97 341	⇓P	P	01 45 28.3 +0.8
	baz=82,SNR=15				
BFSC	Mount Baldy Ra	81.99 324	⇓P	P	01 45 28.4 +0.5
	baz=82				
N26A	Koester Ranch,	81.99 337	⇑P	P	01 45 28.3 +0.5
	baz=82				
L30A	Spencer Herefo	82.00 340	⇓P	P	01 45 28.8 +1.1
	baz=82,SNR=8.0				
P22A	Eagle	82.06 334	⇑P	P	01 45 29.3 +1.0
	baz=82,SNR=5.6				
TUQ	Turquoise Moun	82.17 326	⇓P	P	01 45 30.0 +1.1
	baz=82				
RRX	Edison Barstow	82.21 325	⇑P	P	01 45 30.0 +1.1
	baz=82				
L29A	Maesberg Ranch	82.31 340	⇓P	P	01 45 30.7 +1.3
	baz=83,SNR=5.7				
O23A	Lake Granby, G	82.32 335	⇑P	P	01 45 31.0 +1.3
	baz=83,SNR=17				
DECC	Green Verdugo	82.32 323	⇑P	P	01 45 31.0 +1.5
	baz=83				
M27A	Reverse DX Ran	82.38 338	⇑P	P	01 45 30.9 +1.2
	baz=83				
GSC	Goldstone	82.47 325	eP	P	01 45 31.8 +1.5
GSC			e*PP	pP	01 45 42.1 +1.3
GSC			pmax	pmax	
	comp=Z,13nm,0.8s				
GSC	Goldstone	82.47 325	eP	P	01 45 31.8 +1.5
	comp=Z,13nm,0.8s				
GSC			epP	pP	01 45 42.1 +1.3
GSC	Goldstone	82.47 325	⇑P	P	01 45 31.4 +1.1
	baz=83				
O22A	Kremmling	82.49 335	⇑P	P	01 45 31.2 +0.6
	baz=83,SNR=10				
N24A	Carr	82.52 336	⇓P	P	01 45 31.6 +1.0
	baz=83				
M26A	McRoberts Ranc	82.55 337	⇓P	P	01 45 31.6 +1.0
	baz=83				
L28A	Connealy Angus	82.56 339	⇓P	P	01 45 32.1 +1.4
	baz=83				
K30A	Basset	82.64 340	⇑P	P	01 45 31.6 +0.6
	baz=83,SNR=18				
EDW2	Edwards Air Fo	82.67 324	⇑P	P	01 45 32.3 +0.9
	baz=83				
SHPR	Sheep Range	82.72 327	eP	P	01 45 32.3 +0.6
BSC	Santa Cruz Isl	82.75 322	⇓P	P	01 45 32.2 +0.5
	baz=83				
M25A	Palm-Egli Farm	82.81 337	⇓P	P	01 45 33.1 +1.0
	baz=83				
OSI	Osito Adit	82.81 323	⇑P	P	01 45 32.8 +0.7
	baz=83				
CCUT	Cedar City	82.83 329	eP	P	01 45 34.0 +1.7
	comp=Z,35nm,1.1s				
L27A	T5 Ranch, Ells	82.86 338	⇓P	P	01 45 33.2 +0.9
	baz=83				
ECSD	EROS Data Cent	82.87 343	eP	P	01 45 32.0 -0.1
	comp=Z,57nm,1.0s				
ECSD	EROS Data Cent	82.87 343	⇑P	P	01 45 32.3 +0.2
	baz=83,SNR=28				
K29A	Lazy Trails An	82.91 340	⇓P	P	01 45 33.1 +0.6
	baz=83,SNR=5.0				
N23A	Red Feather La	82.94 335	⇑P	P	01 45 33.9 +1.0
	baz=83,SNR=8.7				
LRMC	Laurel Mountai	83.02 324	⇑P	P	01 45 34.6 +1.3
	baz=83				
SRU	San Rafael	83.02 331	eP	P	01 45 33.4 +0.2
SRU			pmax	pmax	
	comp=Z,20nm,0.9s				
SRU	San Rafael	83.02 331	eP	P	01 45 33.4 +0.2
	comp=Z,20nm,0.9s				
N22A	Wattenberg Ran	83.03 335	⇓P	P	01 45 34.8 +1.4
	baz=83,SNR=11				
L26A	Underwood Farm	83.05 338	⇑P	P	01 45 34.2 +1.0
	baz=83				
ARUT	Antelope Range	83.06 329	eP	P	01 45 34.7 +1.2
ARUT	Antelope Range	83.06 329	eP	P	01 45 34.7 +1.2
	comp=Z,618nm,1.3s				
O20A	White River Ci	83.06 333	eP	P	01 45 33.8 +0.4
	comp=Z,12nm,1.1s				
O20A	White River Ci	83.06 333	⇑P	P	01 45 34.2 +0.8
	baz=83				
M24A	Cheyenne	83.08 336	⇓P	P	01 45 34.5 +1.0
	baz=83,SNR=6.8				
PHWY	Pilot Hill	83.14 336	eP	P	01 45 34.3 +0.4
	comp=Z,32nm,1.4s				
SBC	Santa Barbara	83.15 323	⇑P	P	01 45 34.5 +0.8
	baz=84				
K28A	Ten Mile Ranch	83.16 339	⇑P	P	01 45 35.1 +1.3
	baz=84,SNR=6.1				
MVU	Marysvale	83.17 330	eP	P	01 45 34.6 +0.5
	comp=Z,21nm,1.1s				
J30A	Dallas	83.21 341	⇓P	P	01 45 34.3 +0.3
	baz=84,SNR=7.3				
ARVC	Arvin	83.27 324	⇑P	P	01 45 35.0 +0.6
	baz=84				
M23A	Laramie	83.38 336	⇑P	P	01 45 35.6 +0.6
	baz=84,SNR=8.8				
K27A	Flueckinger Fa	83.41 339	⇓P	P	01 45 35.6 +0.6
	baz=84,SNR=6.8				
L25A	Engebretsen Ra	83.43 337	⇑P	P	01 45 36.2 +1.0
	baz=84				
TMUT	Trail Mountain	83.45 331	eP	P	01 45 36.0 +0.4
	comp=Z,31nm,1.2s				
FURC	Furnace Creek,	83.45 326	⇓P	P	01 45 35.9 +0.6
	baz=84				
SPMN	St. Paul	83.46 346	eP	P	01 45 34.1 -1.0
	comp=Z,7.8nm,0.6s				
SPMN	St. Paul	83.46 346	⇓P	P	01 45 35.1 0.0
	baz=84,SNR=5.5				
J29A	Okreek	83.51 340	⇓P	P	01 45 36.0 +0.6
	baz=84,SNR=16				
ISA	Isabella	83.54 324	eP	P	01 45 37.3 +1.4
ISA			pmax	pmax	
	comp=Z,17nm,1.1s				
ISA	Isabella	83.54 324	eP	P	01 45 37.3 +1.4
	comp=Z,17nm,1.1s				
ISA	Isabella	83.54 324	⇓P	P	01 45 36.2 +0.3
	baz=84				
M22A	Cedar Creek Ra	83.61 335	⇓P	P	01 45 36.5 +0.2
	baz=84				
L24A	Wheatland	83.64 336	⇑P	P	01 45 37.2 +0.9
	baz=84				
K26A	Motz Farm, Whi	83.69 338	⇓P	P	01 45 37.5 +1.0
	baz=84				
N20A	Spence Gulch,	83.69 334	⇓P	P	01 45 37.7 +1.0
	baz=84,SNR=8.0				
I30A	Oacoma	83.74 341	⇑P	P	01 45 36.6 0.0
	baz=84,SNR=10.0				
J28A	Allard Ranch,	83.78 340	⇓P	P	01 45 37.4 +0.5
	baz=84,SNR=8.1				
K25A	Mack Ranch, Ha	83.82 337	⇓P	P	01 45 38.0 +0.8
	baz=84				
J27A	Elkhorn Farm,	83.84 339	⇓P	P	01 45 38.2 +0.9
	baz=84,SNR=8.8				
L23A	Garrett	83.95 336	⇑P	P	01 45 38.3 +0.3
	baz=84,SNR=6.0				
VES	Vestal, Richgr	83.97 324	⇓P	P	01 45 39.6 +1.6
	baz=84				
SMMC	Simmler	83.99 323	⇓P	P	01 45 39.1 +1.0
	baz=84				
I29A	Vivian Onida	84.08 340	⇓P	P	01 45 38.4 +0.1
	baz=84				
BRSD	Miller	84.11 341	eP	P	01 45 38.5 0.0
	comp=Z,39nm,0.8s				
BRSD	Miller	84.11 341	⇓P	P	01 45 38.6 +0.1
	baz=84,SNR=7.4				
L22A	Ellis Ranch, M	84.12 335	⇓P	P	01 45 39.3 +0.5
	baz=84,SNR=6.0				
GRAC	Grapevine Rang	84.12 326	⇑P	P	01 45 39.8 +1.1
	baz=84				
K24A	Anderson Ranch	84.21 337	⇓P	P	01 45 40.6 +1.4
	baz=85				
J26A	Sides Ranch, S	84.21 338	⇓P	P	01 45 40.0 +0.9
	baz=85,SNR=9.4				
MPU	Maple Canyon	84.23 331	eP	P	01 45 40.0 +0.6
	comp=Z,30nm,1.0s				
I28A	Midland	84.29 340	⇓P	P	01 45 40.0 +0.5
	baz=85,SNR=14				
NLU	North Lily Min	84.35 331	eP	P	01 45 40.6 +0.5
	comp=Z,28nm,1.2s				
RCTC	Rector, Farmer	84.43 324	⇓P	P	01 45 41.1 +0.9
	baz=85				
DAU	Daniels Canyon	84.43 331	eP	P	01 45 41.4 +0.8
DAU	Daniels Canyon	84.43 331	eP	P	01 45 41.4 +0.8
R11A	Troy Canyon, C	84.45 328	eP	P	01 45 41.6 +1.1
	comp=Z,22nm,1.0s				
R11A	Troy Canyon, C	84.45 328	⇑P	P	01 45 41.8 +1.2
	baz=85				
K23A	Bowen Ranch, D	84.50 336	⇑P	P	01 45 41.6 +0.9
	baz=85,SNR=8.8				
J25A	Sunshine Ranch	84.50 338	⇑P	P	01 45 41.6 +1.0
	baz=85				
TIN	Tinemaha	84.56 325	⇑P	P	01 45 42.8 +1.7
	baz=85				
I27A	Quinn	84.61 339	⇓P	P	01 45 41.7 +0.6
	baz=85				
H29A	Onida	84.61 341	⇑P	P	01 45 41.5 +0.4
	baz=85,SNR=10				
JLU	Jordanelle	84.67 331	eP	P	01 45 42.4 +0.7
	comp=Z,15nm,0.9s				
K22A	Casper	84.70 336	eP	P	01 45 42.1 +0.4
	comp=Z,28nm,0.9s				
K22A	Casper	84.70 336	⇑P	P	01 45 42.5 +0.7
	baz=85,SNR=16				
J24A	Dixon Ranch, L	84.71 337	⇑P	P	01 45 42.4 +0.7
	baz=85,SNR=12				
G30A	Faulkton	84.80 342	⇑P	P	01 45 42.8 +0.8
	baz=85,SNR=7.3				
I26A	New Underwood	84.81 339	⇓P	P	01 45 42.7 +0.6
	baz=85				
DUG	Dugway	84.85 330	eP	P	01 45 43.2 +0.7
DUG			pmax	pmax	
	comp=Z,50nm,1.4s				
DUG	Dugway	84.85 330	eP	P	01 45 43.2 +0.7
	comp=Z,50nm,1.4s				
DUG	Dugway	84.85 330	⇑P	P	01 45 43.1 +0.7
	baz=85				
CTU	Camp Tracy	84.86 331	eP	P	01 45 42.9 +0.3
	comp=Z,6.9nm,0.8s				
H28A	Mission Ridge	84.88 340	⇑P	P	01 45 42.8 +0.4
	baz=85,SNR=8.6				
K21A	Alcova	84.93 335	⇓P	P	01 45 43.5 +0.6
	baz=85,SNR=24				
TPH	Tonopah	84.94 326	eP	P	01 45 44.2 +1.1
TPH			pmax	pmax	
	comp=Z,35nm,1.0s				
TPH	Tonopah	84.94 326	eP	P	01 45 44.2 +1.1
	comp=Z,35nm,1.0s				
I25A	Rochford	85.05 338	⇓P	P	01 45 44.2 +0.8
	baz=85,SNR=16				
J23A	Dilts Ranch, B	85.06 337	⇑P	P	01 45 43.8 +0.3
	baz=85				
G29A	Hoven	85.06 341	⇓P	P	01 45 43.4 +0.1
	baz=85,SNR=5.1				
TCUT	Toone Canyon	85.10 332	eP	P	01 45 44.0 +0.1
	comp=Z,54nm,1.4s				
H27A	Howes	85.13 339	⇓P	P	01 45 43.8 +0.1
	baz=86,SNR=10				
I24A	Kuemmerle Ranc	85.18 337	⇑P	P	01 45 44.4 +0.4
	baz=86,SNR=6.7				
G28A	Parade	85.22 340	⇓P	P	01 45 44.5 +0.4
	baz=86,SNR=10				
RSSD	Black Hills	85.24 338	eP	P	01 45 44.3 -0.2
RSSD			pmax	pmax	
	comp=Z,17nm,0.9s				
RSSD	Black Hills	85.24 338	eP	P	01 45 44.2 -0.2
	comp=Z,17nm,0.9s				
MLAC	Mammoth Lakes	85.31 325	⇑P	P	01 45 45.1 +0.1
	baz=86				
H26A	Fairpoint	85.32 339	⇑P	P	01 45 45.2 +0.6
	baz=86				
J22A	Midwest	85.37 336	⇑P	P	01 45 44.9 -0.1
	baz=86,SNR=11				
F30A	Leola	85.43 342	⇑P	P	01 45 45.2 +0.1
	baz=86,SNR=6.7				
BGU	Big Grassy Mou	85.56 331	eP	P	01 45 46.7 +0.6
	comp=Z,16nm,1.7s				
H25A	Fruitdale	85.56 338	⇑P	P	01 45 46.3 +0.4
	baz=86,SNR=14				
HWUT	Hardware Ranch	85.58 332	eP	P	01 45 46.2 0.0
	comp=Z,76nm,1.3s				
J21A	Lysite	85.63 335	⇑P	P	01 45 46.6 +0.2
	baz=86,SNR=6.3				
F29A	Eureka	85.64 341	⇓P	P	01 45 46.3 +0.2
	baz=86,SNR=8.2				
TOA0	Torodi Ar. Sit	85.64 70	eP	P	01 45 46.1 -0.8
TORD	Torodi Ar. Bea	85.64 70	P	P	01 45 46.5 -0.4
	comp=Z,7.8nm,0.9s,baz=242,slow=4.0,SNR=18				
SPUT	South Promonto	85.66 331	eP	P	01 45 46.7 +0.2
	comp=Z,47nm,1.4s				
NVAR	Mina Array Bea	85.72 326	P	P	01 45 48.1 +1.1
	comp=Z,10nm,0.7s,baz=157,slow=6.2,SNR=61				
NVAR			pP	pP	01 45 57.7 +0.3
	comp=Z,5.5nm,0.8s,baz=147,slow=4.5,SNR=8.5				
G27A	Dupree	85.78 340	⇓P	P	01 45 47.6 +0.7
	baz=86,SNR=9.6				
I22A	9 Mile Ranch,	85.80 336	⇓P	P	01 45 47.1 0.0
	baz=86,SNR=17				
EYMN	Ely	85.84 347	eP	P	01 45 46.4 -0.7
	comp=Z,21nm,1.1s				
PDAR	Pinedale Array	85.85 334	P	P	01 45 47.0 -0.5
	comp=Z,8.3nm,1.0s,baz=142,slow=5.1,SNR=27				
J20A	Shoshoni	85.85 335	⇓P	P	01 45 48.3 +0.9
	baz=86,SNR=5.5				
G26A	Maurine	85.89 339	⇓P	P	01 45 47.7 +0.2
	baz=86,SNR=17				
F28A	McLaughlin	85.90 341	⇑P	P	01 45 47.9 +0.4
	baz=86,SNR=6.6				
H24A	Dirks Ranch, A	85.96 338	⇓P	P	01 45 47.8 -0.1
	baz=86,SNR=15				
I21A	Big Trails, Te	85.99 336	⇓P	P	01 45 48.1 0.0
	baz=86,SNR=19				
E30A	Jud	86.03 342	⇓P	P	01 45 48.4 +0.3
	baz=86,SNR=8.0				
G25A	Newell	86.03 339	⇑P	P	01 45 48.5 +0.3
	baz=86,SNR=11				
H23A	Clabaugh Cattl	86.05 337	⇑P	P	01 45 48.2 -0.1
	baz=86				
J19A	Crowheart	86.11 334	⇑P	P	01 45 49.2 +0.4
	baz=86,SNR=20				
HVU	Hansel Valley	86.19 331	eP	P	01 45 48.8 -0.4
HVU			pmax	pmax	
	comp=Z,21nm,0.9s				
HVU	Hansel Valley	86.19 331	eP	P	01 45 48.8 -0.4
	comp=Z,21nm,0.9s				
F27A	Lemmon	86.25 340	⇓P	P	01 45 49.4 +0.1
	baz=87,SNR=22				
E29A	Napoleon	86.27 342	⇑P	P	01 45 49.3 +0.1
	baz=87,SNR=5.4				
WAKR	Walker	86.29 325	eP	P	01 45 50.8 +1.0
ELK	Elko	86.30 329	eP	P	01 45 50.5 +0.6
ELK			pmax	pmax	
	comp=Z,14nm,1.1s				
ELK	Elko	86.30 329	eP	P	01 45 50.5 +0.6
	comp=Z,14nm,1.1s				
H22A	Clearmont	86.38 337	⇓P	P	01 45 49.7 -0.3
	baz=87,SNR=9.4				
I20A	Worland	86.39 335	⇑P	P	01 45 50.7 +0.6
	baz=87,SNR=13				
F26A	Lodgepole	86.42 340	⇑P	P	01 45 50.0 0.0
	baz=87,SNR=7.9				
G24A	Alzada	86.44 338	⇑P	P	01 45 50.7 +0.5
	baz=87				
E28A	Huff	86.55 341	⇓P	P	01 45 50.9 +0.3
	baz=87,SNR=5.2				
D30A	Buchanan	86.56 343	⇑P	P	01 45 50.8 +0.2
	baz=87,SNR=10.0				
G23A	Biddle	86.63 338	⇑P	P	01 45 50.6 -0.6
	baz=87,SNR=12				
H21A	Big Horn, Sher	86.63 336	⇓P	P	01 45 50.7 -0.5
	baz=87,SNR=8.3				
E27A	Carson	86.64 340	⇓P	P	01 45 50.9 -0.2
	baz=87,SNR=6.4				
F25A	Bowman	86.71 339	⇓P	P	01 45 51.6 +0.1
	baz=87,SNR=11				
D29A	Pettibone, Tap	86.72 342	⇑P	P	01 45 51.4 0.0
	baz=87,SNR=8.6				
I19A	Meeteetse	86.76 335	⇓P	P	01 45 52.0 0.0
	baz=87,SNR=6.4				

H20A Greybull 86.82 336 ⇓P P 01 45 52.0 -0.2
baz=87,SNR=13
REDW Red Top Meadow 86.83 333 eP P 01 45 52.7 +0.4
comp=Z,33nm,1.4s
F24A Ekalaka 86.92 338 ⇓P P 01 45 52.5 -0.1
baz=87,SNR=7.2
G22A Birney 86.92 337 ⇓P P 01 45 52.3 -0.2
baz=87,SNR=6.1
E26A Carlson Angus 86.93 340 ⇑P P 01 45 52.5 0.0
baz=87,SNR=8.6
LOHW Long Hollow 86.96 333 eP P 01 45 53.3 +0.4
comp=Z,19nm,1.4s
TPAW Teton Pass 86.98 333 eP P 01 45 53.7 +0.6
AGMN Agassiz Nation 87.02 345 eP P 01 45 52.5 -0.3
comp=Z,19nm,0.8s
AGMN Agassiz Nation 87.02 345 ⇑P P 01 45 52.8 -0.1
baz=87,SNR=13
C30A Mose, Pekin 87.05 343 ⇑P P 01 45 53.3 +0.3
baz=87,SNR=22
D28A Regan 87.09 341 ⇑P P 01 45 53.6 +0.4
baz=88,SNR=12
F23A Volborg 87.10 338 ⇑P P 01 45 53.2 -0.2
baz=88,SNR=11
FXWY Fox Creek 87.13 333 eP P 01 45 54.2 +0.3
comp=Z,18nm,1.4s
I17A Pilgrim Ck. 87.22 334 ⇑P P 01 45 53.6 -0.6
baz=88,SNR=14
E25A Miller Ranch, 87.22 339 ⇓P P 01 45 54.3 +0.4
baz=88,SNR=12
G21A Lodge Grass 87.22 336 ⇑P P 01 45 54.0 0.0
baz=88
D27A Center 87.26 341 ⇑P P 01 45 54.4 +0.4
baz=88,SNR=7.9
H19A Powell 87.32 335 ⇑P P 01 45 54.4 -0.1
baz=88
IMW Indian Meadow 87.33 333 eP P 01 45 55.0 +0.2
comp=Z,34nm,1.4s
FLWY Flagg Ranch 87.40 334 eP P 01 45 55.4 +0.3
comp=Z,29nm,1.1s
F22A Rosebud 87.41 337 ⇓P P 01 45 55.5 +0.6
baz=88,SNR=6.3
D26A Manning 87.43 340 ⇓P P 01 45 55.3 +0.3
baz=88,SNR=7.6
C28A Hausauer Farms 87.53 342 ⇑P P 01 45 56.5 +1.2
baz=88
E24A Baker 87.53 339 ⇑P P 01 45 56.1 +0.6
baz=88,SNR=6.3
G20A Bridger 87.54 336 ⇑P P 01 45 55.4 -0.2
baz=88,SNR=8.7
H18A Shoshone NF, C 87.56 335 ⇓P P 01 45 55.6 -0.3
baz=88,SNR=13
B30A Myrvik Farm, E 87.71 343 ⇓P P 01 45 56.1 0.0
baz=88,SNR=31
YFT Old Faithful 87.77 334 eP P 01 45 59.5 +2.6
comp=Z,24nm,1.3s
D25A Fairfield 87.79 340 ⇑P P 01 45 57.3 +0.7
baz=88,SNR=9.9
C27A Sayler Ranch, 87.81 341 ⇓P P 01 45 57.3 +0.6
baz=88,SNR=18
E22A Miles City 87.91 338 ⇑P P 01 45 57.5 +0.3
baz=88
B29A Wagenman Farm, 87.97 343 ⇓P P 01 45 57.6 +0.2
baz=88,SNR=9.6
YMR Madison River 88.00 334 eP P 01 45 58.1 +0.1
comp=Z,34nm,1.4s
F20A Billings 88.03 336 ⇑P P 01 45 58.0 0.0
baz=88
D24A Glendive 88.04 339 ⇓P P 01 45 58.4 +0.5
baz=88,SNR=10
C26A Wahner Farm, P 88.07 341 ⇑P P 01 45 58.6 +0.7
baz=88,SNR=8.4
A30A Hoffart Farm, 88.17 343 ⇑P P 01 45 58.3 -0.1
baz=88,SNR=14
B28A Dugan Ranch, T 88.20 342 ⇑P P 01 45 58.9 +0.4
baz=89,SNR=20
C25A Freed Ranch, W 88.28 340 ⇑P P 01 45 59.5 +0.6
baz=89
QLMT Earthquake Lak 88.31 334 eP P 01 46 00.3 +0.9
HLID Hailey 88.34 331 eP P 01 46 00.3 +0.8
comp=Z,35nm,1.8s
HLID Hailey 88.34 331 ⇑P P 01 46 00.2 +0.6
baz=89
F19A Roth Farm, Mol 88.34 336 ⇓P P 01 46 00.2 +0.8
baz=89
D23A Lindsay 88.35 339 ⇑P P 01 45 59.5 +0.1
baz=89,SNR=11
E21A Keefer Ranch, 88.35 337 ⇓P P 01 45 59.6 +0.2
baz=89
A29A Manning Farm, 88.37 343 ⇓P P 01 45 59.2 -0.1
baz=89,SNR=24
B27A Peters Farms, 88.39 341 ⇓P P 01 46 00.0 +0.6
baz=89
C24A Savage 88.44 339 ⇑P P 01 46 00.1 +0.4
baz=89,SNR=16
A28A Rude Farm, Bot 88.61 342 ⇓P P 01 46 00.6 +0.1
baz=89,SNR=8.3
B26A Jensen Ranch, 88.61 341 ⇑P P 01 46 00.7 +0.2
baz=89
D22A Cohagen 88.62 338 ⇑P P 01 46 00.8 +0.3
baz=89
E20A Meyer Farm, Mu 88.65 336 ⇑P P 01 46 01.0 +0.2
baz=89,SNR=7.1
B25A Knox Farm, Ray 88.77 340 ⇑P P 01 46 01.0 -0.3
baz=89
MFID Camas Ranch 88.78 330 eP P 01 46 02.4 +0.9
comp=Z,24nm,1.4s
D21A La Casta Ranch 88.79 337 ⇓P P 01 46 01.3 -0.1
baz=89
MCMT McKenzie Canyo 88.82 333 eP P 01 46 02.2 +0.4
comp=Z,13nm,1.3s
E19A Rath Farm, Rou 88.83 336 ⇓P P 01 46 01.4 -0.2
baz=89,SNR=7.9
ULM Lac du Bonnet 88.88 345 eP P 01 46 00.7 -0.9
ULM pmax pmax
comp=Z,57nm,1.6s
ULM Lac du Bonnet 88.88 345 P P 01 46 00.9 -0.7
comp=Z,18nm,0.9s,baz=171,slow=4.0,SNR=23
ULM Lac du Bonnet 88.88 345 eP P 01 46 00.7 -0.9
comp=Z,57nm,1.6s
A27A Ledoux Ranch, 88.89 342 ⇓P P 01 46 02.5 +0.7
baz=89
C23A Lambert 88.91 339 ⇓P P 01 46 02.1 +0.2
baz=89
A26A Wade Farm, Ken 89.04 341 ⇓P P 01 46 02.7 +0.2
baz=89,SNR=6.5
C22A Vida 89.06 338 ⇑P P 01 46 02.5 -0.2
baz=89
BOZ Bozeman (W) 89.09 334 eP P 01 46 02.8 -0.1
BOZ pmax pmax
comp=Z,14nm,1.7s
BOZ Bozeman (W) 89.09 334 eP P 01 46 02.8 -0.1
comp=Z,14nm,1.7s
WVOR Wild Horse Val 89.13 328 eP P 01 46 04.1 +0.9
WVOR pmax pmax
comp=Z,25nm,1.4s
WVOR Wild Horse Val 89.13 328 eP P 01 46 04.0 +0.9
comp=Z,25nm,1.4s
D20A Manuel Ranch, 89.17 337 ⇑P P 01 46 03.4 +0.2
baz=90,SNR=6.2
DLMT Dillon 89.19 333 eP P 01 46 04.4 +1.0
comp=Z,28nm,1.6s
DGMT Dagmar 89.23 340 eP P 01 46 03.8 +0.3
comp=Z,63nm,1.4s
DGMT Dagmar 89.23 340 ⇓P P 01 46 03.7 +0.3
baz=90,SNR=7.6
A25A Svangstu Ranch 89.36 341 ⇑P P 01 46 05.0 +1.1
baz=90
MOD Modoc 89.42 327 eP P 01 46 05.7 +1.0
B23A Brockton 89.45 339 ⇓P P 01 46 05.2 +0.8
baz=90
D19A Cripps Ranch, 89.48 336 ⇑P P 01 46 05.1 +0.4
baz=90
C21A Desert Coulee 89.50 338 ⇓P P 01 46 05.3 +0.6
baz=90
LSZ Lusaka 89.52 109 eP P 01 46 05.8 0.0
LSZ pmax pmax
comp=Z,31nm,1.4s
LSZ Lusaka 89.52 109 eP P 01 46 05.8 0.0
comp=Z,31nm,1.4s
LRM Limekiln Ridge 89.53 333 eP P 01 46 05.5 +0.3
A24A Westby 89.59 340 ⇓P P 01 46 05.5 +0.4
baz=90
B22A Reddig Ranch S 89.60 339 ⇓P P 01 46 05.6 +0.5
baz=90
C20A Veseth Ranch, 89.68 337 ⇑P P 01 46 06.3 +0.7
baz=90
N02D Trinity Center 89.78 325 ⇓P P 01 46 06.4 +0.2
baz=90
A23A Redstone 89.87 339 ⇓P P 01 46 07.1 +0.8
baz=90
B21A Ellsworth Farm 90.01 338 ⇑P P 01 46 07.8 +0.8
baz=90
M04C Macdoel 90.02 326 ⇓P P 01 46 07.8 +0.4
baz=90
C19A Slack Wire Ran 90.03 336 ⇓P P 01 46 07.7 +0.4
baz=90
A22A Carney Farms, 90.19 339 ⇓P P 01 46 08.7 +0.7
baz=91,SNR=7.1
B20A Solberg Farm, 90.33 337 ⇓P P 01 46 07.9 -0.6
baz=91
K05A Summer Lake 90.35 327 eP P 01 46 10.6 +1.6
comp=Z,64nm,1.5s
A21A Bergtoll Ranch 90.49 338 ⇓P P 01 46 08.5 -0.8
baz=91
EGMT Eagleton 90.52 336 ⇓P P 01 46 08.4 -1.1
baz=91
BMO Blue Mountains 90.56 330 eP P 01 46 10.1 +0.3
comp=Z,4.4nm,0.9s
A20A Cobblestone Ra 90.69 338 ⇓P P 01 46 10.0 -0.2
baz=91
J05D Fort Rock, OR 90.94 327 ⇑P P 01 46 12.7 +1.0
baz=91
L02D Cave Junction, 91.12 325 ⇓P P 01 46 12.5 +0.1
baz=91
SCHQ Schefferville 91.23 3 P P 01 46 11.3 -1.2
comp=Z,5.4nm,0.9s,baz=214,slow=11,SNR=4.6
J04D Umpqua Nationa 91.30 326 ⇑P P 01 46 13.9 +0.5
baz=92
SWMT Swartz Lake 91.53 333 eP P 01 46 14.7 +0.5
G08A Pilot Rock 91.59 329 eP P 01 46 15.2 +0.6
comp=Z,64nm,2.3s
I05D Terrebonne, OR 91.83 327 ⇓P P 01 46 16.2 +0.5
baz=92
JTMT Jette 91.83 333 eP P 01 46 15.4 -0.2
YBMT Yellow Bay 91.83 334 eP P 01 46 16.8 +1.1
I04A Tendick Farm, 91.87 326 ⇑P P 01 46 15.7 -0.1
baz=92
BLMT Blacktail Moun 92.08 333 eP P 01 46 16.8 -0.1
comp=Z,6.4nm,1.0s
BSMT Bassoo Peak 92.10 333 eP P 01 46 17.4 +0.4
HAWA Hanford 92.72 330 eP P 01 46 20.6 +1.0
comp=Z,9.0nm,1.0s
D08A Wollman Farm, 93.02 330 eP P 01 46 21.6 +0.6
comp=Z,6.8nm,0.8s
NEW Newport 93.31 332 eP P 01 46 22.1 -0.3
NEW pmax pmax
comp=Z,27nm,1.8s
NEW Newport 93.31 332 eP P 01 46 22.1 -0.3
comp=Z,27nm,1.8s
NEW Newport 93.31 332 ⇑P P 01 46 22.0 -0.3
baz=94
TAM Tamanrasset 94.46 65 eP P 01 46 28.2 -0.2
TAM pmax pmax
comp=Z,8.0nm,1.4s
TAM Tamanrasset 94.46 65 eP P 01 46 28.2 -0.2
comp=Z,7.6nm,1.4s
FCC Fort Churchill 96.69 349 eP P 01 46 36.1 -1.3
FCC Fort Churchill 96.69 349 eP P 01 46 36.1 -1.3
comp=Z,0.1nm,0.6s
ESDC Sonseca Array 98.79 47 P P 01 46 47.2 -0.3
comp=Z,0.7nm,0.7s,baz=228,slow=5.2,SNR=3.4
YKA Yellowknife Ar 104.35 341 Pdiff Pdif 01 47 10.5 -1.1
comp=Z,0.7nm,0.9s,baz=144,slow=4.1,SNR=13
YKA PP PKiKP 01 51 26.4 -1.4
comp=Z,0.4nm,0.8s,baz=140,slow=8.0,SNR=5.0
GERES GERESS Array B 114.39 46 PKP PKPdf 01 51 46.4 -0.9
comp=Z,1.8nm,0.7s,baz=224,slow=1.3,SNR=18
GERES PKKPab PKKPab 02 02 31.8 +0.9
comp=Z,0.6nm,0.7s,baz=22,slow=8.6,SNR=5.2
CLL Collm 115.14 44 ePKiKP PKiKP 01 51 49.0 +0.5
ILAR Eielson Array 116.26 333 PKP PKPdf 01 51 49.0 -1.2
comp=Z,0.6nm,0.9s,baz=173,slow=1.9,SNR=5.5
ILAR PP PP 01 53 00.3 +3.4
comp=Z,0.7nm,1.1s,baz=122,slow=7.1,SNR=5.1
VRAC Vranov 116.29 47 ⇑PKIKP PKPdf 01 51 50.8 0.0
VRAC Vranov 116.29 47 ⇑iP PKPdf 01 51 50.8 0.0
MORC Moravsky Berou 117.05 47 ⇓PKIKP PKPdf 01 51 52.2 -0.1
MORC Moravsky Berou 117.05 47 ⇓iP PKPdf 01 51 52.2 -0.1
MORC Moravsky Berou 117.05 47 ePKPdf PKPdf 01 51 52.0 -0.2
VYHS Vyhne 117.27 48 ePKIKP PKPdf 01 51 52.5 -0.2
VYHS e 01 52 03.0
VYHS Vyhne 117.27 48 ePKP PKPdf 01 51 52.5 -0.2
VYHS e 01 52 03.0
BZS Buzias 117.77 52 ⇑PKIKP PKPdf 01 51 53.5 -0.2
BZS Buzias 117.77 52 ⇑iP PKPdf 01 51 53.5 -0.2
WRA Warramunga Arr 118.20 209 PKP PKPdf 01 51 54.2 -1.3
comp=Z,2.3nm,0.8s,baz=168,slow=1.5,SNR=14
WRA pPKP pPKPdf 01 52 04.6 -1.7
comp=Z,3.4nm,0.6s,baz=172,slow=1.5,SNR=11
WRAB Tennant Creek 118.20 209 ePKIKP PKPdf 01 51 54.5 -1.0
WRAB Tennant Creek 118.20 209 ePKPdf PKPdf 01 51 54.5 -1.0
NOA NORSAR Array B 118.53 33 PKP PKPdf 01 51 54.2 -0.5
comp=Z,0.8nm,0.9s,baz=234,slow=2.3,SNR=3.8
STHS Stebnicka Huta 119.10 48 ePKIKP PKPdf 01 51 56.2 0.0
STHS Stebnicka Huta 119.10 48 ePKP PKPdf 01 51 56.2 0.0
TRPA Tarpa 119.38 50 ⇑iP PKPdf 01 51 56.7 0.0
KOLS Kolonicke sedl 119.53 49 ePKIKP PKPdf 01 51 57.1 0.0
KOLS Kolonicke sedl 119.53 49 ePKP PKPdf 01 51 57.0 0.0
ARR Arges 119.61 54 ⇓iP PKPdf 01 51 57.0 -0.4
JMB Yambol 119.73 57 ⇑PKIKP PKPdf 01 51 54.5 -3.1
JMB Yambol 119.73 57 ⇑iP PKPdf 01 51 54.5 -3.1
VOIR 119.90 54 ⇓PKIKP PKPdf 01 51 57.8 -0.1
VOIR 119.90 54 ⇓iP PKPdf 01 51 57.8 -0.1
KWP Kalwaria Pacla 120.06 48 ePKIKP PKPdf 01 51 58.3 +0.3
KWP Kalwaria Pacla 120.06 48 ePKP PKPdf 01 51 58.3 +0.3
KWP Kalwaria Pacla 120.06 48 ⇓iP PKPdf 01 51 58.1 +0.1
KWP Kalwaria Pacla 120.06 48 ePKPdf PKPdf 01 51 57.8 -0.2
DOPR Dopca 120.33 53 ⇓iP PKPdf 01 51 58.2 -0.5
MLR Muntele Rosu 120.50 54 ⇓PKIKP PKPdf 01 51 58.5 -0.7
MLR Muntele Rosu 120.50 54 ⇓iP PKPdf 01 51 58.5 -0.7
BURAR Bucovina Array 120.84 51 ⇓PKIKP PKPdf 01 51 59.8 +0.1
BURAR Bucovina Array 120.84 51 ⇓iP PKPdf 01 51 59.8 +0.1
VRI Vrincioaia 121.15 54 ⇓PKIKP PKPdf 01 51 59.6 -0.7
VRI Vrincioaia 121.15 54 ⇓iP PKPdf 01 51 59.6 -0.7
MBWA Marble Bar 121.34 194 ePKPdf PKPdf 01 52 00.0 -1.5
TESR Tescani 121.34 53 ⇑iP PKPdf 01 51 59.7 -0.9
CFR Carcaliu 121.82 55 ⇑PKIKP PKPdf 01 52 00.2 -1.3
CFR Carcaliu 121.82 55 ⇑iP PKPdf 01 52 00.2 -1.3
SUW Suwalki 121.90 44 ePKIKP PKPdf 01 52 00.8 -0.6
SUW Suwalki 121.90 44 ePKP PKPdf 01 52 00.8 -0.6
SUW Suwalki 121.90 44 ePKPdf PKPdf 01 52 00.6 -0.8
BRTR Keskin Array B 123.57 63 PKP PKPdf 01 52 04.5 -0.8
comp=Z,2.5nm,0.8s,baz=184,slow=4.0,SNR=14
BRTR pPKP pPKPdf 01 52 15.4 -0.7
comp=Z,0.8nm,0.7s,baz=180,slow=4.6,SNR=4.4
BR131 Keskin Array S 123.58 63 ePKPdf PKPdf 01 52 04.8 -0.5
AK02 Malin Array Si 124.34 49 ePKIKP PKPdf 01 52 04.9 -1.3
KIEV Kiev 124.35 49 ePKIKP PKPdf 01 52 04.7 -1.5
KIEV Kiev 124.35 49 ePKPdf PKPdf 01 52 04.7 -1.5
AK01 Malin Array Si 124.35 49 ePKPdf PKPdf 01 52 05.0 -1.2
AKASG Malin Array Be 124.36 49 PKP PKPdf 01 52 04.7 -1.5
comp=Z,3.5nm,0.6s,baz=258,slow=2.9,SNR=18
AKBB Malin Array Si 124.36 49 ePKIKP PKPdf 01 52 04.8 -1.4
AKBB Malin Array Si 124.36 49 ePKPdf PKPdf 01 52 04.8 -1.4
TNA Tin City 124.78 330 ePKPdf PKPdf 01 52 06.2 -0.4
FINES FINESS Array B 125.46 36 PKP PKPdf 01 52 07.3 -0.7
comp=Z,1.7nm,0.7s,baz=172,slow=2.2,SNR=6.9
MALT Malatya 126.53 66 ⇑PKIKP PKPdf 01 52 11.5 +0.6
MALT Malatya 126.53 66 ⇑iP PKPdf 01 52 11.5 +0.6
ARCES ARCESS Array B 126.62 26 PKP PKPdf 01 52 09.4 -0.6
comp=Z,7.6nm,1.0s,baz=264,slow=1.2,SNR=6.4
MOS Moscow 130.40 44 ePKIKP PKPdf 01 52 22.7 +5.1
MOS e 01 54 35.7
MOS pmax pmax
comp=Z,38nm,1.0s
MOS MLR MLR
comp=Z,900nm,17.0s
KIV Kislovodsk 131.32 60 ePKIKP PKPdf 01 52 19.4 -0.5
KIV pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 131.41 61 PKP PKPdf 01 52 19.4 -0.5
comp=Z,3.9nm,1.1s,baz=255,slow=7.2,SNR=4.7
GNI Garni 131.76 66 ePKIKP PKPdf 01 52 20.8 -0.1
GNI Garni 131.76 66 ePKPdf PKPdf 01 52 20.8 -0.1
KLMR Klimovskoe 131.84 37 ePKIKP PKPdf 01 52 18.9 -1.2
KLMR pmax pmax
comp=Z,29nm,1.3s
MAK Makhachkala 134.49 63 PKIKP PKPdf 01 52 27.1 +1.4
MAK e 01 54 56.6
MAK ePPP PPP 01 57 53.0
MAK e 01 59 30.3
MAK ePS PS 02 05 14.7 -5.1
MAK pmax pmax
comp=Z,30nm,2.6s
MAK MLR MLR
comp=Z,1μm,16.0s
PRGR Permogore 134.78 36 ePKIKP PKPdf 01 52 23.3 -2.3
PRGR pmax pmax
comp=Z,13nm,0.8s
BILL Bilibino 134.92 333 ePKIKP PKPdf 01 52 26.2 +0.5
BILL Bilibino 134.92 333 ePKPdf PKPdf 01 52 26.2 +0.5
KAPI Kappang 136.97 198 ePKPdf PKPdf 01 52 31.1 -0.2
GEYT Alibeck 141.24 73 PKhKP PKPpre 01 52 31.1
comp=Z,0.9nm,0.3s,baz=225,slow=3.9,SNR=4.3
PETK Petropavlovsk- 141.52 312 PKhKP PKPpre 01 52 31.0
comp=Z,1.8nm,0.6s,baz=101,slow=4.6,SNR=4.3
ARU Arti 142.08 43 PKHKP PKPpre 01 52 34.3
ARU Arti 142.08 43 ePKPpre PKPpre 01 52 33.0
ARU ePKPdf PKPdf 01 52 39.5 +0.4
AKTO Aktyubinsk 142.42 53 PKHKP PKPpre 01 52 33.9
AKTO pmax pmax
comp=Z,12nm,1.4s
TIXI Tiksi 143.16 349 ePKHKP PKPpre 01 52 35.2
TIXI e 01 52 40.5
TIXI Tiksi 143.16 349 ePKPpre PKPpre 01 52 35.2
TIXI ePKPdf PKPdf 01 52 40.5 -0.1
AB31 Akbulak array 143.71 54 iPKIKP PKPab 01 52 39.0 -0.2
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 143.71 54 ePKPpre PKPab 01 52 39.1 0.0
ABKAR ePKPdf PKPdf 01 52 42.7 +0.4
KSM Kuching 144.91 185 ePKPdf PKPab 01 52 44.3 -0.4
IPM Ipoh 147.50 168 ePKPdf PKPdf 01 52 49.4 -0.6
IPM ePKPbc PKPbc 01 52 52.0 -0.5
KULM Kulim 148.23 167 ePKPbc PKPbc 01 52 53.5 -1.0
HYB Hyderabad 148.25 119 iPKP PKPbc 01 52 53.0 -1.4
KKM Kota Kinabalu 148.48 197 ePKPdf PKPdf 01 52 51.9 +0.3
KKM ePKPbc PKPbc 01 52 54.8 -0.4
KBL Kabul 148.98 82 ePKP2 PKPbc 01 52 55.5 -0.6
KBL Kabul 148.98 82 ePKPbc PKPbc 01 52 55.5 -0.6
BRVK Borovoye 149.48 46 ePKPdf PKPdf 01 52 52.0 +0.1
BRVK ePKPbc PKPbc 01 52 56.7 +0.3
BVAR Borovoye Array 149.55 46 PKP PKPdf 01 52 52.4 +0.4
comp=Z,13nm,0.9s,baz=307,slow=2.5,SNR=1.7
BVAR PKPbc PKPbc 01 52 57.0 +0.3
comp=Z,14nm,0.7s,baz=326,slow=1.4,SNR=6.9
YAK Yakutsk 150.97 338 ePKIKP PKPbc 01 52 57.2 -2.5
YAK e 01 53 09.3
YAK pmax pmax
comp=Z,97nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK Yakutsk 150.97 338 ePKPdf PKPdf 01 52 54.6 +0.7
YAK ePKPbc PKPbc 01 52 59.1 -0.6
YAK ePKPab PKPab 01 53 07.5 +0.3
KK31 Karatay Array 151.22 66 iPKIKP PKPbc 01 53 00.2 -0.8
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 151.22 66 ePKIKP PKPdf 01 52 55.1 +0.1
KKAR e 01 53 00.6
KKAR Karatay Array 151.22 66 ePKPdf PKPdf 01 52 55.0 +0.1
KKAR ePKPbc PKPbc 01 53 00.6 -0.4
YSS Yuzh-Sakhalins 151.81 303 ePKIKP PKPbc 01 53 00.0 -2.1
YSS e 01 53 11.5
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 151.81 303 ePKPbc PKPbc 01 53 01.7 -0.5
YSS ePKPab PKPab 01 53 11.5 +0.3
ASAJ Asahikawa 152.22 297 ePKPbc PKPbc 01 53 02.7 -0.4
ASAJ ePKPab PKPab 01 53 13.2 +0.1
EKS2 Erkin-Say 153.63 66 ePKIKP PKPdf 01 52 58.8 +0.1
EKS2 e 01 53 06.9
EKS2 e 01 53 18.1
EKS2 Erkin-Say 153.63 66 ePKPdf PKPdf 01 52 58.8 +0.1
EKS2 ePKPbc PKiKP 01 53 06.9 +0.2
EKS2 ePKPab PKPab 01 53 18.1 -1.3
AAK Ala-Archa 154.16 66 ePKIKP PKPdf 01 52 59.5 -0.1
AAK e 01 53 07.7
AAK 01 53 08.0
AAK 01 53 20.3
AAK Ala-Archa 154.16 66 PKP PKPdf 01 52 59.5 -0.1
comp=Z,3.2nm,0.9s,baz=126,slow=8.3,SNR=5.0
AAK PKPbc PKiKP 01 53 08.0 +0.2
comp=Z,5.3nm,0.9s,baz=258,slow=4.2,SNR=7.0
AAK PKPab PKPab 01 53 20.3 -1.4
comp=Z,6.6nm,0.7s,baz=73,slow=3.5,SNR=5.7
AAK Ala-Archa 154.16 66 ePKPdf PKPdf 01 52 59.5 -0.1
AAK ePKPbc PKPbc 01 53 07.7 0.0
AAK PKPbc PKiKP 01 53 08.0 +0.2
AAK PKPab PKPab 01 53 20.3 -1.4
AAK ePKPab PKPab 01 53 21.8 +0.1
TKM2 Tokmak 2 154.96 66 ePKIKP PKPdf 01 53 00.2 -0.5
TKM2 e 01 53 24.5
TKM2 Tokmak 2 154.96 66 ePKPdf PKPdf 01 53 00.1 -0.5
TKM2 ePKPab PKPab 01 53 24.5 -0.5
KURK Kurchatov 155.14 46 ePKIKP PKPdf 01 52 59.7 -0.7
KURK e 01 53 09.2
KURK e 01 53 24.9
KURK Kurchatov 155.14 46 ePKPdf PKPdf 01 52 59.7 -0.7
KURK ePKPbc PKPbc 01 53 09.2
KURK ePKPab PKPab 01 53 24.9 -0.3
MJAR Matsushiro Arr 155.20 279 PKP2 PKPab 01 53 24.0 -2.0
MJAR Matsushiro Arr 155.20 279 PKPab PKPab 01 53 24.0 -2.0
comp=Z,2.3nm,0.7s,baz=109,slow=2.8,SNR=5.3
KSH Kashi 155.26 74 ePKP PKPdf 01 53 01.0 -0.1
KSH epPKP pPKPdf 01 53 13.0 +1.0
KSH esPKP 01 53 16.3
KSH eSKS SKSdf 02 00 02.8 -2.4
KSH eSKKS SKKSac 02 03 49.3 -0.9
KSH eSS SS 02 16 43.5 -2.7
KSH AMB AMB
comp=Z,220nm,7.9s
NVS Novosibirsk 155.44 35 iPKIKP PKPdf 01 52 59.2 -1.4
NVS pmax pmax
comp=Z,27nm,1.6s
ZAA0 Zalesovo Array 156.72 35 ePKPdf PKPdf 01 53 01.7 -0.7
ZAA0 ePKPab PKPab 01 53 31.8 -0.1
ZALV Zalesovo Beam 156.72 35 PKP PKPdf 01 53 01.6 -0.8
comp=Z,10nm,0.8s,baz=318,slow=2.0,SNR=26
ZALV PKPab PKPab 01 53 32.3 +0.4
comp=Z,6.0nm,0.5s,baz=300,slow=3.8,SNR=7.7
KOLN Koldanda 158.16 107 eP PKPdf 01 53 04.5 -0.8
comp=Z,29nm,1.2s
BOD Bodaibo 158.32 350 ePKP2 PKPab 01 53 37.6 -1.1
BOD pmax pmax
comp=Z,22nm,1.0s
DANN Dangsing 158.56 106 eP PKPdf 01 53 05.7 -0.2
comp=Z,42nm,1.1s
MKAR Makanchi Array 158.85 54 PKP PKPdf 01 53 04.9 -0.4
comp=Z,5.9nm,0.9s,baz=323,slow=1.8,SNR=22
MKAR pPKP pPKPdf 01 53 15.1 -1.1
comp=Z,3.3nm,0.8s,baz=342,slow=1.5,SNR=7.0
MKAR PKPab PKPab 01 53 40.8 -0.6
comp=Z,5.2nm,0.8s,baz=290,slow=3.5,SNR=9.5
GKN Gorkha 159.07 108 eP PKPdf 01 53 05.7 -0.6
DMN Daman 159.23 109 eP PKPdf 01 53 06.0 -0.7
PKIN Phulchoki 159.43 110 eP PKPdf 01 53 06.0 -0.9
PKI Pulchoki 159.44 110 eP PKPdf 01 53 05.9 -1.1
KKN Kakani 159.46 109 eP PKPdf 01 53 06.0 -0.9
USRK Ussuriysk Array 159.76 300 PKPab PKPab 01 53 45.2 -0.2
comp=Z,2.6nm,0.8s,baz=146,slow=3.7,SNR=6.5
GUN Gumba 159.97 110 eP PKPdf 01 53 06.8 -0.8
RAMN Ramite 160.00 113 eP PKPdf 01 53 07.3 -0.2
JIRN Jiri 160.08 111 eP PKPdf 01 53 07.0 -0.8
CMAR Chiang Mai Arr 160.48 156 PKP PKPdf 01 53 07.5 -0.5
comp=Z,0.7nm,0.3s,baz=252,slow=2.8,SNR=11
CMAR PKPab PKPab 01 53 48.2 -0.8
comp=Z,1.6nm,0.4s,baz=238,slow=4.7,SNR=7.1
ODAN Odare 160.53 114 eP PKPdf 01 53 07.4 -0.4
TAPN Taplejung 161.04 114 eP PKPdf 01 53 08.2 -0.5
MDJ Mudanjiang 161.30 302 PKP PKPdf 01 53 08.8 +0.7
MDJ PP PP 01 57 36.5 +0.7
MDJ SKS SKSdf 02 00 11.8 +1.4
MDJ LR LR
comp=Z,1μm,21.9s
MDJ LR LR
comp=Z,690nm,27.4s
MDJ LR LR
comp=Z,2μm,16.4s
WMQ Urumqi 163.44 58 ePKP PKPdf 01 53 11.0 +0.7
WMQ AMB AMB
comp=Z,250nm,11.4s
WMQ LR LR
comp=Z,1μm,22.8s
WMQ LR LR

comp=Z,730nm,23.4s
WMQ LR LR
comp=Z,790nm,21.8s
CN2 Changchun 164.38 303 ePKP PKPdf 01 53 11.3 +0.2
CN2 ePP PP 01 57 53.8 +1.6
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,600nm,20.0s
CN2 LR LR
comp=Z,600nm,20.0s
CN2 LR LR
comp=Z,700nm,22.0s
LSA Lhasa 164.85 112 ePKIKP PKPdf 01 53 12.9 +0.3
LSA e 01 54 09.0
LSA Lhasa 164.85 112 ePKPdf PKPdf 01 53 12.9 +0.3
LSA ePKPab PKPab 01 54 09.0 +0.2
ZAK Zakamensk 165.95 11 ePKIKP PKPpre 01 52 59.2
ZAK e 01 54 12.7
ZAK pmax pmax
comp=Z,1.0nm,1.7s
ZAK pmax pmax
comp=Z,6.0nm,1.4s
KMI Kunming 167.90 160 PKP PKPdf 01 53 15.8 +1.0
SONM Songino Array 168.78 3 PKP PKPdf 01 53 13.0 -1.6
comp=Z,0.9nm,0.8s,baz=209,slow=0.6,SNR=6.1
SONM PKPab PKPab 01 54 25.0 +0.1
comp=Z,3.0nm,0.7s,baz=341,slow=5.1,SNR=16
NJ2 Nanjing 169.39 248 ePKP PKPdf 01 53 15.0 -0.2
GYA Guiyang 169.86 177 PKP PKPdf 01 53 15.8 0.0
GYA pPKP pPKPdf 01 53 27.5 +0.8
GYA PKPab PKPab 01 54 32.0 +1.8
GYA PKS PKSdf 01 56 46.0 -2.5
GYA PP PP 01 58 22.3 +3.1
GYA SKKS 02 05 04.0
GYA SS SS 02 19 15.8 +1.0
GYA AMB AMB
comp=Z,140nm,8.5s
GYA LR LR
comp=Z,130nm,21.9s
GYA LR LR
comp=Z,120nm,21.6s
GYA LR LR
comp=Z,140nm,24.5s
GTA Gaotai 173.49 62 ePKP PKPdf 01 53 17.0 -0.2
GTA pPKP pPKPdf 01 53 27.8 -0.3
GTA sPKP 01 53 31.5
GTA PKPab PKPab 01 54 47.0 +0.6
GTA PP PP 01 58 40.3 +1.7
GTA SKS SKSdf 02 00 14.8 -3.1
GTA SKKS SKKSac 02 05 22.0 -0.4
GTA SS SS 02 19 50.5 -2.5
GTA AMB AMB
comp=Z,53nm,6.5s
GTA LR LR
comp=Z,440nm,15.2s
GTA LR LR
comp=Z,470nm,16.0s
GTA LR LR
comp=Z,390nm,16.0s
CD2 Chengdu 173.60 152 PKP PKPdf 01 53 17.5 +0.1
CD2 pPKP pPKPdf 01 53 27.8 -0.5
CD2 sPKP 01 53 32.5
CD2 PKS PKSdf 01 56 48.3 -1.4
CD2 PP PP 01 58 41.8 +3.8
CD2 SKS SKSdf 02 00 15.0 -3.2
CD2 SKKS SKKSac 02 05 23.0 +0.4
CD2 SS SS 02 19 52.0 0.0
CD2 AMB AMB
comp=Z,220nm,6.4s
HHC Hu-ho-hao-te 174.60 323 ePKP PKPdf 01 53 18.0 +0.5
HHC pPKP pPKPdf 01 53 28.8 +0.4
HHC sPKP 01 53 32.5
HHC PP PP 01 58 46.3 +3.0
HHC SKS SKSdf 02 00 10.5 -7.6
HHC AMB AMB
comp=Z,580nm,7.1s
HHC LR LR
comp=Z,610nm,20.9s
HHC LR LR
comp=Z,720nm,18.3s
HHC LR LR
comp=Z,510nm,19.7s
XAN Xi'an 177.09 208 PKP PKPdf 01 53 18.3 +0.1
LZH Lanzhou 177.19 100 ePKP PKPdf 01 53 18.5 +0.2
LZH pPKP pPKPdf 01 53 28.3 -1.0
LZH sPKP 01 53 32.5

IDC 28 01:37:44.3±0.8, 37.75S×72.93W, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.1/31, mbtmp4.1/11, ML3.1/1, Error ellipse: s-maj=30.2km s-min=19.3km az=86.0
ISCJB 28 01:37:48.4±0.4, 37.73S±0.06×72.8W±0.1, h33km, mb4.4/28, Error ellipse: s-maj=14.0km s-min=8.1km az=173.4
NEIC 28 01:37:49.6±0.4, 37.84S×72.86W, h35km, mb4.6/21, Error ellipse: s-maj=13.4km s-min=9.3km az=80.0
ISC 28 01:37:49.5±0.6, 37.79S±0.08×72.9W±0.1, h33km, n54, σ1.09/51, mb4.5/28, Central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 7.25 33 Pn Pn 01 39 33.3 +0.1
0.3nm,0.3s,baz=221,slow=18,SNR=3.0
USHA Ushuaia 17.32 171 P P 01 41 51.1 +1.5
0.3nm,0.3s,baz=299,slow=10,SNR=2.2
CPUP Villa Florida 17.41 53 ePn Pn 01 41 48.7 -1.1
LPAZ La Paz 21.82 12 P P 01 42 38.3 -1.3
5.3nm,0.7s,baz=196,slow=9.7,SNR=2.7
LPAZ La Paz 21.82 12 eP P 01 42 41.8 +2.1
SIV San Ignacio 24.08 29 P P 01 43 01.3 -0.7
3.5nm,0.8s,baz=231,slow=13,SNR=3.5
SAML Samuel 30.02 19 eP P 01 43 55.4 +0.1
4.5nm,0.7s
OTAV Otavalo 38.19 351 eP P 01 45 10.1 +3.5
7.4nm,1.1s
VNA3 Neumayer Olymp 46.14 156 P P 01 46 11.0 +0.7
SDV Santo Domingo 46.48 3 eP P 01 46 13.0 -0.7
4.5nm,0.8s
VNA2 Neumayer--Watz 46.82 156 P P 01 46 17.1 +1.4
BCIP Isla Barro Col 47.16 351 eP P 01 46 20.4 +1.5
SNAA Sanae 48.36 157 P P 01 46 29.2 +1.5
SNAA Sanae 48.36 157 P P 01 46 28.8 +1.2
2.4nm,0.9s,baz=304,slow=5.7,SNR=5.2
SNAA Sanae 48.36 157 eP P 01 46 28.4 +0.7
23nm,1.1s
JTS JuntasAbangare 49.15 344 eP P 01 46 35.2 +1.0
27nm,1.5s
GRGR Grenville 50.76 14 eP P 01 46 48.0 +1.6
QSPA South Pole Qui 52.46 180 P P 01 46 58.0 -0.8
8.6nm,0.8s,baz=106,slow=2.4,SNR=7.2
QSPA South Pole Qui 52.46 180 eP P 01 46 58.0 -0.8
10nm,0.9s
SDDR Presa de Saban 56.48 2 eP P 01 47 28.8 +0.5
13nm,1.0s
GOGA Godfrey 71.52 351 eP P 01 49 07.6 +0.8
34nm,1.5s
TXAR Lajitas Array 72.73 332 P P 01 49 13.6 -0.7
0.6nm,0.8s,baz=152,slow=6.1,SNR=3.2
SWET Sewanee 73.64 349 eP P 01 49 15.2 -4.3
11nm,0.8s
WVT Waverly 74.84 347 eP P 01 49 24.3 -2.0
3.9nm,0.9s
MNTX Cornudas Mount 75.50 332 eP P 01 49 29.1 -1.2
2.3nm,1.1s
CASY Casey 76.23 181 eP P 01 49 33.1 -1.0
18nm,1.3s
DBIC Dimbokro 77.05 71 P P 01 49 41.1 +1.6
5.7nm,0.8s,baz=206,slow=8.6,SNR=4.9
ANMO Albuquerque 78.80 332 eP P 01 49 48.4 -0.6
2.1nm,1.0s
TSUM Tsumeb 78.84 106 eP P 01 49 48.4 -1.3
11nm,1.3s
BOSA Boshof 78.92 118 P P 01 49 50.7 +0.7
4.1nm,0.9s,baz=136,slow=4.5,SNR=3.2
BOSA Boshof 78.92 118 eP P 01 49 49.7 -0.3
6.8nm,1.0s
SDCO Great Sand Dun 80.97 334 eP P 01 50 00.8 0.0
2.4nm,1.1s
LBTB Lobatse 81.33 115 eP P 01 50 03.9 +0.8
4.7nm,0.8s
DUG Dugway 85.81 330 eP P 01 50 25.7 +0.3
9.2nm,1.4s
TOA0 Torodi Ar. Sit 86.13 70 eP P 01 50 27.6 +0.1
TORD Torodi Ar. Bea 86.13 70 P P 01 50 27.6 +0.1
1.8nm,0.7s,baz=222,slow=3.7,SNR=8.8
HWUT Hardware Ranch 86.55 332 eP P 01 50 29.8 +0.7
3.2nm,0.9s
NVAR Mina Array Bea 86.62 326 P P 01 50 30.7 +1.1
0.5nm,0.7s,baz=141,slow=5.8,SNR=3.2
PDAR Pinedale Array 86.84 334 P P 01 50 31.3 +0.7
0.4nm,0.9s,baz=187,slow=6.3,SNR=2.2
LSZ Lusaka 89.25 109 eP P 01 50 42.6 -0.1
6.1nm,1.2s
TAM Tamanrasset 95.05 65 eP P 01 51 09.8 +0.5
1.1nm,0.8s
AIS Amsterdam Isla 100.00 157 R 01 56 00.0
BRTR Keskin Array B 124.20 63 PKhKP PKPpre 01 56 41.7
0.9nm,0.8s,baz=201,slow=1.5,SNR=5.9
GEYT Alibeck 141.67 74 PKhKP PKPpre 01 57 11.0
1.3nm,0.7s,baz=252,slow=2.9,SNR=3.5
AKTO Aktyubinsk 143.20 54 PKhKP PKPpre 01 57 13.8
2.6nm,0.8s,baz=249,slow=4.9,SNR=5.6
PSI Prapat 144.38 166 PKhKP PKPpre 01 57 19.1
7.2nm,0.8s,baz=298,slow=1.3,SNR=5.8
ABKAR Akbulak array 144.47 56 ePKPdf PKPab 01 57 19.5 -0.7
BVAR Borovoye Array 150.43 47 PKP PKPdf 01 57 30.8 -0.8
0.6nm,0.7s,baz=11,slow=1.5,SNR=2.1
BVAR PKPbc PKPbc 01 57 35.5 -1.4
2.3nm,0.7s,baz=304,slow=3.4,SNR=6.3
BVAR PKPab PKPab 01 57 42.2 -1.3
2.7nm,0.7s,baz=293,slow=4.2,SNR=6.4
AAK Ala-Archa 154.71 69 PKPab PKPab 01 58 02.3 +0.2
3.2nm,0.6s,baz=224,slow=3.7,SNR=6.6
TKM2 Tokmak 2 155.52 68 ePKPdf PKPdf 01 57 40.1 +0.5
TKM2 ePKPbc PKPbc 01 57 47.5
TKM2 ePKPab PKPab 01 58 05.2 -0.4
ZAA0 Zalesovo Array 157.73 36 ePKPdf PKPdf 01 57 39.5 -2.3
ZAA0 ePKPab PKPab 01 58 13.0 -1.4
ZALV Zalesovo Beam 157.73 36 PKPab PKPab 01 58 13.1 -1.3
2.3nm,0.7s,baz=305,slow=5.5,SNR=4.5
MKAR Makanchi Array 159.61 56 PKPab PKPab 01 58 21.7 -1.3
0.8nm,0.7s,baz=300,slow=3.3,SNR=2.9
LSA Lhasa 164.47 117 ePKPab PKPab 01 58 45.8 +0.5

IDC 28 01:40:10.2±0.8, 37.86S×73.30W, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/31, mbtmp4.0/10, Error ellipse: s-maj=32.9km s-min=18.7km az=70.0
ISCJB 28 01:40:13.4±0.4, 37.70S±0.06×73.1W±0.1, h33km, mb4.4/26, Error ellipse: s-maj=15.6km s-min=8.1km az=164.9
NEIC 28 01:40:15.1±2.9, 37.69S×73.04W, h34km±19km, mb4.6/21, Error ellipse: s-maj=14.9km s-min=7.7km az=78.0
ISC 28 01:40:14.8±0.5, 37.73S±0.08×73.1W±0.2, h33km, n53, σ1.15/52, mb4.5/26, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.59 148 Pn Pn 01 41 08.8 +0.6
baz=288,slow=9.6,SNR=1.4
PLCA Lg Lg 01 42 02.6
19nm,0.3s,baz=40,slow=23,SNR=5.1
LVC Limon Verde 15.49 15 ePn Pn 01 43 50.2 -0.8
USHA Ushuaia 17.40 171 P P 01 44 16.5 +0.7
0.2nm,0.3s,baz=0.0,slow=3.0,SNR=2.2
CPUP Villa Florida 17.51 54 ePn Pn 01 44 13.9 -2.4
LPAZ La Paz 21.80 13 eP P 01 45 05.5 +0.9
25nm,1.3s
SIV San Ignacio 24.11 29 P P 01 45 29.4 +1.8
1.2nm,0.5s,baz=233,slow=10,SNR=3.3
SAML Samuel 30.02 20 eP P 01 46 20.6 +0.1
4.2nm,1.0s
SDV Santo Domingo 46.42 3 eP P 01 48 38.4 -0.2
8.7nm,0.9s
SNAA Sanae 48.49 157 P P 01 48 53.4 -0.5
1.7nm,1.1s,baz=256,slow=6.7,SNR=7.6
QSPA South Pole Qui 52.52 180 P P 01 49 23.6 -0.9
5.0nm,1.1s,baz=144,slow=19,SNR=3.6
QSPA South Pole Qui 52.52 180 eP P 01 49 21.6 -3.0
4.0nm,0.9s
GTBY Guantanamo Bay 57.38 358 eP P 01 49 59.5 -0.4
7.6nm,0.5s
JCT Junction City 72.31 336 eP P 01 51 37.5 +0.5
12nm,1.2s
TXAR Lajitas Array 72.60 332 P P 01 51 40.0 +1.3
0.4nm,0.6s,baz=146,slow=8.3,SNR=3.5
SWET Sewanee 73.55 349 eP P 01 51 44.9 +0.7
30nm,1.3s
ABTX Abilene, Hawle 74.24 337 eP P 01 51 48.2 -0.1
11nm,1.1s
WVT Waverly 74.75 348 eP P 01 51 50.1 -1.0
7.9nm,1.0s
MNTX Cornudas Mount 75.36 332 eP P 01 51 54.1 -0.7
1.0nm,0.7s
TUL1 Tulsa 76.23 341 eP P 01 51 59.8 +0.2
6.7nm,0.8s
CASY Casey 76.29 182 eP P 01 51 58.7 -1.0
8.1nm,1.1s
DBIC Dimbokro 77.19 71 P P 01 52 09.3 +3.7
3.0nm,0.9s,baz=207,slow=7.4,SNR=3.5
DBIC Dimbokro 77.19 71 eP P 01 52 06.8 +1.2
14nm,1.2s
LAZ Ladron 78.43 332 eP P 01 52 11.8 -0.5
ANMO Albuquerque 78.66 333 P P 01 52 15.2 +1.6
0.9nm,0.7s,baz=214,slow=3.6,SNR=3.3
ANMO Albuquerque 78.66 333 eP P 01 52 13.3 -0.2
5.5nm,1.4s
TSUM Tsumeb 79.02 106 eP P 01 52 14.6 -1.4
4.9nm,1.2s
BOSA Boshof 79.10 118 P P 01 52 17.6 +1.4
4.0nm,1.0s,baz=304,slow=3.6,SNR=3.2
BOSA Boshof 79.10 118 eP P 01 52 18.8 +2.6
4.7nm,0.8s
SDCO Great Sand Dun 80.84 335 eP P 01 52 24.8 -0.6
1.3nm,0.9s
WUAZ Wupatki 81.06 329 eP P 01 52 26.8 +0.3
4.8nm,0.9s
LBTB Lobatse 81.51 115 eP P 01 52 28.9 -0.4
3.5nm,0.7s
TOA0 Torodi Ar. Sit 86.27 70 eP P 01 52 53.5 0.0
TORD Torodi Ar. Bea 86.27 70 P P 01 52 53.2 -0.2
0.6nm,0.6s,baz=220,slow=5.2,SNR=5.4
HWUT Hardware Ranch 86.42 332 eP P 01 52 54.3 +0.6
4.8nm,1.0s
PDAR Pinedale Array 86.71 334 P P 01 52 55.6 +0.3
1.2nm,1.2s,baz=152,slow=4.1,SNR=2.8
LSZ Lusaka 89.43 109 eP P 01 53 10.5 +1.6
5.2nm,1.1s
MORC Moravsky Berou 118.01 47 ePKPdf PKPdf 01 58 58.9 +1.3
COEN Coen 118.34 221 ePKPdf PKPdf 01 58 59.8 +0.5
NAO01 NORSAR Array S 119.37 34 ePKPdf PKPdf 01 59 00.5 +0.7
BR131 Keskin Array S 124.32 63 ePKPdf PKPdf 01 59 09.9 -0.2
KIV Kislovodsk 132.10 61 ePKPdf PKPdf 01 59 25.2 +0.5
KAPI Kappang 135.83 199 ePKPdf PKPdf 01 59 33.1 +0.4
ARU Arti 143.07 44 ePKPdf PKPdf 01 59 46.4 +2.0
AKTO Aktyubinsk 143.30 54 PKP PKPdf 01 59 46.0 +0.9
2.4nm,1.1s,baz=0.0,slow=5.1,SNR=3.3
TIXI Tiksi 144.18 348 ePKPdf PKPdf 01 59 47.1 +1.2
ABKAR Akbulak array 144.57 56 ePKPdf PKPbc 01 59 46.4 +0.3
BRVK Borovoye 150.44 47 ePKPbc PKPbc 02 00 03.0 +0.8
BVAR Borovoye Array 150.51 47 PKPbc PKPbc 02 00 03.4 +1.0
1.0nm,0.6s,baz=343,slow=4.5,SNR=3.7
KKAR Karatay Array 151.92 67 ePKPab PKPab 02 00 14.6 -0.8
TKM2 Tokmak 2 155.65 68 ePKPdf PKPdf 02 00 03.4 -1.7
KURK Kurchatov 156.09 48 ePKPdf PKPdf 02 00 03.3 -1.8
KURK ePKPbc PKPbc 02 00 12.4
KURK ePKPab PKPab 02 00 32.2 -0.6
ZAA0 Zalesovo Array 157.78 36 ePKPdf PKPdf 02 00 05.7 -1.5
MKAR Makanchi Array 159.72 56 PKPab PKPab 02 00 48.2 -0.5
0.5nm,0.7s,baz=336,slow=3.2,SNR=3.9

SJA 28 01:45:21.3±0.6, 34.34S×74.42W, h162km±93km, ML4.7
IDC 28 01:45:23.2±0.4, 34.47S×73.86W, h0km, mb5.0/23, mb1 5.0/26, mb1mx5.0/34, mbtmp4.9/26, ML4.7/3, MS4.5/3, Ms1 4.5/3, ms1mx3.8/32, Error ellipse: s-maj=17.1km s-min=12.3km az=72.0
ISCJB 28 01:45:25.1±1.6, 34.42S±0.03×73.71W±0.04, h16km±11km, mb5.2/115, MS4.4/3, Error ellipse: s-maj=5.3km s-min=5.1km az=156.4
GUC 28 01:45:25.6±0.3, 34.49S×73.48W, h2km±3km, ML5.0
BJI 28 01:45:27.8, 34.29S×73.96W, h35km, mB5.3/10, Ms5.5/10, Ms7 5.4/9
MOS 28 01:45:28.7±0.9, 34.05S×73.47W, h33km, mb5.4/28, Error ellipse: s-maj=16.8km s-min=9.5km az=100.1
NEIC 28 01:45:29.1±0.7, 34.45S×73.69W, h38km±6km, mb5.2/92, Error ellipse: s-maj=6.8km s-min=3.6km az=67.0
ISC 28 01:45:29.4±0.3, 34.41S±0.04×73.68W±0.07, h39km±3km, n748, σ1.00/801, mb5.2/114, MS4.4/3, 214C-212D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IHA Instituto Hidr 2.19 52 ⇑iP Pn 01 46 01.3 -2.0
IHA iS Sn 01 46 28.5 -0.6
RCDM Rinconada Maip 2.56 70 eP Pn 01 46 06.2 -2.2
RCDM iS Sn 01 46 37.3 -1.1
RCDM AML AML 01 46 39.1
comp=E,8μm,0.4s
ROCH El Roble 2.65 58 iP Pn 01 46 08.7 -1.1
ROCH iS Sn 01 46 41.3 +0.5
ROCH AML AML 01 46 45.7
comp=N,5μm,0.2s
STL Santa Lucia 2.71 70 ⇑iP Pn 01 46 08.6 -1.9
STL iS Sn 01 46 41.3 -0.7
PEL Peldehue 2.80 64 eP Pn 01 46 10.1 -1.6
PEL eS Sn 01 46 43.9 -0.3
PEL AML AML 01 46 50.1
comp=E,12μm,0.5s
AUSP Uspallata 4.21 60 eP Pn 01 46 32.3 +1.0
AAGR Agrelo 4.25 73 eP Pn 01 46 33.5 +1.7
ARCO CERRO ARCO 4.26 70 eP Pn 01 46 34.2 +2.3
ARCO AML AML 01 47 33.5
comp=Z,432nm,0.4s
ASAL Salagasta 4.44 67 eP Pn 01 46 37.4 +3.1
ASAL eS Sn 01 47 31.8 +7.0
RTLS Leoncito 4.51 56 eP Pn 01 46 36.4 +1.0
RTCV Cerro Valdivia 5.01 61 eP Pn 01 46 43.2 +1.1
RTLL Cerro Villicun 5.35 56 eP Pn 01 46 47.3 +0.5
RTLL eS Sn 01 47 50.1 +2.9
CFAA Coronel Fontan 5.36 60 Pn Pn 01 46 47.2 +0.3
comp=Z,3.6nm,0.3s,baz=224,slow=13,SNR=19
CFAA Sn Sn 01 47 49.6 +2.2
comp=Z,14nm,0.3s,baz=132,slow=22,SNR=16
CFAA LR LR 01 48 14.0
comp=Z,79nm,20.1s,baz=243,slow=31
CFAA Coronel Fontan 5.36 60 eP Pn 01 46 47.5 +0.5
CFAA eS Sn 01 47 50.8 +3.4
ACAN Cantantal 5.84 70 eP Pn 01 46 53.9 +0.4
ACAN eP Pn 01 46 53.9 +0.4
AVFE Valle Fertil 6.45 56 eP Pn 01 47 01.1 -0.9
AVFE AML AML 01 47 18.2
comp=Z,119nm,0.6s
PLCA Paso Flores 6.79 159 eP Pn 01 47 04.0 -2.5
PLCA 01 48 23.6
PLCA Paso Flores 6.79 159 Pn Pn 01 47 04.8 -1.7
comp=Z,5.5nm,0.3s,baz=342,slow=13,SNR=4.6
PLCA Sn Sn 01 48 23.6 +1.1
comp=Z,7.7nm,0.3s,baz=244,slow=16,SNR=2.1
PLCA Paso Flores 6.79 159 ePn Pn 01 47 04.0 -2.5
PLCA Sn Sn 01 48 23.6 +1.1
TRQA Tornquist 10.13 114 ePn Pn 01 47 51.7 -0.6
LVC Limon Verde 12.47 21 ePn Pn 01 48 24.7 +0.1
CPUP Villa Florida 16.23 65 eP Pn 01 49 10.7 -3.9
CPUP Villa Florida 16.23 65 Pn P 01 49 16.6 -0.6
comp=Z,1.3nm,0.3s,baz=216,slow=12,SNR=6.8
CPUP Villa Florida 16.23 65 ePn Pn 01 49 10.7 -3.9
CPUP eP P 01 49 17.2 -0.1
LPAZ La Paz 18.72 17 eP Pn 01 49 47.1 +1.1
LPAZ pmax pmax
comp=Z,41nm,0.9s
LPAZ La Paz 18.72 17 P Pn 01 49 47.5 +1.5
comp=Z,1.2nm,0.3s,baz=191,slow=6.7,SNR=26
LPAZ La Paz 18.72 17 eP Pn 01 49 47.1 +1.1
comp=Z,41nm,0.9s
USHA Ushuaia 20.75 171 P Pn 01 50 07.8 -1.4
comp=Z,42nm,0.9s,baz=342,slow=8.1,SNR=7.4
USHA LR LR 01 57 53.2
comp=Z,1μm,18.5s,baz=334,slow=36
SIV San Ignacio 21.56 35 P P 01 50 16.0 +0.4
comp=Z,19nm,0.7s,baz=232,slow=6.6,SNR=21
NNA Nana 22.50 352 eP P 01 50 25.7 -0.1
NNA pmax pmax
comp=Z,29nm,0.9s
NNA Nana 22.50 352 P P 01 50 25.5 -0.2
comp=Z,25nm,0.8s,baz=195,slow=15,SNR=9.9
NNA LR LR 01 56 47.9
comp=Z,1μm,20.0s,baz=162,slow=30
NNA Nana 22.50 352 eP P 01 50 25.7 -0.1
comp=Z,29nm,0.9s
SAML Samuel 27.11 23 eP P 01 51 09.0 +0.3
comp=Z,17nm,1.7s
ATAH Atahualpa 27.49 350 P P 01 51 12.9 +0.4
comp=Z,11nm,0.8s,baz=180,slow=5.1,SNR=5.6
ATAH LR LR 01 59 29.3
comp=Z,862nm,18.3s,baz=198,slow=31
BDFB Brasilia 29.70 57 P P 01 51 31.3 -0.6
comp=Z,7.9nm,0.7s,baz=201,slow=7.9,SNR=4.2
OTAV Otavalo 34.75 352 eP P 01 52 17.4 +0.8
comp=Z,94nm,1.8s
ROSC El Rosal 39.06 359 P P 01 52 56.5 +3.4
comp=Z,14nm,0.7s,baz=104,slow=4.5,SNR=9.4
ROSC El Rosal 39.06 359 eP P 01 52 53.6 +0.6
SDV Santo Domingo 43.15 4 eP P 01 53 25.8 -0.7
comp=Z,42nm,0.8s
RCBR Riachuelo 45.02 60 P P 01 53 41.5 +0.1
comp=Z,5.8nm,0.7s,baz=216,slow=11,SNR=4.4
PCRV Puerto La Cruz 45.16 13 P P 01 53 42.8 +0.4
comp=Z,35nm,1.1s,baz=172,slow=3.5,SNR=4.3
JTS JuntasAbangare 45.72 344 eP P 01 53 47.9 +1.0
JTS pmax pmax
comp=Z,20nm,1.2s
JTS JuntasAbangare 45.72 344 P P 01 53 46.6 -0.2
comp=Z,7.5nm,0.7s,baz=131,slow=20,SNR=6.1
JTS JuntasAbangare 45.72 344 eP P 01 53 47.9 +1.0
comp=Z,20nm,1.2s
GRGR Grenville 47.67 16 eP P 01 54 01.1 -0.9
comp=Z,73nm,0.7s
VNA3 Neumayer Olymp 49.50 158 P P 01 54 16.8 +1.3
VNA1 Neumayer--Stat 49.84 157 P P 01 54 19.2 +1.1
VNA2 Neumayer--Watz 50.17 157 P P 01 54 20.8 +0.1
APG El Apazote 51.67 339 P P 01 54 28.8 -3.9
comp=Z,16nm,0.7s,baz=174,slow=9.2,SNR=10
SNAA Sanae 51.73 158 P P 01 54 33.0 +0.6
SNAA Sanae 51.73 158 eP P 01 54 31.8 -0.6
SNAA pmax pmax
comp=Z,77nm,1.0s
SNAA Sanae 51.73 158 P P 01 54 32.1 -0.3
comp=Z,15nm,0.8s,baz=282,slow=7.2,SNR=42
SNAA Sanae 51.73 158 eP P 01 54 31.8 -0.6
comp=Z,77nm,1.0s
OBIP Obispado Ponce 52.59 8 eP P 01 54 38.6 -0.7
comp=Z,33nm,0.8s
CBYP Canovanas 52.91 9 eP P 01 54 40.3 -1.4
SDDR Presa de Saban 53.14 3 eP P 01 54 45.4 +2.0
comp=Z,12nm,0.8s
GTBY Guantanamo Bay 54.05 358 eP P 01 54 49.2 -0.8
comp=Z,44nm,0.8s
QSPA South Pole Qui 55.83 180 P P 01 55 02.3 -0.2
comp=Z,21nm,1.0s,baz=185,slow=0.9,SNR=26
QSPA South Pole Qui 55.83 180 eP P 01 55 02.1 -0.5
comp=Z,72nm,1.3s
TEIG Tepich 56.08 343 P P 01 55 03.9 -0.7
comp=Z,52nm,0.7s,baz=152,slow=3.6,SNR=21
TEIG Tepich 56.08 343 eP P 01 55 03.7 -0.9
comp=Z,237nm,1.6s
NVL N'lazarevskaya 56.49 157 eP P 01 55 09.4 +2.4
NVL pmax pmax
comp=Z,410nm,0.6s
ASCN Ascension 60.33 79 eP P 01 55 34.9 +0.2
035Z Hargill 64.80 336 ⇑P P 01 56 05.5 +1.4
baz=65
035A Encino 65.25 336 ⇑P P 01 56 08.4 +1.4
baz=66,SNR=7.2
034A Hebbronville 65.57 336 ⇓P P 01 56 10.5 +1.4
baz=66,SNR=12
SYO Syowa Base 65.98 159 ⇑eP P 01 56 09.6 -1.7
934A Benavides 66.00 336 ⇓P P 01 56 13.2 +1.4
baz=66
TIGA Tifton 66.16 351 eP P 01 56 12.4 -0.3
comp=Z,532nm,2.5s
TIGA Tifton 66.16 351 ⇓P P 01 56 14.3 +1.5
baz=66
933A Laredo 66.27 335 ⇑P P 01 56 14.6 +1.0
baz=67,SNR=13
835A Beeville 66.41 337 ⇑P P 01 56 15.7 +1.3
baz=67,SNR=9.3
834A Tilden 66.50 336 ⇓P P 01 56 16.6 +1.6
baz=67,SNR=24
735A Kenedy 66.93 337 ⇓P P 01 56 19.2 +1.5
baz=67,SNR=10.1
833A Chaparral WMA, 66.97 335 ⇓P P 01 56 19.1 +1.1

baz=67,SNR=33
832A Faith Ranch, C 67.13 335 ⇑P P 01 56 19.8 +0.7
baz=68,SNR=15
734A La Parita Cree 67.17 336 ⇑P P 01 56 20.3 +1.1
baz=68
636A Smothers Creek 67.27 338 ⇓P P 01 56 21.4 +1.5
baz=68,SNR=15
733A Divot King Ran 67.30 336 ⇓P P 01 56 21.0 +0.9
baz=68,SNR=7.5
HKT Hockley 67.34 339 eP P 01 56 20.5 +0.2
HKT pmax pmax
comp=Z,36nm,1.6s
HKT Hockley 67.34 339 eP P 01 56 20.5 +0.2
comp=Z,36nm,1.6s
635A Leesville 67.41 337 ⇓P P 01 56 21.5 +0.7
baz=68
538A Harpers Horsep 67.50 340 ⇑P P 01 56 22.7 +1.4
baz=68
732A Laxson Ranch, 67.54 335 ⇓P P 01 56 22.1 +0.5
baz=68,SNR=7.2
634A China Grove, S 67.59 337 ⇑P P 01 56 23.0 +1.1
baz=68
537A Green Hill Far 67.61 339 ⇓P P 01 56 23.3 +1.3
baz=68
536A Bastrop 67.83 338 ⇓P P 01 56 24.4 +1.0
baz=68,SNR=7.8
633A Saathoff Ranch 67.94 336 ⇑P P 01 56 24.9 +0.7
baz=68,SNR=17
535A Dale 67.94 338 ⇓P P 01 56 24.8 +0.7
baz=68,SNR=11
438A Sam Houston St 67.99 340 ⇑P P 01 56 25.4 +1.0
baz=68
GOGA Godfrey 68.08 351 eP P 01 56 24.3 -0.7
GOGA pmax pmax
comp=Z,19nm,0.8s
GOGA Godfrey 68.08 351 eP P 01 56 24.2 -0.7
comp=Z,19nm,0.8s
VBMS Vicksburg 68.14 345 eP P 01 56 26.3 +1.0
comp=Z,58nm,1.0s
340A Bronson 68.19 341 ⇑P P 01 56 26.6 +1.0
baz=69,SNR=15
632A Uvalde 68.19 336 ⇑P P 01 56 26.6 +0.9
baz=68,SNR=26
534A Blanco 68.23 337 ⇓P P 01 56 27.0 +1.0
baz=69,SNR=7.2
LRAL Lakeview Retre 68.24 348 eP P 01 56 25.4 -0.5
comp=Z,51nm,1.4s
437A Phaontom Ranch 68.26 339 ⇓P P 01 56 27.3 +1.3
baz=69
339A Huntington 68.28 341 ⇑P P 01 56 27.2 +0.9
baz=69,SNR=15
631A Perdido Creek 68.37 335 ⇓P P 01 56 27.3 +0.5
baz=69,SNR=7.1
436A Wall Ranch, Ga 68.40 339 ⇓P P 01 56 27.9 +1.0
baz=69
533A Kerrville 68.45 336 ⇑P P 01 56 28.2 +0.8
baz=69,SNR=13
338A Crockett 68.51 340 ⇓P P 01 56 29.3 +1.6
baz=69,SNR=7.7
337A Centerville 68.64 340 ⇑P P 01 56 30.1 +1.6
baz=69,SNR=6.7
435B Jarrell 68.65 338 ⇓P P 01 56 29.3 +0.7
baz=69,SNR=6.2
NATX Nacogdoches 68.72 341 eP P 01 56 29.1 +0.2
comp=Z,103nm,1.1s
532A Rocksprings 68.80 336 ⇓P P 01 56 30.2 +0.7
baz=69,SNR=38
434A Burnet 68.89 337 ⇑P P 01 56 30.5 +0.5
baz=69,SNR=39
239A Gary 68.91 341 ⇓P P 01 56 31.3 +1.2
baz=69
336A Riesel 68.99 339 ⇑P P 01 56 31.3 +0.7
baz=69,SNR=21
531A Rocksprings 69.05 335 ⇑P P 01 56 32.0 +0.8
baz=69,SNR=25
335A Moody 69.06 338 ⇓P P 01 56 31.8 +0.7
baz=69,SNR=8.7
238A Jacksonville 69.07 341 ⇑P P 01 56 32.3 +1.2
baz=69
JCT Junction City 69.08 336 eP P 01 56 31.0 -0.3
JCT pmax pmax
comp=Z,67nm,1.1s
JCT Junction City 69.08 336 eP P 01 56 31.0 -0.3
comp=Z,67nm,1.1s
JCT Junction City 69.08 336 ⇓P P 01 56 31.9 +0.6
baz=69,SNR=26
433A Art 69.10 337 ⇑P P 01 56 31.5 +0.1
baz=70,SNR=37
237A Washetta, Mont 69.26 340 ⇑P P 01 56 33.3 +1.0
baz=70
530A J-C Ranch, Com 69.31 335 ⇑P P 01 56 33.8 +1.0
baz=70,SNR=40
334A Lometa 69.36 338 ⇓P P 01 56 33.5 +0.5
baz=70,SNR=18
CNNC Cliffs of the 69.40 356 eP P 01 56 33.6 +0.5
comp=Z,54nm,1.3s
TXAR Lajitas Array 69.44 332 P P 01 56 33.8 +0.2
comp=Z,9.0nm,0.6s,baz=159,slow=8.2,SNR=164
432A Menard 69.44 336 ⇑P P 01 56 33.7 +0.2
baz=70,SNR=13
431A Sonora 69.54 335 ⇑P P 01 56 34.5 +0.3
baz=70,SNR=9.6
KMSC Kings Mountain 69.56 353 eP P 01 56 33.9 -0.2
comp=Z,41nm,1.2s
KMSC Kings Mountain 69.56 353 ⇑P P 01 56 35.1 +1.1
baz=70,SNR=8.5
333A Richland Sprin 69.59 337 ⇓P P 01 56 34.6 +0.2
baz=70,SNR=23
529A Stev Forest Ra 69.61 334 ⇑P P 01 56 35.3 +0.7
baz=70,SNR=32
WHTX Lake Whitney 69.73 339 eP P 01 56 35.3 0.0
WHTX Lake Whitney 69.73 339 ⇑P P 01 56 35.6 +0.4
baz=70,SNR=8.0
137A Heron Place, G 69.81 340 ⇑P P 01 56 36.7 +1.0
baz=70
430A Baggett Ranch, 69.86 335 ⇑P P 01 56 36.7 +0.6
baz=70,SNR=27
332A Millersview 69.89 336 ⇑P P 01 56 36.7 +0.4
baz=70,SNR=21
429A Davenport Ranc 69.94 334 ⇑P P 01 56 37.3 +0.6
baz=70,SNR=31
234A Clairette 69.95 338 ⇑P P 01 56 37.1 +0.5
baz=70,SNR=24
331A San Angelo 70.06 336 ⇑P P 01 56 37.7 +0.4
baz=70,SNR=24
OXF Oxford 70.12 346 eP P 01 56 36.9 -0.7
OXF pmax pmax
comp=Z,79nm,1.2s
OXF Oxford 70.12 346 eP P 01 56 36.9 -0.7
comp=Z,79nm,1.2s
SWET Sewanee 70.20 349 eP P 01 56 37.8 -0.3
comp=Z,46nm,1.0s
233A Rising Star 70.21 337 ⇑P P 01 56 38.5 +0.3
baz=71,SNR=17
CPCT Cooper Cave 70.23 351 eP P 01 56 39.6 +1.4
135A Vickery Place, 70.25 339 ⇑P P 01 56 38.5 +0.1
baz=71
232A Coleman 70.33 337 ⇓P P 01 56 39.1 +0.2
baz=71,SNR=20
TKL Tuckaleechee C 70.34 351 eP P 01 56 37.9 -1.0
TKL Tuckaleechee C 70.34 351 P P 01 56 38.1 -0.8
comp=Z,20nm,1.0s,baz=162,slow=8.2,SNR=8.9
TKL Tuckaleechee C 70.34 351 eP P 01 56 37.9 -1.0
330A Mertzon 70.40 335 ⇓P P 01 56 39.6 +0.2
baz=71,SNR=18
134A White-Moore Ra 70.46 338 ⇓P P 01 56 40.4 +0.7
baz=71
231A Bronte 70.59 336 ⇓P P 01 56 40.7 +0.1
baz=71,SNR=27
329A Wagon Wheel Ra 70.76 335 ⇑P P 01 56 42.0 +0.4
baz=71,SNR=19
133A Hamilton Ranch 70.76 338 ⇑P P 01 56 41.9 +0.4
baz=71,SNR=21
230A Sterling City 70.82 335 ⇓P P 01 56 42.5 +0.5
baz=71,SNR=5.2
Z35A Perchaven, San 70.92 339 ⇑P P 01 56 43.0 +0.5
baz=71,SNR=7.1
ABTX Abilene, Hawle 71.00 337 eP P 01 56 43.0 -0.1
comp=Z,52nm,0.9s
ABTX Abilene, Hawle 71.00 337 ⇓P P 01 56 43.5 +0.4
baz=71,SNR=24
UALR University of 71.01 344 eP P 01 56 42.9 0.0
comp=Z,23nm,1.1s
MIAR Mount Ida 71.08 343 eP P 01 56 43.2 -0.2
MIAR pmax pmax
comp=Z,20nm,1.3s
MIAR Mount Ida 71.08 343 eP P 01 56 43.2 -0.2
comp=Z,20nm,1.3s

229A Bryant Ranch, 71.13 335 ⇑P P 01 56 44.1 +0.2
baz=72,SNR=6.2
Z34A Collier Ranch, 71.16 339 ⇑P P 01 56 44.4 +0.5
baz=72
TZTN Tazewell 71.19 352 eP P 01 56 43.7 -0.3
comp=Z,24nm,1.1s
131A Roby 71.29 336 ⇓P P 01 56 45.0 +0.2
baz=72
Z33A Whitaker Ranch 71.34 338 ⇓P P 01 56 45.3 +0.3
baz=72,SNR=19
WVT Waverly 71.41 348 eP P 01 56 44.7 -0.6
WVT pmax pmax
comp=Z,64nm,1.1s
WVT Waverly 71.41 348 eP P 01 56 44.7 -0.6
comp=Z,64nm,1.1s
130A Snyder 71.42 336 ⇓P P 01 56 45.6 +0.1
baz=72,SNR=5.4
228A UT Block 9, Go 71.55 334 ⇑P P 01 56 46.6 +0.2
baz=72,SNR=19
Z32A Haskell 71.58 337 ⇑P P 01 56 47.0 +0.5
baz=72,SNR=26
Y34A Reagan Ranch, 71.66 339 ⇑P P 01 56 47.0 +0.1
baz=72,SNR=14
129A Stewart Farms, 71.75 335 ⇑P P 01 56 47.8 +0.1
baz=72,SNR=10
Z31A Sharp Cattle R 71.80 337 ⇓P P 01 56 48.2 +0.3
baz=72,SNR=24
JSRW J. Sargeant Re 71.84 356 eP P 01 56 48.6 +0.7
128A Castleberry Fa 71.96 335 ⇑P P 01 56 49.1 +0.3
baz=72,SNR=22
Y33A Hilltop Ranch, 71.96 338 ⇓P P 01 56 49.0 +0.2
baz=72,SNR=17
Z30A Sanderson Ranc 72.10 336 ⇓P P 01 56 49.5 -0.1
baz=72,SNR=19
MNTX Cornudas Mount 72.21 332 eP P 01 56 49.0 -1.3
comp=Z,614nm,0.3s
Y32A R-V Farms, Ver 72.21 338 ⇑P P 01 56 50.5 +0.3
baz=73,SNR=13
GDL2 Guadalupe Moun 72.27 333 eP P 01 56 51.3 +0.5
Z29A Hungry Hill Ra 72.27 336 ⇑P P 01 56 50.7 0.0
baz=73,SNR=15
X34A Smith Ranch, M 72.28 339 ⇑P P 01 56 51.1 +0.5
baz=73
127A Arkansas Junct 72.33 334 ⇑P P 01 56 51.5 +0.4
baz=73,SNR=10
X33A Lawton 72.42 339 ⇓P P 01 56 51.8 +0.3
baz=73,SNR=6.5
Y31A Rekieta Farm, 72.43 337 ⇓P P 01 56 51.9 +0.3
baz=73,SNR=11
PBMO Poplar Bluff 72.52 346 eP P 01 56 51.7 -0.3
comp=Z,44nm,1.4s
Z28A Tucker Farm, M 72.53 335 ⇑P P 01 56 52.9 +0.6
baz=73,SNR=5.6
X32A Elmer 72.55 338 ⇓P P 01 56 53.3 +1.0
baz=73,SNR=5.7
Y30A Stafford Cattl 72.56 336 ⇑P P 01 56 52.3 -0.2
baz=73
Y29A Porterfield Fa 72.81 336 ⇓P P 01 56 54.0 +0.1
baz=73,SNR=9.8
W34A Bridge Creek, 72.85 340 eP P 01 56 53.6 -0.5
comp=Z,48nm,1.1s
W34A Bridge Creek, 72.85 340 ⇑P P 01 56 54.1 0.0
baz=73,SNR=5.5
TUL1 Tulsa 72.94 341 ⇓P P 01 56 54.4 -0.1
baz=73,SNR=16
X31A McDonald Ranch 72.96 338 ⇓P P 01 56 55.1 +0.3
baz=73,SNR=19
W33A Caddo, Fort Co 72.98 339 ⇓P P 01 56 55.2 +0.4
baz=73,SNR=24
Y28A McKinney Farm, 73.05 335 ⇓P P 01 56 55.6 +0.3
baz=73,SNR=12
X30A Coker Ranch, T 73.08 337 ⇑P P 01 56 55.9 +0.4
baz=73
Z26A Caprock 73.09 334 ⇑P P 01 56 56.0 +0.4
baz=73,SNR=54
USIN University of 73.17 348 eP P 01 56 55.7 -0.1
comp=Z,61nm,1.2s
W32A Sentinel 73.19 338 ⇓P P 01 56 56.5 +0.4
baz=74,SNR=47
SIUC Southern Illin 73.20 347 eP P 01 56 55.2 -0.8
MSTX Muleshoe 73.28 335 eP P 01 56 56.5 -0.3
comp=Z,46nm,1.0s
MSTX Muleshoe 73.28 335 ⇑P P 01 56 56.8 0.0
baz=74,SNR=21
V34A Guthrie 73.34 340 eP P 01 56 56.8 -0.1
comp=Z,22nm,0.8s
V34A Guthrie 73.34 340 ⇑P P 01 56 57.6 +0.7
baz=74,SNR=11
Y27A Causey 73.34 335 ⇑P P 01 56 57.1 0.0
baz=74,SNR=7.4
X29A Tulia 73.35 336 ⇓P P 01 56 57.3 +0.2
baz=74,SNR=9.7
Z25A Roswell 73.36 333 ⇑P P 01 56 57.5 +0.2
baz=74,SNR=13
W31A Holland Ranch, 73.46 338 ⇓P P 01 56 57.7 +0.1
baz=74,SNR=7.1
319A Douglas 73.52 329 ⇓P P 01 56 58.0 -0.2
baz=74,SNR=16
V33A Lossen Ranch, 73.55 339 ⇓P P 01 56 58.4 +0.3
baz=74,SNR=15
X28A Dimmitt 73.58 336 ⇑P P 01 56 58.6 +0.1
baz=74
Y26A Elida 73.61 334 ⇓P P 01 56 59.1 +0.3
baz=74,SNR=6.8
Z24A Sheeppen Canyo 73.65 333 ⇓P P 01 56 59.7 +0.6
baz=74,SNR=19
W30A Crocket Farms 73.66 337 ⇑P P 01 57 00.0 +1.1
baz=74
V32A Arapaho 73.68 339 ⇑P P 01 57 00.1 +1.2
baz=74,SNR=7.0
AMTX Amarillo 73.74 336 eP P 01 56 59.8 +0.4
comp=Z,74nm,1.3s
AMTX Amarillo 73.74 336 ⇑P P 01 57 00.0 +0.6
baz=74
121A Cookes Peak, D 73.90 330 eP P 01 57 01.1 +0.6
comp=Z,38nm,1.1s
121A Cookes Peak, D 73.90 330 ⇑P P 01 57 01.3 +0.8
baz=74,SNR=18
U34A Anderson Ranch 73.91 340 eP P 01 57 00.1 -0.1
comp=Z,67nm,1.3s
U34A Anderson Ranch 73.91 340 ⇑P P 01 57 00.8 +0.5
baz=74,SNR=7.0
Y25A Mesa, Roswell 73.93 334 ⇓P P 01 57 00.8 +0.2
baz=74,SNR=12
W29A Amarillo 73.95 336 ⇓P P 01 57 00.9 +0.3
baz=74,SNR=12
V31A Spring Creek L 73.97 338 ⇑P P 01 57 01.6 +1.0
baz=74,SNR=10
OLIL Olney 73.99 348 eP P 01 56 59.9 -0.7
comp=Z,160nm,2.4s
X27A F and S Farms, 74.01 335 ⇓P P 01 57 01.9 +0.8
baz=74,SNR=6.0
U33A Lingo Farm, Me 74.07 340 ⇑P P 01 57 01.8 +0.6
baz=74
MVL Millersville 74.08 358 eP P 01 57 02.0 +0.9
comp=Z,30nm,1.3s
BLO Bloomington 74.17 350 eP P 01 57 00.6 -1.1
BLO pmax pmax
comp=Z,42nm,1.6s
BLO Bloomington 74.17 350 eP P 01 57 00.6 -1.1
comp=Z,42nm,1.6s
X26A CR and CF Fran 74.17 334 ⇓P P 01 57 02.6 +0.6
baz=74,SNR=20
Z22A Elephant Butte 74.21 331 ⇓P P 01 57 03.6 +1.4
baz=75,SNR=26
Y24A Capitan 74.21 333 ⇓P P 01 57 02.9 +0.6
baz=75,SNR=20
V30A Spur Ranch, Mi 74.23 337 ⇑P P 01 57 03.6 +1.4
baz=75
U32A Winter Ranch, 74.28 339 ⇓P P 01 57 02.8 +0.4
baz=75,SNR=6.0
SLM Saint Louis 74.28 347 eP P 01 57 02.3 0.0
SLM Saint Louis 74.28 347 eP P 01 57 02.3 0.0
W27A Bowe Ranch, En 74.38 335 ⇓P P 01 57 03.6 +0.4
baz=75,SNR=20
Y23A Lovelace Mesa, 74.45 332 ⇓P P 01 57 04.6 +0.9
baz=75,SNR=12
X25A Clemmons Ranch 74.46 334 ⇑P P 01 57 04.3 +0.6
baz=75
U31A Nine Bar Ranch 74.52 338 ⇓P P 01 57 04.3 +0.4
baz=75
V29A Stinnett 74.59 337 ⇓P P 01 57 05.0 +0.6
baz=75
W26A Owens Ranch, T 74.64 335 ⇓P P 01 57 05.5 +0.8
baz=75,SNR=9.1
T33A Patterson Ranc 74.71 340 ⇑P P 01 57 05.6 +0.7
baz=75,SNR=12
V28A Channing 74.71 336 ⇓P P 01 57 06.0 +0.9

baz=75,SNR=16
ACSO Alum Creek Sta 74.77 353 eP P 01 57 04.7 -0.4
comp=Z,30nm,0.8s
SSPA Standing Stone 74.77 357 eP P 01 57 05.4 +0.2
comp=Z,22nm,1.3s
X24A Lazy VL Ranch, 74.78 333 ⇓P P 01 57 06.6 +1.0
baz=75
Y22D IRIS PASSCAL I 74.91 332 ⇓P P 01 57 07.3 +1.0
baz=75
U30A WK&E Inc. Balk 74.92 338 ⇑P P 01 57 06.9 +0.7
baz=75,SNR=7.0
V27A Dan Oppiter Fa 74.93 336 ⇓P P 01 57 07.0 +0.7
baz=75
TUC Tucson 74.98 328 eP P 01 57 07.2 +0.6
TUC pmax pmax
comp=Z,27nm,1.2s
TUC Tucson 74.98 328 eP P 01 57 07.2 +0.6
comp=Z,27nm,1.2s
T32A Huddler Ranch, 75.00 339 ⇑P P 01 57 07.3 +0.7
baz=75,SNR=7.1
W25A X Bar L Ranch, 75.01 334 ⇓P P 01 57 07.5 +0.6
baz=75,SNR=13
LPM Los Pinos Moun 75.01 332 eP P 01 57 06.9 0.0
LENM Lemitar 75.01 332 eP P 01 57 06.9 0.0
X23A Hourglass Bar 75.08 333 ⇑P P 01 57 08.1 +0.8
baz=75
S33A Kaszmaul Farm, 75.12 340 ⇓P P 01 57 08.1 +0.8
baz=76
T31A Randall Ranch, 75.14 339 ⇑P P 01 57 08.3 +0.8
baz=76
LAZ Ladron 75.28 332 eP P 01 57 09.0 +0.5
comp=Z,13nm,1.3s
U28A Mallet 75.29 337 ⇓P P 01 57 09.1 +0.8
baz=76
V26A Tequesquite Ra 75.29 335 ⇑P P 01 57 09.3 +0.9
baz=76,SNR=11
W24A Lazy 6 Ranch, 75.34 334 ⇑P P 01 57 09.6 +0.8
baz=76,SNR=15
T30A Plains 75.36 338 ⇓P P 01 57 09.4 +0.7
baz=76
SFIN Scholer Farm 75.44 349 ⇑P P 01 57 10.5 +1.6
baz=76
S32A Newby Ranch, P 75.49 340 ⇑P P 01 57 10.2 +0.9
baz=76,SNR=6.3
ANMO Albuquerque 75.50 333 eP P 01 57 10.3 +0.5
ANMO pmax pmax
comp=Z,25nm,1.2s
ANMO Albuquerque 75.50 333 P P 01 57 10.3 +0.5
comp=Z,18nm,1.1s,baz=157,slow=7.6,SNR=24
ANMO Albuquerque 75.50 333 eP P 01 57 10.2 +0.5
comp=Z,25nm,1.2s
U27A Thompson Grove 75.53 336 ⇓P P 01 57 10.5 +0.7
baz=76,SNR=9.0
S31A Mullinville 75.57 339 ⇑P P 01 57 10.9 +1.0
baz=76,SNR=5.6
W23A Werner Place, 75.58 333 ⇓P P 01 57 11.1 +0.9
baz=76,SNR=13
214A Organ Pipe Nat 75.58 326 eP P 01 57 10.7 +0.7
comp=Z,28nm,1.3s
214A Organ Pipe Nat 75.58 326 ⇓P P 01 57 11.2 +1.1
baz=76
V25A Rancho No Teng 75.62 334 ⇑P P 01 57 10.9 +0.5
baz=76,SNR=23
T29A Hugoton 75.70 338 ⇑P P 01 57 11.6 +1.0
baz=76
V24A Rampart Ranch, 75.75 334 ⇓P P 01 57 12.4 +1.2
baz=76,SNR=9.5
R33A Olander Ranch, 75.78 340 ⇑P P 01 57 12.4 +1.3
baz=76,SNR=5.6
U26A Atchley Ranch, 75.81 335 ⇑P P 01 57 12.7 +1.2
baz=76,SNR=6.9
SUR Sutherland 75.82 120 eP P 01 57 13.4 +1.5
comp=Z,38nm,1.1s
S30A Montezuma 75.88 338 ⇓P P 01 57 12.7 +1.0
baz=76,SNR=6.6
T28A Walsh 75.93 337 ⇓P P 01 57 13.0 +1.0
baz=76,SNR=22
U25A Circle Dot Ran 76.05 335 ⇑P P 01 57 13.7 +0.9
baz=76,SNR=10
S29A Ulysses 76.07 338 ⇓P P 01 57 13.6 +0.8
baz=76,SNR=13
T27A Campo 76.07 336 ⇓P P 01 57 13.6 +0.8
baz=76,SNR=24
R32A Long Quarter, 76.09 340 ⇓P P 01 57 13.6 +0.8
baz=76,SNR=15
V23A Ortiz Mt. (NFS 76.11 333 ⇑P P 01 57 13.7 +0.5
baz=76,SNR=6.6
KSU1 Kansas State U 76.16 342 eP P 01 57 13.0 -0.1
comp=Z,16nm,0.9s
KSU1 Kansas State U 76.16 342 ⇑P P 01 57 14.3 +1.1
baz=76
R31A Burdett 76.20 339 ⇑P P 01 57 14.2 +0.8
baz=77,SNR=10.0
S28A Manter 76.29 337 ⇓P P 01 57 14.7 +0.7
baz=77,SNR=26
U24A Moreno Valley 76.37 334 ⇓P P 01 57 16.0 +1.2
baz=77,SNR=5.9
Q33A Connelly Farm, 76.39 341 ⇑P P 01 57 14.9 +0.5
baz=77,SNR=5.3
R30A Dighton 76.42 339 ⇑P P 01 57 15.6 +0.9
baz=77,SNR=9.7
T26A Comanche Natio 76.47 336 ⇓P P 01 57 16.4 +1.3
baz=77,SNR=6.5
X18A Snowflake 76.53 330 ⇓P P 01 57 17.0 +1.4
baz=77,SNR=5.6
V22A San Miguel Ran 76.53 333 ⇓P P 01 57 16.9 +1.3
baz=77,SNR=21
Q32A Meitler Ranch, 76.58 340 ⇑P P 01 57 16.6 +1.1
baz=77,SNR=13
DBIC Dimbokro 76.60 72 eP P 01 57 16.9 +0.6
DBIC pmax pmax
comp=Z,52nm,0.8s
DBIC Dimbokro 76.60 72 P P 01 57 17.1 +0.9
comp=Z,46nm,0.7s,baz=207,slow=5.0,SNR=49
DBIC Dimbokro 76.60 72 eP P 01 57 16.9 +0.6
comp=Z,52nm,0.8s
U23A El Rito 76.63 334 ⇓P P 01 57 17.5 +1.4
baz=77,SNR=12
113A Mohawk Valley, 76.70 326 ⇓P P 01 57 17.9 +1.6
baz=77
T25A Trinidad 76.71 335 ⇑P P 01 57 18.0 +1.4
baz=77,SNR=28
P33A Williams Farm, 76.76 341 ⇓P P 01 57 18.0 +1.5
baz=77
R29A Marienthal 76.81 338 ⇑P P 01 57 18.3 +1.3
baz=77
Z14A Wintersburg 76.83 327 ⇑P P 01 57 18.2 +1.1
baz=77
S26A Kim 76.83 336 ⇑P P 01 57 18.2 +1.1
baz=77,SNR=28
Q31A Ellis 76.83 340 ⇑P P 01 57 17.9 +0.9
baz=77,SNR=12
U22A Llaves 76.92 333 ⇑P P 01 57 19.2 +1.4
baz=77,SNR=10
R28A Tribune 76.95 338 ⇑P P 01 57 18.9 +1.2
baz=77,SNR=14
W18A Petrified Fore 76.95 330 eP P 01 57 18.7 +0.8
comp=Z,33nm,1.0s
W18A Petrified Fore 76.95 330 ⇓P P 01 57 19.2 +1.3
baz=77,SNR=6.0
T24B San Luis 76.99 334 ⇑P P 01 57 19.2 +1.0
baz=77,SNR=14
Q30A Quinter 77.05 339 ⇑P P 01 57 19.0 +0.7
baz=77,SNR=17
X16A Lo Mia Camp, P 77.06 329 ⇓P P 01 57 19.8 +1.2
baz=77,SNR=27
P32A Huiting Farm, 77.18 341 ⇓P P 01 57 19.4 +0.5
baz=78,SNR=7.8
Q29A Oakley 77.19 338 ⇓P P 01 57 19.6 +0.6
baz=78,SNR=10.0
S25A Robets Cordova 77.19 335 ⇓P P 01 57 19.6 +0.4
baz=78
T23A Casias Ranch, 77.20 334 ⇑P P 01 57 20.0 +0.6
baz=78,SNR=7.9
R27A Eads 77.21 337 ⇓P P 01 57 19.9 +0.6
baz=78,SNR=22
P31A Stockton 77.31 340 ⇑P P 01 57 20.2 +0.6
baz=78,SNR=11
Y14A Wickenburg 77.34 327 ⇓P P 01 57 21.1 +1.1
baz=78,SNR=8.1
GLA Glamis 77.43 326 ⇑P P 01 57 20.9 +0.4
baz=78
R26A Arlington 77.44 336 ⇓P P 01 57 21.4 +0.9
baz=78,SNR=17
S24A Houchin Ranch, 77.44 335 ⇑P P 01 57 21.9 +1.1
baz=78,SNR=27
P30A Selden 77.58 339 ⇑P P 01 57 21.7 +0.5
baz=78,SNR=6.6

R25A Fountain Ranch 77.58 336 ⇑P P 01 57 22.2 +0.8
baz=78
Q28A Sharon Springs 77.61 338 ⇑P P 01 57 22.4 +1.0
baz=78,SNR=11
SDCO Great Sand Dun 77.64 335 eP P 01 57 22.1 +0.2
comp=Z,15nm,1.1s
O32A Brockman Farm, 77.69 341 ⇑P P 01 57 22.6 +0.9
baz=78,SNR=6.3
S23A Nye Farm, Mont 77.78 334 ⇓P P 01 57 23.7 +1.1
baz=78
SWSC Sam W. Stewart 77.80 325 ⇓P P 01 57 23.4 +0.9
baz=78
KSCO Kaye Shedlock' 77.81 337 eP P 01 57 23.7 +1.0
comp=Z,53nm,1.2s
KSCO Kaye Shedlock' 77.81 337 ⇑P P 01 57 23.9 +1.2
baz=78,SNR=6.3
P29A Atwood 77.83 339 ⇓P P 01 57 23.5 +0.9
baz=78,SNR=8.9
Y12C Blythe 77.87 326 ⇓P P 01 57 24.1 +1.2
baz=78
O31A Woolen Ranch, 77.88 340 ⇑P P 01 57 23.3 +0.5
baz=78,SNR=8.9
R24A Sanders Place, 77.94 335 ⇑P P 01 57 24.4 +1.0
baz=78,SNR=26
WUAZ Wupatki 77.97 329 eP P 01 57 24.0 +0.4
comp=Z,30nm,1.2s
WUAZ Wupatki 77.97 329 ⇓P P 01 57 24.5 +0.9
baz=78,SNR=7.6
Q26A Hugo 78.02 337 ⇑P P 01 57 25.1 +1.2
baz=78,SNR=5.3
SCIA State Center 78.03 345 eP P 01 57 24.3 +0.7
comp=Z,33nm,1.0s
MDV Middlebury 78.04 0 eP P 01 57 23.5 -0.1
comp=Z,69µm,0.7s
MONP Monument Peak 78.06 324 ⇓P P 01 57 24.9 +0.7
baz=78
P28A Saint Francis 78.06 338 ⇑P P 01 57 25.1 +1.1
baz=78,SNR=8.4
O30A MW Ranch, Wils 78.11 340 ⇓P P 01 57 25.3 +1.2
baz=78,SNR=9.0
S22A 4UR Ranch, Cre 78.12 334 ⇑P P 01 57 25.6 +1.0
baz=78,SNR=12
R23A Moffat 78.15 335 ⇑P P 01 57 25.8 +1.1
baz=78,SNR=10
PDMCI Parker Dam,Lak 78.15 327 ⇓P P 01 57 25.4 +1.0
baz=78
N32A Stulken Farm, 78.16 341 ⇓P P 01 57 25.2 +0.8
baz=79
BC3 Big Chuckawall 78.22 325 ⇑P P 01 57 25.6 +0.6
baz=79,SNR=8.9
Q25A Bedland, Calha 78.26 336 ⇑P P 01 57 25.9 +0.7
baz=79,SNR=12
MVCO Mesa Verde 78.27 332 eP P 01 57 25.9 +0.6
comp=Z,53nm,1.5s
MVCO Mesa Verde 78.27 332 ⇑P P 01 57 26.4 +1.0
baz=79,SNR=13
O29A 4D Ranch, Culb 78.28 339 ⇑P P 01 57 26.2 +1.1
baz=79
P27A Ficken Ranch, 78.30 338 ⇑P P 01 57 26.0 +0.8
baz=79
109C Camp Elliot, M 78.39 324 ⇓P P 01 57 26.8 +1.0
baz=79
N31A Bailey Ranch, 78.40 341 ⇑P P 01 57 26.4 +0.7
baz=79
JFWS Jewell Farm 78.43 348 eP P 01 57 25.7 -0.1
JFWS pmax pmax
comp=Z,21nm,1.0s
JFWS Jewell Farm 78.43 348 eP P 01 57 25.7 -0.1
comp=Z,21nm,1.0s
IRM Iron Mountain 78.50 326 ⇓P P 01 57 27.5 +1.1
baz=79
P26A Davis Ranch, A 78.55 337 ⇓P P 01 57 27.6 +0.9
baz=79,SNR=9.4
O28A Krutsinger Ran 78.57 338 ⇑P P 01 57 27.9 +1.2
baz=79
Q24A Divide 78.61 335 ⇓P P 01 57 28.2 +1.0
baz=79,SNR=16
PFO Pinyon Flat Ob 78.66 325 P P 01 57 28.6 +1.2
comp=Z,131nm,1.3s,SNR=5.5
PFO Pinyon Flat Ob 78.66 325 ⇑P P 01 57 28.4 +1.0
baz=79
N30A Hueftle Ranch, 78.69 340 ⇑P P 01 57 28.9 +1.5
baz=79
W13A Hualapai Mount 78.71 327 ⇑P P 01 57 29.0 +1.3
baz=79,SNR=13
BGNE Belgrade 78.73 341 eP P 01 57 27.4 -0.1
comp=Z,48nm,1.0s
BGNE Belgrade 78.73 341 ⇑P P 01 57 28.8 +1.3
baz=79,SNR=5.8
BELC Belle Mtn. Jos 78.77 325 ⇓P P 01 57 29.1 +1.1
baz=79
P25A Willow Gulch B 78.77 336 ⇑P P 01 57 29.3 +1.3
baz=79,SNR=13
Q23A Hartsel 78.79 335 ⇓P P 01 57 29.5 +1.2
baz=79
O27A Beecher Island 78.84 338 ⇑P P 01 57 29.5 +1.3
baz=79,SNR=11
N29A Votaw Ranch, W 78.86 339 ⇓P P 01 57 29.5 +1.2
baz=79
M31A Lambtecht Ranc 78.89 341 ⇓P P 01 57 29.3 +0.9
baz=79,SNR=9.8
MURC Murrieta 79.01 324 ⇓P P 01 57 29.9 +0.6
baz=79,SNR=5.3
N28A Pribbeno Ranch 79.01 339 ⇑P P 01 57 30.4 +1.2
baz=79
P24A Kohler Place, 79.02 336 ⇑P P 01 57 30.3 +1.0
baz=79
PV01 Paradox Valley 79.11 333 eP P 01 57 30.4 +0.5
comp=Z,2µm,1.3s
U15A North Rim 79.13 329 ⇑P P 01 57 31.7 +1.6
baz=80,SNR=22
O26A Horse Wrangler 79.15 337 ⇓P P 01 57 31.2 +1.2
baz=80
SCI San Clemente I 79.17 323 ⇓P P 01 57 31.4 +1.3
baz=80
P23A Jefferson 79.21 335 ⇑P P 01 57 31.4 +0.8
baz=80,SNR=5.2
LDFC Landfair 79.24 326 eP P 01 57 31.6 +1.0
comp=Z,27nm,1.2s
GMRC Granite Mounta 79.25 326 ⇑P P 01 57 32.4 +1.7
baz=80,SNR=10
O25A Wiggins 79.30 337 ⇑P P 01 57 32.5 +1.7
baz=80
M30A Dale-Ortello V 79.31 340 ⇑P P 01 57 32.1 +1.4
baz=80
OGNE Ogallala 79.40 339 ⇓P P 01 57 32.8 +1.5
baz=80
BBRC Big Bear Solar 79.42 325 ⇑P P 01 57 32.5 +0.8
baz=80
N27A Anderson Farm, 79.42 338 ⇑P P 01 57 32.7 +1.2
baz=80
SMCO Snowmass 79.44 334 eP P 01 57 32.9 +1.0
comp=Z,29nm,1.1s
M29A Burnside Ranch 79.46 340 ⇑P P 01 57 32.8 +1.2
baz=80
PV04 Paradox Valley 79.46 333 eP P 01 57 32.6 +0.9
ISCO Idaho Springs 79.52 336 eP P 01 57 32.1 -0.1
ISCO pmax pmax
comp=Z,10.0nm,1.0s
ISCO Idaho Springs 79.52 336 eP P 01 57 32.1 -0.1
comp=Z,9.6nm,1.0s
ISCO Idaho Springs 79.52 336 ⇑P P 01 57 33.1 +0.9
baz=80,SNR=10
CASY Casey 79.58 182 eP P 01 57 31.7 -0.2
comp=Z,36nm,1.1s
HEC Hector,Ludlow 79.60 325 ⇓P P 01 57 34.3 +1.8
baz=80,SNR=11
M28A Bar X Bar Ranc 79.61 339 ⇓P P 01 57 33.6 +1.2
baz=80
O24A Longmont 79.62 336 ⇓P P 01 57 33.3 +0.7
baz=80
L31A Butterfield Fa 79.63 341 ⇓P P 01 57 33.1 +0.7
baz=80,SNR=12
FMP Fort Macarthur 79.64 323 ⇓P P 01 57 33.6 +1.0
baz=80
L30A Spencer Herefo 79.66 341 ⇑P P 01 57 33.5 +0.9
baz=80,SNR=8.5
N26A Koester Ranch, 79.66 338 ⇓P P 01 57 33.9 +1.2
baz=80
P22A Eagle 79.73 335 ⇓P P 01 57 34.5 +1.2
baz=80,SNR=7.0
BFSC Mount Baldy Ra 79.75 324 ⇓P P 01 57 34.5 +1.2
baz=80,SNR=5.6
TUQ Turquoise Moun 79.91 326 ⇓P P 01 57 35.6 +1.4
baz=80,SNR=11
L29A Maesberg Ranch 79.97 340 ⇑P P 01 57 36.0 +1.7
baz=80
O23A Lake Granby, G 79.99 335 ⇓P P 01 57 36.0 +1.2
baz=80
O22A Kremmling 80.16 335 ⇑P P 01 57 36.7 +1.0
baz=80,SNR=20
N24A Carr 80.19 336 ⇓P P 01 57 37.0 +1.3
baz=81
GSC Goldstone 80.21 325 eP P 01 57 37.2 +1.4
GSC pmax pmax
comp=Z,12nm,0.9s
GSC Goldstone 80.21 325 eP P 01 57 37.2 +1.4
comp=Z,12nm,0.9s
GSC Goldstone 80.21 325 ⇑P P 01 57 37.3 +1.4
baz=80
K30A Basset 80.30 341 ⇓P P 01 57 36.7 +0.7
baz=81,SNR=15
TSUM Tsumeb 80.41 107 eP P 01 57 38.4 +1.0
comp=Z,47nm,1.4s
EDW2 Edwards Air Fo 80.43 324 ⇓P P 01 57 38.2 +1.2
baz=81
SHPR Sheep Range 80.45 327 eP P 01 57 38.1 +1.0
L27A T5 Ranch, Ells 80.53 339 ⇑P P 01 57 38.8 +1.5
baz=81
ECSD EROS Data Cent 80.53 343 eP P 01 57 37.0 -0.2
comp=Z,31nm,0.9s
ECSD EROS Data Cent 80.53 343 ⇓P P 01 57 37.6 +0.4
baz=81,SNR=22
CCUT Cedar City 80.54 329 eP P 01 57 39.1 +1.5
comp=Z,25nm,1.1s
OSI Osito Adit 80.57 324 eP P 01 57 38.4 +0.7
comp=Z,44nm,1.1s
OSI Osito Adit 80.57 324 ⇓P P 01 57 39.5 +1.8
baz=81
K29A Lazy Trails An 80.57 340 ⇓P P 01 57 38.6 +1.1
baz=81
N23A Red Feather La 80.61 336 ⇓P P 01 57 38.9 +0.9
baz=81,SNR=15
N22A Wattenberg Ran 80.70 335 ⇓P P 01 57 39.3 +0.8
baz=81,SNR=16
SRU San Rafael 80.71 332 eP P 01 57 38.8 +0.3
SRU pmax pmax
comp=Z,11nm,0.9s
SRU San Rafael 80.71 332 eP P 01 57 38.8 +0.3
comp=Z,11nm,0.9s
O20A White River Ci 80.74 334 eP P 01 57 38.4 -0.3
comp=Z,27nm,1.2s
O20A White River Ci 80.74 334 ⇑P P 01 57 39.6 +0.9
baz=81,SNR=6.4
ARUT Antelope Range 80.77 329 eP P 01 57 39.8 +0.9
ARUT Antelope Range 80.77 329 eP P 01 57 39.8 +0.9
comp=Z,391nm,1.2s
LRMC Laurel Mountai 80.77 325 ⇓P P 01 57 39.8 +0.9
baz=81
PHWY Pilot Hill 80.81 336 eP P 01 57 39.4 +0.3
comp=Z,14nm,0.5s
J30A Dallas 80.87 341 ⇓P P 01 57 39.3 +0.2
baz=81,SNR=6.8
SBC Santa Barbara 80.92 323 ⇓P P 01 57 40.0 +0.5
baz=81
ARVC Arvin 81.04 324 ⇑P P 01 57 40.8 +0.8
baz=81
M23A Laramie 81.05 336 ⇓P P 01 57 40.9 +0.6
baz=81
BOSA Boshof 81.08 118 eP P 01 57 40.5 -0.4
BOSA pmax pmax
comp=Z,61nm,1.1s
BOSA Boshof 81.08 118 P P 01 57 42.0 +1.1
comp=Z,33nm,0.9s,baz=234,slow=5.3,SNR=28
BOSA Boshof 81.08 118 eP P 01 57 40.5 -0.4
comp=Z,61nm,1.1s
SPMN St. Paul 81.14 346 eP P 01 57 39.3 -1.1
comp=Z,15nm,0.8s
SPMN St. Paul 81.14 346 ⇓P P 01 57 39.9 -0.5
baz=82,SNR=5.3
J29A Okreek 81.17 341 ⇓P P 01 57 41.7 +1.0
baz=82
FURC Furnace Creek, 81.19 326 ⇓P P 01 57 42.4 +1.5
baz=82
M22A Cedar Creek Ra 81.28 336 ⇓P P 01 57 42.6 +1.0
baz=82
ISA Isabella 81.30 325 ⇑P P 01 57 42.9 +1.3
baz=82
N20A Spence Gulch, 81.36 334 ⇑P P 01 57 42.9 +0.9
baz=82,SNR=11
I30A Oacoma 81.40 341 ⇑P P 01 57 42.0 +0.1
baz=82
VES Vestal, Richgr 81.73 324 ⇓P P 01 57 45.0 +1.3
baz=82,SNR=6.0
I29A Vivian Onida 81.74 341 ⇑P P 01 57 44.8 +1.2
baz=82
SMMC Simmler 81.76 323 ⇓P P 01 57 45.2 +1.2
baz=82
BRSD Miller 81.78 342 ⇑P P 01 57 43.7 -0.1
baz=82
L22A Ellis Ranch, M 81.79 336 ⇑P P 01 57 44.0 -0.1
baz=82
GRAC Grapevine Rang 81.86 326 ⇑P P 01 57 45.7 +1.2
baz=82,SNR=8.1
DAU Daniels Canyon 82.12 332 eP P 01 57 47.1 +1.0
DAU Daniels Canyon 82.12 332 eP P 01 57 47.1 +1.0
K23A Bowen Ranch, D 82.17 337 ⇑P P 01 57 47.4 +1.3
baz=82
R11A Troy Canyon, C 82.22 328 ⇑P P 01 57 47.4 +1.2
baz=82,SNR=21
H29A Onida 82.27 341 ⇓P P 01 57 46.7 +0.2
baz=83
TIN Tinemaha 82.30 326 ⇓P P 01 57 47.6 +0.7
baz=83
URZ Urewera 82.37 229 P P 01 57 46.9 -0.5
comp=Z,14nm,1.1s,baz=157,slow=19,SNR=4.0
G30A Faulkton 82.47 342 ⇑P P 01 57 48.1 +0.7
baz=83,SNR=9.7
H28A Mission Ridge 82.54 341 ⇓P P 01 57 48.5 +0.7
baz=83
DUG Dugway 82.55 331 ⇓P P 01 57 49.5 +1.3
baz=83,SNR=30
K21A Alcova 82.60 336 ⇑P P 01 57 48.7 +0.3
baz=83
G29A Hoven 82.72 342 ⇑P P 01 57 48.9 +0.1
baz=83
TCUT Toone Canyon 82.78 332 eP P 01 57 49.7 +0.3
comp=Z,61nm,1.4s
G28A Parade 82.88 341 ⇓P P 01 57 50.1 +0.5
baz=83
MLAC Mammoth Lakes 83.05 325 ⇑P P 01 57 51.9 +1.0
baz=83
F30A Leola 83.09 342 ⇑P P 01 57 51.0 +0.3
baz=84,SNR=9.4
HWUT Hardware Ranch 83.26 332 eP P 01 57 51.7 -0.1
comp=Z,27nm,1.0s
F29A Eureka 83.30 342 ⇓P P 01 57 52.1 +0.4
baz=84
J21A Lysite 83.30 336 ⇓P P 01 57 52.7 +0.7
baz=84
SPUT South Promonto 83.35 332 eP P 01 57 52.5 +0.2
comp=Z,44nm,1.2s
LBTB Lobatse 83.36 116 eP P 01 57 53.0 +0.1
LBTB pmax pmax
comp=Z,69nm,1.3s
LBTB Lobatse 83.36 116 eP P 01 57 53.0 +0.1
comp=Z,69nm,1.3s
NVAR Mina Array Bea 83.45 326 P P 01 57 53.5 +0.5
comp=Z,4.1nm,0.7s,baz=154,slow=6.0,SNR=20
NVAR PKKPbc PKKPbc 02 16 12.5 -0.3
comp=Z,0.6nm,0.8s,baz=264,slow=2.7,SNR=3.8
J20A Shoshoni 83.52 335 ⇑P P 01 57 53.7 +0.6
baz=84
PDAR Pinedale Array 83.52 334 P P 01 57 52.4 -0.9
comp=Z,8.0nm,1.1s,baz=145,slow=5.4,SNR=29
PDAR PKKPbc PKKPbc 02 16 10.7 -2.2
comp=Z,0.5nm,0.8s,baz=267,slow=1.5,SNR=4.3
F28A McLaughlin 83.56 341 ⇓P P 01 57 54.0 +0.9
baz=84
I21A Big Trails, Te 83.66 336 ⇑P P 01 57 54.1 +0.4
baz=84
E30A Jud 83.69 343 ⇓P P 01 57 53.9 +0.3
baz=84,SNR=12
J19A Crowheart 83.78 335 ⇑P P 01 57 55.1 +0.6
baz=84
F27A Lemmon 83.92 341 ⇓P P 01 57 55.5 +0.6
baz=84
E29A Napoleon 83.93 342 ⇑P P 01 57 55.0 +0.1
baz=84,SNR=5.3
H22A Clearmont 84.05 337 ⇑P P 01 57 56.4 +0.7
baz=84
I20A Worland 84.06 336 ⇓P P 01 57 56.5 +0.7
baz=84
F26A Lodgepole 84.08 340 ⇑P P 01 57 56.6 +0.9
baz=84
E28A Huff 84.21 342 ⇑P P 01 57 56.4 +0.1
baz=85
D30A Buchanan 84.22 343 ⇑P P 01 57 56.9 +0.5
baz=85,SNR=16
H21A Big Horn, Sher 84.30 337 ⇓P P 01 57 57.3 +0.3
baz=85
E27A Carson 84.30 341 ⇓P P 01 57 57.3 +0.4
baz=85
F25A Bowman 84.37 340 ⇑P P 01 57 57.8 +0.6
baz=85
D29A Pettibone, Tap 84.38 343 ⇓P P 01 57 57.4 +0.2
baz=85,SNR=9.5
I19A Meeteetse 84.44 335 ⇑P P 01 57 58.2 +0.4
baz=85,SNR=6.8
H20A Greybull 84.49 336 ⇓P P 01 58 01.8 +3.9
baz=85
AGMN Agassiz Nation 84.69 345 eP P 01 57 57.5 -1.2
comp=Z,11nm,0.8s
AGMN Agassiz Nation 84.69 345 ⇓P P 01 57 58.6 -0.1
baz=85,SNR=9.9
C30A Mose, Pekin 84.71 343 ⇑P P 01 57 59.4 +0.6
baz=85,SNR=24
D28A Regan 84.75 342 ⇑P P 01 57 59.5 +0.4
baz=85,SNR=7.8
E25A Miller Ranch, 84.88 340 ⇑P P 01 58 00.6 +0.8
baz=85
G21A Lodge Grass 84.89 337 ⇑P P 01 58 00.2 +0.3
baz=85
I17A Pilgrim Ck. 84.89 334 ⇓P P 01 58 00.8 +0.7
baz=85,SNR=11
D27A Center 84.92 341 ⇓P P 01 58 00.3 +0.4
baz=85
H19A Powell 84.99 336 ⇑P P 01 58 00.2 -0.2
baz=85
F22A Rosebud 85.08 338 ⇑P P 01 58 01.0 +0.2
baz=86
D26A Manning 85.09 341 ⇓P P 01 58 00.8 0.0
baz=86
E24A Baker 85.19 339 ⇓P P 01 58 01.8 +0.5
baz=86
G20A Bridger 85.21 336 ⇓P P 01 58 01.7 +0.1
baz=86
H18A Shoshone NF, C 85.23 335 ⇑P P 01 58 01.9 0.0
baz=86,SNR=23
H17A Grant Village 85.30 334 ⇓P P 01 58 02.4 +0.2
baz=86
B30A Myrvik Farm, E 85.38 344 ⇓P P 01 58 02.4 +0.2
baz=86,SNR=32
F21A Absaloka Mine, 85.39 337 ⇑P P 01 58 02.6 +0.2
baz=86
E23A Ismay 85.43 339 ⇓P P 01 58 03.3 +0.8
baz=86
D25A Fairfield 85.45 340 ⇑P P 01 58 03.8 +1.2
baz=86
C27A Sayler Ranch, 85.47 342 ⇓P P 01 58 03.2 +0.5
baz=86,SNR=7.0
E22A Miles City 85.57 338 ⇑P P 01 58 03.7 +0.5
baz=86
B29A Wagenman Farm, 85.63 343 ⇓P P 01 58 03.8 +0.4
baz=86,SNR=10
TOA0 Torodi Ar. Sit 85.63 71 eP P 01 58 04.4 +0.2
TORD Torodi Ar. Bea 85.63 71 P P 01 58 04.4 +0.2
comp=Z,15nm,0.8s,baz=244,slow=3.2,SNR=39
D24A Glendive 85.70 340 ⇑P P 01 58 04.7 +0.9
baz=86
F20A Billings 85.70 337 ⇓P P 01 58 04.2 +0.2
baz=86
C26A Wahner Farm, P 85.73 341 ⇑P P 01 58 04.5 +0.5
baz=86,SNR=6.2
A30A Hoffart Farm, 85.83 344 ⇓P P 01 58 04.9 +0.5
baz=86,SNR=6.2
B28A Dugan Ranch, T 85.86 343 ⇑P P 01 58 05.2 +0.6
baz=86,SNR=10
LAO LASA Array 85.88 338 eP P 01 58 04.6 -0.2
comp=Z,25nm,1.0s
C25A Freed Ranch, W 85.94 340 ⇑P P 01 58 05.9 +0.9
baz=86,SNR=6.1
QLMT Earthquake Lak 85.99 334 eP P 01 58 06.3 +0.8
comp=Z,2.0nm,1.1s
D23A Lindsay 86.01 339 ⇑P P 01 58 06.2 +0.8
baz=86
F19A Roth Farm, Mol 86.01 336 ⇑P P 01 58 06.5 +1.0
baz=86,SNR=14
E21A Keefer Ranch, 86.01 338 ⇓P P 01 58 05.9 +0.5
baz=86
A29A Manning Farm, 86.03 343 ⇓P P 01 58 05.4 0.0
baz=86,SNR=13
HLID Hailey 86.03 332 ⇑P P 01 58 07.1 +1.3
baz=86,SNR=18
B27A Peters Farms, 86.05 342 ⇑P P 01 58 05.9 +0.4
baz=86
C24A Savage 86.11 340 ⇓P P 01 58 06.4 +0.5
baz=86,SNR=31
GCMT Greycliff 86.20 336 eP P 01 58 06.3 -0.2
comp=Z,11nm,1.0s
A28A Rude Farm, Bot 86.27 343 ⇓P P 01 58 07.5 +0.9
baz=87,SNR=5.6
B26A Jensen Ranch, 86.27 341 ⇓P P 01 58 07.7 +1.1
baz=87
D22A Cohagen 86.28 338 ⇓P P 01 58 07.3 +0.6
baz=87,SNR=6.8
E20A Meyer Farm, Mu 86.32 337 ⇓P P 01 58 07.9 +0.9
baz=87,SNR=19
B25A Knox Farm, Ray 86.43 341 ⇑P P 01 58 08.0 +0.6
baz=87
D21A La Casta Ranch 86.46 338 ⇑P P 01 58 08.4 +0.8
baz=87,SNR=5.6
E19A Rath Farm, Rou 86.49 337 ⇑P P 01 58 08.7 +0.8
baz=87,SNR=22
MCMT McKenzie Canyo 86.50 333 eP P 01 58 08.6 +0.5
comp=Z,15nm,1.1s
ULM Lac du Bonnet 86.55 346 eP P 01 58 07.0 -0.9
ULM pmax pmax
comp=Z,15nm,1.1s
ULM Lac du Bonnet 86.55 346 P P 01 58 06.5 -1.4
comp=Z,13nm,1.0s,baz=146,slow=4.0,SNR=12
ULM Lac du Bonnet 86.55 346 eP P 01 58 07.0 -0.9
comp=Z,15nm,1.1s
A27A Ledoux Ranch, 86.55 342 ⇓P P 01 58 08.9 +1.0
baz=87
C23A Lambert 86.57 339 ⇓P P 01 58 09.1 +0.9
baz=87,SNR=18
A26A Wade Farm, Ken 86.70 342 ⇓P P 01 58 09.0 +0.3
baz=87,SNR=6.3
C22A Vida 86.73 339 ⇓P P 01 58 09.5 +0.6
baz=87,SNR=5.9
BOZ Bozeman (W) 86.76 334 eP P 01 58 08.5 -0.8
BOZ pmax pmax
comp=Z,6.0nm,1.1s
BOZ Bozeman (W) 86.76 334 eP P 01 58 08.5 -0.8
comp=Z,5.6nm,1.1s
D20A Manuel Ranch, 86.84 337 ⇑P P 01 58 10.4 +0.9
baz=87,SNR=19
DGMT Dagmar 86.89 340 eP P 01 58 09.4 -0.3
comp=Z,84nm,1.0s
DGMT Dagmar 86.89 340 eP P 01 58 10.2 +0.6
baz=87,SNR=23
A25A Svangstu Ranch 87.02 341 ⇓P P 01 58 10.7 +0.4
baz=87
B23A Brockton 87.11 340 ⇓P P 01 58 11.1 +0.4
baz=88,SNR=9.2
D19A Cripps Ranch, 87.14 337 ⇑P P 01 58 11.3 +0.3
baz=88,SNR=6.4
C21A Desert Coulee 87.17 338 ⇓P P 01 58 10.9 -0.1
baz=88,SNR=9.8
LRM Limekiln Ridge 87.21 334 eP P 01 58 11.4 -0.1
comp=Z,154nm,1.3s
A24A Westby 87.25 341 ⇓P P 01 58 11.8 +0.4
baz=88,SNR=8.1
B22A Reddig Ranch S 87.26 339 ⇑P P 01 58 11.8 +0.3
baz=88,SNR=5.6
C20A Veseth Ranch, 87.35 338 ⇑P P 01 58 12.2 +0.3
baz=88,SNR=5.6
A23A Redstone 87.53 340 ⇑P P 01 58 13.8 +1.1
baz=88
N02D Trinity Center 87.53 325 ⇑P P 01 58 13.3 +0.3
baz=88
B21A Ellsworth Farm 87.68 339 ⇓P P 01 58 14.2 +0.8
baz=88
C19A Slack Wire Ran 87.70 337 ⇓P P 01 58 15.1 +1.5
baz=88
M04C Macdoel 87.76 326 ⇓P P 01 58 15.1 +1.0
baz=88
A22A Carney Farms, 87.86 339 ⇓P P 01 58 15.5 +1.2
baz=88,SNR=14
M02C Callahan 87.92 325 ⇓P P 01 58 16.0 +1.1
baz=88
B20A Solberg Farm, 87.99 338 ⇓P P 01 58 15.1 +0.1
baz=88,SNR=8.6

YBH Yreka Blue Hor 88.12 326 P P 01 58 15.2 -0.6
comp=Z,9.9nm,0.9s,baz=110,slow=4.1,SNR=5.3
A21A Bergtoll Ranch 88.15 339 ⇓P P 01 58 15.8 +0.1
baz=88
EGMT Eagleton 88.18 337 eP P 01 58 15.1 -0.9
comp=Z,10nm,1.3s
EGMT Eagleton 88.18 337 ⇑P P 01 58 16.5 +0.5
baz=89
BMO Blue Mountains 88.26 331 eP P 01 58 16.5 0.0
comp=Z,9.2nm,1.1s
B19A Brinkman Farms 88.30 337 ⇑P P 01 58 17.2 +0.7
baz=89
A20A Cobblestone Ra 88.36 338 ⇑P P 01 58 17.8 +1.1
baz=89,SNR=6.9
K04D Chiloquin, OR 88.38 327 ⇑P P 01 58 17.9 +0.9
baz=89
MSO Missoula 88.61 334 ⇑P P 01 58 19.2 +1.2
baz=89
A19A Klindworth Far 88.65 338 ⇑P P 01 58 19.4 +1.3
baz=89
J05D Fort Rock, OR 88.67 327 ⇓P P 01 58 19.6 +1.1
baz=89
SLMT Seeley Lake 88.79 334 eP P 01 58 18.6 -0.3
comp=Z,5.7nm,1.1s
L02D Cave Junction, 88.87 325 ⇓P P 01 58 20.6 +1.4
baz=89
J04D Umpqua Nationa 89.03 327 ⇑P P 01 58 21.3 +1.1
baz=89
SCHQ Schefferville 89.07 4 P P 01 58 19.4 -0.4
comp=Z,5.2nm,0.9s,baz=161,slow=6.5,SNR=4.7
JTMT Jette 89.51 334 eP P 01 58 22.2 -0.1
comp=Z,3.2nm,0.8s
YBMT Yellow Bay 89.51 334 eP P 01 58 22.1 -0.1
comp=Z,2.2nm,0.7s
I05D Terrebonne, OR 89.55 328 ⇓P P 01 58 24.0 +1.5
baz=90
I04A Tendick Farm, 89.60 327 ⇓P P 01 58 24.0 +1.4
baz=90
BLMT Blacktail Moun 89.76 334 eP P 01 58 23.2 -0.3
comp=Z,16nm,1.3s
BSMT Bassoo Peak 89.78 334 eP P 01 58 23.8 +0.2
comp=Z,3.8nm,1.0s
I03D Drain, OR 89.95 326 ⇓P P 01 58 25.5 +1.4
baz=90
G05D Wamic, OR 90.25 329 ⇓P P 01 58 27.0 +1.3
baz=91
LSZ Lusaka 90.97 109 eP P 01 58 30.4 +0.5
LSZ pmax pmax
comp=Z,20nm,1.4s
LSZ Lusaka 90.97 109 eP P 01 58 30.4 +0.5
comp=Z,20nm,1.4s
NEW Newport 90.99 333 ⇓P P 01 58 29.0 0.0
baz=91
TAM Tamanrasset 94.23 65 eP P 01 58 45.7 +0.9
TAM pmax pmax
comp=Z,12nm,1.2s
TAM Tamanrasset 94.23 65 eP P 01 58 45.7 +0.9
comp=Z,12nm,1.2s
FCC Fort Churchill 94.37 350 eP P 01 58 43.2 -1.1
FCC Fort Churchill 94.37 350 eP P 01 58 43.2 -1.1
comp=Z,0.2nm,0.9s
ESDC Sonseca Array 97.85 47 P Pdif 01 59 01.1 +0.3
comp=Z,0.3nm,0.4s,baz=238,slow=3.6,SNR=3.5
YKA Yellowknife Ar 102.01 342 P Pdif 01 59 17.3 -1.3
comp=Z,0.8nm,0.8s,baz=144,slow=4.5,SNR=12
YKA PP PP 02 03 26.4 -4.5
comp=Z,0.6nm,0.9s,baz=142,slow=7.3,SNR=5.0
GERES GERESS Array B 113.41 46 PKiKP PKiKP 02 04 02.4 -0.3
comp=Z,1.1nm,0.7s,baz=202,slow=1.4,SNR=8.9
CLL Collm 114.07 43 ePKiKP PKiKP 02 04 05.0 +1.2
DPC Dobruska-Polom 115.59 45 ePKIKP PKPdf 02 04 07.0 +0.2
DPC Dobruska-Polom 115.59 45 ePKP PKPdf 02 04 07.0 +0.2
VYHS Vyhne 116.37 48 ePKIKP PKPdf 02 04 08.6 +0.3
VYHS Vyhne 116.37 48 ePKP PKPdf 02 04 08.6 +0.3
BZS Buzias 117.02 52 ⇑PKIKP PKPdf 02 04 11.1 +1.4
BZS Buzias 117.02 52⇑iP PKPdf 02 04 11.1 +1.4
NB2 NORSAR Subarra 117.10 33 PKKP PKKPbc 02 14 37.0 +1.6
comp=Z,1.2nm,0.8s,baz=66,slow=1.9
KDZ Kurdzhali 118.06 57 ⇑PKIKP PKPdf 02 04 13.3 +1.5
KDZ Kurdzhali 118.06 57⇑iP PKPdf 02 04 13.3 +1.5
DRGR 118.16 51 ⇑PKIKP PKPdf 02 04 12.0 +0.1
DRGR 118.16 51⇑iP PKPdf 02 04 12.0 +0.1
TRPA Tarpa 118.53 49⇓iP PKPdf 02 04 12.5 0.0
KOLS Kolonicke sedl 118.65 48 ePKIKP PKPdf 02 04 14.1 +1.4
KOLS Kolonicke sedl 118.65 48 ePKP PKPdf 02 04 14.1 +1.4
ARR Arges 118.90 53⇓iP PKPdf 02 04 13.3 -0.1
KWP Kalwaria Pacla 119.16 48 ePKIKP PKPdf 02 04 14.0 +0.3
KWP Kalwaria Pacla 119.16 48 ePKP PKPdf 02 04 14.0 +0.3
KWP Kalwaria Pacla 119.16 48⇑iP PKPdf 02 04 13.9 +0.3
KWP Kalwaria Pacla 119.16 48 ePKPdf PKPdf 02 04 14.0 +0.3
BUR08 Bucovina Ar. S 120.05 51 ePKPdf PKPdf 02 04 15.7 +0.1
BURAR Bucovina Array 120.05 51 ⇑PKIKP PKPdf 02 04 16.5 +0.9
BURAR Bucovina Array 120.05 51⇑iP PKPdf 02 04 16.5 +0.9
PLOR Plostina 120.39 53 ⇓PKIKP PKPdf 02 04 12.9 -3.3
PLOR Plostina 120.39 53⇓iP PKPdf 02 04 12.9 -3.3
SUW Suwalki 120.82 43 ePKIKP PKPdf 02 04 16.5 -0.2
SUW Suwalki 120.82 43 ePKP PKPdf 02 04 16.5 -0.2
SUW Suwalki 120.82 43 ePKPdf PKPdf 02 04 16.1 -0.5
CFR Carcaliu 121.16 54 ⇓PKIKP PKPdf 02 04 17.0 -0.6
CFR Carcaliu 121.16 54⇓iP PKPdf 02 04 17.0 -0.6
TNA Tin City 122.47 331 ePKPdf PKPdf 02 04 19.6 +0.1
BR131 Keskin Array S 123.22 62 ePKPdf PKPdf 02 04 20.7 -1.3
BRTR Keskin Array B 123.22 62 PKP PKPdf 02 04 21.1 -0.9
comp=Z,3.0nm,0.9s,baz=162,slow=2.2,SNR=13
SPITS Spitsbergen Ar 123.41 14 PKP PKPdf 02 04 20.1 -1.0
comp=Z,6.5nm,0.8s,baz=169,slow=5.1,SNR=6.6
AK02 Malin Array Si 123.45 48 ePKPdf PKPdf 02 04 20.6 -1.3
KIEV Kiev 123.46 48 ePKIKP PKPdf 02 04 20.6 -1.3
KIEV Kiev 123.46 48 ePKPdf PKPdf 02 04 20.6 -1.3
AK01 Malin Array Si 123.47 48 ePKPdf PKPdf 02 04 20.9 -0.9
AKASG Malin Array Be 123.47 48 PKP PKPdf 02 04 20.7 -1.2
comp=Z,3.1nm,0.8s,baz=263,slow=2.9,SNR=20
AKASG PP PP 02 06 02.0 -2.2
comp=Z,0.2nm,0.2s,baz=250,slow=7.5,SNR=4.3
AKBB Malin Array Si 123.47 48 ePKIKP PKPdf 02 04 20.7 -1.2
AKBB Malin Array Si 123.47 48 ePKPdf PKPdf 02 04 20.7 -1.2
FINES FINESS Array B 124.10 35 PKP PKPdf 02 04 22.3 -0.4
comp=Z,3.4nm,0.9s,baz=270,slow=0.4,SNR=5.3
ARCES ARCESS Array B 124.96 25 PKP PKPdf 02 04 23.7 -0.5
comp=Z,2.6nm,0.8s,baz=261,slow=3.1,SNR=6.8
MALT Malatya 126.31 65 ⇑PKIKP PKPdf 02 04 28.2 +0.3
MALT Malatya 126.31 65⇑iP PKPdf 02 04 28.2 +0.3
RAYN Ar Rayn 126.39 85 ePKPdf PKPdf 02 04 28.6 +0.2
VSR Storozhevoye 129.74 49 ePKIKP PKPdf 02 04 32.7 -1.1
VSR pmax pmax
comp=N,20nm,1.3s
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=E,6.0nm,0.9s
VORD Divnogorie 129.78 49 ePKIKP PKPdf 02 04 32.9 -1.0
VORD pmax pmax
comp=N,9.0nm,0.8s
VORD pmax pmax
comp=E,7.0nm,0.8s
VORD pmax pmax
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 130.54 36 ePKIKP PKPdf 02 04 34.1 -1.0
KLMR pmax pmax
comp=Z,46nm,1.4s
KIV Kislovodsk 130.87 59 ePKIKP PKPdf 02 04 35.6 -0.8
KIV pmax pmax
comp=Z,14nm,1.1s
KIV Kislovodsk 130.87 59 ePKPdf PKPdf 02 04 37.2 +0.8
KBZ Khabaz 130.97 59 PKP PKPdf 02 04 37.8 +1.4
comp=Z,3.9nm,1.1s,baz=218,slow=5.9,SNR=5.1
VRHR Novokhopersk 131.26 49 ePKIKP PKPdf 02 04 36.9 +0.2
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,2.0nm,0.7s
VRHR pmax pmax
comp=Z,6.0nm,0.7s
GNI Garni 131.52 64 ePKIKP PKPdf 02 04 38.4 +0.6
GNI Garni 131.52 64 ePKPdf PKPdf 02 04 38.4 +0.6
BILL Bilibino 132.60 334 ePKIKP PKPdf 02 04 39.0 +0.2
BILL Bilibino 132.60 334 ePKPdf PKPdf 02 04 39.0 +0.2
PRGR Permogore 133.43 35 ePKIKP PKPdf 02 04 39.7 -0.8
PRGR pmax pmax
comp=Z,7.0nm,0.8s
SEY Seymchan 139.69 329 PKhKP PKPpre 02 04 47.6
comp=Z,1.8nm,0.2s,baz=56,slow=6.3,SNR=5.9
TIXI Tiksi 140.84 349 ePKHKP PKPpre 02 04 45.4
TIXI e 02 04 54.2
TIXI Tiksi 140.84 349 ePKPpre PKPpre 02 04 45.4
TIXI ePKPdf PKPdf 02 04 54.2 +0.3
ARU Arti 140.94 41 ePKHKP PKPpre 02 04 49.8
ARU e 02 04 55.4
ARU Arti 140.94 41 ePKPpre PKPpre 02 04 49.8
ARU ePKPdf PKPdf 02 04 55.4 +0.8
GEYT Alibeck 141.27 70 PKhKP PKPpre 02 04 49.0
comp=Z,0.8nm,0.6s,baz=294,slow=1.4,SNR=3.2
AKTO Aktyubinsk 141.65 50 PKhKP PKPpre 02 04 49.8
comp=Z,1.6nm,0.7s,baz=197,slow=1.7,SNR=6.7
AB31 Akbulak array 143.01 52 PKIKP PKPbc 02 04 55.2 -0.2
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 143.01 52 ePKPdf PKPdf 02 04 57.2 -1.2
PALK Pallekele 144.13 133 PKP PKPab 02 04 59.0 -0.3
comp=Z,28nm,0.8s,baz=284,slow=2.4,SNR=5.1
PALK Pallekele 144.13 133 ePKPdf PKPab 02 04 59.2 0.0
GSI Gunungsitoli 146.07 164 ePKPbc PKPab 02 05 05.9 -0.5
KAD Karad 146.63 113 eP PKPbc 02 05 06.9 -0.5
KSM Kuching 147.02 187 ePKPdf PKPdf 02 05 06.9 +0.4
KSM ePKPbc PKPab 02 05 10.3 +0.3
POO Poona 147.09 110 ex PKPdf 02 05 08.0 +1.5
PSI Prapat 147.81 166 PKPbc PKPdf 02 05 08.1 0.0
comp=Z,19nm,0.9s,baz=205,slow=9.2,SNR=16
BRVK Borovoye 148.43 43 ePKP2 PKPbc 02 05 11.6 +0.4
BRVK Borovoye 148.43 43 ePKPbc PKPbc 02 05 11.6 +0.4
BVA0 Borovoye Array 148.51 43 i PKIKP PKPdf 02 05 08.0 +0.2
BVA0 pmax pmax
comp=Z,32nm,1.1s
BVAR Borovoye Array 148.51 43 PKP PKPdf 02 05 07.2 -0.5
comp=Z,4.9nm,0.6s,baz=270,slow=1.4,SNR=13
BVAR PKPbc PKPbc 02 05 11.2 -0.2
comp=Z,9.3nm,0.4s,baz=298,slow=2.8,SNR=21
YAK Yakutsk 148.64 339 ePKIKP PKPdf 02 05 08.5 +0.9
YAK pmax pmax
comp=Z,75nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.6s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK Yakutsk 148.64 339 ePKPbc PKPbc 02 05 10.7 -0.7
KBL Kabul 149.38 79 ePKIKP PKPdf 02 05 10.6 +0.5
KBL e 02 05 19.0
KBL Kabul 149.38 79 ePKPdf PKPdf 02 05 10.6 +0.5
KBL ePKPbc PKPbc 02 05 14.6 +0.1
KBL ePKPab PKPab 02 05 19.0 -0.3
LHMI Lhok Sumawe 149.69 161 ePKPbc PKPbc 02 05 15.9 +0.4
IPM Ipoh 149.82 169 ePKPbc PKPbc 02 05 15.0 -0.9
YSS Yuzh-Sakhalins 149.93 306 ePKIKP PKPdf 02 05 09.3 -0.9
YSS e 02 05 14.9
YSS Yuzh-Sakhalins 149.93 306 ePKPdf PKPdf 02 05 09.3 -0.9
YSS ePKPbc PKPbc 02 05 14.9 -0.2
HYB Hyderabad 149.98 117 i PKP PKPbc 02 05 15.0 -1.2
KKM Kota Kinabalu 150.33 200 ePKPbc PKPbc 02 05 17.0 -0.2
ASAJ Asahikawa 150.49 300 PKPbc PKPbc 02 05 15.8 -0.7
comp=E,21nm,0.8s,baz=247,slow=6.0,SNR=12
ASAJ Asahikawa 150.49 300 ePKPbc PKPbc 02 05 15.9 -0.6
ASAJ ePKPab PKPab 02 05 23.3 0.0
KULM Kulim 150.55 168 ePKPdf PKPdf 02 05 11.8 -0.5
KULM ePKPbc PKPbc 02 05 16.7 -1.0
KULM ePKPab PKPab 02 05 24.1 -0.1
KK31 Karatay Array 150.94 62 i PKIKP PKPbc 02 05 17.7 0.0
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 150.94 62 ePKIKP PKPdf 02 05 12.0 0.0
KKAR e 02 05 17.6
KKAR Karatay Array 150.94 62 ePKPdf PKPdf 02 05 12.0 0.0
KKAR ePKPbc PKPbc 02 05 17.6 -0.1
EKS2 Erkin-Say 153.37 62 ePKIKP PKPbc 02 05 23.8 +0.5
EKS2 Erkin-Say 153.37 62 ePKPbc PKPbc 02 05 23.8 +0.5
AAK Ala-Archa 153.90 62 ePKIKP PKPdf 02 05 16.7 +0.2
AAK e 02 05 25.0
AAK Ala-Archa 153.90 62 PKP PKPdf 02 05 16.7 +0.2
comp=Z,2.3nm,0.9s,baz=166,slow=2.9,SNR=3.3
AAK PKPbc PKPbc 02 05 24.4 -0.1
comp=Z,8.0nm,0.8s,baz=231,slow=2.3,SNR=7.7
AAK Ala-Archa 153.90 62 ePKPdf PKPdf 02 05 16.7 +0.2
AAK ePKPbc PKiKP 02 05 25.0 +0.4
AAK ePKPab PKPab 02 05 38.2 +0.3
MJAR Matsushiro Arr 154.00 284 PKIKP PKPbc 02 05 24.0 -0.8
MJAR Matsushiro Arr 154.00 284 PKPbc PKPbc 02 05 24.0 -0.8
comp=Z,0.8nm,0.4s,baz=206,slow=9.7,SNR=8.3
MJAR Matsushiro Arr 154.00 284 PKPbc PKPbc 02 05 24.0 -0.8
NVS Novosibirsk 154.00 31 i PKIKP PKPdf 02 05 15.3 -0.7
NVS pmax pmax
comp=Z,20nm,1.2s
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,1.4s
KURK Kurchatov 154.10 43 ePKIKP PKPdf 02 05 16.4 +0.1
KURK e 02 05 24.4
KURK Kurchatov 154.10 43 ePKPdf PKPdf 02 05 16.4 +0.1
KURK ePKPbc PKPbc 02 05 24.4 -0.1
KURK ePKPab PKPab 02 05 38.5 +0.2
TKM2 Tokmak 2 154.66 61 ePKIKP PKPdf 02 05 16.9 -0.8
TKM2 e 02 05 25.8
TKM2 Tokmak 2 154.66 61 ePKPdf PKPdf 02 05 16.9 -0.8
TKM2 ePKPbc PKPbc 02 05 25.8 -0.4
TKM2 ePKPab PKPab 02 05 42.1 +1.0
ZAA0 Zalesovo Array 155.29 31 ePKPdf PKPdf 02 05 17.1 -0.7
ZAA0 ePKPbc PKPbc 02 05 26.4
ZAA0 ePKPab PKPab 02 05 44.1 +1.0
ZALV Zalesovo Beam 155.29 31 PKP PKPdf 02 05 17.1 -0.7
comp=E,3.7nm,0.8s,baz=304,slow=2.7,SNR=15
ZALV PKPbc PKPbc 02 05 26.7
comp=E,12nm,0.9s,baz=294,slow=2.4,SNR=17
ZALV PKPab PKPab 02 05 44.1 +1.0
comp=E,3.9nm,0.7s,baz=297,slow=4.8,SNR=4.6
KSH Kashi 155.29 69 PKP PKPdf 02 05 18.8 +0.3
KSH epPKP pPKPdf 02 05 29.8 -1.2
KSH esPKP 02 05 32.5
KSH eSKS SKSdf 02 12 19.3 -2.7
KSH eSKKS SKKSac 02 16 06.3 -0.9
KSH eSS SS 02 29 00.3 -3.1
KSH AMB AMB
comp=E,150nm,5.8s
KSH LR LR
comp=E,39nm,4.7s
KSH LR LR
comp=E,30nm,3.5s
KSH LR LR
comp=E,210nm,8.0s
BOD Bodaibo 156.02 350 ePKP2 PKPab 02 05 45.8 -0.3
BOD pmax pmax
comp=Z,12nm,1.2s
KLR Kul'dur 156.10 316 ePKIKP PKPdf 02 05 14.0 -5.1
USRK Ussuriysk Arra 157.94 304 PKPab PKPab 02 05 53.4 -1.5
comp=Z,2.6nm,0.9s,baz=48,slow=2.8,SNR=5.6
MKAR Makanchi Array 158.06 48 PKPab PKPab 02 05 55.7 +0.3
comp=Z,5.9nm,0.7s,baz=297,slow=3.4,SNR=15
MKAR PP PP 02 09 38.2 +2.7
comp=Z,0.8nm,0.7s,baz=287,slow=4.7,SNR=3.8
KOLN Koldanda 159.47 103 eP PKPdf 02 05 24.1 -0.2
comp=Z,43nm,1.3s
DANN Dangsing 159.84 101 eP PKPdf 02 05 24.8 0.0
comp=Z,42nm,0.9s
GKN Gorkha 160.41 103 eP PKPdf 02 05 24.9 -0.3
PKI Pulchoki 160.84 105 eP PKPdf 02 05 25.3 -0.6
GUN Gumba 161.36 105 eP PKPdf 02 05 26.3 -0.2
RAMN Ramite 161.50 108 eP PKPdf 02 05 26.8 +0.2
comp=Z,46nm,1.2s
JIRN Jiri 161.50 106 eP PKPdf 02 05 26.4 -0.3
ODAN Odare 162.08 110 eP PKPdf 02 05 27.0 -0.1
comp=Z,21nm,1.0s
TAPN Taplejung 162.56 109 eP PKPdf 02 05 27.8 +0.1
WMQ Urumqi 162.79 51 PKP PKPdf 02 05 27.3 +0.2
WMQ AMB AMB
comp=Z,190nm,10.8s
WMQ LR LR
comp=Z,880nm,22.8s
WMQ LR LR
comp=Z,630nm,23.4s
WMQ LR LR
comp=Z,630nm,24.6s
CMAR Chiang Mai Arr 162.81 156 PKP PKPdf 02 05 28.6 +0.8
comp=Z,1.2nm,0.8s,baz=224,slow=2.5,SNR=7.4
CMAR PKPab PKPab 02 06 16.5 -0.1
comp=Z,0.9nm,0.3s,baz=215,slow=4.8,SNR=6.9
ZAK Zakamensk 163.88 7 ePKIKP PKPdf 02 05 28.2 +0.2
ZAK e 02 06 20.7
ZAK pmax pmax
comp=Z,2.0nm,1.7s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
SHL Shillong 164.72 121 ex PKPab 02 06 26.0 +0.7
LSA Lhasa 166.31 106 ePKIKP PKPdf 02 05 32.1 +1.0
LSA e 02 06 33.8
LSA Lhasa 166.31 106 ePKPdf PKPdf 02 05 32.1 +1.0
LSA ePKPab PKPab 02 06 33.8 +1.2
ULN Ulaanbaatar 166.54 358 ePKIKP PKPdf 02 05 30.2 -0.2
ULN Ulaanbaatar 166.54 358 ePKPdf PKPdf 02 05 30.2 -0.2
ULN ePKPab PKPab 02 06 33.0 +0.5
SONM Songino Array 166.59 360 PKP PKPdf 02 05 29.1 -1.2
comp=Z,1.3nm,1.1s,baz=180,slow=0.1,SNR=6.3
SONM PKPab PKPab 02 06 33.2 +0.5
comp=Z,3.9nm,1.0s,baz=334,slow=3.3,SNR=13
NJ2 Nanjing 169.24 261 ePKP PKPdf 02 05 31.3 -1.2
KMI Kunming 170.24 161 PKP PKPdf 02 05 35.8 +2.2
GYA Guiyang 172.07 182 PKP PKPdf 02 05 33.3 -1.1
GYA pPKP pPKPdf 02 05 45.5 -1.4
GYA PKPab PKPab 02 06 58.0 +0.6
GYA PKS PKSdf 02 09 04.0 -2.9
GYA PP PP 02 10 50.3 +2.7
GYA SKKS 02 17 32.0
GYA SS SS 02 31 53.5 +0.1
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=Z,130nm,21.5s
GYA LR LR
comp=Z,120nm,21.2s
GYA LR LR
comp=Z,140nm,24.6s
HHC Hu-ho-hao-te 172.34 329 ePKP PKPdf 02 05 34.3 +0.3
HHC pPKP pPKPdf 02 05 44.0 -2.6
HHC sPKP 02 05 49.0
HHC PP PP 02 10 52.5 +3.1
HHC SKS SKSdf 02 12 33.5 -0.7
HHC AMB AMB
comp=Z,360nm,7.1s
HHC LR LR
comp=Z,280nm,19.0s
HHC LR LR
comp=Z,310nm,19.8s
HHC LR LR
comp=Z,1µm,20.0s
GTA Gaotai 172.79 44 ePKP PKPdf 02 05 35.0 +0.7
GTA pPKP pPKPdf 02 05 45.5 -1.3
GTA sPKP 02 05 49.5
GTA PKPab PKPab 02 07 02.0 +1.5
GTA PP PP 02 10 55.3 +3.3
GTA SKS SKSdf 02 12 33.0 -1.5
GTA SKKS SKKSac 02 17 37.8 +2.2
GTA SS SS 02 32 03.0 +0.9
GTA AMB AMB
comp=Z,240nm,6.5s
GTA LR LR
comp=Z,340nm,17.3s
GTA LR LR
comp=Z,340nm,18.1s
GTA LR LR
comp=Z,650nm,17.3s
CD2 Chengdu 175.90 148 PKP PKPdf 02 05 35.0 -0.5
CD2 pPKP pPKPdf 02 05 46.5 -1.5
CD2 sPKP 02 05 50.3
CD2 PKS PKSdf 02 09 05.8 -1.9
CD2 PP PP 02 11 10.3 +3.7
CD2 SKS SKSdf 02 12 32.5 -3.0
CD2 SKKS SKKSac 02 17 51.0 +0.6
CD2 SS SS 02 32 30.5 -0.7
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 177.37 50 ePKP PKPdf 02 05 36.5 +0.7
LZH pPKP pPKPdf 02 05 46.5 -1.8
LZH sPKP 02 05 50.8
LZH PP PP 02 11 14.0 -0.3
LZH AMB AMB
comp=Z,380nm,9.6s
LZH LR LR
comp=Z,300nm,12.2s
LZH LR LR
comp=Z,500nm,12.7s
LZH LR LR
comp=Z,550nm,18.8s

*IDC **28** 01:48:17.1±1.6, 37.66S×74.15W, h0km, mb4.0/3, mb1 4.2/5, mb1mx3.9/37, mbtmp4.1/5, ML3.6/1, Error ellipse: s-maj=70.8km s-min=25.1km az=63.0*
*ISCJB **28** 01:48:19.7±0.6, 37.57S±0.08×73.8W±0.2, h33km, mb4.2/10, Error ellipse: s-maj=20.4km s-min=9.9km az=157.0*
*NEIC **28** 01:48:21.6±0.6, 37.59S×73.89W, h35km, mb4.4/7, Error ellipse: s-maj=20.3km s-min=10.0km az=68.0*
ISC 28 01:48:21.4±0.7, 37.62S±0.09×73.9W±0.2, h35km, n18, σ1§16/17, mb4.4/10, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.06 141 Pn Pn 01 49 19.7 -1.4
baz=318,slow=14,SNR=1.6
PLCA Paso Flores 4.06 141 ePn Pn 01 49 21.5 +0.4
TRQA Tornquist 9.45 96 ePn Pn 01 50 35.1 +0.1
USHA Ushuaia 17.62 169 P P 01 52 23.6 -1.0
0.2nm,0.3s,baz=336,slow=18,SNR=2.5
SAML Samuel 30.15 21 eP P 01 54 28.2 +0.1
7.5nm,1.1s
ATAH Atahualpa 30.62 351 P P 01 54 32.0 -0.8
7.0nm,0.9s,baz=151,slow=13,SNR=3.7
OTAV Otavalo 37.90 353 eP P 01 55 36.3 +0.4
3.3nm,1.1s
BCIP Isla Barro Col 46.87 352 eP P 01 56 46.6 -1.6
GRGR Grenville 50.81 16 eP P 01 57 19.7 +1.3
QSPA South Pole Qui 52.62 180 eP P 01 57 33.5 +1.8
9.9nm,1.5s
GOGA Godfrey 71.23 352 eP P 01 59 37.6 +0.9
4.0nm,0.8s
TXAR Lajitas Array 72.20 333 P P 01 59 44.2 +1.4
0.3nm,0.6s,baz=148,slow=8.6,SNR=3.3
WVT Waverly 74.51 348 eP P 01 59 54.2 -1.8
5.2nm,1.0s
MNTX Cornudas Mount 74.96 333 eP P 01 59 59.7 +0.8
3.6nm,1.4s
TUL1 Tulsa 75.92 342 eP P 02 00 04.6 +0.4
4.3nm,0.8s
TORD Torodi Ar. Bea 86.85 71 P P 02 01 06.0 +3.3
0.8nm,0.8s,baz=235,slow=5.1,SNR=2.3
KIV Kislovodsk 132.62 61 ePKPdf PKPdf 02 07 31.7 -0.4
KSM Kuching 143.82 187 ePKPdf PKPdf 02 07 52.6 -0.8

*IDC **28** 01:48:22.4±1.6, 38.61S×73.82W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.1/34, mbtmp4.2/6, Error ellipse: s-maj=45.6km s-min=37.4km az=20.0*
*NEIC **28** 01:48:25.1±5.1, 38.54S×73.75W, h18km±30km, mb4.6/19, Error ellipse: s-maj=17.7km s-min=8.5km az=65.0*
*ISCJB **28** 01:48:26.0±0.5, 38.50S±0.10×73.8W±0.2, h33km, mb4.4/23, Error ellipse: s-maj=21.1km s-min=10.3km az=147.3*
ISC 28 01:48:27.6±0.6, 38.6S±0.1×73.7W±0.1, h35km, n49, σ1§12/44, mb4.4/23, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.27 133 Lg Lg 01 50 10.5
27nm,0.3s,baz=227,slow=20,SNR=5.6
PLCA Paso Flores 3.27 133 ePn Pn 01 49 14.9 -1.5
TRQA Tornquist 9.24 91 ePn Pn 01 50 37.2 -1.2
LPAZ La Paz 22.72 14 P P 01 53 28.3 +1.1
3.9nm,0.8s,baz=212,slow=7.0,SNR=3.7
LPAZ La Paz 22.72 14 eP P 01 53 27.8 +0.6
9.7nm,0.9s
SIV San Ignacio 25.08 30 P P 01 53 48.5 -0.5
3.4nm,0.8s,baz=233,slow=5.1,SNR=2.8
OTAV Otavalo 38.85 352 eP P 01 55 50.3 +0.3
10nm,1.4s
SNAA Sanae 47.92 156 eP P 01 57 03.9 +1.8
9.4nm,1.3s
GTBY Guantanamo Bay 58.19 358 eP P 01 58 18.1 0.0
HKT Hockley 71.22 340 eP P 01 59 42.4 -0.3
4.0nm,1.2s
GOGA Godfrey 72.18 351 eP P 01 59 48.9 +0.3
16nm,1.4s
JCT Junction City 72.87 337 eP P 01 59 51.7 -1.1
3.3nm,0.4s
TXAR Lajitas Array 73.11 333 P P 01 59 54.7 +0.4
1.1nm,0.7s,baz=155,slow=8.7,SNR=4.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHTX	Lake Whitney	73.59	339	eP	P	01 59 56.5	-0.5
	8.4nm,0.8s						
KMSC	Kings Mountain	73.67	353	eP	P	01 59 57.0	-0.4
SWET	Sewanee	74.27	350	eP	P	02 00 00.5	-0.5
	12nm,0.9s						
CASY	Casey	75.44	182	eP	P	02 00 07.8	+0.4
	9.0nm,1.0s						
WVT	Waverly	75.45	348	eP	P	02 00 07.9	+0.2
	7.2nm,1.0s						
MNTX	Cornudas Mount	75.87	333	eP	P	02 00 09.1	-1.2
	2.5nm,1.2s						
TUL1	Tulsa	76.86	342	eP	P	02 00 14.4	-1.3
	7.8nm,0.8s						
DBIC	Dimbokro	77.92	71	P	P	02 00 23.5	+1.3
	6.4nm,0.7s,baz=187,slow=6.7,SNR=5.4						
DBIC	Dimbokro	77.92	71	eP	P	02 00 22.8	+0.6
	7.4nm,0.7s						
BOSA	Boshof	79.15	118	eP	P	02 00 31.3	+2.3
	2.9nm,0.6s						
ANMO	Albuquerque	79.18	333	P	P	02 00 28.9	0.0
	2.5nm,1.0s,baz=162,slow=8.3,SNR=4.7						
ANMO	Albuquerque	79.18	333	eP	P	02 00 29.8	+0.9
	1.6nm,0.9s						
SDCO	Great Sand Dun	81.38	335	eP	P	02 00 41.1	+0.3
	1.4nm,0.8s						
LBTB	Lobatse	81.61	115	eP	P	02 00 43.4	+1.1
	14nm,1.4s						
ISCO	Idaho Springs	83.28	336	eP	P	02 00 50.1	-0.6
	2.6nm,0.9s						
HWUT	Hardware Ranch	86.93	333	eP	P	02 01 09.2	+0.4
	2.6nm,0.7s						
TOA0	Torodi Ar. Sit	87.02	71	eP	P	02 01 10.5	+0.9
TORD	Torodi Ar. Bea	87.02	71	P	P	02 01 13.8	+4.2
	1.5nm,0.8s,baz=281,slow=2.6,SNR=4.0						
PDAR	Pinedale Array	87.25	334	P	P	02 01 10.6	+0.3
	0.8nm,0.8s,baz=168,slow=5.3,SNR=3.8						
COEN	Coen	117.39	221	ePKPdf	PKPdf	02 07 10.3	+0.4
SUW	Suwalki	123.83	45	ePKPdf	PKPdf	02 07 18.6	-2.4
H11S2	WAKE ISLAND Hy	124.26	267	T	T	04 23 41.4	
	baz=126						
H11S1	WAKE ISLAND Hy	124.28	267	T	T	04 23 44.4	
	baz=126						
H11S3	WAKE ISLAND Hy	124.28	267	T	T	04 23 42.9	
	baz=126						
TNA	Tin City	126.05	329	ePKPdf	PKPdf	02 07 24.7	-0.2
GNI	Garni	133.24	68	ePKPdf	PKPdf	02 07 39.6	0.0
PALK	Pallekele	141.22	137	ePKPdf	PKPdf	02 07 51.1	-3.9
ARU	Arti	144.01	44	ePKPdf	PKPdf	02 07 57.9	-0.7
AKTO	Aktyubinsk	144.19	55	PKP	PKPdf	02 07 58.2	-0.9
	1.2nm,0.7s,baz=280,slow=6.3,SNR=3.2						
TIXI	Tiksi	144.89	348	ePKPdf	PKPab	02 07 58.3	-0.6
ABKAR	Akbulak array	145.44	57	ePKPbc	PKPab	02 08 02.2	+0.6
KKM	Kota Kinabalu	146.40	198	ePKPbc	PKPbc	02 08 04.9	-0.6
BVAR	Borovoye Array	151.44	48	PKPbc	PKPbc	02 08 18.2	+1.1
	1.3nm,0.5s,baz=307,slow=4.0,SNR=6.1						
TKM2	Tokmak 2	156.41	70	ePKPab	PKPab	02 08 46.1	-1.2
MKAR	Makanchi Array	160.59	57	PKPab	PKPab	02 09 04.9	-0.1
	0.5nm,0.7s,baz=267,slow=5.3,SNR=3.3						
SONM	Songino Array	170.73	360	PKPab	PKPab	02 09 50.1	+0.5
	0.6nm,0.8s,baz=353,slow=3.5,SNR=2.0						

CSEM 28 01:49:29.3±0.2, 41°.69N×16°.32E, h10km, ML3.1/7, Error ellipse: s-maj=3.3km s-min=2.5km az=45.0

ROM 28 01:49:29.2±0.3, 41°.65N×16°.27E, h2km, Md2.5/10, Ml2.2/7, Error ellipse: s-maj=3.3km s-min=1.2km az=40.0, Southern Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MS1	Monte Sant'Ang	0.25	283	ePg	Pg	01 49 35.1	+0.9
MS1				Sg	Sb	01 49 40.1	-1.4
MSAG	Monte S. Angel	0.28	283	Pg	Pg	01 49 35.5	+0.8
MSAG				Sg	Sg	01 49 40.1	+1.7
	321nm,0.3s						
MSAG	Monte S. Angel	0.28	283	Pg	Pg	01 49 35.5	+0.8
MSAG				Sg	Sg	01 49 40.1	+1.7
	321nm,0.3s						
SGRT	San Giovanni R	0.41	285	Pg	Pg	01 49 37.7	+0.5
SGRT				Sg	Sg	01 49 44.2	+1.6
	131nm,0.4s						
SGRT	San Giovanni R	0.41	285	Pg	Pg	01 49 37.7	+0.5
SGRT				Sg	Sg	01 49 44.2	+1.6
	131nm,0.4s						
CDT	Castel del Mon	0.57	180	ePg	Pg	01 49 40.8	+0.7
CDT				Sg	Sb	01 49 49.5	-0.9
MRVN	Minervino Murg	0.59	185	Pg	Pg	01 49 41.1	+0.5
MRVN				Sg	Sb	01 49 50.5	-0.7
MRVN	Minervino Murg	0.59	185	Pg	Pg	01 49 41.1	+0.5
MRVN				Sg	Sb	01 49 50.5	-0.7
BAI	Bari	0.71	140	ePg	Pb	01 49 43.8	-0.4
BAI				Sg	Sn	01 49 56.2	-1.5
PALZ	Palazzo San Ge	0.74	198	Pg	Pb	01 49 44.9	0.0
PALZ				Sg	Sb	01 49 54.8	-0.7
PALZ	Palazzo San Ge	0.74	198	Pg	Pb	01 49 44.9	0.0
PALZ				Sg	Sb	01 49 54.8	-0.7
AMUR	Altamura	0.78	161	Pg	Pb	01 49 45.1	-0.5
AMUR				Sg	Sb	01 49 56.4	-0.2
	68nm,0.5s						
AMUR	Altamura	0.78	161	Pg	Pb	01 49 45.1	-0.5
AMUR				Sg	Sb	01 49 56.4	-0.2
	68nm,0.5s						
VULT	Monte Vulture	0.85	216	Pg	Pb	01 49 46.9	+0.1
VULT				Sg	Sb	01 49 59.2	+0.4
VULT	Monte Vulture	0.85	216	Pg	Pb	01 49 46.9	+0.1
VULT				Sg	Sb	01 49 59.2	+0.4
MELA	Melanico ??? S	0.86	274	Pg	Pb	01 49 46.7	-0.1
MELA				Sg	Sb	01 49 59.3	+0.5
	254nm,0.5s						
MELA	Melanico ??? S	0.86	274	Pg	Pb	01 49 46.7	-0.1
MELA				Sg	Sb	01 49 59.3	+0.5
	254nm,0.5s						
SG1	Sgolgore (BA)	0.86	159	ePg	Pb	01 49 47.3	+0.3
SG1				Sg	Sn	01 50 00.6	-1.1
ACER	Acerenza	0.90	196	Pg	Pb	01 49 47.8	+0.3
ACER				Sg	Sb	01 50 00.3	+0.3
ACER	Acerenza	0.90	196	Pg	Pb	01 49 47.8	+0.3
ACER				Sg	Sb	01 50 00.3	+0.3
NOCI	Noci	1.05	145	Pg	Pg	01 49 49.4	+0.1
NOCI				Sg	Sb	01 50 05.1	+0.8
	65nm,0.3s						
NOCI	Noci	1.05	145	Pg	Pg	01 49 49.4	+0.1
NOCI				Sg	Sb	01 50 05.1	+0.8
	65nm,0.3s						
MATE	Matera	1.05	162	Pg	Pb	01 49 50.1	0.0
MATE				Sg	Sb	01 50 04.7	+0.4
	60nm,0.4s						
MATE	Matera	1.05	162	Pg	Pb	01 49 50.1	0.0
MATE				Sg	Sb	01 50 04.7	+0.4
	60nm,0.4s						
MCRV	Calabritti - M	1.20	224	Pg	Pg	01 49 52.3	-0.1
MCRV				Sg	Sb	01 50 09.5	+0.6
	20nm,0.3s						
MCRV	Calabritti - M	1.20	224	Pg	Pg	01 49 52.3	-0.1
MCRV				Sg	Sb	01 50 09.5	+0.6
	20nm,0.3s						
PE1	Pezze di Greco	1.21	134	ePg	Pg	01 49 52.1	-0.3
PE1				Sg	Sn	01 50 10.3	+0.2
SGO	Sicignano	1.31	214	Pg	Pb	01 49 54.8	+0.2
	9.0nm,0.3s						
SGO	Sicignano	1.31	214	Pg	Pb	01 49 54.8	+0.2
	9.0nm,0.3s						
TAR1	Taranto	1.36	145	ePg	Pn	01 49 55.0	-0.2
TAR1				Sg	Sn	01 50 14.8	+1.1
MCEL	Monticello	1.37	195	Pg	Pb	01 49 55.8	+0.1
MCEL	Monticello	1.37	195	Pg	Pb	01 49 55.8	+0.1
STON	Ston	1.62	40	ePg	Pn	01 49 59.0	+0.3
STON				Sg	Sn	01 50 17.8	-2.4
STON	Ston	1.62	40	ePg	Pn	01 49 59.0	+0.3
STON				Sg	Sn	01 50 17.7	-2.5
NVLJ	Novalja	3.09	341	ePn	Pn	01 50 19.5	+0.6
NVLJ				Sn	Sn	01 50 53.7	-2.7
NVLJ	Novalja	3.09	341	ePn	Pn	01 50 19.5	+0.6
NVLJ				Sn	Sn	01 50 53.7	-2.7

IDC 28 01:51:26.9±2.5, 26°.27N×128°.82E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/48, mbtmp3.6/3, Error ellipse: s-maj=32.5km s-min=30.7km az=178.0

ISCJB 28 01:51:27.5±1.4, 26°.00N±0°.06×128°.75E±0°.05, h30km±10km, mb3.4/3, Error ellipse: s-maj=9.6km s-min=7.3km az=175.0

JMA 28 01:51:29.1±0.4, 26°.02N×128°.68E, h41km, M3.0

ISC 28 01:51:25.9±1.8, 25°.95N±0°.07×128°.78E±0°.05, h13km±10km, n14, σ1§47/23, mb3.6/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.88	310	P	Pg	01 51 43.6	+0.7
JNTH				eS	Sg	01 51 53.6	-0.9
JOW	Kunigami	0.99	333	P	Pg	01 51 45.5	+0.6
JOW	Kunigami	0.99	333	Pn	Pg	01 51 45.5	+0.6
	5.4nm,0.3s,baz=138,slow=21,SNR=40						
JOW				Sn	Sg	01 51 56.0	-1.9
	11nm,0.3s,baz=319,slow=19,SNR=45						
JIH	Iheya	1.30	326	P	Pn	01 51 50.3	+0.6
JIH				eS	Sb	01 52 05.3	-1.5
JOKE	Okinoerabujima	1.42	353	P	Pn	01 51 51.8	+0.5
JOKE				eS	Sn	01 52 08.6	-1.3
JAGN	Aguni-jima	1.52	295	P	Pn	01 51 53.3	+0.6
JAGN				S	Sn	01 52 10.9	-1.4
JKE	Kume jima 2	1.83	282	P	Pn	01 51 56.8	-0.2
JKE				eS	Sn	01 52 17.1	-2.9
JTK	Tokunoshima	1.83	5	P	Pn	01 51 57.8	+0.7
JTK				eS	Sn	01 52 18.4	-1.8
JMZ	Minamidaito 2	2.21	93	P	Pn	01 52 01.9	-0.3
JMZ				eS	Sn	01 52 26.5	-2.8
JAMN	Amaminishikomi	2.31	9	P	Pn	01 52 04.4	+0.8
JAM	Amami Oshima	2.56	17	P	Pn	01 52 07.6	+0.6
JAM				eS	Sn	01 52 36.6	-1.4
SONM	Songino Array	28.05	327	P	P	01 57 19.0	+2.0
	0.4nm,0.4s,baz=132,slow=9.9,SNR=6.1						
MKAR	Makanchi Array	42.09	312	P	P	01 59 18.1	+0.6
	0.3nm,0.7s,baz=92,slow=8.7,SNR=4.6						
FINES	FINESS Array B	73.35	331	P	P	02 02 58.1	+1.1
	1.1nm,0.9s,baz=76,slow=5.9,SNR=5.4						

IDC 28 01:51:56.2±0.9, 36°.18S×71°.54W, h0km, mb3.7/7, mb1 4.1/8, mb1mx3.9/38, mbtmp3.8/8, ML4.2/1, Error ellipse: s-maj=35.0km s-min=20.1km az=80.0

ISCJB 28 01:51:58.6±0.4, 36°.19S±0°.05×71°.4W±0°.1, h35km, mb4.1/21, Error ellipse: s-maj=14.9km s-min=6.8km az=175.4

NEIC 28 01:52:00.6±0.5, 36°.18S×71°.36W, h35km, mb4.2/15, Error ellipse: s-maj=14.4km s-min=9.7km az=86.0

ISC 28 01:52:00.5±0.6, 36°.19S±0°.06×71°.4W±0°.1, h35km, n32, σ1§16/33, mb4.0/21, Central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.58	172	Pn	Pn	01 53 05.8	-1.5
	2.4nm,0.3s,baz=300,slow=12,SNR=5.0						
PLCA				Sn	Sn	01 53 59.7	+0.3
	6.6nm,0.3s,baz=29,slow=19,SNR=3.7						
PLCA	Paso Flores	4.58	172	ePn	Pn	01 53 06.5	-0.9
PLCA				Sn	Sn	01 53 59.7	+0.3
CFAA	Coronel Fontan	5.26	31	Pn	Pn	01 53 17.0	+0.3
	0.1nm,0.3s,baz=193,slow=16,SNR=2.5						
CFAA				Sn	Sn	01 54 28.9	+13
	0.8nm,0.3s,baz=97,slow=17,SNR=7.3						
LVC	Limon Verde	13.70	10	ePn	Pn	01 55 11.9	-0.6
CPUP	Villa Florida	15.50	55	ePn	Pn	01 55 37.2	+0.8
LPAZ	La Paz	20.03	9	P	P	01 56 29.6	-1.5
	2.8nm,0.8s,baz=195,slow=16,SNR=4.7						
LPAZ	La Paz	20.03	9	eP	P	01 56 29.8	-1.3
	3.6nm,0.8s						
SIV	San Ignacio	22.11	27	P	P	01 56 52.5	-0.5
	3.1nm,0.6s,baz=221,slow=12,SNR=4.7						
SAML	Samuel	28.12	17	eP	P	01 57 49.6	+0.3
	1.2nm,0.6s						
OTAV	Otavalo	36.83	348	eP	P	01 59 05.9	0.0
	1.1nm,0.6s						
SNAA	Sanae	49.36	157	P	P	02 00 46.3	+0.2
	0.4nm,0.9s,baz=290,slow=14,SNR=3.4						
APG	El Apazote	54.02	337	P	P	02 01 20.2	-1.4
	9.4nm,0.5s,baz=164,slow=3.6,SNR=4.4						
OBIP	Obispado Ponce	54.12	6	eP	P	02 01 22.1	+0.1
ASCN	Ascension	58.88	76	eP	P	02 01 54.5	-1.7
HKT	Hockley	69.69	337	eP	P	02 03 06.3	-0.1
	3.3nm,1.0s						
GOGA	Godfrey	70.16	349	eP	P	02 03 10.6	+1.3
	16nm,1.3s						
LRAL	Lakeview Retre	70.40	346	eP	P	02 03 08.0	-2.8
	4.4nm,0.6s						
TXAR	Lajitas Array	71.90	331	P	P	02 03 20.6	+0.5
	0.7nm,0.5s,baz=158,slow=8.5,SNR=15						
SWET	Sewanee	72.32	348	eP	P	02 03 22.6	+0.1
	3.3nm,0.7s						
ABTX	Abilene, Hawle	73.39	335	eP	P	02 03 29.2	+0.4
	2.6nm,0.7s						
WVT	Waverly	73.56	346	eP	P	02 03 30.0	+0.4
	6.9nm,1.0s						
MNTX	Cornudas Mount	74.68	330	eP	P	02 03 35.5	-0.8
	0.8nm,0.6s						
ANMO	Albuquerque	77.96	331	eP	P	02 03 55.3	+0.2
	1.4nm,0.9s						
SDCO	Great Sand Dun	80.07	333	eP	P	02 04 05.4	-1.3
	1.5nm,1.0s						
LBTB	Lobatse	80.90	114	eP	P	02 04 11.7	+0.2
	5.5nm,1.1s						
TORD	Torodi Ar. Bea	84.46	69	P	P	02 04 33.5	+3.7
	0.2nm,0.5s,baz=258,slow=4.0,SNR=2.8						
DUG	Dugway	85.03	329	eP	P	02 04 33.7	+1.4
	1.9nm,0.9s						
PDAR	Pinedale Array	85.95	333	P	P	02 04 39.1	+2.1
	0.7nm,1.0s,baz=146,slow=6.6,SNR=2.7						
NVAR	Mina Array Bea	85.98	325	P	P	02 04 39.5	+2.2
	0.2nm,0.5s,baz=147,slow=7.0,SNR=3.8						
LSZ	Lusaka	88.61	108	eP	P	02 04 51.6	+1.2
	3.2nm,0.9s						
FCC	Fort Churchill	96.48	348	eP	P	02 05 25.2	-0.2
BVAR	Borovoye Array	148.46	46	PKPbc	PKPbc	02 11 44.0	+1.2
	0.8nm,0.8s,baz=22,slow=5.1,SNR=3.9						

IDC 28 01:53:03.9±1.8, 37°.93S×73°.47W, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/37, mbtmp4.0/6, Error ellipse: s-maj=64.3km s-min=31.2km az=61.0

ISCJB 28 01:53:06.0±0.8, 37°.7S±0°.1×73°.2W±0°.2, h22km, mb4.3/23, Error ellipse: s-maj=20.5km s-min=14.1km az=40.6

NEIC 28 01:53:08.4±0.7, 37°.91S×73°.15W, h35km, mb4.4/21, Error ellipse: s-maj=22.1km s-min=12.2km az=57.0

ISC 28 01:53:07.8±1.0, 37°.6S±0°.1×73°.2W±0°.2, h22km, n39, σ1§27/36, mb4.3/23, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.73	148	ePn	Pn	01 53 56.1	-8.0
LVC	Limon Verde	15.39	15	ePn	Pn	01 56 40.6	-3.3
CPUP	Villa Florida	17.50	55	ePn	Pn	01 57 10.0	-0.4
LPAZ	La Paz	21.70	13	P	P	01 57 59.8	+1.8
	1.2nm,0.5s,baz=214,slow=6.0,SNR=2.4						
LPAZ	La Paz	21.70	13	eP	P	01 57 58.1	+0.1
	4.3nm,0.9s						
SAML	Samuel	29.93	20	eP	P	01 59 16.6	+2.3
	2.1nm,1.0s						
OTAV	Otavalo	37.97	351	eP	P	02 00 25.6	+1.1
	1.7nm,0.8s						
SDV	Santo Domingo	46.31	3	eP	P	02 01 31.9	-0.4
	2.2nm,0.6s						
JTS	JuntasAbangare	48.91	345	eP	P	02 01 49.8	-2.4
	3.1nm,0.7s						
GRGR	Grenville	50.65	15	eP	P	02 02 07.0	+1.6
OBIP	Obispado Ponce	55.70	8	eP	P	02 02 42.0	-0.5
	7.4nm,0.5s						
GTBY	Guantanamo Bay	57.26	358	eP	P	02 02 53.6	+0.1
	22nm,1.0s						
GOGA	Godfrey	71.31	351	eP	P	02 04 26.4	+1.0
	4.2nm,0.9s						
TXAR	Lajitas Array	72.46	332	P	P	02 04 33.8	+1.2
	0.2nm,0.5s,baz=150,slow=6.2,SNR=3.8						
KMSC	Kings Mountain	72.78	353	eP	P	02 04 33.4	-0.8
	20nm,1.3s						
SWET	Sewanee	73.42	349	eP	P	02 04 39.1	+1.1
	6.3nm,0.9s						
ABTX	Abilene, Hawle	74.11	337	eP	P	02 04 42.0	-0.1
	4.9nm,0.8s						
WVT	Waverly	74.62	348	eP	P	02 04 44.4	-0.6
	3.2nm,0.9s						
TUL1	Tulsa	76.10	341	eP	P	02 04 53.8	+0.3
	7.2nm,0.9s						
DBIC	Dimbokro	77.22	71	P	P	02 05 03.1	+2.8
	2.3nm,0.8s,baz=192,slow=5.4,SNR=3.0						
DBIC	Dimbokro	77.22	71	eP	P	02 05 00.7	+0.3
	2.8nm,0.8s						
LAZ	Ladron	78.30	332	eP	P	02 05 04.7	-1.4
ANMO	Albuquerque	78.53	333	eP	P	02 05 08.7	+1.3
	2.1nm,0.9s						
TSUM	Tsumeb	79.12	106	eP	P	02 05 10.1	-1.0
	4.1nm,1.2s						
BOSA	Boshof	79.22	118	P	P	02 05 10.3	-1.2
	2.7nm,0.8s,baz=236,slow=4.7,SNR=3.5						
BOSA	Boshof	79.22	118	eP	P	02 05 09.8	-1.7
	5.3nm,1.0s						
SDCO	Great Sand Dun	80.70	335	eP	P	02 05 19.2	-0.1
	0.9nm,0.9s						
MVCO	Mesa Verde	81.29	332	eP	P	02 05 22.0	-0.4
	1.3nm,0.6s						
LBTB	Lobatse	81.63	115	P	P	02 05 24.4	-0.1
	3.4nm,0.9s,baz=243,slow=2.3,SNR=3.3						
LBTB	Lobatse	81.63	115	eP	P	02 05 23.9	-0.6
	15nm,1.4s						
DUG	Dugway	85.54	331	eP	P	02 05 44.7	+0.7
	5.5nm,1.4s						
TOA0	Torodi Ar. Sit	86.30	70	eP	P	02 05 48.0	-0.2
TORD	Torodi Ar. Bea	86.30	70	P	P	02 05 49.6	+1.4
	0.3nm,0.5s,baz=225,slow=5.3,SNR=4.2						
AKTO	Aktyubinsk	143.29	54	PKP	PKPbc	02 12 37.5	+0.6
	1.8nm,0.7s,baz=297,slow=1.3,SNR=6.2						
BVAR	Borovoye Array	150.49	47	PKPbc	PKPbc	02 12 57.8	+0.7
	1.0nm,0.7s,baz=260,slow=5.4,SNR=4.6						
AAK	Ala-Archa	154.87	68	PKPab	PKPab	02 13 24.6	+1.9
	0.7nm,0.6s,baz=275,slow=8.8,SNR=2.8						
KURK	Kurchatov	156.07	48	ePKPdf	PKPdf	02 12 58.7	-1.1
ZALV	Zalesovo Beam	157.73	36	PKPab	PKPab	02 13 34.9	+0.5
	0.5nm,0.5s,baz=337,slow=6.9,SNR=2.5						
MKAR	Makanchi Array	159.71	55	PKPab	PKPab	02 13 44.5	+1.2
	0.7nm,0.7s,baz=286,slow=4.0,SNR=5.9						

IDC 28 01:53:24.2±2.0, 38°.23S×74°.66W, h0km, mb4.3/4, mb1 4.3/5, mb1mx4.0/36, mbtmp4.3/5, ML3.5/1, Error ellipse: s-maj=75.5km s-min=31.5km az=98.0

ISCJB 28 01:53:27.4±0.5, 38°.24S±0°.08×74°.7W±0°.1, h33km, mb4.4/20, Error ellipse: s-maj=16.1km s-min=10.8km az=159.4

NEIC 28 01:53:29.2±0.3, 38°.27S×74°.74W, h35km, mb4.5/16, Error ellipse: s-maj=13.5km s-min=9.1km az=76.0

ISC 28 01:53:29.1±0.6, 38°.3S±0°.1×74°.7W±0°.1, h35km, n45, σ1§02/45, mb4.4/20, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
USHA	Ushuaia	17.09	168	P	P	01 57 25.7	-0.8
	0.2nm,0.3s,baz=12,slow=14,SNR=2.9						
CPUP	Villa Florida	18.91	56	eP	P	01 57 46.1	-0.6
SIV	San Ignacio	25.27	32	P	P	01 58 52.5	+0.3
	5.3nm,0.8s,baz=227,slow=12,SNR=6.7						
SAML	Samuel	31.02	23	eP	P	01 59 42.7	-0.8
BDFB	Brasilia	32.60	54	P	P	01 59 57.5	-0.1
	3.0nm,0.7s,baz=203,slow=4.9,SNR=3.1						
OTAV	Otavalo	38.50	354	eP	P	02 00 48.2	-0.3
	3.4nm,1.0s						
RCBR	Riachuelo	47.78	57	P	P	02 02 04.8	+1.6
	10nm,0.9s,baz=292,slow=3.3,SNR=3.7						
SNAA	Sanae	48.49	156	eP	P	02 02 07.2	-0.7
	16nm,1.1s						
JTS	JuntasAbangare	49.27	347	eP	P	02 02 14.6	+0.1
	21nm,1.4s						
QSPA	South Pole Qui	51.95	180	eP	P	02 02 42.4	+8.0
	12nm,1.1s						
OBIP	Obispado Ponce	56.56	9	eP	P	02 03 09.1	+0.9
HKT	Hockley	70.69	341	eP	P	02 04 41.5	+0.3
	3.2nm,1.1s						
LRAL	Lakeview Retre	71.88	349	eP	P	02 04 47.6	-0.7
	18nm,1.4s						
SWET	Sewanee	73.88	350	eP	P	02 04 59.8	-0.4
	6.8nm,0.8s						
ABTX	Abilene, Hawle	74.27	338	eP	P	02 05 03.5	+0.9
	1.8nm,0.4s						
ANMO	Albuquerque	78.58	334	eP	P	02 05 26.4	-0.8
	1.8nm,1.0s						
DBIC	Dimbokro	78.60	72	eP	P	02 05 25.3	-2.2
	3.9nm,0.8s						
BOSA	Boshof	79.98	118	P	P	02 05 35.9	+0.7
	3.2nm,1.0s,baz=219,slow=6.5,SNR=2.4						
BOSA	Boshof	79.98	118	eP	P	02 05 36.0	+0.9
	6.9nm,1.0s						
TSUM	Tsumeb	80.12	107	eP	P	02 05 36.1	+0.1
	3.4nm,1.0s						
SDCO	Great Sand Dun	80.81	336	eP	P	02 05 39.6	+0.3
MVCO	Mesa Verde	81.34	333	eP	P	02 05 41.4	-0.7
	1.9nm,0.8s						
LBTB	Lobatse	82.45	116	eP	P	02 05 48.8	+0.6
	2.7nm,0.7s						
DUG	Dugway	85.54	332	eP	P	02 06 04.0	+0.5
	1.4nm,0.5s						
HWUT	Hardware Ranch	86.33	333	eP	P	02 06 07.1	-0.3
	1.7nm,0.6s						
TOA0	Torodi Ar. Sit	87.69	71	eP	P	02 06 15.8	+1.4
TORD	Torodi Ar. Bea	87.69	71	P	P	02 06 12.6	-1.8
	1.4nm,0.9s,baz=244,slow=5.3,SNR=4.8						
COEN	Coen	117.05	222	ePKPdf	PKPdf	02 12 09.3	-1.5
TNA	Tin City	125.41	329	ePKPdf	PKPdf	02 12 26.6	+1.4
BRTR	Keskin Array B	125.75	64	PKP	PKPdf	02 12 27.5	+0.6
	0.6nm,0.8s,baz=14,slow=1.8,SNR=3.5						
KIEV	Kiev	126.65	50	ePKPdf	PKPdf	02 12 28.1	+0.1
KIV	Kislovodsk	133.52	62	ePKPdf	PKPdf	02 12 40.8	-0.7
GNI	Garni	133.88	68	ePKPdf	PKPdf	02 12 43.9	+1.5
PALK	Pallekele	141.96	138	ePKPdf	PKPdf	02 12 58.1	+0.2
PSI	Prapat	144.20	169	PKP	PKPdf	02 13 03.3	+0.1
	4.7nm,0.8s,baz=196,slow=4.2,SNR=4.3						
ABKAR	Akbulak array	145.97	56	ePKPbc	PKPdf	02 13 03.9	+0.2
KKM	Kota Kinabalu	146.39	200	ePKPbc	PKPdf	02 13 06.0	+0.3
BRVK	Borovoye	151.79	47	ePKPbc	PKPbc	02 13 19.9	+0.5
BVAR	Borovoye Array	151.86	47	PKPbc	PKPbc	02 13 20.4	+0.9
	2.3nm,0.8s,baz=194,slow=0.6,SNR=5.4						
KKAR	Karatay Array	153.34	69	ePKPbc	PKPbc	02 13 22.4	-0.8
KURK	Kurchatov	157.44	48	ePKPdf	PKPdf	02 13 22.6	+1.7
ZAA0	Zalesovo Array	159.01	35	ePKPdf	PKPdf	02 13 21.2	-1.4
ZAA0				ePKPab	PKPab	02 13 58.0	-1.3
ZALV	Zalesovo Beam	159.01	35	PKPab	PKPab	02 13 57.5	-1.7
	2.2nm,0.9s,baz=305,slow=5.1,SNR=4.9						
MKAR	Makanchi Array	161.12	56	PKPab	PKPab	02 14 09.0	+0.2
	0.4nm,0.5s,baz=289,slow=3.7,SNR=4.1						
LSA	Lhasa	165.51	122	ePKPab	PKPab	02 14 30.8	+1.7

IDC 28 01:54:32.4±1.7, 34°.91S×72°.87W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/36, mbtmp3.8/4, Error ellipse: s-maj=58.4km s-min=41.9km az=13.0

NEIC 28 01:54:34.5±4.0, 34°.86S×72°.78W, h13km±23km, mb4.4/14, Error ellipse: s-maj=14.1km s-min=6.8km az=56.0

ISCJB 28 01:54:36.1±0.6, 34°.8S±0°.1×72°.7W±0°.1, h33km, mb4.1/17, Error ellipse: s-maj=15.8km s-min=12.1km az=38.7

ISC 28 01:54:38.0±0.8, 34°.8S±0°.1×72°.7W±0°.1, h35km, n30, σ0§57/31, mb4.4/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRQA	Tornquist	9.21	114	ePn	Pn	01 56 47.5	-1.0
LVC	Limon Verde	12.59	16	ePn	Pn	01 57 34.6	-0.4
CPUP	Villa Florida	15.68	62	ePn	Pn	01 58 16.6	+0.3
LPAZ	La Paz	18.89	14	eP	P	01 58 56.2	-0.8
	6.0nm,0.8s						
SIV	San Ignacio	21.44	32	P	P	01 59 24.0	+0.7
	4.6nm,0.8s,baz=198,slow=12,SNR=4.4						
SNAA	Sanae	51.04	158	eP	P	02 03 36.5	+0.2
	1.4nm,0.8s						
OBIP	Obispado Ponce	52.88	7	eP	P	02 03 50.2	-0.2
TXAR	Lajitas Array	70.18	331	P	P	02 05 46.7	-0.5
	0.3nm,0.7s,baz=138,slow=7.3,SNR=2.9						
WHTX	Lake Whitney	70.41	338	eP	P	02 05 48.7	+0.2
	3.3nm,0.6s						
SWET	Sewanee	70.76	349	eP	P	02 05 50.2	-0.3
	3.7nm,0.7s						
ABTX	Abilene, Hawle	71.70	336	eP	P	02 05 55.4	-0.9
	4.2nm,0.8s						
WVT	Waverly	71.97	347	eP	P	02 05 57.9	+0.1
	2.5nm,0.5s						
MNTX	Cornudas Mount	72.96	331	eP	P	02 06 03.4	-0.4
	1.4nm,1.0s						
TUL1	Tulsa	73.59	341	eP	P	02 06 07.1	-0.3
	2.7nm,0.5s						
WCI	Wyandotte Cave	73.76	349	eP	P	02 06 07.8	-0.6
	4.3nm,0.9s						
DBIC	Dimbokro	75.94	71	eP	P	02 06 22.4	+0.8
	5.5nm,0.9s						
ANMO	Albuquerque	76.24	332	eP	P	02 06 23.9	+0.9
	2.1nm,1.1s						
SDCO	Great Sand Dun	78.36	334	eP	P	02 06 35.5	+0.5
	0.8nm,0.8s						

WUAZ	Wupatki	78.74	329	eP	P	02 06 37.0	+0.1
	4.1nm,0.7s						
HWUT	Hardware Ranch	84.00	332	eP	P	02 07 05.2	+0.4
	2.2nm,0.8s						
NVAR	Mina Array Bea	84.25	326	eP	P	02 07 06.6	+0.5
	0.5nm,0.7s,baz=158,slow=4.2,SNR=3.7						
TOA0	Torodi Ar. Sit	84.99	70	eP	P	02 07 10.5	+0.4
TORD	Torodi Ar. Bea	84.99	70	P	P	02 07 10.6	+0.5
	0.9nm,0.7s,baz=248,slow=6.4,SNR=3.5						
FCC	Fort Churchill	94.92	349	eP	P	02 07 55.8	-0.1
BRTR	Keskin Array B	122.69	62	PKP	PKPdf	02 13 30.1	+0.1
	0.5nm,0.7s,baz=236,slow=2.6,SNR=2.7						
BVAR	Borovoye Array	148.23	44	PKPbc	PKPbc	02 14 19.5	-0.3
	1.2nm,0.7s,baz=318,slow=1.9,SNR=2.9						
KURK	Kurchatov	153.83	44	ePKPdf	PKPdf	02 14 24.3	-0.8
KURK				ePKPbc	PKiKP	02 14 33.4	+0.3
ZAA0	Zalesovo Array	155.19	33	ePKPbc	PKPdf	02 14 36.1	+9.3
ZAA0				ePKPab	PKPab	02 14 52.2	+0.4
ZALV	Zalesovo Beam	155.19	33	PKPab	PKPab	02 14 53.0	+1.1
	1.0nm,0.5s,baz=310,slow=5.8,SNR=4.1						
MKAR	Makanchi Array	157.69	50	PKPab	PKPab	02 15 03.4	+0.5
	0.3nm,0.8s,baz=318,slow=4.1,SNR=2.7						

IDC 28 01:55:30.1±2.7,6°26S×147°56E,h0km,mb3.9/1, mb1 3.9/3,mb1mx3.5/42,mbtmp3.8/3,ML3.3/2,Error ellipse: s-maj=85.3km s-min=32.3km az=90.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.15	187	Pn	Pn	01 56 22.3	+1.3
	4.2nm,0.3s,baz=15,slow=10.0,SNR=12						
PMG				Sn	Sn	01 57 01.0	+1.7
	5.8nm,0.3s,baz=210,slow=20,SNR=4.5						
WRA	Warramunga Arr	18.71	222	P	Pn	01 59 51.2	+0.5
	0.4nm,0.3s,baz=48,slow=11,SNR=6.6						
STKA	Stephens Creek	26.09	192	P	P	02 01 04.5	-1.2
	1.8nm,0.8s,baz=14,slow=10,SNR=3.2						
TORD	Torodi Ar. Bea	145.70	284	PKPbc	PKPdf	02 15 11.1	-0.6
	1.3nm,0.5s,baz=68,slow=3.8,SNR=18						

IDC 28 01:56:33.1±2.5,36°20S×73°01W,h0km,mb3.7/5, mb1 4.0/5,mb1mx3.8/36,mbtmp3.7/5,Error ellipse: s-maj=75.1km s-min=42.6km az=5.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	San Ignacio	22.77	31	P	P	02 01 37.3	+0.1
	2.7nm,0.8s,baz=211,slow=11,SNR=3.1						
TXAR	Lajitas Array	71.28	332	P	P	02 07 54.3	-0.1
	0.4nm,0.8s,baz=146,slow=8.3,SNR=3.3						
NVAR	Mina Array Bea	85.24	326	P	P	02 09 12.5	+0.8
	0.4nm,0.8s,baz=161,slow=5.7,SNR=5.0						
PDAR	Pinedale Array	85.37	334	P	P	02 09 11.6	-0.6
	0.4nm,1.0s,baz=134,slow=3.9,SNR=2.7						
TORD	Torodi Ar. Bea	85.70	70	P	P	02 09 14.2	0.0
	0.8nm,0.8s,baz=242,slow=3.0,SNR=3.8						

IDC 28 01:57:24.6±2.4,26°02N×128°75E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.6/47,mbtmp3.8/6,Error ellipse: s-maj=142.2km s-min=21.2km az=69.0
ISCJB 28 01:57:27.5±1.2,25°98N±0°05×128°65E±0°05,h32km±8km, mb3.7/6,Error ellipse: s-maj=8.5km s-min=7.4km az=162.0
JMA 28 01:57:27.2±0.2,25°96N×128°66E,h37km,M3.4
ISC 28 01:57:27.1±1.7,25°98N±0°06×128°64E±0°05,h17km±10km, n16,σ0°95/25,mb3.7/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.77	314	P	Pb	01 57 41.8	-0.2
JNTH				eS	Sb	01 57 53.0	+0.8
JJT2	Tamagusuku 2	0.81	281	P	Pg	01 57 42.9	-0.1
JJT2				eS	Sg	01 57 54.2	+0.4
JOW	Kunigami	0.91	339	P	Pb	01 57 44.4	0.0
JOW				eS	Sb	01 57 56.2	0.0
JOW	Kunigami	0.91	339	Pn	Pb	01 57 44.3	0.0
	9.0nm,0.3s,baz=144,slow=17,SNR=41						
JOW				Sn	Sb	01 57 54.7	-1.5
	17nm,0.3s,baz=126,slow=18,SNR=16						
JIH	Iheya	1.21	330	P	Pn	01 57 49.0	-0.2
JIH				eS	Sb	01 58 03.8	-1.1
JAGN	Aguni-jima	1.39	296	P	Pn	01 57 51.3	-0.4
JAGN				eS	Sn	01 58 09.2	-0.4
JKE	Kume jima 2	1.70	282	P	Pn	01 57 54.8	-1.1
JKE				eS	Sn	01 58 15.4	-1.8
JTK	Tokunoshima	1.82	9	P	Pn	01 57 57.6	0.0
JTK				eS	Sn	01 58 19.8	-0.5
JMZ	Minamidaito 2	2.33	93	P	Pn	01 58 03.6	-1.1
JAM	Amami Oshima	2.57	19	P	Pn	01 58 07.7	-0.2
JAM				eS	Sn	01 58 37.6	-1.2
SONM	Songino Array	27.96	327	P	P	02 03 18.9	+2.1
	0.7nm,0.5s,baz=142,slow=11,SNR=11						
MKAR	Makanchi Array	41.97	312	P	P	02 05 16.7	-0.4
	0.5nm,0.5s,baz=93,slow=10,SNR=12						
WRA	Warramunga Arr	45.98	173	P	P	02 05 49.8	+0.3
	0.7nm,0.7s,baz=354,slow=8.3,SNR=2.7						
FINES	FINESS Array B	73.26	331	P	P	02 08 56.9	-0.2
	2.2nm,0.9s,baz=72,slow=4.5,SNR=4.0						
AKASG	Malin Array Be	75.96	320	P	P	02 09 12.8	-0.1
	0.6nm,0.5s,baz=65,slow=6.1,SNR=3.6						
BRTR	Keskin Array B	77.47	308	P	P	02 09 23.4	+1.4
	0.8nm,1.0s,baz=108,slow=9.5,SNR=2.8						

IDC 28 01:57:49.5±0.8,35°96S×73°15W,h0km,mb4.2/12, mb1 4.3/14,mb1mx4.1/37,mbtmp4.2/14,ML3.6/2,Error ellipse: s-maj=29.4km s-min=16.8km az=79.0
ISCJB 28 01:57:51.9±0.4,35°93S±0°07×73°2W±0°1,h28km, mb4.4/23,Error ellipse: s-maj=14.5km s-min=9.7km az=165.2
NEIC 28 01:57:54.5±2.2,35°95S×73°18W,h35km±15km,mb4.6/15, Error ellipse: s-maj=11.4km s-min=5.9km az=74.0
ISC 28 01:57:53.5±0.6,35°99S±0°08×73°2W±0°2,h28km,n44, σ0°79/44,mb4.5/23,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.16	157	Pn	Pn	01 59 06.6	-2.4
	0.9nm,0.3s,baz=297,slow=11,SNR=1.4						
PLCA	Paso Flores	5.16	157	ePn	Pn	01 59 09.0	0.0
CFAA	Coronel Fontan	5.99	45	Pn	Pn	01 59 20.4	0.0
	0.4nm,0.3s,baz=228,slow=15,SNR=5.7						
LVC	Limon Verde	13.83	17	ePn	Pn	02 01 08.8	+0.8
LPAZ	La Paz	20.12	14	P	P	02 02 26.7	+0.7
	3.3nm,0.6s,baz=181,slow=9.2,SNR=4.7						
LPAZ	La Paz	20.12	14	eP	P	02 02 26.6	+0.7
	15nm,1.1s						
SIV	San Ignacio	22.64	32	P	P	02 02 51.9	-0.6
	14nm,1.1s,baz=236,slow=13,SNR=8.3						
OTAV	Otavalo	36.38	351	eP	P	02 04 57.2	+1.3
	2.8nm,1.0s						
SDV	Santo Domingo	44.70	4	eP	P	02 06 03.2	-1.1
	8.4nm,0.9s						
SNAA	Sanae	50.10	157	P	P	02 06 46.3	+0.6
	2.0nm,0.9s,baz=285,slow=6.7,SNR=7.5						
SNAA	Sanae	50.10	157	eP	P	02 06 46.3	+0.6
	7.7nm,1.0s						
QSPA	South Pole Qui	54.25	180	P	P	02 07 18.0	+1.3
	2.2nm,0.8s,baz=184,slow=1.7,SNR=5.7						
HKT	Hockley	68.97	339	eP	P	02 08 55.0	-1.0
	5.6nm,1.2s						
TXAR	Lajitas Array	71.04	332	P	P	02 09 09.1	+0.2
	0.6nm,0.6s,baz=153,slow=8.6,SNR=7.4						
SWET	Sewanee	71.83	349	eP	P	02 09 13.2	-0.4
	6.3nm,0.8s						
TKL	Tuckaleechee C	71.96	351	P	P	02 09 13.9	-0.3
	3.2nm,0.7s,baz=197,slow=7.9,SNR=3.8						
ABTX	Abilene, Hawle	72.62	337	eP	P	02 09 18.2	-0.2
WVT	Waverly	73.04	348	eP	P	02 09 19.9	-0.8
	4.0nm,0.8s						
MNTX	Cornudas Mount	73.81	332	eP	P	02 09 24.4	-0.9
SUR	Sutherland	74.67	119	eP	P	02 09 32.8	+2.0
	12nm,1.0s						
WCI	Wyandotte Cave	74.84	349	eP	P	02 09 30.0	-1.2
	3.7nm,0.8s						
DBIC	Dimbokro	76.68	72	P	P	02 09 42.0	-0.2
	2.7nm,0.7s,baz=191,slow=6.6,SNR=4.4						
LAZ	Ladron	76.88	332	eP	P	02 09 42.9	-0.2
SDCO	Great Sand Dun	79.25	334	eP	P	02 09 56.6	+0.3
	4.1nm,1.4s						
SCIA	State Center	79.67	345	eP	P	02 09 57.2	-0.9
MVCO	Mesa Verde	79.87	332	eP	P	02 09 59.4	-0.2
	20nm,1.7s						
BOSA	Boshof	79.96	118	P	P	02 10 00.6	+0.1
	4.0nm,0.8s,baz=204,slow=5.2,SNR=5.4						
LDFC	Landfair	80.79	326	eP	P	02 10 04.3	-0.3
	20nm,1.4s						
LBTB	Lobatse	82.30	115	P	P	02 10 13.7	+0.8
	1.2nm,0.5s,baz=296,slow=5.4,SNR=3.4						
LBTB	Lobatse	82.30	115	eP	P	02 10 13.4	+0.4
	7.3nm,1.2s						
DUG	Dugway	84.14	331	eP	P	02 10 21.9	0.0
	8.9nm,1.5s						
HWUT	Hardware Ranch	84.86	332	eP	P	02 10 25.7	+0.2
	3.5nm,1.0s						
NVAR	Mina Array Bea	85.00	326	P	P	02 10 27.2	+0.8
	0.6nm,0.7s,baz=162,slow=6.4,SNR=4.7						
TOA0	Torodi Ar. Sit	85.74	71	eP	P	02 10 30.2	-0.2
TORD	Torodi Ar. Bea	85.74	71	P	P	02 10 30.0	-0.4
	1.6nm,1.0s,baz=265,slow=4.0,SNR=5.0						
ULM	Lac du Bonnet	88.18	346	P	P	02 10 40.5	-0.8
	3.0nm,0.8s,baz=152,slow=3.6,SNR=4.9						
FCC	Fort Churchill	96.00	349	eP	P	02 11 16.8	-0.5
MORC	Moravsky Berou	116.86	47	ePKPdf	PKPdf	02 16 34.5	-0.5
NAO01	NORSAR Array S	117.96	33	ePKPdf	PKPdf	02 16 36.6	0.0
KIV	Kislovodsk	131.30	60	ePKPdf	PKPdf	02 17 02.5	-0.4
GNI	Garni	131.81	65	ePKPdf	PKPdf	02 17 04.2	+0.2
BVAR	Borovoye Array	149.35	45	PKPbc	PKPbc	02 17 39.4	+0.3
	0.8nm,0.6s,baz=242,slow=3.1,SNR=4.5						
ZALV	Zalesovo Beam	156.39	34	PKPab	PKPab	02 18 13.7	+0.2
	1.6nm,0.7s,baz=296,slow=4.8,SNR=5.5						
MKAR	Makanchi Array	158.74	52	PKPab	PKPab	02 18 24.6	+0.6
	0.2nm,0.7s,baz=306,slow=3.1,SNR=2.2						

SJA 28 01:58:29.3±0.6,35°34S×74°47W,h223km±61km,MD4.2, ML5.3
IDC 28 01:58:44.2±0.4,34°85S×72°58W,h0km,mb4.9/27, mb1 4.9/29,mb1mx4.9/35,mbtmp4.8/29,ML5.0/2,MS4.6/5, Ms1 4.6/5,ms1mx4.4/14,Error ellipse: s-maj=16.8km s-min=11.0km az=72.0
GUC 28 01:58:46.1±0.8,34°80S×72°81W,h18km,ML5.0
MOS 28 01:58:48.7±1.1,34°78S×72°64W,h33km,mb5.4/42,Error ellipse: s-maj=16.2km s-min=7.6km az=98.0
BJI 28 01:58:49.5,34°92S×73°31W,h44km,mB5.4/18,Ms5.4/7, Ms7 5.4/11
NEIC 28 01:58:49.2±1.7,34°86S×72°54W,h32km±11km,mb5.2/105, Error ellipse: s-maj=6.9km s-min=3.9km az=69.0
ISCJB 28 01:58:49.6±1.0,34°89S±0°04×72°54W±0°07,h44km±8km, mb5.1/125,MS4.8/6,Error ellipse: s-maj=9.8km s-min=5.8km az=163.4
ISC 28 01:58:49.5±0.6,34°88S±0°05×72°67W±0°06,h34km±2km, n773,σ1°10/803,mb5.2/125,MS4.7/6,173C-223D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	2.04	25	⇑iP	Pn	01 59 19.5	-1.9
RCDM	Rinconada Maip	2.08	48	eP	Pn	01 59 20.6	-1.4
RCDM				iS	Sn	01 59 47.1	+0.5
RCDM				AML	AML	01 59 56.9	
	comp=E,8µm,1.0s						
STL	Santa Lucia	2.21	50	eP	Pn	01 59 25.1	+1.2
STL				eS	Sn	01 59 52.3	+2.2
ROCH	El Roble	2.35	36	⇑iP	Pn	01 59 24.9	-1.1
ROCH				eS	Sb	02 00 01.8	+1.7
PEL	Peldehue	2.39	44	⇑iP	Pn	01 59 25.0	-1.3
PEL				iS	Sb	02 00 00.8	-0.3
PEL				AML	AML	02 00 07.8	
	comp=N,17µm,0.7s						
FCH	Farellones	2.51	52	⇓iP	Pb	01 59 31.6	-2.5
FCH				eS	Sb	02 00 02.9	-1.8
FCH				AML	AML	02 00 11.0	
	comp=N,7µm,0.5s						
AAGR	Agrelo	3.66	62	eP	Pn	01 59 47.7	+3.9
ARCO	CERRO ARCO	3.71	58	eP	Pn	01 59 47.3	+2.6
ARCO				AML	AML	02 00 59.2	
	comp=Z,1µm,0.6s						
AVIZ	Vizcacheras	3.72	69	eP	Pn	01 59 49.0	+4.4
AUSP	Uspallata	3.81	47	eP	Pn	01 59 48.4	+2.3
AUSP				eS	Sb	02 00 47.7	+5.6
ASAL	Salagasta	3.93	55	eP	Pn	01 59 50.8	+3.4
ASAL				eS	Sb	02 00 49.7	+4.5
RTLS	Leoncito	4.17	43	eP	Pn	01 59 53.0	+2.0
RTCV	Cerro Valdivia	4.58	50	eP	Pn	01 59 58.2	+1.7
RTCV				eS	Sb	02 01 04.5	+0.5
SJA	San Juan	4.80	47	eP	Pn	02 00 00.8	+1.3
CFAA	Coronel Fontan	4.95	50	Pn	Pn	02 00 02.4	+0.9
	comp=Z,4.9nm,0.3s,baz=220,slow=10,SNR=19						
CFAA				Lg	Lg	02 01 14.2	
	comp=Z,4.1nm,0.3s,baz=131,slow=20,SNR=2.6						
CFAA	Coronel Fontan	4.95	50	eP	Pn	02 00 02.4	+0.9
CFAA				eP	Pn	02 00 02.4	+0.9
RTLL	Cerro Villicun	4.99	46	eP	Pn	02 00 02.8	+0.7
ACAN	Cantantal	5.26	62	eP	Pn	02 00 07.0	+1.2
PLCA	Paso Flores	6.08	165	Pn	Pn	02 00 17.3	+0.3
	comp=Z,11nm,0.3s,baz=25,slow=3.4,SNR=5.4						
PLCA				Lg	Lg	02 01 50.4	
	comp=Z,6.8nm,0.3s,baz=252,slow=19,SNR=2.2						
PLCA	Paso Flores	6.08	165	ePn	Pn	02 00 16.3	-0.6
PLCA				Lg	Lg	02 01 50.4	
ACHE	Chepes	6.26	55	eP	Pn	02 00 19.2	-0.3
AGUA	GUANDACOL	6.44	34	eP	Pn	02 00 19.6	-2.4
TRQA	Tornquist	9.17	113	ePn	Pn	02 01 00.7	+1.3
LVC	Limon Verde	12.66	16	ePn	Pn	02 01 44.3	-3.2
	comp=Z,22nm,0.7s						
CPUP	Villa Florida	15.70	61	eP	Pn	02 02 26.6	-1.6
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CPUP	Villa Florida	15.70	61	Pn	Pn	02 02 26.3	-1.9
	comp=Z,0.8nm,0.3s,baz=212,slow=12,SNR=3.7						
CPUP	Villa Florida	15.70	61	ePn	Pn	02 02 26.6	-1.6
	comp=Z,2.6nm,0.8s						
LPAZ	La Paz	18.96	14	P	Pn	02 03 10.5	+1.1
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ	La Paz	18.96	14	P	Pn	02 03 10.4	+1.1
	comp=Z,2.3nm,0.3s,baz=182,slow=6.0,SNR=32						
LPAZ	La Paz	18.96	14	eP	Pn	02 03 09.8	+0.5
	comp=Z,70nm,0.9s						
USHA	Ushuaia	20.16	173	P	P	02 03 21.5	+0.8
	comp=Z,58nm,0.8s,baz=339,slow=4.7,SNR=18						
USHA				LR	LR	02 11 48.9	
	comp=Z,3µm,19.9s,baz=320,slow=39						
SIV	San Ignacio	21.50	32	P	P	02 03 34.6	-0.8
	comp=Z,30nm,0.8s,baz=228,slow=11,SNR=29						
NNA	Nana	23.11	350	eP	P	02 03 50.9	-1.7
NNA				pmax	pmax		
	comp=Z,267nm,2.3s						
NNA	Nana	23.11	350	P	P	02 03 52.4	-0.2
	comp=Z,11nm,0.8s,baz=212,slow=12,SNR=7.1						
NNA	Nana	23.11	350	eP	P	02 03 50.9	-1.7
	comp=Z,267nm,2.3s						
SAML	Samuel	27.24	21	eP	P	02 04 29.4	-1.0
	comp=Z,9.7nm,1.1s						
ATAH	Atahualpa	28.11	348	P	P	02 04 39.5	+0.8
	comp=Z,3.1nm,0.6s,baz=180,slow=14,SNR=5.2						
BDFB	Brasilia	29.26	55	eP	P	02 04 47.6	-1.1
BDFB	Brasilia	29.26	55	P	P	02 04 46.8	-1.8
	comp=Z,8.9nm,0.7s,baz=228,slow=10,SNR=9.8						
BDFB	Brasilia	29.26	55	eP	P	02 04 47.6	-1.1
PMSA	Palmer Station	30.38	173	LR	LR	02 16 40.4	
	comp=Z,2µm,19.7s,baz=331,slow=35						
OTAV	Otavalo	35.36	350	eP	P	02 05 43.9	+1.5
	comp=Z,59nm,1.7s						
ROSC	El Rosal	39.56	357	P	P	02 06 21.0	+3.1
	comp=Z,7.0nm,0.6s,baz=154,slow=6.0,SNR=6.4						
ROSC	El Rosal	39.56	357	eP	P	02 06 20.7	+2.8
SDV	Santo Domingo	43.57	3	eP	P	02 06 49.3	-1.3
	comp=Z,23nm,0.8s						
BCIP	Isla Barro Col	44.33	350	eP	P	02 06 54.1	-2.3
	comp=Z,40nm,1.1s						
RCBR	Riachuelo	44.55	58	P	P	02 06 57.6	-0.7
	comp=Z,7.9nm,0.8s,baz=234,slow=13,SNR=7.4						
PCRV	Puerto La Cruz	45.45	11	P	P	02 07 04.6	-0.8
	comp=Z,16nm,0.9s,baz=125,slow=0.1,SNR=4.5						
JTS	JuntasAbangare	46.41	343	eP	P	02 07 13.0	+0.1
JTS				pmax	pmax		
	comp=Z,49nm,1.5s						
JTS	JuntasAbangare	46.41	343	P	P	02 07 13.6	+0.7
	comp=Z,2.7nm,0.8s,baz=161,slow=6.8,SNR=3.3						
JTS	JuntasAbangare	46.41	343	eP	P	02 07 13.0	+0.1
	comp=Z,49nm,1.5s						
GRGR	Grenville	47.91	15	eP	P	02 07 24.4	-0.2
	comp=Z,216nm,1.2s						
VNA3	Neumayer Olymp	48.74	157	P	P	02 07 31.0	+0.6
VNA1	Neumayer--Stat	49.07	157	P	P	02 07 34.0	+1.2
VNA2	Neumayer--Watz	49.40	157	P	P	02 07 36.1	+0.7
VNA2	Neumayer--Watz	49.40	157	P	P	02 07 35.8	+0.3
SNAA	Sanae	50.97	158	P	P	02 07 46.4	-0.9
SNAA	Sanae	50.97	158	P	P	02 07 47.6	+0.2
SNAA				pmax	pmax		
	comp=Z,15nm,1.0s						
SNAA				MLR	MLR		
	comp=Z,369nm,18.1s						
SNAA	Sanae	50.97	158	P	P	02 07 47.6	+0.2
	comp=Z,15nm,1.0s,baz=287,slow=6.2,SNR=31						
SNAA				LR	LR	02 29 57.7	
	comp=Z,369nm,18.1s,baz=295,slow=37						
SNAA	Sanae	50.97	158	eP	P	02 07 47.6	+0.2
	comp=Z,62nm,1.1s						
CRPR	Cabo Rojo, PR	52.86	7	⇓eP	P	02 07 57.7	-4.2
OBIP	Obispado Ponce	52.95	7	eP	P	02 08 01.6	-1.0
	comp=Z,34nm,0.8s						
OBIP	Obispado Ponce	52.95	7	ePg	P	02 08 01.6	-1.0
CELP	Cerrillos	52.98	7	eP	P	02 08 02.1	-0.7
LRS	Lares	53.17	7	eP	P	02 08 05.7	+1.4
LRS	Lares	53.17	7	eS	P	02 08 06.2	+2.0
CBYP	Canovanas	53.26	8	eP	P	02 08 02.8	-2.1
	comp=Z,36nm,1.0s						
PCDR	Punta Cana, DR	53.26	5	⇑eP	P	02 07 59.0	-5.8
AGPR	Aguadilla, PR	53.32	7	eS	P	02 07 58.1	-7.1
SDDR	Presa de Saban	53.58	2	eP	P	02 08 06.9	-0.4
	comp=Z,14nm,1.0s						
GTBY	Guantanamo Bay	54.56	357	eP	P	02 08 13.7	-0.6
	comp=Z,32nm,0.9s						
QSPA	South Pole Qui	55.35	180	P	P	02 08 20.2	+0.4
	comp=Z,16nm,0.8s,baz=133,slow=2.6,SNR=24						
QSPA	South Pole Qui	55.35	180	eP	P	02 08 19.8	0.0
	comp=Z,25nm,0.9s						
NVL	N'lazarevskaya	55.72	156	eP	P	02 08 22.2	+0.1
NVL				pmax	pmax		
	comp=Z,22nm,0.9s						
SYO	Syowa Base	65.24	158	⇓eP	P	02 09 25.0	-2.1
035A	Encino	66.03	335	⇓P	P	02 09 34.2	+1.6
	baz=66						
034A	Hebbronville	66.35	335	⇑P	P	02 09 36.3	+1.5
	baz=67						
933A	Laredo	67.06	334	⇑P	P	02 09 40.2	+0.9
	baz=67						
834A	Tilden	67.28	335	⇓P	P	02 09 42.2	+1.6
	baz=68						
735A	Kenedy	67.70	336	⇑P	P	02 09 44.3	+1.0
	baz=68						
833A	Chaparral WMA,	67.75	335	⇑P	P	02 09 45.8	+2.1
	baz=68						
832A	Faith Ranch, C	67.92	334	⇓P	P	02 09 45.1	+0.4
	baz=68						
636A	Smothers Creek	68.03	337	⇓P	P	02 09 47.0	+1.6
	baz=68						
733A	Divot King Ran	68.08	335	⇓P	P	02 09 46.4	+0.7
	baz=68						
HKT	Hockley	68.09	338	eP	P	02 09 46.4	+0.8
HKT				pmax	pmax		
	comp=Z,67nm,1.9s						
HKT	Hockley	68.09	338	eP	P	02 09 46.4	+0.8
	comp=Z,67nm,1.9s						
635A	Leesville	68.18	336	⇑P	P	02 09 46.7	+0.4
	baz=68						
732A	Laxson Ranch,	68.33	334	⇓P	P	02 09 47.0	-0.2
	baz=69						
537A	Green Hill Far	68.36	338	⇓P	P	02 09 49.0	+1.6
	baz=69						
634A	China Grove, S	68.36	336	⇓P	P	02 09 48.7	+1.3
	baz=69						
536A	Bastrop	68.59	337	⇓P	P	02 09 49.9	+1.0
	baz=69						
535A	Dale	68.70	337	⇑P	P	02 09 49.7	+0.2
	baz=69						
633A	Saathoff Ranch	68.71	335	⇓P	P	02 09 50.3	+0.7
	baz=69						
438A	Sam Houston St	68.73	339	⇑P	P	02 09 51.1	+1.4
	baz=69						
LRAL	Lakeview Retre	68.89	347	eP	P	02 09 50.0	-0.6
	comp=Z,7.3nm,0.7s						
340A	Bronson	68.91	341	⇑P	P	02 09 52.5	+1.7
	baz=69						
632A	Uvalde	68.97	335	⇓P	P	02 09 52.2	+1.0
	baz=69						
534A	Blanco	69.00	336	⇑P	P	02 09 51.5	+0.1
	baz=69						
339A	Huntington	69.01	340	⇑P	P	02 09 52.5	+1.1
	baz=69						
631A	Perdido Creek	69.16	334	⇑P	P	02 09 53.4	+1.0
	baz=70						
533A	Kerrville	69.23	336	⇑P	P	02 09 53.2	+0.4
	baz=70						
337A	Centerville	69.38	339	⇓P	P	02 09 55.4	+1.7
	baz=70						
435B	Jarrell	69.41	337	⇓P	P	02 09 54.7	+0.7
	baz=70						
NATX	Nacogdoches	69.44	340	eP	P	02 09 54.6	+0.5
	comp=Z,31nm,0.3s						
532A	Rocksprings	69.58	335	⇑P	P	02 09 55.7	+0.6
	baz=70						
434A	Burnet	69.66	337	⇑P	P	02 09 56.4	+0.9
	baz=70,SNR=19						
336A	Riesel	69.74	338	⇑P	P	02 09 57.1	+1.2
	baz=70,SNR=9.9						
238A	Jacksonville	69.80	340	⇑P	P	02 09 57.3	+1.0
	baz=70						
335A	Moody	69.82	338	⇓P	P	02 09 57.5	+1.0
	baz=70,SNR=5.5						
531A	Rocksprings	69.84	334	⇓P	P	02 09 58.0	+1.4
	baz=70,SNR=16						
JCT	Junction City	69.86	335	eP	P	02 09 57.3	+0.5
JCT				pmax	pmax		
	comp=Z,33nm,0.8s						
JCT	Junction City	69.86	335	eP	P	02 09 57.3	+0.5
	comp=Z,33nm,0.8s						
JCT	Junction City	69.86	335	⇑P	P	02 09 57.9	+1.1
	baz=70,SNR=15						
433A	Art	69.87	336	⇑P	P	02 09 57.6	+0.7
	baz=70,SNR=22						
CNNC	Cliffs of the	69.93	355	eP	P	02 09 57.8	+0.8
	comp=Z,33nm,0.7s						
237A	Washetta, Mont	70.00	339	⇑P	P	02 09 58.7	+1.2
	baz=70						
530A	J-C Ranch, Com	70.11	334	⇑P	P	02 09 59.8	+1.4
	baz=70,SNR=26						
334A	Lometa	70.12	337	⇓P	P	02 09 59.3	+0.9
	baz=70,SNR=14						
KMSC	Kings Mountain	70.13	352	eP	P	02 09 58.4	+0.1
	comp=Z,17nm,0.8s						
KMSC	Kings Mountain	70.13	352	⇓P	P	02 09 58.9	+0.6
	baz=70						
432A	Menard	70.22	335	⇑P	P	02 09 59.7	+0.7
	baz=71,SNR=7.5						
TXAR	Lajitas Array	70.25	331	P	P	02 09 59.9	+0.6
TXAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TXAR	Lajitas Array	70.25	331	P	P	02 09 59.9	+0.6
	comp=Z,7.0nm,0.7s,baz=152,slow=8.3,SNR=57						
431A	Sonora	70.33	335	⇓P	P	02 10 00.4	+0.7
	baz=71,SNR=9.7						
333A	Richland Sprin	70.36	336	⇓P	P	02 10 00.3	+0.5
	baz=71,SNR=15						
529A	Stev Forest Ra	70.41	333	⇑P	P	02 10 01.1	+0.9
	baz=71,SNR=13						
138A	Matatall Enter	70.41	340	⇓P	P	02 10 01.4	+1.4
	baz=71						
WHTX	Lake Whitney	70.49	338	eP	P	02 10 01.0	+0.5
	comp=Z,34nm,0.8s						
WHTX	Lake Whitney	70.49	338	⇑P	P	02 10 01.2	+0.7
	baz=71,SNR=12						
137A	Heron Place, G	70.54	339	⇓P	P	02 10 02.5	+1.6
	baz=71						
430A	Baggett Ranch,	70.65	334	⇓P	P	02 10 02.6	+1.0
	baz=71,SNR=21						
332A	Millersview	70.67	336	⇑P	P	02 10 02.2	+0.6
	baz=71,SNR=15						
234A	Clairette	70.71	337	⇓P	P	02 10 02.6	+0.7
	baz=71,SNR=15						
429A	Davenport Ranc	70.74	334	⇓P	P	02 10 03.3	+1.1
	baz=71,SNR=14						
OXF	Oxford	70.79	345	eP	P	02 10 01.6	-0.7
OXF				pmax	pmax		
	comp=Z,20nm,0.8s						
OXF	Oxford	70.79	345	eP	P	02 10 01.6	-0.7

comp=Z,20nm,0.8s
SWET Sewanee 70.83 349 eP P 02 10 02.6 0.0
comp=Z,44nm,0.9s
331A San Angelo 70.83 335 ⇑P P 02 10 03.6 +0.9
baz=71,SNR=25
TKL Tuckaleechee C 70.94 350 P P 02 10 02.6 -0.6
TKL pmax pmax
comp=Z,13nm,0.8s
TKL Tuckaleechee C 70.94 350 P P 02 10 02.6 -0.6
comp=Z,13nm,0.8s,baz=164,slow=7.6,SNR=13
TKL Tuckaleechee C 70.94 350 eP P 02 10 02.5 -0.7
233A Rising Star 70.97 337 ⇓P P 02 10 04.1 +0.6
baz=71,SNR=13
135A Vickery Place, 71.00 338 ⇓P P 02 10 04.1 +0.5
baz=71
232A Coleman 71.10 336 ⇓P P 02 10 05.0 +0.6
baz=71,SNR=15
330A Mertzon 71.19 334 ⇑P P 02 10 05.3 +0.4
baz=72,SNR=16
134A White-Moore Ra 71.22 337 ⇓P P 02 10 05.7 +0.7
baz=72
231A Bronte 71.37 335 ⇑P P 02 10 06.4 +0.5
baz=72,SNR=28
133A Hamilton Ranch 71.52 337 ⇑P P 02 10 07.4 +0.6
baz=72,SNR=8.1
329A Wagon Wheel Ra 71.55 334 ⇓P P 02 10 07.5 +0.4
baz=72,SNR=12
230A Sterling City 71.60 335 ⇓P P 02 10 08.5 +1.1
baz=72
Z35A Perchaven, San 71.67 338 ⇑P P 02 10 08.6 +0.9
baz=72,SNR=14
ABTX Abilene, Hawle 71.77 336 eP P 02 10 08.8 +0.5
comp=Z,41nm,0.8s
ABTX Abilene, Hawle 71.77 336 ⇓P P 02 10 09.0 +0.7
baz=72,SNR=23
TZTN Tazewell 71.78 351 eP P 02 10 08.2 -0.1
MIAR Mount Ida 71.79 342 eP P 02 10 07.6 -0.7
MIAR pmax pmax
comp=Z,59nm,1.9s
MIAR Mount Ida 71.79 342 eP P 02 10 07.6 -0.7
comp=Z,59nm,1.9s
Z34A Collier Ranch, 71.91 338 ⇓P P 02 10 09.8 +0.6
baz=72,SNR=6.7
229A Bryant Ranch, 71.92 334 ⇓P P 02 10 10.4 +1.1
baz=72,SNR=6.8
WVT Waverly 72.05 347 eP P 02 10 09.7 -0.2
WVT pmax pmax
comp=Z,41nm,0.9s
WVT Waverly 72.05 347 eP P 02 10 09.7 -0.2
comp=Z,41nm,0.9s
131A Roby 72.07 336 ⇑P P 02 10 10.7 +0.5
baz=72,SNR=5.4
VWCC Virginia Weste 72.08 354 eP P 02 10 09.3 -0.7
Z33A Whitaker Ranch 72.10 337 ⇑P P 02 10 10.7 +0.5
baz=72,SNR=11
130A Snyder 72.19 335 ⇓P P 02 10 11.4 +0.5
baz=72,SNR=8.7
228A UT Block 9, Go 72.34 334 ⇑P P 02 10 12.6 +0.8
baz=73,SNR=12
Z32A Haskell 72.34 337 ⇑P P 02 10 12.4 +0.7
baz=73,SNR=16
JSRW J. Sargeant Re 72.37 356 eP P 02 10 11.4 -0.4
Y34A Reagan Ranch, 72.40 338 ⇓P P 02 10 12.8 +0.7
baz=73,SNR=8.4
MAW Mawson 72.48 164 P P 02 10 11.6 -0.5
MAW pmax pmax
comp=Z,34nm,0.8s
MAW Mawson 72.48 164 P P 02 10 11.6 -0.5
comp=Z,34nm,0.8s,baz=218,slow=9.4,SNR=4.6
129A Stewart Farms, 72.54 334 ⇑P P 02 10 13.4 +0.4
baz=73,SNR=5.6
Z31A Sharp Cattle R 72.58 336 ⇑P P 02 10 13.9 +0.8
baz=73,SNR=18
Y33A Hilltop Ranch, 72.72 338 ⇓P P 02 10 14.4 +0.4
baz=73,SNR=7.6
128A Castleberry Fa 72.75 334 ⇑P P 02 10 15.0 +0.8
baz=73,SNR=18
Z30A Sanderson Ranc 72.88 335 ⇓P P 02 10 15.5 +0.5
baz=73,SNR=15
Y32A R-V Farms, Ver 72.97 337 ⇑P P 02 10 16.0 +0.6
baz=73,SNR=11
X34A Smith Ranch, M 73.02 338 ⇓P P 02 10 16.3 +0.6
baz=73
MNTX Cornudas Mount 73.03 331 eP P 02 10 15.0 -0.8
comp=Z,8.7nm,0.8s
Z29A Hungry Hill Ra 73.05 335 ⇓P P 02 10 16.6 +0.5
baz=73,SNR=11
127A Arkansas Junct 73.12 333 ⇑P P 02 10 17.6 +1.1
baz=74,SNR=6.4
X33A Lawton 73.17 338 ⇓P P 02 10 18.4 +1.7
baz=74
PBMO Poplar Bluff 73.19 345 eP P 02 10 16.4 -0.2
comp=Z,21nm,0.8s
Y31A Rekieta Farm, 73.20 336 ⇑P P 02 10 17.6 +0.7
baz=74,SNR=14
X32A Elmer 73.31 337 ⇑P P 02 10 17.8 +0.4
baz=74,SNR=5.7
Z28A Tucker Farm, M 73.32 334 ⇑P P 02 10 18.5 +0.8
baz=74
Y30A Stafford Cattl 73.34 336 ⇑P P 02 10 18.0 +0.4
baz=74
Y29A Porterfield Fa 73.59 335 ⇓P P 02 10 20.0 +0.9
baz=74,SNR=17
W34A Bridge Creek, 73.60 339 eP P 02 10 18.2 -0.9
comp=Z,129nm,1.9s
W34A Bridge Creek, 73.60 339 ⇓P P 02 10 19.6 +0.5
baz=74,SNR=5.2
TUL1 Tulsa 73.66 341 eP P 02 10 19.1 -0.4
comp=Z,24nm,0.8s
TUL1 Tulsa 73.66 341 ⇓P P 02 10 20.3 +0.9
baz=74,SNR=12
X31A McDonald Ranch 73.72 337 ⇑P P 02 10 20.5 +0.6
baz=74,SNR=15
W33A Caddo, Fort Co 73.73 338 ⇓P P 02 10 21.2 +1.3
baz=74,SNR=19
USIN University of 73.81 348 eP P 02 10 20.0 -0.3
Y28A McKinney Farm, 73.83 335 ⇓P P 02 10 21.8 +1.2
baz=74,SNR=5.8
WCI Wyandotte Cave 73.84 349 eP P 02 10 18.5 -1.9
WCI pmax pmax
comp=Z,114nm,2.2s
WCI Wyandotte Cave 73.84 349 eP P 02 10 18.5 -1.9
comp=Z,114nm,2.2s
X30A Coker Ranch, T 73.85 336 ⇑P P 02 10 22.0 +1.4
baz=74
SIUC Southern Illin 73.85 346 eP P 02 10 19.7 -0.8
comp=Z,21nm,0.7s
Z26A Caprock 73.89 333 ⇑P P 02 10 21.8 +0.9
baz=74,SNR=49
W32A Sentinel 73.94 338 ⇓P P 02 10 21.9 +0.8
baz=74,SNR=30
SDMD Soldier's Deli 74.03 357 eP P 02 10 21.8 +0.3
comp=Z,17nm,0.8s
MSTX Muleshoe 74.07 334 eP P 02 10 21.9 -0.1
comp=Z,30nm,0.8s
MSTX Muleshoe 74.07 334 ⇓P P 02 10 22.6 +0.6
baz=74,SNR=17
V34A Guthrie 74.08 339 eP P 02 10 21.2 -0.7
comp=Z,27nm,0.9s
V34A Guthrie 74.08 339 ⇓P P 02 10 22.4 +0.6
baz=74,SNR=8.0
X29A Tulia 74.13 335 ⇓P P 02 10 23.0 +0.6
baz=74,SNR=10
Y27A Causey 74.14 334 ⇓P P 02 10 22.7 +0.3
baz=74,SNR=6.3
Z25A Roswell 74.17 332 ⇓P P 02 10 23.5 +0.9
baz=74,SNR=7.9
W31A Holland Ranch, 74.22 337 ⇑P P 02 10 24.0 +1.2
baz=75,SNR=5.5
V33A Lossen Ranch, 74.29 339 ⇓P P 02 10 23.7 +0.6
baz=75,SNR=14
X28A Dimmitt 74.37 335 ⇓P P 02 10 24.1 +0.4
baz=75
319A Douglas 74.37 328 ⇓P P 02 10 25.9 +2.0
baz=75,SNR=5.4
Y26A Elida 74.41 333 ⇑P P 02 10 25.8 +1.8
baz=75
V32A Arapaho 74.43 338 ⇓P P 02 10 24.8 +0.8
baz=75
Z24A Sheeppen Canyo 74.46 332 ⇑P P 02 10 25.8 +1.3
baz=75,SNR=20
AMTX Amarillo 74.52 336 eP P 02 10 25.2 +0.6
comp=Z,47nm,1.1s
AMTX Amarillo 74.52 336 ⇑P P 02 10 25.5 +0.9
baz=75
MVL Millersville 74.59 357 eP P 02 10 26.0 +1.2
U34A Anderson Ranch 74.64 339 eP P 02 10 25.7 +0.5
comp=Z,38nm,1.1s
U34A Anderson Ranch 74.64 339 ⇓P P 02 10 26.4 +1.2
baz=75
W29A Amraillo 74.72 336 ⇓P P 02 10 26.8 +1.0
baz=75,SNR=8.0
V31A Spring Creek L 74.73 337 ⇑P P 02 10 27.1 +1.4
baz=75,SNR=7.3
121A Cookes Peak, D 74.73 330 eP P 02 10 27.2 +1.2
comp=Z,16nm,0.8s
121A Cookes Peak, D 74.73 330 ⇑P P 02 10 27.8 +1.8
baz=75,SNR=14
Y25A Mesa, Roswell 74.73 333 ⇓P P 02 10 26.6 +0.7
baz=75,SNR=6.3
BLO Bloomington 74.79 349 eP P 02 10 25.5 -0.5
BLO pmax pmax
comp=Z,21nm,1.1s
BLO Bloomington 74.79 349 eP P 02 10 25.5 -0.5
comp=Z,21nm,1.1s
X27A F and S Farms, 74.80 334 ⇓P P 02 10 27.7 +1.4
baz=75
U33A Lingo Farm, Me 74.81 339 ⇓P P 02 10 26.8 +0.6
baz=75
SUR Sutherland 74.86 119 P P 02 10 27.1 +0.1
comp=Z,17nm,0.9s,baz=239,slow=5.1,SNR=7.4
SUR Sutherland 74.86 119 eP P 02 10 26.6 -0.4
comp=Z,38nm,0.9s
SLM Saint Louis 74.94 346 eP P 02 10 26.4 -0.4
SLM pmax pmax
comp=Z,27nm,0.8s
SLM Saint Louis 74.94 346 eP P 02 10 26.4 -0.4
comp=Z,27nm,0.8s
X26A CR and CF Fran 74.97 334 ⇓P P 02 10 28.3 +1.0
baz=75,SNR=18
Y24A Capitan 75.02 332 ⇑P P 02 10 28.6 +0.9
baz=75,SNR=13
U32A Winter Ranch, 75.03 338 ⇓P P 02 10 28.3 +0.8
baz=75
Z22A Elephant Butte 75.03 331 ⇓P P 02 10 29.3 +1.6
baz=75,SNR=12
W27A Bowe Ranch, En 75.16 335 ⇓P P 02 10 29.1 +0.8
baz=76,SNR=19
Y23A Lovelace Mesa, 75.26 332 ⇑P P 02 10 30.7 +1.6
baz=76,SNR=10
SSPA Standing Stone 75.30 356 eP P 02 10 29.4 +0.5
comp=Z,18nm,1.0s
ACSO Alum Creek Sta 75.35 352 eP P 02 10 28.7 -0.4
comp=Z,52nm,0.8s
W26A Owens Ranch, T 75.43 334 ⇓P P 02 10 31.1 +1.2
baz=76,SNR=5.5
T33A Patterson Ranc 75.45 339 ⇓P P 02 10 30.9 +1.0
baz=76,SNR=7.8
V28A Channing 75.49 336 ⇓P P 02 10 31.1 +0.9
baz=76,SNR=14
X24A Lazy VL Ranch, 75.58 333 ⇑P P 02 10 32.1 +1.2
baz=76
U30A WK&E Inc. Balk 75.68 337 ⇑P P 02 10 32.3 +1.0
baz=76,SNR=7.6
V27A Dan Oppiter Fa 75.71 335 ⇑P P 02 10 32.7 +1.2
baz=76,SNR=9.3
T32A Huddler Ranch, 75.74 339 ⇑P P 02 10 32.6 +1.0
baz=76
W25A X Bar L Ranch, 75.80 334 ⇑P P 02 10 32.8 +0.8
baz=76,SNR=12
LPM Los Pinos Moun 75.82 332 eP P 02 10 33.2 +0.9
TUC Tucson 75.83 327 eP P 02 10 33.1 +0.9
TUC pmax pmax
comp=Z,17nm,1.2s
TUC Tucson 75.83 327 eP P 02 10 33.1 +0.9
comp=Z,16nm,1.2s
YLE Yale 75.83 360 eP P 02 10 33.3 +1.5
X23A Hourglass Bar 75.89 332 ⇑P P 02 10 34.7 +2.0
baz=76,SNR=6.2
T31A Randall Ranch, 75.90 338 ⇓P P 02 10 33.2 +0.8
baz=76
RAR Rarotonga 75.91 254 LR LR 02 37 04.9
comp=Z,480nm,20.9s,baz=82,slow=30
DBIC Dimbokro 75.95 71 eP P 02 10 33.1 -0.2
DBIC pmax pmax
comp=Z,21nm,0.8s
DBIC Dimbokro 75.95 71 P P 02 10 32.5 -0.7
comp=Z,17nm,0.7s,baz=207,slow=6.9,SNR=25
DBIC Dimbokro 75.95 71 eP P 02 10 33.1 -0.2
comp=Z,21nm,0.8s
V26A Tequesquite Ra 76.08 334 ⇑P P 02 10 34.3 +0.7
baz=76,SNR=8.1
LAZ Ladron 76.10 331 eP P 02 10 34.9 +1.0
comp=Z,31nm,1.7s
W24A Lazy 6 Ranch, 76.15 333 ⇑P P 02 10 35.3 +1.2
baz=76,SNR=14
S32A Newby Ranch, P 76.23 339 ⇑P P 02 10 35.2 +0.9
baz=77,SNR=5.4
U27A Thompson Grove 76.30 335 ⇓P P 02 10 35.9 +1.1
baz=77,SNR=11
ANMO Albuquerque 76.31 332 eP P 02 10 36.1 +1.1
ANMO pmax pmax
comp=Z,21nm,1.0s
ANMO Albuquerque 76.31 332 eP P 02 10 36.1 +1.1
comp=Z,21nm,1.0s
S31A Mullinville 76.32 338 ⇓P P 02 10 35.8 +0.9
baz=77
W23A Werner Place, 76.38 332 ⇑P P 02 10 37.2 +1.7
baz=77,SNR=10
V25A Rancho No Teng 76.41 334 ⇓P P 02 10 36.6 +1.1
baz=77,SNR=16
T29A Hugoton 76.46 337 ⇑P P 02 10 36.4 +0.7
baz=77
R33A Olander Ranch, 76.52 340 ⇑P P 02 10 36.6 +0.7
baz=77
V24A Rampart Ranch, 76.55 333 ⇓P P 02 10 37.7 +1.3
baz=77,SNR=9.8
U26A Atchley Ranch, 76.60 335 ⇓P P 02 10 37.2 +0.5
baz=77,SNR=7.1
S30A Montezuma 76.64 338 ⇓P P 02 10 38.1 +1.5
baz=77
T28A Walsh 76.70 336 ⇓P P 02 10 37.9 +0.9
baz=77,SNR=26
S29A Ulysses 76.83 337 ⇑P P 02 10 38.9 +1.2
baz=77,SNR=9.2
R32A Long Quarter, 76.83 339 ⇓P P 02 10 38.4 +0.8
baz=77,SNR=8.5
U25A Circle Dot Ran 76.84 334 ⇓P P 02 10 39.2 +1.2
baz=77,SNR=15
T27A Campo 76.85 336 ⇓P P 02 10 38.8 +0.9
baz=77,SNR=18
KSU1 Kansas State U 76.88 341 eP P 02 10 38.0 +0.1
comp=Z,16nm,0.8s
KSU1 Kansas State U 76.88 341 ⇑P P 02 10 38.3 +0.4
baz=77,SNR=5.3
V23A Ortiz Mt. (NFS 76.91 333 ⇑P P 02 10 40.1 +1.6
baz=77,SNR=6.0
R31A Burdett 76.95 339 ⇑P P 02 10 39.0 +0.7
baz=77,SNR=8.5
HRV Adam Dziewonsk 77.03 1 eP P 02 10 38.3 -0.3
HRV pmax pmax
comp=Z,173nm,1.7s
HRV Adam Dziewonsk 77.03 1 eP P 02 10 38.2 -0.3
comp=Z,173nm,1.7s
S28A Manter 77.05 337 ⇑P P 02 10 39.9 +0.9
baz=77,SNR=24
Q33A Connelly Farm, 77.11 340 ⇓P P 02 10 39.8 +0.6
baz=78,SNR=5.7
U24A Moreno Valley 77.16 334 ⇑P P 02 10 42.0 +2.0
baz=78
R30A Dighton 77.17 338 ⇓P P 02 10 40.6 +1.0
baz=78,SNR=5.4
T26A Comanche Natio 77.25 335 ⇓P P 02 10 41.5 +1.2
baz=78,SNR=11
Q32A Meitler Ranch, 77.31 340 ⇑P P 02 10 41.1 +0.7
baz=78,SNR=8.1
V22A San Miguel Ran 77.34 332 ⇑P P 02 10 43.0 +2.1
baz=78,SNR=19
X18A Snowflake 77.36 329 ⇑P P 02 10 42.7 +1.8
baz=78,SNR=9.2
U23A El Rito 77.43 333 ⇑P P 02 10 43.3 +2.0
baz=78,SNR=13
AAM Ann Arbor 77.47 352 eP P 02 10 40.2 -0.9
AAM pmax pmax
comp=Z,36nm,1.1s
AAM Ann Arbor 77.47 352 eP P 02 10 40.2 -0.9
comp=Z,36nm,1.1s
P33A Williams Farm, 77.49 340 ⇓P P 02 10 41.8 +0.5
baz=78
T25A Trinidad 77.50 334 ⇑P P 02 10 43.4 +1.7
baz=78,SNR=28
R29A Marienthal 77.57 337 ⇑P P 02 10 42.7 +0.8
baz=78,SNR=5.3
Q31A Ellis 77.57 339 ⇑P P 02 10 42.7 +0.9
baz=78,SNR=8.1
S26A Kim 77.61 335 ⇑P P 02 10 43.7 +1.5
baz=78,SNR=31
R28A Tribune 77.71 337 ⇑P P 02 10 43.4 +0.7
baz=78,SNR=17
U22A Llaves 77.72 332 ⇓P P 02 10 45.1 +2.2
baz=78,SNR=11
W18A Petrified Fore 77.78 330 eP P 02 10 44.1 +0.9
comp=Z,23nm,0.9s
W18A Petrified Fore 77.78 330 ⇓P P 02 10 44.2 +1.0
baz=78
T24B San Luis 77.78 334 ⇓P P 02 10 45.2 +1.9
baz=78,SNR=9.3
Q30A Quinter 77.79 338 ⇑P P 02 10 44.3 +1.2
baz=78,SNR=7.3
X16A Lo Mia Camp, P 77.91 328 ⇑P P 02 10 45.4 +1.4
baz=78,SNR=19
P32A Huiting Farm, 77.91 340 ⇓P P 02 10 44.6 +0.9
baz=78,SNR=6.6
Q29A Oakley 77.94 338 ⇓P P 02 10 44.9 +1.0
baz=78,SNR=8.1
S25A Robets Cordova 77.98 335 ⇓P P 02 10 45.2 +0.9
baz=78
R27A Eads 77.98 336 ⇑P P 02 10 45.1 +0.9
baz=78,SNR=20
T23A Casias Ranch, 78.00 333 ⇓P P 02 10 46.0 +1.4
baz=78,SNR=11
P31A Stockton 78.04 339 ⇓P P 02 10 45.5 +1.1
baz=78,SNR=7.2
Y14A Wickenburg 78.19 327 ⇓P P 02 10 47.7 +2.2
baz=78
R26A Arlington 78.21 336 ⇑P P 02 10 46.9 +1.4
baz=79,SNR=11
S24A Houchin Ranch, 78.23 334 ⇓P P 02 10 48.0 +2.1
baz=79,SNR=31
P30A Selden 78.32 339 ⇓P P 02 10 47.0 +1.0
baz=79
R25A Fountain Ranch 78.36 335 ⇓P P 02 10 47.3 +1.0
baz=79,SNR=6.6
Q28A Sharon Springs 78.37 337 ⇑P P 02 10 47.5 +1.2
baz=79
O32A Brockman Farm, 78.42 340 ⇓P P 02 10 47.2 +0.8
baz=79
SDCO Great Sand Dun 78.43 334 eP P 02 10 47.2 +0.3
comp=Z,7.2nm,0.8s
NCB Newcomb 78.50 359 eP P 02 10 47.0 +0.2
comp=Z,31nm,0.5s
MDV Middlebury 78.51 360 eP P 02 10 47.0 +0.2
S23A Nye Farm, Mont 78.58 334 ⇓P P 02 10 50.0 +2.3
baz=79
KSCO Kaye Shedlock' 78.58 337 eP P 02 10 48.4 +0.8
comp=Z,71nm,1.4s
KSCO Kaye Shedlock' 78.58 337 ⇓P P 02 10 48.8 +1.3
baz=79,SNR=6.6
P29A Atwood 78.58 338 ⇑P P 02 10 48.7 +1.3
baz=79,SNR=12
O31A Woolen Ranch, 78.61 339 ⇓P P 02 10 48.8 +1.2
baz=79,SNR=5.6
R24A Sanders Place, 78.72 334 ⇑P P 02 10 50.3 +1.9
baz=79,SNR=28
Y12C Blythe 78.73 325 ⇓P P 02 10 49.5 +1.1
baz=79
LBNH Lisbon 78.75 1 eP P 02 10 48.7 +0.5
LBNH pmax pmax
comp=Z,95nm,1.4s
LBNH Lisbon 78.75 1 eP P 02 10 48.7 +0.5
comp=Z,95nm,1.4s
Q26A Hugo 78.80 336 ⇑P P 02 10 49.8 +1.1
baz=79,SNR=5.2
WUAZ Wupatki 78.81 329 eP P 02 10 50.1 +1.2
comp=Z,13nm,0.8s
P28A Saint Francis 78.81 337 ⇑P P 02 10 50.2 +1.4
baz=79,SNR=7.1
O30A MW Ranch, Wils 78.85 339 ⇓P P 02 10 49.8 +0.9
baz=79
S22A 4UR Ranch, Cre 78.92 333 ⇓P P 02 10 51.1 +1.4
baz=79,SNR=14
R23A Moffat 78.94 334 ⇓P P 02 10 51.0 +1.2
baz=79,SNR=9.2
Q25A Bedland, Calha 79.03 335 ⇑P P 02 10 51.4 +1.2
baz=79,SNR=5.9
P27A Ficken Ranch, 79.06 337 ⇓P P 02 10 51.4 +1.3
baz=79
JFWS Jewell Farm 79.08 347 eP P 02 10 48.5 -1.5
JFWS pmax pmax
comp=Z,26nm,0.9s
JFWS Jewell Farm 79.08 347 eP P 02 10 48.5 -1.5
comp=Z,26nm,0.9s
MVCO Mesa Verde 79.09 332 eP P 02 10 50.6 +0.1
comp=Z,23nm,1.0s
MVCO Mesa Verde 79.09 332 ⇑P P 02 10 51.7 +1.2
baz=79,SNR=12
BC3 Big Chuckawall 79.09 325 ⇓P P 02 10 52.8 +2.4
baz=79
CASY Casey 79.13 181 eP P 02 10 50.2 +0.1
comp=Z,25nm,0.8s
LONY Lake Ozonia 79.15 359 eP P 02 10 50.0 -0.4
comp=Z,33nm,1.1s
P26A Davis Ranch, A 79.31 336 ⇑P P 02 10 52.7 +1.2
baz=80,SNR=6.9
O28A Krutsinger Ran 79.32 338 ⇑P P 02 10 53.0 +1.5
baz=80,SNR=5.5
Q24A Divide 79.39 335 ⇓P P 02 10 53.5 +1.3
baz=80,SNR=16
BGNE Belgrade 79.45 341 eP P 02 10 51.8 -0.3
comp=Z,62nm,1.3s
BGNE Belgrade 79.45 341 ⇑P P 02 10 53.8 +1.7
baz=80
TSUM Tsumeb 79.47 106 P P 02 10 53.4 +0.4
comp=Z,6.1nm,0.8s,baz=249,slow=4.3,SNR=11
TSUM Tsumeb 79.47 106 eP P 02 10 53.1 0.0
comp=Z,40nm,1.3s
P25A Willow Gulch B 79.55 336 ⇓P P 02 10 54.3 +1.5
baz=80,SNR=9.7
W13A Hualapai Mount 79.56 327 ⇓P P 02 10 55.4 +2.2
baz=80
O27A Beecher Island 79.60 337 ⇑P P 02 10 54.9 +1.8
baz=80,SNR=9.3
M31A Lambtecht Ranc 79.62 340 ⇓P P 02 10 54.2 +1.2
baz=80,SNR=7.9
N28A Pribbeno Ranch 79.76 338 ⇑P P 02 10 55.2 +1.3
baz=80
PV01 Paradox Valley 79.92 332 eP P 02 10 55.6 +0.6
comp=Z,5µm,1.7s
U15A North Rim 79.97 329 ⇑P P 02 10 57.1 +1.7
baz=80,SNR=19
P23A Jefferson 80.00 334 ⇓P P 02 10 57.2 +1.6
baz=80
M30A Dale-Ortello V 80.05 340 ⇑P P 02 10 56.4 +1.0
baz=80
LDFC Landfair 80.10 326 eP P 02 10 56.9 +0.9
comp=Z,25nm,1.1s
GMRC Granite Mounta 80.11 325 ⇓P P 02 10 57.2 +1.2
baz=80
BOSA Boshof 80.12 118 P P 02 10 56.4 0.0
BOSA pmax pmax
comp=Z,35nm,0.8s
BOSA Boshof 80.12 118 P P 02 10 56.4 0.0
comp=Z,35nm,0.8s,baz=225,slow=4.1,SNR=49
BOSA Boshof 80.12 118 eP P 02 10 56.2 -0.2
comp=Z,50nm,0.8s
N27A Anderson Farm, 80.18 337 ⇓P P 02 10 57.3 +1.1
baz=80
M29A Burnside Ranch 80.20 339 ⇑P P 02 10 57.2 +1.0
baz=81
ISCO Idaho Springs 80.30 335 ⇓P P 02 10 58.8 +1.6
baz=81,SNR=13
L31A Butterfield Fa 80.35 341 ⇑P P 02 10 57.8 +0.8
baz=81,SNR=10
M28A Bar X Bar Ranc 80.36 338 ⇓P P 02 10 58.9 +1.8
baz=81
L30A Spencer Herefo 80.39 340 ⇓P P 02 10 58.2 +1.0
baz=81,SNR=6.9
O24A Longmont 80.40 335 ⇑P P 02 10 58.7 +1.2
baz=81
HEC Hector,Ludlow 80.47 325 ⇑P P 02 11 00.0 +2.2
baz=81
P22A Eagle 80.52 334 ⇓P P 02 10 59.7 +1.5
baz=81,SNR=9.6
L29A Maesberg Ranch 80.71 339 ⇓P P 02 11 00.6 +1.6
baz=81,SNR=7.9
O23A Lake Granby, G 80.77 335 ⇓P P 02 11 01.3 +1.6
baz=81,SNR=20
TUQ Turquoise Moun 80.78 325 ⇑P P 02 11 01.8 +2.3
baz=81
M27A Reverse DX Ran 80.79 338 ⇓P P 02 11 00.7 +1.2
baz=81
O22A Kremmling 80.95 334 ⇑P P 02 11 01.7 +1.1
baz=81,SNR=16
L28A Connealy Angus 80.96 339 ⇑P P 02 11 02.0 +1.6

baz=81
N24A Carr 80.97 336 ⇑P P 02 11 01.7 +1.3
baz=81,SNR=5.2
K30A Basset 81.03 340 ⇓P P 02 11 01.7 +1.1
baz=81,SNR=13
ECSD EROS Data Cent 81.23 343 eP P 02 11 01.6 0.0
comp=Z,40nm,0.8s
ECSD EROS Data Cent 81.23 343 ⇓P P 02 11 02.1 +0.5
baz=82,SNR=28
L27A T5 Ranch, Ells 81.27 338 ⇓P P 02 11 03.2 +1.2
baz=82,SNR=5.4
SHPR Sheep Range 81.30 327 eP P 02 11 03.7 +1.3
comp=Z,18nm,1.1s
K29A Lazy Trails An 81.31 340 ⇓P P 02 11 03.2 +1.1
baz=82,SNR=6.3
EDW2 Edwards Air Fo 81.31 324 ⇑P P 02 11 04.1 +1.8
baz=82
CCUT Cedar City 81.38 328 eP P 02 11 04.2 +1.4
comp=Z,28nm,1.1s
N23A Red Feather La 81.39 335 ⇓P P 02 11 04.3 +1.5
baz=82,SNR=7.2
N22A Wattenberg Ran 81.48 335 ⇓P P 02 11 05.0 +1.6
baz=82,SNR=12
M24A Cheyenne 81.52 336 ⇓P P 02 11 04.6 +1.2
baz=82,SNR=7.2
SRU San Rafael 81.53 331 eP P 02 11 04.0 +0.4
SRU pmax pmax
comp=Z,11nm,0.7s
SRU San Rafael 81.53 331 eP P 02 11 04.0 +0.4
comp=Z,11nm,0.7s
O20A White River Ci 81.54 333 eP P 02 11 04.2 +0.6
comp=Z,21nm,1.1s
O20A White River Ci 81.54 333 ⇓P P 02 11 04.8 +1.2
baz=82,SNR=8.1
K28A Ten Mile Ranch 81.56 339 ⇓P P 02 11 05.0 +1.5
baz=82,SNR=10
J30A Dallas 81.60 341 ⇓P P 02 11 04.1 +0.5
baz=82,SNR=8.2
ARUT Antelope Range 81.61 328 eP P 02 11 05.3 +1.3
ARUT Antelope Range 81.61 328 eP P 02 11 05.3 +1.3
comp=Z,241nm,0.9s
MVU Marysvale 81.70 330 eP P 02 11 05.4 +0.9
comp=Z,9.0nm,0.9s
SPMN St. Paul 81.80 346 eP P 02 11 03.8 -0.7
comp=Z,15nm,0.8s
SPMN St. Paul 81.80 346 ⇑P P 02 11 05.5 +1.0
baz=82,SNR=6.3
M23A Laramie 81.82 336 ⇓P P 02 11 07.2 +2.1
baz=82
L25A Engebretsen Ra 81.86 337 ⇓P P 02 11 06.8 +1.7
baz=82
J29A Okreek 81.90 340 ⇓P P 02 11 06.2 +1.0
baz=82,SNR=19
M22A Cedar Creek Ra 82.06 335 ⇓P P 02 11 08.6 +2.2
baz=82
L24A Wheatland 82.07 336 ⇑P P 02 11 08.1 +1.8
baz=82
K26A Motz Farm, Whi 82.10 338 ⇓P P 02 11 07.1 +0.7
baz=82
I30A Oacoma 82.12 341 ⇓P P 02 11 06.7 +0.4
baz=82,SNR=12
N20A Spence Gulch, 82.16 334 ⇑P P 02 11 08.1 +1.3
baz=82,SNR=6.6
ISA Isabella 82.17 324 eP P 02 11 08.2 +1.4
ISA pmax pmax
comp=Z,11nm,1.0s
ISA Isabella 82.17 324 eP P 02 11 08.2 +1.4
comp=Z,11nm,1.0s
ISA Isabella 82.17 324 ⇑P P 02 11 09.3 +2.4
baz=82
J27A Elkhorn Farm, 82.25 339 ⇑P P 02 11 07.8 +0.7
baz=83,SNR=12
L23A Garrett 82.39 336 ⇑P P 02 11 08.6 +0.6
baz=83,SNR=6.2
LBTB Lobatse 82.40 115 P P 02 11 08.5 -0.1
LBTB pmax pmax
comp=Z,21nm,0.7s
LBTB Lobatse 82.40 115 P P 02 11 08.5 -0.1
comp=Z,21nm,0.7s,baz=257,slow=5.5,SNR=26
LBTB Lobatse 82.40 115 eP P 02 11 08.3 -0.3
comp=Z,28nm,0.8s
I29A Vivian Onida 82.46 340 ⇑P P 02 11 09.1 +0.9
baz=83
BRSD Miller 82.49 341 eP P 02 11 08.3 0.0
comp=Z,30nm,0.8s
BRSD Miller 82.49 341 ⇓P P 02 11 09.1 +0.9
baz=83,SNR=6.6
L22A Ellis Ranch, M 82.56 335 ⇑P P 02 11 10.2 +1.3
baz=83,SNR=5.2
VES Vestal, Richgr 82.61 324 ⇓P P 02 11 10.4 +1.3
baz=83
J26A Sides Ranch, S 82.62 338 ⇓P P 02 11 10.2 +1.2
baz=83,SNR=9.5
K24A Anderson Ranch 82.64 337 ⇓P P 02 11 10.4 +1.2
baz=83
URZ Urewera 82.68 228 P P 02 11 10.7 +1.0
comp=Z,8.5nm,0.7s,baz=169,slow=7.0,SNR=5.0
I28A Midland 82.69 340 ⇓P P 02 11 10.2 +0.9
baz=83,SNR=11
GRAC Grapevine Rang 82.72 325 ⇓P P 02 11 12.1 +2.4
baz=83
J25A Sunshine Ranch 82.92 338 ⇓P P 02 11 11.3 +0.7
baz=83,SNR=8.8
K23A Bowen Ranch, D 82.94 336 ⇑P P 02 11 11.8 +1.1
baz=83,SNR=7.3
H29A Onida 83.00 341 ⇑P P 02 11 11.9 +1.0
baz=83,SNR=9.9
I27A Quinn 83.01 339 ⇑P P 02 11 11.6 +0.7
baz=83
R11A Troy Canyon, C 83.02 327 eP P 02 11 12.3 +0.9
comp=Z,15nm,1.0s
R11A Troy Canyon, C 83.02 327 ⇑P P 02 11 13.1 +1.8
baz=83
J24A Dixon Ranch, L 83.14 337 ⇓P P 02 11 12.8 +1.1
baz=84,SNR=8.3
K22A Casper 83.15 336 eP P 02 11 12.1 +0.3
comp=Z,42nm,1.3s
K22A Casper 83.15 336 ⇓P P 02 11 12.8 +0.9
baz=84,SNR=12
JLU Jordanelle 83.17 331 eP P 02 11 12.7 +0.5
comp=Z,14nm,1.0s
G30A Faulkton 83.18 341 ⇑P P 02 11 12.6 +0.9
baz=84,SNR=9.5
H28A Mission Ridge 83.27 340 ⇓P P 02 11 13.3 +1.0
baz=84,SNR=10
DUG Dugway 83.38 330 eP P 02 11 13.6 +0.5
DUG pmax pmax
comp=Z,25nm,1.1s
DUG Dugway 83.38 330 eP P 02 11 13.6 +0.5
comp=Z,25nm,1.1s
DUG Dugway 83.38 330 ⇓P P 02 11 14.5 +1.4
baz=84,SNR=20
K21A Alcova 83.38 335 ⇓P P 02 11 13.9 +0.7
baz=84,SNR=17
G29A Hoven 83.44 341 ⇓P P 02 11 13.5 +0.4
baz=84,SNR=5.8
I25A Rochford 83.47 338 ⇓P P 02 11 14.5 +1.0
baz=84,SNR=12
H27A Howes 83.53 339 ⇓P P 02 11 14.2 +0.6
baz=84,SNR=13
TPH Tonopah 83.53 326 eP P 02 11 14.7 +0.7
TPH pmax pmax
comp=Z,21nm,1.1s
TPH Tonopah 83.53 326 eP P 02 11 14.7 +0.7
comp=Z,21nm,1.1s
TCUT Toone Canyon 83.60 332 eP P 02 11 15.3 +0.9
comp=Z,38nm,1.2s
I24A Kuemmerle Ranc 83.60 337 ⇑P P 02 11 14.6 +0.5
baz=84,SNR=5.9
G28A Parade 83.61 340 ⇓P P 02 11 14.8 +0.8
baz=84,SNR=17
RSSD Black Hills 83.65 338 eP P 02 11 14.4 -0.1
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 83.65 338 eP P 02 11 14.4 -0.1
comp=Z,8.3nm,0.8s
F30A Leola 83.80 342 ⇓P P 02 11 15.7 +0.7
baz=84,SNR=7.7
J22A Midwest 83.81 336 ⇓P P 02 11 15.8 +0.6
baz=84,SNR=6.2
H25A Fruitdale 83.97 338 ⇑P P 02 11 16.7 +0.8
baz=84
F29A Eureka 84.01 341 ⇓P P 02 11 16.6 +0.6
baz=84,SNR=8.8
J21A Lysite 84.08 335 ⇓P P 02 11 17.5 +0.8
baz=84,SNR=6.3
HWUT Hardware Ranch 84.08 332 eP P 02 11 16.8 +0.1
comp=Z,30nm,1.0s
BGU Big Grassy Mou 84.08 330 eP P 02 11 16.7 0.0
comp=Z,18nm,1.7s
EYMN Ely 84.16 347 eP P 02 11 15.5 -1.3
comp=Z,45nm,1.4s
G27A Dupree 84.17 340 ⇓P P 02 11 17.4 +0.5
baz=84,SNR=8.2
I22A 9 Mile Ranch, 84.23 336 ⇑P P 02 11 17.8 +0.4
baz=85,SNR=9.3
G26A Maurine 84.28 339 ⇓P P 02 11 18.0 +0.5
baz=85,SNR=11
F28A McLaughlin 84.28 341 ⇓P P 02 11 18.2 +0.7
baz=85,SNR=8.1
J20A Shoshoni 84.30 335 ⇓P P 02 11 19.2 +1.5
baz=85,SNR=18
NVAR Mina Array Bea 84.31 326 P P 02 11 19.2 +1.2
comp=Z,5.6nm,0.8s,baz=156,slow=6.1,SNR=32
NVAR PKKPbc PKKPbc 02 29 31.6 +0.1
comp=Z,0.6nm,0.7s,baz=246,slow=2.6,SNR=3.6
BW06 Boulder Array 84.32 334 eP P 02 11 17.2 -0.7
comp=Z,5.9nm,0.9s
PDAR Pinedale Array 84.32 334 P P 02 11 17.9 -0.1
comp=Z,3.2nm,0.9s,baz=161,slow=3.9,SNR=18
PDAR PKKPbc PKKPbc 02 29 29.6 -2.2
comp=Z,0.3nm,0.5s,baz=101,slow=2.7,SNR=4.4
H24A Dirks Ranch, A 84.38 338 ⇓P P 02 11 18.3 +0.2
baz=85,SNR=8.9
E30A Jud 84.39 342 ⇓P P 02 11 18.7 +0.8
baz=85,SNR=8.6
G25A Newell 84.43 339 ⇑P P 02 11 18.8 +0.5
baz=85,SNR=14
I21A Big Trails, Te 84.44 336 ⇓P P 02 11 18.6 +0.1
baz=85,SNR=15
J19A Crowheart 84.57 334 ⇓P P 02 11 19.8 +0.7
baz=85,SNR=13
E29A Napoleon 84.64 342 ⇑P P 02 11 19.6 +0.4
baz=85,SNR=6.4
F27A Lemmon 84.65 340 ⇑P P 02 11 19.6 +0.3
baz=85,SNR=16
HVU Hansel Valley 84.70 331 eP P 02 11 19.7 -0.1
HVU pmax pmax
comp=Z,25nm,1.1s
HVU Hansel Valley 84.70 331 eP P 02 11 19.7 -0.1
comp=Z,25nm,1.1s
F26A Lodgepole 84.81 339 ⇓P P 02 11 21.1 +0.9
baz=85
H22A Clearmont 84.81 337 ⇓P P 02 11 20.8 +0.6
baz=85
I20A Worland 84.84 335 ⇓P P 02 11 21.1 +0.7
baz=85,SNR=15
G24A Alzada 84.86 338 ⇓P P 02 11 21.4 +1.0
baz=85
WAKR Walker 84.91 325 eP P 02 11 22.4 +1.4
comp=Z,10nm,1.0s
D30A Buchanan 84.92 342 ⇓P P 02 11 21.2 +0.6
baz=85,SNR=13
RAO Raoul Island 84.96 238 LR LR 02 42 56.8
comp=Z,134nm,18.3s,baz=119,slow=31
TOA0 Torodi Ar. Sit 85.00 70 eP P 02 11 21.5 -0.2
TORD Torodi Ar. Bea 85.00 70 P P 02 11 21.5 -0.2
comp=Z,16nm,0.8s,baz=256,slow=3.9,SNR=65
E27A Carson 85.03 340 ⇑P P 02 11 21.9 +0.7
baz=85
G23A Biddle 85.05 337 ⇓P P 02 11 21.6 +0.2
baz=85,SNR=6.7
H21A Big Horn, Sher 85.07 336 ⇓P P 02 11 21.8 +0.2
baz=85,SNR=5.8
F25A Bowman 85.11 339 ⇑P P 02 11 22.1 +0.4
baz=86
I19A Meeteetse 85.22 335 ⇑P P 02 11 24.0 +1.5
baz=86,SNR=8.0
H20A Greybull 85.27 335 ⇓P P 02 11 23.1 +0.6
baz=86,SNR=25
E26A Carlson Angus 85.32 340 ⇑P P 02 11 22.9 +0.2
baz=86,SNR=5.5
F24A Ekalaka 85.33 338 ⇑P P 02 11 23.1 +0.3
baz=86,SNR=6.8
G22A Birney 85.35 337 ⇓P P 02 11 23.2 +0.2
baz=86,SNR=5.3
AGMN Agassiz Nation 85.37 345 eP P 02 11 21.9 -0.8
comp=Z,14nm,0.8s
AGMN Agassiz Nation 85.37 345 ⇓P P 02 11 23.0 +0.3
baz=86,SNR=8.6
C30A Mose, Pekin 85.41 343 ⇓P P 02 11 23.6 +0.6
baz=86,SNR=18
D28A Regan 85.46 341 ⇓P P 02 11 23.8 +0.5
baz=86,SNR=8.0
F23A Volborg 85.52 338 ⇑P P 02 11 24.2 +0.5
baz=86,SNR=12
E25A Miller Ranch, 85.61 339 ⇑P P 02 11 25.1 +1.0
baz=86,SNR=5.9
D27A Center 85.64 341 ⇑P P 02 11 24.9 +0.6
baz=86
G21A Lodge Grass 85.65 336 ⇓P P 02 11 24.9 +0.5
baz=86,SNR=14
I17A Pilgrim Ck. 85.69 334 ⇓P P 02 11 26.1 +1.3
baz=86,SNR=10.0
H19A Powell 85.77 335 ⇑P P 02 11 27.3 +2.2
baz=86,SNR=13
D26A Manning 85.82 340 ⇓P P 02 11 25.9 +0.8
baz=86
F22A Rosebud 85.84 337 ⇑P P 02 11 25.6 +0.3
baz=86,SNR=10
G20A Bridger 85.99 336 ⇓P P 02 11 26.4 +0.2
baz=86,SNR=18
H18A Shoshone NF, C 86.01 335 ⇓P P 02 11 27.0 +0.6
baz=86,SNR=39
B30A Myrvik Farm, E 86.07 343 ⇓P P 02 11 26.9 +0.6
baz=86,SNR=19
H17A Grant Village 86.10 334 ⇑P P 02 11 28.8 +1.9
baz=86
F21A Absaloka Mine, 86.16 337 ⇓P P 02 11 27.4 +0.5
baz=86,SNR=5.7
D25A Fairfield 86.18 340 ⇑P P 02 11 28.1 +1.2
baz=86,SNR=12
C27A Sayler Ranch, 86.19 341 ⇑P P 02 11 27.8 +0.8
baz=86,SNR=5.6
RLMT Red Lodge 86.26 335 eP P 02 11 27.5 -0.1
comp=Z,7.0nm,0.6s
E22A Miles City 86.33 338 ⇓P P 02 11 28.2 +0.6
baz=87,SNR=7.2
B29A Wagenman Farm, 86.33 343 ⇑P P 02 11 27.9 +0.3
baz=87,SNR=9.8
D24A Glendive 86.44 339 ⇓P P 02 11 29.5 +1.3
baz=87,SNR=6.4
C26A Wahner Farm, P 86.45 341 ⇓P P 02 11 29.0 +0.8
baz=87,SNR=7.8
YMR Madison River 86.47 334 eP P 02 11 29.5 +0.8
comp=Z,20nm,0.8s
A30A Hoffart Farm, 86.52 343 ⇑P P 02 11 29.1 +0.6
baz=87,SNR=8.0
B28A Dugan Ranch, T 86.57 342 ⇓P P 02 11 29.6 +0.9
baz=87,SNR=14
LAO LASA Array 86.64 338 eP P 02 11 28.7 -0.5
comp=Z,27nm,1.1s
A29A Manning Farm, 86.73 343 ⇓P P 02 11 29.7 +0.2
baz=87,SNR=12
D23A Lindsay 86.76 338 ⇓P P 02 11 31.0 +1.2
baz=87
E21A Keefer Ranch, 86.78 337 ⇑P P 02 11 30.4 +0.5
baz=87,SNR=5.8
QLMT Earthquake Lak 86.78 333 eP P 02 11 30.2 +0.1
comp=Z,1.3nm,1.0s
F19A Roth Farm, Mol 86.79 336 ⇓P P 02 11 30.4 +0.4
baz=87,SNR=8.3
C24A Savage 86.84 339 ⇑P P 02 11 31.2 +1.0
baz=87,SNR=28
HLID Hailey 86.85 331 eP P 02 11 31.2 +0.8
comp=Z,20nm,1.2s
HLID Hailey 86.85 331 ⇓P P 02 11 31.8 +1.3
baz=87,SNR=16
A28A Rude Farm, Bot 86.97 342 ⇑P P 02 11 32.0 +1.2
baz=87,SNR=7.1
B26A Jensen Ranch, 87.00 341 ⇓P P 02 11 31.5 +0.7
baz=87
D22A Cohagen 87.03 338 ⇑P P 02 11 31.9 +0.8
baz=87,SNR=6.4
E20A Meyer Farm, Mu 87.09 336 ⇓P P 02 11 32.1 +0.7
baz=87,SNR=23
B25A Knox Farm, Ray 87.15 340 ⇓P P 02 11 32.8 +1.1
baz=88,SNR=13
D21A La Casta Ranch 87.21 337 ⇑P P 02 11 32.7 +0.7
baz=88,SNR=6.6
ULM Lac du Bonnet 87.22 345 eP P 02 11 30.8 -1.0
ULM pmax pmax
comp=Z,15nm,1.0s
ULM Lac du Bonnet 87.22 345 P P 02 11 31.2 -0.6
comp=Z,14nm,0.9s,baz=173,slow=3.4,SNR=15
ULM Lac du Bonnet 87.22 345 eP P 02 11 30.8 -1.0
comp=Z,15nm,1.0s
A27A Ledoux Ranch, 87.26 342 ⇑P P 02 11 33.2 +1.1
baz=88
E19A Rath Farm, Rou 87.27 336 ⇑P P 02 11 32.7 +0.4
baz=88,SNR=16
MCMT McKenzie Canyo 87.31 333 eP P 02 11 33.3 +0.5
comp=Z,16nm,1.3s
C23A Lambert 87.31 339 ⇓P P 02 11 33.1 +0.6
baz=88,SNR=18
A26A Wade Farm, Ken 87.42 341 ⇑P P 02 11 33.6 +0.7
baz=88,SNR=7.9
C22A Vida 87.47 338 ⇑P P 02 11 33.6 +0.4
baz=88,SNR=6.6
D20A Manuel Ranch, 87.60 337 ⇑P P 02 11 34.3 +0.4
baz=88,SNR=16
DGMT Dagmar 87.63 340 eP P 02 11 34.0 0.0
comp=Z,67nm,1.0s
DGMT Dagmar 87.63 340 ⇑P P 02 11 34.8 +0.9
baz=88,SNR=17
A25A Svangstu Ranch 87.75 340 ⇓P P 02 11 35.7 +1.2
baz=88
B23A Brockton 87.85 339 ⇓P P 02 11 35.4 +0.4
baz=88,SNR=6.2
D19A Cripps Ranch, 87.91 336 ⇓P P 02 11 35.9 +0.5
baz=88
C21A Desert Coulee 87.92 338 ⇓P P 02 11 35.8 +0.5
baz=88,SNR=13
A24A Westby 87.98 340 ⇓P P 02 11 36.3 +0.8
baz=88,SNR=5.8
B22A Reddig Ranch S 88.00 338 ⇓P P 02 11 36.3 +0.5
baz=88,SNR=7.5
LRM Limekiln Ridge 88.00 333 eP P 02 11 36.2 +0.2
comp=Z,190nm,1.6s
C20A Veseth Ranch, 88.11 337 ⇑P P 02 11 37.0 +0.7
baz=88,SNR=5.1
N02D Trinity Center 88.40 325 ⇑P P 02 11 39.6 +1.8
baz=89
B21A Ellsworth Farm 88.43 338 ⇑P P 02 11 38.1 +0.4
baz=89
C19A Slack Wire Ran 88.47 336 ⇑P P 02 11 38.5 +0.5
baz=89
HRY Holter Researc 88.54 334 eP P 02 11 39.3 +0.9
comp=Z,24nm,1.5s
A22A Carney Farms, 88.60 339 ⇑P P 02 11 38.8 +0.2
baz=89,SNR=12
M04C Macdoel 88.62 326 ⇑P P 02 11 40.6 +1.7
baz=89
B20A Solberg Farm, 88.75 337 ⇓P P 02 11 39.6 +0.3
baz=89
M02C Callahan 88.80 325 ⇓P P 02 11 40.8 +1.1
baz=89
A21A Bergtoll Ranch 88.90 338 ⇑P P 02 11 40.6 +0.7
baz=89
EGMT Eagleton 88.95 336 ⇑P P 02 11 40.4 +0.1
baz=89
YBH Yreka Blue Hor 88.99 325 P P 02 11 40.6 0.0
YBH pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 88.99 325 P P 02 11 40.6 0.0
comp=Z,5.8nm,0.9s,baz=111,slow=3.6,SNR=10
B19A Brinkman Farms 89.06 337 ⇑P P 02 11 41.2 +0.5
baz=89
A20A Cobblestone Ra 89.11 338 ⇓P P 02 11 41.3 +0.3
baz=90,SNR=6.3
CHMT Chamberlain Mo 89.22 334 eP P 02 11 42.2 +0.4
comp=Z,9.7nm,1.7s
MSO Missoula 89.41 333 ⇓P P 02 11 43.5 +1.1
baz=90
A19A Klindworth Far 89.41 337 ⇓P P 02 11 43.1 +0.7
baz=90,SNR=5.3
SCHQ Schefferville 89.50 3 P P 02 11 41.8 -0.7
comp=Z,2.9nm,0.8s,baz=239,slow=4.7,SNR=4.2
J05D Fort Rock, OR 89.52 327 ⇓P P 02 11 43.6 +0.5
baz=90
SLMT Seeley Lake 89.59 334 eP P 02 11 43.5 +0.1
comp=Z,8.0nm,1.1s
SWMT Swartz Lake 90.00 333 eP P 02 11 45.5 +0.2
comp=Z,3.2nm,0.9s
LSZ Lusaka 90.02 109 eP P 02 11 47.6 +1.4
LSZ pmax pmax
comp=Z,5.0nm,0.7s
LSZ Lusaka 90.02 109 eP P 02 11 47.6 +1.4
comp=Z,5.2nm,0.7s
JTMT Jette 90.31 333 eP P 02 11 46.5 -0.2
comp=Z,2.5nm,0.6s
I05D Terrebonne, OR 90.40 327 ⇑P P 02 11 49.3 +2.2
baz=91
BSMT Bassoo Peak 90.58 333 eP P 02 11 47.8 -0.3
comp=Z,4.6nm,1.1s
NEW Newport 91.80 332 P P 02 11 53.0 -0.5
NEW pmax pmax
comp=Z,1.0nm,0.6s
NEW Newport 91.80 332 P P 02 11 53.0 -0.5
comp=Z,1.2nm,0.6s,baz=148,slow=5.2,SNR=3.7
NEW Newport 91.80 332 ⇓P P 02 11 53.8 +0.3
baz=92
MDT Midelt 92.77 51 P P 02 11 59.0 +0.6
comp=Z,3.4nm,0.9s,baz=246,slow=9.4,SNR=2.0
TAM Tamanrasset 93.67 65 eP P 02 12 03.0 +0.1
TAM pmax pmax
comp=Z,6.0nm,0.8s
TAM Tamanrasset 93.67 65 eP P 02 12 03.0 +0.1
comp=Z,5.8nm,0.8s
FCC Fort Churchill 94.99 349 eP P 02 12 07.7 -0.1
FCC Fort Churchill 94.99 349 eP P 02 12 07.7 -0.1
comp=Z,0.3nm,0.9s
YKA Yellowknife Ar 102.73 341 P Pdif 02 12 41.6 -0.9
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 102.73 341 P Pdif 02 12 41.6 -0.9
comp=Z,1.0nm,0.8s,baz=141,slow=4.5,SNR=17
GERES GERESS Array B 113.14 46 PKiKP PKiKP 02 17 22.6 -0.4
comp=Z,0.6nm,0.6s,baz=205,slow=2.8,SNR=6.7
CLL Collm 113.84 43 ePKiKP PKiKP 02 17 25.0 +0.9
ILAR Eielson Array 114.74 333 PKiKP PKPdf 02 17 25.0 -0.4
ILAR 02 28 08.4
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 114.74 333 PKP PKPdf 02 17 25.0 -0.4
comp=Z,0.7nm,0.8s,baz=156,slow=1.4,SNR=7.9
ILAR PKKPab PKKPab 02 28 08.4 +1.9
comp=Z,0.4nm,0.9s,baz=288,slow=4.7,SNR=4.2
MORC Moravsky Berou 115.81 46 ePKiKP PKPdf 02 17 27.5 -0.5
MORC Moravsky Berou 115.81 46 ePKPdf PKPdf 02 17 27.5 -0.5
APE Apeiranthos 115.81 62 ⇑PKiKP PKPdf 02 17 38.1 +10
APE Apeiranthos 115.81 62⇑i/P PKPdf 02 17 38.1 +10
VYHS Vyhne 116.07 48 ePKiKP PKPdf 02 17 28.6 +0.1
VYHS e 02 17 37.3
VYHS Vyhne 116.07 48 ePKP PKPdf 02 17 28.6 +0.1
VYHS e 02 17 37.3
BZS Buzias 116.66 52 ⇑PKiKP PKPdf 02 17 29.7 0.0
BZS Buzias 116.66 52⇑i/P PKPdf 02 17 29.7 0.0
NAO01 NORSAR Array S 116.82 33 ePKPdf PKPdf 02 17 29.2 -0.3
NOA NORSAR Array B 117.05 33 PKKPbc PKKPbc 02 27 56.9 +0.6
comp=Z,1.1nm,0.8s,baz=72,slow=4.7,SNR=5.3
DRGR 117.81 51 ⇓PKiKP PKPdf 02 17 32.2 +0.2
DRGR 117.81 51⇓i/P PKPdf 02 17 32.2 +0.2
TRPA Tarpa 118.21 49⇓i/P PKPdf 02 17 32.8 +0.3
ARR Arges 118.52 53⇓i/P PKPdf 02 17 33.5 +0.1
VOIR 118.82 53 ⇑PKiKP PKPdf 02 17 37.3 +3.3
VOIR 118.82 53⇑i/P PKPdf 02 17 37.3 +3.3
KWP Kalwaria Pacla 118.86 48 ePKiKP PKPdf 02 17 34.2 +0.4
KWP Kalwaria Pacla 118.86 48 ePKP PKPdf 02 17 34.2 +0.4
KWP Kalwaria Pacla 118.86 48 ePKPdf PKPdf 02 17 34.0 +0.2
MLR Muntele Rosu 119.42 53 ⇑PKiKP PKPdf 02 17 35.0 -0.2
MLR Muntele Rosu 119.42 53⇑i/P PKPdf 02 17 35.0 -0.2
MLR Muntele Rosu 119.42 53 PKP PKPdf 02 17 34.5 -0.7
comp=Z,0.7nm,0.9s,baz=109,slow=8.2,SNR=4.1
BUR08 Bucovina Ar. S 119.70 50 ePKPdf PKPdf 02 17 35.7 0.0
BURAR Bucovina Array 119.70 50 ⇓PKiKP PKPdf 02 17 36.3 +0.7
BURAR Bucovina Array 119.70 50⇓i/P PKPdf 02 17 36.3 +0.7
WRA Warramunga Arr 119.74 209 PKiKP PKPdf 02 17 35.5 -1.1
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 119.74 209 PKP PKPdf 02 17 35.5 -1.1
comp=Z,4.7nm,0.8s,baz=160,slow=1.7,SNR=23
WRAB Tennant Creek 119.74 209 ePKiKP PKPdf 02 17 35.8 -0.8
WRAB Tennant Creek 119.74 209 ePKPdf PKPdf 02 17 35.8 -0.8
VRI Vrincioaia 120.07 53 ⇓PKiKP PKPdf 02 17 35.8 -0.5
VRI Vrincioaia 120.07 53⇓i/P PKPdf 02 17 35.8 -0.5
TESR Tescani 120.24 52⇑i/P PKPdf 02 17 36.3 -0.3
SUW Suwalki 120.60 43 ePKiKP PKPdf 02 17 36.9 -0.1
SUW Suwalki 120.60 43 ePKP PKPdf 02 17 36.8 -0.2
SUW Suwalki 120.60 43 ePKPdf PKPdf 02 17 36.8 -0.2
CFR Carcaliu 120.76 54 ⇓PKiKP PKPdf 02 17 37.4 -0.2
CFR Carcaliu 120.76 54⇓i/P PKPdf 02 17 37.4 -0.2

BR131	Keskin Array S	122.71	62	ePKPdf	PKPdf	02 17 41.4	-0.3
BRTR	Keskin Array B	122.71	62	PKIKP	PKPdf	02 17 41.4	-0.3
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR	Keskin Array B	122.71	62	PKP	PKPdf	02 17 41.4	-0.3
	comp=Z,4.4nm,0.8s,baz=189,slow=3.2,SNR=23						
MBWA	Marble Bar	123.03	194	ePKPdf	PKPdf	02 17 41.5	-1.4
KIEV	Kiev	123.16	48	ePKIKP	PKPdf	02 17 40.0	-2.0
KIEV	Kiev	123.16	48	ePKPdf	PKPdf	02 17 40.0	-2.0
AK01	Malin Array Si	123.16	48	ePKPdf	PKPdf	02 17 40.4	-1.6
AKASG	Malin Array Be	123.17	48	PKIKP	PKPdf	02 17 41.0	-1.0
AKASG	Malin Array Be	123.17	48	PKP	PKPdf	02 17 40.9	-1.0
	comp=Z,2.2nm,0.7s,baz=264,slow=2.6,SNR=11						
AKBB	Malin Array Si	123.17	48	ePKIKP	PKPdf	02 17 42.4	+0.4
AKBB	Malin Array Si	123.17	48	ePKPdf	PKPdf	02 17 42.4	+0.4
TNA	Tin City	123.30	330	ePKPdf	PKPdf	02 17 42.0	+0.1
SPITS	Spitsbergen Ar	123.66	14	PKIKP	PKPdf	02 17 42.2	-0.1
SPITS				pmax	pmax		
	comp=Z,16nm,1.1s						
SPITS	Spitsbergen Ar	123.66	14	PKP	PKPdf	02 17 42.2	-0.1
	comp=Z,16nm,1.1s,baz=183,slow=5.0,SNR=5.3						
FINES	FINESS Array B	124.01	35	PKIKP	PKPdf	02 17 42.9	-0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	FINESS Array B	124.01	35	PKP	PKPdf	02 17 42.9	-0.4
	comp=Z,2.2nm,0.9s,baz=191,slow=0.7,SNR=5.6						
ARCES	ARCESS Array B	125.03	25	PKIKP	PKPdf	02 17 44.6	-0.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	ARCESS Array B	125.03	25	PKP	PKPdf	02 17 44.6	-0.5
	comp=Z,3.4nm,0.9s,baz=282,slow=2.2,SNR=6.5						
H11S2	WAKE ISLAND Hy	125.24	269	T	T	04 35 40.9	
	baz=118						
H11S1	WAKE ISLAND Hy	125.25	269	T	T	04 35 38.8	
	baz=118						
H11S3	WAKE ISLAND Hy	125.25	269	T	T	04 35 39.5	
	baz=118						
H11N3	WAKE ISLAND Hy	125.67	270	T	T	04 36 05.3	
	baz=116,slow=78,SNR=4.2						
H11N1	WAKE ISLAND Hy	125.69	270	T	T	04 36 06.7	
	baz=116,slow=78,SNR=7.8						
H11N2	WAKE ISLAND Hy	125.69	270	T	T	04 36 12.9	
	baz=116,slow=78,SNR=6.2						
MALT	Malatya	125.75	65	⇓PKIKP	PKPdf	02 17 48.3	+0.8
MALT	Malatya	125.75	65	⇓iP	PKPdf	02 17 48.3	+0.8
OBN	Obninsk	128.43	44	PKP	PKPdf	02 17 50.9	-1.0
	comp=Z,3.0nm,0.4s,baz=144,slow=9.2,SNR=3.3						
KIV	Kislovodsk	130.39	59	ePKIKP	PKPdf	02 17 56.3	+0.1
KIV				pmax	pmax		
	comp=Z,15nm,0.9s						
KIV	Kislovodsk	130.39	59	ePKPdf	PKPdf	02 17 56.7	+0.5
KLMR	Klimovskoe	130.42	37	ePKIKP	PKPdf	02 17 54.5	-1.0
KLMR				pmax	pmax		
	comp=Z,39nm,1.3s						
KBZ	Khabaz	130.49	59	PKIKP	PKPdf	02 17 57.3	+1.1
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ	Khabaz	130.49	59	PKP	PKPdf	02 17 57.2	+1.1
	comp=Z,3.7nm,0.9s,baz=204,slow=0.3,SNR=9.6						
GNI	Garni	130.97	64	ePKIKP	PKPdf	02 17 58.4	+0.9
GNI	Garni	130.97	64	PKP	PKPdf	02 17 57.8	+0.3
	comp=Z,1.2nm,0.4s,baz=215,slow=2.3,SNR=6.3						
GNI	Garni	130.97	64	ePKPdf	PKPdf	02 17 58.4	+0.9
PRGR	Permogore	133.34	35	ePKIKP	PKPdf	02 18 00.2	-0.8
PRGR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BILL	Bilibino	133.40	334	ePKIKP	PKPdf	02 18 01.9	+0.9
BILL	Bilibino	133.40	334	ePKPdf	PKPdf	02 18 01.9	+0.9
PETK	Petropavlovsk-	140.39	313	PKhKP	PKPpre	02 18 11.0	
	comp=Z,9.4nm,1.1s,baz=160,slow=4.6,SNR=3.0						
SEY	Seymchan	140.53	329	PKHKP	PKPpre	02 18 07.1	
SEY						02 18 13.3	
SEY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SEY				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SEY	Seymchan	140.53	329	PKhKP	PKPpre	02 18 07.1	
	comp=Z,3.0nm,1.0s,baz=29,slow=8.5,SNR=4.4						
SEY				PKP	PKPdf	02 18 13.2	-1.1
	comp=Z,6.5nm,0.8s,baz=106,slow=2.9,SNR=16						
GEYT	Alibeck	140.64	71	PKhKP	PKPpre	02 18 07.1	
	comp=Z,2.1nm,0.8s,baz=302,slow=6.8,SNR=5.9						
ARU	Arti	140.75	41	ePKIKP	PKPdf	02 18 15.5	+0.6
ARU	Arti	140.75	41	ePKPdf	PKPdf	02 18 15.5	+0.6
AKTO	Aktyubinsk	141.30	51	PKHKP	PKPpre	02 18 09.4	
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKTO	Aktyubinsk	141.30	51	PKhKP	PKPpre	02 18 09.3	
	comp=Z,1.6nm,0.7s,baz=271,slow=3.8,SNR=7.3						
TIXI	Tiksi	141.47	349	ePKHKP	PKPpre	02 18 08.2	
TIXI				e		02 18 15.5	
TIXI	Tiksi	141.47	349	ePKPpre	PKPpre	02 18 08.2	
TIXI				ePKPdf	PKPdf	02 18 15.5	-0.3
AB31	Akbulak array	142.63	53	iPKHKP	PKPpre	02 18 13.8	
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ABKAR	Akbulak array	142.63	53	ePKPpre	PKPpre	02 18 13.3	
PALK	Pallekele	143.19	132	ePKIKP	PKPdf	02 18 20.2	-0.5
PALK	Pallekele	143.19	132	ePKPdf	PKPdf	02 18 20.2	-0.5
BKNI	Bangkinang	145.12	169	ePKPdf	PKPbc	02 18 22.4	-1.0
GSI	Gunungsitoli	145.37	163	ePKPbc	PKPbc	02 18 24.8	+0.4
KSM	Kuching	146.65	185	ePKPdf	PKPdf	02 18 26.7	+0.1
BRVK	Borovoye	148.21	44	ePKIKP	PKPdf	02 18 28.3	+0.3
BRVK				e		02 18 32.1	
BRVK	Borovoye	148.21	44	ePKPdf	PKPdf	02 18 28.3	+0.3
BRVK				ePKPbc	PKPbc	02 18 32.1	+0.8
BVA0	Borovoye Array	148.28	44	iPKIKP	PKPdf	02 18 28.5	+0.4
BVA0				pmax	pmax		
	comp=Z,13nm,0.7s						
BVAR	Borovoye Array	148.28	44	PKIKP	PKPdf	02 18 28.6	+0.5
BVAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BVAR	Borovoye Array	148.28	44	PKPbc	PKPdf	02 18 28.6	+0.5
	comp=Z,6.5nm,0.7s,baz=270,slow=2.8,SNR=18						
KBL	Kabul	148.65	79	ePKIKP	PKPdf	02 18 30.6	+1.0
KBL				e		02 18 33.0	
KBL	Kabul	148.65	79	ePKPdf	PKPdf	02 18 30.6	+1.0
KBL				ePKPbc	PKPbc	02 18 33.0	-0.4
LHMI	Lhok Sumawe	148.97	160	ePKPbc	PKPbc	02 18 34.0	-0.4
HYB	Hyderabad	149.02	117	iPKP	PKPbc	02 18 33.0	-1.5
IPM	Ipoh	149.19	168	ePKPdf	PKPdf	02 18 30.4	-0.4
IPM				ePKPbc	PKPbc	02 18 34.7	-0.3
YAK	Yakutsk	149.38	339	ePKPdf	PKPdf	02 18 29.4	-0.2
YAK				ePKPbc	PKPbc	02 18 33.3	-0.7
YAK				ePKPab	PKPab	02 18 38.7	-0.1
YAK				ePKPab	PKiKP	02 18 38.9	+3.8
KULM	Kulim	149.91	167	ePKPbc	PKPbc	02 18 35.9	-0.9
KKM	Kota Kinabalu	150.15	198	ePKPdf	PKPdf	02 18 31.9	-0.5
KKM				ePKPbc	PKPbc	02 18 37.0	-0.5
KK31	Karatay Array	150.42	63	iPKIKP	PKPdf	02 18 33.6	+1.7
KK31				pmax	pmax		
	comp=Z,11nm,0.9s						
KKAR	Karatay Array	150.42	63	ePKIKP	PKPdf	02 18 32.1	+0.2
KKAR				e		02 18 36.9	
KKAR	Karatay Array	150.42	63	ePKPdf	PKPdf	02 18 32.1	+0.2
KKAR				ePKPbc	PKPbc	02 18 36.9	-0.3
YSS	Yuzh-Sakhalins	150.89	305	iPKIKP	PKPbc	02 18 37.0	-1.1
YSS				e		02 18 45.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	Yuzh-Sakhalins	150.89	305	ePKPbc	PKPbc	02 18 38.2	+0.1
YSS				ePKPab	PKPab	02 18 45.6	+0.1
ASAJ	Asahikawa	151.45	300	PKIKP	PKPbc	02 18 39.8	+0.2
ASAJ				pmax	pmax		
	comp=Z,15nm,0.8s						
ASAJ	Asahikawa	151.45	300	PKPbc	PKPbc	02 18 39.8	+0.2
	comp=Z,15nm,0.8s,baz=249,slow=6.2,SNR=9.5						
ASAJ	Asahikawa	151.45	300	ePKPbc	PKPbc	02 18 39.7	+0.2
ASAJ				ePKPab	PKPab	02 18 48.0	0.0
AML	Almayashu	152.83	64	P	PKPbc	02 18 44.2	+0.9
	SNR=6.6						
EKS2	Erkin-Say	152.84	63	P	PKPbc	02 18 43.6	+0.7
	SNR=9.5						
EKS2	Erkin-Say	152.84	63	ePKIKP	PKPdf	02 18 36.5	+0.8
EKS2				e		02 18 43.2	
EKS2				e		02 18 52.1	
EKS2	Erkin-Say	152.84	63	ePKPdf	PKPdf	02 18 36.5	+0.8
EKS2				ePKPbc	PKiKP	02 18 43.1	+0.1
EKS2				ePKPab	PKPab	02 18 52.1	-2.0
USP	Ospenovka	153.31	62	P	PKPbc	02 18 44.3	+0.5
	SNR=6.7						
AAK	Ala-Archa	153.37	63	P	PKPbc	02 18 45.0	+0.9
	SNR=9.2						
AAK	Ala-Archa	153.37	63	ePKIKP	PKPdf	02 18 36.9	+0.4
AAK				e		02 18 44.6	
AAK				e		02 18 53.8	
AAK	Ala-Archa	153.37	63	ePKPdf	PKPdf	02 18 36.9	+0.4
AAK				ePKPbc	PKiKP	02 18 44.5	+0.3
AAK				ePKPab	PKPab	02 18 53.8	-2.6
UCH	Uchtor	153.43	64	P	PKPbc	02 18 45.7	+1.1
	SNR=8.1						
FRU	Bishkek	153.44	63	ePKIKP	PKPdf	02 18 30.0	-6.4
KURK	Kurchatov	153.88	44	ePKIKP	PKPdf	02 18 36.5	-0.2
KURK				e		02 18 44.9	
KURK	Kurchatov	153.88	44	ePKPdf	PKPdf	02 18 36.5	-0.2
KURK				ePKPbc	PKiKP	02 18 44.9	+0.2
NVS	Novosibirsk	153.96	33	iPKIKP	PKPdf	02 18 35.6	-1.1
NVS				pmax	pmax		
	comp=Z,71nm,1.9s						
NVS				pmax	pmax		
	comp=E,15nm,1.6s						
TKM2	Tokmak 2	154.15	62	ePKIKP	PKPdf	02 18 37.5	-0.2
TKM2				e		02 18 45.9	
TKM2	Tokmak 2	154.15	62	ePKPdf	PKPdf	02 18 37.5	-0.2
TKM2				ePKPbc	PKiKP	02 18 45.9	0.0
TKM2				ePKPab	PKPab	02 18 54.5	-5.2
KSH	Kashi	154.67	70	PKPbc	PKPdf	02 18 38.5	+0.1
KSH				epPKP	pPKPdf	02 18 49.0	-0.7
KSH				esPKP		02 18 53.5	
KSH				eSKS	SKSdf	02 25 41.0	-1.5
KSH				eSKKS	SKKSac	02 29 23.8	-1.2
KSH				eSS	SS	02 42 17.5	-0.3
KSH				AMB	AMB		
	comp=E,170nm,6.3s						
KSH				LR	LR		
	comp=E,590nm,13.7s						
MJAR	Matsushiro Arr	154.93	283	PKIKP	PKPbc	02 18 46.7	-0.8
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR	Matsushiro Arr	154.93	283	PKPbc	PKPbc	02 18 46.7	-0.8
	comp=Z,2.4nm,0.9s,baz=92,slow=3.8,SNR=4.9						
ZAA0	Zalesovo Array	155.25	33	ePKPdf	PKPdf	02 18 37.8	-0.7
ZAA0				ePKPbc	PKPbc	02 18 46.8	
ZAA0				ePKPab	PKPab	02 18 55.8	-7.9
ZALV	Zalesovo Beam	155.25	33	PKIKP	PKPdf	02 18 37.9	-0.6
ZALV						02 18 46.6	
ZALV						02 19 03.8	
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ZALV				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZALV	Zalesovo Beam	155.25	33	PKP	PKPdf	02 18 37.9	-0.6
	comp=Z,5.5nm,0.8s,baz=270,slow=3.0,SNR=21						
ZALV				PKPbc	PKPbc	02 18 46.6	
	comp=Z,8.9nm,0.8s,baz=270,slow=1.5,SNR=11						
ZALV				PKPab	PKPab	02 19 03.8	+0.1
	comp=Z,9.5nm,0.7s,baz=305,slow=5.2,SNR=8.8						
KLR	Kul'dur	157.02	316	ePKIKP	PKPdf	02 18 35.9	-5.1
MKAR	Makanchi Array	157.73	50	PKP	PKPdf	02 18 41.8	-0.2
	comp=Z,1.9nm,0.7s,baz=19,slow=1.2,SNR=14						
MKAR				PKPab	PKPab	02 19 14.6	-0.1
	comp=Z,5.1nm,1.0s,baz=274,slow=2.6,SNR=5.9						
KOLN	Koldanda	158.55	103	eP	PKPdf	02 18 43.4	-0.5
	comp=Z,16nm,1.0s						
USRK	Ussuriysk Arra	158.90	304	PKPab	PKPab	02 19 20.0	+0.2
	comp=Z,2.0nm,0.9s,baz=64,slow=3.4,SNR=3.7						
DANN	Dangsing	158.92	101	eP	PKPdf	02 18 44.3	-0.1
	comp=Z,42nm,0.8s						
GKN	Gorkha	159.48	103	eP	PKPdf	02 18 44.3	-0.6
KKN	Kakani	159.90	105	eP	PKPdf	02 18 44.9	-0.6
PKI	Pulchoki	159.91	105	eP	PKPdf	02 18 44.9	-0.7
GUN	Gumba	160.43	105	eP	PKPdf	02 18 46.0	-0.2
RAMN	Ramite	160.56	108	eP	PKPdf	02 18 46.2	-0.1
JIRN	Jiri	160.57	106	eP	PKPdf	02 18 45.8	-0.6
ODAN	Odare	161.13	110	eP	PKPdf	02 18 46.6	-0.3
TAPN	Taplejung	161.61	109	eP	PKPdf	02 18 47.1	-0.3
CMAR	Chiang Mai Arr	162.02	153	PKIKP	PKPdf	02 18 48.0	+0.3
CMAR						02 19 33.4	
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	162.02	153	PKP	PKPdf	02 18 48.0	+0.3
	comp=Z,2.6nm,0.7s,baz=245,slow=2.5,SNR=13						
CMAR				PKPab	PKPab	02 19 33.4	-0.5
	comp=Z,1.2nm,0.3s,baz=228,slow=4.8,SNR=6.4						
WMQ	Urumqi	162.42	54	PKP	PKPdf	02 18 47.8	+0.4
WMQ				AMB	AMB		
	comp=Z,180nm,10.4s						
WMQ				LR	LR		
	comp=Z,340nm,22.2s						
WMQ				LR	LR		
	comp=Z,250nm,20.0s						
WMQ				LR	LR		
	comp=Z,330nm,23.0s						
MOY	Mondy	162.61	13	ePKP2	PKPab	02 19 36.9	+1.1
TLY	Talaya	163.00	8	ePKP2	PKPab	02 19 38.2	+0.8
TLY				pmax	pmax		
	comp=Z,18nm,1.4s						
TLY	Talaya	163.00	8	PKPab	PKPab	02 19 38.7	+1.3
	comp=Z,4.1nm,0.9s,baz=344,slow=2.9,SNR=5.9						
CN2	Changchun	163.42	308	ePKP	PKPdf	02 18 48.5	+0.2
SHL	Shillong	163.75	121	ex	PKPdf	02 18 49.0	-0.4
SHL				ex	x	02 19 41.0	
ZAK	Zakamensk	164.23	10	ePKIKP	PKPdf	02 18 54.5	+5.5
ZAK				e		02 19 43.2	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
ULN	Ulaanbaatar	167.03	1	ePKIKP	PKPdf	02 18 50.9	-0.5
ULN				e		02 19 55.8	
ULN	Ulaanbaatar	167.03	1	ePKPdf	PKPdf	02 18 50.9	-0.5
ULN				ePKPab	PKPab	02 19 55.8	+0.5
SONM	Songino Array	167.04	3	PKIKP	PKPdf	02 18 50.8	-0.6
SONM						02 19 56.1	
SONM						02 23 43.8	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	Songino Array	167.04	3	PKP	PKPdf	02 18 50.8	-0.6
	comp=Z,1.5nm,0.9s,baz=182,slow=0.6,SNR=8.7						
SONM				PKPab	PKPab	02 19 56.1	+0.7
	comp=Z,3.6nm,0.9s,baz=333,slow=3.4,SNR=11						
SONM				PP	PP	02 23 43.8	+0.8
	comp=Z,1.1nm,1.0s,baz=298,slow=3.2,SNR=3.8						
KMI	Kunming	169.49	157	PKP	PKPdf	02 18 55.0	+1.1
NJ2	Nanjing	169.97	257	ePKP	PKPdf	02 18 52.8	-0.9
GYA	Guiyang	171.58	176	PKP	PKPdf	02 18 54.3	-0.6
GYA				pPKP	pPKPdf	02 19 06.0	-0.2
GYA				PKPab	PKPab	02 20 17.5	+1.5
GYA				PKS	PKSdf	02 22 25.5	-1.9
GYA				PP	PP	02 24 09.8	+4.0
GYA				SKKS		02 30 51.5	
GYA				SS	SS	02 45 10.0	+0.3
GYA				AMB	AMB		
	comp=Z,120nm,8.5s						
GYA				LR	LR		
	comp=Z,130nm,21.8s						
GYA				LR	LR		
	comp=Z,120nm,21.5s						
GYA				LR	LR		
	comp=Z,140nm,24.4s						
GTA	Gaotai	172.49	51	ePKP	PKPdf	02 18 55.3	+0.4
GTA				pPKP	pPKPdf	02 19 05.8	-0.4
GTA				sPKP		02 19 09.5	
GTA				PKPab	PKPab	02 20 20.8	+0.9
GTA				PP	PP	02 24 13.8	+2.3
GTA				SKS	SKSdf	02 25 53.5	-2.1
GTA				SKKS	SKKSac	02 30 55.3	-0.1
GTA				SS	SS	02 45 18.5	-2.2
GTA				AMB	AMB		
	comp=Z,340nm,8.0s						
GTA				LR	LR		
	comp=Z,370nm,19.8s						
GTA				LR	LR		
	comp=Z,600nm,19.0s						
GTA				LR	LR		
	comp=Z,1μm,19.8s						
HHC	Hu-ho-hao-te	173.17	332	ePKP	PKPdf	02 18 55.5	+0.4
HHC				pPKP	pPKPdf	02 19 06.3	-0.1
HHC				sPKP		02 19 10.3	
HHC				PP	PP	02 24 16.8	+2.7
HHC				SS	SS	02 45 26.3	+0.3
HHC				AMB	AMB		
	comp=Z,300nm,6.1s						
HHC				LR	LR		
	comp=Z,310nm,21.2s						
HHC				LR	LR		
	comp=Z,350nm,20.7s						
HHC				LR	LR		
	comp=Z,630nm,19.9s						
CD2	Chengdu	175.03	142	PKP	PKPdf	02 18 56.0	0.0
CD2				pPKP	pPKPdf	02 19 07.3	0.0
CD2				sPKP		02 19 11.0	
CD2				PKS	PKSdf	02 22 26.8	-1.4
CD2				PP	PP	02 24 27.0	+3.7
CD2				SKS	SKSdf	02 25 53.5	-3.0
CD2				SKKS	SKKSac	02 31 07.5	0.0
CD2				SS	SS	02 45 43.8	-0.5
CD2				AMB	AMB		
	comp=Z,220nm,6.4s						
LZH	Lanzhou	176.91	66	PKP	PKPdf	02 18 57.0	+0.6
LZH				pPKP	pPKPdf	02 19 07.3	-0.4
LZH				sPKP		02 19 10.8	
LZH				PP	PP	02 24 31.3	-2.0
LZH				SKKS		02 31 17.0	
LZH				SS	SS	02 46 02.0	-2.0
LZH				AMB	AMB		
	comp=Z,220nm,7.7s						
LZH				LR	LR		
	comp=Z,390nm,15.8s						
LZH				LR	LR		
	comp=Z,520nm,16.3s						
LZH				LR	LR		
	comp=Z,410nm,11.6s						
XAN	Xi'an	178.44	238	PKP	PKPdf	02 18 56.0	-0.5

DJA 28 02:00:03.1±0.6, 4°S±8°×13°1E±°, h10km, M3.8/4, MLv3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.19	59	P	Pb	02 00 22.0	-3.8
BNDI	Bandanaira	1.64	234	P	Pn	02 00 30.5	-1.6
BNDI				S	Sn	02 00 53.4	+0.1
MSAI	Masohi	2.31	275	P	Pn	02 00 41.2	0.0
KMPI	Kaimana, Papua	2.47	93	P	Pn	02 00 43.6	+0.1
SWI	Sorong	2.66	1	P	Pb	02 00 52.1	+1.2

IDC 28 02:01:12.4±7.0, 33°.64S×73°.30W, h0km, mb4.1/1, Error ellipse: s-maj=301.6km s-min=36.4km az=22.0

ISCJB 28 02:01:15.5±0.7, 33°.6S±0°.1×73°.4W±0°.2, h33km, mb4.5/20, Error ellipse: s-maj=26.9km s-min=12.5km az=144.7

NEIC 28 02:01:17.2±0.5, 33°.67S×73°.25W, h35km, mb4.6/19, Error ellipse: s-maj=23.7km s-min=9.6km az=51.0

ISC 28 02:01:17.1±0.9, 33°.7S±0°.2×73°.4W±0°.2, h35km, n32, σ0s.94/31, mb4.6/20, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRQA	Tornquist	10.29	119	ePn	Pn	02 03 37.8	-4.4
SAML	Samuel	26.35	23	eP	P	02 06 51.5	+1.6
	13nm,1.2s						
OTAV	Otavalo	34.04	351	eP	P	02 07 58.1	-0.4
	12nm,1.5s						
GRGR	Grenville	46.90	16	eP	P	02 09 44.6	+0.4
OBIP	Obispado Ponce	51.82	8	eP	P	02 10 19.6	-2.1
SNAA	Sanae	52.34	158	eP	P	02 10 25.5	+0.4
	6.4nm,0.9s						
HKT	Hockley	66.71	339	eP	P	02 12 04.7	+0.2
	11nm,1.5s						
GOGA	Godfrey	67.38	351	eP	P	02 12 09.4	+0.8
	6.1nm,0.9s						
JCT	Junction City	68.48	336	eP	P	02 12 16.1	+0.4
	6.6nm,0.9s						
TXAR	Lajitas Array	68.87	332	P	P	02 12 19.3	+1.0
	1.7nm,0.8s,baz=155,slow=8.3,SNR=4.2						
WHTX	Lake Whitney	69.11	338	eP	P	02 12 20.5	+1.0
	4.6nm,0.8s						
SWET	Sewanee	69.51	349	eP	P	02 12 21.6	-0.4
	8.3nm,0.9s						
ABTX	Abilene, Hawle	70.39	337	eP	P	02 12 28.1	+0.6
	8.0nm,1.1s						
WVT	Waverly	70.72	348	eP	P	02 12 30.1	+0.8
	4.7nm,0.8s						
MNTX	Cornudas Mount	71.65	332	eP	P	02 12 35.0	-0.1
	2.4nm,1.0s						
DBIC	Dimbokro	76.18	72	P	P	02 13 02.5	+0.4
	baz=214,slow=5.8						
DBIC	Dimbokro	76.18	72	eP	P	02 13 02.4	+0.3
	3.5nm,0.6s						
ISCO	Idaho Springs	78.92	335	eP	P	02 13 17.7	+0.5
	2.1nm,0.9s						
TSUM	Tsumeb	80.43	107	eP	P	02 13 25.4	-0.4
	8.2nm,1.2s						
BOSA	Boshof	81.26	118	eP	P	02 13 30.9	+0.8
	13nm,1.4s						
DUG	Dugway	81.99	331	eP	P	02 13 33.7	+0.3
	3.1nm,0.9s						
HWUT	Hardware Ranch	82.69	332	eP	P	02 13 36.7	-0.4
	2.3nm,0.8s						
NVAR	Mina Array Bea	82.94	326	P	P	02 13 39.4	+0.9
	baz=142,slow=7.5						
LBTB	Lobatse	83.51	116	eP	P	02 13 41.2	-0.7
	3.6nm,0.9s						
TORD	Torodi Ar. Bea	85.20	71	P	P	02 13 49.9	-0.3
	baz=250,slow=5.1						
LSZ	Lusaka	91.02	109	eP	P	02 14 19.1	+0.7
	3.2nm,0.9s						
PALK	Pallekele	144.49	132	ePKPdf	PKPdf	02 20 50.8	+0.4
BRVK	Borovoye	147.75	42	ePKPbc	PKPbc	02 20 56.5	-1.1
BVAR	Borovoye Array	147.82	42	PKPbc	PKPbc	02 20 58.0	+0.1
	1.5nm,0.4s,baz=288,slow=2.5,SNR=6.7						
EKS2	Erkin-Say	152.84	61	ePKPbc	PKPbc	02 21 07.6	-2.8
TKM2	Tokmak 2	154.12	60	ePKPdf	PKPdf	02 21 05.2	0.0
ZAA0	Zalesovo Array	154.54	31	ePKPbc	PKPbc	02 21 12.8	-0.8

IDC 28 02:04:24.3±0.8, 34°.45S×73°.90W, h0km, mb4.4/11, mb1 4.5/13, mb1mx4.3/33, mbtmp4.4/13, ML3.5/2, Error ellipse: s-maj=27.4km s-min=21.7km az=64.0

NEIC 28 02:04:25.2±6.4, 34°.52S×73°.61W, h9km±38km, mb5.0/42, Error ellipse: s-maj=13.9km s-min=7.3km az=50.0

ISCJB 28 02:04:28.2±0.3, 34°.38S±0°.06×73°.69W±0°.06, h33km, mb4.8/50, Error ellipse: s-maj=8.8km s-min=7.3km az=16.0

ISC 28 02:04:29.3±0.4, 34°.55S±0°.07×73°.63W±0°.09, h35km, n363, σ0s.86/382, mb4.9/50, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.39	59	Pn	Pn	02 05 47.9	+0.7
	0.8nm,0.3s,baz=239,slow=16,SNR=4.3						
CFAA				Sn	Sn	02 06 50.4	+2.4
	3.1nm,0.3s,baz=119,slow=19,SNR=8.4						
LPAZ	La Paz	18.84	17	P	Pn	02 08 47.7	+0.2
	0.1nm,0.3s,baz=205,slow=9.7,SNR=4.4						
LPAZ	La Paz	18.84	17	eP	P	02 08 43.9	-3.0
	22nm,1.3s						
SIV	San Ignacio	21.65	35	P	P	02 09 16.9	+0.2
	5.0nm,0.8s,baz=256,slow=12,SNR=4.2						
SAML	Samuel	27.22	23	eP	P	02 10 04.7	-5.2
	8.7nm,1.4s						
OTAV	Otavalo	34.90	352	eP	P	02 11 18.7	+0.6
	22nm,1.4s						
ROSC	El Rosal	39.20	359	eP	P	02 11 53.8	-0.7
SDV	Santo Domingo	43.29	4	eP	P	02 12 26.6	-1.3
	9.5nm,0.9s						
JTS	JuntasAbangare	45.87	344	P	P	02 12 47.5	-0.8
	1.5nm,0.4s,baz=176,slow=4.9,SNR=4.1						
JTS	JuntasAbangare	45.87	344	eP	P	02 12 48.0	-0.2
GRGR	Grenville	47.79	16	eP	P	02 13 03.6	+0.3
	117nm,1.0s						
VNA3	Neumayer Olymp	49.35	157	P	P	02 13 18.1	+3.4
VNA2	Neumayer--Watz	50.02	157	P	P	02 13 23.5	+3.7
VNA2	Neumayer--Watz	50.02	157	P	P	02 13 23.1	+3.3
SNAA	Sanae	51.58	158	P	P	02 13 32.8	+1.2
SNAA	Sanae	51.58	158	eP	P	02 13 31.3	-0.3
	27nm,1.1s						
OBIP	Obispado Ponce	52.72	8	eP	P	02 13 39.3	-1.2
	32nm,1.1s						
QSPA	South Pole Qui	55.69	180	P	P	02 14 03.0	+1.2
	12nm,1.1s,baz=158,slow=4.3,SNR=5.7						
QSPA	South Pole Qui	55.69	180	eP	P	02 14 02.8	+1.0
	16nm,1.2s						
035A	Encino	65.40	336	P	P	02 15 08.7	+0.5
	baz=66						

034A Hebbronville 65.71 336 P P 02 15 10.5 +0.3
baz=66
SYO Syowa Base 65.84 159⇑eP P 02 15 05.9 -4.7
934A Benavides 66.15 336 P P 02 15 14.1 +1.1
baz=66
933A Laredo 66.42 335 P P 02 15 15.0 +0.1
baz=67
835A Beeville 66.56 337 P P 02 15 16.5 +0.9
baz=67
834A Tilden 66.64 336 P P 02 15 17.1 +0.8
baz=67
735A Kenedy 67.08 337 P P 02 15 19.4 +0.4
baz=68
833A Chaparral WMA, 67.11 335 P P 02 15 19.0 -0.2
baz=68
832A Faith Ranch, C 67.28 335 P P 02 15 20.2 -0.1
baz=68
636A Smothers Creek 67.42 338 P P 02 15 21.7 +0.6
baz=68
733A Divot King Ran 67.44 336 P P 02 15 21.6 +0.3
baz=68
HKT Hockley 67.49 339 eP P 02 15 22.2 +0.7
26nm,1.6s
732A Laxson Ranch, 67.68 335 P P 02 15 22.9 0.0
baz=68
537A Green Hill Far 67.75 339 P P 02 15 23.5 +0.3
baz=68
633A Saathoff Ranch 68.08 336 P P 02 15 25.3 -0.1
baz=68
535A Dale 68.09 338 P P 02 15 25.3 0.0
baz=68
438A Sam Houston St 68.14 340 P P 02 15 25.8 +0.2
baz=68
340A Bronson 68.33 341 P P 02 15 27.1 +0.3
baz=69
632A Uvalde 68.33 336 P P 02 15 27.1 +0.1
baz=69
534A Blanco 68.38 337 P P 02 15 26.6 -0.6
baz=69
LRAL Lakeview Retre 68.39 348 eP P 02 15 27.8 +0.6
21nm,1.6s
339A Huntington 68.43 341 P P 02 15 27.7 +0.3
baz=69
631A Perdido Creek 68.52 335 P P 02 15 28.7 +0.6
baz=69
533A Kerrville 68.60 336 P P 02 15 29.0 +0.4
baz=69
338A Crockett 68.66 340 P P 02 15 29.6 +0.7
baz=69
337A Centerville 68.79 340 P P 02 15 30.4 +0.7
baz=69
435B Jarrell 68.79 338 P P 02 15 30.2 +0.4
baz=69
532A Rocksprings 68.94 336 P P 02 15 30.6 -0.1
baz=69
434A Burnet 69.04 337 P P 02 15 31.0 -0.3
baz=69
239A Gary 69.06 341 P P 02 15 31.6 +0.2
baz=70
336A Riesel 69.13 339 P P 02 15 32.2 +0.4
baz=70
531A Rocksprings 69.19 335 P P 02 15 32.4 +0.1
baz=70
335A Moody 69.21 338 P P 02 15 32.6 +0.2
baz=70
238A Jacksonville 69.22 341 P P 02 15 32.7 +0.4
baz=70
JCT Junction City 69.23 336 eP P 02 15 32.3 -0.2
55nm,1.4s
JCT Junction City 69.23 336 P P 02 15 32.0 -0.5
baz=70
433A Art 69.25 337 P P 02 15 32.1 -0.5
baz=70
237A Washetta, Mont 69.41 340 P P 02 15 33.5 0.0
baz=70
530A J-C Ranch, Com 69.46 335 P P 02 15 33.7 -0.3
baz=70
334A Lometa 69.51 338 P P 02 15 33.7 -0.5
baz=70
TXAR Lajitas Array 69.59 332 P P 02 15 34.4 -0.5
1.6nm,0.5s,baz=158,slow=8.3,SNR=25
432A Menard 69.59 336 P P 02 15 34.2 -0.5
baz=70
431A Sonora 69.69 335 P P 02 15 34.9 -0.5
baz=70
333A Richland Sprin 69.74 337 P P 02 15 34.9 -0.7
baz=70
529A Stev Forest Ra 69.75 334 P P 02 15 35.4 -0.4
baz=70
138A Matatall Enter 69.83 341 P P 02 15 36.4 +0.3
baz=70
WHTX Lake Whitney 69.88 339 eP P 02 15 36.1 -0.3
27nm,1.2s
WHTX Lake Whitney 69.88 339 P P 02 15 35.9 -0.5
baz=70
430A Baggett Ranch, 70.00 335 P P 02 15 36.7 -0.6
baz=70
332A Millersview 70.04 336 P P 02 15 37.0 -0.5
baz=70
429A Davenport Ranc 70.09 334 P P 02 15 37.2 -0.6
baz=70
234A Clairette 70.10 338 P P 02 15 37.2 -0.6
baz=70
331A San Angelo 70.20 336 P P 02 15 37.7 -0.8
baz=71
SWET Sewanee 70.35 349 eP P 02 15 38.1 -1.2
63nm,1.5s
233A Rising Star 70.35 337 P P 02 15 38.8 -0.6
baz=71
232A Coleman 70.47 337 P P 02 15 39.6 -0.5
baz=71
330A Mertzon 70.55 335 P P 02 15 40.0 -0.6
baz=71
134A White-Moore Ra 70.61 338 P P 02 15 40.5 -0.4
baz=71
231A Bronte 70.74 336 P P 02 15 40.8 -1.0
baz=71
329A Wagon Wheel Ra 70.90 335 P P 02 15 41.9 -0.9
baz=71
133A Hamilton Ranch 70.90 338 P P 02 15 42.1 -0.6
baz=71
Z35A Perchaven, San 71.07 339 P P 02 15 43.3 -0.4
baz=72
ABTX Abilene, Hawle 71.15 337 eP P 02 15 43.6 -0.6
40nm,1.4s
ABTX Abilene, Hawle 71.15 337 P P 02 15 43.6 -0.6
baz=72
229A Bryant Ranch, 71.28 335 P P 02 15 44.4 -0.7
baz=72
Z34A Collier Ranch, 71.30 339 P P 02 15 44.7 -0.4
baz=72
131A Roby 71.44 336 P P 02 15 45.6 -0.4
baz=72
Z33A Whitaker Ranch 71.48 338 P P 02 15 45.9 -0.3
baz=72
WVT Waverly 71.55 348 eP P 02 15 45.7 -0.8
25nm,1.1s
130A Snyder 71.56 336 P P 02 15 46.2 -0.5
baz=72
228A UT Block 9, Go 71.69 334 P P 02 15 47.2 -0.4
baz=72
Z32A Haskell 71.73 337 P P 02 15 47.4 -0.2
baz=72
Y34A Reagan Ranch, 71.80 339 P P 02 15 47.9 -0.2
baz=72
129A Stewart Farms, 71.90 335 P P 02 15 48.4 -0.4
baz=72
Z31A Sharp Cattle R 71.95 337 P P 02 15 48.8 -0.3
baz=72
128A Castleberry Fa 72.11 335 P P 02 15 49.6 -0.5
baz=72
Y33A Hilltop Ranch, 72.11 338 P P 02 15 49.7 -0.2
baz=72
Z30A Sanderson Ranc 72.25 336 P P 02 15 50.2 -0.7
baz=73
Y32A R-V Farms, Ver 72.36 338 P P 02 15 50.8 -0.7
baz=73
Z29A Hungry Hill Ra 72.42 336 P P 02 15 51.2 -0.7
baz=73
X34A Smith Ranch, M 72.42 339 P P 02 15 51.3 -0.5
baz=73
127A Arkansas Junct 72.47 334 P P 02 15 52.0 -0.2
baz=73
X33A Lawton 72.57 339 P P 02 15 51.8 -0.9
baz=73
Y31A Rekieta Farm, 72.58 337 P P 02 15 52.1 -0.7
baz=73
Z28A Tucker Farm, M 72.68 335 P P 02 15 52.7 -0.7
baz=73
X32A Elmer 72.70 338 P P 02 15 52.9 -0.6
baz=73
Y29A Porterfield Fa 72.95 336 P P 02 15 54.5 -0.6
baz=73
TUL1 Tulsa 73.09 341 eP P 02 15 55.0 -0.7
35nm,1.4s
TUL1 Tulsa 73.09 341 P P 02 15 55.0 -0.7
baz=74
X31A McDonald Ranch 73.11 338 P P 02 15 55.1 -0.8
baz=74
W33A Caddo, Fort Co 73.13 339 P P 02 15 55.4 -0.5
baz=74
X30A Coker Ranch, T 73.22 337 P P 02 15 56.2 -0.4
baz=74
Z26A Caprock 73.23 334 P P 02 15 56.2 -0.6
baz=74
W32A Sentinel 73.33 338 P P 02 15 56.5 -0.7
baz=74
MSTX Muleshoe 73.43 335 eP P 02 15 57.2 -0.7
12nm,1.0s
MSTX Muleshoe 73.43 335 P P 02 15 57.0 -0.9
baz=74
V34A Guthrie 73.49 340 P P 02 15 57.7 -0.4
baz=74
Y27A Causey 73.49 335 P P 02 15 58.4 +0.1
baz=74
X29A Tulia 73.50 336 P P 02 15 57.6 -0.7
baz=74
Z25A Roswell 73.51 333 P P 02 15 57.6 -0.8
baz=74
W31A Holland Ranch, 73.61 338 P P 02 15 58.3 -0.5
baz=74
319A Douglas 73.67 329 P P 02 15 59.9 +0.5
baz=74
V33A Lossen Ranch, 73.69 339 P P 02 15 58.9 -0.4
baz=74
Y26A Elida 73.76 334 P P 02 15 59.5 -0.4
baz=74
Z24A Sheeppen Canyo 73.80 333 P P 02 15 59.7 -0.5
baz=74
V32A Arapaho 73.83 339 P P 02 16 00.2 +0.1
baz=74
AMTX Amarillo 73.89 336 eP P 02 16 00.8 +0.3
24nm,1.2s
AMTX Amarillo 73.89 336 P P 02 16 00.2 -0.4
baz=74
121A Cookes Peak, D 74.05 330 P P 02 16 02.1 +0.5
baz=74
U34A Anderson Ranch 74.06 340 eP P 02 16 01.4 0.0
57nm,1.5s
U34A Anderson Ranch 74.06 340 P P 02 16 01.1 -0.3
baz=74
Y25A Mesa, Roswell 74.08 333 P P 02 16 01.1 -0.6
baz=74
W29A Amraillo 74.09 336 P P 02 16 01.4 -0.4
baz=74
V31A Spring Creek L 74.12 338 P P 02 16 01.6 -0.3
baz=74
X26A CR and CF Fran 74.32 334 P P 02 16 03.0 -0.1
baz=75
Z22A Elephant Butte 74.35 331 P P 02 16 03.5 +0.1
baz=75
Y24A Capitan 74.36 333 P P 02 16 03.3 -0.1
baz=75
U32A Winter Ranch, 74.42 339 P P 02 16 02.8 -0.8
baz=75
W27A Bowe Ranch, En 74.52 335 P P 02 16 04.0 -0.3
baz=75
Y23A Lovelace Mesa, 74.59 332 P P 02 16 04.8 0.0
baz=75
T33A Patterson Ranc 74.86 340 P P 02 16 06.3 +0.3
baz=75
V28A Channing 74.86 336 P P 02 16 06.6 +0.4
baz=75
ACSO Alum Creek Sta 74.91 353 eP P 02 16 06.0 -0.3
46nm,1.7s
U30A WK&E Inc. Balk 75.07 338 P P 02 16 07.5 +0.1
baz=76
V27A Dan Oppiter Fa 75.07 336 P P 02 16 07.6 +0.1
baz=76
T32A Huddler Ranch, 75.14 339 P P 02 16 07.8 +0.1
baz=76
W25A X Bar L Ranch, 75.15 334 P P 02 16 07.8 -0.2
baz=76
T31A Randall Ranch, 75.29 339 P P 02 16 08.9 +0.3
baz=76
LAZ Ladron 75.43 332 eP P 02 16 09.1 -0.6
11nm,1.5s
V26A Tequesquite Ra 75.43 335 P P 02 16 09.1 -0.5
baz=76
W24A Lazy 6 Ranch, 75.49 334 P P 02 16 10.0 0.0
baz=76
S32A Newby Ranch, P 75.63 340 P P 02 16 10.8 +0.3
baz=76
ANMO Albuquerque 75.65 333 P P 02 16 10.4 -0.4
5.3nm,1.1s,baz=152,slow=9.9,SNR=7.3
ANMO Albuquerque 75.65 333 eP P 02 16 11.2 +0.3
14nm,1.4s
U27A Thompson Grove 75.67 336 P P 02 16 11.2 +0.4
baz=76
S31A Mullinville 75.72 339 P P 02 16 11.6 +0.5
baz=76
W23A Werner Place, 75.72 333 P P 02 16 11.5 +0.2
baz=76
V25A Rancho No Teng 75.76 334 P P 02 16 11.4 -0.1
baz=76
V24A Rampart Ranch, 75.90 334 P P 02 16 12.6 +0.3
baz=76
U26A Atchley Ranch, 75.96 335 P P 02 16 12.2 -0.4
baz=76
T28A Walsh 76.07 337 P P 02 16 12.9 -0.3
baz=76
U25A Circle Dot Ran 76.19 335 P P 02 16 13.5 -0.4
baz=77
S29A Ulysses 76.21 338 P P 02 16 13.9 0.0
baz=77
T27A Campo 76.22 336 P P 02 16 13.9 -0.1
baz=77
R32A Long Quarter, 76.24 340 P P 02 16 13.9 -0.1
baz=77
V23A Ortiz Mt. (NFS 76.25 333 P P 02 16 14.4 +0.1
baz=77
R31A Burdett 76.35 339 P P 02 16 14.7 +0.1
baz=77
S28A Manter 76.43 337 P P 02 16 15.0 -0.1
baz=77
Q33A Connelly Farm, 76.53 341 P P 02 16 15.3 -0.3
baz=77
R30A Dighton 76.57 339 P P 02 16 15.7 -0.2
baz=77
DBIC Dimbokro 76.60 72 eP P 02 16 17.2 +0.6
8.3nm,0.8s
T26A Comanche Natio 76.61 336 P P 02 16 15.9 -0.4
baz=77
V22A San Miguel Ran 76.67 333 P P 02 16 16.9 +0.1
baz=77
Q32A Meitler Ranch, 76.73 340 P P 02 16 16.4 -0.3
baz=77
U23A El Rito 76.77 333 P P 02 16 17.8 +0.5
baz=77
T25A Trinidad 76.86 335 P P 02 16 18.0 +0.2
baz=77
R29A Marienthal 76.96 338 P P 02 16 18.4 +0.4
baz=77
S26A Kim 76.97 336 P P 02 16 18.5 +0.2
baz=77
Q31A Ellis 76.98 340 P P 02 16 18.6 +0.4
baz=77
U22A Llaves 77.06 333 P P 02 16 19.5 +0.6
baz=78
R28A Tribune 77.09 338 P P 02 16 18.5 -0.4
baz=78
T24B San Luis 77.13 334 P P 02 16 19.4 0.0
baz=78
X16A Lo Mia Camp, P 77.20 329 P P 02 16 19.7 0.0
baz=78
P32A Huiting Farm, 77.33 340 P P 02 16 20.1 0.0
baz=78
Q29A Oakley 77.34 338 P P 02 16 20.0 -0.2
baz=78
S25A Robets Cordova 77.34 335 P P 02 16 20.9 +0.5
baz=78
T23A Casias Ranch, 77.34 334 P P 02 16 20.1 -0.4
baz=78
R27A Eads 77.36 337 P P 02 16 20.1 -0.3
baz=78
P31A Stockton 77.45 340 P P 02 16 20.8 0.0
baz=78
Y14A Wickenburg 77.48 327 P P 02 16 21.3 +0.2
baz=78
R26A Arlington 77.58 336 P P 02 16 22.0 +0.4
baz=78
S24A Houchin Ranch, 77.59 335 P P 02 16 22.4 +0.4
baz=78
Q28A Sharon Springs 77.76 338 P P 02 16 22.9 +0.3
baz=78
SDCO Great Sand Dun 77.79 335 eP P 02 16 22.3 -0.7
5.3nm,1.3s
KSCO Kaye Shedlock' 77.96 337 eP P 02 16 24.6 +0.9
35nm,1.4s
KSCO Kaye Shedlock' 77.96 337 P P 02 16 24.5 +0.7
baz=78
P29A Atwood 77.98 339 P P 02 16 24.2 +0.5
baz=78
Y12C Blythe 78.01 326 P P 02 16 24.8 +0.8
baz=78
R24A Sanders Place, 78.08 335 P P 02 16 25.2 +0.7
baz=78
WUAZ Wupatki 78.11 329 P P 02 16 25.5 +0.8
baz=78
Q26A Hugo 78.17 337 P P 02 16 24.7 -0.2
baz=79
P28A Saint Francis 78.20 338 P P 02 16 25.0 0.0
baz=79
O30A MW Ranch, Wils 78.25 340 P P 02 16 26.0 +0.7
baz=79
S22A 4UR Ranch, Cre 78.26 334 P P 02 16 26.0 +0.3
baz=79
R23A Moffat 78.30 335 P P 02 16 26.0 +0.2
baz=79
BC3 Big Chuckawall 78.37 325 P P 02 16 26.7 +0.6
baz=79
Q25A Bedland, Calha 78.40 336 P P 02 16 26.4 +0.1
baz=79
MVCO Mesa Verde 78.42 332 eP P 02 16 27.2 +0.7
50nm,2.3s
MVCO Mesa Verde 78.42 332 P P 02 16 26.7 +0.2
baz=79
P27A Ficken Ranch, 78.44 338 P P 02 16 26.9 +0.5
baz=79
P26A Davis Ranch, A 78.69 337 P P 02 16 28.3 +0.5
baz=79
O28A Krutsinger Ran 78.72 338 P P 02 16 28.3 +0.4
baz=79
PFO Pinyon Flat Ob 78.80 325 P P 02 16 29.0 +0.5
baz=79
W13A Hualapai Mount 78.85 327 P P 02 16 29.3 +0.4
baz=79
P25A Willow Gulch B 78.92 336 P P 02 16 29.0 -0.1
baz=79
O27A Beecher Island 78.99 338 P P 02 16 29.9 +0.5
baz=79
PV01 Paradox Valley 79.25 333 eP P 02 16 31.3 +0.2
1µm,1.5s
U15A North Rim 79.28 329 P P 02 16 32.0 +0.7
baz=80
LDFC Landfair 79.38 326 eP P 02 16 31.6 -0.1
5.8nm,0.8s
GMRC Granite Mounta 79.39 326 P P 02 16 32.8 +1.1
baz=80
SMCO Snowmass 79.58 334 eP P 02 16 33.7 +0.7
15nm,1.4s
PV04 Paradox Valley 79.61 333 eP P 02 16 32.9 0.0
ISCO Idaho Springs 79.66 335 eP P 02 16 33.5 +0.2
ISCO Idaho Springs 79.66 335 P P 02 16 33.7 +0.4
baz=80
L31A Butterfield Fa 79.78 341 P P 02 16 33.3 -0.2
baz=80
FMP Fort Macarthur 79.78 323 P P 02 16 34.9 +1.3
baz=80
L30A Spencer Herefo 79.80 341 P P 02 16 33.6 -0.1
baz=80
P22A Eagle 79.88 335 P P 02 16 34.8 +0.4
baz=80
TUQ Turquoise Moun 80.05 326 P P 02 16 35.7 +0.4
baz=80
L29A Maesberg Ranch 80.12 340 P P 02 16 35.7 +0.2
baz=81
O23A Lake Granby, G 80.13 335 P P 02 16 36.0 +0.2
baz=81
O22A Kremmling 80.31 335 P P 02 16 36.8 +0.1
baz=81
TSUM Tsumeb 80.32 107 eP P 02 16 37.7 +0.4
13nm,1.4s
GSC Goldstone 80.35 325 P P 02 16 37.1 +0.3
baz=81
K30A Basset 80.45 341 P P 02 16 37.5 +0.4
baz=81
ECSD EROS Data Cent 80.68 343 eP P 02 16 37.1 -1.2
14nm,1.2s
ECSD EROS Data Cent 80.68 343 P P 02 16 37.6 -0.7
baz=81
CCUT Cedar City 80.68 329 eP P 02 16 39.5 +0.8
13nm,1.3s
N23A Red Feather La 80.75 336 P P 02 16 39.6 +0.4
baz=81
N22A Wattenberg Ran 80.84 335 P P 02 16 39.8 +0.2
baz=81
SRU San Rafael 80.86 332 eP P 02 16 40.2 +0.6
7.6nm,1.1s
O20A White River Ci 80.89 334 P P 02 16 39.6 -0.2
baz=81
M24A Cheyenne 80.89 337 P P 02 16 39.8 0.0
baz=81
BOSA Boshof 80.97 118 P P 02 16 42.7 +2.0
6.5nm,1.0s,baz=241,slow=8.4,SNR=4.4
BOSA Boshof 80.97 118 eP P 02 16 39.3 -1.3
13nm,1.2s
M23A Laramie 81.19 336 P P 02 16 41.9 +0.5
baz=82
J29A Okreek 81.32 341 P P 02 16 42.0 +0.3
baz=82
N20A Spence Gulch, 81.51 334 P P 02 16 43.4 +0.3
baz=82
J28A Allard Ranch, 81.59 340 P P 02 16 43.7 +0.5
baz=82
J27A Elkhorn Farm, 81.65 339 P P 02 16 44.4 +0.9
baz=82
L22A Ellis Ranch, M 81.93 336 P P 02 16 46.2 +0.9
baz=82
J26A Sides Ranch, S 82.02 339 P P 02 16 46.4 +0.8
baz=82
MPU Maple Canyon 82.07 331 eP P 02 16 46.8 +0.8
8.4nm,1.1s
I28A Midland 82.10 340 P P 02 16 45.6 -0.3
baz=82
R11A Troy Canyon, C 82.31 328 P P 02 16 47.8 +0.5
baz=83
I27A Quinn 82.41 340 P P 02 16 47.2 -0.3
baz=83
H29A Onida 82.42 341 P P 02 16 47.2 -0.3
baz=83
K22A Casper 82.52 336 P P 02 16 48.6 +0.3
baz=83
J24A Dixon Ranch, L 82.52 338 P P 02 16 48.5 +0.3
baz=83
H28A Mission Ridge 82.68 341 P P 02 16 48.9 0.0
baz=83
DUG Dugway 82.69 331 eP P 02 16 49.5 +0.3
28nm,1.5s
DUG Dugway 82.69 331 P P 02 16 49.5 +0.3
baz=83
K21A Alcova 82.75 336 P P 02 16 49.2 -0.3
baz=83
TPH Tonopah 82.81 327 eP P 02 16 49.9 -0.1
16nm,1.4s
I25A Rochford 82.86 339 P P 02 16 50.0 0.0
baz=83
G29A Hoven 82.87 342 P P 02 16 49.1 -0.7
baz=83
H27A Howes 82.94 340 P P 02 16 49.8 -0.4
baz=83
G28A Parade 83.03 341 P P 02 16 50.3 -0.3
baz=84
J22A Midwest 83.18 337 P P 02 16 50.8 -0.9
baz=84
F30A Leola 83.24 342 P P 02 16 51.1 -0.6
baz=84
LBTB Lobatse 83.26 116 eP P 02 16 51.5 -1.1
12nm,1.2s
H25A Fruitdale 83.37 339 P P 02 16 53.0 +0.5
baz=84
BGU Big Grassy Mou 83.40 331 eP P 02 16 53.5 +0.7
7.5nm,1.5s
F29A Eureka 83.44 342 P P 02 16 52.6 -0.2
baz=84

J21A Lysite 83.44 336 P P 02 16 53.2 +0.2
baz=84
G27A Dupree 83.58 340 P P 02 16 53.2 -0.3
baz=84
NVAR Mina Array Bea 83.59 326 P P 02 16 54.5 +0.5
1.2nm,0.9s,baz=129,slow=7.1,SNR=5.6
I22A 9 Mile Ranch, 83.61 337 P P 02 16 53.5 -0.3
baz=84
J20A Shoshoni 83.67 335 P P 02 16 54.3 +0.2
baz=84
BW06 Boulder Array 83.67 334 eP P 02 16 53.0 -1.2
17nm,1.7s
PDAR Pinedale Array 83.67 334 P P 02 16 53.4 -0.9
1.5nm,1.0s,baz=142,slow=3.1,SNR=6.0
F28A McLaughlin 83.71 341 P P 02 16 54.3 +0.1
baz=84
H24A Dirks Ranch, A 83.77 338 P P 02 16 54.1 -0.5
baz=84
I21A Big Trails, Te 83.81 336 P P 02 16 54.2 -0.7
baz=84
E30A Jud 83.83 343 P P 02 16 53.8 -0.9
baz=84
G25A Newell 83.84 339 P P 02 16 54.0 -0.8
baz=84
J19A Crowheart 83.92 335 P P 02 16 55.4 -0.1
baz=84
HVU Hansel Valley 84.03 332 eP P 02 16 55.8 -0.2
8.4nm,0.9s
F27A Lemmon 84.06 340 P P 02 16 55.7 -0.2
baz=84
E29A Napoleon 84.08 342 P P 02 16 55.8 -0.2
baz=84
I20A Worland 84.21 336 P P 02 16 56.5 -0.3
baz=85
F26A Lodgepole 84.22 340 P P 02 16 56.6 -0.2
baz=85
D30A Buchanan 84.37 343 P P 02 16 57.4 -0.1
baz=85
D29A Pettibone, Tap 84.53 342 P P 02 16 57.8 -0.4
baz=85
I19A Meeteetse 84.58 335 P P 02 16 58.4 -0.5
baz=85
H20A Greybull 84.64 336 P P 02 16 58.0 -1.0
baz=85
F24A Ekalaka 84.73 339 P P 02 16 59.0 -0.5
baz=85
AGMN Agassiz Nation 84.84 345 P P 02 16 59.0 -0.8
baz=85
C30A Mose, Pekin 84.86 343 P P 02 16 59.6 -0.3
baz=85
F23A Volborg 84.91 338 P P 02 16 59.5 -0.8
baz=85
F22A Rosebud 85.22 338 P P 02 17 01.6 -0.2
baz=86
G20A Bridger 85.36 336 P P 02 17 01.8 -0.8
baz=86
H18A Shoshone NF, C 85.37 335 P P 02 17 02.0 -0.9
baz=86
B30A Myrvik Farm, E 85.52 344 P P 02 17 02.8 -0.4
baz=86
D25A Fairfield 85.59 340 P P 02 17 03.4 -0.3
baz=86
C27A Sayler Ranch, 85.62 342 P P 02 17 03.7 0.0
baz=86
TOA0 Torodi Ar. Sit 85.63 71 eP P 02 17 05.4 +0.8
TORD Torodi Ar. Bea 85.63 71 P P 02 17 05.4 +0.9
8.1nm,1.2s,baz=250,slow=3.8,SNR=10
B29A Wagenman Farm, 85.78 343 P P 02 17 04.3 -0.2
baz=86
D24A Glendive 85.85 340 P P 02 17 04.9 0.0
baz=86
B28A Dugan Ranch, T 86.01 343 P P 02 17 05.5 -0.1
baz=86
D23A Lindsay 86.16 339 P P 02 17 06.0 -0.5
baz=87
F19A Roth Farm, Mol 86.16 336 P P 02 17 05.6 -0.9
baz=87
A29A Manning Farm, 86.18 343 P P 02 17 05.8 -0.6
baz=87
HLID Hailey 86.18 332 P P 02 17 07.0 +0.2
baz=87
C24A Savage 86.25 340 P P 02 17 06.2 -0.6
baz=87
E20A Meyer Farm, Mu 86.46 337 P P 02 17 07.5 -0.5
baz=87
B25A Knox Farm, Ray 86.57 341 P P 02 17 07.9 -0.5
baz=87
D21A La Casta Ranch 86.60 338 P P 02 17 08.2 -0.5
baz=87
E19A Rath Farm, Rou 86.64 336 P P 02 17 08.8 -0.1
baz=87
MCMT McKenzie Canyo 86.65 333 eP P 02 17 09.4 +0.2
6.8nm,1.4s
ULM Lac du Bonnet 86.69 346 P P 02 17 07.0 -1.9
3.2nm,0.9s,baz=166,slow=2.7,SNR=4.6
C23A Lambert 86.72 339 P P 02 17 09.1 -0.1
baz=87
A26A Wade Farm, Ken 86.85 342 P P 02 17 09.8 +0.1
baz=87
C22A Vida 86.87 339 P P 02 17 10.0 +0.1
baz=87
D20A Manuel Ranch, 86.98 337 P P 02 17 09.8 -0.7
baz=87
DGMT Dagmar 87.04 340 P P 02 17 10.3 -0.4
baz=88
C21A Desert Coulee 87.31 338 P P 02 17 10.8 -1.3
baz=88
LRM Limekiln Ridge 87.35 334 eP P 02 17 12.2 -0.4
64nm,1.5s
A24A Westby 87.40 340 P P 02 17 12.4 0.0
baz=88
A22A Carney Farms, 88.00 339 P P 02 17 15.4 0.0
baz=88
YBH Yreka Blue Hor 88.26 326 P P 02 17 16.1 -0.7
2.8nm,0.8s,baz=104,slow=8.3,SNR=4.9
A20A Cobblestone Ra 88.50 338 P P 02 17 17.6 -0.1
baz=89
MSO Missoula 88.75 334 P P 02 17 20.3 +1.3
baz=89
A19A Klindworth Far 88.80 338 P P 02 17 19.4 +0.3
baz=89
J05D Fort Rock, OR 88.81 327 P P 02 17 20.1 +0.6
baz=89
KIEV Kiev 123.52 48 ePKPdf PKPdf 02 23 22.0 -0.3
SEY Seymchan 139.84 329 PKP PKPdf 02 23 53.0 +0.3
2.2nm,0.9s,baz=67,slow=7.7,SNR=4.0
ARU Arti 141.01 41 ePKPdf PKPdf 02 23 53.8 -1.2
GEYT Alibeck 141.27 71 PKP PKPdf 02 23 57.8 +1.6
0.6nm,0.6s,baz=248,slow=11,SNR=3.2
ABKAR Akbulak array 143.05 52 ePKPdf PKPdf 02 23 58.5 -0.3
BRVK Borovoye 148.50 43 ePKPbc PKPbc 02 24 12.4 +0.7
BVAR Borovoye Array 148.57 43 PKPbc PKPbc 02 24 12.8 +0.9
2.4nm,0.4s,baz=294,slow=1.7,SNR=18
YAK Yakutsk 148.78 339 ePKPbc PKPbc 02 24 11.4 -0.7
HYB Hyderabad 149.87 117 i PKP PKPbc 02 24 15.5 -0.7
KULM Kulim 150.41 168 ePKPdf PKPdf 02 24 11.3 -1.0
KULM ePKPbc PKPbc 02 24 16.7 -0.9
KKAR Karatay Array 150.96 62 ePKPbc PKPbc 02 24 17.8 -0.3
KSH Kashi 155.29 69 ePKPbc PKPdf 02 24 18.5 -0.4
KSH epPKP pPKPdf 02 24 29.3 -1.1
KSH esPKP 02 24 33.5
KSH eSKS SKSdf 02 31 21.0 -1.7
KSH eSKKS SKKSac 02 35 06.5 -1.4
KSH eSS SS 02 48 01.8 -2.3
KSH AMB AMB
comp=Z,41nm,7.6s
ZAA0 Zalesovo Array 155.38 31 ePKPdf PKPdf 02 24 19.7 +1.4
ZAA0 ePKPbc PKPbc 02 24 27.9
ZALV Zalesovo Beam 155.38 31 PKP PKPdf 02 24 18.4 +0.1
1.4nm,0.9s,baz=278,slow=3.9,SNR=3.6
ZALV PKPbc PKPbc 02 24 27.8
1.7nm,0.6s,baz=299,slow=3.1,SNR=4.7
MKAR Makanchi Array 158.11 49 PKPab PKPab 02 24 56.8 +0.9
1.4nm,0.9s,baz=282,slow=2.9,SNR=4.7
CN2 Changchun 162.59 308 ePKP PKPdf 02 24 28.0 +0.9
WMQ Urumqi 162.84 52 PKP PKPdf 02 24 27.3 -0.2
WMQ AMB AMB
comp=Z,120nm,10.8s
WMQ LR LR
comp=N,120nm,23.4s
WMQ LR LR
comp=E,140nm,20.6s
WMQ LR LR
comp=Z,190nm,21.0s
ULN Ulaanbaatar 166.68 358 ePKPab PKPab 02 25 34.1 +0.7
SONM Songino Array 166.72 360 PKPab PKPab 02 25 33.3 -0.3
1.1nm,1.0s,baz=333,slow=3.4,SNR=4.4
NJ2 Nanjing 169.26 260 ePKP PKPdf 02 24 31.5 -1.4
KMI Kunming 170.09 160 PKP PKPdf 02 24 35.3 +1.4
GYA Guiyang 171.94 182 PKP PKPdf 02 24 33.0 -1.7
GYA pPKP pPKPdf 02 24 45.8 -0.4
GYA PKPab PKPab 02 25 58.0 +0.8
GYA PKS PKSdf 02 28 03.5 -3.7
GYA PP PP 02 29 49.5 +2.3
GYA SKKS 02 36 31.5
GYA SS SS 02 50 52.0 -0.7
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=N,130nm,21.5s
GYA LR LR
comp=E,110nm,21.2s
GYA LR LR
comp=Z,120nm,24.6s
HHC Hu-ho-hao-te 172.48 328 ePKP PKPdf 02 24 34.3 -0.1
HHC pPKP pPKPdf 02 24 44.0 -2.0
HHC sPKP 02 24 48.8
HHC PP PP 02 29 54.0 +3.6
HHC SKKS 02 36 36.0
HHC SS SS 02 51 05.0 +6.0
HHC AMB AMB
comp=Z,170nm,6.5s
HHC LR LR
comp=N,150nm,20.0s
HHC LR LR
comp=E,260nm,21.4s
HHC LR LR
comp=Z,330nm,20.9s
GTA Gaotai 172.85 45 ePKP PKPdf 02 24 34.8 +0.1
GTA pPKP pPKPdf 02 24 45.5 -0.7
GTA sPKP 02 24 49.3
GTA PKPab PKPab 02 26 02.8 +1.7
CD2 Chengdu 175.76 148 PKP PKPdf 02 24 35.0 -0.8
CD2 pPKP pPKPdf 02 24 46.3 -1.0
CD2 sPKP 02 24 50.0
CD2 PKS PKSdf 02 28 05.8 -2.2
CD2 PP PP 02 30 09.0 +2.8
CD2 SKS SKSdf 02 31 32.5 -3.7
CD2 SKKS SKKSac 02 36 49.8 -0.6
CD2 SS SS 02 51 28.5 -2.0
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 177.42 53 ePKP PKPdf 02 24 34.8 -1.3
LZH pPKP pPKPdf 02 24 45.0 -2.6
LZH sPKP 02 24 49.3
LZH SKKS 02 36 56.8
LZH SS SS 02 51 45.0 -2.8
LZH AMB AMB
comp=Z,240nm,9.2s
LZH LR LR
comp=N,2μm,19.8s
LZH LR LR
comp=E,950nm,18.4s
LZH LR LR
comp=Z,2μm,16.4s
XAN Xi'an 177.83 257 PKP PKPdf 02 24 39.8 +3.7

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*IDC **28** 02:07:56.2±0.8, 34°.49S×73°.75W, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.1/30, mbtmp4.1/11, ML3.8/1, Error ellipse: s-maj=28.8km s-min=18.7km az=78.0*
*ISCJB **28** 02:07:59.5±0.4, 34°.48S±0°.06×73°.80W±0°.06, h35km, mb4.4/31, Error ellipse: s-maj=9.0km s-min=6.4km az=159.6*
*NEIC **28** 02:08:01.1±0.3, 34°.47S×73°.77W, h35km, mb4.5/25, Error ellipse: s-maj=7.1km s-min=6.6km az=92.0*
*SJA **28** 02:08:20.6±0.5, 33°.19S×73°.24W, h55km±17km, ML4.0*
*GUC **28** 02:08:23.4±0.6, 33°.31S×72°.36W, h35km, ML3.8*
ISC 28 02:08:01.0±0.5, 34°.48S±0°.07×73°.85W±0°.08, h35km, n63, σ0§94/59, mb4.5/31, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	2.35	52	eP	Pn	02 08 37.1	0.0
RCDM	Rinconada Maip	2.72	69	eP	Pn	02 08 47.1	+4.9
RCDM				i S	Sn	02 09 05.3	-8.5
RCDM				AML	AML	02 09 08.3	
	comp=E,2μm,0.4s						
ROCH	El Roble	2.81	58	eP	Pn	02 08 43.8	+0.2
ROCH				i S	Sn	02 09 01.2	-15
STL	Santa Lucia	2.87	70	eP	Pn	02 08 48.6	+4.4
STL				i S	Sn	02 09 06.2	-11
PEL	Peldehue	2.96	64	eP	Pn	02 08 48.7	+3.2
PEL				i S	Sn	02 09 07.7	-12
PEL				AML	AML	02 09 16.3	
	comp=N,4μm,0.3s						
FCH	Farellones	3.18	70⇑	iP	Pn	02 08 53.9	+5.1
FCH				eS	Sn	02 09 18.0	-7.7
AUSP	Uspallata	4.37	60	eP	Pn	02 09 13.9	+8.8
AUSP				eS	Sn	02 09 53.5	-1.3
AAGR	Agrelo	4.41	73	eP	Pn	02 09 18.1	+13
ARCO	CERRO ARCO	4.42	70	eP	Pn	02 09 16.9	+11
ARCO				eS	Sn	02 09 59.1	+3.1
ARCO				AML	AML	02 10 06.7	
	comp=Z,267nm,0.5s						
ASAL	Salagasta	4.60	67	eP	Pn	02 09 18.8	+11
ASAL				eP	Pn	02 09 18.8	+11
RTLS	Leoncito	4.67	56	eP	Pn	02 09 17.6	+8.4
RTLL	Cerro Villicun	5.51	57	eP	Pn	02 09 28.0	+7.5
CFAA	Coronel Fontan	5.52	60	Sn	Sn	02 10 22.2	-0.8
	comp=Z,1.3nm,0.3s,baz=343,slow=6.0,SNR=3.2						
PLCA	Paso Flores	6.76	158	ePn	Pn	02 09 37.5	-0.3
CPUP	Villa Florida	16.39	65	ePn	Pn	02 11 48.5	+0.1
LPAZ	La Paz	18.84	17	P	Pn	02 12 18.7	+0.2
	comp=Z,0.1nm,0.3s,baz=195,slow=13,SNR=2.7						
LPAZ	La Paz	18.84	17	eP	P	02 12 15.9	-2.6
	comp=Z,4.8nm,0.9s						
SIV	San Ignacio	21.70	35	P	P	02 12 48.8	-0.2
	comp=Z,3.1nm,0.6s,baz=212,slow=12,SNR=5.3						
NNA	Nana	22.56	352	P	P	02 12 59.8	+1.5
	comp=Z,3.2nm,0.3s,baz=184,slow=13,SNR=3.6						
OTAV	Otavalo	34.81	352	eP	P	02 14 49.7	+0.6
	comp=Z,4.7nm,1.1s						
SDV	Santo Domingo	43.24	5	eP	P	02 15 58.0	-1.2
	comp=Z,9.2nm,0.9s						
SNAA	Sanae	51.71	158	P	P	02 17 04.2	-0.1
	comp=Z,1.3nm,0.8s,baz=270,slow=8.1,SNR=5.1						
SNAA	Sanae	51.71	158	eP	P	02 17 05.1	+0.8
	comp=Z,4.3nm,0.8s						
QSPA	South Pole Qui	55.75	180	P	P	02 17 35.2	+1.2
	comp=Z,4.9nm,1.1s,baz=151,slow=4.0,SNR=5.3						
QSPA	South Pole Qui	55.75	180	eP	P	02 17 35.6	+1.6
	comp=Z,7.0nm,1.1s						
HKT	Hockley	67.36	339	eP	P	02 18 52.9	+0.5
	comp=Z,10nm,1.5s						
GOGA	Godfrey	68.14	351	eP	P	02 18 57.1	-0.2
	comp=Z,4.1nm,0.7s						
JCT	Junction City	69.10	336	eP	P	02 19 04.0	+0.5
	comp=Z,6.8nm,1.0s						
TXAR	Lajitas Array	69.44	332	P	P	02 19 06.4	+0.8
	comp=Z,2.6nm,0.8s,baz=157,slow=8.5,SNR=18						
KMSC	Kings Mountain	69.62	353	eP	P	02 19 05.9	-0.6
	comp=Z,7.5nm,0.9s						
WHTX	Lake Whitney	69.75	339	eP	P	02 19 07.4	0.0
	comp=Z,6.1nm,0.9s						
SWET	Sewanee	70.25	350	eP	P	02 19 10.4	-0.1
	comp=Z,8.7nm,0.9s						
ABTX	Abilene, Hawle	71.02	337	eP	P	02 19 15.0	-0.2
	comp=Z,5.0nm,0.9s						
WVT	Waverly	71.45	348	eP	P	02 19 17.5	-0.1
	comp=Z,9.5nm,1.0s						
MNTX	Cornudas Mount	72.21	332	eP	P	02 19 21.8	-0.6
	comp=Z,2.6nm,1.0s						
TUL1	Tulsa	72.97	342	eP	P	02 19 26.5	-0.2
	comp=Z,9.7nm,0.9s						
BBTS	Babate	73.15	58	P	P	02 19 28.3	+0.1
	comp=Z,31nm,1.1s,baz=211,slow=6.1,SNR=2.5						
LAZ	Ladron	75.29	332	eP	P	02 19 41.6	+1.1
ANMO	Albuquerque	75.51	333	P	P	02 19 42.0	+0.2
	comp=Z,1.2nm,0.8s,baz=165,slow=9.0,SNR=3.9						
ANMO	Albuquerque	75.51	333	eP	P	02 19 42.8	+1.0
	comp=Z,3.1nm,1.2s						
DBIC	Dimbokro	76.76	72	P	P	02 19 49.0	-0.2
	comp=Z,3.2nm,0.7s,baz=205,slow=6.9,SNR=5.2						
DBIC	Dimbokro	76.76	72	eP	P	02 19 49.5	+0.4
	comp=Z,5.4nm,0.8s						
SDCO	Great Sand Dun	77.65	335	eP	P	02 19 54.4	+0.5
	comp=Z,1.2nm,0.8s						
MVCO	Mesa Verde	78.28	332	eP	P	02 19 57.8	+0.4
	comp=Z,2.2nm,0.7s						
CASY	Casey	79.50	182	eP	P	02 20 04.0	+0.4
	comp=Z,9.5nm,1.1s						
ISCO	Idaho Springs	79.53	336	eP	P	02 20 05.2	+0.9
	comp=Z,2.6nm,1.1s						
DUG	Dugway	82.55	331	eP	P	02 20 21.0	+0.8
	comp=Z,3.4nm,1.1s						
HWUT	Hardware Ranch	83.27	332	eP	P	02 20 24.5	+0.6
	comp=Z,2.3nm,0.8s						
NVAR	Mina Array Bea	83.44	326	P	P	02 20 26.4	+1.5
	comp=Z,0.7nm,0.7s,baz=161,slow=6.1,SNR=3.8						
PDAR	Pinedale Array	83.53	334	P	P	02 20 25.6	+0.2
	comp=Z,0.7nm,0.8s,baz=152,slow=6.7,SNR=4.8						
TOA0	Torodi Ar. Sit	85.79	71	eP	P	02 20 37.0	0.0
TORD	Torodi Ar. Bea	85.79	71	P	P	02 20 37.3	+0.3
	comp=Z,1.0nm,0.7s,baz=284,slow=5.3,SNR=8.7						
MOD	Modoc	87.14	327	eP	P	02 20 44.0	+0.7
	comp=Z,3.7nm,1.0s						
LSZ	Lusaka	91.07	109	eP	P	02 21 00.6	-1.8
	comp=Z,2.2nm,0.9s						
BR131	Keskin Array S	123.39	62	ePKPdf	PKPdf	02 26 52.0	-2.3
BRVK	Borovoye	148.59	43	ePKPbc	PKPbc	02 27 44.0	+0.4
KKM	Kota Kinabalu	150.21	200	ePKPbc	PKPbc	02 27 48.2	-0.8
KKM				ePKPab	PKPab	02 27 53.8	-1.1
KULM	Kulim	150.51	169	ePKPbc	PKPbc	02 27 49.4	-0.2
KURK	Kurchatov	154.26	43	ePKPdf	PKPdf	02 27 48.4	-0.2
KURK				ePKPbc	PKiKP	02 27 57.0	+0.1
KURK				ePKPab	PKPab	02 28 11.6	+0.6
TKM2	Tokmak 2	154.82	61	ePKPdf	PKPdf	02 27 50.1	+0.1
TKM2				ePKPbc	PKiKP	02 27 59.1	+0.4
TKM2				ePKPab	PKPab	02 28 13.7	-0.2
ZAA0	Zalesovo Array	155.43	31	ePKPdf	PKPdf	02 27 49.4	-0.7
ZAA0				ePKPbc	PKPbc	02 27 58.7	
ZALV	Zalesovo Beam	155.43	31	PKPbc	PKPdf	02 27 59.6	+10
	comp=Z,1.1nm,0.6s,baz=282,slow=2.7,SNR=4.5						
MKAR	Makanchi Array	158.21	48	PKPab	PKPab	02 28 28.4	+0.3
	comp=Z,0.5nm,0.7s,baz=307,slow=4.4,SNR=4.3						

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*SJA **28** 02:12:56.4±0.6, 33°.66S×71°.70W, h444km±13km, ML4.6*
*IDC **28** 02:12:59.7±0.6, 34°.52S×72°.09W, h0km, mb4.4/14, mb1 4.5/14, mb1mx4.4/28, mbtmp4.4/14, Error ellipse: s-maj=24.7km s-min=16.8km az=68.0*
*ISCJB **28** 02:13:02.5±2.0, 34°.53S±0°.04×72°.28W±0°.06, h30km±14km, mb4.6/54, Error ellipse: s-maj=9.1km s-min=6.1km az=35.7*
*GUC **28** 02:13:04.2±0.4, 34°.34S×72°.37W, h17km, ML4.8*
*NEIC **28** 02:13:05.2±0.8, 34°.42S×71°.95W, h36km±7km, mb4.7/46, Error ellipse: s-maj=8.6km s-min=4.3km az=74.0*
ISC 28 02:12:59.8±1.5, 34°.50S±0°.05×72°.26W±0°.06, h2km±8km, n130, σ1§18/140, mb4.7/53, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	Rinconada Maip	1.57	51	eP	Pg	02 13 30.0	+0.1
RCDM				i S	Sn	02 13 49.1	-0.5
STL	Santa Lucia	1.71	52⇑	iP	Pn	02 13 25.5	-5.1
STL				eS	Sb	02 13 53.9	0.0
ROCH	El Roble	1.84	35	eP	Pb	02 13 33.8	-0.5
ROCH				i S	Sn	02 13 56.6	+0.1
ROCH				AML	AML	02 14 12.2	
	comp=N,49μm,0.3s						
PEL	Peldehue	1.88	45	eP	Pn	02 13 31.9	-1.1
PEL				i S	Sb	02 13 58.1	-0.7
PEL				AML	AML	02 14 06.2	
	comp=N,10μm,0.4s						
FCH	Farellones	2.01	55⇑	iP	Pn	02 13 33.7	-1.3
FCH				i S	Sn	02 14 01.9	+1.1
FCH				AML	AML	02 14 09.6	
	comp=N,5μm,0.3s						
AAGR	Agrelo	3.18	65	eP	Pg	02 13 59.8	-1.1
ARCO	CERRO ARCO	3.23	60	eP	Pg	02 14 00.1	-1.6
ARCO				eS	Sg	02 14 46.9	+3.3
ARCO				AML	AML	02 14 51.4	
	comp=Z,475nm,0.5s						
AVIZ	Vizcacheras	3.27	73	eP	Pg	02 14 01.3	-1.2
AVIZ				eP	Pg	02 14 01.3	-1.2
AUSP	Uspallata	3.30	47	eP	Pb	02 14 00.5	+1.2
AUSP				eS	Sg	02 14 47.5	+1.6
ASAL	Salagasta	3.43	57	eP	Pb	02 14 01.3	-0.1
RTLS	Leoncito	3.66	44	eP	Pb	02 14 02.1	-3.3
RTLS				eS	Sb	02 14 51.6	+1.3
RTCV	Cerro Valdivia	4.08	51	eP	Pn	02 14 05.7	+2.5
CFAA	Coronel Fontan	4.44	51	Pn	Pn	02 14 11.7	+3.5
	comp=Z,1.5nm,0.3s,baz=229,slow=12,SNR=6.7						
CFAA				Lg	Lg	02 15 18.2	
	comp=Z,3.5nm,0.3s,baz=100,slow=20,SNR=5.3						
ACAN	Cantantal	4.78	64	eP	Pn	02 14 12.9	-0.1
PLCA	Paso Flores	6.37	168	Pn	Pn	02 14 37.9	+3.1
	comp=Z,4.7nm,0.3s,baz=352,slow=11,SNR=5.0						
PLCA				Lg	Lg	02 16 08.4	
	comp=Z,11nm,0.3s,baz=261,slow=16,SNR=4.3						
PLCA	Paso Flores	6.37	168	ePn	Pn	02 14 36.3	+1.5
PLCA				Lg	Lg	02 16 08.4	
TRQA	Tornquist	9.03	116	ePn	Pn	02 15 09.9	-1.3
LVC	Limon Verde	12.20	15	ePn	Pn	02 15 55.0	+0.2
CPUP	Villa Florida	15.22	62	Pn	P	02 16 40.2	-0.7
	comp=Z,0.6nm,0.3s,baz=228,slow=12,SNR=3.8						
LPAZ	La Paz	18.51	13	P	Pn	02 17 20.2	+2.2
	comp=Z,0.6nm,0.3s,baz=186,slow=8.0,SNR=32						
LPAZ	La Paz	18.51	13	eP	Pn	02 17 19.6	+1.6
	comp=Z,11nm,0.7s						
USHA	Ushuaia	20.51	174	P	Pn	02 17 41.6	+0.4
	comp=Z,5.9nm,0.7s,baz=341,slow=8.2,SNR=3.2						
SIV	San Ignacio	20.99	31	P	P	02 17 44.3	-0.2
	comp=Z,13nm,0.9s,baz=224,slow=13,SNR=12						
NNA	Nana	22.79	348	P	P	02 18 05.4	+1.5
	comp=Z,17nm,0.8s,baz=191,slow=9.6,SNR=7.9						
NNA	Nana	22.79	348	eP	P	02 18 04.9	+1.0
	comp=Z,28nm,1.0s						
SAML	Samuel	26.76	20	eP	P	02 18 38.6	-2.4
	comp=Z,3.2nm,0.7s						
ATAH	Atahualpa	27.81	347	P	P	02 18 53.1	+2.2
	comp=Z,4.9nm,0.7s,baz=157,slow=13,SNR=3.1						
BDFB	Brasilia	28.76	55	P	P	02 18 57.5	-1.6
	comp=Z,3.3nm,0.7s,baz=242,slow=12,SNR=4.9						
OTAV	Otavalo	35.03	349	eP	P	02 19 56.0	+1.5
	comp=Z,4.8nm,0.6s						
ROSC	El Rosal	39.19	357	eP	P	02 20 33.3	+3.5
SDV	Santo Domingo	43.17	2	eP	P	02 21 01.6	-0.7
	comp=Z,11nm,0.9s						
JTS	JuntasAbangare	46.14	343	eP	P	02 21 25.7	-0.1
	comp=Z,18nm,1.3s						
SNAA	Sanae	51.20	158	P	P	02 22 04.3	+0.1
	comp=Z,0.7nm,0.7s,baz=276,slow=7.0,SNR=3.6						
SNAA	Sanae	51.20	158	eP	P	02 22 04.3	+0.1
	comp=Z,10nm,1.0s						
OBIP	Obispado Ponce	52.52	7	eP	P	02 22 13.6	-0.9
CELP	Cerrillos	52.56	7	eP	P	02 22 13.3	-1.5
CBYP	Canovanas	52.83	8	eP	P	02 22 15.0	-1.8
	comp=Z,21nm,1.1s						
QSPA	South Pole Qui	55.74	180	P	P	02 22 38.2	+0.5
	comp=Z,2.6nm,0.7s,baz=49,slow=0.3,SNR=8.9						
QSPA	South Pole Qui	55.74	180	eP	P	02 22 38.4	+0.6
	comp=Z,7.9nm,1.1s						
VNDA	Vanda	63.58	191	eP	P	02 23 32.1	+0.7
	comp=Z,88nm,1.6s						
SYO	Syowa Base	65.47	158⇑	eP	P	02 23 54.9	+11
HKT	Hockley	67.85	338	eP	P	02 23 59.8	+0.4
	comp=Z,5.4nm,1.3s						
GOGA	Godfrey	68.36	350	eP	P	02 24 02.1	-0.4
LRAL	Lakeview Retre	68.59	347	eP	P	02 24 03.3	-0.7
	comp=Z,21nm,1.4s						
JCT	Junction City	69.65	335	eP	P	02 24 11.2	+0.5
	comp=Z,2.7nm,0.6s						
KMSC	Kings Mountain	69.80	352	eP	P	02 24 11.5	0.0
	comp=Z,6.5nm,0.8s						
TXAR	Lajitas Array	70.08	331	P	P	02 24 14.2	+0.7
	comp=Z,1.3nm,0.6s,baz=154,slow=8.6,SNR=21						
WHTX	Lake Whitney	70.26	337	eP	P	02 24 14.5	+0.2
	comp=Z,8.3nm,0.9s						
SWET	Sewanee	70.52	348	eP	P	02 24 15.8	-0.1
	comp=Z,21nm,0.9s						
ABTX	Abilene, Hawle	71.56	336	eP	P	02 24 22.4	+0.1
	comp=Z,8.3nm,0.9s						
WVT	Waverly	71.75	347	eP	P	02 24 22.7	-0.6
	comp=Z,24nm,0.8s						
MNTX	Cornudas Mount	72.85	331	eP	P	02 24 29.4	-0.7
	comp=Z,5.4nm,1.1s						
TUL1	Tulsa	73.41	340	eP	P	02 24 32.5	-0.8
	comp=Z,8.5nm,0.9s						
WCI	Wyandotte Cave	73.52	349	eP	P	02 24 33.1	-0.7
	comp=Z,5.8nm,0.9s						
SIUC	Southern Illin	73.55	346	eP	P	02 24 33.3	-0.7
MSTX	Muleshoe	73.87	334	eP	P	02 24 37.1	+1.0

comp=Z,10nm,0.9s
SUR Sutherland 74.75 119 eP P 02 24 39.3 -2.4
comp=Z,14nm,1.0s
ACSO Alum Creek Sta 75.01 352 eP P 02 24 42.2 -0.3
comp=Z,16nm,0.8s
DBIC Dimbokro 75.51 71 P P 02 24 45.2 -0.8
comp=Z,4.8nm,0.6s,baz=215,slow=6.0,SNR=9.6
DBIC Dimbokro 75.51 71 eP P 02 24 45.2 -0.8
comp=Z,9.5nm,0.9s
LAZ Ladron 75.92 331 eP P 02 24 49.2 +1.1
comp=Z,0.9nm,0.8s
ANMO Albuquerque 76.13 332 eP P 02 24 50.8 +1.5
comp=Z,5.5nm,1.0s
SDCO Great Sand Dun 78.23 334 eP P 02 25 01.5 +0.3
comp=Z,2.8nm,0.9s
WUAZ Wupatki 78.65 328 eP P 02 25 04.4 +1.0
comp=Z,9.9nm,0.9s
MVCO Mesa Verde 78.91 331 eP P 02 25 05.7 +0.9
comp=Z,10.0nm,1.1s
TSUM Tsumeb 79.25 106 eP P 02 25 06.8 -0.4
comp=Z,9.1nm,1.5s
CASY Casey 79.52 181 eP P 02 25 10.4 +2.8
comp=Z,14nm,1.1s
BOSA Boshof 80.00 118 P P 02 25 11.2 +0.1
comp=Z,4.1nm,0.8s,baz=226,slow=6.7,SNR=7.0
BOSA Boshof 80.00 118 eP P 02 25 10.7 -0.4
comp=Z,5.5nm,0.9s
SMCO Snowmass 80.04 333 eP P 02 25 12.5 +1.3
comp=Z,10.0nm,1.3s
ISCO Idaho Springs 80.09 335 eP P 02 25 11.5 +0.2
comp=Z,2.6nm,0.9s
ECSD EROS Data Cent 80.96 342 eP P 02 25 15.5 0.0
comp=Z,16nm,0.8s
SHPR Sheep Range 81.17 326 eP P 02 25 17.9 +1.0
CCUT Cedar City 81.23 328 eP P 02 25 19.5 +2.2
comp=Z,9.5nm,1.0s
BRSD Miller 82.23 341 eP P 02 25 21.7 -0.5
comp=Z,18nm,0.8s
LBTB Lobatse 82.26 115 eP P 02 25 22.2 -1.0
comp=Z,3.9nm,0.8s
JLU Jordanelle 83.00 331 eP P 02 25 27.7 +1.1
DUG Dugway 83.21 330 eP P 02 25 27.9 +0.4
comp=Z,11nm,1.3s
HWUT Hardware Ranch 83.90 331 eP P 02 25 31.2 +0.1
comp=Z,7.1nm,1.0s
BGU Big Grassy Mou 83.91 330 eP P 02 25 33.2 +2.1
comp=Z,4.9nm,1.6s
PDAR Pinedale Array 84.12 333 P P 02 25 32.0 -0.3
comp=Z,1.3nm,0.7s,baz=151,slow=4.4,SNR=11
NVAR Mina Array Bea 84.19 325 P P 02 25 34.0 +1.3
comp=Z,2.3nm,0.8s,baz=158,slow=6.4,SNR=16
HVU Hansel Valley 84.53 331 eP P 02 25 34.9 +0.6
comp=Z,5.1nm,0.7s
TOA0 Torodi Ar. Sit 84.55 70 eP P 02 25 33.9 -0.9
TORD Torodi Ar. Bea 84.55 70 P P 02 25 34.5 -0.3
comp=Z,2.3nm,0.9s,baz=259,slow=4.1,SNR=11
ULM Lac du Bonnet 86.93 345 P P 02 25 45.3 -0.4
comp=Z,5.0nm,0.9s,baz=168,slow=5.6,SNR=6.3
MCMT McKenzie Canyo 87.12 332 eP P 02 25 47.7 +0.5
comp=Z,4.2nm,1.2s
DGMT Dagmar 87.38 339 eP P 02 25 48.4 +0.3
comp=Z,25nm,1.0s
YBH Yreka Blue Hor 88.87 325 P P 02 25 55.5 +0.1
comp=Z,3.0nm,0.9s,baz=93,slow=2.9,SNR=4.1
TAM Tamanrasset 93.20 65 eP P 02 26 15.9 -0.2
comp=Z,2.5nm,1.0s
FCC Fort Churchill 94.68 349 eP P 02 26 21.5 -0.2
YKA Yellowknife Ar 102.47 341 Pdiff Pdif 02 26 55.4 -1.2
comp=Z,0.3nm,0.7s,baz=141,slow=4.2,SNR=7.4
ILAR Eielson Array 114.55 333 PKP PKPdf 02 31 40.6 0.0
comp=Z,0.3nm,0.9s,baz=190,slow=3.7,SNR=2.2
BUR08 Bucovina Ar. S 119.20 50 ePKPdf PKPdf 02 31 56.6 +6.4
WRA Warramunga Arr 120.24 209 PKP PKPdf 02 31 51.8 -1.2
comp=Z,0.6nm,0.6s,baz=169,slow=1.5,SNR=8.6
WRAB Tennant Creek 120.25 209 ePKPdf PKPdf 02 31 53.2 +0.2
COEN Coen 121.22 221 ePKPdf PKPdf 02 31 55.1 +0.1
BR131 Keskin Array S 122.23 61 ePKPdf PKPdf 02 31 55.6 -0.7
BRTR Keskin Array B 122.23 61 PKP PKPdf 02 31 55.5 -0.8
comp=Z,0.7nm,0.9s,baz=184,slow=3.3,SNR=3.8
KIEV Kiev 122.65 48 ePKPdf PKPdf 02 31 55.5 -1.0
AKASG Malin Array Be 122.66 48 PKP PKPdf 02 31 56.5 -0.1
comp=Z,0.1nm,0.3s,baz=268,slow=2.8,SNR=3.0
MBWA Marble Bar 123.49 193 ePKPdf PKPdf 02 32 00.1 +0.8
FINES FINESS Array B 123.50 35 PKP PKPdf 02 31 57.8 -0.1
comp=Z,0.9nm,0.8s,baz=145,slow=5.1,SNR=3.6
H11S2 WAKE ISLAND Hy 125.58 269 T T 04 50 29.8
baz=110
H11S1 WAKE ISLAND Hy 125.59 269 T T 04 50 28.6
baz=110
H11S3 WAKE ISLAND Hy 125.60 269 T T 04 50 23.3
baz=110
GNI Garni 130.50 64 ePKPdf PKPdf 02 32 11.6 -0.6
GEYT Alibeck 140.19 70 PKP PKPdf 02 32 31.9 +1.8
comp=Z,0.7nm,0.7s,baz=271,slow=6.9,SNR=2.5
AKTO Aktyubinsk 140.79 51 PKP PKPdf 02 32 31.2 +0.5
comp=Z,0.9nm,0.7s,baz=328,slow=9.5,SNR=3.3
PALK Pallekele 143.20 131 ePKPdf PKPdf 02 32 36.7 +0.4
BRVK Borovoye 147.69 43 ePKPdf PKPdf 02 32 41.6 -1.0
BRVK ePKPbc PKPbc 02 32 44.4 -1.1
BRVK ePKPab PKiKP 02 32 46.1 -1.4
YAK Yakutsk 149.13 340 ePKPdf PKPdf 02 32 44.3 -0.4
YAK ePKPbc PKPbc 02 32 48.4 -0.5
YAK ePKPab PKPab 02 32 53.1 -0.1
KKAR Karatay Array 149.94 62 ePKPbc PKPbc 02 32 50.3 -1.2
KULM Kulim 150.21 166 ePKPbc PKPbc 02 32 52.0 -1.0
KULM ePKPab PKPab 02 32 59.6 +0.7
YSS Yuzh-Sakhalins 150.94 306 ePKPbc PKPbc 02 32 53.4 -0.3
EKS2 Erkin-Say 152.37 63 ePKPbc PKPbc 02 32 57.4 0.0
EKS2 ePKPab PKPab 02 33 06.4 -1.1
KURK Kurchatov 153.36 44 ePKPbc PKPbc 02 32 58.7 -0.4
TKM2 Tokmak 2 153.67 62 ePKPdf PKPdf 02 32 50.5 -2.1
TKM2 ePKPbc PKPbc 02 32 59.5 -0.9
TKM2 ePKPab PKPab 02 33 11.5 -1.6
KSH Kashi 154.22 69 ePKPbc PKPbc 02 33 01.0 -0.5
KSH eSKS SKSdf 02 40 03.0 +1.9
KSH eSS SS 02 56 32.5 +1.1
KSH LR LR
comp=Z,150nm,5.9s
ZAA0 Zalesovo Array 154.74 33 ePKPdf PKPdf 02 32 52.6 -0.8
ZAA0 ePKPbc PKPbc 02 33 01.5 -0.4
ZAA0 ePKPab PKPab 02 33 15.7 -1.2
ZALV Zalesovo Beam 154.74 33 PKP PKPdf 02 32 53.1 -0.3
comp=Z,0.5nm,0.5s,baz=255,slow=8.8,SNR=2.2
ZALV PKPbc PKiKP 02 33 02.0 +0.1
comp=Z,3.7nm,0.8s,baz=299,slow=3.1,SNR=8.1
ZALV PKPab PKPab 02 33 16.4 -0.5
comp=Z,3.6nm,0.8s,baz=299,slow=6.1,SNR=5.2
MKAR Makanchi Array 157.22 50 PKP PKPdf 02 32 56.8 -0.1
comp=Z,0.7nm,0.9s,baz=297,slow=6.3,SNR=2.3
MKAR PKPab PKPab 02 33 27.4 -0.5
comp=Z,1.2nm,0.7s,baz=316,slow=4.0,SNR=4.2
WMQ Urumqi 161.91 53 ePKP PKPdf 02 33 10.8 +8.3
ULN Ulaanbaatar 166.63 2 ePKPab PKPab 02 34 09.5 +0.5
SONM Songino Array 166.63 4 PKPab PKPab 02 34 09.8 +0.9
comp=Z,1.1nm,0.8s,baz=336,slow=3.2,SNR=2.8
KMI Kunming 169.70 154 PKP PKPdf 02 33 18.5 +8.9
NJ2 Nanjing 170.38 258 ePKP PKPdf 02 33 17.0 +7.6
HHC Hu-ho-hao-te 172.97 336 ePKP PKPdf 02 33 18.5 +7.9
HHC SKS SKSdf 02 40 17.0 +2.2
HHC SKKS SKKSac 02 45 15.0 -1.3
CD2 Chengdu 175.10 136 PKP PKPdf 02 33 20.3 +8.8
LZH Lanzhou 176.44 62 ePKP PKPdf 02 33 17.5 +5.4
LZH PP PP 02 38 51.0 +4.7
LZH LR LR
comp=Z,680nm,19.9s

IDC 28 02:13:52.0±0.8, 36.80S×74.42W, h0km, mb4.3/10, mb1 4.5/11, mb1mx4.3/29, mbtmp4.3/11, ML4.9/1, Error ellipse: s-maj=30.1km s-min=18.6km az=73.0
ISCJB 28 02:13:54.2±0.4, 36.94S±0.06×74.49W±0.08, h33km, mb4.5/35, Error ellipse: s-maj=9.2km s-min=8.3km az=5.2
NEIC 28 02:13:55.6±1.9, 37.02S×74.48W, h36km±16km, mb4.7/28, Error ellipse: s-maj=11.6km s-min=7.7km az=86.0
ISC 28 02:13:55.7±0.5, 36.95S±0.07×74.45W±0.10, h35km, n60, σ1.34/58, mb4.6/35, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.85 142 Pn Pn 02 15 05.6 -0.7
11nm,0.3s,baz=334,slow=14,SNR=8.4
CFAA Coronel Fontan 7.40 46 Sn Sn 02 17 06.2 +2.1
0.7nm,0.3s,baz=288,slow=20,SNR=3.9
TRQA Tornquist 9.97 100 ePn Pn 02 16 08.6 -7.9
CPUP Villa Florida 17.98 59 Sn S 02 21 23.0 -4.7

0.1nm,0.3s,baz=309,slow=19,SNR=2.0
LPAZ La Paz 21.32 17 P P 02 18 38.5 -1.9
3.6nm,0.7s,baz=191,slow=12,SNR=2.3
LPAZ La Paz 21.32 17 eP P 02 18 38.8 -1.6
6.2nm,0.7s
SIV San Ignacio 24.01 33 P P 02 19 02.0 -5.3
4.0nm,0.8s,baz=212,slow=12,SNR=2.7
SAML Samuel 29.69 23 eP P 02 20 00.8 +2.4
2.2nm,0.7s
BDFB Brasilia 31.62 55 P P 02 20 16.2 +0.6
2.8nm,0.5s,baz=252,slow=13,SNR=5.6
OTAV Otavalo 37.18 353 eP P 02 21 05.2 +1.1
13nm,1.5s
ROSC El Rosal 41.59 0 eP P 02 21 40.8 +0.1
SDV Santo Domingo 45.73 5 eP P 02 22 13.0 -0.8
4.2nm,0.8s
JTS JuntasAbangare 48.01 346 eP P 02 22 30.8 -0.6
12nm,1.3s
SNAA Sanae 49.63 157 P P 02 22 45.5 +2.2
3.4nm,1.0s,baz=294,slow=7.6,SNR=6.1
SNAA Sanae 49.63 157 eP P 02 22 43.1 -0.3
12nm,1.1s
QSPA South Pole Qui 53.30 180 P P 02 23 13.1 +2.2
1.8nm,0.6s,baz=149,slow=4.6,SNR=3.7
QSPA South Pole Qui 53.30 180 eP P 02 23 10.3 -0.6
9.3nm,1.0s
HKT Hockley 69.50 340 eP P 02 25 01.2 +0.7
1.5nm,0.7s
GOGA Godfrey 70.50 352 eP P 02 25 05.7 -0.9
9.4nm,1.2s
LRAL Lakeview Retre 70.60 349 eP P 02 25 05.8 -1.5
11nm,1.2s
JCT Junction City 71.16 337 eP P 02 25 11.5 +0.7
11nm,1.1s
TXAR Lajitas Array 71.41 333 P P 02 25 13.9 +1.5
2.4nm,0.8s,baz=151,slow=8.7,SNR=9.5
WHTX Lake Whitney 71.88 340 eP P 02 25 14.9 -0.1
9.8nm,1.0s
KMSC Kings Mountain 72.01 354 eP P 02 25 15.1 -0.7
7.3nm,0.8s
SWET Sewanee 72.59 350 eP P 02 25 18.5 -0.7
17nm,0.9s
ABTX Abilene, Hawle 73.11 338 eP P 02 25 22.8 +0.4
8.8nm,1.1s
WVT Waverly 73.76 349 eP P 02 25 24.8 -1.2
7.3nm,1.0s
MNTX Cornudas Mount 74.17 333 eP P 02 25 28.5 -0.1
2.5nm,1.0s
SUR Sutherland 75.12 119 eP P 02 25 36.5 +1.9
20nm,1.1s
TUL1 Tulsa 75.15 342 eP P 02 25 34.2 +0.1
6.8nm,0.7s
CASY Casey 77.03 182 eP P 02 25 44.0 -0.6
16nm,1.1s
LAZ Ladron 77.24 333 eP P 02 25 47.9 +1.5
ANMO Albuquerque 77.48 334 eP P 02 25 49.5 +1.9
3.8nm,1.1s
DBIC Dimbokro 77.97 72 P P 02 25 51.9 +1.3
5.5nm,0.7s,baz=220,slow=5.6,SNR=7.1
DBIC Dimbokro 77.97 72 eP P 02 25 51.4 +0.8
6.3nm,0.7s
SDCO Great Sand Dun 79.67 335 eP P 02 26 00.2 +0.4
1.4nm,0.8s
MVCO Mesa Verde 80.24 333 eP P 02 26 04.0 +1.2
TSUM Tsumeb 80.28 107 eP P 02 26 02.8 -0.7
2.7nm,0.7s
BOSA Boshof 80.42 118 P P 02 26 08.0 +3.9
4.6nm,0.6s,baz=242,slow=4.7,SNR=5.4
ECSD EROS Data Cent 82.79 344 eP P 02 26 15.5 -0.3
7.1nm,1.0s
LBTB Lobatse 82.82 116 eP P 02 26 17.1 +0.3
6.8nm,0.7s
NVAR Mina Array Bea 85.22 327 P P 02 26 29.8 +1.1
1.1nm,0.8s,baz=162,slow=4.7,SNR=4.6
HWUT Hardware Ranch 85.23 333 eP P 02 26 29.7 +1.1
3.8nm,0.9s
PDAR Pinedale Array 85.54 335 P P 02 26 31.4 +1.2
1.4nm,1.0s,baz=154,slow=5.0,SNR=3.2
TOA0 Torodi Ar. Sit 87.04 71 eP P 02 26 39.1 +1.2
TORD Torodi Ar. Bea 87.04 71 P P 02 26 38.7 +0.8
1.0nm,0.8s,baz=208,slow=5.7,SNR=4.0
LSZ Lusaka 90.71 110 eP P 02 26 55.3 -0.2
4.1nm,1.1s
COEN Coen 118.20 222 ePKPdf PKPdf 02 32 38.9 -0.8
KWP Kalwaria Pacla 121.30 49 ePKPdf PKPdf 02 32 42.0 -2.5
BUR08 Bucovina Ar. S 122.12 52 ePKPdf PKPdf 02 32 45.7 -0.6
TNA Tin City 124.36 330 ePKPdf PKPdf 02 32 49.8 -0.1
PALK Pallekele 142.79 136 ePKPdf PKPdf 02 33 25.4 -0.6
KSM Kuching 144.43 188 ePKPdf PKPab 02 33 26.6 -0.5
KKM Kota Kinabalu 147.74 200 ePKPbc PKPdf 02 33 34.4 -0.2
KULM Kulim 148.18 171 ePKPbc PKPbc 02 33 36.9 -1.5
BRVK Borovoye 150.69 45 ePKPdf PKPdf 02 33 37.7 -0.2
BRVK ePKPbc PKPbc 02 33 41.9 -1.5
YAK Yakutsk 150.75 337 ePKPbc PKPbc 02 33 42.7 -0.6
KKAR Karatay Array 152.61 66 ePKPbc PKPbc 02 33 47.9 -0.4
MKAR Makanchi Array 160.14 53 PKPab PKPab 02 34 33.1 +1.9
1.4nm,0.9s,baz=304,slow=3.3,SNR=3.5
SONM Songino Array 169.10 357 PKPab PKPab 02 35 09.9 -0.7
0.7nm,1.0s,baz=19,slow=2.5,SNR=2.7

GUC 28 02:22:14.5±0.4, 33.31S×71.97W, h28km±11km, ML3.5, 1C, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IHA Instituto Hidr 0.40 44 iP Pb 02 22 22.8 -0.3
IHA iS Sb 02 22 28.8 -0.2
ROCH El Roble 0.87 67 eP Pn 02 22 30.6 -0.6
ROCH iS Sn 02 22 43.3 0.0
ROCH AML AML 02 22 53.2
comp=E,2μm,0.5s
RCDM Rinconada Maip 0.99 101 iP Pn 02 22 31.9 -0.7
RCDM iS Sn 02 22 45.3 -0.4
RCDM AML AML 02 22 51.0
comp=N,2μm,0.3s
PEL Peldehue 1.09 82 eP Pn 02 22 34.0 0.0
PEL iS Sb 02 22 48.6 -0.1
PEL AML AML 02 22 56.0
comp=E,3μm,0.7s
STL Santa Lucia 1.12 97 ⇑iP Pn 02 22 33.7 -0.7
STL iS Sn 02 22 48.8 -0.2
FCH Farellones 1.41 91 AML AML 02 23 02.0
comp=N,2μm,0.3s

IDC 28 02:22:30.1±0.9, 36.69S×73.49W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.1/32, mbtmp4.1/9, ML4.5/1, Error ellipse: s-maj=31.9km s-min=23.7km az=63.0
ISCJB 28 02:22:32.2±0.5, 36.70S±0.07×73.5W±0.1, h27km, mb4.3/30, Error ellipse: s-maj=13.4km s-min=9.3km az=147.8
NEIC 28 02:22:34.8±0.3, 36.75S×73.56W, h35km, mb4.5/25, Error ellipse: s-maj=10.5km s-min=7.1km az=66.0
ISC 28 02:22:33.7±0.5, 36.71S±0.09×73.6W±0.1, h27km, n56, σ0.86/59, mb4.4/30, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.67 150 Pn Pn 02 23 32.1 -10
2.1nm,0.3s,baz=323,slow=10,SNR=3.0
PLCA Lg Lg 02 24 55.9
8.9nm,0.3s,baz=35,slow=16,SNR=2.3
CFAA Coronel Fontan 6.77 43 Lg Lg 02 25 49.3
1.1nm,0.3s,baz=252,slow=20,SNR=3.4
TRQA Tornquist 9.36 102 ePn Pn 02 24 47.0 +0.2
CPUP Villa Florida 17.30 58 Pn Pn 02 26 33.2 0.0
0.4nm,0.3s,baz=214,slow=11,SNR=3.0
LPAZ La Paz 20.92 15 eP P 02 27 15.9 +1.1
4.9nm,0.6s
SIV San Ignacio 23.46 32 P P 02 27 40.8 -0.3
4.1nm,0.6s,baz=221,slow=8.4,SNR=6.8
SAML Samuel 29.22 22 eP P 02 28 32.9 -0.3
1.1nm,0.4s
OTAV Otavalo 37.04 352 eP P 02 29 42.4 +0.5
2.1nm,0.9s
ROSC El Rosal 41.36 359 eP P 02 30 21.0 +3.1
SDV Santo Domingo 45.44 4 eP P 02 30 50.5 -0.1
6.9nm,0.8s
BCIP Isla Barro Col 46.01 351 eP P 02 30 55.5 +0.7
43nm,1.2s
JTS JuntasAbangare 47.95 345 eP P 02 31 09.3 -0.7
5.0nm,1.0s
SNAA Sanae 49.58 157 P P 02 31 23.0 +0.9
1.8nm,0.9s,baz=277,slow=9.3,SNR=5.4
SNAA Sanae 49.58 157 eP P 02 31 22.2 +0.2

6.3nm,1.0s
GRGR Grenville 49.87 15 eP P 02 31 25.9 +1.1
QSPA South Pole Qui 53.53 180 eP P 02 31 52.4 +0.7
8.1nm,1.1s
OBIP Obispado Ponce 54.86 8 eP P 02 32 01.2 -0.5
12nm,0.6s
CBYP Canovanas 55.18 9 eP P 02 32 04.8 +0.7
11nm,0.9s
HKT Hockley 69.52 339 eP P 02 33 37.0 -2.6
2.4nm,0.9s
GOGA Godfrey 70.37 351 eP P 02 33 44.8 -0.2
TXAR Lajitas Array 71.51 333 P P 02 33 53.0 +0.9
1.0nm,0.9s,baz=153,slow=8.1,SNR=5.9
WHTX Lake Whitney 71.90 339 eP P 02 33 54.6 +0.4
5.9nm,1.0s
SWET Sewanee 72.48 349 eP P 02 33 57.7 0.0
6.6nm,0.6s
ABTX Abilene, Hawle 73.14 337 eP P 02 34 03.4 +1.7
3.3nm,0.7s
WVT Waverly 73.67 348 eP P 02 34 04.4 -0.2
4.3nm,0.9s
MNTX Cornudas Mount 74.27 332 eP P 02 34 07.8 -0.6
1.2nm,0.9s
SUR Sutherland 74.65 119 eP P 02 34 08.6 -2.5
93nm,1.9s
TUL1 Tulsa 75.14 342 eP P 02 34 13.5 +0.3
3.1nm,0.6s
WCI Wyandotte Cave 75.49 350 eP P 02 34 14.7 -0.5
DBIC Dimbokro 77.26 72 P P 02 34 26.4 +0.6
5.3nm,0.7s,baz=203,slow=7.5,SNR=7.6
DBIC Dimbokro 77.26 72 eP P 02 34 26.0 +0.2
5.8nm,0.7s
CASY Casey 77.28 182 eP P 02 34 25.3 +0.2
8.2nm,0.9s
ANMO Albuquerque 77.57 333 eP P 02 34 28.2 +0.9
3.4nm,1.2s
TSUM Tsumeb 79.71 106 eP P 02 34 40.5 +1.0
3.7nm,1.1s
SDCO Great Sand Dun 79.75 335 eP P 02 34 39.9 +0.6
1.2nm,0.9s
BOSA Boshof 79.94 118 P P 02 34 40.6 -0.1
3.6nm,0.9s,baz=267,slow=4.5,SNR=3.5
DUG Dugway 84.59 331 eP P 02 35 04.6 +0.1
2.4nm,0.9s
NVAR Mina Array Bea 85.40 326 P P 02 35 09.3 +0.6
0.2nm,0.5s,baz=135,slow=4.5,SNR=2.6
PDAR Pinedale Array 85.62 334 P P 02 35 10.9 +1.2
0.4nm,0.8s,baz=138,slow=5.8,SNR=3.0
TOA0 Torodi Ar. Sit 86.33 71 eP P 02 35 13.2 -0.3
TORD Torodi Ar. Bea 86.33 71 P P 02 35 12.9 -0.6
2.0nm,0.8s,baz=218,slow=3.2,SNR=10.0
TAM Tamanrasset 95.14 66 eP P 02 35 54.8 0.0
1.1nm,0.9s
MORC Moravsky Berou 117.63 47 ePKPdf PKPdf 02 41 16.5 -0.2
KIEV Kiev 124.94 49 ePKPdf PKPdf 02 41 29.7 -0.9
PALK Pallekele 142.49 135 ePKPdf PKPdf 02 42 04.8 +0.2
ABKAR Akbulak array 144.34 55 ePKPdf PKPab 02 42 04.9 0.0
KSM Kuching 144.75 187 ePKPdf PKPbc 02 42 08.0 +0.5
PSI Prapat 145.56 167 PKPbc PKPdf 02 42 10.4 -0.1
3.3nm,0.4s,baz=203,slow=9.9,SNR=6.1
KULM Kulim 148.29 169 ePKPbc PKPbc 02 42 17.5 -0.4
BRVK Borovoye 150.05 45 ePKPdf PKPdf 02 42 16.1 -0.1
BRVK ePKPbc PKPbc 02 42 20.7 -0.4
BRVK ePKPab PKPab 02 42 26.9 -0.2
KKAR Karatay Array 151.91 66 ePKPbc PKPbc 02 42 25.6 -0.3
KKAR ePKPab PKPab 02 42 34.7 -0.4
TKM2 Tokmak 2 155.64 66 ePKPdf PKPdf 02 42 24.3 -0.7
TKM2 ePKPab PKPab 02 42 51.2 -0.1
ZAA0 Zalesovo Array 157.20 34 ePKPab PKPab 02 42 57.9 +0.7
ZALV Zalesovo Beam 157.20 34 PKP PKPdf 02 42 26.6 +0.3
0.7nm,0.8s,baz=338,slow=3.4,SNR=2.8
ZALV PKPab PKPab 02 42 57.2 -0.1
2.0nm,0.9s,baz=322,slow=4.5,SNR=5.5
MKAR Makanchi Array 159.47 53 PKP PKPab 02 42 28.4 -0.9
0.4nm,0.8s,baz=3.8,slow=2.2,SNR=3.8
MKAR PKPab PKPab 02 43 07.7 +0.2
0.8nm,0.8s,baz=317,slow=5.0,SNR=6.8
ULN Ulaanbaatar 168.84 358 ePKPdf PKPdf 02 42 37.8 -0.1

ATH 28 02:22:43.3, 33.89N×25.28E, h5km±3km, MD4.0/18, ML3.9
IDC 28 02:22:44.3±0.6, 34.01N×25.37E, h0km, mb4.4/22, mb1 4.4/33, mb1mx4.3/51, mbtmp4.3/33, ML4.0/10, Error ellipse: s-maj=12.3km s-min=10.7km az=42.0
CSEM 28 02:22:46.3±0.1, 33.99N×25.45E, h10km, mb4.6/65, Error ellipse: s-maj=4.6km s-min=3.4km az=13.0
ISCJB 28 02:22:46.1±0.8, 33.99N±0.03×25.43E±0.02, h19km±5km, mb4.5/88, MS4.8/2, Error ellipse: s-maj=5.3km s-min=3.0km az=12.3
THE 28 02:22:47.0, 33.99N×25.38E, h0km±2km, ML4.0/4, Error ellipse: s-maj=4.6km s-min=0.8km az=179.0
BJI 28 02:22:47.8, 34.30N×24.78E, h42km, mb4.7/13, Ms4.9/1, Ms7 4.7/2
MOS 28 02:22:49.8±1.0, 34.17N×25.39E, h41km, mb4.7/63, Error ellipse: s-maj=5.6km s-min=2.8km az=105.6
NEIC 28 02:22:50.3±0.5, 34.06N×25.43E, h36km±3km, mb4.6/75, Error ellipse: s-maj=5.2km s-min=3.1km az=188.0
NEIC Felt [III] at Iraklion.
SZGRF 28 02:23:31.2, 36.67N×21.51E, h33km, Southern Greece
ISC 28 02:22:50.1±0.7, 34.05N±0.04×25.39E±0.03, h33km±2km, n745, σ1.09/774, mb4.6/85, 27C-15D, Crete

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SIVA Sivas 1.07 334 P Pn 02 23 07.9 -0.9
SIVA S Sb 02 23 25.6 +1.7
SIVA Sivas 1.07 334 ePB Pn 02 23 07.0 -1.8
SIVA eSB Sn 02 23 22.4 -0.2
SIVA Sivas 1.07 334 P Pn 02 23 07.9 -0.9
SIVA S Sb 02 23 25.6 +1.7
SIVA Sivas 1.07 334 ePb Pn 02 23 07.0 -1.8
SIVA Sivas 1.07 334 P Pn 02 23 07.9 -0.9
SIVA eSb Sn 02 23 22.4 -0.2
SIVA S Sb 02 23 25.6 +1.7
LAST Lasithi 1.11 4 P Pn 02 23 07.4 -1.9
LAST S Sb 02 23 26.2 +1.3
LAST Lasithi 1.11 4 ePB Pn 02 23 07.3 -2.0
LAST eSB Sb 02 23 24.5 -0.4
LAST Lasithi 1.11 4 P Pn 02 23 07.4 -1.9
LAST S Sb 02 23 26.2 +1.3
LAST Lasithi 1.11 4 P Pn 02 23 07.4 -1.9
LAST eSb Sb 02 23 24.5 -0.4
LAST S Sb 02 23 26.2 +1.3
NPS Neapolis 1.22 8 P Pn 02 23 09.4 -1.4
NPS S Sb 02 23 29.1 +1.0
NPS Neapolis 1.22 8 P Pn 02 23 09.4 -1.4
NPS S Sb 02 23 29.1 +1.0
NPS Neapolis 1.22 8 ePB Pn 02 23 09.1 -1.7
NPS Neapolis 1.22 8 P Pn 02 23 09.4 -1.4
NPS S Sb 02 23 29.1 +1.0
NPS Neapolis 1.22 8 ePb Pn 02 23 09.1 -1.7
NPS Neapolis 1.22 8 P Pn 02 23 09.4 -1.4
NPS S Sb 02 23 29.1 +1.0
ZKR Zakros 1.26 32 P Pn 02 23 10.2 -1.1
ZKR S Sb 02 23 31.2 +2.1
ZKR Zakros 1.26 32 ePG Pn 02 23 09.9 -1.4
ZKR eSB Sb 02 23 30.6 +1.5
ZKR Zakros 1.26 32 P Pn 02 23 10.2 -1.1
ZKR S Sb 02 23 31.2 +2.1
ZKR Zakros 1.26 32 ePg Pn 02 23 09.9 -1.4
ZKR Zakros 1.26 32 P Pn 02 23 10.2 -1.1
ZKR eSb Sb 02 23 30.6 +1.5
ZKR S Sb 02 23 31.2 +2.1
IDI Anoyia 1.30 342 Pg Pn 02 23 10.8 -1.1
24nm,0.3s,baz=184,slow=9.3,SNR=106
IDI Lg Lg 02 23 29.2
139nm,0.3s,baz=72,slow=20,SNR=14
VAM Vamos 1.67 324 P Pn 02 23 15.5 -1.5
VAM S Sb 02 23 39.5 -1.4
VAM Vamos 1.67 324 P Pn 02 23 15.5 -1.5
VAM S Sb 02 23 39.5 -1.4
VAM Vamos 1.67 324 ePG Pn 02 23 15.6 -1.5
VAM eSN Sb 02 23 41.5 +0.6
VAM Vamos 1.67 324 P Pn 02 23 15.5 -1.5
VAM S Sb 02 23 39.5 -1.4
VAM Vamos 1.67 324 ePg Pn 02 23 15.6 -1.5
VAM S Sb 02 23 39.5 -1.4
KARP Karpathos 2.08 44 P Pn 02 23 23.6 +0.9
KARP Karpathos 2.08 44 ePG Pb 02 23 24.8 -2.4
KARP Karpathos 2.08 44 P Pn 02 23 23.6 +0.9
KARP Karpathos 2.08 44 P Pn 02 23 23.6 +0.9

KARP Karpathos 2.08 44 ePg Pb 02 23 24.8 -2.4
KYTH Kithira 2.94 320 P Pn 02 23 34.5 0.0
KYTH Kithira 2.94 320 ePN Pn 02 23 35.5 +1.0
KYTH Kithira 2.94 320 P Pn 02 23 34.5 0.0
KYTH Kithira 2.94 320 P Pn 02 23 34.5 0.0
KYTH Kithira 2.94 320 ePn Pn 02 23 35.5 +1.0
APE Apeiranthos 3.01 2 P Pn 02 23 35.7 +0.2
APE Apeiranthos 3.01 2 eP Pn 02 23 33.7 -1.8
APE Apeiranthos 3.01 2⇓eP Pn 02 23 35.7 +0.2
APE Apeiranthos 3.01 2 ePN Pn 02 23 35.7 +0.2
APE Apeiranthos 3.01 2⇓iP Pn 02 23 35.1 -0.4
APE Apeiranthos 3.01 2 P Pn 02 23 35.7 +0.2
APE Apeiranthos 3.01 2 P Pn 02 23 35.7 +0.2
ARG Arkhangelos 3.11 45 P Pn 02 23 37.3 +0.5
ARG Arkhangelos 3.11 45 eP Pn 02 23 36.3 -0.5
ARG Arkhangelos 3.11 45 P Pn 02 23 37.3 +0.5
ARG Arkhangelos 3.11 45 ePB Pn 02 23 38.4 +1.6
ARG Arkhangelos 3.11 45 P Pn 02 23 37.3 +0.5
ARG Arkhangelos 3.11 45 P Pn 02 23 37.3 +0.5
ARG Arkhangelos 3.11 45 ePb Pn 02 23 38.4 +1.6
VLI Veliai 3.33 324 P Pn 02 23 40.0 +0.2
VLI S Sn 02 24 21.1 +2.9
VLI Veliai 3.33 324 ePB Pn 02 23 40.1 +0.2
VLI Veliai 3.33 324 P Pn 02 23 40.0 +0.2
VLI S Sn 02 24 21.1 +2.9
VLI Veliai 3.33 324 ePb Pn 02 23 40.1 +0.2
VLI S Sn 02 24 21.1 +2.9
BODT Bodrum 3.38 27 eP Pn 02 23 40.2 -0.4
BODT Bodrum 3.38 27 eP Pn 02 23 40.2 -0.4
SMG Samos 3.83 17 P Pn 02 23 46.7 0.0
SMG Samos 3.83 17 P Pn 02 23 46.7 0.0
SMG Samos 3.83 17 P Pn 02 23 46.7 0.0
SMG Samos 3.83 17 P Pn 02 23 46.7 0.0
DALY Dalyan (Mu¯la 3.83 43 eP Pn 02 23 46.7 0.0
DALY Dalyan (Mu¯la 3.83 43 eP Pn 02 23 46.7 0.0
DID Didima 3.87 334 P Pn 02 23 46.8 -0.4
DID S Sn 02 24 34.3 +2.8
DID Didima 3.87 334 ePN Pn 02 23 46.7 -0.4
DID Didima 3.87 334 P Pn 02 23 46.8 -0.4
DID S Sn 02 24 34.3 +2.8
DID Didima 3.87 334 P Pn 02 23 46.8 -0.4
DID S Sn 02 24 34.3 +2.8
YER Yerkesik 3.87 37 eP Pn 02 23 47.2 -0.1
YER Yerkesik 3.87 37 eP Pn 02 23 47.2 -0.1
NAIG Nisos Aigina 4.01 338 ePN Pn 02 23 49.5 +0.4
NAIG Nisos Aigina 4.01 338 ePn Pn 02 23 49.5 +0.4
PYL PYLOS 4.11 315 P Pn 02 23 50.8 +0.2
PYL PYLOS 4.11 315 P Pn 02 23 50.8 +0.2
PYL PYLOS 4.11 315 P Pn 02 23 50.8 +0.2
ATHU Athens Univers 4.12 342 P Pn 02 23 50.8 +0.2
ATHU Athens Univers 4.12 342 P Pn 02 23 50.8 +0.2
ATHU Athens Univers 4.12 342 P Pn 02 23 50.8 +0.2
ATHU Athens Univers 4.12 342 P Pn 02 23 50.8 +0.2
VLX Vlachokerasia 4.12 324 P Pn 02 23 51.7 +0.9
VLX Vlachokerasia 4.12 324 ePN Pn 02 23 51.3 +0.6
VLX Vlachokerasia 4.12 324 P Pn 02 23 51.7 +0.9
VLX Vlachokerasia 4.12 324 ePn Pn 02 23 51.3 +0.6
VLX Vlachokerasia 4.12 324 P Pn 02 23 51.7 +0.9
ATH Athens Observa 4.14 341 ePN Pn 02 23 50.3 -0.6
ATH Athens Observa 4.14 341 ePn Pn 02 23 50.3 -0.6
PTL Penteli 4.17 343 P Pn 02 23 51.7 +0.2
PTL Penteli 4.17 343 ePN Pn 02 23 51.7 +0.2
PTL Penteli 4.17 343 P Pn 02 23 51.7 +0.2
PTL Penteli 4.17 343 P Pn 02 23 51.7 +0.2
ITM Ithomi 4.21 319 P Pn 02 23 52.5 +0.6
ITM Ithomi 4.21 319 ePN Pn 02 23 52.1 +0.2
ITM Ithomi 4.21 319 P Pn 02 23 52.5 +0.6
ITM Ithomi 4.21 319 ePn Pn 02 23 52.1 +0.2
ITM Ithomi 4.21 319 P Pn 02 23 52.5 +0.6
CHOS Chios island 4.36 7 P Pn 02 23 54.4 +0.4
CHOS Chios island 4.36 7 eP Pn 02 23 52.5 -1.5
CHOS Chios island 4.36 7 P Pn 02 23 54.4 +0.4
CHOS Chios island 4.36 7 P Pn 02 23 54.4 +0.4
LTK Loutraki 4.42 334 P Pn 02 23 55.6 +0.8
LTK Loutraki 4.42 334 ePN Pn 02 23 54.7 -0.1
LTK Loutraki 4.42 334 P Pn 02 23 55.6 +0.8
LTK Loutraki 4.42 334 ePn Pn 02 23 54.7 -0.1
LTK Loutraki 4.42 334 P Pn 02 23 55.6 +0.8
BLCB Balcova 4.52 17 eP Pn 02 23 55.1 -1.1
BLCB Balcova 4.52 17 eP Pn 02 23 55.1 -1.1
ELL Elmali 4.56 53 eP Pn 02 23 56.9 0.0
ELL Elmali 4.56 53 eP Pn 02 23 56.9 0.0
GUR Goura 4.60 328 P Pn 02 23 57.6 +0.3
GUR S Sn 02 24 53.1 +3.5
GUR Goura 4.60 328 ePN Pn 02 23 57.3 0.0
GUR Goura 4.60 328 P Pn 02 23 57.6 +0.3
GUR S Sn 02 24 53.1 +3.5
GUR Goura 4.60 328 ePn Pn 02 23 57.3 0.0
GUR Goura 4.60 328 P Pn 02 23 57.6 +0.3
GUR S Sn 02 24 53.1 +3.5
KLV Kalavryta, Ach 4.77 328 P Pn 02 23 59.7 +0.1
KLV S Sn 02 24 56.6 +2.8
KLV Kalavryta, Ach 4.77 328 ePN Pn 02 23 59.8 +0.1
KLV Kalavryta, Ach 4.77 328 P Pn 02 23 59.7 +0.1
KLV S Sn 02 24 56.6 +2.8
KLV Kalavryta, Ach 4.77 328 ePn Pn 02 23 59.8 +0.1
KLV S Sn 02 24 56.6 +2.8
MRKA Markates 4.87 343 P Pn 02 24 01.3 +0.4
MRKA Markates 4.87 343 P Pn 02 24 01.3 +0.4
DRO Drossia 4.90 324 P Pn 02 24 02.0 +0.5
DRO Drossia 4.90 324 ePN Pn 02 24 01.9 +0.5
DRO Drossia 4.90 324 ePn Pn 02 24 01.9 +0.5
LKR Lokris 4.98 338 P Pn 02 24 02.7 +0.3
LKR Lokris 4.98 338 ePN Pn 02 24 03.0 +0.6
LKR Lokris 4.98 338 P Pn 02 24 02.7 +0.3
LKR Lokris 4.98 338 P Pn 02 24 02.7 +0.3
LKR Lokris 4.98 338 ePn Pn 02 24 03.0 +0.6
LAKA Lakka 5.01 328 P Pn 02 24 03.1 +0.2
LAKA Lakka 5.01 328 ePN Pn 02 24 02.9 0.0
LAKA Lakka 5.01 328 P Pn 02 24 03.1 +0.2
LAKA Lakka 5.01 328 P Pn 02 24 03.1 +0.2
LAKA Lakka 5.01 328 P Pn 02 24 03.1 +0.2
KALE Kalithea 5.06 330 P Pn 02 24 04.9 +1.2
KALE Kalithea 5.06 330 ePN Pn 02 24 04.8 +1.1
KALE Kalithea 5.06 330 P Pn 02 24 04.9 +1.2
KALE Kalithea 5.06 330 ePn Pn 02 24 04.8 +1.1
RLS Riolos of Patr 5.11 323 P Pn 02 24 05.0 +0.8
RLS Riolos of Patr 5.11 323 P Pn 02 24 05.0 +0.8
RLS Riolos of Patr 5.11 323 P Pn 02 24 05.0 +0.8
RLS Riolos of Patr 5.11 323 P Pn 02 24 05.0 +0.8
SMIA Simia 5.13 341 P Pn 02 24 04.8 +0.3
SMIA Simia 5.13 341 P Pn 02 24 04.8 +0.3
SIGR SIGRI 5.16 4 P Pn 02 24 05.6 +0.6
SIGR SIGRI 5.16 4 ePN Pn 02 24 05.7 +0.7
SIGR SIGRI 5.16 4 P Pn 02 24 05.6 +0.6
SIGR SIGRI 5.16 4 P Pn 02 24 05.6 +0.6
KULA Kula-Manisa 5.17 30 eP Pn 02 24 04.5 -0.7
KULA Kula-Manisa 5.17 30 eP Pn 02 24 04.5 -0.7
AXAR Agios Charalam 5.19 336 P Pn 02 24 05.9 +0.5
AXAR S Sn 02 25 07.2 +3.0
AXAR Agios Charalam 5.19 336 P Pn 02 24 05.9 +0.5
AXAR Agios Charalam 5.19 336 P Pn 02 24 05.9 +0.5
AXAR S Sn 02 25 07.2 +3.0
EFP Efpalio 5.19 328 P Pn 02 24 05.9 +0.5
EFP Efpalio 5.19 328 P Pn 02 24 05.9 +0.5
BCK Bucak 5.42 50 eP Pn 02 24 09.5 +0.9
BCK Bucak 5.42 50 eP Pn 02 24 09.5 +0.9
AGG Agios Georgios 5.54 334 P Pn 02 24 10.4 +0.2
AGG Agios Georgios 5.54 334 P Pn 02 24 10.4 +0.2
AGG Agios Georgios 5.54 334 ePN Pn 02 24 10.2 0.0
AGG Agios Georgios 5.54 334 P Pn 02 24 10.4 +0.2
AGG Agios Georgios 5.54 334 P Pn 02 24 10.4 +0.2
MAKR Makrakomi, Fth 5.60 333 P Pn 02 24 11.6 +0.5
MAKR Makrakomi, Fth 5.60 333 P Pn 02 24 11.6 +0.5
MAKR Makrakomi, Fth 5.60 333 P Pn 02 24 11.6 +0.5
ISP Isparta 5.61 46 eP Pn 02 24 12.4 +1.1
ISP Isparta 5.61 46 P Pn 02 24 13.0 +1.8
ISP Isparta 5.61 46 ePn Pn 02 24 13.0 +1.8
ISP Isparta 5.61 46 P Pn 02 24 13.0 +1.8
EVR Evrytania 5.65 330 P Pn 02 24 12.5 +0.8
EVR Evrytania 5.65 330 P Pn 02 24 12.5 +0.8
EVR Evrytania 5.65 330 P Pn 02 24 12.5 +0.8
VLS Valsamata 5.66 318 P Pn 02 24 13.3 +1.4
VLS Valsamata 5.66 318 P Pn 02 24 13.3 +1.4
VLS Valsamata 5.66 318 ePN Pn 02 24 12.8 +0.9
VLS Valsamata 5.66 318 P Pn 02 24 13.3 +1.4
VLS Valsamata 5.66 318 ePn Pn 02 24 12.8 +0.9
VLS Valsamata 5.66 318 P Pn 02 24 13.3 +1.4
PDO Prodromos 5.67 324 P Pn 02 24 13.2 +1.3
PDO Prodromos 5.67 324 ePN Pn 02 24 13.8 +1.9
PDO Prodromos 5.67 324 P Pn 02 24 13.2 +1.3
PDO Prodromos 5.67 324 ePn Pn 02 24 13.8 +1.9
EZN Ezine 5.81 7 eP Pn 02 24 14.4 +0.6
BALB Balikesir 5.92 19 eP Pn 02 24 15.9 +0.5
LKD2 Lefkada island 6.07 322 P Pn 02 24 19.2 +1.7
LKD2 Lefkada island 6.07 322 ePN Pn 02 24 18.8 +1.3
LKD2 Lefkada island 6.07 322 P Pn 02 24 19.2 +1.7
LKD2 Lefkada island 6.07 322 P Pn 02 24 19.2 +1.7
LKD2 Lefkada island 6.07 322 ePn Pn 02 24 18.8 +1.3
LKD2 Lefkada island 6.07 322 P Pn 02 24 19.2 +1.7
THL Klokotos Trika 6.13 335 P Pn 02 24 19.6 +1.3
THL Klokotos Trika 6.13 335 ePN Pn 02 24 19.5 +1.3
THL Klokotos Trika 6.13 335 ePn Pn 02 24 19.5 +1.3
DSL Palaion Diasel 6.13 327 P Pn 02 24 19.6 +1.2
DSL Palaion Diasel 6.13 327 ePN Pn 02 24 19.4 +1.0
DSL Palaion Diasel 6.13 327 P Pn 02 24 19.6 +1.2
DSL Palaion Diasel 6.13 327 ePn Pn 02 24 19.4 +1.0
ALT Altintas 6.27 36 P Pn 02 24 20.8 +0.5
ALT Altintas 6.27 36 eP Pn 02 24 20.9 +0.6
ALT Altintas 6.27 36 P Pn 02 24 20.8 +0.5
ALT Altintas 6.27 36 P Pn 02 24 20.8 +0.5
TVSB Tavsanli 6.30 30 eP Pn 02 24 20.9 +0.2
OUR Ouranopolis 6.37 350 eP Pn 02 24 20.2 -1.3
KCTX Karacabey (Bur 6.64 20 eP Pn 02 24 25.4 +0.1
HORT Hortiatis 6.78 345 P Pn 02 24 28.6 +1.3
HORT Hortiatis 6.78 345 P Pn 02 24 28.6 +1.3
HORT Hortiatis 6.78 345 P Pn 02 24 28.6 +1.3
IGT Igoumenitsa 6.81 325 P Pn 02 24 27.9 +0.3
IGT Igoumenitsa 6.81 325 P Pn 02 24 27.9 +0.3
IGT Igoumenitsa 6.81 325 P Pn 02 24 27.9 +0.3
IGT Igoumenitsa 6.81 325 P Pn 02 24 27.9 +0.3
ALN Alexandroupoli 6.85 4 P Pn 02 24 29.4 +1.2
ALN Alexandroupoli 6.85 4 P Pn 02 24 29.4 +1.2
ALN Alexandroupoli 6.85 4 P Pn 02 24 29.4 +1.2
ALN Alexandroupoli 6.85 4 P Pn 02 24 29.4 +1.2
KONT Konya--Tatoy 6.85 53 eP Pn 02 24 28.8 +0.6
LADK Ladik-KONYA 7.00 52 eP Pn 02 24 30.3 +0.1
RDO Rodhopi 7.08 1 P Pn 02 24 32.4 +1.1
RDO Rodhopi 7.08 1 P Pn 02 24 32.4 +1.1
RDO Rodhopi 7.08 1 P Pn 02 24 32.4 +1.1
SRS Serrai 7.19 349 P Pn 02 24 33.6 +0.7
SRS Serrai 7.19 349 P Pn 02 24 33.6 +0.7
SRS Serrai 7.19 349 P Pn 02 24 33.6 +0.7
SRS Serrai 7.19 349 P Pn 02 24 33.6 +0.7
KEK Kerkira 7.21 323 P Pn 02 24 32.3 -0.8
KEK Kerkira 7.21 323 P Pn 02 24 32.3 -0.8
KEK Kerkira 7.21 323 P Pn 02 24 32.3 -0.8
SRN Sarande 7.24 325 P Pn 02 24 33.1 -0.4
SRN Sarande 7.24 325 P Pn 02 24 33.1 -0.4
SRN Sarande 7.24 325 P Pn 02 24 33.1 -0.4
GRG Griva 7.29 342 P Pn 02 24 34.1 -0.1
GRG Griva 7.29 342 P Pn 02 24 34.1 -0.1
GRG Griva 7.29 342 P Pn 02 24 34.1 -0.1
GRG Griva 7.29 342 P Pn 02 24 34.1 -0.1
FNA Florina 7.44 336 P Pn 02 24 36.9 +0.6
FNA Florina 7.44 336 P Pn 02 24 36.9 +0.6
FNA Florina 7.44 336 P Pn 02 24 36.9 +0.6
FNA Florina 7.44 336 P Pn 02 24 36.9 +0.6
KDZ Kurdzhali 7.58 0 ⇓P Pn 02 24 38.9 +0.7
KDZ Kurdzhali 7.58 0 eP Pn 02 24 38.3 +0.1
KDZ Kurdzhali 7.58 0⇓iP Pn 02 24 38.9 +0.7
VAY Valandovo 7.59 344 ePn Pn 02 24 47.6 +9.3
MMB Musomiste 7.64 351 ⇑P Pn 02 24 39.5 +0.5
MMB Musomiste 7.64 351 eP Pn 02 24 39.2 +0.2
MMB Musomiste 7.64 351⇑iP Pn 02 24 39.5 +0.5
MMB Musomiste 7.64 351 P Pn 02 24 39.5 +0.5
RZN Rozhen 7.64 356 eP Pn 02 24 40.1 +0.9
DIM Dimitrovgrad 7.98 1 eP Pn 02 24 44.0 +0.3
KKB Krupnik 8.01 348 eP Pn 02 24 45.4 +1.3
MMAI Mount Meron Ar 8.42 94 Pn Pn 02 24 46.7 -3.2
4.0nm,0.3s,baz=280,slow=12,SNR=16
MMAI Sn Sn 02 26 18.8 -5.0
4.9nm,0.3s,baz=264,slow=25,SNR=12
JMB Yambol 8.45 6 ⇑P Pn 02 24 49.1 -1.0
JMB Yambol 8.45 6⇑iP Pn 02 24 49.1 -1.0
JMB Yambol 8.45 6 P Pn 02 24 49.1 -1.0
BR131 Keskin Array S 8.70 47 ePn Pn 02 24 54.1 +0.5
BR131 Keskin Array S 8.70 47 ePn Pn 02 24 54.1 +0.5
BRTR Keskin Array B 8.70 47 P Pn 02 24 54.3 +0.7
BRTR 02 26 31.6
BRTR pmax pmax
comp=Z,1.0nm,0.3s
BRTR Keskin Array B 8.70 47 Pn Pn 02 24 54.3 +0.7
comp=Z,0.5nm,0.3s,baz=223,slow=14,SNR=7.9
BRTR Sn Sn 02 26 31.6 +1.0
comp=Z,0.1nm,0.3s,baz=209,slow=24,SNR=3.4
EIL Elat 9.23 116 Pn Pn 02 24 58.2 -2.6
comp=Z,2.7nm,0.3s,baz=313,slow=3.0,SNR=14
EIL Sn Sn 02 26 36.2 -7.2
comp=Z,0.6nm,0.3s,baz=61,slow=19,SNR=2.4
CUC Castrocucco 9.68 311 ePn Pn 02 25 07.3 +0.3
CUC Castrocucco 9.68 311 ePn Pn 02 25 07.3 +0.3
ASF Jabal al Asfar 9.83 98 P Pn 02 25 06.0 -3.2
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF Jabal al Asfar 9.83 98 Pn Pn 02 25 06.0 -3.2
comp=Z,0.5nm,0.3s,baz=239,slow=10.0,SNR=3.7
ASF Sn Sn 02 26 51.3 -7.1
comp=Z,0.3nm,0.3s,baz=299,slow=19,SNR=2.7
DIVS Divibare 10.87 339 ePn Pn 02 25 25.1 +1.8
ARR Arges 11.31 357⇑iP Pn 02 25 38.9 +10
MALT Malatya 11.36 64 ⇓P Pn 02 25 28.9 -1.1
MALT Malatya 11.36 64⇓iP Pn 02 25 28.9 -1.1
MALT Malatya 11.36 64 P Pn 02 25 28.9 -1.1
VOIR 11.37 359 ⇑P Pn 02 25 36.4 +6.2
VOIR 11.37 359⇑iP Pn 02 25 36.4 +6.2
MLR Muntele Rosu 11.43 2⇑iP Pn 02 25 30.6 -0.4
MLR Muntele Rosu 11.43 2 Pn Pn 02 25 31.1 +0.1
comp=Z,0.0nm,0.3s,baz=220,slow=4.5,SNR=5.2
LOT Lotru 11.45 354⇑iP Pn 02 25 31.5 +0.2
GZR Gura Zlata 11.50 351 ⇓P Pn 02 25 33.8 +1.8
GZR Gura Zlata 11.50 351⇓iP Pn 02 25 33.8 +1.8
GZR Gura Zlata 11.50 351 P Pn 02 25 33.8 +1.8
PKSM Moragy 13.19 339 ⇑P Pn 02 25 50.2 -4.7
PKSM Moragy 13.19 339⇑iP Pn 02 25 50.2 -4.7
KEST Kesra 13.28 282 Pn Pn 02 25 56.4 +0.1
comp=Z,0.0nm,0.3s,baz=35,slow=16,SNR=2.0
KEST Kesra 13.28 282 ePn Pn 02 25 56.8 +0.5
KEST Kesra 13.28 282 ePn Pn 02 25 56.8 +0.5
BUR08 Bucovina Ar. S 13.58 359 ePn Pn 02 26 00.4 +0.1
BUR08 Bucovina Ar. S 13.58 359 ePn Pn 02 26 00.4 +0.1
PSZ Piszkesteto 14.45 345 eP Pn 02 26 13.8 +1.5
PSZ Piszkesteto 14.45 345 ePn Pn 02 26 13.8 +1.5
PSZ Piszkesteto 14.45 345 ePn Pn 02 26 13.8 +1.5
UZH Uzhgorod 14.75 352⇓iP Pn 02 26 16.5 +0.4
KOLS Kolonicke sedl 15.05 352 eP Pn 02 26 19.5 -0.7
KOLS Kolonicke sedl 15.05 352 ePN Pn 02 26 19.5 -0.7
VYHS Vyhne 15.24 343 eP P 02 26 26.9 -0.3
VYHS Vyhne 15.24 343 eP P 02 26 26.9 -0.3
VYHS Vyhne 15.24 343 eP P 02 26 26.9 -0.3
PGF Pioggiola 15.39 308 eP Pn 02 26 23.6 -1.3
comp=Z,38nm,0.8s
PGF Pioggiola 15.39 308 eP Pn 02 26 23.6 -1.3
PGF pmax pmax
comp=Z,38nm,0.8s
PGF Pioggiola 15.39 308 eP Pn 02 26 23.6 -1.3
comp=Z,38nm,0.8s
STHS Stebnicka Huta 15.65 350 eP P 02 26 31.3 -0.6
STHS Stebnicka Huta 15.65 350 eP P 02 26 31.3 -0.6
STHS Stebnicka Huta 15.65 350 eP P 02 26 31.3 -0.6
KWP Kalwaria Pacla 15.69 354 ⇑P Pn 02 26 27.3 -1.3
KWP Kalwaria Pacla 15.69 354⇑iP Pn 02 26 27.3 -1.3
KBA Koelnbreinsper 15.88 329⇓iP P 02 26 34.4 -0.2
comp=Z,13nm,0.6s,SNR=15
KBA Koelnbreinsper 15.88 329 P P 02 26 34.4 -0.2
comp=Z,13nm,0.6s,SNR=15
ABTA Abfaltersbach 16.00 326⇑iPn P 02 26 31.2 -1.5
comp=Z,2.0nm,0.6s
ABTA ⇑iP P 02 26 36.2 +0.3
comp=Z,28nm,0.6s
ABTA Abfaltersbach 16.00 326 Pn Pn 02 26 31.2 -1.5
comp=Z,2.0nm,0.6s
MOA Molln 16.12 332 iP P 02 26 36.6 -0.4
comp=Z,12nm,0.8s,SNR=20
MOA Molln 16.12 332 P P 02 26 36.6 -0.4
comp=Z,12nm,0.8s,SNR=20
ONI Oni 16.51 54 P P 02 26 46.2 +4.6
GNI Garni 16.58 63d iP P 02 26 43.2 +0.8
GNI pmax pmax
comp=Z,11nm,0.5s
GNI Garni 16.58 63 Pn P 02 26 42.8 +0.5
comp=Z,2.3nm,0.3s,baz=289,slow=2.9,SNR=33
GNI Garni 16.58 63 ePn P 02 26 42.9 +0.5
comp=Z,26nm,0.8s
GNI Garni 16.58 63 ePn P 02 26 42.9 +0.5
comp=Z,26nm,0.8s
GNI Garni 16.58 63 iP P 02 26 43.2 +0.8
comp=Z,11nm,0.5s
VRAC Vranov 16.58 339 P Pn 02 26 39.7 -0.2
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC Vranov 16.58 339⇑iP P 02 26 41.0 -1.1
VRAC Vranov 16.58 339 Pn Pn 02 26 39.7 -0.2
comp=Z,0.5nm,0.3s,baz=141,slow=10,SNR=11
OKC Ostrava-Krasne 16.65 343 eP Pn 02 26 40.9 +0.1
OKC Ostrava-Krasne 16.65 343 eP Pn 02 26 40.9 +0.1
OKC ex x 02 26 45.3
OKC Ostrava-Krasne 16.65 343 eP Pn 02 26 40.9 +0.1
KIV Kislovodsk 16.66 49 eP P 02 26 42.8 -0.3
KIV pmax pmax
comp=Z,18nm,0.9s
KIV Kislovodsk 16.66 49 ePn P 02 26 43.1 +0.1
comp=Z,24nm,1.0s
KIV Kislovodsk 16.66 49 eP P 02 26 42.8 -0.3
comp=Z,18nm,0.9s
KIV Kislovodsk 16.66 49 ePn P 02 26 43.2 +0.1
comp=Z,24nm,1.0s
KBZ Khabaz 16.68 49 Pn Pn 02 26 42.0 +0.9
comp=Z,0.2nm,0.3s,baz=264,slow=6.8,SNR=19
MORC Moravsky Berou 16.75 342 eP Pn 02 26 41.4 -0.6
MORC Moravsky Berou 16.75 342 ePn Pn 02 26 41.4 -0.6
MORC Moravsky Berou 16.75 342 eP Pn 02 26 41.4 -0.6
AK02 Malin Array Si 16.83 8 ePn Pn 02 26 42.7 -0.3
AK02 Malin Array Si 16.83 8 ePn Pn 02 26 42.7 -0.3
AK01 Malin Array Si 16.86 8 ePn Pn 02 26 42.2 -1.2
AK01 Malin Array Si 16.86 8 ePn Pn 02 26 42.2 -1.2
KIEV Kiev 16.86 8⇑eP Pn 02 26 43.4 0.0
KIEV Kiev 16.86 8 ePn Pn 02 26 42.4 -1.0
comp=Z,23nm,0.7s
KIEV Kiev 16.86 8 ePn Pn 02 26 42.4 -1.0
comp=Z,23nm,0.7s
KIEV Kiev 16.86 8 eP Pn 02 26 43.4 0.0
AKASG Malin Array Be 16.87 8 P Pn 02 26 41.8 -1.7
AKASG pmax pmax
comp=Z,4.0nm,0.3s
AKASG Malin Array Be 16.87 8 Pn Pn 02 26 41.8 -1.7
comp=Z,3.6nm,0.3s,baz=200,slow=10,SNR=60
AKBB Malin Array Si 16.87 8 eP Pn 02 26 42.1 -1.5
AKBB Malin Array Si 16.87 8 ePn Pn 02 26 42.0 -1.5
AKBB Malin Array Si 16.87 8 ePn Pn 02 26 42.0 -1.5
FUORN Ofenpass-Fuorn 17.01 322 eP P 02 26 49.2 +2.0
comp=Z,37nm,1.4s
FUORN Ofenpass-Fuorn 17.01 322 eP P 02 26 49.2 +2.0
comp=Z,37nm,1.4s
SBF Sospel 17.03 310 eP Pn 02 26 44.9 -0.7
comp=Z,90nm,0.9s
SBF Sospel 17.03 310 eP Pn 02 26 44.9 -0.7
SBF pmax pmax
comp=Z,90nm,0.9s
SBF Sospel 17.03 310 eP Pn 02 26 44.9 -0.7
comp=Z,90nm,0.9s
SBF Sospel 17.03 310 eP Pn 02 26 44.9 -0.7
comp=Z,45nm,0.9s
FETA Feichten 17.05 324⇓iPn Pn 02 26 45.6 -0.4
comp=Z,4.9nm,1.3s,SNR=11
FETA ⇑iPn P 02 26 48.8 +1.3
comp=Z,14nm,0.8s
FETA Feichten 17.05 324 P Pn 02 26 45.6 -0.4
comp=Z,4.9nm,1.3s,SNR=11
MOTA Moosalm 17.10 325⇑iP P 02 26 47.3 -0.8
comp=Z,5.5nm,0.7s,SNR=7.3
MOTA Moosalm 17.10 325 P P 02 26 47.3 -0.8
comp=Z,5.5nm,0.7s,SNR=7.3
GEC2 GERESS Array S 17.15 333 eP P 02 26 47.8 -0.7
GEC2 GERESS Array S 17.15 333 eP P 02 26 47.8 -0.7
GEC2 GERESS Array S 17.15 333 eP P 02 26 47.8 -0.7
GERES GERESS Array B 17.15 333 P Pn 02 26 46.4 -0.7
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES GERESS Array B 17.15 333 Pn Pn 02 26 46.4 -0.7
comp=Z,0.9nm,0.3s,baz=145,slow=12,SNR=55
DUS Dusheti 17.17 56 P P 02 26 48.1 -0.7
DUS Dusheti 17.17 56 P P 02 26 48.1 -0.7
KRLC Kraliky 17.22 341 eP P 02 26 48.8 -0.4
KRLC Kraliky 17.22 341 eP P 02 26 48.8 -0.4
KRLC ex x 02 26 52.8
KRLC Kraliky 17.22 341 eP P 02 26 48.8 -0.4
DAVOX Davos/Dischmat 17.31 322 Pn P 02 26 49.8 -0.7
comp=Z,0.3nm,0.3s,baz=140,slow=13,SNR=7.5
RETA Reutte 17.36 325⇑iPn Pn 02 26 48.3 -1.5
comp=Z,2.6nm,0.7s,SNR=7.6
RETA ⇑iPn P 02 26 51.8 +0.9
comp=Z,6.0nm,0.6s
RETA Reutte 17.36 325 P P 02 26 51.8 +0.9
comp=Z,6.0nm,0.6s
LMR La Mourre 17.38 308 eP Pn 02 26 49.4 -0.5
LMR La Mourre 17.38 308 eP Pn 02 26 49.4 -0.5
LMR La Mourre 17.38 308 eP Pn 02 26 49.4 -0.5
LMR La Mourre 17.38 308 eP Pn 02 26 49.4 -0.5
FRF La Foret Royal 17.39 309 eP Pn 02 26 49.6 -0.5
FRF La Foret Royal 17.39 309 eP Pn 02 26 49.6 -0.5
FRF La Foret Royal 17.39 309 eP Pn 02 26 49.6 -0.5
FRF La Foret Royal 17.39 309 eP Pn 02 26 49.6 -0.5
DGRG David-gareji 17.42 59 P P 02 26 52.6 +1.1
DGRG David-gareji 17.42 59 P P 02 26 52.6 +1.1
KHC Kasperske Hory 17.43 333 eP P 02 26 51.7 +0.1
KHC Kasperske Hory 17.43 333 eP P 02 26 51.7 +0.1
KHC epP pP 02 26 57.2 -3.1
KHC esP sP 02 27 07.3 +2.8
KHC Kasperske Hory 17.43 333 ePn P 02 26 51.5 0.0
comp=Z,61nm,1.8s
KHC Kasperske Hory 17.43 333 eP P 02 26 51.7 +0.1
GOF Gofitskoye 17.45 46 eP Pn 02 26 50.9 +0.1
GOF Gofitskoye 17.45 46 eP Pn 02 26 50.9 +0.1
DPC Dobruska-Polom 17.59 340 eP P 02 26 53.2 -0.2
DPC Dobruska-Polom 17.59 340 ePn Pn 02 26 52.1 -0.5
DPC Dobruska-Polom 17.59 340 eP P 02 26 53.2 -0.2
DPC Dobruska-Polom 17.59 340 eP P 02 26 53.2 -0.2
DAVA Damuels 17.65 323⇑iP P 02 26 54.7 +0.5
comp=Z,7.5nm,0.6s,SNR=4.4
DAVA Damuels 17.65 323 P P 02 26 54.7 +0.5
comp=Z,7.5nm,0.6s,SNR=4.4
PRU Pruhonice 17.82 337 eP Pn 02 26 55.0 -0.3
PRU Pruhonice 17.82 337 eP Pn 02 26 55.0 -0.3
PRU epP pP 02 27 07.8 +3.3
PRU Pruhonice 17.82 337 eP Pn 02 26 55.0 -0.3
UPC Upice 17.82 340 eP Pn 02 26 54.5 -0.8
UPC Upice 17.82 340 eP Pn 02 26 54.5 -0.8
UPC Upice 17.82 340 eP Pn 02 26 54.5 -0.8
MBDF Montbardon 17.87 312 eP P 02 26 57.3 +0.7
comp=Z,39nm,1.2s
MBDF Montbardon 17.87 312 eP P 02 26 57.3 +0.7
MBDF pmax pmax
comp=Z,39nm,1.2s
MBDF Montbardon 17.87 312 eP P 02 26 57.3 +0.7
comp=Z,39nm,1.2s
MBDF Montbardon 17.87 312 eP P 02 26 57.3 +0.7
comp=Z,19nm,1.2s
SMRF Simiane la Rot 18.27 309 eP P 02 27 00.2 -0.7
SMRF Simiane la Rot 18.27 309 eP P 02 27 00.2 -0.7
SMRF Simiane la Rot 18.27 309 eP P 02 27 00.2 -0.7
LPG La Plagne 18.28 314 eP Pn 02 27 02.1 +0.8
comp=Z,12nm,0.7s
LPG La Plagne 18.28 314 eP Pn 02 27 02.1 +0.8
LPG pmax pmax
comp=Z,12nm,0.7s
LPG La Plagne 18.28 314 eP Pn 02 27 02.1 +0.8
comp=Z,12nm,0.7s
LPG La Plagne 18.28 314 eP Pn 02 27 02.1 +0.8
comp=Z,6.0nm,0.7s
LPL La Plagne 18.30 314 eP Pn 02 27 02.2 +0.7
comp=Z,20nm,0.8s
LPL La Plagne 18.30 314 eP Pn 02 27 02.2 +0.7
LPL pmax pmax
comp=Z,20nm,0.8s
LPL La Plagne 18.30 314 eP Pn 02 27 02.2 +0.7
comp=Z,20nm,0.8s
LPL La Plagne 18.30 314 eP Pn 02 27 02.2 +0.7
comp=Z,9.9nm,0.8s
SENIN Lac Senin/Sane 18.44 317 ePn Pn 02 27 03.6 +0.4
SENIN Lac Senin/Sane 18.44 317 ePn Pn 02 27 03.6 +0.4
ORIF Oris-en-Rattie 18.52 312 eP Pn 02 27 04.7 +0.7
ORIF Oris-en-Rattie 18.52 312 eP Pn 02 27 04.7 +0.7
ORIF Oris-en-Rattie 18.52 312 eP Pn 02 27 04.7 +0.7
ORIF Oris-en-Rattie 18.52 312 eP Pn 02 27 04.7 +0.7
BRG Berggiesshubel 18.77 337 eP Pn 02 27 07.0 +0.1
comp=Z,5.3nm,1.0s
BRG Berggiesshubel 18.77 337 eP Pn 02 27 07.0 +0.1
BRG pmax pmax
comp=Z,5.0nm,1.0s

BRG Berggiesshubel 18.77 337 eP Pn 02 27 07.0 +0.1
comp=Z,5.0nm,1.0s
GRF Grafenberg Arr 18.80 330 ePn P 02 27 06.4 -0.3
GRFO Grafenberg 18.80 330 eP P 02 27 06.7 0.0
GRFO Grafenberg 18.80 330 eP P 02 27 06.7 0.0
GRFO Grafenberg 18.80 330 eP P 02 27 06.7 0.0
STU Stuttgart 19.01 325 eP P 02 27 08.5 -0.4
STU pmax pmax
comp=Z,21nm,1.0s
STU Stuttgart 19.01 325 eP P 02 27 08.5 -0.4
comp=Z,21nm,1.0s
STU Stuttgart 19.01 325 eP P 02 27 08.5 -0.4
comp=Z,21nm,1.0s
BFO Black Forest 19.13 323 eP Pn 02 27 11.1 -0.2
BFO pmax pmax
comp=Z,32nm,1.4s
BFO Black Forest 19.13 323ceP Pn 02 27 12.7 +1.4
BFO Black Forest 19.13 323 eP Pn 02 27 11.1 -0.2
comp=Z,32nm,1.4s
BFO Black Forest 19.13 323 eP Pn 02 27 11.1 -0.2
comp=Z,32nm,1.4s
VIVF Saint-Julien-l 19.24 310 eP Pn 02 27 13.0 +0.3
comp=Z,28nm,0.9s
VIVF Saint-Julien-l 19.24 310 eP Pn 02 27 13.0 +0.3
VIVF pmax pmax
comp=Z,28nm,0.9s
VIVF Saint-Julien-l 19.24 310 eP Pn 02 27 13.0 +0.3
comp=Z,28nm,0.9s
VIVF Saint-Julien-l 19.24 310 eP Pn 02 27 13.0 +0.3
comp=Z,14nm,0.9s
CABF La Chapelle 19.27 316 eP P 02 27 12.0 +0.1
comp=Z,18nm,0.7s
CABF La Chapelle 19.27 316 eP P 02 27 12.0 +0.1
CABF pmax pmax
comp=Z,19nm,0.7s
CABF La Chapelle 19.27 316 eP P 02 27 12.0 +0.1
comp=Z,18nm,0.7s
CABF La Chapelle 19.27 316 eP P 02 27 12.0 +0.1
comp=Z,9.2nm,0.7s
LASF Ste Croix 19.44 307 eP Pn 02 27 16.5 +1.5
comp=Z,91nm,1.3s
LASF Ste Croix 19.44 307 eP Pn 02 27 16.5 +1.5
comp=Z,91nm,1.3s
CLL Collm 19.45 336⇑iP P 02 27 13.9 +0.2
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 19.45 336⇑iP P 02 27 13.9 +0.2
comp=Z,8.0nm,0.9s
CLL ipP pP 02 27 20.9 -1.6
CLL isP sP 02 27 27.0 +0.3
CLL iPPP PPP 02 27 38.4
comp=Z,12nm,1.0s
CLL Collm 19.45 336 iP P 02 27 13.9 +0.2
comp=Z,8.0nm,0.9s
HINF Hinteralfeld 19.56 320 eP P 02 27 14.9 -0.1
comp=Z,12nm,0.6s
HINF Hinteralfeld 19.56 320 eP P 02 27 14.9 -0.1
HINF pmax pmax
comp=Z,12nm,0.6s
HINF Hinteralfeld 19.56 320 eP P 02 27 14.9 -0.1
comp=Z,12nm,0.6s
ECH Echery 19.65 322 eP P 02 27 15.9 0.0
ECH pmax pmax
comp=Z,76nm,1.8s
ECH Echery 19.65 322 eP Pn 02 27 18.2 +0.7
ECH Echery 19.65 322 eP P 02 27 15.9 0.0
comp=Z,76nm,1.8s
ECH Echery 19.65 322 eP P 02 27 15.9 0.0
comp=Z,76nm,1.8s
CDF Champ du Feu 19.71 322 eP P 02 27 16.6 -0.1
comp=Z,18nm,0.9s
CDF Champ du Feu 19.71 322 eP P 02 27 16.6 -0.1
CDF pmax pmax
comp=Z,18nm,0.9s
CDF Champ du Feu 19.71 322 eP P 02 27 16.6 -0.1
comp=Z,18nm,0.9s
CDF Champ du Feu 19.71 322 eP P 02 27 16.6 -0.1
comp=Z,9.1nm,0.9s
TOD Tromm 19.79 327 eP Pn 02 27 18.9 -0.2
LANF Langenberg 19.82 324 eP Pn 02 27 21.0 +1.5
VSR Storozhevoye 19.86 26 eP P 02 27 18.8 +0.6
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 19.86 26 eP P 02 27 18.8 +0.6
HAU Haudompre 19.94 320 eP P 02 27 18.3 -0.8
HAU Haudompre 19.94 320 eP P 02 27 18.3 -0.8
HAU Haudompre 19.94 320 eP P 02 27 18.3 -0.8
SUW Suwalki 20.02 356 eP P 02 27 18.1 -1.7
SUW Suwalki 20.02 356 eP P 02 27 18.1 -1.7
SUW Suwalki 20.02 356 eP P 02 27 17.5 -2.3
comp=Z,38nm,0.7s
SUW Suwalki 20.02 356 eP P 02 27 18.1 -1.7
THEF They Montfort 20.27 320 eP Pn 02 27 25.6 +0.8
MTLF Montolieu 20.27 304 eP Pn 02 27 25.1 +0.2
comp=Z,15nm,0.9s
MTLF Montolieu 20.27 304 eP Pn 02 27 25.1 +0.2
MTLF pmax pmax
comp=Z,15nm,0.9s
MTLF Montolieu 20.27 304 eP Pn 02 27 25.1 +0.2
comp=Z,15nm,0.9s
MTLF Montolieu 20.27 304 eP Pn 02 27 25.1 +0.2
comp=Z,7.5nm,0.9s
PAGF Fort de Pagny 20.61 321 eP Pn 02 27 27.6 -1.1
comp=Z,13nm,0.8s
PAGF Fort de Pagny 20.61 321 eP Pn 02 27 27.6 -1.1
comp=Z,13nm,0.8s
PAGF Fort de Pagny 20.61 321 eP Pn 02 27 27.6 -1.1
comp=Z,6.3nm,0.8s
SMF Signal de Mont 20.61 314 eP P 02 27 25.7 -0.7
comp=Z,19nm,0.8s
SMF Signal de Mont 20.61 314 eP P 02 27 25.7 -0.7
SMF pmax pmax
comp=Z,19nm,0.8s
SMF Signal de Mont 20.61 314 eP P 02 27 25.7 -0.7
comp=Z,19nm,0.8s
SMF Signal de Mont 20.61 314 eP P 02 27 25.7 -0.7
comp=Z,9.6nm,0.8s
RUP Ruppelstein 20.67 325 eP P 02 27 26.7 -0.3
VRHR Novokhopersk 20.73 30 eP P 02 27 27.6 0.0
VRHR pmax pmax
comp=N,40nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,60nm,0.9s
VRHR Novokhopersk 20.73 30 eP P 02 27 27.6 0.0
TAM Tamanrasset 20.73 242 eP Pn 02 27 29.8 -0.7
TAM pmax pmax
comp=Z,11nm,0.9s
TAM Tamanrasset 20.73 242 eP Pn 02 27 29.8 -0.8
comp=Z,11nm,0.9s
TAM Tamanrasset 20.73 242 eP Pn 02 27 29.8 -0.7
comp=Z,11nm,0.9s
SFTF Sexfontaines 20.77 319 eP P 02 27 27.3 -0.8
comp=Z,34nm,0.8s
SFTF Sexfontaines 20.77 319 eP P 02 27 27.3 -0.8
comp=Z,34nm,0.8s
SFTF Sexfontaines 20.77 319 eP P 02 27 27.3 -0.8
comp=Z,17nm,0.8s
LOR Lormes 20.91 316 eP P 02 27 28.7 -1.0
LOR Lormes 20.91 316 eP P 02 27 28.7 -1.0
LOR Lormes 20.91 316 eP P 02 27 28.7 -1.0
MEZF Maizieres J'vi 20.93 320 eP P 02 27 29.7 -0.1
comp=Z,35nm,0.7s
MEZF Maizieres J'vi 20.93 320 eP P 02 27 29.7 -0.1
comp=Z,35nm,0.7s
MEZF Maizieres J'vi 20.93 320 eP P 02 27 29.7 -0.1
comp=Z,17nm,0.7s
CAF Calviac 20.95 308 eP P 02 27 30.8 +0.7
comp=Z,49nm,1.1s
CAF Calviac 20.95 308 eP P 02 27 30.8 +0.7
CAF pmax pmax
comp=Z,49nm,1.1s
CAF Calviac 20.95 308 eP P 02 27 30.8 +0.7
comp=Z,49nm,1.1s
CAF Calviac 20.95 308 eP P 02 27 30.8 +0.7
comp=Z,24nm,1.1s
AVF Avril sur Loir 20.97 314 eP P 02 27 30.0 -0.3
comp=Z,32nm,1.0s
AVF Avril sur Loir 20.97 314 eP P 02 27 30.0 -0.3
AVF pmax pmax
comp=Z,32nm,1.0s

AVF Avril sur Loir 20.97 314 eP P 02 27 30.0 -0.3
comp=Z,32nm,1.0s
AVF Avril sur Loir 20.97 314 eP P 02 27 30.0 -0.3
comp=Z,16nm,1.0s
SSF Saint Saulge 21.02 315 eP P 02 27 30.6 -0.1
comp=Z,10nm,0.6s
SSF Saint Saulge 21.02 315 eP P 02 27 30.6 -0.1
SSF pmax pmax
comp=Z,10.0nm,0.6s
SSF Saint Saulge 21.02 315 eP P 02 27 30.6 -0.1
comp=Z,10nm,0.6s
SSF Saint Saulge 21.02 315 eP P 02 27 30.6 -0.1
comp=Z,5.1nm,0.6s
WLF Walferdange 21.09 323 P P 02 27 34.0 +2.5
comp=Z,30nm,2.5s
WLF Walferdange 21.09 323 eP P 02 27 31.0 -0.5
WLF pmax pmax
comp=Z,29nm,1.0s
WLF Walferdange 21.09 323 eP P 02 27 31.0 -0.5
comp=Z,29nm,1.0s
WLF Walferdange 21.09 323 eP P 02 27 31.0 -0.5
comp=Z,29nm,1.0s
BGF Bois d'Agland 21.16 313 eP P 02 27 33.2 +0.8
comp=Z,54nm,0.8s
BGF Bois d'Agland 21.16 313 eP P 02 27 33.2 +0.8
BGF pmax pmax
comp=Z,54nm,0.8s
BGF Bois d'Agland 21.16 313 eP P 02 27 33.2 +0.8
comp=Z,54nm,0.8s
BGF Bois d'Agland 21.16 313 eP P 02 27 33.2 +0.8
comp=Z,27nm,0.8s
TCF Toulx Ste Croi 21.43 312 eP P 02 27 35.3 0.0
comp=Z,42nm,0.9s
TCF Toulx Ste Croi 21.43 312 eP P 02 27 35.3 0.0
TCF pmax pmax
comp=Z,42nm,0.9s
TCF Toulx Ste Croi 21.43 312 eP P 02 27 35.3 0.0
comp=Z,42nm,0.9s
TCF Toulx Ste Croi 21.43 312 eP P 02 27 35.3 0.0
comp=Z,21nm,0.9s
RJF Les Rejaudoux 21.46 309 eP P 02 27 35.4 -0.1
comp=Z,50nm,1.1s
RJF Les Rejaudoux 21.46 309 eP P 02 27 35.4 -0.1
RJF pmax pmax
comp=Z,50nm,1.1s
RJF Les Rejaudoux 21.46 309 eP P 02 27 35.4 -0.1
comp=Z,50nm,1.1s
RJF Les Rejaudoux 21.46 309 eP P 02 27 35.4 -0.1
comp=Z,25nm,1.1s
EPF Esparros 21.48 302 eP P 02 27 38.0 +2.1
comp=Z,24nm,0.9s
EPF Esparros 21.48 302 eP P 02 27 38.0 +2.1
EPF pmax pmax
comp=Z,24nm,0.9s
EPF Esparros 21.48 302 eP P 02 27 38.0 +2.1
comp=Z,24nm,0.9s
EPF Esparros 21.48 302 eP P 02 27 38.0 +2.1
comp=Z,12nm,0.9s
MEM Membach 21.78 325 P P 02 27 38.1 -0.8
comp=Z,24nm,3.5s
MEM Membach 21.78 325 eP P 02 27 39.6 +0.7
MEM pmax pmax
comp=Z,25nm,0.9s
MEM Membach 21.78 325 eP P 02 27 39.6 +0.7
comp=Z,25nm,0.9s
MEM Membach 21.78 325 eP P 02 27 39.6 +0.7
comp=Z,25nm,0.9s
LFF La Frestale 21.83 307 eP P 02 27 40.3 +0.8
LFF La Frestale 21.83 307 eP P 02 27 40.3 +0.8
LFF La Frestale 21.83 307 eP P 02 27 40.3 +0.8
LFF La Frestale 21.83 307 eP P 02 27 40.3 +0.8
BCLA Clavier 21.99 324 P P 02 27 42.7 +1.4
comp=Z,32nm,3.7s
BCLA Clavier 21.99 324 P P 02 27 42.6 +1.4
comp=Z,32nm,3.7s
GIVF Givet 22.03 323 eP P 02 27 40.6 -1.0
comp=Z,43nm,1.0s
GIVF Givet 22.03 323 eP P 02 27 40.6 -1.0
GIVF pmax pmax
comp=Z,43nm,1.0s
GIVF Givet 22.03 323 eP P 02 27 40.6 -1.0
comp=Z,43nm,1.0s
GIVF Givet 22.03 323 eP P 02 27 40.6 -1.0
comp=Z,22nm,1.0s
ETSF Etsaut 22.09 301 eP P 02 27 44.4 +2.0
comp=Z,9.1nm,0.6s
ETSF Etsaut 22.09 301 eP P 02 27 44.4 +2.0
ETSF pmax pmax
comp=Z,9.0nm,0.6s
ETSF Etsaut 22.09 301 eP P 02 27 44.4 +2.0
comp=Z,9.1nm,0.6s
ETSF Etsaut 22.09 301 eP P 02 27 44.4 +2.0
comp=Z,4.6nm,0.6s
DOU Dourbes 22.14 323 P P 02 27 42.2 -0.6
comp=Z,28nm,3.4s
DOU Dourbes 22.14 323 P P 02 27 42.1 -0.6
comp=Z,28nm,3.4s
BAIF Baives 22.31 322 eP P 02 27 43.0 -1.6
comp=Z,31nm,0.7s
BAIF Baives 22.31 322 eP P 02 27 43.0 -1.6
BAIF pmax pmax
comp=Z,31nm,0.7s
BAIF Baives 22.31 322 eP P 02 27 43.0 -1.6
comp=Z,31nm,0.7s
BAIF Baives 22.31 322 eP P 02 27 43.0 -1.6
comp=Z,16nm,0.7s
OBN Obninsk 22.46 17 eP P 02 27 45.9 -0.2
OBN e 02 28 07.1
OBN eS S 02 31 52.7 +2.4
OBN pmax pmax
comp=Z,69nm,2.5s
OBN Obninsk 22.46 17 P P 02 27 45.0 -1.1
comp=Z,16nm,0.5s,baz=191,slow=12,SNR=8.8
OBN Obninsk 22.46 17 eP P 02 27 45.5 -0.6
comp=Z,17nm,0.6s
OBN Obninsk 22.46 17 eP P 02 27 45.5 -0.6
comp=Z,17nm,0.6s
SNF Seneffe 22.55 323 P P 02 27 47.3 +0.1
SNF Seneffe 22.55 323 P P 02 27 47.2 +0.1
SJPF Ste Jean 22.61 301 eP P 02 27 48.9 +1.0
comp=Z,36nm,0.9s
SJPF Ste Jean 22.61 301 eP P 02 27 48.9 +1.0
SJPF pmax pmax
comp=Z,36nm,0.9s
SJPF Ste Jean 22.61 301 eP P 02 27 48.9 +1.0
comp=Z,36nm,0.9s
SJPF Ste Jean 22.61 301 eP P 02 27 48.9 +1.0
comp=Z,18nm,0.9s
MOS Moscow 23.28 18 eP P 02 27 52.7 -1.9
MOS pmax pmax
comp=Z,40nm,1.1s
MOS Moscow 23.28 18 eP P 02 27 52.7 -1.9
comp=Z,40nm,1.1s
LDF La Druitiere 23.90 315 eP P 02 27 59.6 -1.0
comp=Z,68nm,0.9s
LDF La Druitiere 23.90 315 eP P 02 27 59.6 -1.0
LDF pmax pmax
comp=Z,68nm,0.9s
LDF La Druitiere 23.90 315 eP P 02 27 59.6 -1.0
comp=Z,68nm,0.9s
LDF La Druitiere 23.90 315 eP P 02 27 59.6 -1.0
comp=Z,34nm,0.9s
ESDC Sonseca Array 24.09 292 P P 02 28 02.0 -0.5
comp=Z,4.3nm,0.6s,baz=82,slow=9.2,SNR=24
FLN La Foliniere 24.19 315 eP P 02 28 02.2 -1.1
comp=Z,20nm,0.6s
FLN La Foliniere 24.19 315 eP P 02 28 02.2 -1.1
FLN pmax pmax
comp=Z,21nm,0.6s
FLN La Foliniere 24.19 315 eP P 02 28 02.2 -1.1
comp=Z,20nm,0.6s
FLN La Foliniere 24.19 315 eP P 02 28 02.2 -1.1
comp=Z,10nm,0.6s
GRR Gorron 24.24 314 eP P 02 28 03.4 -0.4
comp=Z,35nm,0.8s
GRR Gorron 24.24 314 eP P 02 28 03.4 -0.4
GRR pmax pmax
comp=Z,35nm,0.8s
GRR Gorron 24.24 314 eP P 02 28 03.4 -0.4
comp=Z,35nm,0.8s
GRR Gorron 24.24 314 eP P 02 28 03.4 -0.4
comp=Z,17nm,0.8s
MDT Midelt 25.03 276 P P 02 28 08.6 -2.7
comp=Z,2.8nm,0.7s,baz=75,slow=11,SNR=7.4
SGMF Saint Gilles 25.21 313 eP P 02 28 12.7 +0.1
comp=Z,32nm,0.7s
SGMF Saint Gilles 25.21 313 eP P 02 28 12.7 +0.1

SGMF pmax pmax
comp=Z,32nm,0.7s
SGMF Saint Gilles 25.21 313 eP P 02 28 12.7 +0.1
comp=Z,32nm,0.7s
SGMF Saint Gilles 25.21 313 eP P 02 28 12.7 +0.1
comp=Z,16nm,0.7s
QUIF Quistinic 25.45 312 eP P 02 28 14.3 -0.4
comp=Z,62nm,0.9s
QUIF Quistinic 25.45 312 eP P 02 28 14.3 -0.4
QUIF pmax pmax
comp=Z,62nm,0.9s
QUIF Quistinic 25.45 312 eP P 02 28 14.3 -0.4
comp=Z,62nm,0.9s
ROSF Rostrenen 25.68 312 eP P 02 28 15.8 -1.0
comp=Z,21nm,0.6s
ROSF Rostrenen 25.68 312 eP P 02 28 15.8 -1.0
ROSF pmax pmax
comp=Z,21nm,0.6s
ROSF Rostrenen 25.68 312 eP P 02 28 15.8 -1.0
comp=Z,21nm,0.6s
GEYT Alibeck 26.68 72 P P 02 28 25.8 -0.3
comp=Z,1.5nm,0.4s,baz=260,slow=12,SNR=7.5
HFS Hagfors 27.19 347 P P 02 28 26.3 -4.1
HFS pmax pmax
comp=Z,6.0nm,0.6s
HFS Hagfors 27.19 347 P P 02 28 26.3 -4.1
comp=Z,6.0nm,0.6s,baz=139,slow=12,SNR=19
FINES FINESS Array B 27.41 1 P P 02 28 30.1 -2.2
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 27.41 1 P P 02 28 30.1 -2.2
comp=Z,3.4nm,0.8s,baz=165,slow=12,SNR=11
KAF Kangasniemi 28.08 1 eP P 02 28 35.2 -3.1
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 28.08 1 ep P 02 28 35.2 -3.1
comp=Z,3.5nm,0.7s
KLMR Klimovskoe 28.34 15 eP P 02 28 38.3 -2.3
KLMR pmax pmax
comp=Z,24nm,0.9s
KLMR Klimovskoe 28.34 15 eP P 02 28 38.3 -2.3
comp=Z,24nm,0.9s
NAO01 NORSAR Array S 28.41 345 eP P 02 28 40.1 -1.2
comp=Z,9.2nm,0.8s
NAO01 NORSAR Array S 28.41 345 eP P 02 28 40.1 -1.2
comp=Z,9.2nm,0.8s
NB2 NORSAR Subarra 28.52 346 P P 02 28 40.7 -1.5
comp=Z,2.0nm,0.6s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.52 346 P P 02 28 40.7 -1.5
comp=Z,2.0nm,0.6s,SNR=4.9
NOA NORSAR Array B 28.52 346 P P 02 28 40.3 -2.0
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA NORSAR Array B 28.52 346 P P 02 28 40.3 -2.0
comp=Z,2.0nm,0.5s,baz=146,slow=9.0,SNR=17
AKTK Aktyubinsk 28.87 46 P P 02 28 45.1 -0.4
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 28.87 46 P P 02 28 45.1 -0.4
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 28.87 46 P P 02 28 45.1 -0.4
comp=Z,2.1nm,0.7s,baz=251,slow=10,SNR=6.1
EKA Eskdalemuir Ar 29.06 326 P P 02 28 46.3 -0.8
EKA pmax pmax
comp=Z,3.0nm,0.6s
EKA Eskdalemuir Ar 29.06 326 P P 02 28 46.2 -0.8
comp=Z,2.5nm,0.6s,baz=140,slow=9.9,SNR=8.9
ESK Eskdalemuir 29.07 326 eP P 02 28 45.7 -1.4
ESK Eskdalemuir 29.07 326 eP P 02 28 45.7 -1.4
comp=Z,74nm,1.0s
ESK Eskdalemuir 29.07 326 eP P 02 28 45.7 -1.4
comp=Z,74nm,1.0s
JOF Joensuu 29.13 6 eP P 02 28 44.7 -2.9
JOF pmax pmax
comp=Z,4.0nm,0.5s
JOF Joensuu 29.13 6 ep P 02 28 44.7 -2.9
comp=Z,4.1nm,0.5s
ABKAR Akbulak array 29.64 49 eP P 02 28 52.1 -0.2
ABKAR Akbulak array 29.64 49 eP P 02 28 52.1 -0.2
TOA0 Torodi Ar. Sit 29.94 232 eP P 02 28 54.5 -0.8
TOA0 Torodi Ar. Sit 29.94 232 eP P 02 28 54.5 -0.8
TORD Torodi Ar. Bea 29.94 232 P P 02 28 54.5 -0.8
comp=Z,0.8nm,0.4s,baz=29,slow=8.2,SNR=16
PRGR Permogore 30.49 19⇓iP P 02 28 57.2 -2.4
PRGR pmax pmax
comp=Z,25nm,0.6s
PRGR Permogore 30.49 19 iP P 02 28 57.2 -2.4
comp=Z,25nm,0.6s
ARU Arti 31.84 35 eP P 02 29 11.7 +0.1
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 31.84 35 eP P 02 29 11.7 +0.1
comp=Z,2.9nm,0.6s
ARU Arti 31.84 35 eP P 02 29 11.7 +0.1
comp=Z,2.8nm,0.6s
SOKR Solikamsk 32.82 29 eP P 02 29 19.3 -0.8
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SVE Sverdlovsk 33.03 36 eP P 02 29 21.6 -0.4
SVE pmax pmax
comp=Z,9.0nm,0.9s
SVE Sverdlovsk 33.03 36 eP P 02 29 21.6 -0.4
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 35.53 0 P P 02 29 41.7 -1.9
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 35.53 0 P P 02 29 41.7 -1.9
comp=Z,3.4nm,0.7s,baz=173,slow=9.0,SNR=8.6
KKAR Karatay Array 36.04 62 eP P 02 29 48.8 +0.5
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 36.04 62 eP P 02 29 48.8 +0.5
comp=Z,2.5nm,0.7s
KKAR Karatay Array 36.04 62 eP P 02 29 48.8 +0.5
comp=Z,2.5nm,0.7s
BRVK Borovoye 36.92 45 ⇑P P 02 29 55.8 +0.2
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 36.92 45 P P 02 29 55.8 +0.2
comp=Z,6.0nm,1.3s
EKS2 Erkin-Say 38.46 62 eP P 02 30 09.2 +0.3
EKS2 pmax pmax
comp=Z,2.0nm,0.7s
EKS2 Erkin-Say 38.46 62 eP P 02 30 09.2 +0.3
comp=Z,2.4nm,0.7s
EKS2 Erkin-Say 38.46 62 eP P 02 30 09.2 +0.3
comp=Z,2.3nm,0.7s
DBIC Dimbokro 39.04 233 eP P 02 30 13.8 -0.1
DBIC pmax pmax
comp=Z,7.0nm,1.0s
DBIC Dimbokro 39.04 233 eP P 02 30 13.8 -0.1
comp=Z,6.5nm,1.0s
DBIC Dimbokro 39.04 233 eP P 02 30 13.8 -0.1
comp=Z,6.5nm,1.0s
LIC Lamto 39.48 232 eP P 02 30 19.9 +2.3
comp=Z,5.2nm,0.7s
LIC Lamto 39.48 232 eP P 02 30 19.9 +2.3
comp=Z,5.2nm,0.7s
TKM2 Tokmak 2 39.77 62 eP P 02 30 20.3 +0.3
TKM2 pmax pmax
comp=Z,6.0nm,1.2s
TKM2 Tokmak 2 39.77 62 eP P 02 30 20.3 +0.3
comp=Z,6.0nm,1.2s
TKM2 Tokmak 2 39.77 62 eP P 02 30 20.3 +0.3
comp=Z,6.0nm,1.2s
KURK Kurchatov 41.73 50 eP P 02 30 35.8 0.0
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 41.73 50 eP P 02 30 35.8 0.0
comp=Z,4.3nm,0.9s
KURK Kurchatov 41.73 50 eP P 02 30 35.8 0.0
comp=Z,4.3nm,0.9s
MKAR Makanchi Array 44.23 56 P P 02 30 56.2 +0.1
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 44.23 56 P P 02 30 56.2 +0.1
comp=Z,6.2nm,0.6s,baz=263,slow=7.3,SNR=92
NVS Novosibirsk 44.74 44 eP P 02 30 58.5 -1.5
NVS pmax pmax
comp=Z,12nm,1.3s
NVS pmax pmax
comp=E,3.0nm,0.9s
NVS Novosibirsk 44.74 44 eP P 02 30 58.5 -1.5
comp=E,12nm,1.3s
ZAA0 Zalesovo Array 45.64 45 eP P 02 31 06.2 -0.9
ZAA0 Zalesovo Array 45.64 45 eP P 02 31 06.2 -0.9
ZALV Zalesovo Beam 45.64 45 P P 02 31 06.6 -0.5

ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 45.64 45 P P 02 31 06.6 -0.5
comp=Z,5.3nm,0.6s,baz=266,slow=8.8,SNR=22
WMQ Urumqi 48.40 59 eP P 02 31 31.5 +2.5
WMQ pP pP 02 31 44.0 +5.1
WMQ sP sP 02 31 49.3 +6.5
WMQ pmax pmax
comp=Z,9.0nm,0.8s
WMQ LR LR
comp=Z,650nm,20.2s
WMQ LR LR
comp=Z,570nm,18.4s
WMQ LR LR
comp=Z,840nm,20.6s
LSZ Lusaka 49.13 176 eP P 02 31 36.4 +1.7
LSZ pmax pmax
comp=Z,5.0nm,1.0s
LSZ Lusaka 49.13 176 eP P 02 31 36.4 +1.7
comp=Z,5.1nm,1.0s
LSZ Lusaka 49.13 176 eP P 02 31 36.4 +1.7
comp=Z,5.1nm,1.0s
DANN Dangsing 49.68 80 eP P 02 31 39.6 +0.4
comp=Z,47nm,0.7s
KOLN Koldanda 49.76 81 eP P 02 31 39.4 -0.4
comp=Z,8.9nm,0.7s
GKN Gorkha 50.52 80 eP P 02 31 45.1 -0.4
comp=Z,12nm,0.6s
DMN Daman 51.06 80 eP P 02 31 49.4 -0.2
comp=Z,23nm,0.8s
KKN Kakani 51.13 80 eP P 02 31 49.5 -0.6
comp=Z,16nm,0.7s
PKIN Phulchoki 51.31 80 eP P 02 31 50.8 -0.7
PKI Pulchoki 51.32 80 eP P 02 31 51.0 -0.7
GUN Gumba 51.57 79 eP P 02 31 53.2 -0.4
JIRN Jiri 51.92 80 eP P 02 31 55.8 -0.4
comp=Z,21nm,0.8s
TAPN Taplejung 53.29 79 eP P 02 32 05.6 -0.7
TSUM Tsumeb 53.48 189 eP P 02 32 07.3 0.0
comp=Z,4.7nm,1.1s
TSUM Tsumeb 53.48 189 eP P 02 32 07.3 0.0
comp=Z,4.7nm,1.1s
LSA Lhasa 55.15 75 eP P 02 32 20.1 +0.1
LSA pmax pmax
comp=Z,4.0nm,0.7s
LSA Lhasa 55.15 75 eP P 02 32 20.1 +0.1
comp=Z,4.4nm,0.7s
LSA Lhasa 55.15 75 eP P 02 32 20.1 +0.1
comp=Z,4.4nm,0.7s
MOY Mondy 55.62 47 eP P 02 32 24.1 +1.5
MOY Mondy 55.62 47 eP P 02 32 24.1 +1.5
TLY Talaya 57.22 46 eP P 02 32 35.8 +1.9
TLY pmax pmax
comp=Z,7.0nm,1.3s
GTA Gaotai 58.32 61 eP P 02 32 44.5 +2.5
GTA pP pP 02 32 57.3 +5.2
GTA sP sP 02 33 02.8 +6.8
SONM Songino Array 60.04 50 P P 02 32 53.9 +0.1
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 60.04 50 P P 02 32 53.9 +0.1
comp=Z,1.7nm,0.7s,baz=275,slow=5.7,SNR=12
ULN Ulaanbaatar 60.45 50⇓iP P 02 32 57.5 +0.9
ULN pmax pmax
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 60.45 50 eP P 02 32 56.8 +0.2
comp=Z,3.7nm,0.9s
ULN Ulaanbaatar 60.45 50 eP P 02 32 56.8 +0.2
comp=Z,3.7nm,0.9s
BOD Bodaibo 61.21 38 eP P 02 33 00.7 -0.6
TIXI Tiksi 62.13 20⇑eP P 02 33 07.2 -0.1
TIXI pmax pmax
comp=Z,7.0nm,2.5s
TIXI Tiksi 62.13 20 eP P 02 33 06.7 -0.6
comp=Z,3.2nm,0.7s
TIXI Tiksi 62.13 20 eP P 02 33 06.7 -0.6
comp=Z,3.2nm,0.7s
BOSA Boshof 62.33 180 eP P 02 33 10.2 +1.0
BOSA pmax pmax
comp=Z,11nm,1.1s
BOSA Boshof 62.33 180 eP P 02 33 08.9 -0.3
comp=Z,3.0nm,0.9s,baz=29,slow=4.2,SNR=4.4
BOSA Boshof 62.33 180 eP P 02 33 10.2 +1.0
comp=Z,11nm,1.1s
BOSA Boshof 62.33 180 eP P 02 33 10.2 +1.0
comp=Z,11nm,1.1s
LZH Lanzhou 62.52 63 eP P 02 33 11.0 +0.3
LZH pP **pP** 02 33 23.5 +2.6
LZH sP sP 02 33 28.8 +4.0
LZH pmax pmax
comp=Z,14nm,1.0s
SCHQ Schefferville 64.15 320 P P 02 33 20.9 -0.2
comp=Z,13nm,0.5s,baz=64,slow=4.4,SNR=46
CD2 Chengdu 64.61 69 eP P 02 33 26.0 +1.5
RES Resolute Bay 64.78 345 eP P 02 33 24.8 0.0
RES pmax pmax
comp=Z,2.0nm,0.6s
RES Resolute Bay 64.78 345 eP P 02 33 24.8 0.0
comp=Z,1.9nm,0.6s
RES Resolute Bay 64.78 345 eP P 02 33 24.8 0.0
comp=Z,1.9nm,0.6s
HHC Hu-ho-hao-te 66.09 56 eP P 02 33 34.0 0.0
HHC sP sP 02 33 53.8 +5.7
HHC PcP **PcP** 02 34 04.8 +0.5
HHC PP **PP** 02 36 03.0 +3.6
HHC S **S** 02 42 19.3 -0.9
HHC ScS SKSac 02 43 20.8 -7.0
HHC pmax pmax
comp=Z,11nm,0.6s
HHC LR LR
comp=Z,520nm,18.1s
CMAR Chiang Mai Arr 66.51 83 P P 02 33 36.8 -0.1
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 66.51 83 P P 02 33 36.8 -0.1
comp=Z,0.6nm,0.3s,baz=309,slow=6.9,SNR=4.9
FCC Fort Churchill 74.77 332 eP P 02 34 26.5 +0.1
FCC Fort Churchill 74.77 332 eP P 02 34 26.5 +0.1
comp=Z,0.1nm,0.7s
FCC Fort Churchill 74.77 332 eP P 02 34 26.5 +0.1
comp=Z,0.1nm,0.7s
NJ2 Nanjing 75.42 61 eP P 02 34 31.3 +0.6
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Arra 77.48 45 P P 02 34 42.0 -0.2
comp=Z,3.6nm,0.8s,baz=296,slow=5.1,SNR=12
YKA Yellowknife Ar 78.56 342 P P 02 34 47.8 0.0
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 78.56 342 P P 02 34 47.8 0.0
comp=Z,3.2nm,0.6s,baz=33,slow=5.4,SNR=89
FFC Flin Flon 80.69 332 eP P 02 34 59.6 0.0
FFC pmax pmax
comp=Z,6.0nm,0.7s
FFC Flin Flon 80.69 332 eP P 02 34 59.6 0.0
comp=Z,6.0nm,0.7s
FFC Flin Flon 80.69 332 eP P 02 34 59.6 0.0
comp=Z,6.0nm,0.7s
EGAK Eagle 80.93 354 eP P 02 35 00.7 0.0
comp=Z,3.9nm,0.6s
EGAK Eagle 80.93 354 eP P 02 35 00.7 0.0
comp=Z,3.9nm,0.6s
COLA College 81.26 357⇓eP P 02 35 03.0 +0.7
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 81.26 357 eP P 02 35 02.2 -0.1
comp=Z,5.5nm,0.9s
COLA College 81.26 357 eP P 02 35 02.2 -0.1
comp=Z,5.4nm,0.9s
ILAR Eielson Array 81.31 357 P P 02 35 03.0 +0.3
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR Eielson Array 81.31 357 P P 02 35 03.0 +0.3
comp=Z,2.0nm,0.6s,baz=344,slow=3.7,SNR=39
ULM Lac du Bonnet 81.33 326 P P 02 35 02.3 -0.8
ULM pmax pmax
comp=Z,3.0nm,0.5s
ULM Lac du Bonnet 81.33 326 P P 02 35 02.3 -0.8
comp=Z,3.0nm,0.5s,baz=52,slow=4.5,SNR=8.5
ULM Lac du Bonnet 81.33 326 eP P 02 35 02.0 -1.0
comp=Z,3.0nm,0.5s
ULM Lac du Bonnet 81.33 326 eP P 02 35 02.0 -1.0
comp=Z,3.0nm,0.5s
DAWY Dawson 81.47 353 eP P 02 35 04.1 +0.5
DAWY Dawson 81.47 353 eP P 02 35 04.1 +0.5
DOT Dot Lake 82.27 355 eP P 02 35 08.5 +0.7
comp=Z,5.1nm,0.7s
DOT Dot Lake 82.27 355 eP P 02 35 08.5 +0.7
comp=Z,5.1nm,0.7s
MCK McKinley 82.44 357 eP P 02 35 08.4 -0.3
MCK pmax pmax
comp=Z,14nm,1.1s
MCK McKinley 82.44 357 eP P 02 35 08.4 -0.3
comp=Z,14nm,1.1s
MCK McKinley 82.44 357 eP P 02 35 08.4 -0.3
comp=Z,14nm,1.1s
TRF Thorofare Moun 82.77 358 eP P 02 35 10.5 0.0
comp=Z,7.1nm,0.9s
TRF Thorofare Moun 82.77 358 eP P 02 35 10.5 0.0
comp=Z,7.1nm,0.9s
PPLA Purkeypile 83.36 359 eP P 02 35 14.2 +0.6
comp=Z,12nm,0.6s
PPLA Purkeypile 83.36 359 eP P 02 35 14.2 +0.6
comp=Z,12nm,0.6s
PETK Petropavlovsk- 83.81 27 P P 02 35 11.7 -4.2
PETK pmax pmax
comp=Z,12nm,1.1s
PETK Petropavlovsk- 83.81 27 P P 02 35 11.7 -4.2
comp=Z,12nm,1.1s,baz=244,slow=9.7,SNR=3.7
WCI Wyandotte Cave 84.15 313 eP P 02 35 18.0 0.0
WCI pmax pmax
comp=Z,14nm,1.1s
WCI Wyandotte Cave 84.15 313 eP P 02 35 18.0 0.0
comp=Z,14nm,1.1s
WCI Wyandotte Cave 84.15 313 eP P 02 35 18.0 0.0
comp=Z,14nm,1.1s
RC01 Rabbit Creek A 85.11 358 eP P 02 35 22.6 +0.2
comp=Z,8.8nm,0.7s
RC01 Rabbit Creek A 85.11 358 eP P 02 35 22.6 +0.2
comp=Z,8.8nm,0.7s
MJAR Matsushiro Arr 85.92 48 P P 02 35 26.4 -0.5
MJAR pmax pmax
comp=Z,1.0nm,0.8s
MJAR Matsushiro Arr 85.92 48 P P 02 35 26.4 -0.5
comp=Z,1.2nm,0.8s,baz=317,slow=4.1,SNR=4.5
EDM Edmonton 85.98 337 eP P 02 35 26.6 -0.3
EDM Edmonton 85.98 337 eP P 02 35 26.6 -0.3
EDM Edmonton 85.98 337 eP P 02 35 26.6 -0.3
WVT Waverly 86.44 312 eP P 02 35 29.0 -0.4
WVT Waverly 86.44 312 eP P 02 35 29.0 -0.4
WVT Waverly 86.44 312 eP P 02 35 29.0 -0.4
KKM Kota Kinabalu 87.34 85 eP P 02 35 34.7 +0.4
KKM Kota Kinabalu 87.34 85 eP P 02 35 34.7 +0.4
YBMT Yellow Bay 90.71 334 eP P 02 35 50.6 +1.0
comp=Z,5.0nm,1.0s
YBMT Yellow Bay 90.71 334 eP P 02 35 50.6 +1.0
comp=Z,5.0nm,1.0s
JTMT Jette 90.91 334 eP P 02 35 51.2 +0.6
comp=Z,5.7nm,1.1s
JTMT Jette 90.91 334 eP P 02 35 51.2 +0.6
comp=Z,5.7nm,1.1s
SWMT Swartz Lake 91.01 334 eP P 02 35 51.1 +0.1
comp=Z,5.0nm,1.2s
SWMT Swartz Lake 91.01 334 eP P 02 35 51.1 +0.1
comp=Z,5.0nm,1.2s
NEW Newport 91.46 336 eP P 02 35 53.3 +0.3
NEW pmax pmax
comp=Z,3.0nm,0.7s
NEW Newport 91.46 336 eP P 02 35 53.3 +0.3
comp=Z,3.3nm,0.7s
NEW Newport 91.46 336 eP P 02 35 53.3 +0.3
comp=Z,3.3nm,0.7s
BW06 Boulder Array 93.14 329 eP P 02 36 00.3 -0.8
BW06 Boulder Array 93.14 329 eP P 02 36 00.3 -0.8
PDAR Pinedale Array 93.14 329 P P 02 35 59.8 -1.3
comp=Z,0.6nm,0.6s,baz=66,slow=5.1,SNR=5.1
WRA Warramunga Arr 116.27 97 PKIKP **PKPdf 02 41 30.0 -0.5**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 116.27 97 PKP **PKPdf 02 41 30.0 -0.5**
comp=Z,0.5nm,0.8s,baz=297,slow=1.8,SNR=4.3
QSPA South Pole Qui 123.91 180 PKP **PKPdf 02 41 43.6 -0.2**
comp=Z,1.3nm,1.0s,baz=288,slow=2.5,SNR=4.0

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*IDC **28** 02:22:44.8±13.0, 36.°11N×15.°93E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/48, mbtmp3.7/5, Error ellipse: s-maj=218.4km s-min=75.5km az=4.0*
*ISCJB **28** 02:23:39.0±0.6, 39.°23N±0.°07×15.°6E±0.°2, h282km±6km, mb3.4/3, Error ellipse: s-maj=25.7km s-min=9.0km az=16.5*
*CSEM **28** 02:23:39.2, 39.°18N×15.°44E, h276km, ML3.0/17, After ROM*
*ROM **28** 02:23:39.2±0.2, 39.°18N×15.°44E, h276km±3km, Ml3.0/17, Error ellipse: s-maj=5.8km s-min=2.1km az=101.0*
ISC 28 02:23:38.7±1.0, 39.°19N±0.°07×15.°5E±0.°1, h280km±9km, n46, σ1°08/64, mb3.7/3, Southern Italy

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

TDS Terranova Siba 0.81 54 Pg **Pn 02 24 17.5 +1.5**
TDS Sg **S 02 24 45.3 -0.2**
36nm,0.2s
TDS Terranova Siba 0.81 54 Pg **Pn 02 24 17.5 +1.5**
TDS Sg **S 02 24 45.3 -0.2**
36nm,0.2s
GRI Girifalco 0.81 117 Pg **Pn 02 24 17.4 +1.2**
11μm,12.0s
GRI Girifalco 0.81 117 Pg **Pn 02 24 17.4 +1.2**
11μm,12.0s
SERS Sersale 0.95 99 Pg **Pn 02 24 18.0 +1.2**
SERS Sg **S 02 24 45.9 -1.1**
40nm,0.7s
SERS Sersale 0.95 99 Pg **Pn 02 24 18.0 +1.2**
SERS Sg **S 02 24 45.9 -1.1**
40nm,0.7s
SALB San Lorenzo Be 0.95 44 Pg **Pn 02 24 17.9 +1.1**
SALB Sg **S 02 24 46.2 -0.8**
35nm,0.3s
SALB San Lorenzo Be 0.95 44 Pg **Pn 02 24 17.9 +1.1**
SALB Sg **S 02 24 46.2 -0.8**
35nm,0.3s
CEL Celeste 0.98 161 Pg **Pn 02 24 17.5 +0.5**
CEL Sg **S 02 24 45.6 -1.7**
35nm,0.3s
CEL Celeste 0.98 161 Pg **Pn 02 24 17.5 +0.5**
CEL Sg **S 02 24 45.6 -1.7**
35nm,0.3s
TIP Timpagrande 0.99 90 Pg **Pn 02 24 18.2 +1.3**
TIP Sg **S 02 24 46.5 -0.7**
19nm,0.6s
TIP Timpagrande 0.99 90 Pg **Pn 02 24 18.2 +1.3**
TIP Sg **S 02 24 46.5 -0.7**
19nm,0.6s
SIRI Monte Sirino - 1.03 16 Pg **Pn 02 24 17.7 +0.5**
26nm,0.3s
SIRI Monte Sirino - 1.03 16 Pg **Pn 02 24 17.7 +0.5**
26nm,0.3s
PLAC Placanica 1.05 135 Pg **Pn 02 24 18.4 +1.1**
PLAC Sg **S 02 24 46.9 -0.9**
45nm,0.5s
PLAC Placanica 1.05 135 Pg **Pn 02 24 18.4 +1.1**
PLAC Sg **S 02 24 46.9 -0.9**
45nm,0.5s
PIPA Pietrapaola 1.07 74 Pg **Pn 02 24 18.6 +1.3**
PIPA Sg **S 02 24 47.2 -0.6**
83nm,0.3s
PIPA Pietrapaola 1.07 74 Pg **Pn 02 24 18.6 +1.3**
PIPA Sg **S 02 24 47.2 -0.6**
83nm,0.3s
SCHR S. Chirico Rap 1.10 24 Pg **Pn 02 24 18.9 +1.4**
179nm,3.0s
ORI Oriolo Calabro 1.14 40 Pg **Pn 02 24 18.8 +1.2**
ORI Sg **S 02 24 47.7 -0.8**
65nm,0.4s
ORI Oriolo Calabro 1.14 40 Pg **Pn 02 24 18.8 +1.2**
ORI Sg **S 02 24 47.7 -0.8**
65nm,0.4s
MTTG Motta San Giov 1.20 172 Pg **Pn 02 24 19.3 +1.2**
83nm,0.6s
MTTG Motta San Giov 1.20 172 Pg **Pn 02 24 19.3 +1.2**
83nm,0.6s
SOI Samo 1.20 158 Pg **Pn 02 24 19.1 +1.0**
51nm,1.0s
SOI Samo 1.20 158 Pg **Pn 02 24 19.1 +1.0**
51nm,1.0s
MMME Mongiuffi-Meli 1.27 188 Pg **Pn 02 24 19.9 +1.3**
34nm,0.4s
MMME Mongiuffi-Meli 1.27 188 Pg **Pn 02 24 19.9 +1.3**
34nm,0.4s
MPAZ Palizzi 1.30 162 Pg **Pn 02 24 19.8 +1.1**
MPAZ Sg **S 02 24 49.9 -0.5**
MPAZ Palizzi 1.30 162 Pg **Pn 02 24 19.8 +1.1**
MPAZ Sg **S 02 24 49.9 -0.5**
SGO Sicignano 1.38 354 Pg **Pn 02 24 20.3 +1.2**
12nm,0.4s
SGO Sicignano 1.38 354 Pg **Pn 02 24 20.3 +1.2**
12nm,0.4s
PLLN Pollina 1.59 222 Pg **Pn 02 24 21.9 +1.2**
193nm,2.1s
PLLN Pollina 1.59 222 Pg **Pn 02 24 21.9 +1.2**
193nm,2.1s
HCRL Carlentini 1.94 191 Pg **Pn 02 24 24.3 +1.0**
169nm,1.2s
HCRL Carlentini 1.94 191 Pg **Pn 02 24 24.3 +1.0**
169nm,1.2s
SSY Sortino 2.06 189 Pg **Pn 02 24 25.3 +0.9**
77nm,0.4s
SSY Sortino 2.06 189 Pg **Pn 02 24 25.3 +0.9**
77nm,0.4s
HVZN Vizzini 2.10 197 Pg **Pn 02 24 26.3 +1.6**
99nm,0.4s
HVZN Vizzini 2.10 197 Pg **Pn 02 24 26.3 +1.6**
99nm,0.4s
HAVL Avola 2.25 187 Pg **Pn 02 24 27.0 +1.0**
112nm,0.8s
HAVL Avola 2.25 187 Pg **Pn 02 24 27.0 +1.0**
112nm,0.8s
EKA Eskdalemuir Ar 20.41 328 P **P 02 27 54.1 -0.7**
0.4nm,0.4s,baz=143,slow=11,SNR=4.3
HFS Hagfors 21.00 357 P **P 02 28 00.8 +0.1**
0.9nm,0.4s,baz=179,slow=8.7,SNR=4.4
NOA NORSAR Array B 22.04 354 P **P 02 28 10.3 0.0**
0.2nm,0.4s,baz=172,slow=9.9,SNR=2.8
FINES FINESS Array B 23.22 13 P **P 02 28 21.8 +0.7**
1.2nm,0.5s,baz=183,slow=9.1,SNR=19
ARCES ARCESS Array B 30.87 7 P **P 02 29 28.6 -0.4**
4.6nm,1.0s,baz=191,slow=9.2,SNR=9.1

IDC 28 02:26:54.4±2.0, 17.°35S×68.°19W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/18, mbtmp3.7/2, Error ellipse: s-maj=54.0km s-min=25.7km az=81.0, Central Bolivia

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

LPAZ La Paz 1.06 3 Pg Pg 02 27 15.1 -0.5
0.3nm,0.3s,baz=187,slow=7.2,SNR=5.8
TORD Torodi Ar. Bea 75.35 71 P P 02 38 40.1 -0.1
0.3nm,0.4s,baz=254,slow=5.4,SNR=7.3
YKA Yellowknife Ar 87.53 340 P P 02 39 43.6 -0.1
0.5nm,0.7s,baz=132,slow=4.7,SNR=12
MKAR Makanchi Array 141.85 33 PKP PKPdf 02 46 29.2 +1.0
0.2nm,0.7s,baz=328,slow=4.4,SNR=2.3

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*SJA **28** 02:32:06.4±0.6, 33.°03S×73.°60W, h30km±79km, ML4.1*
*ISCJB **28** 02:32:17.8±0.4, 33.°27S±0.°06×72.°52W±0.°06, h12km, mb4.3/25, MS4.2/1, Error ellipse: s-maj=8.9km s-min=7.0km az=21.9*
*IDC **28** 02:32:17.6±0.8, 33.°36S×72.°37W, h0km, mb3.9/9, mb1 4.2/10, mb1mx4.0/32, mbtmp4.0/10, ML3.9/1, MS4.2/1, Ms1 4.2/1, ms1mx3.5/27, Error ellipse: s-maj=21.2km s-min=18.0km az=118.0*
*NEIC **28** 02:32:20.5±3.2, 33.°28S×72.°39W, h19km±19km, mb4.6/20, Error ellipse: s-maj=11.2km s-min=6.5km az=74.0*
ISC 28 02:32:19.5±0.5, 33.°24S±0.°07×72.°39W±0.°06, h12km, n57, σ1°00/64, mb4.4/25, Off coast of central Chile

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

AUSP Uspallata 2.73 69 eP Pn 02 33 04.6 +1.2
ARCO CERRO ARCO 2.93 83 eP Pn 02 33 07.9 +1.8
ARCO eS **Sg 02 33 53.4 -0.4**
ARCO AML AML 02 34 10.2
comp=Z,256nm,0.6s
RTLS Leoncito 2.98 62 eP Pn 02 33 07.4 +0.5
RTLS eS **Sg 02 33 52.2 -3.2**
AAGR Agrelo 2.99 88 eP Pn 02 33 09.0 +2.2
ASAL Salagasta 3.06 79 eP Pn 02 33 09.7 +1.9
ASAL eS **Sg 02 33 56.9 -0.9**
RTLL Cerro Villicun 3.83 61 eP Pn 02 33 18.4 +0.2
RTLL eP **Pn 02 33 18.4 +0.2**
CFAA Coronel Fontan 3.87 66 Pn Pn 02 33 18.3 -0.6
comp=Z,0.1nm,0.3s,baz=247,slow=15,SNR=2.9
CFAA Lg Lg 02 34 22.7
comp=Z,1.3nm,0.3s,baz=286,slow=18,SNR=7.6
AVFE Valle Fertil 4.92 60 eP Pn 02 33 33.2 -0.2
AVFE AML AML 02 35 13.0
comp=Z,94nm,0.7s
PLCA Paso Flores 7.62 169 ePn Pn 02 34 10.1 -0.4
TRQA Tornquist 9.74 122 ePn Pn 02 34 44.5 +5.1
comp=Z,75nm,1.4s
LVC Limon Verde 11.02 17 ePn Pn 02 34 55.8 -1.5
CPUP Villa Florida 14.77 66 Pn P 02 35 53.8 -0.5
comp=Z,0.2nm,0.3s,baz=262,slow=15,SNR=2.0
CPUP Villa Florida 14.77 66 ePn Pn 02 35 50.0 +1.7
LPAZ La Paz 17.31 14 P P 02 36 23.5 +0.4
comp=Z,0.2nm,0.3s,baz=175,slow=10,SNR=8.6
LPAZ La Paz 17.31 14 ePn P 02 36 23.3 +0.1
comp=Z,7.9nm,0.8s
SIV San Ignacio 19.99 34 P P 02 36 52.5 +0.4
comp=Z,5.9nm,0.8s,baz=230,slow=14,SNR=12
NNA Nana 21.54 348 P P 02 37 11.2 +2.4
comp=Z,7.5nm,0.7s,baz=166,slow=12,SNR=3.5
SAML Samuel 25.63 21 eP P 02 37 49.6 +0.7
comp=Z,6.3nm,0.8s
BDFB Brasilia 28.16 57 P P 02 38 12.3 +0.4
comp=Z,2.3nm,0.8s,baz=190,slow=12,SNR=3.6
OTAV Otavalo 33.79 349 eP P 02 39 02.3 +0.4
comp=Z,1.0nm,0.6s
SDV Santo Domingo 41.93 3 eP P 02 40 10.3 0.0
comp=Z,6.1nm,1.0s
JTS JuntasAbangare 44.91 342 LR LR 02 55 02.2
comp=Z,245nm,19.4s,baz=233,slow=30
JTS JuntasAbangare 44.91 342 eP P 02 40 35.1 +0.8
comp=Z,2.3nm,0.6s
OBIP Obispado Ponce 51.29 7 eP P 02 41 22.4 -1.1
SNAA Sanae 52.40 158 P P 02 41 30.7 -0.6
comp=Z,1.0nm,0.8s,baz=254,slow=7.4,SNR=8.1
SNAA Sanae 52.40 158 eP P 02 41 31.0 -0.3
comp=Z,14nm,1.4s
GTBY Guantanamo Bay 52.93 357 eP P 02 41 33.8 -1.8
comp=Z,20nm,0.9s
QSPA South Pole Qui 56.99 180 P P 02 42 04.6 -0.2
comp=Z,2.0nm,0.8s,baz=188,slow=5.7,SNR=5.7
QSPA South Pole Qui 56.99 180 eP P 02 42 04.5 -0.2
comp=Z,6.9nm,1.0s
ASCN Ascension 59.05 78 eP P 02 42 20.3 +0.5
HKT Hockley 66.65 338 eP P 02 43 09.9 +0.1
comp=Z,11nm,1.5s
GOGA Godfrey 67.11 350 eP P 02 43 12.7 -0.1
comp=Z,20nm,1.4s
JCT Junction City 68.47 335 eP P 02 43 22.6 +1.0
comp=Z,13nm,1.3s
TXAR Lajitas Array 68.93 331 P P 02 43 25.9 +1.4
comp=Z,0.7nm,0.7s,baz=152,slow=8.1,SNR=8.5
WHTX Lake Whitney 69.06 337 eP P 02 43 24.8 -0.3
comp=Z,5.2nm,0.7s
SWET Sewanee 69.27 348 eP P 02 43 26.6 +0.2
comp=Z,8.2nm,1.0s
ABTX Abilene, Hawle 70.37 336 eP P 02 43 33.0 -0.2
comp=Z,4.5nm,0.8s
WVT Waverly 70.51 347 eP P 02 43 34.0 +0.1
comp=Z,6.0nm,0.9s
TUL1 Tulsa 72.19 340 eP P 02 43 44.2 0.0
comp=Z,6.7nm,0.9s
SDCO Great Sand Dun 77.06 334 eP P 02 44 12.8 +0.1
comp=Z,2.1nm,1.2s
TSUM Tsumeb 79.70 106 eP P 02 44 28.5 +0.8
comp=Z,8.8nm,1.3s
HWUT Hardware Ranch 82.74 331 eP P 02 44 44.1 +0.8
comp=Z,2.1nm,0.8s
LBTB Lobatse 82.89 115 eP P 02 44 44.4 -0.2
comp=Z,15nm,1.3s
PDAR Pinedale Array 82.95 333 P P 02 44 43.9 -0.5
comp=Z,0.4nm,0.8s,baz=120,slow=5.3,SNR=3.6
NVAR Mina Array Bea 83.09 325 P P 02 44 45.5 +0.3
comp=Z,0.1nm,0.3s,baz=162,slow=6.2,SNR=3.0
TORD Torodi Ar. Bea 84.23 70 P P 02 44 51.2 -0.1
comp=Z,2.7nm,0.9s,baz=244,slow=4.3,SNR=18
PALK Pallekele 144.10 130 ePKPdf PKPdf 02 51 55.7 -0.1
PSI Prapat 148.64 163 PKPbc **PKPbc 02 52 05.7 -1.7**
comp=Z,2.2nm,0.5s,baz=12,slow=4.3,SNR=4.2
KKAR Karatay Array 149.43 60 ePKPbc PKPbc 02 52 08.1 -0.3
IPM Ipoh 150.73 166 ePKPbc PKPbc 02 52 12.0 -0.4
IPM ePKPab **PKPab 02 52 19.8 +0.6**

KULM Kulim 151.44 165 ePKPdf PKPdf 02 52 08.1 +0.2
KKM Kota Kinabalu 151.78 198 ePKPdf PKPdf 02 52 06.4 -2.1
KKM ePKPbc PKPbc 02 52 12.9 -1.9
KURK Kurchatov 152.52 42 ePKPdf PKPdf 02 52 08.6 +0.3
KURK ePKPbc PKiKP 02 52 15.6 +0.1
TKM2 Tokmak 2 153.15 60 ePKPbc PKPbc 02 52 17.4 +0.2
TKM2 ePKPab PKPab 02 52 29.0 0.0
ZALV Zalesovo Beam 153.74 31 PKP PKPdf 02 52 09.5 -0.5
comp=Z,0.3nm,0.4s,baz=316,slow=4.1,SNR=4.0
ZALV PKPbc PKiKP 02 52 17.9 0.0
comp=Z,1.6nm,0.7s,baz=316,slow=4.1,SNR=6.8
MKAR Makanchi Array 156.48 47 PKPab PKPab 02 52 42.7 0.0
comp=Z,0.9nm,0.8s,baz=305,slow=4.3,SNR=6.5
ULN Ulaanbaatar 165.38 1 ePKPab PKPab 02 53 22.6 +1.0

IDC 28 02:34:50.4±1.2, 16°.34S×173°.96W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/39, mbtmp3.7/4, Error ellipse: s-maj=56.6km s-min=31.6km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.11	258	P	P	02 43 39.8	-0.4
	0.2nm,0.4s,baz=96,slow=7.1,SNR=6.8						
NVAR	Mina Array Bea	75.38	42	P	P	02 46 36.6	+0.3
	0.8nm,0.7s,baz=227,slow=9.8,SNR=5.5						
PDAR	Pinedale Array	83.32	42	P	P	02 47 18.6	-0.9
	1.0nm,0.8s,baz=197,slow=2.8,SNR=9.4						
ILAR	Eielson Array	83.47	11	P	P	02 47 20.1	+0.6
	0.2nm,0.6s,baz=226,slow=6.0,SNR=6.1						
BRTR	Keskin Array B	146.53	320	PKPbc	PKPbc	02 54 33.6	-0.6
	0.4nm,0.6s,baz=134,slow=4.9,SNR=3.4						
TORD	Torodi Ar. Bea	174.73	126	PKPab	PKPab	02 56 36.9	-0.1
	1.0nm,0.6s,baz=265,slow=3.2,SNR=4.6						

IDC 28 02:35:09.9±1.4, 31°.63S×70°.88W, h0km, mb3.9/5, mb1 4.3/7, mb1mx3.9/33, mbtmp4.0/7, ML4.0/2, Error ellipse: s-maj=50.7km s-min=26.4km az=19.0
ISCJB 28 02:35:15.0±0.5, 31°.35S±0°.09×70°.7W±0°.1, h35km, mb4.2/20, Error ellipse: s-maj=15.3km s-min=9.6km az=136.2
NEIC 28 02:35:16.3±0.4, 31°.36S×70°.70W, h35km, mb4.5/15, Error ellipse: s-maj=13.2km s-min=8.4km az=55.0
ISC 28 02:35:16.4±0.6, 31°.3S±0°.1×70°.7W±0°.1, h35km, n43, σ1°.09/41, mb4.3/20, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	2.13	99	Pn	Pn	02 35 50.2	+0.6
	1.2nm,0.3s,baz=248,slow=11,SNR=5.0						
LVC	Limon Verde	8.81	11	ePn	Pn	02 37 20.3	-1.2
	16nm,0.9s						
TRQA	Tornquist	9.85	136	ePn	Pn	02 37 35.9	+0.4
LPAZ	La Paz	15.13	10	Pn	Pn	02 38 49.6	+1.3
	0.4nm,0.3s,baz=183,slow=9.6,SNR=7.0						
LPAZ	La Paz	15.13	10	ePn	Pn	02 38 50.4	+2.1
SIV	San Ignacio	17.60	32	P	P	02 39 20.0	+0.2
	0.3nm,0.3s,baz=222,slow=14,SNR=5.6						
JTS	JuntasAbangare	43.56	339	eP	P	02 43 17.4	+0.4
	17nm,1.4s						
SDDR	Presa de Saban	50.00	359	eP	P	02 44 07.7	+0.3
ASCN	Ascension	57.27	79	eP	P	02 45 00.9	0.0
HKT	Hockley	65.43	336	eP	P	02 45 53.7	-1.8
	1.9nm,0.9s						
VNDA	Vanda	66.95	191	eP	P	02 46 05.7	+0.9
JCT	Junction City	67.37	333	eP	P	02 46 08.6	+0.5
	7.5nm,0.9s						
SWET	Sewanee	67.70	347	eP	P	02 46 06.5	-3.6
	9.6nm,0.8s						
WHTX	Lake Whitney	67.86	336	eP	P	02 46 13.1	+2.0
	8.3nm,0.9s						
TXAR	Lajitas Array	67.97	329	P	P	02 46 12.9	+0.9
	1.9nm,0.8s,baz=154,slow=7.9,SNR=13						
ABTX	Abilene, Hawle	69.22	334	eP	P	02 46 21.9	+2.3
	5.2nm,0.9s						
WCI	Wyandotte Cave	70.69	347	eP	P	02 46 28.8	+0.3
	4.0nm,0.8s						
MNTX	Cornudas Mount	70.75	329	eP	P	02 46 28.1	-0.9
	2.7nm,1.1s						
TUL1	Tulsa	70.89	339	eP	P	02 46 30.5	+0.7
	8.1nm,0.9s						
LAZ	Ladron	73.82	329	eP	P	02 46 48.4	+0.8
ANMO	Albuquerque	73.99	330	eP	P	02 46 49.5	+1.0
	15nm,1.8s						
SDCO	Great Sand Dun	75.99	332	eP	P	02 47 01.0	+0.8
	1.5nm,0.9s						
MVCO	Mesa Verde	76.78	330	eP	P	02 47 04.8	+0.2
	2.6nm,0.9s						
ISCO	Idaho Springs	77.81	333	eP	P	02 47 11.4	+1.0
	1.6nm,0.8s						
DUG	Dugway	81.14	329	eP	P	02 47 28.1	-0.2
	1.3nm,0.8s						
PDAR	Pinedale Array	81.89	332	P	P	02 47 32.9	+0.6
	0.7nm,1.0s,baz=138,slow=6.9,SNR=4.0						
TORD	Torodi Ar. Bea	82.23	70	P	P	02 47 34.0	-0.4
	0.5nm,0.8s,baz=276,slow=1.3,SNR=2.6						
NVAR	Mina Array Bea	82.34	324	P	P	02 47 33.8	-1.0
	0.4nm,0.7s,baz=142,slow=7.4,SNR=3.4						
LBTB	Lobatse	82.41	115	eP	P	02 47 35.9	+0.5
	5.9nm,1.0s						
ULM	Lac du Bonnet	84.21	344	P	P	02 47 45.0	+1.2
	1.4nm,0.5s,baz=174,slow=10,SNR=3.0						
DIV	Divide	110.18	330	ePKP	PKiKP	02 53 43.6	-0.2
SUW	Suwalki	116.85	41	ePKPdf	PKPdf	02 53 56.8	+0.2
BR131	Keskin Array S	119.52	59	ePKPdf	PKPdf	02 54 01.2	-1.2
KIEV	Kiev	119.52	46	ePKPdf	PKPdf	02 53 59.8	-2.1
AKASG	Malin Array Be	119.54	46	PKP	PKPdf	02 53 59.9	-2.0
	0.1nm,0.3s,baz=257,slow=1.7,SNR=4.0						
ABKAR	Akbulak array	139.11	49	ePKPdf	PKPdf	02 54 38.2	-0.8
PALK	Pallekele	144.16	126	ePKPdf	PKPbc	02 54 47.8	+0.4
BVAR	Borovoye Array	144.53	41	PKP	PKPdf	02 54 48.9	+0.2
	2.3nm,0.8s,baz=306,slow=5.0,SNR=6.7						
KURK	Kurchatov	150.13	41	ePKPbc	PKPbc	02 55 02.8	-0.3
TKM2	Tokmak 2	150.93	57	ePKPbc	PKPbc	02 55 05.2	-0.4
ZALV	Zalesovo Beam	151.35	31	PKPbc	PKPbc	02 55 06.4	+0.5
	0.8nm,0.6s,baz=338,slow=3.4,SNR=3.7						
KULM	Kulim	152.88	161	ePKPbc	PKPbc	02 55 10.1	-0.5
MKAR	Makanchi Array	154.12	46	PKP	PKPdf	02 55 02.6	-1.6
	0.4nm,0.6s,baz=298,slow=3.1,SNR=4.2						

SJA 28 02:37:16.3±0.5, 34°.37S×72°.69W, h40km±9km, MD3.8, ML4.2
ISCJB 28 02:37:17.0±1.9, 34°.35S±0°.04×72°.02W±0°.05, h6km±12km, mb4.4/28, Error ellipse: s-maj=8.8km s-min=5.2km az=135.4
IDC 28 02:37:17.9±0.8, 34°.31S×72°.01W, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.2/30, mbtmp4.3/11, ML3.9/1, Error ellipse: s-maj=31.1km s-min=19.1km az=83.0
GUC 28 02:37:18.4±0.5, 34°.34S×72°.01W, h39km±5km, ML4.3
NEIC 28 02:37:23.2±0.9, 34°.34S×71°.90W, h38km±8km, mb4.5/21, Error ellipse: s-maj=10.2km s-min=5.8km az=75.0
ISC 28 02:37:18.3±2.4, 34°.27S±0°.05×71°.93W±0°.07, h4km±14km, n72, σ1°.31/82, mb4.5/28, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	Rinconada Maip	1.22	50	iP	Pn	02 37 41.2	-1.0
RCDM				eS	Sg	02 37 58.7	+1.2
RCDM				AML	AML	02 38 00.7	
	comp=N,7μm,0.4s						
IHA	Instituto Hidr	1.27	11	eP	Pn	02 37 41.6	-1.3
IHA				iS	Sb	02 37 59.5	+0.1
STL	Santa Lucia	1.36	52	eP	Pn	02 37 43.6	-0.6
STL				iS	Sb	02 38 02.5	+0.3
ROCH	El Roble	1.51	31	eP	Pn	02 37 46.5	+0.1
ROCH				iS	Sb	02 38 07.8	+1.2
ROCH				AML	AML	02 38 13.6	
	comp=E,11μm,0.5s						
PEL	Peldehue	1.53	43	eP	Pn	02 37 46.4	-0.1
PEL				eS	Sb	02 38 07.5	+0.3
FCH	Farellones	1.66	56	eP	Pn	02 37 48.7	+0.1
FCH				iS	Sb	02 38 11.6	+0.5
FCH				AML	AML	02 38 20.7	
	comp=N,3μm,0.7s						
AAGR	Agrelo	2.84	66	⇓eP	Pb	02 38 10.6	+0.8
AAGR				eS	Sg	02 38 50.6	+0.9
ARCO	CERRO ARCO	2.88	61	eP	Pb	02 38 10.9	+0.5
ARCO				eS	Sg	02 38 51.2	+0.3
ARCO				AML	AML	02 39 00.7	
	comp=Z,468nm,0.7s						
AVIZ	Vizcacheras	2.95	75	eP	Pb	02 38 11.9	+0.3
AVIZ				eS	Sg	02 38 53.4	+0.3
AUSP	Uspallata	2.95	47	eP	Pb	02 38 11.4	-0.3
AUSP				eS	Sg	02 38 52.0	-1.3
ASAL	Salagasta	3.08	58	eP	Pb	02 38 13.3	-0.5
ASAL				eS	Sg	02 38 55.3	-2.1
RTLS	Leoncito	3.31	43	eP	Pb	02 38 16.3	-1.6
CFAA	Coronel Fontan	4.09	50	Pn	Pb	02 38 27.0	-3.9
	comp=Z,0.6nm,0.3s,baz=223,slow=13,SNR=3.3						
CFAA				Sn	Sb	02 39 16.0	-4.8
	comp=Z,1.2nm,0.3s,baz=252,slow=16,SNR=2.1						
CFAA				Lg	Lg	02 39 30.9	
	comp=Z,3.5nm,0.3s,baz=313,slow=18,SNR=14						
RTLL	Cerro Villicun	4.13	46	eP	Pn	02 38 27.2	+4.8
RTLL				eP	Pn	02 38 27.2	+4.8
RTLL				eS	Sb	02 39 20.3	-1.8
PLCA	Paso Flores	6.54	171	ePn	Pn	02 38 55.9	+0.5
TRQA	Tornquist	8.89	118	ePn	Pn	02 39 29.3	+1.7
	comp=Z,74nm,1.4s						
LVC	Limon Verde	11.92	14	ePn	Pn	02 40 10.8	+1.4
CPUP	Villa Florida	14.88	62	ePn	Pn	02 40 52.2	+2.7
LPAZ	La Paz	18.23	12	P	P	02 41 34.0	+0.7
	comp=Z,0.2nm,0.3s,baz=181,slow=7.9,SNR=10						
LPAZ	La Paz	18.23	12	eP	P	02 41 34.4	+1.0
	comp=Z,18nm,0.7s						
SIV	San Ignacio	20.66	31	P	P	02 41 59.5	+0.2
	comp=Z,0.7nm,0.8s,baz=206,slow=10,SNR=7.3						
NNA	Nana	22.63	347	P	P	02 42 21.6	+1.0
	comp=Z,14nm,0.9s,baz=171,slow=13,SNR=5.8						
SAML	Samuel	26.46	20	eP	P	02 42 56.8	+0.3
	comp=Z,3.3nm,0.8s						
BDFB	Brasilia	28.41	55	P	P	02 43 15.3	+1.0
	comp=Z,4.8nm,1.0s,baz=236,slow=11,SNR=3.7						
OTAV	Otavalo	34.87	349	eP	P	02 44 13.5	+2.1
	comp=Z,7.3nm,1.1s						
SDV	Santo Domingo	42.94	2	eP	P	02 45 18.7	0.0
	comp=Z,2.6nm,0.4s						
SNAA	Sanae	51.30	158	P	P	02 46 23.0	-0.3
	comp=Z,4.5nm,1.1s,baz=280,slow=6.5,SNR=7.6						
SNAA	Sanae	51.30	158	eP	P	02 46 22.3	-0.9
	comp=Z,14nm,1.1s						
OBIP	Obispado Ponce	52.27	6	eP	P	02 46 30.9	0.0
CBYP	Canovanas	52.57	7	eP	P	02 46 31.9	-1.4
SDDR	Presa de Saban	52.96	1	eP	P	02 46 36.5	+0.4
GTBY	Guantanamo Bay	53.98	356	eP	P	02 46 44.0	+0.4
QSPA	South Pole Qui	55.96	180	P	P	02 46 57.7	+0.1
	comp=Z,8.5nm,1.0s,baz=145,slow=3.9,SNR=7.1						
QSPA	South Pole Qui	55.96	180	eP	P	02 46 56.6	-1.0
	comp=Z,8.8nm,1.0s						
ASCN	Ascension	58.88	78	eP	P	02 47 18.8	0.0
GOGA	Godfrey	68.20	350	eP	P	02 48 20.9	+1.1
	comp=Z,11nm,1.1s						
LRAL	Lakeview Retre	68.44	346	eP	P	02 48 16.7	-4.6
	comp=Z,15nm,1.4s						
JCT	Junction City	69.57	334	eP	P	02 48 28.6	+0.1
	comp=Z,6.6nm,1.0s						
TXAR	Lajitas Array	70.02	331	P	P	02 48 30.8	-0.6
	comp=Z,0.8nm,0.9s,baz=162,slow=6.2,SNR=4.1						
WVT	Waverly	71.60	346	eP	P	02 48 40.4	-0.3
	comp=Z,16nm,0.9s						
MNTX	Cornudas Mount	72.79	331	eP	P	02 48 47.4	-0.6
	comp=Z,1.7nm,1.0s						
WCI	Wyandotte Cave	73.36	348	eP	P	02 48 51.9	+0.7
	comp=Z,2.6nm,0.9s						
ANMO	Albuquerque	76.07	331	eP	P	02 49 07.2	0.0
	comp=Z,2.0nm,1.0s						
TSUM	Tsumeb	79.05	106	eP	P	02 49 23.3	-1.0
	comp=Z,4.7nm,1.2s						
BOSA	Boshof	79.86	118	P	P	02 49 25.5	-3.1
	comp=Z,3.6nm,0.9s,baz=244,slow=8.5,SNR=4.6						
SHPR	Sheep Range	81.14	326	eP	P	02 49 35.9	+0.8
	comp=Z,4.4nm,1.1s						
CCUT	Cedar City	81.19	328	eP	P	02 49 36.3	+0.9
	comp=Z,3.3nm,1.1s						
R11A	Troy Canyon, C	82.84	327	eP	P	02 49 44.6	+0.6
	comp=Z,4.4nm,1.3s						
DUG	Dugway	83.15	330	eP	P	02 49 46.4	+0.8
	comp=Z,4.1nm,1.1s						
HWUT	Hardware Ranch	83.83	331	eP	P	02 49 49.7	+0.6
	comp=Z,2.6nm,0.8s						
PDAR	Pinedale Array	84.05	333	P	P	02 49 49.7	-0.5
	comp=Z,1.3nm,0.9s,baz=164,slow=4.7,SNR=6.3						
NVAR	Mina Array Bea	84.16	325	P	P	02 49 51.8	+0.9
	comp=Z,1.3nm,0.9s,baz=169,slow=8.6,SNR=5.4						
TORD	Torodi Ar. Bea	84.22	70	P	P	02 49 51.3	-0.1
	comp=Z,3.2nm,1.0s,baz=246,slow=4.4,SNR=10						
YMR	Madison River	86.20	333	eP	P	02 50 01.6	+0.6
	comp=Z,10nm,1.3s						
ULM	Lac du Bonnet	86.79	345	P	P	02 50 03.0	-0.4
	comp=Z,2.0nm,0.8s,baz=170,slow=4.9,SNR=3.9						
DGMT	Dagmar	87.27	339	eP	P	02 50 06.4	+0.5
	comp=Z,14nm,1.0s						
PAF	Port-aux-Franc	90.20	156	S	S	03 01 18.0	+3.6
PAF				SS	SS	03 07 30.0	+18
PAF				R		03 19 00.0	
FCC	Fort Churchill	94.52	349	eP	P	02 50 39.1	-0.2
H11S2	WAKE ISLAND Hy	125.86	269	T	T	05 14 36.3	
	baz=120,slow=76,SNR=5.0						
H11S1	WAKE ISLAND Hy	125.87	269	T	T	05 14 37.4	
	baz=120,slow=76,SNR=9.2						
H11S3	WAKE ISLAND Hy	125.87	269	T	T	05 14 37.6	
	baz=120,slow=76,SNR=18						
ARU	Arti	139.89	41	ePKPdf	PKPdf	02 56 48.0	+0.8
ABKAR	Akbulak array	141.78	52	ePKPdf	PKPdf	02 56 46.2	-4.7
PALK	Pallekele	143.14	131	ePKPdf	PKPdf	02 56 52.9	-1.5
KSM	Kuching	147.30	184	ePKPdf	PKPdf	02 56 59.8	-1.8
BVAR	Borovoye Array	147.42	43	PKPbc	PKPbc	02 57 03.4	+0.4
	comp=Z,1.1nm,0.6s,baz=258,slow=5.9,SNR=5.9						
KKAR	Karatay Array	149.59	62	ePKPbc	PKPbc	02 57 08.4	-0.6
KKM	Kota Kinabalu	150.91	197	ePKPdf	PKPdf	02 57 06.4	-1.1
KKM				ePKPbc	PKPbc	02 57 11.4	-1.7
AAK	Ala-Archa	152.55	62	PKPbc	PKPbc	02 57 17.1	+0.9
	comp=Z,4.4nm,1.1s,baz=156,slow=3.2,SNR=6.9						
ZAA0	Zalesovo Array	154.41	33	ePKPbc	PKPbc	02 57 19.0	-0.5
ZAA0				ePKPab	PKPab	02 57 34.3	+0.5
ZALV	Zalesovo Beam	154.41	33	PKPbc	PKPbc	02 57 19.3	-0.2
	comp=Z,1.9nm,0.8s,baz=318,slow=2.0,SNR=7.4						
ZALV				PKPab	PKPab	02 57 34.7	+0.9
	comp=Z,2.1nm,0.9s,baz=300,slow=6.0,SNR=4.5						
MKAR	Makanchi Array	156.87	50	PKPab	PKPab	02 57 44.5	-0.2
	comp=Z,0.8nm,0.9s,baz=342,slow=3.1,SNR=4.1						

IDC 28 02:38:24.8±0.4, 38°.42S×73°.70W, h0km, mb4.8/19, mb1 4.8/20, mb1mx4.8/27, mbtmp4.8/20, ML5.3/1, MS4.8/14, Ms1 4.8/14, ms1mx4.6/23, Error ellipse: s-maj=18.2km s-min=13.7km az=78.0
ISCJB 28 02:38:27.6±0.2, 38°.21S±0°.04×73°.45W±0°.05, h18km, mb5.3/155, MS4.9/12, Error ellipse: s-maj=6.7km s-min=3.9km az=143.7
MOS 28 02:38:29.9±1.1, 38°.20S×73°.57W, h33km, mb5.4/45, Error ellipse: s-maj=14.8km s-min=7.7km az=102.0
NEIC 28 02:38:30.2±2.6, 38°.32S×73°.57W, h32km±17km, mb5.4/132, Error ellipse: s-maj=7.0km s-min=4.4km az=63.0
NEIC Felt at Temuco.
ISC 28 02:38:28.4±0.3, 38°.27S±0°.05×73°.70W±0°.07, h18km, n892, σ1°.24/898, mb5.4/155, MS4.8/12, 217C-255D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.46	136	Pn	Pn	02 39 22.0	+0.6
	14nm,0.3s,baz=319,slow=14,SNR=7.1						
PLCA				Lg	Lg	02 40 14.1	
	379nm,0.3s,baz=37,slow=23,SNR=7.2						
PLCA				LR	LR	02 40 31.2	
	comp=Z,6μm,21.3s,baz=304,slow=38						
PLCA	Paso Flores	3.46	136	ePn	Pn	02 39 22.3	+0.9
PLCA				eSn	Sn	02 40 03.6	+1.6
PLCA				Lg	Lg	02 40 14.1	
CFAA	Coronel Fontan	8.01	36	Sn	Sn	02 41 54.7	+0.6
	1.2nm,0.3s,baz=162,slow=20,SNR=3.7						
CFAA				Lg	Lg	02 42 39.4	
	0.4nm,0.3s,baz=187,slow=17,SNR=2.8						
CFAA				LR	LR	02 43 55.5	
	comp=Z,2μm,18.8s,baz=218,slow=41						
TRQA	Tornquist	9.23	92	ePn	Pn	02 40 40.4	-0.2
LVC	Limon Verde	16.13	16	ePn	Pn	02 42 11.8	-2.7
	55nm,1.0s						
USHA	Ushuaia	16.95	170	Pn	Pn	02 42 24.7	+0.3
	0.9nm,0.3s,baz=340,slow=12,SNR=7.2						
CPUP	Villa Florida	18.22	54	P	Pn	02 42 39.4	-0.8
	2.2nm,0.3s,baz=215,slow=7.4,SNR=8.2						
CPUP				LR	LR	02 49 35.5	
	comp=Z,3μm,19.8s,baz=212,slow=37						
LPAZ	La Paz	22.44	14	P	P	02 43 28.6	+1.6
LPAZ				pmax	pmax		
	comp=Z,48nm,0.9s						
LPAZ				MLR	MLR		
	comp=Z,3μm,20.4s						
LPAZ	La Paz	22.44	14	P	P	02 43 28.6	+1.6
	comp=Z,48nm,0.9s,baz=181,slow=7.5,SNR=22						
LPAZ				LR	LR	02 53 50.9	
	comp=Z,3μm,20.4s,baz=166,slow=41						
SIV	San Ignacio	24.82	30	P	P	02 43 50.0	+0.4
	comp=Z,27nm,0.9s,baz=228,slow=12,SNR=14						
SIV				LR	LR	02 55 13.9	
	comp=Z,3μm,19.3s,baz=219,slow=40						
NNA	Nana	26.32	353	P	P	02 44 03.2	0.0
	comp=Z,8.6nm,0.7s,baz=198,slow=12,SNR=4.4						
NNA				LR	LR	02 51 54.2	
	comp=Z,1μm,18.8s,baz=160,slow=31						
SAML	Samuel	30.69	21	eP	P	02 44 39.1	-3.0
	comp=Z,42nm,1.5s						
ATAH	Atahualpa	31.28	351	P	P	02 44 49.6	+1.8
	comp=Z,13nm,0.9s,baz=170,slow=10,SNR=6.3						
BDFB	Brasilia	31.93	52	P	P	02 44 52.2	-1.0
	comp=Z,4.6nm,0.6s,baz=202,slow=9.7,SNR=7.2						
BDFB				LR	LR	02 58 39.1	
	comp=Z,4μm,19.6s,baz=212,slow=38						
OTAV	Otavalo	38.56	352	eP	P	02 45 51.5	+0.8
	comp=Z,87nm,1.4s						
ROSC	El Rosal	42.91	359	P	P	02 46 28.9	+2.5
	comp=Z,8.6nm,0.6s,baz=243,slow=16,SNR=5.7						
ROSC				LR	LR	03 04 16.6	
	comp=Z,1μm,19.1s,baz=190,slow=36						
ROSC	El Rosal	42.91	359	eP	P	02 46 29.5	+3.1
VNA3	Neumayer Olymp	45.96	156	P	P	02 46 51.0	+1.1
VNA1	Neumayer--Stat	46.33	155	P	P	02 46 54.2	+1.6
VNA2	Neumayer--Watz	46.65	156	P	P	02 46 55.9	+0.7
SDV	Santo Domingo	46.99	4	eP	P	02 46 57.9	-0.8
	comp=Z,47nm,0.9s						
RCBR	Riachuelo	47.07	56	P	P	02 46 54.0	-5.2
	comp=Z,5.1nm,0.9s,baz=45,slow=5.7,SNR=1.7						
RCBR	Riachuelo	47.07	56	eP	P	02 47 00.5	+1.2
	comp=Z,139nm,1.6s						
SNAA	Sanae	48.18	156	P	P	02 47 07.2	0.0
SNAA	Sanae	48.18	156	eP	P	02 47 06.1	-1.1
SNAA	Sanae	48.18	156	eP	P	02 47 07.3	0.0
SNAA				pmax	pmax		
	comp=Z,164nm,1.4s						
SNAA	Sanae	48.18	156	P	P	02 47 06.9	-0.3
	comp=Z,14nm,1.1s,baz=289,slow=6.7,SNR=14						
SNAA	Sanae	48.18	156	eP	P	02 47 07.3	0.0
	comp=Z,164nm,1.4s						
JTS	JuntasAbangare	49.44	345	P	P	02 47 19.0	+1.7
JTS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
JTS	JuntasAbangare	49.44	345	P	P	02 47 19.0	+1.7
	comp=Z,8.9nm,0.9s,baz=179,slow=9.2,SNR=5.0						
JTS	JuntasAbangare	49.44	345	eP	P	02 47 17.3	-0.1
	comp=Z,56nm,1.4s						
GRGR	Grenville	51.39	15	eP	P	02 47 33.2	+1.1
	comp=Z,291nm,1.3s						
QSPA	South Pole Qui	51.98	180	P	P	02 47 35.4	-0.8
	comp=Z,27nm,1.0s,baz=149,slow=4.0,SNR=13						
QSPA				LR	LR	03 07 42.3	
	comp=Z,895nm,21.3s,baz=130,slow=34						
QSPA	South Pole Qui	51.98	180	eP	P	02 47 35.3	-0.8
	comp=Z,29nm,0.9s						
NVL	N'lazarevskaya	52.97	156	eP	P	02 47 44.1	+0.8
NVL				eS	S	02 55 09.5	-2.0
NVL				pmax	pmax		
	comp=Z,25nm,0.9s						
RKT	Rikitea	53.91	268	eLR	LR	03 03 20.9	
	comp=Z,1μm,23.2s						
RKT	Rikitea	53.91	268	eT	T	03 45 29.3	
	comp=Z,4.8nm,0.2s						
OBIP	Obispado Ponce	56.40	8	eP	P	02 48 10.2	+1.6
CELP	Cerrillos	56.55	8	eP	P	02 48 08.4	-0.5
CBYP	Canovanas	56.72	9	eP	P	02 48 10.2	-0.8
	comp=Z,102nm,1.5s						
SDDR	Presa de Saban	56.99	3	eP	P	02 48 13.7	+0.8
	comp=Z,19nm,0.9s						
GTBY	Guantanamo Bay	57.90	358	eP	P	02 48 20.6	+1.3
	comp=Z,32nm,0.8s						
VNDA	Vanda	59.66	192	eP	P	02 48 32.1	+1.2
VNDA				pmax	pmax		
	comp=Z,172nm,1.7s						
VNDA	Vanda	59.66	192	LR	LR	03 10 01.4	
	comp=Z,787nm,19.7s,baz=132,slow=32						
VNDA	Vanda	59.66	192	eP	P	02 48 32.1	+1.2
	comp=Z,172nm,1.7s						
TEIG	Tepich	59.77	344	LR	LR	03 11 06.2	
	comp=Z,383nm,19.2s,baz=197,slow=33						
ASCN	Ascension	61.17	77	eP	P	02 48 42.4	+0.3
	comp=Z,117nm,1.0s						
SYO	Syowa Base	62.41	158	⇑eP	P	02 48 44.6	-5.0
TBI	Tubuai	65.11	259	eT	T	03 59 28.8	
	comp=Z,23nm,0.2s						
MEH	Mehetia	67.04	265	eT	T	04 01 53.9	
	comp=Z,88nm,0.2s						
TVO	Taravao	68.02	264	eT	T	04 03 07.5	
	comp=Z,3.7nm,0.3s						
TIAR	Tiarei	68.22	264	eT	T	04 03 22.6	
	comp=Z,31nm,0.3s						
035Z	Hargill	68.32	337	⇓P	P	02 49 29.9	+1.6
	baz=69						
PAE	Paea	68.34	264	eT	T	04 03 32.0	
	comp=Z,1.8nm,0.2s						
PPT2	Papeete2	68.38	264	eLR	LR	03 10 04.3	
	comp=Z,554nm,25.5s						
PPT2	Papeete2	68.38	264	eT	T	04 03 34.0	
	comp=Z,4.4nm,0.3s						
035A	Encino	68.78	337	⇑P	P	02 49 32.5	+1.3
	baz=69						
936A	North Padre Is	68.99	338	⇓P	P	02 49 34.1	+1.6
	baz=69						
034A	Hebbronville	69.08	336	⇓P	P	02 49 34.5	+1.5
	baz=70,SNR=7.9						
934A	Benavides	69.53	337	⇑P	P	02 49 37.5	+1.7
	baz=70						
933A	Laredo	69.78	336	⇓P	P	02 49 38.7	+1.4
	baz=70,SNR=11						
738A	Farr-Stevens R	69.84	340	⇓P	P	02 49 39.2	+1.4
	baz=70						
835A	Beeville	69.95	337	⇑P	P	02 49 40.3	+1.9
	baz=70						
834A	Tilden	70.02	337	⇑P	P	02 49 40.5	+1.6
	baz=70,SNR=16						
833A	Chaparral WMA,	70.47	336	⇓P	P	02 49 42.5	+0.9
	baz=71,SNR=18						
735A	Kenedy	70.48	338	⇑P	P	02 49 43.0	+1.3
	baz=71,SNR=12						
832A	Faith Ranch, C	70.62	336	⇑P	P	02 49 42.9	+0.4
	baz=71,SNR=18						
734A	La Parita Cree	70.70	337	⇑P	P	02 49 44.0	+1.0
	baz=71						
733A	Divot King Ran	70.81	336	⇑P	P	02 49 44.6	+0.9
	baz=71,SNR=9.5						
636A	Smothers Creek	70.85	339	⇓P	P	02 49 45.1	+1.2
	baz=71,SNR=15						
HKT	Hockley	70.95	340	eP	P	02 49 44.7	+0.3
HKT				pmax	pmax		
	comp=Z,50nm,1.5s						
HKT	Hockley	70.95	340	eP	P	02 49 44.7	+0.3
	comp=Z,50nm,1.5s						
635A	Leesville	70.97	338	⇑P	P	02 49 45.3	+0.7
	baz=71						
732A	Laxson Ranch,	71.04	336	⇑P	P	02 49 45.5	+0.5
	baz=71,SNR=22						
538A	Harpers Horsep	71.11	340	⇓P	P	02 49 47.7	+2.3
	baz=72						
634A	China Grove, S	71.14	337	⇑P	P	02 49 47.3	+1.7
	baz=72						
537A	Green Hill Far	71.20	339	⇓P	P	02 49 47.4	+1.4
	baz=72,SNR=10						
536A	Bastrop	71.41	339	⇓P	P	02 49 48.1	+0.8
	baz=72						
633A	Saathoff Ranch	71.46	337	⇓P	P	02 49 48.4	+0.8
	baz=72,SNR=14						
535A	Dale	71.51	338	⇓P	P	02 49 48.8	+0.9
	baz=72						
438A	Sam Houston St	71.61	340	⇑P	P	02 49 49.9	+1.5
	baz=72						
632A	Uvalde	71.70	336	⇓P	P	02 49 49.8	+0.7
	baz=72,SNR=17						
534A	Blanco	71.78	338	⇑P	P	02 49 49.9	+0.4
	baz=72,SNR=8.9						
340A	Bronson	71.84	342	⇑P	P	02 49 50.7	+0.9
	baz=72,SNR=13						
VBMS	Vicksburg	71.86	345	eP	P	02 49 50.9	+1.0
	comp=Z,114nm,1.3s						

437A Phaontom Ranch 71.86 340 ⇓P P 02 49 51.8 +1.9
baz=72
631A Perdido Creek 71.86 335 ⇑P P 02 49 51.8 +1.8
baz=72
GOGA Godfrey 71.89 351 eP P 02 49 49.6 -0.5
GOGA pmax pmax
comp=Z,46nm,1.3s
GOGA Godfrey 71.89 351 eP P 02 49 49.6 -0.5
comp=Z,46nm,1.3s
339A Huntington 71.92 341 ⇓P P 02 49 51.3 +1.0
baz=72
436A Wall Ranch, Ga 71.99 339 ⇑P P 02 49 52.6 +1.9
baz=72
533A Kerrville 71.99 337 ⇓P P 02 49 51.7 +0.8
baz=72,SNR=17
LRAL Lakeview Retre 72.01 348 eP P 02 49 50.6 -0.2
comp=Z,67nm,1.3s
338A Crockett 72.14 341 ⇑P P 02 49 53.3 +1.7
baz=73,SNR=12
435B Jarrell 72.22 339 ⇓P P 02 49 53.2 +1.0
baz=73
337A Centerville 72.25 340 ⇓P P 02 49 53.9 +1.6
baz=73
532A Rocksprings 72.31 336 ⇑P P 02 49 53.5 +0.7
baz=73,SNR=20
NATX Nacogdoches 72.36 341 eP P 02 49 53.5 +0.6
comp=Z,144nm,1.3s
434A Burnet 72.45 338 ⇓P P 02 49 53.8 +0.3
baz=73,SNR=28
531A Rocksprings 72.55 336 ⇑P P 02 49 54.8 +0.6
baz=73,SNR=22
239A Gary 72.56 342 ⇓P P 02 49 55.5 +1.4
baz=73
336A Riesel 72.58 339 ⇓P P 02 49 54.8 +0.5
baz=73,SNR=16
JCT Junction City 72.61 337 eP P 02 49 54.7 +0.2
JCT pmax pmax
comp=Z,111nm,1.3s
JCT Junction City 72.61 337 eP P 02 49 54.7 +0.2
comp=Z,111nm,1.3s
JCT Junction City 72.61 337 ⇑P P 02 49 54.9 +0.4
baz=73,SNR=23
433A Art 72.64 337 ⇓P P 02 49 55.0 +0.3
baz=73,SNR=19
335A Moody 72.65 339 ⇓P P 02 49 55.5 +0.8
baz=73
238A Jacksonville 72.71 341 ⇓P P 02 49 56.0 +1.0
baz=73
530A J-C Ranch, Com 72.80 335 ⇑P P 02 49 56.6 +0.9
baz=73,SNR=17
TXAR Lajitas Array 72.85 333 P P 02 49 56.5 +0.4
comp=Z,3.4nm,0.6s,baz=156,slow=9.1,SNR=29
TXAR LR LR 03 17 38.8
comp=Z,736nm,19.2s,baz=0.0,slow=32
237A Washetta, Mont 72.88 340 ⇓P P 02 49 56.9 +0.9
baz=73
334A Lometa 72.93 338 ⇓P P 02 49 56.9 +0.5
baz=73,SNR=24
432A Menard 72.97 337 ⇑P P 02 49 56.8 +0.1
baz=73,SNR=14
431A Sonora 73.05 336 ⇑P P 02 49 57.6 +0.4
baz=74,SNR=17
529A Stev Forest Ra 73.07 334 ⇓P P 02 49 58.0 +0.7
baz=74
333A Richland Sprin 73.14 338 ⇑P P 02 49 57.6 0.0
baz=74,SNR=16
CNNC Cliffs of the 73.24 356 eP P 02 49 57.9 -0.2
comp=Z,104nm,1.5s
138A Matatall Enter 73.32 341 ⇓P P 02 49 59.4 +0.8
baz=74
WHTX Lake Whitney 73.32 339 eP P 02 49 58.0 -0.6
comp=Z,85nm,1.3s
WHTX Lake Whitney 73.32 339 ⇑P P 02 49 58.8 +0.1
baz=74,SNR=10
430A Baggett Ranch, 73.35 335 ⇑P P 02 49 59.3 +0.4
baz=74,SNR=23
KMSC Kings Mountain 73.38 353 eP P 02 49 58.6 -0.3
comp=Z,63nm,1.4s
429A Davenport Ranc 73.42 335 ⇓P P 02 49 59.9 +0.6
baz=74,SNR=16
332A Millersview 73.43 337 ⇓P P 02 49 59.7 +0.4
baz=74,SNR=23
137A Heron Place, G 73.43 341 ⇓P P 02 50 00.4 +1.1
baz=74
234A Clairette 73.53 338 ⇓P P 02 50 00.1 +0.2
baz=74,SNR=18
331A San Angelo 73.57 336 ⇓P P 02 50 00.2 0.0
baz=74,SNR=22
233A Rising Star 73.76 338 ⇓P P 02 50 01.5 +0.2
baz=74,SNR=17
135A Vickery Place, 73.84 339 ⇑P P 02 50 02.1 +0.4
baz=74
232A Coleman 73.87 337 ⇑P P 02 50 02.4 +0.4
baz=74
330A Mertzon 73.90 336 ⇓P P 02 50 02.1 -0.1
baz=74,SNR=11
SUR Sutherland 73.96 119 P P 02 50 02.0 -0.9
comp=Z,11nm,1.0s,baz=231,slow=8.4,SNR=4.0
SUR Sutherland 73.96 119 eP P 02 50 04.0 +1.0
comp=Z,41nm,1.1s
SWET Sewanee 73.99 350 eP P 02 50 01.9 -0.6
comp=Z,176nm,1.3s
134A White-Moore Ra 74.05 339 ⇑P P 02 50 03.4 +0.5
baz=74,SNR=10
231A Bronte 74.12 337 ⇓P P 02 50 03.5 +0.1
baz=74,SNR=13
TKL Tuckaleechee C 74.14 351 eP P 02 50 02.3 -1.1
TKL Tuckaleechee C 74.14 351 LR LR 03 21 05.2
comp=Z,365nm,20.1s,baz=148,slow=34
TKL Tuckaleechee C 74.14 351 eP P 02 50 02.3 -1.1
329A Wagon Wheel Ra 74.24 335 ⇓P P 02 50 04.9 +0.8
baz=75
133A Hamilton Ranch 74.32 338 ⇓P P 02 50 05.2 +0.7
baz=75,SNR=14
230A Sterling City 74.33 336 ⇓P P 02 50 05.4 +0.7
baz=75
Z35A Perchaven, San 74.53 340 ⇑P P 02 50 06.1 +0.4
baz=75,SNR=10
ABTX Abilene, Hawle 74.55 337 eP P 02 50 06.0 +0.1
comp=Z,90nm,1.3s
ABTX Abilene, Hawle 74.55 337 ⇑P P 02 50 06.2 +0.3
baz=75,SNR=16
229A Bryant Ranch, 74.62 335 ⇑P P 02 50 07.0 +0.6
baz=75
UALR University of 74.70 344 eP P 02 50 09.0 +2.3
comp=Z,46nm,1.4s
Z34A Collier Ranch, 74.75 339 ⇓P P 02 50 07.3 +0.3
baz=75,SNR=7.8
MIAR Mount Ida 74.76 343 eP P 02 50 07.0 0.0
MIAR pmax pmax
comp=Z,31nm,1.3s
MIAR Mount Ida 74.76 343 eP P 02 50 07.0 0.0
comp=Z,31nm,1.3s
131A Roby 74.83 337 ⇑P P 02 50 08.0 +0.4
baz=75
Z33A Whitaker Ranch 74.91 338 ⇑P P 02 50 08.6 +0.7
baz=75,SNR=14
130A Snyder 74.93 336 ⇑P P 02 50 08.3 +0.1
baz=75
TZTN Tazewell 75.00 352 eP P 02 50 08.1 -0.3
comp=Z,87nm,1.4s
228A UT Block 9, Go 75.02 335 ⇓P P 02 50 09.4 +0.7
baz=75,SNR=11
BBTS Babate 75.05 57 LR LR 03 23 24.0
comp=Z,1µm,18.1s,baz=220,slow=36
Z32A Haskell 75.14 338 ⇑P P 02 50 09.8 +0.5
baz=76,SNR=15
WVT Waverly 75.17 348 eP P 02 50 08.8 -0.5
WVT pmax pmax
comp=Z,57nm,1.1s
WVT Waverly 75.17 348 eP P 02 50 08.8 -0.5
comp=Z,57nm,1.1s
HALT Halls 75.22 347 eP P 02 50 09.9 +0.4
129A Stewart Farms, 75.25 336 ⇑P P 02 50 10.6 +0.6
baz=76
Y34A Reagan Ranch, 75.25 339 ⇑P P 02 50 10.3 +0.4
baz=76
Z31A Sharp Cattle R 75.35 337 ⇓P P 02 50 10.7 +0.2
baz=76,SNR=13
VWCC Virginia Weste 75.36 355 eP P 02 50 09.9 -0.5
GNAR Gosnell 75.39 346 eP P 02 50 10.5 -0.1
comp=Z,2µm,1.4s
128A Castleberry Fa 75.45 335 ⇑P P 02 50 11.5 +0.4
baz=76,SNR=12
Y33A Hilltop Ranch, 75.55 339 ⇓P P 02 50 11.6 0.0
baz=76,SNR=12
GLAT Glass 75.56 347 eP P 02 50 11.9 +0.3
MNTX Cornudas Mount 75.61 332 eP P 02 50 10.8 -1.2
comp=Z,6.5nm,1.2s
Z30A Sanderson Ranc 75.62 337 ⇓P P 02 50 12.2 +0.1
baz=76,SNR=13
JSRW J. Sargeant Re 75.69 357 eP P 02 50 12.3 0.0
GDL2 Guadalupe Moun 75.70 333 eP P 02 50 12.3 -0.3
CASY Casey 75.73 182 eP P 02 50 12.7 +0.4
comp=Z,32nm,1.2s
Y32A R-V Farms, Ver 75.78 338 ⇓P P 02 50 13.2 +0.3
baz=76,SNR=12
Z29A Hungry Hill Ra 75.78 336 ⇓P P 02 50 13.1 +0.1
baz=76,SNR=11
127A Arkansas Junct 75.79 334 ⇑P P 02 50 13.6 +0.4
baz=76
X34A Smith Ranch, M 75.88 340 ⇑P P 02 50 14.1 +0.6
baz=76,SNR=10
Y31A Rekieta Farm, 75.98 337 ⇓P P 02 50 14.8 +0.7
baz=76,SNR=8.4
X33A Lawton 76.01 339 ⇑P P 02 50 14.5 +0.3
baz=76
PARMO Parma 76.02 347 eP P 02 50 13.5 -0.6
Z28A Tucker Farm, M 76.03 336 ⇓P P 02 50 15.3 +0.9
baz=76
Y30A Stafford Cattl 76.10 337 ⇑P P 02 50 15.1 +0.3
baz=76
X32A Elmer 76.12 338 ⇑P P 02 50 15.3 +0.4
baz=76,SNR=9.7
PBMO Poplar Bluff 76.26 346 eP P 02 50 15.3 -0.2
comp=Z,88nm,1.6s
Y29A Porterfield Fa 76.32 336 ⇓P P 02 50 16.5 +0.4
baz=77
Z27A Tatum 76.33 335 ⇑P P 02 50 17.3 +1.1
baz=77,SNR=6.8
W34A Bridge Creek, 76.46 340 eP P 02 50 16.8 0.0
comp=Z,49nm,1.0s
W34A Bridge Creek, 76.46 340 ⇑P P 02 50 17.1 +0.3
baz=77,SNR=9.0
X31A McDonald Ranch 76.52 338 ⇓P P 02 50 17.6 +0.5
baz=77,SNR=16
Z26A Caprock 76.54 334 ⇓P P 02 50 18.0 +0.5
baz=77
Y28A McKinney Farm, 76.55 336 ⇑P P 02 50 18.3 +0.9
baz=77
W33A Caddo, Fort Co 76.58 339 ⇑P P 02 50 18.5 +1.1
baz=77,SNR=15
TUL1 Tulsa 76.59 342 eP P 02 50 17.2 -0.3
comp=Z,115nm,1.4s
TUL1 Tulsa 76.59 342 ⇓P P 02 50 18.1 +0.7
baz=77,SNR=16
UPI Upington 76.61 116 eP P 02 50 18.2 0.0
UPI AMB AMB 02 50 24.5
comp=Z,48nm,2.8s
UPI Upington 76.61 116 P P 02 50 18.2 0.0
comp=Z,48nm,2.8s
X30A Coker Ranch, T 76.62 337 ⇓P P 02 50 18.1 +0.3
baz=77,SNR=9.3
W32A Sentinel 76.77 339 ⇑P P 02 50 19.1 +0.6
baz=77,SNR=24
MSTX Muleshoe 76.78 335 eP P 02 50 18.9 +0.2
comp=Z,66nm,1.4s
MSTX Muleshoe 76.78 335 ⇓P P 02 50 19.2 +0.5
baz=77,SNR=9.0
Z25A Roswell 76.81 334 ⇓P P 02 50 19.2 +0.3
baz=77,SNR=8.5
319A Douglas 76.82 329 ⇓P P 02 50 20.2 +1.1
baz=77
Y27A Causey 76.83 335 ⇓P P 02 50 19.5 +0.4
baz=77,SNR=7.4
X29A Tulia 76.87 337 ⇑P P 02 50 19.8 +0.6
baz=77,SNR=9.9
USIN University of 76.94 349 eP P 02 50 18.6 -0.8
comp=Z,117nm,1.4s
SIUC Southern Illin 76.95 347 eP P 02 50 19.2 -0.2
comp=Z,32nm,1.0s
V34A Guthrie 76.96 340 eP P 02 50 19.6 0.0
comp=Z,105nm,1.5s
V34A Guthrie 76.96 340 ⇓P P 02 50 19.7 +0.1
baz=77
WIN Windhoek 76.98 108 eP P 02 50 19.5 -1.0
WIN AMB AMB 02 50 23.4
comp=Z,15nm,6.0s
WIN Windhoek 76.98 108 P P 02 50 19.5 -1.0
WIN pmax pmax
comp=Z,15nm,6.0s
WIN Windhoek 76.98 108 P P 02 50 19.5 -1.0
comp=Z,15nm,6.0s
WCI Wyandotte Cave 77.00 350 eP P 02 50 18.1 -1.7
WCI pmax pmax
comp=Z,60nm,1.8s
WCI Wyandotte Cave 77.00 350 eP P 02 50 18.1 -1.7
comp=Z,60nm,1.8s
W31A Holland Ranch, 77.03 338 ⇑P P 02 50 20.4 +0.4
baz=78
Z24A Sheeppen Canyo 77.08 333 ⇑P P 02 50 21.5 +0.9
baz=78,SNR=13
Y26A Elida 77.08 335 ⇓P P 02 50 21.0 +0.5
baz=78
X28A Dimmitt 77.10 336 ⇓P P 02 50 20.8 +0.3
baz=78
V33A Lossen Ranch, 77.15 340 ⇓P P 02 50 21.3 +0.6
baz=78,SNR=18
W30A Crocket Farms 77.21 338 ⇓P P 02 50 22.0 +0.9
baz=78
121A Cookes Peak, D 77.26 331 eP P 02 50 22.2 +0.6
comp=Z,48nm,1.6s
121A Cookes Peak, D 77.26 331 ⇓P P 02 50 22.8 +1.3
baz=78
V32A Arapaho 77.27 339 ⇓P P 02 50 22.8 +1.5
baz=78
GRM Grahamstown 77.27 122 eP P 02 50 20.7 -1.0
GRM AMB AMB 02 52 24.5
comp=Z,102nm,5.0s
GRM Grahamstown 77.27 122 P P 02 50 20.7 -1.0
GRM pmax pmax
comp=Z,102nm,5.0s
GRM Grahamstown 77.27 122 P P 02 50 20.7 -1.0
comp=Z,102nm,5.0s
AMTX Amarillo 77.27 337 eP P 02 50 22.0 +0.5
comp=Z,86nm,1.4s
AMTX Amarillo 77.27 337 ⇑P P 02 50 22.3 +0.8
baz=78
SDMD Soldier's Deli 77.36 358 eP P 02 50 24.8 +3.2
comp=Z,48nm,1.4s
Y25A Mesa, Roswell 77.38 334 ⇑P P 02 50 23.2 +1.0
baz=78
LIC Lamto 77.39 72 eP P 02 50 22.8 +0.3
comp=Z,245nm,1.2s
W29A Amraillo 77.48 337 ⇑P P 02 50 23.1 +0.5
baz=78
X27A F and S Farms, 77.51 336 ⇓P P 02 50 23.2 +0.4
baz=78
U34A Anderson Ranch 77.53 340 eP P 02 50 22.9 +0.1
comp=Z,39nm,1.0s
U34A Anderson Ranch 77.53 340 ⇓P P 02 50 23.3 +0.5
baz=78
V31A Spring Creek L 77.55 338 ⇑P P 02 50 24.3 +1.4
baz=78,SNR=13
Z22A Elephant Butte 77.59 332 ⇓P P 02 50 24.0 +0.6
baz=78,SNR=10
Y24A Capitan 77.64 333 ⇓P P 02 50 24.7 +1.0
baz=78,SNR=9.2
X26A CR and CF Fran 77.65 335 ⇓P P 02 50 24.5 +0.8
baz=78,SNR=7.2
TIC Toumodi 77.67 71 eP P 02 50 24.4 +0.3
comp=Z,132nm,1.1s
U33A Lingo Farm, Me 77.68 340 ⇑P P 02 50 25.1 +1.5
baz=78
KIC Kosan Boka 77.70 72 eP P 02 50 24.6 +0.4
comp=Z,239nm,1.2s
OLIL Olney 77.76 349 eP P 02 50 28.4 +4.4
comp=Z,38nm,1.1s
W28A Vega 77.78 336 ⇓P P 02 50 25.1 +0.8
baz=78
V30A Spur Ranch, Mi 77.78 338 ⇑P P 02 50 25.6 +1.3
baz=78
DBIC Dimbokro 77.81 71 eP P 02 50 24.7 -0.2
DBIC Dimbokro 77.81 71 P P 02 50 25.4 +0.5
DBIC pmax pmax
comp=Z,55nm,1.0s
DBIC Dimbokro 77.81 71 P P 02 50 25.4 +0.5
comp=Z,55nm,1.0s,baz=197,slow=5.7,SNR=44
DBIC Dimbokro 77.81 71 eP P 02 50 25.0 +0.2
comp=Z,124nm,1.3s
Y23A Lovelace Mesa, 77.87 333 ⇓P P 02 50 26.3 +1.3
baz=78
U32A Winter Ranch, 77.87 339 ⇑P P 02 50 26.2 +1.5
baz=78,SNR=8.2
W27A Bowe Ranch, En 77.88 336 ⇑P P 02 50 25.4 +0.5
baz=78,SNR=13
X25A Clemmons Ranch 77.92 334 ⇓P P 02 50 25.7 +0.6
baz=78
MVL Millersville 77.93 358 eP P 02 50 28.5 +3.6
comp=Z,36nm,1.2s
BLO Bloomington 77.96 350 eP P 02 50 24.4 -0.6
BLO pmax pmax
comp=Z,115nm,1.7s
BLO Bloomington 77.96 350 eP P 02 50 24.4 -0.6
comp=Z,116nm,1.7s
SLM Saint Louis 78.03 347 eP P 02 50 25.2 -0.2
SLM pmax pmax
comp=Z,65nm,1.0s
SLM Saint Louis 78.03 347 eP P 02 50 25.2 -0.2
comp=Z,65nm,1.0s
U31A Nine Bar Ranch 78.10 339 ⇑P P 02 50 27.1 +1.1
baz=78
W26A Owens Ranch, T 78.13 335 ⇑P P 02 50 27.3 +1.0
baz=79
V29A Stinnett 78.14 337 ⇓P P 02 50 27.7 +1.4
baz=79
X24A Lazy VL Ranch, 78.22 334 ⇓P P 02 50 28.6 +1.7
baz=79
HVD Gariep Dam 78.23 120 eP P 02 50 27.7 +0.4
HVD AMB AMB 02 50 38.3
comp=Z,57nm,3.9s
HVD Gariep Dam 78.23 120 P P 02 50 27.7 +0.4
HVD pmax pmax
comp=Z,57nm,3.9s
HVD Gariep Dam 78.23 120 P P 02 50 27.7 +0.4
comp=Z,57nm,3.9s
V28A Channing 78.24 337 ⇓P P 02 50 28.6 +1.8
baz=79
TUC Tucson 78.25 329 eP P 02 50 27.9 +0.9
TUC pmax pmax
comp=Z,57nm,1.8s
TUC Tucson 78.25 329 eP P 02 50 27.9 +0.9
comp=Z,57nm,1.8s
Y22D IRIS PASSCAL I 78.31 332 ⇓P P 02 50 28.9 +1.6
baz=79
T33A Patterson Ranc 78.33 340 ⇓P P 02 50 29.0 +1.9
baz=79
LENM Lemitar 78.41 332 eP P 02 50 28.7 +0.7
LPM Los Pinos Moun 78.42 333 eP P 02 50 29.2 +1.2
V27A Dan Oppiter Fa 78.44 336 ⇓P P 02 50 29.6 +1.7
baz=79
W25A X Bar L Ranch, 78.48 335 ⇑P P 02 50 28.7 +0.5
baz=79,SNR=13
U30A WK&E Inc. Balk 78.49 338 ⇓P P 02 50 28.9 +0.7
baz=79
X23A Hourglass Bar 78.50 333 ⇓P P 02 50 29.9 +1.4
baz=79
ACSO Alum Creek Sta 78.58 353 eP P 02 50 27.4 -1.1
comp=Z,83nm,1.3s
U29A Oasis Ranch, S 78.60 338 ⇑P P 02 50 30.1 +1.3
baz=79
T32A Huddler Ranch, 78.60 340 ⇑P P 02 50 30.1 +1.4
baz=79
LAZ Ladron 78.68 332 eP P 02 50 30.4 +1.0
comp=Z,24nm,1.5s
T31A Randall Ranch, 78.73 339 ⇑P P 02 50 30.8 +1.3
baz=79
S33A Kaszmaul Farm, 78.75 341 ⇓P P 02 50 30.8 +1.3
baz=79
V26A Tequesquite Ra 78.78 335 ⇓P P 02 50 31.7 +1.8
baz=79,SNR=9.2
W24A Lazy 6 Ranch, 78.80 334 ⇓P P 02 50 31.3 +1.2
baz=79,SNR=8.8
214A Organ Pipe Nat 78.80 327 ⇓P P 02 50 31.1 +1.2
baz=79
U28A Mallet 78.82 337 ⇑P P 02 50 31.4 +1.4
baz=79
ANMO Albuquerque 78.92 333 eP P 02 50 31.1 +0.3
ANMO pmax pmax
comp=Z,40nm,1.3s
ANMO Albuquerque 78.92 333 eP P 02 50 31.1 +0.3
comp=Z,40nm,1.3s
T30A Plains 78.94 338 ⇓P P 02 50 32.4 +1.8
baz=79
ODNJ Ogdensburg 78.98 359 eP P 02 50 31.4 +0.8
comp=Z,46nm,1.5s
W23A Werner Place, 79.01 333 ⇑P P 02 50 32.9 +1.7
baz=79,SNR=7.1
U27A Thompson Grove 79.05 336 ⇓P P 02 50 33.5 +2.1
baz=80
S32A Newby Ranch, P 79.09 340 ⇑P P 02 50 33.0 +1.6
baz=80
V25A Rancho No Teng 79.09 335 ⇑P P 02 50 33.0 +1.3
baz=80,SNR=12
S31A Mullinville 79.17 339 ⇑P P 02 50 33.2 +1.4
baz=80
YLE Yale 79.21 1 eP P 02 50 33.3 +1.5
comp=Z,148nm,1.4s
V24A Rampart Ranch, 79.22 334 ⇑P P 02 50 33.7 +1.3
baz=80
T29A Hugoton 79.26 338 ⇓P P 02 50 33.9 +1.5
baz=80
BOSA Boshof 79.27 118 eP P 02 50 32.7 -0.3
BOSA AMB AMB 02 50 36.3
comp=Z,59nm,3.9s
BOSA Boshof 79.27 118 eP P 02 50 32.3 -0.7
BOSA pmax pmax
comp=Z,51nm,1.0s
BOSA Boshof 79.27 118 P P 02 50 32.0 -0.9
comp=Z,20nm,0.8s,baz=226,slow=4.7,SNR=22
BOSA Boshof 79.27 118 eP P 02 50 32.3 -0.7
comp=Z,51nm,1.0s
U26A Atchley Ranch, 79.31 336 ⇓P P 02 50 34.3 +1.4
baz=80,SNR=7.8
TSUM Tsumeb 79.34 106 P P 02 50 32.3 -1.2
comp=Z,6.5nm,0.9s,baz=227,slow=5.9,SNR=8.7
TSUM Tsumeb 79.34 106 eP P 02 50 33.6 +0.1
comp=Z,58nm,1.6s
R33A Olander Ranch, 79.41 341 ⇓P P 02 50 34.4 +1.2
baz=80
S30A Montezuma 79.46 339 ⇑P P 02 50 34.7 +1.2
baz=80
T28A Walsh 79.47 337 ⇓P P 02 50 34.9 +1.3
baz=80,SNR=11
U25A Circle Dot Ran 79.54 335 ⇓P P 02 50 35.3 +1.2
baz=80,SNR=16
V23A Ortiz Mt. (NFS 79.55 334 ⇓P P 02 50 35.8 +1.6
baz=80
T27A Campo 79.60 337 ⇑P P 02 50 36.2 +1.8
baz=80,SNR=6.8
S29A Ulysses 79.64 338 ⇑P P 02 50 36.2 +1.7
baz=80
R32A Long Quarter, 79.71 340 ⇑P P 02 50 36.4 +1.6
baz=80
ALLY Alegheny Colle 79.75 355 eP P 02 50 34.6 -0.3
comp=Z,48nm,1.2s
R31A Burdett 79.81 340 ⇑P P 02 50 36.7 +1.4
baz=80
KSU1 Kansas State U 79.82 342 eP P 02 50 35.0 -0.2
comp=Z,46nm,1.4s
KSU1 Kansas State U 79.82 342 ⇑P P 02 50 36.8 +1.6
baz=80
URZ Urewera 79.83 229 P P 02 50 33.4 -2.2
comp=Z,4.9nm,0.8s,baz=172,slow=7.1,SNR=3.2
U24A Moreno Valley 79.84 335 ⇓P P 02 50 37.1 +1.3
baz=80
S28A Manter 79.84 338 ⇑P P 02 50 36.8 +1.3
baz=80
X18A Snowflake 79.86 330 ⇑P P 02 50 37.3 +1.5
baz=80
113A Mohawk Valley, 79.91 327 ⇓P P 02 50 37.5 +1.7
baz=80
V22A San Miguel Ran 79.95 333 ⇓P P 02 50 38.2 +1.8
baz=80,SNR=18
T26A Comanche Natio 79.98 336 ⇓P P 02 50 38.5 +2.1
baz=80,SNR=8.2
R30A Dighton 80.01 339 ⇑P P 02 50 38.3 +1.9
baz=80
Q33A Connelly Farm, 80.03 341 ⇑P P 02 50 38.2 +1.7
baz=80
Z14A Wintersburg 80.06 327 ⇑P P 02 50 38.4 +1.6
baz=80
U23A El Rito 80.08 334 ⇓P P 02 50 39.0 +2.0
baz=80,SNR=9.0
SWZ Schweizer 80.20 117 eP P 02 50 37.5 -0.5
SWZ AMB AMB 02 50 42.9
comp=Z,36nm,1.3s
SWZ Schweizer 80.20 117 P P 02 50 37.5 -0.5
comp=Z,36nm,1.3s
Q32A Meitler Ranch, 80.21 341 ⇓P P 02 50 39.1 +1.7
baz=81
T25A Trinidad 80.21 336 ⇑P P 02 50 39.1 +1.4
baz=81,SNR=18
S27A Las Animas 80.23 337 ⇑P P 02 50 39.6 +1.8

baz=81
W18A Petrified Fore 80.29 331 eP P 02 50 39.1 +0.9
comp=Z,40nm,1.3s
W18A Petrified Fore 80.29 331 ⇓P P 02 50 39.7 +1.5
baz=81
S26A Kim 80.35 336 ⇓P P 02 50 39.5 +1.1
baz=81,SNR=14
U22A Llaves 80.35 333 ⇓P P 02 50 40.6 +2.1
baz=81
X16A Lo Mia Camp, P 80.35 329 ⇑P P 02 50 39.8 +1.2
baz=81
R29A Marienthal 80.39 338 ⇓P P 02 50 40.2 +1.7
baz=81
P33A Williams Farm, 80.41 341 ⇓P P 02 50 40.1 +1.6
baz=81
Q31A Ellis 80.44 340 ⇓P P 02 50 40.2 +1.5
baz=81
T24B San Luis 80.46 335 ⇑P P 02 50 40.5 +1.3
baz=81,SNR=7.4
R28A Tribune 80.51 338 ⇓P P 02 50 40.7 +1.6
baz=81,SNR=11
Y14A Wickenburg 80.58 328 ⇑P P 02 50 41.4 +1.8
baz=81
GLA Glamis 80.61 326 ⇑P P 02 50 41.5 +1.8
baz=81
TRY Troy 80.62 0 eP P 02 50 39.6 +0.1
comp=Z,81nm,1.3s
Q30A Quinter 80.64 339 ⇑P P 02 50 41.4 +1.6
baz=81
T23A Casias Ranch, 80.66 334 ⇓P P 02 50 41.3 +1.1
baz=81,SNR=5.7
S25A Robets Cordova 80.69 336 ⇑P P 02 50 41.4 +1.1
baz=81
AAM Ann Arbor 80.70 353 eP P 02 50 39.5 -0.4
AAM pmax pmax
comp=Z,33nm,1.0s
AAM Ann Arbor 80.70 353 eP P 02 50 39.5 -0.4
comp=Z,33nm,1.0s
R27A Eads 80.75 337 ⇓P P 02 50 41.7 +1.3
baz=81,SNR=8.4
Q29A Oakley 80.78 339 ⇑P P 02 50 41.8 +1.2
baz=81
P32A Huiting Farm, 80.81 341 ⇑P P 02 50 42.5 +1.8
baz=81
P31A Stockton 80.92 340 ⇓P P 02 50 43.0 +1.8
baz=81
S24A Houchin Ranch, 80.93 335 ⇓P P 02 50 43.2 +1.5
baz=81,SNR=12
SWSC Sam W. Stewart 80.95 325 ⇓P P 02 50 42.7 +1.2
baz=81
R26A Arlington 80.97 337 ⇓P P 02 50 42.9 +1.2
baz=81,SNR=13
Y12C Blythe 81.07 327 ⇓P P 02 50 43.7 +1.5
baz=82
R25A Fountain Ranch 81.09 336 ⇓P P 02 50 43.3 +1.0
baz=82
SEK Senekal 81.09 119 eP P 02 50 41.4 -1.5
SEK AMB AMB 02 50 48.0
comp=Z,73nm,1.5s
SEK Senekal 81.09 119 P P 02 50 41.4 -1.5
comp=Z,73nm,1.5s
SDCO Great Sand Dun 81.12 335 eP P 02 50 42.9 +0.2
comp=Z,12nm,1.3s
P30A Selden 81.18 340 ⇓P P 02 50 44.3 +1.7
baz=82
Q28A Sharon Springs 81.18 338 ⇑P P 02 50 44.5 +1.8
baz=82
MONP Monument Peak 81.19 325 ⇑P P 02 50 44.5 +1.4
baz=82
S23A Nye Farm, Mont 81.25 335 ⇓P P 02 50 45.0 +1.6
baz=82
ACCN Adirondack Com 81.27 0 eP P 02 50 43.8 +0.8
comp=Z,111nm,1.5s
WUAZ Wupatki 81.28 330 eP P 02 50 44.8 +1.3
comp=Z,38nm,1.5s
WUAZ Wupatki 81.28 330 ⇑P P 02 50 44.6 +1.2
baz=82
O32A Brockman Farm, 81.33 341 ⇑P P 02 50 44.7 +1.3
baz=82
KSCO Kaye Shedlock' 81.37 338 eP P 02 50 44.9 +1.1
comp=Z,195nm,2.2s
KSCO Kaye Shedlock' 81.37 338 ⇓P P 02 50 45.1 +1.3
baz=82
PDMCI Parker Dam,Lak 81.38 327 ⇑P P 02 50 45.3 +1.6
baz=82
BC3 Big Chuckawall 81.40 326 ⇓P P 02 50 45.9 +1.9
baz=82
P29A Atwood 81.42 339 ⇓P P 02 50 45.1 +1.1
baz=82
R24A Sanders Place, 81.43 335 ⇓P P 02 50 45.6 +1.4
baz=82,SNR=17
O31A Woolen Ranch, 81.50 340 ⇓P P 02 50 45.2 +0.9
baz=82
109C Camp Elliot, M 81.50 324 ⇑P P 02 50 45.9 +1.5
baz=82
Q26A Hugo 81.56 337 ⇓P P 02 50 46.1 +1.3
baz=82
S22A 4UR Ranch, Cre 81.57 334 ⇓P P 02 50 46.2 +1.1
baz=82,SNR=13
P28A Saint Francis 81.63 338 ⇑P P 02 50 46.5 +1.4
baz=82
R23A Moffat 81.63 335 ⇓P P 02 50 46.8 +1.4
baz=82
MVCO Mesa Verde 81.68 333 eP P 02 50 46.3 +0.7
comp=Z,37nm,1.4s
MVCO Mesa Verde 81.68 333 ⇓P P 02 50 46.7 +1.1
baz=82,SNR=6.8
IRM Iron Mountain 81.69 326 ⇑P P 02 50 47.1 +1.6
baz=82
LBTB Lobatse 81.72 115 eP P 02 50 45.2 -0.9
LBTB AMB AMB 02 50 51.4
comp=Z,56nm,1.4s
LBTB Lobatse 81.72 115 eP P 02 50 45.7 -0.4
LBTB pmax pmax
comp=Z,74nm,1.2s
LBTB Lobatse 81.72 115 eP P 02 50 45.7 -0.4
comp=Z,74nm,1.2s
O30A MW Ranch, Wils 81.72 340 ⇑P P 02 50 47.1 +1.6
baz=82
RUDU RUNDU 81.73 106 eP P 02 50 48.6 +2.3
RUDU AMB AMB 02 50 56.0
comp=Z,52nm,1.2s
RUDU RUNDU 81.73 106 P P 02 50 48.6 +2.3
comp=Z,52nm,1.2s
SCIA State Center 81.75 345 eP P 02 50 46.4 +0.8
comp=Z,106nm,1.6s
PRYS Parys 81.78 118 eP P 02 50 44.0 -2.5
PRYS AMB AMB 02 50 51.2
comp=Z,24nm,1.4s
PRYS Parys 81.78 118 P P 02 50 44.0 -2.5
comp=Z,24nm,1.4s
Q25A Bedland, Calha 81.78 336 ⇑P P 02 50 47.2 +1.1
baz=82
PFO Pinyon Flat Ob 81.81 325 P P 02 50 41.7 -4.5
PFO pmax pmax
comp=Z,3.0nm,0.9s
PFO Pinyon Flat Ob 81.81 325 P P 02 50 41.7 -4.5
comp=Z,3.4nm,0.9s,baz=200,slow=12,SNR=2.3
PFO Pinyon Flat Ob 81.81 325 ⇓P P 02 50 47.6 +1.4
baz=82
N32A Stulken Farm, 81.81 341 ⇓P P 02 50 47.9 +2.0
baz=82
P27A Ficken Ranch, 81.86 338 ⇑P P 02 50 47.7 +1.3
baz=82
O29A 4D Ranch, Culb 81.87 339 ⇑P P 02 50 47.9 +1.5
baz=82
MDV Middlebury 81.89 0 eP P 02 50 46.7 +0.5
BELC Belle Mtn. Jos 81.93 326 ⇓P P 02 50 48.5 +1.6
baz=82
W13A Hualapai Mount 81.95 328 ⇑P P 02 50 48.6 +1.6
baz=82
P26A Davis Ranch, A 82.09 337 ⇑P P 02 50 48.3 +0.7
baz=82,SNR=5.3
Q24A Divide 82.11 336 ⇓P P 02 50 48.7 +0.8
baz=82,SNR=7.0
WDLM Western Deep L 82.13 117 eP P 02 50 47.0 -1.4
WDLM AMB AMB 02 50 54.1
comp=Z,24nm,1.6s
MURC Murrieta 82.14 325 ⇑P P 02 50 49.5 +1.7
baz=82
O28A Krutsinger Ran 82.15 339 ⇓P P 02 50 48.9 +1.1
baz=83
JFWS Jewell Farm 82.19 348 eP P 02 50 50.7 +2.9
JFWS pmax pmax
comp=Z,43nm,1.1s
JFWS Jewell Farm 82.19 348 eP P 02 50 50.6 +2.9
comp=Z,42nm,1.1s
P25A Willow Gulch B 82.30 337 ⇑P P 02 50 49.9 +1.1
baz=83,SNR=8.8
N30A Hueftle Ranch, 82.31 340 ⇓P P 02 50 50.5 +1.9
baz=83
KLOF Kloof 82.31 117 eP P 02 50 48.9 -0.4
KLOF AMB AMB 02 50 53.8
comp=Z,32nm,0.9s
KLOF Kloof 82.31 117 P P 02 50 48.9 -0.4
comp=Z,32nm,0.9s
BGNE Belgrade 82.38 342 ⇓P P 02 50 50.9 +2.0
baz=83
O27A Beecher Island 82.41 338 ⇑P P 02 50 50.6 +1.4
baz=83
GMRC Granite Mounta 82.44 326 ⇓P P 02 50 51.1 +1.5
baz=83
U15A North Rim 82.44 330 ⇓P P 02 50 51.2 +1.5
baz=83
LONY Lake Ozonia 82.51 359 eP P 02 50 49.2 -0.3
comp=Z,98nm,1.4s
M31A Lambtecht Ranc 82.53 341 ⇑P P 02 50 52.4 +2.7
baz=83
PV01 Paradox Valley 82.53 333 eP P 02 50 50.3 +0.2
comp=Z,3µm,1.5s
CIS Catalina Islan 82.53 324 ⇓P P 02 50 52.3 +2.4
baz=83
P24A Kohler Place, 82.53 336 ⇓P P 02 50 52.2 +2.2
baz=83
N28A Pribbeno Ranch 82.60 339 ⇓P P 02 50 51.6 +1.5
baz=83
CRWM Crown Mines 82.66 118 eP P 02 50 49.5 -1.8
CRWM AMB AMB 02 50 54.8
comp=Z,45nm,2.6s
O26A Horse Wrangler 82.71 338 ⇑P P 02 50 52.6 +1.8
baz=83
P23A Jefferson 82.71 335 ⇓P P 02 50 52.4 +1.3
baz=83
OBSV Observatory 82.74 118 eP P 02 50 50.1 -1.6
OBSV AMB AMB 02 50 56.3
comp=Z,31nm,1.9s
ERPM east rand prop 82.75 118 eP P 02 50 50.9 -0.8
ERPM AMB AMB 02 50 58.0
comp=Z,42nm,1.7s
ERPM east rand prop 82.75 118 P P 02 50 50.9 -0.8
comp=Z,42nm,1.7s
O25A Wiggins 82.83 337 ⇑P P 02 50 52.6 +1.2
baz=83
BFSC Mount Baldy Ra 82.88 325 ⇓P P 02 50 53.5 +1.7
baz=83
PV04 Paradox Valley 82.88 333 eP P 02 50 52.0 +0.2
SMCO Snowmass 82.91 335 eP P 02 50 53.5 +1.3
comp=Z,53nm,1.4s
M30A Dale-Ortello V 82.94 341 ⇓P P 02 50 53.2 +1.3
baz=83
OGNE Ogallala 82.98 339 eP P 02 50 52.2 +0.1
OGNE Ogallala 82.98 339 ⇓P P 02 50 53.9 +1.8
baz=83
N27A Anderson Farm, 83.00 338 ⇑P P 02 50 53.5 +1.2
baz=83,SNR=9.6
ISCO Idaho Springs 83.02 336 eP P 02 50 53.5 +0.8
ISCO pmax pmax
comp=Z,17nm,1.4s
ISCO Idaho Springs 83.02 336 eP P 02 50 53.5 +0.8
comp=Z,17nm,1.4s
ISCO Idaho Springs 83.02 336 ⇓P P 02 50 53.3 +0.7
baz=84,SNR=8.2
M29A Burnside Ranch 83.07 340 ⇑P P 02 50 53.8 +1.2
baz=84
TUQ Turquoise Moun 83.11 326 ⇓P P 02 50 54.3 +1.3
baz=84
RRX Edison Barstow 83.12 325 ⇓P P 02 50 55.0 +2.1
baz=84
O24A Longmont 83.14 336 ⇑P P 02 50 55.0 +2.0
baz=84
SLR Silverton 83.17 117 eP P 02 50 52.6 -1.2
SLR AMB AMB 02 50 53.4
comp=Z,74nm,3.8s
SLR Silverton 83.17 117 P P 02 50 52.6 -1.2
SLR pmax pmax
comp=Z,74nm,3.8s
SLR Silverton 83.17 117 P P 02 50 52.6 -1.2
comp=Z,74nm,3.8s
DECC Green Verdugo 83.20 324 ⇓P P 02 50 55.1 +1.8
baz=84
P22A Eagle 83.21 335 ⇓P P 02 50 55.1 +1.5
baz=84
M28A Bar X Bar Ranc 83.21 339 ⇑P P 02 50 54.8 +1.5
baz=84
N26A Koester Ranch, 83.22 338 ⇑P P 02 50 55.0 +1.6
baz=84
L31A Butterfield Fa 83.28 341 ⇓P P 02 50 54.6 +1.1
baz=84,SNR=20
L30A Spencer Herefo 83.29 341 ⇑P P 02 50 55.1 +1.4
baz=84
GSC Goldstone 83.38 326 eP P 02 50 56.0 +1.7
GSC pmax pmax
comp=Z,52nm,1.8s
GSC Goldstone 83.38 326 eP P 02 50 56.0 +1.7
comp=Z,52nm,1.8s
GSC Goldstone 83.38 326 ⇓P P 02 50 55.6 +1.3
baz=84
O23A Lake Granby, G 83.49 336 ⇓P P 02 50 55.9 +0.9
baz=84,SNR=9.3
EDW2 Edwards Air Fo 83.56 325 ⇑P P 02 50 56.8 +1.6
baz=84
L29A Maesberg Ranch 83.59 340 ⇑P P 02 50 57.0 +1.8
baz=84
BSC Santa Cruz Isl 83.59 323 ⇓P P 02 50 56.9 +1.5
baz=84
M27A Reverse DX Ran 83.62 339 ⇑P P 02 50 57.6 +2.2
baz=84
O22A Kremmling 83.65 335 ⇓P P 02 50 56.5 +0.6
baz=84,SNR=8.7
SHOC Shoshone 83.66 326 ⇓P P 02 50 56.9 +1.2
baz=84
OSI Osito Adit 83.68 324 ⇓P P 02 50 57.1 +1.3
baz=84
SHPR Sheep Range 83.69 328 eP P 02 50 56.3 +0.3
N24A Carr 83.72 337 ⇑P P 02 50 57.3 +1.2
baz=84
L28A Connealy Angus 83.82 340 ⇓P P 02 50 57.9 +1.5
baz=84
CCUT Cedar City 83.84 329 eP P 02 50 57.7 +0.9
comp=Z,34nm,1.4s
LRMC Laurel Mountai 83.92 325 ⇑P P 02 50 58.2 +1.1
baz=84
K30A Basset 83.94 341 ⇑P P 02 50 58.4 +1.4
baz=84
SBC Santa Barbara 84.00 323 ⇓P P 02 50 58.5 +1.1
baz=84
M25A Palm-Egli Farm 84.02 338 ⇓P P 02 50 59.1 +1.6
baz=84
ARUT Antelope Range 84.08 329 eP P 02 50 59.1 +1.1
ARUT Antelope Range 84.08 329 eP P 02 50 59.1 +1.1
comp=Z,578nm,1.5s
SRU San Rafael 84.11 332 eP P 02 50 58.3 +0.2
SRU pmax pmax
comp=Z,80nm,2.0s
SRU San Rafael 84.11 332 eP P 02 50 58.2 +0.2
comp=Z,80nm,2.0s
N23A Red Feather La 84.12 336 ⇑P P 02 50 59.4 +1.2
baz=84
ARVC Arvin 84.15 324 ⇓P P 02 50 58.8 +0.6
baz=85
O20A White River Ci 84.20 334 eP P 02 50 59.3 +0.8
comp=Z,81nm,1.9s
O20A White River Ci 84.20 334 ⇑P P 02 50 59.7 +1.1
baz=85,SNR=6.8
N22A Wattenberg Ran 84.20 336 ⇓P P 02 50 59.9 +1.3
baz=85
K29A Lazy Trails An 84.20 341 ⇓P P 02 51 00.1 +1.8
baz=85
MVU Marysvale 84.21 331 eP P 02 51 00.0 +1.3
comp=Z,47nm,1.9s
ECSD EROS Data Cent 84.22 344 eP P 02 50 58.3 0.0
comp=Z,84nm,1.4s
ECSD EROS Data Cent 84.22 344 ⇑P P 02 50 59.1 +0.8
baz=85,SNR=18
M24A Cheyenne 84.29 337 ⇓P P 02 51 00.2 +1.3
baz=85
L26A Underwood Farm 84.29 338 ⇓P P 02 51 00.2 +1.3
baz=85
PHWY Pilot Hill 84.33 337 eP P 02 50 59.9 +0.5
comp=Z,59nm,2.0s
FURC Furnace Creek, 84.39 326 ⇑P P 02 51 00.9 +1.6
baz=85
ISA Isabella 84.43 325 ⇓P P 02 51 01.1 +1.4
baz=85
K28A Ten Mile Ranch 84.44 340 ⇓P P 02 51 01.1 +1.6
baz=85,SNR=6.9
J30A Dallas 84.52 341 ⇑P P 02 51 01.5 +1.7
baz=85
TMUT Trail Mountain 84.52 332 eP P 02 51 01.4 +1.1
comp=Z,146nm,2.4s
M23A Laramie 84.57 336 ⇑P P 02 51 01.8 +1.3
baz=85
L25A Engebretsen Ra 84.66 338 ⇓P P 02 51 02.2 +1.5
baz=85
K27A Flueckinger Fa 84.67 339 ⇓P P 02 51 01.9 +1.2
baz=85,SNR=7.2
M22A Cedar Creek Ra 84.79 336 ⇓P P 02 51 02.5 +0.9
baz=85
J29A Okreek 84.81 341 ⇑P P 02 51 01.9 +0.6
baz=85,SNR=9.6
N20A Spence Gulch, 84.83 334 ⇓P P 02 51 02.8 +1.0
baz=85,SNR=7.2
SMMC Simmler 84.84 324 ⇓P P 02 51 02.7 +0.9
baz=85
L24A Wheatland 84.85 337 ⇑P P 02 51 02.9 +1.3
baz=85
VES Vestal, Richgr 84.86 324 ⇓P P 02 51 03.2 +1.5
baz=85
SPMN St. Paul 84.88 347 eP P 02 51 01.1 -0.5
comp=Z,15nm,0.9s
SPMN St. Paul 84.88 347 ⇓P P 02 51 02.8 +1.2
baz=85
K26A Motz Farm, Whi 84.93 339 ⇑P P 02 51 03.0 +0.9
baz=85
K25A Mack Ranch, Ha 85.05 338 ⇑P P 02 51 03.9 +1.2
baz=86
I30A Oacoma 85.06 342 ⇑P P 02 51 03.4 +0.8
baz=86
J28A Allard Ranch, 85.06 340 ⇑P P 02 51 04.2 +1.6
baz=86,SNR=10
J27A Elkhorn Farm, 85.11 340 ⇓P P 02 51 04.1 +1.1
baz=86,SNR=13
L23A Garrett 85.15 337 ⇓P P 02 51 04.5 +1.2
baz=86
L22A Ellis Ranch, M 85.30 336 ⇓P P 02 51 05.4 +1.3
baz=86
MPU Maple Canyon 85.31 332 eP P 02 51 05.0 +0.9
comp=Z,37nm,1.3s
I29A Vivian Onida 85.38 341 ⇑P P 02 51 05.9 +1.7
baz=86
NLU North Lily Min 85.42 331 eP P 02 51 06.0 +1.3
comp=Z,55nm,1.6s
K24A Anderson Ranch 85.43 338 ⇑P P 02 51 05.8 +1.2
baz=86
R11A Troy Canyon, C 85.43 328 eP P 02 51 05.8 +1.0
comp=Z,34nm,1.5s
R11A Troy Canyon, C 85.43 328 ⇑P P 02 51 05.7 +1.0
baz=86
BRSD Miller 85.44 342 eP P 02 51 04.4 0.0
comp=Z,164nm,2.0s
BRSD Miller 85.44 342 ⇑P P 02 51 05.6 +1.2
baz=86
J26A Sides Ranch, S 85.46 339 ⇑P P 02 51 05.6 +0.9
baz=86,SNR=12
DAU Daniels Canyon 85.52 332 eP P 02 51 06.5 +1.2
DAU Daniels Canyon 85.52 332 eP P 02 51 06.5 +1.2
I28A Midland 85.58 340 ⇓P P 02 51 05.4 +0.2
baz=86,SNR=12
K23A Bowen Ranch, D 85.71 337 ⇓P P 02 51 06.9 +0.9
baz=86
J25A Sunshine Ranch 85.74 338 ⇑P P 02 51 07.0 +0.9
baz=86
JLU Jordanelle 85.75 332 eP P 02 51 07.2 +0.8
comp=Z,24nm,1.4s
I27A Quinn 85.88 340 ⇑P P 02 51 07.8 +1.1
baz=86
TPH Tonopah 85.89 327 eP P 02 51 08.4 +1.3
TPH pmax pmax
comp=Z,35nm,1.4s
TPH Tonopah 85.89 327 eP P 02 51 08.4 +1.3
comp=Z,35nm,1.4s
K22A Casper 85.89 336 eP P 02 51 07.5 +0.5
comp=Z,133nm,1.8s
K22A Casper 85.89 336 ⇓P P 02 51 07.9 +1.0
baz=86,SNR=11
DUG Dugway 85.91 331 eP P 02 51 07.7 +0.7
DUG pmax pmax
comp=Z,63nm,1.5s
DUG Dugway 85.91 331 eP P 02 51 07.7 +0.7
comp=Z,63nm,1.5s
H29A Onida 85.92 341 ⇓P P 02 51 07.7 +0.8
baz=86,SNR=12
J24A Dixon Ranch, L 85.94 338 ⇓P P 02 51 08.2 +1.1
baz=86
I26A New Underwood 86.07 339 ⇓P P 02 51 08.7 +1.0
baz=86
K21A Alcova 86.11 336 ⇑P P 02 51 08.9 +0.8
baz=86,SNR=11
G30A Faulkton 86.13 342 ⇑P P 02 51 08.9 +1.1
baz=87
H28A Mission Ridge 86.17 341 ⇓P P 02 51 09.2 +1.1
baz=87,SNR=8.4
TCUT Toone Canyon 86.19 332 eP P 02 51 09.2 +0.6
comp=Z,92nm,1.5s
MLAC Mammoth Lakes 86.22 326 ⇑P P 02 51 09.1 +0.3
baz=87
J23A Dilts Ranch, B 86.27 337 ⇑P P 02 51 09.9 +1.1
baz=87
I25A Rochford 86.30 339 ⇑P P 02 51 10.3 +1.4
baz=87,SNR=7.5
G29A Hoven 86.38 342 ⇑P P 02 51 10.0 +0.9
baz=87
H27A Howes 86.41 340 ⇓P P 02 51 10.4 +1.1
baz=87
I24A Kuemmerle Ranc 86.41 338 ⇑P P 02 51 10.7 +1.3
baz=87
RSSD Black Hills 86.48 339 eP P 02 51 09.9 0.0
RSSD pmax pmax
comp=Z,35nm,2.0s
RSSD Black Hills 86.48 339 eP P 02 51 09.8 0.0
comp=Z,35nm,2.0s
G28A Parade 86.52 341 ⇑P P 02 51 11.0 +1.2
baz=87,SNR=10
MSNA Messina 86.54 116 eP P 02 51 10.3 -0.4
MSNA AMB AMB 02 51 18.4
comp=Z,48nm,1.8s
MSNA Messina 86.54 116 P P 02 51 10.3 -0.4
comp=Z,48nm,1.8s
BGU Big Grassy Mou 86.62 331 eP P 02 51 11.0 +0.4
comp=Z,11nm,1.4s
NVAR Mina Array Bea 86.65 326 P P 02 51 12.0 +1.2
comp=Z,2.8nm,0.8s,baz=161,slow=6.5,SNR=7.4
HWUT Hardware Ranch 86.67 333 eP P 02 51 11.0 +0.2
comp=Z,67nm,1.4s
SPUT South Promonto 86.74 332 eP P 02 51 11.5 +0.3
comp=Z,59nm,1.5s
I23A Meade Ranch, G 86.75 338 ⇑P P 02 51 12.4 +1.3
baz=87
F30A Leola 86.77 343 ⇓P P 02 51 12.8 +1.8
baz=87
J21A Lysite 86.81 336 ⇑P P 02 51 12.6 +1.1
baz=87
H25A Fruitdale 86.82 339 ⇓P P 02 51 12.5 +1.2
baz=87,SNR=7.3
TORD Torodi Ar. Bea 86.90 71 P P 02 51 11.2 -1.2
comp=Z,7.2nm,0.8s,baz=220,slow=4.0,SNR=23
F29A Eureka 86.95 342 ⇑P P 02 51 13.3 +1.4
baz=87
BW06 Boulder Array 86.99 334 eP P 02 51 11.6 -0.8
comp=Z,33nm,1.4s
PDAR Pinedale Array 86.99 334 P P 02 51 12.2 -0.2
comp=Z,3.5nm,0.8s,baz=159,slow=4.5,SNR=14
I22A 9 Mile Ranch, 87.00 337 ⇑P P 02 51 12.8 +0.5
baz=87
J20A Shoshoni 87.02 336 ⇑P P 02 51 12.9 +0.5
baz=88,SNR=13
G27A Dupree 87.06 340 ⇑P P 02 51 13.1 +0.7
baz=88,SNR=9.1
G26A Maurine 87.16 340 ⇑P P 02 51 13.3 +0.3
baz=88,SNR=13
I21A Big Trails, Te 87.18 336 ⇓P P 02 51 13.4 +0.2
baz=88,SNR=10
H24A Dirks Ranch, A 87.20 339 ⇓P P 02 51 13.4 +0.2
baz=88
F28A McLaughlin 87.21 341 ⇓P P 02 51 13.6 +0.5
baz=88,SNR=8.7
WAKR Walker 87.21 326 eP P 02 51 15.0 +1.4
CMB Columbia Colle 87.25 325 eP P 02 51 18.6 +5.0
CMB pmax pmax
comp=Z,22nm,1.6s
CMB Columbia Colle 87.25 325 eP P 02 51 18.6 +5.0
comp=Z,22nm,1.6s
J19A Crowheart 87.26 335 ⇑P P 02 51 14.2 +0.5
baz=88,SNR=15

HVU Hansel Valley 87.27 332 eP P 02 51 14.1 +0.4
HVU pmax pmax
comp=Z,39nm,1.3s
HVU Hansel Valley 87.27 332 eP P 02 51 14.1 +0.4
comp=Z,39nm,1.3s
H23A Clabaugh Cattl 87.28 338 ⇓P P 02 51 13.6 -0.1
baz=88
G25A Newell 87.29 339 ⇑P P 02 51 13.7 +0.1
baz=88,SNR=8.6
ELK Elko 87.33 330 eP P 02 51 14.9 +0.8
ELK pmax pmax
comp=Z,51nm,2.1s
ELK Elko 87.33 330 eP P 02 51 14.9 +0.8
comp=Z,51nm,2.1s
E30A Jud 87.36 343 ⇓P P 02 51 14.1 +0.2
baz=88,SNR=8.2
F27A Lemmon 87.54 341 ⇓P P 02 51 14.6 -0.2
baz=88,SNR=11
I20A Worland 87.57 336 ⇓P P 02 51 15.3 +0.3
baz=88,SNR=10.0
H22A Clearmont 87.60 337 ⇑P P 02 51 16.0 +0.8
baz=88
E29A Napoleon 87.60 342 ⇓P P 02 51 16.1 +1.1
baz=88
F26A Lodgepole 87.69 340 ⇑P P 02 51 15.7 +0.2
baz=88
G24A Alzada 87.69 339 ⇓P P 02 51 15.9 +0.3
baz=88
H21A Big Horn, Sher 87.84 337 ⇓P P 02 51 16.3 0.0
baz=88
G23A Biddle 87.86 338 ⇓P P 02 51 16.2 -0.2
baz=88
E28A Huff 87.86 342 ⇑P P 02 51 16.4 +0.2
baz=88
D30A Buchanan 87.90 343 ⇓P P 02 51 16.6 +0.2
baz=88,SNR=12
I19A Meeteetse 87.93 335 ⇑P P 02 51 17.5 +0.7
baz=88,SNR=7.0
E27A Carson 87.94 341 ⇓P P 02 51 17.4 +0.7
baz=88
REDW Red Top Meadow 87.96 334 eP P 02 51 17.3 +0.2
comp=Z,13nm,1.0s
F25A Bowman 87.98 340 ⇓P P 02 51 17.7 +0.8
baz=88
H20A Greybull 88.01 336 ⇑P P 02 51 17.8 +0.7
baz=88,SNR=8.5
D29A Pettibone, Tap 88.05 343 ⇓P P 02 51 18.3 +1.2
baz=88
LOHW Long Hollow 88.09 334 eP P 02 51 17.9 +0.2
comp=Z,38nm,2.0s
TPAW Teton Pass 88.11 334 eP P 02 51 18.2 +0.4
comp=Z,8.9nm,0.9s
G22A Birney 88.14 338 ⇑P P 02 51 18.3 +0.6
baz=89
F24A Ekalaka 88.18 339 ⇑P P 02 51 18.8 +1.0
baz=89
E26A Carlson Angus 88.21 341 ⇓P P 02 51 19.2 +1.2
baz=89
FXWY Fox Creek 88.26 334 eP P 02 51 18.4 -0.1
comp=Z,15nm,1.4s
F23A Volborg 88.34 338 ⇑P P 02 51 19.7 +1.1
baz=89
I17A Pilgrim Ck. 88.36 334 ⇓P P 02 51 19.3 +0.4
baz=89,SNR=8.3
C30A Mose, Pekin 88.40 344 ⇓P P 02 51 19.8 +1.1
baz=89,SNR=16
D28A Regan 88.41 342 ⇓P P 02 51 19.7 +0.9
baz=89,SNR=13
AGMN Agassiz Nation 88.41 345 eP P 02 51 18.0 -0.8
comp=Z,47nm,1.5s
AGMN Agassiz Nation 88.41 345 ⇑P P 02 51 19.8 +1.0
baz=89,SNR=8.0
G21A Lodge Grass 88.43 337 ⇓P P 02 51 20.2 +1.1
baz=89
IMW Indian Meadow 88.46 334 eP P 02 51 20.0 +0.5
comp=Z,22nm,1.4s
E25A Miller Ranch, 88.49 340 ⇓P P 02 51 20.6 +1.3
baz=89
H19A Powell 88.49 336 ⇑P P 02 51 20.7 +1.2
baz=89,SNR=8.1
FLWY Flagg Ranch 88.54 334 eP P 02 51 20.2 +0.4
comp=Z,93nm,2.0s
D27A Center 88.56 341 ⇓P P 02 51 20.6 +1.0
baz=89
H18A Shoshone NF, C 88.72 335 ⇓P P 02 51 21.0 +0.4
baz=89,SNR=9.7
D26A Manning 88.72 341 ⇑P P 02 51 21.7 +1.3
baz=89
G20A Bridger 88.73 336 ⇓P P 02 51 21.5 +1.0
baz=89
H17A Grant Village 88.78 335 ⇑P P 02 51 21.8 +0.9
baz=89
E24A Baker 88.79 339 ⇑P P 02 51 21.9 +1.2
baz=89
C28A Hausauer Farms 88.85 342 ⇑P P 02 51 22.3 +1.4
baz=89
YFT Old Faithful 88.91 334 eP P 02 51 24.9 +3.3
comp=Z,40nm,1.6s
F21A Absaloka Mine, 88.94 337 ⇑P P 02 51 22.6 +1.1
baz=89
E23A Ismay 89.02 339 ⇓P P 02 51 22.8 +1.1
baz=90
D25A Fairfield 89.07 340 ⇓P P 02 51 23.3 +1.3
baz=90
B30A Myrvik Farm, E 89.07 344 ⇑P P 02 51 23.0 +1.1
baz=90,SNR=17
C27A Sayler Ranch, 89.12 342 ⇑P P 02 51 23.2 +1.1
baz=90
E22A Miles City 89.15 338 ⇑P P 02 51 23.1 +0.8
baz=90
YMR Madison River 89.15 334 eP P 02 51 23.7 +1.1
comp=Z,53nm,1.5s
F20A Billings 89.23 337 ⇓P P 02 51 23.3 +0.5
baz=90
D24A Glendive 89.31 340 ⇑P P 02 51 24.3 +1.2
baz=90
B29A Wagenman Farm, 89.31 343 ⇓P P 02 51 24.2 +1.2
baz=90
C26A Wahner Farm, P 89.38 341 ⇓P P 02 51 24.7 +1.4
baz=90
HLID Hailey 89.42 332 eP P 02 51 24.4 +0.5
comp=Z,40nm,1.4s
HLID Hailey 89.42 332 ⇓P P 02 51 24.5 +0.6
baz=90
QLMT Earthquake Lak 89.45 334 eP P 02 51 25.4 +1.4
A30A Hoffart Farm, 89.53 344 ⇓P P 02 51 24.5 +0.5
baz=90,SNR=5.9
F19A Roth Farm, Mol 89.53 336 ⇑P P 02 51 24.6 +0.4
baz=90
B28A Dugan Ranch, T 89.53 343 ⇓P P 02 51 24.4 +0.4
baz=90
C25A Freed Ranch, W 89.57 341 ⇑P P 02 51 24.7 +0.4
baz=90
E21A Keefer Ranch, 89.57 338 ⇓P P 02 51 25.2 +0.9
baz=90
D23A Lindsay 89.60 339 ⇓P P 02 51 25.0 +0.5
baz=90
B27A Peters Farms, 89.71 342 ⇑P P 02 51 25.6 +0.8
baz=90
GCMT Greycliff 89.71 336 eP P 02 51 24.7 -0.4
comp=Z,8.2nm,1.3s
LSZ Lusaka 89.71 109 eP P 02 51 28.0 +2.0
LSZ pmax pmax
comp=Z,49nm,1.5s
LSZ Lusaka 89.71 109 eP P 02 51 28.0 +2.0
comp=Z,49nm,1.5s
C24A Savage 89.71 340 ⇓P P 02 51 25.4 +0.4
baz=90
A29A Manning Farm, 89.72 343 ⇑P P 02 51 24.8 -0.1
baz=90,SNR=12
MFID Camas Ranch 89.83 331 eP P 02 51 26.6 +0.9
comp=Z,33nm,1.7s
E20A Meyer Farm, Mu 89.86 337 ⇑P P 02 51 25.9 +0.1
baz=90
D22A Cohagen 89.86 338 ⇓P P 02 51 26.0 +0.3
baz=90
B26A Jensen Ranch, 89.92 341 ⇓P P 02 51 26.0 +0.1
baz=90
MCMT McKenzie Canyo 89.94 333 eP P 02 51 27.0 +0.6
comp=Z,15nm,1.5s
A28A Rude Farm, Bot 89.94 343 ⇑P P 02 51 26.0 0.0
baz=90
D21A La Casta Ranch 90.02 338 ⇓P P 02 51 27.1 +0.7
baz=90
E19A Rath Farm, Rou 90.02 337 ⇓P P 02 51 27.0 +0.5
baz=90
B25A Knox Farm, Ray 90.06 341 ⇑P P 02 51 27.2 +0.6
baz=90

WVOR Wild Horse Val 90.12 328 eP P 02 51 28.1 +1.0
WVOR pmax pmax
comp=Z,66nm,2.1s
WVOR Wild Horse Val 90.12 328 eP P 02 51 28.1 +1.0
comp=Z,66nm,2.1s
C23A Lambert 90.17 339 ⇓P P 02 51 28.0 +0.9
baz=91
A27A Ledoux Ranch, 90.21 342 ⇑P P 02 51 28.5 +1.3
baz=91
BOZ Bozeman (W) 90.23 334 eP P 02 51 28.4 +0.8
BOZ pmax pmax
comp=Z,14nm,1.5s
BOZ Bozeman (W) 90.23 334 eP P 02 51 28.4 +0.8
comp=Z,14nm,1.5s
ULM Lac du Bonnet 90.28 346 P P 02 51 27.1 -0.4
ULM pmax pmax
comp=Z,8.0nm,1.2s
ULM Lac du Bonnet 90.28 346 P P 02 51 27.1 -0.4
comp=Z,8.1nm,1.2s,baz=75,slow=3.9,SNR=2.8
C22A Vida 90.32 339 ⇓P P 02 51 28.9 +1.1
baz=91
DLMT Dillon 90.32 334 eP P 02 51 29.4 +1.5
comp=Z,26nm,1.4s
A26A Wade Farm, Ken 90.36 342 ⇓P P 02 51 29.4 +1.5
baz=91
MOD Modoc 90.38 327 eP P 02 51 30.0 +1.6
comp=Z,60nm,2.3s
D20A Manuel Ranch, 90.39 337 ⇑P P 02 51 29.3 +1.2
baz=91
DGMT Dagmar 90.51 340 ⇓P P 02 51 30.0 +1.3
baz=91
A25A Svangstu Ranch 90.66 341 ⇓P P 02 51 30.9 +1.6
baz=91
LRM Limekiln Ridge 90.67 334 eP P 02 51 29.7 0.0
D19A Cripps Ranch, 90.68 337 ⇓P P 02 51 30.7 +1.1
baz=91
N02D Trinity Center 90.68 325 ⇑P P 02 51 30.5 +0.8
baz=91
B23A Brockton 90.72 340 ⇑P P 02 51 30.7 +1.0
baz=91
C21A Desert Coulee 90.74 338 ⇑P P 02 51 30.4 +0.7
baz=91
A24A Westby 90.88 341 ⇑P P 02 51 31.6 +1.2
baz=91
C20A Veseth Ranch, 90.90 338 ⇑P P 02 51 31.2 +0.7
baz=91
M04C Macdoel 90.95 326 ⇓P P 02 51 31.8 +0.8
baz=91
A23A Redstone 91.14 340 ⇓P P 02 51 32.4 +0.8
baz=92
HRY Holter Researc 91.23 335 eP P 02 51 33.8 +1.6
C19A Slack Wire Ran 91.24 337 ⇓P P 02 51 33.3 +1.1
baz=92
B21A Ellsworth Farm 91.26 339 ⇓P P 02 51 33.1 +1.0
baz=92
A22A Carney Farms, 91.46 339 ⇑P P 02 51 34.3 +1.2
baz=92
B20A Solberg Farm, 91.56 338 ⇑P P 02 51 34.8 +1.3
baz=92
K04D Chiloquin, OR 91.59 327 ⇓P P 02 51 35.3 +1.3
baz=92
BMO Blue Mountains 91.61 331 eP P 02 51 34.5 +0.5
comp=Z,13nm,1.5s
EGMT Eagleton 91.72 337 ⇑P P 02 51 35.8 +1.4
baz=92
A21A Bergtoll Ranch 91.74 339 ⇓P P 02 51 36.0 +1.6
baz=92
B19A Brinkman Farms 91.85 337 ⇓P P 02 51 36.5 +1.6
baz=92
CHMT Chamberlain Mo 91.89 334 eP P 02 51 35.5 +0.1
J05D Fort Rock, OR 91.91 327 ⇓P P 02 51 36.6 +1.2
baz=92
L02D Cave Junction, 92.03 325 ⇓P P 02 51 36.9 +1.0
baz=92
MSO Missoula 92.06 334 eP P 02 51 37.4 +1.4
comp=Z,38nm,1.9s
MSO Missoula 92.06 334 ⇑P P 02 51 37.1 +1.1
baz=92
A19A Klindworth Far 92.21 338 ⇑P P 02 51 37.6 +1.1
baz=93
J04D Umpqua Nationa 92.25 327 ⇓P P 02 51 37.9 +0.8
baz=93
SLMT Seeley Lake 92.26 334 eP P 02 51 36.7 -0.3
G08A Pilot Rock 92.62 330 eP P 02 51 39.5 +0.8
comp=Z,24nm,1.8s
SWMT Swartz Lake 92.66 334 eP P 02 51 39.4 +0.6
I05D Terrebonne, OR 92.81 328 ⇑P P 02 51 40.6 +1.1
baz=93
I04A Tendick Farm, 92.82 327 ⇑P P 02 51 40.5 +1.0
baz=93
SCHQ Schefferville 92.92 4 P P 02 51 39.2 -0.4
comp=Z,3.2nm,1.0s,baz=270,slow=15,SNR=2.9
JTMT Jette 92.96 334 eP P 02 51 40.1 0.0
YBMT Yellow Bay 92.97 334 eP P 02 51 40.8 +0.6
I03D Drain, OR 93.15 326 ⇑P P 02 51 41.8 +0.9
baz=94
BLMT Blacktail Moun 93.22 334 eP P 02 51 42.0 +0.5
BSMT Bassoo Peak 93.23 334 eP P 02 51 41.8 +0.3
G05D Wamic, OR 93.53 328 ⇑P P 02 51 43.8 +1.1
baz=94
HAWA Hanford 93.76 330 eP P 02 51 45.2 +1.5
comp=Z,28nm,1.6s
D08A Wollman Farm, 94.07 331 eP P 02 51 45.8 +0.6
comp=Z,55nm,2.1s
NEW Newport 94.41 333 eP P 02 51 46.3 -0.4
NEW pmax pmax
comp=Z,14nm,1.5s
NEW Newport 94.41 333 eP P 02 51 46.3 -0.4
comp=Z,14nm,1.5s
NEW Newport 94.41 333 ⇓P P 02 51 48.1 +1.4
baz=95
F04D Rainier, OR 94.92 328 ⇑P P 02 51 50.6 +1.6
baz=95
TAM Tamanrasset 95.83 66 eP P 02 51 53.4 -0.6
TAM pmax pmax
comp=Z,15nm,1.4s
TAM Tamanrasset 95.83 66 eP P 02 51 53.4 -0.6
comp=Z,15nm,1.4s
DZM Mont Dzumac 97.65 234 eLR LR 03 23 37.0
comp=Z,931nm,21.4s
YKA Yellowknife Ar 105.67 342 Pdiff Pdif 02 52 35.5 -1.2
comp=Z,0.3nm,0.7s,baz=146,slow=5.1,SNR=3.4
YKA PP PP 02 56 59.8 -0.1
comp=Z,0.3nm,0.9s,baz=136,slow=8.9,SNR=4.1
GERES GERESS Array B 116.07 47 PKIKP PKPdf 02 57 09.3 -0.5
GERES 02 58 14.7
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 116.07 47 PKP PKPdf 02 57 09.3 -0.5
comp=Z,2.1nm,0.8s,baz=202,slow=1.4,SNR=19
GERES PP PP 02 58 14.7 -0.6
comp=Z,0.4nm,0.6s,baz=224,slow=6.9,SNR=2.1
WRA Warramunga Arr 116.39 210 PKIKP PKPdf 02 57 09.4 -2.0
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 116.39 210 PKP PKPdf 02 57 09.4 -2.0
comp=Z,1.3nm,0.9s,baz=159,slow=1.6,SNR=5.4
CLL Collm 116.85 45 ePKiKP PKPdf 02 57 11.0 -0.1
BRG Berggiesshubel 117.17 45 ePKP PKPdf 02 57 10.7 -1.0
comp=Z,7.2nm,1.4s
BRG Berggiesshubel 117.17 45 ePKIKP PKPdf 02 57 10.7 -1.0
BRG pmax pmax
comp=Z,7.0nm,1.4s
ILAR Eielson Array 117.37 332 PKIKP PKPdf 02 57 10.4 -1.3
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 117.37 332 PKP PKPdf 02 57 10.3 -1.3
comp=Z,0.5nm,0.8s,baz=178,slow=4.2,SNR=5.2
PKSM Moragy 117.78 52 ⇓PKIKP PKPdf 02 57 12.5 -0.5
PKSM Moragy 117.78 52⇓/P PKPdf 02 57 12.5 -0.5
VRAC Vranov 117.96 48 ⇓PKIKP PKPdf 02 57 13.3 0.0
VRAC Vranov 117.96 48⇓/P PKPdf 02 57 13.3 0.0
UPC Upice 118.17 46 ePKIKP PKPdf 02 57 14.1 +0.4
UPC Upice 118.17 46 ePKP PKPdf 02 57 14.1 +0.4
DPC Dobruska-Polom 118.28 47 ePKIKP PKPdf 02 57 14.1 +0.2
DPC e 02 57 18.4
DPC Dobruska-Polom 118.28 47 ePKP PKPdf 02 57 14.1 +0.2
DPC ex x 02 57 18.4
KRLC Kraliky 118.42 47 ePKIKP PKPdf 02 57 13.2 -1.0
KRLC Kraliky 118.42 47 ePKP PKPdf 02 57 13.2 -1.0
MORC Moravsky Berou 118.72 48 ⇑PKIKP PKPdf 02 57 14.4 -0.4
MORC Moravsky Berou 118.72 48⇑/P PKPdf 02 57 14.4 -0.4
MORC Moravsky Berou 118.72 48 ePKPdf PKPdf 02 57 14.2 -0.7
VYHS Vyhne 118.92 49 ePKIKP PKPdf 02 57 15.1 -0.1
VYHS Vyhne 118.92 49 ePKP PKPdf 02 57 15.1 -0.1
OKC Ostrava-Krasne 119.10 48 ePKIKP PKPdf 02 57 17.8 +2.3

OKC Ostrava-Krasne 119.10 48 ePKP PKPdf 02 57 17.8 +2.3
BZS Buzias 119.37 53 ⇑PKIKP PKPdf 02 57 16.2 +0.1
BZS Buzias 119.37 53⇑/P PKPdf 02 57 16.2 +0.1
GZR Gura Zlata 120.01 54 ⇓PKIKP PKPdf 02 57 22.2 +4.7
GZR Gura Zlata 120.01 54⇓/P PKPdf 02 57 22.2 +4.7
NOA NORSAR Array B 120.32 34 PKIKP PKPdf 02 57 16.9 -0.6
NOA pmax pmax
comp=Z,1.0nm,1.0s
NOA NORSAR Array B 120.32 34 PKP PKPdf 02 57 16.9 -0.6
comp=Z,1.4nm,1.0s,baz=63,slow=9.5,SNR=4.1
DRGR 120.56 52 ⇑PKIKP PKPdf 02 57 18.3 -0.2
DRGR 120.56 52⇑/P PKPdf 02 57 18.3 -0.2
CRVS Cervenica-Dubn 120.67 50 ePKIKP PKPdf 02 57 18.1 -0.5
CRVS Cervenica-Dubn 120.67 50 ePKP PKPdf 02 57 18.1 -0.5
STHS Stebnicka Huta 120.75 49 ePKIKP PKPdf 02 57 19.0 +0.3
STHS Stebnicka Huta 120.75 49 ePKP PKPdf 02 57 19.0 +0.3
TRPA Tarpa 121.01 51⇑/P PKPdf 02 57 19.0 -0.2
UZH Uzhgorod 121.06 50 ePKIKP PKPdf 02 57 22.3 +3.0
HFS Hagfors 121.06 36 PKIKP PKPdf 02 57 17.4 -1.5
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 121.06 36 PKP PKPdf 02 57 17.4 -1.5
comp=Z,2.4nm,0.7s,baz=226,slow=3.9,SNR=7.1
KOLS Kolonicke sedl 121.17 50 ePKIKP PKPdf 02 57 19.1 -0.4
KOLS Kolonicke sedl 121.17 50 ePKP PKPdf 02 57 19.1 -0.4
ARR Arges 121.19 55⇑/P PKPdf 02 57 19.5 -0.2
KWP Kalwaria Pacla 121.71 49 ePKIKP PKPdf 02 57 20.4 -0.1
KWP Kalwaria Pacla 121.71 49 ePKP PKPdf 02 57 20.8 +0.3
KWP Kalwaria Pacla 121.71 49⇓/P PKPdf 02 57 20.5 -0.1
KWP Kalwaria Pacla 121.71 49 ePKPdf PKPdf 02 57 20.4 -0.1
DOPR Dopca 121.91 54⇑/P PKPdf 02 57 21.3 +0.2
MLR Muntele Rosu 122.08 55 ⇓PKIKP PKPdf 02 57 20.9 -0.6
MLR Muntele Rosu 122.08 55⇓/P PKPdf 02 57 20.9 -0.6
MLR Muntele Rosu 122.08 55 PKP PKPdf 02 57 20.7 -0.8
comp=Z,1.5nm,1.0s,baz=225,slow=2.9
MLR PP PP 02 59 00.1 +3.1
comp=Z,0.5nm,0.8s,baz=287,slow=14,SNR=3.0
BURAR Bucovina Array 122.46 52 ⇓PKIKP PKPdf 02 57 21.2 -1.0
BURAR Bucovina Array 122.46 52⇓/P PKPdf 02 57 21.2 -1.0
BUR08 Bucovina Ar. S 122.46 52 ePKPdf PKPdf 02 57 22.3 +0.1
PLOR Plostina 122.68 55 ⇓PKIKP PKPdf 02 57 20.7 -1.9
PLOR Plostina 122.68 55⇓/P PKPdf 02 57 20.7 -1.9
VRI Vrincioaia 122.73 55 ⇑PKIKP PKPdf 02 57 21.8 -0.8
VRI Vrincioaia 122.73 55⇑/P PKPdf 02 57 21.8 -0.8
TESR Tescani 122.93 54⇓/P PKPdf 02 57 21.6 -1.4
CFR Carcaliu 123.38 56 ⇑PKIKP PKPdf 02 57 23.6 -0.3
CFR Carcaliu 123.38 56⇑/P PKPdf 02 57 23.5 -0.3
SUW Suwalki 123.61 45 ePKIKP PKPdf 02 57 23.6 -0.4
SUW Suwalki 123.61 45 ePKP PKPdf 02 57 23.6 -0.4
SUW Suwalki 123.61 45 ePKPdf PKPdf 02 57 22.9 -1.1
H11S2 WAKE ISLAND Hy124.29 267 T T 05 13 40.8
baz=124
H11S1 WAKE ISLAND Hy124.31 267 T T 05 13 44.9
baz=124
H11S3 WAKE ISLAND Hy124.31 267 T T 05 13 41.8
baz=124
BR131 Keskin Array S 124.99 64 ePKPdf PKPdf 02 57 26.6 -0.8
BRTR Keskin Array B 124.99 64 PKIKP PKPdf 02 57 26.9 -0.4
BRTR 02 59 18.3
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BRTR Keskin Array B 124.99 64 PKP PKPdf 02 57 26.9 -0.4
comp=Z,2.8nm,1.0s,baz=213,slow=3.6,SNR=20
BRTR PP PP 02 59 18.3 +1.5
comp=Z,1.0nm,1.0s,baz=235,slow=5.1,SNR=2.7
TNA Tin City 125.80 329 ePKPdf PKPdf 02 57 27.3 -0.6
AK02 Malin Array Si 125.98 50 ePKPdf PKPdf 02 57 27.1 -1.5
KIEV Kiev 126.00 50 ePKIKP PKPdf 02 57 27.3 -1.4
KIEV Kiev 126.00 50 ePKPdf PKPdf 02 57 27.3 -1.4
AK01 Malin Array Si 126.00 50 ePKPdf PKPdf 02 57 27.3 -1.3
AKASG Malin Array Be 126.01 50 PKIKP PKPdf 02 57 27.5 -1.2
AKASG 02 59 23.4
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 126.01 50 PKP PKPdf 02 57 27.5 -1.2
comp=Z,1.3nm,0.5s,baz=259,slow=2.8,SNR=14
AKASG PP PP 02 59 23.4 +0.4
comp=Z,0.1nm,0.2s,baz=251,slow=8.8,SNR=6.9
AKBB Malin Array Si 126.01 50 ePKIKP PKPdf 02 57 28.5 -0.2
AKBB Malin Array Si 126.01 50 ePKPdf PKPdf 02 57 28.5 -0.2
RAYN Ar Rayn 126.67 87 ePKPdf PKPdf 02 57 30.8 -0.1
SPITS Spitsbergen Ar 127.13 15 PKIKP PKPdf 02 57 29.1 -1.1
SPITS pmax pmax
comp=Z,8.0nm,1.0s
SPITS Spitsbergen Ar 127.13 15 PKP PKPdf 02 57 29.1 -1.1
comp=Z,8.2nm,1.0s,baz=163,slow=3.1,SNR=4.0
FINES FINESS Array B 127.23 36 PKIKP PKPdf 02 57 30.0 -0.7
FINES pmax pmax
comp=Z,8.0nm,1.1s
FINES FINESS Array B 127.23 36 PKP PKPdf 02 57 30.0 -0.7
comp=Z,8.4nm,1.1s,baz=174,slow=1.7,SNR=10
FINES FINESS Array B 127.23 36 PKP PKPdf 02 57 30.0 -0.7
MALT Malatya 127.88 67 ⇑PKIKP PKPdf 02 57 32.7 -0.1
MALT Malatya 127.88 67⇑/P PKPdf 02 57 32.7 -0.1
ARCES ARCESS Array B 128.43 26 PKIKP PKPpre 02 57 28.7
ARCES pmax pmax
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 128.43 26 PKhKP PKPpre 02 57 28.7
comp=Z,7.0nm,1.0s,baz=46,slow=14,SNR=3.2
OBN Obninsk 131.41 46 PKP PKPdf 02 57 39.2 +0.4
comp=Z,6.1nm,0.7s,baz=16,slow=14,SNR=3.8
MOS Moscow 132.11 45 ePKIKP PKPdf 02 57 42.9 +2.8
MOS MLR MLR
comp=Z,1μm,22.0s
VSR Storozhevoye 132.21 51 ePKIKP PKPdf 02 57 41.5 +1.0
VSR pmax pmax
comp=N,4.0nm,1.0s
VSR pmax pmax
comp=E,9.0nm,1.0s
VSR pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 132.78 62 ePKIKP PKPdf 02 57 42.7 +0.7
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 132.78 62 ePKPdf PKPdf 02 57 42.3 +0.4
KBZ Khabaz 132.87 62 PKIKP PKPdf 02 57 42.5 +0.5
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 132.87 62 PKP PKPdf 02 57 42.5 +0.5
comp=Z,3.0nm,1.0s,baz=339,slow=5.3,SNR=5.0
GNI Garni 133.11 67 PKIKP PKPdf 02 57 43.9 +1.1
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI Garni 133.11 67 PKP PKPdf 02 57 43.9 +1.1
comp=Z,0.7nm,0.3s,baz=271,slow=20,SNR=5.4
GNI Garni 133.11 67 ePKPdf PKPdf 02 57 44.1 +1.3
GOF Gofitskoye 133.32 60 ePKIKP PKPdf 02 57 43.4 +0.6
KLMR Klimovskoe 133.60 38 ePKIKP PKPdf 02 57 40.7 -2.1
KLMR pmax pmax
comp=Z,51nm,1.8s
VRHR Novokhopersk 133.71 52 ePKIKP PKPdf 02 57 42.8 -0.5
VRHR pmax pmax
comp=N,7.0nm,1.0s
VRHR pmax pmax
comp=E,7.0nm,1.0s
VRHR pmax pmax
comp=Z,9.0nm,1.0s
PRGR Permogore 136.55 37 PKIKP PKPdf 02 57 47.4 -0.9
PRGR pmax pmax
comp=Z,26nm,1.2s
PETK Petropavlovsk- 142.01 310 PKHKP PKPpre 02 57 53.6
PETK pmax pmax
comp=Z,4.0nm,0.7s
PETK Petropavlovsk- 142.01 310 PKhKP PKPpre 02 57 53.6
comp=Z,4.4nm,0.7s,baz=116,slow=6.6,SNR=3.7
GEYT Alibeck 142.42 75 PKhKP PKPpre 02 57 55.2
comp=Z,2.9nm,0.6s,baz=242,slow=4.8,SNR=9.1
SEY Seymchan 142.96 327 PKhKP PKPpre 02 57 56.0
comp=Z,4.0nm,0.7s,baz=65,slow=23,SNR=12
ARU Arti 143.79 44 PKIKP PKPbc 02 57 59.2 -0.1
ARU Arti 143.79 44 ePKPpre PKPbc 02 57 59.1 -0.2
ARU ePKPdf PKPdf 02 58 01.7 +0.2
AKTO Aktyubinsk 144.01 54 PKIKP PKPbc 02 57 59.9 -0.2
AKTO pmax pmax
comp=Z,18nm,1.0s
AKTO Aktyubinsk 144.01 54 PKP PKPbc 02 57 59.9 -0.3
comp=Z,18nm,1.0s,baz=243,slow=3.5,SNR=24
PSI Prapat 144.06 167 PKIKP PKPab 02 58 00.1 -0.9
PSI pmax pmax
comp=Z,13nm,0.9s
PSI Prapat 144.06 167 PKhKP PKPab 02 58 00.1 -0.9
comp=Z,12nm,0.9s,baz=189,slow=9.6,SNR=10.0

TIXI Tiksi 144.61 348 ePKIKP PKPab 02 57 59.8 -1.4
TIXI Tiksi 144.61 348 ePKPpre PKPab 02 57 59.8 -1.4
ABKAR Akbulak array 145.27 56 ePKPbc PKPbc 02 58 03.8 -0.3
POO Poona 145.59 116 eP PKPdf 02 58 06.0 +0.1
IPM Ipoh 146.03 171 ePKPbc PKPbc 02 58 07.2 -0.4
KKM Kota Kinabalu 146.69 198 ePKPbc PKPbc 02 58 08.9 -0.7
KULM Kulim 146.78 170 ePKPbc PKPdf 02 58 08.5 +0.4
HYB Hyderabad 148.06 123 iPKP PKPbc 02 58 13.0 -0.2
KBL Kabul 149.91 86 ePKP2 PKPbc 02 58 18.4 +0.7
KBL Kabul 149.91 86 ePKPbc PKPbc 02 58 18.4 +0.7
KBL ePKPab PKPab 02 58 23.6 +0.2
BRVK Borovoye 151.16 47 ePKIKP PKPdf 02 58 15.0 +1.1
BRVK e 02 58 19.9
BRVK e 02 58 28.3
BRVK Borovoye 151.16 47 ePKPdf PKPdf 02 58 15.0 +1.1
BRVK ePKPbc PKPbc 02 58 19.9 +0.1
BRVK ePKPab PKPab 02 58 28.3 +0.6
BVAR Borovoye Array 151.24 47 PKIKP PKPdf 02 58 14.2 +0.2
BVAR 02 58 19.5
BVAR pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 151.24 47 PKP PKPdf 02 58 14.2 +0.2
comp=Z,2.5nm,0.8s,baz=318,slow=2.0,SNR=7.1
BVAR PKPbc PKPbc 02 58 19.5 -0.5
comp=Z,11nm,0.6s,baz=288,slow=3.1,SNR=34
YAK Yakutsk 152.20 336 ePKIKP PKPbc 02 58 18.7 -3.1
YAK pmax pmax
comp=Z,45nm,1.2s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK Yakutsk 152.20 336 ePKPbc PKPbc 02 58 20.9 -0.9
ASAJ Asahikawa 152.23 294 PKIKP PKPbc 02 58 21.9 -0.6
ASAJ pmax pmax
comp=Z,16nm,0.8s
ASAJ Asahikawa 152.23 294 PKPbc PKPbc 02 58 21.9 -0.6
comp=Z,16nm,0.8s,baz=280,slow=0.7,SNR=6.0
ASAJ Asahikawa 152.23 294 ePKPbc PKPbc 02 58 20.8 -1.7
KKAR Karatay Array 152.57 68 ePKIKP PKPdf 02 58 16.7 +0.3
KKAR e 02 58 22.6
KKAR Karatay Array 152.57 68 ePKPdf PKPdf 02 58 16.6 +0.3
KKAR ePKPbc PKPbc 02 58 22.6 -0.8
MJAR Matsushiro Arr 154.66 276 PKP2 PKPab 02 58 42.8 -0.2
MJAR pmax pmax
comp=Z,1.0nm,0.8s
MJAR Matsushiro Arr 154.66 276 PKPab PKPab 02 58 42.8 -0.2
comp=Z,1.3nm,0.8s,baz=226,slow=18,SNR=3.9
EKS2 Erkin-Say 154.96 70 ePKIKP PKPdf 02 58 20.5 +0.5
EKS2 Erkin-Say 154.96 70 ePKPdf PKPdf 02 58 20.5 +0.5
EKS2 ePKPab PKPab 02 58 44.7 +0.4
AAK Ala-Archa 155.49 70 PKIKP PKPdf 02 58 19.3 -1.4
AAK 02 58 46.7
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK pmax pmax
comp=Z,6.0nm,0.5s
AAK Ala-Archa 155.49 70 PKP PKPdf 02 58 19.3 -1.4
comp=Z,3.5nm,0.9s,baz=241,slow=7.5,SNR=5.4
AAK PKPab PKPab 02 58 46.7 +0.2
comp=Z,5.8nm,0.5s,baz=239,slow=5.4,SNR=9.6
AAK Ala-Archa 155.49 70 ePKPdf PKPdf 02 58 20.6 -0.1
AAK ePKPbc PKPbc 02 58 29.7
AAK ePKPab PKPab 02 58 46.7 +0.2
FRU Bishkek 155.58 69 ePKIKP PKPdf 02 58 20.0 -0.7
FRU i 03 02 28.0
TKM2 Tokmak 2 156.30 69 ePKIKP PKPdf 02 58 21.4 -0.4
TKM2 Tokmak 2 156.30 69 ePKPdf PKPdf 02 58 21.4 -0.4
TKM2 ePKPab PKPab 02 58 49.9 -0.1
KSH Kashi 156.41 77 ePKP PKPdf 02 58 23.5 +1.5
KSH epPKP pPKPdf 02 58 34.0 +5.8
KSH esPKP 02 58 38.5
KSH eSKS SKSdf 03 05 24.0 -3.3
KSH eSKKS SKKSac 03 09 16.0 -1.2
KSH eSS SS 03 22 14.0 -5.3
KSH AMB AMB
comp=Z,120nm,11.3s
KSH LR LR
comp=Z,180nm,9.7s
KSH LR LR
comp=Z,31nm,4.0s
KSH LR LR
comp=Z,270nm,5.6s
KURK Kurchatov 156.81 49 ePKIKP PKPdf 02 58 21.4 -0.5
KURK Kurchatov 156.81 49 ePKPdf PKPdf 02 58 21.4 -0.5
KURK ePKPab PKPab 02 58 51.5 -0.2
NVS Novosibirsk 157.22 36 ePKIKP PKPdf 02 58 21.0 -1.3
NVS pmax pmax
comp=Z,21nm,1.5s
NVS pmax pmax
comp=E,14nm,1.4s
JOW Kunigami 158.31 245 PKP PKPdf 02 58 21.6 -3.0
comp=E,2.2nm,0.7s,baz=108,slow=13,SNR=2.2
ZAA0 Zalesovo Array 158.50 36 ePKPdf PKPdf 02 58 23.3 -0.6
ZAA0 ePKPab PKPab 02 58 58.7 -0.2
ZALV Zalesovo Beam 158.50 36 PKIKP PKPdf 02 58 23.0 -0.9
ZALV 02 58 58.7
ZALV pmax pmax
comp=Z,5.0nm,0.8s
ZALV pmax pmax
comp=Z,26nm,1.1s
ZALV Zalesovo Beam 158.50 36 PKP PKPdf 02 58 22.9 -0.9
comp=Z,4.5nm,0.8s,baz=253,slow=1.5,SNR=9.3
ZALV PKPab PKPab 02 58 58.6 -0.2
comp=Z,26nm,1.1s,baz=297,slow=4.8,SNR=9.5
BOD Bodaibo 159.79 348 ePKP2 PKPab 02 59 00.2 -4.1
BOD pmax pmax
comp=Z,10.0nm,1.4s
MKAR Makanchi Array 160.41 57 PKP PKPdf 02 58 25.6 -0.9
comp=Z,5.9nm,1.1s,baz=98,slow=8.7,SNR=16
MKAR PKPab PKPab 02 59 07.5 -0.1
comp=Z,2.9nm,0.8s,baz=278,slow=3.2,SNR=7.7
MDJ Mudanjiang 161.46 297 PKP PKPdf 02 58 29.0 +1.4
MDJ pPKP pPKPdf 02 58 39.0 +5.2
MDJ sPKP 02 58 42.8
MDJ PKS PKSdf 03 02 01.8 +1.1
MDJ SKS SKSdf 03 05 31.5 0.0
MDJ SS SS 03 23 11.0 -1.1
MDJ LR LR
comp=Z,160nm,11.5s
MDJ LR LR
comp=Z,190nm,16.1s
MDJ LR LR
comp=Z,350nm,17.7s
CN2 Changchun 164.54 297 ePKP PKPdf 02 58 31.0 +0.4
CN2 epPKP pPKPdf 02 58 42.0 +5.2
CN2 ePP PP 03 03 11.5 -0.9
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,1µm,22.0s
CN2 LR LR
comp=Z,1µm,22.0s
CN2 LR LR
comp=Z,2µm,23.0s
WMQ Urumqi 164.91 63 ePKP PKPdf 02 58 31.3 +0.3
WMQ AMB AMB
comp=Z,340nm,12.2s
WMQ LR LR
comp=Z,290nm,20.6s
WMQ LR LR
comp=Z,340nm,20.2s
WMQ LR LR
comp=Z,380nm,19.8s
TLY Talaya 166.46 7 PKPab PKPab 02 59 32.3 -1.5
comp=Z,1.1nm,0.4s,baz=61,slow=0.8,SNR=5.5
KMI Kunming 166.55 166 PKP PKPdf 02 58 32.8 -0.3
ZAK Zakamensk 167.70 9 ePKIKP PKPdf 02 58 34.3 +1.3
ZAK e 02 59 39.2
ZAK pmax pmax
comp=Z,4.0nm,2.2s
NJ2 Nanjing 168.01 243 ePKP PKPdf 02 58 33.5 -0.2
ULN Ulaanbaatar 170.39 357 ePKIKP PKPdf 02 58 35.5 +0.6
ULN e 02 59 51.8
ULN Ulaanbaatar 170.39 357 ePKPdf PKPdf 02 58 35.5 +0.6
ULN ePKPab PKPab 02 59 51.8 +0.3
SONM Songino Array 170.44 360 PKP2 PKPab 02 59 51.9 +0.3
SONM pmax pmax
comp=Z,4.0nm,1.1s
SONM Songino Array 170.44 360 PKPab PKPab 02 59 51.9 +0.3
comp=Z,3.8nm,1.1s,baz=353,slow=4.5,SNR=4.1
CD2 Chengdu 172.37 163 PKP PKPdf 02 58 36.0 -0.3
CD2 pPKP pPKPdf 02 58 47.3 +4.8
CD2 sPKP 02 58 51.0
CD2 PKS PKSdf 03 02 06.8 -1.8
CD2 PP PP 03 03 54.5 +3.5
CD2 SKS SKSdf 03 05 33.8 -4.9
CD2 SKKS SKKSac 03 10 36.0 -1.5
CD2 AMB AMB
comp=Z,220nm,6.4s
HHC Hu-ho-hao-te 175.19 304 ePKP PKPdf 02 58 37.3 +0.3
HHC pPKP pPKPdf 02 58 47.8 +4.6
HHC sPKP 02 58 53.5
HHC PP PP 03 04 07.5 +1.6
HHC SKS SKSdf 03 05 35.0 -4.2
HHC SS SS 03 25 26.8 -2.9
HHC AMB AMB
comp=Z,660nm,7.1s
HHC LR LR
comp=Z,400nm,21.2s
HHC LR LR
comp=Z,620nm,19.4s
HHC LR LR
comp=Z,380nm,19.0s
LZH Lanzhou 177.07 137 ePKP PKPdf 02 58 38.0 +0.3
LZH pPKP pPKPdf 02 58 48.3 +4.4
LZH sPKP 02 58 52.5
LZH LR LR
comp=Z,380nm,16.6s
LZH LR LR
comp=Z,290nm,16.5s
LZH LR LR
comp=Z,470nm,17.6s

*IDC **28** 02:41:02.7±0.4, 38°.23S×73°.71W, h0km, mb4.7/14, mb1 4.8/16, mb1mx4.8/24, mbtmp4.7/16, ML5.1/1, Error ellipse: s-maj=18.4km s-min=13.5km az=53.0*
*NEIC **28** 02:41:04.5±3.1, 38°.39S×73°.55W, h12km±18km, mb5.1/70, Error ellipse: s-maj=10.0km s-min=5.4km az=66.0*
*ISCJB **28** 02:41:05.1±0.3, 38°.23S±0°.06×73°.39W±0°.08, h18km, mb5.0/82, Error ellipse: s-maj=10.4km s-min=6.9km az=44.1*
*MOS **28** 02:41:07.2±1.3, 38°.22S×73°.62W, h33km, mb5.0/33, Error ellipse: s-maj=19.3km s-min=11.3km az=97.9*
*BJI **28** 02:41:07.9, 37°.83S×72°.88W, h35km, mB5.3/5, Ms5.2/5, Ms7 5.1/4*
ISC 28 02:41:06.2±0.3, **38°.26S**±0°.06×**73°.55W**±0°.08, **h18km, n613,** σ**1^{s}11**/622, **mb5.0**/82, **181C-208D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.39 138 eP Pn 02 41 55.1 -3.2
PLCA Paso Flores 3.39 138 Pn Pn 02 41 59.8 +1.5
baz=304,slow=10,SNR=0.9
PLCA Lg Lg 02 42 54.0
55nm,0.3s,baz=16,slow=15,SNR=3.7
PLCA Paso Flores 3.39 138 ePn Pn 02 41 55.0 -3.2
PLCA Lg Lg 02 42 54.0
TRQA Tornquist 9.12 92 ePn Pn 02 43 15.6 -1.3
2µm,1.5s
LVC Limon Verde 16.09 16 ePn Pn 02 44 52.8 +1.0
USHA Ushuaia 16.94 170 Pn Pn 02 44 58.8 -3.3
0.1nm,0.3s,baz=331,slow=13,SNR=1.7
CPUP Villa Florida 18.12 54 P Pn 02 45 15.7 -1.2
1.6nm,0.3s,baz=230,slow=8.7,SNR=3.4
CPUP S Sn 02 48 20.8 -18
0.5nm,0.3s,baz=127,slow=20,SNR=1.9
LPAZ La Paz 22.40 14 P P 02 46 06.8 +2.4
LPAZ pmax pmax
comp=Z,8.0nm,0.6s
LPAZ La Paz 22.40 14 P P 02 46 06.8 +2.4
comp=Z,7.7nm,0.6s,baz=167,slow=6.0,SNR=4.5
SIV San Ignacio 24.75 30 P P 02 46 25.4 -1.4
comp=Z,7.2nm,0.9s,baz=188,slow=15,SNR=2.2
NNA Nana 26.32 353 P P 02 46 35.8 -5.3
NNA pmax pmax
comp=Z,2.0nm,0.3s
NNA Nana 26.32 353 P P 02 46 35.8 -5.3
comp=Z,2.3nm,0.3s,baz=233,slow=10,SNR=1.8
OTAV Otavalo 38.57 352 eP P 02 48 29.2 +0.6
comp=Z,29nm,1.2s
ROSC El Rosal 42.90 359 P P 02 49 06.1 +1.9
comp=Z,2.9nm,0.3s,baz=242,slow=5.7,SNR=4.1
RCBR Riachuelo 46.98 56 P P 02 49 36.9 +0.6
comp=Z,18nm,1.1s,baz=179,slow=5.3,SNR=2.5
SDV Santo Domingo 46.98 4 eP P 02 49 36.0 -0.4
comp=Z,22nm,0.8s
SNAA Sanae 48.15 156 P P 02 49 44.3 -0.5
SNAA pmax pmax
comp=Z,6.0nm,1.0s
SNAA Sanae 48.15 156 P P 02 49 44.3 -0.5
comp=Z,6.3nm,1.0s,baz=262,slow=8.9,SNR=4.9
SNAA Sanae 48.15 156 eP P 02 49 44.3 -0.5
comp=Z,39nm,1.3s
JTS JuntasAbangare 49.45 345 P P 02 49 54.8 -0.5
comp=Z,3.9nm,0.6s,baz=140,slow=7.9,SNR=2.9
JTS JuntasAbangare 49.45 345 eP P 02 49 55.8 +0.4
comp=Z,16nm,1.1s
QSPA South Pole Qui 51.99 180 P P 02 50 13.9 -0.2
comp=Z,10nm,1.0s,baz=161,slow=6.3,SNR=3.6
QSPA South Pole Qui 51.99 180 eP P 02 50 13.7 -0.4
comp=Z,22nm,1.1s
GTBY Guantanamo Bay 57.89 358 eP P 02 50 56.5 -0.5
comp=Z,20nm,0.8s
035Z Hargill 68.36 336 ⇑P P 02 52 08.3 +1.9
baz=69
PPT Papeete 68.51 264 P P 02 52 07.6 -0.1
PPT pmax pmax
comp=Z,50nm,1.1s
PPT Papeete 68.51 264 P P 02 52 07.6 -0.1
comp=Z,50nm,1.1s,baz=166,slow=3.1,SNR=3.4
035A Encino 68.81 337 ⇓P P 02 52 10.6 +1.4
baz=69
936A North Padre Is 69.02 337 ⇓P P 02 52 12.4 +1.9
baz=70
034A Hebbronville 69.11 336 ⇓P P 02 52 12.1 +1.0
baz=70,SNR=5.9
934A Benavides 69.56 336 ⇓P P 02 52 15.4 +1.5
baz=70
933A Laredo 69.81 336 ⇑P P 02 52 16.4 +0.9
baz=70,SNR=5.2
738A Farr-Stevens R 69.88 339 ⇓P P 02 52 17.0 +1.2
baz=70
835A Beeville 69.99 337 ⇑P P 02 52 18.0 +1.6
baz=70
834A Tilden 70.06 337 ⇑P P 02 52 18.1 +1.2
baz=70,SNR=7.8
833A Chaparral WMA, 70.51 336 ⇓P P 02 52 20.3 +0.6
baz=71,SNR=9.1
735A Kenedy 70.51 338 ⇓P P 02 52 20.9 +1.2
baz=71,SNR=5.8
832A Faith Ranch, C 70.66 335 ⇑P P 02 52 21.3 +0.7
baz=71,SNR=7.4
734A La Parita Cree 70.73 337 ⇑P P 02 52 21.7 +0.9
baz=71
733A Divot King Ran 70.85 336 ⇓P P 02 52 22.6 +0.9
baz=71
636A Smothers Creek 70.88 338 ⇓P P 02 52 23.1 +1.2
baz=71,SNR=9.6
HKT Hockley 70.97 340 eP P 02 52 22.2 -0.2
HKT pmax pmax
comp=Z,9.0nm,1.5s
HKT Hockley 70.97 340 eP P 02 52 22.2 -0.2
comp=Z,9.2nm,1.5s
635A Leesville 71.00 338 ⇓P P 02 52 23.6 +0.9
baz=71
732A Laxson Ranch, 71.07 336 ⇓P P 02 52 23.7 +0.6
baz=72,SNR=10.0
538A Harpers Horsep 71.14 340 ⇑P P 02 52 24.7 +1.2
baz=72
634A China Grove, S 71.17 337 ⇓P P 02 52 24.0 +0.3
baz=72
537A Green Hill Far 71.23 339 ⇓P P 02 52 25.4 +1.4
baz=72,SNR=5.9
536A Bastrop 71.44 339 ⇓P P 02 52 25.9 +0.6
baz=72
633A Saathoff Ranch 71.50 337 ⇑P P 02 52 26.4 +0.7
baz=72,SNR=7.7
535A Dale 71.54 338 ⇓P P 02 52 26.8 +0.9
baz=72
438A Sam Houston St 71.64 340 ⇓P P 02 52 28.0 +1.6
baz=72
632A Uvalde 71.73 336 ⇓P P 02 52 28.1 +0.9
baz=72,SNR=6.7
534A Blanco 71.81 337 ⇓P P 02 52 27.9 +0.3
baz=72
340A Bronson 71.86 342 ⇑P P 02 52 28.6 +0.8
baz=72,SNR=12
437A Phaontom Ranch 71.89 340 ⇑P P 02 52 29.3 +1.3
baz=72
631A Perdido Creek 71.90 335 ⇑P P 02 52 28.6 +0.5
baz=72
339A Huntington 71.95 341 ⇑P P 02 52 29.4 +1.0
baz=72,SNR=9.4
436A Wall Ranch, Ga 72.02 339 ⇑P P 02 52 29.9 +1.2
baz=72
533A Kerrville 72.02 337 ⇑P P 02 52 29.5 +0.6
baz=72,SNR=8.8
LRAL Lakeview Retre 72.02 348 eP P 02 52 28.4 -0.3
comp=Z,20nm,0.9s
338A Crockett 72.17 341 ⇓P P 02 52 31.3 +1.7
baz=73,SNR=8.3
435B Jarrell 72.25 338 ⇑P P 02 52 31.3 +1.2
baz=73
337A Centerville 72.28 340 ⇓P P 02 52 32.0 +1.7
baz=73,SNR=5.4
532A Rocksprings 72.35 336 ⇓P P 02 52 31.6 +0.8
baz=73,SNR=10
NATX Nacogdoches 72.38 341 eP P 02 52 31.2 +0.3
comp=Z,42nm,0.9s
434A Burnet 72.48 338 ⇑P P 02 52 32.2 +0.7
baz=73,SNR=16
239A Gary 72.58 341 ⇓P P 02 52 32.6 +0.5
baz=73
531A Rocksprings 72.59 336 ⇓P P 02 52 32.9 +0.7
baz=73,SNR=6.3
336A Riesel 72.61 339 ⇑P P 02 52 32.5 +0.2
baz=73,SNR=11
JCT Junction City 72.64 336 eP P 02 52 32.4 -0.1
JCT pmax pmax
comp=Z,42nm,1.1s
JCT Junction City 72.64 336 eP P 02 52 32.4 -0.1
comp=Z,42nm,1.1s
JCT Junction City 72.64 336 ⇑P P 02 52 32.7 +0.1
baz=73,SNR=9.3
433A Art 72.68 337 ⇑P P 02 52 32.8 +0.1
baz=73,SNR=10
335A Moody 72.68 339 ⇑P P 02 52 33.2 +0.5
baz=73
238A Jacksonville 72.73 341 ⇑P P 02 52 33.6 +0.6
baz=73
530A J-C Ranch, Com 72.83 335 ⇓P P 02 52 34.1 +0.4
baz=73,SNR=13
TXAR Lajitas Array 72.89 333 P P 02 52 32.6 -1.5
TXAR pmax pmax
comp=Z,8.0nm,0.9s
TXAR Lajitas Array 72.89 333 P P 02 52 32.6 -1.5
comp=Z,7.5nm,0.8s,baz=154,slow=8.9,SNR=20
237A Washetta, Mont 72.91 340 ⇑P P 02 52 35.0 +1.0
baz=73
334A Lometa 72.96 338 ⇑P P 02 52 34.5 +0.1
baz=73,SNR=14
432A Menard 73.01 337 ⇑P P 02 52 34.9 +0.1
baz=74,SNR=6.0
431A Sonora 73.09 336 ⇑P P 02 52 35.3 +0.1
baz=74,SNR=5.8
529A Stev Forest Ra 73.11 334 ⇓P P 02 52 35.6 +0.3
baz=74,SNR=5.3
333A Richland Sprin 73.17 337 ⇓P P 02 52 36.0 +0.3
baz=74,SNR=7.9
138A Matatall Enter 73.35 341 ⇓P P 02 52 37.2 +0.6
baz=74
WHTX Lake Whitney 73.35 339 eP P 02 52 36.0 -0.6
comp=Z,34nm,0.9s
WHTX Lake Whitney 73.35 339 ⇑P P 02 52 37.2 +0.5
baz=74,SNR=9.2
KMSC Kings Mountain 73.39 353 eP P 02 52 36.1 -0.7
comp=Z,22nm,1.0s
430A Baggett Ranch, 73.39 335 ⇑P P 02 52 37.6 +0.6
baz=74,SNR=8.0
429A Davenport Ranc 73.46 335 ⇑P P 02 52 37.8 +0.4
baz=74,SNR=9.5
137A Heron Place, G 73.46 341 ⇓P P 02 52 38.1 +0.8
baz=74
332A Millersview 73.46 337 ⇑P P 02 52 37.5 +0.2
baz=74,SNR=15
234A Clairette 73.56 338 ⇓P P 02 52 37.9 0.0
baz=74,SNR=10
331A San Angelo 73.61 336 ⇓P P 02 52 38.2 -0.1
baz=74,SNR=11
233A Rising Star 73.80 338 ⇓P P 02 52 39.5 +0.2
baz=74,SNR=7.8
135A Vickery Place, 73.87 339 ⇑P P 02 52 40.7 +1.0
baz=74
232A Coleman 73.90 337 ⇑P P 02 52 40.7 +0.7
baz=74
330A Mertzon 73.94 336 ⇓P P 02 52 40.6 +0.4
baz=74
SWET Sewanee 74.00 349 eP P 02 52 39.8 -0.6
comp=Z,68nm,0.9s
134A White-Moore Ra 74.08 339 ⇓P P 02 52 41.5 +0.6
baz=74
231A Bronte 74.15 337 ⇓P P 02 52 41.4 -0.1
baz=75,SNR=9.4
329A Wagon Wheel Ra 74.28 335 ⇑P P 02 52 42.7 +0.5
baz=75
133A Hamilton Ranch 74.35 338 ⇓P P 02 52 42.7 +0.1
baz=75,SNR=7.6
230A Sterling City 74.36 336 ⇑P P 02 52 42.6 -0.1
baz=75
Z35A Perchaven, San 74.56 340 ⇓P P 02 52 44.0 +0.3
baz=75,SNR=9.2
ABTX Abilene, Hawle 74.58 337 eP P 02 52 44.0 0.0
comp=Z,29nm,1.0s
ABTX Abilene, Hawle 74.58 337 ⇑P P 02 52 43.7 -0.2
baz=75,SNR=7.4
229A Bryant Ranch, 74.66 335 ⇑P P 02 52 44.2 -0.2
baz=75,SNR=6.7
Z34A Collier Ranch, 74.78 339 ⇓P P 02 52 45.0 +0.1
baz=75
131A Roby 74.86 337 ⇓P P 02 52 45.4 -0.2
baz=75
Z33A Whitaker Ranch 74.94 338 ⇑P P 02 52 46.1 +0.1
baz=75,SNR=7.1
130A Snyder 74.97 336 ⇑P P 02 52 46.1 -0.1
baz=75
228A UT Block 9, Go 75.06 335 ⇓P P 02 52 47.1 +0.4
baz=76,SNR=6.0
Z32A Haskell 75.17 338 ⇑P P 02 52 47.6 +0.3
baz=76,SNR=7.7
WVT Waverly 75.19 348 eP P 02 52 46.4 -0.9
WVT pmax pmax
comp=Z,16nm,0.7s
WVT Waverly 75.19 348 eP P 02 52 46.4 -0.9
comp=Z,16nm,0.7s
Y34A Reagan Ranch, 75.28 339 ⇓P P 02 52 47.7 -0.1
baz=76
129A Stewart Farms, 75.29 336 ⇑P P 02 52 47.9 -0.1
baz=76
Z31A Sharp Cattle R 75.38 337 ⇑P P 02 52 48.7 +0.2
baz=76,SNR=7.9
128A Castleberry Fa 75.48 335 ⇑P P 02 52 49.3 +0.2
baz=76,SNR=8.5
Y33A Hilltop Ranch, 75.58 339 ⇓P P 02 52 49.6 +0.1
baz=76,SNR=7.4
MNTX Cornudas Mount 75.66 332 eP P 02 52 48.0 -2.1
Z30A Sanderson Ranc 75.66 336 ⇓P P 02 52 50.1 0.0
baz=76,SNR=7.6
CASY Casey 75.75 182 eP P 02 52 50.0 -0.3
comp=Z,17nm,1.1s
Y32A R-V Farms, Ver 75.81 338 ⇓P P 02 52 50.8 -0.1
baz=76,SNR=6.7
Z29A Hungry Hill Ra 75.82 336 ⇓P P 02 52 50.9 -0.1
baz=76,SNR=10
127A Arkansas Junct 75.83 334 ⇓P P 02 52 51.2 0.0
baz=76
X34A Smith Ranch, M 75.91 340 ⇓P P 02 52 52.2 +0.7
baz=76,SNR=6.9
Y31A Rekieta Farm, 76.02 337 ⇑P P 02 52 52.7 +0.5
baz=76
PARMO Parma 76.04 347 eP P 02 52 51.0 -1.1
X33A Lawton 76.04 339 ⇓P P 02 52 53.0 +0.8
baz=76
Z28A Tucker Farm, M 76.06 335 ⇓P P 02 52 53.0 +0.5
baz=76
Y30A Stafford Cattl 76.13 337 ⇑P P 02 52 52.9 0.0
baz=77
X32A Elmer 76.15 338 ⇓P P 02 52 53.1 +0.2
baz=77
PBMO Poplar Bluff 76.27 346 eP P 02 52 53.0 -0.4
comp=Z,15nm,0.8s
Y29A Porterfield Fa 76.36 336 ⇑P P 02 52 54.5 +0.3
baz=77
Z27A Tatum 76.36 335 ⇓P P 02 52 54.3 +0.1
baz=77

W34A Bridge Creek, 76.49 340 eP P 02 52 54.2 -0.6
comp=Z,45nm,1.0s
W34A Bridge Creek, 76.49 340 ⇑P P 02 52 55.1 +0.3
baz=77,SNR=6.0
X31A McDonald Ranch 76.55 338 ⇓P P 02 52 55.5 +0.3
baz=77,SNR=7.1
Z26A Caprock 76.58 334 ⇑P P 02 52 55.8 +0.3
baz=77
Y28A McKinney Farm, 76.59 336 ⇑P P 02 52 55.6 +0.2
baz=77
W33A Caddo, Fort Co 76.61 339 ⇑P P 02 52 56.4 +0.9
baz=77,SNR=12
TUL1 Tulsa 76.61 342 eP P 02 52 55.0 -0.4
comp=Z,45nm,0.9s
TUL1 Tulsa 76.61 342 ⇑P P 02 52 55.8 +0.4
baz=77,SNR=12
X30A Coker Ranch, T 76.65 337 ⇑P P 02 52 56.0 +0.3
baz=77,SNR=6.6
W32A Sentinel 76.80 339 ⇑P P 02 52 57.0 +0.5
baz=77,SNR=11
MSTX Muleshoe 76.82 335 eP P 02 52 56.9 +0.2
comp=Z,17nm,1.0s
MSTX Muleshoe 76.82 335 ⇑P P 02 52 57.2 +0.5
baz=77,SNR=5.9
Z25A Roswell 76.85 334 ⇑P P 02 52 57.3 +0.3
baz=77
Y27A Causey 76.87 335 ⇓P P 02 52 57.3 +0.2
baz=77
319A Douglas 76.87 329 ⇑P P 02 52 57.8 +0.7
baz=77,SNR=7.2
X29A Tulia 76.91 336 ⇓P P 02 52 57.4 +0.2
baz=77,SNR=5.2
V34A Guthrie 76.99 340 eP P 02 52 57.3 -0.2
comp=Z,38nm,1.0s
V34A Guthrie 76.99 340 ⇑P P 02 52 58.2 +0.6
baz=78,SNR=7.0
W31A Holland Ranch, 77.06 338 ⇑P P 02 52 58.4 +0.4
baz=78
Z24A Sheeppen Canyo 77.12 333 ⇓P P 02 52 59.1 +0.5
baz=78,SNR=5.2
Y26A Elida 77.12 335 ⇑P P 02 52 58.8 +0.3
baz=78
X28A Dimmitt 77.13 336 ⇓P P 02 52 59.1 +0.6
baz=78
V33A Lossen Ranch, 77.18 340 ⇓P P 02 52 58.7 +0.1
baz=78,SNR=8.5
V32A Arapaho 77.30 339 ⇑P P 02 53 00.2 +0.9
baz=78
121A Cookes Peak, D 77.30 331 ⇑P P 02 53 00.2 +0.6
baz=78
AMTX Amarillo 77.31 337 eP P 02 52 59.3 -0.2
comp=Z,36nm,1.0s
AMTX Amarillo 77.31 337 ⇑P P 02 53 00.2 +0.8
baz=78
Y25A Mesa, Roswell 77.42 334 ⇓P P 02 53 00.4 +0.2
baz=78
W29A Amraillo 77.52 337 ⇑P P 02 53 01.5 +0.9
baz=78
X27A F and S Farms, 77.54 335 ⇑P P 02 53 01.6 +0.8
baz=78
U34A Anderson Ranch 77.56 340 eP P 02 53 00.2 -0.5
comp=Z,5.2nm,0.4s
U34A Anderson Ranch 77.56 340 ⇑P P 02 53 01.7 +1.0
baz=78
V31A Spring Creek L 77.58 338 ⇑P P 02 53 01.6 +0.6
baz=78,SNR=7.8
Z22A Elephant Butte 77.64 332 ⇓P P 02 53 01.8 +0.4
baz=78
Y24A Capitan 77.68 333 ⇑P P 02 53 02.4 +0.6
baz=78
X26A CR and CF Fran 77.69 335 ⇑P P 02 53 02.6 +0.9
baz=78
DBIC Dimbokro 77.70 71 eP P 02 53 03.1 +1.0
DBIC pmax pmax
comp=Z,19nm,0.7s
DBIC Dimbokro 77.70 71 P P 02 53 02.3 +0.2
comp=Z,11nm,0.8s,baz=201,slow=6.3,SNR=6.7
DBIC Dimbokro 77.70 71 eP P 02 53 03.1 +1.0
comp=Z,19nm,0.7s
U33A Lingo Farm, Me 77.71 340 ⇑P P 02 53 02.7 +1.1
baz=78
V30A Spur Ranch, Mi 77.82 338 ⇓P P 02 53 03.1 +0.8
baz=78
W28A Vega 77.82 336 ⇑P P 02 53 03.2 +0.8
baz=78
U32A Winter Ranch, 77.90 339 ⇓P P 02 53 03.3 +0.6
baz=78,SNR=5.8
Y23A Lovelace Mesa, 77.91 333 ⇑P P 02 53 03.6 +0.6
baz=78
W27A Bowe Ranch, En 77.91 336 ⇓P P 02 53 03.2 +0.4
baz=78,SNR=7.1
X25A Clemmons Ranch 77.96 334 ⇓P P 02 53 03.6 +0.4
baz=78
SLM Saint Louis 78.04 347 eP P 02 53 03.3 0.0
SLM pmax pmax
comp=Z,56nm,1.1s
SLM Saint Louis 78.04 347 eP P 02 53 03.3 0.0
comp=Z,56nm,1.1s
U31A Nine Bar Ranch 78.14 339 ⇓P P 02 53 05.2 +1.2
baz=79
W26A Owens Ranch, T 78.17 335 ⇓P P 02 53 05.0 +0.7
baz=79
V29A Stinnett 78.17 337 ⇓P P 02 53 05.0 +0.8
baz=79
X24A Lazy VL Ranch, 78.26 334 ⇑P P 02 53 05.5 +0.5
baz=79
V28A Channing 78.28 337 ⇑P P 02 53 05.5 +0.6
baz=79
TUC Tucson 78.30 328 eP P 02 53 04.9 -0.2
TUC pmax pmax
comp=Z,9.0nm,1.0s
TUC Tucson 78.30 328 eP P 02 53 04.9 -0.2
comp=Z,9.1nm,1.0s
T33A Patterson Ranc 78.36 340 ⇑P P 02 53 06.1 +1.0
baz=79
V27A Dan Oppiter Fa 78.47 336 ⇓P P 02 53 06.5 +0.5
baz=79
W25A X Bar L Ranch, 78.52 335 ⇑P P 02 53 06.7 +0.4
baz=79,SNR=7.1
U30A WK&E Inc. Balk 78.52 338 ⇓P P 02 53 06.9 +0.7
baz=79
X23A Hourglass Bar 78.54 333 ⇓P P 02 53 06.7 +0.1
baz=79
ACSO Alum Creek Sta 78.59 353 eP P 02 53 06.0 -0.3
comp=Z,26nm,0.8s
U29A Oasis Ranch, S 78.63 338 ⇓P P 02 53 07.0 +0.2
baz=79
T32A Huddler Ranch, 78.63 340 ⇓P P 02 53 06.7 0.0
baz=79
LAZ Ladron 78.73 332 eP P 02 53 07.6 +0.1
T31A Randall Ranch, 78.77 339 ⇓P P 02 53 07.7 +0.2
baz=79
S33A Kaszmaul Farm, 78.77 340 ⇓P P 02 53 07.9 +0.4
baz=79
V26A Tequesquite Ra 78.82 335 ⇓P P 02 53 07.6 -0.3
baz=79
W24A Lazy 6 Ranch, 78.83 334 ⇓P P 02 53 07.6 -0.5
baz=79
214A Organ Pipe Nat 78.85 327 ⇑P P 02 53 07.6 -0.4
baz=79
U28A Mallet 78.86 337 ⇓P P 02 53 07.9 -0.2
baz=79
ANMO Albuquerque 78.97 333 eP P 02 53 09.7 +0.9
ANMO pmax pmax
comp=Z,14nm,1.0s
ANMO Albuquerque 78.97 333 eP P 02 53 09.7 +0.9
comp=Z,14nm,1.0s
T30A Plains 78.97 338 ⇓P P 02 53 10.3 +1.7
baz=79
W23A Werner Place, 79.05 333 ⇑P P 02 53 10.4 +1.1
baz=80
U27A Thompson Grove 79.08 336 ⇑P P 02 53 10.0 +0.7
baz=80
S32A Newby Ranch, P 79.12 340 ⇓P P 02 53 10.4 +1.0
baz=80,SNR=5.0
V25A Rancho No Teng 79.13 335 ⇑P P 02 53 10.3 +0.5
baz=80,SNR=6.5
BOSA Boshof 79.18 118 eP P 02 53 09.8 -0.5
BOSA pmax pmax
comp=Z,33nm,1.2s
BOSA Boshof 79.18 118 P P 02 53 09.3 -1.0
comp=Z,11nm,0.8s,baz=241,slow=4.4,SNR=5.2
BOSA Boshof 79.18 118 eP P 02 53 09.8 -0.5
comp=Z,33nm,1.2s
S31A Mullinville 79.20 339 ⇓P P 02 53 11.2 +1.3
baz=80
TSUM Tsumeb 79.23 106 P P 02 53 10.8 +0.1
comp=Z,6.5nm,1.2s,baz=251,slow=7.6,SNR=3.7

TSUM Tsumeb 79.23 106 eP P 02 53 10.3 -0.4
comp=Z,10nm,1.2s
SFIN Scholer Farm 79.23 350 ⇓P P 02 53 11.7 +1.9
baz=80
V24A Rampart Ranch, 79.25 334 ⇑P P 02 53 11.3 +0.9
baz=80
T29A Hugoton 79.29 338 ⇑P P 02 53 11.5 +1.1
baz=80
U26A Atchley Ranch, 79.35 336 ⇑P P 02 53 11.8 +0.9
baz=80
R33A Olander Ranch, 79.44 341 ⇓P P 02 53 12.2 +1.1
baz=80
S30A Montezuma 79.50 339 ⇓P P 02 53 12.5 +1.1
baz=80
T28A Walsh 79.50 337 ⇓P P 02 53 11.9 +0.3
baz=80,SNR=8.1
U25A Circle Dot Ran 79.57 335 ⇓P P 02 53 12.9 +0.8
baz=80
V23A Ortiz Mt. (NFS 79.59 334 ⇓P P 02 53 13.3 +1.0
baz=80
T27A Campo 79.64 337 ⇑P P 02 53 13.3 +0.9
baz=80
S29A Ulysses 79.67 338 ⇑P P 02 53 13.2 +0.8
baz=80
R32A Long Quarter, 79.74 340 ⇓P P 02 53 13.7 +0.9
baz=80
R31A Burdett 79.84 340 ⇓P P 02 53 13.7 +0.4
baz=80,SNR=5.2
KSU1 Kansas State U 79.84 342 eP P 02 53 13.3 0.0
comp=Z,17nm,0.9s
KSU1 Kansas State U 79.84 342 ⇑P P 02 53 14.0 +0.8
baz=80
S28A Manter 79.87 337 ⇓P P 02 53 14.0 +0.4
baz=80,SNR=5.2
X18A Snowflake 79.91 330 ⇓P P 02 53 14.7 +0.7
baz=80
113A Mohawk Valley, 79.96 326 ⇑P P 02 53 15.3 +1.3
baz=80
V22A San Miguel Ran 80.00 333 ⇑P P 02 53 15.3 +0.9
baz=80,SNR=7.4
T26A Comanche Natio 80.02 336 ⇑P P 02 53 15.2 +0.7
baz=80,SNR=5.6
R30A Dighton 80.04 339 ⇓P P 02 53 15.6 +1.2
baz=80
Q33A Connelly Farm, 80.05 341 ⇓P P 02 53 15.7 +1.3
baz=80
Z14A Wintersburg 80.11 327 ⇓P P 02 53 15.7 +0.9
baz=80
U23A El Rito 80.12 334 ⇑P P 02 53 16.3 +1.2
baz=81,SNR=6.3
Q32A Meitler Ranch, 80.23 340 ⇓P P 02 53 16.8 +1.4
baz=81
T25A Trinidad 80.25 335 ⇑P P 02 53 17.0 +1.2
baz=81,SNR=8.1
W18A Petrified Fore 80.34 331 ⇓P P 02 53 17.0 +0.7
baz=81
S26A Kim 80.39 336 ⇓P P 02 53 17.6 +1.2
baz=81,SNR=10
U22A Llaves 80.39 333 ⇓P P 02 53 17.8 +1.2
baz=81
X16A Lo Mia Camp, P 80.40 329 ⇓P P 02 53 17.6 +1.0
baz=81,SNR=7.4
R29A Marienthal 80.42 338 ⇓P P 02 53 18.0 +1.6
baz=81
P33A Williams Farm, 80.43 341 ⇑P P 02 53 17.5 +1.1
baz=81
Q31A Ellis 80.47 340 ⇑P P 02 53 17.9 +1.2
baz=81
T24B San Luis 80.50 335 ⇓P P 02 53 18.3 +1.1
baz=81
R28A Tribune 80.54 338 ⇓P P 02 53 18.3 +1.2
baz=81
Y14A Wickenburg 80.63 328 ⇓P P 02 53 19.1 +1.3
baz=81
GLA Glamis 80.66 326 ⇓P P 02 53 18.8 +0.9
baz=81
Q30A Quinter 80.67 339 ⇓P P 02 53 18.3 +0.5
baz=81,SNR=5.7
T23A Casias Ranch, 80.70 334 ⇑P P 02 53 19.1 +0.9
baz=81
S25A Robets Cordova 80.73 336 ⇓P P 02 53 19.8 +1.5
baz=81
R27A Eads 80.79 337 ⇑P P 02 53 19.1 +0.6
baz=81,SNR=6.2
P32A Huiting Farm, 80.84 341 ⇓P P 02 53 19.5 +0.9
baz=81
P31A Stockton 80.95 340 ⇑P P 02 53 20.7 +1.4
baz=81
S24A Houchin Ranch, 80.97 335 ⇑P P 02 53 21.1 +1.4
baz=81,SNR=8.7
R26A Arlington 81.00 337 ⇑P P 02 53 20.7 +1.0
baz=82,SNR=8.4
SWSC Sam W. Stewart 81.00 325 ⇓P P 02 53 20.5 +0.9
baz=81
Y12C Blythe 81.12 326 ⇑P P 02 53 21.4 +1.2
baz=82
R25A Fountain Ranch 81.13 336 ⇑P P 02 53 21.3 +1.0
baz=82
SDCO Great Sand Dun 81.16 335 eP P 02 53 20.4 -0.3
comp=Z,7.3nm,1.0s
Q28A Sharon Springs 81.21 338 ⇓P P 02 53 22.0 +1.3
baz=82
MONP Monument Peak 81.24 325 ⇑P P 02 53 22.0 +0.8
baz=82
WUAZ Wupatki 81.33 330 ⇑P P 02 53 22.8 +1.3
baz=82
O32A Brockman Farm, 81.36 341 ⇓P P 02 53 22.7 +1.4
baz=82
KSCO Kaye Shedlock' 81.40 337 ⇑P P 02 53 22.6 +0.8
baz=82
PDMCI Parker Dam,Lak 81.43 327 ⇓P P 02 53 23.0 +1.2
baz=82
BC3 Big Chuckawall 81.45 326 ⇓P P 02 53 23.0 +0.9
baz=82
P29A Atwood 81.45 339 ⇓P P 02 53 23.2 +1.2
baz=82
R24A Sanders Place, 81.47 335 ⇑P P 02 53 23.6 +1.3
baz=82,SNR=10
Q26A Hugo 81.59 337 ⇓P P 02 53 24.0 +1.2
baz=82
S22A 4UR Ranch, Cre 81.61 334 ⇑P P 02 53 24.2 +1.0
baz=82,SNR=7.6
LBTB Lobatse 81.62 115 eP P 02 53 23.6 +0.1
LBTB pmax pmax
comp=Z,26nm,1.1s
LBTB Lobatse 81.62 115 eP P 02 53 23.6 +0.1
comp=Z,26nm,1.1s
P28A Saint Francis 81.66 338 ⇑P P 02 53 24.5 +1.4
baz=82
R23A Moffat 81.67 335 ⇑P P 02 53 24.4 +1.0
baz=82
MVCO Mesa Verde 81.73 332 eP P 02 53 24.7 +1.1
comp=Z,15nm,1.1s
MVCO Mesa Verde 81.73 332 ⇓P P 02 53 24.2 +0.5
baz=82
IRM Iron Mountain 81.75 326 ⇑P P 02 53 25.0 +1.4
baz=82
O30A MW Ranch, Wils 81.75 340 ⇓P P 02 53 24.7 +1.2
baz=82
Q25A Bedland, Calha 81.81 336 ⇑P P 02 53 25.0 +1.0
baz=82
PFO Pinyon Flat Ob 81.86 325 ⇓P P 02 53 25.6 +1.3
baz=82
MDV Middlebury 81.88 0 eP P 02 53 23.5 -0.4
comp=Z,77µm,0.7s
P27A Ficken Ranch, 81.89 338 ⇓P P 02 53 25.5 +1.1
baz=82
W13A Hualapai Mount 82.00 328 ⇓P P 02 53 26.3 +1.1
baz=82
P26A Davis Ranch, A 82.12 337 ⇑P P 02 53 27.2 +1.6
baz=83
Q24A Divide 82.15 336 ⇓P P 02 53 27.1 +1.2
baz=83,SNR=5.9
O28A Krutsinger Ran 82.18 339 ⇑P P 02 53 27.4 +1.6
baz=83
MURC Murrieta 82.19 324 ⇓P P 02 53 27.5 +1.5
baz=83
P25A Willow Gulch B 82.33 337 ⇓P P 02 53 27.9 +1.1
baz=83,SNR=5.7
BGNE Belgrade 82.41 342 ⇓P P 02 53 28.4 +1.6
baz=83
O27A Beecher Island 82.44 338 ⇓P P 02 53 28.6 +1.4
baz=83
U15A North Rim 82.49 329 ⇑P P 02 53 28.7 +1.0
baz=83,SNR=7.9
GMRC Granite Mounta 82.49 326 ⇓P P 02 53 28.7 +1.1
baz=83
N29A Votaw Ranch, W 82.50 340 ⇑P P 02 53 28.6 +1.1

baz=83
LONY Lake Ozonia 82.50 359 eP P 02 53 27.9 +0.7
comp=Z,22nm,1.0s
M31A Lambtecht Ranc 82.55 341 ⇑P P 02 53 28.9 +1.2
baz=83
P24A Kohler Place, 82.57 336 ⇑P P 02 53 29.1 +1.1
baz=83
O26A Horse Wrangler 82.74 337 ⇑P P 02 53 30.0 +1.2
baz=83
P23A Jefferson 82.75 335 ⇓P P 02 53 30.5 +1.4
baz=83
O25A Wiggins 82.87 337 ⇓P P 02 53 30.9 +1.4
baz=83
BFSC Mount Baldy Ra 82.94 324 ⇓P P 02 53 30.9 +1.0
baz=83
SMCO Snowmass 82.95 334 eP P 02 53 31.5 +1.3
comp=Z,22nm,1.3s
N27A Anderson Farm, 83.03 338 ⇑P P 02 53 31.6 +1.4
baz=84
ISCO Idaho Springs 83.06 336 eP P 02 53 31.5 +0.9
ISCO Idaho Springs 83.06 336 eP P 02 53 31.5 +0.9
ISCO Idaho Springs 83.06 336 ⇑P P 02 53 31.8 +1.2
baz=84
M29A Burnside Ranch 83.10 340 ⇓P P 02 53 31.5 +1.0
baz=84
TUQ Turquoise Moun 83.16 326 ⇑P P 02 53 32.0 +0.9
baz=84
M28A Bar X Bar Ranc 83.24 339 ⇓P P 02 53 32.4 +1.1
baz=84
P22A Eagle 83.25 335 ⇓P P 02 53 32.3 +0.8
baz=84
N26A Koester Ranch, 83.25 338 ⇑P P 02 53 32.4 +1.0
baz=84
L31A Butterfield Fa 83.30 341 ⇓P P 02 53 32.9 +1.4
baz=84,SNR=6.5
L30A Spencer Herefo 83.31 341 ⇑P P 02 53 32.8 +1.2
baz=84
GSC Goldstone 83.44 326 ⇓P P 02 53 33.5 +1.1
baz=84
O23A Lake Granby, G 83.53 336 ⇓P P 02 53 33.8 +0.7
baz=84,SNR=6.9
EDW2 Edwards Air Fo 83.62 325 ⇓P P 02 53 34.8 +1.4
baz=84
L29A Maesberg Ranch 83.62 340 ⇑P P 02 53 34.3 +1.1
baz=84
BSC Santa Cruz Isl 83.65 323 ⇓P P 02 53 34.1 +0.6
baz=84
O22A Kremmling 83.69 335 ⇓P P 02 53 34.9 +1.0
baz=84,SNR=6.8
OSI Osito Adit 83.74 324 ⇑P P 02 53 34.4 +0.5
baz=84
N24A Carr 83.76 337 ⇑P P 02 53 35.3 +1.2
baz=84
CCUT Cedar City 83.89 329 eP P 02 53 34.5 -0.4
comp=Z,14nm,1.1s
K30A Basset 83.97 341 ⇓P P 02 53 36.0 +1.1
baz=84
LRMC Laurel Mountai 83.98 325 ⇓P P 02 53 35.9 +0.7
baz=84
M25A Palm-Egli Farm 84.06 337 ⇓P P 02 53 36.3 +0.7
baz=84
ARUT Antelope Range 84.12 329 eP P 02 53 36.6 +0.6
ARUT Antelope Range 84.12 329 eP P 02 53 36.6 +0.6
SRU San Rafael 84.15 332 eP P 02 53 36.8 +0.7
SRU pmax pmax
comp=Z,11nm,1.0s
SRU San Rafael 84.15 332 eP P 02 53 36.8 +0.7
comp=Z,11nm,1.0s
N23A Red Feather La 84.16 336 ⇑P P 02 53 36.7 +0.5
baz=85
N22A Wattenberg Ran 84.24 336 ⇑P P 02 53 37.6 +0.9
baz=85
O20A White River Ci 84.24 334 ⇑P P 02 53 37.7 +1.1
baz=85
ECSD EROS Data Cent 84.24 343 eP P 02 53 36.4 +0.1
comp=Z,29nm,0.9s
ECSD EROS Data Cent 84.24 343 ⇑P P 02 53 36.6 +0.4
baz=85,SNR=11
MVU Marysvale 84.26 330 eP P 02 53 38.1 +1.4
comp=Z,9.6nm,1.2s
M24A Cheyenne 84.32 337 ⇓P P 02 53 37.7 +0.8
baz=85
PHWY Pilot Hill 84.37 336 eP P 02 53 37.5 +0.2
comp=Z,10nm,1.1s
K28A Ten Mile Ranch 84.47 340 ⇑P P 02 53 38.6 +1.1
baz=85
ISA Isabella 84.49 325 ⇑P P 02 53 38.4 +0.6
baz=85
TMUT Trail Mountain 84.57 332 eP P 02 53 39.4 +1.1
comp=Z,14nm,0.9s
M23A Laramie 84.60 336 ⇑P P 02 53 39.4 +1.0
baz=85
L25A Engebretsen Ra 84.69 338 ⇑P P 02 53 39.7 +1.0
baz=85
K27A Flueckinger Fa 84.70 339 ⇓P P 02 53 39.7 +1.0
baz=85,SNR=5.2
J29A Okreek 84.83 341 ⇓P P 02 53 40.2 +0.9
baz=85
N20A Spence Gulch, 84.87 334 ⇓P P 02 53 40.7 +0.9
baz=85
SPMN St. Paul 84.89 346 eP P 02 53 38.3 -1.2
comp=Z,16nm,0.9s
SPMN St. Paul 84.89 346 ⇑P P 02 53 40.6 +1.1
baz=85
VES Vestal, Richgr 84.91 324 ⇓P P 02 53 40.8 +1.0
baz=85
K26A Motz Farm, Whi 84.96 339 ⇑P P 02 53 41.4 +1.4
baz=85
I30A Oacoma 85.08 342 ⇑P P 02 53 41.5 +1.0
baz=86
J28A Allard Ranch, 85.09 340 ⇓P P 02 53 41.6 +1.0
baz=86
GRAC Grapevine Rang 85.11 326 ⇑P P 02 53 42.1 +1.3
baz=86
J27A Elkhorn Farm, 85.14 340 ⇓P P 02 53 42.2 +1.3
baz=86,SNR=7.0
L22A Ellis Ranch, M 85.34 336 ⇑P P 02 53 42.9 +0.8
baz=86
MPU Maple Canyon 85.35 332 eP P 02 53 43.2 +1.0
BRSD Miller 85.46 342 eP P 02 53 41.6 -0.7
comp=Z,9.6nm,0.6s
BRSD Miller 85.46 342 ⇓P P 02 53 43.2 +0.9
baz=86
R11A Troy Canyon, C 85.48 328 ⇓P P 02 53 44.3 +1.4
baz=86,SNR=7.4
J26A Sides Ranch, S 85.49 339 ⇑P P 02 53 43.6 +0.9
baz=86
I28A Midland 85.61 340 ⇑P P 02 53 43.6 +0.5
baz=86,SNR=8.2
J25A Sunshine Ranch 85.77 338 ⇑P P 02 53 44.8 +0.8
baz=86
JLU Jordanelle 85.80 332 eP P 02 53 43.7 -0.7
comp=Z,11nm,1.1s
I27A Quinn 85.91 340 ⇓P P 02 53 45.2 +0.5
baz=86
K22A Casper 85.93 336 eP P 02 53 44.6 -0.3
comp=Z,19nm,1.4s
K22A Casper 85.93 336 ⇓P P 02 53 45.4 +0.5
baz=86,SNR=5.5
TPH Tonopah 85.94 327 eP P 02 53 45.9 +0.7
TPH pmax pmax
comp=Z,15nm,1.0s
TPH Tonopah 85.94 327 eP P 02 53 45.9 +0.7
comp=Z,15nm,1.0s
H29A Onida 85.94 341 ⇑P P 02 53 45.6 +0.8
baz=86
DUG Dugway 85.95 331 eP P 02 53 45.8 +0.7
DUG pmax pmax
comp=Z,16nm,1.0s
DUG Dugway 85.95 331 eP P 02 53 45.8 +0.7
comp=Z,16nm,1.0s
DUG Dugway 85.95 331 ⇓P P 02 53 45.9 +0.8
baz=86,SNR=11
J24A Dixon Ranch, L 85.97 338 ⇑P P 02 53 45.8 +0.7
baz=86
I26A New Underwood 86.09 339 ⇓P P 02 53 46.1 +0.5
baz=87
K21A Alcova 86.14 336 ⇑P P 02 53 46.3 +0.2
baz=87,SNR=8.2
G30A Faulkton 86.15 342 ⇑P P 02 53 46.3 +0.5
baz=87
H28A Mission Ridge 86.20 341 ⇓P P 02 53 46.5 +0.5
baz=87
TCUT Toone Canyon 86.23 332 eP P 02 53 46.5 -0.1
comp=Z,30nm,1.3s
MLAC Mammoth Lakes 86.28 326 ⇓P P 02 53 46.8 -0.1
baz=87
I25A Rochford 86.33 339 ⇓P P 02 53 47.0 +0.1

baz=87
G29A Hoven 86.40 342 ⇑P P 02 53 47.4 +0.4
baz=87
H27A Howes 86.44 340 ⇓P P 02 53 47.7 +0.4
baz=87,SNR=5.7
I24A Kuemmerle Ranc 86.44 338 ⇓P P 02 53 47.3 -0.1
baz=87
RSSD Black Hills 86.51 339 eP P 02 53 44.9 -2.9
RSSD pmax pmax
comp=Z,5.0nm,0.9s
RSSD Black Hills 86.51 339 eP P 02 53 44.9 -2.9
comp=Z,5.5nm,0.9s
G28A Parade 86.54 341 ⇓P P 02 53 48.3 +0.6
baz=87,SNR=6.0
J22A Midwest 86.60 337 ⇓P P 02 53 48.2 0.0
baz=87
NVAR Mina Array Bea 86.71 326 P P 02 53 48.6 -0.4
comp=Z,2.9nm,0.8s,baz=157,slow=6.1,SNR=8.2
HWUT Hardware Ranch 86.72 332 eP P 02 53 48.5 -0.4
comp=Z,29nm,1.1s
SPUT South Promonto 86.78 332 eP P 02 53 48.6 -0.5
comp=Z,15nm,1.0s
F30A Leola 86.79 342 ⇑P P 02 53 49.3 +0.4
baz=87
TORD Torodi Ar. Bea 86.80 71 P P 02 53 49.9 +0.3
comp=Z,2.5nm,0.7s,baz=215,slow=4.9,SNR=6.3
H25A Fruitdale 86.85 339 ⇓P P 02 53 49.5 +0.2
baz=87,SNR=5.5
J21A Lysite 86.85 336 ⇓P P 02 53 50.1 +0.7
baz=87
F29A Eureka 86.98 342 ⇑P P 02 53 50.0 +0.1
baz=88
BW06 Boulder Array 87.03 334 eP P 02 53 49.6 -0.8
comp=Z,5.6nm,1.0s
PDAR Pinedale Array 87.03 334 P P 02 53 49.4 -1.1
comp=Z,4.9nm,0.9s,baz=145,slow=5.6,SNR=10
I22A 9 Mile Ranch, 87.03 337 ⇓P P 02 53 50.5 +0.2
baz=88
J20A Shoshoni 87.06 336 ⇓P P 02 53 51.0 +0.6
baz=88,SNR=11
G27A Dupree 87.09 340 ⇑P P 02 53 50.8 +0.4
baz=88,SNR=6.6
G26A Maurine 87.19 340 ⇓P P 02 53 51.2 +0.3
baz=88,SNR=6.6
I21A Big Trails, Te 87.22 336 ⇓P P 02 53 51.1 -0.1
baz=88
H24A Dirks Ranch, A 87.23 338 ⇓P P 02 53 51.6 +0.4
baz=88
F28A McLaughlin 87.23 341 ⇑P P 02 53 51.7 +0.7
baz=88,SNR=5.2
J19A Crowheart 87.30 335 ⇓P P 02 53 51.8 +0.2
baz=88,SNR=9.8
HVU Hansel Valley 87.31 332 eP P 02 53 52.2 +0.5
HVU pmax pmax
comp=Z,14nm,0.9s
HVU Hansel Valley 87.31 332 eP P 02 53 52.2 +0.5
comp=Z,14nm,0.9s
G25A Newell 87.32 339 ⇓P P 02 53 52.6 +1.0
baz=88,SNR=5.3
E30A Jud 87.39 343 ⇓P P 02 53 52.4 +0.6
baz=88
F27A Lemmon 87.57 341 ⇓P P 02 53 53.3 +0.6
baz=88,SNR=6.1
I20A Worland 87.61 336 ⇓P P 02 53 53.9 +0.8
baz=88,SNR=5.7
E29A Napoleon 87.62 342 ⇓P P 02 53 53.5 +0.6
baz=88
H22A Clermont 87.63 337 ⇓P P 02 53 53.7 +0.5
baz=88
F26A Lodgepole 87.72 340 ⇑P P 02 53 53.5 0.0
baz=88
E28A Huff 87.89 342 ⇑P P 02 53 54.5 +0.3
baz=88
D30A Buchanan 87.92 343 ⇓P P 02 53 54.7 +0.4
baz=88
I19A Meeteetse 87.97 335 ⇓P P 02 53 54.7 -0.2
baz=88
E27A Carson 87.97 341 ⇓P P 02 53 54.8 +0.2
baz=88
F25A Bowman 88.01 340 ⇑P P 02 53 54.7 -0.1
baz=88
H20A Greybull 88.05 336 ⇓P P 02 53 55.2 +0.1
baz=88,SNR=5.7
D29A Pettibone, Tap 88.08 343 ⇓P P 02 53 56.0 +0.9
baz=89
LOHW Long Hollow 88.14 334 eP P 02 53 56.0 +0.3
TPAW Teton Pass 88.15 334 eP P 02 53 56.3 +0.5
comp=Z,9.7nm,0.9s
G22A Birney 88.18 338 ⇓P P 02 53 56.1 +0.4
baz=89
F24A Ekalaka 88.21 339 ⇑P P 02 53 56.2 +0.4
baz=89
E26A Carlson Angus 88.24 340 ⇑P P 02 53 56.4 +0.5
baz=89
F23A Volborg 88.37 338 ⇑P P 02 53 57.5 +0.9
baz=89
I17A Pilgrim Ck. 88.40 334 ⇓P P 02 53 57.7 +0.7
baz=89,SNR=6.7
C30A Mose, Pekin 88.42 343 ⇓P P 02 53 57.5 +0.8
baz=89,SNR=6.8
AGMN Agassiz Nation 88.43 345 eP P 02 53 56.1 -0.5
comp=Z,18nm,1.1s
AGMN Agassiz Nation 88.43 345 ⇓P P 02 53 57.0 +0.3
baz=89,SNR=5.4
D28A Regan 88.43 342 ⇑P P 02 53 56.8 +0.1
baz=89,SNR=8.3
G21A Lodge Grass 88.46 337 ⇓P P 02 53 57.9 +0.9
baz=89
IMW Indian Meadow 88.50 334 eP P 02 53 58.0 +0.4
E25A Miller Ranch, 88.52 340 ⇓P P 02 53 58.1 +0.9
baz=89
H19A Powell 88.53 336 ⇓P P 02 53 58.1 +0.7
baz=89
D27A Center 88.59 341 ⇑P P 02 53 58.2 +0.7
baz=89
F22A Rosebud 88.67 338 ⇓P P 02 53 58.7 +0.7
baz=89
D26A Manning 88.75 341 ⇓P P 02 53 58.7 +0.4
baz=89
H18A Shoshone NF, C 88.76 335 ⇑P P 02 53 58.9 +0.3
baz=89,SNR=6.4
G20A Bridger 88.77 336 ⇓P P 02 53 59.0 +0.5
baz=89
E24A Baker 88.82 339 ⇓P P 02 53 59.5 +0.9
baz=89
C28A Hausauer Farms 88.88 342 ⇓P P 02 53 59.7 +0.9
baz=89
B30A Myrvik Farm, E 89.09 344 ⇓P P 02 54 00.7 +0.9
baz=90,SNR=9.7
D25A Fairfield 89.10 340 ⇑P P 02 54 00.5 +0.6
baz=90
C27A Sayler Ranch, 89.15 342 ⇓P P 02 54 00.7 +0.6
baz=90,SNR=5.1
YMR Madison River 89.19 334 eP P 02 54 01.2 +0.6
comp=Z,15nm,0.9s
F20A Billings 89.27 337 ⇓P P 02 54 01.5 +0.6
baz=90
D24A Glendive 89.34 340 ⇓P P 02 54 01.8 +0.8
baz=90
B29A Wagenman Farm, 89.34 343 ⇓P P 02 54 01.9 +0.9
baz=90
C26A Wahner Farm, P 89.40 341 ⇑P P 02 54 02.0 +0.7
baz=90
HLID Hailey 89.46 332 eP P 02 54 02.3 +0.4
comp=Z,9.2nm,1.1s
HLID Hailey 89.46 332 ⇑P P 02 54 02.7 +0.8
baz=90,SNR=9.6
QLMT Earthquake Lak 89.49 334 eP P 02 54 02.9 +0.9
A30A Hoffart Farm, 89.55 344 ⇑P P 02 54 02.8 +0.8
baz=90
B28A Dugan Ranch, T 89.56 343 ⇓P P 02 54 02.8 +0.8
baz=90,SNR=5.7
F19A Roth Farm, Mol 89.57 336 ⇓P P 02 54 02.8 +0.6
baz=90
C25A Freed Ranch, W 89.60 340 ⇓P P 02 54 03.3 +1.0
baz=90
LSZ Lusaka 89.61 109 eP P 02 54 04.2 +0.9
LSZ pmax pmax
comp=Z,11nm,1.2s
LSZ Lusaka 89.61 109 eP P 02 54 04.2 +0.9
comp=Z,11nm,1.2s
D23A Lindsay 89.63 339 ⇑P P 02 54 03.9 +1.4
baz=90
A29A Manning Farm, 89.74 343 ⇑P P 02 54 03.3 +0.5
baz=90,SNR=8.3
C24A Savage 89.74 340 ⇑P P 02 54 03.5 +0.6
baz=90
MFID Camas Ranch 89.87 331 eP P 02 54 03.8 0.0
comp=Z,7.1nm,1.0s
E20A Meyer Farm, Mu 89.89 337 ⇑P P 02 54 04.1 +0.5
baz=90
A28A Rude Farm, Bot 89.97 343 ⇓P P 02 54 04.3 +0.4
baz=90
MCMT McKenzie Canyo 89.98 333 eP P 02 54 05.0 +0.6
comp=Z,5.8nm,1.2s
D21A La Casta Ranch 90.05 338 ⇑P P 02 54 05.0 +0.6
baz=90
E19A Rath Farm, Rou 90.06 336 ⇑P P 02 54 04.9 +0.4
baz=90
B25A Knox Farm, Ray 90.09 341 ⇑P P 02 54 05.2 +0.7
baz=91
WVOR Wild Horse Val 90.17 328 eP P 02 54 06.3 +1.1
WVOR pmax pmax
comp=Z,13nm,1.4s
WVOR Wild Horse Val 90.17 328 eP P 02 54 06.3 +1.1
comp=Z,13nm,1.4s
ULM Lac du Bonnet 90.30 346 eP P 02 54 02.6 -2.8
ULM pmax pmax
comp=Z,10.0nm,1.3s
ULM Lac du Bonnet 90.30 346 P P 02 54 01.6 -3.7
comp=Z,5.8nm,0.9s,baz=120,slow=3.1,SNR=4.8
ULM Lac du Bonnet 90.30 346 eP P 02 54 02.6 -2.8
comp=Z,9.5nm,1.3s
C22A Vida 90.35 339 ⇓P P 02 54 06.4 +0.6
baz=91
D20A Manuel Ranch, 90.42 337 ⇓P P 02 54 06.9 +0.8
baz=91
DGMT Dagmar 90.54 340 ⇑P P 02 54 07.1 +0.5
baz=91
A25A Svangstu Ranch 90.69 341 ⇓P P 02 54 08.5 +1.2
baz=91
LRM Limekiln Ridge 90.70 334 eP P 02 54 07.3 -0.5
C21A Desert Coulee 90.77 338 ⇓P P 02 54 08.0 +0.3
baz=91
A24A Westby 90.91 340 ⇑P P 02 54 08.9 +0.6
baz=91
C20A Veseth Ranch, 90.94 338 ⇑P P 02 54 08.9 +0.4
baz=91
A23A Redstone 91.17 340 ⇑P P 02 54 10.0 +0.5
baz=92
HRY Holter Researc 91.27 335 eP P 02 54 10.6 +0.4
comp=Z,6.6nm,1.3s
A22A Carney Farms, 91.49 339 ⇑P P 02 54 11.2 +0.6
baz=92
B20A Solberg Farm, 91.59 338 ⇓P P 02 54 11.8 +0.3
baz=92
K04D Chiloquin, OR 91.65 327 ⇓P P 02 54 11.8 -0.2
baz=92
A21A Bergtoll Ranch 91.77 339 ⇓P P 02 54 12.9 +0.5
baz=92
CHMT Chamberlain Mo 91.93 334 eP P 02 54 13.8 +0.4
comp=Z,6.4nm,1.4s
SWMT Swartz Lake 92.70 334 eP P 02 54 16.9 +0.1
comp=Z,3.5nm,1.0s
SCHQ Schefferville 92.90 4 P P 02 54 16.1 -1.2
comp=Z,2.4nm,0.7s,baz=167,slow=4.2,SNR=3.8
JTMT Jette 93.00 334 eP P 02 54 18.1 -0.1
comp=Z,1.4nm,0.6s
BLMT Blacktail Moun 93.26 334 eP P 02 54 19.6 +0.2
comp=Z,5.3nm,0.8s
BSMT Bassoo Peak 93.27 334 eP P 02 54 19.5 0.0
comp=Z,6.5nm,1.2s
TAM Tamanrasset 95.73 66 eP P 02 54 31.0 -0.4
TAM pmax pmax
comp=Z,5.0nm,1.3s
TAM Tamanrasset 95.73 66 eP P 02 54 31.0 -0.4
comp=Z,5.2nm,1.3s
YKA Yellowknife Ar 105.69 342 Pdiff Pdif 02 55 15.4 +0.8
comp=Z,0.2nm,0.7s,baz=146,slow=4.7,SNR=3.2
CTA Charters Tower 110.97 220 P Pdif 02 55 39.6 +0.2
CTA pmax pmax
comp=Z,3.0nm,0.8s
CTA Charters Tower 110.97 220 Pdiff Pdif 02 55 39.5 +0.2
comp=Z,3.0nm,0.8s,baz=37,slow=5.1,SNR=2.7
GERES GERESS Array B 115.98 47 PKIKP PKPdf 02 59 46.9 -0.6
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 115.98 47 PKP PKPdf 02 59 46.9 -0.6
comp=Z,1.5nm,0.8s,baz=211,slow=1.6,SNR=8.3
WRA Warramunga Arr 116.46 209 PKIKP PKPdf 02 59 47.6 -1.7
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 116.46 209 PKP PKPdf 02 59 47.5 -1.7
comp=Z,1.0nm,0.8s,baz=132,slow=1.6,SNR=3.5
WRAB Tennant Creek 116.46 209 ePKIKP PKPdf 02 59 48.4 -0.9
WRAB Tennant Creek 116.46 209 ePKPdf PKPdf 02 59 48.4 -0.9
ILAR Eielson Array 117.41 332 PKIKP PKPdf 02 59 47.4 -2.2
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 117.41 332 PKP PKPdf 02 59 47.4 -2.2
comp=Z,0.8nm,0.9s,baz=179,slow=2.5,SNR=4.1
MORC Moravsky Berou 118.64 48 ePKIKP PKPdf 02 59 52.5 0.0
MORC Moravsky Berou 118.64 48 ePKPdf PKPdf 02 59 52.5 0.0
BZS Buzias 119.28 53 ⇓PKIKP PKPdf 02 59 53.8 0.0
BZS Buzias 119.28 53⇓iP PKPdf 02 59 53.8 0.0
NOA NORSAR Array B 120.25 34 PKIKP PKPdf 02 59 54.7 -0.5
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 120.25 34 PKP PKPdf 02 59 54.7 -0.5
comp=Z,0.8nm,0.8s,baz=248,slow=2.3,SNR=3.2
DRGR 120.47 52 ⇑PKIKP PKPdf 02 59 55.9 -0.2
DRGR 120.47 52⇑iP PKPdf 02 59 55.8 -0.3
TRPA Tarpa 120.92 51⇑iP PKPdf 02 59 56.4 -0.4
HFS Hagfors 120.99 36 PKIKP PKPdf 02 59 55.8 -0.8
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 120.99 36 PKP PKPdf 02 59 55.8 -0.8
comp=Z,1.9nm,0.7s,baz=193,slow=5.9,SNR=3.6
ARR Arges 121.09 55⇓iP PKPdf 02 59 57.2 -0.2
KWP Kalwaria Pacla 121.62 49 ⇑PKIKP PKPdf 02 59 58.5 +0.3
KWP Kalwaria Pacla 121.62 49⇑iP PKPdf 02 59 58.5 +0.3
KWP Kalwaria Pacla 121.62 49 ePKPdf PKPdf 02 59 58.9 +0.7
MLR Muntele Rosu 121.98 55 PKIKP PKPdf 02 59 59.7 +0.5
MLR pmax pmax
comp=Z,1.0nm,0.8s
MLR Muntele Rosu 121.98 55⇓iP PKPdf 03 00 02.1 +2.9
MLR Muntele Rosu 121.98 55 PKP PKPdf 02 59 59.7 +0.5
comp=Z,0.8nm,0.8s,baz=159,slow=11
BUR08 Bucovina Ar. S 122.36 52 ePKPdf PKPdf 03 00 00.7 +0.9
VRI Vrincioaia 122.64 55 ⇑PKIKP PKPdf 02 59 59.8 -0.5
VRI Vrincioaia 122.64 55⇑iP PKPdf 02 59 59.8 -0.5
TESR Tescani 122.84 54⇑iP PKPdf 02 59 58.0 -2.6
CFR Carcaliu 123.28 56 ⇑PKIKP PKPdf 03 00 01.4 -0.1
CFR Carcaliu 123.28 56⇑iP PKPdf 03 00 01.4 -0.1
SUW Suwalki 123.52 45 ePKIKP PKPdf 03 00 00.7 -1.0
SUW Suwalki 123.52 45 ePKPdf PKPdf 03 00 00.7 -1.0
BRTR Keskin Array B 124.89 64 PKIKP PKPdf 03 00 04.9 -0.1
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 124.89 64 PKP PKPdf 03 00 04.8 -0.1
comp=Z,1.4nm,0.7s,baz=218,slow=3.7,SNR=5.7
TNA Tin City 125.85 329 ePKPdf PKPdf 03 00 05.3 -0.4
AK02 Malin Array Si 125.89 50 ePKPdf PKPdf 03 00 05.7 -0.6
KIEV Kiev 125.91 50 ePKIKP PKPdf 03 00 05.7 -0.6
KIEV Kiev 125.91 50 ePKPdf PKPdf 03 00 05.7 -0.6
AK01 Malin Array Si 125.91 50 ePKPdf PKPdf 03 00 05.1 -1.2
AKASG Malin Array Be 125.92 50 PKIKP PKPdf 03 00 04.7 -1.7
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 125.92 50 PKP PKPdf 03 00 04.7 -1.7
comp=Z,1.7nm,0.7s,baz=259,slow=3.0,SNR=6.0
SPITS Spitsbergen Ar 127.10 15 PKIKP PKPdf 03 00 07.7 -0.2
SPITS pmax pmax
comp=Z,12nm,1.0s
SPITS Spitsbergen Ar 127.10 15 PKP PKPdf 03 00 07.7 -0.2
comp=Z,12nm,1.0s,baz=321,slow=1.8,SNR=3.8
FINES FINESS Array B 127.16 36 PKIKP PKPdf 03 00 08.4 0.0
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 127.16 36 PKP PKPdf 03 00 08.4 0.0
comp=Z,2.8nm,0.8s,baz=34,slow=12,SNR=4.5
KIV Kislovodsk 132.68 62 ePKHKP PKPpre 03 00 09.6
KIV pmax pmax
comp=Z,8.0nm,1.0s
BILL Bilibino 136.07 332 ePKPdf PKPdf 03 00 25.2 +0.1
PALK Pallekele 141.36 136 ePKPdf PKPdf 03 00 36.6 +0.2
PETK Petropavlovsk- 142.09 310 PKIKP PKPpre 03 00 31.8
PETK pmax pmax
comp=Z,11nm,1.0s
PETK pmax pmax
comp=Z,15nm,1.1s
PETK Petropavlovsk- 142.09 310 PKhKP PKPpre 03 00 31.8
comp=Z,11nm,1.0s,baz=193,slow=5.9,SNR=3.3
PETK PKP PKPdf 03 00 35.0 -1.5
comp=Z,15nm,1.1s,baz=117,slow=0.7,SNR=4.2
GEYT Alibeck 142.31 75 PKhKP PKPpre 03 00 33.1
comp=Z,1.3nm,0.5s,baz=318,slow=1.9,SNR=3.3
GEYT PKP PKPdf 03 00 35.9 -1.6
comp=Z,2.4nm,0.6s,baz=270,slow=4.3,SNR=5.0
SEY Seymchan 143.01 327 PKhKP PKPpre 03 00 32.8
SEY pmax pmax
comp=Z,5.0nm,0.8s
SEY Seymchan 143.01 327 PKhKP PKPpre 03 00 32.8
comp=Z,4.6nm,0.8s,baz=122,slow=9.3,SNR=2.3
KSM Kuching 143.22 186 ePKPpre PKPpre 03 00 36.3
ARU Arti 143.71 44 ePKIKP PKPab 03 00 36.6 +0.5
ARU Arti 143.71 44 ePKPdf PKPab 03 00 36.6 +0.5
AKTO Aktyubinsk 143.91 54 PKIKP PKPab 03 00 36.8 -0.3
AKTO pmax pmax
comp=Z,5.0nm,0.6s
AKTO Aktyubinsk 143.91 54 PKP PKPab 03 00 36.8 -0.2
comp=Z,4.6nm,0.6s,baz=245,slow=2.8,SNR=5.3
PSI Prapat 144.05 167 PKIKP PKPab 03 00 38.2 -0.6
PSI pmax pmax
comp=Z,8.0nm,0.9s
PSI Prapat 144.05 167 PKP PKPab 03 00 38.2 -0.6
comp=Z,7.7nm,0.9s,baz=190,slow=6.1,SNR=3.8
TIXI Tiksi 144.62 348 ePKIKP PKPab 03 00 37.9 -1.2
TIXI Tiksi 144.62 348 ePKPdf PKPab 03 00 37.9 -1.2
ABKAR Akbulak array 145.17 56 ePKPbc PKPbc 03 00 41.4 -0.3
IPM Ipoh 146.02 170 ePKPbc PKPdf 03 00 44.6 0.0
KKM Kota Kinabalu 146.73 198 ePKPbc PKPbc 03 00 47.1 -0.5
KULM Kulim 146.76 169 ePKPbc PKPbc 03 00 46.5 +0.6
BRVK Borovoye 151.08 47 ePKIKP PKPdf 03 00 51.2 -0.4
BRVK Borovoye 151.08 47 ePKPdf PKPdf 03 00 51.2 -0.4
BVAR Borovoye Array 151.15 47 PKIKP PKPbc 03 00 58.0 +0.4
BVAR pmax pmax
comp=Z,11nm,0.7s
BVAR Borovoye Array 151.15 47 PKPbc PKPbc 03 00 58.0 +0.4
comp=Z,11nm,0.7s,baz=318,slow=1.9,SNR=8.7
YSS Yuzh-Sakhalins 152.10 300 ePKIKP PKPbc 03 00 58.0 -1.9
YSS e 03 01 04.0
YSS Yuzh-Sakhalins 152.10 300 ePKPbc PKPbc 03 00 59.0 -1.0
YAK Yakutsk 152.23 336 ePKIKP PKPdf 03 00 55.2 +2.2
YAK pmax pmax
comp=Z,42nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK Yakutsk 152.23 336 ePKPbc PKPbc 03 00 58.5 -1.2
ASAJ Asahikawa 152.33 294 PKIKP PKPdf 03 00 50.7 -3.1
ASAJ 03 00 59.4
ASAJ pmax pmax
comp=Z,2.0nm,0.5s
ASAJ pmax pmax
comp=Z,18nm,0.8s
ASAJ Asahikawa 152.33 294 PKP PKPdf 03 00 50.7 -3.1
comp=Z,2.2nm,0.5s,baz=318,slow=16,SNR=2.4
ASAJ PKPbc PKPbc 03 00 59.4 -1.2
comp=Z,18nm,0.8s,baz=239,slow=7.0,SNR=9.4
MJAR Matsushiro Arr 154.77 276 PKIKP PKPdf 03 00 57.4 -0.1
MJAR 03 01 18.2
MJAR pmax pmax
comp=Z,1.0nm,0.9s
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 154.77 276 PKP PKPdf 03 00 57.4 -0.1
comp=Z,1.2nm,0.9s,baz=159,slow=3.7,SNR=2.9
MJAR PKPab PKPab 03 01 18.2 -3.1
comp=Z,1.6nm,0.8s,baz=152,slow=3.5,SNR=4.4
AAK Ala-Archa 155.38 70 PKIKP PKPdf 03 00 58.5 +0.1
AAK 03 01 24.2
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 155.38 70 PKP PKPdf 03 00 58.5 +0.1
comp=Z,5.6nm,0.9s,baz=238,slow=5.9,SNR=2.5
AAK PKPab PKPab 03 01 24.2 +0.2
comp=Z,4.3nm,0.8s,baz=196,slow=7.4,SNR=2.8
KSH Kashi 156.30 77 ePKP PKPdf 03 01 00.3 +0.6
KSH epPKP pPKPdf 03 01 11.8 +5.9
KSH esPKP 03 01 15.5
KSH eSKS SKSdf 03 08 01.8 -3.2
KSH eSKKS SKKSac 03 11 51.5 -2.9
ZAA0 Zalesovo Array 158.43 36 ePKPdf PKPdf 03 01 01.0 -0.7
ZAA0 ePKPab PKPab 03 01 35.8 -0.6
ZALV Zalesovo Beam 158.43 36 PKIKP PKPdf 03 01 00.9 -0.8
ZALV 03 01 35.9
ZALV pmax pmax
comp=Z,3.0nm,0.9s
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 158.43 36 PKP PKPdf 03 01 00.9 -0.8
comp=Z,3.3nm,0.9s,baz=249,slow=4.0,SNR=2.9
ZALV PKPab PKPab 03 01 35.9 -0.5
comp=Z,5.1nm,0.7s,baz=324,slow=2.9,SNR=4.7
CMAR Chiang Mai Arr 159.21 160 PKIKP PKPdf 03 01 00.4 -3.3
CMAR 03 01 41.7
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 159.21 160 PKP PKPdf 03 01 00.4 -3.3
comp=Z,0.9nm,0.3s,baz=48,slow=1.3,SNR=3.7
CMAR PKPab PKPab 03 01 41.7 +1.0
comp=Z,1.2nm,0.3s,baz=235,slow=3.2,SNR=2.8
USRK Ussuriysk Arra 159.93 295 PKPab PKPab 03 01 42.7 -0.6
comp=Z,3.4nm,0.9s,baz=62,slow=6.8,SNR=5.0
MKAR Makanchi Array 160.32 57 PKIKP PKPdf 03 01 04.4 +0.3
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 160.32 57 PKP PKPdf 03 01 04.4 +0.3
comp=Z,2.3nm,0.9s,baz=96,slow=5.2,SNR=1.8
CN2 Changchun 164.64 297 ePKP PKPdf 03 01 09.0 +0.5
WMQ Urumqi 164.81 63 PKP PKPdf 03 01 09.0 +0.3
WMQ AMB AMB
comp=Z,190nm,12.0s
WMQ LR LR
comp=Z,110nm,20.0s
WMQ LR LR
comp=Z,93nm,20.6s
WMQ LR LR
comp=Z,210nm,20.8s
KMI Kunming 166.53 165 PKP PKPdf 03 01 11.8 +0.9
ZAK Zakamensk 167.67 10 ePKP2 PKPab 03 02 17.6 +0.5
ZAK pmax pmax
comp=Z,3.0nm,1.0s
NJ2 Nanjing 168.11 242 ePKP PKPdf 03 01 12.0 +0.4
GYA Guiyang 168.24 181 PKP PKPdf 03 01 12.8 +0.8
GYA pPKP pPKPdf 03 01 24.3 +6.1
GYA PKPab PKPab 03 02 23.5 +3.3
GYA PKS PKSdf 03 04 44.0 -0.8
GYA PP PP 03 06 13.0 +4.9
GYA SKKS 03 12 55.8
GYA SS SS 03 26 59.3 +2.1
GYA AMB AMB
comp=Z,120nm,8.4s
GYA LR LR
comp=Z,120nm,21.9s
GYA LR LR
comp=Z,110nm,21.5s
GYA LR LR
comp=Z,120nm,24.7s
ULN Ulaanbaatar 170.38 358 ePKIKP PKPdf 03 01 10.9 -1.8
ULN e 03 02 29.2
ULN Ulaanbaatar 170.38 358 ePKPdf PKPdf 03 01 10.9 -1.8
ULN ePKPab PKPab 03 02 29.2 0.0
SONM Songino Array 170.43 0 PKP2 PKPab 03 02 30.3 +0.9
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 170.43 0 PKPab PKPab 03 02 30.3 +0.9
comp=Z,3.4nm,0.9s,baz=333,slow=3.5,SNR=7.8
CD2 Chengdu 172.34 162 PKP PKPdf 03 01 14.0 -0.1
CD2 pPKP pPKPdf 03 01 25.3 +5.0
CD2 sPKP 03 01 29.0
CD2 PKS PKSdf 03 04 45.0 -1.4
CD2 PP PP 03 06 33.0 +4.2
CD2 SKS SKSdf 03 08 11.8 -4.7
CD2 SKKS SKKSac 03 13 14.8 -0.5
CD2 SS SS 03 27 38.0 0.0
CD2 AMB AMB
comp=Z,220nm,6.4s
GTA Gaotai 174.69 75 ePKP PKPdf 03 01 16.0 +1.2
GTA pPKP pPKPdf 03 01 26.5 +5.5
GTA sPKP 03 01 30.5
GTA PKPab PKPab 03 02 50.5 +1.6
HHC Hu-ho-hao-te 175.27 305 ePKP PKPdf 03 01 15.3 +0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HHC				pPKP	**pPKPdf**	**03 01 26.0**	**+4.9**
HHC				sPKP		03 01 29.5	
HHC				PP	**PP**	**03 06 45.0**	**+0.9**
HHC				SKS	**SKSdf**	**03 08 13.0**	**-4.0**
HHC				SS	**SS**	**03 28 06.3**	**-2.0**
HHC				AMB	AMB		
	comp=Z,2μm,6.6s						
HHC				LR	LR		
	comp=Z,280nm,20.2s						
HHC				LR	LR		
	comp=Z,260nm,20.7s						
HHC				LR	LR		
	comp=Z,430nm,19.7s						

IDC 28 02:50:19.3±1.2, 25°.89N×128°.47E, h0km, mb3.9/10, mb1 3.9/12, mb1mx3.8/28, mbtmp3.9/12, ML3.7/1, MS4.7/3, Ms1 4.7/3, ms1mx3.8/47, Error ellipse: s-maj=38.7km s-min=20.3km az=81.0

JMA 28 02:50:21.6±0.3, 25°.93N×128°.61E, h36km±5km, M3.8

NEIC 28 02:50:24.1±0.7, 25°.88N×128°.34E, h35km, mb4.5/11, Error ellipse: s-maj=15.9km s-min=9.7km az=121.0

ISC 28 02:50:20.0±1.8, 25°.89N±0°.04×128°.59E±0°.04, h11km±11km, n54, σ1°.79/65, mb4.4/21, MS4.9/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.80**	**288**	P	**Pn**	**02 50 36.7**	**-0.4**
JJT2				S	**Sb**	**02 50 47.5**	**+0.9**
JNTH	**Nagotoyohara**	**0.81**	**321**	P	**Pg**	**02 50 36.0**	**+0.4**
JOW	**Kunigami**	**0.98**	**343**	P	**Pb**	**02 50 38.9**	**-0.1**
JOW				eS	**Sb**	**02 50 50.8**	**-1.2**
JOW	**Kunigami**	**0.98**	**343**	Pn	**Pb**	**02 50 39.2**	**+0.2**
	21nm,0.3s,baz=152,slow=19,SNR=35						
JOW				Sn	**Sb**	**02 50 47.6**	**-4.3**
	27nm,0.3s,baz=137,slow=18,SNR=22						
JOW	**Kunigami**	**0.98**	**343**	ePg	**Pb**	**02 50 38.5**	**-0.5**
JOW				eSg	**Sb**	**02 50 47.6**	**-4.3**
JIH	**Iheya**	**1.27**	**334**	P	**Pn**	**02 50 43.5**	**-0.2**
JIH				S	**Sn**	**02 50 59.0**	**-1.3**
JAGN	**Aguni-jima**	**1.40**	**300**	P	**Pn**	**02 50 45.4**	**0.0**
JAGN				S	**Sn**	**02 51 02.7**	**-1.1**
JOKE	**Okinoerabujima**	**1.47**	**359**	P	**Pn**	**02 50 46.2**	**-0.2**
JOKE				eS	**Sn**	**02 51 03.5**	**-2.1**
JKE	**Kume jima 2**	**1.68**	**285**	P	**Pn**	**02 50 48.7**	**-0.6**
JKE				eS	**Sn**	**02 51 08.3**	**-2.5**
JTK	**Tokunoshima**	**1.92**	**10**	P	**Pn**	**02 50 52.5**	**-0.1**
JTK				S	**Sn**	**02 51 14.3**	**-2.4**
JMZ	**Minamidaito 2**	**2.37**	**91**	P	**Pn**	**02 50 58.1**	**-0.7**
JMZ				S	**Sn**	**02 51 24.0**	**-3.9**
JAMN	**Amaminishikomi**	**2.40**	**12**	P	**Pn**	**02 50 59.1**	**-0.1**
JAMN				eS	**Sn**	**02 51 25.9**	**-2.7**
JAM	**Amami Oshima**	**2.67**	**20**	P	**Pn**	**02 51 02.4**	**-0.5**
JAM				eS	**Sn**	**02 51 33.1**	**-2.2**
JZK	**Kikaishima**	**2.71**	**27**	P	**Pn**	**02 51 04.2**	**+0.7**
JZK				eS	**Sn**	**02 51 35.3**	**-1.0**
JIKM	**Ikemajima**	**3.17**	**253**	P	**Pn**	**02 51 09.6**	**-0.2**
JIRB	**Irabujima**	**3.27**	**252**	P	**Pn**	**02 51 10.7**	**-0.4**
JTJ	**Tarama**	**3.73**	**251**	P	**Pn**	**02 51 16.6**	**-0.9**
JTJ				eS	**Sn**	**02 51 57.5**	**-4.0**
JISG	**Ishigakijimahi**	**4.09**	**252**	P	**Pn**	**02 51 21.0**	**-1.4**
JISG				eS	**Sn**	**02 52 06.7**	**-3.5**
JIJ	**Ishigaki jima**	**4.31**	**250**	P	**Pn**	**02 51 23.9**	**-1.5**
JIJ				eS	**Sn**	**02 52 11.6**	**-4.1**
JKRS	**Kuro-shima**	**4.47**	**249**	P	**Pn**	**02 51 26.5**	**-1.1**
IRIF	**Iriomote-Funau**	**4.67**	**252**	P	**Pn**	**02 51 28.9**	**-1.5**
NACB	**Ninganchiao**	**6.57**	**256**	ePn	**Pn**	**02 51 54.1**	**-2.4**
	25nm,0.3s						
YHNB	**Yeheng**	**6.64**	**261**	ePn	**Pn**	**02 51 58.0**	**+0.4**
	20nm,0.5s						
YULB	**Yu-li**	**7.08**	**251**	ePn	Pn	02 51 59.5	-4.2
	13nm,0.3s						
SSLB	**Suanglung**	**7.25**	**255**	ePn	**Pn**	**02 52 03.2**	**-2.6**
	30nm,0.3s						
JNU	**Nakatsue**	**7.48**	**15**	Pn	**Pn**	**02 52 10.6**	**+1.5**
	1.0nm,0.3s,baz=198,slow=14,SNR=18						
JNU	**Nakatsue**	**7.48**	**15**	ePn	**Pn**	**02 52 10.1**	**+1.1**
	5.4nm,0.8s						
MAJO	**Matsushiro**	**13.43**	**35**	ePn	**Pn**	**02 53 27.9**	**-2.6**
USRK	**Ussuriysk Arra**	**18.48**	**8**	P	**Pn**	**02 54 37.1**	**+1.2**
	0.1nm,0.3s,baz=157,slow=7.8,SNR=4.6						
KKM	**Kota Kinabalu**	**23.01**	**213**	eP	**P**	**02 55 25.6**	**+0.5**
	10.0nm,0.8s						
SONM	**Songino Array**	**28.01**	**327**	P	**P**	**02 56 13.5**	**+2.5**
	1.1nm,0.5s,baz=142,slow=11,SNR=14						
KSM	**Kuching**	**29.99**	**219**	eP	**P**	**02 56 27.6**	**-1.1**
	3.5nm,0.4s						
TLY	**Talaya**	**31.97**	**330**	LR	LR	03 10 27.6	
	comp=Z,803nm,18.6s,baz=168,slow=38						
KULM	**Kulim**	**33.67**	**237**	eP	**P**	**02 57 01.0**	**-0.1**
	3.9nm,0.7s						
MKAR	**Makanchi Array**	**42.00**	**312**	P	**P**	**02 58 10.9**	**-0.3**
	0.5nm,0.5s,baz=89,slow=10,SNR=10						
ZAA0	**Zalesovo Array**	**42.71**	**323**	eP	P	02 58 21.0	+4.1
ZALV	**Zalesovo Beam**	**42.71**	**323**	P	**P**	**02 58 15.8**	**-1.1**
	0.5nm,0.4s,baz=117,slow=5.6,SNR=2.3						
NDI	**New Delhi**	**45.46**	**286**	ex	**P**	**02 58 41.0**	**+1.7**
WRAB	**Tennant Creek**	**45.89**	**172**	eP	**P**	**02 58 43.0**	**+0.3**
	12nm,1.2s						
WRA	**Warramunga Arr**	**45.90**	**172**	P	**P**	**02 58 43.6**	**+0.9**
	0.6nm,0.5s,baz=352,slow=8.5,SNR=7.1						
AAK	**Ala-Archa**	**46.93**	**305**	eP	**P**	**02 58 51.1**	**+0.2**
	15nm,0.9s						
EKS2	**Erkin-Say**	**47.46**	**305**	eP	**P**	**02 58 55.0**	**0.0**
	21nm,1.3s						
PALK	**Pallekele**	**49.17**	**257**	LR	LR	03 21 07.7	
	comp=Z,1μm,19.8s,baz=46,slow=38						
BVAR	**Borovoye Array**	**50.74**	**318**	P	**P**	**02 59 20.3**	**+0.5**
	5.3nm,1.0s,baz=105,slow=9.3,SNR=2.8						
TNA	**Tin City**	**55.79**	**27**	eP	**P**	**02 59 58.6**	**+1.9**
	4.5nm,1.2s						
ARU	**Arti**	**57.86**	**322**	eP	**P**	**03 00 10.1**	**-1.4**
	5.9nm,1.0s						
DOT	**Dot Lake**	**65.97**	**29**	eP	**P**	**03 01 06.1**	**+0.1**
	3.9nm,0.9s						
KIV	**Kislovodsk**	**69.71**	**310**	eP	P	03 01 23.8	-6.2
	4.8nm,0.8s						
FINES	**FINESS Array B**	**73.32**	**331**	P	**P**	**03 01 51.8**	**+0.5**
	2.6nm,1.0s,baz=73,slow=6.6,SNR=6.7						
AKASG	**Malin Array Be**	**76.00**	**320**	P	**P**	**03 02 07.3**	**+0.2**
	0.6nm,0.5s,baz=62,slow=6.3,SNR=3.9						
AKASG				LR	LR	03 39 23.9	
	comp=Z,526nm,18.6s,baz=45,slow=39						
KIEV	**Kiev**	**76.01**	**320**	eP	**P**	**03 02 05.7**	**-1.4**
	1.9nm,0.7s						
BRTR	**Keskin Array B**	**77.50**	**308**	P	**P**	**03 02 17.2**	**+1.3**
	0.3nm,0.5s,baz=89,slow=3.2,SNR=4.3						
YKA	**Yellowknife Ar**	**78.70**	**25**	P	**P**	**03 02 23.2**	**+1.3**
	0.1nm,0.8s,baz=296,slow=6.0,SNR=2.6						
HFS	**Hagfors**	**79.27**	**332**	P	**P**	**03 02 27.3**	**+2.1**
	1.9nm,0.8s,baz=111,slow=7.9,SNR=3.1						

NIED 28 02:51:00, 26°.00N×128°.80E, h8km, Mw5.0 Best double couple: M0 3.68000×10^16 NP1: φs 72.00000°, δ59.00000°, λ20.00000°. NP2: φs 331.00000°, δ73.00000°, λ147.00000°.

IDC 28 02:51:41.7±0.6, 26°.02N×128°.56E, h0km, mb4.5/29, mb1 4.6/33, mb1mx4.5/39, mbtmp4.5/33, ML3.7/4, MS4.5/7, Ms1 4.5/7, ms1mx4.1/47, Error ellipse: s-maj=18.0km s-min=12.3km az=78.0

NEIC 28 02:51:41.6±2.1, 25°.95N×128°.48E, h1km±13km, mb5.0/40, MW5.0(NIED), Error ellipse: s-maj=6.1km s-min=4.5km az=119.0

NEIC Felt at Ginowan, Okinawa. Recorded [1 JMA] on Okinawa.

ISCJB 28 02:51:42.1±0.8, 25°.96N±0°.02×128°.50E±0°.02, h13km±4km, mb4.7/96, MS4.9/25, Error ellipse: s-maj=4.3km s-min=2.7km az=135.7

JMA 28 02:51:42.4±0.3, 25°.97N×128°.73E, h33km, M5.4

JMA Felt I J1.

MOS 28 02:51:44.8±1.0, 25°.98N×128°.58E, h33km, mb5.0/57, MS4.7/9, Error ellipse: s-maj=9.6km s-min=5.2km az=108.4

BJI 28 02:51:45.5, 25°.96N×128°.46E, h44km, mB5.1/33, mb4.8/58, Ms4.9/60, Ms7 4.8/54

ISC 28 02:51:46.7±0.4, 26°.04N±0°.03×128°.48E±0°.03, h33km±1km, n314, σ1°.75/386, mb4.8/97, MS4.9/25, 22C-20D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.63**	**320**	P	**Pb**	**02 51 57.6**	**-1.8**
JJT2	**Tamagusuku 2**	**0.67**	**279**	P	**Pb**	**02 51 59.0**	**-0.9**
JJT2				eS	**Sn**	**02 52 10.5**	**+1.4**
JOW	**Kunigami**	**0.81**	**347**	P	**Pn**	**02 51 59.9**	**-1.9**
JOW	**Kunigami**	**0.81**	**347**	Pn	**Pn**	**02 51 60.0**	**-1.9**
	90nm,0.3s,baz=141,slow=22,SNR=18						
JOW				Sn	**Sb**	**02 52 13.3**	**+0.1**
	144nm,0.3s,baz=1.8,slow=8.8,SNR=13						
JIH	**Iheya**	**1.10**	**335**	P	**Pn**	**02 52 04.3**	**-1.4**
JIH				eS	**Sn**	**02 52 20.7**	**+0.9**
JAGN	**Aguni-jima**	**1.24**	**297**	P	**Pn**	**02 52 07.7**	**0.0**
JAGN				eS	**Sb**	**02 52 25.4**	**+0.2**
JOKE	**Okinoerabujima**	**1.32**	**3**	P	**Pn**	**02 52 06.7**	**-2.2**
JOKE				eS	**Sn**	**02 52 24.0**	**-1.4**
JKE	**Kume jima 2**	**1.55**	**281**	P	**Pn**	**02 52 10.9**	**-1.1**
JKE				eS	**Sn**	**02 52 32.2**	**+1.3**
JTK	**Tokunoshima**	**1.79**	**13**	P	**Pn**	**02 52 12.5**	**-2.8**
JTK				eS	**Sn**	**02 52 33.9**	**-3.1**
JAMN	**Amaminishikomi**	**2.29**	**16**	P	**Pn**	**02 52 19.7**	**-2.4**
JMZ	**Minamidaito 2**	**2.48**	**94**	P	Pn	02 52 17.8	-6.9
JMZ				eS	Sn	02 52 43.2	-11
JAM	**Amami Oshima**	**2.57**	**23**	P	Pn	02 52 22.4	-3.6
JAM				eS	**Sn**	**02 52 53.8**	**-2.3**
JZK	**Kikaishima**	**2.63**	**30**	P	**Pn**	**02 52 23.7**	**-3.1**
JZK				eS	**Sn**	**02 52 55.2**	**-2.4**
JOGS	**Gusukube**	**3.06**	**246**	P	**Pn**	**02 52 31.8**	**-0.9**
JOGS				S	**Sn**	**02 53 07.5**	**-0.6**
JIKM	**Ikemajima**	**3.12**	**250**	P	**Pn**	**02 52 32.5**	**-1.1**
JIKM				S	**Sn**	**02 53 08.8**	**-1.0**
JMJ	**Miyako jima 2**	**3.13**	**248**	P	**Pn**	**02 52 32.6**	**-1.1**
JMJ				S	**Sn**	**02 53 08.8**	**-1.1**
JTAJ	**Takarajima**	**3.17**	**12**	P	**Pn**	**02 52 31.9**	**-2.4**
JIRB	**Irabujima**	**3.22**	**249**	P	**Pn**	**02 52 33.3**	**-1.7**
JIRB				S	**Sn**	**02 53 11.3**	**-0.9**
JTJ	**Tarama**	**3.69**	**249**	P	**Pn**	**02 52 39.1**	**-2.3**
JTJ				S	**Sn**	**02 53 22.4**	**-1.4**
JISG	**Ishigakijimahi**	**4.04**	**250**	P	**Pn**	**02 52 44.0**	**-2.2**
JISG				S	**Sn**	**02 53 32.1**	**-0.3**
JIJ	**Ishigaki jima**	**4.27**	**248**	P	**Pn**	**02 52 46.9**	**-2.5**
JIJ				S	**Sn**	**02 53 34.5**	**-3.5**
JKRS	**Kuro-shima**	**4.43**	**247**	P	**Pn**	**02 52 49.5**	**-2.1**
JKRS				S	**Sn**	**02 53 39.8**	**-2.2**
JYAK	**Yakushimahirau**	**4.55**	**23**	S	**Sn**	**02 53 41.6**	**-3.5**
IRIF	**Iriomote-Funau**	**4.62**	**250**	P	**Pn**	**02 52 52.1**	**-2.2**
IRIF				eS	**Sn**	**02 53 44.9**	**-1.9**
HATJ	**Hateruma jima**	**4.67**	**246**	eS	**Sn**	**02 53 47.7**	**-0.4**
YOJ	**Yonaguni jima**	**5.19**	**254**	eP	**Pn**	**02 52 59.4**	**-2.7**
YOJ				e		02 53 58.6	
YOJ	**Yonaguni jima**	**5.19**	**254**	P	**Pn**	**02 53 01.5**	**-0.6**
YOJ	**Yonaguni jima**	**5.19**	**254**	ePn	**Pn**	**02 52 59.4**	**-2.7**
YOJ				eSn	**Sn**	**02 53 58.6**	**-2.3**
JYNG	**Yonagunijimaku**	**5.25**	**254**	P	**Pn**	**02 53 00.7**	**-2.2**
JYNG				S	**Sn**	**02 53 58.5**	**-3.9**
JNAR	**Kushima--Naru**	**5.99**	**23**	P	**Pn**	**02 53 10.9**	**-2.2**
TATO	**Taipei**	**6.41**	**262**	ePn	**Pn**	**02 53 16.0**	**-2.7**
NACB	**Ninganchiao**	**6.51**	**255**	ePn	**Pn**	**02 53 17.3**	**-2.9**
	86nm,0.4s						
NACB				eSn	**Sn**	**02 54 28.4**	**-4.9**
YHNB	**Yeheng**	**6.57**	**260**	ePn	**Pn**	**02 53 20.8**	**-0.3**
	163nm,0.9s						
YULB	**Yu-li**	**7.04**	**250**	ePn	Pn	02 53 22.5	-5.0
	46nm,0.6s						
YULB				eSn	Sn	02 54 37.3	-9.1
SSLB	**Suanglung**	**7.19**	**253**	ePn	**Pn**	**02 53 26.4**	**-3.1**
SSLB				eSn	**Sn**	**02 54 44.7**	**-5.5**
JNU	**Nakatsue**	**7.36**	**16**	Pn	**Pn**	**02 53 30.4**	**-1.5**
	4.1nm,0.3s,baz=204,slow=8.5,SNR=22						
JNU				Sn	**Sn**	**02 54 52.4**	**-2.0**
	2.1nm,0.3s,baz=180,slow=20,SNR=2.7						
JNU				LR	LR	02 56 47.4	
	comp=Z,2μm,21.6s,baz=204,slow=42						
JNU	**Nakatsue**	**7.36**	**16**	ePn	**Pn**	**02 53 30.9**	**-1.0**
JNU				Sn	**Sn**	**02 54 52.4**	**-2.0**
TWG	**Pinlang**	**7.47**	**246**	ePn	Pn	02 53 27.7	-5.7
	230nm,0.4s						
TPUB	**Ta-pu**	**7.64**	**251**	ePn	**Pn**	**02 53 33.0**	**-2.8**
	80nm,0.4s						
SSE	**Sheshan**	**8.16**	**310**	eP	**Pn**	**02 53 44.5**	**+1.8**
SSE				S	**Sn**	**02 55 16.5**	**+2.7**
SSE				pmax	pmax		
	comp=Z,40nm,0.8s						
SSE				pmax	pmax		
	comp=Z,1μm,12.0s						
SSE				LR	LR		
	comp=N,2μm,10.0s						
SSE				LR	LR		
	comp=E,4μm,10.0s						
SSE				LR	LR		
	comp=Z,6μm,11.7s						
QZH	**Quanzhou**	**9.00**	**265**	P	**Pn**	**02 53 51.5**	**-2.9**
QZH				S	**Sn**	**02 55 31.5**	**-3.1**
QZH				LR	LR		
	comp=N,4μm,6.4s						
QZH				LR	LR		
	comp=E,9μm,15.3s						
QZH				LR	LR		
	comp=Z,8μm,15.2s						
NJ2	**Nanjing**	**10.34**	**308**	eP	**Pn**	**02 54 13.8**	**+1.2**
NJ2				S	**Sn**	**02 56 04.0**	**-3.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NJ2				LR	LR		
	comp=N,5μm,15.4s						
NJ2				LR	LR		
	comp=E,12μm,17.5s						
NJ2				LR	LR		
	comp=Z,7μm,12.1s						
KSAR	**Wonju Array Be**	**11.38**	**358**	P	**Pn**	**02 54 27.8**	**+0.8**
KSAR	**Wonju Array Be**	**11.38**	**358**	Pn	**Pn**	**02 54 27.8**	**+0.8**
KSRS	**Korea Array**	**11.39**	**358**	Pn	**Pn**	**02 54 27.8**	**+0.7**
	0.4nm,0.3s,baz=177,slow=14,SNR=9.2						
KSRS				LR	LR	02 59 08.2	
	comp=Z,3μm,18.6s,baz=178,slow=39						
MAJO	**Matsushiro**	**13.37**	**36**	eP	**Pn**	**02 54 55.0**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,47nm,1.4s						
MAJO	**Matsushiro**	**13.37**	**36**	ePn	**Pn**	**02 54 55.0**	**+0.9**
	comp=Z,47nm,1.4s						
MAT	**Matsushiro**	**13.37**	**36**	P	**Pn**	**02 54 56.4**	**+2.3**
MJAR	**Matsushiro Arr**	**13.37**	**36**	Pn	**Pn**	**02 54 53.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=192,slow=9.9,SNR=3.3						
MJAR				LR	LR	02 59 28.5	
	comp=Z,672nm,21.6s,baz=225,slow=35						
ENH	**Enshi**	**17.27**	**288**	ePn	**Pn**	**02 55 45.1**	**-0.3**
	comp=Z,16nm,0.9s						
BJT	**Baijiatuau**	**17.32**	**327**	eP	**P**	**02 55 47.3**	**+0.2**
BJT				pmax	pmax		
	comp=Z,34nm,0.7s						
BJT	**Baijiatuau**	**17.32**	**327**	ePn	**P**	**02 55 47.3**	**+0.2**
	comp=Z,34nm,0.7s						
BJI	**Beijing**	**17.34**	**327**	P	**P**	**02 55 47.5**	**+0.3**
BJI				S	**Sn**	**02 58 57.5**	**-0.5**
BJI				pmax	pmax		
	comp=Z,31nm,1.7s						
BJI				LR	LR		
	comp=Z,4μm,18.2s						
BJI				LR	LR		
	comp=Z,6μm,16.2s						
BJI				LR	LR		
	comp=Z,1μm,14.7s						
CN2	**Changchun**	**17.90**	**353**	eP	**P**	**02 55 56.0**	**+2.6**
CN2				esP	sP	02 56 12.0	+5.8
CN2				eS	**Sn**	**02 59 13.0**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,3μm,15.0s						
USRK	**Ussuriysk Arra**	**18.35**	**8**	Pn	**Pn**	**02 55 59.4**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=186,slow=8.8,SNR=15						
MDJ	**Mudanjiang**	**18.56**	**2**	P	**Pn**	**02 56 02.0**	**+0.9**
MDJ				pP	**pP**	**02 56 10.3**	**+0.9**
MDJ				sP	**sP**	**02 56 16.3**	**+2.7**
MDJ				S	**Sn**	**02 59 24.0**	**-3.6**
MDJ				PcP	**PcP**	**03 00 29.5**	**+0.3**
MDJ				ScP	**ScP**	**03 04 02.5**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,340nm,9.1s						
MDJ				LR	LR		
	comp=Z,840nm,13.2s						
MDJ				LR	LR		
	comp=Z,780nm,12.2s						
MDJ				LR	LR		
	comp=Z,2μm,17.3s						
QIZ	**Qiongzhong**	**18.56**	**252**	P	**P**	**02 56 00.3**	**-0.6**
QIZ				S	**Sn**	**02 59 26.3**	**-1.7**
QIZ				LR	LR		
	comp=Z,2μm,20.7s						
QIZ				LR	LR		
	comp=Z,2μm,19.5s						
QIZ	**Qiongzhong**	**18.56**	**252**	eP	**P**	**02 55 58.3**	**-2.6**
	comp=Z,88nm,1.8s						
XAN	**Xi'an**	**18.70**	**300**	P	**P**	**02 56 02.3**	**-0.1**
XAN				S	**Sn**	**02 59 28.8**	**-2.3**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XAN				LR	LR		
	comp=Z,1μm,13.2s						
XAN				LR	LR		
	comp=Z,700nm,13.8s						
XAN				LR	LR		
	comp=Z,480nm,15.0s						
GYA	**Guiyang**	**19.57**	**276** ⇑	iP	**Pn**	**02 56 13.0**	**-0.6**
GYA				pP	**pP**	**02 56 22.5**	**+1.7**
GYA				PP	**PnPn**	**02 56 31.8**	**+4.5**
GYA				S	**S**	**02 59 46.0**	**-5.4**
GYA				sS	**Sn**	**02 59 58.3**	**+5.8**
GYA				SS	**SnSn**	**03 00 12.0**	**+5.2**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,230nm,7.2s						
GYA				LR	LR		
	comp=Z,3μm,12.5s						
GYA				LR	LR		
	comp=Z,2μm,12.8s						
GYA				LR	LR		
	comp=Z,2μm,13.5s						
HHC	**Hu-ho-hao-te**	**20.38**	**321**	eP	**P**	**02 56 21.3**	**+0.6**
HHC				sP	**sP**	**02 56 34.3**	**+0.7**
HHC				S	**S**	**03 00 03.0**	**-4.4**
HHC				sS	**sS**	**03 00 18.0**	**-3.3**
HHC				PcP	**PcP**	**03 00 33.0**	**+0.4**
HHC				ScP	**ScP**	**03 04 04.0**	**-2.7**
HHC				pmax	pmax		
	comp=Z,31nm,0.7s						
HHC				pmax	pmax		
	comp=Z,1μm,6.9s						
HHC				LR	LR		
	comp=Z,4μm,12.9s						
HHC				LR	LR		
	comp=Z,2μm,10.9s						
HHC				LR	LR		
	comp=Z,3μm,12.5s						
ASAJ	**Asahikawa**	**21.37**	**29**	P	**P**	**02 56 31.5**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ASAJ	**Asahikawa**	**21.37**	**29**	P	**P**	**02 56 31.5**	**+0.3**
	comp=Z,10nm,1.0s,baz=222,slow=14,SNR=6.3						
ASAJ	**Asahikawa**	**21.37**	**29**	eP	**P**	**02 56 30.7**	**-0.5**
	comp=Z,25nm,1.6s						
CD2	**Chengdu**	**22.25**	**288**	eP	**P**	**02 56 39.3**	**-1.6**
CD2				pP	**pP**	**02 56 49.0**	**-0.7**
CD2				sP	**sP**	**02 56 53.3**	**-0.6**
CD2				PP	**PnPn**	**02 57 06.3**	**+2.4**
CD2				S	S	03 00 36.3	-7.7
CD2				sS	Sn	03 00 51.8	-4.9
CD2				SS	**SnSn**	**03 01 16.8**	**+4.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
CD2				pmax	pmax		
	comp=Z,420nm,6.4s						
CD2				LR	LR		
	comp=Z,4μm,14.7s						
CD2				LR	LR		
	comp=Z,4μm,12.7s						
CD2				LR	LR		
	comp=Z,4μm,14.2s						
YUK	**Yuzh-Kuril'sk**	**22.83**	**34** c	iP	**P**	**02 56 47.0**	**+0.2**
YUK				S	**S**	**03 00 54.0**	**+0.1**
YUK				eSS	**SnSn**	**03 01 32.5**	**+6.2**
YUK				pmax	pmax		
	comp=E,92nm,1.2s						
YUK				pmax	pmax		
	comp=Z,182nm,1.2s						
YUK				pmax	pmax		
	comp=N,45nm,0.6s						
YUK				MLR	MLR		
	comp=N,669nm,21.0s						
YUK				MLR	MLR		
	comp=E,1μm,21.0s						
YUK				MLR	MLR		
	comp=Z,1μm,21.0s						
KKM	**Kota Kinabalu**	**23.08**	**213**	eP	**P**	**02 56 48.9**	**-0.8**
	comp=Z,24nm,1.1s						
KMI	**Kunming**	**23.23**	**273**	P	**P**	**02 56 51.5**	**+0.2**
KMI				pP	**pP**	**02 57 00.5**	**+0.2**
KMI				sP	**sP**	**02 57 04.8**	**+0.4**
KMI				PP	**PnPn**	**02 57 22.3**	**+4.8**
KMI				S	**S**	**03 00 57.3**	**-4.1**
KMI				SS	**SnSn**	**03 01 41.0**	**+4.4**
KMI				pmax	pmax		
	comp=Z,31nm,1.2s						
KMI				pmax	pmax		
	comp=Z,710nm,8.6s						
KMI				LR	LR		
	comp=Z,2μm,12.5s						
KMI				LR	LR		
	comp=Z,2μm,11.9s						
KMI				LR	LR		
	comp=Z,2μm,13.2s						
KLR	**Kul'dur**	**23.30**	**5**	eP	P	02 56 46.6	-4.9
KLR				pmax	pmax		
	comp=Z,42nm,1.6s						
KLR				MLR	MLR		
	comp=Z,5μm,12.5s						
LZH	**Lanzhou**	**23.30**	**301**	eP	**P**	**02 56 51.8**	**-0.2**
LZH				pP	**pP**	**02 57 01.5**	**+0.5**
LZH				sP	**sP**	**02 57 05.0**	**-0.1**
LZH				S	**S**	**03 00 57.0**	**-5.4**
LZH				sS	sS	03 01 11.5	-6.5
LZH				SS	**SnSn**	**03 01 43.0**	**+4.8**
LZH				pmax	pmax		
	comp=Z,130nm,1.6s						
LZH				pmax	pmax		
	comp=Z,500nm,7.6s						
LZH				LR	LR		
	comp=Z,4μm,13.8s						
LZH				LR	LR		
	comp=Z,2μm,12.0s						
LZH				LR	LR		
	comp=Z,3μm,14.3s						
YSS	**Yuzh-Sakhalins**	**23.75**	**25** ⇓	eP	**P**	**02 56 55.0**	**-0.9**
YSS				e		02 57 01.5	
YSS				e		02 57 41.5	
YSS				MLR	MLR		
	comp=Z,1μm,18.0s						
YSS	**Yuzh-Sakhalins**	**23.75**	**25**	eP	**P**	**02 56 55.3**	**-0.6**
	comp=Z,210nm,1.3s						
UBPT	**Khong Chiam**	**24.00**	**248**	P	P	02 57 05.9	+7.3
	comp=Z,32nm,1.2s						
TOLI	**Toli-Toli**	**25.85**	**198**	eP	**P**	**02 57 15.2**	**-0.1**
CRAI	**Chiangrai**	**26.45**	**263**	P	**P**	**02 57 22.5**	**+1.6**
	comp=Z,19nm,1.0s,comp=Z,4μm						
LOEI	**Loei**	**26.62**	**257**	P	**P**	**02 57 20.2**	**-2.1**
UTTA	**Uttaradit**	**27.15**	**258**	P	**P**	**02 57 30.5**	**+3.4**
	comp=Z,4.3nm,0.9s						
PBKT	**Sadao Pong**	**27.26**	**255**	P	**P**	**02 57 30.0**	**+1.9**
	comp=Z,18nm,0.7s,comp=Z,2μm						
GTA	**Gaotai**	**27.43**	**306** ⇑	P	**P**	**02 57 28.0**	**-1.6**
GTA				pP	**pP**	**02 57 37.5**	**-1.5**
GTA				sP	**sP**	**02 57 41.5**	**-1.6**
GTA				S	**S**	**03 02 05.5**	**-2.5**
GTA				sS	**sS**	**03 02 21.8**	**-1.8**
GTA				SS	**SnSn**	**03 03 25.8**	**+6.9**
GTA				pmax	pmax		
	comp=Z,57nm,1.1s						
GTA				pmax	pmax		
	comp=Z,830nm,5.1s						
GTA				LR	LR		
	comp=Z,2μm,13.5s						
GTA				LR	LR		
	comp=Z,2μm,14.7s						
GTA				LR	LR		
	comp=Z,2μm,15.2s						

ULN Ulaanbaatar 27.54 328⇓iP P 02 57 29.6 -0.9
ULN pmax pmax
comp=Z,25nm,1.1s
ULN Ulaanbaatar 27.54 328 eP P 02 57 29.2 -1.3
comp=Z,23nm,0.9s
LAMP Lampang 27.68 260 P P 02 57 33.5 +1.6
comp=Z,15nm,0.8s,comp=Z,117nm
CMAI Chiengmai2 27.73 263 P P 02 57 35.7 +3.2
comp=Z,24nm,1.6s,comp=Z,1µm
SONM Songino Array 27.84 327 P P 02 57 34.7 +1.6
SONM pmax pmax
comp=Z,16nm,0.9s
SONM Songino Array 27.84 327 P P 02 57 34.7 +1.6
comp=Z,16nm,0.8s,baz=142,slow=11,SNR=50
SBUM Sibu 28.18 216 eP P 02 57 36.1 -0.3
comp=Z,112nm,1.8s
CHTO Chiang Mai 28.19 261 eP P 02 57 37.5 +1.1
CHTO pmax pmax
comp=Z,15nm,0.9s
CHTO Chiang Mai 28.19 261 P P 02 57 37.6 +1.1
comp=Z,71nm,0.8s,comp=Z,5µm
CHTO Chiang Mai 28.19 261 eP P 02 57 37.5 +1.1
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 28.31 261 P P 02 57 38.5 +0.9
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 28.31 261 P P 02 57 38.5 +0.9
comp=Z,4.6nm,0.8s,baz=29,slow=18,SNR=4.6
MHMT Maesarieng 29.31 261 P P 02 57 56.9 +11
KSM Kuching 30.04 219 eP P 02 57 53.5 +0.7
comp=Z,28nm,1.0s
TLY Talaya 31.79 330 eP P 02 58 05.7 -2.3
TLY pmax pmax
comp=Z,4.0nm,1.2s
TLY MLR MLR
comp=Z,753nm,13.0s
TLY Talaya 31.79 330 P P 02 58 05.9 -2.1
comp=Z,0.9nm,0.4s,baz=153,slow=5.1,SNR=3.4
SHL Shillong 32.88 277 ex P 02 58 18.0 -0.1
SURT Suratani 32.89 244 P P 02 58 19.3 +1.4
comp=Z,9.2nm,1.8s
MOY Mondy 33.01 328 eP P 02 58 17.5 -1.2
LSA Lhasa 33.11 285 eP P 02 58 20.7 +0.4
comp=Z,8.3nm,0.8s
YAK Yakutsk 36.00 1⇑eP P 02 58 44.3 0.0
YAK Yakutsk 36.00 1 eP P 02 58 43.5 -0.7
comp=Z,68nm,0.8s
BATI Baumata 36.33 188 P P 02 58 43.5 -4.1
comp=Z,47nm,0.7s,baz=234,slow=18,SNR=3.2
BATI LR LR 03 14 31.0
comp=Z,242nm,21.8s,slow=38
TAPN Taplejung 36.34 281 eP P 02 58 48.3 +0.3
comp=Z,79nm,1.0s
ODAN Odare 36.69 281 eP P 02 58 51.4 +0.5
comp=Z,112nm,0.7s
RAMN Ramite 37.37 281 eP P 02 58 56.9 +0.1
comp=Z,113nm,1.2s
WMQ Urumqi 37.41 309 P P 02 58 56.8 +0.1
WMQ pP pP 02 59 06.5 +0.2
WMQ sP sP 02 59 10.5 +0.2
WMQ PP PnPn 03 00 25.0 +1.8
WMQ PcP PcP 03 01 15.5 +0.5
WMQ S S 03 04 42.3 -0.6
WMQ sS sS 03 04 58.3 -0.5
WMQ PcS PcS 03 05 02.8 -0.7
WMQ ScS ScS 03 09 05.8 -2.2
WMQ pmax pmax
comp=Z,27nm,0.8s
WMQ pmax pmax
comp=Z,200nm,4.6s
WMQ LR LR
comp=Z,1µm,19.2s
WMQ LR LR
comp=Z,750nm,18.4s
WMQ LR LR
comp=Z,790nm,22.6s
JIRN Jiri 37.63 282 eP P 02 58 59.4 +0.2
comp=Z,70nm,1.0s
GUN Gumba 37.88 283 eP P 02 59 01.4 +0.2
PKI Pulchoki 38.33 282 eP P 02 59 05.2 +0.2
comp=Z,50nm,0.5s
PKIN Phulchoki 38.34 282 eP P 02 59 04.9 -0.1
comp=Z,42nm,0.5s
KKN Kakani 38.42 283 eP P 02 59 06.4 +0.8
comp=Z,118nm,0.9s
DMN Daman 38.59 282 eP P 02 59 07.8 +0.7
GKN Gorkha 38.95 283 eP P 02 59 10.1 +0.1
PMG Port Moresby 39.64 150 eP P 02 59 15.3 -0.2
PMG pmax pmax
comp=Z,8.0nm,0.9s
PMG Port Moresby 39.64 150 eP P 02 59 15.3 -0.2
comp=Z,7.6nm,0.9s
DANN Dangsing 39.68 284 eP P 02 59 16.8 +0.6
comp=Z,202nm,0.8s
KOLN Koldanda 39.90 283 eP P 02 59 18.1 +0.2
comp=Z,132nm,0.9s
SEY Seymchan 40.14 17 P P 02 59 19.5 +0.3
SEY pmax pmax
comp=Z,3.0nm,0.6s
SEY Seymchan 40.14 17 P P 02 59 19.5 +0.3
comp=Z,2.8nm,0.6s,baz=208,slow=6.0,SNR=4.3
MKAR Makanchi Array 41.83 312 P P 02 59 32.3 -1.1
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 41.83 312 P P 02 59 32.3 -1.1
comp=Z,7.0nm,0.8s,baz=89,slow=8.9,SNR=4.3
COEN Coen 42.25 159 eP P 02 59 36.7 -0.3
ZALV Zalesovo Beam 42.54 323 P P 02 59 38.0 -1.0
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 42.54 323 P P 02 59 38.0 -1.0
comp=Z,5.3nm,0.7s,baz=108,slow=7.9,SNR=7.1
KURK Kurchatov 45.12 317 eP P 02 59 59.7 -0.1
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 45.12 317 eP P 02 59 59.7 -0.1
comp=Z,10nm,1.0s
KSH Kashi 45.55 301 eP P 03 00 05.0 +1.4
KSH epP pP 03 00 14.3 +0.9
KSH esP sP 03 00 18.3 +1.0
KSH ePP PP 03 01 52.5 +2.1
KSH ePcS PcS 03 05 31.0 -5.1
KSH eS S 03 06 41.8 -1.9
KSH eSS ScS 03 09 58.5 +0.8
KSH pmax pmax
comp=Z,70nm,2.5s
KSH pmax pmax
comp=Z,190nm,4.3s
KSH LR LR
comp=Z,490nm,12.7s
KSH LR LR
comp=Z,480nm,16.9s
KSH LR LR
comp=Z,150nm,2.2s
TIXI Tiksi 45.65 0⇑eP P 03 00 03.5 -0.2
TIXI pmax pmax
comp=Z,8.0nm,1.3s
TKM2 Tokmak 2 45.97 305 eP P 03 00 07.3 +0.3
TKM2 Tokmak 2 45.97 305 eP P 03 00 07.3 +0.3
WRAB Tennant Creek 46.05 172 eP P 03 00 05.0 -2.4
WRAB pmax pmax
comp=Z,20nm,0.9s
WRAB Tennant Creek 46.05 172 eP P 03 00 05.0 -2.4
comp=Z,20nm,0.9s
WRA Warramunga Arr 46.06 172 P P 03 00 05.4 -2.1
WRA pmax pmax
comp=Z,13nm,0.9s
WRA Warramunga Arr 46.06 172 P P 03 00 05.4 -2.1
comp=Z,13nm,0.9s,baz=349,slow=8.3,SNR=31
AAK Ala-Archa 46.77 305 eP P 03 00 13.7 +0.5
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 46.77 305 LR LR 03 21 17.6
comp=Z,866nm,18.7s,baz=36,slow=38
AAK Ala-Archa 46.77 305 eP P 03 00 13.7 +0.5
comp=Z,5.5nm,1.0s
EKS2 Erkin-Say 47.30 305 eP P 03 00 18.1 +0.9
EKS2 pmax pmax
comp=Z,9.0nm,1.0s
EKS2 Erkin-Say 47.30 305 eP P 03 00 18.1 +0.9
comp=Z,8.9nm,1.0s
BILL Bilibino 47.78 18 eP P 03 00 22.0 +1.5
BILL Bilibino 47.78 18 eP P 03 00 20.6 +0.1
CTA Charters Tower 48.99 158 P P 03 00 28.8 -1.5
CTA pmax pmax
comp=Z,6.0nm,0.9s
CTA Charters Tower 48.99 158 P P 03 00 28.8 -1.5
comp=Z,6.0nm,0.9s,baz=330,slow=14,SNR=4.2
CTAO Charters Tower 48.99 158 eP P 03 00 28.7 -1.5
CTAO pmax pmax
comp=Z,20nm,1.2s
CTAO Charters Tower 48.99 158 eP P 03 00 28.7 -1.5
comp=Z,20nm,1.2s
AS31 Alice Springs 49.69 173 eP P 03 00 34.2 -1.4
KKAR Karatay Array 49.70 306 eP P 03 00 36.4 +0.8
KKAR Karatay Array 49.70 306 eP P 03 00 36.4 +0.8
BVAR Borovoye Array 50.57 318 P P 03 00 42.8 +0.8
BVAR pmax pmax
comp=Z,10.0nm,0.9s
BVAR MLR MLR
comp=Z,1µm,18.2s
BVAR Borovoye Array 50.57 318 P P 03 00 42.8 +0.8
comp=Z,9.8nm,0.9s,baz=81,slow=9.2,SNR=7.9
BVAR LR LR 03 23 50.9
comp=Z,1µm,18.1s,baz=100,slow=38
BRVK Borovoye 50.64 318⇑iP P 03 00 43.5 +1.0
BRVK pmax pmax
comp=Z,25nm,1.2s
BRVK Borovoye 50.64 318 eP P 03 00 42.9 +0.4
comp=Z,19nm,0.7s
KBL Kabul 51.39 295 eP P 03 00 48.8 0.0
comp=Z,27nm,0.8s
TNA Tin City 55.71 27 eP P 03 01 20.4 +0.8
comp=Z,14nm,1.0s
ABKAR Akbulak array 56.94 313 eP P 03 01 28.7 0.0
ARU Arti 57.68 322c iP P 03 01 33.7 -0.1
ARU 03 03 41.0
ARU S S 03 09 32.0 +2.0
ARU SS SS 03 13 16.6 -3.6
ARU pmax pmax
comp=Z,17nm,1.0s
ARU MLR MLR
comp=Z,925nm,17.0s
ARU Arti 57.68 322 eP P 03 01 33.4 -0.4
comp=Z,20nm,1.1s
AKTO Aktyubinsk 58.13 315 P P 03 01 38.3 +1.3
AKTO pmax pmax
comp=Z,4.0nm,0.7s
AKTO Aktyubinsk 58.13 315 P P 03 01 38.2 +1.3
comp=Z,3.8nm,0.7s,baz=85,slow=11,SNR=2.7
STKA Stephens Creek 58.93 167 P P 03 01 44.1 +1.4
STKA pmax pmax
comp=Z,5.0nm,0.9s
STKA Stephens Creek 58.93 167 P P 03 01 44.0 +1.4
comp=Z,5.3nm,0.9s,baz=359,slow=7.9,SNR=5.0
GEYT Alibeck 59.58 300 P P 03 01 48.6 +1.2
comp=Z,11nm,0.8s,baz=25,slow=3.9,SNR=12
IM04 Indian Mountai 61.54 27 eP P 03 01 59.7 -0.5
MCK McKinley 63.73 29 eP P 03 02 15.3 +0.4
MCK pmax pmax
comp=Z,65nm,1.9s
MCK McKinley 63.73 29 eP P 03 02 15.3 +0.4
comp=Z,64nm,1.9s
COLA College 64.08 28 eP P 03 02 17.5 +0.4
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 64.08 28 eP P 03 02 17.4 +0.4
comp=Z,5.0nm,0.8s
ILAR Eielson Array 64.50 28 P P 03 02 19.1 -0.8
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 64.50 28 P P 03 02 19.1 -0.8
comp=Z,1.3nm,0.7s,baz=269,slow=5.1,SNR=15
PAX Paxson 65.38 30 eP P 03 02 26.2 +0.5
PAX Paxson 65.38 30 eP P 03 02 26.2 +0.5
DOT Dot Lake 65.89 29 eP P 03 02 29.0 0.0
comp=Z,4.7nm,0.8s
EGAK Eagle 66.92 28 eP P 03 02 36.0 +0.5
comp=Z,17nm,1.6s
TMCR Tamitsa 67.09 332 eP P 03 02 36.7 +0.2
TMCR e 03 05 05.2
TMCR pmax pmax
comp=Z,29nm,1.0s
KLMR Klimovskoe 67.13 328 eP P 03 02 35.8 -1.0
KLMR pmax pmax
comp=Z,32nm,1.7s
APA Apatity 68.12 336⇑iP P 03 02 44.0 +1.0
APA MLR MLR
comp=Z,800nm,11.0s
VRHR Novokhopersk 68.29 317 eP P 03 02 42.0 -2.3
VRHR pmax pmax
comp=Z,10.0nm,1.1s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.8s
SPITS Spitsbergen Ar 69.06 348 P P 03 02 48.4 -0.4
SPITS pmax pmax
comp=Z,7.0nm,0.8s
SPITS Spitsbergen Ar 69.06 348 P P 03 02 48.4 -0.4
comp=Z,7.1nm,0.8s,baz=74,slow=7.1,SNR=6.3
GNI Garni 69.17 305⇓iP P 03 02 52.0 +1.7
GNI pmax pmax
comp=Z,24nm,1.7s
GNI Garni 69.17 305 P P 03 02 51.9 +1.7
comp=Z,1.4nm,0.4s,baz=258,slow=8.7,SNR=4.9
GNI Garni 69.17 305 eP P 03 02 51.9 +1.6
comp=Z,29nm,1.3s
KBZ Khabaz 69.46 309 P P 03 02 52.8 +1.1
KBZ pmax pmax
comp=Z,15nm,0.9s
KBZ Khabaz 69.46 309 P P 03 02 52.8 +1.1
comp=Z,15nm,0.9s,baz=90,slow=2.8,SNR=22
KIV Kislovodsk 69.54 310 eP P 03 02 53.0 +0.6
KIV pmax pmax
comp=Z,31nm,1.0s
KIV MLR MLR
comp=Z,377nm,18.0s
KIV Kislovodsk 69.54 310 eP P 03 02 51.9 -0.4
comp=Z,36nm,1.1s
VORD Divnogorie 69.74 318 eP P 03 02 48.8 -4.5
VORD pmax pmax
comp=Z,10.0nm,1.6s
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 69.75 318⇓iP P 03 02 53.1 -0.3
VSR pmax pmax
comp=Z,15nm,1.0s
OBN Obninsk 70.12 322 eP P 03 02 55.8 +0.2
OBN eS S 03 12 03.6 -0.7
OBN eSS SS 03 16 38.5 +4.8
OBN pmax pmax
comp=Z,37nm,2.5s
OBN MLR MLR
comp=Z,525nm,18.0s
OBN Obninsk 70.12 322 P P 03 02 53.9 -1.7
comp=Z,6.5nm,0.5s,baz=165,slow=8.8,SNR=3.6
ARCES ARCESS Array B 70.27 339 P P 03 02 56.4 +0.1
ARCES pmax pmax
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 70.27 339 P P 03 02 56.4 +0.1
comp=Z,7.1nm,0.9s,baz=68,slow=9.8,SNR=6.5
JOF Joensuu 70.32 331 eP P 03 02 55.3 -1.4
JOF pmax pmax
comp=Z,5.0nm,0.8s
JOF Joensuu 70.32 331 ep P 03 02 55.3 -1.4
comp=Z,4.7nm,0.8s
KAF Kangasniemi 72.78 331 eP P 03 03 10.2 -1.3
KAF pmax pmax
comp=Z,6.0nm,0.8s
KAF Kangasniemi 72.78 331 ep P 03 03 10.2 -1.3
comp=Z,5.5nm,0.8s
FINES FINESS Array B 73.14 331 P P 03 03 13.1 -0.6
FINES pmax pmax
comp=Z,7.0nm,0.8s
FINES FINESS Array B 73.14 331 P P 03 03 13.1 -0.6
comp=Z,6.7nm,0.8s,baz=71,slow=5.2,SNR=19
RAYN Ar Rayn 74.08 289 P P 03 03 20.9 +0.9
comp=Z,1.0nm,1.0s,SNR=7.5
RAYN Ar Rayn 74.08 289 eP P 03 03 20.9 +0.9
comp=Z,36nm,1.2s
MALT Malatya 74.40 305⇓iP P 03 03 23.3 +1.6
SIM Simferopol' 75.00 313d iP P 03 03 25.4 +0.5
SIM e 03 03 33.0
SIM pmax pmax
comp=Z,23nm,0.9s
MICGM Minsk 75.05 324 e P 03 03 24.0 -0.9
MNK Minsk 75.07 324 eP P 03 03 24.0 -1.1
DAG Danmarks Havn 75.48 353 eP P 03 03 26.7 -0.3
DAG pmax pmax
comp=Z,6.0nm,1.0s
DAG Danmarks Havn 75.48 353 iP P 03 03 26.7 -0.3
comp=Z,6.1nm,1.0s
AKASG Malin Array Be 75.83 320 P P 03 03 29.2 -0.3
AKASG pmax pmax
comp=Z,13nm,0.8s
AKASG Malin Array Be 75.83 320 P P 03 03 29.2 -0.3
comp=Z,13nm,0.8s,baz=56,slow=6.3,SNR=50
AKBB Malin Array Si 75.83 320 eP P 03 03 29.1 -0.4
AKBB Malin Array Si 75.83 320 eP P 03 03 29.1 -0.4
AK01 Malin Array Si 75.83 320 eP P 03 03 28.7 -0.8
KIEV Kiev 75.84 320 eP P 03 03 29.0 -0.5
KIEV pmax pmax
comp=Z,15nm,0.8s
KIEV Kiev 75.84 320 eP P 03 03 28.9 -0.5
comp=Z,15nm,0.8s
AK02 Malin Array Si 75.85 320 eP P 03 03 28.7 -0.9
BR131 Keskin Array S 77.33 308 eP P 03 03 38.7 +0.3
comp=Z,7.5nm,0.8s
BRTR Keskin Array B 77.33 308 P P 03 03 39.1 +0.7
BRTR pmax pmax
comp=Z,11nm,0.9s
BRTR Keskin Array B 77.33 308 P P 03 03 39.0 +0.7
comp=Z,11nm,0.9s,baz=94,slow=5.0,SNR=40
SUW Suwalki 77.74 324 eP P 03 03 40.8 +0.5
SUW Suwalki 77.74 324 eP P 03 03 40.7 +0.5
SUW Suwalki 77.74 324 eP P 03 03 40.7 +0.5
comp=Z,101nm,1.3s
ANTO Ankara 77.87 308⇑iP P 03 03 41.8 +0.5
LEOM Leova 78.17 316⇓iP P 03 03 43.5 +0.8
YKA Yellowknife Ar 78.61 25 P P 03 03 45.0 +0.2
comp=Z,1.0nm,0.6s,baz=301,slow=5.4,SNR=18
CFR Carcaliu 78.79 315⇓iP P 03 03 46.8 +0.6
PRAR RASCA 79.03 317⇑iP P 03 03 48.5 +1.0
HFS Hagfors 79.10 332 P P 03 03 47.4 -0.2
HFS pmax pmax
comp=Z,6.0nm,0.8s
HFS Hagfors 79.10 332 P P 03 03 47.4 -0.2
comp=Z,5.8nm,0.8s,baz=88,slow=3.6,SNR=11
PETR Petresti 79.13 316⇑iP P 03 03 50.4 +2.4
TESR Tescani 79.14 317⇑iP P 03 03 48.5 +0.4
VRI Vrincioaia 79.38 316⇑iP P 03 03 50.9 +1.4
PLOR Plostina 79.44 316⇑iP P 03 03 51.6 +1.8
GRER 79.44 315⇓iP P 03 03 52.7 +2.9
BUR08 Bucovina Ar. S 79.52 318 eP P 03 03 50.3 0.0
BURAR Bucovina Array 79.53 318⇑iP P 03 03 51.3 +1.0
NB2 NORSAR Subarra 79.59 334 P P 03 03 49.7 -0.6
comp=Z,6.7nm,0.8s,baz=54,slow=5.6
NOA NORSAR Array B 79.59 334 P P 03 03 49.7 -0.6
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA NORSAR Array B 79.59 334 P P 03 03 49.7 -0.6
comp=Z,5.4nm,0.9s,baz=58,slow=5.0,SNR=14
NAO01 NORSAR Array S 79.83 334 eP P 03 03 51.0 -0.5
comp=Z,8.6nm,1.0s
MLR Muntele Rosu 80.04 316 P P 03 03 54.0 +0.8
MLR pmax pmax
comp=Z,2.0nm,1.0s
MLR Muntele Rosu 80.04 316⇑iP P 03 03 54.7 +1.5
MLR Muntele Rosu 80.04 316 P P 03 03 54.0 +0.8
comp=Z,2.2nm,1.0s,baz=72,slow=4.6,SNR=7.9
BEL Belsk 80.05 323 eP P 03 03 54.1 +1.2
BEL Belsk 80.05 323 eP P 03 03 54.1 +1.2
KWP Kalwaria Pacla 80.06 321 eP P 03 03 54.0 +0.9
KWP Kalwaria Pacla 80.06 321 eP P 03 03 53.9 +0.9
KWP Kalwaria Pacla 80.06 321⇓iP P 03 03 54.3 +1.3
KWP Kalwaria Pacla 80.06 321 eP P 03 03 53.4 +0.4
comp=Z,25nm,1.0s
DOPR Dopca 80.17 316⇑iP P 03 03 55.0 +1.2
SULR 80.21 315⇓iP P 03 03 56.0 +2.1
VOIR 80.63 316⇓iP P 03 03 57.3 +1.0
KOLS Kolonicke sedl 80.64 320 eP P 03 03 57.2 +1.0
KOLS pmax pmax
comp=Z,51nm,2.8s
KOLS Kolonicke sedl 80.64 320 eP P 03 03 57.2 +1.0
UZH Uzhgorod 80.78 320 eP P 03 03 58.7 +1.8
TRPA Tarpa 80.88 319⇓iP P 03 03 58.1 +0.7
ARR Arges 80.92 316⇓iP P 03 03 59.0 +1.2
STHS Stebnicka Huta 81.00 321 eP pP 03 04 08.3 -0.2
STHS Stebnicka Huta 81.00 321 e pP 03 04 08.3 -0.2
CRVS Cervenica-Dubn 81.13 320 eP P 03 03 59.0 +0.2
CRVS pmax pmax
comp=Z,15nm,1.4s
CRVS Cervenica-Dubn 81.13 320 eP P 03 03 59.0 +0.2
SUMG Summit 81.24 356 eP P 03 04 00.2 +0.8
SUMG pmax pmax
comp=Z,19nm,0.9s
SUMG Summit 81.24 356 iP P 03 04 00.2 +0.8
comp=Z,19nm,0.9s
SUMG Summit 81.24 356 eP P 03 04 00.3 +0.8
comp=Z,22nm,0.9s
LOT Lotru 81.42 316⇑iP P 03 04 02.1 +1.6
DRGR 81.42 318⇓iP P 03 04 01.7 +1.2
GZR Gura Zlata 82.06 317⇑iP P 03 04 04.8 +1.0
OKC Ostrava-Krasne 82.52 322 eP P 03 04 08.2 +2.1
OKC e 03 04 18.9
OKC MLR MLR
comp=Z,500nm,15.0s
OKC Ostrava-Krasne 82.52 322 eP P 03 04 08.2 +2.1
OKC ex x 03 04 18.9
OKC AMS AMS 03 42 50.0
comp=Z,500nm,15.0s
PSZ Piszkesteto 82.52 320 eP P 03 04 06.5 +0.2
PSZ pmax pmax
comp=Z,13nm,1.4s
PSZ Piszkesteto 82.52 320 eP P 03 04 06.5 +0.2
comp=Z,13nm,1.4s
VYHS Vyhne 82.83 321 eP P 03 04 08.5 +0.7
VYHS pmax pmax
comp=Z,9.0nm,1.3s
VYHS Vyhne 82.83 321 eP P 03 04 08.5 +0.7
MORC Moravsky Berou 82.88 322 eP P 03 04 08.1 +0.1
MORC pmax pmax
comp=Z,11nm,1.3s
MORC Moravsky Berou 82.88 322⇑iP P 03 04 10.0 +2.0
MORC Moravsky Berou 82.88 322 eP P 03 04 08.1 +0.1
comp=Z,11nm,1.3s
DPC Dobruska-Polom 83.23 323 eP P 03 04 10.2 +0.4
DPC e 03 04 20.3
DPC Dobruska-Polom 83.23 323 eP P 03 04 10.2 +0.4
DPC ex x 03 04 20.3
MMB Musomiste 83.29 313⇓iP P 03 04 10.9 +0.6
UPC Upice 83.31 324 eP P 03 04 10.9 +0.7
UPC e 03 04 20.1
UPC Upice 83.31 324 eP P 03 04 10.9 +0.7
UPC ex x 03 04 20.1
VRAC Vranov 83.65 322 P P 03 04 13.8 +1.8
VRAC pmax pmax
comp=Z,4.0nm,0.7s
VRAC Vranov 83.65 322⇓iP P 03 04 14.6 +2.6
VRAC Vranov 83.65 322 P P 03 04 13.8 +1.8
comp=Z,3.6nm,0.7s,baz=96,slow=5.8,SNR=3.9
PKSM Moragy 84.14 319⇓iP P 03 04 16.6 +2.1
BRG Berggiesshubel 84.20 325 eP P 03 04 14.6 -0.1
comp=Z,12nm,1.4s
BRG e 03 04 23.5
comp=Z,20nm,1.4s
BRG
comp=N,2µm,20.2s
BRG
comp=E,986nm,22.3s
BRG
comp=Z,804nm,16.9s
BRG Berggiesshubel 84.20 325 eP P 03 04 14.6 -0.1
BRG e 03 04 23.5
BRG pmax pmax
comp=Z,12nm,1.4s
BRG pmax pmax
comp=Z,20nm,1.4s
BRG MLR MLR
comp=N,2µm,20.2s
BRG MLR MLR
comp=E,986nm,22.3s
BRG MLR MLR
comp=Z,804nm,16.9s
TREC Trest 84.27 323 eP P 03 04 15.6 +0.5
TREC e 03 04 25.0
TREC MLR MLR
comp=Z,700nm,16.2s
TREC Trest 84.27 323 eP P 03 04 15.6 +0.5
TREC ex x 03 04 25.0
TREC AMS AMS 03 45 10.0
comp=Z,700nm,16.2s
PRU Pruhonice 84.39 324 eP P 03 04 17.0 +1.3

PRU e 03 04 24.2
PRU MLR MLR
comp=Z,800nm,17.6s
PRU Pruhonice 84.39 324 eP P 03 04 17.0 +1.3
PRU ex x 03 04 24.2
PRU AMS AMS 03 49 00.0
comp=Z,800nm,17.6s
CLL Collm 84.44 325⇓iP P 03 04 16.1 +0.2
CLL i 03 04 24.9
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL MLR MLR
comp=Z,1μm,18.5s
CLL Collm 84.44 325⇓iP P 03 04 16.1 +0.2
comp=Z,7.0nm,1.0s
CLL i 03 04 19.5
CLL i 03 04 24.9
CLL ePP PP 03 07 30.0 -0.7
CLL eS S 03 14 48.0 +8.1
CLL LmV 03 47 00.0
comp=Z,1μm,18.5s
CSNA Conrad Observa 84.82 321⇑iPcP P 03 04 19.7 +1.7
comp=Z,12nm,1.3s
KHC Kasperske Hory 85.39 323 eP P 03 04 21.5 +0.7
KHC e 03 04 30.1
KHC MLR MLR
comp=Z,900nm,13.0s
KHC Kasperske Hory 85.39 323 eP P 03 04 21.5 +0.7
KHC ex x 03 04 30.1
KHC AMS AMS 03 46 40.0
comp=Z,900nm,13.0s
GERES GERESS Array B 85.49 323 P P 03 04 21.7 +0.3
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 85.49 323 P P 03 04 21.7 +0.3
comp=Z,1.7nm,0.8s,baz=53,slow=5.2,SNR=11
BSMT Bassoo Peak 87.13 37 eP P 03 04 30.4 +0.7
ABTA Abfaltersbach 87.36 322 P 03 04 32.0 +1.4
comp=Z,6.9nm,1.0s
FETA Feichten 88.18 323⇑iPcP PcP 03 04 39.2 +2.9
comp=Z,7.9nm,1.2s
SLMT Seeley Lake 88.19 37 eP P 03 04 34.5 -0.1
comp=Z,7.5nm,1.0s
FCC Fort Churchill 88.44 21 eP P 03 04 35.2 -0.1
FCC Fort Churchill 88.44 21 eP P 03 04 35.2 -0.1
FFC Flin Flon 88.66 27 eP P 03 04 36.6 +0.1
FFC pmax pmax
comp=Z,10.0nm,1.0s
FFC Flin Flon 88.66 27 eP P 03 04 36.6 +0.1
comp=Z,9.5nm,1.0s
DAVOX Davos/Dischmat 88.79 323 P P 03 04 39.5 +2.0
DAVOX pmax pmax
comp=Z,6.0nm,0.8s
DAVOX MLR MLR
comp=Z,1μm,18.1s
DAVOX Davos/Dischmat 88.79 323 P P 03 04 39.5 +2.0
comp=Z,6.0nm,0.8s,baz=56,slow=5.1,SNR=8.8
DAVOX LR LR 03 46 19.9
comp=Z,1μm,18.1s,baz=258,slow=37
EKA Eskdalemuir Ar 89.04 335 P P 03 04 40.6 +2.3
EKA pmax pmax
comp=Z,2.0nm,1.0s
EKA Eskdalemuir Ar 89.04 335 P P 03 04 40.6 +2.3
comp=Z,2.1nm,0.9s,baz=64,slow=4.8,SNR=3.0
HRY Holter Researc 89.42 37 eP P 03 04 39.5 -0.8
NVAR Mina Array Bea 90.48 46 P P 03 04 47.0 +1.3
comp=Z,0.1nm,0.3s,baz=270,slow=1.8,SNR=2.8
KMBO Kilima Mbogo 91.59 270 eP P 03 04 51.5 +0.3
KMBO pmax pmax
comp=Z,8.0nm,1.6s
KMBO Kilima Mbogo 91.59 270 P P 03 04 58.5 +7.3
comp=Z,1.1nm,0.8s,baz=51,slow=8.2,SNR=6.3
KMBO Kilima Mbogo 91.59 270 eP P 03 04 51.5 +0.3
comp=Z,7.9nm,1.6s
RCBR Riachuelo 154.97 321 ePKPbc PKPbc 03 11 44.3 -1.5

SJA 28 02:57:11.7±1.0,32.75S×73.65W,h45km±28km,ML4.0
IDC 28 02:57:18.4±0.9,33.38S×72.47W,h0km,mb4.0/4, mb1 4.2/5,mb1mx4.0/17,mbtmp4.0/5,ML3.3/2,Error ellipse: s-maj=33.2km s-min=20.8km az=134.0
NEIC 28 02:57:23.1±0.4,33.39S×72.46W,h35km,mb4.4/17,Error ellipse: s-maj=13.5km s-min=9.7km az=63.0
ISC 28 02:57:19.7±0.6,33.33S±0.08×72.51W±0.06,h12km,n47, σ1.39/50,mb4.5/18,Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AUSP Uspallata 2.85 68 eP Pb 02 58 08.1 -2.6
AUSP eS Sg 02 58 50.3 -0.9
ARCO CERRO ARCO 3.04 82 eP Pb 02 58 12.6 -1.2
ARCO AML AML 02 59 03.2
comp=Z,144nm,0.6s
AAGR Agrelo 3.09 87 eP Pb 02 58 14.4 -0.3
RTLS Leoncito 3.11 62 eP Pn 02 58 11.4 +2.6
ASAL Salagasta 3.17 78 eP Pb 02 58 14.4 -1.6
ASAL eS Sg 02 59 00.9 -0.7
AVIZ Vizcacheras 3.34 94 eP Pb 02 58 19.0 +0.1
RTCV Cerro Valdivia 3.65 68 eP Pn 02 58 20.1 +4.0
RTCV eP Pn 02 58 20.1 +4.0
RTCV eS Sb 02 59 09.8 +1.4
RTLL Cerro Villicun 3.95 61 eP Pn 02 58 21.9 +1.8
CFAA Coronel Fontan 4.00 66 Pn Pn 02 58 23.0 +2.2
comp=Z,0.3nm,0.3s,baz=240,slow=13,SNR=3.3
CFAA Lg Lg 02 59 25.9
comp=Z,1.6nm,0.3s,baz=5.7,slow=13,SNR=6.3
CFAA Coronel Fontan 4.00 66 eP Pn 02 58 23.4 +2.6
AVFE Valle Fertil 5.05 60 eP Pn 02 58 36.1 +0.8
AVFE AML AML 03 00 05.9
comp=Z,75nm,0.6s
TRQA Tornquist 9.77 122 ePn Pn 02 59 40.5 +0.4
comp=Z,48nm,1.3s
LPAZ La Paz 17.42 14 Pn P 03 01 24.4 -0.1
comp=Z,0.2nm,0.3s,baz=192,slow=10,SNR=6.3
LPAZ La Paz 17.42 14 ePn P 03 01 24.4 -0.1
comp=Z,8.7nm,0.9s
SIV San Ignacio 20.12 34 P P 03 01 54.1 +0.5
comp=Z,6.1nm,1.0s,baz=223,slow=15,SNR=5.6
SAML Samuel 25.74 22 eP P 03 02 52.1 +1.9
comp=Z,4.5nm,0.7s
OTAV Otavalo 33.85 349 eP P 03 04 03.5 +0.9
comp=Z,3.3nm,1.2s
SDV Santo Domingo 42.01 3 eP P 03 05 11.5 +0.2
comp=Z,2.8nm,0.9s
BCIP Isla Barro Col 42.83 349 eP P 03 05 14.9 -2.7
SNAA Sanae 52.35 158 eP P 03 06 31.7 +0.5
comp=Z,5.8nm,1.0s
QSPA South Pole Qui 56.91 180 P P 03 07 05.8 +1.4
comp=Z,2.1nm,0.9s,baz=110,slow=1.5,SNR=6.2
QSPA South Pole Qui 56.91 180 eP P 03 07 05.3 +0.9
comp=Z,11nm,1.2s
GOGA Godfrey 67.18 350 eP P 03 08 11.5 -1.9
LRAL Lakeview Retre 67.40 347 eP P 03 08 15.6 +0.8
comp=Z,6.3nm,1.0s
JCT Junction City 68.51 335 eP P 03 08 23.2 +1.3
comp=Z,4.8nm,0.9s
TXAR Lajitas Array 68.96 331 P P 03 08 27.1 +2.2
comp=Z,0.4nm,0.6s,baz=155,slow=8.2,SNR=3.8
ABTX Abilene, Hawle 70.41 336 eP P 03 08 34.4 +0.8
comp=Z,4.2nm,0.7s
WVT Waverly 70.57 347 eP P 03 08 35.0 +0.6
comp=Z,2.4nm,0.6s
MNTX Cornudas Mount 71.73 331 eP P 03 08 42.7 +1.0
comp=Z,2.0nm,1.1s
TUL1 Tulsa 72.24 340 eP P 03 08 45.6 +1.0
comp=Z,3.6nm,0.6s
DBIC Dimbokro 75.33 72 eP P 03 09 03.4 +0.1
comp=Z,3.8nm,0.9s
MVCO Mesa Verde 77.79 331 eP P 03 09 17.5 +0.5
comp=Z,22nm,1.8s
ISCO Idaho Springs 78.95 335 eP P 03 09 23.8 +0.4
comp=Z,1.2nm,0.8s
DUG Dugway 82.09 330 eP P 03 09 40.5 +0.4
comp=Z,3.3nm,1.1s
TORD Torodi Ar. Bea 84.35 70 P P 03 09 52.0 0.0
comp=Z,2.5nm,0.9s,baz=241,slow=4.5,SNR=11
TAM Tamanrasset 92.89 65 eP P 03 10 32.6 -0.3
comp=Z,1.1nm,0.9s
BR131 Keskin Array S 121.85 61 ePKPdf PKPdf 03 16 11.2 -2.6
KIV Kislovodsk 129.46 58 ePKPdf PKPdf 03 16 26.6 -1.6
ABKAR Akbulak array 141.57 51 ePKPdf PKPdf 03 16 48.1 -2.3
PALK Pallekele 144.12 130 ePKPdf PKPdf 03 16 55.6 -0.5
BVAR Borovoye Array 147.05 42 PKPbc PKPbc 03 17 00.9 -1.0
comp=Z,0.2nm,0.3s,baz=302,slow=2.7,SNR=2.8
PSI Prapat 148.59 163 PKPbc PKPbc 03 17 05.6 -1.8
comp=Z,1.8nm,0.4s,baz=146,slow=7.3,SNR=4.4
AAK Ala-Archa 152.52 61 PKPbc PKPbc 03 17 17.5 +1.5
comp=Z,0.4nm,0.3s,baz=214,slow=7.3,SNR=3.8
KURK Kurchatov 152.65 42 ePKPbc PKPbc 03 17 14.2 -1.6
ZAA0 Zalesovo Array 153.86 31 ePKPbc PKPbc 03 17 17.9 -0.4
ZALV Zalesovo Beam 153.86 31 PKPbc PKPbc 03 17 17.7 -0.6
comp=Z,1.6nm,0.8s,baz=316,slow=4.1,SNR=4.9
MKAR Makanchi Array 156.61 47 PKP PKPdf 03 17 15.0 +0.6
comp=Z,0.5nm,0.9s,baz=90,slow=1.4,SNR=3.3
MKAR PKPab PKPab 03 17 43.9 +0.4
comp=Z,0.7nm,0.8s,baz=268,slow=4.3,SNR=4.4

SKO 28 03:10:36.8,41.17N×22.61E,h15km,ML0.2, Northwestern Balkan Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VAY Valandovo 0.15 349 iPg Pb 03 10 41.3 -0.2
VAY iSg Sg 03 10 43.0 -0.4
VAY eLg Lg 03 10 43.2
comp=E,5.4nm,0.3s
VAY eLg Lg 03 10 43.2
comp=N,13nm,0.3s

SJA 28 03:13:12.4±0.5,35.97S×74.74W,h328km±104km,ML5.3
ISCJB 28 03:13:34.6±0.3,35.22S±0.04×72.81W±0.06,h10km, mb4.8/63,Error ellipse: s-maj=6.6km s-min=6.1km az=7.1
IDC 28 03:13:34.1±0.5,35.20S×72.72W,h0km,mb4.3/13, mb1 4.4/18,mb1mx4.4/23,mbtmp4.3/18,ML4.5/4,Error ellipse: s-maj=22.8km s-min=13.5km az=86.0
NEIC 28 03:13:39.6±0.2,35.18S×72.67W,h35km,mb4.9/53,Error ellipse: s-maj=6.8km s-min=4.5km az=72.0
ISC 28 03:13:35.9±0.3,35.22S±0.05×72.85W±0.05,h10km,n155, σ1.25/168,mb4.9/63,1C,Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AAGR Agrelo 3.96 59 eP Pn 03 14 40.0 +3.1
AAGR eS Sg 03 15 44.1 +1.0
ARCO CERRO ARCO 4.03 55 eP Pn 03 14 39.6 +1.8
ARCO eS Sg 03 15 45.3 0.0
ARCO AML AML 03 15 49.1
comp=Z,671nm,0.6s
AUSP Uspallata 4.16 45 eP Pn 03 14 41.4 +1.7
AUSP eS Sg 03 15 47.8 -1.6
ASAL Salagasta 4.25 53 eP Pn 03 14 43.2 +2.4
RTLS Leoncito 4.52 42 eP Pn 03 14 46.0 +1.3
RTCV Cerro Valdivia 4.92 48 eP Pn 03 14 50.0 0.0
CFAA Coronel Fontan 5.28 48 Pn Pn 03 14 53.5 -1.5
comp=Z,0.9nm,0.3s,baz=214,slow=10,SNR=8.0
CFAA Lg Lg 03 16 15.3
comp=Z,6.0nm,0.3s,baz=152,slow=21,SNR=7.8
RTLL Cerro Villicun 5.34 45 eP Pn 03 14 55.3 -0.4
ACAN Cantantal 5.56 60 eP Pn 03 14 58.3 -0.5
ACAN eP Pn 03 14 58.3 -0.5
PLCA Paso Flores 5.80 162 Pn Pn 03 15 02.1 0.0
comp=Z,8.4nm,0.3s,baz=331,slow=10,SNR=14
PLCA Lg Lg 03 16 35.3
comp=Z,12nm,0.3s,baz=252,slow=19,SNR=3.6
PLCA Paso Flores 5.80 162 ePn Pn 03 15 03.5 +1.4
PLCA Lg Lg 03 16 35.3
AVFE Valle Fertil 6.42 46 AML AML 03 16 49.5
comp=Z,198nm,0.5s
TRQA Tornquist 9.19 111 ePn Pn 03 15 48.5 -0.1
LVC Limon Verde 13.02 16 ePn Pn 03 16 41.2 -0.1
CPUP Villa Florida 16.00 61 Pn Pn 03 17 21.2 +0.2
comp=Z,0.2nm,0.3s,baz=292,slow=7.3,SNR=3.2
CPUP Villa Florida 16.00 61 ePn Pn 03 17 20.4 -0.6
LPAZ La Paz 19.32 14 P P 03 18 02.5 +0.5
comp=Z,0.3nm,0.3s,baz=182,slow=10,SNR=14
LPAZ La Paz 19.32 14 eP P 03 18 02.8 +0.8
comp=Z,76nm,1.6s
USHA Ushuaia 19.85 172 P P 03 18 07.8 +1.0
comp=Z,0.8nm,0.3s,baz=333,slow=8.0,SNR=6.9
SIV San Ignacio 21.86 32 P P 03 18 27.8 -1.1
comp=Z,9.5nm,0.6s,baz=222,slow=9.9,SNR=9.4
NNA Nana 23.41 350 P P 03 18 46.4 +1.1
comp=Z,2.4nm,0.3s,baz=163,slow=10,SNR=2.6
SAML Samuel 27.60 21 eP P 03 19 23.0 -0.6
comp=Z,18nm,1.8s
BDFB Brasilia 29.58 55 P P 03 19 40.7 -0.5
comp=Z,2.5nm,1.1s,baz=216,slow=14,SNR=2.1
BDFB Brasilia 29.58 55 eP P 03 19 47.0 +5.8
OTAV Otavalo 35.66 350 eP P 03 20 34.7 -0.1
comp=Z,21nm,1.5s
OTAV e 03 20 44.5
ROSC El Rosal 39.88 358 P P 03 21 11.1 +0.7
comp=Z,2.6nm,0.4s,baz=90,slow=20,SNR=2.6
ROSC El Rosal 39.88 358 eP P 03 21 12.5 +2.0
SDV Santo Domingo 43.91 3 eP P 03 21 43.1 -0.1
comp=Z,22nm,0.8s
JTS JuntasAbangare 46.69 344 eP P 03 22 02.4 -2.6
comp=Z,6.2nm,0.9s
GRGR Grenville 48.27 15 eP P 03 22 17.1 -0.2
comp=Z,235nm,1.3s
VNA3 Neumayer Olymp 48.49 157 P P 03 22 19.6 +1.1
VNA2 Neumayer--Watz 49.16 157 P P 03 22 24.3 +0.7
SNAA Sanae 50.72 157 P P 03 22 35.5 +0.1
SNAA Sanae 50.72 157 P P 03 22 35.8 +0.4
comp=Z,12nm,0.9s,baz=287,slow=6.9,SNR=51
SNAA Sanae 50.72 157 eP P 03 22 35.8 +0.4
comp=Z,32nm,0.9s
QSPA South Pole Qui 55.02 180 eP P 03 23 08.0 +0.6
comp=Z,9.2nm,0.9s,baz=150,slow=3.4,SNR=23
QSPA South Pole Qui 55.02 180 eP P 03 23 08.1 +0.6
comp=Z,49nm,1.0s
SYO Syowa Base 64.98 158⇑eP P 03 24 10.0 -5.5
VBMS Vicksburg 69.10 344 eP P 03 24 46.4 +4.4
comp=Z,28nm,0.6s
JCT Junction City 70.10 335 eP P 03 24 47.4 -0.9
comp=Z,21nm,1.2s
TXAR Lajitas Array 70.48 332 P P 03 24 50.9 +0.2
comp=Z,0.6nm,0.6s,baz=153,slow=8.0,SNR=8.0
WHTX Lake Whitney 70.74 338 eP P 03 24 52.3 +0.2
comp=Z,24nm,1.3s
OXF Oxford 71.08 346 eP P 03 24 53.8 -0.3
comp=Z,22nm,1.1s
SWET Sewanee 71.13 349 eP P 03 24 54.0 -0.4
comp=Z,48nm,1.7s
ABTX Abilene, Hawle 72.02 336 eP P 03 25 00.1 +0.2
comp=Z,27nm,0.8s
ABTX e 03 25 08.4
WVT Waverly 72.34 347 eP P 03 25 00.4 -1.3
comp=Z,22nm,1.2s
W34A Bridge Creek, 73.85 339 eP P 03 25 11.2 +0.5
comp=Z,166nm,2.3s
TUL1 Tulsa 73.93 341 eP P 03 25 10.3 -0.8
comp=Z,4.2nm,0.8s
MSTX Muleshoe 74.31 334 eP P 03 25 12.9 -0.6
comp=Z,8.2nm,0.9s
AMTX Amarillo 74.76 336 eP P 03 25 15.5 -0.6
comp=Z,24nm,1.3s
SUR Sutherland 74.83 119 eP P 03 25 18.2 +1.2
comp=Z,34nm,1.3s
121A Cookes Peak, D 74.94 330 eP P 03 25 18.4 +1.0
comp=Z,9.3nm,0.9s
ACSO Alum Creek Sta 75.66 352 eP P 03 25 24.0 +3.0
comp=Z,19nm,0.7s
DBIC Dimbokro 76.20 72 P P 03 25 23.9 -0.8
comp=Z,6.6nm,0.9s,baz=199,slow=6.5,SNR=7.9
DBIC Dimbokro 76.20 72 eP P 03 25 23.5 -1.3
comp=Z,9.7nm,1.0s
LAZ Ladron 76.32 331 eP P 03 25 26.3 +1.1
comp=Z,6.2nm,1.5s
ANMO Albuquerque 76.53 332 eP P 03 25 27.0 +0.6
comp=Z,11nm,1.1s
SDCO Great Sand Dun 78.66 334 eP P 03 25 38.3 0.0
comp=Z,3.6nm,1.0s
CASY Casey 78.79 181 eP P 03 25 38.2 -0.2
comp=Z,12nm,0.9s
KSCO Kaye Shedlock' 78.83 337 eP P 03 25 39.9 +0.8
comp=Z,38nm,1.4s
BOSA Boshof 80.10 118 P P 03 25 46.0 -0.4
comp=Z,15nm,0.9s,baz=220,slow=6.5,SNR=16
BOSA Boshof 80.10 118 eP P 03 25 46.0 -0.4
comp=Z,11nm,0.9s
PV01 Paradox Valley 80.14 332 eP P 03 25 47.0 +0.7
SMCO Snowmass 80.47 334 eP P 03 25 49.6 +1.4
comp=Z,16nm,1.1s
ISCO Idaho Springs 80.54 335 eP P 03 25 49.4 +0.9
comp=Z,29nm,1.9s
ECSD EROS Data Cent 81.50 343 eP P 03 25 51.1 -2.1
comp=Z,7.1nm,0.8s
ECSD e 03 26 00.9
CCUT Cedar City 81.58 329 eP P 03 25 54.8 +0.7
comp=Z,12nm,1.1s
SRU San Rafael 81.75 331 eP P 03 25 54.4 -0.5
comp=Z,8.5nm,1.4s
MVU Marysvale 81.91 330 eP P 03 25 56.3 +0.6
comp=Z,7.8nm,1.1s
RPZ Rata Peaks 82.28 221 eP P 03 25 58.3 +0.6
comp=Z,27nm,0.9s
LBTB Lobatse 82.40 115 eP P 03 25 58.1 -0.6
comp=Z,34nm,0.9s
R11A Troy Canyon, C 83.21 328 eP P 03 26 03.3 +0.8
comp=Z,6.6nm,1.0s
K22A Casper 83.39 336 eP P 03 26 02.9 -0.3
comp=Z,23nm,1.3s
DUG Dugway 83.59 330 eP P 03 26 04.9 +0.6
comp=Z,22nm,1.6s
TPH Tonopah 83.72 326 eP P 03 26 07.0 +1.8
comp=Z,15nm,1.4s
BGU Big Grassy Mou 84.30 331 eP P 03 26 09.2 +1.2
comp=Z,12nm,1.7s
HWUT Hardware Ranch 84.30 332 eP P 03 26 07.9 -0.1
comp=Z,11nm,1.2s
NVAR Mina Array Bea 84.50 326 P P 03 26 09.6 +0.4
comp=Z,1.0nm,0.9s,baz=159,slow=5.8,SNR=5.3
PDAR Pinedale Array 84.55 334 P P 03 26 09.3 0.0
comp=Z,0.9nm,1.0s,baz=148,slow=8.6,SNR=4.1
ELK Elko 85.05 329 eP P 03 26 12.4 +0.5
comp=Z,5.9nm,0.9s
TOA0 Torodi Ar. Sit 85.25 70 eP P 03 26 12.0 -1.2
TORD Torodi Ar. Bea 85.25 70 P P 03 26 12.5 -0.7
comp=Z,4.2nm,0.9s,baz=231,slow=4.6,SNR=20
REDW Red Top Meadow 85.54 333 eP P 03 26 14.5 +0.3
comp=Z,8.1nm,1.1s
AGMN Agassiz Nation 85.65 345 eP P 03 26 13.0 -1.3
TPAW Teton Pass 85.69 333 eP P 03 26 14.4 -0.6
comp=Z,81nm,2.5s
IMW Indian Meadow 86.03 333 eP P 03 26 17.0 +0.3
comp=Z,34nm,2.0s
YMR Madison River 86.71 334 eP P 03 26 19.7 -0.2
comp=Z,6.4nm,0.9s
HLID Hailey 87.07 331 eP P 03 26 21.3 -0.4
comp=Z,6.1nm,1.1s
ULM Lac du Bonnet 87.50 345 P P 03 26 22.4 -0.9
comp=Z,3.3nm,0.9s,baz=124,slow=3.6,SNR=4.0
ULM Lac du Bonnet 87.50 345 eP P 03 26 22.6 -0.7
MCMT McKenzie Canyo 87.53 333 eP P 03 26 24.4 +0.4
comp=Z,4.3nm,1.2s
DGMT Dagmar 87.89 340 eP P 03 26 25.3 0.0
comp=Z,17nm,1.0s
DLMT Dillon 87.90 333 eP P 03 26 26.0 +0.4
comp=Z,45nm,1.9s
MOD Modoc 88.20 327 eP P 03 26 27.1 -0.1
comp=Z,11nm,1.0s
BSMT Bassoo Peak 90.81 333 eP P 03 26 39.2 -0.1
TAM Tamanrasset 93.95 65 eP P 03 26 54.2 -0.2
comp=Z,1.8nm,0.9s
FCC Fort Churchill 95.29 349 eP P 03 26 59.6 +0.3
comp=Z,0.2nm,1.2s
TUE Stuetta 109.76 47 ePdif Pdif 03 28 05.2 +0.5
GERES GERESS Array B 113.48 46 PKiKP PKiKP 03 32 13.0 -0.9
comp=Z,0.5nm,0.8s,baz=316,slow=2.7,SNR=4.0
KWP Kalwaria Pacla 119.19 48 ePKPdf PKPdf 03 32 24.0 -0.8
WRA Warramunga Arr 119.37 210 PKP PKPdf 03 32 24.9 -1.2
comp=Z,0.9nm,0.9s,baz=142,slow=1.3,SNR=5.9
BR131 Keskin Array S 123.01 62 ePKPdf PKPdf 03 32 31.3 -1.3
BRTR Keskin Array B 123.01 62 PKP PKPdf 03 32 31.7 -0.9
comp=Z,1.1nm,0.8s,baz=206,slow=2.6,SNR=7.7
AK02 Malin Array Si 123.48 48 ePKPdf PKPdf 03 32 31.2 -1.7
KIEV Kiev 123.49 48 ePKPdf PKPdf 03 32 31.0 -1.9
AK01 Malin Array Si 123.50 48 ePKPdf PKPdf 03 32 30.7 -2.2
AKASG Malin Array Be 123.51 48 PKP PKPdf 03 32 31.3 -1.6
comp=Z,1.5nm,0.7s,baz=266,slow=2.5,SNR=14
TNA Tin City 123.52 330 ePKPdf PKPdf 03 32 32.1 -0.4
H11S2 WAKE ISLAND Hy 125.08 269 T T 05 50 20.7
baz=118
H11S1 WAKE ISLAND Hy 125.09 269 T T 05 50 16.2
H11S3 WAKE ISLAND Hy 125.09 269 T T 05 50 19.0
baz=118
H11N3 WAKE ISLAND Hy 125.52 270 T T 05 50 48.2
baz=116,slow=78,SNR=7.4
H11N1 WAKE ISLAND Hy 125.53 270 T T 05 50 47.1
baz=116,slow=78,SNR=9.4
H11N2 WAKE ISLAND Hy 125.54 270 T T 05 50 47.9
baz=116,slow=78,SNR=12
KIV Kislovodsk 130.70 59 ePKPdf PKPdf 03 32 47.2 +0.1
GNI Garni 131.26 65 ePKPdf PKPdf 03 32 48.9 +0.6
KAPI Kappang 138.26 199 ePKPdf PKPdf 03 33 01.8 -0.3
SEY Seymchan 140.74 329 PKP PKPdf 03 33 05.4 +0.4
comp=Z,3.2nm,0.9s,baz=177,slow=2.4,SNR=6.8
ARU Arti 141.10 42 ePKPdf PKPdf 03 33 05.7 -0.2
AKTO Aktyubinsk 141.63 51 PKP PKPdf 03 33 06.2 -0.8
comp=Z,1.3nm,0.9s,baz=207,slow=2.3,SNR=2.6
TIXI Tiksi 141.76 349 ePKPdf PKPdf 03 33 05.5 -1.1
TIXI ePKPdf PKiKP 03 33 05.7 -3.7
ABKAR Akbulak array 142.96 53 ePKPpre PKPpre 03 33 03.3
ABKAR ePKPdf PKPdf 03 33 09.8 +0.4
GSI Gunungsitoli 145.10 163 ePKPdf PKPbc 03 33 14.0 +0.4
KSM Kuching 146.30 186 ePKPdf PKPbc 03 33 17.0 +0.7
PSI Prapat 146.85 165 PKPbc PKPbc 03 33 17.8 +0.3
comp=Z,6.1nm,0.4s,baz=45,slow=4.1,SNR=11
BRVK Borovoye 148.55 44 ePKPdf PKPdf 03 33 18.7 -0.1
BVAR Borovoye Array 148.62 44 PKPbc PKPdf 03 33 19.4 +0.5
comp=Z,3.4nm,0.8s,baz=286,slow=2.8,SNR=13
IPM Ipoh 148.89 168 ePKPbc PKPdf 03 33 23.4 +2.8
HYB Hyderabad 149.00 117 iPKP PKPdf 03 33 23.0 +2.3
KULM Kulim 149.62 167 ePKPdf PKPdf 03 33 21.0 -0.8
KULM ePKPbc PKPbc 03 33 25.5 -0.8
KULM ePKPab PKPab 03 33 31.3 0.0
YAK Yakutsk 149.64 339 ePKPbc PKPdf 03 33 23.8 +3.6
KKM Kota Kinabalu 149.79 198 ePKPbc PKPbc 03 33 26.2 -0.7
KKM ePKPab PKPab 03 33 32.3 +0.2
KKAR Karatay Array 150.71 63 ePKPbc PKPbc 03 33 27.4 -0.7
YSS Yuzh-Sakhalins 150.96 305 ePKPbc PKPbc 03 33 28.3 -0.3
ASAJ Asahikawa 151.48 299 PKPbc PKPbc 03 33 29.8 0.0
comp=Z,12nm,1.0s,baz=236,slow=4.1,SNR=5.0
AAK Ala-Archa 153.66 64 PKPbc PKPbc 03 33 34.9 -0.1
comp=Z,4.3nm,0.8s,baz=193,slow=2.3,SNR=16
AAK Ala-Archa 153.66 64 ePKPdf PKPdf 03 33 27.4 +0.2
AAK PKPbc PKPbc 03 33 34.9 -0.1
AAK ePKPbc PKiKP 03 33 35.2 +0.1
KURK Kurchatov 154.22 44 ePKPdf PKPdf 03 33 26.5 -1.0
KURK ePKPbc PKPbc 03 33 35.0 -0.7
TKM2 Tokmak 2 154.44 63 ePKPdf PKPdf 03 33 28.1 -0.3
TKM2 ePKPbc PKPbc 03 33 36.2 -0.5
KSH Kashi 154.92 71 ePKPbc PKPbc 03 33 37.3 -0.5
KSH epPKP PKiKP 03 33 46.5 +8.7
KSH esPKP 03 33 49.8
KSH ePP PP 03 37 48.8 +19
KSH eSKS SKSdf 03 40 38.0 +2.2
ZAA0 Zalesovo Array 155.61 33 ePKPdf PKPdf 03 33 28.3 -1.0
ZALV Zalesovo Beam 155.61 33 PKP PKPdf 03 33 28.6 -0.7
comp=Z,2.4nm,0.8s,baz=304,slow=2.9,SNR=12
ZALV PKPbc PKPbc 03 33 38.0
comp=Z,3.6nm,0.9s,baz=302,slow=3.2,SNR=9.7
MKAR Makanchi Array 158.06 51 PKP PKPdf 03 33 32.0 -0.8
comp=Z,1.0nm,0.9s,baz=299,slow=1.5,SNR=8.7
MKAR PKPab PKPab 03 34 03.6 -2.7
comp=Z,1.7nm,0.8s,baz=330,slow=5.0,SNR=11
CMAR Chiang Mai Arr 161.79 154 PKP PKPdf 03 33 37.4 -0.4
comp=Z,0.8nm,0.3s,baz=228,slow=3.3,SNR=7.3
CMAR PKPab PKPab 03 34 21.2 -1.8
comp=Z,0.8nm,0.3s,baz=230,slow=4.5,SNR=5.7
WMQ Urumqi 162.74 54 PKP PKPdf 03 33 38.0 -0.1
WMQ AMB AMB
comp=Z,160nm,10.8s
WMQ LR LR
comp=Z,110nm,20.0s
WMQ LR LR
comp=Z,93nm,20.8s
WMQ LR LR
comp=Z,210nm,20.8s
LSA Lhasa 165.42 108 ePKPdf PKPdf 03 33 40.9 -0.5
LSA ePKPab PKPab 03 34 39.9 +0.3
ULN Ulaanbaatar 167.36 0 ePKPab PKPab 03 34 47.1 0.0
SONM Songino Array 167.38 2 PKPab PKPab 03 34 46.7 -0.3
comp=Z,1.3nm,1.0s,baz=351,slow=2.0,SNR=4.9
KMI Kunming 169.24 158 PKP PKPdf 03 33 44.5 +0.4
NJ2 Nanjing 169.74 255 ePKP PKPdf 03 33 43.3 -0.5
GYA Guiyang 171.26 177 PKP PKPdf 03 33 44.0 -1.0
GYA pPKP pPKPdf 03 33 55.5 +7.0
GYA PKPab PKPab 03 35 06.3 +1.6
GYA PKS PKSdf 03 37 15.8 -1.8
GYA PP PP 03 38 57.0 +2.6
GYA SKKS 03 45 39.5

GYA SS SS 03 59 57.3 -1.9
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=Z,120nm,21.8s
GYA LR LR
comp=Z,110nm,21.6s
GYA LR LR
comp=Z,120nm,24.4s
GTA Gaotai 172.81 52 *e*PKP **PKPdf 03 33 45.3 -0.1**
GTA pPKP pPKPdf 03 33 56.3 +7.5
GTA sPKP 03 33 59.8
GTA PKPab **PKPab 03 35 12.0 +0.4**
HHC Hu-ho-hao-te 173.39 330 *e*PKP **PKPdf 03 33 45.5 0.0**
HHC pPKP pPKPdf 03 33 56.3 +7.4
HHC sPKP 03 34 00.8
HHC PP **PP 03 39 08.5 +3.1**
HHC SKKS 03 45 51.0
HHC SS **SS 04 00 20.0 -0.8**
HHC AMB AMB
comp=Z,230nm,6.8s
HHC LR LR
comp=Z,200nm,21.0s
HHC LR LR
comp=Z,160nm,21.2s
HHC LR LR
comp=Z,200nm,21.0s
CD2 Chengdu 174.85 146 PKP **PKPdf 03 33 44.8 -1.4**
LZH Lanzhou 177.18 71 *e*PKP **PKPdf 03 33 48.0 +1.2**
LZH pPKP pPKPdf 03 33 58.5 +8.3
LZH sPKP 03 34 02.5
LZH PP **PP 03 39 24.0 -0.8**
LZH SKKS 03 46 09.0
LZH SS **SS 04 00 55.5 -3.9**
LZH AMB AMB
comp=Z,310nm,7.8s
LZH LR LR
comp=Z,180nm,17.4s
LZH LR LR
comp=Z,300nm,18.3s
LZH LR LR
comp=Z,250nm,19.3s

*ISCJB **28** 03:14:09.9±3.7, 33.81S±0.08×73.1W±0.1, h28km±24km, mb4.9/51, Error ellipse: s-maj=17.3km s-min=8.1km az=141.2*
*MOS **28** 03:14:10.7±0.9, 33.84S×73.27W, h33km, mb5.3/14, Error ellipse: s-maj=18.9km s-min=11.1km az=94.7*
*IDC **28** 03:14:10.5±0.6, 34.01S×73.18W, h28km±3km, mb4.7/16, mb1 4.7/19, mb1mx4.6/33, mbtmp4.8/19, ML4.3/3, Error ellipse: s-maj=20.5km s-min=13.8km az=57.0*
*NEIC **28** 03:14:11.5±0.2, 33.93S×73.17W, h35km, mb5.0/38, Error ellipse: s-maj=7.3km s-min=5.5km az=59.0*
*BJI **28** 03:14:12.6, 34.00S×73.20W, h35km, mB5.3/9, Ms5.2/4, Ms7 5.2/4*
ISC 28 03:14:10.9±0.5, 33.93S±0.06×73.14W±0.07, h30km±3km, h30km:pP-P, n487, σ0.89/528, mb5.0/51, 1D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CFAA Coronel Fontan 4.73 62 Pn **Pn 03 15 20.4 0.0**
1.7nm,0.3s,baz=236,slow=14,SNR=11
TRQA Tornquist 9.93 118 *e*Pn **Pn 03 16 33.8 +2.2**
LVC Limon Verde 11.87 19 *e*Pn **Pn 03 16 58.0 -0.5**
CPUP Villa Florida 15.62 65 *e*P **P 03 17 51.5 -1.4**
CPUP Villa Florida 15.62 65 Pn **Pn 03 17 49.8 +0.8**
0.8nm,0.3s,baz=226,slow=13,SNR=4.4
CPUP Villa Florida 15.62 65 *e*P **P 03 17 51.5 -1.4**
LPAZ La Paz 18.14 16 *e*P **Pn 03 18 20.9 -0.4**
LPAZ pmax pmax
comp=Z,19nm,0.8s
LPAZ La Paz 18.14 16 P **Pn 03 18 22.1 +0.9**
comp=Z,0.8nm,0.3s,baz=194,slow=7.0,SNR=13
LPAZ La Paz 18.14 16 *e*P **Pn 03 18 20.9 -0.4**
comp=Z,19nm,0.8s
SIV San Ignacio 20.91 34 P **P 03 18 52.9 +1.8**
comp=Z,28nm,0.8s,baz=232,slow=13,SNR=15
NNA Nana 22.11 350 P **P 03 19 04.2 +0.3**
comp=Z,9.6nm,0.7s,baz=196,slow=10,SNR=4.6
SAML Samuel 26.50 22 *e*P **P 03 19 45.5 -0.3**
comp=Z,12nm,0.7s
BDFB Brasilia 29.06 57 P **P 03 20 06.3 -2.5**
comp=Z,5.7nm,0.8s,baz=246,slow=10,SNR=6.5
OTAV Otavalo 34.35 351 *e*P **P 03 20 56.0 +0.3**
comp=Z,5.8nm,0.8s
ROSC El Rosal 38.59 358 P **P 03 21 32.9 +1.1**
comp=Z,18nm,0.7s,baz=111,slow=3.4,SNR=12
ROSC El Rosal 38.59 358 *e*P **P 03 21 34.4 +2.6**
ROSC *e* 03 21 44.1
SDV Santo Domingo 42.65 4 *e*P **P 03 22 04.9 -0.2**
comp=Z,25nm,0.8s
JTS JuntasAbangare 45.39 344 *e*P **P 03 22 26.8 0.0**
JTS pmax pmax
comp=Z,44nm,1.6s
JTS JuntasAbangare 45.39 344 *e*P **P 03 22 26.8 0.0**
comp=Z,44nm,1.6s
VNA3 Neumayer Olymp 49.77 158 P **P 03 23 01.7 +1.5**
APG El Apazote 51.39 338 P **P 03 23 13.6 +0.3**
comp=Z,9.2nm,0.9s,baz=163,slow=10,SNR=7.5
SNAA Sanae 51.99 158 *e*P **P 03 23 17.3 +0.3**
SNAA pmax pmax
comp=Z,30nm,0.8s
SNAA Sanae 51.99 158 P **P 03 23 16.2 -0.8**
comp=Z,12nm,0.8s,baz=285,slow=7.1,SNR=11
SNAA Sanae 51.99 158 *e*P **P 03 23 17.3 +0.3**
comp=Z,30nm,0.8s
CBYP Canovanas 52.37 9 *e*P **P 03 23 19.0 -1.4**
comp=Z,26nm,0.9s
SDDR Presa de Saban 52.65 2 *e*P **P 03 23 23.0 +0.6**
TEIG Tepich 55.76 343 P **P 03 23 44.6 -0.4**
comp=Z,24nm,0.7s,baz=154,slow=8.5,SNR=4.5
035A Encino 65.01 335 P **P 03 24 49.5 +1.4**
baz=65
034A Hebbronville 65.33 335 P **P 03 24 51.5 +1.3**
baz=66
934A Benavides 65.76 335 P **P 03 24 54.3 +1.3**
baz=66
933A Laredo 66.04 335 P **P 03 24 56.0 +1.2**
baz=66
835A Beeville 66.16 336 P **P 03 24 57.0 +1.5**
baz=66
834A Tilden 66.25 336 P **P 03 24 57.4 +1.2**
baz=66
SYO Syowa Base 66.26 159 *e*P **P 03 24 54.0 -1.7**
735A Kenedy 66.67 336 P **P 03 25 00.1 +1.3**
baz=67
833A Chaparral WMA, 66.73 335 P **P 03 24 59.9 +0.7**
baz=67
832A Faith Ranch, C 66.90 334 P **P 03 25 00.9 +0.6**
baz=67
636A Smothers Creek 67.01 337 P **P 03 25 02.3 +1.4**
baz=67
733A Divot King Ran 67.05 335 P **P 03 25 02.4 +1.2**
baz=67
635A Leesville 67.15 337 P **P 03 25 02.4 +0.5**
baz=68
732A Laxson Ranch, 67.30 335 P **P 03 25 03.3 +0.5**
baz=68
537A Green Hill Far 67.33 338 P **P 03 25 03.7 +0.8**
baz=68
536A Bastrop 67.56 338 P **P 03 25 04.9 +0.5**
baz=68
535A Dale 67.68 337 P **P 03 25 05.7 +0.5**
baz=68
633A Saathoff Ranch 67.69 336 P **P 03 25 05.9 +0.6**
baz=68
438A Sam Houston St 67.70 339 P **P 03 25 06.3 +1.0**
LRAL Lakeview Retre 67.88 347 *e*P **P 03 25 05.3 -1.0**
comp=Z,4.7nm,0.6s
340A Bronson 67.88 341 P **P 03 25 07.3 +0.9**
baz=68
632A Uvalde 67.95 335 P **P 03 25 07.5 +0.6**
baz=68
339A Huntington 67.99 340 P **P 03 25 08.2 +1.2**
baz=68
631A Perdido Creek 68.14 334 P **P 03 25 08.5 +0.4**
baz=68
533A Kerrville 68.20 336 P **P 03 25 08.8 +0.2**
baz=68
338A Crockett 68.23 340 P **P 03 25 10.5 +1.9**
baz=68
337A Centerville 68.36 339 P **P 03 25 10.9 +1.5**
baz=69
435B Jarrell 68.38 337 P **P 03 25 10.6 +1.0**
baz=69
532A Rocksprings 68.55 335 P **P 03 25 11.7 +0.9**
baz=69
239A Gary 68.61 341 P **P 03 25 12.1 +1.1**
baz=69
434A Burnet 68.63 337 P **P 03 25 11.7 +0.6**
baz=69
336A Riesel 68.71 338 P **P 03 25 12.2 +0.6**
baz=69
238A Jacksonville 68.78 340 P **P 03 25 13.1 +1.1**
baz=69
335A Moody 68.80 338 P **P 03 25 12.7 +0.6**
baz=69
531A Rocksprings 68.81 335 P **P 03 25 13.3 +0.9**
baz=69
JCT Junction City 68.84 335 *e*P **P 03 25 12.6 +0.1**
JCT pmax pmax
comp=Z,37nm,0.9s
JCT Junction City 68.84 335 *e*P **P 03 25 12.6 +0.1**
comp=Z,37nm,0.9s
JCT Junction City 68.84 335 P **P 03 25 13.2 +0.7**
baz=69
433A Art 68.85 336 P **P 03 25 12.8 +0.3**
baz=69
237A Washetta, Mont 68.97 339 P **P 03 25 14.0 +0.8**
baz=69
530A J-C Ranch, Com 69.08 334 P **P 03 25 14.7 +0.7**
baz=69
334A Lometa 69.10 337 P **P 03 25 14.6 +0.5**
baz=69
432A Menard 69.20 336 P **P 03 25 15.0 +0.3**
baz=70
TXAR Lajitas Array 69.24 332 P **P 03 25 15.5 +0.5**
comp=Z,6.4nm,0.7s,baz=152,slow=8.2,SNR=28
TXAR pP **pP 03 25 24.4 -0.1**
comp=Z,8.0nm,0.7s,baz=158,slow=7.9,SNR=14
431A Sonora 69.31 335 P **P 03 25 15.6 +0.3**
baz=70
333A Richland Sprin 69.34 336 P **P 03 25 15.8 +0.2**
baz=70
138A Matatall Enter 69.39 340 P **P 03 25 16.7 +1.0**
baz=70
529A Stev Forest Ra 69.39 333 P **P 03 25 16.6 +0.7**
baz=70
WHTX Lake Whitney 69.46 338 *e*P **P 03 25 16.2 0.0**
comp=Z,24nm,0.8s
WHTX Lake Whitney 69.46 338 P **P 03 25 16.7 +0.5**
baz=70
137A Heron Place, G 69.52 340 P **P 03 25 17.8 +1.2**
baz=70
430A Baggett Ranch, 69.62 334 P **P 03 25 17.9 +0.6**
baz=70
332A Millersview 69.64 336 P **P 03 25 17.6 +0.2**
baz=70
234A Clairette 69.69 337 P **P 03 25 18.2 +0.6**
baz=70
429A Davenport Ranc 69.72 334 P **P 03 25 18.5 +0.5**
baz=70
OXF Oxford 69.78 346 *e*P **P 03 25 15.8 -2.3**
OXF *e* 03 25 26.6
OXF pmax pmax
comp=Z,35nm,0.9s
OXF Oxford 69.78 346 *e*P **P 03 25 15.8 -2.3**
comp=Z,35nm,0.9s
OXF *e* 03 25 26.6
331A San Angelo 69.81 335 P **P 03 25 18.7 +0.2**
baz=70
SWET Sewanee 69.83 349 *e*P **P 03 25 16.5 -1.9**
comp=Z,11nm,0.7s
TKL Tuckaleechee C 69.94 351 P **P 03 25 18.2 -1.0**
comp=Z,6.8nm,0.7s,baz=169,slow=8.4,SNR=7.9
TKL Tuckaleechee C 69.94 351 *e*P **P 03 25 18.1 -1.1**
233A Rising Star 69.95 337 P **P 03 25 19.6 +0.3**
baz=70
135A Vickery Place, 69.97 338 P **P 03 25 19.7 +0.3**
baz=70
232A Coleman 70.08 336 P **P 03 25 20.3 +0.2**
baz=70
330A Mertzon 70.16 335 P **P 03 25 20.7 0.0**
baz=70
231A Bronte 70.34 336 P **P 03 25 21.9 +0.2**
baz=71
133A Hamilton Ranch 70.50 337 P **P 03 25 23.1 +0.4**
baz=71
329A Wagon Wheel Ra 70.53 334 P **P 03 25 23.3 +0.4**
baz=71
230A Sterling City 70.58 335 P **P 03 25 23.6 +0.4**
baz=71
Z35A Perchaven, San 70.64 339 P **P 03 25 23.9 +0.5**
baz=71
ABTX Abilene, Hawle 70.75 336 *e*P **P 03 25 24.3 +0.1**
comp=Z,34nm,0.9s
ABTX Abilene, Hawle 70.75 336 P **P 03 25 24.5 +0.4**
baz=71
Z34A Collier Ranch, 70.88 338 P **P 03 25 25.2 +0.3**
baz=71
229A Bryant Ranch, 70.90 334 P **P 03 25 25.4 +0.2**
baz=71
WVT Waverly 71.04 347 *e*P **P 03 25 24.8 -1.0**
WVT *e* 03 25 34.1
WVT pmax pmax
comp=Z,32nm,0.9s
WVT Waverly 71.04 347 *e*P **P 03 25 24.8 -1.0**
comp=Z,32nm,0.9s
WVT *e* 03 25 34.1
131A Roby 71.04 336 P **P 03 25 26.2 +0.2**
baz=71
Z33A Whitaker Ranch 71.07 337 P **P 03 25 26.3 +0.2**
baz=71
130A Snyder 71.17 335 P **P 03 25 26.9 +0.1**
baz=72
228A UT Block 9, Go 71.32 334 P **P 03 25 28.0 +0.3**
baz=72
Z32A Haskell 71.32 337 P **P 03 25 27.8 +0.2**
baz=72
Y34A Reagan Ranch, 71.38 339 P **P 03 25 28.2 +0.3**
baz=72
129A Stewart Farms, 71.52 335 P **P 03 25 28.9 0.0**
baz=72
Z31A Sharp Cattle R 71.55 336 P **P 03 25 29.4 +0.4**
baz=72
Y33A Hilltop Ranch, 71.69 338 P **P 03 25 30.3 +0.4**
baz=72
128A Castleberry Fa 71.73 334 P **P 03 25 30.7 +0.5**
baz=72
Z30A Sanderson Ranc 71.86 336 P **P 03 25 31.1 +0.2**
baz=72
Y32A R-V Farms, Ver 71.95 337 P **P 03 25 31.9 +0.5**
baz=72
X34A Smith Ranch, M 72.00 339 P **P 03 25 31.8 +0.2**
baz=72
Z29A Hungry Hill Ra 72.03 335 P **P 03 25 32.0 0.0**
baz=72
127A Arkansas Junct 72.10 334 P **P 03 25 32.4 0.0**
baz=72
X33A Lawton 72.15 338 P **P 03 25 32.4 -0.1**
baz=72
Y31A Rekieta Farm, 72.18 337 P **P 03 25 33.0 +0.2**
baz=72
X32A Elmer 72.28 338 P **P 03 25 33.4 0.0**
baz=73
Z28A Tucker Farm, M 72.30 335 P **P 03 25 33.4 -0.2**
baz=73
Y30A Stafford Cattl 72.31 336 P **P 03 25 33.8 +0.1**
baz=73
BBTS Babate 72.35 58 P **P 03 25 34.1 0.0**
comp=Z,59nm,1.1s,baz=194,slow=4.0,SNR=6.1
Y29A Porterfield Fa 72.56 335 P **P 03 25 35.2 +0.1**
baz=73
W34A Bridge Creek, 72.57 339 P **P 03 25 35.0 0.0**
baz=73
Z27A Tatum 72.62 334 P **P 03 25 35.3 -0.2**
baz=73
TUL1 Tulsa 72.64 341 *e*P **P 03 25 35.1 -0.4**
comp=Z,18nm,0.8s
TUL1 Tulsa 72.64 341 P **P 03 25 35.4 0.0**
baz=73
X31A McDonald Ranch 72.70 337 P **P 03 25 36.3 +0.4**
baz=73
W33A Caddo, Fort Co 72.70 338 P **P 03 25 36.7 +0.8**
baz=73
Y28A McKinney Farm, 72.81 335 P **P 03 25 37.0 +0.4**
baz=73
X30A Coker Ranch, T 72.83 336 P **P 03 25 36.8 +0.1**
baz=73
SIUC Southern Illin 72.84 347 *e*P **P 03 25 36.0 -0.6**
Z26A Caprock 72.86 333 P **P 03 25 37.5 +0.5**
baz=73
W32A Sentinel 72.92 338 P **P 03 25 37.7 +0.5**
baz=73
MSTX Muleshoe 73.05 335 *e*P **P 03 25 37.7 -0.4**
comp=Z,16nm,0.8s
MSTX *e* 03 25 47.0
MSTX Muleshoe 73.05 335 P **P 03 25 38.2 +0.2**
baz=73
V34A Guthrie 73.05 339 P **P 03 25 37.8 -0.1**
baz=73
X29A Tulia 73.10 336 P **P 03 25 38.5 +0.1**
baz=73
Y27A Causey 73.11 334 P **P 03 25 38.2 -0.3**
baz=73
Z25A Roswell 73.15 333 P **P 03 25 38.9 +0.2**
baz=74
W31A Holland Ranch, 73.20 337 P **P 03 25 38.8 0.0**
baz=74
V33A Lossen Ranch, 73.27 339 P **P 03 25 39.2 0.0**
baz=74
X28A Dimmitt 73.34 335 P **P 03 25 40.0 +0.2**
baz=74
319A Douglas 73.36 328 P **P 03 25 41.1 +1.2**
baz=74
Y26A Elida 73.39 334 P **P 03 25 40.8 +0.7**
baz=74
V32A Arapaho 73.41 338 P **P 03 25 40.7 +0.7**
baz=74
Z24A Sheeppen Canyo 73.44 332 P **P 03 25 41.6 +1.0**
baz=74
AMTX Amarillo 73.50 336 *e*P **P 03 25 40.7 +0.1**
comp=Z,23nm,1.0s
AMTX Amarillo 73.50 336 P **P 03 25 41.2 +0.5**
baz=74
W29A Amarillo 73.70 336 P **P 03 25 42.3 +0.4**
baz=74
V31A Spring Creek L 73.70 338 P **P 03 25 41.7 -0.1**
baz=74
Y25A Mesa, Roswell 73.71 333 P **P 03 25 42.1 +0.1**
baz=74
121A Cookes Peak, D 73.72 330 *e*P **P 03 25 43.1 +1.0**
comp=Z,12nm,0.8s
121A Cookes Peak, D 73.72 330 P **P 03 25 43.4 +1.3**
baz=74
X27A F and S Farms, 73.78 335 P **P 03 25 42.3 -0.1**
baz=74
U33A Lingo Farm, Me 73.78 339 P **P 03 25 42.2 0.0**
baz=74
X26A CR and CF Fran 73.95 334 P **P 03 25 43.7 +0.3**
baz=74
Y24A Capitan 74.00 332 P **P 03 25 44.4 +0.7**
baz=74
U32A Winter Ranch, 74.00 339 P **P 03 25 43.8 +0.3**
baz=74
Z22A Elephant Butte 74.01 331 P **P 03 25 44.6 +0.8**
baz=74
W27A Bowe Ranch, En 74.14 335 P **P 03 25 45.0 +0.5**
baz=74
Y23A Lovelace Mesa, 74.24 332 P **P 03 25 46.0 +0.9**
baz=74
U31A Nine Bar Ranch 74.25 338 P **P 03 25 45.6 +0.6**
baz=75
W26A Owens Ranch, T 74.41 334 P **P 03 25 47.0 +0.9**
baz=75
T33A Patterson Ranc 74.43 339 P **P 03 25 46.8 +0.8**
baz=75
V28A Channing 74.47 336 P **P 03 25 47.1 +0.8**
baz=75
X24A Lazy VL Ranch, 74.56 333 P **P 03 25 48.1 +1.0**
baz=75
U30A WK&E Inc. Balk 74.66 337 P **P 03 25 48.5 +1.1**
baz=75
V27A Dan Oppiter Fa 74.68 335 P **P 03 25 48.5 +0.8**
baz=75
T32A Huddler Ranch, 74.72 339 P **P 03 25 48.6 +0.9**
baz=75
W25A X Bar L Ranch, 74.78 334 P **P 03 25 48.8 +0.6**
baz=75
TUC Tucson 74.82 328 *e*P **P 03 25 49.1 +0.7**
TUC pmax pmax
comp=Z,10.0nm,1.3s
TUC Tucson 74.82 328 *e*P **P 03 25 49.1 +0.7**
comp=Z,10nm,1.3s
V26A Tequesquite Ra 75.05 335 P **P 03 25 50.0 +0.2**
baz=75
LAZ Ladron 75.08 331 *e*P **P 03 25 51.3 +1.2**
comp=Z,3.6nm,1.0s
LAZ *e* 03 26 00.0
W24A Lazy 6 Ranch, 75.12 333 P **P 03 25 50.8 +0.5**
baz=75
U27A Thompson Grove 75.28 336 P **P 03 25 51.9 +0.8**
baz=76
ANMO Albuquerque 75.29 332 *e*P **P 03 25 51.8 +0.6**
ANMO pmax pmax
comp=Z,11nm,1.1s
ANMO Albuquerque 75.29 332 *e*P **P 03 25 51.8 +0.6**
comp=Z,11nm,1.1s
V25A Rancho No Teng 75.39 334 P **P 03 25 52.5 +0.8**
baz=76
V24A Rampart Ranch, 75.53 333 P **P 03 25 53.4 +0.7**
baz=76
U26A Atchley Ranch, 75.58 335 P **P 03 25 53.3 +0.5**
baz=76
SUR Sutherland 75.66 119 *e*P **P 03 25 54.5 +0.8**
comp=Z,34nm,0.9s
T28A Walsh 75.67 336 P **P 03 25 53.8 +0.6**
baz=76
S29A Ulysses 75.80 337 P **P 03 25 54.6 +0.7**
baz=76
R32A Long Quarter, 75.81 340 P **P 03 25 54.6 +0.7**
baz=76
U25A Circle Dot Ran 75.82 334 P **P 03 25 54.7 +0.5**
baz=76
T27A Campo 75.82 336 P **P 03 25 54.7 +0.6**
baz=76
V23A Ortiz Mt. (NFS 75.89 333 P **P 03 25 54.9 +0.3**
baz=76
R31A Burdett 75.92 339 P **P 03 25 55.0 +0.4**
baz=76
DBIC Dimbokro 76.02 72 *e*P **P 03 25 55.9 +0.2**
DBIC *PP **pP 03 26 05.1 -0.1**
DBIC pmax pmax
comp=Z,28nm,0.7s
DBIC Dimbokro 76.02 72 P **P 03 25 55.7 0.0**
comp=Z,26nm,0.7s,baz=216,slow=6.1,SNR=27
DBIC pP **pP 03 26 05.1 -0.1**
comp=Z,16nm,0.6s,baz=218,slow=6.3,SNR=8.0
DBIC Dimbokro 76.02 72 *e*P **P 03 25 55.9 +0.2**
comp=Z,28nm,0.7s
DBIC pP **pP 03 26 05.1 -0.1**
S28A Manter 76.03 337 P **P 03 25 55.6 +0.3**
baz=76
Q33A Connelly Farm, 76.09 340 P **P 03 25 55.7 +0.2**
baz=76
T26A Comanche Natio 76.22 335 P **P 03 25 54.9 -1.7**
baz=76
Q32A Meitler Ranch, 76.29 340 P **P 03 25 56.8 +0.2**
baz=77
V22A San Miguel Ran 76.32 332 P **P 03 25 58.1 +0.9**
baz=77
X18A Snowflake 76.35 329 P **P 03 25 58.3 +1.0**
baz=77
U23A El Rito 76.41 333 P **P 03 25 58.2 +0.6**
baz=77
T25A Trinidad 76.48 335 P **P 03 25 59.1 +1.1**
baz=77
R29A Marienthal 76.54 338 P **P 03 25 58.9 +0.8**
baz=77
Q31A Ellis 76.55 339 P **P 03 25 58.8 +0.7**
baz=77
S26A Kim 76.58 336 P **P 03 25 59.2 +0.7**
baz=77
R28A Tribune 76.68 337 P **P 03 25 59.5 +0.5**
baz=77
T24B San Luis 76.76 334 P **P 03 26 00.3 +0.6**
baz=77
Q30A Quinter 76.77 339 P **P 03 26 00.2 +0.8**
baz=77
P32A Huiting Farm, 76.89 340 P **P 03 26 00.2 +0.2**
baz=77
X16A Lo Mia Camp, P 76.89 328 P **P 03 26 01.6 +1.3**
baz=77
Q29A Oakley 76.92 338 P **P 03 26 00.3 0.0**
baz=77
S25A Robets Cordova 76.95 335 P **P 03 26 01.4 +0.8**
baz=77
R27A Eads 76.96 336 P **P 03 26 01.1 +0.6**

baz=77
T23A Casias Ranch, 76.98 334 P P 03 26 02.0 +1.1
baz=77
P31A Stockton 77.02 339 P P 03 26 01.4 +0.6
baz=77
R26A Arlington 77.19 336 P P 03 26 02.9 +1.1
baz=78
Y14A Wickenburg 77.19 327 P P 03 26 03.1 +1.2
baz=78
S24A Houchin Ranch, 77.21 334 P P 03 26 03.4 +1.2
baz=78
P30A Selden 77.30 339 P P 03 26 03.4 +1.1
baz=78
R25A Fountain Ranch 77.34 335 P P 03 26 03.8 +1.1
baz=78
Q28A Sharon Springs 77.35 337 P P 03 26 03.8 +1.2
baz=78
O32A Brockman Farm, 77.39 341 P P 03 26 03.5 +0.7
baz=78
SDCO Great Sand Dun 77.41 334 eP P 03 26 02.7 -0.6
comp=Z,3.7nm,0.8s
SDCO e 03 26 13.0
KSCO Kaye Shedlock' 77.56 337 P P 03 26 04.7 +0.8
baz=78
P29A Atwood 77.56 338 P P 03 26 04.6 +0.8
baz=78
O31A Woolen Ranch, 77.59 340 P P 03 26 04.5 +0.6
baz=78
SWSC Sam W. Stewart 77.68 324 P P 03 26 05.4 +0.9
baz=78
R24A Sanders Place, 77.70 335 P P 03 26 05.9 +1.1
baz=78
Q26A Hugo 77.77 336 P P 03 26 06.0 +0.8
baz=78
P28A Saint Francis 77.79 338 P P 03 26 06.0 +0.8
baz=78
WUAZ Wupatki 77.80 329 P P 03 26 06.5 +1.1
baz=78
O30A MW Ranch, Wils 77.83 339 P P 03 26 06.0 +0.7
baz=78
S22A 4UR Ranch, Cre 77.90 333 P P 03 26 06.4 +0.4
baz=78
R23A Moffat 77.92 334 P P 03 26 06.8 +0.6
baz=78
Q25A Bedland, Calha 78.01 336 P P 03 26 07.3 +0.8
baz=78
P27A Ficken Ranch, 78.03 337 P P 03 26 07.5 +1.0
baz=78
MVCO Mesa Verde 78.07 332 P P 03 26 08.0 +1.0
baz=78
BC3 Big Chuckawall 78.10 325 P P 03 26 07.9 +0.9
baz=78
P26A Davis Ranch, A 78.29 337 P P 03 26 08.9 +1.0
baz=79
O28A Krutsinger Ran 78.30 338 P P 03 26 09.1 +1.1
baz=79
Q24A Divide 78.37 335 P P 03 26 09.7 +1.0
baz=79
BGNE Belgrade 78.43 341 P P 03 26 08.9 +0.4
baz=79
P25A Willow Gulch B 78.52 336 P P 03 26 10.5 +1.2
baz=79
W13A Hualapai Mount 78.56 327 P P 03 26 10.5 +0.9
baz=79
O27A Beecher Island 78.58 337 P P 03 26 10.8 +1.3
baz=79
M31A Lambtecht Ranc 78.59 340 P P 03 26 10.4 +0.9
baz=79
O26A Horse Wrangler 78.89 337 P P 03 26 12.4 +1.1
baz=79
PV01 Paradox Valley 78.90 332 eP P 03 26 12.5 +1.0
U15A North Rim 78.96 329 P P 03 26 13.2 +1.3
baz=79
O25A Wiggins 79.04 336 P P 03 26 13.6 +1.5
baz=79
GMRC Granite Mounta 79.11 325 P P 03 26 13.8 +1.2
baz=79
N27A Anderson Farm, 79.16 338 P P 03 26 13.9 +1.2
baz=80
ISCO Idaho Springs 79.28 335 P P 03 26 14.6 +1.0
baz=80
L31A Butterfield Fa 79.33 341 P P 03 26 14.1 +0.6
baz=80
L30A Spencer Herefo 79.36 340 P P 03 26 14.5 +0.8
baz=80
O23A Lake Granby, G 79.75 335 P P 03 26 17.5 +1.3
baz=80
TUQ Turquoise Moun 79.77 326 P P 03 26 17.7 +1.5
baz=80
O22A Kremmling 79.93 335 P P 03 26 18.1 +1.0
baz=80
TSUM Tsumeb 80.11 106 eP P 03 26 18.7 +0.1
comp=Z,24nm,1.3s
ECSD EROS Data Cent 80.21 343 eP P 03 26 17.7 -0.5
comp=Z,18nm,1.0s
ECSD e 03 26 26.9
ECSD EROS Data Cent 80.21 343 P P 03 26 18.4 +0.2
baz=81
N23A Red Feather La 80.36 335 P P 03 26 20.5 +1.0
baz=81
N22A Wattenberg Ran 80.46 335 P P 03 26 20.3 +0.3
baz=81
M24A Cheyenne 80.50 336 P P 03 26 21.1 +1.1
baz=81
SRU San Rafael 80.51 331 eP P 03 26 20.0 -0.1
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael 80.51 331 eP P 03 26 20.0 -0.1
comp=Z,5.7nm,0.8s
K28A Ten Mile Ranch 80.54 339 P P 03 26 21.3 +1.2
baz=81
LRMC Laurel Mountai 80.65 325 P P 03 26 21.9 +1.1
baz=81
SPMN St. Paul 80.78 346 P P 03 26 21.0 -0.2
baz=81
M23A Laramie 80.80 336 P P 03 26 22.6 +0.9
baz=81
J29A Okreek 80.88 340 P P 03 26 22.2 +0.4
baz=81
BOSA Boshof 80.91 118 eP P 03 26 23.1 +0.4
BOSA e 03 26 32.0
BOSA pmax pmax
comp=Z,14nm,1.0s
BOSA Boshof 80.91 118 P P 03 26 22.6 -0.1
comp=Z,12nm,0.9s,baz=258,slow=4.4,SNR=5.3
BOSA pP pP 03 26 32.3 0.0
comp=Z,9.5nm,0.9s,baz=263,slow=5.0,SNR=2.6
BOSA Boshof 80.91 118 eP P 03 26 23.1 +0.4
comp=Z,14nm,1.0s
BOSA e 03 26 32.0
I30A Oacoma 81.10 341 P P 03 26 23.3 +0.3
baz=81
N20A Spence Gulch, 81.14 334 P P 03 26 23.5 -0.1
baz=82
J28A Allard Ranch, 81.15 340 P P 03 26 24.3 +1.0
baz=82
ISA Isabella 81.18 324 P P 03 26 23.9 +0.2
baz=82
J27A Elkhorn Farm, 81.22 339 P P 03 26 25.1 +1.4
baz=82
L23A Garrett 81.37 336 P P 03 26 25.2 +0.5
baz=82
BRSD Miller 81.47 342 P P 03 26 25.7 +0.8
baz=82
L22A Ellis Ranch, M 81.54 336 P P 03 26 26.5 +0.9
baz=82
J26A Sides Ranch, S 81.60 338 P P 03 26 27.1 +1.3
baz=82
VES Vestal, Richgr 81.62 324 P P 03 26 27.1 +1.3
baz=82
K23A Bowen Ranch, D 81.91 336 P P 03 26 28.6 +1.1
baz=82
H29A Onida 81.97 341 P P 03 26 28.0 +0.4
baz=82
I27A Quinn 81.98 339 P P 03 26 28.5 +0.8
baz=82
R11A Troy Canyon, C 82.01 328 P P 03 26 29.2 +1.1
baz=82
K22A Casper 82.12 336 P P 03 26 29.2 +0.6
baz=82
H28A Mission Ridge 82.24 340 P P 03 26 29.8 +0.8
baz=83
K21A Alcova 82.36 335 P P 03 26 30.6 +0.7
baz=83
DUG Dugway 82.36 330 eP P 03 26 30.5 +0.6
DUG pmax pmax
comp=Z,21nm,1.3s
DUG Dugway 82.36 330 eP P 03 26 30.5 +0.6
comp=Z,21nm,1.3s
DUG Dugway 82.36 330 P P 03 26 30.8 +0.9
baz=83
G29A Hoven 82.42 341 P P 03 26 30.5 +0.6
baz=83
I25A Rochford 82.44 338 P P 03 26 30.8 +0.5
baz=83
H27A Howes 82.50 340 P P 03 26 30.9 +0.5
baz=83
G28A Parade 82.58 341 P P 03 26 31.5 +0.8
baz=83
F30A Leola 82.78 342 P P 03 26 32.4 +0.6
baz=83
J22A Midwest 82.78 336 P P 03 26 32.0 0.0
baz=83
F29A Eureka 82.99 342 P P 03 26 32.9 +0.1
baz=83
J21A Lysite 83.05 336 P P 03 26 33.8 +0.4
baz=83
HWUT Hardware Ranch 83.06 332 eP P 03 26 33.5 0.0
comp=Z,7.5nm,0.7s
RPZ Rata Peaks 83.10 221 eP P 03 26 34.6 +0.8
comp=Z,28nm,1.0s
G27A Dupree 83.14 340 P P 03 26 33.7 0.0
baz=84
SPUT South Promonto 83.15 331 eP P 03 26 34.6 +0.7
LBTB Lobatse 83.16 115 eP P 03 26 35.1 +0.6
LBTB e 03 26 43.9
LBTB pmax pmax
comp=Z,30nm,0.9s
LBTB Lobatse 83.16 115 eP P 03 26 35.1 +0.6
comp=Z,30nm,0.9s
LBTB e 03 26 43.9
I22A 9 Mile Ranch, 83.21 336 P P 03 26 34.0 -0.2
baz=84
G26A Maurine 83.26 340 P P 03 26 34.4 +0.1
baz=84
J20A Shoshoni 83.28 335 P P 03 26 35.1 +0.6
baz=84
PDAR Pinedale Array 83.30 334 P P 03 26 34.6 -0.2
comp=Z,2.5nm,1.0s,baz=146,slow=6.6,SNR=7.3
PDAR pP pP 03 26 43.6 -0.8
comp=Z,3.0nm,1.0s,baz=147,slow=5.2,SNR=5.9
NVAR Mina Array Bea 83.31 326 P P 03 26 35.9 +1.0
comp=Z,1.5nm,0.7s,baz=152,slow=6.9,SNR=6.6
H24A Dirks Ranch, A 83.35 338 P P 03 26 34.9 0.0
baz=84
E30A Jud 83.37 342 P P 03 26 35.3 +0.5
baz=84
G25A Newell 83.41 339 P P 03 26 35.4 +0.3
baz=84
I21A Big Trails, Te 83.41 336 P P 03 26 35.3 0.0
baz=84
J19A Crowheart 83.55 334 P P 03 26 36.5 +0.6
baz=84
E29A Napoleon 83.62 342 P P 03 26 36.2 +0.1
baz=84
F27A Lemmon 83.62 340 P P 03 26 36.4 +0.2
baz=84
D30A Buchanan 83.90 343 P P 03 26 38.2 +0.8
baz=84
E27A Carson 84.00 341 P P 03 26 38.7 +0.7
baz=84
D29A Pettibone, Tap 84.07 342 P P 03 26 38.7 +0.4
baz=84
F25A Bowman 84.08 339 P P 03 26 38.3 -0.2
baz=84
H20A Greybull 84.25 336 P P 03 26 39.5 +0.1
baz=85
E26A Carlson Angus 84.29 340 P P 03 26 39.5 0.0
baz=85
F24A Ekalaka 84.31 339 P P 03 26 39.5 -0.2
baz=85
AGMN Agassiz Nation 84.35 345 eP P 03 26 38.7 -1.0
comp=Z,7.9nm,0.7s
AGMN Agassiz Nation 84.35 345 P P 03 26 39.6 -0.1
baz=85
C30A Mose, Pekin 84.39 343 P P 03 26 40.3 +0.3
baz=85
D28A Regan 84.44 342 P P 03 26 40.3 +0.1
baz=85
D27A Center 84.62 341 P P 03 26 41.5 +0.4
baz=85
D26A Manning 84.80 340 P P 03 26 42.4 +0.3
baz=85
F22A Rosebud 84.81 337 P P 03 26 42.0 -0.2
baz=85
G20A Bridger 84.96 336 P P 03 26 43.6 +0.5
baz=85
TOA0 Torodi Ar. Sit 85.05 71 eP P 03 26 43.6 -0.4
TORD Torodi Ar. Bea 85.05 71 P P 03 26 43.8 -0.2
comp=Z,14nm,0.8s,baz=242,slow=4.5,SNR=26
TORD pP pP 03 26 53.4 -0.3
comp=Z,7.0nm,0.8s,baz=262,slow=4.1,SNR=5.9
B30A Myrvik Farm, E 85.05 343 P P 03 26 43.4 +0.1
baz=85
F21A Absaloka Mine, 85.13 337 P P 03 26 44.4 +0.6
baz=86
D25A Fairfield 85.16 340 P P 03 26 44.6 +0.7
baz=86
C27A Sayler Ranch, 85.17 341 P P 03 26 44.5 +0.6
baz=86
E22A Miles City 85.30 338 P P 03 26 45.0 +0.4
baz=86
B29A Wagenman Farm, 85.31 343 P P 03 26 44.6 +0.1
baz=86
D24A Glendive 85.42 339 P P 03 26 45.5 +0.3
baz=86
C26A Wahner Farm, P 85.43 341 P P 03 26 45.2 0.0
baz=86
F20A Billings 85.45 336 P P 03 26 45.2 -0.3
baz=86
YMR Madison River 85.45 334 eP P 03 26 45.6 0.0
comp=Z,16nm,1.0s
A30A Hoffart Farm, 85.50 344 P P 03 26 45.5 0.0
baz=86
B28A Dugan Ranch, T 85.55 342 P P 03 26 45.8 +0.1
baz=86
A29A Manning Farm, 85.71 343 P P 03 26 46.4 -0.1
baz=86
D23A Lindsay 85.73 339 P P 03 26 47.3 +0.5
baz=86
E21A Keefer Ranch, 85.75 337 P P 03 26 47.5 +0.6
baz=86
F19A Roth Farm, Mol 85.77 336 P P 03 26 47.2 +0.2
baz=86
C24A Savage 85.82 339 P P 03 26 48.1 +1.0
baz=86
HLID Hailey 85.83 331 P P 03 26 48.3 +0.8
baz=86
E20A Meyer Farm, Mu 86.06 337 P P 03 26 48.9 +0.5
baz=86
B25A Knox Farm, Ray 86.13 340 P P 03 26 49.3 +0.6
baz=86
D21A La Casta Ranch 86.19 338 P P 03 26 49.2 +0.2
baz=86
ULM Lac du Bonnet 86.20 346 P P 03 26 48.4 -0.6
comp=Z,5.5nm,0.8s,baz=139,slow=3.1,SNR=5.9
A27A Ledoux Ranch, 86.24 342 P P 03 26 49.7 +0.5
baz=87
E19A Rath Farm, Rou 86.24 336 P P 03 26 49.5 +0.1
baz=87
MCMT McKenzie Canyo 86.29 333 eP P 03 26 50.8 +1.0
comp=Z,5.7nm,1.1s
C23A Lambert 86.29 339 P P 03 26 49.9 +0.4
baz=87
A26A Wade Farm, Ken 86.40 341 P P 03 26 50.7 +0.7
baz=87
C22A Vida 86.45 339 P P 03 26 50.6 +0.3
baz=87
D20A Manuel Ranch, 86.58 337 P P 03 26 51.1 +0.2
baz=87
DGMT Dagmar 86.60 340 eP P 03 26 51.2 +0.2
comp=Z,33nm,0.9s
DGMT Dagmar 86.60 340 P P 03 26 51.4 +0.5
baz=87
A25A Svangstu Ranch 86.72 341 P P 03 26 52.5 +1.0
baz=87
B23A Brockton 86.83 339 P P 03 26 52.4 +0.3
baz=87
D19A Cripps Ranch, 86.89 336 P P 03 26 52.3 -0.2
baz=87
C21A Desert Coulee 86.90 338 P P 03 26 52.3 -0.1
baz=87
A24A Westby 86.96 340 P P 03 26 53.2 +0.5
baz=87
B22A Reddig Ranch S 86.98 339 P P 03 26 53.2 +0.4
baz=87
C20A Veseth Ranch, 87.08 337 P P 03 26 53.1 -0.3
baz=87
A23A Redstone 87.24 340 P P 03 26 54.0 -0.1
baz=88
B21A Ellsworth Farm 87.40 338 P P 03 26 54.8 -0.1
baz=88
C19A Slack Wire Ran 87.44 337 P P 03 26 55.0 -0.2
baz=88
A22A Carney Farms, 87.57 339 P P 03 26 55.9 +0.1
baz=88
M04C Macdoel 87.62 326 P P 03 26 57.3 +1.0
baz=88
A21A Bergtoll Ranch 87.88 338 P P 03 26 57.0 -0.2
baz=88
EGMT Eagleton 87.93 336 P P 03 26 57.2 -0.3
baz=88
A20A Cobblestone Ra 88.09 338 P P 03 26 57.9 -0.3
baz=88
K04D Chiloquin, OR 88.24 326 P P 03 26 60.0 +0.8
baz=88
A19A Klindworth Far 88.39 337 P P 03 26 59.4 -0.2
baz=89
J05D Fort Rock, OR 88.52 327 P P 03 27 01.3 +0.9
baz=89
SCHQ Schefferville 88.57 4 P P 03 26 59.9 -0.4
comp=Z,6.4nm,1.0s,baz=221,slow=3.7,SNR=4.3
J04D Umpqua Nationa 88.88 327 P P 03 27 03.1 +0.8
baz=89
I05D Terrebonne, OR 89.39 328 P P 03 27 05.5 +1.1
baz=90
BSMT Bassoo Peak 89.56 333 eP P 03 27 05.1 -0.2
LSZ Lusaka 90.69 109 eP P 03 27 12.8 +1.4
LSZ pmax pmax
comp=Z,13nm,1.4s
LSZ Lusaka 90.69 109 eP P 03 27 12.8 +1.4
comp=Z,13nm,1.4s
NEW Newport 90.78 332 P P 03 27 10.6 -0.2
baz=91
TAM Tamanrasset 93.62 65 eP P 03 27 24.9 +0.2
TAM pmax pmax
comp=Z,4.0nm,0.9s
TAM Tamanrasset 93.62 65 eP P 03 27 24.9 +0.2
comp=Z,4.1nm,0.9s
FCC Fort Churchill 93.99 349 eP P 03 27 25.0 -0.3
FCC Fort Churchill 93.99 349 eP P 03 27 25.0 -0.3
comp=Z,0.2nm,0.9s
YKA Yellowknife Ar 101.70 342 P Pdif 03 27 59.3 -0.7
comp=Z,0.8nm,0.8s,baz=139,slow=4.3,SNR=11
GERES GERESS Array B 112.76 46 PKiKP PKiKP 03 32 44.2 -0.1
comp=Z,1.0nm,0.8s,baz=267,slow=2.0,SNR=6.3
ILAR Eielson Array 113.72 333 PKiKP PKiKP 03 32 44.1 -1.4
comp=Z,0.6nm,1.1s,baz=167,slow=1.8,SNR=4.6
VYHS Vyhne 115.72 48 ePKIKP PKPdf 03 32 50.3 +0.4
VYHS Vyhne 115.72 48 ePKP PKPdf 03 32 50.3 +0.4
NAO01 NORSAR Array S 116.23 33 ePKPdf PKPdf 03 32 50.0 -0.5
STHS Stebnicka Huta 117.53 47 ePKIKP PKPdf 03 32 54.3 +0.9
STHS Stebnicka Huta 117.53 47 ePKP PKPdf 03 32 54.3 +0.9
KOLS Kolonicke sedl 117.99 48 ePKIKP PKPdf 03 32 56.7 +2.5
KOLS Kolonicke sedl 117.99 48 ePKP PKPdf 03 32 56.7 +2.5
KWP Kalwaria Pacla 118.50 47 ePKIKP PKPdf 03 32 55.3 +0.1
KWP Kalwaria Pacla 118.50 47 ePKPdf PKPdf 03 32 55.3 +0.1
BUR08 Bucovina Ar. S 119.40 50 ePKPdf PKPdf 03 32 57.1 0.0
SUW Suwalki 120.17 43 ePKIKP PKPdf 03 32 57.7 -0.5
SUW Suwalki 120.17 43 ePKPdf PKPdf 03 32 57.7 -0.5
WRA Warramunga Arr 120.37 210 PKP PKPdf 03 32 59.1 -0.7
comp=Z,2.5nm,0.7s,baz=162,slow=1.5,SNR=12
WRA pPKP pPKPdf 03 33 08.5 -1.3
comp=Z,1.7nm,0.9s,baz=173,slow=1.6,SNR=2.8
WRAB Tennant Creek 120.37 210 ePKIKP PKPdf 03 32 59.4 -0.4
WRAB Tennant Creek 120.37 210 ePKPdf PKPdf 03 32 59.4 -0.4
TNA Tin City 122.29 331 ePKPdf PKPdf 03 33 01.7 -0.2
BR131 Keskin Array S 122.60 61 ePKPdf PKPdf 03 33 03.6 0.0
BRTR Keskin Array B 122.60 61 PKP PKPdf 03 33 03.0 -0.6
comp=Z,3.3nm,0.8s,baz=197,slow=2.4,SNR=16
AK02 Malin Array Si 122.80 48 ePKPdf PKPdf 03 33 01.9 -1.4
KIEV Kiev 122.81 48 ePKIKP PKPdf 03 33 02.3 -1.1
KIEV Kiev 122.81 48 ePKPdf PKPdf 03 33 02.3 -1.1
AK01 Malin Array Si 122.81 48 ePKPdf PKPdf 03 33 02.1 -1.3
AKASG Malin Array Be 122.82 48 PKP PKPdf 03 33 02.7 -0.7
comp=Z,3.9nm,0.8s,baz=264,slow=2.8,SNR=20
AKASG pPKP pPKPdf 03 33 11.7 -1.7
comp=Z,1.9nm,0.8s,baz=261,slow=2.6,SNR=3.7
AKBB Malin Array Si 122.82 48 ePKIKP PKPdf 03 33 02.3 -1.1
AKBB Malin Array Si 122.82 48 ePKPdf PKPdf 03 33 02.3 -1.1
FX1 Attu Island--F 130.13 313 PKP PKPdf 03 33 17.7 +0.4
comp=Z,15nm,0.8s,baz=18,slow=3.2,SNR=4.0
KIV Kislovodsk 130.23 58 ePKIKP PKPdf 03 33 18.7 +0.7
KIV Kislovodsk 130.23 58 ePKPdf PKPdf 03 33 18.7 +0.7
KBZ Khabaz 130.34 59 PKP PKPdf 03 33 18.5 +0.5
comp=Z,3.3nm,0.9s,baz=236,slow=3.6,SNR=6.9
GNI Garni 130.91 64 ePKIKP PKPdf 03 33 20.4 +0.9
GNI Garni 130.91 64 ePKPdf PKPdf 03 33 20.4 +0.9
SEY Seymchan 139.52 330 PKP PKPdf 03 33 34.8 +0.2
comp=Z,6.1nm,0.9s,baz=142,slow=2.0,SNR=7.5
ARU Arti 140.29 40 ePKIKP PKPdf 03 33 36.9 +0.8
ARU Arti 140.29 40 ePKPdf PKPdf 03 33 36.9 +0.8
TIXI Tiksi 140.46 349 ePKIKP PKPdf 03 33 35.5 -0.5
TIXI Tiksi 140.46 349 ePKPdf PKPdf 03 33 35.5 -0.5
GEYT Alibeck 140.68 70 PKhKP PKPpre 03 33 29.1
comp=Z,1.2nm,0.6s,baz=242,slow=3.2,SNR=3.6
AKTO Aktyubinsk 140.99 50 PKhKP PKPpre 03 33 30.0
comp=Z,1.5nm,0.7s,baz=284,slow=2.6,SNR=4.4
ABKAR Akbulak array 142.36 52 ePKPpre PKPpre 03 33 35.3
PALK Pallekele 144.12 132 ePKIKP PKPab 03 33 41.9 -0.1
PALK Pallekele 144.12 132 PKP PKPbc 03 33 42.4 0.0
comp=Z,20nm,0.9s,baz=173,slow=4.9,SNR=5.5
PALK Pallekele 144.12 132 ePKPdf PKPab 03 33 41.9 -0.1
PALK PKP PKPbc 03 33 42.4 0.0
KSM Kuching 147.55 186 ePKPbc PKPbc 03 33 52.5 -0.3
BRVK Borovoye 147.78 42 ePKIKP PKPdf 03 33 50.2 +0.9
BRVK e 03 33 53.4
BRVK Borovoye 147.78 42 ePKPdf PKPdf 03 33 50.2 +0.9
BRVK ePKPbc PKiKP 03 33 53.4 -0.8
BVAR Borovoye Array 147.85 42 PKPbc PKPdf 03 33 50.4 +1.0
comp=Z,7.3nm,0.4s,baz=287,slow=1.8,SNR=30
PSI Prapat 148.15 165 PKP2 PKPbc 03 33 54.0 -0.6
PSI Prapat 148.15 165 PKPbc PKPbc 03 33 54.0 -0.6
comp=Z,24nm,0.8s,baz=163,slow=3.8,SNR=9.9
VOSK Vostochnaya 148.29 43 PKP2 PKPbc 03 33 53.0 -0.6
VOSK pmax pmax
comp=Z,5.0nm,0.9s
YAK Yakutsk 148.35 340 ePKP2 PKPbc 03 33 53.1 -0.3
YAK Yakutsk 148.35 340 ePKPbc PKPbc 03 33 53.1 -0.3
YAK ePKPab PKPab 03 33 56.7 0.0
KBL Kabul 148.84 78 ePKP2 PKPbc 03 33 55.4 -0.5
KBL Kabul 148.84 78 ePKPbc PKPbc 03 33 55.4 -0.5
HYB Hyderabad 149.78 116 i PKP PKPbc 03 33 57.5 -1.0
YSS Yuzh-Sakhalins 150.02 307 ePKP2 PKPbc 03 33 57.9 -0.2
YSS Yuzh-Sakhalins 150.02 307 ePKPbc PKPbc 03 33 57.9 -0.2
IPM Ipoh 150.19 168 ePKPdf PKPdf 03 33 53.3 -1.2
IPM ePKPbc PKPbc 03 33 59.4 -0.2
KKAR Karatay Array 150.31 61 ePKIKP PKPbc 03 33 59.1 +0.1
KKAR Karatay Array 150.31 61 ePKPbc PKPbc 03 33 59.1 +0.1
KULM Kulim 150.92 167 ePKPdf PKPdf 03 33 55.0 -0.6
KULM ePKPbc PKPbc 03 34 00.8 -0.5
KULM ePKPab PKPab 03 34 08.0 -0.5
KKM Kota Kinabalu 150.93 199 ePKPdf PKPdf 03 33 56.0 +0.3
KKM ePKPbc PKPbc 03 34 01.0 -0.4
AAK Ala-Archa 153.28 61 ePKIKP PKPdf 03 33 58.3 -0.2
AAK e 03 34 06.9
AAK Ala-Archa 153.28 61 PKPbc PKPbc 03 34 06.9 +0.9
comp=Z,9.6nm,0.7s,baz=230,slow=2.7,SNR=12
AAK Ala-Archa 153.28 61 ePKPdf PKPdf 03 33 58.3 -0.2
AAK ePKPbc PKPbc 03 34 06.9 +0.9
KURK Kurchatov 153.45 42 ePKIKP PKPdf 03 33 57.6 -0.6
KURK e 03 34 06.1
KURK Kurchatov 153.45 42 ePKPdf PKPdf 03 33 57.6 -0.6
KURK ePKPbc PKiKP 03 34 06.1 +0.2
TKM2 Tokmak 2 154.03 61 ePKIKP PKPdf 03 33 59.2 -0.4
TKM2 e 03 34 08.0
TKM2 e 03 34 21.1
TKM2 Tokmak 2 154.03 61 ePKPdf PKPdf 03 33 59.2 -0.4
TKM2 ePKPbc PKiKP 03 34 08.0 +0.3
TKM2 ePKPab PKPab 03 34 21.1 -0.2
ZAA0 Zalesovo Array 154.65 31 ePKPdf PKPdf 03 33 59.5 -0.3
ZAA0 ePKPbc PKPbc 03 34 08.2 -0.1
ZAA0 ePKPab PKPab 03 34 24.0 +0.9
ZALV Zalesovo Beam 154.65 31 PKP PKPdf 03 33 59.7 -0.1
comp=Z,4.0nm,0.8s,baz=306,slow=2.2,SNR=4.7
ZALV PKPbc PKPbc 03 34 08.3 0.0
comp=Z,6.6nm,0.8s,baz=310,slow=3.4,SNR=4.5
KSH Kashi 154.69 68 ePKPbc PKPdf 03 34 02.8 +2.3
KSH epPKP pPKPdf 03 34 12.3 +1.8
KSH esPKP 03 34 17.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH				eSKS	SKSdf	03 41 03.5	-1.6
KSH				eSKKS	SKKSac	03 44 47.3	-0.3
KSH				eSS	SS	03 57 38.8	-1.7
KSH				AMB	AMB		
	comp=Z,120nm,5.5s						
BOD	**Bodaibo**	**155.63**	**351**	ePKIKP	**PKPdf**	**03 34 00.2**	**-0.8**
BOD				pmax	pmax		
	comp=Z,16nm,1.6s						
MKAR	**Makanchi Array**	**157.40**	**48**	PKPbc	PKPdf	03 34 13.3	+10
	comp=Z,1.1nm,0.8s,baz=294,slow=3.3,SNR=4.0						
CN2	**Changchun**	**162.53**	**310**	ePKP	**PKPdf**	**03 34 11.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**163.04**	**153**	PKP	**PKPdf**	**03 34 10.1**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=257,slow=2.7,SNR=9.5						
LSA	**Lhasa**	**165.99**	**103**	ePKIKP	**PKPdf**	**03 34 13.2**	**-0.5**
LSA				e		03 35 14.9	
LSA	**Lhasa**	**165.99**	**103**	ePKPdf	**PKPdf**	**03 34 13.2**	**-0.5**
LSA				ePKPab	**PKPab**	**03 35 14.9**	**+0.9**
ULN	**Ulaanbaatar**	**166.08**	**359**	ePKIKP	**PKPdf**	**03 34 12.4**	**-0.4**
ULN	**Ulaanbaatar**	**166.08**	**359**	ePKPdf	**PKPdf**	**03 34 12.4**	**-0.4**
SONM	**Songino Array**	**166.11**	**1**	PKP	**PKPdf**	**03 34 12.1**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=198,slow=0.9,SNR=5.3						
SONM				PKPab	**PKPab**	**03 35 14.0**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=339,slow=3.5,SNR=9.2						
NJ2	**Nanjing**	**169.76**	**263**	ePKP	**PKPdf**	**03 34 15.3**	**-0.3**
KMI	**Kunming**	**170.52**	**157**	PKP	**PKPdf**	**03 34 16.5**	**-0.1**
GTA	**Gaotai**	**172.13**	**44**	ePKP	**PKPdf**	**03 34 17.8**	**+1.0**
GTA				sPKP		03 34 32.3	
GTA				PKPab	**PKPab**	**03 35 41.3**	**+0.9**
GTA				PP	**PP**	**03 39 36.0**	**+4.5**
GTA				SKS	**SKSdf**	**03 41 16.0**	**-2.0**
GTA				SKKS	**SKKSac**	**03 46 17.5**	**+1.3**
GTA				SS	**SS**	**04 00 41.3**	**+2.1**
GTA				AMB	AMB		
	comp=Z,260nm,4.0s						
GTA				LR	LR		
	comp=Z,150nm,15.6s						
GTA				LR	LR		
	comp=Z,130nm,15.2s						
GTA				LR	LR		
	comp=Z,610nm,16.0s						
HHC	**Hu-ho-hao-te**	**172.15**	**333**	ePKP	**PKPdf**	**03 34 16.0**	**-0.7**
HHC				pPKP	**pPKPdf**	**03 34 25.3**	**-1.5**
HHC				sPKP		03 34 32.3	
HHC				PP	**PP**	**03 39 33.5**	**+2.4**
HHC				SKKS		03 46 15.8	
HHC				SS	**SS**	**04 00 39.5**	**+1.1**
HHC				AMB	AMB		
	comp=Z,110nm,7.0s						
HHC				LR	LR		
	comp=Z,350nm,19.6s						
HHC				LR	LR		
	comp=Z,150nm,17.7s						
HHC				LR	LR		
	comp=Z,220nm,19.9s						
GYA	**Guiyang**	**172.55**	**179**	PKP	**PKPdf**	**03 34 16.0**	**-1.4**
GYA				pP		03 34 28.5	
GYA				PKPab	**PKPab**	**03 35 43.8**	**+1.5**
GYA				PKS	**PKSdf**	**03 37 47.0**	**-2.9**
GYA				PP	**PP**	**03 39 35.0**	**+2.4**
GYA				SKKS		03 46 17.0	
GYA				SS	**SS**	**04 00 42.0**	**+0.4**
GYA				AMB	AMB		
	comp=Z,120nm,8.1s						
GYA				LR	LR		
	comp=Z,130nm,21.0s						
GYA				LR	LR		
	comp=Z,120nm,21.2s						
GYA				LR	LR		
	comp=Z,120nm,24.8s						
CD2	**Chengdu**	**176.00**	**138**	PKP	**PKPdf**	**03 34 17.0**	**-1.3**
CD2				pPKP	**pPKPdf**	**03 34 28.5**	**+0.2**
CD2				sPKP		03 34 32.3	
CD2				PKS	**PKSdf**	**03 37 47.8**	**-2.7**
CD2				PP	**PP**	**03 39 52.8**	**+2.7**
CD2				SKS	**SKSdf**	**03 41 14.5**	**-4.8**
CD2				SKKS	**SKKSac**	**03 46 33.5**	**-1.2**
CD2				SS	**SS**	**04 01 13.5**	**-2.8**
CD2				AMB	AMB		
	comp=Z,220nm,6.6s						

*IDC **28** 03:20:03.2±0.6, 33.98S×73.20W, h0km, mb4.6/14, mb1 4.7/15, mb1mx4.5/32, mbtmp4.7/15, ML3.6/2, Error ellipse: s-maj=23.6km s-min=15.1km az=77.0*

*ISCJB **28** 03:20:07.6±0.2, 33.88S±0.05×72.99W±0.07, h33km, mb4.8/63, Error ellipse: s-maj=9.5km s-min=6.0km az=141.7*

*NEIC **28** 03:20:09.2±0.9, 33.92S×73.00W, h38km±7km, mb4.9/53, Error ellipse: s-maj=9.4km s-min=4.9km az=66.0*

*BJI **28** 03:20:14.3, 32.98S×74.33W, h35km, mB4.9/1*

ISC 28 03:20:09.1±0.3, 33.90S±0.07×73.0W±0.1, h35km, n514, σ0.88/521, mb4.9/63, 180C-209D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.64**	**62**	Pn	**Pn**	**03 21 16.8**	**0.0**
	0.7nm,0.3s,baz=234,slow=14,SNR=5.4						
CFAA				Lg	Lg	03 22 11.2	
	2.2nm,0.3s,baz=160,slow=20,SNR=6.3						
PLCA	**Paso Flores**	**7.10**	**165**	ePn	**Pn**	**03 21 49.6**	**-1.0**
TRQA	**Tornquist**	**9.87**	**118**	ePn	**Pn**	**03 22 28.1**	**-0.4**
LVC	**Limon Verde**	**11.81**	**19**	ePn	**Pn**	**03 22 56.0**	**+0.6**
LPAZ	**La Paz**	**18.08**	**15**	P	**Pn**	**03 24 17.7**	**-0.5**
	0.2nm,0.3s,baz=192,slow=9.6,SNR=16						
LPAZ	**La Paz**	**18.08**	**15**	eP	**Pn**	**03 24 18.3**	**0.0**
	52nm,1.5s						
SIV	**San Ignacio**	**20.84**	**34**	P	**P**	**03 24 48.7**	**+0.8**
	12nm,1.0s,baz=206,slow=15,SNR=18						
NNA	**Nana**	**22.09**	**350**	P	**P**	**03 25 01.4**	**+0.1**
	3.8nm,0.3s,baz=175,slow=11,SNR=3.2						
SAML	**Samuel**	**26.43**	**22**	eP	**P**	**03 25 42.0**	**-0.7**
	3.8nm,1.0s						
OTAV	**Otavalo**	**34.34**	**350**	eP	**P**	**03 26 54.8**	**+1.7**
	22nm,1.6s						
ROSC	**El Rosal**	**38.56**	**358**	P	**P**	**03 27 30.6**	**+1.5**
	6.0nm,0.6s,baz=80,slow=12,SNR=7.4						
ROSC	**El Rosal**	**38.56**	**358**	eP	P	03 27 32.3	+3.2
	6.0nm,0.8s						
SDV	**Santo Domingo**	**42.61**	**3**	eP	**P**	**03 28 01.6**	**-0.7**
	10nm,0.8s						
JTS	**JuntasAbangare**	**45.38**	**343**	eP	**P**	**03 28 24.7**	**+0.4**
	19nm,1.3s						
VNA3	**Neumayer Olymp**	**49.77**	**158**	P	**P**	**03 28 58.4**	**+0.6**
VNA2	**Neumayer--Watz**	**50.43**	**157**	P	**P**	**03 29 03.3**	**+0.6**
SNAA	**Sanae**	**51.99**	**158**	P	**P**	**03 29 14.7**	**+0.2**
SNAA	**Sanae**	**51.99**	**158**	P	**P**	**03 29 14.0**	**-0.6**
	6.7nm,1.1s,baz=278,slow=6.7,SNR=10						
SNAA	**Sanae**	**51.99**	**158**	eP	**P**	**03 29 14.3**	**-0.2**
	28nm,1.3s						
OBIP	**Obispado Ponce**	**52.01**	**8**	eP	**P**	**03 29 14.6**	**-0.5**
	23nm,1.1s						
CBYP	**Canovanas**	**52.33**	**9**	eP	**P**	**03 29 16.8**	**-0.7**
TEIG	**Tepich**	**55.75**	**343**	P	**P**	**03 29 41.3**	**-1.2**
	18nm,0.9s,baz=141,slow=18,SNR=2.9						
QSPA	**South Pole Qui**	**56.34**	**180**	P	**P**	**03 29 45.9**	**-0.5**
	13nm,1.1s,baz=160,slow=5.8,SNR=15						
QSPA	**South Pole Qui**	**56.34**	**180**	eP	**P**	**03 29 46.1**	**-0.3**
	20nm,1.1s						
035A	**Encino**	**65.01**	**335**	⇓P	**P**	**03 30 45.7**	**+0.1**
	baz=65						
034A	**Hebbronville**	**65.33**	**335**	⇑P	**P**	**03 30 47.8**	**+0.1**
	baz=66						
934A	**Benavides**	**65.77**	**335**	⇓P	**P**	**03 30 50.8**	**+0.3**
	baz=66						
835A	**Beeville**	**66.16**	**336**	⇑P	**P**	**03 30 53.8**	**+0.7**
	baz=66						
834A	**Tilden**	**66.26**	**335**	⇓P	**P**	**03 30 54.6**	**+0.9**
	baz=67						
735A	**Kenedy**	**66.68**	**336**	⇓P	**P**	**03 30 57.0**	**+0.7**
	baz=67						
833A	**Chaparral WMA,**	**66.73**	**335**	⇓P	**P**	**03 30 56.9**	**+0.2**
	baz=67,SNR=10						
832A	**Faith Ranch, C**	**66.91**	**334**	⇑P	**P**	**03 30 58.3**	**+0.5**
	baz=67,SNR=9.0						
636A	**Smothers Creek**	**67.01**	**337**	⇓P	**P**	**03 30 59.0**	**+0.6**
	baz=67						
HKT	**Hockley**	**67.06**	**339**	eP	**P**	**03 30 59.8**	**+1.2**
	48nm,2.0s						
635A	**Leesville**	**67.16**	**337**	⇑P	**P**	**03 31 00.1**	**+0.8**
	baz=68						
732A	**Laxson Ranch,**	**67.31**	**334**	⇑P	**P**	**03 31 00.6**	**+0.2**
	baz=68,SNR=7.4						
537A	**Green Hill Far**	**67.33**	**338**	⇓P	**P**	**03 31 01.0**	**+0.6**
	baz=68						
535A	**Dale**	**67.68**	**337**	⇑P	**P**	**03 31 03.2**	**+0.5**
	baz=68						
633A	**Saathoff Ranch**	**67.69**	**335**	⇓P	**P**	**03 31 03.0**	**+0.2**
	baz=68						
438A	**Sam Houston St**	**67.70**	**339**	⇑P	**P**	**03 31 03.5**	**+0.7**
	baz=68						
LRAL	**Lakeview Retre**	**67.86**	**347**	eP	**P**	**03 31 03.5**	**-0.2**
	22nm,1.5s						
340A	**Bronson**	**67.88**	**341**	⇑P	**P**	**03 31 04.7**	**+0.8**
	baz=68						
632A	**Uvalde**	**67.95**	**335**	⇑P	**P**	**03 31 05.0**	**+0.5**
	baz=68,SNR=7.1						
339A	**Huntington**	**67.99**	**340**	⇓P	**P**	**03 31 05.5**	**+0.9**
	baz=68						
631A	**Perdido Creek**	**68.15**	**334**	⇑P	**P**	**03 31 05.7**	**+0.1**
	baz=68						
533A	**Kerrville**	**68.21**	**336**	⇑P	**P**	**03 31 06.2**	**+0.2**
	baz=69,SNR=6.9						
338A	**Crockett**	**68.22**	**340**	⇑P	**P**	**03 31 06.9**	**+0.9**
	baz=69						
337A	**Centerville**	**68.36**	**339**	⇑P	**P**	**03 31 07.9**	**+1.1**
	baz=69						
435B	**Jarrell**	**68.38**	**337**	⇑P	**P**	**03 31 07.7**	**+0.6**
	baz=69						
532A	**Rocksprings**	**68.56**	**335**	⇓P	**P**	**03 31 08.0**	**-0.2**
	baz=69,SNR=17						
434A	**Burnet**	**68.63**	**337**	⇑P	**P**	**03 31 08.5**	**-0.2**
	baz=69,SNR=8.0						
336A	**Riesel**	**68.71**	**338**	⇑P	**P**	**03 31 09.6**	**+0.5**
	baz=69						
238A	**Jacksonville**	**68.78**	**340**	⇓P	**P**	**03 31 09.9**	**+0.4**
	baz=69						
335A	**Moody**	**68.80**	**338**	⇓P	**P**	**03 31 09.8**	**+0.2**
	baz=69						
531A	**Rocksprings**	**68.82**	**335**	⇑P	**P**	**03 31 10.0**	**+0.1**
	baz=69,SNR=7.1						
JCT	**Junction City**	**68.84**	**335**	eP	**P**	**03 31 10.1**	**0.0**
	19nm,1.1s						
JCT	**Junction City**	**68.84**	**335**	⇓P	**P**	**03 31 10.1**	**0.0**
	baz=69,SNR=8.3						
433A	**Art**	**68.85**	**336**	⇑P	**P**	**03 31 10.0**	**-0.1**
	baz=69,SNR=11						
237A	**Washetta, Mont**	**68.97**	**339**	⇓P	**P**	**03 31 11.6**	**+0.9**
	baz=69						
530A	**J-C Ranch, Com**	**69.09**	**334**	⇑P	**P**	**03 31 11.7**	**+0.1**
	baz=69,SNR=11						
334A	**Lometa**	**69.10**	**337**	⇓P	**P**	**03 31 11.7**	**+0.1**
	baz=70,SNR=6.4						
432A	**Menard**	**69.20**	**336**	⇓P	**P**	**03 31 12.0**	**-0.2**
	baz=70						
TXAR	**Lajitas Array**	**69.25**	**332**	P	**P**	**03 31 12.4**	**-0.2**
	2.0nm,0.5s,baz=153,slow=8.4,SNR=30						
431A	**Sonora**	**69.31**	**335**	⇓P	**P**	**03 31 12.7**	**-0.2**
	baz=70						
333A	**Richland Sprin**	**69.34**	**336**	⇓P	**P**	**03 31 12.9**	**-0.1**
	baz=70,SNR=5.8						
138A	**Matatall Enter**	**69.39**	**340**	⇑P	**P**	**03 31 13.9**	**+0.7**
	baz=70						
529A	**Stev Forest Ra**	**69.40**	**333**	⇓P	**P**	**03 31 13.6**	**+0.1**
	baz=70,SNR=10						
WHTX	**Lake Whitney**	**69.46**	**338**	eP	**P**	**03 31 13.7**	**-0.1**
	16nm,1.0s						
WHTX	**Lake Whitney**	**69.46**	**338**	⇓P	**P**	**03 31 14.3**	**+0.5**
	baz=70,SNR=5.2						
137A	**Heron Place, G**	**69.52**	**340**	⇑P	**P**	**03 31 14.7**	**+0.7**
	baz=70						
430A	**Baggett Ranch,**	**69.63**	**334**	⇑P	**P**	**03 31 14.9**	**0.0**
	baz=70,SNR=9.4						
332A	**Millersview**	**69.65**	**336**	⇑P	**P**	**03 31 14.9**	**0.0**
	baz=70,SNR=5.2						
234A	**Clairette**	**69.69**	**337**	⇑P	**P**	**03 31 15.3**	**+0.1**
	baz=70,SNR=6.1						
429A	**Davenport Ranc**	**69.72**	**334**	⇓P	**P**	**03 31 15.5**	**0.0**
	baz=70,SNR=6.8						
SWET	**Sewanee**	**69.81**	**349**	eP	**P**	**03 31 14.0**	**-1.9**
	17nm,1.3s						
331A	**San Angelo**	**69.82**	**335**	⇓P	**P**	**03 31 16.1**	**0.0**
	baz=70,SNR=6.0						
233A	**Rising Star**	**69.95**	**337**	⇓P	**P**	**03 31 17.0**	**+0.2**
	baz=70						
232A	**Coleman**	**70.08**	**336**	⇓P	**P**	**03 31 17.7**	**+0.1**
	baz=70						
330A	**Mertzon**	**70.17**	**335**	⇓P	**P**	**03 31 18.1**	**-0.1**
	baz=70,SNR=6.1						
134A	**White-Moore Ra**	**70.20**	**338**	⇓P	**P**	**03 31 18.5**	**+0.2**
	baz=71						
231A	**Bronte**	**70.35**	**336**	⇑P	**P**	**03 31 19.2**	**-0.1**
	baz=71,SNR=7.4						
133A	**Hamilton Ranch**	**70.50**	**337**	⇑P	**P**	**03 31 20.4**	**+0.3**
	baz=71						
329A	**Wagon Wheel Ra**	**70.53**	**334**	⇑P	**P**	**03 31 20.6**	**+0.2**
	baz=71						
230A	**Sterling City**	**70.58**	**335**	⇑P	**P**	**03 31 20.9**	**+0.2**
	baz=71						
Z35A	**Perchaven, San**	**70.64**	**339**	⇓P	**P**	**03 31 21.4**	**+0.4**
	baz=71,SNR=6.5						
ABTX	**Abilene, Hawle**	**70.75**	**336**	eP	**P**	**03 31 20.2**	**-1.5**
	54nm,1.6s						
ABTX				epP	**pP**	**03 31 30.6**	**-2.0**
ABTX	**Abilene, Hawle**	**70.75**	**336**	⇓P	**P**	**03 31 21.9**	**+0.2**
	baz=71						
Z34A	**Collier Ranch,**	**70.89**	**338**	⇓P	**P**	**03 31 22.4**	**-0.1**
	baz=71						
229A	**Bryant Ranch,**	**70.91**	**334**	⇓P	**P**	**03 31 22.4**	**-0.3**
	baz=71						
WVT	**Waverly**	**71.03**	**347**	eP	**P**	**03 31 22.4**	**-0.9**
	60nm,1.4s						
131A	**Roby**	**71.05**	**336**	⇓P	**P**	**03 31 23.6**	**+0.1**
	baz=71						
Z33A	**Whitaker Ranch**	**71.07**	**337**	⇓P	**P**	**03 31 23.4**	**-0.2**
	baz=71,SNR=6.8						
130A	**Snyder**	**71.18**	**335**	⇑P	**P**	**03 31 24.6**	**+0.3**
	baz=72						
Z32A	**Haskell**	**71.32**	**337**	⇓P	**P**	**03 31 25.3**	**+0.2**
	baz=72,SNR=8.9						
228A	**UT Block 9, Go**	**71.33**	**334**	⇓P	**P**	**03 31 25.6**	**+0.3**
	baz=72						
Y34A	**Reagan Ranch,**	**71.38**	**338**	⇓P	**P**	**03 31 25.5**	**0.0**
	baz=72						
129A	**Stewart Farms,**	**71.53**	**335**	⇑P	**P**	**03 31 26.4**	**0.0**
	baz=72						
Z31A	**Sharp Cattle R**	**71.55**	**336**	⇑P	**P**	**03 31 26.5**	**-0.1**
	baz=72,SNR=6.4						
Y33A	**Hilltop Ranch,**	**71.69**	**338**	⇑P	**P**	**03 31 27.1**	**-0.2**
	baz=72						
128A	**Castleberry Fa**	**71.74**	**334**	⇑P	**P**	**03 31 27.8**	**+0.1**
	baz=72,SNR=7.3						
Z30A	**Sanderson Ranc**	**71.86**	**335**	⇓P	**P**	**03 31 28.1**	**-0.4**
	baz=72						
Y32A	**R-V Farms, Ver**	**71.95**	**337**	⇓P	**P**	**03 31 29.1**	**+0.2**
	baz=72						
X34A	**Smith Ranch, M**	**72.00**	**339**	⇑P	**P**	**03 31 29.2**	**+0.1**
	baz=72						
Z29A	**Hungry Hill Ra**	**72.04**	**335**	⇓P	**P**	**03 31 29.4**	**-0.1**
	baz=72						
127A	**Arkansas Junct**	**72.11**	**333**	⇑P	**P**	**03 31 30.1**	**+0.1**
	baz=72						
X33A	**Lawton**	**72.15**	**338**	⇓P	**P**	**03 31 30.7**	**+0.6**
	baz=72						
Y31A	**Rekieta Farm,**	**72.18**	**336**	⇓P	**P**	**03 31 30.7**	**+0.4**
	baz=72						
BBTS	**Babate**	**72.26**	**58**	P	**P**	**03 31 31.6**	**+0.6**
	56nm,1.1s,baz=207,slow=5.7,SNR=4.3						
X32A	**Elmer**	**72.28**	**337**	⇑P	**P**	**03 31 30.9**	**0.0**
	baz=73						
Z28A	**Tucker Farm, M**	**72.30**	**334**	⇑P	**P**	**03 31 31.0**	**-0.1**
	baz=73						
Y29A	**Porterfield Fa**	**72.57**	**335**	⇓P	**P**	**03 31 32.7**	**0.0**
	baz=73						
W34A	**Bridge Creek,**	**72.57**	**339**	⇑P	**P**	**03 31 33.3**	**+0.7**
	baz=73						
Z27A	**Tatum**	**72.63**	**334**	⇓P	**P**	**03 31 32.4**	**-0.7**
	baz=73						
TUL1	**Tulsa**	**72.63**	**341**	eP	**P**	**03 31 32.3**	**-0.6**
	17nm,1.1s						
TUL1	**Tulsa**	**72.63**	**341**	⇓P	**P**	**03 31 33.3**	**+0.4**
	baz=73						
X31A	**McDonald Ranch**	**72.70**	**337**	⇓P	**P**	**03 31 33.1**	**-0.2**
	baz=73,SNR=5.6						
W33A	**Caddo, Fort Co**	**72.70**	**338**	⇑P	**P**	**03 31 33.7**	**+0.3**
	baz=73,SNR=5.8						
Y28A	**McKinney Farm,**	**72.81**	**335**	⇓P	**P**	**03 31 34.2**	**+0.1**
	baz=73						
SIUC	**Southern Illin**	**72.82**	**347**	eP	**P**	**03 31 33.1**	**-0.9**
	27nm,1.3s						
X30A	**Coker Ranch, T**	**72.83**	**336**	⇑P	**P**	**03 31 34.8**	**+0.6**
	baz=73						
Z26A	**Caprock**	**72.87**	**333**	⇓P	**P**	**03 31 34.5**	**-0.1**
	baz=73,SNR=14						
W32A	**Sentinel**	**72.92**	**338**	⇑P	**P**	**03 31 34.9**	**+0.3**
	baz=73,SNR=11						
V34A	**Guthrie**	**73.05**	**339**	⇓P	**P**	**03 31 35.9**	**+0.5**
	baz=73						
MSTX	**Muleshoe**	**73.06**	**334**	eP	**P**	**03 31 35.2**	**-0.4**
	18nm,1.1s						
MSTX				epP	**pP**	**03 31 45.2**	**-1.3**
MSTX	**Muleshoe**	**73.06**	**334**	⇓P	**P**	**03 31 35.7**	**+0.1**
	baz=73,SNR=6.2						
X29A	**Tulia**	**73.11**	**336**	⇑P	**P**	**03 31 36.4**	**+0.5**
	baz=74						
Y27A	**Causey**	**73.12**	**334**	⇑P	**P**	**03 31 36.0**	**0.0**
	baz=74						
Z25A	**Roswell**	**73.16**	**333**	⇑P	**P**	**03 31 35.9**	**-0.3**
	baz=74						
W31A	**Holland Ranch,**	**73.20**	**337**	⇓P	**P**	**03 31 36.6**	**+0.3**
	baz=74						
V33A	**Lossen Ranch,**	**73.27**	**339**	⇓P	**P**	**03 31 37.1**	**+0.4**
	baz=74						
X28A	**Dimmitt**	**73.35**	**335**	⇓P	**P**	**03 31 37.7**	**+0.4**
	baz=74						
319A	**Douglas**	**73.38**	**328**	⇓P	**P**	**03 31 37.3**	**-0.3**
	baz=74						
Y26A	**Elida**	**73.40**	**334**	⇑P	**P**	**03 31 38.0**	**+0.4**
	baz=74						
W30A	**Crocket Farms**	**73.40**	**337**	⇓P	**P**	**03 31 38.1**	**+0.5**
	baz=74						
V32A	**Arapaho**	**73.41**	**338**	⇓P	**P**	**03 31 38.0**	**+0.5**
	baz=74						
Z24A	**Sheeppen Canyo**	**73.45**	**332**	⇓P	**P**	**03 31 38.4**	**+0.3**
	baz=74						
AMTX	**Amarillo**	**73.50**	**336**	eP	**P**	**03 31 38.1**	**0.0**
	17nm,1.2s						
AMTX	**Amarillo**	**73.50**	**336**	⇑P	**P**	**03 31 38.2**	**0.0**
	baz=74						
U34A	**Anderson Ranch**	**73.62**	**340**	eP	**P**	**03 31 37.9**	**-0.8**
	31nm,1.4s						
U34A	**Anderson Ranch**	**73.62**	**340**	⇑P	**P**	**03 31 39.8**	**+1.1**
	baz=74						
W29A	**Amraillo**	**73.70**	**336**	⇑P	**P**	**03 31 40.0**	**+0.6**
	baz=74						
V31A	**Spring Creek L**	**73.71**	**338**	⇑P	**P**	**03 31 40.1**	**+0.8**
	baz=74						
Y25A	**Mesa, Roswell**	**73.72**	**333**	⇑P	**P**	**03 31 40.0**	**+0.4**
	baz=74						
121A	**Cookes Peak, D**	**73.73**	**330**	⇓P	**P**	**03 31 39.5**	**-0.2**
	baz=74,SNR=5.6						
X27A	**F and S Farms,**	**73.78**	**335**	⇓P	**P**	**03 31 40.6**	**+0.7**
	baz=74						
U33A	**Lingo Farm, Me**	**73.78**	**339**	⇑P	**P**	**03 31 40.2**	**+0.5**
	baz=74						
X26A	**CR and CF Fran**	**73.95**	**334**	⇓P	**P**	**03 31 41.1**	**+0.2**
	baz=74						
V30A	**Spur Ranch, Mi**	**73.97**	**337**	⇑P	**P**	**03 31 41.9**	**+1.0**
	baz=74						
U32A	**Winter Ranch,**	**74.00**	**338**	⇓P	**P**	**03 31 41.3**	**+0.3**
	baz=74						
Y24A	**Capitan**	**74.01**	**332**	⇑P	**P**	**03 31 41.7**	**+0.3**
	baz=74,SNR=6.0						
W28A	**Vega**	**74.02**	**335**	⇑P	**P**	**03 31 41.7**	**+0.4**
	baz=74						
Z22A	**Elephant Butte**	**74.02**	**331**	⇓P	**P**	**03 31 42.3**	**+1.0**
	baz=74						
W27A	**Bowe Ranch, En**	**74.14**	**335**	⇓P	**P**	**03 31 42.0**	**+0.1**
	baz=74						
X25A	**Clemmons Ranch**	**74.25**	**333**	⇑P	**P**	**03 31 42.7**	**0.0**
	baz=75						
Y23A	**Lovelace Mesa,**	**74.25**	**332**	⇓P	**P**	**03 31 43.0**	**+0.2**
	baz=75						
U31A	**Nine Bar Ranch**	**74.26**	**338**	⇓P	**P**	**03 31 43.0**	**+0.5**
	baz=75						
ACSO	**Alum Creek Sta**	**74.33**	**352**	eP	**P**	**03 31 42.0**	**-0.8**
	19nm,1.2s						
V29A	**Stinnett**	**74.34**	**336**	⇓P	**P**	**03 31 43.4**	**+0.3**
	baz=75						
W26A	**Owens Ranch, T**	**74.42**	**334**	⇓P	**P**	**03 31 43.9**	**+0.3**
	baz=75						
T33A	**Patterson Ranc**	**74.42**	**339**	⇑P	**P**	**03 31 44.0**	**+0.6**
	baz=75,SNR=6.2						
V28A	**Channing**	**74.47**	**336**	⇑P	**P**	**03 31 44.3**	**+0.4**
	baz=75						
X24A	**Lazy VL Ranch,**	**74.57**	**333**	⇑P	**P**	**03 31 44.8**	**+0.2**
	baz=75						
U30A	**WK&E Inc. Balk**	**74.66**	**337**	⇑P	**P**	**03 31 45.4**	**+0.5**
	baz=75						
V27A	**Dan Oppiter Fa**	**74.69**	**335**	⇓P	**P**	**03 31 45.3**	**+0.1**
	baz=75						
T32A	**Huddler Ranch,**	**74.72**	**339**	⇑P	**P**	**03 31 45.2**	**+0.1**
	baz=75						
Y22D	**IRIS PASSCAL I**	**74.72**	**331**	⇑P	**P**	**03 31 45.3**	**-0.1**
	baz=75						
W25A	**X Bar L Ranch,**	**74.79**	**334**	⇓P	**P**	**03 31 45.8**	**0.0**
	baz=75						
U29A	**Oasis Ranch, S**	**74.79**	**337**	⇑P	**P**	**03 31 46.2**	**+0.5**
	baz=75						
S33A	**Kaszmaul Farm,**	**74.83**	**340**	⇑P	**P**	**03 31 46.7**	**+1.0**
	baz=75						
TUC	**Tucson**	**74.84**	**328**	eP	**P**	**03 31 45.7**	**-0.4**
	11nm,1.3s						
T31A	**Randall Ranch,**	**74.87**	**338**	⇓P	**P**	**03 31 46.3**	**+0.3**
	baz=75						
X23A	**Hourglass Bar**	**74.88**	**332**	⇓P	**P**	**03 31 46.4**	**0.0**
	baz=75						
U28A	**Mallet**	**75.04**	**336**	⇓P	**P**	**03 31 47.6**	**+0.5**
	baz=75						
SFIN	**Scholer Farm**	**75.04**	**349**	⇓P	**P**	**03 31 48.4**	**+1.5**
	baz=75						
V26A	**Tequesquite Ra**	**75.06**	**335**	⇑P	**P**	**03 31 47.5**	**+0.2**
	baz=75						
LAZ	**Ladron**	**75.09**	**331**	eP	**P**	**03 31 47.4**	**-0.3**
	7.8nm,1.6s						
T30A	**Plains**	**75.10**	**338**	⇓P	**P**	**03 31 47.6**	**+0.2**
	baz=76						
W24A	**Lazy 6 Ranch,**	**75.13**	**333**	⇑P	**P**	**03 31 48.1**	**+0.2**
	baz=76						
S32A	**Newby Ranch, P**	**75.20**	**339**	⇓P	**P**	**03 31 48.9**	**+0.9**
	baz=76						
U27A	**Thompson Grove**	**75.28**	**336**	⇓P	**P**	**03 31 48.8**	**+0.2**
	baz=76						
S31A	**Mullinville**	**75.29**	**339**	⇓P	**P**	**03 31 49.4**	**+0.9**
	baz=76						
ANMO	**Albuquerque**	**75.30**	**332**	eP	**P**	**03 31 48.6**	**-0.2**
	10.0nm,1.4s						
W23A	**Werner Place,**	**75.37**	**332**	⇓P	**P**	**03 31 49.6**	**+0.3**
	baz=76						
V25A	**Rancho No Teng**	**75.40**	**334**	⇑P	**P**	**03 31 49.4**	**+0.1**
	baz=76,SNR=7.9						
T29A	**Hugoton**	**75.44**	**337**	⇑P	**P**	**03 31 49.9**	**+0.5**
	baz=76						
214A	**Organ Pipe Nat**	**75.47**	**326**	⇑P	**P**	**03 31 49.4**	**-0.2**
	baz=76						
R33A	**Olander Ranch,**	**75.49**	**340**	⇑P	**P**	**03 31 50.8**	**+1.3**
	baz=76						
V24A	**Rampart Ranch,**	**75.54**	**333**	⇑P	**P**	**03 31 51.0**	**+0.8**
	baz=76						
U26A	**Atchley Ranch,**	**75.58**	**335**	⇑P	**P**	**03 31 50.6**	**+0.2**
	baz=76						
SUR	**Sutherland**	**75.60**	**119**	eP	**P**	**03 31 51.6**	**+0.8**
	15nm,1.0s						
T28A	**Walsh**	**75.67**	**336**	⇓P	**P**	**03 31 51.3**	**+0.6**
	baz=76,SNR=6.0						
S29A	**Ulysses**	**75.80**	**337**	⇑P	**P**	**03 31 52.4**	**+0.9**
	baz=76						
R32A	**Long Quarter,**	**75.81**	**339**	⇓P	**P**	**03 31 51.7**	**+0.4**
	baz=76						
U25A	**Circle Dot Ran**	**75.82**	**334**	⇑P	**P**	**03 31 52.2**	**+0.4**
	baz=76						
T27A	**Campo**	**75.83**	**336**	⇑P	**P**	**03 31 52.3**	**+0.6**
	baz=76						
KSU1	**Kansas State U**	**75.85**	**341**	⇑P	**P**	**03 31 52.5**	**+1.0**
	baz=76						
V23A	**Ortiz Mt. (NFS**	**75.90**	**333**	⇑P	**P**	**03 31 52.5**	**+0.3**
	baz=76						
R31A	**Burdett**	**75.92**	**339**	⇓P	**P**	**03 31 52.6**	**+0.5**
	baz=76						
DBIC	**Dimbokro**	**75.93**	**72**	P	**P**	**03 31 53.0**	**+0.4**
	16nm,1.0s,baz=203,slow=5.2,SNR=12						
DBIC	**Dimbokro**	**75.93**	**72**	eP	**P**	**03 31 51.6**	**-1.0**
	20nm,1.0s						
S28A	**Manter**	**76.03**	**337**	⇑P	**P**	**03 31 53.0**	**+0.3**
	baz=76						
Q33A	**Connelly Farm,**	**76.09**	**340**	⇑P	**P**	**03 31 54.0**	**+1.0**
	baz=76						
R30A	**Dighton**	**76.15**	**338**	⇑P	**P**	**03 31 53.9**	**+0.6**
	baz=76						
U24A	**Moreno Valley**	**76.15**	**334**	⇑P	**P**	**03 31 53.8**	**0.0**
	baz=76						

T26A	Comanche Natio baz=77	76.23	335	⇓P	P	03 31 53.6	-0.4
Q32A	Meitler Ranch, baz=77	76.29	340	⇑P	P	03 31 54.6	+0.5
V22A	San Miguel Ran baz=77,SNR=5.7	76.33	332	⇓P	P	03 31 55.9	+1.2
X18A	Snowflake baz=77	76.36	329	⇑P	P	03 31 55.7	+0.8
U23A	El Rito baz=77	76.42	333	⇓P	P	03 31 55.5	+0.3
T25A	Trinidad baz=77,SNR=8.4	76.48	335	⇓P	P	03 31 56.1	+0.6
Q31A	Ellis baz=77	76.55	339	⇓P	P	03 31 56.5	+0.9
R29A	Marienthal baz=77	76.55	338	⇓P	P	03 31 56.6	+1.0
113A	Mohawk Valley, baz=77	76.59	326	⇑P	P	03 31 56.3	+0.4
S26A	Kim baz=77,SNR=8.1	76.59	336	⇓P	P	03 31 56.4	+0.4
R28A	Tribune baz=77,SNR=5.7	76.69	337	⇑P	P	03 31 56.7	+0.2
Z14A	Wintersburg baz=77	76.70	327	⇓P	P	03 31 56.4	-0.1
U22A	Llaves baz=77	76.71	333	⇓P	P	03 31 57.5	+0.7
T24B	San Luis baz=77	76.77	334	⇓P	P	03 31 57.5	+0.3
Q30A	Quinter baz=77,SNR=5.7	76.77	339	⇑P	P	03 31 57.4	+0.5
W18A	Petrified Fore baz=77	76.78	330	⇑P	P	03 31 56.9	-0.3
P32A	Huiting Farm, baz=77	76.89	340	⇓P	P	03 31 58.2	+0.7
X16A	Lo Mia Camp, P baz=77	76.91	328	⇑P	P	03 31 57.8	-0.1
Q29A	Oakley baz=77	76.92	338	⇑P	P	03 31 58.2	+0.5
R27A	Eads baz=77,SNR=7.4	76.96	336	⇑P	P	03 31 58.6	+0.5
S25A	Robets Cordova baz=77	76.96	335	⇓P	P	03 31 58.7	+0.6
T23A	Casias Ranch, baz=77	76.98	333	⇑P	P	03 31 58.5	+0.1
P31A	Stockton baz=77	77.02	339	⇑P	P	03 31 59.0	+0.7
R26A	Arlington baz=78,SNR=5.4	77.19	336	⇑P	P	03 31 60.0	+0.6
Y14A	Wickenburg baz=78	77.21	327	⇑P	P	03 31 59.4	0.0
S24A	Houchin Ranch, baz=78,SNR=6.1	77.22	334	⇑P	P	03 32 00.3	+0.5
P30A	Selden baz=78	77.30	339	⇑P	P	03 32 00.8	+0.9
GLA	Glamis baz=78	77.32	325	⇓P	P	03 32 00.2	+0.1
R25A	Fountain Ranch baz=78	77.34	335	⇓P	P	03 32 01.0	+0.8
Q28A	Sharon Springs baz=78	77.35	337	⇑P	P	03 32 01.2	+1.0
O32A	Brockman Farm, baz=78	77.39	340	⇑P	P	03 32 01.2	+0.9
SDCO	Great Sand Dun 5.6nm,1.3s	77.42	334	eP	P	03 32 00.8	-0.1
P29A	Atwood baz=78	77.56	338	⇓P	P	03 32 02.1	+0.8
KSCO	Kaye Shedlock' baz=78	77.56	337	⇑P	P	03 32 01.8	+0.4
S23A	Nye Farm, Mont baz=78	77.56	334	⇓P	P	03 32 01.6	0.0
O31A	Woolen Ranch, baz=78	77.58	340	⇓P	P	03 32 01.6	+0.2
SWSC	Sam W. Stewart baz=78	77.70	324	⇑P	P	03 32 01.4	-0.7
R24A	Sanders Place, baz=78,SNR=8.7	77.71	335	⇑P	P	03 32 02.7	+0.3
Y12C	Blythe baz=78	77.75	326	⇑P	P	03 32 01.8	-0.6
Q26A	Hugo baz=78	77.78	336	⇑P	P	03 32 03.5	+0.9
P28A	Saint Francis baz=78	77.79	338	⇓P	P	03 32 03.6	+0.9
WUAZ	Wupatki baz=78	77.81	329	⇑P	P	03 32 03.4	+0.5
O30A	MW Ranch, Wils baz=78	77.82	339	⇑P	P	03 32 03.6	+0.9
S22A	4UR Ranch, Cre baz=78	77.91	333	⇓P	P	03 32 03.9	+0.3
R23A	Moffat baz=78	77.93	334	⇑P	P	03 32 03.3	-0.3
MONP	Monument Peak baz=78	77.96	324	⇑P	P	03 32 03.5	-0.4
O29A	4D Ranch, Culb baz=78	78.00	339	⇓P	P	03 32 05.0	+1.3
Q25A	Bedland, Calha baz=78	78.02	336	⇑P	P	03 32 04.3	+0.2
PDMCI	Parker Dam,Lak baz=78	78.03	326	⇓P	P	03 32 04.4	+0.5
P27A	Ficken Ranch, baz=78	78.04	337	⇑P	P	03 32 04.5	+0.4
MVCO	Mesa Verde 29nm,1.8s	78.08	332	eP	P	03 32 04.6	+0.1
MVCO	Mesa Verde baz=78	78.08	332	⇓P	P	03 32 04.4	-0.1
N31A	Bailey Ranch, baz=78	78.10	340	⇓P	P	03 32 05.4	+1.1
BC3	Big Chuckawall baz=78	78.12	325	⇓P	P	03 32 04.6	0.0
P26A	Davis Ranch, A baz=79	78.29	337	⇑P	P	03 32 05.8	+0.3
O28A	Krutsinger Ran baz=79	78.30	338	⇓P	P	03 32 06.3	+0.9
109C	Camp Elliot, M baz=79	78.30	323	⇓P	P	03 32 05.2	-0.3
Q24A	Divide baz=79	78.37	335	⇓P	P	03 32 06.7	+0.5
IRM	Iron Mountain baz=79	78.39	325	⇓P	P	03 32 05.8	-0.2
N30A	Hueftle Ranch, baz=79	78.41	339	⇑P	P	03 32 07.2	+1.3
BGNE	Belgrade baz=79	78.42	341	⇑P	P	03 32 06.3	+0.3
P25A	Willow Gulch B baz=79,SNR=9.9	78.53	336	⇑P	P	03 32 07.0	+0.2
PFO	Pinyon Flat Ob baz=79	78.56	324	⇓P	P	03 32 07.4	+0.3
Q23A	Hartsel baz=79	78.56	334	⇑P	P	03 32 07.6	+0.4
W13A	Hualapai Mount baz=79	78.58	327	⇓P	P	03 32 06.8	-0.5
O27A	Beecher Island baz=79	78.58	337	⇑P	P	03 32 08.2	+1.2
N29A	Votaw Ranch, W baz=79	78.58	339	⇓P	P	03 32 07.8	+0.8
M31A	Lambtecht Ranc baz=79	78.59	340	⇑P	P	03 32 07.9	+0.9
BELC	Belle Mtn. Jos baz=79	78.66	325	⇑P	P	03 32 07.7	+0.1
N28A	Pribbeno Ranch baz=79	78.74	338	⇑P	P	03 32 09.0	+1.2
O26A	Horse Wrangler baz=79	78.90	337	⇓P	P	03 32 09.8	+1.0
PV01	Paradox Valley 281nm,1.0s	78.91	332	eP	P	03 32 08.8	-0.3
U15A	North Rim baz=79	78.98	329	⇑P	P	03 32 09.7	+0.2
P23A	Jefferson baz=79	78.98	335	⇓P	P	03 32 10.2	+0.6
M30A	Dale-Ortello V baz=79	79.02	340	⇑P	P	03 32 10.6	+1.2
O25A	Wiggins baz=79	79.05	336	⇑P	P	03 32 11.4	+1.8
OGNE	Ogallala baz=80	79.13	338	⇓P	P	03 32 11.4	+1.4
N27A	Anderson Farm, baz=80	79.16	338	⇑P	P	03 32 11.0	+0.8
M29A	Burnside Ranch baz=80	79.17	339	⇓P	P	03 32 11.2	+1.0
SMCO	Snowmass 8.4nm,1.1s	79.22	334	eP	P	03 32 11.7	+0.8
ISCO	Idaho Springs 17nm,1.8s	79.28	335	eP	P	03 32 11.6	+0.5
ISCO	Idaho Springs baz=80	79.28	335	⇓P	P	03 32 11.6	+0.5
L31A	Butterfield Fa baz=80	79.32	341	⇓P	P	03 32 11.9	+0.9
M28A	Bar X Bar Ranc baz=80	79.33	339	⇑P	P	03 32 12.1	+1.0
L30A	Spencer Herefo baz=80	79.36	340	⇓P	P	03 32 12.4	+1.2
O24A	Longmont baz=80	79.38	336	⇓P	P	03 32 12.3	+0.8
HEC	Hector,Ludlow baz=80	79.49	325	⇑P	P	03 32 12.2	0.0
P22A	Eagle baz=80	79.51	334	⇑P	P	03 32 13.2	+0.9
L29A	Maesberg Ranch baz=80	79.68	340	⇑P	P	03 32 14.3	+1.4
O23A	Lake Granby, G baz=80,SNR=7.7	79.75	335	⇓P	P	03 32 14.9	+1.2
TUQ	Turquoise Moun baz=80	79.80	326	⇓P	P	03 32 15.0	+1.2
O22A	Kremmling baz=80,SNR=7.2	79.93	335	⇓P	P	03 32 15.0	+0.4
N24A	Carr baz=80	79.94	336	⇓P	P	03 32 15.5	+1.0
M26A	McRoberts Ranc baz=80	79.95	337	⇑P	P	03 32 15.5	+1.1
K30A	Basset baz=80	80.00	340	⇓P	P	03 32 15.4	+0.8
TSUM	Tsumeb 20nm,1.4s	80.03	106	eP	P	03 32 15.5	-0.1
ECSD	EROS Data Cent 14nm,1.0s	80.20	343	eP	P	03 32 15.2	-0.5
ECSD	EROS Data Cent baz=81,SNR=7.2	80.20	343	⇓P	P	03 32 15.4	-0.2
K29A	Lazy Trails An baz=81	80.28	340	⇓P	P	03 32 17.3	+1.1
N23A	Red Feather La baz=81	80.37	335	⇑P	P	03 32 17.9	+1.0
CCUT	Cedar City 10nm,1.2s	80.39	329	eP	P	03 32 18.4	+1.3
L26A	Underwood Farm baz=81	80.44	338	⇑P	P	03 32 18.1	+1.0
N22A	Wattenberg Ran baz=81	80.47	335	⇑P	P	03 32 18.0	+0.5
M24A	Cheyenne baz=81	80.50	336	⇓P	P	03 32 18.7	+1.2
O20A	White River Ci baz=81	80.53	333	⇓P	P	03 32 18.3	+0.6
K28A	Ten Mile Ranch baz=81	80.54	339	⇑P	P	03 32 18.9	+1.3
J30A	Dallas baz=81	80.57	341	⇑P	P	03 32 18.3	+0.7
K27A	Flueckinger Fa baz=81	80.79	339	⇓P	P	03 32 19.7	+0.8
M23A	Laramie baz=81	80.80	336	⇓P	P	03 32 19.7	+0.5
L25A	Engebretsen Ra baz=81	80.83	337	⇓P	P	03 32 19.6	+0.4
BOSA	Boshof 12nm,1.1s,baz=199,slow=5.4,SNR=7.2	80.84	118	P	P	03 32 20.0	+0.1
BOSA	Boshof 21nm,1.2s	80.84	118	eP	P	03 32 19.1	-0.7
J29A	Okreek baz=81,SNR=7.8	80.88	340	⇓P	P	03 32 19.6	+0.3
M22A	Cedar Creek Ra baz=81	81.05	335	⇓P	P	03 32 21.6	+1.0
L24A	Wheatland baz=81	81.05	337	⇓P	P	03 32 21.3	+0.9
FURC	Furnace Creek, baz=81	81.08	326	⇑P	P	03 32 21.4	+0.9
K26A	Motz Farm, Whi baz=81	81.08	338	⇓P	P	03 32 21.5	+1.0
I30A	Oacoma baz=82	81.10	341	⇑P	P	03 32 20.5	0.0
N20A	Spence Gulch, baz=82	81.15	334	⇑P	P	03 32 21.5	+0.4
J28A	Allard Ranch, baz=82,SNR=5.2	81.15	340	⇑P	P	03 32 21.8	+1.0
J27A	Elkhorn Farm, baz=82,SNR=5.8	81.22	339	⇓P	P	03 32 22.3	+1.1
L23A	Garrett baz=82	81.37	336	⇓P	P	03 32 23.9	+1.7
I29A	Vivian Onida baz=82	81.44	340	⇓P	P	03 32 23.2	+0.9
L22A	Ellis Ranch, M baz=82	81.55	336	⇓P	P	03 32 24.5	+1.4
J26A	Sides Ranch, S baz=82	81.60	338	⇓P	P	03 32 23.7	+0.5
K24A	Anderson Ranch baz=82	81.62	337	⇑P	P	03 32 24.9	+1.4
I28A	Midland baz=82	81.66	340	⇓P	P	03 32 23.8	+0.3
GRAC	Grapevine Rang baz=82	81.75	326	⇓P	P	03 32 24.3	+0.3
K23A	Bowen Ranch, D baz=82	81.92	336	⇑P	P	03 32 25.0	0.0
H29A	Onida baz=82	81.97	341	⇑P	P	03 32 24.9	-0.1
I27A	Quinn baz=82	81.98	339	⇓P	P	03 32 25.5	+0.4
R11A	Troy Canyon, C 14nm,1.6s	82.03	328	eP	P	03 32 26.8	+1.0
R11A	Troy Canyon, C baz=82	82.03	328	⇓P	P	03 32 25.8	+0.1
J24A	Dixon Ranch, L baz=82	82.11	337	⇑P	P	03 32 26.9	+1.0
K22A	Casper baz=82	82.13	336	⇑P	P	03 32 26.6	+0.5
G30A	Faulkton baz=82	82.15	342	⇓P	P	03 32 26.0	+0.1
I26A	New Underwood baz=83	82.19	339	⇑P	P	03 32 27.5	+1.3
H28A	Mission Ridge baz=83	82.24	340	⇑P	P	03 32 26.5	0.0
K21A	Alcova baz=83,SNR=5.8	82.36	335	⇓P	P	03 32 27.9	+0.5
DUG	Dugway 19nm,1.5s	82.37	330	eP	P	03 32 28.0	+0.6
DUG	Dugway baz=83,SNR=5.7	82.37	330	⇑P	P	03 32 28.0	+0.6
G29A	Hoven baz=83	82.42	341	⇓P	P	03 32 27.7	+0.4
I25A	Rochford baz=83	82.44	338	⇓P	P	03 32 28.4	+0.6
H27A	Howes baz=83	82.50	340	⇓P	P	03 32 28.5	+0.7
TPH	Tonopah 11nm,1.4s	82.55	326	eP	P	03 32 29.2	+0.8
G28A	Parade baz=83	82.58	340	⇓P	P	03 32 28.4	+0.2
I24A	Kuemmerle Ranc baz=83	82.58	338	⇓P	P	03 32 28.4	0.0
RSSD	Black Hills 4.8nm,1.0s	82.63	338	eP	P	03 32 28.7	0.0
F30A	Leola baz=83	82.78	342	⇓P	P	03 32 29.8	+0.6
J22A	Midwest baz=83	82.79	336	⇓P	P	03 32 29.6	+0.1
H25A	Fruitdale baz=83	82.94	339	⇓P	P	03 32 31.1	+0.9
MLAC	Mammoth Lakes baz=83	82.94	325	⇑P	P	03 32 30.0	-0.6
F29A	Eureka baz=83	82.98	341	⇑P	P	03 32 31.1	+0.8
HWUT	Hardware Ranch 5.0nm,0.8s	83.07	332	eP	P	03 32 30.6	-0.5
LBTB	Lobatse 20nm,1.1s	83.09	115	eP	P	03 32 31.6	0.0
G27A	Dupree baz=84	83.14	340	⇑P	P	03 32 32.0	+0.8
I22A	9 Mile Ranch, baz=84	83.21	336	⇑P	P	03 32 31.9	+0.3
G26A	Maurine baz=84	83.26	339	⇓P	P	03 32 32.1	+0.3
J20A	Shoshoni baz=84	83.29	335	⇓P	P	03 32 32.5	+0.4
PDAR	Pinedale Array 2.9nm,1.1s,baz=138,slow=5.9,SNR=9.5	83.30	334	P	P	03 32 31.4	-0.9
NVAR	Mina Array Bea 0.8nm,0.9s,baz=153,slow=6.3,SNR=5.1	83.33	326	P	P	03 32 31.9	-0.6
E30A	Jud baz=84	83.37	342	⇓P	P	03 32 32.9	+0.6
G25A	Newell baz=84	83.41	339	⇓P	P	03 32 33.2	+0.7
I21A	Big Trails, Te baz=84	83.42	336	⇓P	P	03 32 33.1	+0.4
J19A	Crowheart baz=84,SNR=7.6	83.55	334	⇓P	P	03 32 34.1	+0.6
E29A	Napoleon baz=84	83.61	342	⇑P	P	03 32 33.8	+0.3
F27A	Lemmon baz=84	83.62	340	⇓P	P	03 32 33.9	+0.3
HVU	Hansel Valley 10nm,1.1s	83.69	331	eP	P	03 32 34.1	-0.2
F26A	Lodgepole baz=84	83.79	340	⇓P	P	03 32 34.8	+0.3
H22A	Clearmont baz=84	83.79	337	⇓P	P	03 32 34.6	0.0
I20A	Worland baz=84	83.82	335	⇓P	P	03 32 35.1	+0.3
ELK	Elko 4.6nm,1.0s	83.85	329	eP	P	03 32 35.5	+0.3
D30A	Buchanan baz=84	83.89	343	⇓P	P	03 32 35.6	+0.7
E28A	Huff baz=84	83.90	341	⇑P	P	03 32 35.9	+0.9
E27A	Carson baz=84	84.00	341	⇓P	P	03 32 35.8	+0.3
G23A	Biddle baz=84	84.02	338	⇓P	P	03 32 35.2	-0.5
H21A	Big Horn, Sher baz=84	84.05	336	⇑P	P	03 32 36.4	+0.5
D29A	Pettibone, Tap baz=84	84.06	342	⇓P	P	03 32 37.3	+1.5
F25A	Bowman baz=84	84.08	339	⇑P	P	03 32 37.2	+1.2
I19A	Meeteetse baz=85	84.20	335	⇓P	P	03 32 37.3	+0.5
H20A	Greybull baz=85,SNR=8.7	84.25	336	⇓P	P	03 32 38.1	+1.1
E26A	Carlson Angus baz=85	84.29	340	⇑P	P	03 32 38.5	+1.5
F24A	Ekalaka baz=85	84.31	339	⇓P	P	03 32 38.1	+0.9
G22A	Birney baz=85	84.33	337	⇓P	P	03 32 37.4	+0.1
AGMN	Agassiz Nation 7.1nm,0.9s	84.34	345	eP	P	03 32 36.6	-0.5
C30A	Mose, Pekin baz=85,SNR=7.2	84.38	343	⇑P	P	03 32 38.1	+0.8
LOHW	Long Hollow 5.1nm,1.3s	84.42	334	eP	P	03 32 38.3	+0.3
D28A	Regan baz=85	84.44	342	⇓P	P	03 32 38.1	+0.4
F23A	Volborg baz=85	84.49	338	⇑P	P	03 32 38.3	+0.2
E25A	Miller Ranch, baz=85	84.59	339	⇑P	P	03 32 38.9	+0.3
D27A	Center baz=85	84.61	341	⇓P	P	03 32 39.9	+1.3
G21A	Lodge Grass baz=85	84.63	336	⇑P	P	03 32 39.3	+0.4
I17A	Pilgrim Ck. baz=85	84.67	334	⇓P	P	03 32 39.6	+0.3
H19A	Powell baz=85	84.75	335	⇑P	P	03 32 39.9	+0.4
D26A	Manning baz=85	84.79	340	⇓P	P	03 32 40.4	+0.9
F22A	Rosebud baz=85	84.81	337	⇓P	P	03 32 40.3	+0.6
C28A	Hausauer Farms baz=85	84.87	342	⇓P	P	03 32 40.8	+0.9
E24A	Baker baz=85	84.91	339	⇑P	P	03 32 41.2	+1.0
TOA0	Torodi Ar. Sit	84.95	71	eP	P	03 32 40.4	-0.6
TORD	Torodi Ar. Bea 8.6nm,1.0s,baz=243,slow=5.0,SNR=25	84.95	71	P	P	03 32 41.1	+0.1
G20A	Bridger baz=85,SNR=7.4	84.97	336	⇓P	P	03 32 40.9	+0.4
H18A	Shoshone NF, C baz=85,SNR=11	85.00	335	⇓P	P	03 32 40.8	-0.1
B30A	Myrvik Farm, E baz=85,SNR=14	85.04	343	⇑P	P	03 32 41.2	+0.5
F21A	Absaloka Mine, baz=86	85.13	337	⇓P	P	03 32 42.0	+0.6
D25A	Fairfield baz=86	85.16	340	⇓P	P	03 32 42.1	+0.7
E23A	Ismay baz=86	85.16	338	⇑P	P	03 32 42.0	+0.6
C27A	Sayler Ranch, baz=86	85.16	341	⇓P	P	03 32 41.9	+0.5
RLMT	Red Lodge 9.9nm,1.3s	85.24	335	eP	P	03 32 40.7	-1.4
B29A	Wagenman Farm, baz=86	85.30	343	⇓P	P	03 32 42.3	+0.3
E22A	Miles City baz=86	85.30	338	⇑P	P	03 32 42.0	-0.1
D24A	Glendive baz=86	85.42	339	⇑P	P	03 32 43.7	+1.1
C26A	Wahner Farm, P baz=86	85.43	341	⇓P	P	03 32 43.5	+0.9
F20A	Billings baz=86	85.45	336	⇑P	P	03 32 44.4	+1.5
YMR	Madison River 9.7nm,1.1s	85.46	334	eP	P	03 32 43.9	+0.7
A30A	Hoffart Farm, baz=86	85.49	344	⇓P	P	03 32 43.0	+0.1
B28A	Dugan Ranch, T baz=86,SNR=5.4	85.54	342	⇑P	P	03 32 43.9	+0.7
C25A	Freed Ranch, W baz=86	85.65	340	⇓P	P	03 32 44.6	+0.8
A29A	Manning Farm, baz=86,SNR=5.5	85.70	343	⇑P	P	03 32 44.6	+0.6
D23A	Lindsay baz=86	85.73	339	⇑P	P	03 32 44.8	+0.6
F19A	Roth Farm, Mol baz=86	85.77	336	⇓P	P	03 32 44.4	-0.1
C24A	Savage baz=86,SNR=10	85.82	339	⇓P	P	03 32 45.5	+0.9
HLID	Hailey 15nm,1.6s	85.85	331	eP	P	03 32 45.6	+0.6
HLID	Hailey baz=86,SNR=6.7	85.85	331	⇑P	P	03 32 45.1	+0.1
A28A	Rude Farm, Bot baz=86	85.94	342	⇓P	P	03 32 45.6	+0.4
B26A	Jensen Ranch, baz=86	85.97	341	⇑P	P	03 32 46.3	+0.9
D22A	Cohagen baz=86	86.01	338	⇑P	P	03 32 46.4	+0.8
E20A	Meyer Farm, Mu baz=86,SNR=7.7	86.06	337	⇓P	P	03 32 46.1	+0.2
B25A	Knox Farm, Ray baz=86	86.13	340	⇑P	P	03 32 46.9	+0.8
ULM	Lac du Bonnet 4.1nm,0.8s,baz=156,slow=5.9,SNR=5.1	86.19	346	P	P	03 32 45.6	-0.7
D21A	La Casta Ranch baz=87	86.19	337	⇑P	P	03 32 46.6	+0.1
E19A	Rath Farm, Rou baz=87,SNR=8.3	86.25	336	⇑P	P	03 32 46.8	0.0
C23A	Lambert baz=87,SNR=7.1	86.29	339	⇑P	P	03 32 47.1	+0.1
MCMT	McKenzie Canyo 5.8nm,1.2s	86.30	333	eP	P	03 32 47.8	+0.4
MFID	Camas Ranch	86.30	330	eP	P	03 32 47.5	+0.3
A26A	Wade Farm, Ken baz=87	86.39	341	⇑P	P	03 32 47.8	+0.4
C22A	Vida baz=87	86.45	338	⇑P	P	03 32 47.6	-0.2
D20A	Manuel Ranch, baz=87,SNR=7.1	86.58	337	⇓P	P	03 32 48.7	+0.3
DGMT	Dagmar 23nm,0.9s	86.60	340	eP	P	03 32 48.6	+0.2
DGMT	Dagmar baz=87,SNR=5.9	86.60	340	⇓P	P	03 32 49.0	+0.5
DLMT	Dillon 15nm,1.4s	86.66	333	eP	P	03 32 49.9	+0.9
A25A	Svangstu Ranch baz=87	86.72	341	⇓P	P	03 32 50.1	+1.1
B23A	Brockton baz=87	86.83	339	⇑P	P	03 32 50.1	+0.5
D19A	Cripps Ranch, baz=87	86.89	336	⇓P	P	03 32 50.0	0.0
C21A	Desert Coulee baz=87,SNR=7.0	86.90	338	⇑P	P	03 32 49.2	-0.8
A24A	Westby baz=87	86.95	340	⇓P	P	03 32 51.0	+0.8
B22A	Reddig Ranch S baz=87	86.98	339	⇑P	P	03 32 50.7	+0.3
LRM	Limekiln Ridge	86.99	334	eP	P	03 32 51.6	+0.9
B21A	Ellsworth Farm baz=88	87.41	338	⇓P	P	03 32 53.1	+0.7
C19A	Slack Wire Ran baz=88	87.45	337	⇑P	P	03 32 52.4	-0.3
A22A	Carney Farms, baz=88,SNR=8.7	87.57	339	⇑P	P	03 32 53.9	+0.7
M04C	Macdoel baz=88	87.64	326	⇑P	P	03 32 54.7	+0.9
M02C	Callahan baz=88	87.82	325	⇓P	P	03 32 54.7	+0.1
A21A	Bergtoll Ranch baz=88	87.88	338	⇓P	P	03 32 55.0	+0.4
EGMT	Eagleton	87.93	336	⇑P	P	03 32 55.1	+0.1

baz=88
B19A Brinkman Farms 88.04 337 ⇓P P 03 32 55.7 +0.3
baz=88
A20A Cobblestone Ra 88.09 338 ⇑P P 03 32 56.1 +0.5
baz=88
K04D Chiloquin, OR 88.26 326 ⇑P P 03 32 56.8 +0.1
baz=89
A19A Klindworth Far 88.39 337 ⇓P P 03 32 57.7 +0.6
baz=89
J05D Fort Rock, OR 88.54 327 ⇓P P 03 32 58.4 +0.3
baz=89
J04D Umpqua Nationa 88.90 326 ⇓P P 03 33 00.4 +0.6
baz=89
G08A Pilot Rock 89.13 330 eP P 03 33 01.6 +0.8
14nm,1.7s
I05D Terrebonne, OR 89.41 328 ⇓P P 03 33 03.3 +1.3
baz=90
G05D Wamic, OR 90.11 328 ⇓P P 03 33 05.7 +0.5
baz=90
LSZ Lusaka 90.62 109 eP P 03 33 10.2 +1.6
2.7nm,0.9s
NEW Newport 90.79 332 ⇑P P 03 33 08.7 +0.4
baz=91
TAM Tamanrasset 93.53 65 eP P 03 33 21.9 +0.1
3.1nm,1.1s
FCC Fort Churchill 93.97 349 eP P 03 33 21.6 -1.0
0.2nm,1.0s
YKA Yellowknife Ar 101.70 342 P Pdif 03 33 56.3 -1.1
0.4nm,0.9s,baz=142,slow=4.8,SNR=4.4
KWP Kalwaria Pacla 118.41 47 ePKPdf PKPdf 03 38 52.3 -0.2
BUR08 Bucovina Ar. S 119.31 50 ePKPdf PKPdf 03 38 55.0 +0.6
SUW Suwalki 120.08 43 ePKPdf PKPdf 03 38 55.1 -0.4
WRA Warramunga Arr 120.44 210 PKP PKPdf 03 38 56.3 -1.2
1.2nm,0.9s,baz=154,slow=1.8,SNR=5.0
WRAB Tennant Creek 120.45 210 ePKPdf PKPdf 03 38 54.7 -2.7
BR131 Keskin Array S 122.50 61 ePKPdf PKPdf 03 39 00.1 -0.7
BRTR Keskin Array B 122.50 61 PKP PKPdf 03 39 00.6 -0.3
0.9nm,0.8s,baz=222,slow=1.9,SNR=6.6
AK02 Malin Array Si 122.71 48 ePKPdf PKPdf 03 38 59.9 -0.7
KIEV Kiev 122.72 48 ePKPdf PKPdf 03 38 59.2 -1.4
AK01 Malin Array Si 122.72 48 ePKPdf PKPdf 03 39 00.5 -0.2
AKASG Malin Array Be 122.73 48 PKP PKPdf 03 38 59.3 -1.4
2.3nm,1.0s,baz=273,slow=2.5,SNR=7.5
MBWA Marble Bar 123.92 194 ePKPdf PKPdf 03 39 06.1 +2.0
ONI Oni 130.41 60 P PKPdf 03 39 20.5 +4.7
GNI Garni 130.81 64 ePKPdf PKPdf 03 39 17.5 +0.8
SEY Seymchan 139.53 330 PKP PKPdf 03 39 32.6 +0.6
3.0nm,0.8s,baz=74,slow=4.1,SNR=5.1
ARU Arti 140.20 40 ePKPdf PKPdf 03 39 32.2 -1.2
GEYT Alibeck 140.59 70 PKP PKPdf 03 39 35.6 +0.8
0.6nm,0.3s,baz=209,slow=2.6,SNR=3.6
ABKAR Akbulak array 142.26 52 ePKPdf PKPdf 03 39 32.5 -5.0
KSM Kuching 147.59 186 ePKPdf PKPbc 03 39 49.6 -0.8
KSM ePKPbc PKiKP 03 39 55.8 +3.2
BRVK Borovoye 147.69 42 ePKPbc PKPbc 03 39 49.6 +0.1
BVAR Borovoye Array 147.76 42 PKPbc PKPdf 03 39 47.4 +0.6
2.5nm,0.6s,baz=281,slow=2.1,SNR=16
PSI Prapat 148.16 165 PKPbc PKPbc 03 39 51.0 -1.0
9.6nm,0.9s,baz=192,slow=5.8,SNR=9.1
YAK Yakutsk 148.35 340 ePKPbc PKPbc 03 39 50.4 -0.5
HYB Hyderabad 149.72 116 i PKP PKPbc 03 39 54.5 -1.3
IPM Ipoh 150.21 168 ePKPdf PKPdf 03 39 50.9 -1.1
IPM ePKPbc PKPbc 03 39 55.9 -1.2
KKAR Karatay Array 150.22 61 ePKPbc PKPbc 03 39 56.1 -0.1
KULM Kulim 150.94 167 ePKPbc PKPbc 03 39 57.9 -0.9
KULM ePKPab PKPab 03 40 06.0 0.0
AAK Ala-Archa 153.18 61 PKPbc PKPbc 03 40 03.5 +0.3
4.6nm,1.0s,baz=234,slow=2.7,SNR=8.6
AAK Ala-Archa 153.18 61 ePKPbc PKPbc 03 40 03.4 +0.2
KURK Kurchatov 153.36 42 ePKPbc PKPbc 03 40 02.9 -0.2
TKM2 Tokmak 2 153.94 61 ePKPbc PKPbc 03 40 03.7 -1.2
ZAA0 Zalesovo Array 154.57 31 ePKPdf PKPdf 03 39 56.1 -1.0
ZAA0 ePKPbc PKPbc 03 40 05.2 -0.4
ZALV Zalesovo Beam 154.57 31 PKP PKPdf 03 39 56.3 -0.8
2.1nm,0.9s,baz=327,slow=2.4,SNR=8.3
ZALV PKPbc PKPbc 03 40 05.4 -0.2
5.4nm,1.0s,baz=302,slow=3.2,SNR=8.4
ZALV PKPab PKPab 03 40 21.1 +0.8
5.4nm,1.1s,baz=316,slow=4.1,SNR=5.3
KSH Kashi 154.60 68 ePKPbc PKPbc 03 40 06.5 +0.2
KSH epPKP PKPab 03 40 17.0 -4.2
KSH esPKP 03 40 20.8
KSH eSKS SKSdf 03 47 07.0 +5.1
KSH eSKKS SKKSac 03 50 53.8 +10
KSH AMB AMB
comp=Z,52nm,5.1s
MKAR Makanchi Array 157.31 48 PKP PKPdf 03 40 00.6 -0.5
1.1nm,1.0s,baz=298,slow=3.1,SNR=4.4
MKAR PKPbc PKPbc 03 40 12.5
0.7nm,1.0s,baz=304,slow=2.6,SNR=3.0
WMQ Urumqi 162.05 51 ePKP PKPdf 03 40 12.5 +5.9
TLY Talaya 162.06 7 ePKPdf PKPdf 03 40 06.7 +0.4
LSA Lhasa 165.91 103 ePKPdf PKPdf 03 40 10.1 -1.0
KMI Kunming 170.51 156 PKP PKPdf 03 40 22.5 +8.5
HHC Hu-ho-hao-te 172.16 334 ePKP PKPdf 03 40 19.5 +5.3
HHC pPKP pPKPdf 03 40 30.5 +4.8
HHC sPKP 03 40 33.8
HHC PP PP 03 45 30.5 +1.9
HHC SKS SKSdf 03 47 18.8 +4.0
HHC SS SS 04 06 28.8 -6.7
CD2 Chengdu 175.97 137 PKP PKPdf 03 40 21.3 +5.5
LZH Lanzhou 176.63 49 ePKP PKPdf 03 40 21.3 +5.4
LZH pPKP pPKPdf 03 40 31.0 +3.6
LZH sPKP 03 40 35.8

*IDC **28** 03:23:43.1±0.6, 37.°68S×73.°56W, h0km, mb4.7/16, mb1 4.8/19, mb1mx4.7/31, mbtmp4.7/19, ML4.4/3, MS4.6/5, Ms1 4.5/5, ms1mx4.0/33, Error ellipse: s-maj=21.4km s-min=13.5km az=75.0*
*ISCJB **28** 03:23:45.8±0.2, 37.°66S±0.°05×73.°43W±0.°07, h23km, mb5.1/103, MS4.7/3, Error ellipse: s-maj=8.8km s-min=5.6km az=144.1*
*MOS **28** 03:23:47.4±1.0, 37.°70S×73.°54W, h33km, mb5.3/21, Error ellipse: s-maj=17.9km s-min=9.5km az=101.4*
*BJI **28** 03:23:47.4, 38.°60S×72.°74W, h35km, mB5.2/5, Ms5.3/5, Ms7 4.9/5*
*NEIC **28** 03:23:48.5±0.2, 37.°75S×73.°51W, h35km, mb5.1/87, Error ellipse: s-maj=7.1km s-min=4.4km az=62.0*
ISC 28 03:23:47.1±0.3, **37.°72S**±0.°06×**73.°55W**±0.°09, **h23km, n566,** σ0.°84/562, **mb5.2**/102, **MS4.6/3, 164C-165D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.81 143 Pn Pn 03 24 45.4 +1.0
11nm,0.3s,baz=323,slow=12,SNR=11
PLCA Lg Lg 03 25 41.9
15nm,0.3s,baz=273,slow=17,SNR=3.2
CFAA Coronel Fontan 7.50 37 LR LR 03 27 55.0
comp=Z,89nm,20.6s,baz=230,slow=34
TRQA Tornquist 9.16 96 ePn Pn 03 25 59.5 +1.7
LVC Limon Verde 15.57 16 ePn Pn 03 27 24.8 -0.6
44nm,1.0s
USHA Ushuaia 17.47 170 P Pn 03 27 48.7 -0.3
0.2nm,0.3s,baz=322,slow=12,SNR=6.6
USHA LR LR 03 34 03.7
comp=Z,1µm,18.8s,baz=326,slow=35
CPUP Villa Florida 17.81 55 eP Pn 03 27 53.4 0.0
CPUP pmax pmax
comp=Z,2.0nm,0.9s
CPUP Villa Florida 17.81 55 P Pn 03 27 52.0 -1.3
comp=Z,0.5nm,0.3s,baz=230,slow=16,SNR=5.3
CPUP LR LR 03 34 19.5
comp=Z,778nm,20.1s,baz=216,slow=36
CPUP Villa Florida 17.81 55 ePn Pn 03 27 53.4 0.0
comp=Z,2.2nm,0.9s
LPAZ La Paz 21.88 14 eP P 03 28 39.9 +0.9
LPAZ pmax pmax
comp=Z,44nm,0.8s
LPAZ La Paz 21.88 14 P P 03 28 37.6 -1.4
comp=Z,26nm,0.9s,baz=172,slow=9.4,SNR=13
LPAZ La Paz 21.88 14 eP P 03 28 39.9 +0.9
comp=Z,44nm,0.8s
SIV San Ignacio 24.29 30 P P 03 29 01.6 -1.2
comp=Z,19nm,1.0s,baz=215,slow=9.2,SNR=12
SIV LR LR 03 39 26.7
comp=Z,1µm,18.8s,baz=224,slow=39
NNA Nana 25.79 353 P P 03 29 15.7 -0.8
comp=Z,13nm,0.7s,baz=190,slow=12,SNR=5.9
SAML Samuel 30.13 21 eP P 03 29 54.7 -0.5
comp=Z,5.5nm,0.8s
ATAH Atahualpa 30.76 351 P P 03 30 03.9 +2.6
comp=Z,11nm,0.9s,baz=162,slow=8.8,SNR=4.1
BDFB Brasilia 31.50 53 eP P 03 30 07.8 +0.3
BDFB Brasilia 31.50 53 P P 03 30 06.8 -0.6
comp=Z,6.8nm,0.8s,baz=216,slow=9.3,SNR=6.7
BDFB LR LR 03 44 34.6
comp=Z,1µm,19.8s,baz=224,slow=40
BDFB Brasilia 31.50 53 eP P 03 30 07.8 +0.3
OTAV Otavalo 38.04 352 eP P 03 31 05.2 +0.9
comp=Z,44nm,1.2s
ROSC El Rosal 42.36 359 P P 03 31 42.1 +2.1
comp=Z,2.3nm,0.3s,baz=186,slow=9.0,SNR=4.2
VNA3 Neumayer Olymp 46.42 156 P P 03 32 17.8 +6.3
SDV Santo Domingo 46.44 4 eP P 03 32 11.2 -1.2
comp=Z,26nm,0.8s
RCBR Riachuelo 46.68 57 P P 03 32 14.5 +0.3
comp=Z,16nm,0.9s,baz=209,slow=12,SNR=4.9
BCIP Isla Barro Col 47.01 352 eP P 03 32 17.4 +0.9
comp=Z,34nm,0.9s
VNA2 Neumayer--Watz 47.10 156 P P 03 32 17.2 +0.4
SNAA Sanae 48.64 157 P P 03 32 28.7 -0.2
SNAA Sanae 48.64 157 eP P 03 32 28.6 -0.2
SNAA pmax pmax
comp=Z,63nm,1.3s
SNAA Sanae 48.64 157 P P 03 32 28.9 +0.1
comp=Z,7.4nm,0.8s,baz=291,slow=6.6,SNR=24
SNAA Sanae 48.64 157 eP P 03 32 28.6 -0.2
comp=Z,64nm,1.3s
JTS JuntasAbangare 48.93 345 eP P 03 32 32.7 +1.1
JTS pmax pmax
comp=Z,20nm,0.9s
JTS JuntasAbangare 48.93 345 P P 03 32 31.9 +0.3
comp=Z,11nm,0.9s,baz=180,slow=11,SNR=6.1
JTS JuntasAbangare 48.93 345 eP P 03 32 32.6 +1.1
comp=Z,20nm,0.9s
GRGR Grenville 50.83 15 eP P 03 32 44.4 -1.5
comp=Z,231nm,1.0s
QSPA South Pole Qui 52.53 180 P P 03 32 58.2 -0.1
comp=Z,14nm,1.0s,baz=141,slow=4.2,SNR=15
QSPA South Pole Qui 52.53 180 eP P 03 32 57.8 -0.5
comp=Z,17nm,1.0s
NVL N'lazarevskaya 53.42 156 eP P 03 33 03.4 -1.2
NVL pmax pmax
comp=Z,30nm,1.0s
RKT Rikitea 54.05 267 eLR LR 03 48 41.3
comp=Z,907nm,27.2s
RKT Rikitea 54.05 267 eT T 04 30 53.4
comp=Z,1.6nm,0.3s
APG El Apazote 54.80 340 P P 03 33 11.4 -4.0
comp=Z,7.3nm,0.8s,baz=186,slow=10,SNR=6.6
OBIP Obispado Ponce 55.84 8 eP P 03 33 22.9 +0.2
comp=Z,20nm,0.8s
CBYP Canovanas 56.16 9 eP P 03 33 23.0 -2.0
comp=Z,10nm,0.6s
SDDR Presa de Saban 56.43 3 eP P 03 33 27.6 +0.6
comp=Z,14nm,1.1s
GTBY Guantanamo Bay 57.35 358 eP P 03 33 33.2 -0.1
comp=Z,48nm,0.9s
TEIG Tepich 59.28 344 P P 03 33 46.6 -0.3
comp=Z,26nm,1.0s,baz=286,slow=6.6,SNR=6.2
MEH Mehetia 67.20 265 eT T 04 47 18.5
comp=Z,13nm,0.3s
TVO Taravao 68.19 264 eT T 04 48 32.3
comp=Z,1.1nm,0.3s
035A Encino 68.32 336 ⇓P P 03 34 46.6 +0.3
baz=69
TIAR Tiarei 68.39 264 eT T 04 48 47.2
comp=Z,4.2nm,0.3s
PAE Paea 68.51 264 eT T 04 48 56.6
comp=Z,0.8nm,0.2s
PPT2 Papeete2 68.55 264 eLR LR 03 55 24.1
comp=Z,334nm,21.8s
PPT2 Papeete2 68.55 264 eT T 04 48 58.6
comp=Z,2.4nm,0.3s
PPT2 Papeete2 68.55 264 eLR LR 03 33 44.2
comp=Z,779nm,29.0s
034A Hebbronville 68.62 336 ⇑P P 03 34 48.2 0.0
baz=69,SNR=5.4
934A Benavides 69.07 336 ⇓P P 03 34 51.7 +0.7
baz=69
933A Laredo 69.32 336 ⇑P P 03 34 53.5 +0.9
baz=70
TIGA Tifton 69.43 351 ⇓P P 03 34 54.3 +1.1
baz=70
835A Beeville 69.49 337 ⇓P P 03 34 54.7 +1.1
baz=70
834A Tilden 69.56 337 ⇓P P 03 34 54.6 +0.6
baz=70
735A Kenedy 70.02 337 ⇑P P 03 34 58.1 +1.3
baz=70
833A Chaparral WMA, 70.02 336 ⇑P P 03 34 57.8 +0.9
baz=70
832A Faith Ranch, C 70.17 335 ⇓P P 03 34 57.9 +0.1
baz=70
733A Divot King Ran 70.35 336 ⇑P P 03 34 60.0 +1.1
baz=71
636A Smothers Creek 70.38 338 ⇑P P 03 34 59.8 +0.8
baz=71
732A Laxson Ranch, 70.58 336 ⇑P P 03 35 01.0 +0.7
baz=71,SNR=5.6
537A Green Hill Far 70.73 339 ⇓P P 03 34 59.9 -1.2
baz=71
536A Bastrop 70.94 339 ⇑P P 03 35 01.7 -0.7
baz=71
633A Saathoff Ranch 71.00 336 ⇑P P 03 35 03.7 +0.8
baz=71
535A Dale 71.04 338 ⇓P P 03 35 04.1 +1.0
baz=71
438A Sam Houston St 71.13 340 ⇓P P 03 35 03.5 0.0
baz=72
632A Uvalde 71.24 336 ⇑P P 03 35 04.6 +0.3
baz=72
534A Blanco 71.31 337 ⇓P P 03 35 05.2 +0.4
baz=72
340A Bronson 71.35 342 ⇑P P 03 35 04.2 -0.6
baz=72
631A Perdido Creek 71.41 335 ⇓P P 03 35 04.6 -0.7
baz=72
339A Huntington 71.44 341 ⇑P P 03 35 05.4 0.0
baz=72
LRAL Lakeview Retre 71.50 348 eP P 03 35 04.9 -0.8
comp=Z,24nm,1.0s
533A Kerrville 71.53 337 ⇑P P 03 35 06.4 +0.4
baz=72
338A Crockett 71.66 340 ⇑P P 03 35 08.0 +1.2
baz=72
435B Jarrell 71.75 338 ⇑P P 03 35 08.4 +1.0
baz=72
337A Centerville 71.78 340 ⇓P P 03 35 08.7 +1.2
baz=72
532A Rocksprings 71.85 336 ⇓P P 03 35 08.3 +0.2
baz=72,SNR=7.9
434A Burnet 71.98 338 ⇓P P 03 35 09.1 +0.3
baz=72,SNR=11
531A Rocksprings 72.10 336 ⇓P P 03 35 10.5 +1.0
baz=72,SNR=5.7
336A Riesel 72.11 339 ⇑P P 03 35 10.0 +0.5
baz=72
JCT Junction City 72.15 336 eP P 03 35 09.4 -0.4
JCT pmax pmax
comp=Z,26nm,0.9s
JCT Junction City 72.15 336 eP P 03 35 09.4 -0.4
comp=Z,26nm,0.9s
JCT Junction City 72.15 336 ⇓P P 03 35 10.0 +0.2
baz=72,SNR=7.8
335A Moody 72.17 339 ⇑P P 03 35 10.6 +0.8
baz=73
433A Art 72.18 337 ⇓P P 03 35 09.8 -0.1
baz=73,SNR=13
530A J-C Ranch, Com 72.34 335 ⇓P P 03 35 11.4 +0.5
baz=73,SNR=11
TXAR Lajitas Array 72.42 333 P P 03 35 11.2 -0.3
comp=Z,4.6nm,1.0s,baz=152,slow=7.2,SNR=17
334A Lometa 72.46 338 ⇑P P 03 35 11.8 +0.2
baz=73
432A Menard 72.51 337 ⇑P P 03 35 12.1 +0.1
baz=73
431A Sonora 72.59 336 ⇓P P 03 35 12.9 +0.5
baz=73,SNR=5.3
529A Stev Forest Ra 72.62 334 ⇓P P 03 35 12.5 -0.1
baz=73
333A Richland Sprin 72.68 337 ⇓P P 03 35 12.5 -0.4
baz=73
138A Matatall Enter 72.84 341 ⇓P P 03 35 14.1 +0.3
baz=73
WHTX Lake Whitney 72.85 339 eP P 03 35 13.6 -0.2
comp=Z,21nm,0.8s
WHTX Lake Whitney 72.85 339 ⇑P P 03 35 13.7 -0.2
baz=73
KMSC Kings Mountain 72.85 353 eP P 03 35 13.1 -0.7
comp=Z,16nm,0.9s
KMSC Kings Mountain 72.85 353 ⇓P P 03 35 13.0 -0.7
baz=73
430A Baggett Ranch, 72.90 335 ⇓P P 03 35 14.5 +0.2
baz=73,SNR=13
137A Heron Place, G 72.95 341 ⇓P P 03 35 14.9 +0.4
baz=73
332A Millersview 72.97 337 ⇑P P 03 35 14.2 -0.4
baz=73,SNR=11
429A Davenport Ranc 72.97 335 ⇑P P 03 35 14.7 0.0
baz=73,SNR=9.4
234A Clairette 73.06 338 ⇓P P 03 35 15.3 +0.2
baz=73
331A San Angelo 73.11 336 ⇓P P 03 35 15.5 0.0
baz=74,SNR=9.2
233A Rising Star 73.30 338 ⇓P P 03 35 16.5 -0.1
baz=74
232A Coleman 73.41 337 ⇑P P 03 35 16.1 -1.1
baz=74
330A Mertzon 73.45 336 ⇓P P 03 35 16.2 -1.3
baz=74,SNR=5.5
SWET Sewanee 73.47 349 eP P 03 35 17.0 -0.5
comp=Z,56nm,0.8s
CPCT Cooper Cave 73.51 351 eP P 03 35 18.4 +0.8
134A White-Moore Ra 73.57 339 ⇑P P 03 35 17.6 -0.6
baz=74
231A Bronte 73.66 336 ⇓P P 03 35 17.9 -0.8
baz=74,SNR=14
329A Wagon Wheel Ra 73.79 335 ⇓P P 03 35 19.6 0.0
baz=74,SNR=12
133A Hamilton Ranch 73.85 338 ⇑P P 03 35 19.3 -0.5
baz=74,SNR=10.0
Z35A Perchaven, San 74.05 340 ⇓P P 03 35 19.9 -1.0
baz=74
ABTX Abilene, Hawle 74.09 337 eP P 03 35 21.2 0.0
comp=Z,27nm,0.9s
ABTX Abilene, Hawle 74.09 337 ⇑P P 03 35 21.2 0.0
baz=74
SUR Sutherland 74.12 119 eP P 03 35 22.3 +0.4
comp=Z,24nm,0.9s
229A Bryant Ranch, 74.17 335 ⇓P P 03 35 21.8 +0.1
baz=74
131A Roby 74.36 337 ⇓P P 03 35 22.1 -0.7
baz=75
Z33A Whitaker Ranch 74.44 338 ⇓P P 03 35 23.1 -0.1
baz=75
228A UT Block 9, Go 74.57 335 ⇓P P 03 35 24.5 +0.4
baz=75
WVT Waverly 74.66 348 eP P 03 35 23.7 -0.7
WVT pmax pmax
comp=Z,24nm,1.0s
WVT Waverly 74.66 348 eP P 03 35 23.7 -0.7
comp=Z,24nm,1.0s
Z32A Haskell 74.67 338 ⇓P P 03 35 24.3 -0.2
baz=75,SNR=11
Y34A Reagan Ranch, 74.78 339 ⇑P P 03 35 25.0 -0.2
baz=75
129A Stewart Farms, 74.80 335 ⇓P P 03 35 25.8 +0.5
baz=75
Z31A Sharp Cattle R 74.89 337 ⇓P P 03 35 25.7 -0.1
baz=75,SNR=11
128A Castleberry Fa 75.00 335 ⇓P P 03 35 26.6 0.0
baz=75,SNR=8.3
Y33A Hilltop Ranch, 75.08 339 ⇑P P 03 35 26.9 +0.1
baz=76
JSRW J. Sargeant Re 75.14 356 eP P 03 35 26.8 -0.3
Z30A Sanderson Ranc 75.16 336 ⇓P P 03 35 27.1 -0.3
baz=76,SNR=9.3
GDL2 Guadalupe Moun 75.26 333 eP P 03 35 28.4 +0.3
Y32A R-V Farms, Ver 75.31 338 ⇓P P 03 35 28.0 -0.2
baz=76
Z29A Hungry Hill Ra 75.33 336 ⇓P P 03 35 28.5 +0.1
baz=76,SNR=9.8
127A Arkansas Junct 75.34 334 ⇑P P 03 35 29.2 +0.7
baz=76
X34A Smith Ranch, M 75.41 339 ⇑P P 03 35 28.6 -0.2
baz=76
Y31A Rekieta Farm, 75.52 337 ⇑P P 03 35 29.9 +0.4
baz=76
X33A Lawton 75.54 339 ⇓P P 03 35 29.3 -0.2
baz=76
Z28A Tucker Farm, M 75.57 335 ⇑P P 03 35 29.8 -0.1
baz=76
X32A Elmer 75.65 338 ⇑P P 03 35 30.4 +0.2
baz=76
PBMO Poplar Bluff 75.75 346 eP P 03 35 29.7 -0.9
comp=Z,18nm,0.9s
Y29A Porterfield Fa 75.87 336 ⇓P P 03 35 32.1 +0.6
baz=76
W34A Bridge Creek, 75.99 340 eP P 03 35 31.8 -0.3
comp=Z,21nm,1.0s
X31A McDonald Ranch 76.05 338 ⇓P P 03 35 32.4 -0.1
baz=76,SNR=10
Y28A McKinney Farm, 76.10 336 ⇑P P 03 35 34.0 +1.1
baz=76
Z26A Caprock 76.10 334 ⇑P P 03 35 33.1 +0.2
baz=76
W33A Caddo, Fort Co 76.10 339 ⇑P P 03 35 33.2 +0.5
baz=76
TUL1 Tulsa 76.10 342 eP P 03 35 32.0 -0.7
comp=Z,33nm,0.9s
TUL1 Tulsa 76.10 342 ⇑P P 03 35 32.6 -0.1
baz=76
X30A Coker Ranch, T 76.16 337 ⇓P P 03 35 33.8 +0.7
baz=76,SNR=7.7
CASY Casey 76.28 182 eP P 03 35 32.3 -1.2
comp=Z,14nm,0.8s
W32A Sentinel 76.30 339 ⇓P P 03 35 33.9 +0.1
baz=77,SNR=12
MSTX Muleshoe 76.33 335 eP P 03 35 34.1 -0.1
comp=Z,23nm,1.0s
MSTX Muleshoe 76.33 335 ⇑P P 03 35 34.4 +0.3
baz=77
Z25A Roswell 76.36 334 ⇑P P 03 35 34.3 -0.1
baz=77
Y27A Causey 76.38 335 ⇑P P 03 35 35.0 +0.5
baz=77
319A Douglas 76.41 329 ⇑P P 03 35 35.0 +0.4
baz=77
X29A Tulia 76.41 336 ⇓P P 03 35 34.8 +0.2
baz=77
USIN University of 76.43 349 eP P 03 35 33.7 -0.8
comp=Z,34nm,0.8s
SIUC Southern Illin 76.44 347 eP P 03 35 35.2 +0.7
comp=Z,17nm,0.9s
V34A Guthrie 76.48 340 eP P 03 35 34.1 -0.7
comp=Z,12nm,0.8s
V34A Guthrie 76.48 340 ⇑P P 03 35 35.0 +0.1
baz=77
W31A Holland Ranch, 76.56 338 ⇓P P 03 35 35.5 +0.2
baz=77
Y26A Elida 76.64 334 ⇓P P 03 35 36.3 +0.4
baz=77
X28A Dimmitt 76.64 336 ⇓P P 03 35 36.2 +0.3
baz=77
Z24A Sheeppen Canyo 76.64 333 ⇓P P 03 35 36.3 +0.2
baz=77
V33A Lossen Ranch, 76.68 340 ⇓P P 03 35 36.2 +0.2
baz=77
V32A Arapaho 76.80 339 ⇑P P 03 35 36.9 +0.2
baz=77
AMTX Amarillo 76.81 337 eP P 03 35 36.8 -0.1
comp=Z,33nm,0.9s
AMTX Amarillo 76.81 337 ⇑P P 03 35 37.2 +0.3
baz=77
121A Cookes Peak, D 76.83 331 ⇑P P 03 35 37.6 +0.5
baz=77
Y25A Mesa, Roswell 76.94 334 ⇓P P 03 35 38.3 +0.6
baz=77
W29A Amraillo 77.02 337 ⇑P P 03 35 38.4 +0.3
baz=77,SNR=9.5
U34A Anderson Ranch 77.05 340 eP P 03 35 37.5 -0.6
comp=Z,21nm,0.9s
U34A Anderson Ranch 77.05 340 ⇓P P 03 35 37.6 -0.4
baz=77
X27A F and S Farms, 77.05 335 ⇓P P 03 35 38.7 +0.4
baz=77
V31A Spring Creek L 77.08 338 ⇓P P 03 35 39.2 +1.0
baz=78
Z22A Elephant Butte 77.16 332 ⇓P P 03 35 39.7 +0.8
baz=78
Y24A Capitan 77.20 333 ⇑P P 03 35 39.7 +0.5
baz=78
U33A Lingo Farm, Me 77.20 340 ⇑P P 03 35 39.7 +0.8
baz=78
X26A CR and CF Fran 77.20 335 ⇓P P 03 35 39.9 +0.8
baz=78

V30A Spur Ranch, Mi 77.32 338 ⇓P P 03 35 40.7 +1.1
baz=78
U32A Winter Ranch, 77.40 339 ⇓P P 03 35 40.1 +0.1
baz=78
W27A Bowe Ranch, En 77.42 336 ⇑P P 03 35 40.9 +0.5
baz=78,SNR=10
Y23A Lovelace Mesa, 77.43 333 ⇓P P 03 35 40.7 +0.2
baz=78
DBIC Dimbokro 77.53 71 eP P 03 35 42.1 +0.8
DBIC pmax pmax
comp=Z,34nm,1.0s
DBIC Dimbokro 77.53 71 P P 03 35 41.2 0.0
comp=Z,19nm,0.9s,baz=200,slow=6.1,SNR=18
DBIC Dimbokro 77.53 71 eP P 03 35 42.1 +0.8
comp=Z,34nm,1.0s
W26A Owens Ranch, T 77.68 335 ⇑P P 03 35 42.4 +0.6
baz=78
X24A Lazy VL Ranch, 77.78 334 ⇑P P 03 35 43.3 +0.9
baz=78
T33A Patterson Ranc 77.85 340 ⇑P P 03 35 42.9 +0.4
baz=78
V27A Dan Oppiter Fa 77.98 336 ⇓P P 03 35 44.4 +1.0
baz=78
U30A WK&E Inc. Balk 78.02 338 ⇑P P 03 35 43.9 +0.4
baz=78
W25A X Bar L Ranch, 78.03 335 ⇑P P 03 35 43.9 +0.2
baz=78
ACSO Alum Creek Sta 78.05 353 eP P 03 35 42.4 -1.2
comp=Z,70nm,1.3s
T32A Huddler Ranch, 78.13 340 ⇓P P 03 35 44.8 +0.7
baz=78
LAZ Ladron 78.25 332 eP P 03 35 45.5 +0.5
comp=Z,8.7nm,1.2s
V26A Tequesquite Ra 78.33 335 ⇑P P 03 35 45.5 +0.1
baz=79
W24A Lazy 6 Ranch, 78.35 334 ⇑P P 03 35 46.1 +0.5
baz=79
214A Organ Pipe Nat 78.40 327 ⇑P P 03 35 46.5 +0.8
baz=79
ANMO Albuquerque 78.49 333 eP P 03 35 46.7 +0.4
ANMO pmax pmax
comp=Z,21nm,1.1s
ANMO Albuquerque 78.49 333 eP P 03 35 46.7 +0.4
comp=Z,21nm,1.1s
W23A Werner Place, 78.57 333 ⇓P P 03 35 47.6 +0.7
baz=79
U27A Thompson Grove 78.59 336 ⇓P P 03 35 47.3 +0.5
baz=79
S32A Newby Ranch, P 78.62 340 ⇑P P 03 35 47.5 +0.7
baz=79
V25A Rancho No Teng 78.65 335 ⇑P P 03 35 47.2 0.0
baz=79
S31A Mullinville 78.69 339 ⇓P P 03 35 47.8 +0.6
baz=79
T29A Hugoton 78.79 338 ⇑P P 03 35 48.2 +0.4
baz=79
U26A Atchley Ranch, 78.86 336 ⇓P P 03 35 48.0 -0.4
baz=79
R33A Olander Ranch, 78.93 341 ⇑P P 03 35 48.9 +0.4
baz=79
T28A Walsh 79.01 337 ⇑P P 03 35 48.9 -0.1
baz=79,SNR=9.3
U25A Circle Dot Ran 79.09 335 ⇑P P 03 35 49.7 +0.1
baz=80
V23A Ortiz Mt. (NFS 79.11 333 ⇑P P 03 35 49.2 -0.6
baz=80
T27A Campo 79.14 337 ⇑P P 03 35 50.4 +0.5
baz=80
S29A Ulysses 79.17 338 ⇑P P 03 35 50.1 +0.2
baz=80
R32A Long Quarter, 79.23 340 ⇓P P 03 35 50.2 +0.1
baz=80
KSU1 Kansas State U 79.33 342 eP P 03 35 50.4 -0.2
comp=Z,13nm,0.8s
KSU1 Kansas State U 79.33 342 ⇑P P 03 35 50.9 +0.3
baz=80
R31A Burdett 79.33 339 ⇑P P 03 35 50.7 0.0
baz=80
S28A Manter 79.37 337 ⇑P P 03 35 51.2 +0.2
baz=80
TSUM Tsumeb 79.38 106 eP P 03 35 51.8 +0.1
comp=Z,19nm,1.2s
BOSA Boshof 79.43 118 eP P 03 35 51.2 -0.7
BOSA pmax pmax
comp=Z,30nm,0.9s
BOSA Boshof 79.43 118 P P 03 35 51.8 -0.1
comp=Z,9.5nm,0.8s,baz=239,slow=5.8,SNR=12
BOSA Boshof 79.43 118 eP P 03 35 51.2 -0.7
comp=Z,30nm,0.9s
113A Mohawk Valley, 79.51 326 ⇑P P 03 35 52.8 +1.1
baz=80
V22A San Miguel Ran 79.52 333 ⇓P P 03 35 53.1 +1.1
baz=80
T26A Comanche Natio 79.52 336 ⇑P P 03 35 52.5 +0.6
baz=80
Q33A Connelly Farm, 79.54 341 ⇓P P 03 35 52.2 +0.4
baz=80
U23A El Rito 79.63 334 ⇑P P 03 35 53.1 +0.5
baz=80
Q32A Meitler Ranch, 79.73 340 ⇓P P 03 35 53.3 +0.5
baz=80
T25A Trinidad 79.76 335 ⇑P P 03 35 53.9 +0.7
baz=80
W18A Petrified Fore 79.87 331 ⇑P P 03 35 54.5 +0.6
baz=80
S26A Kim 79.89 336 ⇑P P 03 35 54.4 +0.5
baz=80,SNR=9.8
U22A Llaves 79.91 333 ⇓P P 03 35 54.7 +0.6
baz=80
P33A Williams Farm, 79.92 341 ⇓P P 03 35 54.2 +0.4
baz=80
X16A Lo Mia Camp, P 79.94 329 ⇑P P 03 35 55.3 +1.0
baz=80
T24B San Luis 80.01 335 ⇓P P 03 35 55.3 +0.5
baz=80
R28A Tribune 80.04 338 ⇑P P 03 35 55.0 +0.3
baz=80,SNR=10
TRY Troy 80.07 360 eP P 03 35 55.5 +1.0
comp=Z,53nm,1.1s
Q30A Quinter 80.17 339 ⇑P P 03 35 55.5 +0.3
baz=81,SNR=7.4
AAM Ann Arbor 80.17 352 eP P 03 35 54.2 -0.9
AAM Ann Arbor 80.17 352 eP P 03 35 54.2 -0.9
Y14A Wickenburg 80.18 328 ⇑P P 03 35 56.3 +0.9
baz=80
T23A Casias Ranch, 80.22 334 ⇑P P 03 35 56.2 +0.4
baz=81
S25A Robets Cordova 80.24 336 ⇑P P 03 35 56.1 +0.3
baz=81
R27A Eads 80.29 337 ⇓P P 03 35 56.3 +0.3
baz=81,SNR=7.9
Q29A Oakley 80.30 339 ⇑P P 03 35 55.6 -0.4
baz=81
P32A Huiting Farm, 80.33 341 ⇑P P 03 35 55.9 -0.2
baz=81
P31A Stockton 80.44 340 ⇓P P 03 35 56.7 0.0
baz=81
S24A Houchin Ranch, 80.48 335 ⇓P P 03 35 58.3 +1.1
baz=81
R26A Arlington 80.51 337 ⇑P P 03 35 57.7 +0.5
baz=81,SNR=9.0
R25A Fountain Ranch 80.63 336 ⇑P P 03 35 58.0 +0.1
baz=81
SDCO Great Sand Dun 80.67 335 eP P 03 35 58.0 -0.3
comp=Z,7.4nm,0.9s
Y12C Blythe 80.68 326 ⇑P P 03 35 59.0 +0.9
baz=81
P30A Selden 80.70 339 ⇑P P 03 35 58.6 +0.5
baz=81
Q28A Sharon Springs 80.71 338 ⇓P P 03 35 59.2 +1.0
baz=81
WUAZ Wupatki 80.87 330 eP P 03 36 00.4 +1.1
comp=Z,15nm,1.1s
WUAZ Wupatki 80.87 330 ⇑P P 03 36 00.2 +1.0
baz=81
KSCO Kaye Shedlock' 80.90 337 eP P 03 36 00.1 +0.8
comp=Z,34nm,1.1s
KSCO Kaye Shedlock' 80.90 337 ⇓P P 03 35 59.4 +0.1
baz=81
P29A Atwood 80.95 339 ⇑P P 03 35 59.8 +0.4
baz=81
R24A Sanders Place, 80.98 335 ⇓P P 03 36 00.9 +1.1
baz=81
O31A Woolen Ranch, 81.02 340 ⇑P P 03 36 00.3 +0.6
baz=81
Q26A Hugo 81.10 337 ⇓P P 03 36 01.3 +0.9
baz=82
109C Camp Elliot, M 81.12 324 ⇑P P 03 36 00.7 +0.3
baz=82
S22A 4UR Ranch, Cre 81.13 334 ⇓P P 03 36 01.1 +0.4
baz=82
P28A Saint Francis 81.16 338 ⇑P P 03 36 00.9 +0.3
baz=82
R23A Moffat 81.18 335 ⇑P P 03 36 01.3 +0.3
baz=82
O30A MW Ranch, Wils 81.24 340 ⇓P P 03 36 01.8 +0.8
baz=82
MVCO Mesa Verde 81.25 332 eP P 03 36 02.1 +0.8
comp=Z,22nm,1.2s
MVCO Mesa Verde 81.25 332 ⇓P P 03 36 01.6 +0.3
baz=82
IRM Iron Mountain 81.30 326 ⇑P P 03 36 02.4 +1.0
baz=82
NCB Newcomb 81.31 360 eP P 03 36 01.3 +0.1
comp=Z,58nm,1.1s
Q25A Bedland, Calha 81.32 336 ⇓P P 03 36 02.1 +0.5
baz=82,SNR=8.6
N32A Stulken Farm, 81.32 341 ⇑P P 03 36 02.2 +0.9
baz=82
P27A Ficken Ranch, 81.39 338 ⇓P P 03 36 02.8 +1.0
baz=82
PFO Pinyon Flat Ob 81.42 325 ⇓P P 03 36 03.0 +0.9
baz=82
P26A Davis Ranch, A 81.63 337 ⇓P P 03 36 04.0 +0.9
baz=82
Q24A Divide 81.66 336 ⇓P P 03 36 04.2 +0.7
baz=82
O28A Krutsinger Ran 81.68 339 ⇑P P 03 36 03.9 +0.6
baz=82
P25A Willow Gulch B 81.84 337 ⇑P P 03 36 05.4 +1.1
baz=82,SNR=9.0
LBTB Lobatse 81.85 115 eP P 03 36 05.0 +0.2
LBTB pmax pmax
comp=Z,20nm,0.8s
LBTB Lobatse 81.85 115 eP P 03 36 05.0 +0.2
comp=Z,20nm,0.8s
BGNE Belgrade 81.89 342 eP P 03 36 05.7 +1.3
comp=Z,33nm,0.9s
BGNE Belgrade 81.89 342 ⇑P P 03 36 04.8 +0.5
baz=82
O27A Beecher Island 81.94 338 ⇓P P 03 36 06.0 +1.2
baz=82
LONY Lake Ozonia 81.96 359 eP P 03 36 04.7 +0.1
comp=Z,35nm,1.1s
U15A North Rim 82.03 329 ⇓P P 03 36 06.4 +0.9
baz=82
M31A Lambtecht Ranc 82.04 341 ⇑P P 03 36 05.6 +0.4
baz=82
GMRC Granite Mounta 82.05 326 ⇓P P 03 36 06.3 +0.9
baz=82
P24A Kohler Place, 82.08 336 ⇑P P 03 36 06.8 +1.2
baz=82
PV01 Paradox Valley 82.09 333 eP P 03 36 06.0 +0.2
comp=Z,1µm,1.1s
O26A Horse Wrangler 82.24 337 ⇑P P 03 36 07.3 +0.9
baz=83
P23A Jefferson 82.25 335 ⇑P P 03 36 07.6 +0.9
baz=83
O25A Wiggins 82.37 337 ⇑P P 03 36 07.7 +0.6
baz=83
PV04 Paradox Valley 82.44 333 eP P 03 36 08.2 +0.7
M30A Dale-Ortello V 82.46 340 ⇑P P 03 36 08.2 +0.8
baz=83
SMCO Snowmass 82.46 334 eP P 03 36 08.5 +0.6
comp=Z,41nm,1.2s
N27A Anderson Farm, 82.53 338 ⇑P P 03 36 08.5 +0.7
baz=83
ISCO Idaho Springs 82.57 336 eP P 03 36 08.5 +0.2
ISCO Idaho Springs 82.57 336 eP P 03 36 08.5 +0.2
ISCO Idaho Springs 82.57 336 ⇑P P 03 36 09.0 +0.8
baz=83
M29A Burnside Ranch 82.59 340 ⇓P P 03 36 09.4 +1.3
baz=83
M28A Bar X Bar Ranc 82.74 339 ⇓P P 03 36 10.0 +1.1
baz=83
P22A Eagle 82.76 335 ⇓P P 03 36 09.6 +0.4
baz=83
L31A Butterfield Fa 82.79 341 ⇓P P 03 36 09.9 +0.8
baz=83
L30A Spencer Herefo 82.81 341 ⇓P P 03 36 10.1 +1.0
baz=83
DECC Green Verdugo 82.82 324 ⇑P P 03 36 09.2 -0.1
baz=83
O23A Lake Granby, G 83.04 336 ⇑P P 03 36 11.6 +0.9
baz=83
EDW2 Edwards Air Fo 83.18 325 ⇓P P 03 36 12.2 +0.9
baz=84
O22A Kremmling 83.20 335 ⇓P P 03 36 12.4 +0.9
baz=84
N24A Carr 83.26 337 ⇑P P 03 36 12.6 +1.0
baz=84
SHPR Sheep Range 83.28 327 eP P 03 36 12.8 +0.9
CCUT Cedar City 83.43 329 eP P 03 36 13.8 +1.1
comp=Z,15nm,1.0s
K30A Basset 83.45 341 ⇓P P 03 36 12.9 +0.4
baz=84,SNR=8.6
LRMC Laurel Mountai 83.54 325 ⇑P P 03 36 13.4 +0.3
baz=84
ARUT Antelope Range 83.66 329 eP P 03 36 14.3 +0.5
ARUT Antelope Range 83.66 329 eP P 03 36 14.3 +0.5
comp=Z,213nm,1.2s
N23A Red Feather La 83.66 336 ⇓P P 03 36 14.1 +0.3
baz=84
SRU San Rafael 83.67 332 eP P 03 36 13.9 +0.1
SRU pmax pmax
comp=Z,13nm,1.1s
SRU San Rafael 83.67 332 eP P 03 36 13.9 +0.1
comp=Z,13nm,1.1s
K29A Lazy Trails An 83.72 341 ⇑P P 03 36 14.5 +0.6
baz=84
ECSD EROS Data Cent 83.73 343 eP P 03 36 13.4 -0.4
comp=Z,42nm,0.9s
ECSD EROS Data Cent 83.73 343 ⇑P P 03 36 14.3 +0.5
baz=84
N22A Wattenberg Ran 83.75 335 ⇓P P 03 36 14.8 +0.5
baz=84
O20A White River Ci 83.75 334 eP P 03 36 14.9 +0.6
comp=Z,14nm,1.1s
O20A White River Ci 83.75 334 ⇓P P 03 36 14.7 +0.4
baz=84
MVU Marysvale 83.79 330 eP P 03 36 15.6 +1.1
comp=Z,14nm,1.3s
M24A Cheyenne 83.83 337 ⇓P P 03 36 15.0 +0.4
baz=84
PHWY Pilot Hill 83.88 336 eP P 03 36 14.9 -0.1
comp=Z,11nm,1.0s
K28A Ten Mile Ranch 83.96 340 ⇑P P 03 36 16.0 +0.9
baz=84
FURC Furnace Creek, 83.99 326 ⇓P P 03 36 15.8 +0.5
baz=84
J30A Dallas 84.03 341 ⇑P P 03 36 15.7 +0.3
baz=84
ISA Isabella 84.05 325 ⇓P P 03 36 16.7 +1.0
baz=84
TMUT Trail Mountain 84.09 332 eP P 03 36 16.6 +0.5
comp=Z,13nm,1.0s
M23A Laramie 84.11 336 ⇑P P 03 36 16.3 +0.2
baz=84
L25A Engebretsen Ra 84.19 338 ⇓P P 03 36 16.7 +0.4
baz=85
K27A Flueckinger Fa 84.19 339 ⇑P P 03 36 17.1 +0.8
baz=85
J29A Okreek 84.32 341 ⇓P P 03 36 17.4 +0.5
baz=85,SNR=8.1
SPMN St. Paul 84.37 346 eP P 03 36 15.4 -1.6
comp=Z,31nm,1.3s
SPMN St. Paul 84.37 346 ⇑P P 03 36 17.8 +0.8
baz=85
N20A Spence Gulch, 84.38 334 ⇓P P 03 36 17.8 +0.3
baz=85
K26A Motz Farm, Whi 84.46 339 ⇑P P 03 36 18.2 +0.5
baz=85
VES Vestal, Richgr 84.48 324 ⇓P P 03 36 18.5 +0.7
baz=85
I30A Oacoma 84.57 342 ⇓P P 03 36 18.0 -0.1
baz=85
K25A Mack Ranch, Ha 84.58 338 ⇑P P 03 36 18.4 +0.1
baz=85
J28A Allard Ranch, 84.58 340 ⇑P P 03 36 18.4 +0.2
baz=85
J27A Elkhorn Farm, 84.64 340 ⇓P P 03 36 19.4 +0.8
baz=85
GRAC Grapevine Rang 84.66 326 ⇓P P 03 36 18.8 +0.1
baz=85
L23A Garrett 84.69 337 ⇑P P 03 36 19.6 +0.6
baz=85
L22A Ellis Ranch, M 84.85 336 ⇑P P 03 36 20.1 +0.3
baz=85
MPU Maple Canyon 84.88 332 eP P 03 36 20.4 +0.4
comp=Z,20nm,1.1s
BRSD Miller 84.95 342 eP P 03 36 19.4 -0.6
comp=Z,32nm,1.3s
BRSD Miller 84.95 342 ⇓P P 03 36 19.6 -0.4
baz=85
J26A Sides Ranch, S 84.99 339 ⇓P P 03 36 21.3 +1.0
baz=85
NLU North Lily Min 84.99 331 eP P 03 36 21.6 +1.1
comp=Z,27nm,1.5s
R11A Troy Canyon, C 85.02 328 eP P 03 36 21.4 +0.7
R11A Troy Canyon, C 85.02 328 ⇑P P 03 36 21.8 +1.1
baz=85
I28A Midland 85.10 340 ⇑P P 03 36 21.1 +0.4
baz=86,SNR=9.4
K23A Bowen Ranch, D 85.24 337 ⇓P P 03 36 22.1 +0.4
baz=86
JLU Jordanelle 85.32 332 eP P 03 36 22.5 +0.3
comp=Z,7.9nm,0.9s
I27A Quinn 85.40 340 ⇑P P 03 36 22.8 +0.5
baz=86
H29A Onida 85.43 341 ⇑P P 03 36 22.5 +0.1
baz=86
K22A Casper 85.43 336 eP P 03 36 22.0 -0.6
comp=Z,23nm,1.2s
K22A Casper 85.43 336 ⇓P P 03 36 22.6 0.0
baz=86
J24A Dixon Ranch, L 85.47 338 ⇓P P 03 36 23.2 +0.5
baz=86
DUG Dugway 85.48 331 eP P 03 36 23.3 +0.4
DUG pmax pmax
comp=Z,23nm,1.1s
DUG Dugway 85.48 331 eP P 03 36 23.3 +0.4
comp=Z,23nm,1.1s
DUG Dugway 85.48 331 ⇑P P 03 36 23.3 +0.4
baz=86
TPH Tonopah 85.49 327 eP P 03 36 24.2 +1.1
TPH pmax pmax
comp=Z,25nm,1.2s
TPH Tonopah 85.49 327 eP P 03 36 24.2 +1.1
comp=Z,25nm,1.2s
I26A New Underwood 85.59 339 ⇓P P 03 36 22.9 -0.4
baz=86
G30A Faulkton 85.64 342 ⇓P P 03 36 23.2 -0.2
baz=86,SNR=10.0
K21A Alcova 85.65 336 ⇑P P 03 36 23.7 -0.1
baz=86
H28A Mission Ridge 85.69 341 ⇓P P 03 36 23.8 +0.1
baz=86,SNR=7.5
I25A Rochford 85.83 339 ⇑P P 03 36 24.3 -0.3
baz=86,SNR=5.9
MLAC Mammoth Lakes 85.83 326 ⇑P P 03 36 24.7 -0.2
baz=86
G29A Hoven 85.89 342 ⇑P P 03 36 24.1 -0.5
baz=86
H27A Howes 85.93 340 ⇓P P 03 36 24.6 -0.3
baz=86,SNR=8.3
RSSD Black Hills 86.01 339 eP P 03 36 24.8 -0.7
RSSD pmax pmax
comp=Z,13nm,1.0s
RSSD Black Hills 86.01 339 eP P 03 36 24.8 -0.7
comp=Z,13nm,1.0s
G28A Parade 86.03 341 ⇓P P 03 36 25.3 0.0
baz=86,SNR=8.6
J22A Midwest 86.11 337 ⇑P P 03 36 25.7 -0.3
baz=86
HWUT Hardware Ranch 86.24 332 eP P 03 36 26.0 -0.7
comp=Z,27nm,1.1s
NVAR Mina Array Bea 86.26 326 P P 03 36 26.1 -0.8
comp=Z,2.7nm,0.8s,baz=147,slow=5.3,SNR=15
F30A Leola 86.27 342 ⇑P P 03 36 27.4 +0.8
baz=87
H25A Fruitdale 86.34 339 ⇓P P 03 36 27.4 +0.4
baz=87
J21A Lysite 86.36 336 ⇓P P 03 36 28.1 +0.9
baz=87
F29A Eureka 86.47 342 ⇓P P 03 36 27.6 +0.1
baz=87,SNR=7.4
I22A 9 Mile Ranch, 86.54 337 ⇓P P 03 36 28.2 +0.1
baz=87
BW06 Boulder Array 86.54 334 eP P 03 36 27.3 -1.0
comp=Z,20nm,1.2s
PDAR Pinedale Array 86.54 334 P P 03 36 27.8 -0.5
comp=Z,5.0nm,1.0s,baz=145,slow=5.5,SNR=16
J20A Shoshoni 86.57 336 ⇓P P 03 36 29.1 +0.9
baz=87
G27A Dupree 86.58 340 ⇑P P 03 36 27.1 -1.0
baz=87,SNR=6.9
TOA0 Torodi Ar. Sit 86.62 71 eP P 03 36 28.1 -0.8
TORD Torodi Ar. Bea 86.62 71 P P 03 36 27.1 -1.8
comp=Z,5.2nm,0.9s,baz=224,slow=4.3,SNR=18
G26A Maurine 86.68 340 ⇑P P 03 36 27.8 -0.8
baz=87,SNR=8.7
I21A Big Trails, Te 86.72 336 ⇑P P 03 36 28.8 -0.2
baz=87
H24A Dirks Ranch, A 86.73 338 ⇓P P 03 36 29.1 +0.2
baz=87
J19A Crowheart 86.81 335 ⇓P P 03 36 30.0 +0.6
baz=87
G25A Newell 86.82 339 ⇑P P 03 36 29.1 -0.1
baz=87,SNR=8.7
WAKR Walker 86.82 326 eP P 03 36 29.0 -0.7
comp=Z,14nm,1.3s
HVU Hansel Valley 86.84 332 eP P 03 36 29.4 -0.2
HVU pmax pmax
comp=Z,17nm,1.1s
HVU Hansel Valley 86.84 332 eP P 03 36 29.4 -0.2
comp=Z,17nm,1.1s
CMB Columbia Colle 86.87 325 eP P 03 36 30.3 +0.6
CMB pmax pmax
comp=Z,14nm,1.4s
CMB Columbia Colle 86.87 325 eP P 03 36 30.3 +0.6
comp=Z,14nm,1.4s
E30A Jud 86.87 343 ⇑P P 03 36 29.3 -0.1
baz=87
ELK Elko 86.91 330 eP P 03 36 30.2 +0.2
ELK pmax pmax
comp=Z,20nm,1.4s
ELK Elko 86.91 330 eP P 03 36 30.2 +0.2
comp=Z,20nm,1.4s
F27A Lemmon 87.06 341 ⇓P P 03 36 30.2 -0.2
baz=88,SNR=8.5
E29A Napoleon 87.11 342 ⇓P P 03 36 30.8 +0.2
baz=88
I20A Worland 87.12 336 ⇑P P 03 36 30.9 +0.1
baz=88
F26A Lodgepole 87.22 340 ⇓P P 03 36 30.7 -0.5
baz=88,SNR=7.1
E28A Huff 87.37 342 ⇑P P 03 36 31.8 -0.1
baz=88
G23A Biddle 87.39 338 ⇓P P 03 36 31.6 -0.5
baz=88
D30A Buchanan 87.41 343 ⇓P P 03 36 31.9 -0.1
baz=88
E27A Carson 87.46 341 ⇓P P 03 36 32.2 -0.1
baz=88
I19A Meeteetse 87.48 335 ⇑P P 03 36 32.4 -0.3
baz=88
F25A Bowman 87.50 340 ⇑P P 03 36 32.4 -0.2
baz=88
REDW Red Top Meadow 87.52 334 eP P 03 36 32.6 -0.4
comp=Z,9.1nm,0.9s
H20A Greybull 87.55 336 ⇑P P 03 36 32.9 0.0
baz=88
D29A Pettibone, Tap 87.56 343 ⇑P P 03 36 32.7 0.0
baz=88
LOHW Long Hollow 87.65 334 eP P 03 36 33.1 -0.4
comp=Z,6.0nm,0.8s
G22A Birney 87.68 338 ⇓P P 03 36 33.5 0.0
baz=88
E26A Carlson Angus 87.73 340 ⇓P P 03 36 33.5 -0.1
baz=88,SNR=6.9
F23A Volborg 87.87 338 ⇓P P 03 36 33.9 -0.5
baz=88
C30A Mose, Pekin 87.91 343 ⇑P P 03 36 34.6 +0.2
baz=88,SNR=8.9
AGMN Agassiz Nation 87.91 345 eP P 03 36 33.8 -0.6
comp=Z,20nm,1.0s
AGMN Agassiz Nation 87.91 345 ⇓P P 03 36 34.4 0.0
baz=88,SNR=8.7
I17A Pilgrim Ck. 87.91 334 ⇑P P 03 36 34.6 -0.2
baz=88
D28A Regan 87.92 342 ⇓P P 03 36 34.5 +0.1
baz=88,SNR=7.9
E25A Miller Ranch, 88.01 340 ⇑P P 03 36 35.1 +0.1
baz=88

IMW Indian Meadow 88.02 334 eP P 03 36 35.1 -0.2
comp=Z,10nm,0.9s
H19A Powell 88.04 336 ⇓P P 03 36 36.0 +0.7
baz=88
FLWY Flagg Ranch 88.10 334 eP P 03 36 35.8 +0.1
comp=Z,24nm,1.3s
D26A Manning 88.24 341 ⇑P P 03 36 35.9 -0.1
baz=89,SNR=8.7
H18A Shoshone NF, C 88.27 335 ⇑P P 03 36 36.8 +0.3
baz=89
RLMT Red Lodge 88.53 336 eP P 03 36 37.3 -0.4
comp=Z,13nm,1.2s
B30A Myrvik Farm, E 88.58 344 ⇑P P 03 36 37.1 -0.4
baz=89,SNR=14
D25A Fairfield 88.59 340 ⇓P P 03 36 38.5 +0.8
baz=89
C27A Sayler Ranch, 88.64 342 ⇓P P 03 36 37.9 0.0
baz=89
YMR Madison River 88.70 334 eP P 03 36 39.4 +0.9
comp=Z,14nm,1.0s
B29A Wagenman Farm, 88.82 343 ⇑P P 03 36 38.5 -0.2
baz=89,SNR=9.3
C26A Wahner Farm, P 88.89 341 ⇓P P 03 36 39.1 0.0
baz=89
HLID Hailey 88.99 332 eP P 03 36 40.4 +0.5
comp=Z,9.2nm,1.1s
HLID Hailey 88.99 332 ⇓P P 03 36 40.4 +0.5
baz=89
A30A Hoffart Farm, 89.03 344 ⇓P P 03 36 39.2 -0.4
baz=89
B28A Dugan Ranch, T 89.04 343 ⇑P P 03 36 40.1 +0.4
baz=89,SNR=10.0
A29A Manning Farm, 89.22 343 ⇓P P 03 36 40.1 -0.4
baz=90,SNR=9.9
C24A Savage 89.24 340 ⇓P P 03 36 41.0 +0.3
baz=90
D22A Cohagen 89.39 338 ⇑P P 03 36 41.7 +0.2
baz=90
E20A Meyer Farm, Mu 89.40 337 ⇑P P 03 36 42.1 +0.6
baz=90
MFID Camas Ranch 89.40 331 eP P 03 36 41.9 +0.2
comp=Z,49nm,2.2s
A28A Rude Farm, Bot 89.45 343 ⇓P P 03 36 42.0 +0.3
baz=90
MCMT McKenzie Canyo 89.50 333 eP P 03 36 42.7 +0.4
comp=Z,7.3nm,1.1s
E19A Rath Farm, Rou 89.56 336 ⇑P P 03 36 42.3 0.0
baz=90
WVOR Wild Horse Val 89.71 328 eP P 03 36 44.1 +0.9
WVOR pmax pmax
comp=Z,13nm,1.4s
WVOR Wild Horse Val 89.71 328 eP P 03 36 44.1 +0.9
comp=Z,13nm,1.4s
ULM Lac du Bonnet 89.78 346 P P 03 36 42.7 -0.4
comp=Z,3.0nm,0.8s,baz=163,slow=6.3,SNR=3.8
LSZ Lusaka 89.78 109 eP P 03 36 45.3 +1.0
LSZ pmax pmax
comp=Z,17nm,1.1s
LSZ Lusaka 89.78 109 eP P 03 36 45.3 +1.0
comp=Z,17nm,1.1s
LRM Limekiln Ridge 90.22 334 eP P 03 36 46.5 +0.8
comp=Z,31nm,0.7s
A22A Carney Farms, 90.98 339 ⇑P P 03 36 48.5 -0.3
baz=91
BMO Blue Mountains 91.19 331 eP P 03 36 50.7 +0.7
comp=Z,6.7nm,1.3s
EGMT Eagleton 91.26 337 ⇑P P 03 36 48.7 -1.5
baz=92
B19A Brinkman Farms 91.39 337 ⇓P P 03 36 50.8 +0.1
baz=92
CHMT Chamberlain Mo 91.44 334 eP P 03 36 51.3 0.0
comp=Z,3.7nm,1.3s
A20A Cobblestone Ra 91.46 338 ⇑P P 03 36 52.2 +1.1
baz=92
J05D Fort Rock, OR 91.51 327 ⇓P P 03 36 52.4 +0.9
baz=92
MSO Missoula 91.61 334 ⇓P P 03 36 52.5 +0.6
baz=92
A19A Klindworth Far 91.75 338 ⇓P P 03 36 51.9 -0.5
baz=92
NEW Newport 93.97 333 ⇓P P 03 37 01.6 -1.0
baz=94
TAM Tamanrasset 95.51 66 eP P 03 37 10.6 +0.1
TAM pmax pmax
comp=Z,4.0nm,1.1s
TAM Tamanrasset 95.51 66 eP P 03 37 10.6 +0.1
comp=Z,4.3nm,1.1s
FCC Fort Churchill 97.64 349 eP Pdif 03 37 19.1 +0.1
FCC Fort Churchill 97.64 349 eP Pdif 03 37 19.1 +0.1
comp=Z,0.1nm,1.1s
DZM Mont Dzumac 98.06 234 LR LR 04 11 09.7
comp=Z,551nm,20.0s,baz=184,slow=29
GERES GERESS Array B 115.61 47 PKP PKPdf 03 42 26.4 -0.5
comp=Z,1.4nm,0.9s,baz=234,slow=1.1,SNR=8.5
VYHS Vyhne 118.48 49 ePKIKP PKPdf 03 42 31.7 -0.6
VYHS e 03 42 38.4
VYHS Vyhne 118.48 49 ePKPdf PKPdf 03 42 31.7 -0.6
VYHS e 03 42 38.4
BZS Buzias 118.95 53 ⇑PKIKP PKPdf 03 42 32.9 -0.4
BZS Buzias 118.95 53 ⇑iP PKPdf 03 42 32.9 -0.4
NAO01 NORSAR Array S 119.57 34 ePKPdf PKPdf 03 42 33.8 -0.2
MBWA Marble Bar 120.12 194 ePKPdf PKPdf 03 42 37.5 +1.0
DRGR 120.14 52 ⇑PKIKP PKPdf 03 42 34.3 -1.3
DRGR 120.14 52 ⇑iP PKPdf 03 42 34.3 -1.3
TRPA Tarpa 120.57 51 ⇓iP PKPdf 03 42 36.3 0.0
KOLS Kolonicke sedl 120.73 50 ePKIKP PKPdf 03 42 37.9 +1.3
KOLS Kolonicke sedl 120.73 50 ePKP PKPdf 03 42 37.9 +1.3
ARR Arges 120.78 54 ⇓iP PKPdf 03 42 36.5 -0.4
KWP Kalwaria Pacla 121.27 49 ⇓PKIKP PKPdf 03 42 37.8 +0.2
KWP Kalwaria Pacla 121.27 49 ePKP PKPdf 03 42 37.4 -0.3
KWP Kalwaria Pacla 121.27 49 ⇓iP PKPdf 03 42 37.8 +0.2
KWP Kalwaria Pacla 121.27 49 ePKPdf PKPdf 03 42 37.4 -0.3
MLR Muntele Rosu 121.67 55 ⇓PKIKP PKPdf 03 42 38.2 -0.5
MLR Muntele Rosu 121.67 55 ⇓iP PKPdf 03 42 38.2 -0.5
BUR08 Bucovina Ar. S 122.03 52 ePKPdf PKPdf 03 42 39.4 0.0
VRI Vrincioaia 122.32 54 ⇑PKIKP PKPdf 03 42 38.8 -1.0
VRI Vrincioaia 122.32 54 ⇑iP PKPdf 03 42 38.8 -1.0
CFR Carcaliu 122.97 56 ⇑PKIKP PKPdf 03 42 39.7 -1.3
CFR Carcaliu 122.97 56 ⇑iP PKPdf 03 42 39.7 -1.3
SUW Suwalki 123.14 44 ePKIKP PKPdf 03 42 39.9 -1.1
SUW Suwalki 123.14 44 ePKP PKPdf 03 42 39.8 -1.2
SUW Suwalki 123.14 44 ePKPdf PKPdf 03 42 39.6 -1.4
BR131 Keskin Array S 124.65 64 ePKPdf PKPdf 03 42 43.9 -0.8
BRTR Keskin Array B 124.65 64 PKP PKPdf 03 42 44.1 -0.5
comp=Z,2.6nm,0.8s,baz=192,slow=2.5,SNR=16
TNA Tin City 125.39 329 ePKPdf PKPdf 03 42 44.6 -0.6
AK02 Malin Array Si 125.54 50 ePKPdf PKPdf 03 42 44.5 -1.3
KIEV Kiev 125.56 50 ePKIKP PKPdf 03 42 44.4 -1.4
KIEV Kiev 125.56 50 ePKPdf PKPdf 03 42 44.4 -1.4
AK01 Malin Array Si 125.56 50 ePKPdf PKPdf 03 42 44.2 -1.6
AKASG Malin Array Be 125.57 50 PKP PKPdf 03 42 44.3 -1.5
comp=Z,1.9nm,0.8s,baz=262,slow=2.7,SNR=8.3
AKBB Malin Array Si 125.57 50 ePKIKP PKPdf 03 42 44.6 -1.2
AKBB Malin Array Si 125.57 50 ePKPdf PKPdf 03 42 44.6 -1.2
RAYN Ar Rayn 126.53 87 ePKPdf PKPdf 03 42 48.7 +0.1
SPITS Spitsbergen Ar 126.57 15 PKP PKPdf 03 42 46.9 -0.2
comp=Z,6.6nm,0.9s,baz=166,slow=1.2,SNR=4.3
KIV Kislovodsk 132.42 61 ePKIKP PKPdf 03 42 59.1 -0.1
KIV Kislovodsk 132.42 61 ePKPdf PKPdf 03 42 59.1 -0.1
KBZ Khabaz 132.51 62 PKP PKPdf 03 42 57.4 -1.8
comp=Z,1.7nm,0.9s,baz=162,slow=3.2,SNR=3.4
IDAH Dahanechah 141.93 83 eP Pdif 03 40 41.9 +4.8
IKRD Kardeh 142.16 76 eP PKPdf 03 43 17.4 -0.3
GEYT Alibeck 142.17 74 PKhKP PKPpre 03 43 13.7
comp=Z,2.4nm,0.6s,baz=255,slow=4.5,SNR=7.0
IMYA Miami 143.27 78 eP PKPbc 03 43 17.1 +0.5
AKTO Aktyubinsk 143.59 54 PKhKP PKPpre 03 43 16.1
comp=Z,5.5nm,0.9s,baz=294,slow=1.8,SNR=13
KSM Kuching 143.76 187 ePKPdf PKPab 03 43 17.9 +0.3
TIXI Tiksi 144.10 348 ePKIKP PKPab 03 43 16.1 -1.2
TIXI Tiksi 144.10 348 ePKPdf PKPab 03 43 16.1 -1.2
PSI Prapat 144.57 167 PKhKP PKPpre 03 43 18.7
comp=Z,24nm,0.8s,baz=148,slow=2.4,SNR=15
ABKAR Akbulak array 144.87 56 ePKPdf PKPab 03 43 20.1 -0.6
IPM Ipoh 146.55 170 ePKPbc PKPbc 03 43 25.1 -0.6
KKM Kota Kinabalu 147.24 198 ePKPbc PKPbc 03 43 27.5 +0.6
KULM Kulim 147.29 169 ePKPbc PKPbc 03 43 27.9 +1.1
HYB Hyderabad 148.25 122 i PKP PKPbc 03 43 30.0 +1.6
BRVK Borovoye 150.71 47 ePKIKP PKPbc 03 43 35.7 -1.0
BRVK e 03 43 43.9
BRVK Borovoye 150.71 47 ePKPbc PKPbc 03 43 35.7 -1.0
BRVK ePKPab PKPab 03 43 43.9 +0.1
BVAR Borovoye Array 150.78 47 PKPbc PKPbc 03 43 37.0 +0.1
comp=Z,14nm,0.8s,baz=292,slow=4.3,SNR=5.8
YAK Yakutsk 151.74 337 ePKIKP PKPbc 03 43 37.4 -1.4
YAK Yakutsk 151.74 337 ePKPbc PKPbc 03 43 37.4 -1.4
ASAJ Asahikawa 152.11 295 PKPbc PKPbc 03 43 39.7 -0.5
comp=Z,11nm,1.0s,baz=149,slow=1.9,SNR=3.8
AAK Ala-Archa 155.18 69 ePKIKP PKPdf 03 43 38.2 -0.1
AAK e 03 43 45.0
AAK Ala-Archa 155.18 69 PKPab PKPab 03 44 03.2 -0.1
comp=Z,9.1nm,0.8s,baz=233,slow=2.5,SNR=6.6
AAK Ala-Archa 155.18 69 ePKPdf PKPdf 03 43 38.2 -0.1
AAK ePKPbc PKPbc 03 43 45.0
AAK ePKPab PKPab 03 44 03.4 +0.1
KSH Kashi 156.17 76 ePKP PKPdf 03 43 39.5 -0.1
KSH epPKP pPKPdf 03 43 50.0 +2.6
KSH esPKP 03 43 54.5
KSH eSKS SKSdf 03 50 40.8 -3.7
KSH eSKKS SKKSac 03 54 31.0 -2.4
KSH AMB AMB
comp=Z,120nm,5.5s
KSH LR LR
comp=Z,22nm,3.3s
KSH LR LR
comp=Z,90nm,6.2s
KSH LR LR
comp=Z,43nm,4.9s
KURK Kurchatov 156.36 48 ePKIKP PKPdf 03 43 38.5 -0.8
KURK Kurchatov 156.36 48 ePKPdf PKPdf 03 43 38.5 -0.8
NVS Novosibirsk 156.71 35 ePKIKP PKPdf 03 43 33.0 -6.6
NVS pmax pmax
comp=Z,64nm,2.9s
ZAA0 Zalesovo Array 157.99 36 ePKPdf PKPdf 03 43 40.2 -1.0
ZAA0 ePKPab PKPab 03 44 14.9 +0.3
BOD Bodaibo 159.28 349 ePKP2 PKPab 03 44 19.0 -1.1
BOD pmax pmax
comp=Z,15nm,1.1s
CMAR Chiang Mai Arr 159.72 159 PKPab PKPab 03 44 22.1 -0.8
comp=Z,0.5nm,0.3s,baz=222,slow=4.5,SNR=4.6
MKAR Makanchi Array 160.01 55 PKPab PKPab 03 44 23.4 -0.4
comp=Z,4.5nm,0.8s,baz=307,slow=5.0,SNR=4.4
CN2 Changchun 164.38 299 ePKP PKPdf 03 43 50.0 +1.6
WMQ Urumqi 164.55 61 PKP PKPdf 03 43 49.0 +0.3
WMQ LR LR
comp=Z,850nm,22.0s
WMQ LR LR
comp=Z,620nm,23.2s
WMQ LR LR
comp=Z,730nm,23.8s
LSA Lhasa 164.98 118 ePKIKP PKPdf 03 43 50.4 +0.4
LSA e 03 44 46.8
LSA Lhasa 164.98 118 ePKPdf PKPdf 03 43 50.4 +0.4
LSA ePKPab PKPab 03 44 46.8 +0.2
KMI Kunming 167.06 165 PKP PKPdf 03 43 51.0 -0.5
NJ2 Nanjing 168.35 245 ePKP PKPdf 03 43 51.3 -0.6
GYA Guiyang 168.77 181 PKP PKPdf 03 43 51.0 -1.5
GYA pPKP pPKPdf 03 44 03.3 +3.0
GYA PKS PKSdf 03 47 23.0 -2.2
GYA PP PP 03 48 53.8 +2.8
GYA AMB AMB
comp=Z,130nm,8.5s
GYA LR LR
comp=Z,130nm,21.5s
GYA LR LR
comp=Z,120nm,21.8s
GYA LR LR
comp=Z,140nm,24.7s
ULN Ulaanbaatar 169.85 358 ePKIKP PKPdf 03 43 51.4 -1.1
ULN Ulaanbaatar 169.85 358 ePKPdf PKPdf 03 43 51.4 -1.1
SONM Songino Array 169.89 0 PKPab PKPab 03 45 07.3 +0.1
comp=Z,1.5nm,0.9s,baz=347,slow=3.3,SNR=3.9
CD2 Chengdu 172.86 161 PKP PKPdf 03 43 54.3 -0.1
CD2 pPKP pPKPdf 03 44 05.5 +3.3
CD2 sPKP 03 44 09.3
CD2 PKS PKSdf 03 47 25.0 -1.8
CD2 SKS SKSdf 03 50 52.0 -4.3
CD2 AMB AMB
comp=Z,220nm,6.6s
GTA Gaotai 174.53 70 ePKP PKPdf 03 43 55.3 +0.4
GTA sPKP 03 44 09.5
GTA PKPab PKPab 03 45 30.5 +2.2
HHC Hu-ho-hao-te 174.95 310 ePKP PKPdf 03 43 55.0 +0.1
HHC pPKP pPKPdf 03 44 05.8 +3.1
HHC sPKP 03 44 09.5
HHC PP PP 03 49 25.0 +2.4
HHC SKKS 03 56 06.5
HHC LR LR
comp=Z,230nm,21.1s
HHC LR LR
comp=Z,240nm,19.1s
HHC LR LR
comp=Z,260nm,19.6s
LZH Lanzhou 177.35 127 ePKP PKPdf 03 43 55.8 +0.1
LZH pPKP pPKPdf 03 44 06.0 +2.5
LZH sPKP 03 44 09.5

IDC 28 03:26:23.1±0.5, 34.31S×71.98W, h0km, mb4.7/17, mb1 4.8/19, mb1mx4.7/31, mbtmp4.7/19, ML4.8/2, MS4.5/1, Ms1 4.6/1, ms1mx3.5/30, Error ellipse: s-maj=22.4km s-min=13.2km az=79.0

ISCJB 28 03:26:24.3±0.3, 34.32S±0.05×72.04W±0.09, h16km, mb4.8/52, Error ellipse: s-maj=11.2km s-min=6.2km az=160.7

NEIC 28 03:26:28.3±0.2, 34.38S×72.10W, h35km, mb4.9/39, Error ellipse: s-maj=7.9km s-min=4.8km az=73.0

ISC 28 03:26:25.4±0.4, 34.36S±0.06×72.13W±0.09, h16km, n113, σ0.90/115, mb4.9/52, Near coast of central Chile

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

PLCA Paso Flores 6.49 169 Pn Pn 03 28 01.3 +1.0
5.2nm,0.3s,baz=333,slow=11,SNR=2.9
PLCA Paso Flores 6.49 169 ePn Pn 03 28 00.3 +0.1
TRQA Tornquist 8.99 117 ePn Pn 03 28 36.8 +2.1
396nm,1.4s
LVC Limon Verde 12.04 14 ePn Pn 03 29 19.4 +2.8
CPUP Villa Florida 15.06 62 Pn Pn 03 29 58.1 +0.5
0.7nm,0.3s,baz=231,slow=14,SNR=2.6
CPUP Villa Florida 15.06 62 ePn P 03 30 00.7 -2.2
LPAZ La Paz 18.35 12 P Pn 03 30 40.1 +0.2
0.9nm,0.3s,baz=192,slow=9.3,SNR=6.1
LPAZ LR LR 03 39 24.0
comp=Z,1μm,18.7s,baz=160,slow=43
LPAZ La Paz 18.35 12 eP Pn 03 30 40.9 +1.0
21nm,0.9s
USHA Ushuaia 20.63 174 P P 03 31 04.1 +0.1
22nm,0.9s,baz=317,slow=4.3,SNR=4.4
SIV San Ignacio 20.82 31 P P 03 31 05.3 -1.0
12nm,0.9s,baz=207,slow=12,SNR=3.7
NNA Nana 22.68 348 P P 03 31 27.4 +1.1
17nm,0.8s,baz=191,slow=9.0,SNR=7.6
SAML Samuel 26.59 20 eP P 03 32 02.8 -0.2
13nm,1.0s
BDFB Brasilia 28.60 55 P P 03 32 18.7 -2.5
5.3nm,0.7s,baz=208,slow=8.7,SNR=3.7
OTAV Otavalo 34.92 349 eP P 03 33 18.8 +1.7
ROSC El Rosal 39.06 357 P P 03 33 53.9 +1.8
6.1nm,0.6s,baz=101,slow=22,SNR=5.2
ROSC El Rosal 39.06 357 eP P 03 33 53.4 +1.3
SDV Santo Domingo 43.03 2 eP P 03 34 23.8 -0.8
22nm,1.0s
BCIP Isla Barro Col 43.90 349 eP P 03 34 31.0 -0.4
174nm,1.7s
PCRV Puerto La Cruz 44.86 10 P P 03 34 38.9 -0.2
12nm,0.7s,baz=192,slow=9.3,SNR=6.2
JTS JuntasAbangare 46.04 342 eP P 03 34 49.8 +1.3
18nm,1.3s
GRGR Grenville 47.29 14 eP P 03 34 57.2 -1.0
96nm,0.9s
VNA3 Neumayer Olymp 49.06 158 P P 03 35 12.9 +1.6
VNA2 Neumayer--Watz 49.71 157 P P 03 35 17.6 +1.3
SNAA Sanae 51.28 158 P P 03 35 28.7 +0.4
SNAA Sanae 51.28 158 P P 03 35 28.8 +0.5
7.3nm,0.8s,baz=279,slow=8.5,SNR=14
SNAA Sanae 51.28 158 eP P 03 35 28.9 +0.7
24nm,0.9s
APG El Apazote 52.10 337 P P 03 35 29.5 -5.6
9.9nm,0.9s,baz=158,slow=6.7,SNR=6.0
OBIP Obispado Ponce 52.37 7 eP P 03 35 36.4 -0.5
23nm,0.8s
GTBY Guantanamo Bay 54.06 357 eP P 03 35 48.2 -0.9
71nm,1.4s
QSPA South Pole Qui 55.88 180 P P 03 36 03.1 +1.0
19nm,0.8s,baz=149,slow=5.9,SNR=18
QSPA South Pole Qui 55.88 180 eP P 03 36 03.4 +1.3
23nm,1.0s
TEIG Tepich 56.42 342 P P 03 36 06.4 +0.2
30nm,0.8s,baz=153,slow=9.0,SNR=5.4
LRAL Lakeview Retre 68.48 347 eP P 03 37 26.4 -0.3
6.9nm,0.8s
JCT Junction City 69.58 335 eP P 03 37 34.2 +0.5
14nm,1.3s
TXAR Lajitas Array 70.01 331 P P 03 37 36.7 +0.3
1.7nm,0.6s,baz=153,slow=8.2,SNR=16
CPCT Cooper Cave 70.41 349 eP P 03 37 40.2 +1.7
SWET Sewanee 70.41 348 eP P 03 37 38.5 -0.2
14nm,0.6s
WVT Waverly 71.64 347 eP P 03 37 45.4 -0.6
AMTX Amarillo 74.23 335 eP P 03 38 01.6 +0.1
9.4nm,1.0s
SUR Sutherland 74.72 119 eP P 03 38 06.2 +1.3
21nm,1.0s
DBIC Dimbokro 75.37 71 P P 03 38 08.5 0.0
9.5nm,0.7s,baz=210,slow=6.3,SNR=9.4
DBIC Dimbokro 75.37 71 eP P 03 38 08.1 -0.4
9.6nm,0.7s
LAZ Ladron 75.86 331 eP P 03 38 12.2 +1.1
2.2nm,1.0s
ANMO Albuquerque 76.06 331 eP P 03 38 13.2 +0.9
6.9nm,1.0s
SDCO Great Sand Dun 78.16 334 eP P 03 38 24.6 +0.5
3.1nm,0.9s
MVCO Mesa Verde 78.84 331 eP P 03 38 28.3 +0.5
4.7nm,0.9s
TSUM Tsumeb 79.19 106 eP P 03 38 30.9 +0.7
9.7nm,1.1s
CASY Casey 79.66 181 eP P 03 38 32.4 +0.7
15nm,1.0s
BOSA Boshof 79.97 118 P P 03 38 34.6 +0.3
16nm,0.8s,baz=233,slow=5.9,SNR=11
BOSA Boshof 79.97 118 eP P 03 38 34.1 -0.1
20nm,0.9s
ISCO Idaho Springs 80.02 334 eP P 03 38 34.6 +0.4
8.9nm,1.4s
ECSD EROS Data Cent 80.87 342 eP P 03 38 38.1 -0.2
SHPR Sheep Range 81.11 326 eP P 03 38 41.4 +1.4
8.7nm,1.3s
ARUT Antelope Range 81.40 328 eP P 03 38 43.2 +1.7
122nm,1.3s
SPMN St. Paul 81.40 345 eP P 03 38 40.0 -1.1
9.5nm,1.0s
LBTB Lobatse 82.22 115 eP P 03 38 46.4 +0.1
12nm,1.0s
K22A Casper 82.86 335 eP P 03 38 49.5 +0.4
27nm,1.5s
JLU Jordanelle 82.93 331 eP P 03 38 50.2 +0.6
3.3nm,0.7s
DUG Dugway 83.14 330 eP P 03 38 51.3 +0.7
6.1nm,1.1s
RSSD Black Hills 83.34 337 eP P 03 38 51.8 +0.2
2.8nm,0.8s
TPH Tonopah 83.34 326 eP P 03 38 52.9 +1.2
6.9nm,1.1s
HWUT Hardware Ranch 83.83 331 eP P 03 38 54.1 0.0
PDAR Pinedale Array 84.05 333 P P 03 38 55.2 0.0
2.0nm,0.7s,baz=174,slow=4.7,SNR=7.6
NVAR Mina Array Bea 84.14 325 P P 03 38 56.7 +0.9
3.1nm,0.8s,baz=156,slow=6.1,SNR=11
TORD Torodi Ar. Bea 84.40 70 P P 03 38 57.0 -0.4
7.6nm,0.9s,baz=252,slow=4.7,SNR=12
HVU Hansel Valley 84.46 331 eP P 03 38 57.5 +0.3
8.4nm,0.8s
AGMN Agassiz Nation 84.98 344 eP P 03 38 59.4 -0.1
6.1nm,0.6s
RLMT Red Lodge 85.98 335 eP P 03 39 05.2 +0.3
6.3nm,0.5s
ULM Lac du Bonnet 86.82 345 P P 03 39 08.0 -0.6
6.9nm,0.9s,baz=161,slow=5.6,SNR=7.3
MCMT McKenzie Canyo 87.05 332 eP P 03 39 11.3 +1.1
DGMT Dagmar 87.29 339 eP P 03 39 11.4 +0.4
19nm,0.6s
LRM Limekiln Ridge 87.74 333 eP P 03 39 13.8 +0.3
31nm,1.1s
YBH Yreka Blue Hor 88.82 325 P P 03 39 18.6 +0.1
4.7nm,0.9s,baz=84,slow=4.4,SNR=4.1
TAM Tamanrasset 93.05 65 eP P 03 39 39.0 +0.3
2.4nm,0.8s
FCC Fort Churchill 94.57 349 eP P 03 39 44.4 -0.1
0.2nm,0.6s
ESDC Sonseca Array 96.88 46 P P 03 39 55.4 -0.3
0.7nm,0.7s,baz=251,slow=3.0,SNR=3.3
YKA Yellowknife Ar 102.37 341 P Pdif 03 40 19.1 -0.5
0.6nm,0.6s,baz=141,slow=4.4,SNR=16
WRA Warramunga Arr 120.41 209 PKP PKPdf 03 45 15.9 -0.7
1.7nm,0.7s,baz=164,slow=1.6,SNR=4.6
WRAB Tennant Creek 120.42 209 ePKPdf PKPdf 03 45 15.7 -0.9
MMAI Mount Meron Ar 120.93 69 PKP PKPdf 03 45 17.3 +0.1
1.8nm,0.8s,baz=48,slow=2.1,SNR=3.3
BRTR Keskin Array B 122.07 61 PKP PKPdf 03 45 19.3 0.0
0.9nm,0.7s,baz=200,slow=3.0,SNR=4.7
AKASG Malin Array Be 122.49 48 PKP PKPdf 03 45 18.5 -1.0
0.3nm,0.4s,baz=261,slow=3.6,SNR=3.7
TNA Tin City 123.07 330 ePKPdf PKPdf 03 45 18.3 -1.8
H11S2 WAKE ISLAND Hy125.69 269 T T 06 03 48.9
baz=120,slow=76,SNR=7.4
H11S1 WAKE ISLAND Hy125.70 269 T T 06 03 51.6
baz=120,slow=76,SNR=13
H11S3 WAKE ISLAND Hy125.71 269 T T 06 03 50.5
baz=120,slow=76,SNR=7.9
H11N3 WAKE ISLAND Hy126.10 270 T T 06 04 18.7
baz=116,slow=78,SNR=5.0
H11N1 WAKE ISLAND Hy126.12 270 T T 06 04 22.4
baz=116,slow=78,SNR=9.0
H11N2 WAKE ISLAND Hy126.13 270 T T 06 04 23.3
baz=116,slow=78,SNR=5.3
KAPI Kappang 139.26 198 ePKPdf PKPdf 03 45 50.7 -1.7
KSM Kuching 147.21 185 ePKPbc PKPbc 03 46 08.1 -0.4
PSI Prapat 147.51 163 PKPbc PKPbc 03 46 08.8 -0.7
8.9nm,0.6s,baz=198,slow=3.5,SNR=6.5
BRVK Borovoye 147.52 43 ePKPbc PKPbc 03 46 08.4 +0.2
BVAR Borovoye Array 147.59 43 PKPbc PKPbc 03 46 06.5 +0.8
8.0nm,0.7s,baz=281,slow=3.2,SNR=8.4
KBL Kabul 148.11 78 ePKPbc PKPbc 03 46 10.4 -0.3
KBL ePKPab PKPab 03 46 14.0 +0.4
HYB Hyderabad 148.85 115 i PKP PKPbc 03 46 11.5 -1.3
YAK Yakutsk 149.04 340 ePKPbc PKPbc 03 46 11.6 -0.3
YAK ePKPab PKPab 03 46 16.5 +0.4
IPM Ipoh 149.60 166 ePKPbc PKPbc 03 46 14.3 -0.6
KKAR Karatay Array 149.78 62 ePKPdf PKPdf 03 46 08.6 -1.0
KKAR ePKPbc PKPbc 03 46 13.7 -0.7
KULM Kulim 150.31 165 ePKPdf PKPdf 03 46 10.6 -0.7
KULM ePKPbc PKPbc 03 46 15.7 -0.8
KULM ePKPab PKPab 03 46 22.9 +0.3
KKM Kota Kinabalu 150.78 197 ePKPbc PKPbc 03 46 17.1 -0.7
YSS Yuzh-Sakhalins 150.94 306 ePKPbc PKPbc 03 46 16.5 -0.5
ASAJ Asahikawa 151.57 300 PKPbc PKPbc 03 46 18.8 +0.2
12nm,0.9s,baz=245,slow=6.1,SNR=6.2
AAK Ala-Archa 152.74 62 PKPbc PKPbc 03 46 21.7 +0.2
8.1nm,0.8s,baz=178,slow=1.8,SNR=5.7
KURK Kurchatov 153.19 44 ePKPdf PKPdf 03 46 14.0 -0.5
KURK ePKPbc PKPbc 03 46 21.6 -0.4
KURK ePKPab PKPab 03 46 33.0 -0.8
TKM2 Tokmak 2 153.51 62 ePKPdf PKPdf 03 46 15.6 0.0
TKM2 ePKPbc PKiKP 03 46 23.3 0.0
TKM2 ePKPab PKPab 03 46 34.9 -0.8
ZAA0 Zalesovo Array 154.57 33 ePKPbc PKPbc 03 46 24.5 -0.3
ZALV Zalesovo Beam 154.57 33 PKPbc PKPbc 03 46 24.8 0.0
8.3nm,0.7s,baz=303,slow=3.1,SNR=10
MKAR Makanchi Array 157.06 50 PKPab PKPab 03 46 49.8 -0.6
3.4nm,0.7s,baz=298,slow=3.8,SNR=10
CMAR Chiang Mai Arr 162.28 151 PKP PKPdf 03 46 25.3 -1.4
0.6nm,0.3s,baz=216,slow=2.9,SNR=3.7
TLY Talaya 162.42 9 PKPab PKPab 03 47 14.6 +1.1
2.2nm,0.6s,baz=214,slow=7.9,SNR=4.4
LSA Lhasa 165.08 104 ePKPab PKPab 03 47 27.2 +0.6
SONM Songino Array 166.49 4 PKPab PKPab 03 47 32.0 +0.4
1.3nm,0.8s,baz=316,slow=4.1,SNR=4.0

IDC 28 03:31:42.6±0.8, 36.66S×72.64W, h0km, mb4.3/10, mb1 4.4/12, mb1mx4.2/36, mbtmp4.3/12, ML4.0/2, Error ellipse: s-maj=29.0km s-min=17.4km az=103.0

ISCJB 28 03:31:46.3±0.4, 36.54S±0.05×72.58W±0.10, h35km, mb4.4/26, Error ellipse: s-maj=11.7km s-min=7.4km az=164.1

NEIC 28 03:31:47.1±0.3, 36.65S×72.67W, h35km, mb4.6/20, Error ellipse: s-maj=9.4km s-min=7.0km az=81.0

ISC 28 03:31:48.1±0.5, 36.56S±0.07×72.6W±0.1, h35km, n70, σ1.05/70, mb4.5/26, Near coast of central Chile

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

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.46	160	Pn	Pn	03 32 54.4	+1.2
	5.0nm,0.3s,baz=331,slow=8.4,SNR=4.7						
PLCA				Lg	Lg	03 34 01.8	
	17nm,0.3s,baz=246,slow=20,SNR=3.0						
PLCA	Paso Flores	4.46	160	ePn	Pn	03 32 55.2	+2.0
PLCA				Lg	Lg	03 34 01.8	
CFAA	Coronel Fontan	6.10	37	Pn	Pn	03 33 16.0	+0.2
	1.3nm,0.3s,baz=199,slow=18,SNR=4.0						
TRQA	Tornquist	8.56	103	ePn	Pn	03 33 49.5	0.0
LVC	Limon Verde	14.25	14	ePn	Pn	03 35 06.8	-0.8
CPUP	Villa Florida	16.50	56	Pn	Pn	03 35 36.4	-0.3
	0.3nm,0.3s,baz=219,slow=15,SNR=1.6						
LPAZ	La Paz	20.57	12	P	P	03 36 26.5	+2.0
	3.2nm,0.7s,baz=203,slow=6.9,SNR=5.6						
LPAZ	La Paz	20.57	12	eP	P	03 36 26.5	+2.0
	8.2nm,0.8s						
SIV	San Ignacio	22.89	30	P	P	03 36 49.3	+0.6
	20nm,0.8s,baz=217,slow=9.5,SNR=19						
SAML	Samuel	28.77	20	eP	P	03 37 42.8	+0.2
	11nm,1.4s						
BDFB	Brasilia	30.17	53	P	P	03 37 55.4	+0.3
	3.9nm,0.8s,baz=211,slow=5.9,SNR=3.6						
OTAV	Otavalo	37.02	350	eP	P	03 38 56.4	+1.4
	5.4nm,1.3s						
SDV	Santo Domingo	45.24	3	eP	P	03 40 02.0	-0.2
	4.8nm,0.8s						
BCIP	Isla Barro Col	45.99	350	eP	P	03 40 08.3	+0.4
	21nm,0.8s						
VNA3	Neumayer Olymp	47.17	157	P	P	03 40 16.3	-0.4
VNA2	Neumayer--Watz	47.84	156	P	P	03 40 21.9	0.0
SNAA	Sanae	49.39	157	P	P	03 40 33.5	-0.4
SNAA	Sanae	49.39	157	P	P	03 40 33.8	-0.1
	2.1nm,0.8s,baz=248,slow=7.1,SNR=8.5						
QSPA	South Pole Qui	53.69	180	P	P	03 41 05.9	-0.2
	7.4nm,0.8s,baz=151,slow=3.2,SNR=13						
QSPA	South Pole Qui	53.69	180	eP	P	03 41 05.5	-0.7
	6.6nm,0.8s						
OBIP	Obispado Ponce	54.59	7	eP	P	03 41 12.3	-0.6
	10nm,0.6s						
CBYP	Canovanas	54.90	8	eP	P	03 41 14.8	-0.4
SDDR	Presa de Saban	55.25	1	eP	P	03 41 18.2	+0.4
HKT	Hockley	69.67	339	eP	P	03 42 50.8	-3.0
	1.8nm,0.9s						
JCT	Junction City	71.42	335	eP	P	03 43 03.3	-1.3
	11nm,1.3s						
TXAR	Lajitas Array	71.76	332	P	P	03 43 07.4	+0.6
	0.4nm,0.6s,baz=153,slow=8.9,SNR=4.5						
SWET	Sewanee	72.48	349	eP	P	03 43 10.7	-0.2
	7.1nm,0.9s						
WVT	Waverly	73.70	347	eP	P	03 43 17.3	-0.7
	3.2nm,0.6s						
MNTX	Cornudas Mount	74.53	331	eP	P	03 43 21.1	-2.0
	2.1nm,1.0s						
TUL1	Tulsa	75.27	341	eP	P	03 43 26.8	-0.3
	3.5nm,0.6s						
WCI	Wyandotte Cave	75.49	349	eP	P	03 43 28.0	-0.4
	3.5nm,0.7s						
DBIC	Dimbokro	76.41	71	P	P	03 43 35.1	+1.0
	9.1nm,0.7s,baz=202,slow=5.5,SNR=17						
DBIC	Dimbokro	76.41	71	eP	P	03 43 34.5	+0.3
	8.4nm,0.6s						
LAZ	Ladron	77.61	331	eP	P	03 43 40.7	0.0
ANMO	Albuquerque	77.83	332	eP	P	03 43 41.9	0.0
	3.5nm,1.2s						
TSUM	Tsumeb	78.93	106	eP	P	03 43 48.6	+0.2
BOSA	Boshof	79.27	118	P	P	03 43 50.2	0.0
	4.5nm,0.8s,baz=239,slow=4.9,SNR=5.9						
LBTB	Lobatse	81.62	115	eP	P	03 44 02.2	-0.7
	7.8nm,0.6s						
DUG	Dugway	84.87	330	eP	P	03 44 18.2	-0.9
	6.2nm,1.2s						
TOA0	Torodi Ar. Sit	85.48	70	eP	P	03 44 22.4	-0.1
TORD	Torodi Ar. Bea	85.48	70	P	P	03 44 22.6	0.0
	2.2nm,0.8s,baz=246,slow=4.6,SNR=6.7						
HWUT	Hardware Ranch	85.59	332	eP	P	03 44 22.4	-0.3
	6.0nm,1.1s						
NVAR	Mina Array Bea	85.74	326	P	P	03 44 24.6	+1.0
	0.6nm,0.7s,baz=159,slow=5.4,SNR=3.5						
LSZ	Lusaka	89.41	109	eP	P	03 44 42.9	+1.2
	4.9nm,1.0s						
MORC	Moravsky Berou	116.90	47	ePKPdf	PKPdf	03 50 27.9	-0.6
WRA	Warramunga Arr	118.33	209	PKP	PKPdf	03 50 30.6	-1.6
	0.4nm,0.4s,baz=154,slow=1.7,SNR=3.3						
KWP	Kalwaria Pacla	119.91	48	ePKPdf	PKPdf	03 50 34.3	+0.1
MBWA	Marble Bar	121.43	193	ePKPdf	PKPdf	03 50 37.3	-0.8
SUW	Suwalki	121.75	44	ePKPdf	PKPdf	03 50 37.0	-0.6
KIEV	Kiev	124.20	49	ePKPdf	PKPdf	03 50 41.6	-0.8
AKASG	Malin Array Be	124.21	49	PKP	PKPdf	03 50 41.2	-1.1
	0.3nm,0.5s,baz=258,slow=3.0,SNR=4.1						
TNA	Tin City	124.79	330	ePKPdf	PKPdf	03 50 41.8	-1.2
KIV	Kislovodsk	131.16	60	ePKPdf	PKPdf	03 50 54.5	-1.5
GNI	Garni	131.60	66	ePKPdf	PKPdf	03 50 56.8	-0.3
PALK	Pallekele	142.00	134	ePKPdf	PKPdf	03 51 15.7	-1.2
ABKAR	Akbulak array	143.56	54	ePKPdf	PKPab	03 51 15.4	+0.4
KSM	Kuching	144.99	185	ePKPdf	PKPab	03 51 18.5	-2.9
PSI	Prapat	145.50	165	PKPbc	PKPdf	03 51 21.9	-1.3
	4.6nm,0.4s,baz=219,slow=0.4,SNR=8.4						
IPM	Ipoh	147.54	168	ePKPbc	PKPdf	03 51 28.0	+1.5
HYB	Hyderabad	148.16	119	iPKP	PKPdf	03 51 29.0	+1.6
KULM	Kulim	148.26	167	ePKPbc	PKPdf	03 51 29.1	+1.4
KKM	Kota Kinabalu	148.59	197	ePKPbc	PKPdf	03 51 28.9	+0.6
BRVK	Borovoye	149.33	46	ePKPdf	PKPdf	03 51 27.6	-0.5
BRVK				ePKPbc	PKPbc	03 51 32.7	+0.2
BRVK				ePKPab	PKiKP	03 51 37.4	+3.8
BVAR	Borovoye Array	149.40	46	PKPbc	PKPbc	03 51 32.7	0.0
	2.5nm,0.7s,baz=284,slow=2.3,SNR=8.4						
YAK	Yakutsk	150.97	338	ePKPbc	PKPbc	03 51 35.6	-0.5
KKAR	Karatay Array	151.07	65	ePKPbc	PKPbc	03 51 36.5	-0.6
KURK	Kurchatov	154.99	46	ePKPab	PKPab	03 51 59.2	-1.9
ZAA0	Zalesovo Array	156.59	35	ePKPdf	PKPdf	03 51 38.0	-0.6
ZAA0				ePKPab	PKPab	03 52 07.4	-0.4
ZALV	Zalesovo Beam	156.59	35	PKP	PKPdf	03 51 37.5	-1.1
	2.3nm,0.9s,baz=309,slow=3.1,SNR=5.7						
MKAR	Makanchi Array	158.69	53	PKP	PKPdf	03 51 41.0	-0.5
	0.6nm,0.7s,baz=349,slow=1.2,SNR=3.7						
MKAR				PKPab	PKPab	03 52 17.5	+0.2
	1.5nm,0.8s,baz=300,slow=3.6,SNR=6.3						

*IDC **28** 03:32:57.8±3.2, 16.°05S×173.°88W, h0^{km}, mb4.7/1, mb1 5.0/1, mb1mx3.8/41, mbtmp4.7/1, MS4.1/2, Ms1 4.1/2, ms1mx3.3/42, Error ellipse: s-maj=167.9km s-min=48.2km az=145.0*

*NEIC **28** 03:33:07.5±5.9, 16.°12S×173.°82W, h80^{km}±50^{km}, mb4.5/20, Error ellipse: s-maj=23.4km s-min=12.3km az=153.0*

*ISCJB **28** 03:33:10.2±0.5, 16.°1S±0.°2×173.°97W±0.°10, h115^{km}, mb4.5/22, Error ellipse: s-maj=26.4km s-min=10.0km az=158.2*

ISC 28 03:33:11.6±0.6, 16.°1S±0.°2×173.°9W±0.°1, h115^{km}, n42, σ1°14/38, mb4.5/22, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.87	257	ePn	Pn	03 35 02.3	-1.0
URZ	Urewera	23.46	198	LR	LR	03 45 10.2	
	comp=Z,276nm,20.6s,baz=336,slow=31						
PMG	Port Moresby	38.50	275	LR	LR	03 55 16.2	
	comp=Z,388nm,19.2s,baz=297,slow=35						
PMG	Port Moresby	38.50	275	eP	P	03 40 25.5	+2.5
	7.0nm,0.8s						
COEN	Coen	41.45	267	eP	P	03 40 47.7	+0.4
	106nm,0.8s						
WRAB	Tennant Creek	49.20	257	eP	P	03 41 47.9	-0.7
	5.8nm,0.5s						
WRA	Warramunga Arr	49.21	257	P	P	03 41 48.5	-0.1
	5.2nm,0.5s,baz=93,slow=6.7,SNR=79						
AS31	Alice Springs	49.43	252	eP	P	03 41 50.4	+0.1
MBWA	Marble Bar	62.70	254	eP	P	03 43 24.3	-0.4
CASY	Casey	69.58	205	eP	P	03 44 07.2	-0.6
	24nm,1.5s						
JNU	Nakatsue	71.91	314	eP	P	03 44 21.4	-1.2
	6.0nm,1.0s						
KKM	Kota Kinabalu	72.53	282	eP	P	03 44 22.7	-4.0
	22nm,1.1s						
WVOR	Wild Horse Val	77.28	39	eP	P	03 44 53.8	+0.3
	4.2nm,1.2s						
HLID	Hailey	80.47	39	eP	P	03 45 06.5	-4.5
	2.6nm,1.1s						
MNTX	Cornudas Mount	81.03	53	eP	P	03 45 13.9	-0.1
	0.6nm,0.6s						
HWUT	Hardware Ranch	81.23	42	eP	P	03 45 12.2	-2.9
	2.1nm,0.8s						
NEW	Newport	81.55	34	eP	P	03 45 13.5	-2.9
	2.9nm,1.1s						
ANMO	Albuquerque	81.62	50	eP	P	03 45 18.5	+1.2
	1.3nm,0.9s						
BW06	Boulder Array	83.11	42	eP	P	03 45 26.2	+1.3
	1.8nm,1.0s						
JCT	Junction City	84.94	56	eP	P	03 45 33.7	-0.5
	4.5nm,0.7s						
ENH	Enshi	86.87	303	eP	P	03 45 44.5	+0.8
	3.4nm,0.4s						
RSSD	Black Hills	87.30	43	eP	P	03 45 45.7	0.0
	1.4nm,0.7s						
WHTX	Lake Whitney	87.36	56	eP	P	03 45 45.8	-0.2
	4.1nm,0.8s						
SNAA	Sanae	92.25	177	eP	P	03 46 07.9	-0.4
	5.6nm,0.9s						
OTAV	Otavalo	95.31	91	eP	P	03 46 24.6	+0.7
	3.4nm,1.2s						
WVT	Waverly	96.23	54	eP	P	03 46 27.4	+0.3
	3.0nm,0.7s						
WCI	Wyandotte Cave	97.95	53	eP	P	03 46 34.7	-0.1
	6.6nm,0.9s						
AAK	Ala-Archa	116.55	310	ePKPdf	PKPdf	03 51 44.0	+1.6
EKS2	Erkin-Say	117.08	310	ePKPdf	PKPdf	03 51 42.6	-0.8
ABKAR	Akbulak array	125.42	320	ePKPdf	PKPdf	03 51 59.5	+0.5
LBTB	Lobatse	134.94	205	ePKPdf	PKPdf	03 52 19.9	+1.9
KIV	Kislovodsk	138.41	320	ePKPdf	PKPdf	03 52 24.8	+1.0
LSZ	Lusaka	141.95	216	ePKPdf	PKPdf	03 52 29.9	-1.2
KMBO	Kilima Mbogo	144.79	244	PKP	PKPdf	03 52 37.3	+1.0
	2.5nm,0.7s,baz=77,slow=3.4,SNR=11						
KMBO	Kilima Mbogo	144.79	244	ePKPdf	PKPdf	03 52 36.5	+0.2
KMBO				PKP	PKPbc	03 52 47.3	+1.8
BUR08	Bucovina Ar. S	144.80	337	ePKPdf	PKPdf	03 52 35.1	0.0
MORC	Moravsky Berou	145.13	347	ePKPdf	PKPdf	03 52 36.1	+0.6
MLR	Muntele Rosu	146.28	335	PKPbc	PKPab	03 52 39.9	0.0
	baz=90,slow=1.0						
BR131	Keskin Array S	146.37	320	ePKPbc	PKPab	03 52 39.8	-0.8
BRTR	Keskin Array B	146.37	320	PKPbc	PKPab	03 52 39.9	-0.7
	2.6nm,0.8s,baz=39,slow=2.2,SNR=14						
GERES	GERESS Array B	146.74	351	PKPbc	PKPab	03 52 41.3	-0.3
	0.6nm,0.7s,baz=33,slow=3.8,SNR=5.2						
MMAI	Mount Meron Ar	148.61	308	PKPbc	PKPbc	03 52 47.0	+1.3
	4.0nm,0.7s,baz=88,slow=5.0,SNR=5.1						

*IDC **28** 03:33:44.0±0.4, 25.°97N×128.°52E, h0^{km}, mb4.9/46, mb1 5.0/50, mb1mx5.0/54, mbtmp4.9/50, ML4.0/4, MS4.6/8, Ms1 4.6/8, ms1mx3.9/52, Error ellipse: s-maj=12.4km s-min=10.2km az=78.0*

*ISCJB **28** 03:33:44.6±0.8, 25.°98N±0.°02×128.°52E±0.°02, h11^{km}±4^{km}, mb5.1/174, MS4.9/36, Error ellipse: s-maj=3.5km s-min=2.6km az=41.8*

*BJI **28** 03:33:46.1, 25.°95N×128.°65E, h37^{km}, mB5.0/47, mb5.1/66, Ms5.0/68, Ms7 4.9/63*

*JMA **28** 03:33:46.4±0.2, 25.°96N×128.°65E, h37^{km}, M5.0*

JMA Felt I J1.

*NEIC **28** 03:33:46.1±1.8, 25.°95N×128.°48E, h14^{km}±11^{km}, mb5.3/71, MW4.8(NIED), Error ellipse: s-maj=4.7km s-min=3.5km az=115.0*

NEIC Felt [II] at Chatan and Okinawa, Okinawa. Also felt at Ginowan, Ishikawa and Naha. Recorded [1 JMA] on Okinawa.

*MOS **28** 03:33:47.5±1.9, 25.°99N×128.°49E, h40^{km}, mb5.4/82, MS4.4/9, Error ellipse: s-maj=13.7km s-min=5.5km az=120.5*

*SZGRF **28** 03:33:56.4, 28.°47N×130.°25E, h33^{km}, mb5.4, Ryukyu Islands, Japan*

*NIED **28** 03:34:00, 25.°90N×128.°80E, h14^{km}, Mw4.9 Best double couple: $M_0$2.18000×10^{16} NP1:ϕ_s47.00000°, δ43.00000°, λ92.00000°. NP2:ϕ_s224.00000°, δ47.00000°, λ88.00000°.*

ISC 28 03:33:48.9±0.4, 25.°99N±0.°03×128.°53E±0.°03, h32^{km}±1^{km}, h32^{km}:pP-P, n605, σ1°40/677, mb5.2/178, MS5.0/36, 65C-46D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.70	319	P	Pn	03 34 00.8	-1.7
JNTH				S	Sb	03 34 11.9	-0.2
JJT2	Tamagusuku 2	0.72	282	P	Pn	03 34 01.8	-1.0
JJT2				S	Sn	03 34 12.7	0.0
JOW	Kunigami	0.87	345	P	Pn	03 34 03.5	-1.4
JOW				S	Sn	03 34 15.0	-1.6
JOW	Kunigami	0.87	345	Pn	Pn	03 34 03.6	-1.4
	198nm,0.3s,baz=167,slow=15,SNR=556						
JOW				Sn	Sb	03 34 19.9	+2.9
	299nm,0.3s,baz=114,slow=20,SNR=29						
JOW	Kunigami	0.87	345	ePn	Pn	03 34 03.6	-1.4
JOW				eSn	Sb	03 34 16.9	-0.1
JOW				Sn	Sb	03 34 19.9	+2.9
JIH	Iheya	1.16	334	P	Pn	03 34 08.0	-0.9
JIH				S	Sn	03 34 23.5	-0.1
JAGN	Aguni-jima	1.30	298	P	Pn	03 34 10.3	-0.5
JOKE	Okinoerabujima	1.37	1	P	Pn	03 34 10.4	-1.4
JOKE				S	Sn	03 34 26.6	-2.2
JKE	Kume jima 2	1.61	283	P	Pn	03 34 13.9	-1.1
JKE				S	Sn	03 34 33.6	-1.0
JTK	Tokunoshima	1.83	12	P	Pn	03 34 16.7	-1.4
JTK				S	Sn	03 34 37.8	-2.4
JAMN	Amaminishikomi	2.32	14	P	Pn	03 34 23.3	-1.5
JAMN				S	Sn	03 34 50.7	-1.5
JMZ	Minamidaito 2	2.43	93	P	Pn	03 34 22.5	-3.8
JMZ				S	Sn	03 34 48.6	-6.2
JAM	Amami Oshima	2.60	21	P	Pn	03 34 26.6	-2.0
JAM				S	Sn	03 34 56.8	-2.3
JZK	Kikaishima	2.65	29	P	Pn	03 34 27.8	-1.5
JZK				S	Sn	03 34 58.9	-1.5
JOGS	Gusukube	3.08	247	P	Pn	03 34 34.7	-0.6
JOGS				S	Sn	03 35 09.7	-1.3
JIKM	Ikemajima	3.15	251	P	Pn	03 34 35.4	-0.8
JMJ	Miyako jima 2	3.15	249	P	Pn	03 34 34.9	-1.4
JMJ				S	Sn	03 35 10.4	-2.4
JTAJ	Takarajima	3.21	11	P	Pn	03 34 35.3	-1.7
JTAJ				S	Sn	03 35 10.9	-3.3
JIRB	Irabujima	3.25	250	P	Pn	03 34 36.5	-1.1
JIRB				S	Sn	03 35 11.2	-4.0
JSJ	Shimokoshiki	5.77	10	P	Pn	03 35 11.8	-0.4
TATO	Taipei	6.45	263	ePn	Pn	03 35 21.9	+0.4
NACB	Ninganchiao	6.54	255	ePn	Pn	03 35 19.4	-3.5
	49nm,0.4s						
YHNB	Yeheng	6.61	260	ePn	Pn	03 35 23.1	-0.7
	231nm,0.9s						
JIU2	Izumi 2	6.83	16	P	Pn	03 35 26.5	-0.3
YULB	Yu-li	7.07	250	ePn	Pn	03 35 25.2	-5.0
	34nm,0.5s						
SSLB	Suanglung	7.22	254	ePn	Pn	03 35 28.3	-3.9
SSLB				eSn	Sn	03 36 46.5	-6.6
JNU	Nakatsue	7.40	15	Pn	Pn	03 35 34.5	-0.1
	9.8nm,0.3s,baz=175,slow=12,SNR=71						
JNU				Sn	Sn	03 36 53.2	-4.3
	6.8nm,0.3s,baz=267,slow=19,SNR=6.4						
JNU	Nakatsue	7.40	15	ePn	Pn	03 35 34.9	+0.2
JNU				eSn	Sn	03 36 56.4	-1.1
TWG	Pinlang	7.50	247	ePn	Pn	03 35 30.0	-6.0
	148nm,0.4s						
TWG				eSn	Sn	03 36 47.7	-12
TPUB	Ta-pu	7.67	251	ePn	Pn	03 35 33.4	-5.0
	56nm,0.6s						
TPUB				eSn	Sn	03 36 57.8	-6.4
QZH	Quanzhou	9.04	266	⇑iP	Pn	03 35 56.3	-0.9
QZH				S	Sn	03 37 36.3	-1.6
QZH				LR	LR		
	comp=N,6μm,10.1s						
QZH				LR	LR		
	comp=E,4μm,12.4s						
QZH				LR	LR		
	comp=Z,9μm,12.4s						
NJ2	Nanjing	10.40	308	eP	Pn	03 36 16.3	+0.5
NJ2				S	Sn	03 38 10.0	-1.2
NJ2				pmax	pmax		
	comp=Z,40nm,0.8s						
NJ2				LR	LR		
	comp=N,4μm,10.4s						
NJ2				LR	LR		
	comp=E,9μm,11.7s						
NJ2				LR	LR		
	comp=Z,10μm,12.2s						
KSAR	Wonju Array Be	11.44	357	P	Pn	03 36 29.9	0.0
KSAR	Wonju Array Be	11.44	357	Pn	Pn	03 36 29.9	0.0
KSRS	Korea Array	11.45	358	Pn	Pn	03 36 29.9	-0.2
	0.5nm,0.3s,baz=176,slow=13,SNR=55						
KSRS				LR	LR	03 41 16.1	
	comp=Z,2μm,18.5s,baz=174,slow=40						
INCN	Inchon	11.58	352	ePn	Pn	03 36 27.8	-4.1
WHN	Wuhan	13.30	293	P	Pn	03 36 56.5	+1.1
WHN				pP	P	03 37 04.5	-0.2
WHN				LR	LR		
	comp=N,4μm,12.9s						
WHN				LR	LR		
	comp=E,10μm,13.6s						
WHN				LR	LR		
	comp=Z,14μm,13.0s						
MAT	Matsushiro	13.38	36	P	Pn	03 36 56.0	-0.5
MAT				S	S	03 39 40.0	-7.3
MAJO	Matsushiro	13.38	36	eP	Pn	03 36 56.4	-0.1
MAJO	Matsushiro	13.38	36	ePn	Pn	03 36 56.4	-0.1
MJAR	Matsushiro Arr	13.38	36	P	Pn	03 36 56.8	+0.3
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	13.38	36	Pn	Pn	03 36 56.8	+0.3
	comp=Z,0.5nm,0.3s,baz=239,slow=13,SNR=12						
TIA	Tai'an	14.11	319	⇑P	Pn	03 37 08.3	+1.8
TIA				pP	P	03 37 19.3	+5.6
TIA				PP	PnPn	03 37 23.3	+8.8
TIA				S	S	03 39 52.8	-9.4
TIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TIA				LR	LR		
	comp=Z,4μm,13.7s						
TIA				LR	LR		
	comp=Z,4μm,13.7s						
TIA				LR	LR		
	comp=Z,7μm,14.3s						
DL2	Dalian	14.13	337	P	P	03 37 16.0	+2.1
DL2				S	S	03 39 54.3	-8.3
DL2				pmax	pmax		
	comp=Z,460nm,4.4s						
DL2				LR	LR		
	comp=N,2μm,13.1s						
DL2				LR	LR		
	comp=Z,2μm,12.0s						
SNY	Shenyang	16.32	347	⇑P	Pn	03 37 35.0	-0.6
SNY				S	Sn	03 40 37.0	+1.4
SNY				pmax	pmax		
	comp=Z,34nm,1.3s						
SNY				pmax	pmax		
	comp=Z,1μm,10.1s						
SNY				LR	LR		
	comp=Z,3μm,13.9s						
SNY				LR	LR		
	comp=Z,2μm,12.1s						
SNY				LR	LR		
	comp=Z,3μm,13.5s						
VLA	Vladivostok	17.31	8	⇓iP	P	03 37 49.4	+0.3
VLA				S	Sn	03 41 01.3	+1.7
VLA				pmax	pmax		
	comp=Z,29nm,0.7s						
ENH	Enshi	17.33	289	ePn	Pn	03 37 46.9	-1.4
	comp=Z,19nm,0.9s						
BJT	Baijiatuau	17.39	327	eP	Pn	03 37 49.4	+0.4
BJT				pmax	pmax		
	comp=Z,61nm,0.6s						
BJT	Baijiatuau	17.39	327	ePn	Pn	03 37 49.4	+0.4
	comp=Z,61nm,0.6s						
BJI	Beijing	17.41	327	P	P	03 37 50.0	-0.2
BJI				S	S	03 41 08.5	-1.0
BJI				pmax	pmax		
	comp=Z,110nm,1.1s						
BJI				pmax	pmax		
	comp=Z,560nm,12.7s						
BJI				LR	LR		
	comp=Z,7μm,13.7s						
BJI				LR	LR		
	comp=Z,3μm,13.7s						
BJI				LR	LR		
	comp=Z,2μm,14.6s						
TIY	Taiyuan	17.96	315	eP	P	03 37 58.3	+1.8
TIY				pmax	pmax		
	comp=Z,120nm,1.0s						
TIY				pmax	pmax		
	comp=Z,480nm,3.6s						
TIY				LR	LR		
	comp=Z,4μm,11.1s						
TIY				LR	LR		
	comp=Z,2μm,10.7s						
TIY				LR	LR		
	comp=Z,4μm,12.6s						
USRK	Ussuriysk Arra	18.39	8	P	P	03 38 00.8	-0.2
	comp=Z,1.0nm,0.3s,baz=185,slow=10.0,SNR=53						
QIZ	Qiongzhong	18.59	252	P	P	03 38 03.5	0.0
QIZ				S	Sn	03 41 28.8	-2.1
QIZ				pmax	pmax		
	comp=Z,76nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,330nm,9.6s						
QIZ				LR	LR		
	comp=Z,2μm,20.5s						
QIZ				LR	LR		
	comp=Z,1μm,20.4s						
QIZ	Qiongzhong	18.59	252	eP	P	03 38 01.4	-2.1
	comp=Z,128nm,1.3s						
MDJ	Mudanjiang	18.61	2	P	Pn	03 38 04.0	+0.1
MDJ				pP	pP	03 38 12.5	+0.5
MDJ				sP	sP	03 38 17.5	+1.3
MDJ				S	S	03 41 34.0	+0.3
MDJ				sS	sS	03 41 48.0	+0.6
MDJ				PcP	PcP	03 42 32.5	+1.0
MDJ				ScP	ScP	03 46 05.0	+0.3
MDJ				PcS	PcS	03 46 15.0	+6.9
MDJ	Mudanjiang	18.61	2	ScS	ScS	03 49 55.5	+10
MDJ				pmax	pmax		
	comp=Z,11nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,500nm,10.4s						
MDJ				LR	LR		
	comp=N,740nm,13.6s						
MDJ				LR	LR		
	comp=E,550nm,12.0s						
MDJ				LR	LR		
	comp=Z,1μm,14.8s						
MDJ	Mudanjiang	18.61	2	eP	Pn	03 38 03.6	-0.3
	comp=Z,14nm,0.9s						
XAN	Xi'an	18.77	300	P	P	03 38 04.0	-1.3
XAN				S	Sn	03 41 28.8	-6.2
XAN				pmax	pmax		
	comp=Z,29nm,1.3s						
XAN				pmax	pmax		
	comp=Z,160nm,9.8s						
XAN				LR	LR		
	comp=Z,800nm,11.1s						
XAN				LR	LR		
	comp=Z,1μm,13.3s						
XAN				LR	LR		
	comp=Z,1μm,13.8s						
GYA	Guiyang	19.63	276	⇑iP	P	03 38 15.0	+0.1
GYA				pP	pP	03 38 24.8	+1.3
GYA				PP	PnPn	03 38 34.3	+4.0
GYA				S	S	03 41 48.0	-6.8
GYA				sS	Sn	03 42 02.0	+6.0
GYA				SS	SnSn	03 42 15.8	+5.5
GYA				pmax	pmax		
	comp=Z,40nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,4.8s						
GYA				LR	LR		
	comp=Z,860nm,14.9s						
GYA				LR	LR		
	comp=Z,720nm,15.3s						
GYA				LR	LR		
	comp=Z,940nm,14.5s						
ERM	Erimo	20.02	33	eP	Pn	03 38 23.0	+2.2
ERM				pmax	pmax		
	comp=Z,55nm,0.9s						
ERM	Erimo	20.02	33	eP	Pn	03 38 23.0	+2.3
	comp=Z,55nm,0.9s						
HHC	Hu-ho-hao-te	20.45	321	eP	P	03 38 23.0	-0.7
HHC				pP	pP	03 38 32.0	-0.3
HHC				sP	sP	03 38 36.0	-0.5
HHC				S	S	03 42 04.8	-6.2
HHC				sS	Sn	03 42 18.5	+2.9
HHC				PcP	PcP	03 42 33.8	-1.2
HHC				pmax	pmax		
	comp=Z,60nm,0.6s						
HHC				pmax	pmax		
	comp=Z,770nm,6.2s						
HHC				LR	LR		
	comp=Z,6μm,12.2s						
HHC				LR	LR		
	comp=Z,4μm,10.4s						
HHC				LR	LR		

comp=Z,8μm,12.4s
BTO Baotou 21.20 318 eP P 03 38 30.8 -1.0
ASAJ Asahikawa 21.39 29 P P 03 38 33.8 +0.1
ASAJ pmax pmax
comp=Z,14nm,0.8s
ASAJ Asahikawa 21.39 29 P P 03 38 33.8 +0.1
comp=Z,14nm,0.8s,baz=222,slow=12,SNR=6.1
ASAJ Asahikawa 21.39 29 eP P 03 38 34.6 +0.9
comp=Z,11nm,0.7s
CD2 Chengdu 22.31 288 eP P 03 38 41.5 -2.3
CD2 pP pP 03 38 51.0 -1.5
CD2 sP sP 03 38 55.5 -1.1
CD2 PP PnPn 03 39 08.5 +1.5
CD2 S S 03 42 38.5 -8.9
CD2 sS Sn 03 42 54.0 -6.4
CD2 SS SnSn 03 43 19.0 +3.0
CD2 pmax pmax
comp=Z,100nm,0.9s
CD2 pmax pmax
comp=Z,400nm,9.3s
CD2 LR LR
comp=Z,4μm,11.7s
CD2 LR LR
comp=Z,6μm,13.2s
CD2 LR LR
comp=Z,6μm,13.1s
MYLDM Lahad Datu 22.81 207 eP P 03 38 50.8 +1.7
comp=Z,124nm,1.5s
YUK Yuzh-Kuril'sk 22.85 34⇑iP P 03 38 49.4 +0.2
YUK i 03 39 18.9
YUK i S S 03 42 56.1 -0.4
YUK pmax pmax
comp=E,161nm,1.0s
YUK pmax pmax
comp=Z,371nm,1.0s
YUK MLR MLR
comp=N,996nm,20.0s
YUK MLR MLR
comp=E,455nm,20.0s
YUK MLR MLR
comp=Z,692nm,20.0s
HABR Khabarovsk 23.02 11 eP P 03 38 50.5 -0.5
HABR e*PP pP 03 38 59.3 -0.5
HABR e*SP sP 03 39 03.9 +0.1
HABR ePPP PPP 03 39 24.6
HABR e 03 42 38.6
HABR eS S 03 42 59.9 +0.5
HABR e*SS Sn 03 43 16.2 -0.7
HABR eSS SnSn 03 43 34.9 +1.7
HABR eSSS SSS 03 43 49.4
HABR e 03 49 59.7
HABR pmax pmax
comp=E,11nm,0.7s
HABR pmax pmax
comp=Z,46nm,1.3s
HABR pmax pmax
comp=N,33nm,1.8s
HABR MLR MLR
comp=Z,1μm,17.0s
KKM Kota Kinabalu 23.06 213 eP P 03 38 52.0 +0.2
comp=Z,16nm,0.8s
KMI Kunming 23.28 274 P P 03 38 54.5 +0.4
KMI pP pP 03 39 03.5 +0.5
KMI sP sP 03 39 07.5 +0.5
KMI PP PnPn 03 39 24.8 +4.4
KMI S S 03 42 57.3 -7.2
KMI sS sS 03 43 12.5 -7.5
KMI SS SnSn 03 43 44.5 +4.5
KMI pmax pmax
comp=Z,120nm,1.1s
KMI pmax pmax
comp=Z,340nm,3.1s
KMI LR LR
comp=Z,3μm,11.6s
KMI LR LR
comp=Z,2μm,9.3s
KMI LR LR
comp=Z,2μm,12.8s
KLR Kul'dur 23.34 5 eP P 03 38 46.8 -7.4
KLR pmax pmax
comp=Z,90nm,2.0s
LZH Lanzhou 23.37 301 ⇓P P 03 38 54.0 -0.9
LZH pP pP 03 39 04.0 +0.2
LZH sP sP 03 39 08.5 +0.7
LZH S S 03 43 05.0 -0.8
LZH sS sS 03 43 17.8 -3.4
LZH SS SnSn 03 43 50.0 +7.9
LZH pmax pmax
comp=Z,280nm,1.3s
LZH pmax pmax
comp=Z,590nm,4.0s
LZH LR LR
comp=Z,2μm,12.3s
LZH LR LR
comp=Z,2μm,10.6s
LZH LR LR
comp=Z,2μm,13.6s
YSS Yuzh-Sakhalins 23.77 25⇑iP P 03 38 59.0 +0.6
YSS e 03 39 06.0
YSS MLR MLR
comp=E,600nm,16.0s
YSS MLR MLR
comp=Z,900nm,16.0s
YSS Yuzh-Sakhalins 23.77 25 eP P 03 38 58.7 +0.3
comp=Z,301nm,0.9s
UBPT Khong Chiam 24.03 248 P P 03 39 02.7 +1.6
comp=Z,70nm,1.3s,comp=Z,821nm
HIA Hailar 24.23 346⇓eP P 03 39 01.1 -1.5
HIA pmax pmax
comp=Z,18nm,1.6s
HIA Hailar 24.23 346 eP P 03 39 01.5 -1.2
comp=Z,16nm,0.9s
TOLI Toli-Toli 25.82 198 eP P 03 39 15.7 -1.6
MRSI Marisa 26.14 195 P P 03 39 22.3 +2.0
comp=Z,29nm,0.9s
CRAI Chiangrai 26.50 263 P P 03 39 24.0 +0.5
comp=Z,26nm,0.9s,comp=Z,601nm
MPSI Mapaga 26.82 199 P P 03 39 27.6 +1.2
comp=Z,27nm,1.4s
UTTA Uttaradit 27.19 258 P P 03 39 30.8 +1.1
comp=Z,6.8nm,1.1s,comp=Z,107nm
GTA Gaotai 27.50 306 ⇑P P 03 39 31.3 -1.1
GTA pP pP 03 39 40.3 -1.5
GTA sP sP 03 39 44.3 -1.4
GTA S S 03 44 05.8 -5.5
GTA sS sS 03 44 24.5 -2.3
GTA SS SnSn 03 45 25.5 +2.7
GTA pmax pmax
comp=Z,170nm,1.5s
GTA pmax pmax
comp=Z,270nm,4.8s
GTA LR LR
comp=Z,2μm,11.0s
GTA LR LR
comp=Z,1μm,14.8s
GTA LR LR
comp=Z,3μm,13.5s
ULN Ulaanbaatar 27.61 328⇑iP P 03 39 32.0 -1.4
ULN pmax pmax
comp=Z,73nm,1.0s
ULN Ulaanbaatar 27.61 328 eP P 03 39 32.1 -1.2
comp=Z,78nm,0.9s
LAMP Lampang 27.72 260 P P 03 39 35.6 +1.1
comp=Z,15nm,0.9s,comp=Z,107nm
CMAI Chiengmai2 27.77 264 P P 03 39 36.8 +1.6
comp=Z,18nm,1.2s,comp=Z,618nm
SONM Songino Array 27.91 327 P P 03 39 35.0 -1.0
SONM pmax pmax
comp=Z,67nm,1.1s
SONM Songino Array 27.91 327 P P 03 39 35.0 -1.0
comp=Z,67nm,1.1s,baz=145,slow=8.5,SNR=65
CHBT CHBT 27.93 247 P P 03 39 38.4 +2.0
comp=Z,21nm,0.8s
SANI Sanana 27.98 185 P P 03 39 35.6 -1.1
comp=Z,74nm,0.9s
SBUM Sibu 28.17 216 eP P 03 39 38.6 +0.1
comp=Z,23nm,1.0s
CHTO Chiang Mai 28.23 261 eP P 03 39 39.2 +0.2
CHTO pmax pmax
comp=Z,35nm,1.0s
CHTO Chiang Mai 28.23 261 P P 03 39 39.7 +0.7
comp=Z,163nm,1.0s
CHTO Chiang Mai 28.23 261 eP P 03 39 39.2 +0.2
comp=Z,35nm,1.0s
CMAR Chiang Mai Arr 28.35 261 P P 03 39 40.7 +0.5
CMAR 03 42 53.4
CMAR pmax pmax
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 28.35 261 P P 03 39 40.7 +0.5
comp=Z,12nm,1.0s,baz=57,slow=7.5,SNR=31
CMAR PcP PcP 03 42 53.4 +0.9
comp=Z,2.8nm,0.7s,baz=40,slow=1.4,SNR=8.6
FAKI Fak Fak 28.96 172 P P 03 39 45.5 0.0
comp=Z,57nm,0.9s
FAKI Fak Fak 28.96 172 eP P 03 39 44.5 -1.0
comp=Z,48nm,0.9s
MHMT Maesarieng 29.35 261 P P 03 39 50.7 +1.7
comp=Z,13nm,0.9s
SMPI Sarmi 29.50 159 P P 03 39 51.8 +1.5
comp=Z,64nm,1.2s,comp=Z,27μm
SRDT SRDT 29.86 253 P P 03 39 57.0 +3.5
comp=Z,30nm,1.5s,comp=Z,9μm
ZAK Zakamensk 31.14 328 eP P 03 40 02.3 -2.3
ZAK e 03 44 59.5
ZAK pmax pmax
comp=Z,4.0nm,1.4s
TLY Talaya 31.86 330 P P 03 40 09.4 -1.4
comp=Z,60nm,1.1s,SNR=5.9
TLY Talaya 31.86 330 eP P 03 40 09.3 -1.5
TLY pmax pmax
comp=Z,16nm,1.1s
TLY MLR MLR
comp=Z,1μm,13.0s
TLY Talaya 31.86 330 P P 03 40 09.0 -1.8
comp=Z,4.1nm,0.8s,baz=169,slow=8.5,SNR=9.9
KAPI Kappang 31.97 197 eP P 03 40 11.2 -0.8
comp=Z,62nm,1.0s
IRK Irkutsk 31.98 332 eP P 03 40 03.8 -8.1
IRK pmax pmax
comp=Z,26nm,1.4s
BBKI Banjar Baru 32.14 206 P P 03 40 14.5 +0.9
comp=Z,53nm,1.1s,comp=Z,2μm
SHL Shillong 32.94 277⇑iP P 03 40 20.5 -0.3
SHL eS S 03 45 36.5 -0.5
MOY Mondy 33.07 328 eP P 03 40 19.8 -1.8
BOD Bodaibo 33.45 346 eP P 03 40 23.5 -1.1
BOD pmax pmax
comp=Z,10.0nm,1.2s
KULM Kulim 33.68 237 eP P 03 40 26.6 -0.6
comp=Z,36nm,1.2s
PKDT Phuket 33.89 243 P P 03 40 31.6 +2.7
comp=Z,32nm,1.3s
IPM Ipoh 33.93 236 eP P 03 40 30.0 +0.7
comp=Z,19nm,0.9s
PETK Petropavlovsk- 34.76 31 P P 03 40 35.8 -0.3
comp=Z,9.3nm,0.9s,baz=204,slow=9.3,SNR=3.1
TPI Tanjungpandan 35.00 218 P P 03 40 40.0 +1.5
comp=Z,21nm,0.9s,comp=Z,551nm
PET Petropavlovsk 35.16 32⇓iP P 03 40 40.0 +0.5
PET i S S 03 46 10.4 +0.1
PET pmax pmax
comp=Z,81nm,1.0s
PET MLR MLR
comp=Z,600nm,15.0s
SOEI Soe 35.77 187 eP P 03 40 42.2 -3.0
YAK Yakutsk 36.05 1 eP P 03 40 46.4 -0.5
YAK e*PP pP 03 40 55.6 -0.8
YAK ePPP PPP 03 42 35.3
YAK eS S 03 46 25.0 +1.4
YAK eSS SS 03 49 10.8 +9.4
YAK pmax pmax
comp=Z,105nm,0.9s
YAK pmax pmax
comp=N,75nm,1.4s
YAK pmax pmax
comp=E,14nm,1.4s
YAK smax smax
comp=N,240nm,5.1s
YAK smax smax
comp=E,138nm,5.9s
YAK MLR MLR
comp=Z,557nm,15.0s
YAK MLR MLR
comp=N,421nm,16.0s
YAK MLR MLR
comp=E,433nm,16.0s
YAK Yakutsk 36.05 1 eP P 03 40 46.5 -0.5
comp=E,124nm,0.9s
BATI Baumata 36.28 188 P P 03 40 47.4 -2.2
comp=E,90nm,0.7s,baz=280,slow=6.1,SNR=8.1
TAPN Taplejung 36.39 281⇑iP P 03 40 51.0 +0.2
comp=E,269nm,1.2s
PSI Prapat 36.61 236 P P 03 40 53.4 +1.0
comp=E,8.4nm,0.8s,baz=76,slow=4.2,SNR=5.7
ODAN Odare 36.74 281⇑iP P 03 40 53.9 +0.2
comp=E,557nm,1.0s
NGJI Ngawi 37.07 209 P P 03 40 59.3 +3.1
comp=E,278nm,1.0s
RAMN Ramite 37.43 281⇑iP P 03 40 59.4 -0.1
comp=E,188nm,1.2s
WMQ Urumqi 37.48 309 P P 03 40 59.0 -0.5
WMQ pP pP 03 41 08.8 -0.2
WMQ sP sP 03 41 12.8 -0.2
WMQ PP PnPn 03 42 27.3 +1.1
WMQ PcP PcP 03 43 18.0 +0.5
WMQ S S 03 46 44.5 -1.7
WMQ sS sS 03 47 00.8 -1.1
WMQ PcS PcS 03 47 05.3 -0.7
WMQ ScS ScS 03 51 08.0 -2.7
WMQ pmax pmax
comp=E,86nm,1.1s
WMQ pmax pmax
comp=E,230nm,5.2s
WMQ LR LR
comp=E,930nm,14.4s
WMQ LR LR
comp=E,2μm,12.6s
WMQ LR LR
comp=E,2μm,13.8s
MNSI Mandailing Nat 37.49 233 P P 03 41 00.5 +0.7
comp=E,34nm,0.8s
JIRN Jiri 37.69 282⇑iP P 03 41 02.0 +0.1
comp=E,127nm,1.0s
WOJI Wonogiri, Jawa 37.73 209 P P 03 41 03.4 +1.7
comp=E,75nm,1.1s,comp=E,6μm
GUN Gumba 37.93 283⇑iP P 03 41 04.1 +0.2
KPJI Karang Pucung 38.21 213 P P 03 41 07.1 +1.3
comp=E,65nm,0.9s
PKI Pulchoki 38.39 282⇑iP P 03 41 07.5 -0.2
comp=E,289nm,1.0s
PKIN Phulchoki 38.40 282⇑iP P 03 41 07.6 -0.2
MDSI Maura Dua 38.41 221 P P 03 41 08.7 +1.2
comp=E,16nm,0.9s,comp=E,1μm
LEM Lembang 38.43 215 P P 03 41 10.2 +2.3
comp=E,74nm,0.9s
KKN Kakani 38.48 283⇑iP P 03 41 08.5 +0.2
DMN Daman 38.65 282⇑iP P 03 41 09.9 0.0
comp=E,335nm,1.1s
CISI Cisompet, Garu 38.95 214 P P 03 41 21.0 +8.9
GKN Gorkha 39.01 283⇑iP P 03 41 12.7 0.0
comp=E,361nm,1.1s
PMG Port Moresby 39.57 150⇑iP P 03 41 17.1 -0.1
PMG pmax pmax
comp=Z,8.0nm,1.0s
PMG Port Moresby 39.57 150 P P 03 41 16.6 -0.7
comp=Z,10nm,0.8s,baz=333,slow=6.8,SNR=5.4
PMG Port Moresby 39.57 150 eP P 03 41 16.3 -0.9
comp=Z,28nm,1.3s
DANN Dangsing 39.73 284⇑iP P 03 41 19.3 +0.4
comp=Z,308nm,1.0s
KOLN Koldanda 39.95 283⇑iP P 03 41 20.8 +0.2
comp=Z,298nm,1.1s
SEY Seymchan 40.17 17 P P 03 41 22.1 +0.4
SEY pmax pmax
comp=Z,8.0nm,0.7s
SEY Seymchan 40.17 17 P P 03 41 22.1 +0.4
comp=Z,7.5nm,0.7s,baz=215,slow=7.6,SNR=16
MKAR Makanchi Array 41.90 312 P P 03 41 35.3 -0.9
MKAR 03 43 31.8
MKAR pmax pmax
comp=Z,17nm,0.7s
MKAR Makanchi Array 41.90 312 P P 03 41 35.3 -0.9
comp=Z,17nm,0.7s,baz=94,slow=9.9,SNR=112
MKAR PcP PcP 03 43 31.8 +0.3
comp=Z,4.6nm,0.8s,baz=63,slow=4.1,SNR=3.5
COEN Coen 42.18 159 eP P 03 41 37.2 -1.6
comp=Z,208nm,1.1s
ZAA0 Zalesovo Array 42.60 323 eP P 03 41 40.3 -1.5
ZALV Zalesovo Beam 42.60 323 P P 03 41 40.4 -1.4
ZALV 03 43 32.9
ZALV pmax pmax
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 42.60 323 P P 03 41 40.4 -1.4
comp=Z,14nm,0.8s,baz=110,slow=8.4,SNR=21
ZALV PcP PcP 03 43 32.9 -0.7
comp=Z,1.4nm,0.5s,baz=108,slow=4.7,SNR=4.2
FX1 Attu Island--F 42.71 39 P P 03 41 42.9 +0.2
FX1 pmax pmax
comp=Z,34nm,0.9s
FX1 Attu Island--F 42.71 39 P P 03 41 42.9 +0.2
comp=Z,34nm,0.9s,baz=230,slow=17,SNR=4.4
NVS Novosibirsk 43.81 324 eP P 03 41 49.5 -2.0
NVS pmax pmax
comp=E,22nm,1.5s
NVS pmax pmax
comp=Z,28nm,1.5s
NVS pmax pmax
comp=N,12nm,1.7s
KURK Kurchatov 45.18 317 P P 03 42 01.3 -1.3
comp=N,150nm,1.1s,SNR=23
KURK Kurchatov 45.18 317 eP P 03 42 01.4 -1.1
KURK pmax pmax
comp=Z,37nm,1.1s
KURK Kurchatov 45.18 317 eP P 03 42 01.4 -1.1
comp=Z,37nm,1.1s
NDI New Delhi 45.38 286⇑ix P 03 42 04.0 -0.5
NDI ex S 03 48 43.0 -0.6
KSH Kashi 45.62 301 eP P 03 42 09.5 +3.1
KSH epP pP 03 42 18.0 +2.0
KSH esP sP 03 42 23.8 +3.9
KSH ePP PP 03 43 59.0 +5.6
KSH ePcS PcS 03 47 36.5 -2.1
KSH eS S 03 48 48.5 +1.5
KSH eSS ScS 03 52 04.0 +3.6
KSH pmax pmax
comp=Z,30nm,1.2s
KSH LR LR
comp=Z,510nm,15.1s
KSH LR LR
comp=Z,330nm,16.0s
KSH LR LR
comp=Z,230nm,7.7s
TIXI Tiksi 45.70 0⇑iP P 03 42 05.8 -0.5
TIXI pmax pmax
comp=Z,40nm,1.6s
TIXI Tiksi 45.70 0 eP P 03 42 05.6 -0.7
comp=Z,38nm,1.1s
WRAB Tennant Creek 45.99 172 P P 03 42 08.2 -1.0
comp=Z,377nm,0.8s,SNR=6.8
WRAB Tennant Creek 45.99 172d iP P 03 42 08.7 -0.5
WRAB pmax pmax
comp=Z,115nm,0.9s
WRAB Tennant Creek 45.99 172 eP P 03 42 08.8 -0.4
comp=Z,55nm,0.9s
WRA Warramunga Arr 46.00 172 P P 03 42 08.8 -0.5
comp=Z,41nm,0.8s,baz=352,slow=8.4,SNR=85
WRA LR LR 04 00 00.5
comp=Z,143nm,21.9s,baz=195,slow=34
TKM2 Tokmak 2 46.04 305 P P 03 42 09.8 +0.2
SNR=30
TKM2 Tokmak 2 46.04 305 eP P 03 42 09.9 +0.2
TKM2 Tokmak 2 46.04 305 eP P 03 42 09.9 +0.2
KZA Kyzart 46.25 304 P P 03 42 12.3 +0.7
SNR=9.7
KBK Karagaybulak 46.50 305 P P 03 42 13.7 +0.3
SNR=13
CHMS Chumysh 46.66 306 P P 03 42 14.4 0.0
SNR=17
UCH Uchtor 46.80 304 P P 03 42 16.9 +0.9
SNR=43
AAK Ala-Archa 46.83 305 P P 03 42 17.3 +1.4
SNR=6.7
AAK Ala-Archa 46.83 305⇓iP P 03 42 16.8 +0.9
AAK pmax pmax
comp=Z,26nm,1.3s
AAK Ala-Archa 46.83 305 P P 03 42 15.9 0.0
comp=Z,3.9nm,0.6s,baz=86,slow=5.9,SNR=12
AAK Ala-Archa 46.83 305 eP P 03 42 15.3 -0.6
comp=Z,8.8nm,0.9s
USP Ospenovka 46.86 306 P P 03 42 17.0 +1.0
SNR=9.5
HYB Hyderabad 46.98 270 iP P 03 42 16.5 -0.7
EKS2 Erkin-Say 47.36 305 P P 03 42 21.5 +1.5
SNR=8.2
EKS2 Erkin-Say 47.36 305 eP P 03 42 19.3 -0.7
EKS2 pmax pmax
comp=Z,14nm,1.0s
EKS2 Erkin-Say 47.36 305 eP P 03 42 19.3 -0.7
comp=Z,14nm,1.0s
AML Almayashu 47.41 304 P P 03 42 22.8 +2.1
SNR=12
BILL Bilibino 47.82 18c iP P 03 42 23.5 +0.5
BILL e 03 44 15.2
BILL eSS SKiKP 03 53 51.6 -21
BILL pmax pmax
comp=Z,49nm,1.1s
BILL MLR MLR
comp=Z,417nm,15.0s
BILL Bilibino 47.82 18 eP P 03 42 23.7 +0.7
comp=Z,67nm,1.1s
CTAO Charters Tower 48.93 158 eP P 03 42 31.5 -0.5
CTAO pmax pmax
comp=Z,36nm,1.0s
CTAO Charters Tower 48.93 158 eP P 03 42 31.5 -0.5
comp=Z,36nm,1.0s
PALK Pallekele 49.14 256 eP P 03 42 33.0 -0.9
PALK pmax pmax
comp=Z,104nm,1.9s
PALK Pallekele 49.14 256 eP P 03 42 33.0 -0.9
comp=Z,104nm,1.9s
AS31 Alice Springs 49.63 174 eP P 03 42 37.1 -0.4
KKAR Karatay Array 49.77 306 eP P 03 42 38.4 0.0
KKAR pmax pmax
comp=Z,17nm,1.0s
KKAR Karatay Array 49.77 306 eP P 03 42 38.4 0.0
comp=Z,17nm,1.0s
BVAR Borovoye Array 50.64 318 P P 03 42 44.8 0.0
BVAR pmax pmax
comp=Z,24nm,0.9s
BVAR Borovoye Array 50.64 318 P P 03 42 44.8 0.0
comp=Z,24nm,0.9s,baz=81,slow=8.9,SNR=10
BRVK Borovoye 50.70 318 P P 03 42 44.8 -0.5
comp=Z,328nm,0.8s,SNR=20
BRVK Borovoye 50.70 318c iP P 03 42 45.2 -0.1
BRVK pmax pmax
comp=Z,83nm,1.3s
BRVK Borovoye 50.70 318 eP P 03 42 42.5 -2.8
comp=Z,61nm,1.0s
BRVK Borovoye 50.70 318 eP P 03 42 44.7 -0.6
KBL Kabul 51.45 295 eP P 03 42 52.2 +0.8
KBL pmax pmax
comp=Z,37nm,0.8s
KBL Kabul 51.45 295 eP P 03 42 52.2 +0.8
comp=Z,37nm,0.8s
TNA Tin City 55.73 27 eP P 03 43 23.4 +1.4
FORT Forrest 56.45 180 eP P 03 43 27.3 -0.1
comp=Z,86nm,0.9s
SVE Sverdlovsk 56.62 322 eP P 03 43 29.3 +0.8
SVE pmax pmax
comp=Z,49nm,1.1s
SVE MLR MLR
comp=Z,2μm,13.0s
ABKAR Akbulak array 57.01 313 eP P 03 43 31.7 +0.2
ARU Arti 57.75 322 P P 03 43 36.9 +0.4
comp=Z,201nm,1.2s,SNR=5.0
ARU Arti 57.75 322c iP P 03 43 36.8 +0.3
ARU 03 44 30.9
ARU 03 45 42.3
ARU S S 03 51 34.7 +1.5
ARU SS SS 03 55 27.3 +3.8
ARU pmax pmax
comp=Z,47nm,1.2s
ARU MLR MLR
comp=Z,1μm,15.0s
ARU Arti 57.75 322 eP P 03 43 36.1 -0.4
comp=Z,52nm,1.2s
AKTO Aktyubinsk 58.20 315 P P 03 43 40.0 +0.3
AKTO pmax pmax
comp=Z,10.0nm,0.7s
AKTO Aktyubinsk 58.20 315 P P 03 43 40.0 +0.3
comp=Z,9.7nm,0.7s,baz=96,slow=10.0,SNR=15
SOKR Solikamsk 58.76 326 eP P 03 43 44.5 +1.1
SOKR pmax pmax
comp=Z,30nm,1.3s
SOKR MLR MLR
comp=Z,920nm,15.0s
STKA Stephens Creek 58.88 167 P P 03 43 44.1 -0.4
STKA pmax pmax

comp=Z,7.0nm,0.5s
STKA Stephens Creek 58.88 167 P P 03 43 44.1 -0.4
comp=Z,6.8nm,0.5s,baz=340,slow=8.4,SNR=9.2
STKA Stephens Creek 58.88 167 eP P 03 43 44.0 -0.6
comp=Z,2.9nm,1.1s
ISRO Mashad 58.89 298 eP P 03 43 46.2 +1.2
IPAY Payeh 59.24 298 eP P 03 43 48.6 +1.1
ABKT Alibek 59.65 300 P P 03 43 51.2 +1.1
comp=Z,252nm,1.2s,SNR=9.2
GEYT Alibeck 59.65 300 P P 03 43 50.6 +0.6
comp=Z,38nm,1.0s,baz=79,slow=3.2,SNR=33
DZM Mont Dzumac 60.27 139 P P 03 43 54.9 +0.4
comp=Z,10nm,0.7s,baz=294,slow=12,SNR=7.2
DZM Mont Dzumac 60.27 139 eP P 03 43 54.8 +0.3
comp=Z,26nm,1.2s
ARMA Armidale 60.29 157 eP P 03 43 55.1 +0.7
IM04 Indian Mountai 61.56 27 eP P 03 44 03.5 +0.8
RSO Redoubt South 62.24 33 eP P 03 44 09.2 +1.7
PPLA Purkeypile 62.35 31 eP P 03 44 09.1 +1.0
comp=Z,58nm,1.3s
KDAK Kodiak Island 62.55 36c eP P 03 44 10.1 +0.8
KTH Kantishna Hill 62.88 30 eP P 03 44 12.0 +0.4
comp=Z,32nm,1.4s
COLD Coldfoot 62.96 26 eP P 03 44 12.9 +1.0
comp=Z,31nm,1.4s
IBAF Bafgh 63.12 294 eP P 03 44 13.0 -0.8
TRF Thorofare Moun 63.17 30 eP P 03 44 14.5 +0.9
comp=Z,8.5nm,0.8s
MCK McKinley 63.75 29 eP P 03 44 17.1 -0.2
MCK pmax pmax
comp=Z,21nm,0.7s
MCK McKinley 63.75 29 eP P 03 44 17.1 -0.2
comp=Z,20nm,0.7s
PMR Palmer 63.89 32 eP P 03 44 17.4 -0.7
PMR pmax pmax
comp=Z,27nm,1.3s
PMR Palmer 63.89 32 eP P 03 44 17.4 -0.7
comp=Z,27nm,1.3s
IMEH Mehriz 63.96 294 eP P 03 44 19.7 +0.2
COLA College 64.10 28 eP P 03 44 20.1 +0.6
COLA College 64.10 28 eP P 03 44 20.1 +0.6
PRGR Permogore 64.15 328 P P 03 44 18.8 -1.1
PRGR pmax pmax
comp=Z,13nm,0.9s
ILAR Eielson Array 64.52 28 P P 03 44 21.9 -0.4
ILAR pmax pmax
comp=Z,3.0nm,0.7s
ILAR Eielson Array 64.52 28 P P 03 44 21.9 -0.4
comp=Z,2.6nm,0.7s,baz=270,slow=4.1,SNR=33
IVRN Varamin 65.33 298 eP P 03 44 27.4 -0.7
PAX Paxson 65.40 30 eP P 03 44 28.2 +0.1
PAX pmax pmax
comp=Z,7.0nm,0.7s
PAX Paxson 65.40 30 eP P 03 44 28.2 +0.1
comp=Z,7.2nm,0.7s
IZEF Zefreh 65.41 296 eP P 03 44 27.0 -2.0
DIV Divide 65.56 32 eP P 03 44 29.6 +0.5
comp=Z,12nm,0.8s
IKLH Kolahrood 65.90 297 eP P 03 44 32.5 +0.4
DOT Dot Lake 65.91 29 eP P 03 44 31.1 -0.3
comp=Z,18nm,0.8s
IMHD Mahdasht 65.98 299 eP P 03 44 32.9 +0.6
IGZV Ghazvin 66.14 300 eP P 03 44 35.1 +1.6
BMRM Bremner River 66.14 32 eP P 03 44 33.1 +0.2
comp=Z,17nm,0.9s
IPIR Pirpir 66.63 296 eP P 03 44 36.3 -0.5
IRAZ Razeghan 66.63 299 eP P 03 44 37.1 +0.4
EGAK Eagle 66.94 28 eP P 03 44 38.1 +0.2
comp=Z,7.3nm,0.9s
TMCR Tamitsa 67.15 332 eP P 03 44 39.2 0.0
TMCR e 03 47 06.6
TMCR pmax pmax
comp=Z,79nm,1.1s
KLMR Klimovskoe 67.20 328 eP P 03 44 38.3 -1.2
KLMR pmax pmax
comp=Z,40nm,1.3s
APA Apatity 68.19 336⇑iP P 03 44 46.2 +0.5
APA MLR MLR
comp=Z,800nm,16.0s
VRHR Novokhopersk 68.36 317 eP P 03 44 45.2 -1.8
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,20nm,1.1s
VRHR pmax pmax
comp=E,20nm,1.0s
DGRG David-gareji 68.41 307 P P 03 44 54.2 +6.6
TBLG Delisi 68.79 307 P P 03 44 53.1 +3.1
GOF Gofitskoye 69.05 311 eP P 03 44 51.3 -0.2
GOF pmax pmax
comp=Z,80nm,1.3s
SPITS Spitsbergen Ar 69.12 348 P P 03 44 51.4 0.0
SPITS pmax pmax
comp=Z,14nm,0.7s
SPITS Spitsbergen Ar 69.12 348 P P 03 44 51.4 0.0
comp=Z,14nm,0.7s,baz=100,slow=6.1,SNR=15
GNI Garni 69.24 305 P P 03 44 53.8 +0.8
GNI pmax pmax
comp=Z,15nm,0.9s
GNI Garni 69.24 305 P P 03 44 53.8 +0.8
comp=Z,15nm,0.9s,baz=156,slow=5.8,SNR=16
GNI Garni 69.24 305 eP P 03 44 53.8 +0.8
comp=Z,51nm,1.2s
MOS Moscow 69.43 323 eP P 03 44 53.0 -0.6
MOS pmax pmax
comp=Z,89nm,1.1s
MOS MLR MLR
comp=E,700nm,14.0s
MOS MLR MLR
comp=Z,800nm,14.0s
ONI Oni 69.46 308 P P 03 44 55.6 +1.4
KBZ Khabaz 69.52 310 P P 03 44 55.2 +0.8
KBZ pmax pmax
comp=Z,45nm,1.0s
KBZ Khabaz 69.52 310 P P 03 44 55.2 +0.8
comp=Z,45nm,1.0s,baz=89,slow=4.6,SNR=48
KIV Kislovodsk 69.61 310 P P 03 44 56.2 +1.1
comp=Z,502nm,1.4s,SNR=23
KIV Kislovodsk 69.61 310 eP P 03 44 55.8 +0.7
KIV e 03 45 21.5
KIV eS S 03 54 02.2 +1.0
KIV pmax pmax
comp=Z,106nm,1.0s
KIV pmax pmax
comp=Z,42nm,4.9s
KIV Kislovodsk 69.61 310 eP P 03 44 55.4 +0.4
comp=Z,132nm,1.2s
IDHR Dehrash 69.62 299 eP P 03 44 55.2 -0.2
KEV Kevo 69.76 339 eP P 03 44 54.4 -1.0
KEV pmax pmax
comp=Z,18nm,0.7s
KEV Kevo 69.76 339 ep P 03 44 54.4 -1.0
comp=Z,18nm,0.7s
AKH Akhalkalaki 69.78 307 P P 03 44 58.0 +1.7
VORD Divnogorie 69.81 318 eP P 03 44 54.2 -1.8
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=N,6.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 69.81 318 eP P 03 44 54.5 -1.6
VSR pmax pmax
comp=E,40nm,1.1s
VSR pmax pmax
comp=Z,40nm,1.1s
VSR pmax pmax
comp=N,10.0nm,1.2s
OBN Obninsk 70.19 322c iP P 03 44 58.0 -0.3
OBN e 03 47 34.4
OBN pmax pmax
comp=Z,57nm,1.4s
OBN MLR MLR
comp=Z,753nm,16.0s
OBN Obninsk 70.19 322 P P 03 44 57.9 -0.3
comp=Z,24nm,0.8s,baz=102,slow=3.2,SNR=8.0
OBN Obninsk 70.19 322 eP P 03 44 57.7 -0.6
comp=Z,44nm,1.0s
ARCES ARCESS Array B 70.33 339 P P 03 44 57.9 -1.0
ARCES pmax pmax
comp=Z,19nm,0.9s
ARCES ARCESS Array B 70.33 339 P P 03 44 57.9 -1.0
comp=Z,19nm,0.9s,baz=64,slow=8.4,SNR=12
JOF Joensuu 70.39 331 eP P 03 44 58.7 -0.6
JOF pmax pmax
comp=Z,14nm,0.7s
JOF Joensuu 70.39 331 ep P 03 44 58.7 -0.6
comp=Z,14nm,0.7s
SOC Sochi 71.77 310c iP P 03 45 08.2 +0.1
SOC e*PP pP 03 45 16.1 -2.1
SOC eS S 03 54 27.3 +1.1
SOC pmax pmax
comp=Z,60nm,0.9s
SOC MLR MLR
comp=Z,382nm,18.0s
KAF Kangasniemi 72.84 331 eP P 03 45 13.2 -1.0
KAF pmax pmax
comp=Z,17nm,0.8s
KAF Kangasniemi 72.84 331 ep P 03 45 13.2 -1.0
comp=Z,17nm,0.8s
ANN Anapa 72.92 312 eP P 03 45 14.5 -0.4
ANN e 03 47 55.8
ANN eS S 03 54 41.8 +2.5
ANN pmax pmax
comp=Z,131nm,1.3s
FIA1 FINESS Array S 73.21 331 eP P 03 45 16.1 -0.2
FINES FINESS Array B 73.21 331 P P 03 45 16.4 +0.1
FINES pmax pmax
comp=Z,23nm,0.8s
FINES MLR MLR
comp=Z,421nm,18.9s
FINES FINESS Array B 73.21 331 P P 03 45 16.4 +0.1
comp=Z,23nm,0.8s,baz=81,slow=6.2,SNR=46
FINES LR LR 04 20 47.7
comp=Z,421nm,18.9s,baz=91,slow=39
KBSD Kabsdagh 73.36 303 eP P 03 45 18.6 +0.9
SFNV Sufian 73.88 303 eP P 03 45 21.6 +0.8
VSU Vasula 74.10 328c iP P 03 45 21.9 +0.3
VSU pmax pmax
comp=Z,126nm,0.8s
RAYN Ar Rayn 74.15 289 P P 03 45 23.5 +0.9
comp=Z,1.0nm,1.0s,SNR=12
RAYN Ar Rayn 74.15 289 eP P 03 45 23.0 +0.4
comp=Z,58nm,1.1s
MALT Malatya 74.47 305 ⇓P P 03 45 26.1 +1.8
MALT Malatya 74.47 305⇓iP P 03 45 26.1 +1.8
MNKR ALMNKUR 74.69 303 eP P 03 45 23.0 -2.5
KSRV Kasrt alli 74.92 303 eP P 03 45 29.3 +2.5
SIM Simferopol’ 75.07 313d iP P 03 45 28.5 +1.0
SIM e 03 45 45.0
SIM pmax pmax
comp=Z,49nm,0.8s
MICGM Minsk 75.11 324 e P 03 45 26.0 -1.6
MNK Minsk 75.14 324 eP P 03 45 26.0 -1.7
MNK MLR MLR
comp=Z,3µm,13.0s
IDID Didziasalis 75.38 325 eP P 03 45 30.1 +1.0
IDID AMB AMB 03 45 31.6
comp=Z,25nm,0.9s
DAG Danmarks Havn 75.53 353 i P P 03 45 29.7 +0.1
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 75.53 353 i P P 03 45 29.7 +0.1
comp=Z,7.0nm,0.8s
NACGM Naroch 75.53 324 e P 03 45 27.0 -3.0
ISAL Salakas 75.59 325 eP P 03 45 30.5 +0.2
ISAL AMB AMB 03 45 33.0
comp=Z,24nm,1.3s
IIGN Ignalina 75.64 325 eP P 03 45 30.9 +0.3
IIGN AMB AMB 03 45 32.6
comp=Z,18nm,1.2s
RES Resolute Bay 75.73 11 eP P 03 45 31.1 +0.3
RES pmax pmax
comp=Z,47nm,0.9s
RES Resolute Bay 75.73 11 eP P 03 45 31.1 +0.3
comp=Z,47nm,0.9s
AKASG Malin Array Be 75.89 320 P P 03 45 32.1 0.0
AKASG pmax pmax
comp=Z,40nm,0.7s
AKASG Malin Array Be 75.89 320 P P 03 45 32.1 0.0
comp=Z,40nm,0.7s,baz=57,slow=6.2,SNR=128
AKBB Malin Array Si 75.89 320 eP P 03 45 31.5 -0.6
AKBB Malin Array Si 75.89 320 eP P 03 45 31.5 -0.6
AK01 Malin Array Si 75.90 320 eP P 03 45 31.8 -0.4
KIEV Kiev 75.91 320c iP P 03 45 32.2 0.0
KIEV Kiev 75.91 320 eP P 03 45 31.7 -0.4
comp=Z,40nm,0.8s
AK02 Malin Array Si 75.92 320 eP P 03 45 31.8 -0.4
BR131 Keskin Array S 77.40 308 eP P 03 45 41.1 0.0
comp=Z,37nm,0.9s
BRTR Keskin Array B 77.40 308 P P 03 45 41.7 +0.7
BRTR pmax pmax
comp=Z,41nm,1.0s
BRTR Keskin Array B 77.40 308 P P 03 45 41.7 +0.7
comp=Z,41nm,1.0s,baz=97,slow=5.2,SNR=105
SORM Soroca 77.47 318 ⇑P P 03 45 41.3 +0.3
SORM Soroca 77.47 318⇑iP P 03 45 41.3 +0.3
MARH Ras Al Marh 77.53 302 eP P 03 45 38.8 -3.3
KIS Kishinev 77.66 316 ⇓P P 03 45 42.7 +0.6
KIS Kishinev 77.66 316⇓iP P 03 45 42.7 +0.6
SUW Suwalki 77.81 324 eP P 03 45 42.5 -0.4
SUW pmax pmax
comp=Z,152nm,1.0s
SUW Suwalki 77.81 324 eP P 03 45 43.0 +0.2
SUW Suwalki 77.81 324 eP P 03 45 42.5 -0.4
comp=Z,152nm,1.0s
ASF Jabal al Asfar 77.93 300 P P 03 45 44.7 +0.6
ASF pmax pmax
comp=Z,19nm,0.9s
ASF Jabal al Asfar 77.93 300 P P 03 45 44.7 +0.6
comp=Z,18nm,0.9s,baz=83,slow=3.6,SNR=10
ANTO Ankara 77.94 308 eP P 03 45 44.5 +0.5
ANTO pmax pmax
comp=Z,55nm,1.4s
ANTO Ankara 77.94 308⇑iP P 03 45 44.8 +0.8
ANTO Ankara 77.94 308 eP P 03 45 44.5 +0.5
comp=Z,55nm,1.4s
LEOM Leova 78.24 316 ⇑P P 03 45 46.0 +0.7
LEOM Leova 78.24 316⇑iP P 03 45 46.0 +0.7
IAS Iasi 78.35 317 ⇓P P 03 45 46.5 +0.5
IAS Iasi 78.35 317⇓iP P 03 45 46.5 +0.5
YKA Yellowknife Ar 78.63 25 P P 03 45 47.8 +0.6
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 78.63 25 P P 03 45 47.8 +0.6
comp=Z,4.2nm,0.7s,baz=299,slow=5.5,SNR=55
GIUM Giurgiulesti 78.68 315⇓iP P 03 45 49.2 +1.4
MMAI Mount Meron Ar 78.75 301 P P 03 45 49.6 +1.0
comp=Z,7.3nm,0.8s,baz=53,slow=4.6,SNR=6.2
CFR Carcaliu 78.86 315 ⇓P P 03 45 49.5 +0.7
CFR Carcaliu 78.86 315⇓iP P 03 45 49.5 +0.7
TIRR Tirgusor 78.99 314 ⇓P P 03 45 49.2 -0.4
TIRR Tirgusor 78.99 314⇓iP P 03 45 49.2 -0.4
PRAR RASCA 79.09 317⇑iP P 03 45 50.8 +0.7
HFS Hagfors 79.16 332 P P 03 45 50.3 +0.1
HFS pmax pmax
comp=Z,10.0nm,0.7s
HFS MLR MLR
comp=Z,387nm,20.4s
HFS Hagfors 79.16 332 P P 03 45 50.3 +0.1
comp=Z,10nm,0.7s,baz=69,slow=7.9,SNR=18
HFS LR LR 04 24 50.1
comp=Z,386nm,20.4s,baz=76,slow=39
PETR Petresti 79.20 316⇓iP P 03 45 52.8 +2.1
HARR Harsova 79.20 314 ⇓P P 03 45 51.8 +1.1
HARR Harsova 79.20 314⇓iP P 03 45 51.8 +1.1
TESR Tescani 79.21 317⇑iP P 03 45 51.1 +0.3
LVV L’vov 79.28 320 eP P 03 45 52.4 +1.3
LVV MLR MLR
comp=N,100nm,14.0s
LVV MLR MLR
comp=Z,300nm,14.0s
LVV MLR MLR
comp=E,300nm,12.0s
VRI Vrincioaia 79.45 316 ⇑P P 03 45 54.2 +2.1
VRI Vrincioaia 79.45 316⇑iP P 03 45 54.2 +2.1
PLOR Plostina 79.51 316 ⇓P P 03 45 53.6 +1.2
PLOR Plostina 79.51 316⇓iP P 03 45 53.6 +1.2
GRER 79.51 315⇓iP P 03 45 55.1 +2.7
MSAB Monastry St. A 79.53 314⇓iP P 03 45 53.7 +1.2
BUR08 Bucovina Ar. S 79.59 318 eP P 03 45 53.6 +0.6
BURAR Bucovina Array 79.59 318 ⇑P P 03 45 53.9 +1.0
BURAR Bucovina Array 79.59 318⇑iP P 03 45 53.9 +1.0
KULLO Kullorsuaq 79.61 2 i P P 03 45 56.0 +3.6
KULLO pmax pmax
comp=Z,24nm,1.0s
KULLO Kullorsuaq 79.61 2 i P P 03 45 56.0 +3.6
comp=Z,24nm,0.9s
NB2 NORSAR Subarra 79.65 334 P P 03 45 52.4 -0.5
comp=Z,23nm,0.8s,baz=52,slow=5.6
NB2 NORSAR Subarra 79.65 334 P P 03 45 52.4 -0.5
baz=52,slow=5.6
NOA NORSAR Array B 79.65 334 P P 03 45 52.8 -0.1
comp=Z,15nm,0.8s,baz=53,slow=5.5,SNR=58
NOA LR LR 04 23 02.6
comp=Z,161nm,19.4s,baz=230,slow=37
NAO01 NORSAR Array S 79.90 334 eP P 03 45 52.0 -2.2
comp=Z,39nm,1.3s
ISR Istrita 79.90 315 ⇑P P 03 45 56.6 +2.0
ISR Istrita 79.90 315⇑iP P 03 45 56.6 +2.0
MLR Muntele Rosu 80.11 316 P P 03 45 56.4 +0.6
MLR pmax pmax
comp=Z,7.0nm,1.0s
MLR Muntele Rosu 80.11 316⇓iP P 03 45 56.7 +0.9
MLR Muntele Rosu 80.11 316 P P 03 45 56.4 +0.6
comp=Z,7.1nm,1.0s,baz=56,slow=6.6,SNR=20
BEL Belsk 80.12 323 eP P 03 45 56.7 +1.1
BEL Belsk 80.12 323 eP P 03 45 56.7 +1.1
KWP Kalwaria Pacla 80.13 321 eP P 03 45 56.1 +0.4
KWP pmax pmax
comp=Z,48nm,1.0s
KWP Kalwaria Pacla 80.13 321 eP P 03 45 56.5 +0.8
KWP Kalwaria Pacla 80.13 321⇑iP P 03 45 56.8 +1.1
KWP Kalwaria Pacla 80.13 321 eP P 03 45 56.1 +0.4
comp=Z,48nm,1.0s
PRD Provadia 80.20 313 ⇓P P 03 45 57.3 +1.1
SECR 80.24 315⇓iP P 03 45 58.1 +1.7
DOPR Dopca 80.24 316⇓iP P 03 45 57.9 +1.5
SULR 80.28 315⇑iP P 03 46 00.4 +3.8
ISP Isparta 80.40 307 ⇓P P 03 45 57.6 +0.1
ISP Isparta 80.40 307⇓iP P 03 45 57.6 +0.1
VOIR 80.69 316 ⇓P P 03 45 59.3 +0.4
VOIR 80.69 316⇓iP P 03 45 59.3 +0.4
KOLS Kolonicke sedl 80.71 320 eP P 03 45 59.4 +0.6
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 80.71 320 eP P 03 45 59.4 +0.6
UZH Uzhgorod 80.85 320 eP P 03 45 58.1 -1.4
UZH e 03 46 07.9
UZH eS S 03 56 00.7 -4.9
UZH e 04 01 17.9
UZH MLR MLR
comp=N,300nm,16.0s
UZH MLR MLR
comp=E,500nm,16.0s
UZH MLR MLR
comp=Z,200nm,16.0s
TRPA Tarpa 80.94 319⇑iP P 03 46 01.0 +1.0
ARR Arges 80.99 316⇓iP P 03 46 01.9 +1.4
CJR Cluj-Napoca 80.99 318 ⇑P P 03 46 01.9 +1.5
CJR Cluj-Napoca 80.99 318⇑iP P 03 46 01.9 +1.5
STHS Stebnicka Huta 81.06 321 eP P 03 46 01.4 +0.7
STHS pmax pmax
comp=Z,6.0nm,1.0s
STHS Stebnicka Huta 81.06 321 eP P 03 46 01.4 +0.7
JMB Yambol 81.07 313 ⇑P P 03 46 00.8 0.0
JMB Yambol 81.07 313⇑iP P 03 46 00.8 0.0
SZH Strazhica 81.13 314 eP P 03 46 01.9 +0.7
CRVS Cervenica-Dubn 81.19 320 eP P 03 46 02.4 +1.0
CRVS pmax pmax
comp=Z,41nm,2.1s
CRVS Cervenica-Dubn 81.19 320 eP P 03 46 02.4 +1.0
GKP Gorka Klasztor 81.25 326 eP P 03 46 02.3 +0.7
GKP Gorka Klasztor 81.25 326 eP P 03 46 02.3 +0.7
SUMG Summit 81.30 356 eP P 03 46 02.7 +0.7
SUMG pmax pmax
comp=Z,72nm,0.9s
SUMG Summit 81.30 356 i P P 03 46 03.2 +1.2
comp=Z,50nm,0.9s
SUMG Summit 81.30 356 eP P 03 46 02.7 +0.7
comp=Z,72nm,0.9s
BSD Bornholm Skovb 81.40 328 i P P 03 46 02.3 0.0
BSD pmax pmax
comp=Z,22nm,0.9s
BSD Bornholm Skovb 81.40 328 i P P 03 46 02.3 0.0
comp=Z,22nm,0.9s
OJC Ojcow 81.47 322 eP P 03 46 03.8 +0.9
OJC Ojcow 81.47 322 eP P 03 46 03.8 +0.9
LOT Lotru 81.49 317⇑iP P 03 46 04.7 +1.5
DRGR 81.49 318 ⇓P P 03 46 04.2 +1.1
DRGR 81.49 318⇓iP P 03 46 04.2 +1.1
NIE Niedzica 81.59 321 eP P 03 46 04.8 +1.3
NIE Niedzica 81.59 321 eP P 03 46 04.8 +1.3
DEV Deva 81.81 317 ⇑P P 03 46 06.5 +1.8
DEV Deva 81.81 317⇑iP P 03 46 06.5 +1.8
DIM Dimitrovgrad 81.95 313 eP P 03 46 06.9 +1.4
GZR Gura Zlata 82.13 317 ⇓P P 03 46 07.4 +0.9
GZR Gura Zlata 82.13 317⇓iP P 03 46 07.4 +0.9
KDZ Kurdzhali 82.22 313 ⇓P P 03 46 08.3 +1.4
KDZ Kurdzhali 82.22 313⇓iP P 03 46 08.3 +1.4
COP Copenhagen 82.25 329 eP P 03 46 09.1 +2.4
COP pmax pmax
comp=Z,24nm,0.9s
COP Copenhagen 82.25 329 i P P 03 46 09.1 +2.4
comp=Z,24nm,0.8s
LLD Lille Linde 82.55 329 i P P 03 46 10.0 +1.7
LLD Lille Linde 82.55 329 i P P 03 46 10.0 +1.7
OKC Ostrava-Krasne 82.58 322 eP P 03 46 09.0 +0.3
OKC e 03 46 21.7
OKC e 03 46 25.4
OKC MLR MLR
comp=Z,700nm,12.6s
OKC Ostrava-Krasne 82.58 322 eP P 03 46 09.0 +0.3
OKC ex x 03 46 21.7
OKC ex x 03 46 25.4
OKC AMS AMS 04 26 50.0
comp=Z,700nm,12.6s
PSZ Piszkesteto 82.59 320 ⇓P P 03 46 10.2 +1.3
PSZ Piszkesteto 82.59 320⇓iP P 03 46 10.2 +1.3
PSZ Piszkesteto 82.59 320 eP P 03 46 09.4 +0.5
comp=Z,14nm,1.1s
RZN Rozhen 82.66 313 eP P 03 46 10.7 +1.2
BZS Buzias 82.73 317 ⇑P P 03 46 09.9 +0.4
BZS Buzias 82.73 317⇑iP P 03 46 09.9 +0.4
VYHS Vyhne 82.90 321 eP P 03 46 11.5 +1.1
VYHS pmax pmax
comp=Z,12nm,1.0s
VYHS Vyhne 82.90 321 eP P 03 46 11.5 +1.1
MORC Moravsky Berou 82.95 322 eP P 03 46 11.1 +0.5
MORC pmax pmax
comp=Z,13nm,1.0s
MORC Moravsky Berou 82.95 322⇓iP P 03 46 11.8 +1.2
MORC Moravsky Berou 82.95 322 eP P 03 46 11.1 +0.5
comp=Z,13nm,1.0s
KSP Ksiaz 83.05 324 eP P 03 46 12.0 +0.9
KSP Ksiaz 83.05 324 eP P 03 46 12.2 +1.1
KRLC Kraliky 83.20 323 eP P 03 46 13.0 +1.0
KRLC e 03 46 27.6
KRLC Kraliky 83.20 323 eP P 03 46 13.0 +1.0
KRLC ex x 03 46 27.6
MUD Monsted U’grnd 83.25 331 i P P 03 46 12.4 +0.4
MUD pmax pmax
comp=Z,19nm,1.0s
MUD Monsted U’grnd 83.25 331 i P P 03 46 12.4 +0.4
comp=Z,19nm,0.9s
DPC Dobruska-Polom 83.30 323 eP P 03 46 13.5 +1.0
DPC Dobruska-Polom 83.30 323 eP P 03 46 13.5 +1.0
MMB Musomiste 83.36 313 ⇓P P 03 46 14.2 +1.3
MMB Musomiste 83.36 313 eP P 03 46 13.5 +0.6
MMB Musomiste 83.36 313⇓iP P 03 46 14.1 +1.2
UPC Upice 83.38 324 eP P 03 46 12.4 -0.4
UPC e 03 46 25.8
UPC Upice 83.38 324 eP P 03 46 12.4 -0.4
UPC ex x 03 46 25.8
RUE Ruedersdorf 83.44 326 eP P 03 46 13.9 +0.9
comp=Z,40nm,1.0s
KKB Krupnik 83.65 314 eP P 03 46 15.1 +0.7
SMOL Smolenice 83.69 321 eP P 03 46 16.6 +2.2
SMOL Smolenice 83.69 321 eP P 03 46 16.6 +2.2
VRAC Vranov 83.72 322⇓iP P 03 46 16.1 +1.5
VRAC Vranov 83.72 322 P P 03 46 15.1 +0.6
comp=Z,17nm,0.9s,baz=68,slow=4.5,SNR=13
VRAC LR LR 04 27 01.8
comp=Z,572nm,18.3s,baz=68,slow=38
PVCC Panska Ves 84.14 324 eP P 03 46 17.9 +1.2
PKSM Moragy 84.21 319 ⇑P P 03 46 17.7 +0.6
PKSM Moragy 84.21 319⇑iP P 03 46 17.7 +0.6
BRG Berggiesshubel 84.27 325 i P P 03 46 18.1 +0.8
comp=Z,15nm,1.2s
BRG e 03 46 30.2
comp=Z,22nm,1.4s
BRG
comp=N,486nm,18.0s

BRG
comp=E,579nm,12.2s
BRG
comp=Z,793nm,17.2s
BRG Berggiesshubel 84.27 325 *i* P P 03 46 18.1 +0.8
BRG *e* 03 46 30.2
BRG pmax pmax
comp=Z,15nm,1.2s
BRG MLR MLR
comp=N,486nm,18.0s
BRG MLR MLR
comp=E,579nm,12.2s
BRG MLR MLR
comp=Z,793nm,17.2s
TREC Trest 84.33 323 *e*P P 03 46 19.2 +1.5
TREC *e* 03 46 30.6
TREC MLR MLR
comp=Z,600nm,13.9s
TREC Trest 84.33 323 *e*P P 03 46 19.2 +1.5
TREC *e*x x 03 46 30.6
TREC AMS AMS 04 26 50.0
comp=Z,600nm,13.9s
I03D Drain, OR 84.44 44 P P 03 46 19.2 +0.9
baz=84
PRU Pruhonice 84.46 324 *e*P P 03 46 19.3 +1.0
PRU *e* 03 46 32.4
PRU MLR MLR
comp=Z,900nm,12.7s
PRU Pruhonice 84.46 324 *e*P P 03 46 19.3 +1.0
PRU *e*x x 03 46 32.4
PRU AMS AMS 04 28 20.0
comp=Z,900nm,12.7s
PRA Prague 84.47 324 P P 03 46 20.0 +1.7
CLL Collm 84.51 325⇑*i*P P 03 46 19.4 +0.9
CLL *i* 03 46 30.0
CLL pmax pmax
comp=Z,21nm,0.9s
CLL Collm 84.51 325⇑*i*P P 03 46 19.4 +0.9
comp=Z,21nm,0.9s
CLL *i* pP PcP 03 46 22.3 +0.2
CLL *i* sPcP 03 46 30.0
CLL *e* 03 46 34.0
CLL *e*PP PP 03 49 34.0 +0.5
CLL *e* 03 49 45.0
CLL LmH 04 21 00.0
comp=N,800nm,20.6s
CLL LmH 04 21 00.0
comp=E,800nm,21.1s
EDM Edmonton 84.66 32 *e*P P 03 46 18.9 -0.4
EDM Edmonton 84.66 32 *e*P P 03 46 18.9 -0.4
G05D Wamic, OR 84.87 42 P P 03 46 21.3 +0.8
baz=85
CONA Conrad Observa 84.88 321⇑*i*PcP P 03 46 21.9 +1.3
comp=E,22nm,1.3s,SNR=6.2
I04A Tendick Farm, 84.97 43 P P 03 46 21.5 +0.5
baz=85
ILULI Ilulissat 85.08 360 *i* P P 03 46 24.4 +3.4
ILULI pmax pmax
comp=Z,32nm,0.9s
ILULI Ilulissat 85.08 360 *i* P P 03 46 24.4 +3.4
comp=Z,32nm,0.9s
I05D Terrebonne, OR 85.34 43 P P 03 46 24.1 +1.2
baz=85
J04D Umpqua Nationa 85.44 44 P P 03 46 24.6 +1.0
baz=85
KHC Kasperske Hory 85.46 323 *e*P P 03 46 22.1 -1.3
KHC *e* 03 46 38.6
KHC MLR MLR
comp=Z,1µm,12.7s
KHC Kasperske Hory 85.46 323 *e*P P 03 46 22.1 -1.3
KHC *e*pP PcP 03 46 24.9 -1.5
KHC *e*x x 03 46 38.6
KHC AMS AMS 04 28 50.0
comp=Z,1µm,12.7s
KHC Kasperske Hory 85.46 323 *e*P P 03 46 24.4 +1.0
comp=Z,3.8nm,0.8s
GERES GERESS Array B 85.56 323 P P 03 46 24.3 +0.4
comp=Z,4.4nm,0.7s,baz=49,slow=4.9,SNR=19
GERES LR LR 04 27 59.6
comp=Z,672nm,18.0s,baz=40,slow=38
IDI Anoyia 85.59 307 P P 03 46 24.7 +0.3
comp=Z,21nm,1.0s,baz=32,slow=9.5,SNR=6.5
NEW Newport 85.62 38 P P 03 46 24.7 +0.4
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 85.62 38 P P 03 46 24.7 +0.4
comp=Z,3.8nm,0.9s,baz=300,slow=3.3,SNR=7.4
NEW Newport 85.62 38 P P 03 46 24.6 +0.3
baz=85
YBH Yreka Blue Hor 85.85 45 P P 03 46 26.6 +1.0
YBH pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 85.85 45 P P 03 46 26.6 +1.0
comp=Z,4.4nm,1.0s,baz=270,slow=6.1,SNR=5.0
M02C Callahan 85.93 46 P P 03 46 27.1 +1.1
baz=86
J05D Fort Rock, OR 85.96 43 P P 03 46 27.3 +1.2
baz=86
K04D Chiloquin, OR 85.99 44 P P 03 46 27.1 +0.8
baz=86
GRF Grafenberg Arr 86.38 325 *e*P P 03 46 28.8 +0.9
comp=Z,30nm,1.1s
M04C Macdoel 86.38 45 P P 03 46 29.1 +0.9
baz=86
SFJD Kangerlussuaq 87.31 360 P P 03 46 32.3 +0.3
SFJD pmax pmax
comp=Z,8.0nm,0.6s
SFJD Kangerlussuaq 87.31 360 P P 03 46 32.3 +0.3
comp=Z,8.1nm,0.6s,baz=7.6,slow=4.7,SNR=5.3
ABTA Abfaltersbach 87.43 322 *i* pP P 03 46 36.3 +3.2
comp=Z,18nm,0.9s,SNR=7.3
JTMT Jette 87.47 37 *e*P P 03 46 34.3 +0.9
comp=Z,3.3nm,1.0s
WTTA Wattenberg 87.61 323 *i* pP P 03 46 38.3 +4.1
comp=Z,22nm,0.9s,SNR=5.3
SWMT Swartz Lake 87.77 37 *e*P P 03 46 35.0 +0.2
comp=Z,2.7nm,0.9s
MOTA Moosalm 87.85 323⇑*i*PcP P 03 46 35.4 +0.2
comp=Z,15nm,0.9s,SNR=7.7
STU Stuttgart 87.99 325 *e*P P 03 46 33.9 -1.8
STU pmax pmax
comp=Z,12nm,0.7s
STU Stuttgart 87.99 325 *e*P P 03 46 33.9 -1.8
comp=Z,12nm,0.7s
SLMT Seeley Lake 88.21 37 *e*P P 03 46 37.4 +0.4
comp=Z,7.5nm,1.0s
MSO Missoula 88.21 38 P P 03 46 37.6 +0.7
baz=88
FCC Fort Churchill 88.47 21 *e*P P 03 46 37.5 -0.2
FCC Fort Churchill 88.47 21 *e*P P 03 46 37.5 -0.2
FFC Flin Flon 88.69 27 P P 03 46 39.2 +0.3
comp=Z,104nm,1.0s,SNR=8.6
FFC Flin Flon 88.69 27 *e*P P 03 46 39.2 +0.3
FFC pmax pmax
comp=Z,17nm,0.9s
FFC Flin Flon 88.69 27 *e*P P 03 46 39.2 +0.3
comp=Z,17nm,0.9s
DAVOX Davos/Dischmat 88.86 323 P P 03 46 40.2 +0.1
comp=Z,14nm,0.6s,baz=192,slow=6.5,SNR=5.8
DAVOX LR LR 04 30 07.8
comp=Z,634nm,18.6s,baz=10.0,slow=38
WLF Walferdange 88.97 327 *e*P P 03 46 39.4 -0.9
WLF pmax pmax
comp=Z,16nm,1.0s
WLF Walferdange 88.97 327 *e*P P 03 46 39.4 -0.9
comp=Z,16nm,1.0s
EKA Eskdalemuir Ar 89.11 335 P P 03 46 40.6 -0.2
EKA pmax pmax
comp=Z,3.0nm,0.7s
EKA Eskdalemuir Ar 89.11 335 P P 03 46 40.6 -0.2
comp=Z,3.4nm,0.7s,baz=19,slow=4.6,SNR=3.5
CDF Champ du Feu 89.21 325 *e*P P 03 46 45.7 +4.1
comp=Z,27nm,1.0s
CDF Champ du Feu 89.21 325 *e*P P 03 46 45.7 +4.1
CDF pmax pmax
comp=Z,27nm,1.0s
CDF Champ du Feu 89.21 325 *e*P P 03 46 45.7 +4.1
comp=Z,27nm,1.0s
TUE Stuetta 89.33 323 *e*P P 03 46 41.5 -0.9
comp=Z,17nm,0.8s
A19A Klindworth Far 89.62 34 P P 03 46 44.0 +0.5
baz=89
EGMT Eagleton 89.69 35 P P 03 46 44.4 +0.5
baz=90
HLID Hailey 89.90 40 P P 03 46 45.9 +0.9
baz=90

A20A Cobblestone Ra 90.06 33 P P 03 46 46.5 +1.0
baz=90
C19A Slack Wire Ran 90.24 35 P P 03 46 47.5 +1.1
baz=90
A21A Bergtoll Ranch 90.47 33 P P 03 46 48.0 +0.5
baz=90
NVAR Mina Array Bea 90.48 46 P P 03 46 48.2 +0.3
comp=Z,2.0nm,0.8s,baz=285,slow=5.3,SNR=11
D19A Cripps Ranch, 90.70 35 P P 03 46 49.4 +0.8
baz=90
C20A Veseth Ranch, 90.79 34 P P 03 46 49.8 +0.8
baz=91
A22A Carney Farms, 90.96 32 P P 03 46 50.2 +0.5
baz=91
D20A Manuel Ranch, 91.13 35 P P 03 46 50.9 +0.4
baz=91
C21A Desert Coulee 91.17 34 P P 03 46 51.2 +0.5
baz=91
E19A Rath Farm, Rou 91.21 36 P P 03 46 51.6 +0.6
baz=91
LPL La Plagne 91.35 323 *e*P P 03 46 55.3 +3.5
LPL La Plagne 91.35 323 *e*P P 03 46 55.3 +3.5
LPL La Plagne 91.35 323 *e*P P 03 46 55.3 +3.5
LPG La Plagne 91.35 323 *e*P P 03 46 54.8 +2.9
comp=Z,17nm,0.9s
LPG La Plagne 91.35 323 *e*P P 03 46 54.8 +2.9
LPG pmax pmax
comp=Z,17nm,0.9s
LPG La Plagne 91.35 323 *e*P P 03 46 54.8 +2.9
comp=Z,17nm,0.9s
F19A Roth Farm, Mol 91.52 36 P P 03 46 52.9 +0.5
baz=91
E20A Meyer Farm, Mu 91.52 35 P P 03 46 52.9 +0.5
baz=91
KMBO Kilima Mbogo 91.64 270 P P 03 46 54.3 +0.6
KMBO pmax pmax
comp=Z,2.0nm,1.0s
KMBO Kilima Mbogo 91.64 270 P P 03 46 54.2 +0.6
comp=Z,1.7nm,1.0s,baz=23,slow=12,SNR=3.7
KMBO Kilima Mbogo 91.64 270 *e*P P 03 46 54.5 +0.8
comp=Z,15nm,1.6s
D21A La Casta Ranch 91.73 34 P P 03 46 53.7 +0.3
baz=92
B23A Brockton 91.77 32 P P 03 46 54.0 +0.5
baz=92
C22A Vida 91.83 33 P P 03 46 54.1 +0.4
baz=92
I17A Pilgrim Ck. 91.87 38 P P 03 46 56.0 +1.8
baz=92
H18A Shoshone NF, C 91.89 37 P P 03 46 55.7 +1.3
baz=92
A24A Westby 91.92 32 P P 03 46 54.8 +0.7
baz=92
D22A Cohagen 92.09 34 P P 03 46 56.0 +1.1
baz=92
DGMT Dagmar 92.15 32 P P 03 46 55.8 +0.7
baz=92
H19A Powell 92.27 37 P P 03 46 57.1 +1.1
baz=92
R11A Troy Canyon, C 92.27 45 P P 03 46 57.1 +1.0
baz=92
FURC Furnace Creek, 92.53 47 P P 03 46 58.2 +1.1
baz=92
LRMC Laurel Mountai 92.55 48 P P 03 46 57.5 +0.1
baz=92
D23A Lindsay 92.56 33 P P 03 46 58.2 +1.0
baz=92
E22A Miles City 92.69 34 P P 03 46 57.9 +0.2
baz=92
C24A Savage 92.69 33 P P 03 46 57.9 +0.2
baz=92
B25A Knox Farm, Ray 92.78 32 P P 03 46 57.7 -0.4
baz=93
DUG Dugway 92.89 42 *e*P P 03 46 58.9 0.0
DUG pmax pmax
comp=Z,3.0nm,1.0s
DUG Dugway 92.89 42 *e*P P 03 46 58.9 0.0
comp=Z,2.6nm,1.0s
DUG Dugway 92.89 42 P P 03 46 58.8 -0.2
baz=93
H20A Greybull 92.92 37 P P 03 46 58.9 0.0
baz=93
F22A Rosebud 92.97 35 P P 03 46 59.7 +0.6
baz=93
PDAR Pinedale Array 93.18 39 P P 03 47 00.6 +0.3
comp=Z,1.9nm,0.9s,baz=355,slow=0.7,SNR=10
I20A Worland 93.20 37 P P 03 47 00.5 +0.2
baz=93
GSC Goldstone 93.24 48 P P 03 47 01.7 +1.1
baz=93
BFSC Mount Baldy Ra 93.26 49 P P 03 47 01.8 +1.0
baz=93
E24A Baker 93.42 33 P P 03 47 02.2 +1.0
baz=93
F23A Volborg 93.45 35 P P 03 47 01.7 +0.4
baz=93
C26A Wahner Farm, P 93.60 31 P P 03 47 02.3 +0.4
baz=93
J20A Shoshoni 93.62 38 P P 03 47 03.5 +1.2
baz=93
A28A Rude Farm, Bot 93.65 30 P P 03 47 03.4 +1.3
baz=93
I21A Big Trails, Te 93.75 37 P P 03 47 03.4 +0.6
baz=94
TUQ Turquoise Moun 93.75 48 P P 03 47 03.7 +0.7
baz=94
G23A Biddle 93.81 35 P P 03 47 03.6 +0.5
baz=94
B28A Dugan Ranch, T 93.95 30 P P 03 47 04.2 +0.8
baz=94
J21A Lysite 93.97 37 P P 03 47 04.8 +0.8
baz=94
GMRC Granite Mounta 94.31 48 P P 03 47 06.7 +1.1
baz=94
PFO Pinyon Flat Ob 94.44 49 P P 03 47 06.6 +0.4
PFO pmax pmax
comp=Z,9.0nm,1.0s
PFO Pinyon Flat Ob 94.44 49 P P 03 47 06.6 +0.4
comp=Z,8.9nm,0.9s,baz=338,slow=5.9,SNR=4.8
PFO Pinyon Flat Ob 94.44 49 P P 03 47 06.9 +0.7
baz=94
J22A Midwest 94.45 37 P P 03 47 06.7 +0.6
baz=94
A30A Hoffart Farm, 94.49 29 P P 03 47 06.5 +0.6
baz=94
K21A Alcova 94.56 38 P P 03 47 07.4 +0.8
baz=94
B30A Myrvik Farm, E 94.85 29 P P 03 47 08.0 +0.4
baz=95
IRM Iron Mountain 95.01 48 P P 03 47 09.8 +1.1
baz=95
G26A Maurine 95.16 33 P P 03 47 09.8 +0.7
baz=95
ESDC Sonseca Array 101.08 325 P Pdif 03 47 36.8 +1.0
comp=Z,1.4nm,0.8s,baz=358,slow=6.1,SNR=3.3
SYO Syowa Base 113.61 203⇑*e*PP PP 03 53 17.8 +2.1
DBIC Dimbokro 124.33 299 *e*PKIKP PKPdf 03 52 45.0 -0.3
DBIC Dimbokro 124.33 299 PKP PKPdf 03 52 45.4 0.0
comp=Z,1.9nm,0.7s,baz=153,slow=3.8,SNR=5.6
DBIC Dimbokro 124.33 299 *e*PKPdf PKPdf 03 52 45.0 -0.3
DBIC PKP PKPdf 03 52 45.4 0.0
SDV Santo Domingo 140.64 31 *e*PKPdf PKPdf 03 53 15.6 -0.6
ATAH Atahualpa 148.22 59 PKPbc PKPbc 03 53 33.6 +0.7
comp=Z,12nm,0.9s,baz=312,slow=3.9,SNR=4.1
SAML Samuel 159.73 35 *e*PKPdf PKPdf 03 53 45.6 +0.3
SAML *e*PKPab PKPab 03 54 23.1 -0.7
LVC Limon Verde 163.75 82 *e*PKPdf PKPdf 03 53 49.9 +0.4
LVC *e*PKPab PKPab 03 54 42.3 +0.5
CPUP Villa Florida 174.72 95 *e*PKIKP PKPdf 03 53 53.8 -2.0
CPUP *e* 03 55 29.7
CPUP Villa Florida 174.72 95 *e*PKPdf PKPdf 03 53 53.8 -2.0
CPUP *e*PKPab PKPab 03 55 29.7 -0.3

KRSC **28** *03:34:02.8±1.6, 48.°42N×155.°31E, h158km±21km, ML4.6*
SKHL **28** *03:34:02.5±0.5, 48.°66N×154.°06E, h131km±1km, mb4.7/7, mbh5.3/5, Ms5.1/1*
ISCJB **28** *03:34:03.0±0.4, 48.°91N±0.°05×153.°71E±0.°06, h132km±3km, mb4.2/59, Error ellipse: s-maj=9.5km s-min=3.4km az=143.3*
MOS **28** *03:34:04.5±1.1, 48.°81N×153.°73E, h157km, mb4.5/25, Error ellipse: s-maj=13.6km s-min=8.0km az=68.4*
NEIC **28** *03:34:05.4±0.7, 48.°93N×153.°54E, h141km±6km, mb4.4/27, Error ellipse: s-maj=8.5km s-min=4.7km az=152.0*
IDC **28** *03:34:05.4±2.2, 49.°04N×153.°46E, h137km±20km, mb3.9/21, mb1 4.1/24, mb1mx3.9/61, mbtmp4.3/24, Error ellipse: s-maj=17.8km s-min=11.5km az=159.0*
ISC 28 03:34:04.1±0.5, **48.°83N**±0.°06×**153.°79E**±0.°05, **h132**km±3km, **n186**, σ1.°33/217, **mb4.4**/59, **2C, Kuril Islands**

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

SKR Severo-Kuril's 2.39 38 *e*PN Pn 03 34 39.0 -4.0
SKR pmax pmax
comp=N,60nm,0.5s
SKR pmax pmax
comp=E,60nm,0.5s
SKR pmax pmax
comp=Z,80nm,0.5s
SKR Severo-Kuril's 2.39 38 *e*P Pn 03 34 42.4 -0.6
SKR *e*S Sn 03 35 12.8 -0.1
SKR Severo-Kuril's 2.39 38 *e*P Pn 03 34 42.3 -0.7
SKR AMB AMB 03 34 47.3
comp=Z,142nm,0.7s
SKR *e*S Sn 03 35 12.0 -0.9
SKR A A 03 35 17.4
comp=Z,460nm,0.4s
SKR A A 03 35 17.4
comp=Z,370nm,0.4s
PAU Pauzhetka 3.28 35 PN Pn 03 34 53.4 -1.0
PAU S Sn 03 35 32.9 -0.3
PAU Pauzhetka 3.28 35 *e*P Pn 03 34 53.4 -1.0
PAU *e*S Sn 03 35 32.9 -0.3
PAU Pauzhetka 3.28 35 *e*P Pn 03 34 54.1 -0.3
PAU AMB AMB 03 35 01.7
comp=Z,47nm,0.6s
PAU *e*S Sn 03 35 33.2 0.0
PAU A A 03 35 35.8
comp=Z,94nm,0.4s
MIPR Malaya Ipel'ka 3.94 28 *e*P Pn 03 35 03.3 +0.3
ASAK Asacha 4.42 35 *e*P Pn 03 35 09.5 0.0
ASAK S Sn 03 35 59.2 -1.0
MTVR Mutnovka 4.61 36 *e*P Pn 03 35 11.3 -0.7
MTVR *e*S Sn 03 36 03.2 -1.6
APC Apacha 4.62 26 *e*P Pn 03 35 12.9 +0.8
RUS Russkaya 4.70 38 PN Pn 03 35 11.0 -2.1
RUS Russkaya 4.70 38 *e*P Pn 03 35 11.0 -2.1
RUS *e*S Sn 03 36 02.7 -4.0
PEA0B Petropavlovsk- 4.95 28 *e*Pn Pn 03 35 16.8 +0.3
PETK Petropavlovsk- 4.95 28 PN Pn 03 35 17.0 +0.5
PETK pmax pmax
comp=Z,13nm,0.3s
PETK Petropavlovsk- 4.95 28 P Pn 03 35 16.9 +0.5
comp=Z,13nm,0.3s,baz=193,slow=14,SNR=88
PET Petropavlovsk 5.21 34 *e*PN Pn 03 35 20.1 +0.2
PET *e*S Sn 03 36 17.4 -1.5
PET pmax pmax
comp=Z,25nm,0.5s
PET smax smax
comp=N,85nm,0.4s
PET smax smax
comp=E,80nm,0.5s
PET Petropavlovsk 5.21 34 *e*P Pn 03 35 19.7 -0.2
PET *e*S Sn 03 36 17.1 -1.8
PET Petropavlovsk 5.21 34 *e*P Pn 03 35 19.6 -0.3
PET AMB AMB 03 35 22.5
comp=E,24nm,0.5s
PET *e*S Sn 03 36 17.1 -1.8
PET A A 03 36 19.2
comp=E,75nm,0.6s
KOK Koryaka 5.41 32 *e*P Pn 03 35 23.3 +0.5
KUR Kuril'sk 5.42 231⇑*i*PN Pn 03 35 22.5 -0.2
KUR *i* S Sn 03 36 23.3 -0.7
KUR pmax pmax
comp=Z,18nm,0.2s
KUR pmax pmax
comp=E,47nm,0.6s
KUR pmax pmax
comp=N,16nm,0.3s
KUR smax smax
comp=E,65nm,0.8s
KUR smax smax
comp=N,72nm,0.4s
KUR Kuril'sk 5.42 231 *e*P Pn 03 35 22.5 -0.2
KUR AMB AMB 03 35 37.3
comp=N,17nm,0.4s
KUR AMB AMB 03 35 37.3
comp=N,19nm,0.4s
KUR AMB AMB 03 35 37.3
comp=N,47nm,0.4s
KUR *e*S Sn 03 36 23.3 -0.7
KUR A A 03 36 32.7
comp=N,73nm,0.6s
KUR A A 03 36 32.7
comp=N,65nm,0.6s
UGLR Uglovaya 5.42 34 *e*P Pn 03 35 22.7 -0.1
UGLR S Sn 03 36 20.9 -3.2
AVH Avacha 5.43 33 *e*P Pn 03 35 23.8 +0.8
KRX Arik 5.47 32 *e*P Pn 03 35 23.8 +0.2
KRX S Sn 03 36 23.7 -1.9
SDLR Sedlovina 5.49 34 *e*P Pn 03 35 23.2 -0.6
SDLR *e*S Sn 03 36 23.5 -2.5
GNL Ganaly 5.53 27 *e*P Pn 03 35 25.0 +0.7
SHO Shikotan 6.91 227 *e*P Pn 03 35 40.0 -2.8
SHO *e*S Sn 03 36 54.8 -5.2
SHO A A 03 36 58.6
comp=N,85nm,0.6s
YUK Yuzh-Kuril'sk 7.28 232 PN Pn 03 35 48.9 +1.1
YUK *e*S Sn 03 37 07.9 -1.0
YUK pmax pmax
comp=E,178nm,0.3s
YUK pmax pmax
comp=Z,359nm,0.3s
YUK pmax pmax
comp=N,74nm,0.1s
YUK MLR MLR
comp=N,765nm,5.0s
YUK MLR MLR
comp=E,504nm,5.0s
YUK MLR MLR
comp=Z,679nm,5.0s
YUK Yuzh-Kuril'sk 7.28 232 *e*P Pn 03 35 48.9 +1.1
YUK AMB AMB 03 35 54.5
comp=Z,36nm,0.3s
YUK *e*S Sn 03 37 07.9 -1.0
YUK AMS AMS 03 38 59.4
comp=Z,1µm,2.0s
YUK AMS AMS 03 38 59.4
comp=Z,500nm,2.0s
YUK AMS AMS 03 38 59.4
comp=Z,700nm,2.0s
TYV Tymovskoe 7.49 290 *e*P Pn 03 35 51.0 +0.5
TYV AMB AMB 03 35 54.5
comp=Z,7.0nm,0.8s
TYV AMB AMB 03 35 54.5
comp=Z,15nm,0.8s
TUMR Tumrok 7.56 29 *e*P Pn 03 35 52.1 +0.5
MKZ Mys Kozlova 7.56 38 PN Pn 03 35 49.5 -2.0
MKZ Mys Kozlova 7.56 38 P Pn 03 35 49.5 -2.0
MKZ *e*S Sn 03 37 07.5 -8.1
YSS Yuzh-Sakhalins 7.65 260 *i* PN Pn 03 35 52.7 -0.1
YSS Yuzh-Sakhalins 7.65 260 *e*Pn Pn 03 35 53.8 +1.0
YSS Yuzh-Sakhalins 7.65 260 *e*P Pn 03 35 53.0 +0.2
UGL Uglegorsk 7.73 276 *e*P Pn 03 35 57.0 +3.2
UGL AMB AMB 03 35 58.0
comp=Z,67nm,1.0s
ASAJ Asahikawa 9.05 243 PN Pn 03 36 11.6 0.0
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 9.05 243 P Pn 03 36 11.6 0.0
comp=Z,0.9nm,0.3s,baz=67,slow=15,SNR=14
KBTR Krutoberegovo 9.21 33 PN Pn 03 36 11.0 -2.6
KBTR Krutoberegovo 9.21 33 *e*P Pn 03 36 11.0 -2.6
KBTR *e*S Sn 03 37 46.7 -8.7
EKMR Ekimchan 13.79 296 *e*P Pn 03 37 12.5 -1.5
EKMR AMB AMB 03 37 16.9
comp=Z,7.0nm,0.5s
KLR Kul'dur 14.46 280 *e*P Pn 03 37 23.0 +0.6
KLR Kul'dur 14.46 280 *e*P Pn 03 37 23.0 +0.6
KLR AMS AMS 03 51 11.5
comp=Z,4µm,12.0s
USRK Ussuriysk Arra 15.69 261 P Pn 03 37 36.8 -1.0
comp=Z,0.4nm,0.3s,baz=60,slow=12,SNR=7.9
YAK Yakutsk 18.87 323 *e*P P 03 38 14.3 +0.5
YAK pmax pmax
comp=Z,46nm,0.9s
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=E,25nm,1.5s

YAK Yakutsk 18.87 323 eP P 03 38 14.6 +0.8
comp=E,70nm,0.7s
YAK Yakutsk 18.87 323 eP P 03 38 14.6 +0.8
CLNS Chul'man 19.09 306 eP Pn 03 38 20.4 +1.8
CLNS pmax pmax
comp=Z,23nm,0.8s
CLNS pmax pmax
comp=E,15nm,1.0s
CLNS pmax pmax
comp=N,14nm,1.2s
BILL Bilibino 20.27 14 eP P 03 38 28.3 -0.5
BILL pmax pmax
comp=Z,3.0nm,0.6s
BILL Bilibino 20.27 14 eP P 03 38 28.3 -0.5
comp=Z,3.0nm,0.6s
BILL Bilibino 20.27 14 eP P 03 38 28.9 +0.1
TIK Tiksi 25.61 342 eP P 03 39 20.8 +0.2
TIXI Tiksi 25.62 342⇑eP P 03 39 20.8 +0.1
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 25.62 342 eP P 03 39 19.4 -1.4
TNA Tin City 26.07 36 eP P 03 39 25.8 +1.0
comp=Z,14nm,1.2s
TNA Tin City 26.07 36 eP P 03 39 25.8 +1.0
BJI Beijing 28.02 266 P P 03 39 46.8 +4.3
BJI pmax pmax
comp=Z,27nm,1.4s
BJI LR LR
comp=Z,580nm,17.2s
BJI LR LR
comp=Z,1μm,15.5s
BJI LR LR
comp=Z,310nm,14.5s
HHC Hu-ho-hao-te 30.66 271 eP P 03 40 06.8 +0.8
HHC pP pP 03 40 34.8 +0.4
HHC sP sP 03 40 52.5 +2.9
HHC PcP PcP 03 43 01.0 +0.2
HHC S S 03 44 56.5 -2.2
HHC pmax pmax
comp=Z,39nm,0.6s
HHC pmax pmax
comp=Z,440nm,6.3s
H11N2 WAKE ISLAND Hy 30.89 155 T T 04 12 18.1
baz=342,slow=76,SNR=19
H11N1 WAKE ISLAND Hy 30.90 155 T T 04 12 05.7
baz=342,slow=76,SNR=37
H11N3 WAKE ISLAND Hy 30.90 155 T T 04 12 19.2
baz=342,slow=76,SNR=18
NJ2 Nanjing 31.09 250 eP P 03 40 11.3 +1.6
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
TLY Talaya 31.68 294 eP P 03 40 14.9 +0.1
IM04 Indian Mountai 31.82 38 eP P 03 40 16.0 +0.2
H11S1 WAKE ISLAND Hy 32.00 156 T T 04 13 35.6
baz=343,slow=76,SNR=116
H11S3 WAKE ISLAND Hy 32.01 156 T T 04 13 41.5
baz=343,slow=76,SNR=123
H11S2 WAKE ISLAND Hy 32.02 156 T T 04 13 42.0
baz=343,slow=76,SNR=96
KDAK Kodiak Island 32.47 53 iP P 03 40 21.2 -0.3
KDAK Kodiak Island 32.47 53 eP P 03 40 21.2 -0.3
COLD Coldfoot 33.37 36 eP P 03 40 29.9 +0.6
comp=Z,16nm,0.5s
MCK McKinley 33.79 42 eP P 03 40 33.3 +0.3
MCK pmax pmax
comp=Z,14nm,1.3s
MCK McKinley 33.79 42 eP P 03 40 33.3 +0.3
comp=Z,14nm,1.3s
MCK McKinley 33.79 42 eP P 03 40 33.3 +0.3
COLA College 34.24 40 eP P 03 40 37.0 +0.2
COLA pmax pmax
comp=Z,11nm,0.7s
COLA College 34.24 40 eP P 03 40 37.0 +0.2
comp=Z,11nm,0.7s
COLA College 34.24 40 eP P 03 40 37.0 +0.2
ILAR Eielson Array 34.65 40 P P 03 40 40.9 +0.5
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 34.65 40 P P 03 40 40.9 +0.5
comp=Z,3.1nm,0.8s,baz=260,slow=5.7,SNR=36
XAN Xi'an 36.19 263 P P 03 40 45.0 -8.9
XAN pmax pmax
comp=Z,4.0nm,1.1s
EGAK Eagle 37.10 40 eP P 03 41 01.7 +0.4
comp=Z,5.3nm,0.8s
DAWY Dawson 37.96 41 eP P 03 41 08.3 -0.2
LZH Lanzhou 38.32 270 eP P 03 41 18.0 +6.0
LZH pP pP 03 41 46.0 +4.9
LZH sP sP 03 42 01.3 +5.2
LZH pmax pmax
comp=Z,64nm,1.6s
LZH pmax pmax
comp=Z,150nm,8.0s
CD2 Chengdu 41.54 263 eP P 03 41 39.5 +1.0
CD2 pP pP 03 42 08.0 0.0
CD2 sP sP 03 42 22.5 -0.4
CD2 PP PnPn 03 43 20.3 -2.8
CD2 PcS PcS 03 47 26.0 +0.9
CD2 S S 03 47 44.8 +0.4
CD2 sS sS 03 48 34.5 -1.1
CD2 SS SS 03 50 48.3 -5.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.8s
ZALV Zalesovo Beam 41.80 304 P P 03 41 37.4 -2.9
comp=Z,7.2nm,0.6s,baz=68,slow=6.4,SNR=19
GYA Guiyang 42.64 256 eP P 03 41 49.0 +1.4
GYA pmax pmax
comp=Z,10.0nm,0.9s
WMQ Urumqi 44.63 290 eP P 03 42 05.3 +2.1
WMQ pP pP 03 42 34.0 +0.9
WMQ sP sP 03 42 48.5 +0.6
WMQ PcP PcP 03 43 46.5 +2.9
WMQ PP PP 03 43 52.3 +2.6
WMQ PcS PcS 03 47 39.5 +2.2
WMQ S S 03 48 31.0 +1.7
WMQ sS sS 03 49 20.0 -1.0
WMQ SS ScS 03 51 46.0 -0.9
WMQ pmax pmax
comp=Z,13nm,1.2s
WMQ pmax pmax
comp=Z,160nm,4.4s
WMQ LR LR
comp=Z,790nm,10.2s
WMQ LR LR
comp=Z,970nm,11.4s
WMQ LR LR
comp=Z,370nm,13.4s
KMI Kunming 46.09 258 P P 03 42 18.0 +2.8
KMI pmax pmax
comp=Z,10.0nm,0.8s
RES Resolute Bay 48.72 19 eP P 03 42 34.6 +0.1
RES pmax pmax
comp=Z,4.0nm,0.8s
RES Resolute Bay 48.72 19 eP P 03 42 34.6 +0.1
comp=Z,4.2nm,0.8s
RES Resolute Bay 48.72 19 eP P 03 42 34.6 +0.1
YKA Yellowknife Ar 48.99 38 P P 03 42 37.6 +0.8
YKA 03 43 59.1
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 48.99 38 P P 03 42 37.6 +0.8
comp=Z,4.2nm,0.6s,baz=298,slow=7.0,SNR=69
YKA PcP PcP 03 43 59.1 +0.5
comp=Z,0.5nm,0.6s,baz=305,slow=3.6,SNR=6.6
BVAR Borovoye Array 49.91 308 P P 03 42 42.0 -1.9
BVAR Borovoye Array 49.91 308 P P 03 42 42.0 -1.9
comp=Z,15nm,0.7s,baz=57,slow=7.4,SNR=42
BVAR PcP PcP 03 44 01.8 -0.3
comp=Z,2.7nm,0.4s,baz=54,slow=2.3,SNR=7.0
SPITS Spitsbergen Ar 50.65 350 PcP PcP 03 44 04.4 -0.1
comp=Z,4.5nm,0.7s,baz=110,slow=6.6,SNR=5.2
CHTO Chiang Mai 53.06 256 eP P 03 43 06.9 -0.8
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 53.06 256 eP P 03 43 06.9 -0.8
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 53.32 255 P P 03 43 09.6 -0.1
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 53.32 255 P P 03 43 09.6 -0.1
comp=Z,1.6nm,0.7s,baz=35,slow=5.4,SNR=5.4
AAK Ala-Archa 53.34 295 eP P 03 43 09.4 -0.3
AAK pmax pmax
comp=Z,16nm,1.1s
AAK Ala-Archa 53.34 295 eP P 03 43 07.9 -1.8
comp=Z,9.9nm,1.2s
AAK Ala-Archa 53.34 295 eP P 03 43 09.4 -0.3
ARU Arti 53.80 317 eP P 03 43 14.4 +1.8
EDM Edmonton 54.56 47 eP P 03 43 19.3 +1.1
EDM Edmonton 54.56 47 eP P 03 43 19.3 +1.1
NEW Newport 55.57 54 eP P 03 43 26.0 +0.4
NEW pmax pmax
comp=Z,2.0nm,0.8s
NEW Newport 55.57 54 eP P 03 43 26.0 +0.4
comp=Z,1.6nm,0.8s
NEW Newport 55.57 54 eP P 03 43 26.0 +0.4
ARCES ARCESS Array B 56.04 341 P P 03 43 27.2 -1.4
ARCES 03 44 25.4
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 56.04 341 P P 03 43 27.2 -1.4
comp=Z,6.1nm,0.9s,baz=45,slow=5.7,SNR=5.6
ARCES PcP PcP 03 44 25.4 +0.2
comp=Z,2.9nm,0.8s,baz=50,slow=6.0,SNR=3.8
BSMT Bassoo Peak 57.06 53 eP P 03 43 38.3 +1.9
YBMT Yellow Bay 57.47 53 eP P 03 43 40.7 +1.6
SLMT Seeley Lake 58.13 53 eP P 03 43 45.2 +1.4
MSO Missoula 58.15 54 eP P 03 43 45.2 +1.4
comp=Z,7.1nm,1.3s
PMG Port Moresby 58.27 188 eP P 03 43 43.8 -1.0
PMG pmax pmax
comp=Z,6.0nm,0.8s
PMG Port Moresby 58.27 188 eP P 03 43 43.8 -1.0
comp=Z,5.9nm,0.8s
WVOR Wild Horse Val 58.31 60 eP P 03 43 45.9 +0.8
WVOR pmax pmax
comp=Z,2.0nm,0.8s
WVOR Wild Horse Val 58.31 60 eP P 03 43 45.9 +0.8
comp=Z,2.2nm,0.8s
CHMT Chamberlain Mo 58.46 53 eP P 03 43 47.2 +1.1
FFC Flin Flon 58.86 41 eP P 03 43 49.6 +1.1
FFC pmax pmax
comp=Z,9.0nm,0.7s
FFC Flin Flon 58.86 41 eP P 03 43 49.6 +1.1
comp=Z,9.0nm,0.7s
FFC Flin Flon 58.86 41 eP P 03 43 49.6 +1.1
FCC Fort Churchill 59.28 34 eP P 03 43 51.4 +0.1
FCC Fort Churchill 59.28 34 eP P 03 43 51.4 +0.1
comp=Z,0.2nm,0.8s
FCC Fort Churchill 59.28 34 eP P 03 43 51.8 +0.5
LRM Limekiln Ridge 59.59 54 eP P 03 43 55.3 +1.3
JOF Joensuu 59.68 333 eP P 03 43 52.0 -2.0
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 59.68 333 ep P 03 43 52.0 -2.0
comp=Z,1.0nm,0.3s
HLID Hailey 59.98 57 eP P 03 43 57.8 +1.2
comp=Z,2.1nm,0.9s
BOZ Bozeman (W) 60.14 54 eP P 03 43 59.5 +1.8
BOZ pmax pmax
comp=Z,6.0nm,0.6s
BOZ Bozeman (W) 60.14 54 eP P 03 43 59.5 +1.8
comp=Z,5.9nm,0.6s
NVAR Mina Array Bea 61.08 64 P P 03 44 05.5 +1.3
comp=Z,0.8nm,0.5s,baz=292,slow=7.9,SNR=7.6
KAF Kangasniemi 61.75 335 eP P 03 44 05.7 -2.3
KAF Kangasniemi 61.75 335 ep P 03 44 05.7 -2.3
comp=Z,0.4nm,0.3s
FINES FINESS Array B 62.36 335 P P 03 44 11.1 -1.0
FINES 03 44 49.5
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 62.36 335 P P 03 44 11.1 -1.0
comp=Z,1.6nm,0.3s,baz=41,slow=6.9,SNR=39
FINES PcP PcP 03 44 49.5 -0.9
comp=Z,1.1nm,0.4s,baz=69,slow=4.2,SNR=7.9
HWUT Hardware Ranch 62.85 57 eP P 03 44 17.2 +1.3
comp=Z,3.3nm,0.9s
SFJD Kangerlussuaq 63.02 11 P P 03 44 16.0 -0.4
SFJD pmax pmax
comp=Z,3.0nm,0.3s
SFJD Kangerlussuaq 63.02 11 P P 03 44 16.0 -0.4
comp=Z,2.8nm,0.3s,baz=358,slow=6.9,SNR=5.6
DUG Dugway 63.10 59 eP P 03 44 19.4 +1.8
DUG pmax pmax
comp=Z,13nm,1.5s
DUG Dugway 63.10 59 eP P 03 44 19.4 +1.8
comp=Z,12nm,1.5s
BW06 Boulder Array 63.16 55 eP P 03 44 19.0 +1.0
comp=Z,4.5nm,0.8s
PDAR Pinedale Array 63.17 55 P P 03 44 19.2 +1.2
comp=Z,4.0nm,0.8s,baz=342,slow=2.3,SNR=26
ULM Lac du Bonnet 64.66 42 P P 03 44 27.5 +0.1
ULM pmax pmax
comp=Z,5.0nm,0.7s
ULM Lac du Bonnet 64.66 42 P P 03 44 27.5 +0.1
comp=Z,4.5nm,0.7s,baz=320,slow=5.6,SNR=7.2
ULM Lac du Bonnet 64.66 42 eP P 03 44 27.2 -0.2
comp=Z,3.4nm,0.7s
RSSD Black Hills 65.14 51 eP P 03 44 31.3 +0.4
RSSD pmax pmax
comp=Z,7.0nm,0.8s
RSSD Black Hills 65.14 51 eP P 03 44 31.3 +0.4
comp=Z,7.1nm,0.8s
NB2 NORSAR Subarra 66.41 341 P P 03 44 37.1 -1.4
comp=Z,0.7nm,0.6s,baz=28,slow=6.5
NOA NORSAR Array B 66.41 341 P P 03 44 37.7 -0.8
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 66.41 341 P P 03 44 37.7 -0.8
comp=Z,0.7nm,0.5s,baz=26,slow=6.4,SNR=13
HFS Hagfors 66.67 340 P P 03 44 38.9 -1.2
HFS pmax pmax
comp=Z,1.0nm,0.4s
HFS Hagfors 66.67 340 P P 03 44 38.9 -1.2
comp=Z,1.3nm,0.3s,baz=50,slow=4.5,SNR=25
SDCO Great Sand Dun 68.89 57 eP P 03 44 55.6 +0.8
comp=Z,0.6nm,0.6s
AKASG Malin Array Be 70.08 326 P P 03 44 59.8 -1.7
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 70.08 326 P P 03 44 59.8 -1.7
comp=Z,0.6nm,0.4s,baz=34,slow=6.2,SNR=4.8
ANMO Albuquerque 70.37 59 eP P 03 45 04.3 +0.5
ANMO pmax pmax
comp=Z,2.0nm,0.7s
ANMO Albuquerque 70.37 59 eP P 03 45 04.3 +0.5
comp=Z,1.5nm,0.7s
WRAB Tennant Creek 70.61 199 eP P 03 45 03.8 -1.2
WRAB Tennant Creek 70.61 199 eP P 03 45 03.8 -1.2
WRA Warramunga Arr 70.62 199 P P 03 45 06.6 +1.5
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 70.62 199 P P 03 45 06.6 +1.5
comp=Z,0.7nm,0.9s,baz=8.8,slow=6.6,SNR=2.5
SCHQ Schefferville 71.22 23 P P 03 45 08.6 +0.3
comp=Z,4.4nm,0.4s,baz=344,slow=5.8,SNR=36
AMTX Amarillo 73.08 56 eP P 03 45 21.5 +1.6
EKA Eskdalemuir Ar 74.43 347 P P 03 45 26.9 -0.3
EKA pmax pmax
comp=Z,2.0nm,0.4s
EKA Eskdalemuir Ar 74.43 347 P P 03 45 26.9 -0.3
comp=Z,2.4nm,0.4s,baz=18,slow=5.0,SNR=41
CLL Collm 74.76 336 iP P 03 45 28.5 -0.7
CLL pmax pmax
comp=Z,3.0nm,0.6s
CLL Collm 74.76 336 iP P 03 45 28.5 -0.7
comp=Z,3.0nm,0.6s
CLL Collm 74.76 336 eP P 03 45 28.5 -0.7
PSZ Piszkesteto 75.69 330 eP P 03 45 36.2 +1.5
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PSZ Piszkesteto 75.69 330 eP P 03 45 36.2 +1.5
comp=Z,3.1nm,0.8s
TXAR Lajitas Array 76.08 61 P P 03 45 38.2 +0.9
TXAR pmax pmax
comp=Z,3.0nm,0.6s
TXAR Lajitas Array 76.08 61 P P 03 45 38.1 +0.9
comp=Z,3.2nm,0.6s,baz=299,slow=4.9,SNR=56
KHC Kasperske Hory 76.56 334 eP P 03 45 39.7 +0.1
KHC e 03 45 44.6
KHC Kasperske Hory 76.56 334 eP P 03 45 39.7 +0.1
KHC ex x 03 45 44.6
KHC Kasperske Hory 76.56 334 eP P 03 45 39.7 +0.1
GERES GERESS Array B 76.79 334 P P 03 45 40.3 -0.6
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 76.79 334 P P 03 45 40.3 -0.6
comp=Z,0.6nm,0.5s,baz=42,slow=5.1,SNR=6.8
WCI Wyandotte Cave 78.29 44 eP P 03 45 49.3 -0.1
WCI pmax pmax
comp=Z,4.0nm,0.7s
WCI Wyandotte Cave 78.29 44 eP P 03 45 49.3 -0.1
comp=Z,4.1nm,0.7s
WVT Waverly 79.26 46 eP P 03 45 55.0 +0.3
WVT pmax pmax
comp=Z,8.0nm,0.9s
WVT Waverly 79.26 46 eP P 03 45 55.0 +0.3
comp=Z,7.6nm,0.9s
ESDC Sonseca Array 89.70 343 P P 03 46 45.8 -1.4
comp=Z,0.3nm,0.4s,baz=3.5,slow=4.4,SNR=5.5
KEST Kesra 90.06 332 P P 03 46 48.1 -0.8
comp=Z,0.8nm,0.6s,baz=8.4,slow=2.1,SNR=8.9
TORD Torodi Ar. Bea 113.53 330 PKiKP PKiKP 03 52 25.9 -1.0
comp=Z,0.6nm,0.7s,baz=42,slow=1.0,SNR=5.3

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*ISCJB **28** 03:34:29.0±0.4, 35°.25S±0°.06×72°.4W±0°.1, h20km, mb4.3/22, MS4.1/1, Error ellipse: s-maj=12.5km s-min=8.3km az=167.4*
*IDC **28** 03:34:28.1±2.2, 35°.29S×72°.36W, h0km, mb4.1/5, mb1 4.1/8, mb1mx4.0/33, mbtmp4.0/8, ML4.4/2, MS4.1/1, Ms1 4.1/1, ms1mx3.2/30, Error ellipse: s-maj=75.9km s-min=20.0km az=102.0*
*NEIC **28** 03:34:32.9±1.4, 35°.29S×72°.32W, h38km±11km, mb4.3/19, Error ellipse: s-maj=14.5km s-min=7.9km az=79.0*
ISC 28 03:34:30.6±0.5, 35°.28S±0°.07×72°.3W±0°.1, h20km, n49, σ1§12/48, mb4.4/22, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.02	44	Pn	Pn	03 35 45.9	+1.1
	baz=218,slow=17,SNR=5.6						
PLCA	Paso Flores	5.62	166	Pn	Pn	03 35 54.4	+1.3
	4.2nm,0.3s,baz=345,slow=12,SNR=4.1						
TRQA	Tornquist	8.77	111	ePn	Pn	03 36 35.6	-0.6
CPUP	Villa Florida	15.66	59	ePn	Pn	03 38 11.0	+0.8
LPAZ	La Paz	19.29	12	P	Pn	03 38 56.2	+0.3
	0.2nm,0.3s,baz=187,slow=8.1,SNR=4.6						
LPAZ	La Paz	19.29	12	eP	Pn	03 38 56.4	+0.6
	7.4nm,0.9s						
SIV	San Ignacio	21.70	31	P	P	03 39 20.1	-0.3
	9.2nm,0.7s,baz=216,slow=11,SNR=9.4						
SAML	Samuel	27.52	20	eP	P	03 40 15.3	-0.5
	1.6nm,0.8s						
OTAV	Otavalo	35.80	350	eP	P	03 41 29.5	+0.4
	1.4nm,0.6s						
SDV	Santo Domingo	43.96	2	eP	P	03 42 35.6	-1.0
	6.5nm,1.0s						
BCIP	Isla Barro Col	44.77	349	eP	P	03 42 41.9	-1.0
	22nm,0.8s						
JTS	JuntasAbangare	46.87	343	LR	LR	03 57 57.3	
	comp=Z,213nm,20.6s,baz=100,slow=30						
SNAA	Sanae	50.49	157	P	P	03 43 27.3	+0.5
	1.2nm,0.9s,baz=294,slow=8.5,SNR=3.6						
SNAA	Sanae	50.49	157	eP	P	03 43 27.5	+0.7
	4.5nm,0.9s						
CBYP	Canovanas	53.61	8	eP	P	03 43 51.7	+1.1
QSPA	South Pole Qui	54.96	180	P	P	03 44 00.6	+0.6
	3.3nm,0.9s,baz=162,slow=6.4,SNR=7.8						
GTBY	Guantanamo Bay	54.97	357	eP	P	03 44 00.6	+0.3
	54nm,1.3s						
ASCN	Ascension	59.43	77	eP	P	03 44 32.1	-0.1
KMSC	Kings Mountain	70.56	352	eP	P	03 45 44.5	+0.6
SWET	Sewanee	71.28	348	eP	P	03 45 47.8	-0.6
ABTX	Abilene, Hawle	72.25	336	eP	P	03 45 53.7	-0.5
MNTX	Cornudas Mount	73.51	331	eP	P	03 46 00.1	-1.6
	1.0nm,0.7s						
WCI	Wyandotte Cave	74.28	349	eP	P	03 46 02.8	-3.3
	3.2nm,0.8s						
ANMO	Albuquerque	76.79	332	eP	P	03 46 20.8	-0.1
	1.2nm,0.7s						
CASY	Casey	78.74	181	eP	P	03 46 31.8	+0.6
	31nm,1.6s						
SDCO	Great Sand Dun	78.91	334	eP	P	03 46 33.9	+1.2
	5.9nm,1.6s						
TSUM	Tsumeb	79.10	106	eP	P	03 46 31.4	-2.7
	9.0nm,1.5s						
WUAZ	Wupatki	79.29	328	eP	P	03 46 35.4	+0.7
	3.6nm,0.9s						
MVCO	Mesa Verde	79.57	331	eP	P	03 46 37.3	+1.1
BOSA	Boshof	79.69	118	P	P	03 46 37.8	+0.5
	2.7nm,0.8s,baz=253,slow=3.6,SNR=4.8						
ISCO	Idaho Springs	80.78	335	eP	P	03 46 41.6	-1.1
	1.2nm,0.7s						
LBTB	Lobatse	81.99	115	eP	P	03 46 49.8	+0.3
	15nm,1.4s						
HWUT	Hardware Ranch	84.56	332	eP	P	03 46 59.5	-2.7
	27nm,1.7s						
TOA0	Torodi Ar. Sit	84.88	70	eP	P	03 47 04.8	+0.6
TORD	Torodi Ar. Bea	84.88	70	P	P	03 47 05.5	+1.3
	0.6nm,0.8s,baz=249,slow=4.6,SNR=2.8						
LSZ	Lusaka	89.64	108	eP	P	03 47 28.9	+1.4
	2.9nm,1.0s						
FCC	Fort Churchill	95.44	349	eP	P	03 47 54.3	+1.4
	0.1nm,0.7s						
FALS	False Pass	118.56	319	ePKPdf	PKPdf	03 53 15.8	-0.4
KWP	Kalwaria Pacla	118.92	48	ePKPdf	PKPdf	03 53 17.2	0.0
BUR08	Bucovina Ar. S	119.75	51	ePKPdf	PKPdf	03 53 19.8	+0.9
SUW	Suwalki	120.70	43	ePKPdf	PKPdf	03 53 18.3	-2.1
BR131	Keskin Array S	122.66	62	ePKPdf	PKPdf	03 53 25.0	+0.2
AK02	Malin Array Si	123.21	48	ePKPdf	PKPdf	03 53 24.9	-0.4
GNI	Garni	130.90	65	ePKPdf	PKPdf	03 53 39.2	-1.4
KAPI	Kappang	138.34	198	ePKPdf	PKPdf	03 53 54.1	-1.0
PALK	Pallekele	142.72	132	ePKPdf	PKPdf	03 54 00.8	-2.2
KULM	Kulim	149.46	166	ePKPdf	PKPdf	03 54 12.6	-1.8
TKM2	Tokmak 2	154.09	63	ePKPdf	PKPdf	03 54 20.9	+0.1
TKM2				ePKPbc	PKPbc	03 54 28.8	-0.1
ZAA0	Zalesovo Array	155.43	34	ePKPdf	PKPdf	03 54 20.8	-1.1

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*IDC **28** 03:37:09.3±0.7, 38°.56S×74°.11W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.3/17, mbtmp4.2/10, MS3.4/1, Ms1 3.4/1, ms1mx2.9/27, Error ellipse: s-maj=32.7km s-min=20.6km az=66.0*
*ISCJB **28** 03:37:13.6±0.4, 38°.43S±0°.07×73°.70W±0°.10, h33km, mb4.5/34, Error ellipse: s-maj=11.6km s-min=9.1km az=143.5*
*NEIC **28** 03:37:14.9±2.2, 38°.43S×73°.89W, h35km±15km, mb4.7/25, Error ellipse: s-maj=10.0km s-min=5.1km az=69.0*
ISC 28 03:37:15.1±0.5, 38°.43S±0°.08×73°.9W±0°.1, h35km, n116, σ1§03/118, mb4.6/34, 27C-18D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.45	133	Pn	Pn	03 38 09.6	+3.3
	4.4nm,0.3s,baz=308,slow=15,SNR=6.1						
PLCA				LR	LR	03 38 59.2	
	comp=Z,531nm,19.5s,baz=317,slow=31						
PLCA				Lg	Lg	03 38 59.3	
	27nm,0.3s,baz=210,slow=20,SNR=4.8						
PLCA	Paso Flores	3.45	133	ePn	Pn	03 38 08.0	+1.7
CFAA	Coronel Fontan	8.23	36	Pn	Pn	03 39 10.3	-1.7
	0.5nm,0.3s,baz=216,slow=12,SNR=3.6						
LVC	Limon Verde	16.33	17	ePn	Pn	03 41 01.4	-0.6
CPUP	Villa Florida	18.43	54	eP	Pn	03 41 27.5	-0.2
	0.4nm,0.7s						
LPAZ	La Paz	22.63	14	P	P	03 42 15.0	+1.3
	4.4nm,0.7s,baz=148,slow=11,SNR=5.7						
LPAZ	La Paz	22.63	14	eP	P	03 42 14.7	+1.0
	11nm,0.9s						
SAML	Samuel	30.89	21	eP	P	03 43 27.4	-1.0
	1.6nm,0.8s						
OTAV	Otavalo	38.71	353	eP	P	03 44 37.6	+1.3
	13nm,1.4s						
SDV	Santo Domingo	47.17	4	eP	P	03 45 43.7	-0.7
	8.5nm,0.8s						
SNAA	Sanae	48.09	156	P	P	03 45 50.2	-0.6
	0.8nm,1.0s,baz=239,slow=5.9,SNR=2.4						
GRGR	Grenville	51.59	15	eP	P	03 46 17.0	-0.9
QSPA	South Pole Qui	51.81	180	P	P	03 46 17.4	-1.9
	1.1nm,1.0s,baz=136,slow=3.8,SNR=2.5						
CBYP	Canovanas	56.91	9	eP	P	03 46 56.2	-0.4
VNDA	Vanda	59.47	192	eP	P	03 47 13.0	-0.9
	20nm,1.1s						
ASCN	Ascension	61.35	77	eP	P	03 47 26.9	-0.7
HKT	Hockley	71.05	340	eP	P	03 48 29.5	+0.2
	8.0nm,1.4s						
732A	Laxson Ranch,	71.13	336	⇑P	P	03 48 31.4	+1.6
	baz=71,SNR=6.4						
632A	Uvalde	71.79	336	⇑P	P	03 48 34.8	+0.9
	baz=72						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOGA	Godfrey	72.03	352	eP	P	03 48 35.1	-0.1
	30nm,1.5s						
533A	Kerrville	72.09	337	⇓P	P	03 48 37.4	+1.8
	baz=72,SNR=5.5						
LRAL	Lakeview Retre	72.15	348	eP	P	03 48 35.6	-0.2
	9.4nm,1.0s						
532A	Rocksprings	72.41	336	⇑P	P	03 48 39.1	+1.5
	baz=73,SNR=5.8						
434A	Burnet	72.55	338	⇑P	P	03 48 39.8	+1.4
	baz=73,SNR=10.0						
531A	Rocksprings	72.64	336	⇑P	P	03 48 40.6	+1.6
	baz=73,SNR=5.6						
336A	Riesel	72.69	340	⇓P	P	03 48 40.7	+1.6
	baz=73,SNR=5.1						
JCT	Junction City	72.70	337	eP	P	03 48 38.8	-0.5
	15nm,1.2s						
JCT	Junction City	72.70	337	⇑P	P	03 48 40.2	+0.9
	baz=73,SNR=5.2						
433A	Art	72.74	337	⇓P	P	03 48 40.7	+1.2
	baz=73,SNR=5.0						
530A	J-C Ranch, Com	72.89	335	⇑P	P	03 48 42.6	+2.2
	baz=73,SNR=5.2						
TXAR	Lajitas Array	72.94	333	P	P	03 48 41.0	+0.2
	2.2nm,0.7s,baz=155,slow=8.0,SNR=15						
334A	Lometa	73.03	338	⇓P	P	03 48 42.3	+1.1
	baz=73,SNR=12						
432A	Menard	73.07	337	⇑P	P	03 48 42.2	+0.8
	baz=73						
431A	Sonora	73.14	336	⇓P	P	03 48 43.2	+1.2
	baz=74						
333A	Richland Sprin	73.24	338	⇑P	P	03 48 42.8	+0.3
	baz=74						
WHTX	Lake Whitney	73.43	339	eP	P	03 48 43.8	+0.3
	15nm,1.0s						
430A	Baggett Ranch,	73.44	336	⇓P	P	03 48 45.7	+2.0
	baz=74,SNR=6.3						
429A	Davenport Ranc	73.51	335	⇓P	P	03 48 45.8	+1.7
	baz=74,SNR=5.7						
332A	Millersview	73.53	337	⇑P	P	03 48 45.3	+1.1
	baz=74,SNR=5.8						
KMSC	Kings Mountain	73.53	354	eP	P	03 48 43.6	-0.4
	7.4nm,0.8s						
234A	Clairette	73.63	339	⇑P	P	03 48 45.3	+0.5
	baz=74,SNR=5.3						
331A	San Angelo	73.67	337	⇓P	P	03 48 46.5	+1.5
	baz=74,SNR=6.1						
233A	Rising Star	73.86	338	⇑P	P	03 48 46.9	+0.7
	baz=74						
232A	Coleman	73.97	337	⇑P	P	03 48 47.9	+1.2
	baz=74						
330A	Mertzon	74.00	336	⇓P	P	03 48 47.6	+0.6
	baz=74						
SWET	Sewanee	74.13	350	eP	P	03 48 47.7	+0.1
	20nm,0.9s						
134A	White-Moore Ra	74.15	339	⇑P	P	03 48 48.7	+0.9
	baz=74						
231A	Bronte	74.22	337	⇑P	P	03 48 49.4	+1.2
	baz=74						
TKL	Tuckaleechee C	74.29	352	P	P	03 48 48.0	-0.5
	2.6nm,0.8s,baz=156,slow=7.6,SNR=3.7						
329A	Wagon Wheel Ra	74.33	335	⇓P	P	03 48 50.5	+1.5
	baz=75						
133A	Hamilton Ranch	74.42	338	⇑P	P	03 48 50.5	+1.2
	baz=75						
Z35A	Perchaven, San	74.64	340	⇑P	P	03 48 51.6	+1.1
	baz=75						
ABTX	Abilene, Hawle	74.65	338	eP	P	03 48 50.9	+0.2
	14nm,1.3s						
ABTX	Abilene, Hawle	74.65	338	⇑P	P	03 48 52.0	+1.3
	baz=75						
Z33A	Whitaker Ranch	75.01	339	⇑P	P	03 48 54.1	+1.3
	baz=75						
Z32A	Haskell	75.24	338	⇑P	P	03 48 55.3	+1.3
	baz=76						
WVT	Waverly	75.31	348	eP	P	03 48 53.8	-0.5
	12nm,1.1s						
Z31A	Sharp Cattle R	75.45	337	⇑P	P	03 48 56.4	+1.1
	baz=76						
128A	Castleberry Fa	75.54	335	⇓P	P	03 48 57.3	+1.4
	baz=76						
Y33A	Hilltop Ranch,	75.65	339	⇑P	P	03 48 57.3	+0.9
	baz=76						
MNTX	Cornudas Mount	75.70	333	eP	P	03 48 56.7	0.0
	1.1nm,0.8s						
Z30A	Sanderson Ranc	75.72	337	⇓P	P	03 48 57.6	+0.8
	baz=76						
Z29A	Hungry Hill Ra	75.88	336	⇓P	P	03 48 59.0	+1.2
	baz=77						
X31A	McDonald Ranch	76.62	338	⇑P	P	03 49 03.6	+1.6
	baz=77						
W33A	Caddo, Fort Co	76.68	339	⇓P	P	03 49 04.4	+2.2
	baz=77,SNR=5.9						
TUL1	Tulsa	76.70	342	eP	P	03 49 02.4	+0.1
	15nm,0.8s						
TUL1	Tulsa	76.70	342	⇓P	P	03 49 03.2	+0.9
	baz=77,SNR=5.8						
X30A	Coker Ranch, T	76.72	337	⇓P	P	03 49 04.9	+2.5
	baz=77						
W32A	Sentinel	76.87	339	⇓P	P	03 49 04.8	+1.5
	baz=77,SNR=5.9						
V33A	Lossen Ranch,	77.26	340	⇑P	P	03 49 06.6	+1.2
	baz=78						
AMTX	Amarillo	77.37	337	⇓P	P	03 49 08.2	+2.1
	baz=78						
V31A	Spring Creek L	77.65	339	⇓P	P	03 49 10.1	+2.4
	baz=78						
U32A	Winter Ranch,	77.98	339	⇑P	P	03 49 11.0	+1.5
	baz=78						
DBIC	Dimbokro	78.00	71	P	P	03 49 11.3	+1.2
	7.4nm,0.7s,baz=213,slow=3.5,SNR=12						
DBIC	Dimbokro	78.00	71	eP	P	03 49 10.4	+0.3
	22nm,1.6s						
T33A	Patterson Ranc	78.44	340	⇑P	P	03 49 13.5	+1.5
	baz=79						
LAZ	Ladron	78.77	332	eP	P	03 49 13.8	-0.3
	0.6nm,0.7s						
ANMO	Albuquerque	79.01	333	eP	P	03 49 16.2	+0.8
	6.3nm,1.1s						
BOSA	Boshof	79.32	118	P	P	03 49 18.2	+0.7
	5.0nm,0.8s,baz=254,slow=4.2,SNR=6.8						
SDCO	Great Sand Dun	81.21	335	eP	P	03 49 28.5	+1.2
	18nm,2.2s						
WUAZ	Wupatki	81.36	330	eP	P	03 49 27.6	-0.4
	3.5nm,0.9s						
MVCO	Mesa Verde	81.77	333	eP	P	03 49 29.9	-0.3
	3.3nm,0.8s						
LBTB	Lobatse	81.78	115	eP	P	03 49 31.2	+0.6
	5.1nm,0.7s						
DUG	Dugway	85.99	331	eP	P	03 49 51.0	-0.7
	3.8nm,1.1s						
NVAR	Mina Array Bea	86.72	327	P	P	03 49 55.9	+0.5
	0.8nm,0.8s,baz=158,slow=6.1,SNR=5.7						
HWUT	Hardware Ranch	86.76	333	eP	P	03 49 55.1	-0.3
	11nm,1.1s						
PDAR	Pinedale Array	87.08	335	P	P	03 49 56.8	-0.2
	1.1nm,0.8s,baz=145,slow=5.4,SNR=6.5						
TOA0	Torodi Ar. Sit	87.09	71	eP	P	03 49 57.3	-0.1
TORD	Torodi Ar. Bea	87.09	71	P	P	03 49 57.6	+0.1
	1.6nm,1.0s,baz=227,slow=4.8,SNR=5.2						
LSZ	Lusaka	89.79	109	eP	P	03 50 09.9	-0.6
	3.5nm,0.9s						
FCC	Fort Churchill	98.29	350	eP	P	03 50 48.4	+0.3
GERES	GERESS Array B	116.28	47	PKP	PKPdf	03 55 54.5	+0.2
	0.8nm,0.8s,baz=220,slow=2.6,SNR=4.8						
BUR08	Bucovina Ar. S	122.67	52	ePKPdf	PKPdf	03 56 07.1	+0.4
SUW	Suwalki	123.83	45	ePKPdf	PKPdf	03 56 08.3	-0.1
BR131	Keskin Array S	125.19	64	ePKPdf	PKPdf	03 56 12.1	+0.3
KIEV	Kiev	126.21	50	ePKPdf	PKPdf	03 56 12.3	-0.8
AK01	Malin Array Si	126.22	50	ePKPdf	PKPdf	03 56 13.5	+0.3
AKBB	Malin Array Si	126.22	50	ePKPdf	PKPdf	03 56 13.1	0.0
KSM	Kuching	143.02	187	ePKPdf	PKPdf	03 56 46.3	+0.6
ARU	Arti	144.01	44	ePKPdf	PKPbc	03 56 44.9	+0.9
AKTO	Aktyubinsk	144.22	55	PKP	PKPbc	03 56 45.6	+0.7
	4.0nm,0.9s,baz=277,slow=2.5,SNR=8.3						
TIXI	Tiksi	144.75	348	ePKPdf	PKPab	03 56 45.6	-0.2
ABKAR	Akbulak array	145.48	57	ePKPbc	PKPab	03 56 49.2	0.0
IPM	Ipoh	145.88	171	ePKPbc	PKPbc	03 56 51.5	+0.2
KULM	Kulim	146.63	170	ePKPbc	PKPdf	03 56 52.4	+0.5
BRVK	Borovoye	151.38	48	ePKPbc	PKPbc	03 57 05.3	+1.0
BVAR	Borovoye Array	151.45	48	PKP	PKPdf	03 56 57.7	-0.7
	0.7nm,0.8s,baz=297,slow=0.7,SNR=3.6						
BVAR				PKPbc	PKPbc	03 57 04.8	+0.2
	3.1nm,0.6s,baz=285,slow=3.3,SNR=18						
ASAJ	Asahikawa	152.17	294	PKPbc	PKPbc	03 57 06.1	-0.4
	5.2nm,0.8s,baz=124,slow=3.6,SNR=3.9						
YAK	Yakutsk	152.29	336	ePKPbc	PKPbc	03 57 05.7	-0.4
KKAR	Karatay Array	152.76	69	ePKPbc	PKPbc	03 57 07.9	+0.1
KKAR				ePKPab	PKPab	03 57 19.2	+0.3
AAK	Ala-Archa	155.68	70	PKPab	PKPab	03 57 31.6	+0.1
	1.8nm,0.7s,baz=138,slow=2.9,SNR=3.6						
TKM2	Tokmak 2	156.49	69	ePKPdf	PKPdf	03 57 06.4	+0.3
ZAA0	Zalesovo Array	158.72	36	ePKPdf	PKPdf	03 57 08.3	0.0
ZAA0				ePKPab	PKPab	03 57 44.5	+0.5
ZALV	Zalesovo Beam	158.72	36	PKP	PKPdf	03 57 08.4	+0.2
	1.1nm,0.7s,baz=262,slow=2.9,SNR=4.8						
ZALV				PKPab	PKPab	03 57 44.8	+0.9
	2.7nm,0.8s,baz=307,slow=5.4,SNR=6.4						
MKAR	Makanchi Array	160.63	57	PKP	PKPdf	03 57 10.5	-0.2
	0.8nm,1.0s,baz=270,slow=0.1,SNR=3.6						
MKAR				PKPab	PKPab	03 57 52.9	+0.3
	1.1nm,0.8s,baz=312,slow=5.0,SNR=6.2						
SONM	Songino Array	170.60	359	PKPab	PKPab	03 58 35.7	-0.8
	1.4nm,0.9s,baz=336,slow=3.3,SNR=6.1						

ISCJB 28 03:41:42.7±0.5, 34°.10S±0°.09×72°.1W±0°.1, h19km, mb4.3/23, MS3.9/2, Error ellipse: s-maj=14.1km s-min=12.2km az=164.8

IDC 28 03:41:43.6±1.0, 34°.26S×71°.64W, h0km, mb4.1/7, mb1 4.4/8, mb1mx4.1/29, mbtmp4.2/8, ML3.3/2, MS4.1/3, Ms1 4.1/3, ms1mx3.5/28, Error ellipse: s-maj=28.1km s-min=21.0km az=120.0

NEIC 28 03:41:47.5±0.4, 33°.97S×72°.02W, h35km, mb4.5/19, Error ellipse: s-maj=14.6km s-min=11.7km az=88.0

ISC 28 03:41:45.0±0.6, 34°.09S±0°.09×71°.9W±0°.1, h19km, n49, σ1°.67/44, mb4.4/23, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.97	52	Pn	Pn	03 42 45.3	+0.3
	0.5nm,0.3s,baz=208,slow=15,SNR=2.4						
CFAA				Lg	Lg	03 43 48.4	
	0.8nm,0.3s,baz=336,slow=20,SNR=3.5						
LVC	Limon Verde	11.74	14	ePn	Pn	03 44 29.0	-2.7
CPUP	Villa Florida	14.79	62	LR	LR	03 51 34.6	
	comp=Z,820nm,18.0s,baz=217,slow=40						
LPAZ	La Paz	18.05	12	P	P	03 45 58.5	+2.7
	0.1nm,0.3s,baz=175,slow=11,SNR=6.1						
LPAZ	La Paz	18.05	12	eP	P	03 45 58.9	+3.1
	6.9nm,0.9s						
SIV	San Ignacio	20.50	31	P	P	03 46 22.6	+0.6
	12nm,1.1s,baz=230,slow=13,SNR=9.1						
SIV				LR	LR	03 55 54.6	
	comp=Z,435nm,19.5s,baz=233,slow=42						
SAML	Samuel	26.28	20	eP	P	03 47 19.5	+0.2
	7.4nm,1.0s						
BDFB	Brasilia	28.31	55	P	P	03 47 38.1	+0.4
	6.3nm,1.0s,baz=238,slow=9.5,SNR=4.0						
RPN	Rapa Nui	32.80	272	LR	LR	03 57 44.5	
	comp=Z,240nm,18.5s,baz=191,slow=29						
OTAV	Otavalo	34.69	348	eP	P	03 48 36.0	+1.8
	6.7nm,1.4s						
GRGR	Grenville	46.99	14	eP	P	03 50 16.6	+1.6
SNAA	Sanae	51.47	158	P	P	03 50 48.9	+0.2
	1.0nm,0.8s,baz=318,slow=8.3,SNR=3.2						
SNAA	Sanae	51.47	158	eP	P	03 50 49.6	+0.9
	10nm,1.3s						
OBIP	Obispado Ponce	52.09	6	eP	P	03 50 53.7	-0.1
QSPA	South Pole Qui	56.15	180	eP	P	03 51 23.9	+0.7
	6.8nm,1.1s						
JCT	Junction City	69.41	334	eP	P	03 52 51.1	-0.6
	2.5nm,0.6s						
TXAR	Lajitas Array	69.86	331	P	P	03 52 59.5	+5.0
	0.8nm,0.8s,baz=156,slow=8.7,SNR=4.2						
ABTX	Abilene, Hawle	71.30	336	eP	P	03 53 02.9	-0.3
	8.2nm,1.0s						
WVT	Waverly	71.42	346	eP	P	03 53 02.9	-0.8
	5.0nm,1.0s						
MNTX	Cornudas Mount	72.63	331	eP	P	03 53 10.0	-1.3
	2.3nm,1.1s						
SUR	Sutherland	74.70	119	eP	P	03 53 20.6	-3.3
	22nm,1.2s						
DBIC	Dimbokro	75.12	71	eP	P	03 53 23.7	-2.4
	13nm,1.3s						
ANMO	Albuquerque	75.91	331	eP	P	03 53 27.3	-3.1
	2.0nm,1.0s						
SDCO	Great Sand Dun	77.99	333	eP	P	03 53 40.6	-1.7
	1.0nm,0.8s						
WUAZ	Wupatki	78.46	328	eP	P	03 53 42.0	-2.7
	3.6nm,1.0s						
MVCO	Mesa Verde	78.69	331	eP	P	03 53 45.7	-0.4
	3.9nm,1.0s						
TSUM	Tsumeb	79.10	106	eP	P	03 53 46.0	-2.7
	11nm,1.5s						
CASY	Casey	79.93	181	eP	P	03 53 48.2	-4.1
	28nm,1.5s						
BOSA	Boshof	79.94	118	P	P	03 53 53.9	+0.6
	3.2nm,1.1s,baz=247,slow=5.4,SNR=3.7						
DUG	Dugway	83.00	330	eP	P	03 54 09.2	+0.3
	4.5nm,1.3s						
HWUT	Hardware Ranch	83.67	331	eP	P	03 54 10.8	-1.6
	8.3nm,1.5s						
NVAR	Mina Array Bea	84.01	325	P	P	03 54 16.7	+2.4
	0.7nm,1.0s,baz=159,slow=5.4,SNR=4.0						
TOA0	Torodi Ar. Sit	84.15	70	eP	P	03 54 15.3	+0.1
TORD	Torodi Ar. Bea	84.15	70	P	P	03 54 16.0	+0.8
	3.5nm,0.9s,baz=230,slow=3.6,SNR=9.6						
TAM	Tamanrasset	92.78	64	eP	P	03 54 57.6	+1.1
BUR08	Bucovina Ar. S	118.73	50	ePKPdf	PKPdf	04 00 32.0	+0.4
BR131	Keskin Array S	121.79	61	ePKPdf	PKPdf	04 00 38.0	+0.2
KIEV	Kiev	122.17	47	ePKPdf	PKPdf	04 00 38.6	+0.7
AKBB	Malin Array Si	122.18	47	ePKPdf	PKPdf	04 00 39.0	+1.0
KAPI	Kappang	139.57	198	ePKPdf	PKPdf	04 01 13.2	+1.1
ABKAR	Akbulak array	141.66	52	ePKPdf	PKPdf	04 01 09.7	-5.0
PALK	Pallekele	143.25	130	ePKPdf	PKPdf	04 01 19.9	+1.3
BRVK	Borovoye	147.21	43	ePKPbc	PKPbc	04 01 26.8	+0.3
BVAR	Borovoye Array	147.28	43	PKPbc	PKPbc	04 01 27.4	+0.7
	2.2nm,0.6s,baz=289,slow=4.0,SNR=7.7						
TKM2	Tokmak 2	153.23	61	ePKPdf	PKPdf	04 01 32.2	-2.1
ZAA0	Zalesovo Array	154.25	32	ePKPbc	PKPbc	04 01 43.0	-0.2
ZALV	Zalesovo Beam	154.25	32	PKPbc	PKPbc	04 01 43.5	+0.3
	2.1nm,0.6s,baz=316,slow=4.0,SNR=7.9						
MKAR	Makanchi Array	156.75	49	PKPab	PKPab	04 02 08.9	+0.7
	0.6nm,0.6s,baz=289,slow=4.4,SNR=4.6						
ULN	Ulaanbaatar	166.22	3	ePKPab	PKPab	04 02 50.0	+0.5

CSEM 28 03:44:18.8, 43°.74N×19°.04E, h0km, ML1.9, After BEO

BEO 28 03:44:18.8±0.3, 43°.74N×19°.04E, h0km±4km, ML1.9/1, 1C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBLS	Lazići	0.29	64	⇓iPg	Pg	03 44 24.1	-0.5
BBLS				eSg	Sg	03 44 27.9	-0.6
BBLS	Lazići	0.29	64	⇓iPg	Pg	03 44 24.1	-0.5
BBLS				eSg	Sg	03 44 27.9	-0.6
DIVS	Divibare	0.78	62	ePg	Pg	03 44 32.5	-1.3
DIVS				eSg	Sg	03 44 42.7	-1.3
DIVS	Divibare	0.78	62	ePg	Pg	03 44 32.5	-1.3
DIVS				eSg	Sg	03 44 42.7	-1.3
IVAS	Ivanjica	0.82	101	ePg	Pg	03 44 32.7	-2.0
IVAS	Ivanjica	0.82	101	ePg	Pg	03 44 32.7	-2.0
SJES	Sjenica	0.83	125	⇑iPg	Pg	03 44 33.7	-1.2
SJES				eSg	Sg	03 44 45.4	-0.4
TEKS	Tekeris	0.88	23	iPg	Pg	03 44 35.0	-0.8
TEKS				eSg	Sg	03 44 47.0	-0.3
TEKS	Tekeris	0.88	23	iPg	Pg	03 44 35.0	-0.8
TEKS				eSg	Sg	03 44 47.0	-0.3
STON	Ston	1.31	229	iPg	Pg	03 44 42.4	-1.5
STON				Sg	Sg	03 45 00.7	-0.1
STON	Ston	1.31	229	ePg	Pg	03 44 42.7	-1.1
STON				eSg	Sg	03 44 59.4	-1.4
STON	Ston	1.31	229	ePg	Pg	03 44 42.7	-1.1
STON				eSg	Sg	03 44 59.4	-1.4
PDG	Podgorica	1.32	173	eSg	Sg	03 45 01.0	-0.2
PDG	Podgorica	1.32	173	eSg	Sg	03 45 01.0	-0.2
FGSL	Fruska Gora	1.52	21	⇓iPg	Pn	03 44 46.9	-0.4
FRGS	Fruska Gora	1.52	21	⇓iPg	Pn	03 44 46.9	-0.4
SELS	Selova	1.60	108	ePn	Pn	03 44 47.1	-1.3
SELS				eSg	Sg	03 45 10.2	-0.1
SELS	Selova	1.60	108	ePn	Pn	03 44 47.1	-1.3
SELS				eSg	Sg	03 45 10.2	-0.1
BLY	Banja Luka	1.67	308	ePn	Pn	03 44 49.5	+0.2
BLY	Banja Luka	1.67	308	ePn	Pn	03 44 49.5	+0.2

IDC 28 03:45:16.0±1.6, 38°.42S×74°.30W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/29, mbtmp4.2/7, ML4.0/1, Error ellipse: s-maj=58.5km s-min=25.5km az=49.0

ISCJB 28 03:45:18.7±0.5, 38°.45S±0°.09×74°.3W±0°.1, h33km, mb4.4/20, Error ellipse: s-maj=15.9km s-min=9.8km az=141.3

NEIC 28 03:45:18.0±3.9, 38°.49S×74°.41W, h20km±26km, mb4.5/17, Error ellipse: s-maj=16.6km s-min=8.7km az=67.0

ISC 28 03:45:20.3±0.7, 38°.5S±0°.1×74°.4W±0°.1, h35km, n34, σ0°.79/33, mb4.4/20, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.72	129	Pn	Pn	03 46 14.8	-0.5
	2.7nm,0.3s,baz=311,slow=16,SNR=6.7						
PLCA				Lg	Lg	03 47 05.9	
	6.2nm,0.3s,baz=41,slow=20,SNR=5.5						
TRQA	Tornquist	9.75	92	ePn	Pn	03 47 36.7	-1.2
CPUP	Villa Florida	18.75	55	eP	Pn	03 49 37.1	+0.4
	4.1nm,1.3s						
LPAZ	La Paz	22.75	16	P	P	03 50 20.0	-0.1
	4.6nm,0.9s,baz=180,slow=12,SNR=4.5						
LPAZ	La Paz	22.75	16	eP	P	03 50 19.8	-0.3
	5.9nm,0.8s						
SAML	Samuel	31.05	22	eP	P	03 51 34.5	-0.5
	3.0nm,1.0s						
ROSC	El Rosal	43.09	0	eP	P	03 53 17.8	+0.3
SNAA	Sanae	48.22	156	eP	P	03 53 56.8	-0.3
	19nm,1.6s						
QSPA	South Pole Qui	51.79	180	eP	P	03 54 23.9	-0.4
	5.0nm,1.2s						
OBIP	Obispado Ponce	56.67	9	eP	P	03 54 56.1	-4.0
HKT	Hockley	70.94	340	eP	P	03 56 33.1	-0.7
	15nm,1.8s						
JCT	Junction City	72.57	337	eP	P	03 56 43.9	+0.2
	6.2nm,1.0s						
TXAR	Lajitas Array	72.78	333	P	P	03 56 46.3	+1.2
	0.8nm,0.8s,baz=155,slow=9.2,SNR=6.2						
SWET	Sewanee	74.08	350	eP	P	03 56 52.3	-0.2
	9.4nm,0.8s						
WVT	Waverly	75.25	349	eP	P	03 56 58.4	-0.8
	8.5nm,1.0s						
DBIC	Dimbokro	78.37	72	P	P	03 57 18.6	+1.3
	4.9nm,0.7s,baz=187,slow=6.5,SNR=6.0						
DBIC	Dimbokro	78.37	72	eP	P	03 57 17.9	+0.6
	3.8nm,0.6s						
ANMO	Albuquerque	78.86	334	P	P	03 57 21.4	+1.6
	1.7nm,0.9s,baz=172,slow=6.4,SNR=4.9						
ANMO	Albuquerque	78.86	334	eP	P	03 57 19.6	-0.1
	2.7nm,1.0s						
BOSA	Boshof	79.64	118	P	P	03 57 25.9	+1.5
	2.9nm,0.8s,baz=241,slow=8.6,SNR=3.6						
SDCO	Great Sand Dun	81.07	335	eP	P	03 57 32.7	+0.8
	1.5nm,1.0s						
WUAZ	Wupatki	81.19	330	eP	P	03 57 33.0	+0.7
	3.4nm,0.9s						
MVCO	Mesa Verde	81.61	333	eP	P	03 57 34.4	-0.3
	2.7nm,0.8s						
LBTB	Lobatse	82.11	116	eP	P	03 57 37.8	+0.2
	12nm,1.3s						
DUG	Dugway	85.82	331	eP	P	03 57 56.6	+0.6
	6.6nm,1.4s						
HWUT	Hardware Ranch	86.60	333	eP	P	03 58 00.1	+0.3
	2.3nm,0.8s						
TOA0	Torodi Ar. Sit	87.46	71	eP	P	03 58 05.5	+1.1
TORD	Torodi Ar. Bea	87.46	71	P	P	03 58 05.1	+0.8
	1.5nm,1.0s,baz=236,slow=3.8,SNR=5.3						
LSZ	Lusaka	90.14	110	eP	P	03 58 17.4	+0.1
	2.8nm,0.9s						
SUW	Suwalki	124.11	45	ePKPdf	PKPdf	04 04 14.0	-0.2
ARU	Arti	144.29	44	ePKPdf	PKPdf	04 04 51.0	-0.7
TIXI	Tiksi	144.68	348	ePKPdf	PKPab	04 04 49.2	-1.5
ABKAR	Akbulak array	145.81	57	ePKPbc	PKPdf	04 04 54.0	-0.6
BVAR	Borovoye Array	151.75	47	PKPbc	PKPbc	04 05 10.6	+0.2
	2.2nm,0.8s,baz=298,slow=3.1,SNR=3.8						

IDC 28 03:47:58.5±7.0, 29°.38N×94°.98E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.3/47, mbtmp3.6/5, Error ellipse: s-maj=124.6km s-min=58.8km az=154.0, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	4.69	217	eP	Pb	03 49 20.0	-1.8
SHL				ex	x	03 49 36.0	
SHL				eS	Sn	03 50 11.5	+5.5
SHL				ex	x	03 50 41.0	
MKAR	Makanchi Array	20.00	334	P	P	03 52 32.9	+0.2
	0.6nm,0.4s,baz=148,slow=11,SNR=14						
SONM	Songino Array	20.43	22	P	P	03 52 37.2	-0.2
	1.1nm,0.6s,baz=208,slow=11,SNR=7.4						
ZALV	Zalesovo Beam	25.64	346	P	P	03 53 29.6	-0.1
	2.1nm,0.7s,baz=158,slow=9.0,SNR=7.8						
FINES	FINESS Array B	54.62	327	P	P	03 57 28.5	-0.1
	0.9nm,0.9s,baz=81,slow=6.4,SNR=4.1						
NB2	NORSAR Subarra	61.80	327	P	P	03 58 19.0	0.0
	comp=Z,1.3nm,0.8s,baz=91,slow=7.4						
NOA	NORSAR Array B	61.80	327	P	P	03 58 19.1	+0.1
	comp=Z,0.3nm,0.5s,baz=91,slow=7.2,SNR=4.2						

IDC 28 03:48:12.0±0.7, 36°.88S×73°.28W, h0km, mb4.0/13, mb1 4.2/15, mb1mx4.1/35, mbtmp4.0/15, ML4.4/1, Error ellipse: s-maj=26.7km s-min=13.1km az=73.0

ISCJB 28 03:48:15.7±0.4, 36°.83S±0°.05×73°.10W±0°.10, h35km, mb4.3/29, Error ellipse: s-maj=11.5km s-min=7.3km az=162.8

NEIC 28 03:48:17.1±0.2, 36°.88S×73°.15W, h35km, mb4.5/20, Error ellipse: s-maj=8.2km s-min=5.5km az=76.0

ISC 28 03:48:17.5±0.5, 36°.85S±0°.07×73°.1W±0°.1, h35km, n59, σ0°.78/57, mb4.3/29, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.37	153	Pn	Pn	03 49 22.0	+0.6
	4.4nm,0.3s,baz=326,slow=11,SNR=3.2						
PLCA				Lg	Lg	03 50 30.3	
	7.8nm,0.3s,baz=245,slow=19,SNR=3.5						
PLCA	Paso Flores	4.37	153	ePn	Pn	03 49 21.5	+0.1
PLCA				Lg	Lg	03 50 30.3	
CFAA	Coronel Fontan	6.61	39	Pn	Pn	03 49 53.1	+1.0
	0.1nm,0.3s,baz=189,slow=13,SNR=2.2						
TRQA	Tornquist	8.94	101	ePn	Pn	03 50 24.1	0.0
LVC	Limon Verde	14.64	16	ePn	Pn	03 51 42.4	0.0
CPUP	Villa Florida	17.03	56	ePn	Pn	03 52 11.0	-1.8
LPAZ	La Paz	20.95	13	P	P	03 52 58.7	+0.7
	2.1nm,0.7s,baz=198,slow=6.0,SNR=3.2						
SIV	San Ignacio	23.36	30	P	P	03 53 22.8	-0.1
	1.9nm,0.6s,baz=217,slow=11,SNR=4.5						
NNA	Nana	24.98	351	P	P	03 53 37.3	-0.6
	2.0nm,0.3s,baz=180,slow=7.0,SNR=2.0						
SAML	Samuel	29.20	20	eP	P	03 54 15.9	+0.2
OTAV	Otavalo	37.23	351	eP	P	03 55 27.7	+1.5
	6.2nm,1.3s						
SDV	Santo Domingo	45.55	3	eP	P	03 56 33.6	-0.5
	3.7nm,0.7s						
VNA3	Neumayer Olymp	47.08	157	P	P	03 56 45.6	+0.2
VNA1	Neumayer--Stat	47.42	156	P	P	03 57 02.6	+15
VNA2	Neumayer--Watz	47.75	156	P	P	03 56 51.1	+0.5
SNAA	Sanae	49.30	157	P	P	03 57 02.6	+0.6
SNAA	Sanae	49.30	157	P	P	03 57 02.0	-0.6
	1.1nm,0.8s,baz=282,slow=9.5,SNR=7.7						
SNAA	Sanae	49.30	157	eP	P	03 57 02.0	-0.6
	6.2nm,1.1s						
QSPA	South Pole Qui	53.40	180	P	P	03 57 33.3	-0.1
	3.3nm,0.5s,baz=155,slow=5.1,SNR=26						
OBIP	Obispado Ponce	54.94	8	eP	P	03 57 44.4	-0.5
	9.9nm,0.6s						
TEIG	Tepich	58.54	343	P	P	03 58 10.0	-0.4
	8.0nm,0.9s,baz=270,slow=20,SNR=3.7						
HKT	Hockley	69.78	339	eP	P	03 59 24.5	+0.6
	7.8nm,1.5s						
LRAL	Lakeview Retre	70.72	348	eP	P	03 59 30.0	+0.3
	23nm,0.9s						
JCT	Junction City	71.50	336	eP	P	03 59 34.2	-0.3
	3.0nm,0.8s						
TXAR	Lajitas Array	71.81	332	P	P	03 59 35.7	-0.8
	0.9nm,0.6s,baz=150,slow=7.3,SNR=8.3						
WHTX	Lake Whitney	72.17	338	eP	P	03 59 38.3	-0.2
OXF	Oxford	72.60	346	eP	P	03 59 40.6	-0.3
	39nm,0.9s						
SWET	Sewanee	72.68	349	eP	P	03 59 41.1	-0.4
	8.3nm,0.6s						
ABTX	Abilene, Hawle	73.42	337	eP	P	03 59 44.7	-1.3
	3.1nm,0.6s						
WVT	Waverly	73.88	348	eP	P	03 59 47.6	-0.9
	8.5nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNTX	Cornudas Mount	74.58	332	eP	P	03 59 51.4	-1.3
	3.1nm,1.2s						
DBIC	Dimbokro	76.92	71	P	P	04 00 07.7	+1.1
	1.9nm,0.6s,baz=168,slow=8.1,SNR=5.1						
DBIC	Dimbokro	76.92	71	eP	P	04 00 07.3	+0.7
	3.6nm,0.7s						
CASY	Casey	77.16	182	eP	P	04 00 06.8	-0.3
	9.2nm,0.8s						
ANMO	Albuquerque	77.88	332	P	P	04 00 12.4	+0.8
	0.9nm,0.5s,baz=168,slow=9.3,SNR=5.3						
ANMO	Albuquerque	77.88	332	eP	P	04 00 12.1	+0.5
	2.6nm,1.1s						
BOSA	Boshof	79.53	118	P	P	04 00 21.7	+0.7
	3.3nm,1.1s,baz=239,slow=5.9,SNR=2.9						
SDCO	Great Sand Dun	80.04	334	eP	P	04 00 23.9	+0.3
	2.1nm,1.1s						
WUAZ	Wupatki	80.30	329	eP	P	04 00 25.8	+0.9
	2.6nm,0.8s						
LBTB	Lobatse	81.90	115	eP	P	04 00 33.7	-0.1
	5.2nm,0.6s						
ISCO	Idaho Springs	81.92	335	eP	P	04 00 33.6	+0.1
	1.2nm,0.6s						
DUG	Dugway	84.90	331	eP	P	04 00 48.3	-0.3
	2.2nm,0.9s						
NVAR	Mina Array Bea	85.73	326	P	P	04 00 53.0	0.0
	0.5nm,0.7s,baz=153,slow=6.0,SNR=5.0						
PDAR	Pinedale Array	85.92	334	P	P	04 00 53.0	-0.7
	0.7nm,1.0s,baz=132,slow=6.2,SNR=4.0						
TORD	Torodi Ar. Bea	86.00	70	P	P	04 00 54.6	+0.1
	0.3nm,0.6s,baz=229,slow=3.3,SNR=3.6						
WRAB	Tennant Creek	117.86	209	ePKPdf	PKPdf	04 06 59.0	-1.7
KWP	Kalwaria Pacla	120.43	49	ePKPdf	PKPdf	04 07 04.2	-0.4
MBWA	Marble Bar	121.05	194	ePKPdf	PKPdf	04 07 06.3	-0.5
BUR08	Bucovina Ar. S	121.22	51	ePKPdf	PKPdf	04 07 06.3	0.0
ABKAR	Akbulak array	144.09	55	ePKPdf	PKPab	04 07 47.3	+0.9
KSM	Kuching	144.66	186	ePKPdf	PKPab	04 07 49.5	-0.1
PSI	Prapat	145.34	166	PKPbc	PKPbc	04 07 51.5	-0.6
	4.9nm,0.6s,baz=176,slow=3.9,SNR=4.9						
IPM	Ipoh	147.34	169	ePKPbc	PKPdf	04 07 55.5	-0.1
BRVK	Borovoye	149.85	46	ePKPbc	PKPdf	04 08 01.7	+3.3
BVAR	Borovoye Array	149.93	46	PKPbc	PKPbc	04 08 03.9	+0.4
	1.6nm,0.7s,baz=282,slow=3.2,SNR=6.5						
TKM2	Tokmak 2	155.33	66	ePKPdf	PKPdf	04 08 06.8	-0.3
KURK	Kurchatov	155.51	47	ePKPdf	PKPdf	04 08 06.9	+0.2
KURK				ePKPab	PKPab	04 08 32.7	0.0
MKAR	Makanchi Array	159.22	54	PKPab	PKPab	04 08 48.5	-0.4
	0.4nm,0.6s,baz=272,slow=3.9,SNR=4.3						
CMAR	Chiang Mai Arr	160.39	157	PKP	PKPdf	04 08 13.2	-0.5
	1.0nm,0.3s,baz=81,slow=0.8,SNR=4.6						

ISCJB 28 03:49:42.3±0.7, 16.76N±0.06×119.63E±0.07, h30km, mb3.8/10, Error ellipse: s-maj=11.1km s-min=6.6km az=143.2

IDC 28 03:49:48.8±3.0, 16.66N×119.72E, h79km±30km, mb3.5/10, mb1 3.7/10, mb1mx3.5/42, mbtmp3.9/10, Error ellipse: s-maj=34.5km s-min=19.0km az=75.0

ISC 28 03:49:43.5±0.7, 16.71N±0.05×119.65E±0.09, h30km, n15, σ1§53/19, mb3.8/10, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.95	110	⇑iP	Pn	03 49 59.9	-1.1
BCPH				iS	Sn	03 50 11.7	-1.9
SIPP	Brgy, Tapao	1.44	33	⇓iP	Pb	03 50 09.1	-0.5
SIPP				eS	Sb	03 50 30.3	+2.8
PCPH	Palayan	1.80	129	⇑eP	Pn	03 50 13.5	+1.0
PCPH				eS	Sn	03 50 36.9	+2.6
PIP	Pasuquin	1.86	30	⇓iP	Pn	03 50 11.1	-2.2
PIP				eS	Sn	03 50 34.4	-1.4
TGY	Tagaytay City	2.87	154	P	Pb	03 50 32.4	-1.7
	109nm,0.3s,baz=255,slow=2.5,SNR=16						
KSRS	Korea Array	21.92	18	P	P	03 54 34.9	+0.6
	2.9nm,0.7s,baz=203,slow=12,SNR=12						
USRK	Ussuriysk Arra	29.33	18	P	P	03 55 44.7	+1.3
	2.1nm,0.8s,baz=228,slow=7.5,SNR=5.1						
SONM	Songino Array	32.90	343	P	P	03 56 15.1	0.0
	1.3nm,0.7s,baz=164,slow=10,SNR=7.2						
WRA	Warramunga Arr	39.18	158	P	P	03 57 07.8	-1.1
	1.7nm,0.8s,baz=340,slow=9.0,SNR=4.6						
MKAR	Makanchi Array	43.03	322	P	P	03 57 41.8	+1.4
	1.0nm,0.7s,baz=120,slow=8.4,SNR=7.5						
BVAR	Borovoye Array	52.73	325	P	P	03 58 55.0	-0.4
	0.8nm,0.6s,baz=120,slow=7.5,SNR=4.7						
ILAR	Eielson Array	76.51	26	P	P	04 01 29.9	-0.5
	0.6nm,1.1s,baz=279,slow=9.2,SNR=2.8						
FINES	FINESS Array B	77.18	331	P	P	04 01 35.0	+0.8
	0.8nm,0.5s,baz=72,slow=6.2,SNR=12						
NOA	NORSAR Array B	84.14	332	P	P	04 02 11.1	-0.5
	0.7nm,0.7s,baz=64,slow=4.9,SNR=4.1						
YKA	Yellowknife Ar	90.39	22	P	P	04 02 42.3	+0.5
	0.4nm,0.8s,baz=309,slow=4.6,SNR=6.7						

JMA 28 03:50:22.4±0.2, 25.51N×128.02E, h38km±2km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.67	339	P	Pn	03 50 35.3	-0.2
JJT2				eS	Sn	03 50 44.7	-0.1
JNTH	Nagotoyohara	1.00	0	P	Pn	03 50 40.3	+0.3
JAGN	Aguni-jima	1.28	327	P	Pn	03 50 44.5	+0.7
JAGN				eS	Sn	03 51 00.8	+1.1
JOW	Kunigami	1.34	10	P	Pn	03 50 45.4	+0.9
JKE	Kume jima 2	1.38	306	P	Pn	03 50 45.7	+0.6
JIH	Iheya	1.52	358	P	Pn	03 50 47.5	+0.5
JIH				eS	Sn	03 51 06.5	+0.9
JOKE	Okinoerabujima	1.91	15	P	Pn	03 50 53.3	+0.9
JTK	Tokunoshima	2.42	20	P	Pn	03 51 00.5	+1.1
JMZ	Minamidaito 2	2.91	83	P	Pn	03 51 07.9	+1.8

ISCJB 28 03:51:23.0±0.4, 45.81N±0.01×74.47W±0.02, h21km±3km, Error ellipse: s-maj=2.6km s-min=1.9km az=154.1

OTT 28 03:51:24.4±0.1, 45.72N×74.46W, h18km, MN3.9/42

OTT 6km northwest from Brownsburg-Chatham, Qc. Felt. Felt in Aylmer, Amherst, Brownsburg-Chatham, Blainville, Boileau, Barkmere, Buckingham, Boisbriand, Chertsey, Coteau-du-Lac, Gatineau, Gore, Grenville-sur-la-Rouge, Fassett, Harrington, Lachute, Laval, Lac-Superieur, Morin-Heights, Mirabel, Montreal, Mirabel-en-Haut?--a, Mont Tremblant, Mille-Isles, Mascouche, Mulgrave-et-Derry, Montcalm, Maniwaki, Montpellier, Quebec, Prevost, Pierrefonds, Riviere-Rouge, Rigaud, Rawdon, Salaberry-de- Valleyfield, Ste-Adele, Ste-Anne-des-Lacs, Ste-Sophie, Ste-Agathe-des-Monts, Ste-Marthe, Ste-Julienne, Ste-Marguerite-du-Lac-Masson, Ste-Therese, Sainte-Emilie-de-l''Energie, Sainte-Rose (Laval), St-Hippolyte, St-Eustache, St-Jerome, St-Emile-de-Suffolk, St-Eugene, Saint-Alphonse-Rodriguez, St-Lin- Laurentides, St-Saveur, Saint-Colomban, Saint-Adolphe d''Howard, Saint-Calixte, St-Felicien, St-Damien, St-Augustin, St-Remi-d''Amherst, St-Andre-Avellin, St-Faustin-Lac-Carre, St-Jean-sur-Richelieu, St-Lazare, St-Blaise, Terrebonne, Thurso, Vaudreuil-sur-le-Lac, Val-des-Lacs, Vaudreuil-Dorion, Val-Morin, Val-des-Bois, Vendee, Wentworth, Wentworth-Nord, and Wakefield, Qc and in Alfred, Chute-a-Blondeau, Bourget, Hawkesbury, Kars, l''Orignal, Morrisburg, Monkland, Ottawa, Nipigon, Prescott, Vankleek Hill and St-Bernardin, On.

NEIC 28 03:51:24.4, 45.71N×74.46W, h18km, MD3.8(LDO), MN3.9(OTT), After OTT.

NEIC Felt [IV] at Sainte-Sophie; [III] at Brownsburg, Lachute, Papineauville, Rawdon, Rigaud, Saint-Canut, Saint-Jerome, Saint-Sauveur-des-Monts, Sainte-Agathe-des-Monts and Val-David; [II] at Buckingham, Laurentides, Les Cedres, Montreal, Saint-Jovite and Sainte-Adele, Quebec. Also felt at Acton Vale, L'Annonciation, Lavaltrie, Oka-Kanesatake, Saint-Alexis-des-Monts, Saint-Andre-Avellin, Saint-Michel-des-Saints, Sainte-Anne-des-Plaines, Sainte-Julienne and Thurso. Felt [IV] at Alfred; [III] at Hawkesbury and L'Orignal; [II] at Alexandria, Ottawa and Vankleek Hill, Ontario. Also felt at Casselman, Chesterville, Cornwall and Prescott. Felt at Albany and Essex Junction, Vermont.

ISC 28 03:51:23.3±0.8, 45.75N±0.02×74.47W±0.01, h18km±3km, n133, σ1§97/300, 4D, Southern Ontario

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALFO	Alfred	0.31	248	⇓PG	Pg	03 51 31.0	+0.9
ALFO				SG	Sg	03 51 35.5	+0.8
ALFO				Trac		03 51 35.9	
	comp=Z,3μm,0.1s						
ALFO	Alfred	0.31	248	P	Pg	03 51 31.0	+0.9
ALFO				S	Sg	03 51 34.8	+0.1
MNT	Montreal	0.64	112	PG	Pg	03 51 36.1	0.0
MNT				SG	Sg	03 51 44.9	+0.2
MNT				Trac		03 51 46.1	
	comp=Z,733nm,0.1s						
MNT	Montreal	0.64	112	P	Pg	03 51 36.1	0.0
MNT				S	Sg	03 51 44.8	+0.2
ORIO	Orleans, Innes	0.79	248	⇓PG	Pb	03 51 38.7	+0.2
ORIO				SG	Sb	03 51 49.0	+0.3
ORIO				Trac		03 51 50.5	
	comp=Z,546nm,0.1s						
ORHO	Orleans, Herit	0.80	249	PG	Pb	03 51 38.9	+0.1
ORHO				SG	Sb	03 51 49.7	+0.5
ORHO				Trac		03 51 50.8	
	comp=Z,4μm,0.1s						
WBO	Williamsburg	0.94	217	⇓PG	Pb	03 51 41.1	+0.1
WBO				SG	Sb	03 51 53.6	+0.5
WBO				Trac		03 51 55.0	
	comp=Z,432nm,0.1s						
WBO	Williamsburg	0.94	217	P	Pb	03 51 41.1	+0.1
WBO				S	Sb	03 51 53.2	+0.1
OTT	Ottawa	0.94	248	⇓PG	Pb	03 51 41.2	+0.1
OTT				SG	Sb	03 51 53.5	+0.2
OTT				Trac		03 51 57.7	
	comp=Z,267nm,0.1s						
OTT				Trac		03 51 57.8	
	comp=Z,349nm,0.2s						
OTT	Ottawa	0.94	248	P	Pb	03 51 41.2	+0.1
OTT				S	Sb	03 51 53.5	+0.2
FRNY	Flat Rock	1.11	145	PG	Pb	03 51 43.7	-0.2
FRNY				SG	Sb	03 51 58.4	+0.4
FRNY	Flat Rock	1.11	145	P	Pb	03 51 43.7	-0.2
FRNY				S	Sb	03 51 58.5	+0.6
LONY	Lake Ozonia	1.13	184	PG	Pb	03 51 44.0	-0.3
LONY				SG	Sb	03 51 59.3	+0.6
LONY	Lake Ozonia	1.13	184	ePg	Pb	03 51 43.8	-0.5
LONY				eSg	Sb	03 51 58.3	-0.5
POTS	Potsdam Coll	1.14	198	P	Pn	03 51 44.6	+0.2
POTS				S	Sb	03 51 59.4	+0.5
MOQ	Mont Orford	1.62	105	PG	Pn	03 51 52.3	+1.3
MOQ				SG	Sb	03 52 13.6	+0.8
MOQ				Trac		03 52 16.1	
	comp=Z,252nm,0.2s						
MOQ	Mont Orford	1.62	105	P	Pn	03 51 52.3	+1.3
MOQ				S	Sn	03 52 12.6	+1.1
NCB	Newcomb	1.79	174	ePn	Pn	03 51 54.5	+1.2
NCB				eSg	Sb	03 52 18.1	+0.5
PEMO	Pembroke	1.95	269	PN	Pn	03 51 56.3	+0.9
PEMO				PG	Pb	03 51 58.2	0.0
PEMO				SN	Sn	03 52 19.3	-0.1
PEMO				SG	Sb	03 52 23.6	+1.4
PEMO				Trac		03 52 25.6	
	comp=Z,274nm,0.2s						
PEMO	Pembroke	1.95	269	Pn	Pn	03 51 56.3	+0.9
PEMO				Pg	Pb	03 51 58.2	0.0
PEMO				Sn	Sn	03 52 19.3	-0.1
PEMO				Sg	Sb	03 52 23.6	+1.4
WCNY	West Carthage	1.96	206	P	Pn	03 51 57.0	+1.4
WCNY				S	Sb	03 52 22.0	-0.5
PLVO	Plevna	1.97	250	PN	Pn	03 51 56.9	+1.2
PLVO				PG	Pn	03 51 58.1	+2.3
PLVO				SN	Sn	03 52 22.1	+2.2
PLVO				Trac		03 52 30.8	
	comp=Z,162nm,0.1s						
PLVO	Plevna	1.97	250	P	Pn	03 51 58.1	+2.3
PLVO				S	Sb	03 52 22.4	-0.3
MDV	Middlebury	1.98	152	ePn	Pn	03 51 57.1	+1.3
MDV				eSn	Sb	03 52 23.6	+0.6
LATQ	La Tuque	2.01	35	PN	Pn	03 51 58.5	+2.2
LATQ				SN	Sb	03 52 25.7	+1.8
LATQ				Trac		03 52 28.3	
	comp=Z,639nm,0.1s						
LATQ	La Tuque	2.01	35	Pn	Pn	03 51 58.5	+2.2
LATQ				Sn	Sb	03 52 25.7	+1.8
CRLO	Chalk River	2.05	279	PN	Pn	03 51 57.6	+0.7
CRLO				PG	Pb	03 51 59.9	-0.1
CRLO				SN	Sn	03 52 24.2	+2.2
CRLO				SG	Sb	03 52 26.3	+1.2
CRLO				Trac		03 52 27.3	
	comp=Z,414nm,0.2s						
CRLO	Chalk River	2.05	279	P	Pb	03 51 59.9	-0.1
CRLO				S	Sn	03 52 24.7	+2.6
KGNO	Kingston	2.09	224	PN	Pn	03 51 59.2	+1.8
KGNO				PG	Pb	03 52 00.7	0.0
KGNO				SN	Sn	03 52 25.0	+2.0
KGNO				SG	Sb	03 52 28.1	+1.8
KGNO				Trac		03 52 31.7	
	comp=Z,75nm,0.1s						
KGNO	Kingston	2.09	224	P	Pn	03 51 59.3	+1.8
KGNO				S	Sb	03 52 25.3	-1.0
LBNH	Lisbon	2.35	129	PN	Pn	03 52 02.7	+1.6
LBNH				SN	Sn	03 52 32.0	+2.5
LBNH				SG	Sb	03 52 35.8	+1.9
LBNH				Trac		03 52 37.5	
	comp=Z,136nm,0.2s						
LBNH	Lisbon	2.35	129	ePn	Pn	03 52 02.6	+1.6
LBNH				eSn	Sn	03 52 28.6	-0.9
LBNH				eSg	Sb	03 52 35.6	+1.7
ACCN	Adirondack Com	2.43	166	ePn	Pn	03 52 03.2	+1.1
ACCN				ePg	Pg	03 52 09.8	-0.2
ACCN				eSn	Sn	03 52 32.4	+1.0
ACCN				eSg	Sb	03 52 38.4	+2.3
QCQ	Quebec	2.44	64	PN	Pn	03 52 04.1	+1.8
QCQ				SN	Sn	03 52 33.2	+1.5
QCQ				SG	Sb	03 52 37.5	+1.1
QCQ				Trac		03 52 38.7	
	comp=Z,922nm,0.4s						
QCQ	Quebec	2.44	64	P	Pn	03 52 04.4	+2.1
QCQ				S	Sb	03 52 36.6	+0.1
ALGO	Algonquin Park	2.51	276	PN	Pn	03 52 03.9	+0.7
ALGO				SN	Sb	03 52 38.0	-0.3
ALGO				SG	Sg	03 52 41.3	-2.7
ALGO				Trac		03 52 44.4	
	comp=Z,366nm,0.1s						
ALGO	Algonquin Park	2.51	276	Pn	Pn	03 52 03.9	+0.7
ALGO				Sn	Sb	03 52 38.0	-0.3
ALGO				Sg	Sg	03 52 41.3	-2.7
BANO	Bancroft	2.54	255	PN	Pn	03 52 05.1	+1.5
BANO				SN	Sn	03 52 34.5	+0.4
BANO				SG	Sg	03 52 46.1	+1.0
BANO				Trac		03 52 50.0	
	comp=Z,65nm,0.1s						
BANO	Bancroft	2.54	255	Pn	Pn	03 52 05.1	+1.5
BANO				Sn	Sn	03 52 34.5	+0.4
BANO				Sg	Sg	03 52 46.1	+1.0
DELO	Deloro Mine	2.54	242	PN	Pn	03 52 04.3	+0.6
DELO				PG	Pb	03 52 07.9	-0.5
DELO				SN	Sb	03 52 40.8	+1.5
DELO				Trac		03 52 45.2	
	comp=Z,129nm,0.2s						
DELO	Deloro Mine	2.54	242	Pn	Pn	03 52 04.3	+0.6
DELO				Pg	Pb	03 52 07.9	-0.5
DELO				Sn	Sb	03 52 40.8	+1.5
PECO	Prince Edward	2.55	226	PN	Pn	03 52 05.8	+2.1
PECO				PG	Pb	03 52 07.8	-0.7
PECO				SN	Sn	03 52 36.9	+2.6
PECO				SG	Sb	03 52 41.8	+2.3
PECO				Trac		03 52 46.5	
	comp=Z,150nm,0.2s						
PECO	Prince Edward	2.55	226	P	Pn	03 52 05.9	+2.1
PECO				S	Sn	03 52 35.4	+1.1
HNH	Hanover	2.57	142	ePn	Pn	03 52 06.3	+2.3
BCLQ	Boischatel	2.57	62	PN	Pn	03 52 06.0	+2.0
BCLQ				PG	Pb	03 52 08.2	-0.7
BCLQ				SN	Sn	03 52 32.8	-2.0
BCLQ				SG	Sb	03 52 40.4	+0.3
BCLQ				Trac		03 52 41.6	
	comp=Z,502nm,0.3s						
BCLQ	Boischatel	2.57	62	Pn	Pn	03 52 06.0	+2.0
BCLQ				Pg	Pb	03 52 08.2	-0.7
BCLQ				Sn	Sn	03 52 32.8	-2.0
BCLQ				Sg	Sb	03 52 40.4	+0.3
HCNY	Howe Caverns	3.05	179	P	Pn	03 52 10.8	+0.1
HCNY				S	Sn	03 52 47.7	+1.0
TRY	Troy	3.07	169	P	Pn	03 52 12.7	+1.8
TRY				S	Sn	03 52 48.0	+0.9
VLDQ	Val d'Or	3.12	320	PN	Pn	03 52 15.7	+4.0
VLDQ				SN	Sb	03 52 55.3	-0.8
VLDQ				SG	Sg	03 53 05.5	+1.8
VLDQ				Trac		03 53 11.1	
	comp=Z,185nm,0.4s						
DAQ	Lac Daran	3.13	44	PN	Pn	03 52 13.3	+1.5
DAQ				PG	Pb	03 52 17.2	-1.3
DAQ				SN	Sn	03 52 50.3	+1.5
DAQ				Trac		03 53 06.1	
	comp=Z,785nm,0.4s						
BSPQ	Baie-St-Paul	3.21	57	PN	Pn	03 52 15.8	+3.0
BSPQ				SN	Sn	03 52 53.0	+2.4
BSPQ				SG	Sb	03 53 04.0	+5.4
BSPQ				Trac		03 53 13.8	
	comp=Z,1μm,0.3s						
A54	Misere	3.28	57	PN	Pn	03 52 15.6	+1.8
A54				PG	Pb	03 52 19.3	-1.7
A54				SN	Sn	03 52 55.0	+2.7
A54				SG	Sb	03 53 02.6	+2.1
A54				Trac		03 53 08.5	
	comp=Z,243nm,0.3s						
A11	Saint Roch-des	3.31	62	SN	Sn	03 52 55.3	+2.3
A11				SG	Sb	03 53 05.6	+4.3
A11				Trac		03 53 10.2	
	comp=Z,138nm,0.3s						
EEO	Eldee	3.32	287	PN	Pn	03 52 15.6	+1.3
EEO				SN	Sn	03 52 56.6	+3.3
EEO				SG	Sb	03 53 04.9	+3.3
EEO				Trac		03 53 06.8	
	comp=Z,89nm,0.2s						
WLVO	Wesleyville	3.34	238	PN	Pn	03 52 15.7	+1.2
WLVO				PG	Pb	03 52 20.7	-1.2
WLVO				SN	Sb	03 52 59.3	-2.8
WLVO				SG	Sg	03 53 06.2	-4.3
WLVO				Trac		03 53 06.9	
	comp=Z,89nm,0.2s						
LMQ	La Malbaie	3.38	56	PN	Pn	03 52 16.7	+1.6
LMQ				SN	Sn	03 52 57.0	+2.3
LMQ				SG	Sg	03 53 09.2	-2.5
LMQ				Trac		03 53 11.8	
	comp=Z,519nm,0.3s						
SADO	Sadowa	3.44	255	PN	Pn	03 52 16.4	+0.4
SADO				PG	Pb	03 52 22.4	-1.4
SADO				SN	Sn	03 52 59.5	+3.3
SADO				SG	Sb	03 53 09.3	+4.1
SADO				Trac		03 53 14.9	
	comp=Z,80nm,0.2s						
SADO	Sadowa	3.44	255	P	Pn	03 52 16.2	+0.2
SADO				S	Sn	03 52 57.8	+1.6
BUKO	Buck Lake	3.47	267	PN	Pn	03 52 17.0	+0.6
BUKO				SN	Sn	03 52 58.8	+1.7
BUKO				SG	Sb	03 53 10.7	+4.6
BUKO				Trac		03 53 16.7	
	comp=Z,50nm,0.1s						
A16	Riviere Ouelle	3.53	59	PN	Pn	03 52 16.2	-0.9
A16				SN	Sn	03 53 01.1	+2.7
A16				SG	Sb	03 53 12.5	+4.9
A16				Trac		03 53 15.7	
	comp=Z,190nm,0.3s						
DREO	Darlington Eas	3.55	240	SN	Sn	03 53 04.0	+5.1
DREO				SG	Sb	03 53 12.3	+4.0
DREO				Trac		03 53 15.7	
	comp=Z,106nm,0.1s						
DRWO	Darlington Wes	3.56	240	SN	Sn	03 53 00.5	+1.2
DRWO				SG	Sg	03 53 14.8	-3.0
DRWO				Trac		03 53 21.0	
	comp=Z,177nm,0.1s						
A61	Sainte Mathild	3.59	56	PN	Pn	03 52 19.7	+1.7
A61				PG	Pb	03 52 25.0	-1.2
A61				SN	Sn	03 53 03.4	+3.5
A61				SG	Sb	03 53 12.8	+3.5
A61				Trac		03 53 20.6	
	comp=Z,246nm,0.4s						
WVL	Waterville	3.60	107	PN	Pb	03 52 23.3	-3.2
WVL				SN	Sn	03 53 01.4	+1.1
WVL				SG	Sb	03 53 14.8	+4.9
DMCQ	Dolbeau-Mistas	3.61	26	PN	Pn	03 52 19.6	+1.3
DMCQ				PG	Pb	03 52 25.0	-1.5
DMCQ				SN	Sn	03 53 00.7	+0.3
DMCQ				SG	Sb	03 53 12.6	+2.6
DMCQ				Trac		03 53 20.5	
	comp=Z,239nm,0.2s						
RSPO	Restoule Provi	3.71	277	PN	Pn	03 52 20.6	+1.0
RSPO				PG	Pb	03 52 27.1	-1.2
RSPO				SN	Sn	03 53 04.3	+1.5
RSPO				SG	Sb	03 53 16.7	+3.9
RSPO				Trac		03 53 20.6	
	comp=Z,101nm,0.2s						
BINY	Binghamton	3.71	198	PN	Pn	03 52 21.7	+1.9
BINY				SN	Sn	03 53 05.7	+2.7
BINY				SG	Sb	03 53 13.0	0.0
BINY				Trac		03 53 20.6	
	comp=Z,241nm,0.6s						
BINY	Binghamton	3.71	198	ePn	Pn	03 52 20.6	+0.8
BINY				ePg	Pb	03 52 28.5	+0.2
BINY				eSn	Sn	03 53 02.9	-0.2
BINY				eSg	Sg	03 53 20.1	-2.5
LSQQ	Lebel-sur-Quev	3.72	334	PN	Pn	03 52 20.6	+0.8
LSQQ				SN	Sn	03 53 02.4	-0.8
LSQQ				LG	Lg	03 53 17.6	
LSQQ				Trac		03 53 20.9	
	comp=Z,137nm,0.3s						
PKRO	Pickering	3.73	243	PN	Pn	03 52 22.0	+2.1
PKRO				PG	Pb	03 52 28.8	+0.2
PKRO				SN	Sn	03 53 09.0	+5.7
PKRO				SG	Sb	03 53 17.5	+4.2
PKRO				Trac		03 53 28.3	
	comp=Z,237nm,0.2s						
A64	Saint Simeon	3.77	55	PN	Pn	03 52 22.1	+1.6
A64				SN	Sn	03 53 05.7	+1.4
A64				SG	Sb	03 53 18.4	+3.8
A64				Trac		03 53 22.3	
	comp=Z,172nm,0.2s						
HRV	Adam Dziewonsk	3.86	146	PN	Pn	03 52 22.5	+0.7
HRV				PG	Pb	03 52 29.1	-1.8
HRV				SG	Sb	03 53 19.1	+1.9
NPNY	Mohonk Preserv	4.00	176	P	Pn	03 52 26.0	+2.3
NPNY				S	Sn	03 53 12.3	+2.3
KLBO	Killbear Provi	4.05	266	PN	Pn	03 52 24.7	+0.3
KLBO				PG	Pb	03 52 30.4	-3.7
KLBO				SN	Sn	03 53 10.8	-0.6
KLBO				SG	Sb	03 53 28.6	+5.8
KLBO				Trac		03 53 31.3	
	comp=Z,42nm,0.2s						
TORO	Toronto--Lesli	4.08	240	PN	Pn	03 52 29.4	+4.6
TORO				SN	Sn	03 53 09.8	-2.2
TORO				SG	Sb	03 53 27.1	+3.7
TORO				Trac		03 53 38.3	
	comp=Z,503nm,0.3s						
CHGQ	Chibougamau	4.17	1	PN	Pn	03 52 27.9	+1.9
CHGQ				SN	Sn	03 53 12.9	-1.2
CHGQ				SG	Sb	03 53 30.3	+4.3
CHGQ				Trac		03 53 33.0	
	comp=Z,194nm,0.4s						
STCO	Saint Catharin	4.21	235	PN	Pn	03 52 27.4	+0.8
STCO				PG	Pb	03 52 35.2	-1.7
STCO				SN	Sn	03 53 18.9	+3.6
STCO				SG	Sb	03 53 29.0	+1.6
STCO				Trac		03 53 34.3	
	comp=Z,93nm,0.2s						
KSPA	Keystone Colle	4.29	193	ePn	Pn	03 52 25.5	-2.3
CLWO	Collingwood	4.33	255	PN	Pn	03 52 29.2	+1.0
CLWO				SN	Sn	03 53 21.8	+3.6
CLWO				SG	Sb	03 53 37.3	+6.6
CLWO				Trac		03 53 43.1	
	comp=Z,114nm,0.3s						
EFO	Effingham	4.37	234	PN	Pn	03 52 29.2	+0.4
EFO				PG	Pb	03 52 37.8	-1.7
EFO				SN	Sn	03 53 22.0	+2.8
EFO				SG	Sb	03 53 34.1	+2.3
EFO				Trac		03 53 42.8	
	comp=Z,262nm,0.5s						
KILO	Kirkland Lake	4.52	309	PN	Pn	03 52 32.1	+1.3
KILO				SN	Sn	03 53 21.7	-1.1
KILO				SG	Sb	03 53 39.4	+3.2
KILO				Trac		03 53 46.7	
	comp=Z,82nm,0.3s						
ACTO	Acton	4.53	244	PN	Pn	03 52 30.7	-0.2

ACTO				SN	Sn	03 53 22.7	-0.3
ACTO				SG	Sb	03 53 39.7	+3.3
ACTO				Trac		03 53 48.2	
	comp=Z,94nm,0.2s						
MATQ	**Matagami**	**4.54**	**333**	PN	**Pn**	**03 53 31.9**	**+0.7**
MATQ				SN	**Sn**	**03 53 21.9**	**-1.6**
MATQ				LG	Lg	03 53 43.0	
MATQ				Trac		03 53 51.4	
	comp=Z,55nm,0.3s						
ODNJ	**Ogdensburg**	**4.67**	**181**	*e*Pn	**Pn**	**03 52 33.8**	**+1.0**
TYNO	**Tyneside**	**4.69**	**237**	SN	**Sn**	**03 53 30.4**	**+3.3**
TYNO				SG	**Sb**	**03 53 45.1**	**+4.1**
TYNO				Trac		03 53 54.0	
	comp=Z,142nm,0.3s						
PAL	**Palisades**	**4.76**	**175**	*e*Pn	**Pn**	**03 52 36.0**	**+1.9**
SUNO	**Sudbury Onapin**	**4.86**	**283**	PN	Pn	03 52 33.2	-2.2
SUNO				SN	**Sn**	**03 53 32.6**	**+1.4**
SUNO				LG	Lg	03 53 51.5	
SUNO				Trac		03 54 04.9	
	comp=Z,67nm,0.3s						
BMRO	**Meriville Lake**	**4.91**	**259**	PN	**Pn**	**03 52 38.1**	**+2.0**
BMRO				SN	**Sn**	**03 53 34.8**	**+2.4**
BMRO				SG	**Sb**	**03 53 50.9**	**+3.5**
BMRO				Trac		03 54 00.8	
	comp=Z,110nm,0.4s						
CPNY	**Central Park**	**4.97**	**176**	*e*Pn	**Pn**	**03 52 36.1**	**-0.9**
CPNY				*e*Pg	**Pb**	**03 52 52.7**	**+3.0**
CPNY				*e*Sn	**Sn**	**03 53 34.2**	**+0.3**
CPNY				*e*Sg	**Sb**	**03 53 53.1**	**+3.9**
TOBO	**Tobermory, Bru**	**4.99**	**266**	PN	**Pn**	**03 52 38.7**	**+1.5**
TOBO				SN	**Sn**	**03 53 35.3**	**+0.9**
TOBO				LG	Lg	03 53 53.3	
TOBO				Trac		03 54 01.3	
	comp=Z,88nm,0.3s						
BWLO	**Walkerton**	**5.01**	**253**	PN	**Pn**	**03 52 38.3**	**+0.8**
BWLO				SN	**Sn**	**03 53 39.6**	**+4.7**
BWLO				LG	Lg	03 53 55.9	
BWLO				Trac		03 54 02.4	
	comp=Z,85nm,0.4s						
EMMW	**East Machias**	**5.06**	**99**	PN	**Pn**	**03 52 37.8**	**-0.4**
EMMW				SN	**Sn**	**03 53 35.0**	**-1.2**
EMMW				SG	**Sb**	**03 53 55.4**	**+3.7**
BRNJ	**Basking Ridge**	**5.06**	**181**	*e*Sn	**Sn**	**03 53 38.1**	**+1.8**
BRNJ				*e*Sg	**Sb**	**03 53 57.2**	**+5.4**
BRCO	**Bruce Peninsul**	**5.17**	**256**	SN	**Sn**	**03 53 40.8**	**+2.0**
BRCO				SG	Sb	03 54 01.7	+6.9
BRCO				Trac		03 54 14.2	
	comp=Z,87nm,0.2s						
BASO	**Ashfield**	**5.40**	**254**	PN	**Pn**	**03 52 44.5**	**+1.6**
BASO				SN	**Sn**	**03 53 48.0**	**+3.5**
BASO				LG	Lg	03 54 07.6	
BASO				Trac		03 54 20.2	
	comp=Z,58nm,0.2s						
TIMO	**Timmins Ontari**	**5.40**	**303**	PN	**Pn**	**03 52 45.1**	**+2.2**
TIMO				SN	**Sn**	**03 53 43.5**	**-1.0**
TIMO				LG	Lg	03 54 04.0	
TIMO				Trac		03 54 13.5	
	comp=Z,139nm,0.5s						
ELFO	**Elginfield**	**5.52**	**245**	PN	**Pn**	**03 52 45.2**	**+0.6**
ELFO				SN	**Sn**	**03 53 49.3**	**+1.7**
ELFO				SG	Sb	03 54 13.2	+8.1
ELFO				Trac		03 54 21.9	
	comp=Z,60nm,0.2s						
CNQ	**Baie Comeau**	**5.60**	**48**	PN	**Pn**	**03 52 46.3**	**+0.6**
CNQ				SN	**Sn**	**03 53 49.4**	**-0.1**
CNQ				LG	Lg	03 54 14.0	
CNQ				Trac		03 54 20.8	
	comp=Z,140nm,0.3s						
SSPA	**Standing Stone**	**5.69**	**207**	*e*Pn	**Pn**	**03 52 48.2**	**+1.4**
SSPA				*e*Sn	**Sn**	**03 53 53.0**	**+1.4**
SSPA				*e*Sg	Sg	03 54 19.8	-6.0
ALLY	**Alegheny Colle**	**5.80**	**227**	SN	**Sn**	**03 53 55.0**	**+0.4**
ALLY				LG	Lg	03 54 21.1	
ALLY	**Alegheny Colle**	**5.80**	**227**	*e*Pn	**Pn**	**03 52 48.2**	**-0.3**
ALLY				*e*Sg	Sb	03 54 21.2	+8.0
MVL	**Millersville**	**5.91**	**194**	*e*Pn	**Pn**	**03 52 52.3**	**+2.4**
GSQ	**Grosses Roches**	**5.92**	**55**	PN	**Pn**	**03 52 51.7**	**+1.7**
GSQ				SN	**Sn**	**03 53 58.3**	**+0.9**
GSQ				LG	Lg	03 54 23.5	
GSQ				Trac		03 54 42.5	
	comp=Z,85nm,0.4s						
BATG	**Bathurst New B**	**6.00**	**72**	PN	**Pn**	**03 52 51.4**	**+0.1**
BATG				SN	Sn	03 53 54.7	-4.7
NMSQ	**Nemaska Statio**	**6.06**	**351**	PN	**Pn**	**03 52 53.1**	**+1.2**
NMSQ				SN	**Sn**	**03 53 58.5**	**-2.2**
NMSQ				LG	Lg	03 54 28.4	
NMSQ				Trac		03 54 39.7	
	comp=Z,106nm,0.4s						
ICQ	**Pointe Anglais**	**6.16**	**50**	PN	**Pn**	**03 52 53.7**	**+0.5**
ICQ				SN	**Sn**	**03 54 02.3**	**-0.9**
ICQ				LG	Lg	03 54 30.8	
ICQ				Trac		03 54 33.6	
	comp=Z,160nm,0.5s						
SDMD	**Soldier's Deli**	**6.57**	**196**	*e*Pn	**Pn**	**03 52 58.7**	**-0.3**
SDMD				*e*Sn	**Sn**	**03 54 14.9**	**+1.5**
SDMD				*e*Sg	Sg	03 54 47.2	-6.9
KAPO	**Kapuskasing**	**6.58**	**307**	PN	**Pn**	**03 52 59.4**	**+0.4**
KAPO				SN	**Sn**	**03 54 09.8**	**-3.7**
KAPO				LG	Lg	03 54 39.7	
KAPO				Trac		03 54 52.5	
	comp=Z,49nm,0.4s						
LMN	**Caledonia Moun**	**6.76**	**86**	PN	**Pn**	**03 53 01.8**	**+0.2**
LMN				SN	**Sn**	**03 54 16.6**	**-1.4**
LMN				LG	Lg	03 54 52.9	
LMN				Trac		03 54 59.2	
	comp=Z,134nm,1.1s						
SMQ	**Clarke City**	**6.87**	**47**	PN	**Pn**	**03 53 03.0**	**-0.1**
SMQ				SN	**Sn**	**03 54 20.4**	**-0.4**
SMQ				LG	Lg	03 54 51.3	
SMQ				Trac		03 55 09.0	
	comp=Z,130nm,0.5s						
PLIO	**Pelee Island,**	**7.13**	**239**	PN	**Pn**	**03 53 06.8**	**+0.1**
PLIO				SN	**Sn**	**03 54 25.1**	**-2.1**
PLIO				LG	Lg	03 54 56.4	
PLIO				Trac		03 55 03.2	
	comp=Z,52nm,0.5s						
YOSQ	**Ashton Mining**	**7.28**	**11**	PN	**Pn**	**03 53 08.3**	**-0.4**
YOSQ				SN	**Sn**	**03 54 29.3**	**-1.5**
YOSQ				LG	Lg	03 55 05.4	
YOSQ				Trac		03 55 19.3	
	comp=Z,85nm,0.5s						
LG4Q	**La Grande 4**	**7.89**	**2**	PN	**Pn**	**03 53 16.5**	**-0.6**
LG4Q				SN	Sn	03 54 39.8	-5.9
LG4Q				LG	Lg	03 55 23.9	
LG4Q				Trac		03 55 41.5	
	comp=Z,62nm,0.4s						
PNPO	**Pukaskwa Natio**	**8.54**	**294**	PN	**Pn**	**03 53 25.1**	**-0.8**
PNPO				SN	Sn	03 54 56.1	-5.7
PNPO				LG	Lg	03 55 41.5	
PNPO				Trac		03 55 52.6	
	comp=Z,42nm,0.5s						
NATG	**Natashquan Que**	**9.04**	**56**	PN	**Pn**	**03 53 33.8**	**+1.0**
NATG				SN	**Sn**	**03 55 10.0**	**-4.0**
NATG				Trac		03 56 05.2	
	comp=Z,138nm,1.0s						
NATG				LG	Lg	03 56 08.6	
GBN	**Guysborough**	**9.10**	**88**	PN	**Pn**	**03 53 33.9**	**+0.3**
GBN				SN	**Sn**	**03 55 12.6**	**-2.9**
GBN	**Guysborough**	**9.10**	**88**	Pn	**Pn**	**03 53 33.9**	**+0.3**
GBN				Sn	**Sn**	**03 55 12.6**	**-2.9**
VIMO	**Victor Mine**	**9.31**	**323**	PN	**Pn**	**03 53 35.4**	**-1.1**
VIMO				SN	Sn	03 55 15.6	-5.0
VIMO				LG	Lg	03 56 08.8	
VIMO				Trac		03 56 09.4	
	comp=Z,65nm,0.9s						
GTO	**Geraldton**	**9.31**	**300**	PN	**Pn**	**03 53 35.9**	**-0.7**
GTO				SN	Sn	03 55 14.3	-6.5
GTO				LG	Lg	03 56 08.9	
GTO				Trac		03 56 18.4	
	comp=Z,37nm,0.6s						
NANO	**Nakina Ontario**	**9.55**	**303**	PN	**Pn**	**03 53 39.8**	**0.0**
NANO				SN	**Sn**	**03 55 25.3**	**-1.3**
NANO				LG	Lg	03 56 14.4	
NANO				Trac		03 56 25.3	
	comp=Z,62nm,0.8s						
SCHQ	**Schefferville**	**10.32**	**25**	PN	**Pn**	**03 53 49.8**	**-0.5**
SCHQ				SN	Sn	03 55 38.0	-7.4
SCHQ				LG	Lg	03 56 36.0	
SCHQ				Trac		03 56 48.9	
	comp=Z,83nm,0.8s						
SCHQ	**Schefferville**	**10.32**	**25**	Pn	**Pn**	**03 53 49.8**	**-0.5**
SCHQ				Sn	Sn	03 55 38.0	-7.4
SCHQ				Lg	Lg	03 56 36.0	
TBO	**Thunder Bay**	**10.57**	**291**	PN	**Pn**	**03 53 53.4**	**-0.4**
TBO				SN	Sn	03 55 47.1	-4.5
TBO				LG	Lg	03 56 44.4	
TBO				Trac		03 57 01.8	
	comp=Z,18nm,0.6s						
TBO	**Thunder Bay**	**10.57**	**291**	Pn	**Pn**	**03 53 53.4**	**-0.4**
TBO				Sn	Sn	03 55 47.1	-4.5
TBO				Lg	Lg	03 56 44.4	
SILO	**Sutton Inlier**	**11.00**	**326**	PN	Pn	03 53 57.2	-2.4
SILO				SN	Sn	03 55 56.0	-6.2
SILO				LG	Lg	03 57 00.2	
SILO				Trac		03 57 02.5	
	comp=Z,203nm,1.0s						
SILO	**Sutton Inlier**	**11.00**	**326**	Pn	Pn	03 53 57.2	-2.4
SILO				Sn	Sn	03 55 56.0	-6.2
SILO				Lg	Lg	03 57 00.2	
JFWS	**Jewell Farm**	**11.65**	**262**	PN	Pn	03 54 14.9	+6.3
DRLN	**Deer Lake**	**12.00**	**67**	PN	**Pn**	**03 54 12.5**	**-0.8**
DRLN				SN	Sn	03 56 15.8	-11
DRLN	**Deer Lake**	**12.00**	**67**	Pn	**Pn**	**03 54 12.5**	**-0.8**
DRLN				Sn	Sn	03 56 15.8	-11
SOLO	**Sioux Lookout**	**12.56**	**296**	PN	**Pn**	**03 54 20.0**	**-1.1**
SOLO				SN	Sn	03 56 35.1	-5.3
SOLO				LG	Lg	03 57 44.4	
SOLO				Trac		03 58 01.0	
	comp=Z,17nm,0.5s						
SOLO	**Sioux Lookout**	**12.56**	**296**	Pn	**Pn**	**03 54 20.0**	**-1.1**
SOLO				Sn	Sn	03 56 35.1	-5.3
SOLO				Lg	Lg	03 57 44.4	
KUQ	**Kuujjuuaa**	**12.92**	**15**	PN	**Pn**	**03 54 27.0**	**+1.1**
KUQ				SN	Sn	03 56 40.1	-8.9
KUQ				LG	Lg	03 57 59.5	
KUQ				Trac		03 58 14.4	
	comp=Z,30nm,0.5s						
KUQ	**Kuujjuuaa**	**12.92**	**15**	Pn	**Pn**	**03 54 27.0**	**+1.1**
KUQ				Sn	Sn	03 56 40.1	-8.9
KUQ				Lg	Lg	03 57 59.5	

IDC ***28*** *03:51:30.6±0.8, 35°.85S×73°.45W, h0km, mb4.3/12, mb1 4.4/15, mb1mx4.3/34, mbtmp4.3/15, ML4.2/3, MS3.7/2, Ms1 3.7/2, ms1mx3.3/28, Error ellipse: s-maj=24.5km s-min=16.4km az=89.0*

ISCJB ***28*** *03:51:33.7±0.4, 35°.84S±0°.06×73°.35W±0°.09, h33km, mb4.5/30, Error ellipse: s-maj=11.3km s-min=7.4km az=156.7*

NEIC ***28*** *03:51:35.6±1.0, 35°.86S×73°.38W, h35km±8km, mb4.6/25, Error ellipse: s-maj=9.8km s-min=5.4km az=77.0*

ISC 28 03:51:35.5±0.5, **35°.85S**±0°.07×**73°.4W**±0°.1, **h35**km, **n64**, σ**0s.67**/64, **mb4.5**/30, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.36**	**156**	Pn	**Pn**	**03 52 53.0**	**-0.2**
	1.5nm,0.3s,baz=304,slow=13,SNR=2.5						
PLCA				Lg	Lg	03 54 15.1	
	3.2nm,0.3s,baz=252,slow=19,SNR=2.0						
PLCA	**Paso Flores**	**5.36**	**156**	*e*Pn	**Pn**	**03 52 52.7**	**-0.4**
	40nm,0.6s						
PLCA				Lg	Lg	03 54 15.1	
CFAA	**Coronel Fontan**	**6.03**	**47**	Pn	**Pn**	**03 53 02.2**	**-0.1**
	4.6nm,0.3s,baz=206,slow=14,SNR=16						
CFAA				LR	LR	03 55 57.8	
	comp=Z,176nm,18.4s,baz=232,slow=44						
TRQA	**Tornquist**	**9.40**	**107**	*e*Pn	**Pn**	**03 53 48.2**	**-0.3**
CPUP	**Villa Florida**	**16.70**	**60**	Pn	**Pn**	**03 55 26.4**	**-0.4**
	0.4nm,0.3s,baz=202,slow=14,SNR=2.8						
CPUP				LR	LR	04 03 17.5	
	comp=Z,692nm,18.8s,baz=228,slow=42						
LPAZ	**La Paz**	**20.04**	**15**	P	**P**	**03 56 06.8**	**+0.5**
	6.0nm,0.8s,baz=182,slow=8.0,SNR=6.9						
LPAZ	**La Paz**	**20.04**	**15**	*e*P	Pn	03 56 08.1	-0.2
	18nm,1.1s						
SIV	**San Ignacio**	**22.63**	**32**	P	**P**	**03 56 33.5**	**0.0**
	19nm,0.9s,baz=226,slow=13,SNR=17						
SAML	**Samuel**	**28.35**	**22**	*e*P	**P**	**03 57 26.5**	**+0.2**
	19nm,1.6s						
BDFB	**Brasilia**	**30.30**	**55**	P	**P**	**03 57 43.8**	**+0.1**
	9.3nm,1.0s,baz=221,slow=9.3,SNR=6.4						
OTAV	**Otavalo**	**36.21**	**351**	*e*P	**P**	**03 58 34.6**	**-1.0**
	9.6nm,1.4s						
SDV	**Santo Domingo**	**44.57**	**4**	*e*P	**P**	**03 59 44.4**	**0.0**
	4.8nm,0.8s						
VNA3	**Neumayer Olymp**	**48.08**	**157**	P	**P**	**04 00 11.5**	**+0.2**
VNA2	**Neumayer--Watz**	**48.75**	**156**	P	**P**	**04 00 17.2**	**+0.8**
GRGR	**Grenville**	**49.00**	**15**	*e*P	**P**	**04 00 19.5**	**+0.7**
SNAA	**Sanae**	**50.30**	**157**	P	**P**	**04 00 28.6**	**+0.3**
SNAA	**Sanae**	**50.30**	**157**	P	**P**	**04 00 28.5**	**+0.3**
	3.0nm,0.8s,baz=288,slow=8.3,SNR=10						
SNAA	**Sanae**	**50.30**	**157**	*e*P	**P**	**04 00 28.4**	**+0.1**
	12nm,1.0s						
OBIP	**Obispado Ponce**	**53.98**	**8**	*e*P	**P**	**04 00 55.9**	**-0.1**
	13nm,0.8s						
CBYP	**Canovanas**	**54.30**	**9**	*e*P	**P**	**04 00 58.5**	**+0.1**
	29nm,1.0s						
QSPA	**South Pole Qui**	**54.39**	**180**	P	**P**	**04 00 58.7**	**0.0**
	5.1nm,0.8s,baz=140,slow=0.9,SNR=14						
QSPA	**South Pole Qui**	**54.39**	**180**	*e*P	**P**	**04 00 58.5**	**-0.2**
	7.4nm,1.0s						
GTBY	**Guantanamo Bay**	**55.50**	**358**	*e*P	**P**	**04 01 06.0**	**-1.0**
ASCN	**Ascension**	**60.40**	**78**	*e*P	**P**	**04 01 41.7**	**+0.1**
LRAL	**Lakeview Retre**	**69.70**	**348**	*e*P	**P**	**04 02 41.8**	**+0.3**
	4.6nm,0.9s						
JCT	**Junction City**	**70.50**	**336**	*e*P	**P**	**04 02 47.5**	**+1.0**
	4.3nm,0.9s						
TXAR	**Lajitas Array**	**70.83**	**332**	P	**P**	**04 02 48.9**	**+0.3**
	0.6nm,0.6s,baz=154,slow=8.6,SNR=8.2						
SWET	**Sewanee**	**71.66**	**349**	*e*P	**P**	**04 02 53.8**	**+0.3**
	7.9nm,0.7s						
ABTX	**Abilene, Hawle**	**72.42**	**337**	*e*P	**P**	**04 02 58.7**	**+0.6**
	5.4nm,0.9s						
WVT	**Waverly**	**72.86**	**348**	*e*P	**P**	**04 03 00.4**	**-0.2**
	7.0nm,1.0s						
MNTX	**Cornudas Mount**	**73.59**	**332**	*e*P	**P**	**04 03 04.6**	**-0.5**
	4.3nm,1.3s						
WCI	**Wyandotte Cave**	**74.67**	**349**	*e*P	**P**	**04 03 10.8**	**-0.4**
	4.9nm,0.8s						
SUR	**Sutherland**	**74.91**	**119**	*e*P	**P**	**04 03 14.6**	**+1.4**
	29nm,1.3s						
LAZ	**Ladron**	**76.67**	**332**	*e*P	**P**	**04 03 21.5**	**-1.4**
DBIC	**Dimbokro**	**76.82**	**72**	P	**P**	**04 03 24.7**	**+0.7**
	6.9nm,0.9s,baz=203,slow=6.5,SNR=6.3						
DBIC	**Dimbokro**	**76.82**	**72**	*e*P	**P**	**04 03 24.8**	**+0.7**
	16nm,1.2s						
ANMO	**Albuquerque**	**76.89**	**333**	P	**P**	**04 03 25.1**	**+1.0**
	1.6nm,1.0s,baz=143,slow=7.8,SNR=3.8						
ANMO	**Albuquerque**	**76.89**	**333**	*e*P	**P**	**04 03 24.7**	**+0.6**
	5.5nm,1.3s						
SDCO	**Great Sand Dun**	**79.04**	**335**	*e*P	**P**	**04 03 36.8**	**+0.7**
	5.4nm,1.4s						
TSUM	**Tsumeb**	**79.78**	**106**	*e*P	**P**	**04 03 41.2**	**+0.7**
	3.7nm,1.0s						
BOSA	**Boshof**	**80.19**	**118**	P	**P**	**04 03 43.6**	**+1.0**
	6.6nm,1.0s,baz=205,slow=4.5,SNR=5.7						
BOSA	**Boshof**	**80.19**	**118**	*e*P	**P**	**04 03 42.7**	**0.0**
	7.6nm,0.9s						
LBTB	**Lobatse**	**82.53**	**115**	*e*P	**P**	**04 03 54.6**	**-0.5**
	3.4nm,0.6s						
DUG	**Dugway**	**83.92**	**331**	*e*P	**P**	**04 04 02.4**	**+0.7**
	25nm,1.9s						
HWUT	**Hardware Ranch**	**84.65**	**332**	*e*P	**P**	**04 04 06.0**	**+0.5**
	7.2nm,1.2s						
NVAR	**Mina Array Bea**	**84.78**	**326**	P	**P**	**04 04 06.7**	**+0.5**
	0.5nm,0.6s,baz=162,slow=6.2,SNR=4.9						
TOA0	**Torodi Ar. Sit**	**85.88**	**71**	*e*P	**P**	**04 04 12.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**85.88**	**71**	P	**P**	**04 04 12.5**	**+0.5**
	1.5nm,0.9s,baz=228,slow=4.5,SNR=6.4						
ULM	**Lac du Bonnet**	**88.00**	**346**	P	**P**	**04 04 21.2**	**-0.3**
	3.3nm,0.8s,baz=159,slow=5.2,SNR=4.4						
LSZ	**Lusaka**	**90.27**	**109**	*e*P	**P**	**04 04 30.9**	**-2.4**
	2.0nm,0.8s						
WRAB	**Tennant Creek**	**118.61**	**210**	*e*PKPdf	**PKPdf**	**04 10 20.1**	**-0.1**
BUR08	**Bucovina Ar. S**	**120.78**	**51**	*e*PKPdf	**PKPdf**	**04 10 22.6**	**-0.9**
SUW	**Suwalki**	**121.71**	**44**	*e*PKPdf	**PKPdf**	**04 10 23.3**	**-1.6**
MBWA	**Marble Bar**	**121.95**	**194**	*e*PKPdf	**PKPdf**	**04 10 26.5**	**-0.1**
KAPI	**Kappang**	**137.52**	**200**	*e*PKPdf	**PKPdf**	**04 10 56.5**	**+0.3**
ARU	**Arti**	**141.87**	**42**	*e*PKPdf	**PKPdf**	**04 11 01.9**	**-0.9**
PALK	**Pallekele**	**142.97**	**134**	*e*PKPdf	**PKPdf**	**04 11 07.0**	**+0.8**
KSM	**Kuching**	**145.62**	**187**	*e*PKPbc	**PKPab**	**04 11 11.2**	**-0.1**
PSI	**Prapat**	**146.35**	**166**	PKPbc	**PKPab**	**04 11 14.2**	**+0.1**
	5.4nm,0.8s,baz=281,slow=2.4,SNR=5.7						
KKM	**Kota Kinabalu**	**149.05**	**199**	*e*PKPdf	**PKPdf**	**04 11 17.4**	**+0.9**
KKM				*e*PKPbc	**PKiKP**	**04 11 22.0**	**0.0**
KULM	**Kulim**	**149.10**	**168**	*e*PKPbc	**PKPbc**	**04 11 20.4**	**-0.2**
KURK	**Kurchatov**	**154.98**	**45**	*e*PKPbc	**PKPbc**	**04 11 33.2**	**+0.3**
TKM2	**Tokmak 2**	**155.11**	**64**	*e*PKPbc	PKPdf	04 11 33.7	+8.9
TKM2				*e*PKPab	**PKPab**	**04 11 50.0**	**+0.3**
ZAA0	**Zalesovo Array**	**156.38**	**33**	*e*PKPdf	**PKPdf**	**04 11 25.9**	**0.0**

IDC ***28*** *03:53:34.8±1.0, 35°.09S×71°.80W, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/30, mbtmp4.2/8, ML3.9/1, Error ellipse: s-maj=35.0km s-min=23.5km az=83.0*

ISCJB ***28*** *03:53:38.0±0.6, 34°.86S±0°.08×71°.9W±0°.1, h29km, mb4.1/15, Error ellipse: s-maj=15.2km s-min=9.9km az=157.9*

NEIC ***28*** *03:53:40.8±0.3, 34°.84S×71°.86W, h35km, mb4.3/12, Error ellipse: s-maj=11.4km s-min=7.8km az=75.0*

ISC 28 03:53:39.8±0.5, **34°.87S**±0°.09×**71°.9W**±0°.1, **h29**km, **n34**, σ**0s.98**/37, **mb4.3**/15, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.94**	**170**	*e*Pn	**Pn**	**03 55 07.2**	**+1.4**
TRQA	**Tornquist**	**8.57**	**115**	*e*Pn	**Pn**	**03 55 42.8**	**+0.8**
CPUP	**Villa Florida**	**15.12**	**60**	*e*Pn	**Pn**	**03 57 11.4**	**0.0**
LPAZ	**La Paz**	**18.81**	**11**	P	**P**	**03 57 57.4**	**-0.3**
	0.2nm,0.3s,baz=181,slow=8.2,SNR=2.5						
LPAZ	**La Paz**	**18.81**	**11**	*e*P	**P**	**03 57 57.5**	**-0.2**
	5.4nm,0.6s						
SIV	**San Ignacio**	**21.15**	**30**	P	**P**	**03 58 23.3**	**+0.7**
	11nm,0.6s,baz=205,slow=9.3,SNR=15						
OTAV	**Otavalo**	**35.47**	**349**	*e*P	**P**	**04 00 33.7**	**-0.6**
	1.5nm,0.7s						
SDV	**Santo Domingo**	**43.53**	**2**	*e*P	**P**	**04 01 42.0**	**+0.7**
	4.4nm,0.8s						
QSPA	**South Pole Qui**	**55.37**	**180**	P	**P**	**04 03 08.2**	**-2.7**
	1.5nm,0.8s,baz=150,slow=2.7,SNR=2.7						
QSPA	**South Pole Qui**	**55.37**	**180**	*e*P	**P**	**04 03 11.4**	**+0.5**
	4.3nm,0.9s						
TXAR	**Lajitas Array**	**70.56**	**331**	P	**P**	**04 04 52.2**	**0.0**
	0.2nm,0.3s,baz=156,slow=8.9,SNR=5.1						
SWET	**Sewanee**	**70.96**	**348**	*e*P	**P**	**04 04 54.5**	**+0.2**
	4.7nm,0.8s						
WVT	**Waverly**	**72.19**	**346**	*e*P	**P**	**04 05 02.3**	**+0.6**
	4.3nm,0.8s						
MNTX	**Cornudas Mount**	**73.34**	**331**	*e*P	**P**	**04 05 08.5**	**-0.3**
	1.4nm,0.9s						
DBIC	**Dimbokro**	**75.32**	**71**	P	**P**	**04 05 20.9**	**+0.3**
	4.4nm,0.8s,baz=223,slow=6.7,SNR=4.2						
DBIC	**Dimbokro**	**75.32**	**71**	*e*P	**P**	**04 05 21.0**	**+0.3**
	4.2nm,0.8s						
ANMO	**Albuquerque**	**76.62**	**331**	*e*P	**P**	**04 05 25.6**	**-2.2**
	2.6nm,1.1s						
BOSA	**Boshof**	**79.54**	**117**	P	**P**	**04 05 43.2**	**-1.1**
	3.5nm,0.6s,baz=222,slow=6.6,SNR=9.6						
BOSA	**Boshof**	**79.54**	**117**	*e*P	**P**	**04 05 43.6**	**-0.7**
	3.1nm,0.6s						
ISCO	**Idaho Springs**	**80.57**	**334**	*e*P	**P**	**04 05 48.9**	**-0.7**
	1.8nm,0.9s						
LBTB	**Lobatse**	**81.81**	**115**	*e*P	**P**	**04 05 56.1**	**-0.4**
	1.7nm,0.5s						
TOA0	**Torodi Ar. Sit**	**84.37**	**70**	*e*P	**P**	**04 06 09.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P	**P**	**04 06 09.5**	**-0.2**
	1.3nm,0.9s,baz=231,slow=4.9,SNR=5.3						
NVAR	**Mina Array Bea**	**84.68**	**325**	P	**P**	**04 06 13.2**	**+2.2**
	0.3nm,0.7s,baz=225,slow=5.6,SNR=2.9						
KAPI	**Kappang**	**138.84**	**198**	*e*PKPdf	**PKPdf**	**04 13 05.0**	**+1.0**
ARU	**Arti**	**140.31**	**41**	*e*PKPdf	**PKPdf**	**04 13 05.6**	**+0.5**
ABKAR	**Akbulak array**	**142.10**	**53**	*e*PKPdf	**PKPdf**	**04 13 06.9**	**-1.7**
PALK	**Pallekele**	**142.71**	**131**	*e*PKPdf	**PKPdf**	**04 13 10.9**	**0.0**
KSM	**Kuching**	**146.71**	**184**	*e*PKPbc	**PKPbc**	**04 13 18.4**	**-1.0**
BRVK	**Borovoye**	**147.74**	**44**	*e*PKPbc	**PKPbc**	**04 13 20.9**	**-0.2**
IPM	**Ipoh**	**149.05**	**166**	*e*PKPdf	**PKPdf**	**04 13 21.2**	**-0.5**
IPM				*e*PKPbc	**PKiKP**	**04 13 26.1**	**-0.9**
IPM				*e*PKPab	**PKPab**	**04 13 29.6**	**-0.3**
KKM	**Kota Kinabalu**	**150.36**	**196**	*e*PKPbc	**PKPbc**	**04 13 30.4**	**+1.3**
TKM2	**Tokmak 2**	**153.56**	**63**	*e*PKPdf	**PKPdf**	**04 13 28.2**	**+0.3**
TKM2				*e*PKPab	**PKPab**	**04 13 48.0**	**-0.3**
ZAA0	**Zalesovo Array**	**154.88**	**33**	*e*PKPab	**PKPab**	**04 13 53.0**	**-0.2**

BJI ***28*** *03:58:49.6, 7°.99S×129°.44E, h127km, mB5.3/28, mb5.2/47*

MOS ***28*** *03:58:53.0±1.1, 7°.25S×128°.85E, h96km, mb5.1/24, Error ellipse: s-maj=12.5km s-min=6.4km az=117.0*

ISCJB ***28*** *03:58:57.2±0.4, 7°.39S±0°.02×128°.93E±0°.03, h140km±3km, mb4.7/80, Error ellipse: s-maj=4.1km s-min=3.7km az=176.6*

IDC ***28*** *03:58:58.1±1.5, 7°.24S×128°.77E, h126km±13km, mb4.3/21, mb1 4.3/22, mb1mx4.2/36, mbtmp4.7/22, MS3.7/1, Ms1 3.7/1, ms1mx2.9/32, Error ellipse: s-maj=12.0km s-min=8.7km az=65.0*

NEIC ***28*** *03:58:58.2±0.5, 7°.32S×128°.84E, h131km±5km, mb4.8/38, Error ellipse: s-maj=5.5km s-min=4.5km az=221.0*

DJA ***28*** *03:58:59.3±0.2, 7° S±2°×12° 9E± °, h114km±3km, M5.1/44, mB5.6/24, mb5.0/44, MLv5.4/12, Mw(mB)5.1/24*

ISC 28 03:58:57.7±0.3, **7°.37S**±0°.03×**128°.89E**±0°.03, **h129**km±2km, **n271**, σ**1s.55**/326, **mb4.8**/80, **18C-5D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.46**	**104**	P	**Pn**	**03 59 37.7**	**+0.2**
SAUI	**Saumlaki**	**2.46**	**104**	*e*Pn	**Pn**	**03 59 39.4**	**+1.9**
BNDI	**Bandanaira**	**3.01**	**20**	P	**Pn**	**03 59 45.3**	**+0.8**
NLAI	**Namlea**	**4.48**	**336**	P	**Pn**	**04 00 05.9**	**+2.0**
SOEI	**Soe**	**5.15**	**242**	P	**Pn**	**04 00 12.9**	**-0.1**
	734nm,0.8s,9μm11nm						
SOEI				S	**Sn**	**04 01 11.2**	**-0.3**
	734nm,0.8s,9μm11nm						
SOEI	**Soe**	**5.15**	**242**	*e*Pn	**Pn**	**04 00 13.3**	**+0.4**
SOEI				*e*Sn	**Sn**	**04 01 08.3**	**-3.2**
SOEI	**Soe**	**5.15**	**242**	P	**Pn**	**04 00 13.4**	**+0.4**
	baz=5.2,SNR=85						
SOEI				S	**Sn**	**04 01 12.3**	**+0.8**
	baz=5.2,SNR=8.5						
FAKI	**Fak Fak**	**5.55**	**37**	P	**Pn**	**04 00 17.4**	**-0.8**
	377nm,0.5s,5μm3.1nm						
FAKI				S	**Sn**	**04 01 19.1**	**-1.9**
	377nm,0.5s,5μm3.1nm						
FAKI	**Fak Fak**	**5.55**	**37**	*e*Pn	**Pn**	**04 00 17.9**	**-0.3**
FAKI				*e*Sn	**Sn**	**04 01 17.9**	**-3.1**
FAKI	**Fak Fak**	**5.55**	**37**	P	**Pn**	**04 00 17.9**	**-0.3**
	baz=5.6,SNR=84						
FAKI				S	**Sn**	**04 01 19.0**	**-1.9**
	baz=5.6,SNR=22						
MTN	**Manton Dam**	**5.87**	**158**	P	**Pn**	**04 00 22.4**	**-0.1**
	baz=5.7,SNR=242						
MTN				S	**Sn**	**04 01 25.8**	**-2.9**
	baz=5.7,SNR=7.1						
BATI	**Baumata**	**5.88**	**241**	P	**Pn**	**04 00 22.5**	**-0.2**
	614nm,0.8s,11μm4.3nm						
BATI				S	**Sn**	**04 01 28.2**	**-0.9**
	614nm,0.8s,11μm4.3nm						
BATI	**Baumata**	**5.88**	**241**	P	**Pn**	**04 00 23.3**	**+0.5**
	196nm,0.3s,baz=95,slow=2.5,SNR=98						
BATI				S	**Sn**	**04 01 27.5**	**-1.5**
	358nm,0.3s,baz=96,slow=22,SNR=18						
BATI				LR	LR	04 02 24.7	
	comp=Z,607nm,18.6s,baz=318,slow=35						
SANI	**Sanana**	**6.03**	**331**	P	**Pn**	**04 00 27.3**	**+2.6**
	65nm,1.2s,0.2nm						
KMPI	**Kaimana, Papua**	**6.05**	**53**	P	**Pn**	**04 00 24.1**	**-0.8**
	656nm,0.6s,24μm7.4nm						
KDU	**Kakadu**	**6.35**	**147**	P	**Pn**	**04 00 28.7**	**-0.3**
	baz=6.2,SNR=215						
KDU				S	**Sn**	**04 01 36.4**	**-4.0**
	baz=6.2,SNR=5.9						
LBMI	**Labuha**	**6.83**	**348**	P	**Pn**	**04 00 38.7**	**+3.2**
	176nm,0.8s,2μm0.6nm						
SWI	**Sorong**	**6.88**	**20**	P	**Pn**	**04 00 36.8**	**+0.6**
	104nm,0.8s,5μm1.2nm						
SWI	**Sorong**	**6.88**	**20**	P	**Pn**	**04 00 37.5**	**+1.3**
	baz=7.0,SNR=8.0						
SWI				S	**Sn**	**04 01 53.5**	**+0.2**
	baz=7.0,SNR=7.7						
KNRA	**Kununurra**	**8.26**	**181**	P	**Pn**	**04 00 53.0**	**-1.7**
	baz=8.2,SNR=392						
KNRA				S	Sn	04 02 18.7	-7.6
	baz=8.2,SNR=11						
WSI	**Waingapu**	**8.80**	**254**	P	**Pn**	**04 01 01.9**	**0.0**
	baz=8.9,SNR=4.2						
WSI				S	**Sn**	**04 02 37.1**	**-2.4**
	baz=8.9,SNR=4.8						
BKSI	**Bulukumba**	**8.95**	**283**	P	**Pn**	**04 01 06.9**	**+2.9**
	38nm,1.2s,491nm						
SRPI	**Serui, Papua**	**9.14**	**54**	P	**Pn**	**04 01 06.6**	**0.0**

210nm,0.8s,8µm
BNSI Bone 9.22 288 P Pn 04 01 11.7 +4.0
36nm,0.7s
KAPI Kappang 9.38 284 ePn Pn 04 01 08.8 -1.1
52nm,0.8s
BAKI Biak 9.46 50 P Pn 04 01 11.5 +0.6
886nm,0.8s,6µm
WBSI Waikabubak, Su 9.66 256 P Pn 04 01 12.5 -1.1
310nm,0.7s,5µm
SPSI Sidrap Palu 9.69 290 P Pn 04 01 17.4 +3.5
24nm,1.1s,564nm
TTSI Tana Toraja 10.00 295 P Pn 04 01 22.5 +4.3
52nm,0.9s
WAMI Wamena 10.37 71 P Pn 04 01 26.0 +2.9
132nm,0.7s
MRSI Marisa 10.43 318 P Pn 04 01 28.1 +4.1
35nm,1.0s,1µm
MPSI Mapaga 11.79 310 P P 04 01 57.7 +7.9
GENI Genyem 12.20 68 P Pn 04 01 48.7 +1.4
53nm,0.7s
WRAB Tennant Creek 13.56 158⇑iP Pn 04 02 02.4 -2.6
WRAB pmax pmax
comp=Z,156nm,0.7s
WRAB Tennant Creek 13.56 158 ePn Pn 04 02 02.0 -3.0
WRAB eSn Sn 04 04 23.7 -11
WRA Warramunga Arr 13.57 158 P Pn 04 02 02.0 -3.1
comp=Z,11nm,0.3s,baz=342,slow=13,SNR=104
WRA S Sn 04 04 22.5 -12
comp=Z,20nm,0.3s,baz=330,slow=24,SNR=9.6
BBKI Banjar Baru 14.51 285 P Pn 04 02 18.6 +1.5
comp=Z,80nm,1.2s,comp=Z,5µm
JAGI Jajag, Banyuwa 14.64 265 P P 04 02 20.4 -1.1
baz=15,SNR=9.7
BLJI Banyuglugur 15.17 268 P P 04 02 27.7 +0.4
comp=Z,70nm,0.5s,comp=Z,3µm
CTBH Cotabato--PC H 15.22 342⇓iP P 04 02 30.1 +2.2
MTKI Muara Teweh, K 15.34 294 P P 04 02 32.4 +3.1
comp=Z,88nm,0.6s
COEN Coen 15.48 116 ePn Pn 04 02 28.9 -0.4
comp=Z,260nm,1.2s
COEN eSn Sn 04 05 11.0 -10
COEN Coen 15.48 116 P P 04 02 30.2 -0.7
baz=15,SNR=15
COEN S Sn 04 05 11.4 -10
baz=15,SNR=6.6
MBWA Marble Bar 16.32 212 ePn Pn 04 02 38.3 -1.2
comp=Z,56nm,1.2s
QIS Mount Isa 16.72 143 P Pn 04 02 44.3 -0.1
baz=17,SNR=34
AS31 Alice Springs 16.90 164 eP P 04 02 45.7 -0.8
AS31 eS Sn 04 05 38.3 -17
WRKA Warakurna 17.58 182 P P 04 02 53.8 -0.2
baz=18,SNR=39
WRKA S S 04 06 00.8 -9.5
baz=18,SNR=6.1
PMG Port Moresby 18.19 98 eP Pn 04 03 03.5 +1.4
PMG S S 04 06 17.1 -5.4
PMG pmax pmax
comp=Z,23nm,0.7s
PMG Port Moresby 18.19 98 P Pn 04 03 03.3 +1.2
comp=Z,1.1nm,0.3s,baz=272,slow=13,SNR=12
PMG S S 04 06 17.1 -5.4
comp=Z,0.7nm,0.3s,baz=131,slow=20,SNR=3.0
PMG Port Moresby 18.19 98 eP Pn 04 03 03.5 +1.4
comp=Z,23nm,0.7s
PMG S S 04 06 17.1 -5.4
PMG Port Moresby 18.19 98 P Pn 04 03 10.1 +8.0
baz=18,SNR=3.3
UGM Wanagama 18.21 267 P Pn 04 03 04.3 +1.9
baz=18,SNR=5.3
UGM S S 04 06 24.6 +1.5
baz=18,SNR=3.7
KKM Kota Kinabalu 18.37 316 eP Pn 04 03 04.2 -0.2
comp=Z,41nm,1.0s
KKM Kota Kinabalu 18.37 316 P Pn 04 03 05.3 +0.9
baz=19,SNR=7.1
STKI Sintang 18.87 292 P Pn 04 03 15.7 +5.5
SBUM Sibu 19.28 300 ePn Pn 04 03 14.6 -0.4
comp=Z,25nm,0.9s
KPJI Karang Pucung 19.79 269 P Pn 04 03 19.9 -1.1
comp=Z,32nm,0.8s
KSM Kuching 20.52 295 eP P 04 03 26.3 +0.4
comp=Z,62nm,0.7s
KSM Kuching 20.52 295 P P 04 03 26.5 +0.5
baz=21,SNR=7.6
GIRL Giralia 20.73 221 P Pn 04 03 30.4 -1.4
baz=21,SNR=5.2
CISI Cisompet, Garu 20.90 268 eP P 04 03 28.1 -1.9
comp=Z,30nm,0.7s
CISI eS S 04 07 06.2 -10
CISI Cisompet, Garu 20.90 268 P P 04 03 28.2 -1.9
baz=21,SNR=4.8
CISI S S 04 07 08.4 -7.7
baz=21,SNR=3.2
CTA Charters Tower 21.05 129 P P 04 03 34.1 +2.5
comp=Z,3.8nm,0.5s,baz=300,slow=12,SNR=7.9
CTA S S 04 07 25.2 +6.3
comp=Z,4.7nm,0.7s,baz=285,slow=16,SNR=3.1
CTAO Charters Tower 21.05 129 eP P 04 03 31.7 +0.1
CTAO eS S 04 07 20.9 +2.0
CTAO pmax pmax
comp=Z,28nm,1.1s
CTAO Charters Tower 21.05 129 eP P 04 03 31.7 +0.1
comp=Z,28nm,1.1s
CTAO eS S 04 07 20.9 +2.0
MEEK Meekatharra 21.51 206 P P 04 03 36.8 +0.3
baz=22,SNR=25
TPI Tanjungpandan 21.64 281 P P 04 03 39.5 +1.5
comp=Z,30nm,1.1s
TGY Tagaytay City 22.75 340 P P 04 03 49.7 +0.5
comp=Z,141nm,0.4s,baz=170,slow=6.1,SNR=3.1
FORT Forrest 23.30 182 eP P 04 03 55.8 +1.6
comp=Z,89nm,0.9s
FORT Forrest 23.30 182 P P 04 03 55.8 +1.6
baz=23,SNR=21
QLP Quilpie 24.04 144 P P 04 04 02.7 +1.8
baz=24,SNR=57
MDSI Maura Dua 24.74 275 P P 04 04 10.5 +3.0
comp=Z,7.8nm,0.6s,comp=Z,588nm
MORW Morawa 24.75 208 P P 04 04 09.6 +2.2
baz=25,SNR=24
BLDU Ballidu 25.79 205 P P 04 04 18.2 +1.4
baz=26,SNR=15
BBOO Buckleboo 26.17 166 P P 04 04 21.6 +1.4
baz=26,SNR=18
KLBR Kellerberrin 26.24 202 P P 04 04 22.2 +1.4
baz=26,SNR=17
MYKOM Kota Tinggi 26.59 289 eP P 04 04 25.0 +0.8
comp=Z,22nm,1.0s
RMQ Roma 26.80 138 P P 04 04 28.8 +2.8
baz=27,SNR=4.9
STKA Stephens Creek 27.11 156 eP P 04 04 30.2 +1.6
STKA pmax pmax
comp=Z,17nm,1.8s
STKA Stephens Creek 27.11 156 P P 04 04 30.1 +1.4
comp=Z,4.3nm,0.5s,baz=328,slow=9.0,SNR=11
STKA Stephens Creek 27.11 156 eP P 04 04 30.2 +1.6
comp=Z,17nm,1.8s
STKA Stephens Creek 27.11 156 P P 04 04 30.0 +1.4
baz=27,SNR=7.6
HTT Hallett 27.55 162 P P 04 04 34.3 +1.8
baz=28,SNR=9.2
NWAO Narrogin (SRO) 27.63 201 P P 04 04 34.5 +1.3
comp=Z,7.1nm,0.4s,baz=33,slow=10,SNR=8.4
CMSA Cobar Meteorol 28.71 149 P P 04 04 44.9 +2.1
baz=29,SNR=10
IPM Ipoh 30.20 292 eP P 04 04 55.6 -0.6
MNSI Mandailing Nat 30.34 284 P P 04 04 58.1 +0.6
comp=Z,51nm,0.8s,comp=Z,2µm
KULM Kulim 30.86 293 eP P 04 05 01.8 -0.2
comp=Z,6.1nm,0.6s
ARMA Armidale 31.31 140 P P 04 05 09.4 +3.5
baz=31,SNR=4.9
ARPS Mount Arapiles 31.55 160 P P 04 05 10.4 +2.5
baz=32,SNR=11
PSI Prapat 31.56 288 P P 04 05 07.6 -0.7
comp=Z,20nm,0.8s,baz=107,slow=11,SNR=16
PSI Prapat 31.56 288 P P 04 05 07.7 -0.7
baz=32,SNR=6.7
TSI Tuntungan 32.13 289 P P 04 05 16.1 +2.9
comp=Z,190nm,1.2s
QIZ Qiongzhong 32.26 325 P P 04 05 17.0 +2.8
QIZ S S 04 10 21.3 +3.0
UBPT Khong Chiam 32.33 314 P P 04 05 15.4 +0.5
comp=Z,26nm,1.1s
JOW Kunigami 34.01 359 P P 04 05 29.4 +0.1
comp=Z,1.8nm,0.5s,baz=162,slow=13,SNR=5.2

PBKT Sadao Pong 36.45 311 P P 04 05 50.6 +0.2
comp=Z,11nm,1.2s
SRDT SRDT 36.58 306 P P 04 05 52.6 +1.1
comp=Z,102nm,1.0s,comp=Z,11µm
UTTA Uttaradit 37.50 312 P P 04 05 59.7 +0.5
comp=Z,12nm,0.9s,comp=Z,122nm
LAMP Lampang 38.67 312 P P 04 06 10.0 +0.9
comp=Z,7.7nm,0.7s,comp=Z,96nm
CMAR Chiang Mai Arr 39.14 311 P P 04 06 13.5 +0.5
comp=Z,13nm,1.0s,baz=142,slow=7.2,SNR=48
CMAR ScP ScP 04 11 57.0 +0.2
comp=Z,1.0nm,0.3s,baz=151,slow=3.0,SNR=9.7
CHTO Chiang Mai 39.36 312 eP P 04 06 15.3 +0.4
CHTO Chiang Mai 39.36 312 iP P 04 06 15.2 +0.4
comp=Z,129nm,1.0s
CHTO Chiang Mai 39.36 312 eP P 04 06 15.2 +0.4
MHMT Maesarieng 39.73 310 P P 04 06 19.3 +1.4
comp=Z,7.6nm,0.9s
GYA Guiyang 39.95 328 eP P 04 06 22.0 +2.2
GYA pP pP 04 06 50.8 +2.1
GYA sP sP 04 07 05.5 +2.1
GYA PP PnPn 04 08 00.0 +1.0
GYA PcP PcP 04 08 24.3 +1.6
GYA S S 04 12 18.3 +2.7
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA pmax pmax
comp=Z,90nm,4.9s
CMAI Chiengmai2 39.99 313 P P 04 06 20.3 +0.1
comp=Z,22nm,1.0s
WHN Wuhan 40.20 340 P P 04 06 22.3 +0.8
JNU Nakatsue 40.31 3 P P 04 06 21.4 -1.2
comp=Z,15nm,0.9s,baz=209,slow=7.5,SNR=7.7
JNU Nakatsue 40.31 3 eP P 04 06 23.4 +0.9
comp=Z,18nm,1.3s
NJ2 Nanjing 40.36 347 eP P 04 06 23.0 +0.2
NJ2 pmax pmax
comp=Z,20nm,0.6s
KMI Kunming 41.13 323 P P 04 06 31.5 +1.9
KMI pP pP 04 07 00.5 +1.9
KMI sP sP 04 07 14.5 +1.2
KMI PP PnPn 04 08 10.8 -2.0
KMI S S 04 12 35.8 +2.5
KMI pmax pmax
comp=Z,22nm,0.8s
KMI pmax pmax
comp=Z,67nm,3.1s
KMI LR LR
comp=Z,250nm,11.6s
KMI LR LR
comp=Z,280nm,19.3s
KMI LR LR
comp=Z,310nm,22.5s
ENH Enshi 41.81 334 eP P 04 06 34.7 -0.1
comp=Z,5.7nm,0.6s
MJAR Matsushiro Arr 44.55 11 P P 04 06 55.2 -1.5
comp=Z,8.8nm,1.0s,baz=187,slow=9.4,SNR=16
MAJO Matsushiro 44.55 11 eP P 04 06 54.7 -2.0
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MAJO Matsushiro 44.55 11 eP P 04 06 54.7 -2.0
comp=Z,9.6nm,0.9s
MAT Matsushiro 44.55 11 P P 04 06 55.2 -1.5
KSAR Wonju Array Be 44.59 359 P P 04 06 57.1 +0.1
KSAR 04 08 37.9
KSAR Wonju Array Be 44.59 359 P P 04 06 57.1 +0.1
KSAR PcP PcP 04 08 37.9 +0.2
KSRS Korea Array 44.60 359 P P 04 06 57.1 0.0
comp=Z,5.8nm,0.5s,baz=175,slow=8.8,SNR=32
KSRS PcP PcP 04 08 37.9 +0.1
comp=Z,1.3nm,0.6s,baz=180,slow=3.4,SNR=4.4
CD2 Chengdu 45.04 329 eP P 04 07 02.5 +1.7
CD2 pP pP 04 07 31.5 +1.3
CD2 sP sP 04 07 46.3 +1.5
CD2 PcP PcP 04 08 41.3 +1.8
CD2 PP PP 04 08 50.8 +2.1
CD2 PcS PcS 04 12 34.0 +0.4
CD2 S S 04 13 31.8 +1.8
CD2 sS sS 04 14 22.5 +1.5
CD2 SS ScS 04 16 49.0 +4.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.8s
CD2 LR LR
comp=Z,760nm,12.2s
CD2 LR LR
comp=Z,600nm,13.2s
CD2 LR LR
comp=Z,700nm,13.7s
XAN Xi'an 45.33 336 P P 04 07 01.8 -1.2
XAN pmax pmax
comp=Z,6.0nm,1.0s
BJT Baijiatuau 48.60 347 eP P 04 07 27.6 -0.6
BJT pmax pmax
comp=Z,10.0nm,0.6s
BJT Baijiatuau 48.60 347 eP P 04 07 27.6 -0.6
comp=Z,10.0nm,0.6s
BJI Beijing 48.62 347 P P 04 07 28.0 -0.3
BJI pmax pmax
comp=Z,28nm,0.6s
LZH Lanzhou 49.22 333 eP P 04 07 34.0 +0.7
LZH pP pP 04 08 02.5 -0.7
LZH sP sP 04 08 16.8 -0.8
LZH S S 04 14 27.3 -2.2
LZH SS SS 04 18 00.3 -2.5
LZH pmax pmax
comp=Z,45nm,1.0s
LZH pmax pmax
comp=Z,220nm,5.4s
LZH LR LR
comp=Z,250nm,14.8s
LZH LR LR
comp=Z,500nm,15.8s
LZH LR LR
comp=Z,330nm,16.8s
PALK Pallekele 50.21 286 eP P 04 07 40.8 -0.2
PALK pmax pmax
comp=Z,19nm,1.1s
PALK Pallekele 50.21 286 P P 04 07 41.1 +0.1
comp=Z,5.0nm,0.5s,baz=114,slow=8.7,SNR=4.3
PALK Pallekele 50.21 286 eP P 04 07 40.8 -0.2
comp=Z,19nm,1.1s
USRK Ussuriysk Arra 51.41 3 P P 04 07 49.3 0.0
comp=Z,5.2nm,0.5s,baz=188,slow=7.1,SNR=23
RPZ Rata Peaks 51.62 142 eP P 04 07 54.0 +3.0
LSA Lhasa 51.71 317 P P 04 07 53.0 +0.5
LSA Lhasa 51.71 317 eP P 04 07 53.2 +0.7
LSA pmax pmax
comp=Z,21nm,0.7s
LSA Lhasa 51.71 317 eP P 04 07 53.2 +0.7
comp=Z,21nm,0.7s
MDJ Mudanjiang 51.75 1 P P 04 07 52.0 +0.1
MDJ pP pP 04 08 19.0 -3.1
MDJ sP sP 04 08 35.0 -1.4
MDJ PcP PcP 04 09 02.0 -1.4
MDJ S S 04 15 09.3 +5.5
MDJ sS sS 04 16 03.5 +7.6
MDJ ScS ScS 04 17 24.5 -4.5
MDJ pmax pmax
comp=Z,7.0nm,1.2s
MDJ pmax pmax
comp=Z,120nm,5.2s
MDJ LR LR
comp=Z,140nm,15.7s
MDJ LR LR
comp=Z,160nm,13.4s
MDJ LR LR
comp=Z,310nm,20.8s
ODAN Odare 52.67 312⇑iP P 04 07 59.3 -0.1
comp=Z,48nm,0.5s
TAPN Taplejung 52.72 313⇑iP P 04 07 59.7 0.0
comp=Z,51nm,0.4s
ASAJ Asahikawa 52.73 12 P P 04 07 58.5 -0.6
comp=Z,3.8nm,0.5s,baz=230,slow=4.7,SNR=6.7
RAMN Ramite 53.31 311⇑iP P 04 08 04.2 +0.2
comp=Z,120nm,0.6s
GTA Gaotai 53.77 332 ⇑P P 04 08 07.5 +0.4
GTA pP pP 04 08 38.3 +0.8
GTA sP sP 04 08 52.3 +0.5
GTA S S 04 15 32.3 +0.5
GTA sS sS 04 16 24.0 -0.2
GTA SS SS 04 19 13.5 -1.2
GTA pmax pmax
comp=Z,43nm,0.9s

GTA pmax pmax
comp=Z,310nm,7.0s
GTA LR LR
comp=Z,310nm,16.5s
GTA LR LR
comp=Z,380nm,16.0s
GTA LR LR
comp=Z,390nm,16.9s
JIRN Jiri 54.01 312⇑iP P 04 08 09.1 -0.1
comp=Z,52nm,0.6s
GUN Gumba 54.37 312⇑iP P 04 08 11.8 -0.1
comp=Z,102nm,0.6s
PKI Pulchoki 54.54 311⇑iP P 04 08 12.6 -0.4
comp=Z,37nm,0.5s
PKIN Phulchoki 54.55 311⇑iP P 04 08 12.5 -0.6
comp=Z,30nm,0.5s
KKN Kakani 54.75 312⇑iP P 04 08 14.2 -0.3
comp=Z,40nm,0.6s
DMN Daman 54.78 311⇑iP P 04 08 14.6 -0.1
comp=Z,36nm,0.5s
GKN Gorkha 55.34 311⇑iP P 04 08 18.4 -0.2
comp=Z,77nm,0.4s
HYB Hyderabad 55.49 297 iP P 04 08 17.5 -2.2
HABR Khabarovsk 55.87 5 eP P 04 08 20.3 -1.4
HABR e 04 09 17.3
HABR e 04 10 26.1
HABR eS S 04 15 59.2 +0.1
HABR e 04 17 56.3
HABR eSS SS 04 19 48.6 +1.5
HABR pmax pmax
comp=Z,56nm,2.1s
HABR MLR MLR
comp=Z,176nm,17.0s
KOLN Koldanda 56.00 311⇑iP P 04 08 23.3 -0.1
comp=Z,83nm,0.7s
DANN Dangsing 56.18 311⇑iP P 04 08 24.5 -0.3
comp=Z,38nm,0.7s
KLR Kul'dur 56.42 2 eP P 04 08 20.7 -5.0
ULN Ulaanbaatar 58.28 343ceP P 04 08 39.6 +0.6
ULN pmax pmax
comp=Z,17nm,1.1s
ULN Ulaanbaatar 58.28 343 eP P 04 08 39.3 +0.3
comp=Z,17nm,1.0s
SONM Songino Array 58.45 342 P P 04 08 40.0 -0.2
SONM Songino Array 58.45 342 P P 04 08 39.9 -0.2
comp=Z,8.0nm,0.9s,baz=159,slow=7.5,SNR=38
ZAK Zakamensk 61.66 342 eP P 04 09 01.4 -0.5
ZAK e 04 09 42.3
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TLY Talaya 62.69 343 eP P 04 09 09.4 +0.7
TLY pmax pmax
comp=Z,8.0nm,0.9s
TLY Talaya 62.69 343 eP P 04 09 09.3 +0.6
comp=Z,2.9nm,0.6s
WMQ Urumqi 63.11 328 P P 04 09 12.0 +0.3
WMQ pP pP 04 09 42.5 -0.5
WMQ sP sP 04 09 56.5 -0.6
WMQ pmax pmax
comp=Z,46nm,1.0s
WMQ pmax pmax
comp=Z,300nm,7.2s
WMQ LR LR
comp=Z,58nm,17.4s
WMQ LR LR
comp=Z,68nm,19.2s
WMQ LR LR
comp=Z,74nm,18.4s
MOY Mondy 63.50 341 eP P 04 09 15.0 +0.9
MOY pmax pmax
comp=Z,16nm,2.5s
PETK Petropavlovsk- 65.02 19 P P 04 09 24.1 +0.3
comp=Z,11nm,0.6s,baz=194,slow=6.7,SNR=7.8
PET Petropavlovsk 65.26 19⇓iP P 04 09 25.9 +0.5
PET pmax pmax
comp=Z,42nm,1.2s
HVS Khovu-Aksy 65.69 337c iP P 04 09 28.9 +0.6
HVS pmax pmax
comp=Z,73nm,1.1s
BOD Bodaibo 66.09 351 eP P 04 09 30.6 0.0
BOD pmax pmax
comp=Z,5.0nm,0.9s
KSH Kashi 67.55 318 eP P 04 09 40.8 +0.3
KSH epP pP 04 10 10.0 -2.1
KSH esP sP 04 10 27.3 +1.1
KSH ePP PP 04 12 17.0 +5.8
KSH S S 04 18 21.3 -5.7
KSH pmax pmax
comp=Z,25nm,0.6s
KSH pmax pmax
comp=Z,91nm,3.1s
KSH LR LR
comp=Z,130nm,8.0s
KSH LR LR
comp=Z,120nm,4.9s
KSH LR LR
comp=Z,180nm,6.5s
MKAR Makanchi Array 67.94 327 P P 04 09 43.0 +0.4
MKAR Makanchi Array 67.94 327 P P 04 09 43.0 +0.4
comp=Z,29nm,0.4s,baz=114,slow=8.0,SNR=565
YAK Yakutsk 69.20 0 eP P 04 09 49.6 -0.4
YAK pmax pmax
comp=Z,50nm,0.8s
YAK Yakutsk 69.20 0 eP P 04 09 49.6 -0.4
comp=Z,50nm,0.8s
KZA Kyzart 69.35 320 P P 04 09 53.0 +1.0
SNR=15
TKM2 Tokmak 2 69.57 321 P P 04 09 53.8 +0.7
SNR=23
TKM2 Tokmak 2 69.57 321 iP P 04 09 53.7 +0.7
TKM2 Tokmak 2 69.57 321 eP P 04 09 53.4 +0.3
comp=Z,19nm,0.7s
KBK Karagaybulak 69.84 321 P P 04 09 56.1 +1.4
SNR=9.2
UCH Uchtor 69.90 320 P P 04 09 56.5 +1.1
SNR=18
AAK Ala-Archa 70.12 320 P P 04 09 57.6 +1.2
SNR=14
AAK Ala-Archa 70.12 320c iP P 04 09 57.5 +1.2
AAK pmax pmax
comp=Z,72nm,1.1s
AAK Ala-Archa 70.12 320 eP P 04 09 57.0 +0.6
comp=Z,49nm,1.2s
CHMS Chumysh 70.14 321 P P 04 09 56.6 +0.2
SNR=7.6
CHMS Chumysh 70.14 321 iP P 04 09 56.5 +0.2
KBL Kabul 70.16 311 eP P 04 09 56.6 -0.3
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 70.16 311 eP P 04 09 56.6 -0.3
comp=Z,9.2nm,0.8s
AML Almayashu 70.37 320 P P 04 09 59.2 +1.0
SNR=32
USP Ospenovka 70.44 321 P P 04 09 58.6 +0.4
SNR=29
USP Ospenovka 70.44 321 iP P 04 09 58.5 +0.4
EKS2 Erkin-Say 70.59 320 P P 04 10 00.3 +1.1
SNR=21
EKS2 Erkin-Say 70.59 320 iP P 04 10 00.2 +1.1
EKS2 Erkin-Say 70.59 320 eP P 04 09 59.7 +0.5
comp=Z,54nm,1.2s
ZAA0 Zalesovo Array 71.43 334 eP P 04 10 02.9 -0.9
ZALV Zalesovo Beam 71.43 334 P P 04 10 03.1 -0.7
comp=Z,16nm,0.6s,baz=129,slow=5.1,SNR=67
KURK Kurchatov 72.26 329 eP P 04 10 08.6 -0.2
KURK pmax pmax
comp=Z,20nm,0.6s
KURK Kurchatov 72.26 329 eP P 04 10 08.6 -0.2
comp=Z,20nm,0.6s
NVS Novosibirsk 72.72 334⇑iP P 04 10 10.1 -1.4
NVS pmax pmax
comp=Z,23nm,0.9s
KK31 Karatay Array 72.90 319 P P 04 10 12.9 +0.1
KK31 pmax pmax
comp=Z,2.0nm,0.3s
KKAR Karatay Array 72.90 319 eP P 04 10 13.0 +0.2
KKAR pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 72.90 319 eP P 04 10 13.0 +0.2
comp=Z,4.4nm,0.4s
BVA0 Borovoye Array 77.79 328 P P 04 10 40.4 -0.2
BVA0 pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 77.86 328d iP P 04 10 41.3 +0.3
BRVK pmax pmax
comp=Z,13nm,0.9s

BRVK Borovoye 77.86 328 eP P 04 10 40.5 -0.5
comp=Z,16nm,0.8s
IAKL Akhelmad 78.72 309 eP P 04 10 46.1 -0.4
TIXI Tiksi 78.86 360⇓iP P 04 10 45.4 -0.6
TIXI pmax pmax
comp=Z,11nm,0.8s
TIXI Tiksi 78.86 360 eP P 04 10 44.5 -1.5
comp=Z,14nm,0.7s
GEYT Alibeck 79.61 311 P P 04 10 51.3 +0.3
comp=Z,2.2nm,0.3s,baz=174,slow=5.8,SNR=10
IBAF Bafgh 79.84 304 eP P 04 10 52.6 +0.2
ABKAR Akbulak array 82.12 322 eP P 04 11 03.5 -0.4
QSPA South Pole Qui 82.61 180 P P 04 11 07.0 +0.7
comp=Z,2.8nm,0.8s,baz=305,slow=2.5,SNR=5.1
IKLH Kolahrood 83.53 305 eP P 04 11 11.9 0.0
IPIR Pirpir 83.95 304 eP P 04 11 11.7 -2.5
SVE Sverdlovsk 84.52 329 eP P 04 11 15.9 -0.1
SVE pmax pmax
comp=Z,33nm,1.1s
IRAZ Razeghan 85.32 306 eP P 04 11 18.4 -2.5
ARU Arti 85.44 328d iP P 04 11 20.5 -0.2
ARU 04 14 48.0
ARU S S 04 21 33.6 -7.4
ARU SS SS 04 27 13.9 -5.4
ARU pmax pmax
comp=Z,18nm,1.0s
ARU Arti 85.44 328 eP P 04 11 20.1 -0.6
comp=Z,34nm,1.1s
RAYN Ar Rayn 86.89 294 eP P 04 11 28.5 -0.1
comp=Z,9.3nm,0.7s
IDHR Dehrash 88.03 305 eP P 04 11 32.1 -1.9
IHRS Heris 88.17 309 eP P 04 11 34.2 -0.4
KMBO Kilima Mbogo 91.48 269 eP P 04 11 49.2 -1.5
KMBO pmax pmax
comp=Z,1.0nm,0.9s
KMBO Kilima Mbogo 91.48 269 P P 04 11 51.5 +0.9
comp=Z,0.4nm,0.3s,baz=35,slow=3.8,SNR=4.2
KMBO Kilima Mbogo 91.48 269 eP P 04 11 49.2 -1.5
comp=Z,1.4nm,0.9s
MCK McKinley 93.10 26 eP P 04 11 55.0 -1.7
MCK pmax pmax
comp=Z,11nm,1.2s
MCK McKinley 93.10 26 eP P 04 11 55.0 -1.7
comp=Z,11nm,1.2s
COLA College 93.76 25 eP P 04 11 59.4 -0.2
COLA College 93.76 25 eP P 04 11 59.4 -0.2
ILAR Eielson Array 94.15 25 P P 04 11 59.9 -1.6
comp=Z,1.6nm,0.9s,baz=262,slow=4.2,SNR=8.8
SNAA Sanae 95.05 194 eP P 04 12 04.3 -1.3
SNAA pmax pmax
comp=Z,9.0nm,1.4s
SNAA Sanae 95.05 194 eP P 04 12 04.3 -1.3
comp=Z,8.8nm,1.4s
MOS Moscow 96.75 325 eP P 04 12 11.1 -2.4
LSZ Lusaka 98.30 253 eP Pdif 04 12 22.1 +0.5
LSZ pmax pmax
comp=Z,4.0nm,1.0s
LSZ Lusaka 98.30 253 eP Pdif 04 12 22.1 +0.4
comp=Z,3.6nm,1.0s
BOSA Boshof 98.33 240 eP P 04 12 21.2 -0.3
BOSA pmax pmax
comp=Z,13nm,1.2s
BOSA Boshof 98.33 240 eP P 04 12 21.2 -0.3
comp=Z,13nm,1.2s
BRTR Keskin Array B 98.69 309 P P 04 12 21.8 -1.0
comp=Z,0.5nm,0.8s,baz=125,slow=4.6,SNR=3.4
LBTB Lobatse 98.82 243 eP Pdif 04 12 25.0 +1.3
LBTB pmax pmax
comp=Z,4.0nm,0.9s
LBTB Lobatse 98.82 243 eP Pdif 04 12 25.0 +1.3
comp=Z,4.5nm,0.9s
ARCES ARCESS Array B 101.54 340 P Pdif 04 12 33.6 -1.1
comp=Z,7.0nm,0.9s,baz=72,slow=5.8,SNR=6.9
ARCES PKiKP PKiKP 04 16 57.7 -0.1
comp=Z,4.7nm,1.0s,baz=90,slow=0.6,SNR=11
AKASG Malin Array Be 101.79 320 P Pdif 04 12 35.9 -0.2
comp=Z,0.9nm,0.6s,baz=71,slow=4.4,SNR=4.4
FINES FINESS Array B 102.56 331 P Pdif 04 12 38.7 -0.6
comp=Z,0.6nm,0.5s,baz=85,slow=2.9,SNR=5.2
FINES PKiKP PKiKP 04 16 59.7 -0.1
comp=Z,0.9nm,0.5s,baz=95,slow=3.2,SNR=12
YKA Yellowknife Ar 108.57 26 PKiKP PKiKP 04 17 10.8 0.0
comp=Z,0.2nm,0.6s,baz=289,slow=1.4,SNR=6.6
NAO01 NORSAR Array S 109.83 333 ePKP PKiKP 04 17 13.4 +0.1
TIP Timpagrande 111.75 309 ePKP PKiKP 04 17 17.8 +0.1
GERES GERESS Array B 112.00 320 PKiKP PKiKP 04 17 18.0 0.0
comp=Z,1.0nm,0.5s,baz=74,slow=2.0,SNR=16
BNI Bardonecchia 117.69 317 ePKIKP PKPdf 04 17 28.6 -0.4
BNI Bardonecchia 117.69 317 ePKPdf PKPdf 04 17 28.6 -0.4
KEST Kesra 118.17 307 PKP PKPdf 04 17 30.0 -0.2
comp=Z,0.6nm,0.5s,baz=152,slow=2.1,SNR=8.5
KEST Kesra 118.17 307 ePKPdf PKPdf 04 17 30.7 +0.6
EKA Eskdalemuir Ar 118.96 331 PKP PKPdf 04 17 30.8 -0.1
comp=Z,0.6nm,0.4s,baz=46,slow=3.8,SNR=9.0
SFJD Kangerlussuaq 120.47 360 PKP PKPdf 04 17 32.7 -0.8
baz=255,slow=3.2
ULM Lac du Bonnet 123.36 33 PKP PKPdf 04 17 39.2 -0.4
comp=Z,1.6nm,0.6s,baz=326,slow=3.6,SNR=3.2
TAM Tamanrasset 123.54 292 ePKIKP PKPdf 04 17 41.2 +0.3
TAM Tamanrasset 123.54 292 ePKPdf PKPdf 04 17 41.2 +0.3
MNTX Cornudas Mount 124.08 57 ePKPdf PKPdf 04 17 42.1 +0.6
TXAR Lajitas Array 126.06 59 PKP PKPdf 04 17 45.3 -0.2
comp=Z,0.9nm,0.9s,baz=204,slow=2.0,SNR=4.9
TORD Torodi Ar. Bea 127.80 281 PKP PKPdf 04 17 48.8 -0.2
comp=Z,1.7nm,0.5s,baz=56,slow=2.6,SNR=15
SCHQ Schefferville 131.02 12 PKP PKPdf 04 17 55.0 +1.0
comp=Z,2.1nm,0.6s,baz=288,slow=1.3,SNR=5.2
SCHQ SKPbc SKPbc 04 21 06.2 -0.6
comp=Z,2.5nm,0.5s,baz=329,slow=2.3,SNR=9.4
DBIC Dimbokro 134.10 272 ePKIKP PKPdf 04 18 01.7 +0.7
DBIC Dimbokro 134.10 272 PKP PKPdf 04 18 01.9 +0.9
comp=Z,2.0nm,0.4s,baz=61,slow=2.7,SNR=5.4
DBIC Dimbokro 134.10 272 ePKPdf PKPdf 04 18 01.7 +0.7
LVC Limon Verde 145.48 150 ePKPbc PKPab 04 18 23.7 +1.5
CPUP Villa Florida 145.96 170 PKPbc PKPab 04 18 23.9 +0.3
comp=Z,5.6nm,0.5s,baz=226,slow=2.3,SNR=7.7
JTS JuntasAbangare 146.44 83 ePKP2 PKPbc 04 18 25.3 +0.5
JTS JuntasAbangare 146.44 83 PKPbc PKPab 04 18 25.6 -0.4
comp=Z,8.2nm,0.8s,baz=297,slow=4.5,SNR=5.2
JTS JuntasAbangare 146.44 83 ePKPbc PKPbc 04 18 25.3 +0.5
NNA Nana 147.99 127 ePKP2 PKPbc 04 18 29.3 +0.2
NNA Nana 147.99 127 PKPbc PKPbc 04 18 30.3 +1.2
comp=Z,11nm,0.8s,baz=239,slow=5.9,SNR=4.9
NNA Nana 147.99 127 ePKPbc PKPbc 04 18 29.2 +0.2
ATAH Atahualpa 149.21 117 PKPbc PKPbc 04 18 34.3 +1.6
comp=Z,12nm,0.9s,baz=290,slow=2.4,SNR=7.3
LPAZ La Paz 151.08 144 ePKIKP PKPdf 04 18 31.8 +0.3
LPAZ e 04 18 45.4
LPAZ La Paz 151.08 144 PKPbc PKPbc 04 18 38.9 +1.6
comp=Z,6.3nm,0.9s,baz=166,slow=1.4,SNR=4.3
LPAZ La Paz 151.08 144 ePKPdf PKPdf 04 18 31.8 +0.3
LPAZ ePKPbc PKiKP 04 18 38.6 +0.7
LPAZ ePKPab PKPab 04 18 45.4 +0.2
OTAV Otavalo 151.83 103 ePKPdf PKPdf 04 18 32.2 -0.3
OTAV ePKPbc PKiKP 04 18 40.5 +1.1
SAML Samuel 159.81 143 ePKPdf PKPdf 04 18 42.9 +0.5
SAML ePKPab PKPab 04 19 22.2 +0.3

IDC 28 03:59:59.5±1.8, 35.47S×71.98W, h0km, mb3.9/2, ML3.8/2, Error ellipse: s-maj=50.5km s-min=37.0km az=5.0
ISCJB 28 04:00:07.0±0.6, 34.18S±0.08×71.45W±0.09, h35km, mb4.3/17, Error ellipse: s-maj=14.8km s-min=6.4km az=139.4
NEIC 28 04:00:07.2±1.9, 34.58S×71.63W, h35km±15km, mb4.2/15, Error ellipse: s-maj=21.6km s-min=9.7km az=64.0
GUC 28 04:00:08.3±0.6, 33.62S×71.68W, h62km±8km, ML3.8
ISC 28 04:00:07.9±0.6, 34.31S±0.06×71.3W±0.1, h35km, n44, σ1.71/40, mb4.2/17, 1C-2D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RCDM Rinconada Maip 0.92 28 iP Pn 04 00 23.1 -1.3
RCDM iS Sn 04 00 34.3 -2.2
RCDM AML AML 04 00 40.8
comp=N,4μm,0.1s
STL Santa Lucia 1.04 34 eP Pn 04 00 24.9 -1.2
STL iS Sn 04 00 37.8 -1.6
PEL Peldehue 1.28 25 eP Pn 04 00 27.5 -1.8
PEL eS Sn 04 00 41.4 -3.8
PEL AML AML 04 00 47.1
comp=E,10μm,0.3s
IHA Instituto Hidr 1.30 348⇓iP Pn 04 00 21.3 -8.3
IHA iS Sn 04 00 30.9 -15
FCH Farellones 1.30 42⇓iP Pn 04 00 30.1 +0.2
FCH iS Sn 04 00 46.5 +0.3
FCH AML AML 04 00 51.9
comp=E,2μm,0.3s
ROCH El Roble 1.36 11⇑iP Pn 04 00 25.6 -5.0
ROCH iS Sn 04 00 38.1 -9.3
ROCH AML AML 04 00 45.7
comp=E,4μm,0.4s
CFAA Coronel Fontan 3.74 45 Pn Pn 04 01 08.1 +4.8
comp=E,0.8nm,0.3s,baz=43,slow=4.2,SNR=9.7
TRQA Tornquist 8.43 119 ePn Pn 04 02 07.2 -0.4
LVC Limon Verde 11.84 11 ePn Pn 04 02 58.6 +4.0
LPAZ La Paz 18.17 10 P P 04 04 28.7 +10
comp=E,0.4nm,0.3s,baz=170,slow=7.7,SNR=7.6
LPAZ La Paz 18.17 10 eP P 04 04 20.7 +2.6
comp=E,5.0nm,0.8s
SIV San Ignacio 20.44 29 P Pn 04 04 51.9 +7.2
comp=E,7.9nm,0.7s,baz=228,slow=14,SNR=12
SAML Samuel 26.32 18 eP P 04 05 38.4 -2.1
comp=E,2.0nm,0.7s
SDV Santo Domingo 42.96 1 eP P 04 08 05.3 +1.5
comp=E,3.6nm,0.8s
VNA3 Neumayer Olymp 48.85 158 P P 04 08 48.0 -1.6
VNA2 Neumayer--Watz 49.50 157 P P 04 09 02.3 +7.7
SNAA Sanae 51.08 158 P P 04 09 15.7 +9.1
SNAA Sanae 51.08 158 eP P 04 09 05.2 -1.3
comp=E,7.9nm,0.8s
OBIP Obispado Ponce 52.25 6 eP P 04 09 17.1 +1.5
CBYP Canovanas 52.54 7 eP P 04 09 17.9 -0.1
comp=E,43nm,1.0s
QSPA South Pole Qui 55.93 180 eP P 04 09 40.0 -2.3
comp=E,6.3nm,1.0s
HKT Hockley 67.97 337 eP P 04 11 04.1 +0.9
comp=E,3.4nm,1.1s
TXAR Lajitas Array 70.29 330 P P 04 11 18.7 +0.9
comp=E,0.6nm,0.7s,baz=159,slow=8.6,SNR=8.3
MNTX Cornudas Mount 73.07 330 eP P 04 11 34.2 -0.1
comp=E,1.2nm,1.0s
DBIC Dimbokro 74.72 71 eP P 04 11 46.6 +2.2
comp=E,7.8nm,0.7s
ANMO Albuquerque 76.33 331 eP P 04 11 53.1 -0.4
comp=E,2.8nm,1.1s
SDCO Great Sand Dun 78.41 333 eP P 04 12 05.9 +0.8
comp=E,1.7nm,1.0s
WUAZ Wupatki 78.90 328 eP P 04 12 06.6 -1.2
comp=E,1.5nm,0.5s
MVCO Mesa Verde 79.12 331 eP P 04 12 06.9 -2.0
comp=E,1.6nm,0.6s
BOSA Boshof 79.41 117 eP P 04 12 12.0 +1.1
comp=E,8.3nm,1.1s
ISCO Idaho Springs 80.26 334 eP P 04 12 13.9 -1.3
comp=E,2.0nm,0.9s
TOA0 Torodi Ar. Sit 83.76 70 eP P 04 12 34.5 +0.7
TORD Torodi Ar. Bea 83.76 70 P P 04 12 34.7 +0.9
comp=E,1.1nm,0.8s,baz=266,slow=5.0,SNR=11
PDAR Pinedale Array 84.30 333 P P 04 12 36.5 +0.3
baz=153,slow=5.0
NVAR Mina Array Bea 84.47 325 P P 04 12 38.7 +1.6
baz=146,slow=6.6
LSZ Lusaka 89.15 108 eP P 04 12 59.3 -1.1
comp=E,2.1nm,0.8s
KWP Kalwaria Pacla 117.65 47 ePKPdf PKPdf 04 18 51.4 +1.6
SUW Suwalki 119.43 42 ePKPdf PKPdf 04 18 54.1 +1.1
BR131 Keskin Array S 121.47 61 ePKPdf PKPdf 04 18 58.4 +0.8
ABKAR Akbulak array 141.41 52 ePKPdf PKPdf 04 19 33.2 -1.4
PALK Pallekele 142.74 130 ePKPdf PKPdf 04 19 35.9 -2.3
TKM2 Tokmak 2 152.90 62 ePKPdf PKPdf 04 19 52.2 -2.0
ZALV Zalesovo Beam 154.16 33 PKPab PKPab 04 20 18.8 +1.5
baz=307,slow=5.2
MKAR Makanchi Array 156.51 50 PKPab PKPab 04 20 31.8 +4.0
comp=E,0.5nm,0.7s,baz=291,slow=4.0,SNR=3.8

IDC 28 04:00:26.9±3.3, 36.55N×69.31E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.4/38, mbtmp3.8/5, ML3.2/2, Error ellipse: s-maj=89.2km s-min=18.7km az=140.0
NNC 28 04:00:32.6±2.6, 36.21N×69.79E, h62km±57km, mb3.6, mpv3.6, Error ellipse: s-maj=23.2km s-min=17.9km az=134.0
ISC 28 04:00:30.7±2.6, 36.1N±0.2×69.8E±0.1, h112km, n20, σ1.32/21, 5C-4D, Hindu Kush region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AML Almayashu 6.76 25 P Pn 04 02 08.5 +0.8
SNR=5.3
KK31 Karatay Array 7.05 4 ⇓Pn Pn 04 02 11.9 +0.7
0.8nm,0.3s,baz=193,slow=8.5,SNR=38
KK31 ⇓Sn Sn 04 03 29.3 -0.5
0.7nm,0.3s,baz=190,slow=26,SNR=3.9
UCH Uchtor 7.15 29 P Pn 04 02 14.5 +1.4
SNR=7.8
EKS2 Erkin-Say 7.26 24 P Pn 04 02 15.5 +1.2
SNR=15
KZA Kyzart 7.34 33 P Pn 04 02 15.5 0.0
SNR=9.4
AAK Ala-Archa 7.49 27 ⇑Pn Pn 04 02 17.7 +0.3
1.8nm,0.4s
AAK ⇑Sn Sn 04 03 40.1 -0.6
5.7nm,0.5s
AAK Ala-Archa 7.49 27 Pn Pn 04 02 16.6 -0.8
1.4nm,0.3s,baz=209,slow=13,SNR=14
AAK Sn Sn 04 03 39.6 -1.1
0.8nm,0.3s,baz=308,slow=19,SNR=13
CHMS Chumysh 7.90 27 P Pn 04 02 23.7 +0.9
SNR=7.1
ULHL Ulahol 7.93 37 P Pn 04 02 24.0 +0.5
SNR=6.9
USP Ospenovka 8.04 25 P Pn 04 02 25.8 +1.1
SNR=11
TKM2 Tokmak 2 8.17 31 ⇑Pn Pn 04 02 26.4 -0.3
2.4nm,0.4s
TKM2 ⇑Sn Sn 04 03 57.8 +0.5
2.3nm,0.8s
TKM2 Tokmak 2 8.17 31 P Pn 04 02 28.2 +1.5
SNR=6.6
MK09 Makanchi Array 14.19 37 ⇑Pn P 04 03 50.4 0.0
1.3nm,0.8s
MKAR Makanchi Array 14.21 37 Pn P 04 03 48.8 -1.9
0.0nm,0.3s,baz=230,slow=13,SNR=4.9
AB31 Akbulak array 15.03 334 ⇓Pn P 04 03 57.9 -1.9
0.7nm,0.3s
AKTO Aktyubinsk 16.71 333 ⇓Pn P 04 04 20.9 +2.6
2.0nm,0.9s
BVAR Borovoye Array 16.96 1 Pn P 04 04 23.3 +2.2
0.2nm,0.3s,baz=156,slow=11,SNR=3.7
ZALV Zalesovo Beam 20.71 26 P Pn 04 05 04.8 -0.5
2.1nm,0.4s,baz=222,slow=11,SNR=13
ARCES ARCESS Array B 41.19 338 P P 04 08 08.0 +4.2
3.5nm,0.9s,baz=113,slow=9.3,SNR=5.0
TORD Torodi Ar. Bea 64.75 268 P P 04 11 04.9 +7.4
0.4nm,1.1s,baz=62,slow=6.2,SNR=2.9

IDC 28 04:04:44.9±0.5, 33.88S×73.13W, h0km, mb4.8/13, mb1 4.9/16, mb1mx4.7/26, mbtmp4.7/16, ML4.7/3, MS3.6/4, Ms1 3.7/4, ms1mx3.4/29, Error ellipse: s-maj=19.2km s-min=13.6km az=85.0
ISCJB 28 04:04:48.2±0.2, 33.84S±0.04×72.95W±0.06, h29km, mb4.9/62, Error ellipse: s-maj=8.1km s-min=5.1km az=144.0
BJI 28 04:04:48.5, 33.63S×72.44W, h30km, mB5.2/7, Ms5.0/2, Ms7 4.7/2
MOS 28 04:04:49.6±1.2, 33.67S×72.91W, h33km, mb5.2/21, Error ellipse: s-maj=16.7km s-min=9.7km az=95.1
NEIC 28 04:04:50.3±1.9, 33.84S×72.95W, h35km±12km, mb4.9/52, Error ellipse: s-maj=8.2km s-min=4.4km az=66.0
ISC 28 04:04:49.9±0.6, 33.86S±0.06×73.07W±0.07, h33km±3km, h33km:pP-P, n540, σ0.91/574, mb4.9/62, 167C-148D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.65 62 Pn Pn 04 05 58.5 +0.5
1.9nm,0.3s,baz=234,slow=10,SNR=12
CFAA Sn Sn 04 06 53.1 +2.3
6.6nm,0.3s,baz=140,slow=20,SNR=8.7
CFAA LR LR 04 08 03.5
comp=Z,236nm,19.7s,baz=239,slow=42
PLCA Paso Flores 7.15 164 eP Pn 04 06 32.0 -0.3
PLCA Paso Flores 7.15 164 Pn Pn 04 06 31.2 -1.1
2.9nm,0.3s,baz=350,slow=9.8,SNR=3.0
PLCA Paso Flores 7.15 164 ePn Pn 04 06 32.0 -0.3
TRQA Tornquist 9.92 118 ePn Pn 04 07 10.1 -0.1
30nm,1.1s
LVC Limon Verde 11.78 19 ePn Pn 04 07 30.9 -5.1
CPUP Villa Florida 15.54 65 eP Pn 04 08 23.0 -3.7
CPUP Villa Florida 15.54 65 Pn Pn 04 08 28.0 +1.4
0.9nm,0.3s,baz=230,slow=7.5,SNR=4.5
CPUP LR LR 04 14 50.9
comp=Z,501nm,20.0s,baz=230,slow=39
CPUP Villa Florida 15.54 65 ePn Pn 04 08 23.0 -3.7
LPAZ La Paz 18.05 15 eP P 04 08 59.5 +0.4
LPAZ pmax pmax
comp=Z,20nm,0.8s
LPAZ La Paz 18.05 15 P P 04 08 59.9 +0.8
comp=Z,0.9nm,0.3s,baz=185,slow=7.9,SNR=38
LPAZ LR LR 04 16 20.9
comp=Z,241nm,18.5s,baz=9.0,slow=38
LPAZ La Paz 18.05 15 ePn P 04 08 59.5 +0.4
comp=Z,20nm,0.8s
SIV San Ignacio 20.82 34 P P 04 09 29.3 +0.5
comp=Z,24nm,0.7s,baz=218,slow=11,SNR=39
USHA Ushuaia 21.22 173 P P 04 09 33.7 +1.0
comp=Z,27nm,0.9s,baz=313,slow=10,SNR=4.3
NNA Nana 22.04 350 eP P 04 09 40.8 -1.1
NNA pmax pmax
comp=Z,14nm,0.8s
NNA Nana 22.04 350 P P 04 09 43.0 +1.1
comp=Z,9.7nm,0.8s,baz=208,slow=8.5,SNR=5.0
NNA LR LR 04 16 11.2
comp=Z,200nm,20.4s,baz=190,slow=31
NNA Nana 22.04 350 eP P 04 09 40.8 -1.1
comp=Z,14nm,0.8s
SAML Samuel 26.41 22 eP P 04 10 23.2 -0.4
comp=Z,4.1nm,0.8s
BDFB Brasilia 28.97 57 P P 04 10 45.7 -1.0
comp=Z,5.8nm,0.7s,baz=220,slow=10,SNR=11
OTAV Otavalo 34.29 350 eP P 04 11 34.9 +1.1
comp=Z,30nm,1.8s
ROSC El Rosal 38.52 358 eP P 04 12 12.2 +2.3
SDV Santo Domingo 42.57 4 eP P 04 12 42.0 -1.0
comp=Z,16nm,0.8s
RCBR Riachuelo 44.30 59 eP P 04 12 57.1 +0.1
comp=Z,15nm,1.1s
JTS JuntasAbangare 45.33 343 eP P 04 13 05.3 +0.3
JTS pmax pmax
comp=Z,19nm,1.3s
JTS JuntasAbangare 45.33 343 eP P 04 13 05.3 +0.3
comp=Z,19nm,1.3s
GRGR Grenville 47.01 15 eP P 04 13 15.9 -2.2
comp=Z,162nm,1.1s
VNA3 Neumayer Olymp 49.82 158 P P 04 13 39.5 +0.2
VNA2 Neumayer--Watz 50.48 157 P P 04 13 44.8 +0.6
baz=324,slow=14
OBIP Obispado Ponce 51.97 8 eP P 04 13 55.3 -0.6
SNAA Sanae 52.04 158 P P 04 13 56.0 0.0
SNAA Sanae 52.04 158c iP P 04 13 54.6 -1.4
SNAA pmax pmax
comp=Z,54nm,1.3s
SNAA Sanae 52.04 158 P P 04 13 56.3 +0.2
baz=302,slow=6.1
SNAA Sanae 52.04 158 eP P 04 13 56.1 0.0
comp=Z,39nm,0.9s
CBYP Canovanas 52.29 9 eP P 04 13 57.9 -0.5
comp=Z,8.6nm,0.5s
SDDR Presa de Saban 52.57 2 eP P 04 13 59.2 -1.2
GTBY Guantanamo Bay 53.52 358 eP P 04 14 06.8 -0.5
comp=Z,26nm,0.9s
QSPA South Pole Qui 56.38 180 P P 04 14 27.9 +0.1
baz=143,slow=4.5
QSPA South Pole Qui 56.38 180 eP P 04 14 27.3 -0.5
comp=Z,27nm,1.0s
NVL N'lazarevskaya 56.79 157 eP P 04 14 31.2 +0.8
NVL pmax pmax
comp=Z,16nm,0.9s
035A Encino 64.96 335 ⇓P P 04 15 28.0 +1.6
baz=65,SNR=5.5
034A Hebbronville 65.28 335 ⇑P P 04 15 29.8 +1.3
baz=66
933A Laredo 65.99 335 ⇑P P 04 15 34.1 +1.0
baz=66,SNR=7.3
835A Beeville 66.11 336 ⇓P P 04 15 36.1 +2.3
baz=66
834A Tilden 66.20 335 ⇑P P 04 15 36.1 +1.6
baz=66,SNR=12
SYO Syowa Base 66.31 159⇓eP P 04 15 33.0 -1.7
735A Kenedy 66.62 336 ⇓P P 04 15 38.5 +1.4
baz=67
833A Chaparral WMA, 66.68 335 ⇓P P 04 15 37.9 +0.4
baz=67,SNR=9.2
832A Faith Ranch, C 66.85 334 ⇓P P 04 15 39.3 +0.7
baz=67,SNR=11
636A Smothers Creek 66.96 337 ⇑P P 04 15 40.6 +1.4
baz=67,SNR=8.1
733A Divot King Ran 67.01 335 ⇑P P 04 15 40.2 +0.6
baz=67
HKT Hockley 67.01 339 eP P 04 15 39.9 +0.4
HKT pmax pmax
comp=Z,18nm,1.4s
HKT Hockley 67.01 339 eP P 04 15 39.9 +0.4
comp=Z,18nm,1.4s
732A Laxson Ranch, 67.26 334 ⇑P P 04 15 42.1 +1.0
baz=68,SNR=21
536A Bastrop 67.51 338 ⇓P P 04 15 43.1 +0.4
baz=68
535A Dale 67.63 337 ⇑P P 04 15 44.4 +0.9
baz=68
633A Saathoff Ranch 67.64 335 ⇑P P 04 15 44.5 +0.9
baz=68,SNR=9.6
LRAL Lakeview Retre 67.81 347 eP P 04 15 44.2 -0.4
340A Bronson 67.83 341 ⇓P P 04 15 45.9 +1.2
baz=68
632A Uvalde 67.90 335 ⇑P P 04 15 45.9 +0.7
baz=68,SNR=16
534A Blanco 67.93 336 ⇓P P 04 15 45.9 +0.5
baz=68
339A Huntington 67.94 340 ⇓P P 04 15 46.8 +1.5
baz=68,SNR=7.4
631A Perdido Creek 68.09 334 ⇑P P 04 15 47.0 +0.6
baz=68,SNR=7.6
533A Kerrville 68.16 336 ⇑P P 04 15 47.6 +0.7
baz=68,SNR=11
338A Crockett 68.17 340 ⇓P P 04 15 48.7 +1.8
baz=68
337A Centerville 68.30 339 ⇓P P 04 15 48.7 +1.0
baz=69
435B Jarrell 68.33 337 ⇑P P 04 15 48.7 +0.8
baz=69
532A Rocksprings 68.51 335 ⇑P P 04 15 49.9 +0.8
baz=69,SNR=25
434A Burnet 68.58 337 ⇑P P 04 15 50.1 +0.6
baz=69,SNR=14
336A Riesel 68.66 338 ⇓P P 04 15 50.9 +1.0
baz=69,SNR=5.7
531A Rocksprings 68.77 335 ⇑P P 04 15 51.0 +0.3
baz=69,SNR=11
JCT Junction City 68.79 335 eP P 04 15 51.2 +0.4
JCT pmax pmax
comp=Z,22nm,0.9s
JCT Junction City 68.79 335 eP P 04 15 51.2 +0.4
comp=Z,22nm,0.9s
JCT Junction City 68.79 335 ⇑P P 04 15 51.3 +0.4
baz=69,SNR=7.2
433A Art 68.80 336 ⇓P P 04 15 51.3 +0.5
baz=69,SNR=8.0
237A Washetta, Mont 68.92 339 ⇑P P 04 15 52.4 +0.9
baz=69
530A J-C Ranch, Com 69.04 334 ⇑P P 04 15 53.6 +1.2
baz=69,SNR=17
334A Lometa 69.05 337 ⇓P P 04 15 52.9 +0.5
baz=69,SNR=9.2
432A Menard 69.15 336 ⇑P P 04 15 53.2 +0.2
baz=70,SNR=9.6
TXAR Lajitas Array 69.19 332 P P 04 15 53.8 +0.3
comp=Z,6.2nm,0.7s,baz=153,slow=8.4,SNR=74
431A Sonora 69.26 335 ⇓P P 04 15 54.2 +0.4
baz=70
333A Richland Sprin 69.29 336 ⇓P P 04 15 54.2 +0.4
baz=70,SNR=9.3
529A Stev Forest Ra 69.34 333 ⇑P P 04 15 54.7 +0.4
baz=70,SNR=21
WHTX Lake Whitney 69.41 338 eP P 04 15 55.0 +0.4
comp=Z,25nm,1.0s
WHTX Lake Whitney 69.41 338 ⇓P P 04 15 55.0 +0.4
baz=70,SNR=5.3
137A Heron Place, G 69.47 340 ⇑P P 04 15 56.1 +1.2
baz=70
430A Baggett Ranch, 69.58 334 ⇓P P 04 15 56.4 +0.7
baz=70,SNR=12
332A Millersview 69.60 336 ⇓P P 04 15 56.3 +0.5
baz=70,SNR=7.3

429A	Davenport Ranc	69.67 334	⇑P	P	04 15 56.8 +0.5
	baz=70,SNR=10.0				
OXF	Oxford	69.72 346	eP	P	04 15 55.9 -0.5
OXF			pmax	pmax	
	comp=Z,25nm,0.9s				
OXF	Oxford	69.72 346	eP	P	04 15 55.9 -0.5
	comp=Z,25nm,0.9s				
SWET	Sewanee	69.76 349	eP	P	04 15 56.0 -0.7
	comp=Z,65nm,1.7s				
331A	San Angelo	69.77 335	⇓P	P	04 15 57.0 +0.2
	baz=70,SNR=12				
TKL	Tuckaleechee C	69.88 351	eP	P	04 15 55.8 -1.6
TKL	Tuckaleechee C	69.88 351	eP	P	04 15 55.8 -1.6
233A	Rising Star	69.90 337	⇑P	P	04 15 58.0 +0.4
	baz=70,SNR=6.6				
232A	Coleman	70.03 336	⇓P	P	04 15 58.5 +0.1
	baz=70,SNR=5.5				
330A	Mertzon	70.12 335	⇑P	P	04 15 59.2 +0.1
	baz=70,SNR=9.1				
231A	Bronte	70.30 336	⇑P	P	04 16 00.3 +0.2
	baz=71,SNR=11				
133A	Hamilton Ranch	70.45 337	⇑P	P	04 16 01.6 +0.7
	baz=71,SNR=8.8				
329A	Wagon Wheel Ra	70.48 334	⇓P	P	04 16 01.7 +0.4
	baz=71,SNR=8.1				
Z35A	Perchaven, San	70.59 339	⇑P	P	04 16 02.3 +0.5
	baz=71,SNR=7.0				
ABTX	Abilene, Hawle	70.70 336	eP	P	04 16 02.8 +0.2
	comp=Z,18nm,0.8s				
ABTX	Abilene, Hawle	70.70 336	⇓P	P	04 16 02.9 +0.4
	baz=71,SNR=7.0				
229A	Bryant Ranch,	70.85 334	⇑P	P	04 16 03.9 +0.4
	baz=71				
WVT	Waverly	70.98 347	eP	P	04 16 03.7 -0.3
WVT			pmax	pmax	
	comp=Z,46nm,1.0s				
WVT	Waverly	70.98 347	eP	P	04 16 03.7 -0.3
	comp=Z,46nm,1.0s				
131A	Roby	71.00 336	⇑P	P	04 16 05.1 +0.8
	baz=71				
Z33A	Whitaker Ranch	71.02 337	⇑P	P	04 16 04.9 +0.4
	baz=71,SNR=10				
130A	Snyder	71.12 335	⇑P	P	04 16 05.6 +0.5
	baz=72				
Z32A	Haskell	71.27 337	⇑P	P	04 16 06.5 +0.6
	baz=72,SNR=12				
228A	UT Block 9, Go	71.27 334	⇑P	P	04 16 06.3 +0.2
	baz=72,SNR=8.2				
129A	Stewart Farms,	71.47 335	⇑P	P	04 16 07.7 +0.4
	baz=72				
Z31A	Sharp Cattle R	71.50 336	⇑P	P	04 16 08.0 +0.7
	baz=72,SNR=9.6				
Y33A	Hilltop Ranch,	71.64 338	⇑P	P	04 16 08.4 +0.2
	baz=72,SNR=6.0				
128A	Castleberry Fa	71.69 334	⇓P	P	04 16 08.8 +0.3
	baz=72,SNR=8.7				
Z30A	Sanderson Ranc	71.81 335	⇑P	P	04 16 09.0 -0.2
	baz=72,SNR=6.9				
Y32A	R-V Farms, Ver	71.90 337	⇑P	P	04 16 10.0 +0.3
	baz=72,SNR=7.6				
X34A	Smith Ranch, M	71.95 339	⇓P	P	04 16 10.7 +0.8
	baz=72				
MNTX	Cornudas Mount	71.97 331	eP	P	04 16 09.3 -0.9
	comp=Z,6.4nm,0.9s				
Z29A	Hungry Hill Ra	71.98 335	⇑P	P	04 16 10.2 -0.1
	baz=72,SNR=8.5				
GDL2	Guadalupe Moun	72.01 332	eP	P	04 16 11.2 +0.7
127A	Arkansas Junct	72.06 333	⇑P	P	04 16 11.2 +0.4
	baz=72				
X33A	Lawton	72.10 338	⇑P	P	04 16 10.9 +0.1
	baz=72				
PBMO	Poplar Bluff	72.11 345	eP	P	04 16 10.0 -0.9
	comp=Z,13nm,0.8s				
Y31A	Rekieta Farm,	72.13 336	⇓P	P	04 16 11.5 +0.4
	baz=72,SNR=5.7				
X32A	Elmer	72.23 337	⇓P	P	04 16 12.3 +0.6
	baz=73				
Z28A	Tucker Farm, M	72.25 334	⇑P	P	04 16 12.6 +0.7
	baz=73,SNR=5.5				
Y29A	Porterfield Fa	72.52 335	⇑P	P	04 16 13.8 +0.3
	baz=73,SNR=11				
W34A	Bridge Creek,	72.52 339	⇓P	P	04 16 14.2 +0.8
	baz=73				
Z27A	Tatum	72.58 334	⇓P	P	04 16 14.0 +0.1
	baz=73				
TUL1	Tulsa	72.58 341	eP	P	04 16 13.8 0.0
TUL1	Tulsa	72.58 341	⇓P	P	04 16 13.7 0.0
	baz=73,SNR=6.7				
X31A	McDonald Ranch	72.65 337	⇓P	P	04 16 14.5 +0.3
	baz=73,SNR=8.6				
W33A	Caddo, Fort Co	72.65 338	⇑P	P	04 16 14.9 +0.8
	baz=73,SNR=8.9				
USIN	University of	72.73 348	eP	P	04 16 13.8 -0.8
Y28A	McKinney Farm,	72.76 335	⇓P	P	04 16 15.1 +0.1
	baz=73				
SIUC	Southern Illin	72.78 347	eP	P	04 16 14.6 -0.2
X30A	Coker Ranch, T	72.78 336	⇑P	P	04 16 15.4 +0.4
	baz=73				
Z26A	Caprock	72.82 333	⇓P	P	04 16 15.6 +0.2
	baz=73,SNR=27				
W32A	Sentinel	72.87 338	⇓P	P	04 16 15.7 +0.2
	baz=73,SNR=21				
MSTX	Muleshoe	73.00 334	eP	P	04 16 16.7 +0.2
MSTX	Muleshoe	73.00 334	⇓P	P	04 16 16.4 0.0
	baz=73,SNR=10.0				
X29A	Tulia	73.06 336	⇓P	P	04 16 16.6 -0.1
	baz=73,SNR=6.1				
Y27A	Causey	73.07 334	⇓P	P	04 16 17.2 +0.4
	baz=73				
Z25A	Roswell	73.11 333	⇓P	P	04 16 17.3 +0.2
	baz=74,SNR=5.0				
W31A	Holland Ranch,	73.15 337	⇓P	P	04 16 17.7 +0.6
	baz=74				
V33A	Lossen Ranch,	73.22 339	⇑P	P	04 16 18.0 +0.5
	baz=74,SNR=5.9				
319A	Douglas	73.32 328	⇑P	P	04 16 19.4 +1.0
	baz=74				
Y26A	Elida	73.34 334	⇓P	P	04 16 19.4 +0.9
	baz=74				
V32A	Arapaho	73.35 338	⇑P	P	04 16 19.2 +0.9
	baz=74				
Z24A	Sheeppen Canyo	73.40 332	⇓P	P	04 16 19.8 +0.9
	baz=74,SNR=10				
AMTX	Amarillo	73.45 336	eP	P	04 16 19.2 +0.2
	comp=Z,24nm,1.2s				
AMTX			epP	pP	04 16 28.6 -0.6
AMTX	Amarillo	73.45 336	⇓P	P	04 16 19.6 +0.6
	baz=74				
MAW	Mawson	73.56 164	P	P	04 16 19.3 +0.1
	comp=Z,44nm,0.9s,baz=149,slow=5.9,SNR=3.5				
W29A	Amraillo	73.65 336	⇑P	P	04 16 20.8 +0.6
	baz=74				
V31A	Spring Creek L	73.65 338	⇑P	P	04 16 21.4 +1.3
	baz=74				
Y25A	Mesa, Roswell	73.67 333	⇓P	P	04 16 20.4 +0.1
	baz=74				
121A	Cookes Peak, D	73.68 330	eP	P	04 16 21.0 +0.5
	comp=Z,8.1nm,0.8s				
121A	Cookes Peak, D	73.68 330	⇑P	P	04 16 21.5 +1.0
	baz=74,SNR=7.1				
X27A	F and S Farms,	73.73 335	⇓P	P	04 16 22.2 +1.5
	baz=74				
X26A	CR and CF Fran	73.90 334	⇓P	P	04 16 22.5 +0.8
	baz=74,SNR=6.2				
U32A	Winter Ranch,	73.95 338	⇓P	P	04 16 22.6 +0.8
	baz=74				
Y24A	Capitan	73.96 332	⇑P	P	04 16 22.8 +0.7
	baz=74,SNR=9.1				
W27A	Bowe Ranch, En	74.09 335	⇑P	P	04 16 23.4 +0.5
	baz=74,SNR=7.6				
Y23A	Lovelace Mesa,	74.20 332	⇓P	P	04 16 25.1 +1.5
	baz=74,SNR=5.2				
ACSO	Alum Creek Sta	74.29 352	eP	P	04 16 22.7 -1.0
	comp=Z,20nm,0.8s				
W26A	Owens Ranch, T	74.37 334	⇓P	P	04 16 25.6 +1.2
	baz=75				
T33A	Patterson Ranc	74.37 339	⇑P	P	04 16 25.1 +0.8
	baz=75,SNR=7.7				
X24A	Lazy VL Ranch,	74.52 333	⇑P	P	04 16 26.6 +1.2
	baz=75				
U30A	WK&E Inc. Balk	74.61 337	⇓P	P	04 16 26.9 +1.2
	baz=75				
V27A	Dan Oppiter Fa	74.64 335	⇑P	P	04 16 27.4 +1.4
	baz=75				
T32A	Huddler Ranch,	74.67 339	⇓P	P	04 16 27.6 +1.6
	baz=75				
W25A	X Bar L Ranch,	74.73 334	⇑P	P	04 16 26.8 +0.2
	baz=75,SNR=5.9				

X23A	Hourglass Bar	74.83 332	⇑P	P	04 16 28.3 +1.1
	baz=75				
U28A	Mallet	74.99 336	⇓P	P	04 16 29.0 +1.0
	baz=75				
V26A	Tequesquite Ra	75.01 335	⇓P	P	04 16 28.5 +0.4
	baz=75				
LAZ	Ladron	75.04 331	eP	P	04 16 29.0 +0.5
	comp=Z,14nm,1.7s				
W24A	Lazy 6 Ranch,	75.08 333	⇑P	P	04 16 29.3 +0.7
	baz=75,SNR=5.7				
S32A	Newby Ranch, P	75.15 339	⇑P	P	04 16 29.3 +0.5
	baz=76				
U27A	Thompson Grove	75.23 336	⇓P	P	04 16 30.0 +0.6
	baz=76				
S31A	Mullinville	75.24 339	⇓P	P	04 16 29.9 +0.6
	baz=76				
ANMO	Albuquerque	75.25 332d	iP	P	04 16 28.6 -1.0
ANMO			pmax	pmax	
	comp=Z,32nm,1.3s				
ANMO	Albuquerque	75.25 332	eP	P	04 16 30.2 +0.6
	comp=Z,6.1nm,1.1s				
W23A	Werner Place,	75.32 332	⇓P	P	04 16 31.3 +1.2
	baz=76				
V25A	Rancho No Teng	75.34 334	⇑P	P	04 16 30.7 +0.6
	baz=76,SNR=8.0				
U26A	Atchley Ranch,	75.53 335	⇑P	P	04 16 31.9 +0.7
	baz=76				
T28A	Walsh	75.62 336	⇑P	P	04 16 32.0 +0.3
	baz=76,SNR=9.4				
SUR	Sutherland	75.65 119	eP	P	04 16 33.5 +1.3
S29A	Ulysses	75.75 337	⇓P	P	04 16 32.8 +0.5
	baz=76				
R32A	Long Quarter,	75.75 339	⇑P	P	04 16 32.7 +0.5
	baz=76,SNR=5.6				
U25A	Circle Dot Ran	75.77 334	⇓P	P	04 16 33.0 +0.5
	baz=76,SNR=5.4				
T27A	Campo	75.77 336	⇓P	P	04 16 32.8 +0.3
	baz=76,SNR=8.6				
V23A	Ortiz Mt. (NFS	75.85 333	⇓P	P	04 16 34.1 +1.1
	baz=76				
R31A	Burdett	75.87 339	⇑P	P	04 16 33.1 +0.2
	baz=76				
DBIC	Dimbokro	75.95 72	eP	P	04 16 33.9 0.0
DBIC			pmax	pmax	
	comp=Z,35nm,0.8s				
DBIC	Dimbokro	75.95 72	P	P	04 16 34.5 +0.6
	comp=Z,24nm,0.7s,baz=214,slow=6.1,SNR=39				
DBIC	Dimbokro	75.95 72	eP	P	04 16 33.9 0.0
	comp=Z,35nm,0.8s				
S28A	Manter	75.98 337	⇓P	P	04 16 34.4 +0.8
	baz=76,SNR=8.3				
T26A	Comanche Natio	76.18 335	⇑P	P	04 16 35.9 +1.0
	baz=76				
Q32A	Meitler Ranch,	76.24 340	⇓P	P	04 16 35.6 +0.7
	baz=77,SNR=5.6				
V22A	San Miguel Ran	76.28 332	⇓P	P	04 16 37.0 +1.5
	baz=77,SNR=5.8				
X18A	Snowflake	76.31 329	⇓P	P	04 16 35.9 +0.2
	baz=77				
U23A	El Rito	76.37 333	⇑P	P	04 16 37.8 +1.8
	baz=77,SNR=5.5				
T25A	Trinidad	76.43 335	⇑P	P	04 16 37.8 +1.4
	baz=77,SNR=9.7				
Q31A	Ellis	76.49 339	⇓P	P	04 16 37.4 +0.9
	baz=77,SNR=5.3				
S26A	Kim	76.54 336	⇓P	P	04 16 38.0 +1.1
	baz=77,SNR=13				
R28A	Tribune	76.63 337	⇑P	P	04 16 38.0 +0.7
	baz=77,SNR=5.6				
U22A	Llaves	76.66 333	⇑P	P	04 16 38.8 +1.1
	baz=77				
T24B	San Luis	76.71 334	⇓P	P	04 16 39.6 +1.6
	baz=77,SNR=6.4				
Q30A	Quinter	76.72 339	⇑P	P	04 16 38.6 +0.9
	baz=77,SNR=7.2				
X16A	Lo Mia Camp, P	76.86 328	⇑P	P	04 16 40.1 +1.3
	baz=77,SNR=5.0				
R27A	Eads	76.91 336	⇓P	P	04 16 39.8 +0.9
	baz=77,SNR=8.7				
S25A	Robets Cordova	76.91 335	⇓P	P	04 16 39.9 +0.9
	baz=77				
T23A	Casias Ranch,	76.93 333	⇓P	P	04 16 40.2 +0.9
	baz=77,SNR=5.5				
P31A	Stockton	76.97 339	⇑P	P	04 16 40.0 +0.9
	baz=77				
R26A	Arlington	77.14 336	⇑P	P	04 16 41.4 +1.2
	baz=78,SNR=7.9				
S24A	Houchin Ranch,	77.17 334	⇑P	P	04 16 42.2 +1.6
	baz=78,SNR=9.6				
R25A	Fountain Ranch	77.29 335	⇑P	P	04 16 42.0 +1.0
	baz=78				
Q28A	Sharon Springs	77.30 337	⇑P	P	04 16 42.5 +1.5
	baz=78				
O32A	Brockman Farm,	77.34 340	⇑P	P	04 16 42.4 +1.2
	baz=78				
SDCO	Great Sand Dun	77.36 334	eP	P	04 16 41.9 +0.2
	comp=Z,3.2nm,0.8s				
KSCO	Kaye Shedlock'	77.51 337	eP	P	04 16 43.5 +1.2
O31A	Woolen Ranch,	77.53 340	⇑P	P	04 16 42.9 +0.7
	baz=78				
R24A	Sanders Place,	77.65 335	⇓P	P	04 16 44.4 +1.2
	baz=78,SNR=12				
Q26A	Hugo	77.72 336	⇓P	P	04 16 44.6 +1.1
	baz=78				
P28A	Saint Francis	77.74 338	⇓P	P	04 16 44.9 +1.4
	baz=78				
WUAZ	Wupatki	77.76 329	eP	P	04 16 45.4 +1.6
	comp=Z,7.7nm,1.0s				
WUAZ			epP	pP	04 16 54.6 +0.5
WUAZ	Wupatki	77.76 329	⇑P	P	04 16 45.3 +1.5
	baz=78				
O30A	MW Ranch, Wils	77.77 339	⇑P	P	04 16 44.7 +1.1
	baz=78				
S22A	4UR Ranch, Cre	77.85 333	⇑P	P	04 16 45.4 +1.0
	baz=78				
R23A	Moffat	77.88 334	⇑P	P	04 16 45.4 +0.9
	baz=78,SNR=6.3				
Q25A	Bedland, Calha	77.96 336	⇑P	P	04 16 45.9 +1.0
	baz=78				
P27A	Ficken Ranch,	77.98 337	⇑P	P	04 16 45.8 +0.9
	baz=78				
MVCO	Mesa Verde	78.03 332	eP	P	04 16 46.1 +0.8
	comp=Z,108nm,2.4s				
MVCO	Mesa Verde	78.03 332	⇓P	P	04 16 46.0 +0.6
	baz=78,SNR=5.4				
P26A	Davis Ranch, A	78.24 337	⇓P	P	04 16 47.6 +1.3
	baz=79				
O28A	Krutsinger Ran	78.25 338	⇓P	P	04 16 47.4 +1.1
	baz=79				
Q24A	Divide	78.32 335	⇑P	P	04 16 47.9 +0.9
	baz=79,SNR=7.5				
BGNE	Belgrade	78.37 341	⇓P	P	04 16 46.6 -0.3
	baz=79				
P25A	Willow Gulch B	78.47 336	⇑P	P	04 16 48.9 +1.2
	baz=79,SNR=7.6				
W13A	Hualapai Mount	78.52 327	⇓P	P	04 16 49.6 +1.5
	baz=79				
O27A	Beecher Island	78.53 337	⇓P	P	04 16 48.9 +1.1
	baz=79				
M31A	Lambtecht Ranc	78.54 340	⇓P	P	04 16 49.2 +1.4
	baz=79				
O26A	Horse Wrangler	78.84 337	⇑P	P	04 16 51.1 +1.4
	baz=79				
PV01	Paradox Valley	78.86 332	eP	P	04 16 50.2 +0.3
	comp=Z,533nm,1.3s				
U15A	North Rim	78.92 329	⇑P	P	04 16 51.3 +0.9
	baz=79,SNR=11				
O25A	Wiggins	79.00 336	⇑P	P	04 16 52.0 +1.6
	baz=79				
GMRC	Granite Mounta	79.08 325	⇑P	P	04 16 52.6 +1.6
	baz=79				
N27A	Anderson Farm,	79.11 338	⇑P	P	04 16 52.2 +1.2
	baz=80				
SMCO	Snowmass	79.17 334	eP	P	04 16 53.2 +1.5
ISCO	Idaho Springs	79.23 335	eP	P	04 16 53.0 +1.0
ISCO			pmax	pmax	
	comp=Z,15nm,1.7s				
ISCO	Idaho Springs	79.23 335	eP	P	04 16 53.0 +1.0
	comp=Z,15nm,1.7s				
ISCO	Idaho Springs	79.23 335	⇓P	P	04 16 53.0 +1.0
	baz=80				
L31A	Butterfield Fa	79.27 341	⇓P	P	04 16 52.9 +1.1
	baz=80,SNR=5.7				
L30A	Spencer Herefo	79.31 340	⇑P	P	04 16 53.2 +1.2
	baz=80				
P22A	Eagle	79.46 334	⇓P	P	04 16 54.2 +1.1
	baz=80				
L29A	Maesberg Ranch	79.63 340	⇑P	P	04 16 54.6 +0.8

	baz=80				
O23A	Lake Granby, G	79.70 335	⇓P	P	04 16 55.9 +1.3
	baz=80,SNR=7.9				
O22A	Kremmling	79.88 335	⇓P	P	04 16 56.3 +0.8
	baz=80,SNR=7.2				
N24A	Carr	79.89 336	⇓P	P	04 16 56.8 +1.4
	baz=80				
DECC	Green Verdugo	79.95 323	⇑P	P	04 16 56.7 +1.1
	baz=80				
K30A	Basset	79.95 340	⇑P	P	04 16 56.9 +1.4
	baz=80				
GSC	Goldstone	80.05 325	⇓P	P	04 16 56.2 -0.1
	baz=80				
TSUM	Tsumeb	80.08 106	eP	P	04 16 57.1 +0.2
	comp=Z,19nm,1.3s				
ECSD	EROS Data Cent	80.15 343	eP	P	04 16 56.3 -0.2
	comp=Z,35nm,1.4s				
ECSD	EROS Data Cent	80.15 343	⇓P	P	04 16 56.6 +0.1
	baz=80,SNR=10				
K29A	Lazy Trails An	80.23 340	⇓P	P	04 16 57.9 +0.9
	baz=81				
SHPR	Sheep Range	80.27 327	eP	P	04 16 58.3 +0.8
	comp=Z,9.1nm,1.5s				
N23A	Red Feather La	80.32 335	⇑P	P	04 16 58.9 +1.1
	baz=81				
CCUT	Cedar City	80.33 329	eP	P	04 16 59.8 +1.9
N22A	Wattenberg Ran	80.41 335	⇓P	P	04 16 59.1 +0.8
	baz=81,SNR=6.3				
M24A	Cheyenne	80.45 336	⇓P	P	04 16 59.6 +1.2
	baz=81				
K28A	Ten Mile Ranch	80.49 339	⇓P	P	04 16 59.7 +1.3
	baz=81				
PHWY	Pilot Hill	80.51 336	eP	P	04 16 59.2 +0.3
	comp=Z,18nm,1.4s				
PHWY			epP	pP	04 17 09.0 -0.2
J30A	Dallas	80.52 341	⇑P	P	04 16 59.2 +0.7
	baz=81				
MVU	Marysvale	80.64 330	eP	P	04 17 01.0 +1.4
	comp=Z,7.6nm,1.2s				
SPMN	St. Paul	80.72 346	eP	P	04 16 59.0 -0.5
	comp=Z,9.5nm,0.9s				
SPMN	St. Paul	80.72 346	⇑P	P	04 16 59.4 -0.1
	baz=81				
K27A	Flueckinger Fa	80.74 339	⇑P	P	04 17 01.3 +1.5
	baz=81				
M23A	Laramie	80.75 336	⇓P	P	04 17 01.4 +1.3
	baz=81				
J29A	Okreek	80.83 340	⇑P	P	04 17 00.6 +0.4
	baz=81,SNR=12				
BOSA	Boshof	80.89 118	eP	P	04 17 01.5 +0.3
BOSA			pmax	pmax	
	comp=Z,22nm,1.1s				
BOSA	Boshof	80.89 118	P	P	04 17 00.9 -0.3
	comp=Z,11nm,0.9s,baz=249,slow=6.5,SNR=9.8				
BOSA	Boshof	80.89 118	eP	P	04 17 01.5 +0.3
	comp=Z,22nm,1.1s				
TMUT	Trail Mountain	80.90 331	eP	P	04 17 02.0 +1.0
M22A	Cedar Creek Ra	81.00 335	⇓P	P	04 17 01.8 +0.4
	baz=81				
I30A	Oacoma	81.05 341	⇓P	P	04 17 01.6 +0.3
	baz=81				
N20A	Spence Gulch,	81.09 334	⇑P	P	04 17 02.5 +0.5
	baz=81				
J28A	Allard Ranch,	81.10 340	⇓P	P	04 17 02.3 +0.6
	baz=82,SNR=5.8				
ISA	Isabella	81.15 324	⇓P	P	04 17 03.3 +1.2
	baz=82				
J27A	Elkhorn Farm,	81.17 339	⇑P	P	04 17 03.4 +1.3
	baz=82				
L23A	Garrett	81.32 336	⇑P	P	04 17 02.9 -0.2
	baz=82				
I29A	Vivian Onida	81.39 340	⇑P	P	04 17 04.0 +0.8
	baz=82				
BRSD	Miller	81.41 342	⇓P	P	04 17 03.5 +0.3
	baz=82				
L22A	Ellis Ranch, M	81.49 336	⇑P	P	04 17 05.4 +1.4
	baz=82				
J26A	Sides Ranch, S	81.55 338	⇑P	P	04 17 05.5 +1.4
	baz=82				
I28A	Midland	81.61 340	⇑P	P	04 17 05.3 +0.9
	baz=82,SNR=6.1				
MPU	Maple Canyon	81.69 331	eP	P	04 17 06.1 +1.0
	comp=Z,9.0nm,1.1s				
MPU			epP	pP	04 17 15.3 0.0
GRAC	Grapevine Rang	81.69 326	⇓P	P	04 17 06.4 +1.5
	baz=82				
K23A	Bowen Ranch, D	81.86 336	⇓P	P	04 17 06.7 +0.8
	baz=82				
H29A	Onida	81.92 341	⇓P	P	04 17 06.1 +0.2
	baz=82,SNR=6.0				
I27A	Quinn	81.93 339	⇑P	P	04 17 06.8 +0.8
	baz=82				
R11A	Troy Canyon, C	81.97 328	⇑P	P	04 17 08.0 +1.4
	baz=82,SNR=6.4				
J24A	Dixon Ranch, L	82.06 337	⇑P	P	04 17 08.2 +1.3
	baz=82				
K22A	Casper	82.07 336	eP	P	04 17 07.8 +0.8
K22A	Casper	82.07 336	⇑P	P	04 17 07.6 +0.7
	baz=82,SNR=5.7				
G30A	Faulkton	82.10 342	⇓P	P	04 17 07.4 +0.6
	baz=82,SNR=5.1				
JLU	Jordanelle	82.11 331	eP	P	04 17 07.3 -0.1
I26A	New Underwood	82.14 339	⇓P	P	04 17 08.3 +1.1
	baz=82				
H28A	Mission Ridge	82.19 340	⇑P	P	04 17 07.6 +0.3
	baz=82,SNR=5.5				
K21A	Alcova	82.31 335	⇑P	P	04 17 08.9 +0.6
	baz=83,SNR=7.8				
DUG	Dugway	82.32 330	eP	P	04 17 09.4 +1.1
DUG			pmax	pmax	
	comp=Z,22nm,1.5s				
DUG	Dugway	82.32 330	eP	P	04 17 09.4 +1.1
	comp=Z,22nm,1.5s				
DUG	Dugway	82.32 330	⇑P	P	04 17 09.0 +0.7
	baz=83,SNR=7.9				
G29A	Hoven	82.36 341	⇑P	P	04 17 08.4 +0.2
	baz=83				
I25A	Rochford	82.39 338	⇓P	P	04 17 09.2 +0.6
	baz=83,SNR=5.8				
H27A	Howes	82.45 340	⇓P	P	04 17 09.7 +0.9
	baz=83,SNR=5.6				
TPH	Tonopah	82.49 326	eP	P	04 17 10.7 +1.4
TPH	Tonopah	82.49 326	eP	P	04 17 10.7 +1.4
G28A	Parade	82.53 340	⇓P	P	04 17 09.4 +0.3
	baz=83,SNR=5.4				
RSSD	Black Hills	82.58 338	eP	P	04 17 09.3 -0.3
RSSD			pmax	pmax	
	comp=Z,6.0nm,1.0s				
RSSD	Black Hills	82.58 338	eP	P	04 17 09.3 -0.3
	comp=Z,6.4nm,1.0s				
F30A	Leola	82.72 342	⇓P	P	04 17 10.3 +0.2
	baz=83				
J22A	Midwest	82.73 336	⇓P	P	04 17 10.8 +0.4
	baz=83				
H25A	Fruitdale	82.89 339	⇑P	P	04 17 11.9 +0.9
	baz=83				
F29A	Eureka	82.93 342	⇑P	P	04 17 11.5 +0.3
	baz=83,SNR=8.7				
J21A	Lysite	83.00 335	⇑P	P	04 17 12.3 +0.5
	baz=83				
HWUT	Hardware Ranch	83.02 332	eP	P	04 17 11.8 -0.1
	comp=Z,6.6nm,0.7s				
BGU	Big Grassy Mou	83.02 331	eP	P	04 17 12.6 +0.6
BGU			epP	pP	04 17 21.2 -1.1
G27A	Dupree	83.09 340	⇑P	P	04 17 12.5 +0.5
	baz=84				
LBTB	Lobatse	83.14 115	eP	P	04 17 12.8 -0.3
LBTB			pmax	pmax	
	comp=Z,35nm,1.0s				
LBTB	Lobatse	83.14 115	eP	P	04 17 12.8 -0.3
	comp=Z,35nm,1.0s				
I22A	9 Mile Ranch,	83.16 336	⇓P	P	04 17 13.0 +0.4
	baz=84				
G26A	Maurine	83.21 339	⇑P	P	04 17 13.4 +0.8
	baz=84				
F28A	McLaughlin	83.21 341	⇑P	P	04 17 13.7 +1.1
	baz=84				
J20A	Shoshoni	83.23 335	⇓P	P	04 17 14.2 +1.2
	baz=84				
PDAR	Pinedale Array	83.25 334	P	P	04 17 13.3 +0.1
	comp=Z,4.4nm,1.1s,baz=145,slow=5.4,SNR=14				
NVAR	Mina Array Bea	83.28 326	P	P	04 17 14.5 +1.1
	comp=Z,1.4nm,0.7s,baz=156,slow=6.1,SNR=13				
H24A	Dirks Ranch, A	83.30 338	⇑P	P	04 17 13.6 +0.4
	baz=84				
E30A	Jud	83.32 342	⇓P	P	04 17 13.2 0.0
	baz=84,SNR=5.6				
G25A	Newell	83.36 339	⇑P	P	04 17 13.8 +0.3

baz=84,SNR=5.9
I21A Big Trails, Te 83.36 336 ⇓P P 04 17 13.6 0.0
baz=84,SNR=5.7
J19A Crowheart 83.50 334 ⇑P P 04 17 15.0 +0.6
baz=84,SNR=8.4
E29A Napoleon 83.56 342 ⇑P P 04 17 14.7 +0.3
baz=84
F27A Lemmon 83.57 340 ⇑P P 04 17 15.0 +0.5
baz=84,SNR=6.9
HVU Hansel Valley 83.64 331 eP P 04 17 15.2 +0.1
HVU Hansel Valley 83.64 331 eP P 04 17 15.2 +0.1
F26A Lodgepole 83.73 340 ⇑P P 04 17 16.1 +0.8
baz=84
H22A Clearmont 83.74 337 ⇑P P 04 17 16.2 +0.8
baz=84
I20A Worland 83.77 335 ⇓P P 04 17 16.5 +0.8
baz=84,SNR=5.1
ELK Elko 83.80 329 eP P 04 17 16.8 +0.8
ELK pmax pmax
comp=Z,5.0nm,0.9s
ELK Elko 83.80 329 eP P 04 17 16.8 +0.8
comp=Z,5.1nm,0.9s
D30A Buchanan 83.84 343 ⇓P P 04 17 16.8 +1.0
baz=84
E28A Huff 83.85 341 ⇓P P 04 17 17.2 +1.4
baz=84
E27A Carson 83.95 341 ⇑P P 04 17 17.1 +0.7
baz=84
G23A Biddle 83.97 338 ⇓P P 04 17 16.6 0.0
baz=84
D29A Pettibone, Tap 84.01 342 ⇓P P 04 17 17.5 +0.8
baz=84,SNR=6.3
I19A Meeteetse 84.15 335 ⇑P P 04 17 18.0 +0.3
baz=84
H20A Greybull 84.20 336 ⇓P P 04 17 18.3 +0.5
baz=85,SNR=13
E26A Carlson Angus 84.24 340 ⇓P P 04 17 18.7 +0.8
baz=85
REDW Red Top Meadow 84.24 333 eP P 04 17 18.5 +0.3
AGMN Agassiz Nation 84.29 345 eP P 04 17 17.7 -0.3
AGMN Agassiz Nation 84.29 345 ⇓P P 04 17 18.0 0.0
baz=85,SNR=6.4
C30A Mose, Pekin 84.33 343 ⇓P P 04 17 18.5 +0.2
baz=85,SNR=15
LOHW Long Hollow 84.37 334 eP P 04 17 19.2 +0.4
D28A Regan 84.39 342 ⇓P P 04 17 18.9 +0.3
baz=85,SNR=7.8
TPAW Teton Pass 84.39 333 eP P 04 17 19.6 +0.5
F23A Volborg 84.44 338 ⇑P P 04 17 18.8 -0.1
baz=85
FXWY Fox Creek 84.55 333 eP P 04 17 20.1 +0.3
G21A Lodge Grass 84.58 337 ⇑P P 04 17 20.3 +0.6
baz=85
I17A Pilgrim Ck. 84.62 334 ⇑P P 04 17 21.3 +1.2
baz=85,SNR=5.6
H19A Powell 84.70 335 ⇑P P 04 17 21.2 +0.8
baz=85
D26A Manning 84.74 340 ⇓P P 04 17 21.2 +0.8
baz=85
F22A Rosebud 84.76 337 ⇑P P 04 17 21.1 +0.5
baz=85
E24A Baker 84.86 339 ⇑P P 04 17 22.0 +1.0
baz=85
G20A Bridger 84.92 336 ⇑P P 04 17 21.2 -0.3
baz=85,SNR=9.9
H18A Shoshone NF, C 84.94 335 ⇑P P 04 17 21.7 0.0
baz=85,SNR=14
TOA0 Torodi Ar. Sit 84.97 71 eP P 04 17 22.2 0.0
TORD Torodi Ar. Bea 84.97 71 P P 04 17 22.4 +0.2
comp=Z,14nm,0.8s,baz=253,slow=4.0,SNR=73
B30A Myrvik Farm, E 84.99 343 ⇑P P 04 17 21.8 +0.2
baz=85,SNR=30
F21A Absaloka Mine, 85.08 337 ⇑P P 04 17 23.0 +0.8
baz=85,SNR=5.1
D25A Fairfield 85.10 340 ⇑P P 04 17 23.1 +0.9
baz=86
C27A Sayler Ranch, 85.11 341 ⇑P P 04 17 22.8 +0.5
baz=86
E22A Miles City 85.25 338 ⇑P P 04 17 23.2 +0.2
baz=86
B29A Wagenman Farm, 85.25 343 ⇓P P 04 17 23.5 +0.6
baz=86,SNR=6.0
D24A Glendive 85.36 339 ⇓P P 04 17 24.8 +1.3
baz=86
F20A Billings 85.40 336 ⇓P P 04 17 23.9 0.0
baz=86
YMR Madison River 85.41 334 eP P 04 17 25.2 +1.1
A30A Hoffart Farm, 85.44 344 ⇓P P 04 17 23.9 0.0
baz=86,SNR=9.4
B28A Dugan Ranch, T 85.49 342 ⇑P P 04 17 24.9 +0.9
baz=86
LAO LASA Array 85.56 338 eP P 04 17 23.8 -0.8
comp=Z,14nm,1.0s
C25A Freed Ranch, W 85.59 340 ⇑P P 04 17 25.4 +0.8
baz=86
A29A Manning Farm, 85.65 343 ⇑P P 04 17 24.9 0.0
baz=86,SNR=10
D23A Lindsay 85.68 339 ⇑P P 04 17 25.8 +0.7
baz=86
E21A Keefer Ranch, 85.70 337 ⇑P P 04 17 26.2 +1.0
baz=86
F19A Roth Farm, Mol 85.72 336 ⇓P P 04 17 25.7 +0.3
baz=86
C24A Savage 85.77 339 ⇑P P 04 17 26.4 +0.9
baz=86,SNR=13
HLID Hailey 85.79 331 eP P 04 17 24.4 -1.6
HLID Hailey 85.79 331 ⇓P P 04 17 26.7 +0.8
baz=86,SNR=7.2
A28A Rude Farm, Bot 85.89 342 ⇑P P 04 17 26.4 +0.3
baz=86
GCMT Greycliff 85.91 335 eP P 04 17 26.1 -0.3
comp=Z,9.3nm,1.5s
B26A Jensen Ranch, 85.92 341 ⇑P P 04 17 27.6 +1.3
baz=86
D22A Cohagen 85.96 338 ⇑P P 04 17 27.3 +0.8
baz=86
E20A Meyer Farm, Mu 86.01 337 ⇓P P 04 17 27.3 +0.5
baz=86,SNR=15
B25A Knox Farm, Ray 86.08 340 ⇓P P 04 17 27.5 +0.5
baz=86
D21A La Casta Ranch 86.14 338 ⇑P P 04 17 27.8 +0.4
baz=86
ULM Lac du Bonnet 86.14 346 P P 04 17 26.4 -0.9
comp=Z,6.1nm,0.7s,baz=154,slow=3.2,SNR=10.0
A27A Ledoux Ranch, 86.18 342 ⇑P P 04 17 28.3 +0.8
baz=86
E19A Rath Farm, Rou 86.19 336 ⇑P P 04 17 27.4 -0.4
baz=86,SNR=11
C23A Lambert 86.24 339 ⇓P P 04 17 28.3 +0.5
baz=87,SNR=7.6
MCMT McKenzie Canyo 86.25 333 eP P 04 17 28.7 +0.5
comp=Z,5.8nm,1.1s
MFID Camas Ranch 86.25 330 eP P 04 17 28.5 +0.4
A26A Wade Farm, Ken 86.34 341 ⇓P P 04 17 29.0 +0.7
baz=87
C22A Vida 86.40 339 ⇑P P 04 17 29.4 +0.7
baz=87
D20A Manuel Ranch, 86.53 337 ⇑P P 04 17 29.6 +0.2
baz=87,SNR=10
DGMT Dagmar 86.55 340 eP P 04 17 30.0 +0.7
comp=Z,43nm,1.1s
DGMT Dagmar 86.55 340 ⇑P P 04 17 30.3 +0.9
baz=87,SNR=11
A25A Svangstu Ranch 86.67 341 ⇑P P 04 17 31.3 +1.3
baz=87
B23A Brockton 86.78 339 ⇓P P 04 17 30.9 +0.5
baz=87
D19A Cripps Ranch, 86.84 336 ⇑P P 04 17 30.9 +0.1
baz=87
C21A Desert Coulee 86.84 338 ⇑P P 04 17 30.4 -0.4
baz=87,SNR=5.5
A24A Westby 86.90 340 ⇑P P 04 17 32.0 +0.9
baz=87
B22A Reddig Ranch S 86.93 339 ⇑P P 04 17 31.7 +0.4
baz=87,SNR=7.4
LRM Limekiln Ridge 86.94 334 eP P 04 17 30.9 -0.7
comp=Z,58nm,1.2s
C20A Veseth Ranch, 87.03 337 ⇑P P 04 17 31.9 +0.1
baz=87
B21A Ellsworth Farm 87.35 338 ⇓P P 04 17 33.6 +0.3
baz=88
A22A Carney Farms, 87.52 339 ⇑P P 04 17 34.4 +0.3
baz=88,SNR=8.9
M04C Macdoel 87.59 326 ⇑P P 04 17 36.0 +1.3
baz=88
B20A Solberg Farm, 87.68 338 ⇑P P 04 17 35.5 +0.7
baz=88
M02C Callahan 87.77 325 ⇑P P 04 17 36.3 +0.8
baz=88
A21A Bergtoll Ranch 87.82 338 ⇓P P 04 17 35.7 +0.1
baz=88
EGMT Eagleton 87.88 336 eP P 04 17 35.5 -0.4
EGMT Eagleton 87.88 336 ⇓P P 04 17 35.6 -0.2
baz=88
K05A Summer Lake 87.89 327 eP P 04 17 37.6 +1.5
B19A Brinkman Farms 87.99 337 ⇓P P 04 17 36.8 +0.5
baz=88
A20A Cobblestone Ra 88.04 338 ⇑P P 04 17 36.9 +0.4
baz=88,SNR=5.3
A19A Klindworth Far 88.34 337 ⇑P P 04 17 38.5 +0.5
baz=89
MSO Missoula 88.34 333 ⇓P P 04 17 39.1 +1.0
baz=89
J05D Fort Rock, OR 88.48 327 ⇑P P 04 17 40.0 +1.1
baz=89
SCHQ Schefferville 88.49 4 P P 04 17 37.7 -0.8
comp=Z,3.7nm,0.9s,baz=241,slow=5.2,SNR=4.0
SLMT Seeley Lake 88.52 334 eP P 04 17 38.7 -0.3
comp=Z,6.3nm,1.4s
LSZ Lusaka 90.66 109 eP P 04 17 49.8 -0.1
LSZ pmax pmax
comp=Z,3.0nm,0.8s
LSZ Lusaka 90.66 109 eP P 04 17 49.8 -0.1
comp=Z,2.6nm,0.8s
FFC Flin Flon 91.67 344 eP P 04 17 52.5 -0.8
FFC Flin Flon 91.67 344 eP P 04 17 52.5 -0.8
comp=Z,192nm,3.1s
TAM Tamanrasset 93.54 65 eP P 04 18 03.5 +0.6
TAM pmax pmax
comp=Z,3.0nm,0.9s
TAM Tamanrasset 93.54 65 eP P 04 18 03.5 +0.6
comp=Z,3.3nm,0.9s
FCC Fort Churchill 93.92 349 eP P 04 18 03.2 -0.4
FCC Fort Churchill 93.92 349 eP P 04 18 03.2 -0.4
YKA Yellowknife Ar 101.65 342 P Pdif 04 18 37.2 -1.1
comp=Z,0.8nm,0.9s,baz=144,slow=5.0,SNR=13
GERES GERESS Array B 112.66 46 PKiKP PKiKP 04 23 22.4 -0.4
comp=Z,1.2nm,0.8s,baz=194,slow=2.2,SNR=9.2
MORC Moravsky Berou 115.34 46 ePKIKP PKPdf 04 23 28.2 +0.4
MORC Moravsky Berou 115.34 46 ePKPdf PKPdf 04 23 28.2 +0.4
VYHS Vyhne 115.62 48 ePKIKP PKPdf 04 23 28.2 -0.1
VYHS Vyhne 115.62 48 ePKP PKPdf 04 23 28.2 -0.1
NAO01 NORSAR Array S 116.14 33 ePKPdf PKPdf 04 23 28.9 0.0
KWP Kalwaria Pacla 118.41 47 ePKIKP PKPdf 04 23 33.8 +0.2
KWP Kalwaria Pacla 118.41 47 ePKPdf PKPdf 04 23 33.8 +0.2
BUR08 Bucovina Ar. S 119.30 50 ePKPdf PKPdf 04 23 36.4 +0.9
SUW Suwalki 120.07 43 ePKIKP PKPdf 04 23 36.3 -0.3
SUW Suwalki 120.07 43 ePKPdf PKPdf 04 23 36.3 -0.3
WRA Warramunga Arr 120.46 210 PKP PKPdf 04 23 37.7 -1.0
comp=Z,2.3nm,0.6s,baz=165,slow=1.6,SNR=12
WRAB Tennant Creek 120.47 210 ePKIKP PKPdf 04 23 37.4 -1.2
WRAB Tennant Creek 120.47 210 ePKPdf PKPdf 04 23 37.4 -1.2
TNA Tin City 122.25 331 ePKPdf PKPdf 04 23 40.2 -0.2
BR131 Keskin Array S 122.51 61 ePKPdf PKPdf 04 23 41.9 -0.2
BRTR Keskin Array B 122.51 61 PKP PKPdf 04 23 42.0 0.0
comp=Z,3.0nm,0.8s,baz=195,slow=2.8,SNR=20
AK02 Malin Array Si 122.70 48 ePKPdf PKPdf 04 23 40.3 -1.5
KIEV Kiev 122.71 48⇑iPKIKP PKPdf 04 23 41.2 -0.6
KIEV Kiev 122.71 48 ePKPdf PKPdf 04 23 40.6 -1.2
AK01 Malin Array Si 122.72 48 ePKPdf PKPdf 04 23 41.1 -0.7
AKASG Malin Array Be 122.73 48 PKP PKPdf 04 23 40.9 -1.0
comp=Z,3.4nm,0.7s,baz=261,slow=2.9,SNR=26
AKBB Malin Array Si 122.73 48 ePKIKP PKPdf 04 23 40.8 -1.1
AKBB Malin Array Si 122.73 48 ePKPdf PKPdf 04 23 40.8 -1.1
VSU Vasula 123.11 38 iPKIKP PKPdf 04 23 41.7 -0.6
OBN Obninsk 127.92 43⇑iPKIKP PKPdf 04 23 51.5 -0.1
OBN e 04 25 55.7
OBN pmax pmax
comp=Z,23nm,2.5s
VSR Storozhevoye 128.99 49 i PKIKP PKPdf 04 23 53.5 -0.3
KLMR Klimovskoe 129.79 36 ePKIKP PKPdf 04 23 54.2 -0.8
KLMR pmax pmax
comp=Z,34nm,1.4s
KIV Kislovodsk 130.14 58 ePKIKP PKPdf 04 23 57.0 +0.6
KIV Kislovodsk 130.14 58 ePKPdf PKPdf 04 23 57.0 +0.6
KBZ Khabaz 130.25 59 PKP PKPdf 04 23 57.7 +1.2
comp=Z,2.7nm,0.9s,baz=318,slow=3.4,SNR=5.2
NCK Nalchik 130.70 59 i PKIKP PKPdf 04 23 57.6 +0.2
GNI Garni 130.82 64 i PKIKP PKPdf 04 23 58.4 +0.5
GNI pmax pmax
comp=Z,7.0nm,1.7s
GNI Garni 130.82 64 ePKPdf PKPdf 04 23 58.9 +0.9
BILL Bilibino 132.33 334 i PKIKP PKPdf 04 23 58.7 -1.0
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL Bilibino 132.33 334 ePKPdf PKPdf 04 24 00.5 +0.8
PETK Petropavlovsk- 139.44 314 PKP PKPdf 04 24 15.0 +1.7
comp=Z,7.6nm,0.9s,baz=270,slow=14,SNR=4.2
SEY Seymchan 139.48 330 PKP PKPdf 04 24 14.0 +0.9
comp=Z,4.9nm,0.8s,baz=129,slow=3.9,SNR=13
KAPI Kappang 139.48 200 ePKPdf PKPdf 04 24 13.5 -1.2
ARU Arti 140.19 40 i PKIKP PKPdf 04 24 14.6 0.0
ARU 04 27 11.0
ARU SS SS 04 45 29.5 -4.1
ARU Arti 140.19 40 ePKPdf PKPdf 04 24 15.0 +0.4
TIXI Tiksi 140.40 349 i PKIKP PKPdf 04 24 13.7 -0.8
TIXI Tiksi 140.40 349 ePKPpre PKPpre 04 24 04.8
TIXI ePKPdf PKPdf 04 24 14.7 +0.2
GEYT Alibeck 140.60 70 PKP PKPdf 04 24 15.9 -0.1
comp=Z,2.3nm,0.7s,baz=253,slow=4.5,SNR=4.6
AB31 Akbulak array 142.26 52 i PKHKP PKPpre 04 24 13.7
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 142.26 52 ePKPpre PKPpre 04 24 13.2
ABKAR ePKPdf PKPdf 04 24 18.8 +0.2
PALK Pallekele 144.12 132 ePKIKP PKPab 04 24 20.7 +0.1
PALK Pallekele 144.12 132 ePKPdf PKPab 04 24 20.7 +0.1
POO Poona 146.80 109 eP PKPdf 04 24 29.0 -0.2
KSM Kuching 147.63 186 ePKPbc PKPbc 04 24 31.3 -0.3
KSM ePKPab PKPab 04 24 34.4 +0.7
BRVK Borovoye 147.68 42 PKP2 PKPbc 04 24 29.3 -1.3
BRVK pmax pmax
comp=Z,22nm,0.6s
BRVK Borovoye 147.68 42 ePKPdf PKPdf 04 24 27.8 0.0
BRVK ePKPbc PKPbc 04 24 31.1 +0.5
BVA0 Borovoye Array 147.75 42 i PKIKP PKPdf 04 24 28.0 +0.1
BVA0 pmax pmax
comp=Z,16nm,1.0s
VOSK Vostochnaya 148.20 43 PKIKP PKPdf 04 24 30.0 +1.3
VOSK pmax pmax
comp=Z,5.0nm,1.0s
YAK Yakutsk 148.30 340 ePKIKP PKPbc 04 24 30.6 -1.3
YAK pmax pmax
comp=Z,32nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK Yakutsk 148.30 340 ePKPbc PKPbc 04 24 31.2 -0.7
YAK ePKPab PKPab 04 24 35.1 0.0
HYB Hyderabad 149.77 116 i PKP PKPbc 04 24 36.0 -1.0
KK31 Karatay Array 150.23 61 PKIKP PKPbc 04 24 36.4 -1.0
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 150.23 61 ePKIKP PKPdf 04 24 32.5 +0.2
KKAR e 04 24 37.3
KKAR Karatay Array 150.23 61 ePKPdf PKPdf 04 24 32.5 +0.2
KKAR ePKPbc PKPbc 04 24 37.3 -0.1
IPM Ipoh 150.26 168 ePKPbc PKPbc 04 24 37.2 -1.1
ASAJ Asahikawa 150.65 301 PKPbc PKPbc 04 24 37.3 -1.1
comp=Z,7.2nm,0.7s,baz=261,slow=9.0,SNR=6.8
KULM Kulim 150.98 167 ePKPbc PKPbc 04 24 39.4 -0.6
KKM Kota Kinabalu 151.02 199 ePKPbc PKPbc 04 24 39.2 -1.0
KKM ePKPab PKPab 04 24 48.6 +0.9
EKS2 Erkin-Say 152.66 61 ePKIKP PKPdf 04 24 36.9 +0.8
EKS2 e 04 24 43.9
EKS2 e 04 24 53.5
EKS2 Erkin-Say 152.66 61 ePKPdf PKPdf 04 24 36.9 +0.8
EKS2 ePKPbc PKiKP 04 24 43.9 +0.5
EKS2 ePKPab PKPab 04 24 53.5 -0.5
AAK Ala-Archa 153.19 61 ePKIKP PKPbc 04 24 45.0 +0.6
AAK Ala-Archa 153.19 61 ePKPbc PKPbc 04 24 45.0 +0.6
NVS Novosibirsk 153.27 31 ePKIKP PKPdf 04 24 35.5 -0.9
NVS pmax pmax
comp=Z,21nm,1.1s
KURK Kurchatov 153.35 42 ePKIKP PKPdf 04 24 36.7 0.0
KURK e 04 24 44.6
KURK Kurchatov 153.35 42 ePKPdf PKPdf 04 24 36.6 0.0
KURK ePKPbc PKiKP 04 24 44.6 +0.3
TKM2 Tokmak 2 153.95 60 ePKIKP PKPdf 04 24 38.5 +0.4
TKM2 e 04 24 46.2
TKM2 e 04 24 59.7
TKM2 Tokmak 2 153.95 60 ePKPdf PKPdf 04 24 38.5 +0.4
TKM2 ePKPbc PKiKP 04 24 46.2 0.0
TKM2 ePKPab PKPab 04 24 59.7 +0.2
ZAA0 Zalesovo Array 154.55 31 ePKPdf PKPdf 04 24 38.0 -0.3
ZAA0 ePKPbc PKiKP 04 24 46.8 0.0
ZAA0 ePKPab PKPab 04 25 01.9 +0.5
ZALV Zalesovo Beam 154.55 31 PKIKP PKPdf 04 24 38.0 -0.3
ZALV Zalesovo Beam 154.55 31 PKP PKPdf 04 24 38.0 -0.3
comp=Z,3.1nm,0.7s,baz=270,slow=2.5,SNR=15
KSH Kashi 154.61 68 ePKPbc PKPdf 04 24 40.0 +1.0
KSH epPKP pPKPdf 04 24 50.5 +0.7
KSH esPKP 04 24 54.5
KSH eSKS SKSdf 04 31 40.3 -3.0
KSH AMB AMB
comp=Z,84nm,6.2s
BOD Bodaibo 155.56 351 ePKP2 PKPab 04 25 04.9 -0.6
BOD pmax pmax
comp=Z,14nm,1.0s
MKAR Makanchi Array 157.31 48 PKP PKPdf 04 24 42.1 -0.1
comp=Z,1.6nm,0.8s,baz=0.0,slow=1.5,SNR=16
MKAR PKPab PKPab 04 25 13.8 +0.2
comp=Z,2.2nm,0.7s,baz=305,slow=4.3,SNR=10
WMQ Urumqi 162.05 51 ePKP PKPdf 04 24 47.5 -0.3
CMAR Chiang Mai Arr 163.08 153 PKP PKPdf 04 24 49.7 +0.2
comp=Z,2.7nm,0.8s,baz=239,slow=2.5,SNR=13
ZAK Zakamensk 163.27 8 ePKP2 PKPab 04 25 39.8 +0.5
ZAK pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 166.03 1 PKPab PKPab 04 25 52.0 +0.4
comp=Z,2.3nm,0.8s,baz=343,slow=4.2,SNR=12
NJ2 Nanjing 169.82 263 ePKP PKPdf 04 24 53.3 -1.0
KMI Kunming 170.56 156 PKP PKPdf 04 24 54.5 -0.7
GTA Gaotai 172.03 44 ePKP PKPdf 04 24 56.0 +0.6
GTA pPKP pPKPdf 04 25 06.8 +0.6
GTA PKPab PKPab 04 26 19.5 +0.9
HHC Hu-ho-hao-te 172.11 334 ePKP PKPdf 04 24 56.0 +0.7
HHC sPKP 04 25 12.3
HHC PP PP 04 30 12.8 +3.3
HHC SS SS 04 51 16.0 -0.4
HHC AMB AMB
comp=Z,380nm,6.0s
HHC LR LR
comp=Z,180nm,17.6s
HHC LR LR
comp=Z,150nm,16.8s
HHC LR LR
comp=Z,170nm,17.3s
GYA Guiyang 172.62 178 ePKP PKPdf 04 24 55.8 -0.2
GYA pPKP pPKPdf 04 25 06.0 -0.8
GYA PKPab PKPab 04 26 22.5 +1.2
GYA PKS PKSdf 04 28 26.5 -2.0
GYA PP PP 04 30 15.3 +3.7
GYA SKKS 04 36 57.0
GYA SS SS 04 51 23.0 +2.3
GYA AMB AMB
comp=Z,110nm,8.3s
GYA LR LR
comp=Z,120nm,21.3s
GYA LR LR
comp=Z,110nm,21.6s
GYA LR LR
comp=Z,120nm,24.9s
CD2 Chengdu 176.02 137 PKP PKPdf 04 24 57.0 +0.1
CD2 pPKP pPKPdf 04 25 08.5 +0.8
CD2 PKS PKSdf 04 28 27.8 -1.4
CD2 PP PP 04 30 33.3 +4.4
CD2 SKS SKSdf 04 31 54.5 -3.1
CD2 SKKS SKKSac 04 37 14.0 +0.9
CD2 SS SS 04 51 54.5 -0.4
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 176.63 48 ePKP PKPdf 04 24 57.3 +0.3
LZH pPKP pPKPdf 04 25 07.5 -0.3

*IDC **28** 04:11:19.2±3.7, 26°.05N×128°.82E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.5/38, mbtmp3.8/3, Error ellipse: s-maj=91.4km s-min=57.8km az=60.0*
*ISCJB **28** 04:11:21.6±1.7, 25°.99N±0°.06×128°.76E±0°.06, h31km±12km, mb3.5/3, Error ellipse: s-maj=10.7km s-min=8.8km az=162.6*
*JMA **28** 04:11:21.2±0.3, 25°.96N×128°.76E, h34km, M3.2*
ISC 28 04:11:20.8±3.5, 25°.99N±0°.07×128°.74E±0°.06, h15km±23km, n14, σ1s09/19, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.83	310	P	Pb	04 11 36.8	-0.2
JJT2	Tamagusuku 2	0.90	280	P	Pb	04 11 38.2	0.0
JOW	Kunigami	0.94	334	P	Pb	04 11 38.8	-0.1
JOW				eS	Sb	04 11 51.8	+0.6
JOW	Kunigami	0.94	334	Pn	Pn	04 11 39.0	-0.5
	9.8nm,0.3s,baz=145,slow=18,SNR=10						
JIH	Iheya	1.25	327	P	Pn	04 11 43.6	-0.2
JIH				eS	Sb	04 11 59.0	-1.1
JOKE	Okinoerabujima	1.38	354	P	Pn	04 11 45.5	-0.1
JAGN	Aguni-jima	1.47	294	P	Pn	04 11 46.6	-0.2
JAGN				S	Sn	04 12 04.7	-1.1
JKE	Kume jima 2	1.79	281	P	Pn	04 11 50.2	-1.0
JTK	Tokunoshima	1.80	6	P	Pn	04 11 51.4	0.0
JTK				eS	Sn	04 12 11.6	-2.4
JMZ	Minamidaito 2	2.24	94	P	Pn	04 11 56.5	-0.9
JAM	Amami Oshima	2.54	18	P	Pn	04 12 01.3	-0.2
JAM				eS	Sn	04 12 31.8	-0.3
SONM	Songino Array	28.01	327	P	P	04 17 13.8	+2.6
	0.4nm,0.4s,baz=130,slow=8.5,SNR=4.8						
MKAR	Makanchi Array	42.04	312	P	P	04 19 12.1	+0.3
	0.3nm,0.6s,baz=98,slow=10.0,SNR=4.6						
FINES	FINESS Array B	73.30	331	P	P	04 22 51.7	+0.3
	2.8nm,1.1s,baz=64,slow=3.2,SNR=3.2						

*SJA **28** 04:12:31.1±0.6, 35°.06S×74°.36W, h340km±139km, ML4.4*
*IDC **28** 04:12:46.0±0.6, 34°.82S×72°.85W, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.2/30, mbtmp4.2/15, ML4.2/2, Error ellipse: s-maj=23.1km s-min=15.3km az=84.0*
*ISCJB **28** 04:12:46.3±0.3, 34°.87S±0°.05×72°.81W±0°.07, h10km, mb4.4/36, Error ellipse: s-maj=8.8km s-min=7.4km az=153.0*
*BJI **28** 04:12:50.9, 35°.23S×73°.34W, h35km, Ms5.0/1, Ms7 5.1/2*
*NEIC **28** 04:12:51.6±0.9, 34°.83S×72°.64W, h36km±7km, mb4.6/26, Error ellipse: s-maj=8.2km s-min=4.8km az=80.0*
ISC 28 04:12:48.0±0.4, 34°.86S±0°.06×72°.81W±0°.06, h10km, n98, σ1s69/107, mb4.5/36, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	Agrelo	3.75	63	eP	Pb	04 13 51.6	-2.8
AAGR				eP	Pb	04 13 51.6	-2.8
ARCO	CERRO ARCO	3.80	59	eP	Pn	04 13 51.5	+4.7
ARCO				AML	AML	04 14 45.8	
	comp=Z,149nm,0.6s						
ARCO				eS	Sg	04 14 50.5	+0.4
AUSP	Uspallata	3.88	48	eP	Pn	04 13 51.6	+3.6
AUSP				eS	Sg	04 14 51.5	-1.2
RTLS	Leoncito	4.24	45	eP	Pn	04 13 55.3	+2.5
RTLS				eS	Sb	04 14 58.6	+4.5
RTCV	Cerro Valdivia	4.66	51	eP	Pn	04 14 00.1	+1.6
CFAA	Coronel Fontan	5.02	51	Pn	Pn	04 14 03.6	+0.2
	comp=Z,0.4nm,0.3s,baz=226,slow=10,SNR=2.3						
CFAA				Lg	Lg	04 15 18.6	
	comp=Z,0.6nm,0.3s,baz=111,slow=23,SNR=5.2						
PLCA	Paso Flores	6.13	164	Pn	Pn	04 14 19.2	+0.5
	comp=Z,2.3nm,0.3s,baz=338,slow=13,SNR=9.0						
PLCA				Lg	Lg	04 15 56.5	
	comp=Z,4.8nm,0.3s,baz=249,slow=23,SNR=3.7						
TRQA	Tornquist	9.29	113	ePn	Pn	04 15 02.8	+0.8
LVC	Limon Verde	12.67	17	ePn	Pn	04 15 41.8	-6.7
CPUP	Villa Florida	15.79	62	ePn	Pn	04 16 28.8	-1.7
LPAZ	La Paz	18.96	14	P	P	04 17 09.8	-0.3
	comp=Z,0.1nm,0.3s,baz=151,slow=7.9,SNR=4.6						
LPAZ	La Paz	18.96	14	eP	P	04 17 10.2	+0.1
	comp=Z,9.1nm,1.0s						
USHA	Ushuaia	20.21	173	P	P	04 17 23.0	+0.3
	comp=Z,14nm,0.9s,baz=324,slow=6.3,SNR=3.0						
SIV	San Ignacio	21.54	32	P	P	04 17 36.3	-1.2
	comp=Z,3.8nm,0.8s,baz=226,slow=12,SNR=7.1						
SAML	Samuel	27.25	21	eP	P	04 18 30.8	-1.6
	comp=Z,2.4nm,0.8s						
BDFB	Brasilia	29.34	56	P	P	04 18 50.8	-0.5
	comp=Z,1.5nm,0.7s,baz=208,slow=15,SNR=3.0						

OTAV	Otavalo	35.31	350	eP	P	04 19 43.8	0.0
	comp=Z,16nm,1.6s						
SDV	Santo Domingo	43.55	3	eP	P	04 20 50.6	-1.7
	comp=Z,6.3nm,0.8s						
BCIP	Isla Barro Col	44.28	350	eP	P	04 20 59.4	+1.4
	comp=Z,223nm,1.9s						
JTS	JuntasAbangare	46.35	343	eP	P	04 21 14.7	+0.3
	comp=Z,7.9nm,1.1s						
SNAA	Sanae	51.04	158	P	P	04 21 50.1	+0.2
	comp=Z,1.5nm,0.8s,baz=289,slow=7.0,SNR=6.4						
SNAA	Sanae	51.04	158	eP	P	04 21 50.2	+0.2
	comp=Z,8.3nm,1.0s						
JAKH	Jacmel	52.80	0	eP	P	04 22 08.1	+4.6
PAPH	Port-au-Prince	53.09	1	eP	P	04 22 06.1	+0.5
QSPA	South Pole Qui	55.38	180	P	P	04 22 22.1	0.0
	comp=Z,1.6nm,0.9s,baz=316,slow=2.6,SNR=5.8						
QSPA	South Pole Qui	55.38	180	eP	P	04 22 22.6	+0.5
	comp=Z,5.1nm,0.9s						
SYO	Syowa Base	65.31	158	⇑esP	sP	04 23 42.0	+7.9
LRAL	Lakeview Retre	68.83	347	eP	P	04 23 52.2	-0.3
JCT	Junction City	69.79	335	eP	P	04 23 57.7	-0.8
	comp=Z,6.9nm,0.8s						
TXAR	Lajitas Array	70.17	332	P	P	04 24 00.8	-0.2
	comp=Z,1.5nm,0.7s,baz=149,slow=8.8,SNR=17						
SWET	Sewanee	70.78	349	eP	P	04 24 03.1	-1.3
	comp=Z,8.0nm,0.8s						
ABTX	Abilene, Hawle	71.70	336	eP	P	04 24 09.1	-1.0
	comp=Z,12nm,1.0s						
WVT	Waverly	72.00	347	eP	P	04 24 10.2	-1.5
	comp=Z,7.9nm,0.9s						
MSTX	Muleshoe	74.00	334	eP	P	04 24 23.2	-0.6
	comp=Z,8.4nm,0.9s						
DBIC	Dimbokro	76.06	72	P	P	04 24 35.9	-0.1
	comp=Z,2.1nm,0.6s,baz=183,slow=2.4,SNR=4.1						
DBIC	Dimbokro	76.06	72	eP	P	04 24 35.2	-0.8
	comp=Z,3.7nm,0.7s						
ANMO	Albuquerque	76.23	332	eP	P	04 24 37.1	+0.3
	comp=Z,4.7nm,1.0s						
SDCO	Great Sand Dun	78.36	334	eP	P	04 24 48.4	-0.3
	comp=Z,3.0nm,0.9s						
WUAZ	Wupatki	78.72	329	eP	P	04 24 51.6	+0.9
	comp=Z,8.0nm,1.0s						
SMCO	Snowmass	80.16	334	eP	P	04 24 59.3	+0.6
BOSA	Boshof	80.24	118	P	P	04 24 59.4	+0.1
	comp=Z,3.8nm,0.9s,baz=198,slow=11,SNR=5.6						
BOSA	Boshof	80.24	118	eP	P	04 24 58.8	-0.4
ECSD	EROS Data Cent	81.17	343	eP	P	04 25 02.6	-0.9
	comp=Z,9.7nm,0.9s						
CCUT	Cedar City	81.29	328	eP	P	04 25 05.5	+1.0
TMUT	Trail Mountain	81.88	331	eP	P	04 25 08.5	+0.8
BRSD	Miller	82.43	341	eP	P	04 25 08.6	-1.5
	comp=Z,12nm,0.9s						
LBTB	Lobatse	82.52	115	eP	P	04 25 11.3	-0.1
	comp=Z,7.2nm,1.0s						
K22A	Casper	83.07	336	eP	P	04 25 14.3	+0.6
DUG	Dugway	83.29	330	eP	P	04 25 15.3	+0.5
	comp=Z,12nm,1.3s						
RSSD	Black Hills	83.58	338	eP	P	04 25 15.9	-0.5
	comp=Z,4.6nm,1.1s						
NVAR	Mina Array Bea	84.22	326	P	P	04 25 19.7	-0.1
	comp=Z,1.2nm,0.8s,baz=156,slow=6.3,SNR=9.7						
PDAR	Pinedale Array	84.24	334	P	P	04 25 19.1	-0.7
	comp=Z,1.1nm,0.9s,baz=147,slow=3.5,SNR=8.1						
HVU	Hansel Valley	84.62	331	eP	P	04 25 21.4	-0.2
ELK	Elko	84.76	329	eP	P	04 25 22.6	+0.1
	comp=Z,3.9nm,1.0s						
TOA0	Torodi Ar. Sit	85.10	70	eP	P	04 25 23.3	-1.2
TORD	Torodi Ar. Bea	85.10	70	P	P	04 25 23.7	-0.8
	comp=Z,2.3nm,0.9s,baz=198,slow=4.0,SNR=18						
IMW	Indian Meadow	85.72	333	eP	P	04 25 27.1	-0.2
	comp=Z,3.6nm,1.0s						
YMR	Madison River	86.40	334	eP	P	04 25 31.0	+0.5
LAO	LASA Array	86.57	338	eP	P	04 25 30.9	-0.1
	comp=Z,18nm,1.4s						
HLID	Hailey	86.77	331	eP	P	04 25 32.7	+0.4
ULM	Lac du Bonnet	87.16	345	P	P	04 25 32.6	-1.2
	comp=Z,2.6nm,0.8s,baz=117,slow=2.5,SNR=4.2						
MCMT	McKenzie Canyo	87.23	333	eP	P	04 25 34.4	-0.2
	comp=Z,2.6nm,1.2s						
DGMT	Dagmar	87.56	340	eP	P	04 25 35.6	-0.2
MOD	Modoc	87.92	327	eP	P	04 25 38.4	+0.5
YBH	Yreka Blue Hor	88.90	325	P	P	04 25 42.0	-0.4
	comp=Z,1.8nm,0.9s,baz=101,slow=10,SNR=3.0						
TAM	Tamanrasset	93.77	65	eP	P	04 26 05.3	-0.3
	comp=Z,1.5nm,0.8s						
FCC	Fort Churchill	94.94	349	eP	P	04 26 08.6	-1.3
	comp=Z,0.1nm,0.6s						
YKA	Yellowknife Ar	102.66	342	P	Pdif	04 26 42.6	-1.8
	comp=Z,0.1nm,0.7s,baz=140,slow=3.9,SNR=3.6						
FALS	False Passe	117.98	319	ePKPdf	PKPdf	04 31 35.3	+1.0
WRA	Warramunga Arr	119.70	210	PKP	PKPdf	04 31 37.3	-1.5
	comp=Z,0.6nm,0.8s,baz=165,slow=1.6,SNR=3.3						
WRAB	Tennant Creek	119.71	210	ePKPdf	PKPdf	04 31 39.9	+1.0
SUW	Suwalki	120.66	43	ePKPdf	PKPdf	04 31 38.3	-1.1
BRTR	Keskin Array B	122.80	62	PKP	PKPdf	04 31 43.1	-1.2
	comp=Z,0.5nm,0.8s,baz=208,slow=4.9,SNR=3.2						
KIEV	Kiev	123.23	48	ePKPdf	PKPdf	04 31 43.2	-1.3
AK01	Malin Array Si	123.23	48	ePKPdf	PKPdf	04 31 42.6	-1.8
GNI	Garni	131.07	64	ePKPdf	PKPdf	04 31 58.9	-1.1
SEY	Seymchan	140.45	329	PKP	PKPdf	04 32 15.1	-1.4
	comp=Z,0.9nm,0.6s,baz=91,slow=19,SNR=4.5						
ARU	Arti	140.81	41	ePKPdf	PKPdf	04 32 17.0	-0.4
ABKAR	Akbulak array	142.71	53	ePKPdf	PKPdf	04 32 20.5	-0.5
PSI	Prapat	147.19	165	PKPbc	PKPdf	04 32 30.5	+0.5
	comp=Z,4.1nm,0.7s,baz=198,slow=1.6,SNR=5.4						
BRVK	Borovoye	148.27	44	ePKPdf	PKPdf	04 32 29.8	-0.6
BRVK				ePKPbc	PKPbc	04 32 33.0	-0.8
IPM	Ipoh	149.24	168	ePKPbc	PKPdf	04 32 36.5	+3.2
KULM	Kulim	149.96	167	ePKPbc	PKPdf	04 32 38.0	+3.6
KKM	Kota Kinabalu	150.14	198	ePKPdf	PKPdf	04 32 34.5	-0.3
KKM				ePKPbc	PKPbc	04 32 40.8	+0.9
KKM				ePKPab	PKPab	04 32 46.2	+0.6
KKAR	Karatay Array	150.51	63	ePKPdf	PKPdf	04 32 34.1	-0.2
KKAR				ePKPbc	PKPbc	04 32 39.1	-0.6
KKAR				ePKPab	PKPab	04 32 45.6	-0.9
KURK	Kurchatov	153.94	44	ePKPdf	PKPdf	04 32 38.8	-0.4
KURK				ePKPbc	PKPbc	04 32 46.2	-0.9
KURK				ePKPab	PKiKP	04 32 53.3	+6.1
TKM2	Tokmak 2	154.24	62	ePKPbc	PKPbc	04 32 48.2	-0.2
KSH	Kashi	154.77	70	ePKPbc	PKPdf	04 32 41.8	+0.9
KSH				epPKP	PKPbc	04 32 50.3	+0.8
KSH				esPKP		04 32 55.0	
KSH				eSKS	SKSdf	04 39 41.8	-5.9
KSH				eSKKS	SKKSac	04 43 28.0	-2.5
KSH				AMB	AMB		
	comp=Z,57nm,3.3s						
KSH				LR	LR		
	comp=Z,88nm,3.9s						
ZAA0	Zalesovo Array	155.29	33	ePKPbc	PKPdf	04 32 49.2	+8.2
ZALV	Zalesovo Beam	155.29	33	PKPab	PKPab	04 33 05.3	-0.9
	comp=Z,2.6nm,0.8s,baz=316,slow=4.0,SNR=5.3						
WMQ	Urumqi	162.50	53	ePKP	PKPdf	04 32 50.0	+0.1
ULN	Ulaanbaatar	167.00	0	ePKPab	PKPab	04 33 56.9	-0.6
SONM	Songino Array	167.02	2	PKPab	PKPab	04 33 56.8	-0.7
	comp=Z,0.4nm,0.6s,baz=338,slow=3.4,SNR=2.6						
NJ2	Nanjing	169.86	257	ePKP	PKPdf	04 32 55.0	-1.0
HHC	Hu-ho-hao-te	173.09	331	ePKP	PKPdf	04 32 57.5	0.0
HHC				pPKP	pPKPdf	04 33 08.0	+7.1
HHC				sPKP		04 33 12.3	
HHC				PP	PP	04 38 19.8	+3.9
HHC				SKS	SKSdf	04 39 56.0	-4.7
HHC				SS	SS	04 59 27.8	-2.1
HHC				LR	LR		
	comp=Z,97nm,19.6s						
HHC				LR	LR		
	comp=Z,150nm,19.0s						
HHC				LR	LR		
	comp=Z,230nm,19.7s						
CD2	Chengdu	175.12	143	PKP	PKPdf	04 32 58.0	-0.4
LZH	Lanzhou	177.01	65	ePKP	PKPdf	04 32 58.0	-0.8
LZH				pPKP	pPKPdf	04 33 08.8	+6.5
LZH				sPKP		04 33 13.5	
XAN	Xi'an	178.35	241	PKP	PKPdf	04 33 01.8	+2.9

*SJA **28** 04:17:41.4±0.6, 35.26S×72.52W, h180km±87km, ML4.9*
*IDC **28** 04:17:46.1±0.4, 34.74S×72.00W, h0km, mb4.6/20, mb1 4.7/23, mb1mx4.7/28, mbtmp4.6/23, ML4.5/3, MS4.3/7, Ms1 4.3/7, ms1mx4.0/26, Error ellipse: s-maj=16.9km s-min=11.9km az=83.0*
*ISCJB **28** 04:17:47.3±0.2, 34.77S±0.04×72.08W±0.05, h16km, mb4.9/84, MS4.2/6, Error ellipse: s-maj=6.4km s-min=5.4km az=41.8*

*MOS **28** 04:17:49.8±1.3, 34.67S×72.00W, h33km, mb5.1/19, Error ellipse: s-maj=17.2km s-min=8.7km az=96.1*
*NEIC **28** 04:17:51.2±1.0, 34.70S×71.91W, h36km±9km, mb5.0/70, Error ellipse: s-maj=8.8km s-min=5.2km az=70.0*
ISC 28 04:17:48.6±0.3, **34.70S**±0.05×**71.87W**±0.05, **h16km, n617,** σ**0.99**/625, **mb5.0**/84, **MS4.2**/6, **177C-196D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAGR	Agrelo	3.00	58	eP	Pb	04 18 40.5	-1.2
AAGR				eS	Sg	04 19 23.9	-1.1
AVIZ	Vizcacheras	3.04	67	eP	Pb	04 18 40.1	-2.3
ARCO	CERRO ARCO	3.07	54	AML	AML	04 19 33.3	
	comp=Z,1μm,0.5s						
AUSP	Uspallata	3.23	41	eP	Pb	04 18 44.1	-1.5
ASAL	Salagasta	3.29	51	eP	Pb	04 18 44.2	-2.5
RTLS	Leoncito	3.61	37	eP	Pb	04 18 48.4	-3.8
RTLS				eP	Pb	04 18 48.4	-3.8
RTCV	Cerro Valdivia	3.97	46	eP	Pb	04 18 53.4	-4.9
CFAA	Coronel Fontan	4.34	46	Pn	Pn	04 18 56.8	+2.9
	comp=Z,4.2nm,0.3s,baz=218,slow=12,SNR=21						
CFAA				Lg	Lg	04 19 57.9	
	comp=Z,11nm,0.3s,baz=129,slow=23,SNR=5.1						
CFAA				LR	LR	04 20 27.1	
	comp=Z,147nm,19.4s,baz=247,slow=36						
CFAA	Coronel Fontan	4.34	46	Pn	Pn	04 18 56.8	+2.9
CFAA				Lg	Lg	04 19 57.9	
RTLL	Cerro Villicun	4.41	41	eP	Pn	04 18 58.2	+3.3
PLCA	Paso Flores	6.11	171	eP	Pn	04 19 19.3	+1.0
PLCA	Paso Flores	6.11	171	Pn	Pn	04 19 19.2	+0.8
	comp=Z,4.9nm,0.3s,baz=346,slow=13,SNR=9.7						
PLCA				Lg	Lg	04 20 43.8	
	comp=Z,11nm,0.3s,baz=325,slow=13,SNR=3.9						
PLCA				LR	LR	04 21 49.5	
	comp=Z,3μm,20.4s,baz=352,slow=40						
PLCA	Paso Flores	6.11	171	ePn	Pn	04 19 19.3	+1.0
PLCA				Lg	Lg	04 20 43.8	
TRQA	Tornquist	8.65	116	ePn	Pn	04 19 54.5	+1.3
TRQA				eSn	Sn	04 21 29.4	-0.9
LVC	Limon Verde	12.32	13	ePn	Pn	04 20 38.5	-5.1
CPUP	Villa Florida	15.04	60	eP	Pn	04 21 20.0	-0.5
CPUP	Villa Florida	15.04	60	Pn	P	04 21 24.8	-1.0
	comp=Z,0.8nm,0.3s,baz=237,slow=12,SNR=3.4						
CPUP	Villa Florida	15.04	60	ePn	Pn	04 21 20.0	-0.5
LPAZ	La Paz	18.64	11	eP	Pn	04 22 07.5	+0.9
LPAZ				pmax	pmax		
	comp=Z,61nm,1.0s						
LPAZ	La Paz	18.64	11	P	Pn	04 22 07.4	+0.9
	comp=Z,0.9nm,0.3s,baz=181,slow=7.5,SNR=24						
LPAZ	La Paz	18.64	11	eP	Pn	04 22 07.5	+0.9
	comp=Z,61nm,1.0s						
USHA	Ushuaia	20.27	174	P	P	04 22 23.5	+0.2
	comp=Z,13nm,0.7s,baz=342,slow=9.6,SNR=4.8						
USHA				LR	LR	04 30 31.8	
	comp=Z,1μm,18.5s,baz=330,slow=38						
USHA	Ushuaia	20.27	174	P	P	04 22 23.5	+0.2
SIV	San Ignacio	21.00	30	P	P	04 22 31.6	+0.2
	comp=Z,26nm,0.8s,baz=224,slow=11,SNR=25						
SIV				LR	LR	04 31 58.9	
	comp=Z,713nm,20.1s,baz=224,slow=40						
SIV	San Ignacio	21.00	30	P	P	04 22 31.6	+0.2
NNA	Nana	23.06	348	iP	P	04 22 54.2	+0.8
NNA	Nana	23.06	348	P	P	04 22 52.7	-0.7
	comp=Z,27nm,0.7s,baz=183,slow=10.0,SNR=20						
NNA				LR	LR	04 30 05.2	
	comp=Z,729nm,19.7s,baz=181,slow=32						
NNA	Nana	23.06	348	eP	P	04 22 53.7	+0.3
	comp=Z,40nm,0.9s						
SAML	Samuel	26.84	19	eP	P	04 23 27.9	-0.5
	comp=Z,5.9nm,1.0s						
ATAH	Atahualpa	28.08	346	LR	LR	04 33 19.2	
	comp=Z,473nm,19.2s,baz=197,slow=33						
BDFB	Brasilia	28.62	54	eP	P	04 23 47.9	+3.4
BDFB	Brasilia	28.62	54	P	P	04 23 45.0	+0.5
	comp=Z,5.3nm,0.6s,baz=222,slow=11,SNR=11						
BDFB				LR	LR	04 37 28.4	
	comp=Z,996nm,18.1s,baz=226,slow=41						
BDFB	Brasilia	28.62	54	eP	P	04 23 47.9	+3.4
PMSA	Palmer Station	30.48	173	LR	LR	04 35 17.6	
	comp=Z,576nm,19.8s,baz=326,slow=34						
OTAV	Otavalo	35.30	349	eP	P	04 24 44.4	+0.9
	comp=Z,66nm,1.9s						
ROSC	El Rosal	39.41	356	P	P	04 25 19.7	+1.5
	comp=Z,6.9nm,0.5s,baz=110,slow=3.6,SNR=6.5						
ROSC	El Rosal	39.41	356	eP	P	04 25 21.8	+3.5
SDV	Santo Domingo	43.36	2	eP	P	04 25 48.7	-1.7
	comp=Z,17nm,0.9s						
RCBR	Riachuelo	43.90	57	P	P	04 25 56.4	+1.8
	comp=Z,4.2nm,0.7s,baz=249,slow=11,SNR=4.1						
RCBR	Riachuelo	43.90	57	P	P	04 25 56.5	+1.8
JTS	JuntasAbangare	46.43	342	eP	P	04 26 14.0	-0.7
JTS				pmax	pmax		
	comp=Z,11nm,1.1s						
JTS	JuntasAbangare	46.43	342	P	P	04 26 15.3	+0.6
	comp=Z,1.9nm,0.6s,baz=150,slow=20,SNR=2.0						
JTS	JuntasAbangare	46.43	342	eP	P	04 26 12.5	-2.1
	comp=Z,18nm,1.3s						
GRGR	Grenville	47.57	14	eP	P	04 26 22.5	-1.1
	comp=Z,265nm,1.3s						
VNA3	Neumayer Olymp	48.66	158	P	P	04 26 35.9	+4.4
VNA2	Neumayer--Watz	49.32	157	P	P	04 26 37.1	+0.7
	baz=324,slow=14						
SNAA	Sanae	50.89	158	P	P	04 26 49.4	+0.9
SNAA	Sanae	50.89	158	eP	P	04 26 47.7	-0.7
SNAA				pmax	pmax		
	comp=Z,23nm,1.3s						
SNAA	Sanae	50.89	158	P	P	04 26 48.8	+0.4
	comp=Z,1.6nm,0.8s,baz=292,slow=7.1,SNR=9.9						
OBIP	Obispado Ponce	52.69	6	eP	P	04 26 59.8	-2.5
	comp=Z,20nm,0.9s						
SDDR	Presa de Saban	53.39	1	eP	P	04 27 08.7	+1.2
	comp=Z,13nm,1.0s						
QSPA	South Pole Qui	55.54	180	P	P	04 27 23.4	+0.6
	baz=172,slow=0.9						
QSPA	South Pole Qui	55.54	180	eP	P	04 27 23.4	+0.6
	comp=Z,9.8nm,0.8s						
VNDA	Vanda	63.45	191	eP	P	04 28 16.2	-0.8
VNDA	Vanda	63.45	191	P	P	04 28 16.3	-0.7
	comp=Z,3.6nm,0.5s,baz=91,slow=11,SNR=4.3						
VNDA	Vanda	63.45	191	eP	P	04 28 16.2	-0.8
SYO	Syowa Base	65.17	158	⇑eP	P	04 28 25.0	-3.4
035A	Encino	66.14	334	⇓P	P	04 28 36.1	+0.9
	baz=66						
034A	Hebbronville	66.47	334	⇓P	P	04 28 38.3	+1.1
	baz=67						
933A	Laredo	67.18	334	⇑P	P	04 28 42.8	+1.0
	baz=68,SNR=6.6						
835A	Beeville	67.28	335	⇓P	P	04 28 44.0	+1.6
	baz=68						
834A	Tilden	67.39	335	⇓P	P	04 28 44.4	+1.4
	baz=68,SNR=7.6						
833A	Chaparral WMA,	67.87	334	⇓P	P	04 28 46.7	+0.6
	baz=68,SNR=6.8						
832A	Faith Ranch, C	68.05	333	⇓P	P	04 28 47.5	+0.3
	baz=68,SNR=10.0						
734A	La Parita Cree	68.05	335	⇑P	P	04 28 48.2	+1.0
	baz=68						
636A	Smothers Creek	68.12	336	⇓P	P	04 28 48.8	+1.1
	baz=68,SNR=9.3						
HKT	Hockley	68.16	338	eP	P	04 28 48.5	+0.7
HKT				pmax	pmax		
	comp=Z,62nm,2.2s						
HKT	Hockley	68.16	338	eP	P	04 28 48.5	+0.7
	comp=Z,62nm,2.2s						
733A	Divot King Ran	68.19	334	⇓P	P	04 28 49.1	+0.9
	baz=68						
635A	Leesville	68.27	336	⇑P	P	04 28 49.4	+0.8
	baz=69						
537A	Green Hill Far	68.43	337	⇑P	P	04 28 50.8	+1.2
	baz=69						
732A	Laxson Ranch,	68.45	334	⇑P	P	04 28 50.2	+0.5
	baz=69,SNR=18						
438A	Sam Houston St	68.80	338	⇑P	P	04 28 53.1	+1.3
	baz=69						
535A	Dale	68.80	336	⇓P	P	04 28 52.4	+0.5
	baz=69						
633A	Saathoff Ranch	68.82	335	⇓P	P	04 28 52.4	+0.3
	baz=69,SNR=10						
VBMS	Vicksburg	68.83	343	eP	P	04 28 52.8	+0.8
	comp=Z,26nm,0.8s						
LRAL	Lakeview Retre	68.86	346	eP	P	04 28 51.0	-1.2
	comp=Z,6.2nm,0.8s						
340A	Bronson	68.95	340	⇓P	P	04 28 53.4	+0.6
	baz=69,SNR=5.9						
339A	Huntington	69.07	339	⇑P	P	04 28 54.2	+0.7
	baz=69,SNR=5.9						
632A	Uvalde	69.08	334	⇓P	P	04 28 54.2	+0.5
	baz=69,SNR=13						
631A	Perdido Creek	69.29	333	⇓P	P	04 28 54.9	0.0
	baz=70,SNR=7.7						
338A	Crockett	69.31	339	⇑P	P	04 28 56.5	+1.4
	baz=70						
533A	Kerrville	69.33	335	⇓P	P	04 28 55.5	+0.2
	baz=70,SNR=10						
337A	Centerville	69.45	338	⇑P	P	04 28 56.9	+1.0
	baz=70						
435B	Jarrell	69.49	337	⇑P	P	04 28 57.4	+1.2
	baz=70						
239A	Gary	69.69	340	⇑P	P	04 28 58.2	+0.8
	baz=70						
532A	Rocksprings	69.69	334	⇓P	P	04 28 58.2	+0.7
	baz=70,SNR=22						
434A	Burnet	69.75	336	⇑P	P	04 28 58.0	+0.1
	baz=70,SNR=12						
336A	Riesel	69.81	337	⇓P	P	04 28 58.9	+0.7
	baz=70,SNR=8.0						
335A	Moody	69.90	337	⇓P	P	04 28 59.5	+0.8
	baz=70,SNR=6.9						
531A	Rocksprings	69.96	334	⇓P	P	04 28 59.7	+0.5
	baz=70,SNR=11						
JCT	Junction City	69.97	335	eP	P	04 28 59.3	+0.1
JCT				pmax	pmax		
	comp=Z,25nm,1.0s						
JCT	Junction City	69.97	335	eP	P	04 28 59.2	+0.1
	comp=Z,25nm,1.0s						
JCT	Junction City	69.97	335	⇓P	P	04 28 59.4	+0.1
	baz=70,SNR=8.0						
433A	Art	69.97	335	⇓P	P	04 28 59.5	+0.3
	baz=70,SNR=15						
334A	Lometa	70.22	336	⇑P	P	04 29 00.9	+0.3
	baz=70,SNR=11						
530A	J-C Ranch, Com	70.23	333	⇑P	P	04 29 01.2	+0.3
	baz=70,SNR=15						
PPT	Papeete	70.28	262	P	P	04 29 01.8	+0.3
	comp=Z,28nm,0.8s,baz=182,slow=16,SNR=3.2						
PPT	Papeete	70.28	262	P	P	04 29 01.8	+0.3
432A	Menard	70.33	335	⇓P	P	04 29 01.1	-0.4
	baz=71,SNR=7.6						
TXAR	Lajitas Array	70.41	331	P	P	04 29 02.0	+0.1
	comp=Z,5.7nm,0.8s,baz=152,slow=8.4,SNR=42						
TXAR	Lajitas Array	70.41	331	P	P	04 29 02.0	+0.1
431A	Sonora	70.45	334	⇑P	P	04 29 02.8	+0.7
	baz=71,SNR=9.8						
333A	Richland Sprin	70.46	336	⇓P	P	04 29 02.5	+0.3
	baz=71						
529A	Stev Forest Ra	70.55	332	⇓P	P	04 29 03.3	+0.5
	baz=71,SNR=20						
WHTX	Lake Whitney	70.57	337	eP	P	04 29 02.0	-0.8
	comp=Z,28nm,1.0s						
WHTX	Lake Whitney	70.57	337	⇓P	P	04 29 03.1	+0.3
	baz=71						
137A	Heron Place, G	70.60	339	⇓P	P	04 29 04.0	+1.0
	baz=71						
430A	Baggett Ranch,	70.77	333	⇑P	P	04 29 04.3	+0.2
	baz=71,SNR=16						
332A	Millersview	70.77	335	⇓P	P	04 29 04.1	0.0
	baz=71,SNR=7.5						
OXF	Oxford	70.78	345	eP	P	04 29 02.7	-1.3
OXF				pmax	pmax		
	comp=Z,42nm,1.0s						
OXF	Oxford	70.78	345	eP	P	04 29 02.7	-1.3
	comp=Z,42nm,1.0s						
SWET	Sewanee	70.78	348	eP	P	04 29 03.2	-0.9
	comp=Z,32nm,0.9s						
234A	Clairette	70.80	337	⇓P	P	04 29 04.7	+0.5
	baz=71,SNR=8.8						
429A	Davenport Ranc	70.87	333	⇓P	P	04 29 05.1	+0.4
	baz=71,SNR=11						
TKL	Tuckaleechee C	70.87	350	eP	P	04 29 03.9	-0.7
TKL	Tuckaleechee C	70.87	350	eP	P	04 29 03.9	-0.7
331A	San Angelo	70.95	334	⇓P	P	04 29 05.1	0.0
	baz=71,SNR=15						
233A	Rising Star	71.07	336	⇓P	P	04 29 05.9	0.0
	baz=71,SNR=9.1						
135A	Vickery Place,	71.08	337	⇑P	P	04 29 06.1	+0.2
	baz=71						
232A	Coleman	71.20	335	⇑P	P	04 29 06.7	0.0
	baz=72,SNR=6.7						
134A	White-Moore Ra	71.30	337	⇓P	P	04 29 07.7	+0.4
	baz=72						
330A	Mertzon	71.31	334	⇑P	P	04 29 07.2	-0.2
	baz=72,SNR=11						
231A	Bronte	71.48	335	⇑P	P	04 29 07.9	-0.4
	baz=72,SNR=10						
133A	Hamilton Ranch	71.61	336	⇓P	P	04 29 09.3	+0.2
	baz=72,SNR=8.1						
329A	Wagon Wheel Ra	71.67	333	⇓P	P	04 29 09.6	0.0
	baz=72,SNR=11						
230A	Sterling City	71.72	334	⇑P	P	04 29 10.1	+0.3
	baz=72						
Z35A	Perchaven, San	71.74	338	⇑P	P	04 29 09.9	0.0
	baz=72,SNR=10						
MIAR	Mount Ida	71.82	341	eP	P	04 29 10.0	-0.3
MIAR				pmax	pmax		
	comp=Z,42nm,1.9s						
MIAR	Mount Ida	71.82	341	eP	P	04 29 10.0	-0.3
	comp=Z,42nm,1.9s						
ABTX	Abilene, Hawle	71.87	336	eP	P	04 29 09.7	-1.0
	comp=Z,26nm,1.0s						
ABTX	Abilene, Hawle	71.87	336	⇑P	P	04 29 10.7	0.0
	baz=72,SNR=8.5						
Z34A	Collier Ranch,	71.99	337	⇑P	P	04 29 11.6	+0.2
	baz=72,SNR=5.6						
WVT	Waverly	72.02	346	eP	P	04 29 10.2	-1.3
WVT				pmax	pmax		
	comp=Z,47nm,0.8s						
WVT	Waverly	72.02	346	eP	P	04 29 10.2	-1.3
	comp=Z,47nm,0.8s						
229A	Bryant Ranch,	72.04	334	⇑P	P	04 29 11.7	-0.1
	baz=72,SNR=5.3						
131A	Roby	72.17	335	⇓P	P	04 29 12.5	0.0
	baz=72,SNR=5.8						
Z33A	Whitaker Ranch	72.18	337	⇓P	P	04 29 12.2	-0.3
	baz=72,SNR=11						
130A	Snyder	72.31	334	⇑P	P	04 29 13.6	+0.3
	baz=73						
Z32A	Haskell	72.44	336	⇓P	P	04 29 14.0	0.0
	baz=73,SNR=14						
228A	UT Block 9, Go	72.47	333	⇓P	P	04 29 14.4	+0.1
	baz=73,SNR=9.8						
Y34A	Reagan Ranch,	72.48	338	⇑P	P	04 29 14.1	-0.2
	baz=73						
129A	Stewart Farms,	72.66	334	⇓P	P	04 29 15.5	0.0
	baz=73						
Z31A	Sharp Cattle R	72.67	335	⇓P	P	04 29 15.5	0.0
	baz=73,SNR=11						
Y33A	Hilltop Ranch,	72.80	337	⇓P	P	04 29 16.2	0.0
	baz=73,SNR=5.0						
128A	Castleberry Fa	72.88	333	⇓P	P	04 29 16.5	-0.3
	baz=73,SNR=6.9						
Z30A	Sanderson Ranc	72.99	335	⇓P	P	04 29 17.2	-0.1
	baz=73,SNR=6.1						
Y32A	R-V Farms, Ver	73.06	336	⇓P	P	04 29 17.8	+0.1
	baz=73,SNR=7.0						
X34A	Smith Ranch, M	73.10	338	⇑P	P	04 29 18.1	+0.1
	baz=73,SNR=7.6						
Z29A	Hungry Hill Ra	73.17	334	⇑P	P	04 29 18.1	-0.4
	baz=74,SNR=10						
PBMO	Poplar Bluff	73.18	345	eP	P	04 29 17.5	-0.8
	comp=Z,27nm,1.1s						
MNTX	Cornudas Mount	73.19	331	eP	P	04 29 16.7	-1.8
	comp=Z,11nm,0.9s						
X33A	Lawton	73.25	337	⇓P	P	04 29 18.1	-0.7
	baz=74						
127A	Arkansas Junct	73.26	333	⇓P	P	04 29 18.9	-0.2
	baz=74						
Y31A	Rekieta Farm,	73.30	336	⇑P	P	04 29 19.2	0.0
	baz=74,SNR=8.1						
X32A	Elmer	73.39	337	⇓P	P	04 29 19.7	0.0
	baz=74						
Y30A	Stafford Cattl	73.44	335	⇑P	P	04 29 20.0	0.0
	baz=74						
Z28A	Tucker Farm, M	73.44	334	⇑P	P	04 29 19.5	-0.6
	baz=74,SNR=6.1						
W34A	Bridge Creek,	73.66	338	eP	P	04 29 21.1	-0.2
	comp=Z,19nm,1.0s						
W34A	Bridge Creek,	73.66	338	⇑P	P	04 29 21.2	-0.1
	baz=74						
Y29A	Porterfield Fa	73.70	334	⇑P	P	04 29 21.3	-0.3
	baz=74,SNR=9.5						
TUL1	Tulsa	73.71	340	eP	P	04 29 20.0	-1.5
	comp=Z,22nm,0.9s						
TUL1	Tulsa	73.71	340	⇑P	P	04 29 21.3	-0.2

baz=74,SNR=9.0
USIN University of 73.77 347 eP P 04 29 20.5 -1.3
comp=Z,34nm,1.0s
Z27A Tatum 73.77 333 ⇑P P 04 29 22.3 +0.3
baz=74,SNR=5.7
WCI Wyandotte Cave 73.78 348 eP P 04 29 20.8 -1.1
WCI pmax pmax
comp=Z,12nm,1.0s
WCI Wyandotte Cave 73.78 348 eP P 04 29 20.8 -1.1
comp=Z,12nm,1.0s
W33A Caddo, Fort Co 73.80 338 ⇑P P 04 29 22.6 +0.5
baz=74,SNR=17
X31A McDonald Ranch 73.81 336 ⇑P P 04 29 22.7 +0.5
baz=74,SNR=9.5
SIUC Southern Illin 73.83 346 eP P 04 29 21.6 -0.5
comp=Z,22nm,1.0s
Y28A McKinney Farm, 73.95 334 ⇓P P 04 29 23.2 +0.1
baz=74
X30A Coker Ranch, T 73.95 335 ⇓P P 04 29 23.6 +0.6
baz=74
Z26A Caprock 74.02 332 ⇓P P 04 29 23.7 +0.1
baz=74,SNR=34
W32A Sentinel 74.03 337 ⇓P P 04 29 23.5 +0.1
baz=74,SNR=15
V34A Guthrie 74.14 339 eP P 04 29 23.4 -0.7
comp=Z,27nm,1.1s
V34A Guthrie 74.14 339 ⇑P P 04 29 23.8 -0.3
baz=74,SNR=6.5
MSTX Muleshoe 74.19 334 eP P 04 29 23.5 -1.0
comp=Z,20nm,0.9s
MSTX Muleshoe 74.19 334 ⇓P P 04 29 24.4 -0.1
baz=74,SNR=10.0
X29A Tulia 74.24 335 ⇓P P 04 29 24.7 -0.1
baz=75,SNR=6.7
Y27A Causey 74.26 333 ⇓P P 04 29 24.7 -0.3
baz=75
W31A Holland Ranch, 74.31 336 ⇓P P 04 29 25.1 +0.1
baz=75
Z25A Roswell 74.31 332 ⇓P P 04 29 25.1 -0.2
baz=75,SNR=7.3
V33A Lossen Ranch, 74.36 338 ⇑P P 04 29 25.3 -0.1
baz=75,SNR=12
SUR Sutherland 74.37 119 P P 04 29 27.7 +1.7
comp=Z,5.4nm,0.6s,baz=271,slow=5.5,SNR=5.4
SUR Sutherland 74.37 119 eP P 04 29 25.2 -0.8
comp=Z,71nm,1.7s
X28A Dimmitt 74.48 334 ⇓P P 04 29 26.6 +0.4
baz=75
V32A Arapaho 74.51 337 ⇓P P 04 29 26.7 +0.5
baz=75
W30A Crocket Farms 74.52 336 ⇑P P 04 29 26.6 +0.3
baz=75
Y26A Elida 74.54 333 ⇑P P 04 29 27.0 +0.4
baz=75
319A Douglas 74.56 327 ⇓P P 04 29 27.3 +0.6
baz=75,SNR=5.9
Z24A Sheeppen Canyo 74.61 331 ⇓P P 04 29 27.4 +0.3
baz=75,SNR=9.1
AMTX Amarillo 74.63 335 eP P 04 29 25.8 -1.2
comp=Z,32nm,1.2s
AMTX Amarillo 74.63 335 ⇑P P 04 29 27.9 +0.9
baz=75
U34A Anderson Ranch 74.70 339 eP P 04 29 27.2 -0.1
comp=Z,26nm,1.0s
U34A Anderson Ranch 74.70 339 ⇓P P 04 29 27.0 -0.3
baz=75
V31A Spring Creek L 74.81 337 ⇑P P 04 29 28.5 +0.5
baz=75
W29A Amraillo 74.83 335 ⇑P P 04 29 28.1 -0.1
baz=75,SNR=7.6
Y25A Mesa, Roswell 74.87 332 ⇑P P 04 29 28.8 +0.3
baz=75
U33A Lingo Farm, Me 74.88 338 ⇓P P 04 29 27.9 -0.4
baz=75
121A Cookes Peak, D 74.91 329 eP P 04 29 28.9 +0.1
comp=Z,24nm,0.9s
121A Cookes Peak, D 74.91 329 ⇑P P 04 29 29.6 +0.8
baz=75,SNR=12
X27A F and S Farms, 74.92 334 ⇑P P 04 29 29.3 +0.6
baz=75
X26A CR and CF Fran 75.09 333 ⇓P P 04 29 30.2 +0.5
baz=75,SNR=9.0
U32A Winter Ranch, 75.10 338 ⇑P P 04 29 29.9 +0.3
baz=75,SNR=5.3
Y24A Capitan 75.16 332 ⇑P P 04 29 30.6 +0.3
baz=76,SNR=9.0
Z22A Elephant Butte 75.19 330 ⇑P P 04 29 31.0 +0.6
baz=76,SNR=5.7
ACSO Alum Creek Sta 75.26 351 eP P 04 29 29.9 -0.5
comp=Z,27nm,0.9s
DBIC Dimbokro 75.27 71 eP P 04 29 31.7 +0.6
DBIC pmax pmax
comp=Z,138nm,2.6s
DBIC Dimbokro 75.27 71 P P 04 29 31.9 +0.7
comp=Z,7.3nm,0.9s,baz=223,slow=4.6,SNR=6.5
DBIC Dimbokro 75.27 71 eP P 04 29 31.7 +0.6
comp=Z,138nm,2.6s
W27A Bowe Ranch, En 75.28 334 ⇓P P 04 29 31.1 +0.3
baz=76,SNR=13
U31A Nine Bar Ranch 75.36 337 ⇓P P 04 29 32.0 +0.8
baz=76
Y23A Lovelace Mesa, 75.41 331 ⇑P P 04 29 32.4 +0.7
baz=76,SNR=8.5
T33A Patterson Ranc 75.52 338 ⇑P P 04 29 32.7 +0.7
baz=76,SNR=6.7
W26A Owens Ranch, T 75.56 333 ⇓P P 04 29 33.2 +0.8
baz=76,SNR=6.7
V28A Channing 75.60 335 ⇓P P 04 29 33.4 +0.8
baz=76
U30A WK&E Inc. Balk 75.77 336 ⇓P P 04 29 34.1 +0.5
baz=76
T32A Huddler Ranch, 75.81 338 ⇑P P 04 29 34.1 +0.4
baz=76
V27A Dan Oppiter Fa 75.82 334 ⇑P P 04 29 34.5 +0.6
baz=76
W25A X Bar L Ranch, 75.93 333 ⇑P P 04 29 34.6 0.0
baz=76,SNR=7.9
LPM Los Pinos Moun 75.98 331 eP P 04 29 34.4 -0.5
TUC Tucson 76.03 327 eP P 04 29 35.8 +0.7
TUC pmax pmax
comp=Z,14nm,1.2s
TUC Tucson 76.03 327 eP P 04 29 35.8 +0.7
comp=Z,14nm,1.2s
V26A Tequesquite Ra 76.20 334 ⇓P P 04 29 36.3 +0.3
baz=76
T30A Plains 76.20 337 ⇑P P 04 29 37.1 +1.1
baz=76
LAZ Ladron 76.26 331 eP P 04 29 37.0 +0.5
comp=Z,8.0nm,1.1s
W24A Lazy 6 Ranch, 76.28 332 ⇓P P 04 29 37.3 +0.7
baz=77,SNR=8.9
S32A Newby Ranch, P 76.30 338 ⇓P P 04 29 37.0 +0.5
baz=77
S31A Mullinville 76.39 338 ⇓P P 04 29 37.3 +0.3
baz=77
U27A Thompson Grove 76.41 335 ⇓P P 04 29 37.9 +0.6
baz=77,SNR=5.7
ANMO Albuquerque 76.46 331 eP P 04 29 37.9 +0.2
ANMO pmax pmax
comp=Z,12nm,1.0s
ANMO Albuquerque 76.46 331 eP P 04 29 37.9 +0.2
comp=Z,12nm,1.0s
W23A Werner Place, 76.53 332 ⇓P P 04 29 38.9 +0.8
baz=77,SNR=6.9
V25A Rancho No Teng 76.54 333 ⇑P P 04 29 38.3 +0.2
baz=77,SNR=11
R33A Olander Ranch, 76.57 339 ⇓P P 04 29 38.3 +0.3
baz=77
V24A Rampart Ranch, 76.69 333 ⇓P P 04 29 39.9 +0.9
baz=77
U26A Atchley Ranch, 76.72 334 ⇓P P 04 29 39.0 -0.1
baz=77,SNR=7.0
S30A Montezuma 76.72 337 ⇓P P 04 29 39.5 +0.6
baz=77
T28A Walsh 76.80 336 ⇑P P 04 29 39.5 +0.2
baz=77,SNR=16
R32A Long Quarter, 76.89 339 ⇓P P 04 29 40.2 +0.3
baz=77,SNR=8.9
S29A Ulysses 76.91 337 ⇓P P 04 29 40.7 +0.6
baz=77,SNR=6.3
KSU1 Kansas State U 76.92 340 eP P 04 29 39.2 -0.7
comp=Z,12nm,0.8s
KSU1 Kansas State U 76.92 340 ⇓P P 04 29 40.1 +0.2
baz=77
T27A Campo 76.95 335 ⇑P P 04 29 40.5 +0.2
baz=77,SNR=7.6
U25A Circle Dot Ran 76.96 334 ⇓P P 04 29 40.7 +0.3
baz=77,SNR=9.4
R31A Burdett 77.02 338 ⇑P P 04 29 40.8 +0.3
baz=77,SNR=7.3
V23A Ortiz Mt. (NFS 77.05 332 ⇓P P 04 29 41.4 +0.4
baz=77
S28A Manter 77.15 336 ⇓P P 04 29 41.6 +0.3
baz=78,SNR=13
Q33A Connelly Farm, 77.17 340 ⇑P P 04 29 41.6 +0.3
baz=78
R30A Dighton 77.25 337 ⇑P P 04 29 42.3 +0.5
baz=78
T26A Comanche Natio 77.36 335 ⇑P P 04 29 43.4 +0.7
baz=78
Q32A Meitler Ranch, 77.37 339 ⇑P P 04 29 43.1 +0.6
baz=78,SNR=6.6
V22A San Miguel Ran 77.48 331 ⇓P P 04 29 45.0 +1.5
baz=78,SNR=17
P33A Williams Farm, 77.53 340 ⇑P P 04 29 43.8 +0.4
baz=78
X18A Snowflake 77.54 329 ⇑P P 04 29 44.6 +0.9
baz=78
U23A El Rito 77.57 332 ⇑P P 04 29 45.2 +1.3
baz=78,SNR=7.7
T25A Trinidad 77.62 334 ⇑P P 04 29 45.2 +1.0
baz=78,SNR=15
Q31A Ellis 77.64 338 ⇑P P 04 29 44.6 +0.6
baz=78,SNR=7.2
S26A Kim 77.72 335 ⇑P P 04 29 45.2 +0.6
baz=78,SNR=19
R28A Tribune 77.80 336 ⇓P P 04 29 45.6 +0.6
baz=78,SNR=11
Q30A Quinter 77.86 338 ⇓P P 04 29 45.9 +0.6
baz=78,SNR=9.5
U22A Llaves 77.87 332 ⇑P P 04 29 46.6 +1.0
baz=78,SNR=5.3
T24B San Luis 77.91 333 ⇑P P 04 29 47.1 +1.2
baz=78,SNR=11
W18A Petrified Fore 77.95 329 eP P 04 29 47.0 +1.0
comp=Z,26nm,1.2s
W18A Petrified Fore 77.95 329 ⇓P P 04 29 47.2 +1.2
baz=78
P32A Huiting Farm, 77.97 339 ⇓P P 04 29 46.3 +0.5
baz=78
Q29A Oakley 78.03 337 ⇑P P 04 29 46.5 +0.4
baz=78
R27A Eads 78.08 336 ⇑P P 04 29 46.9 +0.4
baz=78,SNR=12
S25A Robets Cordova 78.09 334 ⇑P P 04 29 47.4 +0.6
baz=78
X16A Lo Mia Camp, P 78.10 327 ⇑P P 04 29 47.3 +0.4
baz=78,SNR=6.6
P31A Stockton 78.11 339 ⇑P P 04 29 47.0 +0.4
baz=78,SNR=6.2
T23A Casias Ranch, 78.13 333 ⇓P P 04 29 47.5 +0.4
baz=78,SNR=5.1
R26A Arlington 78.31 335 ⇓P P 04 29 48.4 +0.5
baz=79,SNR=8.3
S24A Houchin Ranch, 78.36 334 ⇑P P 04 29 49.2 +0.9
baz=79,SNR=18
P30A Selden 78.39 338 ⇑P P 04 29 48.8 +0.6
baz=79
Y14A Wickenburg 78.40 326 ⇑P P 04 29 49.1 +0.7
baz=79
Q28A Sharon Springs 78.46 337 ⇑P P 04 29 49.6 +1.0
baz=79,SNR=5.0
O32A Brockman Farm, 78.47 340 ⇓P P 04 29 49.0 +0.5
baz=79
R25A Fountain Ranch 78.47 334 ⇓P P 04 29 49.5 +0.7
baz=79
GLA Glamis 78.53 324 ⇓P P 04 29 49.6 +0.5
baz=79
SDCO Great Sand Dun 78.56 333 eP P 04 29 49.3 -0.1
comp=Z,4.6nm,0.8s
P29A Atwood 78.66 337 ⇓P P 04 29 50.3 +0.7
baz=79,SNR=6.9
O31A Woolen Ranch, 78.67 339 ⇓P P 04 29 50.6 +1.0
baz=79
KSCO Kaye Shedlock' 78.67 336 eP P 04 29 50.1 +0.3
comp=Z,10.0nm,0.7s
KSCO Kaye Shedlock' 78.67 336 ⇓P P 04 29 50.9 +1.1
baz=79
S23A Nye Farm, Mont 78.71 333 ⇑P P 04 29 51.4 +1.1
baz=79
R24A Sanders Place, 78.84 334 ⇑P P 04 29 51.7 +0.8
baz=79,SNR=15
TSUM Tsumeb 78.89 106 eP P 04 29 52.8 +1.1
comp=Z,16nm,1.5s
P28A Saint Francis 78.90 337 ⇓P P 04 29 51.7 +0.7
baz=79,SNR=5.4
Q26A Hugo 78.90 335 ⇓P P 04 29 52.1 +1.0
baz=79
O30A MW Ranch, Wils 78.92 338 ⇓P P 04 29 51.9 +0.8
baz=79
Y12C Blythe 78.96 325 ⇓P P 04 29 52.7 +1.4
baz=79
WUAZ Wupatki 79.00 328 eP P 04 29 52.9 +1.2
comp=Z,16nm,1.0s
WUAZ Wupatki 79.00 328 ⇓P P 04 29 53.1 +1.4
baz=79,SNR=7.6
JFWS Jewell Farm 79.05 346 eP P 04 29 50.0 -1.6
JFWS pmax pmax
comp=Z,16nm,0.8s
JFWS Jewell Farm 79.05 346 eP P 04 29 50.0 -1.6
comp=Z,16nm,0.8s
S22A 4UR Ranch, Cre 79.06 332 ⇓P P 04 29 52.9 +0.7
baz=79,SNR=8.0
R23A Moffat 79.07 333 ⇓P P 04 29 52.9 +0.7
baz=79,SNR=7.2
Q25A Bedland, Calha 79.14 335 ⇓P P 04 29 53.3 +0.7
baz=80
P27A Ficken Ranch, 79.15 336 ⇓P P 04 29 53.3 +0.9
baz=80
MVCO Mesa Verde 79.24 331 eP P 04 29 53.8 +0.6
comp=Z,18nm,1.2s
MVCO Mesa Verde 79.24 331 ⇓P P 04 29 53.7 +0.6
baz=80,SNR=6.9
BC3 Big Chuckawall 79.32 324 ⇓P P 04 29 54.3 +0.8
baz=80
CASY Casey 79.33 181 eP P 04 29 50.6 -2.4
comp=Z,31nm,1.4s
O28A Krutsinger Ran 79.40 337 ⇑P P 04 29 54.8 +1.1
baz=80
P26A Davis Ranch, A 79.41 336 ⇑P P 04 29 54.6 +0.7
baz=80
BGNE Belgrade 79.49 340 ⇑P P 04 29 54.6 +0.5
baz=80
Q24A Divide 79.51 334 ⇑P P 04 29 55.2 +0.6
baz=80,SNR=5.2
IRM Iron Mountain 79.59 325 ⇑P P 04 29 55.5 +0.7
baz=80
BOSA Boshof 79.62 118 eP P 04 29 55.6 +0.1
BOSA pmax pmax
comp=Z,7.0nm,0.8s
BOSA Boshof 79.62 118 P P 04 29 56.1 +0.5
comp=Z,6.4nm,0.6s,baz=247,slow=4.2,SNR=20
BOSA Boshof 79.62 118 eP P 04 29 55.6 +0.1
comp=Z,6.6nm,0.8s
P25A Willow Gulch B 79.65 335 ⇓P P 04 29 56.0 +0.8
baz=80
M31A Lambtecht Ranc 79.67 340 ⇑P P 04 29 55.7 +0.5
baz=80,SNR=5.9
N29A Votaw Ranch, W 79.67 338 ⇑P P 04 29 56.1 +0.9
baz=80
O27A Beecher Island 79.69 337 ⇑P P 04 29 56.5 +1.1
baz=80,SNR=5.3
W13A Hualapai Mount 79.77 326 ⇑P P 04 29 57.1 +1.0
baz=80
PFO Pinyon Flat Ob 79.77 323 eP P 04 29 56.8 +0.8
PFO pmax pmax
comp=Z,19nm,1.0s
PFO Pinyon Flat Ob 79.77 323 P P 04 29 56.5 +0.5
comp=Z,11nm,0.9s,baz=110,slow=3.7,SNR=6.4
PFO Pinyon Flat Ob 79.77 323 eP P 04 29 56.8 +0.8
comp=Z,20nm,1.0s
PFO Pinyon Flat Ob 79.77 323 ⇓P P 04 29 56.8 +0.8
baz=80
N28A Pribbeno Ranch 79.84 338 ⇓P P 04 29 57.0 +0.9
baz=80
BELC Belle Mtn. Jos 79.87 324 ⇓P P 04 29 57.5 +0.9
baz=80
O26A Horse Wrangler 80.01 336 ⇑P P 04 29 58.0 +0.8
baz=80
PV01 Paradox Valley 80.07 331 eP P 04 29 57.7 +0.1
comp=Z,3μm,1.7s
MURC Murrieta 80.13 323 ⇓P P 04 29 59.0 +1.1
baz=80
U15A North Rim 80.16 328 ⇑P P 04 29 59.0 +0.8
baz=80,SNR=13
O25A Wiggins 80.17 335 ⇓P P 04 29 58.9 +0.9
baz=80
N27A Anderson Farm, 80.27 337 ⇑P P 04 29 59.4 +0.9
baz=81
GMRC Granite Mounta 80.34 325 ⇓P P 04 30 00.0 +1.0
baz=81
L31A Butterfield Fa 80.40 340 ⇓P P 04 29 59.5 +0.5
baz=81,SNR=10
ISCO Idaho Springs 80.41 334 eP P 04 29 59.8 +0.2
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO Idaho Springs 80.41 334 eP P 04 29 59.8 +0.2
comp=Z,7.4nm,1.0s
ISCO Idaho Springs 80.41 334 ⇓P P 04 29 59.7 +0.1
baz=81,SNR=6.3
PV04 Paradox Valley 80.42 331 eP P 04 30 00.0 +0.6
M28A Bar X Bar Ranc 80.43 338 ⇓P P 04 30 00.4 +1.1
baz=81
P22A Eagle 80.65 333 ⇓P P 04 30 01.8 +1.0
baz=81
L29A Maesberg Ranch 80.77 339 ⇓P P 04 30 02.0 +0.9
baz=81
O23A Lake Granby, G 80.89 334 ⇑P P 04 30 02.8 +0.8
baz=81,SNR=12
TUQ Turquoise Moun 81.00 325 ⇑P P 04 30 03.7 +1.2
baz=81
L28A Connealy Angus 81.03 338 ⇓P P 04 30 03.3 +0.7
baz=81
M26A McRoberts Ranc 81.06 337 ⇓P P 04 30 03.5 +0.8
baz=81
N24A Carr 81.07 335 ⇑P P 04 30 03.4 +0.6
baz=81
O22A Kremmling 81.07 334 ⇓P P 04 30 03.6 +0.5
baz=81,SNR=7.3
K30A Basset 81.08 340 ⇑P P 04 30 03.3 +0.6
baz=81,SNR=14
DECC Green Verdugo 81.22 323 ⇑P P 04 30 03.6 0.0
baz=82
ECSD EROS Data Cent 81.25 342 eP P 04 30 03.1 -0.5
comp=Z,30nm,1.0s
ECSD EROS Data Cent 81.25 342 ⇑P P 04 30 03.4 -0.1
baz=82,SNR=21
GSC Goldstone 81.31 324 ⇑P P 04 30 04.8 +0.7
baz=82
M25A Palm-Egli Farm 81.33 336 ⇓P P 04 30 04.5 +0.3
baz=82
L27A T5 Ranch, Ells 81.35 338 ⇓P P 04 30 05.3 +1.1
baz=82
K29A Lazy Trails An 81.36 339 ⇑P P 04 30 04.8 +0.6
baz=82,SNR=6.6
N23A Red Feather La 81.50 335 ⇓P P 04 30 06.0 +0.7
baz=82,SNR=5.2
SHPR Sheep Range 81.51 326 eP P 04 30 06.1 +0.8
SHOC Shoshone 81.54 325 ⇓P P 04 30 05.7 +0.4
baz=82
EDW2 Edwards Air Fo 81.55 323 ⇑P P 04 30 06.2 +0.8
baz=82
L26A Underwood Farm 81.55 337 ⇑P P 04 30 06.0 +0.7
baz=82
N22A Wattenberg Ran 81.60 334 ⇑P P 04 30 06.8 +1.0
baz=82,SNR=9.0
M24A Cheyenne 81.62 336 ⇓P P 04 30 06.5 +0.7
baz=82
K28A Ten Mile Ranch 81.63 338 ⇑P P 04 30 06.7 +1.1
baz=82,SNR=8.7
J30A Dallas 81.64 340 ⇑P P 04 30 06.3 +0.7
baz=82,SNR=6.8
O20A White River Ci 81.67 333 ⇓P P 04 30 06.6 +0.5
baz=82
SRU San Rafael 81.69 331 eP P 04 30 05.9 -0.3
SRU pmax pmax
comp=Z,5.0nm,0.7s
SRU San Rafael 81.69 331 eP P 04 30 05.9 -0.3
comp=Z,5.2nm,0.7s
OSI Osito Adit 81.70 323 ⇑P P 04 30 06.0 -0.2
baz=82
SPMN St. Paul 81.78 345 ⇑P P 04 30 05.9 -0.3
baz=82
LRMC Laurel Mountai 81.88 324 ⇓P P 04 30 07.9 +0.7
baz=82
K27A Flueckinger Fa 81.89 338 ⇓P P 04 30 07.7 +0.7
baz=82,SNR=6.0
LBTB Lobatse 81.89 115 eP P 04 30 07.8 +0.1
LBTB pmax pmax
comp=Z,6.0nm,0.6s
LBTB Lobatse 81.89 115 eP P 04 30 07.8 +0.1
comp=Z,5.8nm,0.6s
M23A Laramie 81.93 335 ⇑P P 04 30 08.2 +0.8
baz=82
L25A Engebretsen Ra 81.94 336 ⇑P P 04 30 07.9 +0.5
baz=82
J29A Okreek 81.96 339 ⇓P P 04 30 07.6 +0.3
baz=82,SNR=21
SBC Santa Barbara 82.07 322 ⇑P P 04 30 08.3 +0.3
baz=82
TMUT Trail Mountain 82.12 330 eP P 04 30 08.4 -0.2
comp=Z,10nm,1.0s
ARVC Arvin 82.16 323 ⇑P P 04 30 08.8 +0.2
baz=82
L24A Wheatland 82.17 336 ⇓P P 04 30 09.4 +0.8
baz=82
I30A Oacoma 82.17 340 ⇓P P 04 30 08.7 +0.4
baz=82
M22A Cedar Creek Ra 82.18 334 ⇓P P 04 30 09.4 +0.6
baz=82
K26A Motz Farm, Whi 82.18 337 ⇑P P 04 30 09.0 +0.4
baz=82
J28A Allard Ranch, 82.24 339 ⇓P P 04 30 09.4 +0.6
baz=83,SNR=9.9
FURC Furnace Creek, 82.28 325 ⇓P P 04 30 09.3 +0.3
baz=83
N20A Spence Gulch, 82.29 333 ⇓P P 04 30 10.0 +0.6
baz=83
J27A Elkhorn Farm, 82.31 338 ⇑P P 04 30 10.4 +1.1
baz=83,SNR=9.4
ISA Isabella 82.41 323 ⇑P P 04 30 10.4 +0.5
baz=83
L23A Garrett 82.49 335 ⇑P P 04 30 10.3 -0.1
baz=83
I29A Vivian Onida 82.51 340 ⇑P P 04 30 10.6 +0.4
baz=83
BRSD Miller 82.53 341 eP P 04 30 09.7 -0.6
comp=Z,17nm,0.8s
BRSD Miller 82.53 341 ⇓P P 04 30 09.8 -0.5
baz=83,SNR=5.2
L22A Ellis Ranch, M 82.67 335 ⇑P P 04 30 11.9 +0.6
baz=83
J26A Sides Ranch, S 82.70 338 ⇓P P 04 30 12.3 +1.0
baz=83,SNR=6.6
I28A Midland 82.75 339 ⇑P P 04 30 11.8 +0.4
baz=83,SNR=11
VES Vestal, Richgr 82.85 323 ⇓P P 04 30 12.8 +0.7
baz=83
GRAC Grapevine Rang 82.95 325 ⇑P P 04 30 13.0 +0.3
baz=83
J25A Sunshine Ranch 83.00 337 ⇓P P 04 30 13.7 +0.9
baz=83
K23A Bowen Ranch, D 83.03 336 ⇑P P 04 30 13.4 +0.3
baz=83,SNR=6.2
H29A Onida 83.04 340 ⇑P P 04 30 12.9 0.0
baz=83,SNR=14
I27A Quinn 83.07 339 ⇓P P 04 30 13.7 +0.6
baz=83,SNR=6.3
G30A Faulkton 83.21 341 ⇑P P 04 30 14.0 +0.3
baz=84,SNR=7.4
R11A Troy Canyon, C 83.22 327 ⇑P P 04 30 14.5 +0.3
baz=84
J24A Dixon Ranch, L 83.22 337 ⇑P P 04 30 15.2 +1.2
baz=84,SNR=5.4
K22A Casper 83.25 335 ⇑P P 04 30 14.3 +0.1
baz=84,SNR=6.7
I26A New Underwood 83.28 338 ⇓P P 04 30 14.9 +0.6
baz=84
H28A Mission Ridge 83.32 340 ⇓P P 04 30 14.5 +0.2
baz=84,SNR=12
JLU Jordanelle 83.33 331 eP P 04 30 14.6 -0.2
comp=Z,5.8nm,0.8s
G29A Hoven 83.48 340 ⇑P P 04 30 15.3 +0.1
baz=84,SNR=7.7
K21A Alcova 83.49 335 ⇑P P 04 30 15.6 0.0
baz=84,SNR=13
DUG Dugway 83.54 330 ⇑P P 04 30 15.7 0.0
baz=84,SNR=10
I25A Rochford 83.54 337 ⇓P P 04 30 16.4 +0.7
baz=84,SNR=7.9
H27A Howes 83.59 339 ⇑P P 04 30 15.9 +0.2
baz=84,SNR=14
G28A Parade 83.66 340 ⇓P P 04 30 16.1 0.0
baz=84,SNR=13

I24A Kuemmerle Ranc 83.69 337 ⇑P P 04 30 16.9 +0.5
baz=84
RSSD Black Hills 83.73 337 eP P 04 30 16.2 -0.5
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD Black Hills 83.73 337 eP P 04 30 16.2 -0.5
comp=Z,7.9nm,0.9s
TCUT Toone Canyon 83.75 331 eP P 04 30 16.9 0.0
comp=Z,6.6nm,0.6s
F30A Leola 83.84 341 ⇓P P 04 30 17.0 0.0
baz=84,SNR=8.0
J22A Midwest 83.91 335 ⇑P P 04 30 17.0 -0.6
baz=84
H25A Fruitdale 84.04 338 ⇑P P 04 30 18.5 +0.4
baz=84,SNR=5.3
F29A Eureka 84.05 341 ⇑P P 04 30 18.1 0.0
baz=84,SNR=12
J21A Lysite 84.19 335 ⇑P P 04 30 19.0 -0.1
baz=84
G27A Dupree 84.23 339 ⇓P P 04 30 18.7 -0.3
baz=85,SNR=8.5
HWUT Hardware Ranch 84.23 331 eP P 04 30 18.4 -0.9
comp=Z,20nm,1.1s
TOA0 Torodi Ar. Sit 84.32 70 eP P 04 30 20.2 0.0
TORD Torodi Ar. Bea 84.32 70 P P 04 30 20.3 +0.2
comp=Z,4.5nm,1.0s,baz=273,slow=3.4,SNR=14
TORD Torodi Ar. Bea 84.32 70 P P 04 30 20.3 +0.2
F28A McLaughlin 84.33 340 ⇑P P 04 30 19.5 0.0
baz=85,SNR=8.5
I22A 9 Mile Ranch, 84.33 336 ⇓P P 04 30 19.4 -0.3
baz=85,SNR=5.9
G26A Maurine 84.35 339 ⇑P P 04 30 19.6 0.0
baz=85,SNR=6.6
J20A Shoshoni 84.42 334 ⇓P P 04 30 20.1 0.0
baz=85
E30A Jud 84.42 342 ⇓P P 04 30 20.2 +0.2
baz=85,SNR=7.5
PDAR Pinedale Array 84.45 333 P P 04 30 19.9 -0.5
comp=Z,2.6nm,0.8s,baz=162,slow=4.4,SNR=18
PDAR Pinedale Array 84.45 333 P P 04 30 19.9 -0.5
H24A Dirks Ranch, A 84.46 337 ⇓P P 04 30 20.1 -0.2
baz=85,SNR=6.2
G25A Newell 84.50 338 ⇑P P 04 30 20.4 0.0
baz=85,SNR=8.2
NVAR Mina Array Bea 84.53 325 P P 04 30 21.7 +0.8
comp=Z,3.7nm,0.8s,baz=159,slow=6.2,SNR=27
NVAR Mina Array Bea 84.53 325 P P 04 30 21.7 +0.8
I21A Big Trails, Te 84.54 335 ⇑P P 04 30 20.8 0.0
baz=85,SNR=9.2
E29A Napoleon 84.68 341 ⇑P P 04 30 21.8 +0.5
baz=85
J19A Crowheart 84.69 334 ⇑P P 04 30 21.5 -0.1
baz=85,SNR=12
F27A Lemmon 84.70 339 ⇑P P 04 30 21.2 -0.2
baz=85,SNR=15
F26A Lodgepole 84.87 339 ⇓P P 04 30 22.5 +0.2
baz=85,SNR=5.8
H22A Clearmont 84.91 336 ⇑P P 04 30 22.5 0.0
baz=85
D30A Buchanan 84.95 342 ⇑P P 04 30 22.4 -0.2
baz=85,SNR=9.1
I20A Worland 84.95 335 ⇓P P 04 30 23.3 +0.5
baz=85,SNR=13
E27A Carson 85.08 340 ⇓P P 04 30 23.1 -0.2
baz=85
D29A Pettibone, Tap 85.12 341 ⇓P P 04 30 23.3 -0.1
baz=86,SNR=7.0
G23A Biddle 85.13 337 ⇓P P 04 30 23.0 -0.6
baz=86
WAKR Walker 85.13 324 eP P 04 30 22.3 -1.7
comp=Z,20nm,1.5s
H21A Big Horn, Sher 85.17 336 ⇑P P 04 30 23.3 -0.6
baz=86
F25A Bowman 85.17 338 ⇓P P 04 30 23.8 0.0
baz=86
I19A Meeteetse 85.34 334 ⇑P P 04 30 25.4 +0.5
baz=86,SNR=6.7
AGMN Agassiz Nation 85.36 344 eP P 04 30 23.8 -0.8
comp=Z,6.9nm,0.7s
AGMN Agassiz Nation 85.36 344 ⇑P P 04 30 24.3 -0.3
baz=86,SNR=6.3
E26A Carlson Angus 85.37 339 ⇓P P 04 30 24.9 +0.1
baz=86
H20A Greybull 85.38 335 ⇑P P 04 30 24.8 -0.1
baz=86,SNR=23
F24A Ekalaka 85.41 338 ⇓P P 04 30 24.7 -0.3
baz=86
C30A Mose, Pekin 85.43 342 ⇑P P 04 30 25.3 +0.4
baz=86,SNR=16
G22A Birney 85.44 336 ⇓P P 04 30 24.9 -0.3
baz=86
D28A Regan 85.50 341 ⇓P P 04 30 25.4 +0.1
baz=86,SNR=6.2
F23A Volborg 85.60 337 ⇓P P 04 30 25.9 -0.1
baz=86,SNR=9.5
E25A Miller Ranch, 85.68 339 ⇑P P 04 30 26.6 +0.3
baz=86,SNR=6.6
G21A Lodge Grass 85.75 336 ⇓P P 04 30 26.7 0.0
baz=86,SNR=5.9
I17A Pilgrim Ck. 85.82 333 ⇓P P 04 30 27.4 +0.1
baz=86,SNR=9.4
D26A Manning 85.87 340 ⇓P P 04 30 27.8 +0.6
baz=86,SNR=7.2
H19A Powell 85.88 334 ⇓P P 04 30 27.4 0.0
baz=86,SNR=8.2
F22A Rosebud 85.92 337 ⇓P P 04 30 27.7 +0.1
baz=86,SNR=8.2
E24A Baker 86.00 338 ⇓P P 04 30 28.4 +0.5
baz=86
B30A Myrvik Farm, E 86.09 343 ⇑P P 04 30 28.3 +0.1
baz=86,SNR=24
G20A Bridger 86.09 335 ⇓P P 04 30 27.9 -0.5
baz=86,SNR=16
H18A Shoshone NF, C 86.13 334 ⇑P P 04 30 28.7 -0.1
baz=86,SNR=23
H17A Grant Village 86.22 333 ⇓P P 04 30 29.4 +0.1
baz=86
C27A Sayler Ranch, 86.23 340 ⇓P P 04 30 29.6 +0.7
baz=87,SNR=6.2
D25A Fairfield 86.24 339 ⇓P P 04 30 29.8 +0.7
baz=87,SNR=7.0
F21A Absaloka Mine, 86.25 336 ⇑P P 04 30 29.5 +0.3
baz=87
B29A Wagenman Farm, 86.36 342 ⇑P P 04 30 29.6 +0.1
baz=87
RLMT Red Lodge 86.38 334 eP P 04 30 29.4 -0.6
comp=Z,6.5nm,0.6s
E22A Miles City 86.41 337 ⇑P P 04 30 29.4 -0.5
baz=87,SNR=6.1
C26A Wahner Farm, P 86.50 340 ⇑P P 04 30 30.7 +0.5
baz=87
D24A Glendive 86.51 338 ⇑P P 04 30 30.9 +0.5
baz=87,SNR=6.3
A30A Hoffart Farm, 86.53 343 ⇑P P 04 30 30.3 -0.1
baz=87,SNR=7.1
F20A Billings 86.58 336 ⇓P P 04 30 30.6 -0.2
baz=87
B28A Dugan Ranch, T 86.60 341 ⇓P P 04 30 31.1 +0.4
baz=87,SNR=7.2
YMR Madison River 86.60 333 eP P 04 30 31.5 +0.4
comp=Z,21nm,0.9s
A29A Manning Farm, 86.75 342 ⇑P P 04 30 31.3 -0.1
baz=87,SNR=7.2
D23A Lindsay 86.83 338 ⇓P P 04 30 32.6 +0.7
baz=87
E21A Keefer Ranch, 86.86 337 ⇓P P 04 30 32.6 +0.4
baz=87,SNR=7.4
F19A Roth Farm, Mol 86.89 335 ⇓P P 04 30 32.3 -0.1
baz=87,SNR=6.9
C24A Savage 86.91 339 ⇑P P 04 30 32.7 +0.4
baz=87,SNR=21
A28A Rude Farm, Bot 87.00 342 ⇓P P 04 30 33.1 +0.4
baz=87
HLID Hailey 87.01 331 ⇓P P 04 30 33.6 +0.5
baz=87,SNR=12
B26A Jensen Ranch, 87.04 340 ⇑P P 04 30 32.9 0.0
baz=87
GCMT Greycliff 87.09 335 eP P 04 30 32.5 -0.9
comp=Z,10nm,1.4s
D22A Cohagen 87.11 337 ⇓P P 04 30 33.7 +0.3
baz=87,SNR=7.0
E20A Meyer Farm, Mu 87.18 336 ⇓P P 04 30 33.7 0.0
baz=88,SNR=24
B25A Knox Farm, Ray 87.21 340 ⇑P P 04 30 34.4 +0.7
baz=88
ULM Lac du Bonnet 87.21 345 eP P 04 30 32.5 -1.1
ULM pmax pmax
comp=Z,7.0nm,0.9s
ULM Lac du Bonnet 87.21 345 P P 04 30 33.1 -0.5
comp=Z,7.7nm,0.8s,baz=157,slow=3.5,SNR=13
ULM Lac du Bonnet 87.21 345 eP P 04 30 32.5 -1.1
comp=Z,6.7nm,0.9s
A27A Ledoux Ranch, 87.30 341 ⇓P P 04 30 34.6 +0.5
baz=88
D21A La Casta Ranch 87.30 337 ⇓P P 04 30 34.3 +0.1
baz=88,SNR=8.8
E19A Rath Farm, Rou 87.37 335 ⇑P P 04 30 34.4 -0.2
baz=88,SNR=17
C23A Lambert 87.38 338 ⇑P P 04 30 34.9 +0.3
baz=88,SNR=14
MCMT McKenzie Canyo 87.45 332 eP P 04 30 35.7 +0.5
comp=Z,7.5nm,1.0s
A26A Wade Farm, Ken 87.46 341 ⇑P P 04 30 35.2 +0.3
baz=88
C22A Vida 87.55 338 ⇓P P 04 30 35.6 +0.2
baz=88
DGMT Dagmar 87.69 339 eP P 04 30 35.8 -0.2
comp=Z,44nm,1.0s
DGMT Dagmar 87.69 339 ⇑P P 04 30 36.3 +0.3
baz=88,SNR=13
D20A Manuel Ranch, 87.70 336 ⇑P P 04 30 36.3 +0.2
baz=88,SNR=13
A25A Svangstu Ranch 87.80 340 ⇓P P 04 30 37.4 +0.8
baz=88
B23A Brockton 87.92 339 ⇓P P 04 30 37.0 -0.2
baz=88,SNR=5.1
C21A Desert Coulee 88.00 337 ⇓P P 04 30 37.5 -0.1
baz=88,SNR=9.5
D19A Cripps Ranch, 88.01 336 ⇓P P 04 30 37.6 -0.1
baz=88
A24A Westby 88.04 339 ⇑P P 04 30 37.9 +0.2
baz=88
B22A Reddig Ranch S 88.08 338 ⇑P P 04 30 38.1 +0.2
baz=88
C20A Veseth Ranch, 88.20 337 ⇑P P 04 30 38.5 0.0
baz=88,SNR=6.7
C19A Slack Wire Ran 88.56 336 ⇑P P 04 30 40.3 0.0
baz=89
N02D Trinity Center 88.63 324 ⇓P P 04 30 41.1 +0.4
baz=89
A22A Carney Farms, 88.67 338 ⇓P P 04 30 40.6 -0.1
baz=89,SNR=8.1
M04C Macdoel 88.84 325 ⇑P P 04 30 41.9 +0.1
baz=89
A21A Bergtoll Ranch 88.97 338 ⇓P P 04 30 41.9 -0.2
baz=89
M02C Callahan 89.03 324 ⇓P P 04 30 42.8 +0.2
baz=89
EGMT Eagleton 89.05 336 ⇑P P 04 30 42.6 0.0
baz=89
A20A Cobblestone Ra 89.19 337 ⇓P P 04 30 43.0 -0.1
baz=90
SCHQ Schefferville 89.28 3 P P 04 30 45.6 +2.3
comp=Z,2.7nm,0.9s,baz=235,slow=4.9,SNR=6.9
SCHQ Schefferville 89.28 3 P P 04 30 45.6 +2.3
LSZ Lusaka 89.46 108 eP P 04 30 47.8 +2.4
LSZ pmax pmax
comp=Z,5.0nm,1.0s
LSZ Lusaka 89.46 108 eP P 04 30 47.8 +2.4
comp=Z,4.5nm,1.0s
A19A Klindworth Far 89.50 337 ⇓P P 04 30 44.9 +0.3
baz=90
J05D Fort Rock, OR 89.73 326 ⇓P P 04 30 46.8 +0.9
baz=90
JTMT Jette 90.44 333 eP P 04 30 48.8 -0.3
comp=Z,2.1nm,0.9s
BSMT Bassoo Peak 90.71 333 eP P 04 30 50.3 -0.2
comp=Z,1.8nm,0.9s
TAM Tamanrasset 93.00 64 eP P 04 31 02.5 +0.9
TAM pmax pmax
comp=Z,4.0nm,1.2s
TAM Tamanrasset 93.00 64 eP P 04 31 02.5 +0.9
comp=Z,4.2nm,1.2s
FCC Fort Churchill 94.94 349 eP P 04 31 08.5 -0.9
FCC Fort Churchill 94.94 349 eP P 04 31 08.5 -0.9
comp=Z,0.1nm,1.0s
YKA Yellowknife Ar 102.76 341 P Pdif 04 31 43.3 -1.2
comp=Z,0.7nm,0.9s,baz=138,slow=4.1,SNR=8.4
YKA Yellowknife Ar 102.76 341 P Pdif 04 31 43.3 -1.2
MORC Moravsky Berou 115.21 46 ePKIKP PKPdf 04 36 29.0 +0.2
MORC Moravsky Berou 115.21 46 ePKPdf PKPdf 04 36 29.0 +0.2
NAO01 NORSAR Array S 116.31 33 ePKPdf PKPdf 04 36 32.2 +1.8
KWP Kalwaria Pacla 118.25 47 ePKIKP PKPdf 04 36 34.3 -0.2
KWP Kalwaria Pacla 118.25 47 ePKPdf PKPdf 04 36 34.3 -0.2
SUW Suwalki 120.02 43 ePKIKP PKPdf 04 36 36.4 -1.3
SUW Suwalki 120.02 43 ePKPdf PKPdf 04 36 36.4 -1.3
WRA Warramunga Arr 120.22 209 PKP PKPdf 04 36 37.9 -1.6
comp=Z,1.1nm,0.5s,baz=165,slow=1.5,SNR=6.2
WRA Warramunga Arr 120.22 209 PKP PKPdf 04 36 37.9 -1.6
WRAB Tennant Creek 120.22 209 ePKIKP PKPdf 04 36 38.3 -1.1
WRAB Tennant Creek 120.22 209 ePKPdf PKPdf 04 36 38.3 -1.1
BR131 Keskin Array S 122.05 61 ePKPdf PKPdf 04 36 41.2 -1.1
BRTR Keskin Array B 122.05 61 PKP PKPdf 04 36 39.8 -2.6
comp=Z,0.8nm,0.8s,baz=204,slow=3.2,SNR=5.1
BRTR Keskin Array B 122.05 61 PKP PKPdf 04 36 39.8 -2.6
KIEV Kiev 122.55 48 ePKIKP PKPdf 04 36 42.6 -0.1
KIEV Kiev 122.55 48 ePKPdf PKPdf 04 36 42.6 -0.1
AKASG Malin Array Be 122.56 48 PKP PKPdf 04 36 40.8 -2.0
comp=Z,0.2nm,0.3s,baz=262,slow=2.7,SNR=2.9
AKASG Malin Array Be 122.56 48 PKP PKPdf 04 36 40.8 -2.0
TNA Tin City 123.47 330 ePKPdf PKPdf 04 36 43.1 -0.9
ARCES ARCESS Array B 124.59 25 PKP PKPdf 04 36 44.4 -1.7
comp=Z,4.0nm,1.0s,baz=235,slow=3.2,SNR=4.1
ARCES ARCESS Array B 124.59 25 PKP PKPdf 04 36 44.4 -1.7
H11S2 WAKE ISLAND Hy 125.89 269 T T 06 55 07.0
baz=113
H11S1 WAKE ISLAND Hy 125.91 269 T T 06 55 08.3
baz=113
H11S3 WAKE ISLAND Hy 125.91 269 T T 06 55 08.5
baz=113
H11N3 WAKE ISLAND Hy 126.33 270 T T 06 55 38.0
baz=121,slow=75,SNR=50
H11N1 WAKE ISLAND Hy 126.34 270 T T 06 55 39.2
baz=121,slow=75,SNR=67
H11N2 WAKE ISLAND Hy 126.34 270 T T 06 55 37.6
baz=121,slow=75,SNR=54
GNI Garni 130.31 64 ePKIKP PKPdf 04 36 58.8 +0.6
GNI Garni 130.31 64 ePKPdf PKPdf 04 36 58.8 +0.6
KAPI Kappang 139.01 198 ePKPdf PKPdf 04 37 13.5 -1.6
ARU Arti 140.18 41 ePKPdf PKPdf 04 37 14.2 -1.6
ABKAR Akbulak array 142.00 52 ePKPpre PKPpre 04 37 14.0
PALK Pallekele 142.82 131 ePKIKP PKPdf 04 37 20.1 -1.9
PALK Pallekele 142.82 131 ePKPdf PKPdf 04 37 20.1 -1.9
KSM Kuching 146.88 184 ePKPbc PKPbc 04 37 29.8 +0.8
PSI Prapat 147.13 163 PKPbc PKPbc 04 37 30.7 -1.0
comp=Z,9.5nm,0.8s,baz=197,slow=6.2,SNR=9.3
PSI Prapat 147.13 163 PKPbc PKPbc 04 37 30.6 -1.0
BRVK Borovoye 147.62 44 ePKIKP PKPdf 04 37 29.0 +0.1
BRVK e 04 37 32.4
BRVK Borovoye 147.62 44 ePKPdf PKPdf 04 37 29.0 +0.1
BRVK ePKPbc PKPbc 04 37 32.4 +0.7
BVAR Borovoye Array 147.69 44 PKPbc PKPbc 04 37 30.5 -1.3
comp=Z,4.1nm,0.7s,baz=280,slow=4.2,SNR=14
BVAR Borovoye Array 147.69 44 PKPbc PKPbc 04 37 30.5 -1.3
HYB Hyderabad 148.51 116 i PKP PKPbc 04 37 34.0 -1.1
IPM Ipoh 149.22 166 ePKPbc PKPbc 04 37 36.9 -0.1
YAK Yakutsk 149.43 340 ePKHKP PKPbc 04 37 34.1 -1.9
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK Yakutsk 149.43 340 ePKPbc PKPbc 04 37 35.3 -0.7
KKAR Karatay Array 149.75 63 ePKP2 PKPbc 04 37 37.7 +0.2
KKAR Karatay Array 149.75 63 ePKPbc PKPbc 04 37 37.7 +0.2
KKAR ePKPab PKPab 04 37 43.5 +0.6
KULM Kulim 149.93 165 ePKPdf PKPdf 04 37 32.6 -1.3
KULM ePKPbc PKPbc 04 37 38.0 -0.8
KULM ePKPab PKPab 04 37 44.9 +0.7
YSS Yuzh-Sakhalins 151.32 306 ePKIKP PKPbc 04 37 40.0 -1.0
YSS Yuzh-Sakhalins 151.32 306 ePKPbc PKPbc 04 37 40.5 -0.5
ASAJ Asahikawa 151.93 300 PKPbc PKPbc 04 37 41.2 -1.4
comp=N,6.0nm,0.8s,baz=216,slow=8.7,SNR=3.5
ASAJ Asahikawa 151.93 300 PKPbc PKPbc 04 37 41.2 -1.4
AAK Ala-Archa 152.71 63 ePKIKP PKPbc 04 37 45.0 +0.4
AAK Ala-Archa 152.71 63 PKPbc PKPbc 04 37 44.8 +0.3
comp=N,5.7nm,0.8s,baz=213,slow=5.2,SNR=11
AAK Ala-Archa 152.71 63 ePKPbc PKPbc 04 37 45.0 +0.4
KURK Kurchatov 153.29 44 ePKIKP PKPbc 04 37 45.0 -0.3
KURK Kurchatov 153.29 44 ePKPbc PKPbc 04 37 45.0 -0.3
NVS Novosibirsk 153.45 33 ePKIKP PKPdf 04 37 37.6 -0.3
NVS pmax pmax
comp=Z,10.0nm,1.1s
NVS pmax pmax
comp=E,3.0nm,0.9s
KSH Kashi 153.99 70 ePKPbc PKPbc 04 37 47.3 -0.1
KSH epPKP PKPab 04 37 58.8 -2.1
KSH esPKP 04 38 03.0
KSH ePP PP 04 41 51.0 +15
KSH eSKS SKSdf 04 44 48.3 +2.6
ZAA0 Zalesovo Array 154.74 33 ePKPdf PKPdf 04 37 40.5 +0.7
ZAA0 ePKPbc PKPbc 04 37 48.2 -0.1
ZAA0 ePKPab PKPab 04 38 02.8 -0.6
ZALV Zalesovo Beam 154.74 33 PKP PKPdf 04 37 39.7 0.0
comp=E,1.5nm,0.8s,baz=323,slow=2.2,SNR=4.7
ZALV Zalesovo Beam 154.74 33 PKP PKPdf 04 37 39.7 0.0
BOD Bodaibo 156.54 352 ePKP2 PKPab 04 38 10.2 -0.7
BOD pmax pmax
comp=Z,6.0nm,1.1s
MKAR Makanchi Array 157.11 50 PKP PKPdf 04 37 42.6 -0.6
comp=Z,0.8nm,0.8s,baz=354,slow=2.4,SNR=4.9
MKAR Makanchi Array 157.11 50 PKP PKPdf 04 37 42.6 -0.6
WMQ Urumqi 161.78 54 ePKP PKPdf 04 37 49.5 +0.8
WMQ AMB AMB
comp=Z,130nm,10.0s
WMQ LR LR
comp=Z,100nm,24.0s
WMQ LR LR
comp=Z,250nm,23.2s
WMQ LR LR
comp=Z,130nm,24.2s
KSRS Korea Array 163.76 285 PKPab PKPab 04 38 43.2 +0.1
comp=Z,1.8nm,0.8s,baz=128,slow=5.4,SNR=5.4
KSAR Wonju Array Be 163.79 285 PKP2 PKPab 04 38 43.2 -0.1
KSAR Wonju Array Be 163.79 285 PKPab PKPab 04 38 43.2 -0.1
SONM Songino Array 166.81 5 PKP PKPdf 04 37 51.4 -1.8
comp=Z,0.7nm,0.8s,baz=243,slow=0.6,SNR=3.0
SONM PKPab PKPab 04 38 56.5 +0.3
comp=Z,1.2nm,0.8s,baz=342,slow=5.0,SNR=7.2
SONM Songino Array 166.81 5 PKP PKPdf 04 37 51.4 -1.8
SONM PKPab PKPab 04 38 56.5 +0.3
ULN Ulaanbaatar 166.82 3 ePKIKP PKPdf 04 37 52.4 -0.8
ULN e 04 38 56.5
ULN Ulaanbaatar 166.82 3 ePKPdf PKPdf 04 37 52.4 -0.8
ULN ePKPab PKPab 04 38 56.5 +0.2
KMI Kunming 169.38 153 PKP PKPdf 04 37 54.5 -1.3
NJ2 Nanjing 170.65 257 ePKP PKPdf 04 37 55.0 -1.0
GYA Guiyang 171.69 171 ePKP PKPdf 04 37 56.0 -0.9
GYA pPKP pPKPdf 04 38 07.8 +5.4
GYA PKS PKSdf 04 41 27.3 -2.1
GYA PP PP 04 43 11.0 +2.8
GYA SKKS 04 49 52.0
GYA SS SS 05 04 13.0 -1.5
GYA AMB AMB
comp=Z,120nm,8.7s
GYA LR LR
comp=Z,120nm,21.5s
GYA LR LR
comp=Z,110nm,21.7s
GYA LR LR
comp=Z,120nm,24.2s
HHC Hu-ho-hao-te 173.28 337 ePKP PKPdf 04 37 57.3 +0.2
HHC pPKP pPKPdf 04 38 08.0 +5.4
HHC sPKP 04 38 12.3
HHC PP PP 04 43 20.0 +3.7
HHC SKKS 04 50 01.5
HHC SS SS 05 04 29.0 -1.5
HHC AMB AMB
comp=Z,170nm,6.8s
HHC LR LR
comp=Z,200nm,20.4s
HHC LR LR
comp=Z,160nm,19.5s
HHC LR LR
comp=Z,170nm,19.7s
CD2 Chengdu 174.73 135 PKP PKPdf 04 37 57.8 0.0
CD2 pPKP pPKPdf 04 38 09.0 +5.7
CD2 sPKP 04 38 13.0
CD2 PKS PKSdf 04 41 28.5 -1.6
CD2 PP PP 04 43 28.3 +4.4
CD2 SKS SKSdf 04 44 55.5 -4.9
CD2 SKKS SKKSac 04 50 08.8 -1.2
CD2 SS SS 05 04 44.5 -1.0
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 176.24 67 ePKP PKPdf 04 37 58.5 +0.3
LZH pPKP pPKPdf 04 38 09.5 +5.8
LZH sPKP 04 38 14.0
XAN Xi'an 179.07 225 PKP PKPdf 04 38 02.0 +3.5

IDC **28** *04:24:34.7±1.1, 25.96N×128.53E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/35, mbtmp3.8/10, ML3.6/1, Error ellipse: s-maj=40.9km s-min=20.4km az=76.0*

ISCJB **28** *04:24:36.3±0.9, 25.96N±0.04×128.73E±0.04, h27km±6km, mb4.0/16, Error ellipse: s-maj=6.9km s-min=5.5km az=166.5*

JMA **28** *04:24:38.2±0.3, 26.03N×128.67E, h35km±5km, M3.3*

NEIC **28** *04:24:39.6±0.7, 25.99N×128.46E, h35km, mb4.3/8, Error ellipse: s-maj=15.6km s-min=8.9km az=132.0*

ISC 28 04:24:36.2±1.7, 25.97N±0.05×128.71E±0.04, h13km±10km, n41, σ1§36/48, mb4.1/16, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.82 312 P Pb 04 24 52.3 0.0
JNTH S Sg 04 25 02.2 -0.7
JJT2 Tamagusuku 2 0.88 281 P Pb 04 24 53.7 +0.5
JJT2 S Sb 04 25 05.4 +0.6
JOW Kunigami 0.94 336 P Pb 04 24 54.4 +0.1
JOW Kunigami 0.94 336 Pn Pg 04 24 54.5 +0.2
15nm,0.3s,baz=164,slow=16,SNR=26
JIH Iheya 1.25 328 P Pn 04 24 59.2 -0.1
JIH S Sb 04 25 14.7 -0.9
JOKE Okinoerabujima 1.39 355 P Pn 04 25 01.1 -0.1
JAGN Aguni-jima 1.45 295 P Pn 04 25 02.1 0.0
JAGN eS Sn 04 25 19.5 -1.4
JKE Kume jima 2 1.76 282 P Pn 04 25 05.6 -0.7
JKE eS Sn 04 25 26.7 -1.9
JTK Tokunoshima 1.82 7 P Pn 04 25 07.1 -0.1
JTK eS Sn 04 25 28.7 -1.4
JMZ Minamidaito 2 2.27 93 P Pn 04 25 12.5 -0.8
JMZ S Sn 04 25 37.6 -3.6
JAMN Amaminishikomi 2.30 10 P Pn 04 25 14.2 +0.4
JAMN eS Sn 04 25 42.1 +0.2
JAM Amami Oshima 2.56 18 P Pn 04 25 17.1 -0.2
JAM eS Sn 04 25 46.3 -2.0
YULB Yu-li 7.21 251 ePn Pn 04 26 17.5 -3.8
SSLB Suanglung 7.37 254 ePn Pn 04 26 20.5 -3.0
JNU Nakatsue 7.37 14 Pn Pn 04 26 24.8 +1.3
0.9nm,0.3s,baz=341,slow=6.4,SNR=7.6
JNU Sn Sn 04 27 43.1 -3.9
baz=114,slow=20,SNR=2.1
TPUB Ta-pu 7.81 252 ePn Pn 04 26 28.1 -1.5
MAJO Matsushiro 13.30 35 ePn Pn 04 27 44.9 +0.3
MDJ Mudanjiang 18.62 2 eP P 04 28 52.5 -0.7
5.0nm,0.7s
ERM Erimo 19.94 33 eP Pn 04 29 08.6 -0.6
ULN Ulaanbaatar 27.70 328 eP P 04 30 24.1 0.0
1.6nm,0.7s
SONM Songino Array 28.00 327 P P 04 30 27.4 +0.6
0.6nm,0.5s,baz=147,slow=12,SNR=6.5
KULM Kulim 33.80 237 eP P 04 31 17.3 -0.9
MKAR Makanchi Array 42.02 312 P P 04 32 27.0 -0.2
0.3nm,0.5s,baz=93,slow=11,SNR=8.9
ZALV Zalesovo Beam 42.71 323 P P 04 32 31.8 -0.9
0.4nm,0.4s,baz=98,slow=7.6,SNR=2.6
WRA Warramunga Arr 45.97 173 P P 04 32 59.5 +0.4
1.2nm,0.6s,baz=354,slow=8.6,SNR=4.4
AAK Ala-Archa 46.97 305 eP P 04 33 03.2 -3.9
5.6nm,0.9s
EKS2 Erkin-Say 47.50 305 eP P 04 33 06.7 -4.4
2.7nm,0.9s
BRVK Borovoye 50.82 318 eP P 04 33 37.2 +1.0
2.0nm,0.6s
FORT Forrest 56.43 181 eP P 04 34 18.5 +1.0
ABKAR Akbulak array 57.13 313 eP P 04 34 22.9 +0.5
ARU Arti 57.86 322 eP P 04 34 27.5 +0.2
COLD Coldfoot 62.91 26 eP P 04 35 04.3 +2.6
9.6nm,1.5s
TRF Thorofare Moun 63.11 30 eP P 04 35 04.4 +1.1
MCK McKinley 63.68 29 eP P 04 35 07.7 +0.7
FINES FINESS Array B 73.30 331 P P 04 36 07.5 +0.5
0.8nm,0.4s,baz=95,slow=4.2,SNR=8.4
RES Resolute Bay 75.72 11 eP P 04 36 21.3 +0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	1.4nm,0.7s						
AKASG	Malin Array Be	76.00	320	P	P	04 36 23.0	0.0
	1.1nm,0.5s,baz=56,slow=6.6,SNR=4.8						
BRTR	Keskin Array B	77.53	308	P	P	04 36 33.0	+1.0
	1.0nm,0.8s,baz=100,slow=4.7,SNR=5.8						
YKA	Yellowknife Ar	78.58	25	P	P	04 36 38.5	+1.4
	0.3nm,0.7s,baz=302,slow=5.1,SNR=5.6						
NOA	NORSAR Array B	79.73	334	P	P	04 36 43.7	+0.1
	1.1nm,0.8s,baz=53,slow=5.2,SNR=3.7						
KWP	Kalwaria Pacla	80.24	321	eP	P	04 36 43.5	-3.0
	11nm,1.2s						

IDC ***28*** *04:28:04.2±2.3, 30.°62N×51.°06E, h0km, mb3.8/5, mb1 3.7/6, mb1mx3.4/44, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=51.3km s-min=25.0km az=153.0*

ISC 28 04:28:05.3±1.2, 30.°36N±0.°10×51.°1E±0.°1, h19km, n12, σ1.s25/9, mb3.9/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFJS		3.51	233	S	Sb	04 29 49.6	+0.6
KFJS		3.51	233	P	Pb	04 29 05.0	-1.8
BOQSS		4.73	199	S	Sb	04 30 24.7	+0.6
BOQSS		4.73	199	P	Pb	04 29 25.4	-2.2
BTHS		6.29	182	P	Pn	04 29 45.6	+8.5
ASYS		6.57	246	P	Pn	04 29 45.1	+4.1
BRTR	Keskin Array B	17.06	308	Pn	Pn	04 32 03.1	+0.3
	0.1nm,0.3s,baz=123,slow=12,SNR=3.7						
AAK	Ala-Archa	22.36	50	P	P	04 33 01.6	-0.8
	2.7nm,0.6s,baz=294,slow=4.8						
AKASG	Malin Array Be	26.08	327	P	P	04 33 37.2	-0.3
	0.3nm,0.3s,baz=137,slow=9.1,SNR=6.0						
BVAR	Borovoye Array	26.67	26	P	P	04 33 43.7	+0.8
	0.9nm,0.6s,baz=210,slow=8.3						
FINES	FINESS Array B	35.18	339	P	P	04 34 57.0	-0.7
	1.4nm,0.8s,baz=141,slow=8.9,SNR=6.2						
TORD	Torodi Ar. Bea	48.58	261	P	P	04 36 49.7	+1.9
	0.4nm,0.3s,baz=58,slow=8.1,SNR=19						

IDC ***28*** *04:28:36.2±0.8, 36.°32S×72.°76W, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.2/33, mbtmp4.4/11, ML3.2/1, MS4.5/2, Ms1 4.5/2, ms1mx3.6/28, Error ellipse: s-maj=28.0km s-min=17.9km az=88.0*

ISCJB ***28*** *04:28:37.9±0.4, 36.°24S±0.°06×72.°9W±0.°1, h25km, mb4.5/26, MS4.6/2, Error ellipse: s-maj=12.4km s-min=7.8km az=161.3*

NEIC ***28*** *04:28:40.8±0.3, 36.°25S×72.°83W, h35km, mb4.7/20, Error ellipse: s-maj=9.6km s-min=6.8km az=64.0*

ISC 28 04:28:39.7±0.5, 36.°22S±0.°08×72.°8W±0.°1, h25km, n59, σ0.s94/57, mb4.7/26, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.83	160	Pn	Pn	04 29 52.8	+1.9
	1.9nm,0.3s,baz=324,slow=14,SNR=2.4						
PLCA	Paso Flores	4.83	160	ePn	Pn	04 29 52.4	+1.5
CFAA	Coronel Fontan	5.94	41	Pn	Pn	04 30 08.3	+2.2
	0.6nm,0.3s,baz=204,slow=12,SNR=3.9						
TRQA	Tornquist	8.80	105	ePn	Pn	04 30 44.4	-1.0
CPUP	Villa Florida	16.44	57	Pn	P	04 32 32.7	+1.4
	0.6nm,0.3s,baz=218,slow=9.5,SNR=5.0						
CPUP	Villa Florida	16.44	57	ePn	P	04 32 30.7	-0.6
LPAZ	La Paz	20.27	13	P	Pn	04 33 16.6	+0.4
	12nm,0.8s,baz=334,slow=14,SNR=15						
LPAZ	La Paz	20.27	13	ePn	Pn	04 33 16.9	+0.6
	35nm,0.8s						
SIV	San Ignacio	22.67	30	P	P	04 33 40.6	+1.3
	7.4nm,0.8s,baz=222,slow=11,SNR=7.4						
SAML	Samuel	28.51	20	ePn	P	04 34 32.0	-1.2
	5.8nm,0.7s						
BDFB	Brasilia	30.09	54	P	P	04 34 47.7	+0.3
	14nm,1.2s,baz=55,slow=15,SNR=3.5						
OTAV	Otavalo	36.65	350	eP	P	04 35 45.0	+0.2
	19nm,1.2s						
ROSC	El Rosal	40.88	358	LR	LR	04 54 19.0	
	comp=Z,307nm,18.2s,baz=268,slow=38						
ROSC	El Rosal	40.88	358	eP	P	04 36 18.4	-1.8
SDV	Santo Domingo	44.90	3	eP	P	04 36 52.2	-0.4
VNA3	Neumayer Olymp	47.54	157	P	P	04 37 12.1	-0.5
VNA2	Neumayer--Watz	48.21	156	P	P	04 37 17.6	-0.1
SNAA	Sanae	49.77	157	P	P	04 37 29.8	+0.1
SNAA	Sanae	49.77	157	P	P	04 37 30.1	+0.4
	2.1nm,0.8s,baz=285,slow=5.9,SNR=7.9						
QSPA	South Pole Qui	54.03	180	P	P	04 38 02.0	+0.3
	5.3nm,0.8s,baz=146,slow=4.3,SNR=11						
QSPA	South Pole Qui	54.03	180	eP	P	04 38 01.2	-0.4
	5.6nm,0.9s						
TEIG	Tepich	58.02	343	P	P	04 38 31.1	+0.7
	5.7nm,0.6s,baz=90,slow=19,SNR=3.9						
ASCN	Ascension	59.97	77	eP	P	04 38 45.0	+0.7
GOGA	Godfrey	69.99	350	eP	P	04 39 48.3	-0.6
JCT	Junction City	71.04	335	eP	P	04 39 53.5	-2.0
	9.0nm,1.1s						
TXAR	Lajitas Array	71.39	332	P	P	04 39 58.5	+0.8
	0.3nm,0.7s,baz=155,slow=7.7,SNR=3.5						
KMSC	Kings Mountain	71.44	353	eP	P	04 39 58.5	+0.8
	12nm,1.0s						
WHTX	Lake Whitney	71.69	338	eP	P	04 39 59.2	-0.1
	6.2nm,0.6s						
SWET	Sewanee	72.12	349	eP	P	04 40 01.9	+0.1
	17nm,0.9s						
ABTX	Abilene, Hawle	72.96	336	eP	P	04 40 06.8	-0.1
	7.5nm,0.7s						
WVT	Waverly	73.33	347	eP	P	04 40 07.7	-1.2
	5.4nm,0.6s						
MNTX	Cornudas Mount	74.16	331	eP	P	04 40 13.3	-0.7
	1.6nm,0.7s						
SUR	Sutherland	74.28	119	eP	P	04 40 15.1	-0.1
	28nm,1.2s						
TUL1	Tulsa	74.89	341	eP	P	04 40 18.1	0.0
	4.6nm,0.5s						
DBIC	Dimbokro	76.44	71	P	P	04 40 28.4	+0.9
	3.7nm,0.6s,baz=191,slow=5.1,SNR=8.3						
DBIC	Dimbokro	76.44	71	eP	P	04 40 27.4	-0.1
	7.9nm,0.9s						
LAZ	Ladron	77.23	331	eP	P	04 40 31.8	0.0
ANMO	Albuquerque	77.45	332	eP	P	04 40 33.4	+0.5
	2.7nm,1.0s						
TSUM	Tsumeb	79.17	106	eP	P	04 40 42.4	-0.5
	1.7nm,0.6s						
BOSA	Boshof	79.56	118	P	P	04 40 44.4	-0.5
	7.1nm,0.8s,baz=246,slow=4.4,SNR=9.6						
BOSA	Boshof	79.56	118	eP	P	04 40 44.9	0.0
	13nm,0.8s						
LBTB	Lobatse	81.91	115	eP	P	04 40 57.9	+0.4
SHPR	Sheep Range	82.38	327	eP	P	04 40 59.8	+0.2
	32nm,1.9s						
DUG	Dugway	84.49	330	eP	P	04 41 10.6	+0.3
	1.5nm,0.6s						
NVAR	Mina Array Bea	85.37	326	P	P	04 41 16.1	+1.2
	0.4nm,0.6s,baz=140,slow=5.8,SNR=2.3						
TOA0	Torodi Ar. Sit	85.51	70	eP	P	04 41 16.1	+0.2
TORD	Torodi Ar. Bea	85.51	70	P	P	04 41 16.2	+0.4
	1.8nm,0.8s,baz=240,slow=4.0,SNR=7.9						
TAM	Tamanrasset	94.30	65	eP	P	04 41 57.9	+0.6
	0.8nm,0.6s						
DZM	Mont Dzumac	99.46	234	LR	LR	05 14 59.3	
	comp=Z,451nm,21.4s,baz=350,slow=28						
BRTR	Keskin Array B	123.40	62	PKP	PKPdf	04 47 34.4	-0.2
	0.5nm,0.7s,baz=222,slow=1.9,SNR=3.6						
KIEV	Kiev	124.09	49	ePKPdf	PKPdf	04 47 34.1	-1.2
TIXI	Tiksi	142.76	349	ePKPdf	PKPdf	04 48 07.9	-1.7
ABKAR	Akbulak array	143.48	54	ePKPdf	PKPbc	04 48 08.8	-0.1
IPM	Ipoh	147.90	168	ePKPbc	PKPbc	04 48 22.1	-1.1
KKAR	Karatay Array	151.07	65	ePKPbc	PKPbc	04 48 29.7	-0.5
KKAR				ePKPab	PKPab	04 48 37.7	-0.3
TKM2	Tokmak 2	154.80	65	ePKPdf	PKPdf	04 48 28.1	-2.0
TKM2				ePKPbc	PKiKP	04 48 38.8	0.0
TKM2				ePKPab	PKPab	04 48 52.4	-1.6
ZAA0	Zalesovo Array	156.40	34	ePKPdf	PKPdf	04 48 30.4	-1.1
ZALV	Zalesovo Beam	156.40	34	PKP	PKPdf	04 48 31.3	-0.3
	0.9nm,0.6s,baz=318,slow=2.0,SNR=3.9						
MKAR	Makanchi Array	158.62	53	PKP	PKPdf	04 48 34.5	-0.2
	0.5nm,0.7s,baz=5.7,slow=2.4,SNR=3.8						

SJA ***28*** *04:28:50.9±0.8, 33.°51S×74.°19W, h8km±89km, ML5.0, MW4.6*

IDC ***28*** *04:29:10.9±0.6, 34.°91S×72.°11W, h0km, mb4.6/13, mb1 4.7/15, mb1mx4.5/34, mbtmp4.6/15, ML4.2/2, MS4.3/2, Ms1 4.3/2, ms1mx3.7/28, Error ellipse: s-maj=23.6km s-min=15.9km az=84.0*

BJI ***28*** *04:29:13.3, 34.°90S×69.°60W, h35km, mB5.1/6, Ms5.2/5, Ms7 4.9/6*

ISCJB ***28*** *04:29:15.2±0.3, 34.°73S±0.°05×71.°85W±0.°06, h33km, mb4.8/52, Error ellipse: s-maj=8.1km s-min=6.8km az=35.8*

NEIC ***28*** *04:29:16.3±2.4, 34.°78S×71.°81W, h32km±16km, mb4.9/44, Error ellipse: s-maj=9.8km s-min=5.6km az=70.0*

ISC 28 04:29:14.8±0.3, 34.°96S±0.°06×72.°08W±0.°07, h29km, n496, σ1.s15/480, mb4.9/52, 171C-162D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	Agrelo	3.28	56	iP	Pn	04 30 03.8	-0.6
AVIZ	Vizcacheras	3.30	64	iP	Pn	04 30 05.9	+1.2
ARCO	CERRO ARCO	3.36	52	iP	Pn	04 30 02.6	-2.9
ARCO				IAML		04 30 18.8	
	comp=Z,1μm,0.5s						
ARCO				iS	Sb	04 30 55.4	+1.0
AUSP	Uspallata	3.54	40	iP	Pn	04 29 59.6	-8.4
RTLS	Leoncito	3.92	37	iP	Pn	04 30 02.9	-10
RTCV	Cerro Valdivia	4.28	45	iP	Pn	04 30 10.8	-7.3
CFAA	Coronel Fontan	4.64	45	Pn	Pn	04 30 22.6	-0.4
	comp=Z,1.7nm,0.3s,baz=226,slow=12,SNR=8.3						
CFAA				Sn	Sn	04 31 18.6	+2.6
	comp=Z,4.2nm,0.3s,baz=240,slow=20,SNR=2.2						
PLCA	Paso Flores	5.88	169	Lg	Lg	04 32 19.5	
	comp=Z,3.9nm,0.3s,baz=52,slow=16,SNR=3.2						
PLCA				LR	LR	04 33 15.8	
	comp=Z,3μm,21.4s,baz=354,slow=41						
PLCA	Paso Flores	5.88	169	ePn	Pn	04 30 42.9	+2.7
PLCA				Lg	Lg	04 32 19.5	
TRQA	Tornquist	8.69	114	ePn	Pn	04 31 17.1	-1.5
	comp=Z,154nm,1.0s						
LVC	Limon Verde	12.61	14	ePn	Pn	04 32 04.1	-8.5
	comp=Z,21nm,0.8s						
CPUP	Villa Florida	15.32	60	ePn	Pn	04 32 48.1	-0.9
	comp=Z,1.6nm,0.9s						
LPAZ	La Paz	18.93	12	P	P	04 33 33.2	-1.0
	comp=Z,1.2nm,0.3s,baz=205,slow=7.3,SNR=11						
LPAZ	La Paz	18.93	12	eP	P	04 33 32.9	-1.3
	comp=Z,46nm,0.9s						
USHA	Ushuaia	20.03	174	P	P	04 33 47.0	+1.8
	comp=Z,14nm,0.9s,baz=326,slow=14,SNR=1.6						
USHA				LR	LR	04 41 24.2	
	comp=Z,1μm,19.9s,baz=334,slow=36						
SAML	Samuel	27.14	20	eP	P	04 34 53.5	-2.1
	comp=Z,8.8nm,0.9s						
BDFB	Brasilia	28.91	54	P	P	04 35 11.8	+0.3
	comp=Z,5.1nm,0.7s,baz=183,slow=11,SNR=3.1						
ROSC	El Rosal	39.66	356	P	P	04 36 45.3	+0.5
	comp=Z,4.9nm,0.6s,baz=18,slow=2.9,SNR=6.7						
ROSC	El Rosal	39.66	356	eP	P	04 36 44.9	+0.1
SDV	Santo Domingo	43.63	2	eP	P	04 37 15.4	-1.7
	comp=Z,26nm,0.9s						
SNAA	Sanae	50.71	158	P	P	04 38 12.6	+1.1
	comp=Z,4.7nm,0.9s,baz=284,slow=6.9,SNR=4.6						
SNAA	Sanae	50.71	158	eP	P	04 38 13.0	+1.5
	comp=Z,8.5nm,1.0s						
OBIP	Obispado Ponce	52.97	7	eP	P	04 38 27.3	-1.4
CELP	Cerrillos	53.00	7	eP	P	04 38 27.2	-1.8
GTBY	Guantanamo Bay	54.66	356	eP	P	04 38 39.7	-1.4
QSPA	South Pole Qui	55.28	180	P	P	04 38 46.3	+1.0
	comp=Z,15nm,1.1s,baz=168,slow=3.6,SNR=7.6						
QSPA	South Pole Qui	55.28	180	eP	P	04 38 49.5	+4.2
	comp=Z,11nm,0.8s						
RKT	Rikitea	55.45	264	eLR	LR	04 55 04.7	
	comp=Z,410nm,30.0s						
RKT	Rikitea	55.45	264	eT	T	05 38 24.5	
	comp=Z,2.2nm,0.2s						
SYO	Syowa Base	64.98	158	⇑epP	P	04 39 50.2	-1.3
035A	Encino	66.31	335	⇑P	P	04 40 02.1	+1.6
	baz=66						
034A	Hebbronville	66.63	334	⇓P	P	04 40 04.2	+1.6
	baz=67						
933A	Laredo	67.34	334	⇓P	P	04 40 08.7	+1.6
	baz=68						
835A	Beeville	67.45	335	⇑P	P	04 40 08.7	+0.9
	baz=68						
834A	Tilden	67.55	335	⇑P	P	04 40 10.0	+1.6
	baz=68						
735A	Kenedy	67.97	336	⇑P	P	04 40 11.7	+0.7
	baz=68						
833A	Chaparral WMA,	68.03	334	⇑P	P	04 40 12.8	+1.3
	baz=68						
832A	Faith Ranch, C	68.21	334	⇓P	P	04 40 13.3	+0.7
	baz=68						
636A	Smothers Creek	68.30	337	⇑P	P	04 40 13.9	+0.8
	baz=68						
HKT	Hockley	68.34	338	eP	P	04 40 14.8	+1.6
	comp=Z,19nm,1.6s						
733A	Divot King Ran	68.36	334	⇑P	P	04 40 14.4	+0.9
	baz=69						
635A	Leesville	68.44	336	⇑P	P	04 40 14.4	+0.4
	baz=69						
732A	Laxson Ranch,	68.61	334	⇑P	P	04 40 16.4	+1.4
	baz=69						
537A	Green Hill Far	68.61	338	⇑P	P	04 40 15.2	+0.2
	baz=69						
MEH	Mehetia	68.69	263	eT	T	05 54 55.2	
	comp=Z,37nm,0.2s						
535A	Dale	68.97	336	⇑P	P	04 40 17.8	+0.6
	baz=69						
438A	Sam Houston St	68.98	339	⇓P	P	04 40 16.9	-0.4
	baz=69						
633A	Saathoff Ranch	68.99	335	⇑P	P	04 40 18.8	+1.3
	baz=69						
LRAL	Lakeview Retre	69.08	347	eP	P	04 40 17.3	-0.5
	comp=Z,6.9nm,0.8s						
340A	Bronson	69.14	340	⇑P	P	04 40 17.4	-0.9
	baz=69						
632A	Uvalde	69.25	334	⇑P	P	04 40 20.4	+1.3
	baz=70						
631A	Perdido Creek	69.45	334	⇓P	P	04 40 21.7	+1.4
	baz=70						
338A	Crockett	69.50	339	⇑P	P	04 40 20.6	+0.1
	baz=70						
533A	Kerrville	69.50	335	⇑P	P	04 40 21.5	+0.8
	baz=70						
337A	Centerville	69.63	338	⇑P	P	04 40 21.3	0.0
	baz=70						
435B	Jarrell	69.67	337	⇓P	P	04 40 22.4	+0.8
	baz=70						
TVO	Taravao	69.70	262	eT	T	05 56 10.4	
	comp=Z,2.1nm,0.2s						
532A	Rocksprings	69.86	334	⇓P	P	04 40 23.5	+0.7
	baz=70						
TIAR	Tiarei	69.90	262	eT	T	05 56 25.1	
	comp=Z,7.9nm,0.2s						
434A	Burnet	69.92	336	⇑P	P	04 40 23.7	+0.4
	baz=70						
336A	Riesel	69.99	338	⇓P	P	04 40 23.9	+0.3
	baz=70						
PAE	Paea	70.03	262	eT	T	05 56 35.0	
	comp=Z,0.8nm,0.2s						
PPT2	Papeete2	70.07	262	eLR	LR	05 01 49.6	
	comp=Z,373nm,26.8s						
531A	Rocksprings	70.12	334	⇓P	P	04 40 25.5	+1.0
	baz=70						
JCT	Junction City	70.14	335	eP	P	04 40 24.7	+0.2
	comp=Z,27nm,1.2s						
JCT	Junction City	70.14	335	⇓P	P	04 40 25.3	+0.7
	baz=70						
433A	Art	70.14	335	⇑P	P	04 40 25.0	+0.5
	baz=70						
237A	Washetta, Mont	70.25	339	⇓P	P	04 40 24.2	-0.9
	baz=70						
334A	Lometa	70.39	336	⇑P	P	04 40 26.0	0.0
	baz=71						
530A	J-C Ranch, Com	70.39	333	⇓P	P	04 40 27.1	+1.0
	baz=71						
432A	Menard	70.50	335	⇑P	P	04 40 27.1	+0.4
	baz=71						
TXAR	Lajitas Array	70.56	331	P	P	04 40 27.7	+0.4
	comp=Z,2.0nm,0.6s,baz=157,slow=7.6,SNR=9.8						
431A	Sonora	70.61	334	⇑P	P	04 40 28.4	+0.9
	baz=71						
333A	Richland Sprin	70.63	336	⇑P	P	04 40 27.7	+0.2
	baz=71						
529A	Stev Forest Ra	70.70	333	⇓P	P	04 40 29.2	+1.1
	baz=71						
WHTX	Lake Whitney	70.75	337	eP	P	04 40 28.8	+0.6
WHTX	Lake Whitney	70.75	337	⇑P	P	04 40 27.9	-0.3
	baz=71						
137A	Heron Place, G	70.79	339	⇓P	P	04 40 27.5	-0.9
	baz=71						
430A	Baggett Ranch,	70.93	334	⇓P	P	04 40 30.1	+0.7
	baz=71						
332A	Millersview	70.94	335	⇓P	P	04 40 29.6	+0.1
	baz=71						
OXF	Oxford	70.99	345	eP	P	04 40 28.4	-1.2
	comp=Z,45nm,1.1s						
SWET	Sewanee	71.01	348	eP	P	04 40 29.0	-0.7
	comp=Z,21nm,0.7s						
429A	Davenport Ranc	71.03	333	⇑P	P	04 40 31.2	+1.1
	baz=71						
TKL	Tuckaleechee C	71.10	350	eP	P	04 40 29.8	-0.4
331A	San Angelo	71.11	335	⇑P	P	04 40 31.1	+0.6
	baz=71						
233A	Rising Star	71.24	336	⇑P	P	04 40 31.2	0.0
	baz=72						
232A	Coleman	71.37	335	⇑P	P	04 40 32.3	+0.2
	baz=72						
330A	Mertzon	71.47	334	⇑P	P	04 40 33.2	+0.5
	baz=72						
134A	White-Moore Ra	71.48	337	⇑P	P	04 40 32.3	-0.3
	baz=72						
231A	Bronte	71.64	335	⇑P	P	04 40 34.0	+0.3
	baz=72						
133A	Hamilton Ranch	71.78	336	⇑P	P	04 40 34.6	+0.1
	baz=72						
329A	Wagon Wheel Ra	71.83	333	⇓P	P	04 40 35.8	+0.9
	baz=72						
230A	Sterling City	71.88	334	⇓P	P	04 40 35.9	+0.8
	baz=72						
Z35A	Perchaven, San	71.92	338	⇓P	P	04 40 34.8	-0.5
	baz=72						
ABTX	Abilene, Hawle	72.04	336	eP	P	04 40 36.7	+0.7
	comp=Z,13nm,0.8s						
ABTX	Abilene, Hawle	72.04	336	⇓P	P	04 40 36.5	+0.5
	baz=72						
Z34A	Collier Ranch,	72.17	337	⇑P	P	04 40 36.7	-0.1
	baz=72						
229A	Bryant Ranch,	72.20	334	⇑P	P	04 40 37.7	+0.7
	baz=72						
WVT	Waverly	72.24	347	eP	P	04 40 36.8	-0.2
	comp=Z,44nm,0.9s						
131A	Roby	72.34	335	⇑P	P	04 40 38.6	+0.8
	baz=73						
Z33A	Whitaker Ranch	72.36	337	⇓P	P	04 40 38.1	+0.2
	baz=73						
130A	Snyder	72.47	335	⇓P	P	04 40 38.9	+0.3
	baz=73						
Z32A	Haskell	72.61	336	⇑P	P	04 40 39.4	0.0
	baz=73						
228A	UT Block 9, Go	72.63	333	⇓P	P	04 40 40.7	+1.1
	baz=73						
Y34A	Reagan Ranch,	72.66	338	⇓P	P	04 40 40.2	+0.5
	baz=73						
129A	Stewart Farms,	72.82	334	⇑P	P	04 40 42.0	+1.3
	baz=73						
Z31A	Sharp Cattle R	72.84	336	⇑P	P	04 40 41.1	+0.3
	baz=73						
Y33A	Hilltop Ranch,	72.98	337	⇓P	P	04 40 41.6	0.0
	baz=73						
128A	Castleberry Fa	73.04	333	⇓P	P	04 40 43.0	+0.9
	baz=73						
Z30A	Sanderson Ranc	73.16	335	⇓P	P	04 40 43.2	+0.6
	baz=73						
Y32A	R-V Farms, Ver	73.24	336	⇓P	P	04 40 43.3	+0.2
	baz=74						
X34A	Smith Ranch, M	73.28	338	⇓P	P	04 40 43.5	+0.2
	baz=74						
MNTX	Cornudas Mount	73.33	331	eP	P	04 40 43.0	-0.7
	comp=Z,6.0nm,0.9s						
Z29A	Hungry Hill Ra	73.33	334	⇓P	P	04 40 44.1	+0.3
	baz=74						
127A	Arkansas Junct	73.41	333	⇓P	P	04 40 45.6	+1.3
	baz=74						
X33A	Lawton	73.43	337	⇑P	P	04 40 43.9	-0.3
	baz=74						
Y31A	Rekieta Farm,	73.47	336	⇓P	P	04 40 44.8	+0.3
	baz=74						
X32A	Elmer	73.57	337	⇓P	P	04 40 44.9	-0.2
	baz=74						
Z28A	Tucker Farm, M	73.60	334	⇓P	P	04 40 46.1	+0.7
	baz=74						
W34A	Bridge Creek,	73.85	338	eP	P	04 40 47.0	+0.4
W34A	Bridge Creek,	73.85	338	⇓P	P	04 40 46.0	-0.6
	baz=74						
Y29A	Porterfield Fa	73.86	335	⇑P	P	04 40 47.3	+0.4
	baz=74						
TUL1	Tulsa	73.90	340	eP	P	04 40 45.9	-1.0
	comp=Z,19nm,0.9s						
TUL1	Tulsa	73.90	340	⇑P	P	04 40 46.5	-0.4
	baz=74						
Z27A	Tatum	73.93	333	⇑P	P	04 40 48.5	+1.1
	baz=74						
W33A	Caddo, Fort Co	73.98	338	⇑P	P	04 40 48.2	+0.7
	baz=74						
X31A	McDonald Ranch	73.99	336	⇑P	P	04 40 47.9	+0.3
	baz=74						
USIN	University of	73.99	347	eP	P	04 40 46.3	-1.1
	comp=Z,31nm,1.1s						
WCI	Wyandotte Cave	74.01	348	eP	P	04 40 46.4	-1.2
	comp=Z,6.9nm,0.6s						
SIUC	Southern Illin	74.04	346	eP	P	04 40 47.1	-0.6
	comp=Z,13nm,0.8s						
Y28A	McKinney Farm,	74.11	334	⇓P	P	04 40 49.2	+0.9
	baz=74						
X30A	Coker Ranch, T	74.12	336	⇑P	P	04 40 49.0	+0.7
	baz=74						
Z26A	Caprock	74.18	333	⇓P	P	04 40 49.5	+0.7
	baz=74,SNR=7.6						
W32A	Sentinel	74.20	337	⇑P	P	04 40 49.5	+0.8
	baz=74						
V34A	Guthrie	74.33	339	eP	P	04 40 49.0	-0.5
V34A	Guthrie	74.33	339	⇑P	P	04 40 49.6	+0.2
	baz=75						
MSTX	Muleshoe	74.36	334	eP	P	04 40 49.8	0.0
	comp=Z,13nm,0.9s						
MSTX	Muleshoe	74.36	334	⇓P	P	04 40 50.4	+0.6
	baz=75						
X29A	Tulia	74.40	335	⇓P	P	04 40 50.7	+0.6
	baz=75						
Y27A	Causey	74.42	334	⇓P	P	04 40 50.7	+0.5
	baz=75						
Z25A	Roswell	74.47	332	⇓P	P	04 40 51.4	+0.9
	baz=75						
W31A	Holland Ranch,	74.48	337	⇓P	P	04 40 50.6	+0.2
	baz=75						
V33A	Lossen Ranch,	74.55	338	⇓P	P	04 40 50.7	0.0
	baz=75						
V32A	Arapaho	74.69	338	⇑P	P	04 40 51.8	+0.2
	baz=75						
319A	Douglas	74.69	328	⇓P	P	04 40 54.3	+2.5
	baz=75						
Z24A	Sheeppen Canyo	74.76	332	⇓P	P	04 40 53.7	+1.4
	baz=75						
AMTX	Amarillo	74.79	335	eP	P	04 40 52.5	+0.3
	comp=Z,14nm,1.0s						
AMTX	Amarillo	74.79	335	⇓P	P	04 40 53.2	+0.9
	baz=75						
U34A	Anderson Ranch	74.89	339	eP	P	04 40 53.0	+0.3
U34A	Anderson Ranch	74.89	339	⇓P	P	04 40 52.5	-0.2
	baz=75						
V31A	Spring Creek L	74.99	337	⇓P	P	04 40 53.6	+0.3
	baz=75						
W29A	Amraillo	75.00	335	⇓P	P	04 40 53.9	+0.5
	baz=75						
Y25A	Mesa, Roswell	75.03	332	⇓P	P	04 40 55.2	+1.5
	baz=75						
121A	Cookes Peak, D	75.05	329	⇓P	P	04 40 55.7	+1.8
	baz=75,SNR=5.0						
X27A	F and S Farms,	75.08	334	⇑P	P	04 40 55.1	+1.2
	baz=75						
X26A	CR and CF Fran	75.25	333	⇑P	P	04 40 56.2	+1.2
	baz=76						
V30A	Spur Ranch, Mi	75.26	336	⇑P	P	04 40 54.4	-0.5
	baz=76						
U32A	Winter Ranch,	75.28	338	⇓P	P	04 40 55.4	+0.5
	baz=76						
Y24A	Capitan	75.32	332	⇑P	P	04 40 56.5	+1.1
	baz=76						
Z22A	Elephant Butte	75.34	330	⇑P	P	04 40 57.7	+2.1
	baz=76						
W27A	Bowe Ranch, En	75.44	334	⇑P	P	04 40 56.6	+0.6
	baz=76						
ACSO	Alum Creek Sta	75.50	351	eP	P	04 40 55.9	-0.2
	comp=Z,24nm,0.9s						
DBIC	Dimbokro	75.52	71	P	P	04 40 57.1	+0.3
	comp=Z,3.2nm,0.6s,baz=156,slow=5.4,SNR=2.9						
DBIC	Dimbokro	75.52	71	eP	P	04 40 56.9	+0.1
	comp=Z,7.2nm,1.0s						
Y23A	Lovelace Mesa,	75.56	331	⇓P	P	04 40 59.3	+2.5

	baz=76				
T33A	Patterson Ranc	75.70 339	⇑P	P	04 40 57.1 -0.2
	baz=76				
W26A	Owens Ranch, T	75.72 334	⇓P	P	04 40 58.9 +1.2
	baz=76				
V28A	Channing	75.77 335	⇓P	P	04 40 58.7 +0.8
	baz=76				
X24A	Lazy VL Ranch,	75.88 332	⇑P	P	04 41 00.2 +1.5
	baz=76				
V27A	Dan Oppiter Fa	75.98 335	⇓P	P	04 40 59.9 +0.7
	baz=76				
T32A	Huddler Ranch,	76.00 338	⇑P	P	04 40 59.2 +0.1
	baz=76				
W25A	X Bar L Ranch,	76.09 333	⇑P	P	04 41 00.7 +1.0
	baz=76				
T31A	Randall Ranch,	76.15 338	⇑P	P	04 41 00.9 +1.0
	baz=76				
TUC	Tucson	76.16 327	eP	P	04 41 01.7 +1.6
SFIN	Scholer Farm	76.24 348	⇓P	P	04 40 56.8 -3.5
	baz=76				
U28A	Mallet	76.33 335	⇑P	P	04 41 01.7 +0.6
	baz=77				
V26A	Tequesquite Ra	76.36 334	⇓P	P	04 41 01.8 +0.5
	baz=77				
LAZ	Ladron	76.41 331	eP	P	04 41 03.0 +1.3
	comp=Z,2.5nm,1.0s				
W24A	Lazy 6 Ranch,	76.44 332	⇑P	P	04 41 03.1 +1.2
	baz=77				
S32A	Newby Ranch, P	76.48 338	⇑P	P	04 41 01.6 -0.2
	baz=77				
S31A	Mullinville	76.57 338	⇑P	P	04 41 02.4 +0.1
	baz=77				
U27A	Thompson Grove	76.58 335	⇓P	P	04 41 03.1 +0.6
	baz=77				
ANMO	Albuquerque	76.61 332	eP	P	04 41 03.6 +0.8
	comp=Z,9.6nm,1.1s				
W23A	Werner Place,	76.68 332	⇑P	P	04 41 04.6 +1.4
	baz=77				
V25A	Rancho No Teng	76.70 333	⇑P	P	04 41 04.4 +1.1
	baz=77				
T29A	Hugoton	76.73 336	⇓P	P	04 41 03.8 +0.6
	baz=77				
R33A	Olander Ranch,	76.76 339	⇑P	P	04 41 02.9 -0.4
	baz=77				
V24A	Rampart Ranch,	76.84 333	⇑P	P	04 41 05.4 +1.3
	baz=77				
U26A	Atchley Ranch,	76.88 334	⇑P	P	04 41 05.1 +0.8
	baz=77				
S30A	Montezuma	76.90 337	⇑P	P	04 41 04.6 +0.4
	baz=77				
T28A	Walsh	76.97 336	⇓P	P	04 41 05.4 +0.7
	baz=77				
R32A	Long Quarter,	77.08 339	⇓P	P	04 41 05.5 +0.3
	baz=77				
S29A	Ulysses	77.09 337	⇓P	P	04 41 06.1 +0.8
	baz=77				
KSU1	Kansas State U	77.11 341	eP	P	04 41 05.2 -0.1
	comp=Z,13nm,0.9s				
KSU1	Kansas State U	77.11 341	⇓P	P	04 41 04.9 -0.4
	baz=77				
T27A	Campo	77.12 335	⇓P	P	04 41 06.2 +0.6
	baz=77				
U25A	Circle Dot Ran	77.12 334	⇑P	P	04 41 07.0 +1.3
	baz=77				
R31A	Burdett	77.20 338	⇓P	P	04 41 06.0 +0.2
	baz=78				
V23A	Ortiz Mt. (NFS	77.21 332	⇓P	P	04 41 08.1 +1.9
	baz=78				
S28A	Manter	77.32 336	⇑P	P	04 41 07.5 +0.9
	baz=78				
Q33A	Connelly Farm,	77.36 340	⇓P	P	04 41 06.5 -0.2
	baz=78				
R30A	Dighton	77.43 338	⇓P	P	04 41 07.4 +0.2
	baz=78				
U24A	Moreno Valley	77.45 333	⇓P	P	04 41 09.0 +1.4
	baz=78				
Q32A	Meitler Ranch,	77.56 339	⇓P	P	04 41 07.8 0.0
	baz=78				
V22A	San Miguel Ran	77.64 332	⇑P	P	04 41 10.2 +1.6
	baz=78				
X18A	Snowflake	77.68 329	⇑P	P	04 41 10.8 +2.0
	baz=78				
U23A	El Rito	77.72 332	⇓P	P	04 41 10.8 +1.7
	baz=78				
T25A	Trinidad	77.78 334	⇓P	P	04 41 10.9 +1.5
	baz=78,SNR=6.0				
Q31A	Ellis	77.82 339	⇑P	P	04 41 09.6 +0.3
	baz=78				
R29A	Marienthal	77.83 337	⇓P	P	04 41 10.0 +0.6
	baz=78				
S26A	Kim	77.88 335	⇓P	P	04 41 10.8 +1.0
	baz=78,SNR=6.4				
R28A	Tribune	77.97 336	⇓P	P	04 41 10.9 +0.7
	baz=78,SNR=5.4				
U22A	Llaves	78.02 332	⇑P	P	04 41 12.8 +2.1
	baz=78				
Q30A	Quinter	78.05 338	⇑P	P	04 41 10.4 -0.2
	baz=78				
T24B	San Luis	78.07 333	⇓P	P	04 41 12.3 +1.3
	baz=78				
P32A	Huiting Farm,	78.16 339	⇓P	P	04 41 10.8 -0.3
	baz=78				
X16A	Lo Mia Camp, P	78.23 328	⇑P	P	04 41 14.2 +2.3
	baz=78				
R27A	Eads	78.25 336	⇑P	P	04 41 12.4 +0.6
	baz=78,SNR=6.6				
S25A	Robets Cordova	78.26 334	⇑P	P	04 41 13.5 +1.6
	baz=78				
T23A	Casias Ranch,	78.29 333	⇓P	P	04 41 13.9 +1.7
	baz=79				
P31A	Stockton	78.29 339	⇑P	P	04 41 12.2 +0.3
	baz=78				
R26A	Arlington	78.48 335	⇑P	P	04 41 14.5 +1.4
	baz=79				
S24A	Houchin Ranch,	78.52 334	⇑P	P	04 41 15.2 +1.7
	baz=79,SNR=6.8				
Y14A	Wickenburg	78.53 326	⇑P	P	04 41 15.6 +2.2
	baz=79				
P30A	Selden	78.57 338	⇑P	P	04 41 13.7 +0.2
	baz=79				
MDV	Middlebury	78.59 359	eP	P	04 41 13.3 0.0
Q28A	Sharon Springs	78.63 337	⇑P	P	04 41 14.6 +0.8
	baz=79				
R25A	Fountain Ranch	78.64 335	⇑P	P	04 41 14.8 +0.8
	baz=79				
O32A	Brockman Farm,	78.66 340	⇓P	P	04 41 13.8 -0.1
	baz=79				
SDCO	Great Sand Dun	78.72 334	eP	P	04 41 15.2 +0.6
	comp=Z,5.3nm,0.9s				
P29A	Atwood	78.84 338	⇑P	P	04 41 15.5 +0.6
	baz=79				
KSCO	Kaye Shedlock'	78.85 336	⇓P	P	04 41 16.0 +0.9
	baz=79				
S23A	Nye Farm, Mont	78.87 333	⇓P	P	04 41 17.1 +1.7
	baz=79				
TSUM	Tsumeb	78.98 106	eP	P	04 41 17.4 +0.9
	comp=Z,9.3nm,1.2s				
R24A	Sanders Place,	79.00 334	⇑P	P	04 41 17.9 +1.8
	baz=79,SNR=8.7				
CASY	Casey	79.06 181	eP	P	04 41 19.3 +3.4
	comp=Z,23nm,1.0s				
Q26A	Hugo	79.07 336	⇓P	P	04 41 17.4 +1.1
	baz=79				
P28A	Saint Francis	79.07 337	⇑P	P	04 41 17.0 +0.8
	baz=79				
Y12C	Blythe	79.08 325	⇓P	P	04 41 21.1 +4.8
	baz=79				
O30A	MW Ranch, Wils	79.10 339	⇓P	P	04 41 16.9 +0.5
	baz=79				
WUAZ	Wupatki	79.13 328	⇓P	P	04 41 19.2 +2.4
	baz=79				
S22A	4UR Ranch, Cre	79.21 333	⇓P	P	04 41 18.9 +1.5
	baz=80				
R23A	Moffat	79.23 334	⇓P	P	04 41 18.6 +1.2
	baz=80				
JFWS	Jewell Farm	79.27 347	eP	P	04 41 17.6 +0.5
	comp=Z,98nm,1.8s				
Q25A	Bedland, Calha	79.31 335	⇓P	P	04 41 18.5 +0.8
	baz=80				
P27A	Ficken Ranch,	79.32 336	⇑P	P	04 41 17.8 +0.2
	baz=80				
MVCO	Mesa Verde	79.39 331	eP	P	04 41 19.9 +1.6
	comp=Z,11nm,1.0s				
MVCO	Mesa Verde	79.39 331	⇓P	P	04 41 20.0 +1.7
	baz=80				
O28A	Krutsinger Ran	79.58 337	⇓P	P	04 41 19.7 +0.7
	baz=80				
P26A	Davis Ranch, A	79.58 336	⇓P	P	04 41 19.9 +0.8
	baz=80				
BOSA	Boshof	79.65 118	P	P	04 41 21.2 +1.2
	comp=Z,14nm,0.8s,baz=230,slow=3.7,SNR=9.2				
Q24A	Divide	79.67 334	⇑P	P	04 41 21.1 +1.3
	baz=80,SNR=5.1				
BGNE	Belgrade	79.69 340	eP	P	04 41 19.5 0.0
BGNE	Belgrade	79.69 340	⇑P	P	04 41 18.7 -0.7
	baz=80				
P25A	Willow Gulch B	79.82 335	⇓P	P	04 41 21.9 +1.4
	baz=80				
M31A	Lambtecht Ranc	79.86 340	⇑P	P	04 41 20.6 +0.2
	baz=80				
N29A	Votaw Ranch, W	79.86 338	⇓P	P	04 41 19.9 -0.6
	baz=80				
O27A	Beecher Island	79.86 337	⇓P	P	04 41 22.1 +1.5
	baz=80				
W13A	Hualapai Mount	79.90 326	⇑P	P	04 41 23.4 +2.4
	baz=80				
N28A	Pribbeno Ranch	80.02 338	⇓P	P	04 41 22.4 +1.0
	baz=80				
PV01	Paradox Valley	80.22 332	eP	P	04 41 23.6 +0.9
	comp=Z,778nm,1.3s				
U15A	North Rim	80.30 328	⇑P	P	04 41 25.8 +2.6
	baz=81				
O25A	Wiggins	80.34 336	⇑P	P	04 41 24.7 +1.5
	baz=81				
N27A	Anderson Farm,	80.44 337	⇓P	P	04 41 24.2 +0.5
	baz=81				
LDFC	Landfair	80.44 325	eP	P	04 41 26.2 +2.4
	comp=Z,22nm,1.1s				
GMRC	Granite Mounta	80.46 325	⇑P	P	04 41 26.2 +2.3
	baz=81				
SMCO	Snowmass	80.52 333	eP	P	04 41 26.3 +1.8
	comp=Z,14nm,1.1s				
ISCO	Idaho Springs	80.58 334	eP	P	04 41 26.1 +1.4
	comp=Z,14nm,1.4s				
ISCO	Idaho Springs	80.58 334	⇓P	P	04 41 25.6 +0.9
	baz=81				
L31A	Butterfield Fa	80.59 340	⇑P	P	04 41 25.2 +0.9
	baz=81				
L30A	Spencer Herefo	80.63 339	⇑P	P	04 41 24.0 -0.6
	baz=81				
P22A	Eagle	80.81 334	⇑P	P	04 41 27.2 +1.4
	baz=81				
O23A	Lake Granby, G	81.05 334	⇑P	P	04 41 28.8 +1.6
	baz=81				
O22A	Kremmling	81.23 334	⇓P	P	04 41 29.2 +1.0
	baz=82				
N24A	Carr	81.24 335	⇑P	P	04 41 29.4 +1.4
	baz=82				
K30A	Basset	81.27 340	⇑P	P	04 41 28.5 +0.6
	baz=82				
DECC	Green Verdugo	81.32 323	⇑P	P	04 41 33.9 +5.4
	baz=82				
ECSD	EROS Data Cent	81.45 342	eP	P	04 41 28.5 -0.4
	comp=Z,26nm,0.9s				
ECSD	EROS Data Cent	81.45 342	⇓P	P	04 41 28.6 -0.2
	baz=82				
K29A	Lazy Trails An	81.55 339	⇓P	P	04 41 30.2 +0.7
	baz=82				
SHPR	Sheep Range	81.64 326	eP	P	04 41 32.4 +2.2
N23A	Red Feather La	81.67 335	⇓P	P	04 41 31.8 +1.4
	baz=82				
CCUT	Cedar City	81.70 328	eP	P	04 41 33.1 +2.4
N22A	Wattenberg Ran	81.76 334	⇓P	P	04 41 32.5 +1.6
	baz=82				
M24A	Cheyenne	81.79 336	⇑P	P	04 41 32.4 +1.5
	baz=82				
OSI	Osito Adit	81.81 323	⇑P	P	04 41 36.5 +5.5
	baz=82				
K28A	Ten Mile Ranch	81.81 339	⇓P	P	04 41 31.8 +0.9
	baz=82				
O20A	White River Ci	81.83 333	eP	P	04 41 32.5 +1.3
O20A	White River Ci	81.83 333	⇓P	P	04 41 32.7 +1.5
	baz=82				
SRU	San Rafael	81.83 331	eP	P	04 41 32.4 +1.2
PHWY	Pilot Hill	81.86 335	eP	P	04 41 32.6 +1.2
SPMN	St. Paul	82.00 345	eP	P	04 41 30.6 -1.0
SPMN	St. Paul	82.00 345	⇓P	P	04 41 30.2 -1.4
	baz=82				
MVU	Marysvale	82.01 329	eP	P	04 41 34.0 +1.7
L25A	Engebretsen Ra	82.12 337	⇑P	P	04 41 33.3 +0.7
	baz=82				
J29A	Okreek	82.14 340	⇑P	P	04 41 32.9 +0.4
	baz=82,SNR=11				
TMUT	Trail Mountain	82.27 330	eP	P	04 41 35.7 +2.0
M22A	Cedar Creek Ra	82.34 335	⇓P	P	04 41 35.6 +1.6
	baz=83				
I30A	Oacoma	82.36 340	⇑P	P	04 41 33.4 -0.3
	baz=83				
K26A	Motz Farm, Whi	82.36 337	⇑P	P	04 41 33.7 -0.1
	baz=83				
J28A	Allard Ranch,	82.42 339	⇑P	P	04 41 34.4 +0.4
	baz=83,SNR=6.4				
N20A	Spence Gulch,	82.45 333	⇑P	P	04 41 35.6 +1.1
	baz=83				
J27A	Elkhorn Farm,	82.50 338	⇓P	P	04 41 35.8 +1.3
	baz=83,SNR=7.2				
L23A	Garrett	82.66 335	⇑P	P	04 41 36.3 +0.7
	baz=83				
I29A	Vivian Onida	82.70 340	⇑P	P	04 41 35.4 0.0
	baz=83				
BRSD	Miller	82.72 341	eP	P	04 41 35.8 +0.3
L22A	Ellis Ranch, M	82.84 335	⇓P	P	04 41 38.0 +1.5
	baz=83				
J26A	Sides Ranch, S	82.88 338	⇓P	P	04 41 37.8 +1.4
	baz=83				
I28A	Midland	82.93 339	⇓P	P	04 41 37.4 +0.8
	baz=83,SNR=8.4				
MPU	Maple Canyon	83.05 330	eP	P	04 41 39.2 +1.6
NLU	North Lily Min	83.18 330	eP	P	04 41 40.0 +1.8
K23A	Bowen Ranch, D	83.21 336	⇑P	P	04 41 39.3 +1.0
	baz=84				
H29A	Onida	83.23 340	⇑P	P	04 41 38.3 +0.1
	baz=84,SNR=11				
DAU	Daniels Canyon	83.24 331	eP	P	04 41 40.2 +1.6
I27A	Quinn	83.25 339	⇓P	P	04 41 38.8 +0.4
	baz=84				
R11A	Troy Canyon, C	83.34 327	eP	P	04 41 40.1 +1.8
R11A	Troy Canyon, C	83.34 327	⇑P	P	04 41 41.5 +2.4
	baz=84				
G30A	Faulkton	83.41 341	⇑P	P	04 41 38.9 -0.2
	baz=84				
K22A	Casper	83.42 335	eP	P	04 41 39.8 +0.5
	comp=Z,43nm,1.5s				
K22A	Casper	83.42 335	⇑P	P	04 41 40.7 +1.3
	baz=84				
I26A	New Underwood	83.46 338	⇑P	P	04 41 39.8 +0.3
	baz=84				
JLU	Jordanelle	83.48 331	eP	P	04 41 41.2 +1.4
H28A	Mission Ridge	83.51 340	⇑P	P	04 41 39.7 +0.1
	baz=84				
K21A	Alcova	83.66 335	⇓P	P	04 41 41.6 +0.9
	baz=84,SNR=5.5				
G29A	Hoven	83.68 341	⇑P	P	04 41 40.5 +0.1
	baz=84				
DUG	Dugway	83.69 330	eP	P	04 41 42.4 +1.6
	comp=Z,14nm,1.2s				
DUG	Dugway	83.69 330	⇓P	P	04 41 43.3 +2.5
	baz=84				
I25A	Rochford	83.72 338	⇑P	P	04 41 41.9 +1.0
	baz=84				
H27A	Howes	83.78 339	⇓P	P	04 41 41.4 +0.4
	baz=84,SNR=6.8				
G28A	Parade	83.84 340	⇑P	P	04 41 41.8 +0.5
	baz=84,SNR=6.8				
TPH	Tonopah	83.87 326	eP	P	04 41 43.7 +1.9
	comp=Z,9.2nm,1.1s				
RSSD	Black Hills	83.91 337	eP	P	04 41 42.4 +0.4
	comp=Z,5.9nm,1.0s				
F30A	Leola	84.03 341	⇑P	P	04 41 42.1 -0.1
	baz=84				
J22A	Midwest	84.08 336	⇑P	P	04 41 43.1 +0.4
	baz=84				
H25A	Fruitdale	84.22 338	⇓P	P	04 41 43.1 -0.2
	baz=84				
F29A	Eureka	84.24 341	⇑P	P	04 41 43.1 -0.2
	baz=84,SNR=7.5				
J21A	Lysite	84.35 335	⇑P	P	04 41 45.4 +1.3
	baz=85				
HWUT	Hardware Ranch	84.38 331	eP	P	04 41 44.6 +0.3
	comp=Z,15nm,1.2s				
BGU	Big Grassy Mou	84.39 330	eP	P	04 41 46.0 +1.6
	comp=Z,7.3nm,1.5s				
G27A	Dupree	84.41 339	⇓P	P	04 41 44.0 -0.2
	baz=85				
I22A	9 Mile Ranch,	84.50 336	⇓P	P	04 41 45.6 +0.8
	baz=85				
F28A	McLaughlin	84.52 340	⇑P	P	04 41 44.8 +0.1
	baz=85,SNR=7.9				
G26A	Maurine	84.53 339	⇓P	P	04 41 45.1 +0.3
	baz=85				
TOA0	Torodi Ar. Sit	84.57 70	eP	P	04 41 45.7 +0.1
TORD	Torodi Ar. Bea	84.57 70	P	P	04 41 46.1 +0.5
	comp=Z,4.7nm,1.0s,baz=246,slow=4.7,SNR=8.8				
J20A	Shoshoni	84.58 334	⇑P	P	04 41 46.6 +1.3
	baz=85				
PDAR	Pinedale Array	84.61 333	P	P	04 41 45.6 +0.1
	comp=Z,4.3nm,1.0s,baz=154,slow=4.6,SNR=11				
E30A	Jud	84.62 342	⇑P	P	04 41 44.6 -0.6
	baz=85				
H24A	Dirks Ranch, A	84.64 337	⇓P	P	04 41 45.8 +0.3
	baz=85				
NVAR	Mina Array Bea	84.66 325	P	P	04 41 47.2 +1.4
	comp=Z,2.4nm,0.8s,baz=155,slow=6.5,SNR=8.9				
G25A	Newell	84.69 338	⇓P	P	04 41 45.4 -0.2
	baz=85				
I21A	Big Trails, Te	84.71 335	⇓P	P	04 41 46.3 +0.4
	baz=85,SNR=7.2				
J19A	Crowheart	84.85 334	⇑P	P	04 41 47.5 +0.8
	baz=85,SNR=6.4				
E29A	Napoleon	84.87 341	⇑P	P	04 41 45.7 -0.8
	baz=85				
F27A	Lemmon	84.89 340	⇑P	P	04 41 46.3 -0.3
	baz=85				
HVU	Hansel Valley	85.00 331	eP	P	04 41 47.6 +0.2
	comp=Z,6.9nm,0.8s				
F26A	Lodgepole	85.06 339	⇑P	P	04 41 47.9 +0.4
	baz=85				
H22A	Clearmont	85.08 336	⇓P	P	04 41 48.1 +0.4
	baz=85				
I20A	Worland	85.12 335	⇑P	P	04 41 48.5 +0.6
	baz=85				
D30A	Buchanan	85.14 342	⇓P	P	04 41 47.7 -0.1
	baz=85,SNR=7.9				
ELK	Elko	85.17 329	eP	P	04 41 50.2 +1.9
E27A	Carson	85.27 340	⇑P	P	04 41 48.1 -0.4
	baz=86				
G23A	Biddle	85.31 337	⇑P	P	04 41 49.0 +0.3
	baz=86				
D29A	Pettibone, Tap	85.31 342	⇓P	P	04 41 48.0 -0.7
	baz=86				
F25A	Bowman	85.36 339	⇓P	P	04 41 48.7 -0.3
	baz=86				
I19A	Meeteetse	85.50 334	⇓P	P	04 41 51.0 +1.1
	baz=86				
H20A	Greybull	85.55 335	⇑P	P	04 41 50.1 +0.1
	baz=86,SNR=9.7				
E26A	Carlson Angus	85.56 339	⇓P	P	04 41 49.5 -0.5
	baz=86				
AGMN	Agassiz Nation	85.57 344	eP	P	04 41 50.1 +0.2
AGMN	Agassiz Nation	85.57 344	⇑P	P	04 41 48.7 -1.2
	baz=86				
F24A	Ekalaka	85.59 338	⇑P	P	04 41 50.7 +0.6
	baz=86				
REDW	Red Top Meadow	85.60 333	eP	P	04 41 52.6 +2.1
G22A	Birney	85.61 337	⇑P	P	04 41 51.0 +0.7
	baz=86				
C30A	Mose, Pekin	85.63 342	⇓P	P	04 41 50.2 0.0
	baz=86,SNR=6.2				
D28A	Regan	85.69 341	⇓P	P	04 41 50.6 +0.1
	baz=86				
LOHW	Long Hollow	85.72 333	eP	P	04 41 51.8 +0.8
TPAW	Teton Pass	85.75 333	eP	P	04 41 52.2 +1.0
F23A	Volborg	85.78 337	⇓P	P	04 41 51.0 -0.1
	baz=86,SNR=6.3				
E25A	Miller Ranch,	85.86 339	⇓P	P	04 41 51.4 -0.1
	baz=86				
G21A	Lodge Grass	85.92 336	⇓P	P	04 41 52.3 +0.4
	baz=86				
I17A	Pilgrim Ck.	85.98 333	⇑P	P	04 41 53.8 +1.5
	baz=86				
H19A	Powell	86.05 335	⇓P	P	04 41 53.4 +0.8
	baz=86				
D26A	Manning	86.06 340	⇓P	P	04 41 51.8 -0.6
	baz=86				
F22A	Rosebud	86.10 337	⇑P	P	04 41 52.9 +0.2
	baz=86,SNR=6.7				
E24A	Baker	86.19 338	⇑P	P	04 41 52.5 -0.6
	baz=86				
G20A	Bridger	86.26 335	⇑P	P	04 41 53.9 +0.3
	baz=86,SNR=8.5				
B30A	Myrvik Farm, E	86.29 343	⇑P	P	04 41 53.0 -0.4
	baz=86,SNR=7.6				
H18A	Shoshone NF, C	86.30 334	⇑P	P	04 41 54.3 +0.4
	baz=87,SNR=9.2				
H17A	Grant Village	86.38 333	⇓P	P	04 41 55.4 +1.1
	baz=87				
C27A	Sayler Ranch,	86.42 341	⇓P	P	04 41 53.7 -0.5
	baz=87				
D25A	Fairfield	86.43 339	⇓P	P	04 41 54.6 +0.4
	baz=87				
E23A	Ismay	86.44 338	⇑P	P	04 41 53.7 -0.6
	baz=87				
RLMT	Red Lodge	86.54 335	eP	P	04 41 55.6 +0.5
	comp=Z,7.4nm,0.7s				
B29A	Wagenman Farm,	86.55 342	⇑P	P	04 41 54.1 -0.6
	baz=87				
E22A	Miles City	86.59 337	⇑P	P	04 41 55.2 +0.1
	baz=87				
C26A	Wahner Farm, P	86.69 340	⇓P	P	04 41 55.3 -0.2
	baz=87				
D24A	Glendive	86.69 339	⇑P	P	04 41 55.2 -0.3
	baz=87				
A30A	Hoffart Farm,	86.74 343	⇑P	P	04 41 54.6 -1.0
	baz=87				
F20A	Billings	86.75 336	⇓P	P	04 41 56.8 +0.9
	baz=87				
YMR	Madison River	86.76 333	eP	P	04 41 57.8 +1.6
B28A	Dugan Ranch, T	86.80 342	⇓P	P	04 41 55.9 -0.1
	baz=87				
LAO	LASA Array	86.90 337	eP	P	04 41 57.2 +0.7
C25A	Freed Ranch, W	86.92 340	⇓P	P	04 41 57.0 +0.4
	baz=87				
A29A	Manning Farm,	86.95 342	⇑P	P	04 41 55.5 -1.2
	baz=87				
D23A	Lindsay	87.01 338	⇑P	P	04 41 57.8 +0.7
	baz=87				
E21A	Keefer Ranch,	87.04 337	⇓P	P	04 41 57.6 +0.4
	baz=87				
F19A	Roth Farm, Mol	87.06 335	⇑P	P	04 41 57.8 +0.4
	baz=87				
QLMT	Earthquake Lak	87.07 333	eP	P	04 41 59.1 +1.4
C24A	Savage	87.09 339	⇓P	P	04 41 57.6 +0.1
	baz=87,SNR=13				
HLID	Hailey	87.16 331	eP	P	04 41 59.3 +1.3
HLID	Hailey	87.16 331	⇓P	P	04 41 59.8 +1.8
	baz=87				
A28A	Rude Farm, Bot	87.20 342	⇓P	P	04 41 57.7 -0.2
	baz=87				
D22A	Cohagen	87.29 337	⇓P	P	04 41 59.1 +0.6
	baz=88				
E20A	Meyer Farm, Mu	87.36 336	⇓P	P	04 41 59.2 +0.4
	baz=88,SNR=13				
ULM	Lac du Bonnet	87.42 345	P	P	04 41 58.3 -0.6
	comp=Z,9.7nm,1.0s,baz=193,slow=4.1,SNR=9.0				
ULM	Lac du Bonnet	87.42 345	eP	P	04 41 58.0 -0.9
	comp=Z,8.5nm,1.0s				
D21A	La Casta Ranch	87.48 337	⇑P	P	04 41 60.0 +0.6
	baz=88,SNR=6.3				
A27A	Ledoux Ranch,	87.49 341	⇓P	P	04 41 59.5 +0.2
	baz=88				
E19A	Rath Farm, Rou	87.54 336	⇑P	P	04 42 00.2 +0.5
	baz=88,SNR=11				
C23A	Lambert	87.57 338	⇑P	P	04 42 00.2 +0.4
	baz=88,SNR=12				
MCMT	McKenzie Canyo	87.60 332	eP	P	04 42 01.5 +1.2
	comp=Z,6.9nm,1.2s				
MFID	Camas Ranch	87.61 330	eP	P	04 42 01.6 +1.4
A26A	Wade Farm, Ken	87.65 341	⇓P	P	04 42 00.2 +0.1
	baz=88				
C22A	Vida	87.73 338	⇑P	P	04 42 00.5 -0.1
	baz=88				
BOZ	Bozeman (W)	87.84 333	eP	P	04 42 01.9 +0.6
D20A	Manuel Ranch,	87.87 336	⇓P	P	04 42 01.8 +0.5
	baz=88,SNR=12				
DGMT	Dagmar	87.87 339	eP	P	04 42 01.7 +0.5
DGMT	Dagmar	87.87 339	⇓P	P	04 42 01.5 +0.3
	baz=88,SNR=8.8				
A25A	Svangstu Ranch	87.99 340	⇓P	P	04 42 01.6 -0.1
	baz=88				
B23A	Brockton	88.10 339	⇓P	P	04 42 01.9 -0.3
	baz=88				
C21A	Desert Coulee	88.18 337	⇓P	P	04 42 03.2 +0.5
	baz=88,SNR=8.9				
D19A	Cripps Ranch,	88.18 336	⇑P	P	04 42 03.2 +0.5

baz=88
A24A Westby 88.22 340 ⇑P P 04 42 03.0 +0.2
baz=88
LRM Limekiln Ridge 88.29 333 eP P 04 42 04.9 +1.4
C20A Veseth Ranch, 88.37 337 ⇓P P 04 42 03.9 +0.3
baz=89
B21A Ellsworth Farm 88.69 338 ⇑P P 04 42 05.7 +0.6
baz=89
C19A Slack Wire Ran 88.73 336 ⇑P P 04 42 05.6 +0.3
baz=89
N02D Trinity Center 88.75 324 ⇑P P 04 42 07.1 +1.5
baz=89
A22A Carney Farms, 88.85 338 ⇓P P 04 42 05.9 +0.1
baz=89
M04C Macdoel 88.96 325 ⇓P P 04 42 08.2 +1.5
baz=89
B20A Solberg Farm, 89.01 337 ⇑P P 04 42 06.8 +0.2
baz=89
A21A Bergtoll Ranch 89.16 338 ⇓P P 04 42 07.1 -0.1
baz=89
EGMT Eagleton 89.22 336 ⇓P P 04 42 08.0 +0.4
baz=90
B19A Brinkman Farms 89.33 336 ⇑P P 04 42 07.8 -0.3
baz=90
A20A Cobblestone Ra 89.37 337 ⇑P P 04 42 08.6 +0.3
baz=90
LSZ Lusaka 89.53 108 eP P 04 42 10.9 +0.9
comp=Z,4.2nm,0.8s
SCHQ Schefferville 89.55 3 P P 04 42 10.3 +1.4
comp=Z,2.0nm,0.8s,baz=203,slow=7.5,SNR=4.3
A19A Klindworth Far 89.67 337 ⇑P P 04 42 09.1 -0.6
baz=90
J05D Fort Rock, OR 89.86 326 ⇑P P 04 42 13.3 +2.5
baz=90
J04D Umpqua Nationa 90.22 326 ⇑P P 04 42 14.5 +1.9
baz=90
I05D Terrebonne, OR 90.73 327 ⇓P P 04 42 17.4 +2.6
baz=91
TAM Tamanrasset 93.27 65 eP P 04 42 27.7 +0.6
YKA Yellowknife Ar 102.96 341 P Pdif 04 43 08.8 -0.7
comp=Z,0.4nm,0.7s,baz=142,slow=4.1,SNR=6.4
BUR08 Bucovina Ar. S 119.38 50 ePKPdf PKPdf 04 48 01.4 +0.3
WRA Warramunga Arr 119.91 209 PKP PKPdf 04 48 02.6 -0.3
comp=Z,0.7nm,0.4s,baz=157,slow=1.7,SNR=9.8
BR131 Keskin Array S 122.32 61 ePKPdf PKPdf 04 48 05.3 -1.8
BRTR Keskin Array B 122.32 61 PKP PKPdf 04 48 08.0 +0.9
comp=Z,1.4nm,0.9s,baz=185,slow=4.3,SNR=6.7
AKASG Malin Array Be 122.86 48 PKhKP PKPpre 04 48 05.2
comp=Z,0.9nm,0.7s,baz=255,slow=3.0,SNR=4.5
ARCES ARCESS Array B 124.90 25 PKP PKPdf 04 48 10.4 -0.5
comp=Z,2.2nm,0.8s,baz=263,slow=3.6,SNR=2.9
H11S2 WAKE ISLAND Hy 125.72 268 T T 07 06 34.5
baz=83
H11S1 WAKE ISLAND Hy 125.73 268 T T 07 06 31.0
baz=83
H11S3 WAKE ISLAND Hy 125.74 268 T T 07 06 36.0
baz=83
H11N3 WAKE ISLAND Hy 126.16 270 T T 07 07 02.9
baz=115,slow=78,SNR=36
H11N1 WAKE ISLAND Hy 126.17 270 T T 07 07 02.6
baz=115,slow=78,SNR=62
H11N2 WAKE ISLAND Hy 126.17 270 T T 07 07 05.7
baz=115,slow=78,SNR=37
ARU Arti 140.49 41 ePKPdf PKPdf 04 48 41.5 +0.9
SEY Seymchan 140.85 330 PKP PKPdf 04 48 41.2 +0.2
comp=Z,2.9nm,0.8s,baz=345,slow=0.5,SNR=5.3
ABKAR Akbulak array 142.29 53 ePKPdf PKPdf 04 48 40.1 -3.9
PALK Pallekele 142.78 131 ePKPdf PKPdf 04 48 43.1 -2.9
KSM Kuching 146.61 184 ePKPbc PKPbc 04 48 54.7 +0.5
BRVK Borovoye 147.93 44 ePKPbc PKPbc 04 48 57.6 +1.0
HYB Hyderabad 148.54 116 i PKP PKPbc 04 49 00.0 +0.6
IPM Ipoh 149.00 167 ePKPbc PKPbc 04 49 01.4 +0.7
YAK Yakutsk 149.62 340 ePKPbc PKPbc 04 49 01.3 +0.6
KULM Kulim 149.72 166 ePKPbc PKPbc 04 49 03.8 +1.4
KKM Kota Kinabalu 150.22 197 ePKPbc PKPbc 04 49 05.1 +1.3
YSS Yuzh-Sakhalins 151.33 305 ePKPbc PKPbc 04 49 06.4 +1.2
EKS2 Erkin-Say 152.44 64 ePKPdf PKPdf 04 49 01.3 0.0
EKS2 ePKPbc PKPbc 04 49 08.2 +0.1
EKS2 ePKPab PKiKP 04 49 13.3 +4.9
AAK Ala-Archa 152.97 63 ePKPdf PKPdf 04 49 03.8 +1.7
AAK ePKPbc PKiKP 04 49 10.6 +1.1
KURK Kurchatov 153.59 44 ePKPbc PKPbc 04 49 11.0 +0.8
KURK ePKPab PKPab 04 49 22.9 +0.1
KSH Kashi 154.24 70 ePKPbc PKPdf 04 48 54.0 -10
KSH epPKP PKPbc 04 49 04.5 -7.7
KSH esPKP 04 49 08.3
KSH eSKS SKSdf 04 55 58.5 -10
KSH eSKKS SKKSac 04 59 29.3 -20
KSH eSS SS 05 12 08.5 -31
KSH AMB AMB
comp=Z,44nm,4.8s
KSH LR LR
comp=Z,44nm,5.0s
ZAA0 Zalesovo Array 155.05 33 ePKPdf PKPdf 04 49 04.8 +0.5
ZAA0 ePKPbc 04 49 13.7
ZAA0 ePKPab PKPab 04 49 27.6 -1.3
ZALV Zalesovo Beam 155.05 33 PKP PKPdf 04 49 05.4 +1.1
comp=Z,1.6nm,0.7s,baz=241,slow=3.0,SNR=4.8
MKAR Makanchi Array 157.41 51 PKP PKPdf 04 49 08.3 +0.5
comp=Z,1.2nm,0.9s,baz=274,slow=4.2,SNR=5.7
MKAR PKPab PKPab 04 49 39.2 -0.2
comp=Z,0.8nm,0.7s,baz=298,slow=3.1,SNR=4.3
WMQ Urumqi 162.07 54 ePKP PKPdf 04 49 07.8 -5.4
WMQ AMB AMB
comp=Z,100nm,9.4s
WMQ LR LR
comp=Z,150nm,23.2s
WMQ LR LR
comp=Z,190nm,21.4s
WMQ LR LR
comp=Z,160nm,21.6s
CN2 Changchun 163.85 308 ePKP PKPdf 04 49 12.0 -2.8
SONM Songino Array 167.09 5 PKP PKPdf 04 49 15.8 -1.8
comp=Z,0.4nm,0.7s,baz=315,slow=1.0,SNR=2.6
SONM PKPab PKPab 04 50 22.2 +0.5
comp=Z,1.0nm,0.8s,baz=340,slow=5.2,SNR=4.5
ULN Ulaanbaatar 167.09 3 ePKPab PKPab 04 50 22.6 +0.8
KMI Kunming 169.22 154 PKP PKPdf 04 49 16.0 -3.9
NJ2 Nanjing 170.42 255 ePKP PKPdf 04 49 15.8 -4.2
GYA Guiyang 171.45 172 ePKP PKPdf 04 49 15.8 -5.1
GYA pPKP pPKPdf 04 49 27.0 -3.6
GYA PKPab PKPab 04 50 38.5 -3.0
GYA PKS PKSdf 04 52 47.5 -6.0
GYA PP PP 04 54 28.0 -3.3
GYA SKKS 05 01 10.3
GYA SS SS 05 15 27.0 -8.1
GYA AMB AMB
comp=Z,120nm,8.4s
GYA LR LR
comp=Z,120nm,21.2s
GYA LR LR
comp=Z,110nm,21.6s
GYA LR LR
comp=Z,120nm,24.3s
GTA Gaotai 172.15 53 ePKP PKPdf 04 49 17.5 -3.4
GTA pPKP pPKPdf 04 49 28.0 -2.5
GTA sPKP 04 49 31.5
GTA PKPab PKPab 04 50 36.3 -8.3
HHC Hu-ho-hao-te 173.46 335 ePKP PKPdf 04 49 17.8 -3.5
HHC pPKP pPKPdf 04 49 29.5 -1.5
HHC sPKP 04 49 32.0
HHC PP PP 04 54 44.0 +2.5
HHC SKKS 05 01 24.5
HHC SS SS 05 15 56.8 +1.6
HHC AMB AMB
comp=Z,190nm,6.0s
HHC LR LR
comp=Z,220nm,19.6s
HHC LR LR
comp=Z,190nm,21.5s
HHC LR LR
comp=Z,150nm,19.9s
CD2 Chengdu 174.65 138 PKP PKPdf 04 49 17.3 -4.7
CD2 pPKP pPKPdf 04 49 28.5 -3.1
CD2 sPKP 04 49 32.5
CD2 PKS PKSdf 04 52 48.0 -6.3
CD2 PP PP 04 54 39.5 -8.2
CD2 SKS SKSdf 04 56 15.0 -8.1
CD2 SKKS SKKSac 05 01 21.0 -11
CD2 SS SS 05 15 48.0 -20
CD2 AMB AMB
comp=Z,200nm,6.4s
LZH Lanzhou 176.49 70 ePKP PKPdf 04 49 18.0 -4.4
LZH pPKP pPKPdf 04 49 28.5 -3.6
LZH sPKP 04 49 32.5

XAN Xi'an 178.76 222 PKP PKPdf 04 49 24.8 +2.1

NIED 28 04:30:00, 26.00N×128.60E, h14km, Mw4.3 Best double couple: Mo3.30000×10¹⁵ NP1:φs215.00000°, δ36.00000°, λ77.00000°. NP2:φs51.00000°, δ55.00000°, λ99.00000°.
IDC 28 04:30:31.2±1.1, 26.00N×128.29E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/41, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=42.9km s-min=20.3km az=87.0
ISCJB 28 04:30:32.8±0.6, 26.00N±0.04×128.63E±0.04, h27km, mb3.9/10, Error ellipse: s-maj=6.4km s-min=5.3km az=175.4
JMA 28 04:30:33.3±0.3, 26.00N×128.64E, h30km, M3.5
NEIC 28 04:30:35.8±0.7, 26.01N×128.20E, h35km, mb4.3/5, Error ellipse: s-maj=17.5km s-min=9.7km az=128.0
ISC 28 04:30:34.6±0.7, 26.01N±0.06×128.53E±0.05, h27km, n31, σ1.01/34, mb4.0/10, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.68 318 P Pb 04 30 47.3 -0.6
JNTH S Sn 04 30 58.0 -0.3
JJT2 Tamagusuku 2 0.72 281 P Pb 04 30 48.7 -0.2
JJT2 S Sn 04 30 59.5 +0.5
JOW Kunigami 0.85 344 P Pb 04 30 49.9 -0.9
JOW Kunigami 0.85 344 Pn Pb 04 30 50.1 -0.7
32nm,0.3s,baz=146,slow=17,SNR=149
JIH Iheya 1.14 334 P Pn 04 30 54.5 -0.3
JIH eS Sb 04 31 09.5 -0.6
JAGN Aguni-jima 1.29 297 P Pn 04 30 57.0 +0.1
JOKE Okinoerabujima 1.35 1 P Pn 04 30 57.0 -0.7
JKE Kume jima 2 1.60 282 P Pn 04 31 00.7 -0.4
JKE eS Sn 04 31 20.3 -0.6
JTK Tokunoshima 1.81 12 P Pn 04 31 03.5 -0.5
JAMN Amaminishikomi 2.30 14 P Pn 04 31 10.3 -0.4
JMZ Minamidaito 2 2.43 94 P Pn 04 31 10.8 -1.7
JAM Amami Oshima 2.58 22 eS Sn 04 31 43.1 -1.9
YULB Yu-li 7.08 250 ePn Pn 04 32 10.8 -5.6
SSLB Suanglung 7.23 254 ePn Pn 04 32 15.2 -3.3
JNU Nakatsue 7.38 16 Pn Pn 04 32 21.7 +1.2
1.0nm,0.3s,baz=247,slow=2.4,SNR=7.9
JNU Sn Sn 04 33 43.4 0.0
0.3nm,0.3s,baz=303,slow=17,SNR=2.2
JNU Nakatsue 7.38 16 ePn Pn 04 32 20.6 0.0
JNU Sn Sn 04 33 43.5 0.0
TPUB Ta-pu 7.68 251 ePn Pn 04 32 21.6 -3.1
ERM Erimo 20.00 33 eP P 04 35 06.0 +1.0
18nm,0.9s
SONM Songino Array 27.89 327 P P 04 36 22.0 -0.3
0.8nm,0.6s,baz=129,slow=11,SNR=5.4
WRA Warramunga Arr 46.02 172 P P 04 38 56.6 +0.7
0.9nm,0.7s,baz=349,slow=8.5,SNR=3.7
EKS2 Erkin-Say 47.35 305 eP P 04 39 02.6 -3.7
3.3nm,0.9s
BRVK Borovoye 50.69 318 eP P 04 39 32.1 +0.6
3.8nm,0.8s
FORT Forrest 56.47 180 eP P 04 40 14.0 -0.1
ABKAR Akbulak array 56.99 313 eP P 04 40 17.0 -0.7
FINES FINESS Array B 73.19 331 P P 04 42 02.6 0.0
1.5nm,0.9s,baz=77,slow=7.3,SNR=8.3
RES Resolute Bay 75.71 11 eP P 04 42 18.1 +0.9
2.3nm,1.0s
AKASG Malin Array Be 75.88 320 P P 04 42 18.8 +0.3
0.3nm,0.3s,baz=54,slow=6.1,SNR=5.6
BRTR Keskin Array B 77.38 308 P P 04 42 28.0 +0.6
1.2nm,0.9s,baz=115,slow=2.9,SNR=5.5
YKA Yellowknife Ar 78.61 25 P P 04 42 35.3 +1.7
0.2nm,0.3s,baz=293,slow=5.5,SNR=3.2
BUR08 Bucovina Ar. S 79.57 318 eP P 04 42 37.9 -1.4
KWP Kalwaria Pacla 80.11 321 eP P 04 42 40.6 -1.4
1.9nm,0.5s

IDC 28 04:31:43.9±2.3, 14.67S×73.17W, h0km, mb4.0/4, mb1 4.3/5, mb1mx4.0/33, mbtmp4.1/5, ML4.0/1, MS5.1/1, Ms1 5.1/1, ms1mx3.4/37, Error ellipse: s-maj=93.8km s-min=31.2km az=21.0
NEIC 28 04:31:50.7±1.7, 14.49S×73.14W, h46km±15km, mb4.4/9, Error ellipse: s-maj=19.8km s-min=11.0km az=55.0
ISCJB 28 04:31:53.4±0.6, 14.35S±0.1×73.4W±0.1, h83km, mb4.2/12, Error ellipse: s-maj=20.6km s-min=8.5km az=38.9
ISC 28 04:31:54.6±0.6, 14.3S±0.1×73.4W±0.1, h83km, n28, σ1.05/28, mb4.2/12, Central Peru

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NNA Nana 4.08 304 Pn Pn 04 32 53.9 -0.8
12nm,0.3s,baz=147,slow=8.8,SNR=43
NNA Sn Sn 04 33 41.5 +0.1
20nm,0.3s,baz=232,slow=16,SNR=8.0
NNA Nana 4.08 304 ePn Pn 04 32 54.1 -0.6
NNA eSn Sn 04 33 39.8 -1.6
OTAV Otavalo 15.30 340 ePn P 04 35 29.2 -0.3
16nm,1.5s
ROSC El Rosal 19.07 357 eP Pn 04 36 11.2 -1.4
CPUP Villa Florida 19.20 131 eP P 04 36 06.1 -5.9
1.1nm,0.9s
PCRV Puerto La Cruz 25.83 20 LR LR 04 48 09.5
comp=Z,4μm,18.2s,baz=180,slow=38
LRAL Lakeview Retre 48.84 345 eP P 04 40 33.3 +1.6
4.1nm,0.9s
ASCN Ascension 58.14 91 eP P 04 41 38.0 -2.3
SDCO Great Sand Dun 59.92 331 eP P 04 41 53.3 +0.9
1.6nm,0.8s
NVAR Mina Array Bea 67.22 323 P P 04 42 43.5 +3.0
0.9nm,0.8s,baz=159,slow=5.7,SNR=2.2
SNAA Sanae 70.42 162 eP P 04 43 00.2 +0.6
1.8nm,0.8s
QSPA South Pole Qui 75.84 180 eP P 04 43 32.5 +0.8
1.5nm,0.6s
TOA0 Torodi Ar. Sit 79.19 73 eP P 04 43 51.2 +0.1
TORD Torodi Ar. Bea 79.19 73 P P 04 43 50.9 -0.3
3.2nm,0.8s,baz=258,slow=5.5,SNR=5.3
YKA Yellowknife Ar 83.05 342 P P 04 44 11.2 +0.7
0.4nm,0.8s,baz=137,slow=5.1,SNR=5.0
ESDC Sonseca Array 83.87 47 P P 04 44 17.2 +1.7
1.7nm,0.8s,baz=266,slow=5.1,SNR=7.7
TAM Tamanrasset 85.56 65 eP P 04 44 25.6 +1.3
2.3nm,0.8s
SUR Sutherland 85.94 122 eP P 04 44 24.9 -1.3
12nm,1.0s
LBTB Lobatse 91.95 116 eP P 04 44 54.1 -0.6
10nm,1.3s
LSZ Lusaka 97.09 108 eP P 04 45 16.8 -1.6
3.6nm,1.2s
ABKAR Akbulak array 128.42 37 ePKPdf PKPdf 04 50 51.2 -0.6
WRA Warramunga Arr 136.38 219 PKP PKPdf 04 51 08.3 +0.6
0.2nm,0.4s,baz=133,slow=2.1,SNR=5.1
ZAA0 Zalesovo Array 136.90 19 ePKPdf PKPdf 04 51 08.1 +0.5
ZALV Zalesovo Beam 136.90 19 PKP PKPdf 04 51 08.7 +1.2
1.8nm,0.6s,baz=336,slow=3.2,SNR=3.0
KURK Kurchatov 137.20 26 ePKPdf PKPdf 04 51 08.1 -0.1
MKAR Makanchi Array 141.76 27 PKP PKPdf 04 51 16.8 +0.1
0.6nm,0.8s,baz=293,slow=4.1,SNR=2.4
SONM Songino Array 146.57 0 PKPbc PKPbc 04 51 27.1 +0.3
0.9nm,0.6s,baz=359,slow=1.5,SNR=4.5
KSM Kuching 166.73 196 ePKPdf PKPdf 04 51 51.7 +0.1
KSM ePKPab PKPab 04 52 53.8 -0.6

IDC 28 04:37:13.7±0.7, 36.83S×72.95W, h0km, mb4.1/6, mb1 4.4/7, mb1mx4.1/28, mbtmp4.2/7, ML3.2/1, Error ellipse: s-maj=30.4km s-min=19.1km az=113.0
ISCJB 28 04:37:17.4±0.4, 36.75S±0.05×72.88W±0.09, h35km, mb4.3/19, Error ellipse: s-maj=10.3km s-min=7.6km az=5.9
NEIC 28 04:37:18.0±2.4, 36.76S×72.95W, h28km±15km, mb4.5/15, Error ellipse: s-maj=12.3km s-min=5.9km az=78.0
ISC 28 04:37:19.3±0.5, 36.73S±0.07×73.0W±0.1, h35km, n55, σ0.74/53, mb4.4/19, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.42 156 Pn Pn 04 38 27.7 +3.9
7.9nm,0.3s,baz=329,slow=10.0,SNR=5.9
PLCA Lg Lg 04 39 38.9
12nm,0.3s,baz=225,slow=17,SNR=3.0
PLCA Paso Flores 4.42 156 ePn Pn 04 38 23.7 -0.1
PLCA Lg Lg 04 39 38.9
CFAA Coronel Fontan 6.43 39 Pn Pn 04 38 51.5 0.0
0.4nm,0.3s,baz=202,slow=14,SNR=4.3
CFAA Sn Sn 04 40 05.0 +1.3
0.7nm,0.3s,baz=198,slow=20,SNR=2.8
CFAA Lg Lg 04 40 40.9
0.2nm,0.3s,baz=66,slow=20,SNR=2.5
TRQA Tornquist 8.83 102 ePn Pn 04 39 23.1 -1.3
LVC Limon Verde 14.49 15 ePn Pn 04 40 41.5 -0.6
CPUP Villa Florida 16.85 56 ePn Pn 04 41 12.4 0.0
USHA Ushuaia 18.37 172 P P 04 41 27.8 -2.9
0.2nm,0.3s,baz=18,slow=3.2,SNR=2.4
LPAZ La Paz 20.80 13 P P 04 41 58.8 +0.5
3.8nm,0.7s,baz=168,slow=8.2,SNR=6.6
LPAZ La Paz 20.80 13 eP P 04 41 58.5 +0.3
4.7nm,0.7s
SIV San Ignacio 23.19 30 P P 04 42 22.8 -0.2
3.9nm,0.7s,baz=247,slow=12,SNR=6.0
SAML Samuel 29.04 20 eP P 04 43 15.6 -0.6
1.6nm,0.8s
OTAV Otavalo 37.13 351 eP P 04 44 27.5 +0.3
7.6nm,1.4s
ROSC El Rosal 41.39 358 eP P 04 45 02.3 -0.3
SDV Santo Domingo 45.42 3 eP P 04 45 33.1 -1.8
5.2nm,0.9s
SNAA Sanae 49.36 157 eP P 04 46 05.0 +0.2
5.6nm,0.9s
GRGR Grenville 49.75 15 eP P 04 46 08.2 -0.1
QSPA South Pole Qui 53.51 180 eP P 04 46 36.1 +0.1
4.1nm,1.0s
GTBY Guantanamo Bay 56.38 358 eP P 04 46 57.5 +0.4
ASCN Ascension 60.24 77 eP P 04 47 25.3 +1.0
HKT Hockley 69.72 339 eP P 04 48 24.8 -0.5
11nm,1.7s
GOGA Godfrey 70.47 351 eP P 04 48 28.7 -1.2
JCT Junction City 71.44 336 eP P 04 48 35.9 -0.1
1.5nm,0.4s
TXAR Lajitas Array 71.77 332 P P 04 48 38.5 +0.5
2.3nm,0.8s,baz=150,slow=8.5,SNR=23
KMSC Kings Mountain 71.93 353 eP P 04 48 37.9 -0.8
SUR Sutherland 74.17 119 eP P 04 48 49.8 -2.9
15nm,1.0s
LAZ Ladron 77.61 332 eP P 04 49 12.9 +1.0
1.3nm,0.8s
BOSA Boshof 79.46 118 eP P 04 49 22.9 +0.4
3.5nm,0.6s
LBTB Lobatse 81.83 115 eP P 04 49 35.9 +0.7
4.1nm,0.6s
DUG Dugway 84.86 330 eP P 04 49 50.6 +0.4
4.2nm,1.2s
HWUT Hardware Ranch 85.59 332 eP P 04 49 53.5 -0.4
6.3nm,1.0s
NVAR Mina Array Bea 85.71 326 P P 04 49 55.0 +0.4
2.2nm,0.8s,baz=150,slow=6.0,SNR=15
TOA0 Torodi Ar. Sit 85.83 70 eP P 04 49 55.7 +0.2
TORD Torodi Ar. Bea 85.83 70 P P 04 49 55.8 +0.3
0.7nm,0.8s,baz=248,slow=3.0,SNR=3.6
PDAR Pinedale Array 85.87 334 P P 04 49 55.7 +0.4
1.1nm,0.9s,baz=153,slow=5.1,SNR=8.5
LSZ Lusaka 89.65 109 eP P 04 50 12.0 -2.0
2.7nm,0.8s
WRA Warramunga Arr 118.02 209 PKP PKPdf 04 56 02.1 -0.7
0.3nm,0.5s,baz=156,slow=1.6,SNR=2.4
NAO01 NORSAR Array S 118.48 34 ePKPdf PKPdf 04 56 00.5 -1.8
BR131 Keskin Array S 123.77 63 ePKPdf PKPdf 04 56 13.5 +0.2
BRTR Keskin Array B 123.77 63 PKP PKPdf 04 56 13.4 +0.1
0.4nm,0.7s,baz=177,slow=6.3,SNR=3.0
AKASG Malin Array Be 124.56 49 PKP PKPdf 04 56 12.5 -1.7
0.4nm,0.4s,baz=260,slow=2.6,SNR=4.5
AKBB Malin Array Si 124.56 49 ePKPdf PKPdf 04 56 14.4 +0.1
PALK Pallekele 142.10 134 ePKPdf PKPdf 04 56 49.1 +0.8
ARU Arti 142.27 43 ePKPdf PKPdf 04 56 46.9 -0.3
ABKAR Akbulak array 143.91 55 ePKPdf PKPab 04 56 48.5 +1.0
PSI Prapat 145.42 166 PKPbc PKPbc 04 56 53.6 -0.6
2.4nm,0.4s,baz=258,slow=4.7,SNR=6.2
IPM Ipoh 147.43 169 ePKPbc PKPdf 04 57 00.0 +2.5
KKM Kota Kinabalu 148.33 198 ePKPdf PKPdf 04 56 58.9 -0.2
KKM ePKPbc PKPbc 04 57 02.4 -0.1
BRVK Borovoye 149.68 46 ePKPbc PKPbc 04 57 04.7 +0.1
BVAR Borovoye Array 149.75 46 PKPbc PKPbc 04 57 05.9 +1.1
1.7nm,0.6s,baz=310,slow=4.3,SNR=7.6
YAK Yakutsk 151.01 338 ePKPbc PKPbc 04 57 06.9 -0.5
KKAR Karatay Array 151.42 66 ePKPbc PKPbc 04 57 09.2 +0.1
KURK Kurchatov 155.34 46 ePKPdf PKPdf 04 57 08.3 0.0
ZAA0 Zalesovo Array 156.91 35 ePKPdf PKPdf 04 57 09.9 -0.4
ZAA0 ePKPab PKPab 04 57 39.6 -0.7
ZALV Zalesovo Beam 156.91 35 PKP PKPdf 04 57 09.9 -0.4
0.2nm,0.3s,baz=287,slow=2.5,SNR=4.4
ZALV PKPab PKPab 04 57 39.4 -1.0
1.0nm,0.6s,baz=306,slow=3.5,SNR=4.3
MKAR Makanchi Array 159.05 54 PKP PKPdf 04 57 12.6 -0.5
0.8nm,0.9s,baz=63,slow=0.3,SNR=4.8
MKAR PKPab PKPab 04 57 49.7 -0.3
0.8nm,0.7s,baz=306,slow=4.2,SNR=6.5

IDC 28 04:37:54.1±1.5, 37.95S×72.62W, h0km, mb4.2/6, mb1 4.5/6, mb1mx4.1/28, mbtmp4.2/6, MS3.5/2, Ms1 3.6/2, ms1mx3.3/38, Error ellipse: s-maj=54.7km s-min=32.8km az=30.0
NEIC 28 04:37:58.5±0.4, 38.00S×72.59W, h35km, mb4.8/30, Error ellipse: s-maj=13.9km s-min=9.7km az=60.0
ISCJB 28 04:38:00.4±0.5, 37.94S±0.08×72.4W±0.1, h66km, mb4.5/34, Error ellipse: s-maj=14.1km s-min=9.5km az=43.7
ISC 28 04:38:02.7±0.6, 37.9S±0.1×72.4W±0.1, h66km, n69, σ1.41/64, mb4.7/34, Central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 7.10 30 LR LR 04 42 56.6
comp=Z,141nm,18.1s,baz=222,slow=42
TRQA Tornquist 8.21 95 ePn Pn 04 39 58.3 -0.9
LVC Limon Verde 15.47 12 ePn Pn 04 41 34.6 -2.7
CPUP Villa Florida 17.13 52 LR LR 04 49 23.7
comp=Z,404nm,19.4s,baz=210,slow=40
CPUP Villa Florida 17.13 52 ePn Pn 04 41 57.6 -0.1
LPAZ La Paz 21.80 11 P P 04 42 50.8 +0.8
3.5nm,0.6s,baz=205,slow=11,SNR=2.4
LPAZ La Paz 21.80 11 eP P 04 42 50.4 +0.4
5.7nm,0.6s
SAML Samuel 29.95 18 eP P 04 44 05.7 +1.0
3.9nm,1.2s
OTAV Otavalo 38.31 350 eP P 04 45 17.7 +0.2
16nm,1.4s
ROSC El Rosal 42.53 357 eP P 04 45 53.8 +1.6
SDV Santo Domingo 46.52 2 eP P 04 46 20.5 -3.3
5.3nm,0.8s
BCIP Isla Barro Col 47.29 350 eP P 04 46 23.9 -5.7
SNAA Sanae 48.15 157 eP P 04 46 32.3 -3.4
8.6nm,1.0s
QSPA South Pole Qui 52.40 180 eP P 04 47 03.3 -4.7
5.4nm,1.0s
OBIP Obispado Ponce 55.86 7 eP P 04 47 30.9 -2.5
CBYP Canovanas 56.16 7 eP P 04 47 32.2 -3.4
SDDR Presa de Saban 56.54 1 eP P 04 47 36.1 -2.2
HKT Hockley 70.93 339 eP P 04 49 11.3 -1.4
6.0nm,1.3s
LRAL Lakeview Retre 71.83 347 eP P 04 49 17.2 -0.9
16nm,1.3s
JCT Junction City 72.65 335 eP P 04 49 21.8 -1.4
26nm,1.2s
TXAR Lajitas Array 72.97 332 P P 04 49 24.7 -0.5
3.8nm,1.0s,baz=154,slow=6.9,SNR=11
KMSC Kings Mountain 73.10 352 eP P 04 49 26.2 +0.5
SUR Sutherland 73.23 118 eP P 04 49 27.1 0.0
50nm,1.7s
WHTX Lake Whitney 73.32 338 eP P 04 49 26.9 -0.1
28nm,1.3s
SWET Sewanee 73.78 348 eP P 04 49 29.7 0.0
18nm,1.2s
ABTX Abilene, Hawle 74.58 336 eP P 04 49 34.7 +0.2
24nm,1.3s
WVT Waverly 74.99 347 eP P 04 49 37.4 +0.8
24nm,1.5s
MNTX Cornudas Mount 75.74 331 eP P 04 49 39.5 -1.6
4.0nm,1.3s
CASY Casey 76.18 181 eP P 04 49 41.0 -2.2
13nm,1.1s
TUL1 Tulsa 76.53 341 eP P 04 49 44.7 -0.8
27nm,1.2s
DBIC Dimbokro 76.69 71 P P 04 49 48.9 +2.0
2.1nm,0.7s,baz=188,slow=11,SNR=1.7
DBIC Dimbokro 76.69 71 eP P 04 49 47.2 +0.4
7.8nm,0.8s
TSUM Tsumeb 78.44 105 eP P 04 49 57.3 +0.5
17nm,1.6s
BOSA Boshof 78.54 117 eP P 04 49 56.7 -0.6
5.8nm,1.0s

LAZ	Ladron	78.81	331	eP	P	04 49 58.5	+0.1
	7.3nm,1.3s						
ANMO	Albuquerque	79.04	332	eP	P	04 49 58.4	-1.3
	14nm,1.3s						
LBTB	Lobatse	80.94	115	eP	P	04 50 09.1	-1.2
	17nm,1.4s						
SDCO	Great Sand Dun	81.20	334	eP	P	04 50 10.0	-1.4
	4.5nm,1.1s						
WUAZ	Wupatki	81.46	329	eP	P	04 50 13.1	+0.5
	12nm,1.2s						
MVCO	Mesa Verde	81.81	332	eP	P	04 50 15.1	+0.6
	10nm,1.3s						
PFO	Pinyon Flat Ob	82.07	324	eP	P	04 50 14.8	-1.0
	14nm,1.3s						
ISCO	Idaho Springs	83.08	335	eP	P	04 50 21.4	+0.2
	7.2nm,1.4s						
TOA0	Torodi Ar. Sit	85.78	70	eP	P	04 50 35.0	0.0
TORD	Torodi Ar. Bea	85.78	70	P	P	04 50 34.7	-0.3
	1.6nm,0.9s,baz=224,slow=5.1,SNR=4.1						
DUG	Dugway	86.06	330	eP	P	04 50 37.0	+1.0
	11nm,1.3s						
HWUT	Hardware Ranch	86.80	332	eP	P	04 50 39.8	+0.2
	17nm,1.3s						
NVAR	Mina Array Bea	86.89	326	P	P	04 50 40.0	-0.3
	0.7nm,0.8s,baz=138,slow=5.6,SNR=4.0						
PDAR	Pinedale Array	87.08	334	P	P	04 50 41.3	+0.2
	4.4nm,1.1s,baz=147,slow=5.2,SNR=9.8						
TAM	Tamanrasset	94.71	65	eP	P	04 51 17.2	+0.1
COEN	Coen	118.61	220	ePKPdf	PKPdf	04 56 43.0	-0.7
NAO01	NORSAR Array S	119.16	34	ePKPdf	PKPdf	04 56 45.8	+2.7
BR131	Keskin Array S	123.87	63	ePKPdf	PKPdf	04 56 54.1	+1.0
AKBB	Malin Array Si	124.94	49	ePKPdf	PKPdf	04 56 56.7	+2.1
TNA	Tin City	125.98	329	ePKPdf	PKPdf	04 56 55.9	-0.2
GNI	Garni	131.99	67	ePKPdf	PKPdf	04 57 10.7	+2.1
PALK	Pallekele	140.99	134	ePKPdf	PKPdf	04 57 22.4	-3.5
ARU	Arti	142.77	44	ePKPdf	PKPdf	04 57 29.5	+1.9
AKTO	Aktyubinsk	142.92	54	PKP	PKPdf	04 57 29.5	+1.3
	1.9nm,0.6s,baz=272,slow=4.5,SNR=5.9						
KSM	Kuching	143.72	185	ePKPdf	PKPbc	04 57 27.8	-0.5
ABKAR	Akbulak array	144.17	56	ePKPdf	PKPab	04 57 26.7	-1.6
TIXI	Tiksi	144.42	349	ePKPdf	PKPdf	04 57 29.6	-0.5
BRVK	Borovoye	150.11	47	ePKPbc	PKPbc	04 57 43.6	-1.6
BVAR	Borovoye Array	150.18	47	PKPbc	PKPbc	04 57 47.8	+2.4
	2.0nm,0.8s,baz=336,slow=3.2,SNR=7.6						
TKM2	Tokmak 2	155.17	68	ePKPdf	PKPdf	04 57 50.6	+2.4
KURK	Kurchatov	155.75	49	ePKPdf	PKPdf	04 57 48.6	+0.2
KURK				ePKPab	PKPab	04 58 15.9	+0.7
ZAA0	Zalesovo Array	157.54	37	ePKPdf	PKPdf	04 57 52.0	+1.4
ZAA0				ePKPab	PKPab	04 58 22.1	-0.8
ZALV	Zalesovo Beam	157.54	37	PKP	PKPdf	04 57 51.4	+0.8
	1.3nm,0.8s,baz=345,slow=4.9,SNR=4.8						
MKAR	Makanchi Array	159.31	56	PKP	PKPdf	04 57 55.8	+2.7
	1.8nm,1.1s,baz=323,slow=2.2,SNR=6.4						
MKAR				PKPab	PKPab	04 58 30.3	-0.6
	0.6nm,0.7s,baz=293,slow=3.6,SNR=2.8						
SONM	Songino Array	169.98	5	PKPab	PKPab	04 59 20.4	+2.7
	1.0nm,1.0s,baz=33,slow=5.5,SNR=4.7						

IDC 28 04:39:09.1±1.7, 11.44S×166.16E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/37, mbtmp3.8/5, ML3.2/1, Error ellipse: s-maj=51.0km s-min=35.3km az=112.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.57	179	Pn	Pn	04 41 42.9	+0.8
	0.2nm,0.3s,baz=176,slow=16,SNR=2.5						
WRA	Warramunga Arr	31.73	251	P	P	04 45 34.4	-0.6
	0.6nm,0.5s,baz=85,slow=9.1,SNR=4.8						
CMAR	Chiang Mai Arr	72.64	294	P	P	04 50 40.2	+1.1
	0.8nm,0.3s,baz=137,slow=5.2,SNR=5.6						
ILAR	Eielson Array	83.76	18	P	P	04 51 39.8	+0.1
	0.2nm,0.5s,baz=246,slow=5.1,SNR=4.9						
MKAR	Makanchi Array	94.08	317	P	P	04 52 28.0	-1.5
	0.6nm,0.7s,baz=86,slow=6.4,SNR=5.0						

SJA 28 04:43:09.1±0.6, 34.39S×73.00W, h121km±75km, ML4.1
IDC 28 04:43:11.5±1.0, 34.45S×71.84W, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.9/29, mbtmp3.9/9, ML3.9/1, Error ellipse: s-maj=39.1km s-min=18.9km az=85.0
GUC 28 04:43:14.6±0.6, 34.52S×72.07W, h30km±4km, ML4.4
ISCJB 28 04:43:15.9±1.4, 34.46S±0.06×72.1W±0.1, h49km±11km, mb4.1/17, Error ellipse: s-maj=15.2km s-min=9.7km az=163.1
NEIC 28 04:43:16.2±0.4, 34.42S×72.00W, h35km, mb4.3/15, Error ellipse: s-maj=12.8km s-min=9.6km az=75.0
ISC 28 04:43:17.4±2.5, 34.40S±0.09×72.1W±0.1, h45km±20km, n55, σ1.25/58, mb4.2/17, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	Rinconada Maip	1.42	51	⇑iP	Pn	04 43 39.1	-1.6
RCDM				iS	Sn	04 43 57.6	-0.6
IHA	Instituto Hidr	1.43	16	⇑iP	Pn	04 43 39.8	-1.0
IHA				iS	Sn	04 43 59.7	+1.4
STL	Santa Lucia	1.56	52	iP	Pn	04 43 40.8	-1.9
STL				iS	Sn	04 44 00.8	-0.9
ROCH	El Roble	1.70	33	⇓iP	Pn	04 43 44.6	-0.2
ROCH				iS	Sn	04 44 06.8	+1.5
ROCH				AML	AML	04 44 13.0	
	comp=N,5μm,0.6s						
PEL	Peldehue	1.73	44	⇓iP	Pn	04 43 44.4	-0.6
PEL				iS	Sn	04 44 06.9	+1.0
PEL				AML	AML	04 44 13.5	
	comp=E,8μm,0.4s						
FCH	Farellones	1.86	55	⇑iP	Pn	04 43 40.1	-7.0
FCH				iS	Sn	04 44 00.4	-9.1
AAGR	Agrelo	3.04	65	eP	Pn	04 44 06.0	+3.0
AAGR				eP	Pn	04 44 06.0	+3.0
ARCO	CERRO ARCO	3.08	61	eP	Pn	04 44 06.8	+3.1
ARCO				AML	AML	04 45 04.3	
	comp=Z,288nm,0.7s						
AVIZ	Vizcacheras	3.13	74	eP	Pn	04 44 07.8	+3.5
AUSP	Uspallata	3.15	47	eS	Sn	04 44 49.2	+7.9
ASAL	Salagasta	3.28	58	eP	Pn	04 44 08.8	+2.4
ASAL				eS	Sn	04 44 54.3	+10
RTLS	Leoncito	3.51	43	eP	Pn	04 44 12.0	+2.3
RTLS				eS	Sn	04 44 57.8	+7.7
CFAA	Coronel Fontan	4.29	51	Pn	Pn	04 44 20.2	0.0
	comp=Z,0.3nm,0.3s,baz=191,slow=16,SNR=3.6						
CFAA				Sn	Sn	04 45 19.7	+11
	comp=Z,2.7nm,0.3s,baz=348,slow=7.1,SNR=6.7						
RTLL	Cerro Villicun	4.33	46	eP	Pn	04 44 21.4	+0.6
RTLL				eS	Sn	04 45 15.6	+5.6
TRQA	Tornquist	8.96	117	ePn	Pn	04 45 23.8	-0.5
LVC	Limon Verde	12.07	14	ePn	Pn	04 46 06.3	-0.8
CPUP	Villa Florida	15.07	62	Pn	P	04 46 51.5	-0.4
	comp=Z,0.2nm,0.3s,baz=239,slow=12,SNR=1.8						
CPUP	Villa Florida	15.07	62	ePn	Pn	04 46 42.7	-4.7
LPAZ	La Paz	18.39	12	P	P	04 47 30.0	+0.7
	comp=Z,0.2nm,0.3s,baz=153,slow=8.8,SNR=3.1						
LPAZ	La Paz	18.39	12	eP	P	04 47 29.9	+0.6
	comp=Z,2.3nm,0.7s						
SIV	San Ignacio	20.85	31	P	P	04 47 54.3	-1.2
	comp=Z,2.1nm,0.9s,baz=230,slow=11,SNR=2.4						
SAML	Samuel	26.63	20	eP	P	04 48 52.5	+0.7
	comp=Z,0.8nm,0.6s						
OTAV	Otavalo	34.96	349	eP	P	04 50 06.3	+0.5
	comp=Z,4.1nm,1.4s						
ROSC	El Rosal	39.10	356	P	P	04 50 41.7	+0.8
	comp=Z,0.8nm,0.3s,baz=359,slow=24,SNR=20						
JTS	JuntasAbangare	46.08	342	eP	P	04 51 38.4	+1.3
GRGR	Grenville	47.33	14	eP	P	04 51 46.3	-0.5
SNAA	Sanae	51.24	158	P	P	04 52 15.9	-0.2
	comp=Z,1.2nm,0.9s,baz=250,slow=4.2,SNR=9.2						
SNAA	Sanae	51.24	158	eP	P	04 52 15.7	-0.4
	comp=Z,3.8nm,0.7s						
CBYP	Canovanas	52.72	7	eP	P	04 52 27.6	0.0
QSPA	South Pole Qui	55.84	180	P	P	04 52 50.2	+0.2
	comp=Z,1.2nm,0.7s,baz=137,slow=3.8,SNR=4.8						
QSPA	South Pole Qui	55.84	180	eP	P	04 52 50.6	+0.6
	comp=Z,4.2nm,0.9s						
LRAL	Lakeview Retre	68.52	347	eP	P	04 54 12.9	-2.2
	comp=Z,13nm,1.3s						
TXAR	Lajitas Array	70.05	331	P	P	04 54 26.2	+1.4
	comp=Z,0.2nm,0.5s,baz=150,slow=9.1,SNR=3.8						
WHTX	Lake Whitney	70.21	337	eP	P	04 54 25.5	0.0
	comp=Z,2.3nm,0.6s						
WVT	Waverly	71.68	347	eP	P	04 54 33.5	-0.8
	comp=Z,5.3nm,0.9s						
MNTX	Cornudas Mount	72.83	331	eP	P	04 54 41.4	0.0
	comp=Z,1.5nm,1.1s						
DBIC	Dimbokro	75.37	71	P	P	04 54 55.8	-0.7
	comp=Z,2.3nm,0.8s,baz=225,slow=7.1,SNR=3.6						
DBIC	Dimbokro	75.37	71	eP	P	04 54 56.1	-0.5
	comp=Z,17nm,1.5s						
SDCO	Great Sand Dun	78.20	334	eP	P	04 55 12.8	+0.4
	comp=Z,1.3nm,1.0s						
MVCO	Mesa Verde	78.88	331	eP	P	04 55 18.1	+2.1
	comp=Z,2.8nm,0.9s						
BOSA	Boshof	79.94	118	P	P	04 55 22.0	-0.1
	comp=Z,5.0nm,0.8s,baz=297,slow=3.6,SNR=6.9						
BOSA	Boshof	79.94	118	eP	P	04 55 21.7	-0.4
	comp=Z,5.1nm,0.8s						
ISCO	Idaho Springs	80.06	334	eP	P	04 55 22.4	-0.1
	comp=Z,2.0nm,1.0s						
LBTB	Lobatse	82.19	115	eP	P	04 55 33.8	-0.4
	comp=Z,1.7nm,0.5s						
TOA0	Torodi Ar. Sit	84.41	70	eP	P	04 55 44.8	-0.6
TORD	Torodi Ar. Bea	84.41	70	P	P	04 55 45.1	-0.3
	comp=Z,1.3nm,0.9s,baz=248,slow=4.3,SNR=7.3						
BUR08	Bucovina Ar. S	119.05	50	ePKPdf	PKPdf	05 02 02.5	+1.6
MBWA	Marble Bar	123.61	193	ePKPdf	PKPdf	05 02 11.6	+1.1
GNI	Garni	130.35	64	ePKPdf	PKPdf	05 02 22.9	0.0
PALK	Pallekele	143.17	131	ePKPdf	PKPbc	05 02 44.6	+0.4
BRVK	Borovoye	147.54	43	ePKPdf	PKPdf	05 02 51.3	-2.1
IPM	Ipoh	149.56	166	ePKPdf	PKPdf	05 02 57.7	-0.3
IPM				ePKPbc	PKPbc	05 03 02.4	-0.1
KULM	Kulim	150.27	165	ePKPdf	PKPdf	05 02 58.7	-0.3
KULM				ePKPbc	PKPbc	05 03 04.5	+0.3
KURK	Kurchatov	153.21	44	ePKPbc	PKPbc	05 03 08.6	-1.2
ZALV	Zalesovo Beam	154.60	33	PKPbc	PKPbc	05 03 12.3	-0.3
	comp=Z,0.4nm,0.4s,baz=1.4,slow=5.8,SNR=3.6						

IDC 28 04:45:13.8±1.0, 37.72S×73.93W, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/28, mbtmp4.0/6, ML3.5/1, Error ellipse: s-maj=42.5km s-min=25.4km az=94.0
NEIC 28 04:45:15.0±5.1, 37.72S×73.87W, h11km±30km, mb4.6/13, Error ellipse: s-maj=14.9km s-min=8.9km az=65.0
ISCJB 28 04:45:17.1±0.5, 37.64S±0.08×73.7W±0.1, h33km, mb4.3/15, Error ellipse: s-maj=15.1km s-min=11.5km az=179.4
ISC 28 04:45:18.9±0.5, 37.66S±0.09×73.8W±0.1, h35km, n42, σ0.68/43, mb4.5/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	7.58	39	Pn	Pn	04 47 06.9	0.0
	0.7nm,0.3s,baz=270,slow=4.0,SNR=3.1						
LVC	Limon Verde	15.58	17	ePn	Pn	04 48 55.5	-0.6
	8.1nm,0.8s						
CPUP	Villa Florida	17.93	56	ePn	Pn	04 49 24.5	-0.9
LPAZ	La Paz	21.87	15	eP	P	04 50 10.0	+0.7
	4.6nm,0.8s						
SAML	Samuel	30.15	21	eP	P	04 51 26.1	+0.5
	2.4nm,1.2s						
SNAA	Sanae	48.77	157	P	P	04 53 59.9	0.0
	1.9nm,0.9s,baz=282,slow=6.2,SNR=4.6						
SNAA	Sanae	48.77	157	eP	P	04 53 59.6	-0.4
	10nm,1.1s						
JTS	JuntasAbangare	48.83	345	eP	P	04 54 00.0	-0.9
QSPA	South Pole Qui	52.58	180	P	P	04 54 28.3	-0.5
	6.3nm,1.1s,baz=277,slow=0.7,SNR=6.5						
QSPA	South Pole Qui	52.58	180	eP	P	04 54 28.0	-0.8
	6.9nm,1.0s						
OBIP	Obispado Ponce	55.81	8	eP	P	04 54 52.4	-0.2
SDDR	Presa de Saban	56.39	3	eP	P	04 54 56.8	+0.1
ASCN	Ascension	61.11	77	eP	P	04 55 29.2	-0.6
LRAL	Lakeview Retre	71.40	348	eP	P	04 56 35.2	0.0
	21nm,1.7s						
SWET	Sewanee	73.38	350	eP	P	04 56 46.2	-0.8
	8.7nm,0.9s						
MNTX	Cornudas Mount	75.04	332	eP	P	04 56 55.8	-1.0
	7.0nm,1.7s						
WCI	Wyandotte Cave	76.39	350	eP	P	04 57 04.3	0.0
	4.9nm,1.0s						
BOSA	Boshof	79.63	118	eP	P	04 57 23.3	+0.4
	7.7nm,1.2s						
SDCO	Great Sand Dun	80.54	335	eP	P	04 57 28.9	+1.3
	6.1nm,1.5s						
LBTB	Lobatse	82.05	115	eP	P	04 57 35.8	-0.1
	7.7nm,1.1s						
ISCO	Idaho Springs	82.43	336	eP	P	04 57 38.4	+0.8
DUG	Dugway	85.34	331	eP	P	04 57 52.9	+0.7
	12nm,1.8s						
NVAR	Mina Array Bea	86.10	327	P	P	04 57 56.7	+0.5
	0.2nm,0.4s,baz=155,slow=6.6,SNR=3.6						
PDAR	Pinedale Array	86.41	334	P	P	04 57 57.7	+0.1
	0.8nm,0.9s,baz=150,slow=3.3,SNR=4.8						
TOA0	Torodi Ar. Sit	86.78	71	eP	P	04 58 00.5	+0.7
TORD	Torodi Ar. Bea	86.78	71	P	P	04 58 00.1	+0.4
	1.1nm,0.5s,baz=224,slow=4.3,SNR=13						
WRAB	Tennant Creek	116.88	210	ePKPdf	PKPdf	05 04 00.3	+0.1
NAO01	NORSAR Array S	119.63	34	ePKPdf	PKPdf	05 04 03.9	-0.2
MBWA	Marble Bar	120.13	195	ePKPdf	PKPdf	05 04 07.1	+0.6
KWP	Kalwaria Pacla	121.38	49	ePKPdf	PKPdf	05 04 07.0	-0.8
BUR08	Bucovina Ar. S	122.15	52	ePKPdf	PKPdf	05 04 09.3	-0.2
SUW	Suwalki	123.23	44	ePKPdf	PKPdf	05 04 10.3	-0.9
TNA	Tin City	125.24	329	ePKPdf	PKPdf	05 04 15.0	+0.3
TIXI	Tiksi	144.00	348	ePKPdf	PKPab	05 04 46.7	-0.2
ABKAR	Akbulak array	145.00	56	ePKPdf	PKPdf	05 04 51.9	+0.1
KKM	Kota Kinabalu	147.24	199	ePKPbc	PKPdf	05 04 57.9	+1.0
KULM	Kulim	147.39	170	ePKPbc	PKPbc	05 04 58.7	-0.8
KULM				ePKPab	PKiKP	05 05 01.9	+0.1
BRVK	Borovoye	150.81	47	ePKPbc	PKPbc	05 05 07.4	+0.5
BVAR	Borovoye Array	150.88	47	PKPbc	PKPbc	05 05 08.4	+1.3
	1.3nm,0.6s,baz=282,slow=2.9,SNR=4.9						
AAK	Ala-Archa	155.34	68	PKPab	PKPab	05 05 35.3	+1.4
	1.6nm,0.7s,baz=191,slow=5.4,SNR=5.6						
ZALV	Zalesovo Beam	158.06	35	PKPab	PKPab	05 05 45.5	+0.6
	1.3nm,0.6s,baz=316,slow=6.0,SNR=5.7						
MKAR	Makanchi Array	160.14	55	PKPab	PKPab	05 05 54.9	+0.5
	0.4nm,0.7s,baz=304,slow=4.2,SNR=4.0						

IDC 28 04:46:54.3±0.9, 35.80S×73.00W, h0km, mb4.1/7, mb1 4.2/10, mb1mx4.1/29, mbtmp4.1/10, ML3.9/3, MS4.4/1, Ms1 4.4/1, ms1mx3.5/30, Error ellipse: s-maj=29.7km s-min=20.8km az=92.0
ISCJB 28 04:46:55.1±0.4, 35.74S±0.05×72.90W±0.09, h17km, mb4.3/23, Error ellipse: s-maj=10.1km s-min=7.2km az=178.6
NEIC 28 04:46:59.3±0.4, 35.78S×72.79W, h35km, mb4.4/18, Error ellipse: s-maj=12.9km s-min=10.2km az=50.0
ISC 28 04:46:56.6±0.5, 35.77S±0.07×72.9W±0.1, h17km, n51, σ1.74/50, mb4.4/23, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.28	160	Sn	Sn	04 49 17.8	+2.5
	30nm,0.3s,baz=37,slow=24,SNR=3.2						
PLCA				LR	LR	04 50 19.7	
	comp=Z,4μm,18.8s,baz=306,slow=39						
CFAA	Coronel Fontan	5.68	44	Pn	Pn	04 48 20.4	+0.1
	1.0nm,0.3s,baz=306,slow=1.4,SNR=12						
CFAA				Sn	Sn	04 49 26.2	+1.1
	1.1nm,0.3s,baz=325,slow=20,SNR=5.6						
TRQA	Tornquist	9.03	108	ePn	Pn	04 49 04.7	-1.5
CPUP	Villa Florida	16.30	59	Pn	P	04 50 45.6	+0.9
	0.2nm,0.3s,baz=223,slow=5.4,SNR=2.9						
CPUP	Villa Florida	16.30	59	ePn	P	04 50 45.3	+0.6
LPAZ	La Paz	19.86	14	P	P	04 51 27.3	-0.3
	0.1nm,0.3s,baz=171,slow=5.6,SNR=2.5						
LPAZ	La Paz	19.86	14	eP	P	04 51 22.5	-5.1
	4.0nm,0.6s						
SIV	San Ignacio	22.35	31	P	P	04 51 49.9	-3.9
	3.4nm,0.8s,baz=224,slow=10,SNR=4.6						
SAML	Samuel	28.13	21	eP	P	04 52 43.4	-4.5
	1.1nm,0.3s						
BDFB	Brasilia	29.92	54	P	P	04 53 06.1	+2.2
	1.8nm,0.7s,baz=167,slow=18,SNR=2.9						
OTAV	Otavalo	36.20	351	eP	P	04 53 59.7	+0.7
	8.7nm,1.4s						
SDV	Santo Domingo	44.47	3	eP	P	04 55 07.5	+0.3
	4.2nm,0.8s						
SNAA	Sanae	50.22	157	P	P	04 55 51.8	+0.6
	0.9nm,0.9s,baz=266,slow=7.4,SNR=3.7						
SNAA	Sanae	50.22	157	eP	P	04 55 51.2	0.0
	5.4nm,1.0s						
QSPA	South Pole Qui	54.47	180	P	P	04 56 23.0	+0.1
	6.5nm,1.1s,baz=313,slow=2.5,SNR=7.2						
QSPA	South Pole Qui	54.47	180	eP	P	04 56 25.1	+2.1
	21nm,1.2s						
TXAR	Lajitas Array	70.95	332	P	P	04 58 13.1	-0.1
	1.1nm,0.6s,baz=152,slow=8.1,SNR=11						
WHTX	Lake Whitney	71.24	338	eP	P	04 58 14.4	-0.3
	5.5nm,0.7s						
SWET	Sewanee	71.67	349	eP	P	04 58 17.8	+0.5
	6.2nm,0.7s						
WVT	Waverly	72.88	347	eP	P	04 58 24.6	+0.2
	4.7nm,0.8s						
MNTX	Cornudas Mount	73.72	332	eP	P	04 58 28.8	-0.8
	1.4nm,0.9s						
TUL1	Tulsa	74.44	341	eP	P	04 58 32.4	-1.2
WCI	Wyandotte Cave	74.67	349	eP	P	04 58 34.9	-0.1
	18nm,1.4s						
LAZ	Ladron	76.80	331	eP	P	04 58 42.6	-4.8
	1.4nm,1.2s						
ANMO	Albuquerque	77.01	332	eP	P	04 58 48.0	-0.6
	3.8nm,1.3s						
SDCO	Great Sand Dun	79.15	334	eP	P	04 59 02.5	+2.0
	1.4nm,1.1s						
MVCO	Mesa Verde	79.79	332	eP	P	04 59 04.9	+0.9
BOSA	Boshof	79.86	118	P	P	04 59 05.6	+0.9
	1.5nm,0.4s,baz=196,slow=7.4,SNR=2.7						
ISCO	Idaho Springs	81.03	335	eP	P	04 59 09.7	-0.9
	6.4nm,1.5s						
LBTB	Lobatse	82.19	115	eP	P	04 59 15.7	-1.4
	4.3nm,0.6s						
HWUT	Hardware Ranch	84.78	332	eP	P	04 59 23.5	-6.4
	36nm,2.0s						
PDAR	Pinedale Array	85.04	334	P	P	04 59 33.4	+2.2
	0.9nm,0.8s,baz=159,slow=5.4,SNR=5.0						
TOA0	Torodi Ar. Sit	85.46	70	eP	P	04 59 32.4	-1.3
TORD	Torodi Ar. Bea	85.46	70	P	P	04 59 34.9	+1.2
	2.8nm,1.2s,baz=269,slow=3.4,SNR=6.3						
LSZ	Lusaka	89.90	109	eP	P	04 59 53.7	-1.6
	2.2nm,0.8s						
YKA	Yellowknife Ar	103.51	341	Pdiff	Pdif	05 01 03.4	+7.8
	0.1nm,0.8s,baz=232,slow=6.1,SNR=4.4						
BUR08	Bucovina Ar. S	120.41	51	ePKPdf	PKPdf	05 05 46.3	-0.4
SUW	Suwalki	121.37	43	ePKPdf	PKPdf	05 05 48.2	0.0
MBWA	Marble Bar	122.13	194	ePKPdf	PKPdf	05 05 47.4	-3.4
BR131	Keskin Array S	123.29	62	ePKPdf	PKPdf	05 05 52.5	-0.1
BRTR	Keskin Array B	123.29	62	PKP	PKPdf	05 05 51.5	-1.1
	0.5nm,0.7s,baz=270,slow=4.3,SNR=3.1						
KIEV	Kiev	123.88	49	ePKPdf	PKPdf	05 05 54.2	+1.1
ARU	Arti	141.53	42	ePKPdf	PKPdf	05 06 25.3	-0.8
TIXI	Tiksi	142.31	349	ePKPdf	PKPdf	05 06 24.6	-2.4
ABKAR	Akbulak array	143.31	54	ePKPdf	PKPbc	05 06 29.1	+2.5
IPM	Ipoh	148.35	168	ePKPbc	PKPbc	05 06 43.1	+0.5
BRVK	Borovoye	148.97	45	ePKPbc	PKPbc	05 06 42.9	-0.1
KULM	Kulim	149.08	167	ePKPbc	PKPbc	05 06 44.7	+0.2
KKAR	Karatay Array	150.97	64	ePKPdf	PKPdf	05 06 42.3	-0.2
KKAR				ePKPbc	PKPbc	05 06 47.5	-0.7
EKS2	Erkin-Say	153.39	65	ePKPdf	PKPdf	05 06 46.5	+0.3
EKS2				ePKPbc	PKPbc	05 06 53.4	-0.4
EKS2				ePKPab	PKPab	05 07 06.2	+0.1
ULN	Ulaanbaatar	167.92	0	ePKPab	PKPab	05 08 07.4	-1.5

NEIC 28 04:47:29.6±5.0, 38.80S×73.87W, h6km±29km, mb5.0/35, Error ellipse: s-maj=16.8km s-min=7.8km az=56.0
IDC 28 04:47:31.0±0.7, 38.42S×73.68W, h0km, mb4.5/13, mb1 4.6/14, mb1mx4.4/28, mbtmp4.5/14, ML3.8/1, MS4.2/2, Ms1 4.2/2, ms1mx3.6/29, Error ellipse: s-maj=24.1km s-min=19.4km az=87.0
ISCJB 28 04:47:34.3±0.3, 38.50S±0.07×73.57W±0.09, h33km, mb4.8/44, MS4.2/2, Error ellipse: s-maj=10.6km s-min=8.3km az=138.7
ISC 28 04:47:35.5±0.5, 38.62S±0.08×73.5W±0.1, h35km, n190, σ1.10/182, mb4.9/44, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.13	134	Pn	Pn	04 48 27.8	+5.5
	9.2nm,0.3s,baz=329,slow=13,SNR=8.9						
PLCA	Paso Flores	3.13	134	ePn	Pn	04 48 22.4	0.0
TRQA	Tornquist	9.10	90	ePn	Pn	04 49 43.9	-0.4
LVC	Limon Verde	16.43	15	ePn	Pn	04 51 23.4	-0.3
USHA	Ushuaia	16.59	170	Pn	P	04 51 28.9	+1.6
	0.4nm,0.3s,baz=327,slow=12,SNR=3.0						
CPUP	Villa Florida	18.32	53	eP	Pn	04 51 49.0	+2.2
LPAZ	La Paz	22.74	14	P	P	04 52 35.1	-0.1
	7.1nm,0.8s,baz=213,slow=5.9,SNR=5.9						
LPAZ	La Paz	22.74	14	eP	P	04 52 34.4	-0.9
	38nm,1.2s						
SIV	San Ignacio	25.06	29	P	P	04 52 56.0	-0.6
	9.2nm,1.1s,baz=222,slow=14,SNR=2.5						
NNA	Nana	26.68	353	P	P	04 53 11.3	-0.1
	5.4nm,0.5s,baz=236,slow=10.0,SNR=4.1						
SAML	Samuel	30.97	20	eP	P	04 53 50.1	+0.7
	5.6nm,1.2s						
ATAH	Atahualpa	31.65	351	LR	LR	05 04 13.5	
	comp=Z,278nm,20.6s,baz=182,slow=32						
OTAV	Otavalo	38.93	352	eP	P	04 54 59.5	+0.9
	42nm,1.6s						
ROSC	El Rosal	43.26	359	eP	P	04 55 35.3	+1.3
RCBR	Riachuelo	47.16	56	P	P	04 56 06.2	+1.5
	7.3nm,0.9s,baz=326,slow=7.3,SNR=2.8						
SDV	Santo Domingo	47.33	4	eP	P	04 56 05.0	-1.1
	23nm,1.4s						
SNAA	Sanae	47.81	156	eP	P	04 56 06.6	-2.5
	46nm,1.4s						
JTS	JuntasAbangare	49.80	345	eP	P	04 56 20.4	-4.6
QSPA	South Pole Qui	51.63	180	P	P	04 56 41.2	+2.9
	17nm,1.1s,baz=159,slow=4.6,SNR=6.8						
GRGR	Grenville	51.69	15	eP	P	04 56 40.5	+1.4
	170nm,1.1s						
OBIP	Obispado Ponce	56.73	8	eP	P	04 57 14.6	-1.1
	10nm,0.6s						
PPT	Papeete	68.49	264	P	P	04 58 36.3	+1.9
	26nm,0.8s,baz=68,slow=2.3,SNR=3.6						
934A	Benavides	69.90	336	P	P	04 58 45.9	+3.1
	baz=70						
933A	Laredo	70.15	336	P	P	04 58 46.9	+2.6
	baz=70						
835A	Beeville	70.33	337	P	P	04 58 47.5	+2.1
	baz=71						
834A	Tilden	70.39	337	P	P	04 58 47.1	+1.3
	baz=71						
833A	Chaparral WMA,	70.84	336	P	P	04 58 49.9	+1.4
	baz=71						
832A	Faith Ranch, C	71.00	335	P	P	04 58 49.7	+0.3
	baz=71						
636A	Smothers Creek	71.22	338	P	P	04 58 54.5	+3.7
	baz=72						
HKT	Hockley	71.32	340	eP	P	04 58 53.2	+2.0
	20nm,1.7s						
732A	Laxson Ranch,	71.41	336	P	P	04 58 52.1	+0.1
	baz=72						
438A	Sam Houston St	71.98	340	P	P	04 58 55.7	+0.4
	baz=72						
632A	Uvalde	72.07	336	P	P	04 58 55.1	-0.8
	baz=72						
534A	Blanco	72.15	337	P	P	04 58 56.0	-0.4
	baz=72						
340A	Bronson	72.21	342	P	P	04 58 57.2	+0.5
	baz=73						
631A	Perdido Creek	72.23	335	P	P	04 58 58.4	+1.5
	baz=73						
339A	Huntington	72.30	341	P	P	04 58 57.7	+0.5
	baz=73						
533A	Kerrville	72.36	337	P	P	04 58 57.9	+0.2
	baz=73						
LRAL	Lakeview Retre	72.38	348	eP	P	04 58 56.8	-0.9
	37nm,1.5s						
532A	Rocksprings	72.68	336	P	P	04 58 59.6	0.0
	baz=73						
NATX	Nacogdoches	72.73	341	eP	P	04 58 59.9	+0.1
	20nm,0.7s						
434A	Burnet	72.82	338	P	P	04 59 00.7	+0.2
	baz=73						
531A	Rocksprings	72.92	336	P	P	04 59 00.8	-0.2
	baz=73						
336A	Riesel	72.95	339	P	P	04 59 01.2	+0.1
	baz=73						
JCT	Junction City	72.98	336	eP	P	04 59 02.3	+1.0
	58nm,1.8s						
JCT	Junction City	72.98	336	P	P	04 59 01.5	+0.1
	baz=73						
433A	Art	73.01	337	P	P	04 59 01.4	-0.1
	baz=73						
335A	Moody	73.02	339	P	P	04 59 01.5	0.0
	baz=73						
530A	J-C Ranch, Com	73.16	335	P	P	04 59 02.5	+0.1
	baz=74						
TXAR	Lajitas Array	73.22	333	P	P	04 59 01.6	-1.3
	1.4nm,0.8s,baz=155,slow=7.0,SNR=4.9						
334A	Lometa	73.30	338	P	P	04 59 03.9	+0.7

	baz=74						
432A	Menard	73.34	337	P	P	04 59 04.6	+1.1
	baz=74						
431A	Sonora	73.42	336	P	P	04 59 05.0	+1.0
	baz=74						
333A	Richland Sprin	73.51	337	P	P	04 59 03.6	-0.9
	baz=74						
WHTX	Lake Whitney	73.69	339	eP	P	04 59 04.5	-1.0
WHTX	Lake Whitney	73.69	339	P	P	04 59 04.7	-0.7
	baz=74						
430A	Baggett Ranch,	73.72	335	P	P	04 59 05.3	-0.4
	baz=74						
429A	Davenport Ranc	73.79	335	P	P	04 59 06.0	-0.1
	baz=74						
332A	Millersview	73.80	337	P	P	04 59 06.0	-0.1
	baz=74						
234A	Clairette	73.90	338	P	P	04 59 05.3	-1.4
	baz=74						
331A	San Angelo	73.94	336	P	P	04 59 05.4	-1.6
	baz=74						
233A	Rising Star	74.13	338	P	P	04 59 07.9	-0.2
	baz=74						
232A	Coleman	74.24	337	P	P	04 59 08.5	-0.3
	baz=75						
SWET	Sewanee	74.36	349	eP	P	04 59 07.7	-1.7
	27nm,0.9s						
134A	White-Moore Ra	74.42	339	P	P	04 59 09.9	+0.2
	baz=75						
329A	Wagon Wheel Ra	74.61	335	P	P	04 59 10.7	-0.3
	baz=75						
133A	Hamilton Ranch	74.69	338	P	P	04 59 11.3	0.0
	baz=75						
Z35A	Perchaven, San	74.90	340	P	P	04 59 12.7	+0.3
	baz=75						
ABTX	Abilene, Hawle	74.92	337	eP	P	04 59 10.9	-1.8
	32nm,1.4s						
ABTX	Abilene, Hawle	74.92	337	P	P	04 59 12.6	-0.1
	baz=75						
131A	Roby	75.20	337	P	P	04 59 12.9	-1.4
	baz=76						
Z33A	Whitaker Ranch	75.28	338	P	P	04 59 13.8	-0.9
	baz=76						
CASY	Casey	75.39	182	eP	P	04 59 10.8	-4.2
	15nm,1.2s						
228A	UT Block 9, Go	75.39	335	P	P	04 59 15.6	+0.2
	baz=76						
Z32A	Haskell	75.51	338	P	P	04 59 16.5	+0.4
	baz=76						
WVT	Waverly	75.54	348	eP	P	04 59 15.4	-0.6
	21nm,1.3s						
Y34A	Reagan Ranch,	75.63	339	P	P	04 59 16.6	-0.1
	baz=76						
128A	Castleberry Fa	75.82	335	P	P	04 59 17.5	-0.4
	baz=76						
Y33A	Hilltop Ranch,	75.92	339	P	P	04 59 18.2	-0.1
	baz=76						
MNTX	Cornudas Mount	75.98	332	eP	P	04 59 17.8	-1.0
	3.0nm,1.0s						
Z30A	Sanderson Ranc	75.99	336	P	P	04 59 18.5	-0.3
	baz=76						
Y32A	R-V Farms, Ver	76.15	338	P	P	04 59 19.8	+0.2
	baz=77						
Z29A	Hungry Hill Ra	76.15	336	P	P	04 59 19.1	-0.7
	baz=76						
X34A	Smith Ranch, M	76.25	340	P	P	04 59 19.8	-0.4
	baz=77						
Y31A	Rekieta Farm,	76.35	337	P	P	04 59 20.8	-0.1
	baz=77						
Z28A	Tucker Farm, M	76.40	335	P	P	04 59 21.1	-0.1
	baz=77						
Z27A	Tatum	76.69	335	P	P	04 59 24.1	+1.2
	baz=77						
W34A	Bridge Creek,	76.83	340	P	P	04 59 24.1	+0.6
	baz=77						
X31A	McDonald Ranch	76.89	338	P	P	04 59 25.7	+1.8
	baz=77						
Z26A	Caprock	76.91	334	P	P	04 59 24.9	+0.7
	baz=77						
Y28A	McKinney Farm,	76.92	336	P	P	04 59 25.8	+1.6
	baz=77						
W33A	Caddo, Fort Co	76.95	339	P	P	04 59 24.4	+0.2
	baz=77						
TUL1	Tulsa	76.96	342	eP	P	04 59 21.9	-2.2
	20nm,0.9s						
W32A	Sentinel	77.14	339	P	P	04 59 25.7	+0.5
	baz=78						
MSTX	Muleshoe	77.15	335	eP	P	04 59 23.4	-2.0
SIUC	Southern Illin	77.32	347	eP	P	04 59 24.1	-2.0
V34A	Guthrie	77.33	340	eP	P	04 59 26.1	-0.2
	12nm,0.8s						
V34A	Guthrie	77.33	340	P	P	04 59 26.1	-0.2
	baz=78						
V33A	Lossen Ranch,	77.52	340	P	P	04 59 27.8	+0.4
	baz=78						
V32A	Arapaho	77.64	339	P	P	04 59 29.5	+1.4
	baz=78						
AMTX	Amarillo	77.64	337	eP	P	04 59 26.6	-1.6
	7.1nm,0.5s						
AMTX	Amarillo	77.64	337	P	P	04 59 28.1	0.0
	baz=78						
Y25A	Mesa, Roswell	77.75	334	P	P	04 59 29.5	+0.7
	baz=78						
DBIC	Dimbokro	77.81	71	P	P	04 59 30.4	+1.0
	5.1nm,0.7s,baz=236,slow=6.0,SNR=7.1						
DBIC				LR	LR	05 33 52.5	
	comp=Z,189nm,18.3s,baz=207,slow=36						
DBIC	Dimbokro	77.81	71	eP	P	04 59 31.0	+1.6
	53nm,1.6s						
V31A	Spring Creek L	77.92	338	P	P	04 59 30.5	+0.9
	baz=78						
W27A	Bowe Ranch, En	78.25	336	P	P	04 59 31.0	-0.6
	baz=79						
X24A	Lazy VL Ranch,	78.59	334	P	P	04 59 33.7	+0.1
	baz=79						
TUC	Tucson	78.61	328	eP	P	04 59 32.6	-1.0
	12nm,1.5s						
X23A	Hourglass Bar	78.87	333	P	P	04 59 35.5	+0.4
	baz=79						
BOSA	Boshof	79.00	118	P	P	04 59 37.6	+1.5
	5.8nm,0.8s,baz=247,slow=6.6,SNR=5.5						
BOSA	Boshof	79.00	118	eP	P	04 59 35.6	-0.6
	10nm,0.9s						
LAZ	Ladron	79.05	332	eP	P	04 59 35.2	-0.9
	8.3nm,1.5s						
W24A	Lazy 6 Ranch,	79.16	334	P	P	04 59 36.5	-0.2
	baz=80						
ANMO	Albuquerque	79.29	333	eP	P	04 59 36.6	-0.8
	16nm,1.5s						
W23A	Werner Place,	79.38	333	P	P	04 59 38.4	+0.6
	baz=80						
U27A	Thompson Grove	79.42	336	P	P	04 59 38.8	+0.9
	baz=80						
V25A	Rancho No Teng	79.46	335	P	P	04 59 39.1	+0.8
	baz=80						
U25A	Circle Dot Ran	79.91	335	P	P	04 59 41.7	+1.0
	baz=80						
V22A	San Miguel Ran	80.32	333	P	P	04 59 43.8	+0.8
	baz=81						
U23A	El Rito	80.44	334	P	P	04 59 43.6	0.0
	baz=81						
T25A	Trinidad	80.58	335	P	P	04 59 45.6	+1.3
	baz=81						
X16A	Lo Mia Camp, P	80.72	329	P	P	04 59 46.7	+1.6
	baz=81						
U22A	Llaves	80.72	333	P	P	04 59 46.4	+1.3
	baz=81						
S26A	Kim	80.72	336	P	P	04 59 45.5	+0.5
	baz=81						
T24B	San Luis	80.83	335	P	P	04 59 46.3	+0.5
	baz=81						
R28A	Tribune	80.88	338	P	P	04 59 46.4	+0.7
	baz=81						
S25A	Robets Cordova	81.06	336	P	P	04 59 47.4	+0.6
	baz=82						
S24A	Houchin Ranch,	81.30	335	P	P	04 59 48.0	-0.2
	baz=82						
R26A	Arlington	81.34	337	P	P	04 59 48.9	+0.7
	baz=82						
LBTB	Lobatse	81.45	115	eP	P	04 59 46.3	-3.1
	9.8nm,0.8s						
R24A	Sanders Place,	81.80	335	P	P	04 59 51.2	+0.4
	baz=82						
S22A	4UR Ranch, Cre	81.94	334	P	P	04 59 51.8	+0.2
	baz=82						
R23A	Moffat	82.00	335	P	P	04 59 51.6	-0.4
	baz=82						
ARUT	Antelope Range	84.44	329	eP	P	05 00 02.9	-1.5
	36nm,0.7s						
ECSD	EROS Data Cent	84.59	343	eP	P	05 00 04.9	+0.2
	76nm,2.0s						
ECSD	EROS Data Cent	84.59	343	P	P	05 00 05.0	+0.2
	baz=85						
M24A	Cheyenne	84.66	337	P	P	05 00 05.5	+0.1
	baz=85						
K27A	Flueckinger Fa	85.04	339	P	P	05 00 08.1	+1.0
	baz=86						
R11A	Troy Canyon, C	85.79	328	P	P	05 00 11.9	+0.7
	baz=86						
I28A	Midland	85.95	340	P	P	05 00 11.3	-0.3
	baz=86						
DUG	Dugway	86.28	331	eP	P	05 00 11.6	-1.9
	20nm,1.5s						
DUG	Dugway	86.28	331	P	P	05 00 14.7	+1.3
	baz=87						
H28A	Mission Ridge	86.54	341	P	P	05 00 15.0	+0.5
	baz=87						
RSSD	Black Hills	86.85	339	eP	P	05 00 14.8	-1.4
	3.4nm,1.0s						
TOA0	Torodi Ar. Sit	86.90	71	eP	P	05 00 17.8	+0.8
TORD	Torodi Ar. Bea	86.90	71	P	P	05 00 18.6	+1.6
	2.5nm,0.9s,baz=237,slow=3.4,SNR=5.3						
NVAR	Mina Array Bea	87.01	326	P	P	05 00 16.0	-1.2
	0.4nm,0.5s,baz=129,slow=7.1,SNR=2.7						
HWUT	Hardware Ranch	87.04	332	eP	P	05 00 14.8	-2.4
	23nm,1.5s						
H25A	Fruitdale	87.19	339	P	P	05 00 19.3	+1.6
	baz=88						
BW06	Boulder Array	87.36	334	eP	P	05 00 16.1	-2.7
	6.0nm,1.4s						
PDAR	Pinedale Array	87.36	334	P	P	05 00 18.2	-0.6
	1.9nm,1.1s,baz=235,slow=3.2,SNR=2.6						
J20A	Shoshoni	87.39	336	P	P	05 00 18.9	+0.1
	baz=88						
G26A	Maurine	87.53	340	P	P	05 00 19.4	+0.1
	baz=88						
I21A	Big Trails, Te	87.55	336	P	P	05 00 19.7	+0.1
	baz=88						
F28A	McLaughlin	87.58	341	P	P	05 00 20.0	+0.5
	baz=88						
J19A	Crowheart	87.63	335	P	P	05 00 19.4	-0.6
	baz=88						
E30A	Jud	87.74	343	P	P	05 00 21.1	+0.9
	baz=88						
C30A	Mose, Pekin	88.77	343	P	P	05 00 25.5	+0.4
	baz=89						
D28A	Regan	88.78	342	P	P	05 00 24.7	-0.4
	baz=89						
H18A	Shoshone NF, C	89.09	335	P	P	05 00 28.2	+1.3
	baz=90						
D26A	Manning	89.09	341	P	P	05 00 26.6	0.0
	baz=90						
B30A	Myrvik Farm, E	89.44	344	P	P	05 00 29.1	+0.9
	baz=90						
LSZ	Lusaka	89.48	109	eP	P	05 00 27.0	-2.4
	6.7nm,1.2s						
B29A	Wagenman Farm,	89.69	343	P	P	05 00 30.4	+1.1
	baz=90						
HLID	Hailey	89.78	332	eP	P	05 00 27.7	-2.4
	40nm,2.2s						
ULM	Lac du Bonnet	90.65	346	P	P	05 00 34.2	+0.4
	1.6nm,0.6s,baz=229,slow=5.1,SNR=3.1						
ULM	Lac du Bonnet	90.65	346	eP	P	05 00 32.9	-0.8
	11nm,1.4s						
NEW	Newport	94.78	332	eP	P	05 00 51.8	-1.2
	4.5nm,1.1s						
GERES	GERESS Array B	116.21	47	PKP	PKPdf	05 06 14.9	+0.3
	0.5nm,0.8s,baz=191,slow=6.4,SNR=4.1						
SUW	Suwalki	123.77	45	ePKPdf	PKPdf	05 06 28.8	+0.1
H11S2	WAKE ISLAND Hy	124.40	267	T	T	07 22 50.9	
	baz=126,slow=74,SNR=12						
H11S1	WAKE ISLAND Hy	124.41	267	T	T	07 22 52.1	
	baz=126,slow=74,SNR=9.8						
H11S3	WAKE ISLAND Hy	124.42	267	T	T	07 22 49.8	
	baz=126,slow=74,SNR=9.5						
BRTR	Keskin Array B	125.03	64	PKP	PKPdf	05 06 31.7	-0.1
	0.5nm,0.5s,baz=198,slow=2.5,SNR=3.6						
KIEV	Kiev	126.12	50	ePKPdf	PKPdf	05 06 32.9	-0.5
AKASG	Malin Array Be	126.13	50	PKP	PKPdf	05 06 33.2	-0.3
	0.2nm,0.4s,baz=277,slow=1.3,SNR=3.1						
AKBB	Malin Array Si	126.13	50	ePKPdf	PKPdf	05 06 33.3	-0.1
KIV	Kislovodsk	132.83	62	ePKPdf	PKPdf	05 06 45.9	-0.7
GEYT	Alibeck	142.39	75	PKhKP	PKPpre	05 07 01.9	
	1.5nm,0.5s,baz=204,slow=3.2,SNR=3.6						
SEY	Seymchan	143.32	327	PKP	PKPdf	05 07 05.0	0.0
	2.2nm,0.7s,baz=123,slow=8.5,SNR=3.5						
ARU	Arti	143.95	44	ePKPdf	PKPbc	05 07 04.7	+0.4
TIXI	Tiksi	144.98	348	ePKPbc	PKPbc	05 07 06.0	-1.0
ABKAR	Akbulak array	145.36	57	ePKPbc	PKPab	05 07 09.0	-0.1
KULM	Kulim	146.41	169	ePKPbc	PKPdf	05 07 11.5	-0.5
BRVK	Borovoye	151.31	48	ePKPdf	PKPdf	05 07 17.0	-1.6
BRVK				ePKPbc	PKPbc	05 07 23.3	-1.3
BRVK				ePKPab	PKPab	05 07 31.5	-1.4
BVAR	Borovoye Array	151.38	48	PKPbc	PKPbc	05 07 26.2	+1.4
	2.8nm,0.7s,baz=289,slow=4.4,SNR=7.0						
TKM2	Tokmak 2	156.30	70	ePKPdf	PKPdf	05 07 24.5	-1.8
ZAA0	Zalesovo Array	158.71	37	ePKPab	PKPab	05 08 04.5	+0.2
MKAR	Makanchi Array	160.50	57	PKPab	PKPab	05 08 13.0	+0.5
	0.6nm,0.7s,baz=318,slow=1.9,SNR=2.1						

IDC **28** *04:50:25.0±0.8, 34°.96S×73°.94W, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/29, mbtmp4.1/8, ML3.5/1, Error ellipse: s-maj=29.8km s-min=21.2km az=93.0*

ISCJB **28** *04:50:28.8±0.5, 34°.96S±0°.08×73°.81W±0°.08, h33km, mb4.4/25, Error ellipse: s-maj=11.3km s-min=9.0km az=150.8*

NEIC **28** *04:50:30.1±0.3, 35°.04S×73°.78W, h35km, mb4.6/22, Error ellipse: s-maj=12.3km s-min=8.9km az=67.0*

ISC 28 04:50:30.1±0.5, 35°.06S±0°.08×73°.81W±0°.10, h35km, n56, σ1§15/60, mb4.5/25, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.80	55	Pn	Pn	04 51 53.3	-0.4
	1.2nm,0.3s,baz=256,slow=1.4,SNR=6.3						
CFAA				Sn	Sn	04 53 00.1	+1.0
	0.6nm,0.3s,baz=356,slow=14,SNR=3.2						
TRQA	Tornquist	9.98	111	ePn	Pn	04 52 49.0	-1.9
LVC	Limon Verde	13.12	20	ePn	Pn	04 53 30.1	-4.1
LPAZ	La Paz	19.38	17	eP	Pn	04 54 54.6	-0.2
	21nm,1.4s						
SIV	San Ignacio	22.16	34	P	P	04 55 22.1	-0.9
	3.8nm,0.9s,baz=248,slow=15,SNR=3.8						
SAML	Samuel	27.76	23	eP	P	04 56 13.8	-1.7
	7.0nm,1.3s						
OTAV	Otavalo	35.39	352	eP	P	04 57 24.2	+1.2
	14nm,1.5s						
ROSC	El Rosal	39.71	359	eP	P	04 57 57.5	-2.1
GRGR	Grenville	48.33	16	eP	P	04 59 08.4	+0.1
SNAA	Sanae	51.16	157	P	P	04 59 30.3	+1.1
	2.4nm,0.9s,baz=277,slow=3.8,SNR=5.0						
SNAA	Sanae	51.16	157	eP	P	04 59 30.5	+1.2
	48nm,1.8s						
OBIP	Obispado Ponce	53.26	9	eP	P	04 59 46.5	+1.3
CBYP	Canovanas	53.58	9	eP	P	04 59 47.9	+0.3
QSPA	South Pole Qui	55.17	180	P	P	05 00 00.6	+1.7
	5.3nm,1.0s,baz=150,slow=2.1,SNR=5.3						
QSPA	South Pole Qui	55.17	180	eP	P	05 00 00.6	+1.7
	9.7nm,1.1s						
GOGA	Godfrey	68.72	351	eP	P	05 01 27.3	-2.6
LRAL	Lakeview Retre	68.86	348	eP	P	05 01 28.1	-2.7
JCT	Junction City	69.64	336	eP	P	05 01 35.9	0.0
	9.4nm,1.1s						
TXAR	Lajitas Array	69.97	332	P	P	05 01 38.0	0.0
	0.7nm,0.6s,baz=157,slow=7.6,SNR=11						
WHTX	Lake Whitney	70.31	339	eP	P	05 01 39.6	-0.3
SWET	Sewanee	70.83	350	eP	P	05 01 42.9	-0.1
	30nm,1.5s						
WVT	Waverly	72.03	348	eP	P	05 01 49.7	-0.4
	8.0nm,1.2s						
MNTX	Cornudas Mount	72.74	332	eP	P	05 01 53.9	-0.7
	1.0nm,0.5s						
TUL1	Tulsa	73.53	342	eP	P	05 01 59.0	-0.1
LAZ	Ladron	75.81	332	eP	P	05 02 12.9	+0.3
ANMO	Albuquerque	76.03	333	eP	P	05 02 14.8	+0.9
	3.7nm,1.4s						
DBIC	Dimbokro	76.90	72	eP	P	05 02 19.2	+0.2
	3.4nm,0.6s						
CASY	Casey	78.92	182	eP	P	05 02 27.2	-2.3
	15nm,1.2s						
ISCO	Idaho Springs	80.07	336	eP	P	05 02 37.2	+1.0
	5.2nm,1.4s						
BOSA	Boshof	80.86	118	P	P	05 02 41.9	+1.0
	5.8nm,1.0s,baz=234,slow=6.6,SNR=4.7						
BOSA	Boshof	80.86	118	eP	P	05 02 41.4	+0.6
	12nm,1.1s						
SRU	San Rafael	81.24	332	eP	P	05 02 43.7	+1.3
	2.0nm,1.0s						
JLU	Jordanelle	82.89	332	eP	P	05 02 50.4	-0.7
	1.6nm,0.9s						
DUG	Dugway	83.07	331	eP	P	05 02 51.6	-0.3
	10nm,1.4s						
LBTB	Lobatse	83.18	116	eP	P	05 02 54.3	+1.3
	3.8nm,0.8s						
HWUT	Hardware Ranch	83.80	332	eP	P	05 02 55.8	+0.1
	12nm,1.4s						
PDAR	Pinedale Array	84.07	334	P	P	05 02 55.6	-1.5
	0.7nm,0.9s,baz=171,slow=6.2,SNR=5.2						
TOA0	Torodi Ar. Sit	85.94	71	eP	P	05 03 07.6	+0.8
TORD	Torodi Ar. Bea	85.94	71	P	P	05 03 07.6	+0.7
	1.4nm,0.9s,baz=254,slow=5.6,SNR=4.5						
HLID	Hailey	86.56	332	eP	P	05 03 10.1	+0.7
	46nm,2.5s						
MCMT	McKenzie Canyo	87.04	333	eP	P	05 03 13.4	+1.6
	5.1nm,1.5s						
WVOR	Wild Horse Val	87.35	329	eP	P	05 03 14.3	+1.1
	14nm,1.9s						
FCC	Fort Churchill	95.00	350	eP	P	05 03 48.1	-0.1
WRAB	Tennant Creek	119.12	211	ePKPdf	PKPdf	05 09 13.3	-2.5
BRTR	Keskin Array B	123.63	62	PKP	PKPdf	05 09 23.7	-0.2
	0.7nm,0.7s,baz=156,slow=4.7,SNR=3.8						
TIXI	Tiksi	141.46	349	ePKPdf	PKPdf	05 09 57.1	+0.9
ABKAR	Akbulak array	143.49	53	ePKPdf	PKPdf	05 09 59.4	-1.0
BRVK	Borovoye	148.99	43	ePKPdf	PKPdf	05 10 09.8	+0.2
BVAR	Borovoye Array	149.06	43	PKPbc	PKPbc	05 10 14.9	+1.0
	2.5nm,0.8s,baz=318,slow=1.9,SNR=4.5						
IPM	Ipoh	149.19	170	ePKPdf	PKPdf	05 10 11.4	+0.2
IPM				ePKPbc	PKiKP	05 10 16.2	-0.5
KKM	Kota Kinabalu	149.68	200	ePKPdf	PKPdf	05 10 12.7	+0.6
KKM				ePKPbc	PKiKP	05 10 16.4	-1.4
KULM	Kulim	149.93	169	ePKPbc	PKPbc	05 10 18.0	+0.7
KKAR	Karatay Array	151.34	63	ePKPdf	PKPdf	05 10 14.3	+0.6
KKAR				ePKPbc	PKiKP	05 10 19.9	-0.3
KKAR				ePKPab	PKPab	05 10 28.1	+0.1
MKAR	Makanchi Array	158.57	50	PKPab	PKPab	05 10 59.5	+0.7
	1.2nm,0.7s,baz=317,slow=4.4,SNR=4.8						
CMAR	Chiang Mai Arr	162.25	157	PKPab	PKPab	05 11 14.6	-0.7
	0.5nm,0.3s,baz=238,slow=1.7,SNR=4.5						
ULN	Ulaanbaatar	167.19	357	ePKPab	PKPab	05 11 37.8	+1.3

ISCJB **28** *04:51:12.9±0.4, 38°.01S±0°.07×73°.72W±0°.10, h22km, mb4.8/41, Error ellipse: s-maj=12.2km s-min=8.0km az=142.0*

NEIC **28** *04:51:13.9±3.6, 38°.05S×73°.71W, h19km±21km, mb4.9/30, Error ellipse: s-maj=11.2km s-min=5.9km az=64.0*

IDC **28** *04:51:13.2±1.2, 37°.57S×73°.78W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.2/29, mbtmp4.2/9, ML4.9/1, Error ellipse: s-maj=41.4km s-min=27.4km az=5.0*

ISC 28 04:51:14.7±0.6, 38°.06S±0°.08×73°.7W±0°.1, h22km, n72, σ1§43/61, mb4.8/41, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.64	138	ePn	Pn	04 52 09.5	-0.3
TRQA	Tornquist	9.28	94	ePn	Pn	04 53 28.9	+1.7
LVC	Limon Verde	15.94	16	ePn	Pn	04 54 57.5	-0.5
CPUP	Villa Florida	18.12	55	P	Pn	04 55 23.6	-1.4
	0.9nm,0.3s,baz=207,slow=9.7,SNR=6.9						
CPUP	Villa Florida	18.12	55	ePn	Pn	04 55 23.7	-1.3
	0.5nm,0.6s						
LPAZ	La Paz	22.24	14	P	P	04 56 13.9	+3.2
	11nm,0.6s,baz=177,slow=7.4,SNR=10						
LPAZ	La Paz	22.24	14	eP	P	04 56 09.9	-0.8
	23nm,0.9s						
SIV	San Ignacio	24.66	30	P	P	04 56 33.6	-0.4
	1.9nm,0.6s,baz=221,slow=12,SNR=3.7						
SAML	Samuel	30.51	21	eP	P	04 57 25.1	-1.2
	6.0nm,0.9s						
BDFB	Brasilia	31.83	52	P	P	04 57 37.1	-1.0
	2.2nm,0.6s,baz=236,slow=10,SNR=3.3						
OTAV	Otavalo	38.35	352	eP	P	04 58 33.1	-1.6
	40nm,1.8s						
ROSC	El Rosal	42.70	359	eP	P	04 59 11.6	+1.1
SDV	Santo Domingo	46.79	4	eP	P	04 59 41.3	-1.5
	8.2nm,0.8s						
RCBR	Riachuelo	46.99	57	P	P	04 59 44.8	+0.4
	4.5nm,0.8s,baz=234,slow=8.7,SNR=3.6						
SNAA	Sanae	48.39	156	eP	P	04 59 54.7	+0.1
	8.0nm,1.1s						
JTS	JuntasAbangare	49.23	345	eP	P	05 00 01.4	-0.1
	58nm,1.0s						
QSPA	South Pole Qui	52.19	180	eP	P	05 00 22.4	-1.2
	5.1nm,0.8s						
RKT	Rikitea	53.88	267	eLR	LR	05 16 09.5	
	417nm,26.5s						
RKT	Rikitea	53.88	267	eT	T	05 58 14.3	
	1.9nm,0.2s						
CBYP	Canovanas	56.52	9	eP	P	05 00 54.8	-0.5
	29nm,1.0s						
TBI	Tubuai	65.11	259	eT	T	06 12 13.5	
	7.0nm,0.2s						
MEH	Mehetia	67.02	265	eT	T	06 14 38.5	
	22nm,0.2s						
TVO	Taravao	68.00	264	eT	T	06 15 49.4	
	1.6nm,0.2s						
TIAR	Tiarei	68.20	264	eT	T	06 16 07.0	
	9.9nm,0.3s						
PAE	Paea	68.33	264	eT	T	06 16 16.2	
	1.3nm,0.3s						
LRAL	Lakeview Retre	71.80	348	eP	P	05 02 34.9	-0.4
	10nm,1.1s						
JCT	Junction City	72.40	337	eP	P	05 02 38.6	-0.5
	21nm,1.0s						
TXAR	Lajitas Array	72.65	333	P	P	05 02 40.2	-0.4
	1.5nm,0.6s,baz=159,slow=8.8,SNR=12						
SWET	Sewanee	73.78	350	eP	P	05 02 46.2	-0.8
	24nm,0.8s						
SUR	Sutherland	74.09	119	eP	P	05 02 48.6	-0.8
	26nm,1.2s						
ABTX	Abilene, Hawle	74.34	337	eP	P	05 02 49.5	-0.9
	25nm,1.2s						
WVT	Waverly	74.96	348	eP	P	05 02 52.7	-1.2
	17nm,1.1s						
TUL1	Tulsa	76.38	342	eP	P	05 03 00.9	-1.1
	28nm,0.8s						
MSTX	Muleshoe	76.57	336	eP	P	05 03 02.0	-1.3
	12nm,1.0s						
SIUC	Southern Illin	76.74	347	eP	P	05 03 03.1	-0.8
AMTX	Amarillo	77.07	337	eP	P	05 03 05.9	-0.2
	34nm,1.1s						
LIC	Lamto	77.36	72	eP	P	05 03 14.5	+6.4
	92nm,1.0s						
TIC	Toumodi	77.64	71	eP	P	05 03 16.2	+6.5
	53nm,0.9s						
KIC	Kosan Boka	77.67	72	eP	P	05 03 16.4	+6.6
	80nm,0.9s						
DBIC	Dimbokro	77.78	71	eP	P	05 03 10.6	+0.2
	29nm,0.8s						
TUC	Tucson	78.05	329	eP	P	05 03 11.9	+0.3
	8.8nm,1.3s						
LAZ	Ladron	78.48	332	eP	P	05 03 13.6	-0.4
	3.5nm,1.0s						
ANMO	Albuquerque	78.72	333	eP	P	05 03 15.3	-0.1
	9.9nm,1.0s						
BOSA	Boshof	79.40	118	eP	P	05 03 18.5	-0.9
	13nm,1.0s						
TSUM	Tsumeb	79.43	106	eP	P	05 03 19.9	+0.1
	11nm,1.3s						
SDCO	Great Sand Dun	80.92	335	eP	P	05 03 27.0	-0.4
	4.6nm,1.0s						
LBTB	Lobatse	81.84	115	eP	P	05 03 34.2	+1.7
	22nm,1.2s						
PV01	Paradox Valley	82.33	333	eP	P	05 03 35.5	+0.8
	556nm,1.0s						
SRU	San Rafael	83.90	332	eP	P	05 03 42.7	-0.1
	7.6nm,0.9s						
TMUT	Trail Mountain	84.32	332	eP	P	05 03 45.8	+0.8
	8.0nm,1.0s						
JLU	Jordanelle	85.55	332	eP	P	05 03 52.9	+1.8
	3.2nm,0.8s						
NVAR	Mina Array Bea	86.46	326	P	P	05 03 55.5	-0.1
	0.4nm,0.8s,baz=164,slow=4.7,SNR=2.3						
PDAR	Pinedale Array	86.79	334	P	P	05 03 56.6	-0.6
	2.5nm,1.1s,baz=141,slow=5.7,SNR=4.8						
TOA0	Torodi Ar. Sit	86.87	71	eP	P	05 03 57.2	-0.7
TORD	Torodi Ar. Bea	86.87	71	P	P	05 03 57.5	-0.4
	1.0nm,0.5s,baz=220,slow=4.4,SNR=9.0						
LSZ	Lusaka	89.81	109	P	P	05 04 16.2	+4.0
	3.5nm,0.9s,baz=339,slow=15,SNR=4.3						

LSZ Lusaka 89.81 109 eP P 05 04 11.8 -0.4
5.4nm,0.9s
TAM Tamanrasset 95.78 66 eP P 05 04 38.6 -0.9
2.5nm,0.9s
GERES GERESS Array B 115.95 47 PKP PKPdf 05 10 00.4 +5.1
0.7nm,0.7s,baz=242,slow=2.9,SNR=5.3
BRTR Keskin Array B 124.93 64 PKP PKPdf 05 10 16.4 +3.5
1.9nm,0.7s,baz=211,slow=1.7,SNR=7.8
KIEV Kiev 125.89 50 ePKPdf PKPdf 05 10 13.5 -0.7
AKASG Malin Array Be 125.90 50 PKP PKPdf 05 10 17.2 +3.0
0.5nm,0.5s,baz=280,slow=2.3,SNR=4.6
RAYN Ar Rayn 126.70 87 ePKPdf PKPdf 05 10 17.4 +0.7
ARU Arti 143.67 44 ePKPdf PKPbc 05 10 45.6 +1.0
ABKAR Akbulak array 145.19 56 ePKPbc PKPbc 05 10 49.1 -0.5
KULM Kulim 146.99 170 ePKPbc PKPdf 05 10 54.0 -0.2
BRVK Borovoye 151.05 47 ePKPbc PKPbc 05 11 04.8 -0.5
BRVK ePKPab PKPab 05 11 12.2 -0.8
BVAR Borovoye Array 151.12 47 PKPbc PKPbc 05 11 05.2 -0.2
2.7nm,0.7s,baz=312,slow=1.3,SNR=4.9
TKM2 Tokmak 2 156.25 68 ePKPdf PKPdf 05 11 06.8 -0.7
ZALV Zalesovo Beam 158.35 36 PKPab PKPab 05 11 43.6 -0.4
1.3nm,0.5s,baz=306,slow=5.9,SNR=3.8
MKAR Makanchi Array 160.33 56 PKPab PKPab 05 11 52.3 -0.6
1.7nm,0.6s,baz=278,slow=3.1,SNR=5.5
SONM Songino Array 170.23 359 PKPab PKPab 05 12 41.0 +4.6
3.1nm,1.1s,baz=343,slow=4.5,SNR=7.1

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*SJA **28** 04:55:37.8±0.9, 34.28S×73.08W, h44km±12km, MD4.4, ML5.1*

*IDC **28** 04:55:43.0±0.4, 34.08S×72.06W, h0km, mb5.0/23, mb1 5.1/26, mb1mx5.0/36, mbtmp5.0/26, ML4.9/3, MS4.0/2, Ms1 4.0/2, ms1mx3.6/36, Error ellipse: s-maj=16.5km s-min=11.1km az=78.0*

*GUC **28** 04:55:44.4±0.5, 34.16S×72.21W, h16km±26km, ML5.1*

*ISCJB **28** 04:55:47.2±0.2, 34.06S±0.03, 72.19W±0.03, h33km, mb5.3/166, Error ellipse: s-maj=4.7km s-min=3.1km az=170.5*

*MOS **28** 04:55:47.4±0.9, 33.94S×72.04W, h33km, mb5.4/43, Error ellipse: s-maj=15.8km s-min=7.1km az=101.7*

*BJI **28** 04:55:47.2, 34.20S×72.60W, h35km, mB5.2/15, Ms5.3/11, Ms7 5.0/12*

*NEIC **28** 04:55:48.6±0.1, 34.03S×71.99W, h35km, mb5.3/153, Error ellipse: s-maj=5.6km s-min=3.8km az=65.0*

NEIC Felt [II] at Valparaiso. Also felt at Rancagua, Santiago and Vicuna. Felt [III] at Mendoza, Argentina. Also felt at San Juan.

ISC 28 04:55:48.3±0.7, **34.06S**±0.04×**72.05W**±0.05, **h34**km±2km, **n845**, σ0.87/875, **mb5.3**/167, **218C-215D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.70	35 ⇑	iP	Pb	04 56 00.7	-1.6
TACH	Talagante	1.01	67 ⇑	iP	Pn	04 56 05.4	-0.7
IHA	Instituto Hidr	1.08	19	eP	Pn	04 56 06.6	-0.5
IHA				iS	Sb	04 56 22.9	+0.5
RCDM	Rinconada Maip	1.18	62	eP	Pn	04 56 08.0	-0.5
RCDM				eS	Sb	04 56 25.9	+0.7
RCDM				AML	AML	04 56 31.7	
	comp=N,38µm,0.6s						
SAN	Santiago	1.30	63 ⇑	iP	Pn	04 56 10.3	+0.1
SAN				iS	Sb	04 56 30.3	+1.5
STL	Santa Lucia	1.33	63 ⇓	iP	Pn	04 56 09.6	-0.9
STL				iS	Sb	04 56 29.7	+0.3
PCH	Pirque	1.35	72	eP	Pn	04 56 11.1	+0.3
PCH				eS	Sb	04 56 31.5	+1.4
ROCH	El Roble	1.39	39	eP	Pn	04 56 11.5	0.0
ROCH				eS	Sb	04 56 32.5	+1.2
ROCH				AML	AML	04 56 38.0	
	comp=N,58µm,0.4s						
PEL	Peldehue	1.46	52 ⇑	iP	Pn	04 56 12.9	+0.6
PEL				iS	Sb	04 56 34.4	+1.3
FCH	Farellones	1.64	64	AML	AML	04 56 44.8	
	comp=N,31µm,0.7s						
AAGR	Agrelo	2.86	71	eP	Pb	04 56 35.9	-2.8
AAGR				eP	Pb	04 56 35.9	-2.8
ARCO	CERRO ARCO	2.88	66	eP	Pb	04 56 36.4	-2.6
ARCO				eS	Sb	04 57 19.1	+5.3
ARCO				AML	AML	04 57 27.5	
	comp=Z,3µm,0.6s						
AUSP	Uspallata	2.89	51	eP	Pn	04 56 35.4	+3.3
AVIZ	Vizcacheras	3.00	80	eP	Pb	04 56 37.5	-3.6
ASAL	Salagasta	3.06	62	eP	Pb	04 56 38.7	-3.5
ASAL				⇓eS	Sb	04 57 23.0	+3.9
RTLS	Leoncito	3.23	47	eP	Pn	04 56 40.2	+3.4
RTCV	Cerro Valdivia	3.67	54	eP	Pn	04 56 47.2	+4.5
CFAA	Coronel Fontan	4.03	54	Pn	Pn	04 56 49.9	+2.2
	comp=Z,2.9nm,0.3s,baz=219,slow=13,SNR=13						
CFAA				Sn	Sb	04 57 45.1	-1.9
	comp=Z,7.8nm,0.3s,baz=99,slow=21,SNR=3.2						
CFAA				LR	LR	04 58 44.8	
	comp=Z,395nm,21.8s,baz=227,slow=45						
RTLL	Cerro Villicun	4.06	49	eP	Pn	04 56 51.6	+3.5
ACAN	Cantantal	4.45	68	eP	Pn	04 56 56.5	+3.1
PLCA	Paso Flores	6.77	170	eP	Pn	04 57 28.4	+3.1
PLCA	Paso Flores	6.77	170	Pn	Pn	04 57 24.1	-1.2
	comp=Z,3.7nm,0.3s,baz=54,slow=19,SNR=2.6						
PLCA				Lg	Lg	04 59 18.5	
	baz=248,slow=19,SNR=3.2						
PLCA	Paso Flores	6.77	170	ePn	Pn	04 57 28.4	+3.1
PLCA				Lg	Lg	04 59 18.4	
PLCA				eSg	Sb	04 59 20.6	+15
TRQA	Tornquist	9.08	119	ePn	Pn	04 57 59.5	+2.6
LVC	Limon Verde	11.73	14	ePn	Pn	04 58 27.9	-5.6
LVC				eSn	Sn	05 00 41.2	-2.2
CPUP	Villa Florida	14.87	63	eP	Pn	04 59 16.3	+0.3
CPUP				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CPUP	Villa Florida	14.87	63	Pn	Pn	04 59 16.1	+0.1
	comp=Z,1.6nm,0.3s,baz=209,slow=10,SNR=7.4						
CPUP				Lg	Lg	05 03 15.8	
	comp=Z,0.8nm,0.3s,baz=315,slow=19,SNR=2.4						
CPUP	Villa Florida	14.87	63	ePn	Pn	04 59 16.3	+0.3
	comp=Z,7.3nm,0.8s						
CPUP				Lg	Lg	05 03 15.8	
LPAZ	La Paz	18.04	12	eP	Pn	04 59 57.0	0.0
LPAZ				pmax	pmax		
	comp=Z,112nm,0.8s						
LPAZ	La Paz	18.04	12	P	Pn	04 59 57.5	+0.5
	comp=Z,2.6nm,0.3s,baz=185,slow=7.8,SNR=42						
LPAZ	La Paz	18.04	12	ePn	Pn	04 59 57.0	0.0
	comp=Z,112nm,0.8s						
SIV	San Ignacio	20.53	31	P	P	05 00 23.5	-0.3
	comp=Z,36nm,0.6s,baz=223,slow=9.6,SNR=64						
USHA	Ushuaia	20.93	174	P	P	05 00 27.5	-0.3
	comp=Z,16nm,0.8s,baz=295,slow=11,SNR=4.2						
USHA				LR	LR	05 09 31.7	
	comp=Z,2µm,18.0s,baz=326,slow=40						
NNA	Nana	22.40	348	iP	P	05 00 44.7	+0.7
NNA	Nana	22.40	348	P	P	05 00 43.9	0.0
	comp=Z,43nm,0.8s,baz=197,slow=11,SNR=23						
NNA	Nana	22.40	348	eP	P	05 00 43.6	-0.3
	comp=Z,43nm,0.7s						
SAML	Samuel	26.29	20	eP	P	05 01 20.1	-0.6
	comp=Z,28nm,0.8s						
BDFB	Brasilia	28.37	56	P	P	05 01 39.0	-0.6
	comp=Z,23nm,0.9s,baz=224,slow=8.8,SNR=17						
OTAV	Otavalo	34.64	349	eP	P	05 02 36.6	+1.6
	comp=Z,48nm,1.5s						
ROSC	El Rosal	38.76	356	P	P	05 03 12.0	+2.0
	comp=Z,17nm,0.5s,baz=1.5,slow=23,SNR=26						
ROSC	El Rosal	38.76	356	eP	P	05 03 12.5	+2.4
SDV	Santo Domingo	42.73	2	eP	P	05 03 41.5	-1.0
	comp=Z,41nm,0.8s						
BCIP	Isla Barro Col	43.61	349	eP	P	05 03 47.9	-1.6
	comp=Z,40nm,0.9s						
RCBR	Riachuelo	43.68	58	P	P	05 03 50.2	+0.1
	comp=Z,20nm,0.6s,baz=219,slow=12,SNR=22						
RCBR	Riachuelo	43.68	58	eP	P	05 03 50.4	+0.2
	comp=Z,24nm,0.7s						
JTS	JuntasAbangare	45.77	342	eP	P	05 04 07.9	+1.2
JTS				pmax	pmax		
	comp=Z,18nm,1.0s						
JTS	JuntasAbangare	45.77	342	P	P	05 04 07.9	+1.2
	comp=Z,9.4nm,0.8s,baz=283,slow=4.4,SNR=5.2						
JTS	JuntasAbangare	45.77	342	eP	P	05 04 07.9	+1.2
	comp=Z,18nm,1.0s						
GRGR	Grenville	46.98	14	eP	P	05 04 15.3	-0.8
	comp=Z,130nm,0.7s						
VNA3	Neumayer Olymp	49.31	158	P	P	05 04 34.1	+0.5
VNA2	Neumayer--Watz	49.97	157	P	P	05 04 39.4	+0.8
SNAA	Sanae	51.54	158	P	P	05 04 50.7	+0.2
SNAA	Sanae	51.54	158	eP	P	05 04 48.4	-2.1
SNAA				pmax	pmax		
	comp=Z,88nm,1.7s						
SNAA	Sanae	51.54	158	P	P	05 04 50.8	+0.4
	comp=Z,12nm,0.9s,baz=284,slow=6.8,SNR=38						
SNAA	Sanae	51.54	158	eP	P	05 04 50.5	0.0
	comp=Z,55nm,1.1s						
ICMP	Isla Caja de M	51.92	7	eP	P	05 04 52.6	-1.1
CRPR	Cabo Rojo, PR	51.98	6	eP	P	05 04 53.0	-1.3
	comp=Z,63nm,0.6s						
OBIP	Obispado Ponce	52.07	7	eP	P	05 04 53.8	-1.0
	comp=Z,86nm,0.7s						
SABA	Saba	52.07	11	eP	P	05 04 54.7	-0.2
	comp=Z,139nm,0.8s						
CELP	Cerrillos	52.10	7	eP	P	05 04 54.0	-1.1
LSP	Las Mesas	52.15	6	eP	P	05 04 54.4	-1.1
MTDJ	Mount Denham	52.25	353	eP	P	05 04 55.5	-0.8
	comp=Z,29nm,0.7s						
LRS	Lares	52.29	6	eP	P	05 04 55.0	-1.5
AOPR	Arecibo Observ	52.35	6	eP	P	05 04 55.9	-1.1
	comp=Z,34nm,0.7s						
ANWB	Willy Bob	52.36	12	eP	P	05 04 55.6	-1.4
	comp=Z,108nm,0.6s						
CBYP	Canovanas	52.37	7	eP	P	05 04 55.5	-1.7
	comp=Z,40nm,0.8s						
SDDR	Presa de Saban	52.75	1	eP	P	05 04 59.3	-0.7
	comp=Z,15nm,0.7s						
SMN1	Samana, DR	53.01	3	eP	P	05 05 00.5	-1.4
GTBY	Guantanamo Bay	53.76	356	eP	P	05 05 06.4	-0.9
	comp=Z,55nm,0.9s						
TEIG	Tepich	56.15	342	eP	P	05 05 23.7	-0.8
	comp=Z,85nm,0.8s						
QSPA	South Pole Qui	56.18	180	P	P	05 05 25.2	+0.7
	comp=Z,30nm,0.9s,baz=151,slow=2.6,SNR=46						
QSPA	South Pole Qui	56.18	180	eP	P	05 05 24.8	+0.2
	comp=Z,36nm,1.0s						
NVL	N'lazarevskaya	56.27	157	eP	P	05 05 25.6	+0.7
NVL				pmax	pmax		
	comp=Z,19nm,0.9s						
035Z	Hargill	65.05	334 ⇑	P	P	05 06 26.4	+1.2
	baz=65						
035A	Encino	65.50	334 ⇓	P	P	05 06 29.5	+1.4
	baz=66,SNR=7.6						
SYO	Syowa Base	65.82	158 ⇑	eX	P	05 06 22.4	-7.3
034A	Hebbronville	65.83	334 ⇑	P	P	05 06 31.9	+1.7
	baz=66,SNR=10						
TIGA	Tifton	66.05	349	eP	P	05 06 31.4	-0.1
	comp=Z,76nm,0.9s						
TIGA	Tifton	66.05	349 ⇓	P	P	05 06 31.7	+0.2
	baz=66						
934A	Benavides	66.25	334 ⇓	P	P	05 06 34.5	+1.5
	baz=67,SNR=5.8						
738A	Farr-Stevens R	66.42	337 ⇑	P	P	05 06 34.4	+0.4
	baz=67						
933A	Laredo	66.54	334 ⇑	P	P	05 06 36.0	+1.2
	baz=67,SNR=8.3						
835A	Beeville	66.64	335 ⇑	P	P	05 06 36.8	+1.4
	baz=67,SNR=6.7						
834A	Tilden	66.74	335 ⇓	P	P	05 06 37.5	+1.4
	baz=67,SNR=23						
735A	Kenedy	67.15	336 ⇓	P	P	05 06 39.9	+1.3
	baz=68,SNR=8.9						
833A	Chaparral WMA,	67.23	334 ⇓	P	P	05 06 40.0	+0.9
	baz=68,SNR=23						
NHSC	New Hope	67.24	353	eP	P	05 06 39.0	-0.1
	comp=Z,218nm,1.5s						
734A	La Parita Cree	67.40	335 ⇑	P	P	05 06 41.3	+1.1
	baz=68						
832A	Faith Ranch, C	67.41	333 ⇑	P	P	05 06 40.5	+0.2
	baz=68,SNR=18						
636A	Smothers Creek	67.47	336 ⇑	P	P	05 06 42.1	+1.4
	baz=68,SNR=19						
HKT	Hockley	67.51	338	eP	P	05 06 41.5	+0.7
HKT				pmax	pmax		
	comp=Z,82nm,2.1s						
HKT	Hockley	67.51	338	eP	P	05 06 41.5	+0.7
	comp=Z,82nm,2.1s						
733A	Divot King Ran	67.55	334 ⇓	P	P	05 06 42.2	+1.1
	baz=68						
635A	Leesville	67.63	336 ⇑	P	P	05 06 41.9	+0.2
	baz=68,SNR=5.1						
538A	Harpers Horsep	67.66	338 ⇑	P	P	05 06 43.8	+2.0
	baz=68						
537A	Green Hill Far	67.78	337 ⇑	P	P	05 06 43.9	+1.3
	baz=68,SNR=5.9						
732A	Laxson Ranch,	67.81	334 ⇑	P	P	05 06 43.2	+0.4
	baz=68,SNR=28						
GOGA	Godfrey	67.96	350	eP	P	05 06 42.6	-1.1
GOGA				pmax	pmax		
	comp=Z,26nm,0.7s						
GOGA	Godfrey	67.96	350	eP	P	05 06 42.6	-1.1
	comp=Z,26nm,0.7s						
536A	Bastrop	68.02	337 ⇓	P	P	05 06 44.9	+0.8
	baz=68,SNR=5.2						
438A	Sam Houston St	68.14	338 ⇓	P	P	05 06 46.0	+1.1
	baz=68						
535A	Dale	68.15	336 ⇑	P	P	05 06 45.2	+0.3
	baz=68,SNR=7.1						
VBMS	Vicksburg	68.18	343	eP	P	05 06 46.0	+0.9
	comp=Z,77nm,0.7s						
633A	Saathoff Ranch	68.18	335 ⇑	P	P	05 06 45.9	+0.7
	baz=68,SNR=5.5						
LRAL	Lakeview Retre	68.20	347	eP	P	05 06 44.6	-0.6
	comp=Z,16nm,0.9s						
340A	Bronson	68.30	340 ⇓	P	P	05 06 46.0	+0.2
	baz=69,SNR=17						
339A	Huntington	68.41	339 ⇑	P	P	05 06 46.9	+0.3
	baz=69,SNR=16						
632A	Uvalde	68.44	334 ⇓	P	P	05 06 47.0	+0.2
	baz=69,SNR=25						
534A	Blanco	68.45	335 ⇓	P	P	05 06 46.4	-0.5
	baz=69,SNR=5.6						
436A	Wall Ranch, Ga	68.58	337 ⇓	P	P	05 06 48.4	+0.8
	baz=69						
631A	Perdido Creek	68.65	333 ⇓	P	P	05 06 48.3	+0.2
	baz=69,SNR=12						
338A	Crockett	68.66	339 ⇓	P	P	05 06 49.4	+1.3
	baz=69						
533A	Kerrville	68.69	335 ⇑	P	P	05 06 48.5	+0.2
	baz=69,SNR=22						
337A	Centerville	68.80	338 ⇑	P	P	05 06 49.7	+0.8
	baz=69,SNR=6.5						
NATX	Nacogdoches	68.84	339	eP	P	05 06 49.9	+0.7
	comp=Z,57nm,0.9s						
435B	Jarrell	68.85	337 ⇓	P	P	05 06 50.0	+0.8
	baz=69,SNR=5.5						
239A	Gary	69.03	340 ⇑	P	P	05 06 51.2	+0.8
	baz=69						
532A	Rocksprings	69.05	334 ⇑	P	P	05 06 51.6	+1.0
	baz=69,SNR=40						
434A	Burnet	69.10	336 ⇓	P	P	05 06 51.3	+0.4
	baz=69,SNR=28						
CNNC	Cliffs of the	69.15	355	eP	P	05 06 51.5	+0.5
	comp=Z,77nm,0.6s						
336A	Riesel	69.16	337 ⇑	P	P	05 06 51.8	+0.6
	baz=70,SNR=15						
238A	Jacksonville	69.21	339 ⇑	P	P	05 06 52.8	+1.3
	baz=70						
335A	Moody	69.25	337 ⇓	P	P	05 06 52.6	+0.8
	baz=70						
531A	Rocksprings	69.31	334 ⇑	P	P	05 06 52.9	+0.7
	baz=70,SNR=22						
433A	Art	69.33	335 ⇓	P	P	05 06 52.5	+0.2
	baz=70,SNR=26						
JCT	Junction City	69.33	335	eP	P	05 06 52.7	+0.4
JCT				pmax	pmax		
	comp=Z,43nm,0.9s						
JCT	Junction City	69.33	335	eP	P	05 06 52.7	+0.4
	comp=Z,43nm,0.9s						
JCT	Junction City	69.33	335 ⇓	P	P	05 06 52.7	+0.4
	baz=70,SNR=23						
KMSC	Kings Mountain	69.38	352	eP	P	05 06 52.2	-0.3
	comp=Z,35nm,0.8s						
KMSC	Kings Mountain	69.38	352 ⇓	P	P	05 06 52.4	-0.1
	baz=70,SNR=9.7						
237A	Washetta, Mont	69.41	339 ⇓	P	P	05 06 53.2	+0.5
	baz=70						
334A	Lometa	69.57	336 ⇓	P	P	05 06 54.3	+0.6
	baz=70,SNR=13						
530A	J-C Ranch, Com	69.59	333 ⇓	P	P	05 06 54.8	+0.8
	baz=70,SNR=28						
432A	Menard	69.69	335 ⇓	P	P	05 06 54.7	+0.2
	baz=70,SNR=9.5						
TXAR	Lajitas Array	69.78	331	P	P	05 06 55.7	+0.5
	comp=Z,7.3nm,0.7s,baz=154,slow=8.1,SNR=57						
431A	Sonora	69.81	334 ⇑	P	P	05 06 55.4	+0.2
	baz=70,SNR=10						
333A	Richland Sprin	69.81	336 ⇑	P	P	05 06 55.5	+0.2
	baz=70,SNR=20						
529A	Stev Forest Ra	69.91	332 ⇑	P	P	05 06 56.2	+0.3
	baz=70,SNR=16						
WHTX	Lake Whitney	69.92	337	eP	P	05 06 56.2	+0.3
	comp=Z,46nm,0.8s						
WHTX	Lake Whitney	69.92	337 ⇓	P	P	05 06 56.2	+0.3
	baz=70,SNR=15						
137A	Heron Place, G	69.95	339 ⇑	P	P	05 06 56.4	+0.3
	baz=70						
CPCT	Cooper Cave	70.12	349	eP	P	05 06 58.6	+1.5
OXF	Oxford	70.12	345	eP	P	05 06 56.4	-0.7
OXF				pmax	pmax		
	comp=Z,124nm,0.9s						
OXF	Oxford	70.12	345	eP	P	05 06 56.4	-0.7
	comp=Z,124nm,0.9s						
SWET	Sewanee	70.13	348	eP	P	05 06 56.7	-0.4
	comp=Z,81nm,0.7s						
430A	Baggett Ranch,	70.13	333 ⇓	P	P	05 06 57.8	+0.5
	baz=70,SNR=20						
332A	Millersview	70.13	335 ⇓	P	P	05 06 57.3	0.0
	baz=70,SNR=15						
234A	Clairette	70.15	337 ⇓	P	P	05 06 57.4	+0.1
	baz=70,SNR=20						
TKL	Tuckaleechee C	70.21	350	eP	P	05 06 57.1	-0.5
TKL	Tuckaleechee C	70.21	350	eP	P	05 06 57.1	-0.5
429A	Davenport Ranc	70.23	333 ⇓	P	P	05 06 58.4	+0.5
	baz=70,SNR=20						
331A	San Angelo	70.31	334 ⇑	P	P	05 06 58.5	+0.2
	baz=71,SNR=24						
233A	Rising Star	70.42	336 ⇑	P	P	05 06 59.0	+0.1
	baz=71,SNR=19						
135A	Vickery Place,	70.42	337 ⇓	P	P	05 06 59.1	+0.1
	baz=71						
232A	Coleman	70.56	335 ⇑	P	P	05 07 00.0	+0.2
	baz=71,SNR=13						
134A	White-Moore Ra	70.66	337 ⇑	P	P	05 07 00.5	+0.1
	baz=71						
330A	Mertzon	70.67	334 ⇑	P	P	05 07 00.7	+0.2
	baz=71,SNR=20						
231A	Bronte	70.83	335 ⇓	P	P	05 07 01.6	0.0
	baz=71,SNR=24						
133A	Hamilton Ranch	70.97	336 ⇓	P	P	05 07 02.2	-0.1
	baz=71,SNR=14						
329A	Wagon Wheel Ra	71.04	333 ⇓	P	P	05 07 03.5	+0.6
	baz=71,SNR=16						
TZTN	Tazewell	71.05	350	eP	P	05 07 02.1	-0.6
	comp=Z,106nm,1.6s						
UALR	University of	71.06	342	eP	P	05 07 02.2	-0.6
	comp=Z,31nm,1.1s						
230A	Sterling City	71.08	334 ⇑	P	P	05 07 02.9	-0.2
	baz=71,SNR=6.3						
Z35A	Perchaven, San	71.09	338 ⇑	P	P	05 07 03.5	+0.5
	baz=71,SNR=13						
MIAR	Mount Ida	71.16	341	eP	P	05 07 03.5	+0.1
MIAR				pmax	pmax		
	comp=Z,60nm,1.7s						
MIAR	Mount Ida	71.16	341	eP	P	05 07 03.5	+0.1
	comp=Z,60nm,1.7s						
ABTX	Abilene, Hawle	71.22	336	eP	P	05 07 04.2	+0.3
	comp=Z,42nm,0.8s						
ABTX	Abilene, Hawle	71.22	336 ⇑	P	P	05 07 03.9	+0.1
	baz=72,SNR=14						
VWCC	Virginia Weste	71.32	353	eP	P	05 07 03.7	-0.6
BLA	Blacksburg	71.33	353	eP	P	05 07 04.2	-0.2
BLA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BLA	Blacksburg	71.33	353	eP	P	05 07 04.2	-0.2
	comp=Z,9.1nm,0.7s						
Z34A	Collier Ranch,	71.34	337 ⇑	P	P	05 07 05.0	+0.5
	baz=72						
WVT	Waverly	71.36	347	eP	P	05 07 04.3	-0.2
WVT	Waverly	71.36	347	eP	P	05 07 04.3	-0.2
	comp=Z,166nm,0.7s						
229A	Bryant Ranch,	71.40	334 ⇑	P	P	05 07 05.0	0.0
	baz=72,SNR=8.4						
131A	Roby	71.53	335 ⇑	P	P	05 07 05.9	+0.2
	baz=72,SNR=11						
Z33A	Whitaker Ranch	71.53	337 ⇑	P	P	05 07 06.0	+0.3
	baz=72,SNR=21						
JSRW	J. Sargeant Re	71.59	355	eP	P	05 07 06.4	+0.5
130A	Snyder	71.66	335 ⇓	P	P	05 07 06.6	0.0
	baz=72,SNR=5.6						
Z32A	Haskell	71.79	336 ⇓	P	P	05 07 07.2	-0.1
	baz=72,SNR=23						
Y34A	Reagan Ranch,	71.83	338 ⇓	P	P	05 07 07.4	0.0
	baz=72,SNR=7.1						
228A	UT Block 9, Go	71.83	333 ⇓	P	P	05 07 07.6	0.0
	baz=72,SNR=14						
129A	Stewart Farms,	72.02	334 ⇑	P	P	05 07 08.4	-0.4
	baz=72						
Z31A	Sharp Cattle R	72.03	336 ⇓	P	P	05 07 08.8	+0.1
	baz=72,SNR=19						
CBN	Corbin	72.06	356	eP	P	05 07 08.6	-0.1
	comp=Z,20nm,0.5s						
Y33A	Hilltop Ranch,	72.15	337 ⇓	P	P	05 07 09.5	+0.1
	baz=72,SNR=8.1						
128A	Castleberry Fa	72.24	333 ⇑	P	P	05 07 10.2	+0.1
	baz=73,SNR=16						
PARMO	Parma	72.27	345	eP	P	05 07 09.7	-0.3
Z30A	Sanderson Ranc	72.34	335 ⇓	P	P	05 07 10.6	0.0
	baz=73,SNR=9.5						
Y32A	R-V Farms, Ver	72.42	336 ⇑	P	P	05 07 11.3	+0.3
	baz=73,SNR=13						
X34A	Smith Ranch, M	72.45	338 ⇑	P	P	05 07 11.1	0.0
	baz=73,SNR=9.2						
PBMO	Poplar Bluff	72.53	345	eP	P	05 07 11.2	-0.3
	comp=Z,39nm,0.8s						
Z29A	Hungry Hill Ra	72.53	334 ⇓	P	P	05 07 11.6	-0.2
	baz=73,SNR=19						
MNTX	Cornudas Mount	72.55	331	eP	P	05 07 10.9	-1.0
	comp=Z,14nm,0.9s						
X33A	Lawton	72.60	337 ⇓	P	P	05 07 11.7	-0.4
	baz=73,SNR=6.5						
127A	Arkansas Junct	72.62	333 ⇓	P	P	05 07 12.3	-0.1
	baz=73,SNR=6.4						
Y31A	Rekieta Farm,	72.66	336 ⇓	P	P	05 07 12.2	-0.3
	baz=73,SNR=13						
X32A	Elmer	72.75	337 ⇓	P	P	05 07 12.5	-0.4
	baz=73,SNR=7.8						
Y30A	Stafford Cattl	72.80	335 ⇓	P	P	05 07 13.2	-0.1
	baz=73						
Z28A	Tucker Farm, M	72.80	334 ⇓	P	P	05 07 13.2	-0.2
	baz=73,SNR=8.0						
W34A	Bridge Creek,	73.01	338	eP	P	05 07 14.8	+0.3
	comp=Z,90nm,1.6s						
W34A	Bridge Creek,	73.01	338 ⇑	P	P	05 07 14.1	-0.4
	baz=73,SNR=6.8						
TUL1	Tulsa	73.06	340	eP	P	05 07 14.4	-0.3
	comp=Z,34nm,0.8s						
TUL1	Tulsa	73.06	340 ⇑	P	P	05 07 14.4	-0.3
	baz=73,SNR=13						
Y29A	Porterfield Fa	73.06	335 ⇑	P	P	05 07 14.7	-0.2
	baz=73,SNR=23						
USIN	University of	73.11	347	eP	P	05 07 14.6	-0.3
	comp=Z,64nm,0.8s						
WCI	Wyandotte Cave	73.13	348	eP	P	05 07 14.1	-1.0
WCI				pmax	pmax		
	comp=Z,22nm,0.9s						
WCI	Wyandotte Cave	73.13	348	eP	P	05 07 14.1	-1.0
	comp=Z,22nm,0.9s						
MAW	Mawson	73.13	164	P	P	05 07 14.9	+0.1
	comp=Z,28nm,1.0s,baz=266,slow=13,SNR=3.3						
Z27A	Tatum	73.13	333 ⇑	P	P	05 07 15.0	-0.4
	baz=73,SNR=9.7						
W33A	Caddo, Fort Co	73.15	338 ⇑	P	P	05 07 16.0	+0.6
	baz=74,SNR=26						
X31A	McDonald Ranch	73.17	336 ⇓	P	P	05 07 15.5	+0.1
	baz=74,SNR=12						
SIUC	Southern Illin	73.17	346	eP	P	05 07 15.0	-0.3
	comp=Z,51nm,0.8s						
X30A	Coker Ranch, T	73.31	335 ⇑	P	P	05 07 16.5	+0.2
	baz=74						
Y28A	McKinney Farm,	73.31	334 ⇓	P	P	05 07 16.3	0.0
	baz=74,SNR=9.1						
W32A	Sentinel	73.38	337 ⇓	P	P	05 07 16.6	-0.1
	baz=74,SNR=27						
Z26A	Caprock	73.38	332 ⇑	P	P	05 07 17.0	+0.1
	baz=74,SNR=51						
V34A	Guthrie	73.49	339	eP	P	05 07 17.0	-0.3
	comp=Z,57nm,1.2s						
V34A	Guthrie	73.49	339 ⇓	P	P	05 07 16.9	-0.3
	baz=74,SNR=12						
MSTX	Muleshoe	73.55	334	eP	P	05 07 17.8	0.0
	comp=Z,34nm,0.8s						
MSTX	Muleshoe	73.55	334 ⇑	P	P	05 07 17.4	-0.4
	baz=74,SNR=19						
X29A	Tulia	73.59	335 ⇓	P	P	05 07 17.9	-0.2

	baz=74,SNR=11						
Y27A	Causey	73.62	333	⇑P	P	05 07 17.8	-0.4
	baz=74,SNR=7.5						
W31A	Holland Ranch,	73.66	336	⇓P	P	05 07 18.1	-0.3
	baz=74,SNR=5.6						
Z25A	Roswell	73.68	332	⇑P	P	05 07 18.8	+0.2
	baz=74,SNR=9.5						
V33A	Lossen Ranch,	73.71	338	⇓P	P	05 07 18.9	+0.3
	baz=74,SNR=15						
MVL	Millersville	73.79	357	*e*P	P	05 07 19.9	+1.0
	comp=Z,62nm,1.4s						
X28A	Dimmitt	73.84	334	⇓P	P	05 07 19.5	0.0
	baz=74						
V32A	Arapaho	73.86	337	⇓P	P	05 07 20.1	+0.6
	baz=74						
W30A	Crocket Farms	73.87	336	⇑P	P	05 07 20.2	+0.6
	baz=74						
Y26A	Elida	73.90	333	⇓P	P	05 07 20.2	+0.2
	baz=74,SNR=5.0						
OLIL	Olney	73.94	347	*e*P	P	05 07 19.2	-0.6
	comp=Z,57nm,1.3s						
319A	Douglas	73.94	327	⇓P	P	05 07 21.2	+1.0
	baz=74,SNR=8.8						
Z24A	Sheeppen Canyo	73.98	331	⇑P	P	05 07 21.1	+0.6
	baz=74,SNR=19						
AMTX	Amarillo	73.98	335	*e*P	P	05 07 20.7	+0.4
	comp=Z,49nm,1.3s						
AMTX	Amarillo	73.98	335	⇓P	P	05 07 20.6	+0.4
	baz=74						
U34A	Anderson Ranch	74.05	339	*e*P	P	05 07 20.4	-0.2
	comp=Z,28nm,0.8s						
U34A	Anderson Ranch	74.05	339	⇑P	P	05 07 20.7	+0.2
	baz=74,SNR=7.9						
BLO	Bloomington	74.08	348	*e*P	P	05 07 19.9	-0.8
BLO				pmax	pmax		
	comp=Z,36nm,0.6s						
BLO	Bloomington	74.08	348	*e*P	P	05 07 19.9	-0.8
	comp=Z,36nm,0.6s						
V31A	Spring Creek L	74.17	337	⇓P	P	05 07 22.1	+0.8
	baz=74,SNR=5.9						
W29A	Amraillo	74.18	335	⇑P	P	05 07 21.8	+0.3
	baz=74,SNR=10						
U33A	Lingo Farm, Me	74.22	338	⇑P	P	05 07 21.6	0.0
	baz=75						
Y25A	Mesa, Roswell	74.23	332	⇓P	P	05 07 21.9	+0.1
	baz=75,SNR=6.0						
SLM	Saint Louis	74.27	345	*e*P	P	05 07 21.5	-0.2
SLM				pmax	pmax		
	comp=Z,67nm,0.8s						
SLM	Saint Louis	74.27	345	*e*P	P	05 07 21.5	-0.2
	comp=Z,66nm,0.8s						
X27A	F and S Farms,	74.28	334	⇓P	P	05 07 22.4	+0.3
	baz=75,SNR=5.2						
121A	Cookes Peak, D	74.28	329	*e*P	P	05 07 22.6	+0.4
	comp=Z,26nm,0.9s						
121A	Cookes Peak, D	74.28	329	⇓P	P	05 07 23.5	+1.3
	baz=75,SNR=16						
V30A	Spur Ranch, Mi	74.44	336	⇑P	P	05 07 23.8	+0.9
	baz=75						
U32A	Winter Ranch,	74.45	338	⇑P	P	05 07 23.2	+0.3
	baz=75,SNR=14						
X26A	CR and CF Fran	74.46	333	⇑P	P	05 07 23.4	+0.3
	baz=75,SNR=10						
SSPA	Standing Stone	74.52	355	*e*P	P	05 07 22.9	-0.3
	comp=Z,15nm,0.7s						
Y24A	Capitan	74.53	332	⇑P	P	05 07 24.0	+0.3
	baz=75,SNR=10						
Z22A	Elephant Butte	74.56	330	⇓P	P	05 07 24.5	+0.7
	baz=75						
ACSO	Alum Creek Sta	74.61	351	*e*P	P	05 07 23.3	-0.4
	comp=Z,96nm,0.6s						
W27A	Bowe Ranch, En	74.64	334	⇑P	P	05 07 24.6	+0.5
	baz=75,SNR=18						
U31A	Nine Bar Ranch	74.71	337	⇓P	P	05 07 24.9	+0.4
	baz=75						
Y23A	Lovelace Mesa,	74.78	331	⇑P	P	05 07 25.9	+0.8
	baz=75,SNR=8.7						
ODNJ	Ogdensburg	74.81	358	*e*P	P	05 07 25.3	+0.5
	comp=Z,18nm,0.7s						
SUR	Sutherland	74.81	119	*e*P	P	05 07 26.7	+1.1
	comp=Z,31nm,0.9s						
T33A	Patterson Ranc	74.86	339	⇓P	P	05 07 25.8	+0.5
	baz=75,SNR=9.3						
W26A	Owens Ranch, T	74.92	333	⇓P	P	05 07 26.1	+0.3
	baz=75,SNR=10						
V28A	Channing	74.95	335	⇓P	P	05 07 26.6	+0.7
	baz=75,SNR=15						
X24A	Lazy VL Ranch,	75.09	332	⇓P	P	05 07 27.2	+0.3
	baz=75,SNR=9.7						
U30A	WK&E Inc. Balk	75.12	336	⇑P	P	05 07 27.3	+0.4
	baz=76,SNR=6.6						
T32A	Huddler Ranch,	75.16	338	⇓P	P	05 07 27.3	+0.3
	baz=76,SNR=6.0						
V27A	Dan Oppiter Fa	75.18	334	⇑P	P	05 07 27.6	+0.3
	baz=76,SNR=5.5						
DBIC	Dimbokro	75.21	71	*e*P	P	05 07 28.1	+0.3
DBIC				pmax	pmax		
	comp=Z,83nm,1.8s						
DBIC	Dimbokro	75.21	71	P	P	05 07 28.0	+0.3
	comp=Z,8.7nm,0.6s,baz=212,slow=5.4,SNR=18						
DBIC	Dimbokro	75.21	71	*e*P	P	05 07 28.1	+0.3
	comp=Z,83nm,1.8s						
W25A	X Bar L Ranch,	75.29	333	⇓P	P	05 07 28.2	+0.2
	baz=76,SNR=10						
T31A	Randall Ranch,	75.32	337	⇑P	P	05 07 28.4	+0.5
	baz=76						
LPM	Los Pinos Moun	75.34	331	*e*P	P	05 07 29.2	+0.9
LENM	Lemitar	75.35	331	*e*P	P	05 07 29.3	+0.9
X23A	Hourglass Bar	75.40	331	⇓P	P	05 07 29.5	+0.8
	baz=76,SNR=7.9						
TUC	Tucson	75.41	327	*e*P	P	05 07 29.1	+0.5
TUC				pmax	pmax		
	comp=Z,16nm,1.1s						
TUC	Tucson	75.41	327	*e*P	P	05 07 29.1	+0.5
	comp=Z,16nm,1.1s						
V26A	Tequesquite Ra	75.56	334	⇓P	P	05 07 29.6	+0.1
	baz=76,SNR=7.1						
LAZ	Ladron	75.63	331	*e*P	P	05 07 30.5	+0.6
	comp=Z,9.3nm,1.1s						
S32A	Newby Ranch, P	75.64	338	⇓P	P	05 07 30.3	+0.5
	baz=76,SNR=6.1						
W24A	Lazy 6 Ranch,	75.65	332	⇑P	P	05 07 30.6	+0.5
	baz=76,SNR=12						
U27A	Thompson Grove	75.77	335	⇑P	P	05 07 31.6	+1.0
	baz=76,SNR=5.2						
ANMO	Albuquerque	75.83	331	*e*P	P	05 07 30.6	-0.5
ANMO				pmax	pmax		
	comp=Z,15nm,1.0s						
ANMO	Albuquerque	75.83	331	*e*P	P	05 07 30.6	-0.5
	comp=Z,15nm,1.0s						
W23A	Werner Place,	75.89	332	⇓P	P	05 07 32.6	+1.1
	baz=76,SNR=12						
V25A	Rancho No Teng	75.90	333	⇓P	P	05 07 32.2	+0.7
	baz=76,SNR=16						
T29A	Hugoton	75.90	336	⇑P	P	05 07 32.2	+0.9
	baz=76,SNR=5.2						
R33A	Olander Ranch,	75.92	339	⇓P	P	05 07 31.3	0.0
	baz=76,SNR=5.6						
V24A	Rampart Ranch,	76.05	333	⇑P	P	05 07 33.0	+0.6
	baz=76						
214A	Organ Pipe Nat	76.06	325	⇑P	P	05 07 33.5	+1.2
	baz=76						
S30A	Montezuma	76.07	337	⇑P	P	05 07 32.7	+0.4
	baz=76						
U26A	Atchley Ranch,	76.07	334	⇑P	P	05 07 32.8	+0.4
	baz=76,SNR=7.2						
T28A	Walsh	76.15	336	⇑P	P	05 07 33.1	+0.3
	baz=76,SNR=24						
R32A	Long Quarter,	76.24	339	⇑P	P	05 07 33.7	+0.5
	baz=77,SNR=16						
KSU1	Kansas State U	76.26	341	*e*P	P	05 07 32.9	-0.3
	comp=Z,23nm,0.8s						
KSU1	Kansas State U	76.26	341	⇓P	P	05 07 32.9	-0.3
	baz=77,SNR=9.5						
S29A	Ulysses	76.27	337	⇓P	P	05 07 34.0	+0.6
	baz=77,SNR=10						
T27A	Campo	76.31	335	⇓P	P	05 07 34.0	+0.3
	baz=77,SNR=17						
U25A	Circle Dot Ran	76.32	334	⇓P	P	05 07 34.4	+0.5
	baz=77,SNR=13						
R31A	Burdett	76.37	338	⇑P	P	05 07 34.2	+0.3
	baz=77,SNR=12						
V23A	Ortiz Mt. (NFS	76.42	332	⇑P	P	05 07 35.3	+0.8
	baz=77,SNR=5.0						
TRY	Troy	76.43	359	*e*P	P	05 07 35.4	+1.3
	comp=Z,39nm,0.8s						
S28A	Manter	76.50	336	⇑P	P	05 07 35.1	+0.4
	baz=77,SNR=19						
Q33A	Connelly Farm,	76.51	340	⇑P	P	05 07 34.7	0.0
	baz=77						
R30A	Dighton	76.60	338	⇑P	P	05 07 35.8	+0.6
	baz=77,SNR=5.5						
U24A	Moreno Valley	76.65	333	⇓P	P	05 07 37.0	+1.1
	baz=77,SNR=5.6						
T26A	Comanche Natio	76.72	335	⇑P	P	05 07 37.0	+0.9
	baz=77						
Q32A	Meitler Ranch,	76.72	339	⇑P	P	05 07 36.2	+0.3
	baz=77,SNR=23						
AAM	Ann Arbor	76.73	351	*e*P	P	05 07 35.5	-0.3
AAM	Ann Arbor	76.73	351	*e*P	P	05 07 35.5	-0.3
V22A	San Miguel Ran	76.85	332	⇓P	P	05 07 38.2	+1.3
	baz=77,SNR=28						
P33A	Williams Farm,	76.88	340	⇓P	P	05 07 37.1	+0.4
	baz=77						
X18A	Snowflake	76.92	329	⇑P	P	05 07 38.2	+1.0
	baz=77						
U23A	El Rito	76.93	332	⇓P	P	05 07 38.7	+1.3
	baz=77,SNR=15						
T25A	Trinidad	76.98	334	⇓P	P	05 07 38.8	+1.2
	baz=77,SNR=23						
Q31A	Ellis	76.98	338	⇑P	P	05 07 37.8	+0.5
	baz=77,SNR=20						
R29A	Marienthal	77.00	337	⇓P	P	05 07 37.8	+0.2
	baz=77						
S26A	Kim	77.07	335	⇑P	P	05 07 39.2	+1.1
	baz=77,SNR=36						
ACCN	Adirondack Com	77.08	359	*e*P	P	05 07 38.3	+0.6
	comp=Z,65nm,1.5s						
R28A	Tribune	77.15	336	⇑P	P	05 07 38.8	+0.4
	baz=78,SNR=17						
Q30A	Quinter	77.22	338	⇑P	P	05 07 39.3	+0.6
	baz=78,SNR=9.8						
U22A	Llaves	77.23	332	⇑P	P	05 07 40.4	+1.3
	baz=78,SNR=7.8						
T24B	San Luis	77.27	333	⇑P	P	05 07 40.8	+1.4
	baz=78,SNR=16						
Z14A	Wintersburg	77.28	326	⇓P	P	05 07 40.1	+1.0
	baz=78						
P32A	Huiting Farm,	77.32	339	⇓P	P	05 07 39.5	+0.3
	baz=78,SNR=10						
W18A	Petrified Fore	77.33	329	*e*P	P	05 07 41.1	+1.5
	comp=Z,37nm,1.1s						
W18A	Petrified Fore	77.33	329	⇑P	P	05 07 41.0	+1.5
	baz=78						
Q29A	Oakley	77.38	337	⇓P	P	05 07 40.0	+0.4
	baz=78,SNR=12						
HNH	Hanover	77.39	360	*e*P	P	05 07 41.0	+1.5
	comp=Z,30nm,1.0s						
R27A	Eads	77.43	336	⇓P	P	05 07 40.3	+0.3
	baz=78,SNR=26						
S25A	Robets Cordova	77.45	334	⇑P	P	05 07 41.1	+0.9
	baz=78						
P31A	Stockton	77.45	339	⇓P	P	05 07 40.5	+0.5
	baz=78,SNR=16						
X16A	Lo Mia Camp, P	77.48	327	⇑P	P	05 07 41.7	+1.3
	baz=78,SNR=17						
T23A	Casias Ranch,	77.49	333	⇑P	P	05 07 41.3	+0.8
	baz=78,SNR=12						
R26A	Arlington	77.67	335	⇓P	P	05 07 42.2	+0.8
	baz=78,SNR=17						
MDV	Middlebury	77.69	359	*e*P	P	05 07 40.9	-0.2
S24A	Houchin Ranch,	77.72	334	⇓P	P	05 07 43.1	+1.3
	baz=78,SNR=21						
P30A	Selden	77.74	338	⇓P	P	05 07 42.1	+0.4
	baz=78,SNR=7.2						
Y14A	Wickenburg	77.79	326	⇓P	P	05 07 42.7	+0.7
	baz=78						
Q28A	Sharon Springs	77.81	337	⇑P	P	05 07 42.9	+0.9
	baz=78,SNR=6.3						
O32A	Brockman Farm,	77.81	340	⇑P	P	05 07 42.3	+0.3
	baz=78,SNR=6.6						
R25A	Fountain Ranch	77.83	335	⇓P	P	05 07 42.7	+0.5
	baz=78,SNR=8.1						
SDCO	Great Sand Dun	77.92	333	*e*P	P	05 07 43.4	+0.4
	comp=Z,10nm,0.8s						
GLA	Glamis	77.92	324	⇓P	P	05 07 43.6	+0.9
	baz=78						
P29A	Atwood	78.01	338	⇑P	P	05 07 43.7	+0.6
	baz=78,SNR=15						
O31A	Woolen Ranch,	78.02	339	⇑P	P	05 07 43.3	+0.1
	baz=78,SNR=8.3						
KSCO	Kaye Shedlock'	78.03	336	*e*P	P	05 07 44.6	+1.2
	comp=Z,32nm,0.8s						
KSCO	Kaye Shedlock'	78.03	336	⇑P	P	05 07 44.5	+1.2
	baz=78						
SCIA	State Center	78.05	344	*e*P	P	05 07 43.0	-0.2
	comp=Z,36nm,0.7s						
S23A	Nye Farm, Mont	78.07	333	⇑P	P	05 07 44.9	+1.1
	baz=78						
R24A	Sanders Place,	78.20	334	⇓P	P	05 07 45.4	+1.0
	baz=78,SNR=29						
P28A	Saint Francis	78.25	337	⇓P	P	05 07 45.2	+0.7
	baz=79,SNR=8.5						
Q26A	Hugo	78.25	335	⇑P	P	05 07 45.4	+0.8
	baz=79,SNR=5.7						
O30A	MW Ranch, Wils	78.26	338	⇑P	P	05 07 45.0	+0.5
	baz=79,SNR=6.3						
WVL	Waterville	78.28	2	*e*P	P	05 07 46.2	+1.9
	comp=Z,174nm,1.6s						
N32A	Stulken Farm,	78.28	340	⇓P	P	05 07 44.6	0.0
	baz=79						
SWSC	Sam W. Stewart	78.31	324	⇓P	P	05 07 45.7	+0.9
	baz=79						
LONY	Lake Ozonia	78.34	358	*e*P	P	05 07 45.1	+0.4
	comp=Z,26nm,1.0s						
Y12C	Blythe	78.35	325	⇓P	P	05 07 46.3	+1.3
	baz=79						
WUAZ	Wupatki	78.37	328	*e*P	P	05 07 46.8	+1.4
	comp=Z,31nm,1.1s						
WUAZ	Wupatki	78.37	328	⇓P	P	05 07 46.7	+1.4
	baz=79,SNR=10.0						
JFWS	Jewell Farm	78.39	346	*e*P	P	05 07 44.9	-0.2
JFWS				pmax	pmax		
	comp=Z,40nm,0.6s						
JFWS	Jewell Farm	78.39	346	*e*P	P	05 07 44.9	-0.2
	comp=Z,40nm,0.6s						
S22A	4UR Ranch, Cre	78.42	333	⇑P	P	05 07 46.8	+1.1
	baz=79,SNR=13						
R23A	Moffat	78.43	333	⇑P	P	05 07 46.5	+0.8
	baz=79,SNR=12						
Q25A	Bedland, Calha	78.50	335	⇓P	P	05 07 46.4	+0.4
	baz=79,SNR=10						
P27A	Ficken Ranch,	78.50	336	⇓P	P	05 07 46.6	+0.7
	baz=79,SNR=6.8						
N31A	Bailey Ranch,	78.53	339	⇑P	P	05 07 46.6	+0.7
	baz=79						
MONP	Monument Peak	78.57	323	⇓P	P	05 07 47.4	+0.8
	baz=79						
MVCO	Mesa Verde	78.61	331	*e*P	P	05 07 47.5	+0.8
	comp=Z,33nm,1.4s						
MVCO	Mesa Verde	78.61	331	⇑P	P	05 07 47.3	+0.6
	baz=79,SNR=11						
PDMCI	Parker Dam,Lak	78.62	326	⇑P	P	05 07 47.5	+1.0
	baz=79						
BC3	Big Chuckawall	78.72	324	⇓P	P	05 07 48.4	+1.1
	baz=79						
O28A	Krutsinger Ran	78.75	337	⇑P	P	05 07 47.8	+0.6
	baz=79,SNR=8.2						
P26A	Davis Ranch, A	78.76	336	⇓P	P	05 07 48.4	+1.0
	baz=79,SNR=12						
BGNE	Belgrade	78.84	340	⇑P	P	05 07 48.6	+1.0
	baz=79						
Q24A	Divide	78.86	334	⇑P	P	05 07 49.4	+1.2
	baz=79,SNR=24						
IRM	Iron Mountain	78.98	325	⇑P	P	05 07 49.6	+1.0
	baz=79						
P25A	Willow Gulch B	79.00	335	⇑P	P	05 07 50.0	+1.3
	baz=79,SNR=25						
M31A	Lambtecht Ranc	79.02	340	⇑P	P	05 07 49.6	+1.0
	baz=79,SNR=13						
N29A	Votaw Ranch, W	79.02	338	⇓P	P	05 07 49.5	+0.8
	baz=79						
O27A	Beecher Island	79.04	337	⇑P	P	05 07 50.1	+1.2
	baz=79,SNR=7.4						
W13A	Hualapai Mount	79.15	326	⇑P	P	05 07 51.1	+1.4
	baz=80						
PFO	Pinyon Flat Ob	79.17	324	*e*P	P	05 07 51.7	+1.9
PFO	Pinyon Flat Ob	79.17	324	P	P	05 07 50.3	+0.5
	comp=Z,17nm,1.0s,baz=162,slow=5.5,SNR=7.5						
PFO	Pinyon Flat Ob	79.17	324	*e*P	P	05 07 51.7	+1.9
PFO	Pinyon Flat Ob	79.17	324	⇑P	P	05 07 51.4	+1.6
	baz=80						
N28A	Pribbeno Ranch	79.19	338	⇓P	P	05 07 50.2	+0.6
	baz=80,SNR=5.2						
TSUM	Tsumeb	79.21	106	*e*P	P	05 07 50.6	+0.1
	comp=Z,20nm,1.3s						
NEE2	Needles Airpor	79.22	325	⇓P	P	05 07 51.0	+1.1
	baz=80						
BELC	Belle Mtn. Jos	79.26	324	⇑P	P	05 07 51.5	+1.2
	baz=80						
P24A	Kohler Place,	79.27	335	⇓P	P	05 07 51.4	+1.2
	baz=80						
O26A	Horse Wrangler	79.36	336	⇓P	P	05 07 51.5	+0.8
	baz=80						
PV01	Paradox Valley	79.43	331	*e*P	P	05 07 52.0	+0.8
	comp=Z,3µm,1.5s						
M30A	Dale-Ortello V	79.45	339	⇓P	P	05 07 51.5	+0.4
	baz=80						
P23A	Jefferson	79.48	334	⇑P	P	05 07 52.9	+1.4
	baz=80						
O25A	Wiggins	79.52	336	⇓P	P	05 07 52.8	+1.3
	baz=80,SNR=6.1						
MURC	Murrieta	79.53	323	⇑P	P	05 07 52.8	+1.2
	baz=80						
U15A	North Rim	79.54	328	⇓P	P	05 07 53.2	+1.3
	baz=80,SNR=16						
M29A	Burnside Ranch	79.61	339	⇑P	P	05 07 52.8	+0.9
	baz=80						
N27A	Anderson Farm,	79.62	337	⇑P	P	05 07 53.0	+1.0
	baz=80,SNR=13						
LDFC	Landfair	79.71	325	*e*P	P	05 07 54.9	+2.2
	comp=Z,38nm,1.1s						
SMCO	Snowmass	79.72	333	*e*P	P	05 07 54.1	+1.1
	comp=Z,25nm,0.9s						
GMRC	Granite Mounta	79.73	325	⇓P	P	05 07 54.1	+1.3
	baz=80						
L31A	Butterfield Fa	79.74	340	⇑P	P	05 07 53.4	+0.8
	baz=80,SNR=20						
ISCO	Idaho Springs	79.77	334	*e*P	P	05 07 53.2	+0.1
ISCO				pmax	pmax		
	comp=Z,13nm,1.0s						
ISCO	Idaho Springs	79.77	334	*e*P	P	05 07 53.2	+0.1
	comp=Z,13nm,1.0s						
ISCO	Idaho Springs	79.77	334	⇓P	P	05 07 53.8	+0.7
	baz=80,SNR=15						
M28A	Bar X Bar Ranc	79.78	338	⇓P	P	05 07 53.9	+1.1
	baz=80						
L30A	Spencer Herefo	79.79	339	⇑P	P	05 07 53.6	+0.8
	baz=80,SNR=9.7						
PV04	Paradox Valley	79.79	331	*e*P	P	05 07 54.1	+1.1
N26A	Koester Ranch,	79.86	336	⇑P	P	05 07 54.5	+1.2
	baz=80						
O24A	Longmont	79.86	335	⇓P	P	05 07 54.3	+0.9
	baz=80						
P22A	Eagle	80.01	333	⇑P	P	05 07 55.4	+1.2
	baz=80,SNR=9.9						
BOSA	Boshof	80.05	118	*e*P	P	05 07 54.3	-0.6
BOSA				pmax	pmax		
	comp=Z,25nm,1.1s						
BOSA	Boshof	80.05	118	P	P	05 07 54.6	-0.3
	comp=Z,13nm,0.7s,baz=235,slow=4.8,SNR=25						
BOSA	Boshof	80.05	118	*e*P	P	05 07 54.2	-0.6
	comp=Z,25nm,1.1s						
HEC	Hector,Ludlow	80.09	324	⇑P	P	05 07 56.3	+1.7
	baz=80						
M27A	Reverse DX Ran	80.22	337	⇓P	P	05 07 56.1	+0.9
	baz=81,SNR=6.4						
O23A	Lake Granby, G	80.24	334	⇓P	P	05 07 56.7	+1.1
	baz=81,SNR=24						
BFSC	Mount Baldy Ra	80.27	323	⇑P	P	05 07 57.3	+1.6
	baz=81						
TUQ	Turquoise Moun	80.39	325	⇑P	P	05 07 57.9	+1.6
	baz=81						
K30A	Basset	80.42	340	⇑P	P	05 07 57.0	+0.8
	baz=81,SNR=19						
O22A	Kremmling	80.43	334	⇓P	P	05 07 57.4	+0.7
	baz=81,SNR=16						
ECSD	EROS Data Cent	80.60	342	*e*P	P	05 07 57.1	0.0
	comp=Z,65nm,0.8s						
ECSD	EROS Data Cent	80.60	342	⇑P	P	05 07 57.1	0.0
	baz=81,SNR=61						
DECC	Green Verdugo	80.62	323	⇑P	P	05 07 58.8	+1.4
	baz=81						
M25A	Palm-Egli Farm	80.68	336	⇓P	P	05 07 58.7	+0.9
	baz=81,SNR=5.1						
L27A	T5 Ranch, Ells	80.70	338	⇑P	P	05 07 59.2	+1.4
	baz=81,SNR=6.2						
GSC	Goldstone	80.70	324	*e*P	P	05 07 59.6	+1.7
GSC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GSC	Goldstone	80.70	324	*e*P	P	05 07 59.6	+1.7
	comp=Z,10nm,0.8s						
GSC	Goldstone	80.70	324	⇓P	P	05 07 59.8	+1.8
	baz=81						
K29A	Lazy Trails An	80.71	339	⇓P	P	05 07 58.4	+0.6
	baz=81,SNR=11						
N23A	Red Feather La	80.86	335	⇓P	P	05 07 59.5	+0.6
	baz=81,SNR=11						
SHPR	Sheep Range	80.90	326	*e*P	P	05 08 00.4	+1.4
L26A	Underwood Farm	80.90	337	⇑P	P	05 08 00.2	+1.4
	baz=81						
SHOC	Shoshone	80.93	325	⇑P	P	05 08 00.3	+1.2
	baz=81						
CCUT	Cedar City	80.95	328	*e*P	P	05 08 01.0	+1.6
	comp=Z,29nm,1.1s						
EDW2	Edwards Air Fo	80.95	323	⇑P	P	05 08 00.0	+0.8
	baz=81						
N22A	Wattenberg Ran	80.96	334	⇑P	P	05 08 00.5	+1.1
	baz=81,SNR=16						
M24A	Cheyenne	80.97	336	⇑P	P	05 08 00.4	+1.1
	baz=81,SNR=8.8						
K28A	Ten Mile Ranch	80.98	339	⇓P	P	05 08 00.5	+1.3
	baz=81,SNR=19						
J30A	Dallas	80.99	340	⇓P	P	05 07 59.3	+0.1
	baz=81,SNR=12						
O20A	White River Ci	81.04	333	*e*P	P	05 08 00.5	+0.8
	comp=Z,79nm,1.8s						
O20A	White River Ci	81.04	333	⇓P	P	05 08 00.2	+0.5
	baz=81,SNR=5.9						
PHWY	Pilot Hill	81.04	335	*e*P	P	05 08 00.4	+0.6
	comp=Z,39nm,1.4s						
SRU	San Rafael	81.06	331	*e*P	P	05 08 00.5	+0.6
SRU				pmax	pmax		
	comp=Z,15nm,0.8s						
SRU	San Rafael	81.06	331	*e*P	P	05 08 00.5	+0.6
	comp=Z,16nm,0.8s						
OSI	Osito Adit	81.10	323	⇑P	P	05 08 01.4	+1.3
	baz=81						
SPMN	St. Paul	81.12	345	*e*P	P	05 07 59.2	-0.6
	comp=Z,33nm,0.8s						
SPMN	St. Paul	81.12	345	⇑P	P	05 07 59.2	-0.6
	baz=82,SNR=14						
ARUT	Antelope Range	81.18	328	*e*P	P	05 08 00.7	+0.2
ARUT	Antelope Range	81.18	328	*e*P	P	05 08 00.7	+0.2
	comp=Z,537nm,1.3s						
K27A	Flueckinger Fa	81.24	338	⇓P	P	05 08 01.3	+0.7
	baz=82,SNR=15						
MVU	Marysvale	81.24	329	*e*P	P	05 08 02.0	+1.1
	comp=Z,20nm,1.3s						
LRMC	Laurel Mountai	81.27	324	⇓P	P	05 08 01.9	+0.9
	baz=82						
M23A	Laramie	81.28	335	⇓P	P	05 08 01.7	+0.7
	baz=82,SNR=12						
L25A	Engebretsen Ra	81.30	337	⇑P	P	05 08 01.8	+0.8
	baz=82,SNR=5.8						
J29A	Okreek	81.30	340	⇓P	P	05 08 01.2	+0.3
	baz=82,SNR=46						
TMUT	Trail Mountain	81.49	330	*e*P	P	05 08 03.1	+0.8
	comp=Z,9.2nm,0.8s						
I30A	Oacoma	81.51	340	⇓P	P	05 08 02.1	+0.2
	baz=82,SNR=30						
L24A	Wheatland	81.52	336	⇓P	P	05 08 03.3	+1.1
	baz=82						
K26A	Motz Farm, Whi	81.53	337	⇑P	P	05 08 03.2	+1.0
	baz=82						
M22A	Cedar Creek Ra	81.53	334	⇓P	P	05 08 03.4	+1.0
	baz=82,SNR=6.7						
J28A	Allard Ranch,	81.59	339	⇑P	P	05 08 03.3	+0.9
	baz=82,SNR=21						
N20A	Spence Gulch,	81.65	333	⇓P	P	05 08 03.8	+0.8
	baz=82,SNR=10.0						
J27A	Elkhorn Farm,	81.66	338	⇓P	P	05 08 04.3	+1.4
	baz=82,SNR=14						
FURC	Furnace Creek,	81.67	325	⇑P	P	05 08 04.5	+1.7
	baz=82						
K25A	Mack Ranch, Ha	81.67	337	⇑P	P	05 08 04.5	+1.5
	baz=82						
ISA	Isabella	81.81	323	*e*P	P	05 08 04.9	+1.1
ISA				pmax	pmax		
	comp=Z,20nm,1.1s						
ISA	Isabella	81.81	323	*e*P	P	05 08 04.9	+1.1
	comp=Z,20nm,1.1s						
ISA	Isabella	81.81	323	⇑P	P	05 08 05.2	+1.5
	baz=82						

L23A Garrett 81.85 335 ⇑P P 05 08 04.5 +0.5
baz=82,SNR=6.8
I29A Vivian Onida 81.86 340 ⇑P P 05 08 03.8 0.0
baz=82,SNR=13
BRSD Miller 81.87 341 eP P 05 08 03.7 -0.1
comp=Z,63nm,0.8s
BRSD Miller 81.87 341 ⇑P P 05 08 03.8 0.0
baz=82,SNR=14
L22A Ellis Ranch, M 82.03 335 ⇓P P 05 08 05.8 +0.8
baz=82
J26A Sides Ranch, S 82.05 338 ⇓P P 05 08 06.1 +1.2
baz=82,SNR=14
K24A Anderson Ranch 82.09 336 ⇓P P 05 08 06.5 +1.3
baz=82
I28A Midland 82.09 339 ⇑P P 05 08 05.6 +0.6
baz=82,SNR=34
VES Vestal, Richgr 82.25 323 ⇑P P 05 08 07.1 +1.1
baz=82
MPU Maple Canyon 82.28 330 eP P 05 08 07.3 +1.1
comp=Z,26nm,1.2s
LBTB Lobatse 82.29 115 eP P 05 08 06.4 -0.4
LBTB pmax pmax
comp=Z,53nm,1.3s
LBTB Lobatse 82.29 115 eP P 05 08 06.4 -0.4
comp=Z,53nm,1.3s
SMMC Simmler 82.30 322 ⇑P P 05 08 07.8 +1.5
baz=83
GRAC Grapevine Rang 82.34 325 ⇑P P 05 08 07.8 +1.3
baz=83
J25A Sunshine Ranch 82.35 337 ⇑P P 05 08 07.5 +1.0
baz=83
K23A Bowen Ranch, D 82.39 336 ⇑P P 05 08 07.5 +0.8
baz=83,SNR=10
H29A Onida 82.39 340 ⇓P P 05 08 06.7 +0.1
baz=83,SNR=35
NLU North Lily Min 82.41 330 eP P 05 08 08.2 +1.3
comp=Z,39nm,1.6s
I27A Quinn 82.42 339 ⇓P P 05 08 07.0 +0.2
baz=83,SNR=17
DAU Daniels Canyon 82.46 331 eP P 05 08 08.1 +0.7
DAU Daniels Canyon 82.46 331 eP P 05 08 08.1 +0.7
G30A Faulkton 82.56 341 ⇓P P 05 08 07.4 0.0
baz=83,SNR=20
J24A Dixon Ranch, L 82.58 337 ⇓P P 05 08 08.7 +1.0
baz=83,SNR=11
R11A Troy Canyon, C 82.60 327 eP P 05 08 08.6 +0.6
comp=Z,22nm,1.0s
R11A Troy Canyon, C 82.60 327 ⇓P P 05 08 09.4 +1.4
baz=83
K22A Casper 82.61 335 eP P 05 08 08.4 +0.5
comp=Z,32nm,1.1s
K22A Casper 82.61 335 ⇓P P 05 08 08.6 +0.7
baz=83,SNR=12
I26A New Underwood 82.63 338 ⇑P P 05 08 08.4 +0.6
baz=83,SNR=7.4
H28A Mission Ridge 82.67 340 ⇑P P 05 08 08.1 +0.1
baz=83,SNR=42
JLU Jordanelle 82.70 331 eP P 05 08 08.6 +0.1
comp=Z,12nm,0.8s
RCTC Rector, Farmer 82.70 323 ⇓P P 05 08 09.0 +0.7
baz=83
G29A Hoven 82.83 341 ⇑P P 05 08 09.0 +0.1
baz=83,SNR=19
K21A Alcova 82.85 335 ⇓P P 05 08 09.7 +0.5
baz=83,SNR=28
CTU Camp Tracy 82.89 331 eP P 05 08 10.1 +0.6
comp=Z,7.2nm,0.8s
I25A Rochford 82.89 338 ⇓P P 05 08 10.1 +0.7
baz=83,SNR=18
DUG Dugway 82.91 330 eP P 05 08 10.4 +0.8
DUG pmax pmax
comp=Z,41nm,1.4s
DUG Dugway 82.91 330 eP P 05 08 10.4 +0.8
comp=Z,41nm,1.4s
DUG Dugway 82.91 330 ⇓P P 05 08 10.2 +0.7
baz=83,SNR=18
H27A Howes 82.94 339 ⇓P P 05 08 09.5 +0.1
baz=83,SNR=29
G28A Parade 83.00 340 ⇓P P 05 08 10.4 +0.6
baz=83,SNR=34
I24A Kuemmerle Ranc 83.04 337 ⇑P P 05 08 10.5 +0.5
baz=83,SNR=8.9
RSSD Black Hills 83.08 337 eP P 05 08 10.3 -0.1
RSSD pmax pmax
comp=Z,17nm,0.9s
RSSD Black Hills 83.08 337 eP P 05 08 10.3 -0.1
comp=Z,17nm,0.9s
TPH Tonopah 83.13 326 eP P 05 08 11.9 +1.1
TPH pmax pmax
comp=Z,22nm,0.9s
TPH Tonopah 83.13 326 eP P 05 08 11.9 +1.1
comp=Z,22nm,0.9s
F30A Leola 83.18 341 ⇓P P 05 08 10.8 +0.1
baz=84,SNR=18
J22A Midwest 83.26 335 ⇓P P 05 08 11.5 +0.2
baz=84,SNR=10.0
H25A Fruitdale 83.39 338 ⇓P P 05 08 12.4 +0.5
baz=84,SNR=10
F29A Eureka 83.39 341 ⇓P P 05 08 11.9 +0.1
baz=84,SNR=44
EYMN Ely 83.47 347 eP P 05 08 10.6 -1.4
comp=Z,25nm,0.9s
J21A Lysite 83.54 335 ⇑P P 05 08 13.3 +0.5
baz=84,SNR=7.2
MLAC Mammoth Lakes 83.54 324 ⇑P P 05 08 13.9 +0.9
baz=84
G27A Dupree 83.57 339 ⇓P P 05 08 12.8 +0.1
baz=84,SNR=17
HWUT Hardware Ranch 83.59 331 eP P 05 08 12.6 -0.5
comp=Z,22nm,0.8s
URZ Urewera 83.61 228 P P 05 08 12.4 -0.9
comp=Z,6.9nm,0.9s,baz=139,slow=9.3,SNR=3.3
BGU Big Grassy Mou 83.61 330 eP P 05 08 13.8 +0.6
comp=Z,15nm,1.6s
F28A McLaughlin 83.68 340 ⇓P P 05 08 13.3 +0.1
baz=84,SNR=26
I22A 9 Mile Ranch, 83.69 336 ⇓P P 05 08 13.3 -0.1
baz=84,SNR=16
G26A Maurine 83.69 339 ⇑P P 05 08 13.2 -0.1
baz=84,SNR=21
E30A Jud 83.77 342 ⇓P P 05 08 13.9 +0.3
baz=84,SNR=18
J20A Shoshoni 83.77 334 ⇑P P 05 08 15.0 +1.1
baz=84
BW06 Boulder Array 83.81 333 eP P 05 08 13.5 -0.7
comp=Z,8.9nm,0.9s
H24A Dirks Ranch, A 83.81 337 ⇓P P 05 08 13.8 -0.2
baz=84,SNR=18
PDAR Pinedale Array 83.81 333 P P 05 08 13.9 -0.3
comp=Z,9.6nm,0.9s,baz=150,slow=6.2,SNR=44
G25A Newell 83.85 338 ⇓P P 05 08 14.5 +0.4
baz=84,SNR=27
I21A Big Trails, Te 83.89 335 ⇑P P 05 08 14.2 -0.3
baz=84,SNR=8.8
NVAR Mina Array Bea 83.92 325 P P 05 08 15.8 +0.9
comp=Z,8.7nm,0.7s,baz=153,slow=6.0,SNR=54
E29A Napoleon 84.02 341 ⇓P P 05 08 15.2 +0.3
baz=84,SNR=13
F27A Lemmon 84.05 339 ⇑P P 05 08 15.3 +0.2
baz=84,SNR=31
J19A Crowheart 84.05 334 ⇓P P 05 08 15.3 0.0
baz=84,SNR=22
F26A Lodgepole 84.22 339 ⇓P P 05 08 16.0 +0.1
baz=85,SNR=21
HVU Hansel Valley 84.23 331 eP P 05 08 16.5 +0.2
HVU pmax pmax
comp=Z,26nm,0.8s
HVU Hansel Valley 84.23 331 eP P 05 08 16.5 +0.2
comp=Z,26nm,0.8s
TOA0 Torodi Ar. Sit 84.24 70 eP P 05 08 16.5 -0.3
TORD Torodi Ar. Bea 84.24 70 P P 05 08 16.7 0.0
comp=Z,23nm,0.8s,baz=254,slow=4.2,SNR=83
H22A Clearmont 84.26 336 ⇓P P 05 08 16.2 -0.1
baz=85,SNR=8.9
G24A Alzada 84.28 338 ⇑P P 05 08 16.7 +0.3
baz=85
D30A Buchanan 84.29 342 ⇑P P 05 08 16.6 +0.3
baz=85,SNR=40
I20A Worland 84.31 335 ⇑P P 05 08 16.8 +0.2
baz=85,SNR=6.9
E28A Huff 84.31 341 ⇑P P 05 08 16.5 +0.1
baz=85,SNR=11
ELK Elko 84.40 329 eP P 05 08 17.8 +0.5
ELK pmax pmax
comp=Z,13nm,0.9s
ELK Elko 84.40 329 P P 05 08 17.8 +0.5
comp=Z,14nm,0.9s,baz=179,slow=2.2,SNR=48
ELK Elko 84.40 329 eP P 05 08 17.8 +0.5
comp=Z,13nm,0.9s
E27A Carson 84.42 340 ⇑P P 05 08 17.1 +0.1
baz=85,SNR=10
D29A Pettibone, Tap 84.46 341 ⇓P P 05 08 17.3 +0.1
baz=85,SNR=21
G23A Biddle 84.48 337 ⇑P P 05 08 17.4 0.0
baz=85,SNR=10
F25A Bowman 84.52 339 ⇑P P 05 08 17.7 +0.2
baz=85,SNR=10
H21A Big Horn, Sher 84.52 336 ⇓P P 05 08 17.4 -0.3
baz=85,SNR=10
WAKR Walker 84.52 325 eP P 05 08 19.4 +1.5
CMB Columbia Colle 84.62 324 eP P 05 08 18.1 -0.1
CMB pmax pmax
comp=Z,7.0nm,0.8s
CMB Columbia Colle 84.62 324 eP P 05 08 18.1 -0.1
comp=Z,6.9nm,0.8s
I19A Meeteetse 84.69 334 ⇑P P 05 08 18.6 0.0
baz=85,SNR=10
AGMN Agassiz Nation 84.70 344 eP P 05 08 18.1 -0.2
comp=Z,28nm,0.6s
AGMN Agassiz Nation 84.70 344 ⇑P P 05 08 18.1 -0.2
baz=85,SNR=25
E26A Carlson Angus 84.72 339 ⇓P P 05 08 18.7 +0.2
baz=85,SNR=16
H20A Greybull 84.73 335 ⇓P P 05 08 18.6 -0.1
baz=85,SNR=35
F24A Ekalaka 84.75 338 ⇓P P 05 08 18.6 -0.2
baz=85,SNR=7.1
C30A Mose, Pekin 84.77 342 ⇓P P 05 08 19.0 +0.3
baz=85,SNR=46
G22A Birney 84.79 336 ⇓P P 05 08 18.6 -0.4
baz=85,SNR=6.5
REDW Red Top Meadow 84.81 333 eP P 05 08 19.4 +0.2
comp=Z,30nm,1.5s
D28A Regan 84.84 341 ⇑P P 05 08 19.4 +0.3
baz=85,SNR=20
LOHW Long Hollow 84.92 333 eP P 05 08 19.9 +0.1
comp=Z,9.2nm,0.8s
F23A Volborg 84.95 337 ⇑P P 05 08 19.5 -0.2
baz=85,SNR=14
TPAW Teton Pass 84.95 333 eP P 05 08 20.3 +0.3
comp=Z,16nm,0.9s
E25A Miller Ranch, 85.02 339 ⇑P P 05 08 20.4 +0.4
baz=85,SNR=11
D27A Center 85.03 340 ⇑P P 05 08 20.3 +0.3
baz=85,SNR=7.4
G21A Lodge Grass 85.11 336 ⇓P P 05 08 20.6 +0.1
baz=85,SNR=11
FXWY Fox Creek 85.11 333 eP P 05 08 20.8 0.0
comp=Z,6.4nm,0.8s
I17A Pilgrim Ck. 85.18 333 ⇑P P 05 08 21.8 +0.8
baz=86,SNR=22
D26A Manning 85.22 340 ⇑P P 05 08 21.2 +0.2
baz=86,SNR=16
H19A Powell 85.24 335 ⇓P P 05 08 21.6 +0.4
baz=86,SNR=16
F22A Rosebud 85.28 337 ⇑P P 05 08 21.5 +0.2
baz=86,SNR=16
IMW Indian Meadow 85.29 333 eP P 05 08 21.9 +0.2
comp=Z,33nm,1.4s
E24A Baker 85.35 338 ⇑P P 05 08 21.5 -0.2
baz=86
FLWY Flagg Ranch 85.36 333 eP P 05 08 22.6 +0.6
comp=Z,34nm,0.6s
B30A Myrvik Farm, E 85.43 343 ⇓P P 05 08 21.9 0.0
baz=86,SNR=86
G20A Bridger 85.45 335 ⇑P P 05 08 22.0 -0.3
baz=86,SNR=39
H18A Shoshone NF, C 85.49 334 ⇑P P 05 08 22.7 +0.1
baz=86,SNR=76
C27A Sayler Ranch, 85.58 341 ⇑P P 05 08 23.2 +0.4
baz=86,SNR=27
H17A Grant Village 85.58 333 eP P 05 08 24.2 +1.0
comp=Z,7.0nm,0.6s
H17A Grant Village 85.58 333 ⇓P P 05 08 23.7 +0.5
baz=86,SNR=7.5
D25A Fairfield 85.59 339 ⇓P P 05 08 23.2 +0.4
baz=86,SNR=15
F21A Absaloka Mine, 85.60 336 ⇑P P 05 08 22.9 0.0
baz=86
E23A Ismay 85.61 338 ⇓P P 05 08 23.0 0.0
baz=86,SNR=7.5
LKWY Lake 85.66 334 eP P 05 08 24.2 +0.6
LKWY pmax pmax
comp=Z,5.0nm,0.8s
LKWY Lake 85.66 334 eP P 05 08 24.1 +0.6
comp=Z,4.8nm,0.8s
B29A Wagenman Farm, 85.70 342 ⇑P P 05 08 23.4 +0.1
baz=86,SNR=24
YFT Old Faithful 85.73 333 eP P 05 08 25.0 +1.2
comp=Z,15nm,0.6s
RLMT Red Lodge 85.73 335 eP P 05 08 23.7 -0.1
comp=Z,23nm,0.6s
E22A Miles City 85.76 337 ⇑P P 05 08 23.4 -0.3
baz=86,SNR=8.2
C26A Wahner Farm, P 85.84 340 ⇑P P 05 08 24.0 -0.1
baz=86,SNR=9.3
D24A Glendive 85.86 339 ⇓P P 05 08 24.5 +0.4
baz=86,SNR=11
A30A Hoffart Farm, 85.88 343 ⇑P P 05 08 23.8 -0.4
baz=86,SNR=34
YNR Norris Junctio 85.89 333 eP P 05 08 28.2 +3.5
comp=Z,7.5nm,1.0s
F20A Billings 85.93 336 ⇑P P 05 08 24.4 -0.2
baz=86,SNR=9.0
B28A Dugan Ranch, T 85.94 342 ⇑P P 05 08 24.8 +0.3
baz=86,SNR=20
YMR Madison River 85.96 333 eP P 05 08 26.0 +1.0
comp=Z,45nm,0.8s
LAO LASA Array 86.07 337 eP P 05 08 25.0 -0.2
comp=Z,42nm,1.0s
C25A Freed Ranch, W 86.07 339 ⇓P P 05 08 25.3 +0.1
baz=86,SNR=8.5
A29A Manning Farm, 86.09 342 ⇑P P 05 08 25.0 -0.2
baz=86,SNR=22
B27A Peters Farms, 86.14 341 ⇓P P 05 08 25.9 +0.5
baz=86
OHCM Honcut 86.17 324 eP P 05 08 27.1 +1.3
D23A Lindsay 86.18 338 ⇓P P 05 08 26.6 +0.9
baz=86
E21A Keefer Ranch, 86.22 337 ⇑P P 05 08 26.1 +0.2
baz=86,SNR=21
F19A Roth Farm, Mol 86.25 335 ⇑P P 05 08 26.3 +0.1
baz=87,SNR=9.9
C24A Savage 86.26 339 ⇑P P 05 08 27.0 +0.9
baz=87,SNR=57
QLMT Earthquake Lak 86.27 333 eP P 05 08 27.8 +1.3
A28A Rude Farm, Bot 86.34 342 ⇓P P 05 08 26.6 +0.1
baz=87,SNR=12
HLID Hailey 86.38 331 eP P 05 08 27.9 +0.9
comp=Z,17nm,0.9s
HLID Hailey 86.38 331 ⇑P P 05 08 28.1 +1.1
baz=87,SNR=27
B26A Jensen Ranch, 86.38 340 ⇑P P 05 08 27.5 +0.7
baz=87
GCMT Greycliff 86.45 335 eP P 05 08 27.1 -0.2
comp=Z,12nm,0.8s
D22A Cohagen 86.46 337 ⇓P P 05 08 27.7 +0.5
baz=87,SNR=20
E20A Meyer Farm, Mu 86.54 336 ⇑P P 05 08 28.0 +0.5
baz=87,SNR=56
ULM Lac du Bonnet 86.55 345 eP P 05 08 26.8 -0.6
ULM Lac du Bonnet 86.55 345 P P 05 08 26.7 -0.7
comp=Z,21nm,0.9s,baz=148,slow=2.5,SNR=29
ULM Lac du Bonnet 86.55 345 eP P 05 08 26.8 -0.6
B25A Knox Farm, Ray 86.55 340 ⇑P P 05 08 28.3 +0.7
baz=87,SNR=14
A27A Ledoux Ranch, 86.64 341 ⇓P P 05 08 28.5 +0.6
baz=87
D21A La Casta Ranch 86.65 337 ⇓P P 05 08 28.7 +0.7
baz=87,SNR=17
E19A Rath Farm, Rou 86.72 336 ⇑P P 05 08 28.8 +0.3
baz=87,SNR=50
C23A Lambert 86.73 338 ⇓P P 05 08 29.0 +0.5
baz=87,SNR=38
A26A Wade Farm, Ken 86.80 341 ⇑P P 05 08 29.0 +0.2
baz=87,SNR=6.0
MCMT McKenzie Canyo 86.81 332 eP P 05 08 29.7 +0.5
comp=Z,11nm,0.8s
MFID Camas Ranch 86.84 330 eP P 05 08 29.7 +0.5
comp=Z,11nm,0.8s
C22A Vida 86.90 338 ⇓P P 05 08 29.4 +0.2
baz=87,SNR=16
DGMT Dagmar 87.03 339 eP P 05 08 30.4 +0.5
comp=Z,102nm,0.7s
DGMT Dagmar 87.03 339 ⇑P P 05 08 30.6 +0.7
baz=87,SNR=33
BOZ Bozeman (W) 87.04 333 eP P 05 08 30.0 -0.1
BOZ pmax pmax
comp=Z,9.0nm,0.9s
BOZ Bozeman (W) 87.04 333 eP P 05 08 30.0 -0.1
comp=Z,8.8nm,0.9s
D20A Manuel Ranch, 87.05 336 ⇑P P 05 08 30.2 +0.1
baz=87,SNR=37
A25A Svangstu Ranch 87.14 340 ⇑P P 05 08 30.8 +0.4
baz=88,SNR=7.7
DLMT Dillon 87.16 333 eP P 05 08 31.4 +0.6
comp=Z,29nm,1.3s
B23A Brockton 87.26 339 ⇑P P 05 08 31.2 +0.2
baz=88,SNR=13
WVOR Wild Horse Val 87.27 327 eP P 05 08 32.3 +1.0
WVOR pmax pmax
comp=Z,13nm,1.2s
WVOR Wild Horse Val 87.27 327 eP P 05 08 32.3 +1.0
comp=Z,13nm,1.2s
C21A Desert Coulee 87.35 337 ⇓P P 05 08 31.3 -0.2
baz=88,SNR=44
D19A Cripps Ranch, 87.36 336 ⇓P P 05 08 31.3 -0.3
baz=88,SNR=12
A24A Westby 87.38 340 ⇓P P 05 08 31.6 0.0
baz=88,SNR=13
B22A Reddig Ranch S 87.42 338 ⇑P P 05 08 32.0 +0.1
baz=88
LRM Limekiln Ridge 87.50 333 eP P 05 08 33.0 +0.5
C20A Veseth Ranch, 87.55 337 ⇓P P 05 08 32.2 -0.2
baz=88,SNR=22
MOD Modoc 87.60 326 eP P 05 08 33.7 +0.8
comp=Z,16nm,0.8s
WDC Whiskeytown Da 87.64 324 eP P 05 08 33.2 +0.2
WDC pmax pmax
comp=Z,24nm,0.7s
WDC Whiskeytown Da 87.64 324 eP P 05 08 33.2 +0.2
comp=Z,24nm,0.7s
A23A Redstone 87.67 339 ⇓P P 05 08 33.3 +0.3
baz=88
B21A Ellsworth Farm 87.86 338 ⇓P P 05 08 34.0 +0.2
baz=88,SNR=21
C19A Slack Wire Ran 87.92 336 ⇑P P 05 08 33.9 -0.3
baz=88,SNR=8.2
A22A Carney Farms, 88.01 338 ⇓P P 05 08 35.1 +0.5
baz=88,SNR=32
HRY Holter Researc 88.02 334 eP P 05 08 35.5 +0.7
N02D Trinity Center 88.03 324 ⇑P P 05 08 35.4 +0.5
baz=88
B20A Solberg Farm, 88.19 337 ⇑P P 05 08 35.6 +0.1
baz=88
M04C Macdoel 88.23 325 ⇓P P 05 08 36.7 +0.8
baz=88
A21A Bergtoll Ranch 88.32 338 ⇑P P 05 08 36.0 0.0
baz=89
EGMT Eagleton 88.41 336 eP P 05 08 36.1 -0.5
comp=Z,17nm,1.0s
EGMT Eagleton 88.41 336 ⇓P P 05 08 36.2 -0.3
baz=89,SNR=7.7
M02C Callahan 88.42 324 ⇓P P 05 08 36.9 +0.2
baz=89
B19A Brinkman Farms 88.51 336 ⇓P P 05 08 37.1 +0.1
baz=89,SNR=12
K05A Summer Lake 88.52 326 eP P 05 08 39.0 +1.6
comp=Z,26nm,0.8s
A20A Cobblestone Ra 88.54 337 ⇓P P 05 08 36.9 -0.2
baz=89,SNR=22
YBH Yreka Blue Hor 88.61 325 eP P 05 08 37.9 +0.3
YBH pmax pmax
comp=Z,11nm,0.8s
YBH Yreka Blue Hor 88.61 325 P P 05 08 37.8 +0.1
comp=Z,14nm,0.8s,baz=97,slow=3.8,SNR=26
YBH Yreka Blue Hor 88.61 325 eP P 05 08 37.9 +0.3
comp=Z,11nm,0.8s
BMO Blue Mountains 88.63 330 eP P 05 08 38.3 +0.6
comp=Z,5.9nm,0.8s
SCHQ Schefferville 88.64 3 P P 05 08 36.9 -0.5
comp=Z,5.4nm,0.9s,baz=202,slow=2.5,SNR=7.5
CHMT Chamberlain Mo 88.72 333 eP P 05 08 38.8 +0.6
A19A Klindworth Far 88.85 337 ⇓P P 05 08 38.3 -0.3
baz=89,SNR=11
MSO Missoula 88.90 333 eP P 05 08 39.3 +0.4
comp=Z,66nm,2.6s
MSO Missoula 88.90 333 ⇓P P 05 08 38.9 0.0
baz=89,SNR=5.9
I07A Izee 88.96 328 eP P 05 08 40.1 +0.9
comp=Z,16nm,1.1s
SLMT Seeley Lake 89.08 333 eP P 05 08 40.4 +0.6
J05D Fort Rock, OR 89.11 326 ⇓P P 05 08 41.2 +1.1
baz=89
J04D Umpqua Nationa 89.48 326 ⇓P P 05 08 42.9 +1.1
baz=90
SWMT Swartz Lake 89.49 333 eP P 05 08 42.3 +0.6
F10A Beach Ranch, E 89.50 330 eP P 05 08 42.1 +0.3
comp=Z,12nm,1.0s
G08A Pilot Rock 89.68 329 eP P 05 08 43.2 +0.6
comp=Z,5.3nm,0.9s
YBMT Yellow Bay 89.79 333 eP P 05 08 43.4 +0.3
JTMT Jette 89.80 333 eP P 05 08 43.4 +0.3
LSZ Lusaka 89.80 108 eP P 05 08 44.0 0.0
LSZ pmax pmax
comp=Z,4.0nm,0.8s
LSZ Lusaka 89.80 108 eP P 05 08 44.0 0.0
comp=Z,4.4nm,0.8s
I05D Terrebonne, OR 89.98 327 ⇓P P 05 08 44.9 +0.9
baz=90
BLMT Blacktail Moun 90.05 333 eP P 05 08 44.9 +0.5
I04A Tendick Farm, 90.05 326 ⇓P P 05 08 44.4 +0.1
baz=90
BSMT Bassoo Peak 90.07 333 eP P 05 08 45.0 +0.5
G06A Carlson Farm, 90.36 328 eP P 05 08 47.1 +1.3
comp=Z,253nm,3.0s
G05D Wamic, OR 90.67 328 ⇓P P 05 08 48.1 +1.0
baz=91
WALA Waterton Lakes 90.75 334 eP P 05 08 47.5 0.0
HAWA Hanford 90.80 329 eP P 05 08 47.8 +0.1
comp=Z,13nm,1.0s
E07A Sunnyside 91.07 329 eP P 05 08 50.0 +1.0
comp=Z,9.2nm,1.1s
D08A Wollman Farm, 91.07 330 eP P 05 08 49.3 +0.4
comp=Z,9.9nm,0.9s
NEW Newport 91.31 332 eP P 05 08 49.4 -0.7
NEW pmax pmax
comp=Z,19nm,1.5s
NEW Newport 91.31 332 P P 05 08 49.4 -0.7
comp=Z,3.0nm,0.6s,baz=118,slow=5.4,SNR=11
NEW Newport 91.31 332 eP P 05 08 49.4 -0.7
comp=Z,19nm,1.5s
NEW Newport 91.31 332 ⇓P P 05 08 49.4 -0.7
baz=92
C09A Chrisman Ranch 91.40 331 eP P 05 08 49.9 -0.6
comp=Z,19nm,0.9s
G03D McMinnville, O 91.53 327 ⇑P P 05 08 49.5 -1.5
baz=92
LON Longmire 92.06 328 eP P 05 08 53.8 +0.2
LON pmax pmax
comp=Z,64nm,2.2s
LON Longmire 92.06 328 eP P 05 08 53.8 +0.2
comp=Z,64nm,2.2s
B08A Colville Reser 92.27 331 eP P 05 08 54.0 -0.6
comp=Z,34nm,2.3s
TAM Tamanrasset 92.86 64 eP P 05 08 58.5 +0.5
TAM pmax pmax
comp=Z,28nm,1.6s
TAM Tamanrasset 92.86 64 eP P 05 08 58.5 +0.5
comp=Z,28nm,1.6s
EDM Edmonton 94.03 337 eP P 05 09 01.3 -1.2
EDM Edmonton 94.03 337 eP P 05 09 01.2 -1.2
FCC Fort Churchill 94.28 349 eP P 05 09 03.3 -0.1
FCC Fort Churchill 94.28 349 eP P 05 09 03.3 -0.1
ESDC Sonseca Array 96.62 46 P P 05 09 14.8 +0.1
comp=Z,0.9nm,0.7s,baz=202,slow=4.4,SNR=4.1
YKA Yellowknife Ar 102.11 341 P Pdif 05 09 38.0 -0.5
comp=Z,1.6nm,0.6s,baz=142,slow=4.5,SNR=43
YKA PP PP 05 13 49.6 -1.5
comp=Z,0.6nm,0.9s,baz=141,slow=8.2,SNR=6.5
GERES GERESS Array B 112.20 45 PKiKP PKiKP 05 14 19.8 -0.2
comp=Z,1.4nm,0.9s,baz=170,slow=0.8,SNR=4.4
VYHS Vyhne 115.14 47 ePKIKP PKPdf 05 14 25.5 0.0
VYHS Vyhne 115.14 47 ePKP PKPdf 05 14 25.5 0.0
KWP Kalwaria Pacla 117.92 47 ePKIKP PKPdf 05 14 31.1 +0.2
KWP Kalwaria Pacla 117.92 47 ePKPdf PKPdf 05 14 31.1 +0.2
BUR08 Bucovina Ar. S 118.78 50 ePKPdf PKPdf 05 14 32.6 -0.1
SUW Suwalki 119.65 43 ePKIKP PKPdf 05 14 33.3 -0.7
SUW Suwalki 119.65 43 ePKPdf PKPdf 05 14 33.3 -0.7
WRA Warramunga Arr 120.71 209 PKP PKPdf 05 14 36.1 -1.1
comp=Z,2.4nm,0.6s,baz=160,slow=1.6,SNR=16
WRAB Tennant Creek 120.71 209 ePKIKP PKPdf 05 14 36.0 -1.3
WRAB Tennant Creek 120.71 209 ePKPdf PKPdf 05 14 36.0 -1.3

COEN Coen 121.66 221 ePKPdf PKPdf 05 14 38.7 -0.4
BR131 Keskin Array S 121.87 61 ePKPdf PKPdf 05 14 38.8 -0.1
BRTR Keskin Array B 121.87 61 PKP PKPdf 05 14 38.9 -0.1
comp=Z,2.5nm,0.7s,baz=185,slow=3.1,SNR=14
AK02 Malin Array Si 122.21 48 ePKPdf PKPdf 05 14 37.4 -1.6
KIEV Kiev 122.22 48 i PKIKP PKPdf 05 14 38.2 -0.8
KIEV Kiev 122.22 48 ePKPdf PKPdf 05 14 37.6 -1.5
AK01 Malin Array Si 122.23 48 ePKPdf PKPdf 05 14 37.4 -1.6
AKASG Malin Array Be 122.24 48 PKP PKPdf 05 14 38.1 -1.0
comp=Z,3.3nm,0.7s,baz=263,slow=2.9,SNR=15
AKBB Malin Array Si 122.24 48 ePKIKP PKPdf 05 14 38.1 -1.0
AKBB Malin Array Si 122.24 48 ePKPdf PKPdf 05 14 38.1 -1.0
TNA Tin City 122.83 330 ePKPdf PKPdf 05 14 39.7 -0.1
FINES FINESS Array B 123.04 35 PKP PKPdf 05 14 40.3 0.0
comp=Z,5.0nm,1.0s,baz=243,slow=1.7,SNR=7.2
KAF Kangasniemi 123.28 34 ePKIKP PKPdf 05 14 39.4 -1.3
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 123.28 34 ep PKPdf 05 14 39.4 -1.3
comp=Z,4.4nm,0.6s
ARCES ARCESS Array B 124.07 25 PKP PKPdf 05 14 41.6 -0.5
comp=Z,2.5nm,0.6s,baz=207,slow=1.1,SNR=12
JOF Joensuu 125.69 33 ePKIKP PKPdf 05 14 44.3 -1.0
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 125.69 33 ep PKPdf 05 14 44.3 -1.0
comp=Z,3.8nm,0.6s
H11S2 WAKE ISLAND Hy 125.76 269 T T 07 33 14.2
baz=120
H11S1 WAKE ISLAND Hy 125.77 269 T T 07 33 05.8
baz=120,slow=74
H11S3 WAKE ISLAND Hy 125.78 269 T T 07 33 13.3
baz=120,slow=74
H11N3 WAKE ISLAND Hy 126.17 271 T T 07 33 43.3
baz=111
H11N1 WAKE ISLAND Hy 126.19 271 T T 07 33 45.4
baz=111,slow=74,SNR=4.7
H11N2 WAKE ISLAND Hy 126.19 271 T T 07 33 47.5
baz=111,slow=74,SNR=5.2
OBN Obninsk 127.48 43 ⇑PKIKP PKPdf 05 14 48.5 -0.4
OBN e 05 16 53.6
OBN ePPP PPP 05 19 30.9
OBN pmax pmax
comp=Z,40nm,2.5s
KLMR Klimovskoe 129.45 36 ePKIKP PKPdf 05 14 51.6 -1.0
KLMR pmax pmax
comp=Z,32nm,1.2s
KIV Kislovodsk 129.53 58 i PKIKP PKPdf 05 14 53.6 +0.2
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 129.53 58 ePKPdf PKPdf 05 14 54.1 +0.7
KBZ Khabaz 129.63 59 PKP PKPdf 05 14 54.0 +0.6
comp=Z,2.1nm,0.9s,baz=218,slow=6.2,SNR=4.3
GNI Garni 130.15 64 i PKIKP PKPdf 05 14 55.3 +0.5
GNI pmax pmax
comp=Z,8.0nm,1.7s
GNI Garni 130.15 64 ePKPdf PKPdf 05 14 55.1 +0.3
PRGR Permogore 132.37 35 ePKIKP PKPdf 05 14 57.2 -0.8
PRGR pmax pmax
comp=Z,12nm,1.0s
BILL Bilibino 132.88 334 i PKIKP PKPdf 05 14 57.2 -1.7
BILL i 05 17 27.6
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 132.88 334 ePKPdf PKPdf 05 14 59.5 +0.6
ARU Arti 139.79 41 i PKIKP PKPdf 05 15 12.5 +0.5
ARU 05 18 06.5
ARU SS SS 05 36 20.4 -6.6
ARU Arti 139.79 41 ePKPdf PKPdf 05 15 13.2 +1.2
GEYT Alibeck 139.88 70 PKP PKPdf 05 15 11.9 -0.9
comp=Z,1.5nm,0.5s,baz=270,slow=7.2,SNR=3.2
SEY Seymchan 140.07 330 PKP PKPdf 05 15 11.2 -1.2
comp=Z,8.6nm,0.8s,baz=134,slow=1.4,SNR=13
TIXI Tiksi 140.75 350 i PKIKP PKPdf 05 15 12.4 -0.9
TIXI Tiksi 140.75 350 ePKPpre PKPpre 05 15 04.3
TIXI ePKPdf PKPdf 05 15 13.4 +0.1
AB31 Akbulak array 141.72 52 i PKHKP PKPpre 05 15 09.4
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 141.72 52 ePKPpre PKPpre 05 15 09.5
ABKAR ePKPdf PKPdf 05 15 15.9 +0.1
PALK Pallekele 143.36 130 ePKIKP PKPab 05 15 16.4 +0.6
PALK Pallekele 143.36 130 PKhKP PKPpre 05 15 16.8
comp=Z,18nm,0.8s,baz=258,slow=3.1,SNR=6.4
PALK Pallekele 143.36 130 ePKPdf PKPab 05 15 16.4 +0.6
PALK PKPpre PKPpre 05 15 16.8
POO Poona 145.93 108 eP PKPdf 05 15 24.0 -0.1
BRVK Borovoye 147.26 43 PKIKP PKPdf 05 15 25.9 +0.7
BRVK pmax pmax
comp=Z,38nm,0.7s
BRVK Borovoye 147.26 43 ePKPdf PKPdf 05 15 25.6 +0.3
BRVK ePKPbc PKPbc 05 15 27.9 +0.4
BVA0 Borovoye Array 147.33 43 i PKIKP PKPdf 05 15 26.0 +0.6
BVA0 pmax pmax
comp=Z,21nm,0.7s
KSM Kuching 147.51 184 ePKPbc PKPbc 05 15 29.2 -0.2
KSM ePKPab PKiKP 05 15 32.2 +0.6
VOSK Vostochnaya 147.77 43 PKP2 PKPbc 05 15 28.4 -0.6
VOSK pmax pmax
comp=Z,5.0nm,0.8s
PSI Prapat 147.78 163 PKPbc PKPdf 05 15 29.4 +1.9
comp=Z,18nm,0.7s,baz=208,slow=2.9,SNR=18
KBL Kabul 147.99 78 ePKIKP PKPdf 05 15 28.0 +0.6
KBL Kabul 147.99 78 ePKPdf PKPdf 05 15 28.0 +0.6
YAK Yakutsk 148.78 340 ePKIKP PKPdf 05 15 26.5 -0.9
YAK pmax pmax
comp=Z,86nm,0.9s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,13nm,1.3s
YAK Yakutsk 148.78 340 ePKPdf PKPdf 05 15 27.4 0.0
YAK ePKPbc PKPbc 05 15 30.9 -0.4
YAK ePKPab PKPab 05 15 35.2 0.0
HYB Hyderabad 148.92 115 i PKP PKPbc 05 15 32.5 -0.6
KK31 Karatay Array 149.58 62 i PKHKP PKPpre 05 15 30.0
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 149.58 62 ePKHKP PKPpre 05 15 29.7
KKAR e 05 15 38.6
KKAR Karatay Array 149.58 62 ePKPdf PKPdf 05 15 29.7 +0.3
KKAR ePKPbc PKPbc 05 15 33.7 -0.3
KKAR ePKPab PKPab 05 15 38.6 -0.6
IPM Ipoh 149.88 166 ePKPbc PKPbc 05 15 34.7 -0.9
KULM Kulim 150.59 165 ePKPbc PKPbc 05 15 36.3 -0.9
YSS Yuzh-Sakhalins 150.82 307⇑ePKIKP PKPbc 05 15 36.0 -0.8
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 150.82 307 ePKPbc PKPbc 05 15 36.3 -0.4
KKM Kota Kinabalu 151.09 197 ePKPdf PKPdf 05 15 32.8 0.0
KKM ePKPbc PKPbc 05 15 38.0 -0.6
ASAJ Asahikawa 151.48 301 PKPbc PKPbc 05 15 38.4 -0.1
comp=Z,22nm,0.9s,baz=247,slow=6.0,SNR=12
AML Almayashu 152.00 63 P PKPbc 05 15 41.2 +0.9
SNR=5.8
EKS2 Erkin-Say 152.01 62 P PKPbc 05 15 40.7 +0.8
SNR=9.2
EKS2 Erkin-Say 152.01 62 ePKIKP PKPdf 05 15 34.1 +0.8
EKS2 e 05 15 40.3
EKS2 Erkin-Say 152.01 62 ePKPdf PKPdf 05 15 34.1 +0.8
EKS2 ePKPbc PKPbc 05 15 40.3 +0.4
USP Ospenovka 152.46 61 P PKPbc 05 15 41.1 +0.3
SNR=6.9
AAK Ala-Archa 152.54 62 P PKPbc 05 15 42.0 +0.8
SNR=8.0
AAK Ala-Archa 152.54 62 PKIKP PKPdf 05 15 41.2 +0.1
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 152.54 62 ePKPbc PKPbc 05 15 41.5 +0.4
AAK ePKPab PKPab 05 15 52.3 +0.6
UCH Uchtor 152.60 63 P PKPbc 05 15 42.5 +0.9
SNR=8.8
KURK Kurchatov 152.93 43 ePKIKP PKPdf 05 15 34.4 +0.2
KURK e 05 15 41.7
KURK Kurchatov 152.93 43 ePKPdf PKPdf 05 15 34.4 +0.2
KURK ePKPbc PKPbc 05 15 41.6 +0.2
KURK ePKPab PKPab 05 15 53.3 +0.6
NVS Novosibirsk 152.99 32 ePKIKP PKPdf 05 15 33.2 -0.9
NVS pmax pmax
comp=Z,53nm,1.1s
NVS pmax pmax
comp=E,11nm,1.3s
TKM2 Tokmak 2 153.31 61 ePKIKP PKPdf 05 15 35.4 +0.1
TKM2 e 05 15 42.8
TKM2 e 05 15 54.8
TKM2 Tokmak 2 153.31 61 ePKPdf PKPdf 05 15 35.4 +0.1
TKM2 ePKPbc PKPbc 05 15 42.8 0.0
TKM2 ePKPab PKPab 05 15 54.8 -0.2
ZAA0 Zalesovo Array 154.28 32 ePKPdf PKPdf 05 15 35.4 -0.7
ZAA0 ePKPbc PKPbc 05 15 44.0 -0.3
ZAA0 ePKPab PKPab 05 15 58.2 -0.1
ZALV Zalesovo Beam 154.28 32 PKP PKPdf 05 15 35.8 -0.3
comp=E,4.3nm,0.8s,baz=270,slow=1.5,SNR=15
ZALV PKPbc PKPbc 05 15 44.5 +0.3
comp=E,22nm,0.7s,baz=300,slow=3.0,SNR=48
MJAR Matsushiro Arr 155.22 284 PKPbc PKPdf 05 15 46.2 +8.2
comp=E,2.3nm,0.8s,baz=148,slow=2.4,SNR=6.3
BOD Bodaibo 155.88 352 ePKIKP PKPdf 05 15 47.0 +8.9
BOD e 05 16 05.0
BOD pmax pmax
comp=Z,3.0nm,1.5s
BOD pmax pmax
comp=Z,33nm,1.1s
KLR Kul'dur 156.77 318 ePKIKP PKPdf 05 15 34.6 -4.9
MKAR Makanchi Array 156.81 49 PKP PKPdf 05 15 39.6 -0.1
comp=Z,1.9nm,0.8s,baz=343,slow=1.3,SNR=11
MKAR PKPab PKPab 05 16 09.4 -0.2
comp=Z,6.8nm,0.7s,baz=306,slow=4.3,SNR=20
MKAR PP PP 05 19 48.3 +0.2
comp=Z,1.0nm,0.8s,baz=270,slow=4.9,SNR=3.6
PYUN Piuthan 157.84 99 eP PKPdf 05 15 41.4 -0.5
KOLN Koldanda 158.22 100 eP PKPdf 05 15 41.9 -0.4
DANN Dangsing 158.56 99 eP PKPdf 05 15 42.7 -0.1
USRK Ussuriysk Arra 158.85 306 PKPab PKPab 05 16 17.9 -0.5
comp=Z,3.5nm,0.8s,baz=45,slow=3.0,SNR=6.1
GKN Gorkha 159.15 101 eP PKPdf 05 15 42.9 -0.5
DMN Daman 159.38 102 eP PKPdf 05 15 43.4 -0.4
PKI Pulchoki 159.61 102 eP PKPdf 05 15 43.7 -0.4
MDJ Mudanjiang 160.27 309 PKP PKPdf 05 15 44.8 +0.9
MDJ pPKP pPKPdf 05 15 54.8 -0.3
MDJ SKS SKSdf 05 22 47.0 +0.6
MDJ LR LR
comp=Z,180nm,28.3s
MDJ LR LR
comp=Z,110nm,28.3s
MDJ LR LR
comp=Z,90nm,23.9s
JIRN Jiri 160.28 103 eP PKPdf 05 15 44.4 -0.5
RAMN Ramite 160.31 105 eP PKPdf 05 15 44.8 0.0
ODAN Odare 160.90 107 eP PKPdf 05 15 45.3 -0.2
TAPN Taplejung 161.37 106 eP PKPdf 05 15 45.8 -0.2
WMQ Urumqi 161.51 52 PKP PKPdf 05 15 45.8 +0.4
WMQ AMB AMB
comp=Z,220nm,9.4s
WMQ LR LR
comp=Z,200nm,20.6s
WMQ LR LR
comp=Z,200nm,20.2s
WMQ LR LR
comp=Z,380nm,19.8s
TLY Talaya 162.11 9 ePKP2 PKPab 05 16 33.8 +1.5
TLY pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 162.51 150 PKP PKPdf 05 15 47.0 -0.1
comp=Z,3.1nm,1.1s,baz=252,slow=3.1,SNR=11
CMAR PKPab PKPab 05 16 34.6 -0.3
comp=Z,0.8nm,0.2s,baz=220,slow=5.3,SNR=4.8
CN2 Changchun 163.29 311 ePKP PKPdf 05 15 47.8 +0.8
CN2 ePP PP 05 20 27.0 +3.9
CN2 eSS SS 05 40 47.3 +0.5
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,1μm,22.0s
CN2 LR LR
comp=Z,1μm,22.0s
CN2 LR LR
comp=Z,1μm,24.0s
ZAK Zakamensk 163.33 10 ePKP2 PKPab 05 16 37.5 -0.3
ZAK pmax pmax
comp=Z,4.0nm,1.3s
KSRS Korea Array 163.44 288 PKP PKPdf 05 15 46.3 -1.0
comp=Z,2.1nm,0.8s,baz=300,slow=0.3,SNR=7.8
KSRS PKPab PKPab 05 16 39.5 +0.8
comp=Z,2.7nm,0.8s,baz=116,slow=4.3,SNR=7.1
KSAR Wonju Array Be 163.47 287 PKIKP PKPdf 05 15 46.3 -1.1
KSAR 05 16 39.5
KSAR Wonju Array Be 163.47 287 PKP PKPdf 05 15 46.3 -1.1
KSAR PKPab PKPab 05 16 39.5 +0.7
SONM Songino Array 166.18 4 PKP PKPdf 05 15 48.7 -0.9
comp=Z,0.8nm,0.8s,baz=307,slow=0.7,SNR=4.0
SONM PKPab PKPab 05 16 51.1 +0.7
comp=Z,2.1nm,0.8s,baz=347,slow=5.0,SNR=9.2
SONM PP PP 05 20 36.9 -0.4
comp=Z,0.8nm,0.8s,baz=2.9,slow=5.8,SNR=5.7
KMI Kunming 170.01 152 PKP PKPdf 05 15 52.3 -0.8
NJ2 Nanjing 170.63 261 ePKP PKPdf 05 15 52.8 -0.1
GTA Gaotai 171.56 48 ⇑PKP PKPdf 05 15 53.8 +0.5
GTA pPKP pPKPdf 05 16 04.3 -0.2
GTA PKPab PKPab 05 17 15.5 +0.8
GTA PP PP 05 21 08.0 +2.4
GTA SKS SKSdf 05 22 52.5 -1.7
GTA SKKS SKKSac 05 27 49.8 0.0
GTA SS SS 05 42 08.0 -2.4
GTA AMB AMB
comp=Z,180nm,7.8s
GTA LR LR
comp=Z,170nm,18.1s
GTA LR LR
comp=Z,140nm,19.8s
GTA LR LR
comp=Z,260nm,18.1s
GYA Guiyang 172.35 171 PKP PKPdf 05 15 53.3 -0.8
GYA pPKP pPKPdf 05 16 05.8 +0.5
GYA PKPab PKPab 05 17 20.0 +1.8
GYA PKS PKSdf 05 19 23.8 -2.8
GYA PP PP 05 21 12.5 +4.0
GYA SKKS 05 27 54.8
GYA SS SS 05 42 17.8 +1.7
GYA AMB AMB
comp=Z,150nm,8.2s
GYA LR LR
comp=Z,150nm,21.9s
GYA LR LR
comp=Z,130nm,21.5s
GYA LR LR
comp=Z,140nm,24.8s
HHC Hu-ho-hao-te 172.63 338 ePKP PKPdf 05 15 54.3 +0.6
HHC pPKP pPKPdf 05 16 04.3 -0.6
HHC PP PP 05 21 14.0 +3.9
HHC SKKS 05 27 56.3
HHC SS SS 05 42 19.8 +0.4
HHC AMB AMB
comp=Z,130nm,5.9s
HHC LR LR
comp=Z,230nm,20.6s
HHC LR LR
comp=Z,180nm,19.0s
HHC LR LR
comp=Z,180nm,19.7s
CD2 Chengdu 175.27 130 PKP PKPdf 05 15 55.0 +0.1
CD2 PKS PKSdf 05 19 28.5 -1.3
CD2 PP PP 05 21 27.0 +3.3
CD2 SKS SKSdf 05 22 52.5 -3.0
CD2 SKKS SKKSac 05 28 07.8 +0.1
CD2 SS SS 05 42 45.0 -1.2
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 176.07 58 ePKP PKPdf 05 15 55.3 +0.2
LZH pPKP pPKPdf 05 16 05.3 -1.0
LZH LR LR
comp=Z,310nm,15.0s
LZH LR LR
comp=Z,230nm,14.6s
LZH LR LR
comp=Z,240nm,16.8s
XAN Xi'an 179.19 269 PKP PKPdf 05 15 55.0 -0.4

*DJA **28** 04:57:12.5±2.6, 4°S±13°×10°0E±2°4, h30km, M4.6/7, mb4.6/1, mB4.7/1, MLv4.6/7, Mw(mB)3.9/1*
*IDC **28** 04:57:13.4±1.6, 3°.71S×100°.61E, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.1/49, mbtmp4.4/11, ML3.4/1, Error ellipse: s-maj=41.9km s-min=23.9km az=47.0*
*ISCJB **28** 04:57:15.4±0.6, 3°.76S±0°.07×100°.63E±0°.07, h29km, mb4.6/20, Error ellipse: s-maj=12.8km s-min=7.6km az=136.0*
*NEIC **28** 04:57:18.9±1.4, 3°.75S×100°.58E, h43km±11km, mb4.7/13, Error ellipse: s-maj=16.1km s-min=7.9km az=51.0*
ISC 28 04:57:17.2±0.7, 3°.74S±0°.10×100°.65E±0°.09, h29km, n60, σ1°03/52, mb4.7/20, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	2.38	105	P	Pb	04 58 04.8	+5.4
MNAI	Manna	2.38	105	ePn	Pb	04 57 58.2	-1.2
PDSI	Padang	2.82	356	P	Pb	04 57 58.4	-2.0
LHSI	Lahat	2.87	92	P	Pb	04 58 05.4	-2.3
SDSI	Sungai Dareh	2.90	16	P	Pn	04 58 00.8	-0.6
MDSI	Maura Dua	3.59	102	P	Pn	04 58 14.9	+3.9
LWLI	Liwa	3.62	111	P	Pn	04 58 11.5	-0.1
RGRI	Rengat	3.77	27	P	Pn	04 58 14.2	+0.8
BKNI	Bangkinang	4.06	5	ePn	Pn	04 58 18.8	+1.4
KASI	Kota Agung	4.22	115	P	Pn	04 58 22.2	+2.5
KLI	Kotabumi	4.34	105	P	Pn	04 58 16.2	-5.1
PSI	Prapat	6.72	345	Pn	Pn	04 58 52.6	-1.6
	0.9nm,0.3s,baz=189,slow=9.7,SNR=5.5						
KULM	Kulim	8.97	360	ePn	Pn	04 59 31.7	+6.8
	17nm,0.9s						
KKM	Kota Kinabalu	18.33	58	eP	P	05 01 29.5	0.0
	32nm,1.3s						
CMAR	Chiang Mai Arr	22.12	356	P	P	05 02 08.8	-1.8
	4.8nm,0.5s,baz=187,slow=8.6,SNR=21						
CHTO	Chiang Mai	22.48	356	eP	P	05 02 14.6	+0.2
	4.1nm,0.9s						
H08S2	Diego Garcia H	28.28	261	T	T	05 32 28.5	
	baz=81						
H08S3	Diego Garcia H	28.29	261	T	T	05 32 29.0	
	baz=81						
H08S1	Diego Garcia H	28.30	261	T	T	05 32 29.9	
	baz=81						
ODAN	Odare	33.01	338	eP	P	05 03 51.1	+0.8
TAPN	Taplejung	33.34	339	eP	P	05 03 54.5	+1.3
	59nm,0.9s						
RAMN	Ramite	33.40	337	eP	P	05 03 54.9	+1.2
H01W3	Cape Leeuwin H	33.42	160	T	T	05 39 36.4	
	baz=336,slow=76,SNR=8.2						
H01W2	Cape Leeuwin H	33.43	160	T	T	05 39 43.0	
	baz=336,slow=76,SNR=9.9						
H01W1	Cape Leeuwin H	33.43	160	T	T	05 39 32.9	
	baz=336,slow=76,SNR=9.5						
JIRN	Jiri	34.19	337	eP	P	05 04 01.6	+0.8
	40nm,0.8s						
LSA	Lhasa	34.48	345	eP	P	05 04 04.3	+1.0
GUN	Gumba	34.54	337	eP	P	05 04 04.6	+0.9
	32nm,0.5s						
KKN	Kakani	34.67	336	eP	P	05 04 05.3	+0.5
ENH	Enshi	34.86	13	eP	P	05 04 08.0	+1.9
KOLN	Koldanda	35.38	333	eP	P	05 04 11.6	+0.8
	19nm,0.8s						
DANN	Dangsing	35.81	334	eP	P	05 04 15.1	+0.5
	26nm,0.6s						
BJT	Baijiatuau	45.82	17	eP	P	05 05 37.4	+0.8
	10nm,0.6s						
PMG	Port Moresby	46.51	99	eP	P	05 05 41.3	-1.2
	6.0nm,0.8s						
CTA	Charters Tower	47.28	114	P	P	05 05 48.7	+0.2
	5.6nm,0.9s,baz=288,slow=6.4,SNR=2.4						
CTAO	Charters Tower	47.28	114	eP	P	05 05 49.2	+0.7
	6.9nm,1.0s						
KSAR	Wonju Array Be	48.16	29	P	P	05 05 55.4	+0.4
KSRS	Korea Array	48.19	29	P	P	05 05 55.4	+0.2
	7.8nm,1.1s,baz=219,slow=8.1,SNR=12						
SONM	Songino Array	51.61	5	P	P	05 06 22.3	+1.2
	12nm,0.7s,baz=189,slow=9.3,SNR=56						
TKM2	Tokmak 2	51.68	337	eP	P	05 06 22.1	+0.2
	3.5nm,0.4s						
ULN	Ulaanbaatar	51.70	5	eP	P	05 06 22.2	+0.4
	12nm,1.0s						
AAK	Ala-Archa	51.88	336	eP	P	05 06 23.6	+0.2
	1.8nm,0.8s						
EKS2	Erkin-Say	52.21	335	eP	P	05 06 26.5	+0.7
	6.8nm,0.8s						
MKAR	Makanchi Array	52.87	344	P	P	05 06 30.6	+0.2
	6.8nm,0.7s,baz=146,slow=7.2,SNR=45						
MAJO	Matsushiro	53.23	38	eP	P	05 06 32.8	-0.5
	14nm,1.2s						
MJAR	Matsushiro Arr	53.23	38	P	P	05 06 32.8	-0.5
	3.3nm,1.0s,baz=213,slow=7.9,SNR=7.7						
TLY	Talaya	55.27	2	P	P	05 06 48.5	+0.7
	1.1nm,0.4s,baz=197,slow=9.2,SNR=3.1						
USRK	Ussuriysk Arra	55.39	27	P	P	05 06 49.4	+0.6
	4.2nm,0.7s,baz=215,slow=5.5,SNR=9.8						
ZALV	Zalesovo Beam	58.89	349	P	P	05 07 14.2	+0.2
	12nm,0.9s,baz=160,slow=4.7,SNR=35						
YSS	Yuzh-Sakhalins	62.62	31	eP	P	05 07 39.1	+0.2
	12nm,0.5s						
CASY	Casey	62.81	176	eP	P	05 07 39.2	-0.6
	38nm,1.4s						
ABKAR	Akbulak array	63.47	331	eP	P	05 07 43.8	-0.8
BR131	Keskin Array S	74.97	313	eP	P	05 08 55.6	-0.6
	1.2nm,0.7s						
BRTR	Keskin Array B	74.97	313	P	P	05 08 56.0	-0.3
	1.0nm,0.8s,baz=134,slow=6.9,SNR=6.0						
BRTR				PP	PP	05 11 45.5	+1.2
	0.9nm,0.9s,baz=94,slow=5.0,SNR=4.1						
WCI	Wyandotte Cave	145.09	10	ePKPbc	PKPbc	05 16 51.8	0.0
TXAR	Lajitas Array	145.65	40	PKPbc	PKPab	05 16 55.9	+1.6
	6.4nm,0.8s,baz=279,slow=1.3,SNR=15						
WVT	Waverly	146.83	13	ePKPbc	PKPbc	05 16 57.6	+0.4
JCT	Junction City	147.13	34	ePKPbc	PKPab	05 16 59.2	-0.7
HKT	Hockley	149.62	29	ePKPdf	PKPdf	05 16 58.9	-1.2
HKT				ePKPbc	PKPbc	05 17 04.0	-0.7
SAML	Samuel	159.54	232	ePKPdf	PKPdf	05 17 13.1	-1.2

*IDC **28** 04:58:13.6±1.0, 9°.13S×119°.51E, h0km, mb4.4/14, mb1 4.5/15, mb1mx4.2/46, mbtmp4.4/15, ML4.1/1, MS4.4/1, Ms1 4.4/1, ms1mx3.1/36, Error ellipse: s-maj=30.1km s-min=21.4km az=54.0*
*ISCJB **28** 04:58:22.6±0.4, 9°.47S±0°.04×119°.52E±0°.04, h107km±4km, mb4.4/25, Error ellipse: s-maj=7.9km s-min=5.0km az=28.0*
*NEIC **28** 04:58:22.5±0.6, 9°.51S×119°.37E, h88km±6km, mb4.6/14, Error ellipse: s-maj=8.4km s-min=5.6km az=215.0*
*DJA **28** 04:58:25.1±0.3, 9°S±4°×12°0E±°, h47km±10km, M4.9/25, mb5.0/11, mB5.3/9, MLv5.0/25, Mw(mB)4.7/9*
ISC 28 04:58:23.3±0.8, 9°.51S±0°.05×119°.53E±0°.05, h98km±7km, n109, σ1°34/93, mb4.5/25, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.19	226	P	Pn	04 58 34.1	-3.2
WBSI	Waikabubak, Su	0.19	226	P	Pn	04 58 34.4	-2.9
WSI	Waingapu	0.78	102	P	Pn	04 58 39.6	-1.7
WSI	Waingapu	0.78	102	P	Pn	04 58 40.2	-1.1
BASI	Baing, Sumba	1.25	124	P	Pn	04 58 46.1	-0.4
BASI	Baing, Sumba	1.25	124	P	Pn	04 58 46.5	0.0
MMRI	Maumere	2.82	72	P	Pn	04 59 06.0	-0.6
MMRI	Maumere	2.82	72	ePn	Pn	04 59 07.7	+1.1
MMRI				eSn	Sn	04 59 40.9	+1.0
BSSI	Bau Bau, Buton	3.48	16	P	Pn	04 59 04.3	-11
BSSI	Bau Bau, Buton	3.48	16	P	Pn	04 59 15.2	-0.3
BATI	Baumata	4.13	100	P	Pn	04 59 26.2	+1.8
BATI	Baumata	4.13	100	P	Pn	04 59 25.8	+1.4
BATI	Baumata	4.13	100	Pn	Pn	04 59 26.1	+1.8
	91nm,0.3s,baz=287,slow=1.4,SNR=64						
BATI				Sn	Sn	05 00 11.2	-0.5
	175nm,0.3s,baz=61,slow=24,SNR=12						
BATI	Baumata	4.13	100	Pn	Pn	04 59 26.1	+1.8
BATI				Sn	Sn	05 00 11.2	-0.5
BKSI	Bulukumba	4.20	8	P	Pn	04 59 25.4	+0.1
BKSI	Bulukumba	4.20	8	P	Pn	04 59 24.7	-0.6
DNP	Denpasar	4.34	281	P	Pn	04 59 45.8	+19
DNP	Denpasar	4.34	281	P	Pn	04 59 30.8	+3.7
IGBI	Denpasar	4.38	279	P	Pn	04 59 30.2	+2.6
IGBI	Denpasar	4.38	279	P	Pn	04 59 27.9	+0.3
KAPI	Kappang	4.47	3	ePn	Pn	04 59 28.9	-0.1
KAPI				eSn	Sn	05 00 17.8	-2.1
SRBI	Singaraja	4.49	288	P	Pn	04 59 30.8	+1.7
SRBI	Singaraja	4.49	288	P	Pn	04 59 28.1	-1.0
SOEI	Soe	4.68	93	P	Pn	04 59 33.9	+2.1
SOEI	Soe	4.68	93	P	Pn	04 59 34.0	+2.1
SOEI	Soe	4.68	93	ePn	Pn	04 59 33.7	+1.8
SOEI				eSn	Sn	05 00 21.1	-4.0
BNSI	Bone	5.11	7	P	Pn	04 59 40.1	+2.6
	165nm,0.9s,2μm1.0nm						
BNSI	Bone	5.11	7	P	Pn	04 59 38.8	+1.3
	165nm,0.9s,2μm1.0nm						
JAGI	Jajag, Banyuwa	5.41	281	P	Pn	04 59 43.6	+2.0
	226nm,0.6s,4μm1.7nm						

JAGI Jajag, Banyuwa 5.41 281 P Pn 04 59 40.9 -0.7
226nm,0.6s,4μm1.7nm
JAGI Jajag, Banyuwa 5.41 281 ePn Pn 04 59 38.8 -2.8
155nm,0.6s
JAGI eSn Sn 05 00 34.8 -7.8
ABJI Asem Bagus 5.50 288 P Pn 04 59 45.6 +2.7
119nm,0.7s,2μm1.0nm
ABJI Asem Bagus 5.50 288 P Pn 04 59 43.5 +0.6
120nm,1.0s,1.0nm
SPSI Sidrap Palu 5.51 3 P Pn 04 59 45.2 +2.1
81nm,0.6s,1μm0.4nm
SPSI Sidrap Palu 5.51 3 P Pn 04 59 43.7 +0.6
81nm,0.6s,1μm0.4nm
KMMI Kalianget 6.02 294 P Pn 05 00 01.7 +12
BLJI Banyuglugur 6.12 286 P Pn 04 59 53.5 +2.2
131nm,0.6s,5μm0.8nm
BLJI Banyuglugur 6.12 286 P Pn 04 59 50.6 -0.7
131nm,0.6s,5μm0.8nm
GMJI Gumukmas 6.13 281 P Pn 05 00 00.9 +9.5
116nm,0.8s,3μm0.6nm
TTSI Tana Toraja 6.43 3 P Pn 04 59 58.1 +2.6
106nm,0.9s,880nm0.3nm
TTSI Tana Toraja 6.43 3 P Pn 04 59 57.7 +2.2
106nm,0.9s,882nm0.3nm
BBKI Banjar Baru 7.60 322 P Pn 05 00 12.8 +1.4
228nm,1.0s,2μm0.7nm
BBKI Banjar Baru 7.60 322 P Pn 05 00 13.0 +1.6
228nm,1.0s,2μm0.7nm
PWJI Pagerwojo 7.77 280 P Pn 05 00 20.5 +6.7
66nm,0.7s,3μm0.7nm
PWJI Pagerwojo 7.77 280 P Pn 05 00 17.9 +4.1
67nm,0.7s,3μm0.7nm
PBKI Pangkalan Bun 10.33 310 P Pn 05 00 50.5 +1.9
MBWA Marble Bar 11.58 179 ePn Pn 05 01 03.0 -2.5
16nm,0.4s
MBWA eSn Sn 05 03 00.6 -12
KKM Kota Kinabalu 15.80 348 ePn Pn 05 01 54.8 -5.6
MNAI Manna 17.22 286 ePn P 05 02 15.6 -2.3
WRA Warramunga Arr 17.67 128 P P 05 02 23.1 +0.2
0.7nm,0.3s,baz=304,slow=14,SNR=30
WRA S Sn 05 05 28.4 -12
1.0nm,0.3s,baz=308,slow=25,SNR=6.3
WRA Warramunga Arr 17.67 128 P P 05 02 23.1 +0.2
WRA S Sn 05 05 28.4 -12
WRAB Tennant Creek 17.67 128 ePn P 05 02 23.1 +0.2
13nm,0.8s
WRAB eS Sn 05 05 27.1 -13
AS31 Alice Springs 19.67 137 eP Pn 05 02 47.8 +0.7
AS31 eS S 05 06 19.3 -2.1
TGY Tagaytay City 23.50 3 LR LR 05 13 15.3
comp=Z,13nm,21.4s,baz=122,slow=39
COEN Coen 23.57 103 eP P 05 03 27.0 +1.8
KULM Kulim 23.88 307 eP P 05 03 25.4 -2.6
279nm,1.7s
PMG Port Moresby 27.26 92 eP P 05 04 00.0 +1.4
6.4nm,0.8s
STKA Stephens Creek 30.23 141 P P 05 04 29.5 +4.7
5.5nm,1.0s,baz=287,slow=8.0,SNR=3.2
STKA Stephens Creek 30.23 141 P P 05 04 29.5 +4.7
CMAR Chiang Mai Arr 34.42 324 P P 05 05 02.0 +0.5
3.5nm,0.7s,baz=155,slow=6.9,SNR=4.4
CMAR Chiang Mai Arr 34.42 324 P P 05 05 02.0 +0.5
CHTO Chiang Mai 34.70 324 eP P 05 05 03.1 -0.9
18nm,0.9s
PALK Pallekele 42.12 292 eP P 05 06 06.5 +0.3
H08S2 Diego Garcia H 46.52 268 T T 05 56 10.3
baz=96,slow=76,SNR=21
H08S3 Diego Garcia H 46.53 268 T T 05 56 10.5
baz=96,slow=76,SNR=14
H08S1 Diego Garcia H 46.54 268 T T 05 56 09.1
baz=96,slow=76,SNR=13
KSAR Wonju Array Be 47.36 9 P P 05 06 47.4 0.0
KSRS Korea Array 47.38 9 P P 05 06 47.4 -0.1
2.2nm,0.7s,baz=187,slow=8.4,SNR=5.8
LSA Lhasa 47.61 326 eP P 05 06 50.3 +0.2
7.6nm,0.6s
HYB Hyderabad 48.53 303 i P P 05 06 55.0 -1.9
MJAR Matsushiro Arr 49.06 20 P P 05 06 59.2 -1.4
0.8nm,0.8s,baz=201,slow=9.1,SNR=4.9
MJAR Matsushiro Arr 49.06 20 P P 05 06 59.2 -1.4
BJT Baijiatuau 49.38 357 eP P 05 07 02.4 -0.4
12nm,0.6s
USRK Ussuriysk Arra 54.64 11 P P 05 07 41.5 -0.3
4.2nm,0.6s,baz=191,slow=7.2,SNR=9.7
SONM Songino Array 58.27 350 P P 05 08 08.1 +0.3
8.3nm,0.9s,baz=165,slow=8.5,SNR=14
SONM Songino Array 58.27 350 P P 05 08 08.1 +0.3
TLY Talaya 62.47 349 P P 05 08 36.4 +0.3
1.8nm,0.5s,baz=237,slow=12,SNR=4.0
TLY Talaya 62.47 349 P P 05 08 36.4 +0.3
KBL Kabul 64.82 315 eP P 05 08 51.1 -1.1
16nm,0.7s
MKAR Makanchi Array 65.14 333 P P 05 08 53.8 0.0
6.0nm,0.7s,baz=132,slow=4.8,SNR=19
MKAR Makanchi Array 65.14 333 P P 05 08 53.8 0.0
TKM2 Tokmak 2 65.77 326 eP P 05 08 58.1 0.0
3.0nm,0.7s
AAK Ala-Archa 66.19 325 P P 05 09 01.1 +0.3
5.0nm,0.8s,baz=164,slow=4.2,SNR=5.6
AAK Ala-Archa 66.19 325 eP P 05 09 00.4 -0.4
6.0nm,0.9s
EKS2 Erkin-Say 66.61 325 eP P 05 09 03.4 0.0
9.4nm,1.1s
KURK Kurchatov 69.68 334 eP P 05 09 22.5 +0.2
ZAA0 Zalesovo Array 69.70 339 eP P 05 09 21.0 -1.3
ZALV Zalesovo Beam 69.70 339 P P 05 09 22.0 -0.2
5.3nm,0.6s,baz=145,slow=5.4,SNR=9.0
ZALV Zalesovo Beam 69.70 339 P P 05 09 22.0 -0.2
PETK Petropavlovsk- 70.33 23 P P 05 09 27.1 +0.9
3.1nm,0.7s,baz=163,slow=5.9,SNR=2.5
PETK Petropavlovsk- 70.33 23 P P 05 09 27.1 +0.9
GEYT Alibeck 74.17 314 P P 05 09 49.5 +0.1
3.2nm,0.8s,baz=194,slow=4.4,SNR=4.8
BVAR Borovoye Array 74.99 332 P P 05 09 53.7 -0.1
2.4nm,0.8s,baz=134,slow=8.3,SNR=5.0
BVAR Borovoye Array 74.99 332 P P 05 09 53.7 -0.1
BRVK Borovoye 75.06 332 eP P 05 09 53.5 -0.7
5.1nm,1.0s
ABKAR Akbulak array 78.28 325 eP P 05 10 11.9 -0.5
TIXI Tiksi 81.22 3 eP P 05 10 27.1 -0.7
7.3nm,1.0s
KMBO Kilima Mbogo 82.19 270 P P 05 10 38.5 +3.9
0.6nm,0.7s,baz=53,slow=20,SNR=3.3
KMBO Kilima Mbogo 82.19 270 eP P 05 10 34.5 0.0
1.3nm,0.8s
ARU Arti 82.56 331 eP P 05 10 34.5 -0.6
BOSA Boshof 89.22 241 eP P 05 11 10.3 +1.4
12nm,1.3s
ARCES ARCESS Array B 100.25 339 LR LR 06 03 05.8
comp=Z,154nm,20.1s,baz=226,slow=39
YKA Yellowknife Ar 114.44 24 PKP PKPdf 05 16 55.1 +3.8
0.2nm,0.7s,baz=294,slow=1.5,SNR=4.6
YKA Yellowknife Ar 114.44 24 PKP PKPdf 05 16 55.1 +3.8
TOA0 Torodi Ar. Sit 119.06 280 ePKPdf PKPdf 05 17 02.0 +0.4
ULM Lac du Bonnet 129.94 29 ePKPdf PKPdf 05 17 22.4 +0.9
MNTX Cornudas Mount 132.95 55 ePKPdf PKPdf 05 17 28.4 +0.6
JTS JuntasAbangare 155.88 86 ePKPdf PKPdf 05 18 08.4 +1.4
SAML Samuel 161.47 172 ePKPab PKPab 05 19 00.1 +2.0

IDC 28 05:00:30.0±1.5, 1°.39N×97°.06E, h0km, mb4.1/7, mb1 4.1/8, mb1mx3.8/48, mbtmp4.1/8, ML3.1/1, MS3.5/5, Ms1 3.6/5, ms1mx3.3/44, Error ellipse: s-maj=37.7km s-min=30.0km az=17.0

ISC 28 05:00:35.2±1.3, 1°.5N±0°.2×97°.4E±0°.2, h28km, n22, σ1°.39/10, mb4.2/7, MS3.6/4, Northern Sumatera

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

PSI Prapat 1.98 49 Pn Pb 05 01 09.4 -1.2
4.6nm,0.3s,baz=37,slow=2.5,SNR=25
CMAR Chiang Mai Arr 16.92 5 Pn P 05 04 33.4 +1.6
0.1nm,0.3s,baz=196,slow=11,SNR=5.3
CMAR LR LR 05 12 16.4
comp=Z,231nm,19.1s,baz=194,slow=41
SHL Shillong 24.52 348 eP P 05 05 54.0 +1.4
H08S2 Diego Garcia H 26.48 250 T T 05 33 04.9
baz=72,slow=76,SNR=2863
H08S3 Diego Garcia H 26.48 250 T T 05 33 05.8
baz=72,slow=76,SNR=1990
H08S1 Diego Garcia H 26.49 250 T T 05 33 11.0
baz=72,slow=76,SNR=1603
H08N1 Diego Garcia H 27.49 253 T T 05 35 11.9
baz=160,slow=80,SNR=58
H08N2 Diego Garcia H 27.50 253 T T 05 34 50.4
baz=160,slow=80,SNR=41
H08N3 Diego Garcia H 27.52 253 T T 05 35 13.7
baz=160,slow=80,SNR=50
BATI Baumata 28.59 115 LR LR 05 20 03.4
comp=Z,240nm,19.3s,baz=300,slow=41
JOW Kunigami 38.87 47 LR LR 05 22 22.9
comp=Z,17nm,21.6s,baz=118,slow=34
H01W3 Cape Leeuwin H 39.44 158 T T 05 49 09.7
baz=332,slow=76,SNR=12
H01W2 Cape Leeuwin H 39.45 158 T T 05 49 10.7
baz=332,slow=76,SNR=36
H01W1 Cape Leeuwin H 39.45 158 T T 05 49 09.4
baz=332,slow=76,SNR=29
KSRS Korea Array 45.47 35 P P 05 08 52.5 +0.5
1.6nm,0.7s,baz=218,slow=8.3,SNR=5.7
KSRS LR LR 05 28 19.3
comp=Z,73nm,18.7s,baz=150,slow=36
MJAR Matsushiro Arr 51.32 42 LR LR 05 32 15.3
comp=Z,60nm,21.9s,baz=240,slow=37
USRK Ussuriysk Arra 52.40 31 P P 05 09 45.7 +0.7
6.6nm,1.0s,baz=213,slow=6.6,SNR=5.1
ZALV Zalesovo Beam 53.30 351 P P 05 09 52.2 +0.7
2.3nm,0.6s,baz=176,slow=5.9,SNR=3.9
STKA Stephens Creek 53.39 132 P P 05 09 53.3 +0.7
2.1nm,0.8s,baz=288,slow=6.1,SNR=3.0
AKASG Malin Array Be 75.16 322 P P 05 12 13.4 -1.5
0.3nm,0.4s,baz=96,slow=4.9,SNR=4.7
FINES FINESS Array B 79.84 332 P P 05 12 39.1 -1.8
1.3nm,1.0s,baz=116,slow=8.7,SNR=3.4
ARCES ARCESS Array B 82.33 340 P P 05 12 53.3 -0.7
3.0nm,0.8s,baz=106,slow=5.7,SNR=3.2

ISCJB 28 05:01:06.6±0.4, 36°.41S±0°.07×73°.0W±0°.2, h25km, mb4.6/24, Error ellipse: s-maj=21.8km s-min=8.2km az=162.9
IDC 28 05:01:08.1±0.7, 36°.40S×73°.11W, h23km±4km, mb4.5/15, mb1 4.6/17, mb1mx4.4/37, mbtmp4.6/17, ML4.2/2, Error ellipse: s-maj=25.3km s-min=13.7km az=69.0
NEIC 28 05:01:09.5±0.3, 36°.43S×73°.04W, h35km, mb4.5/4, Error ellipse: s-maj=15.2km s-min=7.1km az=72.0

ISC 28 05:01:08.1±0.5, 36°.42S±0°.09×73°.1W±0°.2, h25km, n44, σ0°.76/50, mb4.8/24, Near coast of central Chile

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

PLCA Paso Flores 4.75 156 Pn Pn 05 02 16.6 -1.5
3.1nm,0.3s,baz=299,slow=8.5,SNR=3.1
PLCA Lg Lg 05 03 36.1
8.5nm,0.3s,baz=254,slow=18,SNR=2.5
USHA Ushuaia 18.69 172 P P 05 05 24.0 -0.2
0.3nm,0.3s,baz=293,slow=8.8,SNR=2.5
SIV San Ignacio 22.99 31 P P 05 06 10.0 -1.0
17nm,1.1s,baz=226,slow=17,SNR=5.9
ATAH Atahualpa 29.55 349 P P 05 07 11.2 -0.1
3.2nm,0.6s,baz=198,slow=9.6,SNR=2.3
VNA3 Neumayer Olymp 47.47 157 P P 05 09 41.2 +0.8
VNA2 Neumayer--Watz 48.14 156 P P 05 09 47.3 +1.7
SNAA Sanae 49.69 157 P P 05 09 57.8 +0.3
SNAA Sanae 49.69 157 P P 05 09 58.2 +0.7
8.5nm,0.9s,baz=282,slow=6.8,SNR=29
APG El Apazote 53.71 339 P P 05 10 23.6 -4.7
2.6nm,0.5s,baz=131,slow=11,SNR=4.3
QSPA South Pole Qui 53.82 180 P P 05 10 29.4 +0.9
18nm,1.0s,baz=150,slow=4.0,SNR=16
CRPR Cabo Rojo, PR 54.43 7 eP P 05 10 32.9 -0.3
25nm,1.0s
CELP Cerrillos 54.55 8 eP P 05 10 34.3 +0.2
TXAR Lajitas Array 71.44 332 P P 05 12 26.1 -0.2
1.7nm,0.7s,baz=152,slow=8.6,SNR=14
SWET Sewanee 72.27 349 eP P 05 12 30.8 -0.3
34nm,1.0s
TKL Tuckaleechee C 72.40 351 P P 05 12 31.5 -0.3
5.8nm,0.8s,baz=167,slow=9.4,SNR=5.4
WVT Waverly 73.47 348 eP P 05 12 37.7 -0.5
19nm,1.0s
DBIC Dimbokro 76.78 71 P P 05 12 59.3 +1.5
7.4nm,0.8s,baz=188,slow=8.6,SNR=7.4
ANMO Albuquerque 77.50 332 P P 05 13 02.0 +0.4
6.3nm,1.0s,baz=168,slow=6.5,SNR=9.9
SDCO Great Sand Dun 79.66 334 eP P 05 13 13.8 +0.3
3.1nm,1.0s
BOSA Boshof 79.72 118 P P 05 13 13.0 -1.1
13nm,1.0s,baz=232,slow=6.3,SNR=8.7
PV04 Paradox Valley 81.47 332 eP P 05 13 23.6 +0.5
SHPR Sheep Range 82.39 327 eP P 05 13 29.3 +1.3
10nm,1.2s
JLU Jordanelle 84.35 332 eP P 05 13 38.5 +0.5
4.8nm,0.8s
HWUT Hardware Ranch 85.26 332 eP P 05 13 42.4 -0.1
17nm,1.0s
NVAR Mina Array Bea 85.39 326 P P 05 13 44.4 +1.1
2.1nm,0.8s,baz=151,slow=5.3,SNR=11
NVAR pP pP 05 13 52.0 +0.5
3.0nm,0.9s,baz=156,slow=5.4,SNR=8.3
PDAR Pinedale Array 85.54 334 P P 05 13 43.6 -0.4
6.2nm,1.1s,baz=143,slow=5.2,SNR=13
PDAR pP pP 05 13 51.2 -0.9
3.2nm,1.0s,baz=165,slow=6.2,SNR=7.3
TORD Torodi Ar. Bea 85.85 70 P P 05 13 46.6 +0.8
7.2nm,1.0s,baz=237,slow=4.1,SNR=16
ELK Elko 85.98 329 P P 05 13 46.7 +0.5
2.8nm,0.9s,baz=186,slow=1.6,SNR=9.0
ELK pP pP 05 13 54.4 0.0
4.1nm,0.9s,baz=177,slow=1.5,SNR=8.1
QLMT Earthquake Lak 88.00 334 eP P 05 13 56.2 +0.3
0.3nm,0.6s
ULM Lac du Bonnet 88.61 346 P P 05 13 57.9 -0.5
5.2nm,0.9s,baz=75,slow=3.8,SNR=6.5
ULM pP pP 05 14 05.2 -1.3
7.4nm,1.0s,baz=210,slow=4.2,SNR=6.2
NEW Newport 93.00 332 P P 05 14 17.6 -1.3
1.9nm,0.9s,baz=45,slow=1.4,SNR=3.5
TARA Tarawa 109.97 256 ePKPdf PKiKP 05 19 37.1 -0.8
BRTR Keskin Array B 123.74 63 PKP PKPdf 05 20 03.5 -0.1
1.0nm,0.8s,baz=187,slow=2.1,SNR=5.7
AKASG Malin Array Be 124.45 49 PKP PKPdf 05 20 03.5 -0.9
1.0nm,0.8s,baz=261,slow=2.5,SNR=5.9
ABKAR Akbulak array 143.83 54 ePKPdf PKPbc 05 20 38.5 +0.2
IPM Ipoh 147.76 169 ePKPdf PKPdf 05 20 48.6 +0.2
IPM ePKPbc PKPbc 05 20 51.0 -0.3
HYB Hyderabad 148.60 120 i PKP PKPbc 05 20 53.0 -0.4
BRVK Borovoye 149.55 45 ePKPbc PKPbc 05 20 55.8 +1.2
KKAR Karatay Array 151.41 65 ePKPbc PKPbc 05 20 59.5 +0.1
KKAR ePKPab PKPab 05 21 07.5 -0.3
ASAJ Asahikawa 151.87 297 PKPab PKPab 05 21 10.2 +0.6
9.1nm,1.0s,baz=220,slow=7.9,SNR=3.6
AAK Ala-Archa 154.35 66 PKPab PKPab 05 21 20.8 +0.4
9.4nm,1.0s,baz=223,slow=2.9,SNR=9.1
ZALV Zalesovo Beam 156.72 34 PKP PKPdf 05 21 00.1 -0.3
3.1nm,0.8s,baz=282,slow=2.9,SNR=9.1
ZALV PKPab PKPab 05 21 30.7 +0.8
3.0nm,0.9s,baz=287,slow=7.0,SNR=4.9
MKAR Makanchi Array 158.97 53 PKP PKPdf 05 21 03.8 +0.4
1.3nm,0.8s,baz=8.6,slow=4.0,SNR=5.4
MKAR PKPab PKPab 05 21 40.8 +0.9
1.4nm,0.8s,baz=297,slow=4.0,SNR=5.6
SONM Songino Array 168.59 2 PKPab PKPab 05 22 22.6 +0.5
0.9nm,0.7s,baz=347,slow=3.3,SNR=4.5

SJA 28 05:03:37.8±0.3, 35°.51S×73°.62W, h277km±32km, ML5.0
ISCJB 28 05:03:57.2±1.2, 35°.04S±0°.05×71°.92W±0°.09, h47km±10km, mb4.7/44, Error ellipse: s-maj=13.3km s-min=7.3km az=162.8
IDC 28 05:03:57.3±0.4, 34°.91S×71°.84W, h36km±3km, mb4.3/20, mb1 4.4/21, mb1mx4.3/38, mbtmp4.5/21, ML4.9/1, Error ellipse: s-maj=17.6km s-min=11.0km az=62.0
NEIC 28 05:03:57.0±0.3, 35°.01S×71°.96W, h35km, mb5.0/23, Error ellipse: s-maj=9.2km s-min=6.6km az=64.0
NEIC Felt at Vina del Mar.
BJI 28 05:04:04.7, 35°.68S×70°.78W, h40km, mB5.1/8, Ms5.2/6, Ms7 4.9/7

ISC 28 05:03:57.0±0.5, 35°.04S±0°.06×71°.86W±0°.08, h32km±3km, n369, σ0°.94/367, mb4.7/44, 139C-131D, Central Chile

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

AVIZ Vizcacheras 3.18 62 eP Pb 05 04 51.1 -1.7
AAGR Agrelo 3.18 53 eP Pb 05 04 51.3 -1.6
AAGR eP Pb 05 04 51.3 -1.6
ARCO CERRO ARCO 3.27 49 eP Pb 05 04 51.8 -2.6
ARCO AML AML 05 05 46.4
comp=Z,834nm,0.6s
AUSP Uspallata 3.48 37 eP Pn 05 04 53.4 +4.3
ASAL Salagasta 3.50 47 eP Pn 05 04 54.2 +4.9
ASAL eS Sb 05 05 50.7 +10
RTLS Leoncito 3.87 34 eP Pn 05 04 57.6 +3.1
CFAA Coronel Fontan 4.57 43 Pn Pn 05 05 06.8 +2.9
comp=Z,3.2nm,0.3s,baz=208,slow=15,SNR=11
CFAA Lg Lg 05 06 09.3
comp=Z,8.8nm,0.3s,baz=306,slow=9.9,SNR=4.0
CFAA Coronel Fontan 4.57 43 eP Pn 05 05 06.1 +2.3
ACAN Cantantal 4.77 56 eP Pn 05 05 10.3 +3.6
AMOG MOGNA 4.97 36 eP Pn 05 05 10.5 +1.1
PLCA Paso Flores 5.78 170 Pn Pn 05 05 22.9 +2.4
comp=Z,7.6nm,0.3s,baz=337,slow=13,SNR=12
PLCA Paso Flores 5.78 170 ePn Pn 05 05 20.6 +0.1
ACHE Chepes 5.82 50 eP Pn 05 05 22.9 +1.8
TRQA Tornquist 8.50 114 ePn Pn 05 05 58.9 +1.0
comp=Z,111nm,0.8s
CPUP Villa Florida 15.20 59 Pn Pn 05 07 30.8 +1.5
comp=Z,0.8nm,0.3s,baz=211,slow=15,SNR=3.7
LPAZ La Paz 18.97 11 P Pn 05 08 18.2 +1.1
comp=Z,0.6nm,0.3s,baz=165,slow=4.5,SNR=5.5
LPAZ La Paz 18.97 11 eP P 05 08 16.1 -0.1
comp=Z,16nm,0.9s
USHA Ushuaia 19.94 174 P Pn 05 08 28.7 +1.0
comp=Z,15nm,0.7s,baz=356,slow=8.7,SNR=6.5
SIV San Ignacio 21.29 30 P P 05 08 40.4 -0.5
comp=Z,19nm,0.8s,baz=211,slow=8.3,SNR=12
NNA Nana 23.39 348 P P 05 09 03.5 +0.5
comp=Z,3.7nm,0.4s,baz=214,slow=15,SNR=3.7
SAML Samuel 27.15 19 eP P 05 09 36.9 -0.5
comp=Z,1.2nm,0.5s
BDFB Brasilia 28.81 54 P P 05 09 51.0 -1.3
comp=Z,7.2nm,0.8s,baz=227,slow=8.9,SNR=4.5
OTAV Otavalo 35.63 349 eP P 05 10 52.3 -0.1
comp=Z,10nm,1.1s
ROSC El Rosal 39.75 356 eP P 05 11 29.1 +2.0
VNA3 Neumayer Olymp 48.35 157 P P 05 12 35.8 +0.8
VNA2 Neumayer--Watz 49.00 157 P P 05 12 40.3 +0.3
SNAA Sanae 50.57 158 P P 05 12 51.7 -0.3
SNAA Sanae 50.57 158 P P 05 12 51.8 -0.3
comp=Z,3.4nm,0.9s,baz=263,slow=5.1,SNR=15
SNAA Sanae 50.57 158 P P 05 12 51.8 -0.3
comp=Z,19nm,1.0s
APG El Apazote 52.81 337 P P 05 13 05.2 -4.3
comp=Z,7.9nm,0.9s,baz=135,slow=7.1,SNR=3.8
QSPA South Pole Qui 55.20 180 P P 05 13 27.3 +0.9
comp=Z,4.2nm,0.7s,baz=329,slow=2.2,SNR=8.9
QSPA pP pP 05 13 38.3 +2.0
comp=Z,15nm,0.8s,baz=160,slow=3.0,SNR=16
SYO Syowa Base 64.85 158⇓eX P 05 14 30.4 -1.9
SYO Syowa Base 64.85 158⇑eP PcP 05 15 03.0 -2.4
035A Encino 66.45 334 ⇓P P 05 14 42.8 -0.3
baz=67
738A Farr-Stevens R 67.39 337 ⇑P P 05 14 50.6 +1.7
baz=68
933A Laredo 67.49 334 ⇓P P 05 14 50.4 +0.7
baz=68
834A Tilden 67.69 335 ⇓P P 05 14 51.3 +0.3
baz=68
833A Chaparral WMA, 68.18 334 ⇓P P 05 14 54.0 0.0
baz=68
832A Faith Ranch, C 68.35 333 ⇓P P 05 14 54.8 -0.3
baz=69
734A La Parita Cree 68.36 335 ⇓P P 05 14 55.8 +0.7
baz=69
732A Laxson Ranch, 68.75 334 ⇑P P 05 14 58.0 +0.4
baz=69
438A Sam Houston St 69.11 338 ⇑P P 05 15 00.9 +1.1
baz=69
633A Saathoff Ranch 69.13 335 ⇓P P 05 15 00.4 +0.4
baz=69
340A Bronson 69.27 340 ⇑P P 05 15 01.2 +0.4
baz=70
632A Uvalde 69.39 334 ⇑P P 05 15 01.6 0.0
baz=70
534A Blanco 69.41 335 ⇑P P 05 15 03.0 +1.3
baz=70
631A Perdido Creek 69.59 333 ⇑P P 05 15 03.0 +0.2
baz=70
533A Kerrville 69.64 335 ⇓P P 05 15 03.5 +0.4
baz=70
435B Jarrell 69.81 337 ⇑P P 05 15 04.2 +0.1
baz=70
532A Rocksprings 70.00 334 ⇑P P 05 15 04.4 -0.9
baz=70,SNR=6.5
434A Burnet 70.06 336 ⇓P P 05 15 04.4 -1.3
baz=70,SNR=6.5
336A Riesel 70.13 337 ⇑P P 05 15 05.6 -0.4
baz=70
531A Rocksprings 70.26 334 ⇑P P 05 15 06.8 -0.2
baz=70
JCT Junction City 70.28 335 eP P 05 15 06.6 -0.4
comp=Z,7.4nm,1.0s
JCT Junction City 70.28 335 ⇓P P 05 15 06.9 -0.1
baz=70
433A Art 70.29 335 ⇓P P 05 15 05.6 -1.4
baz=70,SNR=6.7
KMSC Kings Mountain 70.38 352 ⇑P P 05 15 08.4 +0.9
baz=71
237A Washetta, Mont 70.38 339 ⇓P P 05 15 08.0 +0.5
baz=71
334A Lometa 70.53 336 ⇑P P 05 15 06.5 -2.0
baz=71,SNR=6.4
530A J-C Ranch, Com 70.54 333 ⇓P P 05 15 07.8 -0.8
baz=71,SNR=5.7
432A Menard 70.64 335 ⇓P P 05 15 08.9 -0.4
baz=71
TXAR Lajitas Array 70.71 331 P P 05 15 09.2 -0.6
comp=Z,1.0nm,0.5s,baz=154,slow=8.0,SNR=21
TXAR pP pP 05 15 20.3 +0.4
comp=Z,5.7nm,0.6s,baz=154,slow=9.3,SNR=26
431A Sonora 70.75 334 ⇑P P 05 15 09.9 0.0
baz=71
333A Richland Sprin 70.77 336 ⇑P P 05 15 09.6 -0.4
baz=71
529A Stev Forest Ra 70.85 332 ⇓P P 05 15 10.1 -0.5
baz=71
WHTX Lake Whitney 70.88 337 ⇓P P 05 15 10.2 -0.4
baz=71
137A Heron Place, G 70.92 339 ⇑P P 05 15 10.7 -0.1
baz=71
430A Baggett Ranch, 71.08 333 ⇑P P 05 15 10.1 -1.8
baz=71,SNR=5.9
332A Millersview 71.08 335 ⇓P P 05 15 11.1 -0.8
baz=71
234A Clairette 71.11 337 ⇑P P 05 15 11.1 -1.0
baz=71
SWET Sewanee 71.12 348 eP P 05 15 10.7 -1.3
comp=Z,4.4nm,0.6s
429A Davenport Ranc 71.17 333 ⇓P P 05 15 11.2 -1.3
baz=71
TKL Tuckaleechee C 71.20 350 P P 05 15 10.9 -1.6
comp=Z,3.6nm,0.8s,baz=190,slow=6.1,SNR=3.0
331A San Angelo 71.26 334 ⇑P P 05 15 12.0 -1.0
baz=72,SNR=6.0
233A Rising Star 71.38 336 ⇑P P 05 15 12.8 -0.9
baz=72
232A Coleman 71.51 335 ⇓P P 05 15 13.5 -0.9
baz=72
330A Mertzon 71.61 334 ⇓P P 05 15 13.6 -1.5
baz=72,SNR=7.1
231A Bronte 71.79 335 ⇓P P 05 15 15.1 -1.1
baz=72,SNR=7.3
133A Hamilton Ranch 71.92 336 ⇑P P 05 15 16.1 -0.9
baz=72
329A Wagon Wheel Ra 71.98 333 ⇑P P 05 15 16.2 -1.2
baz=72
230A Sterling City 72.03 334 ⇑P P 05 15 16.7 -0.9
baz=72
Z35A Perchaven, San 72.06 338 ⇑P P 05 15 17.0 -0.6
baz=72
ABTX Abilene, Hawle 72.18 336 eP P 05 15 17.9 -0.6
comp=Z,19nm,0.8s
ABTX Abilene, Hawle 72.18 336 ⇑P P 05 15 17.6 -0.9
baz=72
Z34A Collier Ranch, 72.30 337 ⇓P P 05 15 18.5 -0.7
baz=73
229A Bryant Ranch, 72.35 334 ⇑P P 05 15 19.0 -0.5
baz=73
WVT Waverly 72.35 346 eP P 05 15 18.3 -1.1
comp=Z,47nm,0.8s
131A Roby 72.48 335 ⇓P P 05 15 19.5 -0.8
baz=73
Z33A Whitaker Ranch 72.50 337 ⇓P P 05 15 19.7 -0.6
baz=73
Z32A Haskell 72.75 336 ⇓P P 05 15 21.5 -0.4
baz=73
228A UT Block 9, Go 72.77 333 ⇓P P 05 15 21.6 -0.5
baz=73

Z31A Sharp Cattle R 72.99 335 ⇓P P 05 15 22.5 -0.8
baz=73,SNR=7.7
Y33A Hilltop Ranch, 73.11 337 ⇓P P 05 15 23.4 -0.6
baz=73
128A Castleberry Fa 73.19 333 ⇓P P 05 15 24.1 -0.5
baz=73
Z30A Sanderson Ranc 73.30 335 ⇑P P 05 15 24.4 -0.7
baz=74
Y32A R-V Farms, Ver 73.38 336 ⇓P P 05 15 24.9 -0.6
baz=74
X34A Smith Ranch, M 73.41 338 ⇓P P 05 15 24.9 -0.8
baz=74
Z29A Hungry Hill Ra 73.48 334 ⇑P P 05 15 25.3 -0.9
baz=74
MNTX Cornudas Mount 73.48 331 eP P 05 15 24.3 -1.9
comp=Z,3.3nm,1.0s
127A Arkansas Junct 73.56 333 ⇓P P 05 15 26.3 -0.5
baz=74
Y31A Rekieta Farm, 73.61 336 ⇑P P 05 15 27.2 +0.2
baz=74
X32A Elmer 73.71 337 ⇑P P 05 15 27.4 -0.1
baz=74
Z28A Tucker Farm, M 73.75 334 ⇓P P 05 15 27.4 -0.4
baz=74
W34A Bridge Creek, 73.98 338 ⇑P P 05 15 28.4 -0.6
baz=74
Y29A Porterfield Fa 74.01 335 ⇑P P 05 15 27.9 -1.4
baz=74,SNR=6.9
TUL1 Tulsa 74.03 340 ⇑P P 05 15 29.2 -0.1
baz=74
Z27A Tatum 74.08 333 ⇑P P 05 15 29.4 -0.4
baz=74
W33A Caddo, Fort Co 74.12 338 ⇑P P 05 15 29.8 0.0
baz=74
X31A McDonald Ranch 74.13 336 ⇓P P 05 15 29.7 -0.2
baz=74
SUR Sutherland 74.20 119 P P 05 15 31.7 +0.8
comp=Z,5.2nm,0.8s,baz=257,slow=8.0,SNR=5.1
Y28A McKinney Farm, 74.26 334 ⇓P P 05 15 30.4 -0.4
baz=74
X30A Coker Ranch, T 74.26 335 ⇓P P 05 15 30.4 -0.3
baz=74
Z26A Caprock 74.33 332 ⇑P P 05 15 29.7 -1.5
baz=75,SNR=10
W32A Sentinel 74.34 337 ⇑P P 05 15 30.6 -0.6
baz=75
V34A Guthrie 74.46 339 ⇑P P 05 15 31.7 -0.1
baz=75
MSTX Muleshoe 74.50 334 eP P 05 15 31.4 -0.9
comp=Z,16nm,0.7s
MSTX Muleshoe 74.50 334 ⇑P P 05 15 31.6 -0.6
baz=75
X29A Tulia 74.55 335 ⇓P P 05 15 32.1 -0.4
baz=75
Y27A Causey 74.57 333 ⇑P P 05 15 32.4 -0.2
baz=75
Z25A Roswell 74.61 332 ⇓P P 05 15 32.5 -0.4
baz=75
W31A Holland Ranch, 74.62 336 ⇑P P 05 15 33.0 +0.1
baz=75
V33A Lossen Ranch, 74.68 338 ⇓P P 05 15 33.4 +0.3
baz=75
V32A Arapaho 74.82 337 ⇓P P 05 15 34.1 +0.2
baz=75
319A Douglas 74.85 327 ⇓P P 05 15 34.6 +0.2
baz=75
Z24A Sheeppen Canyo 74.91 331 ⇑P P 05 15 34.9 +0.2
baz=75
AMTX Amarillo 74.94 335 ⇓P P 05 15 35.1 +0.4
baz=75
U34A Anderson Ranch 75.02 339 ⇑P P 05 15 35.6 +0.5
baz=75
W29A Amraillo 75.14 335 ⇓P P 05 15 36.0 +0.1
baz=75
Y25A Mesa, Roswell 75.17 332 ⇓P P 05 15 36.2 +0.1
baz=75
121A Cookes Peak, D 75.20 329 eP P 05 15 36.8 +0.4
comp=Z,14nm,0.8s
121A Cookes Peak, D 75.20 329 ⇓P P 05 15 36.8 +0.4
baz=75
DBIC Dimbokro 75.37 71 P P 05 15 37.5 -0.1
comp=Z,12nm,0.7s,baz=208,slow=6.2,SNR=15
DBIC pP pP 05 15 48.4 +0.6
comp=Z,7.0nm,0.7s,baz=230,slow=6.0,SNR=5.2
DBIC Dimbokro 75.37 71 P P 05 15 37.5 -0.1
comp=Z,7.8nm,0.8s
DBIC pP pP 05 15 48.4 +0.6
X26A CR and CF Fran 75.40 333 ⇓P P 05 15 38.3 +0.9
baz=76
U32A Winter Ranch, 75.42 338 ⇓P P 05 15 37.9 +0.6
baz=76
Y24A Capitan 75.47 332 ⇑P P 05 15 38.5 +0.6
baz=76
Z22A Elephant Butte 75.49 330 ⇑P P 05 15 38.1 +0.1
baz=76
W27A Bowe Ranch, En 75.59 334 ⇓P P 05 15 37.7 -0.8
baz=76,SNR=8.4
ACSO Alum Creek Sta 75.60 351 eP P 05 15 37.0 -1.3
comp=Z,31nm,0.8s
Y23A Lovelace Mesa, 75.71 331 ⇓P P 05 15 39.9 +0.6
baz=76
T33A Patterson Ranc 75.83 338 ⇑P P 05 15 40.1 +0.4
baz=76
W26A Owens Ranch, T 75.86 333 ⇓P P 05 15 40.1 0.0
baz=76
V28A Channing 75.91 335 ⇓P P 05 15 40.4 +0.1
baz=76
U30A WK&E Inc. Balk 76.08 336 ⇓P P 05 15 41.7 +0.5
baz=76
W25A X Bar L Ranch, 76.24 333 ⇓P P 05 15 42.1 -0.1
baz=76
LPM Los Pinos Moun 76.28 331 eP P 05 15 42.7 +0.2
W24A Lazy 6 Ranch, 76.59 332 ⇓P P 05 15 44.5 +0.2
baz=77
S32A Newby Ranch, P 76.61 338 ⇓P P 05 15 44.7 +0.6
baz=77
S31A Mullinville 76.71 338 ⇑P P 05 15 45.6 +0.9
baz=77
U27A Thompson Grove 76.72 335 ⇓P P 05 15 45.1 +0.2
baz=77
ANMO Albuquerque 76.76 331 P P 05 15 45.4 +0.1
comp=Z,2.1nm,0.9s,baz=164,slow=8.1,SNR=4.3
ANMO pP PcP 05 15 56.1 -0.3
comp=Z,5.2nm,0.9s,baz=162,slow=8.2,SNR=12
W23A Werner Place, 76.83 332 ⇓P P 05 15 46.0 +0.3
baz=77
V25A Rancho No Teng 76.84 333 ⇑P P 05 15 45.9 +0.2
baz=77
T29A Hugoton 76.86 336 ⇑P P 05 15 45.5 -0.2
baz=77
T28A Walsh 77.11 336 ⇑P P 05 15 47.2 +0.1
baz=77
R32A Long Quarter, 77.21 339 ⇓P P 05 15 48.1 +0.6
baz=78
KSU1 Kansas State U 77.24 340 ⇑P P 05 15 49.2 +1.6
baz=78
T27A Campo 77.26 335 ⇑P P 05 15 48.4 +0.5
baz=78
U25A Circle Dot Ran 77.27 334 ⇑P P 05 15 48.5 +0.4
baz=78
R31A Burdett 77.33 338 ⇑P P 05 15 48.7 +0.4
baz=78
V23A Ortiz Mt. (NFS 77.36 332 ⇓P P 05 15 48.8 +0.2
baz=78
S28A Manter 77.46 336 ⇓P P 05 15 49.4 +0.4
baz=78
Q33A Connelly Farm, 77.49 340 ⇑P P 05 15 50.2 +1.2
baz=78
R30A Dighton 77.56 337 ⇑P P 05 15 50.7 +1.1
baz=78
U24A Moreno Valley 77.60 333 ⇓P P 05 15 50.5 +0.4
baz=78
Q32A Meitler Ranch, 77.69 339 ⇓P P 05 15 50.8 +0.6
baz=78
V22A San Miguel Ran 77.78 332 ⇓P P 05 15 51.7 +0.7
baz=78
X18A Snowflake 77.83 329 ⇓P P 05 15 51.9 +0.6
baz=78
U23A El Rito 77.87 332 ⇑P P 05 15 52.2 +0.7
baz=78
T25A Trinidad 77.93 334 ⇓P P 05 15 52.2 +0.4
baz=78
Q31A Ellis 77.95 338 ⇓P P 05 15 52.3 +0.7
baz=78
S26A Kim 78.02 335 ⇓P P 05 15 52.1 -0.1
baz=78
R28A Tribune 78.11 336 ⇑P P 05 15 52.8 +0.2
baz=78

U22A Llaves 78.17 332 ⇓P P 05 15 53.0 -0.2
baz=78
Q30A Quinter 78.18 338 ⇓P P 05 15 53.2 +0.3
baz=78
T24B San Luis 78.21 333 ⇑P P 05 15 54.0 +0.5
baz=78
P32A Huiting Farm, 78.29 339 ⇑P P 05 15 53.7 +0.3
baz=79
Q29A Oakley 78.34 337 ⇑P P 05 15 54.3 +0.5
baz=79
X16A Lo Mia Camp, P 78.39 327 ⇑P P 05 15 54.4 0.0
baz=79
R27A Eads 78.39 336 ⇑P P 05 15 54.4 +0.3
baz=79
S25A Robets Cordova 78.40 334 ⇓P P 05 15 54.8 +0.5
baz=79
P31A Stockton 78.42 339 ⇓P P 05 15 54.9 +0.7
baz=79
T23A Casias Ranch, 78.44 333 ⇑P P 05 15 55.1 +0.4
baz=79
R26A Arlington 78.62 335 ⇑P P 05 15 56.3 +0.8
baz=79
S24A Houchin Ranch, 78.66 334 ⇑P P 05 15 56.7 +0.8
baz=79
Y14A Wickenburg 78.69 326 ⇑P P 05 15 56.6 +0.8
baz=79
P30A Selden 78.71 338 ⇓P P 05 15 57.1 +1.3
baz=79
Q28A Sharon Springs 78.77 337 ⇓P P 05 15 57.5 +1.3
baz=79
R25A Fountain Ranch 78.78 334 ⇓P P 05 15 57.3 +0.9
baz=79
TSUM Tsumeb 78.79 106 P P 05 15 57.2 +0.2
comp=Z,2.3nm,0.6s,baz=229,slow=6.2,SNR=8.8
SDCO Great Sand Dun 78.86 333 eP P 05 15 56.7 -0.3
comp=Z,4.0nm,0.8s
P29A Atwood 78.97 338 ⇓P P 05 15 58.2 +0.9
baz=79
O31A Woolen Ranch, 78.99 339 ⇓P P 05 15 57.4 +0.1
baz=79
R24A Sanders Place, 79.15 334 ⇓P P 05 15 59.1 +0.7
baz=79
P28A Saint Francis 79.21 337 ⇓P P 05 15 59.4 +0.8
baz=80
Y12C Blythe 79.24 325 ⇓P P 05 15 59.5 +0.7
baz=80
N32A Stulken Farm, 79.26 340 ⇑P P 05 15 58.8 0.0
baz=80
WUAZ Wupatki 79.29 328 eP P 05 15 59.3 0.0
comp=Z,12nm,0.8s
WUAZ Wupatki 79.29 328 ⇑P P 05 15 59.5 +0.2
baz=80
S22A 4UR Ranch, Cre 79.36 332 ⇓P P 05 15 59.6 -0.1
baz=80
R23A Moffat 79.38 333 ⇑P P 05 15 60.0 +0.2
baz=80
Q25A Bedland, Calha 79.45 335 ⇑P P 05 16 00.1 0.0
baz=80
BOSA Boshof 79.46 117 P P 05 16 00.5 0.0
comp=Z,27nm,0.6s,baz=247,slow=3.5,SNR=59
BOSA Boshof 79.46 117 eP P 05 16 00.5 0.0
comp=Z,25nm,0.8s
MVCO Mesa Verde 79.54 331 ⇓P P 05 16 01.3 +0.6
baz=80
BC3 Big Chuckawall 79.60 324 ⇓P P 05 16 01.7 +0.7
baz=80
Q24A Divide 79.81 334 ⇓P P 05 16 02.6 +0.4
baz=80
M31A Lambtecht Ranc 79.99 340 ⇑P P 05 16 04.0 +1.2
baz=80
O27A Beecher Island 80.00 337 ⇓P P 05 16 04.3 +1.4
baz=80
PFO Pinyon Flat Ob 80.05 323 P P 05 16 03.9 +0.5
comp=Z,4.9nm,0.9s,baz=207,slow=2.3,SNR=2.6
PFO pP pP 05 16 14.9 +1.2
comp=Z,6.6nm,0.8s,baz=96,slow=4.3,SNR=4.0
PFO Pinyon Flat Ob 80.05 323 ⇓P P 05 16 04.1 +0.7
baz=80
W13A Hualapai Mount 80.06 326 ⇓P P 05 16 04.2 +0.7
baz=80
BELC Belle Mtn. Jos 80.15 324 ⇓P P 05 16 05.1 +1.2
baz=80
PV01 Paradox Valley 80.37 331 eP P 05 16 04.6 -0.5
comp=Z,570nm,0.9s
U15A North Rim 80.45 328 ⇑P P 05 16 06.2 +0.6
baz=81
N27A Anderson Farm, 80.58 337 ⇓P P 05 16 06.6 +0.5
baz=81
M29A Burnside Ranch 80.58 338 ⇑P P 05 16 07.0 +1.0
baz=81
GMRC Granite Mounta 80.62 325 ⇑P P 05 16 06.4 0.0
baz=81
L31A Butterfield Fa 80.72 340 ⇑P P 05 16 07.6 +1.0
baz=81
ISCO Idaho Springs 80.72 334 ⇓P P 05 16 07.1 +0.1
baz=81
L30A Spencer Herefo 80.76 339 ⇑P P 05 16 08.0 +1.1
baz=81
P22A Eagle 80.95 333 ⇑P P 05 16 08.3 +0.1
baz=81
O23A Lake Granby, G 81.19 334 ⇑P P 05 16 10.4 +0.8
baz=82
TUQ Turquoise Moun 81.28 325 ⇑P P 05 16 10.2 +0.2
baz=82
O22A Kremmling 81.38 334 ⇑P P 05 16 10.9 +0.4
baz=82
K30A Basset 81.40 340 ⇓P P 05 16 10.6 +0.3
baz=82
ECSD EROS Data Cent 81.58 342 eP P 05 16 10.2 -0.9
comp=Z,25nm,1.0s
ECSD EROS Data Cent 81.58 342 ⇓P P 05 16 10.6 -0.5
baz=82
K29A Lazy Trails An 81.68 339 ⇑P P 05 16 12.4 +0.7
baz=82
LBTB Lobatse 81.74 115 eP P 05 16 13.0 +0.2
comp=Z,17nm,0.6s
N23A Red Feather La 81.81 335 ⇓P P 05 16 13.4 +0.6
baz=82
EDW2 Edwards Air Fo 81.83 323 ⇑P P 05 16 13.1 +0.4
baz=82
N22A Wattenberg Ran 81.91 334 ⇓P P 05 16 13.9 +0.6
baz=82
M24A Cheyenne 81.93 336 ⇓P P 05 16 14.1 +0.9
baz=82
K28A Ten Mile Ranch 81.95 338 ⇑P P 05 16 14.2 +1.0
baz=82
J30A Dallas 81.96 340 ⇑P P 05 16 14.3 +1.1
baz=82
O20A White River Ci 81.98 333 ⇓P P 05 16 14.7 +1.1
baz=82
ARUT Antelope Range 82.09 328 eP P 05 16 14.5 +0.3
comp=Z,122nm,0.8s
SPMN St. Paul 82.11 345 eP P 05 16 13.1 -0.8
comp=Z,9.5nm,0.6s
LRMC Laurel Mountai 82.16 324 ⇓P P 05 16 15.5 +0.9
baz=82
M23A Laramie 82.24 335 ⇑P P 05 16 15.6 +0.7
baz=82
J29A Okreek 82.28 339 ⇓P P 05 16 14.3 -0.5
baz=83
L24A Wheatland 82.48 336 ⇓P P 05 16 16.6 +0.6
baz=83
M22A Cedar Creek Ra 82.49 334 ⇑P P 05 16 15.2 -1.1
baz=83
I30A Oacoma 82.49 340 ⇑P P 05 16 15.8 -0.1
baz=83
J28A Allard Ranch, 82.56 339 ⇑P P 05 16 16.8 +0.4
baz=83
N20A Spence Gulch, 82.59 333 ⇓P P 05 16 16.7 -0.2
baz=83
J27A Elkhorn Farm, 82.63 338 ⇓P P 05 16 17.5 +0.7
baz=83
I29A Vivian Onida 82.83 340 ⇑P P 05 16 18.0 +0.2
baz=83
J26A Sides Ranch, S 83.02 338 ⇓P P 05 16 19.1 +0.3
baz=83
I28A Midland 83.06 339 ⇑P P 05 16 18.9 -0.1
baz=83
VES Vestal, Richgr 83.13 323 ⇓P P 05 16 19.6 +0.2
baz=83
K23A Bowen Ranch, D 83.35 336 ⇑P P 05 16 20.5 -0.1
baz=84
H29A Onida 83.36 340 ⇑P P 05 16 20.1 -0.4
baz=84
R11A Troy Canyon, C 83.50 327 eP P 05 16 21.8 +0.2
comp=Z,6.8nm,0.9s
R11A Troy Canyon, C 83.50 327 ⇑P P 05 16 21.6 +0.1
baz=84

G30A Faulkton 83.54 341 ⇓P P 05 16 21.5 +0.1
baz=84
J24A Dixon Ranch, L 83.54 337 ⇓P P 05 16 21.6 +0.1
baz=84
K22A Casper 83.56 335 ⇓P P 05 16 21.7 0.0
baz=84
JLU Jordanelle 83.63 331 eP P 05 16 21.9 -0.3
comp=Z,5.7nm,0.7s
H28A Mission Ridge 83.64 340 ⇑P P 05 16 21.4 -0.4
baz=84
K21A Alcova 83.80 335 ⇓P P 05 16 22.1 -0.8
baz=84
G29A Hoven 83.81 340 ⇓P P 05 16 22.9 +0.2
baz=84
DUG Dugway 83.84 330 ⇓P P 05 16 22.9 -0.2
baz=84
I25A Rochford 83.86 337 ⇑P P 05 16 23.3 0.0
baz=84
H27A Howes 83.91 339 ⇑P P 05 16 23.1 -0.1
baz=84
G28A Parade 83.97 340 ⇓P P 05 16 24.0 +0.5
baz=84
F30A Leola 84.16 341 ⇓P P 05 16 25.6 +1.1
baz=84
H25A Fruitdale 84.36 338 ⇑P P 05 16 25.9 +0.3
baz=85
F29A Eureka 84.37 341 ⇓P P 05 16 24.4 -1.2
baz=85
TOA0 Torodi Ar. Sit 84.42 70 eP P 05 16 26.1 -0.5
TORD Torodi Ar. Bea 84.42 70 P P 05 16 26.6 0.0
comp=Z,7.1nm,0.8s,baz=273,slow=4.6,SNR=28
TORD pP pP 05 16 37.2 +0.4
comp=Z,10nm,0.8s,baz=288,slow=4.6,SNR=18
HWUT Hardware Ranch 84.53 331 eP P 05 16 26.1 -0.6
comp=Z,11nm,1.0s
G27A Dupree 84.54 339 ⇑P P 05 16 25.8 -0.7
baz=85
I22A 9 Mile Ranch, 84.64 336 ⇑P P 05 16 25.6 -1.5
baz=85
F28A McLaughlin 84.65 340 ⇑P P 05 16 26.3 -0.7
baz=85
G26A Maurine 84.66 339 ⇑P P 05 16 26.4 -0.7
baz=85
J20A Shoshoni 84.73 334 ⇑P P 05 16 28.3 +0.7
baz=85
E30A Jud 84.75 342 ⇑P P 05 16 28.5 +1.1
baz=85
PDAR Pinedale Array 84.75 333 P P 05 16 26.7 -1.1
comp=Z,1.0nm,0.7s,baz=144,slow=4.0,SNR=5.7
PDAR pP pP 05 16 37.5 -0.6
comp=Z,1.8nm,0.7s,baz=147,slow=5.4,SNR=8.6
H24A Dirks Ranch, A 84.77 337 ⇑P P 05 16 29.1 +1.4
baz=85
NVAR Mina Array Bea 84.82 325 P P 05 16 28.4 +0.1
comp=Z,1.5nm,0.7s,baz=156,slow=6.5,SNR=7.7
NVAR pP pP 05 16 39.4 +0.8
comp=Z,3.1nm,0.7s,baz=155,slow=6.0,SNR=16
G25A Newell 84.82 338 ⇓P P 05 16 28.3 +0.4
baz=85
I21A Big Trails, Te 84.85 335 ⇑P P 05 16 27.2 -1.0
baz=85
J19A Crowheart 85.00 334 ⇑P P 05 16 27.9 -1.1
baz=85
F27A Lemmon 85.02 339 ⇑P P 05 16 29.3 +0.4
baz=85
F26A Lodgepole 85.19 339 ⇑P P 05 16 30.1 +0.4
baz=86
H22A Clearmont 85.22 336 ⇑P P 05 16 29.6 -0.4
baz=86
I20A Worland 85.26 335 ⇑P P 05 16 28.7 -1.6
baz=86
D30A Buchanan 85.27 342 ⇓P P 05 16 28.9 -1.2
baz=86
ELK Elko 85.32 328 P P 05 16 30.1 -0.7
comp=Z,1.5nm,0.8s,baz=92,slow=23,SNR=5.3
ELK pP pP 05 16 41.5 +0.4
comp=Z,4.5nm,1.0s,baz=172,slow=2.2,SNR=5.7
E27A Carson 85.40 340 ⇓P P 05 16 31.2 +0.4
baz=86
G23A Biddle 85.44 337 ⇓P P 05 16 31.3 +0.3
baz=86
I19A Meeteetse 85.64 334 ⇑P P 05 16 32.2 0.0
baz=86
H20A Greybull 85.69 335 ⇑P P 05 16 30.8 -1.5
baz=86
AGMN Agassiz Nation 85.69 344 ⇑P P 05 16 32.1 +0.1
baz=86
E26A Carlson Angus 85.69 339 ⇑P P 05 16 32.0 -0.2
baz=86
C30A Mose, Pekin 85.75 342 ⇑P P 05 16 31.8 -0.6
baz=86
F23A Volborg 85.91 337 ⇑P P 05 16 33.6 +0.3
baz=86
E25A Miller Ranch, 85.99 339 ⇑P P 05 16 32.4 -1.3
baz=86
I17A Pilgrim Ck. 86.12 333 ⇑P P 05 16 35.1 +0.5
baz=86
D26A Manning 86.19 340 ⇓P P 05 16 35.6 +1.0
baz=86
H19A Powell 86.19 334 ⇓P P 05 16 34.9 +0.1
baz=86
F22A Rosebud 86.24 337 ⇓P P 05 16 35.2 +0.3
baz=86
G20A Bridger 86.40 335 ⇑P P 05 16 35.4 -0.4
baz=87
B30A Myrvik Farm, E 86.41 343 ⇓P P 05 16 35.6 0.0
baz=87
H18A Shoshone NF, C 86.44 334 ⇑P P 05 16 35.6 -0.6
baz=87
C27A Sayler Ranch, 86.55 340 ⇓P P 05 16 37.4 +1.0
baz=87
D25A Fairfield 86.56 339 ⇓P P 05 16 36.8 +0.4
baz=87
E23A Ismay 86.57 338 ⇓P P 05 16 36.9 +0.3
baz=87
B29A Wagenman Farm, 86.68 342 ⇓P P 05 16 36.9 0.0
baz=87
RLMT Red Lodge 86.68 334 eP P 05 16 36.8 -0.6
comp=Z,6.7nm,0.6s
E22A Miles City 86.72 337 ⇑P P 05 16 37.0 -0.3
baz=87
C26A Wahner Farm, P 86.82 340 ⇓P P 05 16 37.6 -0.1
baz=87
D24A Glendive 86.83 338 ⇑P P 05 16 37.6 -0.2
baz=87
A30A Hoffart Farm, 86.86 343 ⇑P P 05 16 37.8 0.0
baz=87
F20A Billings 86.89 336 ⇓P P 05 16 36.6 -1.5
baz=87
YMR Madison River 86.91 333 eP P 05 16 38.4 0.0
comp=Z,20nm,1.0s
B28A Dugan Ranch, T 86.92 341 ⇓P P 05 16 38.1 -0.1
baz=87
C25A Freed Ranch, W 87.05 339 ⇓P P 05 16 38.6 -0.2
baz=87
D23A Lindsay 87.14 338 ⇑P P 05 16 40.8 +1.4
baz=87
E21A Keefer Ranch, 87.18 337 ⇑P P 05 16 40.3 +0.8
baz=88
F19A Roth Farm, Mol 87.20 335 ⇑P P 05 16 39.3 -0.4
baz=88
C24A Savage 87.23 339 ⇑P P 05 16 40.0 +0.3
baz=88
HLID Hailey 87.31 331 eP P 05 16 48.5 +8.1
comp=Z,4.7nm,0.9s
HLID Hailey 87.31 331 ⇓P P 05 16 40.8 +0.4
baz=88
A28A Rude Farm, Bot 87.32 342 ⇑P P 05 16 41.1 +1.0
baz=88
D22A Cohagen 87.43 337 ⇓P P 05 16 42.1 +1.4
baz=88
E20A Meyer Farm, Mu 87.49 336 ⇑P P 05 16 40.7 -0.4
baz=88
ULM Lac du Bonnet 87.53 345 P P 05 16 39.7 -1.4
comp=Z,3.8nm,0.9s,baz=100,slow=0.8,SNR=3.7
ULM pP pP 05 16 51.2 -0.2
comp=Z,4.7nm,0.8s,baz=130,slow=3.2,SNR=5.8
E19A Rath Farm, Rou 87.68 335 ⇑P P 05 16 41.6 -0.4
baz=88
C23A Lambert 87.70 338 ⇑P P 05 16 41.7 -0.3
baz=88
A26A Wade Farm, Ken 87.78 341 ⇑P P 05 16 42.2 -0.2
baz=88
C22A Vida 87.86 338 ⇑P P 05 16 43.0 +0.3
baz=88
DGMT Dagmar 88.00 339 eP P 05 16 42.4 -1.0
comp=Z,13nm,1.0s
DGMT Dagmar 88.00 339 ⇑P P 05 16 43.7 +0.3

baz=88
D20A Manuel Ranch, 88.01 336 ⇑P P 05 16 43.1 -0.4
baz=88
C21A Desert Coulee 88.32 337 ⇑P P 05 16 45.2 +0.2
baz=89
C19A Slack Wire Ran 88.88 336 ⇑P P 05 16 47.8 +0.2
baz=89
YBH Yreka Blue Hor 89.50 325 P P 05 16 48.9 -1.8
comp=Z,1.2nm,0.7s,baz=270,slow=2.0,SNR=2.5
YBH pP pP 05 17 00.3 -0.8
comp=Z,2.7nm,0.8s,baz=124,slow=3.6,SNR=4.1
A20A Cobblestone Ra 89.51 337 ⇓P P 05 16 51.3 +0.8
baz=90
YKA Yellowknife Ar 103.08 341 Pdiff Pdif 05 17 49.7 -2.0
comp=Z,0.2nm,0.8s,baz=128,slow=4.0,SNR=3.7
WRA Warramunga Arr 119.93 209 PKP PKPdf 05 22 43.2 -1.4
comp=Z,0.3nm,0.4s,baz=154,slow=1.8,SNR=3.5
BRTR Keskin Array B 122.20 61 PKP PKPdf 05 22 48.1 -0.4
comp=Z,0.6nm,0.9s,baz=299,slow=3.0,SNR=3.3
AKASG Malin Array Be 122.78 48 PKP PKPdf 05 22 46.3 -2.6
comp=Z,0.1nm,0.3s,baz=263,slow=3.4,SNR=2.2
H11S2 WAKE ISLAND Hy 125.90 268 T T 07 41 16.7
baz=118,slow=74,SNR=7.2
H11S1 WAKE ISLAND Hy 125.91 268 T T 07 41 10.6
baz=118,slow=74,SNR=11
H11S3 WAKE ISLAND Hy 125.91 268 T T 07 41 11.3
baz=118,slow=74,SNR=6.3
H11N3 WAKE ISLAND Hy 126.34 270 T T 07 41 33.1
baz=115,slow=78,SNR=5.1
H11N1 WAKE ISLAND Hy 126.35 270 T T 07 41 38.2
baz=115,slow=78,SNR=14
H11N2 WAKE ISLAND Hy 126.35 270 T T 07 41 44.9
baz=115,slow=78,SNR=15
ABKAR Akbulak array 142.20 53 ePKPdf PKPdf 05 23 19.7 -5.7
BVAR Borovoye Array 147.93 44 PKPbc PKPbc 05 23 38.7 +0.4
comp=Z,1.0nm,0.6s,baz=286,slow=3.7,SNR=5.1
HYB Hyderabad 148.35 116 *i* PKP PKPbc 05 23 39.5 -1.0
AAK Ala-Archa 152.85 64 PKPbc PKPbc 05 23 50.7 +0.1
comp=Z,2.7nm,0.7s,baz=189,slow=5.3,SNR=6.1
AAK pPKPbc pPKPbc 05 24 01.6 +0.2
comp=Z,4.9nm,0.6s,baz=247,slow=2.1,SNR=9.5
KSH Kashi 154.09 70 ePKPbc PKPbc 05 23 52.3 -1.1
KSH ePKP PKPab 05 24 04.3 -2.9
KSH *e*sPKP 05 24 06.5
KSH *e*SKS SKSdf 05 30 53.5 +3.8
KSH *e*SKKS SKSac 05 34 33.3 +3.5
KSH *e*SS SS 05 47 18.5 -0.9
KSH AMB AMB
comp=Z,160nm,5.3s
KSH LR LR
comp=Z,130nm,5.3s
ZALV Zalesovo Beam 155.01 34 PKPbc PKPdf 05 23 52.0 +6.1
comp=Z,0.5nm,0.5s,baz=254,slow=4.2,SNR=4.4
MKAR Makanchi Array 157.31 51 PKPab PKPab 05 24 20.4 -0.2
comp=Z,1.6nm,0.8s,baz=303,slow=3.3,SNR=6.5
WMQ Urumqi 161.97 55 PKP PKPdf 05 24 02.0 +7.3
WMQ AMB AMB
comp=Z,120nm,9.6s
WMQ LR LR
comp=Z,140nm,23.0s
WMQ LR LR
comp=Z,190nm,21.6s
WMQ LR LR
comp=Z,170nm,21.0s
KSRS Korea Array 163.86 284 PKPab PKPab 05 24 48.9 -0.5
comp=Z,0.8nm,0.4s,baz=101,slow=5.9,SNR=5.3
KSAR Wonju Array Be 163.89 284 PKPab PKPab 05 24 48.9 -0.7
CN2 Changchun 164.04 308 ePKP PKPdf 05 24 06.0 +9.4
SONM Songino Array 167.15 5 PKPab PKPab 05 25 00.7 -2.9
comp=Z,0.3nm,0.7s,baz=14,slow=6.5,SNR=2.2
KMI Kunming 169.07 153 PKP PKPdf 05 24 07.5 +6.2
NJ2 Nanjing 170.58 255 ePKP PKPdf 05 24 10.0 +8.3
GYA Guiyang 171.36 171 ePKP PKPdf 05 24 10.8 +8.3
GYA pPKP pPKPdf 05 24 21.5 +8.3
GYA PKPab PKPab 05 25 31.0 +8.3
GYA PKS PKSdf 05 27 42.0 +7.0
GYA PP PP 05 29 22.5 +10
GYA SKKS 05 36 03.3
GYA AMB AMB
comp=Z,120nm,8.0s
GYA LR LR
comp=Z,120nm,21.0s
GYA LR LR
comp=Z,110nm,21.2s
GYA LR LR
comp=Z,120nm,24.1s
HHC Hu-ho-hao-te 173.60 336 ePKP PKPdf 05 24 10.8 +7.8
HHC pPKP pPKPdf 05 24 22.0 +8.3
HHC sPKP 05 24 25.3
HHC PP PP 05 29 37.8 +14
HHC SKKS 05 36 18.0
HHC SS SS 05 50 49.5 +12
HHC AMB AMB
comp=Z,180nm,7.0s
HHC LR LR
comp=Z,310nm,20.5s
HHC LR LR
comp=Z,210nm,20.3s
HHC LR LR
comp=Z,250nm,22.2s
CD2 Chengdu 174.48 137 PKP PKPdf 05 24 10.5 +7.0
CD2 pPKP pPKPdf 05 24 21.8 +7.6
CD2 sPKP 05 24 25.5
CD2 PKS PKSdf 05 27 41.3 +5.5
CD2 PP PP 05 29 36.5 +8.0
CD2 SKS SKSdf 05 31 08.3 +4.0
CD2 SKKS SKKSac 05 36 17.3 +4.5
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 176.34 72 ePKP PKPdf 05 24 11.3 +7.3
LZH pPKP pPKPdf 05 24 22.0 +7.3
LZH sPKP 05 24 25.5
LZH LR LR
comp=Z,290nm,16.5s
LZH LR LR
comp=Z,250nm,16.6s
LZH LR LR
comp=Z,230nm,17.4s

*ISCJB **28** 05:06:57.7±0.6, 20°.8S±0°.1×178°.5W±0°.1, h579km, mb3.8/13, Error ellipse: s-maj=18.8km s-min=13.5km az=137.2*
*IDC **28** 05:06:58.6±3.4, 20°.74S×178°.45W, h578km±40km, mb3.4/13, mb1 3.6/15, mb1mx3.3/46, mbtmp4.3/15, Error ellipse: s-maj=20.4km s-min=19.2km az=83.0*
ISC 28 05:06:58.6±0.7, 20°.8S±0°.1×178°.5W±0°.1, h579km, n29, σ0s.94/28, mb4.0/13, 5C-2D, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 14.13 262 P P 05 09 58.6 -0.6
0.4nm,0.3s,baz=102,slow=19,SNR=4.5
URZ Urewera 17.86 191 P P 05 10 32.6 -1.0
0.6nm,0.3s,baz=342,slow=8.0,SNR=4.0
CTA Charters Tower 33.05 265 P P 05 12 48.2 +0.7
1.6nm,0.4s,baz=103,slow=13,SNR=5.0
WRA Warramunga Arr 44.15 262 P P 05 14 16.9 -0.2
1.3nm,0.5s,baz=97,slow=8.5,SNR=8.1
QSPA South Pole Qui 69.31 180 P P 05 17 09.2 +0.7
1.8nm,0.8s,baz=261,slow=3.1,SNR=5.9
MJAR Matsushiro Arr 70.17 324 P P 05 17 13.2 -0.6
1.1nm,0.5s,baz=154,slow=5.9,SNR=6.3
ASAJ Asahikawa 73.75 332 P P 05 17 35.7 +1.3
5.4nm,0.5s,baz=355,slow=30,SNR=5.1
PETK Petropavlovsk- 76.41 345 P P 05 17 48.3 -0.7
7.2nm,0.8s,baz=136,slow=8.3,SNR=6.1
YBH Yreka Blue Hor 80.75 39 P P 05 18 13.7 +1.3
3.3nm,0.7s,baz=160,slow=3.6,SNR=8.0
NVAR Mina Array Bea 81.50 44 P P 05 18 17.0 +0.5
0.8nm,0.5s,baz=229,slow=7.2,SNR=6.4
SEY Seymchan 86.53 347 P P 05 18 39.6 -0.7
1.4nm,0.4s,baz=152,slow=7.3,SNR=3.9
TXAR Lajitas Array 87.55 57 P P 05 18 45.9 -0.2
0.6nm,0.8s,baz=246,slow=4.4,SNR=4.1
ILAR Eielson Array 88.66 13 P P 05 18 49.5 -0.8
1.2nm,0.7s,baz=218,slow=5.1,SNR=21
PDAR Pinedale Array 89.44 43 P P 05 18 55.0 +0.2
1.2nm,0.6s,baz=208,slow=4.1,SNR=11
CMAR Chiang Mai Arr 89.80 290 P P 05 18 58.5 +1.8
0.8nm,0.3s,baz=126,slow=2.7,SNR=6.0
BVAR Borovoye Array 119.00 320 PKP PKPdf 05 24 41.3 -0.5
1.1nm,0.4s,baz=87,slow=0.4,SNR=4.3
ARCES ARCESS Array B 129.09 349 PKP PKPdf 05 25 00.5 -0.2
1.5nm,0.6s,baz=48,slow=1.8,SNR=10
FINES FINESS Array B 135.90 343 PKP PKPdf 05 25 12.3 -1.3
0.5nm,0.4s,baz=48,slow=2.8,SNR=6.4
NOA NORSAR Array B 139.18 353 PKP PKPdf 05 25 20.7 +0.9
0.4nm,0.7s,baz=14,slow=3.8,SNR=2.5
AKASG Malin Array Be 143.03 331 PKP PKPab 05 25 24.0 -0.7
5.6nm,0.4s,baz=43,slow=4.2,SNR=73
KWP Kalwaria Pacla 146.63 335 ⇓*i*P PKPbc 05 25 35.9 0.0
BRTR Keskin Array B 146.70 312 PKPbc PKPbc 05 25 36.2 -0.3
1.2nm,0.5s,baz=147,slow=5.0,SNR=12
BURAR Bucovina Array 147.07 330 ⇑*i*P PKPbc 05 25 38.0 +0.8
DOPR Dopca 148.16 328 ⇑*i*P PKPbc 05 25 40.9 +1.0
ARR Arges 148.96 328 ⇑*i*P PKPbc 05 25 43.2 +1.2
GZR Gura Zlata 149.85 329 ⇑*i*P PKPbc 05 25 44.8 +0.7
BZS Buzias 150.22 331 ⇓*i*P PKPbc 05 25 42.8 -2.0
GERES GERESS Array B 150.33 344 PKPbc PKPbc 05 25 45.0 -0.2
1.0nm,0.5s,baz=39,slow=1.8,SNR=12
PKSM Moragy 151.01 335 ⇑*i*P PKPbc 05 25 46.4 -0.2

IDC 28 05:08:15.2±3.8, 36°.59S×72°.55W, h0km, mb4.2/3, mb1 4.2/4, mb1mx3.7/41, mbtmp4.1/4, ML3.9/1, Error ellipse: s-maj=125.2km s-min=42.4km az=85.0, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.42 160 Pn Pn 05 09 21.9 -1.8
1.6nm,0.3s,baz=324,slow=12,SNR=2.5
DBIC Dimbokro 76.41 71 P P 05 20 06.6 -0.3
1.7nm,0.8s,baz=220,slow=4.1,SNR=4.2
BOSA Boshof 79.24 118 P P 05 20 24.6 +1.8
2.6nm,0.8s,baz=209,slow=3.3,SNR=3.8
TORD Torodi Ar. Bea 85.49 70 P P 05 20 54.5 -0.8
0.8nm,0.8s,baz=219,slow=4.6,SNR=3.7
BVAR Borovoye Array 149.43 46 PKPbc PKPbc 05 28 05.2 -0.5
0.7nm,0.7s,baz=291,slow=4.0,SNR=4.4

*IDC **28** 05:08:30.5±1.1, 36°.55S×72°.88W, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.9/41, mbtmp4.1/7, ML4.6/1, Error ellipse: s-maj=37.8km s-min=22.9km az=80.0*
*ISCJB **28** 05:08:32.2±1.0, 36°.7S±0°.1×73°.0W±0°.3, h25km, mb4.0/6, Error ellipse: s-maj=35.0km s-min=15.8km az=168.0*
ISC 28 05:08:34.2±1.0, 36°.6S±0°.1×72°.8W±0°.3, h25km, n7, σ1s.20/7, mb4.1/6, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.47 157 Pn Pn 05 09 39.2 -1.2
6.1nm,0.3s,baz=316,slow=14,SNR=3.4
SIV San Ignacio 23.06 30 P P 05 13 38.1 +0.3
2.2nm,0.8s,baz=190,slow=6.1,SNR=3.2
QSPA South Pole Qui 53.62 180 P P 05 17 54.8 +1.7
4.9nm,0.9s,baz=139,slow=3.8,SNR=6.0
APG El Apazote 53.98 339 P P 05 17 56.4 0.0
1.5nm,0.5s,baz=115,slow=14,SNR=2.5
TXAR Lajitas Array 71.72 332 P P 05 19 53.0 -1.1
0.4nm,0.6s,baz=158,slow=8.7,SNR=6.1
DBIC Dimbokro 76.63 71 P P 05 20 23.4 +0.4
2.7nm,0.6s,baz=210,slow=8.1,SNR=5.1
TORD Torodi Ar. Bea 85.71 70 P P 05 21 11.2 0.0
0.9nm,0.9s,baz=224,slow=4.0,SNR=3.5

IDC 28 05:08:45.2±1.0, 36°.59S×73°.28W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/39, mbtmp4.0/5, Error ellipse: s-maj=65.8km s-min=28.6km az=62.0, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.66 154 Pn Pn 05 10 00.7 +3.8
9.4nm,0.3s,baz=298,slow=16,SNR=3.9
MAW Mawson 70.99 164 P P 05 20 04.2 +0.1
27nm,1.0s,baz=248,slow=12,SNR=2.1
TXAR Lajitas Array 71.52 332 P P 05 20 08.9 +1.1
0.6nm,0.8s,baz=152,slow=7.8,SNR=5.5
ANMO Albuquerque 77.58 333 P P 05 20 43.3 +0.1
1.0nm,0.8s,baz=146,slow=7.3,SNR=3.7
PDAR Pinedale Array 85.62 334 P P 05 21 24.7 -0.8
0.7nm,0.8s,baz=133,slow=6.5,SNR=4.7
TORD Torodi Ar. Bea 86.04 71 P P 05 21 28.2 +0.3
0.8nm,0.8s,baz=234,slow=5.5,SNR=5.7
ULM Lac du Bonnet 88.74 346 P P 05 21 38.6 -1.4
1.7nm,0.8s,baz=198,slow=7.8,SNR=3.0
BVAR Borovoye Array 149.84 45 PKPbc PKPbc 05 28 36.2 -0.4
0.8nm,0.7s,baz=264,slow=2.9,SNR=3.6

*SJA **28** 05:11:10.1±0.4, 35°.62S×73°.11W, h203km±14km, ML4.9*
*IDC **28** 05:11:18.7±0.8, 34°.97S×72°.22W, h0km, mb4.3/14, mb1 4.4/16, mb1mx4.3/42, mbtmp4.3/16, ML4.1/3, Error ellipse: s-maj=22.9km s-min=18.7km az=49.0*
*ISCJB **28** 05:11:24.3±1.1, 34°.92S±0°.05×72°.2W±0°.1, h48km±9km, mb4.2/17, Error ellipse: s-maj=14.0km s-min=8.5km az=11.0*
*NEIC **28** 05:11:24.6±0.5, 34°.93S×72°.16W, h35km, mb4.2/2, Error ellipse: s-maj=12.7km s-min=9.9km az=83.0*
*GUC **28** 05:11:24.3±0.4, 34°.80S×72°.19W, h33km±3km, ML5.0*
ISC 28 05:11:24.8±0.9, 34°.86S±0°.10×72°.3W±0°.1, h39km±8km, n41, σ1s.26/48, mb4.3/17, 2C, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LNV Longovilo 1.18 40 *i* P Pn 05 11 43.2 -1.5
CHCH Chadas Angostu 1.66 57 *i* P Pn 05 11 50.8 -0.6
RCDM Rinconada Maip 1.86 43 ⇑*i*P Pn 05 11 53.3 -0.8
RCDM *i* S Sn 05 12 16.0 -0.4
IHA Instituto Hidr 1.92 17 *i* P Pn 05 11 54.0 -0.9
IHA *i* S Sn 05 12 17.2 -0.6
STL Santa Lucia 1.99 45 ⇑*i*P Pn 05 11 55.6 -0.4
STL *i* S Sn 05 12 19.0 -0.7
ROCH El Roble 2.18 30 *e*P Pn 05 11 59.0 +0.3
ROCH *i* S Sn 05 12 24.7 +0.1
ROCH AML AML 05 12 34.2
comp=N,11μm,0.4s
PEL Peldehue 2.19 39 *e*P Pn 05 11 58.3 -0.3
PEL *i* S Sn 05 12 24.4 -0.2
PEL AML AML 05 12 36.8
comp=E,17μm,0.6s
AAGR Agrelo 3.40 60 *e*P Pn 05 12 17.5 +2.1
ARCO CERRO ARCO 3.47 55 *e*P Pn 05 12 18.5 +2.1
ARCO *e*S Sn 05 13 08.6 +12
ARCO AML AML 05 13 16.0
comp=Z,682nm,0.4s
AUSP Uspallata 3.60 44 *e*P Pn 05 12 20.5 +2.3
AUSP *e*S Sn 05 13 13.0 +13
ASAL Salagasta 3.68 53 *e*P Pn 05 12 21.1 +1.8
ASAL *e*S Sn 05 13 13.5 +12
RTLS Leoncito 3.97 40 *e*P Pn 05 12 25.4 +2.1
RTCV Cerro Valdivia 4.35 48 *e*P Pn 05 12 30.0 +1.5
RTCV *e*S Sn 05 13 29.2 +11
CFAA Coronel Fontan 4.72 48 Pn Pn 05 12 33.3 -0.2
comp=Z,1.3nm,0.3s,baz=212,slow=7.7,SNR=9.8
CFAA Sn Sn 05 13 28.2 +1.3
comp=Z,2.2nm,0.3s,baz=252,slow=19,SNR=2.9
CFAA Lg Lg 05 13 38.4
comp=Z,3.1nm,0.3s,baz=223,slow=5.2,SNR=5.2
RTLL Cerro Villicun 4.78 44 *e*P Pn 05 12 35.0 +0.7
ACAN Cantantal 5.00 60 *e*P Pn 05 12 36.9 -0.5
ACAN *e*P Pn 05 12 36.9 -0.5
AVFE Valle Fertil 5.86 46 *e*P Pn 05 12 49.0 -0.2
AVFE *e*S Sn 05 14 02.4 +7.3
AVFE AML AML 05 14 13.2
comp=Z,238nm,0.5s
PLCA Paso Flores 6.03 167 Pn Pn 05 12 51.2 -0.2
comp=Z,0.0nm,0.3s,baz=23,slow=14,SNR=1.5
CPUP Villa Florida 15.45 61 Pn Pn 05 14 59.3 -0.5
comp=Z,0.3nm,0.3s,baz=236,slow=18,SNR=2.2
LPAZ La Paz 18.88 13 P Pn 05 15 44.0 +0.8
comp=Z,0.5nm,0.3s,baz=187,slow=7.9,SNR=7.8
SIV San Ignacio 21.33 31 P P 05 16 07.7 -0.8
comp=Z,6.5nm,0.7s,baz=220,slow=12,SNR=8.7
NNA Nana 23.14 349 P P 05 16 28.7 +1.0
comp=Z,6.6nm,0.7s,baz=191,slow=13,SNR=3.7
BDFB Brasilia 29.02 55 P P 05 17 19.6 -1.6
comp=Z,2.8nm,0.7s,baz=235,slow=9.4,SNR=3.1
ROSC El Rosal 39.55 357 P P 05 18 56.2 +3.6
comp=Z,4.5nm,0.5s,baz=104,slow=6.8,SNR=7.1
SNAA Sanae 50.88 158 P P 05 20 20.9 -0.5
comp=Z,1.1nm,0.9s,baz=310,slow=10,SNR=3.6
TXAR Lajitas Array 70.37 331 P P 05 22 35.6 +1.0
comp=Z,2.8nm,0.6s,baz=155,slow=9.0,SNR=37
TKL Tuckaleechee C 70.97 350 P P 05 22 37.5 -0.5
comp=Z,8.2nm,1.1s,baz=130,slow=8.2,SNR=3.0
DBIC Dimbokro 75.68 71 P P 05 23 05.3 -1.0
comp=Z,2.4nm,0.6s,baz=272,slow=5.4,SNR=5.6
ANMO Albuquerque 76.43 332 P P 05 23 11.1 +0.8
comp=Z,2.7nm,0.9s,baz=166,slow=7.9,SNR=9.3
SDCO Great Sand Dun 78.54 334 *e*P P 05 23 23.1 +0.9
comp=Z,1.3nm,0.7s
BOSA Boshof 79.88 118 P P 05 23 29.1 -0.6
comp=Z,3.7nm,0.8s,baz=278,slow=3.8,SNR=5.5
PDAR Pinedale Array 84.43 333 P P 05 23 53.4 +0.3
comp=Z,1.7nm,1.1s,baz=142,slow=4.8,SNR=5.6
NVAR Mina Array Bea 84.46 325 P P 05 23 54.5 +1.1
comp=Z,1.2nm,0.8s,baz=148,slow=5.8,SNR=7.4
TORD Torodi Ar. Bea 84.72 70 P P 05 23 54.5 -0.5
comp=Z,1.1nm,0.5s,baz=291,slow=5.4,SNR=17
TORD PP PP 05 27 15.4 +3.8
comp=Z,3.5nm,1.0s,baz=243,slow=3.7,SNR=3.6
ELK Elko 84.98 329 P P 05 23 56.9 +0.9
comp=Z,1.3nm,0.7s,baz=128,slow=1.1,SNR=4.9
ULM Lac du Bonnet 87.27 345 P P 05 24 06.4 -0.3
comp=Z,3.4nm,0.9s,baz=184,slow=2.8,SNR=3.8
MCMT McKenzie Canyo 87.42 332 *e*P P 05 24 09.3 +1.4
comp=Z,2.4nm,1.1s
YKA Yellowknife Ar 102.80 341 Pdiff Pdif 05 25 15.5 -1.8
comp=Z,0.2nm,0.8s,baz=134,slow=5.2,SNR=3.8
BVAR Borovoye Array 148.07 44 PKPbc PKPbc 05 31 06.1 +0.6
comp=Z,1.0nm,0.6s,baz=298,slow=3.2,SNR=4.6
AAK Ala-Archa 153.11 63 PKPab PKPab 05 31 27.6 -2.2
comp=Z,3.0nm,0.8s,baz=278,slow=4.2,SNR=4.1
ZALV Zalesovo Beam 155.08 33 PKPab PKPab 05 31 38.3 +0.8
comp=Z,0.7nm,0.5s,baz=328,slow=5.1,SNR=3.0

*IDC **28** 05:13:01.2±0.8, 34°.49S×73°.46W, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.0/39, mbtmp4.2/9, ML4.1/1, Error ellipse: s-maj=35.4km s-min=20.7km az=91.0*
*ISCJB **28** 05:13:05.1±0.8, 34°.5S±0°.1×73°.3W±0°.2, h33km, mb4.2/9, Error ellipse: s-maj=29.5km s-min=14.8km az=176.1*
*NEIC **28** 05:13:06.7±0.6, 34°.52S×73°.34W, h35km, mb4.3/1, Error ellipse: s-maj=23.3km s-min=12.6km az=89.0*
ISC 28 05:13:06.8±0.8, 34°.5S±0°.1×73°.3W±0°.2, h35km, n15, σ0s.96/16, mb4.3/9, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 18.73 16 P Pn 05 17 23.9 +0.2
0.3nm,0.3s,baz=167,slow=8.1,SNR=3.4
SIV San Ignacio 21.47 34 P P 05 17 50.7 -1.6
4.9nm,0.9s,baz=217,slow=11,SNR=4.1
OTAV Otavalo 34.89 351 *e*P P 05 19 57.2 +1.6
5.3nm,1.2s
SNAA Sanae 51.52 158 P P 05 22 09.1 +0.4
1.5nm,0.6s,baz=273,slow=5.8,SNR=8.2
QSPA South Pole Qui 55.73 180 P P 05 22 39.8 +0.1
7.0nm,1.0s,baz=220,slow=1.5,SNR=8.0
TXAR Lajitas Array 69.67 332 P P 05 24 12.0 -0.8
0.8nm,0.8s,baz=152,slow=8.3,SNR=4.1
DBIC Dimbokro 76.34 72 P P 05 24 52.8 +0.2
2.9nm,0.6s,baz=215,slow=7.6,SNR=5.0
BOSA Boshof 80.77 118 P P 05 25 17.6 +0.5
3.5nm,0.8s,baz=220,slow=2.6,SNR=4.4
PDAR Pinedale Array 83.74 334 P P 05 25 32.4 +0.2
0.7nm,0.8s,baz=145,slow=3.3,SNR=3.6
TORD Torodi Ar. Bea 85.38 71 P P 05 25 41.4 +0.6
1.6nm,0.7s,baz=260,slow=3.0,SNR=6.4
WRA Warramunga Arr 119.80 210 PKP PKPdf 05 31 52.0 -1.8
0.5nm,0.9s,baz=152,slow=1.6,SNR=3.5
BVAR Borovoye Array 148.37 43 PKPbc PKPbc 05 32 49.2 +0.3
0.9nm,0.7s,baz=308,slow=4.7,SNR=3.6
EKS2 Erkin-Say 153.15 63 ePKPbc PKPbc 05 33 00.4 -0.3
EKS2 ePKPab PKPab 05 33 11.3 -1.2
ZALV Zalesovo Beam 155.21 32 PKP PKPdf 05 32 55.3 -0.4
0.4nm,0.5s,baz=352,slow=4.4,SNR=3.4
MKAR Makanchi Array 157.89 49 PKPab PKPab 05 33 32.9 +0.3
0.7nm,0.6s,baz=305,slow=4.3,SNR=6.3

*IDC **28** 05:13:55.5±0.5, 37°.77S×73°.53W, h16km±2km, mb4.7/23, mb1 4.8/26, mb1mx4.7/38, mbtmp4.8/26, ML4.7/3, MS4.4/2, Ms1 4.4/2, ms1mx3.7/29, Error ellipse: s-maj=17.2km s-min=11.5km az=62.0*
*BJI **28** 05:13:56.3, 37°.12S×72°.83W, h28km, mB5.2/15, Ms5.3/10, Ms7 5.0/10*
*ISCJB **28** 05:13:57.1±0.2, 37°.61S±0°.05×73°.35W±0°.07, h33km, mb5.2/130, Error ellipse: s-maj=9.2km s-min=5.9km az=145.5*
*MOS **28** 05:13:57.1±1.0, 37°.63S×73°.43W, h33km, mb5.4/33, Error ellipse: s-maj=17.5km s-min=8.0km az=103.1*
*NEIC **28** 05:13:58.4±0.1, 37°.71S×73°.33W, h35km, mb5.3/104, Error ellipse: s-maj=6.4km s-min=4.1km az=57.0*
NEIC Felt at Neuquen, San Carlos de Bariloche and San Rafael, Argentina.
ISC 28 05:13:57.2±0.5, 37°.61S±0°.06×73°.22W±0°.08, h26km±2km, h26km:pP-P, n702, σ1s.07/751, mb5.3/132, 211C-204D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.74 147 Pn Pn 05 14 54.4 +1.2
12nm,0.3s,baz=312,slow=15,SNR=12
PLCA Lg Lg 05 15 49.2
43nm,0.3s,baz=60,slow=20,SNR=2.0
TRQA Tornquist 8.90 96 *e*Pn Pn 05 16 02.9 -1.1
LVC Limon Verde 15.40 15 Pn Pn 05 17 34.4 +1.5
40nm,0.8s
CPUP Villa Florida 17.53 55 P P 05 18 03.1 +2.5
CPUP pmax pmax
comp=Z,21nm,0.4s
CPUP Villa Florida 17.53 55 P P 05 18 03.1 +2.5
comp=Z,1.5nm,0.3s,baz=192,slow=12,SNR=4.2
CPUP Villa Florida 17.53 55 P P 05 18 03.1 +2.5
comp=Z,21nm,0.4s
USHA Ushuaia 17.53 171 P Pn 05 17 59.1 -0.4
comp=Z,0.8nm,0.3s,baz=356,slow=12,SNR=4.3
LPAZ La Paz 21.71 13 *e*P P 05 18 48.1 +1.2
LPAZ pmax pmax
comp=Z,20nm,0.8s
LPAZ La Paz 21.71 13 P P 05 18 48.2 +1.3
comp=Z,13nm,0.7s,baz=178,slow=7.7,SNR=12
LPAZ La Paz 21.71 13 *e*P P 05 18 48.1 +1.2
comp=Z,20nm,0.8s
SIV San Ignacio 24.07 30 P P 05 19 12.3 +1.9
comp=Z,12nm,1.0s,baz=227,slow=13,SNR=8.2
SIV LR LR 05 30 02.0
comp=Z,1μm,20.8s,baz=230,slow=40
NNA Nana 25.72 352 P P 05 19 25.6 +0.1
comp=Z,12nm,0.8s,baz=194,slow=11,SNR=5.0
SAML Samuel 29.94 20 *e*P P 05 20 04.5 +1.3
comp=Z,8.6nm,0.9s
ATAH Atahualpa 30.70 350 P P 05 20 12.7 +2.3
comp=Z,17nm,0.9s,baz=172,slow=5.9,SNR=7.3
ATAH LR LR 05 30 37.7
comp=Z,565nm,19.4s,baz=196,slow=32
BDFB Brasilia 31.23 52 P P 05 20 16.5 +1.8
comp=Z,3.2nm,0.8s,baz=204,slow=4.0,SNR=4.2
OTAV Otavalo 37.97 351 *e*P P 05 21 13.7 +0.4
comp=Z,44nm,1.3s
ROSC El Rosal 42.26 358 P P 05 21 52.3 +3.5
comp=Z,5.6nm,0.8s,baz=186,slow=4.0,SNR=7.5
ROSC El Rosal 42.26 358 *e*P P 05 21 52.9 +4.1
SDV Santo Domingo 46.32 4 *e*P P 05 22 20.2 -0.9
comp=Z,16nm,0.8s
SDV *e*PcP PcP 05 23 55.0 -1.1
RCBR Riachuelo 46.40 56 P P 05 22 24.8 +3.2
comp=Z,9.1nm,1.0s,baz=217,slow=6.5,SNR=4.6
VNA1 Neumayer--Stat 46.76 156 P P 05 22 24.1 +0.5
SNAA Sanae 48.63 157 *e*P P 05 22 38.3 0.0
SNAA pmax pmax
comp=Z,79nm,1.2s
SNAA Sanae 48.63 157 P P 05 22 38.1 -0.2
comp=Z,12nm,0.9s,baz=283,slow=6.9,SNR=22
SNAA Sanae 48.63 157 *e*P P 05 22 38.3 0.0
comp=Z,79nm,1.2s
JTS JuntasAbangare 48.90 345 *e*P P 05 22 42.2 +1.3
JTS pmax pmax
comp=Z,28nm,1.2s
JTS JuntasAbangare 48.90 345 P P 05 22 42.3 +1.4
comp=Z,9.4nm,0.9s,baz=86,slow=7.0,SNR=5.3
JTS JuntasAbangare 48.90 345 *e*P P 05 22 42.2 +1.3
comp=Z,28nm,1.2s
GRGR Grenville 50.66 15 *e*P P 05 22 55.6 +1.3
comp=Z,49nm,0.6s
QSPA South Pole Qui 52.63 180 P P 05 23 07.3 -1.4
comp=Z,7.6nm,0.7s,baz=254,slow=0.4,SNR=7.3
NVL N'lazarevskaya 53.41 156 *e*P P 05 23 14.7 +0.6

NVL pmax pmax
comp=Z,15nm,0.7s
APG El Apazote 54.79 339 P P 05 23 21.7 -3.3
comp=Z,16nm,0.8s,baz=183,slow=8.1,SNR=8.8
TEIG Tepich 59.25 344 P P 05 23 55.9 -0.3
comp=Z,16nm,0.6s,baz=122,slow=1.5,SNR=9.6
TEIG Tepich 59.25 344 eP P 05 23 56.6 +0.3
comp=Z,51nm,1.2s
SYO Syowa Base 62.87 158⇑eP P 05 24 17.8 -2.5
035A Encino 68.33 336 ⇑P P 05 24 56.8 +0.8
baz=69
034A Hebbronville 68.64 336 ⇓P P 05 24 58.7 +0.8
baz=69,SNR=6.0
934A Benavides 69.08 336 ⇓P P 05 25 01.8 +1.2
baz=70
933A Laredo 69.34 335 ⇑P P 05 25 02.7 +0.4
baz=70,SNR=12
TIGA Tifton 69.38 351 ⇓P P 05 25 02.9 +0.6
baz=70
835A Beeville 69.50 337 ⇑P P 05 25 04.5 +1.3
baz=70
834A Tilden 69.58 336 ⇑P P 05 25 04.5 +0.8
baz=70,SNR=12
735A Kenedy 70.02 337 ⇑P P 05 25 07.5 +1.1
baz=70
833A Chaparral WMA, 70.03 336 ⇑P P 05 25 06.7 +0.2
baz=70,SNR=11
832A Faith Ranch, C 70.19 335 ⇑P P 05 25 07.3 -0.2
baz=71,SNR=12
734A La Parita Cree 70.25 336 ⇑P P 05 25 08.3 +0.5
baz=71
733A Divot King Ran 70.37 336 ⇑P P 05 25 08.9 +0.3
baz=71
636A Smothers Creek 70.38 338 ⇑P P 05 25 09.5 +0.8
baz=71,SNR=6.8
HKT Hockley 70.47 339 eP P 05 25 09.8 +0.7
HKT pmax pmax
comp=Z,46nm,1.9s
HKT Hockley 70.47 339 eP P 05 25 09.8 +0.7
comp=Z,46nm,1.9s
732A Laxson Ranch, 70.60 335 ⇓P P 05 25 09.7 -0.3
baz=71,SNR=8.7
634A China Grove, S 70.68 337 ⇑P P 05 25 11.1 +0.6
baz=71
537A Green Hill Far 70.73 339 ⇑P P 05 25 11.6 +0.9
baz=71
536A Bastrop 70.94 338 ⇓P P 05 25 12.9 +0.9
baz=71
633A Saathoff Ranch 71.02 336 ⇓P P 05 25 12.5 -0.1
baz=71,SNR=9.8
535A Dale 71.05 338 ⇑P P 05 25 13.3 +0.6
baz=71
438A Sam Houston St 71.12 340 ⇓P P 05 25 13.6 +0.5
baz=72
632A Uvalde 71.26 336 ⇑P P 05 25 14.3 +0.3
baz=72,SNR=15
GOGA Godfrey 71.30 351 eP P 05 25 13.7 -0.4
GOGA pmax pmax
comp=Z,14nm,0.8s
GOGA Godfrey 71.30 351 eP P 05 25 13.7 -0.4
comp=Z,14nm,0.8s
534A Blanco 71.32 337 ⇓P P 05 25 14.3 -0.1
baz=72
VBMS Vicksburg 71.32 345 eP P 05 25 15.0 +0.7
comp=Z,50nm,1.0s
340A Bronson 71.34 341 ⇑P P 05 25 14.8 +0.4
baz=72
339A Huntington 71.43 341 ⇓P P 05 25 15.5 +0.5
baz=72
631A Perdido Creek 71.43 335 ⇓P P 05 25 14.9 -0.2
baz=72,SNR=8.8
LRAL Lakeview Retre 71.45 348 eP P 05 25 14.9 -0.1
comp=Z,32nm,1.2s
533A Kerrville 71.54 337 ⇓P P 05 25 15.6 -0.1
baz=72,SNR=8.0
338A Crockett 71.65 340 ⇑P P 05 25 17.3 +1.0
baz=72
435B Jarrell 71.76 338 ⇓P P 05 25 17.7 +0.7
baz=72
337A Centerville 71.77 340 ⇓P P 05 25 17.8 +0.8
baz=72
NATX Nacogdoches 71.86 341 eP P 05 25 18.0 +0.4
comp=Z,16nm,0.6s
532A Rocksprings 71.87 336 ⇑P P 05 25 17.7 0.0
baz=72,SNR=22
434A Burnet 71.99 337 ⇑P P 05 25 18.2 -0.2
baz=72,SNR=26
336A Riesel 72.11 339 ⇓P P 05 25 19.0 0.0
baz=72,SNR=11
531A Rocksprings 72.11 335 ⇑P P 05 25 19.6 +0.4
baz=72,SNR=18
JCT Junction City 72.16 336 eP P 05 25 19.8 +0.3
JCT pmax pmax
comp=Z,36nm,1.0s
JCT Junction City 72.16 336 eP P 05 25 19.8 +0.3
comp=Z,36nm,1.0s
JCT Junction City 72.16 336 ⇑P P 05 25 19.2 -0.2
baz=72,SNR=14
335A Moody 72.18 338 ⇑P P 05 25 19.8 +0.4
baz=73
433A Art 72.19 337 ⇑P P 05 25 19.3 -0.3
baz=73,SNR=14
238A Jacksonville 72.21 341 ⇓P P 05 25 20.0 +0.4
baz=73
530A J-C Ranch, Com 72.36 335 ⇑P P 05 25 20.8 +0.2
baz=73,SNR=18
237A Washetta, Mont 72.40 340 ⇓P P 05 25 21.1 +0.4
baz=73
TXAR Lajitas Array 72.45 332 P P 05 25 21.6 +0.3
comp=Z,6.0nm,0.6s,baz=152,slow=8.6,SNR=41
TXAR pP pP 05 25 27.6 -2.0
comp=Z,3.6nm,0.6s,baz=151,slow=8.2,SNR=10
334A Lometa 72.47 338 ⇓P P 05 25 20.9 -0.3
baz=73,SNR=23
432A Menard 72.52 336 ⇓P P 05 25 21.3 -0.3
baz=73,SNR=12
431A Sonora 72.61 335 ⇑P P 05 25 21.5 -0.6
baz=73,SNR=16
CNNC Cliffs of the 72.61 356 eP P 05 25 22.9 +0.9
comp=Z,26nm,0.8s
529A Stev Forest Ra 72.65 334 ⇓P P 05 25 22.1 -0.2
baz=73,SNR=13
333A Richland Sprin 72.69 337 ⇓P P 05 25 22.1 -0.4
baz=73,SNR=11
KMSC Kings Mountain 72.78 353 eP P 05 25 23.2 +0.2
comp=Z,18nm,0.8s
KMSC Kings Mountain 72.78 353 ⇓P P 05 25 22.7 -0.3
baz=73
138A Matatall Enter 72.83 341 ⇑P P 05 25 23.6 +0.3
baz=73
WHTX Lake Whitney 72.85 339 eP P 05 25 23.4 -0.1
comp=Z,40nm,1.0s
WHTX Lake Whitney 72.85 339 ⇓P P 05 25 23.1 -0.4
baz=73,SNR=11
430A Baggett Ranch, 72.92 335 ⇓P P 05 25 23.7 -0.2
baz=73,SNR=23
137A Heron Place, G 72.94 340 ⇑P P 05 25 24.3 +0.3
baz=73
332A Millersview 72.98 336 ⇑P P 05 25 24.0 -0.3
baz=73,SNR=17
429A Davenport Ranc 72.99 334 ⇓P P 05 25 24.1 -0.4
baz=73,SNR=19
234A Clairette 73.06 338 ⇓P P 05 25 24.3 -0.4
baz=74,SNR=14
331A San Angelo 73.13 336 ⇓P P 05 25 25.0 -0.2
baz=74,SNR=26
233A Rising Star 73.30 337 ⇓P P 05 25 26.1 0.0
baz=74,SNR=13
OXF Oxford 73.32 346 eP P 05 25 25.2 -0.9
OXF pmax pmax
comp=Z,43nm,1.0s
OXF Oxford 73.32 346 eP P 05 25 25.2 -0.9
comp=Z,43nm,1.0s
135A Vickery Place, 73.37 339 ⇑P P 05 25 26.1 -0.4
baz=74
232A Coleman 73.42 337 ⇑P P 05 25 26.4 -0.4
baz=74,SNR=9.1
CPCT Cooper Cave 73.45 350 eP P 05 25 26.4 -0.5
CPCT ePP PP 05 28 07.2 -4.0
330A Mertzon 73.46 335 ⇑P P 05 25 26.6 -0.6
baz=74,SNR=10
TKL Tuckaleechee C 73.56 351 eP P 05 25 27.3 -0.2
TKL *PP pP 05 25 33.3 -2.7
TKL Tuckaleechee C 73.56 351 P P 05 25 27.6 +0.1
comp=Z,16nm,0.9s,baz=170,slow=8.1,SNR=11
TKL pP pP 05 25 33.3 -2.7
comp=Z,11nm,0.9s,baz=153,slow=8.6,SNR=5.5
TKL Tuckaleechee C 73.56 351 eP P 05 25 27.3 -0.2

TKL pP pP 05 25 33.3 -2.7
134A White-Moore Ra 73.58 338 ⇑P P 05 25 27.6 -0.1
baz=74,SNR=5.6
231A Bronte 73.67 336 ⇑P P 05 25 28.1 -0.3
baz=74,SNR=11
329A Wagon Wheel Ra 73.81 335 ⇓P P 05 25 29.0 -0.2
baz=74,SNR=17
133A Hamilton Ranch 73.86 338 ⇑P P 05 25 29.3 -0.1
baz=74,SNR=13
230A Sterling City 73.89 336 ⇑P P 05 25 29.6 -0.1
baz=74
Z35A Perchaven, San 74.05 339 ⇑P P 05 25 30.4 -0.1
baz=74,SNR=9.3
ABTX Abilene, Hawle 74.10 337 eP P 05 25 31.1 +0.3
comp=Z,40nm,1.0s
ABTX Abilene, Hawle 74.10 337 ⇓P P 05 25 30.2 -0.7
baz=74,SNR=9.0
229A Bryant Ranch, 74.19 335 ⇑P P 05 25 31.0 -0.5
baz=75,SNR=9.8
MIAR Mount Ida 74.25 343 eP P 05 25 31.6 0.0
MIAR pmax pmax
comp=Z,20nm,1.3s
MIAR Mount Ida 74.25 343 eP P 05 25 31.6 0.0
comp=Z,20nm,1.3s
Z34A Collier Ranch, 74.28 339 ⇓P P 05 25 31.8 0.0
baz=75
131A Roby 74.38 336 ⇓P P 05 25 32.3 -0.2
baz=75,SNR=11
TZTN Tazewell 74.40 351 eP P 05 25 32.4 -0.1
comp=Z,34nm,1.4s
Z33A Whitaker Ranch 74.44 338 ⇓P P 05 25 32.7 -0.1
baz=75,SNR=11
130A Snyder 74.49 336 ⇓P P 05 25 33.0 -0.2
baz=75
228A UT Block 9, Go 74.59 334 ⇑P P 05 25 33.4 -0.4
baz=75,SNR=12
WVT Waverly 74.61 348 eP P 05 25 33.2 -0.5
WVT pmax pmax
comp=Z,44nm,1.1s
WVT Waverly 74.61 348 eP P 05 25 33.2 -0.5
comp=Z,44nm,1.1s
Z32A Haskell 74.68 337 ⇑P P 05 25 33.9 -0.3
baz=75,SNR=15
Y34A Reagan Ranch, 74.78 339 ⇓P P 05 25 34.3 -0.5
baz=75,SNR=6.3
129A Stewart Farms, 74.82 335 ⇓P P 05 25 34.9 -0.2
baz=75
Z31A Sharp Cattle R 74.89 337 ⇓P P 05 25 35.3 -0.1
baz=75,SNR=14
128A Castleberry Fa 75.02 335 ⇓P P 05 25 36.0 -0.2
baz=75,SNR=14
JSRW J. Sargeant Re 75.06 356 eP P 05 25 36.9 +0.7
Y33A Hilltop Ranch, 75.08 338 ⇑P P 05 25 36.4 -0.1
baz=76,SNR=12
Z30A Sanderson Ranc 75.18 336 ⇓P P 05 25 36.7 -0.4
baz=76,SNR=11
MNTX Cornudas Mount 75.21 332 eP P 05 25 36.3 -1.0
comp=Z,8.1nm,1.0s
GDL2 Guadalupe Moun 75.29 333 eP P 05 25 38.3 +0.4
Y32A R-V Farms, Ver 75.31 338 ⇓P P 05 25 37.5 -0.4
baz=76,SNR=9.0
Z29A Hungry Hill Ra 75.34 336 ⇑P P 05 25 37.6 -0.5
baz=76,SNR=17
127A Arkansas Junct 75.37 334 ⇓P P 05 25 38.1 -0.1
baz=76
X34A Smith Ranch, M 75.40 339 ⇑P P 05 25 38.2 -0.1
baz=76,SNR=11
PARMO Parma 75.47 346 eP P 05 25 38.9 +0.3
Y31A Rekieta Farm, 75.53 337 ⇑P P 05 25 38.9 -0.1
baz=76,SNR=8.0
X33A Lawton 75.54 339 ⇓P P 05 25 38.5 -0.6
baz=76,SNR=7.1
Z28A Tucker Farm, M 75.59 335 ⇓P P 05 25 39.1 -0.5
baz=76,SNR=5.4
Y30A Stafford Cattl 75.65 336 ⇓P P 05 25 39.8 -0.1
baz=76
X32A Elmer 75.66 338 ⇑P P 05 25 39.6 -0.2
baz=76,SNR=8.1
PBMO Poplar Bluff 75.72 346 eP P 05 25 39.8 -0.3
comp=Z,23nm,0.9s
Y29A Porterfield Fa 75.88 336 ⇓P P 05 25 40.7 -0.5
baz=76,SNR=9.1
Z27A Tatum 75.90 334 ⇓P P 05 25 41.2 -0.1
baz=76
W34A Bridge Creek, 75.98 339 eP P 05 25 41.1 -0.6
comp=Z,43nm,1.1s
W34A Bridge Creek, 75.98 339 ⇑P P 05 25 41.4 -0.2
baz=76,SNR=8.7
X31A McDonald Ranch 76.06 338 ⇑P P 05 25 41.7 -0.4
baz=76,SNR=15
TUL1 Tulsa 76.09 341 eP P 05 25 41.8 -0.4
comp=Z,52nm,1.0s
TUL1 Tulsa 76.09 341 ⇓P P 05 25 41.8 -0.4
baz=76,SNR=18
W33A Caddo, Fort Co 76.10 339 ⇓P P 05 25 42.4 +0.1
baz=76,SNR=26
Y28A McKinney Farm, 76.11 335 ⇓P P 05 25 42.0 -0.5
baz=76,SNR=7.0
Z26A Caprock 76.12 334 ⇓P P 05 25 42.1 -0.5
baz=76,SNR=26
X30A Coker Ranch, T 76.17 337 ⇑P P 05 25 42.6 -0.2
baz=77,SNR=13
W32A Sentinel 76.30 338 ⇑P P 05 25 43.2 -0.2
baz=77,SNR=29
MSTX Muleshoe 76.34 335 eP P 05 25 43.6 -0.3
comp=Z,42nm,1.3s
MSTX Muleshoe 76.34 335 ⇑P P 05 25 44.1 +0.3
baz=77,SNR=11
USIN University of 76.38 348 eP P 05 25 43.3 -0.5
comp=Z,56nm,1.3s
Z25A Roswell 76.39 333 ⇑P P 05 25 44.0 -0.1
baz=77,SNR=7.2
SIUC Southern Illin 76.40 347 eP P 05 25 43.9 0.0
comp=Z,26nm,0.8s
Y27A Causey 76.40 335 ⇑P P 05 25 43.8 -0.4
baz=77,SNR=7.3
X29A Tulia 76.43 336 ⇓P P 05 25 44.3 0.0
baz=77,SNR=11
319A Douglas 76.46 329 ⇑P P 05 25 45.0 +0.4
baz=77,SNR=6.4
V34A Guthrie 76.47 340 eP P 05 25 44.3 -0.1
comp=Z,56nm,1.1s
V34A Guthrie 76.47 340 ⇓P P 05 25 44.4 0.0
baz=77,SNR=15
W31A Holland Ranch, 76.56 338 ⇓P P 05 25 44.7 -0.3
baz=77,SNR=6.9
X28A Dimmitt 76.66 336 ⇑P P 05 25 45.6 0.0
baz=77
Y26A Elida 76.66 334 ⇓P P 05 25 45.6 0.0
baz=77,SNR=6.6
Z24A Sheeppen Canyo 76.67 333 ⇓P P 05 25 45.8 0.0
baz=77,SNR=11
V33A Lossen Ranch, 76.67 339 ⇓P P 05 25 45.8 +0.3
baz=77,SNR=17
V32A Arapaho 76.80 339 ⇑P P 05 25 46.8 +0.5
baz=77,SNR=6.6
AMTX Amarillo 76.82 336 eP P 05 25 46.9 +0.4
comp=Z,48nm,0.9s
AMTX Amarillo 76.82 336 ⇑P P 05 25 46.9 +0.4
baz=77
LIC Lamto 76.83 71 eP P 05 25 48.5 +1.6
comp=Z,128nm,1.2s
121A Cookes Peak, D 76.87 331 eP P 05 25 47.9 +0.9
comp=Z,27nm,1.5s
121A Cookes Peak, D 76.87 331 ⇓P P 05 25 47.2 +0.3
baz=77,SNR=5.5
Y25A Mesa, Roswell 76.96 334 ⇓P P 05 25 46.7 -0.7
baz=77,SNR=8.2
W29A Amraillo 77.03 336 ⇓P P 05 25 47.6 -0.1
baz=77,SNR=12
U34A Anderson Ranch 77.05 340 eP P 05 25 47.8 +0.2
comp=Z,41nm,1.1s
U34A Anderson Ranch 77.05 340 ⇓P P 05 25 47.7 +0.1
baz=78,SNR=7.6
X27A F and S Farms, 77.07 335 ⇑P P 05 25 47.8 -0.1
baz=78,SNR=7.8
V31A Spring Creek L 77.08 338 ⇓P P 05 25 48.5 +0.6
baz=78,SNR=12
TIC Toumodi 77.11 71 eP P 05 25 50.0 +1.5
comp=Z,61nm,1.0s
KIC Kosan Boka 77.13 72 eP P 05 25 50.3 +1.6
comp=Z,116nm,1.1s
Z22A Elephant Butte 77.20 331 ⇓P P 05 25 49.3 +0.5
baz=78,SNR=9.5
U33A Lingo Farm, Me 77.20 340 ⇑P P 05 25 48.6 +0.2
baz=78,SNR=5.4
X26A CR and CF Fran 77.22 334 ⇓P P 05 25 49.4 +0.6
baz=78

Y24A Capitan 77.23 333 ⇓P P 05 25 49.1 +0.1
baz=78,SNR=15
DBIC Dimbokro 77.25 71 eP P 05 25 51.5 +2.2
DBIC *PP pP 05 25 56.5 -1.2
DBIC pmax pmax
comp=Z,34nm,0.9s
DBIC Dimbokro 77.25 71 P P 05 25 51.1 +1.8
comp=Z,25nm,0.9s,baz=204,slow=5.9,SNR=18
DBIC pP pP 05 25 56.5 -1.2
comp=Z,24nm,0.8s,baz=203,slow=6.0,SNR=9.8
DBIC Dimbokro 77.25 71 eP P 05 25 51.5 +2.2
comp=Z,34nm,0.9s
DBIC pP pP 05 25 56.5 -1.2
W28A Vega 77.34 336 ⇑P P 05 25 50.2 +0.8
baz=78
BLO Bloomington 77.39 349 eP P 05 25 48.9 -0.5
BLO pmax pmax
comp=Z,21nm,0.9s
BLO Bloomington 77.39 349 eP P 05 25 48.9 -0.5
comp=Z,21nm,0.9s
U32A Winter Ranch, 77.40 339 ⇓P P 05 25 49.9 +0.3
baz=78,SNR=12
W27A Bowe Ranch, En 77.44 335 ⇑P P 05 25 50.0 0.0
baz=78,SNR=15
Y23A Lovelace Mesa, 77.46 332 ⇓P P 05 25 50.8 +0.5
baz=78,SNR=9.9
SLM Saint Louis 77.48 346 eP P 05 25 50.1 +0.1
SLM pmax pmax
comp=Z,53nm,0.9s
SLM Saint Louis 77.48 346 eP P 05 25 50.0 +0.1
comp=Z,53nm,0.9s
X25A Clemmons Ranch 77.50 334 ⇓P P 05 25 50.2 -0.2
baz=78,SNR=6.4
U31A Nine Bar Ranch 77.64 338 ⇓P P 05 25 51.6 +0.6
baz=78
V29A Stinnett 77.68 337 ⇑P P 05 25 51.7 +0.4
baz=78
W26A Owens Ranch, T 77.70 335 ⇓P P 05 25 51.9 +0.5
baz=78
V28A Channing 77.79 336 ⇓P P 05 25 52.2 +0.3
baz=78,SNR=6.9
X24A Lazy VL Ranch, 77.81 333 ⇓P P 05 25 52.3 +0.1
baz=78,SNR=8.7
T33A Patterson Ranc 77.84 340 ⇓P P 05 25 52.7 +0.7
baz=78,SNR=12
TUC Tucson 77.89 328 eP P 05 25 53.1 +0.6
TUC pmax pmax
comp=Z,30nm,1.4s
TUC Tucson 77.89 328 eP P 05 25 53.1 +0.6
comp=Z,30nm,1.4s
ACSO Alum Creek Sta 77.98 352 eP P 05 25 52.8 0.0
comp=Z,33nm,0.8s
V27A Dan Oppiter Fa 78.00 336 ⇓P P 05 25 54.0 +0.9
baz=78
LENM Lemitar 78.01 332 eP P 05 25 53.8 +0.5
LPM Los Pinos Moun 78.01 332 eP P 05 25 54.3 +1.0
U30A WK&E Inc. Balk 78.02 338 ⇓P P 05 25 53.4 +0.2
baz=78,SNR=9.6
W25A X Bar L Ranch, 78.05 334 ⇑P P 05 25 53.4 0.0
baz=78,SNR=18
T32A Huddler Ranch, 78.12 339 ⇓P P 05 25 54.2 +0.5
baz=78,SNR=5.4
S33A Kaszmaul Farm, 78.26 340 ⇑P P 05 25 55.0 +0.7
baz=79
T31A Randall Ranch, 78.26 339 ⇑P P 05 25 55.2 +0.8
baz=79
LAZ Ladron 78.28 332 eP P 05 25 55.4 +0.6
comp=Z,13nm,1.2s
V26A Tequesquite Ra 78.35 335 ⇓P P 05 25 55.0 0.0
baz=79,SNR=9.1
U28A Mallet 78.37 336 ⇓P P 05 25 55.7 +0.5
baz=79
W24A Lazy 6 Ranch, 78.38 334 ⇑P P 05 25 55.6 +0.3
baz=79,SNR=18
214A Organ Pipe Nat 78.46 326 ⇑P P 05 25 56.5 +0.9
baz=79
T30A Plains 78.47 338 ⇓P P 05 25 56.2 +0.6
baz=79
ANMO Albuquerque 78.52 333 eP P 05 25 56.6 +0.5
ANMO pmax pmax
comp=Z,25nm,1.0s
ANMO Albuquerque 78.52 333 P P 05 25 57.0 +0.9
comp=Z,19nm,1.0s,baz=158,slow=7.1,SNR=40
ANMO Albuquerque 78.52 333 eP P 05 25 56.5 +0.5
comp=Z,25nm,1.0s
W23A Werner Place, 78.60 333 ⇑P P 05 25 57.0 +0.5
baz=79,SNR=12
U27A Thompson Grove 78.60 336 ⇓P P 05 25 56.6 +0.1
baz=79,SNR=5.9
S32A Newby Ranch, P 78.61 339 ⇑P P 05 25 57.1 +0.8
baz=79
V25A Rancho No Teng 78.67 334 ⇓P P 05 25 56.8 -0.1
baz=79,SNR=22
S31A Mullinville 78.69 339 ⇓P P 05 25 56.9 +0.1
baz=79,SNR=5.4
V24A Rampart Ranch, 78.79 334 ⇑P P 05 25 57.6 0.0
baz=79,SNR=5.9
T29A Hugoton 78.80 337 ⇑P P 05 25 57.6 +0.2
baz=79
U26A Atchley Ranch, 78.88 335 ⇑P P 05 25 57.9 -0.1
baz=79,SNR=7.1
R33A Olander Ranch, 78.92 340 ⇑P P 05 25 58.2 +0.2
baz=79,SNR=5.9
S30A Montezuma 79.00 338 ⇑P P 05 25 58.7 +0.2
baz=79
T28A Walsh 79.02 337 ⇑P P 05 25 58.8 +0.2
baz=79,SNR=13
U25A Circle Dot Ran 79.11 335 ⇓P P 05 25 59.3 0.0
baz=80,SNR=15
V23A Ortiz Mt. (NFS 79.13 333 ⇑P P 05 25 59.6 +0.1
baz=80
TSUM Tsumeb 79.15 106 eP P 05 26 01.5 +1.4
comp=Z,46nm,1.5s
T27A Campo 79.15 336 ⇓P P 05 25 59.8 +0.4
baz=80,SNR=5.2
S29A Ulysses 79.17 338 ⇑P P 05 25 59.9 +0.4
baz=80
R32A Long Quarter, 79.23 340 ⇑P P 05 25 60.0 +0.3
baz=80,SNR=12
BOSA Boshof 79.24 118 eP P 05 26 00.8 +0.4
BOSA *PP PcP 05 26 06.6 -2.1
BOSA pmax pmax
comp=Z,39nm,1.0s
BOSA Boshof 79.24 118 P P 05 26 01.2 +0.9
comp=Z,15nm,0.9s,baz=212,slow=4.9,SNR=11
BOSA pP PcP 05 26 06.5 -2.1
comp=Z,25nm,0.8s,baz=241,slow=4.5,SNR=17
BOSA Boshof 79.24 118 eP P 05 26 00.8 +0.4
comp=Z,39nm,1.0s
BOSA pP PcP 05 26 06.5 -2.1
KSU1 Kansas State U 79.32 342 eP P 05 25 59.4 -0.7
comp=Z,36nm,1.1s
KSU1 Kansas State U 79.32 342 ⇓P P 05 25 59.9 -0.2
baz=80,SNR=6.0
R31A Burdett 79.33 339 ⇓P P 05 26 00.6 +0.4
baz=80,SNR=8.4
S28A Manter 79.38 337 ⇑P P 05 26 00.8 +0.2
baz=80,SNR=10
U24A Moreno Valley 79.41 334 ⇓P P 05 26 01.9 +0.8
baz=80,SNR=5.8
X18A Snowflake 79.48 330 ⇑P P 05 26 02.0 +0.6
baz=80
Q33A Connelly Farm, 79.53 341 ⇑P P 05 26 01.7 +0.4
baz=80,SNR=8.0
R30A Dighton 79.54 339 ⇑P P 05 26 01.9 +0.5
baz=80
T26A Comanche Natio 79.54 336 ⇓P P 05 26 02.0 +0.4
baz=80,SNR=5.8
V22A San Miguel Ran 79.55 333 ⇓P P 05 26 03.0 +1.2
baz=80,SNR=24
U23A El Rito 79.66 333 ⇑P P 05 26 02.9 +0.6
baz=80,SNR=13
Q32A Meitler Ranch, 79.72 340 ⇓P P 05 26 02.5 +0.2
baz=80,SNR=7.7
Z14A Wintersburg 79.72 327 ⇓P P 05 26 03.3 +0.8
baz=80
T25A Trinidad 79.78 335 ⇑P P 05 26 03.8 +0.9
baz=80,SNR=27
S26A Kim 79.91 336 ⇓P P 05 26 04.4 +0.9
baz=80,SNR=23
P33A Williams Farm, 79.91 341 ⇑P P 05 26 03.6 +0.3
baz=80
W18A Petrified Fore 79.91 330 eP P 05 26 04.5 +0.8
comp=Z,29nm,1.0s
W18A Petrified Fore 79.91 330 ⇑P P 05 26 04.8 +1.1
baz=80
R29A Marienthal 79.92 338 ⇓P P 05 26 04.3 +0.8
baz=80

U22A Llaves 79.94 333 ⇓P P 05 26 04.5 +0.6
baz=80,SNR=9.0
Q31A Ellis 79.96 340 ⇓P P 05 26 04.3 +0.6
baz=80,SNR=9.2
TRY Troy 79.97 360 eP P 05 26 04.5 +1.0
comp=Z,40nm,1.0s
X16A Lo Mia Camp, P 79.99 329 ⇑P P 05 26 04.9 +0.7
baz=80
T24B San Luis 80.04 334 ⇑P P 05 26 05.2 +0.8
baz=80,SNR=12
R28A Tribune 80.05 338 ⇑P P 05 26 04.5 +0.3
baz=80,SNR=13
AAM Ann Arbor 80.10 352 eP P 05 26 03.8 -0.5
AAM pmax pmax
comp=Z,32nm,1.1s
AAM Ann Arbor 80.10 352 eP P 05 26 03.8 -0.5
comp=Z,32nm,1.1s
Q30A Quinter 80.17 339 ⇑P P 05 26 05.3 +0.5
baz=81,SNR=13
Y14A Wickenburg 80.24 327 ⇑P P 05 26 05.9 +0.6
baz=81
T23A Casias Ranch, 80.24 334 ⇑P P 05 26 06.1 +0.5
baz=81,SNR=7.5
S25A Robets Cordova 80.26 335 ⇓P P 05 26 06.0 +0.5
baz=81
R27A Eads 80.30 337 ⇑P P 05 26 05.9 +0.3
baz=81,SNR=17
Q29A Oakley 80.31 338 ⇓P P 05 26 05.5 0.0
baz=81,SNR=6.8
P32A Huiting Farm, 80.32 340 ⇑P P 05 26 05.7 +0.2
baz=81
P31A Stockton 80.44 340 ⇓P P 05 26 06.6 +0.4
baz=81,SNR=5.7
S24A Houchin Ranch, 80.50 335 ⇓P P 05 26 07.6 +0.6
baz=81,SNR=25
R26A Arlington 80.52 336 ⇓P P 05 26 07.3 +0.5
baz=81,SNR=20
R25A Fountain Ranch 80.65 336 ⇑P P 05 26 08.0 +0.5
baz=81,SNR=8.1
SDCO Great Sand Dun 80.69 335 eP P 05 26 08.1 +0.1
comp=Z,11nm,1.1s
P30A Selden 80.70 339 ⇑P P 05 26 08.3 +0.6
baz=81,SNR=7.1
Q28A Sharon Springs 80.72 338 ⇑P P 05 26 08.5 +0.7
baz=81
Y12C Blythe 80.74 326 ⇑P P 05 26 08.9 +0.9
baz=81
O32A Brockman Farm, 80.83 341 ⇑P P 05 26 09.6 +1.3
baz=81
KSCO Kaye Shedlock' 80.91 337 eP P 05 26 09.9 +1.0
comp=Z,34nm,1.0s
KSCO Kaye Shedlock' 80.91 337 ⇑P P 05 26 09.8 +0.9
baz=81
WUAZ Wupatki 80.91 329 eP P 05 26 10.2 +1.2
comp=Z,26nm,1.1s
WUAZ Wupatki 80.91 329 ⇓P P 05 26 09.9 +0.9
baz=81,SNR=9.0
P29A Atwood 80.95 339 ⇓P P 05 26 09.9 +0.8
baz=81
R24A Sanders Place, 81.00 335 ⇑P P 05 26 10.2 +0.7
baz=81,SNR=26
O31A Woolen Ranch, 81.01 340 ⇓P P 05 26 09.7 +0.4
baz=81,SNR=6.8
PDMCI Parker Dam,Lak 81.03 327 ⇑P P 05 26 10.5 +1.0
baz=81
BC3 Big Chuckawall 81.07 325 ⇑P P 05 26 10.6 +0.8
baz=81
Q26A Hugo 81.11 337 ⇑P P 05 26 10.8 +0.8
baz=82
S22A 4UR Ranch, Cre 81.15 334 ⇑P P 05 26 11.1 +0.6
baz=82,SNR=14
P28A Saint Francis 81.17 338 ⇓P P 05 26 10.9 +0.7
baz=82
R23A Moffat 81.20 335 ⇓P P 05 26 11.3 +0.6
baz=82,SNR=10.0
MDV Middlebury 81.23 0 eP P 05 26 11.2 +1.0
O30A MW Ranch, Wils 81.24 340 ⇓P P 05 26 11.4 +0.9
baz=82
MVCO Mesa Verde 81.28 332 eP P 05 26 11.4 +0.4
comp=Z,36nm,1.3s
MVCO Mesa Verde 81.28 332 ⇓P P 05 26 11.2 +0.2
baz=82,SNR=13
N32A Stulken Farm, 81.31 341 ⇑P P 05 26 11.6 +0.8
baz=82
Q25A Bedland, Calha 81.33 336 ⇓P P 05 26 11.5 +0.3
baz=82,SNR=7.4
IRM Iron Mountain 81.36 326 ⇑P P 05 26 12.0 +0.7
baz=82
P27A Ficken Ranch, 81.40 337 ⇑P P 05 26 12.1 +0.6
baz=82
O29A 4D Ranch, Culb 81.40 339 ⇓P P 05 26 12.5 +1.1
baz=82
PFO Pinyon Flat Ob 81.49 325 eP P 05 26 13.5 +1.4
PFO Pinyon Flat Ob 81.49 325 P P 05 26 12.7 +0.5
comp=Z,18nm,0.9s,baz=116,slow=4.3,SNR=8.0
PFO Pinyon Flat Ob 81.49 325 eP P 05 26 13.5 +1.4
PFO Pinyon Flat Ob 81.49 325 ⇑P P 05 26 13.0 +0.9
baz=82
N31A Bailey Ranch, 81.54 341 ⇑P P 05 26 13.2 +1.1
baz=82
W13A Hualapai Mount 81.60 327 ⇓P P 05 26 13.7 +0.9
baz=82
P26A Davis Ranch, A 81.64 337 ⇑P P 05 26 13.4 +0.6
baz=82,SNR=6.5
NEE2 Needles Airpor 81.64 327 ⇓P P 05 26 13.9 +1.2
baz=82
LBTB Lobatse 81.65 115 eP P 05 26 14.1 +0.7
LBTB pmax pmax
comp=Z,30nm,0.8s
LBTB Lobatse 81.65 115 eP P 05 26 14.1 +0.7
comp=Z,30nm,0.8s
Q24A Divide 81.67 335 ⇑P P 05 26 13.7 +0.5
baz=82,SNR=10
O28A Krutsinger Ran 81.68 338 ⇓P P 05 26 13.5 +0.6
baz=82,SNR=7.7
MURC Murrieta 81.83 324 ⇑P P 05 26 14.8 +1.1
baz=82
P25A Willow Gulch B 81.85 336 ⇑P P 05 26 14.5 +0.5
baz=82,SNR=11
LONY Lake Ozonia 81.86 359 eP P 05 26 14.5 +0.9
comp=Z,26nm,0.9s
O27A Beecher Island 81.95 338 ⇓P P 05 26 15.0 +0.6
baz=82,SNR=6.6
N29A Votaw Ranch, W 81.99 339 ⇑P P 05 26 15.3 +0.8
baz=82
M31A Lambtecht Ranc 82.03 341 ⇑P P 05 26 15.8 +1.1
baz=82
U15A North Rim 82.07 329 ⇑P P 05 26 16.0 +0.7
baz=82
P24A Kohler Place, 82.09 336 ⇑P P 05 26 16.2 +1.0
baz=82
GMRC Granite Mounta 82.11 326 ⇓P P 05 26 16.4 +1.0
baz=82
PV01 Paradox Valley 82.12 333 eP P 05 26 15.7 +0.2
comp=Z,2µm,1.1s
N28A Pribbeno Ranch 82.13 339 ⇑P P 05 26 16.6 +1.3
baz=82
O26A Horse Wrangler 82.25 337 ⇑P P 05 26 16.6 +0.6
baz=83,SNR=7.5
P23A Jefferson 82.27 335 ⇓P P 05 26 17.2 +0.8
baz=83
HEC Hector,Ludlow 82.45 325 ⇓P P 05 26 17.9 +0.8
baz=83
M30A Dale-Ortello V 82.45 340 ⇑P P 05 26 17.7 +0.8
baz=83
PV04 Paradox Valley 82.48 332 eP P 05 26 18.0 +0.8
SMCO Snowmass 82.48 334 eP P 05 26 18.8 +1.2
comp=Z,29nm,1.1s
OGNE Ogallala 82.51 338 ⇓P P 05 26 18.2 +0.9
baz=83
N27A Anderson Farm, 82.53 338 ⇓P P 05 26 17.9 +0.5
baz=83,SNR=6.2
BFSC Mount Baldy Ra 82.57 324 ⇓P P 05 26 18.5 +0.7
baz=83
ISCO Idaho Springs 82.58 335 eP P 05 26 18.7 +0.8
ISCO pmax pmax
comp=Z,18nm,1.3s
ISCO Idaho Springs 82.58 335 eP P 05 26 18.7 +0.8
comp=Z,18nm,1.3s
ISCO Idaho Springs 82.58 335 ⇑P P 05 26 17.9 0.0
baz=83,SNR=12
M29A Burnside Ranch 82.59 340 ⇓P P 05 26 18.4 +0.8
baz=83
M28A Bar X Bar Ranc 82.74 339 ⇓P P 05 26 19.7 +1.3
baz=83
N26A Koester Ranch, 82.76 338 ⇑P P 05 26 19.5 +0.9
baz=83
L31A Butterfield Fa 82.78 341 ⇓P P 05 26 19.3 +0.7
baz=83,SNR=21
P22A Eagle 82.78 335 ⇓P P 05 26 19.2 +0.3
baz=83,SNR=7.8
L30A Spencer Herefo 82.80 340 ⇑P P 05 26 19.1 +0.5
baz=83,SNR=11
RRX Edison Barstow 82.80 325 ⇑P P 05 26 19.8 +1.0
baz=83
O23A Lake Granby, G 83.05 335 ⇑P P 05 26 20.9 +0.5
baz=83,SNR=14
GSC Goldstone 83.06 325 ⇓P P 05 26 21.0 +0.8
baz=83
O22A Kremmling 83.22 335 ⇑P P 05 26 21.6 +0.4
baz=84,SNR=15
EDW2 Edwards Air Fo 83.25 324 ⇑P P 05 26 21.6 +0.4
baz=84
N24A Carr 83.27 336 ⇑P P 05 26 22.5 +1.2
baz=84
SHPR Sheep Range 83.34 327 eP P 05 26 22.6 +0.8
OSI Osito Adit 83.38 324 ⇑P P 05 26 22.6 +0.8
baz=84
K30A Basset 83.44 341 ⇑P P 05 26 22.6 +0.6
baz=84,SNR=11
CCUT Cedar City 83.47 329 eP P 05 26 24.1 +1.6
comp=Z,29nm,1.1s
M25A Palm-Egli Farm 83.57 337 ⇑P P 05 26 23.4 +0.6
baz=84
LRMC Laurel Mountai 83.61 325 ⇑P P 05 26 24.2 +1.1
baz=84
L27A T5 Ranch, Ells 83.64 339 ⇑P P 05 26 24.4 +1.3
baz=84
N23A Red Feather La 83.68 336 ⇑P P 05 26 23.9 +0.4
baz=84,SNR=10
ECSD EROS Data Cent 83.70 343 eP P 05 26 23.1 -0.2
comp=Z,64nm,1.0s
ECSD EROS Data Cent 83.70 343 ⇑P P 05 26 23.3 0.0
baz=84,SNR=40
SRU San Rafael 83.71 332 eP P 05 26 23.9 +0.3
SRU pmax pmax
comp=Z,19nm,0.9s
SRU San Rafael 83.71 332 eP P 05 26 23.9 +0.3
comp=Z,19nm,0.9s
ARUT Antelope Range 83.71 329 eP P 05 26 24.3 +0.7
ARUT Antelope Range 83.71 329 eP P 05 26 24.3 +0.7
comp=Z,359nm,1.3s
K29A Lazy Trails An 83.71 340 ⇓P P 05 26 24.1 +0.7
baz=84,SNR=5.4
N22A Wattenberg Ran 83.76 335 ⇓P P 05 26 24.7 +0.8
baz=84,SNR=7.4
O20A White River Ci 83.78 334 eP P 05 26 24.6 +0.7
comp=Z,12nm,0.9s
O20A White River Ci 83.78 334 ⇓P P 05 26 24.2 +0.2
baz=84,SNR=6.2
L26A Underwood Farm 83.82 338 ⇑P P 05 26 24.8 +0.7
baz=84
MVU Marysvale 83.83 330 eP P 05 26 25.4 +1.1
comp=Z,14nm,1.0s
M24A Cheyenne 83.84 337 ⇑P P 05 26 24.7 +0.5
baz=84,SNR=6.1
ARVC Arvin 83.84 324 ⇓P P 05 26 25.2 +1.0
baz=84
PHWY Pilot Hill 83.89 336 eP P 05 26 25.0 +0.4
comp=Z,48nm,1.6s
K28A Ten Mile Ranch 83.95 340 ⇑P P 05 26 25.3 +0.7
baz=84,SNR=6.3
J30A Dallas 84.02 341 ⇓P P 05 26 25.0 +0.1
baz=84,SNR=7.6
FURC Furnace Creek, 84.06 326 ⇑P P 05 26 26.3 +1.2
baz=84
ISA Isabella 84.12 324 eP P 05 26 26.6 +0.9
ISA pmax pmax
comp=Z,21nm,1.1s
ISA Isabella 84.12 324 eP P 05 26 26.6 +0.9
comp=Z,21nm,1.1s
ISA Isabella 84.12 324 ⇑P P 05 26 26.9 +1.3
baz=84
M23A Laramie 84.12 336 ⇓P P 05 26 25.8 +0.1
baz=84,SNR=8.8
TMUT Trail Mountain 84.13 331 eP P 05 26 26.7 +0.8
comp=Z,17nm,0.8s
K27A Flueckinger Fa 84.19 339 ⇓P P 05 26 26.5 +0.6
baz=85,SNR=10
L25A Engebretsen Ra 84.20 338 ⇑P P 05 26 26.8 +0.8
baz=85
J29A Okreek 84.32 341 ⇓P P 05 26 26.8 +0.4
baz=85,SNR=18
SPMN St. Paul 84.33 346 eP P 05 26 25.9 -0.5
comp=Z,18nm,0.9s
SPMN St. Paul 84.33 346 ⇑P P 05 26 26.1 -0.3
baz=85,SNR=6.7
L24A Wheatland 84.39 337 ⇑P P 05 26 27.5 +0.6
baz=85
N20A Spence Gulch, 84.41 334 ⇑P P 05 26 27.5 +0.3
baz=85,SNR=8.4
VES Vestal, Richgr 84.55 324 ⇓P P 05 26 28.2 +0.5
baz=85
I30A Oacoma 84.56 341 ⇓P P 05 26 27.3 -0.2
baz=85,SNR=6.0
J28A Allard Ranch, 84.58 340 ⇑P P 05 26 28.2 +0.4
baz=85,SNR=9.2
J27A Elkhorn Farm, 84.63 339 ⇑P P 05 26 28.5 +0.4
baz=85,SNR=12
L23A Garrett 84.70 336 ⇑P P 05 26 28.6 0.0
baz=85,SNR=5.0
GRAC Grapevine Rang 84.72 326 ⇓P P 05 26 29.7 +1.0
baz=85
L22A Ellis Ranch, M 84.86 336 ⇓P P 05 26 30.0 +0.6
baz=85
I29A Vivian Onida 84.88 341 ⇓P P 05 26 29.6 +0.4
baz=85,SNR=7.3
MPU Maple Canyon 84.92 331 eP P 05 26 30.5 +0.7
comp=Z,29nm,1.1s
BRSD Miller 84.93 342 eP P 05 26 29.5 0.0
comp=Z,34nm,0.9s
BRSD Miller 84.93 342 ⇓P P 05 26 29.2 -0.2
baz=85,SNR=5.2
K24A Anderson Ranch 84.97 337 ⇑P P 05 26 30.3 +0.4
baz=85
J26A Sides Ranch, S 84.99 339 ⇑P P 05 26 30.3 +0.4
baz=85,SNR=10.0
RCTC Rector, Farmer 85.00 324 ⇑P P 05 26 30.6 +0.6
baz=85
NLU North Lily Min 85.03 331 eP P 05 26 31.4 +1.0
comp=Z,56nm,1.7s
R11A Troy Canyon, C 85.08 328 eP P 05 26 31.8 +1.2
comp=Z,14nm,0.9s
R11A Troy Canyon, C 85.08 328 ⇓P P 05 26 31.5 +0.9
baz=85
I28A Midland 85.09 340 ⇑P P 05 26 30.5 +0.2
baz=86,SNR=17
DAU Daniels Canyon 85.12 332 eP P 05 26 31.7 +0.8
DAU Daniels Canyon 85.12 332 eP P 05 26 31.7 +0.8
K23A Bowen Ranch, D 85.25 337 ⇓P P 05 26 31.3 0.0
baz=86,SNR=9.3
J25A Sunshine Ranch 85.28 338 ⇑P P 05 26 32.2 +0.9
baz=86
JLU Jordanelle 85.36 332 eP P 05 26 32.5 +0.6
comp=Z,11nm,0.8s
I27A Quinn 85.40 340 ⇑P P 05 26 31.7 -0.2
baz=86,SNR=8.4
H29A Onida 85.42 341 ⇓P P 05 26 31.8 -0.1
baz=86,SNR=16
K22A Casper 85.45 336 eP P 05 26 32.8 +0.5
comp=Z,59nm,1.5s
K22A Casper 85.45 336 ⇑P P 05 26 32.4 +0.1
baz=86,SNR=8.0
J24A Dixon Ranch, L 85.48 338 ⇓P P 05 26 32.6 +0.2
baz=86,SNR=8.0
DUG Dugway 85.53 331 eP P 05 26 33.1 +0.4
DUG pmax pmax
comp=Z,45nm,1.4s
DUG Dugway 85.53 331 eP P 05 26 33.1 +0.4
comp=Z,45nm,1.4s
DUG Dugway 85.53 331 ⇑P P 05 26 33.2 +0.5
baz=86
CTU Camp Tracy 85.55 332 eP P 05 26 33.6 +0.8
comp=Z,4.9nm,0.7s
TPH Tonopah 85.55 327 eP P 05 26 34.0 +1.0
TPH pmax pmax
comp=Z,26nm,1.0s
TPH Tonopah 85.55 327 eP P 05 26 34.0 +1.0
comp=Z,26nm,1.0s
I26A New Underwood 85.59 339 ⇓P P 05 26 33.2 +0.4
baz=86
G30A Faulkton 85.62 342 ⇓P P 05 26 32.9 0.0
baz=86,SNR=11
K21A Alcova 85.67 336 ⇑P P 05 26 33.2 -0.3
baz=86,SNR=12
H28A Mission Ridge 85.68 341 ⇓P P 05 26 33.2 0.0
baz=86,SNR=14
TCUT Toone Canyon 85.79 332 eP P 05 26 34.1 -0.1
comp=Z,66nm,1.5s
I25A Rochford 85.83 338 ⇑P P 05 26 34.2 0.0
baz=86,SNR=12
G29A Hoven 85.88 341 ⇑P P 05 26 34.0 -0.1
baz=86,SNR=9.6
H27A Howes 85.93 340 ⇑P P 05 26 34.3 -0.2
baz=86,SNR=15
I24A Kuemmerle Ranc 85.95 338 ⇓P P 05 26 34.8 +0.1
baz=86
RSSD Black Hills 86.01 338 eP P 05 26 34.8 -0.3
RSSD pmax pmax
comp=Z,13nm,0.8s
RSSD Black Hills 86.01 338 eP P 05 26 34.8 -0.3
comp=Z,12nm,0.8s
G28A Parade 86.02 341 ⇓P P 05 26 34.9 0.0
baz=86,SNR=16
J22A Midwest 86.12 336 ⇑P P 05 26 35.2 -0.3
baz=86
BGU Big Grassy Mou 86.24 331 eP P 05 26 36.5 +0.3
comp=Z,19nm,1.9s
F30A Leola 86.26 342 ⇓P P 05 26 36.0 0.0
baz=87,SNR=7.7
HWUT Hardware Ranch 86.27 332 eP P 05 26 36.5 +0.1
comp=Z,35nm,1.1s
NVAR Mina Array Bea 86.32 326 P P 05 26 37.4 +0.6
comp=Z,5.7nm,0.8s,baz=156,slow=6.2,SNR=28
TOA0 Torodi Ar. Sit 86.33 70 eP P 05 26 37.5 +0.4
TORD Torodi Ar. Bea 86.33 70 P P 05 26 37.5 +0.5
comp=Z,3.4nm,0.9s,baz=244,slow=3.1,SNR=11
H25A Fruitdale 86.34 339 ⇑P P 05 26 36.5 -0.1
baz=87,SNR=13
SPUT South Promonto 86.34 331 eP P 05 26 36.8 +0.1
comp=Z,26nm,1.2s
J21A Lysite 86.37 336 ⇓P P 05 26 37.2 +0.3
baz=87
F29A Eureka 86.45 342 ⇑P P 05 26 36.8 -0.1
baz=87,SNR=15
I22A 9 Mile Ranch, 86.55 337 ⇑P P 05 26 37.4 -0.3
baz=87,SNR=5.5
BW06 Boulder Array 86.57 334 eP P 05 26 37.2 -0.7
comp=Z,23nm,1.4s
PDAR Pinedale Array 86.57 334 P P 05 26 37.7 -0.2
comp=Z,6.0nm,0.9s,baz=153,slow=5.7,SNR=30
G27A Dupree 86.58 340 ⇑P P 05 26 37.2 -0.4
baz=87,SNR=13
J20A Shoshoni 86.59 335 ⇓P P 05 26 38.2 +0.3
baz=87
G26A Maurine 86.68 340 ⇓P P 05 26 37.8 -0.3
baz=87,SNR=19
F28A McLaughlin 86.71 341 ⇓P P 05 26 38.4 +0.1
baz=87,SNR=15
EYMN Ely 86.73 348 eP P 05 26 38.6 +0.4
comp=Z,26nm,1.3s
H24A Dirks Ranch, A 86.73 338 ⇓P P 05 26 37.9 -0.6
baz=87,SNR=8.9
I21A Big Trails, Te 86.74 336 ⇓P P 05 26 38.0 -0.6
baz=87,SNR=7.5
G25A Newell 86.81 339 ⇑P P 05 26 39.0 +0.2
baz=87,SNR=20
J19A Crowheart 86.83 335 ⇑P P 05 26 39.1 0.0
baz=87,SNR=18
E30A Jud 86.86 343 ⇓P P 05 26 39.0 +0.1
baz=87,SNR=11
HVU Hansel Valley 86.87 332 eP P 05 26 39.5 +0.2
HVU pmax pmax
comp=Z,21nm,1.0s
HVU Hansel Valley 86.87 332 eP P 05 26 39.5 +0.2
comp=Z,21nm,1.0s
WAKR Walker 86.89 325 eP P 05 26 41.0 +1.4
CMB Columbia Colle 86.94 325 eP P 05 26 39.7 +0.1
CMB pmax pmax
comp=Z,37nm,1.9s
CMB Columbia Colle 86.94 325 eP P 05 26 39.7 +0.1
comp=Z,37nm,1.9s
ELK Elko 86.96 329 eP P 05 26 40.3 +0.4
ELK pmax pmax
comp=Z,12nm,0.9s
ELK Elko 86.96 329 P P 05 26 39.9 +0.1
comp=Z,12nm,1.0s,baz=185,slow=2.5,SNR=28
ELK Elko 86.96 329 eP P 05 26 40.3 +0.4
comp=Z,12nm,0.9s
F27A Lemmon 87.06 340 ⇑P P 05 26 39.9 -0.1
baz=88,SNR=20
E29A Napoleon 87.09 342 ⇓P P 05 26 40.1 0.0
baz=88,SNR=9.1
I20A Worland 87.13 336 ⇓P P 05 26 40.3 -0.2
baz=88,SNR=7.5
H22A Clearmont 87.14 337 ⇑P P 05 26 40.1 -0.4
baz=88
F26A Lodgepole 87.21 340 ⇓P P 05 26 40.5 -0.2
baz=88,SNR=9.9
G24A Alzada 87.22 339 ⇓P P 05 26 40.6 -0.3
baz=88
E28A Huff 87.36 341 ⇑P P 05 26 41.5 +0.1
baz=88,SNR=5.4
H21A Big Horn, Sher 87.39 337 ⇑P P 05 26 41.4 -0.3
baz=88
D30A Buchanan 87.39 343 ⇑P P 05 26 41.8 +0.4
baz=88,SNR=16
G23A Biddle 87.40 338 ⇓P P 05 26 40.9 -0.8
baz=88
E27A Carson 87.45 341 ⇑P P 05 26 41.9 +0.1
baz=88,SNR=5.9
I19A Meeteetse 87.50 335 ⇓P P 05 26 42.0 -0.3
baz=88,SNR=5.4
F25A Bowman 87.50 339 ⇓P P 05 26 42.1 0.0
baz=88,SNR=6.2
BMN Battle Mountai 87.51 328 eP P 05 26 42.5 0.0
BMN pmax pmax
comp=Z,5.0nm,0.8s
BMN Battle Mountai 87.51 328 eP P 05 26 42.5 0.0
comp=Z,4.5nm,0.8s
D29A Pettibone, Tap 87.54 342 ⇑P P 05 26 42.1 -0.2
baz=88,SNR=12
REDW Red Top Meadow 87.54 334 eP P 05 26 42.7 +0.1
comp=Z,34nm,1.6s
H20A Greybull 87.57 336 ⇓P P 05 26 42.1 -0.4
baz=88,SNR=6.2
LOHW Long Hollow 87.67 334 eP P 05 26 43.3 0.0
comp=Z,7.4nm,0.8s
G22A Birney 87.69 337 ⇓P P 05 26 42.8 -0.3
baz=88
TPAW Teton Pass 87.69 334 eP P 05 26 43.6 +0.2
comp=Z,12nm,0.8s
F24A Ekalaka 87.70 339 ⇓P P 05 26 43.2 +0.1
baz=88
E26A Carlson Angus 87.73 340 ⇑P P 05 26 43.1 -0.1
baz=88,SNR=11
FXWY Fox Creek 87.85 334 eP P 05 26 44.1 0.0
comp=Z,6.3nm,1.0s
F23A Volborg 87.87 338 ⇑P P 05 26 43.5 -0.4
baz=88
AGMN Agassiz Nation 87.88 345 eP P 05 26 43.9 0.0
comp=Z,36nm,1.1s
AGMN Agassiz Nation 87.88 345 ⇑P P 05 26 43.8 0.0
baz=88,SNR=14
C30A Mose, Pekin 87.88 343 ⇓P P 05 26 44.2 +0.3
baz=88,SNR=29
D28A Regan 87.91 342 ⇓P P 05 26 44.2 +0.2
baz=88,SNR=14
I17A Pilgrim Ck. 87.93 334 ⇑P P 05 26 44.9 +0.4
baz=88,SNR=12
E25A Miller Ranch, 88.01 340 ⇑P P 05 26 44.7 +0.1
baz=88,SNR=5.7
IMW Indian Meadow 88.04 334 eP P 05 26 45.3 +0.2
comp=Z,11nm,0.9s
H19A Powell 88.06 335 ⇓P P 05 26 45.2 +0.2
baz=88
D27A Center 88.07 341 ⇓P P 05 26 45.5 +0.7
baz=88
FLWY Flagg Ranch 88.12 334 eP P 05 26 45.9 +0.6
comp=Z,17nm,0.8s
F22A Rosebud 88.18 338 ⇓P P 05 26 45.7 +0.4
baz=89
D26A Manning 88.23 340 ⇑P P 05 26 45.9 +0.3
baz=89,SNR=15
H18A Shoshone NF, C 88.29 335 ⇓P P 05 26 45.9 -0.3
baz=89,SNR=7.9
G20A Bridger 88.29 336 ⇓P P 05 26 46.3 +0.3
baz=89
E24A Baker 88.32 339 ⇑P P 05 26 46.9 +0.9
baz=89
C28A Hausauer Farms 88.35 342 ⇑P P 05 26 47.0 +0.9
baz=89
H17A Grant Village 88.35 334 ⇑P P 05 26 47.6 +1.1
baz=89

YFT	Old Faithful	88.49	334	eP	P	05 26 49.4	+2.3
	comp=Z,25nm,1.5s						
B30A	Myrvik Farm, E	88.55	344	⇓P	P	05 26 47.2	+0.2
	baz=89,SNR=29						
D25A	Fairfield	88.58	340	⇑P	P	05 26 48.4	+1.1
	baz=89						
C27A	Sayler Ranch,	88.62	341	⇑P	P	05 26 47.9	+0.6
	baz=89,SNR=11						
YMR	Madison River	88.72	334	eP	P	05 26 49.1	+0.9
	comp=Z,18nm,0.9s						
F20A	Billings	88.79	336	⇓P	P	05 26 48.7	+0.4
	baz=89						
B29A	Wagenman Farm,	88.80	343	⇑P	P	05 26 48.5	+0.3
	baz=89,SNR=12						
D24A	Glendive	88.83	339	⇑P	P	05 26 49.0	+0.6
	baz=89						
C26A	Wahner Farm, P	88.88	341	⇓P	P	05 26 49.0	+0.4
	baz=89,SNR=5.4						
A30A	Hoffart Farm,	89.01	344	⇑P	P	05 26 49.2	+0.1
	baz=89,SNR=12						
HLID	Hailey	89.02	331	eP	P	05 26 50.5	+1.0
	comp=Z,17nm,1.2s						
HLID	Hailey	89.02	331	⇑P	P	05 26 50.2	+0.7
	baz=89						
B28A	Dugan Ranch, T	89.03	342	⇑P	P	05 26 49.8	+0.6
	baz=89,SNR=14						
QLMT	Earthquake Lak	89.03	334	eP	P	05 26 50.7	+1.1
C25A	Freed Ranch, W	89.08	340	⇑P	P	05 26 50.1	+0.5
	baz=90						
E21A	Keefer Ranch,	89.11	337	⇑P	P	05 26 50.3	+0.5
	baz=90						
D23A	Lindsay	89.13	339	⇑P	P	05 26 50.7	+0.9
	baz=90						
A29A	Manning Farm,	89.20	343	⇓P	P	05 26 50.1	+0.1
	baz=90,SNR=22						
C24A	Savage	89.23	339	⇓P	P	05 26 50.6	+0.3
	baz=90,SNR=6.0						
D22A	Cohagen	89.39	338	⇑P	P	05 26 50.9	-0.1
	baz=90						
E20A	Meyer Farm, Mu	89.41	337	⇓P	P	05 26 51.3	+0.1
	baz=90						
B26A	Jensen Ranch,	89.42	341	⇓P	P	05 26 51.6	+0.4
	baz=90						
A28A	Rude Farm, Bot	89.43	343	⇑P	P	05 26 51.6	+0.4
	baz=90						
MFID	Camas Ranch	89.44	330	eP	P	05 26 52.1	+0.6
	comp=Z,17nm,1.3s						
MCMT	McKenzie Canyo	89.53	333	eP	P	05 26 52.9	+0.9
	comp=Z,8.9nm,1.3s						
D21A	La Casta Ranch	89.56	338	⇑P	P	05 26 52.1	+0.2
	baz=90						
LSZ	Lusaka	89.57	109	eP	P	05 26 54.8	+2.0
LSZ				pmax	pmax		
	comp=Z,16nm,1.5s						
LSZ	Lusaka	89.57	109	eP	P	05 26 54.8	+2.0
	comp=Z,16nm,1.5s						
B25A	Knox Farm, Ray	89.57	341	⇓P	P	05 26 52.1	+0.3
	baz=90						
E19A	Rath Farm, Rou	89.58	336	⇓P	P	05 26 52.0	+0.1
	baz=90						
C23A	Lambert	89.70	339	⇑P	P	05 26 52.6	+0.2
	baz=90						
A27A	Ledoux Ranch,	89.71	342	⇓P	P	05 26 53.4	+1.0
	baz=90						
ULM	Lac du Bonnet	89.74	346	eP	P	05 26 52.2	-0.3
ULM	Lac du Bonnet	89.74	346	P	P	05 26 51.6	-0.9
	comp=Z,14nm,1.1s,baz=180,slow=2.4,SNR=9.4						
ULM	Lac du Bonnet	89.74	346	eP	P	05 26 52.2	-0.3
WVOR	Wild Horse Val	89.77	328	eP	P	05 26 53.7	+0.7
WVOR				pmax	pmax		
	comp=Z,19nm,1.4s						
WVOR	Wild Horse Val	89.77	328	eP	P	05 26 53.7	+0.7
	comp=Z,19nm,1.4s						
BOZ	Bozeman (W)	89.81	334	eP	P	05 26 53.2	0.0
BOZ				pmax	pmax		
	comp=Z,49nm,2.5s						
BOZ	Bozeman (W)	89.81	334	eP	P	05 26 53.2	0.0
	comp=Z,48nm,2.5s						
A26A	Wade Farm, Ken	89.86	341	⇑P	P	05 26 53.7	+0.6
	baz=90						
DLMT	Dillon	89.90	333	eP	P	05 26 54.4	+0.8
	comp=Z,16nm,1.5s						
D20A	Manuel Ranch,	89.93	337	⇑P	P	05 26 53.8	+0.2
	baz=90						
DGMT	Dagmar	90.03	340	eP	P	05 26 54.2	+0.3
	comp=Z,53nm,1.6s						
DGMT	Dagmar	90.03	340	⇓P	P	05 26 54.3	+0.3
	baz=90						
MOD	Modoc	90.04	327	eP	P	05 26 55.1	+0.7
	comp=Z,13nm,1.1s						
A25A	Svangstu Ranch	90.17	341	⇓P	P	05 26 54.8	+0.2
	baz=91						
B23A	Brockton	90.24	339	⇑P	P	05 26 55.1	+0.2
	baz=91						
LRM	Limekiln Ridge	90.25	334	eP	P	05 26 54.0	-1.4
C21A	Desert Coulee	90.27	338	⇓P	P	05 26 54.7	-0.5
	baz=91						
N02D	Trinity Center	90.36	325	⇓P	P	05 26 56.5	+0.7
	baz=91						
M02C	Callahan	90.77	325	⇑P	P	05 26 58.1	+0.5
	baz=91						
B21A	Ellsworth Farm	90.79	338	⇑P	P	05 26 57.3	-0.2
	baz=91						
C19A	Slack Wire Ran	90.79	337	⇑P	P	05 26 56.9	-0.6
	baz=91						
YBH	Yreka Blue Hor	90.97	325	P	P	05 26 59.0	+0.4
	comp=Z,4.2nm,1.0s,baz=90,slow=3.0,SNR=4.8						
A22A	Carney Farms,	90.98	339	⇑P	P	05 26 57.9	-0.5
	baz=91						
BMO	Blue Mountains	91.23	330	eP	P	05 26 60.0	+0.2
	comp=Z,11nm,1.4s						
EGMT	Eagleton	91.27	336	eP	P	05 26 59.4	-0.4
	baz=92						
A21A	Bergtoll Ranch	91.27	339	⇓P	P	05 26 58.8	-1.0
	baz=92						
B19A	Brinkman Farms	91.39	337	⇑P	P	05 26 60.0	-0.4
	baz=92						
A20A	Cobblestone Ra	91.46	338	⇓P	P	05 27 00.4	-0.3
	baz=92						
CHMT	Chamberlain Mo	91.47	334	eP	P	05 27 00.6	-0.3
	comp=Z,7.9nm,1.6s						
J05D	Fort Rock, OR	91.56	327	⇓P	P	05 27 02.4	+1.0
	baz=92						
MSO	Missoula	91.64	333	eP	P	05 27 02.4	+0.8
	comp=Z,21nm,1.9s						
MSO	Missoula	91.64	333	⇑P	P	05 27 02.6	+1.0
	baz=92						
A19A	Klindworth Far	91.75	337	⇑P	P	05 27 01.7	-0.3
	baz=92						
F10A	Beach Ranch, E	92.13	331	eP	P	05 27 03.8	-0.1
	comp=Z,97nm,2.7s						
G08A	Pilot Rock	92.25	330	eP	P	05 27 05.0	+0.5
	comp=Z,17nm,1.5s						
JTMT	Jette	92.54	334	eP	P	05 27 06.1	+0.3
BSMT	Bassoo Peak	92.81	333	eP	P	05 27 07.5	+0.4
	comp=Z,3.5nm,1.0s						
HAWA	Hanford	93.38	330	eP	P	05 27 10.2	+0.7
	comp=Z,22nm,1.4s						
WALA	Waterton Lakes	93.54	335	eP	P	05 27 10.4	+0.1
D08A	Wollman Farm,	93.69	331	eP	P	05 27 11.2	+0.3
	comp=Z,25nm,1.8s						
NEW	Newport	94.00	332	P	P	05 27 11.4	-1.0
	comp=Z,1.7nm,0.8s,baz=155,slow=15,SNR=4.2						
NEW	Newport	94.00	332	⇓P	P	05 27 12.1	-0.3
	baz=94						
YKA	Yellowknife Ar	105.17	341	Pdiff	Pdif	05 28 00.3	-1.8
	comp=Z,0.2nm,0.6s,baz=148,slow=4.8,SNR=3.7						
YKA				PKiKP	PKiKP	05 32 15.2	-0.9
	comp=Z,0.1nm,0.6s,baz=137,slow=2.7,SNR=3.0						
YKA				pPKiKP	PP	05 32 21.1	-2.7
	comp=Z,0.2nm,0.6s,baz=142,slow=2.2,SNR=3.1						
GERES	GERESS Array B	115.34	47	PKP	PKPdf	05 32 35.9	0.0
	comp=Z,2.0nm,0.8s,baz=219,slow=1.7,SNR=18						
GERES				pPKP	PKiKP	05 32 40.9	+5.0
	comp=Z,1.6nm,0.7s,baz=218,slow=1.5,SNR=7.1						
ILAR	Eielson Array	116.96	333	PKP	PKPdf	05 32 37.5	-0.9
	comp=Z,0.6nm,0.8s,baz=162,slow=1.8,SNR=5.6						
ILAR				pPKP	pPKPdf	05 32 43.1	-4.2
	comp=Z,1.2nm,1.0s,baz=180,slow=1.3,SNR=6.9						
WRA	Warramunga Arr	117.15	209	PKP	PKPdf	05 32 38.5	-1.9
	comp=Z,0.6nm,0.6s,baz=169,slow=1.6,SNR=3.6						
WRA				pPKP	PKiKP	05 32 44.1	+3.8
	comp=Z,0.9nm,0.6s,baz=181,slow=1.4,SNR=3.8						
VYHS	Vyhne	118.21	49	ePKIKP	PKPdf	05 32 41.5	+0.1
VYHS				e		05 32 47.8	
VYHS	Vyhne	118.21	49	ePKP	PKPdf	05 32 41.5	+0.1
VYHS				e		05 32 47.8	
NB2	NORSAR Subarra	119.56	34	PKPdf	PKPdf	05 32 42.8	-0.8
	comp=Z,2.9nm,1.1s,baz=248,slow=1.9						
NOA	NORSAR Array B	119.56	34	PKP	PKPdf	05 32 43.2	-0.4
	comp=Z,1.0nm,0.7s,baz=249,slow=2.2,SNR=4.7						
TRPA	Tarpa	120.30	51	⇓iP	PKPdf	05 32 45.5	+0.2
KOLS	Kolonicke sedl	120.46	50	ePKIKP	PKPdf	05 32 45.9	+0.2
KOLS				e		05 32 55.6	
KOLS	Kolonicke sedl	120.46	50	ePKP	PKPdf	05 32 45.9	+0.2
KOLS				e		05 32 55.6	
ARR	Arges	120.50	54	⇑iP	PKPdf	05 32 46.2	+0.3
JMB	Yambol	120.59	58	⇓PKIKP	PKPdf	05 32 43.9	-2.2
JMB	Yambol	120.59	58	⇓iP	PKPdf	05 32 43.9	-2.2
VOIR		120.80	54	⇓PKIKP	PKPdf	05 32 46.8	+0.3
VOIR		120.80	54	⇓iP	PKPdf	05 32 46.8	+0.3
KWP	Kalwaria Pacla	121.00	49	⇓PKIKP	PKPdf	05 32 47.2	+0.5
KWP	Kalwaria Pacla	121.00	49	⇓iP	PKPdf	05 32 47.2	+0.5
MLR	Muntele Rosu	121.39	54	⇓PKIKP	PKPdf	05 32 47.6	-0.1
MLR	Muntele Rosu	121.39	54	⇓iP	PKPdf	05 32 47.6	-0.1
BURAR	Bucovina Array	121.76	52	⇓PKIKP	PKPdf	05 32 48.7	+0.4
BURAR	Bucovina Array	121.76	52	⇓iP	PKPdf	05 32 48.7	+0.4
BUR08	Bucovina Ar. S	121.76	52	ePKPdf	PKPdf	05 32 48.3	0.0
PLOR	Plostina	121.99	54	⇑PKIKP	PKPdf	05 32 45.7	-3.1
PLOR	Plostina	121.99	54	⇑iP	PKPdf	05 32 45.7	-3.1
VRI	Vrincioaia	122.05	54	⇑PKIKP	PKPdf	05 32 48.3	-0.5
VRI	Vrincioaia	122.05	54	⇑iP	PKPdf	05 32 48.3	-0.5
TESR	Tescani	122.24	54	⇓iP	PKPdf	05 32 48.6	-0.6
CFR	Carcaliu	122.70	55	⇑PKIKP	PKPdf	05 32 50.5	+0.5
CFR	Carcaliu	122.70	55	⇑iP	PKPdf	05 32 50.5	+0.5
SUW	Suwalki	122.88	44	ePKIKP	PKPdf	05 32 49.1	-1.0
SUW	Suwalki	122.88	44	ePKPdf	PKPdf	05 32 49.1	-1.0
BR131	Keskin Array S	124.36	63	ePKPdf	PKPdf	05 32 53.8	+0.1
BRTR	Keskin Array B	124.36	63	PKP	PKPdf	05 32 53.7	+0.1
	comp=Z,3.9nm,0.8s,baz=196,slow=2.9,SNR=20						
AK02	Malin Array Si	125.27	50	ePKPdf	PKPdf	05 32 54.4	-0.4
AK01	Malin Array Si	125.29	50	ePKPdf	PKPdf	05 32 54.3	-0.5
AKASG	Malin Array Be	125.30	50	PKP	PKPdf	05 32 54.4	-0.5
	comp=Z,2.3nm,0.7s,baz=263,slow=3.0,SNR=12						
AKASG				PP	PP	05 34 43.5	-2.4
	comp=Z,0.4nm,0.6s,baz=253,slow=6.7,SNR=5.8						
RAYN	Ar Rayn	126.26	87	ePKPdf	PKPdf	05 32 58.4	+0.8
SPITS	Spitsbergen Ar	126.41	15	PKP	PKPdf	05 32 55.6	-0.7
	comp=Z,4.1nm,0.9s,baz=359,slow=5.8,SNR=2.6						
SPITS				pPKP	pPKPdf	05 33 02.5	-2.6
	comp=Z,16nm,1.2s,baz=259,slow=2.9,SNR=1.2						
FINES	FINESS Array B	126.48	36	PKP	PKPdf	05 32 56.9	+0.1
	comp=Z,3.4nm,1.1s,baz=217,slow=6.0,SNR=5.1						
FINES				pPKP	pPKPdf	05 33 03.3	-2.3
	comp=Z,1.6nm,0.8s,baz=201,slow=1.8,SNR=2.8						
MALT	Malatya	127.28	67	⇓PKIKP	PKPdf	05 33 00.3	+1.1
MALT	Malatya	127.28	67	⇓iP	PKPdf	05 33 00.3	+1.1
ARCES	ARCESS Array B	127.68	26	PKP	PKPdf	05 32 58.8	-0.1
	comp=Z,2.4nm,0.9s,baz=224,slow=3.8,SNR=3.8						
KBZ	Khabaz	132.22	62	PKP	PKPdf	05 33 09.0	+0.8
	comp=Z,2.7nm,0.9s,baz=197,slow=5.6,SNR=6.3						
KLMR	Klimovskoe	132.86	38	ePKIKP	PKPdf	05 33 07.6	-1.3
KLMR				pmax	pmax		
	comp=Z,31nm,2.0s						
PRGR	Permogore	135.80	37	ePKIKP	PKPdf	05 33 08.6	-5.8
PRGR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GEYT	Alibeck	141.88	74	PKhKP	PKPpre	05 33 22.2	
	comp=Z,3.1nm,0.7s,baz=254,slow=5.5,SNR=3.6						
ARU	Arti	143.06	44	PKIKP	PKPbc	05 33 24.9	+0.2
ARU	Arti	143.06	44	ePKPdf	PKPbc	05 33 24.4	-0.3
AKTO	Aktyubinsk	143.32	54	PKhKP	PKPpre	05 33 24.6	
	comp=Z,2.8nm,0.5s,baz=266,slow=3.3,SNR=10						
KSM	Kuching	143.89	186	ePKPdf	PKPab	05 33 27.4	-0.3
TIXI	Tiksi	144.05	348	ePKIKP	PKPab	05 33 25.6	-1.0
TIXI	Tiksi	144.05	348	ePKPdf	PKPab	05 33 25.6	-1.0
SVE	Sverdlovsk	144.11	43	ePKIKP	PKPdf	05 33 28.8	-0.8
SVE				pmax	pmax		
	comp=Z,29nm,1.5s						
ABKAR	Akbulak array	144.59	56	ePKPdf	PKPbc	05 33 30.0	+0.5
SBUM	Sibu	144.65	189	ePKPdf	PKPab	05 33 29.6	-1.0
KAD	Karad	144.97	116	eP	PKPab	05 33 31.1	-0.6
POO	Poona	145.52	114	eP	PKPdf	05 33 33.0	-0.3
LHMI	Lhok Sumawe	146.54	162	ePKPdf	PKPdf	05 33 34.4	-0.8
IPM	Ipoh	146.60	170	ePKPdf	PKPdf	05 33 34.9	-0.5
KULM	Kulim	147.34	169	ePKPdf	PKPdf	05 33 37.6	+1.1
HYB	Hyderabad	148.08	121	iPKP	PKPbc	05 33 40.0	-0.8
KBL	Kabul	149.48	84	ePKP2	PKPbc	05 33 44.3	+0.1
KBL	Kabul	149.48	84	ePKPdf	PKPbc	05 33 44.3	+0.1
BRVK	Borovoye	150.44	47	ePKIKP	PKPbc	05 33 45.8	+0.2
BRVK	Borovoye	150.44	47	ePKPdf	PKPbc	05 33 45.8	+0.2
BVAR	Borovoye Array	150.51	47	PKP	PKPdf	05 33 40.3	-0.2
	comp=Z,1.2nm,0.8s,baz=245,slow=3.0,SNR=4.6						
BVAR				PKPbc	PKiKP	05 33 46.3	-0.2
	comp=Z,17nm,0.7s,baz=288,slow=3.4,SNR=52						
YAK	Yakutsk	151.75	337	ePKIKP	PKPbc	05 33 46.1	-2.2
YAK				pmax	pmax		
	comp=Z,43nm,1.4s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
KKAR	Karatay Array	151.97	67	ePKIKP	PKPbc	05 33 49.7	+0.1
KKAR	Karatay Array	151.97	67	ePKPdf	PKPbc	05 33 49.7	+0.1
YSS	Yuzh-Sakhalins	152.01	301	ePKIKP	PKPdf	05 33 41.2	-1.6
YSS	Yuzh-Sakhalins	152.01	301	ePKPdf	PKPdf	05 33 41.2	-1.6
ASAJ	Asahikawa	152.30	295	ePKPdf	PKPbc	05 33 49.2	-1.0
EKS2	Erkin-Say	154.37	68	ePKIKP	PKPdf	05 33 47.0	+0.4
EKS2				e		05 33 54.1	
EKS2				e		05 34 09.1	
EKS2	Erkin-Say	154.37	68	ePKPdf	PKPdf	05 33 47.0	+0.4
EKS2				ePKPbc	PKPbc	05 33 54.1	-0.9
EKS2				ePKPab	PKPab	05 34 09.1	-0.2
AAK	Ala-Archa	154.90	68	PKIKP	PKPdf	05 33 48.6	+1.1
AAK				e		05 33 54.0	
AAK	Ala-Archa	154.90	68	PKP	PKPdf	05 33 48.6	+1.1
	comp=E,2.6nm,0.7s,baz=213,slow=5.7,SNR=7.3						
AAK				PKPbc	PKiKP	05 33 57.4	+1.2
	comp=E,6.9nm,0.7s,baz=233,slow=4.9,SNR=7.1						
AAK	Ala-Archa	154.90	68	PKP	PKPdf	05 33 48.6	+1.1
AAK				ePKPdf	PKPbc	05 33 54.0	-2.2
MJAR	Matsushiro Arr	154.96	277	PKPab	PKPab	05 34 10.1	-1.7
	comp=E,5.2nm,1.0s,baz=131,slow=3.2,SNR=6.7						
TKM2	Tokmak 2	155.70	68	ePKIKP	PKPdf	05 33 48.8	+0.2
TKM2	Tokmak 2	155.70	68	ePKPdf	PKPdf	05 33 48.8	+0.2
KSH	Kashi	155.89	76	PKP	PKPdf	05 33 48.5	-0.3
KSH				epPKP	pPKPdf	05 33 58.3	+0.7
KSH				eSKS	SKSdf	05 40 49.8	-3.6
KSH				eSKKS	SKKSac	05 46 27.5	-3.6
KSH				eSS	SS	05 57 33.8	-6.7
KSH				AMB	AMB		
	comp=E,96nm,4.2s						
KSH				LR	LR		
	comp=E,60nm,4.8s						
KSH				LR	LR		
	comp=E,120nm,8.5s						
KSH				LR	LR		
	comp=E,180nm,3.1s						
NVS	Novosibirsk	156.47	35	ePKIKP	PKPdf	05 33 45.4	-3.5
NVS				pmax	pmax		
	comp=Z,29nm,1.8s						
ZAA0	Zalesovo Array	157.75	36	ePKPdf	PKPdf	05 33 49.1	-1.5
ZAA0				ePKPab	PKPab	05 34 24.1	+0.9
ZALV	Zalesovo Beam	157.75	36	PKP	PKPdf	05 33 49.6	-0.9
	comp=Z,3.1nm,0.8s,baz=300,slow=3.3,SNR=9.0						
ZALV				PKPab	PKPab	05 34 24.8	+1.6
	comp=Z,4.4nm,0.8s,baz=299,slow=6.1,SNR=7.0						
BOD	Bodaibo	159.23	349	ePKP2	PKPab	05 34 28.5	-0.9
BOD				pmax	pmax		
	comp=Z,14nm,1.1s						
MKAR	Makanchi Array	159.74	55	PKIKP	PKPdf	05 33 53.0	-0.2
MKAR	Makanchi Array	159.74	55	PKP	PKPdf	05 33 53.0	-0.2
	comp=Z,4.5nm,1.2s,baz=336,slow=2.7,SNR=11						
MKAR				PKPab	PKPab	05 34 33.3	+1.2
	comp=Z,3.9nm,0.8s,baz=305,slow=4.3,SNR=12						
MDJ	Mudanjiang	161.48	299	PKP	PKPdf	05 33 51.8	-3.3
MDJ				pPKP	pPKPdf	05 34 02.0	-1.9
MDJ				sPKP		05 34 07.0	
MDJ				PKS	PKSdf	05 37 29.0	+0.8
MDJ				LR	LR		
	comp=Z,69nm,6.3s						
MDJ				LR	LR		
	comp=Z,110nm,5.8s						
MDJ				LR	LR		
	comp=Z,130nm,10.7s						
KSRS	Korea Array	163.23	276	PKP	PKPdf	05 34 00.2	+3.1
	comp=Z,3.0nm,1.0s,baz=165,slow=1.3,SNR=6.7						
KSRS				PKPab	PKPab	05 34 47.0	-0.7
	comp=Z,2.0nm,0.8s,baz=94,slow=4.1,SNR=5.9						
KSRS				pPKPab	pPKPab	05 34 53.5	-2.7
	comp=Z,4.3nm,1.1s,baz=98,slow=4.8,SNR=4.6						
KSAR	Wonju Array Be	163.26	276	PKIKP	PKPdf	05 34 00.2	+3.1
KSAR						05 34 47.0	
KSAR	Wonju Array Be	163.26	276	PKP	PKPdf	05 34 00.2	+3.1
KSAR				PKPab	PKPab	05 34 47.0	-0.9
KSAR				pPKPab	pPKPab	05 34 53.5	-2.9
WMQ	Urumqi	164.27	61	ePKP	PKPdf	05 33 58.5	+0.5
WMQ				AMB	AMB		
	comp=Z,280nm,12.0s						
WMQ				LR	LR		
	comp=Z,140nm,20.6s						
WMQ				LR	LR		
	comp=Z,240nm,20.2s						
WMQ				LR	LR		
	comp=Z,130nm,19.8s						
CN2	Changchun	164.57	299	ePKP	PKPdf	05 33 58.8	+0.7
CN2				epPKP	pPKPdf	05 34 09.8	+2.8
CN2				ePP	PP	05 38 44.0	+4.0
CN2				eSS	SS	05 59 12.0	+1.0
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=Z,1μm,22.0s						
CN2				LR	LR		
	comp=Z,2μm,22.0s						
CN2				LR	LR		
	comp=Z,1μm,23.0s						
TLY	Talaya	165.76	8	PKPab	PKPab	05 34 59.2	+1.0
	comp=Z,0.5nm,0.3s,baz=0.0,slow=5.1,SNR=4.6						
ZAK	Zakamensk	166.99	10	ePKIKP	PKPdf	05 33 58.3	-1.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KMI	Kunming	167.08	163	PKP	PKPdf	05 33 58.5	-2.5
NJ2	Nanjing	168.64	244	ePKP	PKPdf	05 34 01.3	-0.3
GYA	Guiyang	168.88	179	PKP	PKPdf	05 34 02.8	+0.7
GYA				pPKP	pPKPdf	05 34 13.5	+2.5
GYA				PKPab	PKPab	05 35 15.0	+2.3
GYA				PKS	PKSdf	05 37 32.0	-2.8
GYA				PP	PP	05 39 05.0	+3.9
GYA				SKKS		05 45 47.5	
GYA				SS	SS	05 59 53.8	+1.3
GYA				AMB	AMB		
	comp=Z,150nm,8.0s						
GYA				LR	LR		
	comp=Z,150nm,21.4s						
GYA				LR	LR		
	comp=Z,130nm,21.0s						
GYA				LR	LR		
	comp=Z,140nm,24.5s						
SONM	Songino Array	169.78	1	PKPab	PKPab	05 35 17.1	+0.8
	comp=Z,4.0nm,1.0s,baz=345,slow=4.6,SNR=12						
CD2	Chengdu	172.86	159	PKP	PKPdf	05 34 04.3	+0.3
CD2				pPKP	pPKPdf	05 34 15.5	+2.7
CD2				sPKP		05 34 19.3	
CD2				PKS	PKSdf	05 37 35.0	-1.3
CD2				PP	PP	05 39 25.5	+4.4
CD2				SKS	SKSdf	05 41 02.0	-3.5
CD2				SKKS	SKKSac	05 46 07.0	+0.4
CD2				SS	SS	06 00 33.0	+0.9
CD2				AMB	AMB		
	comp=Z,240nm,6.6s						
GTA	Gaotai	174.25	70	ePKP	PKPdf	05 34 03.8	-0.5
GTA				pPKP	pPKPdf	05 34 14.5	+1.3
GTA				sPKP		05 34 18.0	
GTA				PKPab	PKPab	05 35 38.5	+1.9
GTA				PP	PP	05 39 29.8	+0.5
GTA				SKS	SKSdf	05 41 01.8	-3.9
GTA				SKKS	SKKSac	05 46 10.8	-2.8
GTA				SS	SS	06 00 42.0	-6.1
GTA				AMB	AMB		
	comp=Z,100nm,5.7s						
GTA				LR	LR		
	comp=Z,140nm,18.8s						
GTA				LR	LR		
	comp=Z,200nm,21.1s						
GTA				LR	LR		
	comp=Z,410nm,19.0s						
HHC	Hu-ho-hao-te	175.08	313	ePKP	PKPdf	05 34 05.0	+0.5
HHC				pPKP	pPKPdf	05 34 15.5	+2.1
HHC				sPKP		05 34 20.3	
HHC				PP	PP	05 39 36.5	+3.8
HHC				SKKS		05 46 18.0	
HHC				SS	SS	06 00 54.5	-0.4
HHC				AMB	AMB		
	comp=Z,78nm,5.7s						
HHC				LR	LR		
	comp=Z,220nm,20.9s						
HHC				LR	LR		
	comp=Z,260nm,16.4s						
HHC				LR	LR		
	comp=Z,110nm,17.3s						
XAN	Xi'an	176.03	207	PKP	PKPdf	05 34 04.3	-0.6
LZH	Lanzhou	177.19	122	ePKP	PKPdf	05 34 07.8	+2.6
LZH				pPKP	pPKPdf	05 34 17.5	+3.4

*NEIC **28** 05:14:41.1, 45.°61S×167.°15E, h33km, ML5.1(WEL), After WEL.*

WEL 28 05:14:41.3±0.4, 45.°68S×166.°97E, h89km±2km, ML5.0/17, 6C-16D, Error ellipse: s-maj=4.1km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.24	33	⇑PN	Pn	05 14 54.2	-0.1
DCZ				SN	Sn	05 15 03.7	-0.3
DCZ				AML	AML	05 15 05.7	
DCZ				AML	AML	05 15 05.9	
DCZ				AML	AML	05 15 05.9	
DCZ	Deep Cove	0.24	33	⇑Pn	Pn	05 14 54.2	-0.1
DCZ				Sn	Sn	05 15 03.7	-0.3
WHZ	Wether Hill Ro	0.72	107	⇑PN	Pn	05 14 57.7	-0.2
WHZ				SN	Sn	05 15 09.5	-0.8
WHZ				AML	AML	05 15 10.2	
WHZ	Wether Hill Ro	0.72	107	ePn	Pn	05 14 57.6	-0.3
WHZ				eSn	Sn	05 15 09.9	-0.5
MLZ	Mavora Lakes	0.91	69	⇑PN	Pn	05 14 59.6	-0.4
MLZ				AML	AML	05 15 13.6	
MLZ				AML	AML	05 15 13.8	
MLZ	Mavora Lakes	0.91	69	⇑Pn	Pn	05 14 59.6	-0.4
MSZ	Milford Sound	1.22	34	⇓PN	Pn	05 15 03.3	-0.2
MSZ				SN	Sn	05 15 19.7	-0.5
MSZ				AML	AML	05 15 24.5	
MSZ				AML	AML	05 15 24.5	
MSZ				AML	AML	05 15 26.5	
MSZ	Milford Sound	1.22	34	Pn	Pn	05 15 03.3	-0.2
MSZ				Sn	Sn	05 15 19.7	-0.5
APZ	The Paps	1.35	149	⇓PN	Pn	05 15 04.9	-0.3
APZ				AML	AML	05 15 23.1	
APZ				AML	AML	05 15 23.5	
APZ	The Paps	1.35	149	Pn	Pn	05 15 04.9	-0.3
WKZ	Wanaka	1.68	60	⇓PN	Pn	05 15 09.5	+0.2
WKZ				AML	AML	05 15 30.0	
WKZ				AML	AML	05 15 30.1	
WKZ				AML	AML	05 15 31.6	
WKZ				AML	AML	05 15 31.6	
WKZ	Wanaka	1.68	60	⇓Pn	Pn	05 15 09.6	+0.2
EAZ	Earnscleugh	1.71	76	⇑PN	Pn	05 15 09.2	-0.4
EAZ				AML	AML	05 15 29.9	
EAZ				AML	AML	05 15 29.9	
EAZ				AML	AML	05 15 30.0	
EAZ				AML	AML	05 15 30.0	
EAZ	Earnscleugh	1.71	76	Pn	Pn	05 15 09.2	-0.4
SYZ	Scrubby Hill	1.74	120	PN	Pn	05 15 09.2	-0.8
SYZ				AML	AML	05 15 31.3	
SYZ				AML	AML	05 15 31.3	
SYZ				AML	AML	05 15 33.5	
SYZ				AML	AML	05 15 33.6	
SYZ	Scrubby Hill	1.74	120	Pn	Pn	05 15 09.2	-0.8
TUZ	Tuapeka	1.89	99	⇓PN	Pn	05 15 11.2	-0.8
TUZ	Tuapeka	1.89	99	⇓Pn	Pn	05 15 11.2	-0.7
JCZ	Jackson Bay	2.05	39	⇓PN	Pn	05 15 14.3	0.0
JCZ				AML	AML	05 15 43.9	
JCZ				AML	AML	05 15 44.3	
JCZ	Jackson Bay	2.05	39	⇓Pn	Pn	05 15 14.3	0.0
HHSZ	Highcliff Hill	2.55	96	⇓PN	Pn	05 15 19.6	-1.2
LBZ	Lake Benmore	2.62	62	⇓PN	Pn	05 15 20.0	-1.8
LBZ				AML	AML	05 15 50.2	
LBZ				AML	AML	05 15 50.2	
LBZ				AML	AML	05 15 51.0	
LBZ				AML	AML	05 15 51.0	
LBZ	Lake Benmore	2.62	62	⇓Pn	Pn	05 15 20.0	-1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FOZ	Fox Glacier	2.88	44	PN	Pn	05 15 24.3	-0.8
FOZ				AML	AML	05 15 59.9	
FOZ				AML	AML	05 15 60.0	
FOZ				AML	AML	05 16 01.6	
FOZ				AML	AML	05 16 01.7	
FOZ	Fox Glacier	2.88	44	Pn	Pn	05 15 24.3	-0.8
RPZ	Rata Peaks	3.52	57	⇓PN	Pn	05 15 31.2	-2.6
RPZ				AML	AML	05 16 12.0	
RPZ				AML	AML	05 16 12.4	
RPZ	Rata Peaks	3.52	57	ePn	Pn	05 15 31.4	-2.4
RPZ				eSn	Sn	05 16 09.6	-4.8
WVZ	Waitaha Valley	3.76	47	PN	Pn	05 15 34.6	-2.3
WVZ				AML	AML	05 16 17.5	
WVZ	Waitaha Valley	3.76	47	Pn	Pn	05 15 34.6	-2.3
OXZ	Oxford	4.33	59	⇓PN	Pn	05 15 41.3	-3.5
OXZ				SN	Sn	05 16 27.4	-6.6
MQZ	McQueen's Vall	4.51	66	⇓PN	Pn	05 15 44.3	-2.9
MQZ				SN	Sn	05 16 30.6	-7.8
MQZ	McQueen's Vall	4.51	66	Pn	Pn	05 15 44.3	-2.9
MQZ				Sn	Sn	05 16 30.6	-7.8
CRLZ	Canterbury Las	4.55	64	⇓PN	Pn	05 15 45.0	-2.7
CRLZ				SN	Sn	05 16 33.5	-6.0
CRLZ				AML	AML	05 16 45.6	
CRLZ	Canterbury Las	4.55	64	Pn	Pn	05 15 45.0	-2.7
LTZ	Lake Taylor	4.79	55	PN	Pn	05 15 47.9	-3.1
LTZ				SN	Sn	05 16 41.4	-4.0
LTZ				AML	AML	05 16 42.6	
LTZ	Lake Taylor	4.79	55	Pn	Pn	05 15 47.9	-3.1
LTZ				Sn	Sn	05 16 41.4	-4.0
DSZ	Denniston Nort	5.27	43	PN	Pn	05 15 54.8	-2.8
DSZ				SN	Sn	05 16 51.9	-5.2
DSZ	Denniston Nort	5.27	43	Pn	Pn	05 15 54.8	-2.8
THZ	Tophouse	5.82	50	⇓PN	Pn	05 16 02.0	-3.1
THZ				SN	Sn	05 17 05.1	-5.4
THZ				AML	AML	05 17 10.6	
THZ	Tophouse	5.82	50	Pn	Pn	05 16 02.0	-3.1
THZ				Sn	Sn	05 17 05.1	-5.4
QRZ	Quartz Range	6.33	42	PN	Pn	05 16 09.2	-2.8
QRZ				SN	Sn	05 17 15.7	-7.1
QRZ	Quartz Range	6.33	42	Pn	Pn	05 16 09.2	-2.8
QRZ				Sn	Sn	05 17 15.7	-7.1
NNZ	Nelson	6.46	49	PN	Pn	05 16 10.3	-3.4
NNZ				AML	AML	05 17 26.5	
NNZ				AML	AML	05 17 28.8	
NNZ	Nelson	6.46	49	Pn	Pn	05 16 10.4	-3.3
TCW	Tory Channel	6.95	53	PN	Pn	05 16 17.8	-2.6
TCW	Tory Channel	6.95	53	Pn	Pn	05 16 17.8	-2.6
PLWZ	Palliser	7.28	59	PN	Pn	05 16 22.0	-3.1
PLWZ	Palliser	7.28	59	Pn	Pn	05 16 22.0	-3.1
CAW	Cannon Point	7.46	55	PN	Pn	05 16 23.5	-4.0
CAW	Cannon Point	7.46	55	Pn	Pn	05 16 23.5	-4.0
KIW	Kapiti Island	7.54	53	PN	Pn	05 16 24.6	-3.9
KIW	Kapiti Island	7.54	53	Pn	Pn	05 16 24.6	-3.9
MTW	Mount Morrison	7.68	57	PN	Pn	05 16 26.6	-3.8
MTW	Mount Morrison	7.68	57	Pn	Pn	05 16 26.6	-3.8
OGWZ	Otaki Gorge	7.71	54	PN	Pn	05 16 27.0	-3.8
OGWZ	Otaki Gorge	7.71	54	Pn	Pn	05 16 27.0	-3.8
TMWZ	Te Maipa	7.95	58	PN	Pn	05 16 31.1	-2.9
TMWZ	Te Maipa	7.95	58	Pn	Pn	05 16 31.1	-2.9
MRZ	Mangatainoka R	8.05	54	PN	Pn	05 16 31.7	-3.7
MRZ	Mangatainoka R	8.05	54	Pn	Pn	05 16 31.7	-3.7
KHEZ	Kahui Hut	8.24	42	PN	Pn	05 16 36.0	-2.1
PKE	Pukeiti	8.30	41	PN	Pn	05 16 37.2	-1.7
PKE	Pukeiti	8.30	41	Pn	Pn	05 16 37.2	-1.7
BFZ	Birch Farm	8.42	57	PN	Pn	05 16 36.3	-4.2
BFZ	Birch Farm	8.42	57	Pn	Pn	05 16 36.3	-4.2
TRVZ	Turoa	8.99	48	PN	Pn	05 16 45.3	-3.3
TRVZ	Turoa	8.99	48	Pn	Pn	05 16 45.3	-3.3
KAHZ	Kahuranaki	9.37	55	Pn	Pn	05 16 49.6	-3.8
URZ	Urewera	10.58	49	ePn	Pn	05 17 05.5	-4.3
OUZ	Omahuta	11.60	28	ePn	Pn	05 17 23.3	-0.4
OUZ				Sn	Sn	05 19 24.4	-6.9

*ISCJB **28** 05:16:53.7±0.3, 34.54S±0.06×73.45W±0.07, h33km, mb4.7/41, MS4.0/1, Error ellipse: s-maj=8.7km s-min=8.7km az=158.8*

*IDC **28** 05:16:54.0±0.6, 34.54S×73.51W, h25km±4km, mb4.5/14, mb1 4.6/16, mb1mx4.3/38, mbtmp4.6/16, ML3.8/2, MS4.2/1, Ms1 4.2/1, ms1mx3.4/28, Error ellipse: s-maj=20.4km s-min=14.0km az=83.0*

*NEIC **28** 05:16:55.3±0.3, 34.56S×73.44W, h35km, mb4.7/20, Error ellipse: s-maj=9.4km s-min=7.1km az=60.0*

ISC 28 05:16:55.1±0.5, 34.57S±0.08×73.5W±0.1, h35km, n61, σ0.99/71, mb4.7/41, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.33	58	Pn	Pn	05 18 11.8	-0.5
	1.8nm,0.3s,baz=265,slow=11,SNR=5.6						
CFAA				Sn	Sn	05 19 12.8	+0.3
	1.3nm,0.3s,baz=55,slow=16,SNR=2.3						
LPAZ	La Paz	18.84	16	P	Pn	05 21 13.9	+0.6
	0.2nm,0.3s,baz=200,slow=9.7,SNR=4.0						
SIV	San Ignacio	21.62	34	P	P	05 21 42.3	+0.1
	31nm,1.0s,baz=235,slow=13,SNR=10						
NNA	Nana	22.68	352	P	P	05 21 51.7	-1.9
	13nm,0.8s,baz=184,slow=13,SNR=2.7						
NNA				LR	LR	05 27 54.8	
	comp=Z,569nm,20.0s,baz=174,slow=29						
SDV	Santo Domingo	43.30	4	eP	P	05 24 53.3	-0.5
	14nm,1.3s						
VNA3	Neumayer Olymp	49.30	157	P	P	05 25 40.5	+0.4
VNA1	Neumayer--Stat	49.64	157	P	P	05 25 44.5	+1.8
VNA2	Neumayer--Watz	49.97	157	P	P	05 25 45.4	+0.2
SNAA	Sanae	51.53	158	P	P	05 25 57.2	+0.2
SNAA	Sanae	51.53	158	P	P	05 25 57.3	+0.2
	9.7nm,1.1s,baz=270,slow=5.9,SNR=6.2						
SNAA				pP	pP	05 26 05.4	-2.1
	7.3nm,0.9s,baz=286,slow=7.2,SNR=8.5						
QSPA	South Pole Qui	55.67	180	P	P	05 26 27.9	+0.4
	23nm,1.1s,baz=143,slow=4.4,SNR=12						
QSPA				pP	pP	05 26 35.9	-2.1
	22nm,0.9s,baz=198,slow=3.7,SNR=11						
TEIG	Tepich	56.27	343	P	P	05 26 31.5	-0.5
	13nm,1.0s,baz=144,slow=15,SNR=2.5						
JCT	Junction City	69.28	336	eP	P	05 27 59.0	+0.3
	17nm,1.4s						
TXAR	Lajitas Array	69.64	332	P	P	05 28 01.2	+0.2
	4.4nm,1.0s,baz=147,slow=7.4,SNR=8.6						
WHTX	Lake Whitney	69.93	338	eP	P	05 28 03.0	+0.4
	3.8nm,0.8s						
OXF	Oxford	70.31	346	eP	P	05 28 04.9	+0.1
	20nm,1.0s						
TUL1	Tulsa	73.13	341	eP	P	05 28 21.1	-0.6
	17nm,1.0s						
U34A	Anderson Ranch	74.10	340	eP	P	05 28 27.7	+0.2
	11nm,1.0s						
ACSO	Alum Creek Sta	74.94	353	eP	P	05 28 32.7	+0.5
	17nm,1.3s						
LAZ	Ladron	75.48	332	eP	P	05 28 36.8	+1.1
	13nm,2.0s						
ANMO	Albuquerque	75.70	333	P	P	05 28 37.9	+0.9
	5.5nm,1.1s,baz=142,slow=9.0,SNR=4.6						
DBIC	Dimbokro	76.53	72	P	P	05 28 42.5	+0.5
	15nm,0.8s,baz=212,slow=6.0,SNR=9.8						
DBIC				pP	pP	05 28 50.5	-2.4
	16nm,1.0s,baz=211,slow=6.1,SNR=7.7						
KSCO	Kaye Shedlock'	78.01	337	eP	P	05 28 50.6	+0.8
	24nm,1.3s						
MVCO	Mesa Verde	78.47	332	eP	P	05 28 53.3	+0.7
	13nm,1.5s						
PV01	Paradox Valley	79.31	333	eP	P	05 28 57.8	+0.7
TSUM	Tsumeb	80.24	107	eP	P	05 29 03.2	+0.5
	16nm,1.4s						
SHPR	Sheep Range	80.65	327	eP	P	05 29 05.8	+1.5
	11nm,1.4s						
ECSD	EROS Data Cent	80.72	343	eP	P	05 29 03.8	-0.5
	19nm,1.0s						
CCUT	Cedar City	80.74	329	eP	P	05 29 06.7	+1.8
	5.7nm,1.2s						
BOSA	Boshof	80.89	118	P	P	05 29 06.5	+0.5
	16nm,1.0s,baz=218,slow=6.6,SNR=7.3						
BOSA				pP	PcP	05 29 14.4	+1.9
	12nm,0.9s,baz=230,slow=5.5,SNR=6.1						
MVU	Marysvale	81.07	330	eP	P	05 29 07.2	+0.6
	4.7nm,1.3s						
MPU	Maple Canyon	82.13	331	eP	P	05 29 13.7	+1.6
	10nm,1.4s						
R11A	Troy Canyon, C	82.37	328	eP	P	05 29 14.6	+1.2
	7.5nm,1.5s						
K22A	Casper	82.57	336	eP	P	05 29 15.4	+1.1
	40nm,1.8s						
DUG	Dugway	82.75	331	eP	P	05 29 15.6	+0.4
	15nm,1.3s						
TPH	Tonopah	82.87	327	eP	P	05 29 16.7	+0.7
	9.9nm,1.3s						
RSSD	Black Hills	83.09	338	eP	P	05 29 17.4	+0.3
	3.6nm,1.0s						
HWUT	Hardware Ranch	83.46	332	eP	P	05 29 19.2	+0.2
	6.1nm,0.8s						
NVAR	Mina Array Bea	83.66	326	P	P	05 29 21.1	+1.0
	1.2nm,1.0s,baz=160,slow=4.7,SNR=4.4						
BW06	Boulder Array	83.72	334	eP	P	05 29 20.2	-0.1
	3.7nm,1.2s						
PDAR	Pinedale Array	83.72	334	P	P	05 29 20.9	+0.5
	2.4nm,1.1s,baz=140,slow=7.2,SNR=5.8						
ELK	Elko	84.21	329	P	P	05 29 23.4	+0.5
	2.1nm,0.9s,baz=203,slow=3.4,SNR=4.7						
AGMN	Agassiz Nation	84.88	345	eP	P	05 29 25.3	-0.5
	7.3nm,1.2s						
TOA0	Torodi Ar. Sit	85.56	71	eP	P	05 29 29.7	-0.3
TORD	Torodi Ar. Bea	85.56	71	P	P	05 29 29.8	-0.2
	7.8nm,1.0s,baz=248,slow=4.5,SNR=15						
MCMT	McKenzie Canyo	86.70	333	eP	P	05 29 36.0	+0.8
	6.1nm,1.1s						
ULM	Lac du Bonnet	86.73	346	P	P	05 29 34.8	-0.1
	7.0nm,1.1s,baz=139,slow=2.2,SNR=4.3						
DGMT	Dagmar	87.09	340	eP	P	05 29 36.7	0.0
	38nm,1.0s						
LRM	Limekiln Ridge	87.41	334	eP	P	05 29 39.1	+0.5
	18nm,0.9s						
YKA	Yellowknife Ar	102.20	342	P	Pdif	05 30 46.1	+0.5
	0.2nm,0.7s,baz=146,slow=4.3,SNR=4.0						
WRA	Warramunga Arr	119.66	210	PKP	PKPdf	05 35 41.7	-0.2
	0.3nm,0.3s,baz=156,slow=1.7,SNR=2.5						
BRTR	Keskin Array B	123.19	62	PKP	PKPdf	05 35 47.6	-0.4
	0.4nm,0.6s,baz=163,slow=5.2,SNR=3.8						
BRVK	Borovoye	148.46	43	ePKPdf	PKPdf	05 36 34.2	+0.4
BRVK				ePKPbc	PKPbc	05 36 38.0	+0.6
BVAR	Borovoye Array	148.53	43	PKPbc	PKPdf	05 36 35.0	+1.1
	3.6nm,0.8s,baz=267,slow=2.8,SNR=6.0						
YAK	Yakutsk	148.83	339	ePKPbc	PKPbc	05 36 38.0	0.0
KULM	Kulim	150.37	168	ePKPbc	PKPbc	05 36 43.2	-0.2
ZAA0	Zalesovo Array	155.36	32	ePKPdf	PKPdf	05 36 43.8	-0.3
ZAA0				ePKPbc	PKPbc	05 36 53.9	
ZAA0				ePKPab	PKPab	05 37 10.5	+1.0
ZALV	Zalesovo Beam	155.36	32	PKP	PKPdf	05 36 43.3	-0.8
	3.4nm,1.0s,baz=279,slow=2.9,SNR=6.6						
ZALV				pPKP	pPKPdf	05 36 51.8	-3.7
	3.7nm,0.8s,baz=279,slow=2.9,SNR=7.4						
MKAR	Makanchi Array	158.06	49	PKP	PKPdf	05 36 48.9	+1.0
	1.5nm,1.1s,baz=258,slow=2.7,SNR=3.6						
MKAR				PKPab	PKPab	05 37 21.7	+0.2
	1.8nm,0.7s,baz=301,slow=4.4,SNR=6.9						
CMAR	Chiang Mai Arr	162.61	155	PKP	PKPdf	05 36 53.8	0.0
	0.7nm,0.3s,baz=246,slow=3.2,SNR=4.7						
CMAR				PKPab	PKPab	05 37 42.0	+0.1
	0.7nm,0.3s,baz=218,slow=5.3,SNR=5.1						
SONM	Songino Array	166.74	0	PKPab	PKPab	05 37 60.0	+0.5
	0.9nm,0.8s,baz=345,slow=4.9,SNR=4.2						

*ISCJB **28** 05:18:43.9±1.3, 19.6S±0.4×177.9W±0.3, h569km, mb3.5/6, Error ellipse: s-maj=56.4km s-min=19.2km az=151.1*

*IDC **28** 05:18:48.3±5.8, 19.91S×177.90W, h621km±71km, mb3.0/6, mb1 3.3/7, mb1mx3.1/41, mbtmp4.0/7, Error ellipse: s-maj=47.8km s-min=32.2km az=154.0*

ISC 28 05:18:44.1±1.4, 19.8S±0.4×177.8W±0.2, h569km, n9, σ1.71/9, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.93	258	P	P	05 21 54.0	+1.3
	0.2nm,0.3s,baz=93,slow=17,SNR=2.7						
STKA	Stephens Creek	38.31	243	P	P	05 25 16.9	-0.1
	1.3nm,0.5s,baz=96,slow=17,SNR=3.4						
WRA	Warramunga Arr	44.92	261	P	P	05 26 08.5	-0.7
	2.3nm,0.5s,baz=98,slow=8.3,SNR=18						
MJAR	Matsushiro Arr	69.74	323	P	P	05 28 58.3	+0.6
	2.0nm,0.6s,baz=154,slow=6.2,SNR=11						
TXAR	Lajitas Array	86.47	57	P	P	05 30 28.9	+1.4
	0.4nm,0.7s,baz=212,slow=6.8,SNR=3.7						
ILAR	Eielson Array	87.54	13	P	P	05 30 31.0	-0.6
	0.1nm,0.3s,baz=210,slow=5.2,SNR=4.6						
PDAR	Pinedale Array	88.27	43	P	P	05 30 36.3	+0.5
	0.5nm,0.9s,baz=217,slow=4.3,SNR=2.2						
AKASG	Malin Array Be	142.46	332	PKP	PKPdf	05 37 09.0	-3.5
	0.6nm,0.4s,baz=47,slow=4.2,SNR=6.0						
BRTR	Keskin Array B	146.49	313	PKPbc	PKPbc	05 37 22.1	-0.4
	0.5nm,0.6s,baz=146,slow=1.9,SNR=3.8						

*IDC **28** 05:19:29.4±0.4, 37.79S×73.55W, h0km, mb4.8/24, mb1 4.9/27, mb1mx4.9/34, mbtmp4.8/27, ML3.4/3, MS4.2/1, Ms1 4.2/1, ms1mx3.5/26, Error ellipse: s-maj=17.1km s-min=11.8km az=75.0*

*ISCJB **28** 05:19:31.6±0.2, 37.69S±0.05×73.39W±0.07, h23km, mb5.1/122, Error ellipse: s-maj=8.7km s-min=5.8km az=150.1*

*MOS **28** 05:19:33.5±1.1, 37.70S×73.47W, h33km, mb5.4/32, Error ellipse: s-maj=16.8km s-min=8.1km az=101.7*

*NEIC **28** 05:19:34.8±0.1, 37.79S×73.42W, h35km, mb5.3/99, Error ellipse: s-maj=6.3km s-min=4.3km az=66.0*

ISC 28 05:19:33.1±0.3, 37.71S±0.06×73.51W±0.08, h23km, n710, σ1.00/728, mb5.3/122, 203C-225D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.79	144	Pn	Pn	05 20 29.4	-0.8
	4.7nm,0.3s,baz=310,slow=15,SNR=3.0						
PLCA				Sn	Sb	05 21 27.8	+2.8
	62nm,0.3s,baz=224,slow=21,SNR=3.5						
CFAA	Coronel Fontan	7.48	37	Pn	Pn	05 21 22.3	+1.5
	1.3nm,0.3s,baz=215,slow=15,SNR=6.4						
CFAA				Sn	Sn	05 22 52.5	+7.6
	0.3nm,0.3s,baz=60,slow=20,SNR=1.9						
TRQA	Tornquist	9.12	96	Pn	Pn	05 21 44.8	+1.4
USHA	Ushuaia	17.47	170	P	Pn	05 23 35.3	+0.2
	0.4nm,0.3s,baz=311,slow=8.9,SNR=4.3						
USHA				LR	LR	05 29 38.6	
	comp=Z,736nm,20.2s,baz=354,slow=35						
CPUP	Villa Florida	17.78	55	P	P	05 23 39.2	-0.4
	0.9nm,0.3s,baz=199,slow=6.4,SNR=3.2						
LPAZ	La Paz	21.86	14	eP	P	05 24 27.3	+2.4
LPAZ	La Paz	21.86	14	P	P	05 24 26.1	+1.3
	16nm,0.8s,baz=177,slow=9.5,SNR=8.9						
LPAZ	La Paz	21.86	14	eP	P	05 24 27.3	+2.4
SIV	San Ignacio	24.27	30	P	P	05 24 50.4	+1.8
	13nm,0.9s,baz=232,slow=11,SNR=8.4						
NNA	Nana	25.79	352	ceP	P	05 25 03.0	+0.6
NNA	Nana	25.79	352	P	P	05 25 02.5	+0.1
	10nm,0.7s,baz=199,slow=9.8,SNR=6.0						
NNA	Nana	25.79	352	eP	P	05 25 02.5	+0.1
	27nm,0.9s						
PMSA	Palmer Station	27.68	171	P	P	05 25 18.0	-0.9
	20nm,0.5s,baz=244,slow=21,SNR=11						
SAML	Samuel	30.12	21	eP	P	05 25 41.4	+0.3
	7.2nm,1.0s						
SAML				ePcP	PcP	05 28 42.0	-0.3
ATAH	Atahualpa	30.76	350	P	P	05 25 50.0	+2.8
	21nm,1.0s,baz=200,slow=9.2,SNR=5.6						
BDFB	Brasilia	31.47	53	P	P	05 25 51.7	-1.5
	5.2nm,0.9s,baz=92,slow=3.7,SNR=3.2						
OTAV	Otavalo	38.03	352	eP	P	05 26 51.8	+1.6
	38nm,1.2s						
ROSC	El Rosal	42.35	359	P	P	05 27 27.9	+2.0
	6.4nm,0.8s,baz=197,slow=2.4,SNR=8.0						
VNA3	Neumayer Olymp	46.41	156	P	P	05 28 03.4	+6.0
SDV	Santo Domingo	46.43	4	eP	P	05 27 57.6	-0.7
	22nm,0.8s						
SDV				ePcP	PcP	05 29 32.4	-0.5
VNA2	Neumayer--Watz	47.09	156	P	P	05 28 02.7	0.0
SNAA	Sanae	48.63	157	P	P	05 28 14.7	-0.1
SNAA	Sanae	48.63	157	c iP	P	05 28 13.6	-1.1
SNAA				pmax	pmax		
	comp=Z,43nm,1.7s						
SNAA	Sanae	48.63	157	P	P	05 28 14.6	-0.2
	comp=Z,6.9nm,0.9s,baz=262,slow=8.8,SNR=18						
SNAA	Sanae	48.63	157	eP	P	05 28 14.5	-0.2
	comp=Z,60nm,1.1s						
JTS	JuntasAbangare	48.94	345	eP	P	05 28 18.7	+1.2
JTS	JuntasAbangare	48.94	345	P	P	05 28 16.6	-1.0
	comp=Z,11nm,0.9s,baz=176,slow=4.8,SNR=6.1						
JTS	JuntasAbangare	48.94	345	eP	P	05 28 18.7	+1.2
GRGR	Grenville	50.81	15	P	P	05 28 31.2	-0.5
	comp=Z,100nm,0.8s						
QSPA	South Pole Qui	52.53	180	P	P	05 28 43.8	-0.5
	comp=Z,4.7nm,0.8s,baz=324,slow=2.5,SNR=9.4						
NVL	N'lazarevskaya	53.41	156	eP	P	05 28 50.4	-0.1
NVL				pmax	pmax		
	comp=Z,17nm,0.8s						
APG	El Apazote	54.80	340	P	P	05 28 57.3	-4.2
	comp=Z,17nm,0.8s,baz=203,slow=20,SNR=10						
CELP	Cerrillos	55.87	8	eP	P	05 29 08.5	-0.4
TEIG	Tepich	59.28	344	P	P	05 29 32.5	-0.3
	comp=Z,21nm,0.9s,baz=350,slow=21,SNR=4.6						
035Z	Hargill	67.87	336	⇑P	P	05 30 30.2	+0.7
	baz=68						
035A	Encino	68.33	336	⇑P	P	05 30 33.1	+0.8
	baz=69						
PPT	Papeete	68.60	264	P	P	05 30 34.6	+0.2
	comp=Z,22nm,0.9s,baz=151,slow=2.8,SNR=3.6						
034A	Hebbronville	68.63	336	⇓P	P	05 30 34.9	+0.7
	baz=69,SNR=7.2						
934A	Benavides	69.08	336	⇓P	P	05 30 38.6	+1.5
	baz=70						
933A	Laredo	69.33	336	⇓P	P	05 30 38.9	+0.3
	baz=70,SNR=9.3						
835A	Beeville	69.50	337	⇓P	P	05 30 41.4	+1.8
	baz=70						
834A	Tilden	69.57	336	⇑P	P	05 30 40.6	+0.5
	baz=70,SNR=11						
735A	Kenedy	70.02	337	⇑P	P	05 30 43.5	+0.7
	baz=70						
833A	Chaparral WMA,	70.03	336	⇑P	P	05 30 43.0	+0.2
	baz=70,SNR=15						
832A	Faith Ranch, C	70.18	335	⇑P	P	05 30 43.9	0.0
	baz=71,SNR=9.9						
734A	La Parita Cree	70.25	337	⇓P	P	05 30 44.5	+0.3
	baz=71						
733A	Divot King Ran	70.36	336	⇓P	P	05 30 45.2	+0.3
	baz=71						
636A	Smothers Creek	70.38	338	⇓P	P	05 30 45.6	+0.6
	baz=71,SNR=5.7						
HKT	Hockley	70.48	340	eP	P	05 30 46.0	+0.5
HKT				pmax	pmax		
	comp=Z,51nm,1.9s						
HKT	Hockley	70.48	340	eP	P	05 30 46.0	+0.5
	comp=Z,51nm,1.9s						
635A	Leesville	70.51	338	⇓P	P	05 30 46.0	+0.2
	baz=71						
732A	Laxson Ranch,	70.59	335	⇑P	P	05 30 46.1	-0.2
	baz=71,SNR=16						
538A	Harpers Horsep	70.64	340	⇑P	P	05 30 48.1	+1.5
	baz=71						
537A	Green Hill Far	70.73	339	⇓P	P	05 30 48.2	+1.0
	baz=71						
536A	Bastrop	70.94	339	⇓P	P	05 30 48.9	+0.5
	baz=71						
633A	Saathoff Ranch	71.01	336	⇓P	P	05 30 48.9	0.0
	baz=71,SNR=8.1						
535A	Dale	71.05	338	⇑P	P	05 30 49.4	+0.3
	baz=72						
438A	Sam Houston St	71.14	340	⇓P	P	05 30 50.1	+0.5
	baz=72						
632A	Uvalde	71.25	336	⇑P	P	05 30 50.4	0.0
	baz=72,SNR=12						
534A	Blanco	71.32	337	⇓P	P	05 30 50.8	0.0
	baz=72						
340A	Bronson	71.36	342	⇑P	P	05 30 51.1	+0.2
	baz=72,SNR=9.7						
GOGA	Godfrey	71.36	351	eP	P	05 30 50.5	-0.4
GOGA				pmax	pmax		
	comp=Z,21nm,1.0s						
GOGA	Godfrey	71.36	351	eP	P	05 30 50.5	-0.4
	comp=Z,21nm,1.0s						
631A	Perdido Creek	71.42	335	⇑P	P	05 30 51.1	-0.2
	baz=72,SNR=8.8						
339A	Huntington	71.45	341	⇑P	P	05 30 51.7	+0.3
	baz=72,SNR=7.0						
LRAL	Lakeview Retre	71.50	348	eP	P	05 30 51.9	+0.1
	comp=Z,33nm,1.1s						
533A	Kerrville	71.53	337	⇓P	P	05 30 52.2	+0.1
	baz=72,SNR=13						
338A	Crockett	71.67	340	⇑P	P	05 30 53.4	+0.6
	baz=72,SNR=5.5						
435B	Jarrell	71.76	338	⇓P	P	05 30 53.5	+0.1
	baz=72						
337A	Centerville	71.78	340	⇑P	P	05 30 54.1	+0.6
	baz=72,SNR=6.2						
532A	Rocksprings	71.86	336	⇑P	P	05 30 54.2	+0.1
	baz=72,SNR=18						
NATX	Nacogdoches	71.88	341	eP	P	05 30 54.3	+0.2
	comp=Z,104nm,1.4s						
434A	Burnet	71.99	338	⇓P	P	05 30 55.0	+0.2
	baz=72,SNR=19						
239A	Gary	72.08	341	⇓P	P	05 30 55.6	+0.4
	baz=72						
531A	Rocksprings	72.11	336	⇑P	P	05 30 56.1	+0.6
	baz=72,SNR=14						
336A	Riesel	72.11	339	⇑P	P	05 30 55.7	+0.2
	baz=73						
JCT	Junction City	72.16	336	eP	P	05 30 55.9	+0.1
JCT				pmax	pmax		
	comp=Z,42nm,1.0s						
JCT	Junction City	72.16	336	eP	P	05 30 55.9	+0.1
	comp=Z,42nm,1.0s						
JCT	Junction City	72.16	336	⇑P	P	05 30 55.9	+0.1
	baz=73,SNR=18						
335A	Moody	72.18	339	⇓P	P	05 30 56.2	+0.4
	baz=73						
433A	Art	72.19	337	⇑P	P	05 30 55.9	-0.1
	baz=73,SNR=11						
238A	Jacksonville	72.23	341	⇓P	P	05 30 56.8	+0.7
	baz=73						
530A	J-C Ranch, Com	72.35	335	⇑P	P	05 30 57.2	+0.2
	baz=73,SNR=22						
237A	Washetta, Mont	72.41	340	⇑P	P	05 30 57.9	+0.6
	baz=73						
TXAR	Lajitas Array	72.43	333	P	P	05 30 57.9	+0.3
	comp=Z,11nm,0.9s,baz=153,slow=8.5,SNR=47						
334A	Lometa	72.47	338	⇓P	P	05 30 57.6	-0.1
	baz=73,SNR=26						
432A	Menard	72.52	336	⇓P	P	05 30 57.9	-0.1
	baz=73,SNR=9.1						
431A	Sonora	72.60	336	⇓P	P	05 30 58.5	0.0
	baz=73,SNR=13						
529A	Stev Forest Ra	72.63	334	⇓P	P	05 30 58.9	+0.2
	baz=73,SNR=11						
333A	Richland Sprin	72.69	337	⇓P	P	05 30 58.6	-0.3
	baz=73,SNR=10						
KMSC	Kings Mountain	72.85	353	eP	P	05 30 59.5	-0.3
	comp=Z,18nm,0.9s						
KMSC	Kings Mountain	72.85	353	⇓P	P	05 30 59.6	-0.1
	baz=73						
WHTX	Lake Whitney	72.86	339	eP	P	05 31 00.0	+0.2
	comp=Z,36nm,1.0s						
WHTX	Lake Whitney	72.86	339	⇓P	P	05 30 59.6	-0.3
	baz=73,SNR=7.9						
430A	Baggett Ranch,	72.91	335	⇑P	P	05 31 00.4	+0.1
	baz=73,SNR=22						
137A	Heron Place, G	72.96	340	⇑P	P	05 31 00.9	+0.4
	baz=73						
332A	Millersview	72.97	337	⇓P	P	05 31 00.6	-0.1
	baz=73,SNR=17						
429A	Davenport Ranc	72.98	335	⇑P	P	05 31 00.9	+0.2
	baz=73,SNR=21						
234A	Clairette	73.06	338	⇑P	P	05 31 01.1	0.0
	baz=74,SNR=15						
331A	San Angelo	73.12	336	⇓P	P	05 31 01.2	-0.4
	baz=74,SNR=24						
233A	Rising Star	73.31	338	⇑P	P	05 31 02.5	-0.1
	baz=74,SNR=14						
OXF	Oxford	73.36	346	eP	P	05 31 02.3	-0.5
OXF				pmax	pmax		
	comp=Z,49nm,1.1s						
OXF	Oxford	73.36	346	eP	P	05 31 02.3	-0.5
	comp=Z,49nm,1.1s						
135A	Vickery Place,	73.37	339	⇑P	P	05 31 02.6	-0.4
	baz=74						
232A	Coleman	73.41	337	⇓P	P	05 31 03.0	-0.2
	baz=74,SNR=6.9						
330A	Mertzon	73.46	336	⇓P	P	05 31 03.5	0.0
	baz=74,SNR=9.7						
SWET	Sewanee	73.47	349	eP	P	05 31 03.5	0.0
	comp=Z,79nm,1.0s						
CPCT	Cooper Cave	73.51	351	eP	P	05 31 05.6	+1.9
134A	White-Moore Ra	73.58	339	⇓P	P	05 31 03.9	-0.3
	baz=74,SNR=5.3						
TKL	Tuckaleechee C	73.62	351	P	P	05 31 04.1	-0.2
	comp=Z,13nm,0.9s,baz=154,slow=9.5,SNR=9.9						
231A	Bronte	73.67	336	⇑P	P	05 31 04.4	-0.4
	baz=74,SNR=11						
329A	Wagon Wheel Ra	73.80	335	⇑P	P	05 31 05.4	-0.2

baz=74,SNR=17
133A Hamilton Ranch 73.86 338 ⇓P P 05 31 05.8 -0.1
baz=74,SNR=12
230A Sterling City 73.88 336 ⇓P P 05 31 05.6 -0.4
baz=74
Z35A Perchaven, San 74.06 339 ⇓P P 05 31 06.9 0.0
baz=74,SNR=11
ABTX Abilene, Hawle 74.09 337 eP P 05 31 07.3 +0.1
comp=Z,48nm,1.1s
ABTX Abilene, Hawle 74.09 337 ⇓P P 05 31 07.0 -0.2
baz=74,SNR=11
229A Bryant Ranch, 74.18 335 ⇓P P 05 31 07.7 -0.1
baz=75,SNR=11
MIAR Mount Ida 74.27 343 eP P 05 31 08.8 +0.6
MIAR pmax pmax
comp=Z,26nm,1.4s
MIAR Mount Ida 74.27 343 eP P 05 31 08.8 +0.6
comp=Z,26nm,1.4s
Z34A Collier Ranch, 74.28 339 ⇑P P 05 31 08.2 0.0
baz=75
131A Roby 74.37 337 ⇓P P 05 31 08.6 -0.2
baz=75,SNR=11
Z33A Whitaker Ranch 74.45 338 ⇓P P 05 31 09.0 -0.3
baz=75,SNR=9.5
TZTN Tazewell 74.47 352 eP P 05 31 09.1 -0.1
comp=Z,35nm,1.3s
130A Snyder 74.48 336 ⇓P P 05 31 09.4 -0.1
baz=75
228A UT Block 9, Go 74.58 335 ⇓P P 05 31 09.9 -0.2
baz=75,SNR=11
WVT Waverly 74.66 348 eP P 05 31 09.9 -0.5
WVT pmax pmax
comp=Z,47nm,1.1s
WVT Waverly 74.66 348 eP P 05 31 09.9 -0.5
comp=Z,47nm,1.1s
Z32A Haskell 74.68 338 ⇓P P 05 31 10.7 +0.1
baz=75,SNR=17
Y34A Reagan Ranch, 74.79 339 ⇑P P 05 31 11.0 -0.1
baz=75,SNR=6.0
129A Stewart Farms, 74.81 335 ⇑P P 05 31 11.2 -0.2
baz=75,SNR=5.9
Z31A Sharp Cattle R 74.89 337 ⇑P P 05 31 11.8 -0.1
baz=75,SNR=14
128A Castleberry Fa 75.00 335 ⇑P P 05 31 12.4 -0.2
baz=75,SNR=13
Y33A Hilltop Ranch, 75.08 339 ⇓P P 05 31 12.5 -0.4
baz=76,SNR=9.1
JSRW J. Sargeant Re 75.14 356 eP P 05 31 13.8 +0.7
Z30A Sanderson Ranc 75.17 336 ⇓P P 05 31 13.1 -0.4
baz=76,SNR=12
Y32A R-V Farms, Ver 75.32 338 ⇓P P 05 31 14.1 -0.2
baz=76,SNR=9.6
Z29A Hungry Hill Ra 75.33 336 ⇓P P 05 31 13.9 -0.6
baz=76,SNR=24
127A Arkansas Junct 75.35 334 ⇓P P 05 31 14.7 +0.1
baz=76
X34A Smith Ranch, M 75.41 339 ⇑P P 05 31 14.9 +0.1
baz=76
Y31A Rekieta Farm, 75.53 337 ⇑P P 05 31 15.4 -0.1
baz=76,SNR=10.0
X33A Lawton 75.55 339 ⇓P P 05 31 15.3 -0.3
baz=76,SNR=6.2
Z28A Tucker Farm, M 75.58 335 ⇑P P 05 31 15.6 -0.3
baz=76,SNR=5.5
Y30A Stafford Cattl 75.64 337 ⇓P P 05 31 15.7 -0.5
baz=76
X32A Elmer 75.66 338 ⇓P P 05 31 16.2 0.0
baz=76,SNR=7.5
PBMO Poplar Bluff 75.75 346 eP P 05 31 16.5 -0.1
comp=Z,24nm,1.0s
Y29A Porterfield Fa 75.88 336 ⇓P P 05 31 17.5 -0.1
baz=76,SNR=12
Z27A Tatum 75.89 335 ⇓P P 05 31 17.5 -0.1
baz=76,SNR=5.3
W34A Bridge Creek, 75.99 340 eP P 05 31 18.4 +0.3
comp=Z,36nm,1.0s
W34A Bridge Creek, 75.99 340 ⇓P P 05 31 18.2 +0.1
baz=76,SNR=7.0
X31A McDonald Ranch 76.06 338 ⇓P P 05 31 18.6 +0.1
baz=76,SNR=13
Y28A McKinney Farm, 76.11 336 ⇑P P 05 31 18.7 -0.2
baz=76,SNR=5.8
TUL1 Tulsa 76.11 342 eP P 05 31 18.4 -0.3
comp=Z,55nm,1.0s
TUL1 Tulsa 76.11 342 ⇓P P 05 31 18.6 -0.1
baz=77,SNR=18
W33A Caddo, Fort Co 76.11 339 ⇑P P 05 31 18.8 +0.1
baz=77,SNR=21
Z26A Caprock 76.11 334 ⇓P P 05 31 18.8 -0.1
baz=76,SNR=24
X30A Coker Ranch, T 76.16 337 ⇑P P 05 31 19.3 +0.1
baz=77,SNR=13
W32A Sentinel 76.30 339 ⇑P P 05 31 19.9 +0.1
baz=77,SNR=29
MSTX Muleshoe 76.33 335 eP P 05 31 20.4 +0.2
comp=Z,34nm,1.1s
MSTX Muleshoe 76.33 335 ⇑P P 05 31 20.2 0.0
baz=77,SNR=8.7
Z25A Roswell 76.37 333 ⇑P P 05 31 20.0 -0.4
baz=77,SNR=6.3
Y27A Causey 76.39 335 ⇓P P 05 31 20.1 -0.4
baz=77,SNR=7.6
319A Douglas 76.42 329 ⇑P P 05 31 20.7 0.0
baz=77,SNR=7.6
X29A Tulia 76.42 336 ⇓P P 05 31 20.3 -0.3
baz=77,SNR=10
V34A Guthrie 76.49 340 eP P 05 31 21.0 +0.1
comp=Z,44nm,1.0s
V34A Guthrie 76.49 340 ⇑P P 05 31 20.6 -0.2
baz=77,SNR=14
W31A Holland Ranch, 76.57 338 ⇑P P 05 31 21.2 -0.2
baz=77,SNR=6.8
Y26A Elida 76.65 334 ⇑P P 05 31 22.2 +0.2
baz=77
X28A Dimmitt 76.65 336 ⇓P P 05 31 21.6 -0.3
baz=77
Z24A Sheeppen Canyo 76.65 333 ⇑P P 05 31 22.2 +0.1
baz=77,SNR=11
V33A Lossen Ranch, 76.68 340 ⇓P P 05 31 22.0 0.0
baz=77,SNR=17
W30A Crocket Farms 76.75 337 ⇑P P 05 31 22.5 0.0
baz=77
V32A Arapaho 76.80 339 ⇑P P 05 31 22.6 -0.1
baz=77,SNR=6.7
AMTX Amarillo 76.82 337 eP P 05 31 23.2 +0.3
comp=Z,54nm,1.0s
AMTX Amarillo 76.82 337 ⇓P P 05 31 23.2 +0.3
baz=77
121A Cookes Peak, D 76.84 331 ⇓P P 05 31 24.0 +0.8
baz=77
Y25A Mesa, Roswell 76.95 334 ⇑P P 05 31 23.8 +0.1
baz=77,SNR=6.7
W29A Amraillo 77.03 337 ⇓P P 05 31 24.1 +0.1
baz=78,SNR=11
U34A Anderson Ranch 77.06 340 eP P 05 31 24.5 +0.4
comp=Z,42nm,1.1s
U34A Anderson Ranch 77.06 340 ⇓P P 05 31 24.2 +0.1
baz=78
X27A F and S Farms, 77.06 335 ⇓P P 05 31 24.3 0.0
baz=78,SNR=5.3
V31A Spring Creek L 77.08 338 ⇓P P 05 31 25.1 +0.8
baz=78,SNR=8.4
Z22A Elephant Butte 77.17 332 ⇓P P 05 31 25.9 +0.9
baz=78,SNR=12
U33A Lingo Farm, Me 77.21 340 ⇓P P 05 31 25.3 +0.4
baz=78,SNR=5.9
X26A CR and CF Fran 77.21 335 ⇑P P 05 31 25.4 +0.2
baz=78,SNR=7.9
Y24A Capitan 77.21 333 ⇓P P 05 31 25.4 +0.1
baz=78,SNR=14
OLIL Olney 77.25 348 eP P 05 31 24.4 -0.7
comp=Z,47nm,1.4s
V30A Spur Ranch, Mi 77.33 338 ⇓P P 05 31 26.3 +0.6
baz=78
W28A Vega 77.33 336 ⇑P P 05 31 26.1 +0.3
baz=78
U32A Winter Ranch, 77.41 339 ⇓P P 05 31 26.3 +0.2
baz=78,SNR=12
W27A Bowe Ranch, En 77.43 336 ⇓P P 05 31 26.6 +0.3
baz=78,SNR=21
BLO Bloomington 77.44 350 eP P 05 31 25.5 -0.6
BLO pmax pmax
comp=Z,33nm,1.0s
BLO Bloomington 77.44 350 eP P 05 31 25.5 -0.6
comp=Z,33nm,1.0s
Y23A Lovelace Mesa, 77.44 333 ⇑P P 05 31 27.1 +0.6
baz=78,SNR=7.6
X25A Clemmons Ranch 77.48 334 ⇑P P 05 31 26.8 +0.1
baz=78
DBIC Dimbokro 77.50 71 P P 05 31 27.9 +0.8
comp=Z,20nm,0.9s,baz=201,slow=6.4,SNR=15
SLM Saint Louis 77.52 347 eP P 05 31 26.4 -0.2
SLM pmax pmax
comp=Z,67nm,1.1s
SLM Saint Louis 77.52 347 eP P 05 31 26.4 -0.2
comp=Z,67nm,1.1s
U31A Nine Bar Ranch 77.64 338 ⇑P P 05 31 27.9 +0.5
baz=78
V29A Stinnett 77.68 337 ⇑P P 05 31 28.3 +0.6
baz=78
W26A Owens Ranch, T 77.69 335 ⇓P P 05 31 28.2 +0.4
baz=78
X24A Lazy VL Ranch, 77.79 333 ⇑P P 05 31 29.1 +0.6
baz=78,SNR=15
V28A Channing 77.79 336 ⇑P P 05 31 28.7 +0.4
baz=78,SNR=9.4
TUC Tucson 77.85 328 eP P 05 31 30.1 +1.4
TUC pmax pmax
comp=Z,20nm,1.2s
TUC Tucson 77.85 328 eP P 05 31 30.1 +1.4
comp=Z,20nm,1.2s
T33A Patterson Ranc 77.86 340 ⇓P P 05 31 28.9 +0.4
baz=78,SNR=13
Y22D IRIS PASSCAL I 77.89 332 ⇓P P 05 31 29.7 +0.8
baz=78
LENM Lemitar 77.99 332 eP P 05 31 30.8 +1.3
V27A Dan Oppiter Fa 77.99 336 ⇓P P 05 31 30.0 +0.5
baz=78
LPM Los Pinos Moun 77.99 332 eP P 05 31 30.8 +1.2
U30A WK&E Inc. Balk 78.03 338 ⇓P P 05 31 30.1 +0.5
baz=78,SNR=9.0
W25A X Bar L Ranch, 78.04 335 ⇑P P 05 31 29.7 -0.1
baz=78,SNR=18
ACSO Alum Creek Sta 78.05 353 eP P 05 31 29.1 -0.4
comp=Z,38nm,0.9s
X23A Hourglass Bar 78.07 333 ⇓P P 05 31 30.0 -0.1
baz=78
SSPA Standing Stone 78.07 357 eP P 05 31 29.9 +0.3
comp=Z,28nm,1.4s
T32A Huddler Ranch, 78.13 339 ⇓P P 05 31 30.4 +0.3
baz=79
U29A Oasis Ranch, S 78.14 337 ⇓P P 05 31 30.6 +0.3
baz=79
LAZ Ladron 78.26 332 eP P 05 31 32.1 +1.0
comp=Z,19nm,1.4s
T31A Randall Ranch, 78.27 339 ⇓P P 05 31 31.2 +0.3
baz=79
S33A Kaszmaul Farm, 78.27 340 ⇓P P 05 31 31.1 +0.2
baz=79
V26A Tequesquite Ra 78.34 335 ⇓P P 05 31 31.4 0.0
baz=79,SNR=6.6
W24A Lazy 6 Ranch, 78.36 334 ⇑P P 05 31 32.1 +0.5
baz=79,SNR=12
U28A Mallet 78.37 337 ⇓P P 05 31 31.9 +0.4
baz=79
214A Organ Pipe Nat 78.41 327 ⇓P P 05 31 32.5 +0.7
baz=79
T30A Plains 78.47 338 ⇑P P 05 31 32.4 +0.4
baz=79
ANMO Albuquerque 78.50 333 P P 05 31 33.2 +0.8
ANMO pmax pmax
comp=Z,58nm,1.0s
ANMO Albuquerque 78.50 333 P P 05 31 33.2 +0.8
comp=Z,21nm,1.0s,baz=164,slow=7.7,SNR=41
ANMO Albuquerque 78.50 333 P P 05 31 33.2 +0.8
comp=Z,58nm,1.0s
W23A Werner Place, 78.58 333 ⇓P P 05 31 33.5 +0.7
baz=79,SNR=12
U27A Thompson Grove 78.60 336 ⇓P P 05 31 32.9 +0.1
baz=79,SNR=6.4
S32A Newby Ranch, P 78.62 340 ⇓P P 05 31 33.1 +0.3
baz=79
V25A Rancho No Teng 78.66 335 ⇓P P 05 31 33.1 -0.1
baz=79,SNR=17
S31A Mullinville 78.70 339 ⇓P P 05 31 33.4 +0.2
baz=79,SNR=5.6
V24A Rampart Ranch, 78.78 334 ⇓P P 05 31 34.3 +0.3
baz=79,SNR=7.2
T29A Hugoton 78.80 338 ⇑P P 05 31 33.9 +0.1
baz=79
U26A Atchley Ranch, 78.87 336 ⇑P P 05 31 34.5 +0.1
baz=79,SNR=6.4
R33A Olander Ranch, 78.94 341 ⇓P P 05 31 35.0 +0.5
baz=79
S30A Montezuma 79.00 338 ⇑P P 05 31 35.5 +0.6
baz=79
T28A Walsh 79.02 337 ⇓P P 05 31 35.1 0.0
baz=80,SNR=14
U25A Circle Dot Ran 79.09 335 ⇑P P 05 31 35.6 0.0
baz=80,SNR=14
V23A Ortiz Mt. (NFS 79.11 333 ⇑P P 05 31 36.4 +0.6
baz=80
T27A Campo 79.15 337 ⇑P P 05 31 36.1 +0.2
baz=80
S29A Ulysses 79.17 338 ⇓P P 05 31 36.2 +0.3
baz=80
R32A Long Quarter, 79.24 340 ⇑P P 05 31 36.2 +0.1
baz=80,SNR=12
KSU1 Kansas State U 79.34 342 eP P 05 31 36.8 +0.1
comp=Z,30nm,1.0s
KSU1 Kansas State U 79.34 342 ⇑P P 05 31 36.3 -0.4
baz=80,SNR=6.1
R31A Burdett 79.34 339 ⇑P P 05 31 37.1 +0.4
baz=80,SNR=8.4
S28A Manter 79.38 337 ⇑P P 05 31 37.5 +0.4
baz=80,SNR=12
U24A Moreno Valley 79.40 334 ⇑P P 05 31 38.3 +0.9
baz=80
BOSA Boshof 79.40 118 eP P 05 31 37.3 -0.4
BOSA pmax pmax
comp=Z,34nm,1.0s
BOSA Boshof 79.40 118 P P 05 31 37.6 -0.1
comp=Z,9.6nm,0.9s,baz=236,slow=4.5,SNR=7.1
BOSA Boshof 79.40 118 eP P 05 31 37.2 -0.4
comp=Z,34nm,1.0s
X18A Snowflake 79.45 330 ⇑P P 05 31 38.4 +0.8
baz=80
113A Mohawk Valley, 79.52 326 ⇓P P 05 31 38.5 +0.7
baz=80
V22A San Miguel Ran 79.53 333 ⇓P P 05 31 39.0 +0.9
baz=80,SNR=23
T26A Comanche Natio 79.53 336 ⇑P P 05 31 38.7 +0.6
baz=80,SNR=6.0
R30A Dighton 79.55 339 ⇑P P 05 31 38.5 +0.6
baz=80
Q33A Connelly Farm, 79.55 341 ⇓P P 05 31 38.4 +0.6
baz=80,SNR=6.2
U23A El Rito 79.64 334 ⇓P P 05 31 39.5 +0.8
baz=80,SNR=14
Z14A Wintersburg 79.67 327 ⇓P P 05 31 39.8 +1.2
baz=80
Q32A Meitler Ranch, 79.73 340 ⇑P P 05 31 39.3 +0.4
baz=80,SNR=8.1
T25A Trinidad 79.77 335 ⇑P P 05 31 40.3 +1.0
baz=80,SNR=21
S27A Las Animas 79.78 337 ⇑P P 05 31 40.1 +0.8
baz=80
W18A Petrified Fore 79.88 331 ⇓P P 05 31 40.8 +0.9
baz=80
S26A Kim 79.90 336 ⇑P P 05 31 40.8 +0.8
baz=80,SNR=25
U22A Llaves 79.92 333 ⇓P P 05 31 41.1 +0.9
baz=80,SNR=9.0
R29A Marienthal 79.92 338 ⇓P P 05 31 40.4 +0.5
baz=80
P33A Williams Farm, 79.93 341 ⇓P P 05 31 40.1 +0.2
baz=80
X16A Lo Mia Camp, P 79.95 329 ⇓P P 05 31 40.9 +0.6
baz=80,SNR=14
Q31A Ellis 79.97 340 ⇓P P 05 31 40.9 +0.8
baz=80,SNR=6.3
T24B San Luis 80.02 335 ⇑P P 05 31 41.5 +0.7
baz=80,SNR=14
R28A Tribune 80.05 338 ⇓P P 05 31 41.0 +0.3
baz=80,SNR=12
TRY Troy 80.06 360 eP P 05 31 40.8 +0.4
comp=Z,48nm,1.1s
AAM Ann Arbor 80.17 352 eP P 05 31 40.0 -1.0
AAM pmax pmax
comp=Z,19nm,1.0s
AAM Ann Arbor 80.17 352 eP P 05 31 40.0 -1.0
comp=Z,19nm,1.0s
Q30A Quinter 80.17 339 ⇓P P 05 31 41.6 +0.4
baz=81,SNR=9.1
Y14A Wickenburg 80.19 328 ⇓P P 05 31 42.5 +1.0
baz=81
T23A Casias Ranch, 80.22 334 ⇑P P 05 31 42.0 +0.1
baz=81,SNR=7.1
GLA Glamis 80.23 326 ⇓P P 05 31 41.6 -0.1
baz=81
S25A Robets Cordova 80.25 336 ⇓P P 05 31 42.4 +0.5
baz=81
R27A Eads 80.30 337 ⇑P P 05 31 41.9 -0.1
baz=81,SNR=16
Q29A Oakley 80.31 339 ⇓P P 05 31 42.1 +0.1
baz=81,SNR=6.5
P32A Huiting Farm, 80.34 341 ⇓P P 05 31 42.3 +0.2
baz=81,SNR=7.2
P31A Stockton 80.45 340 ⇑P P 05 31 43.0 +0.3
baz=81,SNR=6.9
S24A Houchin Ranch, 80.49 335 ⇑P P 05 31 44.0 +0.7
baz=81,SNR=26
R26A Arlington 80.52 337 ⇓P P 05 31 44.1 +0.9
baz=81,SNR=24
SWSC Sam W. Stewart 80.58 325 ⇑P P 05 31 44.1 +0.6
baz=81
R25A Fountain Ranch 80.64 336 ⇓P P 05 31 44.4 +0.4
baz=81,SNR=8.5
SDCO Great Sand Dun 80.68 335 eP P 05 31 44.8 +0.4
comp=Z,10nm,0.9s
Y12C Blythe 80.69 326 ⇓P P 05 31 45.2 +1.1
baz=81
P30A Selden 80.71 339 ⇑P P 05 31 44.7 +0.6
baz=81,SNR=6.8
Q28A Sharon Springs 80.72 338 ⇓P P 05 31 44.5 +0.3
baz=81
S23A Nye Farm, Mont 80.82 334 ⇑P P 05 31 45.6 +0.6
baz=81
MONP Monument Peak 80.82 325 ⇓P P 05 31 45.9 +0.8
baz=81
O32A Brockman Farm, 80.85 341 ⇓P P 05 31 45.0 +0.2
baz=81
WUAZ Wupatki 80.88 330 eP P 05 31 46.9 +1.6
comp=Z,26nm,1.1s
WUAZ Wupatki 80.88 330 ⇑P P 05 31 46.0 +0.8
baz=81,SNR=11
KSCO Kaye Shedlock' 80.91 337 eP P 05 31 46.5 +1.2
comp=Z,41nm,1.1s
KSCO Kaye Shedlock' 80.91 337 ⇓P P 05 31 46.1 +0.7
baz=81,SNR=7.0
P29A Atwood 80.96 339 ⇑P P 05 31 45.8 +0.3
baz=81
PDMCI Parker Dam,Lak 80.99 327 ⇑P P 05 31 46.7 +1.1
baz=81
R24A Sanders Place, 80.99 335 ⇓P P 05 31 47.1 +1.2
baz=81,SNR=31
BC3 Big Chuckawall 81.02 326 ⇑P P 05 31 46.6 +0.6
baz=81
O31A Woolen Ranch, 81.03 340 ⇑P P 05 31 46.8 +1.0
baz=82,SNR=5.6
Q26A Hugo 81.11 337 ⇓P P 05 31 47.0 +0.6
baz=82,SNR=5.3
S22A 4UR Ranch, Cre 81.14 334 ⇑P P 05 31 47.5 +0.7
baz=82,SNR=12
P28A Saint Francis 81.17 338 ⇓P P 05 31 47.2 +0.5
baz=82,SNR=5.2
R23A Moffat 81.19 335 ⇓P P 05 31 47.8 +0.7
baz=82,SNR=9.5
O30A MW Ranch, Wils 81.25 340 ⇑P P 05 31 47.4 +0.4
baz=82
MVCO Mesa Verde 81.26 332 eP P 05 31 48.5 +1.2
comp=Z,33nm,1.2s
MVCO Mesa Verde 81.26 332 ⇑P P 05 31 47.8 +0.5
baz=82,SNR=12
IRM Iron Mountain 81.31 326 ⇑P P 05 31 48.0 +0.5
baz=82
Q25A Bedland, Calha 81.33 336 ⇓P P 05 31 48.1 +0.5
baz=82,SNR=10
N32A Stulken Farm, 81.33 341 ⇓P P 05 31 48.0 +0.7
baz=82
MDV Middlebury 81.33 0 eP P 05 31 47.8 +0.6
P27A Ficken Ranch, 81.40 338 ⇑P P 05 31 48.7 +0.9
baz=82
O29A 4D Ranch, Culb 81.41 339 ⇓P P 05 31 48.4 +0.6
baz=82
PFO Pinyon Flat Ob 81.44 325 P P 05 31 50.1 +1.9
comp=Z,18nm,0.9s,baz=123,slow=2.3,SNR=10.0
PFO Pinyon Flat Ob 81.44 325 ⇑P P 05 31 49.7 +1.4
baz=82
BELC Belle Mtn. Jos 81.56 325 ⇑P P 05 31 50.3 +1.4
baz=82
W13A Hualapai Mount 81.56 328 ⇑P P 05 31 50.1 +1.1
baz=82
P26A Davis Ranch, A 81.64 337 ⇑P P 05 31 50.0 +0.8
baz=82,SNR=6.9
Q24A Divide 81.67 336 ⇓P P 05 31 50.3 +0.7
baz=82,SNR=8.0
JFWS Jewell Farm 81.68 348 eP P 05 31 49.0 -0.1
JFWS pmax pmax
comp=Z,37nm,1.3s
JFWS Jewell Farm 81.68 348 eP P 05 31 49.0 -0.1
comp=Z,37nm,1.3s
O28A Krutsinger Ran 81.69 338 ⇑P P 05 31 50.1 +0.8
baz=82
MURC Murrieta 81.77 324 ⇓P P 05 31 51.6 +1.7
baz=82
LBTB Lobatse 81.82 115 eP P 05 31 50.4 -0.3
LBTB pmax pmax
comp=Z,25nm,0.8s
LBTB Lobatse 81.82 115 eP P 05 31 50.4 -0.3
comp=Z,25nm,0.8s
P25A Willow Gulch B 81.85 337 ⇓P P 05 31 51.2 +0.9
baz=82,SNR=13
O27A Beecher Island 81.95 338 ⇑P P 05 31 51.6 +0.9
baz=82,SNR=5.9
LONY Lake Ozonia 81.96 359 eP P 05 31 51.3 +0.7
comp=Z,28nm,1.0s
N29A Votaw Ranch, W 82.00 340 ⇑P P 05 31 51.9 +1.0
baz=82
U15A North Rim 82.04 329 ⇑P P 05 31 52.4 +0.8
baz=82,SNR=21
M31A Lambtecht Ranc 82.05 341 ⇑P P 05 31 51.7 +0.5
baz=82,SNR=5.7
GMRC Granite Mounta 82.06 326 ⇓P P 05 31 52.6 +1.1
baz=82
LDFC Landfair 82.07 327 eP P 05 31 53.7 +2.2
comp=Z,27nm,0.4s
P24A Kohler Place, 82.09 336 ⇑P P 05 31 53.1 +1.5
baz=82
PV01 Paradox Valley 82.10 333 eP P 05 31 52.1 +0.4
comp=Z,2μm,1.0s
N28A Pribbeno Ranch 82.14 339 ⇑P P 05 31 52.0 +0.3
baz=83
O26A Horse Wrangler 82.25 337 ⇑P P 05 31 53.0 +0.6
baz=83,SNR=7.3
P23A Jefferson 82.26 335 ⇓P P 05 31 54.0 +1.3
baz=83
HEC Hector,Ludlow 82.40 326 ⇓P P 05 31 54.5 +1.2
baz=83
PV04 Paradox Valley 82.45 333 eP P 05 31 54.6 +1.1
M30A Dale-Ortello V 82.47 340 ⇑P P 05 31 54.1 +0.7
baz=83
SMCO Snowmass 82.47 334 eP P 05 31 55.0 +1.1
comp=Z,32nm,1.1s
BFSC Mount Baldy Ra 82.51 324 ⇓P P 05 31 54.6 +0.7
baz=83
N27A Anderson Farm, 82.54 338 ⇑P P 05 31 54.4 +0.6
baz=83,SNR=5.3
ISCO Idaho Springs 82.58 336 eP P 05 31 54.9 +0.6
ISCO pmax pmax
comp=Z,21nm,1.4s
ISCO Idaho Springs 82.58 336 eP P 05 31 54.9 +0.6
comp=Z,21nm,1.4s
ISCO Idaho Springs 82.58 336 ⇓P P 05 31 54.7 +0.4
baz=83,SNR=10
M29A Burnside Ranch 82.60 340 ⇓P P 05 31 54.5 +0.4
baz=83,SNR=5.3
O24A Longmont 82.69 336 ⇑P P 05 31 55.5 +0.8
baz=83
TUQ Turquoise Moun 82.73 326 ⇓P P 05 31 56.1 +1.2
baz=83
M28A Bar X Bar Ranc 82.75 339 ⇓P P 05 31 55.8 +0.9
baz=83
P22A Eagle 82.77 335 ⇓P P 05 31 55.7 +0.5
baz=83,SNR=9.0
L31A Butterfield Fa 82.80 341 ⇑P P 05 31 55.7 +0.6
baz=83,SNR=19
L30A Spencer Herefo 82.81 341 ⇓P P 05 31 55.8 +0.6
baz=83,SNR=7.1
DECC Green Verdugo 82.83 324 ⇓P P 05 31 56.2 +0.8
baz=83
GSC Goldstone 83.01 326 eP P 05 31 58.1 +1.7
GSC pmax pmax
comp=Z,60nm,1.8s

GSC Goldstone 83.01 326 eP P 05 31 58.1 +1.7
comp=Z,60nm,1.8s
GSC Goldstone 83.01 326 ⇓P P 05 31 57.7 +1.3
baz=83
O23A Lake Granby, G 83.05 336 ⇑P P 05 31 57.4 +0.7
baz=84,SNR=16
L29A Maesberg Ranch 83.12 340 ⇓P P 05 31 57.6 +0.8
baz=84
M27A Reverse DX Ran 83.16 339 ⇑P P 05 31 57.9 +0.9
baz=84
EDW2 Edwards Air Fo 83.19 325 ⇑P P 05 31 58.0 +0.7
baz=84
O22A Kremmling 83.21 335 ⇓P P 05 31 57.5 -0.1
baz=84,SNR=20
BSC Santa Cruz Isl 83.24 323 ⇑P P 05 31 59.7 +2.2
baz=84
N24A Carr 83.27 337 ⇓P P 05 31 58.6 +0.9
baz=84
SHOC Shoshone 83.27 326 ⇑P P 05 31 58.1 +0.4
baz=84
SHPR Sheep Range 83.30 327 eP P 05 31 59.3 +1.3
OSI Osito Adit 83.32 324 ⇓P P 05 31 58.9 +0.9
baz=84
CCUT Cedar City 83.44 329 eP P 05 32 00.4 +1.7
comp=Z,26nm,1.1s
K30A Basset 83.46 341 ⇓P P 05 31 58.8 +0.4
baz=84,SNR=11
LRMC Laurel Mountai 83.55 325 ⇓P P 05 32 00.1 +0.9
baz=84
M25A Palm-Egli Farm 83.57 337 ⇓P P 05 31 60.0 +0.8
baz=84
SBC Santa Barbara 83.64 323 ⇑P P 05 31 59.7 +0.1
baz=84
L27A T5 Ranch, Ells 83.65 339 ⇑P P 05 32 00.4 +0.9
baz=84
N23A Red Feather La 83.67 336 ⇓P P 05 31 60.0 +0.1
baz=84,SNR=9.9
SRU San Rafael 83.68 332 eP P 05 32 00.5 +0.6
SRU pmax pmax
comp=Z,21nm,0.9s
SRU San Rafael 83.68 332 eP P 05 32 00.5 +0.6
comp=Z,21nm,0.9s
K29A Lazy Trails An 83.73 340 ⇓P P 05 32 00.1 +0.2
baz=84,SNR=5.9
ECSD EROS Data Cent 83.73 343 eP P 05 31 59.7 -0.1
comp=Z,73nm,1.0s
ECSD EROS Data Cent 83.73 343 ⇑P P 05 31 59.8 +0.1
baz=84,SNR=39
N22A Wattenberg Ran 83.75 335 ⇓P P 05 32 00.9 +0.6
baz=84,SNR=8.6
O20A White River Ci 83.76 334 eP P 05 32 00.9 +0.6
comp=Z,31nm,1.3s
O20A White River Ci 83.76 334 ⇓P P 05 32 00.1 -0.2
baz=84,SNR=6.0
ARVC Arvin 83.79 324 ⇑P P 05 32 00.9 +0.6
baz=84
MVU Marysvale 83.80 330 eP P 05 32 01.7 +1.1
comp=Z,15nm,1.0s
L26A Underwood Farm 83.83 338 ⇓P P 05 32 01.5 +1.1
baz=84
M24A Cheyenne 83.83 337 ⇑P P 05 32 01.1 +0.5
baz=84,SNR=5.5
PHWY Pilot Hill 83.88 336 eP P 05 32 01.4 +0.4
comp=Z,39nm,1.6s
K28A Ten Mile Ranch 83.97 340 ⇓P P 05 32 01.6 +0.5
baz=84,SNR=6.0
FURC Furnace Creek, 84.01 326 ⇑P P 05 32 02.4 +1.1
baz=84
J30A Dallas 84.04 341 ⇓P P 05 32 01.3 -0.1
baz=84,SNR=6.6
ISA Isabella 84.06 325 ⇑P P 05 32 02.9 +1.2
baz=84
TMUT Trail Mountain 84.10 332 eP P 05 32 03.3 +1.2
comp=Z,25nm,1.0s
M23A Laramie 84.12 336 ⇓P P 05 32 02.4 +0.3
baz=85,SNR=8.7
L25A Engebretsen Ra 84.20 338 ⇑P P 05 32 02.9 +0.6
baz=85
K27A Flueckinger Fa 84.20 339 ⇑P P 05 32 02.2 -0.1
baz=85,SNR=9.6
J29A Okreek 84.33 341 ⇑P P 05 32 02.9 0.0
baz=85,SNR=17
SPMN St. Paul 84.37 346 eP P 05 32 02.6 -0.4
comp=Z,18nm,0.9s
SPMN St. Paul 84.37 346 ⇑P P 05 32 02.3 -0.6
baz=85,SNR=6.2
L24A Wheatland 84.39 337 ⇑P P 05 32 03.5 +0.1
baz=85
N20A Spence Gulch, 84.39 334 ⇑P P 05 32 03.1 -0.4
baz=85,SNR=6.5
VES Vestal, Richgr 84.49 324 ⇑P P 05 32 04.5 +0.7
baz=85
I30A Oacoma 84.58 342 ⇑P P 05 32 04.0 -0.1
baz=85,SNR=7.6
J28A Allard Ranch, 84.59 340 ⇑P P 05 32 04.4 +0.2
baz=85,SNR=10
J27A Elkhorn Farm, 84.64 340 ⇑P P 05 32 04.9 +0.4
baz=85,SNR=9.6
GRAC Grapevine Rang 84.67 326 ⇑P P 05 32 05.5 +0.7
baz=85
L23A Garrett 84.70 337 ⇓P P 05 32 05.0 0.0
baz=85
L22A Ellis Ranch, M 84.86 336 ⇑P P 05 32 05.8 0.0
baz=85
MPU Maple Canyon 84.89 332 eP P 05 32 07.0 +1.0
comp=Z,27nm,1.1s
I29A Vivian Onida 84.90 341 ⇓P P 05 32 06.0 +0.2
baz=85
RCTC Rector, Farmer 84.95 325 ⇑P P 05 32 06.3 +0.1
baz=85
BRSD Miller 84.95 342 eP P 05 32 05.9 -0.1
comp=Z,31nm,0.9s
BRSD Miller 84.95 342 ⇑P P 05 32 05.9 -0.1
baz=85,SNR=5.5
K24A Anderson Ranch 84.97 337 ⇓P P 05 32 06.8 +0.5
baz=85
J26A Sides Ranch, S 85.00 339 ⇑P P 05 32 06.7 +0.4
baz=86,SNR=12
NLU North Lily Min 85.00 331 eP P 05 32 07.9 +1.3
comp=Z,27nm,1.4s
R11A Troy Canyon, C 85.04 328 eP P 05 32 07.9 +1.1
comp=Z,17nm,1.0s
R11A Troy Canyon, C 85.04 328 ⇓P P 05 32 07.5 +0.7
baz=86
DAU Daniels Canyon 85.09 332 eP P 05 32 08.0 +0.8
DAU Daniels Canyon 85.09 332 eP P 05 32 08.0 +0.8
TIN Tinemaha 85.10 326 ⇓P P 05 32 07.8 +0.8
baz=86
I28A Midland 85.11 340 ⇑P P 05 32 06.7 0.0
baz=86,SNR=19
K23A Bowen Ranch, D 85.25 337 ⇓P P 05 32 07.7 0.0
baz=86,SNR=11
JLU Jordanelle 85.33 332 eP P 05 32 08.9 +0.6
comp=Z,11nm,0.9s
I27A Quinn 85.41 340 ⇓P P 05 32 08.1 -0.2
baz=86,SNR=9.3
H29A Onida 85.44 341 ⇑P P 05 32 08.4 0.0
baz=86,SNR=13
K22A Casper 85.44 336 eP P 05 32 09.4 +0.8
comp=Z,22nm,0.9s
K22A Casper 85.44 336 ⇓P P 05 32 08.7 +0.1
baz=86,SNR=9.9
J24A Dixon Ranch, L 85.48 338 ⇓P P 05 32 08.7 -0.1
baz=86,SNR=8.2
DUG Dugway 85.50 331 eP P 05 32 09.8 +0.8
DUG pmax pmax
comp=Z,30nm,1.2s
DUG Dugway 85.50 331 eP P 05 32 09.8 +0.8
comp=Z,30nm,1.2s
DUG Dugway 85.50 331 ⇑P P 05 32 09.2 +0.2
baz=86
TPH Tonopah 85.50 327 eP P 05 32 10.2 +1.0
TPH pmax pmax
comp=Z,27nm,1.0s
TPH Tonopah 85.50 327 eP P 05 32 10.2 +1.0
comp=Z,27nm,1.0s
CTU Camp Tracy 85.52 332 eP P 05 32 09.7 +0.6
comp=Z,7.5nm,1.0s
I26A New Underwood 85.60 339 ⇑P P 05 32 09.0 -0.3
baz=86,SNR=6.0
G30A Faulkton 85.64 342 ⇓P P 05 32 09.0 -0.4
baz=86,SNR=8.4
K21A Alcova 85.66 336 ⇑P P 05 32 09.8 0.0
baz=86,SNR=12
H28A Mission Ridge 85.69 341 ⇓P P 05 32 09.6 0.0
baz=86,SNR=14
I25A Rochford 85.84 339 ⇑P P 05 32 10.5 -0.2
baz=86,SNR=12
MLAC Mammoth Lakes 85.85 326 ⇓P P 05 32 11.6 +0.7
baz=86
G29A Hoven 85.90 342 ⇓P P 05 32 10.3 -0.4
baz=86,SNR=9.9
H27A Howes 85.94 340 ⇓P P 05 32 10.7 -0.2
baz=86,SNR=12
I24A Kuemmerle Ranc 85.95 338 ⇓P P 05 32 10.9 -0.2
baz=86
RSSD Black Hills 86.02 338 eP P 05 32 11.4 -0.2
RSSD pmax pmax
comp=Z,15nm,0.9s
RSSD Black Hills 86.02 338 eP P 05 32 11.4 -0.2
comp=Z,15nm,0.9s
G28A Parade 86.04 341 ⇓P P 05 32 11.2 -0.2
baz=86,SNR=19
J22A Midwest 86.11 337 ⇑P P 05 32 11.6 -0.4
baz=87
BGU Big Grassy Mou 86.21 331 eP P 05 32 13.1 +0.6
comp=Z,7.3nm,1.3s
HWUT Hardware Ranch 86.25 332 eP P 05 32 12.8 +0.1
comp=Z,34nm,1.1s
NVAR Mina Array Bea 86.27 326 P P 05 32 13.9 +1.0
comp=Z,6.5nm,0.8s,baz=158,slow=6.4,SNR=32
F30A Leola 86.28 342 ⇑P P 05 32 12.4 -0.2
baz=87
SPUT South Promonto 86.32 332 eP P 05 32 13.1 +0.1
comp=Z,14nm,1.0s
H25A Fruitdale 86.35 339 ⇑P P 05 32 12.6 -0.4
baz=87,SNR=12
J21A Lysite 86.36 336 ⇑P P 05 32 13.3 0.0
baz=87
F29A Eureka 86.47 342 ⇓P P 05 32 12.8 -0.7
baz=87,SNR=15
I22A 9 Mile Ranch, 86.55 337 ⇓P P 05 32 13.3 -0.8
baz=87,SNR=6.2
BW06 Boulder Array 86.55 334 eP P 05 32 13.8 -0.5
comp=Z,18nm,1.3s
PDAR Pinedale Array 86.55 334 P P 05 32 14.0 -0.3
comp=Z,6.4nm,0.9s,baz=153,slow=5.7,SNR=31
J20A Shoshoni 86.58 336 ⇑P P 05 32 14.3 +0.1
baz=87
TORD Torodi Ar. Bea 86.58 71 P P 05 32 14.6 -0.1
comp=Z,7.1nm,1.2s,baz=236,slow=4.2,SNR=8.8
G27A Dupree 86.59 340 ⇑P P 05 32 13.8 -0.3
baz=87,SNR=10
G26A Maurine 86.69 340 ⇑P P 05 32 13.9 -0.7
baz=87,SNR=18
F28A McLaughlin 86.73 341 ⇑P P 05 32 14.6 -0.2
baz=87,SNR=14
I21A Big Trails, Te 86.73 336 ⇓P P 05 32 14.8 -0.2
baz=87,SNR=7.1
H24A Dirks Ranch, A 86.74 338 ⇑P P 05 32 14.2 -0.7
baz=87,SNR=9.7
EYMN Ely 86.78 348 eP P 05 32 14.8 -0.1
comp=Z,23nm,1.1s
J19A Crowheart 86.82 335 ⇑P P 05 32 15.2 -0.3
baz=87,SNR=18
G25A Newell 86.82 339 ⇑P P 05 32 14.8 -0.5
baz=87,SNR=17
WAKR Walker 86.84 326 eP P 05 32 17.6 +1.9
HVU Hansel Valley 86.85 332 eP P 05 32 15.9 +0.3
HVU pmax pmax
comp=Z,22nm,1.0s
HVU Hansel Valley 86.85 332 eP P 05 32 15.9 +0.3
comp=Z,22nm,1.0s
E30A Jud 86.88 343 ⇑P P 05 32 15.3 -0.2
baz=87,SNR=9.6
ELK Elko 86.92 330 eP P 05 32 16.6 +0.5
ELK pmax pmax
comp=Z,15nm,1.0s
ELK Elko 86.92 330 P P 05 32 17.0 +0.9
comp=Z,12nm,0.9s,baz=180,slow=3.4,SNR=33
ELK Elko 86.92 330 eP P 05 32 16.6 +0.5
comp=Z,15nm,1.0s
F27A Lemmon 87.07 340 ⇑P P 05 32 16.0 -0.5
baz=88,SNR=20
E29A Napoleon 87.11 342 ⇑P P 05 32 15.9 -0.7
baz=88,SNR=7.8
I20A Worland 87.12 336 ⇑P P 05 32 16.7 -0.2
baz=88,SNR=6.6
H22A Clearmont 87.14 337 ⇑P P 05 32 15.9 -1.0
baz=88
F26A Lodgepole 87.22 340 ⇓P P 05 32 17.1 -0.1
baz=88,SNR=11
G24A Alzada 87.23 339 ⇑P P 05 32 16.6 -0.7
baz=88
E28A Huff 87.38 342 ⇑P P 05 32 17.8 -0.1
baz=88,SNR=5.9
H21A Big Horn, Sher 87.39 337 ⇓P P 05 32 17.6 -0.6
baz=88
G23A Biddle 87.40 338 ⇓P P 05 32 17.4 -0.7
baz=88
D30A Buchanan 87.41 343 ⇓P P 05 32 18.0 0.0
baz=88,SNR=15
E27A Carson 87.47 341 ⇓P P 05 32 17.7 -0.6
baz=88,SNR=6.1
BMN Battle Mountai 87.47 328 eP P 05 32 19.1 +0.4
BMN pmax pmax
comp=Z,7.0nm,1.0s
BMN Battle Mountai 87.47 328 eP P 05 32 19.1 +0.4
comp=Z,6.8nm,1.0s
I19A Meeteetse 87.49 335 ⇓P P 05 32 18.6 -0.1
baz=88
F25A Bowman 87.51 340 ⇑P P 05 32 17.9 -0.7
baz=88,SNR=5.9
REDW Red Top Meadow 87.53 334 eP P 05 32 19.0 0.0
comp=Z,9.0nm,0.9s
H20A Greybull 87.56 336 ⇓P P 05 32 18.4 -0.5
baz=88
D29A Pettibone, Tap 87.56 342 ⇓P P 05 32 18.3 -0.4
baz=88,SNR=12
LOHW Long Hollow 87.66 334 eP P 05 32 19.6 0.0
comp=Z,7.6nm,0.8s
TPAW Teton Pass 87.67 334 eP P 05 32 19.9 +0.2
comp=Z,14nm,0.8s
G22A Birney 87.69 337 ⇑P P 05 32 18.6 -0.9
baz=88
F24A Ekalaka 87.71 339 ⇓P P 05 32 19.1 -0.5
baz=88
E26A Carlson Angus 87.74 340 ⇑P P 05 32 19.3 -0.4
baz=88,SNR=12
FXWY Fox Creek 87.83 334 eP P 05 32 20.3 -0.1
comp=Z,5.4nm,0.9s
F23A Volborg 87.88 338 ⇑P P 05 32 19.6 -0.7
baz=88
C30A Mose, Pekin 87.91 343 ⇓P P 05 32 20.2 -0.2
baz=88,SNR=26
AGMN Agassiz Nation 87.91 345 eP P 05 32 20.3 -0.1
comp=Z,40nm,1.2s
AGMN Agassiz Nation 87.91 345 ⇓P P 05 32 19.7 -0.6
baz=88,SNR=16
I17A Pilgrim Ck. 87.92 334 ⇑P P 05 32 20.6 -0.3
baz=88,SNR=14
D28A Regan 87.92 342 ⇓P P 05 32 20.4 -0.1
baz=88,SNR=14
E25A Miller Ranch, 88.02 340 ⇓P P 05 32 21.1 +0.1
baz=88
IMW Indian Meadow 88.03 334 eP P 05 32 21.5 +0.1
comp=Z,15nm,1.0s
H19A Powell 88.05 336 ⇓P P 05 32 21.4 +0.1
baz=88
D27A Center 88.09 341 ⇑P P 05 32 21.5 +0.2
baz=88
FLWY Flagg Ranch 88.11 334 eP P 05 32 22.2 +0.5
comp=Z,20nm,0.8s
F22A Rosebud 88.18 338 ⇑P P 05 32 21.9 +0.1
baz=89
D26A Manning 88.25 341 ⇑P P 05 32 22.2 +0.1
baz=89,SNR=14
H18A Shoshone NF, C 88.28 335 ⇓P P 05 32 22.3 -0.3
baz=89,SNR=11
G20A Bridger 88.29 336 ⇑P P 05 32 22.3 -0.1
baz=89
E24A Baker 88.33 339 ⇑P P 05 32 23.5 +1.0
baz=89
H17A Grant Village 88.34 334 ⇑P P 05 32 23.9 +1.1
baz=89
C28A Hausauer Farms 88.37 342 ⇓P P 05 32 23.1 +0.5
baz=89
YFT Old Faithful 88.48 334 eP P 05 32 25.9 +2.4
comp=Z,23nm,1.4s
B30A Myrvik Farm, E 88.58 344 ⇓P P 05 32 23.1 -0.4
baz=89,SNR=41
D25A Fairfield 88.59 340 ⇑P P 05 32 24.0 +0.3
baz=89
C27A Sayler Ranch, 88.64 342 ⇑P P 05 32 23.9 0.0
baz=89,SNR=11
YMR Madison River 88.71 334 eP P 05 32 25.8 +1.2
comp=Z,18nm,0.9s
B29A Wagenman Farm, 88.83 343 ⇑P P 05 32 24.5 -0.2
baz=89,SNR=14
D24A Glendive 88.84 340 ⇑P P 05 32 24.4 -0.4
baz=89
C26A Wahner Farm, P 88.90 341 ⇑P P 05 32 24.7 -0.4
baz=89,SNR=5.3
HLID Hailey 89.00 332 eP P 05 32 26.8 +0.9
comp=Z,16nm,1.1s
HLID Hailey 89.00 332 ⇓P P 05 32 26.6 +0.7
baz=89
QLMT Earthquake Lak 89.01 334 eP P 05 32 27.3 +1.3
A30A Hoffart Farm, 89.04 344 ⇓P P 05 32 25.2 -0.4
baz=90,SNR=10
B28A Dugan Ranch, T 89.05 342 ⇑P P 05 32 25.9 +0.2
baz=90,SNR=12
F19A Roth Farm, Mol 89.08 336 ⇓P P 05 32 26.0 -0.1
baz=90
C25A Freed Ranch, W 89.09 340 ⇓P P 05 32 26.1 +0.1
baz=90
D23A Lindsay 89.14 339 ⇑P P 05 32 26.4 +0.2
baz=90
B27A Peters Farms, 89.22 342 ⇑P P 05 32 27.2 +0.6
baz=90
A29A Manning Farm, 89.23 343 ⇓P P 05 32 26.1 -0.4
baz=90,SNR=21
C24A Savage 89.24 340 ⇑P P 05 32 26.6 -0.2
baz=90
E20A Meyer Farm, Mu 89.41 337 ⇓P P 05 32 27.4 -0.1
baz=90
MFID Camas Ranch 89.42 331 eP P 05 32 28.7 +0.9
comp=Z,13nm,1.1s
A28A Rude Farm, Bot 89.46 343 ⇓P P 05 32 27.7 0.0
baz=90,SNR=5.1
E19A Rath Farm, Rou 89.57 336 ⇓P P 05 32 27.8 -0.5
baz=90,SNR=5.6
B25A Knox Farm, Ray 89.58 341 ⇓P P 05 32 28.5 +0.2
baz=90
C23A Lambert 89.70 339 ⇓P P 05 32 28.5 -0.4
baz=90
WVOR Wild Horse Val 89.73 328 eP P 05 32 30.4 +1.2
WVOR pmax pmax
comp=Z,16nm,1.2s
WVOR Wild Horse Val 89.73 328 eP P 05 32 30.4 +1.2
comp=Z,16nm,1.2s
ULM Lac du Bonnet 89.78 346 P P 05 32 29.2 +0.1
comp=Z,12nm,1.0s,baz=167,slow=4.4,SNR=9.5
C22A Vida 89.85 339 ⇓P P 05 32 28.6 -0.9
baz=90
A26A Wade Farm, Ken 89.87 342 ⇑P P 05 32 29.4 -0.2
baz=90
DLMT Dillon 89.88 334 eP P 05 32 35.5 +5.6
comp=Z,16nm,1.4s
D20A Manuel Ranch, 89.93 337 ⇓P P 05 32 29.6 -0.4
baz=90
MOD Modoc 90.00 327 eP P 05 32 31.6 +1.1
comp=Z,8.4nm,0.9s
DGMT Dagmar 90.04 340 eP P 05 32 30.8 +0.3
comp=Z,23nm,1.2s
DGMT Dagmar 90.04 340 ⇑P P 05 32 30.6 +0.2
baz=90
LRM Limekiln Ridge 90.23 334 eP P 05 32 32.7 +1.0
B23A Brockton 90.25 340 ⇓P P 05 32 31.1 -0.3
baz=91
C21A Desert Coulee 90.28 338 ⇓P P 05 32 30.9 -0.7
baz=91
B22A Reddig Ranch S 90.39 339 ⇑P P 05 32 31.9 -0.2
baz=91
A24A Westby 90.41 340 ⇓P P 05 32 31.7 -0.4
baz=91
C20A Veseth Ranch, 90.45 338 ⇑P P 05 32 32.0 -0.3
baz=91
M04C Macdoel 90.57 326 ⇑P P 05 32 33.2 0.0
baz=91
YBH Yreka Blue Hor 90.92 325 P P 05 32 33.7 -1.1
comp=Z,4.0nm,1.0s,baz=104,slow=1.1,SNR=5.8
A22A Carney Farms, 90.99 339 ⇓P P 05 32 34.9 0.0
baz=91
BMO Blue Mountains 91.20 331 eP P 05 32 36.6 +0.6
comp=Z,8.1nm,1.3s
A21A Bergtoll Ranch 91.28 339 ⇓P P 05 32 35.2 -0.9
baz=92
I07A Izee 91.44 329 eP P 05 32 38.4 +1.2
comp=Z,31nm,1.8s
CHMT Chamberlain Mo 91.45 334 eP P 05 32 38.5 +1.2
A20A Cobblestone Ra 91.47 338 ⇑P P 05 32 36.6 -0.5
baz=92
J05D Fort Rock, OR 91.52 327 ⇑P P 05 32 38.2 +0.6
baz=92
A19A Klindworth Far 91.75 338 ⇓P P 05 32 37.7 -0.8
baz=92
SLMT Seeley Lake 91.82 334 eP P 05 32 38.7 -0.2
comp=Z,3.8nm,0.9s
F10A Beach Ranch, E 92.11 331 eP P 05 32 38.5 -1.6
comp=Z,146nm,2.8s
G08A Pilot Rock 92.22 330 eP P 05 32 41.6 +0.9
comp=Z,37nm,2.1s
SWMT Swartz Lake 92.23 334 eP P 05 32 40.6 -0.1
comp=Z,13nm,1.7s
I05D Terrebonne, OR 92.42 328 ⇑P P 05 32 41.9 +0.3
baz=93
JTMT Jette 92.53 334 eP P 05 32 42.7 +0.5
BLMT Blacktail Moun 92.78 334 eP P 05 32 43.0 -0.4
comp=Z,2.3nm,0.8s
HAWA Hanford 93.35 330 eP P 05 32 47.4 +1.6
comp=Z,21nm,1.4s
WALA Waterton Lakes 93.53 335 eP P 05 32 47.1 +0.5
D08A Wollman Farm, 93.66 331 eP P 05 32 48.0 +0.8
comp=Z,63nm,2.4s
NEW Newport 93.98 332 P P 05 32 47.4 -1.4
comp=Z,1.5nm,0.7s,baz=147,slow=4.9,SNR=3.9
NEW Newport 93.98 332 ⇑P P 05 32 47.9 -0.9
baz=94
YKA Yellowknife Ar 105.19 342 Pdiff Pdif 05 33 37.5 -1.0
comp=Z,0.2nm,0.7s,baz=140,slow=4.9,SNR=3.3
GERES GERESS Array B 115.58 47 PKP PKPdf 05 38 12.8 -0.1
comp=Z,2.1nm,0.9s,baz=195,slow=2.6,SNR=13
KHC Kasperske Hory 115.65 47 ePKIKP PKPdf 05 38 15.4 +2.5
KHC Kasperske Hory 115.65 47 ePKP PKPdf 05 38 15.4 +2.5
CLL Collm 116.35 44 ePKIKP PKPdf 05 38 14.0 -0.1
CLL Collm 116.35 44 ePKiKP PKPdf 05 38 14.0 -0.1
ILAR Eielson Array 116.94 333 PKP PKPdf 05 38 14.3 -0.5
comp=Z,0.7nm,0.8s,baz=175,slow=1.6,SNR=6.0
WRA Warramunga Arr 116.95 210 PKP PKPdf 05 38 15.1 -1.3
comp=Z,0.7nm,0.7s,baz=163,slow=1.6,SNR=3.8
UPC Upice 117.68 46 ePKIKP PKPdf 05 38 17.9 +1.2
UPC Upice 117.68 46 ePKP PKPdf 05 38 17.9 +1.2
DPC Dobruska-Polom 117.79 46 ePKIKP PKPdf 05 38 17.4 +0.4
DPC Dobruska-Polom 117.79 46 ePKP PKPdf 05 38 17.4 +0.4
VYHS Vyhne 118.45 49 ePKIKP PKPdf 05 38 18.2 -0.1
VYHS Vyhne 118.45 49 ePKP PKPdf 05 38 18.2 -0.1
OKC Ostrava-Krasne 118.62 48 ePKIKP PKPdf 05 38 14.7 -3.8
OKC Ostrava-Krasne 118.62 48 ePKP PKPdf 05 38 14.7 -3.8
BZS Buzias 118.92 53 ⇓PKIKP PKPdf 05 38 18.0 -1.2
BZS Buzias 118.92 53 ⇓iP PKPdf 05 38 18.0 -1.2
KDZ Kurdzhali 119.70 58 ⇓PKIKP PKPdf 05 38 25.9 +5.0
KDZ Kurdzhali 119.70 58 ⇓iP PKPdf 05 38 25.9 +5.0
CRVS Cervenica-Dubn 120.20 50 ePKIKP PKPdf 05 38 22.1 +0.5
CRVS Cervenica-Dubn 120.20 50 ePKP PKPdf 05 38 22.1 +0.5
TRPA Tarpa 120.55 51 ⇓iP PKPdf 05 38 22.4 +0.2
UZH Uzhgorod 120.60 50 ePKIKP PKPdf 05 38 27.9 +5.6
KOLS Kolonicke sedl 120.70 50 ePKIKP PKPdf 05 38 22.7 +0.1
KOLS Kolonicke sedl 120.70 50 ePKP PKPdf 05 38 22.7 +0.1
ARR Arges 120.75 54 ⇓iP PKPdf 05 38 22.7 -0.1
JMB Yambol 120.84 58 ⇑PKIKP PKPdf 05 38 27.4 +4.4
JMB Yambol 120.84 58 ⇑iP PKPdf 05 38 27.4 +4.4
VOIR 121.04 54 ⇓PKIKP PKPdf 05 38 23.8 +0.4
VOIR 121.04 54 ⇓iP PKPdf 05 38 23.8 +0.4
KWP Kalwaria Pacla 121.24 49 ePKIKP PKPdf 05 38 24.3 +0.7
KWP Kalwaria Pacla 121.24 49 ePKP PKPdf 05 38 24.3 +0.7
KWP Kalwaria Pacla 121.24 49 ⇑iP PKPdf 05 38 23.1 -0.5
MLR Muntele Rosu 121.64 55 ⇓PKIKP PKPdf 05 38 24.3 -0.3
MLR Muntele Rosu 121.64 55 ⇓iP PKPdf 05 38 24.3 -0.3
BURAR Bucovina Array 122.00 52 ⇑PKIKP PKPdf 05 38 25.0 -0.2
BURAR Bucovina Array 122.00 52 ⇑iP PKPdf 05 38 25.0 -0.2
VRI Vrincioaia 122.29 54 ⇓PKIKP PKPdf 05 38 24.9 -0.8
VRI Vrincioaia 122.29 54 ⇓iP PKPdf 05 38 24.9 -0.8
TESR Tescani 122.49 54 ⇑iP PKPdf 05 38 29.9 +3.8
CFR Carcaliu 122.94 56 ⇓PKIKP PKPdf 05 38 26.7 -0.2
CFR Carcaliu 122.94 56 ⇓iP PKPdf 05 38 26.7 -0.2
SUW Suwalki 123.11 44 ePKIKP PKPdf 05 38 26.8 -0.2
SUW Suwalki 123.11 44 ePKP PKPdf 05 38 26.8 -0.2
SUW Suwalki 123.11 44 ePKPdf PKPdf 05 38 26.6 -0.4
BRTR Keskin Array B 124.62 64 PKP PKPdf 05 38 30.4 -0.2
comp=Z,3.1nm,0.8s,baz=200,slow=3.0,SNR=15
BR131 Keskin Array S 124.62 64 ePKPdf PKPdf 05 38 30.1 -0.5

TNA Tin City 125.40 329 ePKPdf PKPdf 05 38 30.8 -0.2
AK02 Malin Array Si 125.52 50 ePKPdf PKPdf 05 38 30.1 -1.6
KIEV Kiev 125.53 50 i PKIKP PKPdf 05 38 31.1 -0.6
KIEV Kiev 125.53 50 ePKPdf PKPdf 05 38 30.8 -0.9
AK01 Malin Array Si 125.53 50 ePKPdf PKPdf 05 38 31.3 -1.4
AKASG Malin Array Be 125.54 50 PKP PKPdf 05 38 30.4 -1.3
comp=Z,2.8nm,0.8s,baz=262,slow=2.8,SNR=12
AKASG PP PP 05 40 21.1 -2.8
comp=Z,0.7nm,0.7s,baz=259,slow=5.2,SNR=6.1
RAYN Ar Rayn 126.50 87 ePKPdf PKPdf 05 38 35.1 +0.5
FINES FINESS Array B 126.70 36 PKP PKPdf 05 38 33.6 0.0
comp=Z,2.9nm,1.0s,baz=197,slow=2.0,SNR=4.5
MALT Malatya 127.53 67 ⇑PKIKP PKPdf 05 38 36.9 +0.8
MALT Malatya 127.53 67 ⇑i P PKPdf 05 38 36.9 +0.8
OBN Obninsk 130.92 46 i PKIKP PKPdf 05 38 41.6 -0.2
OBN e 05 41 01.9
OBN eSS SS 05 58 32.1 +4.0
OBN pmax pmax
comp=Z,6.0nm,0.6s
KIV Kislovodsk 132.39 61 ePKIKP PKPdf 05 38 45.4 +0.2
KIV pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 132.48 62 PKP PKPdf 05 38 45.4 +0.2
comp=Z,2.7nm,0.9s,baz=199,slow=1.5,SNR=4.4
GNI Garni 132.76 67 i PKIKP PKPdf 05 38 46.5 +0.4
KLMR Klimovskoe 133.08 38 ePKIKP PKPdf 05 38 42.3 -3.5
KLMR pmax pmax
comp=Z,25nm,1.5s
BILL Bilibino 135.60 332 i PKIKP PKPdf 05 38 50.0 -0.3
BILL i 05 41 29.0
BILL pmax pmax
comp=Z,3.0nm,1.5s
PRGR Permogore 136.02 37 ePKIKP PKPdf 05 38 49.7 -1.5
PRGR pmax pmax
comp=Z,10.0nm,0.4s
GEYT Alibeck 142.13 74 PKhKP PKPpre 05 38 58.8
comp=Z,2.9nm,0.7s,baz=225,slow=10,SNR=3.9
ARU Arti 143.29 44 i PKIKP PKPbc 05 39 01.5 -0.3
ARU Arti 143.29 44 ePKPdf PKPbc 05 39 01.5 -0.3
AKTO Aktyubinsk 143.56 54 PKP PKPbc 05 39 02.6 -0.1
comp=Z,7.4nm,1.0s,baz=254,slow=5.8,SNR=11
KSM Kuching 143.77 186 ePKPdf PKPdf 05 39 05.7 -1.2
TIXI Tiksi 144.10 348 ePKIKP PKPab 05 39 02.2 -1.0
TIXI Tiksi 144.10 348 ePKPdf PKPab 05 39 02.2 -1.0
SVE Sverdlovsk 144.34 43 ePKIKP PKPdf 05 39 05.7 -0.8
SVE pmax pmax
comp=Z,22nm,1.2s
SBUM Sibu 144.52 190 ePKPdf PKPab 05 39 06.5 0.0
AB31 Akbulak array 144.84 56 i PKIKP PKPab 05 39 06.4 -0.3
AB31 pmax pmax
comp=Z,76nm,1.3s
ABKAR Akbulak array 144.84 56 ePKPdf PKPbc 05 39 06.9 +0.1
POO Poona 145.70 115 eP PKPab 05 39 09.0 -1.1
MYLDM Lahad Datu 145.81 202 ePKPab PKPab 05 39 11.3 0.0
LHMI Lhok Sumawe 146.52 163 ePKPab PKPab 05 39 19.0 +5.1
IPM Ipoh 146.55 170 ePKPdf PKPdf 05 39 10.7 -1.0
KULM Kulim 147.29 169 ePKPdf PKPdf 05 39 14.0 +1.1
HYB Hyderabad 148.23 122 i PKP PKPbc 05 39 16.5 -1.1
KBL Kabul 149.72 84 ePKP2 PKPbc 05 39 21.1 -0.1
KBL Kabul 149.72 84 ePKPab PKPbc 05 39 21.1 -0.1
BRVK Borovoye 150.68 47 PKIKP PKPbc 05 39 22.5 -0.1
BRVK pmax pmax
comp=Z,27nm,0.7s
BRVK Borovoye 150.68 47 ePKPdf PKPbc 05 39 23.2 +0.6
BVA0 Borovoye Array 150.75 47 i PKIKP PKPbc 05 39 23.0 +0.2
BVA0 pmax pmax
comp=Z,17nm,0.8s
VOSK Vostochnaya 151.18 47 PKIKP PKPbc 05 39 23.6 -0.2
VOSK pmax pmax
comp=Z,8.0nm,1.1s
YAK Yakutsk 151.75 337 ePKIKP PKPbc 05 39 21.7 -3.1
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK Yakutsk 151.75 337 ePKPdf PKPbc 05 39 24.0 -0.8
YSS Yuzh-Sakhalins 151.86 301 ePKPdf PKPab 05 39 35.0 +0.3
YSS Yuzh-Sakhalins 151.86 301 ePKPab PKPab 05 39 35.0 +0.3
KK31 Karatay Array 152.22 67 i PKIKP PKPbc 05 39 25.3 -1.2
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 152.22 67 ePKIKP PKPbc 05 39 26.5 -0.1
KKAR Karatay Array 152.22 67 ePKPdf PKPbc 05 39 26.5 -0.1
MJAR Matsushiro Arr 154.74 277 PKPab PKPab 05 39 47.0 -0.3
comp=Z,5.6nm,0.9s,baz=155,slow=3.8,SNR=7.1
AAK Ala-Archa 155.15 69 ePKIKP PKPdf 05 39 30.9 +6.7
AAK Ala-Archa 155.15 69 ePKPdf PKPdf 05 39 30.9 +6.7
TKM2 Tokmak 2 155.96 68 PKIKP PKPdf 05 39 25.1 -0.2
TKM2 pmax pmax
comp=Z,10.0nm,1.3s
TKM2 Tokmak 2 155.96 68 ePKPdf PKPdf 05 39 25.6 +0.2
KSH Kashi 156.14 76 ePKP PKPdf 05 39 25.8 +0.2
KSH epPKP pPKPdf 05 39 34.0 +0.6
KSH esPKP 05 39 40.3
KSH SKS SKSdf 05 46 27.3 -3.1
KSH eSKKS SKSac 05 50 16.0 -3.2
KSH AMB AMB
comp=Z,20nm,5.4s
KSH LR LR
comp=Z,45nm,3.7s
KSH LR LR
comp=Z,75nm,5.9s
NVS Novosibirsk 156.69 35 ePKIKP PKPdf 05 39 22.4 -3.2
NVS pmax pmax
comp=Z,15nm,1.3s
ZALV Zalesovo Beam 157.97 36 PKP PKPdf 05 39 26.4 -0.9
comp=Z,2.6nm,0.8s,baz=294,slow=1.5,SNR=6.4
ZALV PKPab PKPab 05 40 01.2 +0.7
comp=Z,6.9nm,0.9s,baz=300,slow=6.2,SNR=8.0
BOD Bodaibo 159.28 349 ePKP2 PKPab 05 40 03.8 -2.3
BOD pmax pmax
comp=Z,14nm,1.1s
CMAR Chiang Mai Arr 159.71 159 PKP PKPdf 05 39 30.1 -0.3
comp=Z,0.5nm,0.3s,baz=255,slow=2.8,SNR=5.6
USRK Ussuriysk Arra 159.72 297 PKPab PKPab 05 40 08.4 -0.1
comp=Z,2.5nm,0.9s,baz=0.0,slow=2.7,SNR=4.0
MKAR Makanchi Array 159.98 55 PKP PKPdf 05 39 29.6 -0.3
comp=Z,4.6nm,1.1s,baz=277,slow=3.1,SNR=7.9
MKAR PKPab PKPab 05 40 09.6 -0.1
comp=Z,3.6nm,0.8s,baz=292,slow=4.6,SNR=9.0
CHTO Chiang Mai 160.05 159 ePKIKP PKPdf 05 39 36.9 +6.1
CHTO Chiang Mai 160.05 159 ePKPdf PKPdf 05 39 36.9 +6.1
KSRS Korea Array 163.01 276 PKP PKPdf 05 39 31.9 -1.3
comp=Z,0.4nm,0.3s,baz=120,slow=0.9,SNR=3.5
KSRS PKPab PKPab 05 40 23.5 +0.4
comp=Z,2.1nm,0.9s,baz=79,slow=5.8,SNR=6.6
KSAR Wonju Array Be 163.03 276 PKIKP PKPdf 05 39 32.0 -1.4
KSAR 05 40 23.5
KSAR Wonju Array Be 163.03 276 PKP PKPdf 05 39 31.9 -1.4
KSAR PKPab PKPab 05 40 23.5 +0.2
CN2 Changchun 164.41 299 ePKP PKPdf 05 39 35.0 +0.6
WMQ Urumqi 164.52 61 PKP PKPdf 05 39 34.8 +0.2
WMQ AMB AMB
comp=Z,290nm,12.2s
WMQ LR LR
comp=Z,480nm,22.8s
WMQ LR LR
comp=Z,330nm,23.4s
WMQ LR LR
comp=Z,340nm,24.6s
KMI Kunming 167.05 165 PKP PKPdf 05 39 37.0 -0.5
ZAK Zakamensk 167.12 9 ePKP2 PKPab 05 40 41.0 +0.2
ZAK pmax pmax
comp=Z,4.0nm,1.2s
NJ2 Nanjing 168.39 245 ePKP PKPdf 05 39 36.8 -1.1
GYA Guiyang 168.78 181 PKP PKPdf 05 39 37.0 -1.5
GYA pPKP pPKPdf 05 39 49.5 +3.2
GYA PKPab PKPab 05 40 50.3 +1.6
GYA PKS PKSdf 05 43 08.8 -2.4
GYA PP PP 05 44 40.8 +3.8
GYA SKKS 05 51 22.0
GYA AMB AMB
comp=Z,150nm,8.3s
GYA LR LR
comp=Z,150nm,21.6s
GYA LR LR
comp=Z,130nm,21.8s
GYA LR LR
comp=Z,140nm,24.4s
ULN Ulaanbaatar 169.84 358 ePKP2 PKPab 05 40 53.6 +0.6
ULN Ulaanbaatar 169.84 358 ePKPab PKPab 05 40 53.6 +0.6
SONM Songino Array 169.88 0 PKPab PKPab 05 40 54.3 +1.2

comp=Z,3.6nm,1.0s,baz=343,slow=4.6,SNR=9.2
CD2 Chengdu 172.85 161 PKP PKPdf 05 39 40.3 -0.1
CD2 pPKP pPKPdf 05 39 51.5 +3.3
CD2 sPKP 05 39 55.3
CD2 PKS PKSdf 05 43 11.0 -1.8
CD2 PP PP 05 45 01.0 +3.6
CD2 SKS SKSdf 05 46 38.0 -4.3
CD2 SKKS SKKSac 05 51 42.5 -0.8
CD2 SS SS 06 06 07.8 -0.8
CD2 AMB AMB
comp=Z,240nm,6.4s
GTA Gaotai 174.50 70 PKP PKPdf 05 39 40.5 -0.3
GTA pPKP pPKPdf 05 39 51.0 +2.3
GTA sPKP 05 39 55.0
GTA PKPab PKPab 05 41 15.5 +1.4
GTA PP PP 05 45 09.0 +2.1
GTA SKS SKSdf 05 46 38.5 -4.0
GTA SKKS SKKSac 05 51 49.5 -2.1
GTA SS SS 06 06 22.5 -4.7
GTA AMB AMB
comp=Z,130nm,6.9s
GTA LR LR
comp=Z,120nm,16.0s
GTA LR LR
comp=Z,200nm,16.0s
GTA LR LR
comp=Z,220nm,18.1s
HHC Hu-ho-hao-te 174.97 310 ePKP PKPdf 05 39 41.0 +0.1
HHC pPKP pPKPdf 05 39 52.0 +3.3
HHC sPKP 05 39 55.5
HHC PP PP 05 45 11.8 +3.2
HHC SKKS 05 51 52.8
HHC SS SS 06 06 29.8 -0.9
HHC AMB AMB
comp=Z,97nm,6.4s
HHC LR LR
comp=Z,200nm,18.5s
HHC LR LR
comp=Z,230nm,18.6s
HHC LR LR
comp=Z,160nm,17.3s
LZH Lanzhou 177.33 127 ePKP PKPdf 05 39 41.3 -0.4
LZH pPKP pPKPdf 05 39 51.5 +2.0
LZH sPKP 05 39 55.3
LZH LR LR
comp=Z,340nm,19.7s
LZH LR LR
comp=Z,150nm,18.8s
LZH LR LR
comp=Z,280nm,19.4s

*IDC **28** 05:22:12.1±1.4, 34.88S×72.59W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/30, mbtmp4.1/7, Error ellipse: s-maj=45.8km s-min=36.4km az=8.0*
*ISCJB **28** 05:22:13.0±1.0, 34.9S±0.2×72.4W±0.2, h18km, mb4.2/13, Error ellipse: s-maj=25.6km s-min=14.7km az=32.7*
*NEIC **28** 05:22:17.2±0.7, 34.93S×72.45W, h35km, mb4.3/4, Error ellipse: s-maj=19.9km s-min=13.0km az=216.0*
ISC 28 05:22:14.9±1.2, 34.9S±0.2×72.5W±0.2, h18km, n17, σ0§98/16, mb4.1/13, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TRQA Tornquist 9.01 113 ePn Pn 05 24 24.4 +0.2
99nm,1.0s
LPAZ La Paz 18.95 13 eP Pn 05 26 36.9 +0.3
SIV San Ignacio 21.44 31 P P 05 27 01.4 -0.8
7.5nm,1.0s,baz=193,slow=14,SNR=2.7
OTAV Otavalo 35.42 350 eP P 05 29 06.3 -4.2
18nm,1.4s
ROSC El Rosal 39.60 357 P P 05 29 48.3 +2.5
3.2nm,0.4s,baz=71,slow=9.7,SNR=4.8
SDV Santo Domingo 43.60 3 eP P 05 30 17.0 -1.4
2.7nm,0.6s
RCBR Riachuelo 44.43 58 eP P 05 30 24.4 -0.6
14nm,1.2s
JCT Junction City 69.96 335 eP P 05 33 24.8 -0.4
1.8nm,0.4s
TXAR Lajitas Array 70.36 331 P P 05 33 27.1 -0.7
0.9nm,0.6s,baz=156,slow=8.5,SNR=7.3
ANMO Albuquerque 76.42 332 P P 05 34 03.6 +0.2
1.7nm,0.8s,baz=159,slow=11,SNR=3.7
SDCO Great Sand Dun 78.53 334 eP P 05 34 14.9 -0.4
1.1nm,0.7s
PDAR Pinedale Array 84.42 334 P P 05 34 45.4 -0.9
0.6nm,0.7s,baz=165,slow=3.7,SNR=3.2
NVAR Mina Array Bea 84.43 326 P P 05 34 46.4 -0.1
0.4nm,0.6s,baz=148,slow=5.3,SNR=4.0
TORD Torodi Ar. Bea 84.86 70 P P 05 34 49.5 +0.6
1.9nm,0.7s,baz=279,slow=5.3,SNR=9.7
ELK Elko 84.96 329 P P 05 34 49.3 +0.2
1.0nm,0.8s,baz=134,slow=5.5,SNR=3.8
WRA Warramunga Arr 119.79 209 PKP PKPdf 05 41 04.1 -0.5
0.5nm,0.5s,baz=163,slow=1.6,SNR=4.5
ZALV Zalesovo Beam 155.19 33 PKPab PKPab 05 42 32.1 +0.9
2.0nm,0.7s,baz=297,slow=3.6,SNR=4.8

IDC 28 05:23:05.2±23.0, 37.27S×73.07W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/32, mbtmp4.0/3, Error ellipse: s-maj=907.9km s-min=42.1km az=24.0, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TXAR Lajitas Array 72.21 332 P P 05 34 32.0 0.0
0.5nm,0.6s,baz=150,slow=9.3,SNR=3.8
DBIC Dimbokro 77.02 71 P P 05 35 00.8 +0.6
2.9nm,0.7s,baz=189,slow=7.3,SNR=2.6
TORD Torodi Ar. Bea 86.10 70 P P 05 35 47.5 -0.8
0.7nm,0.8s,baz=220,slow=5.7,SNR=2.8
MKAR Makanchi Array 159.44 55 PKPab PKPab 05 43 43.0 -0.2
0.9nm,0.7s,baz=305,slow=4.3,SNR=4.3

IDC 28 05:27:05.4±1.3, 37.70S×73.77W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/35, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=49.8km s-min=20.3km az=59.0, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.93 141 Pn Pn 05 28 08.0 +0.8
1.7nm,0.3s,baz=316,slow=9.3,SNR=2.6
PLCA Lg Lg 05 29 12.7
6.5nm,0.3s,baz=253,slow=20,SNR=3.7
QSPA South Pole Qui 52.55 180 P P 05 36 19.4 -1.0
5.2nm,1.1s,baz=27,slow=0.8,SNR=6.2
TXAR Lajitas Array 72.32 333 P P 05 38 33.9 +1.0
0.3nm,0.7s,baz=144,slow=7.8,SNR=3.3
DBIC Dimbokro 77.69 72 P P 05 39 03.4 -0.9
2.3nm,0.6s,baz=203,slow=6.1,SNR=4.6

*IDC **28** 05:28:16.5±1.7, 34.81S×72.87W, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/35, mbtmp3.8/6, ML2.5/1, Error ellipse: s-maj=41.1km s-min=34.9km az=10.0*
*ISCJB **28** 05:28:20.6±1.5, 34.6S±0.2×72.8W±0.3, h33km, mb3.7/5, Error ellipse: s-maj=35.6km s-min=27.1km az=145.8*
ISC 28 05:28:22.4±1.6, 34.7S±0.2×72.8W±0.2, h35km, n6, σ1§29/6, mb3.7/5, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.91 52 Pn Pn 05 29 33.5 -0.2
0.2nm,0.3s,baz=225,slow=11,SNR=2.1
CFAA Sn Sn 05 30 39.8 +11
0.6nm,0.3s,baz=260,slow=6.1,SNR=2.1
SIV San Ignacio 21.39 32 P P 05 33 06.9 -0.2
2.2nm,0.6s,baz=210,slow=12,SNR=3.3
BDFB Brasilia 29.24 56 P P 05 34 22.5 +1.3
1.1nm,0.5s,baz=174,slow=9.2,SNR=2.5
TXAR Lajitas Array 70.04 332 P P 05 39 30.9 +0.2
0.4nm,0.5s,baz=155,slow=8.6,SNR=9.7
BOSA Boshof 80.30 118 P P 05 40 30.7 +0.6
1.3nm,0.6s,baz=226,slow=4.9,SNR=3.7
TORD Torodi Ar. Bea 85.03 70 P P 05 40 53.0 -1.7
0.3nm,0.7s,baz=228,slow=5.6,SNR=2.7

*IDC **28** 05:32:41.8±0.7, 34.59S×72.07W, h0km, mb4.2/10, mb1 4.3/13, mb1mx4.1/34, mbtmp4.1/13, ML3.9/3, Error ellipse: s-maj=23.3km s-min=16.9km az=84.0*
*ISCJB **28** 05:32:42.5±0.6, 34.61S±0.08×72.11W±0.10, h16km, mb4.2/15, Error ellipse: s-maj=13.3km s-min=9.2km az=135.9*
*NEIC **28** 05:32:46.9±0.5, 34.55S×72.02W, h35km, mb4.4/4, Error ellipse: s-maj=13.6km s-min=11.0km az=103.0*
ISC 28 05:32:44.2±0.7, 34.6S±0.1×72.1W±0.1, h16km, n25, σ1§20/26, mb4.2/15, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.40 48 Pn Pn 05 33 50.4 0.0
1.0nm,0.3s,baz=41,slow=6.0,SNR=10.0
CFAA Sn Sn 05 34 42.6 +1.2
2.0nm,0.3s,baz=302,slow=15,SNR=5.2
CPUP Villa Florida 15.15 61 Pn Pn 05 36 18.9 +1.3
0.2nm,0.3s,baz=261,slow=18,SNR=1.6
LPAZ La Paz 18.57 12 P P 05 37 00.1 -1.0
0.4nm,0.3s,baz=197,slow=12,SNR=5.1
USHA Ushuaia 20.40 174 P P 05 37 19.6 -0.6
14nm,1.1s,baz=323,slow=15,SNR=1.8
SIV San Ignacio 21.00 31 P P 05 37 24.0 -3.1
2.5nm,0.8s,baz=218,slow=11,SNR=5.7
NNA Nana 22.91 348 P P 05 37 48.0 +0.4
3.5nm,0.3s,baz=187,slow=11,SNR=3.2
BDFB Brasilia 28.71 55 P P 05 38 40.9 0.0
2.3nm,0.6s,baz=259,slow=12,SNR=3.2
SNAA Sanae 51.06 158 P P 05 41 49.5 +4.1
1.5nm,0.8s,baz=291,slow=8.6,SNR=8.9
APG El Apazote 52.32 337 P P 05 41 56.4 +0.9
5.5nm,0.5s,baz=153,slow=5.3,SNR=2.3
QSPA South Pole Qui 55.65 180 P P 05 42 21.1 +1.9
6.3nm,0.9s,baz=148,slow=1.4,SNR=11
JCT Junction City 69.80 335 eP P 05 43 53.7 -0.1
7.5nm,1.2s
TXAR Lajitas Array 70.22 331 P P 05 43 56.5 0.0
0.4nm,0.4s,baz=150,slow=7.4,SNR=12
ANMO Albuquerque 76.28 331 P P 05 44 32.0 -0.3
4.4nm,1.5s
SDCO Great Sand Dun 78.38 334 eP P 05 44 44.0 -0.1
0.7nm,0.7s
BOSA Boshof 79.84 118 P P 05 44 51.9 -0.4
2.7nm,0.9s,baz=270,slow=6.1,SNR=2.0
PDAR Pinedale Array 84.27 333 P P 05 45 14.4 -0.7
0.9nm,0.8s,baz=153,slow=1.7,SNR=6.3
NVAR Mina Array Bea 84.34 325 P P 05 45 16.1 +0.5
1.0nm,0.7s,baz=174,slow=6.2,SNR=7.2
TORD Torodi Ar. Bea 84.46 70 P P 05 45 15.2 -1.3
1.1nm,0.7s,baz=253,slow=3.9,SNR=5.8
DGMT Dagmar 87.52 339 eP P 05 45 30.6 -0.2
7.4nm,0.6s
YKA Yellowknife Ar 102.60 341 P Pdif 05 46 38.8 -0.6
0.2nm,0.6s,baz=134,slow=4.8,SNR=6.5
WRA Warramunga Arr 120.22 209 PKP PKPdf 05 51 33.5 -1.6
0.4nm,0.4s,baz=159,slow=1.6,SNR=5.5
BRTR Keskin Array B 122.16 61 PKP PKPdf 05 51 37.1 -1.2
0.2nm,0.4s,baz=301,slow=2.7,SNR=3.1
BRVK Borovoye 147.67 44 ePKPab PKPab 05 52 30.3 +0.5
ZALV Zalesovo Beam 154.75 33 PKPbc PKPbc 05 52 45.6 +1.6
1.9nm,0.7s,baz=309,slow=3.0,SNR=8.7
ZALV PKPab PKPab 05 53 01.1 +2.0
2.3nm,0.7s,baz=308,slow=3.6,SNR=6.6
MKAR Makanchi Array 157.19 50 PKPab PKPab 05 53 09.2 -0.6
0.9nm,0.7s,baz=287,slow=2.5,SNR=9.3

*IDC **28** 05:32:57.4±0.8, 35.80S×73.25W, h0km, mb4.4/11, mb1 4.5/13, mb1mx4.3/34, mbtmp4.4/13, ML4.2/2, MS4.3/4, Ms1 4.3/4, ms1mx3.9/22, Error ellipse: s-maj=26.9km s-min=17.0km az=64.0*
*ISCJB **28** 05:33:01.1±0.5, 35.77S±0.07×73.1W±0.1, h33km, mb4.4/17, MS4.5/2, Error ellipse: s-maj=14.8km s-min=9.4km az=156.9*
*NEIC **28** 05:33:02.7±0.5, 35.80S×73.21W, h35km, mb4.6/6, Error ellipse: s-maj=14.3km s-min=9.8km az=59.0*
ISC 28 05:33:02.8±0.6, 35.83S±0.09×73.2W±0.1, h35km, n40, σ1§10/29, mb4.5/17, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 5.34 157 Pn Pn 05 34 19.3 -0.8
2.9nm,0.3s,baz=328,slow=14,SNR=6.7
PLCA Lg Lg 05 35 48.2
7.2nm,0.3s,baz=50,slow=20,SNR=5.4
CFAA Coronel Fontan 5.93 46 Pn Pn 05 34 27.4 -0.7
2.0nm,0.3s,baz=210,slow=16,SNR=5.6
CFAA Lg Lg 05 35 57.6
baz=96,slow=19,SNR=3.5
CFAA LR LR 05 37 18.2
comp=Z,370nm,19.5s,baz=234,slow=44
TRQA Tornquist 9.29 107 ePn Pn 05 35 14.1 -0.1
67nm,1.0s
CPUP Villa Florida 16.58 60 Pn P 05 36 56.2 +1.5
1.1nm,0.3s,baz=206,slow=8.8,SNR=4.7
CPUP LR LR 05 42 51.7
comp=Z,900nm,19.6s,baz=220,slow=36
LPAZ La Paz 19.99 14 P Pn 05 37 37.1 +2.3
0.4nm,0.3s,baz=181,slow=5.4,SNR=6.6
SIV San Ignacio 22.55 32 P P 05 37 59.1 -0.8
13nm,1.0s,baz=230,slow=14,SNR=11
SIV LR LR 05 48 33.9
comp=Z,2μm,19.5s,baz=226,slow=42
PMSA Palmer Station 29.51 172 LR LR 05 51 09.2
comp=Z,1μm,18.2s,baz=315,slow=37
BDFB Brasilia 30.19 55 P P 05 39 08.2 -1.8
8.8nm,0.9s,baz=240,slow=11,SNR=5.1
OTAV Otavalo 36.21 351 eP P 05 40 04.0 +1.1
8.3nm,1.3s
VNA3 Neumayer Olymp 48.05 157 P P 05 41 39.6 +1.3
VNA2 Neumayer--Watz 48.73 156 P P 05 41 44.4 +1.0
SNAA Sanae 50.28 157 P P 05 41 56.3 +0.9
SNAA Sanae 50.28 157 eP P 05 41 56.2 +0.8
24nm,1.0s
RKT Rikitea 54.42 266 eLR LR 05 58 24.0
299nm,28.0s
RKT Rikitea 54.42 266 eT T 06 40 53.4
1.9nm,0.4s
TBI Tubuai 65.95 258 eT T 06 55 14.3
5.0nm,0.3s
MEH Mehetia 67.64 264 eT T 06 57 25.8
28nm,0.2s
TVO Taravao 68.65 263 eT T 06 58 31.6
0.8nm,0.2s
TIAR Tiarei 68.84 263 eT T 06 58 55.4
3.5nm,0.3s
PPT2 Papeete2 69.01 263 eLR LR 06 05 02.7
599nm,25.8s
JCT Junction City 70.52 336 eP P 05 44 12.2 -1.8
2.1nm,0.4s
TXAR Lajitas Array 70.86 332 P P 05 44 16.6 +0.4
1.0nm,0.8s,baz=150,slow=9.1,SNR=6.4
WVT Waverly 72.87 348 eP P 05 44 27.3 -0.6
5.8nm,0.8s
SUR Sutherland 74.81 119 P P 05 44 41.4 +1.4
4.5nm,0.7s,baz=216,slow=4.1,SNR=4.5
DBIC Dimbokro 76.70 72 P P 05 44 50.8 +0.2
8.0nm,0.9s,baz=210,slow=7.3,SNR=7.9
TSUM Tsumeb 79.66 106 P P 05 45 07.4 +0.2
1.4nm,0.8s,baz=217,slow=10,SNR=3.5
BOSA Boshof 80.09 118 P P 05 45 09.4 -0.1
8.1nm,0.8s,baz=225,slow=4.7,SNR=12
ECSD EROS Data Cent 81.99 343 eP P 05 45 18.2 -0.6
12nm,0.9s
NVAR Mina Array Bea 84.83 326 P P 05 45 34.2 +0.4
0.9nm,0.8s,baz=155,slow=4.9,SNR=6.0
PDAR Pinedale Array 84.95 334 P P 05 45 33.8 -0.6
1.2nm,1.1s,baz=198,slow=5.6,SNR=4.8
TORD Torodi Ar. Bea 85.76 71 P P 05 45 37.9 -0.9
3.3nm,0.9s,baz=240,slow=3.0,SNR=10
MCMT McKenzie Canyo 87.93 333 eP P 05 45 49.1 +0.2
2.0nm,1.0s
ULM Lac du Bonnet 88.01 346 P P 05 45 47.8 -1.0
4.0nm,1.0s,baz=182,slow=5.2,SNR=5.0
DZM Mont Dzumac 99.37 234 eLR LR 06 19 02.4
169nm,25.4s
WRA Warramunga Arr 118.69 210 PKP PKPdf 05 51 46.2 -1.5
0.2nm,0.5s,baz=151,slow=1.5,SNR=2.7
KIS Kishinev 122.76 53 LRM MLR 06 03 16.0
200nm,17.0s
ABKAR Akbulak array 143.57 54 ePKPdf PKPbc 05 52 30.4 -0.4
YAK Yakutsk 150.09 338 ePKPab PKPab 05 52 55.4 +0.5
MKAR Makanchi Array 158.69 52 PKP PKPdf 05 52 57.3 +0.9
1.0nm,0.9s,baz=338,slow=1.6,SNR=5.1
SONM Songino Array 168.00 1 PKPab PKPab 05 54 14.2 +1.4
1.1nm,1.0s,baz=328,slow=5.1,SNR=4.1

IDC 28 05:35:29.7±0.9, 34.22S×73.37W, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.9/32, mbtmp4.1/6, MS4.5/4, Ms1 4.5/4, ms1mx3.8/25, Error ellipse: s-maj=43.8km s-min=22.0km az=74.0
ISCJB 28 05:35:32.7±0.9, 34.2S±0.2×73.5W±0.3, h33km, mb4.1/6, MS4.5/3, Error ellipse: s-maj=39.5km s-min=20.8km az=163.3
ISC 28 05:35:35.0±1.0, 34.2S±0.2×73.4W±0.3, h35km, n11, σ0.75/7, mb4.2/6, MS4.7/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**18.49**	**16**	LR	LR	05 47 33.6	
	comp=Z,2µm,19.2s,baz=156,slow=39						
RCBR	**Riachuelo**	**44.73**	**59**	LR	LR	06 02 09.1	
	comp=Z,1µm,18.6s,baz=208,slow=36						
APG	**El Apazote**	**51.59**	**339**	P	**P**	**05 44 37.1**	**-0.9**
	3.8nm,0.5s,baz=160,slow=5.5,SNR=2.5						
SNAA	**Sanae**	**51.80**	**158**	P	**P**	**05 44 38.8**	**-0.2**
	1.6nm,0.6s,baz=268,slow=11,SNR=16						
QSPA	**South Pole Qui**	**56.01**	**180**	P	**P**	**05 45 09.8**	**0.0**
	2.9nm,0.9s,baz=153,slow=2.4,SNR=5.6						
TXAR	**Lajitas Array**	**69.39**	**332**	P	**P**	**05 46 40.1**	**+0.7**
	0.3nm,0.8s,baz=157,slow=9.4,SNR=3.5						
MAW	**Mawson**	**73.28**	**164**	LR	LR	06 20 16.6	
	comp=Z,328nm,18.1s,baz=236,slow=37						
DBIC	**Dimbokro**	**76.33**	**72**	P	**P**	**05 47 20.4**	**-0.2**
	2.6nm,0.7s,baz=214,slow=4.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**85.36**	**71**	P	**P**	**05 48 08.9**	**0.0**
	0.8nm,0.7s,baz=247,slow=5.2,SNR=4.4						
SCHQ	**Schefferville**	**88.88**	**4**	LR	LR	06 28 11.6	
	comp=Z,86nm,20.8s,baz=158,slow=36						
ZALV	**Zalesovo Beam**	**155.02**	**31**	PKPab	**PKPab**	**05 55 48.9**	**+0.9**
	0.4nm,0.4s,baz=322,slow=4.4,SNR=2.3						

IDC 28 05:37:48.8±1.9, 34.90S×71.63W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/27, mbtmp3.8/4, Error ellipse: s-maj=60.5km s-min=38.3km az=47.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**21.08**	**29**	P	P	05 42 35.3	+0.4
	0.7nm,0.4s,baz=238,slow=10,SNR=4.0						
TXAR	**Lajitas Array**	**70.68**	**331**	P	P	05 49 06.5	0.0
	0.1nm,0.5s,baz=142,slow=7.5,SNR=2.6						
BOSA	**Boshof**	**79.36**	**117**	P	P	05 49 57.5	+0.5
	1.9nm,0.8s,baz=236,slow=3.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**84.20**	**70**	P	P	05 50 21.8	-0.6
	0.8nm,0.7s,baz=245,slow=3.3,SNR=5.6						

IDC 28 05:46:55.6±5.0, 38.60S×74.99W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/25, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=223.0km s-min=30.2km az=40.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.04**	**123**	Pn	Pn	05 47 58.8	0.0
	1.9nm,0.3s,baz=295,slow=14,SNR=6.4						
PLCA				Sn	Sn	05 48 47.5	+0.6
	3.2nm,0.3s,baz=37,slow=23,SNR=6.5						
TXAR	**Lajitas Array**	**72.69**	**334**	P	P	05 58 25.2	-0.1
	0.2nm,0.5s,baz=146,slow=8.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**87.97**	**72**	P	P	05 59 47.8	+0.1
	0.4nm,0.9s,baz=224,slow=6.0,SNR=1.9						

SJA 28 05:52:26.0±0.5, 33.86S×72.70W, h53km±8km, ML4.5
IDC 28 05:52:27.6±0.9, 33.54S×71.88W, h0km, mb4.1/7, mb1 4.2/9, mb1mx4.0/28, mbtmp4.1/9, ML4.1/2, Error ellipse: s-maj=32.9km s-min=21.2km az=102.0
ISCJB 28 05:52:28.8±0.6, 33.58S±0.07×72.20W±0.05, h19km, mb4.1/11, Error ellipse: s-maj=9.5km s-min=5.8km az=173.1
GUC 28 05:52:31.7±0.5, 33.57S×71.92W, h15km
NEIC 28 05:52:33.0±0.6, 33.49S×72.03W, h35km, mb4.1/4, Error ellipse: s-maj=14.5km s-min=12.8km az=73.0
ISC 28 05:52:30.3±0.7, 33.57S±0.06×72.00W±0.05, h19km, n37, σ0.92/41, mb4.2/11, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.62**	**129**⇓	iP	**Pg**	**05 52 43.3**	**+0.6**
RCDM	**Rinconada Maip**	**1.00**	**86**	eP	**Pg**	**05 52 50.0**	**+0.3**
RCDM				iS	**Sg**	**05 53 03.4**	**+0.6**
ROCH	**El Roble**	**1.02**	**55**⇓	iP	**Pg**	**05 52 50.8**	**+0.7**
ROCH				iS	**Sg**	**05 53 05.4**	**+1.8**
STL	**Santa Lucia**	**1.14**	**84**	eP	**Pn**	**05 52 51.1**	**-0.2**
STL				iS	**Sn**	**05 53 06.9**	**+0.5**
PEL	**Peldehue**	**1.18**	**69**⇑	iP	**Pg**	**05 52 53.3**	**+0.2**
PEL				iS	**Sg**	**05 53 09.7**	**+1.9**
AUSP	**Uspallata**	**2.57**	**59**	eP	**Pb**	**05 53 17.2**	**+1.2**
ARCO	**CERRO ARCO**	**2.67**	**75**	eP	**Pb**	**05 53 18.2**	**+0.7**
ARCO				eS	**Sg**	**05 53 56.2**	**0.0**
ARCO				AML	AML	05 54 01.1	
	comp=Z,1µm,0.6s						
AAGR	**Agrelo**	**2.70**	**81**	eP	**Pb**	**05 53 18.1**	**+0.1**
ASAL	**Salagasta**	**2.83**	**71**	eP	**Pb**	**05 53 20.6**	**+0.4**
ASAL				eS	**Sb**	**05 54 00.4**	**-0.8**
RTLS	**Leoncito**	**2.88**	**53**	eP	**Pb**	**05 53 21.4**	**+0.2**
AVIZ	**Vizcacheras**	**2.91**	**89**	eP	**Pb**	**05 53 20.6**	**-1.0**
RTCV	**Cerro Valdivia**	**3.37**	**61**	eP	**Pb**	**05 53 27.9**	**-1.6**
RTCV				eP	**Pb**	**05 53 27.9**	**-1.6**
CFAA	**Coronel Fontan**	**3.73**	**59**	Pn	Pn	05 53 30.7	+3.8
	comp=Z,5.0nm,0.3s,baz=220,slow=10.0,SNR=25						
CFAA				Sn	**Sb**	**05 54 21.4**	**+1.0**
	comp=Z,3.0nm,0.3s,baz=79,slow=7.4,SNR=5.2						
ACAN	**Cantantal**	**4.24**	**74**	eP	Pn	05 53 39.1	+5.1
ACAN				eS	**Sb**	**05 54 34.4**	**-0.9**
TRQA	**Tornquist**	**9.29**	**122**	ePn	Pn	05 54 47.0	+3.8
	comp=Z,62nm,1.4s						
CPUP	**Villa Florida**	**14.61**	**64**	Pn	**Pn**	**05 55 55.1**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=253,slow=11,SNR=2.2						
LPAZ	**La Paz**	**17.56**	**12**	P	**Pn**	**05 56 32.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=178,slow=8.2,SNR=7.2						
LPAZ	**La Paz**	**17.56**	**12**	eP	**Pn**	**05 56 34.6**	**+0.1**
SIV	**San Ignacio**	**20.09**	**32**	P	**P**	**05 57 02.7**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=227,slow=12,SNR=4.9						
SAML	**Samuel**	**25.81**	**20**	eP	**P**	**05 58 00.3**	**-0.1**
	comp=Z,6.8nm,0.8s						
BDFB	**Brasilia**	**28.06**	**56**	P	**P**	**05 58 19.8**	**-1.0**
	comp=Z,3.1nm,0.6s,baz=224,slow=7.4,SNR=7.6						
SNAA	**Sanae**	**51.97**	**158**	P	**P**	**06 01 38.3**	**+0.5**
	comp=Z,1.8nm,1.1s,baz=301,slow=9.7,SNR=5.8						
SDDR	**Presa de Saban**	**52.26**	**1**	eP	**P**	**06 01 40.6**	**+0.2**
	comp=Z,36nm,1.8s						
QSPA	**South Pole Qui**	**56.67**	**180**	P	**P**	**06 02 12.2**	**+0.1**
	comp=Z,1.6nm,1.0s,baz=205,slow=4.2,SNR=3.1						
JCT	**Junction City**	**68.91**	**334**	P	**P**	**06 03 32.0**	**-1.8**
	comp=Z,6.5nm,1.3s						
TXAR	**Lajitas Array**	**69.38**	**331**	P	**P**	**06 03 37.7**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=159,slow=8.3,SNR=8.2						
DBIC	**Dimbokro**	**75.01**	**71**	P	**P**	**06 04 10.8**	**0.0**
	comp=Z,2.7nm,0.6s,baz=224,slow=5.0,SNR=6.7						
ANMO	**Albuquerque**	**75.42**	**331**	eP	**P**	**06 04 14.4**	**+1.5**
	comp=Z,0.9nm,0.7s						
SDCO	**Great Sand Dun**	**77.50**	**333**	P	**P**	**06 04 26.2**	**+1.4**
	comp=Z,0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**84.03**	**70**	P	**P**	**06 04 59.7**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=219,slow=4.2,SNR=18						
H11S2	**WAKE ISLAND Hy**	**125.81**	**269**	T	T	08 30 24.0	
	baz=118,slow=75,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**125.82**	**269**	T	T	08 30 24.8	
	baz=118,slow=75,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**125.83**	**269**	T	T	08 30 27.4	
	baz=118,slow=75,SNR=4.2						
BVAR	**Borovoye Array**	**146.94**	**43**	PKPbc	**PKPbc**	**06 12 10.3**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=294,slow=3.0,SNR=7.6						
AAK	**Ala-Archa**	**152.27**	**61**	PKPbc	**PKPbc**	**06 12 25.6**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=186,slow=6.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**153.84**	**32**	PKPbc	**PKPbc**	**06 12 27.9**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=288,slow=2.9,SNR=8.7						
MKAR	**Makanchi Array**	**156.45**	**48**	PKP	**PKPdf**	**06 12 24.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=327,slow=2.0,SNR=4.5						
MKAR				PKPab	**PKPab**	**06 12 51.6**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=300,slow=3.9,SNR=8.3						

IDC 28 05:53:29.5±4.0, 37.30S×73.12W, h0km, mb4.1/2, mb1 4.0/3, mb1mx3.7/27, mbtmp4.0/3, ML4.4/1, Error ellipse: s-maj=128.9km s-min=24.4km az=70.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.97**	**150**	Pn	Pn	05 54 33.5	+1.7
	5.4nm,0.3s,baz=318,slow=11,SNR=5.0						
PLCA				Lg	Lg	05 55 34.2	
	14nm,0.3s,baz=254,slow=18,SNR=4.6						
DBIC	**Dimbokro**	**77.08**	**71**	P	P	06 05 25.7	+0.8
	2.0nm,0.6s,baz=208,slow=7.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**86.16**	**70**	P	P	06 06 12.3	-0.5
	0.6nm,0.6s,baz=234,slow=4.2,SNR=2.8						
BVAR	**Borovoye Array**	**150.25**	**46**	PKPbc	PKPbc	06 13 21.2	-0.7
	1.2nm,0.7s,baz=268,slow=3.9,SNR=4.6						
MKAR	**Makanchi Array**	**159.50**	**55**	PKPab	PKPab	06 14 07.2	-0.6
	0.3nm,0.8s,baz=279,slow=2.8,SNR=2.9						

ISCJB 28 05:54:31.7±0.6, 35.30S±0.08×72.9W±0.1, h17km, mb4.4/12, Error ellipse: s-maj=16.7km s-min=8.9km az=32.9
IDC 28 05:54:31.0±0.6, 35.30S×72.89W, h0km, mb4.4/11, mb1 4.4/14, mb1mx4.2/29, mbtmp4.3/14, ML4.2/3, MS4.0/1, Ms1 4.0/1, ms1mx3.2/28, Error ellipse: s-maj=26.0km s-min=15.3km az=111.0
NEIC 28 05:54:36.5±0.3, 35.29S×72.80W, h35km, mb4.4/3, Error ellipse: s-maj=12.1km s-min=7.1km az=112.0
ISC 28 05:54:33.7±0.6, 35.32S±0.09×72.9W±0.1, h17km, n32, σ0.70/33, mb4.6/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.37**	**48**	Pn	**Pn**	**05 55 53.1**	**0.0**
	1.5nm,0.3s,baz=199,slow=15,SNR=3.5						
CFAA				Sn	**Sn**	**05 56 55.9**	**+1.3**
	0.6nm,0.3s,baz=357,slow=18,SNR=2.0						
LVC	**Limon Verde**	**13.13**	**16**	ePn	**Pn**	**05 57 40.6**	**+1.0**
	36nm,1.0s						
CPUP	**Villa Florida**	**16.08**	**60**	Pn	**Pn**	**05 58 18.3**	**-0.6**
	0.8nm,0.3s,baz=196,slow=15,SNR=2.6						
LPAZ	**La Paz**	**19.43**	**14**	P	**P**	**05 58 59.0**	**-0.9**
	0.3nm,0.3s,baz=200,slow=6.3,SNR=4.9						
LPAZ	**La Paz**	**19.43**	**14**	eP	**P**	**05 58 59.4**	**-0.5**
	11nm,0.7s						
USHA	**Ushuaia**	**19.76**	**172**	LR	LR	06 05 51.7	
	comp=Z,441nm,18.4s,baz=328,slow=34						
SIV	**San Ignacio**	**21.96**	**32**	P	**P**	**05 59 26.3**	**-0.5**
	12nm,0.5s,baz=202,slow=7.9,SNR=29						
BDFB	**Brasilia**	**29.66**	**55**	P	**P**	**06 00 37.4**	**-1.3**
	6.0nm,0.8s,baz=234,slow=7.6,SNR=6.3						
RCBR	**Riachuelo**	**44.94**	**58**	P	**P**	**06 02 47.8**	**-0.1**
	7.1nm,0.6s,baz=223,slow=12,SNR=7.2						
SNAA	**Sanae**	**50.64**	**157**	P	**P**	**06 03 32.4**	**+0.9**
	1.2nm,0.5s,baz=288,slow=9.0,SNR=12						
SNAA	**Sanae**	**50.64**	**157**	eP	**P**	**06 03 32.1**	**+0.7**
	2.9nm,0.5s						
QSPA	**South Pole Qui**	**54.92**	**180**	P	**P**	**06 04 03.9**	**+0.6**
	1.7nm,0.8s,baz=225,slow=2.6,SNR=2.6						
VNDA	**Vanda**	**62.67**	**192**	P	**P**	**06 04 56.0**	**-0.8**
	1.9nm,0.4s,baz=117,slow=6.8,SNR=2.4						
TXAR	**Lajitas Array**	**70.55**	**332**	P	**P**	**06 05 48.3**	**+0.5**
	0.3nm,0.6s,baz=160,slow=9.0,SNR=5.8						
WVT	**Waverly**	**72.43**	**347**	eP	**P**	**06 05 58.4**	**-0.4**
	4.0nm,0.7s						
DBIC	**Dimbokro**	**76.27**	**72**	P	**P**	**06 06 21.9**	**+0.2**
	9.5nm,0.8s,baz=197,slow=7.8,SNR=12						
BOSA	**Boshof**	**80.08**	**118**	P	**P**	**06 06 43.2**	**+0.3**
	5.9nm,0.7s,baz=245,slow=3.9,SNR=12						
TORD	**Torodi Ar. Bea**	**85.32**	**70**	P	**P**	**06 07 09.7**	**-0.4**
	3.4nm,0.8s,baz=248,slow=4.5,SNR=10						
ULM	**Lac du Bonnet**	**87.59**	**345**	P	**P**	**06 07 20.1**	**-0.3**
	1.5nm,0.6s,baz=139,slow=9.3,SNR=3.2						
GERES	**GERESS Array B**	**113.58**	**46**	PKiKP	**PKiKP**	**06 13 11.4**	**+0.8**
	0.7nm,0.9s,baz=258,slow=6.7,SNR=3.6						
WRA	**Warramunga Arr**	**119.27**	**210**	PKP	**PKPdf**	**06 13 22.4**	**-0.1**
	0.3nm,0.3s,baz=132,slow=1.2,SNR=2.5						
BRTR	**Keskin Array B**	**123.08**	**62**	PKP	**PKPdf**	**06 13 27.9**	**-1.3**
	0.8nm,0.8s,baz=194,slow=4.6,SNR=4.0						
AKASG	**Malin Array Be**	**123.60**	**48**	PKP	**PKPdf**	**06 13 28.4**	**-1.2**
	0.3nm,0.4s,baz=268,slow=1.9,SNR=7.0						
FINES	**FINESS Array B**	**124.47**	**35**	PKP	**PKPdf**	**06 13 30.9**	**-0.1**
	2.1nm,0.9s,baz=197,slow=6.0,SNR=5.0						
ABKAR	**Akbulak array**	**143.04**	**53**	ePKPdf	PKPbc	06 14 02.2	-0.7
BRVK	**Borovoye**	**148.65**	**44**	ePKPdf	**PKPdf**	**06 14 15.4**	**0.0**
BRVK				ePKPbc	**PKPbc**	**06 14 19.8**	**+0.5**
BVAR	**Borovoye Array**	**148.72**	**44**	PKPbc	**PKPbc**	**06 14 20.2**	**+0.8**
	3.0nm,0.7s,baz=291,slow=4.1,SNR=11						
KKAR	**Karatay Array**	**150.78**	**63**	ePKPbc	**PKPbc**	**06 14 24.9**	**0.0**
AAK	**Ala-Archa**	**153.73**	**64**	PKPbc	**PKPbc**	**06 14 32.6**	**+0.9**
	3.1nm,0.8s,baz=177,slow=3.8,SNR=5.8						
AAK				PKPab	**PKPab**	**06 14 45.0**	**+0.4**
	1.4nm,0.6s,baz=248,slow=5.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**155.71**	**33**	PKPbc	PKPdf	06 14 35.2	+9.3
	2.0nm,0.9s,baz=270,slow=3.0,SNR=5.8						
ZALV				PKPab	**PKPab**	**06 14 52.8**	**+0.4**
	3.2nm,0.7s,baz=304,slow=6.0,SNR=7.3						
MKAR	**Makanchi Array**	**158.15**	**51**	PKPab	**PKPab**	**06 15 03.3**	**+0.1**
	1.1nm,0.8s,baz=288,slow=3.7,SNR=5.6						
SONM	**Songino Array**	**167.48**	**2**	PKPab	**PKPab**	**06 15 44.3**	**+0.2**
	0.6nm,0.9s,baz=350,slow=3.6,SNR=4.8						

IDC 28 05:58:54.3±0.8, 36.21S×72.50W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/26, mbtmp4.1/8, ML3.4/1, Error ellipse: s-maj=33.0km s-min=22.5km az=72.0
NEIC 28 05:58:59.7±0.6, 36.17S×72.41W, h35km, mb4.0/2, Error ellipse: s-maj=19.5km s-min=14.5km az=90.0
ISC 28 05:58:59.8±0.8, 36.3S±0.1×72.7W±0.2, h35km, n18, σ1.60/17, mb4.1/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.94**	**40**	Pn	Pn	06 00 20.9	-4.3
	1.1nm,0.3s,baz=223,slow=13,SNR=5.0						
LPAZ	**La Paz**	**20.31**	**13**	P	**P**	**06 03 33.1**	**-0.3**
	1.1nm,0.5s,baz=162,slow=3.2,SNR=2.3						
SIV	**San Ignacio**	**22.69**	**30**	P	**P**	**06 04 00.9**	**+2.5**
	1.4nm,0.7s,baz=223,slow=15,SNR=3.0						
PMSA	**Palmer Station**	**29.00**	**172**	P	**P**	**06 04 56.6**	**+0.8**
	24nm,0.6s,baz=347,slow=14,SNR=7.3						
TXAR	**Lajitas Array**	**71.48**	**332**	P	**P**	**06 10 17.3**	**+0.5**
	1.0nm,0.8s,baz=149,slow=8.6,SNR=8.8						
DBIC	**Dimbokro**	**76.40**	**71**	P	**P**	**06 10 45.5**	**-0.4**
	1.9nm,0.6s,baz=219,slow=5.0,SNR=4.7						
ANMO	**Albuquerque**	**77.54**	**332**	eP	**P**	**06 10 52.5**	**+0.4**
	3.7nm,1.3s						
BOSA	**Boshof**	**79.47**	**118**	P	**P**	**06 11 02.8**	**-0.2**
	5.4nm,1.1s,baz=207,slow=4.5,SNR=3.0						
SDCO	**Great Sand Dun**	**79.68**	**334**	eP	**P**	**06 11 03.2**	**-0.7**
	0.6nm,0.6s						
NVAR	**Mina Array Bea**	**85.46**	**326**	P	**P**	**06 11 34.5**	**+0.6**
	0.6nm,0.8s,baz=152,slow=6.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**85.47**	**70**	P	**P**	**06 11 33.6**	**-0.6**
	1.8nm,1.0s,baz=240,slow=5.2,SNR=2.8						
PDAR	**Pinedale Array**	**85.56**	**334**	P	**P**	**06 11 33.9**	**-0.4**
	1.2nm,1.1s,baz=176,slow=5.9,SNR=4.5						
AKASG	**Malin Array Be**	**124.09**	**49**	PKP	**PKPdf**	**06 17 51.4**	**-2.4**
	0.1nm,0.3s,baz=270,slow=0.9,SNR=4.0						
BVAR	**Borovoye Array**	**149.27**	**45**	PKPbc	**PKPbc**	**06 18 43.4**	**+3.6**
	3.0nm,0.7s,baz=292,slow=4.0,SNR=12						
AAK	**Ala-Archa**	**153.97**	**66**	PKPab	**PKPab**	**06 19 08.4**	**-0.6**
	2.3nm,0.8s,baz=240,slow=5.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**156.41**	**34**	PKP	**PKPdf**	**06 18 47.6**	**-2.5**
	0.4nm,0.3s,baz=270,slow=3.0,SNR=5.2						
MKAR	**Makanchi Array**	**158.59**	**53**	PKP	**PKPdf**	**06 18 53.4**	**+0.2**
	1.2nm,1.0s,baz=292,slow=3.9,SNR=5.4						
SONM	**Songino Array**	**168.43**	**3**	PKPab	**PKPab**	**06 20 10.6**	**-1.0**
	0.5nm,0.8s,baz=346,slow=3.0,SNR=3.7						

IDC 28 05:59:07.4±0.9, 39.34S×74.23W, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.2/27, mbtmp4.2/10, ML4.0/2, MS3.7/1, Ms1 3.7/1, ms1mx3.3/29, Error ellipse: s-maj=27.8km s-min=22.1km az=69.0
ISCJB 28 05:59:11.2±0.7, 39.3S±0.1×74.0W±0.2, h33km, mb4.2/11, MS3.7/1, Error ellipse: s-maj=19.7km s-min=13.9km az=142.4
NEIC 28 05:59:13.2±0.6, 39.38S×74.03W, h35km, mb4.3/3, Error ellipse: s-maj=20.5km s-min=15.3km az=56.0
ISC 28 05:59:13.5±0.8, 39.4S±0.1×74.0W±0.2, h35km, n19, σ1.82/19, mb4.3/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.99**	**118**	Pn	**Pn**	**05 59 58.7**	**+0.2**
	1.6nm,0.3s,baz=324,slow=14,SNR=2.9						
CPUP	**Villa Florida**	**19.09**	**52**	P	**P**	**06 03 31.4**	**-1.6**
	0.6nm,0.3s,baz=209,slow=11,SNR=3.0						
BDFB	**Brasilia**	**32.82**	**51**	P	**P**	**06 05 41.8**	**-2.1**
	3.3nm,0.7s,baz=180,slow=11,SNR=3.8						
SNAA	**Sanae**	**47.27**	**156**	P	**P**	**06 07 41.0**	**-2.0**
	3.4nm,1.1s,baz=270,slow=6.1,SNR=5.9						
SNAA				LR	LR	06 28 23.9	
	comp=Z,80nm,18.1s,baz=348,slow=37						
QSPA	**South Pole Qui**	**50.87**	**180**	P	**P**	**06 08 10.0**	**-0.6**
	6.8nm,1.0s,baz=155,slow=4.6,SNR=6.8						
SDDR	**Presa de Saban**	**58.11**	**3**	eP	**P**	**06 09 04.7**	**+1.2**
	0.8nm,0.3s						
TXAR	**Lajitas Array**	**73.72**	**333**	P	**P**	**06 10 40.8**	**-3.0**
	1.2nm,0.8s,baz=154,slow=9.1,SNR=5.8						
DBIC	**Dimbokro**	**78.41**	**71**	P	**P**	**06 11 11.7**	**+0.9**
	5.1nm,0.6s,baz=213,slow=6.3,SNR=9.6						
ANMO	**Albuquerque**	**79.80**	**333**	eP	**P**	**06 11 17.2**	**-0.9**
	2.3nm,1.0s						
SDCO	**Great Sand Dun**	**82.02**	**335**	eP	**P**	**06 11 28.8**	**-1.3**
	4.8nm,1.5s						
NVAR	**Mina Array Bea**	**87.44**	**327**	P	**P**	**06 11 57.4**	**+0.1**
	0.5nm,0.6s,baz=152,slow=6.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**87.51**	**71**	P	**P**	**06 11 58.9**	**+1.0**
	2.1nm,0.8s,baz=233,slow=4.0,SNR=8.0						
PDAR	**Pinedale Array**	**87.88**	**335**	P	**P**	**06 11 59.0**	**-0.3**
	1.0nm,1.0s,baz=102,slow=6.7,SNR=3.9						
BRTR	**Keskin Array B**	**125.70**	**65**	PKP	**PKPdf**	**06 18 13.7**	**+2.5**
	0.9nm,0.6s,baz=201,slow=3.9,SNR=5.4						
AKASG	**Malin Array Be**	**126.91**	**51**	PKP	**PKPdf**	**06 18 15.3**	**+2.4**
	0.4nm,0.5s,baz=257,slow=2.0,SNR=3.6						
BVAR	**Borovoye Array**	**152.16**	**49**	PKPbc	**PKPbc**	**06 19 07.8**	**+3.2**
	3.9nm,0.7s,baz=287,slow=3.6,SNR=11						
AAK	**Ala-Archa**	**156.09**	**72**	PKPab	**PKPab**	**06 19 33.5**	**+1.8**
	3.6nm,0.6s,baz=225,slow=5.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**159.54**	**38**	PKPab	**PKPab**	**06 19 44.9**	**-1.1**
	2.1nm,0.6s,baz=305,slow=4.2,SNR=6.3						
MKAR	**Makanchi Array**	**161.22**	**59**	PKPab	**PKPab**	**06 19 53.5**	**-0.2**
	1.1nm,0.8s,baz=292,slow=3.8,SNR=5.8						

IDC 28 06:00:34.0±0.9, 38.60S×73.82W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.2/25, mbtmp4.1/8, Error ellipse: s-maj=41.7km s-min=23.5km az=63.0
ISCJB 28 06:00:37.7±0.8, 38.6S±0.1×73.7W±0.2, h33km, mb4.1/11, Error ellipse: s-maj=21.8km s-min=17.6km az=146.6
NEIC 28 06:00:39.4±0.5, 38.55S×73.77W, h35km, mb4.2/4, Error ellipse: s-maj=20.4km s-min=14.8km az=62.0
ISC 28 06:00:39.5±0.8, 38.5S±0.1×73.7W±0.2, h35km, n24, σ0.85/25, mb4.0/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**18.40**	**53**	eP	**Pn**	**06 04 51.4**	**-0.3**
	1.2nm,1.0s						
LPAZ	**La Paz**	**22.70**	**14**	P	**P**	**06 05 38.4**	**-0.4**
	5.4nm,0.7s,baz=198,slow=8.0,SNR=3.8						
LPAZ	**La Paz**	**22.70**	**14**	P	**P**	**06 05 38.4**	**-0.4**
	3.4nm,0.7s						
OTAV	**Otavalo**	**38.82**	**352**	eP	**P**	**06 08 01.2**	**-0.5**
	9.3nm,1.3s						
SNAA	**Sanae**	**47.96**	**156**	P	**P**	**06 09 12.3**	**-2.0**
	0.6nm,0.8s,baz=275,slow=12,SNR=1.7						
TXAR	**Lajitas Array**	**73.07**	**333**	P	**P**	**06 12 05.4**	**-0.7**
	1.6nm,0.9s,baz=155,slow=8.0,SNR=5.4						
DBIC	**Dimbokro**	**77.93**	**71**	P	**P**	**06 12 34.6**	**+0.4**
	6.5nm,0.7s,baz=212,slow=6.3,SNR=6.8						
ANMO	**Albuquerque**	**79.14**	**333**	eP	**P**	**06 12 41.1**	**+0.5**
	5.2nm,1.4s						
BOSA	**Boshof**	**79.18**	**118**	P	**P**	**06 12 42.9**	**+1.8**
	3.8nm,0.9s,baz=233,slow=8.3,SNR=3.3						
SDCO	**Great Sand Dun**	**81.34**	**335**	eP	**P**	**06 12 52.5**	**0.0**
	1.6nm,0.9s						
NVAR	**Mina Array Bea**	**86.85**	**326**	P	**P**	**06 13 21.8**	**+1.4**
	0.8nm,0.8s,baz=160,slow=4.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**87.02**	**71**	P	**P**	**06 13 21.1**	**-0.4**
	1.8nm,0.9s,baz=293,slow=2.0,SNR=5.8						
PDAR	**Pinedale Array**	**87.21**	**334**	P	**P**	**06 13 21.9**	**-0.2**
	0.7nm,0.8s,baz=138,slow=9.6,SNR=3.6						
GERES	**GERESS Array B**	**116.27**	**47**	PKP	**PKPdf**	**06 19 19.2**	**+0.5**
	0.8nm,0.9s,baz=116,slow=3.1,SNR=3.8						
BRTR	**Keskin Array B**	**125.14**	**64**	PKP	**PKPdf**	**06 19 36.5**	**+0.3**
	0.7nm,0.7s,baz=205,slow=5.5,SNR=4.1						
AKASG	**Malin Array Be**	**126.20**	**50**	PKP	**PKPdf**	**06 19 37.6**	**0.0**
	0.1nm,0.3s,baz=272,slow=2.4,SNR=4.9						
AKTO	**Aktyubinsk**	**144.19**	**55**	PKP	PKPbc	06 20 09.2	-0.1
	2.8nm,0.7s,baz=22,slow=1.4,SNR=6.2						
TIXI	**Tiksi**	**144.86**	**348**	ePKPdf	**PKPab**	**06 20 09.3**	**-1.4**
ABKAR	**Akbulak array**	**145.44**	**57**	ePKPbc	**PKPbc**	**06 20 13.7**	**+0.2**
BRVK	**Borovoye**	**151.37**	**48**	ePKPbc	**PKPbc**	**06 20 29.9**	**+1.1**
BRVK				ePKPab	**PKPab**	**06 20 36.9**	**-0.2**
BVAR	**Borovoye Array**	**151.44**	**48**	PKPbc	**PKPbc**	**06 20 30.0**	**+1.1**
	4.9nm,0.7s,baz=278,slow=3.8,SNR=13						
ZALV	**Zalesovo Beam**	**158.73**	**37**	PKP	**PKPdf**	**06 20 33.1**	**+0.4**
	1.5nm,0.9s,baz=321,slow=1.8,SNR=2.6						
ZALV				PKPab	**PKPab**	**06 21 08.5**	**0.0**
	2.0nm,0.8s,baz=308,slow=3.5,SNR=3.9						
MKAR	**Makanchi Array**	**160.59**	**57**	PKPab	**PKPab**	**06 21 16.4**	**-0.5**
	0.9nm,0.8s,baz=310,slow=4.6,SNR=5.3						
SONM	**Songino Array**	**170.70**	**359**	PKPab	**PKPab**	**06 22 01.3**	**-0.1**
	0.9nm,0.9s,baz=347,slow=5.2,SNR=4.8						

IDC 28 06:05:58.4±0.8, 34.91S×73.77W, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.1/27, mbtmp4.1/12, ML4.7/1, Error ellipse: s-maj=27.8km s-min=18.7km az=78.0
ISCJB 28 06:06:01.4±0.6, 34.96S±0.09×73.8W±0.2, h33km, mb4.0/13, Error ellipse: s-maj=22.2km s-min=12.4km az=165.0
NEIC 28 06:06:03.2±0.5, 34.93S×73.81W, h35km, mb4.4/2, Error ellipse: s-maj=21.0km s-min=12.2km az=75.0
ISC 28 06:06:03.6±0.8, 34.9S±0.1×73.8W±0.2, h35km, n18, σ0.94/17, mb4.1/13, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.32**	**157**	Pn	**Pn**	**06 07 33.7**	**-0.6**
	4.1nm,0.3s,baz=327,slow=11,SNR=7.5						
SIV	**San Ignacio**	**22.02**	**34**	P	**P**	**06 10 55.3**	**+0.2**
	2.2nm,0.6s,baz=221,slow=10,SNR=3.3						
BDFB	**Brasilia**	**30.03**	**57**	P	**P**	**06 12 08.7**	**-0.7**
	3.4nm,0.9s,baz=158,slow=11,SNR=2.7						
SNAA	**Sanae**	**51.27**	**157**	P	**P**	**06 15 03.8**	**+0.2**
	2.3nm,0.9s,baz=302,slow=7.1,SNR=8.3						
QSPA	**South Pole Qui**	**55.30**	**180**	P	**P**	**06 15 33.4**	**0.0**
	4.6nm,0.9s,baz=160,slow=4.6,SNR=7.3						
TXAR	**Lajitas Array**	**69.88**	**332**	P	**P**	**06 17 10.6**	**-0.3**
	0.5nm,0.6s,baz=154,slow=8.1,SNR=5.8						
ABTX	**Abilene, Hawle**	**71.46**	**337**	eP	**P**	**06 17 19.9**	**-0.5**
	2.5nm,0.8s						
DBIC	**Dimbokro**	**76.82**	**72**	P	**P**	**06 17 52.5**	**+0.4**
	1.6nm,0.8s,baz=207,slow=4.5,SNR=3.2						
SDCO	**Great Sand Dun**	**78.09**	**335**	eP	**P**	**06 17 56.5**	**-2.5**
	7.9nm,2.0s						
BOSA	**Boshof**	**80.89**	**118**	P	**P**	**06 18 14.9**	**+0.5**
	4.5nm,0.8s,baz=191,slow=5.0,SNR=6.1						
NVAR	**Mina Array Bea**	**83.86**	**326**	P	**P**	**06 18 31.4**	**+1.8**
	0.2nm,0.4s,baz=133,slow=6.3,SNR=2.5						
PDAR	**Pinedale Array**	**83.97**	**334**	P	**P**	**06 18 29.9**	**-0.2**
	0.5nm,0.9s,baz=195,slow=2.8,SNR=2.5						
TORD	**Torodi Ar. Bea**	**85.86**	**71**	P	**P**	**06 18 40.6**	**+0.6**
	0.6nm,0.7s,baz=256,slow=3.3,SNR=3.7						
ULM	**Lac du Bonnet**	**87.04**	**346**	P	**P**	**06 18 44.0**	**-0.8**
	2.7nm,1.0s,baz=170,slow=6.1,SNR=3.3						
BRTR	**Keskin Array B**	**123.52**	**62**	PKP	**PKPdf**	**06 24 56.9**	**-0.4**
	0.7nm,0.8s,baz=209,slow=2.3,SNR=4.5						
ABKAR	**Akbulak array**	**143.37**	**53**	ePKPdf	PKPbc	06 25 30.6	-0.4
AAK	**Ala-Archa**	**154.19**	**63**	PKPbc	**PKPbc**	**06 26 00.0**	**+0.2**
	0.7nm,0.5s,baz=214,slow=9.7,SNR=3.6						
MKAR	**Makanchi Array**	**158.44**	**49**	PKPab	**PKPab**	**06 26 32.0**	**+0.3**
	1.0nm,0.6s,baz=314,slow=4.1,SNR=6.1						

ISCJB 28 06:08:22.2±0.4, 35.49S±0.07×72.11W±0.08, h35km, mb4.5/25, Error ellipse: s-maj=10.6km s-min=8.6km az=39.6
NEIC 28 06:08:23.6±0.4, 35.52S×72.22W, h35km, mb4.7/13, Error ellipse: s-maj=10.7km s-min=9.2km az=57.0
IDC 28 06:08:24.5±0.6, 35.44S×72.01W, h39km±4km, mb4.2/13, mb1 4.3/14, mb1mx4.2/27, mbtmp4.4/14, ML4.4/1, Error ellipse: s-maj=20.9km s-min=14.5km az=72.0
ISC 28 06:08:24.0±0.5, 35.46S±0.07×72.18W±0.09, h35km, n51, σ1.11/57, mb4.6/25, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
CFAA Coronel Fontan 5.06 42 Pn Pn 06 09 39.1 +1.7
1.4nm,0.3s,baz=218,slow=14,SNR=7.6
CFAA Sn Sn 06 10 34.4 -0.3
2.0nm,0.3s,baz=189,slow=10,SNR=3.4
CFAA Lg Lg 06 10 50.2
2.8nm,0.3s,baz=324,slow=19,SNR=3.8
PLCA Paso Flores 5.42 167 ePn Pn 06 09 34.5 -7.8
TRQA Tornquist 8.58 111 ePn Pn 06 10 28.5 +2.8
CPUP Villa Florida 15.65 59 Pn Pn 06 12 01.2 -0.6
0.4nm,0.3s,baz=209,slow=16,SNR=2.4
LPAZ La Paz 19.44 12 P Pn 06 12 50.1 +0.7
0.6nm,0.3s,baz=175,slow=9.1,SNR=18
SIV San Ignacio 21.79 30 P P 06 13 12.6 -0.3
18nm,0.7s,baz=224,slow=9.8,SNR=29
NNA Nana 23.75 349 P P 06 13 32.7 -0.5
9.6nm,0.8s,baz=184,slow=8.5,SNR=5.0
SAML Samuel 27.64 19 eP P 06 14 07.8 -0.6
5.9nm,0.9s
BDFB Brasilia 29.27 54 P P 06 14 21.5 -1.5
3.8nm,0.7s,baz=232,slow=5.3,SNR=7.6
ROSC El Rosal 40.16 357 P P 06 15 60.0 +2.8
3.7nm,0.2s,baz=90,slow=23,SNR=5.8
SDV Santo Domingo 44.13 2 eP P 06 16 28.9 -0.4
23nm,1.0s
SNAA Sanae 50.28 157 P P 06 17 15.1 -1.4
2.0nm,0.8s,baz=296,slow=8.7,SNR=9.2
CELP Cerrillos 53.51 7 eP P 06 17 41.0 0.0
QSPA South Pole Qui 54.78 180 P P 06 17 50.2 +0.3
9.4nm,0.9s,baz=167,slow=2.0,SNR=15
QSPA pP pP 06 18 02.6 +2.1
6.2nm,0.8s,baz=114,slow=0.8,SNR=6.0
TEIG Tepich 57.45 342 P P 06 18 07.1 -2.2
JCT Junction City 70.56 335 eP P 06 19 36.2 +0.8
5.5nm,1.0s
TXAR Lajitas Array 70.95 331 P P 06 19 38.5 +0.7
1.1nm,0.6s,baz=151,slow=8.7,SNR=12
TXAR pP pP 06 19 49.8 +1.0
0.8nm,0.6s,baz=157,slow=6.8,SNR=5.7
SWET Sewanee 71.48 348 eP P 06 19 40.6 -0.2
14nm,0.8s
WVT Waverly 72.70 347 eP P 06 19 47.7 -0.4
18nm,0.8s
DBIC Dimbokro 75.76 71 P P 06 20 06.2 -0.3
18nm,0.8s,baz=207,slow=5.8,SNR=24
DBIC Dimbokro 75.76 71 P P 06 20 06.2 -0.3
12nm,0.8s
RAR Rarotonga 76.13 254 eP P 06 20 07.2 -1.3
LAZ Ladron 76.80 331 eP P 06 20 13.5 +1.4
4.9nm,1.5s
BOSA Boshof 79.50 118 P P 06 20 26.7 -0.6
16nm,0.9s,baz=240,slow=3.2,SNR=23
BOSA Boshof 79.50 118 P P 06 20 26.7 -0.6
8.4nm,0.9s
LBTB Lobatse 81.80 115 eP P 06 20 38.8 -0.9
45nm,1.7s
ECSD EROS Data Cent 81.90 342 eP P 06 20 39.1 -0.4
5.5nm,0.9s
DUG Dugway 84.08 330 eP P 06 20 49.3 -1.7
6.2nm,1.3s
TOA0 Torodi Ar. Sit 84.82 70 eP P 06 20 54.0 -1.1
TORD Torodi Ar. Bea 84.82 70 P P 06 20 54.8 -0.4
6.5nm,0.8s,baz=253,slow=4.6,SNR=29
TORD pP pP 06 21 07.5 +1.2
5.1nm,1.0s,baz=294,slow=5.7,SNR=6.3
PDAR Pinedale Array 85.01 333 P P 06 20 55.9 +0.1
0.6nm,0.9s,baz=197,slow=3.1,SNR=4.8
PDAR pP pP 06 21 08.3 +1.5
0.9nm,0.9s,baz=155,slow=4.9,SNR=4.5
NVAR Mina Array Bea 85.02 325 P P 06 20 57.1 +1.2
0.6nm,0.8s,baz=157,slow=5.6,SNR=4.5
NVAR pP pP 06 21 09.0 +2.1
1.0nm,0.8s,baz=134,slow=4.3,SNR=4.3
ELK Elko 85.55 329 P P 06 20 58.9 +0.4
0.7nm,0.6s,baz=180,slow=2.0,SNR=1.7
ULM Lac du Bonnet 87.88 345 P P 06 21 08.8 -0.5
4.7nm,0.8s,baz=149,slow=4.8,SNR=7.6
ULM pP pP 06 21 19.7 -0.7
2.9nm,0.9s,baz=191,slow=3.4,SNR=3.6
MCMT McKenzie Canyo 88.01 332 eP P 06 21 10.8 +0.4
2.7nm,1.1s
DGMT Dagmar 88.31 339 eP P 06 21 11.8 +0.3
5.6nm,0.9s
YKA Yellowknife Ar 103.40 341 Pdiff Pdif 06 22 20.0 +0.2
0.1nm,0.4s,baz=134,slow=5.3,SNR=4.3
BRTR Keskin Array B 122.63 62 PKP PKPdf 06 27 15.4 -0.4
1.1nm,0.7s,baz=209,slow=2.2,SNR=6.9
AKASG Malin Array Be 123.26 48 PKP PKPdf 06 27 15.4 -1.1
0.7nm,0.5s,baz=266,slow=2.6,SNR=8.1
FINES FINESS Array B 124.25 35 PKP PKPdf 06 27 17.2 -0.8
1.3nm,0.9s,baz=215,slow=2.3,SNR=4.6
ARCES ARCESS Array B 125.39 25 PKP PKPdf 06 27 19.1 -1.0
4.2nm,1.1s,baz=224,slow=3.8,SNR=3.3
ABKAR Akbulak array 142.66 53 ePKdf PKPdf 06 27 47.4 -5.5
HYB Hyderabad 148.40 117 iPKP PKPdf 06 28 05.0 +1.3
YAK Yakutsk 150.06 339 ePKPbc PKPbc 06 28 09.2 -0.7
KKAR Karatay Array 150.32 64 ePKPbc PKPbc 06 28 10.8 -0.4
EKS2 Erkin-Say 152.74 64 ePKPbc PKPbc 06 28 17.1 +0.1
AAK Ala-Archa 153.27 64 PKPbc PKPbc 06 28 18.4 +0.2
9.7nm,0.8s,baz=174,slow=3.4,SNR=16
AAK pPKPbc pPKPbc 06 28 29.8 +0.2
2.8nm,0.5s,baz=13,slow=0.9,SNR=4.2
KURK Kurchatov 154.01 45 ePKPdf PKPdf 06 28 11.1 -0.1
KURK ePKPab PKPab 06 28 32.4 -0.4
ZALV Zalesovo Beam 155.51 34 PKPbc PKPdf 06 28 21.9 +8.7
1.4nm,0.5s,baz=304,slow=3.4,SNR=7.0
ZALV PKPab PKPab 06 28 36.2 -2.9
3.7nm,0.9s,baz=298,slow=3.2,SNR=7.5
MKAR Makanchi Array 157.78 52 PKPab PKPab 06 28 49.0 -0.3
2.3nm,0.7s,baz=296,slow=3.9,SNR=9.2
SONM Songino Array 167.59 4 PKPab PKPab 06 29 32.8 +0.6
0.7nm,0.8s,baz=320,slow=4.4,SNR=5.0

ISCJB 28 06:08:43.3±0.6, 35°.69S±0°.07×72°.7W±0°.2, h17km, mb4.7/12, MS4.6/1, Error ellipse: s-maj=19.8km s-min=9.7km az=0.7
IDC 28 06:08:45.7±0.9, 35°.70S×72°.77W, h22km±4km, mb4.6/12, mb1 4.7/15, mb1mx4.4/30, mbtmp4.7/15, ML4.5/3, MS4.8/1, Ms1 4.8/1, ms1mx3.8/17, Error ellipse: s-maj=25.9km s-min=15.3km az=84.0
ISC 28 06:08:44.9±0.7, 35°.65S±0°.08×72°.8W±0°.2, h17km, n24, σ1s10/27, mb4.8/12, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PLCA Paso Flores 5.37 162 Pn Pn 06 10 05.0 +0.7
11nm,0.3s,baz=331,slow=15,SNR=3.3
PLCA Lg Lg 06 11 26.9
22nm,0.3s,baz=250,slow=20,SNR=2.8
CFAA Coronel Fontan 5.54 45 Pn Pn 06 10 06.0 -0.6
1.9nm,0.3s,baz=228,slow=12,SNR=5.8
CFAA Lg Lg 06 11 35.1
1.3nm,0.3s,baz=121,slow=19,SNR=2.8
USHA Ushuaia 19.42 172 P P 06 13 10.3 +0.3
1.1nm,0.3s,baz=341,slow=8.1,SNR=8.0
SIV San Ignacio 22.20 31 P P 06 13 41.4 +0.9
19nm,1.1s,baz=214,slow=15,SNR=41
SIV LR LR 06 24 18.4
comp=Z,2μm,18.0s,baz=225,slow=42
BDFB Brasilia 29.78 54 P P 06 14 49.3 -1.7
11nm,0.9s,baz=185,slow=7.3,SNR=6.2
VNA3 Neumayer Olymp 48.07 157 P P 06 17 22.3 -0.8
VNA2 Neumayer--Watz 48.74 157 P P 06 17 27.2 -1.0
baz=299,slow=8.5
SNAA Sanae 50.30 157 P P 06 17 39.4 -0.8
SNAA Sanae 50.30 157 P P 06 17 39.6 -0.5
16nm,0.8s,baz=286,slow=5.9,SNR=36
SNAA pP pP 06 17 46.2 +0.7
11nm,0.9s,baz=264,slow=6.0,SNR=9.5
TXAR Lajitas Array 70.88 332 P P 06 20 00.6 -0.5
0.8nm,0.6s,baz=150,slow=7.3,SNR=4.6
MAW Mawson 71.77 164 P P 06 20 05.0 -0.8
46nm,1.0s,baz=207,slow=6.8,SNR=3.4
DBIC Dimbokro 76.29 71 P P 06 20 34.2 +1.2
14nm,0.7s,baz=213,slow=6.3,SNR=8.5
BOSA Boshof 79.85 118 P P 06 20 52.6 -0.2
27nm,0.8s,baz=233,slow=5.1,SNR=15
BOSA pP PcP 06 20 59.8 -0.8
18nm,0.9s,baz=254,slow=4.6,SNR=6.0
NVAR Mina Array Bea 84.89 326 P P 06 21 19.0 +0.1
1.0nm,0.7s,baz=123,slow=6.6,SNR=4.9
PDAR Pinedale Array 84.96 334 P P 06 21 20.9 +1.8
1.1nm,1.0s,baz=156,slow=8.9,SNR=4.0
TORD Torodi Ar. Bea 85.35 70 P P 06 21 22.3 +0.8
7.7nm,0.9s,baz=250,slow=4.8,SNR=10
TORD pP pP 06 21 29.4 +2.3
9.3nm,0.8s,baz=240,slow=3.9,SNR=7.2
ULM Lac du Bonnet 87.93 345 P P 06 21 32.1 -1.1
7.6nm,0.8s,baz=207,slow=3.4,SNR=10
SCHQ Schefferville 90.27 3 P P 06 21 44.5 +0.4
1.9nm,0.8s,baz=117,slow=4.5,SNR=3.7
YKA Yellowknife Ar 103.42 341 Pdiff Pdif 06 22 42.7 -0.8
0.2nm,0.6s,baz=145,slow=5.5,SNR=4.3
AKASG Malin Array Be 123.75 48 PKP PKPdf 06 27 39.3 -1.9
1.1nm,0.7s,baz=262,slow=2.7,SNR=5.1
KBZ Khabaz 130.96 60 pPKP pPKPdf 06 28 00.9 -0.1
2.3nm,0.8s,baz=146,slow=8.6,SNR=4.0
ZALV Zalesovo Beam 155.94 34 PKPab PKPab 06 29 05.2 +0.6
6.9nm,0.8s,baz=305,slow=5.2,SNR=9.0
ZALV pPKPab pPKPab 06 29 12.1 +1.7
8.9nm,1.0s,baz=307,slow=5.4,SNR=5.5
MKAR Makanchi Array 158.29 52 PKP PKPdf 06 28 40.0 -0.8
0.6nm,0.7s,baz=270,slow=2.9,SNR=5.8
SONM Songino Array 167.81 3 PKPab PKPab 06 29 57.2 +0.5
2.2nm,0.9s,baz=338,slow=4.2,SNR=9.1

NIED 28 06:16:00, 26°.00N×128°.60E, h8km, Mw4.3 Best double couple: M0 2.70000×10^15 NP1:φs23.00000°, δ57.00000°, λ-179.00000°. NP2:φs292.00000°, δ89.00000°, λ-33.00000°.
IDC 28 06:16:50.2±1.1, 25°.99N×128°.39E, h0km, mb4.0/13, mb1 4.1/15, mb1mx4.0/51, mbtmp4.0/15, ML3.8/1, Error ellipse: s-maj=34.6km s-min=20.0km az=86.0
ISCJB 28 06:16:52.3±0.8, 25°.97N±0°.03×128°.60E±0°.03, h30km±5km, mb4.0/19, Error ellipse: s-maj=6.2km s-min=3.6km az=44.4
JMA 28 06:16:52.4±0.3, 25°.97N×128°.64E, h34km±4km, M4.2
NEIC 28 06:16:55.7±0.6, 25°.99N×128°.26E, h35km, mb4.3/4, Error ellipse: s-maj=14.9km s-min=8.5km az=121.0
ISC 28 06:16:51.9±1.6, 25°.99N±0°.05×128°.60E±0°.04, h14km±9km, n62, σ1s34/74, mb4.2/19, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
JNTH Nagotoyohara 0.74 316 P Pg 06 17 06.6 +0.2
JNTH eS Sb 06 17 17.5 +0.8
JJT2 Tamagusuku 2 0.78 281 P Pb 06 17 07.7 +0.4
JJT2 S Sb 06 17 18.6 +0.8
JOW Kunigami 0.89 341 P Pg 06 17 09.3 +0.1
JOW Kunigami 0.89 341 Pn Pg 06 17 09.4 +0.2
90nm,0.3s,baz=146,slow=18,SNR=385
JOW Sn Sg 06 17 20.1 -0.8
69nm,0.3s,baz=131,slow=19,SNR=25
JOW LR LR 06 17 26.0
comp=Z,34nm,21.2s,baz=320,slow=42
JIH Iheya 1.19 332 P Pg 06 17 13.8 -1.0
JIH S Sg 06 17 29.2 -1.2
JAGN Aguni-jima 1.36 297 P Pn 06 17 16.1 -0.4
JAGN eS Sb 06 17 34.0 -0.5
JOKE Okinoerabujima 1.37 359 P Pn 06 17 16.5 -0.2
JOKE eS Sb 06 17 33.0 -1.8
JKE Kume jima 2 1.67 282 P Pn 06 17 19.8 -0.9
JKE eS Sn 06 17 40.4 -1.6
JTK Tokunoshima 1.82 10 P Pn 06 17 22.7 -0.2
JTK eS Sn 06 17 44.7 -1.1
JAMN Amaminishikomi 2.31 13 P Pn 06 17 29.5 0.0
JAMN eS Sn 06 17 56.2 -1.6
JMZ Minamidaito 2 2.37 93 P Pn 06 17 29.5 -0.8
JMZ eS Sn 06 17 55.4 -3.8
JAM Amami Oshima 2.58 20 P Pn 06 17 32.8 -0.5
JAM eS Sn 06 18 02.3 -2.1
JZK Kikaishima 2.62 27 P Pn 06 17 34.9 +1.0
JZK eS Sn 06 18 04.8 -0.8
JOGS Gusukube 3.14 248 eS Sn 06 18 17.0 -1.3
JTAJ Takarajima 3.20 9 P Pn 06 17 41.6 -0.2
JTAJ eS Sn 06 18 17.4 -2.4
JIKM Ikemajima 3.21 252 P Pn 06 17 41.5 -0.5
JIKM eS Sn 06 18 18.8 -1.3
JTJ Tarama 3.77 250 P Pn 06 17 48.8 -0.9
JTJ eS Sn 06 18 30.6 -3.4
JISG Ishigakijimahi 4.13 251 P Pn 06 17 53.9 -0.7
JISG eS Sn 06 18 41.5 -1.2
JIJ Ishigaki jima 4.35 249 P Pn 06 17 56.7 -1.0
JIJ eS Sn 06 18 44.8 -3.4
JKRS Kuro-shima 4.51 248 P Pn 06 17 59.5 -0.4
IRIF Iriomote-Funau 4.71 251 P Pn 06 18 02.4 -0.2
NACB Ninganchiao 6.60 256 ePn Pn 06 18 26.3 -2.4
SSLB Suanglung 7.28 254 ePn Pn 06 18 35.1 -2.9
JNU Nakatsue 7.38 15 Pn Pn 06 18 40.2 +0.9
1.5nm,0.3s,baz=198,slow=10,SNR=18
JNU Sn Sn 06 19 59.3 -3.7
0.6nm,0.3s,baz=210,slow=20,SNR=2.7
TWG Pinlang 7.55 247 ePn Pn 06 18 37.4 -4.2
KSAR Wonju Array Be 11.44 357 Pn Pn 06 19 36.6 +1.7
KSRS Korea Array 11.45 357 Pn Pn 06 19 36.6 +1.6
baz=176,slow=14,SNR=5.2
USRK Ussuriysk Arra 18.38 8 P P 06 21 09.4 +3.1
0.2nm,0.3s,baz=188,slow=13,SNR=5.2
YSS Yuzh-Sakhalins 23.75 25 eP P 06 22 06.6 +2.9
9.4nm,0.4s
SONM Songino Array 27.94 327 P P 06 22 42.8 +0.9
2.8nm,0.5s,baz=143,slow=11,SNR=22
CMAR Chiang Mai Arr 28.41 261 P P 06 22 49.8 +3.4
0.7nm,0.5s,baz=51,slow=7.8,SNR=5.7
ODAN Odare 36.80 281 eP P 06 24 00.1 +0.2
28nm,0.7s
RAMN Ramite 37.49 281 eP P 06 24 05.0 -0.7
JIRN Jiri 37.75 282 eP P 06 24 08.4 +0.3
GUN Gumba 37.99 283 eP P 06 24 10.6 +0.5
PKI Pulchoki 38.45 282 eP P 06 24 13.4 -0.5
PKIN Phulchoki 38.46 282 eP P 06 24 13.5 -0.5
KKN Kakani 38.53 283 eP P 06 24 14.1 -0.4
DMN Daman 38.71 282 eP P 06 24 15.9 -0.1
GKN Gorkha 39.07 283 eP P 06 24 19.0 +0.1
20nm,0.7s
DANN Dangsing 39.79 284 eP P 06 24 25.7 +0.6
19nm,0.6s
KOLN Koldanda 40.01 283 eP P 06 24 27.3 +0.5
17nm,0.9s
PYUN Piuthan 40.50 284 eP P 06 24 31.1 +0.2
MKAR Makanchi Array 41.95 312 P P 06 24 41.7 -0.6
1.3nm,0.7s,baz=94,slow=10.0,SNR=21
ZALV Zalesovo Beam 42.64 323 P P 06 24 46.2 -1.6
0.7nm,0.4s,baz=117,slow=8.8,SNR=5.5
WRAB Tennant Creek 45.98 172 eP P 06 25 16.1 +1.2
2.1nm,0.8s
WRA Warramunga Arr 45.99 172 P P 06 25 15.9 +1.0
0.9nm,0.6s,baz=350,slow=8.6,SNR=5.6
ABKAR Akbulak array 57.06 313 eP P 06 26 38.3 +0.8
2.6nm,0.8s
GEYT Alibeck 59.70 300 P P 06 26 55.8 -0.5
2.3nm,0.7s,baz=68,slow=9.8,SNR=4.9
FINES FINESS Array B 73.24 331 P P 06 28 21.1 -1.3
2.1nm,0.7s,baz=84,slow=5.5,SNR=9.0
AKASG Malin Array Be 75.93 320 P P 06 28 38.1 -0.2
1.9nm,0.5s,baz=59,slow=6.5,SNR=12
AK01 Malin Array Si 75.94 320 eP P 06 28 38.0 -0.2
BR131 Keskin Array S 77.45 308 eP P 06 28 47.5 +0.3
2.3nm,0.8s
BRTR Keskin Array B 77.45 308 P P 06 28 48.0 +0.8
4.2nm,1.1s,baz=114,slow=4.6,SNR=10
YKA Yellowknife Ar 78.61 25 P P 06 28 54.5 +1.5
0.2nm,0.5s,baz=300,slow=5.4,SNR=6.2
HFS Hagfors 79.19 332 P P 06 28 55.6 -0.7
2.5nm,0.9s,baz=72,slow=14,SNR=3.7
NB2 NORSAR Subarra 79.68 334 P P 06 28 58.3 -0.7
comp=Z,0.7nm,0.6s,baz=52,slow=5.9
NOA NORSAR Array B 79.68 334 P P 06 28 57.9 -1.1
comp=Z,1.5nm,0.9s,baz=51,slow=5.5,SNR=5.5
MLR Muntele Rosu 80.15 316 P P 06 29 01.8 -0.1
comp=Z,0.5nm,0.8s,baz=169,slow=1.9,SNR=3.2
SUMG Summit 81.30 356 iP P 06 29 13.1 +5.2
comp=Z,5.5nm,1.0s
GERES GERESS Array B 85.59 323 P P 06 29 30.2 +0.1
comp=Z,0.5nm,0.7s,baz=29,slow=8.4,SNR=3.4
DAVOX Davos/Dischmat 88.89 323 P P 06 29 49.3 +3.1
comp=Z,1.9nm,0.6s,baz=0.0,slow=3.0,SNR=6.4

IDC 28 06:19:38.9±1.8, 23°.30S×69°.04W, h0km, mb4.3/6, mb1 4.2/8, mb1mx3.8/37, mbtmp4.2/8, ML3.6/2, Error ellipse: s-maj=50.8km s-min=27.9km az=21.0, Northern Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
LPAZ La Paz 7.02 7 Pn Pn 06 21 25.8 +2.2
0.3nm,0.3s,baz=188,slow=8.9,SNR=3.0
SIV San Ignacio 10.44 47 Pn Pn 06 22 09.4 -0.7
1.1nm,0.3s,baz=268,slow=7.5,SNR=12
BDFB Brasilia 21.22 73 P P 06 24 25.9 -0.7
1.5nm,0.6s,baz=260,slow=12,SNR=3.5
APG El Apazote 43.45 329 P P 06 27 43.2 -1.0
6.1nm,0.6s,baz=171,slow=13,SNR=3.3
DBIC Dimbokro 69.37 73 P P 06 30 48.0 -0.9
1.7nm,0.5s,baz=216,slow=6.6,SNR=3.8
TORD Torodi Ar. Bea 78.07 70 P P 06 31 41.0 +0.9
0.9nm,0.4s,baz=256,slow=5.3,SNR=28
SFJD Kangerlussuaq 91.07 7 P P 06 32 43.4 -1.3
4.9nm,0.7s,baz=240,slow=7.5,SNR=4.0
YKA Yellowknife Ar 92.83 341 P P 06 32 53.3 +0.4
0.3nm,0.6s,baz=135,slow=4.7,SNR=10
MKAR Makanchi Array 147.14 37 PKPbc PKPbc 06 39 24.2 +0.3
1.3nm,0.8s,baz=311,slow=2.8,SNR=11

IDC 28 06:20:28.1±1.6, 33°.91S×72°.42W, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.6/34, mbtmp3.8/5, ML2.8/1, MS3.9/1, Ms1 3.9/1, ms1mx2.9/17, Error ellipse: s-maj=52.0km s-min=22.8km az=127.0
ISCJB 28 06:20:29.4±2.4, 33°.9S±0°.2×72°.3W±0°.5, h17km, mb3.8/3, Error ellipse: s-maj=63.9km s-min=21.5km az=23.4
ISC 28 06:20:31.4±2.0, 33°.9S±0°.2×72°.2W±0°.4, h17km, n8, σ0s58/7, mb3.8/3, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
CFAA Coronel Fontan 4.07 56 Pn Pn 06 21 33.0 0.0
0.6nm,0.3s,baz=226,slow=12,SNR=6.8
CFAA Lg Lg 06 22 42.9
1.4nm,0.3s,baz=96,slow=4.7,SNR=6.2
PLCA Paso Flores 6.91 169 LR LR 06 24 17.4
comp=Z,1μm,20.3s,baz=208,slow=33
SIV San Ignacio 20.50 32 P P 06 25 09.0 +0.4
1.2nm,0.6s,baz=229,slow=13,SNR=2.4
BDFB Brasilia 28.41 56 P P 06 26 24.7 -0.7
5.1nm,1.1s,baz=225,slow=8.6,SNR=5.0
SNAA Sanae 51.69 158 P P 06 29 37.2 0.0
0.4nm,0.5s,baz=251,slow=12,SNR=5.3
TORD Torodi Ar. Bea 84.32 70 P P 06 33 03.4 +0.6
0.5nm,0.8s,baz=232,slow=3.5,SNR=3.1
ZALV Zalesovo Beam 154.25 32 PKPbc PKPbc 06 40 29.4 -0.6
0.8nm,0.5s,baz=295,slow=3.2,SNR=4.0
MKAR Makanchi Array 156.83 49 PKPab PKPab 06 40 55.5 +0.1
0.3nm,0.5s,baz=282,slow=3.1,SNR=6.0

IDC 28 06:22:46.6±0.6, 38°.13S×73°.53W, h0km, mb4.3/14, mb1 4.4/16, mb1mx4.3/33, mbtmp4.3/16, ML4.3/2, MS4.3/9, Ms1 4.3/9, ms1mx4.0/21, Error ellipse: s-maj=22.1km s-min=15.3km az=87.0
ISCJB 28 06:22:54.1±0.5, 38°.02S±0°.08×72°.71W±0°.10, h33km, mb4.7/43, MS4.4/7, Error ellipse: s-maj=12.9km s-min=9.3km az=38.8
NEIC 28 06:22:56.6±0.5, 37°.97S×72°.70W, h35km, mb4.9/29, Error ellipse: s-maj=14.0km s-min=10.5km az=45.0
ISC 28 06:22:55.7±0.5, 37°.87S±0°.08×72°.9W±0°.1, h33km, n96, σ2s12/89, mb4.8/44, MS4.5/7, Central Chile

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PLCA Paso Flores 3.37 149 Pn Pn 06 23 44.6 -1.5
24nm,0.3s,baz=306,slow=13,SNR=15
PLCA Lg Lg 06 24 41.7
52nm,0.3s,baz=221,slow=22,SNR=5.9
CFAA Coronel Fontan 7.32 33 Pn Pn 06 24 42.4 +2.1
0.9nm,0.3s,baz=210,slow=13,SNR=7.5
CFAA Sn Sn 06 26 12.4 +10
0.3nm,0.3s,baz=267,slow=19,SNR=2.2
CFAA LR LR 06 28 29.2
comp=Z,280nm,18.2s,baz=225,slow=44
TRQA Tornquist 8.60 95 Pn Pn 06 24 56.7 -1.1
CPUP Villa Florida 17.45 53 P P 06 26 59.0 +1.5
0.7nm,0.3s,baz=200,slow=8.2,SNR=7.0
CPUP LR LR 06 34 45.9
comp=Z,3μm,18.9s,baz=210,slow=40
CPUP Villa Florida 17.45 53 eP P 06 26 59.5 +2.0
1.0nm,0.9s
LPAZ La Paz 21.90 12 P P 06 27 47.8 +1.1
12nm,0.9s,baz=178,slow=8.6,SNR=12
LPAZ La Paz 21.90 12 eP P 06 27 47.8 +1.1
71nm,1.6s
SIV San Ignacio 24.15 29 P P 06 28 08.8 -0.1
4.9nm,0.8s,baz=230,slow=11,SNR=11
SIV LR LR 06 40 08.6
comp=Z,2μm,18.6s,baz=222,slow=42
NNA Nana 26.02 351 P P 06 28 22.6 -3.2
3.9nm,0.6s,baz=219,slow=13,SNR=2.9
NNA Nana 26.02 351 eP P 06 28 24.9 -0.9
6.9nm,0.6s
SAML Samuel 30.09 19 eP P 06 29 01.4 -0.8
10nm,1.3s
BDFB Brasilia 31.17 51 P P 06 29 12.6 +0.8
4.8nm,1.1s,baz=210,slow=8.1,SNR=3.3
BDFB LR LR 06 43 45.1
comp=Z,1μm,18.3s,baz=214,slow=40
BDFB Brasilia 31.17 51 eP P 06 29 16.8 +5.0
OTAV Otavalo 38.27 351 eP P 06 30 12.6 -0.8
8.7nm,0.8s
ROSC El Rosal 42.53 358 P P 06 30 44.6 -4.0
0.8nm,0.3s,baz=75,slow=20,SNR=1.8
ROSC El Rosal 42.53 358 eP P 06 30 50.0 +1.4
SDV Santo Domingo 46.56 3 eP P 06 31 18.1 -2.4
9.6nm,0.8s
SNAA Sanae 48.28 157 P P 06 31 28.7 -4.4
4.4nm,1.1s,baz=290,slow=7.3,SNR=8.6
SNAA Sanae 48.28 157 eP P 06 31 28.8 -4.4
17nm,1.1s
QSPA South Pole Qui 52.37 180 P P 06 31 57.9 -6.4
12nm,1.1s,baz=146,slow=5.8,SNR=9.5
RKT Rikitea 54.59 267 eLR LR 06 48 03.9
617nm,25.5s
RKT Rikitea 54.59 267 eT T 07 29 50.1
2.0nm,0.2s
TBI Tubuai 65.83 259 eT T 07 43 45.7
6.2nm,0.3s
MEH Mehetia 67.73 264 eT T 07 46 12.8
17nm,0.2s
TVO Taravao 68.72 264 eT T 07 47 26.0
2.2nm,0.3s
TIAR Tiarei 68.92 264 eT T 07 47 41.0
8.7nm,0.2s
PAE Paea 69.04 264 eT T 07 47 50.2
1.6nm,0.3s
PPT2 Papeete2 69.08 264 eLR LR 06 54 36.8
394nm,26.2s
PPT Papeete 69.09 264 LR LR 06 58 29.8
comp=Z,116nm,18.1s,baz=100,slow=31
JCT Junction City 72.51 336 eP P 06 34 15.7 -3.4
15nm,1.0s
TXAR Lajitas Array 72.81 332 P P 06 34 16.6 -4.4
1.1nm,0.7s,baz=157,slow=8.7,SNR=14
WHTX Lake Whitney 73.20 338 P P 06 34 20.4 -2.6
25nm,1.2s
SWET Sewanee 73.73 349 eP P 06 34 22.2 -3.9
21nm,1.0s
ABTX Abilene, Hawle 74.45 337 eP P 06 34 32.7 +2.3
31nm,1.4s
TUL1 Tulsa 76.43 341 eP P 06 34 38.5 -3.1
14nm,0.8s
LIC Lamto 76.64 71 eP P 06 34 43.2 -0.2
90nm,1.4s
MSTX Muleshoe 76.70 335 eP P 06 34 44.1 +0.7
14nm,1.2s
V34A Guthrie 76.82 340 eP P 06 34 45.6 +1.8
15nm,1.0s
TIC Toumodi 76.92 71 eP P 06 34 45.1 +0.1
23nm,0.8s
KIC Kosan Boka 76.95 71 eP P 06 34 45.3 +0.2
57nm,1.1s
DBIC Dimbokro 77.06 71 P P 06 34 45.9 +0.1
11nm,0.8s,baz=222,slow=6.2,SNR=11
DBIC LR LR 07 07 08.2
comp=Z,210nm,18.2s,baz=212,slow=34
DBIC Dimbokro 77.06 71 eP P 06 34 46.1 +0.3
28nm,1.1s
AMTX Amarillo 77.18 336 eP P 06 34 47.6 +1.6
34nm,1.3s
BOSA Boshof 78.87 117 P P 06 34 54.0 -1.9
11nm,0.9s,baz=210,slow=5.1,SNR=12
BOSA LR LR 07 07 00.7
comp=Z,159nm,18.4s,baz=227,slow=34

ANMO Albuquerque 78.88 332 P P 06 34 51.8 -3.8
1.3nm,0.8s,baz=174,slow=3.2,SNR=3.9
ANMO Albuquerque 78.88 332 eP P 06 34 56.9 +1.3
SMCO Snowmass 82.84 334 eP P 06 35 19.2 +2.2
13nm,1.3s
ISCO Idaho Springs 82.94 335 eP P 06 35 19.1 +1.9
12nm,1.6s
CCUT Cedar City 83.84 329 eP P 06 35 23.8 +1.8
8.6nm,1.2s
ECSD EROS Data Cent 84.04 343 eP P 06 35 18.7 -3.8
9.4nm,1.0s
MVU Marysvale 84.20 330 eP P 06 35 24.5 +0.7
7.6nm,1.3s
R11A Troy Canyon, C 85.45 328 eP P 06 35 31.6 +1.7
14nm,1.5s
K22A Casper 85.80 336 eP P 06 35 34.0 +2.4
37nm,1.9s
DUG Dugway 85.89 330 eP P 06 35 34.2 +2.2
12nm,1.3s
TPH Tonopah 85.92 326 eP P 06 35 30.8 -1.6
TOA0 Torodi Ar. Sit 86.15 70 eP P 06 35 32.5 -1.2
TORD Torodi Ar. Bea 86.15 70 P P 06 35 32.5 -1.3
1.3nm,0.7s,baz=216,slow=5.2,SNR=11
TORD LR LR 07 12 43.0
comp=Z,99nm,19.9s,baz=235,slow=34
RSSD Black Hills 86.36 338 eP P 06 35 36.7 +2.3
44nm,2.5s
HWUT Hardware Ranch 86.64 332 eP P 06 35 34.2 -1.5
21nm,1.3s
NVAR Mina Array Bea 86.69 326 P P 06 35 33.5 -2.7
1.0nm,0.8s,baz=144,slow=6.3,SNR=3.1
PDAR Pinedale Array 86.92 334 P P 06 35 35.8 -1.4
2.6nm,1.0s,baz=142,slow=5.1,SNR=11
ELK Elko 87.33 329 P P 06 35 35.9 -3.3
0.8nm,0.7s,baz=208,slow=2.8,SNR=2.0
IMW Indian Meadow 88.40 334 eP P 06 35 46.0 +1.7
68nm,3.0s
FLWY Flagg Ranch 88.48 334 eP P 06 35 46.3 +1.7
16nm,1.4s
HLID Hailey 89.39 331 eP P 06 35 51.8 +3.0
7.1nm,1.3s
MCMT McKenzie Canyo 89.89 333 eP P 06 35 42.6 -8.6
2.2nm,1.1s
LRM Limekiln Ridge 90.61 334 eP P 06 35 56.0 +1.5
20nm,1.0s
DZM Mont Dzumac 98.42 234 eLR LR 07 08 11.7
298nm,24.7s
DZM Mont Dzumac 98.42 234 LR LR 07 13 33.6
comp=Z,141nm,18.8s,baz=180,slow=31
GERES GERESS Array B 115.31 47 PKP PKPdf 06 41 29.5 -3.8
0.4nm,0.7s,baz=208,slow=2.6,SNR=4.4
WRA Warramunga Arr 117.06 209 PKP PKPdf 06 41 34.9 -2.8
1.0nm,1.0s,baz=166,slow=1.7,SNR=3.5
AKASG Malin Array Be 125.25 50 PKP PKPdf 06 41 50.6 -1.6
0.8nm,0.7s,baz=266,slow=1.9,SNR=4.5
ARU Arti 143.05 44 ePKPdf PKPab 06 42 19.6 -1.0
AKTO Aktyubinsk 143.24 54 PKP PKPab 06 42 20.5 -1.2
4.8nm,0.8s,baz=258,slow=2.2,SNR=14
TIXI Tiksi 144.36 348 ePKPdf PKPab 06 42 20.3 -5.0
ABKAR Akbulak array 144.50 56 ePKPdf PKPab 06 42 24.6 -1.9
HYB Hyderabad 147.70 121 iPKP PKPdf 06 42 32.5 -2.0
BRVK Borovoye 150.41 47 ePKPdf PKPdf 06 42 39.4 +1.7
KKAR Karatay Array 151.81 68 ePKPdf PKPdf 06 42 42.5 +2.2
AAK Ala-Archa 154.73 69 ePKPdf PKPdf 06 42 47.0 +2.3
AAK ePKPab PKPab 06 43 08.2 -0.2
TKM2 Tokmak 2 155.54 68 ePKPdf PKPdf 06 42 42.8 -3.1
KSH Kashi 155.68 76 ePKP PKPdf 06 42 48.5 +2.5
KSH epPKP pPKPdf 06 42 57.8 +0.9
KSH esPKP 06 43 02.5
KSH eSKS SKSdf 06 49 49.5 -0.4
KSH eSKKS SKKSac 06 53 38.3 +1.6
KSH eSS SS 07 06 36.8 +1.7
KSH AMB AMB
comp=Z,130nm,4.9s
KSH LR LR
comp=Z,110nm,5.1s
KURK Kurchatov 156.06 48 ePKPdf PKPdf 06 42 47.5 +1.5
ZAA0 Zalesovo Array 157.79 36 ePKPdf PKPdf 06 42 48.4 +0.4
ZAA0 ePKPab PKPab 06 43 19.8 -1.1
ZALV Zalesovo Beam 157.79 36 PKP PKPdf 06 42 43.6 -4.4
0.4nm,0.3s,baz=318,slow=2.0,SNR=4.1
ZALV PKPab PKPab 06 43 18.6 -2.2
3.2nm,0.9s,baz=298,slow=6.2,SNR=7.5
MKAR Makanchi Array 159.65 56 PKP PKPdf 06 42 46.9 -3.7
1.1nm,1.0s,baz=42,slow=2.0,SNR=4.6
MKAR PKPab PKPab 06 43 27.7 -1.6
2.0nm,0.7s,baz=296,slow=3.3,SNR=13
WMQ Urumqi 164.14 62 ePKP PKPdf 06 42 56.8 +1.5
WMQ AMB AMB
comp=Z,140nm,12.2s
WMQ LR LR
comp=N,110nm,23.4s
WMQ LR LR
comp=E,120nm,20.8s
WMQ LR LR
comp=Z,150nm,21.0s
KMI Kunming 166.75 162 PKP PKPdf 06 43 00.5 +2.2
GYA Guiyang 168.61 178 ePKP PKPdf 06 43 00.3 +0.9
GYA pPKP pPKPdf 06 43 12.8 +2.5
GYA PKPab PKPab 06 44 12.0 +2.9
GYA PKS PKSdf 06 46 31.0 -1.1
GYA PP PP 06 48 01.5 +4.2
GYA SKKS 06 54 43.3
GYA SS SS 07 08 48.0 +1.2
GYA AMB AMB
comp=Z,120nm,8.5s
GYA LR LR
comp=N,120nm,21.4s
GYA LR LR
comp=E,110nm,21.6s
GYA LR LR
comp=Z,120nm,24.7s
NJ2 Nanjing 168.78 242 ePKP PKPdf 06 42 59.3 +0.1
SONM Songino Array 170.03 3 PKP PKPdf 06 42 53.5 -6.1
0.1nm,0.4s,baz=352,slow=2.9,SNR=2.4
SONM PKPab PKPab 06 44 11.5 -3.3
0.7nm,0.8s,baz=329,slow=2.9,SNR=4.7
CD2 Chengdu 172.51 157 PKP PKPdf 06 43 02.0 +0.7
GTA Gaotai 174.06 73 ePKP PKPdf 06 43 04.3 +2.6
GTA pPKP pPKPdf 06 43 14.8 +2.2
GTA sPKP 06 43 19.0
GTA PKPab PKPab 06 44 37.8 +4.5
HHC Hu-ho-hao-te 175.46 312 ePKP PKPdf 06 43 03.0 +0.9
HHC pPKP pPKPdf 06 43 13.0 0.0
HHC sPKP 06 43 16.8
HHC PP PP 06 48 36.0 +3.9
HHC SKKS 06 55 16.5
HHC SS SS 07 09 56.3 +0.8
HHC AMB AMB
comp=Z,70nm,5.1s
HHC LR LR
comp=N,180nm,18.7s
HHC LR LR
comp=E,230nm,18.7s
HHC LR LR
comp=Z,170nm,19.7s
XAN Xi'an 175.91 201 PKP PKPdf 06 42 58.0 -4.3
LZH Lanzhou 176.81 123 ePKP PKPdf 06 43 03.5 +0.9
LZH pPKP pPKPdf 06 43 14.3 +0.8
LZH sPKP 06 43 17.8

ISCJB 28 06:30:17.1±0.6, 36.07N±0.03×117.6W±0.1, h5km, mb2.9/2, MS3.5/1, Error ellipse: s-maj=14.0km s-min=4.9km az=176.2
NEIC 28 06:30:17.4, 36.06N×117.88W, h1km, ML3.4(PAS), After PAS.
NEIC Felt at Inyokern and Ridgecrest.
IDC 28 06:30:18.5±0.9, 36.07N×117.79W, h0km, mb3.0/2, mb1 3.3/5, mb1mx3.2/43, mbtmp3.0/5, ML3.0/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/11, Error ellipse: s-maj=25.8km s-min=5.9km az=77.0
ISC 28 06:30:18.6±0.9, 36.04N±0.04×117.8W±0.1, h5km, n10, σ0.86/15, California-Nevada border region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OSI Osito Adit 1.60 208 ePn Pn 06 30 47.0 -0.6
MWC Mount Wilson 1.82 186 ePn Pn 06 30 50.4 -0.3
MWC eSn Sb 06 31 16.0 +0.3
PASC Pasadena Art C 1.89 189 ePn Pn 06 30 51.4 -0.1
PASC eS Sb 06 31 17.3 -0.2
NVAR Mina Array Bea 2.41 351 Pn Pn 06 30 58.3 -0.6
2.4nm,0.3s,baz=176,slow=14,SNR=34
NVAR Pg Pg 06 31 03.6 -1.3
13nm,0.3s,baz=171,slow=19,SNR=66
NVAR Lg Lg 06 31 34.3
15nm,0.3s,baz=141,slow=42,SNR=7.8
PFO Pinyon Flat Ob 2.68 155 Pn Pn 06 31 01.4 -1.1
0.7nm,0.3s,baz=343,slow=15,SNR=11
PFO Pg Pb 06 31 08.2 +1.1
3.7nm,0.3s,baz=336,slow=14,SNR=24
PFO Lg Lg 06 31 43.5
10nm,0.3s,baz=247,slow=21,SNR=12
PFO Pinyon Flat Ob 2.68 155 ePn Pn 06 31 01.4 -1.1
PFO Pg Pb 06 31 08.2 +1.1
PFO Lg Lg 06 31 43.5
PFO eSg Sg 06 31 43.7 -0.9
ELK Elko 5.12 23 Pn Pn 06 31 36.3 +0.2
1.1nm,0.3s,baz=183,slow=7.5,SNR=23
ELK Lg Lg 06 32 58.5
1.8nm,0.3s,baz=2.2,slow=13,SNR=7.9
YKA Yellowknife Ar 26.55 3 P P 06 35 57.6 +0.5
0.2nm,0.8s,baz=182,slow=9.4,SNR=5.6
APG El Apazote 32.19 124 LR LR 06 51 08.8
comp=Z,84nm,18.4s,baz=102,slow=39
ILAR Eielson Array 33.60 338 P P 06 37 00.2 +0.7
0.2nm,0.7s,baz=159,slow=7.6,SNR=4.3

IDC 28 06:36:39.8±1.6, 37.23S×72.89W, h0km, mb3.9/5, mb1 3.9/8, mb1mx3.8/24, mbtmp3.8/8, ML3.8/3, Error ellipse: s-maj=34.9km s-min=19.3km az=77.0, Central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.95 153 Pn Pn 06 37 43.8 +2.0
0.9nm,0.3s,baz=323,slow=12,SNR=1.9
PLCA Lg Lg 06 38 44.6
6.5nm,0.3s,baz=49,slow=18,SNR=2.6
CFAA Coronel Fontan 6.80 36 Pn Pn 06 38 22.9 +2.0
0.3nm,0.3s,baz=136,slow=17,SNR=5.4
CFAA Sn Sn 06 39 38.7 -0.4
0.2nm,0.3s,baz=323,slow=21,SNR=2.3
CPUP Villa Florida 17.10 55 P P 06 40 41.4 -0.6
0.7nm,0.3s,baz=207,slow=8.4,SNR=4.9
LPAZ La Paz 21.28 13 P P 06 41 31.4 +2.8
2.9nm,0.8s,baz=180,slow=6.1,SNR=2.5
SIV San Ignacio 23.60 29 P P 06 41 51.5 -1.0
2.2nm,0.7s,baz=230,slow=11,SNR=8.1
BDFB Brasilia 30.79 52 P P 06 42 58.6 +1.3
1.1nm,0.5s,baz=207,slow=4.5,SNR=4.7
TXAR Lajitas Array 72.23 332 P P 06 48 07.2 +0.4
0.5nm,0.7s,baz=153,slow=8.6,SNR=6.5
DBIC Dimbokro 76.88 71 P P 06 48 33.5 -0.5
2.6nm,1.0s,baz=243,slow=4.5,SNR=2.2
TORD Torodi Ar. Bea 85.96 70 P P 06 49 21.1 -1.0
0.9nm,1.0s,baz=240,slow=5.9,SNR=3.6

SJA 28 06:43:32.1±1.2, 34.50S×72.80W, h141km±29km, ML4.6
IDC 28 06:43:36.1±0.7, 34.03S×71.99W, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/26, mbtmp4.3/13, ML3.7/2, MS3.8/1, Ms1 3.8/1, ms1mx3.1/24, Error ellipse: s-maj=24.5km s-min=17.3km az=79.0
GUC 28 06:43:37.1±0.5, 34.16S×72.24W, h43km±4km, ML4.5
ISCJB 28 06:43:38.5±1.3, 34.08S±0.05×72.25W±0.06, h25km±8km, mb4.3/18, Error ellipse: s-maj=9.6km s-min=7.3km az=145.3
NEIC 28 06:43:41.5±0.3, 34.00S×71.97W, h35km, mb4.4/8, Error ellipse: s-maj=10.9km s-min=6.9km az=87.0
ISC 28 06:43:42.0±2.0, 34.02S±0.08×72.2W±0.1, h43km±16km, n48, σ1.51/56, mb4.3/18, 3C, Near coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LCCH Las Cruces 0.73 43 eP Pn 06 43 53.0 -2.9
IHA Instituto Hidr 1.08 24⇑iP Pn 06 43 58.9 -1.7
IHA iS Sn 06 44 15.1 +0.7
TACH Talagante 1.08 71⇑iP Pn 06 43 58.0 -2.7
TACH iS Sn 06 44 14.4 -0.1
SAN Santiago 1.37 66 eP Pn 06 44 03.0 -1.7
SAN iS Sn 06 44 21.9 +0.3
SAN AML AML 06 44 38.2
comp=E,8μm,0.4s
STL Santa Lucia 1.39 66⇑iP Pn 06 44 02.4 -2.6
STL iS Sn 06 44 22.2 0.0
ROCH El Roble 1.42 43 eP Pn 06 44 04.1 -1.4
ROCH eS Sn 06 44 25.1 +2.0
ROCH AML AML 06 44 30.3
comp=N,8μm,0.5s
PEL Peldehue 1.51 55 eP Pn 06 44 05.0 -1.5
PEL eS Sn 06 44 26.0 +0.9
PEL AML AML 06 44 32.1
comp=N,18μm,0.5s
AAGR Agrelo 2.93 72 eP Pn 06 44 27.8 +1.5
ARCO CERRO ARCO 2.94 67 eP Pn 06 44 29.1 +2.7
ARCO eS Sn 06 45 10.2 +10
ARCO AML AML 06 45 19.2
comp=Z,497nm,0.5s
ASAL Salagasta 3.13 64 eP Pn 06 44 30.5 +1.7
ASAL eS Sn 06 45 14.1 +9.1
RTLS Leoncito 3.27 48 eP Pn 06 44 33.3 +2.3
RTCV Cerro Valdivia 3.73 56 eP Pn 06 44 40.0 +3.0
RTCV eS Sn 06 45 29.6 +10
CFAA Coronel Fontan 4.09 55 Pn Pn 06 44 40.5 -1.5
comp=Z,0.5nm,0.3s,baz=219,slow=12,SNR=3.8
CFAA Lg Lg 06 45 37.4
comp=Z,3.7nm,0.3s,baz=68,slow=17,SNR=6.7
RTLL Cerro Villicun 4.10 50 eP Pn 06 44 44.0 +1.8
RTLL eS Sn 06 45 36.5 +7.4
ACAN Cantantal 4.52 69 eP Pn 06 44 48.6 +0.6
ACAN eP Pn 06 44 48.6 +0.6
AVFE Valle Fertil 5.20 51 eP Pn 06 44 58.5 +1.1
AVFE AML AML 06 46 09.2
comp=Z,361nm,0.7s
PLCA Paso Flores 6.83 170 Pn Pn 06 45 19.4 -0.2
comp=Z,1.0nm,0.3s,baz=293,slow=15,SNR=2.7
PLCA Lg Lg 06 47 03.2
comp=Z,0.4nm,0.3s,baz=45,slow=17,SNR=2.1
CPUP Villa Florida 14.93 63 Pn Pn 06 47 11.8 +1.7
comp=Z,0.6nm,0.3s,baz=207,slow=9.4,SNR=4.6
CPUP LR LR 06 52 58.8
comp=Z,371nm,18.3s,baz=196,slow=38
CPUP Villa Florida 14.93 63 eP P 06 47 14.0 -1.0
LPAZ La Paz 18.02 13 P P 06 47 50.4 +0.4
comp=Z,0.5nm,0.3s,baz=182,slow=10.0,SNR=12
LPAZ La Paz 18.02 13 eP Pn 06 47 50.0 +0.1
comp=Z,14nm,0.8s
SIV San Ignacio 20.54 32 P P 06 48 15.8 -1.1
comp=Z,1.9nm,0.5s,baz=223,slow=14,SNR=5.9
NNA Nana 22.34 348 P P 06 48 37.6 +1.3
comp=Z,6.8nm,0.8s,baz=212,slow=14,SNR=3.0
SAML Samuel 26.28 20 eP P 06 49 12.7 -0.7
comp=Z,6.7nm,0.8s
BDFB Brasilia 28.43 56 P P 06 49 31.1 -1.7
comp=Z,2.6nm,0.9s,baz=202,slow=7.3,SNR=4.1
SDV Santo Domingo 42.69 2 eP P 06 51 34.8 -0.2
comp=Z,5.6nm,0.8s
SNAA Sanae 51.61 158 P P 06 52 44.2 +0.5
comp=Z,1.9nm,0.8s,baz=278,slow=8.8,SNR=8.0
CRPR Cabo Rojo, PR 51.96 6 eP P 06 52 46.4 -0.3
comp=Z,6.9nm,0.6s
TEIG Tepich 56.08 342 eP P 06 53 17.5 +0.6
comp=Z,5.8nm,0.6s
QSPA South Pole Qui 56.22 180 P P 06 53 18.6 +1.1
comp=Z,6.5nm,0.9s,baz=154,slow=3.9,SNR=13
TXAR Lajitas Array 69.70 331 P P 06 54 48.5 +1.1
comp=Z,1.1nm,0.7s,baz=154,slow=8.4,SNR=11
DBIC Dimbokro 75.28 71 P P 06 55 20.9 0.0
comp=Z,2.7nm,0.7s,baz=186,slow=3.4,SNR=4.3
BOSA Boshof 80.15 118 P P 06 55 47.8 -0.2
comp=Z,2.3nm,0.7s,baz=283,slow=4.5,SNR=5.4
SRU San Rafael 80.98 331 eP P 06 55 52.4 +0.3
comp=Z,1.3nm,0.6s
PDAR Pinedale Array 83.73 333 P P 06 56 07.0 +0.6
comp=Z,1.2nm,0.8s,baz=152,slow=6.7,SNR=9.5
NVAR Mina Array Bea 83.84 325 P P 06 56 08.8 +1.7
comp=Z,1.1nm,0.7s,baz=147,slow=6.1,SNR=6.2
TORD Torodi Ar. Bea 84.31 70 P P 06 56 09.6 -0.1
comp=Z,4.3nm,0.8s,baz=252,slow=4.2,SNR=19
ULM Lac du Bonnet 86.49 345 P P 06 56 19.5 -0.2
comp=Z,2.2nm,0.8s,baz=128,slow=5.2,SNR=4.4
MCMT McKenzie Canyo 86.74 332 eP P 06 56 22.8 +1.3
comp=Z,2.3nm,1.0s
DGMT Dagmar 86.96 339 eP P 06 56 23.2 +1.1
comp=Z,10.0nm,0.6s
YKA Yellowknife Ar 102.04 341 P Pdif 06 57 30.8 -0.1
comp=Z,0.3nm,0.7s,baz=143,slow=4.2,SNR=7.2
DOT Dot Lake 112.53 333 ePKPdf PKiKP 07 02 12.4 -0.3
BRTR Keskin Array B 121.93 61 PKP PKPdf 07 02 30.0 -1.7
comp=Z,0.5nm,0.7s,baz=132,slow=2.1,SNR=2.8
AKASG Malin Array Be 122.28 48 PKP PKPdf 07 02 30.8 -0.9
comp=Z,0.7nm,0.8s,baz=267,slow=3.5,SNR=3.3
ABKAR Akbulak array 141.77 52 ePKPdf PKPdf 07 03 03.8 -4.6
AAK Ala-Archa 152.60 62 PKPbc PKPbc 07 03 34.7 +0.8
comp=Z,1.9nm,0.7s,baz=302,slow=4.3,SNR=5.5
ZALV Zalesovo Beam 154.29 32 PKPbc PKPbc 07 03 37.4 +0.5
comp=Z,3.7nm,0.7s,baz=310,slow=3.3,SNR=12
ZALV PKPab PKPab 07 03 51.6 +0.6
comp=Z,2.9nm,0.7s,baz=313,slow=5.0,SNR=7.0
MKAR Makanchi Array 156.85 49 PKPab PKPab 07 04 01.5 -0.8
comp=Z,0.9nm,0.6s,baz=306,slow=2.9,SNR=5.6

IDC 28 06:44:48.7±0.9, 33.99S×71.92W, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/26, mbtmp4.0/6, ML4.5/1, Error ellipse: s-maj=46.2km s-min=24.6km az=82.0
ISCJB 28 06:44:49.9±1.1, 34.05S±0.1×71.9W±0.4, h19km, mb4.0/5, Error ellipse: s-maj=45.3km s-min=18.8km az=173.2
ISC 28 06:44:51.7±1.0, 33.95S±0.1×71.8W±0.3, h19km, n10, σ0.87/10, mb4.2/5, Near coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 6.86 172 Pn Pn 06 46 32.0 +0.6
2.3nm,0.3s,baz=0.0,slow=6.1,SNR=3.8
SNAA Sanae 51.58 158 P P 06 53 56.0 -0.3
1.1nm,0.8s,baz=307,slow=5.8,SNR=3.6
QSPA South Pole Qui 56.30 180 P P 06 54 30.6 -0.3
3.2nm,0.8s,baz=288,slow=2.1,SNR=5.5
TXAR Lajitas Array 69.76 331 P P 06 56 01.3 +0.6
0.2nm,0.4s,baz=149,slow=8.6,SNR=4.2
BOSA Boshof 79.95 118 P P 06 57 00.2 +0.3
2.2nm,0.9s,baz=320,slow=7.9,SNR=2.8
TORD Torodi Ar. Bea 84.03 70 P P 06 57 20.8 -0.5
1.3nm,0.8s,baz=254,slow=4.3,SNR=4.0
WRA Warramunga Arr 120.90 209 PKP PKPdf 07 03 41.7 -1.7
0.3nm,0.5s,baz=148,slow=1.4,SNR=4.4
BVAR Borovoye Array 147.12 43 PKPbc PKPab 07 04 34.1 -0.4
0.9nm,0.4s,baz=255,slow=1.5,SNR=4.5
ZALV Zalesovo Beam 154.08 32 PKPbc PKPbc 07 04 49.9 +0.3
1.5nm,0.5s,baz=327,slow=2.2,SNR=4.1
MKAR Makanchi Array 156.59 49 PKPab PKPab 07 05 15.2 +1.0
0.5nm,0.6s,baz=315,slow=2.0,SNR=4.0

IDC 28 06:52:16.6±2.9, 33.64S×71.82W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/26, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=74.5km s-min=41.8km az=16.0
SJA 28 06:52:17.3±1.0, 33.64S×72.57W, h64km±12km, ML3.9
ISC 28 06:52:18.8±1.5, 33.7S±0.1×72.14W±0.09, h19km, n15, σ2.36/19, mb3.9/3, 1D, Off coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AUSP Uspallata 2.73 59 eP Pb 06 53 05.9 -1.4
AUSP eS Sb 06 53 40.7 +0.3
ARCO CERRO ARCO 2.81 74 eP Pb 06 53 07.1 -1.5
ARCO eS Sb 06 53 44.0 +1.3
ARCO AML AML 06 53 50.0
comp=Z,318nm,0.7s
AAGR Agrelo 2.83 79 eP Pb 06 53 06.9 -2.0
AAGR eS Sb 06 53 44.8 +1.6
ASAL Salagasta 2.98 70 eP Pb 06 53 09.3 -2.0
ASAL eS Sb 06 53 47.8 +0.4
AVIZ Vizcacheras 3.03 87 eP Pb 06 53 09.9 -2.3
RTLS Leoncito 3.04 53 eP Pb 06 53 10.6 -1.9
RTLS eP Pb 06 53 10.6 -1.9
RTCV Cerro Valdivia 3.53 60 eP Pb 06 53 16.4 -4.4
RTLL Cerro Villicun 3.88 54⇓eP Pn 06 53 20.4 +2.8
CFAA Coronel Fontan 3.89 59 Pn Pn 06 53 20.0 +2.4
comp=Z,1.9nm,0.3s,baz=232,slow=13,SNR=18
CFAA Sn Sb 06 54 08.2 -5.3
comp=Z,1.3nm,0.3s,baz=106,slow=6.7,SNR=4.2
AMOG MOGNA 4.12 49 eP Pn 06 53 23.1 +2.2
AVFE Valle Fertil 4.98 54 eS Sn 06 54 33.6 +3.7
AVFE AML AML 06 54 44.5
comp=Z,73nm,0.8s
LPAZ La Paz 17.69 13 P P 06 56 24.3 -1.3
comp=Z,0.2nm,0.3s,baz=200,slow=11,SNR=3.8
BDFB Brasilia 28.22 56 P P 06 58 09.0 -1.7
comp=Z,2.2nm,0.9s,baz=232,slow=7.1,SNR=3.1
TXAR Lajitas Array 69.41 331 P P 07 03 27.1 +1.5
comp=Z,0.2nm,0.5s,baz=153,slow=8.1,SNR=3.6
TORD Torodi Ar. Bea 84.18 70 P P 07 04 48.9 -0.3
comp=Z,1.4nm,0.7s,baz=247,slow=4.0,SNR=8.1

ISCJB 28 06:53:54.6±0.5, 37.61S±0.07×73.5W±0.1, h23km, mb4.2/16, MS4.1/4, Error ellipse: s-maj=16.1km s-min=9.0km az=167.8
IDC 28 06:53:55.6±0.8, 37.61S×73.54W, h20km±4km, mb4.0/11, mb1 4.2/13, mb1mx4.1/28, mbtmp4.1/13, ML4.3/2, MS4.2/6, Ms1 4.1/6, ms1mx3.7/27, Error ellipse: s-maj=23.2km s-min=14.7km az=67.0
NEIC 28 06:53:57.9±0.4, 37.61S×73.45W, h35km, mb4.4/7, Error ellipse: s-maj=12.9km s-min=8.4km az=75.0
ISC 28 06:53:56.2±0.6, 37.56S±0.08×73.5W±0.1, h23km, n47, σ1.03/42, mb4.3/16, MS4.0/4, Near coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.91 145 Pn Pn 06 54 56.2 +1.4
4.0nm,0.3s,baz=319,slow=15,SNR=9.9
PLCA Lg Lg 06 55 59.9
21nm,0.3s,baz=341,slow=9.3,SNR=4.7
PLCA Paso Flores 3.91 145 ePn Pn 06 54 55.5 +0.7
PLCA Lg Lg 06 55 59.9
CFAA Coronel Fontan 7.35 38 LR LR 06 58 17.7
comp=Z,42nm,21.2s,baz=222,slow=35
LVC Limon Verde 15.41 16 ePn Pn 06 57 29.1 -3.2
27nm,1.3s
USHA Ushuaia 17.62 170 LR LR 07 05 56.9
comp=Z,1μm,18.5s,baz=316,slow=41
CPUP Villa Florida 17.67 55 P Pn 06 58 00.5 -0.3
0.3nm,0.3s,baz=211,slow=16,SNR=2.1
CPUP LR LR 07 04 50.8
comp=Z,355nm,21.6s,baz=214,slow=37
LPAZ La Paz 21.71 14 P P 06 58 48.5 +2.2
5.6nm,0.8s,baz=174,slow=11,SNR=4.3
LPAZ La Paz 21.71 14 eP P 06 58 48.1 +1.8
12nm,1.0s
SIV San Ignacio 24.12 30 P P 06 59 10.7 +0.3
3.8nm,0.8s,baz=222,slow=14,SNR=6.4
SIV LR LR 07 10 16.8
comp=Z,336nm,21.7s,baz=222,slow=41
SAML Samuel 29.97 21 eP P 07 00 03.0 +0.2
5.8nm,1.3s
BDFB Brasilia 31.36 53 P P 07 00 16.5 +1.1
3.3nm,0.7s,baz=238,slow=13,SNR=2.9
BDFB LR LR 07 13 50.4
comp=Z,359nm,20.1s,baz=222,slow=38
RPN Rapa Nui 31.85 279 LR LR 07 09 16.1
comp=Z,268nm,21.5s,baz=51,slow=29
OTAV Otavalo 37.89 352 eP P 07 01 13.6 +1.5
8.5nm,1.2s
RCBR Riachuelo 46.55 57 LR LR 07 23 29.2
comp=Z,956nm,19.0s,baz=167,slow=38
VNA3 Neumayer Olymp 46.55 156 P P 07 02 21.6 +0.1
VNA1 Neumayer--Stat 46.90 156 P P 07 02 23.4 -0.8
VNA2 Neumayer--Watz 47.23 156 P P 07 02 27.0 +0.1
SNAA Sanae 48.77 157 P P 07 02 38.3 -0.5
SNAA Sanae 48.77 157 P P 07 02 38.4 -0.4
2.8nm,0.9s,baz=273,slow=7.3,SNR=7.5
QSPA South Pole Qui 52.69 180 P P 07 03 08.0 -0.5
2.8nm,0.9s,baz=177,slow=3.2,SNR=4.5
QSPA South Pole Qui 52.69 180 P P 07 03 08.0 -0.5
RKT Rikitea 54.11 267 eLR LR 07 19 14.2
363nm,26.2s
RKT Rikitea 54.11 267 eT T 08 01 18.4
1.3nm,0.2s
TBI Tubuai 65.41 259 eT T 08 15 15.8
5.8nm,0.4s
MEH Mehetia 67.27 264 eT T 08 17 41.8
12nm,0.2s
JCT Junction City 72.02 336 eP P 07 05 19.2 +1.1
12nm,1.1s
TXAR Lajitas Array 72.30 333 P P 07 05 19.7 -0.1
0.7nm,0.8s,baz=153,slow=6.7,SNR=5.5
TXAR pP pP 07 05 26.5 -0.8
2.6nm,1.0s,baz=147,slow=8.9,SNR=12

DBIC Dimbokro 77.43 71 P P 07 05 50.1 +0.3
9.2nm,0.8s,baz=204,slow=4.6,SNR=9.1
DBIC pP pP 07 05 56.5 -0.8
4.8nm,0.7s,baz=212,slow=12,SNR=4.6
ANMO Albuquerque 78.37 333 eP P 07 05 55.4 +0.7
3.5nm,1.1s
BOSA Boshof 79.46 118 P P 07 06 00.2 -0.8
5.5nm,1.0s,baz=312,slow=5.9,SNR=3.6
SDCO Great Sand Dun 80.55 335 eP P 07 06 07.3 +0.6
ECSD EROS Data Cent 83.59 343 eP P 07 06 21.6 -0.5
9.5nm,1.0s
NVAR Mina Array Bea 86.16 326 P P 07 06 35.6 +0.1
0.1nm,0.4s,baz=151,slow=11,SNR=1.9
NVAR pP pP 07 06 42.6 -0.4
0.6nm,0.5s,baz=168,slow=5.5,SNR=3.6
PDAR Pinedale Array 86.42 334 P P 07 06 36.5 -0.2
1.4nm,1.1s,baz=166,slow=3.1,SNR=4.5
TORD Torodi Ar. Bea 86.51 71 P P 07 06 37.0 -0.4
1.4nm,0.7s,baz=223,slow=5.6,SNR=8.3
ULM Lac du Bonnet 89.64 346 pP pP 07 06 58.2 -0.8
6.5nm,1.1s,baz=41,slow=1.4,SNR=4.9
BRTR Keskin Array B 124.53 63 PKP PKPdf 07 12 53.3 -0.2
0.7nm,0.8s,baz=151,slow=2.8,SNR=4.0
AKASG Malin Array Be 125.42 50 PKP PKPdf 07 12 57.2 +2.7
0.4nm,0.5s,baz=276,slow=1.8,SNR=4.7
AKTO Aktyubinsk 143.46 54 PKhKP PKPpre 07 13 24.7
1.1nm,0.6s,baz=329,slow=5.9,SNR=4.4
ABKAR Akbulak array 144.74 56 ePKPdf PKPab 07 13 29.4 0.0
HYB Hyderabad 148.29 122 i PKP PKPbc 07 13 40.0 -0.9
BRVK Borovoye 150.56 47 ePKPbc PKPbc 07 13 45.6 +0.2
BVAR Borovoye Array 150.63 47 PKPbc PKPbc 07 13 45.5 -0.1
2.8nm,0.7s,baz=285,slow=5.0,SNR=13
KKAR Karatay Array 152.15 67 ePKPbc PKPbc 07 13 49.9 +0.5
AAK Ala-Archa 155.07 68 PKPab PKPab 07 14 10.9 -1.0
2.9nm,0.8s,baz=205,slow=7.1,SNR=4.8
ZALV Zalesovo Beam 157.83 35 PKP PKPdf 07 13 49.0 -1.1
0.8nm,0.7s,baz=113,slow=1.9,SNR=4.6
ZALV PKPab PKPab 07 14 23.0 0.0
1.0nm,0.5s,baz=308,slow=4.9,SNR=3.9
MKAR Makanchi Array 159.88 55 PKP PKPdf 07 13 52.5 -0.4
0.5nm,0.8s,baz=46,slow=3.5,SNR=4.3
MKAR PKPab PKPab 07 14 32.0 -0.3
1.0nm,0.8s,baz=291,slow=3.4,SNR=4.5

BJI 28 06:54:00.5, 25.75N×128.88E, h12km, mB4.8/19, mb4.5/37, Ms4.3/25, Ms7 4.2/18
NIED 28 06:54:00, 26.00N×128.60E, h14km, Mw4.3 Best double couple: Mo3.18000×10^15 NP1:φs223.00000°, δ42.00000°, λ77.00000°. NP2:φs61.00000°, δ50.00000°, λ102.00000°.
IDC 28 06:54:03.9±0.9, 25.96N×128.59E, h0km, mb4.2/17, mb1 4.4/20, mb1mx4.2/38, mbtmp4.2/20, ML3.6/3, MS3.5/3, Ms1 3.6/3, ms1mx3.1/42, Error ellipse: s-maj=22.3km s-min=17.4km az=96.0
ISCJB 28 06:54:04.8±0.7, 25.94N±0.03×128.65E±0.03, h22km±5km, mb4.4/40, MS4.0/8, Error ellipse: s-maj=5.3km s-min=3.7km az=41.1
NEIC 28 06:54:04.6±2.0, 25.89N×128.48E, h7km±11km, mb4.6/10, MW4.3(NIED), Error ellipse: s-maj=12.9km s-min=7.1km az=132.0
NEIC Felt at Nago, Okinawa.
JMA 28 06:54:06.3±0.3, 25.97N×128.64E, h36km, M4.3
MOS 28 06:54:06.9±1.1, 25.98N×128.54E, h33km, mb4.7/26, Error ellipse: s-maj=15.6km s-min=6.8km az=109.6
ISC 28 06:54:05.6±0.6, 25.95N±0.04×128.61E±0.04, h15km±3km, n148, σ1.48/180, mb4.2/41, MS4.2/9, 1C-2D, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JNTH Nagotoyohara 0.78 317 P Pb 06 54 20.7 -0.1
JJT2 Tamagusuku 2 0.80 284 P Pn 06 54 21.8 -0.5
JOW Kunigami 0.93 341 P Pb 06 54 23.3 -0.2
JOW eS Sb 06 54 35.3 -0.4
JOW Kunigami 0.93 341 Pn Pb 06 54 23.4 0.0
59nm,0.3s,baz=144,slow=17,SNR=322
JOW Sn Sb 06 54 35.4 -0.4
60nm,0.3s,baz=125,slow=19,SNR=20
JOW Kunigami 0.93 341 ePg Pb 06 54 23.2 -0.2
JOW eSg Sb 06 54 34.7 -1.0
JIH Iheya 1.23 332 P Pn 06 54 27.9 -0.3
JAGN Aguni-jima 1.39 298 P Pn 06 54 30.3 -0.1
JOKE Okinoerabujima 1.41 359 P Pn 06 54 30.3 -0.4
JOKE S Sn 06 54 47.4 -1.7
JKE Kume jima 2 1.68 283 P Pn 06 54 33.7 -0.8
JKE eS Sn 06 54 53.8 -2.0
JTK Tokunoshima 1.86 9 P Pn 06 54 36.5 -0.4
JTK S Sn 06 54 58.4 -1.7
JAMN Amaminishikomi 2.34 12 P Pn 06 54 43.1 -0.4
JAMN eS Sn 06 55 10.7 -1.4
JMZ Minamidaito 2 2.35 93 P Pn 06 54 42.4 -1.3
JMZ S Sn 06 55 08.3 -4.3
JAM Amami Oshima 2.61 20 P Pn 06 54 46.5 -0.7
JAM S Sn 06 55 17.0 -1.7
JZK Kikaishima 2.65 27 P Pn 06 54 47.6 -0.2
JZK eS Sn 06 55 18.8 -1.0
JOGS Gusukube 3.13 249 P Pn 06 54 54.8 +0.4
JIKM Ikemajima 3.21 252 P Pn 06 54 55.4 0.0
JTAJ Takarajima 3.24 9 P Pn 06 54 55.8 -0.1
JTAJ eS Sn 06 55 31.1 -3.1
JIRB Irabujima 3.30 251 P Pn 06 54 56.5 -0.2
JTJ Tarama 3.77 251 P Pn 06 55 02.3 -0.9
JISG Ishigakijimahi 4.12 252 P Pn 06 55 06.4 -1.6
JIJ Ishigaki jima 4.34 250 P Pn 06 55 09.5 -1.6
JKRS Kuro-shima 4.50 249 P Pn 06 55 13.0 -0.3
NACB Ninganchiao 6.60 256 ePn Pn 06 55 39.8 -2.3
NACB eSn Sn 06 56 50.0 -7.2
YHNB Yeheng 6.67 261 ePn Pn 06 55 43.6 +0.5
YULB Yu-li 7.12 251 ePn Pn 06 55 45.3 -4.0
SSLB Suanglung 7.28 254 ePn Pn 06 55 49.1 -2.3
JNU Nakatsue 7.42 15 Pn Pn 06 55 54.4 +1.0
3.6nm,0.3s,baz=234,slow=4.0,SNR=24
JNU Nakatsue 7.42 15 ePn Pn 06 55 54.7 +1.3
NJ2 Nanjing 10.48 308 eP Pn 06 56 33.5 -1.8
NJ2 S Sn 06 58 32.0 -0.5
NJ2 pmax pmax
comp=Z,30nm,1.3s
NJ2 LR LR
comp=N,800nm,11.8s
NJ2 LR LR
comp=E,3μm,14.2s
NJ2 LR LR
comp=Z,1μm,11.0s
KSAR Wonju Array Be 11.48 357 P Pn 06 56 50.6 +1.6
KSAR Wonju Array Be 11.48 357 Pn Pn 06 56 50.5 +1.6
KSRS Korea Array 11.49 357 P Pn 06 56 50.5 +1.5
comp=Z,0.1nm,0.3s,baz=179,slow=14,SNR=10
KSRS LR LR 07 01 35.8
comp=Z,298nm,18.6s,baz=173,slow=39
MJAR Matsushiro Arr 13.37 36 Pn P 06 57 22.5 -1.8
comp=Z,0.2nm,0.3s,baz=217,slow=9.1,SNR=3.0
WHN Wuhan 13.38 293 eP P 06 57 24.5 +0.1
WHN S S 07 00 26.0 +19
WHN LR LR
comp=N,810nm,13.8s
WHN LR LR
comp=E,2μm,12.3s
WHN LR LR
comp=Z,2μm,11.4s
BJI Beijing 17.48 327 P P 06 58 11.8 +1.9
BJI S Sn 07 01 22.8 -0.2
BJI pmax pmax
comp=Z,17nm,1.0s
BJI LR LR
comp=Z,920nm,14.9s
BJI LR LR
comp=Z,400nm,12.8s
USRK Ussuriysk Arra 18.42 8 P Pn 06 58 22.2 +1.9
comp=Z,0.2nm,0.3s,baz=181,slow=9.5,SNR=9.6
MDJ Mudanjiang 18.65 2 P P 06 58 23.3 +0.2
MDJ pP pP 06 58 26.8 -0.1
MDJ S S 07 01 54.0 -0.8
MDJ PcP PcP 07 02 48.0 -3.1
MDJ ScS ScS 07 10 04.8 -2.4
MDJ pmax pmax
comp=Z,63nm,4.4s
MDJ LR LR
comp=Z,100nm,7.2s
MDJ LR LR
comp=Z,160nm,5.0s
MDJ LR LR
comp=Z,240nm,6.5s
QIZ Qiongzhong 18.65 252 P P 06 58 20.0 -3.0
QIZ S Sn 07 01 49.5 -2.2
QIZ pmax pmax
comp=Z,11nm,1.6s
XAN Xi'an 18.84 300 P P 06 58 25.0 -0.1
XAN S Sn 07 01 52.8 -3.6
XAN pmax pmax
comp=Z,3.0nm,1.3s
HHC Hu-ho-hao-te 20.52 321 eP Pn 06 58 45.0 -0.7
HHC sP sP 06 58 52.0 +2.5
HHC PP PnPn 06 59 05.5 +4.6
HHC S S 07 02 28.5 -4.2
HHC PcP PcP 07 02 58.0 +3.3
HHC pmax pmax
comp=Z,21nm,0.5s
HHC pmax pmax
comp=Z,220nm,5.5s
HHC LR LR
comp=Z,590nm,12.0s
HHC LR LR
comp=Z,690nm,12.4s
HHC LR LR
comp=Z,1μm,12.6s
CD2 Chengdu 22.39 288 eP P 06 59 01.8 -1.8
CD2 pP pP 06 59 06.0 -1.8
CD2 sP sP 06 59 08.8 -0.9
CD2 PP PnPn 06 59 28.5 +2.0
CD2 S S 07 03 01.5 -7.7
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.2s
CD2 LR LR
comp=Z,860nm,11.2s
CD2 LR LR
comp=Z,830nm,12.1s
CD2 LR LR
comp=Z,750nm,13.3s
KMI Kunming 23.35 274 P P 06 59 15.0 +1.2
KMI S S 07 03 17.5 -8.9
KMI pmax pmax
comp=Z,13nm,1.3s
KMI LR LR
comp=Z,400nm,10.0s
KMI LR LR
comp=Z,340nm,19.3s
KLR Kul'dur 23.37 5 eP P 06 59 06.0 -7.5
LZH Lanzhou 23.45 302 eP P 06 59 14.3 -0.3
LZH pP pP 06 59 19.3 +0.3
LZH sP sP 06 59 21.3 +0.4
LZH eS S 07 03 25.3 -2.5
LZH SS SnSn 07 04 09.3 +5.9
LZH pmax pmax
comp=Z,60nm,1.4s
LZH pmax pmax
comp=Z,130nm,4.9s
LZH LR LR
comp=Z,220nm,11.8s
LZH LR LR
comp=Z,350nm,12.9s
LZH LR LR
comp=Z,360nm,13.2s
YSS Yuzh-Sakhalins 23.78 25 eP P 06 59 18.0 +0.5
YSS e 06 59 29.0
YSS Yuzh-Sakhalins 23.78 25 eP P 06 59 18.5 +0.9
comp=Z,51nm,0.9s
HIA Hailar 24.28 346 eP P 06 59 21.1 -1.2
HIA pmax pmax
comp=Z,2.0nm,1.0s
GTA Gaotai 27.57 306 ⇓P P 06 59 51.5 -0.8
GTA pP pP 06 59 56.3 -0.5
GTA sP sP 06 59 58.5 -0.1
GTA S S 07 04 31.0 -2.3
GTA SS SnSn 07 05 49.0 +4.9
GTA pmax pmax
comp=Z,21nm,1.2s
GTA pmax pmax
comp=Z,120nm,5.3s
GTA LR LR
comp=Z,250nm,15.8s
GTA LR LR
comp=Z,270nm,16.0s
GTA LR LR
comp=Z,520nm,14.8s
ULN Ulaanbaatar 27.68 328 eP P 06 59 51.6 -1.6
ULN pmax pmax
comp=Z,17nm,1.3s
ULN Ulaanbaatar 27.68 328 eP P 06 59 51.5 -1.6
SONM Songino Array 27.98 327 P P 06 59 57.9 +2.1
SONM pmax pmax
comp=Z,7.0nm,0.9s
SONM Songino Array 27.98 327 P P 06 59 57.9 +2.1
comp=Z,6.5nm,0.9s,baz=142,slow=11,SNR=35
SONA1 Songino Array 27.98 327 eP P 06 59 54.0 -1.8
CMAR Chiang Mai Arr 28.41 261 P P 07 00 01.2 +1.4
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 28.41 261 P P 07 00 01.1 +1.4
comp=Z,1.2nm,0.3s,baz=50,slow=8.4,SNR=5.8
YAK Yakutsk 36.08 1 iP P 07 01 07.0 +0.6
ODAN Odare 36.82 281 eP P 07 01 14.3 +0.8
comp=Z,62nm,0.9s
RAMN Ramite 37.50 281 eP P 07 01 20.0 +0.7
JIRN Jiri 37.77 282 eP P 07 01 22.7 +1.0
GUN Gumba 38.01 283 eP P 07 01 24.5 +0.8
PKI Pulchoki 38.47 282 eP P 07 01 27.9 +0.4
PKIN Phulchoki 38.48 282 eP P 07 01 28.0 +0.4
KKN Kakani 38.55 283 eP P 07 01 28.7 +0.6
DMN Daman 38.73 282 eP P 07 01 30.3 +0.6
GKN Gorkha 39.09 283 eP P 07 01 33.1 +0.6
DANN Dangsing 39.81 284 eP P 07 01 39.7 +1.0
comp=Z,37nm,0.8s
KOLN Koldanda 40.03 283 eP P 07 01 41.1 +0.6
comp=Z,25nm,0.9s
SEY Seymchan 40.19 17 P P 07 01 41.9 +0.8
SEY pmax pmax
comp=Z,2.0nm,0.6s
SEY Seymchan 40.19 17 P P 07 01 41.9 +0.8
comp=Z,1.7nm,0.6s,baz=237,slow=4.7,SNR=4.2
PYUN Piuthan 40.52 284 eP P 07 01 45.4 +0.9
comp=Z,20nm,0.5s
MK01 Makanchi Array 41.97 312 eP P 07 01 55.4 -0.6
MKAR Makanchi Array 41.98 312 P P 07 01 55.7 -0.4
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 41.98 312 P P 07 01 55.6 -0.4
comp=Z,2.4nm,0.8s,baz=93,slow=11,SNR=22
ZAA0 Zalesovo Array 42.68 323 eP P 07 02 01.3 -0.2
ZAA0 ePP PP 07 03 37.2 -3.3
ZAA0 ePcP PcP 07 03 51.6 -1.7
ZALV Zalesovo Beam 42.68 323 P P 07 02 01.3 -0.3
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 42.68 323 P P 07 02 01.2 -0.3
comp=Z,1.0nm,0.5s,baz=111,slow=8.1,SNR=7.7
KURK Kurchatov 45.26 317 eP P 07 02 21.8 -0.6
KURK pmax pmax
comp=Z,4.0nm,1.1s
KURK Kurchatov 45.26 317 eP P 07 02 21.8 -0.6
comp=Z,4.4nm,1.1s
TIXI Tiksi 45.74 0 eP P 07 02 25.2 -0.6
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 45.74 0 eP P 07 02 25.8 0.0
comp=Z,14nm,1.5s
WRAB Tennant Creek 45.95 172 eP P 07 02 27.9 -0.2
WRAB pmax pmax
comp=Z,74nm,2.5s
WRA Warramunga Arr 45.95 172 P P 07 02 28.7 +0.6
WRA pmax pmax
comp=Z,6.0nm,0.8s
WRA Warramunga Arr 45.95 172 P P 07 02 28.7 +0.6
comp=Z,5.5nm,0.8s,baz=353,slow=8.3,SNR=21
TKM2 Tokmak 2 46.12 306 eP P 07 02 29.7 +0.1
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 46.12 306 eP P 07 02 29.7 +0.1
comp=Z,3.4nm,0.8s
HNR Honiara 46.53 135 LR LR 07 20 31.2
comp=Z,55nm,20.9s,baz=158,slow=34
BILL Bilibino 47.83 18 iP P 07 02 42.9 +0.6
BILL i 07 02 52.2
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 47.83 18 eP P 07 02 43.2 +0.9
comp=Z,8.2nm,1.0s
AS01 Alice Springs 49.59 174 eP P 07 02 55.7 -0.6
KKAR Karatay Array 49.85 306 eP P 07 02 58.1 -0.1
KKAR Karatay Array 49.85 306 eP P 07 02 58.1 -0.1
BVAR Borovoye Array 50.71 318 P P 07 03 05.4 +0.8
BVAR pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 50.71 318 P P 07 03 05.4 +0.8
comp=Z,3.3nm,0.9s,baz=91,slow=8.9,SNR=12
BRVK Borovoye 50.78 318 ⇑iP P 07 03 05.1 0.0
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 50.78 318 eP P 07 03 05.2 +0.2
comp=Z,7.0nm,1.0s
TNA Tin City 55.73 27 eP P 07 03 43.1 +1.9
comp=Z,9.1nm,1.2s
SVE Sverdlovsk 56.69 322 eP P 07 03 49.9 +1.6
ABKAR Akbulak array 57.09 313 eP P 07 03 51.1 -0.1
ARU Arti 57.83 322 d iP P 07 03 56.1 -0.2
ARU 07 06 01.8
ARU S S 07 11 54.0 -1.1
ARU SS SS 07 15 43.3 -2.1
ARU pmax pmax
comp=Z,7.0nm,1.2s
GEYT Alibeck 59.73 300 P P 07 04 11.6 +1.6
comp=Z,3.9nm,0.9s,baz=90,slow=5.9,SNR=7.4
ILAR Eielson Array 64.53 28 P P 07 04 41.8 +0.2
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 64.53 28 P P 07 04 41.8 +0.2
comp=Z,0.7nm,0.7s,baz=264,slow=6.3,SNR=9.3
GNI Garni 69.32 305 eP P 07 05 12.2 -0.6
GNI pmax pmax
comp=Z,7.0nm,1.3s
KBZ Khabaz 69.60 310 P P 07 05 14.4 +0.2
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KBZ Khabaz 69.60 310 P P 07 05 14.4 +0.2
comp=Z,5.4nm,1.1s,baz=54,slow=7.4,SNR=6.3
KIV Kislovodsk 69.68 310 eP P 07 05 14.1 -0.8
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,69nm,18.0s
KIV Kislovodsk 69.68 310 eP P 07 05 16.5 +1.7
comp=Z,28nm,1.4s
VSR Storozhevoye 69.89 318 eP P 07 05 15.8 -0.1
VSR pmax pmax
comp=Z,7.0nm,1.2s
OBN Obninsk 70.26 322 eP P 07 05 17.4 -0.6
OBN e 07 07 56.8
OBN ePPP PPP 07 09 32.0
OBN pmax pmax
comp=Z,14nm,1.2s
OBN MLR MLR
comp=Z,192nm,21.0s
ARCES ARCESS Array B 70.39 339 P P 07 05 18.2 -0.5
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 70.39 339 P P 07 05 18.2 -0.5
comp=Z,2.5nm,0.8s,baz=70,slow=8.0,SNR=3.3
JOF Joensuu 70.45 331 eP P 07 05 18.4 -0.7
JOF pmax pmax
comp=Z,3.0nm,0.8s
JOF Joensuu 70.45 331 ep P 07 05 18.4 -0.7
comp=Z,2.9nm,0.8s
KAF Kangasniemi 72.91 331 eP P 07 05 31.5 -2.4
KAF pmax pmax
comp=Z,3.0nm,0.8s
KAF Kangasniemi 72.91 331 ep P 07 05 31.5 -2.4
comp=Z,2.7nm,0.8s
FINES FINESS Array B 73.28 331 P P 07 05 36.0 0.0
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 73.28 331 P P 07 05 36.0 0.0
comp=Z,5.1nm,0.9s,baz=170,slow=6.2,SNR=14
VSU Vasula 74.17 328 eP P 07 05 40.9 -0.4
VSU pmax pmax
comp=Z,28nm,1.1s
RAYN Ar Rayn 74.22 289 eP P 07 05 44.0 +1.6
comp=Z,3.8nm,1.0s
RES Resolute Bay 75.76 11 eP P 07 05 50.2 -0.1
RES pmax pmax
comp=Z,6.0nm,0.8s
RES Resolute Bay 75.76 11 eP P 07 05 50.2 -0.1
comp=Z,6.4nm,0.8s
AKASG Malin Array Be 75.97 320 P P 07 05 52.2 +0.3
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 75.97 320 P P 07 05 52.2 +0.3
comp=Z,2.1nm,0.5s,baz=56,slow=6.1,SNR=15
KIEV Kiev 75.98 320 eP P 07 05 51.8 -0.1
BR131 Keskin Array S 77.48 308 eP P 07 06 01.4 +0.6
comp=Z,7.1nm,1.1s
BRTR Keskin Array B 77.48 308 P P 07 06 01.7 +0.8
BRTR pmax pmax
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 77.48 308 P P 07 06 01.6 +0.8
comp=Z,5.7nm,1.0s,baz=100,slow=4.2,SNR=19
BR231 Keskin MP Arra 78.04 308 eP P 07 06 02.2 -1.8
YKA Yellowknife Ar 78.64 25 P P 07 06 08.2 +1.6
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 78.64 25 P P 07 06 08.2 +1.6
comp=Z,0.9nm,0.8s,baz=300,slow=5.2,SNR=15
YKB5 Yellowknife Ar 78.64 25 eP P 07 06 07.3 +0.7
BUR04 Bucovina Ar. S 79.67 318 eP P 07 06 12.2 -0.5
NB2 NORSAR Subarra 79.72 334 P P 07 06 12.1 -0.5
comp=Z,2.5nm,0.9s,baz=51,slow=5.9
NOA NORSAR Array B 79.72 334 P P 07 06 12.8 +0.1
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA MLR MLR
comp=Z,24nm,18.8s
NOA NORSAR Array B 79.72 334 P P 07 06 12.8 +0.1
comp=Z,3.9nm,0.9s,baz=52,slow=5.7,SNR=9.6
NOA LR LR 07 45 05.3
comp=Z,24nm,18.8s,baz=225,slow=38
KOLS Kolonicke sedl 80.79 320 eP P 07 06 18.8 +0.2
KOLS pmax pmax
comp=Z,58nm,3.3s
KOLS Kolonicke sedl 80.79 320 eP P 07 06 18.8 +0.2
STHS Stebnicka Huta 81.14 321 eP P 07 06 21.2 +0.7
STHS Stebnicka Huta 81.14 321 eP P 07 06 21.2 +0.7
SUMG Summit 81.34 356 P P 07 06 24.2 +2.6
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 81.34 356 iP P 07 06 26.9 +5.3
comp=Z,6.8nm,0.8s
SUMG Summit 81.34 356 P P 07 06 24.2 +2.6
comp=Z,8.6nm,0.9s
VYHS Vyhne 82.97 321 eP P 07 06 31.3 +1.2
VYHS pmax pmax
comp=Z,39nm,3.0s
VYHS Vyhne 82.97 321 eP P 07 06 31.3 +1.2
CLL Collm 84.58 325 eP P 07 06 40.0 +1.8
CLL Collm 84.58 325 eP P 07 06 40.0 +1.8
GERES GERESS Array B 85.63 323 P P 07 06 45.3 +1.6
comp=Z,0.4nm,0.7s,baz=26,slow=7.4,SNR=4.2
TX31 Lajitas Ar. Si 105.60 46 ePdif Pdif 07 08 16.0 +0.4

IDC 28 06:56:56.7±0.9, 36.25S×73.34W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/28, mbtmp3.9/7, ML4.4/1, MS4.2/1, Ms1 4.3/1, ms1mx3.4/22, Error ellipse: s-maj=37.3km s-min=20.2km az=81.0, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PLCA Paso Flores 4.98 155 Pn Pn 06 58 14.7 +1.8
3.4nm,0.3s,baz=336,slow=11,SNR=4.6
LPAZ La Paz 20.42 14 LR LR 07 09 09.3
comp=Z,658nm,18.7s,baz=158,slow=36
SIV San Ignacio 22.95 32 P P 07 02 01.6 -1.1
1.1nm,0.4s,baz=235,slow=7.8,SNR=3.3
SNAA Sanae 49.92 157 P P 07 05 51.0 -0.8
0.5nm,0.8s,baz=331,slow=13,SNR=3.5
QSPA South Pole Qui 53.99 180 P P 07 06 22.3 0.0
1.7nm,0.8s,baz=138,slow=4.6,SNR=4.6
TXAR Lajitas Array 71.20 332 P P 07 08 17.9 +0.4
1.1nm,0.7s,baz=155,slow=8.8,SNR=11
DBIC Dimbokro 76.90 72 P P 07 08 51.9 +0.8
4.5nm,0.9s,baz=191,slow=5.2,SNR=2.8
BOSA Boshof 79.96 118 P P 07 09 12.3 +4.2
1.0nm,0.5s,baz=275,slow=2.5,SNR=6.8
PDAR Pinedale Array 85.30 334 P P 07 09 36.1 +0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	0.1nm,0.5s,baz=114,slow=10.0,SNR=2.6						
WRA	Warramunga Arr	118.28	210	PKP	PKPdf	07 15 44.9	-1.6
	0.4nm,0.7s,baz=158,slow=1.7,SNR=4.6						

IDC 28 07:00:04.0±0.6,36.°02S×73.°10W,h0km,mb4.3/14, mb1 4.4/16,mb1mx4.3/31,mbtmp4.3/16,ML3.9/2,Error ellipse: s-maj=23.5km s-min=14.9km az=87.0
ISCJB 28 07:00:07.0±0.5,36.°00S±0.°07×73.°0W±0.°1,h28km, mb4.3/17,Error ellipse: s-maj=15.8km s-min=10.4km az=174.3
NEIC 28 07:00:09.3±0.3,36.°01S×73.°05W,h35km,mb4.2/5,Error ellipse: s-maj=11.1km s-min=7.1km az=87.0
ISC 28 07:00:08.4±0.6,36.°01S±0.°09×73.°1W±0.°1,h28km,n28, σ0§76/29,mb4.3/17,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.11	158	Pn	Pn	07 01 23.8	+0.6
	2.2nm,0.3s,baz=332,slow=12,SNR=3.7						
PLCA				Lg	Lg	07 02 41.7	
	4.4nm,0.3s,baz=320,slow=17,SNR=2.1						
CFAA	Coronel Fontan	5.95	44	Pn	Pn	07 01 35.4	+0.7
	0.7nm,0.3s,baz=212,slow=15,SNR=4.7						
CFAA				Lg	Lg	07 03 02.4	
	1.0nm,0.3s,baz=321,slow=18,SNR=5.7						
CPUP	Villa Florida	16.54	59	ePn	Pn	07 03 51.7	-6.7
	5.0nm,1.9s						
LPAZ	La Paz	20.13	14	P	P	07 04 41.0	+0.1
	5.1nm,0.7s,baz=197,slow=8.7,SNR=5.6						
SIV	San Ignacio	22.62	31	P	P	07 05 06.7	-0.5
	21nm,1.1s,baz=223,slow=13,SNR=26						
BDFB	Brasilia	30.17	54	P	P	07 06 16.5	+0.1
	2.2nm,0.7s,baz=207,slow=15,SNR=4.1						
ROSC	El Rosal	40.67	358	P	P	07 07 47.9	+1.1
	3.5nm,0.5s,baz=130,slow=3.4,SNR=7.4						
RCBR	Riachuelo	45.42	58	P	P	07 08 23.9	-1.0
	6.9nm,0.9s,baz=206,slow=9.8,SNR=5.1						
SNAA	Sanae	50.05	157	P	P	07 09 00.6	+0.4
	2.3nm,0.8s,baz=286,slow=7.5,SNR=9.6						
QSPA	South Pole Qui	54.23	180	P	P	07 09 31.5	+0.1
	2.0nm,0.7s,baz=140,slow=3.0,SNR=11						
TXAR	Lajitas Array	71.09	332	P	P	07 11 24.4	+0.2
	0.9nm,0.7s,baz=149,slow=8.8,SNR=10.0						
DBIC	Dimbokro	76.61	71	P	P	07 11 57.1	+0.4
	3.4nm,0.6s,baz=181,slow=8.1,SNR=4.8						
ANMO	Albuquerque	77.16	332	eP	P	07 11 59.5	0.0
	1.7nm,1.0s						
SDCO	Great Sand Dun	79.30	334	eP	P	07 12 11.9	+0.4
	1.7nm,1.0s						
BOSA	Boshof	79.88	118	P	P	07 12 14.8	-0.1
	5.2nm,0.8s,baz=251,slow=3.5,SNR=8.3						
ECSD	EROS Data Cent	82.21	343	eP	P	07 12 26.0	-0.5
	9.8nm,1.0s						
TPH	Tonopah	84.29	326	eP	P	07 12 38.7	+1.1
	3.8nm,1.0s						
NVAR	Mina Array Bea	85.06	326	P	P	07 12 42.4	+0.8
	1.5nm,0.8s,baz=153,slow=4.4,SNR=4.9						
PDAR	Pinedale Array	85.18	334	P	P	07 12 41.1	-1.0
	0.4nm,0.7s,baz=139,slow=7.2,SNR=3.2						
TORD	Torodi Ar. Bea	85.67	70	P	P	07 12 44.6	-0.3
	2.3nm,0.9s,baz=252,slow=3.7,SNR=10						
ULM	Lac du Bonnet	88.22	346	P	P	07 12 55.8	-0.6
	3.9nm,0.8s,baz=147,slow=5.8,SNR=6.7						
WRA	Warramunga Arr	118.61	210	PKP	PKPdf	07 18 52.7	-1.5
	0.3nm,0.4s,baz=158,slow=1.5,SNR=4.3						
PSI	Prapat	146.13	166	PKPbc	PKPdf	07 19 45.2	-0.6
	5.3nm,0.6s,baz=168,slow=1.2,SNR=7.7						
AAK	Ala-Archa	154.15	65	PKPbc	PKPbc	07 20 05.9	+0.3
	1.3nm,0.8s,baz=218,slow=19,SNR=3.6						
ZALV	Zalesovo Beam	156.36	34	PKP	PKPdf	07 19 58.5	-1.3
	0.4nm,0.4s,baz=286,slow=1.1,SNR=4.6						
ZALV				PKPab	PKPab	07 20 28.4	+0.1
	0.3nm,0.3s,baz=286,slow=5.3,SNR=4.2						
MKAR	Makanchi Array	158.69	52	PKP	PKPdf	07 20 02.2	-0.8
	1.0nm,1.0s,baz=336,slow=2.7,SNR=4.6						
MKAR				PKPab	PKPab	07 20 37.2	-1.4
	0.5nm,0.8s,baz=260,slow=5.0,SNR=3.9						
CMAR	Chiang Mai Arr	161.14	156	PKPab	PKPab	07 20 50.5	+0.7
	1.0nm,0.3s,baz=226,slow=5.4,SNR=4.2						
SONM	Songino Array	168.18	2	PKPab	PKPab	07 21 20.4	+0.2
	1.0nm,0.9s,baz=318,slow=2.5,SNR=5.9						

NIED 28 07:01:00,26.°00N×128.°60E,h11km,Mw3.9 Best double couple: M0 8.13000×10^14 NP1:ϕ_s208.00000°,δ45.00000°, λ-97.00000°. NP2:ϕ_s38.00000°,δ46.00000°,λ-83.00000°.
IDC 28 07:01:22.5±1.0,25.°95N×128.°58E,h0km,mb3.9/11, mb1 4.0/13,mb1mx3.8/42,mbtmp3.9/13,ML3.2/2,MS4.0/1, Ms1 4.0/1,ms1mx2.9/41,Error ellipse: s-maj=32.7km s-min=20.1km az=77.0
ISCJB 28 07:01:25.0±1.0,25.°98N±0.°04×128.°65E±0.°04,h30km±6km, mb3.7/11,MS4.1/1,Error ellipse: s-maj=6.8km s-min=6.0km az=165.1
JMA 28 07:01:26.2±0.4,26.°00N×128.°60E,h36km,M3.5
ISC 28 07:01:24.3±1.7,25.°94N±0.°06×128.°62E±0.°04,h14km±9km, n26,σ1§31/37,mb3.8/11,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.79	317	P	Pg	07 01 39.7	+0.1
JNTH				S	Sg	07 01 50.2	+0.2
JJT2	Tamagusuku 2	0.81	284	P	Pn	07 01 41.2	-0.1
JJT2				S	Sn	07 01 51.4	-1.8
JOW	Kunigami	0.94	341	P	Pn	07 01 42.6	-0.5
JOW				S	Sg	07 01 54.6	-0.2
JOW	Kunigami	0.94	341	Pn	Pn	07 01 42.5	-0.7
	7.7nm,0.3s,baz=166,slow=17,SNR=69						
JOW				Sn	Sg	07 01 54.2	-0.6
	23nm,0.3s,baz=137,slow=19,SNR=27						
JIH	Iheya	1.24	332	P	Pb	07 01 47.2	-0.3
JIH				S	Sn	07 02 02.2	-1.5
JAGN	Aguni-jima	1.40	298	P	Pn	07 01 49.1	-0.3
JAGN				eS	Sn	07 02 05.4	-2.2
JOKE	Okinoerabujima	1.41	358	P	Pb	07 01 49.6	-0.9
JOKE				S	Sn	07 02 06.3	-1.8
JKE	Kume jima 2	1.70	283	P	Pn	07 01 52.6	-0.9
JKE				S	Sn	07 02 12.0	-3.0
JTK	Tokunoshima	1.86	9	P	Pn	07 01 55.9	+0.1
JTK				S	Sn	07 02 16.8	-2.3
JMZ	Minamidaito 2	2.34	92	P	Pn	07 02 01.7	-0.7
JMZ				S	Sn	07 02 27.5	-3.5
JAMN	Amaminishikomi	2.34	12	P	Pn	07 02 02.5	+0.1
JAM	Amami Oshima	2.61	19	P	Pn	07 02 05.8	-0.3
JAM				S	Sn	07 02 35.8	-1.8
JNU	Nakatsue	7.42	15	Pn	Pn	07 03 12.7	+0.5
	0.8nm,0.3s,baz=164,slow=22,SNR=8.5						
JNU				Sn	Sn	07 04 34.9	-1.4
	0.4nm,0.3s,baz=135,slow=20,SNR=2.5						
USRK	Ussuriysk Arra	18.42	8	P	Pn	07 05 40.0	+0.8
	0.2nm,0.3s,baz=173,slow=9.0,SNR=4.6						
SONM	Songino Array	27.99	327	P	P	07 07 16.7	+2.0
	1.2nm,0.6s,baz=141,slow=9.9,SNR=10						
MKAR	Makanchi Array	41.99	312	P	P	07 09 14.3	-0.7
	0.5nm,0.5s,baz=90,slow=9.4,SNR=8.0						
ZALV	Zalesovo Beam	42.69	323	P	P	07 09 21.4	+0.8
	0.4nm,0.5s,baz=114,slow=7.2,SNR=3.6						
WRA	Warramunga Arr	45.95	173	P	P	07 09 47.6	+0.7
	1.5nm,0.8s,baz=354,slow=8.4,SNR=7.8						
GEYT	Alibeck	59.74	300	LR	LR	07 41 32.5	
	comp=Z,138nm,19.7s,baz=255,slow=40						
ILAR	Eielson Array	64.52	28	P	P	07 12 00.8	+0.4
	0.3nm,0.6s,baz=272,slow=2.7,SNR=4.4						
FINES	FINESS Array B	73.29	331	P	P	07 12 54.9	-0.1
	2.0nm,0.8s,baz=65,slow=6.6,SNR=9.3						
AKASG	Malin Array Be	75.98	320	P	P	07 13 10.8	0.0
	1.6nm,0.5s,baz=59,slow=6.3,SNR=4.7						
BRTR	Keskin Array B	77.49	308	P	P	07 13 20.6	+0.8
	1.1nm,0.7s,baz=132,slow=3.5,SNR=5.4						
YKA	Yellowknife Ar	78.64	25	P	P	07 13 26.2	+0.8
	0.2nm,0.6s,baz=302,slow=5.5,SNR=5.5						
HFS	Hagfors	79.24	332	P	P	07 13 28.9	0.0
	1.8nm,0.8s,baz=75,slow=7.6,SNR=3.7						
NOA	NORSAR Array B	79.73	334	P	P	07 13 31.4	-0.2
	0.5nm,0.5s,baz=56,slow=5.5,SNR=3.5						

SJA 28 07:03:39.1±0.8,34.°78S×73.°09W,h232km±57km,ML4.1
IDC 28 07:03:51.1±3.8,32.°97S×72.°18W,h0km,mb3.7/3, mb1 4.1/3,mb1mx3.7/27,mbtmp3.7/3,Error ellipse: s-maj=133.9km s-min=33.5km az=10.0
ISC 28 07:03:47.3±1.7,34.°3S±0.°2×72.°2W±0.°1,h17km,n11, σ0§84/12,mb3.9/13,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	Agrelo	3.09	67	eP	Pb	07 04 42.0	+0.1
ARCO	CERRO ARCO	3.12	62	eP	Pb	07 04 42.5	+0.1
ARCO				AML	AML	07 05 36.2	
	comp=Z,175nm,0.5s						
AUSP	Uspallata	3.17	49	eP	Pb	07 04 43.4	+0.1
AUSP				eS	Sg	07 05 30.7	+1.5
ASAL	Salagasta	3.32	59	⇓eP	Pb	07 04 44.6	-1.1
ASAL				eS	Sg	07 05 33.6	-0.3
RTLS	Leoncito	3.52	45	eP	Pb	07 04 48.4	-0.9
RTLS				eP	Pb	07 04 48.4	-0.9
CFAA	Coronel Fontan	4.31	52	Pn	Pn	07 04 48.5	-3.6
	baz=225,slow=11,SNR=1.6						
CFAA				Lg	Lg	07 05 57.6	
	comp=Z,0.6nm,0.3s,baz=240,slow=20,SNR=3.7						
RTLL	Cerro Villicun	4.35	47	eP	Pn	07 04 56.4	+3.7
RTLL				eS	Sb	07 05 55.3	-0.2
TXAR	Lajitas Array	69.95	331	P	P	07 14 58.1	+0.4
	comp=Z,0.5nm,0.5s,baz=153,slow=8.3,SNR=7.6						
NVAR	Mina Array Bea	84.07	325	P	P	07 16 17.6	+0.4
	comp=Z,0.5nm,0.6s,baz=168,slow=6.1,SNR=2.7						
TORD	Torodi Ar. Bea	84.46	70	P	P	07 16 24.5	+5.1
	comp=Z,1.0nm,1.0s,baz=251,slow=4.4,SNR=3.7						
ZALV	Zalesovo Beam	154.59	33	PKPab	PKPab	07 24 00.4	-0.9
	comp=Z,0.5nm,0.3s,baz=328,slow=3.8,SNR=2.6						

IDC 28 07:05:11.5±1.4,34.°74S×73.°41W,h0km,mb3.7/2, mb1 4.3/3,mb1mx3.7/30,mbtmp3.8/3,ML4.2/1,Error ellipse: s-maj=88.7km s-min=34.6km az=63.0,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.40	160	Pn	Pn	07 06 47.4	+0.3
	1.2nm,0.3s,baz=307,slow=1.9,SNR=2.3						
TXAR	Lajitas Array	69.84	332	P	P	07 16 24.9	+0.8
	0.4nm,0.6s,baz=151,slow=8.9,SNR=4.6						
NVAR	Mina Array Bea	83.85	326	P	P	07 17 42.0	-1.1
	0.7nm,0.7s,baz=150,slow=5.4,SNR=5.1						
BVAR	Borovoye Array	148.59	43	PKPbc	PKPdf	07 24 57.3	+1.1
	0.6nm,0.6s,baz=233,slow=0.7,SNR=3.2						
ZALV	Zalesovo Beam	155.45	32	PKP	PKPdf	07 25 07.5	+1.1
	0.8nm,0.7s,baz=310,slow=1.6,SNR=2.6						
ZALV				PKPab	PKPab	07 25 32.7	+0.7
	0.4nm,0.3s,baz=299,slow=5.9,SNR=2.7						

IDC 28 07:09:37.5±0.9,34.°19S×73.°44W,h0km,mb4.0/5, mb1 4.2/6,mb1mx4.0/17,mbtmp4.0/6,ML3.8/1,Error ellipse: s-maj=48.6km s-min=22.5km az=82.0
ISCJB 28 07:09:40.4±0.7,34.°36S±0.°10×73.°2W±0.°3,h33km,mb4.3/8, Error ellipse: s-maj=33.1km s-min=12.6km az=169.2
NEIC 28 07:09:42.4±0.6,34.°30S×73.°17W,h35km,mb4.5/2,Error ellipse: s-maj=31.6km s-min=12.8km az=78.0
ISC 28 07:09:42.0±0.7,34.°4S±0.°1×73.°3W±0.°3,h35km,n17, σ1§28/17,mb4.2/8,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	6.72	162	Pn	Pn	07 11 16.9	-1.3
	5.0nm,0.3s,baz=328,slow=9.3,SNR=5.7						
LPAZ	La Paz	18.58	16	P	P	07 13 55.2	-1.6
	0.1nm,0.3s,baz=216,slow=3.8,SNR=3.6						
USHA	Ushuaia	20.75	172	P	P	07 14 17.4	-2.1
	30nm,1.1s,baz=334,slow=9.8,SNR=3.6						
SNAA	Sanae	51.64	158	P	P	07 18 46.8	+2.0
	1.9nm,0.8s,baz=284,slow=8.8,SNR=4.9						
QSPA	South Pole Qui	55.87	180	P	P	07 19 17.2	+1.3
	5.5nm,0.9s,baz=122,slow=3.6,SNR=6.6						
TXAR	Lajitas Array	69.56	332	P	P	07 20 46.8	-0.6
	0.4nm,0.5s,baz=161,slow=7.1,SNR=5.6						
BOSA	Boshof	80.81	118	eP	P	07 21 52.0	-0.6
	7.9nm,0.3s						
PDAR	Pinedale Array	83.63	334	P	P	07 22 07.0	+0.2
	1.4nm,1.1s,baz=125,slow=4.5,SNR=6.1						
HVU	Hansel Valley	84.00	331	eP	P	07 22 08.6	-0.1
	2.6nm,0.9s						
TORD	Torodi Ar. Bea	85.30	71	P	P	07 22 17.2	+1.5
	0.9nm,0.9s,baz=237,slow=4.6,SNR=4.7						
MCMT	McKenzie Canyo	86.62	333	eP	P	07 22 23.1	+1.3
	4.4nm,1.4s						
FALS	False Pass	117.36	319	ePKPdf	PKPdf	07 28 22.9	-0.2
PSI	Prapat	147.77	165	PKPbc	PKPab	07 29 26.0	-0.2
	2.6nm,0.6s,baz=198,slow=16,SNR=4.5						
KKAR	Karatay Array	150.62	62	ePKPbc	PKPbc	07 29 29.8	-0.3
ZALV	Zalesovo Beam	155.08	32	PKPab	PKPab	07 29 53.7	-1.7
	0.4nm,0.3s,baz=318,slow=1.9,SNR=2.2						
MKAR	Makanchi Array	157.78	49	PKPab	PKPab	07 30 08.3	+1.1
	0.6nm,0.8s,baz=311,slow=2.6,SNR=3.8						
SONM	Songino Array	166.54	1	PKPab	PKPab	07 30 45.8	+0.2
	0.2nm,0.4s,baz=20,slow=4.7,SNR=3.8						

IDC 28 07:14:14.3±0.5,38.°42S×73.°72W,h0km,mb4.5/16, mb1 4.5/20,mb1mx4.5/28,mbtmp4.5/20,ML4.3/4,MS4.4/22, Ms1 4.3/22,ms1mx4.3/28,Error ellipse: s-maj=17.4km s-min=11.8km az=74.0
ISCJB 28 07:14:17.0±0.2,38.°26S±0.°04×73.°44W±0.°06,h18km, mb5.0/73,MS4.4/18,Error ellipse: s-maj=7.3km s-min=5.8km az=143.6
MOS 28 07:14:19.1±1.5,38.°28S×73.°46W,h33km,mb5.1/15,Error ellipse: s-maj=19.3km s-min=10.1km az=102.0
BJI 28 07:14:19.3,37.°73S×73.°40W,h35km,mB5.1/12,Ms5.4/6, Ms7 5.4/7
NEIC 28 07:14:20.2±0.2,38.°39S×73.°47W,h35km,mb5.1/53,Error ellipse: s-maj=9.4km s-min=6.7km az=59.0
ISC 28 07:14:17.7±0.3,38.°32S±0.°06×73.°64W±0.°08,h18km,n458, σ1§36/458,mb5.0/74,MS4.4/18,125C-143D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.39	136	Pn	Pn	07 15 09.4	-0.5
	5.1nm,0.3s,baz=304,slow=13,SNR=5.6						
PLCA				Lg	Lg	07 16 01.8	
	35nm,0.3s,baz=233,slow=20,SNR=2.1						
PLCA				LR	LR	07 16 18.9	
	comp=Z,2μm,20.5s,baz=327,slow=37						
CFAA	Coronel Fontan	8.04	35	Pn	Pn	07 16 12.1	-1.5
	1.5nm,0.3s,baz=187,slow=13,SNR=14						
CFAA				Sn	Sn	07 17 43.1	-1.0
	0.2nm,0.3s,baz=171,slow=19,SNR=3.3						
CFAA				Lg	Lg	07 18 35.5	
	0.2nm,0.3s,baz=291,slow=18,SNR=6.0						
CFAA				LR	LR	07 19 44.1	
	comp=Z,450nm,19.5s,baz=218,slow=40						
TRQA	Tornquist	9.19	92	ePn	Pn	07 16 31.3	+1.9
USHA	Ushuaia	16.89	170	Pn	Pn	07 18 12.1	-0.8
	0.4nm,0.3s,baz=333,slow=11,SNR=2.5						
USHA				LR	LR	07 24 21.8	
	comp=Z,3μm,21.3s,baz=329,slow=36						
CPUP	Villa Florida	18.22	54	P	Pn	07 18 29.4	-0.2
	1.3nm,0.3s,baz=209,slow=12,SNR=8.0						
CPUP				Lg	Lg	07 23 59.9	
	0.2nm,0.3s,baz=302,slow=13,SNR=1.9						
CPUP				LR	LR	07 25 13.3	
	comp=Z,1μm,18.1s,baz=210,slow=36						
LPAZ	La Paz	22.48	14	eP	P	07 19 16.8	0.0
LPAZ				pmax	pmax		
	comp=Z,38nm,0.9s						
LPAZ	La Paz	22.48	14	P	P	07 19 16.7	0.0
	comp=Z,5.0nm,0.7s,baz=163,slow=8.2,SNR=8.3						
LPAZ	La Paz	22.48	14	eP	P	07 19 16.8	0.0
	comp=Z,38nm,0.9s						
SIV	San Ignacio	24.85	30	P	P	07 19 39.0	-0.3
	comp=Z,4.9nm,0.8s,baz=234,slow=10.0,SNR=7.3						
SIV				LR	LR	07 30 58.6	
	comp=Z,541nm,18.2s,baz=220,slow=40						
NNA	Nana	26.38	353	P	P	07 19 51.8	-1.4
	comp=Z,6.2nm,0.7s,baz=218,slow=12,SNR=3.1						
NNA				LR	LR	07 28 33.8	
	comp=Z,442nm,18.3s,baz=173,slow=32						
PMSA	Palmer Station	27.09	171	LR	LR	07 31 10.2	
	comp=Z,633nm,18.9s,baz=318,slow=38						
ATAH	Atahualpa	31.34	351	P	P	07 20 38.0	+0.3
	comp=Z,1.3nm,0.7s,baz=206,slow=8.8,SNR=4.6						
ATAH				LR	LR	07 31 06.6	
	comp=Z,544nm,20.1s,baz=184,slow=32						
RPN	Rapa Nui	31.85	280	LR	LR	07 29 41.8	
	comp=Z,594nm,19.9s,baz=121,slow=29						
BDFB	Brasilia	31.93	52	eP	P	07 20 42.2	-0.4
BDFB	Brasilia	31.93	52	P	P	07 20 43.8	+1.2
	comp=Z,2.4nm,0.5s,baz=215,slow=7.6,SNR=5.0						
BDFB				LR	LR	07 35 44.3	
	comp=Z,1μm,19.5s,baz=218,slow=40						
BDFB	Brasilia	31.93	52	eP	P	07 20 42.2	-0.4
OTAV	Otavalo	38.63	352	eP	P	07 21 41.5	+0.9
	comp=Z,26nm,1.3s						
ROSC	El Rosal	42.96	359	P	P	07 22 17.8	+1.5
	comp=Z,1.8nm,0.4s,baz=102,slow=20,SNR=4.0						
ROSC				LR	LR	07 40 03.5	
	comp=Z,420nm,19.5s,baz=198,slow=36						
VNA3	Neumayer Olymp	45.90	156	P	P	07 22 38.5	-0.2
VNA2	Neumayer--Watz	46.58	156	P	P	07 22 44.1	0.0
SDV	Santo Domingo	47.05	4	eP	P	07 22 47.6	-0.8
	comp=Z,8.2nm,0.8s						
RCBR	Riachuelo	47.07	56	P	P	07 22 50.6	+2.0
	comp=Z,8.9nm,0.9s,baz=194,slow=12,SNR=3.3						
SNAA	Sanae	48.12	156	P	P	07 22 55.8	-0.3
SNAA	Sanae	48.12	156	eP	P	07 22 55.4	-0.7
SNAA	Sanae	48.12	156	P	P	07 22 55.2	-0.9
	comp=Z,6.7nm,0.9s,baz=280,slow=5.9,SNR=19						
SNAA				LR	LR	07 42 30.0	
	comp=Z,161nm,18.2s,baz=278,slow=35						
SNAA	Sanae	48.12	156	eP	P	07 22 55.4	-0.7
QSPA	South Pole Qui	51.92	180	P	P	07 23 24.6	-0.6
	comp=Z,9.2nm,0.9s,baz=173,slow=2.7,SNR=15						
QSPA				LR	LR	07 43 39.9	
	comp=Z,545nm,19.3s,baz=174,slow=34						
NVL	N'lazarevskaya	52.90	156	eP	P	07 23 33.9	+1.8
NVL				pmax	pmax		
	comp=Z,12nm,0.8s						
RKT	Rikitea	53.95	268	eLR	LR	07 39 12.7	
	comp=Z,580nm,26.2s						
RKT	Rikitea	53.95	268	eT	T	08 21 18.5	
	comp=Z,5.7nm,0.2s						
APG	El Apazote	55.34	340	P	P	07 23 47.0	-3.8
	comp=Z,7.6nm,0.7s,baz=183,slow=9.6,SNR=6.5						
VNDA	Vanda	59.62	192	LR	LR	07 45 58.9	
	comp=Z,259nm,19.8s,baz=128,slow=32						
TBI	Tubuai	65.14	259	eT	T	08 35 17.0	
	comp=Z,19nm,0.2s						
MEH	Mehetia	67.08	265	eT	T	08 37 42.8	
	comp=Z,58nm,0.2s						
TVO	Taravao	68.06	264	eT	T	08 38 55.2	
	comp=Z,3.3nm,0.2s						
VAH	Vaihoa	68.24	267	eT	T	08 39 10.0	
	comp=Z,10.0nm,0.2s						
TIAR	Tiarei	68.26	264	eT	T	08 39 12.3	
	comp=Z,24nm,0.3s						
PAE	Paea	68.38	264	eT	T	08 39 10.9	
	comp=Z,2.6nm,0.2s						
PPT2	Papeete2	68.42	264	eS	S	07 34 18.0	-1.8
	comp=Z,181nm,23.5s						
PPT2	Papeete2	68.42	264	eLR	LR	07 45 59.2	
	comp=Z,226nm,24.0s						
PPT2	Papeete2	68.42	264	eT	T	08 39 16.1	
	comp=Z,3.3nm,0.2s						
PPT2	Papeete2	68.42	264	eLR	LR	07 25 48.1	
	comp=Z,199nm,24.8s						
034A	Hebbronville	69.15	336	⇑P	P	07 25 24.5	+1.7
	baz=70						
MAW	Mawson	69.41	164	LR	LR	07 56 19.5	
	comp=Z,726nm,18.3s,baz=234,slow=36						
934A	Benavides	69.59	337	⇓P	P	07 25 27.8	+2.2
	baz=70						
933A	Laredo	69.84	336	⇑P	P	07 25 29.0	+1.8
	baz=70						
835A	Beeville	70.02	337	⇑P	P	07 25 30.1	+1.8
	baz=70						
834A	Tilden	70.09	337	⇓P	P	07 25 29.6	+0.9
	baz=70,SNR=9.5						
833A	Chaparral WMA,	70.54	336	⇓P	P	07 25 31.9	+0.4
	baz=71,SNR=9.6						
735A	Kenedy	70.55	338	⇑P	P	07 25 32.7	+1.2
	baz=71						
832A	Faith Ranch, C	70.69	336	⇑P	P	07 25 32.9	+0.5
	baz=71,SNR=5.1						
733A	Divot King Ran	70.88	336	⇑P	P	07 25 34.9	+1.4
	baz=71						
636A	Smothers Creek	70.91	338	⇓P	P	07 25 34.9	+1.2
	baz=71						
HKT	Hockley	71.01	340	eP	P	07 25 33.9	-0.3
HKT				pmax	pmax		
	comp=Z,17nm,1.5s						
HKT	Hockley	71.01	340	eP	P	07 25 33.9	-0.3
	comp=Z,16nm,1.5s						
635A	Leesville	71.04	338	⇓P	P	07 25 35.5	+1.1
	baz=72						
732A	Laxson Ranch,	71.11	336	⇓P	P	07 25 35.2	+0.3
	baz=72,SNR=9.8						
537A	Green Hill Far	71.27	339	⇑P	P	07 25 37.3	+1.5
	baz=72						
536A	Bastrop	71.48	339	⇓P	P	07 25 38.3	+1.2
	baz=72						
633A	Saathoff Ranch	71.53	337	⇑P	P	07 25 38.1	+0.7
	baz=72,SNR=7.1						
535A	Dale	71.58	338	⇓P	P	07 25 38.9	+1.2
	baz=72						
438A	Sam Houston St	71.67	340	⇑P	P	07 25 40.0	+1.8
	baz=72						
632A	Uvalde	71.77	336	⇓P	P	07 25 40.0	+1.2
	baz=72,SNR=10						
534A	Blanco	71.85	337	⇑P	P	07 25 39.9	+0.6
	baz=72						
340A	Bronson	71.91	342	⇓P	P	07 25 40.3	+0.7
	baz=72						
631A	Perdido Creek	71.93	335	⇑P	P	07 25 40.4	+0.5
	baz=72						
GOGA	Godfrey	71.95	351	eP	P	07 25 38.2	-1.6
GOGA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GOGA	Godfrey	71.95	351	eP	P	07 25 38.2	-1.6
	comp=Z,4.6nm,0.7s						
339A	Huntington	71.99	341	⇑P	P	07 25 41.2	+1.0
	baz=72						
436A	Wall Ranch, Ga	72.05	339	⇓P	P	07 25 41.5	+1.0
	baz=72						
533A	Kerrville	72.06	337	⇑P	P	07 25 41.3	+0.7
	baz=72,SNR=11						
LRAL	Lakeview Retre	72.07	348	eP	P	07 25 41.2	+0.6
	comp=Z,43nm,1.5s						
338A	Crockett	72.21	341	⇑P	P	07 25 43.0	+1.5
	baz=73						
435B	Jarrell	72.29	338	⇓P	P	07 25 43.3	+1.4
	baz=73						
337A	Centerville	72.32	340	⇓P	P	07 25 43.5	+1.4
	baz=73						
532A	Rocksprings	72.38	336	⇓P	P	07 25 43.3	+0.7
	baz=73,SNR=16						
434A	Burnet	72.52	338	⇓P	P	07 25 43.8	+0.4
	baz=73,SNR=14						
531A	Rocksprings	72.62	336	⇓P	P	07 25 44.4	+0.4
	baz=73,SNR=10						
336A	Riesel	72.65	339	⇓P	P	07 25 44.8	+0.8
	baz=73,SNR=8.7						
JCT	Junction City	72.67	337	eP	P	07 25 45.3	+1.0
JCT				pmax	pmax		
	comp=Z,22nm,1.1s						
JCT	Junction City	72.67	337	eP	P	07 25 45.2	+1.0
	comp=Z,22nm,1.1s						
JCT	Junction City	72.67	337	⇓P	P	07 25 44.9	+0.6
	baz=73,SNR=7.5						
433A	Art	72.71	337	⇑P	P	07 25 44.9	+0.4
	baz=73,SNR=8.1						
335A	Moody	72.71	339	⇑P	P	07 25 45.5	+1.0
	baz=73						
530A	J-C Ranch, Com	72.86	335	⇓P	P	07 25 46.1	+0.6
	baz=73,SNR=9.6						
TXAR	Lajitas Array	72.92	333	P	P	07 25 45.2	-0.7
	comp=Z,3.0nm,0.6s,baz=153,slow=8.5,SNR=39						
TXAR				LR	LR	07 53 16.6	
	comp=Z,196nm,18.1s,baz=0.0,slow=32						
334A	Lometa	73.00	338	⇑P	P	07 25 46.2	+0.1
	baz=73,SNR=18						
432A	Menard	73.04	337	⇑P	P	07 25 46.6	+0.1
	baz=74,SNR=6.2						
431A	Sonora	73.12	336	⇓P	P	07 25 47.3	+0.4
	baz=74,SNR=7.5						
529A	Stev Forest Ra	73.14	334	⇑P	P	07 25 47.2	+0.1
	baz=74,SNR=5.0						
333A	Richland Sprin	73.21	338	⇓P	P	07 25 47.5	+0.1
	baz=74,SNR=6.0						
WHTX	Lake Whitney	73.39	339	eP	P	07 25 48.2	-0.2
	comp=Z,16nm,0.8s						
WHTX	Lake Whitney	73.39	339	⇑P	P	07 25 48.6	+0.1
	baz=74,SNR=6.7						
430A	Baggett Ranch,	73.42	335	⇓P	P	07 25 48.7	0.0
	baz=74,SNR=10						
KMSC	Kings Mountain	73.44	353	⇓P	P	07 25 48.4	-0.3

baz=74
429A Davenport Ranc 73.49 335 ⇓P P 07 25 49.8 +0.7
baz=74,SNR=6.4
332A Millersview 73.50 337 ⇑P P 07 25 48.4 -0.7
baz=74,SNR=8.1
137A Heron Place, G 73.50 341 ⇑P P 07 25 49.9 +0.8
baz=74
234A Clairette 73.59 338 ⇑P P 07 25 49.2 -0.5
baz=74,SNR=8.7
331A San Angelo 73.64 336 ⇓P P 07 25 49.5 -0.5
baz=74,SNR=14
233A Rising Star 73.83 338 ⇑P P 07 25 51.4 +0.3
baz=74
232A Coleman 73.94 337 ⇓P P 07 25 51.5 -0.2
baz=74,SNR=6.3
330A Mertzon 73.97 336 ⇑P P 07 25 52.1 +0.1
baz=74
SWET Sewanee 74.05 350 eP P 07 25 51.2 -1.1
comp=Z,29nm,0.8s
CPCT Cooper Cave 74.09 351 eP P 07 25 53.1 +0.6
134A White-Moore Ra 74.11 339 ⇓P P 07 25 52.8 +0.1
baz=75
231A Bronte 74.19 337 ⇑P P 07 25 53.0 -0.2
baz=75,SNR=5.5
RAR Rarotonga 74.24 255 LR LR 07 48 44.9
comp=Z,478nm,19.3s,baz=252,slow=28
329A Wagon Wheel Ra 74.31 335 ⇑P P 07 25 53.8 -0.2
baz=75,SNR=6.3
133A Hamilton Ranch 74.39 338 ⇓P P 07 25 54.3 0.0
baz=75,SNR=7.6
230A Sterling City 74.39 336 ⇓P P 07 25 54.7 +0.2
baz=75
Z35A Perchaven, San 74.59 340 ⇓P P 07 25 55.9 +0.4
baz=75
ABTX Abilene, Hawle 74.62 337 ⇑P P 07 25 56.2 +0.6
baz=75
229A Bryant Ranch, 74.69 335 ⇓P P 07 25 56.6 +0.5
baz=75
Z34A Collier Ranch, 74.82 339 ⇑P P 07 25 57.1 +0.4
baz=75
131A Roby 74.89 337 ⇑P P 07 25 57.4 +0.2
baz=75
Z33A Whitaker Ranch 74.98 338 ⇓P P 07 25 57.7 0.0
baz=75,SNR=5.6
130A Snyder 75.00 336 ⇓P P 07 25 58.0 +0.1
baz=75
BBTS Babate 75.04 57 LR LR 07 55 54.4
comp=Z,404nm,20.5s,baz=205,slow=33
228A UT Block 9, Go 75.09 335 ⇑P P 07 25 59.0 +0.6
baz=76
Z32A Haskell 75.21 338 ⇑P P 07 25 59.0 0.0
baz=76,SNR=7.7
WVT Waverly 75.24 348 eP P 07 25 59.2 +0.1
WVT Waverly 75.24 348 eP P 07 25 59.2 +0.1
Y34A Reagan Ranch, 75.32 339 ⇓P P 07 26 00.2 +0.5
baz=76
Z31A Sharp Cattle R 75.42 337 ⇓P P 07 26 00.2 -0.1
baz=76,SNR=7.1
128A Castleberry Fa 75.52 335 ⇑P P 07 26 01.0 +0.1
baz=76
Y33A Hilltop Ranch, 75.61 339 ⇑P P 07 26 01.3 0.0
baz=76
Z30A Sanderson Ranc 75.69 336 ⇓P P 07 26 02.2 +0.4
baz=76,SNR=5.1
JSRW J. Sargeant Re 75.74 357 eP P 07 26 02.1 +0.2
Y32A R-V Farms, Ver 75.85 338 ⇓P P 07 26 02.8 +0.1
baz=76
Z29A Hungry Hill Ra 75.85 336 ⇓P P 07 26 02.7 -0.2
baz=76,SNR=9.2
127A Arkansas Junct 75.86 334 ⇑P P 07 26 03.6 +0.6
baz=76
X34A Smith Ranch, M 75.95 340 ⇓P P 07 26 03.6 +0.4
baz=76,SNR=6.7
Y31A Rekieta Farm, 76.05 337 ⇑P P 07 26 04.7 +0.8
baz=76
X33A Lawton 76.08 339 ⇑P P 07 26 04.1 +0.1
baz=76
Z28A Tucker Farm, M 76.10 335 ⇓P P 07 26 05.3 +1.1
baz=76
Y30A Stafford Cattl 76.17 337 ⇓P P 07 26 05.5 +0.9
baz=77
X32A Elmer 76.19 338 ⇑P P 07 26 05.5 +0.8
baz=77
PBMO Poplar Bluff 76.32 346 eP P 07 26 05.3 +0.1
comp=Z,55nm,1.8s
Y29A Porterfield Fa 76.39 336 ⇓P P 07 26 07.1 +1.2
baz=77
Z27A Tatum 76.39 335 ⇑P P 07 26 06.8 +0.9
baz=77
W34A Bridge Creek, 76.53 340 ⇑P P 07 26 07.7 +1.1
baz=77
X31A McDonald Ranch 76.59 338 ⇓P P 07 26 07.1 +0.2
baz=77,SNR=7.7
Z26A Caprock 76.61 334 ⇓P P 07 26 07.8 +0.6
baz=77,SNR=7.1
Y28A McKinney Farm, 76.62 336 ⇓P P 07 26 07.8 +0.6
baz=77
W33A Caddo, Fort Co 76.64 339 ⇑P P 07 26 08.2 +1.0
baz=77,SNR=8.1
TUL1 Tulsa 76.66 342 eP P 07 26 06.9 -0.3
comp=Z,24nm,0.8s
TUL1 Tulsa 76.66 342 ⇓P P 07 26 07.3 0.0
baz=77,SNR=8.5
X30A Coker Ranch, T 76.69 337 ⇑P P 07 26 08.1 +0.6
baz=77
W32A Sentinel 76.83 339 ⇓P P 07 26 08.5 +0.2
baz=77,SNR=11
MSTX Muleshoe 76.85 335 eP P 07 26 09.1 +0.6
comp=Z,16nm,1.3s
MSTX Muleshoe 76.85 335 ⇓P P 07 26 09.3 +0.8
baz=77
Z25A Roswell 76.88 334 ⇓P P 07 26 08.9 +0.2
baz=77
319A Douglas 76.89 329 ⇓P P 07 26 09.8 +1.0
baz=77
Y27A Causey 76.90 335 ⇓P P 07 26 09.4 +0.6
baz=77
X29A Tulia 76.94 336 ⇑P P 07 26 10.2 +1.2
baz=77
SIUC Southern Illin 77.02 347 eP P 07 26 09.5 +0.3
comp=Z,12nm,0.8s
V34A Guthrie 77.03 340 ⇓P P 07 26 10.2 +0.9
baz=78
W31A Holland Ranch, 77.10 338 ⇑P P 07 26 10.6 +0.8
baz=78
Z24A Sheeppen Canyo 77.15 333 ⇓P P 07 26 10.9 +0.6
baz=78,SNR=5.2
Y26A Elida 77.15 335 ⇑P P 07 26 11.2 +1.0
baz=78
V33A Lossen Ranch, 77.22 340 ⇓P P 07 26 11.2 +0.7
baz=78,SNR=6.0
121A Cookes Peak, D 77.33 331 ⇑P P 07 26 12.7 +1.3
baz=78
V32A Arapaho 77.34 339 ⇑P P 07 26 12.5 +1.4
baz=78
AMTX Amarillo 77.34 337 eP P 07 26 11.4 +0.2
comp=Z,19nm,1.0s
AMTX Amarillo 77.34 337 ⇑P P 07 26 12.4 +1.2
baz=78
LIC Lamto 77.37 72 eP P 07 26 13.2 +1.4
comp=Z,76nm,1.2s
Y25A Mesa, Roswell 77.45 334 ⇑P P 07 26 12.6 +0.7
baz=78
W29A Amraillo 77.55 337 ⇑P P 07 26 13.6 +1.2
baz=78
X27A F and S Farms, 77.57 335 ⇓P P 07 26 13.7 +1.1
baz=78
U34A Anderson Ranch 77.60 340 ⇓P P 07 26 14.0 +1.5
baz=78
V31A Spring Creek L 77.61 338 ⇓P P 07 26 14.6 +1.9
baz=78
TIC Toumodi 77.65 71 eP P 07 26 14.9 +1.5
comp=Z,26nm,0.9s
Z22A Elephant Butte 77.66 332 ⇓P P 07 26 14.7 +1.5
baz=78
KIC Kosan Boka 77.67 72 eP P 07 26 14.9 +1.4
comp=Z,55nm,0.9s
Y24A Capitan 77.71 333 ⇑P P 07 26 14.8 +1.4
baz=78
X26A CR and CF Fran 77.72 335 ⇓P P 07 26 14.4 +1.0
baz=78
U33A Lingo Farm, Me 77.75 340 ⇓P P 07 26 13.9 +0.5
baz=78
DBIC Dimbokro 77.79 71 P P 07 26 13.7 -0.4
comp=Z,12nm,0.6s,baz=197,slow=5.7,SNR=20
DBIC LR LR 07 59 15.9
comp=Z,179nm,18.1s,baz=204,slow=35
Y23A Lovelace Mesa, 77.94 333 ⇑P P 07 26 16.2 +1.5

baz=78
U32A Winter Ranch, 77.94 339 ⇑P P 07 26 15.9 +1.4
baz=78
W27A Bowe Ranch, En 77.94 336 ⇑P P 07 26 15.9 +1.3
baz=78
X24A Lazy VL Ranch, 78.29 334 ⇓P P 07 26 18.3 +1.6
baz=79
V28A Channing 78.31 337 ⇓P P 07 26 18.2 +1.5
baz=79
T33A Patterson Ranc 78.39 340 ⇓P P 07 26 18.4 +1.5
baz=79
V27A Dan Oppiter Fa 78.51 336 ⇑P P 07 26 18.9 +1.1
baz=79
W25A X Bar L Ranch, 78.55 335 ⇓P P 07 26 19.1 +1.1
baz=79
U30A WK&E Inc. Balk 78.55 338 ⇑P P 07 26 19.1 +1.2
baz=79
ACSO Alum Creek Sta 78.64 353 eP P 07 26 18.0 -0.2
comp=Z,108nm,1.9s
T32A Huddler Ranch, 78.67 340 ⇓P P 07 26 19.7 +1.2
baz=79
LAZ Ladron 78.75 332 eP P 07 26 20.8 +1.5
comp=Z,6.8nm,1.3s
T31A Randall Ranch, 78.80 339 ⇑P P 07 26 20.6 +1.4
baz=79
V26A Tequesquite Ra 78.85 335 ⇑P P 07 26 20.6 +1.0
baz=79
W24A Lazy 6 Ranch, 78.86 334 ⇓P P 07 26 20.9 +1.1
baz=79
ANMO Albuquerque 78.99 333 eP P 07 26 22.2 +1.7
ANMO pmax pmax
comp=Z,10.0nm,1.1s
ANMO Albuquerque 78.99 333 eP P 07 26 22.2 +1.7
comp=Z,10nm,1.1s
W23A Werner Place, 79.08 333 ⇑P P 07 26 22.2 +1.2
baz=80
U27A Thompson Grove 79.11 336 ⇓P P 07 26 22.8 +1.7
baz=80
S32A Newby Ranch, P 79.16 340 ⇓P P 07 26 22.7 +1.6
baz=80
V25A Rancho No Teng 79.16 335 ⇑P P 07 26 22.6 +1.1
baz=80,SNR=7.3
BOSA Boshof 79.21 118 P P 07 26 21.0 -1.0
BOSA pmax pmax
comp=Z,9.0nm,1.1s
BOSA Boshof 79.21 118 P P 07 26 21.0 -1.0
comp=Z,12nm,0.8s,baz=220,slow=5.5,SNR=14
BOSA LR LR 07 56 24.6
comp=Z,250nm,20.6s,baz=230,slow=32
BOSA Boshof 79.21 118 P P 07 26 21.0 -1.0
comp=Z,9.1nm,1.1s
S31A Mullinville 79.24 339 ⇓P P 07 26 23.5 +1.9
baz=80
V24A Rampart Ranch, 79.28 334 ⇓P P 07 26 23.2 +1.1
baz=80
T28A Walsh 79.54 337 ⇑P P 07 26 24.7 +1.4
baz=80
U25A Circle Dot Ran 79.61 335 ⇑P P 07 26 25.0 +1.1
baz=80,SNR=7.8
V23A Ortiz Mt. (NFS 79.62 334 ⇓P P 07 26 25.0 +1.1
baz=80
T27A Campo 79.67 337 ⇑P P 07 26 25.5 +1.4
baz=80
R32A Long Quarter, 79.78 340 ⇓P P 07 26 25.7 +1.2
baz=80
R31A Burdett 79.88 340 ⇑P P 07 26 26.3 +1.3
baz=80
KSU1 Kansas State U 79.89 342 ⇓P P 07 26 26.3 +1.2
baz=80
S28A Manter 79.91 338 ⇑P P 07 26 26.6 +1.3
baz=80
X18A Snowflake 79.93 330 ⇓P P 07 26 27.3 +1.7
baz=80
V22A San Miguel Ran 80.02 333 ⇑P P 07 26 28.1 +1.9
baz=80
Q33A Connelly Farm, 80.09 341 ⇓P P 07 26 27.5 +1.3
baz=80
U23A El Rito 80.14 334 ⇓P P 07 26 28.4 +1.6
baz=81,SNR=6.1
Q32A Meitler Ranch, 80.27 341 ⇑P P 07 26 28.5 +1.3
baz=81
T25A Trinidad 80.28 335 ⇑P P 07 26 29.0 +1.5
baz=81
W18A Petrified Fore 80.36 331 ⇓P P 07 26 30.0 +2.0
baz=81
S26A Kim 80.42 336 ⇑P P 07 26 29.6 +1.5
baz=81,SNR=6.6
U22A Llaves 80.42 333 ⇓P P 07 26 30.1 +1.8
baz=81
X16A Lo Mia Camp, P 80.42 329 ⇑P P 07 26 30.3 +2.0
baz=81
T24B San Luis 80.53 335 ⇓P P 07 26 29.8 +0.9
baz=81,SNR=5.6
R28A Tribune 80.58 338 ⇑P P 07 26 30.2 +1.3
baz=81
Y14A Wickenburg 80.65 328 ⇓P P 07 26 30.8 +1.4
baz=81
Q30A Quinter 80.71 339 ⇑P P 07 26 30.9 +1.4
baz=81
T23A Casias Ranch, 80.73 334 ⇓P P 07 26 31.1 +1.1
baz=81
S25A Robets Cordova 80.76 336 ⇓P P 07 26 31.3 +1.3
baz=81
R27A Eads 80.82 337 ⇑P P 07 26 31.0 +0.8
baz=81,SNR=5.6
P32A Huiting Farm, 80.88 341 ⇓P P 07 26 31.9 +1.6
baz=81
P31A Stockton 80.99 340 ⇑P P 07 26 32.2 +1.2
baz=81
S24A Houchin Ranch, 81.00 335 ⇑P P 07 26 32.9 +1.5
baz=82
R26A Arlington 81.03 337 ⇓P P 07 26 32.5 +1.1
baz=82,SNR=7.0
Y12C Blythe 81.14 327 ⇓P P 07 26 33.8 +1.9
baz=82
Q28A Sharon Springs 81.25 338 ⇓P P 07 26 34.3 +1.8
baz=82
WUAZ Wupatki 81.35 330 eP P 07 26 34.0 +0.8
comp=Z,39nm,1.8s
WUAZ Wupatki 81.35 330 ⇓P P 07 26 34.5 +1.3
baz=82
O32A Brockman Farm, 81.40 341 ⇓P P 07 26 34.6 +1.4
baz=82
KSCO Kaye Shedlock' 81.44 338 ⇓P P 07 26 35.4 +1.9
baz=82
PDMCI Parker Dam,Lak 81.44 327 ⇓P P 07 26 35.2 +1.7
baz=82
R24A Sanders Place, 81.50 335 ⇑P P 07 26 35.5 +1.5
baz=82,SNR=7.4
Q26A Hugo 81.63 337 ⇑P P 07 26 36.1 +1.6
baz=82
S22A 4UR Ranch, Cre 81.64 334 ⇓P P 07 26 36.4 +1.6
baz=82
LBTB Lobatse 81.66 115 eP P 07 26 34.9 -0.3
LBTB pmax pmax
comp=Z,66nm,1.6s
LBTB Lobatse 81.66 115 eP P 07 26 34.9 -0.3
comp=Z,66nm,1.6s
P28A Saint Francis 81.70 338 ⇓P P 07 26 36.4 +1.5
baz=82
R23A Moffat 81.70 335 ⇑P P 07 26 36.4 +1.2
baz=82
MVCO Mesa Verde 81.75 333 ⇓P P 07 26 37.1 +1.7
baz=82
IRM Iron Mountain 81.76 326 ⇓P P 07 26 36.7 +1.5
baz=82
Q25A Bedland, Calha 81.85 336 ⇓P P 07 26 37.3 +1.5
baz=82
MDV Middlebury 81.94 0 eP P 07 26 36.3 +0.5
W13A Hualapai Mount 82.02 328 ⇓P P 07 26 38.8 +2.0
baz=82
P26A Davis Ranch, A 82.16 337 ⇑P P 07 26 39.0 +1.7
baz=83
Q24A Divide 82.18 336 ⇓P P 07 26 39.3 +1.6
baz=83
P25A Willow Gulch B 82.37 337 ⇑P P 07 26 39.7 +1.3
baz=83,SNR=5.2
U15A North Rim 82.51 329 ⇑P P 07 26 41.2 +1.7
baz=83
PV01 Paradox Valley 82.60 333 eP P 07 26 40.8 +1.0
comp=Z,1μm,1.6s
PV04 Paradox Valley 82.95 333 eP P 07 26 43.3 +1.8
SMCO Snowmass 82.98 335 eP P 07 26 43.6 +1.7
comp=Z,6.8nm,1.0s
ISCO Idaho Springs 83.09 336 eP P 07 26 44.2 +1.8
ISCO pmax pmax
comp=Z,48nm,3.0s
ISCO Idaho Springs 83.09 336 eP P 07 26 44.2 +1.8

comp=Z,48nm,3.0s
M28A Bar X Bar Ranc 83.28 339 ⇑P P 07 26 45.4 +2.4
baz=84
P22A Eagle 83.28 335 ⇓P P 07 26 45.3 +2.0
baz=84
GSC Goldstone 83.45 326 ⇑P P 07 26 46.2 +2.1
baz=84
O23A Lake Granby, G 83.56 336 ⇑P P 07 26 46.6 +1.8
baz=84
O22A Kremmling 83.72 335 ⇓P P 07 26 46.8 +1.2
baz=84,SNR=6.4
CCUT Cedar City 83.91 329 eP P 07 26 48.9 +2.4
comp=Z,15nm,1.4s
K30A Basset 84.00 341 ⇑P P 07 26 48.5 +1.8
baz=84
ARUT Antelope Range 84.15 329 eP P 07 26 48.2 +0.5
ARUT Antelope Range 84.15 329 eP P 07 26 48.2 +0.5
comp=Z,184nm,1.5s
SRU San Rafael 84.17 332 eP P 07 26 49.0 +1.2
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael 84.17 332 eP P 07 26 49.0 +1.2
comp=Z,5.9nm,0.8s
N23A Red Feather La 84.19 336 ⇑P P 07 26 49.7 +1.7
baz=85
O20A White River Ci 84.27 334 ⇑P P 07 26 50.2 +1.9
baz=85
K29A Lazy Trails An 84.27 341 ⇑P P 07 26 49.7 +1.7
baz=85
N22A Wattenberg Ran 84.27 336 ⇑P P 07 26 50.2 +1.8
baz=85
MVU Marysvale 84.28 331 eP P 07 26 50.2 +1.7
comp=Z,4.8nm,1.1s
ECSD EROS Data Cent 84.29 343 eP P 07 26 48.0 0.0
comp=Z,15nm,0.8s
ECSD EROS Data Cent 84.29 343 ⇑P P 07 26 49.2 +1.2
baz=85
L26A Underwood Farm 84.36 338 ⇓P P 07 26 50.0 +1.5
baz=85
M24A Cheyenne 84.36 337 ⇑P P 07 26 50.0 +1.3
baz=85
ISA Isabella 84.50 325 ⇓P P 07 26 51.4 +2.0
baz=85
TMUT Trail Mountain 84.59 332 eP P 07 26 51.6 +1.6
comp=Z,107nm,2.7s
K27A Flueckinger Fa 84.73 339 ⇓P P 07 26 51.9 +1.5
baz=85
J29A Okreek 84.87 341 ⇓P P 07 26 52.1 +1.1
baz=85
N20A Spence Gulch, 84.90 334 ⇓P P 07 26 53.0 +1.5
baz=85
VES Vestal, Richgr 84.93 324 ⇑P P 07 26 53.0 +1.6
baz=85
SPMN St. Paul 84.94 347 eP P 07 26 50.8 -0.5
comp=Z,40nm,1.8s
I30A Oacoma 85.12 342 ⇑P P 07 26 52.9 +0.6
baz=86
GRAC Grapevine Rang 85.12 326 ⇑P P 07 26 54.1 +1.6
baz=86
J28A Allard Ranch, 85.13 340 ⇑P P 07 26 52.9 +0.6
baz=86
J27A Elkhorn Farm, 85.18 340 ⇓P P 07 26 53.9 +1.2
baz=86,SNR=7.3
MPU Maple Canyon 85.38 332 eP P 07 26 55.4 +1.5
comp=Z,11nm,1.1s
I29A Vivian Onida 85.44 341 ⇓P P 07 26 54.7 +0.8
baz=86
R11A Troy Canyon, C 85.50 328 eP P 07 26 56.0 +1.5
comp=Z,19nm,1.8s
R11A Troy Canyon, C 85.50 328 ⇑P P 07 26 55.6 +1.1
baz=86
J26A Sides Ranch, S 85.53 339 ⇓P P 07 26 55.8 +1.4
baz=86
I28A Midland 85.65 340 ⇑P P 07 26 55.3 +0.5
baz=86,SNR=9.1
K23A Bowen Ranch, D 85.77 337 ⇓P P 07 26 56.6 +0.9
baz=86
J25A Sunshine Ranch 85.81 338 ⇑P P 07 26 56.8 +0.9
baz=86
JLU Jordanelle 85.82 332 eP P 07 26 56.9 +0.8
comp=Z,29nm,1.9s
I27A Quinn 85.95 340 ⇓P P 07 26 57.7 +1.3
baz=86
K22A Casper 85.96 336 eP P 07 26 57.5 +0.9
comp=Z,29nm,1.4s
K22A Casper 85.96 336 ⇓P P 07 26 58.1 +1.4
baz=86
TPH Tonopah 85.96 327 eP P 07 26 58.6 +1.8
TPH pmax pmax
comp=Z,7.0nm,0.9s
TPH Tonopah 85.96 327 eP P 07 26 58.6 +1.8
comp=Z,7.2nm,0.9s
DUG Dugway 85.98 331 eP P 07 26 58.8 +2.0
DUG pmax pmax
comp=Z,12nm,1.2s
DUG Dugway 85.98 331 eP P 07 26 58.8 +2.0
comp=Z,12nm,1.2s
DUG Dugway 85.98 331 ⇓P P 07 26 58.2 +1.4
baz=86
H29A Onida 85.99 341 ⇓P P 07 26 57.6 +1.1
baz=86
K21A Alcova 86.18 336 ⇑P P 07 26 58.8 +1.0
baz=87
G30A Faulkton 86.19 342 ⇓P P 07 26 58.4 +0.9
baz=87
H28A Mission Ridge 86.24 341 ⇑P P 07 26 58.6 +0.8
baz=87
I25A Rochford 86.37 339 ⇑P P 07 26 59.7 +1.1
baz=87
G29A Hoven 86.44 342 ⇓P P 07 26 59.4 +0.6
baz=87
H27A Howes 86.48 340 ⇓P P 07 26 59.4 +0.4
baz=87
G28A Parade 86.58 341 ⇓P P 07 27 00.2 +0.7
baz=87,SNR=5.9
J22A Midwest 86.63 337 ⇓P P 07 27 00.4 +0.5
baz=87
BGU Big Grassy Mou 86.69 331 eP P 07 27 01.4 +1.1
comp=Z,16nm,2.1s
NVAR Mina Array Bea 86.72 326 P P 07 27 01.8 +1.2
comp=Z,1.2nm,0.7s,baz=145,slow=6.0,SNR=7.1
HWUT Hardware Ranch 86.74 333 eP P 07 26 59.6 -1.0
comp=Z,23nm,1.2s
J21A Lysite 86.88 336 ⇑P P 07 27 02.4 +1.3
baz=87
TOA0 Torodi Ar. Sit 86.88 71 eP P 07 27 01.8 +0.1
TORD Torodi Ar. Bea 86.88 71 P P 07 27 00.8 -0.9
comp=Z,3.0nm,0.8s,baz=240,slow=4.1,SNR=16
TORD LR LR 08 03 15.6
comp=Z,106nm,20.1s,baz=250,slow=34
H25A Fruitdale 86.88 339 ⇑P P 07 27 02.2 +1.2
baz=87
F29A Eureka 87.02 342 ⇓P P 07 27 02.8 +1.2
baz=88
PDAR Pinedale Array 87.06 334 P P 07 27 02.6 +0.5
comp=Z,2.0nm,0.8s,baz=147,slow=5.9,SNR=13
PDAR LR LR 08 02 50.8
comp=Z,163nm,18.9s,baz=156,slow=34
I22A 9 Mile Ranch, 87.07 337 ⇑P P 07 27 02.6 +0.6
baz=88
J20A Shoshoni 87.09 336 ⇑P P 07 27 03.1 +0.9
baz=88
G27A Dupree 87.13 340 ⇑P P 07 27 02.5 +0.4
baz=88
G26A Maurine 87.23 340 ⇓P P 07 27 03.0 +0.4
baz=88,SNR=5.7
I21A Big Trails, Te 87.25 336 ⇓P P 07 27 03.7 +0.8
baz=88
H24A Dirks Ranch, A 87.27 339 ⇑P P 07 27 03.6 +0.7
baz=88
F28A McLaughlin 87.28 341 ⇑P P 07 27 03.9 +1.0
baz=88
J19A Crowheart 87.33 335 ⇑P P 07 27 04.2 +0.9
baz=88
HVU Hansel Valley 87.34 332 eP P 07 27 04.2 +0.8
HVU pmax pmax
comp=Z,10.0nm,0.9s
HVU Hansel Valley 87.34 332 eP P 07 27 04.2 +0.8
comp=Z,9.9nm,0.9s
G25A Newell 87.36 339 ⇑P P 07 27 03.9 +0.6
baz=88
ELK Elko 87.40 330 eP P 07 27 05.2 +1.4
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 87.40 330 eP P 07 27 05.2 +1.4
comp=Z,5.7nm,1.0s
E30A Jud 87.43 343 ⇓P P 07 27 04.5 +0.9
baz=88

F27A	**Lemmon**	**87.61**	**341**	⇑P	**P**	**07 27 05.2**	**+0.7**
	baz=88						
I20A	**Worland**	**87.64**	**336**	⇓P	**P**	**07 27 05.3**	**+0.6**
	baz=88						
H22A	**Clearmont**	**87.66**	**337**	⇓P	**P**	**07 27 05.6**	**+0.7**
	baz=88						
E29A	**Napoleon**	**87.67**	**342**	⇓P	**P**	**07 27 05.5**	**+0.8**
	baz=88						
F26A	**Lodgepole**	**87.76**	**340**	⇑P	**P**	**07 27 06.0**	**+0.8**
	baz=88						
E28A	**Huff**	**87.93**	**342**	⇑P	**P**	**07 27 07.0**	**+1.0**
	baz=88						
I19A	**Meeteetse**	**88.00**	**335**	⇑P	**P**	**07 27 07.1**	**+0.6**
	baz=88						
E27A	**Carson**	**88.01**	**341**	⇓P	**P**	**07 27 07.1**	**+0.7**
	baz=88						
REDW	**Red Top Meadow**	**88.03**	**334**	eP	**P**	**07 27 07.6**	**+0.8**
	comp=Z,28nm,1.8s						
H20A	**Greybull**	**88.08**	**336**	⇑P	**P**	**07 27 07.3**	**+0.4**
	baz=88						
D29A	**Pettibone, Tap**	**88.12**	**343**	⇑P	**P**	**07 27 07.6**	**+0.8**
	baz=89						
LOHW	**Long Hollow**	**88.16**	**334**	eP	**P**	**07 27 08.2**	**+0.8**
	comp=Z,41nm,2.5s						
TPAW	**Teton Pass**	**88.18**	**334**	eP	**P**	**07 27 08.5**	**+1.0**
	comp=Z,5.0nm,0.9s						
E26A	**Carlson Angus**	**88.28**	**341**	⇓P	**P**	**07 27 08.1**	**+0.5**
	baz=89						
FXWY	**Fox Creek**	**88.33**	**334**	eP	**P**	**07 27 07.1**	**-1.1**
	comp=Z,4.4nm,1.1s						
I17A	**Pilgrim Ck.**	**88.43**	**334**	⇑P	**P**	**07 27 09.3**	**+0.6**
	baz=89						
C30A	**Mose, Pekin**	**88.47**	**344**	⇓P	**P**	**07 27 08.9**	**+0.4**
	baz=89,SNR=6.8						
D28A	**Regan**	**88.47**	**342**	⇑P	**P**	**07 27 09.0**	**+0.5**
	baz=89,SNR=7.0						
AGMN	**Agassiz Nation**	**88.48**	**345**	eP	**P**	**07 27 08.9**	**+0.5**
	comp=Z,7.4nm,0.9s						
AGMN	**Agassiz Nation**	**88.48**	**345**	⇑P	**P**	**07 27 08.7**	**+0.2**
	baz=89						
IMW	**Indian Meadow**	**88.53**	**334**	eP	**P**	**07 27 09.7**	**+0.4**
	comp=Z,9.6nm,1.2s						
H19A	**Powell**	**88.56**	**336**	⇓P	**P**	**07 27 09.9**	**+0.8**
	baz=89						
FLWY	**Flagg Ranch**	**88.61**	**334**	eP	**P**	**07 27 10.8**	**+1.3**
	comp=Z,8.4nm,0.9s						
H18A	**Shoshone NF, C**	**88.79**	**335**	⇓P	**P**	**07 27 10.8**	**+0.5**
	baz=89						
D26A	**Manning**	**88.79**	**341**	⇑P	**P**	**07 27 10.6**	**+0.6**
	baz=89						
G20A	**Bridger**	**88.80**	**336**	⇓P	**P**	**07 27 11.4**	**+1.2**
	baz=89						
B30A	**Myrvik Farm, E**	**89.14**	**344**	⇓P	**P**	**07 27 12.0**	**+0.4**
	baz=90,SNR=9.8						
C27A	**Sayler Ranch,**	**89.19**	**342**	⇑P	**P**	**07 27 12.9**	**+1.0**
	baz=90						
YMR	**Madison River**	**89.22**	**334**	eP	**P**	**07 27 14.3**	**+2.0**
	comp=Z,10.0nm,1.1s						
D24A	**Glendive**	**89.38**	**340**	⇓P	**P**	**07 27 13.5**	**+0.7**
	baz=90						
B29A	**Wagenman Farm,**	**89.38**	**343**	⇓P	**P**	**07 27 13.4**	**+0.7**
	baz=90						
HLID	**Hailey**	**89.49**	**332**	eP	**P**	**07 27 14.8**	**+1.2**
	comp=Z,11nm,1.3s						
HLID	**Hailey**	**89.49**	**332**	⇑P	**P**	**07 27 14.6**	**+1.0**
	baz=90						
A30A	**Hoffart Farm,**	**89.60**	**344**	⇓P	**P**	**07 27 14.2**	**+0.4**
	baz=90						
B28A	**Dugan Ranch, T**	**89.60**	**343**	⇑P	**P**	**07 27 14.0**	**+0.3**
	baz=90,SNR=5.7						
F19A	**Roth Farm, Mol**	**89.60**	**336**	⇓P	**P**	**07 27 15.1**	**+1.2**
	baz=90						
C24A	**Savage**	**89.78**	**340**	⇓P	**P**	**07 27 15.2**	**+0.6**
	baz=90						
A29A	**Manning Farm,**	**89.78**	**343**	⇑P	**P**	**07 27 15.0**	**+0.4**
	baz=90,SNR=7.5						
MFID	**Camas Ranch**	**89.90**	**331**	eP	**P**	**07 27 16.8**	**+1.4**
	comp=Z,15nm,1.6s						
E20A	**Meyer Farm, Mu**	**89.93**	**337**	⇑P	**P**	**07 27 16.2**	**+0.8**
	baz=90						
E19A	**Rath Farm, Rou**	**90.09**	**337**	⇑P	**P**	**07 27 17.3**	**+1.1**
	baz=90						
WVOR	**Wild Horse Val**	**90.19**	**328**	eP	**P**	**07 27 18.9**	**+2.1**
WVOR				pmax	pmax		
	comp=Z,11nm,1.5s						
WVOR	**Wild Horse Val**	**90.19**	**328**	eP	**P**	**07 27 18.9**	**+2.1**
	comp=Z,11nm,1.5s						
ULM	**Lac du Bonnet**	**90.35**	**346**	P	**P**	**07 27 18.3**	**+1.2**
	comp=Z,6.8nm,1.2s,baz=180,slow=11,SNR=3.3						
DLMT	**Dillon**	**90.39**	**334**	eP	**P**	**07 27 19.5**	**+1.8**
	comp=Z,23nm,1.6s						
A26A	**Wade Farm, Ken**	**90.42**	**342**	⇓P	**P**	**07 27 18.9**	**+1.3**
	baz=91						
D20A	**Manuel Ranch,**	**90.45**	**337**	⇓P	**P**	**07 27 18.5**	**+0.6**
	baz=91						
B20A	**Solberg Farm,**	**91.63**	**338**	⇑P	**P**	**07 27 23.9**	**+0.7**
	baz=92						
A21A	**Bergtoll Ranch**	**91.81**	**339**	⇓P	**P**	**07 27 24.1**	**+0.1**
	baz=92						
MSO	**Missoula**	**92.12**	**334**	eP	**P**	**07 27 27.5**	**+1.8**
	comp=Z,20nm,1.8s						
MSO	**Missoula**	**92.12**	**334**	⇓P	**P**	**07 27 27.2**	**+1.5**
	baz=93						
F10A	**Beach Ranch, E**	**92.59**	**331**	eP	**P**	**07 27 29.6**	**+1.8**
	comp=Z,72nm,2.5s						
JTMT	**Jette**	**93.03**	**334**	eP	**P**	**07 27 30.1**	**+0.2**
E09A	**Wood Farm, Sta**	**93.39**	**331**	eP	**P**	**07 27 33.0**	**+1.6**
	comp=Z,11nm,0.4s						
WALA	**Waterton Lakes**	**94.03**	**335**	eP	**P**	**07 27 35.6**	**+1.2**
DZM	**Mont Dzumac**	**97.65**	**234**	eLR	LR	07 59 34.2	
	comp=Z,294nm,22.3s						
YKA	**Yellowknife Ar**	**105.73**	**342**	Pdiff	**Pdif**	**07 28 25.7**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=150,slow=4.1,SNR=3.1						
GERES	**GERESS Array B**	**116.07**	**47**	PKP	**PKPdf**	**07 32 57.9**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=197,slow=1.4,SNR=13						
WRA	**Warramunga Arr**	**116.36**	**210**	PKP	**PKPdf**	**07 32 58.2**	**-2.5**
	comp=Z,1.0nm,0.9s,baz=171,slow=1.4,SNR=4.1						
ILAR	**Eielson Array**	**117.44**	**332**	PKP	**PKPdf**	**07 33 00.3**	**-0.9**
	comp=Z,0.7nm,1.0s,baz=172,slow=2.8,SNR=5.5						
VYHS	**Vyhne**	**118.93**	**49**	ePKIKP	**PKPdf**	**07 33 04.8**	**+0.2**
VYHS	**Vyhne**	**118.93**	**49**	ePKP	**PKPdf**	**07 33 04.8**	**+0.2**
NOA	**NORSAR Array B**	**120.34**	**34**	PKP	**PKPdf**	**07 33 06.7**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=247,slow=1.8,SNR=2.9						
KOLS	**Kolonicke sedl**	**121.18**	**50**	ePKIKP	**PKPdf**	**07 33 11.2**	**+2.3**
KOLS	**Kolonicke sedl**	**121.18**	**50**	e	**PKPdf**	**07 33 11.2**	**+2.3**
H11S2	**WAKE ISLAND Hy**	**124.33**	**267**	T	T	09 49 30.5	
	baz=121						
H11S1	**WAKE ISLAND Hy**	**124.34**	**267**	T	T	09 49 31.5	
	baz=121						
H11S3	**WAKE ISLAND Hy**	**124.35**	**267**	T	T	09 49 31.8	
	baz=121						
BRTR	**Keskin Array B**	**124.98**	**64**	PKP	**PKPdf**	**07 33 15.4**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=206,slow=3.9,SNR=5.8						
AKASG	**Malin Array Be**	**126.01**	**50**	PKIKP	**PKPdf**	**07 33 17.0**	**-1.1**
AKASG	**Malin Array Be**	**126.01**	**50**	PKP	**PKPdf**	**07 33 16.9**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=263,slow=2.8,SNR=7.2						
FINES	**FINESS Array B**	**127.25**	**37**	PKP	**PKPdf**	**07 33 20.1**	**0.0**
	comp=Z,3.8nm,1.0s,baz=219,slow=8.8,SNR=4.7						
KIV	**Kislovodsk**	**132.77**	**62**	ePKIKP	**PKPdf**	**07 33 33.5**	**+2.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PETK	**Petropavlovsk-**	**142.08**	**310**	PKP	**PKPdf**	**07 33 45.4**	**-2.6**
	comp=Z,3.6nm,0.5s,baz=70,slow=4.9,SNR=8.1						
GEYT	**Alibeck**	**142.39**	**75**	PKP	**PKPdf**	**07 33 46.5**	**-2.7**
	comp=Z,2.3nm,0.7s,baz=256,slow=6.0,SNR=5.0						
ARU	**Arti**	**143.80**	**44**	PKIKP	PKPbc	07 33 49.3	+0.6
ARU	**Arti**	**143.80**	**44**	ePKPdf	PKPbc	07 33 48.7	0.0
PSI	**Prapat**	**144.00**	**167**	PKP	PKPab	07 33 49.7	-0.5
	comp=Z,6.3nm,0.7s,baz=182,slow=3.7,SNR=7.7						
TIXI	**Tiksi**	**144.68**	**348**	ePKPdf	**PKPab**	**07 33 48.3**	**-2.5**
AB31	**Akbulak array**	**145.27**	**56**	i PKP2	**PKPbc**	**07 33 52.0**	**-1.5**
AB31				pmax	pmax		
	comp=Z,21nm,0.7s						
ABKAR	**Akbulak array**	**145.27**	**56**	ePKPab	**PKPbc**	**07 33 52.3**	**-1.3**
POO	**Poona**	**145.53**	**116**	eP	**PKPbc**	**07 33 54.0**	**-1.2**
IPM	**Ipoh**	**145.97**	**170**	ePKPab	**PKPbc**	**07 33 56.4**	**+0.2**
HYB	**Hyderabad**	**147.99**	**123**	i PKP	**PKPbc**	**07 34 02.0**	**-0.4**
KBL	**Kabul**	**149.87**	**86**	ePKP2	**PKPbc**	**07 34 09.4**	**+2.4**
KBL	**Kabul**	**149.87**	**86**	ePKPab	**PKPbc**	**07 34 09.4**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**149.94**	**294**	d i PKIKP	PKPdf	07 33 54.1	-7.5
YUK				i S	**PKPbc**	**07 34 06.1**	**-0.4**
YUK				pmax	pmax		
	comp=N,46nm,0.1s						
YUK				pmax	pmax		
	comp=E,191nm,0.1s						
YUK				pmax	pmax		
	comp=Z,305nm,0.1s						
BRVK	**Borovoye**	**151.17**	**47**	PKIKP	**PKPbc**	**07 34 07.9**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,20nm,0.8s						
BRVK	**Borovoye**	**151.17**	**47**	ePKPdf	**PKPbc**	**07 34 08.7**	**-0.5**
VOSK	**Vostochnaya**	**151.67**	**48**	PKIKP	**PKPbc**	**07 34 08.7**	**-1.7**
VOSK				pmax	pmax		
	comp=Z,14nm,0.8s						
YSS	**Yuzh-Sakhalins**	**152.08**	**300**	ePKIKP	**PKPbc**	**07 34 10.0**	**-1.4**
YAK	**Yakutsk**	**152.26**	**336**	ePKIKP	**PKPbc**	**07 34 11.1**	**-0.3**
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
KK31	**Karatay Array**	**152.55**	**69**	i PKIKP	**PKPbc**	**07 34 11.7**	**-1.0**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MJAR	**Matsushiro Arr**	**154.71**	**276**	PKPab	**PKPab**	**07 34 31.7**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=130,slow=3.5,SNR=4.7						
AAK	**Ala-Archa**	**155.46**	**70**	ePKIKP	**PKPdf**	**07 34 10.4**	**+0.3**
AAK				e		07 34 36.0	
AAK	**Ala-Archa**	**155.46**	**70**	ePKPdf	**PKPdf**	**07 34 10.4**	**+0.3**
AAK				ePKPab	**PKPab**	**07 34 36.0**	**+0.2**
TKM2	**Tokmak 2**	**156.28**	**69**	ePKIKP	**PKPdf**	**07 34 12.5**	**+1.3**
TKM2	**Tokmak 2**	**156.28**	**69**	ePKPdf	**PKPdf**	**07 34 12.4**	**+1.3**
KSH	**Kashi**	**156.38**	**78**	ePKP	**PKPdf**	**07 34 11.5**	**+0.2**
KSH				epPKP	**pPKPdf**	**07 34 23.3**	**+5.8**
KSH				esPKP		07 34 26.5	
KSH				SKKS		07 45 02.5	
KSH				SS	**SS**	**07 58 02.8**	**-5.6**
KSH				AMB	AMB		
	comp=Z,60nm,4.3s						
KSH				LR	LR		
	comp=Z,200nm,5.2s						
NVS	**Novosibirsk**	**157.24**	**36**	ePKIKP	**PKPdf**	**07 34 10.4**	**-1.3**
NVS				pmax	pmax		
	comp=Z,23nm,1.5s						
JOW	**Kunigami**	**158.32**	**245**	PKP	**PKPdf**	**07 34 13.8**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=138,slow=15,SNR=6.9						
ZAA0	**Zalesovo Array**	**158.52**	**36**	ePKPdf	**PKPdf**	**07 34 12.4**	**-0.9**
ZALV	**Zalesovo Beam**	**158.52**	**36**	PKP	**PKPdf**	**07 34 12.8**	**-0.5**
	comp=Z,3.3nm,0.9s,baz=252,slow=3.0,SNR=11						
ZALV				PKPab	**PKPab**	**07 34 48.8**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=305,slow=5.2,SNR=7.4						
BOD	**Bodaibo**	**159.86**	**348**	ePKP2	**PKPab**	**07 34 53.4**	**-0.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s						
MKAR	**Makanchi Array**	**160.41**	**57**	PKP	**PKPdf**	**07 34 14.9**	**-0.9**
	comp=Z,1.9nm,1.0s,baz=300,slow=2.7,SNR=9.8						
MKAR				PKPab	**PKPab**	**07 34 57.4**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=297,slow=4.0,SNR=7.4						
MKAR				PP	**PP**	**07 38 39.4**	**-0.4**
	comp=Z,1.8nm,1.1s,baz=259,slow=2.5,SNR=6.0						
CN2	**Changchun**	**164.61**	**297**	ePKP	**PKPdf**	**07 34 20.0**	**0.0**
CN2				epPKP	**pPKPdf**	**07 34 31.0**	**+4.8**
CN2				ePP	**PP**	**07 39 00.5**	**-1.6**
CN2				AMB	AMB		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=Z,1μm,20.0s						
CN2				LR	LR		
	comp=Z,1μm,20.0s						
CN2				LR	LR		
	comp=Z,1μm,21.0s						
WMQ	**Urumqi**	**164.90**	**63**	PKP	**PKPdf**	**07 34 20.3**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,190nm,12.4s						
WMQ				LR	LR		
	comp=Z,120nm,23.0s						
WMQ				LR	LR		
	comp=Z,130nm,21.8s						
WMQ				LR	LR		
	comp=Z,190nm,21.2s						
KMI	**Kunming**	**166.49**	**166**	PKP	**PKPdf**	**07 34 24.3**	**+1.8**
ZAK	**Zakamensk**	**167.75**	**9**	ePKP2	**PKPab**	**07 35 29.9**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
NJ2	**Nanjing**	**168.02**	**242**	ePKP	**PKPdf**	**07 34 22.5**	**-0.6**
GYA	**Guiyang**	**168.17**	**181**	ePKP	**PKPdf**	**07 34 23.3**	**-0.2**
GYA				pPKP	**pPKPdf**	**07 34 35.8**	**+6.1**
GYA				PKPab	**PKPab**	**07 35 33.0**	**+1.6**
GYA				PKS	**PKSdf**	**07 37 53.5**	**-2.8**
GYA				PP	**PP**	**07 39 23.5**	**+4.2**
GYA				SKKS		07 46 04.3	
GYA				SS	**SS**	**08 00 07.0**	**-1.1**
GYA				AMB	AMB		
	comp=Z,120nm,8.4s						
GYA				LR	LR		
	comp=Z,120nm,21.5s						
GYA				LR	LR		
	comp=Z,110nm,21.3s						
GYA				LR	LR		
	comp=Z,120nm,24.5s						
SONM	**Songino Array**	**170.49**	**360**	PKP	**PKPdf**	**07 34 23.7**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=27,slow=1.7,SNR=5.5						
SONM				PKPab	**PKPab**	**07 35 41.8**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=339,slow=4.3,SNR=10.0						
CD2	**Chengdu**	**172.30**	**163**	PKP	**PKPdf**	**07 34 25.0**	**-0.6**
CD2				pPKP	**pPKPdf**	**07 34 36.3**	**+4.5**
CD2				sPKP		07 34 40.0	
CD2				PKS	**PKSdf**	**07 37 56.0**	**-2.0**
CD2				PP	**PP**	**07 39 43.0**	**+2.9**
CD2				SKS	**SKSdf**	**07 41 22.8**	**-5.3**
CD2				SKKS	**SKKSac**	**07 46 24.5**	**-2.1**
CD2				SS	**SS**	**08 00 47.0**	**-2.1**
CD2				AMB	AMB		
	comp=Z,220nm,6.4s						
XAN	**Xi'an**	**175.25**	**207**	PKP	**PKPdf**	**07 34 26.0**	**-0.6**
HHC	**Hu-ho-hao-te**	**175.25**	**304**	ePKP	**PKPdf**	**07 34 26.0**	**-0.4**
HHC				pPKP	**pPKPdf**	**07 34 36.5**	**+3.9**
HHC				sPKP		07 34 40.5	
HHC				PP	**PP**	**07 39 59.0**	**+3.4**
HHC				SKKS		07 46 39.8	
HHC				SS	**SS**	**08 01 17.5**	**-2.2**
HHC				AMB	AMB		
	comp=Z,120nm,6.7s						
HHC				LR	LR		
	comp=Z,690nm,17.7s						
HHC				LR	LR		
	comp=Z,560nm,19.3s						
HHC				LR	LR		
	comp=Z,1μm,19.8s						
LZH	**Lanzhou**	**177.00**	**137**	ePKP	**PKPdf**	**07 34 26.0**	**-1.1**
LZH				pPKP	**pPKPdf**	**07 34 36.5**	**+3.2**
LZH				sPKP		07 34 40.3	

ARO ***28*** *07:14:53.9, 11°N±26°×4°1E±1°5, h7km±66km, ML4.3*
ISCJB ***28*** *07:14:54.5±0.9, 11°.2N±0°.1×41°.30E±0°.09, h10km, Error ellipse: s-maj=23.3km s-min=6.0km az=149.8*
ISC 28 07:14:52.0±1.2**, 11°.0N**±0°.1×**41°.22E**±0°.10**, h10**km**, n12, σ0ˢ91**/15**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBR	**Grand-Bara**	**1.23**	**81**	eP	**Pn**	**07 15 14.9**	**-0.5**
LDLD	**Lac de Lave**	**1.39**	**64**	eP	**Pb**	**07 15 17.9**	**-0.2**
SGH	**Sud-Ghoubbet**	**1.46**	**71**	eP	**Pn**	**07 15 18.5**	**0.0**
MAOD	**Malaho**	**1.49**	**41**	eP	**Pn**	**07 15 18.7**	**-0.2**
ATD	**Arta Tunnel**	**1.69**	**70**	eP	**Pn**	**07 15 22.1**	**+0.4**
ATD	**Arta Tunnel**	**1.69**	**70**	eP	**Pn**	**07 15 22.1**	**+0.4**
ATD				eS	**Sb**	**07 15 45.0**	**+0.4**
TDD	**Tadjoura Ara**	**1.85**	**63**	eP	**Pn**	**07 15 24.2**	**+0.4**
ATA	**Atar**	**2.00**	**76**	eP	**Pn**	**07 15 26.8**	**+0.9**
OBO	**Obock**	**2.27**	**63**	eP	**Pn**	**07 15 30.2**	**+0.6**
FURI	**Furi**	**3.24**	**231**	eP	**Pb**	**07 15 48.5**	**-1.4**
FURI				S	**Sb**	**07 16 31.2**	**+1.6**
TRBA	**At Turbah**	**3.62**	**51**	i P	**Pn**	**07 15 50.0**	**+1.6**
TRBA				e		07 15 50.1	
	baz=209,slow=10						
TRBA				i S	**Sb**	**07 16 39.6**	**-0.6**
TRBA				AML	AML	07 16 50.8	
	comp=E,299nm,0.6s						
LBOS		**4.88**	**53**	i S	**Sb**	**07 17 16.3**	**-0.4**

IDC ***28*** *07:16:08.4±1.0, 9°.12N×126°.14E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/40, mbtmp3.9/6, Error ellipse: s-maj=88.7km s-min=23.4km az=69.0*
ISCJB ***28*** *07:16:15.6±0.9, 9°.05N±0°.07×126°.35E±0°.08, h66km±9km, mb3.9/6, Error ellipse: s-maj=15.3km s-min=7.7km az=144.1*
MAN ***28*** *07:16:15, 9°.14N×126°.41E, h27km, mb4.6, ML3.4, MS3.3*
ISC 28 07:16:16.4±1.3**, 9°.05N**±0°.06×**126°.32E**±0°.08**, h58**km±12km**, n20, σ1ˢ78**/20**, mb4.0**/6**, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.70**	**263**	eP	**Pn**	**07 16 29.6**	**-0.9**
BIPH	**Bislig**	**0.86**	**177**	⇓eP	**Pn**	**07 16 32.7**	**0.0**
BIPH				i S	**Sn**	**07 16 44.2**	**-0.4**
BUKP	**Musuan**	**1.71**	**227**	eP	**Pn**	**07 16 45.7**	**+1.8**
BUKP				eS	**Sn**	**07 17 08.5**	**+3.8**
CGP	**Cagayan de Oro**	**1.71**	**250**	⇑i P	**Pn**	**07 16 43.1**	**-0.9**
CGP				i S	**Sn**	**07 17 04.2**	**-0.7**
MSLP	**Maasin**	**1.80**	**307**	eP	**Pn**	**07 16 46.1**	**+1.0**
MSLP				eS	**Sn**	**07 17 07.8**	**+1.0**
TBP	**Tagbilaran**	**2.51**	**285**	eP	**Pn**	**07 16 55.6**	**+0.8**
TBP				eS	**Sn**	**07 17 25.4**	**+1.2**
PAGZ	**Pagadian**	**3.14**	**248**	eP	**Pn**	**07 17 05.6**	**+2.0**
PAGZ				eS	**Sn**	**07 17 35.4**	**-4.4**
PVCP	**Virac**	**4.99**	**335**	eP	**Pn**	**07 17 29.5**	**+0.6**
WRA	**Warramunga Arr**	**29.88**	**165**	P	**P**	**07 22 19.0**	**+0.3**
	0.6nm,0.7s,baz=347,slow=9.6,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**40.23**	**72**	T	T	08 06 40.0	
	baz=262,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy**	**40.24**	**72**	T	T	08 06 42.0	
	baz=262,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy**	**40.25**	**72**	T	T	08 06 42.2	
	baz=262,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy**	**40.60**	**70**	T	T	08 07 17.0	
	baz=266,slow=75,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**40.61**	**70**	T	T	08 07 17.7	
	baz=266,slow=75,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**40.62**	**70**	T	T	08 07 18.6	
	baz=266,slow=75,SNR=10						
STKA	**Stephens Creek**	**43.24**	**161**	P	**P**	**07 24 12.5**	**+0.3**
	4.4nm,1.0s,baz=312,slow=4.6,SNR=3.1						
MKAR	**Makanchi Array**	**53.02**	**323**	P	**P**	**07 25 26.6**	**-1.0**
	0.9nm,0.7s,baz=122,slow=7.3,SNR=9.2						
ARCES	**ARCESS Array B**	**85.34**	**340**	P	**P**	**07 28 46.3**	**-0.7**
	2.8nm,0.8s,baz=82,slow=6.8,SNR=3.5						
FINES	**FINESS Array B**	**86.98**	**332**	P	**P**	**07 28 54.0**	**-1.2**
	3.1nm,1.1s,baz=99,slow=6.4,SNR=5.6						
YKA	**Yellowknife Ar**	**94.84**	**24**	P	**P**	**07 29 32.4**	**+0.6**
	0.1nm,0.6s,baz=298,slow=4.0,SNR=3.4						

IDC ***28*** *07:17:29.2±1.2, 37°.54S×75°.77W, h0km, mb4.1/5, mb1 4.1/6, mb1mx3.9/26, mbtmp4.0/6, ML4.4/1, MS4.6/1, Ms1 4.8/1, ms1mx3.5/20, Error ellipse: s-maj=39.9km s-min=23.3km az=93.0*
ISCJB ***28*** *07:17:32.5±1.2, 37°.5S±0°.1×75°.7W±0°.3, h33km, mb4.0/5, MS4.5/1, Error ellipse: s-maj=34.1km s-min=19.4km az=16.2*
ISC 28 07:17:34.5±1.2**, 37°.5S**±0°.2×**75°.7W**±0°.2**, h35**km**, n7, σ0ˢ93**/6**, mb4.0**/5**, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**19.11**	**59**	P	**Pn**	**07 21 55.5**	**+0.2**
	0.3nm,0.3s,baz=214,slow=11,SNR=1.6						
LPAZ	**La Paz**	**22.18**	**19**	LR	LR	07 30 39.2	
	comp=Z,2μm,18.7s,baz=160,slow=36						
SIV	**San Ignacio**	**25.03**	**35**	P	**P**	**07 22 56.2**	**+0.8**
	2.4nm,0.5s,baz=209,slow=10,SNR=5.3						
SNAA	**Sanae**	**49.47**	**157**	P	**P**	**07 26 20.6**	**-0.3**
	1.2nm,0.8s,baz=291,slow=8.6,SNR=4.8						
QSPA	**South Pole Qui**	**52.70**	**180**	P	**P**	**07 26 46.3**	**+1.0**
	4.0nm,0.9s,baz=137,slow=2.8,SNR=7.2						
TXAR	**Lajitas Array**	**71.51**	**334**	P	**P**	**07 28 51.4**	**-0.4**
	0.5nm,0.6s,baz=158,slow=7.7,SNR=7.9						
BOSA	**Boshof**	**80.98**	**119**	P	**P**	**07 29 45.0**	**-0.9**
	1.1nm,0.5s,baz=238,slow=2.7,SNR=3.6						

MOS ***28*** *07:19:39.8±1.9, 55°.75N×110°.19E, h10km, mb4.2/1, Error ellipse: s-maj=24.2km s-min=15.8km az=69.2*
BYKL ***28*** *07:19:40.4±0.3, 55°.73N×110°.20E, h8km±5km*
ISC 28 07:19:39.4±0.7**, 55°.76N**±0°.03×**110°.40E**±0°.02**, h10**km**, n32, σ2ˢ10**/64**, 6C-2D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.47**	**74**	⇑i Pg	**Pb**	**07 19 51.0**	**+1.2**
KMO				eSg	**Sb**	**07 19 58.8**	**+2.0**
KMO				Pmax			
	76nm,0.3s						
KMO				Smax			
	624nm,0.9s						
NIZ	**Nizh Angarsk**	**0.48**	**272**	ePG	**Pg**	**07 19 47.6**	**-1.3**
NIZ				eS	**Sg**	**07 19 53.1**	**-2.1**
NIZ	**Nizh Angarsk**	**0.48**	**272**	⇑i Pg	**Pg**	**07 19 47.7**	**-1.2**
NIZ				e		07 19 51.8	
NIZ				i Sg	**Sg**	**07 19 53.2**	**-2.0**
NIZ				Pmax			
	238nm,0.2s						
NIZ				Smax			
	1μm,0.3s						
YLYR	**Ulyunkhan**	**0.99**	**153**	⇑i PG	**Pn**	**07 19 59.1**	**-0.3**
YLYR				i		07 20 12.5	
YLYR				pmax	pmax		
	comp=Z,85nm,0.1s						
YLYR				smax	smax		
	comp=N,484nm,0.2s						
YLYR	**Ulyunkhan**	**0.99**	**153**	⇓i Pg	**Pn**	**07 19 59.1**	**-0.3**
	comp=N,99nm,0.4s						
YLYR				⇑i Pg	**Pn**	**07 19 59.1**	**-0.3**
	comp=N,64nm,0.4s						
YLYR				⇑i Pg	**Pn**	**07 19 59.1**	**-0.3**
	comp=N,134nm,0.4s						
YLYR				eSg	**Sn**	**07 20 12.7**	**-0.8**
YLYR				eSb	Sb	07 20 17.9	+6.1
YLYR				Pmax			
	comp=N,121nm,0.3s						
YLYR				max			
	comp=N,483nm,0.3s						
SYVR	**Suvo**	**2.12**	**186**	ePN	**Pb**	**07 20 17.9**	**-0.1**
SYVR				e		07 20 46.8	
SYVR				pmax	pmax		
	comp=Z,57nm,0.4s						
SYVR				smax	smax		
	comp=E,644nm,0.4s						
SYVR	**Suvo**	**2.12**	**186**	Pn	**Pn**	**07 20 15.8**	**+0.8**
SYVR				ePg	**Pb**	**07 20 17.9**	**-0.1**
SYVR				eSg	**Sg**	**07 20 46.3**	**-1.3**
SYVR				Pmax			
	comp=E,57nm,0.7s						
SYVR				Smax			
	comp=E,794nm,0.7s						
OGRR	**Ongureny**	**2.67**	**219**	ePN	**Pn**	**07 20 23.6**	**+1.0**
OGRR				e		07 20 27.6	
OGRR				e		07 21 00.8	
OGRR				pmax	pmax		
	comp=Z,24nm,0.2s						
OGRR				smax	smax		
	comp=N,177nm,0.4s						
OGRR	**Ongureny**	**2.67**	**219**	⇓i Pn	**Pn**	**07 20 23.6**	**+1.0**
OGRR				ePg	**Pb**	**07 20 27.0**	**-0.4**
OGRR				eSn	**Sn**	**07 20 56.0**	**+1.0**
OGRR				eSg	**Sb**	**07 21 00.8**	**+0.6**
OGRR				Pmax			
	comp=N,18nm,0.3s						
OGRR				Smax			
	comp=N,174nm,0.3s						
BOD	**Bodaibo**	**2.86**	**42**	e	Pg	07 20 50.5	+16
BOD				eSn	**Sb**	**07 21 06.2**	**+0.6**
BOD				eSg	**Sg**	**07 21 11.0**	**-0.3**
BOD				Smax			
	comp=N,72nm,0.6s						
NLYR	**Nelyaty**	**3.06**	**74**	ePn	**Pb**	**07 20 31.2**	**-2.7**
NLYR				ePg	**Pg**	**07 20 37.0**	**-1.0**
NLYR				ePgPg	**PbPb**	**07 20 41.2**	**+4.1**
NLYR				eSg	**Sg**	**07 21 19.5**	**+1.9**
NLYR				max			
	comp=N,23nm,0.9s						
NLYR				Smax			
	comp=N,93nm,1.0s						
ZRHB	**Zarechye**	**3.74**	**212**	ePg	**Pb**	**07 20 46.1**	**+0.6**
ZRHB				eSn	**Pb**	**07 20 47.0**	**+1.5**
ZRHB				eSg	**Sb**	**07 21 33.9**	**+3.1**
ZRHB				Pmax			
	comp=N,34nm,0.6s						
ZRHB				Smax			
	comp=N,188nm,1.3s						
TRG	**Tyrgan**	**3.83**	**220**	ePn	**Pn**	**07 20 39.4**	**+0.9**
TRG				e		07 20 43.6	
TRG				eSn	**Sn**	**07 21 23.1**	**-0.5**
TRG				eSg	**Sb**	**07 21 35.7**	**+2.1**
TRG				max			

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	comp=N,18nm,0.5s						
TRG				Smax			
	comp=N,74nm,0.4s						
VTMR	Vitim	3.87	17	eSg	Sg	07 21 42.1	-1.3
CIT	Chita	4.19	152	eSg	Sg	07 21 50.7	-3.1
CIT				Smax			
	comp=N,148nm,0.2s						
UUDB	Ulan-Yde	4.23	204	ePg	Pb	07 20 54.0	+0.2
UUDB				eSn	Sn	07 21 26.4	-6.9
UUDB				eSg	Sg	07 21 50.8	-4.2
UUDB				Pmax			
	comp=N,15nm,0.8s						
UUDB				Smax			
	comp=N,62nm,0.8s						
CRS	Chara	4.53	72	ePN	Pg	07 21 03.4	-2.7
CRS				e		07 22 04.1	
CRS				pmax	pmax		
	comp=Z,23nm,0.5s						
CRS				smax	smax		
	comp=N,32nm,0.7s						
CRS	Chara	4.53	72	e	Pb	07 20 55.3	-3.7
CRS				ePg	Pg	07 21 03.2	-2.9
CRS				eSg	Sg	07 22 03.8	-0.9
HRMR	Khuramsha	4.62	208	ePn	Pn	07 20 49.6	+0.3
HRMR				ePg	Pb	07 21 01.0	+0.5
HRMR				e		07 21 05.5	
HRMR				eSn	Sn	07 21 42.3	-0.7
HRMR				eSg	Sb	07 22 00.7	+4.5
HRMR				max			
	comp=N,21nm,0.6s						
HRMR				Smax			
	comp=N,166nm,0.4s						
LSTR	Listvyanka	5.11	222	eSg	Sb	07 22 14.3	+4.1
LSTR				Smax			
	comp=N,28nm,0.2s						
KHNR	Khani	5.46	74	eSg	Sg	07 22 32.0	-2.4
KHNR				e		07 22 37.3	
TUP	Tupik	5.65	100	ePN	Pn	07 21 04.7	+1.3
TUP				e		07 21 22.4	
TUP				eS	Sn	07 22 10.5	+2.2
TUP				e		07 22 37.7	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TUP				smax	smax		
	comp=N,60nm,0.9s						
TUP	Tupik	5.65	100	ePn	Pn	07 21 06.5	+3.1
TUP				ePg	Pg	07 21 23.4	-4.2
TUP				eSn	Sn	07 22 11.1	+2.8
TUP				eSg	Sg	07 22 39.9	-0.8
TUP				Pmax			
	comp=N,3.0nm,1.1s						
TUP				Smax			
	comp=N,60nm,0.9s						
TLY	Talaya	5.72	227	ePN	Pn	07 21 02.2	-2.3
TLY				e		07 21 19.2	
TLY				eS	Sn	07 22 06.3	-3.9
TLY				e		07 22 31.8	
TLY				pmax	pmax		
	comp=Z,4.0nm,0.3s						
TLY				smax	smax		
	comp=E,27nm,0.6s						
TLY	Talaya	5.72	227	ePn	Pn	07 21 03.3	-1.2
TLY				ePg	Pb	07 21 19.1	-0.3
TLY				eSn	Sn	07 22 07.3	-2.9
TLY				eSg	Sb	07 22 32.2	+4.2
TLY				Pmax			
	comp=E,4.0nm,0.8s						
TLY				Smax			
	comp=E,31nm,1.4s						
KPC	Khapcheranga	6.19	168	ePn	Pn	07 21 11.8	+0.9
KPC				ePg	Pb	07 21 30.9	+3.6
KPC				eSn	Sn	07 22 21.7	+0.1
KPC				eSg	Sg	07 22 51.0	-6.9
KPC				Pmax			
	comp=E,4.0nm,0.6s						
KPC				Smax			
	comp=E,36nm,1.2s						
YKLR	Yuktali	6.34	78	eSg	Sg	07 22 59.7	-3.1
ZAK	Zakamensk	6.88	221	eSg	Sg	07 23 10.7	-10
ZAK				Smax			
	comp=E,17nm,1.3s						
MOY	Mondy	6.92	238	ePN	Pb	07 21 40.6	+0.8
MOY				e		07 23 09.4	
MOY				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MOY				smax	smax		
	comp=E,47nm,1.3s						
MOY	Mondy	6.92	238⇑	iPn	Pn	07 21 22.7	+1.7
MOY				e		07 21 31.6	
MOY				e		07 22 39.5	
MOY				eSg	Sb	07 23 11.4	+8.9
MOY				max			
	comp=E,12nm,0.4s						
MOY				Smax			
	comp=E,48nm,1.3s						
ORL	Orlik	7.00	247	ePN	Pn	07 21 22.9	+0.8
ORL				e		07 21 44.9	
ORL				e		07 23 13.6	
ORL				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ORL				smax	smax		
	comp=N,22nm,1.0s						
ORL	Orlik	7.00	247	ePn	Pn	07 21 23.1	+1.0
ORL				eSn	Sn	07 22 37.4	-4.4
ORL				eSg	Sb	07 23 12.6	+7.8
ORL				Smax			
	comp=N,21nm,1.1s						

IDC 28 07:26:06.6±2.0,26.08N×128.66E,h0km,mb3.4/4, mb1 3.5/5,mb1mx3.4/34,mbtmp3.4/5,ML3.0/1,MS3.6/1, Ms1 3.6/1,ms1mx2.9/21,Error ellipse: s-maj=32.2km s-min=27.1km az=35.0

ISCJB 28 07:26:07.7±0.7,25.91N±0.04×128.65E±0.04,h27km, mb3.2/4,MS3.5/1,Error ellipse: s-maj=6.5km s-min=4.6km az=6.7

JMA 28 07:26:08.8±0.3,25.94N×128.64E,h31km,M3.1

ISC 28 07:26:08.8±0.9,25.91N±0.05×128.61E±0.04,h27km,n19, σ1s01/29,mb3.2/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.81	319	P	Pb	07 26 23.4	-0.8
JNTH				eS	Sb	07 26 34.6	-0.1
JJT2	Tamagusuku 2	0.81	286	P	Pn	07 26 24.3	-0.1
JJT2				eS	Sn	07 26 35.2	-0.4
JOW	Kunigami	0.97	342	P	Pn	07 26 26.3	-0.3
JOW				eS	Sb	07 26 38.0	-1.4
JOW	Kunigami	0.97	342	Pn	Pn	07 26 26.4	-0.3
	4.4nm,0.3s,baz=149,slow=20,SNR=118						
JOW				Sn	Sb	07 26 37.9	-1.4
	10nm,0.3s,baz=162,slow=20,SNR=29						
JIH	Iheya	1.26	333	P	Pn	07 26 30.9	+0.3
JIH				eS	Sn	07 26 46.1	-0.6
JAGN	Aguni-jima	1.40	299	P	Pn	07 26 33.2	+0.6
JAGN				eS	Sn	07 26 50.1	-0.1
JOKE	Okinoerabujima	1.45	359	P	Pn	07 26 33.3	+0.1
JOKE				eS	Sn	07 26 50.1	-1.2
JKE	Kume jima 2	1.69	285	P	Pn	07 26 36.3	-0.3
JKE				eS	Sn	07 26 55.4	-2.0
JTK	Tokunoshima	1.89	9	P	Pn	07 26 39.6	+0.3
JMZ	Minamidaito 2	2.35	92	P	Pn	07 26 45.5	-0.1
JMZ				eS	Sn	07 27 11.5	-2.1
JAMN	Amaminishikomi	2.38	12	P	Pn	07 26 46.4	+0.4
JAM	Amami Oshima	2.64	19	P	Pn	07 26 49.7	0.0
JAM				eS	Sn	07 27 20.1	-0.7
JTJ	Tarama	3.76	251	P	Pn	07 27 04.8	-0.2
JTJ				eS	Sn	07 27 46.1	-2.3
JNU	Nakatsue	7.45	15	Pn	Pn	07 27 54.8	-1.0
	0.3nm,0.3s,baz=194,slow=19,SNR=4.8						
SONM	Songino Array	28.01	327	P	P	07 31 58.4	+0.8
	0.4nm,0.6s,baz=147,slow=11,SNR=5.3						
TLY	Talaya	31.96	330	LR	LR	07 45 39.6	
	comp=Z,102nm,19.2s,baz=264,slow=37						
MKAR	Makanchi Array	42.00	312	P	P	07 33 58.0	+0.3
	0.2nm,0.5s,baz=105,slow=7.8,SNR=5.0						
FINES	FINESS Array B	73.31	331	P	P	07 37 38.8	+1.2
	0.9nm,0.8s,baz=67,slow=5.0,SNR=4.0						
YKA	Yellowknife Ar	78.67	25	P	P	07 38 09.5	+1.3
	0.1nm,0.6s,baz=306,slow=5.5,SNR=3.5						

ISCJB 28 07:27:31.5±0.9,34.7S±0.1×72.6W±0.3,h10km,mb3.7/6, Error ellipse: s-maj=35.4km s-min=16.4km az=3.3

IDC 28 07:27:31.5±0.8,34.67S×72.70W,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.8/27,mbtmp3.7/7,ML3.8/1,Error ellipse: s-maj=39.9km s-min=20.9km az=88.0

ISC 28 07:27:33.0±0.9,34.7S±0.1×72.7W±0.3,h10km,n10, σ0s59/10,mb3.7/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LPAZ	La Paz	18.73	14	P	Pn	07 31 53.0	0.0
	0.1nm,0.3s,baz=144,slow=14,SNR=2.0						
SIV	San Ignacio	21.30	32	P	P	07 32 19.8	-0.1
	2.5nm,0.9s,baz=212,slow=12,SNR=4.5						
SNAA	Sanae	51.18	158	P	P	07 36 36.9	+0.8
	1.1nm,0.8s,baz=291,slow=11,SNR=7.5						
QSPA	South Pole Qui	55.59	180	P	P	07 37 08.1	-0.5
	1.0nm,0.7s,baz=180,slow=2.0,SNR=5.4						
TXAR	Lajitas Array	70.06	331	P	P	07 38 45.7	+0.4
	0.2nm,0.5s,baz=148,slow=8.6,SNR=3.4						
NVAR	Mina Array Bea	84.13	326	P	P	07 40 04.7	+0.3
	0.1nm,0.3s,baz=163,slow=6.5,SNR=2.3						
TORD	Torodi Ar. Bea	84.91	70	P	P	07 40 08.7	+0.1
	0.9nm,0.8s,baz=246,slow=4.3,SNR=4.7						
WRA	Warramunga Arr	119.95	210	PKP	PKPdf	07 46 23.4	-1.0
	0.4nm,0.9s,baz=163,slow=1.6,SNR=3.1						
BVAR	Borovoye Array	148.10	43	PKPbc	PKPbc	07 47 18.4	0.0
	0.9nm,0.7s,baz=337,slow=3.4,SNR=5.5						
ZALV	Zalesovo Beam	155.05	32	PKPab	PKPab	07 47 49.6	-0.6
	0.8nm,0.6s,baz=297,slow=4.4,SNR=4.4						

IDC 28 07:30:02.8±0.8,33.56S×71.69W,h0km,mb4.0/7, mb1 4.2/9,mb1mx4.0/26,mbtmp4.1/9,ML4.7/2,Error ellipse: s-maj=32.4km s-min=20.8km az=87.0

ISCJB 28 07:30:03.5±0.6,33.65S±0.06×72.13W±0.06,h19km, mb4.0/8,Error ellipse: s-maj=9.1km s-min=5.8km az=144.3

GUC 28 07:30:06.5±0.8,33.56S×72.02W,h15km±999km,ML4.5

NEIC 28 07:30:07.6±0.7,33.64S×72.00W,h35km,mb4.5/1,Error ellipse: s-maj=22.4km s-min=14.0km az=95.0

ISC 28 07:30:05.2±0.7,33.62S±0.07×71.99W±0.06,h19km,n25, σ0s88/27,mb4.1/8,4C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.66	26⇑	iP	Pb	07 30 18.4	+0.4
IHA				iS	Sb	07 30 26.8	+0.1
TACH	Talagante	0.88	93⇑	iP	Pg	07 30 22.4	0.0
ROCH	El Roble	1.04	52	eP	Pb	07 30 25.0	+0.2
ROCH				iS	Sb	07 30 38.8	+0.6
ROCH				AML	AML	07 30 48.0	
	comp=N,44μm,0.4s						
SAN	Santiago	1.12	82⇑	iP	Pb	07 30 26.4	+0.4
SAN				iS	Sg	07 30 41.9	+0.2
PEL	Peldehue	1.19	67⇑	iP	Pb	07 30 27.7	+0.5
PEL				iS	Sn	07 30 43.5	+1.0
PEL				AML	AML	07 30 51.2	
	comp=N,14μm,0.5s						
CFAA	Coronel Fontan	3.75	59	Pn	Pn	07 31 06.6	+4.5
	comp=N,1.2nm,0.3s,baz=208,slow=16,SNR=4.4						
CFAA				Lg	Lg	07 31 57.3	
	comp=N,5.3nm,0.3s,baz=331,slow=19,SNR=5.5						
PLCA	Paso Flores	7.20	171	Pn	Pn	07 31 48.6	-0.9
	comp=N,7.2nm,0.3s,baz=34,slow=3.6,SNR=5.6						
LPAZ	La Paz	17.60	12	P	Pn	07 34 09.0	-1.2
	comp=N,0.2nm,0.3s,baz=194,slow=4.1,SNR=3.9						
BDFB	Brasilia	28.09	56	P	P	07 35 54.5	-1.5
	comp=N,1.9nm,0.6s,baz=227,slow=10,SNR=4.1						
SNAA	Sanae	51.92	158	P	P	07 39 12.6	+0.2
	comp=N,1.2nm,0.9s,baz=263,slow=14,SNR=5.0						
QSPA	South Pole Qui	56.62	180	P	P	07 39 48.4	+1.7
	comp=N,1.8nm,0.9s,baz=166,slow=7.2,SNR=3.7						
JCT	Junction City	68.96	334	eP	P	07 41 10.0	+0.9
	comp=N,5.2nm,1.1s						
TXAR	Lajitas Array	69.42	331	P	P	07 41 13.2	+1.1
	comp=N,0.3nm,0.5s,baz=154,slow=9.0,SNR=5.1						
DBIC	Dimbokro	75.02	71	P	P	07 41 45.6	-0.2
	comp=N,2.1nm,0.7s,baz=257,slow=5.0,SNR=3.1						
AAM	Ann Arbor	76.31	351	eP	P	07 41 51.5	-1.0
NVAR	Mina Array Bea	83.59	325	P	P	07 42 33.7	+1.3
	comp=N,0.3nm,0.6s,baz=148,slow=5.3,SNR=2.2						
TORD	Torodi Ar. Bea	84.04	70	P	P	07 42 34.0	-1.0
	comp=N,2.3nm,0.7s,baz=250,slow=4.5,SNR=11						
H11S2	WAKE ISLAND Hy	125.82	269	T	T	10 08 03.7	
	baz=118						
H11S1	WAKE ISLAND Hy	125.83	269	T	T	10 08 01.9	
	baz=118						
H11S3	WAKE ISLAND Hy	125.83	269	T	T	10 08 04.4	
	baz=118						
BVAR	Borovoye Array	146.97	43	PKPbc	PKPbc	07 49 46.4	+0.4
	comp=N,1.0nm,0.6s,baz=316,slow=4.0,SNR=7.4						
AAK	Ala-Archa	152.29	61	PKPbc	PKPbc	07 49 59.0	-0.8
	comp=N,0.7nm,0.5s,baz=218,slow=4.1,SNR=4.8						
ZAA0	Zalesovo Array	153.88	32	ePKPdf	PKPdf	07 49 55.1	+0.4
ZAA0				ePKPab	PKPab	07 50 16.8	+0.9
ZALV	Zalesovo Beam	153.88	32	PKPbc	PKPbc	07 50 02.7	0.0
	comp=N,1.4nm,0.5s,baz=311,slow=3.1,SNR=7.1						
ZALV				PKPab	PKPab	07 50 14.8	-1.1
	comp=N,2.3nm,0.8s,baz=296,slow=4.2,SNR=6.8						
MKAR	Makanchi Array	156.48	48	PKPab	PKPab	07 50 26.4	-1.0
	comp=N,0.6nm,0.7s,baz=308,slow=4.0,SNR=5.6						

IDC 28 07:33:16.5±0.8,34.15S×72.11W,h0km,mb4.0/8, mb1 4.0/11,mb1mx3.9/26,mbtmp3.9/11,ML4.0/2,Error ellipse: s-maj=26.5km s-min=14.9km az=111.0

ISCJB 28 07:33:17.6±0.9,34.19S±0.08×72.1W±0.2,h19km,mb4.1/8, Error ellipse: s-maj=25.5km s-min=10.4km az=11.7

ISC 28 07:33:19.5±0.8,34.16S±0.10×72.1W±0.2,h19km,n18, σ0s86/18,mb4.1/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.13	53	Pn	Pn	07 34 22.5	+0.9
	0.3nm,0.3s,baz=231,slow=6.5,SNR=5.9						
CFAA				Lg	Lg	07 35 26.8	
	3.0nm,0.3s,baz=318,slow=23,SNR=6.2						
PLCA	Paso Flores	6.68	170	Pn	Pn	07 34 56.8	+0.1
	0.8nm,0.3s,baz=22,slow=5.4,SNR=2.7						
LPAZ	La Paz	18.15	12	P	P	07 37 32.3	+0.9
	0.2nm,0.3s,baz=180,slow=13,SNR=3.1						
SIV	San Ignacio	20.64	31	P	P	07 37 56.7	-1.3
	2.2nm,0.6s,baz=221,slow=12,SNR=4.4						
BDFB	Brasilia	28.47	56	P	P	07 39 12.8	-0.9
	2.0nm,0.7s,baz=191,slow=10,SNR=3.0						
PMSA	Palmer Station	31.04	173	P	P	07 39 37.4	+1.7
	35nm,1.2s,baz=252,slow=19,SNR=3.0						
SNAA	Sanae	51.46	158	P	P	07 42 22.1	-1.0
	1.0nm,0.8s,baz=252,slow=9.2,SNR=4.0						
QSPA	South Pole Qui	56.08	180	P	P	07 42 56.8	-0.4
	2.2nm,1.1s,baz=103,slow=2.4,SNR=4.1						
H06E1	SOCORRO T-PHAS	64.32	319	T	T	08 53 51.6	
TXAR	Lajitas Array	69.84	331	P	P	07 44 28.8	-0.1
	0.3nm,0.8s,baz=156,slow=6.9,SNR=3.4						
DBIC	Dimbokro	75.29	71	P	P	07 45 02.2	+0.6
	1.4nm,0.5s,baz=185,slow=6.5,SNR=3.2						
BOSA	Boshof	80.05	118	P	P	07 45 27.4	-0.8
	1.2nm,0.5s,baz=270,slow=3.0,SNR=3.7						
TORD	Torodi Ar. Bea	84.32	70	P	P	07 45 50.9	+0.3
	1.5nm,0.6s,baz=260,slow=4.8,SNR=9.4						
WRA	Warramunga Arr	120.59	209	PKP	PKPdf	07 52 09.5	-1.0
	0.2nm,0.5s,baz=157,slow=1.7,SNR=3.8						
BVAR	Borovoye Array	147.44	43	PKPbc	PKPbc	07 53 01.5	-0.1
	1.7nm,0.6s,baz=288,slow=3.7,SNR=9.0						
AAK	Ala-Archa	152.63	62	PKPbc	PKPbc	07 53 15.4	+0.6
	0.6nm,0.6s,baz=192,slow=5.4,SNR=4.3						
ZALV	Zalesovo Beam	154.39	32	PKPbc	PKPbc	07 53 18.1	+0.1
	2.0nm,0.6s,baz=284,slow=3.1,SNR=8.5						
ZALV				PKPab	PKPab	07 53 32.7	+0.4
	0.8nm,0.5s,baz=313,slow=3.2,SNR=3.1						
MKAR	Makanchi Array	156.91	49	PKPab	PKPab	07 53 43.0	-0.4
	0.6nm,0.6s,baz=273,slow=3.2,SNR=6.4						

IDC 28 07:36:23.3±0.5,37.79S×73.04W,h0km,mb4.5/13, mb1 4.5/15,mb1mx4.4/26,mbtmp4.4/15,ML4.1/2,MS4.3/9, Ms1 4.3/9,ms1mx3.9/25,Error ellipse: s-maj=22.3km s-min=14.4km az=98.0

ISCJB 28 07:36:25.9±3.2,37.72S±0.05×72.91W±0.09,h21km±22km, mb4.8/53,MS4.1/7,Error ellipse: s-maj=12.3km s-min=7.7km az=170.3

MOS 28 07:36:27.6±1.1,37.72S×72.94W,h33km,mb5.1/10,Error ellipse: s-maj=20.4km s-min=11.4km az=99.9

BJI 28 07:36:27.9,38.08S×72.61W,h34km,mB5.1/6,Ms5.3/4, Ms7 5.1/4

NEIC 28 07:36:29.1±0.2,37.79S×72.88W,h35km,mb5.0/40,Error ellipse: s-maj=7.9km s-min=5.6km az=52.0

ISC 28 07:36:28.6±0.3,37.75S±0.06×72.93W±0.08,h31km±2km, h30km:pP-P,n462,σ0s88/506,mb4.9/53,MS4.0/7, 151C-157D,Central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.50	149	Pn	Pn	07 37 22.5	+1.5
	13nm,0.3s,baz=320,slow=10,SNR=23						
PLCA				Lg	Lg	07 38 16.1	
	63nm,0.3s,baz=236,slow=22,SNR=4.2						
CFAA	Coronel Fontan	7.24	34	Pn	Pn	07 38 13.7	+1.3
	0.6nm,0.3s,baz=211,slow=15,SNR=5.9						
CFAA				Sn	Sn	07 39 36.3	+2.7
	0.7nm,0.3s,baz=197,slow=16,SNR=3.2						
CFAA				Lg	Lg	07 40 18.4	
	0.5nm,0.3s,baz=294,slow=19,SNR=3.0						
CFAA				LR	LR	07 41 11.9	
	comp=Z,146nm,21.6s,baz=212,slow=39						
TRQA	Tornquist	8.66	95	ePn	Pn	07 38 31.9	+0.1
USHA	Ushuaia	17.36	171	LR	LR	07 47 26.7	
	comp=Z,836nm,19.1s,baz=29,slow=38						
CPUP	Villa Florida	17.42	54	P	P	07 40 30.1	-0.2
	0.4nm,0.3s,baz=253,slow=5.0,SNR=3.2						
CPUP				LR	LR	07 47 59.5	
	comp=Z,2μm,18.8s,baz=210,slow=40						
LPAZ	La Paz	21.79	12	P	P	07 41 18.3	-0.4
	3.4nm,0.9s,baz=173,slow=8.8,SNR=5.4						
LPAZ				LR	LR	07 50 25.4	
	comp=Z,318nm,18.6s,baz=141,slow=38						
SIV	San Ignacio	24.07	29	P	P	07 41 40.2	-1.0
	4.9nm,0.8s,baz=220,slow=10,SNR=9.8						
SIV				LR	LR	07 51 22.0	
	comp=Z,444nm,19.6s,baz=200,slow=37						
NNA	Nana	25.89	351	LR	LR	07 50 02.4	
	comp=Z,292nm,19.3s,baz=154,slow=32						
SAML	Samuel	29.99	20	eP	P	07 42 34.1	-0.3
	10.0nm,1.3s						
ATAH	Atahualpa	30.88	349	LR	LR	07 53 15.7	
	comp=Z,191nm,19.6s,baz=175,slow=33						
BDFB	Brasilia	31.13	52	P	P	07 42 44.9	+0.2
	2.4nm,0.6s,baz=159,slow=12,SNR=3.1						
BDFB				LR	LR	07 55 59.7	
	comp=Z,597nm,19.4s,baz=215,slow=38						
OTAV	Otavalo	38.14	351	eP	P	07 43 47.2	+1.6
	30nm,1.4s						
ROSC	El Rosal	42.41	358	P	P	07 44 21.7	+0.8
	2.6nm,0.3s,baz=236,slow=22,SNR=5.5						
ROSC	El Rosal	42.41	358	eP	P	07 44 22.7	+1.9
VNA3	Neumayer Olymp	46.19	156	P	P	07 44 50.9	+0.8
RCBR	Riachuelo	46.28	56	LR	LR	08 05 40.3	
	comp=Z,2μm,18.6s,baz=182,slow=38						
SDV	Santo Domingo	46.44	3	eP	P	07 44 51.8	-1.0
	5.8nm,0.8s						
VNA1	Neumayer--Stat	46.54	155	P	P	07 44 52.1	-0.7
VNA2	Neumayer--Watz	46.87	156	P	P	07 44 56.6	+1.2
SNAA	Sanae	48.42	157	P	P	07 45 07.4	0.0
SNAA	Sanae	48.42	157	eP	P	07 45 07.8	+0.3
SNAA	Sanae	48.42	157	P	P	07 45 07.9	+0.4
	12nm,1.0s,baz=289,slow=6.4,SNR=30						
SNAA	Sanae	48.42	157	eP	P	07 45 07.8	+0.3
QSPA	South Pole Qui	52.50	180	P	P	07 45 38.8	+0.3
	21nm,0.9s,baz=150,slow=2.8,SNR=33						
NVL	N'lazarevskaya	53.19	156	eP	pP	07 45 53.3	+0.7
NVL				pmax	pmax		
	comp=Z,12nm,0.8s						
RKT	Rikitea	54.54	267	eLR	LR	08 01 37.9	
	comp=Z,350nm,28.0s						
RKT	Rikitea	54.54	267	eT	T	08 44 07.3	
	comp=Z,2.2nm,0.3s						
RKT	Rikitea	54.54	267	eLR	LR	08 01 46.3	
	comp=Z,350nm,28.0s						
RKT	Rikitea	54.54	267	eT	T	08 44 05.5	
	comp=Z,2.2nm,0.3s						
SYO	Syowa Base	62.66	158⇑	eP	P	07 46 48.0	-1.7
MEH	Mehetia	67.69	264	eT	T	09 00 34.8	
	comp=Z,12nm,0.2s						
MEH	Mehetia	67.69	264	eT	T	09 00 28.2	
	comp=Z,12nm,0.2s						
035A	Encino	68.55	336	⇓P	P	07 47 29.5	+1.4
	baz=69						
034A	Hebbronville	68.85	335	⇓P	P	07 47 31.7	+1.6
	baz=69						
PPT2	Papeete2	69.04	264	eS	S	07 56 33.5	-1.5
	comp=Z,75nm,26.0s						
PPT2	Papeete2	69.04	264	eLR	LR	08 08 25.9	
	comp=Z,236nm,24.0s						
PPT2	Papeete2	69.04	264	eS	S	07 56 39.4	+4.4
	comp=Z,75nm,26.0s						
PPT2	Papeete2	69.04	264	eLR	LR	08 08 31.0	
	comp=Z,236nm,24.0s						
PPT	Papeete	69.05	264	LR	LR	08 10 39.9	
	comp=Z,229nm,18.7s,baz=127,slow=30						
934A	Benavides	69.30	336	⇓P	P	07 47 34.3	+1.5
	baz=70						
834A	Tilden	69.79	336	⇓P	P	07 47 37.0	+1.1
	baz=70						
735A	Kenedy	70.24	337	⇓P	P	07 47 39.6	+1.1
	baz=71						
833A	Chaparral WMA,	70.25	335	⇓P	P	07 47 38.4	-0.2
	baz=71,SNR=5.7						
832A	Faith Ranch, C	70.41	335	⇑P	P	07 47 40.2	+0.6
	baz=71						
734A	La Parita Cree	70.47	336	⇓P	P	07 47 40.4	+0.4
	baz=71						
733A	Divot King Ran	70.58	336	⇑P	P	07 47 40.8	+0.2
	baz=71						
636A	Smothers Creek	70.59	338	⇑P	P	07 47 41.3	+0.6
	baz=71						
635A	Leesville	70.72	337	⇑P	P	07 47 42.6	+1.1
	baz=71						
732A	Laxson Ranch,	70.82	335	⇑P	P	07 47 42.0	-0.1
	baz=71,SNR=7.6						
536A	Bastrop	71.15	338	⇓P	P	07 47 45.1	+1.0
	baz=72						
633A	Saathoff Ranch	71.23	336	⇓P	P	07 47 44.1	-0.5
	baz=72,SNR=6.4						
535A	Dale	71.26	338	⇑P	P	07 47 45.2	+0.5
	baz=72						
438A	Sam Houston St	71.33	340	⇑P	P	07 47 45.5	+0.4
	baz=72						
632A	Uvalde	71.47	335	⇑P	P	07 47 45.6	-0.5
	baz=72,SNR=7.7						
534A	Blanco	71.54	337	⇑P	P	07 47 45.9	-0.6
	baz=72						
340A	Bronson	71.54	341	⇑P	P	07 47 46.3	0.0
	baz=72						
339A	Huntington	71.63	341	⇓P	P	07 47 47.1	+0.2
	baz=72						
436A	Wall Ranch, Ga	71.72	338	⇑P	P	07 47 47.5	0.0
	baz=72						
533A	Kerrville	71.75	336	⇑P	P	07 47 47.9	+0.1
	baz=72,SNR=5.5						
338A	Crockett	71.86	340	⇑P	P	07 47 48.5	+0.2
	baz=72						
435B	Jarrell	71.97	338	⇑P	P	07 47 49.3	+0.3
	baz=72						
337A	Centerville	71.98	339	⇓P	P	07 47 49.2	+0.2
	baz=72						
532A	Rocksprings	72.09	336	⇑P	P	07 47 49.8	0.0
	baz=72,SNR=7.8						
434A	Burnet	72.20	337	⇓P	P	07 47 50.4	-0.1
	baz=73,SNR=9.8						
239A	Gary	72.26	341	⇓P	P	07 47 51.5	+0.8
	baz=73						
336A	Riesel	72.32	339	⇑P	P	07 47 51.3	+0.3
	baz=73						
531A	Rocksprings	72.33	335	⇑P	P	07 47 51.6	+0.3
	baz=73,SNR=7.5						
JCT	Junction City	72.38	336	eP	P	07 47 51.6	+0.1
JCT				pmax	pmax		
	comp=Z,18nm,1.0s						
JCT	Junction City	72.38	336	eP	P	07 47 51.6	+0.1
	comp=Z,18nm,1.0s						
JCT	Junction City	72.38	336	⇑P	P	07 47 51.6	+0.1
	baz=73,SNR=8.8						
335A	Moody	72.39	338	⇑P	P	07 47 51.7	+0.2
	baz=73						
433A	Art	72.40	337	⇓P	P	07 47 51.1	-0.6
	baz=73,SNR=7.9						
530A	J-C Ranch, Com	72.59	334	⇑P	P	07 47 52.6	-0.2
	baz=73,SNR=13						
237A	Washetta, Mont	72.60	340	⇓P	P	07 47 52.7	-0.1

baz=73
TXAR Lajitas Array 72.67 332 P P 07 47 53.3 -0.1
comp=Z,3.6nm,0.9s,baz=152,slow=7.9,SNR=24
334A Lometa 72.68 337 ⇑P P 07 47 53.2 -0.1
baz=73,SNR=9.4
432A Menard 72.74 336 ⇑P P 07 47 52.9 -0.8
baz=73
431A Sonora 72.83 335 ⇑P P 07 47 54.0 -0.2
baz=73,SNR=8.2
529A Stev Forest Ra 72.87 334 ⇓P P 07 47 54.3 -0.2
baz=73,SNR=7.0
333A Richland Sprin 72.90 337 ⇓P P 07 47 54.4 -0.2
baz=73
WHTX Lake Whitney 73.06 338 eP P 07 47 55.5 +0.1
WHTX Lake Whitney 73.06 338 ⇓P P 07 47 55.7 +0.3
baz=73
430A Baggett Ranch, 73.14 335 ⇓P P 07 47 55.7 -0.3
baz=74,SNR=13
137A Heron Place, G 73.15 340 ⇓P P 07 47 56.4 +0.4
baz=74
332A Millersview 73.19 336 ⇓P P 07 47 56.2 -0.1
baz=74,SNR=7.8
429A Davenport Ranc 73.21 334 ⇑P P 07 47 55.9 -0.6
baz=74,SNR=8.6
234A Clairette 73.27 338 ⇓P P 07 47 56.5 -0.3
baz=74,SNR=5.3
331A San Angelo 73.35 336 ⇑P P 07 47 56.7 -0.5
baz=74,SNR=11
233A Rising Star 73.52 337 ⇑P P 07 47 57.8 -0.5
baz=74
135A Vickery Place, 73.58 339 ⇑P P 07 47 58.5 0.0
baz=74
SWET Sewanee 73.59 349 eP P 07 47 58.4 -0.2
comp=Z,25nm,1.1s
232A Coleman 73.63 337 ⇑P P 07 47 58.9 0.0
baz=74
330A Mertzon 73.68 335 ⇓P P 07 47 59.1 -0.2
baz=74
134A White-Moore Ra 73.79 338 ⇑P P 07 47 59.6 -0.1
baz=74
231A Bronte 73.89 336 ⇓P P 07 48 00.2 -0.2
baz=74
329A Wagon Wheel Ra 74.03 334 ⇑P P 07 48 00.8 -0.5
baz=74,SNR=7.1
133A Hamilton Ranch 74.07 337 ⇓P P 07 48 01.1 -0.3
baz=74,SNR=7.2
230A Sterling City 74.10 335 ⇓P P 07 48 01.3 -0.4
baz=74
Z35A Perchaven, San 74.26 339 ⇓P P 07 48 02.4 -0.1
baz=75
ABTX Abilene, Hawle 74.31 337 eP P 07 48 03.4 +0.6
comp=Z,15nm,1.0s
ABTX epP pP 07 48 12.4 -0.1
ABTX Abilene, Hawle 74.31 337 ⇓P P 07 48 02.8 -0.1
baz=75
229A Bryant Ranch, 74.41 335 ⇓P P 07 48 03.3 -0.2
baz=75
Z34A Collier Ranch, 74.48 338 ⇓P P 07 48 03.7 -0.1
baz=75
131A Roby 74.59 336 ⇑P P 07 48 04.5 0.0
baz=75
Z33A Whitaker Ranch 74.66 338 ⇑P P 07 48 04.7 -0.1
baz=75
130A Snyder 74.71 336 ⇓P P 07 48 04.9 -0.3
baz=75
WVT Waverly 74.79 348 eP P 07 48 04.9 -0.6
WVT e*PP pP 07 48 14.0 -1.2
WVT pmax pmax
comp=Z,19nm,1.1s
WVT Waverly 74.79 348 eP P 07 48 04.9 -0.6
comp=Z,19nm,1.1s
WVT epP pP 07 48 14.0 -1.2
228A UT Block 9, Go 74.81 334 ⇓P P 07 48 05.6 -0.2
baz=75,SNR=5.5
Z32A Haskell 74.89 337 ⇓P P 07 48 05.6 -0.5
baz=75,SNR=5.3
Y34A Reagan Ranch, 74.99 339 ⇑P P 07 48 06.9 +0.1
baz=75
129A Stewart Farms, 75.04 335 ⇑P P 07 48 07.1 -0.1
baz=75
Z31A Sharp Cattle R 75.11 337 ⇓P P 07 48 07.3 -0.2
baz=76,SNR=5.3
128A Castleberry Fa 75.24 334 ⇓P P 07 48 08.1 -0.2
baz=76
Y33A Hilltop Ranch, 75.29 338 ⇓P P 07 48 07.9 -0.5
baz=76
Z30A Sanderson Ranc 75.39 336 ⇑P P 07 48 08.5 -0.6
baz=76,SNR=5.8
Z29A Hungry Hill Ra 75.56 335 ⇑P P 07 48 09.4 -0.7
baz=76,SNR=12
X34A Smith Ranch, M 75.61 339 ⇓P P 07 48 10.2 -0.1
baz=76
Y31A Rekieta Farm, 75.74 337 ⇑P P 07 48 10.6 -0.4
baz=76
X33A Lawton 75.75 338 ⇑P P 07 48 10.7 -0.4
baz=76
Z28A Tucker Farm, M 75.81 335 ⇓P P 07 48 11.5 -0.1
baz=76
X32A Elmer 75.87 338 ⇓P P 07 48 11.6 -0.1
baz=76
Y29A Porterfield Fa 76.10 336 ⇑P P 07 48 12.9 -0.3
baz=76
Z27A Tatum 76.12 334 ⇓P P 07 48 12.8 -0.5
baz=76
W34A Bridge Creek, 76.19 339 ⇓P P 07 48 13.8 +0.3
baz=77
X31A McDonald Ranch 76.27 337 ⇑P P 07 48 13.7 -0.4
baz=77,SNR=7.0
TUL1 Tulsa 76.29 341 eP P 07 48 13.8 -0.3
TUL1 epP pP 07 48 22.8 -1.1
TUL1 Tulsa 76.29 341 ⇑P P 07 48 14.1 0.0
baz=77
W33A Caddo, Fort Co 76.31 339 ⇓P P 07 48 14.4 +0.1
baz=77,SNR=7.3
Y28A McKinney Farm, 76.33 335 ⇑P P 07 48 14.5 -0.1
baz=77
Z26A Caprock 76.35 334 ⇑P P 07 48 14.7 +0.1
baz=77
X30A Coker Ranch, T 76.38 337 ⇑P P 07 48 14.4 -0.4
baz=77,SNR=5.2
W32A Sentinel 76.51 338 ⇓P P 07 48 15.0 -0.4
baz=77,SNR=11
MSTX Muleshoe 76.56 335 epP pP 07 48 25.0 -0.5
MSTX Muleshoe 76.56 335 ⇓P P 07 48 15.8 -0.1
baz=77
Z25A Roswell 76.62 333 ⇓P P 07 48 16.3 +0.1
baz=77
Y27A Causey 76.62 334 ⇓P P 07 48 16.6 +0.4
baz=77
X29A Tulia 76.64 336 ⇓P P 07 48 17.0 +0.7
baz=77
319A Douglas 76.69 329 ⇓P P 07 48 17.1 +0.4
baz=77
W31A Holland Ranch, 76.78 338 ⇓P P 07 48 16.9 -0.1
baz=77
X28A Dimmitt 76.87 336 ⇓P P 07 48 17.4 -0.2
baz=77
V33A Lossen Ranch, 76.88 339 ⇑P P 07 48 17.3 -0.2
baz=77,SNR=6.0
Y26A Elida 76.88 334 ⇓P P 07 48 17.5 -0.2
baz=77
Z24A Sheeppen Canyo 76.90 333 ⇑P P 07 48 17.8 0.0
baz=77
V32A Arapaho 77.01 338 ⇓P P 07 48 18.8 +0.6
baz=77
AMTX Amarillo 77.04 336 eP P 07 48 18.6 +0.1
comp=Z,25nm,1.0s
AMTX Amarillo 77.04 336 ⇑P P 07 48 18.5 0.0
baz=77
DBIC Dimbokro 77.07 71 P P 07 48 18.8 -0.3
comp=Z,6.7nm,0.9s,baz=203,slow=7.7,SNR=4.3
Y25A Mesa, Roswell 77.19 333 ⇑P P 07 48 19.0 -0.4
baz=78
W29A Amraillo 77.25 336 ⇓P P 07 48 19.4 -0.3
baz=78
U34A Anderson Ranch 77.25 340 ⇑P P 07 48 19.3 -0.2
baz=78
X27A F and S Farms, 77.29 335 ⇑P P 07 48 20.0 0.0
baz=78
V31A Spring Creek L 77.29 338 ⇓P P 07 48 20.1 +0.3
baz=78
U33A Lingo Farm, Me 77.41 339 ⇓P P 07 48 20.4 0.0
baz=78
Z22A Elephant Butte 77.43 331 ⇑P P 07 48 21.0 +0.2
baz=78
X26A CR and CF Fran 77.45 334 ⇓P P 07 48 20.4 -0.4
baz=78
Y24A Capitan 77.46 333 ⇑P P 07 48 20.7 -0.3
baz=78
V30A Spur Ranch, Mi 77.54 337 ⇓P P 07 48 21.6 +0.4
baz=78
U32A Winter Ranch, 77.61 339 ⇑P P 07 48 21.8 +0.2
baz=78
W27A Bowe Ranch, En 77.66 335 ⇑P P 07 48 21.9 -0.1
baz=78,SNR=5.9
Y23A Lovelace Mesa, 77.69 332 ⇑P P 07 48 22.2 0.0
baz=78
X25A Clemmons Ranch 77.72 334 ⇑P P 07 48 22.8 +0.4
baz=78
V29A Stinnett 77.90 337 ⇓P P 07 48 24.0 +0.7
baz=78
W26A Owens Ranch, T 77.92 335 ⇑P P 07 48 24.2 +0.7
baz=78
V28A Channing 78.01 336 ⇑P P 07 48 24.5 +0.5
baz=78
T33A Patterson Ranc 78.05 340 ⇓P P 07 48 24.5 +0.5
baz=78
V27A Dan Oppiter Fa 78.22 336 ⇓P P 07 48 25.4 +0.3
baz=79
U30A WK&E Inc. Balk 78.24 337 ⇑P P 07 48 25.6 +0.5
baz=79
W25A X Bar L Ranch, 78.27 334 ⇑P P 07 48 25.0 -0.4
baz=79,SNR=7.0
X23A Hourglass Bar 78.32 332 ⇓P P 07 48 26.3 +0.6
baz=79
T32A Huddler Ranch, 78.33 339 ⇓P P 07 48 26.4 +0.9
baz=79
LAZ Ladron 78.51 332 eP P 07 48 26.9 +0.1
comp=Z,6.5nm,1.2s
V26A Tequesquite Ra 78.57 335 ⇓P P 07 48 27.1 +0.1
baz=79
U28A Mallet 78.59 336 ⇑P P 07 48 27.3 +0.2
baz=79
W24A Lazy 6 Ranch, 78.60 333 ⇑P P 07 48 27.4 +0.1
baz=79
ANMO Albuquerque 78.74 332 eP P 07 48 28.3 +0.2
ANMO pmax pmax
comp=Z,14nm,1.2s
ANMO Albuquerque 78.74 332 eP P 07 48 28.3 +0.2
comp=Z,14nm,1.2s
U27A Thompson Grove 78.82 336 ⇑P P 07 48 29.0 +0.6
baz=79
S32A Newby Ranch, P 78.82 339 ⇓P P 07 48 28.9 +0.6
baz=79
W23A Werner Place, 78.82 333 ⇓P P 07 48 29.2 +0.7
baz=79
V25A Rancho No Teng 78.89 334 ⇑P P 07 48 28.8 -0.1
baz=79,SNR=6.1
TSUM Tsumeb 78.89 106 eP P 07 48 29.8 +0.5
comp=Z,22nm,1.5s
BOSA Boshof 78.97 118 P P 07 48 29.4 -0.3
BOSA pmax pmax
comp=Z,6.0nm,1.0s
BOSA Boshof 78.97 118 P P 07 48 29.4 -0.3
comp=Z,9.9nm,1.0s,baz=227,slow=4.7,SNR=8.0
BOSA Boshof 78.97 118 P P 07 48 29.4 -0.3
comp=Z,5.9nm,1.0s
T29A Hugoton 79.01 337 ⇓P P 07 48 29.7 +0.4
baz=79
V24A Rampart Ranch, 79.02 334 ⇓P P 07 48 29.7 +0.1
baz=79
R33A Olander Ranch, 79.13 340 ⇓P P 07 48 29.9 0.0
baz=80
T28A Walsh 79.23 337 ⇑P P 07 48 30.3 -0.3
baz=80,SNR=5.2
U25A Circle Dot Ran 79.33 335 ⇑P P 07 48 31.0 -0.2
baz=80,SNR=7.6
V23A Ortiz Mt. (NFS 79.36 333 ⇑P P 07 48 31.8 +0.3
baz=80
T27A Campo 79.37 336 ⇓P P 07 48 32.0 +0.6
baz=80
S29A Ulysses 79.38 338 ⇑P P 07 48 31.7 +0.3
baz=80
R32A Long Quarter, 79.43 340 ⇑P P 07 48 32.0 +0.4
baz=80
KSU1 Kansas State U 79.52 341 ⇑P P 07 48 32.2 +0.2
baz=80
R31A Burdett 79.54 339 ⇑P P 07 48 32.3 +0.1
baz=80
S28A Manter 79.59 337 ⇓P P 07 48 32.9 +0.3
baz=80
U24A Moreno Valley 79.63 334 ⇑P P 07 48 33.4 +0.4
baz=80
Q33A Connelly Farm, 79.74 341 ⇓P P 07 48 33.6 +0.4
baz=80
R30A Dighton 79.75 338 ⇑P P 07 48 33.4 0.0
baz=80
T26A Comanche Natio 79.76 336 ⇑P P 07 48 33.8 +0.2
baz=80
V22A San Miguel Ran 79.77 333 ⇑P P 07 48 34.1 +0.4
baz=80
113A Mohawk Valley, 79.81 326 ⇑P P 07 48 34.2 +0.5
baz=80
U23A El Rito 79.88 333 ⇓P P 07 48 34.8 +0.4
baz=80
Q32A Meitler Ranch, 79.92 340 ⇓P P 07 48 34.7 +0.5
baz=80
T25A Trinidad 80.00 335 ⇓P P 07 48 35.5 +0.6
baz=80
S26A Kim 80.12 336 ⇓P P 07 48 35.5 0.0
baz=80,SNR=9.1
W18A Petrified Fore 80.14 330 epP pP 07 48 46.6 +1.1
W18A Petrified Fore 80.14 330 ⇑P P 07 48 36.0 +0.2
baz=80
U22A Llaves 80.17 333 ⇓P P 07 48 36.5 +0.6
baz=80
Q31A Ellis 80.17 339 ⇓P P 07 48 35.9 +0.3
baz=81
X16A Lo Mia Camp, P 80.23 329 ⇓P P 07 48 36.7 +0.6
baz=81
T24B San Luis 80.26 334 ⇓P P 07 48 37.0 +0.6
baz=81
R28A Tribune 80.26 337 ⇑P P 07 48 35.7 -0.4
baz=81,SNR=5.5
Q30A Quinter 80.38 339 ⇓P P 07 48 37.5 +0.8
baz=81
T23A Casias Ranch, 80.46 334 ⇓P P 07 48 37.9 +0.4
baz=81
S25A Robets Cordova 80.48 335 ⇑P P 07 48 38.0 +0.5
baz=81
R27A Eads 80.52 337 ⇓P P 07 48 37.3 -0.2
baz=81,SNR=6.8
Q29A Oakley 80.52 338 ⇓P P 07 48 38.4 +0.9
baz=81
P32A Huiting Farm, 80.53 340 ⇑P P 07 48 38.5 +1.0
baz=81
P31A Stockton 80.64 340 ⇑P P 07 48 39.3 +1.2
baz=81
S24A Houchin Ranch, 80.72 335 ⇓P P 07 48 39.4 +0.5
baz=81,SNR=7.8
R26A Arlington 80.73 336 ⇓P P 07 48 39.6 +0.9
baz=81,SNR=9.1
R25A Fountain Ranch 80.87 335 ⇑P P 07 48 40.4 +1.0
baz=81
P30A Selden 80.91 339 ⇓P P 07 48 40.6 +1.0
baz=81
SDCO Great Sand Dun 80.91 334 eP P 07 48 40.5 +0.6
comp=Z,4.8nm,1.0s
Q28A Sharon Springs 80.93 338 ⇓P P 07 48 40.8 +1.1
baz=81
Y12C Blythe 80.98 326 ⇓P P 07 48 40.9 +1.0
baz=81
S23A Nye Farm, Mont 81.05 334 ⇑P P 07 48 41.3 +0.6
baz=81
KSCO Kaye Shedlock' 81.13 337 ⇓P P 07 48 42.2 +1.4
baz=82
WUAZ Wupatki 81.15 329 eP P 07 48 42.4 +1.3
comp=Z,119nm,2.8s
WUAZ epP pP 07 48 50.9 +0.1
WUAZ Wupatki 81.15 329 ⇑P P 07 48 42.2 +1.1
baz=82
O31A Woolen Ranch, 81.22 340 ⇓P P 07 48 42.2 +1.1
baz=82
R24A Sanders Place, 81.22 335 ⇓P P 07 48 41.8 +0.4
baz=82,SNR=9.1
BC3 Big Chuckawall 81.31 325 ⇓P P 07 48 42.6 +0.7
baz=82
P28A Saint Francis 81.38 338 ⇑P P 07 48 43.5 +1.5
baz=82
S22A 4UR Ranch, Cre 81.38 333 ⇓P P 07 48 43.3 +0.9
baz=82
LBTB Lobatse 81.39 115 eP P 07 48 42.5 -0.2
LBTB e*PP pP 07 48 52.3 -0.2
LBTB Lobatse 81.39 115 eP P 07 48 42.5 -0.2
LBTB epP pP 07 48 52.3 -0.2
R23A Moffat 81.42 334 ⇑P P 07 48 43.6 +1.0
baz=82
O30A MW Ranch, Wils 81.45 339 ⇓P P 07 48 43.4 +1.1
baz=82
MVCO Mesa Verde 81.51 332 eP P 07 48 43.6 +0.5
comp=Z,14nm,1.4s
MVCO epP pP 07 48 53.2 +0.4
MVCO Mesa Verde 81.51 332 ⇑P P 07 48 44.0 +1.0
baz=82
Q25A Bedland, Calha 81.55 336 ⇓P P 07 48 43.6 +0.4
baz=82,SNR=5.6
IRM Iron Mountain 81.60 326 ⇑P P 07 48 44.2 +0.9
baz=82
P27A Ficken Ranch, 81.61 337 ⇓P P 07 48 44.9 +1.5
baz=82
PFO Pinyon Flat Ob 81.73 324 ⇑P P 07 48 44.9 +0.7
baz=82
W13A Hualapai Mount 81.84 327 ⇓P P 07 48 45.6 +0.8
baz=82
O28A Krutsinger Ran 81.89 338 ⇑P P 07 48 46.1 +1.3
baz=82
Q24A Divide 81.89 335 ⇑P P 07 48 45.7 +0.6
baz=82
P25A Willow Gulch B 82.07 336 ⇓P P 07 48 46.4 +0.5
baz=82,SNR=5.4
O27A Beecher Island 82.16 338 ⇑P P 07 48 47.2 +0.9
baz=83
M31A Lambtecht Ranc 82.24 341 ⇑P P 07 48 47.7 +1.2
baz=83
U15A North Rim 82.31 329 ⇑P P 07 48 48.2 +0.9
baz=83
P24A Kohler Place, 82.31 336 ⇑P P 07 48 48.4 +1.3
baz=83
PV01 Paradox Valley 82.35 332 eP P 07 48 47.6 +0.2
comp=Z,106nm,0.8s
GMRC Granite Mounta 82.35 326 ⇓P P 07 48 48.7 +1.3
baz=83
P23A Jefferson 82.49 335 ⇓P P 07 48 49.6 +1.3
baz=83
O25A Wiggins 82.60 336 ⇑P P 07 48 50.3 +1.7
baz=83
FMP Fort Macarthur 82.68 323 ⇓P P 07 48 50.4 +1.5
baz=83
HEC Hector,Ludlow 82.69 325 ⇑P P 07 48 50.0 +0.9
baz=83
PV04 Paradox Valley 82.70 332 eP P 07 48 50.4 +1.2
SMCO Snowmass 82.71 334 eP P 07 48 50.5 +1.0
N27A Anderson Farm, 82.74 338 ⇓P P 07 48 50.3 +1.0
baz=83
M29A Burnside Ranch 82.80 339 ⇑P P 07 48 51.0 +1.5
baz=83
ISCO Idaho Springs 82.80 335 eP P 07 48 50.4 +0.6
ISCO e*PP pP 07 49 00.1 +0.5
ISCO pmax pmax
comp=Z,10.0nm,1.4s
ISCO Idaho Springs 82.80 335 eP P 07 48 50.4 +0.6
comp=Z,10nm,1.4s
ISCO epP pP 07 49 00.1 +0.5
ISCO Idaho Springs 82.80 335 ⇑P P 07 48 50.8 +1.0
baz=83
BFSC Mount Baldy Ra 82.81 324 ⇓P P 07 48 51.0 +1.2
baz=83
L31A Butterfield Fa 82.98 341 ⇑P P 07 48 50.7 +0.3
baz=83
L30A Spencer Herefo 83.00 340 ⇓P P 07 48 51.2 +0.7
baz=83
P22A Eagle 83.00 334 ⇓P P 07 48 51.1 +0.3
baz=83
O23A Lake Granby, G 83.27 335 ⇑P P 07 48 52.5 +0.2
baz=84
GSC Goldstone 83.30 325 ⇓P P 07 48 52.4 +0.2
baz=84
O22A Kremmling 83.44 335 ⇓P P 07 48 53.6 +0.4
baz=84
SHPR Sheep Range 83.58 327 eP P 07 48 53.5 -0.3
comp=Z,14nm,1.3s
K30A Basset 83.65 341 ⇑P P 07 48 54.1 +0.3
baz=84
CCUT Cedar City 83.71 329 eP P 07 48 56.1 +1.6
comp=Z,9.9nm,1.1s
CCUT epP pP 07 49 05.9 +1.6
N23A Red Feather La 83.90 335 ⇑P P 07 48 55.2 -0.2
baz=84
ECSD EROS Data Cent 83.90 343 eP P 07 48 54.5 -0.5
comp=Z,32nm,1.3s
ECSD EROS Data Cent 83.90 343 ⇑P P 07 48 55.0 0.0
baz=84
K29A Lazy Trails An 83.92 340 ⇓P P 07 48 56.0 +0.8
baz=84
SRU San Rafael 83.94 331 eP P 07 48 56.0 +0.4
SRU e*PP pP 07 49 04.1 -1.3
SRU San Rafael 83.94 331 eP P 07 48 56.0 +0.4
SRU epP pP 07 49 04.1 -1.3
SBC Santa Barbara 83.95 323 ⇓P P 07 48 55.2 -0.3
baz=84
N22A Wattenberg Ran 83.98 335 ⇓P P 07 48 56.5 +0.6
baz=84
O20A White River Ci 84.00 334 ⇑P P 07 48 56.5 +0.7
baz=84
M24A Cheyenne 84.05 336 ⇓P P 07 48 57.0 +0.9
baz=84
MVU Marysvale 84.06 330 eP P 07 48 57.3 +1.1
MVU epP pP 07 49 06.7 +0.6
PHWY Pilot Hill 84.11 336 eP P 07 48 56.8 +0.4
comp=Z,11nm,1.0s
PHWY epP pP 07 49 05.3 -1.0
K28A Ten Mile Ranch 84.16 339 ⇑P P 07 48 57.4 +1.0
baz=85
J30A Dallas 84.22 341 ⇑P P 07 48 57.0 +0.3
baz=85
FURC Furnace Creek, 84.30 326 ⇓P P 07 48 57.1 0.0
baz=85
M23A Laramie 84.34 336 ⇓P P 07 48 58.0 +0.4
baz=85
TMUT Trail Mountain 84.36 331 eP P 07 48 59.2 +1.3
comp=Z,11nm,1.2s
TMUT epP pP 07 49 05.9 -1.7
K27A Flueckinger Fa 84.40 339 ⇑P P 07 48 58.5 +0.8
baz=85
J29A Okreek 84.52 340 ⇓P P 07 48 58.6 +0.4
baz=85,SNR=9.0
N20A Spence Gulch, 84.63 334 ⇑P P 07 48 59.9 +0.9
baz=85
I30A Oacoma 84.76 341 ⇑P P 07 48 59.6 +0.2
baz=85
J28A Allard Ranch, 84.78 340 ⇑P P 07 49 00.1 +0.5
baz=85
J27A Elkhorn Farm, 84.84 339 ⇓P P 07 49 00.6 +0.7
baz=85,SNR=7.6
L23A Garrett 84.92 336 ⇑P P 07 49 00.5 +0.1
baz=85
GRAC Grapevine Rang 84.97 326 ⇓P P 07 49 01.2 +0.6
baz=85
I29A Vivian Onida 85.09 341 ⇑P P 07 49 01.3 +0.3
baz=86
BRSD Miller 85.13 342 eP P 07 49 01.4 +0.2
comp=Z,6.9nm,0.6s
BRSD Miller 85.13 342 ⇑P P 07 49 01.6 +0.3
baz=86
MPU Maple Canyon 85.14 331 eP P 07 49 03.0 +1.3
comp=Z,10nm,1.1s
K24A Anderson Ranch 85.19 337 ⇑P P 07 49 02.3 +0.5
baz=86
J26A Sides Ranch, S 85.20 338 ⇓P P 07 49 02.1 +0.4
baz=86,SNR=5.1
NLU North Lily Min 85.26 331 eP P 07 49 03.4 +1.2
comp=Z,30nm,1.9s
I28A Midland 85.30 340 ⇓P P 07 49 02.2 +0.2
baz=86,SNR=9.1
R11A Troy Canyon, C 85.31 328 eP P 07 49 03.7 +1.2
comp=Z,7.1nm,1.1s
R11A epP pP 07 49 13.5 +1.1
R11A Troy Canyon, C 85.31 328 ⇓P P 07 49 02.7 +0.2
baz=86
K23A Bowen Ranch, D 85.47 336 ⇓P P 07 49 03.2 0.0
baz=86
J25A Sunshine Ranch 85.49 338 ⇓P P 07 49 03.3 +0.1
baz=86
JLU Jordanelle 85.58 332 eP P 07 49 04.4 +0.5
comp=Z,66nm,2.7s
JLU epP pP 07 49 13.8 +0.1
I27A Quinn 85.61 339 ⇑P P 07 49 03.9 +0.2
baz=86
H29A Onida 85.63 341 ⇓P P 07 49 03.8 +0.1
baz=86,SNR=6.0
K22A Casper 85.66 336 eP P 07 49 04.0 -0.2
comp=Z,6.3nm,1.1s
K22A Casper 85.66 336 ⇓P P 07 49 04.1 0.0
baz=86

J24A Dixon Ranch, L 85.69 337 ⇑P P 07 49 04.4 +0.2
baz=86
DUG Dugway 85.75 330 eP P 07 49 05.4 +0.8
DUG e*PP pP 07 49 13.0 -1.4
DUG pmax pmax
comp=Z,11nm,1.3s
DUG Dugway 85.75 330 eP P 07 49 05.3 +0.8
comp=Z,11nm,1.3s
DUG epP pP 07 49 13.0 -1.4
DUG Dugway 85.75 330 ⇓P P 07 49 04.6 0.0
baz=86
TPH Tonopah 85.79 326 eP P 07 49 05.9 +1.0
TPH e*PP pP 07 49 13.1 -1.7
TPH Tonopah 85.79 326 eP P 07 49 05.9 +1.0
TPH epP pP 07 49 13.1 -1.7
I26A New Underwood 85.80 339 ⇓P P 07 49 05.0 +0.3
baz=86
G30A Faulkton 85.82 342 ⇓P P 07 49 04.9 +0.2
baz=86
H28A Mission Ridge 85.88 340 ⇓P P 07 49 04.9 -0.1
baz=86,SNR=5.8
K21A Alcova 85.89 335 ⇑P P 07 49 05.0 -0.3
baz=86
I25A Rochford 86.04 338 ⇑P P 07 49 05.6 -0.3
baz=86,SNR=5.4
G29A Hoven 86.08 341 ⇓P P 07 49 06.1 +0.2
baz=86
H27A Howes 86.13 340 ⇑P P 07 49 05.9 -0.4
baz=86,SNR=6.6
TOA0 Torodi Ar. Sit 86.16 70 eP P 07 49 06.7 -0.3
TORD Torodi Ar. Bea 86.16 70 P P 07 49 06.8 -0.2
comp=Z,5.7nm,1.0s,baz=238,slow=4.7,SNR=19
I24A Kuemmerle Ranc 86.16 338 ⇓P P 07 49 06.1 -0.4
baz=87
RSSD Black Hills 86.22 338 eP P 07 49 06.9 0.0
RSSD pmax pmax
comp=Z,9.0nm,1.0s
RSSD Black Hills 86.22 338 eP P 07 49 06.9 0.0
comp=Z,8.6nm,1.0s
G28A Parade 86.23 341 ⇑P P 07 49 06.5 -0.2
baz=87,SNR=8.0
J22A Midwest 86.33 336 ⇑P P 07 49 06.7 -0.7
baz=87
F30A Leola 86.46 342 ⇓P P 07 49 07.3 -0.4
baz=87
HWUT Hardware Ranch 86.50 332 eP P 07 49 08.2 -0.1
comp=Z,16nm,1.0s
H25A Fruitdale 86.55 339 ⇓P P 07 49 08.1 -0.2
baz=87,SNR=5.2
NVAR Mina Array Bea 86.56 326 P P 07 49 08.7 0.0
comp=Z,1.0nm,0.8s,baz=166,slow=6.2,SNR=6.4
J21A Lysite 86.59 336 ⇓P P 07 49 07.8 -0.9
baz=87
F29A Eureka 86.65 342 ⇓P P 07 49 08.8 +0.1
baz=87
I22A 9 Mile Ranch, 86.77 336 ⇓P P 07 49 09.3 -0.2
baz=87
G27A Dupree 86.78 340 ⇓P P 07 49 09.0 -0.4
baz=87,SNR=5.3
PDAR Pinedale Array 86.79 334 P P 07 49 09.4 -0.4
comp=Z,2.3nm,1.0s,baz=158,slow=4.8,SNR=13
J20A Shoshoni 86.81 335 ⇓P P 07 49 09.7 0.0
baz=87
G26A Maurine 86.89 340 ⇑P P 07 49 09.6 -0.3
baz=87,SNR=7.0
F28A McLaughlin 86.92 341 ⇑P P 07 49 09.8 -0.2
baz=87,SNR=6.1
H24A Dirks Ranch, A 86.95 338 ⇑P P 07 49 10.2 -0.1
baz=87
I21A Big Trails, Te 86.95 336 ⇓P P 07 49 10.2 -0.3
baz=87
G25A Newell 87.02 339 ⇑P P 07 49 10.2 -0.4
baz=87,SNR=6.0
E30A Jud 87.05 342 ⇑P P 07 49 11.2 +0.6
baz=88
J19A Crowheart 87.05 334 ⇓P P 07 49 11.0 0.0
baz=87
HVU Hansel Valley 87.10 331 eP P 07 49 11.8 +0.6
HVU e*PP pP 07 49 19.2 -1.9
HVU pmax pmax
comp=Z,7.0nm,0.9s
HVU Hansel Valley 87.10 331 eP P 07 49 11.8 +0.6
comp=Z,7.1nm,0.9s
HVU epP pP 07 49 19.2 -1.9
ELK Elko 87.19 329 eP P 07 49 12.2 +0.4
ELK e*PP pP 07 49 19.9 -1.7
ELK pmax pmax
comp=Z,54nm,2.8s
ELK Elko 87.19 329 eP P 07 49 12.2 +0.4
comp=Z,54nm,2.8s
ELK epP pP 07 49 19.9 -1.7
F27A Lemmon 87.26 340 ⇓P P 07 49 11.3 -0.4
baz=88,SNR=6.9
E29A Napoleon 87.29 342 ⇓P P 07 49 11.9 0.0
baz=88
I20A Worland 87.35 335 ⇑P P 07 49 12.2 -0.1
baz=88
H22A Clearmont 87.36 337 ⇓P P 07 49 12.3 0.0
baz=88
F26A Lodgepole 87.42 340 ⇓P P 07 49 12.3 -0.2
baz=88
G24A Alzada 87.43 338 ⇑P P 07 49 12.6 0.0
baz=88
E28A Huff 87.56 341 ⇑P P 07 49 13.3 +0.1
baz=88
D30A Buchanan 87.58 343 ⇓P P 07 49 13.4 +0.2
baz=88
H21A Big Horn, Sher 87.60 336 ⇓P P 07 49 13.5 0.0
baz=88
E27A Carson 87.65 341 ⇑P P 07 49 13.8 +0.2
baz=88
F25A Bowman 87.70 339 ⇓P P 07 49 13.8 -0.1
baz=88
I19A Meeteetse 87.72 335 ⇑P P 07 49 13.9 -0.3
baz=88
D29A Pettibone, Tap 87.74 342 ⇑P P 07 49 14.0 0.0
baz=88
REDW Red Top Meadow 87.77 333 eP P 07 49 14.9 +0.4
comp=Z,33nm,1.8s
H20A Greybull 87.79 336 ⇑P P 07 49 14.2 -0.1
baz=88
LOHW Long Hollow 87.90 334 eP P 07 49 15.1 0.0
comp=Z,51nm,2.5s
F24A Ekalaka 87.91 339 ⇑P P 07 49 14.4 -0.5
baz=88
TPAW Teton Pass 87.91 333 eP P 07 49 15.2 0.0
TPAW epP pP 07 49 23.6 -1.4
E26A Carlson Angus 87.93 340 ⇓P P 07 49 14.5 -0.4
baz=88
AGMN Agassiz Nation 88.07 345 eP P 07 49 15.2 -0.3
comp=Z,20nm,1.3s
AGMN epP pP 07 49 23.8 -1.5
AGMN Agassiz Nation 88.07 345 ⇑P P 07 49 15.1 -0.4
baz=88
C30A Mose, Pekin 88.08 343 ⇓P P 07 49 15.3 -0.2
baz=88,SNR=12
D28A Regan 88.11 342 ⇓P P 07 49 15.6 -0.1
baz=88,SNR=7.0
I17A Pilgrim Ck. 88.16 334 ⇑P P 07 49 16.7 +0.4
baz=88
E25A Miller Ranch, 88.22 339 ⇓P P 07 49 16.9 +0.6
baz=89
IMW Indian Meadow 88.27 334 eP P 07 49 17.5 +0.6
comp=Z,7.3nm,1.1s
IMW epP pP 07 49 26.8 +0.1
D27A Center 88.27 341 ⇑P P 07 49 16.8 +0.3
baz=89
FLWY Flagg Ranch 88.34 334 eP P 07 49 17.5 +0.4
comp=Z,15nm,1.3s
FLWY epP pP 07 49 26.0 -1.0
D26A Manning 88.44 340 ⇑P P 07 49 17.1 -0.2
baz=89,SNR=6.6
H18A Shoshone NF, C 88.51 335 ⇑P P 07 49 17.4 -0.6
baz=89
C28A Hausauer Farms 88.55 342 ⇓P P 07 49 17.9 +0.1
baz=89
B30A Myrvik Farm, E 88.75 343 ⇑P P 07 49 18.4 -0.3
baz=89,SNR=12
D25A Fairfield 88.79 340 ⇑P P 07 49 18.9 -0.1
baz=89
C27A Sayler Ranch, 88.83 341 ⇑P P 07 49 19.1 0.0
baz=89
B29A Wagenman Farm, 89.00 343 ⇑P P 07 49 19.5 -0.3
baz=89,SNR=5.7
D24A Glendive 89.04 339 ⇑P P 07 49 19.9 -0.2
baz=89
C26A Wahner Farm, P 89.08 341 ⇓P P 07 49 20.4 +0.1
baz=90
A30A Hoffart Farm, 89.20 344 ⇓P P 07 49 20.5 -0.3
baz=90
B28A Dugan Ranch, T 89.22 342 ⇓P P 07 49 20.8 -0.1
baz=90,SNR=5.5
HLID Hailey 89.25 331 eP P 07 49 22.3 +0.9
comp=Z,7.6nm,1.3s
HLID epP pP 07 49 31.6 +0.3
HLID Hailey 89.25 331 ⇑P P 07 49 20.9 -0.5
baz=90
F19A Roth Farm, Mol 89.31 336 ⇑P P 07 49 20.8 -0.8
baz=90
D23A Lindsay 89.34 339 ⇓P P 07 49 21.1 -0.5
baz=90
A29A Manning Farm, 89.40 343 ⇑P P 07 49 21.4 -0.3
baz=90,SNR=10.0
C24A Savage 89.44 339 ⇓P P 07 49 22.1 0.0
baz=90
A28A Rude Farm, Bot 89.63 342 ⇑P P 07 49 22.8 0.0
baz=90
MFID Camas Ranch 89.68 330 eP P 07 49 24.6 +1.2
MCMT McKenzie Canyo 89.75 333 eP P 07 49 24.4 +0.5
comp=Z,4.2nm,1.2s
E19A Rath Farm, Rou 89.79 336 ⇑P P 07 49 23.4 -0.3
baz=90
ULM Lac du Bonnet 89.93 346 P P 07 49 23.6 -0.5
comp=Z,2.7nm,0.8s,baz=135,slow=2.5,SNR=3.9
A21A Bergtoll Ranch 91.48 338 ⇑P P 07 49 30.6 -0.9
baz=92
A20A Cobblestone Ra 91.68 338 ⇑P P 07 49 31.6 -0.8
baz=92
BSMT Bassoo Peak 93.04 333 P P 07 49 39.1 +0.2
DZM Mont Dzumac 98.45 234 eLR LR 08 22 04.4
comp=Z,208nm,23.4s
DZM Mont Dzumac 98.45 234 eLR LR 08 22 04.0
comp=Z,208nm,23.4s
GERES GERESS Array B 115.27 47 PKP PKPdf 07 55 05.8 -0.7
comp=Z,1.1nm,0.9s,baz=336,slow=2.9,SNR=5.8
WRA Warramunga Arr 117.14 209 PKP PKPdf 07 55 09.7 -1.4
comp=Z,1.6nm,0.8s,baz=161,slow=1.6,SNR=5.8
ILAR Eielson Array 117.19 332 PKP PKPdf 07 55 08.6 -1.0
comp=Z,0.5nm,0.9s,baz=169,slow=1.1,SNR=6.1
VYHS Vyhne 118.12 49 ePKIKP PKPdf 07 55 10.9 -1.0
VYHS e 07 55 20.6
VYHS Vyhne 118.12 49 ePKP PKPdf 07 55 10.9 -1.0
VYHS e 07 55 20.6
VYHS e 08 26 06.4
BRTR Keskin Array B 124.22 63 PKP PKPdf 07 55 23.6 -0.5
comp=Z,0.9nm,0.8s,baz=229,slow=2.0,SNR=5.9
AKASG Malin Array Be 125.21 50 PKP PKPdf 07 55 24.1 -1.3
comp=Z,1.5nm,0.9s,baz=268,slow=3.2,SNR=4.5
ONI Oni 132.16 63 P PKPdf 07 55 43.7 +4.7
SEY Seymchan 142.86 327 PKhKP PKPpre 07 55 54.3
comp=Z,3.2nm,0.9s,baz=63,slow=5.1,SNR=6.2
AKTO Aktyubinsk 143.21 54 PKhKP PKPpre 07 55 55.2
comp=Z,1.7nm,0.8s,baz=252,slow=3.2,SNR=6.4
TIXI Tiksi 144.23 348 ePKIKP PKPab 07 55 56.6 -1.4
TIXI Tiksi 144.23 348 ePKPdf PKPab 07 55 56.6 -1.4
PSI Prapat 144.43 166 PKP PKPdf 07 55 59.2 -1.4
comp=Z,16nm,0.8s,baz=203,slow=3.8,SNR=15
ABKAR Akbulak array 144.48 56 ePKPdf PKPab 07 55 59.8 +0.1
POO Poona 145.26 114 eP PKPbc 07 56 03.0 -0.3
HYB Hyderabad 147.81 121 i PKP PKPbc 07 56 09.5 -1.4
BRVK Borovoye 150.37 47 ePKIKP PKPdf 07 56 11.2 +0.3
BRVK e 07 56 16.7
BRVK Borovoye 150.37 47 ePKPdf PKPdf 07 56 11.2 +0.3
BRVK ePKPbc PKiKP 07 56 16.7 -0.2
BVAR Borovoye Array 150.44 47 PKP PKPdf 07 56 11.0 0.0
comp=Z,0.9nm,0.9s,baz=252,slow=3.0,SNR=4.7
BVAR PKPbc PKPbc 07 56 16.6 +0.2
comp=Z,4.0nm,0.8s,baz=291,slow=4.1,SNR=17
KKAR Karatay Array 151.81 67 ePKIKP PKPbc 07 56 19.8 -0.1
KKAR e 07 56 29.0
KKAR Karatay Array 151.81 67 ePKPbc PKPbc 07 56 19.8 -0.1
KKAR ePKPab PKPab 07 56 29.0 -0.1
YAK Yakutsk 151.96 337 ePKIKP PKPbc 07 56 18.3 -1.3
YAK pmax pmax
comp=Z,39nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK Yakutsk 151.96 337 ePKPbc PKPbc 07 56 18.9 -0.6
EKS2 Erkin-Say 154.20 69 ePKIKP PKPdf 07 56 17.0 -0.2
EKS2 Erkin-Say 154.20 69 ePKPdf PKPdf 07 56 16.9 -0.2
EKS2 ePKPab PKPab 07 56 39.8 +0.5
AAK Ala-Archa 154.73 69 PKIKP PKPdf 07 56 16.1 -1.8
AAK 07 56 26.8
AAK e 07 56 27.2
AAK 07 56 41.0
AAK Ala-Archa 154.73 69 PKP PKPdf 07 56 16.1 -1.8
comp=N,0.8nm,0.4s,baz=203,slow=17,SNR=3.3
AAK PKPbc PKiKP 07 56 26.8 +0.3
comp=N,1.0nm,0.8s,baz=187,slow=4.7,SNR=4.8
AAK PKPab PKPab 07 56 41.0 -0.7
comp=N,5.1nm,0.9s,baz=238,slow=2.8,SNR=4.7
AAK Ala-Archa 154.73 69 PKP PKPdf 07 56 16.1 -1.8
AAK PKPbc PKiKP 07 56 26.8 +0.3
AAK ePKPbc PKPbc 07 56 27.2 +0.7
AAK PKPab PKPab 07 56 41.0 -0.7
AAK ePKPab PKPab 07 56 42.1 +0.4
KSH Kashi 155.70 76 ePKP PKPdf 07 56 19.3 0.0
KSH epPKP pPKPdf 07 56 31.0 +1.5
KSH esPKP 07 56 33.5
KSH eSKS SKSdf 08 03 20.3 -3.2
KSH eSKKS SKKSac 08 07 10.3 0.0
KSH AMB AMB
comp=N,47nm,4.7s
KSH LR LR
comp=N,110nm,3.3s
NVS Novosibirsk 156.45 36 ePKIKP PKPdf 07 56 17.3 -2.3
NVS pmax pmax
comp=Z,12nm,1.7s
NVS pmax pmax
comp=E,9.0nm,1.8s
ZALV Zalesovo Beam 157.72 36 PKP PKPdf 07 56 20.1 -1.1
comp=E,3.8nm,1.0s,baz=278,slow=2.2,SNR=13
BOD Bodaibo 159.41 349 ePKP2 PKPab 07 56 59.6 -1.3
BOD pmax pmax
comp=Z,6.0nm,1.1s
CMAR Chiang Mai Arr 159.50 157 PKPab PKPab 07 57 01.2 -1.2
comp=Z,0.9nm,0.3s,baz=212,slow=4.3,SNR=5.1
MKAR Makanchi Array 159.62 56 PKP PKPdf 07 56 23.5 -0.3
comp=Z,2.0nm,1.0s,baz=321,slow=1.7,SNR=12
MKAR PKPab PKPab 07 57 02.0 -0.4
comp=Z,1.7nm,0.9s,baz=268,slow=3.6,SNR=6.4
MKAR PP PP 08 00 46.4 +2.0
comp=Z,0.4nm,0.9s,baz=255,slow=3.6,SNR=4.3
WMQ Urumqi 164.13 61 ePKP PKPdf 07 56 29.8 +1.2
WMQ AMB AMB
comp=Z,140nm,12.2s
WMQ LR LR
comp=Z,120nm,22.8s
WMQ LR LR
comp=Z,240nm,23.4s
WMQ LR LR
comp=Z,120nm,22.6s
CN2 Changchun 164.83 299 ePKP PKPdf 07 56 29.8 +0.7
KMI Kunming 166.88 162 PKP PKPdf 07 56 31.0 -0.6
ZAK Zakamensk 167.08 11 ePKP2 PKPab 07 57 34.8 -0.2
ZAK pmax pmax
comp=Z,2.0nm,1.4s
GYA Guiyang 168.74 178 ePKP PKPdf 07 56 32.0 -0.8
GYA pPKP pPKPdf 07 56 43.8 +0.8
GYA PKPab PKPab 07 57 44.8 +1.9
GYA PKS PKSdf 08 00 04.0 -1.5
GYA PP PP 08 01 35.5 +4.3
GYA SKKS 08 08 17.5
GYA SS SS 08 22 21.8 +0.3
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=Z,120nm,21.3s
GYA LR LR
comp=Z,110nm,21.6s
GYA LR LR
comp=Z,120nm,24.5s
NJ2 Nanjing 168.79 243 ePKP PKPdf 07 56 31.8 -0.6
SONM Songino Array 169.91 3 PKPab PKPab 07 57 47.2 -0.4
comp=Z,1.7nm,1.1s,baz=339,slow=3.8,SNR=4.9
CD2 Chengdu 172.65 157 PKP PKPdf 07 56 35.0 +0.4
CD2 pPKP pPKPdf 07 56 46.5 +1.7
CD2 sPKP 07 56 50.3
CD2 PKS PKSdf 08 00 06.0 -1.0
CD2 PP PP 08 01 55.3 +4.5
CD2 SKS SKSdf 08 03 33.0 -2.7
CD2 SKKS SKKSac 08 08 37.0 +1.2
CD2 AMB AMB
comp=Z,220nm,6.6s
GTA Gaotai 174.07 71 ePKP PKPdf 07 56 34.5 -0.5
GTA pPKP pPKPdf 07 56 45.3 +0.1
GTA sPKP 07 56 49.0
GTA PKPab PKPab 07 58 03.8 -2.8
HHC Hu-ho-hao-te 175.34 313 ePKP PKPdf 07 56 36.3 +1.0
HHC sPKP 07 56 51.3
HHC PP PP 08 02 08.8 +4.1
HHC SKS SKSdf 08 03 34.0 -2.1
HHC SKKS SKKSac 08 08 50.0 +1.3
HHC SS SS 08 23 26.3 -1.4
HHC AMB AMB
comp=Z,110nm,7.0s
HHC LR LR
comp=Z,280nm,19.0s
HHC LR LR
comp=Z,440nm,18.1s
HHC LR LR
comp=Z,860nm,18.5s
XAN Xi'an 176.01 203 PKP PKPdf 07 56 34.8 -0.8
LZH Lanzhou 176.93 122 ePKP PKPdf 07 56 36.5 +0.6
LZH pPKP pPKPdf 07 56 46.5 +0.4
LZH sPKP 07 56 50.3

IDC 28 07:43:12.4±1.0, 38°.61S×74°.27W, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.9/26, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=32.3km s-min=18.0km az=59.0
ISCJB 28 07:43:15.4±0.9, 38°.5S±0°.1×74°.1W±0°.2, h33km, mb3.9/8, Error ellipse: s-maj=19.5km s-min=14.5km az=156.1
NEIC 28 07:43:17.1±0.7, 38°.53S×73°.99W, h35km, mb4.1/3, Error ellipse: s-maj=15.5km s-min=11.7km az=54.0
ISC 28 07:43:17.8±0.9, 38°.5S±0°.1×74°.0W±0°.1, h35km, n19, σ1§43/16, mb3.8/8, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.44 131 Pn Pn 07 44 08.1 -0.8
2.3nm,0.3s,baz=299,slow=15,SNR=4.3
PLCA Lg Lg 07 45 04.9
12nm,0.3s,baz=217,slow=22,SNR=6.3
PLCA Paso Flores 3.44 131 ePn Pn 07 44 08.9 0.0
PLCA Lg Lg 07 45 04.9
TRQA Tornquist 9.42 91 ePn Pn 07 45 29.2 -1.9
CPUP Villa Florida 18.52 54 eP Pn 07 47 31.5 0.0
0.2nm,0.7s
LPAZ La Paz 22.72 15 P P 07 48 19.6 +2.4
3.1nm,0.7s,baz=178,slow=7.8,SNR=4.3
LPAZ La Paz 22.72 15 P P 07 48 16.5 -0.8
2.3nm,0.6s
SIV San Ignacio 25.13 30 P P 07 48 40.4 +0.8
2.1nm,0.8s,baz=238,slow=10.0,SNR=4.1
RCBR Riachuelo 47.37 56 eP P 07 51 49.0 +0.3
9.2nm,1.0s
QSPA South Pole Qui 51.74 180 P P 07 52 20.9 -0.5
0.5nm,0.7s,baz=144,slow=8.7,SNR=2.0
JCT Junction City 72.75 337 eP P 07 54 40.3 -2.0
0.9nm,0.4s
TXAR Lajitas Array 72.98 333 P P 07 54 42.9 -0.9
0.3nm,0.6s,baz=146,slow=9.1,SNR=5.7
PDAR Pinedale Array 87.12 335 P P 07 55 59.4 -0.5
0.3nm,0.7s,baz=204,slow=2.0,SNR=2.1
TORD Torodi Ar. Bea 87.17 71 P P 07 56 03.0 +2.4
0.8nm,0.8s,baz=226,slow=3.3,SNR=4.6
H11S2 WAKE ISLAND Hy 124.08 267 T T 10 18 28.8
baz=124
H11S1 WAKE ISLAND Hy 124.10 267 T T 10 18 28.7
baz=124
H11S3 WAKE ISLAND Hy 124.10 267 T T 10 18 27.9
baz=124
ABKAR Akbulak array 145.57 57 ePKPbc PKPdf 08 02 51.2 -0.5
BVAR Borovoye Array 151.54 48 PKPbc PKPbc 08 03 07.1 -0.4
0.8nm,0.7s,baz=318,slow=2.0,SNR=4.3
MKAR Makanchi Array 160.71 57 PKP PKPdf 08 03 15.6 +2.0
0.3nm,0.8s,baz=241,slow=3.0,SNR=3.0

JMA 28 07:43:26.7±0.4, 25°.95N×128°.47E, h39km±4km, M2.5, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.69 325 P Pn 07 43 40.0 -0.1
JOW Kunigami 0.90 349 P Pn 07 43 43.1 +0.3
JOW S Sn 07 43 54.5 -0.1
JIH Iheya 1.17 337 P Pn 07 43 47.5 +0.9
JIH eS Sn 07 44 01.9 +0.6
JOKE Okinoerabujima 1.41 4 P Pn 07 43 50.5 +0.6
JOKE S Sn 07 44 07.4 +0.2
JKE Kume jima 2 1.56 284 P Pn 07 43 52.5 +0.6
JKE eS Sn 07 44 11.7 +0.8
JTK Tokunoshima 1.88 13 P Pn 07 43 56.6 +0.3
JAMN Amaminishikomi 2.37 15 P Pn 07 44 03.3 +0.3
JMZ Minamidaito 2 2.48 92 P Pn 07 44 02.3 -2.3
JMZ eS Sn 07 44 28.8 -4.8

NIED 28 07:44:00, 25°.90N×128°.70E, h8km, Mw3.8 Best double couple: M_0 5.82000×10^{14} NP1:φs237.00000°, δ50.00000°, λ-48.00000°. NP2:φs3.00000°, δ55.00000°, λ-129.00000°.
IDC 28 07:44:49.5±1.1, 25°.95N×128°.53E, h0km, mb3.9/8, mb1 3.9/9, mb1mx3.7/51, mbtmp3.8/9, ML3.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/38, Error ellipse: s-maj=42.7km s-min=19.8km az=77.0
ISCJB 28 07:44:51.2±1.2, 25°.93N±0°.04×128°.64E±0°.04, h30km±9km, mb3.7/8, MS3.7/1, Error ellipse: s-maj=7.1km s-min=5.5km az=143.1
JMA 28 07:44:51.2±0.3, 25°.94N×128°.68E, h30km, M3.6
ISC 28 07:44:51.2±1.8, 25°.93N±0°.05×128°.62E±0°.04, h17km±11km, n24, σ1§50/36, mb3.9/8, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.79 318 P Pb 07 45 06.1 -0.4
JJT2 Tamagusuku 2 0.81 285 P Pg 07 45 07.1 +0.1
JJT2 eS Sn 07 45 19.0 -0.5
JOW Kunigami 0.95 341 P Pb 07 45 08.8 -0.4
JOW eS Sb 07 45 20.6 -0.9
JOW Kunigami 0.95 341 Pn Pb 07 45 09.0 -0.2
12nm,0.3s,baz=146,slow=16,SNR=38
JOW Sn Sb 07 45 20.0 -1.5
25nm,0.3s,baz=121,slow=19,SNR=20
JIH Iheya 1.24 332 P Pn 07 45 13.1 -0.7
JIH eS Sb 07 45 29.6 -0.4
JAGN Aguni-jima 1.40 298 P Pn 07 45 15.7 -0.3
JOKE Okinoerabujima 1.42 358 P Pn 07 45 16.0 -0.3
JOKE eS Sn 07 45 32.8 -1.9
JKE Kume jima 2 1.69 284 P Pn 07 45 19.0 -1.0
JKE eS Sn 07 45 39.0 -2.3
JTK Tokunoshima 1.87 9 P Pn 07 45 22.2 -0.3
JTK eS Sn 07 45 44.0 -1.7
JMZ Minamidaito 2 2.35 92 P Pn 07 45 28.1 -0.9
JMZ eS Sn 07 45 54.0 -3.5
JAMN Amaminishikomi 2.35 12 P Pn 07 45 29.1 0.0
JAM Amami Oshima 2.62 19 P Pn 07 45 32.5 -0.3
JAM eS Sn 07 46 02.8 -1.4
JIKM Ikemajima 3.21 252 P Pn 07 45 41.1 +0.2
JIKM eS Sn 07 46 18.9 +0.1
JTJ Tarama 3.77 251 P Pn 07 45 47.6 -1.0
JTJ eS Sn 07 46 29.3 -3.4
JIJ Ishigaki jima 4.35 250 P Pn 07 45 54.5 -2.0
JIJ eS Sn 07 46 40.4 -6.5
JNU Nakatsue 7.43 15 Pn Pn 07 46 40.3 +1.3
0.5nm,0.3s,baz=192,slow=10.0,SNR=5.9
JNU Sn Sn 07 47 59.7 -3.2
baz=248,slow=16
SONM Songino Array 27.99 327 P P 07 50 43.6 +2.3
1.1nm,0.5s,baz=140,slow=10,SNR=11
MKAR Makanchi Array 41.99 312 P P 07 52 41.3 -0.2
0.6nm,0.5s,baz=89,slow=10,SNR=13
WRA Warramunga Arr 45.94 173 P P 07 53 14.4 +1.0
1.4nm,0.6s,baz=352,slow=8.5,SNR=13
WRA LR LR 08 13 55.8
comp=Z,93nm,20.4s,baz=155,slow=38
FINES FINESS Array B 73.29 331 P P 07 56 21.8 +0.3
1.1nm,0.9s,baz=90,slow=1.9,SNR=5.6
AKASG Malin Array Be 75.98 320 P P 07 56 37.5 +0.2
0.9nm,0.5s,baz=59,slow=5.5,SNR=4.6
BRTR Keskin Array B 77.49 308 P P 07 56 47.4 +1.1
1.0nm,0.9s,baz=104,slow=6.1,SNR=4.2
YKA Yellowknife Ar 78.64 25 P P 07 56 53.4 +1.4
0.1nm,0.5s,baz=303,slow=5.7,SNR=4.0

NOA NORSAR Array B 79.73 334 P P 07 56 58.3 +0.3
0.8nm,0.8s,baz=52,slow=5.8,SNR=3.0

IDC 28 07:51:13.7±1.2, 13.35N×143.57E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/44, mbtmp3.6/7, Error ellipse: s-maj=42.3km s-min=26.8km az=96.0
ISCJB 28 07:51:17.0±1.1, 13.3N±0.2×143.5E±0.3, h33km, mb3.6/7, Error ellipse: s-maj=41.8km s-min=24.5km az=4.8
ISC 28 07:51:19.0±1.2, 13.3N±0.2×143.5E±0.3, h35km, n7, σ1§00/7, mb3.7/7, South of Mariana Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 34.28 195 P P 07 58 02.1 +0.1
1.4nm,0.7s,baz=17,slow=9.6,SNR=12
MKAR Makanchi Array 60.77 316 P P 08 01 28.3 +0.8
0.1nm,0.6s,baz=94,slow=5.8,SNR=2.7
ZALV Zalesovo Beam 61.08 325 P P 08 01 29.7 +0.4
0.2nm,0.3s,baz=93,slow=5.8,SNR=2.1
BVAR Borovoye Array 69.32 322 P P 08 02 23.0 +0.2
0.5nm,0.5s,baz=101,slow=7.5,SNR=4.2
ILAR Eielson Array 69.36 25 P P 08 02 23.1 +0.2
0.2nm,0.5s,baz=246,slow=6.1,SNR=7.0
YKA Yellowknife Ar 83.69 27 P P 08 03 44.4 +0.4
0.1nm,0.5s,baz=286,slow=5.7,SNR=3.7
FINES FINESS Array B 90.84 335 P P 08 04 16.9 -1.7
1.2nm,1.0s,baz=51,slow=2.4,SNR=5.9

IDC 28 07:51:18.3±1.4, 34.92S×72.30W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/25, mbtmp3.9/5, ML4.2/1, Error ellipse: s-maj=50.4km s-min=21.8km az=78.0
ISCJB 28 07:51:19.5±1.3, 35.0S±0.1×72.4W±0.4, h18km, mb3.8/4, Error ellipse: s-maj=44.2km s-min=17.0km az=175.7
ISC 28 07:51:21.2±1.3, 34.9S±0.1×72.3W±0.3, h18km, n8, σ1§45/7, mb3.9/4, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.77 47 Lg Lg 07 53 47.9
0.4nm,0.3s,baz=180,slow=18,SNR=2.4
PLCA Paso Flores 5.96 167 Pn Pn 07 52 48.8 +0.2
1.5nm,0.3s,baz=348,slow=8.9,SNR=3.3
PLCA Lg Lg 07 54 27.7
3.4nm,0.3s,baz=59,slow=20,SNR=3.7
SIV San Ignacio 21.39 31 P P 07 56 08.5 +0.5
1.5nm,0.6s,baz=221,slow=7.8,SNR=3.2
TXAR Lajitas Array 70.43 331 P P 08 02 34.6 +0.2
0.3nm,0.5s,baz=156,slow=7.5,SNR=5.6
BOSA Boshof 79.85 118 P P 08 03 28.8 -0.2
3.0nm,0.8s,baz=254,slow=4.7,SNR=4.7
TORD Torodi Ar. Bea 84.75 70 P P 08 03 55.6 +1.0
1.0nm,0.8s,baz=250,slow=4.7,SNR=5.3
ZALV Zalesovo Beam 155.13 33 PKP PKPdf 08 11 12.8 +0.2
0.4nm,0.4s,baz=2.4,slow=3.5,SNR=3.6
MKAR Makanchi Array 157.55 50 PKPab PKPab 08 11 45.4 -2.6
0.2nm,0.6s,baz=294,slow=4.3,SNR=3.3

IDC 28 07:55:11.9±2.5, 0.36N×128.15E, h0km, mb3.8/1, Error ellipse: s-maj=214.3km s-min=26.0km az=67.0, Halmahera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 21.07 164 P P 07 59 57.4 -0.5
0.4nm,0.8s,baz=343,slow=9.6,SNR=4.7
ASAR Alice Springs 24.53 167 P P 08 00 33.2 -0.2
baz=334,slow=6.9
MKAR Makanchi Array 61.12 326 P P 08 05 28.4 +0.3
0.8nm,0.7s,baz=113,slow=7.3,SNR=7.8

DJA 28 07:58:43.7±0.6, 8°S±5°×10°7E±°, h10km, M4.0/12, MLv4.0/12, Jawa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CISI Cisompet, Garu 0.61 44 P Pg 07 58 55.4 -0.2
CISI S Sb 07 59 04.7 -0.6
CNJI Cibinong 0.73 339 P Pg 07 58 57.1 -0.8
CNJI S Sg 07 59 07.4 -0.1
CMJI Cimerak 1.07 78 P Pg 07 59 01.3 -3.0
LEM Lembang 1.19 11 P Pb 07 59 04.5 -2.1
SKJI Sukabumi 1.29 320 P Pn 07 59 07.3 -0.5
KPJI Karang Pucung 1.67 67 P Pn 07 59 11.5 -1.5
CGJI Cibinong 2.17 309 P Pn 07 59 16.9 -3.1
PWJI Pagerwojo 4.37 91 P Pn 07 59 50.6 +0.4
MDSI Maura Dua 4.73 317 P Pn 07 59 57.3 +2.1

IDC 28 08:07:40.7±0.5, 35.17S×72.58W, h0km, mb4.7/15, mb1 4.7/20, mb1mx4.6/25, mbtmp4.6/20, ML4.3/5, MS4.3/4, Ms1 4.3/4, ms1mx3.7/29, Error ellipse: s-maj=20.0km s-min=13.7km az=85.0
ISCJB 28 08:07:42.1±0.2, 35.17S±0.04×72.51W±0.06, h18km, mb4.9/95, MS4.2/3, Error ellipse: s-maj=7.9km s-min=5.3km az=146.5
BJI 28 08:07:42.7, 35.25S×72.21W, h24km, mB5.1/4, Ms5.2/3, Ms7 4.7/3
MOS 28 08:07:44.6±0.9, 35.15S×72.44W, h33km, mb5.2/20, Error ellipse: s-maj=18.3km s-min=8.9km az=100.6
NEIC 28 08:07:46.2±0.1, 35.19S×72.48W, h35km, mb5.0/80, Error ellipse: s-maj=5.3km s-min=4.0km az=62.0
ISC 28 08:07:43.2±0.3, 35.24S±0.05×72.56W±0.08, h18km, n592, σ0§98/607, mb5.0/97, MS4.1/3, 195C-182D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.12 46 Pn Pn 08 08 59.5 +0.5
2.2nm,0.3s,baz=219,slow=14,SNR=10
CFAA Sn Sn 08 10 01.6 +3.9
1.2nm,0.3s,baz=193,slow=18,SNR=3.3
PLCA Paso Flores 5.71 164 Pn Pn 08 09 09.0 +1.9
4.3nm,0.3s,baz=336,slow=13,SNR=11
TRQA Tornquist 8.95 111 ePn Pn 08 09 54.0 +2.3
LVC Limon Verde 12.98 15 ePn Pn 08 10 49.1 +2.1
CPUP Villa Florida 15.80 60 P Pn 08 11 24.2 -0.6
CPUP pmax pmax
comp=Z,13nm,0.5s
CPUP Villa Florida 15.80 60 Pn Pn 08 11 24.2 -0.6
comp=Z,0.3nm,0.3s,baz=253,slow=14,SNR=3.0
CPUP Villa Florida 15.80 60 P Pn 08 11 24.2 -0.6
comp=Z,12nm,0.5s
LPAZ La Paz 19.29 13 eP P 08 12 07.9 +0.2
LPAZ pmax pmax
comp=Z,24nm,0.8s
LPAZ La Paz 19.29 13 P P 08 12 08.6 -0.2
comp=Z,0.4nm,0.3s,baz=206,slow=10.0,SNR=10
LPAZ La Paz 19.29 13 eP P 08 12 07.9 +0.2
comp=Z,24nm,0.8s
USHA Ushuaia 19.80 173 P Pn 08 12 13.8 -0.1
comp=Z,0.7nm,0.3s,baz=346,slow=4.2,SNR=3.6
USHA LR LR 08 20 49.1
comp=Z,1μm,18.0s,baz=0.5,slow=40
SIV San Ignacio 21.75 31 P P 08 12 34.0 +0.1
comp=Z,19nm,0.9s,baz=223,slow=12,SNR=25
NNA Nana 23.48 349 eP P 08 12 52.2 +0.3
NNA Nana 23.48 349 P P 08 12 51.6 -0.3
comp=Z,7.0nm,0.6s,baz=216,slow=11,SNR=4.5
NNA Nana 23.48 349 eP P 08 12 52.2 +0.3
SAML Samuel 27.54 20 eP P 08 13 28.9 -0.1
comp=Z,5.4nm,1.0s
ATAH Atahualpa 28.48 348 LR LR 08 22 31.0
comp=Z,280nm,20.0s,baz=170,slow=31
BDFB Brasilia 29.39 55 eP P 08 13 45.5 -0.2
BDFB Brasilia 29.39 55 P P 08 13 44.9 -0.8
comp=Z,3.5nm,0.7s,baz=230,slow=9.1,SNR=6.1
BDFB Brasilia 29.39 55 eP P 08 13 45.5 -0.2
OTAV Otavalo 35.72 350 eP P 08 14 43.5 +2.1
comp=Z,18nm,1.3s
ROSC El Rosal 39.92 357 LR LR 08 31 38.8
comp=Z,258nm,19.3s,baz=226,slow=36
ROSC El Rosal 39.92 357 eP P 08 15 17.3 +0.6
SDV Santo Domingo 43.92 3 eP P 08 15 49.1 -0.1
comp=Z,23nm,0.9s
VNA3 Neumayer Olymp 48.38 157 P P 08 16 24.5 +1.0
VNA2 Neumayer--Watz 49.04 157 P P 08 16 29.5 +0.9
SNAA Sanae 50.60 157 P P 08 16 41.1 +0.5
SNAA Sanae 50.60 157 eP P 08 16 41.3 +0.7
SNAA pmax pmax
comp=Z,33nm,1.0s
SNAA Sanae 50.60 157 P P 08 16 41.2 +0.7
comp=Z,6.6nm,0.8s,baz=283,slow=6.2,SNR=30
SNAA Sanae 50.60 157 eP P 08 16 41.3 +0.7
comp=Z,33nm,1.0s
CELP Cerrillos 53.33 7 eP P 08 17 00.7 -0.6
SDDR Presa de Saban 53.94 1 eP P 08 17 06.6 +0.8
comp=Z,5.7nm,0.6s
QSPA South Pole Qui 55.00 180 P P 08 17 14.1 +0.9
comp=Z,12nm,0.9s,baz=150,slow=5.9,SNR=17
NVL N'lazarevskaya 55.35 156 eP P 08 17 16.7 +1.2
NVL pmax pmax
comp=Z,25nm,0.9s
SYO Syowa Base 64.87 158⇑eP P 08 18 19.5 -1.2
035A Encino 66.39 335 ⇓P P 08 18 31.9 +0.9
baz=67
034A Hebbronville 66.71 335 ⇑P P 08 18 34.2 +1.1
baz=67
933A Laredo 67.42 334 ⇓P P 08 18 38.3 +0.7
baz=68
835A Beeville 67.54 336 ⇑P P 08 18 39.8 +1.5
baz=68
834A Tilden 67.64 335 ⇑P P 08 18 39.7 +0.8
baz=68,SNR=7.5
735A Kenedy 68.06 336 ⇓P P 08 18 42.6 +1.0
baz=68
833A Chaparral WMA, 68.11 335 ⇑P P 08 18 42.3 +0.4
baz=68,SNR=6.3
832A Faith Ranch, C 68.28 334 ⇓P P 08 18 43.1 +0.1
baz=69,SNR=6.0
636A Smothers Creek 68.40 337 ⇓P P 08 18 44.5 +0.8
baz=69,SNR=7.1
635A Leesville 68.54 336 ⇑P P 08 18 45.5 +0.9
baz=69
732A Laxson Ranch, 68.69 334 ⇓P P 08 18 45.9 +0.4
baz=69,SNR=11
535A Dale 69.07 337 ⇓P P 08 18 48.5 +0.7
baz=69
633A Saathoff Ranch 69.08 335 ⇑P P 08 18 48.4 +0.5
baz=69,SNR=5.7
340A Bronson 69.27 341 ⇑P P 08 18 50.4 +1.4
baz=70
TVO Taravao 69.28 262 eT T 08 18 55.4
comp=Z,1.2nm,0.2s
632A Uvalde 69.33 335 ⇓P P 08 18 49.9 +0.4
baz=70,SNR=8.5
339A Huntington 69.38 340 ⇑P P 08 18 50.1 +0.4
baz=70,SNR=5.2
TIAR Tiarei 69.47 263 eT T 08 19 10.2
comp=Z,4.7nm,0.3s
631A Perdido Creek 69.52 334 ⇑P P 08 18 50.7 0.0
baz=70
533A Kerrville 69.59 336 ⇑P P 08 18 51.5 +0.4
baz=70,SNR=5.8
PAE Paea 69.61 262 eT T 08 19 19.5
comp=Z,1.2nm,0.3s
338A Crockett 69.62 339 ⇓P P 08 18 52.1 +0.9
baz=70
337A Centerville 69.75 339 ⇑P P 08 18 53.3 +1.4
baz=70
435B Jarrell 69.77 337 ⇑P P 08 18 53.1 +0.9
baz=70
532A Rocksprings 69.94 335 ⇓P P 08 18 53.6 +0.3
baz=70,SNR=14
434A Burnet 70.02 337 ⇓P P 08 18 53.6 -0.1
baz=70,SNR=14
238A Jacksonville 70.17 340 ⇓P P 08 18 55.1 +0.5
baz=70
335A Moody 70.18 337 ⇑P P 08 18 54.8 +0.1
baz=70
531A Rocksprings 70.20 334 ⇓P P 08 18 54.8 -0.1
baz=70,SNR=5.9
JCT Junction City 70.22 335 eP P 08 18 54.9 -0.1
JCT pmax pmax
comp=Z,19nm,1.0s
JCT Junction City 70.22 335 eP P 08 18 54.9 -0.1
comp=Z,19nm,1.0s
JCT Junction City 70.22 335 ⇑P P 08 18 54.9 -0.1
baz=70,SNR=6.6
433A Art 70.23 336 ⇓P P 08 18 55.2 +0.1
baz=70,SNR=16
237A Washetta, Mont 70.36 339 ⇑P P 08 18 56.3 +0.5
baz=71
530A J-C Ranch, Com 70.47 334 ⇓P P 08 18 56.7 +0.2
baz=71,SNR=9.2
334A Lometa 70.49 337 ⇑P P 08 18 56.6 0.0
baz=71,SNR=9.5
KMSC Kings Mountain 70.50 352 ⇑P P 08 18 56.3 -0.3
baz=71
432A Menard 70.58 335 ⇑P P 08 18 57.1 -0.1
baz=71,SNR=7.3
TXAR Lajitas Array 70.61 331 P P 08 18 58.0 +0.5
TXAR Lajitas Array 70.61 331 P P 08 18 58.0 +0.5
comp=Z,2.6nm,0.7s,baz=152,slow=8.8,SNR=24
431A Sonora 70.69 335 ⇓P P 08 18 57.6 -0.3
baz=71,SNR=6.5
333A Richland Sprin 70.72 336 ⇓P P 08 18 57.6 -0.5
baz=71
529A Stev Forest Ra 70.77 333 ⇑P P 08 18 58.3 -0.1
baz=71,SNR=11
138A Matatall Enter 70.78 340 ⇓P P 08 18 58.5 +0.3
baz=71
WHTX Lake Whitney 70.85 338 eP P 08 18 58.9 +0.1
comp=Z,21nm,0.9s
WHTX Lake Whitney 70.85 338 ⇓P P 08 18 58.7 0.0
baz=71,SNR=7.9
137A Heron Place, G 70.91 339 ⇑P P 08 18 59.1 0.0
baz=71
430A Baggett Ranch, 71.01 334 ⇑P P 08 18 59.6 -0.2
baz=71,SNR=12
332A Millersview 71.03 336 ⇓P P 08 18 59.6 -0.4
baz=71,SNR=8.2
234A Clairette 71.08 337 ⇑P P 08 19 00.1 -0.1
baz=71,SNR=10.0
429A Davenport Ranc 71.10 333 ⇑P P 08 19 00.4 0.0
baz=71,SNR=8.6
331A San Angelo 71.20 335 ⇓P P 08 19 00.7 -0.3
baz=72,SNR=14
SWET Sewanee 71.20 348 eP P 08 19 00.7 -0.2
comp=Z,17nm,0.9s
TKL Tuckaleechee C 71.31 350 P P 08 19 01.0 -0.5
TKL Tuckaleechee C 71.31 350 P P 08 19 01.0 -0.5
comp=Z,4.5nm,0.8s,baz=178,slow=6.6,SNR=6.8
233A Rising Star 71.33 337 ⇑P P 08 19 01.5 -0.2
baz=72,SNR=8.7
232A Coleman 71.46 336 ⇑P P 08 19 02.2 -0.4
baz=72
330A Mertzon 71.55 334 ⇑P P 08 19 02.5 -0.5
baz=72,SNR=6.1
134A White-Moore Ra 71.58 337 ⇑P P 08 19 03.3 +0.1
baz=72
231A Bronte 71.73 335 ⇑P P 08 19 03.8 -0.4
baz=72,SNR=5.7
133A Hamilton Ranch 71.88 337 ⇓P P 08 19 04.6 -0.4
baz=72,SNR=8.5
329A Wagon Wheel Ra 71.91 334 ⇑P P 08 19 05.1 -0.2
baz=72,SNR=9.1
230A Sterling City 71.96 335 ⇑P P 08 19 05.3 -0.3
baz=72
Z35A Perchaven, San 72.03 338 ⇑P P 08 19 05.7 -0.1
baz=72,SNR=9.0
MAW Mawson 72.11 164 LR LR 08 53 01.2
comp=Z,365nm,18.3s,baz=224,slow=38
ABTX Abilene, Hawle 72.14 336 eP P 08 19 06.8 +0.2
comp=Z,29nm,1.0s
ABTX Abilene, Hawle 72.14 336 ⇑P P 08 19 06.2 -0.3
baz=72,SNR=6.7
Z34A Collier Ranch, 72.27 338 ⇓P P 08 19 06.9 -0.4
baz=73,SNR=8.8
229A Bryant Ranch, 72.28 334 ⇓P P 08 19 06.9 -0.6
baz=73
WVT Waverly 72.42 347 eP P 08 19 07.7 -0.4
WVT Waverly 72.42 347 eP P 08 19 07.7 -0.4
131A Roby 72.43 336 ⇑P P 08 19 07.8 -0.5
baz=73
Z33A Whitaker Ranch 72.46 337 ⇑P P 08 19 08.0 -0.4
baz=73,SNR=9.9
130A Snyder 72.56 335 ⇓P P 08 19 08.6 -0.5
baz=73
228A UT Block 9, Go 72.70 334 ⇓P P 08 19 09.8 -0.2
baz=73,SNR=7.3
Z32A Haskell 72.71 337 ⇓P P 08 19 09.6 -0.3
baz=73,SNR=12
JSRW J. Sargeant Re 72.74 356 eP P 08 19 10.4 +0.5
Y34A Reagan Ranch, 72.77 338 ⇑P P 08 19 09.7 -0.5
baz=73,SNR=6.4
129A Stewart Farms, 72.90 334 ⇓P P 08 19 10.5 -0.7
baz=73
Z31A Sharp Cattle R 72.94 336 ⇑P P 08 19 11.1 -0.2
baz=73,SNR=8.8
Y33A Hilltop Ranch, 73.08 338 ⇑P P 08 19 11.6 -0.5
baz=73,SNR=7.8
128A Castleberry Fa 73.11 334 ⇓P P 08 19 12.2 -0.2
baz=73,SNR=7.5
Z30A Sanderson Ranc 73.24 335 ⇓P P 08 19 12.5 -0.6
baz=74,SNR=5.7
Y32A R-V Farms, Ver 73.34 337 ⇓P P 08 19 13.6 -0.1
baz=74,SNR=5.8
MNTX Cornudas Mount 73.38 331 eP P 08 19 13.1 -0.9
comp=Z,5.5nm,1.1s
X34A Smith Ranch, M 73.39 338 ⇓P P 08 19 13.8 -0.1
baz=74,SNR=6.3
Z29A Hungry Hill Ra 73.42 335 ⇓P P 08 19 14.0 -0.2
baz=74,SNR=14
127A Arkansas Junct 73.48 333 ⇓P P 08 19 14.3 -0.4
baz=74
X33A Lawton 73.54 338 ⇑P P 08 19 14.0 -0.8
baz=74
PBMO Poplar Bluff 73.56 345 eP P 08 19 14.5 -0.3
comp=Z,22nm,1.2s
Y31A Rekieta Farm, 73.57 336 ⇓P P 08 19 14.9 -0.1
baz=74,SNR=7.0
X32A Elmer 73.67 337 ⇑P P 08 19 15.3 -0.3
baz=74
Z28A Tucker Farm, M 73.68 334 ⇑P P 08 19 15.2 -0.6
baz=74,SNR=5.6
Y29A Porterfield Fa 73.95 335 ⇑P P 08 19 16.9 -0.4
baz=74,SNR=6.4
W34A Bridge Creek, 73.96 339 eP P 08 19 17.4 +0.1
comp=Z,37nm,1.4s
W34A Bridge Creek, 73.96 339 ⇓P P 08 19 16.9 -0.4
baz=74
Z27A Tatum 74.00 334 ⇑P P 08 19 17.2 -0.5
baz=74
TUL1 Tulsa 74.03 341 eP P 08 19 17.0 -0.6
comp=Z,15nm,0.8s
TUL1 Tulsa 74.03 341 ⇓P P 08 19 17.0 -0.6
baz=74,SNR=7.1
X31A McDonald Ranch 74.09 337 ⇑P P 08 19 18.1 +0.1
baz=74,SNR=8.8
W33A Caddo, Fort Co 74.09 338 ⇓P P 08 19 18.3 +0.2
baz=74,SNR=12
USIN University of 74.17 348 eP P 08 19 17.8 -0.6
comp=Z,31nm,1.0s
Y28A McKinney Farm, 74.19 335 ⇑P P 08 19 18.7 -0.1
baz=74
X30A Coker Ranch, T 74.21 336 ⇓P P 08 19 18.9 +0.1
baz=74
SIUC Southern Illin 74.22 346 eP P 08 19 18.4 -0.3
comp=Z,16nm,0.9s
Z26A Caprock 74.25 333 ⇑P P 08 19 19.0 -0.1
baz=75,SNR=24
W32A Sentinel 74.31 338 ⇑P P 08 19 19.4 +0.1
baz=75,SNR=15
MSTX Muleshoe 74.43 334 eP P 08 19 20.3 +0.1
comp=Z,16nm,0.9s
MSTX Muleshoe 74.43 334 ⇓P P 08 19 20.1 -0.1
baz=75,SNR=6.9
V34A Guthrie 74.44 339 eP P 08 19 20.0 -0.1
comp=Z,28nm,1.2s
V34A Guthrie 74.44 339 ⇑P P 08 19 18.7 -1.4
baz=75
X29A Tulia 74.49 335 ⇑P P 08 19 20.2 -0.3
baz=75,SNR=5.3
Y27A Causey 74.50 334 ⇓P P 08 19 20.2 -0.4
baz=75
Z25A Roswell 74.53 332 ⇑P P 08 19 20.6 -0.2
baz=75,SNR=5.7
W31A Holland Ranch, 74.58 337 ⇑P P 08 19 20.7 -0.2
baz=75
V33A Lossen Ranch, 74.66 339 ⇓P P 08 19 21.3 0.0
baz=75,SNR=9.3
319A Douglas 74.72 328 ⇓P P 08 19 22.2 +0.2
baz=75
X28A Dimmitt 74.73 335 ⇑P P 08 19 22.0 +0.2
baz=75
Y26A Elida 74.77 333 ⇑P P 08 19 22.5 +0.3
baz=75
V32A Arapaho 74.80 338 ⇓P P 08 19 22.8 +0.7
baz=75
Z24A Sheeppen Canyo 74.82 332 ⇓P P 08 19 22.9 +0.4
baz=75,SNR=10
AMTX Amarillo 74.88 336 eP P 08 19 23.1 +0.3
comp=Z,31nm,1.1s
AMTX Amarillo 74.88 336 ⇑P P 08 19 23.3 +0.6
baz=75
U34A Anderson Ranch 75.01 339 eP P 08 19 23.4 +0.1
comp=Z,28nm,1.3s
U34A Anderson Ranch 75.01 339 ⇓P P 08 19 23.7 +0.4
baz=75
121A Cookes Peak, D 75.09 330 eP P 08 19 25.1 +1.0
comp=Z,12nm,1.2s
121A Cookes Peak, D 75.09 330 ⇓P P 08 19 25.1 +1.0
baz=75
W29A Amraillo 75.09 336 ⇓P P 08 19 24.1 +0.2
baz=75,SNR=7.9
Y25A Mesa, Roswell 75.09 333 ⇑P P 08 19 24.3 +0.2
baz=75
V31A Spring Creek L 75.09 337 ⇓P P 08 19 24.7 +0.8
baz=75
X27A F and S Farms, 75.16 334 ⇓P P 08 19 24.9 +0.5
baz=76
BLO Bloomington 75.16 349 eP P 08 19 23.4 -0.7
BLO pmax pmax
comp=Z,61nm,1.7s
BLO Bloomington 75.16 349 eP P 08 19 23.4 -0.7
comp=Z,61nm,1.7s
U33A Lingo Farm, Me 75.17 339 ⇑P P 08 19 24.5 +0.2
baz=76
X26A CR and CF Fran 75.33 334 ⇑P P 08 19 25.9 +0.5
baz=76,SNR=7.7
V30A Spur Ranch, Mi 75.35 337 ⇑P P 08 19 26.8 +1.4
baz=76
Y24A Capitan 75.38 332 ⇑P P 08 19 25.9 +0.1
baz=76,SNR=11
Z22A Elephant Butte 75.38 331 ⇓P P 08 19 26.4 +0.6
baz=76,SNR=6.8
U32A Winter Ranch, 75.39 338 ⇓P P 08 19 26.0 +0.5
baz=76
W28A Vega 75.40 335 ⇑P P 08 19 26.7 +0.9
baz=76
W27A Bowe Ranch, En 75.52 335 ⇑P P 08 19 26.5 0.0
baz=76,SNR=8.7
LIC Lamto 75.57 72 eP P 08 19 27.5 +0.4
comp=Z,60nm,1.3s
X25A Clemmons Ranch 75.62 333 ⇑P P 08 19 27.4 +0.3
baz=76
Y23A Lovelace Mesa, 75.62 332 ⇑P P 08 19 28.0 +0.9
baz=76
U31A Nine Bar Ranch 75.64 338 ⇑P P 08 19 27.5 +0.4
baz=76
ACSO Alum Creek Sta 75.72 352 eP P 08 19 27.0 -0.3
comp=Z,27nm,0.8s
W26A Owens Ranch, T 75.80 334 ⇑P P 08 19 28.2 +0.1
baz=76,SNR=7.7
T33A Patterson Ranc 75.82 339 ⇓P P 08 19 29.0 +1.0
baz=76
TIC Toumodi 75.84 71 eP P 08 19 29.1 +0.4
comp=Z,7.0nm,0.2s
V28A Channing 75.85 335 ⇑P P 08 19 28.9 +0.6
baz=76,SNR=6.1
KIC Kosan Boka 75.88 72 eP P 08 19 29.3 +0.4
comp=Z,47nm,0.9s
X24A Lazy VL Ranch, 75.94 332 ⇓P P 08 19 29.6 +0.6
baz=76
DBIC Dimbokro 75.98 71 P P 08 19 30.1 +0.6
comp=Z,16nm,0.8s,baz=203,slow=5.0,SNR=20
U30A WK&E Inc. Balk 76.04 337 ⇓P P 08 19 30.0 +0.6
baz=76,SNR=5.0
V27A Dan Oppiter Fa 76.07 335 ⇑P P 08 19 30.1 +0.5
baz=76
T32A Huddler Ranch, 76.11 339 ⇓P P 08 19 30.2 +0.6
baz=76
W25A X Bar L Ranch, 76.16 334 ⇓P P 08 19 30.0 -0.2
baz=76,SNR=8.6
TUC Tucson 76.18 327 eP P 08 19 31.3 +1.1
TUC pmax pmax
comp=Z,19nm,1.5s
TUC Tucson 76.18 327 eP P 08 19 31.3 +1.1
comp=Z,19nm,1.5s
X23A Hourglass Bar 76.24 332 ⇓P P 08 19 31.3 +0.6
baz=77,SNR=9.4
T31A Randall Ranch, 76.26 338 ⇑P P 08 19 31.2 +0.7
baz=77
U28A Mallet 76.42 336 ⇓P P 08 19 31.7 +0.2
baz=77
V26A Tequesquite Ra 76.44 334 ⇑P P 08 19 31.9 +0.2

baz=77
LAZ Ladron 76.46 331 eP P 08 19 33.1 +1.2
comp=Z,8.9nm,1.5s
W24A Lazy 6 Ranch, 76.50 333 ⇓P P 08 19 32.3 +0.1
baz=77,SNR=7.4
S32A Newby Ranch, P 76.59 339 ⇑P P 08 19 32.7 +0.3
baz=77
U27A Thompson Grove 76.67 335 ⇓P P 08 19 33.5 +0.5
baz=77
ANMO Albuquerque 76.67 332 eP P 08 19 33.8 +0.7
ANMO pmax pmax
comp=Z,14nm,1.1s
ANMO Albuquerque 76.67 332 eP P 08 19 33.8 +0.7
comp=Z,14nm,1.1s
S31A Mullinville 76.68 338 ⇑P P 08 19 33.9 +0.9
baz=77
W23A Werner Place, 76.74 332 ⇑P P 08 19 33.9 +0.3
baz=77,SNR=8.8
V25A Rancho No Teng 76.77 334 ⇑P P 08 19 33.8 +0.2
baz=77,SNR=9.5
T29A Hugoton 76.82 337 ⇓P P 08 19 34.5 +0.7
baz=77
R33A Olander Ranch, 76.88 340 ⇑P P 08 19 34.2 +0.2
baz=77
V24A Rampart Ranch, 76.91 333 ⇑P P 08 19 34.8 +0.3
baz=77,SNR=5.5
U26A Atchley Ranch, 76.96 335 ⇑P P 08 19 35.0 +0.3
baz=77
S30A Montezuma 77.00 338 ⇓P P 08 19 35.1 +0.4
baz=77
T28A Walsh 77.06 336 ⇓P P 08 19 35.0 -0.2
baz=77,SNR=15
S29A Ulysses 77.19 337 ⇓P P 08 19 36.2 +0.4
baz=78
R32A Long Quarter, 77.20 339 ⇑P P 08 19 35.9 +0.1
baz=78,SNR=7.7
U25A Circle Dot Ran 77.20 334 ⇓P P 08 19 36.0 -0.1
baz=78,SNR=10
T27A Campo 77.21 336 ⇓P P 08 19 36.0 0.0
baz=78,SNR=8.8
KSU1 Kansas State U 77.24 341 ⇑P P 08 19 36.0 0.0
baz=78
V23A Ortiz Mt. (NFS 77.27 332 ⇑P P 08 19 37.0 +0.5
baz=78
R31A Burdett 77.31 339 ⇑P P 08 19 36.9 +0.4
baz=78
S28A Manter 77.42 336 ⇑P P 08 19 37.3 +0.2
baz=78,SNR=13
Q33A Connelly Farm, 77.48 340 ⇑P P 08 19 37.5 +0.1
baz=78
U24A Moreno Valley 77.52 333 ⇑P P 08 19 38.9 +0.9
baz=78
R30A Dighton 77.54 338 ⇑P P 08 19 38.1 +0.4
baz=78
T26A Comanche Natio 77.61 335 ⇓P P 08 19 38.5 +0.2
baz=78
Q32A Meitler Ranch, 77.68 340 ⇑P P 08 19 38.8 +0.4
baz=78
V22A San Miguel Ran 77.69 332 ⇓P P 08 19 40.2 +1.3
baz=78,SNR=17
X18A Snowflake 77.71 329 ⇓P P 08 19 39.8 +0.8
baz=78
U23A El Rito 77.79 333 ⇓P P 08 19 40.4 +1.0
baz=78,SNR=10.0
P33A Williams Farm, 77.85 340 ⇑P P 08 19 39.3 -0.1
baz=78
T25A Trinidad 77.86 334 ⇓P P 08 19 40.8 +1.0
baz=78,SNR=5.4
R29A Marienthal 77.93 337 ⇑P P 08 19 40.6 +0.6
baz=78
Q31A Ellis 77.94 339 ⇓P P 08 19 40.4 +0.4
baz=78,SNR=5.4
S26A Kim 77.97 335 ⇑P P 08 19 40.9 +0.6
baz=78,SNR=16
R28A Tribune 78.07 337 ⇓P P 08 19 41.0 +0.2
baz=78,SNR=8.0
U22A Llaves 78.08 332 ⇓P P 08 19 42.1 +1.1
baz=78,SNR=6.1
W18A Petrified Fore 78.13 330 ⇓P P 08 19 42.3 +1.1
baz=78
T24B San Luis 78.14 334 ⇑P P 08 19 42.3 +0.9
baz=78,SNR=8.0
Q30A Quinter 78.16 338 ⇑P P 08 19 41.6 +0.4
baz=78,SNR=8.1
X16A Lo Mia Camp, P 78.25 328 ⇓P P 08 19 43.1 +1.2
baz=79,SNR=8.2
P32A Huiting Farm, 78.28 340 ⇓P P 08 19 42.1 +0.4
baz=79
Q29A Oakley 78.31 338 ⇓P P 08 19 42.7 +0.6
baz=79
S25A Robets Cordova 78.34 335 ⇓P P 08 19 42.8 +0.4
baz=79
R27A Eads 78.34 336 ⇓P P 08 19 42.5 +0.2
baz=79,SNR=13
T23A Casias Ranch, 78.36 333 ⇓P P 08 19 43.1 +0.5
baz=79
P31A Stockton 78.41 339 ⇑P P 08 19 43.2 +0.7
baz=79
Y14A Wickenburg 78.54 327 ⇑P P 08 19 43.9 +0.5
baz=79
R26A Arlington 78.57 336 ⇑P P 08 19 44.2 +0.7
baz=79,SNR=13
S24A Houchin Ranch, 78.59 334 ⇓P P 08 19 44.9 +1.0
baz=79,SNR=13
R25A Fountain Ranch 78.72 335 ⇑P P 08 19 45.1 +0.7
baz=79
Q28A Sharon Springs 78.73 337 ⇑P P 08 19 45.1 +0.7
baz=79
O32A Brockman Farm, 78.78 340 ⇑P P 08 19 45.1 +0.6
baz=79
SDCO Great Sand Dun 78.79 334 eP P 08 19 45.2 +0.2
comp=Z,4.8nm,0.9s
MDV Middlebury 78.87 360 eP P 08 19 44.9 0.0
S23A Nye Farm, Mont 78.94 334 ⇓P P 08 19 46.2 +0.4
baz=79
KSCO Kaye Shedlock' 78.94 337 eP P 08 19 46.5 +1.0
comp=Z,22nm,1.2s
KSCO Kaye Shedlock' 78.94 337 ⇓P P 08 19 46.1 +0.5
baz=79
P29A Atwood 78.95 338 ⇑P P 08 19 46.3 +0.8
baz=79
O31A Woolen Ranch, 78.98 339 ⇑P P 08 19 46.5 +0.8
baz=79
Y12C Blythe 79.08 325 ⇑P P 08 19 47.3 +1.0
baz=79
R24A Sanders Place, 79.08 334 ⇓P P 08 19 47.2 +0.8
baz=79,SNR=16
Q26A Hugo 79.16 336 ⇓P P 08 19 47.3 +0.5
baz=80,SNR=6.0
WUAZ Wupatki 79.16 329 eP P 08 19 48.2 +1.3
comp=Z,15nm,1.0s
WUAZ Wupatki 79.16 329 ⇓P P 08 19 47.7 +0.8
baz=80,SNR=8.0
P28A Saint Francis 79.18 337 ⇓P P 08 19 47.5 +0.7
baz=80
O30A MW Ranch, Wils 79.22 339 ⇓P P 08 19 47.6 +0.7
baz=80
S22A 4UR Ranch, Cre 79.28 333 ⇑P P 08 19 48.3 +0.6
baz=80,SNR=5.3
TSUM Tsumeb 79.29 106 eP P 08 19 48.6 +0.6
comp=Z,14nm,1.4s
R23A Moffat 79.30 334 ⇑P P 08 19 48.1 +0.3
baz=80,SNR=7.4
Q25A Bedland, Calha 79.40 335 ⇑P P 08 19 48.3 +0.2
baz=80,SNR=6.8
P27A Ficken Ranch, 79.42 337 ⇑P P 08 19 49.2 +1.0
baz=80
BC3 Big Chuckawall 79.44 325 ⇓P P 08 19 49.2 +0.8
baz=80
MVCO Mesa Verde 79.44 332 eP P 08 19 49.4 +0.8
comp=Z,18nm,1.1s
MVCO Mesa Verde 79.44 332 ⇓P P 08 19 49.1 +0.5
baz=80,SNR=7.5
LONY Lake Ozonia 79.51 359 eP P 08 19 48.9 +0.5
comp=Z,120nm,2.3s
P26A Davis Ranch, A 79.68 336 ⇓P P 08 19 50.2 +0.6
baz=80
O28A Krutsinger Ran 79.69 338 ⇑P P 08 19 49.9 +0.4
baz=80,SNR=5.7
IRM Iron Mountain 79.71 325 ⇑P P 08 19 50.3 +0.5
baz=80
Q24A Divide 79.75 335 ⇓P P 08 19 50.6 +0.4
baz=80,SNR=7.7
BGNE Belgrade 79.82 341 ⇑P P 08 19 50.6 +0.5
baz=80
BOSA Boshof 79.87 118 eP P 08 19 51.4 +0.3
BOSA pmax pmax
comp=Z,13nm,0.9s
BOSA Boshof 79.87 118 P P 08 19 51.9 +0.8
comp=Z,12nm,0.9s,baz=233,slow=5.3,SNR=12
BOSA Boshof 79.87 118 eP P 08 19 51.4 +0.3
comp=Z,13nm,0.9s
PFO Pinyon Flat Ob 79.88 324 ⇓P P 08 19 51.3 +0.5
baz=80
P25A Willow Gulch B 79.91 336 ⇑P P 08 19 51.5 +0.6
baz=80,SNR=14
W13A Hualapai Mount 79.91 327 ⇓P P 08 19 52.0 +0.9
baz=80
O27A Beecher Island 79.97 337 ⇑P P 08 19 51.9 +0.8
baz=80
N29A Votaw Ranch, W 79.97 339 ⇓P P 08 19 52.0 +0.9
baz=80
BELC Belle Mtn. Jos 79.98 325 ⇓P P 08 19 51.7 +0.4
baz=80
M31A Lambtecht Ranc 79.98 340 ⇑P P 08 19 51.8 +0.7
baz=80
N28A Pribbeno Ranch 80.13 338 ⇓P P 08 19 52.5 +0.6
baz=80
P24A Kohler Place, 80.16 335 ⇓P P 08 19 52.8 +0.5
baz=80
PV01 Paradox Valley 80.28 332 eP P 08 19 53.4 +0.4
comp=Z,752nm,1.0s
O26A Horse Wrangler 80.28 337 ⇑P P 08 19 53.4 +0.5
baz=81,SNR=7.3
U15A North Rim 80.33 328 ⇓P P 08 19 54.0 +0.7
baz=81,SNR=9.0
P23A Jefferson 80.36 334 ⇑P P 08 19 54.3 +0.7
baz=81
SCI San Clemente I 80.40 322 ⇓P P 08 19 53.6 +0.1
baz=81
O25A Wiggins 80.43 336 ⇑P P 08 19 54.7 +1.0
baz=81
OGNE Ogallala 80.51 338 ⇑P P 08 19 54.6 +0.6
baz=81
N27A Anderson Farm, 80.55 337 ⇑P P 08 19 54.5 +0.3
baz=81,SNR=5.1
M29A Burnside Ranch 80.57 339 ⇑P P 08 19 54.9 +0.6
baz=81
SMCO Snowmass 80.59 334 eP P 08 19 56.1 +1.2
comp=Z,12nm,0.9s
PV04 Paradox Valley 80.63 332 eP P 08 19 56.1 +1.2
ISCO Idaho Springs 80.66 335 eP P 08 19 55.9 +0.8
ISCO pmax pmax
comp=Z,5.0nm,0.9s
ISCO Idaho Springs 80.66 335 eP P 08 19 55.9 +0.8
comp=Z,5.4nm,0.9s
ISCO Idaho Springs 80.66 335 ⇑P P 08 19 55.5 +0.4
baz=81,SNR=6.9
L31A Butterfield Fa 80.72 341 ⇓P P 08 19 55.3 +0.3
baz=81,SNR=10
L30A Spencer Herefo 80.75 340 ⇑P P 08 19 56.1 +0.9
baz=81
P22A Eagle 80.88 334 ⇓P P 08 19 57.0 +0.8
baz=81
TUQ Turquoise Moun 81.12 325 ⇓P P 08 19 58.7 +1.3
baz=81
O23A Lake Granby, G 81.13 335 ⇑P P 08 19 58.2 +0.6
baz=82,SNR=12
O22A Kremmling 81.31 334 ⇑P P 08 19 58.8 +0.2
baz=82,SNR=8.4
N24A Carr 81.33 336 ⇑P P 08 19 59.4 +0.9
baz=82
K30A Basset 81.39 340 ⇑P P 08 19 59.0 +0.4
baz=82,SNR=10
GSC Goldstone 81.42 325 ⇓P P 08 19 59.4 +0.4
baz=82
ECSD EROS Data Cent 81.60 343 eP P 08 19 59.2 -0.5
comp=Z,28nm,0.9s
ECSD EROS Data Cent 81.60 343 ⇑P P 08 19 59.1 -0.5
baz=82,SNR=21
SHPR Sheep Range 81.65 327 eP P 08 20 01.5 +1.2
K29A Lazy Trails An 81.67 340 ⇓P P 08 20 00.1 0.0
baz=82,SNR=5.8
CCUT Cedar City 81.73 328 eP P 08 20 02.5 +1.7
comp=Z,13nm,1.0s
N23A Red Feather La 81.75 335 ⇑P P 08 20 01.1 +0.3
baz=82,SNR=6.3
OSI Osito Adit 81.79 323 ⇓P P 08 20 01.9 +0.9
baz=82
N22A Wattenberg Ran 81.84 335 ⇓P P 08 20 01.7 +0.4
baz=82,SNR=8.4
M24A Cheyenne 81.88 336 ⇓P P 08 20 01.8 +0.4
baz=82
SRU San Rafael 81.89 331 eP P 08 20 02.1 +0.6
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael 81.89 331 eP P 08 20 02.1 +0.6
comp=Z,7.1nm,0.8s
O20A White River Ci 81.90 333 eP P 08 20 02.3 +0.8
O20A White River Ci 81.90 333 ⇑P P 08 20 01.9 +0.3
baz=82
K28A Ten Mile Ranch 81.93 339 ⇑P P 08 20 01.7 +0.2
baz=82,SNR=6.8
PHWY Pilot Hill 81.95 336 eP P 08 20 02.5 +0.6
comp=Z,14nm,1.2s
ARUT Antelope Range 81.96 328 eP P 08 20 03.2 +1.3
ARUT Antelope Range 81.96 328 eP P 08 20 03.2 +1.3
comp=Z,200nm,1.2s
J30A Dallas 81.96 340 ⇓P P 08 20 01.4 -0.2
baz=82,SNR=5.6
MVU Marysvale 82.05 330 eP P 08 20 03.5 +1.1
comp=Z,5.6nm,0.8s
SPMN St. Paul 82.17 346 eP P 08 20 02.0 -0.5
comp=Z,8.8nm,0.8s
SPMN St. Paul 82.17 346 ⇓P P 08 20 02.1 -0.5
baz=82
LBTB Lobatse 82.17 115 eP P 08 20 04.2 +0.8
LBTB pmax pmax
comp=Z,8.0nm,0.8s
LBTB Lobatse 82.17 115 eP P 08 20 04.2 +0.8
comp=Z,7.9nm,0.8s
K27A Flueckinger Fa 82.18 338 ⇓P P 08 20 03.1 +0.3
baz=82
M23A Laramie 82.18 335 ⇑P P 08 20 03.3 +0.2
baz=82
L25A Engebretsen Ra 82.22 337 ⇓P P 08 20 03.2 +0.1
baz=82
J29A Okreek 82.27 340 ⇑P P 08 20 03.4 +0.2
baz=83,SNR=15
TMUT Trail Mountain 82.32 331 eP P 08 20 04.9 +1.0
comp=Z,12nm,1.2s
FURC Furnace Creek, 82.40 325 ⇓P P 08 20 04.7 +0.7
baz=83
M22A Cedar Creek Ra 82.43 335 ⇓P P 08 20 04.0 -0.3
baz=83
I30A Oacoma 82.49 341 ⇓P P 08 20 03.8 -0.5
baz=83,SNR=6.9
URZ Urewera 82.51 228 P P 08 20 05.6 +0.8
comp=Z,5.0nm,0.7s,baz=179,slow=21,SNR=3.6
ISA Isabella 82.51 324 eP P 08 20 06.2 +1.5
ISA pmax pmax
comp=Z,9.0nm,1.1s
ISA Isabella 82.51 324 eP P 08 20 06.2 +1.5
comp=Z,8.8nm,1.1s
ISA Isabella 82.51 324 ⇓P P 08 20 05.1 +0.4
baz=83
N20A Spence Gulch, 82.52 333 ⇑P P 08 20 05.2 +0.4
baz=83
J28A Allard Ranch, 82.54 339 ⇑P P 08 20 05.0 +0.4
baz=83,SNR=7.9
K25A Mack Ranch, Ha 82.60 337 ⇑P P 08 20 05.7 +0.6
baz=83
J27A Elkhorn Farm, 82.61 339 ⇑P P 08 20 05.8 +0.7
baz=83,SNR=11
L23A Garrett 82.75 336 ⇓P P 08 20 06.1 +0.1
baz=83
I29A Vivian Onida 82.83 340 ⇑P P 08 20 05.9 -0.2
baz=83,SNR=5.8
BRSD Miller 82.86 341 eP P 08 20 06.0 -0.2
comp=Z,26nm,1.0s
BRSD Miller 82.86 341 ⇓P P 08 20 06.2 0.0
baz=83,SNR=5.3
L22A Ellis Ranch, M 82.93 335 ⇓P P 08 20 07.0 +0.1
baz=83
VES Vestal, Richgr 82.95 324 ⇑P P 08 20 07.3 +0.4
baz=83
J26A Sides Ranch, S 82.99 338 ⇓P P 08 20 07.7 +0.7
baz=83
K24A Anderson Ranch 83.00 337 ⇓P P 08 20 07.9 +0.7
baz=83
I28A Midland 83.05 340 ⇓P P 08 20 07.3 0.0
baz=83,SNR=14
GRAC Grapevine Rang 83.07 325 ⇑P P 08 20 08.1 +0.6
baz=83
MPU Maple Canyon 83.10 331 eP P 08 20 08.6 +0.8
comp=Z,11nm,1.0s
NLU North Lily Min 83.23 330 eP P 08 20 09.6 +1.1
comp=Z,35nm,1.9s
J25A Sunshine Ranch 83.28 338 ⇑P P 08 20 09.5 +0.9
baz=84
DAU Daniels Canyon 83.29 331 eP P 08 20 09.9 +0.9
DAU Daniels Canyon 83.29 331 eP P 08 20 09.9 +0.9
K23A Bowen Ranch, D 83.30 336 ⇓P P 08 20 08.7 -0.1
baz=84,SNR=5.4
H29A Onida 83.36 341 ⇓P P 08 20 08.5 -0.3
baz=84,SNR=7.5
R11A Troy Canyon, C 83.36 327 eP P 08 20 10.6 +1.4
R11A Troy Canyon, C 83.36 327 ⇑P P 08 20 09.8 +0.6
baz=84
I27A Quinn 83.37 339 ⇑P P 08 20 09.3 +0.4
baz=84
RCTC Rector, Farmer 83.40 324 ⇑P P 08 20 09.3 +0.1
baz=84
J24A Dixon Ranch, L 83.50 337 ⇑P P 08 20 10.1 +0.4
baz=84
K22A Casper 83.51 335 eP P 08 20 10.4 +0.6
K22A Casper 83.51 335 ⇑P P 08 20 09.8 0.0
baz=84,SNR=8.1
JLU Jordanelle 83.53 331 eP P 08 20 10.8 +0.7
comp=Z,6.9nm,0.8s
G30A Faulkton 83.55 341 ⇑P P 08 20 09.8 +0.1
baz=84,SNR=7.8
I26A New Underwood 83.58 339 ⇓P P 08 20 10.2 +0.2
baz=84
H28A Mission Ridge 83.63 340 ⇓P P 08 20 10.1 -0.1
baz=84,SNR=9.2
CTU Camp Tracy 83.72 331 eP P 08 20 11.8 +0.8
comp=Z,4.9nm,0.8s
DUG Dugway 83.73 330 eP P 08 20 12.0 +1.0
DUG pmax pmax
comp=Z,20nm,1.3s
DUG Dugway 83.73 330 eP P 08 20 12.0 +1.0
comp=Z,20nm,1.3s
DUG Dugway 83.73 330 ⇑P P 08 20 11.2 +0.2
baz=84,SNR=11
K21A Alcova 83.74 335 ⇓P P 08 20 11.2 +0.1
baz=84,SNR=12
G29A Hoven 83.81 341 ⇓P P 08 20 11.0 -0.1
baz=84,SNR=6.3
I25A Rochford 83.83 338 ⇑P P 08 20 11.4 -0.1
baz=84,SNR=6.8
TPH Tonopah 83.88 326 eP P 08 20 13.0 +1.1
TPH Tonopah 83.88 326 eP P 08 20 13.0 +1.1
H27A Howes 83.89 339 ⇓P P 08 20 11.2 -0.4
baz=84,SNR=8.1
I24A Kuemmerle Ranc 83.97 337 ⇑P P 08 20 11.8 -0.3
baz=84
G28A Parade 83.97 340 ⇑P P 08 20 12.0 0.0
baz=84,SNR=7.1
RSSD Black Hills 84.02 338 eP P 08 20 12.3 -0.2
RSSD pmax pmax
comp=Z,7.0nm,1.0s
RSSD Black Hills 84.02 338 eP P 08 20 12.3 -0.2
comp=Z,7.0nm,1.0s
J22A Midwest 84.17 336 ⇓P P 08 20 12.5 -0.7
baz=84
F30A Leola 84.17 342 ⇑P P 08 20 12.9 -0.1
baz=84,SNR=7.3
H25A Fruitdale 84.33 338 ⇑P P 08 20 13.7 -0.2
baz=85
F29A Eureka 84.38 341 ⇑P P 08 20 13.7 -0.3
baz=85,SNR=8.7
HWUT Hardware Ranch 84.43 332 eP P 08 20 14.2 -0.4
comp=Z,15nm,1.0s
BGU Big Grassy Mou 84.44 330 eP P 08 20 14.9 +0.3
comp=Z,5.8nm,1.4s
J21A Lysite 84.44 335 ⇓P P 08 20 14.8 +0.2
baz=85
EYMN Ely 84.53 347 eP P 08 20 14.7 0.0
comp=Z,14nm,1.0s
G27A Dupree 84.53 340 ⇓P P 08 20 14.8 0.0
baz=85
I22A 9 Mile Ranch, 84.60 336 ⇓P P 08 20 14.7 -0.6
baz=85,SNR=6.2
G26A Maurine 84.65 339 ⇓P P 08 20 15.0 -0.4
baz=85,SNR=6.7
F28A McLaughlin 84.65 341 ⇑P P 08 20 15.3 -0.1
baz=85,SNR=7.2
NVAR Mina Array Bea 84.66 326 P P 08 20 16.1 +0.3
comp=Z,3.5nm,0.9s,baz=156,slow=5.9,SNR=14
J20A Shoshoni 84.67 335 ⇑P P 08 20 15.7 0.0
baz=85
PDAR Pinedale Array 84.68 334 P P 08 20 15.7 -0.2
comp=Z,1.6nm,0.7s,baz=146,slow=4.4,SNR=14
H24A Dirks Ranch, A 84.74 338 ⇓P P 08 20 15.3 -0.6
baz=85,SNR=6.3
E30A Jud 84.76 342 ⇑P P 08 20 15.7 -0.2
baz=85,SNR=6.0
I21A Big Trails, Te 84.80 336 ⇓P P 08 20 15.9 -0.5
baz=85,SNR=12
G25A Newell 84.80 339 ⇓P P 08 20 16.0 -0.2
baz=85,SNR=9.5
J19A Crowheart 84.93 334 ⇓P P 08 20 17.0 0.0
baz=85,SNR=11
E29A Napoleon 85.01 342 ⇓P P 08 20 17.1 -0.1
baz=85
F27A Lemmon 85.01 340 ⇓P P 08 20 17.2 0.0
baz=85,SNR=8.3
TOA0 Torodi Ar. Sit 85.03 70 eP P 08 20 18.5 +0.5
TORD Torodi Ar. Bea 85.03 70 P P 08 20 18.4 +0.4
comp=Z,8.1nm,0.8s,baz=256,slow=4.1,SNR=47
HVU Hansel Valley 85.06 331 eP P 08 20 17.9 +0.2
HVU pmax pmax
comp=Z,10.0nm,0.8s
HVU Hansel Valley 85.06 331 eP P 08 20 17.9 +0.2
comp=Z,10.0nm,0.8s
H22A Clearmont 85.18 336 ⇓P P 08 20 17.9 -0.3
baz=86
F26A Lodgepole 85.18 339 ⇓P P 08 20 17.9 -0.2
baz=86
ELK Elko 85.20 329 eP P 08 20 18.8 +0.3
ELK pmax pmax
comp=Z,9.0nm,1.2s
ELK Elko 85.20 329 eP P 08 20 18.8 +0.3
comp=Z,9.1nm,1.2s
I20A Worland 85.20 335 ⇓P P 08 20 18.1 -0.2
baz=86,SNR=12
G24A Alzada 85.22 338 ⇓P P 08 20 18.1 -0.2
baz=86
D30A Buchanan 85.29 342 ⇑P P 08 20 18.3 -0.2
baz=86,SNR=12
E28A Huff 85.29 341 ⇑P P 08 20 18.6 0.0
baz=86
E27A Carson 85.39 340 ⇓P P 08 20 19.1 0.0
baz=86
G23A Biddle 85.41 337 ⇓P P 08 20 18.9 -0.4
baz=86,SNR=6.0
H21A Big Horn, Sher 85.43 336 ⇓P P 08 20 18.8 -0.7
baz=86,SNR=5.1
D29A Pettibone, Tap 85.45 342 ⇑P P 08 20 18.8 -0.6
baz=86,SNR=6.0
F25A Bowman 85.47 339 ⇓P P 08 20 19.5 -0.1
baz=86
I19A Meeteetse 85.58 335 ⇓P P 08 20 20.0 -0.3
baz=86
H20A Greybull 85.63 335 ⇓P P 08 20 20.0 -0.4
baz=86,SNR=14
REDW Red Top Meadow 85.67 333 eP P 08 20 21.0 +0.2
E26A Carlson Angus 85.68 340 ⇑P P 08 20 20.6 +0.1
baz=86
F24A Ekalaka 85.70 338 ⇑P P 08 20 20.6 -0.1
baz=86
G22A Birney 85.71 337 ⇑P P 08 20 20.5 -0.3
baz=86
AGMN Agassiz Nation 85.73 345 eP P 08 20 20.6 -0.1
comp=Z,7.7nm,0.8s
AGMN Agassiz Nation 85.73 345 ⇑P P 08 20 20.2 -0.5
baz=86,SNR=5.4
C30A Mose, Pekin 85.78 343 ⇓P P 08 20 21.0 +0.1
baz=86,SNR=16
LOHW Long Hollow 85.79 333 eP P 08 20 21.5 +0.1
comp=Z,9.6nm,1.3s
TPAW Teton Pass 85.81 333 eP P 08 20 21.8 +0.3
comp=Z,10nm,1.0s
D28A Regan 85.83 341 ⇓P P 08 20 21.4 +0.1
baz=86,SNR=6.6
F23A Volborg 85.88 338 ⇑P P 08 20 21.0 -0.6
baz=86,SNR=10
FXWY Fox Creek 85.97 333 eP P 08 20 22.4 +0.1
comp=Z,3.3nm,1.0s
E25A Miller Ranch, 85.98 339 ⇑P P 08 20 21.9 -0.2
baz=86,SNR=5.5
D27A Center 86.01 341 ⇑P P 08 20 22.4 +0.2
baz=86

G21A	Lodge Grass	86.02	336	⇑P	P	08 20 22.4	+0.1
	baz=86						
I17A	Pilgrim Ck.	86.05	334	⇑P	P	08 20 22.5	-0.1
	baz=86,SNR=10						
H19A	Powell	86.13	335	⇑P	P	08 20 22.7	-0.2
	baz=86,SNR=10.0						
IMW	Indian Meadow	86.16	333	eP	P	08 20 23.6	+0.3
D26A	Manning	86.19	340	⇓P	P	08 20 23.1	+0.1
	baz=86,SNR=10.0						
F22A	Rosebud	86.20	337	⇓P	P	08 20 22.9	-0.2
	baz=86,SNR=8.2						
FLWY	Flagg Ranch	86.23	334	eP	P	08 20 24.1	+0.6
C28A	Hausauer Farms	86.27	342	⇓P	P	08 20 23.3	-0.1
	baz=87						
E24A	Baker	86.30	339	⇑P	P	08 20 23.7	0.0
	baz=87,SNR=6.1						
G20A	Bridger	86.35	336	⇑P	P	08 20 23.5	-0.5
	baz=87,SNR=13						
H18A	Shoshone NF, C	86.38	334	⇑P	P	08 20 24.0	-0.3
	baz=87,SNR=19						
B30A	Myrvik Farm, E	86.44	343	⇑P	P	08 20 24.1	-0.1
	baz=87,SNR=17						
H17A	Grant Village	86.46	334	eP	P	08 20 25.9	+1.2
	comp=Z,27nm,1.9s						
F21A	Absaloka Mine,	86.52	337	⇓P	P	08 20 24.7	0.0
	baz=87						
E23A	Ismay	86.55	338	⇑P	P	08 20 25.0	+0.2
	baz=87						
D25A	Fairfield	86.55	340	⇓P	P	08 20 25.0	+0.2
	baz=87,SNR=9.7						
C27A	Sayler Ranch,	86.56	341	⇑P	P	08 20 25.1	+0.2
	baz=87,SNR=11						
YFT	Old Faithful	86.60	334	eP	P	08 20 28.4	+3.0
	comp=Z,8.3nm,0.9s						
RLMT	Red Lodge	86.62	335	eP	P	08 20 25.1	-0.3
	comp=Z,2.8nm,0.4s						
E22A	Miles City	86.69	338	⇓P	P	08 20 25.2	-0.3
	baz=87						
B29A	Wagenman Farm,	86.70	343	⇑P	P	08 20 25.5	0.0
	baz=87,SNR=9.0						
D24A	Glendive	86.81	339	⇑P	P	08 20 26.3	+0.2
	baz=87,SNR=13						
C26A	Wahner Farm, P	86.82	341	⇑P	P	08 20 26.2	+0.1
	baz=87,SNR=7.4						
YMR	Madison River	86.83	334	eP	P	08 20 27.5	+1.0
	comp=Z,18nm,1.0s						
F20A	Billings	86.84	336	⇑P	P	08 20 26.0	-0.3
	baz=87						
A30A	Hoffart Farm,	86.89	343	⇑P	P	08 20 26.3	-0.1
	baz=87,SNR=5.5						
B28A	Dugan Ranch, T	86.94	342	⇑P	P	08 20 26.9	+0.3
	baz=87,SNR=15						
LAO	LASA Array	87.00	338	eP	P	08 20 27.1	0.0
	comp=Z,241nm,3.0s						
C25A	Freed Ranch, W	87.04	340	⇓P	P	08 20 27.4	+0.2
	baz=87,SNR=5.9						
A29A	Manning Farm,	87.09	343	⇓P	P	08 20 27.3	-0.1
	baz=87,SNR=19						
D23A	Lindsay	87.12	338	⇑P	P	08 20 28.3	+0.6
	baz=87						
B27A	Peters Farms,	87.13	341	⇑P	P	08 20 27.8	+0.2
	baz=88						
E21A	Keefer Ranch,	87.14	337	⇑P	P	08 20 28.0	+0.3
	baz=88,SNR=5.7						
QLMT	Earthquake Lak	87.14	333	eP	P	08 20 29.0	+1.0
F19A	Roth Farm, Mol	87.15	335	⇓P	P	08 20 27.4	-0.5
	baz=88,SNR=7.4						
HLID	Hailey	87.21	331	eP	P	08 20 29.2	+1.0
	comp=Z,6.8nm,1.0s						
HLID	Hailey	87.21	331	⇓P	P	08 20 28.6	+0.3
	baz=88,SNR=14						
C24A	Savage	87.21	339	⇓P	P	08 20 28.1	+0.1
	baz=88,SNR=28						
A28A	Rude Farm, Bot	87.34	342	⇑P	P	08 20 28.4	-0.2
	baz=88,SNR=7.2						
B26A	Jensen Ranch,	87.36	341	⇓P	P	08 20 29.2	+0.4
	baz=88						
D22A	Cohagen	87.40	338	⇓P	P	08 20 29.3	+0.4
	baz=88						
E20A	Meyer Farm, Mu	87.45	336	⇑P	P	08 20 28.9	-0.3
	baz=88,SNR=15						
B25A	Knox Farm, Ray	87.52	340	⇑P	P	08 20 29.7	+0.2
	baz=88						
D21A	La Casta Ranch	87.58	337	⇓P	P	08 20 29.6	-0.3
	baz=88,SNR=5.3						
ULM	Lac du Bonnet	87.58	345	P	P	08 20 29.0	-0.7
ULM	Lac du Bonnet	87.58	345	P	P	08 20 29.0	-0.7
	comp=Z,12nm,0.9s,baz=180,slow=4.5,SNR=13						
A27A	Ledoux Ranch,	87.63	342	⇑P	P	08 20 30.2	+0.2
	baz=88						
E19A	Rath Farm, Rou	87.63	336	⇑P	P	08 20 29.5	-0.6
	baz=88,SNR=11						
MFID	Camas Ranch	87.66	330	eP	P	08 20 31.1	+0.7
	comp=Z,98nm,3.0s						
MCMT	McKenzie Canyo	87.67	333	eP	P	08 20 31.1	+0.6
	comp=Z,9.8nm,1.2s						
C23A	Lambert	87.68	339	⇓P	P	08 20 29.9	-0.3
	baz=88,SNR=11						
A26A	Wade Farm, Ken	87.79	341	⇓P	P	08 20 30.3	-0.4
	baz=88,SNR=7.5						
C22A	Vida	87.84	338	⇑P	P	08 20 30.7	-0.4
	baz=88,SNR=5.4						
BOZ	Bozeman (W)	87.92	334	eP	P	08 20 30.9	-0.7
BOZ				pmax	pmax		
	comp=Z,36nm,2.6s						
BOZ	Bozeman (W)	87.92	334	eP	P	08 20 30.9	-0.7
	comp=Z,36nm,2.6s						
D20A	Manuel Ranch,	87.97	337	⇓P	P	08 20 31.4	-0.3
	baz=88,SNR=11						
DGMT	Dagmar	87.99	340	eP	P	08 20 32.2	+0.5
	comp=Z,47nm,0.9s						
DGMT	Dagmar	87.99	340	⇓P	P	08 20 32.0	+0.3
	baz=88,SNR=13						
DLMT	Dillon	88.03	333	eP	P	08 20 32.9	+0.7
WVOR	Wild Horse Val	88.04	328	eP	P	08 20 33.2	+0.9
WVOR				pmax	pmax		
	comp=Z,28nm,1.8s						
WVOR	Wild Horse Val	88.04	328	eP	P	08 20 33.2	+0.9
	comp=Z,28nm,1.8s						
A25A	Svangstu Ranch	88.11	340	⇓P	P	08 20 32.5	+0.2
	baz=88,SNR=5.5						
B23A	Brockton	88.22	339	⇑P	P	08 20 32.7	-0.1
	baz=88,SNR=5.8						
D19A	Cripps Ranch,	88.28	336	⇑P	P	08 20 33.2	0.0
	baz=89						
C21A	Desert Coulee	88.28	338	⇑P	P	08 20 32.5	-0.6
	baz=89,SNR=7.9						
A24A	Westby	88.35	340	⇓P	P	08 20 33.3	-0.1
	baz=89						
MOD	Modoc	88.36	326	eP	P	08 20 34.9	+1.1
	comp=Z,13nm,0.8s						
LRM	Limekiln Ridge	88.36	333	eP	P	08 20 34.4	+0.5
B22A	Reddig Ranch S	88.37	338	⇓P	P	08 20 33.5	0.0
	baz=89,SNR=6.3						
C20A	Veseth Ranch,	88.47	337	⇓P	P	08 20 34.0	0.0
	baz=89						
C19A	Slack Wire Ran	88.83	336	⇑P	P	08 20 35.9	+0.2
	baz=89						
A22A	Carney Farms,	88.96	339	⇓P	P	08 20 36.1	-0.3
	baz=89,SNR=6.9						
M04C	Macdoel	88.97	325	⇓P	P	08 20 37.3	+0.6
	baz=89						
B20A	Solberg Farm,	89.12	337	⇑P	P	08 20 37.2	+0.1
	baz=89						
A21A	Bergtoll Ranch	89.27	338	⇓P	P	08 20 37.6	-0.1
	baz=90						
K05A	Summer Lake	89.28	327	eP	P	08 20 39.6	+1.5
EGMT	Eagleton	89.32	336	⇑P	P	08 20 37.7	-0.3
	baz=90						
B19A	Brinkman Farms	89.43	337	⇓P	P	08 20 38.2	-0.3
	baz=90						
A20A	Cobblestone Ra	89.48	338	⇑P	P	08 20 38.3	-0.4
	baz=90						
CHMT	Chamberlain Mo	89.58	333	eP	P	08 20 39.1	-0.4
I07A	Izee	89.74	328	eP	P	08 20 41.3	+1.1
	comp=Z,102nm,2.5s						
MSO	Missoula	89.77	333	eP	P	08 20 41.6	+1.4
	comp=Z,42nm,2.6s						
MSO	Missoula	89.77	333	⇑P	P	08 20 41.8	+1.6
	baz=90						
A19A	Klindworth Far	89.78	337	⇑P	P	08 20 39.9	-0.3
	baz=90						
SCHQ	Schefferville	89.85	3	P	P	08 20 39.8	-0.4
	comp=Z,6.7nm,1.0s,baz=180,slow=3.8,SNR=4.1						
J05D	Fort Rock, OR	89.87	327	⇑P	P	08 20 41.6	+0.7
	baz=90						
SLMT	Seeley Lake	89.95	333	eP	P	08 20 41.9	+0.8
F10A	Beach Ranch, E	90.33	331	eP	P	08 20 42.9	0.0
	comp=Z,42nm,2.1s						
JTMT	Jette	90.66	333	eP	P	08 20 44.7	+0.3
I05D	Terrebonne, OR	90.75	327	⇓P	P	08 20 45.7	+0.9
	baz=91						
HAWA	Hanford	91.61	330	eP	P	08 20 49.5	+0.8
	comp=Z,11nm,1.3s						
WALA	Waterton Lakes	91.63	334	eP	P	08 20 49.4	+0.5
E07A	Sunnyside	91.87	330	eP	P	08 20 50.3	+0.4
	comp=Z,19nm,1.6s						
D08A	Wollman Farm,	91.89	330	eP	P	08 20 50.5	+0.6
NEW	Newport	92.16	332	⇓P	P	08 20 50.2	-1.0
	baz=92						
C09A	Chrisman Ranch	92.23	331	eP	P	08 20 52.0	+0.5
	comp=Z,5.8nm,0.9s						
TAM	Tamanrasset	93.74	65	eP	P	08 20 59.7	+0.4
TAM				pmax	pmax		
	comp=Z,2.0nm,0.3s						
TAM	Tamanrasset	93.74	65	eP	P	08 20 59.7	+0.4
	comp=Z,1.5nm,0.3s						
EDM	Edmonton	94.95	337	eP	P	08 21 02.4	-1.6
EDM	Edmonton	94.95	337	eP	P	08 21 02.4	-1.6
FCC	Fort Churchill	95.36	349	eP	P	08 21 05.4	-0.2
FCC	Fort Churchill	95.36	349	eP	P	08 21 05.4	-0.2
YKA	Yellowknife Ar	103.09	341	Pdiff	Pdif	08 21 39.3	-0.8
	comp=Z,0.6nm,0.8s,baz=141,slow=4.5,SNR=14						
GERES	GERESS Array B	113.33	46	PKiKP	PKiKP	08 26 19.0	-0.5
	comp=Z,1.1nm,0.8s,baz=240,slow=2.6,SNR=8.1						
CLL	Collm	114.04	43	ePKiKP	PKiKP	08 26 23.0	+2.4
VYHS	Vyhne	116.24	48	ePKP	PKPdf	08 26 24.7	-0.3
NB2	NORSAR Subarra	117.30	33	PKPdf	PKPdf	08 26 26.5	-0.2
	comp=Z,6.1nm,1.7s,baz=248,slow=1.9						
NB2	NORSAR Subarra	117.30	33	PKPdf	PKPdf	08 26 26.5	-0.2
	baz=248,slow=1.9						
NOA	NORSAR Array B	117.30	33	PKP	PKPdf	08 26 26.8	+0.2
	comp=Z,0.7nm,0.7s,baz=247,slow=2.2,SNR=4.1						
KOLS	Kolonicke sedl	118.51	48	ePKIKP	PKPdf	08 26 28.0	-1.3
KOLS	Kolonicke sedl	118.51	48	ePKP	PKPdf	08 26 28.0	-1.3
BRTR	Keskin Array B	122.80	62	PKP	PKPdf	08 26 38.2	+0.2
	comp=Z,1.7nm,0.8s,baz=193,slow=2.8,SNR=9.9						
AK01	Malin Array Si	123.33	48	ePKPdf	PKPdf	08 26 36.8	-1.7
AKASG	Malin Array Be	123.34	48	PKP	PKPdf	08 26 37.8	-0.7
	comp=Z,2.3nm,0.8s,baz=207,slow=2.7,SNR=15						
FINES	FINESS Array B	124.25	35	PKP	PKPdf	08 26 39.3	-0.6
	comp=Z,1.6nm,0.7s,baz=222,slow=1.9,SNR=5.7						
KIV	Kislovodsk	130.50	59	ePKIKP	PKPdf	08 26 52.6	0.0
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBZ	Khabaz	130.60	60	PKP	PKPdf	08 26 53.7	+1.1
	comp=Z,2.9nm,1.0s,baz=301,slow=2.6,SNR=5.1						
KLMR	Klimovskoe	130.66	37	ePKIKP	PKPdf	08 26 50.8	-1.4
KLMR				pmax	pmax		
	comp=Z,28nm,1.1s						
PRGR	Permogore	133.58	36	PKIKP	PKPdf	08 26 57.2	-0.4
PRGR				pmax	pmax		
	comp=Z,16nm,1.0s						
PETK	Petropavlovsk-	140.70	313	PKP	PKPdf	08 27 11.2	+0.1
	comp=Z,3.2nm,0.8s,baz=104,slow=4.6,SNR=2.6						
AB31	Akbulak array	142.78	53	i PKIKP	PKPdf	08 27 10.7	-4.2
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ABKAR	Akbulak array	142.78	53	ePKPdf	PKPdf	08 27 10.1	-4.8
HYB	Hyderabad	148.77	117	i PKP	PKPbc	08 27 28.5	-1.5
YAK	Yakutsk	149.75	339	ePKPdf	PKPdf	08 27 26.7	+0.4
YAK				ePKPbc	PKPbc	08 27 30.5	-0.5
YSS	Yuzh-Sakhalins	151.17	305	ePKIKP	PKPbc	08 27 34.6	-0.3
YSS	Yuzh-Sakhalins	151.17	305	ePKPbc	PKPbc	08 27 34.6	-0.3
KSH	Kashi	154.70	71	ePKPbc	PKPdf	08 27 33.0	-1.6
KSH				epPKP	PKiKP	08 27 44.5	+1.3
KSH				eSKS	SKSdf	08 34 34.8	-5.7
KSH				eSKKS	SKKSac	08 38 16.0	-7.0
KSH				eSS	SS	08 51 09.5	-6.3
KSH				AMB	AMB		
	comp=Z,170nm,6.9s						
ZALV	Zalesovo Beam	155.50	33	PKPab	PKPab	08 28 01.6	+0.7
	comp=Z,5.7nm,0.8s,baz=310,slow=3.5,SNR=4.1						
CM31	Chiang Mai Arr	161.66	154	ePKPab	PKPab	08 28 28.1	-0.2
WMQ	Urumqi	162.55	55	ePKP	PKPdf	08 27 44.0	+0.2
WMQ				AMB	AMB		
	comp=Z,130nm,10.6s						
WMQ				LR	LR		
	comp=Z,170nm,24.0s						
WMQ				LR	LR		
	comp=Z,250nm,23.2s						
WMQ				LR	LR		
	comp=Z,130nm,24.2s						
KSRS	Korea Array	163.35	284	PKPab	PKPab	08 28 36.5	+0.9
	comp=Z,2.9nm,0.8s,baz=98,slow=4.0,SNR=7.6						
KSAR	Wonju Array Be	163.38	284	PKP2	PKPab	08 28 36.5	+0.8
KSAR	Wonju Array Be	163.38	284	PKPab	PKPab	08 28 36.5	+0.8
CN2	Changchun	163.71	307	ePKP	PKPdf	08 27 45.0	+0.2
SONM	Songino Array	167.39	3	PKPab	PKPab	08 28 54.0	+1.0
	comp=Z,3.5nm,0.8s,baz=335,slow=4.9,SNR=6.9						
KMI	Kunming	169.13	157	PKP	PKPdf	08 27 47.3	-2.6
NJ2	Nanjing	169.97	255	ePKP	PKPdf	08 27 49.0	-0.8
GYA	Guiyang	171.22	175	ePKP	PKPdf	08 27 50.0	-0.9
GYA				pP		08 28 01.5	
GYA				PKPab	PKPab	08 29 13.5	+3.0
GYA				PKS	PKSdf	08 31 21.3	-2.1
GYA				PP	PP	08 33 03.0	+2.9
GYA				SKKS		08 39 45.8	
GYA				SS	SS	08 54 03.5	-0.4
GYA				AMB	AMB		
	comp=Z,120nm,8.4s						
GYA				LR	LR		
	comp=Z,120nm,21.5s						
GYA				LR	LR		
	comp=Z,110nm,21.8s						
GYA				LR	LR		
	comp=Z,120nm,24.4s						
HHC	Hu-ho-hao-te	173.53	331	ePKP	PKPdf	08 27 51.3	-0.1
HHC				pPKP	pPKPdf	08 28 02.3	+4.7
HHC				PP	PP	08 33 12.0	+0.1
HHC				SKS	SKSdf	08 34 48.5	-5.2
HHC				SS	SS	08 54 26.8	-0.4
HHC				LR	LR		
	comp=Z,170nm,19.6s						
HHC				LR	LR		
	comp=Z,410nm,19.1s						
HHC				LR	LR		
	comp=Z,370nm,18.5s						
CD2	Chengdu	174.69	143	PKP	PKPdf	08 27 51.8	-0.3
CD2				pPKP	pPKPdf	08 28 03.0	+4.7
CD2				PKS	PKSdf	08 31 22.5	-1.8
CD2				PP	PP	08 33 21.3	+3.6
CD2				SKS	SKSdf	08 34 49.3	-5.1
CD2				SKKS	SKKSac	08 40 02.0	-1.7
CD2				SS	SS	08 54 36.8	-1.8
CD2				AMB	AMB		
	comp=Z,240nm,6.4s						
LZH	Lanzhou	176.95	73	ePKP	PKPdf	08 27 51.8	-0.8
LZH				pPKP	pPKPdf	08 28 02.3	+3.5
LZH				sPKP		08 28 06.0	

ISCJB ***28*** *08:07:50.8±1.0,25.91N±0.04×128.74E±0.05,h24km±7km, mb3.5/6, Error ellipse: s-maj=6.9km s-min=6.6km az=32.5*
JMA ***28*** *08:07:51.8±0.3,25.92N×128.70E,h34km,M3.2*
IDC ***28*** *08:07:52.5±1.1,25.32N×127.28E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.6/26,mbtmp3.5/7,ML3.8/1,Error ellipse: s-maj=43.2km s-min=21.8km az=71.0*
ISC 28 08:07:52.4±1.9,25.96N±0.08×128.63E±0.08,h20km±12km, n19,σ0.71/24,mb3.6/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.78	316	P	Pb	08 08 07.2	0.0
JJT2	Tamagusuku 2	0.81	283	P	Pb	08 08 08.1	+0.3
JJT2				eS	Sn	08 08 19.8	-0.3
JOW	Kunigami	0.92	340	P	Pn	08 08 09.8	-0.5
JOW				eS	Sb	08 08 21.5	-0.1
JIH	Iheya	1.22	331	P	Pn	08 08 14.3	-0.1
JIH				eS	Sb	08 08 30.2	0.0
JAGN	Aguni-jima	1.39	297	P	Pn	08 08 16.6	-0.1
JAGN				eS	Sb	08 08 35.2	+0.1
JOKE	Okinoerabujima	1.40	358	P	Pn	08 08 16.5	-0.3
JOKE				eS	Sn	08 08 34.0	-0.6
JKE	Kume jima 2	1.69	283	P	Pn	08 08 20.0	-0.9
JTK	Tokunoshima	1.84	9	P	Pn	08 08 22.5	-0.4
JTK				eS	Sn	08 08 44.7	-0.9
JAMN	Amaminishikomi	2.32	12	P	Pn	08 08 29.8	+0.3
JAMN				eS	Sn	08 08 57.0	-0.5
JMZ	Minamidaito 2	2.34	93	P	Pn	08 08 27.0	-2.8
JMZ				eS	Sn	08 08 52.3	-5.6
JAM	Amami Oshima	2.59	19	P	Pn	08 08 32.6	-0.6
JAM				eS	Sn	08 09 03.2	-0.9
JZK	Kikaishima	2.63	27	eS	Sn	08 09 06.0	+0.9
MJAR	Matsushiro Arr	13.35	36	Pn	P	08 11 21.6	+11
	0.4nm,0.3s,baz=213,slow=8.7,SNR=5.6						
SONM	Songino Array	27.97	327	P	P	08 13 43.9	+2.1
	0.9nm,0.5s,baz=139,slow=7.1,SNR=5.2						
MKAR	Makanchi Array	41.98	312	P	P	08 15 41.7	-0.4
	0.3nm,0.6s,baz=355,slow=9.7,SNR=6.0						
WRA	Warramunga Arr	45.97	173	P	P	08 16 13.7	-0.6
	0.5nm,0.6s,baz=355,slow=8.6,SNR=2.9						
ASAR	Alice Springs	49.60	174	P	P	08 16 42.3	-0.1
	0.6nm,0.7s,baz=5.5,slow=11,SNR=2.8						
BRTR	Keskin Array B	77.48	308	P	P	08 19 47.1	+0.3
	0.4nm,0.6s,baz=65,slow=6.5,SNR=2.4						
YKA	Yellowknife Ar	78.62	25	P	P	08 20 01.6	+9.1
	0.2nm,0.7s,baz=304,slow=5.9,SNR=4.5						

IDC ***28*** *08:15:01.5±0.5,33.55S×68.52W,h0km,mb4.6/15, mb1 4.6/19,mb1mx4.5/25,mbtmp4.5/19,ML4.5/4,MS4.2/4, Ms1 4.2/4,ms1mx3.7/28,Error ellipse: s-maj=18.9km s-min=12.9km az=83.0*
ISCJB ***28*** *08:15:03.1±0.2,33.56S±0.05×68.34W±0.07,h15km, mb4.8/58,MS4.5/4,Error ellipse: s-maj=9.1km s-min=6.0km az=156.2*
NEIC ***28*** *08:15:05.1±2.2,33.57S×68.39W,h20km±13km,mb4.9/45, MD4.9(SJA),Error ellipse: s-maj=7.6km s-min=4.7km az=74.0*
NEIC Felt [IV] at Mendoza and [III] at San Luis. Also felt at San Martin and San Rafael.
ISC 28 08:15:04.1±0.4,33.62S±0.05×68.50W±0.09,h15km,n397, σ1.05/405,mb4.9/58,MS4.5/4,137C-147D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	2.02	6	Pn	Pn	08 15 36.7	-0.9
	19nm,0.3s,baz=186,slow=18,SNR=56						
CFAA				Sn	Sb	08 16 05.7	+0.2
	133nm,0.3s,baz=263,slow=17,SNR=17						
TRQA	Tornquist	6.90	132	ePn	Pn	08 16 45.8	+1.1
PLCA	Paso Flores	7.29	192	Pn	Pn	08 16 50.5	+0.4
	1.1nm,0.3s,baz=279,slow=19,SNR=2.2						
PLCA	Paso Flores	7.29	192	ePn	Pn	08 16 50.7	+0.6
PLCA				eSg	Sg	08 18 55.0	-2.9
CPUP	Villa Florida	12.10	56	Pn	Pn	08 17 55.0	-1.0
	2.9nm,0.3s,baz=210,slow=14,SNR=12						
CPUP				LR	LR	08 22 51.0	
	comp=Z,423nm,20.5s,baz=216,slow=39						
CPUP	Villa Florida	12.10	56	ePn	Pn	08 17 54.9	-1.0
	2.6nm,0.5s						
CPUP				Sn	Sn	08 20 30.2	+20
LPAZ	La Paz	17.26	1	P	Pn	08 19 05.8	+0.6
	0.7nm,0.3s,baz=179,slow=7.1,SNR=7.1						
SIV	San Ignacio	18.79	23	P	P	08 19 22.6	-0.4
	1.1nm,0.3s,baz=216,slow=11,SNR=10						
USHA	Ushuaia	21.21	180	P	P	08 19 50.2	+1.2
	15nm,0.9s,baz=348,slow=8.9,SNR=3.7						
NNA	Nana	22.84	339	P	P	08 20 06.4	-0.5
	10.0nm,0.6s,baz=196,slow=13,SNR=4.0						
NNA				LR	LR	08 27 37.5	
	comp=Z,376nm,20.0s,baz=160,slow=33						
SAML	Samuel	25.04	12	eP	P	08 20 27.5	-0.2
	24nm,0.8s						
BDFB	Brasilia	25.74	51	P	P	08 20 33.5	-0.8
	9.5nm,0.8s,baz=226,slow=8.5,SNR=15						
OTAV	Otavalo	34.95	342	eP	P	08 21 56.7	+0.6
	6.9nm,0.9s						
ROSC	El Rosal	38.66	351	eP	P	08 22 28.0	+0.4
RCBR	Riachuelo	40.97	55	P	P	08 22 46.4	-0.1
	4.6nm,0.8s,baz=199,slow=12,SNR=4.5						
RCBR	Riachuelo	40.97	55	eP	P	08 22 45.8	-0.8
	14nm,0.9s						
SDV	Santo Domingo	42.32	357	P	P	08 22 56.5	-1.2
	12nm,0.8s						
VNA3	Neumayer Olymp	48.61	158	P	P	08 23 46.8	+0.1
VNA2	Neumayer--Watz	49.23	158	P	P	08 23 52.3	+0.9
SNAA	Sanae	50.83	158	P	P	08 24 04.2	+0.5
SNAA	Sanae	50.83	158	P	P	08 24 04.4	+0.7
	0.8nm,0.4s,baz=280,slow=7.8,SNR=16						
SNAA	Sanae	50.83	158	eP	P	08 24 04.1	+0.4
	8.3nm,0.8s						
CRPR	Cabo Rojo, PR	51.35	2	eP	P	08 24 07.0	-1.0
	22nm,0.8s						
OBIP	Obispado Ponce	51.40	2	eP	P	08 24 07.5	-0.9
	40nm,0.9s						
CELP	Cerrillos	51.44	2	eP	P	08 24 07.9	-0.8
QSPA	South Pole Qui	56.62	180	P	P	08 24 47.0	+0.8
	14nm,1.1s,baz=153,slow=5.1,SNR=21						
TEIG	Tepich	56.77	338	P	P	08 24 47.8	+0.2
	baz=190,slow=7.2						
035A	Encino	66.46	331	⇑P	P	08 25 54.8	+1.9
	baz=67						
034A	Hebbronville	66.81	331	⇓P	P	08 25 57.0	+1.9
	baz=67						
934A	Benavides	67.22	331	⇓P	P	08 25 59.5	+1.8
	baz=68						
933A	Laredo	67.54	331	⇑P	P	08 26 01.1	+1.4
	baz=68						
835A	Beeville	67.56	332	⇓P	P	08 26 01.6	+1.8
	baz=68						
834A	Tilden	67.70	331	⇓P	P	08 26 02.1	+1.4
	baz=68,SNR=8.4						
735A	Kenedy	68.06	332	⇓P	P	08 26 04.0	+1.1
	baz=68,SNR=5.5						
833A	Chaparral WMA,	68.21	331	⇓P	P	08 26 04.6	+0.7
	baz=68,SNR=5.6						
HKT	Hockley	68.31	335	eP	P	08 26 05.1	+0.7
	75nm,2.6s						
636A	Smothers Creek	68.33	333	⇓P	P	08 26 05.9	+1.2
	baz=69,SNR=5.7						
734A	La Parita Cree	68.34	332	⇑P	P	08 26 05.7	+0.9
	baz=69						
832A	Faith Ranch, C	68.42	330	⇓P	P	08 26 05.7	+0.4
	baz=69,SNR=8.1						
733A	Divot King Ran	68.52	331	⇓P	P	08 26 06.5	+0.5
	baz=69						
537A	Green Hill Far	68.60	334	⇑P	P	08 26 07.3	+1.0
	baz=69						
732A	Laxson Ranch,	68.81	331	⇑P	P	08 26 07.8	+0.2
	baz=69,SNR=10						
340A	Bronson	68.98	337	⇑P	P	08 26 09.1	+0.4
	baz=69						
535A	Dale	69.02	333	⇓P	P	08 26 09.8	+0.8
	baz=69						
633A	Saathoff Ranch	69.13	332	⇑P	P	08 26 10.1	+0.4
	baz=69						
338A	Crockett	69.41	336	⇑P	P	08 26 12.2	+0.9
	baz=70						
632A	Uvalde	69.42	331	⇑P	P	08 26 12.1	+0.6
	baz=70,SNR=10.0						
337A	Centerville	69.57	335	⇓P	P	08 26 13.6	+1.3
	baz=70						
533A	Kerrville	69.62	332	⇓P	P	08 26 12.9	+0.1
	baz=70,SNR=9.7						
631A	Perdido Creek	69.66	330	⇓P	P	08 26 13.6	+0.6
	baz=70,SNR=5.3						
435B	Jarrell	69.70	334	⇓P	P	08 26 14.0	+0.9
	baz=70						
LPIG	La Paz	69.84	320	P	P	08 26 12.8	-1.3
	21nm,0.4s,baz=135,slow=7.1,SNR=4.9						
336A	Riesel	69.97	334	⇓P	P	08 26 15.5	+0.6
	baz=70						
434A	Burnet	69.99	333	⇓P	P	08 26 15.2	+0.2
	baz=70,SNR=10						
532A	Rocksprings	70.02	331	⇑P	P	08 26 15.7	+0.5
	baz=70,SNR=12						
335A	Moody	70.09	334	⇓P	P	08 26 15.9	+0.4
	baz=70						
237A	Washetta, Mont	70.17	336	⇑P	P	08 26 16.4	+0.4
	baz=70						
433A	Art	70.25	332	⇓P	P	08 26 16.9	+0.3
	baz=71,SNR=10						
JCT	Junction City	70.28	332	⇓P	P	08 26 17.0	+0.1
	baz=71,SNR=6.3						
531A	Rocksprings	70.31	331	⇓P	P	08 26 17.5	+0.5
	baz=71,SNR=7.7						
TKL	Tuckaleechee C	70.39	347	P	P	08 26 16.5	-0.8
	6.3nm,1.0s,baz=158,slow=7.7,SNR=5.8						
TKL	Tuckaleechee C	70.39	347	eP	P	08 26 17.0	-0.3
SWET	Sewanee	70.40	345	eP	P	08 26 16.9	-0.6
	11nm,0.9s						
334A	Lometa	70.44	333	⇓P	P	08 26 17.9	+0.2
	baz=71,SNR=8.9						
530A	J-C Ranch, Com	70.62	330	⇑P	P	08 26 19.1	+0.2

baz=71,SNR=7.7
432A Menard 70.63 332 ⇑P P 08 26 19.0 0.0
baz=71,SNR=6.4
137A Heron Place, G 70.69 336 ⇑P P 08 26 19.9 +0.7
baz=71
333A Richland Sprin 70.72 333 ⇓P P 08 26 19.1 -0.3
baz=71,SNR=6.1
WHTX Lake Whitney 70.74 334 eP P 08 26 19.8 +0.2
15nm,1.1s
WHTX Lake Whitney 70.74 334 ⇑P P 08 26 20.0 +0.5
baz=71
431A Sonora 70.79 331 ⇓P P 08 26 20.2 +0.2
baz=71,SNR=5.3
TXAR Lajitas Array 70.91 328 P P 08 26 20.0 -0.7
2.0nm,0.7s,baz=158,slow=8.1,SNR=16
529A Stev Forest Ra 70.97 329 ⇑P P 08 26 21.1 +0.1
baz=71,SNR=11
234A Clairette 71.00 334 ⇓P P 08 26 21.2 +0.1
baz=71,SNR=7.3
332A Millersview 71.06 332 ⇓P P 08 26 21.6 0.0
baz=71
430A Baggett Ranch, 71.13 331 ⇑P P 08 26 22.1 +0.1
baz=71,SNR=12
331A San Angelo 71.27 331 ⇑P P 08 26 22.7 -0.1
baz=72,SNR=6.6
429A Davenport Ranc 71.27 330 ⇓P P 08 26 22.9 +0.1
baz=72,SNR=12
233A Rising Star 71.30 333 ⇓P P 08 26 22.9 -0.1
baz=72,SNR=6.0
232A Coleman 71.47 332 ⇑P P 08 26 24.2 +0.2
baz=72
134A White-Moore Ra 71.49 334 ⇑P P 08 26 24.5 +0.4
baz=72
330A Mertzon 71.65 331 ⇑P P 08 26 25.4 +0.2
baz=72
WVT Waverly 71.70 344 eP P 08 26 24.8 -0.4
29nm,1.1s
231A Bronte 71.78 332 ⇓P P 08 26 25.6 -0.2
baz=72,SNR=5.6
133A Hamilton Ranch 71.83 333 ⇓P P 08 26 26.8 +0.6
baz=72
Z35A Perchaven, San 71.88 335 ⇑P P 08 26 27.0 +0.7
baz=72
230A Sterling City 72.05 331 ⇑P P 08 26 28.3 +0.7
baz=72
329A Wagon Wheel Ra 72.05 330 ⇓P P 08 26 27.5 0.0
baz=72,SNR=6.4
ABTX Abilene, Hawle 72.12 333 eP P 08 26 28.3 +0.4
17nm,0.9s
ABTX Abilene, Hawle 72.12 333 ⇑P P 08 26 28.2 +0.4
baz=72
Z34A Collier Ranch, 72.15 334 ⇓P P 08 26 28.4 +0.4
baz=72
DBIC Dimbokro 72.27 69 P P 08 26 29.3 +0.1
8.5nm,0.6s,baz=198,slow=6.4,SNR=12
DBIC Dimbokro 72.27 69 eP P 08 26 29.1 -0.1
18nm,0.8s
Z33A Whitaker Ranch 72.38 334 ⇓P P 08 26 29.2 -0.3
baz=73,SNR=6.4
229A Bryant Ranch, 72.40 331 ⇓P P 08 26 29.9 +0.2
baz=73
SUR Sutherland 72.41 117 LR LR 08 55 50.0
comp=Z,111nm,18.0s,baz=224,slow=34
131A Roby 72.46 332 ⇓P P 08 26 30.1 +0.2
baz=73
130A Snyder 72.61 332 ⇑P P 08 26 31.4 +0.5
baz=73
Y34A Reagan Ranch, 72.62 335 ⇓P P 08 26 31.1 +0.3
baz=73
Z32A Haskell 72.67 333 ⇓P P 08 26 31.5 +0.3
baz=73
228A UT Block 9, Go 72.86 330 ⇑P P 08 26 32.6 +0.2
baz=73
Z31A Sharp Cattle R 72.93 333 ⇓P P 08 26 32.8 +0.1
baz=73,SNR=6.4
Y33A Hilltop Ranch, 72.98 334 ⇑P P 08 26 33.6 +0.6
baz=73
129A Stewart Farms, 73.01 331 ⇑P P 08 26 33.7 +0.5
baz=73
X34A Smith Ranch, M 73.23 335 ⇓P P 08 26 35.4 +1.0
baz=74
128A Castleberry Fa 73.25 330 ⇓P P 08 26 35.3 +0.6
baz=74
Y32A R-V Farms, Ver 73.28 334 ⇓P P 08 26 35.3 +0.6
baz=74
Z30A Sanderson Ranc 73.29 332 ⇑P P 08 26 35.0 +0.2
baz=74
X33A Lawton 73.41 334 ⇓P P 08 26 35.8 +0.3
baz=74
Z29A Hungry Hill Ra 73.49 331 ⇓P P 08 26 35.8 -0.3
baz=74,SNR=6.0
Y31A Rekieta Farm, 73.55 333 ⇓P P 08 26 36.9 +0.6
baz=74
X32A Elmer 73.59 334 ⇑P P 08 26 37.3 +0.7
baz=74
127A Arkansas Junct 73.66 330 ⇓P P 08 26 37.8 +0.7
baz=74
GDL2 Guadalupe Moun 73.68 329 eP P 08 26 38.0 +0.7
MNTX Cornudas Mount 73.70 328 eP P 08 26 36.5 -0.8
5.0nm,1.0s
TUL1 Tulsa 73.73 337 ⇑P P 08 26 37.7 +0.3
baz=74
W34A Bridge Creek, 73.78 335 ⇓P P 08 26 37.9 +0.3
baz=74
Z28A Tucker Farm, M 73.79 331 ⇑P P 08 26 38.3 +0.5
baz=74
W33A Caddo, Fort Co 73.95 335 ⇑P P 08 26 39.3 +0.6
baz=74
Y29A Porterfield Fa 74.00 332 ⇓P P 08 26 39.5 +0.4
baz=74
X31A McDonald Ranch 74.03 333 ⇓P P 08 26 39.0 -0.1
baz=74,SNR=5.3
Z27A Tatum 74.15 330 ⇓P P 08 26 39.8 -0.2
baz=74
W32A Sentinel 74.20 334 ⇓P P 08 26 40.3 +0.1
baz=74,SNR=6.9
X30A Coker Ranch, T 74.21 333 ⇑P P 08 26 40.4 +0.2
baz=74
V34A Guthrie 74.23 336 eP P 08 26 40.3 0.0
14nm,1.0s
V34A Guthrie 74.23 336 ⇓P P 08 26 40.6 +0.3
baz=74
Y28A McKinney Farm, 74.28 331 ⇓P P 08 26 41.0 +0.3
baz=75
Z26A Caprock 74.44 330 ⇓P P 08 26 41.8 +0.2
baz=75,SNR=13
V33A Lossen Ranch, 74.49 335 ⇓P P 08 26 42.4 +0.7
baz=75
W31A Holland Ranch, 74.52 334 ⇓P P 08 26 42.2 +0.2
baz=75
X29A Tulia 74.53 332 ⇑P P 08 26 42.5 +0.4
baz=75
MSTX Muleshoe 74.54 331 eP P 08 26 41.8 -0.5
11nm,0.9s
MSTX Muleshoe 74.54 331 ⇑P P 08 26 42.9 +0.7
baz=75
Y27A Causey 74.63 331 ⇓P P 08 26 43.7 +0.9
baz=75
V32A Arapaho 74.67 335 ⇑P P 08 26 43.8 +1.0
baz=75
Z25A Roswell 74.76 329 ⇑P P 08 26 43.9 +0.4
baz=75
U34A Anderson Ranch 74.79 336 ⇓P P 08 26 43.7 +0.2
baz=75
AMTX Amarillo 74.91 332 ⇑P P 08 26 45.3 +1.0
baz=75
U33A Lingo Farm, Me 74.98 336 ⇓P P 08 26 45.4 +0.8
baz=75
V31A Spring Creek L 75.00 334 ⇓P P 08 26 45.9 +1.1
baz=75
Z24A Sheeppen Canyo 75.08 329 ⇑P P 08 26 46.3 +0.8
baz=75
W29A Amraillo 75.10 332 ⇓P P 08 26 46.5 +1.0
baz=75
319A Douglas 75.23 325 ⇓P P 08 26 47.4 +1.0
baz=76
Y25A Mesa, Roswell 75.30 329 ⇑P P 08 26 47.2 +0.5
baz=76
X26A CR and CF Fran 75.47 330 ⇓P P 08 26 48.0 +0.4
baz=76,SNR=5.9
121A Cookes Peak, D 75.49 326 eP P 08 26 43.5 -4.3
7.0nm,0.9s
121A Cookes Peak, D 75.49 326 ⇑P P 08 26 48.7 +0.9
baz=76
W27A Bowe Ranch, En 75.61 331 ⇑P P 08 26 49.1 +0.7
baz=76
Y24A Capitan 75.62 329 ⇑P P 08 26 49.4 +0.8
baz=76
Z22A Elephant Butte 75.72 327 ⇓P P 08 26 50.1 +0.9
baz=76
X25A Clemmons Ranch 75.80 330 ⇓P P 08 26 50.2 +0.6
baz=76
V28A Channing 75.88 332 ⇑P P 08 26 50.6 +0.7
baz=76
Y23A Lovelace Mesa, 75.89 328 ⇓P P 08 26 51.0 +0.9
baz=76
W26A Owens Ranch, T 75.92 331 ⇓P P 08 26 50.8 +0.7
baz=76,SNR=5.0
T32A Huddler Ranch, 75.93 335 ⇑P P 08 26 51.4 +1.3
baz=76
V27A Dan Oppiter Fa 76.12 332 ⇑P P 08 26 52.4 +1.1
baz=76
X24A Lazy VL Ranch, 76.16 329 ⇓P P 08 26 52.8 +1.2
baz=76
W25A X Bar L Ranch, 76.31 330 ⇑P P 08 26 53.1 +0.6
baz=77,SNR=5.9
X23A Hourglass Bar 76.50 329 ⇓P P 08 26 55.1 +1.5
baz=77
S31A Mullinville 76.52 335 ⇓P P 08 26 54.7 +1.2
baz=77
V26A Tequesquite Ra 76.54 331 ⇓P P 08 26 54.6 +0.9
baz=77
R33A Olander Ranch, 76.63 337 ⇑P P 08 26 54.8 +0.8
baz=77
U27A Thompson Grove 76.70 332 ⇓P P 08 26 55.4 +0.8
baz=77
W24A Lazy 6 Ranch, 76.70 330 ⇓P P 08 26 55.9 +1.2
baz=77,SNR=7.7
LAZ Ladron 76.76 328 eP P 08 26 55.9 +0.8
2.5nm,0.9s
KSU1 Kansas State U 76.91 338 ⇓P P 08 26 56.5 +1.0
baz=77
V25A Rancho No Teng 76.91 331 ⇑P P 08 26 57.0 +1.1
baz=77,SNR=8.0
ANMO Albuquerque 76.93 329 eP P 08 26 56.6 +0.7
6.9nm,1.0s
W23A Werner Place, 76.98 329 ⇑P P 08 26 57.1 +0.8
baz=77,SNR=5.2
U26A Atchley Ranch, 77.04 331 ⇑P P 08 26 57.8 +1.2
baz=77
V24A Rampart Ranch, 77.09 330 ⇓P P 08 26 58.1 +1.1
baz=77
R31A Burdett 77.14 335 ⇓P P 08 26 57.7 +0.7
baz=78
Q33A Connelly Farm, 77.21 337 ⇓P P 08 26 58.3 +1.1
baz=78
T27A Campo 77.22 333 ⇓P P 08 26 58.2 +0.7
baz=78
U25A Circle Dot Ran 77.31 331 ⇓P P 08 26 59.1 +1.0
baz=78,SNR=6.7
S28A Manter 77.37 333 ⇓P P 08 26 59.2 +0.9
baz=78
R30A Dighton 77.40 335 ⇑P P 08 26 58.8 +0.5
baz=78
Q32A Meitler Ranch, 77.44 336 ⇓P P 08 26 59.5 +0.9
baz=78
V23A Ortiz Mt. (NFS 77.49 329 ⇑P P 08 27 00.0 +0.9
baz=78
BOSA Boshof 77.61 116 P P 08 27 00.3 +0.2
8.7nm,0.6s,baz=238,slow=3.8,SNR=26
U24A Moreno Valley 77.67 330 ⇓P P 08 27 00.9 +0.6
baz=78
Q31A Ellis 77.73 336 ⇓P P 08 27 01.7 +1.5
baz=78
V22A San Miguel Ran 77.94 329 ⇓P P 08 27 02.8 +1.1
baz=78
T25A Trinidad 77.95 331 ⇓P P 08 27 02.5 +0.8
baz=78
U23A El Rito 77.99 330 ⇑P P 08 27 03.0 +1.0
baz=78
Q30A Quinter 78.00 335 ⇓P P 08 27 02.8 +1.1
baz=78
S26A Kim 78.00 332 ⇓P P 08 27 02.9 +1.1
baz=78
R28A Tribune 78.00 334 ⇑P P 08 27 03.1 +1.3
baz=78
P32A Huiting Farm, 78.02 337 ⇓P P 08 27 02.8 +1.0
baz=78
X18A Snowflake 78.15 326 ⇓P P 08 27 03.5 +0.7
baz=78
Q29A Oakley 78.19 335 ⇑P P 08 27 03.6 +0.8
baz=78
P31A Stockton 78.19 336 ⇑P P 08 27 03.6 +0.9
baz=78,SNR=5.2
T24B San Luis 78.28 331 ⇓P P 08 27 05.1 +1.4
baz=79,SNR=6.3
U22A Llaves 78.31 329 ⇓P P 08 27 05.6 +1.9
baz=79
R27A Eads 78.32 333 ⇓P P 08 27 04.6 +1.0
baz=79
S25A Robets Cordova 78.41 332 ⇓P P 08 27 05.3 +1.1
baz=79
O32A Brockman Farm, 78.49 337 ⇓P P 08 27 05.4 +1.0
baz=79
T23A Casias Ranch, 78.53 330 ⇓P P 08 27 06.5 +1.6
baz=79
R26A Arlington 78.58 333 ⇓P P 08 27 06.9 +1.8
baz=79
113A Mohawk Valley, 78.59 322 ⇑P P 08 27 06.4 +1.4
baz=79
S24A Houchin Ranch, 78.70 331 ⇓P P 08 27 07.2 +1.2
baz=79,SNR=5.5
O31A Woolen Ranch, 78.74 336 ⇑P P 08 27 06.3 +0.5
baz=79
X16A Lo Mia Camp, P 78.76 325 ⇑P P 08 27 07.7 +1.4
baz=79
R25A Fountain Ranch 78.77 332 ⇑P P 08 27 07.5 +1.4
baz=79
KSCO Kaye Shedlock' 78.89 334 ⇑P P 08 27 08.2 +1.5
baz=79
O30A MW Ranch, Wils 79.01 336 ⇓P P 08 27 08.8 +1.5
baz=79
P28A Saint Francis 79.07 334 ⇑P P 08 27 08.9 +1.3
baz=79
S23A Nye Farm, Mont 79.08 331 ⇓P P 08 27 09.2 +1.2
baz=79
Y14A Wickenburg 79.14 324 ⇓P P 08 27 09.3 +1.2
baz=79
Q26A Hugo 79.15 333 ⇑P P 08 27 09.5 +1.3
baz=80
R24A Sanders Place, 79.17 331 ⇑P P 08 27 09.7 +1.3
baz=80,SNR=7.9
Q25A Bedland, Calha 79.42 332 ⇓P P 08 27 10.5 +0.7
baz=80
R23A Moffat 79.43 331 ⇑P P 08 27 10.7 +0.8
baz=80
S22A 4UR Ranch, Cre 79.46 330 ⇑P P 08 27 11.0 +0.9
baz=80
O28A Krutsinger Ran 79.56 335 ⇑P P 08 27 11.7 +1.4
baz=80
WUAZ Wupatki 79.62 326 eP P 08 27 11.2 +0.4
8.9nm,1.1s
WUAZ Wupatki 79.62 326 ⇑P P 08 27 12.1 +1.2
baz=80
P26A Davis Ranch, A 79.64 333 ⇑P P 08 27 12.2 +1.3
baz=80
M31A Lambtecht Ranc 79.70 337 ⇓P P 08 27 12.1 +1.1
baz=80
MVCO Mesa Verde 79.72 329 eP P 08 27 12.1 +0.6
29nm,1.8s
MVCO Mesa Verde 79.72 329 ⇑P P 08 27 12.5 +1.1
baz=80
Y12C Blythe 79.75 322 ⇓P P 08 27 12.7 +1.4
baz=80
LBTB Lobatse 79.76 113 eP P 08 27 12.1 +0.1
14nm,1.1s
SWSC Sam W. Stewart 79.77 321 ⇑P P 08 27 12.7 +1.2
baz=80
Q24A Divide 79.82 332 ⇑P P 08 27 13.1 +1.1
baz=80
O27A Beecher Island 79.88 334 ⇑P P 08 27 13.4 +1.4
baz=80
P25A Willow Gulch B 79.91 333 ⇑P P 08 27 14.1 +1.7
baz=80
N28A Pribbeno Ranch 79.98 335 ⇓P P 08 27 13.6 +1.0
baz=80
P24A Kohler Place, 80.20 332 ⇓P P 08 27 15.4 +1.5
baz=80
O26A Horse Wrangler 80.23 334 ⇑P P 08 27 15.6 +1.6
baz=80
IRM Iron Mountain 80.39 322 ⇑P P 08 27 16.0 +1.1
baz=81
L31A Butterfield Fa 80.41 338 ⇑P P 08 27 15.2 +0.4
baz=81,SNR=5.8
O25A Wiggins 80.42 333 ⇓P P 08 27 16.7 +1.7
baz=81
W13A Hualapai Mount 80.50 324 ⇑P P 08 27 16.9 +1.2
baz=81
PV01 Paradox Valley 80.52 329 eP P 08 27 16.3 +0.5
2µm,2.0s
PFO Pinyon Flat Ob 80.64 321 ⇓P P 08 27 17.6 +1.3
baz=81
ISCO Idaho Springs 80.72 332 eP P 08 27 17.5 +0.6
15nm,1.7s
ISCO Idaho Springs 80.72 332 ⇓P P 08 27 17.9 +1.1
baz=81
SMCO Snowmass 80.73 331 eP P 08 27 17.8 +0.7
8.6nm,1.1s
U15A North Rim 80.80 326 ⇑P P 08 27 18.5 +1.2
baz=81
P22A Eagle 81.00 331 ⇑P P 08 27 19.0 +0.8
baz=81
K30A Basset 81.10 337 ⇑P P 08 27 19.8 +1.2
baz=81
ECSD EROS Data Cent 81.15 340 eP P 08 27 18.1 -0.6
10nm,0.9s
ECSD EROS Data Cent 81.15 340 ⇓P P 08 27 19.1 +0.5
baz=82,SNR=7.9
O23A Lake Granby, G 81.19 332 ⇓P P 08 27 20.4 +1.1
baz=82
TOA0 Torodi Ar. Sit 81.32 68 eP P 08 27 20.3 +0.1
TORD Torodi Ar. Bea 81.32 68 P P 08 27 20.1 -0.1
10nm,0.6s,baz=261,slow=4.7,SNR=116
N24A Carr 81.32 333 ⇓P P 08 27 21.1 +1.2
baz=82
O22A Kremmling 81.40 331 ⇓P P 08 27 21.6 +1.2
baz=82
K29A Lazy Trails An 81.41 337 ⇓P P 08 27 21.6 +1.5
baz=82
M25A Palm-Egli Farm 81.54 334 ⇑P P 08 27 22.4 +1.4
baz=82
J30A Dallas 81.65 338 ⇓P P 08 27 21.6 +0.3
baz=82
K28A Ten Mile Ranch 81.72 336 ⇓P P 08 27 23.3 +1.5
baz=82
N23A Red Feather La 81.79 332 ⇑P P 08 27 23.7 +1.2
baz=82
M24A Cheyenne 81.86 333 ⇓P P 08 27 24.1 +1.3
baz=82
N22A Wattenberg Ran 81.91 332 ⇑P P 08 27 24.5 +1.3
baz=82
PHWY Pilot Hill 81.95 333 eP P 08 27 23.4 +0.1
6.6nm,1.0s
J29A Okreek 81.99 337 ⇓P P 08 27 24.0 +0.9
baz=82
DECC Green Verdugo 82.12 320 ⇑P P 08 27 25.6 +1.5
baz=82
CCUT Cedar City 82.21 326 eP P 08 27 26.4 +1.7
14nm,1.4s
J28A Allard Ranch, 82.30 337 ⇓P P 08 27 26.3 +1.4
baz=83
J27A Elkhorn Farm, 82.41 336 ⇑P P 08 27 26.5 +1.0
baz=83
MVU Marysvale 82.44 327 eP P 08 27 26.3 +0.4
8.3nm,1.4s
M22A Cedar Creek Ra 82.48 332 ⇓P P 08 27 27.4 +1.4
baz=83
I28A Midland 82.80 337 ⇑P P 08 27 28.1 +0.7
baz=83
J26A Sides Ranch, S 82.83 335 ⇑P P 08 27 28.6 +1.0
baz=83
K24A Anderson Ranch 82.94 334 ⇓P P 08 27 29.6 +1.3
baz=83
H29A Onida 83.05 338 ⇑P P 08 27 29.3 +0.6
baz=83
FURC Furnace Creek, 83.06 323 ⇑P P 08 27 29.7 +0.9
baz=83
I27A Quinn 83.15 336 ⇑P P 08 27 30.7 +1.4
baz=84
G30A Faulkton 83.17 339 ⇓P P 08 27 30.4 +1.1
baz=84
K23A Bowen Ranch, D 83.27 333 ⇑P P 08 27 31.5 +1.5
baz=84
H28A Mission Ridge 83.35 337 ⇑P P 08 27 31.6 +1.3
baz=84
K22A Casper 83.52 333 eP P 08 27 32.2 +0.9
19nm,1.4s
K22A Casper 83.52 333 ⇑P P 08 27 32.4 +1.1
baz=84
H27A Howes 83.66 337 ⇓P P 08 27 32.4 +0.6
baz=84
G28A Parade 83.67 338 ⇑P P 08 27 33.0 +1.1
baz=84
I25A Rochford 83.68 335 ⇑P P 08 27 33.7 +1.6
baz=84
VES Vestal, Richgr 83.73 321 ⇓P P 08 27 33.4 +1.0
baz=84
GRAC Grapevine Rang 83.73 323 ⇓P P 08 27 33.4 +1.0
baz=84
F30A Leola 83.77 339 ⇑P P 08 27 33.5 +1.1
baz=84
K21A Alcova 83.78 332 ⇑P P 08 27 33.7 +1.0
baz=84
R11A Troy Canyon, C 83.90 325 eP P 08 27 34.1 +0.7
14nm,1.6s
R11A Troy Canyon, C 83.90 325 ⇓P P 08 27 34.2 +0.7
baz=84
DUG Dugway 84.09 327 eP P 08 27 34.9 +0.6
4.5nm,1.0s
DUG Dugway 84.09 327 ⇓P P 08 27 35.1 +0.9
baz=84
J22A Midwest 84.15 333 ⇑P P 08 27 35.4 +0.8
baz=84
H25A Fruitdale 84.16 336 ⇑P P 08 27 35.4 +1.0
baz=84
G27A Dupree 84.27 337 ⇓P P 08 27 36.0 +1.1
baz=85
F28A McLaughlin 84.33 338 ⇑P P 08 27 36.3 +1.1
baz=85
E30A Jud 84.34 339 ⇓P P 08 27 36.1 +0.9
baz=85
G26A Maurine 84.41 337 ⇑P P 08 27 36.3 +0.7
baz=85
TPH Tonopah 84.49 323 eP P 08 27 37.3 +0.9
18nm,1.5s
I22A 9 Mile Ranch, 84.56 333 ⇓P P 08 27 36.9 +0.4
baz=85
G25A Newell 84.60 336 ⇓P P 08 27 37.3 +0.6
baz=85
H24A Dirks Ranch, A 84.60 335 ⇑P P 08 27 37.0 +0.3
baz=85
HWUT Hardware Ranch 84.69 329 eP P 08 27 37.2 -0.1
18nm,1.3s
J20A Shoshoni 84.72 332 ⇑P P 08 27 37.9 +0.6
baz=85
F27A Lemmon 84.74 337 ⇑P P 08 27 38.0 +0.7
baz=85
I21A Big Trails, Te 84.80 333 ⇓P P 08 27 38.2 +0.5
baz=85
PDAR Pinedale Array 84.81 331 P P 08 27 37.1 -0.9
1.8nm,1.1s,baz=108,slow=4.8,SNR=7.4
D30A Buchanan 84.85 340 ⇓P P 08 27 38.3 +0.5
baz=85,SNR=6.5
J19A Crowheart 85.02 332 ⇑P P 08 27 39.7 +0.8
baz=85
AGMN Agassiz Nation 85.15 342 ⇑P P 08 27 40.0 +0.8
baz=86
I20A Worland 85.24 332 ⇓P P 08 27 40.5 +0.6
baz=86
F25A Bowman 85.26 336 ⇑P P 08 27 40.7 +0.8
baz=86
G23A Biddle 85.29 335 ⇑P P 08 27 41.1 +0.9
baz=86
C30A Mose, Pekin 85.31 340 ⇑P P 08 27 41.2 +1.1
baz=86
NVAR Mina Array Bea 85.31 323 P P 08 27 41.5 +1.0
1.8nm,0.9s,baz=164,slow=4.7,SNR=7.6
HVU Hansel Valley 85.35 328 eP P 08 27 40.8 +0.2
6.7nm,0.9s
D28A Regan 85.46 339 ⇑P P 08 27 41.9 +1.1
baz=86
H20A Greybull 85.64 333 ⇑P P 08 27 42.2 +0.3
baz=86,SNR=6.6
F23A Volborg 85.75 335 ⇑P P 08 27 42.7 +0.3
baz=86
LOHW Long Hollow 85.94 331 eP P 08 27 44.3 +0.7
34nm,2.5s
B30A Myrvik Farm, E 85.94 341 ⇓P P 08 27 44.2 +1.0
baz=86
G21A Lodge Grass 85.97 334 ⇑P P 08 27 44.7 +1.1
baz=86
E24A Baker 86.10 336 ⇑P P 08 27 45.2 +1.1
baz=86
F22A Rosebud 86.10 335 ⇑P P 08 27 44.9 +0.8

baz=86
FXWY Fox Creek 86.13 331 eP P 08 27 41.0 -3.5
37nm,2.7s
H19A Powell 86.18 332 ⇑P P 08 27 45.5 +0.9
baz=86
I17A Pilgrim Ck. 86.18 331 ⇓P P 08 27 45.3 +0.6
baz=86
C27A Sayler Ranch, 86.21 338 ⇑P P 08 27 45.6 +1.1
baz=86
B29A Wagenman Farm, 86.25 340 ⇑P P 08 27 45.8 +1.1
baz=87
D25A Fairfield 86.29 337 ⇓P P 08 27 45.9 +0.9
baz=87
IMW Indian Meadow 86.31 331 eP P 08 27 45.5 0.0
6.3nm,1.0s
G20A Bridger 86.34 333 ⇑P P 08 27 45.0 -0.4
baz=87,SNR=5.9
FLWY Flagg Ranch 86.36 331 eP P 08 27 46.8 +1.2
102nm,2.9s
H18A Shoshone NF, C 86.45 332 ⇑P P 08 27 46.0 -0.1
baz=87,SNR=7.8
C26A Wahner Farm, P 86.49 338 ⇓P P 08 27 46.9 +0.9
baz=87
B28A Dugan Ranch, T 86.52 339 ⇑P P 08 27 47.0 +1.0
baz=87
D24A Glendive 86.59 336 ⇓P P 08 27 47.5 +1.0
baz=87
A29A Manning Farm, 86.63 340 ⇓P P 08 27 47.3 +0.7
baz=87
D23A Lindsay 86.94 336 ⇓P P 08 27 48.6 +0.5
baz=87
ULM Lac du Bonnet 86.95 343 P P 08 27 47.6 -0.5
2.4nm,0.9s,baz=162,slow=3.2,SNR=3.2
ULM LR LR 09 08 20.6
comp=Z,539nm,19.8s,baz=330,slow=37
YMR Madison River 86.96 331 eP P 08 27 49.7 +1.2
11nm,1.0s
C24A Savage 86.98 337 ⇓P P 08 27 48.9 +0.5
baz=87
F19A Roth Farm, Mol 87.15 333 ⇓P P 08 27 49.8 +0.5
baz=88
E20A Meyer Farm, Mu 87.40 334 ⇓P P 08 27 51.0 +0.5
baz=88,SNR=7.5
A26A Wade Farm, Ken 87.43 339 ⇑P P 08 27 52.1 +1.7
baz=88
D21A La Casta Ranch 87.47 335 ⇓P P 08 27 51.2 +0.4
baz=88
C23A Lambert 87.47 336 ⇓P P 08 27 51.3 +0.6
baz=88
HLID Hailey 87.50 328 eP P 08 27 52.1 +0.9
6.1nm,1.2s
HLID Hailey 87.50 328 ⇓P P 08 27 51.7 +0.5
baz=88
E19A Rath Farm, Rou 87.61 333 ⇑P P 08 27 52.2 +0.7
baz=88
C22A Vida 87.66 336 ⇑P P 08 27 52.3 +0.7
baz=88
DGMT Dagmar 87.73 337 eP P 08 27 52.7 +0.7
14nm,0.8s
DGMT Dagmar 87.73 337 ⇑P P 08 27 53.2 +1.2
baz=88
A25A Svangstu Ranch 87.79 338 ⇑P P 08 27 53.1 +0.9
baz=88
MCMT McKenzie Canyo 87.86 330 eP P 08 27 52.8 -0.1
3.7nm,1.4s
D20A Manuel Ranch, 87.90 334 ⇑P P 08 27 53.1 +0.3
baz=88,SNR=7.9
B23A Brockton 87.98 337 ⇑P P 08 27 53.0 -0.2
baz=88
MFID Camas Ranch 88.01 328 eP P 08 27 54.7 +1.2
6.0nm,1.1s
A24A Westby 88.06 337 ⇑P P 08 27 54.2 +0.7
baz=88
C21A Desert Coulee 88.15 335 ⇑P P 08 27 54.4 +0.4
baz=88
B22A Reddig Ranch S 88.18 336 ⇑P P 08 27 55.3 +1.2
baz=88
DLMT Dillon 88.19 331 eP P 08 27 55.6 +1.2
15nm,1.5s
C20A Veseth Ranch, 88.38 335 ⇑P P 08 27 55.6 +0.5
baz=89
WVOR Wild Horse Val 88.54 325 eP P 08 27 56.0 -0.1
13nm,1.6s
A22A Carney Farms, 88.75 336 ⇑P P 08 27 57.1 +0.3
baz=89,SNR=5.2
C19A Slack Wire Ran 88.77 334 ⇑P P 08 27 57.6 +0.6
baz=89
A21A Bergtoll Ranch 89.09 336 ⇓P P 08 27 59.0 +0.7
baz=89
A20A Cobblestone Ra 89.34 335 ⇓P P 08 27 59.5 -0.1
baz=90
MSO Missoula 89.92 331 ⇑P P 08 28 03.9 +1.5
baz=90
WALA Waterton Lakes 91.71 332 eP P 08 28 11.3 +0.6
BMRM Bremner River 112.54 329 ePP PP 08 34 28.6 +2.4
PAX Paxson 113.85 331 ePP PP 08 34 36.5 +1.0
PMR Palmer 114.78 329 ePP PP 08 34 33.8 -8.1
ASAR Alice Springs 119.17 204 PKP PKPdf 08 33 52.2 -0.8
0.5nm,0.5s,baz=139,slow=1.7,SNR=12
AKASG Malin Array Be 119.77 47 PKP PKPdf 08 33 52.4 -0.7
0.5nm,0.5s,baz=262,slow=2.9,SNR=4.7
WRA Warramunga Arr 122.46 206 PKP PKPdf 08 33 58.8 -0.7
1.5nm,0.4s,baz=161,slow=1.5,SNR=30
ABKAR Akbulak array 139.13 52 ePKPdf PKPdf 08 34 27.3 -2.6
KBL Kabul 145.00 76 ePKPdf PKPdf 08 34 42.0 +0.9
HYB Hyderabad 146.35 110 iPKP PKPdf 08 34 44.0 +0.4
KKAR Karatay Array 146.77 61 ePKPdf PKPbc 08 34 44.5 -0.9
EKS2 Erkin-Say 149.19 62 ePKPdf PKPdf 08 34 49.3 +1.5
USP Ospenovka 149.67 61 P PKPbc 08 34 53.7 +0.7
SNR=6.7
AAK Ala-Archa 149.72 62 P PKPbc 08 34 54.5 +1.2
SNR=12
AAK Ala-Archa 149.72 62 ePKPdf PKPbc 08 34 54.4 +1.0
UCH Uchtor 149.77 63 P PKPbc 08 34 55.1 +1.2
SNR=6.1
CHMS Chumysh 149.88 61 P PKPbc 08 34 54.3 +0.7
SNR=6.0
KZA Kyzart 150.33 63 P PKPbc 08 34 56.6 +1.5
SNR=5.9
TKM2 Tokmak 2 150.50 61 P PKPbc 08 34 55.9 +0.6
SNR=8.7
TKM2 Tokmak 2 150.50 61 ePKPdf PKPbc 08 34 55.8 +0.5
KURK Kurchatov 150.56 45 ePKPdf PKPbc 08 34 55.4 +0.6
ULHL Ulahol 151.05 62 P PKPbc 08 34 57.8 +1.2
SNR=8.9
ZAA0 Zalesovo Array 152.28 35 ePKPbc PKPbc 08 34 58.7 0.0
ZALV Zalesovo Beam 152.28 35 ePKPbc PKPbc 08 34 59.1 +0.4
10nm,0.8s,baz=298,slow=3.2,SNR=26
ZALV PKPab PKPab 08 35 06.0 -2.6
18nm,0.8s,baz=298,slow=3.2,SNR=22
MK31 Makanchi Array 154.26 51 ePKPdf PKPdf 08 34 55.1 0.0
MK31 ePKPbc PKiKP 08 35 03.5 +0.1
MKAR Makanchi Array 154.26 51 PKP PKPdf 08 34 54.4 -0.7
0.7nm,1.0s,baz=301,slow=0.8,SNR=3.7
MKAR PKPbc PKPbc 08 35 02.3 -1.0
2.7nm,0.9s,baz=288,slow=1.9,SNR=11
MKAR PKPab PKPab 08 35 17.5 +0.1
1.0nm,0.6s,baz=286,slow=2.9,SNR=6.3
WMQ Urumqi 158.88 54 ePKP PKPdf 08 35 00.0 -1.2
WMQ LR LR
comp=N,73nm,15.8s
WMQ LR LR
comp=E,140nm,16.0s
WMQ LR LR
comp=Z,130nm,15.8s
KMI Kunming 168.60 136 PKP PKPdf 08 35 10.8 -0.2
GTA Gaotai 168.96 55 ePKP PKPdf 08 35 07.0 -3.7
GTA pPKP pPKPdf 08 35 17.8 +2.0
GTA sPKP 08 35 21.5
GTA PKPab PKPab 08 36 26.0 +4.1
GYA Guiyang 171.72 148 ePKP PKPdf 08 35 12.8 +0.2
GYA PKS PKSdf 08 38 43.0 -2.1
GYA PP PP 08 40 27.5 +2.9
GYA SKKS 08 47 10.5
GYA LR LR
comp=N,120nm,21.9s
GYA LR LR
comp=E,110nm,21.4s
GYA LR LR
comp=Z,120nm,24.5s
HHC Hu-ho-hao-te 172.78 360 ePKP PKPdf 08 35 11.3 -1.3
HHC pPKP pPKPdf 08 35 22.0 +4.2
HHC PP PP 08 40 31.0 +1.7
HHC SKS SKSdf 08 42 09.3 -6.1
HHC LR LR
comp=N,260nm,19.0s
HHC LR LR
comp=E,500nm,19.2s
HHC LR LR
comp=Z,580nm,20.8s
CD2 Chengdu 172.91 110 PKP PKPdf 08 35 12.8 -0.1
LZH Lanzhou 173.24 67 ePKP PKPdf 08 35 11.3 -1.7
LZH pPKP pPKPdf 08 35 21.5 +3.3
LZH sPKP 08 35 25.8
NJ2 Nanjing 173.62 258 ePKP PKPdf 08 35 12.0 -1.0

JMA 28 08:15:56.4±0.3, 34.75N×142.13E, h43km, M4.0
IDC 28 08:15:56.0±0.8, 34.77N×141.91E, h0km, mb3.8/13, mb1 4.0/17, mb1mx3.9/44, mbtmp3.9/17, ML3.7/3, Error ellipse: s-maj=19.6km s-min=17.6km az=76.0
NEIC 28 08:15:57.7±0.5, 34.81N×141.92E, h10km, mb4.4/5, Error ellipse: s-maj=9.0km s-min=8.4km az=159.0
ISC 28 08:15:57.0±2.1, 34.85N±0.06×141.92E±0.07, h4km±12km, n42, σ0§91/50, mb4.0/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.80	256	P	Pn	08 16 13.5	-1.0
BSO1				eS	Sn	08 16 26.2	-0.3
BSO2	Boso 2	0.96	265	eS	Sn	08 16 31.1	+0.1
BSO3	Boso 3	1.16	268	P	Pb	08 16 19.3	-0.1
CHOJ	Chosi	1.22	315	P	Pg	08 16 20.5	+0.2
CHOJ				eS	Sn	08 16 37.7	+0.1
BSO4	Boso 4	1.31	277	P	Pg	08 16 22.0	0.0
KTR	Katsuura	1.35	283	eS	Sn	08 16 40.8	-0.1
JCN	Nagara	1.52	292	P	Pb	08 16 25.4	-0.3
JIM2	Oshima 3	2.05	267	P	Pn	08 16 30.8	-1.4
JOD2	Odawara 2	2.36	281	P	Pn	08 16 35.6	-0.9
JOD2				eS	Sn	08 17 04.8	-1.1
JIZS	Izushimoda	2.51	268	P	Pn	08 16 37.5	-1.0
JIZS				eS	Sn	08 17 08.2	-1.3
JAG	Ashikaga	2.55	309	P	Pn	08 16 39.0	-0.1
JAG				eS	Sn	08 17 09.7	-0.9
JFK	Kawauchi	2.65	342	P	Pn	08 16 39.4	-1.1
JFK				S	Sn	08 17 09.5	-3.6
JRY	Ryogami san	2.73	296	P	Pn	08 16 41.8	+0.3
JYN	Shimob	2.84	284	P	Pn	08 16 42.6	-0.5
MJAR	Matsushiro Arr	3.46	300	Pn	Pn	08 16 52.8	+0.2
	4.6nm,0.3s,baz=103,slow=9.7,SNR=37						
MJAR				Sn	Sn	08 17 34.5	+1.5
	7.2nm,0.3s,baz=101,slow=19,SNR=5.8						
MAJO	Matsushiro	3.46	300	ePn	Pn	08 16 51.8	+0.2
MAJO				eSn	Sn	08 17 32.3	-0.8
MAT	Matsushiro	3.46	300	P	Pn	08 16 51.8	+0.2
MAT				S	Sn	08 17 34.1	+1.0
ASAJ	Asahikawa	9.27	3	Pn	Pn	08 18 10.6	-0.8
	1.2nm,0.3s,baz=208,slow=12,SNR=11						
JNU	Nakatsue	9.33	262	Pn	Pn	08 18 12.8	+0.6
	0.5nm,0.3s,baz=83,slow=11,SNR=11						
USRK	Ussuriysk Arra	12.07	324	Pn	Pn	08 18 50.6	+0.9
	0.1nm,0.3s,baz=134,slow=14,SNR=3.8						
ULN	Ulaanbaatar	28.96	307	eP	P	08 21 58.4	+0.8
	3.6nm,1.0s						
SONM	Songino Array	29.39	307	P	P	08 22 01.4	+0.1
	4.3nm,1.1s,baz=110,slow=9.7,SNR=13						
CMAR	Chiang Mai Arr	41.40	258	P	P	08 23 43.6	-0.9
	0.7nm,0.5s,baz=50,slow=6.0,SNR=5.0						
ZAA0	Zalesovo Array	43.71	314	eP	P	08 23 59.3	-3.5
ZALV	Zalesovo Beam	43.71	314	P	P	08 24 02.7	-0.2
	1.2nm,0.5s,baz=87,slow=7.6,SNR=7.0						
MK31	Makanchi Array	45.65	304	eP	P	08 24 18.6	+0.1
MKAR	Makanchi Array	45.65	304	P	P	08 24 18.3	-0.3
	1.3nm,0.8s,baz=92,slow=7.5,SNR=8.5						
KURK	Kurchatov	47.62	310	eP	P	08 24 32.8	-1.1
	3.3nm,0.8s						
TKM2	Tokmak 2	51.05	300	eP	P	08 25 00.6	+0.1
	1.5nm,0.5s						
ILAR	Eielson Array	51.13	31	P	P	08 25 00.9	+0.4
	0.9nm,0.8s,baz=259,slow=5.9,SNR=11						
KKAR	Karatay Array	54.60	302	eP	P	08 25 26.5	0.0
	6.4nm,0.9s						
WRA	Warramunga Arr	54.96	189	P	P	08 25 28.6	-0.6
	2.7nm,0.9s,baz=7.3,slow=7.6,SNR=10						
ARU	Arti	58.28	320	eP	P	08 25 52.1	-0.3
	7.3nm,1.2s						
ASAR	Alice Springs	58.69	189	P	P	08 25 54.5	-1.2
	0.2nm,0.5s,baz=1.7,slow=6.1,SNR=3.4						
GEYT	Alibeck	65.27	300	P	P	08 26 39.7	-0.3
	1.1nm,0.3s,baz=64,slow=3.4,SNR=4.6						
YKA	Yellowknife Ar	65.49	30	P	P	08 26 41.8	+0.9
	0.2nm,0.9s,baz=296,slow=5.4,SNR=3.7						
ARE0	ARCESS Array S	66.18	340	P	P	08 26 46.4	+1.1
AKASG	Malin Array Be	76.28	323	P	P	08 27 46.9	+0.3
	0.4nm,0.5s,baz=45,slow=5.8,SNR=3.6						
NB2	NORSAR Subarra	76.36	338	P	P	08 27 48.2	+1.2
	comp=Z,7.7nm,1.4s,baz=40,slow=5.9						
NOA	NORSAR Array B	76.36	338	P	P	08 27 46.6	-0.4
	comp=Z,0.9nm,0.8s,baz=39,slow=5.8,SNR=3.6						
GERES	GERESS Array B	84.78	329	P	P	08 28 32.9	+0.4
	comp=Z,0.5nm,0.8s,baz=33,slow=2.3,SNR=3.2						
TXAR	Lajitas Array	91.12	53	P	P	08 29 03.4	+0.1
	comp=Z,0.3nm,0.8s,baz=316,slow=2.5,SNR=2.4						

NIED 28 08:17:00, 34.80N×142.10E, h8km, Mw5.4 Best double couple: M0 1.42000×10^17 NP1:φs344.00000°, δ55.00000°, λ42.00000°. NP2:φs227.00000°, δ56.00000°, λ137.00000°.
IDC 28 08:17:41.9±0.4, 34.80N×141.76E, h0km, mb4.7/30, mb1 4.9/36, mb1mx4.8/38, mbtmp4.8/36, ML4.3/5, MS5.1/34, Ms1 5.1/34, ms1mx4.9/52, Error ellipse: s-maj=12.5km s-min=10.4km az=79.0
JMA 28 08:17:41.4±0.3, 34.78N×142.14E, h42km, M5.5
BJI 28 08:17:42.1, 34.80N×141.50E, h14km, mB5.4/61, mb5.1/70, Ms5.8/86, Ms7 5.6/78
ISCJB 28 08:17:44.5±0.6, 34.79N±0.02×141.54E±0.02, h21km±4km, mb5.2/255, MS5.3/215, Error ellipse: s-maj=3.3km s-min=2.4km az=171.4
GCMT 28 08:17:44.3±0.3, 34.69N×142.19E, h17km±1km, MW5.4/81, Moment Tensor Solution. s42,c51; s81,c155; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr0.82±.05; Mθθ-0.14±.03; Mφφ-0.68±.03; Mrθ0.44±.08; Mrφ-0.32±.02; Mθφ1.06±.11; Best double couple: M0 1.41500×10^17 NP1:φs23.00000°, δ72.00000°, λ89.00000°. NP2: φs207.00000°, δ18.00000°, λ94.00000°. Principal axes: T 1.4110, Plg63.0000°, Azm291.0000°; N 0.0080, Plg1.0000°, Azm23.0000°; P -1.4190, Plg27.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 28 08:17:44.3±0.1, 34.83N×141.47E, h10km, mb5.4/133, MS5.2/148, MW5.6, MW5.4(NIED) Error ellipse: s-maj=4.9km s-min=3.6km az=138.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^17Nm; Mrr0.51; Mθθ-0.34; Mφφ-0.17; Mrθ2.18; Mrφ-0.30; Mθφ2.42; Best double couple: M0 3.30000×10^17 NP1:φs246.00000°, δ5.00000°, λ114.00000°. NP2:φs42.00000°, δ85.00000°, λ88.00000°. Principal axes: T 3.2900, Plg49.0000°, Azm309.0000°; N 0.0300, Plg2.0000°, Azm42.0000°; P -3.3200, Plg40.0000°, Azm134.0000°;
MOS 28 08:17:46.5±0.9, 34.83N×141.59E, h40km, mb5.4/86, MS5.3/59 Error ellipse: s-maj=7.6km s-min=4.1km az=119.1
SZGRF 28 08:17:47.9, 35.38N×143.04E, h33km, mb5.4, MS5.2, Off east coast of Honshu, Japan
KMA 28 08:18:31.8, 35.30N×137.73E, h0km
ISC 28 08:17:44.4±0.4, 34.85N±0.03×141.64E±0.03, h14km±1km, h14km:pP-P, n1055, σ1§38/1025, mb5.3/258, MS5.3/218, 168C-157D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.58	251	P	Pn	08 17 58.8	+1.1
BSO3	Boso 3	0.93	268	P	Pn	08 18 05.0	+2.2
CHOJ	Chosi	1.07	323	P	Pb	08 18 05.0	+0.3
CHOJ				eS	Sn	08 18 23.5	+3.9
BSO4	Boso 4	1.08	278	P	Pg	08 18 07.3	+2.1
KTR	Katsuura	1.13	286	P	Pg	08 18 07.2	+1.0
KTR				eS	Sg	08 18 26.1	+5.2
JCN	Nagara	1.31	296	P	Pg	08 18 10.4	+0.8
JCN				eS	Sg	08 18 31.2	+4.5
JIM2	Oshima 3	1.82	267	P	Pn	08 18 16.1	+0.7
JMY	Miyakejima3	1.92	247	P	Pn	08 18 17.3	+0.6
JOD2	Odawara 2	2.13	282	P	Pn	08 18 20.6	+0.9
JOD2				eS	Sb	08 18 49.6	+0.4
JIZS	Izushimoda	2.28	268	P	Pn	08 18 22.2	+0.6
JIZS				eS	Sn	08 18 51.2	+1.8
JHJ2	Mitsune	2.30	222	P	Pn	08 18 22.1	+0.3
JHJ2				eS	Sn	08 18 50.6	+0.6
JHJ2	Mitsune	2.30	222	ePn	Pn	08 18 22.2	+0.3
JAG	Ashikaga	2.38	312	P	Pn	08 18 24.2	+1.2
JAG				eS	Sb	08 18 55.4	-0.8
JRY	Ryogami san	2.52	298	P	Pn	08 18 27.3	+2.3
JRY				eS	Sb	08 19 01.9	+1.5
JFK	Kawauchi	2.59	346	P	Pn	08 18 24.1	-1.8
JFK				eS	Sn	08 18 55.1	-2.1
JYN	Shimob	2.62	285	⇑P	Pn	08 18 27.8	+1.4
JYN				eS	Sb	08 19 03.3	+0.1
JFT	Otama	2.87	339	P	Pn	08 18 30.1	+0.4
JFT				eS	Sn	08 19 05.1	+1.1
JNY	Yasuok	3.14	280	P	Pn	08 18 36.5	+3.0
MJAR	Matsushiro Arr	3.27	302	P	Pn	08 18 36.0	+0.8
MJAR						08 19 17.2	
MJAR				pmax	pmax		
	comp=Z,20nm,0.3s						
MJAR				smax	smax		
	comp=N,22nm,0.3s						
MJAR	Matsushiro Arr	3.27	302	Pn	Pn	08 18 36.0	+0.8
	comp=N,20nm,0.3s,baz=106,slow=12,SNR=16						
MJAR				Sn	Sn	08 19 17.2	+3.3
	comp=N,22nm,0.3s,baz=127,slow=14,SNR=4.7						
MAJO	Matsushiro	3.27	302	c iP	Pn	08 18 36.8	+1.6
MAT	Matsushiro	3.27	302	P	Pn	08 18 36.9	+1.7
MAT				S	Sb	08 19 18.5	-3.3
JGF	Kuroka	3.59	283	P	Pn	08 18 42.9	+3.3
JIE	Ise	4.09	265	P	Pn	08 18 49.6	+3.0
JKN2	Miekihoku	4.47	264	P	Pn	08 18 54.9	+3.2
ERM	Erimo	7.25	9	eP	Pn	08 19 28.1	-1.9
ERM				pmax	pmax		
	comp=Z,77nm,0.8s						
ERM	Erimo	7.25	9	ePn	Pn	08 19 28.1	-1.9
	comp=Z,77nm,0.8s						
CBIJ	Chichi jima	7.74	176	Pn	Pn	08 19 36.7	0.0
CBIJ				Sn	Sn	08 20 54.5	-10
JCJ	Chichijima	7.74	176	Pn	Pn	08 19 36.7	0.0
	comp=Z,22nm,0.3s,baz=260,slow=7.9,SNR=3.8						
JCJ				Sn	Sn	08 20 54.5	-10
	comp=Z,44nm,0.3s,baz=356,slow=22,SNR=7.4						
JCJ				LR	LR	08 22 53.8	
	comp=Z,8μm,18.2s,baz=348,slow=41						
JNU	Nakatsue	9.10	262	Pn	Pn	08 19 57.1	+1.7
	comp=Z,1.9nm,0.3s,baz=79,slow=9.4,SNR=44						
JNU	Nakatsue	9.10	262	ePn	Pn	08 19 55.3	0.0
ASAJ	Asahikawa	9.29	4	P	Pn	08 19 56.4	-1.4
ASAJ						08 21 36.3	
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,11nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,22μm,18.9s						
ASAJ	Asahikawa	9.29	4	Pn	Pn	08 19 56.4	-1.4
	comp=Z,5.9nm,0.3s,baz=187,slow=15,SNR=15						
ASAJ				Sn	Sn	08 21 36.3	-5.7
	comp=Z,11nm,0.3s,baz=58,slow=16,SNR=7.7						
ASAJ				LR	LR	08 24 27.1	
	comp=Z,22μm,18.9s,baz=192,slow=43						
ASAJ	Asahikawa	9.29	4	Pn	Pn	08 19 56.4	-1.4
ASAJ				eSn	Sn	08 21 31.5	-11
ASAJ				Sn	Sn	08 21 36.3	-5.8
YUK	Yuzh-Kuril'sk	9.74	18	⇓iP	Pn	08 19 58.3	-5.7
YUK				pmax	pmax		
	comp=N,51nm,0.3s						
YUK				pmax	pmax		
	comp=E,24nm,0.3s						
YUK				pmax	pmax		
	comp=Z,93nm,0.3s						
KSPHA	Pohang	10.09	281	P	Pn	08 20 12.8	+3.9
	SNR=8.2						
KSDAG	Daegu	10.46	279	P	Pn	08 20 18.7	+4.8
	SNR=8.2						
VLA	Vladivostok	11.21	320	iP	Pn	08 20 25.2	+1.0
VLA				pmax	pmax		
	comp=Z,53nm,1.3s						
KSCPR	CHUPUNGNYEONG	11.22	281	P	Pn	08 20 29.2	+4.8
	SNR=12						
KSIJA	INJE	11.34	290	P	Pn	08 20 31.0	+5.0
	SNR=10						
KSRS	Korea Array	11.39	287	P	Pn	08 20 29.5	+2.8
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,4μm,19.7s						
KSRS	Korea Array	11.39	287	Pn	Pn	08 20 29.5	+2.8
	comp=Z,0.5nm,0.3s,baz=99,slow=12,SNR=17						
KSRS				LR	LR	08 24 54.5	
	comp=Z,4μm,19.7s,baz=72,slow=38						
KUR	Kuril'sk	11.41	23	P	Pn	08 20 22.7	-4.2
KUR				pmax	pmax		
	comp=Z,12nm,0.5s						
KUR				pmax	pmax		
	comp=N,19nm,1.0s						
KUR				pmax	pmax		
	comp=E,47nm,1.0s						
KUR				MLR	MLR		
	comp=N,13μm,14.0s						
KUR				MLR	MLR		
	comp=E,13μm,14.0s						
KUR				MLR	MLR		
	comp=Z,4μm,14.0s						
KSAR	Wonju Array Be	11.42	287	P	Pn	08 20 29.5	+2.4
KSAR	Wonju Array Be	11.42	287	Pn	Pn	08 20 29.5	+2.4
KSCHC	Chuncheon	11.53	289	P	Pn	08 20 33.9	+5.3
	SNR=7.2						
KSJEO	Jeonju	11.76	279	P	Pn	08 20 36.4	+4.6
	SNR=6.2						
KSCWO	Cheorwon	11.82	290	P	Pn	08 20 37.5	+5.0
	SNR=8.0						
USRK	Ussuriysk Arra	11.94	324	Pn	Pn	08 20 35.2	+1.1
	comp=Z,0.8nm,0.3s,baz=134,slow=13,SNR=14						
USRK				LR	LR	08 24 51.7	
	comp=Z,8μm,19.8s,baz=129,slow=36						
YSS	Yuzh-Sakhalins	12.12	4	⇓eP	Pn	08 20 33.0	-3.6
YSS				pmax	pmax		
	comp=Z,70nm,1.0s						
YSS				MLR	MLR		
	comp=N,24μm,14.0s						
YSS				MLR	MLR		
	comp=E,17μm,14.0s						
YSS				MLR	MLR		
	comp=Z,24μm,14.0s						
YSS	Yuzh-Sakhalins	12.12	4	ePn	Pn	08 20 33.7	-2.9
KSGUS	GUNSAN	12.18	280	P	P	08 20 49.5	-0.5
	SNR=6.3						
YNCB	YEONCHEON	12.27	289	P	Pn	08 20 43.6	+4.9
	SNR=8.1						
KSMUS	Musan	12.37	289	P	Pn	08 20 46.2	+6.1
	SNR=6.4						
INCN	Inchon	12.41	287	Pn	Pn	08 20 37.2	-3.4
MDJ	Mudanjiang	13.45	320	P	Pn	08 20 56.5	+1.8
MDJ				S	Sn	08 23 26.0	+2.1
MDJ				PcP	PcP	08 26 22.8	+0.7
MDJ				ScP	ScP	08 29 55.8	+0.7
MDJ				PcS	PcS	08 30 00.5	+3.9
MDJ				ScS	ScS	08 33 27.3	-4.4
MDJ				pmax	pmax		
	comp=Z,20nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,2μm,10.8s						
MDJ				LR	LR		
	comp=Z,12μm,11.9s						
MDJ				LR	LR		
	comp=Z,15μm,14.7s						
MDJ				LR	LR		
	comp=Z,18μm,11.9s						
MDJ	Mudanjiang	13.45	320	ePn	Pn	08 20 55.5	+0.8
	comp=Z,44nm,1.0s						
JOW	Kunigami	13.98	239	Pn	Pn	08 21 02.3	+0.2
	baz=63,slow=6.8,SNR=2.7						
UGL	Uglegorsk	14.22	1	P	Pn	08 21 03.3	-2.0
UGL				S	Sn	08 23 44.0	+1.2
UGL				pmax	pmax		
	comp=Z,1μm,5.0s						
UGL				smax	smax		
	comp=N,2μm,12.0s						
UGL				smax	smax		
	comp=E,1μm,12.0s						
UGL				MLR	MLR		
	comp=N,19μm,14.0s						
UGL				MLR	MLR		
	comp=E,16μm,14.0s						
UGL				MLR	MLR		

comp=Z,20μm,14.0s
HABR Khabarovsk 14.47 342 cP Pn 08 21 07.0 -1.7
HABR pmax pmax
comp=Z,36nm,1.6s
CN2 Changchun 15.37 310 eP Pn 08 21 21.8 +0.9
CN2 eS Sn 08 24 09.3 -1.6
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,3μm,15.0s
CN2 LR LR
comp=Z,3μm,15.0s
CN2 LR LR
comp=Z,4μm,16.0s
SNY Shenyang 15.78 302 ⇓P Pn 08 21 25.5 -0.6
SNY S Sn 08 24 27.0 +6.2
SNY pmax pmax
comp=Z,42nm,1.9s
SNY pmax pmax
comp=Z,3μm,11.6s
SNY LR LR
comp=Z,27μm,13.5s
SNY LR LR
comp=Z,10μm,15.1s
SNY LR LR
comp=Z,13μm,16.1s
KLR Kul'dur 16.12 336 eP Pn 08 21 24.5 -6.0
DL2 Dalian 16.51 290⇑iP Pn 08 21 36.5 +0.9
DL2 S Sn 08 24 40.0 +1.4
DL2 pmax pmax
comp=Z,50nm,1.5s
DL2 pmax pmax
comp=Z,2μm,9.3s
DL2 LR LR
comp=Z,15μm,13.1s
DL2 LR LR
comp=Z,16μm,16.1s
DL2 LR LR
comp=Z,20μm,16.0s
SSE Sheshan 17.56 263 ⇑P Pn 08 21 48.0 -0.8
SSE pP P 08 21 51.0 +1.2
SSE S Sn 08 25 01.5 -2.7
SSE sS S 08 25 07.5 -4.4
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,1μm,8.8s
SSE LR LR
comp=Z,25μm,17.6s
SSE LR LR
comp=Z,10μm,17.6s
SSE LR LR
comp=Z,15μm,16.2s
SKR Severo-Kuril's 19.01 29 eS Sn 08 25 38.0 -0.8
SKR pmax pmax
comp=Z,3μm,8.0s
SKR smax smax
comp=N,3μm,14.0s
SKR smax smax
comp=E,5μm,14.0s
SKR MLR MLR
comp=N,3μm,14.0s
SKR MLR MLR
comp=Z,5μm,14.0s
SKR MLR MLR
comp=E,6μm,12.0s
NJ2 Nanjing 19.21 268 eP P 08 22 07.5 -0.5
NJ2 S Sn 08 25 42.0 -2.0
NJ2 pmax pmax
comp=E,20nm,1.2s
NJ2 pmax pmax
comp=E,620nm,10.3s
NJ2 LR LR
comp=E,21μm,19.4s
NJ2 LR LR
comp=E,10μm,12.4s
NJ2 LR LR
comp=E,11μm,12.2s
TIA Tai'an 19.99 281 ⇓P P 08 22 15.0 -1.5
TIA pmax pmax
comp=E,20nm,1.3s
TIA pmax pmax
comp=E,2μm,13.7s
TIA LR LR
comp=E,24μm,15.5s
TIA LR LR
comp=E,7μm,16.1s
TIA LR LR
comp=E,11μm,16.7s
YHNB Yeheng 20.27 245 PFAKE 08 22 30.0 +8.3
YHNB LR LR
comp=Z,3μm,20.0s
NACB Ninganchiao 20.39 244 eP P 08 22 21.0 +0.1
comp=Z,22nm,0.9s
BJI Beijing 20.84 292 P P 08 22 23.0 -2.7
BJI S S 08 26 12.8 -4.9
BJI pmax pmax
comp=Z,34nm,2.5s
BJI pmax pmax
comp=Z,1μm,14.2s
BJI LR LR
comp=Z,11μm,14.7s
BJI LR LR
comp=Z,8μm,14.4s
BJI LR LR
comp=Z,6μm,16.3s
BJT Baijiatuau 20.85 292 eP P 08 22 22.5 -3.2
BJT eS S 08 26 09.9 -7.9
BJT pmax pmax
comp=Z,171nm,1.6s
BJT MLR MLR
comp=Z,5μm,20.0s
BJT Baijiatuau 20.85 292 eP P 08 22 22.5 -3.2
comp=Z,171nm,1.6s
BJT eS S 08 26 09.9 -7.9
BJT LR LR
comp=Z,5μm,20.0s
GUMO Guam 21.36 171 eP P 08 22 32.6 +1.2
GUMO pmax pmax
comp=Z,718nm,1.3s
GUMO MLR MLR
comp=Z,3μm,19.0s
GUMO Guam 21.36 171 eP P 08 22 32.6 +1.2
comp=Z,718nm,1.3s
GUMO LR LR
comp=Z,3μm,19.0s
PETK Petropavlovsk- 21.52 27 P P 08 22 34.1 +1.3
comp=Z,3.1nm,0.9s,baz=203,slow=10,SNR=2.6
PETK LR LR 08 33 56.3
comp=Z,2μm,18.0s,baz=206,slow=45
HIA Hailar 21.62 318c iP P 08 22 34.6 +0.6
HIA pmax pmax
comp=Z,73nm,1.5s
HIA MLR MLR
comp=Z,12μm,15.0s
HIA Hailar 21.62 318 eP P 08 22 29.0 -4.9
comp=Z,134nm,1.4s
HIA eS S 08 26 30.8 -2.2
HIA LR LR
comp=Z,6μm,21.0s
PET Petropavlovsk 21.82 28 eP P 08 22 43.0 +7.0
PET eS S 08 26 35.5 -1.2
PET pmax pmax
comp=Z,600nm,7.6s
PET pmax pmax
comp=Z,56nm,1.6s
PET MLR MLR
comp=Z,4μm,20.0s
PET MLR MLR
comp=Z,4μm,15.0s
PET Petropavlovsk 21.82 28 eP P 08 22 36.2 +0.3
comp=Z,179nm,1.7s
PET LR LR
comp=Z,3μm,19.0s
QZH Quanzhou 22.24 250⇑iP P 08 22 36.8 -4.0
QZH S S 08 26 31.3 -14
QZH LR LR
comp=Z,10μm,14.3s
QZH LR LR
comp=Z,14μm,15.7s
QZH LR LR
comp=Z,14μm,12.5s
WHN Wuhan 23.33 267 P P 08 22 50.8 -1.4
WHN S S 08 27 01.0 -3.5
WHN LR LR
comp=Z,20μm,13.4s
WHN LR LR
comp=Z,33μm,11.6s
WHN LR LR
comp=Z,30μm,14.3s
TIY Taiyuan 23.68 285 eP P 08 22 56.8 +1.2
TIY S S 08 27 05.8 -4.3
TIY sS sS 08 27 16.3 -0.9
TIY pmax pmax
comp=Z,1μm,6.5s
TIY LR LR
comp=Z,7μm,12.4s
TIY LR LR
comp=Z,17μm,14.4s
TIY LR LR
comp=Z,25μm,14.7s
HHC Hu-ho-hao-te 24.42 293 eP P 08 23 02.0 -0.6
HHC PP PnPn 08 23 36.3 +3.2
HHC S S 08 27 16.5 -5.6
HHC PcS PcS 08 30 21.5 +0.1
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,2μm,6.1s
HHC LR LR
comp=Z,12μm,14.2s
HHC LR LR
comp=Z,10μm,12.0s
HHC LR LR
comp=Z,8μm,12.9s
CLNS Chul'man 24.76 338 eP P 08 23 05.2 -0.3
CLNS e*PP pP 08 23 19.9 +10
CLNS e 08 23 42.3
CLNS e 08 26 38.3
CLNS eS S 08 27 23.8 -3.3
CLNS pmax pmax
comp=Z,87nm,1.5s
CLNS pmax pmax
comp=E,26nm,1.5s
CLNS pmax pmax
comp=N,74nm,1.4s
CLNS pmax pmax
comp=Z,37nm,1.3s
CLNS pmax pmax
comp=E,47nm,1.2s
CLNS pmax pmax
comp=N,83nm,1.3s
CLNS smax smax
comp=E,2μm,12.1s
CLNS smax smax
comp=N,5μm,12.8s
CLNS MLR MLR
comp=E,7μm,13.0s
CLNS MLR MLR
comp=N,9μm,13.0s
CLNS MLR MLR
comp=Z,12μm,13.0s
BTO Baotou 25.58 292 eP P 08 23 13.3 +0.2
CIT Chita 26.42 319 eP P 08 23 21.2 +0.7
CIT e 08 23 33.4
CIT e 08 24 01.2
CIT pmax pmax
comp=Z,359nm,2.9s
H11N2 WAKE ISLAND Hy 26.92 117 T T 08 51 22.4
baz=309,slow=75,SNR=13
H11N1 WAKE ISLAND Hy 26.93 117 T T 08 51 23.6
baz=309,slow=75,SNR=13
XAN Xi'an 26.93 278 P P 08 23 23.8 -1.6
XAN S S 08 27 58.8 -3.2
XAN pmax pmax
comp=Z,10.0nm,1.5s
XAN pmax pmax
comp=Z,310nm,10.0s
XAN LR LR
comp=Z,7μm,17.6s
XAN LR LR
comp=Z,2μm,18.7s
XAN LR LR
comp=Z,5μm,16.0s
H11N3 WAKE ISLAND Hy 26.94 117 T T 08 51 24.4
baz=309,slow=75,SNR=12
WAKE Wake Island 27.03 119 PFAKE 08 23 40.0 +14
WAKE LR LR
comp=Z,5μm,19.0s
GZH Guangzhou 27.30 252 P P 08 23 22.0 -6.6
GZH S S 08 28 07.3 -0.4
GZH LR LR
comp=N,16μm,13.0s
GZH LR LR
comp=E,14μm,13.7s
GZH LR LR
comp=Z,29μm,13.2s
ENH Enshi 27.41 269 eP P 08 23 28.2 -1.5
comp=Z,13nm,0.9s
ENH LR LR
comp=Z,5μm,19.0s
H11S1 WAKE ISLAND Hy 27.57 120 T T 08 52 15.7
baz=312,slow=75,SNR=10
H11S3 WAKE ISLAND Hy 27.57 120 T T 08 52 17.4
baz=312,slow=75,SNR=12
H11S2 WAKE ISLAND Hy 27.58 120 T T 08 52 12.5
baz=312,slow=75,SNR=10.0
YAK Yakutsk 28.24 348 eP P 08 23 35.7 -1.0
YAK e*PP pP 08 23 55.0 +14
YAK eS S 08 28 16.3 -5.6
YAK pmax pmax
comp=Z,45nm,1.4s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=N,18nm,1.8s
YAK smax smax
comp=N,1μm,4.4s
YAK smax smax
comp=E,763nm,4.8s
YAK MLR MLR
comp=Z,19μm,17.0s
YAK MLR MLR
comp=N,12μm,16.0s
YAK MLR MLR
comp=E,9μm,17.0s
YAK Yakutsk 28.24 348 eP P 08 23 36.3 -0.3
comp=E,56nm,0.8s
YAK LR LR
comp=Z,8μm,19.0s
FX1 Attu Island--F 28.68 41 LR LR 08 34 15.0
comp=Z,2μm,18.2s,baz=248,slow=35
ULN Ulaanbaatar 28.78 307c iP P 08 23 42.4 +0.5
ULN pmax pmax
comp=Z,84nm,1.3s
ULN MLR MLR
comp=Z,5μm,16.0s
ULN Ulaanbaatar 28.78 307 P P 08 23 43.9 +2.1
SNR=34
ULN Ulaanbaatar 28.78 307 eP P 08 23 42.4 +0.5
comp=Z,136nm,1.5s
ULN LR LR
comp=Z,3μm,20.0s
SEY Seymchan 28.90 10 P P 08 23 43.0 +0.5
SEY pmax pmax
comp=Z,9.0nm,0.8s
SEY Seymchan 28.90 10 P P 08 23 43.0 +0.5
comp=Z,8.6nm,0.8s,baz=176,slow=7.8,SNR=13
SONM Songino Array 29.20 307 P P 08 23 46.6 +1.0
SONM 08 26 53.6
SONM pmax pmax
comp=Z,32nm,1.1s
SONM MLR MLR
comp=Z,4μm,18.3s
SONM Songino Array 29.20 307 P P 08 23 46.6 +1.0
comp=Z,32nm,1.1s,baz=110,slow=8.5,SNR=74
SONM PcP PcP 08 26 53.6 +1.0
comp=Z,1.9nm,0.6s,baz=109,slow=3.5,SNR=4.5
SONM LR LR 08 36 33.0
comp=Z,4μm,18.3s,baz=104,slow=39
BOD Bodaibo 29.49 330 eP P 08 23 47.9 +0.1
BOD pmax pmax
comp=Z,108nm,1.8s
LZH Lanzhou 30.68 283 eP P 08 23 58.0 -0.9
LZH pP pP 08 24 02.8 -0.4
LZH sP sP 08 24 05.0 +0.1
LZH S S 08 29 00.0 -1.2
LZH sS sS 08 29 08.0 -0.3
LZH pmax pmax
comp=Z,36nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.0s
LZH LR LR
comp=Z,17μm,15.7s
LZH LR LR
comp=Z,13μm,14.6s
LZH LR LR
comp=Z,14μm,15.3s
GYA Guiyang 31.11 264⇑iP P 08 24 04.0 +1.4
GYA PP PnPn 08 25 04.8 +0.8
GYA PcP PcP 08 27 01.0 +3.1
GYA S S 08 29 06.5 -1.4
GYA ScP ScP 08 30 42.3 +1.9
GYA SS SnSn 08 30 50.0 +0.7
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,140nm,4.8s
DAV Davao City (W) 31.35 212 PFAKE 08 24 20.0 +15
DAV LR LR
comp=Z,4μm,20.0s
IRK Irkutsk 31.74 315 eP P 08 24 08.5 +0.7
IRK pmax pmax
comp=Z,91nm,1.8s
ZAK Zakamensk 31.81 311 eP P 08 24 08.9 +0.4
ZAK pmax pmax
comp=Z,31nm,1.4s
CD2 Chengdu 31.93 274 eP P 08 24 08.8 -1.0
CD2 pP pP 08 24 13.3 -0.8
CD2 sP sP 08 24 15.8 0.0
CD2 PP PnPn 08 25 13.8 -0.8
CD2 S S 08 29 17.3 -3.3
CD2 sS sS 08 29 24.0 -3.7
CD2 SS SnSn 08 31 06.8 -2.3
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,460nm,8.2s
CD2 LR LR
comp=Z,24μm,18.8s
CD2 LR LR
comp=Z,17μm,14.9s
CD2 LR LR
comp=Z,19μm,15.1s
TLY Talaya 31.93 314 P P 08 24 10.3 +0.8
comp=Z,139nm,1.3s,SNR=9.6
TLY Talaya 31.93 314c iP P 08 24 10.7 +1.2
TLY e 08 25 32.4
TLY eS S 08 29 24.0 +3.8
TLY pmax pmax
comp=Z,58nm,1.6s
TLY MLR MLR
comp=Z,6μm,17.0s
TLY Talaya 31.93 314 P P 08 24 10.9 +1.3
SNR=21
TLY Talaya 31.93 314 P P 08 24 11.0 +1.5
comp=Z,8.6nm,0.8s,baz=130,slow=7.6,SNR=16
TLY LR LR 08 38 14.4
comp=Z,2μm,19.8s,baz=133,slow=38
TLY Talaya 31.93 314 eP P 08 24 11.0 +1.5
comp=Z,40nm,1.2s
QIZ Qiongzhong 32.26 249 P P 08 24 10.5 -2.2
QIZ pP pP 08 24 13.0 -4.0
QIZ sP sP 08 24 16.3 -2.4
QIZ PP PnPn 08 25 22.3 +3.4
QIZ S S 08 29 25.5 -0.2
QIZ sS sS 08 29 30.3 -2.5
QIZ pmax pmax
comp=Z,11nm,1.3s
QIZ LR LR
comp=Z,5μm,15.3s
QIZ LR LR
comp=Z,5μm,14.7s
QIZ Qiongzhong 32.26 249 PFAKE 08 24 20.0 +7.3
QIZ LR LR
comp=Z,2μm,20.0s
GTA Gaotai 33.44 290 ⇑P P 08 24 23.5 +0.5
GTA pP pP 08 24 28.0 +0.7
GTA sP sP 08 24 30.5 +1.5
GTA S S 08 29 42.0 -2.0
GTA sS sS 08 29 49.3 -1.9
GTA SS SnSn 08 31 42.5 -3.2
GTA pmax pmax
comp=Z,59nm,2.0s
GTA pmax pmax
comp=Z,830nm,5.5s
GTA LR LR
comp=Z,9μm,14.8s
GTA LR LR
comp=Z,12μm,16.0s
GTA LR LR
comp=Z,13μm,16.0s
MOY Mondy 33.52 313 eP P 08 24 24.2 +0.7
MOY pmax pmax
comp=Z,106nm,3.6s
ADK Adak 34.20 47 PFAKE 08 24 40.0 +11
ADK LR LR
comp=Z,3μm,20.0s
KMI Kunming 34.88 265 P P 08 24 34.3 -1.4
KMI pP pP 08 24 39.5 -0.5
KMI sP sP 08 24 40.8 -1.0
KMI PP PnPn 08 25 53.0 +0.8
KMI S S 08 30 05.3 -1.4
KMI sS sS 08 30 10.5 -3.3
KMI SS SnSn 08 32 17.0 -4.0
KMI ScS ScS 08 34 56.8 -0.6
KMI pmax pmax
comp=Z,13nm,1.1s
KMI pmax pmax
comp=Z,320nm,5.7s
KMI LR LR
comp=Z,11μm,15.3s
KMI LR LR
comp=Z,11μm,14.2s
KMI LR LR
comp=Z,7μm,15.3s
MIDW Midway 35.37 89 PFAKE 08 24 50.0 +10
MIDW LR LR
comp=Z,4μm,19.0s
BILL Bilibino 36.08 15⇓iP P 08 24 43.1 -2.1
BILL i 08 25 01.8
BILL i S S 08 30 27.9 +4.2
BILL i SS SnSn 08 32 47.8 -0.8
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,4μm,14.0s
BILL Bilibino 36.08 15 eP P 08 24 44.5 -0.8
comp=Z,37nm,1.3s
BILL LR LR
comp=Z,3μm,20.0s
TNTI Ternate 36.43 205 eP P 08 24 48.1 -0.7
comp=Z,255nm,1.3s
KKM Kota Kinabalu 37.04 225 PFAKE 08 25 10.0 +16
KKM LR LR
comp=Z,3μm,19.0s
JAY Jayapura 37.17 182 P P 08 24 54.7 -0.5
comp=Z,19μm,0.3s,baz=360,slow=4.5,SNR=2.6
TIXI Tiksi 37.48 353c iP P 08 24 56.2 -0.9
TIXI pmax pmax
comp=Z,13nm,1.7s
TIXI MLR MLR
comp=Z,5μm,17.0s
TIXI Tiksi 37.48 353 eP P 08 24 56.2 -0.9
comp=Z,9.1nm,0.9s
TIXI LR LR
comp=Z,3μm,20.0s
UBPT Khong Chiam 37.84 248 P P 08 25 00.4 -0.4
comp=Z,49nm,0.8s,comp=Z,666nm
KMSI Cibinong 37.88 210 P P 08 25 01.4 +0.4
comp=Z,232nm,0.9s
HVS Khovu-Aksy 37.92 310c iP P 08 25 02.4 +1.1
HVS pmax pmax
comp=Z,282nm,1.8s
HVS MLR MLR
comp=Z,19μm,15.0s
MRSI Marisa 38.83 213 P P 08 25 09.0 -0.1
comp=Z,58nm,1.1s,comp=Z,1μm
CRAI Chiangrai 39.10 259 P P 08 25 10.0 -1.4
comp=Z,25nm,1.2s,comp=Z,1μm
KRAR Krasnoyarsk 39.19 318 eP P 08 25 12.2 +0.5
KRAR pmax pmax
comp=Z,27nm,1.2s
KRAR MLR MLR
comp=Z,6μm,15.0s
SANI Sanana 39.53 205 P P 08 25 13.5 -1.4
comp=Z,56nm,1.0s,comp=Z,1μm

LOEI Loei 39.83 255 P P 08 25 13.8 -3.7
comp=Z,48nm,1.1s,comp=Z,552nm
MPSI Mapaga 39.89 215 P P 08 25 18.3 +0.4
comp=Z,19nm,1.4s
CHAI Chaiyaphum 40.16 252 P P 08 25 19.7 -0.6
comp=Z,14nm,1.2s,comp=Z,152nm
UTTA Uttaradit 40.26 256 P P 08 25 20.6 -0.5
comp=Z,15nm,1.0s,comp=Z,162nm
CMAI Chiengmai2 40.32 260 P P 08 25 21.5 -0.3
comp=Z,40nm,0.9s,comp=Z,6μm
GAMB Gambell 40.50 30 eP P 08 25 25.0 +2.5
comp=Z,29nm,1.8s
LAMP Lampang 40.58 257 P P 08 25 23.6 -0.1
comp=Z,15nm,1.0s,comp=Z,132nm
PBKT Sadao Pong 40.58 254 P P 08 25 23.1 -0.6
comp=Z,62nm,1.0s,comp=Z,2μm
CHTO Chiang Mai 40.98 258 eP P 08 25 26.0 -1.0
CHTO pmax pmax
comp=Z,38nm,1.1s
CHTO MLR MLR
comp=Z,2μm,19.0s
CHTO Chiang Mai 40.98 258 P P 08 25 26.4 -0.7
SNR=18
CHTO Chiang Mai 40.98 258 P P 08 25 26.3 -0.7
comp=Z,166nm,1.3s,comp=Z,3μm
CHTO Chiang Mai 40.98 258 eP P 08 25 26.0 -1.0
comp=Z,38nm,1.1s
CHTO LR LR
comp=Z,2μm,19.0s
CMAR Chiang Mai Arr 41.17 258 P P 08 25 28.4 -0.2
CMAR pmax pmax
comp=Z,9.0nm,0.7s
CMAR MLR MLR
comp=Z,2μm,18.1s
CMAR Chiang Mai Arr 41.17 258 P P 08 25 28.4 -0.2
comp=Z,8.7nm,0.7s,baz=47,slow=6.8,SNR=41
CMAR LR LR 08 43 35.9
comp=Z,2μm,18.1s,baz=30,slow=38
CHBT CHBT 41.79 248 P P 08 25 38.1 +4.5
WMQ Urumqi 42.03 299 P P 08 25 36.8 +1.4
WMQ pP pP 08 25 41.3 +1.5
WMQ sP sP 08 25 43.8 +2.3
WMQ PP PP 08 27 17.3 +4.7
WMQ PcP PcP 08 27 33.0 +2.7
WMQ ScP ScP 08 31 21.5 +1.2
WMQ PcS PcS 08 31 23.3 +1.4
WMQ S S 08 31 54.3 +0.3
WMQ sS sS 08 32 01.8 +0.6
WMQ SS SS 08 34 55.3 -5.7
WMQ ScS ScS 08 35 37.0 -0.7
WMQ pmax pmax
comp=Z,88nm,1.6s
WMQ pmax pmax
comp=Z,2μm,5.2s
WMQ LR LR
comp=Z,11μm,16.8s
WMQ LR LR
comp=Z,6μm,15.0s
WMQ LR LR
comp=Z,3μm,19.0s
MHMT Maesarieng 42.13 258 P P 08 25 36.6 +0.1
comp=Z,22nm,1.4s
SBUM Sibu 42.28 227 eP P 08 25 36.5 -1.2
comp=Z,51nm,1.1s
LSA Lhasa 42.64 278 P P 08 25 40.3 -0.7
LSA S S 08 32 01.5 -2.6
LSA LR LR
comp=Z,6μm,15.9s
LSA LR LR
comp=Z,8μm,17.7s
LSA Lhasa 42.64 278 eP P 08 25 41.5 +0.4
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA MLR MLR
comp=Z,3μm,19.0s
LSA Lhasa 42.64 278 eP P 08 25 41.5 +0.4
comp=Z,7.5nm,0.8s
LSA LR LR
comp=Z,3μm,19.0s
TNA Tin City 42.68 28 eP P 08 25 40.6 +0.3
comp=Z,13nm,1.0s
SRDT SRDT 43.31 253 P P 08 25 46.1 0.0
comp=Z,131nm,1.3s
KHLT Khaolaem Dam 43.47 254 P P 08 25 47.7 +0.3
comp=Z,25nm,1.2s,comp=Z,364nm
ZAA0 Zalesovo Array 43.54 314 eP P 08 25 47.6 +0.1
ZALV Zalesovo Beam 43.54 314 P P 08 25 47.5 0.0
ZALV 08 27 34.6
ZALV pmax pmax
comp=Z,11nm,0.6s
ZALV MLR MLR
comp=Z,2μm,18.5s
ZALV Zalesovo Beam 43.54 314 P P 08 25 47.5 0.0
comp=Z,11nm,0.6s,baz=97,slow=7.0,SNR=33
ZALV PcP PcP 08 27 34.6 -0.4
comp=Z,5.4nm,0.9s,baz=101,slow=3.0,SNR=4.6
ZALV LR LR 08 43 38.9
comp=Z,2μm,18.5s,baz=80,slow=36
SHL Shillong 43.61 272 eP P 08 25 47.0 -1.6
SHL eS S 08 32 26.0 +8.1
SPSI Sidrap Palu 43.75 213 P P 08 25 49.8 +0.3
comp=Z,29nm,1.4s
BNSI Bone 43.99 212 P P 08 25 52.2 +0.8
comp=Z,57nm,1.1s,comp=Z,1μm
KSM Kuching 44.21 228 eP P 08 25 52.8 -0.4
comp=Z,81nm,1.1s
KSM LR LR
comp=Z,840nm,21.0s
PMG Port Moresby 44.32 172 d iP P 08 25 55.3 +1.3
PMG pmax pmax
comp=Z,60nm,2.5s
PMG MLR MLR
comp=Z,2μm,20.0s
PMG Port Moresby 44.32 172 P P 08 25 54.0 -0.1
comp=Z,2.1nm,0.5s,baz=9.3,slow=8.8,SNR=8.1
PMG LR LR 08 45 16.3
comp=Z,752nm,19.2s,baz=0.5,slow=37
PMG Port Moresby 44.32 172 ⇑iP P 08 25 55.0 +1.0
NVS Novosibirsk 44.50 315 ⇑iP P 08 25 54.4 -0.7
NVS eS S 08 32 30.6 +0.8
NVS pmax pmax
comp=N,9.0nm,1.3s
NVS pmax pmax
comp=E,41nm,1.3s
NVS pmax pmax
comp=Z,55nm,1.3s
NVS smax smax
comp=E,58nm,2.7s
STKI Sintang 44.62 226 P P 08 25 56.9 +0.3
comp=E,98nm,1.0s
KAPI Kappang 44.69 212 P P 08 25 57.3 +0.3
comp=E,203nm,1.2s,SNR=6.2
KAPI Kappang 44.69 212 eP P 08 25 56.9 -0.1
comp=E,59nm,1.2s
KAPI LR LR
comp=Z,2μm,19.0s
CHGN Chignik 45.42 43 eP P 08 25 55.8 -6.7
MK31 Makanchi Array 45.46 304 iP P 08 26 03.1 +0.1
MK31 pmax pmax
comp=Z,38nm,1.1s
MK31 Makanchi Array 45.46 304 eP P 08 26 03.6 +0.6
MKAR Makanchi Array 45.46 304 P P 08 26 03.6 +0.6
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR MLR MLR
comp=Z,3μm,19.4s
MKAR Makanchi Array 45.46 304 P P 08 26 03.6 +0.6
comp=Z,6.7nm,0.7s,baz=87,slow=9.7,SNR=28
MKAR LR LR 08 44 16.3
comp=Z,3μm,19.4s,baz=87,slow=35
BBKI Banjar Baru 45.68 219 P P 08 26 04.4 -0.5
TAPN Taplejung 46.32 276 eP P 08 26 10.4 +0.1
ODAN Odare 46.77 276 eP P 08 26 13.6 -0.2
comp=Z,23nm,0.7s
SURT Suratani 46.86 247 P P 08 26 14.2 -0.1
comp=Z,18nm,1.6s,comp=Z,298nm
MMRI Maumere 46.98 207 eP P 08 26 14.7 -0.5
comp=Z,66nm,0.7s
SVW2 Sparrevohn 47.16 36 eP P 08 26 19.9 +3.8
comp=Z,26nm,1.0s
SOEI Soe 47.31 204 eP P 08 26 17.0 -0.8
comp=Z,176nm,1.1s
HNR Honiara 47.33 155 LR LR 08 48 43.4
comp=Z,2μm,18.1s,baz=328,slow=39
RAMN Ramite 47.38 276 eP P 08 26 18.7 +0.1
comp=Z,57nm,0.7s
JIRN Jiri 47.44 277 eP P 08 26 19.7 +0.6
comp=Z,75nm,0.8s
KURK Kurchatov 47.45 310 P P 08 26 18.8 +0.4
comp=Z,217nm,0.7s,SNR=30
KURK Kurchatov 47.45 310 P P 08 26 18.5 +0.1
SNR=22
KURK Kurchatov 47.45 310 eP P 08 26 18.3 -0.2
comp=Z,143nm,1.8s
KURK LR LR
comp=Z,2μm,22.0s
GUN Gumba 47.59 278 eP P 08 26 20.7 +0.4
PKDT Phuket 47.89 246 P P 08 26 22.6 +0.3
comp=Z,88nm,1.3s,comp=Z,14μm
KULM Kulim 47.91 242 eP P 08 26 22.2 -0.2
comp=Z,68nm,1.7s
KULM LR LR
comp=Z,2μm,22.0s
BATI Baumata 47.94 204 P P 08 26 21.2 -1.4
comp=Z,94nm,1.0s,baz=247,slow=7.8,SNR=5.7
PKI Pulchoki 48.11 278 eP P 08 26 24.2 -0.1
comp=Z,71nm,1.1s
PKIN Phulchoki 48.12 278 eP P 08 26 24.2 -0.1
KKN Kakani 48.13 278 eP P 08 26 24.7 +0.4
IPM Ipoh 48.20 241 eP P 08 26 23.7 -1.0
comp=Z,72nm,1.7s
DMN Daman 48.34 278 eP P 08 26 26.0 0.0
comp=Z,64nm,1.1s
IM04 Indian Mountai 48.43 30 eP P 08 26 26.1 +0.2
COEN Coen 48.56 178 eP P 08 26 29.5 +2.2
comp=Z,2μm,2.5s
GKN Gorkha 48.57 278 eP P 08 26 28.1 +0.4
comp=Z,189nm,1.1s
KDAK Kodiak Island 48.62 41 PFAKE 08 26 40.0 +13
KDAK LR LR
comp=Z,2μm,21.0s
PPLA Purkeypile 48.87 34 eP P 08 26 30.7 +1.3
comp=Z,60nm,1.4s
DANN Dangsing 49.15 279 eP P 08 26 32.8 +0.6
KTH Kantishna Hill 49.47 33 eP P 08 26 36.4 +2.5
comp=Z,30nm,1.3s
KOLN Koldanda 49.50 279 eP P 08 26 35.6 +0.7
TRF Thorofare Moun 49.75 33 eP P 08 26 38.6 +2.4
comp=Z,29nm,1.4s
PYUN Piuthan 49.87 279 eP P 08 26 38.4 +0.7
PMR Palmer 50.28 36 eP P 08 26 42.3 +2.3
PMR pmax pmax
comp=Z,38nm,1.3s
PMR Palmer 50.28 36 eP P 08 26 42.2 +2.3
comp=Z,38nm,1.3s
JAGI Jajag, Banyuwa 50.32 216 eP P 08 26 39.6 -1.2
comp=Z,68nm,1.1s
MCK McKinley 50.36 33 eP P 08 26 40.8 +0.2
MCK pmax pmax
comp=Z,31nm,1.4s
MCK McKinley 50.36 33 eP P 08 26 40.8 +0.2
comp=Z,31nm,1.4s
ULHL Ulahol 50.56 299 P P 08 26 43.8 +1.1
SNR=6.3
ULHL Ulahol 50.56 299 iP P 08 26 43.8 +1.1
COLA College 50.84 31 eP P 08 26 45.2 +1.0
COLA pmax pmax
comp=Z,225nm,2.7s
COLA MLR MLR
comp=Z,1μm,20.0s
COLA College 50.84 31 eP P 08 26 45.1 +1.0
comp=Z,225nm,2.7s
COLA LR LR
comp=Z,1μm,20.0s
TKM2 Tokmak 2 50.86 300 P P 08 26 46.2 +1.2
SNR=60
TKM2 Tokmak 2 50.86 300 eP P 08 26 46.1 +1.2
TKM2 pmax pmax
comp=Z,79nm,1.1s
TKM2 MLR MLR
comp=Z,4μm,19.0s
TKM2 Tokmak 2 50.86 300 eP P 08 26 46.1 +1.2
comp=Z,79nm,1.1s
TKM2 LR LR
comp=Z,4μm,19.0s
PSI Prapat 50.86 241 LR LR 08 47 31.1
comp=Z,818nm,21.3s,baz=30,slow=35
BKNI Bangkinang 51.12 237 eP P 08 26 47.0 +0.1
comp=Z,46nm,0.4s
ILAR Eielson Array 51.25 31 P P 08 26 46.6 -0.7
ILAR pmax pmax
comp=Z,13nm,1.0s
ILAR MLR MLR
comp=Z,668nm,21.4s
ILAR Eielson Array 51.25 31 P P 08 26 46.6 -0.7
comp=Z,12nm,1.0s,baz=261,slow=5.9,SNR=36
ILAR LR LR 08 48 53.1
comp=Z,668nm,21.4s,baz=280,slow=36
KZA Kyzart 51.32 299 P P 08 26 50.6 +1.9
SNR=14
KZA Kyzart 51.32 299 iP P 08 26 50.5 +1.9
KBK Karagaybulak 51.39 300 P P 08 26 50.2 +1.4
SNR=22
CHMS Chumysh 51.44 300 P P 08 26 50.0 +0.9
SNR=11
CHMS Chumysh 51.44 300 iP P 08 26 50.0 +0.9
KSH Kashi 51.49 296 eP P 08 26 53.5 +3.8
KSH ePP PP 08 28 53.0 +6.2
KSH PcS PcS 08 31 58.5 -3.3
KSH eS S 08 34 08.3 -1.3
KSH eSS SS 08 37 44.5 -0.8
KSH pmax pmax
comp=Z,26nm,1.1s
KSH pmax pmax
comp=Z,530nm,5.2s
KSH LR LR
comp=Z,290nm,6.5s
KSH LR LR
comp=Z,1μm,14.6s
KSH LR LR
comp=Z,950nm,12.0s
USP Ospenovka 51.55 301 P P 08 26 50.6 +0.7
SNR=24
USP Ospenovka 51.55 301 iP P 08 26 50.6 +0.7
FRU Bishkek 51.58 300 ⇑iP P 08 26 50.0 -0.1
FRU e 08 34 10.0
FRU i 08 34 20.0
FRU pmax pmax
comp=Z,200nm,2.0s
FRU MLR MLR
comp=Z,4μm,16.0s
UGM Wanagama 51.70 221 eP P 08 26 50.2 -1.1
comp=Z,592nm,1.2s
AAK Ala-Archa 51.72 300 P P 08 26 52.0 +0.7
comp=Z,119nm,1.3s,SNR=13
AAK Ala-Archa 51.72 300 P P 08 26 51.5 +0.1
SNR=17
AAK Ala-Archa 51.72 300 iP P 08 26 51.2 -0.1
AAK pmax pmax
comp=Z,48nm,1.2s
AAK MLR MLR
comp=Z,11μm,16.0s
AAK Ala-Archa 51.72 300 P P 08 26 52.4 +1.0
SNR=13
AAK Ala-Archa 51.72 300 LR LR 08 48 14.7
comp=Z,3μm,19.3s,baz=55,slow=35
AAK Ala-Archa 51.72 300 eP P 08 26 52.2 +0.9
comp=Z,48nm,1.4s
UCH Uchtor 51.81 299 P P 08 26 53.9 +1.5
SNR=14
UCH Uchtor 51.81 299 iP P 08 26 53.9 +1.5
DIV Divide 51.92 36 eP P 08 26 55.2 +2.7
comp=Z,28nm,1.0s
PAX Paxson 51.94 34 eP P 08 26 53.5 +0.9
PAX pmax pmax
comp=Z,117nm,2.4s
PAX Paxson 51.94 34 eP P 08 26 53.5 +0.9
comp=Z,117nm,2.4s
BVA0 Borovoye Array 52.20 314 iP P 08 26 53.9 -0.6
BVA0 pmax pmax
comp=Z,57nm,1.4s
BVAR Borovoye Array 52.20 314 LR LR 08 48 32.7
comp=Z,2μm,18.3s,baz=76,slow=35
EKS2 Erkin-Say 52.22 300 P P 08 26 55.6 +0.5
SNR=15
EKS2 Erkin-Say 52.22 300 iP P 08 26 55.5 +0.5
EKS2 Erkin-Say 52.22 300 eP P 08 26 55.8 +0.8
EKS2 pmax pmax
comp=Z,15nm,0.8s
EKS2 MLR MLR
comp=Z,3μm,20.0s
EKS2 Erkin-Say 52.22 300 eP P 08 26 55.8 +0.8
comp=Z,15nm,0.8s
EKS2 LR LR
comp=Z,3μm,20.0s
BRVK Borovoye 52.25 314 P P 08 26 55.7 +0.7
comp=Z,191nm,1.2s,SNR=14
BRVK Borovoye 52.25 314 c iP P 08 26 54.9 0.0
BRVK pmax pmax
comp=Z,112nm,2.5s
BRVK MLR MLR
comp=Z,4μm,15.0s
BRVK Borovoye 52.25 314 P P 08 26 55.6 +0.6
SNR=20
BRVK Borovoye 52.25 314 eP P 08 26 55.0 0.0
comp=Z,62nm,1.3s
BRVK LR LR
comp=Z,2μm,21.0s
AML Almayashu 52.42 300 P P 08 26 58.6 +1.7
SNR=55
BMRM Bremner River 52.50 36 eP P 08 27 01.0 +4.3
comp=Z,30nm,1.2s
DOT Dot Lake 52.53 33 eP P 08 26 56.9 0.0
comp=Z,111nm,2.4s
MENT Mentasta 52.74 34 eP P 08 26 59.4 +0.9
GSI Gunungsitoli 52.87 241 eP P 08 26 58.9 -1.1
comp=Z,328nm,1.3s
EGAK Eagle 53.70 31 eP P 08 27 04.7 -0.7
comp=Z,5.9nm,0.8s
EGAK LR LR
comp=Z,1μm,19.0s
NDI New Delhi 54.30 283 ex P 08 27 11.0 +0.6
NDI ex x 08 34 47.0
KK31 Karatay Array 54.40 302 iP P 08 27 10.3 -0.7
KK31 pmax pmax
comp=Z,132nm,1.2s
KKAR Karatay Array 54.40 302 eP P 08 27 11.8 +0.8
KKAR Karatay Array 54.40 302 eP P 08 27 11.8 +0.8
DAWY Dawson 54.55 32 eP P 08 27 13.8 +2.1
CTAO Charters Tower 54.81 175 PFAKE 08 27 30.0 +16
CTAO LR LR
comp=Z,738nm,20.0s
FITZ Fitzroy Crossi 54.81 199 eP P 08 27 16.4 +2.4
comp=Z,389nm,2.5s
WRAB Tennant Creek 54.92 188 eP P 08 27 14.1 -0.7
WRAB pmax pmax
comp=Z,286nm,1.7s
WRAB MLR MLR
comp=Z,3μm,24.0s
WRAB Tennant Creek 54.92 188 eP P 08 27 13.4 -1.4
comp=Z,91nm,1.2s
WRAB LR LR
comp=Z,1μm,20.0s
WRA Warramunga Arr 54.93 188 P P 08 27 13.9 -0.9
comp=Z,30nm,0.9s,baz=7.4,slow=7.6,SNR=23
WRA LR LR 08 50 22.2
comp=Z,812nm,20.8s,baz=350,slow=36
HYT Haines Junctio 55.95 36 eP P 08 27 23.7 +1.7
NGP Nagpur 56.12 273 ex P 08 27 23.4 -0.2
NGP ex x 08 35 09.9
XMIS Christmas Isla 56.51 224 eP P 08 27 25.2 -1.2
comp=Z,501nm,1.2s
SVE Sverdlovsk 56.92 320 d iP P 08 27 29.3 +0.5
SVE eS S 08 35 20.2 -1.8
SVE pmax pmax
comp=Z,84nm,1.4s
SVE MLR MLR
comp=Z,6μm,14.0s
SVE MLR MLR
comp=E,4μm,15.0s
POHA Pohakuloa 56.98 88 PFAKE 08 27 40.0 +10
POHA LR LR
comp=Z,4μm,19.0s
ARU Arti 58.13 320 P P 08 27 37.5 +0.2
comp=Z,305nm,1.3s,SNR=16
ARU Arti 58.13 320 c iP P 08 27 37.2 -0.1
ARU 08 28 30.4
ARU 08 29 42.9
ARU S S 08 35 38.6 +0.7
ARU 08 37 16.4
ARU pmax pmax
comp=Z,93nm,1.2s
ARU Arti 58.13 320 eP P 08 27 37.3 0.0
comp=Z,125nm,1.4s
ARU LR LR
comp=Z,2μm,19.0s
SOKR Solikamsk 58.18 323 eP P 08 27 37.9 +0.4
SOKR S S 08 35 37.2 -1.2
SOKR pmax pmax
comp=Z,50nm,1.5s
SOKR MLR MLR
comp=Z,3μm,15.0s
HYB Hyderabad 58.36 270 iP P 08 27 39.0 -0.5
KBL Kabul 58.39 292 eP P 08 27 37.6 -2.2
comp=Z,34nm,1.4s
AS31 Alice Springs 58.65 188 eP P 08 27 41.2 0.0
ASAR Alice Springs 58.65 188 P P 08 27 40.4 -0.9
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR MLR MLR
comp=Z,602nm,21.1s
ASAR Alice Springs 58.65 188 P P 08 27 40.4 -0.9
comp=Z,2.4nm,0.8s,baz=1.6,slow=7.0,SNR=13
ASAR LR LR 08 52 38.5
comp=Z,602nm,21.1s,baz=2.0,slow=36
MBWA Marble Bar 59.46 204 eP P 08 27 47.1 +0.2
comp=Z,39nm,1.0s
MBWA LR LR
comp=Z,833nm,21.0s
ABKAR Akbulak array 59.50 311 eP P 08 27 47.0 0.0
WRAK Wrangell Islan 59.69 40 PFAKE 08 28 00.0 +12
WRAK LR LR
comp=Z,1μm,20.0s
DLBC Dease Lake 60.24 37 eP P 08 27 53.5 +1.5
AKTO Aktyubinsk 60.28 313 P P 08 27 51.5 -0.8
AKTO pmax pmax
comp=Z,11nm,0.8s
AKTO Aktyubinsk 60.28 313 LR LR 08 55 16.5
comp=Z,2μm,18.2s,baz=37
EIDS Eidsvold 60.55 170 eP P 08 28 03.7 +9.4
comp=Z,204nm,2.8s
DZM Mont Dzumac 61.31 154 eS S 08 36 20.2 +0.5
comp=Z,693nm,22.9s
DZM eLR LR 08 46 08.4
comp=Z,2μm,20.7s
PALK Pallekele 62.10 259 iP P 08 28 06.8 +1.6
PALK Pallekele 62.10 259 eP P 08 28 06.0 +0.8
comp=Z,30nm,1.1s
PALK Pallekele 62.10 259 ⇑iP P 08 28 05.5 +0.3
SNR=5.6
HOPEN Hopen 62.20 346 eP P 08 28 05.7 +0.8
HOPEN eS S 08 36 30.4 +0.7
HOPEN IAMs_20 IAMs_20 08 59 31.9
comp=Z,7μm,14.7s
MSVF Nonsavu 62.70 140 PFAKE 08 28 20.0 +11
MSVF LR LR
comp=Z,2μm,19.0s
SPA0 Spitsbergen Ar 62.70 349 e P 08 28 05.5 -2.7
SPA0 eS S 08 36 36.8 +0.8
SPITS Spitsbergen Ar 62.70 349 LR LR 08 56 26.7
comp=Z,1μm,20.6s,baz=30,slow=37
PRGR Permogore 62.70 328 ⇓iP P 08 28 07.4 -1.0
PRGR pmax pmax
comp=Z,58nm,1.5s
KBS Kingsbay 62.84 350 eP P 08 28 09.8 +0.7
KBS pmax pmax
comp=Z,69nm,1.5s
KBS MLR MLR
comp=Z,2μm,21.0s
KBS Kingsbay 62.84 350 e P 08 28 13.3 +4.2
KBS eS S 08 36 40.2 +2.6
KBS Kingsbay 62.84 350 eP P 08 28 09.8 +0.7
comp=Z,69nm,1.5s
KBS LR LR
comp=Z,2μm,21.0s
COCO West Island 63.18 231 iP P 08 28 14.6 +2.4
COCO West Island 63.18 231 PFAKE 08 28 20.0 +7.8
COCO LR LR
comp=Z,778nm,19.0s
HSPB Hornsund (broa 63.62 348 eS S 08 36 49.3 +2.0
HSPB IAMs_20 IAMs_20 08 58 50.8
comp=Z,3μm,17.9s
LVZ Lovozero 64.18 336 eP P 08 28 19.2 +1.0
LVZ pmax pmax
comp=Z,40nm,1.3s
LVZ MLR MLR
comp=Z,3μm,15.0s
LVZ Lovozero 64.18 336 PFAKE 08 28 30.0 +12
LVZ LR LR
comp=Z,2μm,21.0s

TMCR Tamitsa 64.75 332 eP P 08 28 22.1 +0.2
TMCR e 08 30 44.6
TMCR pmax pmax
comp=Z,62nm,1.4s
APA Apatity 64.76 336⇑iP P 08 28 31.0 +9.1
APA i 08 28 58.0
APA iS S 08 37 16.0 +14
APA i 08 38 10.0
APA MLR MLR
comp=Z,4μm,15.0s
ISRO Mashad 64.80 298 eP P 08 28 23.1 +0.3
ABKT Ailbek 65.07 300 P P 08 28 25.8 +1.3
comp=Z,149nm,1.1s,SNR=6.5
GEYT Alibeck 65.07 300 P P 08 28 25.1 +0.6
comp=Z,23nm,1.0s,baz=46,slow=4.3,SNR=26
GEYT LR LR 08 58 25.8
comp=Z,2μm,19.1s,baz=60,slow=38
XMAS Kiritimati 65.18 106 PFAKE 08 28 40.0 +15
XMAS LR LR
comp=Z,2μm,20.0s
KEV Kevo 65.55 340 PFAKE 08 28 40.0 +13
KEV LR LR
comp=Z,2μm,20.0s
ARMA Armidale 65.60 171 eP P 08 28 30.1 +2.2
comp=Z,68nm,1.8s
AFI Afiamalu 65.60 129 PFAKE 08 28 40.0 +12
AFI LR LR
comp=Z,266μm,22.0s
YKA Yellowknife Ar 65.61 30 P P 08 28 26.8 -0.7
YKA pmax pmax
comp=Z,4.0nm,1.1s
YKA Yellowknife Ar 65.61 30 P P 08 28 26.8 -0.7
comp=Z,3.9nm,1.1s,baz=297,slow=6.3,SNR=16
KLMR Klimovskoe 65.70 328 eP P 08 28 26.3 -1.9
KLMR S S 08 37 09.4 -4.1
KLMR pmax pmax
comp=Z,79nm,1.6s
KLMR MLR MLR
comp=Z,3μm,14.0s
ARCES ARCESS Array B 66.11 340 P P 08 28 30.8 +0.1
comp=Z,4.3nm,0.8s,baz=40,slow=6.5,SNR=4.1
ARCES LR LR 09 00 28.5
comp=Z,2μm,20.7s,baz=53,slow=39
ARE0 ARCESS Array S 66.11 340 e P 08 28 30.7 +0.1
ARE0 eS S 08 37 19.4 +1.1
ARE0 eSS SS 08 41 34.4 +1.5
STKA Stephens Creek 66.37 180 P P 08 28 31.4 -1.3
comp=Z,3.8nm,1.0s,baz=349,slow=10,SNR=2.4
STKA LR LR 08 59 31.5
comp=Z,872nm,18.4s,baz=358,slow=38
TRO Tromso 67.84 341 e P 08 28 46.9 +5.3
TRO eS S 08 37 37.7 -1.4
TRO eSS SS 08 41 59.9 +0.2
DAG Danmarks Havn 67.96 355 iP P 08 28 41.9 -0.4
DAG Danmarks Havn 67.96 355 iP P 08 28 41.9 -0.4
JOF Joensuu 67.98 332 eP P 08 28 41.4 -1.2
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 67.98 332 ep P 08 28 41.4 -1.2
comp=Z,2.6nm,0.5s
NLWA Neilton Lookou 68.06 47 PFAKE 08 29 00.0 +17
NLWA LR LR
comp=Z,562nm,22.0s
IGLO Ghaloghah 68.76 300 eP P 08 28 49.3 +1.0
MOS Moscow 69.12 324 eP P 08 28 47.6 -2.2
MOS e 08 29 01.0
MOS e 08 29 21.3
MOS e 08 31 19.5
MOS iS S 08 37 55.1 +0.4
MOS pmax pmax
comp=Z,400nm,2.2s
MOS pmax pmax
comp=Z,113nm,1.4s
MOS smax smax
comp=E,1μm,3.8s
MOS smax smax
comp=N,800nm,4.3s
MOS MLR MLR
comp=Z,3μm,15.0s
MOS MLR MLR
comp=E,3μm,16.0s
IANJ Anjilo 69.19 299 eP P 08 28 51.3 +0.3
VRHR Novokhopersk 69.44 318 eP P 08 28 49.2 -2.7
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR MLR MLR
comp=Z,4μm,15.0s
VRHR MLR MLR
comp=N,3μm,14.0s
VRHR MLR MLR
comp=E,990nm,13.0s
MAK Makhachkala 69.96 309 eP P 08 28 53.0 -2.3
MAK ePPP PPP 08 33 15.7
MAK eS S 08 38 04.9 -0.1
MAK eSS SS 08 42 36.9 +3.4
MAK pmax pmax
comp=Z,377nm,13.1s
OBN Obninsk 69.96 324c iP P 08 28 54.7 -0.3
OBN e 08 31 29.4
OBN iS S 08 37 52.3 -12
OBN pmax pmax
comp=Z,83nm,1.7s
OBN MLR MLR
comp=Z,4μm,15.0s
OBN Obninsk 69.96 324 PFAKE 08 29 10.0 +15
OBN LR LR
comp=Z,2μm,22.0s
LTY Liberty 70.03 46 eP P 08 28 57.3 +1.5
comp=Z,119nm,2.5s
KULLO Kullorsuaq 70.13 5 iP P 08 28 56.4 +0.6
KULLO Kullorsuaq 70.13 5 iP P 08 28 56.4 +0.6
CAN Canberra 70.14 174 PFAKE 08 29 10.0 +14
CAN LR LR
comp=Z,1μm,20.0s
B08A Colville Reser 70.26 44 eP P 08 28 57.9 +0.8
comp=Z,163nm,2.5s
KAF Kangasniemi 70.33 333 eP P 08 28 55.8 -1.4
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 70.33 333 ep P 08 28 55.8 -1.4
comp=Z,3.5nm,0.6s
IMEH Mehriz 70.65 295 eP P 08 28 59.1 -0.9
I04A Tendick Farm, 70.70 50 ⇓P P 08 29 01.3 +1.4
baz=71
VSR Storozhevoye 70.70 319 eP P 08 28 56.8 -2.9
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,1.1s
VSR MLR MLR
comp=E,3μm,14.0s
VSR MLR MLR
comp=Z,6μm,14.0s
VSR MLR MLR
comp=N,3μm,13.0s
L02D Cave Junction, 70.75 52 ⇑P P 08 29 01.7 +1.5
baz=71
VORD Divnogorie 70.77 319 eP P 08 28 57.9 -2.1
VORD pmax pmax
comp=Z,20nm,1.4s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,60nm,0.7s
VORD MLR MLR
comp=E,4μm,14.0s
VORD MLR MLR
comp=Z,5μm,14.0s
VORD MLR MLR
comp=N,2μm,15.0s
FIA1 FINESS Array S 70.83 333 eP P 08 29 00.1 -0.2
FINES FINESS Array B 70.83 333 P P 08 29 00.1 -0.2
comp=N,18nm,1.1s,baz=70,slow=6.3,SNR=15
FINES LR LR 09 03 29.3
comp=N,3μm,18.2s,baz=89,slow=39
E07A Sunnyside 70.87 46 eP P 08 29 04.9 +4.1
comp=N,144nm,2.6s
EDM Edmonton 70.95 38 eP P 08 29 02.1 +0.9
EDM Edmonton 70.95 38 eP P 08 29 02.1 +0.9
IVRN Varamin 70.99 300 eP P 08 29 02.0 +0.2

G06A Carlson Farm, 71.07 48 eP P 08 29 05.5 +3.4
comp=N,160nm,2.3s
HAWA Hanford 71.14 46 PFAKE 08 29 20.0 +18
HAWA LR LR
comp=Z,1μm,21.0s
C09A Chrisman Ranch 71.16 45 eP P 08 29 03.4 +0.8
comp=Z,128nm,2.4s
D08A Wollman Farm, 71.16 45 eP P 08 29 06.3 +3.7
comp=Z,213nm,2.8s
J04D Umpqua Nationa 71.17 50 ⇑P P 08 29 03.5 +0.6
baz=71
IR3 Iran Long-Peri 71.25 300 eP P 08 29 04.1 +0.7
YBH Yreka Blue Hor 71.54 52 P P 08 29 04.8 -0.3
YBH pmax pmax
comp=Z,6.0nm,1.0s
YBH Yreka Blue Hor 71.54 52 P P 08 29 04.8 -0.3
comp=Z,5.8nm,1.0s,baz=177,slow=12,SNR=2.1
NEW Newport 71.57 44 eP P 08 29 05.7 +0.6
NEW pmax pmax
comp=Z,156nm,2.5s
NEW MLR MLR
comp=Z,931nm,20.0s
NEW Newport 71.57 44 eP P 08 29 05.7 +0.6
comp=Z,156nm,2.5s
NEW LR LR
comp=Z,931nm,20.0s
NEW Newport 71.57 44 ⇑P P 08 29 06.2 +1.1
baz=72,SNR=6.6
IZEF Zefreh 71.59 298 eP P 08 29 05.5 -0.2
GOF Gofitskoye 71.69 312 eP P 08 29 05.6 -0.2
GOF pmax pmax
comp=Z,46nm,1.3s
J05D Fort Rock, OR 71.69 50 ⇑P P 08 29 07.0 +0.9
baz=72
G08A Pilot Rock 72.06 47 eP P 08 29 11.8 +3.6
comp=Z,25nm,1.6s
M04C Macdoel 72.08 51 ⇓P P 08 29 08.9 +0.6
baz=72
DGRG David-gareji 72.08 308 P P 08 29 08.8 +0.5
NCK Nalchik 72.16 311 eP P 08 29 09.4 +0.7
K05A Summer Lake 72.19 50 eP P 08 29 12.2 +3.1
comp=Z,39nm,1.3s
TBLG Delisi 72.35 309 P P 08 29 10.2 +0.4
VSU Vasula 72.43 330 eP P 08 29 10.1 +0.2
VSU pmax pmax
comp=Z,96nm,1.3s
VSU MLR MLR
comp=Z,5μm,16.0s
KBZ Khabaz 72.47 311 P P 08 29 11.3 +0.9
KBZ pmax pmax
comp=Z,14nm,1.1s
KBZ MLR MLR
comp=Z,2μm,19.4s
KBZ Khabaz 72.47 311 P P 08 29 11.3 +0.9
comp=Z,14nm,1.1s,baz=61,slow=5.0,SNR=20
KBZ LR LR 09 01 37.6
comp=Z,2μm,19.4s,baz=91,slow=36
KIV Kislovodsk 72.48 312 P P 08 29 11.3 +0.6
comp=Z,186nm,1.1s,SNR=6.3
KIV Kislovodsk 72.48 312 eP P 08 29 11.1 +0.4
KIV e 08 29 29.1
KIV eS S 08 38 33.4 -1.1
KIV eSS SS 08 43 13.7 +1.3
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,2μm,18.0s
KIV Kislovodsk 72.48 312 P P 08 29 11.7 +1.0
SNR=12
KIV Kislovodsk 72.48 312 eP P 08 29 11.7 +1.0
comp=Z,56nm,1.1s
KIV LR LR
comp=Z,2μm,19.0s
KIV Kislovodsk 72.48 312⇑iP P 08 29 11.4 +0.6
SNR=7.1
IPAR Pars 72.59 294 eP P 08 29 12.3 +0.5
ONI Oni 72.72 310 P P 08 29 12.9 +0.8
IPIR Pirpir 72.75 298 eP P 08 29 10.7 -2.1
ISRV Sarvestan 72.78 294 eP P 08 29 12.6 -0.3
SUMG Summit 72.87 0 eP P 08 29 12.5 -0.3
SUMG Summit 72.87 0 iP P 08 29 12.5 -0.3
SUMG Summit 72.87 0 eP P 08 29 12.9 0.0
comp=Z,27nm,1.1s
WALA Waterton Lakes 72.94 42 eP P 08 29 15.8 +2.5
MOD Modoc 73.00 51 eP P 08 29 18.2 +4.3
comp=Z,12nm,1.0s
BSMT Bassoo Peak 73.12 43 eP P 08 29 16.8 +2.3
GNI Garni 73.17 307c iP P 08 29 15.8 +0.9
GNI pmax pmax
comp=Z,29nm,1.3s
GNI MLR MLR
comp=Z,2μm,16.0s
GNI Garni 73.17 307 P P 08 29 17.0 +2.1
SNR=8.7
GNI Garni 73.17 307 eP P 08 29 16.6 +1.7
comp=Z,59nm,1.4s
GNI LR LR
comp=Z,1μm,19.0s
GNI Garni 73.17 307⇓iP P 08 29 15.9 +1.0
SNR=6.1
ARQ Araqi 73.24 287 P P 08 29 16.0 +0.6
SNR=5.4
BLMT Blacktail Moun 73.27 43 eP P 08 29 17.0 +1.6
BMO Blue Mountains 73.28 47 eP P 08 29 18.0 +2.6
BMO pmax pmax
comp=Z,76nm,2.2s
BMO MLR MLR
comp=Z,1μm,20.0s
BMO Blue Mountains 73.28 47 eP P 08 29 18.0 +2.6
comp=Z,76nm,2.2s
BMO LR LR
comp=Z,1μm,20.0s
AKH Akhalkalaki 73.31 309 P P 08 29 16.4 +0.6
NSS Namsos 73.39 340 IVMs_BB IVMs_BB 09 08 55.6
comp=Z,3μm,14.9s
JTMT Jette 73.46 43 eP P 08 29 17.6 +1.1
YBMT Yellow Bay 73.55 43 eP P 08 29 17.8 +0.9
SWMT Swartz Lake 73.75 43 eP P 08 29 19.4 +1.2
WVOR Wild Horse Val 73.77 49 eP P 08 29 21.6 +3.3
WVOR pmax pmax
comp=Z,186nm,2.8s
WVOR MLR MLR
comp=Z,658nm,20.0s
WVOR Wild Horse Val 73.77 49 eP P 08 29 21.6 +3.3
comp=Z,186nm,2.8s
WVOR LR LR
comp=Z,658nm,20.0s
MSO Missoula 74.16 44 eP P 08 29 20.6 0.0
comp=Z,83nm,2.5s
MSO Missoula 74.16 44 ⇑P P 08 29 21.0 +0.4
baz=74
SLMT Seeley Lake 74.18 43 eP P 08 29 22.4 +1.6
MICGM Minsk 74.41 326⇓eP P 08 29 21.0 -0.7
MNK Minsk 74.43 326⇓eP P 08 29 21.0 -0.8
MNK eS S 08 38 54.0 -1.9
MNK eSS SS 08 43 44.0 +2.7
MNK pmax pmax
comp=Z,110nm,1.4s
MNK MLR MLR
comp=N,4μm,15.0s
MNK MLR MLR
comp=E,4μm,16.0s
MNK MLR MLR
comp=Z,4μm,14.0s
SOC Sochi 74.50 312c iP P 08 29 21.9 -0.5
SOC e 08 32 05.9
SOC eS S 08 38 55.8 -1.3
SOC eSS SS 08 43 41.0 -1.9
SOC pmax pmax
comp=Z,10.0nm,0.6s
SOC MLR MLR
comp=Z,2μm,18.0s
ISAL Salakas 74.52 328 eP P 08 29 22.8 +0.5
ISAL AMB AMB 08 29 23.6
comp=Z,16nm,1.3s
IIGN Ignalina 74.62 328 eP P 08 29 22.7 -0.2
IIGN AMB AMB 08 29 23.6
comp=Z,13nm,1.3s
NACGM Naroch 74.66 327 eP P 08 29 21.0 -2.1
TBLU Trondheim 74.86 339 e 08 38 15.0
MFID Camas Ranch 74.96 47 eP P 08 29 26.4 +1.1
CMB Columbia Colle 74.99 54 eP P 08 29 25.9 +0.4
CMB pmax pmax
comp=Z,23nm,1.3s
CMB Columbia Colle 74.99 54 eP P 08 29 25.9 +0.4
comp=Z,23nm,1.3s

ANN Anapa 75.18 314 eP P 08 29 22.1 -4.2
ANN e 08 32 17.2
ANN ePPP PPP 08 34 03.5
ANN eS S 08 38 57.1 -7.5
ANN pmax pmax
comp=Z,41nm,1.3s
ANN MLR MLR
comp=N,1μm,18.0s
ANN MLR MLR
comp=E,1μm,18.0s
ANN MLR MLR
comp=Z,2μm,18.0s
HRY Holter Researc 75.42 43 eP P 08 29 28.7 +0.8
FFC Flin Flon 75.44 32 P P 08 29 27.0 -0.8
comp=Z,67nm,0.9s,SNR=5.5
FFC Flin Flon 75.44 32 eP P 08 29 26.9 -0.8
FFC pmax pmax
comp=Z,12nm,0.8s
FFC MLR MLR
comp=Z,1μm,20.0s
FFC Flin Flon 75.44 32 eP P 08 29 26.9 -0.8
comp=Z,12nm,0.8s
FFC LR LR
comp=Z,1μm,20.0s
LRM Limekiln Ridge 75.58 44 eP P 08 29 29.5 +0.5
HLID Hailey 75.73 47 eP P 08 29 30.9 +1.1
comp=Z,76nm,2.5s
HLID LR LR
comp=Z,850nm,20.0s
HLID Hailey 75.73 47 ⇑P P 08 29 30.5 +0.7
baz=76
BMN Battle Mountai 75.75 51 eP P 08 29 31.3 +1.4
BMN pmax pmax
comp=Z,122nm,2.3s
BMN Battle Mountai 75.75 51 eP P 08 29 31.3 +1.4
comp=Z,122nm,2.3s
DLMT Dillon 75.77 44 eP P 08 29 32.4 +2.4
comp=Z,183nm,2.8s
A19A Klindworth Far 75.79 40 ⇓P P 08 29 30.5 +0.6
baz=76
EGMT Eagleton 75.79 41 eP P 08 29 30.6 +0.6
comp=Z,162nm,2.3s
EGMT LR LR
comp=Z,860nm,20.0s
EGMT Eagleton 75.79 41 ⇓P P 08 29 29.8 -0.1
baz=76
FCC Fort Churchill 75.87 26 eP P 08 29 29.3 -0.7
FCC Fort Churchill 75.87 26 eP P 08 29 29.2 -0.7
B19A Brinkman Farms 75.97 40 ⇓P P 08 29 31.2 +0.3
baz=76
AKASG Malin Array Be 76.14 323 P P 08 29 31.4 -0.3
comp=Z,6.1nm,0.7s,baz=46,slow=6.0,SNR=50
AKASG LR LR 09 04 32.4
comp=Z,2μm,20.5s,baz=40,slow=37
AKBB Malin Array Si 76.14 323 eP P 08 29 31.4 -0.3
AKBB Malin Array Si 76.14 323 eP P 08 29 31.4 -0.3
AK01 Malin Array Si 76.15 323 eP P 08 29 31.8 0.0
KIEV Kiev 76.15 323c iP P 08 29 31.3 -0.5
KIEV Kiev 76.15 323 eP P 08 29 31.2 -0.5
comp=Z,48nm,1.4s
KIEV LR LR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 76.16 44 eP P 08 29 33.1 +1.0
BOZ pmax pmax
comp=Z,97nm,2.5s
BOZ MLR MLR
comp=Z,1μm,20.0s
BOZ Bozeman (W) 76.16 44 eP P 08 29 33.1 +1.0
comp=Z,97nm,2.5s
BOZ LR LR
comp=Z,1μm,20.0s
NVAR Mina Array Bea 76.16 53 P P 08 29 32.4 +0.1
comp=Z,6.7nm,0.9s,baz=281,slow=6.1,SNR=17
AK02 Malin Array Si 76.18 323 eP P 08 29 31.4 -0.5
MLAC Mammoth Lakes 76.24 54 ⇓P P 08 29 33.9 +1.0
baz=76
A20A Cobblestone Ra 76.25 40 ⇓P P 08 29 33.1 +0.6
baz=76
NB2 NORSAR Subarra 76.27 338 P P 08 29 31.9 -0.5
comp=Z,55nm,1.4s,baz=41,slow=5.9
NB2 NORSAR Subarra 76.27 338 P P 08 29 31.9 -0.5
baz=41,slow=5.9
NOA NORSAR Array B 76.27 338 P P 08 29 32.2 -0.2
NOA pmax pmax
comp=Z,13nm,1.0s
NOA MLR MLR
comp=Z,2μm,18.5s
NOA NORSAR Array B 76.27 338 P P 08 29 32.2 -0.2
comp=Z,13nm,0.9s,baz=40,slow=5.7,SNR=17
NOA LR LR 09 07 03.1
comp=Z,2μm,18.5s,baz=25,slow=39
C19A Slack Wire Ran 76.35 41 ⇓P P 08 29 33.7 +0.6
baz=76
NC602 NORSAR Array S 76.40 337 eS S 08 39 18.6 +1.0
B20A Solberg Farm, 76.47 40 ⇓P P 08 29 34.1 +0.4
baz=76
AKN Aaknes 76.64 340 e 08 39 26.5
RCTC Rector, Farmer 76.70 55 ⇑P P 08 29 35.9 +0.8
baz=77
A21A Bergtoll Ranch 76.70 39 ⇓P P 08 29 35.4 +0.4
baz=76
QLMT Earthquake Lak 76.75 44 eP P 08 29 38.3 +2.7
SUW Suwalki 76.83 328 eP P 08 29 34.9 -0.7
SUW Suwalki 76.83 328 eP P 08 29 34.8 -0.8
SUW Suwalki 76.83 328 eP P 08 29 35.9 +0.4
comp=Z,59nm,1.1s
C20A Veseth Ranch, 76.92 41 ⇑P P 08 29 36.7 +0.4
baz=77
SIM Simferopol' 77.02 316 eP P 08 29 37.1 +0.3
SIM e 08 32 34.0
SIM eS S 08 39 28.8 +3.9
SIM pmax pmax
comp=Z,9.0nm,0.8s
SIM pmax pmax
comp=Z,200nm,12.1s
TPH Tonopah 77.06 53 eP P 08 29 38.2 +0.8
TPH pmax pmax
comp=Z,14nm,1.1s
TPH Tonopah 77.06 53 eP P 08 29 38.2 +0.8
comp=Z,14nm,1.1s
VES Vestal, Richgr 77.06 55 ⇓P P 08 29 37.9 +0.6
baz=77
A22A Carney Farms, 77.22 39 ⇓P P 08 29 37.9 0.0
baz=77
D20A Manuel Ranch, 77.23 41 ⇓P P 08 29 38.7 +0.6
baz=77
E19A Rath Farm, Rou 77.26 42 ⇑P P 08 29 39.0 +0.7
baz=77
C21A Desert Coulee 77.33 40 ⇑P P 08 29 39.0 +0.4
baz=77
SBC Santa Barbara 77.41 57 ⇑P P 08 29 39.9 +0.8
baz=77
DGAR Diego Garcia 77.47 252 PFAKE 08 29 50.0 +10
DGAR LR LR
comp=Z,1μm,19.0s
H17A Grant Village 77.50 44 eP P 08 29 42.3 +2.4
H17A Grant Village 77.50 44 ⇓P P 08 29 41.5 +1.7
baz=77,SNR=5.8
LKWY Lake 77.50 44 eP P 08 29 41.6 +1.7
LKWY pmax pmax
comp=Z,62nm,1.8s
LKWY MLR MLR
comp=Z,1μm,19.0s
LKWY Lake 77.50 44 eP P 08 29 41.6 +1.7
comp=Z,62nm,1.8s
LKWY LR LR
comp=Z,1μm,19.0s
F19A Roth Farm, Mol 77.54 42 ⇓P P 08 29 39.7 -0.2
baz=77
TAU Tasmania Unive 77.56 176 PFAKE 08 29 50.0 +10
TAU LR LR
comp=Z,1μm,19.0s
GRAC Grapevine Rang 77.56 54 ⇑P P 08 29 40.4 +0.3
baz=78
ISA Isabella 77.58 55 ⇓P P 08 29 40.6 +0.4
baz=78
IMW Indian Meadow 77.58 45 eP P 08 29 41.4 +1.0
comp=Z,142nm,2.5s
E20A Meyer Farm, Mu 77.59 42 ⇓P P 08 29 40.1 0.0
baz=77
FLWY Flagg Ranch 77.61 45 eP P 08 29 44.8 +4.3
comp=Z,218nm,2.5s
ARVC Arvin 77.63 56 ⇓P P 08 29 41.2 +0.7
baz=78
FXWY Fox Creek 77.69 45 eP P 08 29 42.6 +1.6
comp=Z,75nm,2.3s
HVU Hansel Valley 77.74 47 eP P 08 29 42.5 +1.3

HVU pmax pmax
comp=Z,18nm,1.1s
HVU Hansel Valley 77.74 47 eP P 08 29 42.5 +1.3
comp=Z,18nm,1.1s
I17A Pilgrim Ck. 77.78 45 ⇓P P 08 29 41.9 +0.5
baz=78
RLMT Red Lodge 77.81 43 PFAKE 08 29 50.0 +8.5
RLMT LR LR
comp=Z,1μm,20.0s
TPAW Teton Pass 77.82 45 eP P 08 29 44.8 +3.1
comp=Z,63nm,2.0s
H18A Shoshone NF, C 77.85 44 ⇓P P 08 29 41.6 -0.2
baz=78
D21A La Casta Ranch 77.86 41 ⇓P P 08 29 42.3 +0.7
baz=78
KONO Kongsberg 77.86 337 eP P 08 29 41.4 +0.2
KONO eS S 08 39 33.7 +0.2
KONO IAMs_20 IAMs_20 09 07 42.3
comp=Z,4μm,18.5s
KONO Kongsberg 77.86 337 PFAKE 08 29 50.0 +8.8
KONO LR LR
comp=Z,3μm,19.0s
LOHW Long Hollow 77.95 45 eP P 08 29 45.3 +2.9
comp=Z,11nm,1.4s
REDW Red Top Meadow 77.95 45 eP P 08 29 45.3 +2.9
comp=Z,34nm,1.5s
R11A Troy Canyon, C 77.97 52 eP P 08 29 42.9 +0.4
R11A Troy Canyon, C 77.97 52 ⇑P P 08 29 42.8 +0.3
baz=78
OSI Osito Adit 77.99 56 ⇑P P 08 29 43.5 +1.0
baz=78
C22A Vida 78.02 40 ⇓P P 08 29 42.4 0.0
baz=78
B23A Brockton 78.03 39 ⇑P P 08 29 43.2 +0.7
baz=78
SFJD Kangerlussuaq 78.05 5 PFAKE 08 29 50.0 +7.9
SFJD LR LR
comp=Z,1μm,20.0s
BGU Big Grassy Mou 78.09 48 eP P 08 29 47.3 +4.2
comp=Z,5.7nm,1.1s
AHID Auburn Hatcher 78.16 46 PFAKE 08 30 00.0 +16
AHID LR LR
comp=Z,710nm,19.0s
SUE Sulen 78.17 340 e 08 39 37.5
FURC Furnace Creek, 78.20 54 ⇓P P 08 29 44.6 +1.1
baz=78
H19A Powell 78.24 43 ⇓P P 08 29 44.7 +0.9
baz=78
A24A Westby 78.24 38 ⇑P P 08 29 44.1 +0.4
baz=78
D22A Cohagen 78.24 40 ⇑P P 08 29 44.3 +0.6
baz=78
MALT Malatya 78.27 309 ⇓iP P 08 29 46.0 +1.9
G20A Bridger 78.33 43 ⇓P P 08 29 45.2 +0.9
baz=78
EDW2 Edwards Air Fo 78.34 56 ⇑P P 08 29 45.3 +0.9
baz=78
C23A Lambert 78.35 39 ⇓P P 08 29 45.1 +0.8
baz=78
DGMT Dagmar 78.43 38 PFAKE 08 30 00.0 +15
DGMT LR LR
comp=Z,1μm,21.0s
DECC Green Verdugo 78.46 56 ⇑P P 08 29 46.1 +1.0
baz=78
LAO LASA Array 78.51 41 eP P 08 29 47.4 +2.2
comp=Z,404nm,3.0s
LAO LR LR
comp=Z,1μm,21.0s
BER Bergen 78.56 340 eS S 08 39 42.6 +1.7
BER IAMs_20 IAMs_20 09 11 58.3
comp=Z,4μm,19.1s
HWUT Hardware Ranch 78.58 47 eP P 08 29 46.4 +0.6
comp=Z,58nm,1.6s
HWUT LR LR
comp=Z,890nm,20.0s
I19A Meeteetse 78.62 44 ⇑P P 08 29 46.2 +0.2
baz=78
DUG Dugway 78.65 49 eP P 08 29 46.8 +0.6
DUG pmax pmax
comp=Z,169nm,2.5s
DUG MLR MLR
comp=Z,804nm,20.0s
DUG Dugway 78.65 49 eP P 08 29 46.8 +0.6
comp=Z,169nm,2.5s
DUG LR LR
comp=Z,804nm,20.0s
DUG Dugway 78.65 49 ⇑P P 08 29 46.7 +0.5
baz=78
A25A Svangstu Ranch 78.68 37 ⇑P P 08 29 46.2 +0.2
baz=78
KIS Kishinev 78.68 320 eP P 08 29 46.0 0.0
KIS ePPP PPP 08 34 38.0
KIS eS S 08 39 34.0 -8.7
KIS e 08 39 48.0
KIS ePS PnS 08 40 37.0 +13
KIS e 08 44 50.0
KIS MLR MLR
comp=Z,7μm,16.0s
KIS MLR MLR
comp=N,2μm,14.0s
KIS MLR MLR
comp=E,5μm,14.0s
KIS MLR MLR
comp=Z,7μm,16.0s
KIS Kishinev 78.68 320 eP P 08 29 46.0 0.0
KIS Kishinev 78.68 320 ePP PP 08 33 00.0 +17
KIS Kishinev 78.68 320 ePPP PPP 08 34 38.0
KIS eS S 08 39 34.0 -8.7
KIS Kishinev 78.68 320 ePS 08 40 37.0
KIS LRM MLR 09 08 16.0
comp=Z,7μm,16.0s
RAR Rarotonga 78.73 126 P P 08 29 46.2 -0.3
RAR pmax pmax
comp=Z,28nm,0.8s
RAR Rarotonga 78.73 126 P P 08 29 46.2 -0.3
comp=Z,28nm,0.8s,baz=276,slow=20,SNR=2.7
D23A Lindsay 78.74 40 ⇓P P 08 29 47.0 +0.6
baz=79
G21A Lodge Grass 78.89 42 ⇓P P 08 29 47.8 +0.4
baz=79
C24A Savage 78.92 39 ⇓P P 08 29 47.5 +0.1
baz=79
BFSC Mount Baldy Ra 78.93 56 ⇓P P 08 29 48.1 +0.3
baz=79
TCUT Toone Canyon 78.96 47 P P 08 29 50.6 +2.6
comp=Z,32nm,1.5s
CTU Camp Tracy 79.01 48 eP P 08 29 51.0 +2.8
comp=Z,200nm,2.8s
J19A Crowheart 79.06 45 ⇑P P 08 29 48.7 +0.2
baz=79
F22A Rosebud 79.06 41 ⇓P P 08 29 48.7 +0.4
baz=79
BW06 Boulder Array 79.07 45 PFAKE 08 30 00.0 +11
BW06 LR LR
comp=Z,684nm,19.0s
PDAR Pinedale Array 79.07 45 P P 08 29 48.6 0.0
comp=Z,2.0nm,0.8s,baz=305,slow=3.2,SNR=8.8
E23A Ismay 79.12 40 ⇓P P 08 29 49.0 +0.5
baz=79
I20A Worland 79.17 44 ⇓P P 08 29 49.2 +0.3
baz=79
A26A Wade Farm, Ken 79.24 37 ⇓P P 08 29 49.4 +0.3
baz=79
D24A Glendive 79.24 39 ⇓P P 08 29 49.8 +0.7
baz=79
JLU Jordanelle 79.25 48 eP P 08 29 50.8 +1.2
comp=Z,282nm,3.0s
NLU North Lily Min 79.25 49 eP P 08 29 51.1 +1.5
comp=Z,269nm,3.0s
LVV L'vov 79.25 324 eP P 08 29 49.4 +0.3
LVV e 08 32 52.4
LVV eS S 08 39 47.0 -1.8
LVV e 08 40 37.4
LVV e 08 44 53.8
LVV MLR MLR
comp=Z,4μm,15.0s
LVV MLR MLR
comp=N,2μm,14.0s
LVV MLR MLR
comp=E,3μm,14.0s
SHPR Sheep Range 79.30 53 eP P 08 29 52.1 +2.2
H21A Big Horn, Sher 79.36 43 ⇓P P 08 29 50.7 +0.7
baz=79
BEL Belsk 79.37 327 eP P 08 29 50.2 +0.5
BEL Belsk 79.37 327 eP P 08 29 50.2 +0.5
G22A Birney 79.40 42 ⇑P P 08 29 50.7 +0.5
baz=79
C25A Freed Ranch, W 79.41 38 ⇑P P 08 29 50.6 +0.5
baz=79
TUQ Turquoise Moun 79.42 54 ⇓P P 08 29 51.1 +0.6
baz=79
DAU Daniels Canyon 79.48 48 eP P 08 29 52.2 +1.3
DAU Daniels Canyon 79.48 48 eP P 08 29 52.2 +1.3
MPU Maple Canyon 79.48 48 eP P 08 29 51.9 +1.1
comp=E,155nm,2.3s
B26A Jensen Ranch, 79.49 38 ⇓P P 08 29 50.3 -0.2
baz=79
F23A Volborg 79.56 41 ⇑P P 08 29 51.4 +0.4
baz=79
J20A Shoshoni 79.56 44 ⇓P P 08 29 51.9 +0.8
baz=79
A27A Ledoux Ranch, 79.60 37 ⇑P P 08 29 51.6 +0.5
baz=79
MURC Murrieta 79.60 56 ⇓P P 08 29 52.7 +1.3
baz=80
E24A Baker 79.61 40 ⇓P P 08 29 52.1 +0.9
baz=79
ARUT Antelope Range 79.67 51 eP P 08 29 52.1 +0.3
ARUT Antelope Range 79.67 51 eP P 08 29 52.1 +0.3
comp=E,219nm,1.2s
I21A Big Trails, Te 79.72 43 ⇑P P 08 29 52.5 +0.5
baz=80
URZ Urewera 79.83 152 P P 08 29 51.1 -1.1
comp=E,5.2nm,0.9s,baz=27,slow=6.8,SNR=2.3
CCUT Cedar City 79.86 51 eP P 08 29 54.1 +1.1
comp=E,21nm,1.2s
G23A Biddle 79.90 41 ⇓P P 08 29 53.5 +0.6
baz=80
C26A Wahner Farm, P 79.92 38 ⇑P P 08 29 52.9 0.0
baz=80
B27A Peters Farms, 79.95 37 ⇓P P 08 29 53.5 +0.5
baz=80
GMRC Granite Mounta 79.97 55 ⇓P P 08 29 53.9 +0.5
baz=80
F24A Ekalaka 80.00 40 ⇓P P 08 29 53.9 +0.5
baz=80
KWP Kalwaria Pacla 80.01 325 eP P 08 29 54.0 +0.7
KWP Kalwaria Pacla 80.01 325 eP P 08 29 53.9 +0.5
KWP Kalwaria Pacla 80.01 325 ⇓iP P 08 29 54.5 +1.2
KWP Kalwaria Pacla 80.01 325 eP P 08 29 54.1 +0.7
comp=E,68nm,1.1s
KWP LR LR
comp=Z,2μm,19.0s
MVU Marysvale 80.03 50 eP P 08 29 54.9 +1.1
109C Camp Elliot, M 80.08 57 ⇓P P 08 29 54.1 +0.2
baz=80
A28A Rude Farm, Bot 80.10 36 ⇓P P 08 29 54.3 +0.5
baz=80
PFO Pinyon Flat Ob 80.11 56 PFAKE 08 30 10.0 +16
PFO LR LR
comp=Z,3μm,19.0s
PFO Pinyon Flat Ob 80.11 56 ⇓P P 08 29 54.4 +0.1
baz=80
E25A Miller Ranch, 80.12 39 ⇓P P 08 29 54.0 0.0
baz=80
I22A 9 Mile Ranch, 80.13 43 ⇑P P 08 29 53.5 -0.6
baz=80
BUR08 Bucovina Ar. S 80.13 322 eP P 08 29 54.5 +0.5
TESR Tescani 80.13 321 ⇑iP P 08 29 53.9 -0.1
BURAR Bucovina Array 80.14 322 ⇑iP P 08 29 54.7 +0.6
LDFC Landfair 80.17 54 eP P 08 29 57.5 +3.0
TMUT Trail Mountain 80.18 49 eP P 08 29 59.4 +4.6
comp=Z,81nm,2.1s
C27A Sayler Ranch, 80.29 38 ⇑P P 08 29 55.9 +1.1
baz=80
G24A Alzada 80.35 41 ⇑P P 08 29 55.3 0.0
baz=80
B28A Dugan Ranch, T 80.37 37 ⇓P P 08 29 56.3 +1.1
baz=80
J22A Midwest 80.44 43 ⇓P P 08 29 55.9 0.0
baz=80
BR131 Keskin Array S 80.44 312 eP P 08 29 56.3 +0.3
comp=Z,5.9nm,0.9s
BRTR Keskin Array B 80.44 312 P P 08 29 55.9 0.0
comp=Z,8.4nm,1.1s,baz=48,slow=2.1,SNR=21
BRTR LR LR 09 08 30.6
comp=Z,940nm,20.0s,baz=27,slow=38
F25A Bowman 80.47 40 ⇑P P 08 29 55.4 -0.5
baz=80
K21A Alcova 80.49 44 ⇑P P 08 29 58.2 +1.9
baz=80
VRI Vrincioaia 80.51 320 ⇑iP P 08 29 57.7 +1.6
A29A Manning Farm, 80.59 36 ⇓P P 08 29 57.9 +1.5
baz=80
E26A Carlson Angus 80.63 39 ⇓P P 08 29 57.8 +1.0
baz=80
H24A Dirks Ranch, A 80.65 41 ⇑P P 08 29 56.9 0.0
baz=80
IRM Iron Mountain 80.67 55 ⇑P P 08 29 58.0 +0.9
baz=81
KOLS Kolonicke sedl 80.70 324 eP P 08 29 56.7 -0.3
KOLS pmax pmax
comp=Z,14nm,1.4s
KOLS Kolonicke sedl 80.70 324 eP P 08 29 56.6 -0.4
KOLS e 08 30 12.0
SRU San Rafael 80.71 49 eP P 08 29 58.1 +0.6
SRU pmax pmax
comp=Z,168nm,2.2s
SRU San Rafael 80.71 49 eP P 08 29 58.1 +0.6
comp=Z,168nm,2.2s
BC3 Big Chuckawall 80.76 55 ⇑P P 08 29 59.0 +1.3
baz=81
B29A Wagenman Farm, 80.85 36 ⇑P P 08 29 57.8 0.0
baz=81
STHS Stebnicka Huta 80.85 325 eP P 08 29 58.6 +0.8
STHS pmax pmax
comp=Z,10.0nm,1.1s
STHS Stebnicka Huta 80.85 325 eP P 08 29 58.6 +0.8
ANTO Ankara 80.87 312 eP P 08 29 59.1 +1.0
ANTO pmax pmax
comp=Z,18nm,1.1s
ANTO MLR MLR
comp=Z,1μm,20.0s
ANTO Ankara 80.87 312 ⇓iP P 08 30 00.0 +1.9
ANTO Ankara 80.87 312 eP P 08 29 59.1 +1.0
comp=Z,18nm,1.1s
ANTO LR LR
comp=Z,1μm,20.0s
K22A Casper 80.89 44 eP P 08 30 01.6 +3.2
K22A Casper 80.89 44 ⇑P P 08 29 59.8 +1.5
baz=81
UZH Uzhgorod 80.90 324 ⇑iP P 08 29 58.3 +0.3
UZH e 08 30 06.9
UZH iS S 08 39 59.7 -6.4
UZH e 08 45 20.7
F26A Lodgepole 80.93 40 ⇑P P 08 29 58.9 +0.5
baz=81
OJC Ojcow 80.96 326 eP P 08 29 58.6 +0.3
OJC eS S 08 40 06.3 -0.4
OJC Ojcow 80.96 326 eP P 08 29 58.6 +0.3
OJC eS S 08 40 06.3 -0.4
OJC L L 09 17 25.0
comp=Z,3μm,19.7s
W13A Hualapai Mount 80.97 54 ⇑P P 08 29 58.5 -0.4
baz=81
N20A Spence Gulch, 81.02 46 ⇑P P 08 29 59.9 +0.8
baz=81,SNR=11
A30A Hoffart Farm, 81.03 35 ⇑P P 08 29 58.2 -0.5
baz=81
ISR Istrita 81.10 320 ⇓iP P 08 30 00.9 +1.6
CRVS Cervenica-Dubn 81.11 325 eP P 08 29 59.5 +0.3
CRVS pmax pmax
comp=Z,28nm,1.6s
CRVS Cervenica-Dubn 81.11 325 eP P 08 29 59.5 +0.3
D28A Regan 81.11 38 ⇓P P 08 29 59.3 0.0
baz=81
E27A Carson 81.12 39 ⇑P P 08 29 59.4 0.0
baz=81
TRPA Tarpa 81.12 324 ⇑iP P 08 30 00.0 +0.8
DOPR Dopca 81.15 321 ⇓iP P 08 30 00.9 +1.4
MLR Muntele Rosu 81.17 320 ⇑iP P 08 30 01.1 +1.4
U15A North Rim 81.22 52 ⇑P P 08 30 00.3 0.0
baz=81
ULM Lac du Bonnet 81.23 33 P P 08 29 59.3 -0.5
ULM pmax pmax
comp=Z,4.0nm,0.9s
ULM Lac du Bonnet 81.23 33 P P 08 29 59.3 -0.5
comp=Z,4.0nm,0.9s,baz=316,slow=4.3,SNR=4.2
H25A Fruitdale 81.25 41 ⇓P P 08 30 00.6 +0.5
baz=81
F27A Lemmon 81.26 39 ⇑P P 08 30 01.6 +1.5
baz=81
PDMCI Parker Dam,Lak 81.27 54 ⇓P P 08 30 00.7 +0.4
baz=81
NIE Niedzica 81.29 326 eP P 08 30 00.9 +0.8
NIE eS S 08 40 10.5 +0.3
NIE Niedzica 81.29 326 eP P 08 30 00.9 +0.8
NIE eS S 08 40 10.5 +0.3
NIE L L 09 11 32.0
comp=Z,1μm,18.6s
G26A Maurine 81.34 40 ⇑P P 08 30 00.6 0.0
baz=81
B30A Myrvik Farm, E 81.35 36 ⇓P P 08 30 00.5 0.0
baz=81
O20A White River Ci 81.47 47 eP P 08 30 03.7 +2.2
O20A White River Ci 81.47 47 ⇓P P 08 30 02.0 +0.5
baz=81
GLA Glamis 81.54 56 ⇑P P 08 30 02.6 +0.8
baz=82
G27A Dupree 81.63 40 ⇑P P 08 30 03.1 +1.0
baz=82
M22A Cedar Creek Ra 81.64 45 ⇓P P 08 30 04.3 +1.8
baz=82
SNZO South Karori 81.65 155 PFAKE 08 30 10.0 +8.2
SNZO LR LR
comp=Z,1μm,20.0s
RAYN Ar Rayn 81.66 293 P P 08 30 02.5 -0.1
comp=Z,1.0nm,1.0s,SNR=8.3
RAYN Ar Rayn 81.66 293 eP P 08 30 02.8 +0.2
comp=Z,33nm,1.3s
VOIR 81.68 320 ⇑iP P 08 30 03.5 +1.1
L23A Garrett 81.70 44 ⇓P P 08 30 04.1 +1.4
baz=82
C30A Mose, Pekin 81.80 36 ⇑P P 08 30 04.3 +1.5
baz=82
MTUR Matau 81.81 320 ⇑iP P 08 30 02.7 -0.4
RUE Ruedersdorf 81.88 331 eP P 08 30 03.0 -0.1
comp=Z,65nm,1.6s
F28A McLaughlin 81.91 39 ⇑P P 08 30 04.5 +1.0
baz=82
ARR Arges 81.94 321 ⇓iP P 08 30 05.2 +1.5
OKC Ostrava-Krasne 81.98 327 eP P 08 30 04.4 +0.7
OKC e 08 30 16.6
OKC e 08 33 06.6
OKC MLR MLR
comp=Z,4μm,15.7s
OKC Ostrava-Krasne 81.98 327 eP P 08 30 04.4 +0.7
OKC ex x 08 30 16.6
OKC ePP PP 08 33 06.6 -4.1
OKC AMS AMS 09 10 10.0
comp=Z,4μm,15.7s
H27A Howes 82.05 40 ⇓P P 08 30 04.8 +0.5
baz=82
KSP Ksiaz 82.06 329 eP P 08 30 03.8 -0.3
KSP e 08 33 11.0
KSP eS S 08 40 17.0 -1.0
KSP Ksiaz 82.06 329 eP P 08 30 04.4 +0.3
D30A Buchanan 82.07 37 ⇑P P 08 30 05.3 +1.0
baz=82
BSEG Bad Segeberg 82.09 333 eP P 08 30 04.0 -0.2
comp=Z,33nm,1.3s
N22A Wattenberg Ran 82.11 45 ⇓P P 08 30 06.8 +1.8
baz=82
PV04 Paradox Valley 82.15 48 eP P 08 30 06.4 +1.3
Y14A Wickenburg 82.24 54 ⇑P P 08 30 06.3 +0.8
baz=82
MORC Moravsky Berou 82.29 327 eP P 08 30 05.9 +0.5
MORC e 08 33 13.7
MORC pmax pmax
comp=Z,59nm,1.9s
MORC Moravsky Berou 82.29 327 ⇓iP P 08 30 06.2 +0.8
MORC Moravsky Berou 82.29 327 eP P 08 30 05.9 +0.5
comp=Z,59nm,1.9s
MORC ePP PP 08 33 13.7 +0.4
LOT Lotru 82.34 321 ⇑iP P 08 30 06.4 +0.5
N23A Red Feather La 82.35 45 ⇑P P 08 30 07.7 +1.5
baz=82,SNR=7.0
WUAZ Wupatki 82.36 52 eP P 08 30 07.3 +1.1
comp=Z,27nm,1.3s
WUAZ LR LR
comp=Z,1μm,19.0s
WUAZ Wupatki 82.36 52 ⇓P P 08 30 07.3 +1.1
baz=82
PHWY Pilot Hill 82.37 44 eP P 08 30 08.8 +2.5
comp=Z,56nm,2.0s
G28A Parade 82.37 39 ⇑P P 08 30 07.4 +1.5
baz=82
J26A Sides Ranch, S 82.39 42 ⇑P P 08 30 08.6 +2.5
baz=82
DPC Dobruska-Polom 82.41 328 eP P 08 30 06.7 +0.7
DPC e 08 30 20.4
DPC Dobruska-Polom 82.41 328 eP P 08 30 06.7 +0.7
DPC epP pP 08 30 10.7 0.0
DPC ex x 08 30 20.4
DPC ex x 08 30 31.1
DPC AMS AMS 09 14 30.0
DPC Dobruska-Polom 82.41 328 eP P 08 30 07.1 +1.0
F29A Eureka 82.41 38 ⇓P P 08 30 07.6 +1.5
baz=82
E30A Jud 82.42 37 ⇓P P 08 30 07.1 +1.0
baz=82
UPC Upice 82.42 328 eP P 08 30 06.4 +0.3
UPC e 08 30 16.5
UPC Upice 82.42 328 eP P 08 30 06.4 +0.3
UPC ex x 08 30 16.5
113A Mohawk Valley, 82.43 55 ⇓P P 08 30 07.3 +0.9
baz=82
I27A Quinn 82.44 41 ⇑P P 08 30 06.9 +0.5
baz=82
O22A Kremmling 82.46 46 ⇑P P 08 30 07.1 +0.3
baz=82
PV01 Paradox Valley 82.52 48 eP P 08 30 07.8 +0.6
comp=Z,2μm,1.0s
PSZ Piszkesteto 82.54 325 eP P 08 30 07.8 +1.0
PSZ pmax pmax
comp=Z,52nm,1.4s
PSZ MLR MLR
comp=Z,3μm,19.0s
PSZ Piszkesteto 82.54 325 ⇑iP P 08 30 07.1 +0.3
PSZ Piszkesteto 82.54 325 eP P 08 30 07.8 +1.0
comp=Z,52nm,1.4s
PSZ LR LR
comp=Z,3μm,19.0s
PSZ Piszkesteto 82.54 325 ⇑e P 08 30 07.3 +0.5
H28A Mission Ridge 82.58 40 ⇑P P 08 30 08.1 +1.0
baz=82
M24A Cheyenne 82.62 44 ⇑P P 08 30 08.9 +1.4
baz=82
AGMN Agassiz Nation 82.63 35 eP P 08 30 09.0 +1.8
comp=Z,83nm,2.3s
AGMN LR LR
comp=Z,1μm,19.0s
AGMN Agassiz Nation 82.63 35 ⇓P P 08 30 08.1 +1.0
baz=82
VYHS Vyhne 82.63 326 eP P 08 30 07.6 +0.4
VYHS pmax pmax
comp=Z,24nm,1.6s
VYHS Vyhne 82.63 326 eP P 08 30 07.6 +0.4
VYHS e 08 30 22.5
P22A Eagle 82.70 46 ⇓P P 08 30 08.8 +0.8
baz=83,SNR=14
O23A Lake Granby, G 82.80 46 ⇓P P 08 30 09.9 +1.2
baz=83,SNR=5.5
F30A Leola 82.82 38 ⇓P P 08 30 09.7 +1.5
baz=83
JMB Yambol 82.83 318 ⇓iP P 08 30 08.1 -0.2
SMCO Snowmass 82.83 47 eP P 08 30 11.7 +2.8
comp=Z,42nm,1.6s
GZR Gura Zlata 82.89 322 ⇑iP P 08 30 09.1 +0.5
I28A Midland 82.96 40 ⇓P P 08 30 09.1 0.0
baz=83
X16A Lo Mia Camp, P 82.98 53 ⇑P P 08 30 11.1 +1.6
baz=83
N24A Carr 83.00 45 ⇑P P 08 30 11.9 +2.4
baz=83
J27A Elkhorn Farm, 83.02 41 ⇑P P 08 30 10.9 +1.5
baz=83
BRG Berggiesshubel 83.03 330 iP P 08 30 09.0 -0.2
comp=Z,41nm,1.6s
BRG e 08 30 22.8
comp=Z,12nm,1.1s
BRG
comp=N,4μm,14.1s
BRG
comp=E,4μm,15.1s
BRG
comp=Z,5μm,14.3s
BRG Berggiesshubel 83.03 330 iP P 08 30 09.0 -0.2
BRG e 08 30 22.8

BRG pmax pmax
comp=Z,41nm,1.6s
BRG MLR MLR
comp=N,4µm,14.1s
BRG MLR MLR
comp=E,4µm,15.1s
BRG MLR MLR
comp=Z,5µm,14.3s
BRG Berggiesshubel 83.03 330 eP P 08 30 08.8 -0.4
comp=Z,42nm,1.6s
H29A Onida 83.04 39 ⇓P P 08 30 10.9 +1.5
baz=83
VRAC Vranov 83.06 327⇑iP P 08 30 10.3 +0.9
CLL Collm 83.08 330 eP P 08 30 08.1 -1.3
CLL pmax pmax
comp=Z,30nm,1.2s
CLL Collm 83.08 330 eP P 08 30 08.8 -0.6
comp=Z,26nm,1.2s
CLL Collm 83.08 330⇑iP P 08 30 08.8 -0.6
comp=Z,26nm,1.3s
CLL e 08 30 22.0
CLL eS **S 08 40 31.0 +2.5**
CLL eSS SS 08 46 12.0 +21
CLL e 08 50 18.0
CLL LmV 09 07 00.0
comp=Z,2µm,18.7s
CLL Collm 83.08 330 eP P 08 30 08.1 -1.3
comp=Z,30nm,1.2s
MVCO Mesa Verde 83.14 49 eP P 08 30 10.6 +0.2
comp=Z,204nm,2.3s
MVCO LR LR
comp=Z,901nm,20.0s
MVCO Mesa Verde 83.14 49 ⇑P P 08 30 11.3 +0.9
baz=83
ISCO Idaho Springs 83.24 46 eP P 08 30 14.3 +3.4
ISCO pmax pmax
comp=Z,52nm,1.8s
ISCO MLR MLR
comp=Z,1µm,19.0s
ISCO Idaho Springs 83.24 46 eP P 08 30 14.3 +3.4
comp=Z,52nm,1.8s
ISCO LR LR
comp=Z,1µm,19.0s
ISCO Idaho Springs 83.24 46 ⇓P P 08 30 13.1 +2.2
baz=83,SNR=7.9
G30A Faulkton 83.25 38 ⇑P P 08 30 11.5 +1.0
baz=83
K27A Flueckinger Fa 83.26 42 ⇓P P 08 30 12.6 +1.9
baz=83
SMOL Smolenice 83.26 326 eP P 08 30 12.1 +1.6
SMOL Smolenice 83.26 326 eP P 08 30 12.1 +1.6
J28A Allard Ranch, 83.32 41 ⇑P P 08 30 11.9 +1.0
baz=83
BZS Buzias 83.32 322⇓iP P 08 30 11.0 +0.2
P23A Jefferson 83.38 46 ⇑P P 08 30 13.6 +1.9
baz=83,SNR=5.4
PRA Prague 83.43 329 P P 08 30 11.0 -0.2
PRA PP **PP 08 33 26.0 +3.5**
PRU Pruhonice 83.44 329 eP P 08 30 11.2 -0.1
PRU e 08 30 25.2
PRU e 08 33 24.9
PRU eS **S 08 40 30.0 -2.2**
PRU e 08 41 30.8
PRU MLR MLR
comp=Z,4µm,13.5s
PRU Pruhonice 83.44 329 eP P 08 30 11.2 -0.1
PRU ex x 08 30 25.2
PRU ex x 08 30 35.0
PRU ePP **PP 08 33 24.9 +2.2**
PRU eSKS **S 08 40 30.0 -2.2**
PRU ePS **PnS 08 41 30.8 +7.2**
PRU AMS AMS 09 15 50.0
comp=Z,4µm,13.5s
PPT Papeete 83.49 116 LR LR 09 10 44.8
comp=Z,780nm,18.1s,baz=307,slow=38
PPT2 Papeete2 83.51 117 eLR LR 08 55 47.2
comp=Z,2µm,32.2s,baz=310
ISP Isparta 83.53 312 PFAKE 08 30 20.0 +7.8
ISP LR LR
comp=Z,1µm,19.0s
TREC Trest 83.55 328 eP P 08 30 12.1 +0.1
TREC e 08 30 25.9
TREC e 08 33 24.0
TREC eS **S 08 40 31.8 -1.6**
TREC e 08 41 26.9
TREC MLR MLR
comp=Z,4µm,14.5s
TREC Trest 83.55 328 eP P 08 30 12.1 +0.1
TREC ex x 08 30 25.9
TREC ePP **PP 08 33 24.0 +0.4**
TREC eSKS **S 08 40 31.8 -1.6**
TREC ePS **PnS 08 41 26.9 +1.9**
TREC AMS AMS 09 12 10.0
comp=Z,4µm,14.5s
PKSG 83.63 325⇓e P 08 30 13.1 +0.8
NEUB Neuenburg 83.65 331 eP P 08 30 12.0 -0.4
comp=Z,55nm,1.4s
CLZ Clausthal 83.71 332 eP P 08 30 12.6 -0.1
comp=Z,29nm,1.3s
K28A Ten Mile Ranch 83.72 41 ⇓P P 08 30 14.5 +1.4
baz=84
BRSD Miller 83.82 39 ⇑P P 08 30 14.4 +1.0
baz=84
S22A 4UR Ranch, Cre 83.83 48 ⇑P P 08 30 15.7 +1.8
baz=84,SNR=18
P24A Kohler Place, 83.84 46 ⇓P P 08 30 14.2 +0.4
baz=84
X18A Snowflake 83.89 52 ⇓P P 08 30 14.7 +0.5
baz=84
O25A Wiggins 83.91 45 ⇓P P 08 30 15.1 +0.9
baz=84
I30A Oacoma 83.94 39 ⇓P P 08 30 15.0 +1.0
baz=84
TANN Tannenbergstha 83.99 330 eP P 08 30 13.9 -0.3
comp=Z,55nm,1.9s
WERD Werda 84.03 330 eP P 08 30 14.1 -0.3
comp=Z,23nm,1.4s
Q24A Divide 84.06 46 ⇓P P 08 30 16.9 +1.7
baz=84
GUNZ Gunzen 84.08 330 eP P 08 30 14.4 -0.3
comp=Z,35nm,1.5s
WERN Wernitzgruen 84.12 330 eP P 08 30 14.7 -0.2
comp=Z,29nm,1.4s
MOX Moxa 84.15 331 eP P 08 30 14.7 -0.3
comp=Z,57nm,1.8s
MOX eL L 09 06 18.3
comp=Z,984nm,21.9s
R23A Moffat 84.15 47 ⇑P P 08 30 16.8 +1.2
baz=84,SNR=16
K29A Lazy Trails An 84.26 41 ⇓P P 08 30 17.2 +1.4
baz=84
SOP Sopron 84.27 326⇑e P 08 30 16.1 +0.5
P25A Willow Gulch B 84.28 45 ⇓P P 08 30 16.4 +0.4
baz=84
O26A Horse Wrangler 84.29 44 ⇓P P 08 30 16.5 +0.4
baz=84
J30A Dallas 84.31 40 ⇑P P 08 30 16.4 +0.5
baz=84
IBBN Ibbenburen 84.33 334 eP P 08 30 15.0 -0.8
comp=Z,82nm,1.8s
N27A Anderson Farm, 84.36 43 ⇓P P 08 30 16.8 +0.4
baz=84
S23A Nye Farm, Mont 84.36 47 ⇑P P 08 30 18.9 +2.3
baz=84
PKSM Moragy 84.36 324⇑iP P 08 30 15.7 -0.3
PKSM Moragy 84.36 324⇑e P 08 30 15.8 -0.3
CONA Conrad Observa 84.40 327 i pP P 08 30 17.1 +0.7
comp=Z,32nm,1.2s,SNR=12
KHC Kasperske Hory 84.50 329 eP P 08 30 16.1 -0.7
KHC e 08 30 30.5
KHC e 08 33 41.1
KHC eS S 08 40 36.1 -6.9
KHC e 08 41 31.9
KHC MLR MLR
comp=Z,4µm,14.2s
KHC Kasperske Hory 84.50 329 eP P 08 30 16.1 -0.7
KHC epP **pP 08 30 22.6 +1.1**
KHC ex x 08 30 30.5
KHC ex x 08 30 42.7
KHC ePP PP 08 33 41.1 +10
KHC eSKS S 08 40 36.1 -6.9
KHC eSP **SPn 08 41 31.9 -2.7**
KHC AMS AMS 09 15 40.0
comp=Z,4µm,14.2s
KHC Kasperske Hory 84.50 329 eP P 08 30 15.9 -0.9
comp=Z,27nm,1.3s

OGNE Ogallala 84.55 43 PFAKE 08 30 30.0 +13
OGNE LR LR
comp=Z,627nm,20.0s
OGNE Ogallala 84.55 43 ⇑P P 08 30 17.7 +0.5
baz=84
R24A Sanders Place, 84.56 47 ⇓P P 08 30 18.9 +1.3
baz=84,SNR=7.9
ROTZ Rotzenmuhle 84.59 330 eP P 08 30 17.3 +0.1
comp=Z,71nm,1.6s
Q25A Bedland, Calha 84.62 46 ⇓P P 08 30 19.2 +1.3
baz=84
SDCO Great Sand Dun 84.64 47 eP P 08 30 18.8 +0.8
comp=Z,40nm,1.6s
SDCO LR LR
comp=Z,699nm,20.0s
UBBA Unterbreizbach 84.66 332 eP P 08 30 17.0 -0.4
comp=Z,29nm,1.6s
GEC2 GERESS Array S 84.67 328 eP P 08 30 17.8 0.0
GEC2 GERESS Array S 84.67 328 eP P 08 30 16.9 -0.8
comp=Z,17nm,1.2s
GEC2 GERESS Array S 84.67 328 eP P 08 30 17.8 0.0
GERES GERESS Array B 84.67 328 P **P 08 30 17.3 -0.4**
GERES pmax pmax
comp=Z,5.0nm,0.9s
GERES MLR MLR
comp=Z,3µm,18.1s
GERES GERESS Array B 84.67 328 P **P 08 30 17.3 -0.4**
comp=Z,4.9nm,0.8s,baz=44,slow=4.1,SNR=26
GERES LR LR 09 10 52.6
comp=Z,3µm,18.1s,baz=32,slow=38
U22A Llaves 84.69 49 ⇑P P 08 30 19.9 +1.6
baz=85,SNR=12
K30A Basset 84.70 40 ⇑P P 08 30 20.4 +2.4
baz=84
TUC Tucson 84.71 54 PFAKE 08 30 30.0 +12
TUC LR LR
comp=Z,2µm,19.0s
P26A Davis Ranch, A 84.72 45 ⇓P P 08 30 20.2 +1.9
baz=85
T23A Casias Ranch, 84.77 48 ⇑P P 08 30 20.1 +1.4
baz=85,SNR=14
WET Wettzell 84.79 329 eP P 08 30 18.1 -0.2
comp=Z,20nm,1.4s
EYMN Ely 84.88 33 PFAKE 08 30 30.0 +11
EYMN LR LR
comp=Z,1µm,19.0s
S24A Houchin Ranch, 84.88 47 ⇑P P 08 30 20.6 +1.3
baz=85,SNR=6.5
V22A San Miguel Ran 84.95 49 ⇑P P 08 30 20.5 +0.9
baz=85
M29A Burnside Ranch 84.96 42 ⇓P P 08 30 21.8 +2.4
baz=85
N28A Pribbeno Ranch 85.00 43 ⇑P P 08 30 21.5 +1.9
baz=85
Q26A Hugo 85.04 45 ⇓P P 08 30 20.3 +0.4
baz=85
GRF Grafenberg Arr 85.05 330 eP P 08 30 19.6 0.0
comp=Z,68nm,1.2s
GRF eL L 09 17 48.8
comp=Z,1µm,18.7s
ARSA Arzberg 85.06 326⇑iP P 08 30 19.9 +0.3
comp=Z,15nm,1.2s,SNR=5.9
R25A Fountain Ranch 85.11 46 ⇑P P 08 30 21.9 +1.6
baz=85,SNR=7.5
U23A El Rito 85.13 49 ⇑P P 08 30 21.3 +0.8
baz=85,SNR=31
T24B San Luis 85.15 48 ⇑P P 08 30 22.1 +1.5
baz=85,SNR=13
P27A Ficken Ranch, 85.17 44 ⇓P P 08 30 21.9 +1.4
baz=85
MOA Molln 85.17 328⇑iP P 08 30 20.5 +0.3
comp=Z,21nm,1.3s,SNR=7.3
BUG Bochum--Univer 85.20 333 eP P 08 30 19.3 -0.9
comp=Z,40nm,1.3s
O28A Krutsinger Ran 85.25 43 ⇑P P 08 30 22.2 +1.4
baz=85
ESK Eskdalemuir 85.28 341 PFAKE 08 30 30.0 +9.5
ESK LR LR
comp=Z,1µm,20.0s
S25A Robets Cordova 85.33 47 ⇑P P 08 30 20.8 -0.6
baz=85
M30A Dale-Ortello V 85.34 41 ⇓P P 08 30 21.7 +0.4
baz=85
L31A Butterfield Fa 85.45 40 ⇓P P 08 30 22.2 +0.4
baz=85
R26A Arlington 85.50 46 ⇓P P 08 30 23.2 +1.0
baz=85,SNR=12
KSCO Kaye Shedlock' 85.50 45 eP P 08 30 25.3 +3.1
KSCO Kaye Shedlock' 85.50 45 ⇓P P 08 30 23.1 +0.9
baz=85
V23A Ortiz Mt. (NFS 85.51 49 ⇓P P 08 30 23.3 +0.9
baz=85
ECSD EROS Data Cent 85.52 38 eP P 08 30 23.0 +1.0
comp=Z,31nm,1.5s
ECSD EROS Data Cent 85.52 38 ⇓P P 08 30 21.9 -0.1
baz=85
P28A Saint Francis 85.63 44 ⇓P P 08 30 23.7 +0.9
baz=86
U24A Moreno Valley 85.64 48 ⇑P P 08 30 24.3 +1.2
baz=86,SNR=15
T25A Trinidad 85.69 47 ⇑P P 08 30 23.1 -0.2
baz=86
PERS Pernice 85.70 326 eP P 08 30 22.5 -0.4
PERS i 08 30 36.2
SOKA Soboth 85.71 326⇑iP P 08 30 22.9 -0.1
comp=Z,33nm,1.3s,SNR=9.2
TNS Taunus Mts 85.74 332 eP P 08 30 22.4 -0.6
comp=Z,37nm,1.5s
ANMO Albuquerque 85.85 50⇑iP P 08 30 22.4 -1.7
ANMO Albuquerque 85.85 50 eP P 08 30 24.8 +0.7
ANMO LR LR
comp=Z,1µm,20.0s
R27A Eads 85.89 45 ⇑P P 08 30 25.0 +0.9
baz=86
RJOB Jochberg 85.90 328 eP P 08 30 23.6 -0.3
comp=Z,16nm,1.2s
W23A Werner Place, 85.91 50 ⇓P P 08 30 21.8 -2.6
baz=86
Q28A Sharon Springs 85.93 44 ⇑P P 08 30 23.7 -0.6
baz=86
S26A Kim 85.93 46 ⇓P P 08 30 25.6 +1.3
baz=86,SNR=5.2
V24A Rampart Ranch, 86.09 49 ⇓P P 08 30 26.8 +1.5
baz=86,SNR=11
O30A MW Ranch, Wils 86.17 43 ⇓P P 08 30 26.8 +1.4
baz=86
U25A Circle Dot Ran 86.18 48 ⇑P P 08 30 26.2 +0.6
baz=86,SNR=15
FUR Furstenfeldbru 86.22 329 eP P 08 30 25.1 -0.3
comp=Z,86nm,1.8s
SPMN St. Paul 86.31 35 ⇓P P 08 30 26.7 +0.9
baz=86
BEBN Eben Emael 86.31 334 P P 08 30 26.1 +0.4
W24A Lazy 6 Ranch, 86.34 49 ⇓P P 08 30 28.4 +1.9
baz=86
MEM Membach 86.34 333 P P 08 30 26.0 +0.1
comp=Z,13nm,1.2s
MEM Membach 86.34 333 eP P 08 30 26.5 +0.6
MEM Membach 86.34 333 eP P 08 30 26.5 +0.6
V25A Rancho No Teng 86.42 48 ⇓P P 08 30 28.2 +1.3
baz=86,SNR=9.2
R28A Tribune 86.43 45 ⇓P P 08 30 27.1 +0.4
baz=86
VISS Visnje 86.46 326 eP P 08 30 25.3 -1.3
BOJS Bojanci 86.49 325 eP P 08 30 26.0 -0.8
BOJS e 08 30 39.0
P30A Selden 86.50 43 ⇑P P 08 30 28.5 +1.4
baz=86
Q29A Oakley 86.53 44 ⇓P P 08 30 29.1 +1.9
baz=86
121A Cookes Peak, D 86.55 52 ⇑P P 08 30 29.0 +1.5
baz=86
U26A Atchley Ranch, 86.58 47 ⇓P P 08 30 28.8 +1.2
baz=86,SNR=5.1
STU Stuttgart 86.60 331 eP P 08 30 27.5 +0.3
STU pmax pmax
comp=Z,41nm,1.2s
STU Stuttgart 86.60 331 eP P 08 30 26.6 -0.6
comp=Z,50nm,1.3s
STU Stuttgart 86.60 331 eP P 08 30 27.5 +0.3
comp=Z,41nm,1.2s
Z22A Elephant Butte 86.61 51 ⇓P P 08 30 29.3 +1.5
baz=86
X24A Lazy VL Ranch, 86.74 50 ⇑P P 08 30 29.3 +0.9
baz=87
JAVS Javornik 86.74 326 eP P 08 30 27.4 -0.7
JAVS i 08 30 42.4

T27A Campo 86.75 46 ⇑P P 08 30 28.8 +0.4
baz=87
BCLA Clavier 86.76 334 P P 08 30 27.2 -0.8
comp=Z,23nm,1.6s
R29A Marienthal 86.76 44 ⇑P P 08 30 27.3 -1.1
baz=87
Y23A Lovelace Mesa, 86.76 50 ⇑P P 08 30 29.9 +1.4
baz=87,SNR=5.8
ABTA Abfaltersbach 86.79 328⇑iP P 08 30 27.0 -1.3
comp=Z,11nm,1.3s
S28A Manter 86.88 45 ⇓P P 08 30 29.4 +0.4
baz=87
Q30A Quinter 86.91 43 ⇑P P 08 30 28.9 -0.1
baz=87
W25A X Bar L Ranch, 86.92 49 ⇓P P 08 30 30.4 +1.1
baz=87,SNR=9.0
V26A Tequesquite Ra 86.95 48 ⇓P P 08 30 30.8 +1.4
baz=87
P31A Stockton 87.00 43 ⇑P P 08 30 30.4 +0.9
baz=87
SNF Seneffe 87.05 334 P P 08 30 29.4 +0.1
WLF Walferdange 87.06 333 P P 08 30 29.5 0.0
comp=Z,24nm,1.6s
WLF Walferdange 87.06 333 PFAKE 08 30 40.0 +11
WLF LR LR
comp=Z,2µm,21.0s
U27A Thompson Grove 87.12 47 ⇑P P 08 30 31.6 +1.4
baz=87
DOU Dourbes 87.28 334 P P 08 30 29.7 -0.8
BFO Black Forest 87.30 331 P P 08 30 29.9 -0.8
BFO pmax pmax
comp=Z,15nm,1.1s
BFO MLR MLR
comp=Z,1µm,19.0s
BFO Black Forest 87.30 331 eP P 08 30 29.8 -0.8
comp=Z,43nm,1.6s
BFO Black Forest 87.30 331 P P 08 30 29.9 -0.8
comp=Z,15nm,1.1s
BFO LR LR
comp=Z,1µm,19.0s
R30A Dighton 87.35 44 ⇑P P 08 30 31.1 -0.1
baz=87
P32A Huiting Farm, 87.36 42 ⇑P P 08 30 31.1 0.0
baz=87
SCHQ Schefferville 87.38 16 P P 08 30 30.3 -0.6
comp=Z,8.5nm,1.0s,baz=5.5,slow=6.2,SNR=5.1
BAIF Baives 87.45 334 eP P 08 30 31.7 +0.4
comp=Z,54nm,1.4s
BAIF Baives 87.45 334 eP P 08 30 31.7 +0.4
BAIF pmax pmax
comp=Z,54nm,1.4s
BAIF Baives 87.45 334 eP P 08 30 31.7 +0.4
comp=Z,54nm,1.4s
V27A Dan Oppiter Fa 87.56 47 ⇓P P 08 30 33.2 +0.9
baz=87
Y25A Mesa, Roswell 87.62 50 ⇑P P 08 30 32.6 -0.1
baz=88
CDF Champ du Feu 87.65 332 eP P 08 30 31.9 -0.5
comp=Z,31nm,1.1s
CDF Champ du Feu 87.65 332 eP P 08 30 31.9 -0.5
CDF pmax pmax
comp=Z,31nm,1.1s
CDF Champ du Feu 87.65 332 eP P 08 30 31.9 -0.5
comp=Z,31nm,1.1s
R31A Burdett 87.77 44 ⇑P P 08 30 34.1 +0.9
baz=88
ECH Echery 87.86 331 PFAKE 08 30 40.0 +6.6
ECH LR LR
comp=Z,1µm,20.0s
FUORN Ofenpass-Fuorn 87.86 329 eP P 08 30 33.7 0.0
W27A Bowe Ranch, En 87.88 48 ⇑P P 08 30 34.4 +0.5
baz=88,SNR=5.6
Z25A Roswell 88.03 50 ⇑P P 08 30 35.6 +1.0
baz=88
S31A Mullinville 88.26 44 ⇓P P 08 30 36.4 +0.9
baz=88
TUE Stuetta 88.36 329 PFAKE 08 30 50.0 +14
TUE LR LR
comp=Z,1µm,20.0s
MEZF Maizieres J'vi 88.43 333 eP P 08 30 35.8 -0.2
MEZF Maizieres J'vi 88.43 333 eP P 08 30 35.8 -0.2
SCIA State Center 88.56 38 PFAKE 08 30 50.0 +13
SCIA LR LR
comp=Z,726nm,19.0s
MNTX Cornudas Mount 88.64 52 eP P 08 30 39.6 +2.2
comp=Z,37nm,2.5s
MNTX LR LR
comp=Z,674nm,20.0s
SFTF Sexfontaines 88.68 333 eP P 08 30 36.8 -0.4
SFTF Sexfontaines 88.68 333 eP P 08 30 36.8 -0.4
KSU1 Kansas State U 88.82 41 eP P 08 30 37.2 -0.9
KSU1 LR LR
comp=Z,780nm,19.0s
KSU1 Kansas State U 88.82 41 ⇑P P 08 30 38.5 +0.4
baz=89
T32A Huddler Ranch, 88.89 44 ⇓P P 08 30 40.9 +2.4
baz=89
Z27A Tatum 88.95 49 ⇓P P 08 30 40.4 +1.4
baz=89
GDL2 Guadalupe Moun 88.96 51 eP P 08 30 42.5 +3.5
X29A Tulia 89.12 48 ⇓P P 08 30 41.6 +1.9
baz=89
JFWS Jewell Farm 89.26 35 PFAKE 08 30 50.0 +10
JFWS LR LR
comp=Z,885nm,20.0s
MSEY Mahe Island 89.49 264 PFAKE 08 30 50.0 +8.4
MSEY LR LR
comp=Z,633nm,19.0s
W31A Holland Ranch, 89.67 46 ⇑P P 08 30 43.1 +0.9
baz=90
VLC Villacollemand 89.74 327 PFAKE 08 30 50.0 +7.7
VLC LR LR
comp=Z,2µm,21.0s
LOR Lormes 89.90 333 eP P 08 30 42.3 -0.7
comp=Z,34nm,1.2s
LOR eR
comp=Z,2µm,17.8s
LOR Lormes 89.90 333 eP P 08 30 42.3 -0.7
LOR pmax pmax
comp=Z,35nm,1.2s
LOR Lormes 89.90 333 eP P 08 30 42.3 -0.7
comp=Z,34nm,1.2s
Z29A Hungry Hill Ra 89.92 48 ⇑P P 08 30 44.9 +1.4
baz=90
X31A McDonald Ranch 90.03 47 ⇑P P 08 30 44.3 +0.5
baz=90
U34A Anderson Ranch 90.20 44 ⇓P P 08 30 45.5 +0.9
baz=90
SSF Saint Saulge 90.21 333 eP P 08 30 45.0 +0.6
comp=Z,64nm,1.4s
SSF Saint Saulge 90.21 333 eP P 08 30 45.0 +0.6
SSF pmax pmax
comp=Z,64nm,1.4s
SSF Saint Saulge 90.21 333 eP P 08 30 45.0 +0.6
comp=Z,64nm,1.4s
LPL La Plagne 90.22 330 eP P 08 30 44.2 -0.6
comp=Z,31nm,1.1s
LPL La Plagne 90.22 330 eP P 08 30 44.2 -0.6
LPL pmax pmax
comp=Z,31nm,1.1s
LPL La Plagne 90.22 330 eP P 08 30 44.2 -0.6
comp=Z,31nm,1.1s
LPG La Plagne 90.22 330 eP P 08 30 44.4 -0.5
LPG La Plagne 90.22 330 eP P 08 30 44.4 -0.5
LPG La Plagne 90.22 330 eP P 08 30 44.4 -0.5
Z30A Sanderson Ranc 90.26 48 ⇓P P 08 30 46.4 +1.5
baz=90
CUC Castrocucco 90.33 321 PFAKE 08 31 00.0 +15
CUC LR LR
comp=Z,2µm,19.0s
SMF Signal de Mont 90.43 332 eP P 08 30 44.8 -0.7
comp=Z,172nm,1.7s
SMF Signal de Mont 90.43 332 eP P 08 30 44.8 -0.7
SMF Signal de Mont 90.43 332 eP P 08 30 44.8 -0.7
comp=Z,172nm,1.7s
TIP Timpagrande 90.44 320 PFAKE 08 31 00.0 +14
TIP LR LR
comp=Z,1µm,22.0s
AVF Avril sur Loir 90.49 333 eP P 08 30 45.3 -0.4
comp=Z,76nm,1.3s
AVF Avril sur Loir 90.49 333 eP P 08 30 45.3 -0.4
AVF pmax pmax
comp=Z,76nm,1.3s
AVF Avril sur Loir 90.49 333 eP P 08 30 45.3 -0.4
comp=Z,76nm,1.3s
X32A Elmer 90.59 46 ⇓P P 08 30 47.4 +1.0
baz=90

BNI	**Bardonecchia**	**90.62**	**330**	PFAKE		08 31 00.0	+13
BNI				LR	LR		
	comp=Z,3µm,19.0s						
GRR	**Gorron**	**90.63**	**336**	*e*P	**P**	**08 30 47.0**	**+0.7**
	comp=Z,134nm,1.3s						
GRR	**Gorron**	**90.63**	**336**	*e*P	**P**	**08 30 47.0**	**+0.7**
GRR				pmax	pmax		
	comp=Z,134nm,1.3s						
GRR	**Gorron**	**90.63**	**336**	*e*P	**P**	**08 30 47.0**	**+0.7**
	comp=Z,134nm,1.3s						
V34A	**Guthrie**	**90.64**	**44**	*e*P	**P**	**08 30 47.9**	**+1.3**
V34A	**Guthrie**	**90.64**	**44**	⇓P	**P**	**08 30 48.1**	**+1.4**
	baz=90						
Z31A	**Sharp Cattle R**	**90.84**	**48**	⇑P	**P**	**08 30 49.6**	**+2.0**
	baz=91						
MBDF	**Montbardon**	**90.84**	**330**	*e*P	**P**	**08 30 47.2**	**-0.4**
MBDF	**Montbardon**	**90.84**	**330**	*e*P	**P**	**08 30 47.2**	**-0.4**
MBDF	**Montbardon**	**90.84**	**330**	*e*P	**P**	**08 30 47.2**	**-0.4**
W34A	**Bridge Creek,**	**90.91**	**45**	⇑P	**P**	**08 30 49.9**	**+1.9**
	baz=91						
329A	**Wagon Wheel Ra**	**90.95**	**50**	⇑P	**P**	**08 30 48.7**	**+0.5**
	baz=91						
X33A	**Lawton**	**90.97**	**46**	⇓P	**P**	**08 30 49.2**	**+1.0**
	baz=91						
Z32A	**Haskell**	**91.25**	**47**	⇑P	**P**	**08 30 50.0**	**+0.5**
	baz=91						
Y33A	**Hilltop Ranch,**	**91.27**	**46**	⇓P	**P**	**08 30 49.6**	**0.0**
	baz=91						
SSB	**Saint Sauveur**	**91.29**	**331**	PFAKE		08 31 00.0	+10
SSB				LR	LR		
	comp=Z,2µm,20.0s						
TXAR	**Lajitas Array**	**91.31**	**53**	P	**P**	**08 30 49.6**	**-0.4**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TXAR				MLR	MLR		
	comp=Z,2µm,18.6s						
TXAR	**Lajitas Array**	**91.31**	**53**	P	**P**	**08 30 49.6**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=296,slow=2.7,SNR=13						
TXAR				LR	LR	09 10 47.9	
	comp=Z,2µm,18.6s,baz=0.0,slow=35						
X34A	**Smith Ranch, M**	**91.32**	**45**	⇑P	**P**	**08 30 51.3**	**+1.4**
	baz=91						
330A	**Mertzon**	**91.51**	**50**	⇓P	**P**	**08 30 51.3**	**+0.5**
	baz=91						
TUL1	**Tulsa**	**91.56**	**43**	⇓P	**P**	**08 30 51.3**	**+0.4**
	baz=91						
CEL	**Celeste**	**91.58**	**320**	PFAKE		08 31 00.0	+9.0
CEL				LR	LR		
	comp=Z,2µm,22.0s						
429A	**Davenport Ranc**	**91.58**	**51**	⇓P	**P**	**08 30 52.2**	**+1.0**
	baz=92						
VIVF	**Saint-Julien-l**	**91.59**	**331**	*e*P	**P**	**08 30 50.3**	**-0.6**
	comp=Z,56nm,1.3s						
VIVF	**Saint-Julien-l**	**91.59**	**331**	*e*P	**P**	**08 30 50.3**	**-0.6**
VIVF				pmax	pmax		
	comp=Z,56nm,1.3s						
VIVF	**Saint-Julien-l**	**91.59**	**331**	*e*P	**P**	**08 30 50.3**	**-0.6**
	comp=Z,56nm,1.3s						
PGF	**Pioggiola**	**91.63**	**327**	*e*P	**P**	**08 30 51.5**	**+0.2**
	comp=Z,106nm,1.3s						
PGF	**Pioggiola**	**91.63**	**327**	*e*P	**P**	**08 30 51.5**	**+0.2**
PGF	**Pioggiola**	**91.63**	**327**	*e*P	**P**	**08 30 51.5**	**+0.2**
	comp=Z,106nm,1.3s						
231A	**Bronte**	**91.68**	**49**	⇑P	**P**	**08 30 53.6**	**+2.0**
	baz=92						
Z33A	**Whitaker Ranch**	**91.69**	**47**	⇓P	**P**	**08 30 53.0**	**+1.5**
	baz=92						
529A	**Stev Forest Ra**	**91.71**	**51**	⇓P	**P**	**08 30 52.8**	**+1.0**
	baz=92						
FRF	**La Foret Royal**	**91.84**	**329**	*e*P	**P**	**08 30 52.1**	**0.0**
	comp=Z,159nm,1.5s						
FRF	**La Foret Royal**	**91.84**	**329**	*e*P	**P**	**08 30 52.1**	**0.0**
FRF	**La Foret Royal**	**91.84**	**329**	*e*P	**P**	**08 30 52.1**	**0.0**
	comp=Z,159nm,1.5s						
MFF	**Saint Martin d**	**91.92**	**335**	*e*P	**P**	**08 30 52.2**	**-0.2**
	comp=Z,135nm,1.4s						
MFF	**Saint Martin d**	**91.92**	**335**	*e*P	**P**	**08 30 52.2**	**-0.2**
MFF	**Saint Martin d**	**91.92**	**335**	*e*P	**P**	**08 30 52.2**	**-0.2**
	comp=Z,135nm,1.4s						
SMRF	**Simiane la Rot**	**91.95**	**330**	*e*P	**P**	**08 30 52.1**	**-0.5**
SMRF	**Simiane la Rot**	**91.95**	**330**	*e*P	**P**	**08 30 52.1**	**-0.5**
331A	**San Angelo**	**92.04**	**49**	⇑P	**P**	**08 30 54.7**	**+1.5**
	baz=92						
133A	**Hamilton Ranch**	**92.07**	**47**	⇓P	**P**	**08 30 54.3**	**+1.0**
	baz=92						
Z34A	**Collier Ranch,**	**92.14**	**46**	⇑P	**P**	**08 30 53.1**	**-0.6**
	baz=92						
530A	**J-C Ranch, Com**	**92.26**	**51**	⇓P	**P**	**08 30 54.8**	**+0.5**
	baz=92						
431A	**Sonora**	**92.36**	**50**	⇓P	**P**	**08 30 55.2**	**+0.5**
	baz=92						
332A	**Millersview**	**92.42**	**49**	⇑P	**P**	**08 30 56.5**	**+1.5**
	baz=92						
RJF	**Les Rejaudoux**	**92.43**	**333**	*e*P	**P**	**08 30 55.7**	**+0.9**
RJF				*e*R			
	comp=Z,2µm,17.5s						
RJF	**Les Rejaudoux**	**92.43**	**333**	*e*P	**P**	**08 30 55.7**	**+0.9**
RJF	**Les Rejaudoux**	**92.43**	**333**	*e*P	**P**	**08 30 55.7**	**+0.9**
233A	**Rising Star**	**92.49**	**48**	⇑P	**P**	**08 30 56.3**	**+0.9**
	baz=92						
134A	**White-Moore Ra**	**92.60**	**47**	⇑P	**P**	**08 30 56.2**	**+0.5**
	baz=92						
432A	**Menard**	**92.73**	**49**	⇑P	**P**	**08 30 57.9**	**+1.4**
	baz=93						
AAM	**Ann Arbor**	**92.74**	**32**	PFAKE		08 31 10.0	+14
AAM				LR	LR		
	comp=Z,992nm,20.0s						
531A	**Rocksprings**	**92.75**	**50**	⇑P	**P**	**08 30 56.5**	**0.0**
	baz=93						
234A	**Clairette**	**92.97**	**47**	⇓P	**P**	**08 30 58.9**	**+1.4**
	baz=93						
JCT	**Junction City**	**93.00**	**49**	P	**P**	**08 30 55.8**	**-1.9**
JCT				pmax	pmax		
	comp=Z,2.0nm,0.4s						
JCT				MLR	MLR		
	comp=Z,976nm,19.0s						
JCT	**Junction City**	**93.00**	**49**	P	**P**	**08 30 55.8**	**-1.9**
	comp=Z,2.4nm,0.4s						
JCT				LR	LR		
	comp=Z,976nm,19.0s						
JCT	**Junction City**	**93.00**	**49**	⇓P	**P**	**08 30 57.2**	**-0.5**
	baz=93						
135A	**Vickery Place,**	**93.01**	**46**	⇓P	**P**	**08 30 59.1**	**+1.4**
	baz=93						
532A	**Rocksprings**	**93.18**	**50**	⇑P	**P**	**08 30 55.5**	**-3.1**
	baz=93						
631A	**Perdido Creek**	**93.25**	**51**	⇓P	**P**	**08 30 58.3**	**-0.5**
	baz=93						
334A	**Lometa**	**93.38**	**48**	⇓P	**P**	**08 30 59.3**	**-0.1**
	baz=93						
WHTX	**Lake Whitney**	**93.39**	**47**	⇓P	**P**	**08 30 58.9**	**-0.5**
	baz=93						
MIAR	**Mount Ida**	**93.80**	**43**	*e*P	**P**	**08 31 01.3**	**0.0**
MIAR				MLR	MLR		
	comp=Z,793nm,19.0s						
MIAR	**Mount Ida**	**93.80**	**43**	*e*P	**P**	**08 31 01.3**	**0.0**
MIAR				LR	LR		
	comp=Z,793nm,19.0s						
VSL	**Villasalto**	**93.88**	**325**	PFAKE		08 31 10.0	+8.4
VSL				LR	LR		
	comp=Z,1µm,19.0s						
WDD	**Wield Dalam**	**94.09**	**320**	PFAKE		08 31 10.0	+7.5
WDD				LR	LR		
	comp=Z,875nm,21.0s						
LONY	**Lake Ozonia**	**94.34**	**25**	PFAKE		08 31 20.0	+16
LONY				LR	LR		
	comp=Z,906nm,20.0s						
ERPA	**Erie**	**94.44**	**30**	PFAKE		08 31 20.0	+16
ERPA				LR	LR		
	comp=Z,1µm,19.0s						
ACSO	**Alum Creek Sta**	**94.72**	**33**	PFAKE		08 31 20.0	+15
ACSO				LR	LR		
	comp=Z,1µm,20.0s						
NCB	**Newcomb**	**95.03**	**25**	PFAKE		08 31 20.0	+13
NCB				LR	LR		
	comp=Z,774nm,20.0s						
PKME	**Peaks-Kenny Pk**	**95.48**	**21**	PFAKE		08 31 20.0	+11
PKME				LR	LR		
	comp=Z,5µm,20.0s						
LBNH	**Lisbon**	**95.57**	**24**	PFAKE		08 31 20.0	+11
LBNH				LR	LR		
	comp=Z,1µm,19.0s						
BINY	**Binghamton**	**95.93**	**27**	PFAKE		08 31 20.0	+9.1
BINY				LR	LR		
	comp=Z,671nm,19.0s						
KVTX	**Kingsville**	**96.24**	**50**	PFAKE		08 31 20.0	+7.5
KVTX				LR	LR		
	comp=Z,1µm,19.0s						
KEST	**Kesra**	**96.87**	**323**	LR	LR	09 18 25.4	
	comp=Z,435nm,19.6s,baz=340,slow=38						
RKT	**Rikitea**	**97.75**	**113**	*e*LR	LR	09 02 46.2	
	comp=Z,1µm,29.8s,baz=306						
BLA	**Blacksburg**	**98.34**	**33**	PFAKE		08 31 30.0	+8.1
BLA				LR	LR		
	comp=Z,884nm,19.0s						
RER	**Riviere de l'E**	**98.58**	**250**	PFAKE		08 31 30.0	+6.8
RER				LR	LR		
	comp=Z,569nm,20.0s						
CBN	**Corbin**	**98.81**	**30**	PFAKE		08 31 40.0	+16
CBN				LR	LR		
	comp=Z,1µm,19.0s						
ESDC	**Sonseca Array**	**99.33**	**334**	P	**Pdif**	**08 31 26.9**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=28,slow=5.8,SNR=3.2						
ESDC				LR	LR	09 20 19.8	
	comp=Z,1µm,19.7s,baz=15,slow=38						
PAB	**San Pablo**	**99.58**	**334**	PFAKE		08 31 40.0	+13
PAB				LR	LR		
	comp=Z,2µm,20.0s						
MTE	**Manteigas**	**99.92**	**337**	PFAKE		08 31 40.0	+11
MTE				LR	LR		
	comp=Z,1µm,19.0s						
GOGA	**Godfrey**	**100.01**	**37**	PFAKE		08 31 40.0	+11
GOGA				LR	LR		
	comp=Z,734nm,19.0s						
BRAL	**Brewton**	**100.05**	**41**	PFAKE		08 31 40.0	+10
BRAL				LR	LR		
	comp=Z,870nm,20.0s						
CNNC	**Cliffs of the**	**101.10**	**32**	PFAKE		08 31 50.0	+16
CNNC				LR	LR		
	comp=Z,815nm,20.0s						
NHSC	**New Hope**	**101.84**	**35**	PFAKE		08 31 50.0	+12
NHSC				LR	LR		
	comp=Z,1µm,19.0s						
KMBO	**Kilima Mbogo**	**102.44**	**277**	P	**PP**	**08 35 55.4**	**+1.8**
	SNR=5.3						
KMBO	**Kilima Mbogo**	**102.44**	**277**	PFAKE		08 31 50.0	+9.2
KMBO				LR	LR		
	comp=Z,453nm,20.0s						
CASY	**Casey**	**103.61**	**192**	PFAKE		08 32 00.0	+16
CASY				LR	LR		
	comp=Z,708nm,19.0s						
ABPO	**Ambohimpanom**	**104.13**	**257**	PFAKE		08 32 00.0	+12
ABPO				LR	LR		
	comp=Z,581nm,20.0s						
TEIG	**Tepich**	**107.57**	**49**	PFAKE		08 36 20.0	
TEIG				LR	LR		
	comp=Z,812nm,20.0s						
TAM	**Tamanrasset**	**109.15**	**317**	PFAKE		08 36 30.0	
TAM				LR	LR		
	comp=Z,812nm,19.0s						
GTBY	**Guantanamo Bay**	**115.30**	**39**	PFAKE		08 36 40.0	+14
GTBY				LR	LR		
	comp=Z,792nm,19.0s						
MTDJ	**Mount Denham**	**115.42**	**42**	PFAKE		08 36 40.0	+14
MTDJ				LR	LR		
	comp=Z,811nm,19.0s						
GRTK	**Grand Turk**	**115.89**	**34**	PFAKE		08 36 40.0	+13
GRTK				LR	LR		
	comp=Z,1µm,19.0s						
JTS	**JuntasAbangare**	**117.08**	**53**	PFAKE		08 36 40.0	+10
JTS				LR	LR		
	comp=Z,561nm,20.0s						
LSZ	**Lusaka**	**117.70**	**270**	PFAKE		08 36 40.0	+9.2
LSZ				LR	LR		
	comp=Z,726nm,19.0s						
SDDR	**Presa de Saban**	**117.99**	**36**	PFAKE		08 36 40.0	+8.7
SDDR				LR	LR		
	comp=Z,1µm,19.0s						
PAYG	**Puerto Ayora**	**120.92**	**67**	PFAKE		08 36 50.0	+13
PAYG				LR	LR		
	comp=Z,1µm,20.0s						
BCIP	**Isla Barro Col**	**121.23**	**50**	PFAKE		08 36 50.0	+12
BCIP				LR	LR		
	comp=Z,616nm,19.0s						
ANWB	**Willy Bob**	**123.23**	**27**	PFAKE		08 36 50.0	+8.7
ANWB				LR	LR		
	comp=Z,559nm,19.0s						
QSPA	**South Pole Qui**	**124.59**	**180**	PKP	**PKPdf**	**08 36 42.0**	**-0.4**
	comp=Z,4.8nm,1.0s,baz=6.5,slow=0.8,SNR=5.2						
QSPA	**South Pole Qui**	**124.59**	**180**	PKP	**PKPdf**	**08 36 42.0**	**-0.4**
QSPA				LR	LR		
	comp=Z,1µm,21.0s						
FDF	**Fort de France**	**126.15**	**28**	PFAKE		08 37 00.0	+13
FDF				LR	LR		
	comp=Z,584nm,19.0s						
SDV	**Santo Domingo**	**126.86**	**41**	PFAKE		08 37 00.0	+11
SDV				LR	LR		
	comp=Z,1µm,19.0s						
BBGH	**Gun Hill**	**128.21**	**27**	PFAKE		08 37 00.0	+9.1
BBGH				LR	LR		
	comp=Z,930nm,19.0s						
GRGR	**Grenville**	**128.32**	**30**	PFAKE		08 37 00.0	+8.8
GRGR				LR	LR		
	comp=Z,580nm,19.0s						
TSUM	**Tsumeb**	**128.41**	**272**	PFAKE		08 37 00.0	+8.7
TSUM				LR	LR		
	comp=Z,653nm,19.0s						
SACV	**Santiago Islan**	**128.51**	**342**	PFAKE		08 37 00.0	+8.5
SACV				LR	LR		
	comp=Z,501nm,19.0s						
OTAV	**Otavalo**	**128.82**	**56**	PFAKE		08 37 10.0	+17
OTAV				LR	LR		
	comp=Z,501nm,19.0s						
SUR	**Sutherland**	**131.28**	**255**	PFAKE		08 37 10.0	+14
SUR				LR	LR		
	comp=Z,720nm,19.0s						
NNA	**Nana**	**138.36**	**66**	PFAKE		08 37 20.0	+10
NNA				LR	LR		
	comp=Z,1µm,19.0s						
SHEL	**Horse Pasture**	**145.27**	**294**	PFAKE		08 37 30.0	+7.7
SHEL				LR	LR		
	comp=Z,1µm,19.0s						
SAML	**Samuel**	**145.63**	**47**	*e*PKPdf	**PKPdf**	**08 37 21.8**	**-1.2**
SAML				LR	LR		
	comp=Z,2µm,21.0s						
PMSA	**Palmer Station**	**146.26**	**160**	PFAKE		08 37 30.0	+5.7
PMSA				LR	LR		
	comp=Z,2µm,21.0s						
LPAZ	**La Paz**	**147.58**	**63**	*e*PKP2	**PKPbc**	**08 37 30.2**	**+0.6**
LPAZ	**La Paz**	**147.58**	**63**	*e*PKPbc	**PKPbc**	**08 37 30.2**	**+0.6**
LVC	**Limon Verde**	**150.69**	**74**	PFAKE		08 37 40.0	+3.2
LVC				LR	LR		
	comp=Z,909nm,19.0s						
RCBR	**Riachuelo**	**151.03**	**355**	*e*PKPbc	**PKPbc**	**08 37 38.6**	**+1.0**
RCBR				LR	LR		
	comp=Z,2µm,19.0s						
SIV	**San Ignacio**	**152.31**	**53**	PKPbc	**PKPbc**	**08 37 40.2**	**-0.2**
	comp=Z,4.8nm,0.9s,baz=319,slow=1.9,SNR=5.8						
TRQA	**Tornquist**	**160.74**	**106**	PFAKE		08 38 00.0	+16
TRQA				LR	LR		
	comp=Z,2µm,21.0s						

*ISCJB **28** 08:19:34.5±0.9, 37°.2S±0°.1×73°.3W±0°.3, h14km, mb4.1/10, Error ellipse: s-maj=35.2km s-min=14.7km az=172.3*
*IDC **28** 08:19:34.5±1.4, 37°.24S×73°.14W, h0km, mb4.2/7, mb1 4.2/7, mb1mx4.1/18, mbtmp4.2/7, Error ellipse: s-maj=55.6km s-min=21.3km az=95.0*
*NEIC **28** 08:19:36.1±0.8, 37°.14S×73°.27W, h35km, mb4.1/3, Error ellipse: s-maj=32.7km s-min=13.6km az=83.0*
ISC 28 08:19:36.1±1.0, **37°.2S**±0°.1×**73°.3W**±0°.3, **h14km, n13,** $\sigma 1^{s}.14$/13, **mb4.2**/10, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**21.28**	**14**	P	**P**	**08 24 22.6**	**-0.2**
	6.4nm,0.7s,baz=173,slow=12,SNR=5.4						
NNA	**Nana**	**25.27**	**352**	P	**P**	**08 25 02.0**	**+0.1**
SAML	**Samuel**	**29.53**	**21**	*e*P	**P**	**08 25 37.8**	**-2.4**
	0.3nm,0.4s						
OTAV	**Otavalo**	**37.52**	**351**	*e*P	**P**	**08 26 50.1**	**-0.1**
	3.3nm,0.8s						
ROSC	**El Rosal**	**41.81**	**358**	P	**P**	**08 27 27.9**	**+2.1**
	3.0nm,0.4s,baz=141,slow=3.8,SNR=5.2						
SDV	**Santo Domingo**	**45.87**	**4**	*e*P	**P**	**08 27 57.6**	**-0.6**
	4.1nm,0.9s						
RCBR	**Riachuelo**	**46.17**	**57**	P	**P**	**08 28 01.5**	**+0.9**
	4.3nm,0.8s,baz=203,slow=6.8,SNR=3.2						
SNAA	**Sanae**	**49.06**	**157**	P	**P**	**08 28 21.8**	**-0.5**
	0.6nm,0.8s,baz=284,slow=12,SNR=3.4						
QSPA	**South Pole Qui**	**53.08**	**180**	P	**P**	**08 28 53.0**	**+0.3**
	1.9nm,0.5s,baz=322,slow=1.9,SNR=12						
DBIC	**Dimbokro**	**77.13**	**71**	P	**P**	**08 31 30.3**	**+0.9**
	2.5nm,0.6s,baz=220,slow=4.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**86.21**	**71**	P	**P**	**08 32 17.5**	**+0.1**
	0.5nm,0.5s,baz=212,slow=3.5,SNR=2.5						
BRTR	**Keskin Array B**	**124.19**	**63**	PKP	**PKPdf**	**08 38 33.4**	**-0.8**
	0.5nm,0.6s,baz=269,slow=0.3,SNR=3.6						
MKAR	**Makanchi Array**	**159.50**	**54**	PKPab	**PKPab**	**08 40 11.7**	**-0.2**
	0.4nm,0.6s,baz=288,slow=3.7,SNR=3.4						

*ISCJB **28** 08:20:21.3±0.6, 29°.04S±0°.05×179°.2W±0°.1, h300km, mb3.9/7, Error ellipse: s-maj=13.0km s-min=6.1km az=6.8*
*IDC **28** 08:20:21.7±0.5, 29°.16S×178°.92W, h307km±7km, mb3.7/7, mb1 3.9/9, mb1mx3.6/40, mbtmp4.4/9, Error ellipse: s-maj=30.3km s-min=16.1km az=140.0*
ISC 28 08:20:21.6±0.7, **29°.16S**±0°.07×**179°.1W**±0°.1, **h300km, n34,** $\sigma 0^{s}.90$/37, **mb3.9**/7, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.01**	**95**	P	**Pn**	**08 21 03.1**	**+1.0**
	247nm,0.3s,baz=113,slow=8.8,SNR=10						
RAO				S	**S**	**08 21 34.8**	**+0.6**
	532nm,0.3s,baz=282,slow=23,SNR=7.2						
WMGZ	**Waiomatatini S**	**8.88**	**193**	PN	**Pn**	**08 22 27.8**	**+1.8**
WMGZ				SN	**S**	**08 24 05.0**	**-2.1**
CNGZ	**Carnagh Statio**	**9.57**	**193**	PN	**P**	**08 22 36.9**	**-1.6**
MWZ	**Matawai**	**9.58**	**196**	SN	**S**	**08 24 22.6**	**-0.2**
URZ	**Urewera**	**9.61**	**198**	P	**Pn**	**08 22 35.9**	**+1.0**
	2.8nm,0.3s,baz=27,slow=2.3,SNR=28						
URZ				S	**S**	**08 24 23.6**	**+0.1**
	4.2nm,0.3s,baz=169,slow=21,SNR=17						
URZ	**Urewera**	**9.61**	**198**	PN	**P**	**08 22 37.8**	**-1.2**
URZ				SN	**S**	**08 24 23.9**	**+0.3**
RIGZ	**Rimuhau**	**9.88**	**195**	PN	**P**	**08 22 41.3**	**-0.6**
RIGZ				SN	**S**	**08 24 28.4**	**-1.2**
SNGZ	**Shannon Statio**	**10.05**	**196**	PN	**P**	**08 22 43.3**	**-0.5**
KNZ	**Kokohu**	**10.20**	**194**	*e*PN	**P**	**08 22 44.9**	**-0.5**
RAHZ	**Arahi**	**10.24**	**197**	PN	**P**	**08 22 45.8**	**-0.1**
NMHZ	**Naumai**	**10.48**	**198**	PN	**P**	**08 22 48.5**	**-0.1**
MCHZ	**McNeill Hill**	**10.84**	**198**	PN	**P**	**08 22 52.9**	**+0.4**
WNVZ	**Wahianoa**	**11.05**	**202**	PN	**P**	**08 22 54.9**	**-0.3**
KRHZ	**Kereru**	**11.11**	**199**	PN	**P**	**08 22 55.1**	**-0.5**
KAHZ	**Kahuranaki**	**11.12**	**196**	PN	**P**	**08 22 55.5**	**-0.2**
PXZ	**Pawanui**	**11.35**	**196**	PN	**Pn**	**08 22 56.5**	**+0.4**
PNHZ	**Pukenui**	**11.41**	**199**	PN	**Pn**	**08 22 56.9**	**0.0**
PRHZ	**Porangahau**	**11.63**	**197**	PN	**P**	**08 23 01.1**	**-0.1**
ANWZ	**Angora Road**	**11.85**	**197**	PN	**P**	**08 23 04.0**	**+0.3**
BFZ	**Birch Farm**	**12.12**	**197**	PN	**P**	**08 23 06.4**	**-0.3**
DZM	**Mont Dzumac**	**14.84**	**295**	P	**Pn**	**08 23 39.0**	**+0.6**
	1.4nm,0.3s,baz=104,slow=17,SNR=13						
STKA	**Stephens Creek**	**33.87**	**255**	P	**P**	**08 26 36.7**	**0.0**
	1.7nm,0.5s,baz=96,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**42.25**	**266**	P	**P**	**08 27 47.3**	**+0.9**
	2.9nm,0.5s,baz=104,slow=7.0,SNR=44						
WRA	**Warramunga Arr**	**43.12**	**271**	P	**P**	**08 27 54.1**	**+0.8**
	3.8nm,0.6s,baz=110,slow=8.0,SNR=6.2						
MJAR	**Matsushiro Arr**	**76.69**	**326**	P	**P**	**08 31 38.8**	**-1.2**
	1.9nm,0.8s,baz=164,slow=5.9,SNR=4.7						
PETK	**Petropavlovsk-**	**84.39**	**346**	P	**P**	**08 32 19.3**	**-0.8**
	1.9nm,0.7s,baz=157,slow=4.7,SNR=2.7						
NVAR	**Mina Array Bea**	**87.97**	**43**	P	**P**	**08 32 37.9**	**-0.2**
	0.6nm,0.5s,baz=236,slow=7.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**92.11**	**290**	P	**P**	**08 32 57.0**	**-0.6**
	0.6nm,0.3s,baz=123,slow=3.3,SNR=2.8						
KAF	**Kangasniemi**	**143.07**	**340**	*e*p	PKPab	08 39 13.6	-1.8
	0.5nm,0.3s						
FINES	**FINESS Array B**	**143.66**	**340**	PKhKP	PKPpre	08 39 16.7	
	0.8nm,0.3s,baz=77,slow=3.1,SNR=24						
NB2	**NORSAR Subarra**	**147.39**	**351**	PKP	**PKPdf**	**08 39 27.8**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**147.39**	**351**	PKPbc	**PKPbc**	**08 39 28.3**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=14,slow=4.4,SNR=4.2						
HFS	**Hagfors**	**147.85**	**348**	PKPbc	**PKPdf**	**08 39 28.9**	**+1.5**
	comp=Z,1.3nm,0.4s,baz=49,slow=4.4,SNR=14						
AKASG	**Malin Array Be**	**149.75**	**323**	PKPbc	**PKPbc**	**08 39 34.8**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=44,slow=3.2,SNR=10						

*IDC **28** 08:23:44.3±0.8, 37°.10S×74°.08W, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.1/28, mbtmp4.0/10, ML3.7/2, MS3.6/4, Ms1 3.6/4, ms1mx3.4/29, Error ellipse: s-maj=32.9km s-min=19.4km az=79.0*
*ISCJB **28** 08:23:48.0±0.6, 37°.07S±0°.09×73°.9W±0°.2, h33km, mb4.1/13, MS4.0/1, Error ellipse: s-maj=19.4km s-min=11.7km az=163.7*
*NEIC **28** 08:23:49.7±0.5, 37°.08S×73°.93W, h35km, mb4.3/4, Error ellipse: s-maj=16.0km s-min=9.8km az=74.0*
ISC 28 08:23:49.5±0.8, **37°.1S**±0°.1×**74°.0W**±0°.2, **h35km, n19,** $\sigma 0^{s}.93$/17, **mb4.1**/13, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.54**	**145**	Pn	**Pn**	**08 24 55.7**	**-0.1**
	1.2nm,0.3s,baz=298,slow=14,SNR=1.9						
PLCA				LR	LR	08 26 54.2	
	comp=Z,996nm,20.7s,baz=295,slow=42						
CFAA	**Coronel Fontan**	**7.23**	**43**	Pn	**Pn**	**08 25 32.0**	**-0.7**
	0.4nm,0.3s,baz=219,slow=12,SNR=2.7						
CFAA				LR	LR	08 28 07.6	
	comp=Z,53nm,21.4s,baz=226,slow=36						
CPUP	**Villa Florida**	**17.73**	**58**	LR	LR	08 36 08.4	
	comp=Z,334nm,18.7s,baz=220,slow=42						
LPAZ	**La Paz**	**21.34**	**16**	P	**P**	**08 28 34.6**	**+0.3**
	2.6nm,0.6s,baz=191,slow=10,SNR=3.0						
BDFB	**Brasilia**	**31.39**	**54**	LR	LR	08 43 48.6	
	comp=Z,301nm,18.4s,baz=210,slow=38						
SNAA	**Sanae**	**49.38**	**157**	P	**P**	**08 32 35.5**	**+0.3**
	1.1nm,0.9s,baz=289,slow=9.7,SNR=6.5						
QSPA	**South Pole Qui**	**53.18**	**180**	P	**P**	**08 33 03.1**	**-0.8**
	2.3nm,1.0s,baz=138,slow=1.2,SNR=3.4						
JCT	**Junction City**	**71.41**	**337**	*e*P	**P**	**08 35 06.7**	**+0.6**
	4.7nm,1.0s						
TXAR	**Lajitas Array**	**71.68**	**333**	P	**P**	**08 35 08.6**	**+0.8**
	1.3nm,0.8s,baz=147,slow=9.0,SNR=9.8						
TXAR				PP	**PP**	**08 37 45.5**	**-2.0**
	0.3nm,0.5s,baz=155,slow=8.8,SNR=6.7						
ABTX	**Abilene, Hawle**	**73.35**	**338**	*e*P	**P**	**08 35 18.0**	**+0.4**
	3.3nm,0.5s						
DBIC	**Dimbokro**	**77.66**	**72**	P	**P**	**08 35 43.9**	**+1.2**
	3.7nm,0.7s,baz=220,slow=5.7,SNR=4.6						
ANMO	**Albuquerque**	**77.75**	**333**	*e*P	**P**	**08 35 43.5**	**+0.6**
	2.6nm,1.0s						
SDCO	**Great Sand Dun**	**79.94**	**335**	*e*P	**P**	**08 35 55.9**	**+0.9**
	1.1nm,0.9s						
BOSA	**Boshof**	**80.04**	**118**	P	P	08 36 00.6	+4.7
	4.4nm,0.8s,baz=252,slow=4.0,SNR=3.7						
NVAR	**Mina Array Bea**	**85.52**	**327**	P	**P**	**08 36 25.1**	**+1.2**
	0.5nm,0.7s,baz=148,slow=5.3,SNR=4.4						
PDAR	**Pinedale Array**	**85.81**	**335**	P	**P**	**08 36 24.5**	**-0.7**
	1.0nm,1.0s,baz=116,slow=5.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**86.73**	**71**	P	**P**	**08 36 30.5**	**+0.3**
	1.8nm,1.0s,baz=220,slow=5.3,SNR=5.6						
ABKAR	**Akbulak array**	**144.78**	**55**	*e*PKPdf	**PKPab**	**08 43 20.1**	**-1.0**
BVAR	**Borovoye Array**	**150.58**	**46**	PKPbc	**PKPbc**	**08 43 36.7**	**-0.4**
	0.9nm,0.7s,baz=289,slow=4.4,SNR=4.9						

*CSEM **28** 08:24:13.9, 42°.37N×13°.37E, h10km, MD1.6/8, After ROM*
ROM 28 08:24:13.9±0.1, **42°.37N×13°.37E, h10km, Md1.6**/8, **Ml1.2**/3, **Error ellipse: s-maj=1.8km s-min=1.0km az=62.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0104	**Madonna delle**	**0.03**	**250**	Pg	Pg	08 24 16.2	+0.3
T0104				Sg	Sg	08 24 17.7	+0.4
T0107	**San Pelino (Ca**	**0.14**	**319**	Pg	Pg	08 24 18.0	+0.7
T0107				Sg	Sg	08 24 20.7	+1.0
CAMP	**Campotosto**	**0.17**	**10**	Pg	Pg	08 24 17.9	+0.1
CAMP				Sg	Sg	08 24 20.9	+0.4
	41nm,0.3s						
CAMP	**Campotosto**	**0.17**	**10**	Pg	Pg	08 24 17.9	+0.1
CAMP				Sg	Sg	08 24 20.9	+0.4
	41nm,0.3s						
FAGN	**Fagnano**	**0.19**	**123**	Pg	Pg	08 24 18.7	+0.7
FAGN				Sg	Sg	08 24 21.8	+0.9
	50nm,0.3s						
FAGN	**Fagnano**	**0.19**	**123**	Pg	Pg	08 24 18.7	+0.7
FAGN				Sg	Sg	08 24 21.8	+0.9
	50nm,0.3s						
SMA1	**SAN MARTINO**	**0.26**	**354**	Pg	Pg	08 24 19.8	+0.3
SMA1				Sg	Sg	08 24 24.1	+0.9
	36nm,0.4s						

PTQR	**Pietraquaria**	**0.35**	**176**	Pg	Pg	08 24 21.5	+0.5
PTQR				Sg	Sg	08 24 26.4	+0.7
	1.0nm,0.2s						
PTQR	**Pietraquaria**	**0.35**	**176**	Pg	Pg	08 24 21.5	+0.5
PTQR				Sg	Sg	08 24 26.4	+0.7
	1.0nm,0.2s						
VCEL	**Villa Celiera**	**0.35**	**86**	Pg	Pb	08 24 21.8	-0.6
VCEL				Sg	Sb	08 24 27.5	-0.5
VCEL	**Villa Celiera**	**0.35**	**86**	Pg	Pb	08 24 21.8	-0.6
VCEL				Sg	Sb	08 24 27.5	-0.5
NRCA	**Norcia**	**0.50**	**338**	Pg	Pg	08 24 23.9	+0.1
NRCA				Sg	Sg	08 24 31.4	+0.8
NRCA	**Norcia**	**0.50**	**338**	Pg	Pg	08 24 23.9	+0.1
NRCA				Sg	Sg	08 24 31.4	+0.8

IDC ***28*** *08:27:32.8±2.0, 34.81S×73.87W, h0km, mb4.1/4, mb1 4.2/5, mb1mx4.0/16, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=51.4km s-min=44.8km az=36.0*

ISC 28 08:27:38.6±1.9, **34.7S**±0.3×**73.8W**±0.3, **h35km, n6,** σ0.79/6, **mb4.1**/4, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**19.01**	**17**	P	**Pn**	**08 31 58.3**	**-0.7**
	0.2nm,0.3s,baz=189,slow=8.3,SNR=4.7						
SIV	**San Ignacio**	**21.85**	**35**	P	**P**	**08 32 29.0**	**+0.8**
	6.6nm,0.7s,baz=225,slow=11,SNR=6.3						
TXAR	**Lajitas Array**	**69.62**	**332**	P	**P**	**08 38 44.4**	**+0.1**
	0.5nm,0.6s,baz=154,slow=8.5,SNR=4.9						
DBIC	**Dimbokro**	**76.80**	**72**	P	**P**	**08 39 27.2**	**+0.2**
	3.3nm,0.6s,baz=230,slow=6.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**85.83**	**71**	P	**P**	**08 40 14.1**	**-0.7**
	0.9nm,0.8s,baz=224,slow=4.1,SNR=3.6						
BVAR	**Borovoye Array**	**148.78**	**43**	PKPbc	**PKPbc**	**08 47 22.2**	**+0.5**
	1.4nm,0.4s,baz=309,slow=1.9,SNR=9.4						

JMA ***28*** *08:29:21.3±0.3, 25.97N×128.68E, h33km, M3.5*
IDC ***28*** *08:29:25.1±1.2, 26.49N×127.60E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/26, mbtmp3.8/9, ML3.4/1, Error ellipse: s-maj=38.6km s-min=27.9km az=72.0*

ISC 28 08:29:22.6±2.5, **26.04N**±0.10×**128.59E**±0.07, **h23km**±13km, **n23,** σ0.88/31, **mb3.8**/9, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.70**	**313**	P	**Pb**	**08 29 36.0**	**-0.2**
JJT2	**Tamagusuku 2**	**0.77**	**278**	P	**Pb**	**08 29 37.1**	**-0.2**
JJT2				eS	**Sn**	**08 29 49.0**	**+0.2**
JOW	**Kunigami**	**0.84**	**340**	P	**Pb**	**08 29 38.6**	**0.0**
JOW				eS	**Sn**	**08 29 50.2**	**-0.5**
JIH	**Iheya**	**1.14**	**331**	P	**Pn**	**08 29 43.2**	**0.0**
JIH				eS	**Sb**	**08 29 57.9**	**-0.1**
JOKE	**Okinoerabujima**	**1.32**	**359**	P	**Pn**	**08 29 45.3**	**-0.4**
JOKE				eS	**Sb**	**08 30 03.2**	**0.0**
JAGN	**Aguni-jima**	**1.33**	**295**	P	**Pn**	**08 29 45.7**	**-0.1**
JAGN				eS	**Sb**	**08 30 04.5**	**+1.0**
JKE	**Kume jima 2**	**1.65**	**280**	P	**Pn**	**08 29 48.9**	**-1.3**
JKE				eS	**Sn**	**08 30 10.4**	**-0.2**
JTK	**Tokunoshima**	**1.77**	**10**	P	**Pn**	**08 29 51.4**	**-0.5**
JTK				eS	**Sn**	**08 30 13.7**	**0.0**
JAMN	**Amaminishikomi**	**2.26**	**13**	P	**Pn**	**08 29 58.3**	**-0.2**
JAMN				eS	**Sn**	**08 30 26.2**	**+0.5**
JMZ	**Minamidaito 2**	**2.38**	**95**	P	Pn	08 29 55.8	-4.4
JMZ				eS	Sn	08 30 21.3	-7.3
JAM	**Amami Oshima**	**2.53**	**21**	P	**Pn**	**08 30 01.4**	**-0.9**
JAM				eS	**Sn**	**08 30 31.4**	**-1.0**
JZK	**Kikaishima**	**2.58**	**28**	P	**Pn**	**08 30 02.8**	**-0.2**
JZK				eS	**Sn**	**08 30 33.5**	**-0.1**
JTAJ	**Takarajima**	**3.15**	**10**	eS	**Sn**	**08 30 47.5**	**-0.2**
JNU	**Nakatsue**	**7.33**	**15**	Pn	**Pn**	**08 31 09.8**	**+1.4**
	0.6nm,0.3s,baz=195,slow=9.8,SNR=8.5						
JNU				Sn	**Sn**	**08 32 29.0**	**-1.9**
	0.2nm,0.3s,baz=23,slow=13,SNR=2.5						
SONM	**Songino Array**	**27.89**	**327**	P	**P**	**08 35 12.7**	**+1.9**
	1.6nm,0.4s,baz=143,slow=11,SNR=15						
MKAR	**Makanchi Array**	**41.90**	**312**	P	**P**	**08 37 09.2**	**-2.1**
	1.1nm,0.8s,baz=97,slow=9.3,SNR=5.9						
WRA	**Warramunga Arr**	**46.05**	**172**	P	P	08 37 54.9	+10
	1.6nm,0.9s,baz=351,slow=8.6,SNR=4.3						
BVAR	**Borovoye Array**	**50.63**	**318**	P	**P**	**08 38 20.4**	**+0.6**
	0.6nm,0.5s,baz=74,slow=5.3,SNR=4.2						
KBZ	**Khabaz**	**69.53**	**310**	P	**P**	**08 40 29.9**	**+0.4**
	2.1nm,0.8s,baz=90,slow=7.1,SNR=5.7						
FINES	**FINESS Array B**	**73.19**	**331**	P	**P**	**08 40 51.4**	**+0.1**
	2.0nm,0.8s,baz=70,slow=4.8,SNR=4.4						
AKASG	**Malin Array Be**	**75.89**	**320**	P	**P**	**08 41 07.1**	**-0.1**
	0.3nm,0.4s,baz=59,slow=7.1,SNR=4.6						
BRTR	**Keskin Array B**	**77.41**	**308**	P	**P**	**08 41 17.2**	**+1.0**
	0.7nm,0.8s,baz=127,slow=5.4,SNR=3.6						
YKA	**Yellowknife Ar**	**78.56**	**25**	P	P	08 41 29.2	+7.3
	0.3nm,0.8s,baz=305,slow=5.4,SNR=5.6						

IDC ***28*** *08:33:55.3±0.7, 8.94S×117.40E, h25km±4km, mb4.1/15, mb1 4.2/16, mb1mx4.1/26, mbtmp4.2/16, ML4.4/2, Error ellipse: s-maj=23.0km s-min=9.3km az=46.0*
ISCJB ***28*** *08:33:56.5±0.3, 9.02S±0.05×117.51E±0.02, h35km, mb4.3/17, Error ellipse: s-maj=6.7km s-min=3.2km az=13.6*
NEIC ***28*** *08:33:56.8±0.3, 8.88S×117.38E, h35km, mb4.6/3, Error ellipse: s-maj=10.0km s-min=5.5km az=46.0*
DJA ***28*** *08:33:59.0±0.3, 9°S±5°×11°7E±°, h45km, M4.9/22, mb4.9/7, mB5.3/6, MLv5.0/22, Mw(mB)4.7/6*

ISC 28 08:33:57.4±0.5, **8.97S**±0.06×**117.47E**±0.04, **h35km, n70,** σ1.73/63, **mb4.2**/17, **1D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.02**	**109**	P	**Pn**	**08 34 26.9**	**-2.0**
DNP	**Denpasar**	**2.25**	**277**	P	**Pn**	**08 34 34.6**	**+2.5**
IGBI	**Denpasar**	**2.30**	**274**	P	**Pn**	**08 34 33.1**	**+0.3**
IGBI				S	**Sn**	**08 35 02.0**	**+2.2**
SRBI	**Singaraja**	**2.40**	**291**	P	**Pn**	**08 34 34.4**	**+0.3**
WSI	**Waingapu**	**2.88**	**104**	P	**Pn**	**08 34 41.8**	**+1.0**
WSI	**Waingapu**	**2.88**	**104**	P	**Pn**	**08 34 43.0**	**+2.2**
	baz=2.9,SNR=7.6						
JAGI	**Jajag, Banyuwa**	**3.31**	**278**	P	**Pn**	**08 34 47.6**	**+0.8**
JAGI	**Jajag, Banyuwa**	**3.31**	**278**	P	**Pn**	**08 34 47.4**	**+0.6**
	baz=3.3,SNR=39						
JAGI				S	**Sn**	**08 35 28.1**	**+3.1**
	baz=3.3,SNR=8.2						
ABJI	**Asem Bagus**	**3.40**	**290**	P	**Pn**	**08 34 49.6**	**+1.6**
KMMI	**Kalianget**	**3.96**	**299**	P	**Pn**	**08 34 58.5**	**+2.9**
BLJI	**Banyuglugur**	**4.02**	**287**	P	**Pn**	**08 34 58.4**	**+1.9**
GMJI	**Gumukmas**	**4.04**	**280**	P	**Pn**	**08 34 58.0**	**+1.3**
BSSI	**Bau Bau, Buton**	**4.11**	**47**	P	**Pn**	**08 34 59.9**	**+2.2**
BKSI	**Bulukumba**	**4.48**	**36**	P	**Pn**	**08 35 03.5**	**+0.6**
MMRI	**Maumere**	**4.73**	**86**	P	**Pn**	**08 35 08.9**	**+2.6**
MMRI	**Maumere**	**4.73**	**86**	ePn	**Pn**	**08 35 06.9**	**+0.7**
MMRI				eSn	**Sn**	**08 36 01.1**	**+1.1**
BNSI	**Bone**	**5.24**	**30**	P	**Pn**	**08 35 16.4**	**+3.1**
	100nm,0.7s,1μm0.6nm						
GRJI	**Gresik**	**5.34**	**292**	P	**Pn**	**08 35 17.2**	**+2.5**
	361nm,0.9s,4μm1.4nm						
SPSI	**Sidrap Palu**	**5.47**	**25**	P	Pn	08 35 28.9	+12
PWJI	**Pagerwojo**	**5.68**	**279**	P	Pn	08 35 24.0	+4.7
	110nm,1.0s,2μm1.1nm						
BBKI	**Banjar Baru**	**6.06**	**334**	P	Pn	08 35 28.6	+4.0
	83nm,1.0s,3μm0.7nm						
NGJI	**Ngawi**	**6.15**	**285**	P	Pn	08 35 39.0	+13
BATI	**Baumata**	**6.24**	**102**	P	**Pn**	**08 35 29.4**	**+2.4**
	86nm,0.7s,0.4nm						
BATI	**Baumata**	**6.24**	**102**	Pn	**Pn**	**08 35 28.3**	**+1.3**
	40nm,0.3s,baz=256,slow=2.9,SNR=17						
BATI				Sn	**Sn**	**08 36 38.3**	**+1.2**
	24nm,0.3s,baz=285,slow=20,SNR=5.8						
WOJI	**Wonogiri, Jawa**	**6.57**	**279**	P	Pn	08 35 44.2	+13
SOEI	**Soe**	**6.76**	**97**	P	Pn	08 35 41.1	+6.8
SOEI	**Soe**	**6.76**	**97**	P	**Pn**	**08 35 35.5**	**+1.2**
	baz=6.8,SNR=4.2						
UGM	**Wanagama**	**6.95**	**278**	P	**Pn**	**08 35 38.2**	**+1.4**
	baz=7.0,SNR=4.9						
UGM				S	**Sn**	**08 36 58.9**	**+4.2**
	baz=7.0,SNR=6.3						
FITZ	**Fitzroy Crossi**	**12.06**	**140**	ePn	Pn	08 36 42.3	-4.6
FITZ				eSn	Sn	08 38 50.5	-10
FITZ	**Fitzroy Crossi**	**12.06**	**140**	P	Pn	08 36 43.1	-3.8
	baz=12,SNR=20						
MBWA	**Marble Bar**	**12.31**	**170**	Pn	**Pn**	**08 36 52.2**	**+1.9**
	43nm,0.4s						
KNRA	**Kununurra**	**12.89**	**122**	P	Pn	08 36 55.4	-2.8
	baz=13,SNR=17						
MDSI	**Maura Dua**	**13.92**	**288**	P	**P**	**08 37 20.3**	**+0.3**
GIRL	**Giralia**	**13.95**	**192**	P	Pn	08 37 07.5	-5.0
	baz=14,SNR=8.0						
GIRL				S	Sn	08 39 31.7	-15
	baz=14,SNR=6.1						
MTN	**Manton Dam**	**13.96**	**107**	P	**Pn**	**08 37 12.6**	**-0.3**
	baz=14,SNR=4.5						
KDU	**Kakadu**	**15.20**	**105**	S	Sn	08 40 03.0	-14
	baz=15,SNR=3.1						
MEEK	**Meekatharra**	**17.61**	**177**	P	**Pn**	**08 37 56.4**	**-3.7**
	baz=17,SNR=16						
MEEK				S	Sn	08 40 57.0	-18
	baz=17,SNR=9.9						
WRKA	**Warakurna**	**19.02**	**148**	P	**P**	**08 38 16.2**	**-0.3**
	baz=19,SNR=18						
WRA	**Warramunga Arr**	**19.62**	**126**	P	**P**	**08 38 22.6**	**-0.5**
	0.7nm,0.3s,baz=299,slow=12,SNR=14						
WRA				S	**Sn**	**08 42 04.2**	**0.0**
	0.2nm,0.3s,baz=302,slow=24,SNR=4.6						
MORW	**Morawa**	**20.04**	**184**	P	**Pn**	**08 38 29.3**	**-0.1**
	baz=20,SNR=8.8						
AS31	**Alice Springs**	**21.47**	**135**	eP	**P**	**08 38 43.3**	**+0.3**
AS31				eS	**S**	**08 42 41.0**	**+1.6**
ASAR	**Alice Springs**	**21.47**	**135**	P	**P**	**08 38 43.0**	**0.0**
	7.5nm,0.7s,baz=306,slow=9.2,SNR=41						
ASAR				S	**S**	**08 42 39.4**	**-0.1**
	1.3nm,0.8s,baz=300,slow=22,SNR=4.2						
ASAR				ScP	**ScP**	**08 46 21.0**	**+1.0**
	1.1nm,0.8s,baz=329,slow=1.6,SNR=7.1						
BLDU	**Ballidu**	**21.55**	**182**	P	**P**	**08 38 45.4**	**+1.7**
	baz=21,SNR=6.2						
PSI	**Prapat**	**21.87**	**302**	P	**P**	**08 38 45.6**	**-1.9**
	3.4nm,0.4s,baz=127,slow=5.1,SNR=4.6						
KLBR	**Kellerberrin**	**22.51**	**179**	P	**P**	**08 38 54.8**	**+0.6**
	baz=22,SNR=5.7						
NWAO	**Narrogin (SRO)**	**23.84**	**180**	P	**P**	**08 39 07.2**	**-0.2**
	16nm,0.6s,baz=4.0,slow=8.9,SNR=10						
QIS	**Mount Isa**	**24.27**	**121**	P	**P**	**08 39 12.9**	**+1.3**
	baz=24,SNR=4.8						
COEN	**Coen**	**25.67**	**104**	P	**P**	**08 39 27.9**	**+3.6**
	baz=26,SNR=5.1						
CTA	**Charters Tower**	**29.93**	**115**	P	**P**	**08 40 03.6**	**+1.2**
	5.4nm,0.9s,baz=268,slow=13						
STKA	**Stephens Creek**	**31.95**	**139**	P	**P**	**08 40 20.9**	**+0.8**
	1.8nm,0.5s,baz=318,slow=11,SNR=5.5						
STKA				PcP	**PcP**	**08 43 10.3**	**+0.5**
	3.7nm,0.7s,baz=333,slow=6.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**32.82**	**326**	P	**P**	**08 40 27.4**	**-0.4**
	1.0nm,0.4s,baz=150,slow=6.0,SNR=5.9						
H08S2	**Diego Garcia H**	**44.50**	**268**	T	T	09 29 28.7	
	baz=96,slow=76,SNR=26						
H08S3	**Diego Garcia H**	**44.51**	**268**	T	T	09 29 29.1	
	baz=96,slow=76,SNR=10						
H08S1	**Diego Garcia H**	**44.52**	**268**	T	T	09 29 30.1	
	baz=96,slow=76,SNR=7.6						
NFK	**Norfolk Island**	**51.29**	**120**	P	P	08 42 48.8	-10
	baz=51,SNR=4.1						
USRK	**Ussuriysk Arra**	**54.53**	**13**	P	**P**	**08 43 21.0**	**-0.9**
	3.4nm,0.7s,baz=178,slow=5.0,SNR=6.0						
SONM	**Songino Array**	**57.40**	**351**	P	**P**	**08 43 41.4**	**-1.1**
	1.6nm,0.7s,baz=168,slow=7.6,SNR=8.2						
SONM				pP	**pP**	**08 43 50.2**	**-2.9**
	1.3nm,0.6s,baz=176,slow=7.4,SNR=5.5						
MKAR	**Makanchi Array**	**63.75**	**334**	P	P	08 44 23.4	-2.3
	1.1nm,0.6s,baz=142,slow=7.3,SNR=2.9						
MKAR				pP	pP	08 44 32.9	-3.6
	2.7nm,0.7s,baz=144,slow=8.3,SNR=5.6						
EKS2	**Erkin-Say**	**65.02**	**326**	P	**P**	**08 44 32.8**	**-1.4**
	4.3nm,0.9s						
KKAR	**Karatay Array**	**67.14**	**324**	eP	P	08 44 38.4	-9.3
	1.6nm,0.4s						
ZALV	**Zalesovo Beam**	**68.48**	**340**	P	**P**	**08 44 53.8**	**-2.1**
	2.0nm,0.7s,baz=141,slow=7.1,SNR=2.9						
ZALV				pP	pP	08 45 02.3	-4.4
	3.8nm,0.6s,baz=137,slow=4.3,SNR=5.3						
BVAR	**Borovoye Array**	**73.56**	**333**	P	**P**	**08 45 24.7**	**-2.1**
	0.3nm,0.4s,baz=134,slow=4.2,SNR=3.3						
BVAR				pP	pP	08 45 33.0	-4.6
	2.5nm,0.7s,baz=142,slow=7.5,SNR=9.3						
SYO	**Syowa Base**	**77.33**	**201**	⇓eP	**P**	**08 45 47.6**	**-0.5**
QSPA	**South Pole Qui**	**81.03**	**180**	eP	**P**	**08 46 08.5**	**0.0**
	14nm,1.1s						
KBZ	**Khabaz**	**85.19**	**315**	P	**P**	**08 46 29.3**	**-0.9**
	1.3nm,0.8s,baz=80,slow=6.1,SNR=3.1						
BOSA	**Boshof**	**87.69**	**242**	P	**P**	**08 46 42.7**	**-0.4**
	5.3nm,0.8s,baz=94,slow=4.1,SNR=6.9						
BRTR	**Keskin Array B**	**90.95**	**310**	P	**P**	**08 46 56.4**	**-1.8**
	0.9nm,0.9s,baz=108,slow=4.0,SNR=3.9						
YKA	**Yellowknife Ar**	**114.78**	**24**	PKP	PKPdf	08 52 33.2	-0.8
	0.5nm,0.8s,baz=295,slow=1.9,SNR=6.6						
TORD	**Torodi Ar. Bea**	**116.96**	**280**	PKP	**PKPdf**	**08 52 38.9**	**-0.6**
	0.4nm,0.6s,baz=63,slow=0.8,SNR=3.2						
NVAR	**Mina Array Bea**	**122.17**	**50**	PKP	**PKPdf**	**08 52 49.4**	**+0.2**
	0.7nm,0.7s,baz=274,slow=1.1,SNR=5.1						

NNC 28 08:37:58.6±4.3, **36.35N×69.91E, h0km, mb3.7, mpv3.3, 2C-3D, Error ellipse: s-maj=37.1km s-min=33.1km az=156.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.76**	**4**	Pn	Pn	08 39 40.0	+1.0
	0.4nm,0.4s,baz=183,slow=12,SNR=14						
KK31				⇓Sn	Sn	08 40 58.3	+1.5
	0.6nm,0.4s,baz=184,slow=24,SNR=5.0						
AAK	**Ala-Archa**	**7.20**	**28**	⇑Pn	Pn	08 39 46.5	+1.1
	1.5nm,0.5s						
AAK				⇓Sn	Sn	08 41 08.3	+0.3
	2.8nm,0.5s						
TKM2	**Tokmak 2**	**7.89**	**32**	⇓Pn	Pn	08 39 53.9	-1.0
	3.7nm,1.2s						
AB31	**Akbulak array**	**14.81**	**334**	⇑Pn	Pn	08 41 26.4	-2.7
	0.7nm,0.5s						

KRSC 28 08:38:43.5±1.4, **49.59N×156.73E, h17km**±7km, **ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.16**	**340**	P	Pn	08 39 03.3	-1.7
SKR				S	Sb	08 39 20.0	+0.1
PAU	**Pauzhetka**	**1.88**	**2**	P	Pn	08 39 15.5	+0.7
PAU				S	Sb	08 39 40.1	-0.4
ASAK	**Asacha**	**2.89**	**14**	P	Pb	08 39 32.3	-2.4
MTVR	**Mutnovka**	**3.04**	**17**	P	Pn	08 39 33.5	+2.5
MTVR				S	Sb	08 40 11.2	-3.0
RUS	**Russkaya**	**3.06**	**21**	P	Pn	08 39 33.0	+1.9
RUS				S	Sn	08 40 10.1	+2.9
PET	**Petropavlovsk**	**3.64**	**19**	P	Pb	08 39 43.7	-3.7
PET				S	Sn	08 40 25.6	+4.0
UGLR	**Uglovaya**	**3.85**	**19**	P	Pn	08 39 46.1	+4.0
AVH	**Avacha**	**3.89**	**18**	P	Pn	08 39 46.7	+4.1
KOK	**Koryaka**	**3.89**	**17**	P	Pn	08 39 46.7	+4.0
KRER	**Koryakskii**	**3.93**	**18**	P	Pn	08 39 46.4	+3.1
SDLR	**Sedlovina**	**3.93**	**19**	P	Pn	08 39 47.2	+4.0
KRX	**Arik**	**3.96**	**17**	P	Pn	08 39 47.7	+4.1
GNL	**Ganaly**	**4.18**	**10**	P	Pn	08 39 50.0	+3.4
KBTR	**Krutoberegovo**	**7.58**	**27**	P	Pn	08 40 37.2	+4.1

CSEM 28 08:39:04.6±0.8, **51.56N×15.98E, h2km, ML3.0/5, Error ellipse: s-maj=12.1km s-min=6.9km az=173.0, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**164**	ePg	Pb	08 39 20.1	-0.2
KSP				eSg	Sb	08 39 30.3	-0.7
KSP	**Ksiaz**	**0.75**	**164**	e	Pn	08 39 21.8	-0.4
KSP	**Ksiaz**	**0.75**	**164**	ePg	Pb	08 39 20.1	-0.2
KSP				eSg	Sb	08 39 30.3	-0.7
UPC	**Upice**	**1.05**	**179**	ePG	Pg	08 39 25.2	+0.3
UPC				eSG	Sb	08 39 39.3	-0.6
	17nm,0.3s						
UPC	**Upice**	**1.05**	**179**	Pg	Pg	08 39 25.2	+0.3
UPC				Sg	Sb	08 39 39.3	-0.6
	17nm,0.3s						
DPC	**Dobruska-Polom**	**1.23**	**170**	ePG	Pb	08 39 28.5	-0.2
DPC				eSG	Sg	08 39 44.4	+0.1
DPC	**Dobruska-Polom**	**1.23**	**170**	Pg	Pb	08 39 28.5	-0.2
DPC				Sg	Sg	08 39 44.4	+0.1
BRG	**Berggiesshubel**	**1.45**	**243**	PG	Pg	08 39 33.2	+0.7
BRG				SG	Sn	08 39 53.0	+1.5
	46nm,0.3s						
PRA	**Prague**	**1.79**	**214**	PG	Pb	08 39 38.0	0.0
PRA				SG	Sg	08 40 02.0	+0.1
PRU	**Pruhonice**	**1.82**	**211**	ePN	Pn	08 39 37.4	+0.5
PRU				ePG	Pg	08 39 39.3	-0.2
PRU				eSG	Sg	08 40 03.5	+0.4
	11nm,0.2s						
PRU	**Pruhonice**	**1.82**	**211**	Pn	Pn	08 39 37.4	+0.5
CLL	**Collm**	**1.88**	**263**	i Pn	Pn	08 39 37.6	-0.1
CLL				i Pg	Pg	08 39 41.4	+0.8
CLL				i		08 39 44.5	
CLL				eSg	Sg	08 40 05.0	0.0
	comp=Z,8.0nm,0.4s						
OKC	**Ostrava-Krasne**	**2.21**	**140**	ePG	Pb	08 39 45.4	+0.2
OKC				eSG	Sg	08 40 14.6	-1.0
	comp=Z,9.5nm,0.4s						
OKC	**Ostrava-Krasne**	**2.21**	**140**	Pg	Pb	08 39 45.4	+0.2
OKC				Sg	Sg	08 40 14.6	-1.0
	comp=Z,9.5nm,0.4s						
TREC	**Trest**	**2.29**	**188**	ePN	Pn	08 39 44.6	+1.2
TREC				ePG	Pb	08 39 47.3	+0.6
TREC				eSG	Sg	08 40 17.7	-0.6
	comp=Z,6.8nm,0.2s						
TREC	**Trest**	**2.29**	**188**	Pn	Pn	08 39 44.6	+1.2
OJC	**Ojcow**	**2.77**	**118**	ePg	Pg	08 39 57.7	0.0
OJC				eSg	Sg	08 40 34.1	+0.6
OJC	**Ojcow**	**2.77**	**118**	ePg	Pg	08 39 57.7	0.0
OJC				eSg	Sg	08 40 34.1	+0.6
KHC	**Kasperske Hory**	**2.88**	**213**	ePN	Pn	08 39 52.5	+1.0
KHC				ePG	Pb	08 39 58.1	+1.4
KHC				eSN	Sn	08 40 26.7	0.0
KHC				eSG	Sg	08 40 37.2	0.0
	comp=Z,3.9nm,0.4s						
KHC	**Kasperske Hory**	**2.88**	**213**	Pn	Pn	08 39 52.5	+1.0

NNC 28 08:39:19.8±5.3, **47.45N×89.13E, h0km, mb3.7, mpv3.3, 8C-4D, Error ellipse: s-maj=43.2km s-min=28.0km az=84.0, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.71**	**265**	⇓Pn	Pn	08 40 34.8	+2.5
	0.5nm,0.3s,baz=90,slow=14,SNR=42						
MK31				⇑Pg	Pg	08 40 49.1	-1.1
	3.1nm,0.5s,baz=83,slow=17,SNR=11						
MK31				⇑Lg	Lg	08 41 49.0	
	16nm,0.7s,baz=88,slow=37,SNR=5.5						
KURK	**Kurchatov**	**7.64**	**299**	⇑Pn	Pn	08 41 11.8	-0.4
	0.9nm,0.4s						
KURK				⇑Sn	Sn	08 42 39.5	+0.1
	2.9nm,0.8s						
KURK				⇑Lg	Lg	08 43 22.6	
	7.4nm,0.5s						
KURBB	**Kurchatov Arra**	**7.66**	**298**	⇑Pn	Pn	08 41 12.4	-0.1
	2.1nm,0.7s						
KURBB				⇓Sn	Sn	08 42 39.5	-0.4
	14nm,0.7s						
KURBB				⇓Lg	Lg	08 43 24.7	
	30nm,0.6s						
PDGK	**Podgornoye**	**7.94**	**242**	⇓Pn	Pn	08 41 12.1	-4.3
PDGK				⇑Sn	Sn	08 42 48.0	+1.1
PDGK				⇑Lg	Lg	08 43 32.9	

IDC ***28*** *08:39:21.8±0.7, 26.03N×128.57E, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.1/55, mbtmp4.2/20, ML3.9/2, Error ellipse: s-maj=23.0km s-min=12.4km az=77.0*
ISCJB ***28*** *08:39:23.4±0.8, 25.95N±0.03×128.62E±0.03, h26km±5km, mb4.2/21, Error ellipse: s-maj=5.8km s-min=3.5km az=136.0*
JMA ***28*** *08:39:23.4±0.3, 25.95N×128.69E, h31km±5km, M4.1*
NEIC ***28*** *08:39:27.0±0.5, 25.98N×128.49E, h35km, mb4.4/5, Error ellipse: s-maj=9.4km s-min=8.9km az=106.0*

ISC 28 08:39:23.8±1.5, **25.95N**±0.04×**128.62E**±0.03, **h15km**±9km, **n63,** σ1.39/82, **mb4.3**/21, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.78**	**317**	P	**Pg**	**08 39 38.3**	**-0.7**
JNTH				eS	**Sg**	**08 39 49.6**	**+0.3**
JJT2	**Tamagusuku 2**	**0.80**	**284**	P	**Pg**	**08 39 39.5**	**+0.1**
JJT2				eS	**Sb**	**08 39 50.7**	**+0.6**
JOW	**Kunigami**	**0.93**	**341**	P	**Pb**	**08 39 40.9**	**-0.8**
JOW	**Kunigami**	**0.93**	**341**	Pn	**Pb**	**08 39 41.0**	**-0.6**
	55nm,0.3s,baz=141,slow=16,SNR=104						
JOW				Sn	**Sb**	**08 39 53.6**	**-0.3**
	58nm,0.3s,baz=151,slow=19,SNR=15						
JIH	**Iheya**	**1.23**	**332**	P	**Pn**	**08 39 45.5**	**-0.9**
JIH				eS	**Sb**	**08 40 01.6**	**-0.8**
JAGN	**Aguni-jima**	**1.39**	**298**	P	**Pn**	**08 39 47.9**	**-0.7**
JAGN				eS	**Sn**	**08 40 06.8**	**+0.1**
JOKE	**Okinoerabujima**	**1.41**	**358**	P	**Pn**	**08 39 47.9**	**-1.0**
JOKE				eS	**Sn**	**08 40 05.0**	**-2.2**
JKE	**Kume jima 2**	**1.69**	**283**	P	**Pn**	**08 39 51.5**	**-1.2**
JKE				eS	**Sn**	**08 40 11.5**	**-2.6**
JTK	**Tokunoshima**	**1.85**	**9**	P	**Pn**	**08 39 54.0**	**-1.0**
JTK				eS	**Sn**	**08 40 16.1**	**-2.1**
JAMN	**Amaminishikomi**	**2.34**	**12**	P	**Pn**	**08 40 00.8**	**-0.9**
JAMN				eS	**Sn**	**08 40 27.8**	**-2.4**
JMZ	**Minamidaito 2**	**2.35**	**93**	P	**Pn**	**08 40 00.0**	**-1.8**
JMZ				eS	**Sn**	**08 40 25.9**	**-4.5**
JAM	**Amami Oshima**	**2.61**	**20**	P	**Pn**	**08 40 04.2**	**-1.2**
JAM				eS	**Sn**	**08 40 33.9**	**-2.9**
JZK	**Kikaishima**	**2.65**	**27**	P	**Pn**	**08 40 06.2**	**+0.2**
JZK				eS	**Sn**	**08 40 36.2**	**-1.6**
JOGS	**Gusukube**	**3.14**	**249**	P	**Pn**	**08 40 10.6**	**-2.1**
JOGS				eS	**Sn**	**08 40 47.9**	**-2.0**
JMJ	**Miyako jima 2**	**3.21**	**250**	P	**Pn**	**08 40 13.0**	**-0.7**
JMJ				eS	**Sn**	**08 40 49.6**	**-2.1**
JIKM	**Ikemajima**	**3.21**	**252**	P	**Pn**	**08 40 13.6**	**-0.1**
JIKM				eS	**Sn**	**08 40 50.0**	**-1.7**
JIRB	**Irabujima**	**3.31**	**251**	P	**Pn**	**08 40 14.2**	**-0.8**
JIRB				eS	**Sn**	**08 40 53.5**	**-0.6**
JTJ	**Tarama**	**3.78**	**251**	P	**Pn**	**08 40 20.2**	**-1.3**
JTJ				eS	**Sn**	**08 41 01.2**	**-4.4**
JISG	**Ishigakijimahi**	**4.13**	**252**	P	**Pn**	**08 40 24.6**	**-1.7**
JISG				eS	**Sn**	**08 41 13.0**	**-1.3**
JIJ	**Ishigaki jima**	**4.35**	**250**	P	**Pn**	**08 40 27.9**	**-1.5**
JIJ				eS	**Sn**	**08 41 15.9**	**-3.9**
SSLB	**Suanglung**	**7.28**	**254**	ePn	Pn	08 41 06.7	-3.1
	14nm,0.3s						
JNU	**Nakatsue**	**7.41**	**15**	Pn	**Pn**	**08 41 11.9**	**+0.4**
	3.1nm,0.3s,baz=190,slow=3.6,SNR=22						
JNU				Sn	**Sn**	**08 42 33.9**	**-1.5**
	0.6nm,0.3s,baz=207,slow=18,SNR=3.7						
KSAR	**Wonju Array Be**	**11.48**	**357**	Pn	**Pn**	**08 42 07.2**	**+0.1**
KSRS	**Korea Array**	**11.49**	**357**	Pn	**Pn**	**08 42 07.2**	**0.0**
	0.2nm,0.3s,baz=174,slow=14,SNR=5.9						
CBIJ	**Chichi jima**	**12.20**	**82**	Pn	**Pn**	**08 42 19.0**	**+1.8**
ENH	**Enshi**	**17.41**	**289**	eP	**Pn**	**08 43 26.1**	**-0.2**
	6.4nm,1.2s						
YSS	**Yuzh-Sakhalins**	**23.78**	**25**	eP	**P**	**08 44 37.6**	**+1.9**
	58nm,1.2s						
ULN	**Ulaanbaatar**	**27.68**	**328**	eP	**P**	**08 45 12.5**	**+1.2**
	8.1nm,0.9s						
SONM	**Songino Array**	**27.98**	**327**	P	**P**	**08 45 13.6**	**-0.4**
	4.4nm,0.7s,baz=142,slow=10,SNR=14						
CMAR	**Chiang Mai Arr**	**28.42**	**261**	P	**P**	**08 45 19.1**	**+1.0**
	1.3nm,0.4s,baz=60,slow=7.6,SNR=5.6						
TAPN	**Taplejung**	**36.48**	**282**	eP	**P**	**08 46 29.1**	**+0.3**
ODAN	**Odare**	**36.82**	**281**	eP	**P**	**08 46 31.9**	**+0.2**
	39nm,0.8s						
JIRN	**Jiri**	**37.77**	**282**	eP	**P**	**08 46 39.4**	**-0.5**
	4.9nm,0.3s						
GUN	**Gumba**	**38.02**	**283**	eP	**P**	**08 46 42.1**	**+0.2**
PKI	**Pulchoki**	**38.47**	**282**	eP	**P**	**08 46 45.6**	**-0.2**
PKIN	**Phulchoki**	**38.48**	**282**	eP	**P**	**08 46 45.6**	**-0.2**
KKN	**Kakani**	**38.56**	**283**	eP	**P**	**08 46 46.4**	**0.0**
DMN	**Daman**	**38.73**	**282**	eP	**P**	**08 46 48.0**	**+0.1**
GKN	**Gorkha**	**39.09**	**283**	eP	**P**	**08 46 50.7**	**-0.1**
	31nm,0.9s						
DANN	**Dangsing**	**39.82**	**284**	eP	**P**	**08 46 57.3**	**+0.3**
	27nm,0.8s						
KOLN	**Koldanda**	**40.03**	**283**	eP	**P**	**08 46 59.0**	**+0.3**
	22nm,0.9s						
MK31	**Makanchi Array**	**41.98**	**312**	eP	**P**	**08 47 13.5**	**-0.8**
MKAR	**Makanchi Array**	**41.98**	**312**	P	**P**	**08 47 13.3**	**-1.0**
	1.9nm,0.7s,baz=94,slow=10,SNR=7.3						
ZALV	**Zalesovo Beam**	**42.68**	**323**	P	**P**	**08 47 18.0**	**-1.7**
	1.2nm,0.5s,baz=122,slow=8.7,SNR=4.1						
WRA	**Warramunga Arr**	**45.95**	**173**	P	**P**	**08 47 46.4**	**+0.1**
	4.7nm,0.6s,baz=353,slow=8.4,SNR=23						
CTA	**Charters Tower**	**48.86**	**158**	P	**P**	**08 48 10.4**	**+1.4**
	2.2nm,0.7s,baz=324,slow=8.7,SNR=3.6						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	49.59	174	P	P	08 48 15.0	+0.5
	2.9nm,0.8s,baz=1.7,slow=8.0,SNR=18						
BVAR	Borovoye Array	50.72	318	P	P	08 48 22.6	-0.2
	1.0nm,0.6s,baz=96,slow=7.4,SNR=6.6						
ABKAR	Akbulak array	57.09	313	eP	P	08 49 10.4	+1.0
	4.5nm,0.9s						
GEYT	Alibeck	59.73	300	P	P	08 49 28.5	+0.4
	2.0nm,0.6s,baz=16,slow=2.2,SNR=5.8						
ILAR	Eielson Array	64.52	28	P	P	08 49 60.0	+0.2
	0.6nm,0.8s,baz=273,slow=6.4,SNR=7.4						
SPITS	Spitsbergen Ar	69.17	348	P	P	08 50 29.5	+0.3
	6.9nm,1.0s,baz=75,slow=7.6,SNR=3.4						
KBZ	Khabaz	69.61	310	P	P	08 50 33.2	+0.8
	4.0nm,0.9s,baz=27,slow=3.7,SNR=7.7						
FINES	FINESS Array B	73.28	331	P	P	08 50 54.0	-0.2
	3.2nm,0.8s,baz=71,slow=5.3,SNR=12						
AKASG	Malin Array Be	75.97	320	P	P	08 51 09.7	-0.4
	1.4nm,0.4s,baz=56,slow=6.1,SNR=12						
AK01	Malin Array Si	75.98	320	eP	P	08 51 09.8	-0.4
BR131	Keskin Array S	77.48	308	eP	P	08 51 19.6	+0.5
	3.1nm,0.8s						
BRTR	Keskin Array B	77.48	308	P	P	08 51 19.2	+0.2
	3.5nm,0.9s,baz=87,slow=5.5,SNR=16						
YKA	Yellowknife Ar	78.63	25	P	P	08 51 25.3	+0.5
	0.7nm,0.8s,baz=298,slow=5.4,SNR=11						
NB2	NORSAR Subarra	79.72	334	P	P	08 51 30.3	-0.5
	comp=Z,5.0nm,1.2s,baz=54,slow=5.9						
NOA	NORSAR Array B	79.72	334	P	P	08 51 30.4	-0.4
	comp=Z,1.7nm,0.8s,baz=52,slow=5.5,SNR=7.5						
CLL	Collm	84.58	325	eP	P	08 51 56.0	-0.4
GERES	GERESS Array B	85.63	323	P	P	08 52 02.8	+0.9
	comp=Z,0.5nm,0.8s,baz=72,slow=6.3,SNR=4.5						

SJA 28 08:39:51.1±0.5, 33.86S×73.25W, h21km±94km, ML3.9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARCO	CERRO ARCO	3.75	75	eP	Pn	08 40 50.9	+2.9
ARCO				eS	Sn	08 41 35.7	+3.9
ARCO				AML	AML	08 41 41.8	
	comp=Z,179nm,0.5s						
AAGR	Agrelo	3.78	79	eP	Pn	08 40 51.8	+3.5
CFAA	Coronel Fontan	4.79	63	eP	Pn	08 41 05.9	+3.8
CFAA				eP	Pb	08 41 08.2	-6.2
ACHE	Chepes	6.18	66	eP	Pn	08 41 25.0	+3.6

DJA 28 08:40:38.5±0.7, 0°S±5°×12°0E±°, h63km±19km, M4.0/8, MLv4.0/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPSI	Mapaga	0.67	31	P	Pn	08 40 54.0	+1.4
APSI	Ampana	2.20	108	P	Pn	08 41 12.0	-0.8
MRSI	Marisa	2.49	73	P	Pn	08 41 18.1	+1.4
TTSI	Tana Toraja	2.80	174	P	Pn	08 41 21.1	+0.2
LUWI	Luwuk	3.32	104	P	Pn	08 41 27.7	-0.3
SPSI	Sidrap Palu	3.71	177	P	Pn	08 41 32.8	-0.5
BNSI	Bone	4.17	172	P	Pn	08 41 40.0	+0.3
MTKI	Muara Teweh, K	4.71	261	P	Pn	08 41 46.6	-0.4

IDC 28 08:45:29.2±0.9, 34.45S×73.06W, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/30, mbtmp3.8/6, ML3.0/1, Error ellipse: s-maj=34.4km s-min=22.1km az=92.0
ISCJB 28 08:45:32.8±0.9, 34.4S±0.1×73.0W±0.2, h33km, mb3.9/6, Error ellipse: s-maj=26.2km s-min=17.5km az=25.7
ISC 28 08:45:34.9±0.9, 34.4S±0.1×73.0W±0.2, h35km, n9, σ0.87/9, mb3.9/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.90	56	Pn	Pn	08 46 46.4	+0.3
	0.5nm,0.3s,baz=231,slow=13,SNR=6.3						
SIV	San Ignacio	21.27	33	P	P	08 50 17.5	-0.8
	2.8nm,0.6s,baz=220,slow=12,SNR=7.1						
SNAA	Sanae	51.48	158	P	P	08 54 37.4	+0.9
	2.0nm,1.0s,baz=270,slow=6.3,SNR=5.4						
QSPA	South Pole Qui	55.80	180	P	P	08 55 07.3	-1.0
	3.1nm,0.9s,baz=142,slow=6.2,SNR=10.0						
TXAR	Lajitas Array	69.73	332	P	P	08 56 41.7	+0.3
	0.4nm,0.6s,baz=156,slow=7.8,SNR=8.3						
PDAR	Pinedale Array	83.80	334	P	P	08 58 00.5	-0.1
	0.8nm,0.4s,baz=172,slow=3.3,SNR=29						
TORD	Torodi Ar. Bea	85.11	71	P	P	08 58 06.9	-0.7
	0.4nm,0.9s,baz=243,slow=6.3,SNR=2.5						
BVAR	Borovoye Array	148.14	43	PKPbc	PKPdf	09 05 14.4	+1.2
	0.5nm,0.6s,baz=354,slow=1.4,SNR=5.5						
ZALV	Zalesovo Beam	155.02	32	PKPab	PKPab	09 05 48.2	+0.2
	0.3nm,0.4s,baz=328,slow=5.1,SNR=2.8						

IDC 28 08:47:13.3±0.8, 34.68S×73.69W, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.2/32, mbtmp4.2/12, ML3.9/2, MS4.1/1, Ms1 4.0/1, ms1mx3.0/29, Error ellipse: s-maj=26.1km s-min=18.4km az=82.0
ISCJB 28 08:47:17.0±0.5, 34.65S±0.07×73.60W±0.07, h33km, mb4.5/29, MS4.0/1, Error ellipse: s-maj=10.5km s-min=8.6km az=162.5
NEIC 28 08:47:18.9±0.3, 34.63S×73.65W, h35km, mb4.7/20, Error ellipse: s-maj=8.5km s-min=7.1km az=56.0
BJI 28 08:47:18.7, 34.58S×73.39W, h42km, Ms5.2/1, Ms7 5.0/1
ISC 28 08:47:18.9±0.5, 34.67S±0.08×73.65W±0.10, h35km, n46, σ1.08/53, mb4.5/29, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.47	58	Pn	Pn	08 48 36.8	-1.2
	1.1nm,0.3s,baz=236,slow=12,SNR=4.3						
CFAA				Sn	Sn	08 49 40.5	+0.7
	1.9nm,0.3s,baz=195,slow=16,SNR=6.6						
TRQA	Tornquist	10.00	113	ePn	Pn	08 49 41.8	+1.8
LVC	Limon Verde	12.71	20	ePn	Pn	08 50 17.1	-0.4
LPAZ	La Paz	18.97	17	P	Pn	08 51 38.5	-0.2
	0.4nm,0.3s,baz=171,slow=8.6,SNR=8.8						
LPAZ	La Paz	18.97	17	P	Pn	08 51 38.5	-0.2
LPAZ				ePn	P	08 51 38.9	+1.1
SIV	San Ignacio	21.76	34	P	P	08 52 06.4	-1.2
	9.5nm,0.8s,baz=234,slow=13,SNR=8.5						
NNA	Nana	22.77	352	P	P	08 52 18.8	+0.4
	10nm,0.7s,baz=200,slow=11,SNR=6.8						
NNA	Nana	22.77	352	P	P	08 52 18.8	+0.4
	173nm,2.2s						
SAML	Samuel	27.34	23	eP	P	08 53 00.0	-0.7
	1.4nm,0.6s						
BDFB	Brasilia	29.81	57	LR	LR	09 05 58.9	
	comp=Z,307nm,19.2s,baz=202,slow=38						
OTAV	Otavalo	35.02	352	eP	P	08 54 08.9	+0.2
	7.8nm,1.2s						
SNAA	Sanae	51.47	158	P	P	08 56 20.2	-0.2
	3.1nm,1.0s,baz=263,slow=6.2,SNR=6.4						
QSPA	South Pole Qui	55.56	180	P	P	08 56 50.8	+0.2
	5.1nm,1.0s,baz=139,slow=7.4,SNR=5.0						
TXAR	Lajitas Array	69.69	332	P	P	08 58 24.4	-0.7
	3.1nm,0.7s,baz=153,slow=8.1,SNR=25						
WHTX	Lake Whitney	69.99	339	eP	P	08 58 26.1	-0.6
	12nm,1.1s						
TUL1	Tulsa	73.20	341	eP	P	08 58 45.0	-1.0
	6.8nm,0.8s						
MSTX	Muleshoe	73.54	335	eP	P	08 58 47.3	-0.8
	8.6nm,0.8s						
ANMO	Albuquerque	75.75	333	eP	P	08 59 01.0	-0.1
	4.6nm,1.1s						
CCUT	Cedar City	80.78	329	eP	P	08 59 29.9	+0.9
	7.8nm,1.2s						
ECSD	EROS Data Cent	80.80	343	eP	P	08 59 27.6	-0.9
	8.7nm,1.1s						
BOSA	Boshof	80.93	118	P	P	08 59 29.7	-0.4
	3.5nm,0.8s,baz=228,slow=1.8,SNR=4.6						
SRU	San Rafael	80.96	332	eP	P	08 59 29.6	-0.1
	4.2nm,1.0s						
DUG	Dugway	82.80	331	eP	P	08 59 39.5	+0.2
	5.8nm,1.0s						
TPH	Tonopah	82.91	327	eP	P	08 59 40.6	+0.5
	3.8nm,0.9s						
NVAR	Mina Array Bea	83.69	326	P	P	08 59 44.6	+0.4
	1.0nm,0.7s,baz=155,slow=5.5,SNR=6.5						
PDAR	Pinedale Array	83.78	334	P	P	08 59 43.7	-0.8
	0.6nm,0.6s,baz=171,slow=4.9,SNR=4.8						
HVU	Hansel Valley	84.13	332	eP	P	08 59 45.3	-0.9
	5.2nm,0.8s						
TORD	Torodi Ar. Bea	85.69	71	P	P	08 59 54.3	-0.1
	0.6nm,0.7s,baz=273,slow=3.6,SNR=3.6						
YMR	Madison River	85.93	334	eP	P	08 59 55.5	+0.3
	8.8nm,1.2s						
HLID	Hailey	86.28	332	eP	P	08 59 57.2	+0.2
	55nm,2.8s						
MCMT	McKenzie Canyo	86.75	333	eP	P	08 59 59.1	-0.3
	2.4nm,1.2s						
ULM	Lac du Bonnet	86.81	346	P	P	08 59 57.4	-1.7
	2.9nm,0.8s,baz=205,slow=2.5,SNR=3.9						
DLMT	Dillon	87.12	334	eP	P	09 00 01.4	+0.4
	8.8nm,1.3s						
DGMT	Dagmar	87.15	340	eP	P	09 00 00.2	-0.7
	14nm,0.8s						
MOD	Modoc	87.39	327	eP	P	09 00 02.3	-0.1
	5.9nm,0.7s						
K05A	Summer Lake	88.31	327	eP	P	09 00 07.4	+0.6
	10nm,0.9s						
CHGN	Chignik	115.36	322	ePKPdf	PKPdf	09 05 56.2	+0.1
BVAR	Borovoye Array	148.68	43	PKPbc	PKPbc	09 07 02.1	+0.3
	1.2nm,0.5s,baz=284,slow=2.3,SNR=14						
KSH	Kashi	155.35	70	ePKPbc	PKPdf	09 07 08.5	-0.1
MKAR	Makanchi Array	158.21	49	PKPab	PKPab	09 07 46.2	+0.2
	0.6nm,0.7s,baz=291,slow=4.4,SNR=4.0						
WMQ	Urumqi	162.93	52	ePKP	PKPdf	09 07 17.3	+0.1
NJ2	Nanjing	169.22	259	ePKP	PKPdf	09 07 21.8	-0.7
HHC	Hu-ho-hao-te	172.58	328	ePKP	PKPdf	09 07 25.0	+0.9
HHC				pPKP	pPKPdf	09 07 35.8	+0.2
HHC				sPKP		09 07 39.5	
HHC				PP	PP	09 12 44.5	+3.9
HHC				SKS	SKSdf	09 14 22.0	-2.7
HHC				SS	SS	09 33 53.0	+3.3
HHC				LR	LR		
	comp=N,180nm,20.1s						
HHC				LR	LR		
	comp=E,230nm,21.8s						
HHC				LR	LR		
	comp=Z,280nm,22.2s						
GTA	Gaotai	172.95	46	ePKP	PKPdf	09 07 24.3	-0.1
GTA				pPKP	pPKPdf	09 07 35.0	-0.9
GTA				sPKP		09 07 38.8	
CD2	Chengdu	175.66	149	PKP	PKPdf	09 07 25.0	-0.4
LZH	Lanzhou	177.51	55	ePKP	PKPdf	09 07 25.3	-0.5
LZH				pPKP	pPKPdf	09 07 35.8	-1.5
LZH				sPKP		09 07 39.5	
LZH				PKPab	PKPab	09 09 06.5	-5.2

ISCJB 28 08:49:47.5±0.6, 6.32S±0.05×147.06E±0.10, h49km, mb3.9/8, MS3.5/2, Error ellipse: s-maj=13.9km s-min=7.1km az=5.5
IDC 28 08:49:53.8±1.8, 6.58S×147.12E, h101km±20km, mb3.6/8, mb1 3.9/11, mb1mx3.6/38, mbtmp4.0/11, MS3.6/3, Ms1 3.6/3, ms1mx3.2/32, Error ellipse: s-maj=30.3km s-min=11.7km az=109.0
ISC 28 08:49:49.2±0.7, 6.34S±0.06×147.0E±0.1, h49km, n24, σ1.77/26, mb3.9/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.05	176	P	Pn	08 50 37.4	+2.4
	56nm,0.3s,baz=0.0,slow=12,SNR=159						
PMG				S	Sn	08 51 11.2	+0.9
	36nm,0.3s,baz=66,slow=20,SNR=13						
PMG	Port Moresby	3.05	176	P	Pn	08 50 37.4	+2.4
	baz=2.7,SNR=82						
PMG				S	Sn	08 51 11.1	+0.8
	baz=2.7,SNR=7.2						
COEN	Coen	8.43	206	P	Pn	08 51 50.7	+1.8
	baz=8.2,SNR=130						
COEN				S	Sn	08 53 20.3	-2.4
	baz=8.2,SNR=7.6						
CTA	Charters Tower	13.68	183	P	Pn	08 53 00.8	+0.1
	0.9nm,0.3s,baz=360,slow=14,SNR=12						
KDU	Kakadu	15.61	245	P	P	08 53 28.9	-0.6
	baz=16,SNR=9.3						
QIS	Mount Isa	15.83	206	P	P	08 53 32.0	0.0
	baz=16,SNR=21						
MTN	Manton Dam	16.88	246	P	P	08 53 47.3	+3.6
	baz=17,SNR=3.4						
WRA	Warramunga Arr	18.25	221	P	P	08 53 58.1	-0.6
	0.5nm,0.3s,baz=41,slow=12,SNR=8.9						
WRA				LR	LR	09 01 24.6	
	comp=Z,385nm,19.3s,baz=5.0,slow=38						
QLP	Quilpie	20.30	187	P	P	08 54 22.0	+1.0
	baz=20,SNR=4.5						
ASAR	Alice Springs	21.31	215	P	P	08 54 31.2	-0.9
	1.1nm,0.5s,baz=48,slow=8.8,SNR=38						
ASAR				S	S	08 58 22.1	-4.2
	1.2nm,0.8s,baz=31,slow=20,SNR=5.4						
FITZ	Fitzroy Crossi	23.85	239	P	P	08 54 58.1	-0.1
	baz=24,SNR=5.3						
WRKA	Warakurna	25.79	222	P	P	08 55 14.1	-1.7
	baz=26,SNR=6.5						
JOW	Kunigami	37.62	332	LR	LR	09 10 24.1	
	comp=Z,18nm,20.4s,baz=18,slow=32						
JNU	Nakatsue	42.11	340	LR	LR	09 13 35.4	
	comp=Z,200nm,18.3s,slow=34						
MJAR	Matsushiro Arr	43.44	350	P	P	08 57 47.6	+0.2
	0.7nm,0.7s,baz=163,slow=8.9,SNR=3.2						
NIUE	Niue	43.79	111	P	P	08 57 49.2	-1.4
	baz=44,SNR=13						
KSRS	Korea Array	47.05	339	P	P	08 58 16.9	+0.8
	2.1nm,0.8s,baz=160,slow=9.1,SNR=6.6						
USRK	Ussuriysk Arra	52.09	346	P	P	08 58 55.3	+1.0
	1.0nm,0.5s,baz=175,slow=9.2,SNR=4.1						
CMAR	Chiang Mai Arr	53.37	298	P	P	08 59 06.2	+2.0
	2.1nm,0.4s,baz=123,slow=5.4,SNR=12						
MKAR	Makanchi Array	77.73	321	P	P	09 01 41.0	-0.1
	0.5nm,0.7s,baz=96,slow=7.4,SNR=6.7						
ILAR	Eielson Array	85.81	23	P	P	09 02 21.4	-1.7
	1.1nm,0.6s,baz=250,slow=5.1,SNR=19						
NVAR	Mina Array Bea	97.61	52	P	P	09 03 18.6	-0.5
	0.1nm,0.3s,baz=264,slow=4.1,SNR=2.5						
GERES	GERESS Array B	122.16	325	PKP	PKPdf	09 08 37.4	-1.5
	0.3nm,0.5s,baz=58,slow=3.8,SNR=4.2						
TORD	Torodi Ar. Bea	145.13	284	PKPbc	PKPbc	09 09 21.7	-0.3
	4.3nm,0.4s,baz=71,slow=4.0,SNR=52						

IDC 28 08:54:07.9±1.3, 37.05S×73.05W, h0km, mb4.0/6, mb1 4.0/7, mb1mx3.9/28, mbtmp4.0/7, ML4.0/1, MS4.5/1, Ms1 4.5/1, ms1mx3.1/36, Error ellipse: s-maj=53.8km s-min=15.4km az=68.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.16	153	Pn	Pn	08 55 13.0	+0.2
	2.1nm,0.3s,baz=308,slow=13,SNR=8.9						
PLCA				Pg	Pb	08 55 22.9	+0.8
	2.4nm,0.3s,baz=342,slow=15,SNR=8.6						
PLCA				Sn	Sn	08 56 02.8	+0.5
	2.9nm,0.3s,baz=304,slow=18,SNR=2.2						
PLCA				Lg	Lg	08 56 22.0	
	4.6nm,0.3s,baz=234,slow=22,SNR=5.8						
ROSC	El Rosal	41.71	358	P	P	09 01 59.7	+0.6
	2.9nm,0.4s,baz=72,slow=19,SNR=3.8						
SNAA	Sanae	49.09	157	P	P	09 02 57.0	+0.4
	1.0nm,0.7s,baz=262,slow=10						
APG	El Apazote	54.31	339	LR	LR	09 20 30.9	
	comp=Z,449nm,21.2s,slow=29						
TXAR	Lajitas Array	72.01	332	P	P	09 05 33.2	-0.4
	0.3nm,0.7s,baz=150,slow=7.3,SNR=3.6						
DBIC	Dimbokro	76.94	71	P	P	09 06 02.2	-0.3
	1.1nm,0.4s,baz=197,slow=4.6,SNR=4.0						
BOSA	Boshof	79.39	118	P	P	09 06 14.9	-1.2
	1.4nm,0.7s,baz=225,slow=4.0,SNR=3.8						
TORD	Torodi Ar. Bea	86.02	70	P	P	09 06 51.1	+0.6
	0.6nm,0.9s,baz=265,slow=3.1,SNR=2.9						

IDC 28 08:59:17.1±1.0, 36.07S×73.17W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.8/18, mbtmp3.8/6, Error ellipse: s-maj=52.2km s-min=22.3km az=79.0
ISCJB 28 08:59:19.7±0.9, 36.1S±0.1×73.1W±0.4, h28km, mb3.7/6, Error ellipse: s-maj=42.2km s-min=20.4km az=175.5
ISC 28 08:59:21.3±1.0, 36.1S±0.2×73.1W±0.3, h28km, n6, σ0.76/6, mb3.7/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIV	San Ignacio	22.68	31	P	P	09 04 20.6	-0.1
	2.6nm,1.0s,baz=238,slow=13,SNR=3.8						
SNAA	Sanae	50.01	157	P	P	09 08 12.7	-0.1
	0.6nm,0.8s,baz=221,slow=9.3,SNR=4.1						
QSPA	South Pole Qui	54.17	180	P	P	09 08 44.0	0.0
	0.6nm,0.7s,baz=140,slow=7.7,SNR=7.2						
TXAR	Lajitas Array	71.13	332	P	P	09 10 36.5	-0.7
	0.5nm,0.6s,baz=156,slow=9.2,SNR=7.1						
NVAR	Mina Array Bea	85.10	326	P	P	09 11 54.8	+0.2
	0.3nm,0.6s,baz=155,slow=5.1,SNR=3.4						
PDAR	Pinedale Array	85.22	334	P	P	09 11 56.2	+1.1
	0.4nm,0.3s,baz=139,slow=5.2,SNR=7.7						

IDC 28 09:00:07.5±1.0, 36.42S×73.17W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/17, mbtmp3.9/6, Error ellipse: s-maj=41.2km s-min=27.0km az=89.0
ISCJB 28 09:00:09.5±0.9, 36.5S±0.2×73.1W±0.3, h25km, mb4.0/9, Error ellipse: s-maj=31.2km s-min=21.9km az=9.6
NEIC 28 09:00:12.0±0.7, 36.52S×73.03W, h35km, mb4.5/4, Error ellipse: s-maj=25.1km s-min=17.2km az=99.0
ISC 28 09:00:11.1±1.0, 36.5S±0.2×73.1W±0.3, h25km, n11, σ0.51/10, mb4.0/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIV	San Ignacio	23.03	31	P	P	09 05 14.4	-0.7
	1.2nm,0.6s,baz=232,slow=15,SNR=2.4						
SAML	Samuel	28.84	21	eP	P	09 06 07.1	-0.5
	1.2nm,1.1s						
QSPA	South Pole Qui	53.78	180	P	P	09 09 31.8	+0.5
	2.8nm,0.8s,baz=298,slow=1.2,SNR=9.1						
QSPA	South Pole Qui	53.78	180	eP	P	09 09 30.5	-0.8
	7.6nm,1.3s						
JCT	Junction City	71.14	336	eP	P	09 11 27.7	+0.2
	5.1nm,1.2s						
TXAR	Lajitas Array	71.46	332	P	P	09 11 29.8	+0.2
	0.8nm,0.6s,baz=149,slow=8.8,SNR=13						
HWUT	Hardware Ranch	85.29	332	eP	P	09 12 45.8	+0.1
	9.2nm,1.5s						
NVAR	Mina Array Bea	85.40	326	P	P	09 12 46.0	-0.5
	0.6nm,0.7s,baz=156,slow=6.4,SNR=5.7						
PDAR	Pinedale Array	85.56	334	P	P	09 12 47.6	+0.5
	0.6nm,0.8s,baz=134,slow=6.4,SNR=3.5						
TORD	Torodi Ar. Bea	85.88	70	P	P	09 12 49.4	+0.3
	0.4nm,0.7s,baz=216,slow=5.0,SNR=3.5						
ABKAR	Akbulak array	143.87	54	ePKPdf	PKPbc	09 19 41.3	-0.2

ISCJB 28 09:01:19.4±0.4, 38.54S±0.05×73.21W±0.10, h26km, mb4.7/34, Error ellipse: s-maj=10.9km s-min=7.3km az=164.8
IDC 28 09:01:20.5±0.6, 38.63S×73.29W, h25km±3km, mb4.4/14, mb1 4.4/18, mb1mx4.4/23, mbtmp4.5/18, ML3.5/3, MS4.2/5, Ms1 4.2/5, ms1mx3.8/34, Error ellipse: s-maj=18.6km s-min=11.1km az=63.0
NEIC 28 09:01:21.2±2.5, 38.61S×73.22W, h31km±17km, mb4.9/25, Error ellipse: s-maj=12.2km s-min=6.4km az=77.0
ISC 28 09:01:21.1±0.6, 38.56S±0.06×73.20W±0.09, h27km±3km, h27km:pP-P, n93, σ1.17/113, mb4.8/34, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	2.98	138	Pn	Pn	09 02 05.3	-1.3
	1.4nm,0.3s,baz=306,slow=16,SNR=4.4						
PLCA				Pg	Pb	09 02 13.7	+0.1
	59nm,0.3s,baz=306,slow=15,SNR=41						
PLCA				Lg	Lg	09 02 55.7	
	72nm,0.3s,baz=226,slow=24,SNR=8.7						
CFAA	Coronel Fontan	8.04	32	Pn	Pn	09 03 16.9	+0.8
	0.8nm,0.3s,baz=212,slow=15,SNR=3.2						
CFAA				LR	LR	09 07 11.4	
	comp=Z,165nm,19.7s,baz=215,slow=43						
TRQA	Tornquist	8.84	90	ePn	Pn	09 03 31.3	+4.3
LVC	Limon Verde	16.31	14	eP	Pn	09 05 07.4	-1.1
	13nm,0.9s						
USHA	Ushuaia	16.60	170	Pn	Pn	09 05 10.7	-0.9
	0.2nm,0.3s,baz=323,slow=8.0,SNR=2.6						
USHA				LR	LR	09 12 06.2	
	comp=Z,623nm,19.0s,baz=335,slow=39						
CPUP	Villa Florida	18.08	52	P	Pn	09 05 30.1	-0.2
	1.7nm,0.3s,baz=208,slow=10,SNR=12						
CPUP				LR	LR	09 13 43.3	
	comp=Z,1μm,19.9s,baz=212,slow=41						
CPUP	Villa Florida	18.08	52	eP	Pn	09 05 29.7	-0.6
	1.0nm,0.7s						
LPAZ	La Paz	22.63	13	P	P	09 06 21.9	+1.3
	12nm,0.8s,baz=172,slow=4.0,SNR=13						
LPAZ	La Paz	22.63	13	eP	P	09 06 22.4	+1.9
	27nm,0.8s						
SIV	San Ignacio	24.88	29	P	P	09 06 41.6	0.0
	6.0nm,0.6s,baz=241,slow=14,SNR=4.9						
NNA	Nana	26.66	352	P	P	09 06 57.8	0.0
	3.7nm,0.3s,baz=195,slow=11,SNR=3.8						
SAML	Samuel	30.83	20	eP	P	09 07 34.3	-0.5
	8.4nm,1.2s						
BDFB	Brasilia	31.80	51	P	P	09 07 43.5	0.0
	7.0nm,0.8s,baz=216,slow=7.5,SNR=11						
OTAV	Otavalo	38.91	352	eP	P	09 08 45.5	+0.5
	13nm,1.4s						
ROSC	El Rosal	43.21	358	P	P	09 09 21.6	+1.3
	3.1nm,0.5s,baz=124,slow=7.6,SNR=4.6						
ROSC	El Rosal	43.21	358	eP	P	09 09 22.4	+2.1
VNA3	Neumayer Olymp	45.54	156	P	P	09 09 38.4	+0.5
VNA2	Neumayer--Watz	46.22	155	P	P	09 09 44.0	+0.7
RCBR	Riachuelo	46.91	56	P	P	09 09 49.8	+0.4
	7.1nm,0.6s,baz=204,slow=11,SNR=6.0						
SDV	Santo Domingo	47.26	3	eP	P	09 09 51.1	-1.1
	23nm,0.8s						
SNAA	Sanae	47.76	156	P	P	09 09 55.2	-0.2
	5.7nm,1.0s,baz=291,slow=8.1,SNR=13						
SNAA	Sanae	47.76	156	eP	P	09 09 55.2	-0.2
	22nm,1.1s						
QSPA	South Pole Qui	51.69	180	P	P	09 10 25.4	0.0
	5.3nm,1.0s,baz=146,slow=5.5,SNR=7.0						
QSPA	South Pole Qui	51.69	180	eP	P	09 10 25.6	+0.2
	18nm,1.1s						
QSPA				e		09 10 36.6	
CELP	Cerrillos	56.67	8	eP	P	09 11 00.7	-1.3
H06S1	SOCORRO T	67.09	321	T	T	10 25 28.4	
	SNR=22						
LPIG	La Paz	71.38	324	LR	LR	09 36 00.3	
	comp=Z,365nm,18.2s,baz=79,slow=29						
JCT	Junction City	73.03	336	eP	P	09 12 48.3	-0.1
	14nm,1.0s						
TXAR	Lajitas Array	73.29	332	P	P	09 12 49.8	-0.2
	1.0nm,0.7s,baz=152,slow=8.8,SNR=9.1						
TXAR				pP	pP	09 12 57.7	-1.0
	2.7nm,0.8s,baz=155,slow=7.6,SNR=13						
SWET	Sewanee	74.35	349	eP	P	09 12 55.4	-0.6
	33nm,1.1s						
SWET				e		09 13 03.6	
WVT	Waverly	75.54	348	eP	P	09 13 02.4	-0.4
	13nm,1.1s						
WVT				e		09 13 10.9	
PBMO	Poplar Bluff	76.64	346	eP	P	09 13 08.5	-0.5
	16nm,1.1s						
TUL1	Tulsa	76.99	341	eP	P	09 13 10.1	-1.0
	8.4nm,0.8s						
TUL1				e		09 13 19.2	
DBIC	Dimbokro	77.54	71	P	P	09 13 15.6	+0.9
	10.0nm,0.7s,baz=212,slow=7.1,SNR=13						
DBIC				pP	pP	09 13 22.7	-0.7
	5.0nm,0.6s,baz=181,slow=5.3,SNR=5.0						
DBIC	Dimbokro	77.54	71	eP	P	09 13 15.4	+0.7
	11nm,0.7s						
DBIC				pP	pP	09 13 22.7	-0.7
BOSA	Boshof	78.79	118	P	P	09 13 22.2	+0.5
	9.7nm,0.8s,baz=221,slow=5.2,SNR=13						
TSUM	Tsumeb	78.88	106	eP	P	09 13 22.9	+0.6
	7.4nm,1.2s						
ACSO	Alum Creek Sta	78.92	352	eP	P	09 13 21.0	-0.7
	16nm,0.9s						
ANMO	Albuquerque	79.36	333	eP	P	09 13 24.9	+0.5
	14nm,1.5s						
URZ	Urewera	79.93	229	LR	LR	09 40 43.4	
	comp=Z,287nm,18.3s,baz=224,slow=30						
LBTB	Lobatse	81.24	115	eP	P	09 13 35.1	+0.1
	14nm,0.8s						
SMCO	Snowmass	83.34	334	eP	P	09 13 46.7	+0.9
CCUT	Cedar City	84.29	329	eP	P	09 13 51.5	+1.1
	7.2nm,1.2s						
CCUT				e		09 14 00.2	
SRU	San Rafael	84.55	332	eP	P	09 13 51.6	0.0
	8.9nm,1.3s						
SRU				e		09 14 00.5	
ECSD	EROS Data Cent	84.61	343	eP	P	09 13 50.5	-1.1
	8.1nm,0.8s						
MPU	Maple Canyon	85.75	331	eP	P	09 13 57.8	+0.1
	5.7nm,1.0s						

TPH Tonopah 86.35 327 eP P 09 14 01.3 +0.6
4.0nm,0.9s
TPH e 09 14 09.2
DUG Dugway 86.36 331 eP P 09 14 00.7 +0.1
6.3nm,1.0s
DUG e 09 14 08.7
TOA0 Torodi Ar. Sit 86.63 70 eP P 09 14 02.3 -0.1
TORD Torodi Ar. Bea 86.63 70 P P 09 14 02.3 0.0
4.6nm,0.9s,baz=233,slow=4.0,SNR=20
TORD pP pP 09 14 10.8 -0.4
1.8nm,0.7s,baz=246,slow=3.1,SNR=6.3
NVAR Mina Array Bea 87.11 326 P P 09 14 05.0 +0.6
0.4nm,0.7s,baz=162,slow=6.1,SNR=3.7
NVAR pP pP 09 14 12.9 -0.3
1.1nm,0.8s,baz=138,slow=4.7,SNR=6.5
HWUT Hardware Ranch 87.11 332 eP P 09 14 03.9 -0.4
10nm,1.1s
PDAR Pinedale Array 87.42 334 P P 09 14 04.8 -1.0
1.1nm,0.8s,baz=146,slow=6.8,SNR=9.0
PDAR pP pP 09 14 13.9 -0.7
1.4nm,0.8s,baz=136,slow=7.2,SNR=6.1
HVU Hansel Valley 87.71 332 eP P 09 14 07.1 0.0
4.4nm,1.0s
GERES GERESS Array B 115.98 47 PKP PKPdf 09 20 00.6 -0.3
1.1nm,0.7s,baz=204,slow=2.9,SNR=9.7
WRA Warramunga Arr 116.33 209 PKP PKPdf 09 20 00.0 -2.5
0.3nm,0.6s,baz=162,slow=1.9,SNR=3.5
ILAR Eielson Array 117.81 332 PKP PKPdf 09 20 02.2 -1.6
0.3nm,0.9s,baz=178,slow=3.5,SNR=3.4
VYHS Vyhne 118.82 49 ePKP PKPdf 09 20 05.9 -0.4
BRTR Keskin Array B 124.77 64 PKP PKPdf 09 20 17.6 -0.5
0.9nm,0.7s,baz=201,slow=4.6,SNR=4.4
AKASG Malin Array Be 125.90 50 PKP PKPdf 09 20 18.4 -1.3
0.5nm,0.5s,baz=262,slow=3.0,SNR=5.9
ARU Arti 143.73 44 ePKPdf PKPbc 09 20 50.6 +0.2
TIXI Tiksi 144.98 348 ePKPdf PKPbc 09 20 51.7 -2.1
ABKAR Akbulak array 145.11 57 ePKPdf PKPbc 09 20 54.7 -0.2
HYB Hyderabad 147.57 123 i PKP PKPbc 09 21 02.0 -1.2
BRVK Borovoye 151.07 48 ePKPbc PKPbc 09 21 11.3 +0.4
KKAR Karatay Array 152.31 69 ePKPbc PKPbc 09 21 13.2 -0.8
AAK Ala-Archa 155.22 70 ePKPbc PKPdf 09 21 21.1 +9.4
AAK ePKPab PKPab 09 21 36.9 +0.2
KSH Kashi 156.09 78 ePKP PKPdf 09 21 22.0 +9.2
KSH epPKP PKPab 09 21 32.3 -8.2
KSH esPKP 09 21 35.5
KSH ePP PP 09 25 38.5 +20
KSH eSKS SKSdf 09 28 22.3 +5.1
KURK Kurchatov 156.71 49 ePKPdf PKPdf 09 21 13.1 0.0
KURK ePKPab PKPab 09 21 42.6 0.0
PYUN Piuthan 157.60 111 eP PKPab 09 21 47.1 -0.3
21nm,0.8s
KOLN Koldanda 157.86 112 eP PKPab 09 21 47.9 -0.6
DANN Dangsing 158.30 111 eP PKPab 09 21 50.2 -0.3
33nm,0.7s
ZALV Zalesovo Beam 158.50 37 PKP PKPdf 09 21 14.2 -0.9
1.1nm,0.6s,baz=242,slow=3.2,SNR=4.8
ZALV PKPab PKPab 09 21 50.5 +0.3
3.0nm,0.7s,baz=292,slow=5.0,SNR=9.7
GKN Gorkha 158.74 113 eP PKPab 09 21 51.8 -0.4
18nm,0.7s
DMN Daman 158.85 115 eP PKPab 09 21 52.5 -0.3
PKIN Phulchoki 159.03 115 eP PKPab 09 21 53.1 -0.6
PKI Pulchoki 159.04 115 eP PKPab 09 21 53.1 -0.7
KKN Kakani 159.08 114 eP PKPab 09 21 53.3 -0.5
28nm,0.7s
RAMN Ramite 159.49 118 eP PKPab 09 21 55.5 -0.1
GUN Gumba 159.57 115 eP PKPab 09 21 55.8 -0.3
JIRN Jiri 159.64 116 eP PKPab 09 21 55.9 -0.5
24nm,0.9s
ODAN Odare 159.97 120 eP PKPab 09 21 57.5 -0.2
MK31 Makanchi Array 160.25 58 ePKPdf PKPdf 09 21 17.9 +0.4
MK31 ePKPab PKPab 09 21 57.9 -0.3
MKAR Makanchi Array 160.25 58 PKP PKPdf 09 21 17.1 -0.4
0.6nm,0.7s,baz=326,slow=1.7,SNR=6.1
MKAR PKPab PKPab 09 21 58.0 -0.1
2.9nm,0.7s,baz=293,slow=4.1,SNR=19
MKAR PP PP 09 25 41.2 +0.4
1.3nm,1.1s,baz=298,slow=5.1,SNR=4.3
WMQ Urumqi 164.69 64 ePKP PKPdf 09 21 23.3 +1.2
WMQ LR LR
comp=N,73nm,15.8s
WMQ LR LR
comp=E,130nm,16.0s
WMQ LR LR
comp=Z,150nm,15.8s
KMI Kunming 166.17 164 PKP PKPdf 09 21 23.5 -0.6
GYA Guiyang 167.93 179 ePKP PKPdf 09 21 25.0 -0.2
GYA pPKP pPKPdf 09 21 36.5 +2.1
GYA PKPab PKPab 09 22 34.3 +2.0
GYA PKS PKSdf 09 24 56.0 -2.0
GYA PP PP 09 26 23.5 +3.4
GYA SKKS 09 33 06.0
GYA SS SS 09 47 08.8 +2.0
GYA AMB AMB
comp=Z,120nm,8.4s
GYA LR LR
comp=N,120nm,21.5s
GYA LR LR
comp=E,110nm,21.2s
NJ2 Nanjing 168.21 240 ePKP PKPdf 09 21 24.5 -0.5
SONM Songino Array 170.72 2 PKP PKPdf 09 21 24.1 -2.2
0.9nm,0.7s,baz=277,slow=1.2,SNR=4.4
SONM PKPab PKPab 09 22 44.4 +0.3
2.1nm,0.8s,baz=332,slow=4.7,SNR=8.1
CD2 Chengdu 171.97 161 PKP PKPdf 09 21 27.8 +0.5
GTA Gaotai 174.49 79 ePKP PKPdf 09 21 28.0 -0.1
GTA pPKP pPKPdf 09 21 39.0 +1.7
GTA sPKP 09 21 42.5
GTA PKPab PKPab 09 23 03.8 +2.4
HHC Hu-ho-hao-te 175.67 303 ePKP PKPdf 09 21 29.3 +0.9
HHC pPKP pPKPdf 09 21 38.5 +0.9
HHC sPKP 09 21 44.3
HHC PP PP 09 27 02.8 +3.3
HHC SKS SKSdf 09 28 26.5 -3.0
HHC SS SS 09 48 23.0 -1.7
HHC AMB AMB
comp=Z,210nm,5.7s
HHC LR LR
comp=N,120nm,19.7s
HHC LR LR
comp=E,180nm,19.6s
HHC LR LR
comp=Z,130nm,19.7s
LZH Lanzhou 176.59 135 ePKP PKPdf 09 21 29.0 +0.2
LZH pPKP pPKPdf 09 21 39.8 +1.8
LZH sPKP 09 21 43.3
LZH PKPab PKPab 09 23 09.5 -1.2

IDC 28 09:09:54.5±0.8, 37.°86S×73.°91W, h0km, mb4.4/9, mb1 4.5/11, mb1mx4.4/11, mbtmp4.4/11, ML4.5/2, Error ellipse: s-maj=29.7km s-min=20.0km az=93.0
ISCJB 28 09:09:57.2±0.6, 37.°98S±0.°07×73.°6W±0.°1, h22km, mb4.5/18, Error ellipse: s-maj=15.3km s-min=9.4km az=174.2
NEIC 28 09:10:00.9±3.0, 38.°00S×73.°53W, h34km±20km, mb4.9/10, Error ellipse: s-maj=15.7km s-min=7.9km az=89.0
ISC 28 09:09:59.3±0.6, 38.°00S±0.°07×73.°6W±0.°1, h22km, n46, σ0.°96/48, mb4.6/18, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.60 140 Pn Pn 09 10 54.5 +0.6
3.5nm,0.3s,baz=307,slow=8.6,SNR=14
PLCA Pg Pb 09 11 02.5 +0.1
20nm,0.3s,baz=322,slow=15,SNR=70
PLCA Sn Sb 09 11 45.9 +0.2
33nm,0.3s,baz=301,slow=11,SNR=4.9
TRQA Tornquist 9.16 94 ePn Pn 09 12 10.8 +0.7
USHA Ushuaia 17.20 170 Pn Pn 09 13 57.0 -0.9
0.5nm,0.3s,baz=334,slow=12,SNR=3.4
CPUP Villa Florida 17.99 54 P Pn 09 14 07.3 -0.7
1.0nm,0.3s,baz=217,slow=8.2,SNR=7.3
CPUP Villa Florida 17.99 54 eP Pn 09 14 06.6 -1.3
0.2nm,0.5s
LPAZ La Paz 22.16 14 P P 09 14 55.5 +1.2
4.0nm,0.7s,baz=154,slow=6.5,SNR=7.5
LPAZ La Paz 22.16 14 eP P 09 14 55.5 +1.2
12nm,0.9s
SIV San Ignacio 24.55 30 P P 09 15 17.2 -0.3
9.0nm,0.9s,baz=229,slow=11,SNR=9.5
BDFB Brasilia 31.70 52 P P 09 16 20.7 -0.8
2.7nm,0.8s,baz=123,slow=11,SNR=3.9
OTAV Otavalo 38.31 352 eP P 09 17 19.6 +0.8
16nm,1.4s
VNA3 Neumayer Olymp 46.17 156 P P 09 18 21.8 -0.1
SDV Santo Domingo 46.72 4 eP P 09 18 25.3 -1.6
17nm,1.3s
VNA2 Neumayer--Watz 46.86 156 P P 09 18 27.4 +0.2
SNAA Sanae 48.40 156 P P 09 18 39.2 0.0
SNAA Sanae 48.40 156 P P 09 18 39.2 0.0
3.8nm,0.8s,baz=279,slow=7.8,SNR=4.0
SNAA Sanae 48.40 156 eP P 09 18 38.9 -0.3
23nm,1.1s
QSPA South Pole Qui 52.24 180 P P 09 19 08.5 0.0
6.3nm,0.8s,baz=139,slow=2.1,SNR=26
QSPA South Pole Qui 52.24 180 eP P 09 19 08.5 0.0
11nm,1.0s
APG El Apazote 55.05 340 P P 09 19 21.8 -7.9
1.9nm,0.4s,baz=155,slow=8.2,SNR=4.1
TXAR Lajitas Array 72.66 333 P P 09 21 18.2 -7.0
0.4nm,0.6s,baz=153,slow=8.5,SNR=7.6
SWET Sewanee 73.74 349 eP P 09 21 31.6 +0.2
26nm,1.1s
DBIC Dimbokro 77.65 71 P P 09 21 54.0 -0.3
22nm,0.8s,baz=201,slow=6.8,SNR=26
DBIC Dimbokro 77.65 71 eP P 09 21 54.3 +0.1
26nm,0.9s
ANMO Albuquerque 78.72 333 eP P 09 22 01.0 +1.0
6.2nm,1.3s
BOSA Boshof 79.32 118 P P 09 22 03.1 -0.5
5.6nm,0.8s,baz=214,slow=5.4,SNR=8.5
LBTB Lobatse 81.75 115 eP P 09 22 15.9 -0.8
7.2nm,0.8s
NVAR Mina Array Bea 86.48 326 P P 09 22 36.2 -4.1
0.6nm,0.7s,baz=144,slow=5.3,SNR=4.4
TOA0 Torodi Ar. Sit 86.73 71 eP P 09 22 41.4 -0.4
TORD Torodi Ar. Bea 86.73 71 P P 09 22 40.5 -1.4
5.7nm,0.9s,baz=237,slow=3.7,SNR=26
PDAR Pinedale Array 86.79 334 P P 09 22 37.4 -4.3
0.7nm,1.0s,baz=177,slow=2.7,SNR=3.8
LSZ Lusaka 89.72 109 eP P 09 22 57.8 +1.5
16nm,1.6s
GERES GERESS Array B 115.82 47 PKP PKPdf 09 28 39.4 -0.2
1.2nm,0.8s,baz=191,slow=1.4,SNR=7.0
BR131 Keskin Array S 124.80 64 ePKPdf PKPdf 09 28 57.0 -0.2
BRTR Keskin Array B 124.80 64 PKP PKPdf 09 28 57.2 0.0
1.8nm,0.7s,baz=182,slow=1.9,SNR=10
AKASG Malin Array Be 125.77 50 PKP PKPdf 09 28 57.7 -0.8
0.2nm,0.3s,baz=244,slow=3.3,SNR=4.7
FINES FINESS Array B 126.97 36 PKP PKPdf 09 29 00.7 +0.2
2.5nm,1.0s,baz=75,slow=2.2,SNR=3.6
TIXI Tiksi 144.37 348 ePKPdf PKPab 09 29 30.1 -0.5
ABKAR Akbulak array 145.05 56 ePKPdf PKPbc 09 29 33.6 -0.1
HYB Hyderabad 148.13 122 i PKP PKPbc 09 29 40.0 -0.5
BRVK Borovoye 150.92 47 ePKPbc PKPbc 09 29 50.0 +0.4
KKAR Karatay Array 152.39 68 ePKPbc PKPbc 09 29 53.0 -0.3
AAK Ala-Archa 155.31 69 ePKPbc PKPdf 09 30 00.1 +9.4
AAK ePKPab PKPab 09 30 16.1 0.0
KURK Kurchatov 156.57 48 ePKPdf PKPdf 09 29 52.0 +0.1
ZALV Zalesovo Beam 158.24 36 PKP PKPdf 09 29 53.3 -0.6
1.9nm,0.8s,baz=318,slow=2.0,SNR=8.8
ZALV PKPab PKPab 09 30 27.0 -1.0
2.4nm,0.9s,baz=284,slow=6.0,SNR=6.3
MK31 Makanchi Array 160.19 56 ePKPdf PKPdf 09 29 56.5 0.0
MK31 ePKPab PKPab 09 30 36.5 -0.4
MKAR Makanchi Array 160.19 56 PKP PKPdf 09 29 56.5 0.0
1.2nm,1.0s,baz=291,slow=3.4,SNR=7.1
MKAR PKPab PKPab 09 30 36.5 -0.4
1.9nm,0.7s,baz=288,slow=3.9,SNR=13
MKAR PP PP 09 34 24.1 +4.6
0.5nm,0.8s,baz=275,slow=4.4,SNR=3.9

IDC 28 09:10:26.0±1.0, 37.°84S×71.°17W, h0km, mb4.4/7, mb1 4.6/7, mb1mx4.4/15, mbtmp4.4/7, Error ellipse: s-maj=45.5km s-min=31.2km az=63.0
ISCJB 28 09:10:29.6±0.9, 37.°9S±0.°2×75.°1W±0.°3, h33km, mb4.4/7, Error ellipse: s-maj=38.8km s-min=25.6km az=157.9
ISC 28 09:10:31.4±0.9, 37.°9S±0.°2×75.°2W±0.°3, h35km, n11, σ0.°65/11, mb4.2/7, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
QSPA South Pole Qui 52.40 180 P P 09 19 40.0 +0.1
9.4nm,0.9s,baz=141,slow=7.0,SNR=3.6
TXAR Lajitas Array 71.95 334 P P 09 21 51.6 +0.3
1.5nm,0.6s,baz=155,slow=6.0,SNR=6.0
DBIC Dimbokro 78.80 72 P P 09 22 30.3 -0.6
5.3nm,0.7s,baz=214,slow=5.1,SNR=4.1
NVAR Mina Array Bea 85.66 327 P P 09 23 06.7 +0.3
0.3nm,0.4s,baz=156,slow=4.9,SNR=3.4
PDAR Pinedale Array 86.11 335 P P 09 23 08.8 +0.2
1.8nm,1.1s,baz=130,slow=6.6,SNR=4.4
TORD Torodi Ar. Bea 87.88 72 P P 09 23 18.0 +0.4
1.1nm,0.7s,baz=242,slow=5.1,SNR=2.7
ULM Lac du Bonnet 89.60 347 P P 09 23 23.6 -1.1
4.7nm,0.8s,baz=179,slow=3.1,SNR=8.1
ILAR Eielson Array 116.46 333 PKP PKPdf 09 29 10.1 -0.3
0.3nm,0.9s,baz=182,slow=2.5,SNR=4.1
GERES GERESS Array B 116.65 48 PKP PKPdf 09 29 11.1 -0.3
0.3nm,0.5s,baz=180,slow=3.6,SNR=2.7
ZALV Zalesovo Beam 158.83 34 PKPab PKPab 09 31 01.8 +1.0
3.9nm,0.7s,baz=305,slow=5.2,SNR=7.8
SONM Songino Array 169.95 354 PKPab PKPab 09 31 50.3 +0.4
0.8nm,0.7s,baz=343,slow=4.5,SNR=2.7

IDC 28 09:14:47.5±0.5, 33.°69S×71.°89W, h0km, mb5.0/18, mb1 5.1/21, mb1mx5.1/24, mbtmp5.0/21, ML5.1/3, MS4.6/18, Ms1 4.6/18, ms1mx4.4/30, Error ellipse: s-maj=20.2km s-min=12.9km az=71.0
ISCJB 28 09:14:52.1±0.2, 33.°53S±0.°05×71.°74W±0.°06, h35km, mb5.1/156, MS4.6/18, Error ellipse: s-maj=8.1km s-min=5.4km az=139.0
MOS 28 09:14:52.2±0.9, 33.°50S×71.°91W, h33km, mb5.3/47, Error ellipse: s-maj=15.7km s-min=8.0km az=99.5
NEIC 28 09:14:53.3±0.1, 33.°64S×71.°83W, h35km, mb5.2/137, Error ellipse: s-maj=5.6km s-min=3.6km az=62.0
ISC 28 09:14:53.2±0.3, 33.°66S±0.°06×71.°76W±0.°08, h35km, n808, σ0.°73/827, mb5.2/156, MS4.6/19, 227C-196D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 3.61 56 Pn Pn 09 15 50.6 +3.9
10nm,0.3s,baz=225,slow=12,SNR=19
PLCA Paso Flores 7.13 173 P Pn 09 16 34.8 -0.2
PLCA Paso Flores 7.13 173 eP Pn 09 16 34.2 -0.8
7.9nm,0.3s,baz=336,slow=10,SNR=7.6
PLCA LR LR 09 19 26.4
comp=Z,6μm,18.1s,baz=358,slow=39
PLCA Paso Flores 7.13 173 ePn Pn 09 16 34.8 -0.2
TRQA Tornquist 9.07 122 ePn Pn 09 17 04.8 +3.2
LVC Limon Verde 11.29 14 ePn Pn 09 17 28.1 -4.1
CPUP Villa Florida 14.47 64 eP P 09 18 17.9 -3.8
CPUP Villa Florida 14.47 64 Pn Pn 09 18 16.1 +0.6
1.4nm,0.3s,baz=221,slow=12,SNR=3.9
CPUP LR LR 09 24 20.8
comp=Z,4μm,19.2s,baz=225,slow=39
CPUP Villa Florida 14.47 64 ePn P 09 18 17.9 -3.8
0.1nm,0.3s
LPAZ La Paz 17.60 12 eP P 09 18 57.2 +0.1
LPAZ pmax pmax
comp=Z,110nm,0.9s
LPAZ La Paz 17.60 12 P P 09 18 56.8 -0.3
comp=Z,3.4nm,0.3s,baz=185,slow=7.7,SNR=64
LPAZ La Paz 17.60 12 eP P 09 18 57.2 +0.1
comp=Z,110nm,0.9s
SIV San Ignacio 20.06 31 P P 09 19 23.6 +0.1
comp=Z,33nm,0.7s,baz=224,slow=11,SNR=44
SIV LR LR 09 28 29.5
comp=Z,3μm,19.3s,baz=222,slow=41
USHA Ushuaia 21.30 175 P P 09 19 39.1 +2.5
comp=Z,38nm,0.9s,baz=356,slow=4.0,SNR=7.5
USHA LR LR 09 28 45.8
comp=Z,3μm,18.0s,baz=322,slow=39
NNA Nana 22.06 347 i P P 09 19 46.3 +1.2
NNA Nana 22.06 347 P P 09 19 45.4 +0.3
comp=Z,39nm,1.1s,baz=199,slow=11,SNR=8.1
NNA LR LR 09 26 50.5
comp=Z,913nm,18.0s,baz=198,slow=33
NNA Nana 22.06 347 eP P 09 19 45.3 +0.2
comp=Z,67nm,1.1s
SAML Samuel 25.83 20 eP P 09 20 21.1 -0.2
comp=Z,54nm,0.8s
ATAH Atahualpa 27.10 345 P P 09 20 33.4 +0.2
comp=Z,6.9nm,0.9s,baz=175,slow=12,SNR=4.0
ATAH LR LR 09 29 45.0
comp=Z,1μm,18.7s,baz=235,slow=33
BDFB Brasilia 27.95 56 eP P 09 20 40.9 +0.3
BDFB Brasilia 27.95 56 P P 09 20 40.6 +0.1
comp=Z,29nm,0.7s,baz=226,slow=7.9,SNR=35
BDFB LR LR 09 33 07.7
comp=Z,4μm,18.7s,baz=224,slow=39
BDFB Brasilia 27.95 56 eP P 09 20 40.9 +0.3
PMSA Palmer Station 31.50 174 LR LR 09 33 38.0
comp=Z,1μm,19.0s,baz=318,slow=36
RPN Rapa Nui 32.92 271 LR LR 09 30 58.5
comp=Z,904nm,21.1s,baz=144,slow=30
OTAV Otavalo 34.30 348 eP P 09 21 38.4 +1.6
comp=Z,21nm,1.2s
ROSC El Rosal 38.38 356 P P 09 22 13.6 +2.0
comp=Z,13nm,0.9s,baz=147,slow=3.1,SNR=12
ROSC LR LR 09 38 24.7
comp=Z,526nm,21.1s,baz=264,slow=37
ROSC El Rosal 38.38 356 eP P 09 22 14.9 +3.3
SDV Santo Domingo 42.32 2 eP P 09 22 43.1 -0.8
comp=Z,35nm,0.9s
RCBR Riachuelo 43.27 58 LR LR 09 42 10.0
comp=Z,3μm,18.8s,baz=178,slow=38
RCBR Riachuelo 43.27 58 eP P 09 22 52.7 +1.1
comp=Z,33nm,1.1s
BCIP Isla Barro Col 43.27 348 eP P 09 22 51.8 +0.4
comp=Z,36nm,1.1s
JTS JuntasAbangare 45.47 342 eP P 09 23 08.4 -0.6
JTS pmax pmax
comp=Z,15nm,1.7s
FDF Fort de France 49.17 14 eP P 09 23 36.7 -1.1
FDF pmax pmax
comp=Z,34nm,0.8s
FDF Fort de France 49.17 14 eP P 09 23 36.7 -1.1
comp=Z,34nm,0.8s
VNA3 Neumayer Olymp 49.59 158 P P 09 23 41.2 +0.8
VNA1 Neumayer--Stat 49.90 157 P P 09 23 43.5 +0.7
VNA2 Neumayer--Watz 50.24 157 P P 09 23 46.1 +0.7
ICMP Isla Caja de M 51.50 6 eP P 09 23 54.8 -0.5
CRPR Cabo Rojo, PR 51.56 6 eP P 09 23 54.9 -1.0
comp=Z,100nm,0.9s
JAKH Jacmel 51.61 359 eP P 09 23 49.6 -6.5
SABA Saba 51.63 10 eP P 09 23 56.4 0.0
comp=Z,223nm,0.8s
OBIP Obispado Ponce 51.64 6 eP P 09 23 55.6 -0.8
comp=Z,124nm,0.9s
CELP Cerrillos 51.68 6 eP P 09 23 56.4 -0.3
LSP Las Mesas 51.73 6 eP P 09 23 56.8 -0.3
SNAA Sanae 51.82 158 P P 09 23 57.7 +0.4
SNAA Sanae 51.82 158 d iP P 09 23 56.3 -1.0
SNAA pmax pmax
comp=Z,50nm,1.0s
SNAA Sanae 51.82 158 P P 09 23 57.5 +0.2
comp=Z,13nm,0.9s,baz=284,slow=5.9,SNR=39
SNAA LR LR 09 44 15.8
comp=Z,216nm,19.1s,baz=207,slow=34
SNAA Sanae 51.82 158 eP P 09 23 57.2 -0.1
comp=Z,59nm,1.0s
SNAA e 09 24 04.3
LRS Lares 51.87 6 eP P 09 23 56.7 -1.5
MTDJ Mount Denham 51.88 353 eP P 09 23 58.4 0.0
comp=Z,35nm,0.6s
PAPH Port-au-Prince 51.89 359 eP P 09 23 59.5 +1.2
ANWB Willy Bob 51.92 12 eP P 09 23 56.9 -1.5
comp=Z,72nm,0.9s
AOPR Arecibo Observ 51.93 6 eP P 09 23 57.7 -0.9
comp=Z,33nm,0.8s
SDDR Presa de Saban 52.34 1 eP P 09 24 01.5 -0.2
comp=Z,26nm,0.8s
SDDR e 09 24 10.4
SMN1 Samana, DR 52.60 3 eP P 09 24 02.8 -0.8
GTBY Guantanamo Bay 53.38 356 eP P 09 24 09.6 +0.3
comp=Z,60nm,0.8s
RKT Rikitea 55.84 263 eLR LR 09 40 37.6
comp=Z,358nm,28.0s
RKT Rikitea 55.84 263 eT T 10 24 19.2
comp=Z,1.8nm,0.3s
TEIG Tepich 55.85 341 P P 09 24 26.8 -0.4
comp=Z,101nm,0.7s,baz=148,slow=4.6,SNR=42
TEIG Tepich 55.85 341 eP P 09 24 26.4 -0.8
comp=Z,96nm,0.8s
NVL N'lazarevskaya 56.55 157 eP P 09 24 39.3 +7.7
NVL pmax pmax
comp=Z,32nm,1.0s
QSPA South Pole Qui 56.58 180 P P 09 24 32.1 0.0
comp=Z,14nm,0.9s,baz=152,slow=6.9,SNR=28
QSPA LR LR 09 47 13.4
comp=Z,148nm,21.6s,baz=118,slow=34
QSPA South Pole Qui 56.58 180 eP P 09 24 32.1 0.0
comp=Z,30nm,0.9s
VNDA Vanda 64.48 191 LR LR 09 51 10.8
comp=Z,268nm,18.2s,baz=248,slow=34
035Z Hargill 64.80 334 ⇑P P 09 25 29.2 +0.9
baz=65
035A Encino 65.25 334 ⇑P P 09 25 31.9 +0.7
baz=66,SNR=12
034A Hebbronville 65.57 334 ⇑P P 09 25 34.2 +0.9
baz=66,SNR=19
TIGA Tifton 65.70 349 eP P 09 25 33.7 -0.3
comp=Z,52nm,0.8s
KVTX Kingsville 65.72 335 eP P 09 25 36.3 +2.0
comp=Z,69nm,0.8s
934A Benavides 66.00 334 ⇑P P 09 25 37.1 +1.1
baz=66,SNR=9.6
SYO Syowa Base 66.10 158 ⇑eP P 09 25 34.4 -1.8
SYO Syowa Base 66.10 158 ⇑epP pP 09 25 45.6 -1.4
738A Farr-Stevens R 66.15 337 ⇑P P 09 25 38.0 +1.1
baz=66
933A Laredo 66.29 333 ⇑P P 09 25 38.5 +0.5
baz=66,SNR=23
835A Beeville 66.38 335 ⇑P P 09 25 39.7 +1.2
baz=67,SNR=9.6
834A Tilden 66.49 334 ⇓P P 09 25 39.9 +0.7
baz=67,SNR=37
735A Kenedy 66.89 335 ⇑P P 09 25 42.5 +0.8
baz=67,SNR=18
833A Chaparral WMA, 66.98 334 ⇑P P 09 25 42.8 +0.6
baz=67,SNR=48
734A La Parita Cree 67.15 335 ⇓P P 09 25 44.0 +0.6
baz=67,SNR=8.1
832A Faith Ranch, C 67.16 333 ⇑P P 09 25 43.7 +0.3
baz=67,SNR=36
636A Smothers Creek 67.20 336 ⇑P P 09 25 44.7 +1.1
baz=68,SNR=30
HKT Hockley 67.23 337 eP P 09 25 44.1 +0.3
HKT pmax pmax
comp=Z,68nm,2.0s
HKT Hockley 67.23 337 eP P 09 25 44.1 +0.3
comp=Z,68nm,2.0s
733A Divot King Ran 67.30 334 ⇑P P 09 25 44.6 +0.3
baz=68
635A Leesville 67.36 336 ⇓P P 09 25 44.9 +0.2
baz=68,SNR=6.9
538A Harpers Horsep 67.38 338 ⇑P P 09 25 45.8 +1.0
baz=68
537A Green Hill Far 67.51 337 ⇓P P 09 25 46.2 +0.6
baz=68,SNR=7.2
732A Laxson Ranch, 67.56 333 ⇑P P 09 25 46.1 +0.2
baz=68,SNR=62
634A China Grove, S 67.56 335 ⇓P P 09 25 46.0 0.0
baz=68,SNR=5.2
GOGA Godfrey 67.61 349 eP P 09 25 45.3 -0.9
GOGA pmax pmax
comp=Z,26nm,0.9s
GOGA Godfrey 67.61 349 eP P 09 25 45.3 -0.9
comp=Z,26nm,0.9s
TBI Tubuai 67.62 256 eT T 10 39 02.4
comp=Z,8.1nm,0.3s
536A Bastrop 67.75 336 ⇑P P 09 25 47.7 +0.6
baz=68,SNR=8.6
438A Sam Houston St 67.86 338 ⇓P P 09 25 48.7 +0.9
baz=68
VBMS Vicksburg 67.87 343 eP P 09 25 48.5 +0.7
comp=Z,48nm,0.8s
LRAL Lakeview Retre 67.87 346 eP P 09 25 46.9 -0.9
comp=Z,19nm,1.0s
535A Dale 67.88 336 ⇑P P 09 25 47.9 -0.1
baz=68,SNR=18
633A Saathoff Ranch 67.92 334 ⇓P P 09 25 48.5 +0.2
baz=68,SNR=7.0
340A Bronson 68.01 340 ⇓P P 09 25 49.0 +0.3
baz=68,SNR=15
339A Huntington 68.13 339 ⇑P P 09 25 50.3 +0.8
baz=68,SNR=18
632A Uvalde 68.19 334 ⇓P P 09 25 50.1 +0.2
baz=68,SNR=35
534A Blanco 68.19 335 ⇓P P 09 25 50.0 0.0
baz=68

436A Wall Ranch, Ga 68.30 337 ⇓P P 09 25 51.1 +0.5
baz=69
338A Crockett 68.38 338 ⇓P P 09 25 51.6 +0.5
baz=69,SNR=5.5
631A Perdido Creek 68.40 333 ⇑P P 09 25 50.9 -0.3
baz=69,SNR=21
533A Kerrville 68.43 335 ⇓P P 09 25 51.3 -0.2
baz=69,SNR=20
337A Centerville 68.52 338 ⇓P P 09 25 52.8 +0.9
baz=69,SNR=7.8
435B Jarrell 68.58 336 ⇓P P 09 25 52.5 +0.2
baz=69,SNR=11
239A Gary 68.74 339 ⇓P P 09 25 53.7 +0.4
baz=69
CNNC Cliffs of the 68.78 355 eP P 09 25 53.8 +0.3
comp=Z,49nm,0.9s
CNNC e 09 26 01.2
532A Rocksprings 68.80 334 ⇑P P 09 25 54.2 +0.4
baz=69,SNR=61
434A Burnet 68.84 336 ⇑P P 09 25 54.1 +0.1
baz=69,SNR=35
336A Riesel 68.89 337 ⇓P P 09 25 54.2 0.0
baz=69,SNR=20
238A Jacksonville 68.92 339 ⇓P P 09 25 55.2 +0.8
baz=69
335A Moody 68.98 337 ⇑P P 09 25 55.2 +0.3
baz=69,SNR=14
KMSC Kings Mountain 69.03 352 eP P 09 25 55.0 -0.1
comp=Z,30nm,0.9s
KMSC Kings Mountain 69.03 352 ⇓P P 09 25 54.7 -0.3
baz=69
531A Rocksprings 69.06 333 ⇑P P 09 25 56.0 +0.5
baz=69,SNR=32
433A Art 69.07 335 ⇓P P 09 25 55.3 -0.1
baz=69,SNR=52
JCT Junction City 69.08 334 eP P 09 25 55.4 -0.1
JCT pmax pmax
comp=Z,53nm,0.9s
JCT Junction City 69.08 334 eP P 09 25 55.4 -0.1
comp=Z,53nm,0.9s
JCT Junction City 69.08 334 ⇓P P 09 25 55.6 +0.1
baz=69,SNR=51
MEH Mehetia 69.12 262 eT T 10 40 54.6
comp=Z,17nm,0.2s
237A Washetta, Mont 69.13 338 ⇓P P 09 25 56.1 +0.4
baz=69
334A Lometa 69.30 336 ⇓P P 09 25 56.9 0.0
baz=70,SNR=31
530A J-C Ranch, Com 69.35 333 ⇑P P 09 25 57.5 +0.3
baz=70,SNR=42
432A Menard 69.43 334 ⇑P P 09 25 57.6 -0.1
baz=70,SNR=24
138A Matatall Enter 69.53 339 ⇓P P 09 25 58.6 +0.4
baz=70
TXAR Lajitas Array 69.55 330 P P 09 25 58.6 +0.1
comp=Z,9.1nm,0.7s,baz=152,slow=8.4,SNR=88
TXAR LR LR 09 52 15.6
comp=Z,379nm,18.1s,baz=0.0,slow=32
333A Richland Sprin 69.55 335 ⇑P P 09 25 58.4 0.0
baz=70,SNR=40
431A Sonora 69.55 334 ⇑P P 09 25 58.4 -0.1
baz=70,SNR=14
WHTX Lake Whitney 69.64 337 eP P 09 25 59.0 +0.1
comp=Z,58nm,0.8s
WHTX Lake Whitney 69.64 337 ⇓P P 09 25 58.8 -0.1
baz=70,SNR=25
137A Heron Place, G 69.67 339 ⇓P P 09 25 59.6 +0.5
baz=70
529A Stev Forest Ra 69.67 332 ⇑P P 09 25 59.2 0.0
baz=70,SNR=50
CPCT Cooper Cave 69.78 349 eP P 09 26 01.2 +1.5
SWET Sewanee 69.79 348 eP P 09 25 59.3 -0.5
comp=Z,75nm,1.0s
OXF Oxford 69.80 345 eP P 09 25 58.9 -0.9
OXF Oxford 69.80 345 eP P 09 25 58.9 -0.9
comp=Z,112nm,0.9s
TKL Tuckaleechee C 69.86 350 eP P 09 25 59.9 -0.3
TKL Tuckaleechee C 69.86 350 P P 09 25 59.5 -0.7
comp=Z,22nm,0.8s,baz=172,slow=7.2,SNR=18
TKL Tuckaleechee C 69.86 350 eP P 09 25 59.9 -0.3
332A Millersview 69.87 335 ⇑P P 09 26 00.2 -0.1
baz=70,SNR=22
430A Baggett Ranch, 69.88 333 ⇑P P 09 26 00.4 -0.1
baz=70,SNR=37
234A Clairette 69.88 336 ⇑P P 09 26 00.1 -0.3
baz=70,SNR=40
429A Davenport Ranc 69.99 333 ⇑P P 09 26 01.1 0.0
baz=70,SNR=23
331A San Angelo 70.05 334 ⇑P P 09 26 01.2 -0.3
baz=70,SNR=41
TVO Taravao 70.15 261 eT T 10 42 11.4
comp=Z,0.9nm,0.3s
135A Vickery Place, 70.15 337 ⇑P P 09 26 01.6 -0.4
baz=70
233A Rising Star 70.15 336 ⇓P P 09 26 02.0 -0.1
baz=70,SNR=30
232A Coleman 70.30 335 ⇑P P 09 26 02.7 -0.3
baz=71,SNR=19
134A White-Moore Ra 70.39 337 ⇑P P 09 26 03.3 -0.2
baz=71,SNR=7.3
330A Mertzon 70.42 334 ⇓P P 09 26 03.4 -0.3
baz=71,SNR=26
PPT2 Papeete2 70.51 261 eLR LR 09 47 37.1
comp=Z,489nm,29.0s
PPT Papeete 70.52 262 LR LR 09 49 32.3
comp=Z,340nm,19.3s,baz=120,slow=30
231A Bronte 70.58 334 ⇓P P 09 26 04.3 -0.4
baz=71,SNR=15
133A Hamilton Ranch 70.70 336 ⇑P P 09 26 05.1 -0.3
baz=71,SNR=15
TZTN Tazewell 70.70 350 eP P 09 26 05.0 -0.3
comp=Z,48nm,1.4s
UALR University of 70.76 342 eP P 09 26 05.5 -0.1
comp=Z,23nm,1.0s
329A Wagon Wheel Ra 70.79 333 ⇓P P 09 26 06.0 0.0
baz=71,SNR=20
Z35A Perchaven, San 70.81 338 ⇑P P 09 26 05.9 -0.1
baz=71,SNR=23
230A Sterling City 70.82 334 ⇓P P 09 26 05.8 -0.4
baz=71,SNR=5.8
MIAR Mount Ida 70.86 341 eP P 09 26 06.4 +0.1
MIAR pmax pmax
comp=Z,44nm,1.4s
MIAR Mount Ida 70.86 341 eP P 09 26 06.3 +0.1
comp=Z,44nm,1.4s
VWCC Virginia Weste 70.95 353 eP P 09 26 07.1 +0.3
ABTX Abilene, Hawle 70.96 335 eP P 09 26 07.0 0.0
comp=Z,53nm,0.8s
ABTX Abilene, Hawle 70.96 335 ⇑P P 09 26 06.8 -0.2
baz=71,SNR=16
WVT Waverly 71.03 346 eP P 09 26 06.9 -0.4
WVT Waverly 71.03 346 eP P 09 26 06.9 -0.4
comp=Z,125nm,0.9s
Z34A Collier Ranch, 71.06 337 ⇓P P 09 26 07.2 -0.4
baz=71,SNR=8.4
229A Bryant Ranch, 71.15 333 ⇑P P 09 26 07.8 -0.5
baz=71,SNR=9.3
JSRW J. Sargeant Re 71.22 355 eP P 09 26 08.7 +0.4
Z33A Whitaker Ranch 71.27 336 ⇑P P 09 26 08.4 -0.4
baz=72,SNR=24
131A Roby 71.27 335 ⇑P P 09 26 08.8 -0.1
baz=72,SNR=11
GNAR Gosnell 71.33 344 eP P 09 26 09.6 +0.5
comp=Z,213nm,0.9s
130A Snyder 71.41 334 ⇓P P 09 26 09.2 -0.5
baz=72,SNR=8.9
Z32A Haskell 71.53 336 ⇓P P 09 26 10.3 -0.1
baz=72,SNR=27
Y34A Reagan Ranch, 71.55 337 ⇓P P 09 26 10.3 -0.2
baz=72,SNR=14
228A UT Block 9, Go 71.58 333 ⇓P P 09 26 10.4 -0.5
baz=72,SNR=20
CBN Corbin 71.69 355 eP P 09 26 11.3 +0.2
comp=Z,14nm,0.8s
PVMO Portageville 71.69 345 eP P 09 26 11.9 +0.6
comp=Z,51nm,0.3s
Z31A Sharp Cattle R 71.77 335 ⇑P P 09 26 11.5 -0.3
baz=72,SNR=21
129A Stewart Farms, 71.77 334 ⇓P P 09 26 11.9 -0.1
baz=72,SNR=8.1
Y33A Hilltop Ranch, 71.88 337 ⇑P P 09 26 12.0 -0.5
baz=72,SNR=14
PARMO Parma 71.95 345 eP P 09 26 12.0 -0.7
128A Castleberry Fa 71.99 333 ⇑P P 09 26 13.1 -0.2
baz=72,SNR=14
Z30A Sanderson Ranc 72.09 334 ⇑P P 09 26 13.2 -0.7
baz=72,SNR=15
Y32A R-V Farms, Ver 72.15 336 ⇑P P 09 26 13.9 -0.2
baz=72,SNR=9.5
X34A Smith Ranch, M 72.17 338 ⇑P P 09 26 14.0 -0.2
baz=72,SNR=16
PBMO Poplar Bluff 72.21 344 eP P 09 26 13.9 -0.4
comp=Z,31nm,0.8s
Z29A Hungry Hill Ra 72.27 334 ⇑P P 09 26 14.1 -0.8
baz=73,SNR=25
MNTX Cornudas Mount 72.33 330 eP P 09 26 14.2 -1.1
comp=Z,17nm,0.9s
X33A Lawton 72.33 337 ⇑P P 09 26 14.3 -0.9
baz=73,SNR=5.4
127A Arkansas Junct 72.38 332 ⇑P P 09 26 15.2 -0.4
baz=73,SNR=5.4
Y31A Rekieta Farm, 72.39 335 ⇑P P 09 26 15.1 -0.5
baz=73,SNR=15
X32A Elmer 72.48 336 ⇑P P 09 26 15.8 -0.3
baz=73,SNR=8.4
Y30A Stafford Cattl 72.54 335 ⇑P P 09 26 16.0 -0.5
baz=73
Z28A Tucker Farm, M 72.55 333 ⇓P P 09 26 16.0 -0.6
baz=73,SNR=9.4
W34A Bridge Creek, 72.73 338 eP P 09 26 17.6 0.0
comp=Z,48nm,1.3s
W34A Bridge Creek, 72.73 338 ⇑P P 09 26 17.1 -0.5
baz=73,SNR=7.0
TUL1 Tulsa 72.76 340 eP P 09 26 17.2 -0.5
comp=Z,37nm,0.9s
TUL1 Tulsa 72.76 340 ⇑P P 09 26 17.2 -0.5
baz=73,SNR=14
USIN University of 72.78 347 eP P 09 26 16.8 -0.9
comp=Z,62nm,0.9s
WCI Wyandotte Cave 72.79 348 eP P 09 26 16.7 -1.1
WCI pmax pmax
comp=Z,10.0nm,0.8s
WCI Wyandotte Cave 72.79 348 eP P 09 26 16.7 -1.1
comp=Z,10nm,0.8s
Y29A Porterfield Fa 72.80 334 ⇑P P 09 26 17.8 -0.3
baz=73,SNR=16
SIUC Southern Illin 72.84 346 eP P 09 26 17.6 -0.5
comp=Z,43nm,0.9s
SDMD Soldier's Deli 72.85 356 eP P 09 26 18.7 +0.6
comp=Z,11nm,1.1s
W33A Caddo, Fort Co 72.88 337 ⇓P P 09 26 18.4 0.0
baz=73,SNR=18
Z27A Tatum 72.89 333 ⇓P P 09 26 18.1 -0.5
baz=73,SNR=13
X31A McDonald Ranch 72.90 336 ⇑P P 09 26 18.4 -0.2
baz=73,SNR=15
X30A Coker Ranch, T 73.04 335 ⇓P P 09 26 19.1 -0.4
baz=73
Y28A McKinney Farm, 73.05 334 ⇓P P 09 26 19.3 -0.3
baz=73,SNR=5.3
W32A Sentinel 73.11 337 ⇑P P 09 26 19.6 -0.2
baz=73,SNR=32
Z26A Caprock 73.14 332 ⇑P P 09 26 20.0 -0.2
baz=73,SNR=58
V34A Guthrie 73.21 338 eP P 09 26 19.9 -0.4
comp=Z,46nm,1.1s
V34A Guthrie 73.21 338 ⇑P P 09 26 19.9 -0.4
baz=74,SNR=13
MSTX Muleshoe 73.30 333 eP P 09 26 21.1 0.0
comp=Z,44nm,0.9s
MSTX Muleshoe 73.30 333 ⇓P P 09 26 20.5 -0.6
baz=74,SNR=20
X29A Tulia 73.34 334 ⇑P P 09 26 21.1 -0.2
baz=74,SNR=9.1
Y27A Causey 73.37 333 ⇑P P 09 26 20.8 -0.8
baz=74,SNR=6.2
W31A Holland Ranch, 73.39 336 ⇑P P 09 26 21.1 -0.4
baz=74,SNR=9.0
MVL Millersville 73.41 356 eP P 09 26 22.4 +0.9
comp=Z,20nm,1.1s
V33A Lossen Ranch, 73.43 338 ⇑P P 09 26 21.6 -0.1
baz=74,SNR=17
Z25A Roswell 73.44 332 ⇑P P 09 26 21.9 -0.1
baz=74,SNR=10
X28A Dimmitt 73.58 334 ⇑P P 09 26 22.5 -0.2
baz=74
V32A Arapaho 73.58 337 ⇓P P 09 26 22.5 -0.1
baz=74,SNR=5.5
OLIL Olney 73.61 347 eP P 09 26 21.8 -0.8
comp=Z,42nm,1.3s
W30A Crocket Farms 73.61 336 ⇑P P 09 26 22.7 -0.1
baz=74
Y26A Elida 73.66 333 ⇑P P 09 26 23.0 -0.2
baz=74
AMTX Amarillo 73.72 335 eP P 09 26 23.8 +0.3
comp=Z,37nm,1.0s
AMTX Amarillo 73.72 335 ⇓P P 09 26 23.3 -0.2
baz=74
319A Douglas 73.74 327 ⇑P P 09 26 24.0 +0.3
baz=74
Z24A Sheeppen Canyo 73.74 331 ⇑P P 09 26 23.7 -0.1
baz=74,SNR=19
BLO Bloomington 73.74 348 eP P 09 26 22.7 -0.7
BLO pmax pmax
comp=Z,24nm,1.0s
BLO Bloomington 73.74 348 eP P 09 26 22.7 -0.7
comp=Z,24nm,1.0s
U34A Anderson Ranch 73.77 339 eP P 09 26 23.3 -0.4
comp=Z,59nm,1.3s
U34A Anderson Ranch 73.77 339 ⇑P P 09 26 23.1 -0.6
baz=74,SNR=7.8
V31A Spring Creek L 73.90 337 ⇑P P 09 26 25.1 +0.7
baz=74,SNR=6.6
W29A Amraillo 73.92 335 ⇑P P 09 26 24.5 -0.2
baz=74,SNR=6.5
U33A Lingo Farm, Me 73.94 338 ⇑P P 09 26 24.2 -0.5
baz=74
SLM Saint Louis 73.94 345 eP P 09 26 24.1 -0.5
SLM pmax pmax
comp=Z,66nm,0.9s
SLM Saint Louis 73.94 345 eP P 09 26 24.1 -0.5
comp=Z,66nm,0.9s
Y25A Mesa, Roswell 74.00 332 ⇑P P 09 26 24.7 -0.5
baz=74,SNR=6.6
X27A F and S Farms, 74.03 334 ⇓P P 09 26 25.2 -0.1
baz=74,SNR=5.8
121A Cookes Peak, D 74.06 329 eP P 09 26 26.3 +0.7
comp=Z,24nm,0.9s
121A Cookes Peak, D 74.06 329 ⇑P P 09 26 26.3 +0.7
baz=74,SNR=13
V30A Spur Ranch, Mi 74.17 336 ⇑P P 09 26 26.6 +0.5
baz=74
U32A Winter Ranch, 74.17 337 ⇓P P 09 26 26.0 0.0
baz=74
X26A CR and CF Fran 74.21 333 ⇑P P 09 26 26.3 -0.2
baz=74,SNR=19
W28A Vega 74.25 334 ⇓P P 09 26 26.6 0.0
baz=74
ACSO Alum Creek Sta 74.25 351 eP P 09 26 25.9 -0.4
comp=Z,52nm,0.9s
Y24A Capitan 74.29 331 ⇑P P 09 26 27.3 +0.3
baz=75,SNR=15
Z22A Elephant Butte 74.33 330 ⇑P P 09 26 27.5 +0.3
baz=75,SNR=11
W27A Bowe Ranch, En 74.39 334 ⇓P P 09 26 27.3 -0.1
baz=75,SNR=17
U31A Nine Bar Ranch 74.44 337 ⇓P P 09 26 27.9 +0.3
baz=75
LIC Lamto 74.45 71 eP P 09 26 28.6 +0.5
comp=Z,73nm,1.0s
X25A Clemmons Ranch 74.52 332 ⇑P P 09 26 27.9 -0.3
baz=75
Y23A Lovelace Mesa, 74.55 331 ⇓P P 09 26 28.9 +0.4
baz=75,SNR=13
V29A Stinnett 74.56 335 ⇓P P 09 26 28.5 +0.1
baz=75
T33A Patterson Ranc 74.58 338 ⇑P P 09 26 28.3 -0.1
baz=75,SNR=15
W26A Owens Ranch, T 74.67 333 ⇑P P 09 26 29.1 0.0
baz=75,SNR=16
V28A Channing 74.69 335 ⇑P P 09 26 29.6 +0.4
baz=75
TIC Toumodi 74.71 71 eP P 09 26 30.1 +0.4
comp=Z,39nm,0.9s
KIC Kosan Boka 74.76 72 eP P 09 26 30.5 +0.6
comp=Z,106nm,0.9s
SUR Sutherland 74.79 119 eP P 09 26 31.8 +1.5
comp=Z,25nm,0.9s
X24A Lazy VL Ranch, 74.85 332 ⇓P P 09 26 30.6 +0.3
baz=75
DBIC Dimbokro 74.85 71 eP P 09 26 31.3 +0.8
DBIC 09 29 16.4
DBIC pmax pmax
comp=Z,39nm,0.8s
DBIC Dimbokro 74.85 71 P P 09 26 31.1 +0.6
comp=Z,34nm,0.8s,baz=212,slow=6.4,SNR=39
DBIC PP PP 09 29 16.4 -2.0
comp=Z,4.7nm,0.7s,baz=201,slow=8.9,SNR=3.6
DBIC Dimbokro 74.85 71 eP P 09 26 31.3 +0.8
comp=Z,39nm,0.8s
DBIC PP PP 09 29 16.4 -2.0
U30A WK&E Inc. Balk 74.85 336 ⇓P P 09 26 30.6 +0.5
baz=75
T32A Huddler Ranch, 74.88 338 ⇓P P 09 26 30.4 +0.3
baz=75
V27A Dan Oppiter Fa 74.92 334 ⇓P P 09 26 30.8 +0.3
baz=75,SNR=6.4
S33A Kaszmaul Farm, 74.98 339 ⇑P P 09 26 30.9 +0.2
baz=75
U29A Oasis Ranch, S 74.99 336 ⇓P P 09 26 30.7 -0.1
baz=75
SFIN Scholer Farm 75.02 348 ⇓P P 09 26 31.6 +0.8
baz=75
W25A X Bar L Ranch, 75.05 333 ⇑P P 09 26 31.2 -0.1
baz=75,SNR=11
T31A Randall Ranch, 75.05 337 ⇓P P 09 26 31.3 +0.2
baz=75
LPM Los Pinos Moun 75.11 331 eP P 09 26 32.8 +1.0
X23A Hourglass Bar 75.17 331 ⇓P P 09 26 32.1 +0.1
baz=75
U28A Mallet 75.26 335 ⇓P P 09 26 32.4 -0.1
baz=76
T30A Plains 75.29 337 ⇑P P 09 26 32.4 -0.1
baz=76
V26A Tequesquite Ra 75.31 334 ⇑P P 09 26 32.9 +0.1
baz=76,SNR=9.3
ALLY Alegheny Colle 75.33 354 eP P 09 26 32.0 -0.5
comp=Z,15nm,0.9s
S32A Newby Ranch, P 75.36 338 ⇑P P 09 26 32.8 -0.1
baz=76
LAZ Ladron 75.40 330 eP P 09 26 34.2 +0.8
comp=Z,15nm,1.4s
W24A Lazy 6 Ranch, 75.41 332 ⇓P P 09 26 33.4 0.0
baz=76,SNR=8.0
S31A Mullinville 75.46 338 ⇓P P 09 26 33.7 +0.2
baz=76
U27A Thompson Grove 75.51 335 ⇓P P 09 26 34.1 +0.2
baz=76,SNR=7.6
ANMO Albuquerque 75.59 331c iP P 09 26 34.8 +0.3
ANMO pmax pmax
comp=Z,73nm,1.3s
ANMO Albuquerque 75.59 331 P P 09 26 34.5 0.0
comp=Z,10nm,1.0s,baz=156,slow=7.8,SNR=29
ANMO Albuquerque 75.59 331 eP P 09 26 34.8 +0.3
comp=Z,14nm,1.0s
R33A Olander Ranch, 75.63 339 ⇑P P 09 26 34.5 +0.1
baz=76
T29A Hugoton 75.64 336 ⇑P P 09 26 34.6 0.0
baz=76
V25A Rancho No Teng 75.65 333 ⇑P P 09 26 35.0 +0.1
baz=76,SNR=14
W23A Werner Place, 75.66 331 ⇓P P 09 26 35.4 +0.6
baz=76,SNR=7.5
S30A Montezuma 75.80 337 ⇓P P 09 26 35.8 +0.3
baz=76
V24A Rampart Ranch, 75.81 332 ⇑P P 09 26 35.8 +0.1
baz=76,SNR=7.8
U26A Atchley Ranch, 75.82 334 ⇑P P 09 26 35.9 +0.2
baz=76
214A Organ Pipe Nat 75.87 325 ⇓P P 09 26 35.8 -0.1
baz=76
T28A Walsh 75.89 335 ⇓P P 09 26 35.8 -0.2
baz=76,SNR=9.8
R32A Long Quarter, 75.96 338 ⇑P P 09 26 36.2 -0.1
baz=76,SNR=11
KSU1 Kansas State U 75.97 340 eP P 09 26 35.4 -0.9
comp=Z,20nm,1.0s
KSU1 Kansas State U 75.97 340 ⇑P P 09 26 35.8 -0.5
baz=76
S29A Ulysses 76.00 336 ⇓P P 09 26 36.5 -0.1
baz=76,SNR=6.2
TRY Troy 76.04 359 eP P 09 26 37.7 +1.1
comp=Z,62nm,1.3s
T27A Campo 76.05 335 ⇑P P 09 26 36.9 -0.1
baz=76,SNR=16
U25A Circle Dot Ran 76.07 333 ⇑P P 09 26 36.9 -0.3
baz=76,SNR=9.6
R31A Burdett 76.09 338 ⇓P P 09 26 37.1 0.0
baz=76,SNR=5.5
V23A Ortiz Mt. (NFS 76.18 332 ⇓P P 09 26 37.9 +0.1
baz=76
Q33A Connelly Farm, 76.23 339 ⇓P P 09 26 37.7 0.0
baz=76
S28A Manter 76.23 336 ⇑P P 09 26 38.1 +0.1
baz=76,SNR=11
R30A Dighton 76.32 337 ⇑P P 09 26 38.4 0.0
baz=77
AAM Ann Arbor 76.37 351 eP P 09 26 37.9 -0.6
AAM pmax pmax
comp=Z,67nm,1.5s
AAM Ann Arbor 76.37 351 eP P 09 26 37.9 -0.6
comp=Z,67nm,1.5s
U24A Moreno Valley 76.41 333 ⇑P P 09 26 39.6 +0.4
baz=77
Q32A Meitler Ranch, 76.44 339 ⇓P P 09 26 38.8 -0.2
baz=77,SNR=9.5
T26A Comanche Natio 76.46 334 ⇓P P 09 26 39.6 +0.2
baz=77
P33A Williams Farm, 76.59 340 ⇓P P 09 26 39.8 0.0
baz=77
V22A San Miguel Ran 76.61 331 ⇓P P 09 26 41.1 +0.8
baz=77,SNR=20
ACCN Adirondack Com 76.69 359 eP P 09 26 40.2 0.0
comp=Z,182nm,2.3s
U23A El Rito 76.69 332 ⇑P P 09 26 41.3 +0.6
baz=77,SNR=9.8
X18A Snowflake 76.70 328 ⇑P P 09 26 41.4 +0.6
baz=77
Q31A Ellis 76.70 338 ⇑P P 09 26 40.9 +0.4
baz=77,SNR=14
T25A Trinidad 76.73 334 ⇑P P 09 26 41.6 +0.6
baz=77,SNR=14
R29A Marienthal 76.73 337 ⇓P P 09 26 40.9 +0.2
baz=77
S26A Kim 76.81 335 ⇑P P 09 26 41.6 +0.3
baz=77,SNR=19
R28A Tribune 76.88 336 ⇑P P 09 26 41.5 -0.1
baz=77,SNR=10
Q30A Quinter 76.94 338 ⇑P P 09 26 42.1 +0.2
baz=77,SNR=6.4
113A Mohawk Valley, 76.99 325 ⇓P P 09 26 41.3 -0.9
baz=77
U22A Llaves 77.00 332 ⇓P P 09 26 43.5 +1.0
baz=77,SNR=8.2
T24B San Luis 77.02 333 ⇓P P 09 26 43.3 +0.6
baz=77,SNR=11
P32A Huiting Farm, 77.03 339 ⇓P P 09 26 42.4 +0.1
baz=77
Z14A Wintersburg 77.09 326 ⇑P P 09 26 43.4 +0.6
baz=77
Q29A Oakley 77.10 337 ⇑P P 09 26 42.8 -0.1
baz=77,SNR=5.4
W18A Petrified Fore 77.11 329 eP P 09 26 43.6 +0.5
comp=Z,13nm,1.1s
W18A Petrified Fore 77.11 329 ⇑P P 09 26 43.8 +0.8
baz=77
R27A Eads 77.17 335 ⇑P P 09 26 43.5 +0.2
baz=78,SNR=14
P31A Stockton 77.17 338 ⇓P P 09 26 43.0 -0.1
baz=78,SNR=8.2
S25A Robets Cordova 77.20 334 ⇓P P 09 26 44.1 +0.6
baz=78
T23A Casias Ranch, 77.25 332 ⇓P P 09 26 44.1 +0.2
baz=78,SNR=7.3
X16A Lo Mia Camp, P 77.27 327 ⇑P P 09 26 44.7 +0.7
baz=78
MDV Middlebury 77.30 359 eP P 09 26 43.8 +0.2
R26A Arlington 77.41 335 ⇑P P 09 26 45.3 +0.7
baz=78,SNR=9.4
P30A Selden 77.46 338 ⇓P P 09 26 44.8 0.0
baz=78
S24A Houchin Ranch, 77.47 333 ⇓P P 09 26 45.7 +0.5
baz=78,SNR=21
O32A Brockman Farm, 77.52 340 ⇓P P 09 26 45.3 +0.2
baz=78
Q28A Sharon Springs 77.54 336 ⇓P P 09 26 45.5 +0.3
baz=78
R25A Fountain Ranch 77.57 334 ⇑P P 09 26 45.9 +0.4
baz=78
Y14A Wickenburg 77.59 326 ⇑P P 09 26 45.7 +0.1
baz=78
SDCO Great Sand Dun 77.67 333 eP P 09 26 46.0 -0.2
comp=Z,5.5nm,0.8s
P29A Atwood 77.73 337 ⇓P P 09 26 47.1 +0.8

baz=78
O31A Woolen Ranch, 77.73 339 ⇓P P 09 26 46.2 -0.1
baz=78,SNR=7.0
GLA Glamis 77.74 324 ⇑P P 09 26 46.6 +0.1
baz=78
KSCO Kaye Shedlock' 77.76 336 eP P 09 26 47.2 +0.6
comp=Z,13nm,0.8s
KSCO Kaye Shedlock' 77.76 336 ⇓P P 09 26 47.0 +0.5
baz=78,SNR=6.2
S23A Nye Farm, Mont 77.82 333 ⇑P P 09 26 47.4 +0.3
baz=78
LONY Lake Ozonia 77.95 358 eP P 09 26 47.3 0.0
comp=Z,12nm,0.7s
R24A Sanders Place, 77.95 334 ⇓P P 09 26 48.0 +0.3
baz=78,SNR=24
P28A Saint Francis 77.97 337 ⇑P P 09 26 48.0 +0.3
baz=78,SNR=5.6
O30A MW Ranch, Wils 77.98 338 ⇑P P 09 26 48.2 +0.5
baz=78,SNR=5.7
N32A Stulken Farm, 77.99 340 ⇓P P 09 26 47.4 -0.3
baz=78
JFWS Jewell Farm 78.06 346 eP P 09 26 47.8 -0.2
JFWS pmax pmax
comp=Z,48nm,1.1s
JFWS Jewell Farm 78.06 346 eP P 09 26 47.8 -0.2
comp=Z,48nm,1.1s
SWSC Sam W. Stewart 78.13 323 ⇓P P 09 26 48.9 +0.3
baz=78
Y12C Blythe 78.16 325 ⇑P P 09 26 49.6 +0.8
baz=78
WUAZ Wupatki 78.16 328 eP P 09 26 49.8 +0.9
comp=Z,19nm,1.1s
WUAZ Wupatki 78.16 328 ⇑P P 09 26 49.2 +0.3
baz=78,SNR=9.4
O29A 4D Ranch, Culb 78.17 338 ⇓P P 09 26 49.0 +0.4
baz=78
S22A 4UR Ranch, Cre 78.17 332 ⇑P P 09 26 49.2 +0.1
baz=78,SNR=7.5
R23A Moffat 78.18 333 ⇑P P 09 26 49.2 0.0
baz=78,SNR=11
P27A Ficken Ranch, 78.23 336 ⇑P P 09 26 49.3 +0.1
baz=78
N31A Bailey Ranch, 78.24 339 ⇑P P 09 26 48.7 -0.3
baz=78
Q25A Bedland, Calha 78.24 335 ⇓P P 09 26 49.3 -0.1
baz=78,SNR=7.1
MVCO Mesa Verde 78.38 331 eP P 09 26 50.9 +0.8
comp=Z,26nm,1.4s
MVCO Mesa Verde 78.38 331 ⇓P P 09 26 50.5 +0.4
baz=79,SNR=9.6
PDMCI Parker Dam,Lak 78.42 325 ⇑P P 09 26 50.4 +0.3
baz=79
O28A Krutsinger Ran 78.48 337 ⇓P P 09 26 51.1 +0.7
baz=79
P26A Davis Ranch, A 78.50 336 ⇓P P 09 26 51.1 +0.4
baz=79,SNR=5.4
BC3 Big Chuckawall 78.53 324 ⇑P P 09 26 51.2 +0.3
baz=79
BGNE Belgrade 78.55 340 eP P 09 26 50.3 -0.4
comp=Z,74nm,1.3s
BGNE Belgrade 78.55 340 ⇓P P 09 26 50.4 -0.3
baz=79,SNR=5.3
N30A Hueftle Ranch, 78.56 338 ⇓P P 09 26 51.2 +0.4
baz=79
Q24A Divide 78.61 334 ⇓P P 09 26 52.2 +0.7
baz=79,SNR=8.4
M31A Lambtecht Ranc 78.73 339 ⇓P P 09 26 52.0 +0.3
baz=79,SNR=7.8
N29A Votaw Ranch, W 78.74 338 ⇓P P 09 26 52.0 +0.1
baz=79
P25A Willow Gulch B 78.74 335 ⇑P P 09 26 52.9 +0.9
baz=79,SNR=11
109C Camp Elliot, M 78.75 322 ⇓P P 09 26 51.9 -0.1
baz=79
O27A Beecher Island 78.77 336 ⇓P P 09 26 52.6 +0.5
baz=79,SNR=7.1
IRM Iron Mountain 78.80 325 ⇑P P 09 26 52.7 +0.4
baz=79
N28A Pribbeno Ranch 78.91 337 ⇑P P 09 26 53.1 +0.3
baz=79
W13A Hualapai Mount 78.96 326 ⇓P P 09 26 53.9 +0.5
baz=79
PFO Pinyon Flat Ob 78.99 323 ⇑P P 09 26 53.0 -0.5
baz=79
P24A Kohler Place, 79.01 334 ⇑P P 09 26 54.0 +0.4
baz=79
TSUM Tsumeb 79.09 106 eP P 09 26 55.0 +0.6
comp=Z,13nm,0.9s
O26A Horse Wrangler 79.10 336 ⇑P P 09 26 54.2 +0.3
baz=79,SNR=8.4
M30A Dale-Ortello V 79.17 339 ⇑P P 09 26 54.6 +0.4
baz=80
PV01 Paradox Valley 79.20 331 eP P 09 26 55.1 +0.5
comp=Z,2µm,1.5s
O25A Wiggins 79.26 335 ⇓P P 09 26 55.1 +0.3
baz=80,SNR=9.3
OGNE Ogallala 79.31 337 ⇑P P 09 26 55.4 +0.4
baz=80
U15A North Rim 79.33 328 ⇑P P 09 26 55.9 +0.5
baz=80
M29A Burnside Ranch 79.33 338 ⇓P P 09 26 55.6 +0.5
baz=80
N27A Anderson Farm, 79.34 337 ⇓P P 09 26 55.6 +0.4
baz=80,SNR=8.4
MURC Murrieta 79.36 323 ⇑P P 09 26 56.0 +0.6
baz=80
L31A Butterfield Fa 79.45 340 ⇓P P 09 26 55.7 +0.1
baz=80,SNR=18
SMCO Snowmass 79.48 333 eP P 09 26 57.1 +0.7
comp=Z,19nm,1.0s
L30A Spencer Herefo 79.50 339 ⇑P P 09 26 56.2 +0.3
baz=80,SNR=5.2
M28A Bar X Bar Ranc 79.50 338 ⇑P P 09 26 56.7 +0.7
baz=80
ISCO Idaho Springs 79.52 334 eP P 09 26 56.4 0.0
ISCO pmax pmax
comp=Z,15nm,1.4s
ISCO Idaho Springs 79.52 334 eP P 09 26 56.4 0.0
comp=Z,15nm,1.4s
ISCO Idaho Springs 79.52 334 ⇓P P 09 26 56.6 +0.2
baz=80,SNR=11
GMRC Granite Mounta 79.54 325 ⇓P P 09 26 56.7 +0.2
baz=80
PV04 Paradox Valley 79.56 331 eP P 09 26 56.7 +0.1
SCI San Clemente I 79.56 321 ⇓P P 09 26 56.3 -0.2
baz=80
N26A Koester Ranch, 79.59 336 ⇑P P 09 26 57.2 +0.6
baz=80
PV10 Paradox Valley 79.59 331 eP P 09 26 56.9 0.0
comp=Z,188nm,0.9s
O24A Longmont 79.61 335 ⇓P P 09 26 57.0 +0.3
baz=80
P22A Eagle 79.76 333 ⇓P P 09 26 57.9 +0.2
baz=80,SNR=5.3
L29A Maesberg Ranch 79.83 339 ⇓P P 09 26 58.3 +0.5
baz=80
HEC Hector,Ludlow 79.91 324 ⇓P P 09 26 59.1 +0.7
baz=80
O23A Lake Granby, G 79.99 334 ⇓P P 09 26 59.1 +0.2
baz=80,SNR=14
BOSA Boshof 80.03 118 P P 09 26 59.8 +0.3
BOSA pmax pmax
comp=Z,12nm,0.9s
BOSA Boshof 80.03 118 P P 09 26 59.8 +0.3
comp=Z,12nm,0.9s,baz=237,slow=4.0,SNR=14
BOSA Boshof 80.03 118 eP P 09 26 59.4 0.0
comp=Z,20nm,1.0s
K30A Basset 80.14 340 ⇓P P 09 26 59.7 +0.3
baz=80,SNR=17
N24A Carr 80.16 335 ⇓P P 09 27 00.7 +1.0
baz=80
O22A Kremmling 80.18 334 ⇑P P 09 27 00.3 +0.3
baz=80,SNR=12
TUQ Turquoise Moun 80.20 325 ⇑P P 09 27 00.4 +0.4
baz=80
ECSD EROS Data Cent 80.29 342 eP P 09 26 59.8 -0.3
comp=Z,40nm,1.0s
ECSD EROS Data Cent 80.29 342 ⇑P P 09 26 59.9 -0.2
baz=81,SNR=23
M25A Palm-Egli Farm 80.42 336 ⇑P P 09 27 01.6 +0.5
baz=81
K29A Lazy Trails An 80.42 339 ⇑P P 09 27 01.1 +0.1
baz=81,SNR=7.4
GSC Goldstone 80.52 324 eP P 09 27 02.1 +0.4
GSC pmax pmax
comp=Z,9.0nm,1.0s
GSC Goldstone 80.52 324 eP P 09 27 02.1 +0.4
comp=Z,9.2nm,1.0s

GSC Goldstone 80.52 324 ⇑P P 09 27 01.8 +0.1
baz=81
N23A Red Feather La 80.60 334 ⇓P P 09 27 02.3 +0.1
baz=81,SNR=7.8
K28A Ten Mile Ranch 80.70 338 ⇑P P 09 27 02.8 +0.3
baz=81,SNR=10
J30A Dallas 80.70 340 ⇓P P 09 27 02.1 -0.3
baz=81,SNR=7.7
SHPR Sheep Range 80.70 326 eP P 09 27 03.5 +0.8
N22A Wattenberg Ran 80.70 334 ⇓P P 09 27 03.1 +0.3
baz=81,SNR=9.6
M24A Cheyenne 80.71 335 ⇑P P 09 27 03.2 +0.5
baz=81,SNR=6.0
CCUT Cedar City 80.74 328 eP P 09 27 04.0 +1.0
comp=Z,22nm,1.4s
PHWY Pilot Hill 80.78 335 eP P 09 27 03.7 +0.5
comp=Z,16nm,1.2s
O20A White River Ci 80.79 333 eP P 09 27 03.1 -0.1
comp=Z,9.8nm,0.9s
O20A White River Ci 80.79 333 ⇑P P 09 27 03.3 +0.1
baz=81
SPMN St. Paul 80.80 345 eP P 09 27 01.8 -1.1
comp=Z,26nm,1.1s
SPMN St. Paul 80.80 345 ⇓P P 09 27 01.9 -0.9
baz=81,SNR=6.4
SRU San Rafael 80.83 330 eP P 09 27 03.8 +0.4
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU San Rafael 80.83 330 eP P 09 27 03.8 +0.4
comp=Z,10nm,0.9s
OSI Osito Adit 80.93 322 ⇑P P 09 27 03.9 0.0
baz=81
K27A Flueckinger Fa 80.96 338 ⇑P P 09 27 04.1 +0.3
baz=81
ARUT Antelope Range 80.97 328 eP P 09 27 05.3 +1.2
ARUT Antelope Range 80.97 328 eP P 09 27 05.3 +1.2
comp=Z,219nm,1.2s
J29A Okreek 81.01 339 ⇑P P 09 27 04.2 +0.2
baz=81,SNR=26
M23A Laramie 81.02 335 ⇓P P 09 27 04.6 +0.1
baz=81
MVU Marysvale 81.03 329 eP P 09 27 05.2 +0.6
comp=Z,24nm,1.6s
L25A Engebretsen Ra 81.03 336 ⇓P P 09 27 04.6 +0.3
baz=81
LRMC Laurel Mountai 81.09 324 ⇓P P 09 27 04.8 0.0
baz=81
I30A Oacoma 81.22 340 ⇑P P 09 27 04.6 -0.5
baz=82,SNR=16
K26A Motz Farm, Whi 81.26 337 ⇑P P 09 27 06.0 +0.5
baz=82
TMUT Trail Mountain 81.27 330 eP P 09 27 05.9 +0.1
comp=Z,12nm,1.1s
M22A Cedar Creek Ra 81.28 334 ⇑P P 09 27 05.7 -0.2
baz=82
J28A Allard Ranch, 81.30 339 ⇑P P 09 27 05.9 +0.2
baz=82,SNR=13
J27A Elkhorn Farm, 81.38 338 ⇑P P 09 27 06.9 +0.8
baz=82,SNR=16
K25A Mack Ranch, Ha 81.41 337 ⇑P P 09 27 06.6 +0.3
baz=82
N20A Spence Gulch, 81.41 333 ⇑P P 09 27 06.5 +0.1
baz=82,SNR=6.5
FURC Furnace Creek, 81.48 325 ⇓P P 09 27 07.2 +0.6
baz=82
I29A Vivian Onida 81.57 340 ⇓P P 09 27 06.4 -0.6
baz=82,SNR=7.2
BRSD Miller 81.58 341 eP P 09 27 06.9 -0.1
comp=Z,28nm,0.8s
BRSD Miller 81.58 341 ⇓P P 09 27 06.8 -0.1
baz=82
L23A Garrett 81.59 335 ⇓P P 09 27 07.0 -0.3
baz=82
ISA Isabella 81.63 323 eP P 09 27 08.2 +0.6
ISA pmax pmax
comp=Z,11nm,1.1s
ISA Isabella 81.63 323 eP P 09 27 08.2 +0.6
comp=Z,11nm,1.1s
ISA Isabella 81.63 323 ⇓P P 09 27 07.9 +0.3
baz=82
L22A Ellis Ranch, M 81.77 335 ⇑P P 09 27 08.3 -0.1
baz=82
J26A Sides Ranch, S 81.77 337 ⇓P P 09 27 08.4 +0.3
baz=82,SNR=7.0
I28A Midland 81.81 339 ⇓P P 09 27 08.4 +0.1
baz=82,SNR=18
MPU Maple Canyon 82.05 330 eP P 09 27 10.4 +0.6
comp=Z,15nm,1.1s
VES Vestal, Richgr 82.08 323 ⇓P P 09 27 10.2 +0.4
baz=82
J25A Sunshine Ranch 82.08 337 ⇓P P 09 27 10.1 +0.4
baz=82
H29A Onida 82.10 340 ⇑P P 09 27 09.7 -0.1
baz=82,SNR=20
K23A Bowen Ranch, D 82.12 336 ⇑P P 09 27 10.0 -0.1
baz=82,SNR=9.8
SMMC Simmler 82.13 322 ⇑P P 09 27 10.9 +0.8
baz=82
I27A Quinn 82.14 338 ⇑P P 09 27 09.9 -0.2
baz=82,SNR=12
GRAC Grapevine Rang 82.15 325 ⇑P P 09 27 10.6 +0.4
baz=82
NLU North Lily Min 82.18 330 eP P 09 27 10.8 +0.3
comp=Z,12nm,1.2s
DAU Daniels Canyon 82.23 331 eP P 09 27 11.6 +0.7
DAU Daniels Canyon 82.23 331 eP P 09 27 11.6 +0.7
LBTB Lobatse 82.24 115 eP P 09 27 11.9 +0.6
LBTB pmax pmax
comp=Z,26nm,1.0s
LBTB Lobatse 82.24 115 eP P 09 27 11.9 +0.6
comp=Z,26nm,1.0s
G30A Faulkton 82.26 341 ⇑P P 09 27 10.0 -0.5
baz=83,SNR=10.0
J24A Dixon Ranch, L 82.31 336 ⇑P P 09 27 11.5 +0.5
baz=83,SNR=8.6
K22A Casper 82.35 335 eP P 09 27 11.8 +0.5
comp=Z,25nm,1.2s
K22A Casper 82.35 335 ⇓P P 09 27 11.5 +0.2
baz=83,SNR=8.8
I26A New Underwood 82.35 338 ⇓P P 09 27 11.1 -0.1
baz=83
H28A Mission Ridge 82.38 339 ⇑P P 09 27 11.1 -0.1
baz=83,SNR=21
R11A Troy Canyon, C 82.40 327 eP P 09 27 12.5 +0.9
comp=Z,25nm,1.5s
R11A Troy Canyon, C 82.40 327 ⇓P P 09 27 12.2 +0.5
baz=83
JLU Jordanelle 82.47 331 eP P 09 27 12.6 +0.5
comp=Z,7.6nm,0.9s
RCTC Rector, Farmer 82.52 323 ⇓P P 09 27 12.3 +0.2
baz=83
G29A Hoven 82.53 340 ⇓P P 09 27 11.5 -0.6
baz=83,SNR=9.8
K21A Alcova 82.59 334 ⇑P P 09 27 12.5 -0.1
baz=83,SNR=18
I25A Rochford 82.62 337 ⇓P P 09 27 12.7 0.0
baz=83,SNR=13
H27A Howes 82.65 339 ⇑P P 09 27 12.4 -0.3
baz=83,SNR=22
CTU Camp Tracy 82.67 330 eP P 09 27 12.4 -0.6
comp=Z,4.1nm,0.8s
DUG Dugway 82.69 330 eP P 09 27 13.5 +0.4
DUG pmax pmax
comp=Z,27nm,1.4s
DUG Dugway 82.69 330 eP P 09 27 13.5 +0.4
comp=Z,27nm,1.4s
DUG Dugway 82.69 330 ⇓P P 09 27 13.2 +0.1
baz=83,SNR=11
G28A Parade 82.71 340 ⇑P P 09 27 13.0 0.0
baz=83,SNR=19
I24A Kuemmerle Ranc 82.77 337 ⇑P P 09 27 13.2 -0.2
baz=83,SNR=5.7
RSSD Black Hills 82.81 337 eP P 09 27 13.5 -0.2
RSSD pmax pmax
comp=Z,11nm,1.0s
RSSD Black Hills 82.81 337 eP P 09 27 13.5 -0.2
comp=Z,11nm,1.0s
H26A Fairpoint 82.85 338 ⇓P P 09 27 13.7 -0.1
baz=83
F30A Leola 82.88 341 ⇑P P 09 27 13.5 -0.3
baz=83,SNR=6.9
TCUT Toone Canyon 82.88 331 eP P 09 27 14.1 -0.1
comp=Z,29nm,1.3s
TPH Tonopah 82.94 325 eP P 09 27 14.8 +0.3
TPH pmax pmax
comp=Z,26nm,1.4s
TPH Tonopah 82.94 325 eP P 09 27 14.8 +0.3
comp=Z,26nm,1.4s

J22A Midwest 83.00 335 ⇑P P 09 27 14.1 -0.5
baz=83,SNR=6.3
F29A Eureka 83.10 341 ⇓P P 09 27 14.5 -0.4
baz=83,SNR=18
H25A Fruitdale 83.11 338 ⇓P P 09 27 15.0 -0.1
baz=83,SNR=8.7
EYMN Ely 83.14 347 eP P 09 27 14.5 -0.5
comp=Z,20nm,1.4s
J21A Lysite 83.28 335 ⇓P P 09 27 15.8 -0.3
baz=84
G27A Dupree 83.29 339 ⇓P P 09 27 15.4 -0.5
baz=84,SNR=13
HWUT Hardware Ranch 83.36 331 eP P 09 27 16.2 -0.3
comp=Z,26nm,1.3s
F28A McLaughlin 83.38 340 ⇓P P 09 27 16.2 -0.2
baz=84,SNR=11
BGU Big Grassy Mou 83.39 330 eP P 09 27 16.9 +0.2
comp=Z,6.0nm,1.3s
G26A Maurine 83.41 339 ⇑P P 09 27 16.2 -0.4
baz=84,SNR=15
I22A 9 Mile Ranch, 83.42 336 ⇓P P 09 27 16.3 -0.5
baz=84,SNR=8.3
E30A Jud 83.47 342 ⇑P P 09 27 16.4 -0.4
baz=84,SNR=11
J20A Shoshoni 83.52 334 ⇑P P 09 27 17.4 +0.1
baz=84
H24A Dirks Ranch, A 83.53 337 ⇓P P 09 27 16.7 -0.6
baz=84,SNR=8.7
PDAR Pinedale Array 83.56 333 P P 09 27 16.9 -0.7
comp=Z,5.5nm,1.0s,baz=150,slow=4.9,SNR=28
G25A Newell 83.57 338 ⇓P P 09 27 17.2 -0.2
baz=84,SNR=22
I21A Big Trails, Te 83.64 335 ⇑P P 09 27 17.1 -0.8
baz=84,SNR=8.1
E29A Napoleon 83.72 341 ⇓P P 09 27 17.6 -0.6
baz=84,SNR=9.6
NVAR Mina Array Bea 83.73 325 P P 09 27 19.0 +0.3
comp=Z,3.6nm,0.7s,baz=156,slow=6.3,SNR=23
F27A Lemmon 83.76 339 ⇑P P 09 27 18.3 0.0
baz=84,SNR=6.3
J19A Crowheart 83.80 334 ⇑P P 09 27 18.4 -0.4
baz=84,SNR=16
TOA0 Torodi Ar. Sit 83.88 70 eP P 09 27 19.9 +0.2
TORD Torodi Ar. Bea 83.88 70 P P 09 27 19.9 +0.3
comp=Z,46nm,0.8s,baz=253,slow=4.5,SNR=193
TORD LR LR 10 04 02.3
comp=Z,191nm,18.1s,baz=225,slow=35
F26A Lodgepole 83.93 339 ⇓P P 09 27 19.0 -0.3
baz=84,SNR=12
D30A Buchanan 83.98 342 ⇑P P 09 27 19.2 -0.3
baz=84,SNR=26
H22A Clearmont 84.00 336 ⇑P P 09 27 18.7 -0.9
baz=84
HVU Hansel Valley 84.00 330 eP P 09 27 19.5 -0.3
HVU pmax pmax
comp=Z,15nm,0.8s
HVU Hansel Valley 84.00 330 eP P 09 27 19.5 -0.3
comp=Z,15nm,0.8s
E28A Huff 84.02 340 ⇑P P 09 27 19.2 -0.5
baz=84,SNR=9.8
I20A Worland 84.05 334 ⇓P P 09 27 19.9 -0.1
baz=84,SNR=5.3
E27A Carson 84.13 340 ⇑P P 09 27 20.1 -0.1
baz=84,SNR=7.7
D29A Pettibone, Tap 84.16 341 ⇓P P 09 27 19.7 -0.7
baz=84,SNR=12
ELK Elko 84.19 328 eP P 09 27 21.1 +0.2
ELK pmax pmax
comp=Z,8.0nm,0.9s
ELK Elko 84.19 328 eP P 09 27 21.1 +0.2
comp=Z,8.4nm,0.9s
G23A Biddle 84.21 337 ⇑P P 09 27 19.9 -0.8
baz=84
F25A Bowman 84.24 338 ⇑P P 09 27 20.6 -0.2
baz=84,SNR=7.3
H21A Big Horn, Sher 84.26 336 ⇓P P 09 27 20.2 -0.9
baz=85,SNR=5.6
AGMN Agassiz Nation 84.39 344 eP P 09 27 20.6 -0.9
comp=Z,28nm,1.4s
AGMN Agassiz Nation 84.39 344 ⇑P P 09 27 21.1 -0.3
baz=85,SNR=10
E26A Carlson Angus 84.43 339 ⇑P P 09 27 21.4 -0.4
baz=85,SNR=8.5
CMB Columbia Colle 84.44 323 eP P 09 27 20.8 -1.2
CMB pmax pmax
comp=Z,8.0nm,1.3s
CMB Columbia Colle 84.44 323 eP P 09 27 20.8 -1.2
comp=Z,8.1nm,1.3s
I19A Meeteetse 84.44 334 ⇓P P 09 27 21.6 -0.5
baz=85,SNR=6.9
C30A Mose, Pekin 84.46 342 ⇑P P 09 27 21.8 0.0
baz=85,SNR=35
H20A Greybull 84.47 335 ⇓P P 09 27 21.5 -0.6
baz=85,SNR=19
F24A Ekalaka 84.48 338 ⇑P P 09 27 21.7 -0.4
baz=85,SNR=5.5
G22A Birney 84.52 336 ⇓P P 09 27 21.8 -0.6
baz=85
D28A Regan 84.55 341 ⇓P P 09 27 22.2 -0.1
baz=85,SNR=18
REDW Red Top Meadow 84.56 332 eP P 09 27 22.4 -0.3
comp=Z,7.4nm,0.9s
F23A Volborg 84.67 337 ⇑P P 09 27 22.7 -0.4
baz=85,SNR=8.3
LOHW Long Hollow 84.68 333 eP P 09 27 23.0 -0.3
TPAW Teton Pass 84.71 332 eP P 09 27 23.7 +0.2
comp=Z,12nm,0.9s
D27A Center 84.74 340 ⇑P P 09 27 22.9 -0.4
baz=85
E25A Miller Ranch, 84.74 339 ⇓P P 09 27 22.9 -0.4
baz=85,SNR=7.4
G21A Lodge Grass 84.84 336 ⇑P P 09 27 23.2 -0.7
baz=85,SNR=5.7
FXWY Fox Creek 84.86 333 eP P 09 27 24.0 -0.3
comp=Z,37nm,2.3s
D26A Manning 84.93 339 ⇑P P 09 27 24.0 -0.3
baz=85,SNR=12
I17A Pilgrim Ck. 84.93 333 ⇓P P 09 27 24.5 -0.1
baz=85,SNR=13
C28A Hausauer Farms 84.98 341 ⇑P P 09 27 24.1 -0.3
baz=85
H19A Powell 84.98 334 ⇓P P 09 27 24.2 -0.6
baz=85,SNR=8.2
F22A Rosebud 85.01 337 ⇑P P 09 27 24.3 -0.4
baz=85,SNR=8.2
IMW Indian Meadow 85.05 333 eP P 09 27 25.2 -0.1
comp=Z,14nm,1.1s
E24A Baker 85.07 338 ⇑P P 09 27 24.5 -0.5
baz=85
FLWY Flagg Ranch 85.12 333 eP P 09 27 25.8 +0.3
comp=Z,16nm,0.8s
B30A Myrvik Farm, E 85.12 343 ⇓P P 09 27 24.6 -0.5
baz=85,SNR=42
G20A Bridger 85.19 335 ⇓P P 09 27 25.1 -0.6
baz=86,SNR=19
H18A Shoshone NF, C 85.24 334 ⇓P P 09 27 25.7 -0.4
baz=86,SNR=32
C27A Sayler Ranch, 85.28 340 ⇑P P 09 27 26.0 0.0
baz=86,SNR=13
D25A Fairfield 85.30 339 ⇓P P 09 27 26.2 +0.1
baz=86,SNR=9.2
E23A Ismay 85.33 337 ⇓P P 09 27 25.9 -0.3
baz=86
F21A Absaloka Mine, 85.33 336 ⇑P P 09 27 26.1 -0.3
baz=86
B29A Wagenman Farm, 85.39 342 ⇓P P 09 27 26.2 -0.3
baz=86,SNR=13
LKWY Lake 85.42 333 eP P 09 27 27.1 +0.1
LKWY pmax pmax
comp=Z,5.0nm,0.8s
LKWY Lake 85.42 333 eP P 09 27 27.1 +0.1
comp=Z,4.8nm,0.8s
RLMT Red Lodge 85.48 334 eP P 09 27 26.9 -0.4
comp=Z,20nm,1.1s
C26A Wahner Farm, P 85.55 340 ⇓P P 09 27 26.8 -0.5
baz=86,SNR=5.1
A30A Hoffart Farm, 85.57 343 ⇑P P 09 27 26.8 -0.5
baz=86,SNR=12
D24A Glendive 85.57 338 ⇑P P 09 27 27.3 -0.2
baz=86,SNR=6.2
B28A Dugan Ranch, T 85.64 341 ⇑P P 09 27 27.5 -0.2
baz=86,SNR=15
F20A Billings 85.67 335 ⇑P P 09 27 27.8 -0.2
baz=86
YMR Madison River 85.72 333 eP P 09 27 29.1 +0.7
comp=Z,29nm,0.9s
A29A Manning Farm, 85.78 342 ⇓P P 09 27 27.8 -0.7
baz=86,SNR=22

C25A Freed Ranch, W 85.79 339 ⇓P P 09 27 28.3 -0.2
baz=86,SNR=5.0
LAO LASA Array 85.80 337 eP P 09 27 28.2 -0.4
comp=Z,30nm,1.1s
B27A Peters Farms, 85.84 341 ⇑P P 09 27 28.8 0.0
baz=86
D23A Lindsay 85.90 338 ⇓P P 09 27 29.0 -0.1
baz=86
E21A Keefer Ranch, 85.95 336 ⇑P P 09 27 29.0 -0.4
baz=86,SNR=10
C24A Savage 85.97 338 ⇓P P 09 27 29.5 +0.1
baz=86,SNR=27
F19A Roth Farm, Mol 85.99 335 ⇓P P 09 27 29.2 -0.5
baz=86,SNR=11
QLMT Earthquake Lak 86.03 333 eP P 09 27 31.0 +1.0
A28A Rude Farm, Bot 86.04 342 ⇑P P 09 27 29.3 -0.5
baz=86,SNR=5.1
B26A Jensen Ranch, 86.09 340 ⇓P P 09 27 29.5 -0.5
baz=86
HLID Hailey 86.15 330 eP P 09 27 30.5 -0.1
comp=Z,14nm,1.1s
HLID Hailey 86.15 330 ⇑P P 09 27 30.3 -0.2
baz=86,SNR=15
D22A Cohagen 86.19 337 ⇓P P 09 27 30.5 0.0
baz=86,SNR=5.6
ULM Lac du Bonnet 86.23 345 P P 09 27 29.5 -1.1
ULM pmax pmax
comp=Z,16nm,1.0s
ULM Lac du Bonnet 86.23 345 P P 09 27 29.5 -1.1
comp=Z,16nm,0.9s,baz=172,slow=3.8,SNR=18
ULM Lac du Bonnet 86.23 345 eP P 09 27 29.4 -1.1
comp=Z,18nm,1.1s
B25A Knox Farm, Ray 86.26 340 ⇑P P 09 27 30.9 +0.1
baz=87,SNR=7.7
E20A Meyer Farm, Mu 86.27 336 ⇑P P 09 27 30.4 -0.6
baz=87,SNR=32
A27A Ledoux Ranch, 86.34 341 ⇓P P 09 27 30.6 -0.6
baz=87
D21A La Casta Ranch 86.38 337 ⇑P P 09 27 31.2 -0.3
baz=87,SNR=15
C23A Lambert 86.45 338 ⇑P P 09 27 31.5 -0.3
baz=87,SNR=18
E19A Rath Farm, Rou 86.46 335 ⇑P P 09 27 31.3 -0.6
baz=87,SNR=26
A26A Wade Farm, Ken 86.51 341 ⇓P P 09 27 31.6 -0.4
baz=87,SNR=5.7
MCMT McKenzie Canyo 86.57 332 eP P 09 27 33.0 +0.3
comp=Z,14nm,1.3s
C22A Vida 86.62 338 ⇑P P 09 27 32.1 -0.5
baz=87,SNR=9.1
MFID Camas Ranch 86.62 329 eP P 09 27 32.4 -0.4
comp=Z,11nm,1.2s
DGMT Dagmar 86.75 339 eP P 09 27 33.4 +0.1
comp=Z,76nm,1.1s
DGMT Dagmar 86.75 339 ⇓P P 09 27 33.3 +0.1
baz=87,SNR=7.2
D20A Manuel Ranch, 86.78 336 ⇓P P 09 27 33.0 -0.4
baz=87,SNR=22
BOZ Bozeman (W) 86.79 333 eP P 09 27 33.0 -0.7
BOZ pmax pmax
comp=Z,4.0nm,1.0s
BOZ Bozeman (W) 86.79 333 eP P 09 27 33.0 -0.7
comp=Z,4.2nm,1.0s
A25A Svangstu Ranch 86.85 340 ⇑P P 09 27 33.8 +0.1
baz=87,SNR=6.8
DLMT Dillon 86.92 333 eP P 09 27 34.5 +0.2
B23A Brockton 86.98 339 ⇓P P 09 27 34.0 -0.3
baz=87,SNR=6.4
WVOR Wild Horse Val 87.06 327 eP P 09 27 35.1 +0.1
WVOR pmax pmax
comp=Z,10.0nm,1.2s
WVOR Wild Horse Val 87.06 327 eP P 09 27 35.1 +0.1
comp=Z,9.5nm,1.2s
C21A Desert Coulee 87.08 337 ⇑P P 09 27 34.1 -0.8
baz=87,SNR=25
A24A Westby 87.09 339 ⇓P P 09 27 35.0 +0.1
baz=87,SNR=6.3
D19A Cripps Ranch, 87.10 336 ⇑P P 09 27 34.2 -0.8
baz=87,SNR=9.6
B22A Reddig Ranch S 87.15 338 ⇑P P 09 27 35.1 -0.1
baz=87,SNR=22
LRM Limekiln Ridge 87.25 333 eP P 09 27 36.2 +0.2
C20A Veseth Ranch, 87.28 336 ⇓P P 09 27 35.2 -0.7
baz=88,SNR=15
MOD Modoc 87.41 326 eP P 09 27 36.5 -0.2
comp=Z,7.1nm,0.8s
WDC Whiskeytown Da 87.46 324 eP P 09 27 36.2 -0.6
WDC pmax pmax
comp=Z,3.0nm,0.8s
WDC Whiskeytown Da 87.46 324 eP P 09 27 36.2 -0.6
comp=Z,3.2nm,0.8s
B21A Ellsworth Farm 87.58 337 ⇓P P 09 27 37.0 -0.3
baz=88
C19A Slack Wire Ran 87.65 336 ⇓P P 09 27 37.0 -0.6
baz=88,SNR=9.1
A22A Carney Farms, 87.73 338 ⇓P P 09 27 37.8 -0.1
baz=88,SNR=22
HRY Holter Researc 87.77 334 eP P 09 27 38.7 +0.4
N02D Trinity Center 87.84 324 ⇑P P 09 27 38.2 -0.5
baz=88
B20A Solberg Farm, 87.92 337 ⇑P P 09 27 38.3 -0.6
baz=88,SNR=11
M04C Macdoel 88.04 325 ⇓P P 09 27 39.2 -0.6
baz=88
A21A Bergtoll Ranch 88.05 338 ⇓P P 09 27 39.2 -0.3
baz=88
EGMT Eagleton 88.14 336 ⇑P P 09 27 39.2 -0.8
baz=88,SNR=7.2
SCHQ Schefferville 88.23 3 P P 09 27 39.9 -0.3
comp=Z,12nm,1.0s,baz=193,slow=5.6,SNR=9.5
SCHQ Schefferville 88.23 3 eP P 09 27 39.7 -0.4
M02C Callahan 88.23 324 ⇑P P 09 27 39.8 -0.8
baz=88
B19A Brinkman Farms 88.24 336 ⇑P P 09 27 39.9 -0.5
baz=88
A20A Cobblestone Ra 88.27 337 ⇑P P 09 27 39.7 -0.8
baz=89,SNR=13
BMO Blue Mountains 88.41 329 eP P 09 27 41.0 -0.3
comp=Z,5.6nm,1.0s
CHMT Chamberlain Mo 88.47 333 eP P 09 27 41.6 -0.1
A19A Klindworth Far 88.58 337 ⇑P P 09 27 41.3 -0.7
baz=89,SNR=10
MSO Missoula 88.66 333 eP P 09 27 42.9 +0.4
comp=Z,38nm,2.3s
MSO Missoula 88.66 333 ⇓P P 09 27 42.9 +0.4
baz=89
I07A Izee 88.75 328 eP P 09 27 44.0 +0.9
comp=Z,7.7nm,1.0s
SLMT Seeley Lake 88.83 333 eP P 09 27 43.5 +0.2
J05D Fort Rock, OR 88.91 326 ⇓P P 09 27 44.1 +0.2
baz=89
SWMT Swartz Lake 89.25 333 eP P 09 27 45.5 +0.2
F10A Beach Ranch, E 89.28 330 eP P 09 27 44.9 -0.6
comp=Z,7.8nm,1.0s
J04D Umpqua Nationa 89.29 326 ⇑P P 09 27 45.8 +0.1
baz=90
G08A Pilot Rock 89.47 329 eP P 09 27 46.8 +0.5
comp=Z,7.1nm,1.1s
YBMT Yellow Bay 89.55 333 eP P 09 27 47.0 +0.4
JTMT Jette 89.55 333 eP P 09 27 46.9 +0.2
LSZ Lusaka 89.70 108 eP P 09 27 50.3 +2.0
LSZ pmax pmax
comp=Z,5.0nm,0.8s
LSZ Lusaka 89.70 108 eP P 09 27 50.2 +2.0
comp=Z,4.6nm,0.8s
BLMT Blacktail Moun 89.80 333 eP P 09 27 47.9 -0.1
comp=Z,1.8nm,0.2s
BSMT Bassoo Peak 89.83 333 eP P 09 27 48.2 +0.1
WALA Waterton Lakes 90.50 334 eP P 09 27 50.6 -0.5
comp=Z,0.4nm,1.1s
HAWA Hanford 90.58 329 eP P 09 27 51.4 0.0
comp=Z,13nm,1.1s
HAWA e 09 28 00.9
D08A Wollman Farm, 90.85 330 eP P 09 27 52.9 +0.3
comp=Z,28nm,1.8s
E07A Sunnyside 90.85 329 eP P 09 27 53.2 +0.6
comp=Z,37nm,2.0s
C09A Chrisman Ranch 91.17 331 eP P 09 27 54.4 +0.3
comp=Z,12nm,0.9s
TAM Tamanrasset 92.47 64 eP P 09 28 02.1 +1.2
TAM pmax pmax
comp=Z,7.0nm,1.0s
TAM Tamanrasset 92.47 64 eP P 09 28 02.1 +1.2
comp=Z,6.8nm,1.0s
EDM Edmonton 93.76 336 eP P 09 28 04.4 -1.6
EDM Edmonton 93.76 336 eP P 09 28 04.4 -1.6
FCC Fort Churchill 93.94 349 eP P 09 28 06.6 +0.1

FCC Fort Churchill 93.94 349 eP P 09 28 06.6 +0.1
comp=Z,0.3nm,0.8s
ESDC Sonseca Array 96.17 46 P P 09 28 18.1 +0.7
comp=Z,2.1nm,1.0s,baz=252,slow=5.8,SNR=4.2
ESDC LR LR 10 10 45.5
comp=Z,196nm,18.6s,baz=330,slow=35
DZM Mont Dzumac 101.63 234 eLR LR 10 01 53.6
comp=Z,466nm,27.6s
YKA Yellowknife Ar 101.81 341 P Pdif 09 28 40.8 -1.1
comp=Z,0.8nm,0.7s,baz=141,slow=4.4,SNR=20
YKA PP PP 09 32 51.6 -1.9
comp=Z,0.5nm,0.9s,baz=139,slow=7.8,SNR=4.1
GERES GERESS Array B 111.75 45 i PKIKP PKiKP 09 33 23.5 -0.4
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 111.75 45 PKiKP PKiKP 09 33 23.4 -0.4
comp=Z,1.2nm,0.8s,baz=286,slow=1.0,SNR=5.9
ILAR Eielson Array 113.99 333 i PKIKP PKiKP 09 33 26.5 -1.0
ILAR 09 34 23.4
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 113.99 333 PKiKP PKiKP 09 33 26.5 -1.0
comp=Z,0.7nm,0.8s,baz=208,slow=2.0,SNR=7.8
ILAR PP PP 09 34 23.4 +0.8
comp=Z,0.7nm,0.8s,baz=108,slow=5.2,SNR=6.9
COLA College 114.41 333 i PKIKP PKPdf 09 33 29.6 +1.3
VYHS Vyhne 114.69 47 ePKIKP PKPdf 09 33 29.3 -0.1
VYHS Vyhne 114.69 47 ePKP PKPdf 09 33 29.2 -0.2
NOA NORSAR Array B 115.61 32 PKIKP PKPdf 09 33 30.8 0.0
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA NORSAR Array B 115.61 32 PKP PKPdf 09 33 30.8 0.0
comp=Z,1.1nm,0.9s,baz=257,slow=2.0,SNR=3.3
BUR08 Bucovina Ar. S 118.34 50 ePKPdf PKPdf 09 33 37.1 +0.5
SUW Suwalki 119.19 42 ePKIKP PKPdf 09 33 37.5 -0.3
SUW Suwalki 119.19 42 ePKP PKPdf 09 33 37.5 -0.3
SUW Suwalki 119.19 42 ePKPdf PKPdf 09 33 37.4 -0.3
WRA Warramunga Arr 121.17 209 PKIKP PKPdf 09 33 41.3 -1.5
WRA pmax pmax
comp=Z,4.0nm,0.9s
WRA Warramunga Arr 121.17 209 PKP PKPdf 09 33 41.3 -1.5
comp=Z,3.6nm,0.9s,baz=160,slow=1.5,SNR=11
BRTR Keskin Array B 121.47 61 PKIKP PKPdf 09 33 42.8 -0.1
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 121.47 61 PKP PKPdf 09 33 42.8 -0.1
comp=Z,3.1nm,0.8s,baz=203,slow=2.9,SNR=16
AK02 Malin Array Si 121.77 47 ePKPdf PKPdf 09 33 41.8 -1.1
KIEV Kiev 121.78 47 ePKIKP PKPdf 09 33 42.4 -0.5
KIEV Kiev 121.78 47 ePKPdf PKPdf 09 33 42.0 -0.9
AK01 Malin Array Si 121.78 47 ePKPdf PKPdf 09 33 42.0 -0.9
AKASG Malin Array Be 121.79 47 PKIKP PKPdf 09 33 41.3 -1.6
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 121.79 47 PKP PKPdf 09 33 41.3 -1.6
comp=Z,4.8nm,0.8s,baz=264,slow=2.6,SNR=16
VSU Vasula 122.28 38 i PKIKP PKPdf 09 33 43.1 -0.5
FINES FINESS Array B 122.58 34 PKIKP PKPdf 09 33 43.5 -0.6
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 122.58 34 PKP PKPdf 09 33 43.5 -0.6
comp=Z,3.2nm,0.9s,baz=236,slow=2.1,SNR=6.7
KAF Kangasniemi 122.81 34 ePKIKP PKPdf 09 33 42.8 -1.7
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 122.81 34 ep PKPdf 09 33 42.8 -1.7
comp=Z,4.3nm,0.7s
ARCES ARCESS Array B 123.61 25 PKIKP PKPdf 09 33 45.8 -0.1
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 123.61 25 PKP PKPdf 09 33 45.8 -0.1
comp=Z,3.9nm,0.8s,baz=219,slow=5.6,SNR=4.0
JOF Joensuu 125.23 33 ePKIKP PKPdf 09 33 47.9 -1.2
JOF pmax pmax
comp=Z,5.0nm,0.8s
JOF Joensuu 125.23 33 ep PKPdf 09 33 47.9 -1.2
comp=Z,5.0nm,0.8s
H11S2 WAKE ISLAND Hy126.00 269 T T 11 52 42.7
baz=118,slow=75,SNR=14
H11S1 WAKE ISLAND Hy126.02 269 T T 11 52 45.7
baz=118,slow=75,SNR=23
H11S3 WAKE ISLAND Hy126.02 269 T T 11 52 43.1
baz=118,slow=75,SNR=12
OBN Obninsk 127.03 43 ePKIKP PKPdf 09 33 52.3 -0.5
OBN e 09 35 49.4
OBN pmax pmax
comp=Z,9.0nm,0.8s
OBN MLR MLR
comp=Z,205nm,17.0s
VSR Storozhevoye 128.04 48 i PKIKP PKPdf 09 33 53.9 -1.0
KLMR Klimovskoe 128.99 36 ePKIKP PKPdf 09 33 54.6 -1.8
KLMR pmax pmax
comp=Z,38nm,1.5s
KIV Kislovodsk 129.12 58 i PKIKP PKPdf 09 33 57.1 -0.2
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,127nm,21.0s
KBZ Khabaz 129.22 58 PKIKP PKPdf 09 33 57.9 +0.6
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 129.22 58 PKP PKPdf 09 33 57.9 +0.6
comp=Z,3.5nm,0.8s,baz=203,slow=5.1,SNR=7.9
GNI Garni 129.76 63 i PKIKP PKPdf 09 33 56.4 -2.4
PRGR Permogore 131.91 35 ePKIKP PKPdf 09 34 00.7 -1.2
PRGR 09 36 25.8
PRGR pmax pmax
comp=Z,12nm,1.0s
BILL Bilibino 132.63 334 i PKIKP PKPdf 09 34 00.9 -2.2
BILL i 09 34 08.9
BILL i 09 36 28.0
BILL pmax pmax
comp=Z,9.0nm,1.3s
BILL Bilibino 132.63 334 ePKPdf PKPdf 09 34 03.3 +0.2
ARU Arti 139.34 41 i PKIKP PKPdf 09 34 16.5 +0.6
ARU 09 37 08.7
ARU SS SS 09 55 18.4 -7.8
GEYT Alibeck 139.51 69 PKP PKPdf 09 34 17.0 +0.1
comp=Z,3.3nm,0.8s,baz=282,slow=1.4,SNR=5.2
AKTO Aktyubinsk 139.94 50 PKIKP PKPdf 09 34 16.7 -0.5
AKTO pmax pmax
comp=Z,8.0nm,1.2s
TIXI Tiksi 140.40 350 i PKIKP PKPdf 09 34 16.6 -0.8
AB31 Akbulak array 141.29 51 i PKHKP PKPpre 09 34 12.9
AB31 pmax pmax
comp=Z,8.0nm,0.9s
ABKAR Akbulak array 141.29 51 ePKPdf PKPpre 09 34 14.6
KAD Karad 145.41 110 eP PKPbc 09 34 27.3 -0.6
POO Poona 145.83 107 eP PKPdf 09 34 28.0 -0.7
BRVK Borovoye 146.80 43 ePKIKP PKPdf 09 34 29.6 +0.4
BRVK e 09 34 31.9
BRVK Borovoye 146.80 43 ePKPdf PKPdf 09 34 29.6 +0.4
BRVK ePKPbc PKPab 09 34 31.9 -0.5
BVA0 Borovoye Array 146.87 43 i PKIKP PKPdf 09 34 29.4 +0.1
BVA0 pmax pmax
comp=Z,17nm,0.8s
KBL Kabul 147.67 77 ePKIKP PKPdf 09 34 32.3 +0.8
KBL e 09 34 36.7
KBL Kabul 147.67 77 ePKPdf PKPdf 09 34 32.3 +0.8
KBL ePKPbc PKPab 09 34 36.7 0.0
KSM Kuching 147.93 184 ePKPbc PKPbc 09 34 34.6 -0.7
YAK Yakutsk 148.48 341 ePKPdf PKPdf 09 34 30.7 -1.0
YAK pmax pmax
comp=Z,74nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK Yakutsk 148.48 341 ePKPbc PKPbc 09 34 35.0 -0.3
HYB Hyderabad 148.86 114 i PKP PKPbc 09 34 36.5 -1.2
KKAR Karatay Array 149.18 61 ePKPdf PKPdf 09 34 34.3 +0.8
KKAR ePKPbc PKPbc 09 34 37.9 +0.2
IPM Ipoh 150.20 165 ePKPdf PKPbc 09 34 39.6 -1.5
YSS Yuzh-Sakhalins 150.77 307 ePKPbc PKPbc 09 34 40.9 -0.5
YSS Yuzh-Sakhalins 150.77 307 ePKPbc PKPbc 09 34 40.9 -0.5
KULM Kulim 150.91 164 ePKPbc PKPbc 09 34 41.4 -1.4
ASAJ Asahikawa 151.47 302 ePKPbc PKPbc 09 34 42.6 -0.5
AML Almayashu 151.61 63 P PKPdf 09 34 38.7 +0.9
SNR=5.4
EKS2 Erkin-Say 151.61 61 P PKPdf 09 34 38.2 +0.8
SNR=5.5
EKS2 Erkin-Say 151.61 61 ePKIKP PKPdf 09 34 38.2 +0.8
EKS2 e 09 34 44.4

EKS2 Erkin-Say 151.61 61 ePKPdf PKPdf 09 34 38.2 +0.8
EKS2 ePKPbc PKiKP 09 34 44.4 +0.2
USP Ospenovka 152.06 60 P PKPdf 09 34 38.7 +0.7
SNR=6.5
AAK Ala-Archa 152.14 61 P PKPbc 09 34 45.7 +0.8
SNR=13
AAK Ala-Archa 152.14 61 PKIKP PKPdf 09 34 38.3 0.0
AAK pmax pmax
comp=Z,25nm,0.9s
AAK Ala-Archa 152.14 61 ePKPdf PKPdf 09 34 39.3 +1.0
AAK ePKPbc PKiKP 09 34 45.4 +0.1
FRU Bishkek 152.20 61 i PKIKP PKPbc 09 34 44.0 -0.9
UCH Uchtor 152.21 62 P PKPbc 09 34 46.8 +1.3
SNR=10
CHMS Chumysh 152.28 60 P PKPbc 09 34 45.2 +0.2
SNR=7.3
KBK Karagaybulak 152.47 61 P PKPbc 09 34 46.4 +0.6
SNR=6.2
KURK Kurchatov 152.47 43 ePKIKP PKPdf 09 34 38.4 +0.1
KURK e 09 34 45.0
KURK Kurchatov 152.47 43 ePKPdf PKPdf 09 34 38.4 +0.1
KURK ePKPbc PKPbc 09 34 45.0 -0.2
NVS Novosibirsk 152.53 32 i PKIKP PKPdf 09 34 37.6 -0.6
NVS pmax pmax
comp=Z,46nm,0.9s
NVS pmax pmax
comp=E,14nm,1.3s
KZA Kyzart 152.77 62 P PKPbc 09 34 47.9 +1.2
SNR=5.5
TKM2 Tokmak 2 152.90 60 P PKPdf 09 34 40.0 +0.5
SNR=6.3
TKM2 Tokmak 2 152.90 60 ePKIKP PKPdf 09 34 39.3 -0.2
TKM2 e 09 34 46.7
TKM2 Tokmak 2 152.90 60 ePKPdf PKPdf 09 34 39.3 -0.2
TKM2 ePKPbc PKPbc 09 34 46.6 -0.1
ULHL Ulahol 153.48 62 P PKPbc 09 34 48.8 +0.8
SNR=5.3
KSH Kashi 153.53 68 ePKPbc PKPdf 09 34 41.8 +1.4
KSH epPKP pPKPdf 09 34 52.3 +0.5
KSH esPKP 09 34 57.0
KSH eSKS SKSdf 09 41 43.5 -1.2
KSH eSKKS SKKSac 09 45 22.0 -0.4
KSH eSS SS 09 58 05.8 -3.1
KSH AMB AMB
comp=E,84nm,4.5s
KSH LR LR
comp=E,74nm,5.6s
KSH LR LR
comp=E,41nm,4.3s
KSH LR LR
comp=E,120nm,12.4s
ZAA0 Zalesovo Array 153.81 32 ePKPdf PKPdf 09 34 39.5 -0.6
ZAA0 ePKPbc PKPbc 09 34 47.9 -0.1
ZALV Zalesovo Beam 153.81 32 PKP PKPdf 09 34 39.8 -0.3
comp=E,8.2nm,0.9s,baz=282,slow=2.9,SNR=27
ZALV PKPbc PKPbc 09 34 47.6 -0.4
comp=E,23nm,0.8s,baz=298,slow=3.1,SNR=41
ZALV PKPab PKPab 09 35 01.9 +0.8
comp=E,20nm,0.8s,baz=305,slow=5.2,SNR=10
MJAR Matsushiro Arr 155.35 285 PKIKP PKPdf 09 34 51.4 +8.5
MJAR 09 38 46.9
MJAR pmax pmax
comp=Z,1.0nm,0.7s
MJAR Matsushiro Arr 155.35 285 PKPbc PKPdf 09 34 51.4 +8.5
comp=Z,1.2nm,0.7s,baz=121,slow=2.1,SNR=4.5
MJAR PP PP 09 38 46.9 +1.5
comp=Z,0.4nm,0.3s,baz=112,slow=9.8,SNR=4.2
BOD Bodaibo 155.52 353 ePKIKP PKPdf 09 34 53.1 +11
BOD e 09 35 08.0
BOD pmax pmax
comp=Z,28nm,0.9s
MK31 Makanchi Array 156.37 49 i PKIKP PKPdf 09 34 43.2 -0.7
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 156.37 49 ePKPdf PKPdf 09 34 43.0 -0.8
MK31 ePKPab PKPab 09 35 12.8 +0.4
MKAR Makanchi Array 156.37 49 PKP PKPdf 09 34 43.6 -0.3
comp=Z,4.5nm,0.9s,baz=294,slow=1.5,SNR=22
MKAR PKPab PKPab 09 35 12.7 +0.4
comp=Z,5.4nm,0.7s,baz=273,slow=3.9,SNR=15
WMQ Urumqi 161.08 52 ePKP PKPdf 09 34 49.5 -0.1
WMQ LR LR
comp=Z,110nm,19.0s
WMQ LR LR
comp=Z,150nm,20.6s
WMQ LR LR
comp=Z,120nm,20.4s
MOY Mondy 161.25 14 ePKP2 PKPab 09 35 34.4 +1.0
TLY Talaya 161.68 9 ePKP2 PKPab 09 35 35.3 +0.2
TLY pmax pmax
comp=Z,8.0nm,0.9s
CMAR Chiang Mai Arr 162.73 149 PKIKP PKPdf 09 34 51.6 -0.4
CMAR 09 35 40.0
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 162.73 149 PKP PKPdf 09 34 51.6 -0.4
comp=Z,3.4nm,0.9s,baz=249,slow=2.9,SNR=11
CMAR PKPab PKPab 09 35 40.0 -0.6
comp=Z,0.8nm,0.3s,baz=211,slow=6.4,SNR=4.7
ZAK Zakamensk 162.89 11 ePKP2 PKPab 09 35 40.8 +0.2
ZAK pmax pmax
comp=Z,5.0nm,1.1s
CN2 Changchun 163.21 312 ePKP PKPdf 09 34 53.0 +1.3
CN2 epPKP pPKPdf 09 35 04.0 +0.8
CN2 ePP PP 09 39 31.5 +4.1
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,1μm,22.0s
CN2 LR LR
comp=Z,2μm,22.0s
CN2 LR LR
comp=Z,2μm,23.0s
KSRS Korea Array 163.54 289 PKIKP PKPdf 09 34 51.3 -0.9
KSRS 09 35 44.0
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS pmax pmax
comp=Z,1.0nm,0.8s
KSRS Korea Array 163.54 289 PKP PKPdf 09 34 51.3 -0.9
comp=Z,0.9nm,0.6s,baz=82,slow=5.2,SNR=7.7
KSRS PKPab PKPab 09 35 44.0 +0.1
comp=Z,1.3nm,0.8s,baz=87,slow=4.8,SNR=4.1
KSAR Wonju Array Be 163.57 289 PKIKP PKPdf 09 34 51.3 -0.9
KSAR 09 35 44.0
KSAR Wonju Array Be 163.57 289 PKP PKPdf 09 34 51.3 -0.9
KSAR PKPab PKPab 09 35 44.0 -0.1
SONM Songino Array 165.77 5 PKIKP PKPdf 09 34 53.2 -0.8
SONM 09 39 39.6
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 165.77 5 PKP PKPdf 09 34 53.2 -0.8
comp=Z,1.2nm,0.8s,baz=212,slow=0.9,SNR=7.0
SONM PKPab PKPab 09 35 54.4 +1.1
comp=Z,5.7nm,0.9s,baz=337,slow=3.5,SNR=17
SONM PP PP 09 39 39.6 -0.3
comp=Z,1.6nm,1.0s,baz=338,slow=6.5,SNR=7.0
KMI Kunming 170.24 149 PKP PKPdf 09 34 59.5 +1.6
NJ2 Nanjing 170.93 263 ePKP PKPdf 09 34 58.0 +0.3
GTA Gaotai 171.12 47 ePKP PKPdf 09 34 58.0 +0.2
GTA pPKP pPKPdf 09 35 08.5 -0.8
GTA sPKP 09 35 12.5
GTA PKPab PKPab 09 36 18.8 +1.4
GTA PP PP 09 40 09.8 +1.7
GTA SKS SKSdf 09 41 56.3 -2.3
GTA SKKS SKKSac 09 46 51.8 -0.5
GTA SS SS 10 01 07.0 -3.6
GTA AMB AMB
comp=Z,440nm,7.0s
GTA LR LR
comp=Z,260nm,16.9s
GTA LR LR
comp=Z,420nm,16.4s
GTA LR LR
comp=Z,610nm,16.9s
HHC Hu-ho-hao-te 172.35 341 ePKP PKPdf 09 34 58.0 -0.3
HHC pPKP pPKPdf 09 35 09.0 -0.8
HHC sPKP 09 35 12.5
HHC PP PP 09 40 15.3 +1.9
HHC SKS SKSdf 09 41 57.0 -1.9
HHC SS SS 10 01 24.5 +3.4

HHC				AMB	AMB		
	comp=Z,270nm,6.1s						
HHC				LR	LR		
	comp=Z,150nm,20.9s						
HHC				LR	LR		
	comp=Z,290nm,19.0s						
HHC				LR	LR		
	comp=Z,560nm,19.9s						
GYA	**Guiyang**	**172.70**	**169**	PKP	**PKPdf**	**09 34 58.8**	**-0.1**
GYA				pPKP	**pPKPdf**	**09 35 10.0**	**-0.4**
GYA				PKPab	**PKPab**	**09 36 27.5**	**+3.0**
GYA				PKS	**PKSdf**	**09 38 29.8**	**-1.6**
GYA				PP	**PP**	**09 40 18.3**	**+3.4**
GYA				SKKS		09 47 01.0	
GYA				SS	**SS**	**10 01 25.5**	**+1.3**
GYA				AMB	AMB		
	comp=Z,140nm,8.5s						
GYA				LR	LR		
	comp=Z,130nm,21.6s						
GYA				LR	LR		
	comp=Z,120nm,21.8s						
GYA				LR	LR		
	comp=Z,140nm,24.4s						
CD2	**Chengdu**	**175.32**	**125**	PKP	**PKPdf**	**09 34 59.0**	**-0.6**
CD2				pPKP	**pPKPdf**	**09 35 10.3**	**-0.8**
CD2				sPKP		09 35 14.0	
CD2				PKS	**PKSdf**	**09 38 29.8**	**-2.1**
CD2				PP	**PP**	**09 40 31.5**	**+2.6**
CD2				SKS	**SKSdf**	**09 41 56.5**	**-3.6**
CD2				SKKS	**SKKSac**	**09 47 12.3**	**-0.3**
CD2				SS	**SS**	**10 01 49.8**	**-1.9**
CD2				AMB	AMB		
	comp=Z,240nm,6.4s						
LZH	**Lanzhou**	**175.65**	**55**	ePKP	**PKPdf**	**09 34 59.5**	**-0.2**
LZH				pPKP	**pPKPdf**	**09 35 11.0**	**-0.2**
LZH				sPKP		09 35 15.3	
LZH				PKPab	**PKPab**	**09 36 41.8**	**+4.1**
XAN	**Xi'an**	**179.31**	**304**	PKP	**PKPdf**	**09 34 59.8**	**-0.3**

IDC ***28*** *09:20:12.1±1.9, 8.91S×119.86E, h0km, mb4.0/3, mb1 4.1/5, mb1mx3.7/38, mbtmp3.9/5, ML3.5/2, Error ellipse: s-maj=133.4km s-min=23.9km az=52.0*
ISCJB ***28*** *09:20:18.7±0.5, 9.67S±0.06×119.40E±0.05, h100km, mb4.0/3, Error ellipse: s-maj=9.4km s-min=6.3km az=32.5*
DJA ***28*** *09:20:23.0±0.8, 10°S±7°×12°0E±°, h59km±8km, M4.1/7, MLv4.1/7*
ISC 28 09:20:20.2±0.7, **9.67S**±0.07×**119.45E**±0.05, **h100**km, **n22**, σ**2.47**/27, **mb4.0**/3, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.06**	**296**	P	**Pn**	**09 20 32.0**	**-2.2**
WBSI				S	**Sn**	**09 20 40.6**	**-4.0**
WSI	**Waingapu**	**0.84**	**90**	P	**Pn**	**09 20 38.1**	**-0.9**
WSI				S	**Sn**	**09 20 51.7**	**-1.4**
WSI	**Waingapu**	**0.84**	**90**	P	**Pn**	**09 20 38.0**	**-0.9**
	baz=0.8,SNR=14						
WSI				S	**Sn**	**09 20 51.4**	**-1.8**
	baz=0.8,SNR=9.6						
BASI	**Baing, Sumba**	**1.24**	**116**	P	**Pn**	**09 20 44.4**	**+1.0**
MMRI	**Maumere**	**2.94**	**70**	P	**Pn**	**09 21 05.0**	**-0.2**
BATI	**Baumata**	**4.19**	**98**	P	**Pn**	**09 21 23.8**	**+1.7**
BKSI	**Bulukumba**	**4.37**	**9**	P	**Pn**	**09 21 23.5**	**-1.0**
SOEI	**Soe**	**4.75**	**91**	P	**Pn**	**09 21 31.3**	**+1.5**
SOEI	**Soe**	**4.75**	**91**	P	**Pn**	**09 21 31.5**	**+1.7**
	baz=4.7,SNR=5.8						
JAGI	**Jajag, Banyuwa**	**5.36**	**282**	P	**Pn**	**09 21 36.7**	**-1.2**
	baz=5.3,SNR=5.3						
JAGI				S	**Sn**	**09 22 42.7**	**+4.3**
	baz=5.3,SNR=3.6						
FITZ	**Fitzroy Crossi**	**10.32**	**145**	P	**Pn**	**09 22 46.2**	**+0.9**
	baz=10,SNR=4.2						
FITZ				S	**Sn**	**09 24 35.4**	**-3.6**
	baz=10,SNR=4.1						
KNRA	**Kununurra**	**10.88**	**124**	P	**Pn**	**09 22 53.8**	**+0.8**
	baz=11,SNR=7.0						
MTN	**Manton Dam**	**11.89**	**106**	P	**Pn**	**09 23 06.4**	**-0.2**
	baz=12,SNR=5.2						
MTN				S	Sn	09 25 09.0	-8.4
	baz=12,SNR=6.9						
KDU	**Kakadu**	**13.13**	**104**	S	Sn	09 25 41.0	-6.4
	baz=13,SNR=3.6						
MEEK	**Meekatharra**	**16.90**	**183**	P	**P**	**09 24 14.7**	**+3.6**
	baz=17,SNR=16						
MEEK				S	Sn	09 27 09.6	-8.9
	baz=17,SNR=8.1						
WRA	**Warramunga Arr**	**17.64**	**127**	P	**Pn**	**09 24 21.6**	**+1.8**
	0.2nm,0.3s,baz=302,slow=13,SNR=8.3						
WRA				S	Sn	09 27 28.4	-8.1
	0.2nm,0.3s,baz=296,slow=23,SNR=5.1						
MORW	**Morawa**	**19.56**	**189**	P	P	09 24 50.7	+8.2
	baz=20,SNR=3.7						
MORW				S	**S**	**09 28 09.9**	**-5.9**
	baz=20,SNR=5.6						
ASAR	**Alice Springs**	**19.61**	**137**	P	**Pn**	**09 24 45.5**	**+2.3**
	0.2nm,0.3s,baz=315,slow=9.7,SNR=11						
ASAR				S	**S**	**09 28 19.9**	**+3.0**
	0.1nm,0.3s,baz=303,slow=22,SNR=4.5						
PSI	**Prapat**	**23.90**	**300**	S	**S**	**09 29 31.9**	**-2.7**
	baz=24,SNR=3.4						
CMAR	**Chiang Mai Arr**	**34.50**	**324**	P	**P**	**09 27 00.2**	**+1.2**
	1.4nm,0.3s,baz=155,slow=6.7,SNR=4.3						
SONM	**Songino Array**	**58.41**	**350**	P	**P**	**09 30 04.9**	**-0.5**
	0.9nm,0.7s,baz=162,slow=8.6,SNR=4.8						
MKAR	**Makanchi Array**	**65.25**	**333**	P	**P**	**09 30 51.4**	**+0.2**
	1.1nm,0.7s,baz=144,slow=7.0,SNR=5.3						

ISCJB ***28*** *09:22:40.1±1.0, 16.8S±0.3×179.3W±0.2, h533km, mb3.5/9, Error ellipse: s-maj=49.4km s-min=15.9km az=148.8*
IDC ***28*** *09:22:40.9±5.5, 16.95S×179.20W, h534km±60km, mb3.1/9, mb1 3.5/9, mb1mx3.1/38, mbtmp4.0/9, Error ellipse: s-maj=43.8km s-min=20.6km az=145.0*
ISC 28 09:22:40.7±1.1, **16.9S**±0.3×**179.2W**±0.2, **h533**km, **n13**, σ**0.71**/14, **mb3.6**/9, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.45**	**240**	P	**P**	**09 29 17.3**	**+0.3**
	1.9nm,0.5s,baz=98,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**44.06**	**259**	P	**P**	**09 30 01.0**	**-0.7**
	1.0nm,0.4s,baz=94,slow=8.3,SNR=11						
WRA				PcP	**PcP**	**09 31 35.3**	**-0.1**
	0.6nm,1.0s,baz=91,slow=3.1,SNR=4.6						
ASAR	**Alice Springs**	**44.33**	**253**	P	**P**	**09 30 03.7**	**-0.1**
	7.0nm,0.5s,baz=88,slow=8.0,SNR=110						
ASAR				PcP	**PcP**	**09 31 36.2**	**-0.2**
	0.6nm,0.7s,baz=116,slow=3.7,SNR=6.2						
MJAR	**Matsushiro Arr**	**66.64**	**324**	P	**P**	**09 32 39.6**	**+1.1**
	1.3nm,0.6s,baz=165,slow=6.4,SNR=6.3						
NVAR	**Mina Array Bea**	**79.24**	**44**	P	**P**	**09 33 51.6**	**+0.5**
	0.4nm,0.7s,baz=238,slow=8.4,SNR=3.5						
ILAR	**Eielson Array**	**85.08**	**13**	P	**P**	**09 34 19.1**	**-0.7**
	0.4nm,0.6s,baz=216,slow=5.4,SNR=8.4						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**09 34 26.7**	**+1.0**
	0.4nm,0.8s,baz=229,slow=5.5,SNR=3.4						
PDAR	**Pinedale Array**	**87.16**	**44**	P	**P**	**09 34 30.2**	**-0.2**
	0.5nm,0.5s,baz=216,slow=2.9,SNR=6.1						
YKA	**Yellowknife Ar**	**93.74**	**25**	P	**P**	**09 34 58.9**	**-1.2**
	0.3nm,0.6s,baz=233,slow=4.6,SNR=8.3						
ARCES	**ARCESS Array B**	**125.19**	**350**	PKP	**PKPdf**	**09 40 39.5**	**-0.5**
	2.0nm,0.8s,baz=35,slow=4.4,SNR=5.0						
FINES	**FINESS Array B**	**132.01**	**344**	PKP	**PKPdf**	**09 40 53.6**	**+0.4**
	1.7nm,0.9s,baz=132,slow=5.4,SNR=3.5						
BRTR	**Keskin Array B**	**143.53**	**315**	PKP	PKPbc	09 41 14.3	+0.5
	1.1nm,0.8s,baz=102,slow=3.3,SNR=5.8						
GERES	**GERESS Array B**	**146.44**	**345**	PKPbc	**PKPbc**	**09 41 22.2**	**+0.1**
	0.6nm,0.5s,baz=352,slow=1.9,SNR=7.5						

IDC ***28*** *09:26:36.3±1.0, 34.38S×73.41W, h0km, mb4.3/7, mb1 4.3/7, mb1mx4.0/35, mbtmp4.3/7, ML2.8/1, Error ellipse: s-maj=32.5km s-min=21.0km az=105.0*
ISCJB ***28*** *09:26:39.6±0.9, 34.4S±0.1×73.3W±0.1, h33km, mb4.2/7, Error ellipse: s-maj=18.6km s-min=10.9km az=44.2*
NEIC ***28*** *09:26:41.5±0.5, 34.41S×73.40W, h35km, mb4.7/2, Error ellipse: s-maj=12.5km s-min=10.6km az=105.0*
ISC 28 09:26:41.5±0.9, **34.4S**±0.1×**73.4W**±0.1, **h35**km, **n17**, σ**0.71**/17, **mb4.3**/7, **2C**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.16**	**59**	Pn	**Pn**	**09 27 55.7**	**-0.6**
	0.3nm,0.3s,baz=241,slow=10,SNR=4.7						
CFAA				Sn	**Sn**	**09 28 55.0**	**+0.4**
	0.5nm,0.3s,baz=248,slow=13,SNR=4.0						
TRQA	**Tornquist**	**9.93**	**115**	ePn	**Pn**	**09 29 01.6**	**-0.2**
	9.2nm,0.6s						
SIV	**San Ignacio**	**21.42**	**34**	P	**P**	**09 31 27.6**	**+1.0**
	4.3nm,0.9s,baz=227,slow=12,SNR=4.3						
SNAA	**Sanae**	**51.66**	**158**	P	**P**	**09 35 44.7**	**+0.3**
	3.3nm,0.8s,baz=290,slow=8.6,SNR=9.3						
QSPA	**South Pole Qui**	**55.84**	**180**	P	**P**	**09 36 15.9**	**+0.7**
	6.6nm,0.9s,baz=144,slow=6.7,SNR=13						
QSPA	**South Pole Qui**	**55.84**	**180**	eP	**P**	**09 36 15.0**	**-0.2**
	11nm,1.1s						
TXAR	**Lajitas Array**	**69.53**	**332**	P	**P**	**09 37 46.6**	**-0.1**
	0.7nm,0.8s,baz=148,slow=9.4,SNR=7.0						
DBIC	**Dimbokro**	**76.38**	**72**	P	**P**	**09 38 27.4**	**-0.1**
	5.6nm,0.8s,baz=234,slow=7.2,SNR=5.7						
DBIC	**Dimbokro**	**76.38**	**72**	eP	**P**	**09 38 27.6**	**0.0**
	6.5nm,0.8s						
BOSA	**Boshof**	**80.89**	**118**	P	**P**	**09 38 52.0**	**-0.4**
	3.5nm,0.9s,baz=246,slow=6.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**85.42**	**71**	P	**P**	**09 39 15.6**	**-0.1**
	2.2nm,0.8s,baz=247,slow=4.1,SNR=11						
ABTA	**Abfaltersbach**	**111.58**	**48**	⇑ipPdiff	pPdif	09 41 27.5	+2.0
	4.5nm,0.7s						
CONA	**Conrad Observa**	**114.15**	**47**	⇑iPdiff	**Pdif**	**09 41 23.6**	**-2.0**
	3.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**124.74**	**202**	ePKPdf	**PKPdf**	**09 45 37.6**	**-0.4**
BRVK	**Borovoye**	**148.27**	**43**	ePKPbc	**PKPbc**	**09 46 23.9**	**+0.6**
ZALV	**Zalesovo Beam**	**155.16**	**31**	PKPbc	PKPdf	09 46 38.9	+8.6
	0.7nm,0.6s,baz=336,slow=3.3,SNR=4.7						
ZALV				PKPab	**PKPab**	**09 46 55.4**	**+0.3**
	0.3nm,0.4s,baz=289,slow=4.5,SNR=4.3						
MKAR	**Makanchi Array**	**157.88**	**49**	PKPab	**PKPab**	**09 47 07.0**	**-0.2**
	0.6nm,0.9s,baz=276,slow=2.2,SNR=4.7						

IDC ***28*** *09:26:51.5±1.7, 39.19S×73.54W, h0km, mb4.1/7, mb1 4.2/7, mb1mx3.9/35, mbtmp4.1/7, Error ellipse: s-maj=44.4km s-min=34.9km az=23.0*
ISC 28 09:26:57.2±1.9, **39.1S**±0.3×**73.5W**±0.3, **h35**km, **n9**, σ**0.73**/9, **mb4.2**/7, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**23.20**	**13**	P	**P**	**09 32 01.7**	**+0.1**
	5.1nm,0.6s,baz=193,slow=8.5,SNR=7.6						
SIV	**San Ignacio**	**25.45**	**29**	P	**P**	**09 32 22.7**	**+0.7**
	2.0nm,0.6s,baz=191,slow=10,SNR=2.6						
BDFB	**Brasilia**	**32.31**	**51**	P	**P**	**09 33 22.9**	**-0.2**
	5.7nm,1.0s,baz=207,slow=8.9,SNR=4.0						
TXAR	**Lajitas Array**	**73.66**	**333**	P	**P**	**09 38 26.7**	**-0.5**
	0.5nm,0.8s,baz=158,slow=10,SNR=3.6						
DBIC	**Dimbokro**	**77.92**	**71**	P	**P**	**09 38 51.9**	**+0.1**
	2.3nm,0.5s,baz=192,slow=6.6,SNR=4.9						
ANMO	**Albuquerque**	**79.73**	**333**	P	**P**	**09 39 01.6**	**+0.1**
	0.5nm,0.8s,baz=129,slow=6.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**87.02**	**71**	P	**P**	**09 39 38.9**	**-0.3**
	2.1nm,0.6s,baz=228,slow=4.6,SNR=17						
BVAR	**Borovoye Array**	**151.66**	**49**	PKPbc	**PKPbc**	**09 46 48.4**	**+1.3**
	0.9nm,0.6s,baz=310,slow=5.0,SNR=4.5						
MKAR	**Makanchi Array**	**160.72**	**52**	PKPab	**PKPab**	**09 47 34.4**	**-0.8**
	0.4nm,0.6s,baz=276,slow=3.7,SNR=4.8						

IDC ***28*** *09:28:50.5±0.9, 38.19S×73.25W, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.2/19, mbtmp4.2/11, ML4.9/1, MS4.1/3, Ms1 4.1/3, ms1mx3.6/30, Error ellipse: s-maj=28.7km s-min=18.8km az=78.0*
NEIC ***28*** *09:28:55.8±0.6, 38.13S×73.44W, h35km, mb4.6/8, Error ellipse: s-maj=16.4km s-min=12.4km az=64.0*
ISC 28 09:28:55.2±0.7, **38.26S**±0.09×**73.1W**±0.2, **h33**km, **n32**, σ**0.90**/26, **mb4.4**/15, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.18**	**142**	Pg	**Pb**	**09 29 50.4**	**-0.7**
	21nm,0.3s,baz=314,slow=10,SNR=3.1						
PLCA	**Paso Flores**	**3.18**	**142**	ePn	**Pb**	**09 29 49.4**	**-1.7**
CFAA	**Coronel Fontan**	**7.76**	**33**	LR	LR	09 33 38.2	
	comp=Z,48nm,20.0s,baz=212,slow=37						
TRQA	**Tornquist**	**8.79**	**92**	ePn	Pn	09 31 05.0	+5.0
	41nm,1.0s						
CPUP	**Villa Florida**	**17.86**	**53**	P	**P**	**09 33 02.0**	**+0.4**
	0.9nm,0.3s,baz=201,slow=13,SNR=4.9						
CPUP				LR	LR	09 39 24.0	
	comp=Z,306nm,20.9s,baz=222,slow=35						
CPUP	**Villa Florida**	**17.86**	**53**	eP	**P**	**09 33 01.8**	**+0.2**
	1.1nm,0.9s						
LPAZ	**La Paz**	**22.33**	**13**	P	**P**	**09 33 50.6**	**-0.2**
	2.7nm,0.7s,baz=184,slow=13,SNR=2.6						
LPAZ	**La Paz**	**22.33**	**13**	eP	**P**	**09 33 52.9**	**+2.1**
	7.8nm,0.8s						
SIV	**San Ignacio**	**24.60**	**29**	P	**P**	**09 34 11.9**	**-0.6**
	6.1nm,0.9s,baz=223,slow=12,SNR=5.5						
BDFB	**Brasilia**	**31.58**	**51**	P	**P**	**09 35 15.0**	**+0.1**
	4.3nm,0.9s,baz=188,slow=14,SNR=2.9						
RPN	**Rapa Nui**	**32.23**	**279**	LR	LR	09 44 24.1	
	comp=Z,498nm,18.6s,baz=356,slow=29						
SDV	**Santo Domingo**	**46.96**	**3**	eP	**P**	**09 37 22.0**	**-1.2**
	6.8nm,0.9s						
SNAA	**Sanae**	**48.02**	**156**	P	**P**	**09 37 31.8**	**+1.1**
	6.4nm,1.3s,baz=250,slow=5.7,SNR=6.5						
QSPA	**South Pole Qui**	**51.98**	**180**	P	**P**	**09 38 01.8**	**+0.8**
	3.5nm,1.0s,baz=150,slow=5.6,SNR=3.2						
QSPA	**South Pole Qui**	**51.98**	**180**	eP	**P**	**09 38 02.0**	**+0.9**
	7.8nm,1.1s						
TXAR	**Lajitas Array**	**73.05**	**332**	P	**P**	**09 40 21.8**	**-0.1**
	1.2nm,0.9s,baz=153,slow=8.9,SNR=7.1						
SWET	**Sewanee**	**74.06**	**349**	eP	**P**	**09 40 27.0**	**-0.7**
	8.0nm,0.7s						
WVT	**Waverly**	**75.26**	**348**	eP	**P**	**09 40 33.9**	**-0.6**
	4.6nm,0.8s						
DBIC	**Dimbokro**	**77.40**	**71**	P	**P**	**09 40 48.1**	**+0.9**
	10.0nm,0.8s,baz=184,slow=7.1,SNR=9.3						
DBIC	**Dimbokro**	**77.40**	**71**	eP	**P**	**09 40 48.5**	**+1.3**
	37nm,1.4s						
ACSO	**Alum Creek Sta**	**78.63**	**352**	eP	**P**	**09 40 52.8**	**-0.6**
	7.2nm,0.7s						
TSUM	**Tsumeb**	**78.92**	**106**	LR	LR	10 09 10.4	
	comp=Z,178nm,20.6s,baz=2.0,slow=31						
ANMO	**Albuquerque**	**79.12**	**333**	P	**P**	**09 40 56.8**	**+0.3**
	0.5nm,0.7s,baz=158,slow=6.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**86.49**	**70**	P	**P**	**09 41 35.2**	**+0.3**
	4.3nm,1.0s,baz=230,slow=4.2,SNR=9.2						
HWUT	**Hardware Ranch**	**86.87**	**332**	eP	P	09 41 38.2	+1.8
	1.8nm,0.7s						
PDAR	**Pinedale Array**	**87.17**	**334**	P	**P**	**09 41 37.8**	**-0.2**
	0.5nm,0.8s,baz=145,slow=4.5,SNR=3.8						
GERES	**GERESS Array B**	**115.74**	**47**	PKP	**PKPdf**	**09 47 33.8**	**0.0**
	0.2nm,0.5s,baz=266,slow=3.9,SNR=3.2						
WRAB	**Tennant Creek**	**116.62**	**209**	ePKPdf	**PKPdf**	**09 47 36.0**	**-0.4**
TIXI	**Tiksi**	**144.69**	**348**	ePKPdf	PKPbc	09 48 24.8	-1.4
ABKAR	**Akbulak array**	**144.90**	**56**	ePKPdf	**PKPdf**	**09 48 27.2**	**-1.1**
BVAR	**Borovoye Array**	**150.91**	**48**	PKPbc	**PKPbc**	**09 48 44.6**	**+0.8**
	1.8nm,0.8s,baz=289,slow=4.5,SNR=6.5						
ZALV	**Zalesovo Beam**	**158.23**	**37**	PKP	**PKPdf**	**09 48 47.7**	**-0.5**
	1.1nm,0.7s,baz=300,slow=2.8,SNR=4.4						

IDC ***28*** *09:31:49.4±0.9, 36.94S×72.34W, h0km, mb4.0/10, mb1 4.1/11, mb1mx4.1/19, mbtmp4.0/11, ML3.7/1, Error ellipse: s-maj=34.4km s-min=19.0km az=83.0*
ISCJB ***28*** *09:31:52.8±0.6, 37.03S±0.07×72.5W±0.1, h35km, mb4.0/10, Error ellipse: s-maj=17.3km s-min=8.5km az=15.3*
NEIC ***28*** *09:31:54.1±0.6, 37.06S×72.55W, h35km, mb4.4/3, Error ellipse: s-maj=18.9km s-min=10.4km az=92.0*
ISC 28 09:31:54.2±0.7, **37.05S**±0.08×**72.5W**±0.1, **h35**km, **n25**, σ**0.95**/23, **mb4.0**/10, **Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.99**	**158**	Pn	**Pn**	**09 32 52.6**	**-0.3**
	1.1nm,0.3s,baz=355,slow=12,SNR=1.5						
PLCA	**Paso Flores**	**3.99**	**158**	ePn	**Pn**	**09 32 51.6**	**-1.4**
CFAA	**Coronel Fontan**	**6.48**	**34**	Pn	**Pn**	**09 33 28.2**	**+1.1**
	0.5nm,0.3s,baz=189,slow=13,SNR=6.4						
CFAA				Sn	**Sn**	**09 34 41.1**	**+1.2**
	0.4nm,0.3s,baz=5.4,slow=9.4,SNR=3.3						
TRQA	**Tornquist**	**8.43**	**100**	ePn	Pn	09 33 46.7	-7.2
	6.5nm,1.1s						
CPUP	**Villa Florida**	**16.75**	**55**	eP	**P**	**09 35 47.9**	**-0.1**
	0.5nm,0.8s						
LPAZ	**La Paz**	**21.04**	**12**	P	**P**	**09 36 34.4**	**-1.4**
	2.5nm,0.7s,baz=184,slow=8.9,SNR=3.4						
LPAZ	**La Paz**	**21.04**	**12**	eP	**P**	**09 36 36.3**	**+0.5**
	9.4nm,1.0s						
SIV	**San Ignacio**	**23.30**	**29**	P	**P**	**09 36 57.8**	**-1.3**
	7.0nm,0.9s,baz=234,slow=9.2,SNR=6.3						
SDV	**Santo Domingo**	**45.72**	**3**	eP	**P**	**09 40 10.8**	**-1.4**
SNAA	**Sanae**	**48.93**	**157**	P	**P**	**09 40 37.6**	**+1.1**
	1.0nm,0.8s,baz=270,slow=12,SNR=3.6						
QSPA	**South Pole Qui**	**53.20**	**180**	P	**P**	**09 41 09.9**	**+1.3**
	2.3nm,0.8s,baz=317,slow=1.8,SNR=7.3						
QSPA	**South Pole Qui**	**53.20**	**180**	eP	**P**	**09 41 10.0**	**+1.3**
	5.8nm,1.1s						
TXAR	**Lajitas Array**	**72.21**	**332**	P	**P**	**09 43 15.7**	**0.0**
	0.4nm,0.6s,baz=144,slow=11,SNR=4.2						
DBIC	**Dimbokro**	**76.53**	**71**	P	**P**	**09 43 41.0**	**-0.1**
	4.5nm,0.5s,baz=193,slow=4.6,SNR=8.1						
DBIC	**Dimbokro**	**76.53**	**71**	eP	**P**	**09 43 40.8**	**-0.3**
	5.7nm,0.7s						
BOSA	**Boshof**	**79.01**	**117**	P	**P**	**09 43 55.0**	**0.0**
	3.0nm,0.8s,baz=245,slow=8.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**85.61**	**70**	P	**P**	**09 44 28.5**	**-0.9**
	1.3nm,0.7s,baz=232,slow=4.5,SNR=6.0						
NVAR	**Mina Array Bea**	**86.17**	**326**	P	**P**	**09 44 32.7**	**+0.8**
	0.2nm,0.4s,baz=164,slow=7.5,SNR=2.5						
PDAR	**Pinedale Array**	**86.31**	**334**	P	**P**	**09 44 33.1**	**+0.6**
	0.3nm,0.9s,baz=163,slow=3.5,SNR=3.1						
ABKAR	**Akbulak array**	**143.81**	**55**	ePKPdf	PKPbc	09 51 22.7	-0.2
BRVK	**Borovoye**	**149.65**	**46**	ePKPbc	**PKPbc**	**09 51 38.5**	**-0.9**
AAK	**Ala-Archa**	**154.17**	**67**	ePKPab	**PKPab**	**09 52 04.2**	**-0.1**
KURK	**Kurchatov**	**155.30**	**47**	ePKPbc	PKPdf	09 51 52.9	+10
ZALV	**Zalesovo Beam**	**156.97**	**36**	PKPab	**PKPab**	**09 52 15.4**	**-0.2**
	0.3nm,0.3s,baz=335,slow=6.4,SNR=3.9						
MKAR	**Makanchi Array**	**158.95**	**55**	PKPab	**PKPab**	**09 52 24.0**	**-0.5**
	1.1nm,0.8s,baz=300,slow=3.2,SNR=4.1						

ISCJB ***28*** *09:35:03.0±1.3, 34.33S±0.09×179.2W±0.2, h10km, mb3.8/3, Error ellipse: s-maj=27.1km s-min=9.4km az=19.9*
IDC ***28*** *09:35:04.3±1.8, 34.24S×179.30W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/38, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=40.2km s-min=30.9km az=79.0*
ISC 28 09:35:04.9±1.5, **34.3S**±0.1×**179.2W**±0.2, **h10**km, **n20**, σ**1.09**/24, **mb3.9**/3, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.82**	**211**	PN	**Pn**	**09 36 03.5**	**-0.4**
MXZ				SN	**Sn**	**09 36 49.7**	**+0.9**
WMGZ	**Waiomatatini S**	**4.00**	**208**	PN	**Pn**	**09 36 06.2**	**0.0**
WMGZ				SN	**Sn**	**09 36 54.0**	**+0.8**
PUZ	**Puketiti**	**4.28**	**207**	PN	**Pn**	**09 36 09.2**	**-1.0**
PUZ				SN	**Sn**	**09 36 59.9**	**-0.3**
TWGZ	**Tauwhareparae**	**4.48**	**209**	PN	**Pn**	**09 36 12.3**	**-0.6**
TWGZ				SN	**Sn**	**09 37 05.0**	**-0.1**
CNGZ	**Carnagh Statio**	**4.66**	**205**	PN	**Pn**	**09 36 14.4**	**-1.0**
MWZ	**Matawai**	**4.81**	**212**	PN	**Pn**	**09 36 16.6**	**-0.8**
OPRZ	**Ohinepanea**	**4.92**	**223**	PN	**Pn**	**09 36 17.6**	**-1.2**
URZ	**Urewera**	**4.94**	**216**	Pn	**Pn**	**09 36 19.6**	**+0.5**
	4.5nm,0.3s,baz=271,slow=3.7,SNR=40						
URZ				Sn	**Sn**	**09 37 16.1**	**-0.1**
	3.2nm,0.3s,baz=322,slow=24,SNR=6.9						
URZ	**Urewera**	**4.94**	**216**	PN	**Pn**	**09 36 19.3**	**+0.2**
RIGZ	**Rimuhau**	**5.02**	**208**	PN	**Pn**	**09 36 19.4**	**-1.0**
SNGZ	**Shannon Statio**	**5.26**	**211**	PN	**Pn**	**09 36 23.1**	**-0.5**
KNZ	**Kokohu**	**5.33**	**207**	PN	**Pn**	**09 36 23.5**	**-1.0**
KAHZ	**Kahuranaki**	**6.31**	**208**	PN	**Pn**	**09 36 35.3**	**-2.7**
BHHZ	**Black Hill Sta**	**6.41**	**215**	PN	**Pn**	**09 36 37.9**	**-1.5**
PXZ	**Pawanui**	**6.52**	**207**	PN	Pn	09 36 36.9	-3.9
ASAR	**Alice Springs**	**42.02**	**272**	P	**P**	**09 42 57.2**	**+0.6**
	1.7nm,0.7s,baz=112,slow=7.4,SNR=21						
WRA	**Warramunga Arr**	**43.36**	**277**	P	**P**	**09 43 08.1**	**+0.6**
	1.1nm,0.5s,baz=117,slow=7.7,SNR=31						
QSPA	**South Pole Qui**	**55.83**	**180**	P	**P**	**09 44 43.7**	**+1.5**
	0.4nm,0.5s,baz=59,slow=7.2,SNR=3.0						
JOF	**Joensuu**	**145.59**	**336**	ep	**PKPbc**	**09 54 40.8**	**-1.9**
	2.1nm,0.6s						
FINES	**FINESS Array B**	**148.37**	**337**	PKPbc	**PKPbc**	**09 54 50.5**	**-0.2**
	3.9nm,0.9s,baz=58,slow=5.4,SNR=7.9						

IDC ***28*** *09:38:07.6±0.8, 7.02S×154.97E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.1/22, mbtmp4.1/12, ML3.4/2, MS3.6/7, Ms1 3.6/7, ms1mx3.4/37, Error ellipse: s-maj=31.4km s-min=20.0km az=119.0*
ISCJB ***28*** *09:38:12.6±0.7, 7.0S±0.1×154.77E±0.09, h41km, mb4.0/12, MS3.8/4, Error ellipse: s-maj=18.4km s-min=9.5km az=144.7*
NEIC ***28*** *09:38:13.1±0.6, 7.07S×154.96E, h35km, mb4.2/4, Error ellipse: s-maj=21.0km s-min=11.1km az=127.0*
ISC 28 09:38:13.9±0.7, **7.1S**±0.1×**154.9E**±0.1, **h41**km, **n25**, σ**0.97**/23, **mb4.0**/12, **MS3.7**/4, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.55**	**115**	LR	LR	09 41 25.2	
	comp=Z,346nm,18.9s,baz=271,slow=36						
PMG	**Port Moresby**	**7.98**	**252**	Pn	**Pn**	**09 40 06.6**	**-0.9**
	0.8nm,0.3s,baz=77,slow=18,SNR=3.4						
PMG				Sn	**Sn**	**09 41 36.0**	**-0.6**
	baz=97,slow=18,SNR=2.2						
PMG				LR	LR	09 42 56.3	
	comp=Z,179nm,21.8s,baz=64,slow=36						
PMG	**Port Moresby**	**7.98**	**252**	ePn	**Pn**	**09 40 08.1**	**+0.6**
	13nm,0.6s						
PMG				Sn	**Sn**	**09 41 36.0**	**-0.6**
CTA	**Charters Tower**	**15.42**	**212**	Pn	**Pn**	**09 41 48.0**	**-0.7**
	0.3nm,0.3s,baz=37,slow=10,SNR=5.2						
DZM	**Mont Dzumac**	**18.64**	**144**	LR	LR	09 48 15.1	
	comp=Z,201nm,20.6s,baz=42,slow=33						
WRAB	**Tennant Creek**	**23.67**	**235**	eP	**P**	**09 43 22.2**	**+0.3**
	6.5nm,1.0s						
WRA	**Warramunga Arr**	**23.68**	**235**	P	**P**	**09 43 21.1**	**-1.0**
	1.7nm,0.7s,baz=60,slow=9.5,SNR=15						
WRA				PcP	**PcP**	**09 47 06.2**	**+0.4**
	0.6nm,0.5s,baz=60,slow=2.5,SNR=6.9						
ASAR	**Alice Springs**	**26.04**	**228**	LR	LR	09 51 50.6	
	comp=Z,145nm,19.9s,baz=120,slow=32						
STKA	**Stephens Creek**	**27.63**	**205**	P	**P**	**09 43 57.9**	**+0.1**
	2.1nm,0.6s,baz=355,slow=11,SNR=3.5						
STKA				LR	LR	09 55 12.4	
	comp=Z,266nm,19.0s,baz=45,slow=37						
STKA	**Stephens Creek**	**27.63**	**205**	eP	**P**	**09 43 58.0**	**+0.3**
	2.4nm,1.2s						
FITZ	**Fitzroy Crossi**	**30.52**	**246**	eP	**P**	**09 44 24.9**	**+1.3**
	5.6nm,1.0s						
JOW	**Kunigami**	**42.42**	**324**	LR	LR	10 02 23.5	
	comp=Z,30nm,18.5s,baz=76,slow=34						
CMAR	**Chiang Mai Arr**	**60.70**	**296**	P	**P**	**09 48 23.4**	**+1.7**
	1.2nm,0.3s,baz=105,slow=4.9,SNR=4.2						
SONM	**Songino Array**	**69.33**	**327**	P	**P**	**09 49 16.9**	**-0.5**
	0.7nm,0.6s,baz=139,slow=6.3,SNR=4.0						
QSPA	**South Pole Qui**	**82.92**	**180**	P	**P**	**09 50 34.4**	**+0.1**
	2.3nm,0.6s,baz=22,slow=1.1,SNR=18						
QSPA	**South Pole Qui**	**82.92**	**180**	eP	**P**	**09 50 34.4**	**+0.1**
	4.1nm,1.0s						
MKAR	**Makanchi Array**	**83.37**	**319**	P	**P**	**09 50 37.1**	**+0.2**
	1.0nm,0.8s,baz=100,slow=4.2,SNR=5.9						
ILAR	**Eielson Array**	**83.48**	**22**	P	**P**	**09 50 35.0**	**-2.0**
	0.3nm,0.4s,baz=238,slow=5.5,SNR=16						
ZALV	**Zalesovo Beam**	**84.17**	**326**	P	**P**	**09 50 39.9**	**-0.9**
	0.5nm,0.5s,baz=104,slow=4.6,SNR=3.1						
NVAR	**Mina Array Bea**	**91.86**	**52**	P	**P**	**09 51 19.1**	**+0.7**
	0.4nm,0.5s,baz=262,slow=5.4,SNR=3.9						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**09 51 38.2**	**-0.3**
	1.4nm,0.9s,baz=266,slow=4.5,SNR=12						
AKTO	**Aktyubinsk**	**99.77**	**320**	LR	LR	10 37 04.6	
	comp=Z,175nm,21.7s,baz=284,slow=35						
NOA	**NORSAR Array B**	**119.72**	**341**	PKP	**PKPdf**	**09 57 01.2**	**+1.8**
	0.8nm,0.9s,baz=41,slow=2.0,SNR=2.6						
GERES	**GERESS Array B**	**127.05**	**329**	PKP	**PKPdf**	**09 57 14.4**	**+0.5**
	0.3nm,0.6s,baz=28,slow=2.7,SNR=2.6						
TORD	**Torodi Ar. Bea**	**152.93**	**285**	PKPbc	**PKPbc**	**09 58 06.8**	**-1.1**
	1.1nm,0.7s,baz=78,slow=2.6,SNR=8.3						

IDC ***28*** *09:44:55.9±1.2, 37.55S×73.62W, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.0/18, mbtmp3.9/7, ML4.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.8/26, Error ellipse: s-maj=37.7km s-min=22.9km az=93.0*
ISCJB ***28*** *09:44:57.8±0.9, 37.51S±0.09×73.7W±0.2, h23km, mb4.0/8, Error ellipse: s-maj=19.3km s-min=12.8km az=177.4*
NEIC ***28*** *09:45:00.7±0.8, 37.53S×73.77W, h35km, mb3.4/5, Error ellipse: s-maj=20.3km s-min=12.3km az=85.0*

ISC 28 09:44:59.7±0.9, 37.40S±0.09×73.6W±0.2, h23km, n23, σ1.35/20, mb4.1/8, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.08 146 Pg Pb 09 46 07.0 -3.9
baz=319,slow=11,SNR=0.9
PLCA Paso Flores 4.08 146 Pn **Pn 09 45 59.6 -1.2**
CFAA Coronel Fontan 7.28 39 LR LR 09 50 01.9
comp=Z,76nm,20.8s,baz=230,slow=41
TRQA Tornquist 9.22 98 *e*Pn Pn 09 47 14.8 +3.4
LVC Limon Verde 15.28 17 *e*P **P 09 48 38.4 -0.6**
3.9nm,0.8s
CPUP Villa Florida 17.65 56 P **Pn 09 49 04.3 +0.1**
0.2nm,0.3s,baz=237,slow=6.1,SNR=3.1
USHA Ushuaia 17.79 170 P **P 09 49 09.7 +3.5**
0.2nm,0.3s,baz=339,slow=14,SNR=3.3
LPAZ La Paz 21.58 14 P **P 09 49 49.0 +0.5**
4.5nm,0.9s,baz=154,slow=8.8,SNR=5.4
LPAZ La Paz 21.58 14 *e*P **P 09 49 48.9 +0.5**
7.8nm,0.8s
SIV San Ignacio 24.03 31 P **P 09 50 15.7 +2.6**
1.2nm,0.7s,baz=220,slow=17,SNR=3.2
SAML Samuel 29.85 21 *e*P **P 09 51 04.1 -1.3**
7.3nm,1.6s
BDFB Brasilia 31.34 53 P **P 09 51 20.6 +1.9**
0.7nm,0.4s,baz=207,slow=16,SNR=2.5
SNAA Sanae 48.94 157 *e*P **P 09 53 42.7 -1.0**
8.6nm,0.9s
QSPA South Pole Qui 52.84 180 P **P 09 54 13.3 +0.1**
3.3nm,0.8s,baz=129,slow=5.1,SNR=4.4
QSPA South Pole Qui 52.84 180 *e*P **P 09 54 13.1 -0.1**
7.5nm,1.2s
TXAR Lajitas Array 72.13 333 P **P 09 56 22.9 +0.5**
0.7nm,0.9s,baz=141,slow=5.8,SNR=2.7
TORD Torodi Ar. Bea 86.54 71 P **P 09 57 40.5 -0.7**
1.3nm,0.9s,baz=236,slow=4.4,SNR=5.4
ABKAR Akbulak array 144.72 55 *e*PKPdf **PKPab 10 04 32.2 -0.6**
BRVK Borovoye 150.51 46 *e*PKPdf **PKPdf 10 04 43.2 -0.3**
BVAR Borovoye Array 150.59 46 PKPbc **PKPbc 10 04 48.2 -0.8**
0.8nm,0.5s,baz=325,slow=2.3,SNR=4.4
AAK Ala-Archa 155.09 68 *e*PKPab **PKPab 10 05 15.7 +0.2**
ZALV Zalesovo Beam 157.75 35 PKPab **PKPab 10 05 25.3 -1.0**
0.4nm,0.4s,baz=291,slow=4.3,SNR=3.3
MKAR Makanchi Array 159.86 55 PKPab **PKPab 10 05 34.9 -0.8**
1.3nm,1.2s,baz=292,slow=4.5,SNR=3.9

SJA 28 09:53:00.1±0.0, 24.97S×65.58W, h3km±5km, ML4.0
ISCJB 28 09:53:01.6±0.7, 24.81S±0.03×65.62W±0.07, h25km±5km, mb4.4/35, Error ellipse: s-maj=11.4km s-min=4.6km az=179.7
IDC 28 09:53:03.9±3.7, 24.85S×65.51W, h33km±28km, mb3.9/9, mb1 4.1/14, mb1mx4.0/31, mbtmp4.1/14, ML4.2/5, Error ellipse: s-maj=21.4km s-min=14.6km az=79.0
NEIC 28 09:53:04.5±0.6, 24.86S×65.42W, h39km±6km, mb4.6/23, MD4.4(SJA), Error ellipse: s-maj=9.2km s-min=5.7km az=78.0
NEIC Felt [IV] at Salta.
ISC 28 09:53:05.0±0.9, 24.89S±0.04×65.52W±0.07, h43km±9km, n319, σ0.76/323, mb4.5/35, 127C-131D, Salta Province

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SLA San Lorenzo 0.17 6 *e*P Pn 09 53 06.0 -6.6
SLA *e*S Sn 09 53 10.0 -7.8
AZAP Zapla 0.78 32 *e*P **Pn 09 53 18.3 -1.5**
AZAP *e*S **Sn 09 53 31.8 +1.2**
AZAP AML AML 09 53 42.0
comp=Z,6µm,0.6s
FSA Cafayete 1.28 200 *e*P **Pn 09 53 24.3 -2.3**
FSA *e*S **Sn 09 53 41.2 -1.5**
ALOL LOMAS DE OLMED 1.77 53 *e*P **Pn 09 53 35.5 +2.3**
ALOL *e*P **Pn 09 53 35.5 +2.3**
AHML Horco Molle 1.90 175 *e*P **Pn 09 53 35.2 +0.3**
AHML *i* S **Sn 09 53 59.7 +2.0**
YJA Yavi 2.70 0 *e*P Pn 09 53 49.6 +3.3
CYA Choya 3.55 184 *e*P **Pn 09 53 58.0 +0.4**
LVC Limon Verde 3.84 305 *e*Pn **Pn 09 54 02.5 +0.7**
CFAA Coronel Fontan 7.11 199 Pn **Pn 09 54 44.6 -1.9**
comp=Z,0.6nm,0.3s,baz=21,slow=14,SNR=5.2
CFAA Lg Lg 09 56 42.3
comp=Z,0.5nm,0.3s,baz=262,slow=9.7,SNR=5.3
CPUP Villa Florida 7.54 103 Pn **Pn 09 54 52.5 +0.1**
comp=Z,3.6nm,0.3s,baz=250,slow=10,SNR=14
CPUP Lg Lg 09 57 04.3
comp=Z,18nm,0.3s,baz=344,slow=18,SNR=5.0
CPUP Villa Florida 7.54 103 *e*Pn **Pn 09 54 52.4 +0.1**
comp=Z,1.7nm,0.4s
CPUP Lg Lg 09 57 04.3
LPAZ La Paz 8.90 344 Pn **Pn 09 55 11.6 0.0**
comp=Z,0.4nm,0.3s,baz=153,slow=8.4,SNR=3.8
LPAZ Sn **Sn 09 56 51.5 +0.6**
comp=Z,0.2nm,0.3s,baz=236,slow=13,SNR=4.2
LPAZ La Paz 8.90 344 *e*Pn **Pn 09 55 12.6 +1.0**
comp=Z,6.0nm,0.7s
LPAZ Sn **Sn 09 56 51.5 +0.6**
SIV San Ignacio 9.78 26 Pn **Pn 09 55 21.3 -1.9**
comp=Z,3.4nm,0.3s,baz=240,slow=8.1,SNR=47
SIV Sn **Sn 09 57 09.4 -2.4**
comp=Z,1.8nm,0.3s,baz=307,slow=19,SNR=3.3
TRQA Tornquist 13.47 168 *e*Pn **Pn 09 56 12.4 -1.1**
SAML Samuel 16.01 8 *e*P **Pn 09 56 44.8 -2.3**
comp=Z,3.6nm,0.5s
SAML *e*S **Sn 09 59 40.6 -3.1**
PLCA Paso Flores 16.35 194 Pn **P 09 56 53.5 -0.4**
comp=Z,0.4nm,0.3s,baz=307,slow=3.8,SNR=3.4
BDFB Brasilia 18.81 64 P **Pn 09 57 24.6 +2.6**
comp=Z,0.2nm,0.3s,baz=225,slow=10.0,SNR=2.1
ATAH Athualpa 21.52 323 P **P 09 57 53.5 +2.6**
comp=Z,1.9nm,0.5s,baz=124,slow=14,SNR=4.8
OTAV Otavalo 27.94 331 *e*P **P 09 58 53.2 +1.3**
comp=Z,2.3nm,0.7s
SDV Santo Domingo 33.94 351 *e*P **P 09 59 43.0 -1.4**
comp=Z,12nm,1.0s
FDF Fort de France 39.61 7 *e*P **P 10 00 32.4 -0.1**
comp=Z,30nm,0.7s
APG El Apazote 46.52 326 P P 10 01 25.0 -3.6
comp=Z,5.0nm,0.9s,baz=162,slow=11,SNR=4.2
SNAA Sanae 58.07 161 P **P 10 02 53.2 -0.3**
comp=Z,0.7nm,0.8s,baz=278,slow=14,SNR=3.1
936A North Padre Is 60.36 327 ⇑P **P 10 03 10.6 +0.8**
baz=61
933A Laredo 61.50 326 ⇑P **P 10 03 18.1 +0.5**
baz=62
KMSC Kings Mountain 61.55 345 ⇓P **P 10 03 18.5 +0.8**
834A Tilden 61.56 327 ⇓P **P 10 03 18.4 +0.6**
baz=62
735A Kenedy 61.80 328 ⇓P **P 10 03 20.1 +0.6**
baz=62
636A Smothers Creek 61.96 329 ⇑P **P 10 03 21.0 +0.4**
baz=62
833A Chaparral WMA, 62.14 326 ⇑P **P 10 03 21.5 -0.3**
baz=62,SNR=7.7
734A La Parita Cree 62.16 327 ⇑P **P 10 03 22.4 +0.5**
baz=62
340A Bronson 62.21 333 ⇑P **P 10 03 22.7 +0.5**
baz=62
438A Sam Houston St 62.32 331 ⇓P **P 10 03 23.4 +0.5**
baz=63
832A Faith Ranch, C 62.41 326 ⇑P **P 10 03 23.8 +0.2**
baz=63
733A Divot King Ran 62.41 327 ⇑P **P 10 03 23.8 +0.2**
baz=63
732A Laxson Ranch, 62.76 326 ⇓P **P 10 03 26.2 +0.2**
baz=63
338A Crockett 62.77 331 ⇓P **P 10 03 26.5 +0.6**
baz=63
238A Jacksonville 63.24 332 ⇑P **P 10 03 29.5 +0.5**
baz=64
632A Uvalde 63.31 327 ⇑P **P 10 03 29.8 +0.2**
baz=64
533A Kerrville 63.40 328 ⇓P **P 10 03 30.5 +0.3**
baz=64
336A Riesel 63.47 330 ⇓P **P 10 03 30.2 -0.4**
baz=64
631A Perdido Creek 63.63 326 ⇓P **P 10 03 31.1 -0.6**
baz=64
434A Burnet 63.65 329 ⇑P **P 10 03 31.7 -0.1**
baz=64
335A Moody 63.65 330 ⇓P **P 10 03 31.7 -0.1**
baz=64
138A Matatall Enter 63.80 332 ⇓P **P 10 03 32.8 +0.1**
baz=64
532A Rocksprings 63.87 327 ⇓P **P 10 03 33.0 -0.4**
baz=64
433A Art 63.99 328 ⇓P **P 10 03 33.7 -0.4**
baz=64
137A Heron Place, G 64.03 332 ⇑P **P 10 03 34.0 -0.3**
baz=64
334A Lometa 64.07 329 ⇑P **P 10 03 33.8 -0.7**
baz=64
JCT Junction City 64.11 327 *e*P **P 10 03 34.6 -0.3**
comp=Z,4.6nm,0.7s
JCT Junction City 64.11 327 ⇑P **P 10 03 34.1 -0.8**
baz=64
531A Rocksprings 64.22 326 ⇓P **P 10 03 35.3 -0.4**
baz=64,SNR=6.1
WVT Waverly 64.24 340 *e*P **P 10 03 34.0 -1.5**
comp=Z,2.8nm,0.7s
WHTX Lake Whitney 64.26 330 ⇓P **P 10 03 35.2 -0.6**
baz=65
333A Richland Sprin 64.41 328 ⇓P **P 10 03 36.3 -0.5**
baz=65
432A Menard 64.43 328 ⇑P **P 10 03 36.4 -0.6**
baz=65
234A Clairette 64.58 330 ⇑P **P 10 03 37.3 -0.6**
baz=65
530A J-C Ranch, Com 64.61 326 ⇓P **P 10 03 37.8 -0.4**
baz=65
431A Sonora 64.67 327 ⇓P **P 10 03 37.8 -0.8**
baz=65
135A Vickery Place, 64.72 330 ⇑P **P 10 03 38.2 -0.6**
baz=65
332A Millersview 64.82 328 ⇑P **P 10 03 39.0 -0.5**
baz=65
233A Rising Star 64.95 329 ⇓P **P 10 03 39.8 -0.5**
baz=65
529A Stev Forest Ra 65.04 325 ⇑P **P 10 03 40.6 -0.4**
baz=65
430A Baggett Ranch, 65.07 326 ⇓P **P 10 03 40.6 -0.6**
baz=65
331A San Angelo 65.09 327 ⇑P **P 10 03 40.5 -0.8**
baz=65
TXAR Lajitas Array 65.18 324 P **P 10 03 41.5 -0.4**
comp=Z,0.9nm,0.8s,baz=152,slow=8.4,SNR=9.2
232A Coleman 65.19 328 ⇓P **P 10 03 41.3 -0.7**
baz=66
429A Davenport Ranc 65.28 326 ⇑P **P 10 03 41.9 -0.6**
baz=66
Z35A Perchaven, San 65.30 331 ⇓P **P 10 03 42.0 -0.5**
baz=66
QSPA South Pole Qui 65.32 180 P **P 10 03 43.1 +0.6**
comp=Z,4.3nm,0.7s,baz=186,slow=1.2,SNR=24
QSPA South Pole Qui 65.32 180 *e*P **P 10 03 43.5 +1.0**
comp=Z,6.8nm,1.0s
133A Hamilton Ranch 65.45 329 ⇑P **P 10 03 42.9 -0.6**
baz=66
330A Mertzon 65.54 327 ⇑P **P 10 03 43.9 -0.3**
baz=66
231A Bronte 65.55 328 ⇑P **P 10 03 43.8 -0.4**
baz=66
Z34A Collier Ranch, 65.63 331 ⇑P **P 10 03 44.3 -0.4**
baz=66
ABTX Abilene, Hawle 65.80 329 ⇓P **P 10 03 45.4 -0.4**
baz=66
230A Sterling City 65.90 327 ⇑P **P 10 03 46.2 -0.3**
baz=66
Z33A Whitaker Ranch 65.94 330 ⇑P **P 10 03 46.5 -0.2**
baz=66
329A Wagon Wheel Ra 66.01 326 ⇑P **P 10 03 46.8 -0.5**
baz=66
Y34A Reagan Ranch, 66.06 331 ⇓P **P 10 03 47.2 -0.2**
baz=66
131A Roby 66.19 328 ⇓P **P 10 03 48.1 -0.3**
baz=66
Z32A Haskell 66.29 329 ⇑P **P 10 03 48.2 -0.7**
baz=67
130A Snyder 66.41 328 ⇓P **P 10 03 49.5 -0.3**
baz=67
Y33A Hilltop Ranch, 66.48 330 ⇑P **P 10 03 49.9 -0.3**
baz=67
Z31A Sharp Cattle R 66.61 329 ⇓P **P 10 03 50.9 -0.1**
baz=67
X34A Smith Ranch, M 66.63 331 ⇑P **P 10 03 51.1 0.0**
baz=67
ACSO Alum Creek Sta 66.79 346 *e*P **P 10 03 51.4 -0.5**
comp=Z,7.4nm,0.8s
228A UT Block 9, Go 66.83 326 ⇓P **P 10 03 51.9 -0.6**
baz=67
Y32A R-V Farms, Ver 66.85 330 ⇑P **P 10 03 52.4 -0.1**
baz=67
X33A Lawton 66.88 331 ⇓P **P 10 03 51.7 -0.9**
baz=67
Z30A Sanderson Ranc 67.05 328 ⇑P **P 10 03 53.2 -0.7**
baz=67
128A Castleberry Fa 67.18 327 ⇓P **P 10 03 54.1 -0.6**
baz=68
Y31A Rekieta Farm, 67.19 329 ⇓P **P 10 03 54.6 -0.1**
baz=68
Z29A Hungry Hill Ra 67.31 328 ⇑P **P 10 03 55.2 -0.3**
baz=68
W33A Caddo, Fort Co 67.38 331 ⇓P **P 10 03 55.9 +0.1**
baz=68
V34A Guthrie 67.55 332 ⇑P **P 10 03 56.4 -0.5**
baz=68
X31A McDonald Ranch 67.62 330 ⇑P **P 10 03 56.9 -0.5**
baz=68
127A Arkansas Junct 67.66 326 ⇓P **P 10 03 57.4 -0.4**
baz=68
Z28A Tucker Farm, M 67.67 327 ⇓P **P 10 03 57.3 -0.5**
baz=68
W32A Sentinel 67.70 331 ⇓P **P 10 03 57.5 -0.3**
baz=68
Y29A Porterfield Fa 67.78 328 ⇑P **P 10 03 58.0 -0.5**
baz=68
V33A Lossen Ranch, 67.86 332 ⇓P **P 10 03 58.3 -0.5**
baz=68
X30A Coker Ranch, T 67.88 329 ⇓P **P 10 03 58.5 -0.5**
baz=68
U34A Anderson Ranch 68.06 333 ⇑P **P 10 03 59.5 -0.6**
baz=68
Y28A McKinney Farm, 68.10 328 ⇓P **P 10 03 59.6 -0.9**
baz=68
Z27A Tatum 68.10 327 ⇓P **P 10 03 59.8 -0.8**
baz=68,SNR=5.2
V32A Arapaho 68.11 331 ⇓P **P 10 04 00.4 -0.1**
baz=68
X29A Tulia 68.27 328 ⇓P **P 10 04 01.1 -0.5**
baz=69
U33A Lingo Farm, Me 68.31 332 ⇓P **P 10 04 01.0 -0.6**
baz=69
MSTX Muleshoe 68.40 327 *e*P **P 10 04 01.7 -0.8**
comp=Z,12nm,0.9s
MSTX Muleshoe 68.40 327 ⇑P **P 10 04 01.6 -0.9**
baz=69,SNR=7.6
Z26A Caprock 68.45 326 ⇓P **P 10 04 02.4 -0.3**
baz=69,SNR=7.2
Y27A Causey 68.53 327 ⇑P **P 10 04 02.6 -0.7**
baz=69
Z25A Roswell 68.83 325 ⇑P **P 10 04 04.6 -0.6**
baz=69
Z24A Sheeppen Canyo 69.21 325 ⇑P **P 10 04 07.4 -0.2**
baz=70
Y25A Mesa, Roswell 69.33 326 ⇓P **P 10 04 07.8 -0.5**
baz=70
X26A CR and CF Fran 69.38 327 ⇓P **P 10 04 08.6 +0.1**
baz=70
W27A Bowe Ranch, En 69.43 328 ⇓P **P 10 04 08.9 +0.1**
baz=70
U30A WK&E Inc. Balk 69.50 330 ⇑P **P 10 04 09.4 +0.2**
baz=70
T31A Randall Ranch, 69.54 331 ⇑P **P 10 04 10.0 +0.7**
baz=70
V28A Channing 69.58 329 ⇓P **P 10 04 10.4 +0.7**
baz=70
W26A Owens Ranch, T 69.79 327 ⇑P **P 10 04 11.6 +0.6**
baz=70
121A Cookes Peak, D 69.89 323 ⇑P **P 10 04 12.4 +0.6**
baz=70
Y23A Lovelace Mesa, 70.04 325 ⇑P **P 10 04 12.5 -0.2**
baz=70
U28A Mallet 70.09 329 ⇑P **P 10 04 12.9 0.0**
baz=70
W25A X Bar L Ranch, 70.23 327 ⇑P **P 10 04 13.3 -0.4**
baz=70
R32A Long Quarter, 70.24 333 ⇓P **P 10 04 14.0 +0.4**
baz=71
V26A Tequesquite Ra 70.36 328 ⇑P **P 10 04 15.1 +0.6**
baz=71
R31A Burdett 70.47 332 ⇑P **P 10 04 15.0 0.0**
baz=71
T28A Walsh 70.65 330 ⇓P **P 10 04 16.1 -0.1**
baz=71
Q32A Meitler Ranch, 70.66 333 ⇓P **P 10 04 16.3 +0.1**
baz=71
W24A Lazy 6 Ranch, 70.70 326 ⇓P **P 10 04 16.6 -0.2**
baz=71
V25A Rancho No Teng 70.81 327 ⇑P **P 10 04 17.4 +0.1**
baz=71
U26A Atchley Ranch, 70.82 328 ⇓P **P 10 04 17.7 +0.3**
baz=71
T27A Campo 70.88 329 ⇓P **P 10 04 17.9 +0.3**
baz=71
S28A Manter 70.93 330 ⇓P **P 10 04 18.4 +0.5**
baz=71
ANMO Albuquerque 71.03 325 *e*P **P 10 04 18.6 -0.2**
comp=Z,4.7nm,1.2s
V24A Rampart Ranch, 71.04 327 ⇑P **P 10 04 19.1 +0.3**
baz=71
W23A Werner Place, 71.04 326 ⇑P **P 10 04 19.2 +0.4**
baz=71
U25A Circle Dot Ran 71.15 328 ⇑P **P 10 04 19.8 +0.4**
baz=71
P32A Huiting Farm, 71.22 334 ⇓P **P 10 04 20.1 +0.6**
baz=72
Q30A Quinter 71.35 332 ⇓P **P 10 04 20.9 +0.6**
baz=72
T26A Comanche Natio 71.38 329 ⇑P **P 10 04 21.1 +0.3**
baz=72
P31A Stockton 71.45 333 ⇑P **P 10 04 21.7 +0.7**
baz=72
V23A Ortiz Mt. (NFS 71.52 326 ⇓P **P 10 04 22.3 +0.7**
baz=72
Q29A Oakley 71.60 332 ⇓P **P 10 04 22.0 +0.2**
baz=72
O32A Brockman Farm, 71.63 334 ⇑P **P 10 04 22.0 0.0**
baz=72
S26A Kim 71.68 329 ⇑P **P 10 04 23.0 +0.5**
baz=72
T25A Trinidad 71.74 328 ⇑P **P 10 04 23.3 +0.4**
baz=72
R27A Eads 71.91 330 ⇓P **P 10 04 24.5 +0.7**
baz=72
U23A El Rito 71.97 326 ⇑P **P 10 04 25.3 +0.9**
baz=72
V22A San Miguel Ran 72.02 326 ⇑P **P 10 04 26.0 +1.3**
baz=72
T24B San Luis 72.15 327 ⇓P **P 10 04 25.8 +0.3**
baz=72,SNR=7.5
S25A Robets Cordova 72.17 328 ⇓P **P 10 04 26.0 +0.5**
baz=72
P29A Atwood 72.17 332 ⇓P **P 10 04 26.1 +0.8**
baz=72
R26A Arlington 72.22 329 ⇓P **P 10 04 26.1 +0.4**
baz=72
O30A MW Ranch, Wils 72.28 333 ⇑P **P 10 04 26.5 +0.6**
baz=73
214A Organ Pipe Nat 72.35 319 ⇑P **P 10 04 27.1 +0.6**
baz=73
U22A Llaves 72.35 326 ⇑P **P 10 04 27.6 +0.9**
baz=73
T23A Casias Ranch, 72.45 327 ⇓P **P 10 04 27.9 +0.6**
baz=73
R25A Fountain Ranch 72.49 329 ⇑P **P 10 04 28.0 +0.7**
baz=73
S24A Houchin Ranch, 72.53 328 ⇑P **P 10 04 28.5 +0.8**
baz=73
BGNE Belgrade 72.57 335 ⇓P **P 10 04 27.3 -0.2**
baz=73
SDCO Great Sand Dun 72.75 328 *e*P **P 10 04 29.4 +0.3**
comp=Z,8.2nm,1.4s
P27A Ficken Ranch, 72.85 331 ⇑P **P 10 04 30.6 +1.2**
baz=73
R24A Sanders Place, 72.94 328 ⇓P **P 10 04 31.0 +0.9**
baz=73
O28A Krutsinger Ran 72.97 332 ⇓P **P 10 04 30.8 +0.8**
baz=73
R23A Moffat 73.26 328 ⇑P **P 10 04 33.1 +1.0**
baz=74
O27A Beecher Island 73.33 331 ⇑P **P 10 04 32.9 +0.7**
baz=74
X16A Lo Mia Camp, P 73.33 322 ⇓P **P 10 04 33.3 +0.8**
baz=74
M30A Dale-Ortello V 73.35 334 ⇑P **P 10 04 33.5 +1.2**
baz=74
S22A 4UR Ranch, Cre 73.40 327 ⇓P **P 10 04 33.8 +0.9**
baz=74
L31A Butterfield Fa 73.49 335 ⇓P **P 10 04 33.5 +0.5**
baz=74
P25A Willow Gulch B 73.53 330 ⇑P **P 10 04 34.5 +1.0**
baz=74
Q24A Divide 73.55 329 ⇑P **P 10 04 34.4 +0.6**
baz=74
MVCO Mesa Verde 73.83 325 ⇓P **P 10 04 36.0 +0.6**
baz=74
O25A Wiggins 73.99 330 ⇓P **P 10 04 37.5 +1.4**
baz=74
WUAZ Wupatki 74.10 323 ⇓P **P 10 04 37.7 +0.8**
baz=74
P23A Jefferson 74.20 329 ⇑P **P 10 04 38.3 +0.7**
baz=74
ISCO Idaho Springs 74.43 329 ⇑P **P 10 04 39.7 +0.8**
baz=75
O24A Longmont 74.43 330 ⇓P **P 10 04 39.7 +1.0**
baz=75
K29A Lazy Trails An 74.56 334 ⇓P **P 10 04 39.5 +0.2**
baz=75
PV01 Paradox Valley 74.57 326 *e*P **P 10 04 40.6 +0.9**
comp=Z,261nm,1.0s
J30A Dallas 74.72 335 ⇑P **P 10 04 40.4 +0.3**
baz=75
P22A Eagle 74.81 328 ⇓P **P 10 04 42.0 +1.0**
baz=75
O23A Lake Granby, G 74.90 329 ⇓P **P 10 04 42.8 +1.2**
baz=75
N24A Carr 74.91 330 ⇑P **P 10 04 42.7 +1.2**
baz=75
K28A Ten Mile Ranch 74.94 333 ⇓P **P 10 04 42.8 +1.3**
baz=75
J29A Okreek 75.11 335 ⇑P **P 10 04 42.7 +0.3**
baz=75
O22A Kremmling 75.15 329 ⇑P **P 10 04 44.0 +0.9**
baz=76
I30A Oacoma 75.19 335 ⇑P **P 10 04 42.8 -0.1**
baz=76
W13A Hualapai Mount 75.21 321 ⇓P **P 10 04 44.0 +0.5**
baz=76
U15A North Rim 75.27 323 ⇑P **P 10 04 44.8 +1.0**
baz=76
IRM Iron Mountain 75.29 319 ⇑P **P 10 04 44.6 +0.9**
baz=76
K27A Flueckinger Fa 75.29 333 ⇑P **P 10 04 44.8 +1.3**
baz=76
M24A Cheyenne 75.40 331 ⇑P **P 10 04 45.5 +1.2**
baz=76
N23A Red Feather La 75.45 329 ⇓P **P 10 04 45.8 +1.1**
baz=76
J28A Allard Ranch, 75.48 334 ⇑P **P 10 04 44.8 +0.2**
baz=76
N22A Wattenberg Ran 75.61 329 ⇓P **P 10 04 46.5 +0.8**
baz=76
I29A Vivian Onida 75.62 335 ⇑P **P 10 04 45.4 0.0**
baz=76
TORD Torodi Ar. Bea 75.64 68 P **P 10 04 45.3 -0.8**
comp=Z,2.1nm,0.8s,baz=256,slow=4.9,SNR=12
J27A Elkhorn Farm, 75.65 333 ⇓P **P 10 04 46.8 +1.2**
baz=76
BELC Belle Mtn. Jos 75.69 319 ⇑P **P 10 04 46.3 +0.2**
baz=76
M23A Laramie 75.80 330 ⇓P **P 10 04 47.6 +0.9**
baz=76
L24A Wheatland 75.91 331 ⇑P **P 10 04 47.5 +0.3**
baz=76
I28A Midland 75.94 334 ⇑P **P 10 04 48.4 +1.2**
baz=76
O20A White River Ci 75.94 328 *e*P **P 10 04 48.3 +0.8**
comp=Z,10nm,0.9s
O20A White River Ci 75.94 328 ⇑P **P 10 04 48.2 +0.8**
baz=76,SNR=5.6
GMRC Granite Mounta 76.02 319 ⇓P **P 10 04 48.7 +0.7**
baz=76
H29A Onida 76.10 335 ⇓P **P 10 04 47.9 -0.1**
baz=76
G30A Faulkton 76.13 336 ⇓P **P 10 04 48.2 +0.1**
baz=76
J26A Sides Ranch, S 76.14 333 ⇓P **P 10 04 50.2 +1.8**
baz=76
M22A Cedar Creek Ra 76.15 329 ⇑P **P 10 04 50.2 +1.5**
baz=76
L23A Garrett 76.31 330 ⇓P **P 10 04 50.8 +1.3**
baz=77

SRU San Rafael 76.31 326 eP P 10 04 50.1 +0.5
comp=Z,7.5nm,0.9s
G29A Hoven 76.47 336 ⇓P P 10 04 50.8 +0.7
baz=77
N20A Spence Gulch, 76.49 328 ⇓P P 10 04 51.4 +0.7
baz=77
K23A Bowen Ranch, D 76.79 331 ⇓P P 10 04 53.0 +0.9
baz=77
H27A Howes 76.83 334 ⇑P P 10 04 52.2 0.0
baz=77
ARUT Antelope Range 76.89 323 eP P 10 04 53.6 +0.8
comp=Z,165nm,1.2s
SHPR Sheep Range 76.94 321 eP P 10 04 53.2 0.0
comp=Z,15nm,1.7s
F29A Eureka 76.98 336 ⇓P P 10 04 53.9 +0.9
baz=77
I25A Rochford 77.00 333 ⇓P P 10 04 54.3 +1.0
baz=77
GSC Goldstone 77.06 319 ⇑P P 10 04 54.5 +0.7
baz=77
K22A Casper 77.11 330 ⇑P P 10 04 54.9 +1.0
baz=77
RSSD Black Hills 77.20 333 eP P 10 04 55.2 +0.7
comp=Z,1.4nm,0.6s
K21A Alcova 77.42 330 ⇓P P 10 04 55.9 +0.2
baz=78,SNR=9.6
H25A Fruitdale 77.43 333 ⇑P P 10 04 56.7 +1.0
baz=78
G26A Maurine 77.58 334 ⇓P P 10 04 56.4 0.0
baz=78
DAU Daniels Canyon 77.66 326 eP P 10 04 57.9 +0.6
comp=Z,5.3nm,1.0s
D30A Buchanan 77.69 337 ⇓P P 10 04 57.0 +0.1
baz=78
J22A Midwest 77.69 331 ⇑P P 10 04 56.9 -0.3
baz=78
AGMN Agassiz Nation 77.77 340 ⇓P P 10 04 56.9 -0.4
baz=78
G25A Newell 77.83 334 ⇑P P 10 04 58.1 +0.3
baz=78
F27A Lemmon 77.84 335 ⇑P P 10 04 58.2 +0.3
baz=78
FURC Furnace Creek, 77.90 320 ⇑P P 10 04 58.8 +0.6
baz=78
BSC Santa Cruz Isl 77.91 316 ⇓P P 10 04 58.9 +0.4
baz=78
E28A Huff 77.93 336 ⇑P P 10 04 58.5 +0.3
baz=78
H24A Dirks Ranch, A 77.93 333 ⇑P P 10 04 58.5 +0.1
baz=78
D29A Pettibone, Tap 77.94 337 ⇓P P 10 04 58.6 +0.3
baz=78
J21A Lysite 78.07 330 ⇓P P 10 04 59.7 +0.3
baz=78
I22A 9 Mile Ranch, 78.07 331 ⇑P P 10 04 59.8 +0.5
baz=78
F26A Lodgepole 78.07 334 ⇓P P 10 04 59.3 +0.2
baz=78
C30A Mose, Pekin 78.10 338 ⇓P P 10 04 59.3 +0.1
baz=78
DUG Dugway 78.30 325 ⇑P P 10 05 01.6 +1.0
baz=79
ISA Isabella 78.31 318 eP P 10 05 01.4 +0.7
comp=Z,9.9nm,1.3s
ISA Isabella 78.31 318 ⇑P P 10 05 01.4 +0.7
baz=79
J20A Shoshoni 78.36 330 ⇓P P 10 05 01.9 +1.0
baz=79
I21A Big Trails, Te 78.37 331 ⇑P P 10 05 00.9 0.0
baz=79,SNR=7.5
D28A Regan 78.40 336 ⇑P P 10 05 01.5 +0.6
baz=79
R11A Troy Canyon, C 78.47 322 ⇑P P 10 05 02.4 +0.7
baz=79
PDAR Pinedale Array 78.60 329 P P 10 05 02.5 +0.1
comp=Z,0.9nm,0.7s,baz=124,slow=8.5,SNR=7.8
G23A Biddle 78.65 332 ⇓P P 10 05 02.8 +0.5
baz=79
B30A Myrvik Farm, E 78.70 338 ⇓P P 10 05 02.6 +0.1
baz=79
HWUT Hardware Ranch 78.70 327 eP P 10 05 02.9 0.0
comp=Z,1.9nm,0.6s
J19A Crowheart 78.74 329 ⇑P P 10 05 03.1 0.0
baz=79,SNR=7.5
H21A Big Horn, Sher 78.90 331 ⇓P P 10 05 03.7 -0.1
baz=79
B29A Wagenman Farm, 79.06 338 ⇓P P 10 05 04.6 +0.2
baz=79
F23A Volborg 79.07 333 ⇓P P 10 05 05.5 +0.9
baz=79
A30A Hoffart Farm, 79.11 339 ⇓P P 10 05 05.8 +1.1
baz=79
TPH Tonopah 79.21 321 eP P 10 05 06.1 +0.3
comp=Z,11nm,1.6s
H20A Greybull 79.21 331 ⇓P P 10 05 05.2 -0.3
baz=80,SNR=5.2
I19A Meeteetse 79.31 330 ⇓P P 10 05 06.9 +0.7
baz=80
AHID Auburn Hatcher 79.34 328 eP P 10 05 06.7 +0.3
comp=Z,6.7nm,0.9s
B28A Dugan Ranch, T 79.40 337 ⇑P P 10 05 06.8 +0.5
baz=80
D25A Fairfield 79.40 335 ⇓P P 10 05 06.6 +0.2
baz=80
A29A Manning Farm, 79.41 338 ⇑P P 10 05 06.7 +0.3
baz=80
G21A Lodge Grass 79.44 331 ⇓P P 10 05 06.4 -0.3
baz=80
F22A Rosebud 79.47 332 ⇑P P 10 05 07.5 +0.6
baz=80
ULM Lac du Bonnet 79.50 341 P P 10 05 06.0 -0.7
comp=Z,2.6nm,0.8s,baz=160,slow=8.5,SNR=4.5
H19A Powell 79.80 330 ⇑P P 10 05 08.9 +0.2
baz=80
G20A Bridger 79.88 331 ⇑P P 10 05 08.9 -0.3
baz=80,SNR=6.3
I17A Pilgrim Ck. 79.96 329 ⇑P P 10 05 10.4 +0.7
baz=80,SNR=5.1
NVAR Mina Array Bea 80.07 321 P P 10 05 11.1 +0.6
comp=Z,1.2nm,0.9s,baz=161,slow=6.8,SNR=6.3
H18A Shoshone NF, C 80.11 330 ⇓P P 10 05 10.4 -0.2
baz=80,SNR=5.1
C24A Savage 80.14 334 ⇑P P 10 05 11.1 +0.7
baz=80
D23A Lindsay 80.16 334 ⇑P P 10 05 10.9 +0.4
baz=80
B25A Knox Farm, Ray 80.27 336 ⇓P P 10 05 12.0 +1.0
baz=81
A26A Wade Farm, Ken 80.37 337 ⇓P P 10 05 11.9 +0.4
baz=81
F19A Roth Farm, Mol 80.69 331 ⇑P P 10 05 13.7 +0.3
baz=81
A25A Svangstu Ranch 80.80 336 ⇑P P 10 05 14.3 +0.5
baz=81
D21A La Casta Ranch 80.81 333 ⇑P P 10 05 14.4 +0.3
baz=81
DGMT Dagmar 80.82 335 ⇓P P 10 05 14.4 +0.4
baz=81
E20A Meyer Farm, Mu 80.84 332 ⇑P P 10 05 14.6 +0.3
baz=81
C22A Vida 80.89 334 ⇓P P 10 05 14.5 0.0
baz=81
E19A Rath Farm, Rou 81.09 331 ⇑P P 10 05 15.5 -0.1
baz=81,SNR=5.1
A24A Westby 81.12 335 ⇓P P 10 05 16.3 +0.7
baz=81
B23A Brockton 81.12 335 ⇑P P 10 05 16.3 +0.7
baz=81
D20A Manuel Ranch, 81.31 332 ⇓P P 10 05 16.6 0.0
baz=82
C21A Desert Coulee 81.45 333 ⇓P P 10 05 18.0 +0.6
baz=82
HLID Hailey 81.56 326 eP P 10 05 18.9 +0.6
comp=Z,8.3nm,1.0s
HLID Hailey 81.56 326 ⇓P P 10 05 18.9 +0.6
baz=82
D19A Cripps Ranch, 81.68 332 ⇓P P 10 05 18.8 +0.2
baz=82
MCMT McKenzie Canyo 81.72 328 eP P 10 05 20.0 +0.9
comp=Z,3.5nm,0.9s
C20A Veseth Ranch, 81.74 333 ⇑P P 10 05 19.1 +0.2
baz=82
A22A Carney Farms, 81.91 334 ⇑P P 10 05 20.3 +0.5
baz=82
C19A Slack Wire Ran 82.20 332 ⇓P P 10 05 21.9 +0.5
baz=82
B20A Solberg Farm, 82.32 333 ⇑P P 10 05 21.8 -0.2
baz=83
A20A Cobblestone Ra 82.62 333 ⇑P P 10 05 24.0 +0.5
baz=83
HRY Holter Researc 82.64 330 eP P 10 05 24.5 +0.7
comp=Z,3.6nm,0.9s
EGMT Eagleton 82.72 332 ⇑P P 10 05 24.4 +0.3
baz=83
A19A Klindworth Far 83.00 333 ⇓P P 10 05 26.0 +0.5
baz=83
MSO Missoula 83.71 329 ⇑P P 10 05 29.8 +0.5
baz=84
N02D Trinity Center 84.30 320 ⇓P P 10 05 32.8 +0.4
baz=85
J05D Fort Rock, OR 84.97 323 ⇓P P 10 05 36.2 +0.4
baz=85
J04D Umpqua Nationa 85.42 322 ⇓P P 10 05 38.5 +0.4
baz=86
I05D Terrebonne, OR 85.72 323 ⇓P P 10 05 40.1 +0.8
baz=86
ESDC Sonseca Array 86.12 43 P P 10 05 42.0 +0.5
comp=Z,0.2nm,0.4s,baz=248,slow=6.8,SNR=3.0
NEW Newport 86.24 328 ⇓P P 10 05 42.6 +0.8
baz=86
FCC Fort Churchill 86.64 346 eP P 10 05 42.8 -0.7
comp=Z,0.1nm,0.9s
YKA Yellowknife Ar 95.42 339 P P 10 06 23.6 -0.7
comp=Z,0.8nm,0.8s,baz=132,slow=4.7,SNR=16
ASAR Alice Springs 128.19 203 PKP PKPdf 10 12 07.4 +0.1
comp=Z,1.9nm,0.6s,baz=140,slow=1.9,SNR=27
WRA Warramunga Arr 131.43 205 PKP PKPdf 10 12 13.6 +0.1
comp=Z,1.0nm,0.5s,baz=159,slow=1.6,SNR=28
ZALV Zalesovo Beam 143.52 29 PKP PKPbc 10 12 32.5 +0.6
comp=Z,1.6nm,0.7s,baz=298,slow=4.4,SNR=7.0
MK31 Makanchi Array 146.32 41 ePKPdf PKPbc 10 12 40.6 -0.4
MKAR Makanchi Array 146.32 41 PKPbc PKPbc 10 12 40.8 -0.2
comp=Z,2.9nm,0.7s,baz=308,slow=3.4,SNR=36
SONM Songino Array 156.22 14 PKPab PKPab 10 13 22.9 +0.1
comp=Z,0.7nm,0.7s,baz=338,slow=3.5,SNR=3.8
MJAR Matsushiro Arr 156.59 305 PKPab PKPab 10 13 24.5 -0.2
comp=Z,1.4nm,0.8s,baz=85,slow=2.8,SNR=5.2

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*IDC **28** 09:59:06.4±0.8, 36.°74S×73.°10W, h0km, mb3.9/9, mb1 4.1/10, mb1mx4.1/19, mbtmp3.9/10, ML2.9/1, MS3.7/1, Ms1 3.7/1, ms1mx3.2/27, Error ellipse: s-maj=29.7km s-min=15.8km az=76.0*
*ISCJB **28** 09:59:08.9±0.5, 36.°74S±0.°06×73.°19W±0.°09, h25km, mb4.3/21, Error ellipse: s-maj=10.5km s-min=8.5km az=37.1*
*NEIC **28** 09:59:11.7±0.4, 36.°75S×73.°19W, h35km, mb4.6/16, Error ellipse: s-maj=11.9km s-min=8.1km az=70.0*
*SJA **28** 10:00:09.4±0.7, 33.°36S×69.°23W, h124km±6km, ML2.9*
ISC 28 09:59:10.1±0.6, 36.°78S±0.°05×73.°3W±0.°1, h25km, n48, σ1§13/51, mb4.5/21, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.49 152 Pg Pb 10 00 28.3 0.0
4.1nm,0.3s,baz=324,slow=14,SNR=12
PLCA Lg Lg 10 01 27.6
10nm,0.3s,baz=237,slow=21,SNR=4.9
PLCA LR LR 10 02 09.9
comp=Z,844nm,19.1s,baz=32,slow=41
PLCA Paso Flores 4.49 152 ePn Pn 10 00 17.8 +1.2
PLCA Pg Pb 10 00 28.3 0.0
PLCA Lg Lg 10 01 27.6
AAGR Agrelo 5.20 46 eP Pn 10 00 28.0 +1.5
AAGR eS Pb 10 00 41.9 +1.5
ARCO CERRO ARCO 5.32 44 eP Pn 10 00 29.4 +1.3
ARCO eS Pb 10 00 43.6 +1.1
ARCO AML AML 10 00 46.5
comp=Z,148nm,0.6s
ASAL Salagasta 5.56 43 eP Pn 10 00 31.2 -0.3
AUSP Uspallata 5.57 37 eP Pn 10 00 34.6 +2.9
RTLS Leoncito 5.97 35 eP Pn 10 00 39.1 +2.0
CFAA Coronel Fontan 6.65 41 Pn Pn 10 00 44.6 -1.7
comp=Z,0.3nm,0.3s,baz=212,slow=16,SNR=5.7
RTLL Cerro Villicun 6.75 38 eP Pn 10 00 45.3 -2.4
AMOG MOGNA 7.06 36 eP Pn 10 00 50.9 -1.1
AMOG eP Pn 10 00 50.9 -1.1
AVFE Valle Fertil 7.80 40 AML AML 10 02 43.6
comp=Z,49nm,0.7s
AGUA GUANDACOL 8.31 30 eP Pn 10 01 08.8 -0.4
TRQA Tornquist 9.09 101 ePn Pn 10 01 21.1 +1.4
LVC Limon Verde 14.62 16 ePn Pn 10 02 37.8 +2.1
comp=Z,5.8nm,0.8s
LPAZ La Paz 20.92 14 P P 10 03 50.5 -1.0
comp=Z,1.3nm,0.5s,baz=188,slow=7.1,SNR=3.3
LPAZ La Paz 20.92 14 eP P 10 03 52.0 +0.5
comp=Z,8.3nm,1.0s
SIV San Ignacio 23.38 31 P P 10 04 15.7 -1.3
comp=Z,2.4nm,0.7s,baz=225,slow=15,SNR=3.2
OTAV Otavalo 37.14 351 eP P 10 06 19.9 +0.5
comp=Z,5.0nm,1.2s
SNAA Sanae 49.42 157 P P 10 07 58.2 +0.7
comp=Z,0.8nm,0.9s,baz=253,slow=14,SNR=2.5
QSPA South Pole Qui 53.46 180 P P 10 08 28.9 +1.0
comp=Z,0.9nm,0.8s,baz=179,slow=7.7,SNR=3.5
QSPA South Pole Qui 53.46 180 eP P 10 08 28.8 +0.8
comp=Z,3.4nm,1.0s
JCT Junction City 71.38 336 eP P 10 10 28.3 +0.4
comp=Z,3.3nm,0.6s
TXAR Lajitas Array 71.68 332 P P 10 10 30.6 +0.7
comp=Z,1.9nm,0.7s,baz=151,slow=9.0,SNR=24
SWET Sewanee 72.59 349 eP P 10 10 34.6 -0.4
comp=Z,14nm,0.9s
WVT Waverly 73.79 348 eP P 10 10 41.5 -0.5
comp=Z,24nm,1.6s
TUL1 Tulsa 75.28 341 eP P 10 10 49.7 -1.0
comp=Z,7.1nm,1.0s
DBIC Dimbokro 77.04 71 P P 10 11 00.6 -0.7
comp=Z,2.3nm,0.6s,baz=222,slow=8.9,SNR=3.2
DBIC Dimbokro 77.04 71 eP P 10 11 00.7 -0.7
comp=Z,16nm,1.5s
ACSO Alum Creek Sta 77.15 352 eP P 10 11 00.2 -1.1
comp=Z,7.6nm,0.8s
ANMO Albuquerque 77.75 333 eP P 10 11 06.1 +1.1
comp=Z,3.9nm,1.2s
LBTB Lobatse 82.06 115 eP P 10 11 28.1 -0.6
CCUT Cedar City 82.73 329 eP P 10 11 32.5 +0.6
ECSD EROS Data Cent 82.89 343 eP P 10 11 31.7 -0.5
comp=Z,6.3nm,1.0s
SRU San Rafael 82.95 332 eP P 10 11 33.6 +0.7
comp=Z,2.3nm,0.6s
DUG Dugway 84.77 331 eP P 10 11 42.6 +0.5
comp=Z,6.0nm,1.3s
TPH Tonopah 84.82 327 eP P 10 11 44.0 +1.5
comp=Z,2.7nm,1.1s
HWUT Hardware Ranch 85.51 332 eP P 10 11 46.3 +0.4
comp=Z,4.3nm,0.8s
NVAR Mina Array Bea 85.59 326 P P 10 11 47.2 +0.8
comp=Z,0.9nm,0.8s,baz=155,slow=6.3,SNR=6.7
PDAR Pinedale Array 85.79 334 P P 10 11 47.9 +0.6
comp=Z,0.7nm,0.7s,baz=173,slow=4.9,SNR=6.8
TORD Torodi Ar. Bea 86.11 71 P P 10 11 47.9 -1.3
comp=Z,0.8nm,1.0s,baz=222,slow=2.0,SNR=3.9
HVU Hansel Valley 86.11 332 eP P 10 11 49.2 +0.4
comp=Z,3.9nm,0.8s
CLL Collm 115.57 44 Lm MLR 10 18 00.0
comp=Z,200nm,20.5s
WRA Warramunga Arr 117.84 210 PKP PKPdf 10 17 53.7 -1.2
comp=Z,0.5nm,0.8s,baz=162,slow=1.6,SNR=4.6
ABKAR Akbulak array 144.17 55 ePKPdf PKPab 10 18 40.3 -0.6
BRVK Borovoye 149.91 46 ePKPbc PKPbc 10 18 56.4 -1.2
KKAR Karatay Array 151.70 66 ePKPbc PKPbc 10 19 01.6 -0.5
ZALV Zalesovo Beam 157.11 34 PKPab PKPab 10 19 33.4 -0.2
comp=Z,0.8nm,0.6s,baz=321,slow=2.1,SNR=4.1
MKAR Makanchi Array 159.30 53 PKP PKPdf 10 19 05.4 -0.5
comp=Z,0.2nm,0.6s,baz=264,slow=1.4,SNR=2.5
MKAR PKPab PKPab 10 19 42.6 -0.8
comp=Z,0.7nm,0.8s,baz=300,slow=3.9,SNR=5.4

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*IDC **28** 10:09:51.2±1.0, 34.°25S×72.°39W, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.9/32, mbtmp3.9/9, ML3.7/3, Error ellipse: s-maj=32.0km s-min=25.7km az=127.0*
*ISCJB **28** 10:09:52.5±0.8, 34.°24S±0.°08×72.°5W±0.°2, h17km, mb3.9/6, Error ellipse: s-maj=18.6km s-min=11.6km az=12.1*
*NEIC **28** 10:09:57.1±0.6, 34.°25S×72.°31W, h35km, mb4.0/3, Error ellipse: s-maj=18.2km s-min=11.0km az=107.0*
ISC 28 10:09:54.1±0.8, 34.°2S±0.°1×72.°4W±0.°2, h17km, n18, σ1§37/17, mb4.1/6, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.37 55 Pn Pn 10 11 00.8 +1.0
0.8nm,0.3s,baz=302,slow=19,SNR=5.6
PLCA Paso Flores 6.68 168 Pn Pn 10 11 32.2 +0.8
TRQA Tornquist 9.27 117 ePn Pn 10 12 12.4 +5.4
CPUP Villa Florida 15.21 63 Pn Pn 10 13 29.0 +0.9
0.2nm,0.3s,baz=261,slow=19,SNR=2.2
LPAZ La Paz 18.26 13 P P 10 14 08.1 +0.6
0.2nm,0.3s,baz=169,slow=7.8,SNR=4.8
LPAZ La Paz 18.26 13 eP P 10 14 09.9 +2.4
8.2nm,1.0s
SIV San Ignacio 20.82 32 P P 10 14 34.5 -0.4
8.4nm,1.1s,baz=233,slow=15,SNR=6.2
SAML Samuel 26.54 21 eP P 10 15 33.5 +2.5
3.1nm,1.0s
BDFB Brasilia 28.71 56 P P 10 15 48.8 -1.9
2.7nm,0.6s,baz=216,slow=17,SNR=4.4
QSPA South Pole Qui 56.02 180 P P 10 19 31.5 -0.2
1.4nm,0.8s,baz=284,slow=5.7,SNR=3.4
QSPA South Pole Qui 56.02 180 eP P 10 19 32.4 +0.7
8.4nm,1.3s
TXAR Lajitas Array 69.77 331 P P 10 21 03.9 +0.4
0.2nm,0.7s,baz=172,slow=9.1,SNR=3.2
PDAR Pinedale Array 83.81 333 P P 10 22 22.0 -0.6
0.4nm,0.9s,baz=227,slow=2.2,SNR=3.1
TORD Torodi Ar. Bea 84.58 70 P P 10 22 25.9 -1.0
1.0nm,0.6s,baz=290,slow=7.7,SNR=6.1
BRVK Borovoye 147.58 43 ePKPbc PKPab 10 29 37.3 -1.8
BVAR Borovoye Array 147.65 43 PKPbc PKPab 10 29 37.7 -1.7
1.1nm,0.5s,baz=332,slow=3.7,SNR=6.7
ZALV Zalesovo Beam 154.57 32 PKPbc PKPbc 10 29 53.5 +0.2
1.2nm,0.6s,baz=337,slow=4.1,SNR=6.2
MKAR Makanchi Array 157.14 49 PKPab PKPab 10 30 19.2 -0.2
0.3nm,0.7s,baz=306,slow=4.8,SNR=3.3

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*IDC **28** 10:10:58.6±0.6, 34.°00S×72.°30W, h0km, mb4.3/14, mb1 4.4/16, mb1mx4.3/31, mbtmp4.2/16, ML3.8/2, MS4.7/6, Ms1 4.7/6, ms1mx4.3/20, Error ellipse: s-maj=19.9km s-min=16.6km az=102.0*
*ISCJB **28** 10:11:02.9±0.3, 33.°68S±0.°07×72.°04W±0.°08, h19km, mb4.7/54, MS4.7/6, Error ellipse: s-maj=12.1km s-min=7.5km az=35.9*
*NEIC **28** 10:11:05.8±0.4, 33.°88S×72.°06W, h35km, mb4.9/44, Error ellipse: s-maj=13.2km s-min=8.8km az=54.0*
ISC 28 10:11:04.0±0.4, 33.°84S±0.°06×71.°93W±0.°10, h19km, n357, σ1§36/367, mb4.8/54, MS4.5/6, 151C-107D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 3.83 55 Pn Pn 10 12 01.6 -0.4
2.2nm,0.3s,baz=122,slow=22,SNR=8.4
CFAA Lg 10 13 10.5
6.5nm,0.3s,baz=128,slow=4.1,SNR=5.4
PLCA Paso Flores 6.96 171 ePn Pn 10 12 46.0 +0.9
TRQA Tornquist 9.09 120 ePn Pn 10 13 18.3 +4.0
CPUP Villa Florida 14.68 63 ePn P 10 14 36.6 -0.1
LPAZ La Paz 17.81 12 Pn Pn 10 15 10.7 -0.8
0.3nm,0.3s,baz=204,slow=8.1,SNR=3.1
LPAZ La Paz 17.81 12 eP P 10 15 14.3 +2.1
36nm,1.0s
SIV San Ignacio 20.29 31 P P 10 15 39.3 +0.5
7.0nm,0.8s,baz=232,slow=14,SNR=9.4
SIV LR LR 10 25 10.9
comp=Z,2µm,19.1s,baz=227,slow=41
USHA Ushuaia 21.13 174 LR LR 10 24 43.3
comp=Z,2µm,18.1s,baz=338,slow=39
NNA Nana 22.21 347 P P 10 15 58.1 -1.4
7.3nm,0.8s,baz=182,slow=7.9,SNR=3.6
NNA Nana 22.21 347 eP P 10 16 01.1 +1.6
178nm,1.9s
SAML Samuel 26.05 20 eP P 10 16 37.0 +0.7
33nm,1.4s
BDFB Brasilia 28.17 56 P P 10 16 55.5 0.0
6.0nm,1.0s,baz=197,slow=11,SNR=4.2
BDFB LR LR 10 29 40.4
comp=Z,2µm,18.1s,baz=223,slow=39
BDFB Brasilia 28.17 56 eP P 10 16 56.6 +1.2
OTAV Otavalo 34.45 348 eP P 10 17 52.5 +1.4
3.5nm,0.8s
ROSC El Rosal 38.56 356 LR LR 10 32 39.4
comp=Z,3µm,19.1s,baz=216,slow=34
SNAA Sanae 51.69 158 P P 10 20 07.0 -2.4
2.2nm,0.8s,baz=266,slow=10,SNR=11
SNAA Sanae 51.69 158 eP P 10 20 08.8 -0.6
78nm,1.9s
RKT Rikitea 55.68 263 eLR LR 10 36 34.4
375nm,28.8s
QSPA South Pole Qui 56.39 180 P P 10 20 40.0 -3.9
4.0nm,1.1s,baz=157,slow=16,SNR=2.9
QSPA LR LR 10 45 11.8
comp=Z,377nm,18.1s,baz=204,slow=36
QSPA South Pole Qui 56.39 180 eP P 10 20 42.5 -1.4
4.0nm,0.8s
035A Encino 65.35 334 ⇑P P 10 21 45.4 +0.4
baz=66
034A Hebbronville 65.68 334 ⇓P P 10 21 47.6 +0.5
baz=66
933A Laredo 66.40 334 ⇓P P 10 21 52.0 +0.3
baz=67
835A Beeville 66.49 335 ⇓P P 10 21 52.5 +0.2
baz=67
834A Tilden 66.60 334 ⇑P P 10 21 52.8 -0.2
baz=67
735A Kenedy 67.00 335 ⇑P P 10 21 55.4 -0.1
baz=67
833A Chaparral WMA, 67.08 334 ⇓P P 10 21 55.4 -0.7
baz=67,SNR=5.7
832A Faith Ranch, C 67.26 333 ⇓P P 10 21 56.0 -1.2
baz=68,SNR=6.4
636A Smothers Creek 67.32 336 ⇑P P 10 21 56.8 -0.7
baz=68,SNR=5.5
HKT Hockley 67.36 338 eP P 10 21 58.6 +0.9
23nm,1.7s
733A Divot King Ran 67.41 334 ⇑P P 10 21 57.5 -0.6
baz=68
635A Leesville 67.48 336 ⇓P P 10 21 57.4 -1.1
baz=68
732A Laxson Ranch, 67.66 333 ⇓P P 10 21 58.4 -1.3
baz=68,SNR=7.8
536A Bastrop 67.87 337 ⇑P P 10 22 00.6 -0.4
baz=68
438A Sam Houston St 67.99 338 ⇑P P 10 22 01.3 -0.4
baz=68
535A Dale 68.00 336 ⇑P P 10 22 01.1 -0.7
baz=68
633A Saathoff Ranch 68.03 334 ⇓P P 10 22 01.4 -0.7
baz=68
340A Bronson 68.14 340 ⇑P P 10 22 01.8 -0.8
baz=68
339A Huntington 68.25 339 ⇓P P 10 22 02.9 -0.5
baz=69
632A Uvalde 68.30 334 ⇓P P 10 22 02.9 -0.8
baz=69
338A Crockett 68.50 339 ⇑P P 10 22 04.6 -0.4
baz=69
631A Perdido Creek 68.50 333 ⇓P P 10 22 04.0 -1.0
baz=69
533A Kerrville 68.54 335 ⇑P P 10 22 04.5 -0.8
baz=69
337A Centerville 68.64 338 ⇓P P 10 22 05.2 -0.6
baz=69
435B Jarrell 68.69 336 ⇑P P 10 22 05.8 -0.3
baz=69
532A Rocksprings 68.90 334 ⇓P P 10 22 06.1 -1.5
baz=69,SNR=7.8
434A Burnet 68.95 336 ⇑P P 10 22 05.3 -2.5
baz=69,SNR=6.2
336A Riesel 69.01 337 ⇓P P 10 22 06.2 -1.9
baz=69
238A Jacksonville 69.05 339 ⇑P P 10 22 06.2 -2.1
baz=69
335A Moody 69.10 337 ⇓P P 10 22 06.9 -1.8
baz=69
531A Rocksprings 69.17 334 ⇑P P 10 22 07.5 -1.8
baz=70
433A Art 69.18 335 ⇓P P 10 22 07.5 -1.8
baz=70,SNR=6.5
JCT Junction City 69.19 334 eP P 10 22 07.7 -1.6
21nm,1.1s
JCT Junction City 69.19 334 ⇑P P 10 22 07.7 -1.6
baz=70,SNR=6.9
KMSC Kings Mountain 69.19 352 ⇑P P 10 22 08.0 -1.2
baz=70
237A Washetta, Mont 69.25 338 ⇑P P 10 22 08.5 -1.1
baz=70
334A Lometa 69.42 336 ⇓P P 10 22 09.3 -1.4
baz=70,SNR=6.3

530A J-C Ranch, Com 69.45 333 ⇓P P 10 22 10.2 -0.8
baz=70,SNR=6.3
432A Menard 69.54 335 ⇓P P 10 22 10.4 -1.1
baz=70
TXAR Lajitas Array 69.64 331 P P 10 22 09.8 -2.4
2.3nm,0.7s,baz=154,slow=8.1,SNR=20
TX31 Lajitas Ar. Si 69.64 331 eP P 10 22 10.5 -1.7
138A Matatall Enter 69.65 339 ⇓P P 10 22 11.0 -1.1
baz=70
431A Sonora 69.66 334 ⇑P P 10 22 10.9 -1.4
baz=70
333A Richland Sprin 69.67 335 ⇑P P 10 22 11.1 -1.1
baz=70
WHTX Lake Whitney 69.76 337 eP P 10 22 10.6 -2.2
42nm,1.4s
WHTX Lake Whitney 69.76 337 ⇑P P 10 22 11.4 -1.4
baz=70
529A Stev Forest Ra 69.77 332 ⇑P P 10 22 11.5 -1.5
baz=70,SNR=6.1
137A Heron Place, G 69.79 339 ⇓P P 10 22 11.6 -1.3
baz=70
SWET Sewanee 69.94 348 eP P 10 22 12.2 -1.7
61nm,1.7s
332A Millersview 69.98 335 ⇑P P 10 22 12.3 -1.9
baz=70
430A Baggett Ranch, 69.99 333 ⇓P P 10 22 12.0 -2.3
baz=70,SNR=5.4
234A Clairette 70.00 336 ⇑P P 10 22 11.8 -2.5
baz=70,SNR=5.6
429A Davenport Ranc 70.09 333 ⇓P P 10 22 13.1 -1.8
baz=70
331A San Angelo 70.16 334 ⇑P P 10 22 13.4 -1.8
baz=70,SNR=6.1
233A Rising Star 70.27 336 ⇑P P 10 22 14.3 -1.6
baz=71
135A Vickery Place, 70.27 337 ⇑P P 10 22 14.7 -1.2
baz=71
PPT2 Papeete2 70.35 262 eS S 10 31 16.8 -12
205nm,22.0s
PPT2 Papeete2 70.35 262 eLR LR 10 43 18.1
351nm,28.0s
232A Coleman 70.41 335 ⇑P P 10 22 15.5 -1.3
baz=71
134A White-Moore Ra 70.50 337 ⇑P P 10 22 15.9 -1.4
baz=71
330A Mertzon 70.52 334 ⇑P P 10 22 15.8 -1.8
baz=71
231A Bronte 70.69 335 ⇓P P 10 22 16.7 -1.8
baz=71
133A Hamilton Ranch 70.81 336 ⇑P P 10 22 17.5 -1.7
baz=71
329A Wagon Wheel Ra 70.89 333 ⇑P P 10 22 18.1 -1.7
baz=71
Z35A Perchaven, San 70.93 338 ⇓P P 10 22 18.7 -1.3
baz=71
ABTX Abilene, Hawle 71.08 335 eP P 10 22 19.4 -1.4
53nm,1.5s
ABTX Abilene, Hawle 71.08 335 ⇑P P 10 22 19.4 -1.4
baz=71
WVT Waverly 71.18 346 eP P 10 22 19.2 -2.2
25nm,0.9s
Z34A Collier Ranch, 71.18 337 ⇑P P 10 22 20.3 -1.2
baz=72
229A Bryant Ranch, 71.26 333 ⇑P P 10 22 20.4 -1.7
baz=72
131A Roby 71.38 335 ⇑P P 10 22 21.3 -1.4
baz=72
Z33A Whitaker Ranch 71.38 336 ⇓P P 10 22 21.4 -1.2
baz=72
130A Snyder 71.52 334 ⇑P P 10 22 21.3 -2.2
baz=72
Z32A Haskell 71.64 336 ⇓P P 10 22 23.2 -1.0
baz=72
Y34A Reagan Ranch, 71.67 338 ⇓P P 10 22 23.6 -0.8
baz=72
228A UT Block 9, Go 71.69 333 ⇓P P 10 22 23.8 -0.8
baz=72
129A Stewart Farms, 71.88 334 ⇑P P 10 22 24.7 -1.0
baz=72
Z31A Sharp Cattle R 71.88 335 ⇑P P 10 22 24.6 -1.0
baz=72
Y33A Hilltop Ranch, 72.00 337 ⇓P P 10 22 25.3 -1.1
baz=72
128A Castleberry Fa 72.10 333 ⇓P P 10 22 25.9 -1.2
baz=72
Z30A Sanderson Ranc 72.20 335 ⇑P P 10 22 26.5 -1.1
baz=72
Y32A R-V Farms, Ver 72.27 336 ⇑P P 10 22 26.7 -1.2
baz=73
X34A Smith Ranch, M 72.29 338 ⇓P P 10 22 26.8 -1.3
baz=73
Z29A Hungry Hill Ra 72.38 334 ⇓P P 10 22 27.2 -1.5
baz=73
MNTX Cornudas Mount 72.42 330 eP P 10 22 26.3 -2.7
2.8nm,0.7s
X33A Lawton 72.45 337 ⇓P P 10 22 27.7 -1.3
baz=73
127A Arkansas Junct 72.48 333 ⇓P P 10 22 28.6 -0.7
baz=73
Y31A Rekieta Farm, 72.50 336 ⇑P P 10 22 28.6 -0.8
baz=73
X32A Elmer 72.59 337 ⇓P P 10 22 28.9 -0.9
baz=73
Y30A Stafford Cattl 72.65 335 ⇑P P 10 22 29.6 -0.7
baz=73
Z28A Tucker Farm, M 72.66 334 ⇓P P 10 22 29.7 -0.7
baz=73
W34A Bridge Creek, 72.86 338 ⇓P P 10 22 31.2 -0.3
baz=73
TUL1 Tulsa 72.89 340 ⇑P P 10 22 31.4 -0.2
baz=73
Y29A Porterfield Fa 72.91 334 ⇓P P 10 22 30.9 -1.0
baz=73
Z27A Tatum 72.99 333 ⇑P P 10 22 31.6 -0.9
baz=73
W33A Caddo, Fort Co 73.00 337 ⇓P P 10 22 31.9 -0.4
baz=73
X31A McDonald Ranch 73.02 336 ⇑P P 10 22 31.4 -1.0
baz=73
X30A Coker Ranch, T 73.16 335 ⇑P P 10 22 32.9 -0.4
baz=74
W32A Sentinel 73.22 337 ⇓P P 10 22 32.7 -0.9
baz=74
Z26A Caprock 73.25 332 ⇑P P 10 22 32.7 -1.2
baz=74
MSTX Muleshoe 73.41 334 eP P 10 22 33.1 -1.7
12nm,0.9s
MSTX Muleshoe 73.41 334 ⇑P P 10 22 33.4 -1.4
baz=74
X29A Tulia 73.45 335 ⇓P P 10 22 33.9 -1.1
baz=74
Y27A Causey 73.48 333 ⇓P P 10 22 33.9 -1.3
baz=74
W31A Holland Ranch, 73.51 336 ⇓P P 10 22 34.2 -1.1
baz=74
Z25A Roswell 73.54 332 ⇑P P 10 22 34.5 -1.2
baz=74
V33A Lossen Ranch, 73.56 338 ⇓P P 10 22 34.7 -0.9
baz=74
AMTX Amarillo 73.83 335 ⇓P P 10 22 35.9 -1.4
baz=74
Z24A Sheeppen Canyo 73.84 331 ⇓P P 10 22 36.4 -1.2
baz=74
W29A Amraillo 74.04 335 ⇑P P 10 22 37.4 -1.1
baz=74
Y25A Mesa, Roswell 74.10 332 ⇑P P 10 22 37.6 -1.3
baz=74
121A Cookes Peak, D 74.15 329 eP P 10 22 38.9 -0.5
14nm,1.1s
121A Cookes Peak, D 74.15 329 ⇓P P 10 22 38.2 -1.1
baz=74
V30A Spur Ranch, Mi 74.28 336 ⇓P P 10 22 39.5 -0.4
baz=75
X26A CR and CF Fran 74.31 333 ⇑P P 10 22 39.6 -0.6
baz=75
Y24A Capitan 74.39 332 ⇑P P 10 22 40.0 -0.8
baz=75
ACSO Alum Creek Sta 74.41 351 eP P 10 22 39.2 -1.3
Z22A Elephant Butte 74.43 330 ⇓P P 10 22 39.9 -1.0
baz=75
W27A Bowe Ranch, En 74.49 334 ⇑P P 10 22 40.4 -0.8
baz=75
X25A Clemmons Ranch 74.62 332 ⇑P P 10 22 40.7 -1.3
baz=75
Y23A Lovelace Mesa, 74.64 331 ⇓P P 10 22 41.3 -0.9
baz=75
W26A Owens Ranch, T 74.78 333 ⇓P P 10 22 42.1 -0.7
baz=75

DBIC Dimbokro 75.04 71 P P 10 22 45.3 +0.6
2.1nm,0.6s,baz=123,slow=2.1,SNR=4.1
W25A X Bar L Ranch, 75.15 333 ⇑P P 10 22 43.6 -1.4
baz=76
V26A Tequesquite Ra 75.41 334 ⇑P P 10 22 45.8 -0.7
baz=76
LAZ Ladron 75.49 330 eP P 10 22 47.8 +0.7
6.6nm,1.4s
W24A Lazy 6 Ranch, 75.51 332 ⇑P P 10 22 46.9 -0.2
baz=76
S31A Mullinville 75.58 338 ⇑P P 10 22 47.5 +0.2
baz=76
U27A Thompson Grove 75.62 335 ⇑P P 10 22 47.6 -0.1
baz=76
ANMO Albuquerque 75.69 331 eP P 10 22 48.1 -0.1
14nm,1.5s
W23A Werner Place, 75.75 332 ⇑P P 10 22 48.4 -0.2
baz=76
V25A Rancho No Teng 75.76 333 ⇑P P 10 22 48.2 -0.3
baz=76
V24A Rampart Ranch, 75.91 333 ⇑P P 10 22 48.8 -0.7
baz=76
U26A Atchley Ranch, 75.93 334 ⇑P P 10 22 50.1 +0.6
baz=76
214A Organ Pipe Nat 75.94 325 ⇑P P 10 22 49.3 -0.2
baz=76
T28A Walsh 76.00 336 ⇓P P 10 22 49.3 -0.5
baz=76
R32A Long Quarter, 76.08 339 ⇑P P 10 22 49.9 -0.3
baz=76
T27A Campo 76.16 335 ⇑P P 10 22 50.3 -0.4
baz=76
U25A Circle Dot Ran 76.18 334 ⇓P P 10 22 50.4 -0.6
baz=76
R31A Burdett 76.21 338 ⇓P P 10 22 50.7 -0.2
baz=76
V23A Ortiz Mt. (NFS 76.28 332 ⇑P P 10 22 50.9 -0.6
baz=77
S28A Manter 76.35 336 ⇓P P 10 22 51.4 -0.3
baz=77
Q32A Meitler Ranch, 76.56 339 ⇑P P 10 22 52.5 -0.4
baz=77
V22A San Miguel Ran 76.71 331 ⇓P P 10 22 53.1 -0.9
baz=77
U23A El Rito 76.79 332 ⇑P P 10 22 53.5 -1.0
baz=77
Q31A Ellis 76.83 338 ⇓P P 10 22 54.1 -0.3
baz=77
T25A Trinidad 76.83 334 ⇑P P 10 22 54.0 -0.7
baz=77
S26A Kim 76.92 335 ⇓P P 10 22 54.4 -0.7
baz=77
R28A Tribune 77.00 336 ⇓P P 10 22 54.9 -0.6
baz=77
Q30A Quinter 77.06 338 ⇑P P 10 22 55.5 -0.2
baz=77
U22A Llaves 77.09 332 ⇑P P 10 22 56.8 +0.6
baz=77
T24B San Luis 77.13 333 ⇑P P 10 22 56.7 +0.3
baz=77
P32A Huiting Farm, 77.16 339 ⇓P P 10 22 56.6 +0.4
baz=78
W18A Petrified Fore 77.20 329 ⇓P P 10 22 57.0 +0.3
baz=78
Q29A Oakley 77.22 337 ⇓P P 10 22 55.7 -1.0
baz=78
R27A Eads 77.28 336 ⇑P P 10 22 56.0 -1.1
baz=78
P31A Stockton 77.30 339 ⇑P P 10 22 57.8 +0.8
baz=78
S25A Robets Cordova 77.31 334 ⇑P P 10 22 56.0 -1.2
baz=78
T23A Casias Ranch, 77.35 333 ⇑P P 10 22 57.7 +0.1
baz=78
X16A Lo Mia Camp, P 77.36 327 ⇑P P 10 22 57.1 -0.5
baz=78
R26A Arlington 77.52 335 ⇑P P 10 22 58.3 -0.1
baz=78
S24A Houchin Ranch, 77.57 334 ⇓P P 10 22 59.0 +0.1
baz=78
SDCO Great Sand Dun 77.77 333 eP P 10 22 59.3 -0.7
1.9nm,0.8s
KSCO Kaye Shedlock' 77.88 336 eP P 10 23 02.7 +2.4
20nm,1.2s
KSCO Kaye Shedlock' 77.88 336 ⇓P P 10 23 01.2 +0.9
baz=78
R24A Sanders Place, 78.06 334 ⇑P P 10 23 01.7 +0.2
baz=78
Y12C Blythe 78.23 325 ⇑P P 10 23 01.9 -0.4
baz=78
WUAZ Wupatki 78.25 328 eP P 10 23 02.2 -0.3
8.9nm,1.1s
WUAZ Wupatki 78.25 328 ⇑P P 10 23 02.0 -0.5
baz=78
S22A 4UR Ranch, Cre 78.28 332 ⇓P P 10 23 02.3 -0.5
baz=79
R23A Moffat 78.29 333 ⇑P P 10 23 02.3 -0.6
baz=79
O29A 4D Ranch, Culb 78.29 338 ⇓P P 10 23 02.6 0.0
baz=79
MVCO Mesa Verde 78.47 331 eP P 10 23 02.8 -1.1
13nm,1.4s
MVCO Mesa Verde 78.47 331 ⇑P P 10 23 03.9 0.0
baz=79
O28A Krutsinger Ran 78.60 337 ⇑P P 10 23 04.8 +0.5
baz=79
BC3 Big Chuckawall 78.61 324 ⇑P P 10 23 04.4 -0.1
baz=79
P26A Davis Ranch, A 78.61 336 ⇑P P 10 23 04.1 -0.4
baz=79
Q24A Divide 78.72 334 ⇓P P 10 23 06.3 +1.0
baz=79
P25A Willow Gulch B 78.86 335 ⇑P P 10 23 06.1 +0.3
baz=79
O27A Beecher Island 78.89 337 ⇑P P 10 23 07.3 +1.4
baz=79
W13A Hualapai Mount 79.04 326 ⇑P P 10 23 06.6 -0.4
baz=79
TSUM Tsumeb 79.17 106 eP P 10 23 10.0 +1.9
16nm,1.5s
O26A Horse Wrangler 79.21 336 ⇑P P 10 23 08.6 +0.9
baz=80
O25A Wiggins 79.37 335 ⇑P P 10 23 08.9 +0.3
baz=80
N27A Anderson Farm, 79.46 337 ⇑P P 10 23 09.0 -0.1
baz=80
L31A Butterfield Fa 79.58 340 ⇑P P 10 23 09.9 +0.4
baz=80
GMRC Granite Mounta 79.62 325 ⇑P P 10 23 09.4 -0.6
baz=80
ISCO Idaho Springs 79.62 334 ⇑P P 10 23 09.5 -0.7
baz=80
PV04 Paradox Valley 79.65 331 eP P 10 23 11.9 +1.7
PV10 Paradox Valley 79.69 331 eP P 10 23 09.2 -1.3
56nm,0.9s
BOSA Boshof 80.06 118 P P 10 23 12.2 -0.7
2.0nm,0.6s,baz=231,slow=4.5,SNR=5.6
O23A Lake Granby, G 80.10 334 ⇑P P 10 23 13.0 +0.3
baz=80
KNB Kanab 80.14 328 eP P 10 23 13.4 +0.5
34nm,1.6s
N24A Carr 80.27 335 ⇑P P 10 23 13.8 +0.3
baz=81
O22A Kremmling 80.28 334 ⇓P P 10 23 14.5 +0.8
baz=81
ECSD EROS Data Cent 80.43 342 eP P 10 23 12.4 -1.7
18nm,1.3s
ECSD EROS Data Cent 80.43 342 ⇑P P 10 23 14.0 0.0
baz=81
N23A Red Feather La 80.71 335 ⇑P P 10 23 16.3 +0.4
baz=81
SHPR Sheep Range 80.78 326 eP P 10 23 15.7 -0.6
16nm,1.4s
N22A Wattenberg Ran 80.81 334 ⇑P P 10 23 16.6 +0.1
baz=81
K28A Ten Mile Ranch 80.82 338 ⇓P P 10 23 17.0 +0.7
baz=81
CCUT Cedar City 80.82 328 eP P 10 23 16.4 -0.2
15nm,1.4s
SPMN St. Paul 80.95 345 ⇑P P 10 23 18.1 +1.3
baz=81
ARUT Antelope Range 81.05 328 eP P 10 23 17.3 -0.5
597nm,1.9s
MVU Marysvale 81.11 329 eP P 10 23 18.2 0.0
10nm,1.4s
J29A Okreek 81.14 339 ⇑P P 10 23 17.3 -0.6
baz=82
I30A Oacoma 81.35 340 ⇓P P 10 23 17.9 -1.1
baz=82

J28A Allard Ranch, 81.43 339 ⇑P P 10 23 19.2 -0.2
baz=82
J27A Elkhorn Farm, 81.51 338 ⇑P P 10 23 20.1 +0.2
baz=82
N20A Spence Gulch, 81.51 333 ⇓P P 10 23 20.0 -0.2
baz=82
FURC Furnace Creek, 81.55 325 ⇑P P 10 23 20.3 +0.1
baz=82
I29A Vivian Onida 81.70 340 ⇓P P 10 23 21.2 +0.3
baz=82
I28A Midland 81.93 339 ⇓P P 10 23 20.9 -1.2
baz=82
MPU Maple Canyon 82.14 330 eP P 10 23 23.4 -0.1
11nm,1.3s
VES Vestal, Richgr 82.14 323 ⇓P P 10 23 23.3 0.0
baz=82
H29A Onida 82.23 340 ⇓P P 10 23 23.2 -0.4
baz=83
K23A Bowen Ranch, D 82.24 336 ⇑P P 10 23 23.4 -0.5
baz=83
I27A Quinn 82.26 339 ⇑P P 10 23 23.4 -0.5
baz=83
LBTB Lobatse 82.29 115 eP P 10 23 24.5 -0.2
36nm,1.7s
G30A Faulkton 82.39 341 ⇓P P 10 23 24.1 -0.3
baz=83
I26A New Underwood 82.47 338 ⇓P P 10 23 24.9 0.0
baz=83
R11A Troy Canyon, C 82.48 327 eP P 10 23 24.9 -0.3
12nm,1.5s
R11A Troy Canyon, C 82.48 327 ⇓P P 10 23 24.4 -0.9
baz=83
JLU Jordanelle 82.56 331 eP P 10 23 25.5 -0.3
5.4nm,1.3s
G29A Hoven 82.67 340 ⇓P P 10 23 26.2 +0.4
baz=83
K21A Alcova 82.70 335 ⇑P P 10 23 26.0 -0.3
baz=83
I25A Rochford 82.74 337 ⇑P P 10 23 26.3 -0.2
baz=83
H27A Howes 82.78 339 ⇑P P 10 23 26.3 -0.2
baz=83
DUG Dugway 82.78 330 eP P 10 23 26.1 -0.7
13nm,1.3s
DUG Dugway 82.78 330 ⇑P P 10 23 27.3 +0.5
baz=83
G28A Parade 82.84 340 ⇓P P 10 23 27.4 +0.6
baz=83
TPH Tonopah 83.01 326 eP P 10 23 27.6 -0.4
9.6nm,1.3s
J22A Midwest 83.11 335 ⇓P P 10 23 29.1 +0.7
baz=83
F29A Eureka 83.23 341 ⇓P P 10 23 28.6 -0.1
baz=84
H25A Fruitdale 83.24 338 ⇑P P 10 23 28.9 0.0
baz=84
G27A Dupree 83.41 339 ⇓P P 10 23 29.3 -0.5
baz=84
HWUT Hardware Ranch 83.46 331 eP P 10 23 30.6 +0.3
55nm,2.0s
F28A McLaughlin 83.51 340 ⇓P P 10 23 29.8 -0.4
baz=84
G26A Maurine 83.53 339 ⇓P P 10 23 29.9 -0.5
baz=84
I22A 9 Mile Ranch, 83.54 336 ⇑P P 10 23 29.8 -0.7
baz=84
J20A Shoshoni 83.63 334 ⇑P P 10 23 31.0 0.0
baz=84
BW06 Boulder Array 83.67 333 eP P 10 23 32.7 +1.3
4.7nm,1.3s
PDAR Pinedale Array 83.67 333 P P 10 23 28.4 -3.0
1.0nm,1.1s,baz=159,slow=4.6,SNR=3.7
G25A Newell 83.69 338 ⇑P P 10 23 32.2 +0.9
baz=84
I21A Big Trails, Te 83.75 335 ⇓P P 10 23 33.1 +1.4
baz=84
NV01 Mina Array Sit 83.81 325 eP P 10 23 34.9 +2.7
NVAR Mina Array Bea 83.81 325 P P 10 23 29.4 -2.8
0.8nm,0.8s,baz=161,slow=5.8,SNR=5.6
E29A Napoleon 83.86 341 ⇑P P 10 23 33.1 +1.1
baz=84
F27A Lemmon 83.89 339 ⇑P P 10 23 32.9 +0.8
baz=84
J19A Crowheart 83.91 334 ⇑P P 10 23 32.9 +0.4
baz=84
F26A Lodgepole 84.06 339 ⇑P P 10 23 33.8 +0.7
baz=84
TOA0 Torodi Ar. Sit 84.07 70 eP P 10 23 34.1 +0.3
TORD Torodi Ar. Bea 84.07 70 P P 10 23 34.1 +0.3
2.4nm,0.6s,baz=296,slow=6.7,SNR=13
HVU Hansel Valley 84.09 331 eP P 10 23 31.9 -1.6
4.1nm,0.8s
D30A Buchanan 84.12 342 ⇑P P 10 23 35.2 +1.9
baz=84
E28A Huff 84.15 341 ⇑P P 10 23 35.3 +1.8
baz=84
I20A Worland 84.16 335 ⇑P P 10 23 35.7 +2.0
baz=84
E27A Carson 84.26 340 ⇑P P 10 23 36.1 +2.0
baz=85
D29A Pettibone, Tap 84.30 341 ⇑P P 10 23 35.8 +1.6
baz=85
G23A Biddle 84.33 337 ⇓P P 10 23 36.3 +1.8
baz=85
AGMN Agassiz Nation 84.53 344 ⇓P P 10 23 38.0 +2.7
baz=85
H20A Greybull 84.58 335 ⇑P P 10 23 35.4 -0.5
baz=85
C30A Mose, Pekin 84.60 342 ⇑P P 10 23 35.1 -0.6
baz=85
D28A Regan 84.68 341 ⇑P P 10 23 36.5 +0.3
baz=85
F23A Volborg 84.79 337 ⇓P P 10 23 37.0 +0.1
baz=85
I17A Pilgrim Ck. 85.04 333 ⇓P P 10 23 38.1 -0.2
baz=85
H19A Powell 85.09 334 ⇑P P 10 23 38.9 +0.4
baz=85
FLWY Flagg Ranch 85.22 333 eP P 10 23 43.5 +4.3
54nm,2.3s
B30A Myrvik Farm, E 85.26 343 ⇑P P 10 23 37.9 -1.1
baz=86
G20A Bridger 85.30 335 ⇓P P 10 23 38.9 -0.5
baz=86
H18A Shoshone NF, C 85.35 334 ⇓P P 10 23 39.1 -0.7
baz=86
C27A Sayler Ranch, 85.41 340 ⇑P P 10 23 41.1 +1.3
baz=86
B29A Wagenman Farm, 85.53 342 ⇓P P 10 23 40.2 -0.1
baz=86
RLMT Red Lodge 85.59 334 eP P 10 23 39.6 -1.4
22nm,1.6s
C26A Wahner Farm, P 85.68 340 ⇓P P 10 23 41.2 0.0
baz=86
D24A Glendive 85.70 338 ⇑P P 10 23 40.7 -0.5
baz=86
A30A Hoffart Farm, 85.71 343 ⇑P P 10 23 41.4 +0.1
baz=86
F20A Billings 85.78 336 ⇑P P 10 23 41.6 -0.2
baz=86
YMR Madison River 85.82 333 eP P 10 23 43.2 +1.0
41nm,1.6s
A29A Manning Farm, 85.92 342 ⇓P P 10 23 42.7 +0.4
baz=86
D23A Lindsay 86.02 338 ⇑P P 10 23 42.6 -0.3
baz=86
C24A Savage 86.10 339 ⇓P P 10 23 42.7 -0.5
baz=86
F19A Roth Farm, Mol 86.10 335 ⇑P P 10 23 43.4 0.0
baz=86
HLID Hailey 86.25 331 eP P 10 23 45.8 +1.5
9.4nm,1.4s
HLID Hailey 86.25 331 ⇓P P 10 23 43.5 -0.8
baz=86
ULM Lac du Bonnet 86.37 345 P P 10 23 43.3 -1.1
2.5nm,0.9s,baz=225,slow=2.9,SNR=2.6
ULM LR LR 11 03 26.0
comp=Z,203nm,18.1s,baz=151,slow=36
E20A Meyer Farm, Mu 86.39 336 ⇓P P 10 23 44.0 -0.7
baz=87
B25A Knox Farm, Ray 86.39 340 ⇑P P 10 23 45.1 +0.5
baz=87
E19A Rath Farm, Rou 86.57 335 ⇓P P 10 23 45.4 -0.2
baz=87
C23A Lambert 86.57 338 ⇓P P 10 23 47.2 +1.7
baz=87
A26A Wade Farm, Ken 86.64 341 ⇓P P 10 23 47.8 +2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=87						
MCMT	McKenzie Canyo	86.67	332	eP	P	10 23 46.8	+0.4
	5.1nm,1.3s						
C22A	Vida	86.74	338	⇑P	P	10 23 45.8	-0.6
	baz=87						
DGMT	Dagmar	86.87	339	⇑P	P	10 23 47.0	0.0
	baz=87						
D20A	Manuel Ranch,	86.90	336	⇑P	P	10 23 47.8	+0.6
	baz=87						
DLMT	Dillon	87.03	333	eP	P	10 23 50.1	+2.1
	74nm,2.9s						
C21A	Desert Coulee	87.20	337	⇑P	P	10 23 48.7	+0.1
	baz=88						
D19A	Cripps Ranch,	87.22	336	⇓P	P	10 23 48.8	0.0
	baz=88						
B22A	Reddig Ranch S	87.27	338	⇑P	P	10 23 50.1	+1.1
	baz=88						
C20A	Veseth Ranch,	87.40	337	⇓P	P	10 23 51.1	+1.5
	baz=88						
B21A	Ellsworth Farm	87.70	337	⇑P	P	10 23 51.9	+0.8
	baz=88						
A22A	Carney Farms,	87.86	338	⇑P	P	10 23 52.6	+0.8
	baz=88						
B20A	Solberg Farm,	88.03	337	⇓P	P	10 23 53.2	+0.5
	baz=88						
M04C	Macdoel	88.12	325	⇑P	P	10 23 54.3	+1.0
	baz=88						
A21A	Bergtoll Ranch	88.17	338	⇑P	P	10 23 54.8	+1.6
	baz=88						
EGMT	Eagleton	88.26	336	⇑P	P	10 23 55.2	+1.4
	baz=89						
M02C	Callahan	88.31	324	⇑P	P	10 23 55.1	+1.0
	baz=89						
B19A	Brinkman Farms	88.35	336	⇓P	P	10 23 55.7	+1.5
	baz=89						
A20A	Cobblestone Ra	88.39	337	⇑P	P	10 23 56.1	+1.8
	baz=89						
K05A	Summer Lake	88.40	326	eP	P	10 23 57.3	+2.6
	57nm,1.5s						
SCHQ	Schefferville	88.43	3	P	P	10 23 54.7	+0.4
	2.6nm,0.9s,baz=223,slow=5.8,SNR=4.4						
A19A	Klindworth Far	88.70	337	⇑P	P	10 23 58.0	+2.2
	baz=89						
ESDC	Sonseca Array	96.40	46	P	P	10 24 29.1	-2.5
	0.2nm,0.3s,baz=277,slow=3.3,SNR=4.6						
DZM	Mont Dzumac	101.41	234	eLR	LR	10 57 45.2	
	224nm,25.4s						
YKA	Yellowknife Ar	101.94	341	P	Pdif	10 24 52.3	-3.5
	0.1nm,0.7s,baz=138,slow=5.0,SNR=2.9						
WRA	Warramunga Arr	120.94	209	PKP	PKPdf	10 29 52.5	-3.3
	0.5nm,0.8s,baz=161,slow=1.7,SNR=3.1						
BRTR	Keskin Array B	121.68	61	PKP	PKPdf	10 29 54.1	-2.4
	0.6nm,0.7s,baz=259,slow=1.3,SNR=8.3						
AKASG	Malin Array Be	122.02	47	PKP	PKPdf	10 29 52.9	-3.8
	0.3nm,0.6s,baz=262,slow=2.8,SNR=4.2						
BRVK	Borovoye	147.03	43	ePKPdf	PKPbc	10 30 44.5	-0.5
BVAR	Borovoye Array	147.10	43	PKPbc	PKPdf	10 30 43.8	+0.8
	3.4nm,0.8s,baz=278,slow=4.0,SNR=9.2						
HYB	Hyderabad	148.91	114	iPKP	PKPdf	10 30 48.0	+0.9
KKAR	Karatay Array	149.39	61	ePKPbc	PKPbc	10 30 50.4	-1.1
EKS2	Erkin-Say	151.82	62	ePKPbc	PKPbc	10 30 57.2	-0.2
AAK	Ala-Archa	152.35	62	ePKPbc	PKPbc	10 30 58.5	-0.2
KSH	Kashi	153.73	68	ePKPbc	PKPbc	10 31 03.5	+1.7
KSH				epPKP	PKPab	10 31 14.3	-0.4
KSH				esPKP		10 31 19.8	
KSH				ePP	PP	10 35 11.3	+22
KSH				eSKS	SKSdf	10 38 05.5	+5.6
ZAA0	Zalesovo Array	154.05	32	ePKPbc	PKPbc	10 31 00.5	-1.3
ZALV	Zalesovo Beam	154.05	32	PKPbc	PKPbc	10 31 00.6	-1.2
	2.3nm,0.6s,baz=301,slow=2.7,SNR=7.3						
MKAR	Makanchi Array	156.59	49	PKPab	PKPab	10 31 25.7	-0.8
	0.6nm,0.5s,baz=274,slow=3.3,SNR=8.0						
WMQ	Urumqi	161.30	52	ePKP	PKPdf	10 31 03.8	+0.6
WMQ				LR	LR		
	comp=N,110nm,20.0s						
WMQ				LR	LR		
	comp=E,93nm,20.8s						
WMQ				LR	LR		
	comp=Z,210nm,20.8s						
CN2	Changchun	163.23	311	ePKP	PKPdf	10 31 07.0	+2.0
KMI	Kunming	170.15	151	PKP	PKPdf	10 31 08.0	-3.1
NJ2	Nanjing	170.76	262	ePKP	PKPdf	10 31 10.8	-0.1
HHC	Hu-ho-hao-te	172.48	339	ePKP	PKPdf	10 31 12.0	+0.3
HHC				pPKP	pPKPdf	10 31 22.5	+4.3
HHC				sPKP		10 31 26.8	
HHC				PP	PP	10 36 31.3	+4.1
HHC				SKS	SKSdf	10 38 11.0	-3.0
HHC				SS	SS	10 57 35.5	-1.6
HHC				AMB	AMB		
	comp=Z,79nm,7.5s						
HHC				LR	LR		
	comp=N,170nm,19.2s						
HHC				LR	LR		
	comp=E,180nm,18.2s						
HHC				LR	LR		
	comp=Z,210nm,19.9s						
GYA	Guiyang	172.54	170	ePKP	PKPdf	10 31 11.0	-1.2
GYA				pPKP	pPKPdf	10 31 23.8	+5.1
GYA				PKPab	PKPab	10 32 38.0	+1.0
GYA				PKS	PKSdf	10 34 42.5	-2.1
GYA				PP	PP	10 36 30.8	+3.5
GYA				SKKS		10 43 12.8	
GYA				SS	SS	10 57 36.5	-0.9
GYA				AMB	AMB		
	comp=Z,120nm,8.6s						
GYA				LR	LR		
	comp=N,120nm,21.5s						
GYA				LR	LR		
	comp=E,110nm,21.3s						
GYA				LR	LR		
	comp=Z,120nm,24.6s						
CD2	Chengdu	175.32	128	PKP	PKPdf	10 31 13.0	+0.1
CD2				pPKP	pPKPdf	10 31 24.2	+4.8
CD2				sPKP		10 31 28.0	
CD2				PKS	PKSdf	10 34 43.8	-1.4
CD2				PP	PP	10 36 45.5	+3.5
CD2				SKS	SKSdf	10 38 10.5	-4.6
CD2				SKKS	SKKSac	10 43 26.0	-1.5
CD2				SS	SS	10 58 03.8	-2.4
CD2				AMB	AMB		
	comp=Z,200nm,5.8s						
LZH	Lanzhou	175.87	56	ePKP	PKPdf	10 31 13.3	+0.3
LZH				pPKP	pPKPdf	10 31 23.5	+3.9
LZH				sPKP		10 31 28.0	
LZH				PKPab	PKPab	10 32 53.5	+1.6
XAN	Xi'an	179.27	286	PKP	PKPdf	10 31 13.0	-0.4

*IDC **28** 10:14:08.1±0.6, 34°.09S×73°.41W, h0km, mb4.2/9, mb1 4.3/12, mb1mx4.1/32, mbtmp4.2/12, ML4.3/2, Error ellipse: s-maj=25.0km s-min=17.9km az=91.0*

*ISCJB **28** 10:14:12.0±0.5, 34°.10S±0°.07×73°.3W±0°.1, h33km, mb4.3/15, Error ellipse: s-maj=15.4km s-min=9.4km az=174.6*

*NEIC **28** 10:14:13.7±0.3, 34°.12S×73°.31W, h35km, mb4.7/10, Error ellipse: s-maj=12.8km s-min=8.9km az=89.0*

ISC 28 10:14:13.5±0.6, **34°.07S**±0°.09×**73°.3W**±0°.1, **h35**km, **n38**, σ**0°.73**/39, **mb4.5**/15, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.95	62	Pn	Pn	10 15 25.8	+0.4
	0.0nm,0.3s,baz=138,slow=18,SNR=1.6						
PLCA	Paso Flores	7.01	162	Pn	Pn	10 15 53.8	0.0
	2.8nm,0.3s,baz=96,slow=18,SNR=5.2						
LPAZ	La Paz	18.32	16	P	Pn	10 18 26.2	+0.8
	0.1nm,0.3s,baz=214,slow=17,SNR=3.9						
LPAZ	La Paz	18.32	16	eP	Pn	10 18 25.6	+0.2
	8.9nm,1.2s						
SIV	San Ignacio	21.12	35	P	P	10 18 55.6	+0.2
	8.2nm,1.1s,baz=229,slow=14,SNR=3.2						
BDFB	Brasilia	29.27	57	P	P	10 20 11.0	-1.7
	4.0nm,0.8s,baz=197,slow=6.5,SNR=3.3						
OTAV	Otavalo	34.46	351	eP	P	10 21 02.0	+3.5
	32nm,1.9s						
VNA3	Neumayer Olymp	49.70	158	P	P	10 23 02.2	+0.6
VNA2	Neumayer--Watz	50.37	157	P	P	10 23 07.4	+0.8
SNAA	Sanae	51.93	158	P	P	10 23 18.9	+0.4
SNAA	Sanae	51.93	158	P	P	10 23 19.0	+0.6
	5.2nm,0.8s,baz=282,slow=8.2,SNR=16						
SNAA	Sanae	51.93	158	eP	P	10 23 18.7	+0.3
	12nm,0.9s						
QSPA	South Pole Qui	56.16	180	P	P	10 23 49.4	-0.1
	6.0nm,1.0s,baz=114,slow=3.2,SNR=6.7						
QSPA	South Pole Qui	56.16	180	eP	P	10 23 50.0	+0.5
	4.3nm,0.7s						
TXAR	Lajitas Array	69.28	332	P	P	10 25 18.0	+0.8
	0.6nm,0.5s,baz=159,slow=8.5,SNR=9.3						
SWET	Sewanee	69.93	349	eP	P	10 25 21.5	+0.5
	44nm,1.7s						
WVT	Waverly	71.14	348	eP	P	10 25 28.1	-0.2
	13nm,0.9s						
DBIC	Dimbokro	76.23	72	P	P	10 25 58.6	-0.1
	4.1nm,0.6s,baz=203,slow=3.8,SNR=7.9						
DBIC	Dimbokro	76.23	72	eP	P	10 25 59.0	+0.3
	5.3nm,0.7s						
SDCO	Great Sand Dun	77.46	334	eP	P	10 26 06.2	+0.7
	0.8nm,0.6s						
TSUM	Tsumeb	80.23	106	eP	P	10 26 21.8	+0.8
	8.4nm,1.4s						
HWUT	Hardware Ranch	83.10	332	eP	P	10 26 36.4	+0.8
	7.7nm,1.1s						
NVAR	Mina Array Bea	83.33	326	P	P	10 26 36.7	-0.2
	0.5nm,0.8s,baz=153,slow=8.1,SNR=4.0						
PDAR	Pinedale Array	83.34	334	P	P	10 26 37.0	+0.1
	0.2nm,0.6s,baz=187,slow=6.4,SNR=2.3						
TORD	Torodi Ar. Bea	85.25	71	P	P	10 26 47.4	+0.5
	2.1nm,0.7s,baz=262,slow=5.0,SNR=7.2						
ASAR	Alice Springs	117.01	208	PKP	PKPdf	10 32 52.9	-2.2
	0.4nm,0.7s,baz=168,slow=2.7,SNR=4.1						
WRA	Warramunga Arr	120.16	210	PKP	PKPdf	10 33 00.7	-0.5
	1.1nm,0.6s,baz=160,slow=1.5,SNR=11						
WRAB	Tennant Creek	120.17	210	ePKPdf	PKPdf	10 33 00.7	-0.6
BRTR	Keskin Array B	122.81	61	PKP	PKPdf	10 33 05.2	-0.6
	0.8nm,0.7s,baz=199,slow=3.4,SNR=4.7						
AKASG	Malin Array Be	123.04	48	PKP	PKPdf	10 33 05.2	-0.5
	0.9nm,0.6s,baz=264,slow=2.9,SNR=7.1						
BRVK	Borovoye	147.99	42	ePKPbc	PKPab	10 33 56.2	-1.2
BVAR	Borovoye Array	148.07	43	PKP	PKPdf	10 33 51.9	+0.3
	3.9nm,0.6s,baz=82,slow=3.1,SNR=6.6						
BVAR				PKPbc	PKiKP	10 33 55.9	-0.7
	4.8nm,0.6s,baz=302,slow=1.6,SNR=17						
IPM	Ipoh	150.09	169	ePKPbc	PKPbc	10 34 00.6	-0.6
KKAR	Karatay Array	150.53	61	ePKPbc	PKPbc	10 34 01.6	+0.3
EKS2	Erkin-Say	152.96	62	ePKPbc	PKPbc	10 34 07.5	+0.5
AAK	Ala-Archa	153.49	62	ePKPbc	PKPbc	10 34 09.1	+0.8
ZALV	Zalesovo Beam	154.85	31	PKP	PKPdf	10 34 01.7	-0.2
	0.9nm,0.6s,baz=357,slow=5.8,SNR=3.3						
ZALV				PKPbc	PKPbc	10 34 09.6	-1.0
	2.3nm,0.7s,baz=302,slow=3.4,SNR=5.9						
MKAR	Makanchi Array	157.62	48	PKPab	PKPab	10 34 38.5	+0.4
	1.1nm,0.7s,baz=297,slow=4.1,SNR=6.3						

*IDC **28** 10:17:16.7±1.1, 36°.59S×73°.40W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.8/29, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=31.8km s-min=28.8km az=104.0*

*ISCJB **28** 10:17:19.3±1.0, 36°.6S±0°.2×73°.3W±0°.2, h27km, mb3.7/6, Error ellipse: s-maj=31.8km s-min=19.5km az=32.9*

ISC 28 10:17:20.9±1.1, **36°.6S**±0°.2×**73°.4W**±0°.2, **h27**km, **n7**, σ**0°.70**/7, **mb3.7**/6, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	6.54	42	Pn	Pn	10 18 55.7	+0.3
	0.6nm,0.3s,baz=225,slow=11,SNR=5.9						
SIV	San Ignacio	23.24	31	P	P	10 22 25.5	-0.6
	3.0nm,0.8s,baz=211,slow=9.9,SNR=3.7						
QSPA	South Pole Qui	53.65	180	P	P	10 26 39.8	0.0
	1.9nm,0.8s,baz=126,slow=1.1,SNR=3.9						
TXAR	Lajitas Array	71.49	332	P	P	10 28 38.6	-0.5
	0.5nm,0.6s,baz=150,slow=7.6,SNR=7.4						
NVAR	Mina Array Bea	85.41	326	P	P	10 29 57.0	+1.1
	0.4nm,0.7s,baz=174,slow=4.5,SNR=2.8						
PDAR	Pinedale Array	85.60	334	P	P	10 29 56.6	-0.2
	0.4nm,0.9s,baz=170,slow=2.5,SNR=3.1						
TORD	Torodi Ar. Bea	86.10	71	P	P	10 29 59.6	0.0
	0.3nm,0.8s,baz=224,slow=3.8,SNR=2.4						

*IDC **28** 10:17:57.9±1.4, 35°.14S×72°.93W, h0km, mb4.1/5, mb1 4.2/7, mb1mx4.0/29, mbtmp4.0/7, ML3.6/2, Error ellipse: s-maj=38.5km s-min=32.7km az=147.0*

*ISCJB **28** 10:18:03.0±1.7, 34°.8S±0°.3×72°.8W±0°.2, h33km, mb4.1/8, Error ellipse: s-maj=39.1km s-min=19.1km az=162.7*

*NEIC **28** 10:18:03.6±0.8, 35°.06S×72°.79W, h35km, mb4.0/4, Error ellipse: s-maj=21.9km s-min=14.6km az=150.0*

ISC 28 10:18:03.8±1.3, **35°.0S**±0°.3×**72°.8W**±0°.2, **h35**km, **n15**, σ**0°.82**/15, **mb4.0**/8, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.11	50	Pn	Pn	10 19 18.2	+0.2
	0.7nm,0.3s,baz=227,slow=16,SNR=4.3						
LPAZ	La Paz	19.09	14	P	Pn	10 22 24.6	-0.5
	0.2nm,0.3s,baz=222,slow=5.5,SNR=4.3						
LPAZ	La Paz	19.09	14	eP	Pn	10 22 24.4	-0.7
	4.3nm,0.9s						
SIV	San Ignacio	21.65	32	P	P	10 22 51.0	-0.3
	2.8nm,0.7s,baz=223,slow=9.7,SNR=4.2						
TEIG	Tepich	56.83	343	P	P	10 27 44.2	-0.6
	8.1nm,0.6s,baz=345,slow=5.6,SNR=5.5						
TEIG	Tepich	56.83	343	eP	P	10 27 44.5	-0.3
	33nm,1.0s						
TXAR	Lajitas Array	70.27	332	P	P	10 29 14.4	+0.8
	0.9nm,0.6s,baz=152,slow=8.5,SNR=10.0						
WVT	Waverly	72.11	347	eP	P	10 29 24.1	-0.4
	5.4nm,0.8s						
ANMO	Albuquerque	76.33	332	eP	P	10 29 50.4	+1.0
	2.1nm,1.1s						
SDCO	Great Sand Dun	78.45	334	eP	P	10 30 02.2	+0.9
	1.6nm,0.9s						
NVAR	Mina Array Bea	84.31	326	P	P	10 30 32.6	+0.4
	0.4nm,0.6s,baz=145,slow=5.4,SNR=4.0						
TORD	Torodi Ar. Bea	85.16	70	P	P	10 30 37.1	+0.4
	0.8nm,0.8s,baz=279,slow=3.0,SNR=3.9						
WRA	Warramunga Arr	119.59	210	PKP	PKPdf	10 36 48.6	-1.8
	0.3nm,0.6s,baz=146,slow=1.3,SNR=3.6						
BVAR	Borovoye Array	148.44	44	PKPbc	PKPbc	10 37 46.4	+0.3
	0.6nm,0.5s,baz=318,slow=1.9,SNR=3.3						
ZALV	Zalesovo Beam	155.40	33	PKPab	PKPab	10 38 19.1	+0.6
	0.9nm,0.6s,baz=328,slow=5.1,SNR=3.7						

*IDC **28** 10:21:28.9±1.3, 34°.31S×73°.53W, h0km, mb3.6/4, mb1 4.0/7, mb1mx3.8/28, mbtmp3.7/7, ML4.4/2, Error ellipse: s-maj=30.1km s-min=25.6km az=79.0*

*ISCJB **28** 10:21:32.2±0.7, 34°.34S±0°.05×73°.4W±0°.1, h33km, mb3.8/6, Error ellipse: s-maj=12.9km s-min=7.5km az=6.4*

*NEIC **28** 10:21:34.5±0.7, 34°.27S×73°.47W, h35km, mb4.0/3, Error ellipse: s-maj=19.4km s-min=10.4km az=95.0*

ISC 28 10:21:34.3±0.8, **34°.30S**±0°.06×**73°.4W**±0°.1, **h35**km, **n13**, σ**0°.87**/16, **mb3.6**/6, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.13	60	Pn	Pn	10 22 47.9	-0.8
	0.4nm,0.3s,baz=203,slow=15,SNR=4.1						
CFAA				Sn	Sn	10 23 47.9	+1.1
	0.7nm,0.3s,baz=115,slow=20,SNR=6.2						
PLCA	Paso Flores	6.81	161	Pn	Pn	10 23 11.7	-0.2
	4.6nm,0.3s,baz=330,slow=10.0,SNR=6.4						
PLCA				Sn	Sn	10 24 27.9	-0.3
	1.6nm,0.3s,baz=321,slow=7.7,SNR=3.0						
PLCA	Paso Flores	6.81	161	ePn	Pn	10 23 12.9	+1.0
PLCA				Sn	Sn	10 24 27.9	-0.3
LVC	Limon Verde	12.31	20	eP	Pn	10 24 29.1	+1.8
	7.2nm,0.8s						
LPAZ	La Paz	18.56	16	P	P	10 25 48.7	-0.2
	0.1nm,0.3s,baz=155,slow=6.3,SNR=3.9						
LPAZ	La Paz	18.56	16	eP	P	10 25 49.0	-0.3
	2.4nm,0.8s						
SIV	San Ignacio	21.36	34	P	P	10 26 19.0	+0.3
	1.7nm,0.7s,baz=227,slow=17,SNR=3.2						
SDV	Santo Domingo	43.03	4	eP	P	10 29 29.5	-1.4
	3.5nm,0.8s						
QSPA	South Pole Qui	55.93	180	P	P	10 31 09.4	+0.8
	2.3nm,1.0s						
TXAR	Lajitas Array	69.44	332	P	P	10 32 39.0	0.0
	0.5nm,0.8s,baz=153,slow=8.4,SNR=6.7						
PDAR	Pinedale Array	83.52	334	P	P	10 33 58.0	-0.6
	0.4nm,0.8s,baz=133,slow=8.0,SNR=3.3						
TORD	Torodi Ar. Bea	85.40	71	P	P	10 34 09.0	+0.5
	0.2nm,0.4s,baz=246,slow=5.7,SNR=3.9						
MKAR	Makanchi Array	157.84	48	PKPab	PKPab	10 41 59.8	-0.1
	0.6nm,0.8s,baz=294,slow=3.9,SNR=3.8						

*IDC **28** 10:26:46.2±0.4, 1°.09S×80°.42W, h0km, mb5.0/27, mb1 5.1/32, mb1mx5.1/38, mbtmp5.0/32, ML3.6/3, MS4.7/7, Ms1 4.7/7, ms1mx4.2/34, Error ellipse: s-maj=19.2km s-min=9.7km az=60.0*

*IGQ **28** 10:26:50±0.3, 1°.09S×80°.56W, h6km±27km, Mb5.1, Error ellipse: s-maj=5.7km s-min=3.5km az=43.1*

*MOS **28** 10:26:50.7±0.9, 0°.99S×80°.43W, h33km, mb5.6/80, Error ellipse: s-maj=7.9km s-min=4.9km az=99.6*

*NEIC **28** 10:26:51.8±0.1, 1°.18S×80°.39W, h35km, mb5.3/189, MD5.1(IGQ), Error ellipse: s-maj=4.1km s-min=2.7km az=43.0*

NEIC Felt [IV] at Manta and Portoviejo; [III] at Chone, Guayaquil and Samborondon; [II] at Quito. Also felt at Bahia de Caraquez, Cuenca, Ibarra, Jipijapa, Quevedo, Riobamba and Santa Elena.

*GCMT **28** 10:26:51.8±0.4, 1°.27S×80°.64W, h34km±1km, MW5.3/55, Moment Tensor Solution. s30,c40; s55,c75; Duration: 1s.0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.82±.05; $M_{\theta\theta}$0.07±.03; $M_{\phi\phi}$-0.90±.03; $M_{r\theta}$0.06±.04; $M_{\theta\phi}$-0.12±.02; $M_{\phi r}$-0.35±.04; Best double couple: $M_0$0.94000×10^{17} NP1:ϕ_s180.00000°, δ56.00000°, λ82.00000°. NP2: ϕ_s14.00000°, δ35.00000°, λ101.00000°. Principal axes: T 0.9010, Plg77.0000°, Azm65.0000°; N 0.0790, Plg6.0000°, Azm185.0000°; P -0.9800, Plg11.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **28** 10:26:51.3, 1°.20S×80°.40W, h39km, mB5.4/12, Ms5.3/10, Ms7 4.9/11*

*ISCJB **28** 10:26:52.4±0.4, 1°.14S±0°.03×80°.46W±0°.02, h53km±3km, mb5.3/277, MS4.8/16, Error ellipse: s-maj=5.0km s-min=2.8km az=34.8*

*SZGRF **28** 10:26:52.9, 1°.01S×80°.29W, h33km, mb5.3, Near coast of Ecuador*

ISC 28 10:26:52.2±0.5, **1°.20S**±0°.04×**80°.57W**±0°.04, **h43**km±4km, **n1153**, σ**1°.13**/1179, **mb5.4**/281, **MS4.8**/16, **315C-245D**, **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ISPT	Isla de la Pla	0.51	263	⇑P	Pn	10 27 02.6	-0.6
ISPT	Isla de la Pla	0.51	263	⇑S	Sn	10 27 10.3	-0.7
PECV	Mancha de Ca P	0.67	51	⇑P	Pn	10 26 59.2	-6.2
JAMA	Jama	1.00	21	P	Pn	10 27 06.1	-3.9
MAG1	Magdalena	1.38	35	P	Pn	10 27 12.1	-2.9
IGUA	Igualata	1.95	98	⇓P	Pn	10 27 22.2	-1.2
PAST	Pastocalle	1.99	75	⇓P	Pn	10 27 21.3	-2.5
BIL2	Estacion Bilba	2.08	97	P	Pn	10 27 24.8	-0.1
BBIL	Ulba Tungurahu	2.10	97	⇓P	Pn	10 27 24.3	-0.8
BMAS	Trigal station	2.11	98	⇓P	Pn	10 27 25.7	+0.3
BMAS	Trigal station	2.11	98	⇓S	Sn	10 27 51.7	+1.1
JUI6	Juive	2.11	96	P	Pn	10 27 25.5	+0.2
CAMI	Rancho Maria	2.13	76	⇓P	Pn	10 27 24.2	-1.5
ARRY	Arrayan	2.13	98	⇓P	Pn	10 27 25.0	-0.7
RETU	Refugio	2.14	97	⇓P	Pn	10 27 25.2	-0.7
PAT1	Patacocha	2.15	98	⇓P	Pn	10 27 25.4	-0.6
RUN5	Runtun	2.15	96	⇓P	Pn	10 27 25.2	-0.8
BPAT	Tungurahua Vol	2.15	98	⇓S	Sn	10 27 51.6	-0.3
BPAT	Tungurahua Vol	2.15	98	⇓P	Pn	10 27 25.4	-0.7
BRUN	Tungurahua Vol	2.17	96	⇓P	Pn	10 27 25.1	-1.0
BULB	Ulba Tungurahu	2.17	96	⇓P	Pn	10 27 26.5	+0.3
NAS2	Nasa	2.17	75	⇓P	Pn	10 27 25.2	-1.2
ULBA	Ulba	2.17	97	⇓P	Pn	10 27 26.5	+0.2
MOV1	Cotopaxi Vol s	2.18	77	⇓P	Pn	10 27 25.9	-0.7
PISA	Pisayambo	2.19	86	⇑P	Pn	10 27 26.8	+0.2
JUA2	San Juan 2	2.19	63	⇓P	Pn	10 27 24.1	-2.6
TERV	Terraza Guagua	2.21	63	P	Pn	10 27 25.0	-2.0
PINO	Pino	2.22	62	⇓P	Pn	10 27 24.9	-2.1
GGP	Refugio Guagua	2.22	63	⇓P	Pn	10 27 24.1	-3.1
VC1	Cotopaxi 1	2.23	76	⇓P	Pn	10 27 26.1	-1.2
COV1	Cotopaxi Volc	2.29	76	⇓P	Pn	10 27 26.7	-1.4
ANTI	Antisana	2.52	73	⇓P	Pn	10 27 30.2	-1.0
OTAV	Otavalo	2.56	56	ePn	Pn	10 27 29.4	-2.2
OTAV				eSn	Sn	10 28 06.5	+4.8
ELAGU	Cayambe Volc	2.83	66	P	Pn	10 27 35.4	-0.1
CAYR	Refugio Cayamb	2.83	65	P	Pn	10 27 35.4	-0.2
ANGU	Angureal	2.84	64	⇑P	Pn	10 27 36.3	+0.6
ANGU	Angureal	2.84	64	⇑S	Sn	10 28 12.6	+3.5
CAYA	Cayambe	2.87	64	⇓P	Pn	10 27 35.2	-0.9
ATAH	Atahualpa	6.28	160	Pn	Pn	10 28 24.9	+2.2
	26nm,0.3s,baz=6.4,slow=8.8,SNR=114						
ATAH				Sn	Sn	10 29 37.1	+3.7
	34nm,0.3s,baz=60,slow=20,SNR=2.9						
ATAH				LR	LR	10 30 58.9	
	comp=Z,10μm,19.1s,baz=339,slow=40						
ROSC	El Rosal	8.66	46	Pn	Pn	10 28 52.7	-2.8
	9.1nm,0.3s,baz=254,slow=8.3,SNR=20						
ROSC				Sn	Sn	10 30 34.8	+2.7
	baz=107,slow=19,SNR=1.7						
ROSC	El Rosal	8.66	46	ePn	Pn	10 28 53.5	-2.0
BCIP	Isla Barro Col	10.33	4	ePn	Pn	10 29 20.5	+2.6
NNA	Nana	11.34	161	Pn	Pn	10 29 32.6	+0.9
	2μm,0.5s,SNR=24						
NNA	Nana	11.34	161	eP	Pn	10 29 32.2	+0.5
NNA				e		10 31 38.2	
NNA	Nana	11.34	161	Pn	Pn	10 29 32.2	+0.5
	34nm,0.3s,baz=323,slow=13,SNR=48						
NNA				Sn	Sn	10 31 36.8	-0.4
	86nm,0.3s,baz=212,slow=18,SNR=17						
NNA				LR	LR	10 34 47.0	
	comp=Z,759nm,19.0s,baz=313,slow=42						
NNA	Nana	11.34	161	ePn	Pn	10 29 32.2	+0.5
NNA				Sn	Sn	10 31 36.8	-0.4
NNA				eSn	Sn	10 31 38.2	+1.0
JTS	JuntasAbangare	12.22	339	Pn	Pn	10 29 47.9	+4.0
	261nm,0.9s,SNR=6.8						
JTS	JuntasAbangare	12.22	339	ePn	Pn	10 29 46.6	+2.7
JTS	JuntasAbangare	12.22	339	Pn	Pn	10 29 41.7	-2.2
	0.2nm,0.3s,baz=18,slow=20,SNR=1.9						
JTS				LR	LR	10 33 33.1	
	comp=Z,4μm,19.7s,baz=150,slow=33						
JTS	JuntasAbangare	12.22	339	ePn	Pn	10 29 46.5	+2.7
SDV	Santo Domingo	14.09	44	ePn	Pn	10 30 08.5	-0.9
	96nm,0.9s						
APG	El Apazote	18.84	329	P	P	10 31 07.7	-1.3
	0.4nm,0.3s,baz=150,slow=9.6,SNR=17						
SAML	Samuel	18.94	115	eP	P	10 31 07.5	-2.2
	83nm,1.3s						
LPAZ	La Paz	19.36	141	eP	Pn	10 31 16.5	+0.1
LPAZ				pmax	pmax		
	comp=Z,56nm,0.8s						
LPAZ	La Paz	19.36	141	P	P	10 31 15.1	+0.1
	comp=Z,6.3nm,0.3s,baz=314,slow=9.4,SNR=72						
LPAZ	La Paz	19.36	141	eP	Pn	10 31 16.5	+0.1
	comp=Z,56nm,0.8s						
MTDJ	Mount Denham	19.54	9	eP	P	10 31 17.7	-0.3
	comp=Z,142nm,1.0s						
GTBY	Guantanamo Bay	21.67	14	eP	P	10 31 40.8	+1.5
	comp=Z,273nm,1.4s						
SDDR	Presa de Saban	22.03	24	eP	P	10 31 44.2	+0.9
	comp=Z,74nm,0.9s						
TPP	Pointe-a-Pierr	22.20	59	e	P	10 31 44.6	-0.5
TRN	Trinidad (W)	22.41	58	e	P	10 31 46.1	-1.2
TEIG	Tepich	22.60	341	eP	P	10 31 49.1	-0.1
	comp=Z,49nm,0.8s,baz=149,slow=6.5,SNR=13						
TEIG	Tepich	22.60	341	eP	P	10 31 50.7	+1.5
	comp=Z,80nm,1.0s						
TBH	Brigand Hill	22.61	59	e	P	10 31 49.1	-0.4
SMN1	Samana, DR	23.10	28	eP	P	10 31 55.0	+0.5
TPR	Prospect	23.21	57	e	P	10 31 53.7	-2.0
CRPR	Cabo Rojo, PR	23.23	34	eP	P	10 31 56.7	+0.7
	comp=Z,58nm,0.9s						
BOT	Bacolet	23.25	58	e	P	10 31 55.6	-0.4
LSP	Las Mesas	23.39	34	eP	P	10 31 58.3	+0.9
OBIP	Obispado Ponce	23.55	35	eP	P	10 31 57.8	-1.0
	comp=Z,83nm,1.1s						
CELP	Cerrillos	23.59	35	eP	P	10 31 58.9	-0.4
AGPR	Aguadilla, PR	23.61	33	eP	P	10 31 59.8	+0.4
	comp=Z,244nm,1.3s						
LRS	Lares	23.61	34	eP	P	10 31 59.9	+0.4
AOPR	Arecibo Observ	23.71	34	eP	P	10 32 00.6	+0.2
	comp=Z,83nm,0.7s						
HUMP	Col San Antoni	24.07	36	eP	P	10 32 03.6	-0.1
LVC	Limon Verde	24.11	153	eP	P	10 32 06.3	+1.9
	comp=Z,119nm,1.0s						
CBYP	Canovanas	24.17	36	eP	P	10 32 04.1	-0.6
	comp=Z,39nm,0.9s						
SIV	San Ignacio	24.20	128	P	P	10 32 04.9	0.0
	comp=Z,39nm,0.9s,baz=314,slow=11,SNR=36						
SIV				LR	LR	10 42 42.9	
	comp=Z,5μm,18.4s,baz=319,slow=40						
STVI	Saint Thomas	24.77	38	eP	P	10 32 09.4	-0.7
	comp=Z,75nm,0.9s						

FDF Fort de France 24.90 50 eP P 10 32 09.2 -2.2
FDF pmax pmax
comp=Z,291nm,1.3s
FDF Fort de France 24.90 50 eP P 10 32 09.2 -2.2
comp=Z,291nm,1.3s
BBGH Gun Hill 25.25 55 eP P 10 32 13.7 -0.8
comp=Z,768nm,1.5s
SMRT St. Maarten 25.74 41 eP P 10 32 17.4 -1.5
comp=Z,109nm,0.9s
ANWB Willy Bob 26.34 44 eP P 10 32 23.6 -0.7
comp=Z,155nm,0.8s
ANWB e 10 32 33.5
035Z Hargill 32.27 330 ⇓P P 10 33 18.1 +1.2
baz=32
CFAA Coronel Fontan 32.41 160 P P 10 33 19.5 +1.3
comp=Z,4.0nm,0.6s,baz=284,slow=4.2
TIGA Tifton 32.59 355 eP P 10 33 19.8 +0.2
comp=Z,85nm,1.0s
TIGA Tifton 32.59 355 ⇑P P 10 33 19.5 -0.1
baz=33,SNR=6.5
BRAL Brewton 32.62 350 eP P 10 33 22.4 +2.5
comp=Z,172nm,1.1s
035A Encino 32.68 330 ⇓P P 10 33 22.5 +2.0
baz=33,SNR=9.7
034A Hebbronville 33.08 329 ⇓P P 10 33 25.9 +1.8
baz=33,SNR=8.2
KVTX Kingsville 33.09 331 eP P 10 33 27.2 +3.2
comp=Z,89nm,0.9s
934A Benavides 33.44 330 ⇑P P 10 33 29.2 +2.1
baz=34,SNR=22
CPUP Villa Florida 33.53 140 P P 10 33 27.1 -0.8
comp=Z,2.4nm,0.6s,baz=285,slow=9.9,SNR=5.2
CPUP PcP PcP 10 36 08.0 -0.1
comp=Z,4.3nm,0.7s,baz=45,slow=1.4,SNR=3.1
CPUP Villa Florida 33.53 140 eP P 10 33 27.0 -0.9
comp=Z,1.1nm,1.1s
CPUP PcP PcP 10 36 08.0 -0.1
835A Beeville 33.68 332 ⇓P P 10 33 31.1 +1.9
baz=34,SNR=12
933A Laredo 33.83 329 ⇑P P 10 33 32.3 +1.7
baz=34,SNR=29
834A Tilden 33.89 331 ⇓P P 10 33 32.7 +1.7
baz=34,SNR=42
735A Kenedy 34.15 332 ⇓P P 10 33 34.9 +1.6
baz=34,SNR=16
HKT Hockley 34.23 336 eP P 10 33 34.8 +0.9
HKT e 10 33 46.9
HKT e 10 36 10.8
HKT pmax pmax
comp=Z,26nm,1.4s
HKT Hockley 34.23 336 eP P 10 33 34.8 +0.9
comp=Z,26nm,1.4s
HKT e 10 33 46.9
HKT ePcP PcP 10 36 10.8 +0.8
538A Harpers Horsep 34.34 337 ⇑P P 10 33 36.2 +1.3
baz=34
636A Smothers Creek 34.34 334 ⇑P P 10 33 36.5 +1.6
baz=34,SNR=17
833A Chaparral WMA, 34.47 330 ⇑P P 10 33 37.5 +1.5
baz=35,SNR=6.5
734A La Parita Cree 34.49 331 ⇓P P 10 33 37.7 +1.5
baz=35,SNR=9.9
GOGA Godfrey 34.54 356 eP P 10 33 36.3 -0.3
GOGA pmax pmax
comp=Z,56nm,1.0s
GOGA Godfrey 34.54 356 eP P 10 33 36.3 -0.3
comp=Z,56nm,1.0s
537A Green Hill Far 34.55 335 ⇑P P 10 33 38.1 +1.4
baz=35
635A Leesville 34.58 333 ⇓P P 10 33 38.2 +1.2
baz=35,SNR=33
LRAL Lakeview Retre 34.59 350 eP P 10 33 36.6 -0.4
comp=Z,65nm,0.9s
832A Faith Ranch, C 34.73 329 ⇓P P 10 33 39.5 +1.1
baz=35,SNR=15
733A Divot King Ran 34.74 330 ⇑P P 10 33 39.5 +1.1
baz=35,SNR=6.5
340A Bronson 34.82 340 ⇑P P 10 33 39.7 +0.7
baz=35
634A China Grove, S 34.84 332 ⇑P P 10 33 40.5 +1.2
baz=35,SNR=14
536A Bastrop 34.86 334 ⇓P P 10 33 40.6 +1.2
baz=35,SNR=5.4
339A Huntington 34.98 339 ⇑P P 10 33 41.0 +0.6
baz=35
535A Dale 35.04 334 ⇑P P 10 33 42.2 +1.2
baz=35,SNR=18
732A Laxson Ranch, 35.09 330 ⇑P P 10 33 42.3 +0.8
baz=35,SNR=13
BDFB Brasilia 35.17 116 eP P 10 33 41.8 -0.7
BDFB Brasilia 35.17 116 P P 10 33 42.0 -0.4
comp=Z,33nm,0.8s,baz=280,slow=12,SNR=38
BDFB Brasilia 35.17 116 eP P 10 33 41.8 -0.7
338A Crockett 35.28 338 ⇑P P 10 33 43.8 +0.8
baz=36,SNR=9.3
633A Saathoff Ranch 35.30 331 ⇓P P 10 33 44.4 +1.2
baz=36,SNR=24
436A Wall Ranch, Ga 35.35 335 ⇑P P 10 33 44.6 +1.0
baz=36
NATX Nacogdoches 35.40 339 eP P 10 33 45.4 +1.3
comp=Z,42nm,1.0s
534A Blanco 35.45 333 ⇑P P 10 33 45.6 +1.0
baz=36,SNR=48
337A Centerville 35.46 337 ⇓P P 10 33 45.9 +1.3
baz=36
632A Uvalde 35.64 330 ⇓P P 10 33 47.5 +1.3
baz=36,SNR=32
435B Jarrell 35.69 334 ⇑P P 10 33 47.7 +1.1
baz=36,SNR=9.2
533A Kerrville 35.74 332 ⇓P P 10 33 48.2 +1.1
baz=36,SNR=29
H06E1 SOCORRO T-PHAS35.84 305 T T 11 11 32.8
SNR=20
336A Riesel 35.91 336 ⇓P P 10 33 49.4 +0.9
baz=36,SNR=8.6
631A Perdido Creek 35.95 329 ⇓P P 10 33 49.7 +0.8
baz=36,SNR=37
434A Burnet 36.02 334 ⇓P P 10 33 50.6 +1.2
baz=36,SNR=27
335A Moody 36.06 335 ⇑P P 10 33 50.8 +1.1
baz=36,SNR=16
KMSC Kings Mountain 36.16 359 eP P 10 33 50.2 -0.3
comp=Z,55nm,1.0s
KMSC Kings Mountain 36.16 359 ⇓P P 10 33 50.5 -0.1
baz=36,SNR=13
532A Rocksprings 36.20 331 ⇓P P 10 33 52.6 +1.6
baz=36,SNR=51
433A Art 36.34 333 ⇑P P 10 33 53.4 +1.3
baz=37,SNR=151
JCT Junction City 36.45 331 eP P 10 33 54.7 +1.6
JCT pmax pmax
comp=Z,80nm,1.1s
JCT Junction City 36.45 331 eP P 10 33 54.7 +1.6
comp=Z,80nm,1.1s
JCT Junction City 36.45 331 ⇓P P 10 33 54.7 +1.6
baz=37,SNR=44
334A Lometa 36.45 334 ⇓P P 10 33 54.0 +0.9
baz=37,SNR=37
OXF Oxford 36.48 348 eP P 10 33 52.3 -1.0
OXF pmax pmax
comp=Z,46nm,1.0s
OXF Oxford 36.48 348 eP P 10 33 52.3 -1.0
comp=Z,46nm,1.0s
531A Rocksprings 36.55 330 ⇑P P 10 33 55.5 +1.5
baz=37,SNR=52
SWET Sewanee 36.58 353 eP P 10 33 52.9 -1.2
comp=Z,63nm,1.0s
CPCT Cooper Cave 36.65 355 eP P 10 33 56.5 +1.8
WHTX Lake Whitney 36.69 336 eP P 10 33 56.0 +1.0
comp=Z,68nm,1.0s
WHTX ePcP PcP 10 36 18.0 +0.8
WHTX Lake Whitney 36.69 336 ⇑P P 10 33 56.0 +1.0
baz=37,SNR=21
432A Menard 36.77 332 ⇑P P 10 33 57.2 +1.3
baz=37,SNR=44
333A Richland Sprin 36.77 333 ⇓P P 10 33 56.8 +1.0
baz=37,SNR=51
TKL Tuckaleechee C 36.79 356 eP P 10 33 54.6 -1.3
TKL Tuckaleechee C 36.79 356 eP P 10 33 54.6 -1.3
530A J-C Ranch, Com 36.94 329 ⇑P P 10 33 58.6 +1.3
baz=37,SNR=35
234A Clairette 36.98 335 ⇓P P 10 33 58.5 +0.9
baz=37,SNR=84
431A Sonora 37.00 331 ⇓P P 10 33 59.2 +1.3
baz=37,SNR=26
135A Vickery Place, 37.16 336 ⇑P P 10 33 59.9 +0.8
baz=37,SNR=6.2
332A Millersview 37.17 332 ⇑P P 10 34 00.4 +1.1
baz=37,SNR=60
233A Rising Star 37.33 334 ⇓P P 10 34 01.6 +1.1
baz=38,SNR=54
529A Stev Forest Ra 37.38 328 ⇓P P 10 34 02.4 +1.3
baz=38,SNR=16
430A Baggett Ranch, 37.40 330 ⇓P P 10 34 02.6 +1.3
baz=38,SNR=14
331A San Angelo 37.43 331 ⇑P P 10 34 02.5 +1.0
baz=38,SNR=30
134A White-Moore Ra 37.45 335 ⇑P P 10 34 02.5 +0.9
baz=38,SNR=32
UALR University of 37.45 344 eP P 10 34 01.6 0.0
comp=Z,34nm,1.0s
TXAR Lajitas Array 37.55 326 P P 10 34 03.1 +0.5
comp=Z,3.4nm,0.8s,baz=135,slow=8.7,SNR=19
TXAR PcP PcP 10 36 21.0 +0.9
comp=Z,21nm,0.8s,baz=150,slow=5.8,SNR=41
232A Coleman 37.55 333 ⇑P P 10 34 03.7 +1.2
baz=38,SNR=45
MIAR Mount Ida 37.59 342 eP P 10 34 03.0 +0.3
MIAR pmax pmax
comp=Z,27nm,1.0s
MIAR Mount Ida 37.59 342 eP P 10 34 03.0 +0.3
comp=Z,27nm,1.0s
429A Davenport Ranc 37.60 329 ⇓P P 10 34 04.2 +1.2
baz=38,SNR=27
TZTN Tazewell 37.66 356 eP P 10 34 02.5 -0.7
comp=Z,67nm,1.1s
TZTN ePcP PcP 10 36 21.1 +0.9
WVT Waverly 37.75 350 eP P 10 34 02.5 -1.6
WVT e 10 36 19.9
WVT pmax pmax
comp=Z,37nm,1.1s
WVT Waverly 37.75 350 eP P 10 34 02.5 -1.6
comp=Z,37nm,1.1s
WVT ePcP PcP 10 36 19.9 -0.5
RPN Rapa Nui 37.76 224 LR LR 10 45 28.2
comp=Z,774nm,19.0s,baz=68,slow=30
Z35A Perchaven, San 37.78 337 ⇑P P 10 34 05.5 +1.2
baz=38,SNR=9.4
133A Hamilton Ranch 37.84 334 ⇓P P 10 34 06.0 +1.1
baz=38,SNR=30
330A Mertzon 37.88 331 ⇑P P 10 34 06.0 +0.7
baz=38,SNR=32
231A Bronte 37.90 332 ⇓P P 10 34 06.2 +0.7
baz=38,SNR=5.9
Z34A Collier Ranch, 38.08 336 ⇓P P 10 34 08.0 +1.1
baz=38,SNR=24
ABTX Abilene, Hawle 38.17 333 eP P 10 34 08.2 +0.5
comp=Z,93nm,1.0s
ABTX ePcP PcP 10 36 23.0 +1.2
ABTX Abilene, Hawle 38.17 333 ⇑P P 10 34 08.8 +1.1
baz=38,SNR=28
BLA Blacksburg 38.22 0 eP P 10 34 07.9 -0.2
BLA pmax pmax
comp=Z,25nm,0.9s
BLA Blacksburg 38.22 0 eP P 10 34 07.8 -0.2
comp=Z,25nm,0.9s
230A Sterling City 38.24 331 ⇓P P 10 34 09.1 +0.8
baz=38,SNR=17
VWCC Virginia Weste 38.26 1 eP P 10 34 08.2 -0.2
329A Wagon Wheel Ra 38.34 330 ⇓P P 10 34 10.3 +1.1
baz=39,SNR=59
Z33A Whitaker Ranch 38.35 335 ⇑P P 10 34 10.4 +1.2
baz=39,SNR=68
Y34A Reagan Ranch, 38.53 337 ⇓P P 10 34 11.3 +0.7
baz=39,SNR=14
131A Roby 38.55 333 ⇑P P 10 34 12.0 +1.1
baz=39,SNR=12
PARMO Parma 38.63 348 eP P 10 34 11.2 -0.2
229A Bryant Ranch, 38.64 330 ⇓P P 10 34 12.8 +1.0
baz=39,SNR=14
Z32A Haskell 38.68 334 ⇓P P 10 34 13.2 +1.3
baz=39,SNR=48
130A Snyder 38.75 332 ⇑P P 10 34 13.7 +1.1
baz=39,SNR=22
JSRW J. Sargeant Re 38.78 3 eP P 10 34 12.5 -0.2
PBMO Poplar Bluff 38.88 347 eP P 10 34 13.1 -0.5
comp=Z,28nm,1.1s
PBMO ePcP PcP 10 36 23.9 0.0
Y33A Hilltop Ranch, 38.92 336 ⇓P P 10 34 14.9 +1.0
baz=39,SNR=9.4
Z31A Sharp Cattle R 38.98 334 ⇑P P 10 34 15.8 +1.3
baz=39,SNR=42
X34A Smith Ranch, M 39.12 337 ⇓P P 10 34 16.9 +1.3
baz=39,SNR=27
228A UT Block 9, Go 39.16 330 ⇑P P 10 34 16.7 +0.7
baz=39,SNR=18
129A Stewart Farms, 39.21 331 ⇑P P 10 34 17.4 +1.0
baz=39,SNR=19
Y32A R-V Farms, Ver 39.26 335 ⇓P P 10 34 18.0 +1.3
baz=40,SNR=57
X33A Lawton 39.33 336 ⇓P P 10 34 18.0 +0.6
baz=40,SNR=73
Z30A Sanderson Ranc 39.40 332 ⇑P P 10 34 19.0 +1.0
baz=40,SNR=23
128A Castleberry Fa 39.51 330 ⇑P P 10 34 19.6 +0.7
baz=40,SNR=14
USIN University of 39.52 351 eP P 10 34 17.9 -0.9
comp=Z,96nm,1.0s
SIUC Southern Illin 39.54 349 eP P 10 34 17.5 -1.5
comp=Z,67nm,0.9s
X32A Elmer 39.55 335 ⇑P P 10 34 20.4 +1.1
baz=40,SNR=46
TUL1 Tulsa 39.56 340 eP P 10 34 19.4 +0.2
comp=Z,53nm,1.0s
TUL1 Tulsa 39.56 340 ⇑P P 10 34 19.5 +0.2
baz=40,SNR=14
Y31A Rekieta Farm, 39.58 334 ⇑P P 10 34 20.9 +1.5
baz=40,SNR=69
WCI Wyandotte Cave 39.59 353 eP P 10 34 17.6 -1.9
WCI e 10 36 26.2
WCI pmax pmax
comp=Z,39nm,1.0s
WCI Wyandotte Cave 39.59 353 eP P 10 34 17.6 -1.9
comp=Z,39nm,1.0s
WCI ePcP PcP 10 36 26.2 +0.1
Z29A Hungry Hill Ra 39.65 332 ⇑P P 10 34 20.9 +0.7
baz=40,SNR=34
W34A Bridge Creek, 39.66 338 eP P 10 34 20.7 +0.6
comp=Z,60nm,0.9s
W34A ePcP PcP 10 36 27.7 +1.2
W34A Bridge Creek, 39.66 338 ⇑P P 10 34 20.7 +0.6
baz=40,SNR=14
Y30A Stafford Cattl 39.79 333 ⇑P P 10 34 22.6 +1.4
baz=40,SNR=14
W33A Caddo, Fort Co 39.85 337 ⇓P P 10 34 22.9 +1.2
baz=40,SNR=45
127A Arkansas Junct 39.99 329 ⇓P P 10 34 23.7 +0.7
baz=40,SNR=10
Z28A Tucker Farm, M 40.00 331 ⇓P P 10 34 23.6 +0.5
baz=40,SNR=8.9
X31A McDonald Ranch 40.02 335 ⇑P P 10 34 24.2 +1.1
baz=40,SNR=32
V34A Guthrie 40.10 338 eP P 10 34 24.0 +0.3
comp=Z,96nm,1.0s
V34A Guthrie 40.10 338 ⇓P P 10 34 23.8 +0.1
baz=40,SNR=8.5
Y29A Porterfield Fa 40.13 332 ⇑P P 10 34 25.1 +1.0
baz=40,SNR=13
GDL2 Guadalupe Moun 40.14 328 eP P 10 34 26.4 +2.1
W32A Sentinel 40.14 336 ⇑P P 10 34 25.2 +1.1
baz=40,SNR=70
X30A Coker Ranch, T 40.26 334 ⇓P P 10 34 26.3 +1.2
baz=40,SNR=66
MNTX Cornudas Mount 40.30 326 eP P 10 34 26.2 +0.7
comp=Z,53nm,1.6s
OLIL Olney 40.34 351 eP P 10 34 24.2 -1.4
comp=Z,75nm,0.9s
OLIL ePcP PcP 10 36 28.8 +0.4
V33A Lossen Ranch, 40.37 338 ⇑P P 10 34 26.6 +0.6
baz=41,SNR=35
PLCA Paso Flores 40.38 168 eP P 10 34 27.7 +1.6
PLCA 10 36 29.5
PLCA pmax pmax
comp=Z,124nm,1.0s
PLCA Paso Flores 40.38 168 P P 10 34 26.6 +0.5
comp=Z,87nm,0.9s,baz=349,slow=9.5,SNR=12
PLCA PcP PcP 10 36 29.5 +0.8
comp=Z,17nm,1.0s,baz=352,slow=4.6,SNR=3.0
PLCA Paso Flores 40.38 168 eP P 10 34 27.7 +1.6
comp=Z,124nm,1.0s
PLCA PcP PcP 10 36 29.5 +0.8
Z27A Tatum 40.43 330 ⇓P P 10 34 27.1 +0.5
baz=41,SNR=43
TRQA Tornquist 40.46 157 eP P 10 34 26.9 -0.2
comp=Z,85nm,0.8s
W31A Holland Ranch, 40.48 335 ⇑P P 10 34 27.7 +0.8
baz=41,SNR=5.8
BLO Bloomington 40.55 353 eP P 10 34 25.9 -1.5
BLO e 10 36 29.5
BLO pmax pmax
comp=Z,41nm,0.9s
BLO Bloomington 40.55 353 eP P 10 34 25.9 -1.5
comp=Z,41nm,0.9s
BLO ePcP PcP 10 36 29.5 +0.3
SDMD Soldier's Deli 40.56 4 eP P 10 34 27.6 +0.1
comp=Z,20nm,1.1s
V32A Arapaho 40.58 337 ⇓P P 10 34 28.9 +1.2
baz=41,SNR=62
X29A Tulia 40.63 333 ⇑P P 10 34 29.2 +0.9
baz=41,SNR=37
SLM Saint Louis 40.63 348 eP P 10 34 27.4 -0.7
SLM pmax pmax
comp=Z,44nm,1.0s
SLM Saint Louis 40.63 348 eP P 10 34 27.4 -0.7
comp=Z,44nm,1.0s
U34A Anderson Ranch 40.64 339 eP P 10 34 28.6 +0.4
comp=Z,108nm,0.9s
U34A Anderson Ranch 40.64 339 ⇑P P 10 34 28.5 +0.4
baz=41,SNR=32
MSTX Muleshoe 40.74 331 eP P 10 34 30.2 +1.0
comp=Z,109nm,0.9s
MSTX Muleshoe 40.74 331 ⇓P P 10 34 29.9 +0.8
baz=41,SNR=65
W30A Crocket Farms 40.75 335 ⇓P P 10 34 30.5 +1.3
baz=41,SNR=5.5
Z26A Caprock 40.78 329 ⇑P P 10 34 30.8 +1.3
baz=41,SNR=141
U33A Lingo Farm, Me 40.85 338 ⇑P P 10 34 30.1 +0.2
baz=41,SNR=9.5
Y27A Causey 40.86 331 ⇓P P 10 34 31.1 +0.9
baz=41,SNR=60
X28A Dimmitt 40.92 332 ⇓P P 10 34 31.4 +0.8
baz=41,SNR=28
V31A Spring Creek L 40.95 336 ⇓P P 10 34 32.2 +1.4
baz=41,SNR=27
AMTX Amarillo 40.98 333 eP P 10 34 32.5 +1.4
AMTX Amarillo 40.98 333 ⇓P P 10 34 32.1 +0.9
baz=41
U32A Winter Ranch, 41.14 337 ⇓P P 10 34 33.4 +1.1
baz=41,SNR=105
Z25A Roswell 41.16 329 ⇑P P 10 34 34.1 +1.4
baz=41,SNR=83
W29A Amrafillo 41.17 333 ⇑P P 10 34 33.5 +0.8
baz=41,SNR=10
MVL Millersville 41.19 5 eP P 10 34 32.7 +0.1
comp=Z,46nm,1.0s
MVL ePcP PcP 10 36 31.4 +0.3
Y26A Elida 41.22 330 ⇓P P 10 34 34.4 +1.2
baz=41,SNR=14
V30A Spur Ranch, Mi 41.29 335 ⇑P P 10 34 35.1 +1.4
baz=42
ACSO Alum Creek Sta 41.30 357 eP P 10 34 32.3 -1.2
comp=Z,64nm,0.9s
X27A F and S Farms, 41.45 331 ⇓P P 10 34 36.2 +1.2
baz=42,SNR=43
U31A Nine Bar Ranch 41.47 336 ⇑P P 10 34 36.4 +1.4
baz=42
T33A Patterson Ranc 41.47 338 ⇑P P 10 34 35.6 +0.6
baz=42,SNR=5.2
W28A Vega 41.53 333 ⇑P P 10 34 36.6 +0.9
baz=42
Z24A Sheeppen Canyo 41.54 328 ⇑P P 10 34 37.5 +1.6
baz=42,SNR=42
Y25A Mesa, Roswell 41.66 329 ⇓P P 10 34 38.1 +1.4
baz=42,SNR=19
SSPA Standing Stone 41.71 3 eP P 10 34 36.5 -0.4
comp=Z,31nm,1.0s
SSPA e 10 34 48.6
X26A CR and CF Fran 41.71 331 ⇓P P 10 34 38.3 +1.1
baz=42
V29A Stinnett 41.74 334 ⇓P P 10 34 38.5 +1.2
baz=42
W27A Bowe Ranch, En 41.77 332 ⇓P P 10 34 38.8 +1.1
baz=42,SNR=35
SFIN Scholer Farm 41.81 353 eP P 10 34 35.2 -2.5
comp=Z,22nm,0.9s
SFIN ePcP PcP 10 36 33.3 +0.1
SFIN Scholer Farm 41.81 353 ⇓P P 10 34 35.7 -2.0
baz=42
T32A Huddler Ranch, 41.81 338 ⇑P P 10 34 38.8 +0.9
baz=42,SNR=9.8
S33A Kaszmaul Farm, 41.84 339 ⇑P P 10 34 38.9 +0.9
baz=42
U30A WK&E Inc. Balk 41.93 336 ⇓P P 10 34 40.2 +1.3
baz=42,SNR=17
V28A Channing 41.95 333 ⇑P P 10 34 40.1 +1.0
baz=42,SNR=5.7
T31A Randall Ranch, 42.03 337 ⇑P P 10 34 40.8 +1.2
baz=42,SNR=10.0
Y24A Capitan 42.04 329 ⇓P P 10 34 41.2 +1.3
baz=42,SNR=31
X25A Clemmons Ranch 42.12 330 ⇓P P 10 34 41.6 +1.0
baz=42,SNR=17
U29A Oasis Ranch, S 42.12 335 ⇑P P 10 34 42.0 +1.5
baz=42
W26A Owens Ranch, T 42.12 331 ⇑P P 10 34 42.0 +1.5
baz=42,SNR=12
V27A Dan Oppiter Fa 42.23 333 ⇓P P 10 34 42.7 +1.3
baz=42,SNR=5.4
S32A Newby Ranch, P 42.27 338 ⇑P P 10 34 42.6 +1.0
baz=42,SNR=7.3
121A Cookes Peak, D 42.28 325 eP P 10 34 44.0 +2.1
comp=Z,42nm,0.9s
121A Cookes Peak, D 42.28 325 ⇑P P 10 34 44.0 +2.1
baz=42,SNR=39
T30A Plains 42.33 336 ⇑P P 10 34 43.5 +1.4
baz=42
319A Douglas 42.34 322 ⇑P P 10 34 44.1 +1.8
baz=43,SNR=7.1
Z22A Elephant Butte 42.35 326 ⇑P P 10 34 44.4 +1.9
baz=43,SNR=12
Y23A Lovelace Mesa, 42.37 328 ⇓P P 10 34 44.4 +1.7
baz=43,SNR=34
S31A Mullinville 42.41 338 ⇓P P 10 34 44.1 +1.3
baz=43,SNR=12
ODNJ Ogdensburg 42.44 7 ePcP PcP 10 36 35.4 +0.1
R33A Olander Ranch, 42.47 340 ⇓P P 10 34 44.3 +1.1
baz=43,SNR=29
U28A Mallet 42.48 334 ⇑P P 10 34 44.3 +1.0
baz=43,SNR=6.5
X24A Lazy VL Ranch, 42.54 329 ⇑P P 10 34 45.3 +1.3
baz=43,SNR=13
W25A X Bar L Ranch, 42.57 331 ⇓P P 10 34 45.3 +1.2
baz=43,SNR=36
ALLY Alegheny Colle 42.65 0 eP P 10 34 43.7 -0.9
comp=Z,19nm,0.9s
ALLY ePcP PcP 10 36 36.1 +0.1
V26A Tequesquite Ra 42.71 332 ⇑P P 10 34 46.8 +1.5
baz=43,SNR=120
KSU1 Kansas State U 42.73 342 eP P 10 34 45.7 +0.4
comp=Z,156nm,0.9s
KSU1 Kansas State U 42.73 342 ⇑P P 10 34 45.6 +0.4
baz=43,SNR=53
T29A Hugoton 42.73 335 ⇓P P 10 34 46.8 +1.4
baz=43,SNR=27
U27A Thompson Grove 42.78 333 ⇓P P 10 34 47.0 +1.1
baz=43,SNR=20
KSPA Keystone Colle 42.78 5 eP P 10 34 45.9 +0.3
comp=Z,48nm,1.1s
S30A Montezuma 42.81 337 ⇑P P 10 34 47.4 +1.4
baz=43
R32A Long Quarter, 42.83 339 ⇑P P 10 34 47.3 +1.2
baz=43,SNR=50
X23A Hourglass Bar 42.94 328 ⇑P P 10 34 48.9 +1.6
baz=43
Y22D IRIS PASSCAL I 42.95 327 ⇓P P 10 34 49.4 +2.1
baz=43
LPM Los Pinos Moun 42.97 328 eP P 10 34 49.0 +1.5
R31A Burdett 43.01 338 ⇑P P 10 34 49.0 +1.4
baz=43,SNR=32
W24A Lazy 6 Ranch, 43.03 330 ⇑P P 10 34 49.2 +1.2
baz=43,SNR=39
Q33A Connelly Farm, 43.04 340 ⇑P P 10 34 48.7 +0.9
baz=43,SNR=36
LENM Lemitar 43.04 327 eP P 10 34 50.3 +2.3
T28A Walsh 43.05 335 ⇓P P 10 34 48.8 +0.8
baz=43,SNR=11
S29A Ulysses 43.05 336 ⇑P P 10 34 49.4 +1.4
baz=43,SNR=27
V25A Rancho No Teng 43.14 331 ⇓P P 10 34 50.4 +1.5
baz=43,SNR=57
U26A Atchley Ranch, 43.17 332 ⇑P P 10 34 50.4 +1.3

baz=43,SNR=32
T27A Campo 43.26 334 ⇓P P 10 34 50.5 +0.7
baz=44,SNR=25
Q32A Meitler Ranch, 43.28 339 ⇑P P 10 34 50.8 +1.1
baz=44,SNR=44
R30A Dighton 43.29 337 ⇑P P 10 34 51.2 +1.3
baz=44,SNR=39
LAZ Ladron 43.31 327 eP P 10 34 52.0 +1.7
comp=Z,6.9nm,0.9s
S28A Manter 43.35 335 ⇓P P 10 34 51.4 +0.9
baz=44,SNR=14
ANMO Albuquerque 43.36 329c iP P 10 34 52.3 +1.6
ANMO pmax pmax
comp=Z,359nm,1.3s
ANMO Albuquerque 43.36 329 eP P 10 34 51.6 +0.9
comp=Z,68nm,1.0s
V24A Rampart Ranch, 43.37 330 ⇓P P 10 34 52.2 +1.4
baz=44,SNR=59
W23A Werner Place, 43.37 329 ⇑P P 10 34 52.5 +1.7
baz=44,SNR=66
P33A Williams Farm, 43.39 341 ⇑P P 10 34 51.5 +0.9
baz=44,SNR=26
AAM Ann Arbor 43.39 357 eP P 10 34 49.7 -0.8
AAM e 10 36 38.3
AAM pmax pmax
comp=Z,50nm,1.2s
AAM Ann Arbor 43.39 357 eP P 10 34 49.7 -0.8
comp=Z,50nm,1.2s
AAM ePcP PcP 10 36 38.3 -0.2
BINY Binghamton 43.40 5 eP P 10 34 50.3 -0.3
comp=Z,46nm,0.9s
U25A Circle Dot Ran 43.49 332 ⇑P P 10 34 53.1 +1.4
baz=44,SNR=25
Q31A Ellis 43.59 339 ⇓P P 10 34 53.7 +1.4
baz=44,SNR=17
T26A Comanche Natio 43.75 333 ⇑P P 10 34 55.1 +1.3
baz=44
R29A Marienthal 43.75 336 ⇑P P 10 34 55.1 +1.5
baz=44,SNR=5.1
V23A Ortiz Mt. (NFS 43.84 329 ⇓P P 10 34 55.9 +1.4
baz=44,SNR=27
P32A Huiting Farm, 43.86 340 ⇓P P 10 34 55.2 +0.8
baz=44,SNR=27
S27A Las Animas 43.86 334 ⇓P P 10 34 55.5 +0.9
baz=44
Q30A Quinter 43.88 338 ⇑P P 10 34 55.9 +1.4
baz=44,SNR=55
TUC Tucson 43.91 322 eP P 10 34 56.2 +1.2
TUC pmax pmax
comp=Z,24nm,1.1s
TUC Tucson 43.91 322 eP P 10 34 56.2 +1.2
comp=Z,24nm,1.1s
U24A Moreno Valley 43.92 331 ⇑P P 10 34 57.2 +2.0
baz=44,SNR=40
R28A Tribune 43.95 336 ⇑P P 10 34 56.4 +1.2
baz=44,SNR=55
P31A Stockton 44.04 339 ⇓P P 10 34 57.2 +1.3
baz=44,SNR=22
S26A Kim 44.06 334 ⇑P P 10 34 57.7 +1.5
baz=44,SNR=19
T25A Trinidad 44.09 332 ⇑P P 10 34 58.3 +1.8
baz=44,SNR=30
Q29A Oakley 44.09 337 ⇓P P 10 34 57.5 +1.1
baz=44,SNR=18
TRY Troy 44.17 7 eP P 10 34 57.4 +0.6
comp=Z,39nm,1.0s
U23A El Rito 44.30 330 ⇑P P 10 35 00.2 +1.9
baz=44,SNR=119
R27A Eads 44.32 335 ⇑P P 10 34 59.3 +1.0
baz=44,SNR=76
O32A Brockman Farm, 44.32 341 ⇓P P 10 34 58.7 +0.6
baz=44,SNR=11
V22A San Miguel Ran 44.34 329 ⇑P P 10 35 00.4 +1.8
baz=45,SNR=28
P30A Selden 44.38 338 ⇓P P 10 35 00.0 +1.4
baz=45,SNR=17
SCIA State Center 44.41 346 eP P 10 34 58.3 -0.5
comp=Z,50nm,0.9s
T24B San Luis 44.49 331 ⇓P P 10 35 01.6 +1.8
baz=45,SNR=27
S25A Robets Cordova 44.53 333 ⇑P P 10 35 01.6 +1.7
baz=45
Q28A Sharon Springs 44.58 336 ⇑P P 10 35 01.3 +1.1
baz=45,SNR=17
O31A Woolen Ranch, 44.59 339 ⇓P P 10 35 01.0 +0.8
baz=45,SNR=13
R26A Arlington 44.61 334 ⇑P P 10 35 02.0 +1.4
baz=45,SNR=39
U22A Llaves 44.67 329 ⇑P P 10 35 03.1 +1.8
baz=45,SNR=48
P29A Atwood 44.69 338 ⇑P P 10 35 02.3 +1.2
baz=45
JFWS Jewell Farm 44.77 350 eP P 10 35 00.2 -1.4
JFWS pmax pmax
comp=Z,36nm,0.8s
JFWS Jewell Farm 44.77 350 eP P 10 35 00.1 -1.4
comp=Z,36nm,0.8s
N32A Stulken Farm, 44.78 341 ⇑P P 10 35 02.2 +0.5
baz=45
T23A Casias Ranch, 44.78 331 ⇑P P 10 35 03.7 +1.6
baz=45,SNR=35
RCBR Riachuelo 44.80 97 eP P 10 35 01.0 -1.4
comp=Z,15nm,0.8s
ACCN Adirondack Com 44.82 7 eP P 10 35 01.9 -0.1
comp=Z,39nm,1.0s
ACCN e 10 35 13.2
R25A Fountain Ranch 44.86 333 ⇓P P 10 35 04.0 +1.4
baz=45,SNR=18
KSCO Kaye Shedlock' 44.86 335 eP P 10 35 04.0 +1.5
comp=Z,74nm,1.1s
KSCO Kaye Shedlock' 44.86 335 ⇓P P 10 35 03.7 +1.2
baz=45,SNR=16
O30A MW Ranch, Wils 44.87 339 ⇓P P 10 35 03.5 +1.0
baz=45,SNR=20
S24A Houchin Ranch, 44.87 332 ⇑P P 10 35 04.7 +1.8
baz=45,SNR=45
214A Organ Pipe Nat 44.94 320 eP P 10 35 05.0 +1.8
comp=Z,21nm,0.8s
214A Organ Pipe Nat 44.94 320 ⇑P P 10 35 05.0 +1.8
baz=45
X18A Snowflake 44.97 325 ⇑P P 10 35 05.4 +1.8
baz=45,SNR=28
P28A Saint Francis 44.98 337 ⇑P P 10 35 04.4 +0.9
baz=45,SNR=8.7
N31A Bailey Ranch, 45.05 340 ⇓P P 10 35 04.7 +0.8
baz=45,SNR=5.8
SDCO Great Sand Dun 45.09 332 eP P 10 35 06.1 +1.5
comp=Z,58nm,0.9s
O29A 4D Ranch, Culb 45.09 338 ⇑P P 10 35 05.6 +1.3
baz=45,SNR=30
Q26A Hugo 45.16 335 ⇓P P 10 35 06.3 +1.4
baz=45,SNR=8.0
W18A Petrified Fore 45.27 326 eP P 10 35 08.3 +2.4
comp=Z,69nm,1.1s
W18A Petrified Fore 45.27 326 ⇑P P 10 35 07.5 +1.5
baz=46,SNR=16
S23A Nye Farm, Mont 45.30 331 ⇓P P 10 35 07.7 +1.5
baz=46,SNR=14
R24A Sanders Place, 45.30 333 ⇑P P 10 35 07.8 +1.6
baz=46,SNR=15
P27A Ficken Ranch, 45.30 336 ⇑P P 10 35 07.3 +1.2
baz=46,SNR=27
BGNE Belgrade 45.32 341 eP P 10 35 06.8 +0.8
comp=Z,114nm,1.0s
BGNE Belgrade 45.32 341 ⇓P P 10 35 06.4 +0.4
baz=46,SNR=21
N30A Hueftle Ranch, 45.43 339 ⇑P P 10 35 08.1 +1.1
baz=46
O28A Krutsinger Ran 45.47 337 ⇓P P 10 35 08.5 +1.2
baz=46,SNR=12
Q25A Bedland, Calha 45.47 334 ⇑P P 10 35 08.5 +1.0
baz=46,SNR=28
MDV Middlebury 45.48 7 eP P 10 35 06.9 -0.3
M31A Lambtecht Ranc 45.53 341 ⇑P P 10 35 08.6 +0.9
baz=46,SNR=5.4
R23A Moffat 45.60 332 ⇑P P 10 35 10.0 +1.4
baz=46,SNR=23
P26A Davis Ranch, A 45.62 335 ⇓P P 10 35 09.9 +1.3
baz=46,SNR=10
N29A Votaw Ranch, W 45.64 339 ⇑P P 10 35 09.6 +1.0
baz=46,SNR=17
S22A 4UR Ranch, Cre 45.73 331 ⇓P P 10 35 11.0 +1.4
baz=46,SNR=23
X16A Lo Mia Camp, P 45.76 324 ⇑P P 10 35 11.5 +1.7
baz=46,SNR=42
O27A Beecher Island 45.80 337 ⇑P P 10 35 11.3 +1.4
baz=46
N28A Pribbeno Ranch 45.86 338 ⇑P P 10 35 11.6 +1.2
baz=46,SNR=26
Q24A Divide 45.91 333 ⇑P P 10 35 12.2 +1.1
baz=46,SNR=12
P25A Willow Gulch B 45.93 334 ⇑P P 10 35 12.4 +1.3
baz=46,SNR=27
LONY Lake Ozonia 45.93 6 eP P 10 35 10.0 -0.8
comp=Z,44nm,1.3s
Z14A Wintersburg 45.95 321 ⇑P P 10 35 12.9 +1.7
baz=46,SNR=5.4
M30A Dale-Ortello V 46.00 340 ⇓P P 10 35 12.3 +0.8
baz=46
113A Mohawk Valley, 46.08 320 ⇓P P 10 35 13.4 +1.2
baz=46,SNR=6.1
MVCO Mesa Verde 46.16 329 eP P 10 35 14.3 +1.3
comp=Z,27nm,0.9s
MVCO Mesa Verde 46.16 329 ⇑P P 10 35 14.3 +1.3
baz=46,SNR=19
Q23A Hartsel 46.18 333 ⇑P P 10 35 14.4 +1.2
baz=46
O26A Horse Wrangler 46.18 336 ⇑P P 10 35 14.2 +1.2
baz=46,SNR=12
M29A Burnside Ranch 46.21 339 ⇓P P 10 35 13.9 +0.8
baz=46,SNR=22
L31A Butterfield Fa 46.23 341 ⇓P P 10 35 14.1 +0.9
baz=46,SNR=94
P24A Kohler Place, 46.26 334 ⇑P P 10 35 14.7 +1.1
baz=46,SNR=23
OGNE Ogallala 46.27 337 ⇓P P 10 35 14.6 +0.9
baz=46
L30A Spencer Herefo 46.32 340 ⇑P P 10 35 15.0 +1.0
baz=46,SNR=6.3
N27A Anderson Farm, 46.35 337 ⇓P P 10 35 15.5 +1.3
baz=47,SNR=5.7
Y14A Wickenburg 46.38 322 ⇑P P 10 35 15.9 +1.4
baz=47,SNR=14
O25A Wiggins 46.41 335 ⇑P P 10 35 16.2 +1.4
baz=47,SNR=5.7
M28A Bar X Bar Ranc 46.41 338 ⇑P P 10 35 16.0 +1.3
baz=47,SNR=5.5
WUAZ Wupatki 46.49 325 eP P 10 35 17.5 +2.0
comp=Z,105nm,0.9s
WUAZ Wupatki 46.49 325 ⇑P P 10 35 17.5 +2.0
baz=47,SNR=80
P23A Jefferson 46.56 333 ⇓P P 10 35 17.9 +1.7
baz=47,SNR=60
WVL Waterville 46.59 11 eP P 10 35 16.9 +1.0
comp=Z,86nm,1.1s
N26A Koester Ranch, 46.64 336 ⇑P P 10 35 17.8 +1.2
baz=47,SNR=5.4
L29A Maesberg Ranch 46.68 340 ⇑P P 10 35 17.7 +1.0
baz=47,SNR=20
ISCO Idaho Springs 46.80 333 eP P 10 35 19.3 +1.2
ISCO pmax pmax
comp=Z,18nm,0.9s
ISCO Idaho Springs 46.80 333 eP P 10 35 19.2 +1.2
comp=Z,18nm,0.9s
ISCO Idaho Springs 46.80 333 ⇓P P 10 35 19.2 +1.1
baz=47,SNR=26
O24A Longmont 46.83 334 ⇑P P 10 35 19.3 +1.2
baz=47,SNR=19
PV01 Paradox Valley 46.90 330 eP P 10 35 20.0 +1.2
comp=Z,3μm,1.1s
M27A Reverse DX Ran 46.91 338 ⇓P P 10 35 19.9 +1.3
baz=47
SMCO Snowmass 46.93 332 eP P 10 35 20.7 +1.5
comp=Z,36nm,1.0s
K30A Basset 46.93 341 ⇑P P 10 35 19.6 +0.9
baz=47,SNR=52
GLA Glamis 46.95 320 eP P 10 35 21.2 +2.2
GLA pmax pmax
comp=Z,31nm,1.2s
GLA Glamis 46.95 320 eP P 10 35 21.2 +2.2
comp=Z,30nm,1.2s
GLA Glamis 46.95 320 ⇑P P 10 35 20.5 +1.5
baz=47
N25A Grover 46.98 336 ⇑P P 10 35 20.6 +1.4
baz=47
ECSD EROS Data Cent 46.99 344 eP P 10 35 18.3 -0.8
comp=Z,31nm,1.1s
ECSD EROS Data Cent 46.99 344 ⇑P P 10 35 18.2 -0.9
baz=47,SNR=16
L28A Connealy Angus 47.00 339 ⇓P P 10 35 20.5 +1.2
baz=47
M26A McRoberts Ranc 47.15 337 ⇑P P 10 35 21.8 +1.2
baz=47
P22A Eagle 47.16 332 ⇓P P 10 35 22.0 +1.3
baz=47,SNR=17
Y12C Blythe 47.20 321 ⇓P P 10 35 22.5 +1.6
baz=47
K29A Lazy Trails An 47.24 340 ⇓P P 10 35 22.1 +0.9
baz=48,SNR=16
PV04 Paradox Valley 47.27 329 eP P 10 35 22.9 +1.3
O23A Lake Granby, G 47.27 333 ⇑P P 10 35 23.0 +1.3
baz=48,SNR=42
PV10 Paradox Valley 47.32 329 eP P 10 35 22.6 +0.5
comp=Z,722nm,0.9s
N24A Carr 47.33 335 ⇓P P 10 35 23.7 +1.7
baz=48
L27A T5 Ranch, Ells 47.36 338 ⇓P P 10 35 23.1 +1.0
baz=48
J30A Dallas 47.47 341 ⇑P P 10 35 22.9 0.0
baz=48,SNR=94
SPMN St. Paul 47.49 348 eP P 10 35 21.6 -1.3
comp=Z,23nm,1.0s
SPMN St. Paul 47.49 348 ⇓P P 10 35 21.5 -1.4
baz=48
M25A Palm-Egli Farm 47.49 336 ⇓P P 10 35 24.2 +1.0
baz=48,SNR=6.7
SWSC Sam W. Stewart 47.51 319 ⇓P P 10 35 25.0 +1.7
baz=48
O22A Kremmling 47.52 333 ⇓P P 10 35 24.4 +0.7
baz=48,SNR=28
K28A Ten Mile Ranch 47.56 339 ⇓P P 10 35 25.0 +1.3
baz=48,SNR=35
L26A Underwood Farm 47.61 337 ⇓P P 10 35 25.2 +1.1
baz=48,SNR=6.4
U15A North Rim 47.66 325 ⇓P P 10 35 26.5 +1.7
baz=48,SNR=30
W13A Hualapai Mount 47.69 322 ⇓P P 10 35 26.7 +1.7
baz=48,SNR=27
BC3 Big Chuckawall 47.73 320 ⇓P P 10 35 26.9 +1.7
baz=48,SNR=8.3
J29A Okreek 47.82 341 ⇑P P 10 35 26.3 +0.8
baz=48,SNR=70
M24A Cheyenne 47.83 335 ⇑P P 10 35 27.1 +1.2
baz=48,SNR=9.1
N23A Red Feather La 47.84 334 ⇓P P 10 35 27.1 +1.1
baz=48,SNR=14
IRM Iron Mountain 47.86 321 ⇑P P 10 35 27.6 +1.5
baz=48,SNR=8.4
K27A Flueckinger Fa 47.87 338 ⇓P P 10 35 27.0 +0.9
baz=48,SNR=9.4
MONP Monument Peak 47.89 318 ⇓P P 10 35 27.2 +0.7
baz=48
PHWY Pilot Hill 47.96 335 eP P 10 35 28.1 +1.0
comp=Z,20nm,0.8s
PHWY ePcP PcP 10 36 55.4 +0.6
I30A Oacoma 47.98 342 ⇓P P 10 35 26.6 -0.2
baz=48,SNR=31
N22A Wattenberg Ran 47.99 334 ⇓P P 10 35 28.4 +1.2
baz=48,SNR=18
L25A Engebretsen Ra 48.06 337 ⇓P P 10 35 28.9 +1.3
baz=48,SNR=8.4
J28A Allard Ranch, 48.14 340 ⇓P P 10 35 29.1 +1.0
baz=48,SNR=33
M23A Laramie 48.21 335 ⇓P P 10 35 29.9 +1.0
baz=48
K26A Motz Farm, Whi 48.22 338 ⇓P P 10 35 29.9 +1.1
baz=48
J27A Elkhorn Farm, 48.26 339 ⇑P P 10 35 30.5 +1.4
baz=48,SNR=27
O20A White River Ci 48.28 332 eP P 10 35 30.6 +1.2
comp=Z,22nm,1.0s
O20A White River Ci 48.28 332 ⇓P P 10 35 30.6 +1.2
baz=48,SNR=9.1
BELC Belle Mtn. Jos 48.30 320 ⇓P P 10 35 31.0 +1.4
baz=48
BRSD Miller 48.31 342 eP P 10 35 29.1 -0.3
comp=Z,122nm,1.0s
BRSD Miller 48.31 342 ⇓P P 10 35 29.0 -0.4
baz=48,SNR=24
109C Camp Elliot, M 48.35 318 ⇑P P 10 35 31.1 +1.3
baz=49
PFO Pinyon Flat Ob 48.36 319 eP P 10 35 32.5 +2.5
PFO Pinyon Flat Ob 48.36 319 eP P 10 35 32.5 +2.5
PFO Pinyon Flat Ob 48.36 319 ⇑P P 10 35 31.7 +1.6
baz=49
L24A Wheatland 48.36 336 ⇓P P 10 35 30.9 +1.1
baz=49,SNR=8.3
I29A Vivian Onida 48.36 341 ⇓P P 10 35 29.8 +0.1
baz=49,SNR=30
K25A Mack Ranch, Ha 48.41 337 ⇑P P 10 35 31.5 +1.2
baz=49,SNR=6.3
M22A Cedar Creek Ra 48.54 334 ⇓P P 10 35 32.4 +0.9
baz=49,SNR=8.5
GMRC Granite Mounta 48.58 321 ⇑P P 10 35 33.4 +1.6
baz=49,SNR=12
I28A Midland 48.63 340 ⇑P P 10 35 32.5 +0.7
baz=49,SNR=62
SRU San Rafael 48.64 329 eP P 10 35 33.5 +1.3
SRU pmax pmax
comp=Z,54nm,1.1s
SRU San Rafael 48.64 329 eP P 10 35 33.5 +1.3
comp=Z,54nm,1.1s
J26A Sides Ranch, S 48.70 338 ⇓P P 10 35 33.9 +1.4
baz=49,SNR=30
L23A Garrett 48.74 335 ⇑P P 10 35 33.6 +0.7
baz=49,SNR=24
MURC Murrieta 48.84 319 ⇓P P 10 35 35.2 +1.6
baz=49
N20A Spence Gulch, 48.84 332 ⇑P P 10 35 34.8 +1.0
baz=49,SNR=28
H29A Onida 48.87 341 ⇑P P 10 35 33.4 -0.3
baz=49,SNR=13
L22A Ellis Ranch, M 48.98 334 ⇑P P 10 35 36.3 +1.5
baz=49,SNR=17
I27A Quinn 48.99 340 ⇓P P 10 35 35.7 +1.0
baz=49,SNR=44
G30A Faulkton 48.99 343 ⇓P P 10 35 34.3 -0.3
baz=49,SNR=58
HEC Hector,Ludlow 49.04 320 ⇓P P 10 35 37.0 +1.8
baz=49,SNR=19
J25A Sunshine Ranch 49.05 338 ⇓P P 10 35 36.2 +1.1
baz=49,SNR=21
CCUT Cedar City 49.06 325 eP P 10 35 37.6 +2.2
comp=Z,44nm,1.0s
MVU Marysvale 49.09 327 eP P 10 35 37.3 +1.6
comp=Z,26nm,0.9s
TMUT Trail Mountain 49.13 328 eP P 10 35 37.6 +1.5
comp=Z,21nm,1.1s
TUQ Turquoise Moun 49.17 321 ⇓P P 10 35 37.1 +0.9
baz=49
H28A Mission Ridge 49.18 341 ⇑P P 10 35 36.3 +0.3
baz=49,SNR=13
K23A Bowen Ranch, D 49.23 336 ⇓P P 10 35 37.6 +1.0
baz=50,SNR=19
I26A New Underwood 49.25 339 ⇓P P 10 35 37.9 +1.3
baz=50,SNR=18
ARUT Antelope Range 49.27 325 eP P 10 35 38.9 +1.9
ARUT Antelope Range 49.27 325 eP P 10 35 38.9 +1.9
comp=Z,880nm,1.0s
G29A Hoven 49.29 342 ⇓P P 10 35 36.6 -0.2
baz=50,SNR=33
J24A Dixon Ranch, L 49.33 337 ⇑P P 10 35 38.6 +1.4
baz=50,SNR=6.9
SHPR Sheep Range 49.40 323 eP P 10 35 39.8 +1.8
H27A Howes 49.49 340 ⇓P P 10 35 39.1 +0.7
baz=50,SNR=68
G28A Parade 49.50 341 ⇓P P 10 35 38.6 +0.1
baz=50,SNR=25
K22A Casper 49.52 335 eP P 10 35 39.8 +0.9
comp=Z,22nm,0.9s
K22A ePcP PcP 10 37 01.0 +0.7
K22A Casper 49.52 335 ⇓P P 10 35 39.6 +0.7
baz=50,SNR=13
CIS Catalina Islan 49.53 318 ⇑P P 10 35 40.1 +1.2
baz=50
BFSC Mount Baldy Ra 49.53 319 ⇑P P 10 35 40.3 +1.3
baz=50,SNR=6.7
I25A Rochford 49.56 338 ⇑P P 10 35 40.7 +1.6
baz=50,SNR=41
F30A Leola 49.60 343 ⇑P P 10 35 39.1 -0.1
baz=50,SNR=20
GSC Goldstone 49.64 321 eP P 10 35 42.0 +2.2
GSC pmax pmax
comp=Z,27nm,1.0s
GSC Goldstone 49.64 321 eP P 10 35 42.0 +2.2
comp=Z,27nm,1.0s
GSC Goldstone 49.64 321 ⇑P P 10 35 41.3 +1.5
baz=50,SNR=9.5
SHOC Shoshone 49.69 322 ⇓P P 10 35 41.4 +1.4
baz=50,SNR=9.3
H26A Fairpoint 49.72 339 ⇓P P 10 35 40.8 +0.6
baz=50,SNR=16
J23A Dilts Ranch, B 49.74 336 ⇓P P 10 35 41.5 +1.0
baz=50
RSSD Black Hills 49.76 338 eP P 10 35 41.8 +1.1
RSSD pmax pmax
comp=Z,39nm,1.0s
RSSD Black Hills 49.76 338 eP P 10 35 41.8 +1.1
comp=Z,39nm,1.0s
I24A Kuemmerle Ranc 49.76 337 ⇓P P 10 35 41.8 +1.2
baz=50,SNR=5.9
MWC Mount Wilson 49.78 319 eP P 10 35 42.8 +1.8
MWC pmax pmax
comp=Z,39nm,0.9s
MWC Mount Wilson 49.78 319 eP P 10 35 42.8 +1.8
comp=Z,39nm,0.9s
K21A Alcova 49.82 334 ⇑P P 10 35 41.9 +0.7
baz=50,SNR=16
F29A Eureka 49.84 342 ⇑P P 10 35 40.9 -0.1
baz=50,SNR=38
MPU Maple Canyon 49.88 329 eP P 10 35 42.8 +1.1
comp=Z,25nm,0.9s
DECC Green Verdugo 49.98 319 ⇑P P 10 35 44.0 +1.7
baz=50,SNR=6.2
DAU Daniels Canyon 49.98 329 eP P 10 35 43.2 +0.6
DAU Daniels Canyon 49.98 329 eP P 10 35 43.2 +0.6
H25A Fruitdale 50.02 339 ⇓P P 10 35 43.5 +1.0
baz=50,SNR=38
NLU North Lily Min 50.07 328 eP P 10 35 44.9 +1.7
comp=Z,16nm,1.1s
G27A Dupree 50.10 340 ⇓P P 10 35 43.7 +0.6
baz=50,SNR=26
J22A Midwest 50.13 335 ⇓P P 10 35 44.0 +0.6
baz=50,SNR=48
EDW2 Edwards Air Fo 50.14 319 ⇓P P 10 35 44.8 +1.3
baz=50,SNR=17
F28A McLaughlin 50.15 342 ⇑P P 10 35 43.8 +0.4
baz=50,SNR=28
E30A Jud 50.17 344 ⇑P P 10 35 43.4 -0.2
baz=50,SNR=26
JLU Jordanelle 50.22 329 eP P 10 35 45.6 +1.3
comp=Z,31nm,0.9s
G26A Maurine 50.25 340 ⇑P P 10 35 44.6 +0.4
baz=50,SNR=35
LRMC Laurel Mountai 50.31 320 ⇓P P 10 35 46.4 +1.5
baz=50,SNR=12
FURC Furnace Creek, 50.41 322 ⇑P P 10 35 47.2 +1.8
baz=51,SNR=16
CTU Camp Tracy 50.44 329 eP P 10 35 47.3 +1.4
comp=Z,36nm,1.1s
E29A Napoleon 50.45 343 ⇓P P 10 35 45.8 +0.2
baz=51,SNR=36
G25A Newell 50.45 339 ⇓P P 10 35 46.5 +0.7
baz=51,SNR=12
OSI Osito Adit 50.46 319 ⇑P P 10 35 47.0 +1.1
baz=51
J21A Lysite 50.48 335 ⇑P P 10 35 47.0 +0.9
baz=51,SNR=26
H24A Dirks Ranch, A 50.48 338 ⇑P P 10 35 46.8 +0.8
baz=51,SNR=15
I22A 9 Mile Ranch, 50.53 336 ⇓P P 10 35 47.2 +0.8
baz=51,SNR=29
F27A Lemmon 50.56 341 ⇓P P 10 35 47.1 +0.6
baz=51,SNR=19
TCUT Toone Canyon 50.59 330 eP P 10 35 48.1 +1.0
comp=Z,31nm,0.9s
DUG Dugway 50.63 328 eP P 10 35 48.4 +1.1
DUG pmax pmax
comp=Z,15nm,0.9s
DUG Dugway 50.63 328 eP P 10 35 48.4 +1.1
comp=Z,15nm,0.9s
DUG Dugway 50.63 328 ⇓P P 10 35 48.7 +1.4
baz=51,SNR=23
H23A Clabaugh Cattl 50.65 337 ⇓P P 10 35 47.9 +0.6
baz=51
D30A Buchanan 50.69 344 ⇓P P 10 35 47.4 +0.1
baz=51,SNR=48
F26A Lodgepole 50.76 340 ⇓P P 10 35 48.6 +0.5
baz=51,SNR=26
J20A Shoshoni 50.76 334 ⇑P P 10 35 49.4 +1.2
baz=51
E28A Huff 50.77 342 ⇑P P 10 35 48.7 +0.7
baz=51,SNR=42
I21A Big Trails, Te 50.80 335 ⇓P P 10 35 49.0 +0.5

baz=51,SNR=12
ARVC Arvin 50.84 319 ⇑P P 10 35 50.3 +1.5
baz=51,SNR=9.2
D29A Pettibone, Tap 50.88 343 ⇓P P 10 35 49.0 +0.2
baz=51,SNR=31
R11A Troy Canyon, C 50.88 324 eP P 10 35 51.1 +1.8
comp=Z,15nm,0.9s
R11A Troy Canyon, C 50.88 324 ⇑P P 10 35 51.0 +1.8
baz=51,SNR=29
E27A Carson 50.91 341 ⇑P P 10 35 50.0 +0.9
baz=51,SNR=44
G24A Alzada 50.93 338 ⇓P P 10 35 50.1 +0.7
baz=51
ISA Isabella 50.93 320 eP P 10 35 51.5 +2.0
ISA pmax pmax
comp=Z,26nm,1.0s
ISA Isabella 50.93 320 eP P 10 35 51.5 +2.0
comp=Z,26nm,1.0s
ISA Isabella 50.93 320 ⇑P P 10 35 51.1 +1.5
baz=51,SNR=11
BW06 Boulder Array 50.96 333 eP P 10 35 49.9 +0.1
comp=Z,22nm,1.2s
PDAR Pinedale Array 50.96 333 P P 10 35 50.1 +0.3
comp=Z,11nm,1.0s,baz=140,slow=7.5,SNR=50
PDAR PcP PcP 10 37 05.2 -0.5
comp=Z,7.5nm,0.9s,baz=145,slow=5.4,SNR=8.2
HWUT Hardware Ranch 51.03 330 eP P 10 35 50.7 +0.4
comp=Z,40nm,1.0s
H22A Clearmont 51.05 336 ⇑P P 10 35 50.8 +0.5
baz=51
AGMN Agassiz Nation 51.06 347 eP P 10 35 49.7 -0.5
comp=Z,29nm,1.3s
AGMN Agassiz Nation 51.06 347 ⇓P P 10 35 49.7 -0.5
baz=51
GRAC Grapevine Rang 51.07 322 ⇑P P 10 35 52.4 +1.9
baz=51,SNR=9.5
F25A Bowman 51.10 340 ⇑P P 10 35 50.9 +0.3
baz=51,SNR=6.0
J19A Crowheart 51.12 333 ⇓P P 10 35 51.3 +0.4
baz=51,SNR=14
C30A Mose, Pekin 51.16 345 ⇑P P 10 35 51.1 +0.2
baz=51,SNR=19
G23A Biddle 51.19 338 ⇓P P 10 35 51.8 +0.5
baz=51,SNR=11
E26A Carlson Angus 51.24 341 ⇑P P 10 35 52.2 +0.6
baz=52,SNR=37
SPUT South Promonto 51.25 329 eP P 10 35 53.3 +1.4
comp=Z,55nm,1.0s
I20A Worland 51.26 335 ⇑P P 10 35 52.7 +0.8
baz=52,SNR=11
BGU Big Grassy Mou 51.27 329 eP P 10 35 53.4 +1.3
comp=Z,19nm,1.0s
D28A Regan 51.28 343 ⇓P P 10 35 52.6 +0.7
baz=52,SNR=33
H21A Big Horn, Sher 51.36 336 ⇑P P 10 35 52.8 +0.2
baz=52,SNR=12
F24A Ekalaka 51.38 339 ⇑P P 10 35 53.3 +0.5
baz=52,SNR=22
VES Vestal, Richgr 51.43 320 ⇑P P 10 35 54.9 +1.7
baz=52,SNR=11
D27A Center 51.50 342 ⇑P P 10 35 54.4 +0.8
baz=52,SNR=5.2
G22A Birney 51.55 337 ⇑P P 10 35 54.4 +0.4
baz=52,SNR=18
E25A Miller Ranch, 51.58 340 ⇑P P 10 35 54.7 +0.6
baz=52,SNR=22
F23A Volborg 51.63 338 ⇑P P 10 35 55.3 +0.7
baz=52,SNR=26
TIN Tinemaha 51.63 321 ⇑P P 10 35 56.4 +1.6
baz=52
H20A Greybull 51.64 335 ⇑P P 10 35 55.2 +0.5
baz=52,SNR=28
TPH Tonopah 51.67 323 eP P 10 35 56.8 +1.6
TPH pmax pmax
comp=Z,38nm,0.9s
TPH Tonopah 51.67 323 eP P 10 35 56.8 +1.6
comp=Z,38nm,0.9s
AHID Auburn Hatcher 51.68 332 eP P 10 35 55.5 +0.3
comp=Z,17nm,0.9s
C28A Hausauer Farms 51.70 343 ⇓P P 10 35 55.8 +0.8
baz=52,SNR=14
I19A Meeteetse 51.71 334 ⇑P P 10 35 56.0 +0.7
baz=52,SNR=9.8
SMMC Simmler 51.72 319 ⇓P P 10 35 57.0 +1.6
baz=52
D26A Manning 51.72 341 ⇓P P 10 35 55.9 +0.7
baz=52,SNR=23
HVU Hansel Valley 51.77 330 eP P 10 35 56.9 +1.1
HVU pmax pmax
comp=Z,29nm,1.1s
HVU Hansel Valley 51.77 330 eP P 10 35 56.9 +1.1
comp=Z,29nm,1.1s
B30A Myrvik Farm, E 51.80 345 ⇑P P 10 35 55.9 +0.1
baz=52,SNR=23
RCTC Rector, Farmer 51.82 320 ⇑P P 10 35 57.2 +1.2
baz=52,SNR=6.3
G21A Lodge Grass 51.92 336 ⇑P P 10 35 57.0 +0.2
baz=52,SNR=8.5
E24A Baker 51.95 339 ⇓P P 10 35 57.6 +0.7
baz=52,SNR=9.7
F22A Rosebud 52.00 337 ⇑P P 10 35 57.7 +0.4
baz=52,SNR=10
REDW Red Top Meadow 52.02 332 eP P 10 35 58.6 +0.9
comp=Z,56nm,1.2s
MTUM Tungsten Hills 52.03 322 eP P 10 36 00.1 +2.2
C27A Sayler Ranch, 52.03 342 ⇓P P 10 35 58.3 +0.8
baz=52,SNR=8.2
B29A Wagenman Farm, 52.09 344 ⇓P P 10 35 58.5 +0.6
baz=52,SNR=68
LOHW Long Hollow 52.10 333 eP P 10 35 59.0 +0.7
comp=Z,20nm,1.0s
D25A Fairfield 52.12 340 ⇓P P 10 35 59.1 +1.0
baz=52,SNR=31
TPAW Teton Pass 52.16 332 eP P 10 35 59.5 +0.7
H19A Powell 52.21 335 ⇓P P 10 35 59.7 +0.7
baz=52
A30A Hoffart Farm, 52.25 345 ⇑P P 10 35 59.1 0.0
baz=52,SNR=41
E23A Ismay 52.25 339 ⇑P P 10 35 59.5 +0.3
baz=52,SNR=5.0
FXWY Fox Creek 52.31 332 eP P 10 36 00.4 +0.5
comp=Z,13nm,1.0s
C26A Wahner Farm, P 52.31 342 ⇓P P 10 36 00.1 +0.5
baz=52,SNR=31
I17A Pilgrim Ck. 52.32 333 ⇓P P 10 36 01.2 +1.3
baz=52,SNR=22
ELK Elko 52.32 327 eP P 10 36 01.4 +1.4
ELK pmax pmax
comp=Z,24nm,1.0s
ELK Elko 52.32 327 eP P 10 36 01.4 +1.4
comp=Z,24nm,1.0s
G20A Bridger 52.32 336 ⇑P P 10 35 59.8 -0.1
baz=52,SNR=18
B28A Dugan Ranch, T 52.36 343 ⇓P P 10 36 00.5 +0.7
baz=53,SNR=31
MLAC Mammoth Lakes 52.37 322 ⇑P P 10 36 02.0 +1.6
baz=53,SNR=5.6
F21A Absaloka Mine, 52.38 337 ⇓P P 10 36 00.5 +0.3
baz=53
D24A Glendive 52.43 340 ⇓P P 10 36 01.7 +1.2
baz=53,SNR=26
E22A Miles City 52.44 338 ⇓P P 10 36 00.7 +0.2
baz=53,SNR=16
NV11 Mina Array Sit 52.46 323 eP P 10 36 02.5 +1.5
IMW Indian Meadow 52.47 333 eP P 10 36 01.8 +0.7
comp=Z,16nm,0.9s
A29A Manning Farm, 52.48 345 ⇓P P 10 36 01.2 +0.5
baz=53,SNR=76
FLWY Flagg Ranch 52.50 333 eP P 10 36 02.5 +1.2
comp=Z,37nm,1.0s
H18A Shoshone NF, C 52.51 334 ⇑P P 10 36 01.7 +0.4
baz=53,SNR=10.0
NVAR Mina Array Bea 52.55 323 P P 10 36 03.5 +1.8
comp=Z,36nm,0.9s,baz=138,slow=7.0,SNR=136
B27A Peters Farms, 52.58 343 ⇑P P 10 36 02.2 +0.7
baz=53,SNR=10
C25A Freed Ranch, W 52.59 341 ⇓P P 10 36 02.7 +1.0
baz=53,SNR=27
RLMT Red Lodge 52.69 335 eP P 10 36 02.6 0.0
comp=Z,7.7nm,1.0s
H17A Grant Village 52.69 333 eP P 10 36 04.4 +1.7
comp=Z,38nm,1.6s
H17A Grant Village 52.69 333 ⇓P P 10 36 03.7 +0.9
baz=53
A28A Rude Farm, Bot 52.75 344 ⇓P P 10 36 03.3 +0.5
baz=53,SNR=11
LAO LASA Array 52.75 338 eP P 10 36 04.4 +1.6
comp=Z,18nm,1.0s
F20A Billings 52.77 336 ⇑P P 10 36 03.5 +0.5
baz=53,SNR=7.6
D23A Lindsay 52.79 339 ⇓P P 10 36 04.2 +1.1
baz=53
C24A Savage 52.82 340 ⇓P P 10 36 04.3 +1.0
baz=53,SNR=26
B26A Jensen Ranch, 52.85 342 ⇑P P 10 36 04.3 +0.8
baz=53
YFT Old Faithful 52.85 333 eP P 10 36 06.6 +2.7
comp=Z,42nm,1.3s
ULM Lac du Bonnet 52.91 348 eP P 10 36 02.9 -1.0
ULM 10 37 12.1
ULM pmax pmax
comp=Z,47nm,1.0s
ULM Lac du Bonnet 52.91 348 P P 10 36 03.0 -0.8
comp=Z,36nm,0.9s,baz=160,slow=7.3,SNR=36
ULM PcP PcP 10 37 12.1 -0.3
comp=Z,19nm,0.9s,baz=164,slow=4.5,SNR=3.0
ULM Lac du Bonnet 52.91 348 eP P 10 36 02.9 -1.0
comp=Z,47nm,1.0s
ULM PcP PcP 10 37 12.1 -0.3
E21A Keefer Ranch, 52.95 337 ⇑P P 10 36 05.0 +0.7
baz=53
YNR Norris Junctio 52.99 333 eP P 10 36 06.9 +2.0
comp=Z,12nm,1.0s
B25A Knox Farm, Ray 53.05 341 ⇑P P 10 36 06.1 +1.2
baz=53,SNR=14
A27A Ledoux Ranch, 53.06 343 ⇑P P 10 36 06.1 +1.1
baz=53
YMR Madison River 53.08 333 eP P 10 36 07.2 +1.7
comp=Z,39nm,1.2s
D22A Cohagen 53.12 338 ⇓P P 10 36 06.7 +1.1
baz=53
F19A Roth Farm, Mol 53.14 335 ⇑P P 10 36 06.2 +0.4
baz=53,SNR=16
BMN Battle Mountai 53.22 325 eP P 10 36 07.9 +1.3
BMN pmax pmax
comp=Z,73nm,1.0s
BMN Battle Mountai 53.22 325 eP P 10 36 07.9 +1.3
comp=Z,73nm,1.0s
A26A Wade Farm, Ken 53.25 342 ⇓P P 10 36 07.2 +0.8
baz=54,SNR=23
WAKR Walker 53.29 322 eP P 10 36 09.2 +2.1
C23A Lambert 53.32 340 ⇓P P 10 36 08.0 +1.0
baz=54,SNR=7.5
E20A Meyer Farm, Mu 53.33 337 ⇑P P 10 36 08.3 +1.1
baz=54,SNR=38
D21A La Casta Ranch 53.36 338 ⇓P P 10 36 08.4 +1.1
baz=54,SNR=22
QLMT Earthquake Lak 53.41 333 eP P 10 36 09.9 +1.9
C22A Vida 53.52 339 ⇓P P 10 36 09.5 +1.0
baz=54,SNR=29
DGMT Dagmar 53.56 341 eP P 10 36 09.8 +1.1
comp=Z,43nm,1.0s
DGMT ePcP PcP 10 37 15.7 +0.7
DGMT Dagmar 53.56 341 ⇑P P 10 36 09.7 +0.9
baz=54,SNR=7.5
E19A Rath Farm, Rou 53.56 336 ⇓P P 10 36 09.8 +0.9
baz=54,SNR=41
CMB Columbia Colle 53.59 321 eP P 10 36 10.7 +1.5
CMB pmax pmax
comp=Z,18nm,1.1s
CMB Columbia Colle 53.59 321 eP P 10 36 10.7 +1.5
comp=Z,18nm,1.1s
A25A Svangstu Ranch 53.62 342 ⇓P P 10 36 10.2 +1.1
baz=54,SNR=7.9
D20A Manuel Ranch, 53.82 337 ⇑P P 10 36 11.7 +1.0
baz=54,SNR=47
B23A Brockton 53.82 340 ⇑P P 10 36 12.0 +1.3
baz=54,SNR=29
A24A Westby 53.89 341 ⇓P P 10 36 12.5 +1.4
baz=54,SNR=29
HLID Hailey 53.89 330 eP P 10 36 12.8 +1.3
comp=Z,23nm,0.9s
HLID Hailey 53.89 330 ⇑P P 10 36 12.8 +1.3
baz=54,SNR=42
B22A Reddig Ranch S 54.03 339 ⇑P P 10 36 13.3 +1.1
baz=54,SNR=6.9
C21A Desert Coulee 54.03 338 ⇑P P 10 36 13.3 +1.1
baz=54,SNR=52
MCMT McKenzie Canyo 54.07 332 eP P 10 36 14.1 +1.3
comp=Z,14nm,1.4s
BOZ Bozeman (W) 54.13 333 eP P 10 36 14.0 +0.9
BOZ pmax pmax
comp=Z,54nm,1.0s
BOZ Bozeman (W) 54.13 333 eP P 10 36 14.0 +0.9
comp=Z,54nm,1.0s
D19A Cripps Ranch, 54.17 336 ⇓P P 10 36 14.1 +0.8
baz=54,SNR=40
A23A Redstone 54.21 340 ⇓P P 10 36 14.8 +1.3
baz=54,SNR=9.3
C20A Veseth Ranch, 54.28 337 ⇑P P 10 36 14.7 +0.6
baz=54,SNR=15
DLMT Dillon 54.35 333 eP P 10 36 15.9 +1.1
comp=Z,21nm,1.0s
USHA Ushuaia 54.37 171 P P 10 36 15.0 +0.5
comp=Z,9.4nm,0.8s,baz=339,slow=5.7,SNR=7.5
B21A Ellsworth Farm 54.50 339 ⇓P P 10 36 16.7 +1.0
baz=55,SNR=10
MFID Camas Ranch 54.51 329 eP P 10 36 16.9 +1.1
comp=Z,49nm,0.9s
A22A Carney Farms, 54.59 340 ⇑P P 10 36 17.5 +1.2
baz=55,SNR=19
LRM Limekiln Ridge 54.64 333 eP P 10 36 17.8 +0.9
C19A Slack Wire Ran 54.70 337 ⇑P P 10 36 18.1 +1.0
baz=55,SNR=42
B20A Solberg Farm, 54.88 338 ⇑P P 10 36 19.3 +0.9
baz=55
HRY Holter Researc 55.04 334 eP P 10 36 20.6 +0.9
OHCM Honcut 55.06 322 eP P 10 36 21.3 +1.6
A20A Cobblestone Ra 55.21 338 ⇓P P 10 36 21.5 +0.7
baz=55,SNR=6.8
EGMT Eagleton 55.22 337 eP P 10 36 21.7 +0.8
comp=Z,55nm,1.0s
EGMT Eagleton 55.22 337 ⇓P P 10 36 21.6 +0.8
baz=55,SNR=30
B19A Brinkman Farms 55.25 337 ⇑P P 10 36 21.8 +0.7
baz=56,SNR=10
WVOR Wild Horse Val 55.34 326 eP P 10 36 22.9 +1.0
WVOR pmax pmax
comp=Z,56nm,1.0s
WVOR Wild Horse Val 55.34 326 eP P 10 36 22.9 +1.0
comp=Z,56nm,1.0s
A19A Klindworth Far 55.56 338 ⇑P P 10 36 24.0 +0.7
baz=56,SNR=25
CHMT Chamberlain Mo 55.83 333 eP P 10 36 25.9 +0.5
MOD Modoc 55.94 325 eP P 10 36 27.4 +1.2
comp=Z,32nm,1.2s
MSO Missoula 56.07 333 eP P 10 36 28.1 +1.0
comp=Z,38nm,1.1s
MSO Missoula 56.07 333 ⇓P P 10 36 28.0 +1.0
baz=56,SNR=33
SLMT Seeley Lake 56.18 334 eP P 10 36 28.5 +0.5
BMO Blue Mountains 56.27 329 eP P 10 36 28.5 0.0
comp=Z,16nm,1.0s
WDC Whiskeytown Da 56.45 322 eP P 10 36 29.1 -0.7
WDC Whiskeytown Da 56.45 322 eP P 10 36 29.1 -0.7
SWMT Swartz Lake 56.61 333 eP P 10 36 32.1 +1.2
M04C Macdoel 56.76 324 ⇓P P 10 36 32.9 +0.8
baz=57
N02D Trinity Center 56.79 323 ⇑P P 10 36 32.0 -0.2
baz=57
K05A Summer Lake 56.80 325 eP P 10 36 34.5 +2.0
comp=Z,50nm,0.9s
YBMT Yellow Bay 56.88 334 eP P 10 36 34.1 +1.2
I07A Izee 56.91 327 eP P 10 36 34.0 +1.0
comp=Z,38nm,0.9s
JTMT Jette 56.91 333 eP P 10 36 34.2 +1.1
KMRM Mail Ridge 56.96 321 eP P 10 36 35.8 +2.3
comp=Z,302nm,2.0s
SCHQ Schefferville 56.98 9 P P 10 36 31.9 -1.4
comp=Z,18nm,1.0s,baz=180,slow=5.7,SNR=14
SCHQ PcP PcP 10 37 28.5 +0.4
comp=Z,21nm,0.8s,baz=217,slow=2.7,SNR=9.0
F10A Beach Ranch, E 57.02 330 eP P 10 36 34.6 +0.8
comp=Z,24nm,0.9s
RKT Rikitea 57.05 243 eS S 10 44 02.3 -24
comp=Z,424nm,29.8s
RKT eLR LR 10 52 24.2
comp=Z,917nm,25.0s
M02C Callahan 57.13 323 ⇑P P 10 36 35.0 +0.4
baz=57
BLMT Blacktail Moun 57.15 334 eP P 10 36 36.2 +1.4
BLMT e 10 36 46.6
BSMT Bassoo Peak 57.22 333 eP P 10 36 36.6 +1.3
K04D Chiloquin, OR 57.23 325 ⇓P P 10 36 36.4 +1.0
baz=57
YBH Yreka Blue Hor 57.24 323 eP P 10 36 35.5 0.0
YBH pmax pmax
comp=Z,28nm,0.9s
YBH Yreka Blue Hor 57.24 323 P P 10 36 35.4 -0.1
comp=Z,26nm,0.9s,baz=97,slow=6.7,SNR=41
YBH Yreka Blue Hor 57.24 323 eP P 10 36 35.5 0.0
comp=Z,28nm,0.9s
J05D Fort Rock, OR 57.35 326 ⇓P P 10 36 37.6 +1.3
baz=58
KHMM Horse Mountain 57.36 322 eP P 10 36 38.5 +2.1
comp=Z,74nm,1.0s
G08A Pilot Rock 57.43 329 eP P 10 36 37.9 +1.1
comp=Z,64nm,1.0s
PINOR Pine Mountain 57.48 326 eP P 10 36 38.6 +1.6
comp=Z,96nm,1.0s
WALA Waterton Lakes 57.74 335 eP P 10 36 39.7 +0.8
comp=Z,1.2nm,0.9s
J04D Umpqua Nationa 57.82 325 ⇓P P 10 36 40.5 +0.9
baz=58
E09A Wood Farm, Sta 57.85 330 eP P 10 36 40.4 +0.9
comp=Z,166nm,2.0s
HUMO Hull Mountain 57.92 324 eP P 10 36 43.4 +3.2
L02D Cave Junction, 58.03 323 ⇓P P 10 36 42.0 +1.1
baz=58
I05D Terrebonne, OR 58.08 326 ⇑P P 10 36 42.6 +1.4
baz=58
G06A Carlson Farm, 58.27 328 eP P 10 36 44.6 +2.0
comp=Z,87nm,1.1s
HBO Huckleberry Mo 58.31 326 P P 10 36 44.0 +1.0
I04A Tendick Farm, 58.33 325 ⇑P P 10 36 43.9 +0.8
baz=58
KBO Bosley Butte 58.44 323 eP P 10 36 45.2 +1.4
comp=Z,113nm,1.2s
HAWA Hanford 58.47 329 eP P 10 36 44.9 +1.0
comp=Z,16nm,0.8s
FFC Flin Flon 58.47 346 P P 10 36 43.9 +0.2
comp=Z,166nm,1.1s,SNR=13
FFC Flin Flon 58.47 346 eP P 10 36 43.8 +0.1
FFC pmax pmax
comp=Z,33nm,1.1s
FFC Flin Flon 58.47 346 eP P 10 36 43.8 +0.1
comp=Z,33nm,1.1s
NEW Newport 58.59 332 eP P 10 36 45.4 +0.7
NEW 10 37 35.2
NEW pmax pmax
comp=Z,33nm,1.1s
NEW Newport 58.59 332 P P 10 36 45.5 +0.7
comp=Z,26nm,1.1s,baz=147,slow=6.6,SNR=33
NEW PcP PcP 10 37 35.2 +0.6
comp=Z,7.6nm,0.9s,baz=267,slow=5.2,SNR=3.5
NEW Newport 58.59 332 eP P 10 36 45.4 +0.7
comp=Z,33nm,1.1s
NEW PcP PcP 10 37 35.2 +0.6
NEW Newport 58.59 332 ⇑P P 10 36 45.4 +0.7
baz=59,SNR=22
D08A Wollman Farm, 58.61 330 eP P 10 36 45.9 +1.1
comp=Z,18nm,0.9s
G05D Wamic, OR 58.64 327 ⇓P P 10 36 46.9 +1.7
baz=59
BROR Big Rock Looko 58.65 326 P P 10 36 45.9 +0.8
OD2 Odessa Site #2 58.74 331 P P 10 36 46.8 +1.1
E07A Sunnyside 58.74 329 eP P 10 36 47.3 +1.5
comp=Z,46nm,0.9s
H04A Detroit Lake 58.76 326 eP P 10 36 46.5 +0.6
comp=Z,38nm,1.0s
VFP Flag Point 58.77 327 P P 10 36 48.0 +1.8
I03D Drain, OR 58.81 325 ⇓P P 10 36 47.3 +1.1
baz=59
C09A Chrisman Ranch 58.81 331 eP P 10 36 47.3 +1.1
comp=Z,13nm,0.8s
RNO Roman Nose 59.16 325 P P 10 36 50.4 +1.5
SAW Saint Andrews 59.29 330 P P 10 36 51.0 +1.4
COR Corvallis 59.33 326 eP P 10 36 51.4 +1.6
COR pmax pmax
comp=Z,64nm,0.9s
COR Corvallis 59.33 326 eP P 10 36 51.4 +1.6
comp=Z,64nm,0.9s
ASR Mount Adams--S 59.38 328 P P 10 36 52.1 +1.7
WTV Waterville 59.56 330 P P 10 36 52.9 +1.4
LTY Liberty 59.63 329 eP P 10 36 53.1 +1.2
comp=Z,33nm,1.0s
F04A Amboy 59.68 327 eP P 10 36 53.7 +1.5
comp=Z,37nm,1.0s
G03D McMinnville, O 59.69 326 ⇓P P 10 36 53.5 +1.2
baz=60
B08A Colville Reser 59.71 331 eP P 10 36 53.2 +0.8
comp=Z,18nm,1.3s
LON Longmire 59.88 328 eP P 10 36 54.7 +1.0
LON pmax pmax
comp=Z,43nm,1.1s
LON Longmire 59.88 328 eP P 10 36 54.7 +1.0
comp=Z,43nm,1.1s
NLW Nelson Butte 60.01 330 P P 10 36 55.9 +1.2
F04D Rainier, OR 60.09 327 ⇓P P 10 36 56.7 +1.7
baz=60
D05A Enumclaw 60.26 329 eP P 10 36 57.5 +1.3
comp=Z,75nm,0.9s
E03A Lebam 60.68 327 eP P 10 37 00.8 +1.7
comp=Z,85nm,0.9s
FCC Fort Churchill 60.74 352 eP P 10 36 57.9 -1.3
FCC Fort Churchill 60.74 352 eP P 10 36 57.9 -1.3
comp=Z,1.4nm,1.0s
EDM Edmonton 60.74 338 eP P 10 36 59.1 -0.3
EDM Edmonton 60.74 338 eP P 10 36 59.1 -0.3
B06A Marblemount 60.87 330 eP P 10 37 01.3 +1.0
comp=Z,29nm,0.9s
JCW Jim Creek 60.88 330 P P 10 37 00.9 +0.4
MBW Mount Baker 61.26 330 P P 10 37 03.8 +0.6
NLWA Neilton Lookou 61.38 328 eP P 10 37 06.1 +2.2
comp=Z,48nm,1.0s
A05A Maple Falls 61.49 330 eP P 10 37 05.6 +1.1
comp=Z,57nm,0.8s
VDB Vedder Mountai 61.52 330 P P 10 37 05.7 +1.0
PGC Sidney 61.95 329 eP P 10 37 09.0 +1.4
comp=Z,1.5nm,0.9s
HOPE Hope Point 64.02 153 P P 10 37 22.2 +0.9
comp=Z,540nm,0.8s,SNR=6.4
YKA Yellowknife Ar 68.52 344 P P 10 37 49.7 -0.2
comp=Z,20nm,0.9s,baz=135,slow=5.9,SNR=268
PPT Papeete 69.64 252 LR LR 11 00 41.2
comp=Z,455nm,18.1s,baz=76,slow=29
PPT2 Papeete2 69.64 252 eLR LR 10 58 07.0
comp=Z,737nm,23.8s
DLBC Dease Lake 71.09 335 eP P 10 38 07.0 +1.0
LIC Lamto 75.76 83 ⇑iP P 10 38 33.7 -0.5
comp=Z,98nm,0.9s,baz=266
LIC eR
comp=Z,798nm,19.5s
LIC Lamto 75.76 83 eP P 10 38 33.6 -0.6
comp=Z,142nm,0.9s
LIC Lamto 75.76 83 ⇑iP P 10 38 33.7 -0.5
comp=Z,98nm,0.9s
TIC Toumodi 75.79 83 eP P 10 38 33.7 -0.7
comp=Z,93nm,0.8s
DBIC Dimbokro 75.95 83 eP P 10 38 34.6 -0.7
DBIC pmax pmax
comp=Z,51nm,0.8s
DBIC Dimbokro 75.95 83 P P 10 38 34.8 -0.6
comp=Z,51nm,0.8s,baz=245,slow=5.0,SNR=45
DBIC Dimbokro 75.95 83 eP P 10 38 34.6 -0.7
comp=Z,51nm,0.8s
KIC Kosan Boka 76.05 83 eP P 10 38 35.4 -0.5
comp=Z,213nm,0.8s
RES Resolute Bay 76.27 356 eP P 10 38 34.8 -1.1
RES pmax pmax
comp=Z,20nm,1.0s
RES Resolute Bay 76.27 356 eP P 10 38 34.8 -1.1
comp=Z,20nm,1.0s
PMAFR Mafra 76.29 49 eLR LR 11 04 20.1
comp=Z,296nm,20.0s
PTEO Sao Teotonio 76.41 51 eP P 10 38 36.5 -1.0
MORF Marmelete 76.42 51 eP P 10 38 38.2 +0.6
MORF AMS AMS 11 05 39.2
comp=Z,420nm,18.6s
MORF Marmelete 76.42 51 eP P 10 38 36.8 -0.8
comp=Z,113nm,1.8s
MORF Marmelete 76.42 51 eLR LR 11 02 05.6
comp=Z,422nm,18.0s
MORF Marmelete 76.42 51 eP P 10 38 38.1 +0.6
PNCL Nicolau / Gran 76.68 50 eP P 10 38 38.2 -0.8
comp=Z,101nm,1.4s
PNCL Nicolau / Gran 76.68 50 eLR LR 11 00 49.4
comp=Z,337nm,18.0s
MESJ Messejana 76.86 51 eP P 10 38 40.1 0.0
MESJ AMS AMS 11 06 06.1
comp=Z,329nm,18.3s
MESJ Messejana 76.86 51 eP P 10 38 38.8 -1.2

MESJ Messejana 76.86 51 eP P 10 38 40.0 0.0
PCVE Castro Verde 76.96 51 eP P 10 38 40.4 -0.2
comp=Z,44nm,2.1s
PCVE Castro Verde 76.96 51 eLR LR 11 01 03.0
PBDV Barranco-do-Ve 76.97 51 eLR LR 11 03 00.0
comp=Z,543nm,18.0s
KULLO Kullorsuaq 76.97 6 iP P 10 38 39.1 -0.7
KULLO pmax pmax
comp=Z,17nm,1.1s
KULLO Kullorsuaq 76.97 6 iP P 10 38 39.1 -0.7
comp=Z,17nm,1.1s
PCAS Casmilo, Conde 77.12 49 eP P 10 38 40.6 -0.8
comp=Z,218nm,1.6s
PCAS Casmilo, Conde 77.12 49 eLR LR 11 02 07.5
comp=Z,372nm,20.0s
EVO Evora 77.17 50 eP P 10 38 41.2 -0.5
comp=Z,92nm,2.0s
PVAQ Vaqueiros 77.17 51 eP P 10 38 39.0 -2.7
comp=Z,69nm,1.6s
PVAQ Vaqueiros 77.17 51 eLR LR 11 01 47.9
comp=Z,496nm,20.0s
PTO Porto 77.28 47 eP P 10 38 41.7 -0.6
PESTR Estremoz 77.56 50 eP P 10 38 42.6 -1.3
comp=Z,57nm,1.5s
PESTR Estremoz 77.56 50 eLR LR 11 01 36.0
comp=Z,285nm,20.0s
PMRV Marv??o 77.82 49 eLR LR 11 00 29.0
comp=Z,184nm,18.0s
PBAR Barrancos 77.84 51 eP P 10 38 44.3 -1.2
comp=Z,105nm,1.9s
PBAR Barrancos 77.84 51 eLR LR 11 00 34.8
comp=Z,880nm,20.0s
MTE Manteigas 77.91 48 eP P 10 38 44.3 -1.6
comp=Z,49nm,1.7s
MTE Manteigas 77.91 48 eLR LR 11 04 23.6
comp=Z,426nm,20.0s
POLO Lamas de Olo 77.93 47 eP P 10 38 45.5 -0.6
comp=Z,43nm,1.6s
POLO Lamas de Olo 77.93 47 eLR LR 11 02 27.1
comp=Z,149nm,20.0s
DAWY Dawson 77.94 337 eP P 10 38 45.8 +0.3
SUMG Summit 78.25 12⇑iP P 10 38 47.1 -0.5
SUMG pmax pmax
comp=Z,29nm,0.9s
SUMG Summit 78.25 12⇑iP P 10 38 47.1 -0.5
comp=Z,29nm,0.9s
SUMG Summit 78.25 12 eP P 10 38 47.0 -0.5
comp=Z,51nm,1.0s
MVO Moncorvo 78.45 48 eLR LR 11 02 23.3
comp=Z,282nm,20.0s
BMRM Bremner River 78.74 333 eP P 10 38 50.9 +0.8
comp=Z,54nm,1.0s
PBRG Braganca 78.79 47 eP P 10 38 50.9 +0.2
comp=Z,53nm,1.6s
PBRG Braganca 78.79 47 eLR LR 11 03 19.7
comp=Z,311nm,20.0s
VAL Valentia 78.93 36 eP P 10 38 51.0 -0.1
EGAK Eagle 78.96 338 eP P 10 38 51.6 +0.6
comp=Z,54nm,1.0s
DOT Dot Lake 79.60 336 eP P 10 38 55.1 +0.4
comp=Z,39nm,1.3s
PAX Paxson 79.91 335 eP P 10 38 56.4 0.0
PAX pmax pmax
comp=Z,46nm,1.1s
PAX Paxson 79.91 335 eP P 10 38 56.4 0.0
comp=Z,46nm,1.1s
ESDC Sonseca Array 80.47 50 P P 10 38 59.9 0.0
comp=Z,8.1nm,0.9s,baz=268,slow=5.6,SNR=22
ESLA Sonseca Array 80.47 50 eP P 10 38 59.9 -0.1
comp=Z,1.4nm,1.0s
PMR Palmer 81.00 333 eP P 10 39 01.9 -0.2
PMR pmax pmax
comp=Z,25nm,1.3s
PMR Palmer 81.00 333 eP P 10 39 01.9 -0.2
comp=Z,24nm,1.3s
RC01 Rabbit Creek A 81.11 333 eP P 10 39 03.0 +0.2
comp=Z,42nm,0.9s
ILAR Eielson Array 81.18 337 P P 10 39 02.8 -0.4
comp=Z,11nm,1.0s,baz=134,slow=3.4,SNR=60
ILAR PP PP 10 42 10.7 +1.9
comp=Z,3.2nm,0.9s,baz=110,slow=7.1,SNR=9.6
ILAR LR LR 11 17 17.3
comp=Z,270nm,18.4s,baz=118,slow=37
COLA College 81.61 337⇑iP P 10 39 05.2 -0.1
COLA pmax pmax
comp=Z,41nm,1.0s
COLA College 81.61 337 eP P 10 39 05.2 -0.1
comp=Z,11nm,1.0s
MCK McKinley 81.64 335 eP P 10 39 05.4 -0.2
MCK pmax pmax
comp=Z,17nm,0.9s
MCK McKinley 81.64 335 eP P 10 39 05.4 -0.2
comp=Z,17nm,0.9s
TRF Thorofare Moun 82.12 335 eP P 10 39 08.0 -0.3
comp=Z,91nm,1.6s
RSO Redoubt South 82.33 332 eP P 10 39 09.1 -0.4
comp=Z,87nm,0.8s
KTH Kantishna Hill 82.42 335 eP P 10 39 09.2 -0.5
comp=Z,28nm,0.9s
QUIF Quistinic 82.46 41 eP P 10 39 10.1 0.0
comp=Z,104nm,1.4s
QUIF Quistinic 82.46 41 eP P 10 39 10.1 0.0
QUIF pmax pmax
comp=Z,104nm,1.4s
QUIF Quistinic 82.46 41 eP P 10 39 10.1 0.0
comp=Z,104nm,1.4s
ROSF Rostrenen 82.46 41⇑iP P 10 39 10.1 -0.1
comp=Z,160nm,1.3s
ROSF Rostrenen 82.46 41⇑iP P 10 39 10.1 -0.1
ROSF pmax pmax
comp=Z,160nm,1.3s
ROSF Rostrenen 82.46 41⇑iP P 10 39 10.1 -0.1
comp=Z,160nm,1.3s
TOA0 Torodi Ar. Sit 82.74 77 eP P 10 39 11.4 -0.9
TORD Torodi Ar. Bea 82.74 77 P P 10 39 11.4 -0.9
comp=Z,21nm,0.9s,baz=303,slow=8.2,SNR=95
PPLA Purkeypile 82.77 334 eP P 10 39 11.6 -0.1
comp=Z,62nm,1.1s
VNA3 Neumayer Olymp 82.79 162 P P 10 39 12.6 +1.2
SGMF Saint Gilles 82.92 41 eP P 10 39 12.3 -0.2
comp=Z,112nm,1.2s
SGMF Saint Gilles 82.92 41 eP P 10 39 12.3 -0.2
SGMF pmax pmax
comp=Z,112nm,1.2s
SGMF Saint Gilles 82.92 41 eP P 10 39 12.3 -0.2
comp=Z,112nm,1.2s
SJPF Ste Jean 83.04 46 eP P 10 39 13.9 +0.6
comp=Z,52nm,1.0s
SJPF Ste Jean 83.04 46 eP P 10 39 13.9 +0.6
SJPF pmax pmax
comp=Z,52nm,1.0s
SJPF Ste Jean 83.04 46 eP P 10 39 13.9 +0.6
comp=Z,52nm,1.0s
COLD Coldfoot 83.32 338 eP P 10 39 15.2 +0.9
comp=Z,18nm,0.9s
VNA2 Neumayer--Watz 83.41 162 P P 10 39 14.9 +0.3
ETSF Etsaut 83.49 47⇑iP P 10 39 16.3 +0.6
comp=Z,38nm,1.0s
ETSF Etsaut 83.49 47⇑iP P 10 39 16.3 +0.6
ETSF pmax pmax
comp=Z,38nm,1.0s
ETSF Etsaut 83.49 47⇑iP P 10 39 16.3 +0.6
comp=Z,38nm,1.0s
EKA Eskdalemuir Ar 83.83 34 P P 10 39 16.6 -0.5
comp=Z,11nm,0.8s,baz=248,slow=4.6,SNR=16
GRR Gorron 84.06 41⇑iP P 10 39 18.3 -0.1
comp=Z,80nm,1.0s
GRR Gorron 84.06 41⇑iP P 10 39 18.3 -0.1
GRR pmax pmax
comp=Z,80nm,1.0s
GRR Gorron 84.06 41⇑iP P 10 39 18.3 -0.1
comp=Z,80nm,1.0s
EPF Esparros 84.16 47⇑iP P 10 39 19.5 +0.3
comp=Z,69nm,0.9s
EPF Esparros 84.16 47⇑iP P 10 39 19.5 +0.3
EPF pmax pmax
comp=Z,69nm,0.9s
EPF Esparros 84.16 47⇑iP P 10 39 19.5 +0.3
comp=Z,69nm,0.9s
MFF Saint Martin d 84.28 43 eP P 10 39 19.6 0.0
comp=Z,75nm,0.9s
MFF Saint Martin d 84.28 43 eP P 10 39 19.6 0.0
MFF pmax pmax
comp=Z,75nm,0.9s
MFF Saint Martin d 84.28 43 eP P 10 39 19.6 0.0
comp=Z,75nm,0.9s
IM04 Indian Mountai 84.31 337 eP P 10 39 18.8 -0.5
FLN La Foliniere 84.36 41⇑iP P 10 39 19.9 0.0
comp=Z,88nm,0.9s
FLN eR
comp=Z,411nm,20.8s
FLN La Foliniere 84.36 41⇑iP P 10 39 19.9 0.0
FLN pmax pmax
comp=Z,88nm,0.9s
FLN La Foliniere 84.36 41⇑iP P 10 39 19.9 0.0
comp=Z,88nm,0.9s
LDF La Druitiere 84.57 41⇑iP P 10 39 20.9 -0.1
comp=Z,79nm,1.1s
LDF La Druitiere 84.57 41⇑iP P 10 39 20.9 -0.1
LDF pmax pmax
comp=Z,79nm,1.1s
LDF La Druitiere 84.57 41⇑iP P 10 39 20.9 -0.1
comp=Z,79nm,1.1s
LFF La Frestale 84.69 45⇑iP P 10 39 21.7 +0.1
comp=Z,168nm,1.0s
LFF La Frestale 84.69 45⇑iP P 10 39 21.7 +0.1
LFF pmax pmax
comp=Z,168nm,1.0s
LFF La Frestale 84.69 45⇑iP P 10 39 21.7 +0.1
comp=Z,168nm,1.0s
DAG Danmarks Havn 84.94 12⇑iP P 10 39 21.9 -0.4
DAG pmax pmax
comp=Z,27nm,0.8s
DAG Danmarks Havn 84.94 12⇑iP P 10 39 21.9 -0.4
comp=Z,37nm,0.8s
SNAA Sanae 85.01 162 P P 10 39 22.3 -0.5
SNAA Sanae 85.01 162 eP P 10 39 22.6 -0.3
SNAA pmax pmax
comp=Z,15nm,1.0s
SNAA Sanae 85.01 162 eP P 10 39 22.6 -0.3
comp=Z,15nm,1.0s
RJF Les Rejaudoux 85.27 45⇑iP P 10 39 24.5 -0.1
comp=Z,62nm,0.8s
RJF eR
comp=Z,602nm,21.8s
RJF Les Rejaudoux 85.27 45⇑iP P 10 39 24.5 -0.1
RJF pmax pmax
comp=Z,63nm,0.8s
RJF Les Rejaudoux 85.27 45⇑iP P 10 39 24.5 -0.1
comp=Z,62nm,0.8s
MTLF Montolieu 85.56 47 eP P 10 39 25.9 -0.2
comp=Z,71nm,1.0s
MTLF Montolieu 85.56 47 eP P 10 39 25.9 -0.2
MTLF pmax pmax
comp=Z,71nm,1.0s
MTLF Montolieu 85.56 47 eP P 10 39 25.9 -0.2
comp=Z,71nm,1.0s
CAF Calviac 85.62 45⇑iP P 10 39 26.2 -0.2
comp=Z,73nm,1.1s
CAF Calviac 85.62 45⇑iP P 10 39 26.2 -0.2
CAF pmax pmax
comp=Z,73nm,1.1s
CAF Calviac 85.62 45⇑iP P 10 39 26.2 -0.2
comp=Z,73nm,1.1s
TCF Toulx Ste Croi 85.86 44⇑iP P 10 39 27.2 -0.4
comp=Z,47nm,0.8s
TCF Toulx Ste Croi 85.86 44⇑iP P 10 39 27.2 -0.4
TCF pmax pmax
comp=Z,47nm,0.8s
TCF Toulx Ste Croi 85.86 44⇑iP P 10 39 27.2 -0.4
comp=Z,47nm,0.8s
BGF Bois d'Agland 86.33 43⇑iP P 10 39 29.7 -0.1
comp=Z,142nm,1.0s
BGF Bois d'Agland 86.33 43⇑iP P 10 39 29.7 -0.1
BGF pmax pmax
comp=Z,142nm,1.0s
BGF Bois d'Agland 86.33 43⇑iP P 10 39 29.7 -0.1
comp=Z,142nm,1.0s
AVF Avril sur Loir 86.70 43⇑iP P 10 39 31.1 -0.5
comp=Z,62nm,0.9s
AVF Avril sur Loir 86.70 43⇑iP P 10 39 31.1 -0.5
AVF pmax pmax
comp=Z,62nm,0.9s
AVF Avril sur Loir 86.70 43⇑iP P 10 39 31.1 -0.5
comp=Z,62nm,0.9s
LASF Ste Croix 86.81 46 eP P 10 39 32.3 0.0
LASF Ste Croix 86.81 46 eP P 10 39 32.3 0.0
SSF Saint Saulge 86.83 43⇑iP P 10 39 31.6 -0.7
comp=Z,51nm,0.9s
SSF Saint Saulge 86.83 43⇑iP P 10 39 31.6 -0.7
SSF pmax pmax
comp=Z,51nm,0.9s
SSF Saint Saulge 86.83 43⇑iP P 10 39 31.6 -0.7
comp=Z,51nm,0.9s
TAM Tamanrasset 86.86 67 eP P 10 39 33.1 0.0
TAM pmax pmax
comp=Z,15nm,0.8s
TAM Tamanrasset 86.86 67 eP P 10 39 33.1 0.0
comp=Z,15nm,0.8s
SMF Signal de Mont 87.02 43⇑iP P 10 39 32.8 -0.4
comp=Z,66nm,1.0s
SMF Signal de Mont 87.02 43⇑iP P 10 39 32.8 -0.4
SMF pmax pmax
comp=Z,67nm,1.0s
SMF Signal de Mont 87.02 43⇑iP P 10 39 32.8 -0.4
comp=Z,66nm,1.0s
LOR Lormes 87.08 43⇑iP P 10 39 33.0 -0.5
comp=Z,56nm,0.9s
LOR eR
comp=Z,361nm,23.0s
LOR Lormes 87.08 43⇑iP P 10 39 33.0 -0.5
LOR pmax pmax
comp=Z,56nm,0.9s
LOR Lormes 87.08 43⇑iP P 10 39 33.0 -0.5
comp=Z,56nm,0.9s
VIVF Saint-Julien-l 87.46 45⇑iP P 10 39 35.6 +0.2
comp=Z,57nm,1.2s
VIVF Saint-Julien-l 87.46 45⇑iP P 10 39 35.6 +0.2
VIVF pmax pmax
comp=Z,57nm,1.2s
VIVF Saint-Julien-l 87.46 45⇑iP P 10 39 35.6 +0.2
comp=Z,57nm,1.2s
BAIF Baives 87.55 40 eP P 10 39 34.7 -1.0
comp=Z,14nm,0.8s
BAIF Baives 87.55 40 eP P 10 39 34.7 -1.0
BAIF pmax pmax
comp=Z,14nm,0.8s
BAIF Baives 87.55 40 eP P 10 39 34.7 -1.0
comp=Z,14nm,0.8s
SNF Seneffe 87.64 40 P P 10 39 36.2 +0.2
DOU Dourbes 87.80 40 P P 10 39 37.3 +0.5
comp=Z,19nm,1.1s
GIVF Givet 87.95 40⇑iP P 10 39 37.8 +0.2
comp=Z,99nm,0.9s
GIVF Givet 87.95 40⇑iP P 10 39 37.8 +0.2
GIVF pmax pmax
comp=Z,99nm,0.9s
GIVF Givet 87.95 40⇑iP P 10 39 37.8 +0.2
comp=Z,99nm,0.9s
SFTF Sexfontaines 87.95 42⇑iP P 10 39 37.4 -0.2
comp=Z,90nm,1.0s
SFTF Sexfontaines 87.95 42⇑iP P 10 39 37.4 -0.2
comp=Z,90nm,1.0s
MEZF Maizieres J'vi 87.98 42⇑iP P 10 39 37.7 -0.1
comp=Z,96nm,0.8s
MEZF Maizieres J'vi 87.98 42⇑iP P 10 39 37.7 -0.1
comp=Z,96nm,0.8s
SMRF Simiane la Rot 88.04 46 eP P 10 39 38.5 +0.3
comp=Z,39nm,1.1s
SMRF Simiane la Rot 88.04 46 eP P 10 39 38.5 +0.3
comp=Z,39nm,1.1s
ORIF Oris-en-Rattie 88.32 45 eP P 10 39 39.9 +0.3
comp=Z,103nm,1.2s
ORIF eR
comp=Z,683nm,22.0s
ORIF Oris-en-Rattie 88.32 45 eP P 10 39 39.9 +0.3
ORIF pmax pmax
comp=Z,103nm,1.2s
ORIF Oris-en-Rattie 88.32 45 eP P 10 39 39.9 +0.3
comp=Z,103nm,1.2s
PAGF Fort de Pagny 88.43 42 eP P 10 39 40.0 +0.1
comp=Z,29nm,0.8s
PAGF Fort de Pagny 88.43 42 eP P 10 39 40.0 +0.1
comp=Z,29nm,0.8s
BEBN Eben Emael 88.54 39 P P 10 39 41.0 +0.7
CABF La Chapelle 88.56 44⇑iP P 10 39 40.6 -0.1
comp=Z,146nm,1.2s
CABF La Chapelle 88.56 44⇑iP P 10 39 40.6 -0.1
CABF pmax pmax
comp=Z,146nm,1.2s
CABF La Chapelle 88.56 44⇑iP P 10 39 40.6 -0.1
comp=Z,146nm,1.2s
LMR La Mourre 88.69 47 eP P 10 39 40.7 -0.5
comp=Z,43nm,1.0s
LMR La Mourre 88.69 47 eP P 10 39 40.7 -0.5
LMR pmax pmax
comp=Z,43nm,1.0s
LMR La Mourre 88.69 47 eP P 10 39 40.7 -0.5
comp=Z,43nm,1.0s
MEM Membach 88.74 40 P P 10 39 41.0 -0.3
comp=Z,12nm,1.2s
WLF Walferdange 88.78 40 P P 10 39 41.4 -0.1
comp=Z,34nm,1.3s
FRF La Foret Royal 88.80 47 eP P 10 39 41.3 -0.4
comp=Z,92nm,1.0s
FRF La Foret Royal 88.80 47 eP P 10 39 41.3 -0.4
FRF pmax pmax
comp=Z,92nm,1.0s
FRF La Foret Royal 88.80 47 eP P 10 39 41.3 -0.4
comp=Z,92nm,1.0s
HAU Haudompre 88.81 42 eP P 10 39 41.4 -0.4
comp=Z,54nm,1.1s
HAU eR
comp=Z,311nm,22.8s
HAU Haudompre 88.81 42 eP P 10 39 41.4 -0.4
HAU pmax pmax
comp=Z,54nm,1.1s
HAU Haudompre 88.81 42 eP P 10 39 41.4 -0.4
comp=Z,54nm,1.1s
QSPA South Pole Qui 88.86 180 eP P 10 39 42.9 +1.2
comp=Z,23nm,0.8s
MBDF Montbardon 88.94 45 eP P 10 39 42.7 +0.1
comp=Z,31nm,0.9s
MBDF Montbardon 88.94 45 eP P 10 39 42.7 +0.1
MBDF pmax pmax
comp=Z,31nm,0.9s
MBDF Montbardon 88.94 45 eP P 10 39 42.7 +0.1
comp=Z,31nm,0.9s
LPL La Plagne 88.95 45 eP P 10 39 43.3 +0.6
comp=Z,81nm,1.5s
LPL La Plagne 88.95 45 eP P 10 39 43.3 +0.6
LPL pmax pmax
comp=Z,81nm,1.5s
LPL La Plagne 88.95 45 eP P 10 39 43.3 +0.6
comp=Z,81nm,1.5s
LPG La Plagne 88.97 45 eP P 10 39 43.4 +0.5
LPG La Plagne 88.97 45 eP P 10 39 43.4 +0.5
LPG La Plagne 88.97 45 eP P 10 39 43.4 +0.5
HINF Hinteralfeld 89.14 42⇑iP P 10 39 42.8 -0.5
comp=Z,30nm,1.1s
HINF Hinteralfeld 89.14 42⇑iP P 10 39 42.8 -0.5
HINF pmax pmax
comp=Z,30nm,1.1s
HINF Hinteralfeld 89.14 42⇑iP P 10 39 42.8 -0.5
comp=Z,30nm,1.1s
SBF Sospel 89.38 46 eP P 10 39 44.0 -0.6
comp=Z,255nm,1.3s
SBF Sospel 89.38 46 eP P 10 39 44.0 -0.6
SBF Sospel 89.38 46 eP P 10 39 44.0 -0.6
comp=Z,255nm,1.3s
CDF Champ du Feu 89.45 42⇑iP P 10 39 44.6 -0.2
comp=Z,51nm,1.0s
CDF Champ du Feu 89.45 42⇑iP P 10 39 44.6 -0.2
CDF pmax pmax
comp=Z,51nm,1.0s
CDF Champ du Feu 89.45 42⇑iP P 10 39 44.6 -0.2
comp=Z,51nm,1.0s
TNA Tin City 89.99 335 eP P 10 39 47.3 +0.5
comp=Z,19nm,1.1s
PGF Pioggiola 90.48 48 eP P 10 39 49.3 -0.5
comp=Z,36nm,0.8s
PGF Pioggiola 90.48 48 eP P 10 39 49.3 -0.5
PGF pmax pmax
comp=Z,36nm,0.8s
PGF Pioggiola 90.48 48 eP P 10 39 49.3 -0.5
comp=Z,36nm,0.8s
KEST Kesra 90.62 54 P P 10 39 50.1 -0.4
comp=Z,5.6nm,0.8s,baz=281,slow=3.2,SNR=14
TUE Stuetta 90.81 44 eP P 10 39 51.7 +0.4
comp=Z,9.0nm,0.8s
DAVOX Davos/Dischmat 91.17 43 P P 10 39 53.2 +0.2
comp=Z,17nm,0.8s,baz=292,slow=5.4
DAVA Damuels 91.18 43 iPcP PcP 10 39 53.5 -0.4
comp=Z,37nm,0.9s,SNR=5.9
GAMB Gambell 91.57 334 eP P 10 39 55.0 +0.8
comp=Z,22nm,1.2s
FETA Feichten 91.76 43⇑iPcP PcP 10 39 55.7 0.0
comp=Z,39nm,1.0s,SNR=8.2
NOA NORSAR Array B 91.91 29 P P 10 39 54.8 -1.1
comp=Z,1.2nm,0.9s,baz=267,slow=4.4,SNR=2.9
MOTA Moosalm 92.01 43⇑iPcP P 10 39 56.8 -0.1
comp=Z,24nm,1.1s,SNR=6.8
GRF Grafenberg Arr 92.07 41 eP P 10 39 57.5 +0.6
comp=Z,16nm,1.0s
WTTA Wattenberg 92.38 43⇑iPcP P 10 39 58.7 +0.2
comp=Z,26nm,1.1s,SNR=5.3
SPITS Spitsbergen Ar 92.60 12 P P 10 39 57.8 -1.0
comp=Z,6.5nm,0.7s,baz=177,slow=4.2,SNR=9.7
ABTA Abfaltersbach 92.98 43⇓iPcP P 10 40 01.3 0.0
comp=Z,23nm,1.0s,SNR=5.9
CLL Collm 93.17 39 eP P 10 40 02.0 +0.1
CLL pmax pmax
comp=Z,16nm,1.4s
CLL MLR MLR
comp=Z,300nm,22.0s
CLL Collm 93.17 39 eP P 10 40 02.0 +0.1
comp=Z,16nm,1.4s
CLL Lm MLR 11 15 00.0
comp=Z,300nm,22.0s
KHC Kasperske Hory 93.62 41 eP P 10 40 04.5 +0.4
KHC e 10 40 20.9
KHC MLR MLR
comp=Z,300nm,16.4s
KHC Kasperske Hory 93.62 41 eP P 10 40 04.5 +0.4
KHC ex x 10 40 09.8
KHC esP sP 10 40 20.9 -1.2
KHC AMS AMS 11 25 50.0
comp=Z,300nm,16.4s
KHC Kasperske Hory 93.62 41 eP P 10 40 04.3 +0.2
comp=Z,12nm,0.9s
GERES GERESS Array B 93.72 41 P P 10 40 04.9 +0.3
comp=Z,6.0nm,0.8s,baz=245,slow=2.8,SNR=35
GERES PKKPbc PKKPdf 10 57 10.1 +0.5
comp=Z,0.7nm,0.8s,baz=108,slow=3.0,SNR=4.2
BRG Berggiesshubel 93.78 39 iP P 10 40 05.4 +0.7
comp=Z,16nm,1.2s
BRG e 10 40 21.8
comp=Z,14nm,1.3s
BRG Berggiesshubel 93.78 39 iP P 10 40 05.4 +0.7
BRG e 10 40 21.8
BRG pmax pmax
comp=Z,17nm,1.2s
JAVS Javornik 94.09 44 eP P 10 40 06.8 +0.4
PRA Prague 94.14 40 P P 10 40 08.0 +1.7
PRU Pruhonice 94.21 40 eP P 10 40 07.2 +0.5
PRU Pruhonice 94.21 40 eP P 10 40 07.2 +0.5
CRNS Crni Vrh 94.22 44 iP P 10 40 06.9 0.0
VISS Visnje 94.64 44 eP P 10 40 10.4 +1.7
SOKA Soboth 94.72 43⇑iPcP P 10 40 09.0 -0.3
comp=Z,10nm,1.0s
PERS Pernice 94.78 43 eP P 10 40 09.3 -0.2
TREC Trest 94.86 41 eP P 10 40 10.3 +0.5
TREC MLR MLR
comp=Z,400nm,15.4s
TREC Trest 94.86 41 eP P 10 40 10.3 +0.5
TREC AMS AMS 11 25 00.0
comp=Z,400nm,15.4s
UPC Upice 95.12 40 eP P 10 40 12.0 +1.1
UPC Upice 95.12 40 eP P 10 40 12.0 +1.1
CONA Conrad Observa 95.20 42 iPcP PcP 10 40 11.7 0.0
comp=Z,19nm,0.8s,SNR=9.4
KSP Ksiaz 95.27 39 eP P 10 40 12.5 +1.0
DPC Dobruska-Polom 95.33 40 eP P 10 40 12.7 +0.8
DPC e 10 40 28.7
DPC Dobruska-Polom 95.33 40 eP P 10 40 12.7 +0.8
DPC esP sP 10 40 28.7 -1.2
VRAC Vranov 95.59 41 P P 10 40 12.9 -0.1
comp=Z,14nm,0.9s,baz=265,slow=4.8,SNR=19
OKC Ostrava-Krasne 96.54 40 eP P 10 40 18.2 +0.8
OKC e 10 40 35.0
OKC MLR MLR
comp=Z,200nm,13.4s
OKC Ostrava-Krasne 96.54 40 eP P 10 40 18.2 +0.8
OKC esP sP 10 40 35.0 -0.4
OKC AMS AMS 11 23 50.0
comp=Z,200nm,13.4s
VYHS Vyhne 97.14 41 eP Pdif 10 40 20.6 +0.4
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 97.14 41 PDIF Pdif 10 40 20.6 +0.4

TSUM Tsumeb 97.31 109 eP Pdif 10 40 22.1 +0.4
comp=Z,11nm,1.2s
CRVS Cervenica-Dubn 98.81 41 eP Pdif 10 40 29.1 +1.5
CRVS pmax pmax
comp=Z,9.0nm,1.4s
CRVS Cervenica-Dubn 98.81 41 PDIF Pdif 10 40 29.1 +1.5
FINES FINESS Array B 98.97 28 P P 10 40 26.3 -1.6
comp=Z,2.2nm,0.9s,baz=215,slow=4.6,SNR=5.3
FINES PKKPbc PKKPbc 10 56 55.0 -1.9
comp=Z,1.8nm,0.7s,baz=108,slow=6.2,SNR=7.1
KOLS Kolonicke sedl 99.33 41 eP Pdif 10 40 30.7 +0.7
KOLS pmax pmax
comp=Z,69nm,3.1s
KOLS Kolonicke sedl 99.33 41 PDIF Pdif 10 40 30.6 +0.6
BILL Bilibino 99.63 339⇑iP Pdif 10 40 30.7 -0.1
BILL i 10 44 33.5
BILL pmax pmax
comp=Z,5.0nm,1.3s
AKASG Malin Array Be 103.38 38 PKKPbc PKKPbc 10 56 42.7 -1.1
comp=Z,0.4nm,0.3s,baz=86,slow=2.4,SNR=6.5
BRTR Keskin Array B 109.23 48 PKKPbc PKKPbc 10 56 26.2 +0.7
comp=Z,0.4nm,0.3s,baz=103,slow=3.9,SNR=3.9
DZM Mont Dzumac 110.76 246 eLR LR 11 17 09.3
comp=Z,195nm,27.2s
H11S2 WAKE ISLAND Hy11.91 289 T T 12 46 38.1
baz=86,slow=75,SNR=5.9
H11S1 WAKE ISLAND Hy11.91 289 T T 12 46 37.3
baz=86,slow=75,SNR=8.8
H11S3 WAKE ISLAND Hy11.92 289 T T 12 46 39.4
baz=86,slow=75,SNR=10
KBZ Khabaz 114.46 42 PKP PKPdf 10 45 27.6 -0.1
comp=Z,2.2nm,0.8s,baz=292,slow=5.4,SNR=5.0
KBZ PKKPbc PKKPbc 10 56 07.6 -0.6
comp=Z,1.8nm,0.8s,baz=102,slow=3.7,SNR=5.6
ARU Arti 115.93 24 i PKIKP PKPdf 10 45 29.0 -1.2
ARU SS SS 11 02 26.1 -5.9
AKTO Aktyubinsk 119.70 29 PKP PKPdf 10 45 38.0 +0.4
comp=Z,3.9nm,0.9s,baz=333,slow=4.3,SNR=13
AKTO PKKPbc PKKPbc 10 55 48.9 -0.9
comp=Z,1.8nm,0.7s,baz=135,slow=4.9,SNR=7.1
YUK Yuzh-Kuril'sk 120.76 323 i PKIKP PKPdf 10 45 40.8 +1.0
YUK i SS SS 11 03 43.4 +8.1
YUK i SSS SSS 11 07 58.7
YUK MLR MLR
comp=Z,119nm,21.0s
AB31 Akbulak array 121.42 29 i PKIKP PKPdf 10 45 41.2 +0.2
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 121.42 29 ePKPdf PKPdf 10 45 41.0 0.0
BRVK Borovoye 122.93 21 i PKIKP PKPdf 10 45 41.5 -2.3
BVAR Borovoye Array 123.00 20 PKP PKPdf 10 45 44.2 +0.3
comp=Z,4.7nm,0.8s,baz=270,slow=1.5,SNR=21
BVAR PKKPbc PKKPab 10 55 35.1 -1.1
comp=Z,0.9nm,0.7s,baz=134,slow=4.3,SNR=4.6
KLR Kul'dur 124.72 335 ePKIKP PKPdf 10 45 42.3 -5.0
NVS Novosibirsk 124.92 11 ePKIKP PKPdf 10 45 45.3 -2.2
NVS pmax pmax
comp=Z,12nm,1.0s
ZAA0 Zalesovo Array 126.06 11 ePKPdf PKPdf 10 45 49.1 -0.6
ZALV Zalesovo Beam 126.06 11 PKP PKPdf 10 45 49.3 -0.4
comp=Z,38nm,0.9s,baz=318,slow=0.20,SNR=89
GEYT Alibeck 127.34 41 PKP PKPdf 10 45 52.0 -0.8
comp=Z,11nm,0.8s,baz=266,slow=4.5,SNR=16
KURK Kurchatov 127.60 17 ePKIKP PKPdf 10 45 52.6 -0.2
KURK Kurchatov 127.60 17 ePKPdf PKPdf 10 45 52.5 -0.2
STKA Stephens Creek 128.28 227 PKP PKPdf 10 45 55.6 +0.9
comp=Z,15nm,0.8s,baz=106,slow=1.1,SNR=16
USRK Ussuriysk Arra 128.36 330 PKP PKPdf 10 45 53.8 -0.6
comp=Z,8.5nm,0.8s,baz=261,slow=0.1,SNR=24
HIA Hailar 129.05 343 i PKIKP PKPdf 10 45 54.8 -0.8
HIA Hailar 129.05 343 ePKPdf PKPdf 10 45 54.7 -1.0
TLY Talaya 129.58 357 ePKIKP PKPdf 10 45 56.7 +0.1
TLY pmax pmax
comp=Z,8.0nm,1.1s
TLY Talaya 129.58 357 PKP PKPdf 10 45 57.3 +0.8
comp=Z,4.0nm,0.7s,baz=288,slow=1.4,SNR=12
MOY Mondy 129.70 359 ePKIKP PKPdf 10 45 57.7 +0.8
MJAR Matsushiro Arr 129.79 319 PKP PKPdf 10 45 57.3 -0.2
comp=Z,4.4nm,0.8s,baz=90,slow=1.6,SNR=17
MAJO Matsushiro 129.80 319 i PKIKP PKPdf 10 45 56.3 -1.1
MAT Matsushiro 129.80 319 i PKIKP PKPdf 10 45 56.8 -0.6
HVS Khovu-Aksy 130.01 5⇓i PKIKP PKPdf 10 45 57.6 +0.1
ZAK Zakamensk 130.89 357 ePKIKP PKPdf 10 45 59.1 -0.1
ZAK pmax pmax
comp=Z,6.0nm,1.2s
PMG Port Moresby 131.32 256⇓i PKIKP PKPdf 10 45 59.6 -1.3
CN2 Changchun 131.68 335 ePKP PKPdf 10 46 02.5 +1.7
CN2 esPKP 10 46 17.0
CN2 ePP PP 10 48 26.5 +6.6
CN2 eSS SS 11 05 55.5 +4.5
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,1µm,20.0s
CN2 LR LR
comp=Z,2µm,20.0s
CN2 LR LR
comp=Z,2µm,22.0s
MK31 Makanchi Array 132.19 16 ePKIKP PKPdf 10 46 01.1 -0.6
MK31 Makanchi Array 132.19 16 ePKPdf PKPdf 10 46 01.1 -0.6
MKAR Makanchi Array 132.19 16 PKP PKPdf 10 46 01.2 -0.5
comp=Z,15nm,0.9s,baz=352,slow=2.5,SNR=41
USP Ospenovka 132.57 25 P PKPdf 10 46 03.5 +1.0
SNR=16
EKS2 Erkin-Say 132.75 26 P PKPdf 10 46 04.1 +1.0
SNR=14
EKS2 Erkin-Say 132.75 26 ePKIKP PKPdf 10 46 04.0 +1.0
EKS2 Erkin-Say 132.75 26 ePKPdf PKPdf 10 46 04.0 +1.0
FRU Bishkek 132.97 25 ePKIKP PKPdf 10 46 05.0 +1.7
ULN Ulaanbaatar 133.05 353c i PKIKP PKPdf 10 46 03.8 +0.3
ULN pmax pmax
comp=Z,13nm,1.7s
AAK Ala-Archa 133.09 25 P PKPdf 10 46 04.8 +1.1
SNR=12
AAK Ala-Archa 133.09 25 PKIKP PKPdf 10 46 04.0 +0.3
AAK Ala-Archa 133.09 25 PKP PKPdf 10 46 04.0 +0.3
comp=Z,13nm,1.1s,baz=192,slow=2.1,SNR=17
AAK Ala-Archa 133.09 25 PKP PKPdf 10 46 04.0 +0.3
AAK ePKPdf PKiKP 10 46 04.4 -0.4
AML Almayashu 133.14 26 P PKPdf 10 46 05.3 +1.2
SNR=9.6
SONM Songino Array 133.16 354 PKhKP PKPpre 10 45 49.7
comp=Z,0.7nm,0.7s,baz=334,slow=3.3,SNR=3.9
SONM PKP PKPdf 10 46 02.9 -0.7
comp=Z,4.4nm,0.8s,baz=257,slow=0.5,SNR=18
TKM2 Tokmak 2 133.31 24 P PKPdf 10 46 05.0 +0.8
SNR=12
TKM2 Tokmak 2 133.31 24 ePKIKP PKPdf 10 46 04.7 +0.5
TKM2 Tokmak 2 133.31 24 ePKPdf PKPdf 10 46 04.7 +0.5
UCH Uchtor 133.42 26 P PKPdf 10 46 06.2 +1.5
SNR=18
KZA Kyzart 133.86 25 P PKPdf 10 46 06.8 +1.3
SNR=7.3
COEN Coen 134.13 249 ePKPdf PKPdf 10 46 07.0 +0.9
ULHL Ulahol 134.13 24 P PKPdf 10 46 06.9 +1.1
SNR=8.5
KSRS Korea Array 135.39 327 PKhKP PKPpre 10 45 59.4
comp=Z,2.4nm,0.8s,baz=358,slow=1.7,SNR=8.9
KSRS PKP PKPdf 10 46 08.3 +0.5
comp=Z,9.7nm,0.8s,baz=357,slow=1.3,SNR=30
KSAR Wonju Array Be 135.42 327 PKHKP PKPpre 10 45 59.4
KSAR 10 46 08.4
KSAR Wonju Array Be 135.42 327 PKPpre PKPpre 10 45 59.4
KSAR PKP PKPdf 10 46 08.3 +0.4
KSH Kashi 136.27 26 ePKP PKPdf 10 46 11.3 +1.6
KSH esPKP 10 46 26.0
KSH SKS SKSdf 10 53 17.5 0.0
KSH SKKS SKKSac 10 55 41.5 -0.4
KSH SS SS 11 06 48.8 +1.9
KSH AMB AMB
comp=Z,25nm,3.2s
KSH LR LR
comp=Z,50nm,6.7s
KSH LR LR
comp=Z,110nm,6.4s
WMQ Urumqi 136.30 12 PKP PKPdf 10 46 10.3 +0.8
WMQ LR LR
comp=Z,140nm,20.6s
WMQ LR LR
comp=Z,240nm,20.2s
WMQ LR LR
comp=Z,130nm,19.8s
KBL Kabul 136.36 37 ePKIKP PKPdf 10 46 10.9 +0.8
KBL Kabul 136.36 37 ePKPdf PKPdf 10 46 10.9 +0.8
AS31 Alice Springs 138.37 231 ePKPdf PKPdf 10 46 14.3 +0.4
ASAR Alice Springs 138.37 231 PKhKP PKPpre 10 46 04.1
comp=Z,2.9nm,0.7s,baz=126,slow=3.8,SNR=25
ASAR PKP PKPdf 10 46 13.0 -0.9
comp=Z,7.7nm,0.8s,baz=119,slow=2.2,SNR=21
BJI Beijing 138.45 341 PKP PKPdf 10 46 13.8 +0.3
BJI LR LR
comp=Z,63nm,18.3s
HHC Hu-ho-hao-te 139.03 346 ePKP PKPdf 10 46 15.0 +0.3
HHC PP PP 10 49 10.0 +3.9
HHC SKS SKSdf 10 53 20.8 -1.3
HHC SKKS SKKSac 10 55 56.8 -1.3
HHC SS SS 11 07 20.0 +1.1
HHC AMB AMB
comp=Z,260nm,6.8s
HHC LR LR
comp=Z,200nm,19.3s
HHC LR LR
comp=Z,190nm,19.0s
HHC LR LR
comp=Z,150nm,17.3s
WRAB Tennant Creek 139.84 237c i PKIKP PKPdf 10 46 16.8 +0.2
WRAB pmax pmax
comp=Z,52nm,0.8s
WRAB Tennant Creek 139.84 237 ePKPdf PKPdf 10 46 16.7 0.0
WRA Warramunga Arr 139.84 237 PKhKP PKPpre 10 46 08.6
comp=Z,4.0nm,1.0s,baz=128,slow=2.3,SNR=9.9
WRA PKP PKPdf 10 46 16.5 -0.1
comp=Z,12nm,0.8s,baz=108,slow=1.2,SNR=26
GTA Gaotai 141.97 360 ePKP PKPdf 10 46 13.8 -6.3
GTA SKS SKSdf 10 53 18.0 -9.0
GTA AMB AMB
comp=Z,180nm,9.7s
NJ2 Nanjing 144.26 331 ePKP PKPbc 10 46 23.0 +0.6
NDI New Delhi 145.41 36⇑i P PKPab 10 46 26.5 +0.1
XAN Xi'an 146.15 346 PKPbc PKPbc 10 46 27.3 -0.1
WHN Wuhan 147.57 336 ⇑PKPbc PKPbc 10 46 32.0 -0.5
FITZ Fitzroy Crossi 147.86 232 ePKPdf PKPdf 10 46 31.3 +0.7
FITZ ePKPbc PKPbc 10 46 34.0 +0.4
NACB Ninganchiao 148.67 319 ePKPbc PKPbc 10 46 35.3 -0.2
DANN Dangsing 149.12 28 eP PKPdf 10 46 33.5 +0.6
comp=Z,277nm,0.9s
SSLB Suanglung 149.35 319 ePKPdf PKPdf 10 46 33.1 +0.1
KOLN Koldanda 149.54 28 eP PKPdf 10 46 33.5 +0.1
comp=Z,126nm,1.1s
ENH Enshi 149.55 343 ePKPdf PKPdf 10 46 32.9 -0.2
ENH ePKPbc PKPbc 10 46 37.6 -0.1
POO Poona 149.56 54 ex PKPbc 10 46 37.0 -1.0
GKN Gorkha 149.82 27 eP PKPdf 10 46 34.2 +0.4
comp=Z,297nm,1.1s
TPUB Ta-pu 149.91 318 ePKPbc PKPbc 10 46 38.2 -0.5
CD2 Chengdu 150.17 353 PKPbc PKPdf 10 46 33.0 -1.1
CD2 pPKP PKPab 10 46 45.8 +0.7
CD2 sPKP 10 46 50.0
CD2 PKS PKSdf 10 50 06.3 -2.8
CD2 PP PP 10 50 15.8 +3.3
CD2 SKS SKSdf 10 53 34.8 -4.1
CD2 SKKS SKKSac 10 56 59.0 -2.7
CD2 SS SS 11 09 26.0 -0.2
CD2 AMB AMB
comp=Z,260nm,6.4s
MBWA Marble Bar 150.20 221 ePKPbc PKPbc 10 46 39.4 -0.1
KKN Kakani 150.29 26 eP PKPdf 10 46 34.9 +0.3
comp=Z,169nm,1.0s
DMN Daman 150.37 26 eP PKPdf 10 46 35.1 +0.3
GUN Gumba 150.44 25 eP PKPdf 10 46 35.3 +0.3
comp=Z,295nm,1.1s
PKIN Phulchoki 150.53 26 eP PKPdf 10 46 34.8 -0.3
comp=Z,130nm,1.0s
PKI Pulchoki 150.54 26 eP PKPdf 10 46 34.9 -0.3
comp=Z,171nm,1.0s
LSA Lhasa 150.58 15 PKPbc PKPdf 10 46 36.3 +0.9
LSA Lhasa 150.58 15 ePKIKP PKPdf 10 46 36.2 +0.9
LSA e 10 46 41.5
LSA Lhasa 150.58 15 ePKPdf PKPdf 10 46 36.2 +0.9
LSA ePKPbc PKiKP 10 46 41.5 +0.1
JIRN Jiri 150.79 25 eP PKPdf 10 46 35.4 -0.2
comp=Z,133nm,1.1s
RAMN Ramite 151.59 25 eP PKPdf 10 46 36.9 +0.2
comp=Z,216nm,0.8s
TAPN Taplejung 151.67 22 eP PKPdf 10 46 37.2 +0.3
comp=Z,100nm,0.8s
ODAN Odare 151.99 23 eP PKPdf 10 46 37.5 +0.2
comp=Z,161nm,1.0s
HYB Hyderabad 153.90 51 i PKP PKPdf 10 46 40.0 0.0
GYA Guiyang 153.94 345 i PKPbc PKPdf 10 46 39.8 -0.2
GYA sPKP 10 46 56.8
GYA PKPab PKPab 10 47 02.0 +0.9
GYA PKS PKSdf 10 50 11.5 -3.0
GYA PP PP 10 50 38.5 +4.3
GYA SKKS 10 57 21.8
GYA SS SS 11 10 09.5 +1.4
GYA AMB AMB
comp=Z,130nm,7.9s
GYA LR LR
comp=Z,140nm,22.5s
GYA LR LR
comp=Z,160nm,23.3s
GYA LR LR
comp=Z,140nm,22.6s
SHL Shillong 154.71 16 ex PKPdf 10 46 41.5 +0.4
KMI Kunming 156.00 353 PKP PKPdf 10 46 43.0 0.0
PALK Pallekele 160.38 72 PKPab PKPab 10 47 28.8 -0.5
comp=Z,12nm,0.9s,baz=285,slow=7.5,SNR=3.6
CMAR Chiang Mai Arr 162.84 2 PKP PKPdf 10 46 50.8 +0.1
comp=Z,8.1nm,0.8s,baz=296,slow=1.9,SNR=47
CMAR PKPab PKPab 10 47 38.7 -0.8
comp=Z,9.5nm,0.9s,baz=338,slow=5.5,SNR=23
PSI Prapat 178.33 18 PKP PKPdf 10 46 58.5 -0.9
comp=Z,16nm,0.9s,baz=248,slow=5.9,SNR=11
PSI PKPab 10 48 47.0
comp=Z,21nm,0.9s,baz=305,slow=6.0,SNR=11

KRSC 28 10:27:16.9±1.4, 48.°19N×156.°59E, h10km±29km, ML4.5
MOS 28 10:27:16.4±1.3, 48.°35N×154.°47E, h58km, mb4.1/9, Error ellipse: s-maj=20.0km s-min=7.8km az=68.9
ISCJB 28 10:27:17.1±0.8, 48.°32N±0.°09×154.°5E±0.°1, h64km±7km, mb3.8/12, Error ellipse: s-maj=22.1km s-min=4.7km az=42.8
SKHL 28 10:27:19.1±0.1, 48.°34N×154.°38E, h78km±1km, mb4.7/2
IDC 28 10:27:20.1±2.7, 48.°27N×154.°33E, h75km±24km, mb3.5/12, mb1 3.6/16, mb1mx3.5/49, mbtmp3.8/16, Error ellipse: s-maj=23.7km s-min=16.2km az=140.0
ISC 28 10:27:17.3±1.3, 48.°2N±0.°1×154.°7E±0.°1, h56km±10km, n69, σ1§49/76, mb3.8/12, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
SKR	Severo-Kuril's	2.68	20	ePN	Pn	10 27 55.0	-2.9
SKR				eS	Sn	10 28 25.6	-3.6
SKR				pmax	pmax		
comp=N,60nm,0.5s							
SKR				pmax	pmax		
comp=Z,80nm,0.5s							
SKR				smax	smax		
comp=N,270nm,0.3s							
SKR				smax	smax		
comp=E,310nm,0.3s							
SKR	Severo-Kuril's	2.68	20	eP	Pn	10 27 58.2	+0.3
SKR				eS	Sn	10 28 29.8	+0.6
SKR	Severo-Kuril's	2.68	20	eP	Pn	10 27 58.8	+0.9
SKR				AMB	AMB	10 28 05.4	
comp=E,60nm,0.5s							
SKR				AMB	AMB	10 28 05.4	
comp=E,80nm,0.5s							
SKR				eS	Sn	10 28 28.7	-0.5
SKR				A	A	10 28 38.1	
comp=E,270nm,0.4s							
SKR				A	A	10 28 38.1	
comp=E,310nm,0.4s							
SKR				A	A	10 28 38.1	
comp=E,80nm,0.4s							
PAU	Pauzhetka	3.57	22	PN	Pn	10 28 11.2	+1.0
PAU				S	Sn	10 28 51.0	-0.1
PAU	Pauzhetka	3.57	22	eP	Pn	10 28 11.2	+1.0
PAU				eS	Sn	10 28 51.0	-0.1
PAU	Pauzhetka	3.57	22	eP	Pn	10 28 12.5	+2.3
PAU				eS	Sn	10 28 52.5	+1.4
MIPR	Malaya Ipel'ka	4.32	18	eP	Pn	10 28 22.6	+2.2
ASAK	Asacha	4.69	25	eP	Pn	10 28 26.8	+1.2
MTVR	Mutnovka	4.86	26	eP	Pn	10 28 28.2	+0.2
MTVR				eS	Sn	10 29 20.9	-2.1
RUS	Russkaya	4.92	29	PN	Pn	10 28 28.2	-0.4
RUS				S	Sn	10 29 21.1	-3.1
RUS	Russkaya	4.92	29	eP	Pn	10 28 28.2	-0.4
RUS				eS	Sn	10 29 21.1	-3.1
RUS	Russkaya	4.92	29	eP	Pn	10 28 28.2	-0.4
APC	Apacha	5.01	18	eP	Pn	10 28 31.3	+3.3
PETK	Petropavlovsk-	5.30	20	PN	Pn	10 28 35.8	+2.0
PETK				pmax	pmax		
comp=Z,2.0nm,0.3s							
PETK	Petropavlovsk-	5.30	20	P	Pn	10 28 35.8	+2.0
comp=Z,2.2nm,0.3s,baz=189,slow=12,SNR=24							
PET	Petropavlovsk	5.47	26	ePN	Pn	10 28 36.0	-0.2
PET				eS	Sn	10 29 38.7	+0.9
PET				smax	smax		
comp=N,47nm,0.5s							
PET	Petropavlovsk	5.47	26	eP	Pn	10 28 38.8	+2.6
PET				AMB	AMB	10 28 44.9	
comp=N,138nm,0.6s							
PET				eS	Sn	10 29 39.2	+1.4
PET				A	A	10 29 41.0	
comp=N,45nm,0.4s							
KUR	Kuril'sk	5.52	240⇓	i PN	Pn	10 28 38.2	+1.3
KUR				i S	Sn	10 29 41.0	+2.1
KUR				pmax	pmax		
comp=E,32nm,0.6s							
KUR				pmax	pmax		
comp=Z,12nm,0.6s							
KUR				pmax	pmax		
comp=N,12nm,0.3s							
KUR				smax	smax		
comp=N,57nm,0.6s							
KUR				smax	smax		
comp=E,26nm,0.6s							
KUR	Kuril'sk	5.52	240	eP	Pn	10 28 38.2	+1.3
KUR				AMB	AMB	10 28 41.4	
comp=E,12nm,0.5s							
KUR				AMB	AMB	10 28 41.4	
comp=E,32nm,0.5s							
KUR				eS	Sn	10 29 38.0	-0.9
KUR				A	A	10 29 47.6	
comp=E,90nm,0.6s							
KUR				A	A	10 29 47.6	
comp=E,50nm,0.6s							
UGLR	Uglovaya	5.69	26	eP	Pn	10 28 39.6	+0.4
KOK	Koryaka	5.71	25	eP	Pn	10 28 40.2	+0.7
AVH	Avacha	5.71	26	eP	Pn	10 28 40.2	+0.7
AVH				eS	Sn	10 29 41.1	-2.6
SMAR	Somma	5.73	26	eP	Pn	10 28 40.3	+0.4
KRER	Koryakskii	5.75	25	eP	Pn	10 28 40.7	+0.5
SDLR	Sedlovina	5.76	26	eP	Pn	10 28 40.5	+0.2
KRX	Arik	5.77	25	eP	Pn	10 28 40.6	+0.2
GNL	Ganaly	5.90	19	eP	Pn	10 28 43.6	+1.5
SHO	Shikotan	6.94	234	eP	Pn	10 28 58.0	+1.6
SHO				eS	Sn	10 30 10.4	-3.5
MKZ	Mys Kozlova	7.76	32	PN	Pn	10 29 06.1	-1.4
MKZ	Mys Kozlova	7.76	32	eP	Pn	10 29 06.1	-1.4
TUMR	Tumrok	7.88	24	eP	Pn	10 29 11.8	+2.5
JKA	Kamikawa-asahi	9.30	249	eP	Pn	10 29 30.0	+1.4
ASAJ	Asahikawa	9.30	249	PN	Pn	10 29 30.0	+1.4
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ	Asahikawa	9.30	249	P	Pn	10 29 30.0	+1.4
comp=Z,0.8nm,0.3s,baz=68,slow=16,SNR=7.2							
KBTR	Krutoberegovo	9.47	29	PN	Pn	10 29 29.9	-0.9
KBTR	Krutoberegovo	9.47	29	eP	Pn	10 29 29.9	-0.9
USRK	Ussuriysk Arra	16.17	264	P	Pn	10 30 59.5	-1.3
comp=Z,0.2nm,0.3s,baz=64,slow=12,SNR=3.9							
MJAR	Matsushiro Arr	16.78	232	P	Pn	10 31 09.2	+0.8
comp=Z,0.1nm,0.3s,baz=10,slow=13,SNR=4.1							
KSRS	Korea Array	22.23	251	P	P	10 32 09.0	-0.2
KSRS				pmax	pmax		
comp=Z,3.0nm,0.8s							
KSRS	Korea Array	22.23	251	P	P	10 32 08.9	-0.2
comp=Z,3.4nm,0.8s,baz=51,slow=9.4,SNR=11							
KSRS	Korea Array	22.23	251	eP	P	10 32 09.0	-0.2
H11N2	WAKE ISLAND Hy	30.07	156	T	T	11 04 56.3	
baz=345,slow=76,SNR=16							
H11N1	WAKE ISLAND Hy	30.08	157	T	T	11 05 02.7	
baz=345,slow=76,SNR=30							
H11N3	WAKE ISLAND Hy	30.08	156	T	T	11 05 02.6	
baz=345,slow=76,SNR=21							
H11S1	WAKE ISLAND Hy	31.19	158	T	T	11 06 25.8	
baz=345,slow=76,SNR=234							
H11S3	WAKE ISLAND Hy	31.20	158	T	T	11 06 34.9	
baz=345,slow=76,SNR=324							
H11S2	WAKE ISLAND Hy	31.20	158	T	T	11 06 28.0	
baz=345,slow=76,SNR=158							
ZALV	Zalesovo Beam	42.63	305	P	P	10 35 05.9	-1.9
ZALV				pmax	pmax		
comp=Z,1.0nm,0.4s							
ZALV	Zalesovo Beam	42.63	305	P	P	10 35 05.9	-1.9
comp=Z,0.6nm,0.4s,baz=70,slow=4.7,SNR=2.9							
MKAR	Makanchi Array	47.21	297	P	P	10 35 45.0	+0.6
MKAR	Makanchi Array	47.21	297	P	P	10 35 45.0	+0.6
comp=Z,0.2nm,0.5s,baz=70,slow=10,SNR=3.7							
MKAR	Makanchi Array	47.21	297	eP	P	10 35 45.0	+0.6
YKA	Yellowknife Ar	49.15	38	P	P	10 36 00.7	+1.7
YKA				pmax	pmax		
comp=Z,1.0nm,0.9s							
YKA	Yellowknife Ar	49.15	38	P	P	10 36 00.7	+1.7
comp=Z,0.5nm,0.9s,baz=296,slow=7.0,SNR=8.0							
BVAR	Borovoye Array	50.76	309	P	P	10 36 10.4	-0.9
BVAR				pmax	pmax		
comp=Z,2.0nm,0.4s							
BVAR	Borovoye Array	50.76	309	P	P	10 36 10.4	-0.9
comp=Z,2.1nm,0.4s,baz=50,slow=7.1,SNR=12							
FINES	FINESS Array B	63.18	335	P	P	10 37 37.7	-1.3
FINES				pmax	pmax		
comp=Z,1.0nm,0.4s							
FINES	FINESS Array B	63.18	335	P	P	10 37 37.7	-1.3
comp=Z,0.8nm,0.4s,baz=33,slow=7.1,SNR=15							
WRA	Warramunga Arr	70.21	200	P	P	10 38 24.1	-0.1
comp=Z,0.2nm,0.3s,baz=22,slow=6.3,SNR=6.9							
AKASG	Malin Array Be	70.92	327	P	P	10 38 26.2	-2.1
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	Malin Array Be	70.92	327	P	P	10 38 26.2	-2.1
comp=Z,0.7nm,0.5s,baz=34,slow=6.4,SNR=3.8							
EKA	Eskdalemuir Ar	75.18	347	P	P	10 38 53.5	+0.2
EKA				pmax	pmax		
comp=Z,1.0nm,0.4s							
EKA	Eskdalemuir Ar	75.18	347	P	P	10 38 53.5	+0.2
comp=Z,1.1nm,0.4s,baz=20,slow=5.0,SNR=12							
TXAR	Lajitas Array	75.89	62	P	P	10 38 59.8	+1.8
TXAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
TXAR	Lajitas Array	75.89	62	P	P	10 38 59.8	+1.8
comp=Z,0.5nm,0.7s,baz=299,slow=4.4,SNR=3.5							
GERES	GERESS Array B	77.61	335	P	P	10 39 07.4	0.0
GERES				pmax	pmax		
comp=Z,1.0nm,0.6s							
GERES	GERESS Array B	77.61	335	P	P	10 39 07.3	0.0
comp=Z,0.5nm,0.6s,baz=35,slow=4.9,SNR=5.1							
BRTR	Keskin Array B	78.05	317	P	P	10 39 10.2	+0.2
BRTR				pmax	pmax		
comp=Z,1.0nm,0.4s							
BRTR	Keskin Array B	78.05	317	P	P	10 39 10.2	+0.2
comp=Z,0.7nm,0.4s,baz=80,slow=2.0,SNR=3.4							

NIED 28 10:32:00, 26.°40N×128.°60E, h20km, Mw4.5 Best double couple: M₀7.30000×10^15 NP1:φs216.00000°, δ18.00000°, λ80.00000°. NP2:φs47.00000°, δ73.00000°, λ93.00000°.
BJI 28 10:32:15.5, 26.°17N×128.°87E, h25km, mB4.8/14, mb4.2/20, Ms4.4/15, Ms7 4.2/15
MOS 28 10:32:20.5±1.0, 26.°49N×128.°44E, h33km, mb4.5/30, Error ellipse: s-maj=13.9km s-min=6.8km az=104.2
ISCJB 28 10:32:21.1±0.4, 26.°44N±0.°03×128.°49E±0.°03, h39km±3km, mb4.2/46, MS4.0/13, Error ellipse: s-maj=5.9km s-min=3.7km az=41.3
IDC 28 10:32:21.9±0.6, 26.°47N×128.°39E, h29km±3km, mb4.0/23, mb1 4.0/27, mb1mx3.9/49, mbtmp4.1/27, ML3.4/4, MS3.8/14, Ms1 3.9/14, ms1mx3.6/51, Error ellipse: s-maj=20.3km s-min=9.1km az=79.0
NEIC 28 10:32:22.0±1.0, 26.°46N×128.°37E, h29km±7km, mb4.6/15, MW4.5(NIED), Error ellipse: s-maj=7.8km s-min=5.7km az=115.0
NEIC Felt [II] at Ginowan, Ishikawa and Okinawa, Okinawa. Also felt at Chatan, Gushikawa, Urasoe and Yomitan. Recorded [2 JMA] on Okinawa and [1 JMA] on Yoron-jima.
JMA 28 10:32:22.1±0.2, 26.°45N×128.°48E, h19km±3km, M4.4
JMA Felt II J1.

ISC 28 10:32:21.9±0.4,26°.45N±0°.03×128°.49E±0°.04,h30km±2km, h30km:pP-P,n154,σ1s38/183,mb4.3/46,MS4.1/13,2C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.43	280	P	Pb	10 32 30.4	-0.9
JNTH				S	Sb	10 32 36.3	-1.4
JOW	Kunigami	0.43	333	P	Pb	10 32 30.8	-0.6
JOW				S	Sb	10 32 36.7	-1.1
JOW	Kunigami	0.43	333	Pg	Pb	10 32 30.6	-0.7
	631nm,0.3s,baz=143,slow=18,SNR=6185						
JOW				Lg	Lg	10 32 36.8	
	2µm,0.3s,baz=300,slow=20,SNR=194						
JJT2	Tamagusuku 2	0.74	246	P	Pn	10 32 36.0	-0.2
JJT2				eS	Sn	10 32 46.5	+0.1
JIH	Iheya	0.75	321	P	Pn	10 32 36.3	-0.2
JIH				eS	Sb	10 32 46.3	-0.2
JOKE	Okinoerabujima	0.91	4	P	Pn	10 32 38.8	+0.1
JOKE				S	Sn	10 32 50.6	-0.3
JAGN	Aguni-jima	1.13	278	P	Pn	10 32 42.2	+0.5
JAGN				eS	Sb	10 32 57.9	+0.7
JTK	Tokunoshima	1.40	17	P	Pn	10 32 45.3	0.0
JTK				eS	Sn	10 33 00.0	+0.3
JKE	Kume jima 2	1.54	266	P	Pn	10 32 46.7	-0.6
JKE				eS	Sb	10 33 08.3	-0.6
JAMN	Amaminishikomi	1.89	19	P	Pn	10 32 52.0	-0.1
JAM	Amami Oshima	2.19	27	P	Pn	10 32 56.1	-0.2
JZK	Kikaishima	2.28	35	P	Pn	10 32 58.4	+0.9
JMZ	Minamidaito 2	2.53	104	P	Pn	10 32 58.9	-2.0
JMZ				S	Sn	10 33 26.1	-4.6
JTAJ	Takarajima	2.77	13	P	Pn	10 33 04.2	0.0
JTAJ				S	Sn	10 33 36.3	-0.3
JOGS	Gusukube	3.25	240	P	Pn	10 33 12.1	+1.2
JOGS				eS	Sn	10 33 50.0	+1.4
JIRB	Irabujima	3.40	242	P	Pn	10 33 12.5	-0.4
JTJ	Tarama	3.87	243	P	Pn	10 33 17.9	-1.4
JISG	Ishigakijimahi	4.21	245	P	Pn	10 33 22.3	-1.7
JIJ	Ishigaki jima	4.45	243	P	Pn	10 33 25.3	-2.0
IRIF	Iriomote-Funau	4.79	245	P	Pn	10 33 31.7	-0.4
YHNB	Yeheng	6.67	256	ePn	Pn	10 33 58.7	+0.8
	66nm,0.9s						
JNU	Nakatsue	6.97	17	Pn	Pn	10 34 01.9	-0.1
	2.6nm,0.3s,baz=274,slow=2.2,SNR=29						
JNU				LR	LR	10 37 04.8	
	comp=Z,535nm,21.0s,baz=202,slow=41						
JNU	Nakatsue	6.97	17	ePn	Pn	10 34 03.6	+1.6
YULB	Yu-li	7.21	247	ePn	Pn	10 34 01.4	-3.8
SSLB	Suanglung	7.33	250	ePn	Pn	10 34 06.9	0.0
TPUB	Ta-pu	7.80	248	ePn	Pn	10 34 11.7	-1.7
	19nm,0.6s						
NJ2	Nanjing	10.10	306	eP	Pn	10 34 43.8	-1.1
NJ2				S	Sn	10 36 30.0	-7.1
NJ2				LR	LR		
	comp=N,2µm,12.6s						
NJ2				LR	LR		
	comp=E,1µm,12.6s						
NJ2				LR	LR		
	comp=Z,1µm,16.5s						
KSAR	Wonju Array Be	10.98	357	P	Pn	10 34 56.1	-0.7
KSAR	Wonju Array Be	10.98	357	Pn	Pn	10 34 56.1	-0.7
KSRS	Korea Array	10.99	358	Pn	Pn	10 34 56.1	-0.9
	comp=Z,0.1nm,0.3s,baz=173,slow=14,SNR=3.6						
KSRS				LR	LR	10 39 34.3	
	comp=Z,657nm,18.2s,baz=166,slow=40						
JCJ	Chichijima	12.25	84	LR	LR	10 38 55.8	
	comp=Z,221nm,21.5s,baz=344,slow=32						
MAJO	Matsushiro	13.03	37	eP	Pn	10 35 26.5	+1.6
MAJO	Matsushiro	13.03	37	ePn	Pn	10 35 26.5	+1.6
MJAR	Matsushiro Arr	13.03	37	Pn	Pn	10 35 25.4	+0.4
	comp=Z,0.3nm,0.3s,baz=216,slow=14,SNR=4.3						
MJAR				LR	LR	10 40 20.5	
	comp=Z,159nm,21.8s,baz=230,slow=37						
WHN	Wuhan	13.09	291	eP	Pn	10 35 28.0	+2.2
WHN				LR	LR		
	comp=Z,760nm,9.7s						
WHN				LR	LR		
	comp=Z,1µm,13.0s						
WHN				LR	LR		
	comp=Z,2µm,18.6s						
BJI	Beijing	17.00	326	P	Pn	10 36 16.8	-0.6
BJI				S	Sn	10 39 29.5	+4.0
BJI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BJI				LR	LR		
	comp=Z,970nm,14.9s						
BJI				LR	LR		
	comp=Z,510nm,12.2s						
BJI				LR	LR		
	comp=Z,430nm,15.8s						
USRK	Ussuriysk Arra	17.94	8	P	P	10 36 29.6	+0.3
	comp=Z,0.1nm,0.3s,baz=140,slow=15,SNR=3.6						
USRK				LR	LR	10 42 53.0	
	comp=Z,201nm,19.6s,baz=175,slow=35						
MDJ	Mudanjiang	18.15	3	P	P	10 36 32.5	+0.8
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,120nm,4.7s						
XAN	Xi'an	18.51	299	P	Pn	10 36 36.8	+0.7
XAN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
XAN				LR	LR		
	comp=Z,220nm,15.0s						
XAN				LR	LR		
	comp=Z,110nm,15.7s						
XAN				LR	LR		
	comp=Z,140nm,16.4s						
HHC	Hu-ho-hao-te	20.07	320	eP	Pn	10 36 54.3	-0.6
HHC				pP	pP	10 37 02.5	+1.4
HHC				sP	sP	10 37 07.3	+2.3
HHC				PP	PnPn	10 37 11.5	+1.9
HHC				S	S	10 40 30.8	-6.2
HHC				pmax	pmax		
	comp=Z,30nm,0.6s						
HHC				pmax	pmax		
	comp=Z,290nm,5.7s						
HHC				LR	LR		
	comp=Z,590nm,14.2s						
HHC				LR	LR		
	comp=Z,430nm,14.8s						
HHC				LR	LR		
	comp=Z,860nm,13.1s						
ASAJ	Asahikawa	21.00	29	LR	LR	10 45 11.0	
	comp=Z,256nm,19.5s,baz=172,slow=37						
CD2	Chengdu	22.14	287	eP	P	10 37 15.8	+0.6
CD2				pP	pP	10 37 25.3	+1.9
CD2				sP	sP	10 37 29.8	+2.5
CD2				PP	PnPn	10 37 41.8	+4.0
CD2				S	S	10 41 10.5	-7.1
CD2				sS	Sn	10 41 26.0	-3.6
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,180nm,5.4s						
CD2				LR	LR		
	comp=Z,860nm,18.1s						
CD2				LR	LR		
	comp=Z,720nm,15.3s						
CD2				LR	LR		
	comp=Z,880nm,13.3s						
KMI	Kunming	23.22	272	P	P	10 37 27.5	+0.7
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
YSS	Yuzh-Sakhalins	23.37	25	eP	P	10 37 28.7	+0.9
YSS				pmax	pmax		
	comp=Z,18nm,0.9s						
YSS	Yuzh-Sakhalins	23.37	25	eP	P	10 37 28.7	+0.9
	comp=Z,18nm,0.9s						
GTA	Gaotai	27.20	306	eP	P	10 38 02.0	-1.1
GTA				pP	pP	10 38 11.3	-0.6
GTA				sP	sP	10 38 15.3	-0.3
GTA				S	S	10 42 36.3	-3.8
GTA				sS	sS	10 42 52.8	-1.9
GTA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,130nm,5.7s						
GTA				LR	LR		
	comp=Z,310nm,14.3s						
GTA				LR	LR		
	comp=Z,420nm,16.0s						
GTA				LR	LR		
	comp=Z,610nm,16.2s						
ULN	Ulaanbaatar	27.20	327	eP	P	10 38 03.8	+0.8
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ULN	Ulaanbaatar	27.20	327	eP	P	10 38 03.8	+0.8
	comp=Z,4.3nm,0.8s						
SONM	Songino Array	27.50	327	P	P	10 38 06.0	-0.3
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	27.50	327	P	P	10 38 06.0	-0.3
	comp=Z,1.4nm,0.6s,baz=147,slow=11,SNR=6.8						
CMAR	Chiang Mai Arr	28.40	260	LR	LR	10 51 13.5	
	comp=Z,150nm,18.3s,baz=118,slow=40						
TLY	Talaya	31.45	330	LR	LR	10 51 39.6	
	comp=Z,220nm,21.7s,baz=82,slow=37						
PETK	Petropavlovsk-	34.39	31	LR	LR	10 52 27.4	
	comp=Z,54nm,20.2s,baz=286,slow=35						
H11N1	WAKE ISLAND Hy	35.85	93	T	T	11 17 36.2	
	baz=223,slow=74,SNR=6.3						
H11N2	WAKE ISLAND Hy	35.85	93	T	T	11 18 31.0	
	SNR=4.8						
H11N3	WAKE ISLAND Hy	35.87	93	T	T	11 17 35.7	
	baz=289,slow=74,SNR=4.7						
TAPN	Taplejung	36.27	281	eP	P	10 39 23.5	+0.5
ODAN	Odare	36.62	280	eP	P	10 39 25.8	-0.2
	comp=Z,25nm,0.5s						
WMQ	Urumqi	37.17	308	P	P	10 39 30.3	+0.1
WMQ				pP	pP	10 39 40.0	+0.8
WMQ				sP	sP	10 39 44.0	+1.1
WMQ				PP	PnPn	10 40 57.0	+1.3
WMQ				PcP	PcP	10 41 51.3	+1.4
WMQ				S	S	10 45 12.5	-2.4
WMQ				sS	sS	10 45 29.3	-0.4
WMQ				PcS	PcS	10 45 38.3	+0.1
WMQ				ScS	ScS	10 49 40.5	-2.0
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,190nm,3.8s						
WMQ				LR	LR		
	comp=Z,85nm,21.0s						
WMQ				LR	LR		
	comp=Z,130nm,20.0s						
WMQ				LR	LR		
	comp=Z,150nm,22.2s						
RAMN	Ramite	37.31	280	eP	P	10 39 30.2	-1.6
	comp=Z,8.5nm,0.5s						
GUN	Gumba	37.80	282	eP	P	10 39 36.9	+0.8
	comp=Z,13nm,0.4s						
PKI	Pulchoki	38.26	282	eP	P	10 39 39.4	-0.6
	comp=Z,16nm,0.5s						
PKIN	Phulchoki	38.27	282	eP	P	10 39 39.5	-0.5
	comp=Z,14nm,0.4s						
DMN	Daman	38.52	282	eP	P	10 39 41.6	-0.5
	comp=Z,16nm,0.7s						
DANN	Dangsing	39.59	283	eP	P	10 39 51.0	-0.1
	comp=Z,25nm,0.7s						
SEY	Seymchan	39.75	17	P	P	10 39 51.5	0.0
SEY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SEY	Seymchan	39.75	17	P	P	10 39 51.5	0.0
	comp=Z,1.9nm,0.6s,baz=221,slow=9.5,SNR=9.0						
MK31	Makanchi Array	41.57	312	eP	P	10 40 06.1	-0.8
MK31	Makanchi Array	41.57	312	eP	P	10 40 06.0	-0.8
MKAR	Makanchi Array	41.57	312	P	P	10 40 06.1	-0.7
	comp=Z,1.5nm,0.5s,baz=90,slow=9.2,SNR=29						
MKAR				LR	LR	10 59 52.3	
	comp=Z,137nm,18.0s,baz=12,slow=40						
ZAA0	Zalesovo Array	42.22	323	eP	P	10 40 10.6	-1.4
ZALV	Zalesovo Beam	42.22	323	P	P	10 40 10.8	-1.2
ZALV				*PP	pP	10 40 19.5	-1.6
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV				MLR	MLR		
	comp=Z,241nm,19.2s						
ZALV	Zalesovo Beam	42.22	323	P	P	10 40 10.8	-1.2
	comp=Z,1.4nm,0.4s,baz=109,slow=10.0,SNR=9.7						
ZALV				pP	pP	10 40 19.4	-1.6
	comp=Z,1.5nm,0.4s,baz=108,slow=9.1,SNR=5.8						
ZALV				LR	LR	10 59 31.5	
	comp=Z,241nm,19.2s,baz=72,slow=39						
FITZ	Fitzroy Crossi	44.37	184	eP	P	10 40 29.9	+0.2
	comp=Z,15nm,1.3s						
KURK	Kurchatov	44.83	316	eP	P	10 40 31.5	-1.5
KURK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KURK	Kurchatov	44.83	316	eP	P	10 40 31.5	-1.5
	comp=Z,7.4nm,1.4s						
TIXI	Tiksi	45.24	0	eP	P	10 40 35.2	-0.8
TIXI				pmax	pmax		
	comp=Z,58nm,2.8s						
TIXI	Tiksi	45.24	0	eP	P	10 40 35.2	-0.8
	comp=Z,58nm,2.8s						
TKM2	Tokmak 2	45.75	305	eP	P	10 40 41.3	+0.6
TKM2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TKM2	Tokmak 2	45.75	305	eP	P	10 40 41.3	+0.6
	comp=Z,10nm,1.1s						
WRAB	Tennant Creek	46.45	172	eP	P	10 40 45.6	-0.5
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WRAB	Tennant Creek	46.45	172	eP	P	10 40 45.6	-0.5
	comp=Z,9.6nm,0.9s						
WRA	Warramunga Arr	46.46	172	P	P	10 40 46.5	+0.3
WRA				*PP	pP	10 40 55.7	+0.3
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA	Warramunga Arr	46.46	172	P	P	10 40 46.5	+0.3
	comp=Z,4.1nm,0.6s,baz=353,slow=8.3,SNR=27						
WRA				pP	pP	10 40 55.7	+0.3
	comp=Z,2.6nm,0.6s,baz=354,slow=8.5,SNR=6.6						
AAK	Ala-Archa	46.54	305	eP	P	10 40 47.4	+0.4
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	Ala-Archa	46.54	305	P	P	10 40 46.0	-1.0
	comp=Z,0.5nm,0.4s,baz=141,slow=3.0,SNR=4.3						
AAK	Ala-Archa	46.54	305	eP	P	10 40 47.4	+0.4
	comp=Z,1.3nm,0.7s						
CTAO	Charters Tower	49.36	158	eP	P	10 41 09.8	+1.1
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CTAO	Charters Tower	49.36	158	eP	P	10 41 09.8	+1.1
	comp=Z,7.4nm,0.8s						
KKAR	Karatay Array	49.48	305	eP	P	10 41 09.9	+0.4
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	Karatay Array	49.48	305	eP	P	10 41 09.9	+0.4
	comp=Z,0.8nm,0.4s						
AS31	Alice Springs	50.09	174	eP	P	10 41 15.0	+0.8
ASAR	Alice Springs	50.09	174	P	P	10 41 14.8	+0.6
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ASAR	Alice Springs	50.09	174	P	P	10 41 14.8	+0.6
	comp=Z,3.8nm,0.8s,baz=6.1,slow=13,SNR=51						
BVAR	Borovoye Array	50.27	318	P	P	10 41 15.1	-0.3
BVAR				*PP	pP	10 41 24.7	+0.1
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,369nm,18.7s						
BVAR	Borovoye Array	50.27	318	P	P	10 41 15.1	-0.3
	comp=Z,1.7nm,0.5s,baz=85,slow=9.0,SNR=11						
BVAR				pP	pP	10 41 24.7	+0.1
	comp=Z,4.9nm,0.7s,baz=87,slow=8.1,SNR=10						
BVAR				LR	LR	11 04 23.0	
	comp=Z,369nm,18.7s,baz=76,slow=38						
BRVK	Borovoye	50.34	318	eP	P	10 41 15.0	-0.8
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	Borovoye	50.34	318	eP	P	10 41 15.0	-0.8
	comp=Z,3.0nm,0.6s						
ABKAR	Akbulak array	56.67	313	eP	P	10 42 02.0	-0.3
ARU	Arti	57.37	322	P	P	10 42 06.8	-0.3
ARU	Arti	57.37	322	eP	P	10 42 07.1	0.0
	comp=Z,2.7nm,0.6s						
STKA	Stephens Creek	59.33	167	P	P	10 42 21.5	+0.5
STKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
STKA	Stephens Creek	59.33	167	P	P	10 42 21.4	+0.5
	comp=Z,0.8nm,0.4s,baz=19,slow=3.8,SNR=4.4						
GEYT	Alibeck	59.39	300	P	P	10 42 21.7	+0.1
	comp=Z,0.8nm,0.4s,baz=97,slow=12,SNR=3.0						
ILAR	Eielson Array	64.14	28	P	P	10 42 53.4	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	64.14	28	P	P	10 42 53.4	+0.3
	comp=Z,0.5nm,0.9s,baz=265,slow=5.8,SNR=3.3						
SPITS	Spitsbergen Ar	68.67	348	P	P	10 43 20.8	-1.1
SPITS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SPITS	Spitsbergen Ar	68.67	348	P	P	10 43 20.8	-1.1
	comp=Z,7.4nm,0.9s,baz=101,slow=8.6,SNR=7.7						
KBZ	Khabaz	69.21	309	P	P	10 43 25.2	-0.6
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	Khabaz	69.21	309	P	P	10 43 25.1	-0.6
	comp=Z,1.9nm,0.8s,baz=144,slow=4.2,SNR=4.5						
KIV	Kislovodsk	69.28	310	eP	P	10 43 33.8	+7.4
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KEV	Kevo	69.32	339	eP	P	10 43 25.1	-0.9
KEV	Kevo	69.32	339	ep	P	10 43 25.1	-0.9
	comp=Z,0.3nm,0.4s						
ARCES	ARCESS Array B	69.89	339	P	P	10 43 28.8	-0.8
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,183nm,22.0s						
ARCES	ARCESS Array B	69.89	339	P	P	10 43 28.8	-0.8
	comp=Z,4.1nm,1.0s,baz=68,slow=6.8,SNR=6.9						
ARCES				LR	LR	11 18 22.6	
	comp=Z,182nm,22.0s,baz=271,slow=40						
JOF	Joensuu	69.97	331	eP	P	10 43 28.0	-2.1
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	Joensuu	69.97	331	ep	P	10 43 28.0	-2.1
	comp=Z,1.1nm,0.4s						
KAF	Kangasniemi	72.43	331	eP	P	10 43 44.4	-0.6
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	Kangasniemi	72.43	331	ep	P	10 43 44.4	-0.6
	comp=Z,1.1nm,0.4s						
FINES	FINESS Array B	72.79	331	P	P	10 43 47.0	-0.2
FINES				*PP	pP	10 43 55.3	-1.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,208nm,18.7s						
FINES	FINESS Array B	72.79	331	P	P	10 43 47.0	-0.2
	comp=Z,1.1nm,0.4s,baz=79,slow=5.2,SNR=24						
FINES				pP	pP	10 43 55.3	-1.5
	comp=Z,3.5nm,0.5s,baz=78,slow=5.5,SNR=7.2						
FINES				LR	LR	11 20 06.1	
	comp=Z,208nm,18.7s,baz=271,slow=39						
RAYN	Ar Rayn	73.97	289	eP	P	10 43 55.7	+0.8
	comp=Z,6.8nm,1.1s						
DAG	Danmarks Havn	75.07	353	eP	P	10 44 09.4	+9.1
DAG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DAG	Danmarks Havn	75.07	353	i P	P	10 44 09.4	+9.1
	comp=Z,2.5nm,0.9s						
AKASG	Malin Array Be	75.52	320	P	P	10 44 02.7	-0.6
AKASG				*PP	pP	10 44 11.6	-1.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	75.52	320	P	P	10 44 02.7	-0.6
	comp=Z,1.4nm,0.4s,baz=62,slow=6.3,SNR=9.9						
AKASG				pP	pP	10 44 11.6	-1.3
	comp=Z,1.3nm,0.4s,baz=57,slow=6.5,SNR=7.3						
AK01	Malin Array Si	75.53	320	eP	P	10 44 02.7	-0.7
AK02	Malin Array Si	75.55	320	eP	P	10 44 02.4	-1.1
BR131	Keskin Array S	77.09	308	eP	P	10 44 14.2	+1.6
	comp=Z,3.3nm,0.9s						
BRTR	Keskin Array B	77.09	308	P	P	10 44 12.9	+0.3
BRTR				*PP	pP	10 44 21.7	-0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	Keskin Array B	77.09	308	P	P	10 44 12.9	+0.3
	comp=Z,1.1nm,0.5s,baz=138,slow=5.8,SNR=6.4						
BRTR				pP	pP	10 44 21.6	-0.6
	comp=Z,3.0nm,0.9s,baz=98,slow=4.9,SNR=8.8						
YKA	Yellowknife Ar	78.23	25	P	P	10 44 19.3	+0.9
	comp=Z,0.3nm,0.5s,baz=302,slow=5.6,SNR=8.0						
HFS	Hagfors	78.74	332	P	P	10 44 20.6	-0.6
HFS				*PP	PcP	10 44 30.1	+0.1
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	Hagfors	78.74	332	P	P	10 44 20.6	-0.6
	comp=Z,1.3nm,0.6s,baz=127,slow=3.9,SNR=6.3						
HFS				pP	PcP	10 44 30.1	+0.1
	comp=Z,1.6nm,0.5s,baz=98,slow=3.8,SNR=3.9						
NB2	NORSAR Subarra	79.22	334	P	P	10 44 23.5	-0.4
	comp=Z,1.8nm,0.6s,baz=54,slow=5.6						
NOA	NORSAR Array B	79.22	334	P	P	10 44 24.2	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	79.22	334	P	P	10 44 24.2	+0.3
	comp=Z,1.0nm,0.7s,baz=51,slow=5.7,SNR=5.4						
BURAR	Bucovina Array	79.23	318	⇓iP	P	10 44 25.1	+0.8
MLR	Muntele Rosu	79.76	316	⇓iP	P	10 44 27.5	+0.2
MLR	Muntele Rosu	79.76	316	P	P	10 44 27.0	-0.2
	comp=Z,0.4nm,0.4s,baz=344,slow=9.5,SNR=8.6						
KOLS	Kolonicke sedl	80.34	320	eP	P	10 44 34.7	+4.5
KOLS	Kolonicke sedl	80.34	320	e	P	10 44 34.6	+4.4
ARR	Arges	80.63	316	⇑iP	P	10 44 42.2	+10
SUMG	Summit	80.84	356	i P	P	10 44 35.2	+2.3
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SUMG	Summit	80.84	356	i P	P	10 44 35.2	+2.3
	comp=Z,5.9nm,0.9s						
SUMG	Summit	80.84	356	eP	P	10 44 36.0	+3.1
	comp=Z,25nm,1.4s						
VYHS	Vyhne	82.52	321	eP	P	10 44 43.1	+1.3
VYHS	Vyhne	82.52	321	eP	P	10 44 43.1	+1.3
CLL	Collm	84.11	325	⇑iP	P	10 44 51.7	+1.9
	comp=Z,3.0nm,0.6s						
CLL				epP	pP	10 45 00.0	+0.5
GERES	GERESS Array B	85.17	323	P	P	10 44 55.5	+0.1
	comp=Z,0.2nm,0.4s,baz=44,slow=5.8,SNR=2.3						
DAVOX	Davos/Dischmat	88.47	323	P	P	10 45 09.7	-1.9
DAVOX				pmax	pmax		
	comp=Z,2.0nm,0.5s						
DAVOX	Davos/Dischmat	88.47	323	P	P	10 45 09.7	-1.9
	comp=Z,1.6nm,0.5s,baz=343,slow=17,SNR=3.7						
PLCA	Paso Flores	158.74	137	ePKIKP	PKPdf	10 52 18.1	+1.3
PLCA	Paso Flores	158.74	137	ePKPdf	PKPdf	10 52 18.1	+1.3

IDC 28 10:36:43.8±1.3,34°.65S×71°.72W,h0km,mb3.8/3, mb1 4.2/3,mb1mx3.8/27,mbtmp3.8/3,ML2.5/1,Error ellipse: s-maj=46.5km s-min=37.1km az=23.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.21	45	Pn	Pn	10 37 47.8	-1.6
	0.3nm,0.3s,baz=56,slow=24,SNR=4.2						
TXAR	Lajitas Array	70.43	331	P	P	10 47 59.5	-0.5
	0.9nm,0.6s,baz=157,slow=8.7,SNR=14						
TORD	Torodi Ar. Bea	84.19	70	P	P	10 49 17.0	-0.4
	0.8nm,1.1s,baz=220,slow=4.6,SNR=2.6						
PDAR	Pinedale Array	84.46	333	P	P	10 49 18.9	+0.5
	0.6nm,1.0s,baz=129,slow=2.9,SNR=2.7						
PSI	Prapat	147.14	163	PKPbc	PKPdf	10 56 27.8	+0.3
	1.7nm,0.3s,baz=252,slow=3.2,SNR=6.7						
BVAR	Borovoye Array	147.57	44	PKP	PKPdf	10 56 24.6	-2.3
	0.7nm,0.6s,baz=276,slow=4.3,SNR=4.5						
BVAR				PKPbc	PKPbc	10 56 30.5	+1.0
	2.0nm,0.7s,baz=299,slow=4.2,SNR=10.0						
MKAR	Makanchi Array	156.98	50	PKPab	PKPab	10 57 12.0	+0.8
	0.5nm,0.7s,baz=351,slow=1.6,SNR=3.8						

IDC 28 10:38:30.7±1.1,34°.79S×72°.55W,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.6/28,mbtmp3.6/4,ML3.4/1,Error ellipse: s-maj=42.9km s-min=30.2km az=102.0

ISCJB 28 10:38:31.5±1.2,34°.8S±0°.2×72°.6W±0°.3,h18km,mb3.6/3, Error ellipse: s-maj=38.5km s-min=21.8km az=36.9

ISC 28 10:38:33.4±1.2,34°.8S±0°.2×72°.6W±0°.2,h18km,n6,σ0s83/6, mb3.6/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.82	50	Pn	Pn	10 39 45.4	+0.3
	1.7nm,0.3s,baz=218,slow=12,SNR=9.9						
CFAA				Lg	Lg	10 40 43.6	

1.4nm,0.3s,baz=54,slow=14,SNR=5.2
QSPA South Pole Qui 55.45 180 P P 10 48 06.9 +0.2
2.0nm,1.1s,baz=198,slow=3.2,SNR=3.0
TXAR Lajitas Array 70.22 331 P P 10 49 45.4 0.0
0.3nm,0.9s,baz=142,slow=10,SNR=3.0
TORD Torodi Ar. Bea 84.88 70 P P 10 51 07.1 -0.4
0.2nm,0.5s,baz=246,slow=6.1,SNR=4.4
BVAR Borovoye Array 148.15 44 PKPbc PKPbc 10 58 18.5 +0.9
0.4nm,0.4s,baz=275,slow=3.7,SNR=4.0
MKAR Makanchi Array 157.60 50 PKPab PKPab 10 58 59.5 -1.0
0.2nm,0.6s,baz=285,slow=2.5,SNR=2.7

IDC **28** *10:40:57.6±0.7, 35.07S×72.85W, h0km, mb4.0/9, mb1 4.1/11, mb1mx4.0/27, mbtmp3.9/11, ML4.3/1, MS4.2/1, Ms1 4.2/1, ms1mx3.2/30, Error ellipse: s-maj=29.0km s-min=17.6km az=88.0*
ISCJB **28** *10:41:01.4±0.5, 35.06S±0.07×72.7W±0.2, h33km, mb4.2/14, MS4.1/1, Error ellipse: s-maj=17.7km s-min=10.7km az=175.4*
NEIC **28** *10:41:01.9±3.5, 35.00S×72.75W, h26km±24km, mb4.5/6, Error ellipse: s-maj=20.6km s-min=9.8km az=87.0*
ISC 28 10:41:03.3±0.6, 35.01S±0.08×72.8W±0.2, h35km, n31, σ0.99/29, mb4.3/14, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.09 50 Pn Pn 10 42 17.5 +0.3
0.4nm,0.3s,baz=218,slow=17,SNR=3.7
CFAA Lg Lg 10 43 33.6
0.2nm,0.3s,baz=17,slow=3.3,SNR=3.8
PLCA Paso Flores 5.98 164 Pn Pn 10 42 28.2 -1.2
1.9nm,0.3s,baz=315,slow=8.9,SNR=3.6
PLCA Paso Flores 5.98 164 ePn Pn 10 42 29.9 +0.5
TRQA Tornquist 9.21 112 ePn Pn 10 43 19.1 +5.5
LVC Limon Verde 12.80 16 ePn Pn 10 44 00.4 -2.6
21nm,0.8s
SIV San Ignacio 21.65 32 P P 10 45 49.7 -1.0
4.3nm,0.8s,baz=240,slow=8.1,SNR=3.9
PMSA Palmer Station 30.27 173 LR LR 10 57 53.4
comp=Z,450nm,18.6s,baz=317,slow=34
SDV Santo Domingo 43.70 3 eP P 10 49 05.7 +0.6
17nm,1.5s
SNAA Sanae 50.89 157 P P 10 49 60.0 -0.4
1.8nm,1.1s,baz=304,slow=11,SNR=4.1
SNAA Sanae 50.89 157 eP P 10 49 59.5 -1.0
12nm,1.4s
QSPA South Pole Qui 55.23 180 P P 10 50 33.2 +0.7
0.7nm,0.9s,baz=119,slow=16,SNR=3.1
QSPA South Pole Qui 55.23 180 eP P 10 50 33.0 +0.5
2.6nm,1.0s
TXAR Lajitas Array 70.32 332 P P 10 52 13.9 +0.6
0.5nm,0.7s,baz=152,slow=8.1,SNR=6.6
MAW Mawson 72.39 164 P P 10 52 22.9 -2.3
59nm,1.2s,baz=252,slow=9.6,SNR=3.1
DBIC Dimbokro 76.08 72 P P 10 52 48.0 +0.4
2.3nm,0.8s,baz=69,slow=17,SNR=2.6
ANMO Albuquerque 76.38 332 eP P 10 52 49.8 +0.8
2.4nm,1.6s
BOSA Boshof 80.14 118 P P 10 53 09.8 -0.4
2.6nm,0.8s,baz=230,slow=5.8,SNR=3.8
PV10 Paradox Valley 80.37 332 eP P 10 53 11.3 +0.2
30nm,0.9s
HWUT Hardware Ranch 84.14 332 eP P 10 53 31.4 +0.7
2.5nm,0.8s
NVAR Mina Array Bea 84.36 326 P P 10 53 32.0 +0.1
0.6nm,0.8s,baz=190,slow=5.3,SNR=4.1
PDAR Pinedale Array 84.39 334 P P 10 53 31.6 -0.3
0.8nm,1.0s,baz=134,slow=4.3,SNR=5.7
TORD Torodi Ar. Bea 85.13 70 P P 10 53 36.7 +0.7
2.0nm,0.9s,baz=255,slow=3.9,SNR=8.3
WRAB Tennant Creek 119.59 210 ePKPdf PKPdf 10 59 50.7 +0.9
BRTR Keskin Array B 122.85 62 PKP PKPdf 10 59 56.1 +0.5
0.9nm,0.9s,baz=190,slow=6.0,SNR=4.2
AKASG Malin Array Be 123.32 48 PKP PKPdf 10 59 55.2 -0.7
0.1nm,0.3s,baz=262,slow=2.5,SNR=4.1
PSI Prapat 147.04 165 PKPbc PKPdf 11 00 41.5 +0.5
4.0nm,0.7s,baz=246,slow=10,SNR=3.5
BVAR Borovoye Array 148.43 44 PKPbc PKPdf 11 00 43.0 +1.0
0.8nm,0.6s,baz=264,slow=2.7,SNR=4.9
AAK Ala-Archa 153.51 63 PKPbc PKPbc 11 00 58.5 +0.5
2.1nm,0.8s,baz=208,slow=3.0,SNR=7.1
AAK Ala-Archa 153.51 63 ePKPbc PKPbc 11 00 59.0 +1.0
ZALV Zalesovo Beam 155.40 33 PKPab PKPab 11 01 18.8 +0.8
1.7nm,0.8s,baz=285,slow=5.7,SNR=4.8
MKAR Makanchi Array 157.88 50 PKPab PKPab 11 01 30.1 +1.2
0.2nm,0.8s,baz=249,slow=7.3,SNR=2.6

IDC **28** *10:43:04.4±0.4, 38.48S×75.45W, h0km, mb4.7/16, mb1 4.8/19, mb1mx4.7/28, mbtmp4.7/19, ML4.9/3, MS4.1/7, Ms1 4.1/7, ms1mx3.8/31, Error ellipse: s-maj=15.5km s-min=14.3km az=89.0*
ISCJB **28** *10:43:08.8±0.2, 38.37S±0.05×75.17W±0.07, h33km, mb5.0/104, MS4.4/5, Error ellipse: s-maj=8.7km s-min=5.1km az=143.1*
MOS **28** *10:43:08.9±1.2, 38.45S×75.41W, h33km, mb5.3/28, Error ellipse: s-maj=16.7km s-min=9.7km az=105.4*
NEIC **28** *10:43:10.2±0.2, 38.50S×75.27W, h35km, mb5.1/88, Error ellipse: s-maj=7.5km s-min=5.5km az=60.0*
ISC 28 10:43:10.2±0.3, 38.41S±0.06×75.32W±0.07, h35km, n627, σ1.01/650, mb5.1/104, MS4.2/5, 172C-184D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.36 124 eP Pn 10 44 13.0 -1.0
PLCA 10 45 14.6
PLCA Paso Flores 4.36 124 Pn Pn 10 44 12.6 -1.4
15nm,0.3s,baz=313,slow=11,SNR=37
PLCA Lg Lg 10 45 14.6
28nm,0.3s,baz=234,slow=2.2,SNR=3.3
PLCA LR LR 10 45 26.7
comp=Z,1μm,19.0s,baz=220,slow=32
PLCA Paso Flores 4.36 124 ePn Pn 10 44 13.0 -1.0
PLCA Lg Lg 10 45 14.6
CFAA Coronel Fontan 8.93 43 Pn Pn 10 45 14.3 -2.5
2.7nm,0.3s,baz=220,slow=6.3,SNR=9.6
CFAA LR LR 10 48 26.2
comp=Z,226nm,18.1s,baz=240,slow=36
TRQA Tornquist 10.50 92 ePn Pn 10 45 38.0 -0.3
LVC Limon Verde 16.67 21 eP P 10 47 04.7 +1.2
46nm,0.8s
USHA Ushuaia 17.08 166 P Pn 10 47 06.2 +0.1
1.0nm,0.3s,baz=319,slow=8.6,SNR=12
USHA LR LR 10 54 01.2
comp=Z,1μm,18.4s,baz=324,slow=38
CPUP Villa Florida 19.35 57 eP Pn 10 47 34.6 +0.7
CPUP pmax pmax
comp=Z,3.0nm,0.9s
CPUP Villa Florida 19.35 57 P Pn 10 47 33.5 -0.4
comp=Z,2.0nm,0.3s,baz=212,slow=9.1,SNR=11
CPUP Villa Florida 19.35 57 eP Pn 10 47 34.6 +0.7
comp=Z,2.7nm,0.9s
LPAZ La Paz 22.92 18 eP P 10 48 13.4 +1.5
LPAZ pmax pmax
comp=Z,19nm,0.8s
LPAZ La Paz 22.92 18 P P 10 48 12.3 +0.4
comp=Z,7.5nm,0.9s,baz=190,slow=10,SNR=3.7
LPAZ La Paz 22.92 18 eP P 10 48 13.4 +1.5
comp=Z,19nm,0.8s
SIV San Ignacio 25.61 33 P P 10 48 37.4 +1.0
comp=Z,18nm,0.9s,baz=236,slow=13,SNR=11
NNA Nana 26.34 357 ceP P 10 48 37.6 -5.5
NNA Nana 26.34 357 P P 10 48 43.4 +0.3
comp=Z,8.1nm,0.9s,baz=263,slow=8.1,SNR=2.2
RPN Rapa Nui 30.57 281 LR LR 10 58 53.1
comp=Z,374nm,19.4s,baz=95,slow=31
ATAH Atahualpa 31.26 354 P P 10 49 26.8 -0.4
comp=Z,3.9nm,0.8s,baz=308,slow=19,SNR=1.9
ATAH LR LR 10 59 09.9
comp=Z,427nm,20.0s,baz=202,slow=31
SAML Samuel 31.30 24 eP P 10 49 29.6 +2.5
comp=Z,32nm,1.4s
BDFB Brasilia 33.03 54 eP P 10 49 44.4 +1.9
BDFB Brasilia 33.03 54 P P 10 49 42.5 0.0
comp=Z,20nm,1.1s,baz=243,slow=5.7,SNR=5.3
BDFB Brasilia 33.03 54 eP P 10 49 44.4 +1.9
OTAV Otavalo 38.56 355 eP P 10 50 32.8 +2.5
comp=Z,58nm,1.5s
ROSC El Rosal 43.05 1 LR LR 11 08 17.5
comp=Z,598nm,18.3s,baz=200,slow=35
VNA3 Neumayer Olymp 46.35 156 P P 10 51 33.8 +1.3
VNA2 Neumayer--Watz 47.05 155 P P 10 51 39.1 +1.2
VNA2 Neumayer--Watz 47.05 155 P P 10 51 38.8 +0.9
SDV Santo Domingo 47.25 6 eP P 10 51 40.9 +0.7
comp=Z,26nm,0.8s
RCBR Riachuelo 48.22 58 P P 10 51 48.5 +0.8
comp=Z,14nm,0.8s,baz=212,slow=12,SNR=7.6
SNAA Sanae 48.57 156 P P 10 51 50.1 +0.4
SNAA Sanae 48.57 156 diP P 10 51 49.1 -0.6
SNAA pmax pmax
comp=Z,45nm,1.3s
SNAA Sanae 48.57 156 P P 10 51 49.1 -0.6
comp=Z,7.9nm,0.9s,baz=269,slow=6.6,SNR=19
SNAA Sanae 48.57 156 eP P 10 51 50.2 +0.5
comp=Z,48nm,1.1s
JTS JuntasAbangare 49.27 347 eP P 10 51 52.1 -3.5
JTS pmax pmax
comp=Z,15nm,1.0s
JTS JuntasAbangare 49.27 347 LR LR 11 08 14.2
comp=Z,213nm,18.4s,baz=112,slow=31
QSPA South Pole Qui 51.84 180 P P 10 52 14.1 -0.5
comp=Z,34nm,1.0s,baz=146,slow=1.7,SNR=61
QSPA South Pole Qui 51.84 180 eP P 10 52 14.9 +0.3
comp=Z,36nm,0.9s
NVL N'lazarevskaya 53.37 156 eP P 10 52 26.7 +1.0
NVL pmax pmax
comp=Z,26nm,1.1s
CELP Cerrillos 56.78 10 eP P 10 52 50.5 -0.3
SDDR Presa de Saban 57.21 5 eP P 10 52 55.2 +1.3
comp=Z,7.4nm,0.6s
GTBY Guantanamo Bay 58.02 0 eP P 10 52 59.6 0.0
comp=Z,28nm,0.6s
SYO Syowa Base 62.75 158 ⇓eP P 10 53 30.0 -1.3
SYO Syowa Base 62.75 158 ⇑epP pP 10 53 38.6 -3.4
PPT Papeete 67.11 265 P P 10 54 00.4 -0.1
comp=Z,94nm,0.9s,baz=195,slow=2.4,SNR=12
035A Encino 68.42 338 ⇑P P 10 54 09.0 +0.7
baz=69
034A Hebbronville 68.71 338 ⇑P P 10 54 10.8 +0.6
baz=69
934A Benavides 69.16 338 ⇓P P 10 54 13.8 +0.8
baz=70
933A Laredo 69.40 337 ⇑P P 10 54 15.3 +0.9
baz=70,SNR=9.2
738A Farr-Stevens R 69.55 341 ⇓P P 10 54 16.1 +0.7
baz=70
835A Beeville 69.61 339 ⇓P P 10 54 16.7 +0.9
baz=70
834A Tilden 69.66 338 ⇓P P 10 54 16.9 +0.8
baz=70,SNR=9.0
833A Chaparral WMA, 70.10 338 ⇓P P 10 54 19.6 +0.9
baz=70
735A Kenedy 70.14 339 ⇓P P 10 54 20.0 +1.1
baz=71
832A Faith Ranch, C 70.24 337 ⇓P P 10 54 20.4 +0.7
baz=71
734A La Parita Cree 70.34 338 ⇓P P 10 54 20.9 +0.7
baz=71
636A Smothers Creek 70.53 340 ⇑P P 10 54 22.2 +0.8
baz=71
HKT Hockley 70.65 341 eP P 10 54 21.1 -0.9
HKT pmax pmax
comp=Z,40nm,1.9s
HKT Hockley 70.65 341 eP P 10 54 21.1 -0.9
comp=Z,40nm,1.9s
732A Laxson Ranch, 70.65 337 ⇓P P 10 54 22.4 +0.3
baz=71,SNR=8.8
634A China Grove, S 70.79 339 ⇓P P 10 54 23.4 +0.4
baz=71
536A Bastrop 71.09 340 ⇑P P 10 54 25.7 +1.0
baz=72
633A Saathoff Ranch 71.10 338 ⇑P P 10 54 25.6 +0.8
baz=72
535A Dale 71.18 340 ⇑P P 10 54 25.9 +0.6
baz=72
438A Sam Houston St 71.33 342 ⇑P P 10 54 26.5 +0.4
baz=72
632A Uvalde 71.33 338 ⇓P P 10 54 26.7 +0.5
baz=72
534A Blanco 71.43 339 ⇑P P 10 54 27.1 +0.3
baz=72
631A Perdido Creek 71.48 337 ⇑P P 10 54 27.4 +0.2
baz=72
340A Bronson 71.59 343 ⇓P P 10 54 28.2 +0.4
baz=72,SNR=5.8
533A Kerrville 71.63 338 ⇓P P 10 54 28.5 +0.4
baz=72,SNR=10
339A Huntington 71.66 343 ⇑P P 10 54 28.8 +0.7
baz=72,SNR=7.0
436A Wall Ranch, Ga 71.68 341 ⇓P P 10 54 28.8 +0.5
baz=72
338A Crockett 71.86 342 ⇓P P 10 54 30.2 +0.8
baz=72,SNR=6.7
435B Jarrell 71.90 340 ⇑P P 10 54 30.1 +0.5
baz=72
LRAL Lakeview Retre 71.90 350 eP P 10 54 29.6 0.0
comp=Z,15nm,0.8s
532A Rocksprings 71.94 338 ⇓P P 10 54 30.7 +0.7
baz=72,SNR=14
337A Centerville 71.97 342 ⇓P P 10 54 30.6 +0.6
baz=72
434A Burnet 72.12 339 ⇓P P 10 54 31.1 +0.2
baz=73
531A Rocksprings 72.17 337 ⇓P P 10 54 31.9 +0.6
baz=73,SNR=10
JCT Junction City 72.24 338 eP P 10 54 32.3 +0.6
JCT Junction City 72.24 338 eP P 10 54 32.3 +0.6
JCT Junction City 72.24 338 ⇓P P 10 54 32.1 +0.4
baz=73
336A Riesel 72.28 341 ⇓P P 10 54 32.5 +0.6
baz=73
433A Art 72.29 339 ⇓P P 10 54 32.4 +0.4
baz=73
335A Moody 72.33 340 ⇓P P 10 54 32.5 +0.3
baz=73
530A J-C Ranch, Com 72.40 337 ⇑P P 10 54 32.9 +0.2
baz=73,SNR=14
TXAR Lajitas Array 72.41 334 P P 10 54 33.3 +0.4
comp=Z,3.7nm,0.7s,baz=156,slow=8.0,SNR=30
238A Jacksonville 72.44 342 ⇓P P 10 54 33.8 +1.0
baz=73
334A Lometa 72.60 340 ⇑P P 10 54 33.9 +0.1
baz=73,SNR=16
237A Washetta, Mont 72.60 342 ⇑P P 10 54 34.4 +0.6
baz=73
432A Menard 72.61 338 ⇑P P 10 54 34.3 +0.3
baz=73
529A Stev Forest Ra 72.66 336 ⇑P P 10 54 34.6 +0.4
baz=73
431A Sonora 72.67 337 ⇑P P 10 54 34.4 +0.1
baz=73
333A Richland Sprin 72.80 339 ⇓P P 10 54 35.3 +0.3
baz=73
430A Baggett Ranch, 72.96 337 ⇑P P 10 54 36.2 +0.2
baz=73,SNR=12
WHTX Lake Whitney 73.01 340 eP P 10 54 36.5 +0.2
comp=Z,19nm,0.8s
WHTX Lake Whitney 73.01 340 ⇑P P 10 54 36.5 +0.2
baz=74,SNR=6.5
429A Davenport Ranc 73.02 336 ⇓P P 10 54 36.7 +0.3
baz=73
138A Matatall Enter 73.06 343 ⇓P P 10 54 36.8 +0.3
baz=74
332A Millersview 73.07 338 ⇑P P 10 54 36.6 0.0
baz=74,SNR=14
137A Heron Place, G 73.16 342 ⇑P P 10 54 37.6 +0.5
baz=74
331A San Angelo 73.20 338 ⇑P P 10 54 37.4 0.0
baz=74,SNR=12
234A Clairette 73.20 340 ⇑P P 10 54 37.3 -0.1
baz=74,SNR=11
KMSC Kings Mountain 73.39 355 ⇓P P 10 54 38.3 -0.1
baz=74
233A Rising Star 73.43 339 ⇑P P 10 54 38.8 0.0
baz=74
232A Coleman 73.52 339 ⇓P P 10 54 39.1 -0.1
baz=74
330A Mertzon 73.52 337 ⇓P P 10 54 39.1 -0.2
baz=74
135A Vickery Place, 73.54 341 ⇓P P 10 54 39.2 -0.1
baz=74
OXF Oxford 73.72 348 eP P 10 54 39.6 -0.7
OXF pmax pmax
comp=Z,51nm,1.2s
OXF Oxford 73.72 348 eP P 10 54 39.5 -0.7
comp=Z,52nm,1.2s
134A White-Moore Ra 73.73 340 ⇓P P 10 54 40.3 -0.2
baz=74
231A Bronte 73.75 338 ⇑P P 10 54 40.4 -0.3
baz=74
329A Wagon Wheel Ra 73.84 336 ⇓P P 10 54 40.9 -0.3
baz=74
SWET Sewanee 73.91 351 eP P 10 54 41.5 -0.1
comp=Z,36nm,0.8s
230A Sterling City 73.95 337 ⇓P P 10 54 41.6 -0.2
baz=74
CPCT Cooper Cave 73.98 352 eP P 10 54 43.2 +1.4
133A Hamilton Ranch 73.99 339 ⇓P P 10 54 42.2 +0.2
baz=74,SNR=7.6
ABTX Abilene, Hawle 74.21 339 eP P 10 54 43.5 +0.3
comp=Z,31nm,1.3s
ABTX Abilene, Hawle 74.21 339 ⇑P P 10 54 43.2 -0.1
baz=75
Z35A Perchaven, San 74.23 341 ⇑P P 10 54 43.6 +0.2
baz=75,SNR=10.0
229A Bryant Ranch, 74.24 337 ⇑P P 10 54 43.2 -0.3
baz=75
Z34A Collier Ranch, 74.44 341 ⇓P P 10 54 44.6 0.0
baz=75
131A Roby 74.47 338 ⇓P P 10 54 44.9 +0.1
baz=75
MIAR Mount Ida 74.53 344 eP P 10 54 43.3 -1.8
MIAR pmax pmax
comp=Z,18nm,1.3s
MIAR Mount Ida 74.53 344 eP P 10 54 43.2 -1.8
comp=Z,18nm,1.3s
130A Snyder 74.56 338 ⇓P P 10 54 45.5 +0.1
baz=75
Z33A Whitaker Ranch 74.59 340 ⇑P P 10 54 45.4 0.0
baz=75
228A UT Block 9, Go 74.62 336 ⇑P P 10 54 45.3 -0.5
baz=75
Z32A Haskell 74.80 339 ⇓P P 10 54 46.8 +0.1
baz=75,SNR=7.0
129A Stewart Farms, 74.87 337 ⇓P P 10 54 47.4 +0.2
baz=75
Y34A Reagan Ranch, 74.95 341 ⇓P P 10 54 47.2 -0.4
baz=75,SNR=5.1
Z31A Sharp Cattle R 75.00 339 ⇑P P 10 54 47.8 -0.1
baz=75,SNR=7.1
128A Castleberry Fa 75.05 336 ⇓P P 10 54 48.0 -0.2
baz=76
WVT Waverly 75.06 350 eP P 10 54 47.6 -0.5
WVT pmax pmax
comp=Z,33nm,1.4s
WVT Waverly 75.06 350 eP P 10 54 47.6 -0.5
comp=Z,33nm,1.4s
MNTX Cornudas Mount 75.16 334 eP P 10 54 48.2 -0.6
comp=Z,3.3nm,0.9s
Y33A Hilltop Ranch, 75.23 340 ⇓P P 10 54 49.1 0.0
baz=76
Z30A Sanderson Ranc 75.26 338 ⇑P P 10 54 49.3 0.0
baz=76
127A Arkansas Junct 75.38 336 ⇑P P 10 54 50.1 0.0
baz=76
Z29A Hungry Hill Ra 75.41 337 ⇑P P 10 54 50.1 -0.2
baz=76,SNR=8.4
Y32A R-V Farms, Ver 75.45 339 ⇓P P 10 54 50.3 -0.1
baz=76
CASY Casey 75.55 182 eP P 10 54 51.1 +0.4
comp=Z,32nm,1.0s
X34A Smith Ranch, M 75.58 341 ⇑P P 10 54 51.5 +0.4
baz=76,SNR=6.8
Y31A Rekieta Farm, 75.64 339 ⇓P P 10 54 51.3 -0.2
baz=76
Z28A Tucker Farm, M 75.64 337 ⇓P P 10 54 51.3 -0.4
baz=76
X33A Lawton 75.70 340 ⇓P P 10 54 51.7 -0.2
baz=76
Y30A Stafford Cattl 75.74 338 ⇓P P 10 54 52.0 -0.2
baz=76
JSRW J. Sargeant Re 75.76 358 eP P 10 54 52.0 0.0
X32A Elmer 75.80 340 ⇑P P 10 54 52.3 -0.1
baz=76
PARMO Parma 75.88 348 eP P 10 54 54.9 +2.1
Z27A Tatum 75.92 336 ⇑P P 10 54 53.1 -0.2
baz=76
Y29A Porterfield Fa 75.95 338 ⇓P P 10 54 53.6 +0.2
baz=76
PBMO Poplar Bluff 76.10 348 eP P 10 54 53.5 -0.6
comp=Z,15nm,0.8s
Z26A Caprock 76.13 336 ⇓P P 10 54 54.5 +0.1
baz=77
W34A Bridge Creek, 76.17 341 eP P 10 54 54.7 +0.2
comp=Z,35nm,1.3s
W34A Bridge Creek, 76.17 341 ⇓P P 10 54 54.9 +0.3
baz=77
Y28A McKinney Farm, 76.17 337 ⇑P P 10 54 54.8 +0.1
baz=77
X31A McDonald Ranch 76.19 339 ⇑P P 10 54 54.8 +0.2
baz=77,SNR=10
X30A Coker Ranch, T 76.27 338 ⇑P P 10 54 55.7 +0.6
baz=77
W33A Caddo, Fort Co 76.27 341 ⇑P P 10 54 55.4 +0.3
baz=77,SNR=9.1
319A Douglas 76.30 331 ⇓P P 10 54 56.0 +0.5
baz=77
TUL1 Tulsa 76.33 343 eP P 10 54 55.3 -0.1
comp=Z,39nm,1.1s
TUL1 Tulsa 76.33 343 ⇓P P 10 54 56.1 +0.7
baz=77
Z25A Roswell 76.38 335 ⇓P P 10 54 56.2 +0.3
baz=77
MSTX Muleshoe 76.39 337 eP P 10 54 56.1 +0.2
comp=Z,9.5nm,0.8s
MSTX Muleshoe 76.39 337 ⇓P P 10 54 56.3 +0.4
baz=77
Y27A Causey 76.43 336 ⇓P P 10 54 56.5 +0.3
baz=77
W32A Sentinel 76.45 340 ⇓P P 10 54 56.2 +0.1
baz=77,SNR=10
X29A Tulia 76.51 338 ⇓P P 10 54 56.8 +0.3
baz=77
Z24A Sheeppen Canyo 76.64 334 ⇓P P 10 54 57.5 +0.1
baz=77
V34A Guthrie 76.67 342 eP P 10 54 57.4 +0.1
comp=Z,30nm,1.2s
V34A Guthrie 76.67 342 ⇑P P 10 54 57.5 +0.1
baz=77
Y26A Elida 76.68 336 ⇑P P 10 54 57.6 +0.1
baz=77
W31A Holland Ranch, 76.70 339 ⇑P P 10 54 58.2 +0.6
baz=77
X28A Dimmitt 76.72 337 ⇑P P 10 54 58.3 +0.5
baz=77
121A Cookes Peak, D 76.77 332 ⇓P P 10 54 58.5 +0.3
baz=77
SIUC Southern Illin 76.82 349 eP P 10 54 56.6 -1.5
comp=Z,19nm,0.9s
V33A Lossen Ranch, 76.86 341 ⇓P P 10 54 59.1 +0.7
baz=77
AMTX Amarillo 76.91 338 eP P 10 54 59.3 +0.5
comp=Z,24nm,1.0s
AMTX Amarillo 76.91 338 ⇑P P 10 54 59.5 +0.7
baz=77
V32A Arapaho 76.96 340 ⇓P P 10 55 00.3 +1.3
baz=77
Y25A Mesa, Roswell 76.96 335 ⇓P P 10 54 59.3 +0.2
baz=77
X27A F and S Farms, 77.12 337 ⇓P P 10 55 00.9 +0.8
baz=78
W29A Amraillo 77.12 338 ⇑P P 10 55 00.9 +0.9
baz=78
Z22A Elephant Butte 77.13 333 ⇓P P 10 55 01.1 +1.0
baz=78
Y24A Capitan 77.21 335 ⇓P P 10 55 00.8 +0.2
baz=78,SNR=9.3
V31A Spring Creek L 77.22 340 ⇓P P 10 55 01.5 +1.0
baz=78
U34A Anderson Ranch 77.25 342 eP P 10 55 01.3 +0.7
comp=Z,20nm,1.0s
U34A Anderson Ranch 77.25 342 ⇓P P 10 55 01.3 +0.7
baz=78
X26A CR and CF Fran 77.25 336 ⇑P P 10 55 01.5 +0.7
baz=78
U33A Lingo Farm, Me 77.39 341 ⇑P P 10 55 02.3 +1.0
baz=78
Y23A Lovelace Mesa, 77.42 334 ⇑P P 10 55 02.4 +0.6
baz=78
V30A Spur Ranch, Mi 77.44 339 ⇑P P 10 55 02.7 +1.0
baz=78
W27A Bowe Ranch, En 77.49 337 ⇓P P 10 55 03.1 +1.0
baz=78
X25A Clemmons Ranch 77.50 336 ⇓P P 10 55 03.1 +0.9
baz=78
U32A Winter Ranch, 77.57 341 ⇑P P 10 55 03.6 +1.2
baz=78
TUC Tucson 77.72 330 eP P 10 55 04.6 +1.2

TUC				pmax	pmax		
	comp=Z,21nm,1.3s						
TUC	Tucson	77.72	330	eP	P	10 55 04.6	+1.2
	comp=Z,21nm,1.3s						
W26A	Owens Ranch, T	77.73	336	⇑P	P	10 55 04.4	+1.0
	baz=78						
V28A	Channing	77.88	338	⇑P	P	10 55 05.3	+1.1
	baz=78						
BLO	Bloomington	77.89	351	eP	P	10 55 03.2	-0.8
BLO				pmax	pmax		
	comp=Z,16nm,0.8s						
BLO	Bloomington	77.89	351	eP	P	10 55 03.2	-0.8
	comp=Z,16nm,0.8s						
MVL	Millersville	78.03	359	eP	P	10 55 02.5	-2.3
	comp=Z,288nm,2.9s						
T33A	Patterson Ranc	78.04	341	⇑P	P	10 55 06.4	+1.5
	baz=78						
X23A	Hourglass Bar	78.06	334	⇑P	P	10 55 06.4	+1.0
	baz=78						
W25A	X Bar L Ranch,	78.07	336	⇑P	P	10 55 06.2	+0.8
	baz=78						
U30A	WK&E Inc. Balk	78.15	339	⇓P	P	10 55 06.9	+1.2
	baz=79						
214A	Organ Pipe Nat	78.23	328	⇓P	P	10 55 07.1	+0.9
	baz=79						
LAZ	Ladron	78.23	334	eP	P	10 55 07.4	+1.1
	comp=Z,7.4nm,1.1s						
T32A	Huddler Ranch,	78.31	341	⇑P	P	10 55 07.6	+1.2
	baz=79						
W24A	Lazy 6 Ranch,	78.37	335	⇑P	P	10 55 07.3	+0.2
	baz=79,SNR=7.1						
V26A	Tequesquite Ra	78.39	337	⇑P	P	10 55 08.0	+0.9
	baz=79						
T31A	Randall Ranch,	78.42	340	⇓P	P	10 55 08.6	+1.5
	baz=79						
ANMO	Albuquerque	78.48	334	*d* iP	P	10 55 06.3	-1.4
ANMO				pmax	pmax		
	comp=Z,69nm,1.3s						
ANMO	Albuquerque	78.48	334	eP	P	10 55 08.6	+0.8
	comp=Z,21nm,1.2s						
BKZ	Black Stump Fm	78.55	229	eP	P	10 55 09.6	+1.5
	comp=Z,20nm,0.9s						
W23A	Werner Place,	78.58	335	⇓P	P	10 55 08.6	+0.4
	baz=79,SNR=6.9						
ACSO	Alum Creek Sta	78.58	354	eP	P	10 55 07.8	0.0
	comp=Z,18nm,0.9s						
U27A	Thompson Grove	78.68	338	⇓P	P	10 55 09.4	+0.7
	baz=79						
V25A	Rancho No Teng	78.69	336	⇓P	P	10 55 09.4	+0.6
	baz=79						
S32A	Newby Ranch, P	78.80	341	⇓P	P	10 55 10.5	+1.3
	baz=79						
V24A	Rampart Ranch,	78.80	336	⇑P	P	10 55 10.1	+0.7
	baz=79						
S31A	Mullinville	78.86	341	⇑P	P	10 55 10.8	+1.3
	baz=79						
T29A	Hugoton	78.92	339	⇑P	P	10 55 11.1	+1.2
	baz=79						
U26A	Atchley Ranch,	78.93	337	⇓P	P	10 55 11.2	+1.1
	baz=79						
DBIC	Dimbokro	79.07	72	eP	P	10 55 11.9	+0.7
DBIC				pmax	pmax		
	comp=Z,18nm,0.8s						
DBIC	Dimbokro	79.07	72	P	P	10 55 11.8	+0.7
	comp=Z,13nm,0.7s,baz=201,slow=5.3,SNR=11						
DBIC	Dimbokro	79.07	72	eP	P	10 55 11.9	+0.7
	comp=Z,18nm,0.8s						
T28A	Walsh	79.12	338	⇑P	P	10 55 11.8	+0.8
	baz=80						
V23A	Ortiz Mt. (NFS	79.12	335	⇑P	P	10 55 12.2	+1.0
	baz=80						
R33A	Olander Ranch,	79.14	342	⇑P	P	10 55 12.2	+1.2
	baz=80						
U25A	Circle Dot Ran	79.14	336	⇓P	P	10 55 12.1	+0.9
	baz=80						
S30A	Montezuma	79.14	340	⇑P	P	10 55 12.2	+1.1
	baz=80						
T27A	Campo	79.24	338	⇑P	P	10 55 12.7	+1.0
	baz=80						
S29A	Ulysses	79.30	339	⇓P	P	10 55 13.3	+1.3
	baz=80						
X18A	Snowflake	79.36	331	⇑P	P	10 55 13.5	+1.0
	baz=80						
R32A	Long Quarter,	79.43	342	⇓P	P	10 55 13.5	+0.9
	baz=80						
U24A	Moreno Valley	79.43	336	⇓P	P	10 55 13.9	+1.0
	baz=80						
S28A	Manter	79.49	339	⇑P	P	10 55 13.7	+0.7
	baz=80						
R31A	Burdett	79.51	341	⇓P	P	10 55 13.8	+0.8
	baz=80						
V22A	San Miguel Ran	79.52	334	⇓P	P	10 55 14.4	+1.0
	baz=80,SNR=8.6						
T26A	Comanche Natio	79.61	337	⇑P	P	10 55 14.5	+0.8
	baz=80						
U23A	El Rito	79.65	335	⇑P	P	10 55 14.9	+0.8
	baz=80,SNR=6.7						
R30A	Dighton	79.70	340	⇓P	P	10 55 15.3	+1.2
	baz=80						
Q33A	Connelly Farm,	79.76	342	⇑P	P	10 55 15.2	+0.8
	baz=80						
T25A	Trinidad	79.82	337	⇓P	P	10 55 16.0	+0.9
	baz=80,SNR=15						
X16A	Lo Mia Camp, P	79.83	330	⇑P	P	10 55 15.5	+0.4
	baz=80,SNR=7.5						
U22A	Llaves	79.92	335	⇓P	P	10 55 16.1	+0.5
	baz=80,SNR=9.7						
Q32A	Meitler Ranch,	79.93	342	⇑P	P	10 55 16.1	+0.8
	baz=80						
S26A	Kim	79.98	338	⇑P	P	10 55 16.3	+0.6
	baz=80,SNR=14						
Y14A	Wickenburg	80.03	329	⇓P	P	10 55 16.6	+0.5
	baz=80						
T24B	San Luis	80.06	336	⇓P	P	10 55 16.8	+0.5
	baz=80						
R29A	Marienthal	80.06	340	⇑P	P	10 55 16.9	+0.8
	baz=80						
P33A	Williams Farm,	80.14	343	⇑P	P	10 55 16.8	+0.3
	baz=81						
Q31A	Ellis	80.15	341	⇓P	P	10 55 17.3	+0.8
	baz=81						
R28A	Tribune	80.17	339	⇓P	P	10 55 17.1	+0.4
	baz=81,SNR=9.6						
T23A	Casias Ranch,	80.25	335	⇑P	P	10 55 17.6	+0.2
	baz=81						
S25A	Robets Cordova	80.31	337	⇓P	P	10 55 18.2	+0.6
	baz=81						
BOSA	Boshof	80.33	119	P	P	10 55 18.4	+0.3
	comp=Z,14nm,0.8s,baz=215,slow=6.6,SNR=13						
Q30A	Quinter	80.34	341	⇑P	P	10 55 18.3	+0.7
	baz=81,SNR=12						
R27A	Eads	80.40	338	⇑P	P	10 55 18.3	+0.4
	baz=81,SNR=10						
Q29A	Oakley	80.45	340	⇑P	P	10 55 19.0	+0.8
	baz=81						
Y12C	Blythe	80.50	328	⇑P	P	10 55 19.0	+0.6
	baz=81						
TSUM	Tsumeb	80.52	107	P	P	10 55 19.1	-0.1
	comp=Z,1.7nm,0.9s,baz=239,slow=19,SNR=2.9						
TSUM	Tsumeb	80.52	107	eP	P	10 55 17.1	-2.2
	comp=Z,8.9nm,1.1s						
S24A	Houchin Ranch,	80.53	336	⇑P	P	10 55 19.5	+0.6
	baz=81,SNR=7.6						
P32A	Huiting Farm,	80.54	342	⇑P	P	10 55 19.2	+0.7
	baz=81						
R26A	Arlington	80.60	338	⇓P	P	10 55 19.8	+0.7
	baz=81,SNR=15						
P31A	Stockton	80.63	341	⇓P	P	10 55 20.1	+1.0
	baz=81						
SDCO	Great Sand Dun	80.72	336	eP	P	10 55 19.8	-0.1
	comp=Z,3.1nm,0.9s						
WUAZ	Wupatki	80.77	331	eP	P	10 55 20.6	+0.5
	comp=Z,16nm,1.3s						
WUAZ	Wupatki	80.77	331	⇓P	P	10 55 20.8	+0.7
	baz=81,SNR=6.0						
BC3	Big Chuckawall	80.81	327	⇑P	P	10 55 21.4	+1.1
	baz=81						
Q28A	Sharon Springs	80.85	339	⇓P	P	10 55 21.1	+0.8
	baz=81						
P30A	Selden	80.88	341	⇓P	P	10 55 21.4	+1.0
	baz=81						
KSCO	Kaye Shedlock'	81.02	339	eP	P	10 55 22.4	+1.1
	comp=Z,40nm,1.4s						
KSCO	Kaye Shedlock'	81.02	339	⇑P	P	10 55 22.1	+0.8
	baz=82						
R24A	Sanders Place,	81.04	337	⇑P	P	10 55 22.3	+0.8
	baz=82,SNR=8.0						
O32A	Brockman Farm,	81.06	342	⇑P	P	10 55 22.5	+1.2
	baz=82						
P29A	Atwood	81.11	340	⇑P	P	10 55 22.7	+1.1
	baz=82						
S22A	4UR Ranch, Cre	81.15	335	⇑P	P	10 55 22.8	+0.5
	baz=82,SNR=7.1						
Q26A	Hugo	81.20	338	⇑P	P	10 55 22.9	+0.7
	baz=82						
PFO	Pinyon Flat Ob	81.20	326	⇑P	P	10 55 23.0	+0.6
	baz=82						
O31A	Woolen Ranch,	81.22	342	⇓P	P	10 55 23.2	+1.0
	baz=82						
R23A	Moffat	81.23	336	⇑P	P	10 55 23.1	+0.5
	baz=82						
MVCO	Mesa Verde	81.23	334	eP	P	10 55 23.7	+1.1
	comp=Z,19nm,1.3s						
MVCO	Mesa Verde	81.23	334	⇓P	P	10 55 23.0	+0.4
	baz=82,SNR=7.0						
P28A	Saint Francis	81.31	340	⇓P	P	10 55 23.6	+0.9
	baz=82						
W13A	Hualapai Mount	81.40	329	⇓P	P	10 55 24.3	+0.8
	baz=82						
Q25A	Bedland, Calha	81.41	338	⇓P	P	10 55 24.4	+1.0
	baz=82						
O30A	MW Ranch, Wils	81.42	341	⇓P	P	10 55 24.5	+1.2
	baz=82						
P27A	Ficken Ranch,	81.52	339	⇑P	P	10 55 24.5	+0.6
	baz=82						
MURC	Murrieta	81.52	326	⇑P	P	10 55 24.9	+0.9
	baz=82						
O29A	4D Ranch, Culb	81.56	341	⇓P	P	10 55 24.8	+0.7
	baz=82						
Q24A	Divide	81.73	337	⇑P	P	10 55 25.8	+0.6
	baz=82,SNR=6.2						
P26A	Davis Ranch, A	81.74	338	⇑P	P	10 55 26.3	+1.2
	baz=82						
O28A	Krutsinger Ran	81.83	340	⇓P	P	10 55 26.5	+1.0
	baz=82,SNR=9.3						
GMRC	Granite Mounta	81.86	327	⇓P	P	10 55 27.1	+1.3
	baz=82						
U15A	North Rim	81.93	331	⇑P	P	10 55 27.2	+0.9
	baz=82,SNR=8.6						
P25A	Willow Gulch B	81.94	338	⇑P	P	10 55 26.8	+0.6
	baz=82						
PV01	Paradox Valley	82.09	334	eP	P	10 55 27.9	+0.8
	comp=Z,364nm,0.8s						
BGNE	Belgrade	82.12	343	eP	P	10 55 27.3	+0.4
	comp=Z,44nm,1.1s						
BGNE	Belgrade	82.12	343	⇓P	P	10 55 27.5	+0.6
	baz=83						
P24A	Kohler Place,	82.16	337	⇑P	P	10 55 28.0	+0.6
	baz=83						
N29A	Votaw Ranch, W	82.17	341	⇑P	P	10 55 28.1	+0.8
	baz=83						
HEC	Hector,Ludlow	82.19	327	⇓P	P	10 55 27.9	+0.4
	baz=83						
M31A	Lambtecht Ranc	82.26	342	⇑P	P	10 55 28.8	+1.1
	baz=83						
BFSC	Mount Baldy Ra	82.26	326	⇓P	P	10 55 28.3	+0.3
	baz=83						
N28A	Pribbeno Ranch	82.29	340	⇓P	P	10 55 28.9	+1.0
	baz=83						
P23A	Jefferson	82.32	337	⇑P	P	10 55 29.0	+0.6
	baz=83						
O26A	Horse Wrangler	82.36	339	⇑P	P	10 55 29.5	+1.2
	baz=83						
PV04	Paradox Valley	82.44	334	eP	P	10 55 29.8	+1.0
PV10	Paradox Valley	82.47	334	eP	P	10 55 28.8	-0.3
	comp=Z,162nm,0.8s						
O25A	Wiggins	82.48	338	⇑P	P	10 55 29.6	+0.7
	baz=83,SNR=6.1						
SMCO	Snowmass	82.50	336	eP	P	10 55 30.4	+1.0
	comp=Z,42nm,1.4s						
ISCO	Idaho Springs	82.64	337	eP	P	10 55 30.9	+0.9
ISCO				pmax	pmax		
	comp=Z,21nm,1.5s						
ISCO	Idaho Springs	82.64	337	eP	P	10 55 30.9	+0.9
	comp=Z,21nm,1.5s						
ISCO	Idaho Springs	82.64	337	⇓P	P	10 55 30.3	+0.3
	baz=83						
LONY	Lake Ozonia	82.65	1	eP	P	10 55 33.2	+3.6
	comp=Z,41nm,1.4s						
N27A	Anderson Farm,	82.67	340	⇑P	P	10 55 30.9	+1.0
	baz=83						
GSC	Goldstone	82.79	327	⇑P	P	10 55 31.3	+0.6
	baz=83						
LBTB	Lobatse	82.81	116	eP	P	10 55 32.1	+0.9
LBTB				pmax	pmax		
	comp=Z,15nm,0.8s						
LBTB	Lobatse	82.81	116	eP	P	10 55 32.1	+0.9
	comp=Z,15nm,0.8s						
BSC	Santa Cruz Isl	82.95	324	⇑P	P	10 55 32.4	+1.0
	baz=83						
EDW2	Edwards Air Fo	82.95	326	⇓P	P	10 55 32.2	+0.8
	baz=83						
L30A	Spencer Herefo	83.01	342	⇑P	P	10 55 32.9	+1.4
	baz=84						
L31A	Butterfield Fa	83.01	343	⇓P	P	10 55 33.1	+1.5
	baz=84						
O23A	Lake Granby, G	83.11	337	⇑P	P	10 55 33.5	+1.0
	baz=84						
SHPR	Sheep Range	83.13	329	eP	P	10 55 34.2	+1.8
O22A	Kremmling	83.26	336	⇑P	P	10 55 34.0	+0.8
	baz=84						
L29A	Maesberg Ranch	83.31	341	⇑P	P	10 55 33.4	+0.3
	baz=84,SNR=6.6						
CCUT	Cedar City	83.32	330	eP	P	10 55 35.4	+1.9
	comp=Z,8.8nm,1.0s						
ARUT	Antelope Range	83.56	331	eP	P	10 55 36.0	+1.3
ARUT	Antelope Range	83.56	331	eP	P	10 55 36.0	+1.3
	comp=Z,253nm,1.3s						
SRU	San Rafael	83.64	333	eP	P	10 55 35.9	+0.8
SRU				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SRU	San Rafael	83.64	333	eP	P	10 55 35.9	+0.8
	comp=Z,10nm,1.1s						
K30A	Basset	83.67	342	⇓P	P	10 55 35.5	+0.6
	baz=84,SNR=9.7						
M25A	Palm-Egli Farm	83.68	339	⇓P	P	10 55 36.1	+1.0
	baz=84						
MVU	Marysvale	83.72	332	eP	P	10 55 36.8	+1.2
	comp=Z,14nm,1.4s						
N23A	Red Feather La	83.74	337	⇑P	P	10 55 36.7	+1.1
	baz=84						
O20A	White River Ci	83.78	335	eP	P	10 55 37.2	+1.5
	comp=Z,69nm,1.9s						
O20A	White River Ci	83.78	335	⇓P	P	10 55 36.6	+0.9
	baz=84						
FURC	Furnace Creek,	83.81	327	⇓P	P	10 55 37.1	+1.4
	baz=84						
N22A	Wattenberg Ran	83.81	337	⇑P	P	10 55 36.7	+0.7
	baz=84						
ISA	Isabella	83.82	326	eP	P	10 55 37.2	+1.3
ISA				pmax	pmax		
	comp=Z,14nm,1.0s						
ISA	Isabella	83.82	326	eP	P	10 55 37.2	+1.3
	comp=Z,14nm,1.0s						
ISA	Isabella	83.82	326	⇑P	P	10 55 36.5	+0.6
	baz=84						
K29A	Lazy Trails An	83.92	342	⇑P	P	10 55 36.8	+0.6
	baz=84						
M24A	Cheyenne	83.93	338	⇓P	P	10 55 36.9	+0.5
	baz=84						
PHWY	Pilot Hill	83.97	338	eP	P	10 55 37.4	+0.6
	comp=Z,13nm,1.1s						
ECSD	EROS Data Cent	84.01	345	eP	P	10 55 36.8	+0.2
	comp=Z,23nm,1.0s						
ECSD	EROS Data Cent	84.01	345	⇓P	P	10 55 37.3	+0.7
	baz=84						
TMUT	Trail Mountain	84.05	333	eP	P	10 55 39.1	+1.8
	comp=Z,32nm,1.6s						
K28A	Ten Mile Ranch	84.14	341	⇑P	P	10 55 38.4	+1.0
	baz=85						
M23A	Laramie	84.20	338	⇑P	P	10 55 39.1	+1.2
	baz=85						
VES	Vestal, Richgr	84.24	326	⇓P	P	10 55 37.8	-0.2
	baz=85						
J30A	Dallas	84.26	343	⇓P	P	10 55 38.2	+0.4
	baz=85						
L25A	Engebretsen Ra	84.32	339	⇓P	P	10 55 38.9	+0.5
	baz=85						
K27A	Flueckinger Fa	84.36	340	⇑P	P	10 55 39.1	+0.6
	baz=85						
M22A	Cedar Creek Ra	84.40	337	⇓P	P	10 55 39.2	+0.2
	baz=85						
N20A	Spence Gulch,	84.42	336	⇑P	P	10 55 39.2	+0.2
	baz=85						
GRAC	Grapevine Rang	84.47	327	⇑P	P	10 55 39.9	+0.8
	baz=85						
J29A	Okreek	84.53	342	⇓P	P	10 55 39.6	+0.3
	baz=85,SNR=7.2						
SPMN	St. Paul	84.73	348	eP	P	10 55 39.8	-0.4
	comp=Z,11nm,0.7s						
SPMN	St. Paul	84.73	348	⇑P	P	10 55 40.2	0.0
	baz=85						
J28A	Allard Ranch,	84.77	341	⇑P	P	10 55 41.1	+0.5
	baz=85,SNR=8.4						
L23A	Garrett	84.78	338	⇑P	P	10 55 41.0	+0.1
	baz=85						
I30A	Oacoma	84.80	343	⇓P	P	10 55 40.8	+0.2
	baz=85						
J27A	Elkhorn Farm,	84.81	341	⇑P	P	10 55 41.4	+0.6
	baz=85,SNR=9.5						
MPU	Maple Canyon	84.84	333	eP	P	10 55 42.3	+1.1
	comp=Z,27nm,1.3s						
R11A	Troy Canyon, C	84.89	329	⇓P	P	10 55 42.1	+0.7
	baz=85						
NLU	North Lily Min	84.94	332	eP	P	10 55 43.1	+1.4
	comp=Z,21nm,1.4s						
DAU	Daniels Canyon	85.06	333	eP	P	10 55 43.5	+1.2
DAU	Daniels Canyon	85.06	333	eP	P	10 55 43.5	+1.2
K24A	Anderson Ranch	85.08	339	⇓P	P	10 55 42.3	+0.1
	baz=86						
I29A	Vivian Onida	85.11	342	⇓P	P	10 55 42.5	+0.3
	baz=86						
J26A	Sides Ranch, S	85.15	340	⇑P	P	10 55 42.9	+0.5
	baz=86						
BRSD	Miller	85.19	343	eP	P	10 55 42.5	-0.1
	comp=Z,16nm,0.8s						
BRSD	Miller	85.19	343	⇑P	P	10 55 43.0	+0.5
	baz=86						
JLU	Jordanelle	85.29	333	eP	P	10 55 44.0	+0.6
	comp=Z,28nm,1.8s						
I28A	Midland	85.30	342	⇑P	P	10 55 43.6	+0.4
	baz=86,SNR=9.4						
TPH	Tonopah	85.32	328	eP	P	10 55 44.8	+1.2
TPH				pmax	pmax		
	comp=Z,20nm,1.2s						
TPH	Tonopah	85.32	328	eP	P	10 55 44.8	+1.2
	comp=Z,20nm,1.2s						
K23A	Bowen Ranch, D	85.35	338	⇑P	P	10 55 44.6	+1.1
	baz=86						
DUG	Dugway	85.42	332	eP	P	10 55 45.3	+1.3
DUG				pmax	pmax		
	comp=Z,15nm,1.0s						
DUG	Dugway	85.42	332	eP	P	10 55 45.2	+1.3
	comp=Z,15nm,1.0s						
DUG	Dugway	85.42	332	⇑P	P	10 55 44.9	+0.9
	baz=86						
K22A	Casper	85.52	337	eP	P	10 55 45.3	+0.8
	comp=Z,21nm,1.0s						
K22A	Casper	85.52	337	⇑P	P	10 55 44.9	+0.4
	baz=86						
I27A	Quinn	85.58	341	⇓P	P	10 55 45.1	+0.5
	baz=86						
J24A	Dixon Ranch, L	85.60	339	⇓P	P	10 55 45.3	+0.5
	baz=86						
H29A	Onida	85.66	342	⇑P	P	10 55 44.8	0.0
	baz=86,SNR=9.1						
K21A	Alcova	85.72	337	⇑P	P	10 55 45.6	+0.1
	baz=86						
G30A	Faulkton	85.88	343	⇑P	P	10 55 45.8	-0.1
	baz=86,SNR=6.7						
H28A	Mission Ridge	85.89	342	⇓P	P	10 55 46.1	+0.1
	baz=86,SNR=8.9						
I25A	Rochford	85.98	340	⇓P	P	10 55 47.0	+0.3
	baz=86						
NVAR	Mina Array Bea	86.08	328	P	P	10 55 46.0	-1.4
	comp=Z,2.1nm,0.8s,baz=166,slow=5.7,SNR=12						
H27A	Howes	86.12	341	⇑P	P	10 55 47.2	0.0
	baz=87,SNR=5.8						
G29A	Hoven	86.12	343	⇑P	P	10 55 47.3	+0.1
	baz=87,SNR=7.9						
BGU	Big Grassy Mou	86.14	332	eP	P	10 55 48.8	+1.2
	comp=Z,3.9nm,1.3s						
RSSD	Black Hills	86.16	340	eP	P	10 55 51.4	+3.8
RSSD				pmax	pmax		
	comp=Z,6.0nm,1.1s						
RSSD	Black Hills	86.16	340	eP	P	10 55 51.4	+3.8
	comp=Z,5.7nm,1.1s						
J22A	Midwest	86.20	338	⇓P	P	10 55 47.6	-0.2
	baz=87						
HWUT	Hardware Ranch	86.22	334	eP	P	10 55 47.7	-0.2
	comp=Z,18nm,1.1s						
G28A	Parade	86.25	342	⇓P	P	10 55 48.1	+0.3
	baz=87,SNR=7.9						
J21A	Lysite	86.43	337	⇑P	P	10 55 49.4	+0.5
	baz=87						
H25A	Fruitdale	86.50	340	⇓P	P	10 55 49.7	+0.6
	baz=87						
F30A	Leola	86.53	344	⇑P	P	10 55 49.9	+0.7
	baz=87						
PDAR	Pinedale Array	86.58	335	P	P	10 55 48.5	-1.2
	comp=Z,6.0nm,1.2s,baz=145,slow=5.4,SNR=17						
WAKR	Walker	86.62	327	eP	P	10 55 50.4	+0.4
	comp=Z,12nm,1.2s						
J20A	Shoshoni	86.64	337	⇓P	P	10 55 50.3	+0.4
	baz=87						
I22A	9 Mile Ranch,	86.64	338	⇓P	P	10 55 50.3	+0.5
	baz=87						
CMB	Columbia Colle	86.64	326	eP	P	10 55 50.1	+0.2
CMB				pmax	pmax		
	comp=Z,11nm,1.3s						
CMB	Columbia Colle	86.64	326	eP	P	10 55 50.1	+0.2
	comp=Z,11nm,1.3s						
F29A	Eureka	86.71	343	⇓P	P	10 55 50.1	+0.1
	baz=87,SNR=11						
G27A	Dupree	86.78	342	⇑P	P	10 55 50.7	+0.3
	baz=87						
HVU	Hansel Valley	86.80	333	eP	P	10 55 51.4	+0.6
HVU				pmax	pmax		
	comp=Z,14nm,0.9s						
HVU	Hansel Valley	86.80	333	eP	P	10 55 51.4	+0.6
	comp=Z,14nm,0.9s						
I21A	Big Trails, Te	86.81	337	⇑P	P	10 55 50.8	0.0
	baz=87						
ELK	Elko	86.81	331	eP	P	10 55 51.9	+0.9
ELK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ELK	Elko	86.81	331	eP	P	10 55 51.9	+0.9
	comp=Z,8.7nm,1.2s						
J19A	Crowheart	86.86	336	⇓P	P	10 55 51.0	0.0
	baz=87						
G26A	Maurine	86.87	341	⇓P	P	10 55 50.5	-0.4
	baz=87						
F28A	McLaughlin	86.95	342	⇑P	P	10 55 51.5	+0.3
	baz=87						
G25A	Newell	86.99	341	⇓P	P	10 55 51.7	+0.2
	baz=87						
E30A	Jud	87.14	344	⇓P	P	10 55 52.3	+0.2
	baz=88,SNR=6.8						
I20A	Worland	87.19	337	⇑P	P	10 55 52.6	0.0
	baz=88						
F27A	Lemmon	87.26	342	⇓P	P	10 55 52.7	0.0
	baz=88						
E29A	Napoleon	87.36	343	⇑P	P	10 55 53.1	-0.1
	baz=88,SNR=8.6						
F26A	Lodgepole	87.41	341	⇓P	P	10 55 53.8	+0.3
	baz=88						
G23A	Biddle	87.53	339	⇓P	P	10 55 53.8	-0.2
	baz=88						
REDW	Red Top Meadow	87.53	335	eP	P	10 55 54.8	+0.4
	comp=Z,20nm,1.2s						
I19A	Meeteetse	87.54	336	⇓P	P	10 55 54.0	-0.3
	baz=88						
E28A	Huff	87.61	343	⇓P	P	10 55 54.2	-0.1
	baz=88						
H20A	Greybull	87.63	337	⇑P	P	10 55 54.3	-0.3
	baz=88						
E27A	Carson	87.67	342	⇓P	P	10 55 54.4	-0.3
	baz=88						
LOHW	Long Hollow	87.67	335	eP	P	10 55 55.6	+0.6
	comp=Z,10nm,1.3s						
D30A	Buchanan	87.68	344	⇓P	P	10 55 55.0	+0.3
	baz=88,SNR=8.2						
TPAW	Teton Pass	87.68	335	eP	P	10 55 55.6	+0.5
	comp=Z,11nm,0.9s						
D29A	Pettibone, Tap	87.81	344	⇓P	P	10 55 55.4	0.0
	baz=88						
FXWY	Fox Creek	87.84	335	eP	P	10 55 56.3	+0.5
	comp=Z,12nm,1.4s						
F24A	Ekalaka	87.86	340	⇑P	P	10 55 55.9	+0.3
	baz=88						
E26A	Carlson Angus	87.93	342	⇓P	P	10 55 56.0	+0.1
	baz=88						
I17A	Pilgrim Ck.	87.94	335	⇓P	P	10 55 56.2	0.0
	baz=88						

F23A Volborg 88.01 339 ⇑P P 10 55 56.4 0.0
baz=88
IMW Indian Meadow 88.04 335 eP P 10 55 57.0 +0.2
comp=Z,16nm,1.3s
G21A Lodge Grass 88.07 338 ⇑P P 10 55 56.8 +0.1
baz=88
H19A Powell 88.10 337 ⇑P P 10 55 57.2 +0.2
baz=88
FLWY Flagg Ranch 88.12 335 eP P 10 55 58.1 +1.0
comp=Z,85nm,2.1s
D28A Regan 88.16 343 ⇑P P 10 55 57.0 0.0
baz=89,SNR=8.5
TOA0 Torodi Ar. Sit 88.16 72 eP P 10 55 57.1 -0.6
TORD Torodi Ar. Bea 88.16 72 P P 10 55 56.0 -1.8
comp=Z,4.7nm,0.8s,baz=250,slow=4.0,SNR=8.9
C30A Mose, Pekin 88.18 345 ⇓P P 10 55 57.2 +0.2
baz=89,SNR=12
AGMN Agassiz Nation 88.24 346 eP P 10 55 57.1 -0.2
comp=Z,11nm,0.8s
AGMN Agassiz Nation 88.24 346 ⇑P P 10 55 57.3 0.0
baz=89,SNR=7.9
H18A Shoshone NF, C 88.32 336 ⇓P P 10 55 58.1 0.0
baz=89
G20A Bridger 88.36 337 ⇓P P 10 55 58.3 +0.1
baz=89
H17A Grant Village 88.36 336 ⇑P P 10 55 58.2 -0.1
baz=89
D26A Manning 88.45 342 ⇓P P 10 55 58.7 +0.3
baz=89
YMR Madison River 88.73 335 eP P 10 56 01.3 +1.3
comp=Z,16nm,1.0s
B30A Myrvik Farm, E 88.86 345 ⇓P P 10 56 00.4 +0.2
baz=89,SNR=9.0
HLID Hailey 88.95 333 eP P 10 56 02.3 +1.3
comp=Z,18nm,1.4s
HLID Hailey 88.95 333 ⇓P P 10 56 01.2 +0.2
baz=89
QLMT Earthquake Lak 89.03 335 eP P 10 56 03.0 +1.7
B29A Wagenman Farm, 89.09 344 ⇓P P 10 56 01.5 +0.2
baz=90
C26A Wahner Farm, P 89.11 342 ⇑P P 10 56 01.6 +0.1
baz=90
F19A Roth Farm, Mol 89.16 337 ⇑P P 10 56 01.7 -0.1
baz=90
C25A Freed Ranch, W 89.29 342 ⇑P P 10 56 03.5 +1.2
baz=90
B28A Dugan Ranch, T 89.30 344 ⇑P P 10 56 02.4 +0.2
baz=90,SNR=7.2
A30A Hoffart Farm, 89.33 345 ⇓P P 10 56 02.3 -0.1
baz=90,SNR=8.2
MFID Camas Ranch 89.34 332 eP P 10 56 03.7 +1.0
comp=Z,14nm,1.4s
B27A Peters Farms, 89.46 343 ⇓P P 10 56 02.4 -0.6
baz=90
E20A Meyer Farm, Mu 89.50 338 ⇑P P 10 56 02.7 -0.6
baz=90
A29A Manning Farm, 89.50 344 ⇓P P 10 56 03.0 -0.2
baz=90,SNR=12
MCMT McKenzie Canyo 89.50 334 eP P 10 56 04.8 +1.1
comp=Z,8.2nm,1.3s
WVOR Wild Horse Val 89.58 329 eP P 10 56 06.5 +2.5
WVOR pmax pmax
comp=Z,36nm,2.1s
WVOR Wild Horse Val 89.58 329 eP P 10 56 06.5 +2.5
comp=Z,36nm,2.1s
E19A Rath Farm, Rou 89.66 338 ⇓P P 10 56 03.8 -0.3
baz=90
DLMT Dillon 89.89 335 eP P 10 56 07.0 +1.7
comp=Z,19nm,1.6s
D20A Manuel Ranch, 90.03 338 ⇓P P 10 56 05.1 -0.8
baz=90
ULM Lac du Bonnet 90.12 347 P P 10 56 04.8 -1.3
comp=Z,2.1nm,0.7s,baz=97,slow=1.9,SNR=3.7
DGMT Dagmar 90.22 341 eP P 10 56 12.3 +5.7
comp=Z,16nm,1.1s
DGMT Dagmar 90.22 341 ⇑P P 10 56 06.6 -0.1
baz=91
D19A Cripps Ranch, 90.32 338 ⇓P P 10 56 07.1 0.0
baz=91
C21A Desert Coulee 90.40 339 ⇑P P 10 56 06.8 -0.8
baz=91
M02C Callahan 90.48 326 ⇓P P 10 56 03.1 -5.0
baz=91
C20A Veseth Ranch, 90.56 339 ⇑P P 10 56 05.6 -2.7
baz=91
K05A Summer Lake 90.75 328 eP P 10 56 15.4 +5.9
comp=Z,215nm,2.9s
HRY Holter Researc 90.83 336 eP P 10 56 10.9 +1.3
comp=Z,3.9nm,1.0s
C19A Slack Wire Ran 90.88 338 ⇓P P 10 56 09.0 -0.8
baz=91
A22A Carney Farms, 91.15 340 ⇑P P 10 56 09.6 -1.4
baz=92
EGMT Eagleton 91.35 338 ⇓P P 10 56 11.7 -0.3
baz=92
CHMT Chamberlain Mo 91.47 335 eP P 10 56 14.2 +1.5
A20A Cobblestone Ra 91.59 339 ⇓P P 10 56 12.2 -0.9
baz=92
SWMT Swartz Lake 92.24 335 eP P 10 56 16.6 +0.5
comp=Z,2.4nm,0.9s
JTMT Jette 92.54 335 eP P 10 56 17.7 +0.2
comp=Z,3.7nm,1.1s
YBMT Yellow Bay 92.55 335 eP P 10 56 18.9 +1.3
BSMT Bassoo Peak 92.80 335 eP P 10 56 18.9 +0.1
comp=Z,2.8nm,0.9s
WALA Waterton Lakes 93.56 336 eP P 10 56 22.4 +0.2
comp=Z,0.2nm,1.0s
NEW Newport 93.95 333 eP P 10 56 24.0 +0.1
NEW pmax pmax
comp=Z,14nm,1.5s
NEW Newport 93.95 333 eP P 10 56 24.0 +0.1
comp=Z,14nm,1.5s
YKA Yellowknife Ar 105.40 342 Pdiff Pdif 10 57 12.6 -2.3
comp=Z,0.3nm,0.9s,baz=139,slow=4.9,SNR=3.6
WRA Warramunga Arr 115.63 211 PKP PKPdf 11 01 47.1 -2.0
comp=Z,1.1nm,0.5s,baz=162,slow=1.5,SNR=11
ILAR Eielson Array 116.91 333 PKP PKPdf 11 01 48.6 -1.5
comp=Z,1.0nm,0.8s,baz=180,slow=2.0,SNR=11
GERES GERESS Array B 117.10 48 PKP PKPdf 11 01 49.0 -2.0
comp=Z,2.0nm,0.8s,baz=90,slow=1.3,SNR=12
COLA College 117.31 333 i PKIKP PKPdf 11 01 48.4 -2.4
VYHS Vyhne 119.99 50 ePKIKP PKPdf 11 01 56.8 +0.3
VYHS Vyhne 119.99 50 ePKP PKPdf 11 01 56.8 +0.3
GZR Gura Zlata 121.13 55 ⇑PKIKP PKPdf 11 02 03.2 +4.3
GZR Gura Zlata 121.13 55 ⇑i P PKPdf 11 02 03.2 +4.3
DRGR 121.66 53 ⇓PKIKP PKPdf 11 01 59.8 -0.1
DRGR 121.66 53 ⇓i P PKPdf 11 01 59.8 -0.1
TRPA Tarpa 122.09 52 ⇑i P PKPdf 11 02 00.8 +0.3
KOLS Kolonicke sedl 122.25 51 ePKIKP PKPdf 11 02 04.9 +4.1
KOLS Kolonicke sedl 122.25 51 e PKPdf 11 02 04.9 +4.1
VOIR 122.61 55 ⇓PKIKP PKPdf 11 02 03.2 +1.5
VOIR 122.61 55 ⇓i P PKPdf 11 02 03.2 +1.5
DOPR Dopca 123.04 55 ⇑i P PKPdf 11 02 03.7 +1.2
MLR Muntele Rosu 123.21 56 ⇓i P PKPdf 11 02 02.4 -0.5
MLR Muntele Rosu 123.21 56 PKP PKPdf 11 02 02.4 -0.5
comp=Z,1.5nm,0.9s,baz=158,slow=6.3,SNR=5.6
BUR08 Bucovina Ar. S 123.56 53 ePKPdf PKPdf 11 02 04.1 +0.5
PLOR Plostina 123.80 55 ⇓PKIKP PKPdf 11 02 02.4 -1.6
PLOR Plostina 123.80 55 ⇓i P PKPdf 11 02 02.4 -1.6
VRI Vrincioaia 123.86 55 ⇓PKIKP PKPdf 11 02 04.6 +0.6
VRI Vrincioaia 123.86 55 ⇓i P PKPdf 11 02 04.6 +0.6
TESR Tescani 124.05 55 ⇓i P PKPdf 11 02 04.2 -0.2
TIRR Tirgusor 124.43 57 ⇑PKIKP PKPdf 11 02 05.4 +0.3
TIRR Tirgusor 124.43 57 ⇑i P PKPdf 11 02 05.4 +0.3
SUW Suwalki 124.61 45 ePKIKP PKPdf 11 02 04.6 -0.6
SUW Suwalki 124.61 45 ePKPdf PKPdf 11 02 04.5 -0.6
TNA Tin City 125.27 329 ePKPdf PKPdf 11 02 06.0 -0.1
BRTR Keskin Array B 126.20 65 PKP PKPdf 11 02 09.1 +0.1
comp=Z,4.5nm,0.9s,baz=194,slow=3.4,SNR=12
BR131 Keskin Array S 126.21 65 ePKPdf PKPdf 11 02 08.4 -0.5
GAMB Gambell 126.37 327 ePKPdf PKPdf 11 02 08.4 +0.2
AK02 Malin Array Si 127.06 51 ePKPdf PKPdf 11 02 08.8 -1.2
KIEV Kiev 127.07 50 i PKIKP PKPdf 11 02 06.7 -3.3
KIEV Kiev 127.07 50 ePKPdf PKPdf 11 02 09.2 -0.8
AK01 Malin Array Si 127.07 51 ePKPdf PKPdf 11 02 09.2 -0.7
AKASG Malin Array Be 127.08 50 PKP PKPdf 11 02 09.2 -0.7
comp=Z,4.5nm,1.0s,baz=264,slow=2.7,SNR=9.0
FINES FINESS Array B 128.11 37 PKP PKPdf 11 02 11.8 +0.2
comp=Z,4.3nm,0.9s,baz=56,slow=4.8,SNR=5.7
KAF Kangasniemi 128.35 36 ePKIKP PKPdf 11 02 11.1 -1.0
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 128.35 36 ep PKPdf 11 02 11.1 -1.0
comp=Z,2.2nm,0.7s
MALT Malatya 129.11 68 ⇑PKIKP PKPdf 11 02 15.4 +0.9
MALT Malatya 129.11 68 ⇑i P PKPdf 11 02 15.4 +0.9
JOF Joensuu 130.77 35 ePKIKP PKPdf 11 02 15.6 -1.0
JOF Joensuu 130.77 35 ep PKPdf 11 02 15.6 -1.0
comp=Z,0.3nm,0.4s
OBN Obninsk 132.43 46 i PKIKP PKPdf 11 02 17.0 -3.0
OBN e 11 09 27.8
OBN eSS SS 11 22 54.3 +33
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN MLR MLR
comp=Z,695nm,22.0s
KIV Kislovodsk 133.98 62 ePKIKP PKPdf 11 02 24.2 +0.8
KIV pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 134.06 63 PKP PKPdf 11 02 23.4 -0.1
comp=Z,3.4nm,0.9s,baz=118,slow=12,SNR=4.6
KLMR Klimovskoe 134.51 39 ePKIKP PKPdf 11 02 22.9 -0.8
KLMR pmax pmax
comp=Z,31nm,1.3s
BILL Bilibino 135.55 332 i PKIKP PKPdf 11 02 25.4 -0.1
BILL i SS SS 11 22 56.0 -1.7
BILL pmax pmax
comp=Z,7.0nm,1.4s
PETK Petropavlovsk- 141.13 310 PKP PKPdf 11 02 35.4 -0.8
comp=Z,7.2nm,0.6s,baz=124,slow=7.4,SNR=5.6
IKRD Kardeh 143.68 78 eP PKPdf 11 02 42.2 +0.6
GEYT Alibeck 143.69 76 PKP PKPbc 11 02 39.2 +0.2
comp=Z,27nm,0.9s,baz=256,slow=6.0,SNR=28
IEMG Emamgholi 143.96 77 eP PKPab 11 02 39.4 -0.1
PSI Prapat 144.17 170 PKP PKPab 11 02 40.5 -0.1
comp=Z,44nm,0.8s,baz=202,slow=3.2,SNR=28
ISRO Mashad 144.27 79 eP PKPdf 11 02 41.9 -0.5
TIXI Tiksi 144.47 347 d i PKIKP PKPab 11 02 38.8 -1.2
TIXI Tiksi 144.47 347 ePKPdf PKPab 11 02 39.0 -0.9
IMYA Miami 144.77 79 eP PKPdf 11 02 43.3 -0.1
ARU Arti 144.78 44 PKIKP PKPab 11 02 41.6 +0.1
ARU Arti 144.78 44 ePKPdf PKPdf 11 02 42.2 -0.4
AKTO Aktyubinsk 145.13 54 PKIKP PKPbc 11 02 43.0 0.0
AKTO pmax pmax
comp=Z,34nm,1.0s
AKTO Aktyubinsk 145.13 54 PKPbc PKPbc 11 02 43.0 0.0
comp=Z,19nm,0.8s,baz=180,slow=3.4,SNR=29
SVE Sverdlovsk 145.82 43 ePKP2 PKPdf 11 02 44.6 +0.3
SVE pmax pmax
comp=Z,40nm,1.0s
IPM Ipoh 146.07 173 ePKPdf PKPdf 11 02 45.6 -0.5
AB31 Akbulak array 146.41 56 i PKP2 PKPdf 11 02 45.9 +0.3
AB31 pmax pmax
comp=Z,47nm,0.9s
ABKAR Akbulak array 146.41 56 ePKPdf PKPdf 11 02 45.9 +0.3
POO Poona 146.67 118 eP PKPdf 11 02 47.0 0.0
KULM Kulim 146.83 173 ePKPbc PKPbc 11 02 48.4 -0.8
HYB Hyderabad 149.04 125 i PKP PKPbc 11 02 54.0 -1.0
YSS Yuzh-Sakhalins 150.97 299 ePKIKP PKPbc 11 02 58.1 -0.7
YSS Yuzh-Sakhalins 150.97 299 ePKPbc PKPbc 11 02 58.1 -0.7
ASAJ Asahikawa 151.12 294 ePKPbc PKPbc 11 02 59.2 0.0
KBL Kabul 151.20 87 ePKIKP PKPbc 11 02 59.9 -0.1
KBL Kabul 151.20 87 ePKPbc PKPbc 11 02 59.9 -0.1
YAK Yakutsk 151.80 335 ePKIKP PKPbc 11 02 59.0 -1.2
YAK e 11 03 08.3
YAK pmax pmax
comp=Z,83nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK Yakutsk 151.80 335 ePKPbc PKPbc 11 02 59.4 -0.8
BRVK Borovoye 152.20 47 ePKIKP PKPbc 11 03 01.4 0.0
BRVK Borovoye 152.20 47 ePKPbc PKPbc 11 03 01.4 0.0
BVA0 Borovoye Array 152.27 47 i PKIKP PKPdf 11 02 55.3 +0.5
BVA0 pmax pmax
comp=Z,23nm,1.1s
BVAR Borovoye Array 152.27 47 PKP PKPdf 11 02 55.1 +0.3
comp=Z,7.3nm,0.9s,baz=243,slow=1.7,SNR=7.0
BVAR PKPbc PKiKP 11 03 02.2 +0.3
comp=Z,14nm,0.9s,baz=298,slow=3.1,SNR=22
MJAR Matsushiro Arr 153.41 276 PKPbc PKPbc 11 03 04.3 -0.4
comp=Z,2.5nm,0.8s,baz=170,slow=1.9,SNR=6.9
MJAR PKPab PKPab 11 03 16.7 -0.3
comp=Z,3.4nm,0.7s,baz=146,slow=3.0,SNR=7.2
KK31 Karatay Array 153.81 69 i PKIKP PKPbc 11 03 05.0 -0.3
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 153.81 69 ePKIKP PKPdf 11 02 58.3 +0.9
KKAR e 11 03 05.1
KKAR Karatay Array 153.81 69 ePKPdf PKPdf 11 02 58.3 +0.9
KKAR ePKPbc PKPbc 11 03 05.1 -0.2
EKS2 Erkin-Say 156.20 70 ePKIKP PKPdf 11 03 01.8 +1.0
EKS2 Erkin-Say 156.20 70 ePKPdf PKPdf 11 03 01.8 +1.0
AAK Ala-Archa 156.73 70 PKP PKPdf 11 03 00.7 -0.9
comp=Z,4.1nm,1.0s,baz=63,slow=1.6,SNR=7.6
AAK PKPab PKPab 11 03 32.0 +0.7
comp=Z,12nm,1.0s,baz=207,slow=3.8,SNR=8.7
AAK Ala-Archa 156.73 70 PKP PKPdf 11 03 00.7 -0.9
AAK ePKPdf PKPdf 11 03 02.1 +0.6
AAK PKPab PKPab 11 03 32.0 +0.7
TKM2 Tokmak 2 157.54 69 ePKIKP PKPdf 11 03 02.7 0.0
TKM2 Tokmak 2 157.54 69 ePKPdf PKPdf 11 03 02.7 0.0
KSH Kashi 157.69 78 ePKP PKPdf 11 03 03.5 +0.7
KSH epPKP pPKPdf 11 03 15.5 +1.2
KSH esPKP 11 03 19.3
KSH eSKS SKSdf 11 10 04.5 -1.5
KSH eSKKS SKKSac 11 14 01.0 -0.4
KSH eSS SS 11 27 08.0 -2.8
KSH LR LR
comp=Z,460nm,8.4s
KLR Kul'dur 157.79 308 ePKIKP PKPdf 11 02 58.7 -3.8
KURK Kurchatov 157.86 48 ePKIKP PKPdf 11 03 02.7 +0.2
KURK Kurchatov 157.86 48 ePKPdf PKPdf 11 03 02.7 +0.2
NVS Novosibirsk 158.07 34 ⇑i PKIKP PKPdf 11 02 58.1 -4.5
NVS pmax pmax
comp=E,18nm,2.5s
NVS pmax pmax
comp=Z,27nm,2.5s
NVS pmax pmax
comp=N,13nm,3.0s
ZAA0 Zalesovo Array 159.36 35 ePKPdf PKPdf 11 03 03.3 -0.9
ZALV Zalesovo Beam 159.36 35 PKP PKPdf 11 03 03.5 -0.7
comp=N,6.4nm,1.0s,baz=256,slow=3.1,SNR=9.6
ZALV PKPab PKPab 11 03 42.3 +0.4
comp=N,6.2nm,0.9s,baz=294,slow=5.8,SNR=6.2
KOLN Koldanda 159.44 115 eP PKPdf 11 03 04.9 -0.5
CMAR Chiang Mai Arr 159.50 164 PKP PKPdf 11 03 04.7 -0.8
comp=N,2.8nm,0.9s,baz=224,slow=2.1,SNR=17
DANN Dangsing 159.90 114 eP PKPdf 11 03 05.6 -0.4
comp=N,22nm,1.1s
GKN Gorkha 160.32 116 eP PKPdf 11 03 05.6 -0.7
DMN Daman 160.41 118 eP PKPdf 11 03 06.2 -0.4
PKIN Phulchoki 160.59 118 eP PKPdf 11 03 06.0 -0.8
PKI Pulchoki 160.59 118 eP PKPdf 11 03 06.3 -0.6
RAMN Ramite 161.01 122 eP PKPdf 11 03 07.1 -0.1
GUN Gumba 161.13 118 eP PKPdf 11 03 07.1 -0.4
JIRN Jiri 161.19 119 eP PKPdf 11 03 07.1 -0.5
ODAN Odare 161.47 123 eP PKPdf 11 03 07.7 0.0
MK31 Makanchi Array 161.56 56 ePKIKP PKPdf 11 03 06.7 -0.2
MK31 Makanchi Array 161.56 56 ePKPdf PKPdf 11 03 06.7 -0.2
MKAR Makanchi Array 161.56 56 PKP PKPdf 11 03 05.6 -1.3
comp=N,1.7nm,0.8s,baz=30,slow=0.3,SNR=12
MKAR PKPab PKPab 11 03 52.5 +0.7
comp=N,1.4nm,0.8s,baz=278,slow=3.2,SNR=6.3
KSRS Korea Array 161.64 274 PKP PKPdf 11 03 06.0 -1.2
comp=N,2.2nm,0.8s,baz=183,slow=1.4,SNR=4.4
KSRS PKPab PKPab 11 03 51.6 -0.9
comp=N,2.5nm,0.8s,baz=108,slow=4.1,SNR=5.5
KSAR Wonju Array Be 161.67 274 PKIKP PKPdf 11 03 06.0 -1.3
KSAR 11 03 51.6
KSAR Wonju Array Be 161.67 274 PKP PKPdf 11 03 06.0 -1.3
KSAR PKPab PKPab 11 03 51.6 -1.0
TAPN Taplejung 162.03 123 eP PKPdf 11 03 08.0 -0.3
CN2 Changchun 163.46 296 ePKP PKPdf 11 03 11.0 +2.2
WMQ Urumqi 166.11 62 ePKP PKPdf 11 03 12.3 +1.1
WMQ LR LR
comp=N,130nm,22.8s
WMQ LR LR
comp=N,130nm,21.8s
WMQ LR LR
comp=N,190nm,21.2s
KMI Kunming 166.66 172 PKP PKPdf 11 03 12.0 -0.4
NJ2 Nanjing 166.80 246 ePKP PKPdf 11 03 11.8 -0.2
GYA Guiyang 167.97 189 ePKP PKPdf 11 03 13.3 +0.1
GYA pPKP pPKPdf 11 03 24.8 +0.1
GYA PKPab PKPab 11 04 22.0 +1.5
GYA PKS PKSdf 11 06 44.5 -1.5
GYA PP PP 11 08 12.5 +4.2
GYA SKKS 11 14 54.3
GYA SS SS 11 28 56.8 +2.3
GYA AMB AMB
comp=N,120nm,8.4s
GYA LR LR
comp=N,120nm,21.8s
GYA LR LR
comp=N,110nm,21.6s
GYA LR LR
comp=N,120nm,24.0s
SONM Songino Array 170.49 353 PKP PKPdf 11 03 12.3 -1.8
comp=N,3.2nm,1.1s,baz=176,slow=2.2,SNR=8.9
SONM PKPab PKPab 11 04 31.7 +0.5
comp=N,2.1nm,1.0s,baz=20,slow=1.7,SNR=5.1
CD2 Chengdu 172.48 174 PKP PKPdf 11 03 16.0 +0.5
CD2 pPKP pPKPdf 11 03 27.3 +0.3
CD2 sPKP 11 03 31.0
CD2 PKS PKSdf 11 06 47.0 -0.9
CD2 PP PP 11 08 35.0 +4.2
CD2 SKS SKSdf 11 10 13.8 -2.4
CD2 SKKS SKKSac 11 15 16.8 +1.3
CD2 SS SS 11 29 40.0 +1.0
CD2 AMB AMB
comp=N,240nm,6.2s
HHC Hu-ho-hao-te 174.15 297 ePKP PKPdf 11 03 17.0 +1.1
HHC pPKP pPKPdf 11 03 28.5 +1.1
HHC sPKP 11 03 32.0
HHC PP PP 11 08 38.0 -2.4
HHC SKS SKSdf 11 10 14.8 -1.5
HHC SS SS 11 29 57.0 -0.7
HHC AMB AMB
comp=N,41nm,7.0s
HHC LR LR
comp=N,290nm,20.6s
HHC LR LR
comp=N,420nm,20.9s
HHC LR LR
comp=N,750nm,19.7s
XAN Xi'an 174.46 219 PKP PKPdf 11 03 16.3 +0.1
GTA Gaotai 176.07 74 PKP PKPdf 11 03 17.3 +0.7
GTA pPKP pPKPdf 11 03 27.8 -0.3
GTA sPKP 11 03 31.8
GTA PKPab PKPab 11 05 00.5 +4.0
GTA PP PP 11 08 53.0 +3.1
GTA SKS SKSdf 11 10 15.0 -1.9
GTA SKKS SKKSac 11 15 33.8 +0.7
GTA SS SS 11 30 13.5 -3.1
GTA AMB AMB
comp=N,150nm,6.5s
LZH Lanzhou 177.59 164 ePKP PKPdf 11 03 17.8 +0.8
LZH pPKP pPKPdf 11 03 28.0 -0.5
LZH sPKP 11 03 33.0
LZH PKPab PKPab 11 04 59.8 -3.2

IDC 28 10:49:46.2±1.8, 25.94N×128.60E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/46, mbtmp3.6/4, Error ellipse: s-maj=110.0km s-min=17.7km az=72.0
JMA 28 10:49:48.1±0.4, 25.89N×128.65E, h31km, M3.0
ISC 28 10:49:45.7±2.6, 25.91N±0.06×128.61E±0.04, h0km±17km, n16, σ1§61/23, mb3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.80	319	P	Pb	10 50 03.3	+0.8
JJT2	Tamagusuku 2	0.81	286	P	Pb	10 50 03.9	+1.3
JJT2				eS	Sn	10 50 15.8	-1.2
JOW	Kunigami	0.96	342	P	Pb	10 50 06.3	+1.0
JOW	Kunigami	0.96	342	Pn	Pb	10 50 06.5	+1.2
	5.8nm,0.3s,baz=140,slow=14,SNR=29						
JOW				Sn	Sg	10 50 14.0	-2.7
	20nm,0.3s,baz=140,slow=18,SNR=27						
JIH	Iheya	1.26	333	P	Pn	10 50 10.8	+0.3
JAGN	Aguni-jima	1.40	299	P	Pn	10 50 12.5	0.0
JOKE	Okinoerabujima	1.44	359	P	Pn	10 50 13.5	+0.4
JOKE				eS	Sn	10 50 30.5	-2.2
JKE	Kume jima 2	1.69	285	P	Pn	10 50 16.1	-0.3
JKE				eS	Sn	10 50 36.5	-2.3
JTK	Tokunoshima	1.89	9	P	Pn	10 50 19.8	+0.6
JTK				eS	Sn	10 50 42.0	-1.7
JMZ	Minamidaito 2	2.35	92	P	Pn	10 50 25.4	-0.1
JMZ				eS	Sn	10 50 51.5	-3.6
JAMN	Amaminishikomi	2.38	12	P	Pn	10 50 27.2	+1.4
JAM	Amami Oshima	2.64	19	P	Pn	10 50 31.3	+1.8
JAM				eS	Sn	10 51 01.8	-0.5
SONM	Songino Array	28.00	327	P	P	10 55 39.7	+1.4
	0.5nm,0.5s,baz=138,slow=9.5,SNR=4.2						
MKAR	Makanchi Array	42.00	312	P	P	10 57 38.2	-0.4
	0.4nm,0.7s,baz=83,slow=11,SNR=6.9						
WRA	Warramunga Arr	45.92	172	P	P	10 58 10.8	+0.6
	0.6nm,0.6s,baz=353,slow=8.5,SNR=5.4						
ASAR	Alice Springs	49.55	174	P	P	10 58 39.5	+1.0
	0.6nm,0.8s,baz=2.3,slow=11,SNR=5.2						

ISCJB 28 10:51:16.9±1.7, 37.9S±0.2×73.7W±0.4, h22km, mb4.2/3, Error ellipse: s-maj=45.2km s-min=23.7km az=173.4
IDC 28 10:51:16.7±3.9, 37.80S×73.18W, h0km, mb4.2/2, mb1 4.1/3, mb1mx3.7/25, mbtmp4.1/3, ML4.2/1, Error ellipse: s-maj=129.5km s-min=24.0km az=66.0
NEIC 28 10:51:21.6±0.9, 37.85S×73.17W, h35km, mb4.4/2, Error ellipse: s-maj=25.0km s-min=19.7km az=69.0
ISC 28 10:51:18.7±1.6, 37.9S±0.2×73.7W±0.3, h22km, n11, σ0§44/10, mb4.2/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.75	141	Pn	Pn	10 52 15.3	0.0
	4.4nm,0.3s,baz=314,slow=13,SNR=8.5						
PLCA				Lg	Lg	10 53 08.5	
	6.4nm,0.3s,baz=233,slow=22,SNR=2.8						
TRQA	Tornquist	9.23	95	Pn	Pn	10 53 25.4	-5.0
QSPA	South Pole Qui	52.38	180	eP	P	11 00 28.9	-0.1
	4.6nm,1.5s						
DBIC	Dimbokro	77.66	71	P	P	11 03 13.7	0.0
	3.9nm,0.8s,baz=219,slow=3.4,SNR=3.6						
DBIC	Dimbokro	77.66	71	eP	P	11 03 14.2	+0.5
	5.9nm,0.9s						
TOA0	Torodi Ar. Sit	86.74	71	eP	P	11 04 01.5	+0.2
TORD	Torodi Ar. Bea	86.74	71	P	P	11 04 01.1	-0.1
	0.3nm,0.4s,baz=226,slow=4.1,SNR=7.1						
ABKAR	Akbulak array	145.02	56	ePKPdf	PKPbc	11 10 52.9	-0.2
BRVK	Borovoye	150.87	47	ePKPbc	PKPbc	11 11 09.4	+0.6
BVAR	Borovoye Array	150.94	47	PKPbc	PKPbc	11 11 09.2	+0.2
	1.0nm,0.7s,baz=298,slow=3.2,SNR=5.4						
MKAR	Makanchi Array	160.16	56	PKPab	PKPab	11 11 55.4	-0.8
	0.4nm,0.7s,baz=305,slow=3.2,SNR=4.2						

ISCJB 28 10:54:03.2±0.4, 34.55S±0.07×72.57W±0.09, h10km, mb4.2/23, Error ellipse: s-maj=11.4km s-min=9.0km az=155.5
IDC 28 10:54:07.2±0.8, 34.46S×72.63W, h29km±4km, mb3.9/9, mb1 4.2/13, mb1mx4.0/30, mbtmp4.1/13, ML4.4/4, Error ellipse: s-maj=22.2km s-min=18.5km az=94.0
NEIC 28 10:54:08.4±0.4, 34.55S×72.53W, h35km, mb4.4/17, Error ellipse: s-maj=10.5km s-min=8.4km az=65.0
ISC 28 10:54:05.2±0.6, 34.62S±0.06×72.5W±0.1, h10km, n43, σ1§99/47, mb4.4/23, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.68	51	Pn	Pn	10 55 15.3	-0.7
	2.0nm,0.3s,baz=217,slow=11,SNR=12						
CFAA				Lg	Lg	10 56 25.0	
	1.8nm,0.3s,baz=145,slow=23,SNR=4.5						
PLCA	Paso Flores	6.30	166	Pn	Pn	10 55 40.0	+1.7
	7.3nm,0.3s,baz=336,slow=12,SNR=8.3						
PLCA				Sn	Sn	10 56 46.7	-3.6
	9.9nm,0.3s,baz=31,slow=12,SNR=6.9						
PLCA	Paso Flores	6.30	166	ePn	Pn	10 55 39.7	+1.5
	83nm,0.7s						
PLCA				Sn	Sn	10 56 46.7	-3.6
TRQA	Tornquist	9.17	115	ePn	Pn	10 56 19.4	+1.9
	40nm,1.2s						
LVC	Limon Verde	12.37	16	ePn	Pn	10 56 54.9	-6.8
CPUP	Villa Florida	15.47	62	Pn	Pn	10 57 44.5	+1.0
	0.2nm,0.3s,baz=162,slow=19,SNR=2.5						
LPAZ	La Paz	18.67	13	P	P	10 58 22.5	-1.7
	0.9nm,0.3s,baz=192,slow=7.7,SNR=27						
LPAZ	La Paz	18.67	13	eP	P	10 58 24.1	0.0
	14nm,0.7s						
SIV	San Ignacio	21.21	32	P	P	10 58 49.2	-1.9
	8.9nm,0.8s,baz=225,slow=13,SNR=8.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAML	Samuel	26.95	21	eP	P	10 59 48.3	+1.4
	3.2nm,0.8s						
BDFB	Brasilia	29.01	55	P	P	11 00 05.6	+0.1
	1.9nm,0.7s,baz=244,slow=8.1,SNR=3.1						
SDV	Santo Domingo	43.30	3	eP	P	11 02 07.7	+0.1
	8.9nm,1.0s						
SNAA	Sanae	51.16	158	eP	P	11 03 08.6	+0.5
	4.3nm,0.9s						
QSPA	South Pole Qui	55.62	180	P	P	11 03 41.4	+0.4
	2.6nm,0.9s,baz=236,slow=0.8,SNR=7.6						
QSPA	South Pole Qui	55.62	180	eP	P	11 03 41.6	+0.6
	6.7nm,1.0s						
JCT	Junction City	69.67	335	eP	P	11 05 14.6	-0.4
	3.5nm,0.8s						
TXAR	Lajitas Array	70.08	331	P	P	11 05 17.2	-0.4
	0.8nm,0.6s,baz=152,slow=8.5,SNR=11						
OXF	Oxford	70.57	345	eP	P	11 05 20.0	-0.3
	5.1nm,0.6s						
SWET	Sewanee	70.60	348	eP	P	11 05 19.4	-1.1
WVT	Waverly	71.82	347	eP	P	11 05 26.3	-1.5
	9.1nm,0.8s						
DBIC	Dimbokro	75.75	71	P	P	11 05 50.6	-0.8
	3.9nm,0.9s,baz=214,slow=3.5,SNR=2.7						
DBIC	Dimbokro	75.75	71	eP	P	11 05 51.0	-0.5
	6.7nm,0.8s						
ANMO	Albuquerque	76.14	332	eP	P	11 05 53.1	-0.3
	2.4nm,1.0s						
SDCO	Great Sand Dun	78.25	334	eP	P	11 06 04.6	-0.7
	1.9nm,0.7s						
BOSA	Boshof	80.13	118	P	P	11 06 16.9	+1.0
	3.2nm,0.9s,baz=310,slow=5.3,SNR=2.6						
ECSD	EROS Data Cent	81.02	343	eP	P	11 06 18.3	-1.6
	5.2nm,0.9s						
CCUT	Cedar City	81.22	328	eP	P	11 06 21.9	+0.5
	2.7nm,0.9s						
MPU	Maple Canyon	82.58	331	eP	P	11 06 28.3	-0.1
	4.6nm,0.9s						
DUG	Dugway	83.21	330	eP	P	11 06 31.3	-0.3
	3.0nm,1.2s						
HWUT	Hardware Ranch	83.90	332	eP	P	11 06 34.4	-0.8
	2.3nm,0.8s						
PDAR	Pinedale Array	84.14	334	P	P	11 06 33.5	-3.0
	0.8nm,0.9s,baz=151,slow=3.4,SNR=5.5						
PDAR				pP	PcP	11 06 44.5	+4.2
	0.7nm,0.9s,baz=264,slow=4.0,SNR=3.2						
NVAR	Mina Array Bea	84.17	326	P	P	11 06 33.2	-3.5
	0.8nm,0.7s,baz=145,slow=4.2,SNR=4.8						
HVU	Hansel Valley	84.53	331	eP	P	11 06 37.7	-0.7
	2.2nm,0.7s						
TOA0	Torodi Ar. Sit	84.79	70	eP	P	11 06 38.5	-1.6
TORD	Torodi Ar. Bea	84.79	70	P	P	11 06 38.6	-1.6
	0.7nm,0.9s,baz=247,slow=3.0,SNR=3.9						
TORD				pP	PcP	11 06 48.0	+4.5
	5.0nm,1.1s,baz=242,slow=2.9,SNR=13						
WRA	Warramunga Arr	120.03	209	PKP	PKPdf	11 12 55.2	-1.5
	0.3nm,0.5s,baz=156,slow=1.6,SNR=3.0						
WRA				pPKP	pPKPdf	11 13 04.8	+4.7
	0.5nm,0.5s,baz=173,slow=1.6,SNR=2.5						
ABKAR	Akbulak array	142.37	52	ePKPdf	PKPdf	11 13 40.1	+2.4
BVAR	Borovoye Array	148.00	43	PKPbc	PKPbc	11 13 49.2	-1.2
	0.8nm,0.6s,baz=286,slow=5.5,SNR=5.6						
BVAR				pPKPbc	pPKPbc	11 13 58.3	+4.5
	1.7nm,0.7s,baz=290,slow=3.9,SNR=6.2						
EKS2	Erkin-Say	152.61	63	ePKPab	PKPab	11 14 11.9	-0.6
AAK	Ala-Archa	153.14	63	PKPab	PKPab	11 14 13.3	-1.6
	2.3nm,0.8s,baz=217,slow=4.3,SNR=7.6						
AAK	Ala-Archa	153.14	63	ePKPab	PKPab	11 14 12.8	-2.1
ZALV	Zalesovo Beam	154.96	33	PKPbc	PKPbc	11 14 04.7	-1.8
	0.3nm,0.3s,baz=251,slow=7.7,SNR=4.8						
MKAR	Makanchi Array	157.47	50	PKPab	PKPab	11 14 30.8	-2.2
	0.5nm,0.8s,baz=287,slow=2.0,SNR=5.6						

IDC 28 10:58:24.2±1.1,34.̊44S×72.̊73W,h0km,mb3.7/4, mb1 3.7/5,mb1mx3.6/27,mbtmp3.6/5,Error ellipse: s-maj=43.9km s-min=26.0km az=95.0

ISC 28 10:58:28.6±1.9,33.̊8S±0.̊4×72.̊2W±0.̊2,h14km,n8,σ0§50/6, mb3.7/4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.98	58	Pn	Pb	10 59 38.5	0.0
	baz=299,slow=10,SNR=1.4						
SNAA	Sanae	51.80	158	P	P	11 07 30.5	-5.2
	0.8nm,0.9s,baz=285,slow=20,SNR=2.5						
QSPA	South Pole Qui	56.43	180	P	P	11 08 03.0	-6.6
	1.3nm,1.0s,baz=82,slow=2.1,SNR=3.6						
TXAR	Lajitas Array	69.52	331	P	P	11 09 37.0	+0.1
	0.4nm,0.8s,baz=144,slow=9.6,SNR=3.7						
TORD	Torodi Ar. Bea	84.25	70	P	P	11 11 00.4	+0.2
	0.5nm,0.9s,baz=258,slow=5.0,SNR=3.7						
BVAR	Borovoye Array	147.22	43	PKPbc	PKPbc	11 18 11.4	+0.5
	0.7nm,0.7s,baz=289,slow=4.5,SNR=4.5						
ZALV	Zalesovo Beam	154.12	32	PKPbc	PKPbc	11 18 26.9	-0.5
	0.3nm,0.3s,baz=333,slow=5.2,SNR=3.0						
MKAR	Makanchi Array	156.72	49	PKPab	PKPab	11 18 52.1	-0.4
	0.2nm,0.6s,baz=293,slow=3.4,SNR=4.1						

IDC 28 11:01:28.8±1.0,35.̊59S×72.̊55W,h0km,mb4.0/6, mb1 4.2/8,mb1mx4.0/28,mbtmp4.0/8,ML3.7/3,MS3.1/2, Ms1 3.1/2,ms1mx3.0/32,Error ellipse: s-maj=33.4km s-min=20.9km az=87.0

ISCJB 28 11:01:30.4±0.7,35.̊53S±0.̊08×72.̊6W±0.̊1,h20km,mb4.2/8, Error ellipse: s-maj=17.3km s-min=11.1km az=170.6

NEIC 28 11:01:34.4±0.5,35.̊50S×72.̊60W,h35km,mb4.7/4,Error ellipse: s-maj=13.8km s-min=8.9km az=81.0

ISC 28 11:01:32.1±0.8,35.̊51S±0.̊09×72.̊6W±0.̊1,h20km,n19, σ0§82/18,mb4.3/8,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.36	45	Pn	Pn	11 02 51.9	+1.0
	0.3nm,0.3s,baz=245,slow=3.9,SNR=7.6						
CFAA				Lg	Lg	11 04 11.4	
	1.0nm,0.3s,baz=94,slow=20,SNR=4.5						
CFAA				LR	LR	11 05 06.3	
	comp=Z,59nm,20.8s,baz=199,slow=41						
PLCA	Paso Flores	5.47	163	Pn	Pn	11 02 52.4	-0.2
	0.7nm,0.3s,baz=346,slow=17,SNR=3.9						
PLCA				Lg	Lg	11 04 18.4	
	3.1nm,0.3s,baz=78,slow=20,SNR=6.4						
PLCA	Paso Flores	5.47	163	ePn	Pn	11 02 54.0	+1.4
	24nm,0.6s						
PLCA				Lg	Lg	11 04 18.4	
TRQA	Tornquist	8.92	110	ePn	Pn	11 03 41.0	+1.1
	10nm,0.5s						
CPUP	Villa Florida	16.00	59	LR	LR	11 11 30.2	
	comp=Z,208nm,18.9s,baz=246,slow=38						
LPAZ	La Paz	19.56	13	P	Pn	11 06 01.0	+0.3
	0.4nm,0.3s,baz=221,slow=5.1,SNR=8.7						
LPAZ	La Paz	19.56	13	eP	Pn	11 06 01.2	+0.4
	8.7nm,0.8s						
SIV	San Ignacio	22.02	31	P	P	11 06 25.2	-0.1
	8.3nm,0.7s,baz=216,slow=9.1,SNR=14						
QSPA	South Pole Qui	54.73	180	P	P	11 10 59.5	-0.4
	1.4nm,0.9s,baz=311,slow=7.1,SNR=3.0						
QSPA	South Pole Qui	54.73	180	eP	P	11 11 00.7	+0.8
	6.9nm,1.0s						
TXAR	Lajitas Array	70.81	332	P	P	11 12 48.1	+0.7
	0.8nm,0.7s,baz=152,slow=8.5,SNR=13						
WVT	Waverly	72.67	347	eP	P	11 12 58.0	-0.2
	3.7nm,0.4s						
ACSO	Alum Creek Sta	75.97	352	eP	P	11 13 17.2	-0.1
	12nm,0.8s						
BOSA	Boshof	79.81	118	P	P	11 13 38.8	-0.6
	2.9nm,0.9s,baz=249,slow=3.3,SNR=5.6						
NVAR	Mina Array Bea	84.84	326	P	P	11 14 05.7	+0.3
	0.1nm,0.4s,baz=148,slow=5.3,SNR=4.2						
TORD	Torodi Ar. Bea	85.19	70	P	P	11 14 05.6	-1.8
	1.0nm,0.8s,baz=259,slow=4.2,SNR=6.4						
AAK	Ala-Archa	153.63	64	ePKPab	PKPab	11 21 42.0	-0.1
ZALV	Zalesovo Beam	155.76	33	PKPab	PKPab	11 21 50.1	-0.5
	0.7nm,0.6s,baz=294,slow=4.4,SNR=4.2						
MKAR	Makanchi Array	158.11	51	PKPab	PKPab	11 22 00.4	-0.7
	0.2nm,0.7s,baz=301,slow=4.2,SNR=3.2						

IDC 28 11:05:33.6±1.1,35.̊83S×72.̊02W,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.8/30,mbtmp3.8/7,ML3.2/2,MS3.9/1, Ms1 3.9/1,ms1mx3.1/31,Error ellipse: s-maj=38.5km s-min=27.3km az=90.0

ISCJB 28 11:05:36.6±0.8,36.̊02S±0.̊09×71.̊7W±0.̊2,h35km,mb4.0/6, MS3.8/1,Error ellipse: s-maj=28.8km s-min=13.3km az=5.1

NEIC 28 11:05:37.8±0.8,36.̊05S×71.̊80W,h35km,mb4.3/2,Error ellipse: s-maj=29.5km s-min=14.0km az=96.0

ISC 28 11:05:37.9±1.0,36.̊1S±0.̊1×71.̊8W±0.̊2,h35km,n14, σ1§29/11,mb3.9/6,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.76	168	ePn	Pn	11 06 46.5	-0.6
CFAA	Coronel Fontan	5.35	35	Pn	Pn	11 06 55.7	+0.4
	0.1nm,0.3s,baz=225,slow=14,SNR=1.8						
CFAA				Lg	Lg	11 08 19.4	
	0.1nm,0.3s,baz=305,slow=16,SNR=2.6						
LPAZ	La Paz	19.97	10	P	P	11 10 06.8	-1.0
	0.1nm,0.3s,baz=207,slow=13,SNR=3.2						
LPAZ	La Paz	19.97	10	eP	P	11 10 06.1	-1.7
	2.8nm,0.9s						
SIV	San Ignacio	22.17	28	P	P	11 10 28.9	-2.0
	3.8nm,0.9s,baz=226,slow=12,SNR=6.0						
RPN	Rapa Nui	33.02	275	LR	LR	11 21 25.2	
	comp=Z,196nm,18.8s,baz=212,slow=29						
SNAA	Sanae	49.60	157	P	P	11 14 29.1	+3.9
	1.8nm,1.0s,baz=304,slow=8.8,SNR=3.8						
SNAA	Sanae	49.60	157	eP	P	11 14 29.2	+3.9
	20nm,1.5s						
TORD	Torodi Ar. Bea	84.74	70	P	P	11 18 10.2	+1.6
	0.8nm,1.0s,baz=217,slow=4.5,SNR=3.4						
NVAR	Mina Array Bea	85.69	325	P	P	11 18 13.0	-0.1
	0.3nm,0.6s,baz=165,slow=7.5,SNR=3.5						
PDAR	Pinedale Array	85.69	333	P	P	11 18 12.6	-0.4
	0.4nm,1.0s,baz=136,slow=16,SNR=2.9						
ULM	Lac du Bonnet	88.54	345	P	P	11 18 27.6	+1.3
	1.4nm,0.7s,baz=339,slow=3.1,SNR=3.2						
BVAR	Borovoye Array	148.63	45	PKPbc	PKPbc	11 25 20.0	-0.6
	1.0nm,0.7s,baz=268,slow=5.3,SNR=5.2						
ZALV	Zalesovo Beam	155.84	35	PKPab	PKPab	11 25 54.5	+0.1
	0.5nm,0.5s,baz=27,slow=1.7,SNR=3.7						

IDC 28 11:12:31.7±0.9,37.̊89S×73.̊88W,h0km,mb3.7/4, mb1 3.8/6,mb1mx3.7/34,mbtmp3.6/6,ML4.4/1,Error ellipse: s-maj=39.2km s-min=25.0km az=76.0

ISCJB 28 11:12:33.5±0.9,37.̊8S±0.̊1×73.̊8W±0.̊2,h18km,mb3.9/5, Error ellipse: s-maj=23.7km s-min=14.9km az=167.8

NEIC 28 11:12:38.0±2.7,37.̊80S×73.̊74W,h39km±22km,mb4.4/2, Error ellipse: s-maj=39.1km s-min=16.5km az=87.0

ISC 28 11:12:35.0±0.8,37.̊8S±0.̊1×73.̊9W±0.̊2,h18km,n16, σ1§16/14,mb4.0/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.86	140	Pn	Pn	11 13 33.7	+0.2
	6.0nm,0.3s,baz=314,slow=16,SNR=5.0						
PLCA				Lg	Lg	11 14 27.6	
	3.1nm,0.3s,baz=40,slow=22,SNR=3.4						
PLCA	Paso Flores	3.86	140	ePn	Pn	11 13 34.8	+1.3
PLCA				Lg	Lg	11 14 27.6	
CFAA	Coronel Fontan	7.74	38	Pn	Pn	11 14 26.8	-0.1
	0.1nm,0.3s,baz=202,slow=11,SNR=3.9						
QSPA	South Pole Qui	52.41	180	P	P	11 21 44.7	-1.3
	1.6nm,0.9s,baz=110,slow=6.8,SNR=4.1						
QSPA	South Pole Qui	52.41	180	eP	P	11 21 46.0	0.0
	7.5nm,1.4s						
TXAR	Lajitas Array	72.42	333	P	P	11 24 01.6	+1.5
	0.3nm,0.7s,baz=149,slow=9.5,SNR=3.5						
ECSD	EROS Data Cent	83.77	344	eP	P	11 25 04.0	+1.3
	3.1nm,1.1s						
PDAR	Pinedale Array	86.55	334	P	P	11 25 15.1	-1.8
	0.2nm,0.8s,baz=125,slow=7.9,SNR=2.5						
TORD	Torodi Ar. Bea	86.88	71	P	P	11 25 18.2	-0.7
	0.8nm,0.8s,baz=247,slow=3.9,SNR=3.9						
BRTR	Keskin Array B	124.91	64	PKP	PKPdf	11 31 33.6	-0.2
	0.4nm,0.7s,baz=243,slow=1.5,SNR=2.8						
TIXI	Tiksi	144.16	348	ePKPdf	PKPab	11 32 06.2	0.0
BRVK	Borovoye	150.96	47	ePKPbc	PKPbc	11 32 26.7	+0.8
BVAR	Borovoye Array	151.03	47	PKPbc	PKPbc	11 32 27.2	+1.1
	1.9nm,0.7s,baz=289,slow=4.5,SNR=5.2						
AAK	Ala-Archa	155.45	69	PKPbc	PKPdf	11 32 37.2	+10
	1.0nm,0.6s,baz=243,slow=4.5,SNR=3.6						
AAK	Ala-Archa	155.45	69	ePKPbc	PKPdf	11 32 36.7	+9.4
MKAR	Makanchi Array	160.28	55	PKPab	PKPab	11 33 12.1	-1.5
	0.4nm,0.7s,baz=279,slow=3.8,SNR=2.1						

IDC 28 11:13:41.9±0.9,35.̊25S×71.̊67W,h0km,mb4.3/8, mb1 4.4/9,mb1mx4.1/34,mbtmp4.3/9,ML3.9/2,Error ellipse: s-maj=30.6km s-min=22.0km az=95.0

NEIC 28 11:13:47.1±0.4,35.̊17S×71.̊76W,h35km,mb4.4/11,Error ellipse: s-maj=11.8km s-min=8.4km az=90.0

ISCJB 28 11:13:49.6±0.6,35.̊08S±0.̊09×71.̊6W±0.̊2,h72km, mb4.2/15,Error ellipse: s-maj=17.7km s-min=12.6km az=0.2

ISC 28 11:13:51.6±0.7,35.̊1S±0.̊1×71.̊6W±0.̊2,h72km,n30, σ0§80/30,mb4.3/15,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.42	40	Pn	Pn	11 14 55.0	-1.2
	1.5nm,0.3s,baz=212,slow=12,SNR=18						
LPAZ	La Paz	18.94	10	P	Pn	11 18 08.3	-0.5
	0.4nm,0.3s,baz=206,slow=6.8,SNR=12						
LPAZ	La Paz	18.94	10	eP	Pn	11 18 08.5	-0.4
	48nm,0.8s						
SIV	San Ignacio	21.18	29	P	P	11 18 32.4	+1.2
	7.4nm,0.6s,baz=200,slow=9.7,SNR=14						
SAML	Samuel	27.10	18	eP	P	11 19 27.6	-0.1
	2.6nm,0.9s						
BDFB	Brasilia	28.62	53	P	P	11 19 40.6	-0.7
	2.1nm,0.5s,baz=196,slow=9.7,SNR=4.6						
SDV	Santo Domingo	43.72	1	eP	P	11 21 49.7	-0.2
	5.6nm,0.8s						
SNAA	Sanae	50.45	158	eP	P	11 22 41.5	-0.1
	5.8nm,1.2s						
QSPA	South Pole Qui	55.18	180	P	P	11 23 15.8	-0.7
	2.2nm,0.8s,baz=162,slow=1.0,SNR=6.7						
QSPA	South Pole Qui	55.18	180	eP	P	11 23 15.4	-1.1
	4.2nm,1.0s						
TXAR	Lajitas Array	70.86	331	P	P	11 25 00.8	+0.1
	0.5nm,0.4s,baz=152,slow=7.5,SNR=14						
SWET	Sewanee	71.19	348	eP	P	11 25 02.3	-0.3
	11nm,0.8s						
WVT	Waverly	72.44	346	eP	P	11 25 09.8	-0.1
	6.5nm,0.5s						
MNTX	Cornudas Mount	73.63	330	eP	P	11 25 16.4	-0.7
	1.9nm,1.0s						
TUL1	Tulsa	74.14	340	eP	P	11 25 19.8	-0.2
DBIC	Dimbokro	75.14	71	P	P	11 25 26.8	+0.5
	3.2nm,0.6s,baz=219,slow=5.4,SNR=5.1						
DBIC	Dimbokro	75.14	71	eP	P	11 25 27.1	+0.8
	3.6nm,0.7s						
SDCO	Great Sand Dun	79.00	333	eP	P	11 25 47.4	-0.4
	1.2nm,1.0s						
BOSA	Boshof	79.22	117	P	P	11 25 48.3	-0.9
	2.0nm,0.6s,baz=200,slow=1.0,SNR=5.0						
BOSA	Boshof	79.22	117	eP	P	11 25 48.8	-0.5
	4.7nm,0.8s						
TOA0	Torodi Ar. Sit	84.19	70	eP	P	11 26 16.2	+0.9
TORD	Torodi Ar. Bea	84.19	70	P	P	11 26 16.3	+1.0
	2.8nm,0.7s,baz=273,slow=4.8,SNR=17						
ULM	Lac du Bonnet	87.63	345	P	P	11 26 31.2	-0.2
	1.4nm,0.6s,baz=6.3,slow=0.9,SNR=3.3						
BVAR	Borovoye Array	147.77	44	PKPbc	PKPbc	11 33 28.1	+0.5
	1.3nm,0.5s,baz=278,slow=4.3,SNR=4.4						
EKS2	Erkin-Say	152.10	64	ePKPbc	PKPbc	11 33 39.6	+1.0
AAK	Ala-Archa	152.63	64	PKPbc	PKPbc	11 33 41.1	+1.2
	3.6nm,0.7s,baz=165,slow=1.3,SNR=10						
AAK	Ala-Archa	152.63	64	ePKPbc	PKPbc	11 33 40.7	+0.8
ZALV	Zalesovo Beam	154.89	34	PKPab	PKPab	11 33 60.0	+0.3
	1.0nm,0.5s,baz=296,slow=4.8,SNR=4.3						
MKAR	Makanchi Array	157.13	51	PKPab	PKPab	11 34 10.9	+1.3
	0.8nm,0.7s,baz=273,slow=3.3,SNR=5.6						
SONM	Songino Array	167.15	6	PKPab	PKPab	11 34 54.8	+1.4
	0.4nm,0.4s,baz=336,slow=3.2,SNR=4.6						

IDC 28 11:14:18.3±0.5,35.̊69S×73.̊14W,h0km,mb4.6/14, mb1 4.7/18,mb1mx4.5/35,mbtmp4.6/18,ML4.7/4,Error ellipse: s-maj=20.2km s-min=13.6km az=84.0

ISCJB 28 11:14:21.2±0.3,35.̊56S±0.̊06×72.̊87W±0.̊07,h17km, mb4.9/63,Error ellipse: s-maj=9.7km s-min=6.5km az=44.9

NEIC 28 11:14:25.3±0.3,35.̊55S×72.̊85W,h35km,mb5.0/54,Error ellipse: s-maj=10.3km s-min=7.5km az=50.0

ISC 28 11:14:22.1±0.4,35.̊64S±0.̊06×72.̊87W±0.̊10,h17km,n338, σ1§11/349,mb5.0/63,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.41	161	Pn	Pn	11 15 41.6	-0.4
	5.4nm,0.3s,baz=352,slow=14,SNR=2.9						
PLCA				Lg	Lg	11 17 09.8	
	17nm,0.3s,baz=265,slow=18,SNR=5.1						
PLCA	Paso Flores	5.41	161	ePn	Pn	11 15 47.0	+5.0
PLCA				Lg	Lg	11 17 09.8	
CFAA	Coronel Fontan	5.57	45	Pn	Pn	11 15 46.5	+2.1
	5.4nm,0.3s,baz=228,slow=16,SNR=12						
CFAA				Lg	Lg	11 17 10.5	
	3.5nm,0.3s,baz=112,slow=20,SNR=3.5						
TRQA	Tornquist	9.06	109	ePn	Pn	11 16 36.7	+4.6
LVC	Limon Verde	13.43	16	ePn	Pn	11 17 27.0	-5.2
	19nm,0.8s						
CPUP	Villa Florida	16.22	59	Pn	P	11 18 11.1	-1.1
	2.1nm,0.3s,baz=221,slow=9.6,SNR=7.5						
CPUP	Villa Florida	16.22	59	eP	Pn	11 18 08.8	-0.4
	1.1nm,0.6s						
LPAZ	La Paz	19.73	14	P	Pn	11 18 52.9	-0.2
	0.8nm,0.3s,baz=193,slow=6.5,SNR=10						
LPAZ	La Paz	19.73	14	eP	Pn	11 18 53.5	+0.4
	68nm,0.9s						
SIV	San Ignacio	22.22	31	P	P	11 19 17.8	-0.2
	18nm,0.6s,baz=232,slow=14,SNR=20						
SAML	Samuel	28.00	21	eP	P	11 20 11.5	-0.7
	6.6nm,0.8s						
BDFB	Brasilia	29.83	54	P	P	11 20 28.2	-0.4
	12nm,0.8s,baz=229,slow=9.1,SNR=11						
BDFB	Brasilia	29.83	54	eP	P	11 20 27.1	-1.5
OTAV	Otavalo	36.07	350	eP	P	11 21 23.9	+0.5
	26nm,1.4s						
SDV	Santo Domingo	44.33	3	eP	P	11 22 31.8	+0.2
	20nm,0.8s						
RCBR	Riachuelo	45.09	58	P	P	11 22 37.4	-0.2
	10nm,0.6s,baz=219,slow=13,SNR=17						
RCBR	Riachuelo	45.09	58	eP	P	11 22 38.6	+1.1
VNA3	Neumayer Olymp	48.11	157	P	P	11 23 01.2	+0.6
GRGR	Grenville	48.68	15	eP	P	11 23 04.1	-1.4
	115nm,1.0s						
VNA2	Neumayer--Watz	48.78	157	P	P	11 23 06.5	+0.8
SNAA	Sanae	50.34	157	P	P	11 23 18.4	+0.8
SNAA	Sanae	50.34	157	P	P	11 23 16.8	-0.8
	8.0nm,1.1s,baz=262,slow=6.8,SNR=14						
SNAA	Sanae	50.34	157	eP	P	11 23 18.2	+0.6
	38nm,1.1s						
FDF	Fort de France	51.31	15	eP	P	11 23 25.2	-0.3
	70nm,0.8s						
QSPA	South Pole Qui	54.60	180	P	P	11 23 48.4	-1.1
	4.6nm,0.7s,baz=292,slow=2.8,SNR=15						
QSPA	South Pole Qui	54.60	180	eP	P	11 23 49.7	+0.3
	30nm,1.3s						
SYO	Syowa Base	64.60	158	⇓eP	P	11 24 55.4	-2.6
933A	Laredo	67.67	335	P	P	11 25 19.9	+1.7
	baz=68						
834A	Tilden	67.89	336	P	P	11 25 21.3	+1.7
	baz=68						
833A	Chaparral WMA,	68.36	335	P	P	11 25 23.3	+0.8
	baz=69						
832A	Faith Ranch, C	68.53	334	P	P	11 25 23.8	+0.2
	baz=69						
636A	Smothers Creek	68.66	337	P	P	11 25 25.0	+0.6
	baz=69						
633A	Saathoff Ranch	69.33	336	P	P	11 25 29.4	+0.8
	baz=70						
632A	Uvalde	69.58	335	P	P	11 25 30.9	+0.7
	baz=70						
533A	Kerrville	69.84	336	P	P	11 25 32.2	+0.4
	baz=70						
338A	Crockett	69.90	340	P	P	11 25 32.7	+0.7
	baz=70						
532A	Rocksprings	70.19	335	P	P	11 25 34.5	+0.5
	baz=70						
434A	Burnet	70.28	337	P	P	11 25 34.1	-0.4
	baz=70						
336A	Riesel	70.37	338	P	P	11 25 35.8	+0.9
	baz=71						
531A	Rocksprings	70.44	335	P	P	11 25 36.2	+0.7
	baz=71						
JCT	Junction City	70.48	335	eP	P	11 25 36.6	+0.9
	13nm,0.9s						
JCT	Junction City	70.48	335	P	P	11 25 37.0	+1.3
	baz=71						
433A	Art	70.49	336	P	P	11 25 35.7	0.0
	baz=71						
530A	J-C Ranch, Com	70.71	334	P	P	11 25 37.0	-0.1
	baz=71						
334A	Lometa	70.75	337	P	P	11 25 37.1	-0.1
	baz=71						
TXAR	Lajitas Array	70.84	332	P	P	11 25 37.3	-0.7
	0.9nm,0.7s,baz=151,slow=9.5,SNR=5.7						
431A	Sonora	70.94	335	P	P	11 25 38.2	-0.3
	baz=71						
333A	Richland Sprin	70.98	337	P	P	11 25 38.5	-0.2
	baz=71						
529A	Stev Forest Ra	71.00	333	P	P	11 25 39.4	+0.5
	baz=71						
WHTX	Lake Whitney	71.12	338	eP	P	11 25 39.6	+0.1
	21nm,1.0s						
430A	Baggett Ranch,	71.25	334	P	P	11 25 41.3	+0.9
	baz=72						
332A	Millersview	71.29	336	P	P	11 25 41.3	+0.8
	baz=72						
429A	Davenport Ranc	71.34	334	P	P	11 25 41.0	+0.1
	baz=72						
234A	Clairette	71.34	337	P	P	11 25 40.7	-0.1
	baz=72						
331A	San Angelo	71.45	335	P	P	11 25 41.3	-0.2
	baz=72						
OXF	Oxford	71.48	346	eP	P	11 25 40.6	-0.9
	29nm,1.0s						
SWET	Sewanee	71.53	349	eP	P	11 25 41.3	-0.7
	15nm,0.8s						
CPCT	Cooper Cave	71.55	350	eP	P	11 25 43.2	+1.2
233A	Rising Star	71.60	337	P	P	11 25 42.1	-0.3
	baz=72						
TKL	Tuckaleechee C	71.66	351	P	P	11 25 41.5	-1.1
	4.0nm,0.7s,baz=172,slow=11,SNR=4.7						
330A	Mertzon	71.80	335	P	P	11 25 43.4	-0.2
	baz=72						
134A	White-Moore Ra	71.85	338	P	P	11 25 44.0	+0.1
	baz=72						
231A	Bronte	71.98	336	P	P	11 25 44.9	+0.2
	baz=72						
133A	Hamilton Ranch	72.15	337	P	P	11 25 45.6	-0.1
	baz=72						
329A	Wagon Wheel Ra	72.15	334	P	P	11 25 45.9	+0.1
	baz=72						
Z35A	Perchaven, San	72.31	339	P	P	11 25 46.9	+0.3
	baz=73						
ABTX	Abilene, Hawle	72.39	336	eP	P	11 25 47.9	+0.7
	26nm,1.3s						
ABTX	Abilene, Hawle	72.39	336	P	P	11 25 47.4	+0.2
	baz=73						
131A	Roby	72.69	336	P	P	11 25 48.7	-0.2
	baz=73						
Z33A	Whitaker Ranch	72.73	337	P	P	11 25 48.6	-0.5
	baz=73						
WVT	Waverly	72.75	347	eP	P	11 25 48.1	-1.0
	42nm,1.4s						
228A	UT Block 9, Go	72.94	334	P	P	11 25 51.0	+0.5
	baz=73						
Z32A	Haskell	72.97	337	P	P	11 25 50.3	-0.3
	baz=73						
Y34A	Reagan Ranch,	73.04	339	P	P	11 25 51.1	+0.1
	baz=73						
Z31A	Sharp Cattle R	73.20	336	P	P	11 25 52.0	0.0
	baz=73						
128A	Castleberry Fa	73.36	334	P	P	11 25 52.9	-0.1
	baz=74						
Z30A	Sanderson Ranc	73.49	336	P	P	11 25 53.7	0.0
	baz=74						
Y32A	R-V Farms, Ver	73.60	337	P	P	11 25 54.0	-0.3
	baz=74						
Z29A	Hungry Hill Ra	73.67	335	P	P	11 25 54.5	-0.3
	baz=74						
PBMO	Poplar Bluff	73.88	345	eP	P	11 25 55.9	+0.2
	27nm,1.4s						
Y29A	Porterfield Fa	74.20	335	P	P	11 25 57.6	-0.2
	baz=74						
TUL1	Tulsa	74.32	341	eP	P	11 25 58.6	+0.2
	20nm,1.1s						
TUL1	Tulsa	74.32	341	P	P	11 25 58.0	-0.4
	baz=75						
X31A	McDonald Ranch	74.35	337	P	P	11 25 58.3	-0.3
	baz=75						
W33A	Caddo, Fort Co	74.36	338	P	P	11 25 58.6	-0.1
	baz=75						

Z26A Caprock 74.48 333 P P 11 25 59.3 -0.3
baz=75
W32A Sentinel 74.58 338 P P 11 25 58.7 -1.3
baz=75
SUR Sutherland 74.64 119 P P 11 26 02.0 +1.1
6.2nm,0.9s,baz=245,slow=8.0,SNR=5.1
SUR Sutherland 74.64 119 eP P 11 26 03.1 +2.2
25nm,1.0s
MSTX Muleshoe 74.68 335 eP P 11 26 01.3 +0.6
12nm,0.8s
MSTX Muleshoe 74.68 335 P P 11 25 59.3 -1.5
baz=75
V34A Guthrie 74.72 339 P P 11 26 00.2 -0.6
baz=75
X29A Tulia 74.74 336 P P 11 26 00.6 -0.4
baz=75
Z25A Roswell 74.76 333 P P 11 26 01.3 0.0
baz=75
V33A Lossen Ranch, 74.93 339 P P 11 26 01.9 -0.1
baz=75
Z24A Sheeppen Canyo 75.05 332 P P 11 26 03.3 +0.3
baz=75
AMTX Amarillo 75.14 336 eP P 11 26 03.1 -0.2
27nm,1.1s
U34A Anderson Ranch 75.29 340 P P 11 26 04.3 +0.3
baz=76
Y25A Mesa, Roswell 75.33 333 P P 11 26 04.4 -0.1
baz=76
W29A Amraillo 75.34 336 P P 11 26 04.6 +0.1
baz=76
V31A Spring Creek L 75.36 338 P P 11 26 04.9 +0.4
baz=76
U33A Lingo Farm, Me 75.45 339 P P 11 26 05.5 +0.5
baz=76
X26A CR and CF Fran 75.57 334 P P 11 26 06.1 +0.3
baz=76
Z22A Elephant Butte 75.60 331 P P 11 26 06.8 +0.6
baz=76
Y24A Capitan 75.61 332 P P 11 26 06.3 +0.1
baz=76
W27A Bowe Ranch, En 75.77 335 P P 11 26 07.6 +0.6
baz=76
Y23A Lovelace Mesa, 75.85 332 P P 11 26 08.4 +0.8
baz=76
W26A Owens Ranch, T 76.04 334 P P 11 26 09.0 +0.5
baz=76
ACSO Alum Creek Sta 76.07 352 eP P 11 26 07.3 -1.1
21nm,0.6s
X24A Lazy VL Ranch, 76.17 333 P P 11 26 10.5 +1.1
baz=76
U30A WK&E Inc. Balk 76.31 337 P P 11 26 11.1 +1.2
baz=77
DBIC Dimbokro 76.35 71 P P 11 26 11.3 +0.7
11nm,0.6s,baz=202,slow=5.3,SNR=17
DBIC Dimbokro 76.35 71 eP P 11 26 11.4 +0.8
78nm,1.6s
W25A X Bar L Ranch, 76.40 334 P P 11 26 11.1 +0.5
baz=77
X23A Hourglass Bar 76.47 332 P P 11 26 11.9 +0.8
baz=77
LAZ Ladron 76.68 331 eP P 11 26 13.1 +0.9
6.3nm,1.3s
V26A Tequesquite Ra 76.68 335 P P 11 26 12.5 +0.3
baz=77
W24A Lazy 6 Ranch, 76.74 333 P P 11 26 12.9 +0.3
baz=77
ANMO Albuquerque 76.90 332 eP P 11 26 13.5 0.0
13nm,1.3s
U27A Thompson Grove 76.92 336 P P 11 26 14.2 +0.7
baz=77
W23A Werner Place, 76.97 333 P P 11 26 14.0 0.0
baz=77
V25A Rancho No Teng 77.01 334 P P 11 26 14.2 +0.1
baz=77
V24A Rampart Ranch, 77.15 333 P P 11 26 15.6 +0.7
baz=77
R33A Olander Ranch, 77.16 340 P P 11 26 15.1 +0.5
baz=77
T28A Walsh 77.32 336 P P 11 26 16.1 +0.5
baz=78
U25A Circle Dot Ran 77.44 334 P P 11 26 17.3 +0.8
baz=78
S29A Ulysses 77.46 337 P P 11 26 16.9 +0.5
baz=78
T27A Campo 77.46 336 P P 11 26 16.9 +0.3
baz=78
R32A Long Quarter, 77.48 339 P P 11 26 17.0 +0.5
baz=78
R31A Burdett 77.59 339 P P 11 26 17.5 +0.4
baz=78
S28A Manter 77.68 337 P P 11 26 17.8 +0.2
baz=78
Q33A Connelly Farm, 77.77 340 P P 11 26 18.4 +0.4
baz=78
T26A Comanche Natio 77.86 335 P P 11 26 19.1 +0.3
baz=78
X18A Snowflake 77.92 329 P P 11 26 19.8 +0.6
baz=78
V22A San Miguel Ran 77.92 332 P P 11 26 19.8 +0.6
baz=78
U23A El Rito 78.02 333 P P 11 26 20.6 +0.8
baz=78
T25A Trinidad 78.11 335 P P 11 26 21.2 +1.0
baz=78
S26A Kim 78.22 336 P P 11 26 21.1 +0.3
baz=78
U22A Llaves 78.31 333 P P 11 26 22.2 +0.8
baz=79
R28A Tribune 78.33 337 P P 11 26 22.0 +0.7
baz=79
T24B San Luis 78.38 334 P P 11 26 22.1 +0.3
baz=79
Q30A Quinter 78.43 339 P P 11 26 21.8 +0.1
baz=79
X16A Lo Mia Camp, P 78.46 328 P P 11 26 22.7 +0.5
baz=79
P32A Huiting Farm, 78.56 340 P P 11 26 22.6 +0.2
baz=79
Q29A Oakley 78.58 338 P P 11 26 22.8 +0.2
baz=79
S25A Robets Cordova 78.59 335 P P 11 26 22.6 -0.3
baz=79
T23A Casias Ranch, 78.60 333 P P 11 26 22.7 -0.3
baz=79
R27A Eads 78.60 336 P P 11 26 22.7 -0.1
baz=79
GLA Glamis 78.82 325 P P 11 26 24.8 +0.7
baz=79
R26A Arlington 78.83 336 P P 11 26 24.4 +0.3
baz=79
S24A Houchin Ranch, 78.84 334 P P 11 26 24.4 +0.1
baz=79
SDCO Great Sand Dun 79.03 334 eP P 11 26 26.2 +0.8
11nm,1.5s
KSCO Kaye Shedlock' 79.21 337 P P 11 26 26.6 +0.4
baz=80
P29A Atwood 79.22 338 P P 11 26 26.6 +0.5
baz=80
R24A Sanders Place, 79.33 335 P P 11 26 27.5 +0.6
baz=80
Q26A Hugo 79.42 336 P P 11 26 28.3 +1.0
baz=80
TSUM Tsumeb 79.42 106 eP P 11 26 28.5 +0.6
6.8nm,1.1s
P28A Saint Francis 79.44 338 P P 11 26 28.0 +0.6
baz=80
S22A 4UR Ranch, Cre 79.52 333 P P 11 26 29.0 +0.9
baz=80
R23A Moffat 79.55 334 P P 11 26 29.0 +0.8
baz=80
Q25A Bedland, Calha 79.65 336 P P 11 26 29.4 +0.8
baz=80
MVCO Mesa Verde 79.67 332 eP P 11 26 30.2 +1.3
28nm,1.7s
MVCO Mesa Verde 79.67 332 P P 11 26 29.6 +0.7
baz=80
BOSA Boshof 79.91 118 P P 11 26 30.4 0.0
9.3nm,0.6s,baz=224,slow=4.2,SNR=15
BOSA Boshof 79.91 118 eP P 11 26 30.8 +0.3
12nm,0.7s
O28A Krutsinger Ran 79.96 338 P P 11 26 30.9 +0.8
baz=80
P25A Willow Gulch B 80.16 336 P P 11 26 32.2 +0.8
baz=80
O27A Beecher Island 80.23 337 P P 11 26 32.7 +1.0
baz=80
N29A Votaw Ranch, W 80.25 339 P P 11 26 32.6 +0.9
baz=80

PV01 Paradox Valley 80.51 332 eP P 11 26 33.9 +0.6
666nm,1.1s
U15A North Rim 80.53 329 P P 11 26 34.1 +0.5
baz=81
N27A Anderson Farm, 80.81 338 P P 11 26 35.8 +1.0
baz=81
SMCO Snowmass 80.83 334 eP P 11 26 36.5 +1.2
12nm,1.1s
PV10 Paradox Valley 80.90 332 eP P 11 26 36.5 +1.0
141nm,0.8s
ISCO Idaho Springs 80.91 335 P P 11 26 36.4 +0.8
baz=81
L31A Butterfield Fa 81.01 341 P P 11 26 36.7 +1.1
baz=81
P22A Eagle 81.13 334 P P 11 26 37.3 +0.7
baz=81
O23A Lake Granby, G 81.38 335 P P 11 26 39.5 +1.5
baz=82
O22A Kremmling 81.56 335 P P 11 26 39.7 +0.7
baz=82
K30A Basset 81.68 340 P P 11 26 39.7 +0.5
baz=82
SHPR Sheep Range 81.84 327 eP P 11 26 41.6 +1.2
13nm,1.4s
ECSD EROS Data Cent 81.90 343 eP P 11 26 39.6 -0.7
11nm,0.8s
ECSD EROS Data Cent 81.90 343 P P 11 26 39.9 -0.4
baz=82
CCUT Cedar City 81.93 329 eP P 11 26 42.0 +1.1
11nm,1.1s
K29A Lazy Trails An 81.95 340 P P 11 26 41.6 +1.0
baz=82
N23A Red Feather La 82.00 335 P P 11 26 41.6 +0.4
baz=82
N22A Wattenberg Ran 82.09 335 P P 11 26 41.6 -0.1
baz=82
SRU San Rafael 82.11 331 eP P 11 26 43.3 +1.6
5.6nm,1.0s
K28A Ten Mile Ranch 82.21 339 P P 11 26 42.7 +0.6
baz=82
LBTB Lobatse 82.23 115 eP P 11 26 43.6 +0.7
20nm,1.1s
K27A Flueckinger Fa 82.45 339 P P 11 26 44.3 +1.0
baz=83
SPMN St. Paul 82.48 346 eP P 11 26 41.3 -2.0
75nm,2.3s
J29A Okreek 82.55 340 P P 11 26 43.5 -0.3
baz=83
I30A Oacoma 82.78 341 P P 11 26 45.2 +0.2
baz=83
J27A Elkhorn Farm, 82.89 339 P P 11 26 46.3 +0.7
baz=83
BRSD Miller 83.15 342 eP P 11 26 47.3 +0.5
13nm,0.8s
J26A Sides Ranch, S 83.26 338 P P 11 26 48.7 +1.2
baz=84
I28A Midland 83.33 340 P P 11 26 48.4 +0.6
baz=84
DAU Daniels Canyon 83.52 331 eP P 11 26 49.4 +0.2
2.8nm,1.1s
J25A Sunshine Ranch 83.55 338 P P 11 26 50.3 +1.3
baz=84
K23A Bowen Ranch, D 83.56 336 P P 11 26 49.3 +0.2
baz=84
R11A Troy Canyon, C 83.56 328 eP P 11 26 55.2 +5.9
7.4nm,1.1s
R11A Troy Canyon, C 83.56 328 P P 11 26 50.2 +0.9
baz=84
I27A Quinn 83.65 339 P P 11 26 49.5 +0.1
baz=84
H29A Onida 83.65 341 P P 11 26 49.4 0.0
baz=84
K22A Casper 83.76 336 eP P 11 26 50.3 +0.1
2.7nm,0.5s
K22A Casper 83.76 336 P P 11 26 50.0 -0.2
baz=84
G30A Faulkton 83.84 342 P P 11 26 50.9 +0.5
baz=84
I26A New Underwood 83.85 339 P P 11 26 50.8 +0.3
baz=84
H28A Mission Ridge 83.92 340 P P 11 26 51.1 +0.3
baz=84
DUG Dugway 83.95 330 eP P 11 26 51.9 +0.7
15nm,1.3s
DUG Dugway 83.95 330 P P 11 26 51.1 -0.1
baz=84
K21A Alcova 83.99 335 P P 11 26 51.7 +0.3
baz=84
TPH Tonopah 84.06 326 eP P 11 26 52.2 +0.3
12nm,1.2s
G29A Hoven 84.10 341 P P 11 26 52.4 +0.7
baz=84
I25A Rochford 84.10 338 P P 11 26 52.3 +0.3
baz=84
H27A Howes 84.17 339 P P 11 26 52.5 +0.4
baz=84
G28A Parade 84.26 340 P P 11 26 52.7 +0.2
baz=84
RSSD Black Hills 84.29 338 eP P 11 26 52.8 -0.2
5.1nm,0.9s
J22A Midwest 84.43 336 P P 11 26 53.5 -0.1
baz=85
F30A Leola 84.47 342 P P 11 26 53.2 -0.4
baz=85
H25A Fruitdale 84.61 338 P P 11 26 54.3 0.0
baz=85
HWUT Hardware Ranch 84.66 332 eP P 11 26 54.5 -0.4
33nm,1.5s
F29A Eureka 84.67 341 P P 11 26 54.2 -0.4
baz=85
NVAR Mina Array Bea 84.84 326 P P 11 26 55.8 -0.1
1.3nm,0.7s,baz=167,slow=6.2,SNR=5.9
I22A 9 Mile Ranch, 84.86 336 P P 11 26 55.8 +0.2
baz=85
J20A Shoshoni 84.91 335 P P 11 26 56.6 +0.6
baz=85
PDAR Pinedale Array 84.92 334 P P 11 26 55.5 -0.7
0.8nm,1.0s,baz=116,slow=6.8,SNR=4.0
G26A Maurine 84.93 339 P P 11 26 55.8 -0.2
baz=85
F28A McLaughlin 84.94 341 P P 11 26 55.7 -0.2
baz=85
H24A Dirks Ranch, A 85.01 338 P P 11 26 55.9 -0.5
baz=85
I21A Big Trails, Te 85.05 336 P P 11 26 56.5 -0.2
baz=85
E30A Jud 85.06 342 P P 11 26 56.5 0.0
baz=85
G25A Newell 85.07 339 P P 11 26 57.1 +0.4
baz=85
J19A Crowheart 85.17 334 P P 11 26 57.3 0.0
baz=85
HVU Hansel Valley 85.28 331 eP P 11 26 58.1 +0.2
9.1nm,1.1s
F27A Lemmon 85.30 340 P P 11 26 57.2 -0.5
baz=86
E29A Napoleon 85.31 342 P P 11 26 57.5 -0.3
baz=86
TOA0 Torodi Ar. Sit 85.40 70 eP P 11 26 58.9 0.0
TORD Torodi Ar. Bea 85.40 70 P P 11 26 59.0 +0.1
4.4nm,1.0s,baz=245,slow=4.7,SNR=14
I20A Worland 85.45 335 P P 11 26 58.5 -0.1
baz=86
F26A Lodgepole 85.46 340 P P 11 26 58.6 0.0
baz=86
E28A Huff 85.58 341 P P 11 26 58.6 -0.5
baz=86
D30A Buchanan 85.59 343 P P 11 26 58.7 -0.4
baz=86
G23A Biddle 85.68 338 P P 11 26 59.2 -0.5
baz=86
E27A Carson 85.68 341 P P 11 26 59.2 -0.4
baz=86
H21A Big Horn, Sher 85.69 336 P P 11 26 58.9 -0.9
baz=86
F25A Bowman 85.75 339 P P 11 26 59.9 -0.1
baz=86
H20A Greybull 85.89 336 P P 11 27 00.8 0.0
baz=86
REDW Red Top Meadow 85.91 333 eP P 11 27 01.8 +0.8
9.7nm,1.3s
E26A Carlson Angus 85.97 340 P P 11 27 00.5 -0.5
baz=86
F24A Ekalaka 85.97 338 P P 11 27 00.6 -0.5
baz=86
AGMN Agassiz Nation 86.05 345 eP P 11 27 00.5 -0.9
19nm,1.4s
AGMN Agassiz Nation 86.05 345 P P 11 27 00.7 -0.7
baz=86

TPAW Teton Pass 86.05 333 eP P 11 27 02.6 +0.7
17nm,1.6s
C30A Mose, Pekin 86.08 343 P P 11 27 00.8 -0.7
baz=86
D28A Regan 86.12 341 P P 11 27 01.7 -0.1
baz=86
F23A Volborg 86.15 338 P P 11 27 02.0 0.0
baz=86
E25A Miller Ranch, 86.26 339 P P 11 27 02.6 +0.1
baz=86
G21A Lodge Grass 86.28 336 P P 11 27 02.8 +0.1
baz=86
I17A Pilgrim Ck. 86.29 334 P P 11 27 03.6 +0.6
baz=86
H19A Powell 86.38 335 P P 11 27 03.8 +0.5
baz=87
IMW Indian Meadow 86.40 333 eP P 11 27 03.1 -0.4
19nm,1.6s
F22A Rosebud 86.47 337 P P 11 27 04.2 +0.6
baz=87
D26A Manning 86.47 340 P P 11 27 04.0 +0.5
baz=87
FLWY Flagg Ranch 86.47 334 eP P 11 27 06.3 +2.5
13nm,1.2s
E24A Baker 86.58 339 P P 11 27 04.5 +0.5
baz=87
G20A Bridger 86.60 336 P P 11 27 04.7 +0.3
baz=87
H18A Shoshone NF, C 86.62 335 P P 11 27 04.8 +0.3
baz=87
B30A Myrvik Farm, E 86.74 343 P P 11 27 05.6 +0.8
baz=87
D25A Fairfield 86.83 340 P P 11 27 05.8 +0.5
baz=87
C27A Sayler Ranch, 86.85 341 P P 11 27 06.0 +0.7
baz=87
E22A Miles City 86.96 338 P P 11 27 06.3 +0.4
baz=87
B29A Wagenman Farm, 87.00 343 P P 11 27 06.0 -0.1
baz=87
YMR Madison River 87.08 334 eP P 11 27 08.4 +1.7
19nm,1.2s
D24A Glendive 87.08 339 P P 11 27 06.5 0.0
baz=87
C26A Wahner Farm, P 87.11 341 P P 11 27 06.7 +0.2
baz=87
A30A Hoffart Farm, 87.19 344 P P 11 27 07.4 +0.4
baz=88
B28A Dugan Ranch, T 87.23 342 P P 11 27 07.0 -0.2
baz=88
C25A Freed Ranch, W 87.32 340 P P 11 27 07.7 0.0
baz=88
D23A Lindsay 87.39 339 P P 11 27 07.9 -0.1
baz=88
A29A Manning Farm, 87.40 343 P P 11 27 07.9 -0.1
baz=88
E21A Keefer Ranch, 87.40 337 P P 11 27 07.8 -0.2
baz=88
F19A Roth Farm, Mol 87.41 336 P P 11 27 07.8 -0.3
baz=88
B27A Peters Farms, 87.42 342 P P 11 27 08.5 +0.5
baz=88
HLID Hailey 87.43 331 P P 11 27 08.3 -0.2
baz=88
C24A Savage 87.49 339 P P 11 27 08.7 +0.3
baz=88
A28A Rude Farm, Bot 87.64 342 P P 11 27 09.3 +0.2
baz=88
E20A Meyer Farm, Mu 87.71 336 P P 11 27 09.6 0.0
baz=88
B25A Knox Farm, Ray 87.81 340 P P 11 27 10.7 +0.8
baz=88
D21A La Casta Ranch 87.84 337 P P 11 27 10.9 +0.7
baz=88
MFID Camas Ranch 87.87 330 eP P 11 27 11.8 +1.4
67nm,2.6s
E19A Rath Farm, Rou 87.89 336 P P 11 27 11.2 +0.7
baz=88
MCMT McKenzie Canyo 87.90 333 eP P 11 27 11.6 +0.8
3.6nm,1.0s
ULM Lac du Bonnet 87.90 345 P P 11 27 08.3 -1.9
6.0nm,0.8s,baz=176,slow=6.3,SNR=7.8
ULM Lac du Bonnet 87.90 345 eP P 11 27 09.2 -1.1
A27A Ledoux Ranch, 87.92 342 P P 11 27 11.5 +1.0
baz=88
C23A Lambert 87.95 339 P P 11 27 11.3 +0.6
baz=88
D20A Manuel Ranch, 88.23 337 P P 11 27 12.3 +0.3
baz=88
DGMT Dagmar 88.27 340 eP P 11 27 13.2 +1.0
30nm,1.1s
DGMT Dagmar 88.27 340 P P 11 27 12.6 +0.4
baz=88
A25A Svangstu Ranch 88.40 341 P P 11 27 13.5 +0.8
baz=89
B23A Brockton 88.50 339 P P 11 27 14.0 +0.7
baz=89
MOD Modoc 88.55 327 eP P 11 27 15.2 +1.4
6.0nm,0.6s
C21A Desert Coulee 88.55 338 P P 11 27 13.9 +0.4
baz=89
A24A Westby 88.63 340 P P 11 27 14.3 +0.5
baz=89
A22A Carney Farms, 89.24 339 P P 11 27 16.7 0.0
baz=90
YKA Yellowknife Ar 103.39 341 Pdiff Pdif 11 28 19.7 -0.8
0.5nm,0.9s,baz=142,slow=4.8,SNR=4.0
ILAR Eielson Array 115.34 333 PKP PKPdf 11 33 00.3 -1.5
0.2nm,0.7s,baz=159,slow=6.7,SNR=4.6
ASAR Alice Springs 115.80 207 PKP PKPdf 11 33 02.4 -1.8
0.2nm,0.6s,baz=122,slow=1.3,SNR=4.1
VYHS Vyhne 116.69 48 ePKP PKPdf 11 33 04.8 -0.1
NOA NORSAR Array B 117.76 33 PKP PKPdf 11 33 06.1 -0.5
0.9nm,0.9s,baz=293,slow=5.1,SNR=3.5
WRA Warramunga Arr 119.00 209 PKP PKPdf 11 33 07.3 -3.1
0.6nm,0.4s,baz=159,slow=1.6,SNR=12
BRTR Keskin Array B 123.21 62 PKP PKPdf 11 33 16.6 -1.3
0.8nm,0.9s,baz=186,slow=2.5,SNR=3.8
AKASG Malin Array Be 123.79 48 PKP PKPdf 11 33 17.1 -1.4
0.5nm,0.5s,baz=256,slow=2.8,SNR=4.8
SPITS Spitsbergen Ar 124.43 14 PKP PKPdf 11 33 17.5 -1.5
3.9nm,0.8s,baz=147,slow=4.7,SNR=7.7
ARCES ARCESS Array B 125.78 25 PKP PKPdf 11 33 19.9 -1.9
3.2nm,0.9s,baz=355,slow=1.5,SNR=6.3
SEY Seymchan 141.09 329 PKP PKPdf 11 33 49.4 -1.2
1.3nm,0.7s,baz=248,slow=23,SNR=6.4
TIXI Tiksi 142.17 349 ePKPdf PKPdf 11 33 54.9 +2.6
MYLDM Lahad Datu 147.93 202 ePKPdf PKPab 11 34 08.3 -1.2
HYB Hyderabad 148.81 118 iPKP PKPbc 11 34 07.5 -1.7
BRVK Borovoye 148.86 44 ePKPbc PKPbc 11 34 08.3 +0.1
BVAR Borovoye Array 148.93 44 PKPbc PKPbc 11 34 08.6 +0.2
6.5nm,0.5s,baz=304,slow=3.2,SNR=24
KKAR Karatay Array 150.90 64 ePKPbc PKPbc 11 34 13.7 +0.1
AAK Ala-Archa 153.85 65 PKPab PKPab 11 34 32.1 -1.5
4.1nm,0.6s,baz=202,slow=4.6,SNR=5.8
KSH Kashi 155.07 72 ePKPbc PKPdf 11 34 13.8 -0.4
ZALV Zalesovo Beam 155.97 33 PKP PKPdf 11 34 12.9 -1.8
0.9nm,0.6s,baz=337,slow=3.4,SNR=4.3
ZALV PKPab PKPab 11 34 42.2 +0.2
5.0nm,0.5s,baz=303,slow=4.8,SNR=11
MKAR Makanchi Array 158.33 51 PKPab PKPab 11 34 52.2 -0.3
2.2nm,0.6s,baz=294,slow=3.4,SNR=11
CN2 Changchun 163.74 306 ePKP PKPdf 11 34 26.5 +2.6
SONM Songino Array 167.80 2 PKPab PKPab 11 35 32.3 -1.6
1.0nm,0.8s,baz=321,slow=2.1,SNR=5.0
KMI Kunming 168.86 159 PKP PKPdf 11 34 31.5 +2.7
NJ2 Nanjing 169.62 253 ePKP PKPdf 11 34 29.3 +0.6
GYA Guiyang 170.84 177 ePKP PKPdf 11 34 31.0 +1.2
GYA pPKP pPKPdf 11 34 42.5 +6.9
GYA PKPab PKPab 11 35 52.5 +4.6
GYA PKS PKSdf 11 38 02.8 +0.4
GYA PP PP 11 39 44.3 +6.9
GYA SKKS 11 46 26.0
GYA SS SS 12 00 42.5 +3.1
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=N,120nm,21.5s
GYA LR LR
comp=E,110nm,21.2s
GYA LR LR
comp=Z,120nm,24.3s
GTA Gaotai 173.07 55 ePKP PKPdf 11 34 31.5 +1.1
GTA pPKP pPKPdf 11 34 42.3 +6.0
GTA sPKP 11 34 46.0
GTA PKPab PKPab 11 35 57.0 -0.8

HHC Hu-ho-hao-te 173.74 328 ePKP PKPdf 11 34 31.8 +1.2
HHC pPKP pPKPdf 11 34 42.8 +6.3
HHC sPKP 11 34 45.0
HHC PP PP 11 39 55.5 +3.3
HHC SKS SKSdf 11 41 29.5 -3.5
HHC SS SS 12 01 05.8 -2.8
HHC AMB AMB
comp=Z,100nm,6.4s
HHC LR LR
comp=N,250nm,18.8s
HHC LR LR
comp=E,440nm,22.5s
HHC LR LR
comp=Z,570nm,19.4s
CD2 Chengdu 174.50 148 PKP PKPdf 11 34 31.8 +0.7
CD2 pPKP pPKPdf 11 34 43.0 +6.0
CD2 sPKP 11 34 46.8
CD2 PKS PKSdf 11 38 02.5 -0.9
CD2 PP PP 11 40 01.0 +5.2
CD2 SKS SKSdf 11 41 29.3 -4.2
CD2 SKKS SKKSac 11 46 41.8 -0.2
CD2 SS SS 12 01 16.3 +0.5
CD2 AMB AMB
comp=Z,240nm,6.4s
LZH Lanzhou 177.29 79 ePKP PKPdf 11 34 32.5 +0.8
LZH pPKP pPKPdf 11 34 43.0 +5.4
LZH sPKP 11 34 47.5
XAN Xi'an 177.83 223 PKP PKPdf 11 34 34.0 +2.3

IDC 28 11:18:13.9±0.9, 35.72S×74.25W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.2/34, mbtmp4.2/10, Error ellipse: s-maj=36.7km s-min=22.7km az=66.0
ISCJB 28 11:18:17.9±0.6, 35.6S±0.1×74.1W±0.2, h33km, mb4.4/23, Error ellipse: s-maj=22.8km s-min=14.3km az=167.1
NEIC 28 11:18:19.6±0.5, 35.61S×74.10W, h35km, mb4.6/15, Error ellipse: s-maj=21.5km s-min=13.8km az=75.0
ISC 28 11:18:19.2±0.7, 35.6S±0.1×74.0W±0.2, h35km, n31, σ1.05/30, mb4.5/23, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 19.90 17 P Pn 11 22 50.0 -0.2
5.7nm,0.9s,baz=153,slow=6.8,SNR=2.3
LPAZ La Paz 19.90 17 eP Pn 11 22 51.2 +1.0
SIV San Ignacio 22.66 34 P P 11 23 18.2 +0.7
23nm,0.8s,baz=243,slow=14,SNR=6.3
SDV Santo Domingo 44.33 5 eP P 11 26 24.7 -1.4
7.7nm,0.9s
SNAA Sanae 50.76 157 P P 11 27 14.0 -1.4
3.1nm,1.0s,baz=278,slow=7.5,SNR=4.3
SNAA Sanae 50.76 157 eP P 11 27 14.4 -0.9
QSPA South Pole Qui 54.67 180 eP P 11 27 45.0 +0.5
11nm,1.1s
TXAR Lajitas Array 70.34 333 P P 11 29 30.7 +1.3
0.5nm,0.5s,baz=160,slow=9.1,SNR=6.7
SWET Sewanee 71.29 350 eP P 11 29 34.7 -0.3
11nm,0.9s
ABTX Abilene, Hawle 71.97 337 eP P 11 29 39.6 +0.6
12nm,1.0s
WVT Waverly 72.48 348 eP P 11 29 41.4 -0.6
25nm,1.4s
MNTX Cornudas Mount 73.11 332 eP P 11 29 45.9 +0.1
4.0nm,1.2s
TUL1 Tulsa 73.95 342 eP P 11 29 50.7 0.0
21nm,1.3s
ANMO Albuquerque 76.41 333 P P 11 30 06.2 +1.0
2.7nm,1.0s,baz=150,slow=10,SNR=5.1
ANMO Albuquerque 76.41 333 eP P 11 30 06.5 +1.3
4.0nm,1.2s
MVCO Mesa Verde 79.18 333 eP P 11 30 21.8 +1.3
3.6nm,0.9s
BOSA Boshof 80.76 118 P P 11 30 31.1 +1.6
4.7nm,0.9s,baz=209,slow=6.3,SNR=4.4
CCUT Cedar City 81.40 329 eP P 11 30 34.3 +1.9
1.8nm,0.7s
ECSD EROS Data Cent 81.57 344 eP P 11 30 32.4 -0.6
14nm,1.2s
MPU Maple Canyon 82.82 332 eP P 11 30 40.7 +0.9
6.1nm,1.3s
R11A Troy Canyon, C 83.01 328 eP P 11 30 42.7 +1.9
6.0nm,1.4s
DUG Dugway 83.43 331 eP P 11 30 43.5 +0.6
TPH Tonopah 83.50 327 eP P 11 30 44.4 +1.0
6.4nm,1.3s
HWUT Hardware Ranch 84.17 333 eP P 11 30 47.0 +0.2
9.6nm,1.2s
NVAR Mina Array Bea 84.27 327 P P 11 30 48.2 +0.9
1.2nm,0.9s,baz=138,slow=6.0,SNR=4.3
ELK Elko 84.87 330 P P 11 30 50.4 0.0
1.3nm,0.8s,baz=218,slow=3.1,SNR=3.5
TORD Torodi Ar. Bea 86.26 71 P P 11 31 00.9 +3.3
1.3nm,0.9s,baz=286,slow=1.8,SNR=2.6
MCMT McKenzie Canyo 87.42 333 eP P 11 31 03.4 +0.6
ULM Lac du Bonnet 87.61 346 P P 11 31 02.2 -1.0
2.2nm,0.7s,baz=356,slow=1.8,SNR=3.6
SEY Seymchan 140.55 329 PKP PKPdf 11 37 43.8 -0.1
1.4nm,0.8s,baz=109,slow=1.7,SNR=3.6
BVAR Borovoye Array 149.53 44 PKPbc PKPbc 11 38 02.8 -1.4
0.4nm,0.5s,baz=10,slow=1.6,SNR=2.7

SJA 28 11:25:17.7±0.6, 35.74S×73.06W, h223km±33km, ML6.2
MOS 28 11:25:32.9±0.9, 34.83S×71.57W, h33km, mb6.4/85, MS5.7/54, Error ellipse: s-maj=14.1km s-min=6.6km az=103.1
GUC 28 11:25:33.7±0.5, 34.98S×72.03W, h34km±5km, ML6.6, MW6.3
BJI 28 11:25:34.2, 34.90S×71.60W, h36km, mB6.1/56, Ms6.2/70, Ms7 6.1/62
GCMT 28 11:25:35.9±0.1, 35.11S×72.05W, h54km, MW6.2/126, Moment Tensor Solution. s126,c276; s121,c252; Duration: 3.0 Moment tensor: Scale 10^18Nm; Mrr1.65±.02; Mθθ0.20±.02; Mφφ-1.84±.02; Mrθ0.39±.01; Mrφ-0.11±.01; Mθr-1.64±.02; Best double couple: M0 2.43300×10^18 NP1:φs171.00000°, δ67.00000°, λ80.00000°. NP2:φs17.00000°, δ25.00000°, λ113.00000°. Principal axes: T 2.3760, Plg66.0000°, Azm63.0000°; N 0.1200, Plg10.0000°, Azm175.0000°; P -2.4900, Plg22.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
NEIC 28 11:25:35.9±0.1, 34.90S×71.62W, h46km, mb6.2/249, ME6.1, MS5.8/216, MW6.2, MW6.2 Error ellipse: s-maj=4.2km s-min=2.6km az=68.0, Moment Tensor Solution. s67 Moment tensor: Scale 10^18Nm; Mrr2.19; Mθθ-0.32; Mφφ-1.87; Mrθ0.61; Mrφ-0.56; Mθr-1.73; Best double couple: M0 2.80000×10^18 NP1:φs176.00000°, δ65.00000°, λ73.00000°. NP2:φs32.00000°, δ29.00000°, λ122.00000°. Principal axes: T 3.0000, Plg65.0000°, Azm57.0000°; N -0.4500, Plg15.0000°, Azm183.0000°; P -2.5500, Plg18.0000°, Azm278.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.
NEIC Felt [VI] at Talca; [V] at Colchagua and San Fernando; [IV] at Rancagua and Santiago; [III] at San Antonio, San Felipe and Valparaiso. Also felt at Illapel, Machali and Vina del Mar. Felt at Mendoza, San Luis and San Martin, Argentina.
IDC 28 11:25:35.9±0.5, 34.97S×71.67W, h46km±4km, mb5.6/26, mb1 5.7/30, mb1mx5.7/30, mbtmp5.8/30, MS5.7/26, Ms1 5.7/26, ms1mx5.6/31 Error ellipse: s-maj=13.9km s-min=9.4km az=79.0
NEIC 28 11:25:36.0±0.0, 34.86S×71.57W, h46km Best double couple: NP1:φs168.00000°, δ66.00000°, λ81.00000°. NP2:φs10.00000°, δ24.00000°, λ109.00000°. Principal axes: T 2.6300, Plg67.0000°, Azm62.0000°; N -0.0800, Plg8.0000°, Azm172.0000°; P -2.5600, Plg21.0000°, Azm265.0000°;
ISCJB 28 11:25:37.5±0.7, 34.80S±0.03×71.56W±0.04, h70km±5km, mb6.0/290 Error ellipse: s-maj=5.9km s-min=3.9km az=142.2
ISC 28 11:25:35.2±0.3, 35.00S±0.03×71.60W±0.04, h42km±2km, h41km:pP-P, n1871, σ1.25/1884, mb6.2/290, MS5.8/275, 286C-291D, Central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STL Santa Lucia 1.75 27 eP Pn 11 26 04.3 +1.2
STL eS Sn 11 26 28.3 +4.0
IHA Instituto Hidr 1.97 359 eP Pn 11 26 06.2 0.0
PEL Peldehue 2.00 22⇓iP Pn 11 26 08.8 +2.2
PEL Peldehue 2.00 22 iP Pn 11 26 08.8 +2.2
PEL iS Sn 11 26 35.1 +4.6
PEL AML AML 11 26 47.9
comp=N,608μm,0.5s
PEL Peldehue 2.00 22⇓iP Pn 11 26 08.8 +2.2
PEL iS Sn 11 26 35.1 +4.6
ROCH El Roble 2.08 14 eP Pn 11 26 09.4 +1.5
ROCH iS Sn 11 26 36.3 +3.6
ROCH AML AML 11 26 44.7
comp=N,489μm,0.5s
ROCH El Roble 2.08 14 eP Pn 11 26 09.4 +1.5
ROCH iS Sn 11 26 36.3 +3.6
AVIZ Vizcacheras 2.97 60 iP Pn 11 26 25.4 +5.4
AAGR Agrelo 2.99 51 iP Pn 11 26 25.7 +5.5
AAGR iP Pn 11 26 25.7 +5.5
ARCO CERRO ARCO 3.09 47 iP Pn 11 26 27.6 +5.9
ARCO iS Sn 11 27 18.1 +20
ARCO AML AML 11 27 34.3
comp=Z,15μm,0.7s
ASAL Salagasta 3.33 44 iP Pn 11 26 29.6 +4.8
AUSP Uspallata 3.33 34 iP Pn 11 26 29.1 +4.1
RTLS Leoncito 3.73 32 iP Pn 11 26 34.3 +3.7
CMCH Combarbala 3.85 8 eP Pn 11 26 32.5 +0.5
CMCH eS Sn 11 27 17.5 +1.4
RTCV Cerro Valdivia 4.04 40 iP Pn 11 26 38.4 +3.7
CFAA Coronel Fontan 4.40 41 P Pn 11 26 42.3 +2.7
comp=Z,52nm,0.3s,baz=205,slow=11,SNR=162
CFAA S Sn 11 27 37.6 +8.0
comp=Z,76nm,0.3s,baz=246,slow=20,SNR=4.0
CFAA LR LR 11 28 40.2
comp=Z,31μm,21.4s,baz=228,slow=42
CFAA Coronel Fontan 4.40 41 iP Pn 11 26 43.4 +3.8
RTLL Cerro Villicun 4.50 36 iP Pn 11 26 43.6 +2.6
ACAN Cantantal 4.57 55 iP Pn 11 26 45.6 +3.6
VLCH Valdivia 4.97 195 eP Pn 11 26 46.2 -1.1
VLCH eS Sn 11 27 41.6 -1.9
ACHE Chepes 5.64 49 iP Pn 11 26 58.7 +2.0
OSCH Osorno 5.69 192 eP Pn 11 26 56.5 -0.8
OSCH eS Sn 11 27 59.9 -1.4
OSCH Osorno 5.69 192⇑iP Pn 11 26 57.6 +0.4
OSCH iS Pn 11 27 00.5 +3.2
PLCA Paso Flores 5.78 172 P Pn 11 26 59.4 +0.9
PLCA pmax pmax
comp=Z,189nm,0.3s
PLCA MLR MLR
comp=Z,133μm,20.5s
PLCA Paso Flores 5.78 172 iP Pn 11 27 01.5 +3.0
PLCA Paso Flores 5.78 172 P Pn 11 26 59.4 +0.9
comp=Z,189nm,0.3s,baz=343,slow=11,SNR=257
PLCA LR LR 11 29 25.7
comp=Z,133μm,20.4s,baz=354,slow=40
FUTA Futaleufœ 8.18 181 eP Pn 11 27 32.6 +1.3
FUTA Futaleufœ 8.18 181 P Pn 11 27 32.5 +1.2
TRQA Tornquist 8.32 114 ePn Pn 11 27 36.9 +3.6
LVC Limon Verde 12.57 11 ePn Pn 11 28 29.2 -2.5
CPUP Villa Florida 15.00 59 P Pn 11 29 02.6 -1.8
CPUP pmax pmax
comp=Z,6.0nm,0.3s
CPUP MLR MLR
comp=Z,136μm,20.1s
CPUP Villa Florida 15.00 59 P Pn 11 29 02.6 -1.8
comp=Z,5.9nm,0.3s,baz=228,slow=9.9,SNR=23
CPUP LR LR 11 35 31.6
comp=Z,136μm,20.1s,baz=221,slow=40
LPAZ La Paz 18.89 10 P Pn 11 29 54.5 +0.7
LPAZ pmax pmax
comp=Z,14nm,0.3s
LPAZ La Paz 18.89 10 P Pn 11 29 54.5 +0.7
comp=Z,14nm,0.3s,baz=180,slow=7.1,SNR=230
LPAZ La Paz 18.89 10 eP Pn 11 29 54.1 +0.4
comp=Z,2μm,1.5s
EFI East Falkland 19.30 154 eP P 11 29 54.2 -2.3
EFI pmax pmax
comp=Z,1μm,0.9s
EFI East Falkland 19.30 154 eP P 11 29 54.2 -2.3
comp=Z,1μm,0.9s
USHA Ushuaia 19.95 175 P Pn 11 30 05.6 +0.1
comp=Z,25nm,0.3s,baz=329,slow=8.4,SNR=71
USHA LR LR 11 38 28.6
comp=Z,59μm,18.0s,baz=340,slow=39
SIV San Ignacio 21.15 29 P P 11 30 16.5 -0.3
comp=Z,1μm,1.1s,baz=226,slow=11,SNR=331
SIV LR LR 11 39 53.6
comp=Z,33μm,18.8s,baz=216,slow=40
NNA Nana 23.40 347 P P 11 30 39.2 -1.4
comp=Z,1μm,1.4s,SNR=17
NNA Nana 23.40 347 P P 11 30 40.5 -0.1
comp=Z,164nm,1.1s,baz=190,slow=11,SNR=29
NNA LR LR 11 38 11.5
comp=Z,12μm,19.8s,baz=160,slow=32
NNA Nana 23.40 347 eP P 11 30 40.0 -0.6
comp=Z,378nm,1.1s
SAML Samuel 27.05 19 eP P 11 31 12.8 -1.0
comp=Z,274nm,1.1s
SAML LR LR
comp=Z,12μm,21.0s
ATAH Atahualpa 28.43 346 P P 11 31 27.7 +1.1
comp=Z,82nm,1.1s,baz=172,slow=6.8,SNR=42
ATAH PcP PcP 11 34 39.2 +1.0
comp=Z,36nm,0.9s,baz=140,slow=1.5,SNR=4.1
ATAH LR LR 11 41 16.4
comp=Z,11μm,20.2s,baz=191,slow=33
BDFB Brasilia 28.61 54 P P 11 31 27.5 -0.4
comp=Z,299nm,0.8s,baz=221,slow=8.9,SNR=97
BDFB LR LR 11 44 03.9
comp=Z,69μm,21.6s,baz=224,slow=39
PMSA Palmer Station 30.15 174 P P 11 31 42.8 +1.9
comp=Z,88nm,0.9s,baz=345,slow=7.9,SNR=12
PMSA PcP PcP 11 34 42.6 +1.4
comp=Z,52nm,0.9s,baz=302,slow=4.2,SNR=4.0
PMSA Palmer Station 30.15 174 eP P 11 31 42.2 +1.3
comp=Z,334nm,1.3s
PMSA PcP PcP 11 34 42.6 +1.4
PMSA LR LR
comp=Z,39μm,20.0s
HOPE Hope Point 31.09 139 P P 11 31 50.9 +1.6
comp=Z,3μm,0.8s,SNR=15
HOPE Hope Point 31.09 139 eP P 11 31 50.3 +1.0
comp=Z,272nm,0.9s
OTAV Otavalo 35.64 348 eP P 11 32 30.1 +0.4
comp=Z,710nm,1.6s
OTAV LR LR
comp=Z,4μm,19.0s
ROSC El Rosal 39.73 356 P P 11 33 05.2 +1.0
comp=Z,39nm,0.5s,baz=169,slow=2.5,SNR=31
ROSC El Rosal 39.73 356 eP P 11 33 06.0 +1.7
SDV Santo Domingo 43.66 1 eP P 11 33 34.9 -1.3
comp=Z,329nm,1.0s
RCBR Riachuelo 43.87 57 LR LR 11 53 59.3
comp=Z,62μm,18.0s,baz=210,slow=39
RCBR Riachuelo 43.87 57 eP P 11 33 38.0 +0.3
comp=Z,446nm,1.1s
BCIP Isla Barro Col 44.62 348 eP P 11 33 43.5 -0.1
comp=Z,1μm,1.9s
TPP Pointe-a-Pierr 46.09 14 e P 11 33 55.8 +0.6
TBH Brigand Hill 46.32 14 e P 11 33 56.9 -0.2
TRN Trinidad (W) 46.42 14 e P 11 33 58.0 +0.2
JTS JuntasAbangare 46.79 342 P P 11 34 01.5 +0.7
comp=Z,798nm,1.5s,SNR=15
JTS JuntasAbangare 46.79 342c iP P 11 33 58.8 -2.0
JTS pmax pmax
comp=Z,105nm,1.4s
JTS MLR MLR
comp=Z,19μm,26.0s
JTS JuntasAbangare 46.79 342 P P 11 34 00.1 -0.7
comp=Z,71nm,1.1s,baz=159,slow=6.9,SNR=37
JTS LR LR 11 49 40.7
comp=Z,3μm,21.6s,baz=150,slow=31
JTS JuntasAbangare 46.79 342 eP P 11 34 00.4 -0.4
comp=Z,879nm,1.9s
BOT Bacolet 47.06 15 e P 11 34 03.6 +0.7
TRIS Tristan da Cun 47.30 111 eP P 11 34 08.1 +3.4
comp=Z,752nm,1.0s
TRIS LR LR
comp=Z,14μm,22.0s
GRGR Grenville 47.81 13 eP P 11 34 08.2 -0.6
comp=Z,2μm,1.4s
GRGR LR LR
comp=Z,16μm,20.0s

VNA3 Neumayer Olymp 48.29 158 P P 11 34 13.2 +1.3
VNA1 Neumayer--Stat 48.61 157 P P 11 34 16.0 +1.8
VNA2 Neumayer--Watz 48.95 157 P P 11 34 18.5 +1.6
SVB Belmont 49.00 13 eP P 11 34 16.9 -1.0
BBGH Gun Hill 49.23 16 eP P 11 34 19.1 -0.5
comp=Z,499nm,1.3s
BBGH LR LR
comp=Z,12μm,20.0s
MCLT Moule a Chique 49.49 14 eP P 11 34 20.8 -0.8
H05S1 Guadeloupe/Mar 50.20 14 P P 11 34 25.6 -1.4
SNR=36
FDF Fort de France 50.45 13 eP P 11 34 27.2 -1.7
FDF pmax pmax
comp=Z,580nm,1.0s
FDF Fort de France 50.45 13 eP P 11 34 27.3 -1.6
FDF Fort de France 50.45 13 eP P 11 34 27.2 -1.7
comp=Z,580nm,1.0s
SNAA Sanae 50.52 158 P P 11 34 30.1 +1.2
SNAA Sanae 50.52 158 eP P 11 34 29.9 +1.0
SNAA Sanae 50.52 158c eP P 11 34 29.6 +0.7
SNAA pmax pmax
comp=Z,1μm,1.3s
SNAA MLR MLR
comp=Z,7μm,18.0s
SNAA Sanae 50.52 158 LR LR 11 53 32.1
comp=Z,4μm,21.8s,baz=294,slow=33
SNAA Sanae 50.52 158 eP P 11 34 29.2 +0.3
comp=Z,758nm,1.0s
PTCN Pitcairn Islan 50.98 264 PFAKE 11 34 50.0 +17
PTCN LR LR
comp=Z,12μm,20.0s
DLPL La Plaine 51.01 13 eP P 11 34 32.3 -0.8
BBL Barber's Block 51.16 13 eP P 11 34 32.1 -2.1
HMG Houelmont 51.57 12 eP P 11 34 35.2 -2.1
PHG Guadaloupe-2 51.61 12 eP P 11 34 35.7 -2.0
ECG Echelle 51.63 12 eP P 11 34 36.3 -1.7
LKG Breislack 51.64 12 eP P 11 34 36.0 -2.0
FNG Fond-Bernard 51.65 12 eP P 11 34 35.6 -2.3
SSG Sans Toucher 51.67 12 eP P 11 34 36.1 -2.1
DEG La Desirade 52.01 13 eP P 11 34 38.3 -2.2
H05N1 Guadeloupe/Mar 52.01 13 P P 11 34 37.6 -2.9
SNR=111
SEG Port Louis 52.01 12 eP P 11 34 38.4 -2.2
ICMP Isla Caja de M 52.82 6 eP P 11 34 45.0 -1.4
SEUS St. Eustatius 52.84 10 PFAKE 11 35 00.0 +13
SEUS LR LR
comp=Z,14μm,20.0s
APG El Apazote 52.86 337 LR LR 11 52 04.9
comp=Z,6μm,22.0s,baz=146,slow=30
CRPR Cabo Rojo, PR 52.89 5 eP P 11 34 45.2 -1.8
comp=Z,611nm,1.2s
CRPR LR LR
comp=Z,6μm,20.3s
SABA Saba 52.93 10 eP P 11 34 46.3 -1.1
comp=Z,1μm,1.4s
SABA LR LR
comp=Z,17μm,21.4s
OBIP Obispado Ponce 52.97 6 eP P 11 34 46.1 -1.5
comp=Z,814nm,1.2s
CELP Cerrillos 53.00 6 eP P 11 34 46.2 -1.6
CPD Cerro la Pandu 53.02 7 eP P 11 34 46.1 -1.9
CPD pmax pmax
comp=Z,323nm,1.3s
CPD Cerro la Pandu 53.02 7 eP P 11 34 46.1 -1.9
comp=Z,323nm,1.3s
LSP Las Mesas 53.06 5 eP P 11 34 47.0 -1.3
MPR Mayaguez 53.09 5 eP P 11 34 47.0 -1.5
comp=Z,329nm,1.3s
MPR LR LR
comp=Z,5μm,19.7s
HUMP Col San Antoni 53.13 7 eP P 11 34 46.9 -1.9
comp=Z,402nm,1.3s
HUMP LR LR
comp=Z,14μm,19.8s
LRS Lares 53.19 6 eP P 11 34 47.3 -2.0
ANWB Willy Bob 53.20 12 eP P 11 34 47.3 -2.1
comp=Z,2μm,1.4s
ANWB LR LR
comp=Z,9μm,21.0s
MTDJ Mount Denham 53.23 353 eP P 11 34 48.7 -1.0
comp=Z,480nm,1.5s
MTDJ LR LR
comp=Z,3μm,20.0s
AOPR Arecibo Observ 53.25 6 eP P 11 34 47.8 -2.0
comp=Z,294nm,1.1s
AOPR LR LR
comp=Z,12μm,20.7s
CBYP Canovanas 53.26 7 eP P 11 34 47.6 -2.2
comp=Z,660nm,1.2s
CBYP LR LR
comp=Z,13μm,19.4s
AGP Aguadilla 53.28 5 PFAKE 11 35 00.0 +10
AGP LR LR
comp=Z,9μm,19.8s
PCDR Punta Cana, DR 53.31 4 eP P 11 34 49.2 -0.9
AGPR Aguadilla, PR 53.34 5 eP P 11 34 49.2 -1.1
SMRT St. Maarten 53.38 10 eP P 11 34 48.1 -2.5
SMRT St. Maarten 53.38 10 eP P 11 34 48.3 -2.3
comp=Z,419nm,1.4s
SMRT LR LR
comp=Z,11μm,20.5s
STVI Saint Thomas 53.43 8 eP P 11 34 49.3 -1.7
comp=Z,219nm,1.2s
STVI LR LR
comp=Z,12μm,20.5s
SDDR Presa de Saban 53.69 0 eP P 11 34 51.9 -1.1
comp=Z,121nm,0.9s
SDDR LR LR
comp=Z,6μm,22.0s
SMN1 Samana, DR 53.94 3 eP P 11 34 53.3 -1.5
GTBY Guantanamo Bay 54.73 356 eP P 11 34 59.6 -0.9
GTBY LR LR
comp=Z,4μm,21.0s
RCC Rio Carpintero 54.83 355 eP P 11 35 00.4 -0.8
LMGC Las Mercedes 55.00 354 eP P 11 35 02.9 +0.5
QSPA South Pole Qui 55.24 180 eP P 11 35 04.5 +0.7
comp=Z,904nm,0.9s
QSPA LR LR
comp=Z,3μm,20.0s
NVL N'lazarevskaya 55.26 156 eP P 11 35 02.4 -1.3
NVL e*PP pP 11 35 13.0 -2.7
NVL eS S 11 43 02.3 +18
NVL i 11 43 08.7
NVL e 11 44 54.4
NVL MLR MLR
comp=Z,2μm,16.0s
HLGC Holguin 55.75 355 eP P 11 35 07.4 -0.4
RKT Rikitea 55.83 264 eP P 11 35 10.0 +1.4
comp=Z,172nm,1.4s
RKT eS S 11 42 52.8 -0.2
comp=Z,6μm,35.0s
RKT eSS SS 11 46 41.9 +2.9
comp=Z,5μm,32.5s
RKT eLQ LQ 11 49 08.8
comp=Z,6μm,28.8s
RKT eLR LR 11 51 31.0
comp=Z,21μm,30.5s,baz=117
GRTK Grand Turk 56.20 1 eP P 11 35 10.3 -0.7
comp=Z,1μm,1.5s
GRTK LR LR
comp=Z,4μm,20.0s
TEIG Tepich 57.16 341 P P 11 35 16.9 -0.9
comp=Z,156nm,0.7s,baz=200,slow=0.8,SNR=42
TEIG LR LR 11 54 50.2
comp=Z,2μm,21.5s,baz=163,slow=31
TEIG Tepich 57.16 341 eP P 11 35 17.1 -0.8
comp=Z,408nm,1.1s
MGV Manicaragua 57.35 351 eP P 11 35 17.7 -1.5
H10S3 ASCENSION HYDR 57.94 78 P P 11 35 24.6 +1.3
baz=251,slow=8.4,SNR=18
H10S2 ASCENSION HYDR 57.95 78 P P 11 35 24.8 +1.4
baz=251,slow=8.4,SNR=15
H10S1 ASCENSION HYDR 57.96 78 P P 11 35 24.8 +1.4
baz=251,slow=8.4,SNR=18
SOR Soroa 58.49 348 eP P 11 35 25.9 -1.2
H10N3 ASCENSION HYDR 58.72 77 P P 11 35 29.9 +1.2
baz=209,slow=9.7,SNR=16
H10N1 ASCENSION HYDR 58.73 77 P P 11 35 30.4 +1.6
baz=209,slow=9.7,SNR=19
H10N2 ASCENSION HYDR 58.74 77 P P 11 35 31.0 +2.2
baz=209,slow=9.7,SNR=10
ASCN Ascension 58.78 77 eP P 11 35 30.6 +1.1
comp=Z,586nm,1.1s
ASCN LR LR
comp=Z,11μm,20.0s
SHEL Horse Pasture 61.37 90 P P 11 35 49.3 +2.0

comp=Z,3µm,1.0s,SNR=17
SHEL Horse Pasture 61.37 90 iP P 11 35 49.4 +2.1
SHEL Horse Pasture 61.37 90 eP P 11 35 49.1 +1.8
comp=Z,439nm,0.8s
SHEL LR LR
comp=Z,7µm,22.0s
SBA Scott Base 62.17 192 eP P 11 35 53.9 +2.2
SBA pmax pmax
comp=Z,145nm,1.1s
SBA Scott Base 62.17 192 eP P 11 35 53.9 +2.2
comp=Z,145nm,1.1s
VNDA Vanda 63.19 191 eP P 11 36 01.3 +2.8
VNDA pmax pmax
comp=Z,154nm,1.3s
VNDA Vanda 63.19 191 P P 11 35 58.1 -0.4
comp=Z,49nm,0.9s,baz=130,slow=5.1,SNR=13
VNDA LR LR 12 00 05.9
comp=Z,4µm,19.5s,baz=128,slow=33
VNDA Vanda 63.19 191 eP P 11 36 01.3 +2.8
comp=Z,154nm,1.3s
SYO Syowa Base 64.80 158 ⇓iP P 11 36 07.4 -1.7
SYO Syowa Base 64.80 158 eSH S 11 45 00.6 +14
H06S1 SOCORRO T 65.22 319 T T 12 46 38.7
SNR=12
H06E1 SOCORRO T-PHAS 65.24 319 T T 12 46 33.2
SNR=22
035Z Hargill 66.07 334 ⇑P P 11 36 17.8 0.0
baz=66,SNR=6.8
035Z ⇓S S 11 45 04.1 +1.1
baz=66
035A Encino 66.52 334 ⇓P P 11 36 20.5 -0.2
baz=67,SNR=28
936A North Padre Is 66.68 335 ⇓P P 11 36 22.1 +0.5
baz=67
034A Hebbronville 66.84 334 ⇓P P 11 36 22.6 -0.1
baz=67,SNR=31
KVTX Kingsville 67.00 335 eP P 11 36 25.2 +1.5
comp=Z,578nm,1.5s
TIGA Tifton 67.05 349 eP P 11 36 23.1 -0.9
comp=Z,4µm,2.6s
TIGA LR LR
comp=Z,3µm,20.8s
TIGA Tifton 67.05 349 ⇑P P 11 36 22.6 -1.3
baz=67
BRAL Brewton 67.26 346 eP P 11 36 25.9 +0.6
comp=Z,380nm,1.1s
BRAL LR LR
comp=Z,2µm,19.0s
934A Benavides 67.27 334 ⇑P P 11 36 26.9 +1.4
baz=68,SNR=28
BBSR BB Station 67.33 6 eP P 11 36 25.9 +0.2
comp=Z,230nm,1.3s
SACV Santiago Islan 67.39 51 P P 11 36 25.4 -1.1
comp=Z,1µm,1.2s,SNR=9.9
SACV Santiago Islan 67.39 51 eP P 11 36 25.9 -0.7
comp=Z,342nm,1.1s
SACV LR LR
comp=Z,16µm,19.0s
738A Farr-Stevens R 67.44 337 ⇓P P 11 36 27.2 +0.8
baz=68
TBI Tubuai 67.44 257 eP P 11 36 27.7 +0.9
comp=Z,422nm,1.1s
933A Laredo 67.55 334 ⇑P P 11 36 27.5 +0.3
baz=68,SNR=69
835A Beeville 67.65 335 ⇑P P 11 36 28.3 +0.5
baz=68,SNR=25
834A Tilden 67.76 334 ⇑P P 11 36 29.1 +0.6
baz=68,SNR=111
RGRS Roger Stewart 68.03 352 eP P 11 36 29.7 -0.4
735A Kenedy 68.17 335 ⇑P P 11 36 31.4 +0.4
baz=68,SNR=57
NHSC New Hope 68.23 352 eP P 11 36 31.3 -0.1
comp=Z,858nm,1.1s
NHSC LR LR
comp=Z,4µm,19.0s
833A Chaparral WMA, 68.24 334 ⇓P P 11 36 31.6 +0.1
baz=68,SNR=31
832A Faith Ranch, C 68.42 333 ⇓P P 11 36 32.2 -0.5
baz=69,SNR=70
734A La Parita Cree 68.42 335 ⇓P P 11 36 32.3 -0.4
baz=69,SNR=35
636A Smothers Creek 68.49 336 ⇓P P 11 36 33.5 +0.4
baz=69,SNR=93
HKT Hockley 68.53 337 eP P 11 36 32.8 -0.4
HKT pmax pmax
comp=Z,622nm,2.0s
HKT Hockley 68.53 337 eP P 11 36 32.8 -0.4
comp=Z,622nm,2.0s
733A Divot King Ran 68.56 334 ⇑P P 11 36 33.2 -0.4
baz=69,SNR=29
635A Leesville 68.64 336 ⇑P P 11 36 33.3 -0.8
baz=69,SNR=28
538A Harpers Horsep 68.67 338 ⇑P P 11 36 34.6 +0.4
baz=69
537A Green Hill Far 68.80 337 ⇑P P 11 36 34.8 -0.2
baz=69,SNR=20
732A Laxson Ranch, 68.82 333 ⇑P P 11 36 34.5 -0.7
baz=69,SNR=87
634A China Grove, S 68.84 335 ⇑P P 11 36 34.2 -1.0
baz=69,SNR=11
GOGA Godfrey 68.96 349 eP P 11 36 34.8 -1.2
GOGA pmax pmax
comp=Z,271nm,1.1s
GOGA MLR MLR
comp=Z,2µm,19.0s
GOGA Godfrey 68.96 349 eP P 11 36 34.8 -1.2
comp=Z,271nm,1.1s
GOGA LR LR
comp=Z,2µm,19.0s
536A Bastrop 69.04 336 ⇑P P 11 36 35.9 -0.6
baz=69,SNR=38
MEH Mehetia 69.08 262 eP P 11 36 37.9 +0.7
comp=Z,76nm,1.3s
438A Sam Houston St 69.16 338 ⇑P P 11 36 37.5 +0.3
baz=69
535A Dale 69.17 336 ⇓P P 11 36 36.4 -0.9
baz=69,SNR=46
VBMS Vicksburg 69.19 343 eP P 11 36 37.4 0.0
comp=Z,2µm,2.3s
633A Saathoff Ranch 69.20 334 ⇑P P 11 36 36.8 -0.7
baz=69,SNR=62
LRAL Lakeview Retre 69.21 346 eP P 11 36 36.5 -1.0
comp=Z,1µm,2.3s
LRAL LR LR
comp=Z,3µm,22.0s
LPIG La Paz 69.30 322 P P 11 36 38.5 +0.3
comp=Z,120nm,1.1s,baz=52,slow=0.5,SNR=6.2
LPIG LR LR 12 00 15.6
comp=Z,1µm,21.2s,baz=136,slow=30
340A Bronson 69.32 340 ⇓P P 11 36 37.7 -0.5
baz=70,SNR=55
339A Huntington 69.43 339 ⇓P P 11 36 38.4 -0.5
baz=70,SNR=50
437A Phaontom Ranch 69.44 338 ⇑P P 11 36 39.0 +0.1
baz=70
632A Uvalde 69.46 334 ⇓P P 11 36 38.7 -0.5
baz=70,SNR=145
534A Blanco 69.47 335 ⇑P P 11 36 38.7 -0.6
baz=70,SNR=21
436A Wall Ranch, Ga 69.59 337 ⇓P P 11 36 39.2 -0.7
baz=70,SNR=21
631A Perdido Creek 69.66 333 ⇓P P 11 36 39.7 -0.7
baz=70,SNR=25
338A Crockett 69.68 338 ⇑P P 11 36 40.5 +0.1
baz=70,SNR=44
533A Kerrville 69.70 335 ⇑P P 11 36 40.0 -0.7
baz=70,SNR=102
337A Centerville 69.81 338 ⇓P P 11 36 41.1 -0.2
baz=70,SNR=76
NATX Nacogdoches 69.86 339 eP P 11 36 41.5 -0.1
comp=Z,265nm,1.0s
435B Jarrell 69.86 336 ⇑P P 11 36 41.0 -0.6
baz=70,SNR=27
239A Gary 70.05 339 ⇑P P 11 36 42.5 -0.1
baz=70
532A Rocksprings 70.06 334 ⇓P P 11 36 42.3 -0.6
baz=70,SNR=146
TVO Taravao 70.09 262 eP P 11 36 44.4 +0.9
comp=Z,80nm,1.3s
VAH Vaihoa 70.10 265 eP P 11 36 44.1 +0.6
comp=Z,281nm,1.2s
434A Burnet 70.12 336 ⇑P P 11 36 42.4 -0.8
baz=70,SNR=86
CNNC Cliffs of the 70.13 355 eP P 11 36 42.6 -0.4
comp=Z,554nm,1.1s
CNNC LR LR
comp=Z,3µm,20.0s
336A Riesel 70.18 337 ⇓P P 11 36 42.8 -0.7
baz=70,SNR=83
238A Jacksonville 70.22 339 ⇓P P 11 36 43.7 0.0
baz=70
335A Moody 70.27 337 ⇑P P 11 36 43.6 -0.5
baz=70,SNR=47
TIAR Tiarei 70.28 262 eP P 11 36 45.3 +0.7
comp=Z,55nm,1.0s
531A Rocksprings 70.33 334 ⇑P P 11 36 44.1 -0.5
baz=70,SNR=60
433A Art 70.35 335 ⇑P P 11 36 43.8 -0.8
baz=71,SNR=104
JCT Junction City 70.35 334 eP P 11 36 43.7 -0.9
JCT pmax pmax
comp=Z,244nm,1.1s
JCT MLR MLR
comp=Z,1µm,20.0s
JCT Junction City 70.35 334 eP P 11 36 43.7 -0.9
comp=Z,244nm,1.1s
JCT LR LR
comp=Z,1µm,20.0s
JCT Junction City 70.35 334 ⇑P P 11 36 44.2 -0.5
baz=71,SNR=99
KMSC Kings Mountain 70.37 352 eP P 11 36 43.5 -1.1
comp=Z,279nm,1.1s
KMSC LR LR
comp=Z,3µm,20.8s
KMSC Kings Mountain 70.37 352 ⇑P P 11 36 43.7 -0.9
baz=71
PAE Paea 70.42 262 eP P 11 36 46.2 +0.8
comp=Z,79nm,1.2s
237A Washetta, Mont 70.43 338 ⇑P P 11 36 45.0 0.0
baz=71
PMOR Pomariorio Ree 70.44 265 eP P 11 36 46.1 +0.5
comp=Z,170nm,1.2s
PPT2 Papeete2 70.45 262 eP P 11 36 46.7 +1.0
comp=Z,364nm,1.2s
PPT2 eS S 11 45 55.4 -0.6
comp=Z,8µm,27.2s
PPT2 Papeete2 70.45 262 eLR LR 11 58 12.2
comp=Z,40µm,27.8s,baz=120
PPT Papeete 70.47 262 P P 11 36 46.0 +0.3
PPT pmax pmax
comp=Z,99nm,0.9s
PPT Papeete 70.47 262 P P 11 36 46.0 +0.3
comp=Z,99nm,0.9s,baz=202,slow=3.7,SNR=8.5
PPT LR LR 12 00 16.2
comp=Z,8µm,19.1s,baz=132,slow=30
334A Lometa 70.58 336 ⇑P P 11 36 45.5 -0.5
baz=71,SNR=72
530A J-C Ranch, Com 70.61 333 ⇑P P 11 36 45.9 -0.4
baz=71,SNR=94
432A Menard 70.70 335 ⇑P P 11 36 45.9 -0.9
baz=71,SNR=50
TX31 Lajitas Ar. Si 70.79 331 eP P 11 36 46.5 -0.9
TXAR Lajitas Array 70.79 331 P P 11 36 46.9 -0.5
comp=Z,25nm,0.7s,baz=156,slow=8.2,SNR=150
TXAR LR LR 12 03 23.2
comp=Z,7µm,18.6s,baz=0.0,slow=32
TXAR PKPPKP P'P'df 12 04 44.2 +3.7
comp=Z,3.5nm,1.0s,baz=316,slow=5.2,SNR=5.4
431A Sonora 70.82 334 ⇓P P 11 36 47.2 -0.3
baz=71,SNR=80
138A Matatall Enter 70.83 339 ⇑P P 11 36 47.2 -0.3
baz=71
333A Richland Sprin 70.83 335 ⇑P P 11 36 46.9 -0.6
baz=71,SNR=64
529A Stev Forest Ra 70.92 332 ⇓P P 11 36 48.1 0.0
baz=71,SNR=118
WHTX Lake Whitney 70.94 337 eP P 11 36 47.5 -0.6
comp=Z,187nm,0.8s
WHTX LR LR
comp=Z,600nm,19.8s
WHTX Lake Whitney 70.94 337 ⇑P P 11 36 47.5 -0.6
baz=71,SNR=52
137A Heron Place, G 70.97 339 ⇓P P 11 36 47.8 -0.5
baz=71
SWET Sewanee 71.13 348 eP P 11 36 48.3 -1.0
comp=Z,767nm,1.2s
OXF Oxford 71.14 345 eP P 11 36 48.1 -1.2
OXF pmax pmax
comp=Z,416nm,1.0s
OXF Oxford 71.14 345 eP P 11 36 48.1 -1.2
comp=Z,416nm,1.0s
430A Baggett Ranch, 71.14 333 ⇓P P 11 36 49.3 -0.2
baz=71,SNR=122
332A Millersview 71.15 335 ⇓P P 11 36 48.9 -0.5
baz=71,SNR=70
234A Clairette 71.17 336 ⇓P P 11 36 48.7 -0.8
baz=71,SNR=96
TKL Tuckaleechee C 71.21 350 P P 11 36 48.4 -1.3
TKL pmax pmax
comp=Z,149nm,1.1s
TKL Tuckaleechee C 71.21 350 P P 11 36 48.4 -1.3
comp=Z,149nm,1.1s,baz=167,slow=7.7,SNR=46
429A Davenport Ranc 71.24 333 ⇑P P 11 36 49.5 -0.6
baz=72,SNR=80
331A San Angelo 71.32 334 ⇓P P 11 36 49.7 -0.8
baz=72,SNR=128
233A Rising Star 71.44 336 ⇑P P 11 36 50.4 -0.8
baz=72,SNR=66
135A Vickery Place, 71.44 337 ⇑P P 11 36 50.6 -0.6
baz=72,SNR=36
232A Coleman 71.57 335 ⇑P P 11 36 51.1 -0.9
baz=72,SNR=38
134A White-Moore Ra 71.67 337 ⇑P P 11 36 51.7 -0.8
baz=72,SNR=28
330A Mertzon 71.68 334 ⇑P P 11 36 51.6 -1.1
baz=72,SNR=56
231A Bronte 71.85 335 ⇑P P 11 36 52.7 -1.0
baz=72,SNR=56
133A Hamilton Ranch 71.98 336 ⇓P P 11 36 53.8 -0.6
baz=72,SNR=81
TZTN Tazewell 72.05 350 eP P 11 36 53.8 -0.9
comp=Z,672nm,1.6s
TZTN LR LR
comp=Z,3µm,21.2s
329A Wagon Wheel Ra 72.05 333 ⇓P P 11 36 54.2 -0.7
baz=72,SNR=73
UALR University of 72.08 342 eP P 11 36 53.9 -1.1
comp=Z,183nm,1.3s
230A Sterling City 72.09 334 ⇓P P 11 36 54.3 -0.8
baz=72,SNR=12
Z35A Perchaven, San 72.11 338 ⇓P P 11 36 54.5 -0.7
baz=72,SNR=106
MAW Mawson 72.12 163 eP P 11 36 56.3 +1.4
MAW pmax pmax
comp=Z,117nm,0.9s
MAW Mawson 72.12 163 P P 11 36 54.8 -0.1
comp=Z,422nm,0.8s,baz=218,slow=7.1,SNR=45
MAW LR LR 12 08 24.3
comp=Z,13µm,21.3s,baz=226,slow=36
MAW Mawson 72.12 163 eP P 11 36 56.2 +1.4
comp=Z,117nm,0.9s
ELIM Elim 72.13 120 eP P 11 36 56.5 +0.9
ELIM AMB AMB 11 36 57.9
comp=Z,399nm,1.2s
ELIM Elim 72.13 120 P P 11 36 56.5 +0.9
comp=Z,399nm,1.2s
MIAR Mount Ida 72.18 341 eP P 11 36 55.0 -0.5
MIAR pmax pmax
comp=Z,848nm,2.3s
MIAR Mount Ida 72.18 341 eP P 11 36 55.0 -0.5
comp=Z,848nm,2.3s
ABTX Abilene, Hawle 72.24 335 eP P 11 36 55.3 -0.7
comp=Z,2µm,2.5s
ABTX Abilene, Hawle 72.24 335 ⇓P P 11 36 55.4 -0.7
baz=72,SNR=56
VWCC Virginia Weste 72.30 353 eP P 11 36 55.4 -0.8
BLA Blacksburg 72.32 353 eP P 11 36 55.6 -0.8
BLA pmax pmax
comp=Z,1µm,2.1s
BLA MLR MLR
comp=Z,2µm,18.0s
BLA Blacksburg 72.32 353 eP P 11 36 55.6 -0.8
comp=Z,1µm,2.1s
BLA LR LR
comp=Z,2µm,18.0s
Z34A Collier Ranch, 72.36 337 ⇑P P 11 36 55.8 -0.8
baz=73,SNR=20
WVT Waverly 72.37 346 eP P 11 36 55.2 -1.4
WVT pmax pmax
comp=Z,880nm,1.1s
WVT MLR MLR
comp=Z,2µm,19.0s
WVT Waverly 72.37 346 eP P 11 36 55.2 -1.4
comp=Z,880nm,1.1s
WVT LR LR
comp=Z,2µm,19.0s
HBAR Harrisburg 72.42 344 eP P 11 36 56.5 -0.4
229A Bryant Ranch, 72.42 333 ⇓P P 11 36 56.0 -1.1
baz=73,SNR=38
URVA University of 72.42 355 eP P 11 36 56.7 -0.2
131A Roby 72.55 335 ⇓P P 11 36 57.1 -0.8
baz=73,SNR=37
Z33A Whitaker Ranch 72.55 336 ⇑P P 11 36 57.0 -0.8
baz=73,SNR=87
JSRW J. Sargeant Re 72.56 355 eP P 11 36 57.5 -0.3
GNAR Gosnell 72.67 344 eP P 11 36 58.3 0.0
comp=Z,14µm,1.7s
130A Snyder 72.68 334 ⇓P P 11 36 57.6 -1.0
baz=73,SNR=27
Z32A Haskell 72.81 336 ⇑P P 11 36 58.6 -0.7
baz=73,SNR=95
228A UT Block 9, Go 72.84 333 ⇓P P 11 36 58.7 -1.0
baz=73,SNR=66
Y34A Reagan Ranch, 72.85 337 ⇓P P 11 36 58.4 -1.2
baz=73,SNR=58
KOMG Komaggas 72.92 115 eP P 11 37 01.5 +1.2
KOMG AMB AMB 11 37 03.1
comp=Z,461nm,1.3s
KOMG Komaggas 72.92 115 P P 11 37 01.5 +1.2
comp=Z,461nm,1.3s
PVMO Portageville 73.03 345 eP P 11 37 00.5 0.0
comp=Z,1µm,1.1s
129A Stewart Farms, 73.03 334 ⇓P P 11 36 59.7 -1.1
baz=73,SNR=22
CBN Corbin 73.04 355 eP P 11 37 00.4 -0.1
comp=Z,176nm,1.0s
Z31A Sharp Cattle R 73.05 335 ⇑P P 11 36 59.7 -1.1
baz=73,SNR=75
Y33A Hilltop Ranch, 73.17 337 ⇑P P 11 37 00.5 -0.9
baz=73,SNR=63
128A Castleberry Fa 73.25 333 ⇓P P 11 37 01.6 -0.5
baz=74,SNR=48
Z30A Sanderson Ranc 73.36 334 ⇓P P 11 37 01.5 -1.2
baz=74,SNR=43
Y32A R-V Farms, Ver 73.43 336 ⇑P P 11 37 02.3 -0.7
baz=74,SNR=34
X34A Smith Ranch, M 73.46 338 ⇓P P 11 37 02.2 -1.0
baz=74,SNR=56
CLNB Carlsbad 73.46 332 eP P 11 37 03.5 +0.1
comp=Z,34nm,1.5s
PBMO Poplar Bluff 73.54 344 eP P 11 37 02.4 -1.1
comp=Z,383nm,1.3s
Z29A Hungry Hill Ra 73.54 334 ⇑P P 11 37 02.6 -1.2
baz=74,SNR=96
MNTX Cornudas Mount 73.56 330 eP P 11 37 02.2 -1.6
comp=Z,107nm,1.0s
MNTX LR LR
comp=Z,5µm,20.0s
GDL2 Guadalupe Moun 73.60 331 eP P 11 37 04.1 -0.1
comp=Z,71nm,1.0s
X33A Lawton 73.62 337 ⇑P P 11 37 02.7 -1.4
baz=74,SNR=34
127A Arkansas Junct 73.63 332 ⇓P P 11 37 03.3 -1.0
baz=74,SNR=24
Y31A Rekieta Farm, 73.67 335 ⇓P P 11 37 03.6 -0.8
baz=74,SNR=66
X32A Elmer 73.76 336 ⇓P P 11 37 04.3 -0.7
baz=74,SNR=37
Y30A Stafford Cattl 73.81 335 ⇑P P 11 37 04.3 -1.0
baz=74,SNR=8.5
Z28A Tucker Farm, M 73.81 333 ⇑P P 11 37 04.4 -1.0
baz=74,SNR=36
SUR Sutherland 74.03 118 P P 11 37 08.3 +1.2
comp=Z,3µm,1.0s,SNR=30
SUR Sutherland 74.03 118 P P 11 37 09.8 +2.7
SNR=14
SUR Sutherland 74.03 118 eP P 11 37 08.2 +1.2
comp=Z,415nm,0.9s
SUR LR LR
comp=Z,10µm,21.0s
W34A Bridge Creek, 74.03 338 eP P 11 37 05.7 -0.9
comp=Z,348nm,1.4s
W34A Bridge Creek, 74.03 338 ⇑P P 11 37 05.6 -0.9
baz=74,SNR=28
Y29A Porterfield Fa 74.07 334 ⇑P P 11 37 05.9 -0.9
baz=74,SNR=80
TUL1 Tulsa 74.07 340 eP P 11 37 05.5 -1.2
comp=Z,282nm,1.1s
TUL1 Tulsa 74.07 340 ⇓P P 11 37 05.5 -1.2
baz=74,SNR=81
USIN University of 74.12 347 eP P 11 37 05.3 -1.6
comp=Z,615nm,1.1s
USIN LR LR
comp=Z,3µm,20.2s
WCI Wyandotte Cave 74.13 348 eP P 11 37 05.2 -1.8
WCI pmax pmax
comp=Z,842nm,2.0s
WCI MLR MLR
comp=Z,3µm,21.0s
WCI Wyandotte Cave 74.13 348 eP P 11 37 05.2 -1.8
comp=Z,842nm,2.0s
WCI LR LR
comp=Z,3µm,21.0s
CPRX Cap Rock 74.14 332 eP P 11 37 07.1 -0.2
comp=Z,33nm,0.9s
Z27A Tatum 74.14 333 ⇓P P 11 37 06.0 -1.4
baz=74,SNR=28
W33A Caddo, Fort Co 74.17 337 ⇓P P 11 37 07.2 -0.2
baz=74,SNR=114
SIUC Southern Illin 74.18 346 eP P 11 37 05.9 -1.4
comp=Z,253nm,1.0s
SIUC LR LR
comp=Z,2µm,20.9s
X31A McDonald Ranch 74.19 336 ⇓P P 11 37 06.5 -1.0
baz=74,SNR=62
SDMD Soldier's Deli 74.20 356 eP P 11 37 07.0 -0.3
comp=Z,277nm,1.2s
SDMD LR LR
comp=Z,4µm,21.2s
X30A Coker Ranch, T 74.32 335 ⇓P P 11 37 07.3 -1.0
baz=74,SNR=27
Y28A McKinney Farm, 74.32 334 ⇓P P 11 37 07.4 -1.0
baz=74,SNR=28
W32A Sentinel 74.39 337 ⇑P P 11 37 08.0 -0.7
baz=75,SNR=190
Z26A Caprock 74.40 332 ⇑P P 11 37 08.0 -0.8
baz=75,SNR=210
V34A Guthrie 74.51 338 eP P 11 37 08.3 -1.0
comp=Z,245nm,1.0s
V34A Guthrie 74.51 338 ⇓P P 11 37 07.9 -1.4
baz=75,SNR=33
MSTX Muleshoe 74.57 333 eP P 11 37 08.8 -1.0
comp=Z,191nm,1.0s
MSTX LR LR
comp=Z,3µm,19.3s
MSTX Muleshoe 74.57 333 ⇓P P 11 37 08.9 -0.9
baz=75,SNR=60
X29A Tulia 74.61 335 ⇓P P 11 37 09.0 -0.9
baz=75,SNR=46
Y27A Causey 74.63 333 ⇑P P 11 37 09.1 -1.1
baz=75,SNR=24
W31A Holland Ranch, 74.68 336 ⇓P P 11 37 09.0 -1.3
baz=75,SNR=34
Z25A Roswell 74.69 332 ⇑P P 11 37 09.7 -0.8
baz=75,SNR=51
V33A Lossen Ranch, 74.73 338 ⇑P P 11 37 09.5 -1.0
baz=75,SNR=106
LIC Lamto 74.75 71 ⇑iP P 11 37 11.4 +0.2
comp=Z,2µm,1.3s,baz=242
LIC eR
comp=Z,12µm,21.5s
LIC Lamto 74.75 71 eP P 11 37 11.3 +0.1
comp=Z,2µm,1.3s
LIC Lamto 74.75 71 ⇑iP P 11 37 11.4 +0.2
comp=Z,2µm,1.3s
MVL Millersville 74.76 356 eP P 11 37 10.5 -0.1
comp=Z,394nm,1.4s
X28A Dimmitt 74.85 334 ⇑P P 11 37 10.8 -0.6
baz=75,SNR=20
V32A Arapaho 74.88 337 ⇑P P 11 37 11.0 -0.4
baz=75,SNR=30
W30A Crocket Farms 74.89 336 ⇓P P 11 37 10.4 -1.1
baz=75,SNR=6.9
Y26A Elida 74.92 333 ⇓P P 11 37 10.8 -1.0
baz=75,SNR=16
319A Douglas 74.94 327 ⇑P P 11 37 12.2 +0.2
baz=75,SNR=32
OLIL Olney 74.94 347 eP P 11 37 09.9 -1.8
comp=Z,565nm,1.4s
OLIL LR LR
comp=Z,3µm,21.0s
Z24A Sheeppen Canyo 74.99 331 ⇓P P 11 37 11.8 -0.5
baz=75,SNR=80
AMTX Amarillo 75.00 335 eP P 11 37 11.7 -0.5

comp=Z,3µm,2.5s
AMTX LR LR
comp=Z,2µm,19.0s
AMTX Amarillo 75.00 335 ⇓P P 11 37 11.4 -0.8
baz=75
TIC Toumodi 75.02 71 eP P 11 37 12.9 +0.2
comp=Z,1µm,1.3s
KIC Kosan Boka 75.06 71 eP P 11 37 13.2 +0.2
U34A Anderson Ranch 75.07 339 eP P 11 37 11.6 -0.9
comp=Z,2µm,1.1s
U34A Anderson Ranch 75.07 339 ⇓P P 11 37 11.6 -0.9
comp=Z,264nm,1.0s
baz=75,SNR=51
BLO Bloomington 75.09 348 eP P 11 37 10.9 -1.6
BLO pmax pmax
comp=Z,1µm,1.9s
BLO MLR MLR
comp=Z,3µm,20.6s
BLO Bloomington 75.09 348 eP P 11 37 10.9 -1.6
comp=Z,1µm,1.9s
BLO LR LR
comp=Z,3µm,20.6s
DBIC Dimbokro 75.16 71 eP P 11 37 12.7 -0.8
DBIC Dimbokro 75.16 71 P P 11 37 13.9 +0.4
comp=Z,468nm,0.9s,baz=208,slow=6.8,SNR=230
DBIC LR LR 12 07 34.3
comp=Z,8µm,20.8s,baz=214,slow=34
DBIC Dimbokro 75.16 71 eP P 11 37 13.9 +0.4
comp=Z,850nm,1.0s
V31A Spring Creek L 75.18 337 ⇑P P 11 37 13.1 -0.1
baz=75,SNR=37
W29A Amraillo 75.20 335 ⇓P P 11 37 12.5 -0.9
baz=75,SNR=59
U33A Lingo Farm, Me 75.24 338 ⇑P P 11 37 12.4 -1.1
baz=76,SNR=39
Y25A Mesa, Roswell 75.25 332 ⇓P P 11 37 13.1 -0.7
baz=76,SNR=24
SLM Saint Louis 75.28 345 eP P 11 37 12.2 -1.4
SLM pmax pmax
comp=Z,450nm,1.1s
SLM MLR MLR
comp=Z,2µm,21.6s
SLM Saint Louis 75.28 345 eP P 11 37 12.2 -1.4
comp=Z,450nm,1.1s
SLM LR LR
comp=Z,2µm,21.6s
121A Cookes Peak, D 75.28 329 eP P 11 37 14.4 +0.3
comp=Z,376nm,1.1s
121A Cookes Peak, D 75.28 329 ⇑P P 11 37 14.0 -0.1
baz=76,SNR=98
X27A F and S Farms, 75.29 334 ⇓P P 11 37 13.2 -0.8
baz=76,SNR=25
LUPA Lehigh Univers 75.31 357 eP P 11 37 13.8 +0.1
comp=Z,280nm,2.6s
LUPA LR LR
comp=Z,500nm,21.3s
BRNJ Basking Ridge 75.36 358 eP P 11 37 15.4 +1.3
comp=Z,243nm,1.2s
BRNJ LR LR
comp=Z,5µm,20.1s
V30A Spur Ranch, Mi 75.45 336 ⇓P P 11 37 14.9 +0.1
baz=76,SNR=20
CPNY Central Park 75.45 358 eP P 11 37 14.3 -0.3
comp=Z,128nm,1.2s
U32A Winter Ranch, 75.47 337 ⇓P P 11 37 14.0 -0.8
baz=76,SNR=26
X26A CR and CF Fran 75.47 333 ⇓P P 11 37 14.5 -0.5
baz=76,SNR=63
SSPA Standing Stone 75.49 355 eP P 11 37 14.1 -0.7
comp=Z,190nm,1.1s
SSPA LR LR
comp=Z,4µm,22.0s
W28A Vega 75.52 335 ⇓P P 11 37 14.5 -0.7
baz=76,SNR=6.9
Y24A Capitan 75.54 331 ⇑P P 11 37 15.2 -0.3
baz=76,SNR=55
Z22A Elephant Butte 75.57 330 ⇓P P 11 37 15.1 -0.5
baz=76,SNR=48
ACSO Alum Creek Sta 75.60 351 eP P 11 37 14.3 -1.2
comp=Z,322nm,0.8s
ACSO eS S 11 46 51.1 -2.1
ACSO LR LR
comp=Z,2µm,21.0s
W27A Bowe Ranch, En 75.65 334 ⇓P P 11 37 15.3 -0.7
baz=76,SNR=78
PAL Palisades 75.67 358 eP P 11 37 15.6 -0.2
PAL pmax pmax
comp=Z,172nm,1.3s
PAL Palisades 75.67 358 eP P 11 37 15.6 -0.2
comp=Z,172nm,1.3s
U31A Nine Bar Ranch 75.73 337 ⇑P P 11 37 15.6 -0.7
baz=76,SNR=25
ODNJ Ogdensburg 75.77 358 eP P 11 37 16.1 -0.2
comp=Z,238nm,1.2s
ODNJ LR LR
comp=Z,5µm,21.5s
X25A Clemmons Ranch 75.77 332 ⇑P P 11 37 15.7 -1.1
baz=76,SNR=7.3
Y23A Lovelace Mesa, 75.79 331 ⇑P P 11 37 16.5 -0.4
baz=76,SNR=50
DRV Dumont d'Urvil 75.80 192 P P 11 37 05.0 -11
DRV PP PP 11 39 56.0 -10
DRV S SKiKP 11 46 24.0 -9.3
DRV SS SS 11 51 38.0 -8.2
DRV L L 11 57 00.0
DRV R 12 01 00.0
V29A Stinnett 75.84 335 ⇓P P 11 37 16.2 -0.8
baz=76,SNR=8.7
BUFB Buffelsbos 75.88 122 eP P 11 37 18.5 +1.0
BUFB AMB AMB 11 37 18.9
comp=Z,54nm,1.4s
BUFB Buffelsbos 75.88 122 P P 11 37 18.5 +1.0
comp=Z,54nm,1.4s
T33A Patterson Ranc 75.88 338 ⇓P P 11 37 16.8 -0.4
baz=76,SNR=88
W26A Owens Ranch, T 75.93 333 ⇑P P 11 37 17.1 -0.5
baz=76,SNR=58
YLE Yale 75.96 359 eP P 11 37 18.1 +0.7
comp=Z,599nm,1.3s
YLE LR LR
comp=Z,5µm,20.9s
V28A Channing 75.97 335 ⇑P P 11 37 17.6 -0.2
baz=76,SNR=15
X24A Lazy VL Ranch, 76.10 332 ⇓P P 11 37 18.4 -0.3
baz=76,SNR=19
U30A WK&E Inc. Balk 76.14 336 ⇓P P 11 37 18.0 -0.7
baz=76,SNR=39
T32A Huddler Ranch, 76.18 338 ⇓P P 11 37 18.3 -0.5
baz=76,SNR=30
V27A Dan Oppiter Fa 76.19 334 ⇓P P 11 37 18.7 -0.3
baz=76,SNR=49
BNM Barren Site 76.21 331 eP P 11 37 19.5 +0.1
Y22D IRIS PASSCAL I 76.26 330 ⇑P P 11 37 19.7 +0.2
baz=76,SNR=7.6
U29A Oasis Ranch, S 76.27 336 ⇓P P 11 37 18.5 -1.0
baz=76
S33A Kaszmaul Farm, 76.28 339 ⇓P P 11 37 18.8 -0.6
baz=76,SNR=9.0
KSPA Keystone Colle 76.28 357 eP P 11 37 19.3 0.0
comp=Z,184nm,1.3s
KSPA LR LR
comp=Z,4µm,20.1s
W25A X Bar L Ranch, 76.31 333 ⇓P P 11 37 19.5 -0.3
baz=76,SNR=53
T31A Randall Ranch, 76.34 337 ⇓P P 11 37 19.1 -0.7
baz=77,SNR=23
LPM Los Pinos Moun 76.35 331 eP P 11 37 20.3 +0.2
SFIN Scholer Farm 76.36 348 eP P 11 37 18.1 -1.6
comp=Z,181nm,1.1s
SFIN LR LR
comp=Z,3µm,21.6s
SFIN Scholer Farm 76.36 348 ⇓P P 11 37 17.9 -1.8
baz=77
LENM Lemitar 76.36 330 eP P 11 37 20.8 +0.7
WIN Windhoek 76.40 108 eP P 11 37 21.4 +0.6
WIN AMB AMB 11 37 23.4
comp=Z,130nm,1.2s
WIN Windhoek 76.40 108 P P 11 37 21.4 +0.6
WIN pmax pmax
comp=Z,130nm,1.2s
WIN Windhoek 76.40 108 P P 11 37 21.4 +0.6
comp=Z,130nm,1.2s
TUC Tucson 76.41 327 eP P 11 37 20.7 +0.4
TUC pmax pmax
comp=Z,150nm,1.2s
TUC MLR MLR
comp=Z,4µm,21.0s
TUC Tucson 76.41 327 eP P 11 37 20.7 +0.4
comp=Z,150nm,1.2s
TUC LR LR
comp=Z,4µm,21.0s
X23A Hourglass Bar 76.41 331 ⇓P P 11 37 20.9 +0.5
baz=77,SNR=65
UPI Upington 76.47 115 eP P 11 37 22.1 +1.0
UPI AMB AMB 11 37 23.3
comp=Z,477nm,1.3s
UPI Upington 76.47 115 P P 11 37 22.1 +1.0
comp=Z,477nm,1.3s
U28A Mallet 76.53 335 ⇓P P 11 37 20.3 -0.7
baz=77,SNR=43
BRYW Bryant College 76.55 0 eP P 11 37 21.3 +0.5
comp=Z,374nm,1.3s
V26A Tequesquite Ra 76.57 334 ⇑P P 11 37 20.6 -0.6
baz=77,SNR=41
T30A Plains 76.57 337 ⇑P P 11 37 20.4 -0.7
baz=77,SNR=8.7
LAZ Ladron 76.64 330 eP P 11 37 22.1 +0.3
W24A Lazy 6 Ranch, 76.66 332 ⇑P P 11 37 21.2 -0.6
baz=77,SNR=81
S32A Newby Ranch, P 76.66 338 ⇑P P 11 37 20.9 -0.6
baz=77,SNR=17
ALLY Alegheny Colle 76.68 353 eP P 11 37 20.4 -1.2
comp=Z,300nm,1.1s
ALLY LR LR
comp=Z,5µm,21.6s
RAR Rarotonga 76.72 253 LR LR 12 02 54.3
comp=Z,7µm,21.0s,baz=150,slow=29
S31A Mullinville 76.76 338 ⇑P P 11 37 21.5 -0.7
baz=77,SNR=32
U27A Thompson Grove 76.78 335 ⇑P P 11 37 21.8 -0.6
baz=77,SNR=58
ANMO Albuquerque 76.84 331c iP P 11 37 21.1 -1.7
ANMO pmax pmax
comp=Z,1µm,2.5s
ANMO MLR MLR
comp=Z,5µm,15.0s
ANMO Albuquerque 76.84 331 P P 11 37 22.8 -0.1
comp=Z,46nm,0.9s,baz=158,slow=7.4,SNR=94
ANMO Albuquerque 76.84 331 eP P 11 37 22.6 -0.2
comp=Z,186nm,1.2s
ANMO LR LR
comp=Z,7µm,20.0s
W23A Werner Place, 76.90 332 ⇓P P 11 37 23.1 -0.2
baz=77,SNR=70
QUA2 Belchertown 76.91 359 eP P 11 37 23.1 +0.3
comp=Z,230nm,1.1s
QUA2 LR LR
comp=Z,4µm,20.8s
V25A Rancho No Teng 76.91 333 ⇓P P 11 37 22.4 -0.8
baz=77,SNR=89
T29A Hugoton 76.92 336 ⇑P P 11 37 22.6 -0.5
baz=77,SNR=29
BINY Binghamton 76.94 357 eP P 11 37 22.4 -0.5
comp=Z,219nm,1.3s
BINY LR LR
comp=Z,4µm,21.0s
R33A Olander Ranch, 76.94 339 ⇑P P 11 37 22.4 -0.7
baz=77,SNR=20
WES Weston 77.02 0 eP P 11 37 24.0 +0.6
WES pmax pmax
comp=Z,425nm,1.5s
WES Weston 77.02 0 eP P 11 37 24.0 +0.6
comp=Z,425nm,1.5s
214A Organ Pipe Nat 77.05 325 eP P 11 37 24.7 +0.8
comp=Z,186nm,1.2s
214A Organ Pipe Nat 77.05 325 ⇑P P 11 37 23.9 0.0
baz=77,SNR=14
V24A Rampart Ranch, 77.06 332 ⇓P P 11 37 23.2 -0.9
baz=77,SNR=29
U26A Atchley Ranch, 77.09 334 ⇓P P 11 37 23.8 -0.4
baz=77,SNR=41
S30A Montezuma 77.09 337 ⇓P P 11 37 23.6 -0.5
baz=77,SNR=19
HRV Adam Dziewonsk 77.14 0 eP P 11 37 24.7 +0.6
HRV pmax pmax
comp=Z,277nm,1.2s
HRV MLR MLR
comp=Z,3µm,20.0s
HRV Adam Dziewonsk 77.14 0 eP P 11 37 24.7 +0.6
comp=Z,277nm,1.2s
HRV LR LR
comp=Z,3µm,20.0s
T28A Walsh 77.17 335 ⇓P P 11 37 23.7 -0.8
baz=77,SNR=103
R32A Long Quarter, 77.26 338 ⇓P P 11 37 24.3 -0.6
baz=78,SNR=78
KSU1 Kansas State U 77.28 340 eP P 11 37 23.9 -1.1
comp=Z,92nm,0.8s
KSU1 LR LR
comp=Z,1µm,19.0s
KSU1 Kansas State U 77.28 340 ⇑P P 11 37 24.1 -0.9
baz=78,SNR=39
S29A Ulysses 77.28 336 ⇓P P 11 37 24.9 -0.2
baz=78,SNR=48
T27A Campo 77.32 335 ⇓P P 11 37 24.4 -1.1
baz=78,SNR=74
U25A Circle Dot Ran 77.33 333 ⇓P P 11 37 25.0 -0.6
baz=78,SNR=89
TRY Troy 77.39 358 eP P 11 37 26.0 +0.5
comp=Z,521nm,1.2s
R31A Burdett 77.39 338 ⇑P P 11 37 24.6 -1.0
baz=78,SNR=44
V23A Ortiz Mt. (NFS 77.43 332 ⇑P P 11 37 26.8 +0.6
baz=78,SNR=29
S28A Manter 77.52 336 ⇑P P 11 37 25.7 -0.8
baz=78,SNR=69
Q33A Connelly Farm, 77.53 339 ⇑P P 11 37 26.0 -0.5
baz=78,SNR=29
GRM Grahamstown 77.57 122 eP P 11 37 27.7 +0.6
GRM AMB AMB 11 37 29.1
comp=Z,768nm,1.1s
GRM Grahamstown 77.57 122 P P 11 37 27.7 +0.6
GRM pmax pmax
comp=Z,768nm,1.1s
GRM Grahamstown 77.57 122 P P 11 37 27.7 +0.6
comp=Z,768nm,1.1s
R30A Dighton 77.62 337 ⇑P P 11 37 26.3 -0.7
baz=78,SNR=21
U24A Moreno Valley 77.67 333 ⇓P P 11 37 27.8 +0.2
baz=78,SNR=59
AAM Ann Arbor 77.72 351 eP P 11 37 25.9 -1.4
AAM pmax pmax
comp=Z,580nm,1.6s
AAM MLR MLR
comp=Z,3µm,22.0s
AAM Ann Arbor 77.72 351 eP P 11 37 25.9 -1.4
comp=Z,580nm,1.6s
AAM LR LR
comp=Z,3µm,22.0s
T26A Comanche Natio 77.73 334 ⇑P P 11 37 27.5 -0.3
baz=78,SNR=56
Q32A Meitler Ranch, 77.74 339 ⇑P P 11 37 26.8 -0.7
baz=78,SNR=30
V22A San Miguel Ran 77.86 331 ⇑P P 11 37 29.2 +0.6
baz=78,SNR=108
P33A Williams Farm, 77.90 340 ⇓P P 11 37 28.5 0.0
baz=78,SNR=17
X18A Snowflake 77.92 328 ⇑P P 11 37 28.8 -0.1
baz=78,SNR=63
S27A Las Animas 77.94 335 ⇓P P 11 37 28.6 -0.3
baz=78
U23A El Rito 77.94 332 ⇓P P 11 37 29.2 +0.1
baz=78,SNR=79
T25A Trinidad 77.99 334 ⇑P P 11 37 29.4 +0.2
baz=78,SNR=131
Q31A Ellis 78.00 338 ⇑P P 11 37 28.6 -0.5
baz=78,SNR=52
R29A Marienthal 78.02 337 ⇑P P 11 37 28.6 -0.6
baz=78,SNR=17
ACCN Adirondack Com 78.04 358 eP P 11 37 28.9 -0.2
comp=Z,445nm,1.4s
ACCN LR LR
comp=Z,4µm,21.7s
S26A Kim 78.09 335 ⇑P P 11 37 29.5 -0.2
baz=78,SNR=127
FFD Franklin Falls 78.10 360 PFAKE 11 37 40.0 +11
FFD LR LR
comp=Z,3µm,19.9s
R28A Tribune 78.17 336 ⇓P P 11 37 29.3 -0.8
baz=78,SNR=69
113A Mohawk Valley, 78.17 325 ⇓P P 11 37 29.9 -0.1
baz=78,SNR=13
Q30A Quinter 78.23 338 ⇑P P 11 37 30.1 -0.3
baz=78,SNR=89
U22A Llaves 78.24 332 ⇓P P 11 37 31.4 +0.7
baz=78,SNR=49
Z14A Wintersburg 78.28 326 ⇑P P 11 37 30.8 +0.1
baz=78,SNR=11
T24B San Luis 78.28 333 ⇓P P 11 37 30.9 -0.1
baz=78,SNR=70
W18A Petrified Fore 78.33 329 eP P 11 37 31.7 +0.5
comp=Z,340nm,1.2s
W18A LR LR
comp=Z,4µm,18.2s
W18A Petrified Fore 78.33 329 ⇓P P 11 37 31.0 -0.2
baz=78,SNR=23
P32A Huiting Farm, 78.33 339 ⇑P P 11 37 30.3 -0.6
baz=79,SNR=54
HNH Hanover 78.34 359 eP P 11 37 31.0 +0.3
comp=Z,266nm,1.2s
HVD Gariep Dam 78.35 119 eP P 11 37 32.7 +1.1
HVD AMB AMB 11 37 34.6
comp=Z,938nm,1.1s
HVD Gariep Dam 78.35 119 P P 11 37 32.7 +1.1
HVD pmax pmax
comp=Z,938nm,1.1s
HVD Gariep Dam 78.35 119 P P 11 37 32.7 +1.1
comp=Z,938nm,1.1s
Q29A Oakley 78.39 337 ⇓P P 11 37 30.7 -0.6
baz=79,SNR=38
R27A Eads 78.45 335 ⇑P P 11 37 31.0 -0.7
baz=79,SNR=118
S25A Robets Cordova 78.47 334 ⇓P P 11 37 31.7 -0.2
baz=79
P31A Stockton 78.47 338 ⇓P P 11 37 31.0 -0.6
baz=79,SNR=39
X16A Lo Mia Camp, P 78.48 327 ⇑P P 11 37 31.9 -0.1
baz=79,SNR=91
T23A Casias Ranch, 78.50 332 ⇓P P 11 37 32.0 -0.2
baz=79,SNR=53
TSUM Tsumeb 78.59 105 eP P 11 37 33.7 +0.6
comp=Z,456nm,1.1s
MDV Middlebury 78.64 359 eP P 11 37 31.3 -1.1
R26A Arlington 78.69 335 ⇓P P 11 37 32.8 -0.2
baz=79,SNR=51
S24A Houchin Ranch, 78.73 333 ⇑P P 11 37 33.1 -0.3
baz=79,SNR=121
P30A Selden 78.76 338 ⇓P P 11 37 32.6 -0.7
baz=79,SNR=5.9
Y14A Wickenburg 78.78 326 ⇓P P 11 37 33.2 -0.3
baz=79,SNR=32
Q28A Sharon Springs 78.83 336 ⇑P P 11 37 33.2 -0.5
baz=79,SNR=36
O32A Brockman Farm, 78.83 339 ⇑P P 11 37 32.7 -0.9
baz=79,SNR=40
R25A Fountain Ranch 78.84 334 ⇑P P 11 37 33.4 -0.5
baz=79,SNR=34
LBNH Lisbon 78.87 360 eP P 11 37 34.2 +0.5
LBNH pmax pmax
comp=Z,233nm,1.1s
LBNH MLR MLR
comp=Z,4µm,20.0s
LBNH Lisbon 78.87 360 eP P 11 37 34.2 +0.5
comp=Z,233nm,1.1s
LBNH LR LR
comp=Z,4µm,20.0s
GLA Glamis 78.91 324 eP P 11 37 35.1 +0.8
GLA pmax pmax
comp=Z,461nm,1.8s
GLA Glamis 78.91 324 eP P 11 37 35.1 +0.8
comp=Z,461nm,1.8s
GLA Glamis 78.91 324 ⇓P P 11 37 34.4 +0.1
baz=79,SNR=11
SDCO Great Sand Dun 78.93 333 eP P 11 37 34.3 -0.2
comp=Z,91nm,1.0s
SDCO LR LR
comp=Z,5µm,19.0s
CASY Casey 79.03 181 eP P 11 37 35.2 +0.8
comp=Z,347nm,1.1s
CASY LR LR
comp=Z,7µm,20.0s
P29A Atwood 79.03 337 ⇓P P 11 37 34.3 -0.5
baz=79,SNR=73
O31A Woolen Ranch, 79.04 339 ⇓P P 11 37 33.9 -0.9
baz=79,SNR=28
KSCO Kaye Shedlock' 79.04 336 eP P 11 37 34.9 0.0
comp=Z,2µm,2.2s
KSCO LR LR
comp=Z,3µm,21.8s
KSCO Kaye Shedlock' 79.04 336 ⇑P P 11 37 34.6 -0.3
baz=79,SNR=49
SCIA State Center 79.06 344 eP P 11 37 33.9 -0.9
comp=Z,1µm,2.0s
SCIA LR LR
comp=Z,2µm,20.0s
S23A Nye Farm, Mont 79.08 333 ⇑P P 11 37 35.2 -0.2
baz=79,SNR=22
WVL Waterville 79.21 1 eP P 11 37 36.2 +0.7
comp=Z,417nm,1.4s
R24A Sanders Place, 79.22 334 ⇓P P 11 37 35.9 -0.1
baz=79,SNR=118
PTN Potsdam (NY) 79.26 358 eP P 11 37 35.4 -0.4
PTN pmax pmax
comp=Z,513nm,1.3s
PTN MLR MLR
comp=Z,8µm,21.0s
PTN Potsdam (NY) 79.26 358 eP P 11 37 35.4 -0.4
comp=Z,513nm,1.3s
PTN LR LR
comp=Z,8µm,21.0s
P28A Saint Francis 79.26 337 ⇑P P 11 37 36.0 -0.1
baz=80,SNR=52
Q26A Hugo 79.27 335 ⇓P P 11 37 35.7 -0.5
baz=80,SNR=40
O30A MW Ranch, Wils 79.28 338 ⇓P P 11 37 35.3 -0.8
baz=80,SNR=38
BOSA Boshof 79.28 117 eP P 11 37 37.5 +0.8
BOSA AMB AMB 11 37 38.6
comp=Z,949nm,1.1s
BOSA Boshof 79.28 117 P P 11 37 37.0 +0.3
comp=Z,908nm,0.9s,baz=242,slow=5.4,SNR=434
BOSA LR LR 12 07 40.6
comp=Z,4µm,21.2s,baz=232,slow=32
BOSA Boshof 79.28 117 eP P 11 37 37.0 +0.3
comp=Z,958nm,0.9s
SWSC Sam W. Stewart 79.29 323 ⇑P P 11 37 36.4 +0.2
baz=80,SNR=6.5
LONY Lake Ozonia 79.30 358 eP P 11 37 35.6 -0.4
comp=Z,397nm,1.3s
LONY LR LR
comp=Z,4µm,22.0s
N32A Stulken Farm, 79.30 340 ⇓P P 11 37 35.4 -0.7
baz=80,SNR=10
Y12C Blythe 79.34 325 ⇑P P 11 37 36.1 -0.4
baz=80
WUAZ Wupatki 79.37 328 eP P 11 37 37.3 +0.5
comp=Z,168nm,1.0s
WUAZ LR LR
comp=Z,4µm,19.0s
WUAZ Wupatki 79.37 328 ⇓P P 11 37 36.8 0.0
baz=80,SNR=53
JFWS Jewell Farm 79.40 346 eP P 11 37 35.5 -1.1
JFWS pmax pmax
comp=Z,1µm,1.9s
JFWS MLR MLR
comp=Z,4µm,20.0s
JFWS Jewell Farm 79.40 346 eP P 11 37 35.5 -1.1
comp=Z,1µm,1.9s
JFWS LR LR
comp=Z,4µm,20.0s
EMMW East Machias 79.43 3 eP P 11 37 37.4 +0.7
comp=Z,280nm,1.2s
S22A 4UR Ranch, Cre 79.43 332 ⇓P P 11 37 37.2 -0.1
baz=80,SNR=64
R23A Moffat 79.44 333 ⇓P P 11 37 37.3 -0.1
baz=80,SNR=54
O29A 4D Ranch, Culb 79.46 338 ⇑P P 11 37 36.8 -0.3
baz=80,SNR=21
BAR Barrett 79.51 323 eP P 11 37 39.1 +1.6
comp=Z,112nm,1.2s
BAR LR LR
comp=Z,5µm,20.0s
Q25A Bedland, Calha 79.51 335 ⇓P P 11 37 37.0 -0.6
baz=80,SNR=49
P27A Ficken Ranch, 79.52 336 ⇓P P 11 37 37.2 -0.3
baz=80,SNR=46
N31A Bailey Ranch, 79.55 339 ⇓P P 11 37 37.0 -0.5
baz=80,SNR=18
MONP Monument Peak 79.56 323 ⇓P P 11 37 37.8 -0.2
baz=80,SNR=7.0
PDMCI Parker Dam,Lak 79.61 325 ⇓P P 11 37 38.0 0.0
baz=80,SNR=8.2
MVCO Mesa Verde 79.62 331 eP P 11 37 38.2 0.0

comp=Z,143nm,1.1s
MVCO LR LR
comp=Z,10µm,19.0s
MVCO Mesa Verde 79.62 331 ⇓P P 11 37 38.0 -0.2
baz=80,SNR=41
BC3 Big Chuckawall 79.70 324 ⇓P P 11 37 38.6 -0.1
baz=80,SNR=30
O28A Krutsinger Ran 79.77 337 ⇓P P 11 37 38.7 -0.1
baz=80,SNR=81
P26A Davis Ranch, A 79.78 336 ⇓P P 11 37 38.6 -0.3
baz=80,SNR=42
BGNE Belgrade 79.86 340 eP P 11 37 38.9 -0.3
comp=Z,3µm,2.3s
BGNE Belgrade 79.86 340 ⇑P P 11 37 38.3 -0.8
baz=80,SNR=27
N30A Hueftle Ranch, 79.86 338 ⇑P P 11 37 39.1 -0.2
baz=80
Q24A Divide 79.88 334 ⇑P P 11 37 39.3 -0.5
baz=80,SNR=56
109C Camp Elliot, M 79.90 322 ⇑P P 11 37 39.1 -0.5
baz=80
IRM Iron Mountain 79.97 325 ⇑P P 11 37 40.2 +0.3
baz=80
P25A Willow Gulch B 80.02 335 ⇑P P 11 37 40.1 -0.1
baz=80,SNR=64
M31A Lambtecht Ranc 80.03 339 ⇑P P 11 37 39.9 -0.3
baz=80,SNR=82
N29A Votaw Ranch, W 80.04 338 ⇑P P 11 37 39.8 -0.4
baz=80,SNR=38
O27A Beecher Island 80.06 336 ⇑P P 11 37 40.6 +0.2
baz=80,SNR=71
Q23A Hartsel 80.08 334 ⇓P P 11 37 40.6 -0.2
baz=80
SWZ Schweizer 80.14 116 eP P 11 37 41.1 -0.4
SWZ AMB AMB 11 37 42.9
comp=Z,620nm,1.2s
SWZ Schweizer 80.14 116 P P 11 37 41.1 -0.4
comp=Z,620nm,1.2s
W13A Hualapai Mount 80.15 326 ⇓P P 11 37 41.0 -0.2
baz=80,SNR=49
PFO Pinyon Flat Ob 80.15 323 P P 11 37 42.3 +1.2
comp=Z,437nm,1.1s,SNR=14
PFO Pinyon Flat Ob 80.15 323 eP P 11 37 42.2 +1.2
PFO pmax pmax
comp=Z,134nm,1.1s
PFO MLR MLR
comp=Z,5µm,22.0s
PFO Pinyon Flat Ob 80.15 323 PKKPbc PKKPbc 11 56 25.8 +0.2
comp=Z,8.0nm,1.0s,baz=297,slow=4.4,SNR=3.7
PFO Pinyon Flat Ob 80.15 323 eP P 11 37 42.2 +1.1
comp=Z,134nm,1.1s
PFO PKKPbc **PKKPbc 11 56 25.8 +0.2**
PFO LR LR
comp=Z,5µm,22.0s
PFO Pinyon Flat Ob 80.15 323 ⇓P P 11 37 41.5 +0.4
baz=80,SNR=19
N28A Pribbeno Ranch 80.21 337 ⇑P P 11 37 40.7 -0.5
baz=80,SNR=32
NEE2 Needles Airpor 80.22 325 ⇓P P 11 37 41.6 +0.3
baz=80
BELC Belle Mtn. Jos 80.25 324 ⇑P P 11 37 41.5 -0.1
baz=80,SNR=7.9
P24A Kohler Place, 80.28 334 ⇑P P 11 37 41.3 -0.4
baz=80,SNR=31
O26A Horse Wrangler 80.38 336 ⇓P P 11 37 42.0 -0.2
baz=81,SNR=21
PV01 Paradox Valley 80.44 331 eP P 11 37 42.8 +0.1
M30A Dale-Ortello V 80.47 339 ⇑P P 11 37 42.2 -0.3
baz=81,SNR=21
P23A Jefferson 80.49 334 ⇓P P 11 37 43.2 +0.2
baz=81,SNR=26
MURC Murrieta 80.51 323 ⇑P P 11 37 42.9 0.0
baz=81,SNR=15
O25A Wiggins 80.54 335 ⇓P P 11 37 43.2 +0.2
baz=81,SNR=16
U15A North Rim 80.54 328 ⇓P P 11 37 43.2 -0.1
baz=81,SNR=68
OGNE Ogallala 80.60 337 eP P 11 37 43.2 0.0
comp=Z,383nm,1.5s
OGNE Ogallala 80.60 337 ⇑P P 11 37 43.0 -0.2
baz=81,SNR=17
PV05 Paradox Valley 80.61 331 eP P 11 37 43.2 -0.3
M29A Burnside Ranch 80.63 338 ⇑P P 11 37 43.3 -0.1
baz=81,SNR=21
N27A Anderson Farm, 80.63 337 ⇑P P 11 37 43.2 -0.3
baz=81,SNR=37
LDFC Landfair 80.70 325 eP P 11 37 45.6 +1.6
comp=Z,93nm,0.9s
LDFC LR LR
comp=Z,5µm,20.6s
GMRC Granite Mounta 80.72 325 ⇓P P 11 37 44.4 +0.3
baz=81
SMCO Snowmass 80.74 333 eP P 11 37 44.7 +0.2
comp=Z,300nm,1.2s
L31A Butterfield Fa 80.76 340 ⇑P P 11 37 43.5 -0.5
baz=81,SNR=136
ISCO Idaho Springs 80.78 334 eP P 11 37 44.4 -0.2
ISCO pmax pmax
comp=Z,609nm,2.2s
ISCO MLR MLR
comp=Z,3µm,22.0s
ISCO Idaho Springs 80.78 334 eP P 11 37 44.4 -0.2
comp=Z,609nm,2.2s
ISCO LR LR
comp=Z,3µm,22.0s
ISCO Idaho Springs 80.78 334 ⇑P P 11 37 44.2 -0.3
baz=81,SNR=64
M28A Bar X Bar Ranc 80.80 338 ⇑P P 11 37 44.5 +0.1
baz=81,SNR=11
PV04 Paradox Valley 80.80 331 eP P 11 37 44.8 +0.3
L30A Spencer Herefo 80.81 339 ⇑P P 11 37 43.9 -0.4
baz=81,SNR=47
PV10 Paradox Valley 80.84 331 eP P 11 37 44.3 -0.5
comp=Z,2µm,0.9s
N26A Koester Ranch, 80.88 336 ⇓P P 11 37 44.9 +0.1
baz=81,SNR=25
O24A Longmont 80.88 335 ⇑P P 11 37 44.9 0.0
baz=81,SNR=15
BBRC Big Bear Solar 80.91 323 ⇓P P 11 37 45.2 0.0
baz=81
CIS Catalina Islan 80.96 322 ⇑P P 11 37 45.9 +0.6
baz=81
PV09 Paradox Valley 80.98 331 eP P 11 37 45.6 0.0
RUDU RUNDU 80.99 105 eP P 11 37 47.4 +1.4
RUDU AMB AMB 11 37 48.9
comp=Z,970nm,1.1s
RUDU RUNDU 80.99 105 P P 11 37 47.4 +1.4
comp=Z,970nm,1.1s
P22A Eagle 81.02 333 ⇓P P 11 37 46.0 +0.2
baz=81,SNR=29
HEC Hector,Ludlow 81.08 324 ⇓P P 11 37 46.7 +0.7
baz=81
L29A Maesberg Ranch 81.14 339 ⇑P P 11 37 45.8 -0.3
baz=81,SNR=20
FMP Fort Macarthur 81.15 322 ⇓P P 11 37 46.9 +0.7
baz=81
N25A Grover 81.15 336 ⇓P P 11 37 46.6 +0.3
baz=81
SEK Senekal 81.17 118 eP P 11 37 47.6 +0.6
SEK AMB AMB 11 37 49.4
comp=Z,1µm,1.0s
SEK Senekal 81.17 118 P P 11 37 47.6 +0.6
comp=Z,1µm,1.0s
EKU East Kanab 81.17 328 eP P 11 37 47.0 +0.5
KSD Kokstad 81.17 121 eP P 11 37 47.9 +1.0
KSD AMB AMB 11 37 49.5
comp=Z,144nm,1.6s
KSD Kokstad 81.17 121 P P 11 37 47.9 +1.0
comp=Z,144nm,1.6s
M27A Reverse DX Ran 81.24 337 ⇓P P 11 37 46.8 +0.1
baz=82
BFSC Mount Baldy Ra 81.25 323 ⇑P P 11 37 46.8 -0.1
baz=81
O23A Lake Granby, G 81.26 334 ⇑P P 11 37 47.1 +0.1
baz=82,SNR=108
KNB Kanab 81.26 328 eP P 11 37 47.6 +0.6
KNB pmax pmax
comp=Z,308nm,1.2s
KNB Kanab 81.26 328 eP P 11 37 47.6 +0.6
comp=Z,308nm,1.2s
TUQ Turquoise Moun 81.38 325 ⇓P P 11 37 48.0 +0.4
baz=82
BFSD Buffelsfontein 81.39 117 eP P 11 37 48.7 +0.6
BFSD AMB AMB 11 37 49.8
comp=Z,612nm,1.3s
BFSD Buffelsfontein 81.39 117 P P 11 37 48.7 +0.6
comp=Z,612nm,1.3s
L28A Connealy Angus 81.40 338 ⇓P P 11 37 47.9 +0.4
baz=82
M26A McRoberts Ranc 81.43 337 ⇓P P 11 37 47.8 +0.1
baz=82
MWC Mount Wilson 81.44 323 eP P 11 37 48.8 +0.8
MWC pmax pmax
comp=Z,117nm,1.2s
MWC Mount Wilson 81.44 323 eP P 11 37 48.8 +0.8
comp=Z,117nm,1.2s
N24A Carr 81.44 335 ⇓P P 11 37 47.8 0.0
baz=82
K30A Basset 81.44 339 ⇓P P 11 37 46.9 -0.8
baz=82,SNR=108
O22A Kremmling 81.44 334 ⇓P P 11 37 47.3 -0.7
baz=82,SNR=85
RRX Edison Barstow 81.44 324 ⇓P P 11 37 48.2 +0.4
baz=82
PASC Pasadena Art C 81.46 322 eP P 11 37 49.7 +1.8
comp=Z,138nm,1.3s
PASC LR LR
comp=Z,3µm,18.8s
BTU Barney Top 81.47 329 eP P 11 37 48.2 -0.2
LBTB Lobatse 81.55 114 eP P 11 37 49.5 +0.5
LBTB AMB AMB 11 37 50.7
comp=Z,762nm,1.1s
LBTB Lobatse 81.55 114 eP P 11 37 49.1 +0.1
LBTB pmax pmax
comp=Z,727nm,0.9s
LBTB MLR MLR
comp=Z,4µm,19.5s
LBTB Lobatse 81.55 114 eP P 11 37 49.1 +0.1
comp=Z,727nm,0.9s
LBTB LR LR
comp=Z,4µm,19.5s
DECC Green Verdugo 81.60 322 ⇓P P 11 37 49.0 +0.4
baz=82
MMU Miners Mountai 81.61 329 eP P 11 37 48.7 -0.2
ECSD EROS Data Cent 81.61 342 eP P 11 37 47.6 -0.8
comp=Z,2µm,2.3s
ECSD eS **S 11 47 54.0 -3.4**
ECSD LR LR
comp=Z,2µm,18.0s
ECSD EROS Data Cent 81.61 342 ⇑P P 11 37 47.7 -0.8
baz=82,SNR=132
GSC Goldstone 81.69 324 eP P 11 37 50.0 +0.8
GSC pmax pmax
comp=Z,316nm,1.9s
GSC MLR MLR
comp=Z,4µm,21.9s
GSC Goldstone 81.69 324 eP P 11 37 50.0 +0.8
comp=Z,316nm,1.9s
GSC LR LR
comp=Z,4µm,21.9s
GSC Goldstone 81.69 324 ⇑P P 11 37 49.4 +0.2
baz=82,SNR=15
M25A Palm-Egli Farm 81.70 336 ⇓P P 11 37 49.1 -0.1
baz=82,SNR=15
L27A T5 Ranch, Ells 81.72 337 ⇑P P 11 37 49.2 0.0
baz=82
K29A Lazy Trails An 81.73 339 ⇓P P 11 37 48.9 -0.3
baz=82,SNR=75
PRYS Parys 81.77 117 eP P 11 37 49.8 -0.3
PRYS AMB AMB 11 37 51.5
comp=Z,253nm,1.3s
PRYS Parys 81.77 117 P P 11 37 49.8 -0.3
comp=Z,253nm,1.3s
N23A Red Feather La 81.87 334 ⇓P P 11 37 50.2 0.0
baz=82,SNR=36
SHPR Sheep Range 81.89 326 eP P 11 37 50.6 +0.3
L26A Underwood Farm 81.92 337 ⇑P P 11 37 50.5 +0.2
baz=82
SHOC Shoshone 81.92 325 ⇓P P 11 37 50.5 +0.2
baz=82
EDW2 Edwards Air Fo 81.93 323 ⇓P P 11 37 50.4 0.0
baz=82
CCUT Cedar City 81.95 328 eP P 11 37 51.4 +0.7
comp=Z,1µm,2.5s
N22A Wattenberg Ran 81.97 334 ⇓P P 11 37 51.1 +0.3
baz=82,SNR=77
M24A Cheyenne 81.99 335 ⇓P P 11 37 50.7 0.0
baz=82,SNR=52
K28A Ten Mile Ranch 82.00 338 ⇓P P 11 37 51.0 +0.4
baz=82,SNR=99
J30A Dallas 82.01 340 ⇑P P 11 37 50.1 -0.5
baz=82,SNR=47
KSR Koster 82.05 116 eP P 11 37 52.0 +0.4
KSR AMB AMB 11 37 53.4
comp=Z,257nm,1.3s
KSR Koster 82.05 116 P P 11 37 52.0 +0.4
comp=Z,257nm,1.3s
O20A White River Ci 82.05 332 eP P 11 37 51.2 +0.1
comp=Z,655nm,2.0s
O20A LR LR
comp=Z,4µm,22.0s
O20A White River Ci 82.05 332 ⇓P P 11 37 51.0 -0.1
baz=82,SNR=54
BSC Santa Cruz Isl 82.05 321 ⇑P P 11 37 50.8 -0.3
baz=82
PHWY Pilot Hill 82.06 335 eP P 11 37 50.9 -0.3
comp=Z,705nm,2.1s
PHWY LR LR
comp=Z,1µm,21.3s
SRU San Rafael 82.06 330 eP P 11 37 50.8 -0.4
SRU pmax pmax
comp=Z,680nm,2.2s
SRU MLR MLR
comp=Z,4µm,20.3s
SRU San Rafael 82.06 330 eP P 11 37 50.8 -0.4
comp=Z,680nm,2.2s
SRU LR LR
comp=Z,4µm,20.3s
OSI Osito Adit 82.08 322 eP P 11 37 52.0 +0.7
comp=Z,252nm,1.4s
OSI LR LR
comp=Z,4µm,22.0s
OSI Osito Adit 82.08 322 ⇓P P 11 37 50.8 -0.4
baz=82
WDLM Western Deep L 82.11 117 eP P 11 37 52.6 +0.7
WDLM AMB AMB 11 37 53.6
comp=Z,313nm,1.3s
SPMN St. Paul 82.13 345 eP P 11 37 49.6 -1.5
comp=Z,813nm,2.3s
SPMN LR LR
comp=Z,2µm,20.3s
SPMN St. Paul 82.13 345 ⇑P P 11 37 49.7 -1.5
baz=82,SNR=32
OWUT Old Woman Plat 82.15 330 eP P 11 37 52.2 +0.4
ARUT Antelope Range 82.18 328 eP P 11 37 52.3 +0.5
ARUT Antelope Range 82.18 328 eP P 11 37 52.3 +0.5
BFZ Birch Farm 82.22 225 PFAKE 11 38 00.0 +7.9
BFZ LR LR
comp=Z,6µm,22.0s
MSU Marysvale 82.24 329 eP P 11 37 52.5 +0.3
MSU Marysvale 82.24 329 eP P 11 37 52.5 +0.3
MVU Marysvale 82.25 329 eP P 11 37 52.5 +0.3
comp=Z,127nm,1.3s
MVU LR LR
comp=Z,4µm,18.0s
K27A Flueckinger Fa 82.25 338 ⇑P P 11 37 51.7 -0.2
baz=82,SNR=51
LRMC Laurel Mountai 82.26 324 ⇓P P 11 37 52.0 -0.2
baz=82
KLOF Kloof 82.28 117 eP P 11 37 53.0 +0.1
KLOF AMB AMB 11 37 54.5
comp=Z,423nm,1.2s
KLOF Kloof 82.28 117 P P 11 37 53.0 +0.1
comp=Z,423nm,1.2s
M23A Laramie 82.30 335 ⇓P P 11 37 52.0 -0.5
baz=82,SNR=31
L25A Engebretsen Ra 82.31 336 ⇓P P 11 37 52.5 +0.2
baz=83,SNR=14
J29A Okreek 82.32 339 ⇓P P 11 37 51.8 -0.4
baz=83,SNR=148
SBC Santa Barbara 82.45 322 ⇑P P 11 37 52.8 -0.2
baz=83
ROA Roan Cliffs 82.47 331 eP P 11 37 53.4 -0.1
TMUT Trail Mountain 82.50 330 eP P 11 37 53.9 +0.3
comp=Z,2µm,2.7s
I30A Oacoma 82.53 340 ⇓P P 11 37 52.3 -1.0
baz=83,SNR=104
L24A Wheatland 82.54 336 ⇓P P 11 37 53.1 -0.5
baz=83,SNR=13
ARVC Arvin 82.54 323 ⇑P P 11 37 54.2 +0.6
baz=83
K26A Motz Farm, Whi 82.55 337 ⇑P P 11 37 53.4 -0.1
baz=83,SNR=5.4
M22A Cedar Creek Ra 82.55 334 ⇓P P 11 37 53.1 -0.6
baz=83,SNR=28
J28A Allard Ranch, 82.60 339 ⇑P P 11 37 53.3 -0.4
baz=83,SNR=94
KHZ Kahutara 82.64 223 eP P 11 37 55.6 +1.5
KHZ e 11 38 07.3
KHZ LR LR
comp=Z,4µm,21.0s
CRWM Crown Mines 82.65 117 eP P 11 37 55.2 +0.5
CRWM AMB AMB 11 37 56.4
comp=Z,485nm,1.2s
SNO Snow College 82.65 330 eP P 11 37 54.6 +0.2
FURC Furnace Creek, 82.66 325 ⇑P P 11 37 53.9 -0.1
baz=83
N20A Spence Gulch, 82.66 333 ⇑P P 11 37 53.9 -0.4
baz=83,SNR=38
ARGU Argyle Ridge 82.68 331 eP P 11 37 54.6 0.0
J27A Elkhorn Farm, 82.68 338 ⇓P P 11 37 54.5 +0.3
baz=83,SNR=207
K25A Mack Ranch, Ha 82.69 337 ⇑P P 11 37 54.4 +0.1
baz=83,SNR=16
SNZO South Karori 82.71 224 PFAKE 11 38 10.0 +15
SNZO LR LR
comp=Z,5µm,21.0s
OBSV Observatory 82.72 117 eP P 11 37 55.0 -0.1
OBSV AMB AMB 11 37 56.6
comp=Z,414nm,1.2s
ERPM east rand prop 82.75 117 eP P 11 37 55.3 0.0
ERPM AMB AMB 11 37 57.3
comp=Z,426nm,1.5s
ERPM east rand prop 82.75 117 P P 11 37 55.3 0.0
comp=Z,426nm,1.5s
ISA Isabella 82.79 323 eP P 11 37 55.4 +0.5
ISA pmax pmax
comp=Z,730nm,2.5s
ISA MLR MLR
comp=Z,5µm,18.1s
ISA Isabella 82.79 323 eP P 11 37 55.4 +0.5
comp=Z,730nm,2.5s
ISA LR LR
comp=Z,5µm,18.1s
ISA Isabella 82.79 323 ⇑P P 11 37 54.9 -0.1
baz=83
L23A Garrett 82.86 335 ⇓P P 11 37 54.8 -0.6
baz=83,SNR=31
I29A Vivian Onida 82.88 340 ⇑P P 11 37 54.0 -1.1
baz=83,SNR=63
BRSD Miller 82.89 341 eP P 11 37 54.1 -1.1
comp=Z,215nm,0.8s
BRSD Miller 82.89 341 ⇓P P 11 37 54.3 -0.8
baz=83,SNR=62
FLU Fool Peak 82.97 329 eP P 11 37 56.0 +0.1
RWWY Rawlins 83.02 334 PFAKE 11 38 10.0 +14
RWWY LR LR
comp=Z,3µm,19.0s
L22A Ellis Ranch, M 83.05 335 ⇓P P 11 37 56.4 +0.2
baz=83,SNR=20
BKZ Black Stump Fm 83.05 227 eP P 11 37 58.8 +2.3
comp=Z,367nm,1.4s
BKZ LR LR
comp=Z,7µm,20.0s
J26A Sides Ranch, S 83.07 337 ⇑P P 11 37 55.9 -0.2
baz=83,SNR=66
K24A Anderson Ranch 83.10 336 ⇓P P 11 37 56.4 -0.1
baz=83,SNR=10.0
I28A Midland 83.11 339 ⇑P P 11 37 55.9 -0.4
baz=83,SNR=86
RPZ Rata Peaks 83.12 220 eP P 11 37 58.2 +1.5
comp=Z,377nm,1.3s
RPZ LR LR
comp=Z,10µm,22.0s
SLR Silverton 83.13 116 eP P 11 37 57.2 0.0
SLR AMB AMB 11 37 58.6
comp=Z,533nm,1.2s
SLR Silverton 83.13 116 P **P 11 37 57.2 0.0**
SLR pmax pmax
comp=Z,533nm,1.2s
SLR Silverton 83.13 116 P **P 11 37 57.2 0.0**
comp=Z,533nm,1.2s
WHZ Wether Hill Ro 83.22 217 eP P 11 37 58.6 +1.4
comp=Z,526nm,1.9s
WHZ LR LR
comp=Z,4µm,20.4s
VES Vestal, Richgr 83.23 323 ⇓P P 11 37 56.8 -0.3
baz=83
URZ Urewera 83.25 228 PKKPbc PKKPbc 11 56 16.2 -0.3
comp=Z,14nm,0.9s,baz=200,slow=6.0,SNR=5.5
URZ Urewera 83.25 228 eP P 11 37 58.8 +1.3
comp=Z,186nm,1.2s
URZ PKKPbc **PKKPbc 11 56 16.2 -0.3**
URZ LR LR
comp=Z,9µm,21.0s
SMMC Simmler 83.27 322 ⇓P P 11 37 57.5 +0.1
baz=84
MPU Maple Canyon 83.28 330 eP P 11 37 57.7 +0.2
comp=Z,109nm,0.9s
GRAC Grapevine Rang 83.33 325 ⇓P P 11 37 58.0 +0.4
baz=84
J25A Sunshine Ranch 83.37 337 ⇑P P 11 37 57.6 -0.2
baz=84,SNR=24
K23A Bowen Ranch, D 83.41 335 ⇓P P 11 37 57.3 -0.7
baz=84,SNR=40
H29A Onida 83.41 340 ⇑P P 11 37 57.0 -0.9
baz=84,SNR=79
NLU North Lily Min 83.41 330 eP P 11 37 58.3 0.0
comp=Z,596nm,2.0s
NLU LR LR
comp=Z,6µm,18.4s
WMUT West Mountain 83.42 330 eP P 11 37 54.8 -3.4
I27A Quinn 83.44 338 ⇑P P 11 37 57.1 -0.9
baz=84,SNR=62
DAU Daniels Canyon 83.47 331 eP P 11 37 58.5 -0.1
DAU Daniels Canyon 83.47 331 eP P 11 37 58.5 -0.1
G30A Faulkton 83.58 341 ⇑P P 11 37 57.7 -1.0
baz=84,SNR=52
J24A Dixon Ranch, L 83.59 336 ⇑P P 11 37 58.8 -0.2
baz=84,SNR=23
R11A Troy Canyon, C 83.59 327 eP P 11 37 59.5 +0.4
comp=Z,716nm,2.3s
R11A LR LR
comp=Z,4µm,20.2s
R11A Troy Canyon, C 83.59 327 ⇑P P 11 37 58.8 -0.4
baz=84
ROSA Rosais 83.61 33 eP P 11 37 57.9 -1.1
comp=Z,191nm,1.3s
K22A Casper 83.62 335 eP P 11 37 58.8 -0.4
comp=Z,522nm,1.4s
K22A LR LR
comp=Z,4µm,19.1s
K22A Casper 83.62 335 ⇓P P 11 37 58.6 -0.5
baz=84,SNR=97
I26A New Underwood 83.65 338 ⇓P P 11 37 58.9 -0.2
baz=84,SNR=37
PSMA Santa Maria 83.65 36 eP P 11 37 59.4 +0.2
TOPO Topo 83.65 33 eP P 11 37 59.1 -0.2
HTU Hoyt Peak 83.67 331 eP P 11 38 02.1 +2.5
RCTC Rector, Farmer 83.68 323 ⇓P P 11 37 59.0 -0.3
baz=84
H28A Mission Ridge 83.68 339 ⇓P P 11 37 58.5 -0.8
baz=84,SNR=88
PSMN Pico do Norte, 83.69 36 eP P 11 37 59.4 0.0
comp=Z,317nm,1.6s
HLJ Hailstone 83.69 331 eP P 11 37 59.3 -0.3
JLU Jordanelle 83.70 331 eP P 11 37 59.3 -0.4
comp=Z,472nm,1.9s
JLU LR LR
comp=Z,5µm,20.5s
KLJ Keetly 83.71 331 eP P 11 37 59.4 -0.3
FSU Fish Springs 83.77 329 eP P 11 38 00.2 +0.3
TIN Tinemaha 83.78 324 ⇑P P 11 37 60.0 -0.1
baz=84
G29A Hoven 83.85 340 ⇓P P 11 37 59.3 -0.7
baz=84,SNR=59
K21A Alcova 83.86 334 ⇓P P 11 38 00.2 -0.2
baz=84,SNR=111
CTU Camp Tracy 83.90 330 eP P 11 38 00.4 -0.2
comp=Z,46nm,0.9s
DCZ Deep Cove 83.91 217 PFAKE 11 38 10.0 +9.4
DCZ LR LR
comp=Z,4µm,18.4s
I25A Rochford 83.91 337 ⇑P P 11 38 00.4 -0.3
baz=84,SNR=55
DUG Dugway 83.92 329 eP P 11 38 00.6 -0.1
DUG pmax pmax
comp=Z,470nm,1.7s
DUG MLR MLR
comp=Z,3µm,20.0s
DUG Dugway 83.92 329 eP P 11 38 00.6 -0.1
comp=Z,470nm,1.7s

DUG LR LR
comp=Z,3μm,20.0s
DUG Dugway 83.92 329 ⇑P P 11 38 00.3 -0.4
baz=84,SNR=91
H27A Howes 83.96 339 ⇑P P 11 37 59.7 -0.9
baz=84,SNR=88
J23A Dilts Ranch, B 83.96 336 ⇓P P 11 38 00.3 -0.5
baz=84,SNR=5.1
ADH Angra Heroismo 84.01 33 eP P 11 38 00.9 -0.1
G28A Parade 84.02 340 ⇑P P 11 38 00.1 -0.9
baz=84,SNR=110
PSET Sete Cidades 84.04 35 eP P 11 38 01.5 +0.3
comp=Z,558nm,1.5s
I24A Kuemmerle Ranc 84.06 337 ⇑P P 11 38 00.6 -0.7
baz=84,SNR=22
RSSD Black Hills 84.10 337 eP P 11 38 00.9 -0.7
RSSD pmax pmax
comp=Z,495nm,2.1s
RSSD Black Hills 84.10 337 eP P 11 38 00.9 -0.7
comp=Z,494nm,2.1s
TPH Tonopah 84.12 325 eP P 11 38 02.0 +0.1
TPH pmax pmax
comp=Z,1μm,2.5s
TPH MLR MLR
comp=Z,4μm,22.0s
TPH Tonopah 84.12 325 eP P 11 38 02.0 +0.1
comp=Z,1μm,2.5s
TPH LR LR
comp=Z,4μm,22.0s
TCUT Toone Canyon 84.12 331 eP P 11 38 01.7 -0.2
comp=Z,149nm,1.0s
TCUT LR LR
comp=Z,7μm,20.1s
H26A Fairpoint 84.15 338 ⇑P P 11 38 00.9 -0.8
baz=84,SNR=12
F30A Leola 84.20 341 ⇑P P 11 38 01.0 -0.9
baz=84,SNR=34
TOA0 Torodi Ar. Sit 84.21 70 eP P 11 38 02.7 +0.1
TORD Torodi Ar. Bea 84.21 70 P P 11 38 02.5 -0.1
comp=Z,646nm,0.9s,baz=241,slow=3.8,SNR=823
TORD PKKPbc PKKPbc 11 56 13.7 -1.0
comp=Z,2.8nm,1.0s,baz=48,slow=2.1,SNR=4.2
TORD LR LR 12 14 07.9
comp=Z,9μm,19.6s,baz=240,slow=35
SAIU Southern Antel 84.21 330 eP P 11 37 59.0 -3.1
FPU Francis Peak 84.22 331 eP P 11 38 02.2 -0.2
J22A Midwest 84.28 335 ⇓P P 11 38 01.2 -1.3
baz=84,SNR=53
CRZF Crozet Islands 84.30 145 P P 11 37 48.0 -15
CRZF Crozet Islands 84.30 145 S S 11 47 57.0 -28
CRZF R 12 04 00.0
NAIU Northern Antel 84.37 330 eP P 11 38 02.1 -0.9
SNUT Stansbury Nort 84.37 330 eP P 11 38 01.5 -1.5
F29A Eureka 84.41 341 ⇑P P 11 38 01.9 -1.0
baz=85,SNR=63
H25A Fruitdale 84.41 338 ⇓P P 11 38 02.0 -1.0
baz=85,SNR=61
I23A Meade Ranch, G 84.42 336 ⇑P P 11 38 02.2 -1.0
baz=85
MCU Monte Cristo P 84.46 331 eP P 11 38 03.0 -0.6
EYMN Ely 84.48 347 eP P 11 38 02.3 -0.9
comp=Z,326nm,1.4s
EYMN LR LR
comp=Z,2μm,21.0s
MLAC Mammoth Lakes 84.53 324 ⇓P P 11 38 03.7 -0.3
baz=85
J21A Lysite 84.56 335 ⇓P P 11 38 03.1 -0.8
baz=85,SNR=66
RSUT Red Spur Mount 84.57 331 eP P 11 38 03.5 -0.7
G27A Dupree 84.59 339 ⇓P P 11 38 02.8 -1.0
baz=85,SNR=57
HWUT Hardware Ranch 84.60 331 eP P 11 38 03.6 -0.6
comp=Z,999nm,1.9s
HWUT LR LR
comp=Z,7μm,20.0s
BGU Big Grassy Mou 84.62 330 eP P 11 38 04.1 -0.2
comp=Z,162nm,1.7s
BGU LR LR
comp=Z,2μm,20.8s
F28A McLaughlin 84.69 340 ⇓P P 11 38 03.5 -0.9
baz=85,SNR=8.0
I22A 9 Mile Ranch, 84.70 335 ⇑P P 11 38 03.6 -1.0
baz=85,SNR=76
SPUT South Promonto 84.71 330 eP P 11 38 04.6 -0.1
comp=Z,671nm,1.7s
G26A Maurine 84.71 339 ⇑P P 11 38 03.4 -1.1
baz=85,SNR=85
EPU East Promontor 84.76 330 eP P 11 38 04.4 -0.6
WVUT Wellsville 84.76 331 eP P 11 38 04.2 -0.8
BMUT Black Mountain 84.77 331 eP P 11 38 04.3 -0.8
E30A Jud 84.78 341 ⇑P P 11 38 03.5 -1.2
baz=85,SNR=56
J20A Shoshoni 84.79 334 ⇓P P 11 38 04.8 -0.3
baz=85
BW06 Boulder Array 84.82 333 eP P 11 38 04.2 -1.1
comp=Z,296nm,1.7s
BW06 LR LR
comp=Z,6μm,19.0s
DRLN Deer Lake 84.82 9 eP P 11 38 04.3 -0.5
comp=Z,328nm,1.1s
DRLN LR LR
comp=Z,7μm,20.5s
PDAR Pinedale Array 84.82 333 P P 11 38 04.2 -1.2
comp=Z,25nm,0.8s,baz=144,slow=5.3,SNR=66
PDAR PKKPbc PKKPbc 11 56 13.9 -1.4
comp=Z,9.4nm,0.9s,baz=109,slow=0.4,SNR=28
PDAR PKPPKP P'P'df 12 04 21.1 +5.5
comp=Z,3.8nm,0.9s,baz=112,slow=0.8,SNR=6.2
PDAR LR LR 12 12 57.6
comp=Z,5μm,18.5s,baz=156,slow=34
H24A Dirks Ranch, A 84.82 337 ⇓P P 11 38 04.0 -1.2
baz=85,SNR=63
NV11 Mina Array Sit 84.85 325 eP P 11 38 05.9 +0.4
LTU Little Mountai 84.86 331 eP P 11 38 04.7 -0.8
G25A Newell 84.87 338 ⇑P P 11 38 04.7 -0.6
baz=85,SNR=101
I21A Big Trails, Te 84.91 335 ⇑P P 11 38 04.4 -1.3
baz=85,SNR=154
NV01 Mina Array Sit 84.91 325 eP P 11 38 05.9 0.0
NVAR Mina Array Bea 84.91 325 P P 11 38 05.7 -0.2
comp=Z,26nm,0.8s,baz=146,slow=5.2,SNR=50
NVAR pP pP 11 38 19.8 +1.3
comp=Z,23nm,0.8s,baz=158,slow=5.0,SNR=13
NVAR PKKPbc PKKPbc 11 56 15.6 +0.8
comp=Z,10nm,0.9s,baz=282,slow=2.2,SNR=24
NVAR PKPPKP P'P'df 12 04 21.1 +5.0
comp=Z,6.0nm,1.1s,baz=241,slow=1.8,SNR=6.0
H23A Clabaugh Cattl 84.93 336 ⇑P P 11 38 04.4 -1.3
baz=85,SNR=7.1
E29A Napoleon 85.04 341 ⇓P P 11 38 05.2 -0.9
baz=85,SNR=67
MTUT Morton Thiokol 85.05 331 eP P 11 38 05.4 -1.0
J19A Crowheart 85.06 334 ⇓P P 11 38 05.6 -0.8
baz=85,SNR=122
F27A Lemmon 85.06 339 ⇓P P 11 38 05.7 -0.5
baz=85,SNR=109
BEI Bear River Ran 85.12 331 eP P 11 38 06.0 -0.8
MSKU Masuku 85.13 89 PFAKE 11 38 20.0 +13
MSKU LR LR
comp=Z,300nm,19.9s
PTU Portage 85.18 331 eP P 11 38 06.3 -0.9
MLI Malad Range 85.18 331 eP P 11 38 06.8 -0.3
HVU Hansel Valley 85.23 330 eP P 11 38 06.6 -0.7
HVU eS S 11 48 35.4 +1.0
HVU pmax pmax
comp=Z,587nm,1.7s
HVU MLR MLR
comp=Z,4μm,20.6s
HVU Hansel Valley 85.23 330 eP P 11 38 06.6 -0.7
comp=Z,587nm,1.7s
HVU eS S 11 48 35.4 +1.0
HVU LR LR
comp=Z,4μm,20.6s
F26A Lodgepole 85.24 339 ⇓P P 11 38 06.0 -1.1
baz=86,SNR=85
H22A Clearmont 85.28 336 ⇑P P 11 38 06.3 -1.1
baz=86,SNR=60
G24A Alzada 85.30 337 ⇓P P 11 38 06.5 -1.0
baz=86,SNR=29
D30A Buchanan 85.31 342 ⇓P P 11 38 06.3 -1.1
baz=86,SNR=85
I20A Worland 85.33 334 ⇑P P 11 38 06.8 -0.9
baz=86,SNR=160
E28A Huff 85.33 340 ⇓P P 11 38 06.9 -0.6
baz=86,SNR=44
AHID Auburn Hatcher 85.41 332 eP P 11 38 07.8 -0.4
comp=Z,532nm,1.7s

AHID LR LR
comp=Z,5μm,18.0s
ELK Elko 85.41 328 P P 11 38 07.9 -0.4
ELK *PP pP 11 38 22.1 +1.2
ELK pmax pmax
comp=Z,32nm,0.9s
ELK Elko 85.41 328 P P 11 38 07.9 -0.4
comp=Z,32nm,0.9s,baz=177,slow=3.1,SNR=51
ELK pP pP 11 38 22.1 +1.2
comp=Z,23nm,0.9s,baz=171,slow=2.5,SNR=8.9
ELK Elko 85.41 328 eP P 11 38 07.9 -0.4
comp=Z,362nm,1.9s
ELK pP pP 11 38 22.1 +1.2
E27A Carson 85.44 340 ⇓P P 11 38 07.4 -0.7
baz=86,SNR=46
D29A Pettibone, Tap 85.48 341 ⇓P P 11 38 07.1 -1.1
baz=86,SNR=53
G23A Biddle 85.50 337 ⇓P P 11 38 07.2 -1.3
baz=86,SNR=83
WAKR Walker 85.51 324 eP P 11 38 09.4 +0.6
F25A Bowman 85.54 338 ⇓P P 11 38 07.5 -1.1
baz=86,SNR=44
H21A Big Horn, Sher 85.54 335 ⇓P P 11 38 07.3 -1.5
baz=86,SNR=34
CMB Columbia Colle 85.60 323 eP P 11 38 09.4 +0.3
CMB pmax pmax
comp=Z,99nm,1.3s
CMB Columbia Colle 85.60 323 eP P 11 38 09.4 +0.3
comp=Z,99nm,1.3s
RAO Raoul Island 85.64 237 LR LR 12 07 54.1
comp=Z,2μm,20.7s,baz=138,slow=30
I19A Meeteetse 85.71 334 ⇓P P 11 38 08.8 -0.9
baz=86,SNR=60
AGMN Agassiz Nation 85.72 344 eP P 11 38 08.2 -1.2
comp=Z,384nm,1.5s
AGMN LR LR
comp=Z,3μm,20.0s
AGMN Agassiz Nation 85.72 344 ⇓P P 11 38 08.2 -1.2
baz=86,SNR=67
E26A Carlson Angus 85.74 339 ⇓P P 11 38 08.5 -1.1
baz=86,SNR=68
H20A Greybull 85.75 335 ⇓P P 11 38 08.4 -1.3
baz=86,SNR=85
F24A Ekalaka 85.77 338 ⇓P P 11 38 08.8 -1.0
baz=86,SNR=80
C30A Mose, Pekin 85.79 342 ⇑P P 11 38 08.7 -1.1
baz=86,SNR=92
G22A Birney 85.81 336 ⇓P P 11 38 09.0 -1.1
baz=86,SNR=55
REDW Red Top Meadow 85.82 332 eP P 11 38 09.6 -0.7
comp=Z,376nm,1.6s
REDW LR LR
comp=Z,5μm,20.7s
D28A Regan 85.86 341 ⇑P P 11 38 09.3 -0.9
baz=86,SNR=102
SNOW Snow King Moun 85.87 333 PFAKE 11 38 20.0 +9.4
SNOW LR LR
comp=Z,6μm,19.5s
LOHW Long Hollow 85.94 333 PFAKE 11 38 20.0 +9.1
LOHW LR LR
comp=Z,6μm,19.0s
TPAW Teton Pass 85.97 332 eP P 11 38 10.4 -0.6
comp=Z,377nm,1.7s
TPAW LR LR
comp=Z,4μm,19.8s
F23A Volborg 85.97 337 ⇓P P 11 38 09.4 -1.4
baz=86,SNR=134
BMN Battle Mountai 86.02 327 eP P 11 38 11.3 0.0
BMN pmax pmax
comp=Z,48nm,1.4s
BMN Battle Mountai 86.02 327 eP P 11 38 11.3 0.0
comp=Z,48nm,1.4s
E25A Miller Ranch, 86.04 339 ⇑P P 11 38 10.4 -0.7
baz=86,SNR=93
D27A Center 86.05 340 ⇑P P 11 38 10.4 -0.6
baz=86,SNR=13
FXWY Fox Creek 86.12 332 eP P 11 38 11.0 -0.8
comp=Z,204nm,1.6s
G21A Lodge Grass 86.12 336 ⇓P P 11 38 10.6 -1.0
baz=86,SNR=41
I17A Pilgrim Ck. 86.19 333 ⇑P P 11 38 11.9 -0.2
baz=86,SNR=102
D26A Manning 86.24 339 ⇑P P 11 38 11.6 -0.4
baz=86,SNR=56
H19A Powell 86.26 334 ⇑P P 11 38 11.3 -1.0
baz=86,SNR=66
C28A Hausauer Farms 86.29 341 ⇓P P 11 38 11.6 -0.6
baz=86,SNR=40
F22A Rosebud 86.29 336 ⇑P P 11 38 11.1 -1.3
baz=86,SNR=76
IMW Indian Meadow 86.31 333 eP P 11 38 12.2 -0.6
comp=Z,430nm,1.6s
IMW LR LR
comp=Z,5μm,19.0s
E24A Baker 86.37 338 ⇓P P 11 38 12.2 -0.5
baz=87,SNR=30
FLWY Flagg Ranch 86.38 333 eP P 11 38 12.8 -0.2
comp=Z,585nm,1.6s
FLWY LR LR
comp=Z,7μm,21.4s
MSNA Messina 86.40 115 eP P 11 38 14.6 +1.0
MSNA AMB AMB 11 38 16.1
comp=Z,512nm,1.2s
MSNA Messina 86.40 115 P P 11 38 14.6 +1.0
comp=Z,512nm,1.2s
B30A Myrvik Farm, E 86.44 343 ⇑P P 11 38 11.8 -1.2
baz=87,SNR=147
G20A Bridger 86.46 335 ⇓P P 11 38 11.9 -1.4
baz=87,SNR=120
YTP The Promontory 86.49 333 eP P 11 38 13.2 -0.4
H18A Shoshone NF, C 86.50 334 ⇓P P 11 38 12.6 -1.0
baz=87,SNR=175
C27A Sayler Ranch, 86.59 340 ⇓P P 11 38 13.2 -0.5
baz=87,SNR=80
H17A Grant Village 86.60 333 eP P 11 38 14.3 +0.1
comp=Z,73nm,1.2s
H17A LR LR
comp=Z,10μm,21.3s
H17A Grant Village 86.60 333 ⇑P P 11 38 13.9 -0.2
baz=87,SNR=29
D25A Fairfield 86.60 339 ⇑P P 11 38 13.1 -0.7
baz=87,SNR=87
F21A Absaloka Mine, 86.62 336 ⇑P P 11 38 12.9 -1.0
baz=87,SNR=47
E23A Ismay 86.62 337 ⇓P P 11 38 12.6 -1.3
baz=87,SNR=41
MCID Moose Creek 86.65 333 eP P 11 38 14.1 -0.2
LKWY Lake 86.68 333 eP P 11 38 15.2 +0.7
LKWY Lake 86.68 333 eP P 11 38 15.2 +0.7
B29A Wagenman Farm, 86.71 342 ⇑P P 11 38 13.6 -0.7
baz=87,SNR=113
MOPA Mopani 86.72 116 eP P 11 38 16.0 +0.8
MOPA AMB AMB 11 38 17.3
comp=Z,303nm,2.0s
MOPA Mopani 86.72 116 P P 11 38 16.0 +0.8
comp=Z,303nm,2.0s
YFT Old Faithful 86.74 333 eP P 11 38 15.2 +0.4
comp=Z,306nm,1.6s
RLMT Red Lodge 86.75 334 eP P 11 38 13.9 -0.9
comp=Z,171nm,1.2s
E22A Miles City 86.78 337 ⇑P P 11 38 13.6 -1.1
baz=87,SNR=79
C26A Wahner Farm, P 86.86 340 ⇓P P 11 38 14.8 -0.3
baz=87,SNR=72
D24A Glendive 86.87 338 ⇑P P 11 38 14.7 -0.5
baz=87,SNR=134
A30A Hoffart Farm, 86.89 343 ⇑P P 11 38 13.9 -1.2
baz=87,SNR=57
YNR Norris Junctio 86.91 333 eP P 11 38 15.9 +0.3
comp=Z,77nm,1.2s
YNR LR LR
comp=Z,5μm,20.3s
YPM Purple Mountai 86.93 333 eP P 11 38 15.9 +0.1
F20A Billings 86.95 335 ⇓P P 11 38 14.4 -1.2
baz=87,SNR=24
B28A Dugan Ranch, T 86.96 341 ⇓P P 11 38 14.5 -1.0
baz=87,SNR=198
YMR Madison River 86.97 333 eP P 11 38 15.6 -0.3
comp=Z,322nm,1.2s
YHH Holmes Hill 87.03 333 eP P 11 38 16.2 -0.1
YMC Maple Creek 87.07 333 eP P 11 38 16.2 -0.2
LAO LASA Array 87.09 337 eP P 11 38 15.4 -0.9
comp=Z,449nm,1.4s
C25A Freed Ranch, W 87.09 339 ⇑P P 11 38 15.6 -0.6
baz=87,SNR=66
A29A Manning Farm, 87.11 342 ⇑P P 11 38 15.3 -0.9
baz=87,SNR=168

B27A Peters Farms, 87.16 341 ⇓P P 11 38 15.8 -0.6
baz=87,SNR=55
D23A Lindsay 87.19 338 ⇓P P 11 38 16.1 -0.6
baz=87
E21A Keefer Ranch, 87.23 336 ⇑P P 11 38 15.8 -1.1
baz=88,SNR=73
F19A Roth Farm, Mol 87.27 335 ⇓P P 11 38 15.8 -1.4
baz=88,SNR=88
C24A Savage 87.28 338 ⇓P P 11 38 15.7 -1.3
baz=88,SNR=288
QLMT Earthquake Lak 87.29 333 eP P 11 38 17.5 +0.1
A28A Rude Farm, Bot 87.36 342 ⇑P P 11 38 16.3 -1.2
baz=88,SNR=68
OUZ Omahuta 87.37 228 eP P 11 38 19.8 +1.8
OUZ epP pP 11 38 30.4 -0.3
OUZ LR LR
comp=Z,29μm,20.0s
HLID Hailey 87.39 330 eP P 11 38 17.8 -0.1
comp=Z,411nm,1.8s
HLID LR LR
comp=Z,3μm,19.0s
HLID Hailey 87.39 330 ⇑P P 11 38 17.2 -0.7
baz=88,SNR=105
B26A Jensen Ranch, 87.40 340 ⇓P P 11 38 16.7 -0.9
baz=88,SNR=15
GCMT Greycliff 87.47 334 eP P 11 38 13.4 -4.7
D22A Cohagen 87.48 337 ⇑P P 11 38 17.3 -0.8
baz=88,SNR=57
E20A Meyer Farm, Mu 87.55 336 ⇑P P 11 38 17.4 -1.1
baz=88,SNR=157
ULM Lac du Bonnet 87.56 345 P P 11 38 17.0 -1.3
comp=Z,191nm,1.1s,baz=165,slow=3.9,SNR=114
ULM pP pP 11 38 32.1 +1.1
comp=Z,44nm,0.8s,baz=160,slow=3.1,SNR=5.0
ULM PKKP PKKPbc 11 56 06.3 -2.4
comp=Z,17nm,0.9s,baz=348,slow=3.5,SNR=17
ULM Lac du Bonnet 87.56 345 eP P 11 38 17.0 -1.3
comp=Z,466nm,1.4s
ULM pP pP 11 38 32.1 +1.1
ULM PKKP PKKPbc 11 56 06.3 -2.4
ULM LR LR
comp=Z,3μm,19.6s
B25A Knox Farm, Ray 87.57 340 ⇑P P 11 38 17.9 -0.6
baz=88,SNR=70
A27A Ledoux Ranch, 87.66 341 ⇓P P 11 38 18.1 -0.8
baz=88
D21A La Casta Ranch 87.67 337 ⇑P P 11 38 18.2 -0.8
baz=88,SNR=106
HOPS Hopland 87.67 322 eP P 11 38 21.4 +2.2
comp=Z,439nm,1.9s
E19A Rath Farm, Rou 87.74 335 ⇑P P 11 38 18.3 -1.1
baz=88,SNR=173
C23A Lambert 87.75 338 ⇓P P 11 38 18.7 -0.6
baz=88,SNR=114
A26A Wade Farm, Ken 87.82 340 ⇓P P 11 38 18.8 -0.8
baz=88,SNR=64
MCMT McKenzie Canyo 87.82 332 eP P 11 38 20.0 0.0
MFID Camas Ranch 87.85 329 eP P 11 38 19.6 -0.4
comp=Z,316nm,1.8s
MFID LR LR
comp=Z,2μm,20.0s
C22A Vida 87.92 338 ⇓P P 11 38 19.3 -0.9
baz=88,SNR=37
DGMT Dagmar 88.05 339 eP P 11 38 20.4 -0.3
comp=Z,976nm,1.3s
DGMT Dagmar 88.05 339 ⇓P P 11 38 20.4 -0.3
baz=88,SNR=125
BOZ Bozeman (W) 88.06 333 eP P 11 38 19.7 -1.3
BOZ pmax pmax
comp=Z,265nm,1.5s
BOZ MLR MLR
comp=Z,4μm,21.0s
BOZ Bozeman (W) 88.06 333 eP P 11 38 19.7 -1.3
comp=Z,265nm,1.5s
BOZ LR LR
comp=Z,4μm,21.0s
D20A Manuel Ranch, 88.07 336 ⇑P P 11 38 19.9 -1.1
baz=88,SNR=130
A25A Svangstu Ranch 88.16 340 ⇑P P 11 38 20.9 -0.3
baz=88,SNR=88
DLMT Dillon 88.18 332 eP P 11 38 21.3 -0.2
comp=Z,313nm,1.5s
DLMT LR LR
comp=Z,5μm,19.2s
WVOR Wild Horse Val 88.27 327 eP P 11 38 21.1 -0.9
WVOR pmax pmax
comp=Z,395nm,1.9s
WVOR Wild Horse Val 88.27 327 eP P 11 38 21.1 -0.9
comp=Z,395nm,1.9s
B23A Brockton 88.28 338 ⇓P P 11 38 21.2 -0.6
baz=88,SNR=78
C21A Desert Coulee 88.37 337 ⇑P P 11 38 21.3 -1.0
baz=89,SNR=119
D19A Cripps Ranch, 88.38 336 ⇓P P 11 38 21.3 -1.1
baz=89,SNR=74
A24A Westby 88.40 339 ⇑P P 11 38 21.8 -0.6
baz=89,SNR=48
B22A Reddig Ranch S 88.44 338 ⇓P P 11 38 22.0 -0.6
baz=89,SNR=66
KCPM Cahto Peak 88.46 323 eP P 11 38 23.5 +0.5
comp=Z,313nm,2.3s
KIPM Iron Peak 88.50 323 eP P 11 38 25.6 +2.4
LRM Limekiln Ridge 88.51 333 eP P 11 38 22.9 -0.4
C20A Veseth Ranch, 88.57 336 ⇑P P 11 38 22.2 -1.0
baz=89,SNR=99
MOD Modoc 88.60 326 eP P 11 38 23.6 -0.1
comp=Z,373nm,1.8s
MOD LR LR
comp=Z,4μm,19.0s
WDC Whiskeytown Da 88.63 324 eP P 11 38 22.9 -0.7
WDC pmax pmax
comp=Z,319nm,1.9s
WDC Whiskeytown Da 88.63 324 eP P 11 38 22.9 -0.7
comp=Z,319nm,1.9s
A23A Redstone 88.69 339 ⇓P P 11 38 22.8 -1.0
baz=89,SNR=22
B21A Ellsworth Farm 88.87 337 ⇑P P 11 38 24.0 -0.6
baz=89,SNR=64
KMRM Mail Ridge 88.93 323 eP P 11 38 27.5 +2.3
comp=Z,584nm,2.0s
C19A Slack Wire Ran 88.93 336 ⇓P P 11 38 24.2 -0.8
baz=89,SNR=61
N02D Trinity Center 89.01 324 ⇑P P 11 38 24.4 -1.1
baz=89
A22A Carney Farms, 89.03 338 ⇓P P 11 38 24.5 -0.9
baz=89,SNR=135
HRY Holter Researc 89.03 334 eP P 11 38 25.5 0.0
comp=Z,133nm,1.4s
LSZ Lusaka 89.15 108 eP P 11 38 28.4 +1.4
LSZ pmax pmax
comp=Z,295nm,1.0s
LSZ Lusaka 89.15 108 eP P 11 38 28.4 +1.4
comp=Z,295nm,1.0s
B20A Solberg Farm, 89.21 337 ⇑P P 11 38 25.2 -1.0
baz=89,SNR=28
M04C Macdoel 89.22 325 ⇓P P 11 38 25.9 -0.7
baz=89
A21A Bergtoll Ranch 89.34 338 ⇑P P 11 38 25.6 -1.3
baz=90
M02C Callahan 89.40 324 ⇓P P 11 38 27.0 -0.4
baz=90
EGMT Eagleton 89.42 335 eP P 11 38 26.4 -0.9
comp=Z,115nm,1.3s
EGMT Eagleton 89.42 335 ⇓P P 11 38 26.1 -1.2
baz=90,SNR=37
PAF Port-aux-Franc 89.42 156 P P 11 38 13.0 -14
PAF Port-aux-Franc 89.42 156 S S 11 48 58.0 -16
PAF SS SS 11 54 54.0 -15
PAF L L 12 03 00.0
PAF R 12 07 00.0
KHMM Horse Mountain 89.44 323 eP P 11 38 29.7 +2.1
comp=Z,137nm,1.3s
K05A Summer Lake 89.52 326 eP P 11 38 28.4 +0.4
comp=Z,714nm,1.8s
B19A Brinkman Farms 89.52 336 ⇑P P 11 38 26.7 -1.0
baz=90,SNR=37
A20A Cobblestone Ra 89.56 337 ⇓P P 11 38 26.7 -1.2
baz=90,SNR=61
SCHQ Schefferville 89.57 3 P P 11 38 26.4 -1.3
comp=Z,101nm,1.1s,baz=170,slow=3.2,SNR=38
SCHQ PKKPbc PKKPbc 11 56 02.8 -1.1
comp=Z,5.8nm,0.8s,baz=44,slow=7.7,SNR=5.9
SCHQ LR LR 12 21 56.6
comp=Z,2μm,19.4s,baz=182,slow=38
SCHQ Schefferville 89.57 3 eP P 11 38 26.3 -1.4
comp=Z,221nm,1.3s
SCHQ PKKPbc PKKPbc 11 56 02.8 -1.1

YBH Yreka Blue Hor 89.60 324 eP P 11 38 27.6 -0.7
YBH pmax pmax
comp=Z,50nm,1.0s
YBH Yreka Blue Hor 89.60 324 P P 11 38 26.7 -1.6
comp=Z,16nm,1.0s,baz=138,slow=3.8,SNR=18
YBH Yreka Blue Hor 89.60 324 eP P 11 38 27.6 -0.7
comp=Z,50nm,1.0s
BMO Blue Mountains 89.64 329 eP P 11 38 28.2 -0.2
comp=Z,258nm,1.9s
BMO LR LR
comp=Z,4µm,20.0s
CHMT Chamberlain Mo 89.73 333 eP P 11 38 28.7 -0.2
K04D Chiloquin, OR 89.83 325 ⇑P P 11 38 28.7 -0.8
baz=90
A19A Klindworth Far 89.87 337 ⇓P P 11 38 28.0 -1.3
baz=90,SNR=52
MSO Missoula 89.92 332 eP P 11 38 29.7 0.0
comp=Z,185nm,1.8s
MSO LR LR
comp=Z,4µm,21.0s
MSO Missoula 89.92 332 ⇑P P 11 38 28.9 -0.8
baz=90,SNR=41
I07A Izee 89.96 328 eP P 11 38 30.4 +0.5
comp=Z,186nm,1.5s
SLMT Seeley Lake 90.09 333 eP P 11 38 30.2 -0.3
J05D Fort Rock, OR 90.11 326 ⇓P P 11 38 30.2 -0.5
baz=90
AFI Afiamalu 90.26 253 PFAKE 11 38 40.0 +7.9
AFI LR LR
comp=Z,13µm,21.0s
L02D Cave Junction, 90.35 324 ⇓P P 11 38 31.5 -0.1
baz=91
PINOR Pine Mountain 90.36 327 eP P 11 38 32.1 +0.5
HUMO Hull Mountain 90.39 325 eP P 11 38 32.3 +0.4
comp=Z,159nm,2.0s
J04D Umpqua Nationa 90.48 326 ⇓P P 11 38 32.0 -0.5
baz=91
SWMT Swartz Lake 90.51 333 eP P 11 38 31.8 -0.6
F10A Beach Ranch, E 90.51 330 P P 11 38 31.6 -0.8
G08A Pilot Rock 90.69 329 eP P 11 38 33.5 +0.2
comp=Z,233nm,1.8s
G08A LR LR
comp=Z,3µm,19.8s
KBO Bosley Butte 90.69 324 eP P 11 38 36.3 +2.9
comp=Z,319nm,1.7s
YBMT Yellow Bay 90.81 333 eP P 11 38 33.6 -0.2
JTMT Jette 90.81 333 eP P 11 38 33.2 -0.6
I05D Terrebonne, OR 90.98 327 ⇑P P 11 38 35.0 +0.4
baz=91
I04A Tendick Farm, 91.04 326 ⇓P P 11 38 35.4 +0.5
baz=91
BLMT Blacktail Moun 91.06 333 eP P 11 38 34.9 -0.2
BSMT Bassoo Peak 91.09 333 eP P 11 38 34.4 -0.8
E09A Wood Farm, Sta 91.32 330 eP P 11 38 35.7 -0.3
comp=Z,78nm,1.6s
E09A LR LR
comp=Z,3µm,19.9s
G06A Carlson Farm, 91.37 328 eP P 11 38 37.0 +0.6
comp=Z,485nm,2.0s
I03D Drain, OR 91.40 325 ⇓P P 11 38 37.0 +0.6
baz=92
H04A Detroit Lake 91.63 327 eP P 11 38 37.7 +0.1
comp=Z,153nm,1.6s
H04A LR LR
comp=Z,6µm,20.9s
G05D Wamic, OR 91.67 327 ⇑P P 11 38 38.3 +0.5
baz=92
WALA Waterton Lakes 91.77 334 eP P 11 38 37.1 -1.2
comp=Z,5.4nm,1.4s
HAWA Hanford 91.80 329 eP P 11 38 38.4 +0.1
comp=Z,276nm,1.5s
HAWA LR LR
comp=Z,3µm,20.0s
VLL Laurance Lake 92.00 327 P P 11 38 40.3 +0.9
COR Corvallis 92.06 326 PFAKE 11 38 50.0 +10
COR LR LR
comp=Z,3µm,21.0s
E07A Sunnyside 92.07 329 eP P 11 38 39.8 +0.2
comp=Z,43nm,1.0s
E07A LR LR
comp=Z,4µm,21.2s
D08A Wollman Farm, 92.08 330 eP P 11 38 39.4 -0.2
comp=Z,213nm,1.6s
NEW Newport 92.33 331 P P 11 38 40.3 -0.5
NEW pmax pmax
comp=Z,24nm,1.0s
NEW Newport 92.33 331 P P 11 38 40.2 -0.5
comp=Z,24nm,1.0s,baz=140,slow=3.8,SNR=29
NEW Newport 92.33 331 eP P 11 38 39.3 -1.5
comp=Z,67nm,1.3s
NEW LR LR
comp=Z,3µm,20.0s
NEW Newport 92.33 331 ⇓P P 11 38 39.2 -1.5
baz=92,SNR=32
C09A Chrisman Ranch 92.41 331 eP P 11 38 40.5 -0.6
comp=Z,140nm,1.3s
C09A LR LR
comp=Z,4µm,20.6s
G03D McMinnville, O 92.52 326 ⇓P P 11 38 41.2 -0.4
baz=93
EBG Ellensburg 92.65 329 P P 11 38 42.6 +0.3
MORF Marmelete 92.69 45 eP P 11 38 42.3 -0.4
MORF eS SKSac 11 49 12.4 -0.5
MORF AMS AMS 12 18 30.0
comp=Z,4µm,19.1s
MORF Marmelete 92.69 45 eP P 11 38 42.7 0.0
comp=Z,164nm,2.0s
MORF Marmelete 92.69 45 eP P 11 38 42.3 -0.4
MORF eS SKSac 11 49 12.4 -0.5
F04A Amboy 92.70 327 eP P 11 38 42.6 +0.2
comp=Z,328nm,2.0s
SAW Saint Andrews 92.79 330 P P 11 38 42.9 0.0
LVP Lakeview Peak 92.80 327 P P 11 38 43.5 +0.4
TAM Tamanrasset 92.93 64 eP P 11 38 44.6 +0.3
TAM pmax pmax
comp=Z,216nm,1.1s
TAM Tamanrasset 92.93 64 eP P 11 38 44.6 +0.3
comp=Z,216nm,1.1s
TDL Tradedollar La 92.93 328 P P 11 38 43.8 +0.1
LTY Liberty 92.97 329 eP P 11 38 43.2 -0.6
comp=Z,273nm,2.1s
LTY LR LR
comp=Z,4µm,18.7s
WTV Waterville 93.01 330 P P 11 38 43.7 -0.3
LON Longmire 93.06 328 eP P 11 38 43.1 -1.1
LON pmax pmax
comp=Z,203nm,2.2s
LON MLR MLR
comp=Z,3µm,21.6s
LON Longmire 93.06 328 eP P 11 38 43.1 -1.1
comp=Z,203nm,2.2s
LON LR LR
comp=Z,3µm,21.6s
PBDV Barranco-do-Ve 93.07 46 eP P 11 38 43.6 -0.8
comp=Z,208nm,2.1s
PBDV Barranco-do-Ve 93.07 46 eSKS SKSac 11 49 21.7 +6.7
F04D Rainier, OR 93.08 327 ⇓P P 11 38 44.2 +0.1
baz=93
FFC Flin Flon 93.11 343 P P 11 38 42.6 -1.5
comp=Z,170nm,1.1s,SNR=15
FFC Flin Flon 93.11 343 eP P 11 38 42.8 -1.3
FFC pmax pmax
comp=Z,57nm,1.3s
FFC MLR MLR
comp=Z,4µm,20.0s
FFC Flin Flon 93.11 343 eP P 11 38 42.8 -1.3
comp=Z,57nm,1.3s
FFC LR LR
comp=Z,4µm,20.0s
B08A Colville Reser 93.28 330 PFAKE 11 39 00.0 +15
B08A LR LR
comp=Z,3µm,20.3s
MESJ Messejana 93.30 45 eP P 11 38 45.0 -0.5
MESJ eS SKSac 11 49 16.1 -0.1
MESJ AMS AMS 12 18 37.8
comp=Z,5µm,20.7s
MESJ Messejana 93.30 45 eP P 11 38 46.4 +1.0
MESJ Messejana 93.30 45 eP P 11 38 44.9 -0.5
MESJ eS SKSac 11 49 16.0 -0.1
PVAQ Vaqueiros 93.30 46 eP P 11 38 45.6 +0.2
comp=Z,192nm,1.8s
PVAQ Vaqueiros 93.30 46 eLQ LQ 12 02 57.0
PVAQ eLR LR 12 09 59.0
comp=Z,4µm,18.0s
PNCL Nicolau / Gran 93.31 45 eP P 11 38 46.2 +0.8
comp=Z,97nm,1.5s
PNCL Nicolau / Gran 93.31 45 i SKS S 11 49 46.4 -3.2
LIS Lisbon 93.36 44 eP P 11 38 45.2 -0.5
LIS AMS AMS 12 18 40.9
comp=Z,4µm,25.0s
LIS Lisbon 93.36 44 eP P 11 38 45.2 -0.5
PMAFR Mafra 93.45 44 i SKS SKSac 11 49 42.4 +5.9
D05A Enumclaw 93.48 328 eP P 11 38 45.6 -0.4
comp=Z,81nm,1.2s
D05A LR LR
comp=Z,4µm,18.4s
E03A Lebam 93.68 327 eP P 11 38 47.9 +1.0
comp=Z,82nm,1.2s
E03A LR LR
comp=Z,3µm,21.3s
PBAR Barrancos 94.22 46 eP P 11 38 50.4 +0.8
comp=Z,175nm,1.8s
PBAR Barrancos 94.22 46 eSKS SKSac 11 49 28.9 +7.8
B06A Marblemount 94.29 329 eP P 11 38 49.3 -0.4
comp=Z,158nm,1.9s
B06A LR LR
comp=Z,4µm,21.8s
PESTR Estremoz 94.36 45 eP P 11 38 50.2 -0.1
comp=Z,93nm,1.9s
PESTR Estremoz 94.36 45 i SKS S 11 49 53.4 -5.5
PTOM Tomar 94.39 44 eP P 11 38 50.9 +0.5
NLWA Neilton Lookou 94.46 327 PFAKE 11 39 00.0 +9.4
NLWA LR LR
comp=Z,3µm,21.0s
PCAS Casmilo, Conde 94.64 43 i SKS SKSac 11 49 48.1 +2.8
PMRV Marv??o 94.85 44 eP P 11 38 52.3 -0.3
comp=Z,78nm,1.5s
PMRV Marv??o 94.85 44 eSKS SKSac 11 49 48.1 +1.2
PMRV Marv??o 94.85 44 eLQ LQ 12 06 02.6
PMRV eLR LR 12 10 43.8
comp=Z,5µm,22.0s
A05A Maple Falls 94.92 329 PFAKE 11 39 00.0 +7.4
A05A LR LR
comp=Z,4µm,21.4s
EDM Edmonton 95.05 336 eP P 11 38 50.6 -2.5
EDM Edmonton 95.05 336 eP P 11 38 50.6 -2.5
PCBR Castelo Branco 95.08 44 eP P 11 38 53.3 -0.2
comp=Z,58nm,1.9s
PGC Sidney 95.23 328 eP P 11 38 53.9 -0.1
comp=Z,2.4nm,1.3s
FCC Fort Churchill 95.28 348 eP P 11 38 52.7 -1.3
FCC pmax pmax
comp=Z,47nm,0.9s
FCC Fort Churchill 95.28 348 eP P 11 38 52.7 -1.3
comp=Z,46nm,0.9s
MTE Manteigas 95.41 44 eP P 11 38 55.3 +0.1
comp=Z,104nm,1.5s
MTE Manteigas 95.41 44 eSKS SKSac 11 49 32.5 +4.9
MTE Manteigas 95.41 44 eLQ LQ 12 05 37.6
MTE eLR LR 12 10 55.3
comp=Z,5µm,18.0s
MTE Manteigas 95.41 44 eP P 11 38 55.3 +0.1
comp=Z,67nm,1.1s
MTE LR LR
comp=Z,5µm,19.0s
MSVF Nonsavu 95.70 244 PFAKE 11 39 10.0 +13
MSVF LR LR
comp=Z,6µm,18.0s
POLO Lamas de Olo 95.93 43 eP P 11 38 57.1 -0.4
comp=Z,66nm,1.7s
POLO Lamas de Olo 95.93 43 eSKS SKSac 11 49 39.0 +8.6
MVO Moncorvo 96.21 43 eP P 11 38 59.2 +0.4
comp=Z,95nm,1.7s
MVO Moncorvo 96.21 43 eSKS SKSac 11 49 44.2 +12
MVO Moncorvo 96.21 43 eLQ LQ 12 06 37.0
MVO eLR LR 12 10 48.7
comp=Z,6µm,20.0s
PAB San Pablo 96.70 46 eP P 11 39 01.1 +0.1
PAB pmax pmax
comp=Z,62nm,1.3s
PAB MLR MLR
comp=Z,4µm,19.0s
PAB San Pablo 96.70 46 eP P 11 39 01.1 +0.1
comp=Z,62nm,1.3s
PAB LR LR
comp=Z,4µm,19.0s
PBRG Braganca 96.80 43 eP P 11 39 01.5 +0.1
comp=Z,90nm,1.4s
PBRG Braganca 96.80 43 i SKS SKSac 11 50 04.8 +3.7
ESLA Sonseca Array 97.01 46 eP Pdif 11 39 03.5 +1.0
comp=Z,13nm,1.3s
ESDC Sonseca Array 97.01 46 P P 11 39 01.9 -0.5
comp=Z,14nm,1.0s,baz=239,slow=4.4,SNR=35
ESDC LR LR 12 21 46.3
comp=Z,3µm,21.0s,baz=220,slow=35
ES19 SONSECA Array 97.06 46 eP P 11 39 02.6 -0.1
ETRT Tiaret 97.58 52 P Pdif 11 39 07.8 +2.5
EANR 'Ain N'Sour 97.80 51 P Pdif 11 39 08.2 +2.1
SJPF Ste Jean 100.77 45 eP Pdif 11 39 19.7 +0.6
comp=Z,109nm,1.2s
SJPF Ste Jean 100.77 45 eP Pdif 11 39 19.7 +0.6
SJPF pmax pmax
comp=Z,109nm,1.2s
SJPF Ste Jean 100.77 45 eP Pdif 11 39 19.7 +0.6
comp=Z,109nm,1.2s
ABPO Ambohimpanom 100.92 122 eP Pdif 11 39 25.8 +5.1
ABPO Ambohimpanom 100.92 122 ePdif Pdif 11 39 25.8 +5.1
DZM Mont Dzumac 100.94 233 ePdif Pdif 11 39 20.1 -0.5
comp=Z,487nm,26.1s
DZM Mont Dzumac 100.94 233 eSP SP 11 52 23.9 -2.1
comp=Z,3µm,25.1s
DZM eSS SS 11 57 54.0 0.0
comp=Z,6µm,29.1s
DZM Mont Dzumac 100.94 233 eLR LR 12 12 15.1
comp=Z,21µm,28.7s
DZM Mont Dzumac 100.94 233 PKKPbc PKKPbc 11 55 31.5 +0.1
comp=Z,9.9nm,0.7s,baz=203,slow=6.9,SNR=8.0
ETSF Etsaut 101.03 45 eP Pdif 11 39 19.9 -0.4
comp=Z,131nm,1.5s
ETSF Etsaut 101.03 45 eP Pdif 11 39 19.9 -0.4
ETSF pmax pmax
comp=Z,131nm,1.5s
ETSF Etsaut 101.03 45 eP Pdif 11 39 19.9 -0.4
comp=Z,131nm,1.5s
EPF Esparros 101.63 45 eP Pdif 11 39 23.6 +0.6
EPF Esparros 101.63 45 eP Pdif 11 39 23.6 +0.6
EPF Esparros 101.63 45 PP Pdif 11 39 23.6 +0.6
AIS Amsterdam Isla 102.12 155 PP PP 11 43 25.0 -11
AIS SKKS 11 52 10.0
AIS L L 12 08 00.0
AIS R 12 13 00.0
MTLF Montolieu 102.92 46 eP Pdif 11 39 28.7 0.0
comp=Z,135nm,1.5s
MTLF Montolieu 102.92 46 eP Pdif 11 39 28.7 0.0
MTLF pmax pmax
comp=Z,135nm,1.5s
MTLF Montolieu 102.92 46 eP Pdif 11 39 28.7 0.0
comp=Z,135nm,1.5s
SFJD Kangerlussuaq 102.93 8 PFAKE 11 39 40.0 +12
SFJD LR LR
comp=Z,3µm,21.0s
LFF La Frestale 103.01 44 eP Pdif 11 39 29.3 +0.3
comp=Z,201nm,1.5s
LFF La Frestale 103.01 44 eP Pdif 11 39 29.3 +0.3
LFF pmax pmax
comp=Z,201nm,1.5s
LFF La Frestale 103.01 44 eP Pdif 11 39 29.3 +0.3
comp=Z,201nm,1.5s
KEST Kesra 103.11 56 Pdiff Pdif 11 39 29.9 +0.1
comp=Z,4.0nm,0.9s,baz=269,slow=2.0,SNR=8.4
KEST Kesra 103.11 56 ePdif Pdif 11 39 32.0 +2.2
YKA Yellowknife Ar 103.12 341 Pdiff Pdif 11 39 27.0 -2.0
comp=Z,8.3nm,0.9s,baz=145,slow=4.5,SNR=65
YKA PP PKiKP 11 43 49.0 +0.6
comp=Z,1.3nm,0.8s,baz=132,slow=7.0,SNR=2.8
YKA PKKPbc PKKPbc 11 55 24.4 -2.2
comp=Z,2.4nm,0.7s,baz=324,slow=3.1,SNR=16
YKA PKKP PKKPdf 11 55 40.6 +5.3
comp=Z,4.4nm,0.9s,baz=321,slow=3.5,SNR=5.0
YKA PKPPKP P'P'df 12 03 40.4 -0.4
comp=Z,1.6nm,1.1s,baz=326,slow=2.1,SNR=4.3
ARMA Armidale 103.24 217 PFAKE 11 39 40.0 +9.2
ARMA LR LR
comp=Z,2µm,19.9s
MFF Saint Martin d 103.50 42 eP Pdif 11 39 31.2 0.0
comp=Z,268nm,1.6s
MFF Saint Martin d 103.50 42 eP Pdif 11 39 31.2 0.0
MFF pmax pmax
comp=Z,268nm,1.6s
MFF Saint Martin d 103.50 42 eP Pdif 11 39 31.2 0.0
comp=Z,268nm,1.6s
RJF Les Rejaudoux 103.67 44 eP Pdif 11 39 32.0 +0.1
RJF eR
comp=Z,8µm,20.0s
RJF Les Rejaudoux 103.67 44 eP Pdif 11 39 32.0 +0.1
RJF Les Rejaudoux 103.67 44 eP Pdif 11 39 32.0 +0.1
DSB Dublin 104.45 34 PFAKE 11 39 50.0 +15
DSB LR LR
comp=Z,5µm,20.0s
WRAK Wrangell Islan 104.59 330 PFAKE 11 39 50.0 +14
WRAK LR LR
comp=Z,2µm,22.0s
FLN La Foliniere 104.61 40 eP Pdif 11 39 35.7 -0.3
FLN eR
comp=Z,8µm,22.8s
FLN La Foliniere 104.61 40 eP Pdif 11 39 35.7 -0.3
FLN La Foliniere 104.61 40 eP Pdif 11 39 35.7 -0.3
TCF Toulx Ste Croi 104.64 43 eP Pdif 11 39 36.3 +0.1
TCF Toulx Ste Croi 104.64 43 eP Pdif 11 39 36.3 +0.1
TCF Toulx Ste Croi 104.64 43 eP Pdif 11 39 36.3 +0.1
LDF La Druitiere 104.71 41 eP Pdif 11 39 36.1 -0.3
comp=Z,264nm,1.7s
LDF La Druitiere 104.71 41 eP Pdif 11 39 36.1 -0.3
LDF pmax pmax
comp=Z,264nm,1.7s
LDF La Druitiere 104.71 41 eP Pdif 11 39 36.1 -0.3
comp=Z,264nm,1.7s
KMBO Kilima Mbogo 104.71 102 Pdiff Pdif 11 39 39.3 +1.6
comp=Z,3.8nm,0.2s,baz=180,slow=24,SNR=14
KMBO PKKPbc PKKPbc 11 55 20.4 +0.1
comp=Z,1.1nm,0.2s,baz=34,slow=4.0,SNR=4.4
KMBO Kilima Mbogo 104.71 102 ePdif Pdif 11 39 48.0 +10
KMBO PKKPbc PKKPbc 11 55 20.4 +0.1
ILULI Ilulissat 105.00 7 i P PP 11 43 56.2 -2.4
DLBC Dease Lake 105.05 332 eP Pdif 11 39 38.0 +0.1
BGF Bois d'Agland 105.15 44 eP Pdif 11 39 38.8 +0.3
comp=Z,62nm,1.2s
BGF Bois d'Agland 105.15 44 eP Pdif 11 39 38.8 +0.3
BGF pmax pmax
comp=Z,62nm,1.2s
BGF Bois d'Agland 105.15 44 eP Pdif 11 39 38.8 +0.3
comp=Z,62nm,1.2s
VSL Villasalto 105.19 52 PFAKE 11 44 00.0
VSL LR LR
comp=Z,9µm,21.0s
AVF Avril sur Loir 105.57 44 eP Pdif 11 39 40.4 +0.1
comp=Z,154nm,1.7s
AVF Avril sur Loir 105.57 44 eP Pdif 11 39 40.4 +0.1
AVF pmax pmax
comp=Z,154nm,1.7s
AVF Avril sur Loir 105.57 44 eP Pdif 11 39 40.4 +0.1
comp=Z,154nm,1.7s
SMF Signal de Mont 105.76 44 eP Pdif 11 39 40.4 -0.8
comp=Z,131nm,1.3s
SMF Signal de Mont 105.76 44 eP Pdif 11 39 40.4 -0.8
SMF pmax pmax
comp=Z,131nm,1.3s
SMF Signal de Mont 105.76 44 eP Pdif 11 39 40.4 -0.8
comp=Z,131nm,1.3s
SSF Saint Saulge 105.81 43 eP Pdif 11 39 41.3 -0.1
comp=Z,58nm,1.3s
SSF Saint Saulge 105.81 43 eP Pdif 11 39 41.3 -0.1
SSF pmax pmax
comp=Z,58nm,1.3s
SSF Saint Saulge 105.81 43 eP Pdif 11 39 41.3 -0.1
comp=Z,58nm,1.3s
LOR Lormes 106.12 43 eP Pdif 11 39 42.8 0.0
comp=Z,67nm,1.3s
LOR eR
comp=Z,7µm,19.2s
LOR Lormes 106.12 43 eP Pdif 11 39 42.8 0.0
LOR pmax pmax
comp=Z,67nm,1.3s
LOR Lormes 106.12 43 eP Pdif 11 39 42.8 0.0
comp=Z,67nm,1.3s
STKA Stephens Creek 106.52 209 P Pdif 11 39 49.6 +4.4
STKA pmax pmax
comp=Z,5.0nm,1.0s
STKA Stephens Creek 106.52 209 Pdiff Pdif 11 39 49.6 +4.4
comp=Z,4.7nm,1.0s,baz=206,slow=6.3,SNR=3.0
BNI Bardonecchia 106.53 46 PFAKE 11 44 10.0
BNI LR LR
comp=Z,5µm,20.0s
LPL La Plagne 106.81 46 eP Pdif 11 39 47.3 +1.1
comp=Z,51nm,1.3s
LPL La Plagne 106.81 46 eP Pdif 11 39 47.3 +1.1
LPL pmax pmax
comp=Z,51nm,1.3s
LPL La Plagne 106.81 46 eP Pdif 11 39 47.3 +1.1
comp=Z,51nm,1.3s
LPG La Plagne 106.82 46 eP Pdif 11 39 47.4 +1.1
comp=Z,80nm,1.4s
LPG La Plagne 106.82 46 eP Pdif 11 39 47.4 +1.1
LPG pmax pmax
comp=Z,80nm,1.4s
LPG La Plagne 106.82 46 eP Pdif 11 39 47.4 +1.1
comp=Z,80nm,1.4s
CABF La Chapelle 107.03 45 eP Pdif 11 39 46.5 -0.5
CABF La Chapelle 107.03 45 eP Pdif 11 39 46.5 -0.5
CABF La Chapelle 107.03 45 eP Pdif 11 39 46.5 -0.5
ESK Eskdalemuir 107.20 34 PFAKE 11 44 10.0
ESK LR LR
comp=Z,5µm,18.0s
SFTF Sexfontaines 107.31 43 eP Pdif 11 39 48.1 +0.1
SFTF Sexfontaines 107.31 43 eP Pdif 11 39 48.1 +0.1
MEZF Maizieres J'vi 107.48 43 eP Pdif 11 39 48.9 +0.1
MEZF Maizieres J'vi 107.48 43 eP Pdif 11 39 48.9 +0.1
EDI Edinburgh 107.57 33 PFAKE 11 44 10.0
EDI LR LR
comp=Z,3µm,19.0s
EIDS Eidsvold 107.62 220 PFAKE 11 44 10.0
EIDS LR LR
comp=Z,4µm,20.7s
BBOO Buckleboo 107.72 204 PFAKE 11 44 10.0
BBOO LR LR
comp=Z,20µm,21.9s
BAIF Baives 107.87 41 eP Pdif 11 39 51.4 +0.9
BAIF Baives 107.87 41 eP Pdif 11 39 51.4 +0.9
BAIF Baives 107.87 41 eP Pdif 11 39 51.4 +0.9
PAGF Fort de Pagny 107.88 43 eP Pdif 11 39 51.0 +0.4
PAGF Fort de Pagny 107.88 43 eP Pdif 11 39 51.0 +0.4
HAU Haudompre 107.94 44 eP Pdif 11 39 50.8 -0.1
HAU eR
comp=Z,6µm,21.2s
HAU Haudompre 107.94 44 eP Pdif 11 39 50.8 -0.1
HAU Haudompre 107.94 44 eP Pdif 11 39 50.8 -0.1
HINF Hinteralfeld 108.12 44 eP Pdif 11 39 52.8 +1.1
HINF Hinteralfeld 108.12 44 eP Pdif 11 39 52.8 +1.1
HINF Hinteralfeld 108.12 44 eP Pdif 11 39 52.8 +1.1
VLC Villacollemand 108.30 49 PFAKE 11 44 10.0
VLC LR LR
comp=Z,3µm,18.0s
CDF Champ du Feu 108.68 44 eP Pdif 11 39 54.3 0.0
comp=Z,58nm,1.5s
CDF Champ du Feu 108.68 44 eP Pdif 11 39 54.3 0.0
CDF pmax pmax
comp=Z,58nm,1.5s
CDF Champ du Feu 108.68 44 eP Pdif 11 39 54.3 0.0
comp=Z,58nm,1.5s
WLF Walferdange 108.72 42 PFAKE 11 44 10.0
WLF LR LR
comp=Z,7µm,21.0s
TUE Stuetta 108.87 46 PFAKE 11 44 10.0
TUE LR LR
comp=Z,6µm,18.0s
CEL Celeste 108.89 56 PFAKE 11 44 10.0
CEL LR LR
comp=Z,18µm,19.0s
BFO Black Forest 109.23 44 PFAKE 11 44 10.0
BFO LR LR
comp=Z,3µm,19.0s
FUORN Ofenpass-Fuorn 109.49 46 PFAKE 11 44 10.0
FUORN LR LR
comp=Z,8µm,21.5s
CUC Castrocucco 109.70 55 PFAKE 11 44 10.0
CUC LR LR
comp=Z,7µm,18.0s
SUMG Summit 109.72 10 i P PP 11 44 29.6 -4.0
SUMG Summit 109.72 10 i P PKKPab 11 55 16.2 +2.6
comp=Z,10nm,0.9s
SUMG Summit 109.72 10 PFAKE 11 44 10.0
SUMG LR LR
comp=Z,4µm,20.0s
TIP Timpagrande 109.94 56 P PKiKP 11 44 02.6 +0.7
TIP Timpagrande 109.94 56 P PKiKP 11 44 02.6 +0.7
TIP LR LR
comp=Z,9µm,19.0s

STU	Stuttgart	109.96	44	PFAKE		11 44 10.0	
STU				LR	LR		
	comp=Z,4µm,19.0s						
RES	Resolute Bay	110.50	354	PFAKE		11 44 10.0	
RES				LR	LR		
	comp=Z,4µm,21.4s						
ABTA	Abfaltersbach	110.89	47⇑	iPKiKP	PKiKP	11 44 03.6	+0.1
	comp=Z,23nm,1.1s,SNR=5.7						
JAVS	Javornik	111.43	48	iPKiKP	PKiKP	11 44 05.4	+0.8
JAVS				iPP	PP	11 44 43.3	-3.0
TARA	Tarawa	111.50	256	PFAKE		11 44 20.0	
TARA				LR	LR		
	comp=Z,4µm,19.0s						
FURI	Furi	111.64	94	PFAKE		11 44 20.0	
FURI				LR	LR		
	comp=Z,5µm,21.0s						
BOJS	Bojanci	111.98	49	ePKiKP	PKiKP	11 44 07.0	+1.5
BOJS				iPP	PP	11 44 42.8	-7.3
BOJS				iSKSdf	SKSdf	11 51 17.2	+3.2
OBKA	Obir	112.01	48⇑	iPKiKP	PKiKP	11 44 06.3	+0.7
	comp=Z,28nm,1.1s,SNR=6.6						
VLS	Valsamata	112.10	58	P	PKiKP	11 44 06.9	+0.9
VLS	Valsamata	112.10	58	PKIKP	PKiKP	11 44 06.9	+0.9
VLS	Valsamata	112.10	58	P	PKiKP	11 44 06.9	+0.9
DAWY	Dawson	112.11	334	ePKiKP	PKiKP	11 44 04.1	-1.1
RAGM	Ragged Mountai	112.15	329	ePKiKP	PKiKP	11 44 05.9	+0.5
RAGM				LR	LR		
	comp=Z,2µm,21.6s						
SOKA	Soboth	112.39	48⇑	iPKiKP	PKiKP	11 44 06.8	+0.5
	comp=Z,29nm,1.3s,SNR=5.9						
PERS	Pernice	112.42	48	ePKiKP	PKiKP	11 44 06.8	+0.4
PERS				ePP	PP	11 44 49.2	-4.1
BMRM	Bremner River	112.42	330	PFAKE		11 44 20.0	
BMRM				LR	LR		
	comp=Z,2µm,19.8s						
LKD2	Lefkada island	112.43	58	P	PKiKP	11 44 05.1	-1.5
LKD2	Lefkada island	112.43	58	P	PKiKP	11 44 05.1	-1.5
GEC2	GERESS Array S	112.60	45	ePKiKP	PKiKP	11 44 06.8	+0.1
GEC2	GERESS Array S	112.60	45	ePKiKP	PKiKP	11 44 06.8	+0.1
GERES	GERESS Array B	112.60	45	PKiKP	PKiKP	11 44 07.1	+0.4
	comp=Z,15nm,1.0s,baz=225,slow=1.1,SNR=26						
GERES				PKKPbc	PKKPab	11 55 05.3	+3.6
	comp=Z,2.0nm,0.8s,baz=50,slow=4.4,SNR=6.1						
KHC	Kasperske Hory	112.66	45	ePKIKP	PKiKP	11 44 06.7	0.0
KHC				e		11 44 21.3	
KHC				e		11 50 44.8	
KHC				MLR	MLR		
	comp=Z,4µm,18.0s						
KHC	Kasperske Hory	112.66	45	ePKP	PKiKP	11 44 06.7	0.0
KHC				epPKP	pPKP	11 44 21.3	
KHC				ePP	PP	11 44 49.4	-5.5
KHC				eSKS	SKSac	11 50 44.8	-1.9
KHC				eSKKS	SKKSac	11 51 47.1	-5.7
KHC				ePS	PS	11 54 35.1	+5.8
KHC				AMS	AMS	12 34 40.0	
	comp=Z,4µm,18.0s						
KHC	Kasperske Hory	112.66	45	ePKPdf	PKiKP	11 44 06.5	-0.3
KHC				LR	LR		
	comp=Z,4µm,18.1s						
PDO	Prodromos	112.70	58	P	PKiKP	11 44 08.5	+1.4
DSL	Palaion Diasel	112.89	57	P	PKiKP	11 44 08.9	+1.4
DSL	Palaion Diasel	112.89	57	P	PKiKP	11 44 08.9	+1.4
ARSA	Arzberg	112.95	48	iPKiKP	PKiKP	11 44 07.5	+0.1
	comp=Z,21nm,1.0s,SNR=9.3						
VLX	Vlachokerasia	112.98	60	P	PKiKP	11 44 09.7	+1.9
VLX	Vlachokerasia	112.98	60	P	PKiKP	11 44 09.7	+1.9
LAKA	Lakka	113.10	59	P	PKiKP	11 44 10.2	+2.3
LAKA	Lakka	113.10	59	P	PKiKP	11 44 10.2	+2.3
MENT	Mentasta	113.11	332	ePKPdf	PKiKP	11 44 06.8	-0.3
KLV	Kalavryta, Ach	113.13	59	P	PKiKP	11 44 09.3	+1.3
KLV	Kalavryta, Ach	113.13	59	P	PKiKP	11 44 09.3	+1.3
EGAK	Eagle	113.15	334	ePKPdf	PKiKP	11 44 06.3	-0.8
EGAK				LR	LR		
	comp=Z,2µm,21.0s						
KMY	Karmoy	113.18	33	ePP	PP	11 44 56.8	-1.4
GUR	Goura	113.21	59	P	PKiKP	11 44 09.4	+1.2
GUR	Goura	113.21	59	P	PKiKP	11 44 09.4	+1.2
KALE	Kalithea	113.28	59	P	PKiKP	11 44 09.3	+1.0
KALE	Kalithea	113.28	59	P	PKiKP	11 44 09.3	+1.0
EVR	Evrytania	113.28	58	P	PKiKP	11 44 10.3	+2.0
EVR	Evrytania	113.28	58	P	PKiKP	11 44 10.3	+2.0
CLL	Collm	113.33	43⇑	eP	Pdif	11 40 14.0	-0.7
CLL				i		11 44 08.5	
CLL				e		11 44 56.0	
CLL				pmax	pmax		
	comp=Z,20nm,1.5s						
CLL				pmax	pmax		
	comp=Z,41nm,1.3s						
CLL				MLR	MLR		
	comp=Z,4µm,21.0s						
CLL	Collm	113.33	43	ePdif	Pdif	11 40 14.0	-0.7
	comp=Z,20nm,1.5s						
CLL				⇑iPKiKP	PKiKP	11 44 08.5	+0.6
	comp=Z,41nm,1.3s						
CLL				epPKiKP	pPKiKP	11 44 24.0	+3.1
CLL				ePP	PP	11 44 56.0	-3.5
CLL				epPP		11 45 14.0	
CLL				esSdiff		11 53 12.0	
CLL				ePS	PS	11 54 42.0	+6.7
CLL				ePKKPab	PKKPab	11 55 04.0	+5.8
CLL				ePKKPdf	PKKPdf	11 55 14.0	-1.5
CLL				ePPS	PPS	11 55 45.0	
CLL				e		11 56 28.0	
CLL				e		11 57 28.0	
CLL				eSKKPdf	SKKPdf	11 58 53.0	+5.4
CLL				eSS	SS	12 01 00.0	+18
CLL				eSSS	SSS	12 05 06.0	
CLL				ePPPPrev		12 07 00.0	
CLL				e		12 09 00.0	
CLL				LmV		12 31 00.0	
	comp=Z,4µm,21.0s						
CLL	Collm	113.33	43	ePKIKP	PKiKP	11 44 08.9	+1.0
CLL				LR	LR		
	comp=Z,6µm,22.0s						
CONA	Conrad Observa	113.46	47⇑	iPKIKP	PKiKP	11 44 08.3	0.0
	comp=Z,30nm,1.2s,SNR=8.9						
MAKR	Makrakomi, Fth	113.55	58	P	PKiKP	11 44 10.3	+1.5
MAKR	Makrakomi, Fth	113.55	58	P	PKiKP	11 44 10.3	+1.5
DSF	Desfina	113.56	59	P	PKiKP	11 44 09.6	+0.8
DSF	Desfina	113.56	59	P	PKiKP	11 44 09.6	+0.8
PRA	Prague	113.58	45	PKP		11 44 09.0	
PRA				PP		11 44 57.0	-4.4
PRA				PKKP	PKKPab	11 55 01.0	+3.8
PHP	Peshkopia	113.59	55	P	PKiKP	11 44 09.9	+1.1
PHP	Peshkopia	113.59	55	PKIKP	PKiKP	11 44 09.9	+1.1
PHP	Peshkopia	113.59	55	P	PKiKP	11 44 09.9	+1.1
PRU	Pruhonice	113.61	45	ePKIKP	PKiKP	11 44 08.5	+0.1
PRU				e		11 50 48.2	
PRU				MLR	MLR		
	comp=Z,5µm,24.2s						
PRU	Pruhonice	113.61	45	ePKP	PKiKP	11 44 08.5	+0.1
PRU				ePP	PP	11 44 56.3	-5.3
PRU				eSKS	SKSac	11 50 48.2	-2.1
PRU				ePKKP	PKKPab	11 55 00.8	+3.7
PRU				ex	x	11 55 13.9	
PRU				AMS	AMS	12 27 30.0	
	comp=Z,5µm,24.2s						
DOT	Dot Lake	113.62	332	ePKIKP	PKiKP	11 44 08.4	+0.3
DID	Didima	113.65	60	P	PKiKP	11 44 09.0	0.0
DID	Didima	113.65	60	P	PKiKP	11 44 09.0	0.0
BRG	Berggiesshubel	113.66	44	iPKP	PKiKP	11 44 09.2	+0.7
	comp=Z,32nm,1.3s						
BRG				ePP	PP	11 44 58.8	-3.1
	comp=Z,94nm,1.9s						
BRG				ePKKP	PKKPab	11 55 00.1	+3.3
	comp=Z,8.5nm,1.1s						
BRG				e		11 55 07.0	
	comp=Z,12nm,1.2s						
BRG				SS	SS	12 01 03.0	+16
BRG	Berggiesshubel	113.66	44	iPKP	PKiKP	11 44 09.2	+0.7
BRG				e		11 44 58.8	
BRG				SS	SS	12 01 03.0	+16
BRG				pmax	pmax		
	comp=Z,32nm,1.3s						
BRG				pmax	pmax		
	comp=Z,95nm,1.9s						
BRG				MLR	MLR		
	comp=N,1µm,19.5s						
BRG				MLR	MLR		
	comp=E,5µm,23.1s						
BRG				MLR	MLR		
	comp=Z,6µm,23.2s						
AGG	Agios Georgios	113.69	58	P	PKiKP	11 44 09.7	+0.7
AGG	Agios Georgios	113.69	58	PKIKP	PKiKP	11 44 09.7	+0.7
AGG	Agios Georgios	113.69	58	P	PKiKP	11 44 09.7	+0.7
LTK	Loutraki	113.69	59	P	PKiKP	11 44 09.8	+0.8
LTK	Loutraki	113.69	59	P	PKiKP	11 44 09.8	+0.8
THL	Klokotos Trika	113.72	57	P	PKiKP	11 44 09.5	+0.5
SOP	Sopron	113.77	48	e	PKiKP	11 44 09.3	+0.5
BER	Bergen	113.79	32	ePP	PP	11 45 01.9	-0.7
BER				IAMs_20	IAMs_20	12 31 47.4	
	comp=Z,5µm,20.7s						
PAX	Paxson	113.81	331	PFAKE		11 44 20.0	
PAX				LR	LR		
	comp=Z,2µm,20.7s						
FNA	Florina	113.82	56	P	PKiKP	11 44 10.3	+1.1
FNA	Florina	113.82	56	PKIKP	PKiKP	11 44 10.3	+1.1
FNA	Florina	113.82	56	P	PKiKP	11 44 10.3	+1.1
TREC	Trest	113.85	46	ePKIKP	PKiKP	11 44 09.3	+0.3
TREC				e		11 44 22.2	
TREC				MLR	MLR		
	comp=Z,4µm,18.8s						
TREC	Trest	113.85	46	ePKP	PKiKP	11 44 09.3	+0.3
TREC				epPKP	pPKP	11 44 22.2	
TREC				ePP	PP	11 44 57.3	-6.0
TREC				ePKKP	PKKPab	11 54 59.2	+3.1
TREC				ex	x	11 55 12.2	
TREC				AMS	AMS	12 40 00.0	
	comp=Z,4µm,18.8s						
PVCC	Panska Ves	113.86	44	ePKP	PKiKP	11 44 09.4	+0.5
PVCC				epPKP	pPKP	11 44 23.7	
PVCC				AMS	AMS	12 27 30.0	
	comp=Z,4µm,22.1s						
SUE	Sulen	113.87	31	ePP	PP	11 45 02.9	-0.2
SUE				IAMs_20	IAMs_20	12 25 57.4	
	comp=Z,5µm,22.1s						
LKR	Lokris	114.00	59	P	PKiKP	11 44 10.3	+0.7
LKR	Lokris	114.00	59	P	PKiKP	11 44 10.3	+0.7
SEW	Seward	114.06	328	PFAKE		11 44 20.0	+11
SEW				LR	LR		
	comp=Z,2µm,19.6s						
HOMB	Homborsund	114.22	35	ePP	PP	11 45 04.0	-1.6
HOMB				IAMs_20	IAMs_20	12 32 03.2	
	comp=Z,5µm,20.9s						
SMIA	Simia	114.25	59	P	PKPdf	11 44 10.9	+0.8
HNR	Honiara	114.25	238	PFAKE		11 44 20.0	+9.2
HNR				LR	LR		
	comp=Z,3µm,21.0s						
FOO	Floro	114.26	31	ePP	PP	11 45 04.6	-1.2
FOO				IAMs_20	IAMs_20	12 34 58.8	
	comp=Z,2µm,19.0s						
RUE	Ruedersdorf	114.29	42	ePKiKP	PKiKP	11 44 10.4	+0.8
PTL	Penteli	114.34	60	P	PKPdf	11 44 10.8	+0.5
PTL	Penteli	114.34	60	P	PKPdf	11 44 10.8	+0.5
PKS9	Tamasi	114.35	49	e	PKPdf	11 44 11.1	+1.1
DIVS	Divibare	114.35	52	P	PKPdf	11 44 10.7	+0.5
SML	Sawmill	114.40	329	PFAKE		11 44 20.0	+10
SML				LR	LR		
	comp=Z,500nm,19.0s						
PKSM	Moragy	114.41	50	⇓PKIKP	PKPdf	11 44 10.7	+0.6
PKSM	Moragy	114.41	50⇓	iP	PKPdf	11 44 10.6	+0.5
PKSM	Moragy	114.41	50⇑	e	PKPdf	11 44 10.3	+0.2
MRKA	Markates	114.43	59	P	PKPdf	11 44 11.2	+0.8
XOR	Xorichti	114.45	58	P	PKPdf	11 44 10.9	+0.5
XOR	Xorichti	114.45	58	P	PKPdf	11 44 10.9	+0.5
CTAO	Charters Tower	114.47	219	PFAKE		11 44 20.0	+8.8
CTAO				LR	LR		
	comp=Z,2µm,20.0s						
VRAC	Vranov	114.50	46	⇑PKIKP	PKPdf	11 44 10.7	+0.5
VRAC	Vranov	114.50	46⇑	iP	PKPdf	11 44 10.7	+0.5
HYA	Hoyanger	114.53	31	ePP	PP	11 45 06.9	-0.8
GRG	Griva	114.59	56	P	PKPdf	11 44 11.9	+1.2
GRG	Griva	114.59	56	PKIKP	PKPdf	11 44 11.9	+1.2
GRG	Griva	114.59	56	P	PKPdf	11 44 11.9	+1.2
PMR	Palmer	114.63	329	ePKIKP	PKPdf	11 44 10.2	+0.2
PMR				MLR	MLR		
	comp=Z,2µm,19.2s						
PMR	Palmer	114.63	329	ePKPdf	PKPdf	11 44 10.2	+0.2
PMR				LR	LR		
	comp=Z,2µm,19.2s						
UPC	Upice	114.68	45	ePKIKP	PKPdf	11 44 11.1	+0.6
UPC				e		11 44 25.2	
UPC	Upice	114.68	45	ePKP	PKPdf	11 44 11.1	+0.6
UPC				epPKP	PKiKP	11 44 25.2	+15
UPC				ePP	PP	11 45 02.0	-7.2
UPC				ePKKP	PKKPab	11 54 54.9	+2.6
UPC				ex	x	11 55 02.3	
JMIC	Jan Mayen	114.69	19	ePP	PP	11 45 06.9	-1.8
PKSG		114.76	48⇓	e	PKPdf	11 44 11.0	+0.3
DPC	Dobruska-Polom	114.79	45	ePKIKP	PKPdf	11 44 11.2	+0.4
DPC				e		11 44 25.9	
DPC	Dobruska-Polom	114.79	45	ePKP	PKPdf	11 44 11.2	+0.4
DPC				epPKP	PKiKP	11 44 25.9	+15
DPC				ePP	PP	11 45 03.8	-6.2
DPC				ex	x	11 51 55.2	
DPC				eSKKS		11 52 01.8	
DPC				ePKKP	PKKPab	11 54 58.5	+6.6
DPC				ex	x	11 55 09.4	
DPC	Dobruska-Polom	114.79	45	ePKiKP	PKiKP	11 44 11.1	+0.3
DPC				LR	LR		
	comp=Z,21µm,19.0s						
THE	Thessaloniki	114.84	57	P	PKPdf	11 44 12.2	+1.1
THE	Thessaloniki	114.84	57	PKIKP	PKPdf	11 44 12.2	+1.1
THE	Thessaloniki	114.84	57	P	PKPdf	11 44 12.2	+1.1
VAY	Valandovo	114.87	56	P	PKPdf	11 44 11.7	+0.6
VAY	Valandovo	114.87	56	PKIKP	PKPdf	11 44 11.7	+0.6
VAY	Valandovo	114.87	56⇓	ePdi		11 40 24.2	
VAY				ePP	PP	11 45 07.1	-3.6
VAY	Valandovo	114.87	56	P	PKPdf	11 44 11.7	+0.6
HORT	Hortiatis	114.92	57	P	PKPdf	11 44 11.7	+0.3
HORT	Hortiatis	114.92	57	P	PKPdf	11 44 11.7	+0.3
RGN	Rugen	114.94	40	PFAKE		11 44 20.0	+9.2
RGN				LR	LR		
	comp=Z,4µm,20.0s						
COP	Copenhagen	114.98	38	iP	PP	11 45 07.7	-3.4
KSP	Ksiaz	114.99	44	iPKIKP	PKPdf	11 44 11.6	+0.5
KSP				e		11 45 08.2	
KSP				ePS	PKKPab	11 54 53.8	+2.8
KSP	Ksiaz	114.99	44	ePKPdf	PKPdf	11 44 11.9	+0.8
KSP				ePP	PP	11 45 08.3	-3.0
KSP				ePS	PKKPdf	11 55 06.1	-6.2
KSP				LMZ	LR	12 28 39.5	
KNT	Kendrikon	115.02	56	P	PKPdf	11 44 12.0	+0.5
KNT	Kendrikon	115.02	56	PKIKP	PKPdf	11 44 12.0	+0.5
KNT	Kendrikon	115.02	56	P	PKPdf	11 44 12.0	+0.5
PAIG	Paliouri	115.03	58	P	PKPdf	11 44 11.2	-0.3
PAIG	Paliouri	115.03	58	PKIKP	PKPdf	11 44 11.2	-0.3
PAIG	Paliouri	115.03	58	P	PKPdf	11 44 11.2	-0.3
PLG	Polygyros	115.06	57	P	PKPdf	11 44 12.2	+0.6
PLG	Polygyros	115.06	57	PKIKP	PKPdf	11 44 12.2	+0.6
PLG	Polygyros	115.06	57	P	PKPdf	11 44 12.2	+0.6
APE	Apeiranthos	115.10	61	⇑PKIKP	PKPdf	11 44 12.4	+0.6
APE	Apeiranthos	115.10	61⇑	iP	PKPdf	11 44 12.4	+0.6
PKS6	Bocsa	115.15	50	e	PKPdf	11 44 12.9	+1.4
SOH	Sokhos	115.19	57	P	PKPdf	11 44 12.7	+0.8
SOH	Sokhos	115.19	57	PKIKP	PKPdf	11 44 12.7	+0.8
SOH	Sokhos	115.19	57	P	PKPdf	11 44 12.7	+0.8
IL1	Eielson Array	115.25	333	ePKIKP	PKPdf	11 44 09.6	-1.6
ILAR	Eielson Array	115.25	333	P	Pdif	11 40 27.8	+4.8
ILAR						11 44 10.2	
ILAR						11 54 45.9	
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ILAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ILAR	Eielson Array	115.25	333	Pdiff	Pdif	11 40 27.8	+4.8
	comp=Z,1.1nm,1.1s,baz=160,slow=2.9,SNR=4.3						
ILAR				PKP	PKPdf	11 44 10.2	-1.0
	comp=Z,9.1nm,1.0s,baz=180,slow=1.3,SNR=30						
ILAR				PKKPbc	PKKPbc	11 54 45.9	-1.6
	comp=Z,6.4nm,1.0s,baz=291,slow=4.4,SNR=14						
MORC	Moravsky Berou	115.26	46	⇓PKIKP	PKPdf	11 44 12.1	+0.4
MORC	Moravsky Berou	115.26	46⇓	iP	PKPdf	11 44 12.1	+0.4
MORC	Moravsky Berou	115.26	46	ePKPdf	PKPdf	11 44 11.6	-0.1
MORC				LR	LR		
	comp=Z,4µm,19.0s						
KONO	Kongsberg	115.35	34	ePP	PP	11 45 12.8	-0.8
KONO				IAMs_20	IAMs_20	12 33 49.0	
	comp=Z,5µm,19.9s						
KONO	Kongsberg	115.35	34	PFAKE		11 44 20.0	+8.5
KONO				LR	LR		
	comp=Z,5µm,20.0s						
OUR	Ouranopolis	115.41	57	P	PKPdf	11 44 12.4	+0.2
OUR	Ouranopolis	115.41	57	PKIKP	PKPdf	11 44 12.4	+0.2
OUR	Ouranopolis	115.41	57	P	PKPdf	11 44 12.4	+0.2
KKB	Krupnik	115.45	56	P	PKPdf	11 44 12.6	+0.3
SRS	Serrai	115.48	56	P	PKPdf	11 44 12.2	-0.2
SRS	Serrai	115.48	56	PKIKP	PKPdf	11 44 12.2	-0.2
SRS	Serrai	115.48	56	P	PKPdf	11 44 12.2	-0.2
VYHS	Vyhne	115.50	47	ePKIKP	PKPdf	11 44 12.6	+0.4
VYHS				e		11 44 26.7	
VYHS	Vyhne	115.50	47	ePKP	PKPdf	11 44 12.6	+0.4
VYHS				e		11 44 26.7	
MCK	McKinley	115.55	331	ePKIKP	PKPdf	11 44 11.5	-0.3
MCK				MLR	MLR		
	comp=Z,2µm,20.0s						
MCK	McKinley	115.55	331	ePKPdf	PKPdf	11 44 11.5	-0.3
MCK				LR	LR		
	comp=Z,2µm,20.0s						
OKC	Ostrava-Krasne	115.64	46	ePKIKP	PKPdf	11 44 12.8	+0.4
OKC				e		11 44 26.5	
OKC				MLR	MLR		
	comp=Z,4µm,18.6s						
OKC	Ostrava-Krasne	115.64	46	ePKP	PKPdf	11 44 12.8	+0.4
OKC				epPKP	PKiKP	11 44 26.5	+14
OKC				ex	x	11 45 02.2	
OKC				ex	x	11 51 59.7	
OKC				AMS	AMS	12 36 40.0	
	comp=Z,4µm,18.6s						
COLA	College	115.66	333	ePKIKP	PKPdf	11 44 11.0	-0.9
COLA				MLR	MLR		
	comp=Z,3µm,20.0s						
COLA	College	115.66	333	ePKPdf	PKPdf	11 44 10.9	-0.9
COLA				LR	LR		
	comp=Z,3µm,20.0s						
NVR	Nevrokopi	115.76	56	P	PKPdf	11 44 12.6	-0.3
NVR	Nevrokopi	115.76	56	P	PKPdf	11 44 12.6	-0.3
MMB	Musomiste	115.77	56	⇑PKIKP	PKPdf	11 44 13.1	+0.2
MMB	Musomiste	115.77	56⇑	iP	PKPdf	11 44 13.1	+0.2
PSZ	Piszkesteto	115.91	48	⇓PKIKP	PKPdf	11 44 12.7	-0.3
PSZ	Piszkesteto	115.91	48⇓	iP	PKPdf	11 44 12.6	-0.5
PSZ	Piszkesteto	115.91	48	ePKPdf	PKPdf	11 44 12.1	-0.9
PSZ				LR	LR		
	comp=Z,5µm,22.0s						
PSZ	Piszkesteto	115.91	48	e	PKPdf	11 44 12.5	-0.5
TRF	Thorofare Moun	115.96	331	ePKPdf	PKPdf	11 44 12.1	-0.7
TRF				LR	LR		
	comp=Z,2µm,20.4s						
BSD	Bornholm Skovb	116.02	40	iP	PP	11 45 12.6	-5.8
BSD				i		11 45 33.3	
BZS	Buzias	116.04	51	⇑PKIKP	PKPdf	11 44 13.7	+0.4
BZS	Buzias	116.04	51⇑	iP	PKPdf	11 44 13.7	+0.4
KAVA	Kavala	116.06	57	P	PKPdf	11 44 13.4	0.0
KAVA	Kavala	116.06	57	P	PKPdf	11 44 13.4	0.0
DAG	Danmarks Havn	116.22	12	iP	PP	11 45 16.5	-2.8
DAG	Danmarks Havn	116.22	12	iP	PKKPbc	11 54 42.3	-1.9
	comp=Z,11nm,0.9s						
KTH	Kantishna Hill	116.26	331	ePKPdf	PKPdf	11 44 12.4	-0.8
KTH				LR	LR		
	comp=Z,2µm,20.6s						
RZN	Rozhen	116.48	56	P	PKPdf	11 44 08.7	-5.8
PPLA	Purkeypile	116.50	330	ePKPdf	PKPdf	11 44 13.9	+0.1
PPLA				LR	LR		
	comp=Z,3µm,19.4s						
NB002	NORSAR Array S	116.51	33	ePKPdf	PKPdf	11 44 13.7	-0.1
GKP	Gorka Klasztor	116.52	42	ePKIKP	PKPdf	11 44 14.5	+0.6
GKP				e		11 45 19.2	
GKP	Gorka Klasztor	116.52	42	ePKPdf	PKPdf	11 44 14.5	+0.6
GKP				ePP	PP	11 45 19.2	-2.8
GKP				LMZ	LR	12 29 25.4	
MSEY	Mahe Island	116.56	117	iPKIKP	PKPdf	11 44 16.6	+1.2
MSEY	Mahe Island	116.56	117	ePKPdf	PKPdf	11 44 16.1	+0.7
MSEY				LR	LR		
	comp=Z,4µm,20.0s						
PRK	Paraskevi	116.56	59	P	PKPdf	11 44 15.5	+1.1
PRK	Paraskevi	116.56	59	PKIKP	PKPdf	11 44 15.5	+1.1
PRK	Paraskevi	116.56	59	P	PKPdf	11 44 15.5	+1.1
PLD	Plovdiv	116.65	56	P	PKPdf	11 44 14.8	+0.3
PLD	Plovdiv	116.65	56	PKIKP	PKPdf	11 44 14.8	+0.3
PLD	Plovdiv	116.65	56	P	PKPdf	11 44 14.8	+0.3
CHGN	Chignik	116.66	321	ePdif	Pdif	11 40 27.4	-1.9
NB2	NORSAR Subarra	116.67	33	PKPdf	PKPdf	11 44 13.5	-0.6
	comp=Z,23nm,1.2s,baz=248,slow=1.9						
NB2	NORSAR Subarra	116.67	33	PKPd4	PKPdf	11 44 13.5	-0.6
	baz=248,slow=1.9						
NOA	NORSAR Array B	116.67	33	PKP	PKPdf	11 44 14.0	-0.1
	comp=Z,6.4nm,1.0s,baz=245,slow=1.8,SNR=11						
NOA				PKKPbc	PKKPab	11 54 44.8	+1.6
	comp=Z,7.7nm,0.9s,baz=67,slow=4.5,SNR=11						
CAST	Castle Rocks	116.68	330	ePKPdf	PKPdf	11 44 13.9	-0.1
CAST				LR	LR		
	comp=Z,2µm,21.8s						
NC602	NORSAR Array S	116.69	33	ePP	PP	11 45 23.1	+0.2
NC602				IVMs_BB	IVMs_BB	12 34 44.8	
	comp=Z,3µm,18.2s						
NC602				IAMs_20	IAMs_20	12 34 51.3	
	comp=Z,9µm,20.8s						
NIE	Niedzica	116.76	47	iPKIKP	PKPdf	11 44 15.3	+0.7
NIE				e		11 45 20.0	
NIE				e		11 51 27.5	
NIE	Niedzica	116.76	47	ePKIKP	PKPdf	11 44 15.3	+0.7
NIE				ePP	PP	11 45 20.0	-3.9
NIE				eSKSdf	SKSdf	11 51 27.5	+4.4
NIE				L	L	12 38 01.0	
	comp=Z,4µm,18.3s						
OJC	Ojcow	116.77	46	iPKIKP	PKPdf	11 44 15.1	+0.6
OJC				e		11 45 19.7	
OJC				e		11 51 27.2	
OJC	Ojcow	116.77	46	ePKIKP	PKPdf	11 44 15.1	+0.6
OJC				ePP	PP	11 45 19.7	-4.2
OJC				eSKSdf	SKSdf	11 51 27.2	+4.2
OJC				L	L	12 37 22.0	
	comp=Z,4µm,18.8s						
OJC	Ojcow	116.77	46	ePKPdf	PKPdf	11 44 14.5	0.0
OJC				LR	LR		
	comp=Z,3µm,18.9s						
AS01	Alice Springs	116.82	206	ePKPdf	PKPdf	11 44 14.1	-1.5
AS31	Alice Springs	116.84	206	ePKPdf	PKPdf	11 44 13.9	-1.9
ASAR	Alice Springs	116.84	206	P	Pdif	11 40 35.8	+4.5
ASAR						11 44 14.0	
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR				pmax	pmax		
	comp=Z,11nm,1.0s						
ASAR	Alice Springs	116.84	206	Pdiff	Pdif	11 40 35.8	+4.5
	comp=Z,1.4nm,1.0s,baz=145,slow=4.9,SNR=4.7						
ASAR				PKP	PKPdf	11 44 14.0	-1.7
	comp=Z,11nm,1.0s,baz=130,slow=1.6,SNR=28						
ASAR				PKKPbc	PKKPbc	11 54 40.9	-0.2
	comp=Z,8.4nm,0.8s,baz=339,slow=3.2,SNR=30						
KDZ	Kurdzhali	116.95	57	⇑PKIKP	PKPdf	11 44 15.1	-0.1
KDZ	Kurdzhali	116.95	57⇑	iP	PKPdf	11 44 15.1	-0.1
DEV	Deva	116.97	51	⇑PKIKP	PKPdf	11 44 15.7	+0.6
DEV	Deva	116.97	51⇑	iP	PKPdf	11 44 15.7	+0.6
ALN	Alexandroupoli	117.08	58	P	PKPdf	11 44 15.3	-0.1
ALN	Alexandroupoli	117.08	58	PKIKP	PKPdf	11 44 15.3	-0.1
ALN	Alexandroupoli	117.08	58	P	PKPdf	11 44 15.3	-0.1
TBLU	Trondheim	117.17	30	ePP	PP	11 45 26.0	-0.2
TBLU				IAMs_20	IAMs_20	12 34 22.2	
	comp=Z,7µm,21.1s						
DRGR		117.21	50	⇑PKIKP	PKPdf	11 44 15.8	+0.2
DRGR		117.21	50⇑	iP	PKPdf	11 44 15.8	+0.2
CRVS	Cervenica-Dubn	117.25	48	ePKIKP	PKPdf	11 44 15.4	-0.1
CRVS				e		11 44 29.8	
CRVS				e		11 45 24.9	
CRVS	Cervenica-Dubn	117.25	48	ePKP	PKPdf	11 44 15.4	-0.1
CRVS				e		11 44 29.8	
CRVS				ePP	PP	11 45 24.9	-2.4
STHS	Stebnicka Huta	117.32	47	ePKIKP	PKPdf	11 44 16.4	+0.7
STHS	Stebnicka Huta	117.32	47	ePKP	PKPdf	11 44 16.4	+0.7
LOT	Lotru	117.36	52⇓	iP	PKPdf	11 44 15.9	-0.1
HFS	Hagfors	117.43	34	PKIKP	PKPdf	11 44 14.1	-1.4
HFS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HFS	Hagfors	117.43	34	PKP	PKPdf	11 44 14.1	-1.4
	comp=Z,8.9nm,0.9s,baz=174,slow=4.2,SNR=9.6						
COLD	Coldfoot	117.57	334	ePKPdf	PKPdf	11 44 16.0	+0.4
COLD				LR	LR		
	comp=Z,2µm,19.5s						
TRPA	Tarpa	117.62	49⇓	iP	PKPdf	11 44 16.3	+0.1
TRPA	Tarpa	117.62	49⇓	ef		11 44 16.5	
UZH	Uzhgorod	117.66	48⇑	iPKIKP	PKPdf	11 44 16.5	+0.2
UZH				i		11 44 26.1	
UZH				e		11 44 30.3	
UZH				e		11 47 58.9	
UZH				e		11 51 26.3	
UZH				e		12 01 33.1	
UZH				e		12 06 06.9	

UZH MLR MLR
comp=N,2µm,19.0s
UZH MLR MLR
comp=E,2µm,19.0s
UZH MLR MLR
comp=Z,600nm,19.0s
KOLS Kolonicke sedl 117.76 48 *e*PKIKP **PKPdf 11 44 16.7 +0.2**
KOLS Kolonicke sedl 117.76 48 *e*PKP **PKPdf 11 44 16.7 +0.2**
ARR Arges 117.89 52⇓*i*P **PKPdf 11 44 16.4 -0.5**
EDRB Edirne 117.94 57 P **PKPdf 11 44 16.4 -0.6**
EDRB Edirne 117.94 57 P **PKPdf 11 44 16.4 -0.6**
SZH Strazhica 117.94 55 P **PKPdf 11 44 16.8 -0.2**
BEL Belsk 117.97 45 *e*PKIKP **PKPdf 11 44 17.2 +0.4**
BEL *e* 11 45 30.4
BEL Belsk 117.97 45 *e*PKPdf **PKPdf 11 44 17.2 +0.4**
BEL *e*PP **PP 11 45 30.4 -1.7**
BEL LMZ LR 12 30 45.9
JMB Yambol 118.07 56 P **PKPdf 11 44 15.8 -1.5**
JMB Yambol 118.07 56 PKIKP **PKPdf 11 44 15.8 -1.5**
JMB Yambol 118.07 56 P PKPdf 11 44 11.3 -6.0
JMB Yambol 118.07 56⇑*i*P **PKPdf 11 44 15.2 -2.1**
JMB Yambol 118.07 56 P **PKPdf 11 44 15.8 -1.5**
VOIR 118.19 53 ⇑PKIKP **PKPdf 11 44 17.4 -0.1**
VOIR 118.19 53⇑*i*P **PKPdf 11 44 17.4 -0.1**
KWP Kalwaria Pacla 118.29 47 *e*PKIKP **PKPdf 11 44 18.1 +0.6**
KWP *e* 11 44 32.4
KWP *e* 11 45 32.6
KWP Kalwaria Pacla 118.29 47 *e*PKPdf **PKPdf 11 44 18.0 +0.6**
KWP *e*pPKPdf **pPKPdf 11 44 32.3 +1.7**
KWP *e*PP **PP 11 45 32.5 -1.9**
KWP LMZ LR 12 30 29.8
KWP Kalwaria Pacla 118.29 47⇑*i*P **PKPdf 11 44 19.3 +1.8**
KWP Kalwaria Pacla 118.29 47 *e*PKPdf **PKPdf 11 44 17.3 -0.2**
KWP LR LR
comp=Z,4µm,20.0s
NSS Namsos 118.36 29 *e*PP PP 11 45 33.7 -0.8
NSS IAMs_20 IAMs_20 12 35 54.2
comp=Z,4µm,21.3s
IM04 Indian Mountai 118.38 333 *e*PKPdf **PKPdf 11 44 16.1 -1.1**
DOPR Dopca 118.61 52⇑*i*P **PKPdf 11 44 18.3 +0.1**
SECR 118.70 53⇓*i*P **PKPdf 11 44 18.9 +0.5**
MLR Muntele Rosu 118.79 53 ⇑PKIKP **PKPdf 11 44 18.4 -0.4**
MLR Muntele Rosu 118.79 53⇑*i*P **PKPdf 11 44 18.4 -0.4**
PRD Provadia 118.91 56 ⇑PKIKP **PKPdf 11 44 19.0 +0.2**
PRD Provadia 118.91 56 P **PKPdf 11 44 18.1 -0.7**
ISP Isparta 119.02 62 ⇓PKIKP **PKPdf 11 44 19.6 +0.2**
ISP Isparta 119.02 62⇓*i*P **PKPdf 11 44 19.6 +0.2**
ISP Isparta 119.02 62 *e*PKPdf **PKPdf 11 44 19.3 -0.1**
ISP LR LR
comp=Z,6µm,22.0s
ISR Istrita 119.05 53 ⇓PKIKP **PKPdf 11 44 19.3 +0.1**
ISR Istrita 119.05 53⇓*i*P **PKPdf 11 44 19.3 +0.1**
BUR04 Bucovina Ar. S 119.10 50 *e*PKPdf **PKPdf 11 44 18.8 -0.5**
BURAR Bucovina Array 119.10 50 ⇑PKIKP **PKPdf 11 44 19.0 -0.2**
BURAR Bucovina Array 119.10 50⇑*i*P **PKPdf 11 44 19.0 -0.2**
BUR08 Bucovina Ar. S 119.10 50 *e*PKPdf **PKPdf 11 44 19.3 0.0**
LVV L'vov 119.16 48 *e*PKIKP **PKPdf 11 44 18.6 -0.5**
LVV *e* 12 02 22.8
ALT Altintas 119.21 61 P **PKPdf 11 44 20.3 +0.6**
ALT Altintas 119.21 61 P **PKPdf 11 44 20.3 +0.6**
PGOR Pogoanele 119.26 54⇓*i*P **PKPdf 11 44 20.1 +0.6**
PLOR Plostina 119.39 53 ⇓PKIKP **PKPdf 11 44 19.4 -0.4**
PLOR Plostina 119.39 53⇓*i*P **PKPdf 11 44 19.4 -0.4**
GRER 119.43 53⇓*i*P **PKPdf 11 44 22.0 +2.2**
VRI Vrincioaia 119.44 53 ⇓PKIKP **PKPdf 11 44 18.6 -1.2**
VRI Vrincioaia 119.44 53⇓*i*P **PKPdf 11 44 18.6 -1.2**
PSN Preselentsi 119.61 55 ⇑PKIKP **PKPdf 11 44 20.4 +0.2**
PSN Preselentsi 119.61 55⇑*i*P **PKPdf 11 44 20.4 +0.2**
ODBI Odobesti 119.62 53⇓*i*P **PKPdf 11 44 24.5 +4.4**
TESR Tescani 119.62 52⇓*i*P **PKPdf 11 44 19.8 -0.3**
PRAR RASCA 119.65 51⇑*i*P **PKPdf 11 44 20.2 0.0**
PETR Petresti 119.72 53⇓*i*P **PKPdf 11 44 20.8 +0.5**
TIRR Tirgusor 120.05 55 ⇑PKIKP **PKPdf 11 44 21.1 +0.1**
TIRR Tirgusor 120.05 55⇑*i*P **PKPdf 11 44 21.1 +0.1**
TIRR Tirgusor 120.05 55 *e*PKPdf **PKPdf 11 44 20.1 -0.9**
TIRR LR LR
comp=Z,8µm,20.0s
WRA Warramunga Arr 120.06 208 Pdiff **Pdif 11 40 53.1 +7.5**
comp=Z,1.5nm,0.8s,baz=176,slow=4.0,SNR=7.8
WRA PKP **PKPdf 11 44 20.5 -1.5**
comp=Z,19nm,0.7s,baz=157,slow=1.5,SNR=56
WRA pPKP **pPKPdf 11 44 34.5 -0.5**
comp=Z,22nm,1.0s,baz=176,slow=1.6,SNR=9.0
WRA PKKPbc **PKKPbc 11 54 30.4 +0.9**
comp=Z,7.8nm,1.0s,baz=343,slow=3.5,SNR=14
WRA PKP2bc 11 57 08.9
comp=Z,2.8nm,0.9s,baz=284,slow=2.6,SNR=5.2
WRA SKKPbc SKKPbc 11 57 55.8 -15
comp=Z,6.8nm,0.9s,baz=339,slow=5.3,SNR=6.2
WRAB Tennant Creek 120.06 208 *i* PKIKP **PKPdf 11 44 20.6 -1.4**
WRAB pmax pmax
comp=Z,134nm,1.3s
WRAB Tennant Creek 120.06 208 *e*PKPdf **PKPdf 11 44 20.6 -1.4**
WRAB LR LR
comp=Z,6µm,22.0s
SUW Suwalki 120.09 43 *e*PKIKP **PKPdf 11 44 20.8 0.0**
SUW *e* 11 44 35.1
SUW *e* 11 45 43.2
SUW Suwalki 120.09 43 *e*PKPdf **PKPdf 11 44 20.7 0.0**
SUW *e*pPKPdf **pPKPdf 11 44 35.0 +1.2**
SUW *e*PP **PP 11 45 43.1 -3.6**
SUW LMZ LR 12 36 27.7
SUW Suwalki 120.09 43 *e*PKPdf **PKPdf 11 44 20.3 -0.5**
SUW LR LR
comp=Z,5µm,20.0s
CFR Carcaliu 120.12 54 ⇑PKIKP **PKPdf 11 44 21.0 -0.1**
CFR Carcaliu 120.12 54⇑*i*P **PKPdf 11 44 21.0 -0.1**
LOF Lofoten 120.22 26 *e*PP PP 11 45 47.1 -0.1
GIUM Giurgiulesti 120.28 53⇓*i*P **PKPdf 11 44 22.0 +0.6**
IAS Iasi 120.45 51 ⇓PKIKP **PKPdf 11 44 22.2 +0.5**
IAS Iasi 120.45 51⇓*i*P **PKPdf 11 44 22.2 +0.5**
TLCR 120.57 54 ⇑PKIKP **PKPdf 11 44 22.6 +0.6**
TLCR 120.57 54⇑*i*P **PKPdf 11 44 22.6 +0.6**
LEOM Leova 120.64 52 ⇑PKIKP **PKPdf 11 44 22.2 +0.1**
LEOM Leova 120.64 52⇑*i*P **PKPdf 11 44 22.2 +0.1**
COEN Coen 121.19 220 *e*PKPdf **PKPdf 11 44 24.5 +0.3**
COEN LR LR
comp=Z,17µm,20.9s
KIS Kishinev 121.19 52⇑*i*PKIKP **PKPdf 11 44 23.0 -0.1**
KIS *e* 11 44 37.0
KIS *i* 11 45 52.0
KIS *e* 11 51 16.0
KIS *i* PS **PS 11 55 50.0 +3.3**
KIS pmax pmax
comp=Z,500nm,1.0s
KIS pmax pmax
comp=Z,1µm,6.0s
KIS Kishinev 121.19 52⇑*i*PKP **PKPdf 11 44 23.0 -0.1**
KIS M M 11 44 23.5
comp=Z,500nm,1.0s
KIS Kishinev 121.19 52 *i* PP PP 11 45 52.0 -2.4
comp=Z,1µm,6.0s
KIS *e*SKS **SKSac 11 51 16.0 -2.2**
KIS *i* SKKS SKKSac 11 53 08.0 +18
KIS Kishinev 121.19 52 *i* PS PS 11 55 50.0 +3.3
KIS LRM MLR 12 32 22.0
comp=Z,4µm,22.0s
SORM Soroca 121.26 51 ⇑PKIKP **PKPdf 11 44 23.5 +0.3**
SORM Soroca 121.26 51⇑*i*P **PKPdf 11 44 23.5 +0.3**
BR231 Keskin MP Arra 121.42 61 *e*Pdif Pdif 11 41 06.0 +15
BR231 *e*PKPdf **PKPdf 11 44 23.1 -0.8**
ANTO Ankara 121.44 61 ⇑PKIKP **PKPdf 11 44 24.7 +0.8**
ANTO Ankara 121.44 61⇑*i*P **PKPdf 11 44 24.7 +0.8**
ANTO Ankara 121.44 61 P **PKPdf 11 44 24.8 +0.8**
SNR=6.8
ANTO Ankara 121.44 61 *e*PKPdf **PKPdf 11 44 24.5 +0.6**
ANTO LR LR
comp=Z,6µm,21.0s
BR131 Keskin Array S 122.00 61 *e*PKPdf **PKPdf 11 44 25.1 0.0**
BRTR Keskin Array B 122.00 61 P Pdif 11 41 04.2 +10
BRTR 11 44 24.5
BRTR 11 44 39.7
BRTR 11 46 06.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR pmax pmax
comp=Z,65nm,0.9s
BRTR Keskin Array B 122.00 61 Pdiff Pdif 11 41 04.2 +10
comp=Z,0.9nm,0.8s,baz=224,slow=5.2,SNR=4.1
BRTR PKP **PKPdf 11 44 24.5 -0.6**
comp=Z,65nm,0.9s,baz=197,slow=2.3,SNR=114
BRTR pPKP pPKPdf 11 44 39.7 +1.5
comp=Z,17nm,0.7s,baz=196,slow=3.8,SNR=5.2
BRTR PP PP 11 46 06.0 +5.7
comp=Z,14nm,0.9s,baz=234,slow=7.5,SNR=3.7
IIGN Ignalina 122.17 42 *e*P **PKPdf 11 44 24.3 -0.5**
IIGN AMB AMB 11 44 25.2
comp=Z,32nm,1.1s
ISAL Salakas 122.18 42 *e*P **PKPdf 11 44 24.6 -0.1**
ISAL AMB AMB 11 44 27.0
comp=Z,32nm,1.2s
NACGM Naroch 122.36 43 *e*PKP **PKPdf 11 44 22.0 -3.1**
IDID Didziasalis 122.45 42 *e*P **PKPdf 11 44 26.1 +0.9**
IDID AMB AMB 11 44 28.1
comp=Z,29nm,1.0s
TRO Tromso 122.52 25 *e*PP PP 11 45 58.8 -3.9
TRO *e*SS SS 12 02 43.8 +3.1
TRO IAMs_20 IAMs_20 12 33 27.6
comp=Z,4µm,22.7s
AK11 Malin Array Si 122.55 48 *e*PKPdf **PKPdf 11 44 22.7 -2.9**
AK02 Malin Array Si 122.57 48 *e*PKPdf **PKPdf 11 44 24.5 -1.1**
KIEV Kiev 122.58 48*c i*PKIKP **PKPdf 11 44 23.7 -2.0**
KIEV Kiev 122.58 48 *e*PKPdf **PKPdf 11 44 24.5 -1.2**
KIEV LR LR
comp=Z,3µm,19.6s
AK01 Malin Array Si 122.58 48 *e*PKPdf **PKPdf 11 44 24.8 -0.9**
AKASG Malin Array Be 122.59 48 PKIKP **PKPdf 11 44 24.5 -1.2**
AKASG 11 44 39.5
AKASG 11 46 01.0
AKASG pmax pmax
comp=Z,54nm,0.9s
AKASG pmax pmax
comp=Z,13nm,1.0s
AKASG Malin Array Be 122.59 48 PKP **PKPdf 11 44 24.5 -1.2**
comp=Z,54nm,0.9s,baz=264,slow=2.5,SNR=90
AKASG pPKP **pPKPdf 11 44 39.5 +0.7**
comp=Z,16nm,0.7s,baz=264,slow=2.5,SNR=7.1
AKASG PP **PP 11 46 01.0 -2.9**
comp=Z,13nm,1.0s,baz=256,slow=7.6,SNR=8.4
AKASG PKKPbc PKKPbc 11 54 32.4 +12
comp=Z,1.3nm,0.6s,baz=62,slow=4.2,SNR=5.8
AKBB Malin Array Si 122.59 48 *e*PKIKP **PKPdf 11 44 24.6 -1.1**
AKBB Malin Array Si 122.59 48 *e*PKPdf **PKPdf 11 44 24.6 -1.1**
PMG Port Moresby 122.61 227 *e*PKIKP **PKPdf 11 44 26.5 -0.4**
PMG Port Moresby 122.61 227 *e*PKPdf **PKPdf 11 44 26.5 -0.4**
MNK Minsk 122.84 43⇑*i*PKIKP **PKPdf 11 44 23.0 -3.0**
MNK *e* 11 51 20.0
MNK *e*SS SS 12 02 48.0 +2.4
MNK *e*SSS SSS 12 07 12.0
MNK MLR MLR
comp=Z,7µm,20.0s
MNK MLR MLR
comp=E,5µm,20.0s
MNK MLR MLR
comp=Z,23µm,20.0s
KBS Kingsbay 122.85 13 *e*PP PP 11 46 03.5 -1.3
KBS *e*SS SS 12 02 46.7 +2.2
KBS Kingsbay 122.85 13 PFAKE 11 44 40.0 +15
KBS LR LR
comp=Z,2µm,21.1s
MICGM Minsk 122.86 43⇑*i*PKP **PKPdf 11 44 23.0 -3.1**
MICGM Minsk 122.86 43 *e* PKKPbc 11 54 30.0 +11
MBWA Marble Bar 123.12 193 *e*PKPdf **PKPdf 11 44 26.5 -1.3**
MBWA LR LR
comp=Z,3µm,19.7s
HSPB Hornsund (broa 123.16 16 *e* 11 45 51.2
VSU Vasula 123.25 38*c i*PKIKP **PKPdf 11 44 26.4 -0.3**
SPA0 Spitsbergen Ar 123.56 14 *e*PP PP 11 46 08.6 -1.1
SPITS Spitsbergen Ar 123.56 14 PKIKP **PKPdf 11 44 26.8 -0.1**
SPITS pmax pmax
comp=Z,3.0nm,0.4s
SPITS Spitsbergen Ar 123.56 14 PKP **PKPdf 11 44 26.8 -0.1**
comp=Z,3.2nm,0.4s,baz=166,slow=3.9,SNR=24
BJO Bjornoya 123.58 19 *e*PP PP 11 46 08.1 -1.6
FINES FINESS Array B 123.60 35 PKP **PKPdf 11 44 25.9 -1.4**
comp=Z,22nm,0.9s,baz=166,slow=0.8,SNR=27
FINES PKKPbc PKKPbc 11 54 29.1 +13
comp=Z,2.0nm,0.6s,baz=76,slow=5.9,SNR=6.4
FIA1 FINESS Array S 123.61 35 *e*PKPdf **PKPdf 11 44 26.8 -0.5**
TNA Tin City 123.84 330 *e*PKPdf **PKPdf 11 44 27.0 -0.6**
TNA LR LR
comp=Z,2µm,20.2s
KAF Kangasniemi 123.85 34 *e*PKIKP **PKPdf 11 44 25.9 -1.8**
KAF pmax pmax
comp=Z,21nm,1.0s
KAF Kangasniemi 123.85 34 *e*p **PKPdf 11 44 25.9 -1.8**
comp=Z,21nm,1.0s
SIM Simferopol' 124.05 56*c i*PKIKP **PKPdf 11 44 29.3 +0.6**
SIM *i* 11 46 13.0
SIM pmax pmax
comp=Z,127nm,1.0s
SIM pmax pmax
comp=Z,560nm,9.5s
FITZ Fitzroy Crossi 124.71 200 *e*PKPdf **PKPdf 11 44 30.6 -0.2**
RAYN Ar Rayn 124.74 84 *e*PKPdf **PKPdf 11 44 30.7 -0.1**
RAYN LR LR
comp=Z,5µm,21.9s
ARCES ARCESS Array B 124.77 25 PKIKP **PKPdf 11 44 29.7 +0.3**
ARCES pmax pmax
comp=Z,13nm,1.0s
ARCES ARCESS Array B 124.77 25 PKP **PKPdf 11 44 29.6 +0.3**
comp=Z,13nm,0.9s,baz=242,slow=3.8,SNR=12
ARE0 ARCESS Array S 124.77 25 *e*PP PP 11 46 16.6 -1.4
ARE0 *e*SS SS 12 03 11.4 +2.2
MALT Malatya 125.01 64 ⇓PKIKP **PKPdf 11 44 31.7 +0.8**
MALT Malatya 125.01 64⇓*i*P **PKPdf 11 44 31.7 +0.8**
GAMB Gambell 125.14 328 *e*PKPdf **PKPdf 11 44 29.4 -0.8**
GAMB LR LR
comp=Z,2µm,19.7s
HOPEN Hopen 125.26 17 *e*PP PP 11 46 20.5 -0.5
HOPEN *e*SS SS 12 03 15.5 +0.6
KEV Kevo 125.31 25 *e*PKIKP **PKPdf 11 44 30.1 -0.2**
KEV pmax pmax
comp=Z,9.0nm,0.8s
KEV Kevo 125.31 25 *e*p **PKPdf 11 44 30.1 -0.2**
comp=Z,9.1nm,0.8s
KEV Kevo 125.31 25 PFAKE 11 44 40.0 +10
KEV LR LR
comp=Z,3µm,21.4s
PUL Pulkovo 125.33 37 *i* PKIKP **PKPdf 11 44 30.7 +0.1**
PUL pmax pmax
comp=Z,91nm,0.5s
H08S1 Diego Carcia H 125.69 134 PKP **PKPdf 11 44 32.1 -0.4**
baz=101,slow=76,SNR=19
H08S2 Diego Garcia H 125.70 134 PKP **PKPdf 11 44 33.2 +0.6**
baz=101,slow=76,SNR=7.4
H08S3 Diego Garcia H 125.71 134 PKP **PKPdf 11 44 33.0 +0.5**
baz=101,slow=76,SNR=6.2
H08N3 Diego Garcia H 125.83 132 PKP **PKPdf 11 44 33.2 +0.5**
baz=58,slow=74,SNR=4.2
H08N1 Diego Carcia H 125.85 132 PKP **PKPdf 11 44 33.3 +0.5**
baz=105,slow=74,SNR=14
DGAR Diego Garcia 125.87 134 *e*PKIKP **PKPdf 11 44 33.6 +0.4**
DGAR Diego Garcia 125.87 134 *e*PKPdf **PKPdf 11 44 33.6 +0.4**
H11S2 WAKE ISLAND Hy126.11 268 T T 14 03 23.0
baz=112
H11S1 WAKE ISLAND Hy126.13 268 T T 14 03 13.5
baz=112
H11S3 WAKE ISLAND Hy126.13 268 T T 14 03 19.7
baz=112
ANN Anapa 126.27 57 *i* PKIKP **PKPdf 11 44 33.2 +0.3**
ANN *e* 11 46 24.3
ANN *e* 11 51 34.2
ANN *e*SP SP 11 56 32.6 +6.3
ANN *e*SS SS 12 03 44.2 +15
ANN pmax pmax
comp=Z,208nm,1.0s
ANN MLR MLR
comp=N,3µm,24.0s
ANN MLR MLR
comp=E,1µm,24.0s
ANN MLR MLR
comp=Z,3µm,24.0s
JOF Joensuu 126.27 34 *e*PKIKP **PKPdf 11 44 30.7 -1.7**
JOF pmax pmax
comp=Z,19nm,0.9s
JOF Joensuu 126.27 34 *e*p **PKPdf 11 44 30.7 -1.7**
comp=Z,19nm,0.9s
H11N3 WAKE ISLAND Hy126.55 270 T T 14 03 09.4
baz=116,slow=78,SNR=27
H11N1 WAKE ISLAND Hy126.56 270 T T 14 03 39.1
baz=116,slow=78,SNR=46
H11N2 WAKE ISLAND Hy126.57 270 T T 14 03 38.2
baz=116,slow=78,SNR=24
APA Apatity 127.51 28⇓*i*PKIKP **PKPdf 11 44 35.0 +0.4**
APA *i* 11 46 35.4
APA *i* 11 51 37.0
APA *i* PS **PS 11 56 38.0 -3.8**
APA *i* SS SS 12 03 50.0 +6.6
SOC Sochi 127.53 59 *e*PKIKP **PKPdf 11 44 35.1 -0.3**
SOC *e* 11 44 46.9
SOC *e* 11 46 33.5
SOC *e*PPP PPP 11 49 17.1
SOC *e*SS SS 12 03 46.0 +0.9
SOC *e*SSS SSS 12 08 34.6
SOC pmax pmax
comp=Z,234nm,0.9s
SOC MLR MLR
comp=Z,3µm,22.0s
OBN Obninsk 127.91 44*c i*PKIKP **PKPdf 11 44 35.7 0.0**
OBN *e* 11 46 37.0
OBN *i* SS SS 12 04 11.6 +22
OBN pmax pmax
comp=Z,353nm,1.6s
OBN MLR MLR
comp=Z,4µm,21.0s
OBN Obninsk 127.91 44 *e*PKPdf **PKPdf 11 44 35.5 -0.2**
LVZ Lovozero 127.99 27 *i* PKIKP **PKPdf 11 44 35.5 -0.1**
ABTO Aybut 128.15 95 P **PKPdf 11 44 38.4 +0.9**
SNR=17
ABTO Aybut 128.15 95 PKPdf **PKPdf 11 44 37.8 +0.4**
SNR=33
MOS Moscow 128.59 43 *e*PKIKP **PKPdf 11 44 36.3 -0.7**
MOS *e* 11 44 51.1
MOS *i* 11 46 42.1
MOS *e* 11 51 39.0
MOS *e*PS **PS 11 56 44.2 -7.4**
MOS *e*PPS PPS 11 58 18.1
MOS pmax pmax
comp=Z,254nm,1.5s
MOS MLR MLR
comp=E,5µm,21.0s
MOS MLR MLR
comp=Z,6µm,21.0s
VSR Storozhevoye 128.83 49 *e*PKIKP **PKPdf 11 44 35.5 -2.1**
VSR *e* 11 46 42.7
VSR pmax pmax
comp=Z,140nm,1.2s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,780nm,3.1s
VSR pmax pmax
comp=N,210nm,3.0s
VSR pmax pmax
comp=E,360nm,2.8s
VSR MLR MLR
comp=E,3µm,21.0s
VSR MLR MLR
comp=Z,5µm,21.0s
VSR MLR MLR
comp=N,1µm,16.0s
VORD Divnogorie 128.86 49 *e*PKIKP **PKPdf 11 44 35.9 -1.8**
VORD *e* 11 46 42.3
VORD pmax pmax
comp=Z,80nm,1.0s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,60nm,0.8s
VORD pmax pmax
comp=Z,450nm,2.7s
VORD pmax pmax
comp=N,190nm,2.5s
VORD pmax pmax
comp=E,320nm,2.3s
VORD MLR MLR
comp=Z,2µm,21.0s
VORD MLR MLR
comp=N,3µm,20.0s
VORD MLR MLR
comp=E,1µm,20.0s
VOR Voronezh 128.93 48 *e*PKIKP **PKPdf 11 44 37.0 -0.8**
VOR pmax pmax
comp=Z,430nm,1.4s
RBK Rabkut 128.97 95 P **PKPdf 11 44 39.6 +0.6**
SNR=7.0
RBK Rabkut 128.97 95 PKPdf **PKPdf 11 44 39.1 +0.2**
SNR=13
TMCR Tamitsa 129.36 32 *e*PKIKP **PKPdf 11 44 38.1 -0.1**
TMCR pmax pmax
comp=Z,232nm,1.5s
AKH Akhalkalaki 129.65 62 P PP 11 46 44.7 -6.6
KIV Kislovodsk 129.70 59 *i* PKIKP **PKPdf 11 44 39.7 0.0**
KIV *e* 11 46 47.4
KIV *e*PS **PS 11 56 55.3 -6.6**
KIV *e*SS SS 12 04 11.8 -0.4
KIV pmax pmax
comp=Z,320nm,1.1s
KIV MLR MLR
comp=Z,3µm,21.0s
KIV Kislovodsk 129.70 59 P **PKPdf 11 44 40.0 +0.3**
SNR=50
KIV Kislovodsk 129.70 59 *e*PKPdf **PKPdf 11 44 39.9 +0.3**
KIV Kislovodsk 129.70 59 *i* P **PKPdf 11 44 40.4 +0.7**
SNR=43
KBZ Khabaz 129.80 59 PKP **PKPdf 11 44 40.6 +1.0**
comp=Z,85nm,1.0s,baz=255,slow=2.8,SNR=61
KBZ SKPbc SKPbc 11 47 59.3 +0.7
comp=Z,15nm,1.0s,baz=263,slow=4.1,SNR=5.7
IDHR Dehrash 129.86 71 *e*P **PKPdf 11 44 41.0 +0.6**
IGHG Ghaleghazi 129.88 72 *e*P **PKPdf 11 44 41.2 +0.7**
ONI Oni 129.92 61 P PP 11 46 43.6 -9.2
KLMR Klimovskoe 129.99 37 *e*PKIKP **PKPdf 11 44 38.4 -1.1**
KLMR *e* 11 44 52.3
KLMR pmax pmax
comp=Z,504nm,1.6s
KLMR MLR MLR
comp=Z,4µm,20.0s
GOF Gofitskoye 130.20 58 *e*PKHKP PKPpre 11 44 26.3
GOF pmax pmax
comp=Z,370nm,0.9s
GNI Garni 130.23 64⇑*i*PKIKP **PKPdf 11 44 42.2 +1.3**
GNI pmax pmax
comp=Z,355nm,1.7s
GNI Garni 130.23 64 P **PKPdf 11 44 42.3 +1.4**
SNR=22
GNI Garni 130.23 64 PKP **PKPdf 11 44 42.0 +1.1**
comp=Z,94nm,1.0s
GNI SKPbc **SKPbc 11 48 01.0 +0.4**
comp=Z,21nm,0.9s,baz=196,slow=3.5,SNR=5.0
GNI Garni 130.23 64 *e*PKPdf **PKPdf 11 44 41.7 +0.8**
GNI PKP **PKPdf 11 44 42.0 +1.1**
GNI SKPbc **SKPbc 11 48 01.0 +0.4**
GNI Garni 130.23 64⇑*i*P **PKPdf 11 44 41.5 +0.6**
SNR=25
NCK Nalchik 130.24 60 *i* PKIKP **PKPdf 11 44 40.9 +0.3**
ZEI Tsey 130.29 61 *i* PKIKP **PKPdf 11 44 40.4 -0.6**
ZEI pmax pmax
comp=Z,140nm,1.1s
VRHR Novokhopersk 130.34 49 *e*PKIKP **PKPdf 11 44 38.9 -1.6**
VRHR *e* 11 46 52.9
VRHR pmax pmax
comp=N,40nm,1.0s
VRHR pmax pmax
comp=Z,110nm,1.0s
VRHR pmax pmax
comp=E,30nm,0.8s
VRHR pmax pmax
comp=Z,970nm,5.2s
VRHR pmax pmax
comp=N,130nm,1.7s
VRHR pmax pmax
comp=E,660nm,5.7s
IKOM Komasi 130.57 72 *e*P **PKPdf 11 44 42.5 +0.8**
TBLG Delisi 130.64 62 P **PP 11 46 55.7 -1.7**
DGRG David-gareji 131.03 63 P **PP 11 46 58.2 -1.8**
FX1 Attu Island--F 131.79 313 PKIKP **PKPdf 11 44 42.8 -0.4**
FX1 pmax pmax
comp=Z,14nm,0.7s
FX1 Attu Island--F 131.79 313 PKP **PKPdf 11 44 42.8 -0.4**
comp=Z,14nm,0.7s,baz=131,slow=18,SNR=5.2
FX1 Attu Island--F 131.79 313 *e*Pdif **Pdif 11 41 35.0 -1.8**
FX1 PKP **PKPdf 11 44 42.8 -0.4**
IRAZ Razeghan 132.84 72 *e*P PKPdf 11 44 33.6 -12
MAK Makhachkala 132.91 61 *e*PKIKP **PKPdf 11 44 45.5 -0.1**
MAK *e* 11 47 10.5
MAK *e* 11 51 52.9
MAK *e*SP SP 11 57 25.6 +1.5
MAK *e*SS **SS 12 04 52.9 +1.7**

MAK				pmax	pmax		
	comp=Z,280nm,4.1s						
MAK				MLR	MLR		
	comp=Z,4µm,22.0s						
PRGR	Permogore	132.93	35	ePKHKP	PKPpre	11 44 29.0	
PRGR				pmax	pmax		
	comp=Z,170nm,1.6s						
SOEI	Soe	133.02	202	ePKPdf	PKPdf	11 44 48.2	+1.3
ASUD	Al Ashush, Dub	133.27	88	⇓iP	PKPdf	11 44 47.8	+0.9
	SNR=6.9						
IGZV	Ghazvin	133.35	71	eP	PKPdf	11 44 46.6	-0.4
ISRV	Sarvestan	133.37	81	eP	PKPdf	11 44 48.0	+0.7
IPAR	Pars	133.49	80	eP	PKPdf	11 44 47.9	+0.3
IMHD	Mahdasht	133.50	72	eP	PKPdf	11 44 47.3	+0.1
FAQ	Al Faqa, Dubai	133.54	88	⇓iP	PKPdf	11 44 47.9	+0.5
	SNR=18						
ARQ	Araqi	133.69	90	P	PKPdf	11 44 47.9	+0.1
	SNR=7.1						
NAZ	Nazwa, Dubai	133.70	88	⇑iP	PKPdf	11 44 48.1	+0.4
	SNR=6.4						
IR3	Iran Long-Peri	133.72	72	eP	PKPdf	11 44 47.2	-0.3
BILL	Bilibino	133.90	334	i PKIKP	PKPdf	11 44 47.5	+0.8
BILL				i		11 45 00.4	
BILL				i		11 47 19.7	
BILL				pmax	pmax		
	comp=Z,60nm,1.2s						
BILL				MLR	MLR		
	comp=Z,3µm,27.0s						
BILL	Bilibino	133.90	334	ePKPdf	PKPdf	11 44 47.3	+0.6
ASHO	Ashiyiah	133.90	88	P	PKPdf	11 44 49.9	+1.8
	SNR=5.5						
ASHO	Ashiyiah	133.90	88	⇓iP	PKPdf	11 44 48.0	-0.1
	SNR=7.9						
HATD	Hatta, Dubai	134.02	88	iP	PKPdf	11 44 48.3	0.0
	SNR=6.6						
IVRN	Varamin	134.13	73	eP	PKPdf	11 44 48.9	+0.6
HOQ	Hoqain	134.44	90	P	PKPdf	11 44 49.3	+0.1
	SNR=6.9						
IDMV	Damavand	134.53	72	eP	PKPdf	11 44 49.7	+0.4
JMDO	Jabal Madar	134.54	92	P	PKPdf	11 44 49.1	-0.3
	SNR=9.6						
JMDO	Jabal Madar	134.54	92	PKPdf	PKPdf	11 44 49.7	+0.4
	SNR=9.7						
XMIS	Christmas Isla	134.69	176	ePKPdf	PKPdf	11 44 50.2	+0.3
ISAD	Sadrabad	134.72	78	eP	PKPdf	11 44 51.1	+1.3
SMDO	Samad	134.81	91	P	PKPdf	11 44 50.2	+0.2
	SNR=12						
SMDO	Samad	134.81	91	PKPdf	PKPdf	11 44 49.9	0.0
	SNR=12						
ILAS	Lasjerd	135.21	73	eP	PKPdf	11 44 51.2	+0.7
IMEH	Mehriz	135.29	79	eP	PKPdf	11 44 50.3	-0.5
WBK	Wadi Bani Khal	135.37	92	P	PKPdf	11 44 51.9	+1.0
	SNR=21						
IANJ	Anjilo	135.98	73	eP	PKPdf	11 44 52.7	+0.7
IBAF	Bafgh	136.13	79	eP	PKPdf	11 44 51.9	-0.4
FAKI	Fak Fak	136.14	216	ePKPdf	PKPdf	11 44 51.9	-0.8
JAGI	Jajag, Banyuwa	136.42	188	ePKPdf	PKPdf	11 44 52.0	-1.1
UGM	Wanagama	137.27	183	ePKPdf	PKPdf	11 44 54.6	-0.2
CISI	Cisompet, Garu	137.67	179	ePKPpre	PKPpre	11 44 45.7	
SOKR	Solikamsk	138.67	37	d iPKHKP	PKPpre	11 44 47.0	
SOKR						11 47 44.5	
SOKR				SS	SS	12 06 03.7	+4.9
SOKR				pmax	pmax		
	comp=Z,30nm,1.0s						
KAPI	Kappang	138.79	197	P	PKPdf	11 44 57.1	-0.4
	SNR=7.5						
KAPI	Kappang	138.79	197	ePKPdf	PKPdf	11 44 58.3	+0.8
ISHV	Shirvan	139.44	71	eP	PKPdf	11 44 49.9	-8.4
ISFR	Sfrayin	139.57	72	eP	PKPdf	11 44 49.5	-9.1
GEYT	Alibeck	139.85	71	PKhKP	PKPpre	11 44 48.6	
	comp=Z,7.4nm,0.7s,baz=242,slow=3.2,SNR=16						
GEYT				PKP	PKPdf	11 44 59.5	+0.7
	comp=Z,59nm,0.9s,baz=250,slow=7.4,SNR=26						
GEYT				PP	PP	11 47 55.9	+0.1
	comp=Z,24nm,1.1s,baz=282,slow=7.4,SNR=4.3						
IKRD	Kardeh	139.91	72	eP	PKPdf	11 44 59.4	+0.2
IAKL	Akhelmad	140.06	73	eP	PKPdf	11 44 54.2	-5.3
IEMG	Emamgholi	140.16	72	eP	PKPdf	11 44 50.8	-8.9
ARU	Arti	140.26	42	i PKHKP	PKPpre	11 44 50.0	
ARU				MLR	MLR		
	comp=Z,5µm,22.0s						
ARU	Arti	140.26	42	ePKPpre	PKPpre	11 44 50.1	
PET	Petropavlovsk	140.55	313	ePKHKP	PKPpre	11 44 53.7	
PET				ePPS	PPS	12 00 17.9	
PET				eSS	SS	12 06 25.4	+3.9
PET				eSSS	SSS	12 11 40.3	
PET				pmax	pmax		
	comp=Z,2µm,4.3s						
PET				pmax	pmax		
	comp=Z,48nm,1.2s						
PET				pmax	pmax		
	comp=Z,800nm,6.3s						
PET	Petropavlovsk	140.55	313	ePKPdf	PKPdf	11 44 59.4	-0.1
ISRO	Mashad	140.56	73	eP	PKPdf	11 44 52.6	-7.6
AKTO	Aktyubinsk	140.69	51	PKHKP	PKPpre	11 44 52.6	
AKTO						11 45 00.8	
AKTO				pmax	pmax		
	comp=Z,56nm,1.0s						
AKTO				pmax	pmax		
	comp=Z,56nm,1.0s						
AKTO	Aktyubinsk	140.69	51	PKhKP	PKPpre	11 44 52.6	
	comp=Z,56nm,0.9s,baz=274,slow=2.6,SNR=20						
AKTO				PKP	PKPdf	11 45 00.8	+1.0
	comp=Z,56nm,1.0s,baz=314,slow=1.8,SNR=12						
TRD	Trivandrum	140.96	125	eP	PKPdf	11 45 01.6	+0.2
IMYA	Miami	141.06	74	eP	PKPdf	11 44 55.3	-5.9
PEA0B	Petropavlovsk-	141.11	313	ePKPdf	PKPdf	11 45 01.9	+1.4
PETK	Petropavlovsk-	141.11	313	PKHKP	PKPpre	11 44 52.2	
PETK						11 45 00.3	
PETK				pmax	pmax		
	comp=Z,12nm,0.8s						
PETK				pmax	pmax		
	comp=Z,34nm,1.0s						
PETK	Petropavlovsk-	141.11	313	PKhKP	PKPpre	11 44 52.2	
	comp=Z,12nm,0.8s,baz=101,slow=7.7,SNR=10.0						
PETK				PKP	PKPdf	11 45 00.3	-0.2
	comp=Z,34nm,1.0s,baz=100,slow=6.2,SNR=13						
PETK				SKPbc	SKPbc	11 48 31.9	-2.0
	comp=Z,46nm,1.2s,baz=73,slow=5.0,SNR=7.0						
SVE	Sverdlovsk	141.29	41	⇑iPKHKP	PKPpre	11 44 54.3	
SVE				pmax	pmax		
	comp=Z,84nm,1.7s						
SVE				MLR	MLR		
	comp=E,4µm,22.0s						
SVE				MLR	MLR		
	comp=Z,5µm,20.0s						
TIXI	Tiksi	141.74	350	ePKIKP	PKPdf	11 45 00.2	-0.8
TIXI	Tiksi	141.74	350	ePKPpre	PKPpre	11 44 52.8	
TIXI				ePKPdf	PKPdf	11 45 01.2	+0.1
AB31	Akbulak array	142.00	53	i PKHKP	PKPpre	11 44 56.3	
AB31				pmax	pmax		
	comp=Z,230nm,0.9s						
ABKAR	Akbulak array	142.00	53	ePKPdf	PKPpre	11 44 56.9	
PALK	Pallekele	142.46	131	PKHKP	PKPpre	11 44 58.3	
PALK				pmax	pmax		
	comp=Z,72nm,0.8s						
PALK	Pallekele	142.46	131	P	PKPpre	11 45 00.8	
	SNR=11						
PALK	Pallekele	142.46	131	PKhKP	PKPpre	11 44 58.3	
	comp=Z,72nm,0.8s,baz=228,slow=3.9,SNR=25						
PALK	Pallekele	142.46	131	PKPpre	PKPpre	11 44 58.3	
PALK				ePKPdf	PKPdf	11 44 59.9	-4.3
GOA	Goa	143.44	113	eP	PKPbc	11 45 03.7	+0.7
GOA				AMS	AMS	12 39 23.8	
	comp=Z,4µm,25.8s						
BHJ	Bhuj	144.39	99	eP	PKPab	11 45 04.8	-0.6
BKNI	Bangkinang	144.82	167	ePKPdf	PKPab	11 45 06.7	-0.5
GSI	Gunungsitoli	144.99	161	ePKPdf	PKPdf	11 45 08.5	-0.1
POO	Poona	145.27	109	eP	PKPbc	11 45 08.4	-0.3
MDRS	Chennai	146.47	124	eP	PKPdf	11 45 09.1	-1.9
MDRS				AMS	AMS	12 43 24.9	
	comp=Z,2µm,17.3s						
KSM	Kuching	146.59	183	ePKPdf	PKPdf	11 45 11.1	-0.3
MYKOM	Kota Tinggi	146.69	172	ePKPdf	PKPdf	11 45 10.7	-0.7
PSI	Prapat	146.77	163	PKIKP	PKPdf	11 45 11.3	-0.5
PSI				pmax	pmax		
	comp=Z,550nm,0.9s						
PSI	Prapat	146.77	163	PKPbc	PKPdf	11 45 11.3	-0.5
	comp=Z,550nm,0.9s,baz=202,slow=6.8,SNR=124						
SBUM	Sibu	147.42	187	ePKPdf	PKPdf	11 45 12.9	+0.2
MATI	Mati	147.60	215	eP	PKPbc	11 45 15.9	+0.3
BRVK	Borovoye	147.68	44	PKIKP	PKPdf	11 45 11.9	0.0
BRVK				pmax	pmax		
	comp=Z,696nm,1.1s						
BRVK	Borovoye	147.68	44	P	PKPdf	11 45 12.3	+0.4
	SNR=158						
BRVK	Borovoye	147.68	44	ePKPdf	PKPdf	11 45 12.5	+0.7
BVA0	Borovoye Array	147.75	44	i PKIKP	PKPdf	11 45 12.1	+0.1
BVA0				pmax	pmax		
	comp=Z,485nm,1.2s						
BVAR	Borovoye Array	147.75	44	PKP2	PKPdf	11 45 13.0	+1.0
BVAR				pmax	pmax		
	comp=Z,205nm,0.9s						
BVAR	Borovoye Array	147.75	44	PKP	PKPdf	11 45 13.0	+1.0
	comp=Z,204nm,0.9s,baz=282,slow=0.9,SNR=148						
BVAR				PKPbc	PKiKP	11 45 16.2	-0.6
	comp=Z,207nm,0.9s,baz=293,slow=2.7,SNR=72						
KBL	Kabul	147.81	79	ePKIKP	PKPdf	11 45 13.4	+0.4
KBL	Kabul	147.81	79	ePKPdf	PKPdf	11 45 13.4	+0.4
HYB	Hyderabad	148.17	116	i PKP	PKPdf	11 45 12.5	-1.3
HYB	Hyderabad	148.17	116	eP	PKPdf	11 45 13.0	-0.8
VOSK	Vostochnaya	148.19	45	ePKIKP	PKPdf	11 45 12.7	0.0
VOSK	Vostochnaya	148.19	45	ePKPdf	PKPdf	11 45 12.7	0.0
KUR	Kuril'sk	148.42	301	d iPKIKP	PKPdf	11 45 14.5	+1.2
KUR				pmax	pmax		
	comp=Z,98nm,1.0s						
KUR				pmax	pmax		
	comp=N,15nm,0.9s						
KUR				pmax	pmax		
	comp=E,17nm,0.9s						
LHMI	Lhok Sumawe	148.53	158	ePKPdf	PKPdf	11 45 14.4	-0.1
LHMI				ePKPbc	PKPbc	11 45 18.3	+0.2
CTBH	Cotabato--PC H	148.75	211	⇑iP	PKPbc	11 45 18.5	-0.2
IPM	Ipoh	148.87	166	ePKPdf	PKPdf	11 45 14.7	-0.4
IPM				ePKPbc	PKPbc	11 45 18.9	-0.1
MYLDM	Lahad Datu	148.89	200	ePKPdf	PKPdf	11 45 16.8	+1.7
BUKP	Musuan	148.97	213	eP	PKPbc	11 45 19.7	+0.4
CMBY	CAMPBELL BAY	149.12	151	eP	PKPdf	11 45 16.4	+1.0
KULM	Kulim	149.58	165	ePKPdf	PKPdf	11 45 16.1	-0.1
KULM				ePKPbc	PKPbc	11 45 20.3	-0.5
KULM				ePKPab	PKPab	11 45 26.4	+0.7
PAGZ	Pagadian	149.67	210	eP	PKPbc	11 45 20.6	-0.4
KK31	Karatay Array	149.69	63	i PKHKP	PKPdf	11 45 15.7	+0.2
KK31				pmax	pmax		
	comp=Z,784nm,1.2s						
KKAR	Karatay Array	149.69	63	ePKPdf	PKPdf	11 45 16.0	+0.5
KKAR				ePKPbc	PKPbc	11 45 20.4	+0.2
YAK	Yakutsk	149.80	340	ePKIKP	PKPdf	11 45 13.0	-2.0
YAK				pmax	pmax		
	comp=Z,779nm,1.1s						
YAK				pmax	pmax		
	comp=E,56nm,1.6s						
YAK				pmax	pmax		
	comp=N,96nm,1.6s						
YAK				MLR	MLR		
	comp=Z,2µm,29.0s						
YAK				MLR	MLR		
	comp=E,1µm,29.0s						
YAK				MLR	MLR		
	comp=N,2µm,24.0s						
YAK	Yakutsk	149.80	340	ePKPdf	PKPdf	11 45 14.1	-0.8
YAK				ePKPbc	PKPbc	11 45 19.1	-0.7
AJM	Ajmer	149.88	97	eP	PKPdf	11 45 17.0	+0.7
YUK	Yuzh-Kuril'sk	149.95	299	i PKIKP	PKPpre	11 45 06.3	
YUK				i		11 48 51.0	
YUK				i PPP	PPP	11 52 16.5	
YUK				i		12 01 47.2	
YUK				i SS	SS	12 08 08.2	-1.1
KKM	Kota Kinabalu	150.29	196	ePKPdf	PKPdf	11 45 16.9	-0.5
KKM				ePKPbc	PKPbc	11 45 22.1	-0.5
BHPL	Bhopal	150.63	105	eP	PKPdf	11 45 17.9	+0.3
NGP	Nagpur	150.78	110	eP	PKPdf	11 45 17.5	-0.4
YSS	Yuzh-Sakhalins	151.68	305	ePKIKP	PKPdf	11 45 17.6	-0.8
YSS				e		11 45 23.8	
YSS	Yuzh-Sakhalins	151.68	305	ePKPdf	PKPdf	11 45 17.6	-0.8
YSS				ePKPbc	PKPbc	11 45 23.8	-0.9
VIS	Vishakhapatnam	151.82	121	eP	PKPdf	11 45 18.7	-0.8
ERM	Erimo	152.06	295	ePKIKP	PKPbc	11 45 25.9	+0.2
ERM	Erimo	152.06	295	ePKPbc	PKPbc	11 45 25.9	+0.2
AML	Almayashu	152.08	65	P	PKPdf	11 45 20.5	+0.8
	SNR=64						
EKS2	Erkin-Say	152.11	64	P	PKPdf	11 45 20.4	+1.0
	SNR=40						
EKS2	Erkin-Say	152.11	64	ePKIKP	PKPdf	11 45 20.4	+1.0
EKS2				e		11 45 27.1	
EKS2	Erkin-Say	152.11	64	ePKPdf	PKPdf	11 45 20.4	+1.0
EKS2				ePKPbc	PKiKP	11 45 27.1	+0.8
ASAJ	Asahikawa	152.28	300	ePKPdf	PKPdf	11 45 18.5	-0.9
ASAJ				ePKPbc	PKPbc	11 45 25.6	-0.5
GUIM	Jordan	152.50	211	eP	PKPbc	11 45 26.3	-1.2
USP	Ospenovka	152.58	62	P	PKPdf	11 45 19.9	0.0
	SNR=56						
AAK	Ala-Archa	152.64	64	P	PKPdf	11 45 20.5	+0.2
	SNR=46						
AAK	Ala-Archa	152.64	64	PKIKP	PKPdf	11 45 20.2	0.0
AAK						11 45 28.5	
AAK						11 49 09.4	
AAK				pmax	pmax		
	comp=Z,74nm,1.1s						
AAK				pmax	pmax		
	comp=Z,56nm,1.1s						
AAK	Ala-Archa	152.64	64	P	PKPdf	11 45 20.9	+0.6
	SNR=284						
AAK	Ala-Archa	152.64	64	PKP	PKPdf	11 45 20.2	0.0
	comp=Z,74nm,1.1s,baz=192,slow=2.6,SNR=64						
AAK				PKPbc	PKiKP	11 45 28.5	+1.0
	comp=Z,541nm,0.9s,baz=217,slow=4.4,SNR=131						
AAK				PP	PP	11 49 09.4	-2.0
	comp=Z,56nm,1.1s,baz=235,slow=6.1,SNR=4.6						
AAK	Ala-Archa	152.64	64	PKP	PKPdf	11 45 20.2	0.0
AAK				ePKPdf	PKPbc	11 45 21.0	-6.3
AAK				ePKPbc	PKiKP	11 45 28.1	+0.6
AAK				PKPbc	PKiKP	11 45 28.5	+1.0
AAK				PP	PP	11 49 09.4	-2.0
UCH	Uchtor	152.68	64	P	PKPdf	11 45 21.1	+0.4
	SNR=73						
FRU	Bishkek	152.71	63	i PKIKP	PKPdf	11 45 21.0	+0.8
FRU				i		11 49 10.0	
FRU				e		12 02 02.0	
FRU				pmax	pmax		
	comp=Z,300nm,2.1s						
PBA	Port Blair	152.75	145	eP	PKPdf	11 45 21.3	+0.3
CHMS	Chumysh	152.79	63	P	PKPdf	11 45 21.3	+1.1
	SNR=18						
PONG	Pong	152.82	87	ex	PKPdf	11 45 15.0	-5.6
KBK	Karagaybulak	152.97	63	P	PKPdf	11 45 21.4	+0.6
	SNR=25						
DLH	Dalhousie	152.99	86	ex	PKPbc	11 45 29.0	+0.6
DLH				ex	x	11 47 06.0	
BHK	Bhakra	153.06	89	ex	PKPbc	11 45 27.0	-1.4
DHRM	DHARAMSHALA	153.19	87	eP	PKPdf	11 45 21.3	-0.1
KZA	Kyzart	153.24	65	P	PKPdf	11 45 21.9	+0.4
	SNR=42						
KURK	Kurchatov	153.35	45	ePKIKP	PKPdf	11 45 20.4	-0.3
KURK				e		11 45 27.8	
KURK	Kurchatov	153.35	45	P	PKPdf	11 45 20.8	0.0
	SNR=70						
KURK	Kurchatov	153.35	45	ePKPdf	PKPdf	11 45 20.4	-0.3
KURK				ePKPbc	PKPbc	11 45 27.8	-0.5
TKM2	Tokmak 2	153.42	63	P	PKPdf	11 45 21.2	-0.2
	SNR=68						
TKM2	Tokmak 2	153.42	63	ePKIKP	PKPdf	11 45 21.5	+0.1
TKM2				e		11 45 29.4	
TKM2	Tokmak 2	153.42	63	ePKPdf	PKPdf	11 45 21.5	+0.1
TKM2				ePKPbc	PKiKP	11 45 29.4	+0.2
SDNR	Sundarnagar	153.54	89	eP	PKPdf	11 45 22.5	+0.8
NVS	Novosibirsk	153.58	34	⇑iPKIKP	PKPdf	11 45 20.7	-0.2
NVS				i		11 45 40.2	
NVS				i		11 49 22.9	
NVS				e		11 52 47.0	
NVS				pmax	pmax		
	comp=Z,334nm,1.3s						
NVS				pmax	pmax		
	comp=N,45nm,1.4s						
NVS				pmax	pmax		
	comp=E,103nm,1.4s						
NVS				pmax	pmax		
	comp=Z,887nm,2.0s						
NVS				pmax	pmax		
	comp=N,76nm,1.6s						
NVS				pmax	pmax		
	comp=E,123nm,1.6s						
SMLA	Simla	153.59	90	eP	PKPdf	11 45 22.2	+0.5
KSH	Kashi	153.88	70	ePKPbc	PKPdf	11 45 22.0	-0.1
KSH				epPKP	PKiKP	11 45 32.3	+2.2
KSH				esPKP		11 45 34.5	
KSH				SKKS		11 55 59.5	
KSH				eSS	SS	12 08 50.5	-2.9
KSH				AMB	AMB		
	comp=E,360nm,3.3s						
KSH				LR	LR		
	comp=E,210nm,6.0s						
KSH				LR	LR		
	comp=E,1µm,15.2s						
KSH				LR	LR		
	comp=E,2µm,24.3s						
ULHL	Ulahol	153.96	64	P	PKPdf	11 45 22.7	+0.5
	SNR=35						
DDI	Dehra Dun	154.08	92	eP	PKPdf	11 45 23.0	+0.4
DDI				ex	x	11 45 23.0	
DGPR	DIGLIPUR	154.15	143	eP	PKPdf	11 45 23.0	+0.1
ZAA0	Zalesovo Array	154.87	34	ePKPdf	PKPdf	11 45 21.9	-0.9
ZAA0				ePKPbc	PKiKP	11 45 32.4	+0.9
ZAA0				ePKPab	PKPab	11 45 47.7	+0.9
ZALV	Zalesovo Beam	154.87	34	PKIKP	PKPdf	11 45 22.1	-0.7
ZALV						11 45 31.1	
ZALV						11 45 45.9	
ZALV				pmax	pmax		
	comp=Z,50nm,1.0s						
ZALV				pmax	pmax		
	comp=Z,79nm,0.9s						
ZALV	Zalesovo Beam	154.87	34	PKP	PKPdf	11 45 22.1	-0.7
	comp=Z,50nm,1.0s,baz=278,slow=2.2,SNR=109						
ZALV				PKPbc	PKPbc	11 45 31.1	-0.4
	comp=Z,77nm,1.0s,baz=320,slow=2.6,SNR=27						
ZALV				PKPab	PKPab	11 45 45.9	-0.9
	comp=Z,79nm,0.9s,baz=270,slow=1.5,SNR=10						
CLNS	Chul'man	155.46	338	ePKIKP	PKPdf	11 45 22.2	-1.4
CLNS				pmax	pmax		
	comp=Z,33nm,1.1s						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.2s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
MJAR	Matsushiro Arr	155.81	282	PKIKP	PKPdf	11 45 24.1	-0.6
MJAR						11 45 50.2	
MJAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR	Matsushiro Arr	155.81	282	PKP	PKPdf	11 45 24.1	-0.6
	comp=Z,7.0nm,1.0s,baz=192,slow=1.2,SNR=20						
MJAR				PKPab	PKPab	11 45 50.2	-1.4
	comp=Z,2.0nm,0.7s,baz=176,slow=8.0,SNR=5.9						
MAJO	Matsushiro	155.81	282	ePKIKP	PKPdf	11 45 23.2	-1.5
MAJO	Matsushiro	155.81	282	ePKPdf	PKPdf	11 45 23.2	-1.5
HABR	Khabarovsk	156.14	312	ePKP2	PKPab	11 45 51.3	-1.2
HABR				e		11 49 28.5	
HABR				e		11 52 27.4	
HABR				ePPP	PPP	11 53 01.3	
HABR				eSS	SS	12 09 15.2	-1.2
HABR				eSSS	SSS	12 15 12.9	
BOD	Bodaibo	156.87	352	ePKIKP	PKPdf	11 45 22.5	-2.8
BOD				pmax	pmax		
	comp=Z,137nm,1.0s						
PATY	Pattaya	156.98	161	P	PKPab	11 45 57.4	+0.6
MK31	Makanchi Array	157.13	51	ePKIKP	PKPdf	11 45 25.7	-0.4
MK31	Makanchi Array	157.13	51	ePKPdf	PKPdf	11 45 25.7	-0.4
MK31				ePKPab	PKPab	11 45 56.3	-0.6
MKAR	Makanchi Array	157.13	51	PKIKP	PKPdf	11 45 25.7	-0.4
MKAR						11 49 33.6	
MKAR				pmax	pmax		
	comp=Z,30nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,25nm,1.1s						
MKAR	Makanchi Array	157.13	51	PKP	PKPdf	11 45 25.7	-0.4
	comp=Z,30nm,0.9s,baz=318,slow=1.6,SNR=94						
MKAR				PKPab	PKPab	11 45 56.9	0.0
	comp=Z,82nm,0.9s,baz=284,slow=3.4,SNR=13						
MKAR				PP	PP	11 49 33.6	-2.4
	comp=Z,25nm,1.1s,baz=306,slow=5.2,SNR=3.5						
MK01	Makanchi Array	157.14	51	ePKPdf	PKPdf	11 45 25.3	-0.8
BOK	Bokaro	157.48	114	eP	PKPdf	11 45 27.5	+0.3
KOLN	Koldanda	157.67	102	eP	PKPdf	11 45 26.8	-0.8
	comp=Z,312nm,1.3s						
KLR	Kul'dur	157.72	317	⇓ePKIKP	PKPdf	11 45 22.0	-4.7
KLR				eS	PP	11 49 44.0	+5.1
KLR				pmax	pmax		
	comp=Z,150nm,2.0s						
KLR				pmax	pmax		
	comp=Z,2µm,9.0s						
SRDT	SRDT	157.80	156	P	PKPab	11 46 00.8	+0.5
	comp=Z,498nm,1.0s						
KHLT	Khaolaem Dam	158.03	154	P	PKPab	11 46 01.6	+0.3
	comp=Z,62nm,1.2s						
DANN	Dangsing	158.03	101	eP	PKPdf	11 45 27.8	-0.3
	comp=Z,516nm,1.0s						
GKN	Gorkha	158.60	102	eP	PKPdf	11 45 27.9	-0.7
DMN	Daman	158.80	104	eP	PKPdf	11 45 28.6	-0.4
	comp=Z,138nm,1.0s						
KKN	Kakani	159.02	104	eP	PKPdf	11 45 28.5	-0.7
	comp=Z,234nm,1.3s						
PKIN	Phulchoki	159.02	104	eP	PKPdf	11 45 28.5	-0.8
	comp=Z,358nm,1.7s						
PKI	Pulchoki	159.03	104	eP	PKPdf	11 45 28.6	-0.8
	comp=Z,255nm,1.3s						
GUN	Gumba	159.55	104	eP	PKPdf	11 45 29.4	-0.6
	comp=Z,263nm,1.3s						
RAMN	Ramite	159.68	107	eP	PKPdf	11 45 29.8	-0.3
	comp=Z,635nm,1.5s						
JIRN	Jiri	159.69	105	eP	PKPdf	11 45 29.7	-0.5
	comp=Z,187nm,1.2s						
USRK	Ussuriysk Arra	159.69	304	PKP	PKPdf	11 45 29.2	+0.1
	comp=Z,4.6nm,0.9s,baz=187,slow=9.6,SNR=7.0						
USRK				PKPab	PKPab	11 46 08.1	0.0
	comp=Z,6.3nm,0.7s,baz=61,slow=3.1,SNR=6.9						
UBPT	Khong Chiam	160.18	172	P	PKPdf	11 45 30.8	+0.2
	comp=Z,104nm,1.3s						
ODAN	Odare	160.25	109	eP	PKPdf	11 45 30.3	-0.4
	comp=Z,286nm,1.3s						
TAPN	Taplejung	160.74	108	eP	PKPdf	11 45 31.0	-0.3
	comp=Z,294nm,1.5s						
JOW	Kunigami	161.13	250	PKPab	PKPab	11 46 15.5	+0.7
	comp=Z,3.3nm,0.9s,baz=148,slow=5.9,SNR=4.5						
MDJ	Mudanjiang	161.15	307	PKP	PKPdf	11 45 29.5	-1.3
MDJ				pPKP	pPKPdf	11 45 39.5	-4.4
MDJ				sPKP		11 45 44.3	
MDJ				PKS	PKSdf	11 49 05.0	+1.1
MDJ				PP	PP	11 50 00.3	+2.5
MDJ				SKS	SKSdf	11 52 34.8	+2.5
MDJ				SS	SS	12 10 11.0	+1.0
MDJ				AMB	AMB		
	comp=Z,1µm,7.8s						
MDJ				LR	LR		
	comp=Z,1µm,27.8s						
MDJ				LR	LR		
	comp=Z,2µm,30.2s						
MDJ				LR	LR		
	comp=Z,3µm,29.0s						
MDJ	Mudanjiang	161.15	307	ePKPdf	PKPdf	11 45 29.3	-1.5
JNU	Nakatsue	161.29	271	PKPab	PKPab	11 46 15.8	+0.3
	comp=Z,16nm,1.0s,baz=112,slow=4.8,SNR=4.7						
JNU	Nakatsue	161.29	271	ePKPdf	PKPdf	11 45 31.1	-0.3
JNU				PKPab	PKPab	11 46 15.8	+0.3
UTTA	Uttaradit	161.44	156	P	PKPdf	11 45 31.9	0.0
	comp=Z,24nm,1.0s						
LOEI	Loei	161.45	158	P	PKPdf	11 45 31.3	-0.6
	comp=Z,29nm,2.6s						
CM01	Chiang Mai Arr	161.47	151	ePKPdf	PKPdf	11 45 30.5	-1.4
CM31	Chiang Mai Arr	161.50	151	ePKPdf	PKPdf	11 45 31.9	-0.1
CM31				ePKPab	PKPab	11 46 15.9	-0.5
CMAR	Chiang Mai Arr	161.50	151	PKIKP	PKPdf	11 45 31.8	-0.2
CMAR						11 46 16.3	
CMAR						11 50 00.8	
CMAR				pmax	pmax		
	comp=Z,31nm,1.0s						
CMAR				pmax	pmax		
	comp=Z,42nm,1.0s						
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR	Chiang Mai Arr	161.50	151	PKP	PKPdf	11 45 31.8	-0.2
	comp=Z,31nm,1.0s,baz=247,slow=2.6,SNR=135						
CMAR				PKPab	PKPab	11 46 16.3	-0.1
	comp=Z,42nm,0.9s,baz=223,slow=5.5,SNR=17						
CMAR				PP	PP	11 50 00.8	+1.8
	comp=Z,5.0nm,0.9s,baz=220,slow=5.9,SNR=4.9						
WMQ	Urumqi	161.77	55	PKP	PKPdf	11 45 31.5	-0.1
WMQ				pPKP	pPKPdf	11 45 42.3	-2.4
WMQ				sPKP		11 45 46.0	
WMQ				PKS	PKSdf	11 49 03.5	-1.2
WMQ				PP	PP	11 50 01.5	+0.2
WMQ				SKS	SKSdf	11 52 31.5	-1.6

WMQ				SKKS	SKKSac	11 56 44.5	-1.5
WMQ				SS	SS	12 10 10.0	-6.8
WMQ				AMB	AMB		
	comp=Z,2μm,9.2s						
WMQ				LR	LR		
	comp=Z,3μm,23.4s						
WMQ				LR	LR		
	comp=Z,5μm,23.8s						
WMQ				LR	LR		
	comp=Z,7μm,24.0s						
CHTO	Chiang Mai	161.82	150	ePKIKP	PKPdf	11 45 31.1	-1.2
CHTO				e		11 46 17.9	
CHTO	Chiang Mai	161.82	150	P	PKPdf	11 45 31.8	-0.5
	SNR=25						
CHTO	Chiang Mai	161.82	150	P	PKPdf	11 45 31.8	-0.5
	comp=Z,306nm,1.2s						
CHTO	Chiang Mai	161.82	150	ePKPdf	PKPdf	11 45 31.1	-1.2
CHTO				ePKPab	PKPab	11 46 17.9	0.0
CMMT	Chiang Mai	161.82	150	P	PKPdf	11 45 31.7	-0.6
	comp=Z,88nm,1.5s						
LAMP	Lampang	161.83	152	P	PKPdf	11 45 32.5	+0.2
	comp=Z,26nm,1.0s						
MOY	Mondy	162.51	16	ePKIKP	PKPdf	11 45 32.6	+0.5
MOY				e		11 50 07.2	
MOY				pmax	pmax		
	comp=Z,207nm,2.2s						
IRK	Irkutsk	162.51	8	ePKIKP	PKPdf	11 45 31.3	-0.7
IRK				e		11 46 19.3	
IRK				e		11 50 05.7	
IRK				pmax	pmax		
	comp=Z,118nm,1.9s						
CIT	Chita	162.59	349	ePKIKP	PKPdf	11 45 32.0	-0.1
CIT				e		11 45 46.1	
CIT				e		11 46 19.2	
CIT				e		11 50 03.9	
CIT				pmax	pmax		
	comp=Z,544nm,2.4s						
CMAI	Chiengmai2	162.86	149	P	PKPdf	11 45 33.0	-0.5
	comp=Z,83nm,1.1s						
SHL	Shillong	162.93	119	⇑iP	PKPdf	11 45 33.5	+0.1
SHL				ex	x	11 50 10.0	
TLY	Talaya	162.98	10	ePKP2	PKPab	11 46 22.9	+0.8
TLY				e		11 50 06.4	
TLY				ePPS	PPS	12 03 46.5	
TLY				eSS	SS	12 10 32.5	+5.3
TLY	Talaya	162.98	10	P	PKPdf	11 45 33.0	+0.6
	SNR=9.0						
TLY	Talaya	162.98	10	PKP	PKPdf	11 45 31.6	-0.8
	comp=Z,7.4nm,0.9s,baz=146,slow=7.3,SNR=3.2						
TLY				PKPab	PKPab	11 46 23.1	+1.0
	comp=Z,47nm,1.0s,baz=320,slow=5.0,SNR=13						
TLY	Talaya	162.98	10	PKP	PKPdf	11 45 31.6	-0.8
TLY				ePKPdf	PKPdf	11 45 32.2	-0.2
TLY				ePKPab	PKPab	11 46 23.1	+1.0
HIA	Hailar	163.48	333	ePKP2	PKPab	11 46 23.5	-0.9
HIA	Hailar	163.48	333	ePKPab	PKPab	11 46 23.5	-0.9
QIZ	Qiongzhong	164.04	185	PKP	PKPdf	11 45 34.5	+0.1
QIZ				SS	SS	12 10 36.8	-1.1
QIZ				LR	LR		
	comp=Z,1μm,24.1s						
QIZ				LR	LR		
	comp=Z,3μm,25.8s						
QIZ	Qiongzhong	164.04	185	ePKPdf	PKPdf	11 45 35.3	+0.9
QIZ				ePKPab	PKPab	11 46 28.9	+1.4
KSRS	Korea Array	164.06	285	PKIKP	PKPdf	11 45 33.5	-0.4
KSRS						11 46 28.2	
KSRS				pmax	pmax		
	comp=Z,11nm,1.1s						
KSRS				pmax	pmax		
	comp=Z,13nm,1.0s						
KSRS	Korea Array	164.06	285	PKP	PKPdf	11 45 33.5	-0.4
	comp=Z,11nm,1.1s,baz=128,slow=0.7,SNR=19						
KSRS				PKPab	PKPab	11 46 28.2	+0.8
	comp=Z,13nm,0.9s,baz=106,slow=4.1,SNR=9.4						
KSRS				SKKPbc		11 55 21.6	
	comp=Z,3.5nm,0.9s,baz=275,slow=2.8,SNR=4.9						
KSAR	Wonju Array Be	164.09	284	PKIKP	PKPdf	11 45 33.5	-0.4
KSAR						11 46 28.2	
KSAR	Wonju Array Be	164.09	284	PKP	PKPdf	11 45 33.5	-0.4
KSAR				PKPab	PKPab	11 46 28.2	+0.6
KSAR				SKKPbc		11 55 21.6	
ZAK	Zakamensk	164.18	12	ePKIKP	PKPdf	11 45 32.1	-1.6
ZAK				e		11 46 26.5	
ZAK				e		11 50 09.3	
ZAK				pmax	pmax		
	comp=Z,15nm,2.0s						
ZAK				pmax	pmax		
	comp=Z,52nm,1.8s						
CN2	Changchun	164.19	309	ePKP	PKPdf	11 45 33.0	-0.8
CN2				epPKP	pPKPdf	11 45 44.0	-2.9
CN2				ePP	PP	11 50 16.0	+2.1
CN2				eSS	SS	12 10 40.5	-0.9
CN2				AMB	AMB		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=Z,5μm,22.0s						
CN2				LR	LR		
	comp=Z,5μm,22.0s						
CN2				LR	LR		
	comp=Z,7μm,24.0s						
TPUB	Ta-pu	164.21	226	ePKPdf	PKPdf	11 45 34.2	-0.3
SSLB	Suanglung	164.38	228	ePKPdf	PKPdf	11 45 34.1	-0.6
SSLB				ePKPab	PKPab	11 46 28.8	-0.3
LSA	Lhasa	164.49	105	ePKIKP	PKPdf	11 45 35.3	+0.1
LSA	Lhasa	164.49	105	ePKPdf	PKPdf	11 45 35.2	+0.1
LSA				ePKPab	PKPab	11 46 31.7	+1.6
TATO	Taipei	164.90	232	ePKPab	PKPab	11 46 30.9	-0.5
HKC	Hong Kong Obse	166.37	203	PKPdf	PKPdf	11 45 37.0	+0.7
QZH	Quanzhou	166.65	224	iPKP	PKPdf	11 45 36.5	+0.1
QZH				PP	PP	11 50 30.3	+3.9
QZH				SKKS		11 57 07.0	
QZH				AMB	AMB		
	comp=Z,2μm,4.5s						
QZH				LR	LR		
	comp=Z,2μm,14.9s						
QZH				LR	LR		
	comp=Z,3μm,13.3s						
QZH				LR	LR		
	comp=Z,4μm,12.6s						
SONA1	Songino Array	167.08	6	ePKPdf	PKPdf	11 45 34.7	-1.5
SONM	Songino Array	167.09	6	PKIKP	PKPdf	11 45 34.7	-1.5
SONM						11 46 40.9	
SONM				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM				pmax	pmax		
	comp=Z,44nm,1.1s						
SONM	Songino Array	167.09	6	PKP	PKPdf	11 45 34.7	-1.5
	comp=Z,5.0nm,1.0s,baz=207,slow=0.6,SNR=27						
SONM				PKPab	PKPab	11 46 40.9	+0.4
	comp=Z,44nm,1.1s,baz=341,slow=3.1,SNR=25						
SONM				SKKPbc		11 55 11.9	
	comp=Z,5.1nm,0.9s,baz=163,slow=3.0,SNR=4.3						
ULN	Ulaanbaatar	167.11	4	ePKIKP	PKPdf	11 45 35.3	-1.0
ULN				e		11 46 40.9	
ULN	Ulaanbaatar	167.11	4	P	PKPdf	11 45 36.2	0.0
	SNR=16						
ULN	Ulaanbaatar	167.11	4	ePKPdf	PKPdf	11 45 35.3	-1.0
ULN				ePKPab	PKPab	11 46 40.9	+0.3
GZH	Guangzhou	167.37	201	PKP	PKPdf	11 45 37.3	+0.3
GZH				PP	PP	11 50 28.5	-1.0
GZH				SS	SS	12 11 17.0	+4.9
GZH				LR	LR		
	comp=Z,2μm,22.2s						
GZH				LR	LR		
	comp=Z,2μm,19.2s						
SSE	Sheshan	168.59	254	PKP	PKPdf	11 45 37.0	-0.6
SSE				PP	PP	11 50 40.0	+2.8
SSE				SS	SS	12 11 22.8	-4.2
SSE				AMB	AMB		
	comp=Z,270nm,9.2s						
SSE				LR	LR		
	comp=Z,1μm,22.4s						
SSE				LR	LR		
	comp=Z,820nm,22.4s						
SSE				LR	LR		
	comp=Z,3μm,21.2s						
DL2	Dalian	168.73	294	PKP	PKPdf	11 45 35.8	-1.6
DL2				SKKS		11 57 17.5	
DL2				AMB	AMB		
	comp=Z,1μm,9.9s						
DL2				LR	LR		
	comp=Z,1μm,20.3s						
DL2				LR	LR		
	comp=Z,1μm,30.2s						
KMI	Kunming	169.00	152	PKP	PKPdf	11 45 37.8	-0.6
KMI				pPKP	pPKPdf	11 45 47.8	-3.7
KMI				sPKP		11 45 52.5	
NJ2	Nanjing	170.79	254	ePKP	PKPdf	11 45 38.3	-0.6
NJ2				PP	PP	11 50 52.0	+3.7
NJ2				LR	LR		
	comp=Z,2μm,26.7s						
NJ2				LR	LR		
	comp=Z,2μm,29.4s						
NJ2				LR	LR		
	comp=Z,3μm,29.8s						
GYA	Guiyang	171.35	170	iPKP	PKPdf	11 45 38.0	-1.5
GYA				pPKP	pPKPdf	11 45 49.0	-3.7
GYA				PKPab	PKPab	11 47 01.8	+2.0
GYA				PKS	PKSdf	11 49 09.3	-2.8
GYA				PP	PP	11 50 52.3	+2.7
GYA				SKKS		11 57 34.5	
GYA				SS	SS	12 11 52.5	+0.7
GYA				AMB	AMB		
	comp=Z,230nm,11.6s						
GYA				LR	LR		
	comp=Z,3μm,21.9s						
GYA				LR	LR		
	comp=Z,2μm,21.7s						
GYA				LR	LR		
	comp=Z,4μm,24.6s						
GTA	Gaotai	171.86	55	⇑PKP	PKPdf	11 45 39.0	-0.4
GTA				pPKP	pPKPdf	11 45 49.5	-3.0
GTA				sPKP		11 45 53.3	
GTA				PKPab	PKPab	11 47 03.3	+1.3
GTA				PP	PP	11 50 53.5	+0.2
GTA				SKS	SKSdf	11 52 37.5	-1.9
GTA				SKKS	SKKSac	11 57 35.5	-1.0
GTA				SS	SS	12 11 53.3	-5.6
GTA				AMB	AMB		
	comp=Z,4μm,8.4s						
GTA				LR	LR		
	comp=Z,2μm,22.8s						
GTA				LR	LR		
	comp=Z,3μm,20.7s						
GTA				LR	LR		
	comp=Z,4μm,21.5s						
BJI	Beijing	172.04	311	PKP	PKPdf	11 45 38.5	-0.7
BJI				sPKP		11 45 52.5	
BJI				PP	PP	11 50 52.8	-1.0
BJI				SS	SS	12 12 00.0	0.0
BJI				AMB	AMB		
	comp=Z,2μm,14.9s						
BJI				LR	LR		
	comp=Z,2μm,22.0s						
BJI				LR	LR		
	comp=Z,2μm,22.7s						
BJI				LR	LR		
	comp=Z,4μm,35.7s						
TIA	Tai'an	172.80	282	PKP	PKPdf	11 45 39.5	-0.2
TIA				pPKP	pPKPdf	11 45 53.8	+0.9
TIA				SS	SS	12 12 06.0	-2.7
TIA				AMB	AMB		
	comp=Z,960nm,4.7s						
TIA				LR	LR		
	comp=Z,490nm,16.1s						
TIA				LR	LR		
	comp=Z,2μm,17.2s						
TIA				LR	LR		
	comp=Z,4μm,22.0s						
WHN	Wuhan	173.31	230	PKP	PKPdf	11 45 39.3	-0.8
WHN				PKPab	PKPab	11 47 07.3	-1.1
WHN				SKKS		11 57 40.8	
WHN				LR	LR		
	comp=Z,3μm,16.4s						
WHN				LR	LR		
	comp=Z,4μm,16.4s						
WHN				LR	LR		
	comp=Z,5μm,17.4s						
HHC	Hu-ho-hao-te	173.65	338	ePKP	PKPdf	11 45 40.5	+0.4
HHC				pPKP	pPKPdf	11 45 51.8	-1.4
HHC				sPKP		11 45 55.5	
HHC				PP	PP	11 51 04.0	+2.9
HHC				SKS	SKSdf	11 52 38.0	-1.9
HHC				SS	SS	12 12 15.5	+0.9
HHC				AMB	AMB		
	comp=Z,1μm,6.4s						
HHC				LR	LR		
	comp=Z,1μm,19.1s						
HHC				LR	LR		
	comp=Z,2μm,19.6s						
HHC				LR	LR		
	comp=Z,2μm,19.7s						
CD2	Chengdu	174.35	135	PKP	PKPdf	11 45 40.8	+0.3
CD2				pPKP	pPKPdf	11 45 52.0	-1.7
CD2				sPKP		11 45 56.0	
CD2				PKS	PKSdf	11 49 11.5	-1.3
CD2				SKS	SKSdf	11 52 38.5	-1.9
CD2				SKKS	SKKSac	11 57 48.0	-0.5
CD2				SS	SS	12 12 19.5	-2.9
CD2				AMB	AMB		
	comp=Z,3μm,6.6s						
CD2				LR	LR		
	comp=Z,3μm,26.5s						
CD2				LR	LR		
	comp=Z,4μm,24.5s						
CD2				LR	LR		
	comp=Z,4μm,25.0s						
ENH	Enshi	175.19	191	ePKPdf	PKPdf	11 45 40.5	-0.3
ENH				ePKPab	PKPab	11 47 17.0	+0.3
TIY	Taiyuan	175.77	311	PKP	PKPdf	11 45 40.5	-0.3
TIY				PKPab	PKPab	11 47 19.8	+0.5
TIY				PP	PP	11 51 10.5	-1.6
TIY				SKKS		11 57 55.8	
TIY				AMB	AMB		
	comp=Z,1μm,7.5s						
TIY				LR	LR		
	comp=Z,3μm,19.4s						
TIY				LR	LR		
	comp=Z,2μm,20.9s						
TIY				LR	LR		
	comp=Z,4μm,23.8s						
LZH	Lanzhou	176.13	72	PKP	PKPdf	11 45 41.3	+0.3
LZH				pPKP	pPKPdf	11 45 51.5	-2.7
LZH				sPKP		11 45 56.0	
LZH				PKPab	PKPab	11 47 21.0	-0.2
LZH				PP	PP	11 51 14.3	-0.2
LZH				SKKS		11 57 56.0	
LZH				SS	SS	12 12 38.8	-2.2
LZH				AMB	AMB		
	comp=Z,4μm,6.9s						
LZH				LR	LR		
	comp=Z,2μm,19.6s						
LZH				LR	LR		
	comp=Z,4μm,18.7s						
LZH				LR	LR		
	comp=Z,5μm,19.7s						
XAN	Xi'an	178.95	204	PKP	PKPdf	11 45 40.8	-0.5
XAN				SKKS		11 58 05.5	
XAN				AMB	AMB		
	comp=Z,1μm,14.1s						
XAN				LR	LR		
	comp=Z,2μm,29.4s						
XAN				LR	LR		
	comp=Z,330nm,27.0s						

*AZER **28** 11:26:52.2±4.1, 42.°99N×46.°74E, h3km, Error ellipse: s-maj=4.6km s-min=4.0km az=305.0*

*IDC **28** 11:26:53.1±0.8, 43.°00N×46.°98E, h0km, mb3.7/6, mb1 3.7/11, mb1mx3.5/49, mbtmp3.7/11, ML3.7/4, MS4.6/1, Ms1 4.6/1, ms1mx2.9/50, Error ellipse: s-maj=14.4km s-min=9.6km az=145.0*

*CSEM **28** 11:26:54.8±0.2, 43.°08N×47.°20E, h2km, mb3.7/8, Error ellipse: s-maj=4.7km s-min=4.0km az=21.0*

*MOS **28** 11:26:54.4±1.6, 43.°00N×47.°25E, h13km, mb4.0/5, Error ellipse: s-maj=6.6km s-min=5.7km az=172.5*

*NNC **28** 11:27:00.1±4.3, 43.°30N×47.°96E, h0km, mb3.8, Error ellipse: s-maj=91.4km s-min=28.8km az=117.0*

ISC 28 11:26:54.9±1.0, **43.°05N**±0.°02×**47.°17E**±0.°02, **h6**km±7km, **n142**, σ1.°54/190, **mb3.6**/11, **27C-20D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUJR	Buynaksk	0.23	191	iPG	Pg	11 26 57.8	-1.6
BUJR	Buynaksk	0.23	191	iPg	Pg	11 26 57.8	-1.6
DBC	Dubki	0.25	263	⇑iPG	Pg	11 26 59.4	-0.5
DBC	Dubki	0.25	263	iPg	Pg	11 26 59.4	-0.5
MAK	Makhachkala	0.26	110	ePG	Pg	11 27 00.7	+0.6
MAK				e		11 27 04.9	
MAK				pmax	pmax		
	comp=Z,509nm,0.3s						
MAK				smax	smax		
	comp=N,9μm,0.4s						
MAK	Makhachkala	0.26	110	ePg	Pg	11 27 00.7	+0.6
	comp=N,509nm,0.3s						
MAK				eSg	Sg	11 27 04.9	+1.4
	comp=N,9μm,0.4s						
KRNR	Karanay	0.29	221	⇓iPG	Pg	11 26 59.5	-1.2
KRNR	Karanay	0.29	221	iPg	Pg	11 26 59.5	-1.2
UNCR	Uncukul	0.43	219	⇓iPG	Pg	11 27 01.8	-1.5
UNCR				pmax	pmax		
	comp=Z,1μm,0.2s						
UNCR	Uncukul	0.43	219	iPg	Pg	11 27 01.8	-1.5
	comp=Z,1μm,0.2s						
BTLR	Botlikh	0.80	241	⇑iPG	Pg	11 27 09.4	-0.8
BTLR				eS	Sg	11 27 20.0	-0.5
BTLR				pmax	pmax		
	comp=Z,220nm,0.3s						
BTLR	Botlikh	0.80	241	iPg	Pg	11 27 09.4	-0.8
	comp=Z,220nm,0.3s						
BTLR				eSg	Sg	11 27 20.0	-0.5
GRO	Groznyy	1.07	285	⇑iPG	Pb	11 27 15.6	-0.2
GRO				eS	Sb	11 27 31.2	+1.1
GRO	Groznyy	1.07	285	iPg	Pb	11 27 15.6	-0.2
GRO				eSg	Sb	11 27 31.2	+1.1
DRN	Derbent	1.33	139	ePG	Pb	11 27 20.0	-0.3
DRN				eS	Sn	11 27 40.5	+2.5
DRN				pmax	pmax		
	comp=Z,87nm,0.2s						
DRN	Derbent	1.33	139	ePg	Pb	11 27 20.0	-0.3
	comp=Z,87nm,0.2s						
DRN				eSg	Sn	11 27 40.5	+2.5
ZKTA	Zakatala	1.47	196	⇓P	Pn	11 27 20.7	-1.2
	SNR=29						
ZKTA				⇓S	Sg	11 27 42.0	0.0
KSMR	Kasumkent	1.61	153	iPG	Pn	11 27 24.0	+0.1
KSMR				eS	Sg	11 27 47.0	+0.3
KSMR				pmax	pmax		
	comp=Z,321nm,0.2s						
KSMR	Kasumkent	1.61	153	iPg	Pn	11 27 24.0	+0.1
	comp=Z,321nm,0.2s						
KSMR				eSg	Sg	11 27 47.0	+0.3
AKT	Akhty	1.62	165	⇑iPG	Pn	11 27 23.5	-0.6
AKT				iS	Sg	11 27 48.0	+0.9
AKT				pmax	pmax		
	comp=Z,144nm,0.3s						
AKT	Akhty	1.62	165	iPg	Pn	11 27 23.5	-0.6
	comp=Z,144nm,0.3s						
AKT				iSg	Sg	11 27 48.0	+0.9
SNJR	Sundja	1.73	271	ePN	Pb	11 27 27.2	+0.1
SNJR	Sundja	1.73	271	ePn	Pb	11 27 27.2	+0.1
VLKR	Vladikavkaz	1.83	271	ePN	Pn	11 27 28.0	+1.1
VLKR	Vladikavkaz	1.83	271	ePn	Pn	11 27 28.0	+1.1
SEKA	Sheki	1.84	179	⇓P	Pb	11 27 28.4	-0.6
	SNR=35						
SEKA				⇑S	Sg	11 27 56.1	+2.1
SEKA	Sheki	1.84	179	P	Pb	11 27 28.4	-0.6
	SNR=35						
SEKA				S	Sg	11 27 56.1	+2.1
TRKR	Terskaya	1.90	292	ePN	Pn	11 27 28.9	+1.1
TRKR	Terskaya	1.90	292	ePn	Pn	11 27 28.9	+1.1
BTKR	Batakoyurt	1.95	280	ePN	Pg	11 27 31.8	-0.4
BTKR				eS	Sg	11 27 58.8	+1.3
BTKR	Batakoyurt	1.95	280	ePn	Pg	11 27 31.8	-0.4
BTKR				eSg	Sg	11 27 58.8	+1.3
QUBA	Quba, Azerbaij	1.96	149	⇑P	Pg	11 27 32.0	-0.5
	SNR=11						
QUBA				⇓S	Sg	11 28 02.7	+4.9
QUBA	Quba, Azerbaij	1.96	149	P	Pg	11 27 32.0	-0.5
	SNR=11						
DUS	Dusheti	2.06	243	P	Pb	11 27 33.1	+0.4
DUS	Dusheti	2.06	243	P	Pb	11 27 33.1	+0.4
DUS				S	Sg	11 28 01.1	0.0
DGRG	David-gareji	2.08	220	P	Pn	11 27 32.0	+1.7
DGRG	David-gareji	2.08	220	P	Pn	11 27 32.0	+1.7
DGRG				S	Sg	11 28 01.5	-0.2
ARNR	Ardon	2.12	275	ePN	Pg	11 27 35.0	-0.5
ARNR				eS	Sg	11 28 03.8	+0.9
ARNR	Ardon	2.12	275	ePn	Pg	11 27 35.0	-0.5
ARNR				eSb	Sg	11 28 03.8	+0.9
LACR	Lac	2.12	265	⇓iPN	Pn	11 27 32.0	+1.0
LACR				eS	Sb	11 28 00.3	-0.1
LACR	Lac	2.12	265	iPn	Pn	11 27 32.0	+1.0
LACR				eSn	Sb	11 28 00.3	-0.1
PRTR	Priterechnaya	2.22	289	ePN	Pb	11 27 36.0	+0.6
PRTR				eS	Sg	11 28 06.4	+0.2
PRTR	Priterechnaya	2.22	289	ePn	Pb	11 27 36.0	+0.6
PRTR				eSb	Sg	11 28 06.4	+0.2
TBLG	Delisi	2.23	235	P	Pn	11 27 32.9	+0.5
TBLG	Delisi	2.23	235	P	Pn	11 27 32.9	+0.5
TBLG				S	Sb	11 28 04.9	+1.4
KORR	Kora	2.27	272	ePN	Pn	11 27 34.2	+1.2
KORR	Kora	2.27	272	ePn	Pn	11 27 34.2	+1.2
MNGR	Mingechevir, A	2.27	182	⇓P	Pn	11 27 33.2	+0.3
MNGR				⇓S	Sb	11 28 04.4	-0.3
MNGR	Mingechevir, A	2.27	182	P	Pn	11 27 33.2	+0.3
MNGR				S	Sb	11 28 04.4	-0.3
STDR	Stavd-Durt	2.29	279	⇓iPN	Pg	11 27 38.3	-0.6
STDR				eS	Sg	11 28 09.2	+0.6
STDR	Stavd-Durt	2.29	279	iPn	Pg	11 27 38.3	-0.6
STDR				eSb	Sg	11 28 09.2	+0.6
SIZA	Siyzn	2.35	146	⇑P	Pb	11 27 36.8	-1.0
	SNR=9.5						
SIZA				⇓S	Sg	11 28 11.1	+0.5
SIZA	Siyzn	2.35	146	P	Pb	11 27 36.8	-1.0
	SNR=9.5						
IML	Ismayilli	2.38	161	⇑P	Pb	11 27 37.4	-0.7
	SNR=9.3						
IML				⇑S	Sg	11 28 11.4	+0.1
IML	Ismayilli	2.38	161	P	Pb	11 27 37.4	-0.7
	SNR=9.3						
QZX	Qazax, Azerbai	2.40	215	⇑P	Pn	11 27 34.2	-0.5
QZX				⇑S	Sn	11 28 06.0	+1.6
QZX	Qazax, Azerbai	2.40	215	P	Pn	11 27 34.2	-0.5
QZX				S	Sn	11 28 06.0	+1.6
ZEI	Tsey	2.41	265	ePN	Pn	11 27 36.5	+1.4
ZEI				eS	Sn	11 28 07.8	+2.8
ZEI	Tsey	2.41	265	ePn	Pn	11 27 36.5	+1.4
ZEI				eSn	Sn	11 28 07.8	+2.8
LSNR	Lesken	2.46	276	ePN	Pb	11 27 38.5	-1.0
LSNR				eS	Sb	11 28 10.7	+0.7
GANJ	Ganja	2.48	195	⇑P	Pn	11 27 35.9	0.0
	SNR=29						
GANJ				⇓S	Sn	11 28 07.9	+1.4
GANJ	Ganja	2.48	195	P	Pn	11 27 35.9	0.0
	SNR=29						
GANJ				S	Sn	11 28 07.9	+1.4
PQL	Pirkuli	2.50	154	⇑P	Pb	11 27 39.0	-1.2
	SNR=15						
PQL				⇑S	Sg	11 28 14.2	-1.0
PQL	Pirkuli	2.50	154	P	Pb	11 27 39.0	-1.2
	SNR=15						
ATGJ	Altiaghaj	2.55	148	⇓P	Pb	11 27 39.5	-1.7
	SNR=11						
ATGJ				⇑S	Sg	11 28 16.1	-0.9
ATGJ	Altiaghaj	2.55	148	P	Pb	11 27 39.5	-1.7
	SNR=11						
DIGR	Digorskoe uzhe	2.64	268	ePN	Pn	11 27 39.1	+0.9
DIGR				eS	Sn	11 28 12.9	+2.4
DIGR	Digorskoe uzhe	2.64	268	ePn	Pn	11 27 39.1	+0.9
DIGR				eSn	Sn	11 28 12.9	+2.4
NCK	Nalchik	2.65	281	ePN	Pn	11 27 38.5	+0.4
NCK	Nalchik	2.65	281	ePn	Pn	11 27 38.5	+0.4
ONI	Oni	2.77	262	P	Pn	11 27 41.0	+1.1
ONI	Oni	2.77	262	P	Pn	11 27 41.0	+1.1
KDMR	Kurdemir	2.78	164	⇓S	Sb	11 28 19.3	+0.1
BRDA	Brd	2.78	180	⇓P	Pn	11 27 40.5	+0.6
BRDA				⇑S	Sb	11 28 19.6	+0.3
BRDA	Brd	2.78	180	P	Pn	11 27 40.5	+0.6
BRDA				S	Sb	11 28 19.6	+0.3
KBZ	Khabaz	3.19	284	Pn	Pn	11 27 44.4	-1.1
	comp=Z,1.8nm,0.3s,baz=123,slow=5.8,SNR=38						
KBZ				Lg	Lg	11 28 31.3	
	comp=Z,6.4nm,0.3s,baz=233,slow=11,SNR=5.8						
ALIB	Äli-Bayra	3.38	155	⇓P	Pn	11 27 51.2	+3.0
	SNR=4.4						
ALIB				⇑S	Sb	11 28 36.1	-0.5
ALIB	Äli-Bayra	3.38	155	P	Pn	11 27 51.2	+3.0
	SNR=4.4						
KIV	Kislovodsk	3.38	287	ePN	Pn	11 27 47.2	-1.1

KIV Kislovodsk 3.38 287 ePn Pn 11 27 47.2 -1.1
GNI Garni 3.42 213 ePN Pn 11 27 49.1 +0.2
GNI Garni 3.42 213 Pn Pn 11 27 49.5 +0.6
comp=Z,4.6nm,0.3s,baz=343,slow=3.5,SNR=12
GNI Lg Lg 11 28 41.0
comp=Z,3.7nm,0.3s,baz=269,slow=16,SNR=4.6
GNI Garni 3.42 213 ePn Pn 11 27 49.1 +0.2
GOF Gofitskoye 3.59 305 ePN Pb 11 27 59.8 +1.1
GOF eS Sg 11 28 49.8 -0.3
GOF pmax pmax
comp=Z,80nm,0.8s
GOF smax smax
comp=N,660nm,0.9s
GOF smax smax
comp=E,1.0nm,1.0s
GOF Gofitskoye 3.59 305 ePn Pb 11 27 59.8 +1.1
comp=E,80nm,0.8s
GOF eSb Sg 11 28 49.8 -0.3
comp=E,660nm,0.9s
GLBA Clilabad 3.91 166 ⇑P Pn 11 27 56.4 +0.9
SNR=3.2
GLBA Clilabad 3.91 166 P Pn 11 27 56.4 +0.9
SNR=3.2
LRK Lerik 4.49 168 ⇓P Pn 11 28 04.3 +0.7
LRK ⇑S Sn 11 28 59.4 +3.2
LRK Lerik 4.49 168 P Pn 11 28 04.3 +0.7
LRK S Sn 11 28 59.4 +3.2
LKRN Lenkeran, Azer 4.50 164 ⇑P Pn 11 28 03.9 +0.3
LKRN ⇓S Sn 11 28 59.7 +3.4
LKRN Lenkeran, Azer 4.50 164 P Pn 11 28 03.9 +0.3
LKRN S Sn 11 28 59.7 +3.4
VRHR Novokhopersk 8.89 337 eP Pn 11 28 57.3 -6.5
VRHR pmax pmax
comp=Z,4.0nm,0.7s
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,1.4s
VRHR Novokhopersk 8.89 337 eP Pn 11 28 57.3 -6.5
comp=E,9.0nm,0.8s
VORD Divnogorie 9.57 329 eP Pn 11 29 05.5 -7.6
VORD pmax pmax
comp=Z,2.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,30nm,1.9s
VORD Divnogorie 9.57 329 eP Pn 11 29 05.5 -7.6
comp=E,10.0nm,0.7s
GEYT Alibeck 9.78 118 Pn Pn 11 29 14.9 -1.2
comp=E,0.7nm,0.3s,baz=304,slow=16,SNR=5.1
VSR Storozhevoye 9.82 329 eP Pn 11 29 12.1 -4.4
VSR pmax pmax
comp=Z,5.0nm,0.8s
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,2.0nm,0.7s
VSR Storozhevoye 9.82 329 eP Pn 11 29 12.1 -4.4
comp=E,5.0nm,0.8s
AKTK Aktyubinsk 10.48 41 P Pn 11 29 25.5 -0.1
comp=E,1.0nm,0.3s
AKTO Aktyubinsk 10.48 41 ⇑Pn Pn 11 29 25.4 -0.1
comp=E,2.9nm,0.5s
AKTO ⇑Sn Sn 11 31 13.4 -10
comp=E,7.5nm,0.7s
AKTO Aktyubinsk 10.48 41 P Pn 11 29 25.5 -0.1
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 10.48 41 Pn Pn 11 29 25.5 -0.1
comp=Z,1.4nm,0.3s,baz=216,slow=9.2,SNR=16
AKTO Aktyubinsk 10.48 41 Pn Pn 11 29 25.4 -0.1
comp=Z,2.9nm,0.5s
AB31 Akbulak array 10.81 51 ⇑Pn Pn 11 29 29.4 -0.7
comp=Z,0.8nm,0.3s,baz=227,slow=12,SNR=53
AB31 ⇑Sn Sn 11 31 26.3 -5.1
comp=Z,4.2nm,0.5s,baz=242,slow=24,SNR=5.2
AB31 Akbulak array 10.81 51 P Pn 11 29 29.4 -0.7
AB31 S Sn 11 31 26.2 -5.1
AB31 pmax pmax
comp=Z,3.0nm,0.3s
AB31 smax smax
comp=Z,2.0nm,0.2s
AB31 Akbulak array 10.81 51 Pn Pn 11 29 29.4 -0.7
comp=Z,0.8nm,0.3s,SNR=53
AB31 S Sn 11 31 26.2 -5.1
comp=Z,2.0nm,0.2s
ARU Arti 15.25 25 P Pn 11 30 26.8 -3.8
ARU S Sn 11 33 13.7 -6.0
KK31 Karatay Array 17.05 82 ⇓P Pn 11 30 52.7 -1.1
comp=Z,1.0nm,0.8s,baz=310,slow=12,SNR=4.2
KK31 Karatay Array 17.05 82 P P 11 30 59.7 +4.0
KK31 Karatay Array 17.05 82 P P 11 30 59.7 +4.0
BRVK Borovoye 18.33 49 ⇑P Pn 11 31 09.1 -0.5
comp=Z,4.6nm,0.6s
BRVK Borovoye 18.33 49 eP P 11 31 10.2 +0.5
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 18.33 49 eP P 11 31 10.2 +0.5
comp=Z,4.0nm,0.7s
BVA0 Borovoye Array 18.38 49 ⇓P Pn 11 31 07.9 -2.3
comp=Z,4.0nm,0.9s,baz=248,slow=10.0,SNR=7.1
BVA0 Borovoye Array 18.38 49 iP Pn 11 31 09.1 -1.1
BVA0 pmax pmax
comp=Z,2.0nm,0.7s
BVA0 Borovoye Array 18.38 49 iP Pn 11 31 09.1 -1.1
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 18.38 49 P Pn 11 31 09.2 -1.0
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 18.38 49 P Pn 11 31 09.2 -1.0
comp=Z,0.5nm,0.3s,baz=244,slow=13,SNR=9.7
JOF Joensuu 21.95 340 eP P 11 31 48.6 -0.3
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 21.95 340 ep P 11 31 48.6 -0.3
comp=Z,2.4nm,0.7s
JOF Joensuu 21.95 340 eP P 11 31 48.6 -0.3
comp=Z,2.0nm,0.7s
FINES FINESS Array B 22.31 333 eP P 11 31 53.6 +0.8
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 22.31 333 P P 11 31 51.6 -1.2
comp=Z,1.0nm,0.4s,baz=134,slow=14,SNR=9.6
FINES FINESS Array B 22.31 333 eP P 11 31 53.6 +0.8
comp=Z,1.0nm,0.4s
KURBB Kurchatov Arra 22.62 60 ⇑P P 11 31 56.0 -0.2
comp=Z,2.3nm,0.9s
KURBB Kurchatov Arra 22.62 60 P P 11 31 56.0 -0.2
comp=Z,2.3nm,0.9s
KURK Kurchatov 22.69 59 ⇑P P 11 31 56.2 -0.8
comp=Z,1.0nm,1.0s
KURK Kurchatov 22.69 59 P P 11 31 56.2 -0.8
comp=Z,1.0nm,1.0s
KAF Kangasniemi 22.72 334 eP P 11 32 00.3 +3.1
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 22.72 334 ep P 11 32 00.3 +3.1
comp=Z,1.5nm,0.5s
KAF Kangasniemi 22.72 334 eP P 11 32 00.3 +3.1
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 25.02 69 P P 11 32 19.4 -0.1
comp=Z,0.7nm,0.7s,baz=265,slow=8.7,SNR=9.3
MK31 Makanchi Array 25.02 69 P P 11 32 19.4 -0.1
MK31 Makanchi Array 25.02 69 P P 11 32 19.4 -0.1
comp=Z,0.7nm,0.7s,SNR=9.3
MKAR Makanchi Array 25.02 69 P P 11 32 19.7 +0.2
comp=Z,0.4nm,0.4s,baz=265,slow=9.0,SNR=9.9
HFS Hagfors 26.51 322 P P 11 32 32.5 -0.3
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS Hagfors 26.51 322 P P 11 32 32.5 -0.3
comp=Z,0.5nm,0.3s,baz=119,slow=12,SNR=4.3
ZALV Zalesovo Beam 26.91 53 P P 11 32 36.1 -0.4
comp=Z,0.3nm,0.3s,baz=253,slow=10,SNR=2.9
SPITS Spitsbergen Ar 37.31 350 P P 11 34 07.9 +0.6
SPITS pmax pmax
comp=Z,1.0nm,0.4s
SPITS Spitsbergen Ar 37.31 350 P P 11 34 07.9 +0.6
comp=Z,1.1nm,0.4s,baz=139,slow=13,SNR=7.2
TLY Talaya 38.34 57 LR LR 11 50 29.1
comp=Z,836nm,21.4s,baz=66,slow=37
TORD Torodi Ar. Bea 49.12 247 P P 11 35 40.4 -3.0
comp=Z,1.0nm,1.1s,baz=29,slow=8.9,SNR=6.0

IDC 28 11:28:05.8±2.0, 14°.37N×90°.12W, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.7/40, mbtmp3.9/5, ML4.2/2, Error ellipse: s-maj=48.5km s-min=14.9km az=55.0
ISCJB 28 11:28:15.1±0.7, 15°.48N±0°.04×90°.92W±0°.06, h10km, mb3.8/3, Error ellipse: s-maj=8.6km s-min=5.6km az=162.0
CASC 28 11:28:16.0±2.2, 15°.35N×90°.85W, h0km±13km, MD3.5, ML3.2
ISC 28 11:28:16.4±0.8, 15°.30N±0°.05×90°.82W±0°.05, h10km, n20, σ1$.82/22, mb3.8/3, Guatemala

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
APG El Apazote 0.45 131 Pg Pg 11 28 20.7 -4.6
235nm,0.3s,baz=319,slow=15,SNR=1467
APG Lg Lg 11 28 28.8
616nm,0.3s,baz=61,slow=19,SNR=42
APG LR LR 11 28 49.8
comp=Z,650nm,18.0s,baz=308,slow=62
NBG Las Nubes 0.84 147 eP Pn 11 28 33.2 -1.4
NBG eS Sn 11 28 48.1 +0.9
PCG Pacaya 0.93 167 eP Pb 11 28 33.8 -0.9
MRL Marmol 1.11 102 eP Pn 11 28 37.2 -1.0
MRL eP Pb 11 28 37.8 -0.1
MRL eS Sn 11 28 54.8 +1.1
MRL eS Sb 11 28 55.5 +3.1
JAT Jato 1.26 219 eP Pb 11 28 40.0 -0.3
RBDL Robledal 1.61 137 eP Pg 11 28 46.5 -0.8
RBDL eS Sg 11 29 10.9 +2.6
RTR El Retiro 1.80 141 eP Pg 11 28 50.0 -1.0
SNJE San Jose 1.85 140 eP Pg 11 28 50.8 -1.1
SBLS San Blas 1.86 141 eP Pg 11 28 50.8 -1.3
BOQS Boqueron 2.15 136 eP Pg 11 28 55.7 -2.0
SNET Serv Nac Est T 2.22 136 AML AML 11 29 45.0
comp=Z,183nm,0.6s
LFU La Fuente 2.26 133 eP Pb 11 28 55.5 -1.8
LBRS Las Brisas 2.32 132 eP Pb 11 28 56.7 -1.7
LFRS El Faro 2.38 134 eP Pb 11 28 57.7 -1.8
CAHU Cacacuatique 2.95 121 eP Pb 11 29 05.6 -3.6
TEIG Tepich 5.46 26 Pn Pn 11 29 38.0 +0.1
comp=Z,26nm,0.3s,baz=84,slow=22,SNR=193
TEIG Sn Sn 11 30 38.4 -2.5
comp=Z,15nm,0.3s,baz=295,slow=24,SNR=12
TXAR Lajitas Array 18.32 322 P P 11 32 34.9 +4.0
comp=Z,0.1nm,0.3s,baz=135,slow=9.3,SNR=5.1
NVAR Mina Array Bea 33.42 319 P P 11 34 55.4 -0.3
comp=Z,1.2nm,0.9s,baz=142,slow=8.6,SNR=5.2
SCHQ Schefferville 43.61 20 P P 11 36 16.2 -4.6
comp=Z,1.8nm,0.6s,baz=194,slow=4.2,SNR=6.8
YKA Yellowknife Ar 50.04 346 P P 11 37 10.0 -0.9
comp=Z,0.5nm,0.7s,baz=146,slow=7.7,SNR=12

IDC 28 11:31:59.9±2.0, 1°.61N×126°.12E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/29, mbtmp3.6/3, Error ellipse: s-maj=185.4km s-min=24.3km az=65.0, Northern Molucca Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 22.89 160 P P 11 37 04.6 -0.8
0.5nm,0.5s,baz=338,slow=11,SNR=9.6
ASAR Alice Springs 26.24 164 P P 11 37 37.4 +0.5
1.0nm,0.4s,baz=345,slow=12,SNR=42
MKAR Makanchi Array 58.95 326 P P 11 42 01.2 0.0
0.6nm,1.0s,baz=131,slow=7.9,SNR=3.2

NEIC 28 11:40:18.5, 36°.28S×177°.78E, h209km, MG4.1(WEL), After WEL.
WEL 28 11:40:18.1±0.6, 36°.17S×177°.71E, h198km±5km, ML4.1/5, 4C-2D, Error ellipse: s-maj=7.2km s-min=5.6km az=90.0, Off east coast of North Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MXZ Matakaoa Point 1.48 161 PN Pn 11 40 51.7 +0.4
MXZ SN Sn 11 41 16.8 -0.5
MXZ AML AML 11 41 18.6
MXZ AML AML 11 41 18.6
MXZ AML AML 11 41 18.9
MXZ Matakaoa Point 1.48 161 Pn Pn 11 40 51.7 +0.4
MXZ Sn Sn 11 41 16.8 -0.5
HAZ Te Kaha 1.59 178 ⇑PN Pn 11 40 52.6 +0.2
HAZ SN Sn 11 41 18.5 -0.7
WMGZ Waiomatatini S 1.75 161 ⇑PN Pn 11 40 54.3 +0.4
WMGZ SN Sn 11 41 21.4 -0.4
OPRZ Ohinepanea 1.91 208 PN Pn 11 40 56.6 +1.1
OPRZ Ohinepanea 1.91 208 Pn Pn 11 40 56.6 +1.1
PUZ Puketiti 1.95 167 PN Pn 11 40 55.9 -0.1
PUZ AML AML 11 41 26.3
PUZ AML AML 11 41 27.8
PUZ Puketiti 1.95 167 Pn Pn 11 40 55.9 -0.1
TWGZ Tauwhareparae 2.02 174 ⇑PN Pn 11 40 57.5 +0.8
TWGZ SN Sn 11 41 26.6 -0.3
URZ Urewera 2.14 193 PN Pn 11 40 58.2 +0.3
URZ AML AML 11 41 29.7
URZ AML AML 11 41 30.2
URZ Urewera 2.14 193 Pn Pn 11 40 58.2 +0.3
MWZ Matawai 2.17 184 PN Pn 11 40 58.3 0.0
MWZ SN Sn 11 41 29.3 -0.4
MWZ AML AML 11 41 31.9
MWZ AML AML 11 41 31.9
MWZ Matawai 2.17 184 Pn Pn 11 40 58.3 0.0
MWZ Sn Sn 11 41 29.3 -0.4
TARZ Mount Tarawera 2.28 205 PN Pn 11 41 01.4 +1.9
RAGZ Rawiri 2.34 186 PN Pn 11 41 00.6 +0.5
CNGZ Carnagh Statio 2.35 170 PN Pn 11 41 00.5 +0.3
CNGZ Carnagh Statio 2.35 170 Pn Pn 11 41 00.5 +0.3
RIGZ Rimuhau 2.54 179 ⇑PN Pn 11 41 02.1 -0.2
PRRZ Plateau Road 2.55 204 PN Pn 11 41 03.4 +0.9
PRRZ Plateau Road 2.55 204 Pn Pn 11 41 03.4 +0.9
ALRZ Allen Road 2.63 204 PN Pn 11 41 04.3 +1.0
ALRZ Allen Road 2.63 204 Pn Pn 11 41 04.3 +1.0
PRGZ Paritu Road 2.76 177 PN Pn 11 41 04.6 -0.2
PRGZ Paritu Road 2.76 177 Pn Pn 11 41 04.6 -0.2
RAHZ Arahi 2.79 190 PN Pn 11 41 04.5 -0.7
RAHZ Arahi 2.79 190 Pn Pn 11 41 04.5 -0.7
KNZ Kokohu 2.85 180 PN Pn 11 41 05.1 -0.7
KNZ Kokohu 2.85 180 Pn Pn 11 41 05.1 -0.7
WHHZ Waihua 2.93 187 PN Pn 11 41 06.6 -0.2
MHGZ Mahia Peninsul 2.99 177 PN Pn 11 41 07.1 -0.4
MHGZ Mahia Peninsul 2.99 177 Pn Pn 11 41 07.1 -0.4
NMHZ Naumai 3.01 193 PN Pn 11 41 08.1 +0.2
NMHZ Naumai 3.01 193 Pn Pn 11 41 08.1 +0.2
BKZ Black Stump Fm 3.15 197 ⇓PN Pn 11 41 08.7 -0.7
BKZ Black Stump Fm 3.15 197 Pn Pn 11 41 08.7 -0.7
MCHZ McNeill Hill 3.37 193 PN Pn 11 41 11.6 -0.5
MCHZ McNeill Hill 3.37 193 Pn Pn 11 41 11.6 -0.5
TUVZ Tukino 3.50 207 PN Pn 11 41 13.5 -0.2
TUVZ Tukino 3.50 207 Pn Pn 11 41 13.5 -0.2
CKHZ Cape Kidnapper 3.52 188 PN Pn 11 41 12.9 -1.0
CKHZ Cape Kidnapper 3.52 188 Pn Pn 11 41 12.9 -1.0
FWVZ Far West T-bar 3.52 208 PN Pn 11 41 13.9 -0.3
FWVZ Far West T-bar 3.52 208 Pn Pn 11 41 13.9 -0.3
BHHZ Black Hill Sta 3.56 201 PN Pn 11 41 13.4 -1.1
BHHZ Black Hill Sta 3.56 201 Pn Pn 11 41 13.4 -1.1
TRVZ Turoa 3.56 208 PN Pn 11 41 14.2 -0.6
TRVZ Turoa 3.56 208 Pn Pn 11 41 14.2 -0.5
WNVZ Whahianoa 3.57 207 PN Pn 11 41 14.1 -0.6
WNVZ Whahianoa 3.57 207 Pn Pn 11 41 14.1 -0.6
MOVZ Moawhango 3.59 205 PN Pn 11 41 13.9 -0.8
MOVZ Moawhango 3.59 205 Pn Pn 11 41 13.9 -0.8
KRHZ Kereru 3.63 197 PN Pn 11 41 14.0 -1.3
MTVZ Mangateitei 3.67 208 PN Pn 11 41 15.5 -0.3
MTVZ Mangateitei 3.67 208 Pn Pn 11 41 11.9 -3.9
KAHZ Kahuranaki 3.68 190 PN Pn 11 41 14.7 -1.2
KAHZ Kahuranaki 3.68 190 Pn Pn 11 41 14.7 -1.2
PXZ Pawanui 3.92 190 ⇓PN Pn 11 41 17.0 -1.7
PXZ AML AML 11 42 05.2
PXZ AML AML 11 42 05.2
PXZ Pawanui 3.92 190 Pn Pn 11 41 17.0 -1.7
PNHZ Pukenui 3.93 197 PN Pn 11 41 17.3 -1.6
PNHZ Pukenui 3.93 197 Pn Pn 11 41 17.3 -1.6
TSZ Takapari Road 4.12 199 PN Pn 11 41 19.3 -2.1
TSZ Takapari Road 4.12 199 Pn Pn 11 41 19.3 -2.1
PRHZ Porangahau 4.18 191 PN Pn 11 41 20.2 -1.8
PRHZ Porangahau 4.18 191 Pn Pn 11 41 20.2 -1.8
DVHZ Dannevirke 4.30 196 PN Pn 11 41 21.2 -2.4
DVHZ Dannevirke 4.30 196 Pn Pn 11 41 21.2 -2.4
ANWZ Angora Road 4.40 192 PN Pn 11 41 22.8 -1.9
POWZ Post Office Ro 4.49 199 PN Pn 11 41 23.8 -2.1
POWZ Post Office Ro 4.49 199 Pn Pn 11 41 23.8 -2.1
PRWZ Pori Road 4.59 197 PN Pn 11 41 24.9 -2.3
BFZ Birch Farm 4.65 194 PN Pn 11 41 25.4 -2.6
BFZ Birch Farm 4.65 194 Pn Pn 11 41 25.2 -2.8
MRZ Mangatainoka R 4.79 200 PN Pn 11 41 26.8 -2.9
MRZ Mangatainoka R 4.79 200 Pn Pn 11 41 26.8 -2.9
TIWZ Tintock 4.82 197 PN Pn 11 41 27.4 -2.7
TIWZ Tintock 4.82 197 Pn Pn 11 41 27.4 -2.7
CPWZ Castlepoint 4.88 194 PN Pn 11 41 28.9 -1.9
HOWZ Holdsworth Sta 5.03 199 PN Pn 11 41 29.7 -3.1
HOWZ Holdsworth Sta 5.03 199 Pn Pn 11 41 29.7 -3.1
OGWZ Otaki Gorge 5.05 202 PN Pn 11 41 30.1 -2.9
OGWZ Otaki Gorge 5.05 202 Pn Pn 11 41 30.1 -2.9
TMWZ Te Maipa 5.13 196 PN Pn 11 41 31.2 -3.0
TMWZ Te Maipa 5.13 196 Pn Pn 11 41 31.2 -3.0
KIW Kapiti Island 5.17 204 PN Pn 11 41 31.4 -3.3
KIW Kapiti Island 5.17 204 Pn Pn 11 41 31.4 -3.3
CAW Cannon Point 5.35 202 PN Pn 11 41 33.4 -3.5
CAW Cannon Point 5.35 202 Pn Pn 11 41 33.4 -3.5
TRWZ Traveller 5.46 196 PN Pn 11 41 35.1 -3.2
TRWZ Traveller 5.46 196 Pn Pn 11 41 35.1 -3.2
WEL Wellington 5.60 203 PN Pn 11 41 36.5 -3.7
WEL Wellington 5.60 203 Pn Pn 11 41 36.5 -3.6
TCW Tory Channel 5.71 207 PN Pn 11 41 37.6 -3.9
TCW Tory Channel 5.71 207 Pn Pn 11 41 37.6 -3.9
PLWZ Palliser 5.72 199 PN Pn 11 41 37.9 -3.9
PLWZ Palliser 5.72 199 Pn Pn 11 41 37.9 -3.9
TUWZ Tuamarina 6.02 208 PN Pn 11 41 41.6 -3.9
TUWZ Tuamarina 6.02 208 Pn Pn 11 41 41.6 -3.9
NNZ Nelson 6.07 213 Pn Pn 11 41 42.7 -3.5
THZ Tophouse 6.72 212 Pn Pn 11 41 52.0 -2.7
KHZ Kahutara 7.03 206 PN Pn 11 41 54.3 -4.3
KHZ Kahutara 7.03 206 Pn Pn 11 41 54.3 -4.3
MQZ McQueen's Vall 8.47 206 PN Pn 11 42 11.7 -5.7
MQZ McQueen's Vall 8.47 206 Pn Pn 11 42 11.7 -5.7
CTZ Chatham Island 8.72 152 Pn Pn 11 42 28.2 +7.5

ISCJB 28 11:41:34.1±0.4, 6°.74S±0°.07×11°.56W±0°.05, h11km, mb4.4/20, Error ellipse: s-maj=10.8km s-min=5.9km az=146.5
IDC 28 11:41:35.0±0.7, 6°.68S×11°.42W, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.2/51, mbtmp4.4/16, ML4.0/1, Error ellipse: s-maj=20.6km s-min=17.2km az=106.0
NEIC 28 11:41:36.3±0.4, 6°.69S×11°.43W, h10km, mb4.7/8, Error ellipse: s-maj=10.1km s-min=8.4km az=90.0
ISC 28 11:41:36.1±0.5, 6°.73S±0°.08×11°.53W±0°.08, h11km, n34, σ1$.43/34, mb4.5/20, Ascension Island region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ASCN Ascension 3.05 247 ePn Pn 11 42 21.4 -3.0
H10N1 ASCENSION HYDR 3.13 249 Pn Pn 11 42 22.6 -2.6
H10N1 T T 11 45 37.8
baz=69,slow=75,SNR=523
H10N2 ASCENSION HYDR 3.13 249 Pn Pn 11 42 22.6 -2.6
H10N2 T T 11 45 34.8
baz=69,slow=75,SNR=389
H10N3 ASCENSION HYDR 3.15 249 Pn Pn 11 42 22.8 -2.6
H10N3 T T 11 45 38.6
baz=69,slow=75,SNR=406
H10S1 ASCENSION HYDR 3.79 234 Pn Pn 11 42 33.5 -0.8
H10S1 T T 11 46 24.3
baz=54,slow=75,SNR=110
H10S2 ASCENSION HYDR 3.80 234 Pn Pn 11 42 33.6 -0.8
H10S2 T T 11 46 24.6
baz=54,slow=75,SNR=358
H10S3 ASCENSION HYDR 3.81 234 Pn Pn 11 42 33.8 -0.8
SNR=4.3
H10S3 T T 11 46 23.7
baz=54,slow=75,SNR=109
SHEL Horse Pasture 10.78 149 ePn Pn 11 44 09.2 -1.4
298nm,0.7s
DBIC Dimbokro 14.88 27 Pn Pn 11 45 04.3 -2.4
0.7nm,0.3s,baz=188,slow=14,SNR=5.3
DBIC Dimbokro 14.88 27 ePn Pn 11 45 05.3 -1.3
TOA0 Torodi Ar. Sit 23.72 34 eP P 11 46 46.9 -1.5
TORD Torodi Ar. Bea 23.72 34 P P 11 46 46.4 -2.0
14nm,0.8s,baz=213,slow=11,SNR=48
RCBR Riachuelo 24.24 271 eP P 11 46 54.0 +0.5
78nm,1.6s
TSUM Tsumeb 30.89 116 eP P 11 47 53.2 0.0
9.5nm,1.3s
BDFB Brasilia 36.82 253 P P 11 48 46.1 +1.4
4.2nm,0.6s,baz=62,slow=8.6,SNR=4.3
LSZ Lusaka 39.84 106 P P 11 49 09.5 -0.7
5.9nm,0.9s,baz=15,slow=3.9,SNR=4.7
LSZ Lusaka 39.84 106 eP P 11 49 10.9 +0.7
11nm,1.1s
LBTB Lobatse 39.88 121 P P 11 49 10.4 +0.1
4.1nm,0.8s,baz=304,slow=5.6,SNR=5.4
BOSA Boshof 40.99 127 P P 11 49 19.5 -0.1
10nm,1.1s,baz=298,slow=9.5,SNR=4.9
BOSA Boshof 40.99 127 eP P 11 49 19.2 -0.3
11nm,1.1s
KEST Kesra 46.58 24 P P 11 50 05.3 +1.0
2.2nm,0.6s,baz=169,slow=10,SNR=9.3
ESLA Sonseca Array 46.70 8 eP P 11 50 05.9 +0.8
13nm,1.6s
KMBO Kilima Mbogo 48.96 86 P P 11 50 23.0 -0.4
3.5nm,0.2s,baz=264,slow=8.7,SNR=4.2
KMBO Kilima Mbogo 48.96 86 eP P 11 50 23.8 +0.4
2.9nm,0.2s
SIV San Ignacio 49.33 255 P P 11 50 27.2 +1.3
4.8nm,0.9s,baz=142,slow=4.6,SNR=4.9
GERES GERESS Array B 59.59 19 P P 11 51 40.4 +0.4
4.2nm,0.8s,baz=185,slow=4.8,SNR=15
GERES PP PP 11 53 54.1 +2.3
4.2nm,1.2s,baz=186,slow=5.4,SNR=3.6
BRTR Keskin Array B 62.23 38 P P 11 51 59.5 +1.3
1.4nm,0.6s,baz=226,slow=6.3,SNR=5.1
SNAA Sanae 65.10 177 P P 11 52 17.6 +1.0
1.1nm,0.9s,baz=334,slow=9.3,SNR=4.0
KIEV Kiev 67.12 27 eP P 11 52 28.9 -0.8
12nm,0.8s
AKASG Malin Array Be 67.13 27 P P 11 52 29.6 -0.3
2.9nm,0.6s,baz=226,slow=6.5,SNR=11
NOA NORSAR Array B 69.87 12 P P 11 52 46.6 -0.2
1.5nm,1.0s,baz=190,slow=9.9,SNR=3.0
FINES FINESS Array B 73.98 18 P P 11 53 11.2 -0.2
1.7nm,0.6s,baz=191,slow=5.8,SNR=7.0
ARCES ARCESS Array B 80.22 12 P P 11 53 46.7 +0.4
4.6nm,1.0s,baz=222,slow=4.9,SNR=4.1
QSPA South Pole Qui 83.38 180 eP P 11 54 06.8 +3.4
5.9nm,1.0s

IDC 28 11:41:51.0±2.5, 34°.33S×73°.24W, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.7/32, mbtmp3.7/4, ML2.7/1, Error ellipse: s-maj=88.2km s-min=37.1km az=13.0, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.01 59 Pn Pn 11 43 07.2 -0.3
0.3nm,0.3s,baz=244,slow=15,SNR=4.5
TXAR Lajitas Array 69.54 332 P P 11 53 01.9 +0.2
0.4nm,0.7s,baz=157,slow=9.5,SNR=4.0
DBIC Dimbokro 76.23 72 P P 11 53 41.6 +0.1
1.1nm,0.5s,baz=198,slow=11,SNR=1.9
TORD Torodi Ar. Bea 85.26 71 P P 11 54 30.5 +0.6
0.4nm,0.7s,baz=244,slow=6.3,SNR=3.4
BVAR Borovoye Array 148.20 43 PKPbc PKPbc 12 01 36.8 -1.5
0.7nm,0.5s,baz=319,slow=1.8,SNR=6.6

IDC 28 11:43:18.4±2.2, 6°.77S×129°.61E, h0km, mb4.1/1, mb1 3.9/3, mb1mx3.6/37, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=146.2km s-min=31.5km az=68.0, Banda Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 13.87 161 Pn Pn 11 46 36.4 0.0
0.6nm,0.3s,baz=344,slow=14,SNR=7.6
WRA Sn Sn 11 48 57.9 -13
0.3nm,0.3s,baz=335,slow=22,SNR=3.6
ASAR Alice Springs 17.30 167 P Pn 11 47 21.5 0.0
0.3nm,0.3s,baz=340,slow=9.0,SNR=8.0
ASAR S Sn 11 50 22.2 -13
0.1nm,0.3s,baz=357,slow=28,SNR=3.4
MKAR Makanchi Array 67.82 327 P P 11 54 18.4 0.0
2.0nm,0.9s,baz=116,slow=6.0,SNR=2.6

NEIC **28** *11:45:35.0±1.4, 35.29N×71.03E, h35km, mb4.2/2, Error ellipse: s-maj=21.3km s-min=20.7km az=49.0*
IDC **28** *11:45:38.3±4.1, 35.60N×71.38E, h54km±35km, mb3.8/6, mb1 4.1/9, mb1mx3.7/45, mbtmp4.2/9, ML4.2/3, MS3.5/2, Ms1 3.5/2, ms1mx3.3/43, Error ellipse: s-maj=31.0km s-min=22.5km az=1.0*
ISCJB **28** *11:45:49.9±1.2, 36.59N±0.09×70.85E±0.08, h100km, mb4.0/6, Error ellipse: s-maj=13.5km s-min=7.3km az=153.0*
ISC 28 11:45:48.7±1.6, 36.4N±0.1×70.91E±0.10, h100km, n25, σ1§51/28, mb4.1/6, 1C-2D, Hindu Kush region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
UCH Uchtor 6.46 24 P Pn 11 47 21.9 +0.3
SNR=12
KZA Kyzart 6.60 29 P Pn 11 47 23.1 -0.3
SNR=7.2
EKS2 Erkin-Say 6.64 19 P Pn 11 47 25.1 +1.3
SNR=16
KK31 Karatay Array 6.71 357 Pn Pn 11 47 25.7 +1.1
12nm,0.5s,baz=176,slow=12,SNR=153
KK31 ⇓Sn Sn 11 48 36.8 -2.7
6.3nm,0.3s,baz=187,slow=23,SNR=6.8
KKAR Karatay Array 6.71 357 ePn Pn 11 47 25.6 +1.0
KKAR eSn Sn 11 48 37.8 -1.7
AAK Ala-Archa 6.82 23 P Pn 11 47 26.9 +0.7
SNR=26
AAK Ala-Archa 6.82 23 P Pn 11 47 26.0 -0.2
9.0nm,0.3s,baz=272,slow=0.5,SNR=34
AAK S Sn 11 48 40.0 -2.4
5.6nm,0.3s,baz=325,slow=23,SNR=10.0
AAK LR LR 11 50 13.6
comp=Z,732nm,20.7s,baz=26,slow=37
AAK Ala-Archa 6.82 23 ePn Pn 11 47 26.9 +0.7
AAK eSn Sn 11 48 41.8 -0.7
CHMS Chumysh 7.23 23 P Pn 11 47 32.1 +0.4
SNR=18
USP Ospenovka 7.40 21 P Pn 11 47 34.1 +0.1
SNR=20
TKM2 Tokmak 2 7.46 28 P Pn 11 47 34.9 0.0
SNR=5.8
GEYT Alibeck 10.33 282 P Pn 11 48 12.2 -1.6
1.1nm,0.3s,baz=38,slow=7.3,SNR=5.1
GEYT S Sn 11 50 08.1 +0.5
1.7nm,0.3s,baz=103,slow=31,SNR=7.1
MKAR Makanchi Array 13.42 36 P Pn 11 48 56.3 +1.4
0.2nm,0.3s,baz=207,slow=9.3,SNR=2.2
AB31 Akbulak array 15.15 332 ⇑Pn Pn 11 49 17.6 +0.5
10nm,0.9s
AB31 ⇓Sn Sn 11 51 53.3 -11
5.9nm,0.8s,baz=163,slow=24,SNR=7.0
BRVK Borovoye 16.67 359 eP P 11 49 39.1 +2.4
30nm,1.3s
AKTO Aktyubinsk 16.84 330 P P 11 49 39.6 +1.1
0.5nm,0.3s,baz=141,slow=13,SNR=5.5
ZALV Zalesovo Beam 20.05 24 P P 11 50 12.4 -1.1
8.3nm,0.8s,baz=210,slow=9.9,SNR=5.7
ARU Arti 21.71 341 eP P 11 50 35.0 +3.6
9.8nm,1.0s
FINES FINESS Array B 37.53 326 P P 11 52 54.5 +1.9
2.6nm,0.9s,baz=126,slow=12,SNR=6.5
ARCES ARCESS Array B 41.22 338 P P 11 53 24.1 +1.0
2.8nm,1.0s,baz=96,slow=7.8,SNR=5.5
NB2 NORSAR Subarra 44.43 323 P P 11 53 50.3 +1.1
comp=Z,1.4nm,0.5s,baz=99,slow=7.9
NOA NORSAR Array B 44.43 323 P P 11 53 49.9 +0.7
comp=Z,1.2nm,0.6s,baz=96,slow=7.8,SNR=5.0
TGY Tagaytay City 49.76 103 LR LR 12 16 19.2
comp=Z,23nm,18.4s,slow=37
TORD Torodi Ar. Bea 65.64 269 P P 11 56 20.7 -1.8
comp=Z,0.6nm,0.6s,baz=53,slow=5.6,SNR=6.7
WRA Warramunga Arr 81.99 122 P P 11 57 47.9 -10
comp=Z,5.6nm,1.1s,baz=329,slow=5.0,SNR=3.2

ISCJB **28** *11:50:35.3±0.2, 34.97S±0.05×72.41W±0.07, h27km, mb5.1/110, Error ellipse: s-maj=9.1km s-min=5.7km az=151.3*
NEIC **28** *11:50:36.4±0.7, 35.03S×72.49W, h24km±5km, mb5.2/96, Error ellipse: s-maj=8.0km s-min=5.2km az=69.0*
MOS **28** *11:50:36.7±1.2, 34.98S×72.67W, h33km, mb5.3/27, Error ellipse: s-maj=18.4km s-min=8.4km az=101.2*
IDC **28** *11:50:36.5±0.5, 35.02S×72.36W, h27km±3km, mb4.5/15, mb1 4.6/20, mb1mx4.5/31, mbtmp4.6/20, ML4.4/5, Error ellipse: s-maj=18.0km s-min=11.8km az=79.0*
ISC 28 11:50:36.7±0.4, 34.99S±0.05×72.47W±0.09, h26km±2km, h26km:pP-P, n637, σ0§83/655, mb5.1/111, 189C-200D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
CFAA Coronel Fontan 4.89 48 Pn Pn 11 51 48.4 -0.2
2.1nm,0.3s,baz=228,slow=18,SNR=13
PLCA Paso Flores 5.93 166 eP Pn 11 52 03.5 +0.7
PLCA Paso Flores 5.93 166 Pn Pn 11 52 03.3 +0.5
14nm,0.3s,baz=338,slow=9.0,SNR=21
PLCA Paso Flores 5.93 166 ePn Pn 11 52 03.5 +0.7
TRQA Tornquist 8.98 113 ePn Pn 11 52 48.3 +3.6
CPUP Villa Florida 15.62 61 eP P 11 54 17.4 -1.5
CPUP pmax pmax
comp=Z,1.0nm,0.7s
CPUP Villa Florida 15.62 61 Pn Pn 11 54 14.0 -1.0
comp=Z,0.2nm,0.3s,baz=207,slow=9.0,SNR=3.0
CPUP Villa Florida 15.62 61 eP P 11 54 17.4 -1.5
comp=Z,0.5nm,0.7s
LPAZ La Paz 19.03 13 eP Pn 11 54 59.8 +1.6
LPAZ pmax pmax
comp=Z,23nm,0.8s
LPAZ La Paz 19.03 13 P P 11 54 57.7 +0.4
comp=Z,0.7nm,0.3s,baz=186,slow=7.8,SNR=18
LPAZ La Paz 19.03 13 eP Pn 11 54 59.8 +1.6
comp=Z,24nm,0.8s
USHA Ushuaia 20.04 173 P P 11 55 06.7 -0.7
comp=Z,0.3nm,0.3s,baz=307,slow=13,SNR=3.1
SIV San Ignacio 21.50 31 P P 11 55 23.8 +0.1
comp=Z,16nm,0.6s,baz=214,slow=7.8,SNR=48
NNA Nana 23.24 349 P P 11 55 42.6 +0.6
comp=Z,8.3nm,0.4s,baz=193,slow=11,SNR=5.9
BDFB Brasilia 29.19 55 eP P 11 56 38.0 +1.8
BDFB Brasilia 29.19 55 P P 11 56 35.6 -0.6
comp=Z,4.4nm,0.6s,baz=270,slow=4.0,SNR=4.1
BDFB Brasilia 29.19 55 eP P 11 56 38.0 +1.8
PMSA Palmer Station 30.25 173 P P 11 56 44.0 -0.9
comp=Z,30nm,0.9s,baz=227,slow=24,SNR=4.7
OTAV Otavalo 35.49 350 eP P 11 57 32.6 +0.9
comp=Z,39nm,1.6s
ROSC El Rosal 39.67 357 P P 11 58 08.7 +1.7
comp=Z,7.8nm,0.6s,baz=288,slow=5.6,SNR=4.1
SDV Santo Domingo 43.67 3 eP P 11 58 38.9 -0.6
comp=Z,27nm,1.0s
VNA3 Neumayer Olymp 48.58 157 P P 11 59 17.4 0.0
VNA2 Neumayer--Watz 49.24 157 P P 11 59 22.0 -0.4
SNAA Sanae 50.80 157 P P 11 59 33.3 -1.1
SNAA Sanae 50.80 157 eP P 11 59 34.2 -0.2
SNAA pmax pmax
comp=Z,21nm,0.9s
SNAA Sanae 50.80 157 P P 11 59 34.4 0.0
comp=Z,2.8nm,0.9s,baz=268,slow=4.7,SNR=8.0
SNAA Sanae 50.80 157 eP P 11 59 34.2 -0.2
comp=Z,21nm,0.9s
APG El Apazote 52.58 338 P P 11 59 43.4 -5.0
comp=Z,10nm,0.9s,baz=162,slow=4.1,SNR=5.0
CELP Cerrillos 53.07 7 eP P 11 59 51.6 -0.1
LRS Lares 53.26 7 eP P 11 59 52.3 -0.8
QSPA South Pole Qui 55.25 180 P P 12 00 07.6 +0.3
comp=Z,5.5nm,0.8s,baz=133,slow=3.9,SNR=11
QSPA South Pole Qui 55.25 180 eP P 12 00 07.8 +0.5
comp=Z,23nm,1.0s
TEIG Tepich 56.93 342 eP P 12 00 19.4 -0.2
comp=Z,36nm,0.7s
SYO Syowa Base 65.08 158⇓eP P 12 01 13.4 -0.9
035A Encino 66.20 335 ⇓P P 12 01 23.3 +1.3
baz=66
034A Hebbronville 66.52 335 ⇓P P 12 01 25.1 +1.0
baz=67
934A Benavides 66.95 335 ⇓P P 12 01 27.8 +0.9
baz=67
933A Laredo 67.23 334 ⇑P P 12 01 29.3 +0.6
baz=68,SNR=8.5
835A Beeville 67.35 336 ⇑P P 12 01 30.5 +1.2
baz=68
834A Tilden 67.44 335 ⇓P P 12 01 31.1 +1.2
baz=68,SNR=9.3
735A Kenedy 67.86 336 ⇑P P 12 01 33.4 +0.9
baz=68,SNR=5.8
833A Chaparral WMA, 67.92 334 ⇑P P 12 01 33.1 +0.2
baz=68,SNR=11
832A Faith Ranch, C 68.09 334 ⇑P P 12 01 34.2 +0.1
baz=68,SNR=8.7
734A La Parita Cree 68.11 335 ⇑P P 12 01 34.7 +0.6
baz=68
636A Smothers Creek 68.19 337 ⇑P P 12 01 35.4 +0.8
baz=68,SNR=14
733A Divot King Ran 68.25 335 ⇓P P 12 01 35.4 +0.4
baz=69
635A Leesville 68.34 336 ⇑P P 12 01 35.9 +0.4
baz=69
732A Laxson Ranch, 68.49 334 ⇑P P 12 01 36.7 +0.2
baz=69,SNR=18
537A Green Hill Far 68.52 338 ⇓P P 12 01 36.5 -0.2
baz=69
536A Bastrop 68.75 337 ⇓P P 12 01 38.5 +0.4
baz=69
GOGA Godfrey 68.82 350 eP P 12 01 37.5 -1.0
GOGA pmax pmax
comp=Z,21nm,1.0s
GOGA Godfrey 68.82 350 eP P 12 01 37.5 -1.0
comp=Z,21nm,1.0s
535A Dale 68.87 337 ⇑P P 12 01 39.0 +0.1
baz=69,SNR=5.5
633A Saathoff Ranch 68.88 335 ⇓P P 12 01 39.2 +0.2
baz=69,SNR=11
438A Sam Houston St 68.89 339 ⇑P P 12 01 39.4 +0.5
baz=69
LRAL Lakeview Retre 69.03 347 eP P 12 01 39.6 -0.2
comp=Z,26nm,1.1s
340A Bronson 69.06 340 ⇑P P 12 01 40.0 0.0
baz=69
632A Uvalde 69.14 335 ⇓P P 12 01 40.9 +0.3
baz=70,SNR=11
437A Phaontom Ranch 69.16 338 ⇑P P 12 01 41.3 +0.7
baz=70
534A Blanco 69.17 336 ⇑P P 12 01 40.3 -0.4
baz=70
339A Huntington 69.17 340 ⇓P P 12 01 41.2 +0.5
baz=70,SNR=6.8
631A Perdido Creek 69.33 334 ⇓P P 12 01 41.8 0.0
baz=70,SNR=7.8
533A Kerrville 69.39 336 ⇓P P 12 01 42.5 +0.3
baz=70,SNR=13
338A Crockett 69.41 339 ⇑P P 12 01 42.9 +0.7
baz=70
337A Centerville 69.54 339 ⇑P P 12 01 43.8 +0.8
baz=70
435B Jarrell 69.57 337 ⇓P P 12 01 44.0 +0.8
baz=70
NATX Nacogdoches 69.60 340 eP P 12 01 44.1 +0.8
comp=Z,35nm,0.9s
532A Rocksprings 69.75 335 ⇓P P 12 01 44.5 +0.1
baz=70,SNR=24
239A Gary 69.79 340 ⇑P P 12 01 45.1 +0.6
baz=70
434A Burnet 69.82 336 ⇑P P 12 01 44.9 +0.1
baz=70,SNR=16
336A Riesel 69.90 338 ⇓P P 12 01 45.4 +0.2
baz=70,SNR=8.5
238A Jacksonville 69.96 340 ⇑P P 12 01 46.1 +0.5
baz=70
335A Moody 69.98 337 ⇑P P 12 01 46.1 +0.4
baz=70
531A Rocksprings 70.00 334 ⇑P P 12 01 46.2 +0.2
baz=70,SNR=17
JCT Junction City 70.03 335 eP P 12 01 46.1 0.0
JCT pmax pmax
comp=Z,35nm,0.9s
JCT Junction City 70.03 335 eP P 12 01 46.1 0.0
comp=Z,35nm,0.9s
JCT Junction City 70.03 335 ⇓P P 12 01 46.4 +0.3
baz=70,SNR=28
433A Art 70.04 336 ⇑P P 12 01 45.8 -0.3
baz=70,SNR=15
CNNC Cliffs of the 70.05 355 eP P 12 01 46.0 -0.1
comp=Z,31nm,1.0s
237A Washetta, Mont 70.16 339 ⇑P P 12 01 47.3 +0.5
baz=70
KMSC Kings Mountain 70.26 352 eP P 12 01 46.9 -0.4
comp=Z,27nm,1.1s
KMSC Kings Mountain 70.26 352 ⇓P P 12 01 47.2 -0.1
baz=71
530A J-C Ranch, Com 70.28 334 ⇑P P 12 01 48.1 +0.5
baz=71,SNR=16
334A Lometa 70.29 337 ⇑P P 12 01 47.9 +0.2
baz=71,SNR=16
432A Menard 70.39 335 ⇑P P 12 01 48.1 -0.2
baz=71,SNR=9.2
TXAR Lajitas Array 70.43 331 P P 12 01 48.6 0.0
comp=Z,5.3nm,0.6s,baz=157,slow=8.9,SNR=65
TXAR pP pP 12 01 57.5 +0.4
comp=Z,10nm,0.8s,baz=157,slow=8.6,SNR=24
TX31 Lajitas Ar. Si 70.43 331 eP P 12 01 48.6 0.0
431A Sonora 70.50 334 ⇓P P 12 01 48.6 -0.4
baz=71,SNR=11
333A Richland Sprin 70.53 336 ⇓P P 12 01 48.7 -0.4
baz=71,SNR=10
529A Stev Forest Ra 70.58 333 ⇑P P 12 01 49.8 +0.3
baz=71,SNR=6.5
WHTX Lake Whitney 70.65 338 eP P 12 01 49.7 -0.1
comp=Z,40nm,0.9s
WHTX Lake Whitney 70.65 338 ⇑P P 12 01 49.7 -0.1
baz=71,SNR=11
137A Heron Place, G 70.70 339 ⇓P P 12 01 50.7 +0.6
baz=71
430A Baggett Ranch, 70.81 334 ⇑P P 12 01 50.8 -0.1
baz=71,SNR=15
332A Millersview 70.83 335 ⇑P P 12 01 50.7 -0.3
baz=71,SNR=9.0
234A Clairette 70.88 337 ⇑P P 12 01 51.2 0.0
baz=71,SNR=12
429A Davenport Ranc 70.91 333 ⇓P P 12 01 51.6 +0.1
baz=71,SNR=8.8
OXF Oxford 70.94 345 eP P 12 01 50.9 -0.5
OXF pmax pmax
comp=Z,40nm,0.9s
OXF Oxford 70.94 345 eP P 12 01 50.9 -0.5
comp=Z,40nm,0.9s
SWET Sewanee 70.97 348 eP P 12 01 51.3 -0.4
comp=Z,144nm,0.6s
331A San Angelo 71.00 335 ⇑P P 12 01 51.8 -0.2
baz=71,SNR=19
TKL Tuckaleechee C 71.08 350 eP P 12 01 51.8 -0.5
TKL Tuckaleechee C 71.08 350 eP P 12 01 51.8 -0.5
233A Rising Star 71.14 336 ⇓P P 12 01 52.5 -0.3
baz=72,SNR=9.0
135A Vickery Place, 71.16 338 ⇑P P 12 01 52.7 -0.2
baz=72
232A Coleman 71.27 336 ⇑P P 12 01 53.4 -0.2
baz=72,SNR=7.3
330A Mertzon 71.36 334 ⇓P P 12 01 53.7 -0.5
baz=72,SNR=8.7
134A White-Moore Ra 71.38 337 ⇑P P 12 01 54.2 -0.1
baz=72
231A Bronte 71.54 335 ⇑P P 12 01 54.8 -0.4
baz=72,SNR=11
133A Hamilton Ranch 71.68 337 ⇓P P 12 01 55.8 -0.2
baz=72,SNR=7.3
329A Wagon Wheel Ra 71.72 334 ⇑P P 12 01 56.3 0.0
baz=72,SNR=9.5
230A Sterling City 71.77 335 ⇓P P 12 01 56.8 +0.1
baz=72
Z35A Perchaven, San 71.83 338 ⇓P P 12 01 57.1 +0.2
baz=72,SNR=8.8
UALR University of 71.85 343 eP P 12 01 56.4 -0.6
comp=Z,12nm,0.8s
ABTX Abilene, Hawle 71.94 336 eP P 12 01 57.1 +0.1
comp=Z,47nm,1.0s
ABTX Abilene, Hawle 71.94 336 ⇓P P 12 01 57.5 -0.1
baz=72,SNR=7.0
MIAR Mount Ida 71.94 342 eP P 12 01 56.9 -0.6
MIAR pmax pmax
comp=Z,10.0nm,1.0s
MIAR Mount Ida 71.94 342 eP P 12 01 56.9 -0.6
comp=Z,10nm,1.0s
Z34A Collier Ranch, 72.07 338 ⇑P P 12 01 58.3 -0.1
baz=72,SNR=7.7
229A Bryant Ranch, 72.09 334 ⇓P P 12 01 58.6 0.0
baz=72,SNR=5.5
WVT Waverly 72.19 347 eP P 12 01 57.3 -1.7
WVT pmax pmax
comp=Z,52nm,0.9s
WVT Waverly 72.19 347 eP P 12 01 57.3 -1.7
comp=Z,52nm,0.9s
131A Roby 72.23 336 ⇑P P 12 01 59.3 -0.1
baz=73,SNR=5.0
Z33A Whitaker Ranch 72.26 337 ⇑P P 12 01 59.5 0.0
baz=73,SNR=11
URVA University of 72.35 356 eP P 12 02 00.7 +0.9
130A Snyder 72.36 335 ⇑P P 12 01 59.8 -0.3
baz=73,SNR=5.8
JSRW J. Sargeant Re 72.49 356 eP P 12 02 01.2 +0.5
228A UT Block 9, Go 72.51 333 ⇓P P 12 02 00.9 -0.2
baz=73,SNR=8.0
Z32A Haskell 72.51 336 ⇓P P 12 02 00.9 -0.1
baz=73,SNR=11
Y34A Reagan Ranch, 72.56 338 ⇓P P 12 02 01.4 +0.1
baz=73,SNR=6.5
129A Stewart Farms, 72.71 334 ⇓P P 12 02 02.3 0.0
baz=73
Z31A Sharp Cattle R 72.74 336 ⇓P P 12 02 02.4 0.0
baz=73,SNR=11
Y33A Hilltop Ranch, 72.88 337 ⇑P P 12 02 03.0 -0.2
baz=73,SNR=9.0
128A Castleberry Fa 72.92 334 ⇑P P 12 02 03.4 -0.2
baz=73,SNR=9.6
Z30A Sanderson Ranc 73.05 335 ⇑P P 12 02 04.0 -0.2
baz=73,SNR=7.7
PARMO Parma 73.08 346 eP P 12 02 04.2 -0.1
Y32A R-V Farms, Ver 73.14 337 ⇓P P 12 02 04.2 -0.5
baz=74,SNR=6.8
X34A Smith Ranch, M 73.19 338 ⇑P P 12 02 04.9 0.0
baz=74,SNR=5.6
MNTX Cornudas Mount 73.20 331 eP P 12 02 04.0 -1.2
comp=Z,14nm,0.9s
MNTX ePP PP 12 04 47.9 -0.9
Z29A Hungry Hill Ra 73.22 335 ⇑P P 12 02 04.9 -0.4
baz=74,SNR=11
127A Arkansas Junct 73.29 333 ⇓P P 12 02 05.4 -0.3
baz=74
X33A Lawton 73.33 338 ⇑P P 12 02 04.7 -1.2
baz=74
PBMO Poplar Bluff 73.34 345 eP P 12 02 05.3 -0.4
comp=Z,20nm,0.8s
Y31A Rekieta Farm, 73.37 336 ⇑P P 12 02 06.0 -0.1
baz=74,SNR=7.6
X32A Elmer 73.47 337 ⇓P P 12 02 06.1 -0.6
baz=74
Z28A Tucker Farm, M 73.49 334 ⇓P P 12 02 06.5 -0.4
baz=74
Y30A Stafford Cattl 73.50 336 ⇑P P 12 02 06.4 -0.6
baz=74
Y29A Porterfield Fa 73.75 335 ⇓P P 12 02 08.3 -0.1
baz=74,SNR=8.4
W34A Bridge Creek, 73.76 339 eP P 12 02 08.0 -0.4
comp=Z,16nm,0.8s
W34A Bridge Creek, 73.76 339 ⇑P P 12 02 07.7 -0.7
baz=74
Z27A Tatum 73.81 334 ⇓P P 12 02 08.6 -0.2
baz=74,SNR=7.6
TUL1 Tulsa 73.82 340 eP P 12 02 08.0 -0.6
comp=Z,28nm,0.8s
TUL1 Tulsa 73.82 340 ⇓P P 12 02 08.2 -0.5
baz=74,SNR=10.0
X31A McDonald Ranch 73.89 337 ⇑P P 12 02 09.1 0.0
baz=74,SNR=7.5
W33A Caddo, Fort Co 73.89 338 ⇓P P 12 02 09.7 +0.6
baz=74,SNR=13
SIUC Southern Illin 73.99 346 eP P 12 02 08.5 -1.1
comp=Z,48nm,1.3s
Y28A McKinney Farm, 74.00 335 ⇓P P 12 02 09.7 -0.2
baz=74,SNR=5.5
X30A Coker Ranch, T 74.01 336 ⇓P P 12 02 09.7 -0.2
baz=74
Z26A Caprock 74.06 333 ⇓P P 12 02 10.4 +0.1
baz=74
W32A Sentinel 74.11 337 ⇓P P 12 02 10.7 +0.3
baz=74,SNR=14
V34A Guthrie 74.24 339 eP P 12 02 10.5 -0.6
comp=Z,27nm,1.0s
V34A Guthrie 74.24 339 ⇑P P 12 02 10.7 -0.4
baz=75
MSTX Muleshoe 74.24 334 eP P 12 02 11.2 -0.2
comp=Z,39nm,0.9s
MSTX Muleshoe 74.24 334 ⇓P P 12 02 11.1 -0.2
baz=75,SNR=10.0
X29A Tulia 74.30 335 ⇑P P 12 02 11.7 +0.1
baz=75,SNR=5.1
Y27A Causey 74.30 334 ⇑P P 12 02 10.9 -0.8
baz=75
Z25A Roswell 74.34 332 ⇓P P 12 02 11.9 0.0
baz=75,SNR=7.1
W31A Holland Ranch, 74.39 337 ⇑P P 12 02 11.5 -0.5
baz=75
V33A Lossen Ranch, 74.45 338 ⇑P P 12 02 12.3 0.0
baz=75,SNR=5.6
X28A Dimmitt 74.53 335 ⇑P P 12 02 13.0 0.0
baz=75
319A Douglas 74.55 328 ⇓P P 12 02 13.4 +0.2
baz=75
Y26A Elida 74.58 333 ⇑P P 12 02 13.3 0.0
baz=75
W30A Crocket Farms 74.59 336 ⇑P P 12 02 13.2 -0.1
baz=75
V32A Arapaho 74.59 338 ⇑P P 12 02 13.3 0.0
baz=75
Z24A Sheeppen Canyo 74.64 332 ⇓P P 12 02 14.5 +0.7
baz=75,SNR=14
AMTX Amarillo 74.69 335 eP P 12 02 14.0 +0.2
comp=Z,43nm,1.0s
AMTX Amarillo 74.69 335 ⇑P P 12 02 13.7 -0.1
baz=75
U34A Anderson Ranch 74.80 339 eP P 12 02 14.0 -0.3
comp=Z,31nm,1.0s
U34A Anderson Ranch 74.80 339 ⇓P P 12 02 14.5 +0.1
baz=75
W29A Amraillo 74.89 336 ⇓P P 12 02 14.9 -0.1
baz=75
V31A Spring Creek L 74.89 337 ⇓P P 12 02 15.5 +0.5
baz=75
Y25A Mesa, Roswell 74.91 333 ⇓P P 12 02 14.7 -0.5
baz=75
121A Cookes Peak, D 74.91 330 eP P 12 02 16.0 +0.7
comp=Z,26nm,0.9s
121A Cookes Peak, D 74.91 330 ⇓P P 12 02 16.5 +1.2
baz=75,SNR=7.3
BLO Bloomington 74.93 349 eP P 12 02 14.1 -0.9
BLO pmax pmax
comp=Z,14nm,0.8s
BLO Bloomington 74.93 349 eP P 12 02 14.1 -0.9
comp=Z,14nm,0.8s
X27A F and S Farms, 74.97 334 ⇓P P 12 02 15.7 +0.2
baz=75
U33A Lingo Farm, Me 74.97 339 ⇑P P 12 02 15.4 +0.1
baz=75
SLM Saint Louis 75.09 346 eP P 12 02 15.5 -0.4
SLM pmax pmax
comp=Z,36nm,0.7s
SLM Saint Louis 75.09 346 eP P 12 02 15.5 -0.4
comp=Z,36nm,0.7s
X26A CR and CF Fran 75.14 334 ⇓P P 12 02 17.2 +0.6
baz=76,SNR=7.0
U32A Winter Ranch, 75.19 338 ⇓P P 12 02 16.6 -0.1
baz=76
Y24A Capitan 75.19 332 ⇑P P 12 02 17.2 +0.3
baz=76,SNR=10
Z22A Elephant Butte 75.20 331 ⇑P P 12 02 17.7 +0.8
baz=76,SNR=7.7
W27A Bowe Ranch, En 75.33 334 ⇓P P 12 02 17.8 +0.2
baz=76,SNR=7.9
SSPA Standing Stone 75.42 356 eP P 12 02 18.0 +0.2
comp=Z,186nm,2.5s
X25A Clemmons Ranch 75.43 333 ⇓P P 12 02 18.1 -0.1
baz=76
Y23A Lovelace Mesa, 75.44 332 ⇓P P 12 02 18.8 +0.5
baz=76,SNR=7.8
U31A Nine Bar Ranch 75.44 337 ⇑P P 12 02 18.5 +0.4
baz=76
ACSO Alum Creek Sta 75.48 352 eP P 12 02 17.6 -0.6
comp=Z,38nm,0.6s
W26A Owens Ranch, T 75.60 334 ⇓P P 12 02 19.5 +0.3
baz=76,SNR=7.5
T33A Patterson Ranc 75.61 339 ⇑P P 12 02 19.5 +0.5
baz=76,SNR=6.4
V28A Channing 75.66 335 ⇑P P 12 02 20.3 +0.9
baz=76,SNR=9.1
ODNJ Ogdensburg 75.73 358 eP P 12 02 20.5 +1.0
comp=Z,302nm,2.8s
X24A Lazy VL Ranch, 75.75 332 ⇑P P 12 02 21.1 +0.9
baz=76,SNR=5.0
DBIC Dimbokro 75.83 71 eP P 12 02 24.9 +4.1

DBIC pmax pmax
comp=Z,22nm,0.8s
DBIC Dimbokro 75.83 71 P P 12 02 19.6 -1.3
comp=Z,6.8nm,0.7s,baz=197,slow=7.0,SNR=8.5
DBIC Dimbokro 75.83 71 eP P 12 02 24.9 +4.1
comp=Z,22nm,0.8s
U30A WK&E Inc. Balk 75.84 337 ⇓P P 12 02 21.0 +0.6
baz=76
BNM Barren Site 75.85 331 eP P 12 02 21.7 +0.9
V27A Dan Oppiter Fa 75.87 335 ⇓P P 12 02 21.3 +0.6
baz=76,SNR=6.4
T32A Huddler Ranch, 75.90 338 ⇓P P 12 02 21.2 +0.4
baz=76
W25A X Bar L Ranch, 75.97 333 ⇑P P 12 02 21.4 +0.1
baz=76,SNR=9.4
LPM Los Pinos Moun 76.00 331 eP P 12 02 18.9 -2.6
TUC Tucson 76.01 327 eP P 12 02 22.3 +0.8
TUC pmax pmax
comp=Z,10.0nm,1.0s
TUC Tucson 76.01 327 eP P 12 02 22.3 +0.8
comp=Z,10nm,1.0s
T31A Randall Ranch, 76.06 338 ⇑P P 12 02 21.7 0.0
baz=76
U28A Mallet 76.23 336 ⇓P P 12 02 22.7 0.0
baz=77
V26A Tequesquite Ra 76.24 334 ⇓P P 12 02 22.6 -0.2
baz=77,SNR=5.4
LAZ Ladron 76.28 331 eP P 12 02 24.2 +1.0
W24A Lazy 6 Ranch, 76.32 333 ⇓P P 12 02 23.9 +0.5
baz=77,SNR=11
S32A Newby Ranch, P 76.39 339 ⇓P P 12 02 23.5 +0.1
baz=77
U27A Thompson Grove 76.47 335 ⇓P P 12 02 24.4 +0.3
baz=77,SNR=8.6
S31A Mullinville 76.48 338 ⇑P P 12 02 24.3 +0.3
baz=77
ANMO Albuquerque 76.48 332 eP P 12 02 24.7 +0.4
ANMO pmax pmax
comp=Z,20nm,0.9s
ANMO Albuquerque 76.48 332 eP P 12 02 24.7 +0.4
comp=Z,20nm,0.9s
W23A Werner Place, 76.56 332 ⇓P P 12 02 25.3 +0.6
baz=77,SNR=9.2
V25A Rancho No Teng 76.58 334 ⇑P P 12 02 25.3 +0.4
baz=77,SNR=12
T29A Hugoton 76.62 337 ⇑P P 12 02 25.7 +0.8
baz=77
214A Organ Pipe Nat 76.63 326 ⇓P P 12 02 24.8 -0.1
baz=77
R33A Olander Ranch, 76.67 340 ⇓P P 12 02 25.3 +0.2
baz=77
V24A Rampart Ranch, 76.72 333 ⇓P P 12 02 26.2 +0.5
baz=77,SNR=7.3
U26A Atchley Ranch, 76.77 335 ⇓P P 12 02 26.0 +0.1
baz=77
S30A Montezuma 76.80 337 ⇓P P 12 02 26.2 +0.4
baz=77
T28A Walsh 76.86 336 ⇑P P 12 02 26.5 +0.3
baz=77,SNR=13
R32A Long Quarter, 76.99 339 ⇓P P 12 02 27.1 +0.2
baz=77
S29A Ulysses 76.99 337 ⇑P P 12 02 27.1 +0.2
baz=77,SNR=6.3
U25A Circle Dot Ran 77.01 334 ⇓P P 12 02 27.8 +0.6
baz=77,SNR=8.3
T27A Campo 77.01 336 ⇓P P 12 02 27.6 +0.5
baz=77,SNR=14
KSU1 Kansas State U 77.03 341 eP P 12 02 26.6 -0.4
comp=Z,17nm,0.8s
KSU1 Kansas State U 77.03 341 ⇑P P 12 02 26.8 -0.2
baz=77
V23A Ortiz Mt. (NFS 77.08 332 ⇓P P 12 02 28.2 +0.5
baz=77
R31A Burdett 77.11 338 ⇓P P 12 02 27.6 +0.1
baz=78
S28A Manter 77.22 336 ⇓P P 12 02 28.8 +0.5
baz=78,SNR=14
Q33A Connelly Farm, 77.27 340 ⇑P P 12 02 28.5 +0.1
baz=78
U24A Moreno Valley 77.33 333 ⇓P P 12 02 30.2 +1.1
baz=78,SNR=6.1
R30A Dighton 77.33 338 ⇑P P 12 02 29.1 +0.3
baz=78
TRY Troy 77.36 359 eP P 12 02 30.1 +1.3
comp=Z,49nm,1.1s
T26A Comanche Natio 77.41 335 ⇑P P 12 02 30.1 +0.6
baz=78,SNR=8.0
Q32A Meitler Ranch, 77.47 339 ⇑P P 12 02 29.9 +0.3
baz=78
V22A San Miguel Ran 77.51 332 ⇓P P 12 02 31.3 +1.2
baz=78,SNR=20
X18A Snowflake 77.54 329 ⇓P P 12 02 31.4 +1.2
baz=78,SNR=6.1
AAM Ann Arbor 77.60 352 esP sP 12 02 38.6 -3.1
U23A El Rito 77.60 333 ⇓P P 12 02 31.6 +1.0
baz=78,SNR=12
P33A Williams Farm, 77.64 340 ⇓P P 12 02 30.6 +0.1
baz=78
T25A Trinidad 77.67 334 ⇑P P 12 02 32.0 +1.1
baz=78,SNR=19
Q31A Ellis 77.73 339 ⇑P P 12 02 31.3 +0.3
baz=78
113A Mohawk Valley, 77.75 325 ⇓P P 12 02 31.5 +0.3
baz=78
S26A Kim 77.77 335 ⇓P P 12 02 32.3 +0.9
baz=78,SNR=18
R28A Tribune 77.87 337 ⇓P P 12 02 32.3 +0.4
baz=78,SNR=12
U22A Llaves 77.90 332 ⇑P P 12 02 33.2 +1.0
baz=78,SNR=5.9
T24B San Luis 77.95 334 ⇑P P 12 02 33.7 +1.1
baz=78,SNR=11
Q30A Quinter 77.95 338 ⇑P P 12 02 32.9 +0.6
baz=78,SNR=14
W18A Petrified Fore 77.95 329 eP P 12 02 33.6 +1.1
comp=Z,25nm,0.9s
W18A Petrified Fore 77.95 329 ⇑P P 12 02 33.5 +0.9
baz=78
P32A Huiting Farm, 78.07 340 ⇓P P 12 02 33.0 +0.1
baz=78
X16A Lo Mia Camp, P 78.08 328 ⇓P P 12 02 34.0 +0.8
baz=78,SNR=9.0
Q29A Oakley 78.11 338 ⇓P P 12 02 33.4 +0.2
baz=78,SNR=7.5
S25A Robets Cordova 78.14 335 ⇓P P 12 02 34.1 +0.6
baz=78
R27A Eads 78.14 336 ⇑P P 12 02 34.0 +0.6
baz=78,SNR=15
T23A Casias Ranch, 78.17 333 ⇓P P 12 02 34.5 +0.7
baz=78,SNR=9.2
P31A Stockton 78.20 339 ⇑P P 12 02 33.9 +0.3
baz=79
Y14A Wickenburg 78.38 327 ⇓P P 12 02 34.8 +0.1
baz=79
R26A Arlington 78.38 336 ⇓P P 12 02 35.4 +0.7
baz=79,SNR=11
S24A Houchin Ranch, 78.40 334 ⇑P P 12 02 36.2 +1.1
baz=79,SNR=16
P30A Selden 78.48 338 ⇑P P 12 02 36.1 +0.9
baz=79
GLA Glamis 78.48 325 ⇓P P 12 02 36.1 +0.8
baz=79
R25A Fountain Ranch 78.53 335 ⇑P P 12 02 36.4 +0.8
baz=79
Q28A Sharon Springs 78.53 337 ⇑P P 12 02 36.0 +0.4
baz=79
O32A Brockman Farm, 78.57 340 ⇓P P 12 02 36.0 +0.4
baz=79
SDCO Great Sand Dun 78.60 334 eP P 12 02 36.5 +0.3
comp=Z,12nm,0.9s
MDV Middlebury 78.62 359 eP P 12 02 35.8 0.0
comp=Z,27μm,0.6s
P29A Atwood 78.74 338 ⇓P P 12 02 37.3 +0.6
baz=79,SNR=11
KSCO Kaye Shedlock' 78.75 336 eP P 12 02 37.3 +0.6
comp=Z,28nm,1.1s
KSCO Kaye Shedlock' 78.75 336 ⇑P P 12 02 37.1 +0.4
baz=79,SNR=5.3
S23A Nye Farm, Mont 78.75 333 ⇓P P 12 02 37.8 +0.9
baz=79
O31A Woolen Ranch, 78.77 339 ⇓P P 12 02 37.2 +0.4
baz=79
SWSC Sam W. Stewart 78.86 324 ⇑P P 12 02 37.7 +0.4
baz=79
R24A Sanders Place, 78.89 334 ⇑P P 12 02 38.9 +1.2
baz=79,SNR=23
Y12C Blythe 78.92 325 ⇓P P 12 02 38.5 +0.9
baz=79

Q26A Hugo 78.96 336 ⇓P P 12 02 38.8 +0.8
baz=79,SNR=5.5
P28A Saint Francis 78.97 337 ⇓P P 12 02 38.5 +0.6
baz=79,SNR=5.6
WUAZ Wupatki 78.99 329 eP P 12 02 39.1 +0.9
comp=Z,18nm,1.0s
WUAZ Wupatki 78.99 329 ⇑P P 12 02 39.1 +0.9
baz=79,SNR=7.3
O30A MW Ranch, Wils 79.01 339 ⇓P P 12 02 38.2 +0.2
baz=79
N32A Stulken Farm, 79.05 340 ⇓P P 12 02 38.6 +0.4
baz=79
S22A 4UR Ranch, Cre 79.09 333 ⇓P P 12 02 39.7 +0.8
baz=79,SNR=7.6
R23A Moffat 79.11 334 ⇓P P 12 02 39.4 +0.5
baz=80,SNR=9.4
O29A 4D Ranch, Culb 79.18 338 ⇑P P 12 02 39.9 +0.9
baz=80
Q25A Bedland, Calha 79.20 335 ⇓P P 12 02 39.9 +0.6
baz=80,SNR=7.3
JFWS Jewell Farm 79.22 347 eP P 12 02 38.8 -0.3
JFWS Jewell Farm 79.22 347 eP P 12 02 38.8 -0.3
P27A Ficken Ranch, 79.22 337 ⇓P P 12 02 40.1 +0.8
baz=80
MVCO Mesa Verde 79.26 331 eP P 12 02 40.2 +0.4
comp=Z,16nm,1.0s
MVCO Mesa Verde 79.26 331 ⇓P P 12 02 40.4 +0.7
baz=80,SNR=8.1
BC3 Big Chuckawall 79.28 325 ⇑P P 12 02 40.6 +0.8
baz=80
TSUM Tsumeb 79.28 106 eP P 12 02 40.8 +0.5
comp=Z,70nm,2.0s
109C Camp Elliot, M 79.45 323 ⇓P P 12 02 41.0 +0.4
baz=80
P26A Davis Ranch, A 79.48 336 ⇓P P 12 02 41.5 +0.7
baz=80
O28A Krutsinger Ran 79.48 338 ⇓P P 12 02 41.3 +0.6
baz=80,SNR=7.0
Q24A Divide 79.56 335 ⇓P P 12 02 42.1 +0.7
baz=80
BGNE Belgrade 79.61 341 ⇓P P 12 02 41.1 -0.1
baz=80
P25A Willow Gulch B 79.71 336 ⇑P P 12 02 43.6 +1.5
baz=80
PFO Pinyon Flat Ob 79.72 324 eP P 12 02 44.0 +1.8
PFO pmax pmax
comp=Z,21nm,1.1s
PFO Pinyon Flat Ob 79.72 324 P P 12 02 42.7 +0.5
comp=Z,7.6nm,0.8s,baz=147,slow=4.9,SNR=5.6
PFO Pinyon Flat Ob 79.72 324 eP P 12 02 44.0 +1.8
comp=Z,21nm,1.1s
PFO Pinyon Flat Ob 79.72 324 ⇑P P 12 02 43.2 +1.1
baz=80
W13A Hualapai Mount 79.74 327 ⇓P P 12 02 43.4 +1.0
baz=80
O27A Beecher Island 79.77 337 ⇑P P 12 02 43.4 +1.1
baz=80,SNR=7.7
M31A Lambtecht Ranc 79.77 340 ⇑P P 12 02 42.6 +0.4
baz=80
BOSA Boshof 79.92 118 eP P 12 02 44.1 +0.4
BOSA pmax pmax
comp=Z,21nm,0.8s
BOSA Boshof 79.92 118 P P 12 02 42.8 -0.9
comp=Z,7.0nm,0.6s,baz=243,slow=3.7,SNR=20
BOSA Boshof 79.92 118 eP P 12 02 44.1 +0.4
comp=Z,20nm,0.8s
N28A Pribbeno Ranch 79.92 338 ⇑P P 12 02 43.4 +0.3
baz=80
P24A Kohler Place, 79.97 335 ⇓P P 12 02 44.2 +0.7
baz=80
MURC Murrieta 80.07 323 ⇓P P 12 02 45.0 +1.0
baz=80
O26A Horse Wrangler 80.08 337 ⇑P P 12 02 44.9 +0.8
baz=80,SNR=8.0
PV01 Paradox Valley 80.09 332 eP P 12 02 44.8 +0.6
comp=Z,969nm,0.9s
U15A North Rim 80.15 328 ⇑P P 12 02 45.8 +1.1
baz=80,SNR=14
P23A Jefferson 80.17 334 ⇓P P 12 02 45.4 +0.6
baz=80
M30A Dale-Ortello V 80.21 339 ⇓P P 12 02 45.2 +0.6
baz=81
PV05 Paradox Valley 80.25 331 eP P 12 02 45.6 +0.5
GMRC Granite Mounta 80.30 325 ⇑P P 12 02 46.4 +1.1
baz=81
N27A Anderson Farm, 80.34 337 ⇓P P 12 02 46.1 +0.8
baz=81,SNR=5.6
M29A Burnside Ranch 80.36 339 ⇑P P 12 02 46.1 +0.7
baz=81
SMCO Snowmass 80.40 333 eP P 12 02 46.8 +0.7
comp=Z,16nm,0.9s
PV04 Paradox Valley 80.45 332 eP P 12 02 46.7 +0.6
ISCO Idaho Springs 80.47 335 eP P 12 02 46.6 +0.3
ISCO pmax pmax
comp=Z,7.0nm,0.8s
ISCO Idaho Springs 80.47 335 eP P 12 02 46.6 +0.3
comp=Z,6.7nm,0.8s
ISCO Idaho Springs 80.47 335 ⇓P P 12 02 46.7 +0.4
baz=81,SNR=6.2
PV10 Paradox Valley 80.48 332 eP P 12 02 46.2 -0.2
comp=Z,349nm,0.9s
L31A Butterfield Fa 80.51 340 ⇑P P 12 02 46.4 +0.3
baz=81,SNR=7.2
L30A Spencer Herefo 80.54 340 ⇑P P 12 02 47.0 +0.7
baz=81
O24A Longmont 80.57 335 ⇑P P 12 02 48.0 +1.4
baz=81
N26A Koester Ranch, 80.58 337 ⇑P P 12 02 47.4 +0.7
baz=81
HEC Hector,Ludlow 80.65 325 ⇑P P 12 02 48.4 +1.3
baz=81
P22A Eagle 80.69 334 ⇑P P 12 02 48.2 +0.8
baz=81,SNR=6.1
BFSC Mount Baldy Ra 80.81 323 ⇑P P 12 02 49.0 +0.9
baz=81
KNB Kanab 80.88 328 eP P 12 02 49.7 +1.3
KNB pmax pmax
comp=Z,21nm,0.9s
KNB Kanab 80.88 328 eP P 12 02 49.7 +1.3
comp=Z,21nm,0.9s
O23A Lake Granby, G 80.94 335 ⇑P P 12 02 49.3 +0.5
baz=81,SNR=12
TUQ Turquoise Moun 80.96 325 ⇓P P 12 02 49.4 +0.6
baz=81
O22A Kremmling 81.12 334 ⇑P P 12 02 50.2 +0.4
baz=82,SNR=8.9
N24A Carr 81.13 336 ⇓P P 12 02 49.9 +0.3
baz=82
K30A Basset 81.18 340 ⇓P P 12 02 50.3 +0.6
baz=82,SNR=6.5
GSC Goldstone 81.26 325 eP P 12 02 51.5 +1.1
GSC pmax pmax
comp=Z,9.0nm,0.9s
GSC Goldstone 81.26 325 eP P 12 02 51.5 +1.1
comp=Z,9.1nm,0.9s
GSC Goldstone 81.26 325 ⇓P P 12 02 51.4 +1.0
baz=82
ECSD EROS Data Cent 81.38 343 eP P 12 02 50.2 -0.5
comp=Z,30nm,0.8s
ECSD EROS Data Cent 81.38 343 ⇓P P 12 02 50.5 -0.2
baz=82,SNR=18
M25A Palm-Egli Farm 81.40 337 ⇑P P 12 02 51.4 +0.3
baz=82
K29A Lazy Trails An 81.46 340 ⇓P P 12 02 51.7 +0.5
baz=82,SNR=6.8
SHPR Sheep Range 81.48 326 eP P 12 02 52.6 +0.9
N23A Red Feather La 81.56 335 ⇓P P 12 02 52.8 +0.7
baz=82
CCUT Cedar City 81.56 328 eP P 12 02 53.3 +1.2
comp=Z,15nm,0.9s
N22A Wattenberg Ran 81.65 335 ⇑P P 12 02 53.3 +0.7
baz=82
M24A Cheyenne 81.68 336 ⇓P P 12 02 53.1 +0.5
baz=82
SRU San Rafael 81.70 331 eP P 12 02 53.1 +0.3
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael 81.70 331 eP P 12 02 53.1 +0.3
comp=Z,9.4nm,0.8s
O20A White River Ci 81.71 333 eP P 12 02 53.3 +0.5
comp=Z,14nm,1.0s
O20A White River Ci 81.71 333 ⇓P P 12 02 52.9 +0.1
baz=82
K28A Ten Mile Ranch 81.72 339 ⇓P P 12 02 53.6 +1.0
baz=82,SNR=12
PHWY Pilot Hill 81.75 336 eP P 12 02 53.5 +0.4
J30A Dallas 81.75 340 ⇑P P 12 02 52.9 +0.2
baz=82

MVU Marysvale 81.87 330 eP P 12 02 54.7 +1.0
comp=Z,17nm,1.1s
SPMN St. Paul 81.94 346 eP P 12 02 52.8 -0.8
comp=Z,13nm,0.6s
SPMN St. Paul 81.94 346 ⇓P P 12 02 52.8 -0.8
baz=82,SNR=6.0
K27A Flueckinger Fa 81.98 338 ⇓P P 12 02 54.7 +0.7
baz=82,SNR=5.2
M23A Laramie 81.99 335 ⇑P P 12 02 54.7 +0.4
baz=82
L25A Engebretsen Ra 82.02 337 ⇓P P 12 02 55.5 +1.2
baz=82
J29A Okreek 82.06 340 ⇑P P 12 02 54.6 +0.3
baz=82,SNR=13
TMUT Trail Mountain 82.14 331 eP P 12 02 55.9 +0.7
comp=Z,12nm,0.8s
LBTB Lobatse 82.21 115 eP P 12 02 56.2 +0.3
LBTB pmax pmax
comp=Z,16nm,1.0s
LBTB Lobatse 82.21 115 eP P 12 02 56.2 +0.3
comp=Z,16nm,1.0s
M22A Cedar Creek Ra 82.23 335 ⇓P P 12 02 55.9 +0.4
baz=83
FURC Furnace Creek, 82.24 325 ⇓P P 12 02 55.5 +0.2
baz=83
I30A Oacoma 82.28 341 ⇓P P 12 02 55.4 0.0
baz=83,SNR=15
N20A Spence Gulch, 82.33 333 ⇑P P 12 02 56.4 +0.3
baz=83
J28A Allard Ranch, 82.34 339 ⇓P P 12 02 56.2 +0.4
baz=83,SNR=6.4
ISA Isabella 82.36 324 eP P 12 02 56.6 +0.5
ISA pmax pmax
comp=Z,11nm,1.0s
ISA Isabella 82.36 324 eP P 12 02 56.6 +0.5
comp=Z,11nm,1.0s
ISA Isabella 82.36 324 ⇓P P 12 02 57.1 +0.9
baz=83
J27A Elkhorn Farm, 82.41 339 ⇑P P 12 02 57.0 +0.8
baz=83,SNR=8.8
L23A Garrett 82.56 336 ⇑P P 12 02 57.1 -0.1
baz=83
I29A Vivian Onida 82.62 340 ⇑P P 12 02 57.2 -0.1
baz=83
BRSD Miller 82.64 341 eP P 12 02 57.0 -0.4
comp=Z,29nm,0.8s
BRSD Miller 82.64 341 ⇓P P 12 02 56.9 -0.4
baz=83,SNR=7.9
L22A Ellis Ranch, M 82.73 335 ⇑P P 12 02 58.9 +0.8
baz=83
J26A Sides Ranch, S 82.79 338 ⇑P P 12 02 58.9 +0.7
baz=83,SNR=5.6
VES Vestal, Richgr 82.80 323 ⇓P P 12 02 59.1 +0.8
baz=83
K24A Anderson Ranch 82.81 337 ⇓P P 12 02 59.3 +0.9
baz=83
I28A Midland 82.85 340 ⇓P P 12 02 58.6 +0.2
baz=83,SNR=8.1
MPU Maple Canyon 82.92 331 eP P 12 02 59.7 +0.5
comp=Z,14nm,1.0s
J25A Sunshine Ranch 83.08 338 ⇓P P 12 03 00.1 +0.4
baz=84,SNR=5.3
K23A Bowen Ranch, D 83.10 336 ⇑P P 12 03 00.1 +0.1
baz=84,SNR=5.8
DAU Daniels Canyon 83.11 331 eP P 12 03 00.9 +0.7
DAU Daniels Canyon 83.11 331 eP P 12 03 00.9 +0.7
H29A Onida 83.15 340 ⇑P P 12 02 59.8 -0.2
baz=84,SNR=7.7
I27A Quinn 83.17 339 ⇑P P 12 03 00.4 +0.3
baz=84
R11A Troy Canyon, C 83.19 327 eP P 12 03 01.5 +0.9
comp=Z,7.8nm,0.8s
R11A Troy Canyon, C 83.19 327 ⇓P P 12 03 01.2 +0.7
baz=84
J24A Dixon Ranch, L 83.30 337 ⇑P P 12 03 01.8 +1.0
baz=84,SNR=5.4
K22A Casper 83.31 335 eP P 12 03 01.5 +0.4
comp=Z,33nm,1.3s
K22A Casper 83.31 335 ⇓P P 12 03 01.4 +0.4
baz=84,SNR=5.5
G30A Faulkton 83.33 341 ⇑P P 12 03 00.7 -0.2
baz=84,SNR=5.0
JLU Jordanelle 83.35 331 eP P 12 03 01.6 +0.2
comp=Z,10nm,0.8s
TIN Tinemaha 83.36 325 ⇑P P 12 03 02.0 +0.7
baz=84
I26A New Underwood 83.37 338 ⇓P P 12 03 01.6 +0.4
baz=84
CTU Camp Tracy 83.54 331 eP P 12 03 02.5 +0.2
comp=Z,7.9nm,1.0s
K21A Alcova 83.55 335 ⇑P P 12 03 02.3 0.0
baz=84,SNR=11
DUG Dugway 83.55 330 eP P 12 03 03.0 +0.7
DUG pmax pmax
comp=Z,28nm,1.4s
DUG Dugway 83.55 330 eP P 12 03 03.0 +0.7
comp=Z,28nm,1.4s
DUG Dugway 83.55 330 ⇑P P 12 03 02.7 +0.5
baz=84,SNR=12
G29A Hoven 83.60 341 ⇓P P 12 03 01.9 -0.3
baz=84,SNR=5.5
I25A Rochford 83.63 338 ⇑P P 12 03 03.0 +0.4
baz=84,SNR=7.6
H27A Howes 83.69 339 ⇓P P 12 03 02.5 -0.3
baz=84,SNR=6.1
TPH Tonopah 83.71 326 eP P 12 03 03.9 +0.7
TPH pmax pmax
comp=Z,10.0nm,0.9s
TPH Tonopah 83.71 326 eP P 12 03 03.9 +0.7
comp=Z,10nm,0.9s
G28A Parade 83.76 340 ⇓P P 12 03 03.3 +0.1
baz=84,SNR=15
I24A Kuemmerle Ranc 83.76 337 ⇓P P 12 03 03.2 0.0
baz=84
RSSD Black Hills 83.81 338 eP P 12 03 03.6 0.0
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD Black Hills 83.81 338 eP P 12 03 03.6 0.0
comp=Z,9.8nm,0.8s
F30A Leola 83.96 342 ⇓P P 12 03 03.9 -0.2
baz=84
J22A Midwest 83.97 336 ⇑P P 12 03 03.8 -0.6
baz=84
MLAC Mammoth Lakes 84.11 325 ⇑P P 12 03 06.1 +0.8
baz=84
H25A Fruitdale 84.13 338 ⇓P P 12 03 05.0 -0.1
baz=84
F29A Eureka 84.17 341 ⇑P P 12 03 04.9 -0.2
baz=84,SNR=7.8
J21A Lysite 84.24 335 ⇓P P 12 03 05.9 0.0
baz=85
HWUT Hardware Ranch 84.25 332 eP P 12 03 05.8 -0.1
comp=Z,31nm,1.3s
BGU Big Grassy Mou 84.25 330 eP P 12 03 06.0 +0.1
comp=Z,10nm,1.5s
G27A Dupree 84.33 340 ⇓P P 12 03 06.1 +0.1
baz=85
SPUT South Promonto 84.34 331 eP P 12 03 06.4 0.0
comp=Z,17nm,1.0s
I22A 9 Mile Ranch, 84.40 336 ⇓P P 12 03 06.4 -0.1
baz=85,SNR=6.7
F28A McLaughlin 84.44 341 ⇑P P 12 03 06.4 -0.1
baz=85
G26A Maurine 84.44 339 ⇓P P 12 03 06.3 -0.3
baz=85,SNR=5.7
J20A Shoshoni 84.47 335 ⇑P P 12 03 07.1 +0.2
baz=85
BW06 Boulder Array 84.49 334 eP P 12 03 06.8 -0.4
comp=Z,10.0nm,1.1s
PDAR Pinedale Array 84.49 334 P P 12 03 06.3 -0.8
comp=Z,1.5nm,0.7s,baz=157,slow=4.9,SNR=13
PDAR pP pP 12 03 15.5 -0.2
comp=Z,3.7nm,0.9s,baz=153,slow=5.1,SNR=10.0
NV01 Mina Array Sit 84.50 326 eP P 12 03 07.6 +0.3
NVAR Mina Array Bea 84.50 326 P P 12 03 08.1 +0.8
comp=Z,3.6nm,0.8s,baz=156,slow=6.0,SNR=25
NVAR pP pP 12 03 17.0 +1.2
comp=Z,5.9nm,0.9s,baz=162,slow=5.5,SNR=16
H24A Dirks Ranch, A 84.54 338 ⇑P P 12 03 06.6 -0.5
baz=85
E30A Jud 84.55 342 ⇓P P 12 03 07.2 +0.2
baz=85
G25A Newell 84.59 339 ⇓P P 12 03 07.5 +0.2
baz=85,SNR=14
I21A Big Trails, Te 84.60 335 ⇑P P 12 03 07.3 -0.3
baz=85,SNR=7.7
J19A Crowheart 84.74 334 ⇑P P 12 03 08.1 -0.2
baz=85,SNR=10

E29A Napoleon 84.80 342 ⇑P P 12 03 08.0 -0.3
baz=85,SNR=5.7
F27A Lemmon 84.80 340 ⇓P P 12 03 08.5 +0.1
baz=85,SNR=11
HVU Hansel Valley 84.87 331 eP P 12 03 09.1 +0.1
HVU pmax pmax
comp=Z,15nm,0.8s
HVU Hansel Valley 84.87 331 eP P 12 03 09.1 +0.1
comp=Z,15nm,0.8s
TOA0 Torodi Ar. Sit 84.88 70 eP P 12 03 09.3 -0.2
TORD Torodi Ar. Bea 84.88 70 P P 12 03 08.8 -0.7
comp=Z,3.0nm,0.7s,baz=250,slow=4.1,SNR=15
TORD pP pP 12 03 17.6 -0.4
comp=Z,8.0nm,0.7s,baz=284,slow=5.2,SNR=26
F26A Lodgepole 84.97 339 ⇑P P 12 03 09.1 -0.2
baz=85
H22A Clearmont 84.98 336 ⇓P P 12 03 09.1 -0.3
baz=85
I20A Worland 85.01 335 ⇑P P 12 03 09.7 +0.1
baz=85,SNR=11
ELK Elko 85.02 329 eP P 12 03 10.3 +0.4
ELK Elko 85.02 329 eP P 12 03 10.3 +0.4
AHID Auburn Hatcher 85.06 333 eP P 12 03 09.9 0.0
comp=Z,59nm,2.0s
D30A Buchanan 85.07 342 ⇑P P 12 03 09.7 +0.1
baz=86
E28A Huff 85.08 341 ⇑P P 12 03 09.8 0.0
baz=86,SNR=6.1
WAKR Walker 85.09 325 eP P 12 03 11.5 +1.3
E27A Carson 85.19 340 ⇓P P 12 03 09.8 -0.5
baz=86
G23A Biddle 85.21 337 ⇓P P 12 03 09.9 -0.6
baz=86
H21A Big Horn, Sher 85.24 336 ⇓P P 12 03 10.0 -0.7
baz=86
D29A Pettibone, Tap 85.24 342 ⇓P P 12 03 10.1 -0.4
baz=86
F25A Bowman 85.27 339 ⇑P P 12 03 10.5 -0.2
baz=86
I19A Meeteetse 85.39 334 ⇑P P 12 03 11.2 -0.4
baz=86
H20A Greybull 85.44 335 ⇓P P 12 03 11.4 -0.2
baz=86,SNR=8.5
E26A Carlson Angus 85.48 340 ⇓P P 12 03 11.5 -0.3
baz=86
REDW Red Top Meadow 85.48 333 eP P 12 03 12.1 0.0
comp=Z,15nm,1.2s
F24A Ekalaka 85.49 338 ⇓P P 12 03 11.5 -0.4
baz=86,SNR=5.6
AGMN Agassiz Nation 85.51 345 eP P 12 03 11.2 -0.6
AGMN epP pP 12 03 18.3 -2.1
AGMN Agassiz Nation 85.51 345 ⇓P P 12 03 11.5 -0.4
baz=86,SNR=6.1
G22A Birney 85.51 337 ⇓P P 12 03 11.2 -0.8
baz=86
SNOW Snow King Moun 85.53 333 eP P 12 03 15.8 +3.4
comp=Z,8.4nm,0.9s
C30A Mose, Pekin 85.56 343 ⇑P P 12 03 12.3 +0.2
baz=86,SNR=12
LOHW Long Hollow 85.60 333 eP P 12 03 12.4 -0.3
comp=Z,4.0nm,0.7s
D28A Regan 85.62 341 ⇓P P 12 03 12.3 -0.1
baz=86,SNR=5.5
TPAW Teton Pass 85.63 333 eP P 12 03 12.9 +0.1
comp=Z,59nm,2.2s
F23A Volborg 85.68 338 ⇑P P 12 03 12.2 -0.6
baz=86,SNR=7.9
E25A Miller Ranch, 85.77 339 ⇑P P 12 03 12.9 -0.3
baz=86,SNR=5.1
FXWY Fox Creek 85.78 333 eP P 12 03 13.2 -0.4
comp=Z,43nm,2.3s
G21A Lodge Grass 85.82 336 ⇓P P 12 03 13.2 -0.3
baz=86,SNR=8.2
I17A Pilgrim Ck. 85.86 333 ⇓P P 12 03 14.2 +0.3
baz=86,SNR=7.1
H19A Powell 85.94 335 ⇓P P 12 03 14.2 -0.1
baz=86,SNR=9.3
IMW Indian Meadow 85.97 333 eP P 12 03 14.7 +0.1
comp=Z,11nm,1.1s
D26A Manning 85.98 340 ⇑P P 12 03 14.2 0.0
baz=86,SNR=6.9
F22A Rosebud 86.00 337 ⇑P P 12 03 14.1 -0.3
baz=86,SNR=5.8
FLWY Flagg Ranch 86.04 333 eP P 12 03 15.3 +0.5
comp=Z,15nm,0.7s
C28A Hausauer Farms 86.05 342 ⇑P P 12 03 14.9 +0.4
baz=86
E24A Baker 86.10 339 ⇑P P 12 03 15.4 +0.5
baz=86
G20A Bridger 86.15 336 ⇓P P 12 03 14.7 -0.5
baz=86,SNR=15
H18A Shoshone NF, C 86.18 334 ⇓P P 12 03 15.3 -0.2
baz=86,SNR=25
B30A Myrvik Farm, E 86.22 343 ⇑P P 12 03 15.3 0.0
baz=87,SNR=14
H17A Grant Village 86.27 334 ⇑P P 12 03 16.4 +0.4
baz=87
F21A Absaloka Mine, 86.32 337 ⇓P P 12 03 15.6 -0.4
baz=87
D25A Fairfield 86.34 339 ⇑P P 12 03 16.6 +0.5
baz=87,SNR=9.3
E23A Ismay 86.34 338 ⇑P P 12 03 15.8 -0.2
baz=87
C27A Sayler Ranch, 86.35 341 ⇑P P 12 03 16.5 +0.5
baz=87
YFT Old Faithful 86.41 334 epP P 12 03 19.5 +2.9
comp=Z,13nm,1.1s
RLMT Red Lodge 86.43 335 eP P 12 03 16.8 0.0
comp=Z,33nm,1.4s
B29A Wagenman Farm, 86.48 342 ⇓P P 12 03 16.7 +0.1
baz=87
E22A Miles City 86.49 338 ⇓P P 12 03 16.3 -0.5
baz=87,SNR=5.5
D24A Glendive 86.60 339 ⇓P P 12 03 17.5 +0.2
baz=87,SNR=6.7
C26A Wahner Farm, P 86.61 341 ⇓P P 12 03 17.4 +0.1
baz=87
F20A Billings 86.64 336 ⇑P P 12 03 17.1 -0.5
baz=87
YMR Madison River 86.64 334 eP P 12 03 18.5 +0.7
comp=Z,24nm,0.9s
A30A Hoffart Farm, 86.67 343 ⇑P P 12 03 17.4 -0.2
baz=87,SNR=5.1
B28A Dugan Ranch, T 86.72 342 ⇑P P 12 03 18.1 +0.3
baz=87,SNR=8.0
LAO LASA Array 86.80 337 eP P 12 03 18.2 -0.1
LAO epP pP 12 03 27.0 +0.2
C25A Freed Ranch, W 86.83 340 ⇓P P 12 03 18.6 +0.2
baz=87
A29A Manning Farm, 86.88 343 ⇑P P 12 03 18.4 -0.2
baz=87,SNR=15
B27A Peters Farms, 86.92 341 ⇓P P 12 03 18.9 +0.1
baz=87
D23A Lindsay 86.92 338 ⇑P P 12 03 19.0 +0.1
baz=87
E21A Keefer Ranch, 86.94 337 ⇑P P 12 03 19.1 +0.1
baz=87
QLMT Earthquake Lak 86.95 333 eP P 12 03 20.3 +1.0
F19A Roth Farm, Mol 86.96 335 ⇑P P 12 03 18.7 -0.4
baz=87
C24A Savage 87.00 339 ⇑P P 12 03 19.5 +0.3
baz=87,SNR=22
HLID Hailey 87.03 331 eP P 12 03 20.1 +0.5
comp=Z,7.5nm,0.9s
HLID Hailey 87.03 331 ⇓P P 12 03 19.7 +0.1
baz=87,SNR=7.9
A28A Rude Farm, Bot 87.12 342 ⇑P P 12 03 19.6 -0.1
baz=88
B26A Jensen Ranch, 87.15 341 ⇑P P 12 03 20.1 +0.2
baz=88
D22A Cohagen 87.20 338 ⇓P P 12 03 20.3 +0.1
baz=88,SNR=7.2
E20A Meyer Farm, Mu 87.25 336 ⇑P P 12 03 20.4 -0.1
baz=88,SNR=16
B25A Knox Farm, Ray 87.31 340 ⇑P P 12 03 21.1 +0.4
baz=88,SNR=5.9
ULM Lac du Bonnet 87.36 345 eP P 12 03 20.3 -0.6
ULM pmax pmax
comp=Z,17nm,0.9s
ULM Lac du Bonnet 87.36 345 P P 12 03 20.2 -0.7
comp=Z,8.0nm,0.8s,baz=166,slow=3.3,SNR=13
ULM Lac du Bonnet 87.36 345 eP P 12 03 20.2 -0.6
comp=Z,16nm,0.9s
D21A La Casta Ranch 87.38 337 ⇑P P 12 03 20.9 -0.2
baz=88,SNR=5.8
A27A Ledoux Ranch, 87.42 341 ⇑P P 12 03 21.4 +0.2
baz=88
E19A Rath Farm, Rou 87.43 336 ⇓P P 12 03 21.1 -0.2
baz=88,SNR=12
C23A Lambert 87.47 339 ⇑P P 12 03 21.4 -0.1
baz=88,SNR=10.0
MFID Camas Ranch 87.48 330 eP P 12 03 22.2 +0.5
comp=Z,11nm,1.1s
MCMT McKenzie Canyo 87.48 333 eP P 12 03 22.4 +0.5
A26A Wade Farm, Ken 87.57 341 ⇑P P 12 03 21.9 0.0
baz=88,SNR=6.4
C22A Vida 87.64 338 ⇑P P 12 03 22.0 -0.3
baz=88,SNR=5.1
BOZ Bozeman (W) 87.72 334 eP P 12 03 22.7 -0.2
BOZ pmax pmax
comp=Z,62nm,2.8s
BOZ Bozeman (W) 87.72 334 eP P 12 03 22.7 -0.2
comp=Z,62nm,2.8s
D20A Manuel Ranch, 87.77 337 ⇓P P 12 03 22.8 -0.2
baz=88,SNR=7.9
DGMT Dagmar 87.78 339 eP P 12 03 23.0 0.0
DGMT Dagmar 87.78 339 ⇓P P 12 03 23.5 +0.5
baz=88,SNR=11
DLMT Dillon 87.84 333 eP P 12 03 26.0 +2.5
comp=Z,19nm,1.4s
A25A Svangstu Ranch 87.90 340 ⇓P P 12 03 23.4 -0.1
baz=88
B23A Brockton 88.01 339 ⇑P P 12 03 23.9 -0.1
baz=88
D19A Cripps Ranch, 88.08 336 ⇑P P 12 03 23.7 -0.8
baz=88
C21A Desert Coulee 88.08 337 ⇑P P 12 03 24.1 -0.3
baz=88,SNR=7.8
A24A Westby 88.14 340 ⇑P P 12 03 24.7 0.0
baz=88
B22A Reddig Ranch S 88.17 338 ⇑P P 12 03 24.8 0.0
baz=88,SNR=6.2
MOD Modoc 88.19 326 eP P 12 03 25.6 +0.3
comp=Z,11nm,0.7s
C20A Veseth Ranch, 88.27 337 ⇑P P 12 03 24.9 -0.4
baz=89
C19A Slack Wire Ran 88.63 336 ⇓P P 12 03 27.2 +0.1
baz=89
A22A Carney Farms, 88.76 339 ⇑P P 12 03 27.6 0.0
baz=89,SNR=5.6
M04C Macdoel 88.80 325 ⇓P P 12 03 27.9 -0.2
baz=89
B20A Solberg Farm, 88.92 337 ⇑P P 12 03 27.7 -0.7
baz=89
A21A Bergtoll Ranch 89.06 338 ⇓P P 12 03 28.3 -0.7
baz=89
K05A Summer Lake 89.11 327 eP P 12 03 30.8 +1.2
comp=Z,159nm,2.1s
BMO Blue Mountains 89.26 330 eP P 12 03 30.3 +0.2
comp=Z,37nm,2.4s
A20A Cobblestone Ra 89.27 337 ⇓P P 12 03 29.6 -0.4
baz=90
I07A Izee 89.57 328 eP P 12 03 32.4 +0.8
comp=Z,134nm,3.0s
A19A Klindworth Far 89.58 337 ⇓P P 12 03 31.0 -0.5
baz=90
MSO Missoula 89.58 333 ⇑P P 12 03 32.0 +0.5
baz=90
J05D Fort Rock, OR 89.70 327 ⇓P P 12 03 32.6 +0.3
baz=90
PINOR Pine Mountain 89.96 327 eP P 12 03 34.5 +1.3
comp=Z,8.8nm,0.8s
G08A Pilot Rock 90.31 329 eP P 12 03 35.4 +0.4
comp=Z,4.2nm,0.9s
JTMT Jette 90.47 333 eP P 12 03 35.8 +0.1
WALA Waterton Lakes 91.44 334 eP P 12 03 39.6 -0.6
comp=Z,0.3nm,1.1s
NEW Newport 91.98 332 ⇑P P 12 03 41.7 -0.9
baz=92
TAM Tamanrasset 93.57 65 eP P 12 03 53.4 +2.7
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM Tamanrasset 93.57 65 eP P 12 03 53.4 +2.7
comp=Z,2.6nm,0.8s
FCC Fort Churchill 95.13 349 eP P 12 03 56.2 -0.6
FCC Fort Churchill 95.13 349 eP P 12 03 56.2 -0.6
comp=Z,0.4nm,1.2s
ESDC Sonseca Array 97.52 46 pP pP 12 04 15.6 -1.2
comp=Z,1.2nm,0.8s,baz=250,slow=2.9,SNR=3.5
YKA Yellowknife Ar 102.88 341 P Pdif 12 04 30.1 -1.3
comp=Z,0.4nm,0.7s,baz=140,slow=4.4,SNR=11
YKA pP 12 04 39.4
comp=Z,1.0nm,0.9s,baz=140,slow=4.5,SNR=4.8
YKA PP PP 12 08 43.8 -2.5
comp=Z,0.3nm,0.8s,baz=146,slow=7.4,SNR=3.9
CLL Collm 113.81 43 ePKiKP PKiKP 12 09 13.0 +0.7
VYHS Vyhne 116.02 48 ePKIKP PKPdf 12 09 24.0 +7.3
VYHS Vyhne 116.02 48 ePKP PKPdf 12 09 24.0 +7.3
WRA Warramunga Arr 119.72 209 PKP PKPdf 12 09 23.3 -1.5
comp=Z,0.6nm,0.6s,baz=163,slow=1.6,SNR=3.7
WRA pPKP pPKPdf 12 09 32.3 -1.4
comp=Z,1.3nm,0.8s,baz=168,slow=1.1,SNR=3.7
BRTR Keskin Array B 122.62 62 PKP PKPdf 12 09 28.4 -1.4
comp=Z,1.2nm,0.8s,baz=93,slow=2.5,SNR=5.5
BRTR pPKP pPKPdf 12 09 37.8 -0.9
comp=Z,1.1nm,0.8s,baz=205,slow=2.6,SNR=3.9
AKASG Malin Array Be 123.12 48 PKP PKPdf 12 09 28.7 -1.5
comp=Z,0.8nm,0.7s,baz=266,slow=2.6,SNR=3.4
AKASG pPKP pPKPdf 12 09 38.9 -0.2
comp=Z,0.2nm,0.3s,baz=268,slow=2.2,SNR=2.9
H11S2 WAKE ISLAND Hy 125.40 269 T T 14 27 53.5
baz=118,slow=75,SNR=8.3
H11S1 WAKE ISLAND Hy 125.41 269 T T 14 27 29.1
baz=118,slow=75,SNR=11
H11S3 WAKE ISLAND Hy 125.41 269 T T 14 27 52.3
baz=118,slow=75,SNR=7.3
H11N3 WAKE ISLAND Hy 125.83 270 T T 14 27 57.5
baz=116,slow=78,SNR=9.5
H11N1 WAKE ISLAND Hy 125.85 270 T T 14 27 58.2
baz=116,slow=78,SNR=17
H11N2 WAKE ISLAND Hy 125.85 270 T T 14 28 15.6
baz=116,slow=78,SNR=12
KIV Kislovodsk 130.31 59 ePKIKP PKPdf 12 09 52.3 +7.9
KIV pmax pmax
comp=Z,6.0nm,0.9s
KLMR Klimovskoe 130.41 37 ePKIKP PKPdf 12 09 48.5 +4.6
KLMR pmax pmax
comp=Z,38nm,1.6s
BILL Bilibino 133.57 334 i PKIKP PKPdf 12 09 59.9 +10
BILL pmax pmax
comp=Z,3.0nm,1.3s
TIXI Tiksi 141.60 349 ePKIKP PKPdf 12 10 04.0 -0.4
TIXI Tiksi 141.60 349 ePKPdf PKPdf 12 10 04.0 -0.4
ABKAR Akbulak array 142.57 53 ePKPdf PKPdf 12 10 02.0 -4.8
PSI Prapat 146.99 164 PKPbc PKPdf 12 10 16.1 +0.4
comp=Z,6.6nm,0.6s,baz=338,slow=19,SNR=1.9
BRVK Borovoye 148.17 44 ePKIKP PKPdf 12 10 17.9 +1.6
BRVK Borovoye 148.17 44 ePKPdf PKPdf 12 10 17.9 +1.6
BVAR Borovoye Array 148.24 44 PKPbc PKPdf 12 10 17.5 +1.1
comp=Z,1.7nm,0.7s,baz=272,slow=4.0,SNR=8.5
HYB Hyderabad 148.82 117 i PKP PKPdf 12 10 20.0 +1.6
YAK Yakutsk 149.54 339 ePKPbc PKPbc 12 10 21.9 -0.8
KKAR Karatay Array 150.32 63 ePKIKP PKPbc 12 10 25.0 -0.3
KKAR Karatay Array 150.32 63 ePKPbc PKPbc 12 10 24.9 -0.3
EKS2 Erkin-Say 152.75 64 ePKIKP PKPbc 12 10 31.6 +0.6
EKS2 Erkin-Say 152.75 64 ePKPbc PKPbc 12 10 31.6 +0.6
AAK Ala-Archa 153.28 63 ePKIKP PKPbc 12 10 32.7 +0.5
AAK Ala-Archa 153.28 63 ePKPbc PKPbc 12 10 32.7 +0.5
FRU Bishkek 153.35 63 ePKIKP PKPbc 12 10 34.0 +1.8
FRU i 12 10 42.0
KURK Kurchatov 153.84 44 ePKIKP PKPdf 12 10 27.9 +2.9
KURK Kurchatov 153.84 44 ePKPdf PKPdf 12 10 27.9 +2.9
NVS Novosibirsk 153.97 33 ⇓iPKIKP PKPbc 12 10 31.3 -1.8
NVS pmax pmax
comp=E,7.0nm,1.5s
NVS pmax pmax
comp=Z,16nm,1.5s
TKM2 Tokmak 2 154.05 63 ePKIKP PKPbc 12 10 33.7 -0.3
TKM2 Tokmak 2 154.05 63 ePKPbc PKPbc 12 10 33.6 -0.3
KSH Kashi 154.55 70 ePKPbc PKPbc 12 10 33.5 -1.5
KSH epPKP PKPab 12 10 44.3 -5.4
KSH esPKP 12 10 48.5
KSH ePP PP 12 14 46.3 +21
KSH SKS SKSdf 12 17 34.8 +3.2
ZAA0 Zalesovo Array 155.25 33 ePKPbc PKPdf 12 10 34.1 +7.2
ZALV Zalesovo Beam 155.25 33 PKP PKPdf 12 10 26.4 -0.5
comp=Z,1.2nm,0.7s,baz=323,slow=2.2,SNR=7.2
ZALV pPKPab pPKPab 12 11 00.5 -0.2
comp=Z,8.7nm,0.9s,baz=301,slow=6.1,SNR=8.2
BOD Bodaibo 156.76 351 ePKP2 PKPab 12 10 57.6 -0.7
BOD pmax pmax
comp=Z,17nm,1.1s
MKAR Makanchi Array 157.68 50 PKP PKPdf 12 10 29.9 -0.5
comp=Z,0.6nm,0.9s,baz=190,slow=2.2,SNR=4.0
MKAR PKPab PKPab 12 11 02.1 -0.6
comp=Z,1.1nm,0.7s,baz=298,slow=2.1,SNR=5.5
CMAR Chiang Mai Arr 161.85 153 PKP PKPdf 12 10 35.2 -0.6
comp=Z,0.3nm,0.4s,baz=218,slow=5.7,SNR=2.4
CMAR pPKP pPKPdf 12 10 44.7 0.0
comp=Z,1.3nm,0.9s,baz=266,slow=1.2,SNR=3.3
CMAR pPKPab pPKPab 12 11 29.2 -0.9
comp=Z,1.7nm,0.8s,baz=220,slow=4.5,SNR=4.2
WMQ Urumqi 162.35 54 ePKP PKPdf 12 10 34.0 -1.7
WMQ LR LR
comp=Z,280nm,19.0s
WMQ LR LR
comp=Z,440nm,20.0s
WMQ LR LR
comp=Z,340nm,21.0s
KSRS Korea Array 163.36 284 PKPab PKPab 12 11 27.9 0.0
comp=Z,1.7nm,0.8s,baz=113,slow=4.4,SNR=5.7
KSRS pPKPab pPKPab 12 11 37.0 +0.5
comp=Z,2.2nm,0.9s,baz=113,slow=4.5,SNR=5.2
KSAR Wonju Array Be 163.39 284 PKP2 PKPab 12 11 27.9 -0.1
KSAR Wonju Array Be 163.39 284 PKPab PKPab 12 11 27.9 -0.1
KSAR pPKPab pPKPab 12 11 37.0 +0.4
ZAK Zakamensk 164.31 10 ePKP2 PKPab 12 11 27.3 -4.3
ZAK e 12 15 26.5
ZAK pmax pmax
comp=Z,5.0nm,1.4s
SONM Songino Array 167.14 3 PKPab PKPab 12 11 43.6 -0.5
comp=Z,1.0nm,0.8s,baz=335,slow=5.0,SNR=4.7
SONM pPKPab pPKPab 12 11 53.5 +0.8
comp=Z,2.7nm,0.9s,baz=346,slow=3.1,SNR=7.2
KMI Kunming 169.33 156 PKP PKPdf 12 10 42.0 -0.2
NJ2 Nanjing 170.10 256 ePKP PKPdf 12 10 40.3 -1.8
GYA Guiyang 171.46 175 ePKP PKPdf 12 10 42.3 -0.9
GYA pPKP pPKPdf 12 10 51.5 -0.5
GYA PKPab PKPab 12 12 05.0 +1.3
GYA PKS PKSdf 12 14 13.3 -2.4
GYA PP PP 12 15 56.5 +2.9
GYA SKKS 12 22 40.0
GYA SS SS 12 36 57.8 +0.2
GYA AMB AMB
comp=Z,130nm,8.5s
GYA LR LR
comp=Z,130nm,21.0s
GYA LR LR
comp=Z,120nm,21.4s
GYA LR LR
comp=Z,140nm,24.5s
GTA Gaotai 172.43 52 ePKP PKPdf 12 10 44.3 +1.1
GTA pPKP pPKPdf 12 10 53.3 +1.2
GTA sPKP 12 10 58.5
HHC Hu-ho-hao-te 173.34 333 ePKP PKPdf 12 10 41.5 -2.0
HHC pPKP pPKPdf 12 10 54.0 +1.6
HHC PP PP 12 16 05.5 +2.3
HHC SKS SKSdf 12 17 36.3 -8.6
HHC SS SS 12 37 17.0 +0.3
HHC AMB AMB
comp=Z,330nm,5.6s
HHC LR LR
comp=Z,380nm,19.5s
HHC LR LR
comp=Z,410nm,20.0s
HHC LR LR
comp=Z,1μm,19.5s
CD2 Chengdu 174.84 141 PKP PKPdf 12 10 44.3 0.0
CD2 pPKP pPKPdf 12 10 55.0 +1.9
CD2 sPKP 12 10 58.5
CD2 PKS PKSdf 12 14 15.0 -1.5
CD2 PP PP 12 16 14.5 +3.8
CD2 SKS SKSdf 12 17 43.5 -2.2
CD2 SKKS SKKSac 12 22 57.0 +1.2
CD2 SS SS 12 37 32.5 +0.9
CD2 AMB AMB
comp=Z,240nm,6.4s
LZH Lanzhou 176.80 69 ePKP PKPdf 12 10 44.3 -0.4
LZH pPKP pPKPdf 12 10 54.5 +0.9
LZH sPKP 12 10 59.8
LZH PKPab PKPab 12 12 28.5 +0.8

ISCJB ***28*** *11:51:01.0±0.6, 35.22S±0.09×72.6W±0.1, h18km, mb4.9/16, MS4.8/2, Error ellipse: s-maj=14.8km s-min=12.9km az=144.2*
NEIC ***28*** *11:51:04.0±0.6, 35.19S×72.52W, h27km±4km, mb5.2/12, Error ellipse: s-maj=14.9km s-min=12.1km az=72.0*
IDC ***28*** *11:51:04.4±0.8, 35.14S×72.49W, h32km±4km, mb4.3/5, mb1 4.6/8, mb1mx4.3/28, mbtmp4.5/8, ML4.6/3, MS4.4/6, Ms1 4.4/6, ms1mx4.2/31, Error ellipse: s-maj=32.5km s-min=21.8km az=49.0*
ISC 28 11:51:03.6±0.6, 35.2S±0.1×72.5W±0.1, h18km, n36, σ1979/38, mb5.1/16, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.07 46 Pn Pn 11 52 18.9 +0.3
2.5nm,0.3s,baz=237,slow=16,SNR=4.3
CFAA LR LR 11 54 24.7
comp=Z,619nm,19.1s,baz=236,slow=40
PLCA Paso Flores 5.73 165 Pn Pn 11 52 26.9 -0.9
7.6nm,0.3s,baz=358,slow=14,SNR=5.4
PLCA LR LR 11 54 59.3
comp=Z,4μm,19.0s,baz=345,slow=41
PLCA Paso Flores 5.73 165 ePn Pn 11 52 26.8 -1.0
CPUP Villa Florida 15.75 60 Pn Pn 11 54 43.6 -0.9
0.7nm,0.3s,baz=212,slow=9.2,SNR=4.5
CPUP LR LR 12 02 06.3
comp=Z,941nm,20.6s,baz=161,slow=42
USHA Ushuaia 19.83 173 LR LR 12 03 32.3
comp=Z,2μm,19.1s,baz=0.5,slow=38
RPN Rapa Nui 32.38 274 LR LR 12 06 15.5
comp=Z,1μm,21.1s,baz=115,slow=28
QSPA South Pole Qui 55.03 180 pP pP 12 00 41.8 +2.2
19nm,0.9s,baz=164,slow=6.1,SNR=5.2
JCT Junction City 70.21 335 eP P 12 02 14.3 -1.0
46nm,1.2s
TXAR Lajitas Array 70.60 331 P P 12 02 16.0 -1.8
3.5nm,0.7s,baz=155,slow=8.8,SNR=5.8
TXAR pP pP 12 02 26.1 +2.4
3.9nm,0.5s,baz=158,slow=8.8,SNR=5.2
TXAR LR LR 12 28 46.2
comp=Z,829nm,18.7s,baz=0.0,slow=32
WVT Waverly 72.39 347 eP P 12 02 27.8 -0.5
46nm,0.9s
TUL1 Tulsa 74.01 341 eP P 12 02 36.2 -1.6
38nm,1.1s
ACSO Alum Creek Sta 75.69 352 eP P 12 02 45.8 -1.7
33nm,0.7s
DBIC Dimbokro 75.94 71 pP pP 12 02 57.0 +1.5
14nm,0.7s,baz=206,slow=6.2,SNR=4.6
DBIC Dimbokro 75.94 71 P P 12 02 50.3 +0.8
29nm,1.1s
DBIC pP pP 12 02 57.0 +1.5
ANMO Albuquerque 76.66 332 eP P 12 02 52.6 -0.8
28nm,1.3s
BOSA Boshof 79.86 118 P P 12 03 10.4 -1.0
5.9nm,0.6s,baz=260,slow=3.9,SNR=5.7
BOSA Boshof 79.86 118 eP P 12 03 12.2 +0.7
8.3nm,0.5s
ECSD EROS Data Cent 81.58 343 eP P 12 03 18.3 -1.6
26nm,1.0s
CCUT Cedar City 81.72 328 eP P 12 03 21.6 +0.5
19nm,1.1s
MVU Marysvale 82.04 330 eP P 12 03 22.2 -0.5
13nm,1.3s
MPU Maple Canyon 83.09 331 eP P 12 03 27.7 -0.4
13nm,1.0s
HWUT Hardware Ranch 84.42 332 eP P 12 03 34.7 -0.2
19nm,1.1s
NVAR Mina Array Bea 84.65 326 P P 12 03 34.7 -1.5
2.5nm,0.8s,baz=152,slow=6.7,SNR=4.2
NVAR pP pP 12 03 46.1 +3.9
3.5nm,0.8s,baz=146,slow=5.8,SNR=3.4
PDAR Pinedale Array 84.66 334 P P 12 03 34.9 -1.3
1.2nm,0.6s,baz=142,slow=8.0,SNR=3.6
PDAR pP pP 12 03 44.6 +2.5
1.4nm,0.7s,baz=146,slow=11,SNR=2.5
TORD Torodi Ar. Bea 84.99 70 P P 12 03 36.2 -2.0
3.0nm,0.8s,baz=261,slow=3.7,SNR=3.5
TORD pP pP 12 03 46.5 +2.3
5.9nm,0.6s,baz=292,slow=6.2,SNR=5.2
ULM Lac du Bonnet 87.56 345 pP pP 12 03 57.9 +1.9
14nm,1.0s,baz=168,slow=3.1,SNR=5.0
BRTR Keskin Array B 122.75 62 pPKP pPKPdf 12 10 07.2 +2.6
1.2nm,0.8s,baz=198,slow=2.8,SNR=3.3
AKASG Malin Array Be 123.29 48 PKP PKPdf 12 09 56.6 -2.1
0.1nm,0.3s,baz=261,slow=2.8,SNR=2.2

AKASG pPKP pPKPdf 12 10 07.1 +2.1
0.2nm,0.2s,baz=275,slow=2.7,SNR=2.2
BVAR Borovoye Array 148.42 44 PKPbc **PKPdf 12 10 45.0 +0.1**
1.6nm,0.6s,baz=298,slow=3.5,SNR=4.2
BVAR pPKPbc **pPKPbc 12 10 57.0 +2.5**
2.2nm,0.5s,baz=0.9,slow=0.6,SNR=3.5
KURK Kurchatov 154.02 44 *e*PKPdf **PKPdf 12 10 53.8 +0.4**
TKM2 Tokmak 2 154.18 63 *e*PKPdf **PKPdf 12 10 55.5 +1.2**
ZAA0 Zalesovo Array 155.45 33 *e*PKPbc PKPdf 12 11 00.6 +5.3
ZALV Zalesovo Beam 155.45 33 pPKPab pPKPab 12 11 28.5 +1.5
3.8nm,0.6s,baz=294,slow=4.7,SNR=4.2
MKAR Makanchi Array 157.84 51 PKPab **PKPab 12 11 29.2 -2.4**
1.0nm,0.7s,baz=275,slow=2.7,SNR=4.0
MKAR pPKPab **pPKPab 12 11 39.9 +2.2**
3.2nm,0.9s,baz=298,slow=2.6,SNR=4.0
CMAR Chiang Mai Arr 161.68 153 PKPab **PKPab 12 11 48.9 0.0**
0.5nm,0.7s,baz=266,slow=2.7,SNR=3.1
CMAR pPKPab **pPKPab 12 11 58.1 +3.3**
2.1nm,1.0s,baz=229,slow=5.5,SNR=3.7
SONM Songino Array 167.35 3 PKPab **PKPab 12 12 11.8 -1.4**
0.8nm,0.7s,baz=107,slow=1.5,SNR=3.2
SONM pPKPab **pPKPab 12 12 22.6 +3.3**
1.6nm,0.7s,baz=337,slow=4.9,SNR=3.9

IDC 28 11:54:40.6±3.5,**27.̊95N**×**81.̊57E, h0km, mb3.6**/3, **mb1 3.6**/4, **mb1mx3.2**/33, **mbtmp3.5**/4, **ML3.8**/1, **Error ellipse: s-maj=115.2km s-min=28.5km az=77.0, Nepal-India border region**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
MKAR Makanchi Array 18.82 2 P Pn 11 59 02.4 +0.1
0.3nm,0.3s,baz=184,slow=11,SNR=14
ZALV Zalesovo Beam 26.08 4 P P 12 00 15.4 -0.3
0.4nm,0.4s,baz=174,slow=5.2,SNR=3.4
SONM Songino Array 27.69 38 P P 12 00 30.5 0.0
0.7nm,0.6s,baz=231,slow=8.7,SNR=4.3
ASAR Alice Springs 71.97 130 P P 12 06 06.4 +0.1
0.2nm,0.7s,baz=318,slow=6.0,SNR=3.3

IDC 28 11:57:30.2±2.1, 26.̊06N×128.̊63E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/29, mbtmp3.8/7, MS3.5/1, Ms1 3.5/1, ms1mx3.3/39, Error ellipse: s-maj=127.6km s-min=16.5km az=70.0
ISCJB 28 11:57:31.9±0.5, 26.̊02N±0.̊04×128.̊68E±0.̊04, h27km, mb3.8/9, Error ellipse: s-maj=5.9km s-min=5.0km az=32.2
NEIC 28 11:57:32.1±2.1, 26.̊00N×128.̊58E, h11km±12km, mb4.0/2, Error ellipse: s-maj=15.3km s-min=8.4km az=121.0
JMA 28 11:57:33.3±0.3, 26.̊06N×128.̊67E, h38km±5km, M3.5
ISC 28 11:57:33.4±0.8, **26.̊05N**±0.̊05×**128.̊67E**±0.̊05, **h27km, n30,** σ1§**20**/36, **mb3.8**/9, **Ryukyu Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
JNTH Nagotoyohara 0.75 309 P **Pb 11 57 47.1 -0.7**
JNTH S **Sn 11 57 57.6 -1.0**
JJT2 Tamagusuku 2 0.83 276 P **Pn 11 57 48.9 -0.5**
JOW Kunigami 0.86 336 P **Pn 11 57 49.2 -0.5**
JOW Kunigami 0.86 336 Pn **Pn 11 57 49.0 -0.8**
56nm,0.3s,baz=142,slow=19,SNR=1060
JOW Sn **Sn 11 58 00.1 -1.3**
29nm,0.3s,baz=330,slow=20,SNR=28
JIH Iheya 1.17 328 P **Pb 11 57 53.9 -1.0**
JIH *e*S **Sb 11 58 08.5 -1.1**
JOKE Okinoerabujima 1.31 356 P **Pn 11 57 55.8 -0.2**
JOKE S **Sn 11 58 11.7 -0.9**
JAGN Aguni-jima 1.39 293 P **Pn 11 57 57.1 +0.1**
JKE Kume jima 2 1.71 280 P **Pn 11 58 00.8 -0.7**
JKE S **Sn 11 58 21.3 -1.2**
JTK Tokunoshima 1.75 8 P **Pn 11 58 01.7 -0.3**
JTK S **Sn 11 58 21.1 -2.3**
JAMN Amaminishikomi 2.23 12 P **Pn 11 58 08.6 0.0**
JMZ Minamidaito 2 2.31 95 P **Pn 11 58 08.0 -1.7**
JAM Amami Oshima 2.50 19 P **Pn 11 58 12.1 -0.2**
JZK Kikaishima 2.54 27 P **Pn 11 58 13.9 +1.1**
JTAJ Takarajima 3.13 9 P **Pn 11 58 20.7 -0.3**
JTAJ *e*S **Sn 11 58 55.8 -1.6**
NACB Ninganchiao 6.68 255 *e*Pn **Pn 11 59 07.5 -2.3**
YHNB Yeheng 6.74 260 *e*Pn **Pn 11 59 11.7 +1.0**
YULB Yu-li 7.21 250 *e*Pn **Pn 11 59 16.4 -0.7**
JNU Nakatsue 7.31 15 *e*Pn **Pn 11 59 19.9 +1.5**
SSLB Suanglung 7.36 254 *e*Pn **Pn 11 59 18.6 -0.5**
TPUB Ta-pu 7.81 251 *e*Pn **Pn 11 59 23.8 -1.5**
KSRS Korea Array 11.39 357 LR LR 12 05 10.1
comp=Z,262nm,21.0s,baz=185,slow=40
ULN Ulaanbaatar 27.62 328 *e*P **P 12 03 20.9 +2.2**
1.3nm,0.8s
SONM Songino Array 27.92 327 P **P 12 03 23.6 +2.3**
1.7nm,0.7s,baz=144,slow=10,SNR=9.0
MKAR Makanchi Array 41.95 312 P **P 12 05 22.2 +0.3**
1.0nm,0.7s,baz=101,slow=9.5,SNR=12
ZALV Zalesovo Beam 42.63 323 P **P 12 05 26.8 -0.5**
0.8nm,0.7s,baz=103,slow=6.4,SNR=3.1
WRA Warramunga Arr 46.05 173 P **P 12 05 55.6 +0.6**
0.5nm,0.3s,baz=353,slow=8.5,SNR=4.1
ASAR Alice Springs 49.68 174 P **P 12 06 24.3 +1.2**
0.6nm,0.8s,baz=5.4,slow=12,SNR=6.0
BVAR Borovoye Array 50.67 318 P **P 12 06 31.2 +0.9**
0.5nm,0.5s,baz=72,slow=5.2,SNR=4.4
BRVK Borovoye 50.74 318 *e*P **P 12 06 31.8 +1.0**
2.1nm,0.8s
AKASG Malin Array Be 75.92 320 P **P 12 09 18.4 +0.8**
0.8nm,0.6s,baz=58,slow=6.2,SNR=5.5

ISCJB 28 12:01:10.4±3.3, 35.̊75S±0.̊04×72.̊74W±0.̊09, h15km±23km, mb4.8/44, Error ellipse: s-maj=12.1km s-min=7.0km az=171.4
IDC 28 12:01:13.6±0.5, 35.̊77S×72.̊68W, h27km±3km, mb4.3/12, mb1 4.4/15, mb1mx4.3/28, mbtmp4.4/15, ML4.4/3, Error ellipse: s-maj=17.1km s-min=11.5km az=85.0
NEIC 28 12:01:14.7±0.3, 35.̊80S×72.̊68W, h35km, mb4.9/35, Error ellipse: s-maj=9.0km s-min=7.2km az=54.0
ISC 28 12:01:14.0±0.5, **35.̊71S**±0.̊05×**72.̊80W**±0.̊08, **h30km**±3km, **h29km:pP-P, n349,** σ0§**91**/377, **mb4.8**/44, **129C-141D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
PLCA Paso Flores 5.31 161 Pn **Pn 12 02 31.2 -0.1**
3.5nm,0.3s,baz=325,slow=10,SNR=4.5
PLCA Pg **Pb 12 02 48.2 +2.1**
4.2nm,0.3s,baz=348,slow=17,SNR=4.7
PLCA Sn **Sn 12 03 32.5 +1.0**
6.3nm,0.3s,baz=341,slow=15,SNR=3.5
PLCA Lg Lg 12 03 53.3
12nm,0.3s,baz=348,slow=16,SNR=3.6
PLCA Paso Flores 5.31 161 *e*Pn **Pn 12 02 30.8 -0.5**
PLCA Pg **Pb 12 02 48.2 +2.1**
PLCA Sn **Sn 12 03 32.5 +1.0**
PLCA Lg Lg 12 03 53.3
CFAA Coronel Fontan 5.59 44 Pn **Pn 12 02 35.8 +0.6**
0.4nm,0.3s,baz=247,slow=11,SNR=4.6
CFAA Sn **Sn 12 03 40.5 +2.1**
0.9nm,0.3s,baz=216,slow=15,SNR=3.6
CFAA Lg Lg 12 04 06.9
2.0nm,0.3s,baz=8.1,slow=14,SNR=4.4
TRQA Tornquist 8.97 108 *e*Pn **Pn 12 03 22.4 +0.8**
LVC Limon Verde 13.49 16 *e*Pn Pn 12 04 27.1 +3.5
CPUP Villa Florida 16.21 59 Pn **Pn 12 04 57.4 -2.2**
0.2nm,0.3s,baz=264,slow=7.0,SNR=3.2
LPAZ La Paz 19.79 13 P **Pn 12 05 44.8 +0.6**
0.6nm,0.3s,baz=190,slow=5.8,SNR=17
LPAZ La Paz 19.79 13 *e*P **Pn 12 05 44.6 +0.4**
12nm,0.8s
SIV San Ignacio 22.26 31 P **P 12 06 08.4 -0.2**
31nm,0.9s,baz=224,slow=8.5,SNR=34
BDFB Brasilia 29.82 54 P **P 12 07 17.8 -0.9**
6.3nm,0.7s,baz=212,slow=6.5,SNR=6.5
SDV Santo Domingo 44.41 3 *e*P **P 12 09 21.7 -0.5**
6.9nm,0.8s
RCBR Riachuelo 45.08 58 P **P 12 09 28.0 +0.4**
4.9nm,0.7s,baz=227,slow=7.5,SNR=4.7
VNA3 Neumayer Olymp 48.02 157 P **P 12 09 49.3 -0.5**
VNA2 Neumayer--Watz 48.68 157 P **P 12 09 54.6 -0.4**
SNAA Sanae 50.24 157 P **P 12 10 06.2 -0.8**
SNAA Sanae 50.24 157 P **P 12 10 06.1 -0.8**
5.7nm,0.8s,baz=297,slow=6.0,SNR=20
SNAA pP **pP 12 10 13.6 -2.4**
3.4nm,0.9s,baz=240,slow=10.0,SNR=5.8
SNAA Sanae 50.24 157 *e*P **P 12 10 05.6 -1.3**
16nm,0.9s
SNAA pP **pP 12 10 13.6 -2.4**
CELP Cerrillos 53.82 7 *e*P **P 12 10 33.2 -0.8**
QSPA South Pole Qui 54.53 180 P **P 12 10 38.6 -0.2**
9.8nm,0.8s,baz=146,slow=2.5,SNR=20
QSPA pP **pP 12 10 47.1 -0.9**
5.8nm,0.8s,baz=241,slow=3.1,SNR=5.3
QSPA South Pole Qui 54.53 180 *e*P **P 12 10 37.9 -1.0**
9.6nm,0.9s
QSPA pP **pP 12 10 47.1 -0.9**
TEIG Tepich 57.54 343 *e*P **P 12 11 01.3 +0.6**
48nm,1.2s
SYO Syowa Base 64.50 158⇑*e*P P 12 11 43.6 -3.8
034A Hebbronville 67.06 335 ⇓P **P 12 12 05.6 +1.3**
baz=68
834A Tilden 67.99 336 ⇓P **P 12 12 11.9 +1.7**
baz=68
735A Kenedy 68.41 336 ⇑P **P 12 12 13.8 +1.0**
baz=69
833A Chaparral WMA, 68.46 335 ⇓P **P 12 12 13.9 +0.8**
baz=69
832A Faith Ranch, C 68.62 334 ⇓P **P 12 12 15.3 +1.2**
baz=69
636A Smothers Creek 68.75 337 ⇓P **P 12 12 15.6 +0.7**
baz=69,SNR=5.4
732A Laxson Ranch, 69.03 335 ⇑P **P 12 12 17.5 +0.8**
baz=70
536A Bastrop 69.31 338 ⇓P **P 12 12 19.8 +1.4**
baz=70
633A Saathoff Ranch 69.42 336 ⇓P **P 12 12 20.3 +1.2**
baz=70
535A Dale 69.43 337 ⇑P **P 12 12 20.6 +1.5**
baz=70
438A Sam Houston St 69.47 339 ⇓P **P 12 12 20.7 +1.4**
baz=70
340A Bronson 69.65 341 ⇓P **P 12 12 21.8 +1.3**
baz=70
632A Uvalde 69.67 335 ⇓P **P 12 12 21.9 +1.2**
baz=70
339A Huntington 69.76 340 ⇑P **P 12 12 22.6 +1.5**
baz=70
533A Kerrville 69.94 336 ⇓P **P 12 12 22.9 +0.6**
baz=70,SNR=5.9
338A Crockett 69.99 340 ⇓P **P 12 12 23.7 +1.1**
baz=70
337A Centerville 70.12 339 ⇓P **P 12 12 24.2 +0.9**
baz=71
435B Jarrell 70.13 337 ⇓P **P 12 12 23.9 +0.4**
baz=71
532A Rocksprings 70.28 335 ⇓P **P 12 12 24.8 +0.4**
baz=71
434A Burnet 70.38 337 ⇓P **P 12 12 25.2 +0.2**
baz=71,SNR=6.2
336A Riesel 70.47 338 ⇑P **P 12 12 25.4 0.0**
baz=71,SNR=6.2
531A Rocksprings 70.54 335 ⇑P **P 12 12 26.6 +0.6**
baz=71
JCT Junction City 70.57 335 *e*P **P 12 12 26.8 +0.6**
16nm,0.9s
JCT Junction City 70.57 335 ⇑P **P 12 12 26.6 +0.4**
baz=71,SNR=6.0
433A Art 70.59 336 ⇑P **P 12 12 26.3 +0.1**
baz=71,SNR=5.3
237A Washetta, Mont 70.74 339 ⇓P **P 12 12 27.7 +0.6**
baz=71
530A J-C Ranch, Com 70.80 334 ⇓P **P 12 12 28.5 +0.8**
baz=71
334A Lometa 70.85 337 ⇑P **P 12 12 27.9 +0.1**
baz=71,SNR=5.0
432A Menard 70.93 336 ⇓P **P 12 12 28.5 +0.2**
baz=71
TXAR Lajitas Array 70.93 332 P **P 12 12 29.1 +0.6**
1.0nm,0.6s,baz=151,slow=8.5,SNR=17
TXAR pP **pP 12 12 38.0 +0.1**
2.3nm,0.8s,baz=158,slow=9.0,SNR=11
KMSC Kings Mountain 70.94 353 ⇑P **P 12 12 28.6 +0.4**
baz=71
431A Sonora 71.03 335 ⇑P **P 12 12 29.3 +0.2**
baz=72
333A Richland Sprin 71.08 336 ⇓P **P 12 12 29.6 +0.4**
baz=72
WHTX Lake Whitney 71.21 338 *e*P **P 12 12 31.1 +1.2**
24nm,0.9s
WHTX Lake Whitney 71.21 338 ⇑P **P 12 12 28.8 -1.2**
baz=72
430A Baggett Ranch, 71.35 334 ⇑P **P 12 12 30.9 0.0**
baz=72
332A Millersview 71.38 336 ⇑P **P 12 12 31.5 +0.4**
baz=72,SNR=5.3
429A Davenport Ranc 71.44 334 ⇑P **P 12 12 31.6 +0.2**
baz=72
234A Clairette 71.44 337 ⇓P **P 12 12 31.8 +0.4**
baz=72,SNR=5.4
331A San Angelo 71.54 335 ⇑P **P 12 12 32.3 +0.3**
baz=72
SWET Sewanee 71.62 349 *e*P **P 12 12 31.9 -0.5**
8.0nm,0.7s
233A Rising Star 71.69 337 ⇓P **P 12 12 33.2 +0.2**
baz=72,SNR=5.6
232A Coleman 71.81 336 ⇓P **P 12 12 34.1 +0.4**
baz=72
330A Mertzon 71.89 335 ⇓P **P 12 12 34.2 0.0**
baz=72
134A White-Moore Ra 71.95 338 ⇓P **P 12 12 34.5 +0.1**
baz=72
231A Bronte 72.08 336 ⇓P **P 12 12 35.2 -0.1**
baz=72
133A Hamilton Ranch 72.24 337 ⇓P **P 12 12 36.7 +0.5**
baz=73
329A Wagon Wheel Ra 72.25 334 ⇑P **P 12 12 36.5 +0.2**
baz=73
230A Sterling City 72.31 335 ⇓P **P 12 12 36.7 0.0**
baz=73
Z35A Perchaven, San 72.40 339 ⇓P **P 12 12 37.8 +0.7**
baz=73
ABTX Abilene, Hawle 72.49 336 *e*P **P 12 12 38.5 +0.8**
19nm,0.8s
ABTX Abilene, Hawle 72.49 336 ⇑P **P 12 12 38.3 +0.6**
baz=73
Z34A Collier Ranch, 72.64 338 ⇓P **P 12 12 38.8 +0.3**
baz=73
131A Roby 72.78 336 ⇑P **P 12 12 39.2 -0.2**
baz=73
Z33A Whitaker Ranch 72.82 337 ⇑P **P 12 12 39.8 +0.2**
baz=73,SNR=6.5
WVT Waverly 72.84 347 *e*P **P 12 12 39.4 -0.2**
29nm,0.9s
130A Snyder 72.90 335 ⇑P **P 12 12 39.8 -0.3**
baz=73
228A UT Block 9, Go 73.04 334 ⇑P **P 12 12 41.7 +0.7**
baz=74
Z32A Haskell 73.06 337 ⇓P **P 12 12 41.1 0.0**
baz=74,SNR=5.7
Y34A Reagan Ranch, 73.14 338 ⇓P **P 12 12 42.3 +0.8**
baz=74
Z31A Sharp Cattle R 73.29 336 ⇓P **P 12 12 42.6 +0.2**
baz=74
Y33A Hilltop Ranch, 73.44 338 ⇑P **P 12 12 43.4 +0.1**
baz=74
128A Castleberry Fa 73.45 334 ⇑P **P 12 12 43.5 +0.1**
baz=74
Z30A Sanderson Ranc 73.59 336 ⇑P **P 12 12 43.9 -0.3**
baz=74
Y32A R-V Farms, Ver 73.70 337 ⇓P **P 12 12 44.7 -0.1**
baz=74
MNTX Cornudas Mount 73.70 331 *e*P **P 12 12 44.5 -0.4**
4.4nm,0.9s
X34A Smith Ranch, M 73.76 339 ⇓P **P 12 12 45.6 +0.5**
baz=74
Z29A Hungry Hill Ra 73.76 335 ⇓P **P 12 12 45.1 -0.1**
baz=74,SNR=5.1
X33A Lawton 73.90 338 ⇓P **P 12 12 45.9 -0.1**
baz=74
Y31A Rekieta Farm, 73.92 336 ⇓P **P 12 12 46.2 +0.1**
baz=74
PBMO Poplar Bluff 73.97 345 *e*P **P 12 12 45.9 -0.4**
7.6nm,0.7s
Z28A Tucker Farm, M 74.02 335 ⇑P **P 12 12 47.1 +0.3**
baz=74
X32A Elmer 74.03 337 ⇓P **P 12 12 47.1 +0.4**
baz=74
Y29A Porterfield Fa 74.30 335 ⇑P **P 12 12 48.6 +0.2**
baz=75
Z27A Tatum 74.34 334 ⇓P **P 12 12 49.7 +1.0**
baz=75
TUL1 Tulsa 74.41 341 ⇓P **P 12 12 48.9 +0.1**
baz=75
X31A McDonald Ranch 74.44 337 ⇓P **P 12 12 49.4 +0.2**
baz=75,SNR=5.4
W33A Caddo, Fort Co 74.46 338 ⇓P **P 12 12 49.4 +0.2**
baz=75
Y28A McKinney Farm, 74.54 335 ⇓P **P 12 12 49.7 -0.1**
baz=75
Z26A Caprock 74.58 333 ⇓P **P 12 12 49.9 -0.1**
baz=75
W32A Sentinel 74.67 338 ⇓P **P 12 12 51.0 +0.5**
baz=75,SNR=7.9
MSTX Muleshoe 74.77 335 *e*P **P 12 12 51.7 +0.5**
14nm,0.9s
MSTX Muleshoe 74.77 335 ⇑P **P 12 12 51.4 +0.2**
baz=75
V34A Guthrie 74.82 339 *e*P **P 12 12 53.2 +2.0**
17nm,0.9s
V34A Guthrie 74.82 339 ⇑P **P 12 12 51.4 +0.1**
baz=75
X29A Tulia 74.84 336 ⇓P **P 12 12 51.8 +0.2**
baz=75
Z25A Roswell 74.86 333 ⇑P **P 12 12 52.5 +0.8**
baz=75
V33A Lossen Ranch, 75.03 339 ⇓P **P 12 12 52.8 +0.3**
baz=76
Z24A Sheeppen Canyo 75.15 332 ⇓P **P 12 12 53.5 +0.1**
baz=76
AMTX Amarillo 75.23 336 *e*P **P 12 12 55.9 +2.1**
18nm,1.0s
AMTX Amarillo 75.23 336 ⇑P **P 12 12 53.8 0.0**
baz=76
U34A Anderson Ranch 75.38 340 ⇓P **P 12 12 55.1 +0.6**
baz=76
121A Cookes Peak, D 75.40 330 ⇑P **P 12 12 55.6 +0.8**
baz=76
W29A Amraillo 75.44 336 ⇑P **P 12 12 55.1 +0.1**
baz=76
X27A F and S Farms, 75.50 335 ⇑P **P 12 12 55.8 +0.4**
baz=76
X26A CR and CF Fran 75.67 334 ⇑P **P 12 12 56.4 +0.1**
baz=76
Y24A Capitan 75.70 332 ⇑P **P 12 12 57.4 +0.7**
baz=76
W27A Bowe Ranch, En 75.86 335 ⇓P **P 12 12 57.9 +0.4**
baz=76
Y23A Lovelace Mesa, 75.94 332 ⇓P **P 12 12 58.3 +0.3**
baz=76
X25A Clemmons Ranch 75.95 333 ⇓P **P 12 12 58.4 +0.4**
baz=76
W26A Owens Ranch, T 76.13 334 ⇑P **P 12 12 59.4 +0.4**
baz=77
ACSO Alum Creek Sta 76.15 352 *e*P **P 12 12 58.5 -0.3**
24nm,0.6s
V28A Channing 76.20 336 ⇓P **P 12 12 59.4 +0.1**
baz=77
X24A Lazy VL Ranch, 76.27 333 ⇓P **P 12 13 01.1 +1.2**
baz=77
DBIC Dimbokro 76.32 71 P **P 12 12 59.9 -0.5**
3.9nm,0.7s,baz=187,slow=3.6,SNR=7.8
DBIC Dimbokro 76.32 71 *e*P **P 12 12 59.9 -0.5**
16nm,1.1s
W25A X Bar L Ranch, 76.50 334 ⇓P **P 12 13 01.5 +0.5**
baz=77
V26A Tequesquite Ra 76.78 335 ⇑P **P 12 13 03.1 +0.5**
baz=77
W24A Lazy 6 Ranch, 76.84 333 ⇑P **P 12 13 03.5 +0.5**
baz=77
S32A Newby Ranch, P 76.96 339 ⇓P **P 12 13 04.0 +0.6**
baz=77
ANMO Albuquerque 76.99 332 *e*P **P 12 13 04.8 +0.8**
8.4nm,1.0s
U27A Thompson Grove 77.01 336 ⇓P **P 12 13 04.2 +0.3**
baz=78
W23A Werner Place, 77.07 332 ⇑P **P 12 13 04.7 +0.3**
baz=78
V25A Rancho No Teng 77.11 334 ⇓P **P 12 13 05.2 +0.6**
baz=78
T29A Hugoton 77.18 337 ⇓P **P 12 13 06.2 +1.4**
baz=78
V24A Rampart Ranch, 77.25 333 ⇓P **P 12 13 05.7 +0.3**
baz=78
T28A Walsh 77.41 336 ⇑P **P 12 13 06.6 +0.5**
baz=78
U25A Circle Dot Ran 77.54 334 ⇓P **P 12 13 07.3 +0.3**
baz=78
S29A Ulysses 77.55 337 ⇓P **P 12 13 07.9 +1.1**
baz=78
T27A Campo 77.56 336 ⇓P **P 12 13 07.9 +0.9**
baz=78
R32A Long Quarter, 77.57 339 ⇓P **P 12 13 07.7 +0.8**
baz=78
V23A Ortiz Mt. (NFS 77.60 333 ⇑P **P 12 13 07.7 +0.3**
baz=78
R31A Burdett 77.68 339 ⇓P **P 12 13 08.2 +0.7**
baz=78
S28A Manter 77.77 337 ⇑P **P 12 13 08.6 +0.5**
baz=78
R30A Dighton 77.90 338 ⇑P **P 12 13 09.9 +1.1**
baz=78
T26A Comanche Natio 77.95 335 ⇑P **P 12 13 10.3 +1.1**
baz=78,SNR=5.1
X18A Snowflake 78.02 329 ⇓P **P 12 13 10.1 +0.5**
baz=78
V22A San Miguel Ran 78.02 332 ⇑P **P 12 13 10.2 +0.5**
baz=78
Q32A Meitler Ranch, 78.06 340 ⇑P **P 12 13 10.0 +0.5**
baz=78
U23A El Rito 78.12 333 ⇑P **P 12 13 10.8 +0.6**
baz=79
T25A Trinidad 78.20 335 ⇓P **P 12 13 11.4 +0.8**
baz=79
Q31A Ellis 78.31 339 ⇓P **P 12 13 11.8 +0.8**
baz=79
S26A Kim 78.32 336 ⇓P **P 12 13 12.0 +0.8**
baz=79,SNR=7.1
U22A Llaves 78.41 333 ⇓P **P 12 13 13.0 +1.1**
baz=79
T24B San Luis 78.48 334 ⇓P **P 12 13 12.8 +0.5**
baz=79
Q30A Quinter 78.52 339 ⇓P **P 12 13 12.7 +0.5**
baz=79,SNR=6.3
X16A Lo Mia Camp, P 78.55 328 ⇓P **P 12 13 13.2 +0.5**
baz=79
P32A Huiting Farm, 78.65 340 ⇓P **P 12 13 11.9 -0.9**
baz=79
Q29A Oakley 78.67 338 ⇓P **P 12 13 13.5 +0.4**
baz=79
S25A Robets Cordova 78.68 335 ⇓P **P 12 13 13.7 +0.4**
baz=79
T23A Casias Ranch, 78.69 333 ⇓P **P 12 13 13.7 +0.3**
baz=79
R27A Eads 78.70 336 ⇑P **P 12 13 13.8 +0.6**
baz=79,SNR=6.2
P31A Stockton 78.78 339 ⇑P **P 12 13 14.9 +1.3**
baz=79
GLA Glamis 78.92 325 ⇓P **P 12 13 15.8 +1.3**
baz=79
R26A Arlington 78.92 336 ⇓P **P 12 13 15.7 +1.2**
baz=79,SNR=6.9
S24A Houchin Ranch, 78.94 334 ⇑P **P 12 13 15.7 +0.9**
baz=79
P30A Selden 79.06 339 ⇓P **P 12 13 15.8 +0.7**
baz=80
SDCO Great Sand Dun 79.13 334 *e*P **P 12 13 16.4 +0.5**
3.5nm,0.9s
O31A Woolen Ranch, 79.35 340 ⇓P **P 12 13 18.7 +2.0**
baz=80
R24A Sanders Place, 79.43 335 ⇓P **P 12 13 18.7 +1.4**
baz=80
WUAZ Wupatki 79.46 329 ⇓P **P 12 13 19.1 +1.6**
baz=80
Q26A Hugo 79.51 336 ⇑P **P 12 13 19.5 +1.7**
baz=80
P28A Saint Francis 79.54 338 ⇓P **P 12 13 19.9 +2.1**
baz=80
O30A MW Ranch, Wils 79.59 339 ⇑P **P 12 13 19.5 +1.5**
baz=80
S22A 4UR Ranch, Cre 79.61 333 ⇓P **P 12 13 19.2 +0.7**
baz=80
R23A Moffat 79.64 334 ⇑P **P 12 13 19.6 +1.0**
baz=80
Q25A Bedland, Calha 79.75 336 ⇑P **P 12 13 20.1 +1.0**
baz=80
MVCO Mesa Verde 79.77 332 ⇑P **P 12 13 20.2 +1.0**
baz=80
P27A Ficken Ranch, 79.78 337 ⇓P **P 12 13 21.1 +1.9**
baz=80
BOSA Boshof 79.82 118 P **P 12 13 18.7 -1.2**
11nm,0.8s,baz=246,slow=4.5,SNR=16
BOSA pP **PcP 12 13 27.9 +0.4**
8.0nm,0.8s,baz=255,slow=4.3,SNR=6.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
P26A	Davis Ranch, A baz=80	80.03	336	⇓P	P	12 13 21.7	+1.1
O28A	Krutsinger Ran baz=80	80.05	338	⇑P	P	12 13 21.4	+0.9
Q24A	Divide baz=80	80.10	335	⇑P	P	12 13 22.4	+1.2
P25A	Willow Gulch B baz=81,SNR=6.1	80.26	336	⇑P	P	12 13 23.0	+1.2
O27A	Beecher Island baz=81	80.33	337	⇓P	P	12 13 22.9	+0.8
U15A	North Rim baz=81	80.63	329	⇑P	P	12 13 25.1	+1.1
O26A	Horse Wrangler baz=81	80.64	337	⇓P	P	12 13 25.4	+1.7
GMRC	Granite Mounta baz=81	80.74	325	⇓P	P	12 13 26.1	+1.7
M30A	Dale-Ortello V baz=81	80.79	340	⇓P	P	12 13 26.2	+1.7
SMCO	Snowmass 9.3nm,1.0s	80.93	334	eP	P	12 13 27.5	+1.8
PV04	Paradox Valley	80.96	332	eP	P	12 13 27.0	+1.4
PV10	Paradox Valley 145nm,0.8s	80.99	332	eP	P	12 13 26.0	+0.1
ISCO	Idaho Springs baz=82	81.00	335	⇓P	P	12 13 27.3	+1.4
L31A	Butterfield Fa baz=82	81.10	341	⇑P	P	12 13 26.6	+0.5
O23A	Lake Granby, G baz=82	81.48	335	⇑P	P	12 13 29.2	+0.7
O22A	Kremmling baz=82	81.65	335	⇓P	P	12 13 29.8	+0.5
GSC	Goldstone baz=82	81.70	325	⇓P	P	12 13 30.6	+1.2
ECSD	EROS Data Cent 21nm,0.8s	81.99	343	eP	P	12 13 30.4	-0.3
ECSD	EROS Data Cent baz=82	81.99	343	⇑P	P	12 13 30.9	+0.2
CCUT	Cedar City 8.3nm,1.0s	82.03	329	eP	P	12 13 33.3	+1.9
K29A	Lazy Trails An baz=82	82.05	340	⇑P	P	12 13 31.4	+0.3
N23A	Red Feather La baz=82	82.10	335	⇓P	P	12 13 32.2	+0.5
N22A	Wattenberg Ran baz=83	82.19	335	⇑P	P	12 13 33.4	+1.2
SRU	San Rafael 5.1nm,0.9s	82.20	331	eP	P	12 13 33.1	+0.9
M24A	Cheyenne baz=83	82.23	336	⇓P	P	12 13 33.2	+0.9
K28A	Ten Mile Ranch baz=83	82.30	339	⇓P	P	12 13 34.0	+1.5
K27A	Flueckinger Fa baz=83	82.55	339	⇓P	P	12 13 34.5	+0.7
SPMN	St. Paul baz=83	82.57	346	⇓P	P	12 13 33.3	-0.4
J29A	Okreek baz=83,SNR=8.0	82.64	340	⇑P	P	12 13 34.6	+0.5
ISA	Isabella baz=83	82.78	324	⇓P	P	12 13 35.1	0.0
I30A	Oacoma baz=83	82.87	341	⇑P	P	12 13 35.6	+0.3
J28A	Allard Ranch, baz=83	82.92	340	⇑P	P	12 13 35.4	-0.2
K25A	Mack Ranch, Ha baz=83	82.96	337	⇑P	P	12 13 36.0	0.0
J27A	Elkhorn Farm, baz=83,SNR=5.7	82.98	339	⇑P	P	12 13 36.8	+0.9
I29A	Vivian Onida baz=84	83.21	340	⇓P	P	12 13 37.4	+0.4
BRSD	Miller 20nm,0.8s	83.24	341	eP	P	12 13 37.4	+0.2
BRSD	Miller baz=84	83.24	341	⇑P	P	12 13 38.1	+0.9
J26A	Sides Ranch, S baz=84	83.35	338	⇓P	P	12 13 38.7	+0.8
I28A	Midland baz=84,SNR=5.9	83.43	340	⇑P	P	12 13 39.1	+1.0
J25A	Sunshine Ranch baz=84	83.65	338	⇓P	P	12 13 40.3	+0.9
K23A	Bowen Ranch, D baz=84	83.65	336	⇑P	P	12 13 40.3	+0.8
R11A	Troy Canyon, C 5.7nm,0.9s	83.66	327	eP	P	12 13 41.1	+1.4
R11A	Troy Canyon, C baz=84	83.66	327	⇑P	P	12 13 39.9	+0.2
H29A	Onida baz=84	83.74	341	⇓P	P	12 13 40.0	+0.2
I27A	Quinn baz=84	83.74	339	⇑P	P	12 13 40.2	+0.4
JLU	Jordanelle 4.2nm,0.8s	83.85	331	eP	P	12 13 41.7	+1.0
K22A	Casper baz=84	83.86	336	⇑P	P	12 13 40.6	0.0
G30A	Faulkton baz=84	83.93	342	⇑P	P	12 13 41.4	+0.7
I26A	New Underwood baz=84	83.94	339	⇑P	P	12 13 41.4	+0.5
H28A	Mission Ridge baz=84	84.01	340	⇑P	P	12 13 41.7	+0.6
DUG	Dugway 23nm,1.4s	84.04	330	eP	P	12 13 42.6	+1.0
DUG	Dugway baz=84,SNR=5.1	84.04	330	⇑P	P	12 13 42.1	+0.6
K21A	Alcova baz=84	84.09	335	⇑P	P	12 13 42.4	+0.6
G29A	Hoven baz=85	84.19	341	⇓P	P	12 13 42.5	+0.5
I25A	Rochford baz=85	84.20	338	⇑P	P	12 13 43.0	+0.7
H27A	Howes baz=85	84.27	339	⇑P	P	12 13 42.8	+0.3
G28A	Parade baz=85,SNR=5.1	84.35	340	⇓P	P	12 13 43.3	+0.4
RSSD	Black Hills 3.4nm,0.8s	84.38	338	eP	P	12 13 43.1	-0.1
J22A	Midwest baz=85	84.52	336	⇑P	P	12 13 43.2	-0.7
F30A	Leola baz=85	84.56	342	⇓P	P	12 13 44.5	+0.6
H25A	Fruitdale baz=85	84.70	338	⇑P	P	12 13 44.8	+0.1
HWUT	Hardware Ranch 14nm,1.1s	84.76	332	eP	P	12 13 45.2	0.0
F29A	Eureka baz=85	84.76	341	⇑P	P	12 13 45.0	+0.1
J21A	Lysite baz=85	84.78	335	⇑P	P	12 13 45.8	+0.4
G27A	Dupree baz=85	84.91	340	⇑P	P	12 13 45.7	0.0
NVAR	Mina Array Bea 1.3nm,0.7s,baz=155,slow=6.6,SNR=8.1	84.94	326	P	P	12 13 47.5	+1.2
NVAR	 3.6nm,0.8s,baz=154,slow=6.1,SNR=11			pP	pP	12 13 56.5	+0.7
I22A	9 Mile Ranch, baz=85	84.95	336	⇓P	P	12 13 45.7	-0.3
J20A	Shoshoni baz=86	85.01	335	⇑P	P	12 13 46.4	0.0
PDAR	Pinedale Array 0.3nm,0.6s,baz=159,slow=2.7,SNR=2.6	85.01	334	P	P	12 13 46.4	-0.2
PDAR	 1.3nm,0.7s,baz=151,slow=3.4,SNR=8.6			pP	pP	12 13 55.3	-0.8
G26A	Maurine baz=86	85.02	339	⇑P	P	12 13 46.3	0.0
H24A	Dirks Ranch, A baz=86	85.10	338	⇓P	P	12 13 46.8	0.0
I21A	Big Trails, Te baz=86	85.15	336	⇑P	P	12 13 46.9	-0.1
E30A	Jud baz=86	85.15	342	⇑P	P	12 13 47.1	+0.3
G25A	Newell baz=86	85.17	339	⇓P	P	12 13 47.1	+0.1
J19A	Crowheart baz=86	85.27	334	⇓P	P	12 13 47.6	-0.1
HVU	Hansel Valley 7.0nm,0.8s	85.37	331	eP	P	12 13 48.5	+0.3
TORD	Torodi Ar. Bea 3.3nm,0.8s,baz=261,slow=3.9,SNR=19	85.38	70	P	P	12 13 48.1	-0.6
TORD	 2.9nm,0.9s,baz=261,slow=4.7,SNR=7.6			pP	pP	12 13 59.0	+0.7
F27A	Lemmon baz=86	85.39	340	⇑P	P	12 13 48.4	+0.3
E29A	Napoleon baz=86	85.40	342	⇑P	P	12 13 48.1	0.0
H22A	Clearmont baz=86	85.53	337	⇑P	P	12 13 49.0	+0.1
I20A	Worland baz=86	85.55	335	⇑P	P	12 13 49.2	+0.1
F26A	Lodgepole baz=86	85.55	340	⇓P	P	12 13 49.3	+0.4
E28A	Huff baz=86	85.67	341	⇓P	P	12 13 49.9	+0.5
G23A	Biddle baz=86	85.77	338	⇑P	P	12 13 50.1	0.0
E27A	Carson baz=86	85.77	340	⇑P	P	12 13 50.1	+0.2
H21A	Big Horn, Sher baz=86	85.79	336	⇑P	P	12 13 50.1	-0.1
D29A	Pettibone, Tap baz=86	85.84	342	⇓P	P	12 13 50.5	+0.2
F25A	Bowman baz=86	85.84	339	⇑P	P	12 13 50.5	+0.1
I19A	Meeteetse baz=86	85.92	335	⇑P	P	12 13 50.6	-0.4
H20A	Greybull baz=86	85.98	336	⇓P	P	12 13 51.5	+0.4
E26A	Carlson Angus baz=86,SNR=5.0	86.06	340	⇑P	P	12 13 51.4	0.0
F24A	Ekalaka baz=86	86.06	338	⇓P	P	12 13 51.3	-0.2
G22A	Birney baz=86	86.07	337	⇓P	P	12 13 51.2	-0.4
AGMN	Agassiz Nation 11nm,1.3s	86.14	345	eP	P	12 13 51.4	-0.3
AGMN	Agassiz Nation baz=87	86.14	345	⇓P	P	12 13 51.6	0.0
TPAW	Teton Pass 8.3nm,0.9s	86.15	333	eP	P	12 13 53.3	+1.1
C30A	Mose, Pekin baz=87,SNR=5.3	86.17	343	⇑P	P	12 13 52.0	+0.1
D28A	Regan baz=87,SNR=5.7	86.21	341	⇓P	P	12 13 52.2	+0.1
F23A	Volborg baz=87	86.24	338	⇑P	P	12 13 52.1	-0.2
FXWY	Fox Creek 10nm,1.6s	86.30	333	eP	P	12 13 53.4	+0.5
E25A	Miller Ranch, baz=87,SNR=5.8	86.35	339	⇓P	P	12 13 53.2	+0.3
G21A	Lodge Grass baz=87	86.37	336	⇑P	P	12 13 52.6	-0.4
I17A	Pilgrim Ck. baz=87	86.38	334	⇓P	P	12 13 53.0	-0.3
H19A	Powell baz=87	86.48	335	⇑P	P	12 13 53.2	-0.4
IMW	Indian Meadow	86.50	333	eP	P	12 13 54.6	+0.7
F22A	Rosebud baz=87	86.56	337	⇓P	P	12 13 53.5	-0.4
D26A	Manning baz=87	86.56	340	⇑P	P	12 13 54.0	+0.1
FLWY	Flagg Ranch	86.57	334	eP	P	12 13 54.8	+0.6
C28A	Hausauer Farms baz=87	86.65	342	⇑P	P	12 13 54.5	+0.2
E24A	Baker baz=87	86.67	339	⇑P	P	12 13 54.5	0.0
G20A	Bridger baz=87	86.70	336	⇓P	P	12 13 54.8	+0.1
H18A	Shoshone NF, C baz=87	86.72	335	⇑P	P	12 13 54.9	-0.1
B30A	Myrvik Farm, E baz=87,SNR=6.2	86.83	343	⇑P	P	12 13 55.2	+0.1
F21A	Absaloka Mine, baz=87	86.88	337	⇓P	P	12 13 55.5	+0.1
E23A	Ismay baz=87	86.91	338	⇓P	P	12 13 55.8	+0.2
D25A	Fairfield baz=87,SNR=5.3	86.92	340	⇑P	P	12 13 56.2	+0.6
C27A	Sayler Ranch, baz=87	86.94	341	⇓P	P	12 13 55.9	+0.3
B29A	Wagenman Farm, baz=88,SNR=6.1	87.09	343	⇑P	P	12 13 56.5	+0.1
D24A	Glendive baz=88,SNR=5.7	87.18	339	⇓P	P	12 13 57.0	+0.2
F20A	Billings baz=88	87.19	336	⇑P	P	12 13 57.0	0.0
C26A	Wahner Farm, P baz=88	87.20	341	⇓P	P	12 13 57.1	+0.1
A30A	Hoffart Farm, baz=88	87.29	343	⇑P	P	12 13 57.5	+0.2
B28A	Dugan Ranch, T baz=88,SNR=6.9	87.33	342	⇓P	P	12 13 57.8	+0.3
C25A	Freed Ranch, W baz=88	87.42	340	⇓P	P	12 13 58.7	+0.7
A29A	Manning Farm, baz=88,SNR=6.8	87.49	343	⇑P	P	12 13 58.1	-0.2
D23A	Lindsay baz=88	87.49	339	⇑P	P	12 13 58.6	+0.2
E21A	Keefer Ranch, baz=88	87.50	337	⇑P	P	12 13 59.1	+0.7
F19A	Roth Farm, Mol baz=88	87.50	336	⇓P	P	12 13 58.7	+0.2
HLID	Hailey 6.3nm,1.1s	87.53	331	eP	P	12 13 59.1	+0.3
HLID	Hailey baz=88	87.53	331	⇑P	P	12 13 58.9	+0.1
C24A	Savage baz=88	87.58	339	⇑P	P	12 13 59.2	+0.4
A28A	Rude Farm, Bot baz=88	87.73	342	⇑P	P	12 14 00.1	+0.6
D22A	Cohagen baz=88	87.76	338	⇑P	P	12 13 59.9	+0.2
E20A	Meyer Farm, Mu baz=88	87.80	336	⇑P	P	12 14 00.1	+0.1
D21A	La Casta Ranch baz=88	87.94	337	⇓P	P	12 14 00.7	+0.2
E19A	Rath Farm, Rou baz=88	87.98	336	⇑P	P	12 14 00.7	-0.1
ULM	Lac du Bonnet 3.3nm,0.7s,baz=116,slow=1.6,SNR=8.8	87.99	345	P	P	12 13 59.8	-0.8
ULM	 11nm,1.0s,baz=184,slow=3.3,SNR=10			pP	pP	12 14 08.9	-1.3
C23A	Lambert baz=88	88.05	339	⇓P	P	12 14 01.2	+0.1
A26A	Wade Farm, Ken baz=89	88.17	341	⇑P	P	12 14 01.8	+0.2
C22A	Vida baz=89	88.20	338	⇓P	P	12 14 02.0	+0.2
D20A	Manuel Ranch, baz=89	88.32	337	⇑P	P	12 14 03.0	+0.7
DGMT	Dagmar 37nm,1.1s	88.37	340	eP	P	12 14 03.4	+0.9
DGMT	Dagmar baz=89,SNR=6.0	88.37	340	⇑P	P	12 14 02.8	+0.3
B23A	Brockton baz=89	88.59	339	⇑P	P	12 14 05.6	+2.0
C21A	Desert Coulee baz=89	88.65	338	⇓P	P	12 14 06.0	+2.2
B22A	Reddig Ranch S baz=89	88.74	339	⇑P	P	12 14 06.4	+2.1
C20A	Veseth Ranch, baz=89	88.83	337	⇓P	P	12 14 06.3	+1.6
A22A	Carney Farms, baz=90	89.33	339	⇓P	P	12 14 07.8	+0.7
B20A	Solberg Farm, baz=90	89.48	337	⇓P	P	12 14 07.3	-0.4
J05D	Fort Rock, OR baz=91	90.16	327	⇓P	P	12 14 11.8	+0.7
YKA	Yellowknife Ar 0.4nm,1.0s,baz=268,slow=10,SNR=4.4	103.48	341	Pdiff	Pdif	12 15 09.4	-1.5
YKA	 0.4nm,0.9s,baz=140,slow=4.5,SNR=5.2			pP		12 15 19.5	
ASAR	Alice Springs 0.3nm,0.6s,baz=339,slow=3.8,SNR=4.3	115.76	207	PKKPab	PKKPab	12 30 29.2	-4.4
ABKAR	Akbulak array	143.22	53	ePKPdf	PKPab	12 20 40.4	0.0
KKAR	Karatay Array	150.88	64	ePKPdf	PKPdf	12 20 59.8	+2.1
AAK	Ala-Archa	153.83	65	ePKPdf	PKPdf	12 20 59.5	-2.7
AAK				ePKPbc	PKiKP	12 21 10.6	+0.3
AAK				ePKPab	PKPab	12 21 23.6	+0.2
TKM2	Tokmak 2	154.61	64	ePKPab	PKPab	12 21 25.4	-1.4
KSH	Kashi	155.04	72	ePKPbc	PKPdf	12 21 04.5	+0.5
ZALV	Zalesovo Beam 0.8nm,0.3s,baz=295,slow=4.2,SNR=5.8	156.00	34	PKPab	PKPab	12 21 31.9	-0.1
MKAR	Makanchi Array 1.3nm,0.8s,baz=299,slow=4.2,SNR=6.3	158.34	52	PKPab	PKPab	12 21 41.7	-0.7
WMQ	Urumqi	162.98	56	ePKP	PKPdf	12 21 13.5	+0.4
WMQ	 comp=N,110nm,20.0s			LR	LR		
WMQ	 comp=E,93nm,20.8s			LR	LR		
WMQ	 comp=Z,210nm,20.8s			LR	LR		
KMI	Kunming	168.77	159	PKP	PKPdf	12 21 21.3	+2.8
NJ2	Nanjing	169.65	253	ePKP	PKPdf	12 21 17.8	-0.8
GYA	Guiyang	170.76	177	ePKP	PKPdf	12 21 18.8	-0.7
GYA				pPKP	pPKPdf	12 21 30.3	+0.8
GYA				PKPab	PKPab	12 22 38.0	+0.6
GYA				PP	PP	12 26 29.5	+2.6
GYA				SKKS		12 33 12.0	
GYA				SS	SS	12 47 26.5	-0.7
GYA	 comp=Z,120nm,8.3s			AMB	AMB		
GYA	 comp=N,130nm,21.7s			LR	LR		
GYA	 comp=E,120nm,21.4s			LR	LR		
GYA	 comp=Z,140nm,24.8s			LR	LR		
HHC	Hu-ho-hao-te	173.83	328	ePKP	PKPdf	12 21 20.5	+0.1
HHC				pPKP	pPKPdf	12 21 31.5	+1.1
HHC				sPKP		12 21 36.0	
HHC				PP	PP	12 26 46.0	+3.5
HHC				SKS	SKSdf	12 28 22.0	+0.6
HHC				SS	SS	12 47 57.8	-0.3
HHC	 comp=Z,490nm,6.2s			AMB	AMB		
HHC	 comp=N,240nm,19.1s			LR	LR		
HHC	 comp=E,260nm,20.3s			LR	LR		
HHC	 comp=Z,880nm,19.7s			LR	LR		
CD2	Chengdu	174.41	148	PKP	PKPdf	12 21 20.5	-0.4
CD2				pPKP	pPKPdf	12 21 32.0	+1.2
CD2				sPKP		12 21 35.8	
CD2				PKS	PKSdf	12 24 51.5	-1.7
CD2				PP	PP	12 26 48.3	+3.1
CD2				SKS	SKSdf	12 28 18.3	-3.6
CD2				SKKS	SKKSac	12 33 29.0	-1.0
CD2				SS	SS	12 48 01.8	-1.7
CD2	 comp=Z,220nm,6.4s			AMB	AMB		
LZH	Lanzhou	177.25	81	ePKP	PKPdf	12 21 22.0	+0.4
LZH				pPKP	pPKPdf	12 21 32.0	+0.5
LZH				sPKP		12 21 36.5	
LZH				PKPab	PKPab	12 23 08.0	+1.6
XAN	Xi'an	177.81	221	PKP	PKPdf	12 21 19.5	-2.0

*ISCJB **28** 12:02:00.2±0.6, 35°.79S±0°.09×72°.8W±0°.1, h28km, mb4.4/16, Error ellipse: s-maj=15.9km s-min=12.5km az=147.5*

*IDC **28** 12:02:01.7±0.8, 35°.72S×72°.50W, h27km±5km, mb4.2/8, mb1 4.3/8, mb1mx4.1/25, mbtmp4.4/8, MS4.7/1, Ms1 4.7/1, ms1mx3.6/28, Error ellipse: s-maj=34.1km s-min=17.0km az=70.0*

*NEIC **28** 12:02:03.4±0.6, 35°.69S×72°.83W, h35km, mb4.5/10, Error ellipse: s-maj=18.0km s-min=11.9km az=69.0*

ISC 28 12:02:01.8±0.7, **35°.8S**±0°.1×**72°.7W**±0°.2, **h28km, n23, σ2.07s**/24, **mb4.5**/16, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores 3.0nm,0.3s,baz=301,slow=20,SNR=3.0	5.18	161	Pn	Pn	12 03 23.4	+5.9
PLCA	 14nm,0.3s,baz=326,slow=11,SNR=6.2			Pg	Pb	12 03 38.2	+6.4
PLCA	 13nm,0.3s,baz=271,slow=10,SNR=3.8			Lg	Lg	12 04 41.2	
CFAA	Coronel Fontan 0.8nm,0.3s,baz=224,slow=17,SNR=2.5	5.63	43	Pn	Pn	12 03 25.5	+1.8
CFAA	 1.6nm,0.3s,baz=2.8,slow=16,SNR=2.1			Lg	Lg	12 04 45.8	
TRQA	Tornquist	8.88	108	ePn	Pn	12 04 12.0	+3.8
CPUP	Villa Florida comp=Z,3µm,18.2s,baz=356,slow=41	16.21	59	LR	LR	12 12 53.4	
SIV	San Ignacio 13nm,0.8s,baz=219,slow=11,SNR=7.1	22.32	31	P	P	12 06 57.0	-0.4
SNAA	Sanae 5.2nm,0.8s,baz=291,slow=7.6,SNR=8.6	50.11	157	P	P	12 10 54.3	+0.3
FDF	Fort de France 4.1nm,0.5s	51.47	14	eP	P	12 11 04.3	-0.5
QSPA	South Pole Qui 5.8nm,0.8s,baz=103,slow=2.6,SNR=2.8	54.41	180	P	P	12 11 27.1	+0.9
QSPA	South Pole Qui 3.3nm,0.9s	54.41	180	eP	P	12 11 26.8	+0.6
TXAR	Lajitas Array 1.0nm,0.8s,baz=157,slow=4.9,SNR=2.2	71.07	332	P	P	12 13 16.7	-0.7
TXAR	 1.8nm,0.9s,baz=145,slow=9.0,SNR=3.4			pP	pP	12 13 26.3	0.0
SWET	Sewanee 13nm,1.1s	71.75	349	eP	P	12 13 20.5	-0.9
WVT	Waverly 4.1nm,0.8s	72.97	347	P	P	12 13 28.6	+0.1
ACSO	Alum Creek Sta 4.7nm,0.8s	76.28	352	eP	P	12 13 46.8	-0.9
BOSA	Boshof 7.0nm,0.8s,baz=222,slow=4.8,SNR=5.7	79.71	118	P	P	12 14 06.9	-0.5
BOSA	 3.9nm,0.7s,baz=261,slow=4.9,SNR=2.0			pP	PcP	12 14 15.0	-0.1
BOSA	Boshof 7.8nm,0.8s	79.71	118	eP	P	12 14 06.8	-0.5
MVCO	Mesa Verde 3.8nm,1.2s	79.90	332	eP	P	12 14 08.9	+0.7
ECSD	EROS Data Cent 4.2nm,1.0s	82.12	343	eP	P	12 14 18.9	-0.6
JLU	Jordanelle 4.2nm,1.1s	83.98	331	eP	P	12 14 29.8	+0.2
TPH	Tonopah 12nm,1.3s	84.29	326	eP	P	12 14 32.4	+1.3
NVAR	Mina Array Bea 0.6nm,0.8s,baz=159,slow=5.4,SNR=1.6	85.07	326	P	P	12 14 36.1	+1.0
NVAR	 2.6nm,0.9s,baz=159,slow=6.1,SNR=4.6			pP	pP	12 14 44.6	+0.5
TORD	Torodi Ar. Bea 3.2nm,0.9s,baz=245,slow=3.4,SNR=4.6	85.35	70	P	P	12 14 34.9	-1.8
ULM	Lac du Bonnet 1.6nm,0.7s,baz=191,slow=5.2,SNR=2.0	88.12	345	P	P	12 14 48.3	-1.0
ULM	 2.6nm,0.6s,baz=110,slow=3.5,SNR=3.2			pP	pP	12 14 57.2	-1.2
YKA	Yellowknife Ar 0.1nm,0.6s,baz=149,slow=4.3,SNR=2.8	103.61	341	pP	Pdif	12 16 08.1	+8.5

*ISCJB **28** 12:05:27.1±0.9, 35°.5S±0°.2×72°.6W±0°.3, h20km, mb3.8/6, Error ellipse: s-maj=35.1km s-min=23.4km az=6.9*

*IDC **28** 12:05:29.6±0.7, 35°.51S×72°.62W, h26km±5km, mb3.6/6, mb1 3.9/6, mb1mx3.7/23, mbtmp3.8/6, Error ellipse: s-maj=33.0km s-min=22.1km az=95.0*

ISC 28 12:05:29.2±0.9, **35°.5S**±0°.1×**72°.7W**±0°.2, **h20km, n7, σ1.18s**/10, **mb3.8**/6, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan 0.6nm,0.3s,baz=203,slow=13,SNR=3.9	5.38	45	Pg	Pb	12 06 57.1	-5.4
CFAA	 0.2nm,0.3s,baz=220,slow=5.1,SNR=1.9			Lg	Lg	12 08 03.9	
SIV	San Ignacio 2.4nm,0.6s,baz=196,slow=8.6,SNR=4.2	22.04	31	P	P	12 10 21.5	-1.1
SIV	 3.7nm,0.8s,baz=221,slow=13,SNR=4.5			pP	pP	12 10 30.1	+1.8
QSPA	South Pole Qui 2.4nm,0.9s,baz=139,slow=4.8,SNR=3.1	54.73	180	P	P	12 14 56.5	-0.5
QSPA	 3.2nm,0.9s,baz=144,slow=14,SNR=3.9			pP	pP	12 15 04.5	+1.1
TXAR	Lajitas Array 0.4nm,0.6s,baz=157,slow=9.3,SNR=7.1	70.80	332	P	P	12 16 44.0	-0.3
TXAR	 0.2nm,0.6s,baz=151,slow=8.2,SNR=2.2			pP	pP	12 16 51.8	+0.9
NVAR	Mina Array Bea 0.2nm,0.4s,baz=157,slow=4.9,SNR=3.1	84.83	326	P	P	12 18 02.8	+0.4
PDAR	Pinedale Array 0.3nm,0.6s,baz=151,slow=3.9,SNR=3.4	84.87	334	P	P	12 18 01.4	-1.1
TORD	Torodi Ar. Bea 0.8nm,0.9s,baz=219,slow=6.0,SNR=2.7	85.22	70	P	P	12 18 03.8	-0.8
TORD	 0.4nm,0.8s,baz=248,slow=4.7,SNR=1.5			pP	pP	12 18 12.1	+0.9

*ISCJB **28** 12:10:34.9±0.6, 38°.26S±0°.10×73°.48W±0°.09, h18km, mb4.3/13, Error ellipse: s-maj=14.8km s-min=9.1km az=17.8*

*IDC **28** 12:10:37.4±0.9, 38°.34S×73°.34W, h23km±4km, mb4.0/7, mb1 4.1/8, mb1mx3.9/24, mbtmp4.0/8, ML4.5/1, Error ellipse: s-maj=25.5km s-min=14.7km az=58.0*

*NEIC **28** 12:10:38.6±0.4, 38°.29S×73°.53W, h35km, mb4.7/8, Error ellipse: s-maj=11.9km s-min=8.7km az=54.0*

ISC 28 12:10:36.6±0.6, **38°.31S**±0°.08×**73°.53W**±0°.09, **h18km, n30, σ1.24s**/36, **mb4.4**/13, **Near coast of central Chile**

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

PLCA Paso Flores 3.34 137 Pn Pn 12 11 29.7 +1.7
1.9nm,0.3s,baz=309,slow=14,SNR=7.3
PLCA Pg Pb 12 11 34.5 -0.9
17nm,0.3s,baz=320,slow=16,SNR=35
PLCA Lg Lg 12 12 18.6
15nm,0.3s,baz=240,slow=20,SNR=3.3
PLCA Paso Flores 3.34 137 ePn Pn 12 11 29.3 +1.3
PLCA Pg Pb 12 11 34.5 -0.9
PLCA Lg Lg 12 12 18.6
TRQA Tornquist 9.10 92 ePn Pn 12 12 47.0 -0.1
TRQA eSn Sn 12 14 30.3 +1.2
CPUP Villa Florida 18.14 54 P P 12 14 48.0 +0.3
0.3nm,0.3s,baz=203,slow=14,SNR=2.8
LPAZ La Paz 22.45 14 P P 12 15 38.8 +3.5
1.5nm,0.6s,baz=215,slow=8.5,SNR=2.9
LPAZ La Paz 22.45 14 eP P 12 15 35.8 +0.6
4.3nm,1.0s
BDFB Brasilia 31.85 52 P P 12 17 01.1 +0.4
2.1nm,0.8s,baz=148,slow=15,SNR=2.2
SNAA Sanae 48.09 156 P P 12 19 15.4 +0.7
1.3nm,0.8s,baz=304,slow=11,SNR=4.2
QSPA South Pole Qui 51.94 180 P P 12 19 44.7 +0.7
4.8nm,1.0s,baz=151,slow=4.7,SNR=8.9
QSPA South Pole Qui 51.94 180 eP P 12 19 44.4 +0.3
7.3nm,1.1s
JCT Junction City 72.69 336 eP P 12 22 02.5 -0.8
7.6nm,1.1s
TXAR Lajitas Array 72.95 333 P P 12 22 05.2 +0.3
0.9nm,0.7s,baz=155,slow=8.9,SNR=11
TXAR pP pP 12 22 13.8 +3.1
0.4nm,0.7s,baz=148,slow=10,SNR=4.4
SWET Sewanee 74.05 349 eP P 12 22 10.7 -0.5
7.8nm,0.6s
TUL1 Tulsa 76.67 342 eP P 12 22 25.8 -0.4
9.2nm,0.9s
DBIC Dimbokro 77.71 71 P P 12 22 32.0 -0.5
6.2nm,0.9s,baz=182,slow=6.1,SNR=7.1
DBIC Dimbokro 77.71 71 eP P 12 22 31.8 -0.7
6.8nm,0.8s
ACSO Alum Creek Sta 78.64 353 eP P 12 22 36.0 -1.1
10.0nm,0.8s
ANMO Albuquerque 79.02 333 eP P 12 22 40.3 +0.8
3.2nm,1.2s
TORD Torodi Ar. Bea 86.80 71 P P 12 23 18.7 -1.3
1.9nm,0.8s,baz=235,slow=4.4,SNR=9.2
TORD pP pP 12 23 26.7 +0.7
1.6nm,0.8s,baz=243,slow=3.8,SNR=5.9
PDAR Pinedale Array 87.08 334 P P 12 23 20.9 -0.2
0.4nm,0.9s,baz=161,slow=5.7,SNR=3.1
PDAR pP pP 12 23 28.8 +1.7
0.3nm,0.3s,baz=124,slow=7.7,SNR=3.5
ILAR Eielson Array 117.46 332 PKP PKPdf 12 29 19.3 -0.8
0.4nm,0.9s,baz=164,slow=3.6,SNR=2.7
AKASG Malin Array Be 125.94 50 PKP PKPdf 12 29 35.1 -1.6
0.1nm,0.3s,baz=240,slow=0.4,SNR=3.2
TIXI Tiksi 144.68 348 ePKPdf PKPab 12 30 07.8 -1.8
ABKAR Akbulak array 145.19 56 ePKPdf PKPbc 12 30 11.2 -0.9
BRVK Borovoye 151.10 48 ePKPbc PKPbc 12 30 27.4 -0.5
KKAR Karatay Array 152.47 68 ePKPbc PKPbc 12 30 30.0 -1.3
AAK Ala-Archa 155.38 70 ePKPab PKPab 12 30 54.2 -0.1
ZALV Zalesovo Beam 158.46 36 PKP PKPdf 12 30 31.6 -0.4
0.3nm,0.4s,baz=241,slow=4.8,SNR=3.0
MKAR Makanchi Array 160.33 57 PKPab PKPab 12 31 14.1 -1.3
0.5nm,0.9s,baz=266,slow=4.1,SNR=3.2
SONM Songino Array 170.48 0 PKPab PKPab 12 31 60.0 0.0
0.8nm,0.7s,baz=350,slow=7.3,SNR=5.3

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*IDC **28** 12:10:38.8±1.3, 0°.81N×99°.26E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/45, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=46.8km s-min=13.5km az=68.0*
*DJA **28** 12:10:42.9±0.9, 1°N±6°×9°E±1°0, h10km, M4.3/6, MLv4.3/6*
ISC 28 12:10:40.1±1.1, **0°.8N**±0°.1×**99°.2E**±0°.1, **h10km, n11, σ1**°**11**/11, **mb3.5**/4, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	0.42	87	P	Pg	12 10 47.2	-1.2
BKNI	Bangkinang	1.93	103	P	Pn	12 11 12.5	-0.6
PSI	Prapat	2.03	353	Pg	Pn	12 11 14.1	-0.4
	10nm,0.3s,baz=159,slow=16,SNR=15						
PSI				Lg	Lg	12 11 38.9	
	6.4nm,0.3s,baz=11,slow=6.5,SNR=8.6						
PDSI	Padang	2.12	142	P	Pb	12 11 19.2	+0.5
SDSI	Sungai Dareh	2.83	127	P	Pb	12 11 32.4	+1.6
DSRI	Dabo	5.56	103	P	Pn	12 12 19.3	+1.9
CMAR	Chiang Mai Arr	17.57	359	P	Pn	12 14 45.5	+0.2
	0.2nm,0.3s,baz=195,slow=10,SNR=5.0						
WRA	Warramunga Arr	40.15	123	P	P	12 18 16.8	0.0
	0.3nm,0.7s,baz=306,slow=8.7,SNR=2.9						
ASAR	Alice Springs	41.59	128	P	P	12 18 27.7	-0.9
	0.4nm,0.8s,baz=299,slow=7.6,SNR=2.8						
ZALV	Zalesovo Beam	54.30	350	P	P	12 20 06.2	-0.4
	2.0nm,0.6s,baz=182,slow=7.9,SNR=7.0						
BRTR	Keskin Array B	70.85	312	P	P	12 21 58.3	+0.7
	0.5nm,0.5s,baz=134,slow=6.2,SNR=3.3						

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*IDC **28** 12:11:10.8±0.6, 25°.92N×128°.51E, h0km, mb4.2/15, mb1 4.3/18, mb1mx4.2/29, mbtmp4.1/18, ML3.3/3, Error ellipse: s-maj=26.4km s-min=12.4km az=78.0*
*ISCJB **28** 12:11:12.5±0.3, 25°.91N±0°.03×128°.55E±0°.03, h27km, mb4.2/25, Error ellipse: s-maj=4.7km s-min=3.2km az=43.9*
*JMA **28** 12:11:13.0±0.3, 25°.92N×128°.63E, h35km, M4.1*
*NEIC **28** 12:11:16.0±0.5, 25°.88N×128°.33E, h35km, mb4.5/8, Error ellipse: s-maj=9.9km s-min=7.5km az=112.0*
ISC 28 12:11:14.4±0.5, **25°.91N**±0°.03×**128°.56E**±0°.04, **h27km, n78, σ1**°**49**/91, **mb4.3**/25, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.76	287	P	Pn	12 11 28.3	-1.1
JJT2				S	Sn	12 11 39.3	-0.7
JNTH	Nagotoyohara	0.77	321	P	Pb	12 11 27.6	-1.7
JOW	Kunigami	0.95	345	P	Pn	12 11 30.6	-1.4
JOW	Kunigami	0.95	345	Pn	Pn	12 11 30.7	-1.3
	62nm,0.3s,baz=149,slow=16,SNR=234						
JIH	Iheya	1.23	335	P	Pn	12 11 35.0	-0.9
JIH				S	Sn	12 11 50.2	-1.5
JAGN	Aguni-jima	1.36	300	P	Pn	12 11 36.9	-0.7
JAGN				eS	Sb	12 11 54.5	-1.7
JOKE	Okinoerabujima	1.44	0	P	Pn	12 11 37.7	-1.1
JOKE				S	Sn	12 11 54.7	-2.2
JKE	Kume jima 2	1.65	285	P	Pn	12 11 40.3	-1.3
JKE				S	Sn	12 11 59.6	-2.2
JTK	Tokunoshima	1.90	11	P	Pn	12 11 43.9	-1.2
JAMN	Amaminishikomi	2.38	13	P	Pn	12 11 50.6	-1.1
JAMN				S	Sn	12 12 18.3	-1.8
JMZ	Minamidaito 2	2.40	92	P	Pn	12 11 49.7	-2.3
JMZ				S	Sn	12 12 15.5	-5.0
JAM	Amami Oshima	2.66	20	P	Pn	12 11 53.9	-1.6
JAM				S	Sn	12 12 24.3	-2.5
JZK	Kikaishima	2.70	27	P	Pn	12 11 55.1	-1.0
JZK				S	Sn	12 12 27.3	-0.7
JOGS	Gusukube	3.08	249	P	Pn	12 12 00.6	-0.6
JOGS				S	Sn	12 12 35.5	-1.6
JMJ	Miyako jima 2	3.15	250	P	Pn	12 12 01.4	-0.9
JMJ				S	Sn	12 12 37.2	-1.8
JIKM	Ikemajima	3.15	252	P	Pn	12 12 01.5	-0.8
JIRB	Irabujima	3.25	251	P	Pn	12 12 02.3	-1.3
JIRB				S	Sn	12 12 39.0	-2.4
JTAJ	Takarajima	3.28	10	P	Pn	12 12 02.7	-1.3
JTJ	Tarama	3.71	251	P	Pn	12 12 08.5	-1.5
JTJ				S	Sn	12 12 49.3	-3.6
JISG	Ishigakijimahi	4.07	252	P	Pn	12 12 12.7	-2.2
JIJ	Ishigaki jima	4.29	250	P	Pn	12 12 15.6	-2.4
JIJ				S	Sn	12 13 02.6	-4.5
TATO	Taipei	6.46	263	ePn	Pn	12 12 48.9	+1.1
NACB	Ninganchiao	6.55	256	ePn	Pn	12 12 46.2	-2.8
YHNB	Yeheng	6.62	261	ePn	Pn	12 12 49.4	-0.7
YULB	Yu-li	7.07	251	ePn	Pn	12 12 51.5	-4.7
SSLB	Suanglung	7.22	255	ePn	Pn	12 12 55.0	-3.3
JNU	Nakatsue	7.46	15	Pn	Pn	12 13 02.0	+0.5
	1.3nm,0.3s,baz=205,slow=6.9,SNR=20						
JNU				Sn	Sn	12 14 23.0	-2.3
	0.7nm,0.3s,baz=75,slow=15,SNR=0.8						
JNU	Nakatsue	7.46	15	ePn	Pn	12 13 02.0	+0.5
	7.5nm,0.8s						
JNU				Sn	Sn	12 14 23.0	-2.3
TWG	Pinlang	7.49	247	ePn	Pn	12 12 57.0	-5.0
TPUB	Ta-pu	7.67	252	ePn	Pn	12 13 02.0	-2.5
KSAR	Wonju Array Be	11.51	357	Pn	Pn	12 13 57.3	+0.3
KSRS	Korea Array	11.52	357	Pn	Pn	12 13 57.3	+0.2
	0.1nm,0.3s,baz=181,slow=14,SNR=4.7						
MJAR	Matsushiro Arr	13.42	36	Pn	P	12 14 34.5	+2.2
	0.1nm,0.3s,baz=215,slow=9.8,SNR=6.9						
USRK	Ussuriysk Arra	18.45	8	P	Pn	12 15 28.9	+0.7
	0.1nm,0.3s,baz=201,slow=11,SNR=3.8						
ULN	Ulaanbaatar	27.68	328	eP	P	12 17 02.1	+1.8
	12nm,1.4s						
SONM	Songino Array	27.98	327	P	P	12 17 04.1	+1.2
	4.2nm,0.7s,baz=139,slow=10,SNR=19						
TAPN	Taplejung	36.43	282	eP	P	12 18 17.5	+0.1
	19nm,0.9s						
ODAN	Odare	36.78	281	eP	P	12 18 20.3	0.0
RAMN	Ramite	37.46	281	eP	P	12 18 26.3	+0.2
JIRN	Jiri	37.73	282	eP	P	12 18 28.8	+0.3
GUN	Gumba	37.97	283	eP	P	12 18 31.0	+0.5
PKIN	Phulchoki	38.44	282	eP	P	12 18 34.3	-0.1
	7.6nm,0.4s						
KKN	Kakani	38.51	283	eP	P	12 18 35.1	+0.2
DMN	Daman	38.69	282	eP	P	12 18 36.4	-0.1
GKN	Gorkha	39.05	283	eP	P	12 18 39.5	+0.1
	21nm,0.6s						
DANN	Dangsing	39.77	284	eP	P	12 18 46.0	+0.4
	26nm,0.5s						
KOLN	Koldanda	39.99	283	eP	P	12 18 47.5	+0.2
SEY	Seymchan	40.24	17	P	P	12 18 49.7	+1.2
	0.9nm,0.8s,baz=122,slow=15,SNR=4.0						
MK31	Makanchi Array	41.96	312	eP	P	12 19 01.9	-1.1
MKAR	Makanchi Array	41.96	312	P	P	12 19 02.5	-0.5
	1.2nm,0.5s,baz=94,slow=11,SNR=38						
MKAR				PcP	PcP	12 20 58.7	+0.6
	0.5nm,0.7s,baz=97,slow=4.8,SNR=3.4						
ZALV	Zalesovo Beam	42.67	323	P	P	12 19 06.3	-2.4
	1.0nm,0.4s,baz=123,slow=9.7,SNR=5.1						
FITZ	Fitzroy Crossi	43.84	184	eP	P	12 19 19.0	+0.5
	17nm,1.2s						
KURK	Kurchatov	45.25	317	eP	P	12 19 29.2	-0.1
	4.4nm,1.3s						
WRAB	Tennant Creek	45.92	172	eP	P	12 19 35.4	+0.4
	5.3nm,0.6s						
WRA	Warramunga Arr	45.93	172	P	P	12 19 35.3	+0.2
	4.9nm,0.6s,baz=353,slow=8.5,SNR=26						
TKM2	Tokmak 2	46.10	306	eP	P	12 19 36.2	-0.3
	4.4nm,0.9s						
CTA	Charters Tower	48.85	158	P	P	12 19 58.5	+0.7
	5.4nm,1.0s,baz=352,slow=12,SNR=3.5						
AS31	Alice Springs	49.56	174	eP	P	12 20 04.0	+0.8
ASAR	Alice Springs	49.56	174	P	P	12 20 03.9	+0.7
	3.1nm,0.7s,baz=3.5,slow=15,SNR=37						
BRVK	Borovoye	50.77	318	eP	P	12 20 12.9	+0.8
	2.9nm,0.5s						
STKA	Stephens Creek	58.80	167	P	P	12 21 10.9	+0.5
	3.1nm,0.8s,baz=347,slow=8.2,SNR=6.0						
ILAR	Eielson Array	64.58	28	P	P	12 21 48.9	-0.1
	0.4nm,0.7s,baz=264,slow=5.5,SNR=9.5						
KBZ	Khabaz	69.59	310	P	P	12 22 22.4	+1.3
	3.2nm,0.8s,baz=119,slow=5.4,SNR=5.7						
JOF	Joensuu	70.46	331	ep	P	12 22 24.0	-2.1
	1.8nm,0.7s						
KAF	Kangasniemi	72.92	331	ep	P	12 22 40.3	-0.6
	2.1nm,0.8s						
FINES	FINESS Array B	73.28	331	P	P	12 22 43.4	+0.3
	1.8nm,0.6s,baz=66,slow=5.1,SNR=11						
AKASG	Malin Array Be	75.96	320	P	P	12 22 59.1	+0.2
	3.5nm,0.6s,baz=58,slow=6.3,SNR=13						
AK01	Malin Array Si	75.97	320	eP	P	12 22 59.0	0.0
KIEV	Kiev	75.97	320	eP	P	12 22 58.8	-0.2
	2.9nm,0.6s						
AK02	Malin Array Si	75.99	320	eP	P	12 22 58.9	-0.2
BR131	Keskin Array S	77.46	308	eP	P	12 23 07.6	-0.2
	1.8nm,0.8s						
BRTR	Keskin Array B	77.46	308	P	P	12 23 08.7	+1.0
	3.2nm,0.9s,baz=96,slow=5.4,SNR=12						
YKA	Yellowknife Ar	78.69	25	P	P	12 23 14.9	+1.1
	0.5nm,0.6s,baz=301,slow=5.8,SNR=13						
BUR08	Bucovina Ar. S	79.66	318	eP	P	12 23 20.2	+0.6
NB2	NORSAR Subarra	79.72	334	P	P	12 23 19.4	-0.3
	comp=Z,1.1nm,0.6s,baz=50,slow=5.9						
NOA	NORSAR Array B	79.72	334	P	P	12 23 19.7	0.0
	comp=Z,1.7nm,0.7s,baz=52,slow=5.6,SNR=9.7						
GERES	GERESS Array B	85.63	323	P	P	12 23 51.2	+0.5
	comp=Z,0.3nm,0.6s,baz=20,slow=3.1,SNR=2.6						
TORD	Torodi Ar. Bea	115.34	300	PP	PP	12 30 50.3	-4.7
	comp=Z,0.7nm,1.1s,baz=70,slow=8.3,SNR=3.6						

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*ISCJB **28** 12:12:09.9±0.6, 36°.63N±0°.04×26°.31E±0°.04, h28km±7km, Error ellipse: s-maj=6.2km s-min=5.1km az=161.7*
*CSEM **28** 12:12:09.4±0.5, 36°.63N×26°.33E, h19km±4km, MD2.7, Error ellipse: s-maj=6.2km s-min=5.6km az=139.0*
*ATH **28** 12:12:09.3, 36°.68N×26°.35E, h39km±6km, MD3.5/13*
*ISK **28** 12:12:11.2, 36°.85N×26°.37E, h5km, MD2.7*
*DDA **28** 12:12:22.5, 37°.36N×26°.95E, h7km, MD2.9*
ISC 28 12:12:08.6±1.2, **36°.63N**±0°.03×**26°.37E**±0°.03, **h15km**±10km, **n38, σ0**°**79**/48, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APE	Apeiranthos	0.80	304	ePG	Pn	12 12 25.9	+0.5
APE				eSG	Sb	12 12 35.1	+0.1
APE	Apeiranthos	0.80	304	ePN	Pg	12 12 24.2	0.0
APE				eSN	Sb	12 12 35.4	+0.4
APE	Apeiranthos	0.80	304	ePn	Pg	12 12 24.2	0.0
APE	Apeiranthos	0.80	304	ePg	Pn	12 12 25.9	+0.5
APE				eSg	Sb	12 12 35.1	+0.1
BODT	Bodrum	0.87	60	ePG	Pn	12 12 26.4	0.0
BODT				eSG	Sn	12 12 38.7	-0.1
BODT	Bodrum	0.87	60	ePg	Pn	12 12 26.4	0.0
BODT				eSg	Sn	12 12 38.7	-0.1
BDRM	Kayabasi	0.97	63	iP	Pn	12 12 27.8	+0.1
BDRM				iS	Sn	12 12 42.1	+0.9
BDRM	Kayabasi	0.97	63	iP	Pn	12 12 27.8	+0.1
BDRM				iS	Sn	12 12 42.1	+0.9
SMG	Samos	1.14	19	ePN	Pg	12 12 30.4	-0.3
SMG				eSN	Sb	12 12 44.1	-0.7
SMG	Samos	1.14	19	ePn	Pg	12 12 30.4	-0.3
SMG				eSn	Sb	12 12 44.1	-0.7
KARP	Karpathos	1.25	149	ePN	Pg	12 12 32.6	-0.2
KARP	Karpathos	1.25	149	ePn	Pg	12 12 32.6	-0.2
NPS	Neapolis	1.49	204	ePN	Pb	12 12 35.6	-0.4
NPS	Neapolis	1.49	204	ePn	Pb	12 12 35.6	-0.4
ZKR	Zakros	1.51	185	ePB	Pb	12 12 36.5	+0.1
ZKR	Zakros	1.51	185	ePb	Pb	12 12 36.5	+0.1
ZEY	ˆzmir	1.61	4	iP	Pb	12 12 38.5	+0.5
ZEY				iP	Sg	12 13 01.4	+0.8
YER	Yerkesik	1.62	71	ePN	Pg	12 12 39.9	+0.2
LAST	Lasithi	1.63	207	ePN	Pb	12 12 37.8	-0.6
LAST	Lasithi	1.63	207	ePn	Pb	12 12 37.8	-0.6
URLA	Izmir	1.74	6	iS	Sg	12 13 05.5	+0.8
CHOS	Chios island	1.77	352	ePN	Pn	12 12 38.3	-0.5
CHOS	Chios island	1.77	352	ePn	Pn	12 12 38.3	-0.5
BLCB	Balcova	1.84	17	ePN	Pb	12 12 40.7	-1.2
BLCB	Balcova	1.84	17	ePn	Pb	12 12 40.7	-1.2
SIVA	Sivas	2.04	219	ePN	Pn	12 12 42.1	-0.3
SIVA	Sivas	2.04	219	ePn	Pn	12 12 42.1	-0.3
SIGR	SIGRI	2.61	351	ePN	Pn	12 12 50.2	0.0
SIGR	SIGRI	2.61	351	ePn	Pn	12 12 50.2	0.0
DID	Didima	2.65	290	ePN	Pn	12 12 52.2	+1.3
DID	Didima	2.65	290	ePn	Pn	12 12 52.2	+1.3
KYTH	Kithira	2.71	264	ePB	Pb	12 12 54.5	-2.2
KYTH	Kithira	2.71	264	ePb	Pb	12 12 54.5	-2.2
MRKA	Markates	3.03	314	ePN	Pn	12 12 56.5	+0.5
MRKA	Markates	3.03	314	ePn	Pn	12 12 56.5	+0.5
BALY	Balya	3.26	17	iS	Sg	12 13 54.1	+0.7
SKIA	Skiathos	3.42	319	ePN	Pn	12 13 02.6	+1.2
SKIA	Skiathos	3.42	319	ePn	Pn	12 13 02.6	+1.2

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*ISCJB **28** 12:12:05.3±1.7, 33°.34S±0°.08×72°.56W±0°.06, h23km±10km, mb4.2/7, Error ellipse: s-maj=14.1km s-min=8.0km az=11.7*
*GUC **28** 12:12:05.6±0.9, 32°.45S×72°.35W, h31km±10km, ML4.1*
*IDC **28** 12:12:08.4±0.8, 33°.26S×72°.75W, h32km±5km, mb3.8/5, mb1 4.0/7, mb1mx3.8/19, mbtmp4.0/7, ML3.5/2, Error ellipse: s-maj=30.5km s-min=18.3km az=91.0*
*NEIC **28** 12:12:09.5±0.7, 33°.27S×72°.70W, h35km, mb4.5/5, Error ellipse: s-maj=16.7km s-min=11.7km az=84.0*
ISC 28 12:12:08.9±0.8, **33°.31S**±0°.09×**72°.43W**±0°.08, **h33km**±4km, **n23, σ1**°**26**/35, **mb4.4**/7, **2C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.72	67	⇑iP	Pn	12 12 20.9	-2.0
IHA				iS	Sn	12 12 32.0	-0.8
ROCH	El Roble	1.24	75	eP	Pn	12 12 28.6	-1.6
ROCH				eS	Sn	12 12 45.9	0.0
ROCH				AML	AML	12 12 50.9	
	comp=E,4μm,0.5s						
PEL	Peldehue	1.47	84	⇓iP	Pn	12 12 32.2	-1.0
PEL				iS	Sn	12 12 52.7	+1.3
PEL				AML	AML	12 13 04.3	
	comp=N,9μm,0.4s						
STL	Santa Lucia	1.50	95	eP	Pn	12 12 31.6	-2.0
STL				iS	Sn	12 12 53.5	+1.4
FCH	Farellones	1.79	91	⇑iP	Pn	12 12 35.5	-2.4
FCH				iS	Sn	12 13 01.0	+1.3
FCH				AML	AML	12 13 08.5	
	comp=E,2μm,0.7s						
CFAA	Coronel Fontan	3.93	66	Pn	Pn	12 13 10.7	+3.6
	comp=E,0.5nm,0.3s,baz=232,slow=13,SNR=4.4						
TRQA	Tornquist	9.73	122	ePn	Pn	12 14 31.3	+4.7
	comp=E,76nm,1.4s						
LVC	Limon Verde	11.10	17	Pn	Pn	12 14 47.8	+2.1
LPAZ	La Paz	17.39	14	P	Pn	12 16 09.4	-0.3
	comp=E,0.3nm,0.3s,baz=206,slow=12,SNR=6.8						
LPAZ	La Paz	17.39	14	eP	Pn	12 16 09.4	-0.3
	comp=E,43nm,1.6s						
SIV	San Ignacio	20.07	34	P	P	12 16 38.9	-0.7
	comp=E,5.0nm,0.8s,baz=233,slow=15,SNR=7.1						
SAML	Samuel	25.70	21	eP	P	12 17 36.2	0.0
	comp=E,8.7nm,0.9s						
SNAA	Sanae	52.35	158	P	P	12 21 16.9	-0.4
	comp=E,0.9nm,0.8s,baz=262,slow=7.1,SNR=4.5						
SNAA				pP	pP	12 21 26.9	-0.3
	comp=E,2.1nm,1.0s,baz=246,slow=10.0,SNR=2.6						
QSPA	South Pole Qui	56.92	180	P	P	12 21 50.6	0.0
	comp=E,2.8nm,0.9s,baz=145,slow=5.8,SNR=4.0						
QSPA				pP	pP	12 22 00.5	-0.1
	comp=E,4.9nm,0.9s,baz=127,slow=5.0,SNR=5.9						
QSPA	South Pole Qui	56.92	180	eP	P	12 21 51.1	+0.4
	comp=E,5.0nm,0.9s						
JCT	Junction City	68.52	335	eP	P	12 23 09.8	+1.6
	comp=E,5.8nm,1.2s						
TXAR	Lajitas Array	68.97	331	P	P	12 23 09.8	-1.2
	comp=E,0.6nm,0.8s,baz=151,slow=8.0,SNR=5.0						
TXAR				pP	pP	12 23 18.8	-2.4
	comp=E,0.7nm,0.7s,baz=150,slow=8.4,SNR=5.0						
WVT	Waverly	70.56	347	eP	P	12 23 20.6	0.0
	comp=E,23nm,1.5s						
TORD	Torodi Ar. Bea	84.29	70	P	P	12 24 37.8	0.0
	comp=E,2.7nm,0.9s,baz=240,slow=3.8,SNR=11						
TORD				pP	pP	12 24 50.4	+2.2
	comp=E,1.7nm,0.9s,baz=263,slow=5.2,SNR=4.6						
AAK	Ala-Archa	152.46	61	ePKPbc	PKPbc	12 32 02.8	+1.0
ZAA0	Zalesovo Array	153.81	31	ePKPbc	PKPbc	12 32 04.6	+0.4
ZAA0				ePKPab	PKPab	12 32 15.9	-1.3
ZALV	Zalesovo Beam	153.81	31	PKP	PKPdf	12 31 56.6	+0.3
	comp=E,0.2nm,0.3s,baz=350,slow=7.7,SNR=3.4						
ZALV				PKPbc	PKiKP	12 32 04.3	+0.1
	comp=E,0.9nm,0.5s,baz=270,slow=4.4,SNR=5.8						
ZALV				PKPab	PKPab	12 32 16.4	-0.8
	comp=E,0.4nm,0.4s,baz=270,slow=1.5,SNR=3.6						
MKAR	Makanchi Array	156.55	47	PKP	PKPdf	12 32 00.8	+0.6
	comp=E,0.4nm,0.8s,baz=343,slow=1.5,SNR=2.6						
MKAR				PKPab	PKPab	12 32 29.4	+0.1
	comp=E,0.8nm,0.8s,baz=287,slow=4.0,SNR=5.2						
MKAR				pPKPab	pPKPab	12 32 41.2	+1.5
	comp=E,1.5nm,0.9s,baz=305,slow=4.3,SNR=5.6						

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*IDC **28** 12:13:19.7±0.4, 2°.01N×99°.03E, h0km, mb4.7/29, mb1 4.8/29, mb1mx4.7/41, mbtmp4.7/29, MS5.0/4, Ms1 5.0/4, ms1mx4.2/39, Error ellipse: s-maj=13.9km s-min=7.4km az=73.0*
*BJI **28** 12:13:22.3, 1°.72N×98°.64E, h49km, mB5.2/29, mb4.8/49, Ms5.0/37, Ms7 4.8/36*
*MOS **28** 12:13:23.3±1.1, 2°.23N×99°.14E, h33km, mb5.4/59, Error ellipse: s-maj=9.6km s-min=4.7km az=118.2*
*DJA **28** 12:13:25.8±0.2, 2°N±2°×9°E±°, h10km, Ms5.0/35, mb5.0/35, mB5.5/23, MLv5.0/5, Mw(mB)5.0/23*
*ISCJB **28** 12:13:26.2±0.5, 2°.13N±0°.03×98°.88E±0°.03, h54km±4km, mb5.0/145, MS4.9/18, Error ellipse: s-maj=5.4km s-min=3.5km az=136.7*
*NEIC **28** 12:13:27.9±0.7, 2°.11N×99°.02E, h58km±6km, mb5.1/52, Error ellipse: s-maj=7.4km s-min=4.6km az=47.0*
NEIC Felt [III] at Tarutung and [II] at Sibolga. Also felt at Medan, Meulaboh and Solok. Felt at Kuala Lumpur and Petaling Jaya, Malaysia.
*SZGRF **28** 12:13:32.9, 3°.01N×97°.62E, h33km, mb5.1, Northern Sumatera, Indonesia*
ISC 28 12:13:27.5±0.4, **2°.10N**±0°.04×**98°.92E**±0°.04, **h53km**±2km, **n659, σ1**°**27**/673, **mb5.0**/144, **MS4.9**/18, **160C-138D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	0.70	0	Pg	Pn	12 13 34.5	-7.0
	542nm,0.3s,baz=160,slow=11,SNR=187						
PSI				Lg	Lg	12 13 44.0	
	677nm,0.3s,baz=87,slow=17,SNR=12						
PSI	Prapat	0.70	0	⇑P	Pn	12 13 34.5	-7.0
	baz=0.6,SNR=263						
TSI	Tuntungan	1.44	346	P	Pn	12 13 50.6	-0.7
MNSI	Mandailing Nat	1.45	153	P	Pn	12 13 46.3	-5.1
GSI	Gunungsitoli	1.56	240	P	Pn	12 13 49.0	-3.9
GSI	Gunungsitoli	1.56	240	ePn	Pn	12 13 48.9	-3.9
GSI	Gunungsitoli	1.56	240	⇑P	Pn	12 13 49.0	-3.9
	baz=1.5						
KCSI	Kotacane, Aceh	1.82	321	P	Pn	12 13 55.3	-1.2
SNSI	Sinabang, Aceh	2.61	277	P	Pn	12 14 06.1	-1.1
BKNI	Bangkinang	2.75	130	P	Pn	12 14 11.2	+2.0
BKNI	Bangkinang	2.75	130	ePn	Pn	12 14 10.0	+0.8
BKNI	Bangkinang	2.75	130	⇑P	Pn	12 14 06.3	-2.8
	baz=2.8,SNR=130						
IPM	Ipoh	3.17	42	ePn	Pn	12 14 13.5	-1.3
PDSI	Padang	3.36	153	P	Pn	12 14 16.2	-1.4
KULM	Kulim	3.61	28	ePn	Pn	12 14 18.9	-2.0
LHMI	Lhok Sumawe	3.68	328	P	Pn	12 14 22.7	+0.7
LHMI	Lhok Sumawe	3.68	328	ePn	Pn	12 14 21.1	-0.9
LHMI	Lhok Sumawe	3.68	328	⇓P	Pn	12 14 16.3	-5.6
	baz=3.6,SNR=5.0						
SDSI	Sungai Dareh	3.92	140	P	Pn	12 14 35.4	+10
RGRI	Rengat	4.19	125	P	Pn	12 14 33.2	+4.3
MYKOM	Kota Tinggi	4.94	93	ePn	Pn	12 14 35.6	-3.6
TPRI	Tanjung Pinang	5.72	102	P	Pn	12 15 04.6	+15
PKDT	Phuket	5.79	354	P	Pn	12 14 48.1	-2.7
	282nm,0.7s,3μm1.8nm						
DSRI	Dabo	6.21	114	P	Pn	12 15 17.2	+21
SURT	Suratani	6.82	359	P	Pn	12 15 02.2	-2.8
	32nm,0.6s,655nm0.5nm						
CMBY	CAMPBELL BAY	6.97	315	eP	Pn	12 15 05.2	-1.9
LHSI	Lahat	7.47	142	P	Pn	12 15 15.3	+1.4
MDSI	Maura Dua	8.39	141	P	Pn	12 15 26.4	-0.1
	137nm,1.3s,1μm0.4nm						
LWLI	Liwa	8.73	144	P	Pn	12 15 43.7	+12
KLI	Kotabumi	9.11	139	P	Pn	12 15 48.2	+12
KASI	Kota Agung	9.40	144	P	Pn	12 15 54.6	+14
TPI	Tanjungpandan	9.97	119	P	Pn	12 15 53.1	+4.9
	48nm,1.2s						
PATY	Pattaya	10.93	10	P	Pn	12 16 06.7	+5.4
	16nm,0.9s,2μm						
CHBT	CHBT	11.11	18	P	Pn	12 16 04.7	+0.9
	43nm,0.9s,2μm						
PBA	Port Blair	11.30	327	eP	Pn	12 16 07.0	+0.6
KSM	Kuching	11.40	93	ePn	Pn	12 16 09.2	+1.6
KSM	Kuching	11.40	93	⇓P	Pn	12 16 07.1	-0.6
	baz=12,SNR=7.4						
SRDT	SRDT	12.18	1	P	Pn	12 16 21.9	+3.6
	138nm,1.3s,18μm						
LEM	Lembang	12.40	136	P	Pn	12 16 25.7	+4.1
	97nm,1.9s						
DGPR	DIGLIPUR	12.51	332	eP	Pn	12 16 23.0	+0.2
KHLT	Khaolaem Dam	12.62	359	P	Pn	12 16 27.4	+3.0
	12nm,1.3s						
STKI	Sintang	12.71	99	P	P	12 16 36.0	+0.7
CISI	Cisompet, Garu	13.06	137	P	P	12 16 35.2	-4.0
	81nm,1.8s,3μm						
CISI	Cisompet, Garu	13.06	137	ePn	Pn	12 16 31.3	+0.8
SBUM	Sibu	13.29	88	ePn	Pn	12 16 33.7	+0.1
KPJI	Karang Pucung	13.69	133	P	Pn	12 16 39.7	+0.7
	38nm,1.7s,3μm						
CHAI	Chaiyaphum	14.05	12	P	Pn	12 16 46.2	+2.4

39nm,1.0s,325nm
PBKT Sadao Pong 14.52 8 P Pn 12 16 51.8 +1.7
106nm,1.4s,1µm
UBPT Khong Chiam 14.61 26 P P 12 16 55.1 -1.2
110nm,1.5s
UGM Wanagama 15.26 131 P P 12 17 12.4 +8.8
LOEI Loei 15.49 8 P Pn 12 16 59.9 -2.7
41nm,1.5s,821nm
LOEI P P 12 17 05.5 -0.6
41nm,1.5s,821nm
WOJI Wonogiri, Jawa 15.51 130 P P 12 17 14.7 +8.3
UTTA Uttaradit 15.63 6 P P 12 17 07.3 -0.4
17nm,1.2s,173nm
NGJI Ngawi 15.65 127 P P 12 17 07.2 -0.7
97nm,1.4s
MHMT Maesarieng 16.01 357 P P 12 17 10.9 -1.0
31nm,1.3s,500nm
MTKI Muara Teweh, K 16.25 101 P P 12 17 16.3 +1.6
262nm,0.3s,20µm
CM31 Chiang Mai Arr 16.26 0 eP P 12 17 14.3 -0.4
72nm,1.1s
CMAR Chiang Mai Arr 16.26 0 Pn Pn 12 17 13.6 +1.1
0.4nm,0.3s,baz=191,slow=11,SNR=28
PWJI Pagerwojo 16.31 128 P P 12 17 15.2 -0.1
53nm,1.4s
LAMP Lampang 16.34 2 P P 12 17 16.3 +0.7
18nm,1.2s,178nm
CMMT Chiang Mai 16.61 0 P P 12 17 18.2 -0.4
114nm,1.4s,2µm
CHTO Chiang Mai 16.61 0 eP Pn 12 17 17.7 +0.8
CHTO pmax pmax
comp=Z,132nm,1.3s
CHTO Chiang Mai 16.61 0 P P 12 17 18.3 -0.3
comp=Z,460nm,1.0s,comp=Z,6µm
CHTO Chiang Mai 16.61 0 eP Pn 12 17 17.7 +0.8
comp=Z,132nm,1.3s
CHTO ePn P 12 17 18.6 0.0
BBKI Banjar Baru 16.84 109 P P 12 17 22.5 +1.3
comp=Z,195nm,1.6s,comp=Z,3µm
KMMI Kalianget 17.55 121 P P 12 17 29.9 +0.9
comp=Z,214nm,1.4s,comp=Z,3µm
BLJI Banyuglugur 17.60 124 P P 12 17 31.8 +2.2
comp=Z,70nm,1.3s,comp=Z,3µm
KKM Kota Kinabalu 17.69 77 eP P 12 17 30.7 +0.1
comp=Z,62nm,1.1s
CMAI Chiengmai2 17.73 0 P P 12 17 32.6 +1.5
comp=Z,39nm,1.1s,comp=Z,1µm
CRAI Chiangrai 18.08 4 P Pn 12 17 35.5 +0.5
comp=Z,40nm,1.5s,comp=Z,3µm
ABJI Asem Bagus 18.16 123 P Pn 12 17 37.3 +1.3
comp=Z,154nm,1.4s
JAGI Jajag, Banyuwa 18.46 125 P Pn 12 17 43.2 +3.6
comp=Z,79nm,1.3s,comp=Z,2µm
PALK Pallekele 18.87 286 Pn Pn 12 17 46.3 +1.7
comp=Z,357nm,1.4s,SNR=16
PALK Pallekele 18.87 286 P Pn 12 17 46.3 +1.7
SNR=10
PALK Pallekele 18.87 286 P Pn 12 17 46.1 +1.5
comp=Z,2.8nm,0.3s,baz=106,slow=10,SNR=15
PALK LR LR 12 24 23.6
comp=Z,2µm,22.0s,baz=189,slow=35
PALK Pallekele 18.87 286 P Pn 12 17 46.1 +1.5
PALK ePn P 12 17 46.5 +2.9
PALK Pallekele 18.87 286 ⇓iP Pn 12 17 45.5 +0.9
SNR=21
SRBI Singaraja 19.14 122 P Pn 12 17 48.5 +0.7
comp=Z,313nm,1.0s,comp=Z,4µm
MYLDM Lahad Datu 19.77 81 ePn Pn 12 17 55.9 +0.6
comp=Z,144nm,1.1s
QIZ Qiongzhong 19.94 32 P Pn 12 17 57.0 -0.2
QIZ S S 12 21 38.0 +1.2
QIZ pmax pmax
comp=Z,72nm,1.5s
QIZ LR LR
comp=Z,1µm,12.2s
QIZ LR LR
comp=Z,2µm,11.9s
QIZ Qiongzhong 19.94 32 eP P 12 17 56.0 +0.9
comp=Z,159nm,1.4s
MPSI Mapaga 21.04 94 P P 12 18 08.7 +1.5
comp=Z,105nm,1.3s,comp=Z,1µm
TTSI Tana Toraja 21.50 104 P P 12 18 16.5 +4.4
comp=Z,60nm,1.6s,comp=Z,789nm
SPSI Sidrap Palu 21.69 106 P P 12 18 18.0 +3.9
comp=Z,41nm,1.3s,comp=Z,756nm
VIS Vishakhapatnam 21.81 316 eP P 12 18 15.8 +0.5
KAPI Kappang 21.98 109 eP P 12 18 14.9 -2.3
comp=Z,348nm,1.2s
BNSI Bone 22.13 107 P P 12 18 21.0 +2.2
comp=Z,92nm,1.6s
TRD Trivandrum 22.77 287 eP P 12 18 26.4 +0.8
APSI Ampana 22.92 97 P P 12 18 29.0 +1.8
comp=Z,130nm,1.0s,comp=Z,1µm
MRSI Marisa 23.07 94 P P 12 18 29.3 +0.6
comp=Z,40nm,1.2s
KMI Kunming 23.19 9 ⇑P P 12 18 31.0 +1.0
KMI pP pP 12 18 43.8 +1.3
KMI sP sP 12 18 50.0 +0.9
KMI PP PnPn 12 19 03.5 +5.9
KMI S S 12 22 33.5 -4.5
KMI sS Sn 12 22 54.8 -4.2
KMI SS SnSn 12 23 24.8 +8.7
KMI pmax pmax
comp=Z,36nm,1.2s
KMI pmax pmax
comp=Z,96nm,3.1s
KMI LR LR
comp=Z,1µm,14.9s
KMI LR LR
comp=Z,2µm,10.4s
KMI LR LR
comp=Z,1µm,14.4s
SHL Shillong 24.30 344 eP P 12 18 39.5 -0.8
SHL AMB AMB 12 18 39.5
comp=Z,32nm,0.4s
BOK Bokaro 24.99 331 eP P 12 18 45.2 -1.2
BOK AMB AMB 12 18 47.8
comp=Z,24nm,0.3s
HYB Hyderabad 25.14 309 i P P 12 18 48.0 +0.1
HYB Hyderabad 25.14 309 eP P 12 18 49.0 +1.1
GYA Guiyang 25.34 16 ⇑iP P 12 18 49.0 -0.7
GYA pP pP 12 19 04.3 +1.2
GYA PP PnPn 12 19 32.5 +5.7
GYA S S 12 23 11.8 -0.6
GYA sS sS 12 23 33.5 -1.7
GYA SS SnSn 12 24 16.0 +7.5
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,610nm,15.8s
GYA LR LR
comp=Z,620nm,16.4s
GYA LR LR
comp=Z,580nm,16.5s
GOA Goa 28.09 300 eP P 12 19 12.7 -1.8
LSA Lhasa 28.43 346 P P 12 19 16.5 -1.3
LSA Lhasa 28.43 346 eP P 12 19 18.7 +0.9
LSA pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 28.43 346 eP P 12 19 18.7 +0.9
comp=Z,9.7nm,0.7s
CD2 Chengdu 29.02 9 eP P 12 19 24.0 +1.4
CD2 pP pP 12 19 37.0 +0.8
CD2 sP sP 12 19 43.5 +1.0
CD2 PP PnPn 12 20 19.8 +2.9
CD2 S S 12 24 11.0 +0.7
CD2 sS sS 12 24 33.3 +0.1
CD2 SS SnSn 12 25 43.5 +5.4
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,220nm,5.4s
CD2 LR LR
comp=Z,2µm,14.2s
CD2 LR LR
comp=Z,2µm,20.6s
CD2 LR LR
comp=Z,2µm,14.7s
BHPL Bhopal 29.60 317 eP P 12 19 26.2 -1.6
BHPL AMB AMB 12 19 28.4
comp=Z,35nm,1.1s
ENH Enshi 29.76 19 eP P 12 19 29.8 +0.7
comp=Z,13nm,1.0s
XAN Xi'an 33.12 15 P P 12 19 57.5 -1.2
XAN S S 12 25 19.0 +4.6
XAN pmax pmax
comp=Z,12nm,1.0s
XAN LR LR
comp=Z,970nm,10.9s
XAN LR LR
comp=Z,290nm,13.0s
XAN LR LR
comp=Z,480nm,11.6s
NDI New Delhi 33.58 324 eP P 12 20 02.5 -0.2
LZH Lanzhou 34.13 7 ⇑P P 12 20 07.3 -0.2
LZH pP pP 12 20 21.5 +0.3
LZH sP sP 12 20 25.0 -2.5
LZH pmax pmax
comp=Z,41nm,1.1s
LZH pmax pmax
comp=Z,240nm,6.4s
LZH LR LR
comp=Z,1µm,13.8s
LZH LR LR
comp=Z,750nm,12.5s
LZH LR LR
comp=Z,1µm,15.6s
MEEK Meekatharra 34.31 148 ⇓P P 12 20 10.8 +1.7
baz=34,SNR=6.7
NJ2 Nanjing 35.22 30 eP P 12 20 17.8 +1.0
NJ2 pmax pmax
comp=Z,20nm,0.6s
SMLA Simla 35.45 327 eP P 12 20 18.6 -0.2
DHRM DHARAMSHALA 36.78 327 eP P 12 20 30.2 -0.2
GTA Gaotai 37.15 1 eP P 12 20 32.8 -0.6
GTA PP PP 12 21 57.0 -1.9
GTA S S 12 26 13.5 -2.7
GTA pmax pmax
comp=Z,11nm,1.3s
GTA pmax pmax
comp=Z,350nm,10.0s
GTA LR LR
comp=Z,580nm,13.8s
GTA LR LR
comp=Z,820nm,14.7s
GTA LR LR
comp=Z,2µm,19.5s
NWAO Narrogin (SRO) 38.90 155 P P 12 20 47.5 -0.6
comp=Z,22nm,0.9s,baz=312,slow=6.5,SNR=7.9
HHC Hu-ho-hao-te 40.24 15 eP P 12 21 01.3 +2.1
HHC sP sP 12 21 17.3 -2.1
HHC PP PnPn 12 22 38.5 +1.9
HHC S S 12 27 06.5 +3.8
HHC sS sS 12 27 26.5 +0.3
HHC ScS ScS 12 31 00.3 -0.7
HHC pmax pmax
comp=Z,28nm,0.6s
HHC pmax pmax
comp=Z,470nm,5.8s
HHC LR LR
comp=Z,2µm,13.9s
HHC LR LR
comp=Z,780nm,13.6s
HHC LR LR
comp=Z,2µm,13.6s
BJI Beijing 40.89 20 P P 12 21 05.0 +0.6
BJI S S 12 27 17.3 +5.1
BJI pmax pmax
comp=Z,26nm,0.7s
BJI LR LR
comp=Z,810nm,15.4s
BJI LR LR
comp=Z,1µm,17.0s
BJI LR LR
comp=Z,1µm,33.9s
WRA Warramunga Arr 41.07 124 P P 12 21 03.8 -2.5
comp=Z,31nm,0.9s,baz=303,slow=9.1,SNR=78
WRAB Tennant Creek 41.08 124 P P 12 21 04.3 -2.1
comp=Z,259nm,0.9s,SNR=12
WRAB Tennant Creek 41.08 124 eP P 12 21 04.2 -2.1
WRAB pmax pmax
comp=Z,83nm,0.9s
WRAB Tennant Creek 41.08 124 eP P 12 21 04.0 -2.3
comp=Z,38nm,0.9s
ASAR Alice Springs 42.59 129 P P 12 21 16.0 -2.7
comp=Z,6.9nm,1.0s,baz=298,slow=8.2,SNR=13
ASAR PcP PcP 12 23 09.7 -0.6
comp=Z,3.0nm,0.8s,baz=316,slow=4.1,SNR=7.8
KBL Kabul 42.62 323 eP P 12 21 18.7 -0.3
KBL pmax pmax
comp=Z,20nm,0.8s
KBL Kabul 42.62 323 eP P 12 21 18.7 -0.3
comp=Z,20nm,0.8s
KSH Kashi 42.70 334 eP P 12 21 13.8 -5.7
KSH epP pP 12 21 26.8 -6.7
KSH esP sP 12 21 31.5 -8.2
KSH eS S 12 27 27.0 -12
KSH pmax pmax
comp=Z,140nm,12.8s
KSH LR LR
comp=Z,140nm,6.5s
KSH LR LR
comp=Z,220nm,14.5s
KSH LR LR
comp=Z,270nm,10.0s
WMQ Urumqi 42.73 348 P P 12 21 20.5 +1.0
WMQ pP pP 12 21 32.8 -0.7
WMQ sP sP 12 21 38.0 -1.8
WMQ PP PP 12 23 02.8 +3.3
WMQ PcP PcP 12 23 12.0 +1.6
WMQ PcS PcS 12 27 03.0 +0.5
WMQ S S 12 27 40.3 +0.8
WMQ sS sS 12 28 01.0 -2.1
WMQ SS SS 12 30 45.5 -6.4
WMQ pmax pmax
comp=Z,13nm,1.0s
WMQ pmax pmax
comp=Z,180nm,7.0s
WMQ LR LR
comp=Z,840nm,24.6s
WMQ LR LR
comp=Z,750nm,22.8s
WMQ LR LR
comp=Z,820nm,25.4s
TJN Taejon 43.06 34 eP P 12 21 21.4 -0.8
KSAR Wonju Array Be 44.12 34 P P 12 21 30.1 -0.6
KSAR 12 23 15.8
KSAR Wonju Array Be 44.12 34 P P 12 21 30.1 -0.6
KSAR PcP PcP 12 23 15.8 +0.7
KSRS Korea Array 44.15 34 P P 12 21 30.1 -0.8
comp=Z,13nm,1.0s,baz=225,slow=8.2,SNR=34
KSRS PcP PcP 12 23 15.8 +0.6
comp=Z,3.3nm,0.9s,baz=212,slow=3.5,SNR=5.7
ULHL Ulahol 44.85 336 P P 12 21 37.4 +0.7
SNR=7.8
KZA Kyzart 45.12 335 P P 12 21 39.3 +0.1
SNR=6.4
UCH Uchtor 45.55 335 P P 12 21 43.6 +1.0
SNR=9.5
TKM2 Tokmak 2 45.67 336 P P 12 21 44.1 +0.8
SNR=10
TKM2 Tokmak 2 45.67 336 eP P 12 21 42.8 -0.5
TKM2 pmax pmax
comp=Z,28nm,1.2s
TKM2 Tokmak 2 45.67 336 eP P 12 21 42.8 -0.5
comp=Z,28nm,1.2s
KBK Karagaybulak 45.72 335 P P 12 21 45.1 +1.5
SNR=23
QIS Mount Isa 45.78 122 ⇓P P 12 21 43.0 -1.2
baz=46,SNR=5.4
AML Almayashu 45.83 334 P P 12 21 44.9 +0.1
SNR=9.7
AAK Ala-Archa 45.90 335 eP P 12 21 45.5 +0.5
AAK 12 23 22.6
AAK pmax pmax
comp=Z,34nm,1.3s
AAK Ala-Archa 45.90 335 P P 12 21 46.1 +1.1
comp=Z,13nm,1.0s,baz=159,slow=8.6,SNR=11
AAK PcP PcP 12 23 22.6 +1.2
comp=Z,5.9nm,0.8s,baz=190,slow=9.7,SNR=3.9
AAK Ala-Archa 45.90 335 eP P 12 21 45.5 +0.5
comp=Z,34nm,1.3s
AAK PcP PcP 12 23 22.6 +1.2
FRU Bishkek 46.01 335 eP P 12 21 42.0 -3.7
SONM Songino Array 46.02 7 P P 12 21 45.3 -0.5
comp=Z,12nm,0.9s,baz=190,slow=8.5,SNR=44
SONM PcP PcP 12 23 22.0 +0.3
comp=Z,4.2nm,0.8s,baz=180,slow=2.1,SNR=5.0
SONM ScP ScP 12 27 15.7 +5.2
comp=Z,0.5nm,0.9s,baz=142,slow=4.9,SNR=3.3
CHMS Chumysh 46.09 335 P P 12 21 46.2 -0.2
SNR=12
ULN Ulaanbaatar 46.13 8 d iP P 12 21 46.4 -0.3
ULN pmax pmax
comp=Z,21nm,1.3s
ULN Ulaanbaatar 46.13 8 P P 12 21 47.2 +0.5
SNR=8.7
ULN Ulaanbaatar 46.13 8 eP P 12 21 46.9 +0.2
comp=Z,18nm,1.1s
EKS2 Erkin-Say 46.23 334 P P 12 21 48.8 +1.3
SNR=12
EKS2 Erkin-Say 46.23 334 eP P 12 21 48.8 +1.3
EKS2 pmax pmax
comp=Z,19nm,0.8s
EKS2 Erkin-Say 46.23 334 eP P 12 21 48.8 +1.3
comp=Z,19nm,0.8s
USP Ospenovka 46.41 335 P P 12 21 49.6 +0.7
SNR=32
COEN Coen 46.67 111 ⇓P P 12 21 50.4 -0.9
baz=47,SNR=4.7
MK31 Makanchi Array 46.82 344 P P 12 21 50.9 -1.1
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 46.82 344 eP P 12 21 50.6 -1.4
MKAR Makanchi Array 46.82 344 P P 12 21 51.0 -1.0
comp=Z,6.5nm,0.8s,baz=156,slow=8.3,SNR=29
MKAR PcP PcP 12 23 24.8 +0.4
comp=Z,3.8nm,0.8s,baz=150,slow=6.2,SNR=2.5
MKAR Makanchi Array 46.82 344 ⇓P P 12 21 51.8 -0.2
baz=47
ASUD Al Ashush, Dub 47.64 302 ⇓iP P 12 22 00.2 +1.5
SNR=26
CN2 Changchun 47.74 26 eP P 12 21 57.8 -1.4
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 Changchun 47.74 26 eP P 12 22 00.3 +1.1
CN2 pmax pmax
comp=Z,10.0nm,0.9s
KK31 Karatay Array 48.05 332 i P P 12 22 00.9 -0.7
KK31 pmax pmax
comp=Z,13nm,0.8s
KKAR Karatay Array 48.05 332 eP P 12 22 01.6 0.0
KKAR Karatay Array 48.05 332 eP P 12 22 01.6 0.0
ZAK Zakamensk 48.25 4 eP P 12 22 00.6 -2.5
ZAK pmax pmax
comp=Z,4.0nm,1.4s
ITEG Tejag 48.54 314 eP P 12 22 05.8 0.0
PMG Port Moresby 49.39 104 eP P 12 22 12.0 -0.3
PMG pmax pmax
comp=Z,10.0nm,0.8s
PMG Port Moresby 49.39 104 P P 12 22 11.6 -0.7
comp=Z,9.8nm,0.8s,baz=250,slow=9.2,SNR=9.8
PMG Port Moresby 49.39 104 eP P 12 22 12.0 -0.3
comp=Z,9.6nm,0.8s
MOY Mondy 49.43 2 eP P 12 22 12.2 +0.1
IMYA Miami 49.45 318 eP P 12 22 11.4 -1.2
TLY Talaya 49.57 4 P P 12 22 13.0 -0.1
comp=Z,36nm,1.0s,SNR=5.0
TLY Talaya 49.57 4 eP P 12 22 11.4 -1.7
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,1µm,20.0s
TLY Talaya 49.57 4 P P 12 22 11.3 -1.8
comp=Z,3.2nm,0.8s,baz=223,slow=6.8,SNR=10
TLY PcP PcP 12 23 35.1 +1.0
comp=Z,0.7nm,0.4s,baz=179,slow=3.1,SNR=3.0
TLY Talaya 49.57 4 eP P 12 22 13.5 +0.4
comp=Z,7.9nm,1.1s
TLY PcP PcP 12 23 35.1 +1.0
ISRO Mashad 49.86 318 eP P 12 22 14.3 -1.4
MJAR Matsushiro Arr 49.88 42 P P 12 22 13.8 -1.9
comp=Z,1.5nm,0.8s,baz=227,slow=5.7,SNR=6.0
MJAR PcP PcP 12 23 36.0 +0.4
comp=Z,6.1nm,0.9s,baz=238,slow=4.5,SNR=11
MJAR LR LR 12 43 00.7
comp=Z,1µm,22.0s,baz=90,slow=36
IPAY Payeh 50.25 318 eP P 12 22 18.7 -0.2
HIA Hailar 50.26 18 eP P 12 22 17.2 -1.2
HIA pmax pmax
comp=Z,14nm,1.1s
MDJ Mudanjiang 50.26 28 P P 12 22 18.8 +0.4
MDJ pP pP 12 22 32.5 -0.2
MDJ sP sP 12 22 38.3 -0.6
MDJ S S 12 29 34.3 +7.3
MDJ SS SS 12 32 57.0 -4.3
MDJ pmax pmax
comp=Z,15nm,1.5s
MDJ pmax pmax
comp=Z,670nm,10.9s
MDJ LR LR
comp=Z,1µm,27.5s
MDJ LR LR
comp=Z,2µm,23.3s
MDJ LR LR
comp=Z,3µm,25.4s
IAKL Akhelmad 50.50 318 eP P 12 22 20.0 -0.8
IKRD Kardeh 50.76 318 eP P 12 22 17.5 -5.2
USRK Ussuriysk Arra 51.13 30 P P 12 22 25.6 +0.6
comp=Z,15nm,0.9s,baz=221,slow=5.7,SNR=19
USRK LR LR 12 44 56.2
comp=Z,3µm,21.9s,baz=52,slow=37
ISRV Sarvestan 51.27 307 eP P 12 22 26.4 -0.2
CTA Charters Tower 51.38 118 P P 12 22 26.6 -0.6
comp=Z,23nm,1.2s,baz=289,slow=10,SNR=8.1
CTAO Charters Tower 51.38 118 eP P 12 22 26.3 -1.0
CTAO pmax pmax
comp=Z,26nm,1.1s
CTAO Charters Tower 51.38 118 eP P 12 22 26.3 -1.0
comp=Z,26nm,1.1s
KURK Kurchatov 51.40 344 P P 12 22 26.8 -0.1
comp=Z,78nm,0.9s,SNR=7.3
KURK Kurchatov 51.40 344 eP P 12 22 26.5 -0.4
KURK pmax pmax
comp=Z,11nm,0.9s
KURK Kurchatov 51.40 344 P P 12 22 26.9 0.0
SNR=6.7
KURK Kurchatov 51.40 344 eP P 12 22 26.5 -0.4
comp=Z,11nm,0.9s
IPAR Pars 51.50 307 eP P 12 22 26.8 -1.6
ABKT Ailbek 51.65 319 P P 12 22 29.9 +0.8
comp=Z,226nm,0.8s,SNR=10
GEYT Alibeck 51.65 319 P P 12 22 28.9 -0.2
comp=Z,30nm,0.9s,baz=142,slow=7.5,SNR=36
ISHV Shirvan 51.71 318 eP P 12 22 29.4 -0.3
QLP Quilpie 52.18 126 ⇑P P 12 22 32.1 -1.1
baz=52,SNR=4.2
STKA Stephens Creek 52.70 134 eP P 12 22 34.6 -2.3
STKA Stephens Creek 52.70 134 P P 12 22 34.7 -2.2
comp=Z,6.5nm,0.8s,baz=303,slow=9.0,SNR=6.4
STKA Stephens Creek 52.70 134 eP P 12 22 34.6 -2.3
comp=Z,2.1nm,1.0s
ZAA0 Zalesovo Array 52.97 350 eP P 12 22 37.6 -0.9
ZALV Zalesovo Beam 52.97 350 P P 12 22 37.6 -0.9
comp=Z,24nm,0.8s,baz=164,slow=6.0,SNR=42
IANJ Anjilo 53.29 314 eP P 12 22 40.1 -1.5
NVS Novosibirsk 54.12 349 ⇓iP P 12 22 45.0 -1.8
NVS pmax pmax
comp=N,9.0nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.2s
NVS pmax pmax
comp=Z,14nm,1.2s
IPIR Pirpir 54.33 309 eP P 12 22 46.9 -2.3
IALA Alasht 54.37 314 eP P 12 22 49.4 -0.1
KLR Kul'dur 54.70 26 eP P 12 22 47.4 -3.8
KLR MLR MLR
comp=E,2µm,14.0s
KLR MLR MLR
comp=Z,5µm,14.0s
OPO Ambohidratompo 54.86 246 P P 12 22 54.8 +1.7
comp=Z,6.4nm,1.0s,baz=72,slow=10,SNR=6.7
CMSA Cobar Meteorol 55.56 131 ⇓P P 12 22 56.1 -1.7
baz=56,SNR=13
HABR Khabarovsk 55.65 28 eP P 12 22 55.3 -2.7
HABR e*PP pP 12 23 05.2 -7.4
HABR e*SP sP 12 23 09.5 -9.2
HABR 12 23 54.7
HABR eS S 12 30 39.5 -0.8
HABR e*SS sS 12 30 56.4 -8.2
HABR 12 32 42.0
HABR eSS SS 12 34 25.6 -0.6
HABR pmax pmax
comp=Z,53nm,3.2s
HABR MLR MLR
comp=Z,1µm,20.0s

RMQ Roma 55.84 124 ⇓P P 12 23 00.0 +0.2
baz=56,SNR=7.4
RAYN Ar Rayn 55.87 297 P P 12 23 00.2 0.0
comp=Z,1.0nm,1.0s,SNR=6.0
RAYN Ar Rayn 55.87 297 eP P 12 22 58.6 -1.6
comp=Z,14nm,0.8s
BVA0 Borovoye Array 55.99 340 iP P 12 22 59.1 -1.4
BVA0 pmax pmax
comp=Z,30nm,1.0s
BVAR Borovoye Array 55.99 340 LR LR 12 51 09.3
comp=Z,4µm,20.8s,baz=282,slow=40
BRVK Borovoye 56.06 340 P P 12 22 59.5 -1.4
comp=Z,200nm,0.9s,SNR=12
BRVK Borovoye 56.06 340 d iP P 12 22 59.8 -1.1
BRVK pmax pmax
comp=Z,29nm,0.8s
BRVK Borovoye 56.06 340 P P 12 23 00.2 -0.7
SNR=8.9
BRVK Borovoye 56.06 340 eP P 12 22 59.4 -1.6
comp=Z,30nm,0.9s
BOD Bodaibo 56.83 10 eP P 12 23 05.5 -0.8
BOD pmax pmax
comp=Z,15nm,1.1s
EIDS Eidsvold 57.38 122 eP P 12 23 09.3 -1.4
comp=Z,22nm,1.3s
AB31 Akbulak array 57.56 331 iP P 12 23 10.7 -0.9
AB31 pmax pmax
comp=Z,28nm,0.8s
ABKAR Akbulak array 57.56 331 eP P 12 23 10.9 -0.7
ABKAR Akbulak array 57.56 331 ⇑P P 12 23 11.2 -0.4
baz=58
IDHR Dehrash 58.57 310 eP P 12 23 17.4 -1.9
YSS Yuzh-Sakhalins 58.65 34 eP P 12 23 19.6 +0.4
YSS pmax pmax
comp=Z,32nm,1.0s
YSS Yuzh-Sakhalins 58.65 34 eP P 12 23 19.6 +0.4
comp=Z,32nm,1.0s
YUK Yuzh-Kuril'sk 58.85 38 eP P 12 23 12.7 -8.0
YUK i 12 25 28.0
YUK iS S 12 31 14.0 -8.5
YUK MLR MLR
comp=N,1µm,21.0s
YUK MLR MLR
comp=E,741nm,21.0s
YUK MLR MLR
comp=Z,1µm,21.0s
AKTO Aktyubinsk 59.27 331 P P 12 23 22.1 -1.5
AKTO pmax pmax
comp=Z,17nm,1.0s
ARMA Armidale 59.69 127 eP P 12 23 27.5 +0.5
comp=Z,32nm,1.4s
IMRD Marand 60.61 314 eP P 12 23 31.6 -1.6
KMBO Kilima Mbogo 61.74 268 P P 12 23 43.3 +1.9
comp=Z,1.3nm,0.4s,baz=58,slow=10,SNR=6.3
GNI Garni 61.86 315 eP P 12 23 41.6 0.0
GNI pmax pmax
comp=Z,33nm,1.1s
GNI Garni 61.86 315 eP P 12 23 41.6 0.0
comp=Z,33nm,1.1s
SVE Sverdlovsk 62.51 337 ⇓iP P 12 23 45.2 -0.2
SVE pmax pmax
comp=Z,52nm,1.0s
ARU Arti 63.05 336 P P 12 23 48.3 -0.7
comp=Z,138nm,0.9s,SNR=9.1
ARU Arti 63.05 336 d iP P 12 23 47.8 -1.2
ARU 12 24 25.9
ARU S S 12 32 16.1 +0.5
ARU pmax pmax
comp=Z,29nm,1.0s
ARU Arti 63.05 336 eP P 12 23 48.2 -0.7
comp=Z,22nm,0.9s
ZEI Tsey 63.49 318 eP P 12 23 52.0 -0.5
ZEI pmax pmax
comp=Z,20nm,0.8s
NCK Nalchik 63.98 318 eP P 12 23 54.9 -0.6
YAK Yakutsk 64.09 16 eP P 12 23 54.1 -1.6
YAK pmax pmax
comp=Z,32nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK Yakutsk 64.09 16 eP P 12 23 54.9 -0.8
comp=E,27nm,0.8s
KBZ Khabaz 64.54 318 P P 12 23 58.9 -0.1
comp=E,22nm,0.8s,baz=129,slow=5.4,SNR=32
KIV Kislovodsk 64.77 318 eP P 12 24 00.0 -0.7
KIV pmax pmax
comp=Z,31nm,1.1s
KIV Kislovodsk 64.77 318 P P 12 24 00.7 0.0
SNR=5.9
KIV Kislovodsk 64.77 318 eP P 12 24 00.8 0.0
KIV Kislovodsk 64.77 318 ⇓iP P 12 24 00.4 -0.3
SNR=5.5
MALT Malatya 65.82 311 ⇑iP P 12 24 08.5 +0.9
SOKR Solikamsk 65.91 338 c iP P 12 24 07.2 -0.3
SOKR pmax pmax
comp=Z,20nm,0.7s
SOC Sochi 66.62 317 eP P 12 24 11.4 -1.1
SOC pmax pmax
comp=Z,52nm,0.9s
ANN Anapa 68.58 318 eP P 12 24 25.4 +0.6
ANN pmax pmax
comp=Z,56nm,1.6s
BR131 Keskin Array S 69.79 312 eP P 12 24 31.7 -0.9
comp=Z,14nm,0.7s
BRTR Keskin Array B 69.79 312 P P 12 24 32.0 -0.7
comp=Z,18nm,0.7s,baz=132,slow=7.4,SNR=54
VSR Storozhevoye 69.83 325 d iP P 12 24 30.6 -1.8
VSR pmax pmax
comp=Z,70nm,1.0s
PETK Petropavlovsk- 70.04 33 P P 12 24 32.0 -1.7
comp=Z,6.0nm,0.9s,baz=194,slow=5.6,SNR=3.8
ANTO Ankara 70.46 312 eP P 12 24 36.5 -0.2
ANTO pmax pmax
comp=Z,20nm,0.8s
ANTO Ankara 70.46 312 ⇑iP P 12 24 36.5 -0.2
ANTO Ankara 70.46 312 eP P 12 24 36.5 -0.2
comp=Z,20nm,0.8s
PET Petropavlovsk 70.53 34 eP P 12 24 37.3 +0.6
PET pmax pmax
comp=Z,35nm,1.0s
PET Petropavlovsk 70.53 34 eP P 12 24 37.3 +0.6
comp=Z,35nm,1.0s
SIM Simferopol' 70.87 317 c iP P 12 24 38.9 -0.1
SIM pmax pmax
comp=Z,28nm,0.8s
PRGR Permogore 71.51 336 eP P 12 24 41.0 -1.4
PRGR 12 25 00.3
PRGR pmax pmax
comp=Z,42nm,0.8s
ISP Isparta 71.73 309 ⇑iP P 12 24 44.3 -0.1
TIXI Tiksi 72.02 10 d iP P 12 24 44.2 -1.1
TIXI pmax pmax
comp=Z,56nm,1.0s
TIXI Tiksi 72.02 10 eP P 12 24 44.2 -1.1
LSZ Lusaka 72.02 253 eP P 12 24 48.5 +2.0
LSZ pmax pmax
comp=Z,21nm,1.4s
LSZ Lusaka 72.02 253 eP P 12 24 48.5 +2.0
comp=Z,21nm,1.4s
MOS Moscow 72.46 329 eP P 12 24 47.1 -1.1
MOS pmax pmax
comp=Z,64nm,0.8s
OBN Obninsk 72.77 328 ⇑iP P 12 24 49.4 -0.7
OBN eS S 12 34 07.1 -4.6
OBN eSS SS 12 38 52.2 -0.2
OBN pmax pmax
comp=Z,98nm,2.5s
KLMR Klimovskoe 73.70 334 eP P 12 24 53.6 -1.9
KLMR pmax pmax
comp=Z,39nm,1.5s
TLCR 74.56 316 ⇑iP P 12 25 01.0 +0.2
PSN Preselentsi 74.68 315 ⇑iP P 12 25 01.9 +0.3
TIRR Tirgusor 74.68 316 eP P 12 25 01.2 -0.3
TIRR pmax pmax
comp=Z,13nm,0.8s
TIRR Tirgusor 74.68 316 ⇓iP P 12 25 01.3 -0.3
TIRR Tirgusor 74.68 316 eP P 12 25 01.2 -0.3
comp=Z,13nm,0.8s
CFR Carcaliu 75.03 316 ⇓iP P 12 25 03.0 -0.5
AK02 Malin Array Si 75.61 322 eP P 12 25 05.7 -1.0
AKASG Malin Array Be 75.61 322 P P 12 25 05.6 -1.2
comp=Z,11nm,0.7s,baz=88,slow=4.9,SNR=42
AKASG PP PP 12 27 50.6 -6.1
comp=Z,0.1nm,0.3s,baz=98,slow=7.8,SNR=3.1

AKBB Malin Array Si 75.61 322 eP P 12 25 05.7 -1.0
AKBB Malin Array Si 75.61 322 eP P 12 25 05.7 -1.0
AK01 Malin Array Si 75.61 322 eP P 12 25 05.4 -1.3
KIEV Kiev 75.62 322 d iP P 12 25 05.6 -1.2
KIEV Kiev 75.62 322 eP P 12 25 05.8 -1.0
TMCR Tamitsa 75.78 337 eP P 12 25 06.9 -0.5
TMCR e 12 27 57.3
TMCR pmax pmax
comp=Z,40nm,0.8s
ISR Istrita 76.12 316 ⇓iP P 12 25 10.9 +1.0
VRI Vrincioaia 76.14 317 ⇓iP P 12 25 10.7 +0.8
PLOR Plostina 76.19 317 ⇑iP P 12 25 10.8 +0.5
TESR Tescani 76.33 317 ⇓iP P 12 25 11.1 +0.2
BOSA Boshof 76.72 240 eP P 12 25 13.9 +0.2
BOSA pmax pmax
comp=Z,9.0nm,0.7s
BOSA Boshof 76.72 240 P P 12 25 14.5 +0.8
comp=Z,8.8nm,0.7s,baz=87,slow=4.7,SNR=13
BOSA Boshof 76.72 240 eP P 12 25 13.9 +0.2
comp=Z,9.3nm,0.7s
VOIR 77.22 316 ⇑iP P 12 25 15.1 -1.0
MICGM Minsk 77.36 326 e P 12 25 11.0 -5.5
MNK Minsk 77.38 326 eP P 12 25 11.0 -5.7
ARR Arges 77.49 316 ⇓iP P 12 25 17.2 -0.4
BURAR Bucovina Array 77.50 318 ⇓iP P 12 25 18.7 +1.0
BUR08 Bucovina Ar. S 77.52 318 eP P 12 25 18.1 +0.3
JOF Joensuu 78.08 334 eP P 12 25 18.4 -2.0
JOF pmax pmax
comp=Z,11nm,0.8s
JOF Joensuu 78.08 334 ep P 12 25 18.4 -2.0
comp=Z,11nm,0.8s
LOT Lotru 78.11 316 ⇓iP P 12 25 20.3 -0.8
IDID Didziasalis 78.19 326 eP P 12 25 21.2 0.0
IDID AMB AMB 12 25 22.4
comp=Z,19nm,0.9s
IIGN Ignalina 78.49 326 eP P 12 25 22.4 -0.4
IIGN AMB AMB 12 25 23.4
comp=Z,19nm,0.9s
ISAL Salakas 78.59 326 eP P 12 25 23.0 -0.4
ISAL AMB AMB 12 25 24.4
comp=Z,8.7nm,0.9s
GZR Gura Zlata 78.79 316 ⇑iP P 12 25 24.9 +0.1
VSU Vasula 78.95 329 eP P 12 25 25.0 -0.3
VSU pmax pmax
comp=Z,69nm,1.0s
TRPA Tarpa 79.36 319 ⇑iP P 12 25 27.6 -0.2
KWP Kalwaria Pacla 79.49 320 eP P 12 25 29.0 +0.5
KWP Kalwaria Pacla 79.49 320 eP P 12 25 28.9 +0.5
KWP Kalwaria Pacla 79.49 320 ⇑iP P 12 25 28.4 -0.1
KWP Kalwaria Pacla 79.49 320 eP P 12 25 28.6 +0.2
comp=Z,25nm,1.0s
UZH Uzhgorod 79.60 319 eP P 12 25 31.1 +2.1
UZH e 12 25 38.7
BZS Buzias 79.63 316 ⇑iP P 12 25 29.5 +0.2
KOLS Kolonicke sedl 79.66 319 eP P 12 25 30.2 +0.8
KOLS pmax pmax
comp=Z,17nm,1.4s
KOLS Kolonicke sedl 79.66 319 eP P 12 25 30.1 +0.7
BILL Bilibino 79.72 21 eP P 12 25 28.8 -0.5
BILL i 12 25 35.8
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL Bilibino 79.72 21 eP P 12 25 29.0 -0.4
comp=Z,22nm,1.5s
SUW Suwalki 79.94 324 eP P 12 25 30.6 -0.2
SUW Suwalki 79.94 324 eP P 12 25 30.6 -0.2
SUW Suwalki 79.94 324 eP P 12 25 30.5 -0.2
comp=Z,77nm,1.0s
FIA1 FINESS Array S 80.01 332 eP P 12 25 30.1 -0.9
FINES FINESS Array B 80.01 332 P P 12 25 30.6 -0.3
comp=Z,16nm,0.9s,baz=111,slow=8.4,SNR=30
KAF Kangasniemi 80.07 333 eP P 12 25 30.3 -1.0
KAF pmax pmax
comp=Z,19nm,0.8s
KAF Kangasniemi 80.07 333 ep P 12 25 30.3 -1.0
comp=Z,19nm,0.8s
CRVS Cervenica-Dubn 80.19 319 eP P 12 25 32.5 +0.2
CRVS pmax pmax
comp=Z,29nm,1.9s
CRVS Cervenica-Dubn 80.19 319 eP P 12 25 32.5 +0.2
STHS Stebnicka Huta 80.40 320 eP P 12 25 34.9 +1.5
STHS pmax pmax
comp=Z,7.0nm,0.8s
STHS Stebnicka Huta 80.40 320 eP P 12 25 34.9 +1.5
PSZ Piszkesteto 81.09 318 eP P 12 25 36.9 -0.3
PSZ pmax pmax
comp=Z,8.0nm,0.7s
PSZ Piszkesteto 81.09 318 eP P 12 25 36.9 -0.3
comp=Z,7.6nm,0.7s
SYO Syowa Base 81.39 198 ⇓eP P 12 25 40.0 +1.9
OJC Ojcow 81.43 320 eP P 12 25 38.6 -0.3
OJC Ojcow 81.43 320 eP P 12 25 38.6 -0.3
BKZ Black Stump Fm 81.70 130 eP P 12 25 38.4 -2.2
comp=Z,22nm,0.9s
PKSM Moragy 81.76 316 ⇓iP P 12 25 40.6 -0.1
KEV Kevo 81.83 340 eP P 12 25 33.1 -7.4
KEV pmax pmax
comp=Z,10.0nm,0.9s
KEV Kevo 81.83 340 ep P 12 25 33.1 -7.4
comp=Z,9.6nm,0.9s
VYHS Vyhne 81.86 319 eP P 12 25 41.3 +0.1
VYHS pmax pmax
comp=Z,9.0nm,1.6s
VYHS Vyhne 81.86 319 eP P 12 25 41.3 +0.1
ARCES ARCESS Array B 82.28 340 P P 12 25 43.1 +0.2
comp=Z,10nm,0.9s,baz=107,slow=4.8,SNR=13
OKC Ostrava-Krasne 82.45 320 eP P 12 25 44.5 +0.3
OKC Ostrava-Krasne 82.45 320 eP P 12 25 44.5 +0.3
TSUM Tsumeb 82.51 250 eP P 12 25 46.0 +0.7
comp=Z,6.9nm,1.1s
MORC Moravsky Berou 82.83 320 eP P 12 25 46.4 +0.1
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 82.83 320 eP P 12 25 46.4 +0.1
comp=Z,3.6nm,0.8s
DPC Dobruska-Polom 83.66 320 eP P 12 25 51.5 +0.9
DPC Dobruska-Polom 83.66 320 eP P 12 25 51.3 +0.8
DPC Dobruska-Polom 83.66 320 eP P 12 25 51.5 +0.9
KSP Ksiaz 83.72 321 eP P 12 25 51.3 +0.5
KSP Ksiaz 83.72 321 eP P 12 25 51.8 +1.0
CONA Conrad Observa 83.80 318 ⇑iP P 12 25 51.5 +0.2
comp=Z,3.6nm,0.9s
UPC Upice 83.87 320 eP P 12 25 51.9 +0.3
UPC Upice 83.87 320 eP P 12 25 51.9 +0.3
BOJS Bojanci 84.07 315 iP P 12 25 53.0 +0.3
TREC Trest 84.13 319 eP P 12 25 53.1 +0.2
TREC Trest 84.13 319 eP P 12 25 53.1 +0.2
VISS Visnje 84.37 316 eP P 12 25 54.7 +0.5
PRU Pruhonice 84.78 320 eP P 12 25 56.6 +0.4
PRU Pruhonice 84.78 320 eP P 12 25 56.6 +0.4
JAVS Javornik 84.92 316 iP P 12 25 57.1 +0.1
BRG Berggiesshubel 85.21 321 eP P 12 25 58.8 +0.5
comp=Z,7.8nm,1.1s
BRG Berggiesshubel 85.21 321 eP P 12 25 58.8 +0.5
BRG pmax pmax
comp=Z,8.0nm,1.1s
GEC2 GERESS Array S 85.28 319 eP P 12 25 59.0 +0.2
comp=Z,10.0nm,1.3s
GERES GERESS Array B 85.28 319 P P 12 25 58.8 0.0
comp=Z,2.5nm,0.8s,baz=99,slow=6.9,SNR=14
KHC Kasperske Hory 85.37 319 eP P 12 25 59.0 -0.2
KHC Kasperske Hory 85.37 319 eP P 12 25 59.0 -0.2
RUE Ruedersdorf 85.38 322 eP P 12 25 59.4 +0.3
comp=Z,22nm,0.8s
CLL Collm 85.82 321 eP P 12 26 01.0 -0.3
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 85.82 321 eP P 12 26 01.3 0.0
comp=Z,6.0nm,1.0s
CLL Collm 85.82 321 eP P 12 26 01.0 -0.3
comp=Z,6.0nm,1.0s
WET Wettzell 85.83 319 eP P 12 26 01.6 +0.1
comp=Z,8.0nm,1.0s
RJOB Jochberg 85.85 318 eP P 12 26 01.1 -0.5
comp=Z,7.0nm,0.9s
GUNZ Gunzen 86.22 320 eP P 12 26 03.8 +0.5
comp=Z,19nm,1.9s
WERD Werda 86.24 320 eP P 12 26 03.7 +0.3
comp=Z,5.0nm,0.9s
ROTZ Rotzenmuhle 86.28 320 eP P 12 26 04.3 +0.6
comp=Z,8.0nm,1.0s
NEUB Neuenburg 86.59 321 eP P 12 26 05.3 +0.2
comp=Z,14nm,1.1s
WTTA Wattenberg 86.63 317 ⇓iP P 12 26 05.2 -0.4

comp=Z,10nm,0.8s
MOTA Moosalm 86.99 317 ⇑iP P 12 26 06.9 -0.4
comp=Z,7.1nm,0.7s
NB2 NORSAR Subarra 87.06 331 P P 12 26 06.8 -0.5
comp=Z,8.1nm,0.8s,baz=94,slow=4.6
NB2 NORSAR Subarra 87.06 331 P P 12 26 06.8 -0.5
baz=94,slow=4.6
NOA NORSAR Array B 87.06 331 P P 12 26 06.9 -0.3
comp=Z,6.3nm,0.8s,baz=94,slow=4.9,SNR=26
RETA Reutte 87.22 317 ⇓iP P 12 26 08.3 -0.1
comp=Z,9.6nm,0.8s
CLZ Clausthal 87.47 322 eP P 12 26 10.0 +0.6
comp=Z,14nm,0.8s
BSEG Bad Segeberg 87.50 324 eP P 12 26 10.1 +0.7
comp=Z,25nm,1.0s
NRDL Niedersach Rie 87.63 322 eP P 12 26 10.9 +0.9
comp=Z,22nm,1.0s
GAMB Gambell 87.86 26 eP P 12 26 11.3 +0.4
comp=Z,6.8nm,0.9s
MUD Monsted U'grnd 88.13 326 iP P 12 26 13.4 +1.1
MUD pmax pmax
comp=Z,11nm,0.8s
MUD Monsted U'grnd 88.13 326 iP P 12 26 13.4 +1.1
comp=Z,11nm,0.8s
KEST Kesra 88.44 306 P P 12 26 16.0 +1.5
comp=Z,4.4nm,0.8s,baz=180,slow=1.0,SNR=10
TNS Taunus Mts 88.71 320 eP P 12 26 16.1 +0.7
comp=Z,12nm,0.9s
IBBN Ibbenburen 89.07 322 eP P 12 26 17.7 +0.8
comp=Z,30nm,0.9s
BUG Bochum--Univer 89.41 321 eP P 12 26 19.2 +0.7
comp=Z,21nm,0.9s
TNA Tin City 89.42 25 eP P 12 26 17.5 -0.8
comp=Z,140nm,2.8s
CDF Champ du Feu 89.54 318 ⇑iP P 12 26 19.6 +0.2
CDF Champ du Feu 89.54 318 ⇑iP P 12 26 19.6 +0.2
CDF Champ du Feu 89.54 318 ⇑iP P 12 26 19.6 +0.2
LPG La Plagne 90.05 315 ⇑iP P 12 26 22.7 +0.7
comp=Z,23nm,0.8s
LPG La Plagne 90.05 315 ⇑iP P 12 26 22.7 +0.7
LPG pmax pmax
comp=Z,23nm,0.8s
LPG La Plagne 90.05 315 ⇑iP P 12 26 22.7 +0.7
comp=Z,23nm,0.8s
LPL La Plagne 90.06 315 ⇑iP P 12 26 22.7 +0.7
comp=Z,26nm,0.8s
LPL La Plagne 90.06 315 ⇑iP P 12 26 22.7 +0.7
LPL pmax pmax
comp=Z,26nm,0.8s
LPL La Plagne 90.06 315 ⇑iP P 12 26 22.7 +0.7
comp=Z,26nm,0.8s
HAU Haudompre 90.18 318 ⇑iP P 12 26 22.6 +0.3
comp=Z,27nm,0.8s
HAU Haudompre 90.18 318 ⇑iP P 12 26 22.6 +0.3
HAU pmax pmax
comp=Z,27nm,0.8s
HAU Haudompre 90.18 318 ⇑iP P 12 26 22.6 +0.3
comp=Z,27nm,0.8s
CABF La Chapelle 90.44 316 ⇑iP P 12 26 24.4 +0.8
CABF La Chapelle 90.44 316 ⇑iP P 12 26 24.4 +0.8
CABF La Chapelle 90.44 316 ⇑iP P 12 26 24.4 +0.8
ORIF Oris-en-Rattie 90.69 315 ⇑iP P 12 26 24.6 -0.2
comp=Z,24nm,1.0s
ORIF Oris-en-Rattie 90.69 315 ⇑iP P 12 26 24.6 -0.2
ORIF pmax pmax
comp=Z,24nm,1.0s
ORIF Oris-en-Rattie 90.69 315 ⇑iP P 12 26 24.6 -0.2
comp=Z,24nm,1.0s
GIVF Givet 91.04 320 ⇑iP P 12 26 27.1 +0.9
GIVF Givet 91.04 320 ⇑iP P 12 26 27.1 +0.9
GIVF Givet 91.04 320 ⇑iP P 12 26 27.1 +0.9
SFTF Sexfontaines 91.05 318 ⇑iP P 12 26 26.7 +0.4
comp=Z,61nm,1.0s
SFTF Sexfontaines 91.05 318 ⇑iP P 12 26 26.7 +0.4
comp=Z,61nm,1.0s
BAIF Baives 91.44 320 ⇑iP P 12 26 29.2 +1.2
comp=Z,21nm,0.9s
BAIF Baives 91.44 320 ⇑iP P 12 26 29.2 +1.2
BAIF pmax pmax
comp=Z,21nm,0.9s
BAIF Baives 91.44 320 ⇑iP P 12 26 29.2 +1.2
comp=Z,21nm,0.9s
VIVF Saint-Julien-l 91.55 315 ⇑iP P 12 26 29.4 +0.7
comp=Z,19nm,1.0s
VIVF Saint-Julien-l 91.55 315 ⇑iP P 12 26 29.4 +0.7
VIVF pmax pmax
comp=Z,19nm,1.0s
VIVF Saint-Julien-l 91.55 315 ⇑iP P 12 26 29.4 +0.7
comp=Z,19nm,1.0s
LOR Lormes 91.92 317 ⇑iP P 12 26 31.0 +0.7
comp=Z,21nm,0.9s
LOR Lormes 91.92 317 ⇑iP P 12 26 31.0 +0.7
LOR pmax pmax
comp=Z,21nm,0.9s
LOR Lormes 91.92 317 ⇑iP P 12 26 31.0 +0.7
comp=Z,21nm,0.9s
SMF Signal de Mont 91.98 317 ⇑iP P 12 26 31.2 +0.5
comp=Z,35nm,0.9s
SMF Signal de Mont 91.98 317 ⇑iP P 12 26 31.2 +0.5
SMF pmax pmax
comp=Z,35nm,0.9s
SMF Signal de Mont 91.98 317 ⇑iP P 12 26 31.2 +0.5
comp=Z,35nm,0.9s
AVF Avril sur Loir 92.31 317 eP P 12 26 32.8 +0.7
comp=Z,31nm,1.0s
AVF Avril sur Loir 92.31 317 eP P 12 26 32.8 +0.7
AVF pmax pmax
comp=Z,31nm,1.0s
AVF Avril sur Loir 92.31 317 eP P 12 26 32.8 +0.7
comp=Z,31nm,1.0s
BGF Bois d'Agland 92.68 317 ⇑iP P 12 26 34.9 +1.1
BGF Bois d'Agland 92.68 317 ⇑iP P 12 26 34.9 +1.1
BGF Bois d'Agland 92.68 317 ⇑iP P 12 26 34.9 +1.1
DAG Danmarks Havn 94.08 348 iP P 12 26 38.1 -1.6
DAG pmax pmax
comp=Z,4.0nm,1.0s
DAG Danmarks Havn 94.08 348 iP P 12 26 38.1 -1.6
comp=Z,4.4nm,1.0s
IM04 Indian Mountai 95.08 23 eP P 12 26 44.8 +0.3
TORD Torodi Ar. Bea 96.56 283 P P 12 26 52.4 +0.1
comp=Z,1.1nm,0.8s,baz=87,slow=3.9,SNR=3.5
ILAR Eielson Array 98.20 23 P Pdif 12 26 59.0 +0.4
comp=Z,0.2nm,0.8s,baz=285,slow=5.0,SNR=3.0
ILAR PKKPbc PKKPbc 12 43 30.2 -3.0
comp=Z,0.4nm,0.8s,baz=131,slow=2.1,SNR=5.3
YKA Yellowknife Ar 110.77 16 PKiKP PKiKP 12 31 52.9 -1.3
comp=Z,0.4nm,0.9s,baz=323,slow=2.9,SNR=4.6
YKA PP PP 12 32 31.5 +0.3
comp=Z,0.4nm,0.8s,baz=327,slow=6.7,SNR=6.0
YKA PKKP PKKPdf 12 43 11.0 -1.0
comp=Z,0.2nm,0.7s,baz=131,slow=3.1,SNR=3.8
NEW Newport 120.86 27 PKP PKPdf 12 32 14.6 +0.5
comp=Z,4.5nm,0.9s,baz=111,slow=2.3,SNR=14
NEW Newport 120.86 27 ⇓PKiKP PKiKP 12 32 14.8 +0.6
baz=121
I04A Tendick Farm, 121.22 34 ⇓PKiKP PKiKP 12 32 15.3 +0.2
baz=121
I05D Terrebonne, OR 121.46 33 ⇓PKiKP PKPdf 12 32 15.6 +0.2
baz=121
L02D Cave Junction, 121.56 36 ⇑PKiKP PKiKP 12 32 16.0 +0.4
baz=121
J04D Umpqua Nationa 121.74 34 ⇓PKiKP PKiKP 12 32 16.5 +0.2
baz=122
SCHQ Schefferville 122.06 350 PKP PKPdf 12 32 16.1 0.0
comp=Z,5.7nm,0.8s,baz=356,slow=0.7,SNR=7.3
J05D Fort Rock, OR 122.20 34 ⇑PKiKP PKiKP 12 32 17.4 +0.3
baz=122
M02C Callahan 122.47 36 ⇓PKiKP PKPdf 12 32 17.5 +0.1
baz=122
M04C Macdoel 122.82 36 ⇑PKiKP PKPdf 12 32 18.1 -0.1
baz=123
MSO Missoula 123.36 26 ⇑PKiKP PKPdf 12 32 18.7 -0.3
baz=123
A19A Klindworth Far 123.81 22 ⇑PKiKP PKPdf 12 32 19.4 -0.4
baz=124
B19A Brinkman Farms 124.12 22 ⇑PKiKP PKPdf 12 32 20.0 -0.4
baz=124
A20A Cobblestone Ra 124.15 21 ⇑PKiKP PKPdf 12 32 20.3 -0.1
baz=124
EGMT Eagleton 124.17 23 ePKPdf PKPdf 12 32 20.6 +0.1
EGMT Eagleton 124.17 23 ⇓PKiKP PKPdf 12 32 19.9 -0.5
baz=124
A21A Bergtoll Ranch 124.41 20 ⇓PKiKP PKPdf 12 32 21.0 +0.1
baz=124
B20A Solberg Farm, 124.48 21 ⇑PKiKP PKPdf 12 32 20.9 -0.1
baz=124
C19A Slack Wire Ran 124.68 23 ⇑PKiKP PKPdf 12 32 21.7 +0.2

	baz=124						
A22A	Carney Farms,	124.75	20	⇓PKiKP	PKPdf	12 32 21.6	+0.1
	baz=124						
C20A	Veseth Ranch,	125.09	22	⇑PKiKP	PKPdf	12 32 22.2	0.0
	baz=125						
A23A	Redstone	125.12	19	⇓PKiKP	PKPdf	12 32 22.4	+0.1
	baz=125						
D19A	Cripps Ranch,	125.21	23	⇑PKiKP	PKPdf	12 32 22.2	-0.3
	baz=125						
C21A	Desert Coulee	125.33	21	⇓PKiKP	PKPdf	12 32 22.8	+0.1
	baz=125						
A24A	Westby	125.43	18	⇑PKiKP	PKPdf	12 32 22.9	+0.1
	baz=125						
B23A	Brockton	125.52	19	⇑PKiKP	PKPdf	12 32 23.1	+0.1
	baz=125						
D20A	Manuel Ranch,	125.56	22	⇑PKiKP	PKPdf	12 32 23.2	+0.1
	baz=125						
A25A	Svangstu Ranch	125.70	18	⇑PKiKP	PKiKP	12 32 23.7	0.0
	baz=126						
DGMT	Dagmar	125.77	19	⇑PKiKP	PKPdf	12 32 23.5	0.0
	baz=126						
E19A	Rath Farm, Rou	125.83	23	⇓PKiKP	PKPdf	12 32 23.8	+0.1
	baz=126						
C22A	Vida	125.83	20	⇓PKiKP	PKPdf	12 32 23.7	+0.1
	baz=126						
D21A	La Casta Ranch	126.01	22	⇓PKiKP	PKPdf	12 32 24.2	+0.2
	baz=126						
QLMT	Earthquake Lak	126.02	26	ePKPdf	PKPdf	12 32 25.0	+0.7
C23A	Lambert	126.02	20	⇓PKiKP	PKPdf	12 32 24.3	+0.3
	baz=126						
E20A	Meyer Farm, Mu	126.05	23	⇑PKiKP	PKPdf	12 32 24.4	+0.3
	baz=126						
A26A	Wade Farm, Ken	126.05	17	⇑PKiKP	PKPdf	12 32 24.4	+0.4
	baz=126						
D22A	Cohagen	126.24	21	⇑PKiKP	PKPdf	12 32 25.2	+0.4
	baz=126						
ULM	Lac du Bonnet	126.33	12	PKP	PKPdf	12 32 23.8	-0.6
	comp=Z,8.4nm,0.8s,baz=348,slow=4.2,SNR=11						
E21A	Keefer Ranch,	126.42	22	⇓PKiKP	PKiKP	12 32 25.7	+0.4
	baz=126						
C24A	Savage	126.52	20	⇓PKiKP	PKiKP	12 32 25.6	+0.2
	baz=126						
D23A	Lindsay	126.56	20	⇓PKiKP	PKiKP	12 32 26.1	+0.6
	baz=126						
LAO	LASA Array	126.61	21	ePKPdf	PKPdf	12 32 26.0	+0.9
F20A	Billings	126.62	23	⇓PKiKP	PKiKP	12 32 25.7	0.0
	baz=126						
C25A	Freed Ranch, W	126.74	19	⇓PKiKP	PKiKP	12 32 26.3	+0.5
	baz=126						
D24A	Glendive	126.91	20	⇑PKiKP	PKiKP	12 32 26.5	+0.3
	baz=127						
E22A	Miles City	126.92	21	⇓PKiKP	PKiKP	12 32 26.3	0.0
	baz=127						
B28A	Dugan Ranch, T	126.93	16	⇓PKiKP	PKiKP	12 32 26.3	+0.1
	baz=127						
C26A	Wahner Farm, P	127.00	18	⇑PKiKP	PKiKP	12 32 26.3	-0.1
	baz=127						
F21A	Absaloka Mine,	127.00	23	⇑PKiKP	PKiKP	12 32 26.2	+0.2
	baz=127						
A30A	Hoffart Farm,	127.02	14	⇓PKiKP	PKiKP	12 32 25.8	0.0
	baz=127						
NVAR	Mina Array Bea	127.05	37	PKP	PKPdf	12 32 27.8	+1.4
	comp=Z,4.8nm,0.8s,baz=253,slow=2.0,SNR=15						
G20A	Bridger	127.07	24	⇓PKiKP	PKPdf	12 32 26.3	+0.1
	baz=127						
E23A	Ismay	127.11	21	⇑PKiKP	PKiKP	12 32 26.5	+0.4
	baz=127						
H19A	Powell	127.20	25	⇑PKiKP	PKiKP	12 32 27.1	+0.1
	baz=127						
D25A	Fairfield	127.21	19	⇓PKiKP	PKiKP	12 32 27.1	+0.2
	baz=127						
F22A	Rosebud	127.37	22	⇑PKiKP	PKiKP	12 32 27.4	+0.2
	baz=127						
E24A	Baker	127.40	20	⇓PKiKP	PKiKP	12 32 27.4	+0.2
	baz=127						
I19A	Meeteetse	127.71	25	⇓PKiKP	PKiKP	12 32 27.3	-0.2
	baz=128						
F23A	Volborg	127.73	21	⇑PKiKP	PKiKP	12 32 27.6	+0.2
	baz=128						
E25A	Miller Ranch,	127.76	19	⇑PKiKP	PKiKP	12 32 27.6	+0.2
	baz=128						
H20A	Greybull	127.76	24	⇓PKiKP	PKiKP	12 32 27.6	+0.1
	baz=128						
G22A	Birney	127.83	22	⇑PKiKP	PKiKP	12 32 27.6	0.0
	baz=128						
D28A	Regan	128.02	17	⇑PKiKP	PKiKP	12 32 28.2	+0.4
	baz=128						
I20A	Worland	128.15	25	⇑PKiKP	PKiKP	12 32 28.7	+0.5
	baz=128						
G23A	Biddle	128.18	22	⇓PKiKP	PKiKP	12 32 28.8	-0.1
	baz=128						
F25A	Bowman	128.24	20	⇓PKiKP	PKiKP	12 32 28.9	0.0
	baz=128						
H22A	Clearmont	128.33	23	⇓PKiKP	PKiKP	12 32 29.1	+0.5
	baz=128						
D29A	Pettibone, Tap	128.41	16	⇑PKiKP	PKiKP	12 32 28.9	+0.4
	baz=128						
G24A	Alzada	128.43	21	⇓PKiKP	PKiKP	12 32 29.1	+0.4
	baz=128						
PDAR	Pinedale Array	128.48	27	PKP	PKiKP	12 32 29.7	+0.6
	comp=Z,2.2nm,0.9s,baz=188,slow=1.0,SNR=4.6						
D30A	Buchanan	128.60	15	⇑PKiKP	PKPdf	12 32 29.3	+0.4
	baz=128						
I21A	Big Trails, Te	128.61	24	⇓PKiKP	PKiKP	12 32 29.5	+0.3
	baz=128						
R11A	Troy Canyon, C	128.69	35	⇓PKiKP	PKiKP	12 32 30.3	+0.1
	baz=128						
I22A	9 Mile Ranch,	128.87	23	⇑PKiKP	PKiKP	12 32 29.7	+0.1
	baz=129						
H24A	Dirks Ranch, A	128.88	21	⇓PKiKP	PKiKP	12 32 29.4	-0.3
	baz=129						
BSC	Santa Cruz Isl	128.98	42	⇑PKiKP	PKiKP	12 32 29.6	-0.5
	baz=129						
E30A	Jud	129.11	16	⇓PKiKP	PKiKP	12 32 30.1	+0.2
	baz=129						
FURC	Furnace Creek,	129.20	37	⇓PKiKP	PKiKP	12 32 30.3	0.0
	baz=129						
J22A	Midwest	129.27	24	⇓PKiKP	PKiKP	12 32 30.6	+0.1
	baz=129						
F30A	Leola	129.69	16	⇑PKiKP	PKiKP	12 32 31.1	+0.1
	baz=130						
G30A	Faulkton	130.31	17	⇑PKiKP	PKiKP	12 32 32.1	-0.1
	baz=130						
J25A	Sunshine Ranch	130.32	22	⇑PKiKP	PKiKP	12 32 32.4	0.0
	baz=130						
I27A	Quinn	130.35	20	⇑PKiKP	PKiKP	12 32 32.2	-0.1
	baz=130						
N20A	Spence Gulch,	130.61	27	⇓PKiKP	PKiKP	12 32 33.3	+0.1
	baz=130						
L23A	Garrett	130.67	24	⇓PKiKP	PKiKP	12 32 33.7	+0.5
	baz=130						
M22A	Cedar Creek Ra	130.88	25	⇑PKiKP	PKiKP	12 32 34.0	+0.3
	baz=131						
I29A	Vivian Onida	130.96	18	⇑PKiKP	PKiKP	12 32 34.3	-0.1
	baz=131						
L24A	Wheatland	131.04	24	⇓PKiKP	PKiKP	12 32 34.5	-0.2
	baz=131						
GMRC	Granite Mounta	131.04	38	⇓PKiKP	PKiKP	12 32 34.8	-0.2
	baz=131						
K26A	Motz Farm, Whi	131.15	22	⇓PKiKP	PKiKP	12 32 34.6	+0.6
	baz=131						
O20A	White River Ci	131.17	28	⇓PKiKP	PKiKP	12 32 34.7	+0.5
	baz=131						
J28A	Allard Ranch,	131.19	19	⇓PKiKP	PKiKP	12 32 34.7	-0.2
	baz=131						
L25A	Engebretsen Ra	131.32	23	⇓PKiKP	PKiKP	12 32 34.6	+0.2
	baz=131						
I30A	Oacoma	131.33	18	⇑PKiKP	PKiKP	12 32 34.9	-0.2
	baz=131						
N22A	Wattenberg Ran	131.44	26	⇑PKiKP	PKiKP	12 32 35.9	+0.2
	baz=131						
M24A	Cheyenne	131.57	24	⇑PKiKP	PKiKP	12 32 35.0	+0.1
	baz=131						
N23A	Red Feather La	131.58	25	⇑PKiKP	PKiKP	12 32 35.6	+0.5
	baz=131						
IRM	Iron Mountain	131.77	39	⇓PKiKP	PKiKP	12 32 35.9	+0.6
	baz=132						
J30A	Dallas	131.84	18	⇑PKiKP	PKiKP	12 32 36.3	+0.1
	baz=132						
U15A	North Rim	131.90	34	⇑PKiKP	PKiKP	12 32 37.4	+0.5
	baz=132						
M25A	Palm-Egli Farm	131.90	23	⇓PKiKP	PKiKP	12 32 37.0	+0.5
	baz=132						
W13A	Hualapai Mount	131.91	37	⇑PKiKP	PKiKP	12 32 37.4	+0.6
	baz=132						
N24A	Carr	132.08	24	⇑PKiKP	PKiKP	12 32 36.4	+0.5
	baz=132						
O23A	Lake Granby, G	132.16	26	⇓PKiKP	PKiKP	12 32 37.5	+0.3
	baz=132						
GLA	Glamis	132.70	39	⇑PKiKP	PKiKP	12 32 38.6	+0.4
	baz=132						
WUAZ	Wupatki	133.07	34	⇓PKiKP	PKPdf	12 32 39.2	+0.1
	baz=133						
P24A	Kohler Place,	133.17	25	⇑PKiKP	PKiKP	12 32 39.2	0.0
	baz=133						
Y14A	Wickenburg	133.23	37	⇑PKiKP	PKPdf	12 32 38.4	+0.3
	baz=133						
MVCO	Mesa Verde	133.34	30	⇑PKiKP	PKPdf	12 32 38.8	+0.3
	baz=133						
P25A	Willow Gulch B	133.48	25	⇓PKiKP	PKPdf	12 32 38.8	+0.2
	baz=133						
N28A	Pribbeno Ranch	133.50	22	⇓PKiKP	PKPdf	12 32 38.8	+0.3
	baz=133						
O27A	Beecher Island	133.58	23	⇓PKiKP	PKPdf	12 32 38.7	0.0
	baz=133						
N29A	Votaw Ranch, W	133.72	21	⇓PKiKP	PKPdf	12 32 38.5	-0.3
	baz=134						
P26A	Davis Ranch, A	133.78	24	⇓PKiKP	PKPdf	12 32 39.8	+0.7
	baz=134						
M31A	Lambtecht Ranc	133.80	19	⇓PKiKP	PKPdf	12 32 39.3	+0.4
	baz=134						
X16A	Lo Mia Camp, P	133.82	35	⇑PKiKP	PKPdf	12 32 39.8	+0.4
	baz=134						
R23A	Moffat	133.85	27	⇓PKiKP	PKPdf	12 32 39.2	-0.2
	baz=134						
BGNE	Belgrade	134.00	18	ePKPdf	PKPdf	12 32 39.0	-0.3
BGNE	Belgrade	134.00	18	⇓PKiKP	PKPdf	12 32 39.9	+0.6
	baz=134						
S23A	Nye Farm, Mont	134.16	28	⇓PKiKP	PKPdf	12 32 40.5	+0.5
	baz=134						
P28A	Saint Francis	134.39	22	⇓PKiKP	PKPdf	12 32 40.8	+0.6
	baz=134						
R25A	Fountain Ranch	134.57	26	⇓PKiKP	PKPdf	12 32 41.0	+0.4
	baz=134						
X18A	Snowflake	134.59	34	⇑PKiKP	PKPdf	12 32 41.4	+0.6
	baz=134						
T23A	Casias Ranch,	134.68	28	⇓PKiKP	PKPdf	12 32 41.8	+0.7
	baz=134						
U22A	Llaves	134.81	30	⇓PKiKP	PKPdf	12 32 41.1	-0.1
	baz=135						
S25A	Robets Cordova	134.91	26	⇑PKiKP	PKPdf	12 32 41.8	+0.5
	baz=135						
T24B	San Luis	134.97	28	⇑PKiKP	PKPdf	12 32 41.8	+0.2
	baz=135						
R27A	Eads	135.09	24	⇓PKiKP	PKPdf	12 32 42.4	+0.8
	baz=135						
V22A	San Miguel Ran	135.15	30	⇑PKiKP	PKPdf	12 32 42.8	+0.9
	baz=135						
U23A	El Rito	135.18	29	⇑PKiKP	PKPdf	12 32 42.8	+0.9
	baz=135						
Q29A	Oakley	135.28	22	⇑PKiKP	PKiKP	12 32 43.0	-0.4
	baz=135						
T25A	Trinidad	135.35	27	⇑PKiKP	PKPdf	12 32 42.5	+0.3
	baz=135						
S26A	Kim	135.36	26	⇓PKiKP	PKPdf	12 32 42.5	+0.4
	baz=135						
R28A	Tribune	135.44	23	⇑PKiKP	PKPdf	12 32 42.6	+0.4
	baz=135						
P32A	Huiting Farm,	135.48	19	⇓PKiKP	PKPdf	12 32 42.7	+0.6
	baz=135						
Q30A	Quinter	135.49	21	⇓PKiKP	PKPdf	12 32 43.0	+0.8
	baz=135						
U24A	Moreno Valley	135.55	28	⇓PKiKP	PKiKP	12 32 43.7	-0.5
	baz=135						
V23A	Ortiz Mt. (NFS	135.64	30	⇑PKiKP	PKiKP	12 32 43.9	-0.5
	baz=135						
T26A	Comanche Natio	135.69	26	⇑PKiKP	PKiKP	12 32 44.1	-0.3
	baz=136						
U25A	Circle Dot Ran	135.96	27	⇓PKiKP	PKPdf	12 32 44.2	+0.9
	baz=136						
S28A	Manter	136.05	24	⇓PKiKP	PKiKP	12 32 44.4	-0.6
	baz=136						
Q32A	Meitler Ranch,	136.06	20	⇓PKiKP	PKiKP	12 32 44.4	-0.5
	baz=136						
R30A	Dighton	136.08	22	⇓PKiKP	PKPdf	12 32 44.1	+0.7
	baz=136						
V24A	Rampart Ranch,	136.10	29	⇓PKiKP	PKiKP	12 32 44.9	-0.5
	baz=136						
W23A	Werner Place,	136.12	30	⇓PKiKP	PKiKP	12 32 45.1	-0.3
	baz=136						
ANMO	Albuquerque	136.14	31	⇑iPKiKP	PKPdf	12 32 44.8	+1.1
ANMO				pmax	pmax		
	comp=Z,18nm,1.0s						
ANMO	Albuquerque	136.14	31	ePKPdf	PKPdf	12 32 43.9	+0.2
T27A	Campo	136.16	25	⇑PKiKP	PKPdf	12 32 44.6	+1.0
	baz=136						
U26A	Atchley Ranch,	136.27	27	⇑PKiKP	PKPdf	12 32 44.8	+0.9
	baz=136						
Q33A	Connelly Farm,	136.29	19	⇑PKiKP	PKiKP	12 32 44.9	-0.4
	baz=136						
V25A	Rancho No Teng	136.32	28	⇓PKiKP	PKiKP	12 32 45.2	-0.6
	baz=136						
R31A	Burdett	136.35	21	⇓PKiKP	PKiKP	12 32 45.2	-0.3
	baz=136						
W24A	Lazy 6 Ranch,	136.45	29	⇓PKiKP	PKPdf	12 32 45.2	+0.9
	baz=136						
R32A	Long Quarter,	136.52	20	⇑PKiKP	PKiKP	12 32 44.4	+0.3
	baz=136						
KSU1	Kansas State U	136.58	18	⇑PKiKP	PKPdf	12 32 44.7	+0.6
	baz=136						
U27A	Thompson Grove	136.65	26	⇑PKiKP	PKiKP	12 32 45.8	-0.5
	baz=136						
V26A	Tequesquite Ra	136.74	27	⇑PKiKP	PKPdf	12 32 45.8	+1.1
	baz=136						
W25A	X Bar L Ranch,	136.90	28	⇓PKiKP	PKPdf	12 32 45.7	+0.7
	baz=137						
Y23A	Lovelace Mesa,	137.14	31	⇓PKiKP	PKPdf	12 32 46.7	+1.1
	baz=137						
Z22A	Elephant Butte	137.18	33	⇓PKiKP	PKiKP	12 32 46.9	-0.6
	baz=137						
W26A	Owens Ranch, T	137.34	28	⇓PKiKP	PKiKP	12 32 47.1	-0.6
	baz=137						
X25A	Clemmons Ranch	137.36	29	⇓PKiKP	PKiKP	12 32 47.3	-0.5
	baz=137						
Y24A	Capitan	137.46	30	⇓PKiKP	PKiKP	12 32 47.8	-0.3
	baz=137						
W27A	Bowe Ranch, En	137.68	27	⇑PKiKP	PKPdf	12 32 47.4	+0.9
	baz=138						
X26A	CR and CF Fran	137.75	28	⇓PKiKP	PKPdf	12 32 47.3	+0.6
	baz=138						
Y25A	Mesa, Roswell	137.83	30	⇓PKiKP	PKPdf	12 32 47.8	+1.0
	baz=138						
Z24A	Sheeppen Canyo	137.97	31	⇓PKiKP	PKiKP	12 32 48.6	-0.6
	baz=138						
U33A	Lingo Farm, Me	138.51	21	⇓PKiKP	PKPdf	12 32 48.5	+0.7
	baz=138						
X28A	Dimmitt	138.53	27	⇓PKiKP	PKPdf	12 32 48.6	+0.5
	baz=138						
MSTX	Muleshoe	138.72	28	⇓PKiKP	PKPdf	12 32 49.7	+1.3
	baz=138						
Z27A	Tatum	139.05	29	⇑PKiKP	PKPdf	12 32 50.4	-0.9
	baz=139						
X30A	Coker Ranch, T	139.17	25	⇑PKiKP	PKPdf	12 32 50.1	+1.0
	baz=139						
V34A	Guthrie	139.26	21	ePKPdf	PKPdf	12 32 49.6	+0.5
V34A	Guthrie	139.26	21	⇑PKiKP	PKPdf	12 32 50.4	+1.2
	baz=139						
Y29A	Porterfield Fa	139.31	27	⇑PKiKP	PKPdf	12 32 50.6	+1.2
	baz=139						
X31A	McDonald Ranch	139.38	24	⇑PKiKP	PKiKP	12 32 51.0	-0.8
	baz=139						
TUL1	Tulsa	139.77	19	⇓PKiKP	PKPdf	12 32 51.3	+1.2
	baz=140						
Z29A	Hungry Hill Ra	139.80	27	⇑PKiKP	PKPdf	12 32 51.7	-1.0
	baz=140						
Z31A	Sharp Cattle R	140.44	25	⇑PKiKP	PKPdf	12 32 52.8	+1.3
	baz=140						
Z32A	Haskell	140.74	25	⇑PKiKP	PKPdf	12 32 53.9	-0.7
	baz=140						
231A	Bronte	141.54	27	⇓PKiKP	PKPdf	12 32 55.0	+1.5
	baz=141						
133A	Hamilton Ranch	141.57	25	⇑PKiKP	PKPdf	12 32 55.0	+1.5
	baz=141						
232A	Coleman	141.88	26	⇑PKiKP	PKPdf	12 32 55.7	+1.6
	baz=142						
429A	Davenport Ranc	141.89	30	⇑PKiKP	PKPdf	12 32 55.7	+1.6
	baz=142						
134A	White-Moore Ra	141.95	24	⇑PKiKP	PKPdf	12 32 55.8	-1.3
	baz=142						
TXAR	Lajitas Array	142.00	33	PKhKP	PKPpre	12 32 51.1	
	comp=Z,3.0nm,0.8s,baz=225,slow=1.1,SNR=8.8						
TXAR				PKP	PKPdf	12 32 54.7	+0.3
	comp=Z,3.2nm,0.8s,baz=259,slow=1.3,SNR=11						
331A	San Angelo	142.02	27	⇑PKiKP	PKiKP	12 32 56.1	-1.2
	baz=142						
430A	Baggett Ranch,	142.08	29	⇓PKiKP	PKPdf	12 32 55.7	+1.2
	baz=142						
332A	Millersview	142.27	27	⇓PKiKP	PKiKP	12 32 56.5	-1.3
	baz=142						
431A	Sonora	142.46	28	⇑PKiKP	PKPdf	12 32 56.9	+1.7
	baz=142						
432A	Menard	142.68	27	⇓PKiKP	PKPdf	12 32 57.0	+1.4
	baz=142						
334A	Lometa	142.97	25	⇓PKPdf	PKiKP	12 32 51.8	-7.4
	baz=143						
JCT	Junction City	143.01	27	ePKIKP	PKPbc	12 32 53.4	+0.5
JCT	Junction City	143.01	27	ePKPdf	PKPbc	12 32 53.4	+0.4
JCT	Junction City	143.01	27	⇑PKPdf	PKPab	12 32 52.3	+1.0
	baz=143						
335A	Moody	143.34	24	⇓PKPdf	PKPab	12 32 53.1	+0.5
	baz=143						
434A	Burnet	143.40	25	⇑PKPdf	PKPab	12 32 53.2	+0.3
	baz=143						
631A	Perdido Creek	143.53	29	⇓PKPdf	PKPbc	12 32 54.2	-0.1
	baz=143						
632A	Uvalde	143.83	28	⇓PKPdf	PKPbc	12 32 55.2	-0.1
	baz=144						
534A	Blanco	143.99	26	⇑PKPdf	PKPbc	12 32 56.6	+0.9
	baz=144						
633A	Saathoff Ranch	144.16	28	⇑PKPdf	PKPbc	12 32 56.9	+0.7
	baz=144						
732A	Laxson Ranch,	144.39	29	⇓PKPdf	PKPbc	12 32 57.5	+0.5
	baz=144						
340A	Bronson	144.51	19	⇑PKPdf	PKPbc	12 32 57.7	+0.4
	baz=144						
438A	Sam Houston St	144.57	22	⇓PKPdf	PKPab	12 32 57.2	-0.1
	baz=144						
LRAL	Lakeview Retre	144.61	9	ePKPdf	PKPbc	12 32 57.7	+0.1
733A	Divot King Ran	144.73	28	⇑PKiKP	PKPdf	12 32 59.8	+0.7
	baz=144						
BDFB	Brasilia	144.75	246	PKP	PKPdf	12 32 59.2	-0.4
	comp=Z,6.7nm,0.8s,baz=187,slow=3.7,SNR=7.9						
832A	Faith Ranch, C	144.76	30	⇑PKiKP	PKPdf	12 33 00.0	+0.8
	baz=145						
635A	Leesville	144.85	26	⇑PKiKP	PKPdf	12 33 00.3	+1.0
	baz=145						
734A	La Parita Cree	144.96	27	⇓PKiKP	PKPdf	12 33 00.5	+1.0
	baz=145						
833A	Chaparral WMA,	145.01	29	⇓PKiKP	PKPdf	12 33 00.7	+1.1
	baz=145						
636A	Smothers Creek	145.07	25	⇑PKiKP	PKPdf	12 33 00.9	+1.2
	baz=145						
735A	Kenedy	145.29	26	⇑PKiKP	PKPdf	12 33 01.6	+1.5
	baz=145						
834A	Tilden	145.58	28	⇑PKiKP	PKPab	12 33 02.6	+1.6
	baz=145						
933A	Laredo	145.66	29	⇑PKiKP	PKPab	12 33 03.3	+1.9
	baz=146						
835A	Beeville	145.77	27	⇓PKiKP	PKPab	12 33 03.6	+1.8
	baz=146						
934A	Benavides	146.03	28	⇑PKiKP	PKiKP	12 33 04.4	-1.2
	baz=146						
KVTX	Kingsville	146.37	28	ePKPbc	PKPbc	12 33 03.6	+0.4
034A	Hebbronville	146.40	29	⇓PKiKP	PKPab	12 33 05.0	+0.8
	baz=146						
TIGA	Tifton	146.56	4	⇑PKiKP	PKPab	12 33 05.3	+0.6
	baz=146						
035A	Encino	146.79	29	⇓PKiKP	PKPab	12 33 06.5	+0.8
	baz=147						
CPUP	Villa Florida	146.82	221	PKPbc	PKPbc	12 33 04.7	+0.2
	comp=Z,5.5nm,0.7s,baz=59,slow=2.3,SNR=7.4						
035Z	Hargill	147.21	29	⇑PKiKP	PKPab	12 33 07.2	-0.1
	baz=147						
LPAZ	La Paz	160.99	221	PKP	PKPdf	12 33 23.9	+0.2
	comp=Z,2.3nm,0.9s,baz=95,slow=2.4,SNR=4.0						
ROSC	El Rosal	170.35	316	PKP	PKPdf	12 33 31.0	-0.1
	comp=Z,3.9nm,0.4s,baz=260,slow=6.1,SNR=4.1						

*ISCJB **28** 12:13:28.5±0.7, 33°.5S±0°.1 × 72°.3W±0°.2, h12km, mb4.1/8, Error ellipse: s-maj=22.7km s-min=12.6km az=157.8*

*IDC **28** 12:13:33.2±0.8, 33°.35S × 72°.18W, h31km±5km, mb3.7/5, mb1 4.0/6, mb1mx3.7/29, mbtmp3.9/6, ML4.3/1, Error ellipse: s-maj=21.5km s-min=17.4km az=108.0*

*NEIC **28** 12:13:34.0±1.9, 33°.41S × 72°.25W, h38km±16km, mb4.5/5, Error ellipse: s-maj=21.8km s-min=9.7km az=75.0*

ISC 28 12:13:31.1±0.7, 33°.31S±0°.09 × 72°.4W±0°.1, h12km, n18, σ2°29/24, mb4.3/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.88	65	Pg	Pb	12 14 40.0	+0.5
	1.8nm,0.3s,baz=278,slow=4.0,SNR=4.4						
CFAA				Lg	Lg	12 15 35.4	
	3.8nm,0.3s,baz=250,slow=20,SNR=2.6						
TRQA	Tornquist	9.68	122	ePn	Pn	12 15 48.8	-1.5
	37nm,0.9s						
LPAZ	La Paz	17.37	14	P	Pn	12 17 34.8	+0.7
	0.4nm,0.3s,baz=179,slow=6.9,SNR=4.1						
LPAZ	La Paz	17.37	14	eP	Pn	12 17 35.0	+1.0
	8.6nm,0.8s						
SAML	Samuel	25.68	21	eP	P	12 19 02.4	+1.3
	8.6nm,0.9s						
SNAA	Sanae	52.33	158	P	P	12 22 41.1	-1.3
	1.0nm,0.8s,baz=300,slow=14,SNR=4.0						
SNAA				pP	pP	12 22 50.6	+4.4
	1.7nm,0.8s,baz=329,slow=5.3,SNR=3.8						
QSPA	South Pole Qui	56.93	180	P	P	12 23 15.0	-0.9
	3.0nm,0.8s,baz=130,slow=3.8,SNR=3.9						
QSPA				pP	pP	12 23 24.1	+4.3
	3.4nm,0.8s,baz=181,slow=6.2,SNR=3.2						
QSPA	South Pole Qui	56.93	180	eP	P	12 23 14.5	-1.5
	4.9nm,0.8s						
JCT	Junction City	68.54	335	eP	P	12 24 33.6	0.0
	18nm,1.4s						
TXAR	Lajitas Array	69.00	331	P	P	12 24 36.4	-0.1
	0.7nm,0.8s,baz=150,slow=8.1,SNR=3.8						
TXAR				pP	pP	12 24 46.4	+5.9
	0.8nm,0.7s,baz=146,slow=7.6,SNR=4.9						
WVT	Waverly	70.58	347	eP	P	12 24 44.9	-1.1
	4.1nm,0.7s						
NVAR	Mina Array Bea	83.16	325	P	P	12 25 57.6	+0.4
	0.1nm,0.3s,baz=141,slow=5.8,SNR=1.7						
TOA0	Torodi Ar. Sit	84.23	70	eP	P	12 26 01.5	-1.4
TORD	Torodi Ar. Bea	84.23	70	P	P	12 26 01.6	-1.3
	1.6nm,0.9s,baz=293,slow=7.0,SNR=6.8						
TORD				pP	pP	12 26 11.2	+4.2
	3.7nm,0.9s,baz=253,slow=4.3,SNR=7.0						
BRVK	Borovoye	146.88	42	ePKPdf	PKPdf	12 33 09.8	-1.2
AAK	Ala-Archa	152.41	61	ePKPbc	PKPbc	12 33 26.8	-0.4
AAK				ePKPab	PKPab	12 33 36.4	-1.0
ZALV	Zalesovo Beam	153.78	31	PKPbc	PKPbc	12 33 27.9	-1.7
	1.4nm,0.6s,baz=296,slow=2.5,SNR=4.6						
ZALV				PKPab	PKPab	12 33 38.5	-4.1
	2.5nm,0.9s,baz=304,slow=2.7,SNR=4.2						
MKAR	Makanchi Array	156.51	48	PKPab	PKPab	12 33 53.4	-1.1
	1.1nm,0.8s,baz=280,slow=3.1,SNR=6.4						
MKAR				pPKPab	pPKPab	12 34 02.5	+4.0
	1.3nm,0.8s,baz=295,slow=2.5,SNR=5.4						

PRE 28 12:14:02.4±1.4, 22°.03S × 33°.39E, h5km, ML4.1, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	2.36	231	eP	Pn	12 14 43.3	+1.5
MOPA				eS	Sn	12 15 11.2	0.0
MOPA				AML	AML	12 15 29.4	
	comp=Z,1μm,0.4s						
MSNA	Messina	3.13	264	eP	Pn	12 14 53.6	+1.1
MSNA				eS	Sn	12 15 29.9	-0.5
MSNA				AML	AML	12 15 48.4	
	comp=Z,217nm,0.1s						
PRYS	Parys	7.34	227	eP	Pn	12 15 50.2	-0.3
PRYS				eS	Sn	12 17 10.6	-3.7
PRYS				AML	AML	12 18 10.8	
	comp=Z,16nm,0.6s						
LBTB	Lobatse	7.74	246	eP	Pn	12 15 56.6	+0.7
LBTB				eS	Sn	12 17 20.9	-3.2
LBTB				AML	AML	12 18 17.8	
	comp=Z,22nm,0.5s						
SEK	Senekal	8.15	219	eP	Pn	12 16 02.0	+0.3
SEK				eS	Sn	12 17 31.3	-3.1
SEK				AML	AML	12 18 38.4	
	comp=Z,16nm,0.6s						
SWZ	Schweizer	8.94	233	eP	Pn	12 16 13.6	+1.1
SWZ				eS	Sn	12 17 48.5	-5.4
SWZ				AML	AML	12 18 55.4	
	comp=Z,13nm,0.6s						
BOSA	Boshof	9.85	227	eP	Pn	12 16 26.2	+1.3
BOSA				eS	Sn	12 18 10.9	-5.1

BOSA AML AML 12 19 30.7
comp=Z,12nm,0.6s

ISCJB **28** *12:15:51.2±1.1, 37.°6S±0.°1×73.°7W±0.°2, h23km, mb3.5/5, MS4.5/1, Error ellipse: s-maj=23.6km s-min=13.4km az=31.2*
IDC **28** *12:15:52.2±1.1, 37.°67S×73.°58W, h22km±5km, mb3.4/4, mb1 3.7/6, mb1mx3.6/29, mbtmp3.6/6, ML3.6/2, MS4.4/1, Ms1 4.4/1, ms1mx3.8/19, Error ellipse: s-maj=30.0km s-min=16.6km az=58.0*
ISC 28 12:15:52.6±0.9, **37.°65S**±0.°08×**73.°7W**±0.°1, **h23km, n8, σ1§72/13, mb3.6/5, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.92 143 Pn **Pn 12 16 52.4 +1.0**
1.1nm,0.3s,baz=328,slow=13,SNR=3.2
PLCA Pg **Pb 12 17 01.0 0.0**
4.1nm,0.3s,baz=330,slow=13,SNR=4.5
PLCA Lg Lg 12 17 54.5
4.5nm,0.3s,baz=245,slow=19,SNR=3.6
CFAA Coronel Fontan 7.52 38 Pn **Pn 12 17 38.3 -2.5**
0.6nm,0.3s,baz=210,slow=14,SNR=3.2
CFAA Sn **Sn 12 19 07.3 +2.0**
0.3nm,0.3s,baz=184,slow=20,SNR=1.2
LPAZ La Paz 21.84 14 P **P 12 20 47.7 +3.6**
2.2nm,0.8s,baz=212,slow=9.5,SNR=3.3
SIV San Ignacio 24.28 31 P **P 12 21 08.3 0.0**
1.3nm,0.7s,baz=237,slow=5.9,SNR=3.8
SIV pP **pP 12 21 14.9 -0.2**
2.3nm,0.8s,baz=231,slow=14,SNR=2.8
TEIG Tepich 59.19 344 LR LR 12 45 59.3
comp=Z,318nm,19.3s,baz=100,slow=30
TXAR Lajitas Array 72.31 333 P **P 12 27 15.4 -0.9**
0.2nm,0.7s,baz=144,slow=7.8,SNR=2.8
TXAR pP **pP 12 27 22.7 -1.0**
0.3nm,0.8s,baz=153,slow=8.1,SNR=2.8
NVAR Mina Array Bea 86.15 326 P **P 12 28 33.1 +1.3**
0.2nm,0.5s,baz=109,slow=7.7,SNR=2.0
NVAR pP **pP 12 28 39.8 +0.4**
0.1nm,0.3s,baz=171,slow=6.1,SNR=1.5
TORD Torodi Ar. Bea 86.69 71 P **P 12 28 33.6 -1.2**
0.3nm,0.6s,baz=216,slow=3.7,SNR=3.8
TORD pP **pP 12 28 42.0 -0.3**
0.2nm,0.5s,baz=199,slow=3.1,SNR=1.1

IDC **28** *12:18:57.6±0.5, 38.°27S×73.°36W, h20km±2km, mb4.6/16, mb1 4.7/18, mb1mx4.6/27, mbtmp4.7/18, ML4.4/2, MS4.4/3, Ms1 4.4/3, ms1mx4.0/27, Error ellipse: s-maj=18.7km s-min=11.5km az=58.0*
MOS **28** *12:18:58.9±1.1, 38.°09S×73.°33W, h33km, mb5.3/32, Error ellipse: s-maj=20.3km s-min=8.2km az=103.9*
ISCJB **28** *12:18:59.3±1.5, 38.°06S±0.°04×73.°26W±0.°09, h36km±13km, mb5.1/105, MS4.7/4, Error ellipse: s-maj=11.6km s-min=6.8km az=163.1*
NEIC **28** *12:19:00.2±0.2, 38.°21S×73.°38W, h35km, mb5.2/88, Error ellipse: s-maj=7.5km s-min=4.8km az=62.0*
NEIC Felt at Temuco and Valdivia.
BJI **28** *12:19:01.0, 38.°20S×73.°50W, h35km, mB5.3/7, Ms5.1/6, Ms7 4.9/6*
ISC 28 12:18:58.4±0.4, **38.°16S**±0.°05×**73.°38W**±0.°08, **h25km**±2km, **h24km:pP-P, n624, σ1§02/667, mb5.2/107, MS4.8/4, 181C-197D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.37 140 Pn **Pn 12 19 51.0 +1.3**
17nm,0.3s,baz=316,slow=9.1,SNR=21
PLCA Pg **Pb 12 19 59.0 +1.4**
103nm,0.3s,baz=318,slow=15,SNR=34
PLCA Lg Lg 12 20 40.2
22nm,0.3s,baz=233,slow=21,SNR=3.8
PLCA LR LR 12 21 24.4
comp=Z,8μm,18.3s,baz=318,slow=45
CFAA Coronel Fontan 7.78 34 Pn **Pn 12 20 52.5 +2.3**
0.9nm,0.3s,baz=228,slow=7.1,SNR=4.2
CFAA Sn **Sn 12 22 17.7 +0.2**
0.8nm,0.3s,baz=191,slow=11,SNR=1.2
CFAA Lg Lg 12 23 01.1
baz=20,slow=11,SNR=2.5
TRQA Tornquist 8.98 93 *e*Pn **Pn 12 21 09.3 +2.7**
LVC Limon Verde 15.96 15 *e*P **P 12 22 45.9 +0.9**
20nm,0.8s
USHA Ushuaia 17.01 170 Pn **P 12 22 55.6 -0.5**
0.3nm,0.3s,baz=315,slow=12,SNR=2.7
CPUP Villa Florida 17.95 54 P **P 12 23 06.8 0.0**
0.9nm,0.3s,baz=222,slow=8.3,SNR=5.8
CPUP Lg Lg 12 28 40.9
0.2nm,0.3s,baz=273,slow=18,SNR=1.1
LPAZ La Paz 22.27 13 *e*P **P 12 23 56.3 +1.9**
LPAZ pmax pmax
comp=Z,28nm,0.7s
LPAZ La Paz 22.27 13 P **P 12 23 56.0 +1.6**
comp=Z,20nm,0.6s,baz=186,slow=6.9,SNR=36
LPAZ La Paz 22.27 13 *e*P **P 12 23 56.3 +1.9**
comp=Z,28nm,0.7s
SIV San Ignacio 24.60 29 P **P 12 24 16.3 -0.5**
comp=Z,7.0nm,0.7s,baz=205,slow=6.5,SNR=14
SIV pP **pP 12 24 23.0 -1.2**
comp=Z,12nm,0.9s,baz=227,slow=12,SNR=7.8
NNA Nana 26.25 352 *e*P **P 12 24 31.4 -0.3**
NNA *e**PP **pP 12 24 41.7 +2.6**
NNA pmax pmax
comp=Z,17nm,0.8s
NNA Nana 26.25 352 P **P 12 24 31.3 -0.4**
comp=Z,15nm,0.8s,baz=192,slow=11,SNR=8.2
NNA pP **pP 12 24 38.7 -0.3**
comp=Z,10nm,0.6s,baz=200,slow=7.8,SNR=3.8
NNA Nana 26.25 352 *e*P **P 12 24 31.4 -0.4**
comp=Z,17nm,0.8s
NNA pP **pP 12 24 38.7 -0.3**
NNA *e*pP **pP 12 24 41.7 +2.6**
ATAH Atahualpa 31.22 350 P **P 12 25 18.2 +1.9**
comp=Z,14nm,1.0s,baz=190,slow=9.3,SNR=5.2
BDFB Brasilia 31.66 52 *e*P P 12 25 24.3 +4.3
BDFB Brasilia 31.66 52 P **P 12 25 19.6 -0.4**
comp=Z,5.4nm,0.8s,baz=210,slow=12,SNR=3.9
BDFB LR LR 12 39 42.2
comp=Z,968nm,18.2s,baz=264,slow=39
BDFB Brasilia 31.66 52 *e*P P 12 25 24.3 +4.3
OTAV Otavalo 38.49 352 *e*P **P 12 26 20.9 +1.7**
comp=Z,34nm,1.2s
ROSC El Rosal 42.81 359 P **P 12 26 57.6 +2.8**
comp=Z,8.8nm,0.6s,baz=263,slow=23,SNR=4.8
ROSC pP **pP 12 27 04.2 +2.0**
comp=Z,6.4nm,0.4s,baz=93,slow=20,SNR=2.0
VNA3 Neumayer Olymp 45.96 156 P **P 12 27 19.9 +1.0**
VNA2 Neumayer--Watz 46.64 156 P **P 12 27 26.2 +1.9**
SDV Santo Domingo 46.87 4 *e*P **P 12 27 26.0 -0.9**
comp=Z,29nm,0.8s
SNAA Sanae 48.18 156 P **P 12 27 37.2 +0.8**
SNAA Sanae 48.18 156 *e*P **P 12 27 36.5 +0.2**
SNAA pmax pmax
comp=Z,68nm,1.3s
SNAA Sanae 48.18 156 LR LR 12 45 26.1
comp=Z,173nm,21.0s,baz=10.0,slow=33
SNAA Sanae 48.18 156 *e*P **P 12 27 36.7 +0.3**
comp=Z,53nm,1.0s
JTS JuntasAbangare 49.40 345 P **P 12 27 47.7 +1.5**
comp=Z,12nm,1.0s,baz=258,slow=14,SNR=5.0
JTS pP **pP 12 27 54.4 +0.6**
comp=Z,12nm,1.0s,baz=198,slow=17,SNR=3.5
QSPA South Pole Qui 52.08 180 *e*P **P 12 28 06.8 +0.7**
comp=Z,17nm,0.8s
NVL N'lazarevskaya 52.96 156 *e*P **P 12 28 14.1 +1.8**
NVL pmax pmax
comp=Z,25nm,0.8s
APG El Apazote 55.26 340 P P 12 28 26.6 -3.3
comp=Z,11nm,1.0s,baz=167,slow=11,SNR=5.9
GTBY Guantanamo Bay 57.80 358 *e*P **P 12 28 47.5 -0.2**
comp=Z,58nm,1.1s
TEIG Tepich 59.74 344 P **P 12 29 00.8 -0.4**
comp=Z,22nm,0.8s,baz=150,slow=6.9,SNR=9.2
SYO Syowa Base 62.41 158 ⇑*e*P P 12 29 14.0 -4.7
035Z Hargill 68.33 336 ⇑P **P 12 29 58.9 +1.5**
baz=69
035A Encino 68.78 336 ⇑P **P 12 30 01.6 +1.4**
baz=69
034A Hebbronville 69.08 336 ⇑P **P 12 30 02.9 +0.7**
baz=69,SNR=6.1
934A Benavides 69.53 336 ⇑P **P 12 30 06.1 +1.2**
baz=70,SNR=5.7
933A Laredo 69.78 336 ⇓P **P 12 30 07.4 +0.9**
baz=70,SNR=7.4
TIGA Tifton 69.89 351 ⇓P **P 12 30 08.7 +1.7**
baz=70
835A Beeville 69.95 337 ⇓P **P 12 30 08.9 +1.4**
baz=70
834A Tilden 70.03 336 ⇑P **P 12 30 09.0 +1.0**
baz=70,SNR=13
735A Kenedy 70.48 337 ⇑P **P 12 30 11.9 +1.2**
baz=71,SNR=6.1
833A Chaparral WMA, 70.48 336 ⇓P **P 12 30 11.3 +0.6**
baz=71,SNR=17
832A Faith Ranch, C 70.63 335 ⇓P **P 12 30 12.3 +0.6**
baz=71,SNR=11
734A La Parita Cree 70.70 337 ⇑P **P 12 30 12.7 +0.6**
baz=71
733A Divot King Ran 70.81 336 ⇓P **P 12 30 13.9 +1.1**
baz=71
636A Smothers Creek 70.84 338 ⇑P **P 12 30 14.0 +1.1**
baz=71,SNR=15
HKT Hockley 70.93 339 *e*P **P 12 30 14.1 +0.7**
HKT pmax pmax
comp=Z,56nm,2.1s
HKT Hockley 70.93 339 *e*P **P 12 30 14.1 +0.7**
comp=Z,56nm,2.1s
635A Leesville 70.97 338 ⇑P **P 12 30 14.3 +0.7**
baz=71
732A Laxson Ranch, 71.04 335 ⇑P **P 12 30 14.5 +0.3**
baz=71,SNR=17
538A Harpers Horsep 71.10 340 ⇓P **P 12 30 15.4 +1.0**
baz=72
634A China Grove, S 71.14 337 ⇑P **P 12 30 15.6 +0.9**
baz=72
537A Green Hill Far 71.19 339 ⇑P **P 12 30 16.2 +1.2**
baz=72
536A Bastrop 71.40 338 ⇑P **P 12 30 16.9 +0.6**
baz=72,SNR=7.3
633A Saathoff Ranch 71.46 336 ⇑P **P 12 30 17.2 +0.5**
baz=72,SNR=12
535A Dale 71.50 338 ⇓P **P 12 30 17.1 +0.2**
baz=72,SNR=6.5
438A Sam Houston St 71.59 340 ⇓P **P 12 30 18.0 +0.6**
baz=72
632A Uvalde 71.70 336 ⇑P **P 12 30 18.8 +0.6**
baz=72,SNR=21
534A Blanco 71.78 337 ⇓P **P 12 30 18.5 -0.1**
baz=72,SNR=8.3
340A Bronson 71.82 342 ⇑P **P 12 30 19.2 +0.4**
baz=72
437A Phaontom Ranch 71.85 339 ⇓P **P 12 30 19.5 +0.5**
baz=72
631A Perdido Creek 71.87 335 ⇓P **P 12 30 19.3 +0.1**
baz=72,SNR=11
339A Huntington 71.91 341 ⇑P **P 12 30 19.9 +0.6**
baz=72
LRAL Lakeview Retre 71.96 348 *e*P **P 12 30 19.4 -0.1**
comp=Z,20nm,0.9s
436A Wall Ranch, Ga 71.98 339 ⇑P **P 12 30 20.5 +0.7**
baz=72
533A Kerrville 71.99 337 ⇓P **P 12 30 20.4 +0.5**
baz=72,SNR=32
338A Crockett 72.12 340 ⇑P **P 12 30 21.6 +1.0**
baz=72
435B Jarrell 72.22 338 ⇑P **P 12 30 22.0 +0.8**
baz=73,SNR=6.7
337A Centerville 72.24 340 ⇑P **P 12 30 22.4 +1.1**
baz=73,SNR=7.8
532A Rocksprings 72.32 336 ⇑P **P 12 30 22.2 +0.3**
baz=73,SNR=54
434A Burnet 72.45 338 ⇓P **P 12 30 23.1 +0.5**
baz=73,SNR=35
239A Gary 72.53 341 ⇑P **P 12 30 24.0 +0.9**
baz=73
531A Rocksprings 72.56 336 ⇓P **P 12 30 23.9 +0.5**
baz=73,SNR=27
336A Riesel 72.57 339 ⇑P **P 12 30 23.6 +0.3**
baz=73,SNR=18
JCT Junction City 72.61 336 *e*P **P 12 30 23.6 0.0**
JCT pmax pmax
comp=Z,55nm,0.9s
JCT Junction City 72.61 336 *e*P **P 12 30 23.6 0.0**
comp=Z,55nm,0.9s
JCT Junction City 72.61 336 ⇓P **P 12 30 23.9 +0.3**
baz=73,SNR=25
335A Moody 72.64 339 ⇓P **P 12 30 24.0 +0.3**
baz=73,SNR=12
433A Art 72.64 337 ⇑P **P 12 30 23.9 +0.1**
baz=73,SNR=24
238A Jacksonville 72.69 341 ⇑P **P 12 30 24.8 +0.9**
baz=73
530A J-C Ranch, Com 72.81 335 ⇓P **P 12 30 25.3 +0.5**
baz=73,SNR=22
237A Washetta, Mont 72.87 340 ⇓P **P 12 30 25.8 +0.7**
baz=73
237A ⇓PKPdf PP 12 32 53.0 -15
baz=73
TXAR Lajitas Array 72.88 333 P **P 12 30 25.8 +0.5**
comp=Z,8.7nm,0.7s,baz=153,slow=8.7,SNR=86
334A Lometa 72.92 338 ⇑P **P 12 30 25.7 +0.3**
baz=73,SNR=54
432A Menard 72.97 336 ⇓P **P 12 30 25.7 -0.1**
baz=73,SNR=18
431A Sonora 73.06 336 ⇑P **P 12 30 26.6 +0.3**
baz=73,SNR=25
529A Stev Forest Ra 73.08 334 ⇑P **P 12 30 26.7 +0.2**
baz=73,SNR=19
333A Richland Sprin 73.14 337 ⇑P **P 12 30 27.0 +0.2**
baz=74,SNR=17
138A Matatall Enter 73.30 341 ⇑P **P 12 30 28.5 +0.9**
baz=74
KMSC Kings Mountain 73.31 353 ⇓P **P 12 30 27.2 -0.4**
baz=74
WHTX Lake Whitney 73.31 339 *e*P **P 12 30 27.9 +0.2**
comp=Z,42nm,0.8s
WHTX Lake Whitney 73.31 339 ⇓P **P 12 30 27.8 +0.1**
baz=74,SNR=26
430A Baggett Ranch, 73.36 335 ⇑P **P 12 30 28.6 +0.5**
baz=74,SNR=24
137A Heron Place, G 73.42 340 ⇓P **P 12 30 29.0 +0.8**
baz=74
332A Millersview 73.43 337 ⇑P **P 12 30 28.4 0.0**
baz=74,SNR=22
429A Davenport Ranc 73.43 335 ⇑P **P 12 30 28.9 +0.4**
baz=74,SNR=26
234A Clairette 73.52 338 ⇓P **P 12 30 29.0 0.0**
baz=74,SNR=20
331A San Angelo 73.58 336 ⇑P **P 12 30 29.5 +0.2**
baz=74,SNR=63
233A Rising Star 73.76 338 ⇑P **P 12 30 30.2 -0.1**
baz=74,SNR=14
SUR Sutherland 73.78 118 *e*P **P 12 30 32.8 +1.8**
comp=Z,26nm,0.9s
OXF Oxford 73.82 346 *e*P **P 12 30 30.4 -0.2**
OXF pmax pmax
comp=Z,23nm,0.9s
OXF Oxford 73.82 346 *e*P **P 12 30 30.4 -0.2**
comp=Z,22nm,0.9s
135A Vickery Place, 73.83 339 ⇑P **P 12 30 30.8 +0.1**
baz=74
232A Coleman 73.87 337 ⇑P **P 12 30 31.1 +0.1**
baz=74,SNR=24
330A Mertzon 73.91 335 ⇑P **P 12 30 31.2 -0.1**
baz=74,SNR=12
SWET Sewanee 73.93 349 *e*P **P 12 30 30.8 -0.5**
comp=Z,60nm,0.8s
CPCT Cooper Cave 73.97 351 *e*P **P 12 30 33.0 +1.6**
134A White-Moore Ra 74.04 338 ⇓P **P 12 30 31.9 -0.1**
baz=74,SNR=6.9
TKL Tuckaleechee C 74.08 351 *e*P **P 12 30 31.9 -0.2**
TKL Tuckaleechee C 74.08 351 *e*P **P 12 30 31.9 -0.2**
231A Bronte 74.12 336 ⇓P **P 12 30 32.2 -0.3**
baz=74,SNR=21
329A Wagon Wheel Ra 74.25 335 ⇑P **P 12 30 33.4 +0.1**
baz=75,SNR=19
133A Hamilton Ranch 74.32 338 ⇓P **P 12 30 33.7 +0.2**
baz=75,SNR=17
230A Sterling City 74.33 336 ⇑P **P 12 30 33.7 -0.1**
baz=75,SNR=6.6
Z35A Perchaven, San 74.52 339 ⇓P **P 12 30 34.8 +0.1**
baz=75
ABTX Abilene, Hawle 74.55 337 *e*P **P 12 30 35.2 +0.2**
comp=Z,35nm,0.7s
ABTX Abilene, Hawle 74.55 337 ⇑P **P 12 30 34.7 -0.2**
baz=75,SNR=12
229A Bryant Ranch, 74.63 335 ⇑P **P 12 30 35.4 -0.1**
baz=75,SNR=11
MIAR Mount Ida 74.73 343 *e*P **P 12 30 36.1 +0.2**
MIAR pmax pmax
comp=Z,9.0nm,0.9s
MIAR Mount Ida 74.73 343 *e*P **P 12 30 36.1 +0.2**
comp=Z,8.9nm,0.9s
Z34A Collier Ranch, 74.74 339 ⇓P **P 12 30 36.1 +0.1**
baz=75,SNR=10
131A Roby 74.83 337 ⇓P **P 12 30 36.7 +0.1**
baz=75,SNR=14
Z33A Whitaker Ranch 74.91 338 ⇑P **P 12 30 37.3 +0.3**
baz=75,SNR=30
TZTN Tazewell 74.93 352 *e*P **P 12 30 36.8 -0.3**
comp=Z,34nm,1.1s
130A Snyder 74.94 336 ⇓P **P 12 30 37.2 -0.1**
baz=75,SNR=7.5
228A UT Block 9, Go 75.03 335 ⇓P **P 12 30 38.1 +0.2**
baz=75,SNR=13
WVT Waverly 75.12 348 *e*P **P 12 30 37.6 -0.5**
WVT pmax pmax
comp=Z,46nm,1.1s
WVT Waverly 75.12 348 *e*P **P 12 30 37.6 -0.5**
comp=Z,46nm,1.1s
Z32A Haskell 75.14 338 ⇑P **P 12 30 38.5 +0.2**
baz=76,SNR=23
Y34A Reagan Ranch, 75.25 339 ⇑P **P 12 30 38.8 -0.1**
baz=76,SNR=9.5
129A Stewart Farms, 75.26 335 ⇑P **P 12 30 39.0 -0.1**
baz=76,SNR=6.2
Z31A Sharp Cattle R 75.35 337 ⇑P **P 12 30 39.7 +0.1**
baz=76,SNR=20
128A Castleberry Fa 75.46 335 ⇑P **P 12 30 40.4 +0.1**
baz=76,SNR=13
Y33A Hilltop Ranch, 75.54 339 ⇓P **P 12 30 40.4 -0.2**
baz=76,SNR=10.0
Z30A Sanderson Ranc 75.63 336 ⇑P **P 12 30 41.1 -0.1**
baz=76,SNR=12
Y32A R-V Farms, Ver 75.77 338 ⇓P **P 12 30 42.0 0.0**
baz=76,SNR=10
Z29A Hungry Hill Ra 75.79 336 ⇓P **P 12 30 41.8 -0.4**
baz=76,SNR=34
127A Arkansas Junct 75.80 334 ⇓P **P 12 30 42.5 +0.2**
baz=76
CASY Casey 75.85 182 *e*P **P 12 30 42.0 0.0**
comp=Z,32nm,1.2s
X34A Smith Ranch, M 75.87 339 ⇑P **P 12 30 42.8 +0.3**
baz=76,SNR=12
Y31A Rekieta Farm, 75.98 337 ⇑P **P 12 30 43.2 0.0**
baz=76,SNR=13
X33A Lawton 76.00 339 ⇑P **P 12 30 42.8 -0.4**
baz=76,SNR=7.3
Z28A Tucker Farm, M 76.04 335 ⇓P **P 12 30 43.4 -0.1**
baz=76,SNR=5.7
Y30A Stafford Cattl 76.10 337 ⇑P **P 12 30 44.0 +0.1**
baz=76
X32A Elmer 76.12 338 ⇑P **P 12 30 43.8 -0.1**
baz=76,SNR=7.9
PBMO Poplar Bluff 76.22 346 *e*P **P 12 30 44.3 -0.1**
comp=Z,22nm,0.7s
Y29A Porterfield Fa 76.33 336 ⇑P **P 12 30 45.4 +0.1**
baz=77,SNR=13
Z27A Tatum 76.34 335 ⇓P **P 12 30 45.5 +0.2**
baz=77,SNR=8.7
W34A Bridge Creek, 76.45 340 *e*P **P 12 30 46.2 +0.4**
comp=Z,27nm,0.8s
W34A *e*pP **pP 12 30 54.5 +0.7**
W34A Bridge Creek, 76.45 340 ⇓P **P 12 30 45.9 +0.1**
baz=77,SNR=6.1
X31A McDonald Ranch 76.52 338 ⇑P **P 12 30 46.3 +0.1**
baz=77,SNR=30
Y28A McKinney Farm, 76.56 336 ⇑P **P 12 30 46.3 -0.3**
baz=77,SNR=7.0
Z26A Caprock 76.56 334 ⇓P **P 12 30 46.6 +0.1**
baz=77
W33A Caddo, Fort Co 76.56 339 ⇑P **P 12 30 47.0 +0.6**
baz=77,SNR=25
TUL1 Tulsa 76.57 341 *e*P **P 12 30 46.1 -0.3**
comp=Z,52nm,0.8s
TUL1 Tulsa 76.57 341 ⇑P **P 12 30 45.9 -0.5**
baz=77,SNR=20
X30A Coker Ranch, T 76.62 337 ⇓P **P 12 30 47.1 +0.3**
baz=77,SNR=17
W32A Sentinel 76.76 338 ⇑P **P 12 30 47.8 +0.3**
baz=77,SNR=35
MSTX Muleshoe 76.79 335 *e*P **P 12 30 48.0 +0.1**
MSTX Muleshoe 76.79 335 ⇓P **P 12 30 47.9 +0.1**
baz=77,SNR=7.7
Z25A Roswell 76.82 333 ⇑P **P 12 30 47.9 -0.2**
baz=77,SNR=6.5
Y27A Causey 76.84 335 ⇑P **P 12 30 47.8 -0.3**
baz=77,SNR=7.3
319A Douglas 76.86 329 ⇑P **P 12 30 49.2 +0.9**
baz=77
X29A Tulia 76.88 336 ⇓P **P 12 30 48.7 +0.4**
baz=77,SNR=12
SIUC Southern Illin 76.90 347 *e*P **P 12 30 48.1 -0.1**
comp=Z,24nm,0.8s
WCI Wyandotte Cave 76.94 350 *e*P **P 12 30 47.4 -1.1**
WCI pmax pmax
comp=Z,10.0nm,0.7s
WCI Wyandotte Cave 76.94 350 *e*P **P 12 30 47.4 -1.1**
comp=Z,9.9nm,0.7s
V34A Guthrie 76.94 340 *e*P **P 12 30 48.5 -0.1**
comp=Z,41nm,0.8s
V34A Guthrie 76.94 340 ⇓P **P 12 30 48.4 -0.1**
baz=77,SNR=14
W31A Holland Ranch, 77.02 338 ⇓P **P 12 30 49.1 0.0**
baz=77,SNR=9.1
Y26A Elida 77.10 334 ⇑P **P 12 30 49.9 +0.3**
baz=78
Z24A Sheeppen Canyo 77.10 333 ⇓P **P 12 30 50.1 +0.4**
baz=78,SNR=8.1
X28A Dimmitt 77.10 336 ⇑P **P 12 30 49.6 0.0**
baz=78,SNR=5.6
LIC Lamto 77.12 71 *e*P **P 12 30 50.3 +0.2**
comp=Z,82nm,1.2s
V33A Lossen Ranch, 77.14 339 ⇓P **P 12 30 50.0 +0.3**
baz=78,SNR=19
V32A Arapaho 77.26 339 ⇓P **P 12 30 50.9 +0.5**
baz=78,SNR=7.8
AMTX Amarillo 77.27 336 *e*P **P 12 30 51.0 +0.4**
comp=Z,38nm,0.8s
AMTX Amarillo 77.27 336 ⇓P **P 12 30 50.9 +0.4**
baz=78
121A Cookes Peak, D 77.29 331 ⇓P **P 12 30 51.8 +1.0**
baz=78,SNR=5.5
Y25A Mesa, Roswell 77.40 334 ⇑P **P 12 30 51.2 -0.1**
baz=78,SNR=6.5
TIC Toumodi 77.40 71 *e*P **P 12 30 52.1 +0.4**
comp=Z,39nm,0.9s
KIC Kosan Boka 77.42 72 *e*P **P 12 30 52.0 +0.2**
comp=Z,81nm,1.1s
W29A Amraillo 77.48 337 ⇑P **P 12 30 52.0 +0.3**
baz=78,SNR=15
X27A F and S Farms, 77.51 335 ⇓P **P 12 30 51.9 -0.1**
baz=78
U34A Anderson Ranch 77.52 340 *e*P **P 12 30 52.1 +0.4**
comp=Z,22nm,0.8s
U34A Anderson Ranch 77.52 340 ⇓P **P 12 30 51.9 +0.1**
baz=78,SNR=7.0
DBIC Dimbokro 77.54 71 *e*P **P 12 30 53.2 +0.8**
DBIC *PP **pP 12 30 58.8 -1.6**
DBIC pmax pmax
comp=Z,18nm,0.8s
DBIC Dimbokro 77.54 71 P **P 12 30 53.1 +0.7**
comp=Z,11nm,0.7s,baz=207,slow=5.9,SNR=17
DBIC pP **pP 12 30 58.8 -1.6**
comp=Z,15nm,0.7s,baz=208,slow=4.9,SNR=10
DBIC Dimbokro 77.54 71 *e*P **P 12 30 53.2 +0.8**
comp=Z,18nm,0.8s
DBIC pP **pP 12 30 58.8 -1.6**
V31A Spring Creek L 77.54 338 ⇓P **P 12 30 52.7 +0.8**
baz=78,SNR=7.5
Z22A Elephant Butte 77.62 332 ⇓P **P 12 30 53.7 +0.7**
baz=78,SNR=8.7
Y24A Capitan 77.66 333 ⇓P **P 12 30 53.4 +0.5**
baz=78,SNR=12
X26A CR and CF Fran 77.66 335 ⇓P **P 12 30 53.3 +0.5**
baz=78,SNR=9.6
U33A Lingo Farm, Me 77.67 340 ⇓P **P 12 30 52.4 -0.1**
baz=78,SNR=8.7
V30A Spur Ranch, Mi 77.78 338 ⇓P **P 12 30 54.2 +0.8**
baz=78
U32A Winter Ranch, 77.86 339 ⇓P **P 12 30 54.0 +0.3**
baz=78,SNR=9.7
W27A Bowe Ranch, En 77.88 335 ⇑P **P 12 30 54.3 +0.3**
baz=78,SNR=12
Y23A Lovelace Mesa, 77.89 333 ⇓P **P 12 30 54.9 +0.8**
baz=78,SNR=6.8
BLO Bloomington 77.90 350 *e*P **P 12 30 52.7 -1.1**
BLO pmax pmax

comp=Z,21nm,0.7s
BLO Bloomington 77.90 350 eP P 12 30 52.7 -1.1
comp=Z,21nm,0.7s
X25A Clemmons Ranch 77.93 334 ⇑P P 12 30 54.3 0.0
baz=78,SNR=14
SLM Saint Louis 77.98 347 eP P 12 30 54.4 +0.2
SLM pmax pmax
comp=Z,45nm,0.7s
SLM Saint Louis 77.98 347 eP P 12 30 54.4 +0.2
comp=Z,45nm,0.7s
V29A Stinnett 78.14 337 ⇓P P 12 30 56.0 +0.7
baz=78
W26A Owens Ranch, T 78.14 335 ⇓P P 12 30 56.3 +0.9
baz=78
V28A Channing 78.24 336 ⇑P P 12 30 57.1 +1.1
baz=79
TUC Tucson 78.29 328 eP P 12 30 57.6 +1.3
TUC pmax pmax
comp=Z,15nm,1.1s
TUC Tucson 78.29 328 eP P 12 30 57.6 +1.3
comp=Z,14nm,1.1s
T33A Patterson Ranc 78.31 340 ⇑P P 12 30 56.9 +0.7
baz=79
Y22D IRIS PASSCAL I 78.33 332 ⇓P P 12 30 57.7 +1.2
baz=79
V27A Dan Oppiter Fa 78.44 336 ⇑P P 12 30 57.3 +0.2
baz=79,SNR=6.1
U30A WK&E Inc. Balk 78.48 338 ⇑P P 12 30 57.9 +0.7
baz=79
W25A X Bar L Ranch, 78.49 334 ⇓P P 12 30 57.4 0.0
baz=79,SNR=14
ACSO Alum Creek Sta 78.51 353 eP P 12 30 57.0 -0.1
comp=Z,37nm,0.7s
X23A Hourglass Bar 78.52 333 ⇑P P 12 30 58.4 +0.8
baz=79
T32A Huddler Ranch, 78.59 339 ⇓P P 12 30 58.0 +0.3
baz=79
U29A Oasis Ranch, S 78.59 337 ⇓P P 12 30 58.4 +0.6
baz=79
LAZ Ladron 78.71 332 eP P 12 30 59.8 +1.2
comp=Z,8.3nm,1.0s
T31A Randall Ranch, 78.73 339 ⇑P P 12 30 59.0 +0.5
baz=79
S33A Kaszmaul Farm, 78.73 340 ⇓P P 12 30 59.0 +0.6
baz=79
V26A Tequesquite Ra 78.79 335 ⇓P P 12 30 59.0 +0.1
baz=79,SNR=6.6
W24A Lazy 6 Ranch, 78.81 334 ⇓P P 12 30 59.5 +0.3
baz=79,SNR=10
U28A Mallet 78.82 337 ⇓P P 12 30 59.6 +0.5
baz=79
214A Organ Pipe Nat 78.84 327 ⇓P P 12 31 01.0 +1.8
baz=79
T30A Plains 78.93 338 ⇓P P 12 31 00.7 +1.1
baz=79
ANMO Albuquerque 78.94 333c iP P 12 30 58.6 -1.3
ANMO pmax pmax
comp=Z,68nm,1.0s
ANMO Albuquerque 78.94 333 eP P 12 31 00.8 +0.9
comp=Z,20nm,1.0s
W23A Werner Place, 79.03 333 ⇓P P 12 31 00.9 +0.5
baz=79,SNR=11
U27A Thompson Grove 79.05 336 ⇓P P 12 31 00.6 +0.2
baz=79,SNR=7.6
S32A Newby Ranch, P 79.08 340 ⇓P P 12 31 00.8 +0.4
baz=80,SNR=6.3
BOSA Boshof 79.10 118 eP P 12 31 01.2 +0.1
BOSA *PP pP 12 31 07.4 -1.7
BOSA pmax pmax
comp=Z,23nm,0.8s
BOSA Boshof 79.10 118 P P 12 31 01.0 -0.1
comp=Z,4.2nm,0.7s,baz=244,slow=4.0,SNR=9.8
BOSA pP pP 12 31 07.3 -1.7
comp=Z,19nm,0.7s,baz=225,slow=7.1,SNR=18
BOSA Boshof 79.10 118 eP P 12 31 01.2 +0.1
comp=Z,23nm,0.8s
BOSA pP pP 12 31 07.3 -1.7
V25A Rancho No Teng 79.11 335 ⇑P P 12 31 01.3 +0.5
baz=80,SNR=20
TSUM Tsumeb 79.12 106 eP P 12 31 02.7 +1.4
comp=Z,6.5nm,0.8s
S31A Mullinville 79.16 339 ⇑P P 12 31 01.6 +0.8
baz=80
V24A Rampart Ranch, 79.23 334 ⇑P P 12 31 01.9 +0.4
baz=80,SNR=10
T29A Hugoton 79.25 338 ⇑P P 12 31 02.5 +1.1
baz=80
U26A Atchley Ranch, 79.32 335 ⇑P P 12 31 01.9 0.0
baz=80,SNR=5.4
R33A Olander Ranch, 79.40 341 ⇓P P 12 31 02.9 +0.8
baz=80
S30A Montezuma 79.46 338 ⇓P P 12 31 03.2 +0.7
baz=80
T28A Walsh 79.47 337 ⇑P P 12 31 03.1 +0.5
baz=80,SNR=9.9
U25A Circle Dot Ran 79.55 335 ⇓P P 12 31 03.7 +0.5
baz=80,SNR=13
V23A Ortiz Mt. (NFS 79.56 333 ⇑P P 12 31 04.1 +0.8
baz=80,SNR=6.4
T27A Campo 79.61 337 ⇓P P 12 31 04.2 +0.8
baz=80
S29A Ulysses 79.63 338 ⇑P P 12 31 04.4 +0.9
baz=80
R32A Long Quarter, 79.70 340 ⇑P P 12 31 03.8 +0.1
baz=80,SNR=8.4
KSU1 Kansas State U 79.80 342 eP P 12 31 04.3 0.0
comp=Z,17nm,0.8s
KSU1 Kansas State U 79.80 342 ⇓P P 12 31 04.1 -0.1
baz=80,SNR=7.0
R31A Burdett 79.80 339 ⇓P P 12 31 04.7 +0.4
baz=80,SNR=7.0
S28A Manter 79.84 337 ⇓P P 12 31 05.0 +0.4
baz=80,SNR=5.2
U24A Moreno Valley 79.85 334 ⇑P P 12 31 06.1 +1.2
baz=80,SNR=5.0
X18A Snowflake 79.89 330 ⇑P P 12 31 06.5 +1.4
baz=80,SNR=5.9
113A Mohawk Valley, 79.96 326 ⇑P P 12 31 06.4 +1.2
baz=80
V22A San Miguel Ran 79.97 333 ⇓P P 12 31 07.0 +1.5
baz=80,SNR=22
T26A Comanche Natio 79.99 336 ⇓P P 12 31 06.4 +0.9
baz=80,SNR=16
R30A Dighton 80.00 339 ⇓P P 12 31 05.8 +0.4
baz=80
Q33A Connelly Farm, 80.01 341 ⇓P P 12 31 05.9 +0.5
baz=80
U23A El Rito 80.09 334 ⇓P P 12 31 07.8 +1.6
baz=80,SNR=13
Z14A Wintersburg 80.11 327 ⇓P P 12 31 07.0 +1.0
baz=80
Q32A Meitler Ranch, 80.19 340 ⇓P P 12 31 06.6 +0.2
baz=81,SNR=6.1
T25A Trinidad 80.22 335 ⇓P P 12 31 08.0 +1.2
baz=81,SNR=17
S26A Kim 80.36 336 ⇓P P 12 31 08.1 +0.7
baz=81,SNR=19
U22A Llaves 80.37 333 ⇓P P 12 31 08.9 +1.2
baz=81,SNR=6.9
R29A Marienthal 80.38 338 ⇑P P 12 31 08.7 +1.2
baz=81
P33A Williams Farm, 80.39 341 ⇑P P 12 31 07.9 +0.5
baz=81
X16A Lo Mia Camp, P 80.39 329 ⇓P P 12 31 09.4 +1.6
baz=81
Q31A Ellis 80.43 340 ⇓P P 12 31 08.5 +0.8
baz=81
T24B San Luis 80.47 335 ⇑P P 12 31 09.4 +1.1
baz=81,SNR=9.6
R28A Tribune 80.50 338 ⇑P P 12 31 08.7 +0.5
baz=81,SNR=10
TRY Troy 80.51 360 eP P 12 31 09.1 +1.1
comp=Z,25nm,0.9s
AAM Ann Arbor 80.63 352 eP P 12 31 08.3 -0.3
AAM pmax pmax
comp=Z,16nm,0.6s
AAM Ann Arbor 80.63 352 eP P 12 31 08.3 -0.3
comp=Z,16nm,0.6s
Y14A Wickenburg 80.63 327 ⇑P P 12 31 09.8 +0.9
baz=81,SNR=7.2
Q30A Quinter 80.63 339 ⇑P P 12 31 09.5 +0.7
baz=81,SNR=14
GLA Glamis 80.66 326 ⇑P P 12 31 10.2 +1.1
baz=81
T23A Casias Ranch, 80.67 334 ⇓P P 12 31 10.1 +0.7
baz=81,SNR=7.2
S25A Robets Cordova 80.70 335 ⇓P P 12 31 10.2 +0.8
baz=81
R27A Eads 80.75 337 ⇓P P 12 31 10.0 +0.5
baz=81,SNR=17
Q29A Oakley 80.77 339 ⇓P P 12 31 09.9 +0.3
baz=81,SNR=5.6
P32A Huiting Farm, 80.79 341 ⇑P P 12 31 09.9 +0.3
baz=81,SNR=5.9
P31A Stockton 80.91 340 ⇑P P 12 31 10.9 +0.7
baz=81
S24A Houchin Ranch, 80.94 335 ⇓P P 12 31 11.7 +0.9
baz=81,SNR=6.9
R26A Arlington 80.97 336 ⇓P P 12 31 11.7 +1.0
baz=81,SNR=15
R25A Fountain Ranch 81.09 336 ⇓P P 12 31 12.3 +0.9
baz=82
Y12C Blythe 81.12 326 ⇑P P 12 31 13.1 +1.7
baz=82
P30A Selden 81.17 339 ⇓P P 12 31 12.3 +0.6
baz=82,SNR=5.8
Q28A Sharon Springs 81.17 338 ⇑P P 12 31 12.8 +1.0
baz=82
S23A Nye Farm, Mont 81.27 334 ⇑P P 12 31 13.6 +1.1
baz=82
O32A Brockman Farm, 81.31 341 ⇑P P 12 31 12.8 +0.4
baz=82,SNR=5.1
WUAZ Wupatki 81.32 329 eP P 12 31 14.5 +1.8
WUAZ Wupatki 81.32 329 ⇑P P 12 31 14.3 +1.6
baz=82
KSCO Kaye Shedlock' 81.37 337 eP P 12 31 14.1 +1.2
comp=Z,17nm,1.0s
KSCO Kaye Shedlock' 81.37 337 ⇓P P 12 31 13.9 +1.1
baz=82
P29A Atwood 81.41 339 ⇑P P 12 31 13.8 +0.8
baz=82,SNR=5.5
PDMCI Parker Dam,Lak 81.42 327 ⇓P P 12 31 14.4 +1.3
baz=82
R24A Sanders Place, 81.44 335 ⇑P P 12 31 14.1 +0.8
baz=82,SNR=18
BC3 Big Chuckawall 81.45 326 ⇓P P 12 31 14.2 +0.9
baz=82
O31A Woolen Ranch, 81.48 340 ⇑P P 12 31 13.9 +0.7
baz=82
LBTB Lobatse 81.53 115 eP P 12 31 14.4 +0.2
LBTB Lobatse 81.53 115 eP P 12 31 14.4 +0.2
Q26A Hugo 81.56 337 ⇓P P 12 31 14.4 +0.5
baz=82,SNR=9.4
S22A 4UR Ranch, Cre 81.59 334 ⇓P P 12 31 15.1 +0.9
baz=82
P28A Saint Francis 81.62 338 ⇓P P 12 31 14.8 +0.7
baz=82
R23A Moffat 81.64 335 ⇓P P 12 31 14.9 +0.4
baz=82,SNR=6.4
MVCO Mesa Verde 81.71 332 eP P 12 31 15.6 +0.8
comp=Z,9.4nm,0.8s
MVCO Mesa Verde 81.71 332 ⇑P P 12 31 15.0 +0.2
baz=82,SNR=7.0
O30A MW Ranch, Wils 81.71 340 ⇓P P 12 31 14.9 +0.4
baz=82,SNR=6.8
IRM Iron Mountain 81.74 326 ⇑P P 12 31 15.0 +0.2
baz=82
Q25A Bedland, Calha 81.78 336 ⇓P P 12 31 15.5 +0.3
baz=82,SNR=6.2
N32A Stulken Farm, 81.79 341 ⇑P P 12 31 15.6 +0.7
baz=82
P27A Ficken Ranch, 81.85 338 ⇑P P 12 31 16.1 +0.7
baz=82
O29A 4D Ranch, Culb 81.86 339 ⇓P P 12 31 16.3 +1.0
baz=82
PFO Pinyon Flat Ob 81.86 325 ⇓P P 12 31 17.0 +1.5
baz=82
W13A Hualapai Mount 82.00 327 ⇓P P 12 31 17.8 +1.4
baz=82
N31A Bailey Ranch, 82.01 341 ⇓P P 12 31 17.1 +1.0
baz=82
P26A Davis Ranch, A 82.09 337 ⇓P P 12 31 17.1 +0.4
baz=82,SNR=6.7
Q24A Divide 82.12 336 ⇑P P 12 31 17.4 +0.4
baz=82,SNR=5.7
O28A Krutsinger Ran 82.14 338 ⇑P P 12 31 17.0 +0.2
baz=82,SNR=6.0
MURC Murrieta 82.20 324 ⇑P P 12 31 18.0 +0.8
baz=82
P25A Willow Gulch B 82.30 336 ⇑P P 12 31 18.5 +0.7
baz=83,SNR=9.8
BGNE Belgrade 82.36 341 eP P 12 31 18.1 +0.3
comp=Z,39nm,0.9s
BGNE Belgrade 82.36 341 ⇑P P 12 31 18.0 +0.2
baz=83,SNR=6.6
PTN Potsdam (NY) 82.36 359 eP P 12 31 18.3 +0.6
PTN pmax pmax
comp=Z,25nm,0.8s
PTN Potsdam (NY) 82.36 359 eP P 12 31 18.3 +0.6
comp=Z,24nm,0.8s
LONY Lake Ozonia 82.41 359 eP P 12 31 18.4 +0.5
comp=Z,248nm,3.0s
O27A Beecher Island 82.41 338 ⇑P P 12 31 18.7 +0.5
baz=83,SNR=5.5
N29A Votaw Ranch, W 82.46 339 ⇑P P 12 31 19.6 +1.2
baz=83
U15A North Rim 82.48 329 ⇑P P 12 31 20.3 +1.4
baz=83,SNR=12
GMRC Granite Mounta 82.49 326 ⇑P P 12 31 20.3 +1.5
baz=83
M31A Lambtecht Ranc 82.51 341 ⇓P P 12 31 19.9 +1.3
baz=83
P24A Kohler Place, 82.54 336 ⇓P P 12 31 20.5 +1.4
baz=83
PV01 Paradox Valley 82.55 333 eP P 12 31 19.9 +0.6
comp=Z,664nm,0.8s
N28A Pribbeno Ranch 82.59 339 ⇑P P 12 31 20.3 +1.2
baz=83
BBRC Big Bear Solar 82.62 325 ⇑P P 12 31 20.3 +0.7
baz=83
O26A Horse Wrangler 82.71 337 ⇑P P 12 31 21.0 +1.2
baz=83
P23A Jefferson 82.72 335 ⇑P P 12 31 21.4 +1.2
baz=83
PV04 Paradox Valley 82.90 333 eP P 12 31 22.2 +1.3
SMCO Snowmass 82.92 334 eP P 12 31 22.6 +1.3
comp=Z,13nm,1.0s
BFSC Mount Baldy Ra 82.94 324 ⇓P P 12 31 22.5 +1.3
baz=83
N27A Anderson Farm, 82.99 338 ⇓P P 12 31 22.4 +1.1
baz=83
ISCO Idaho Springs 83.03 336 eP P 12 31 22.8 +1.1
ISCO pmax pmax
comp=Z,31nm,1.9s
ISCO Idaho Springs 83.03 336 eP P 12 31 22.8 +1.1
comp=Z,31nm,1.9s
ISCO Idaho Springs 83.03 336 ⇑P P 12 31 22.3 +0.5
baz=83,SNR=5.5
M29A Burnside Ranch 83.06 340 ⇓P P 12 31 22.9 +1.3
baz=84
MWC Mount Wilson 83.11 324 eP P 12 31 18.1 -4.0
MWC pmax pmax
comp=Z,24nm,0.9s
MWC Mount Wilson 83.11 324 eP P 12 31 18.1 -4.0
comp=Z,24nm,0.9s
L31A Butterfield Fa 83.25 341 ⇑P P 12 31 23.1 +0.7
baz=84,SNR=15
L30A Spencer Herefo 83.27 341 ⇓P P 12 31 23.3 +0.7
baz=84,SNR=6.2
GSC Goldstone 83.44 326 eP P 12 31 25.4 +1.7
GSC pmax pmax
comp=Z,54nm,2.0s
GSC Goldstone 83.44 326 eP P 12 31 25.4 +1.7
comp=Z,54nm,2.0s
GSC Goldstone 83.44 326 ⇑P P 12 31 25.2 +1.5
baz=84
O23A Lake Granby, G 83.50 336 ⇓P P 12 31 24.9 +0.8
baz=84,SNR=15
EDW2 Edwards Air Fo 83.62 324 ⇑P P 12 31 25.6 +1.0
baz=84
O22A Kremmling 83.66 335 ⇓P P 12 31 25.4 +0.4
baz=84,SNR=11
N24A Carr 83.72 336 ⇓P P 12 31 26.2 +1.1
baz=84
SHPR Sheep Range 83.73 327 eP P 12 31 26.8 +1.5
OSI Osito Adit 83.74 324 ⇑P P 12 31 26.4 +1.2
baz=84
CCUT Cedar City 83.88 329 eP P 12 31 27.9 +1.9
comp=Z,14nm,1.0s
K30A Basset 83.92 341 ⇑P P 12 31 26.7 +0.7
baz=84,SNR=14
M25A Palm-Egli Farm 84.02 337 ⇓P P 12 31 27.6 +1.0
baz=84
ARUT Antelope Range 84.11 329 eP P 12 31 28.8 +1.6
ARUT pmax pmax
comp=Z,77nm,0.9s
ARUT Antelope Range 84.11 329 eP P 12 31 28.8 +1.6
comp=Z,77nm,0.9s
N23A Red Feather La 84.12 336 ⇑P P 12 31 28.0 +0.7
baz=84,SNR=6.3
SRU San Rafael 84.13 332 eP P 12 31 27.9 +0.7
SRU pmax pmax
comp=Z,11nm,0.8s
SRU San Rafael 84.13 332 eP P 12 31 27.9 +0.7
comp=Z,11nm,0.8s
K29A Lazy Trails An 84.19 340 ⇓P P 12 31 27.7 +0.5
baz=85,SNR=5.2
ECSD EROS Data Cent 84.19 343 eP P 12 31 27.2 0.0
comp=Z,41nm,0.8s
ECSD EROS Data Cent 84.19 343 ⇓P P 12 31 27.2 0.0
baz=85,SNR=33
N22A Wattenberg Ran 84.21 335 ⇓P P 12 31 28.3 +0.6
baz=85,SNR=5.4
O20A White River Ci 84.21 334 eP P 12 31 28.7 +1.1
comp=Z,190nm,2.7s
O20A White River Ci 84.21 334 ⇑P P 12 31 28.8 +1.1
baz=85
MVU Marysvale 84.24 330 eP P 12 31 29.2 +1.3
comp=Z,7.1nm,0.9s
M24A Cheyenne 84.29 337 ⇑P P 12 31 27.8 -0.2
baz=85,SNR=6.4
PHWY Pilot Hill 84.34 336 eP P 12 31 29.2 +0.8
comp=Z,8.0nm,0.9s
K28A Ten Mile Ranch 84.42 340 ⇓P P 12 31 29.1 +0.5
baz=85,SNR=8.7
FURC Furnace Creek, 84.44 326 ⇓P P 12 31 30.1 +1.5
baz=85
ISA Isabella 84.49 325 eP P 12 31 31.0 +2.0
ISA pmax pmax
comp=Z,9.0nm,0.9s
ISA Isabella 84.49 325 eP P 12 31 31.0 +2.0
comp=Z,8.8nm,0.9s
ISA Isabella 84.49 325 ⇓P P 12 31 30.5 +1.5
baz=85
TMUT Trail Mountain 84.55 331 eP P 12 31 30.8 +1.3
comp=Z,10nm,0.8s
L25A Engebretsen Ra 84.65 338 ⇓P P 12 31 30.6 +0.8
baz=85
K27A Flueckinger Fa 84.66 339 ⇓P P 12 31 29.8 +0.1
baz=85,SNR=6.6
J29A Okreek 84.79 341 ⇓P P 12 31 30.3 0.0
baz=85,SNR=7.9
SPMN St. Paul 84.83 346 eP P 12 31 29.8 -0.6
comp=Z,20nm,0.8s
SPMN St. Paul 84.83 346 ⇓P P 12 31 29.8 -0.6
baz=85,SNR=7.7
N20A Spence Gulch, 84.84 334 ⇑P P 12 31 31.6 +0.7
baz=85
L24A Wheatland 84.85 337 ⇓P P 12 31 31.6 +0.9
baz=85
VES Vestal, Richgr 84.92 324 ⇑P P 12 31 32.4 +1.3
baz=85
I30A Oacoma 85.03 341 ⇑P P 12 31 31.3 -0.2
baz=85,SNR=12
J28A Allard Ranch, 85.05 340 ⇓P P 12 31 32.5 +0.9
baz=85
J27A Elkhorn Farm, 85.10 339 ⇓P P 12 31 32.3 +0.4
baz=86,SNR=12
GRAC Grapevine Rang 85.11 326 ⇓P P 12 31 33.6 +1.5
baz=86
L23A Garrett 85.15 336 ⇓P P 12 31 32.9 +0.5
baz=86
L22A Ellis Ranch, M 85.31 336 ⇑P P 12 31 33.8 +0.6
baz=86
MPU Maple Canyon 85.34 332 eP P 12 31 34.5 +1.1
comp=Z,14nm,1.1s
I29A Vivian Onida 85.36 341 ⇑P P 12 31 32.9 -0.3
baz=86,SNR=6.2
BRSD Miller 85.41 342 eP P 12 31 33.1 -0.2
comp=Z,22nm,0.8s
BRSD Miller 85.41 342 ⇓P P 12 31 33.0 -0.3
baz=86,SNR=7.2
K24A Anderson Ranch 85.43 337 ⇓P P 12 31 35.0 +1.4
baz=86
NLU North Lily Min 85.45 331 eP P 12 31 35.9 +2.0
comp=Z,29nm,1.6s
J26A Sides Ranch, S 85.45 339 ⇓P P 12 31 34.1 +0.4
baz=86,SNR=9.3
R11A Troy Canyon, C 85.47 328 eP P 12 31 35.3 +1.2
R11A Troy Canyon, C 85.47 328 ⇓P P 12 31 35.2 +1.2
baz=86
DAU Daniels Canyon 85.54 332 eP P 12 31 35.7 +1.2
DAU Daniels Canyon 85.54 332 eP P 12 31 35.7 +1.2
I28A Midland 85.56 340 ⇑P P 12 31 34.4 +0.2
baz=86,SNR=18
K23A Bowen Ranch, D 85.71 337 ⇑P P 12 31 35.4 +0.3
baz=86,SNR=5.6
J25A Sunshine Ranch 85.74 338 ⇓P P 12 31 35.3 +0.2
baz=86,SNR=12
JLU Jordanelle 85.78 332 eP P 12 31 36.6 +1.0
comp=Z,6.4nm,0.9s
I27A Quinn 85.87 340 ⇓P P 12 31 36.0 +0.3
baz=86,SNR=5.7
K22A Casper 85.90 336 eP P 12 31 36.8 +0.8
K22A Casper 85.90 336 ⇑P P 12 31 36.2 +0.2
baz=86,SNR=6.6
H29A Onida 85.90 341 ⇑P P 12 31 35.2 -0.6
baz=86,SNR=6.7
J24A Dixon Ranch, L 85.94 338 ⇑P P 12 31 36.5 +0.4
baz=86
TPH Tonopah 85.94 327 eP P 12 31 38.0 +1.6
TPH pmax pmax
comp=Z,19nm,1.0s
TPH Tonopah 85.94 327 eP P 12 31 38.0 +1.6
comp=Z,19nm,1.0s
DUG Dugway 85.94 331 eP P 12 31 36.9 +0.7
DUG pmax pmax
comp=Z,20nm,1.4s
DUG Dugway 85.94 331 eP P 12 31 36.9 +0.7
comp=Z,20nm,1.4s
DUG Dugway 85.94 331 ⇑P P 12 31 36.9 +0.7
baz=86,SNR=11
I26A New Underwood 86.06 339 ⇑P P 12 31 37.0 +0.4
baz=86
G30A Faulkton 86.10 342 ⇓P P 12 31 36.8 0.0
baz=86,SNR=6.0
K21A Alcova 86.11 336 ⇑P P 12 31 37.5 +0.4
baz=86,SNR=9.4
H28A Mission Ridge 86.15 341 ⇑P P 12 31 37.1 +0.1
baz=87,SNR=11
TCUT Toone Canyon 86.21 332 eP P 12 31 37.7 0.0
comp=Z,7.8nm,0.7s
MLAC Mammoth Lakes 86.28 325 ⇑P P 12 31 39.4 +1.3
baz=87
I25A Rochford 86.29 339 ⇓P P 12 31 38.0 +0.1
baz=87,SNR=7.3
G29A Hoven 86.36 342 ⇓P P 12 31 37.8 -0.3
baz=87,SNR=6.7
H27A Howes 86.39 340 ⇓P P 12 31 38.2 -0.1
baz=87,SNR=8.3
I24A Kuemmerle Ranc 86.41 338 ⇓P P 12 31 38.6 +0.2
baz=87
RSSD Black Hills 86.47 338 eP P 12 31 38.8 -0.1
RSSD Black Hills 86.47 338 eP P 12 31 38.8 -0.1
G28A Parade 86.50 341 ⇑P P 12 31 39.0 +0.2
baz=87,SNR=11
J22A Midwest 86.57 337 ⇓P P 12 31 39.4 +0.1
baz=87
TOA0 Torodi Ar. Sit 86.63 71 eP P 12 31 39.6 -0.5
TORD Torodi Ar. Bea 86.63 71 P P 12 31 39.8 -0.2
comp=Z,9.3nm,0.8s,baz=220,slow=4.8,SNR=49
TORD pP pP 12 31 46.5 -1.6
comp=Z,20nm,0.7s,baz=241,slow=4.2,SNR=32
BGU Big Grassy Mou 86.65 331 eP P 12 31 41.2 +1.4
comp=Z,12nm,2.0s
HWUT Hardware Ranch 86.70 332 eP P 12 31 40.2 +0.2
comp=Z,20nm,1.5s
NVAR Mina Array Bea 86.70 326 P P 12 31 41.6 +1.4
comp=Z,3.2nm,0.9s,baz=152,slow=5.7,SNR=17
NVAR pP pP 12 31 46.7 -1.5
comp=Z,2.7nm,0.8s,baz=156,slow=5.5,SNR=9.8
F30A Leola 86.74 342 ⇑P P 12 31 40.0 +0.1
baz=87
H25A Fruitdale 86.81 339 ⇓P P 12 31 40.4 +0.1
baz=87,SNR=5.1
F29A Eureka 86.93 342 ⇑P P 12 31 40.8 0.0
baz=87,SNR=8.0
I22A 9 Mile Ranch, 87.00 337 ⇑P P 12 31 41.1 -0.3
baz=87
PDAR Pinedale Array 87.00 334 P P 12 31 41.6 +0.1
comp=Z,3.6nm,0.8s,baz=147,slow=6.5,SNR=28
J20A Shoshoni 87.03 335 ⇓P P 12 31 42.4 +0.9
baz=87
G27A Dupree 87.05 340 ⇑P P 12 31 41.2 -0.2

baz=87,SNR=8.2
G26A Maurine 87.15 340 ⇓P P 12 31 41.8 -0.1
baz=88,SNR=9.8
I21A Big Trails, Te 87.19 336 ⇓P P 12 31 41.8 -0.5
baz=88
F28A McLaughlin 87.19 341 ⇓P P 12 31 42.0 -0.1
baz=88,SNR=6.1
H24A Dirks Ranch, A 87.20 338 ⇑P P 12 31 42.0 -0.2
baz=88
J19A Crowheart 87.27 335 ⇓P P 12 31 42.7 0.0
baz=88,SNR=13
G25A Newell 87.28 339 ⇑P P 12 31 42.6 0.0
baz=88,SNR=9.6
HVU Hansel Valley 87.30 332 eP P 12 31 43.5 +0.6
HVU pmax pmax
comp=Z,13nm,0.9s
HVU Hansel Valley 87.30 332 eP P 12 31 43.5 +0.6
comp=Z,13nm,0.9s
E30A Jud 87.34 343 ⇓P P 12 31 42.6 -0.1
baz=88,SNR=6.2
ELK Elko 87.36 329 eP P 12 31 44.4 +1.1
ELK pmax pmax
comp=Z,12nm,1.0s
ELK Elko 87.36 329 eP P 12 31 44.4 +1.1
comp=Z,12nm,1.0s
F27A Lemmon 87.53 340 ⇓P P 12 31 43.5 -0.2
baz=88,SNR=9.9
E29A Napoleon 87.58 342 ⇓P P 12 31 43.8 -0.2
baz=88,SNR=6.7
I20A Worland 87.58 336 ⇓P P 12 31 44.4 +0.3
baz=88
H22A Clearmont 87.59 337 ⇑P P 12 31 44.2 0.0
baz=88
F26A Lodgepole 87.68 340 ⇑P P 12 31 44.2 -0.3
baz=88,SNR=6.2
E28A Huff 87.84 342 ⇑P P 12 31 45.0 -0.2
baz=88,SNR=5.7
H21A Big Horn, Sher 87.84 337 ⇑P P 12 31 45.6 +0.2
baz=88
G23A Biddle 87.86 338 ⇑P P 12 31 45.5 +0.1
baz=88
D30A Buchanan 87.87 343 ⇓P P 12 31 46.2 +0.9
baz=88
E27A Carson 87.92 341 ⇑P P 12 31 46.0 +0.4
baz=88
I19A Meeteetse 87.94 335 ⇑P P 12 31 46.7 +0.8
baz=88
F25A Bowman 87.97 340 ⇑P P 12 31 45.9 +0.1
baz=88
REDW Red Top Meadow 87.98 334 eP P 12 31 46.6 +0.4
H20A Greybull 88.02 336 ⇓P P 12 31 45.9 -0.3
baz=88,SNR=5.8
D29A Pettibone, Tap 88.03 342 ⇓P P 12 31 45.9 -0.2
baz=88,SNR=6.6
LOHW Long Hollow 88.11 334 eP P 12 31 47.0 +0.1
comp=Z,4.0nm,0.9s
TPAW Teton Pass 88.12 334 eP P 12 31 47.1 +0.2
F24A Ekalaka 88.17 339 ⇓P P 12 31 46.6 -0.2
baz=89
E26A Carlson Angus 88.20 340 ⇑P P 12 31 46.7 -0.3
baz=89,SNR=6.4
FXWY Fox Creek 88.28 334 eP P 12 31 48.1 +0.4
comp=Z,77nm,3.0s
F23A Volborg 88.33 338 ⇑P P 12 31 47.6 0.0
baz=89
C30A Mose, Pekin 88.37 343 ⇑P P 12 31 47.9 +0.2
baz=89,SNR=12
I17A Pilgrim Ck. 88.37 334 ⇓P P 12 31 49.0 +1.0
baz=89,SNR=6.4
AGMN Agassiz Nation 88.38 345 eP P 12 31 47.6 -0.1
comp=Z,53nm,1.5s
AGMN Agassiz Nation 88.38 345 ⇓P P 12 31 47.6 -0.1
baz=89,SNR=12
D28A Regan 88.39 342 ⇑P P 12 31 48.1 +0.3
baz=89,SNR=7.9
IMW Indian Meadow 88.48 334 eP P 12 31 49.3 +0.6
comp=Z,11nm,1.1s
FLWY Flagg Ranch 88.56 334 eP P 12 31 49.9 +1.0
comp=Z,10.0nm,0.9s
F22A Rosebud 88.64 338 ⇑P P 12 31 48.9 -0.1
baz=89
D26A Manning 88.71 341 ⇑P P 12 31 49.3 0.0
baz=89,SNR=6.9
H18A Shoshone NF, C 88.73 335 ⇓P P 12 31 49.6 -0.1
baz=89,SNR=5.1
G20A Bridger 88.74 336 ⇑P P 12 31 49.9 +0.3
baz=89
C28A Hausauer Farms 88.83 342 ⇑P P 12 31 50.5 +0.7
baz=89
B30A Myrvik Farm, E 89.04 344 ⇑P P 12 31 50.9 +0.1
baz=90,SNR=20
C27A Sayler Ranch, 89.10 341 ⇑P P 12 31 51.2 0.0
baz=90,SNR=5.5
YMR Madison River 89.16 334 eP P 12 31 53.4 +1.7
comp=Z,10nm,1.0s
F20A Billings 89.24 336 ⇓P P 12 31 52.2 +0.3
baz=90
B29A Wagenman Farm, 89.29 343 ⇑P P 12 31 52.2 +0.2
baz=90,SNR=7.5
D24A Glendive 89.30 339 ⇓P P 12 31 52.8 +0.7
baz=90
HLID Hailey 89.44 331 eP P 12 31 53.9 +0.8
comp=Z,11nm,1.2s
HLID Hailey 89.44 331 ⇑P P 12 31 53.8 +0.7
baz=90,SNR=9.4
QLMT Earthquake Lak 89.46 334 eP P 12 31 55.0 +1.8
comp=Z,0.2nm,0.3s
A30A Hoffart Farm, 89.50 344 ⇑P P 12 31 52.8 -0.1
baz=90,SNR=5.2
B28A Dugan Ranch, T 89.51 342 ⇑P P 12 31 53.1 +0.1
baz=90,SNR=6.3
F19A Roth Farm, Mol 89.54 336 ⇑P P 12 31 53.8 +0.4
baz=90
D23A Lindsay 89.59 339 ⇓P P 12 31 53.8 +0.3
baz=90
A29A Manning Farm, 89.69 343 ⇑P P 12 31 53.4 -0.4
baz=90,SNR=14
C24A Savage 89.70 340 ⇑P P 12 31 54.1 +0.1
baz=90
D22A Cohagen 89.85 338 ⇓P P 12 31 54.9 +0.2
baz=90
MFID Camas Ranch 89.86 331 eP P 12 31 56.0 +1.0
comp=Z,7.2nm,1.0s
E20A Meyer Farm, Mu 89.86 337 ⇓P P 12 31 54.9 +0.1
baz=90
A28A Rude Farm, Bot 89.92 343 ⇓P P 12 31 54.7 -0.2
baz=90
MCMT McKenzie Canyo 89.96 333 eP P 12 31 56.7 +1.2
comp=Z,8.1nm,1.5s
E19A Rath Farm, Rou 90.03 336 ⇓P P 12 31 55.8 +0.2
baz=90
C23A Lambert 90.16 339 ⇓P P 12 31 56.8 +0.7
baz=91
WVOR Wild Horse Val 90.16 328 eP P 12 31 57.7 +1.3
WVOR pmax pmax
comp=Z,11nm,1.3s
WVOR Wild Horse Val 90.16 328 eP P 12 31 57.7 +1.3
comp=Z,11nm,1.3s
A27A Ledoux Ranch, 90.19 342 ⇑P P 12 31 56.9 +0.7
baz=91
ULM Lac du Bonnet 90.24 346 P P 12 31 55.7 -0.6
comp=Z,5.0nm,0.9s,baz=162,slow=3.8,SNR=7.2
DLMT Dillon 90.33 334 eP P 12 31 57.8 +0.7
comp=Z,11nm,1.0s
A26A Wade Farm, Ken 90.33 342 ⇑P P 12 31 57.1 +0.3
baz=91
D20A Manuel Ranch, 90.39 337 ⇓P P 12 31 57.3 +0.1
baz=91
MOD Modoc 90.43 327 eP P 12 31 59.0 +1.3
DGMT Dagmar 90.50 340 ⇓P P 12 31 57.9 +0.3
baz=91
D19A Cripps Ranch, 90.68 337 ⇓P P 12 31 58.5 -0.1
baz=91
B22A Reddig Ranch S 90.84 339 ⇑P P 12 31 59.4 +0.1
baz=91
A24A Westby 90.86 340 ⇓P P 12 31 59.7 +0.4
baz=91
C19A Slack Wire Ran 91.24 337 ⇓P P 12 32 01.0 -0.1
baz=92
YBH Yreka Blue Hor 91.35 325 P P 12 32 02.3 +0.4
comp=Z,1.4nm,0.7s,baz=107,slow=7.9,SNR=4.5
A22A Carney Farms, 91.45 339 ⇓P P 12 32 01.8 -0.3
baz=92
B20A Solberg Farm, 91.56 338 ⇑P P 12 32 02.3 -0.3
baz=92
EGMT Eagleton 91.72 337 ⇓P P 12 32 03.4 0.0
baz=92
A21A Bergtoll Ranch 91.73 339 ⇓P P 12 32 02.8 -0.6
baz=92
B19A Brinkman Farms 91.85 337 ⇑P P 12 32 04.0 0.0
baz=92
A20A Cobblestone Ra 91.92 338 ⇓P P 12 32 04.3 0.0
baz=92
J05D Fort Rock, OR 91.95 327 ⇓P P 12 32 05.4 +0.7
baz=92
MSO Missoula 92.07 333 eP P 12 32 06.0 +0.9
comp=Z,11nm,1.1s
MSO Missoula 92.07 333 ⇑P P 12 32 05.8 +0.7
baz=92
A19A Klindworth Far 92.21 338 ⇑P P 12 32 05.3 -0.4
baz=93
SLMT Seeley Lake 92.27 334 eP P 12 32 06.3 +0.2
comp=Z,2.3nm,0.9s
F10A Beach Ranch, E 92.55 331 eP P 12 32 08.4 +1.1
comp=Z,127nm,2.6s
G08A Pilot Rock 92.66 330 eP P 12 32 08.3 +0.4
comp=Z,42nm,2.5s
SWMT Swartz Lake 92.68 334 eP P 12 32 08.3 +0.5
comp=Z,4.1nm,1.1s
SCHQ Schefferville 92.79 4 P P 12 32 07.7 -0.4
comp=Z,2.3nm,0.8s,baz=90,slow=4.0,SNR=3.6
I05D Terrebonne, OR 92.85 328 ⇓P P 12 32 09.7 +1.0
baz=93
JTMT Jette 92.98 334 eP P 12 32 10.0 +0.7
comp=Z,12nm,1.6s
BSMT Bassoo Peak 93.24 333 eP P 12 32 11.1 +0.5
HAWA Hanford 93.79 330 eP P 12 32 14.7 +1.8
comp=Z,12nm,1.1s
NEW Newport 94.43 332 eP P 12 32 15.5 -0.3
YKA Yellowknife Ar 105.64 341 Pdiff Pdif 12 33 05.2 -0.5
comp=Z,0.2nm,0.6s,baz=146,slow=4.7,SNR=6.5
YKA PKiKP PKiKP 12 37 18.2 -0.3
comp=Z,0.1nm,0.5s,baz=141,slow=2.0,SNR=3.7
ASAR Alice Springs 113.38 207 PKKPbc PKKPbc 12 48 18.9 +0.6
comp=Z,0.6nm,0.6s,baz=335,slow=2.6,SNR=7.2
ASAR PKKPab PKKPab 12 48 25.8 -3.5
comp=Z,1.3nm,1.1s,baz=348,slow=4.0,SNR=5.5
GERES GERESS Array B 115.81 47 PKP PKP 12 37 37.8 -0.6
comp=Z,1.0nm,0.7s,baz=202,slow=2.9,SNR=8.2
GERES pPKP PKiKP 12 37 44.7 +6.4
comp=Z,1.4nm,0.7s,baz=211,slow=1.6,SNR=8.4
WRA Warramunga Arr 116.61 209 PKP PKP 12 37 39.9 -0.9
comp=Z,0.5nm,0.5s,baz=176,slow=1.2,SNR=6.2
WRA pPKP pPKPdf 12 37 45.9 -3.2
comp=Z,0.8nm,0.6s,baz=175,slow=1.2,SNR=2.7
WRAB Tennant Creek 116.61 209 ePKIKP PKPdf 12 37 40.2 -0.6
WRAB Tennant Creek 116.61 209 ePKPdf PKPdf 12 37 40.2 -0.6
ILAR Eielson Array 117.39 332 PKP PKPdf 12 37 40.2 -0.6
comp=Z,0.9nm,0.8s,baz=169,slow=2.8,SNR=13
VYHS Vyhne 118.66 49 ePKIKP PKPdf 12 37 43.6 -0.2
VYHS e 12 37 50.5
VYHS Vyhne 118.66 49 ePKP PKPdf 12 37 43.5 -0.2
VYHS e 12 37 50.5
NOA NORSAR Array B 120.09 34 PKP PKPdf 12 37 46.1 0.0
comp=Z,0.6nm,0.6s,baz=250,slow=2.0,SNR=3.5
CRVS Cervenica-Dubn 120.41 50 ePKIKP PKPdf 12 37 44.9 -2.2
CRVS Cervenica-Dubn 120.41 50 e PKPdf 12 37 44.9 -2.2
BRTR Keskin Array B 124.72 64 PKP PKPdf 12 37 55.5 -0.3
comp=Z,1.2nm,0.7s,baz=195,slow=3.9,SNR=7.4
BRTR pPKP pPKPdf 12 38 02.5 -1.7
comp=Z,2.0nm,0.8s,baz=198,slow=3.4,SNR=8.0
KIEV Kiev 125.73 50 i PKIKP PKPdf 12 37 57.0 -0.2
AKASG Malin Array Be 125.75 50 PKP PKPdf 12 37 56.1 -1.1
comp=Z,1.0nm,0.6s,baz=264,slow=2.7,SNR=9.4
AKASG pPKP pPKPdf 12 38 02.9 -2.7
comp=Z,1.2nm,0.7s,baz=258,slow=2.7,SNR=4.9
FINES FINESS Array B 127.00 36 PKP PKPdf 12 37 59.0 -0.3
comp=Z,2.1nm,0.9s,baz=210,slow=9.7,SNR=4.4
FINES pPKP pPKPdf 12 38 05.8 -1.8
comp=Z,1.9nm,0.9s,baz=202,slow=6.0,SNR=2.7
ARCES ARCESS Array B 128.23 26 PKP PKPdf 12 38 01.8 +0.4
comp=Z,5.3nm,0.8s,baz=256,slow=3.6,SNR=4.1
ARCES pPKP pPKPdf 12 38 08.1 -1.6
comp=Z,4.0nm,0.8s,baz=258,slow=3.6,SNR=2.6
ANN Anapa 129.16 59 i PKIKP PKPdf 12 38 12.0 +8.1
ANN pmax pmax
comp=Z,56nm,1.3s
OBN Obninsk 131.15 46 i PKIKP PKPdf 12 38 07.1 -0.2
OBN i 12 40 29.5
OBN eSS SS 12 57 50.1 -5.8
OBN pmax pmax
comp=Z,6.0nm,1.3s
OBN MLR MLR
comp=Z,629nm,21.0s
KIV Kislovodsk 132.51 62 i PKIKP PKPdf 12 38 11.2 +0.7
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 132.59 62 PKP PKPdf 12 38 10.9 +0.5
comp=Z,1.7nm,0.9s,baz=270,slow=5.1,SNR=3.0
KLMR Klimovskoe 133.37 38 ePKIKP PKPdf 12 38 14.6 +3.2
KLMR pmax pmax
comp=Z,13nm,1.3s
BILL Bilibino 136.05 332 i PKIKP PKPdf 12 38 17.9 +1.7
BILL pmax pmax
comp=Z,4.0nm,1.7s
PETK Petropavlovsk- 142.14 310 PKhKP PKPpre 12 38 23.3
comp=Z,2.8nm,0.7s,baz=86,slow=6.1,SNR=6.4
PETK PKP PKPdf 12 38 27.5 -0.3
comp=Z,3.6nm,0.7s,baz=113,slow=7.2,SNR=4.6
GEYT Alibeck 142.15 75 PKhKP PKPpre 12 38 21.5
comp=Z,1.1nm,0.4s,baz=248,slow=7.6,SNR=3.9
GEYT PKP PKPdf 12 38 29.0 +0.7
comp=Z,2.9nm,0.7s,baz=258,slow=4.4,SNR=5.5
SEY Seymchan 143.01 327 PKhKP PKPpre 12 38 26.3
comp=Z,4.3nm,0.8s,baz=123,slow=2.5,SNR=15
ARU Arti 143.54 44 i PKIKP PKPdf 12 38 34.0 +3.9
ARU 12 41 42.9
AKTO Aktyubinsk 143.74 54 PKIKP PKPab 12 38 27.7 +0.1
AKTO pmax pmax
comp=Z,14nm,1.3s
TIXI Tiksi 144.56 348 ePKIKP PKPab 12 38 28.7 -1.3
TIXI Tiksi 144.56 348 ePKPdf PKPab 12 38 28.7 -1.3
SVE Sverdlovsk 144.59 43 ePKIKP PKPbc 12 38 30.8 0.0
SVE pmax pmax
comp=Z,19nm,1.5s
KAD Karad 144.83 117 eP PKPab 12 38 32.3 -0.4
AB31 Akbulak array 145.00 56 i PKIKP PKPbc 12 38 31.9 -0.4
AB31 pmax pmax
comp=Z,29nm,0.8s
ABKAR Akbulak array 145.00 56 ePKPdf PKPbc 12 38 31.9 -0.4
POO Poona 145.41 115 eP PKPbc 12 38 34.0 -0.6
KULM Kulim 146.83 169 ePKPdf PKPbc 12 38 37.8 +0.6
HYB Hyderabad 147.90 122 i PKP PKPbc 12 38 41.0 -0.8
KBL Kabul 149.65 85 ePKP2 PKPbc 12 38 47.0 +0.9
KBL Kabul 149.65 85 ePKPbc PKPbc 12 38 47.0 +0.9
BRVK Borovoye 150.91 47 ePKIKP PKPbc 12 38 48.5 +0.3
BRVK Borovoye 150.91 47 ePKPbc PKPbc 12 38 48.5 +0.3
BVA0 Borovoye Array 150.98 47 i PKIKP PKPbc 12 38 48.6 +0.2
BVA0 pmax pmax
comp=Z,14nm,1.0s
YAK Yakutsk 152.20 337 ePKIKP PKPbc 12 38 49.0 -1.9
YAK pmax pmax
comp=Z,35nm,0.8s
YAK Yakutsk 152.20 337 ePKPbc PKPbc 12 38 50.0 -0.9
KKAR Karatay Array 152.29 68 ePKIKP PKPbc 12 38 51.6 -0.2
KKAR Karatay Array 152.29 68 ePKPbc PKPbc 12 38 51.6 -0.2
ASAJ Asahikawa 152.42 294 PKPbc PKPbc 12 38 51.8 -0.2
comp=Z,15nm,0.9s,baz=43,slow=9.5,SNR=6.4
MJAR Matsushiro Arr 154.90 276 PKPbc PKPbc 12 38 57.2 -0.4
comp=Z,1.0nm,0.9s,baz=134,slow=3.5,SNR=5.1
AAK Ala-Archa 155.21 69 ePKIKP PKPdf 12 38 49.2 -0.2
AAK e 12 38 58.3
AAK e 12 39 14.4
AAK Ala-Archa 155.21 69 ePKPdf PKPdf 12 38 49.2 -0.2
AAK ePKPbc PKPbc 12 38 58.3
AAK ePKPab PKPab 12 39 14.4 -0.1
TKM2 Tokmak 2 156.02 69 PKP2 PKPab 12 39 23.2 +5.2
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
KSH Kashi 156.14 77 ePKP PKPdf 12 38 51.3 +0.7
KSH epPKP pPKPdf 12 39 02.3 +3.3
KSH esPKP 12 39 06.5
KSH eSKS SKSdf 12 45 52.0 -3.3
KSH eSKKS SKKSac 12 49 42.5 -1.5
KSH eSS SS 13 02 38.8 -6.0
KSH AMB AMB
comp=Z,160nm,5.1s
KSH LR LR
comp=Z,42nm,5.9s
KSH LR LR
comp=Z,22nm,4.0s
KSH LR LR
comp=Z,200nm,12.0s
NVS Novosibirsk 156.99 36 ⇓i PKIKP PKPdf 12 38 48.6 -2.4
NVS pmax pmax
comp=Z,12nm,1.7s
NVS pmax pmax
comp=E,6.0nm,1.8s
ZALV Zalesovo Beam 158.27 36 PKP PKPdf 12 38 52.0 -0.7
comp=E,2.5nm,0.8s,baz=278,slow=2.1,SNR=12
ZALV pPKP pPKPdf 12 38 58.9 -2.1
comp=E,2.2nm,0.7s,baz=318,slow=2.0,SNR=6.5
ZALV PKPab PKPab 12 39 27.2 +0.3
comp=E,2.6nm,0.6s,baz=296,slow=4.5,SNR=4.9
ZALV pPKPab pPKPab 12 39 34.3 -0.8
comp=E,3.1nm,0.7s,baz=316,slow=4.1,SNR=3.6
CMAR Chiang Mai Arr 159.25 159 pPKP pPKPdf 12 39 01.7 -1.6
comp=E,0.5nm,0.6s,baz=254,slow=2.4,SNR=2.6
CMAR PKPbc PKPdf 12 39 07.2 +12
comp=E,0.9nm,0.6s,baz=225,slow=1.7,SNR=6.5
CMAR PKPab PKPab 12 39 32.2 +0.1
comp=E,0.9nm,0.7s,baz=221,slow=3.6,SNR=3.3
CMAR pPKPab pPKPab 12 39 37.9 -2.3
comp=E,1.7nm,0.9s,baz=220,slow=5.3,SNR=3.3
BOD Bodaibo 159.74 349 ePKP2 PKPab 12 39 32.3 -0.8
BOD pmax pmax
comp=Z,16nm,0.9s
MK31 Makanchi Array 160.15 56 i PKIKP PKPdf 12 38 54.7 -0.4
MK31 pmax pmax
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 160.15 56 ePKPdf PKPdf 12 38 54.7 -0.4
MK31 ePKPab PKPab 12 39 35.1 -0.3
MKAR Makanchi Array 160.15 56 PKP PKPdf 12 38 55.5 +0.3
comp=Z,1.0nm,1.0s,baz=298,slow=2.6,SNR=5.9
MKAR pPKP pPKPdf 12 39 02.1 -1.4
comp=Z,2.0nm,1.0s,baz=291,slow=3.4,SNR=8.3
MKAR PKPab PKPab 12 39 35.2 -0.2
comp=Z,1.4nm,0.7s,baz=269,slow=2.9,SNR=6.8
MKAR pPKPab pPKPab 12 39 41.9 -1.7
comp=Z,3.4nm,0.7s,baz=283,slow=3.7,SNR=8.0
MKAR PP PP 12 43 17.0 -1.0
comp=Z,1.0nm,0.9s,baz=290,slow=4.8,SNR=3.7
KSRS Korea Array 163.15 274 PKP PKPdf 12 38 57.9 -0.6
comp=Z,1.2nm,0.9s,baz=158,slow=1.3,SNR=4.2
KSAR Wonju Array Be 163.18 274 PKIKP PKPdf 12 38 57.9 -0.6
KSAR Wonju Array Be 163.18 274 PKP PKPdf 12 38 57.9 -0.6
WMQ Urumqi 164.64 62 PKP PKPdf 12 38 59.0 -0.8
WMQ LR LR
comp=Z,110nm,19.0s
WMQ LR LR
comp=Z,150nm,20.6s
WMQ LR LR
comp=Z,150nm,23.2s
TLY Talaya 166.32 8 ePKP2 PKPab 12 40 03.4 +1.2
TLY pmax pmax
comp=Z,8.0nm,1.8s
TLY Talaya 166.32 8 PKPab PKPab 12 40 03.2 +1.0
comp=Z,1.4nm,0.6s,baz=25,slow=5.8,SNR=4.2
KMI Kunming 166.59 165 PKP PKPdf 12 39 04.5 +2.3
ZAK Zakamensk 167.55 10 ePKP2 PKPab 12 40 07.6 -0.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s
NJ2 Nanjing 168.28 242 ePKP PKPdf 12 39 03.0 +0.1
GYA Guiyang 168.33 180 PKP PKPdf 12 39 02.3 -1.0
GYA PKPab PKPab 12 40 12.8 +1.0
GYA PKS PKSdf 12 42 33.0 -3.0
GYA PP PP 12 44 03.0 +3.2
GYA SKKS 12 50 46.0
GYA SS SS 13 04 49.8 +1.1
GYA AMB AMB
comp=Z,140nm,8.5s
GYA LR LR
comp=Z,130nm,21.3s
GYA LR LR
comp=Z,120nm,21.5s
GYA LR LR
comp=Z,140nm,24.2s
ULN Ulaanbaatar 170.29 358 ePKIKP PKPdf 12 39 02.3 -1.5
ULN e 12 40 20.5
ULN Ulaanbaatar 170.29 358 ePKPdf PKPdf 12 39 02.3 -1.5
ULN ePKPab PKPab 12 40 20.5 +0.4
SONM Songino Array 170.33 1 PKP PKPdf 12 39 02.3 -1.5
comp=Z,1.1nm,1.0s,baz=126,slow=2.5,SNR=5.7
SONM PKPab PKPab 12 40 20.7 +0.5
comp=Z,4.0nm,0.8s,baz=340,slow=5.1,SNR=15
SONM PP PP 12 44 08.4 -1.5
comp=Z,0.5nm,0.8s,baz=350,slow=7.5,SNR=2.7
CD2 Chengdu 172.39 161 PKP PKPdf 12 39 05.3 0.0
CD2 pPKP pPKPdf 12 39 16.0 +2.4
CD2 sPKP 12 39 19.8
CD2 PKS PKSdf 12 42 36.3 -1.4
CD2 PP PP 12 44 24.0 +3.8
CD2 SKS SKSdf 12 46 04.0 -3.0
CD2 SKKS SKKSac 12 51 06.8 +0.8
CD2 SS SS 13 05 29.8 +0.7
CD2 AMB AMB
comp=Z,240nm,6.6s
GTA Gaotai 174.53 75 ePKP PKPdf 12 39 06.0 +0.1
GTA pPKP pPKPdf 12 39 17.0 +2.7
GTA sPKP 12 39 20.8
HHC Hu-ho-hao-te 175.33 307 ePKP PKPdf 12 39 05.0 -1.1
HHC pPKP pPKPdf 12 39 15.8 +1.4
HHC sPKP 12 39 20.5
HHC PP PP 12 44 34.8 -0.8
HHC SKS SKSdf 12 46 01.5 -6.0
HHC SS SS 13 05 57.0 -2.3
HHC AMB AMB
comp=Z,170nm,6.5s
HHC LR LR
comp=Z,200nm,21.1s
HHC LR LR
comp=Z,310nm,21.1s
HHC LR LR
comp=Z,270nm,22.2s
XAN Xi'an 175.49 205 PKP PKPdf 12 39 06.0 -0.3
LZH Lanzhou 176.96 132 ePKP PKPdf 12 39 05.5 -1.2
LZH pPKP pPKPdf 12 39 16.0 +1.0
LZH sPKP 12 39 20.5
LZH PKPab PKPab 12 40 47.8 -2.4

WEL 28 12:23:53.0±0.8, 35.89S × 179.32E, h33km, ML3.7/13,
1C-1D, Error ellipse: s-maj=6.8km s-min=5.3km az=90.0,
Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.86	206	P*	Pn	12 24 21.5	-1.0
MXZ				S*	Sn	12 24 45.3	+0.4
WMGZ	Waiomatatini S	2.06	200	PN	Pn	12 24 25.5	+0.2
WMGZ				SN	Sn	12 24 49.7	-0.1
HAZ	Te Kaha	2.23	213	P*	Pn	12 24 27.8	+0.2
HAZ				S*	Sn	12 24 56.1	+2.0
PUZ	Puketiti	2.34	201	PN	Pn	12 24 28.6	-0.5
PUZ				SN	Sn	12 24 55.0	-1.8
TWGZ	Tauwhareparae	2.52	205	PN	Pn	12 24 31.7	0.0
CNGZ	Carnagh Statio	2.74	199	PN	Pn	12 24 34.2	-0.4
MWZ	Matawai	2.83	210	P*	Pn	12 24 35.4	-0.5
MYRZ	Mayor Island	2.84	240	P*	Pn	12 24 36.7	+0.7
URZ	Urewera	2.95	216	⇑P*	Pn	12 24 37.1	-0.4
URZ				S*	Sn	12 25 10.3	-1.5
OPRZ	Ohinepanea	2.96	228	P*	Pn	12 24 37.6	0.0
RAGZ	Rawiri	3.01	210	P*	Pn	12 24 38.0	-0.5
KUZ	Kuaotunu	3.03	253	PN	Pn	12 24 39.7	+1.2
RIGZ	Rimuhau	3.07	203	PN	Pn	12 24 38.2	-1.1
TARZ	Mount Tarawera	3.25	223	P*	Pn	12 24 41.9	+0.1
SNGZ	Shannon Station	3.29	208	PN	Pn	12 24 41.3	-1.0
KNZ	Kokohu	3.39	202	PN	Pn	12 24 41.2	-2.3
MHGZ	Mahia Peninsul	3.45	199	PN	Pn	12 24 42.7	-1.7
PRRZ	Plateau Road	3.50	221	P*	Pn	12 24 44.9	-0.2
RAHZ	Arahi	3.51	210	PN	Pn	12 24 44.5	-0.7
MKAZ	Moumakai	3.56	249	⇓PN	Pn	12 24 47.6	+1.7
TOZ	Tahuroa Road	3.57	238	P*	Pn	12 24 47.1	+1.1
ALRZ	Allen Road	3.57	221	P*	Pn	12 24 45.7	-0.4
NMHZ	Naumai	3.78	211	PN	Pn	12 24 47.6	-1.4
BKZ	Black Stump Fm	3.97	214	P*	Pn	12 24 49.9	-1.7
MCHZ	McNeill Hill	4.11	210	PN	Pn	12 24 52.1	-1.5
KAHZ	Kahuranaki	4.35	206	PN	Pn	12 24 54.2	-2.6
KRHZ	Kereru	4.42	211	PN	Pn	12 24 55.1	-2.6
BHHZ	Black Hill Sta	4.43	215	P*	Pn	12 24 56.1	-1.8
TUVZ	Tukino	4.46	220	P*	Pn	12 24 57.1	-1.3
WPVZ	Whakapapa	4.47	221	P*	Pn	12 24 57.9	-0.7
WNVZ	Wahianoa	4.53	220	P*	Pn	12 24 58.0	-1.4
TRVZ	Turoa	4.54	220	P*	Pn	12 24 58.0	-1.6
PXZ	Pawanui	4.57	204	PN	Pn	12 24 55.8	-4.0
TSZ	Takapari Road	4.94	212	PN	Pn	12 25 01.6	-3.3
MRZ	Mangatainoka R	5.60	211	PN	Pn	12 25 09.3	-4.6

KIW Kapiti Island 6.05 214 PN Pn 12 25 15.3 -4.9

IDC 28 12:28:39.0±1.1, 34°.82S×72°.64W, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.6/26, mbtmp3.5/6, ML3.9/2, Error ellipse: s-maj=37.4km s-min=21.8km az=97.0
NEIC 28 12:28:46.1±1.4, 35°.06S×72°.05W, h35km, mb4.1/1, Error ellipse: s-maj=30.9km s-min=15.5km az=105.0
ISC 28 12:28:44.5±1.3, 35°.15S±0°.08×72°.0W±0°.2, h18km, n9, σ1.61/10, mb3.5/4, Near coast of Central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.75 43 Pn Pn 12 29 55.9 +0.6
1.7nm,0.3s,baz=209,slow=10,SNR=9.2
CFAA Sn Sn 12 30 51.5 +1.5
0.6nm,0.3s,baz=169,slow=15,SNR=1.3
CFAA Lg Lg 12 31 09.7
0.6nm,0.3s,baz=299,slow=20,SNR=5.7
PLCA Paso Flores 5.70 169 Pn Pn 12 30 09.3 +1.0
1.1nm,0.3s,baz=342,slow=16,SNR=3.6
PLCA Sn Sb 12 31 30.8 -0.6
0.6nm,0.3s,baz=346,slow=13,SNR=1.5
TRQA Tornquist 8.59 113 ePn Pn 12 30 47.8 -0.2
SNAA Sanae 50.52 157 P P 12 37 42.4 +1.1
0.2nm,0.5s,baz=282,slow=9.3
QSPA South Pole Qui 55.09 180 P P 12 38 15.6 +0.4
1.4nm,1.0s,baz=117,slow=2.3,SNR=1.8
QSPA South Pole Qui 55.09 180 eP P 12 38 15.8 +0.5
2.1nm,1.1s
TXAR Lajitas Array 70.74 331 P P 12 39 53.8 -5.8
0.2nm,0.5s,baz=152,slow=8.3,SNR=5.9
TORD Torodi Ar. Bea 84.60 70 P P 12 41 15.7 -1.5
0.2nm,0.7s,baz=216,slow=6.6,SNR=3.0
ZALV Zalesovo Beam 155.19 34 PKPab PKPab 12 48 57.6 -3.2
0.3nm,0.4s,baz=304,slow=2.6,SNR=2.4

IDC 28 12:31:54.5±1.3, 7°.30S×155°.31E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/33, mbtmp3.9/8, ML2.7/1, Error ellipse: s-maj=46.9km s-min=22.2km az=129.0
ISCJB 28 12:31:58.6±0.9, 7°.2S±0°.2×155°.0E±0°.1, h31km, mb3.8/7, Error ellipse: s-maj=27.5km s-min=11.7km az=151.4
ISC 28 12:31:59.9±1.1, 7°.3S±0°.2×155°.1E±0°.2, h31km, n9, σ1.12/10, mb4.0/7, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 8.17 254 Pn Pn 12 33 57.0 +0.5
0.5nm,0.3s,baz=94,slow=14,SNR=3.9
PMG Sn Sn 12 35 26.6 -1.2
0.4nm,0.3s,baz=99,slow=20,SNR=3.9
WRA Warramunga Arr 23.78 236 P P 12 37 08.9 -1.1
1.4nm,0.5s,baz=61,slow=9.6,SNR=5.3
ASAR Alice Springs 26.10 229 P P 12 37 30.8 -0.5
0.7nm,0.7s,baz=61,slow=8.1,SNR=7.8
STKA Stephens Creek 27.56 205 P P 12 37 45.1 +1.0
2.7nm,0.8s,baz=14,slow=13,SNR=3.0
CMAR Chiang Mai Arr 61.02 296 P P 12 42 12.8 +1.8
0.9nm,0.5s,baz=120,slow=4.8,SNR=3.7
ILAR Eielson Array 83.56 21 P P 12 44 23.5 -1.2
0.3nm,0.7s,baz=237,slow=5.3,SNR=9.1
MKAR Makanchi Array 83.69 319 P P 12 44 25.6 -0.2
0.7nm,0.7s,baz=91,slow=4.9,SNR=4.7
YKA Yellowknife Ar 96.50 28 P P 12 45 26.1 0.0
0.5nm,0.7s,baz=268,slow=4.3,SNR=9.1
TORD Torodi Ar. Bea 153.22 285 PKPbc PKPbc 12 51 55.5 -0.3
0.8nm,0.8s,baz=47,slow=2.1,SNR=6.7

IDC 28 12:34:27.4±0.6, 36°.29S×73°.18W, h21km±3km, mb4.1/11, mb1 4.3/14, mb1mx4.1/31, mbtmp4.2/14, ML4.0/3, MS3.8/1, Ms1 3.8/1, ms1mx3.2/30, Error ellipse: s-maj=19.1km s-min=11.2km az=87.0
BJI 28 12:34:28.2, 36°.26S×72°.84W, h36km, Ms5.1/1, Ms7 4.8/1
ISCJB 28 12:34:29.2±2.3, 36°.26S±0°.06×73°.0W±0°.1, h43km±20km, mb4.6/32, Error ellipse: s-maj=20.6km s-min=9.9km az=4.2
NEIC 28 12:34:29.5±0.2, 36°.29S×73°.24W, h35km, mb4.7/25, Error ellipse: s-maj=10.0km s-min=6.3km az=64.0
ISC 28 12:34:27.7±0.5, 36°.23S±0°.06×73°.27W±0°.10, h24km±3km, h24km:pP-P, n61, σ1.22/75, mb4.7/32, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.98 155 Pn Pn 12 35 41.7 +0.7
4.0nm,0.3s,baz=327,slow=13,SNR=12
PLCA Pg Pb 12 35 55.0 +0.9
8.5nm,0.3s,baz=326,slow=14,SNR=8.2
PLCA Lg Lg 12 36 59.7
12nm,0.3s,baz=272,slow=10.0,SNR=3.3
CFAA Coronel Fontan 6.23 44 Pn Pn 12 35 59.7 +1.6
0.5nm,0.3s,baz=230,slow=14,SNR=4.1
CFAA Sn Sn 12 37 07.7 -0.9
0.7nm,0.3s,baz=200,slow=24,SNR=1.8
CFAA Lg Lg 12 37 46.0
0.5nm,0.3s,baz=301,slow=0.9,SNR=6.1
TRQA Tornquist 9.20 105 ePn Pn 12 36 41.0 +2.1
32nm,1.0s
CPUP Villa Florida 16.80 58 LR LR 12 46 07.7
comp=Z,298nm,18.9s,baz=358,slow=42
USHA Ushuaia 18.90 171 P Pn 12 38 47.1 +0.1
0.4nm,0.3s,baz=354,slow=15,SNR=2.9
LPAZ La Paz 20.38 14 P Pn 12 39 05.6 -0.1
5.7nm,0.7s,baz=178,slow=9.8,SNR=8.7
LPAZ La Paz 20.38 14 eP Pn 12 39 08.0 +2.3
13nm,0.9s
SIV San Ignacio 22.90 31 P P 12 39 29.9 +0.2
2.8nm,0.8s,baz=221,slow=12,SNR=11
SIV pP pP 12 39 35.9 -0.7
23nm,1.0s,baz=218,slow=13,SNR=18
SNAA Sanae 49.92 157 P P 12 43 18.8 -0.2
4.0nm,1.0s,baz=258,slow=4.5,SNR=12
SNAA Sanae 49.92 157 eP P 12 43 19.0 +0.1
18nm,1.1s
QSPA South Pole Qui 54.01 180 P P 12 43 49.7 +0.1
7.4nm,1.0s,baz=151,slow=7.5,SNR=16
QSPA pP pP 12 43 57.4 +0.2
4.3nm,0.8s,baz=195,slow=3.9,SNR=5.4
QSPA South Pole Qui 54.01 180 eP P 12 43 49.3 -0.3
12nm,1.1s
QSPA pP pP 12 43 57.4 +0.2
CELP Cerrillos 54.38 8 eP P 12 43 53.0 +0.5
JCT Junction City 70.88 336 eP P 12 45 43.3 +0.7
7.4nm,1.0s
TXAR Lajitas Array 71.20 332 P P 12 45 45.4 +0.7
0.6nm,0.6s,baz=151,slow=9.2,SNR=8.4
TXAR pP pP 12 45 51.7 -0.7
1.0nm,0.7s,baz=150,slow=7.4,SNR=7.7
WHTX Lake Whitney 71.55 338 eP P 12 45 47.1 +0.6
9.1nm,1.0s
WVT Waverly 73.25 348 eP P 12 45 56.3 -0.3
7.1nm,0.9s
DBIC Dimbokro 76.85 72 P P 12 46 17.8 -0.1
5.1nm,0.8s,baz=228,slow=6.9,SNR=5.7
ANMO Albuquerque 77.27 333 eP P 12 46 20.6 +0.6
4.0nm,1.2s
BOSA Boshof 79.93 118 P P 12 46 34.6 -0.3
5.9nm,1.0s,baz=240,slow=6.1,SNR=6.5
SMCO Snowmass 81.22 334 eP P 12 46 43.4 +1.6
5.5nm,1.2s
CCUT Cedar City 82.27 329 eP P 12 46 49.3 +2.2
89nm,2.7s
ECSD EROS Data Cent 82.37 343 eP P 12 46 47.2 +0.1
8.0nm,0.8s
JLU Jordanelle 84.12 332 eP P 12 46 57.7 +1.1
33nm,2.2s
DUG Dugway 84.30 331 eP P 12 46 58.6 +1.2
2.6nm,0.8s
HWUT Hardware Ranch 85.03 332 eP P 12 47 01.4 +0.3
7.5nm,1.0s
NVAR Mina Array Bea 85.15 326 P P 12 47 03.3 +1.4
1.3nm,0.7s,baz=163,slow=5.4,SNR=7.7
NVAR pP pP 12 47 09.9 +0.2
0.7nm,0.7s,baz=149,slow=7.4,SNR=3.0
PDAR Pinedale Array 85.31 334 P P 12 47 03.4 +0.8
1.8nm,1.1s,baz=134,slow=6.4,SNR=7.3
HVU Hansel Valley 85.64 332 eP P 12 47 04.8 +0.7
4.5nm,0.8s
TORD Torodi Ar. Bea 85.91 71 P P 12 47 05.4 -0.5
2.4nm,1.0s,baz=240,slow=3.2,SNR=9.5
TORD pP pP 12 47 12.5 -1.3
1.9nm,1.0s,baz=260,slow=4.3,SNR=5.8
LOHW Long Hollow 86.42 334 eP P 12 47 08.5 +0.6
3.0nm,1.0s
TPAW Teton Pass 86.43 334 eP P 12 47 09.0 +0.8
3.7nm,0.9s
FXWY Fox Creek 86.59 334 eP P 12 47 09.9 +1.0
5.3nm,1.4s
IMW Indian Meadow 86.78 334 eP P 12 47 10.7 +0.8
8.1nm,1.3s
FLWY Flagg Ranch 86.86 334 eP P 12 47 11.2 +1.1
5.3nm,0.9s
YMR Madison River 87.46 334 eP P 12 47 15.0 +1.9
11nm,1.2s
HLID Hailey 87.79 331 eP P 12 47 15.7 +1.1
4.9nm,1.4s
MFID Camas Ranch 88.22 330 eP P 12 47 17.8 +1.2
5.5nm,1.2s
MCMT McKenzie Canyo 88.28 333 eP P 12 47 18.2 +1.3
2.7nm,1.2s
ULM Lac du Bonnet 88.39 346 P P 12 47 17.0 -0.1
3.1nm,0.9s,baz=172,slow=5.0,SNR=4.5
ULM pP pP 12 47 23.4 -1.5
2.3nm,0.7s,baz=233,slow=10,SNR=3.5
DLMT Dillon 88.64 333 eP P 12 47 20.1 +1.5
14nm,1.7s
MOD Modoc 88.86 327 eP P 12 47 21.0 +1.4
61nm,2.7s
ASAR Alice Springs 115.13 208 PKP PKPdf 12 53 05.5 -1.7
0.3nm,0.6s,baz=138,slow=2.2,SNR=4.1
WRA Warramunga Arr 118.33 210 PKP PKPdf 12 53 12.2 -1.2
0.5nm,0.4s,baz=152,slow=1.5,SNR=5.9
ABKAR Akbulak array 143.83 54 ePKPdf PKPab 12 53 57.2 -0.1
IPM Ipoh 147.97 169 ePKPbc PKPbc 12 54 10.5 -1.0
BVAR Borovoye Array 149.58 45 PKP PKPdf 12 54 08.7 -1.1
0.4nm,0.5s,baz=251,slow=4.4,SNR=2.9
BVAR PKPbc PKPbc 12 54 14.7 +0.2
0.8nm,0.7s,baz=305,slow=5.2,SNR=6.3
YAK Yakutsk 150.45 338 ePKPbc PKPbc 12 54 16.0 -0.2
KKAR Karatay Array 151.45 65 ePKPdf PKPdf 12 54 12.5 -0.6
KKAR ePKPbc PKPbc 12 54 18.0 -1.2
AAK Ala-Archa 154.40 66 ePKPbc PKPbc 12 54 26.0 0.0
KSH Kashi 155.56 73 ePKPbc PKPdf 12 54 19.5 +0.2
ZALV Zalesovo Beam 156.64 34 PKP PKPdf 12 54 19.3 -0.7
1.8nm,0.9s,baz=270,slow=1.5,SNR=7.3
ZALV pPKP pPKPdf 12 54 26.6 -1.6
1.3nm,0.9s,baz=242,slow=3.2,SNR=3.7
MKAR Makanchi Array 158.96 52 PKP PKPdf 12 54 22.7 -0.5
0.6nm,0.8s,baz=282,slow=1.1,SNR=5.8
MKAR PKPab PKPab 12 54 58.8 -0.8
0.6nm,0.9s,baz=279,slow=2.3,SNR=4.0
WMQ Urumqi 163.59 57 ePKP PKPdf 12 54 27.3 -0.9
SONM Songino Array 168.40 1 PKPab PKPab 12 55 41.4 +0.4
0.5nm,0.7s,baz=347,slow=5.9,SNR=3.0
KMI Kunming 168.41 162 PKP PKPdf 12 54 33.5 +0.6
NJ2 Nanjing 169.12 251 ePKP PKPdf 12 54 32.8 0.0
HHC Hu-ho-hao-te 174.03 322 ePKP PKPdf 12 54 34.8 -0.3
HHC pPKP pPKPdf 12 54 46.3 +3.0
HHC sPKP 12 54 51.8
HHC PP PP 13 00 02.0 +3.8
HHC SKS SKSdf 13 01 32.5 -4.1
HHC SS SS 13 21 16.0 +0.6
HHC LR LR
comp=N,140nm,21.6s
HHC LR LR
comp=E,220nm,19.6s
HHC LR LR
comp=Z,200nm,22.2s
CD2 Chengdu 174.15 154 PKP PKPdf 12 54 34.5 -0.8
XAN Xi'an 177.17 220 PKP PKPdf 12 54 34.8 -1.2
LZH Lanzhou 177.66 93 ePKP PKPdf 12 54 35.8 -0.4
LZH pPKP pPKPdf 12 54 45.5 +1.1
LZH sPKP 12 54 50.3
LZH PKPab PKPab 12 56 17.0 -5.8

ISCJB 28 12:35:58.0±0.9, 37°.61S±0°.10×73°.7W±0°.2, h33km, mb4.0/6, Error ellipse: s-maj=19.5km s-min=13.9km az=169.7
IDC 28 12:35:57.6±1.1, 37°.67S×73°.53W, h20km±4km, mb3.7/5, mb1 3.9/5, mb1mx3.8/16, mbtmp3.9/5, MS4.4/1, Ms1 4.4/1, ms1mx3.6/28, Error ellipse: s-maj=44.4km s-min=24.9km az=71.0
NEIC 28 12:35:59.3±0.6, 37°.61S×73°.80W, h35km, mb4.5/1, Error ellipse: s-maj=17.0km s-min=12.2km az=77.0
ISC 28 12:35:57.9±1.0, 37°.6S±0°.1×73°.9W±0°.2, h35km, n17, σ2.10/22, mb3.9/6, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.10 141 ePn Pn 12 36 59.4 +1.2
TRQA Tornquist 9.46 97 ePn Pn 12 38 12.4 +0.8
USHA Ushuaia 17.67 170 LR LR 12 47 35.0
comp=Z,1µm,18.7s,baz=344,slow=40
CPUP Villa Florida 17.96 56 eP P 12 40 05.7 +0.6
LPAZ La Paz 21.80 15 P P 12 40 48.7 +1.2
3.4nm,0.9s,baz=202,slow=5.4,SNR=2.3
SNAA Sanae 48.90 157 P P 12 44 38.7 -1.1
0.7nm,0.6s,baz=231,slow=6.5,SNR=2.8
SNAA pP pP 12 44 47.4 -2.9
2.4nm,1.0s,baz=286,slow=11,SNR=3.0
QSPA South Pole Qui 52.68 180 eP P 12 45 10.6 +2.1
5.3nm,0.8s
TXAR Lajitas Array 72.15 333 P P 12 47 22.7 +3.8
0.4nm,0.8s,baz=143,slow=9.1,SNR=2.2
TXAR pP pP 12 47 28.8 -1.1
0.6nm,0.8s,baz=166,slow=5.6,SNR=2.8
DBIC Dimbokro 77.76 72 P P 12 47 52.9 +1.3
3.0nm,0.8s,baz=196,slow=7.4,SNR=2.5
DBIC pP PcP 12 47 59.1 -2.4
3.6nm,0.6s,baz=225,slow=5.7,SNR=3.0
TORD Torodi Ar. Bea 86.84 71 P P 12 48 39.3 +0.3
0.9nm,0.9s,baz=220,slow=4.6,SNR=3.1
TORD pP pP 12 48 46.2 -3.9
1.1nm,0.7s,baz=242,slow=3.8,SNR=3.1
AKASG Malin Array Be 125.69 50 PKP PKPdf 12 54 56.6 +1.6
0.1nm,0.3s,baz=243,slow=1.5,SNR=4.8
ABKAR Akbulak array 145.02 55 ePKPdf PKPdf 12 55 30.9 0.0
BRVK Borovoye 150.81 46 ePKPbc PKPbc 12 55 46.7 +0.8
BRVK ePKPab PKPab 12 55 53.8 +0.6
BVAR Borovoye Array 150.88 46 PKPbc PKPbc 12 55 47.6 +1.5
1.1nm,0.6s,baz=270,slow=3.0,SNR=4.3
BVAR pPKPbc PKPab 12 55 53.3 -0.2
1.7nm,0.7s,baz=281,slow=5.1,SNR=6.1
AAK Ala-Archa 155.40 68 ePKPab PKPab 12 56 13.9 +0.7
ZALV Zalesovo Beam 158.03 35 PKPab PKPab 12 56 25.8 +1.9
1.2nm,0.8s,baz=316,slow=8.1,SNR=2.9
ZALV pPKPab pPKPab 12 56 30.9 -4.1
0.9nm,0.5s,baz=282,slow=8.3,SNR=3.0
MKAR Makanchi Array 160.16 55 PKPab PKPab 12 56 34.0 +0.6
0.2nm,0.6s,baz=292,slow=6.8,SNR=2.5
MKAR pPKPab pPKPab 12 56 40.7 -3.9
0.8nm,0.8s,baz=280,slow=3.5,SNR=4.5

IDC 28 12:44:04.7±0.7, 33°.69S×71°.83W, h0km, mb4.1/8, mb1 4.2/10, mb1mx4.1/29, mbtmp4.1/10, ML4.1/2, Error ellipse: s-maj=23.1km s-min=15.6km az=117.0
ISCJB 28 12:44:07.4±1.4, 33°.78S±0°.06×72°.06W±0°.06, h30km±10km, mb4.2/11, Error ellipse: s-maj=15.9km s-min=7.4km az=161.6
NEIC 28 12:44:08.3±3.5, 33°.70S×72°.07W, h25km±23km, mb4.4/7, Error ellipse: s-maj=19.2km s-min=10.2km az=88.0
GUC 28 12:44:09.2±0.5, 33°.72S×71°.85W, h17km±8km, ML4.3
ISC 28 12:44:06.6±2.0, 33°.77S±0°.06×71°.98W±0°.07, h15km±11km, n44, σ0.95/50, mb4.4/11, 4C-3D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IHA Instituto Hidr 0.80 21⇑iP Pn 12 44 23.4 +0.1
IHA iS Sn 12 44 34.0 -1.0
TACH Talagante 0.88 82⇑iP Pn 12 44 24.3 -0.1
ROCH El Roble 1.14 46⇓iP Pg 12 44 28.6 0.0
ROCH iS Sg 12 44 43.9 +0.4
ROCH AML AML 12 44 46.6
comp=N,13µm,0.3s
SAN Santiago 1.15 74⇑iP Pg 12 44 28.6 0.0
SAN iS Sg 12 44 43.8 +0.1
STL Santa Lucia 1.17 74⇓iP Pn 12 44 28.0 -0.5
STL iS Sb 12 44 43.2 -0.2
PEL Peldehue 1.25 60⇑iP Pg 12 44 30.7 0.0
PEL iS Sg 12 44 47.0 -0.1
PEL AML AML 12 44 52.4
comp=E,23µm,0.4s
FCH Farellones 1.48 73⇓iP Pb 12 44 34.1 +0.1
FCH iS Sb 12 44 53.5 +0.7
FCH AML AML 12 44 58.0
comp=E,8µm,0.5s
CFAA Coronel Fontan 3.83 57 Pn Pn 12 45 07.6 +2.5
comp=E,3.1nm,0.3s,baz=216,slow=11,SNR=28
CFAA Pg Pb 12 45 13.5 -0.3
comp=E,3.1nm,0.3s,baz=215,slow=13,SNR=30
CFAA Lg Lg 12 46 00.1
comp=E,4.2nm,0.3s,baz=75,slow=15,SNR=6.1
PLCA Paso Flores 7.04 171 Pn Pn 12 45 48.8 -0.4
comp=E,0.7nm,0.3s,baz=341,slow=9.5,SNR=3.0
TRQA Tornquist 9.17 121 ePn Pn 12 46 23.2 +4.8
comp=E,21nm,1.0s
LVC Limon Verde 11.44 14 ePn Pn 12 46 47.3 -2.5
CPUP Villa Florida 14.69 64 Pn Pn 12 47 34.5 +0.7
comp=E,0.4nm,0.3s,baz=217,slow=10,SNR=2.3
LPAZ La Paz 17.75 12 P Pn 12 48 14.2 +0.3
comp=E,0.3nm,0.3s,baz=206,slow=8.1,SNR=7.4
LPAZ La Paz 17.75 12 eP P 12 48 14.6 -0.1
comp=E,4.8nm,0.7s
SIV San Ignacio 20.26 32 P P 12 48 41.1 -0.5
comp=E,2.7nm,0.7s,baz=223,slow=12,SNR=6.2
SAML Samuel 26.00 20 eP P 12 49 38.8 -0.2
comp=E,6.2nm,0.7s
BDFB Brasilia 28.17 56 P P 12 49 56.3 -2.4
comp=E,2.0nm,0.6s,baz=201,slow=8.7,SNR=3.4
SNAA Sanae 51.78 158 P P 12 53 14.8 +1.5
comp=E,2.4nm,0.9s,baz=288,slow=5.8,SNR=9.0
QSPA South Pole Qui 56.46 180 P P 12 53 49.5 +1.9
comp=E,3.3nm,0.9s,baz=158,slow=2.5,SNR=11
QSPA South Pole Qui 56.46 180 eP P 12 53 49.1 +1.4
comp=E,2.7nm,0.7s
JCT Junction City 69.10 334 eP P 12 55 13.3 +1.3
comp=E,4.7nm,0.9s
TXAR Lajitas Array 69.56 331 P P 12 55 15.9 +0.9
comp=E,0.4nm,0.5s,baz=157,slow=8.3,SNR=8.9
WVT Waverly 71.10 346 eP P 12 55 24.1 -0.1
comp=E,13nm,1.1s
DBIC Dimbokro 75.06 71 P P 12 55 48.1 0.0
comp=E,2.5nm,0.7s,baz=200,slow=9.0,SNR=3.4
DBIC Dimbokro 75.06 71 eP P 12 55 48.6 +0.5
comp=E,3.0nm,0.8s
ECSD EROS Data Cent 80.35 342 eP P 12 56 16.8 -0.1
comp=E,3.8nm,1.1s
PDAR Pinedale Array 83.58 333 P P 12 56 35.4 +1.2
comp=E,0.4nm,0.8s,baz=138,slow=5.8,SNR=3.8
TOA0 Torodi Ar. Sit 84.09 70 eP P 12 56 37.0 -0.2
TORD Torodi Ar. Bea 84.09 70 P P 12 56 37.3 +0.1
comp=E,3.7nm,0.7s,baz=265,slow=4.3,SNR=22
YKA Yellowknife Ar 101.86 341 P Pdif 12 57 58.4 -0.3
comp=E,0.1nm,0.6s,baz=129,slow=4.9,SNR=3.1
WRA Warramunga Arr 120.98 209 PKP PKPdf 13 02 57.5 -1.6
comp=E,0.3nm,0.5s,baz=161,slow=1.9,SNR=3.5
AKASG Malin Array Be 122.00 47 PKP PKPdf 13 02 59.1 -0.8
comp=E,0.1nm,0.3s,baz=265,slow=3.4,SNR=3.7
H11S2 WAKE ISLAND Hyl25.82 269 T T 15 22 03.0
baz=118,slow=74,SNR=12
H11S1 WAKE ISLAND Hyl25.83 269 T T 15 22 04.1
baz=118,slow=74,SNR=10
H11S3 WAKE ISLAND Hyl25.84 269 T T 15 22 02.9
baz=118,slow=74,SNR=10
BRVK Borovoye 147.01 43 ePKPbc PKPab 13 03 49.2 -0.5
KKAR Karatay Array 149.40 61 ePKPbc PKPbc 13 03 53.8 -1.0
EKS2 Erkin-Say 151.83 62 ePKPbc PKPbc 13 04 01.0 +0.2
AAK Ala-Archa 152.36 61 ePKPbc PKPbc 13 04 02.8 +0.7
KURK Kurchatov 152.68 43 ePKPbc PKPbc 13 04 02.2 0.0
ZAA0 Zalesovo Array 154.01 32 ePKPbc PKPbc 13 04 05.2 +0.1
ZALV Zalesovo Beam 154.01 32 PKP PKPbc 13 03 57.1 +0.1
comp=E,0.5nm,0.6s,baz=336,slow=3.2,SNR=3.3
ZALV PKPbc PKiKP 13 04 05.2 +0.1
comp=E,2.4nm,0.7s,baz=306,slow=3.0,SNR=11
ZALV PKPab PKPab 13 04 19.2 +0.7
comp=E,1.4nm,0.6s,baz=299,slow=4.6,SNR=5.6
MKAR Makanchi Array 156.58 49 PKP PKPdf 13 04 01.0 +0.2
comp=E,0.4nm,0.8s,baz=349,slow=1.2,SNR=3.8
MKAR PKPab PKPab 13 04 29.5 -0.3
comp=E,0.5nm,0.6s,baz=273,slow=3.5,SNR=6.5
SONM Songino Array 165.90 4 PKPab PKPab 13 05 09.1 -1.4
comp=E,0.2nm,0.4s,baz=64,slow=3.4,SNR=3.2

IDC 28 12:48:26.8±4.1, 5°.57S×146°.27E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/18, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=109.0km s-min=64.4km az=114.0, Eastern New Guinea region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 18.41 218 P Pn 12 52 43.1 -0.5
0.4nm,0.3s,baz=33,slow=11,SNR=20
ASAR Alice Springs 21.58 212 P P 12 53 18.1 -0.1
1.5nm,0.5s,baz=47,slow=8.2,SNR=22
STKA Stephens Creek 26.53 189 P P 12 54 06.7 +0.4
1.5nm,0.6s,baz=0.0,slow=6.1,SNR=2.9
TORD Torodi Ar. Bea 144.28 285 PKP PKPdf 13 08 05.2 -0.8
0.4nm,0.6s,baz=85,slow=2.1,SNR=3.1

ISCJB 28 12:49:21.1±0.8, 7°.60N±0°.06×72°.95W±0°.07, h160km, mb3.4/1, Error ellipse: s-maj=11.2km s-min=6.6km az=43.9
FUNV 28 12:49:22.4, 7°.52N×73°.10W, h151km, MW2.2
IDC 28 12:49:24.7±7.3, 7°.39N×75°.54W, h127km±95km, mb3.1/1, mb1 3.3/2, mb1mx2.9/33, mbtmp3.5/2, ML2.1/1, Error ellipse: s-maj=258.4km s-min=37.3km az=82.0
ISC 28 12:49:21.4±1.1, 7°.55N±0°.07×73°.01W±0°.08, h160km, n13, σ1.71/22, Northern Colombia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CAPV Capacho 0.76 66 eP Pn 12 49 45.5 -0.1
CAPV eS Sn 12 50 02.7 -1.4
VIGV El Vigia 2.07 52 eP Pn 12 49 58.6 +0.5
VIGV eS Sn 12 50 25.6 -0.7
SOCV Socops 2.26 71 eP Pn 12 50 00.8 +0.7
SOCV eS Sn 12 50 29.7 -0.3
ROSC El Rosal 2.98 206 P Pn 12 50 09.0 -0.4
5.8nm,0.3s,baz=98,slow=17,SNR=11
ROSC S Sn 12 50 43.7 -2.7
22nm,0.3s,baz=86,slow=23,SNR=12
VIRV Villa del Rosa 3.00 11 eP Pn 12 50 08.8 -0.7
VIRV eS Sn 12 50 44.2 -2.0
CURV Curarigua 3.88 51 eP Pn 12 50 21.1 +0.6
CURV eS Sn 12 51 04.1 -2.4
SANV Sanarito 3.95 60 eP Pn 12 50 21.8 +0.5
SANV eS Sn 12 51 05.1 -2.9
DABV Dabajuro 4.09 35 eP Pn 12 50 23.4 +0.3
DABV eS Sn 12 51 08.0 -3.2
SIQV Siquisique 4.41 46 eP Pn 12 50 27.8 +0.5
SIQV eS Sn 12 51 16.0 -2.8
MAPV Macapo 5.04 63 eP Pn 12 50 36.5 +1.0
BAUV El Baul 5.11 74 eP Pn 12 50 36.1 -0.3
BAUV eS Sn 12 51 31.7 -3.4
YKA Yellowknife Ar 62.62 340 P P 12 59 30.6 +2.2
0.3nm,0.5s,baz=132,slow=6.9,SNR=8.8
WRA Warramunga Arr 150.78 242 PKPbc PKPbc 13 08 56.8 +1.0
0.4nm,0.9s,baz=103,slow=2.8,SNR=3.0

ISCJB 28 12:49:29.9±0.6, 35°.06S±0°.08×71°.8W±0°.2, h29km, mb4.2/12, Error ellipse: s-maj=19.3km s-min=10.9km az=2.5
NEIC 28 12:49:32.0±0.6, 35°.10S×71°.83W, h35km, mb4.6/6, Error ellipse: s-maj=20.1km s-min=11.4km az=96.0
IDC 28 12:49:33.1±0.6, 35°.04S×71°.70W, h45km±4km, mb3.9/9, mb1 4.0/11, mb1mx3.9/28, mbtmp4.1/11, Error ellipse: s-maj=21.3km s-min=14.7km az=94.0
ISC 28 12:49:32.8±0.6, 34°.95S±0°.07×71°.7W±0°.1, h29km, n28, σ2.38/37, mb4.5/12, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.43 42 P Pn 12 50 41.6 +3.6
0.6nm,0.3s,baz=215,slow=16,SNR=6.4
CFAA S Sb 12 51 40.1 -2.7
0.9nm,0.3s,baz=302,slow=22,SNR=10
PLCA Paso Flores 5.84 171 P Pn 12 50 57.8 +0.2
2.1nm,0.3s,baz=323,slow=10,SNR=6.0
PLCA Lg Lg 12 52 27.0
baz=227,slow=24,SNR=1.8
PLCA Paso Flores 5.84 171 ePn Pn 12 50 57.3 -0.2
PLCA Lg Lg 12 52 27.0
LVC Limon Verde 12.54 12 ePn Pn 12 52 31.3 +1.8
LPAZ La Paz 18.86 11 P Pn 12 53 53.1 +1.1

0.4nm,0.3s,baz=182,slow=6.6,SNR=9.0
LPAZ La Paz 18.86 11 eP Pn 12 53 52.8 +0.8
5.0nm,0.8s
SIV San Ignacio 21.16 29 P P 12 54 15.4 -0.3
8.8nm,1.0s,baz=225,slow=11,SNR=12
SIV sP sP 12 54 31.8 +4.6
6.7nm,0.6s,baz=230,slow=12,SNR=8.7
BDFB Brasilia 28.66 54 P P 12 55 25.9 -1.4
1.3nm,0.4s,baz=225,slow=2.9,SNR=2.9
BDFB sP sP 12 55 43.6 +4.3
3.8nm,0.7s,baz=206,slow=5.3,SNR=3.6
QSPA South Pole Qui 55.29 180 P P 12 59 01.2 -2.1
3.7nm,0.9s,baz=150,slow=1.4,SNR=7.4
QSPA pP pP 12 59 14.4 +2.1
2.6nm,0.9s,baz=119,slow=5.6,SNR=3.0
QSPA sP sP 12 59 20.0 +4.3
3.4nm,0.7s,baz=106,slow=7.4,SNR=4.8
QSPA South Pole Qui 55.29 180 eP P 12 59 01.3 -2.0
7.1nm,1.1s
TXAR Lajitas Array 70.70 331 P P 13 00 44.7 -1.3
0.3nm,0.5s,baz=154,slow=8.6,SNR=6.8
TXAR pP pP 13 00 57.7 +2.6
0.8nm,0.5s,baz=156,slow=8.8,SNR=10
SWET Sewanee 71.06 348 eP P 13 00 46.8 -1.2
8.4nm,0.8s
WVT Waverly 72.30 346 eP P 13 00 53.7 -1.6
11nm,1.0s
DBIC Dimbokro 75.23 71 P P 13 01 11.7 -1.4
4.2nm,0.8s,baz=216,slow=8.9,SNR=5.8
DBIC Dimbokro 75.23 71 eP P 13 01 11.7 -1.4
9.1nm,1.1s
WUAZ Wupatki 79.28 328 eP P 13 01 36.4 +0.9
4.5nm,0.9s
BOSA Boshof 79.39 117 P P 13 01 34.4 -2.1
3.8nm,0.8s,baz=262,slow=4.9,SNR=5.5
BOSA pP pP 13 01 48.5 +2.8
3.1nm,0.6s,baz=202,slow=5.4,SNR=2.4
BOSA sP sP 13 01 52.6 +3.5
3.1nm,0.6s,baz=238,slow=4.3,SNR=3.4
TORD Torodi Ar. Bea 84.28 70 P P 13 02 00.6 -1.6
3.3nm,0.8s,baz=260,slow=4.1,SNR=19
TORD sP sP 13 02 19.2 +4.4
2.8nm,0.8s,baz=254,slow=3.8,SNR=8.1
PDAR Pinedale Array 84.73 333 P P 13 02 03.1 -1.0
0.3nm,0.6s,baz=178,slow=5.2,SNR=2.0
NVAR Mina Array Bea 84.82 325 P P 13 02 04.2 -0.4
0.5nm,0.7s,baz=156,slow=2.7,SNR=2.7
WRA Warramunga Arr 120.06 209 PKP PKPdf 13 08 16.7 -4.5
0.6nm,0.9s,baz=154,slow=1.7,SNR=6.6
WRA pPKP pPKPdf 13 08 31.9 +1.0
0.5nm,0.8s,baz=167,slow=1.5,SNR=2.0
WRA sPKP 13 08 37.4
0.3nm,0.5s,baz=160,slow=1.5,SNR=3.1
ABKAR Akbulak array 142.05 53 ePKPdf PKPdf 13 08 54.7 -6.8
BRVK Borovoye 147.71 44 ePKPbc PKPdf 13 09 12.3 +1.1
KKAR Karatay Array 149.75 63 ePKPbc PKPbc 13 09 17.2 -2.4
EKS2 Erkin-Say 152.17 64 ePKPbc PKPbc 13 09 24.3 -1.2
AAK Ala-Archa 152.70 64 ePKPbc PKPbc 13 09 25.0 -1.7
ZALV Zalesovo Beam 154.88 34 PKPbc PKPbc 13 09 28.3 -2.4
0.4nm,0.5s,baz=318,slow=4.1,SNR=2.3
ZALV PKPab PKPab 13 09 45.1 -1.0
0.7nm,0.5s,baz=307,slow=5.4,SNR=3.8
MKAR Makanchi Array 157.17 51 PKPab PKPab 13 09 54.8 -1.5
0.6nm,0.6s,baz=296,slow=3.8,SNR=8.1

IDC 28 13:01:11.5±1.3, 34.90S×72.97W, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.6/28, mbtmp3.6/7, ML4.2/2, Error ellipse: s-maj=40.2km s-min=22.5km az=87.0
ISCJB 28 13:01:14.5±1.0, 34.94S±0.07×73.0W±0.2, h33km, mb3.6/4, Error ellipse: s-maj=21.9km s-min=10.7km az=178.8
NEIC 28 13:01:15.9±5.4, 34.88S×73.07W, h32km±37km, mb4.4/1, Error ellipse: s-maj=30.1km s-min=13.0km az=96.0
ISC 28 13:01:16.5±1.1, 34.94S±0.09×73.1W±0.2, h35km, n12, σ1.08/12, mb3.7/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.24	52	Pn	Pn	13 02 31.8	-0.6
	0.4nm,0.3s,baz=224,slow=13,SNR=5.8						
CFAA				Lg	Lg	13 03 50.6	
	0.2nm,0.3s,baz=107,slow=15,SNR=3.2						
PLCA	Paso Flores	6.12	162	Pn	Pn	13 02 44.1	-0.2
	1.5nm,0.3s,baz=340,slow=12,SNR=3.6						
PLCA				Lg	Lg	13 04 24.9	
	2.8nm,0.3s,baz=255,slow=19,SNR=2.5						
PLCA	Paso Flores	6.12	162	eP	Pn	13 02 44.2	-0.2
	28nm,0.7s						
PLCA				Lg	Lg	13 04 24.9	
TRQA	Tornquist	9.45	112	eP	Pn	13 03 31.1	+1.0
LPAZ	La Paz	19.09	15	P	P	13 05 37.0	+0.1
	0.2nm,0.3s,baz=189,slow=7.9,SNR=5.0						
LPAZ	La Paz	19.09	15	eP	Pn	13 05 39.9	+2.0
	1.5nm,0.5s						
SIV	San Ignacio	21.72	33	P	P	13 06 02.8	-1.9
	2.4nm,0.7s,baz=218,slow=9.5,SNR=4.6						
SNAA	Sanae	51.04	157	P	P	13 10 15.3	+0.4
	0.5nm,0.6s,baz=274,slow=14,SNR=4.5						
SNAA	Sanae	51.04	157	eP	P	13 10 15.2	+0.4
	4.5nm,1.0s						
TXAR	Lajitas Array	70.15	332	P	P	13 12 26.1	+0.6
	0.1nm,0.6s,baz=152,slow=8.1,SNR=3.8						
BOSA	Boshof	80.38	118	eP	P	13 13 24.8	+0.1
TORD	Torodi Ar. Bea	85.33	71	P	P	13 13 49.4	-0.8
	0.5nm,0.9s,baz=250,slow=4.5,SNR=2.5						

IDC 28 13:05:59.0±2.9, 34.08S×72.53W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/27, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=82.3km s-min=52.9km az=36.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	18.15	14	P	Pn	13 10 13.2	-0.1
	0.2nm,0.3s,baz=207,slow=6.8,SNR=2.1						
TXAR	Lajitas Array	69.60	331	P	P	13 17 10.2	0.0
	0.1nm,0.6s,baz=153,slow=8.1,SNR=4.2						
TORD	Torodi Ar. Bea	84.62	70	P	P	13 18 34.9	+0.1
	0.6nm,0.7s,baz=244,slow=4.6,SNR=4.2						
MKAR	Makanchi Array	157.12	49	PKPab	PKPab	13 26 26.4	-0.6
	0.3nm,0.6s,baz=287,slow=4.2,SNR=4.6						

IDC 28 13:09:14.7±0.8, 34.61S×73.74W, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/28, mbtmp4.0/9, ML3.5/2, Error ellipse: s-maj=29.9km s-min=20.5km az=84.0
ISCJB 28 13:09:18.2±0.7, 34.58S±0.09×73.7W±0.1, h33km, mb4.0/8, Error ellipse: s-maj=16.6km s-min=13.0km az=165.0
NEIC 28 13:09:20.3±0.5, 34.56S×73.71W, h35km, mb4.1/2, Error ellipse: s-maj=13.1km s-min=10.3km az=75.0
ISC 28 13:09:20.2±0.8, 34.54S±0.10×73.7W±0.1, h35km, n20, σ0.61/19, mb3.9/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.45	59	Pn	Pn	13 10 38.8	-0.1
	0.4nm,0.3s,baz=29,slow=2.9,SNR=6.7						
TRQA	Tornquist	10.10	114	eP	Pn	13 11 43.4	+0.8
LPAZ	La Paz	18.85	17	P	P	13 13 38.8	+0.2
	0.2nm,0.3s,baz=193,slow=8.7,SNR=7.5						
LPAZ	La Paz	18.85	17	eP	Pn	13 13 40.1	+1.4
	6.0nm,0.8s						
SIV	San Ignacio	21.68	35	P	P	13 14 07.9	-0.1
	4.0nm,0.8s,baz=232,slow=12,SNR=8.1						
SDV	Santo Domingo	43.29	4	eP	P	13 17 18.4	-0.3
SNAA	Sanae	51.61	158	P	P	13 18 22.5	-0.3
	1.3nm,0.9s,baz=260,slow=5.1,SNR=4.0						
SNAA	Sanae	51.61	158	eP	P	13 18 22.8	+0.1
QSPA	South Pole Qui	55.70	180	P	P	13 18 52.3	-0.5
	3.1nm,0.9s,baz=146,slow=4.9,SNR=6.0						
QSPA	South Pole Qui	55.70	180	eP	P	13 18 52.9	0.0
	3.9nm,0.9s						
TXAR	Lajitas Array	69.55	332	P	P	13 20 25.9	+0.5
	1.1nm,0.6s,baz=153,slow=8.6,SNR=15						
BOSA	Boshof	81.04	118	P	P	13 21 31.6	-0.2
	2.4nm,0.8s,baz=256,slow=4.8,SNR=4.2						
NVAR	Mina Array Bea	83.55	326	P	P	13 21 45.2	+0.5
	0.8nm,0.7s,baz=158,slow=5.0,SNR=4.5						
PDAR	Pinedale Array	83.63	334	P	P	13 21 44.6	-0.4
	0.8nm,1.0s,baz=184,slow=2.7,SNR=4.4						
TORD	Torodi Ar. Bea	85.69	71	P	P	13 21 54.7	-1.1
	0.5nm,0.8s,baz=291,slow=2.1,SNR=3.6						
YKA	Yellowknife Ar	102.13	342	P	Pdif	13 23 09.7	-0.6
	0.3nm,1.0s,baz=152,slow=3.2,SNR=4.2						
ABKAR	Akbulak array	143.10	52	PKPpre	PKPpre	13 28 46.6	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR	Borovoye Array	148.62	43	PKPbc	PKPbc	13 29 03.6	+0.7
	1.5nm,0.5s,baz=307,slow=3.5,SNR=5.7						
AAK	Ala-Archa	153.98	62	PKPbc	PKPbc	13 29 16.2	+0.3
	0.8nm,0.7s,baz=246,slow=3.9,SNR=4.3						
MKAR	Makanchi Array	158.16	49	PKPab	PKPab	13 29 46.9	-0.2
	0.4nm,0.8s,baz=300,slow=4.6,SNR=5.3						

IDC 28 13:10:48.0±5.7, 8.58S×156.96E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.3/3, Error ellipse: s-maj=165.9km s-min=42.0km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.63	240	P	P	13 16 11.3	+0.9
	1.0nm,0.6s,baz=67,slow=9.3,SNR=7.8						
ASAR	Alice Springs	26.69	233	P	P	13 16 28.3	-0.8
	0.2nm,0.8s,baz=63,slow=8.5,SNR=2.4						
MKAR	Makanchi Array	85.88	318	P	P	13 23 29.8	-0.1
	0.2nm,0.6s,baz=115,slow=5.7,SNR=2.2						

UPP 28 13:21:50.8, 68.01N×18.65E, h6km, ML1.6
CSEM 28 13:21:52.0±0.3, 67.93N×18.91E, h0km±1km, ML1.0, Error ellipse: s-maj=6.4km s-min=3.3km az=118.0
HEL 28 13:21:52.4±0.1, 67.94N×18.82E, h4km±1km, ML1.0, ML1.6(UPP), 4C, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	Nikkaluokta	0.11	131	i P	Pg	13 21 54.9	+0.2
NIKU	Nikkaluokta	0.11	131	P	Pg	13 21 54.8	+0.1
NIKU	Nikkaluokta	0.11	131	P	Pg	13 21 54.9	+0.2
KUA	Kurravaara	0.57	88	i P	Pg	13 22 02.7	-0.8
KUA				i S	Sg	13 22 10.1	-0.8
KUA	Kurravaara	0.57	88	P	Pg	13 22 02.7	-0.8
KUA				S	Sg	13 22 10.1	-0.9
KUA	Kurravaara	0.57	88	P	Pg	13 22 02.7	-0.8
KUA				S	Sg	13 22 10.1	-0.8
SALU	Saltoluokta	0.57	192	⇑i P	Pg	13 22 02.6	-0.8
SALU				i S	Sg	13 22 10.2	-0.8
SALU	Saltoluokta	0.57	192	P	Pg	13 22 02.6	-0.9
SALU				S	Sg	13 22 10.1	-0.9
SALU	Saltoluokta	0.57	192	P	Pg	13 22 02.6	-0.8
SALU				S	Sg	13 22 10.2	-0.8
DUNU	Dundret	1.06	140	eP	Pg	13 22 11.2	-1.6
DUNU	Dundret	1.06	140	P	Pg	13 22 11.2	-1.6
DUNU	Dundret	1.06	140	P	Pg	13 22 11.2	-1.6
LANU	Lannavaara	1.20	83	eP	Pg	13 22 13.9	-1.6
LANU				eS	Sg	13 22 29.1	-1.9
LANU	Lannavaara	1.20	83	⇑P	Pg	13 22 14.1	-1.4
LANU				S	Sg	13 22 29.1	-1.9
LANU	Lannavaara	1.20	83	P	Pg	13 22 14.1	-1.4
LANU				S	Sg	13 22 29.7	-1.3
KIF	Kilpisjarvi	1.30	34	eP	Pn	13 22 16.1	-1.1
KIF				eS	Sg	13 22 33.5	-0.5
KIF	Kilpisjarvi	1.30	34	P	Pn	13 22 16.1	-1.1
KIF				S	Sg	13 22 33.4	-0.6
MASU	Masugnsbyn	1.31	110	⇑eP	Pn	13 22 15.9	-1.5
MASU				eS	Sg	13 22 32.9	-1.6
MASU	Masugnsbyn	1.31	110	⇑P	Pn	13 22 15.9	-1.5
MASU				S	Sg	13 22 32.9	-1.6
MASU	Masugnsbyn	1.31	110	P	Pn	13 22 15.9	-1.5
MASU				S	Sg	13 22 32.9	-1.6
HEF	Hetta	1.87	73	eP	Pn	13 22 25.5	+0.4
HEF				eS	Sn	13 22 48.9	-0.3
HEF				MSG		13 22 52.0	
	comp=Z,0.5nm,0.1s						
HEF	Hetta	1.87	73	P	Pn	13 22 25.5	+0.4
HEF				S	Sn	13 22 48.8	-0.4
ERTU	Ertsjaerv	1.91	135	eP	Pn	13 22 25.6	-0.1
ERTU				eS	Sn	13 22 50.8	+0.7
ERTU	Ertsjaerv	1.91	135	P	Pn	13 22 25.6	-0.1
ERTU				S	Sn	13 22 50.8	+0.6
ERTU	Ertsjaerv	1.91	135	P	Pn	13 22 26.1	+0.4
ERTU				S	Sb	13 22 51.5	-0.5
HARU	Harads	1.98	154	eP	Pn	13 22 26.7	+0.1
HARU				eS	Sb	13 22 53.1	-0.6
HARU	Harads	1.98	154	P	Pn	13 22 26.6	+0.1
HARU				S	Sb	13 22 53.1	-0.6
HARU	Harads	1.98	154	P	Pn	13 22 26.7	+0.1
HARU				S	Sb	13 22 53.1	-0.6
ARA0	ARCESS Array S	2.92	54	eSB	Sb	13 23 19.6	-1.3
ARA0	ARCESS Array S	2.92	54	Sb	Sb	13 23 19.6	-1.3
SGF	Sodankyl	2.98	96	eSG	Sb	13 23 23.6	+0.8
SGF	Sodankyl	2.98	96	Sg	Sb	13 23 23.5	+0.7
KEV	Kevo	3.48	55	eSG	Sb	13 23 39.0	+1.9
KEV				MSG		13 23 40.5	
	comp=Z,0.3nm,0.2s						

BJI 28 13:26:02.4, 15.65S×173.36W, h10km, mB5.5/5, mb5.1/9, Ms5.1/2, Ms7 4.7/2
IDC 28 13:26:04.0±0.6, 15.23S×173.45W, h0km, mb4.3/14, mb1 4.6/14, mb1mx4.3/44, mbtmp4.3/14, MS4.1/1, Ms1 4.1/1, ms1mx3.3/42, Error ellipse: s-maj=27.5km s-min=15.2km az=137.0
ISCJB 28 13:26:04.1±0.3, 15.23S±0.09×173.49W±0.06, h10km, mb4.7/46, MS4.4/2, Error ellipse: s-maj=13.6km s-min=6.3km az=153.4
NEIC 28 13:26:05.3±0.2, 15.28S×173.38W, h10km, mb4.8/26, Error ellipse: s-maj=9.7km s-min=5.8km az=146.0
ISC 28 13:26:05.4±0.4, 15.32S±0.10×173.34W±0.08, h10km, n317, σ0.81/323, mb4.7/46, 128C-109D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.06	48	eP	Pn	13 26 34.0	-6.1
RAR	Rarotonga	14.16	116	Pn	Pn	13 29 23.6	-2.5
	3.5nm,0.3s,baz=280,slow=12,SNR=3.4						
RAR	Rarotonga	14.16	116	eP	Pn	13 29 24.5	-1.6
DZM	Mont Dzumac	20.28	248	P	Pn	13 30 42.0	-1.5
	6.5nm,0.7s,baz=96,slow=19,SNR=3.7						
URZ	Urewera	24.36	198	P	P	13 31 24.1	+0.5
	2.1nm,0.3s,baz=268,slow=1.5,SNR=8.9						
URZ	Urewera	24.36	198	eP	P	13 31 24.6	+1.0
EIDS	Eidsvold	34.73	247	eP	P	13 32 55.2	-0.7
CTA	Charters Tower	38.71	257	LR	LR	13 45 27.0	
	comp=Z,270nm,20.8s,baz=334,slow=30						
H11S2	WAKE ISLAND Hy	38.92	329	T	T	14 14 34.0	
	baz=149,slow=76,SNR=13						
H11S3	WAKE ISLAND Hy	38.93	329	T	T	14 14 35.5	
	baz=149,slow=76,SNR=11						
H11S1	WAKE ISLAND Hy	38.94	329	T	T	14 14 35.9	
	baz=149,slow=76,SNR=15						
H11N3	WAKE ISLAND Hy	39.87	330	T	T	14 16 06.2	
	baz=150,slow=76,SNR=4.7						
H11N1	WAKE ISLAND Hy	39.87	330	T	T	14 16 08.6	
	baz=150,slow=76,SNR=16						
H11N2	WAKE ISLAND Hy	39.88	330	T	T	14 16 08.9	
	baz=150,slow=76,SNR=6.7						
STKA	Stephens Creek	44.12	240	P	P	13 34 13.4	-0.8
	5.9nm,0.6s,baz=100,slow=8.8,SNR=11						
WRAB	Tennant Creek	49.91	257	eP	P	13 35 00.0	+0.4
WRA	Warramunga Arr	49.92	257	P	P	13 34 58.1	-1.5
	1.8nm,0.5s,baz=92,slow=7.1,SNR=35						
AS31	Alice Springs	50.19	252	eP	P	13 35 00.8	-1.0
ASAR	Alice Springs	50.19	252	P	P	13 35 00.7	-1.1
	11nm,0.5s,baz=87,slow=8.5,SNR=234						
MJAR	Matsushiro Arr	68.91	320	P	P	13 37 10.8	+0.2
	0.6nm,0.4s,baz=154,slow=6.7,SNR=4.8						
JNU	Nakatsue	71.78	313	P	P	13 37 28.1	-0.2
	3.3nm,0.8s,baz=150,slow=8.1,SNR=2.4						
PETK	Petropavlovsk-	72.57	342	P	P	13 37 32.4	-0.1
	2.8nm,0.7s,baz=134,slow=10,SNR=2.6						
SWSC	Sam W. Stewart	72.94	48	⇓P	P	13 37 35.4	+0.2
	baz=73						
N02D	Trinity Center	73.03	38	⇓P	P	13 37 36.6	+0.9
	baz=73						
M02C	Callahan	73.20	37	⇑P	P	13 37 38.0	+1.3
	baz=73						
GLA	Glamis	73.69	48	⇓P	P	13 37 40.7	+1.0
	baz=74						
GRAC	Grapevine Rang	74.04	44	⇑P	P	13 37 43.1	+1.4
	baz=74						
M04C	Macdoel	74.04	38	⇓P	P	13 37 42.0	+0.4
	baz=74						
FURC	Furnace Creek,	74.09	44	⇑P	P	13 37 42.6	+0.7
	baz=74						
NVAR	Mina Array Bea	74.23	42	P	P	13 37 43.0	0.0
	2.4nm,0.7s,baz=229,slow=9.3,SNR=13						
I03D	Drain, OR	74.38	35	⇓P	P	13 37 44.1	+0.7
	baz=75						
214A	Organ Pipe Nat	74.62	50	⇓P	P	13 37 45.3	+0.2
	baz=75						
QSPA	South Pole Qui	74.73	180	eP	P	13 37 46.8	+1.4
	9.2nm,0.9s						
J04D	Umpqua Nationa	74.79	36	⇑P	P	13 37 47.0	+0.9
	baz=75						
PDMCI	Parker Dam,Lak	74.83	47	⇓P	P	13 37 46.6	+0.3
	baz=75						
I04A	Tendick Farm,	74.97	36	⇑P	P	13 37 47.6	+0.7
	baz=75						
Z14A	Wintersburg	75.21	49	⇑P	P	13 37 49.1	+0.6
	baz=75						
J05D	Fort Rock, OR	75.32	37	⇑P	P	13 37 49.8	+0.7
	baz=76						
G03D	McMinnville, O	75.40	34	⇑P	P	13 37 50.0	+0.7
	baz=76						
W13A	Hualapai Mount	75.42	47	⇑P	P	13 37 50.3	+0.4
	baz=76						
Y14A	Wickenburg	75.46	48	⇓P	P	13 37 50.5	+0.6
	baz=76						
PINOR	Pine Mountain	75.85	36	eP	P	13 37 52.8	+0.9
	14nm,0.8s						
I05D	Terrebonne, OR	75.91	36	⇑P	P	13 37 53.1	+0.8
	baz=76						
R11A	Troy Canyon, C	75.96	43	⇑P	P	13 37 53.5	+0.6
	baz=76						
G05D	Wamic, OR	76.49	35	⇑P	P	13 37 56.2	+0.7
	baz=77						
X16A	Lo Mia Camp, P	76.82	49	⇑P	P	13 37 58.7	+0.8
	baz=77						
319A	Douglas	77.00	52	⇓P	P	13 37 59.6	+0.7
	baz=77						
U15A	North Rim	77.20	46	⇑P	P	13 38 01.0	+0.8
	baz=77						
WUAZ	Wupatki	77.40	48	⇓P	P	13 38 01.7	+0.6
	baz=78						
X18A	Snowflake	77.95	49	⇓P	P	13 38 04.7	+0.5
	baz=78						
121A	Cookes Peak, D	78.65	52	eP	P	13 38 08.9	+0.8
	5.0nm,0.6s						
121A	Cookes Peak, D	78.65	52	⇑P	P	13 38 08.7	+0.5
	baz=79,SNR=6.5						
DUG	Dugway	78.76	43	⇑P	P	13 38 08.7	+0.1
	baz=79						
HLID	Hailey	79.53	39	eP	P	13 38 13.2	+0.5
	8.7nm,0.8s						
HLID	Hailey	79.53	39	⇓P	P	13 38 13.0	+0.3
	baz=80,SNR=16						
Z22A	Elephant Butte	79.59	51	⇑P	P	13 38 14.0	+0.8
	baz=80,SNR=7.3						
HVU	Hansel Valley	79.61	41	eP	P	13 38 13.3	+0.2
	7.5nm,0.7s						
TCUT	Toone Canyon	80.15	43	eP	P	13 38 16.6	+0.4
	21nm,0.7s						
NJ2	Nanjing	80.16	307	eP	P	13 38 14.0	-2.1
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
MVCO	Mesa Verde	80.25	47	⇓P	P	13 38 17.1	+0.3
	baz=80						
LPM	Los Pinos Moun	80.30	50	eP	P	13 38 17.9	+0.8
	3.7nm,0.9s						
PV04	Paradox Valley	80.51	46	eP	P	13 38 18.5	+0.4
KTH	Kantishna Hill	80.52	10	eP	P	13 38 16.1	-1.4
TXAR	Lajitas Array	80.52	56	P	P	13 38 18.9	+0.7
	2.1nm,1.0s,baz=228,slow=4.9,SNR=15						
TRF	Thorofare Moun	80.53	10	eP	P	13 38 16.3	-1.3
	8.6nm,0.8s						
Y23A	Lovelace Mesa,	80.57	51	⇓P	P	13 38 18.5	0.0
	baz=81						
NEW	Newport	80.61	34	⇓P	P	13 38 18.2	0.0
	baz=81						
PV01	Paradox Valley	80.63	46	eP	P	13 38 18.9	+0.1
	287nm,0.6s						
ANMO	Albuquerque	80.71	50	eP	P	13 38 19.6	+0.4
	1.8nm,0.6s						
TNA	Tin City	80.74	2	eP	P	13 38 18.8	+0.3
	4.4nm,0.9s						
V22A	San Miguel Ran	80.80	49	⇑P	P	13 38 19.9	+0.1
	baz=81						
Z24A	Sheeppen Canyo	80.83	52	⇑P	P	13 38 20.4	+0.4
	baz=81						
W23A	Werner Place,	81.03	50	⇓P	P	13 38 21.4	+0.4
	baz=81,SNR=5.3						
Y24A	Capitan	81.03	51	⇓P	P	13 38 21.2	+0.2
	baz=81,SNR=6.7						
MCK	McKinley	81.03	11	eP	P	13 38 19.6	-0.5
	14nm,0.8s						
U22A	Llaves	81.05	49	⇑P	P	13 38 21.7	+0.6
	baz=81						
MCMT	McKenzie Canyo	81.16	39	eP	P	13 38 22.0	+0.5
	3.2nm,0.7s						
V23A	Ortiz Mt. (NFS	81.26	49	⇓P	P	13 38 23.2	+1.0
	baz=81,SNR=7.8						
X24A	Lazy VL Ranch,	81.30	51	⇓P	P	13 38 22.4	0.0
	baz=81,SNR=5.3						
Z25A	Roswell	81.30	52	⇓P	P	13 38 23.3	+0.9
	baz=81						
U23A	El Rito	81.50	49	⇓P	P	13 38 23.9	+0.4
	baz=82						
MSO	Missoula	81.58	37	⇑P	P	13 38 23.2	-0.3
	baz=82						
Y25A	Mesa, Roswell	81.59	52	⇓P	P	13 38 23.8	-0.1
	baz=82,SNR=5.7						
W24A	Lazy 6 Ranch,	81.60	50	⇓P	P	13 38 23.9	-0.1
	baz=82,SNR=5.3						
BSMT	Bassoo Peak	81.66	36	eP	P	13 38 23.5	-0.6
	7.0nm,0.9s						
S22A	4UR Ranch, Cre	81.67	47	⇓P	P	13 38 25.2	+0.7
	baz=82,SNR=11						
O20A	White River Ci	81.78	45	⇑P	P	13 38 25.7	+0.8
	baz=82						
Z26A	Caprock	81.86	52	⇓P	P	13 38 25.4	0.0
	baz=82,SNR=8.6						
JTMT	Jette	81.89	36	eP	P	13 38 24.1	-1.1
	1.8nm,0.8s						
LRM	Limekiln Ridge	81.92	38	eP	P	13 38 25.2	-0.3
	43nm,1.0s						
V24A	Rampart Ranch,	81.92	50	⇑P	P	13 38 26.1	+0.3
	baz=82,SNR=5.4						
T23A	Casias Ranch,	81.92	48	⇑P	P	13 38 26.3	+0.5
	baz=82						
529A	Stev Forest Ra	81.99	56	⇓P	P	13 38 26.5	+0.5
	baz=82						
QLMT	Earthquake Lak	82.02	39	eP	P	13 38 26.7	+0.6
	0.8nm,0.6s						
CHMT	Chamberlain Mo	82.03	37	eP	P	13 38 25.4	-0.6
	4.7nm,1.0s						
I17A	Pilgrim Ck.	82.09	40	⇓P	P	13 38 27.0	+0.5
	baz=82,SNR=5.8						
N20A	Spence Gulch,	82.10	44	⇑P	P	13 38 26.5	-0.1
	baz=82						
127A	Arkansas Junct	82.10	53	⇑P	P	13 38 27.0	+0.4
	baz=82						
BW06	Boulder Array	82.17	42	eP	P	13 38 26.4	-0.5
	2.1nm,0.6s						
PDAR	Pinedale Array	82.17	42	P	P	13 38 26.7	-0.2
	3.2nm,0.7s,baz=213,slow=3.5,SNR=34						
YMR	Madison River	82.22	40	eP	P	13 38 27.7	+0.6
	38nm,1.5s						
S23A	Nye Farm, Mont	82.24	48	⇑P	P	13 38 27.8	+0.4
	baz=82						
Y26A	Elida	82.25	52	⇓P	P	13 38 27.6	+0.3
	baz=82						
COLA	College	82.27	11	eP	P	13 38 25.9	-0.6
	13nm,0.8s						
W25A	X Bar L Ranch,	82.30	50	⇑P	P	13 38 27.7	0.0
	baz=82						
H17A	Grant Village	82.33	40	⇓P	P	13 38 29.1	+1.4
	baz=82,SNR=9.0						
ILAR	Eielson Array	82.35	11	P	P	13 38 26.2	-0.8
	1.8nm,0.7s,baz=226,slow=6.1,SNR=32						
T24B	San Luis	82.41	48	⇑P	P	13 38 29.2	+0.8
	baz=83,SNR=7.2						
429A	Davenport Ranc	82.44	56	⇑P	P	13 38 28.5	+0.1
	baz=83,SNR=10						
V25A	Rancho No Teng	82.45	50	⇓P	P	13 38 28.7	+0.2
	baz=83,SNR=9.0						
Z27A	Tatum	82.46	53	⇑P	P	13 38 28.4	-0.1
	baz=83						
228A	UT Block 9, Go	82.47	54	⇓P	P	13 38 28.3	-0.2
	baz=83						
X26A	CR and CF Fran	82.51	51	⇓P	P	13 38 28.8	0.0
	baz=83						
P22A	Eagle	82.55	46	⇑P	P	13 38 29.3	+0.3
	baz=83						
R23A	Moffat	82.58	47	⇓P	P	13 38 29.8	+0.6
	baz=83,SNR=5.8						

530A J-C Ranch, Com 82.70 56 ⇓P P 13 38 30.0 +0.2
baz=83
329A Wagon Wheel Ra 82.70 55 ⇑P P 13 38 29.7 0.0
baz=83
J19A Crowheart 82.73 42 ⇑P P 13 38 29.8 0.0
baz=83,SNR=8.8
Y27A Causey 82.73 52 ⇑P P 13 38 29.9 0.0
baz=83
HRY Holter Researc 82.75 38 eP P 13 38 29.6 0.0
20nm,0.6s
128A Castleberry Fa 82.75 53 ⇑P P 13 38 30.2 +0.3
baz=83
S24A Houchin Ranch, 82.78 48 ⇑P P 13 38 31.1 +0.8
baz=83,SNR=8.2
U25A Circle Dot Ran 82.83 49 ⇓P P 13 38 31.1 +0.6
baz=83,SNR=8.7
QIZ Qiongzhong 82.92 292 P P 13 38 32.5 +1.5
QIZ S S 13 48 49.8 -0.6
QIZ pmax pmax
comp=Z,20nm,2.1s
O22A Kremmling 82.95 45 ⇓P P 13 38 31.5 +0.4
baz=83,SNR=7.6
229A Bryant Ranch, 83.02 54 ⇓P P 13 38 31.6 +0.2
baz=83
H18A Shoshone NF, C 83.03 40 ⇑P P 13 38 32.0 +0.6
baz=83,SNR=11
631A Perdido Creek 83.04 57 ⇑P P 13 38 31.7 +0.2
baz=83,SNR=10
V26A Tequesquite Ra 83.04 50 ⇓P P 13 38 31.0 -0.4
baz=83
MSTX Muleshoe 83.06 52 P P 13 38 31.2 -0.4
4.6nm,0.4s
P23A Jefferson 83.09 46 ⇓P P 13 38 32.3 +0.4
baz=83
R24A Sanders Place, 83.11 47 ⇑P P 13 38 32.4 +0.5
baz=83,SNR=7.5
832A Faith Ranch, C 83.12 58 ⇑P P 13 38 31.9 +0.1
baz=83,SNR=5.5
I19A Meeteetse 83.14 41 ⇑P P 13 38 32.3 +0.4
baz=83,SNR=7.7
T25A Trinidad 83.14 49 ⇑P P 13 38 32.5 +0.4
baz=83
129A Stewart Farms, 83.23 54 ⇑P P 13 38 32.6 +0.1
baz=83
732A Laxson Ranch, 83.28 58 ⇓P P 13 38 33.2 +0.5
baz=83
W27A Bowe Ranch, En 83.28 51 ⇑P P 13 38 33.0 +0.3
baz=83
N22A Wattenberg Ran 83.30 45 ⇑P P 13 38 33.3 +0.4
baz=84,SNR=8.0
330A Mertzon 83.31 55 ⇑P P 13 38 32.6 -0.3
baz=83
U26A Atchley Ranch, 83.32 50 ⇑P P 13 38 32.9 -0.1
baz=84,SNR=6.7
DAWY Dawson 83.33 14 eP P 13 38 32.1 -0.1
531A Rocksprings 83.34 56 ⇓P P 13 38 33.3 +0.2
baz=84,SNR=8.7
S25A Robets Cordova 83.35 48 ⇓P P 13 38 33.2 +0.2
baz=84
Q24A Divide 83.39 47 ⇑P P 13 38 33.5 0.0
baz=84
J20A Shoshoni 83.40 42 ⇑P P 13 38 33.6 +0.4
baz=84
O23A Lake Granby, G 83.40 45 ⇓P P 13 38 33.7 +0.2
baz=84,SNR=5.2
ISCO Idaho Springs 83.43 46 ⇓P P 13 38 34.0 +0.3
baz=84
Y28A McKinney Farm, 83.44 52 ⇓P P 13 38 33.3 -0.2
baz=84
H19A Powell 83.45 40 ⇓P P 13 38 34.2 +0.8
baz=84,SNR=16
933A Laredo 83.45 59 ⇓P P 13 38 34.0 +0.4
baz=84
M22A Cedar Creek Ra 83.48 44 ⇑P P 13 38 33.8 +0.1
baz=84
230A Sterling City 83.54 55 ⇑P P 13 38 33.8 -0.3
baz=84
K21A Alcova 83.60 43 ⇑P P 13 38 34.2 -0.1
baz=84
Z29A Hungry Hill Ra 83.60 53 ⇓P P 13 38 34.5 +0.1
baz=84
833A Chaparral WMA, 83.61 58 ⇑P P 13 38 34.0 -0.4
baz=84
I20A Worland 83.65 41 ⇑P P 13 38 34.4 0.0
baz=84,SNR=18
R25A Fountain Ranch 83.66 48 ⇑P P 13 38 34.7 +0.1
baz=84,SNR=7.9
N23A Red Feather La 83.69 45 ⇑P P 13 38 35.2 +0.3
baz=84,SNR=5.4
632A Uvalde 83.72 57 ⇓P P 13 38 35.3 +0.3
baz=84
X28A Dimmitt 83.72 52 ⇓P P 13 38 34.9 -0.1
baz=84
T26A Comanche Natio 83.75 49 ⇑P P 13 38 35.1 -0.1
baz=84
J21A Lysite 83.80 42 ⇓P P 13 38 35.7 +0.3
baz=84,SNR=11
532A Rocksprings 83.85 57 ⇓P P 13 38 35.7 0.0
baz=84
Y29A Porterfield Fa 83.86 53 ⇑P P 13 38 35.8 +0.1
baz=84
331A San Angelo 83.86 55 ⇓P P 13 38 35.2 -0.5
baz=84
L22A Ellis Ranch, M 83.87 44 ⇓P P 13 38 36.2 +0.5
baz=84
130A Snyder 83.92 54 ⇑P P 13 38 36.2 +0.3
baz=84
O24A Longmont 83.95 46 ⇓P P 13 38 36.8 +0.8
baz=84
H20A Greybull 83.98 41 ⇑P P 13 38 35.8 -0.3
baz=84,SNR=6.6
U27A Thompson Grove 84.01 50 ⇓P P 13 38 36.1 -0.3
baz=84,SNR=5.6
Q25A Bedland, Calha 84.01 47 ⇑P P 13 38 36.4 -0.1
baz=84
S26A Kim 84.03 49 ⇑P P 13 38 36.5 0.0
baz=84
F19A Roth Farm, Mol 84.05 39 ⇓P P 13 38 36.4 0.0
baz=84,SNR=19
JCT Junction City 84.06 56 ⇑P P 13 38 36.6 -0.1
baz=84
Z30A Sanderson Ranc 84.06 53 ⇓P P 13 38 36.7 0.0
baz=84,SNR=5.0
X29A Tulia 84.07 52 ⇓P P 13 38 37.1 +0.4
baz=84
K22A Casper 84.09 43 ⇓P P 13 38 37.1 +0.3
baz=84
M23A Laramie 84.09 44 ⇑P P 13 38 37.0 +0.1
baz=84
I21A Big Trails, Te 84.12 42 ⇓P P 13 38 37.0 +0.1
baz=84,SNR=18
231A Bronte 84.19 55 ⇑P P 13 38 36.9 -0.4
baz=84,SNR=9.1
633A Saathoff Ranch 84.19 57 ⇑P P 13 38 37.1 -0.3
baz=84
G20A Bridger 84.20 40 ⇑P P 13 38 37.5 +0.3
baz=84
432A Menard 84.21 56 ⇑P P 13 38 37.4 -0.1
baz=84
834A Tilden 84.23 59 ⇓P P 13 38 38.4 +0.8
baz=84,SNR=5.8
AMTX Amarillo 84.25 52 eP P 13 38 37.0 -0.7
16nm,0.8s
AMTX Amarillo 84.25 52 ⇓P P 13 38 37.8 +0.2
baz=84
P25A Willow Gulch B 84.32 47 ⇓P P 13 38 38.1 +0.1
baz=84,SNR=10
R26A Arlington 84.32 48 ⇑P P 13 38 38.0 0.0
baz=84,SNR=11
T27A Campo 84.34 49 ⇑P P 13 38 38.5 +0.4
baz=84
W29A Amraillo 84.37 51 ⇑P P 13 38 38.2 -0.1
baz=84
N24A Carr 84.38 45 ⇑P P 13 38 39.0 +0.8
baz=84
L23A Garrett 84.39 44 ⇑P P 13 38 38.5 +0.1
baz=84,SNR=9.9
131A Roby 84.40 54 ⇓P P 13 38 38.3 -0.1
baz=84
U28A Mallet 84.44 50 ⇑P P 13 38 38.4 -0.2
baz=85
332A Millersview 84.44 56 ⇓P P 13 38 38.4 -0.2
baz=85
E19A Rath Farm, Rou 84.44 39 ⇑P P 13 38 38.7 +0.3
baz=85,SNR=9.8
J22A Midwest 84.46 42 ⇓P P 13 38 38.7 +0.1
baz=85,SNR=10
F20A Billings 84.51 40 ⇓P P 13 38 38.9 +0.1
baz=85
533A Kerrville 84.53 57 ⇑P P 13 38 39.0 -0.1
baz=85,SNR=6.3
Q26A Hugo 84.53 47 ⇓P P 13 38 39.0 0.0
baz=85
O25A Wiggins 84.60 46 ⇑P P 13 38 39.2 -0.2
baz=85
EGMT Eagleton 84.63 37 eP P 13 38 38.4 -0.8
4.4nm,0.8s
EGMT Eagleton 84.63 37 ⇑P P 13 38 39.3 0.0
baz=85,SNR=5.7
H21A Big Horn, Sher 84.66 41 ⇑P P 13 38 39.7 +0.2
baz=85,SNR=5.3
I22A 9 Mile Ranch, 84.67 42 ⇓P P 13 38 39.9 +0.3
baz=85,SNR=7.3
232A Coleman 84.70 55 ⇓P P 13 38 39.6 -0.3
baz=85
X30A Coker Ranch, T 84.70 52 ⇓P P 13 38 39.7 -0.2
baz=85
M24A Cheyenne 84.70 45 ⇓P P 13 38 39.3 -0.6
baz=85
D19A Cripps Ranch, 84.72 38 ⇓P P 13 38 40.1 +0.3
baz=85,SNR=7.3
K23A Bowen Ranch, D 84.73 43 ⇑P P 13 38 40.0 +0.1
baz=85
433A Art 84.73 56 ⇓P P 13 38 39.8 -0.3
baz=85
R27A Eads 84.78 48 ⇓P P 13 38 40.4 +0.1
baz=85
Z31A Sharp Cattle R 84.83 54 ⇓P P 13 38 40.5 -0.1
baz=85,SNR=9.0
E20A Meyer Farm, Mu 84.86 39 ⇓P P 13 38 41.0 +0.6
baz=85,SNR=9.4
C19A Slack Wire Ran 84.90 38 ⇑P P 13 38 41.1 +0.5
baz=85,SNR=9.5
P26A Davis Ranch, A 84.91 47 ⇑P P 13 38 41.4 +0.5
baz=85
534A Blanco 84.97 57 ⇑P P 13 38 41.2 -0.1
baz=85,SNR=11
ABTX Abilene, Hawle 84.97 54 eP P 13 38 41.4 +0.1
20nm,0.8s
ABTX Abilene, Hawle 84.97 54 ⇓P P 13 38 41.5 +0.2
baz=85,SNR=7.0
Y31A Rekieta Farm, 84.98 53 ⇓P P 13 38 41.5 +0.2
baz=85
333A Richland Sprin 85.02 56 ⇑P P 13 38 41.2 -0.3
baz=85
D20A Manuel Ranch, 85.13 39 ⇑P P 13 38 42.4 +0.6
baz=85,SNR=6.8
B19A Brinkman Farms 85.31 37 ⇓P P 13 38 43.0 +0.4
baz=86
233A Rising Star 85.33 55 ⇓P P 13 38 43.1 0.0
baz=86
Z32A Haskell 85.35 54 ⇑P P 13 38 43.5 +0.4
baz=86,SNR=21
434A Burnet 85.41 57 ⇓P P 13 38 43.3 -0.2
baz=86,SNR=5.3
X31A McDonald Ranch 85.45 52 ⇑P P 13 38 43.7 +0.1
baz=86
C20A Veseth Ranch, 85.51 38 ⇑P P 13 38 43.9 +0.2
baz=86,SNR=5.7
R28A Tribune 85.52 48 ⇑P P 13 38 44.2 +0.2
baz=86,SNR=6.8
E21A Keefer Ranch, 85.52 39 ⇑P P 13 38 44.0 +0.3
baz=86
133A Hamilton Ranch 85.53 55 ⇑P P 13 38 44.2 +0.1
baz=86
J24A Dixon Ranch, L 85.61 43 ⇓P P 13 38 44.5 +0.1
baz=86
334A Lometa 85.62 56 ⇓P P 13 38 44.2 -0.3
baz=86,SNR=6.8
Y32A R-V Farms, Ver 85.63 53 ⇑P P 13 38 44.7 +0.2
baz=86,SNR=6.3
A19A Klindworth Far 85.66 37 ⇑P P 13 38 44.5 +0.1
baz=86,SNR=6.9
W31A Holland Ranch, 85.69 52 ⇓P P 13 38 44.7 -0.1
baz=86
D21A La Casta Ranch 85.81 39 ⇓P P 13 38 46.0 +0.8
baz=86
Z33A Whitaker Ranch 85.90 54 ⇓P P 13 38 46.0 +0.1
baz=86,SNR=7.2
X32A Elmer 85.91 53 ⇓P P 13 38 45.8 -0.1
baz=86,SNR=7.8
234A Clairette 85.94 55 ⇑P P 13 38 45.7 -0.4
baz=86
435B Jarrell 85.95 57 ⇑P P 13 38 46.0 -0.2
baz=86
G23A Biddle 85.96 41 ⇓P P 13 38 46.2 +0.2
baz=86
P28A Saint Francis 86.04 47 ⇑P P 13 38 46.7 +0.1
baz=86
C21A Desert Coulee 86.10 38 ⇑P P 13 38 47.3 +0.7
baz=86
A20A Cobblestone Ra 86.11 37 ⇓P P 13 38 47.0 +0.4
baz=86,SNR=9.5
134A White-Moore Ra 86.18 55 ⇑P P 13 38 47.6 +0.4
baz=86
F23A Volborg 86.18 41 ⇓P P 13 38 47.2 +0.1
baz=86
W32A Sentinel 86.19 52 ⇓P P 13 38 47.2 -0.1
baz=86,SNR=6.2
335A Moody 86.25 56 ⇑P P 13 38 47.5 -0.2
baz=86
Y33A Hilltop Ranch, 86.27 53 ⇓P P 13 38 47.8 +0.2
baz=86
H24A Dirks Ranch, A 86.30 42 ⇑P P 13 38 47.7 0.0
baz=86,SNR=5.8
D22A Cohagen 86.34 39 ⇑P P 13 38 48.2 +0.4
baz=86
RSSD Black Hills 86.36 42 eP P 13 38 47.4 -0.8
2.7nm,0.7s
WHTX Lake Whitney 86.47 56 ⇑P P 13 38 49.1 +0.4
baz=87
I25A Rochford 86.52 43 ⇑P P 13 38 49.0 +0.1
baz=87
X33A Lawton 86.55 53 ⇑P P 13 38 49.0 -0.1
baz=87,SNR=5.5
T31A Randall Ranch, 86.60 50 ⇓P P 13 38 49.6 +0.3
baz=87
135A Vickery Place, 86.71 55 ⇑P P 13 38 50.6 +0.7
baz=87
537A Green Hill Far 86.74 58 ⇓P P 13 38 50.6 +0.5
baz=87
A21A Bergtoll Ranch 86.75 37 ⇓P P 13 38 50.3 +0.6
baz=87
336A Riesel 86.75 56 ⇑P P 13 38 50.2 +0.1
baz=87
W33A Caddo, Fort Co 86.80 52 ⇓P P 13 38 51.0 +0.8
baz=87
U32A Winter Ranch, 86.84 51 ⇑P P 13 38 50.9 +0.4
baz=87
F24A Ekalaka 86.84 41 ⇑P P 13 38 50.9 +0.6
baz=87
S31A Mullinville 86.94 50 ⇓P P 13 38 51.2 +0.3
baz=87
B22A Reddig Ranch S 86.98 38 ⇓P P 13 38 51.3 +0.4
baz=87
Z35A Perchaven, San 87.10 54 ⇑P P 13 38 52.3 +0.6
baz=87
V33A Lossen Ranch, 87.18 52 ⇑P P 13 38 52.3 +0.2
baz=87
C23A Lambert 87.24 39 ⇓P P 13 38 52.4 +0.3
baz=87
A22A Carney Farms, 87.34 38 ⇓P P 13 38 52.0 -0.6
baz=88
337A Centerville 87.50 57 ⇑P P 13 38 54.6 +0.9
baz=88
B23A Brockton 87.65 38 ⇓P P 13 38 54.5 +0.4
baz=88
R32A Long Quarter, 87.80 49 ⇓P P 13 38 55.4 +0.3
baz=88
L29A Maesberg Ranch 87.91 45 ⇑P P 13 38 56.1 +0.5
baz=88
Q32A Meitler Ranch, 88.12 49 ⇓P P 13 38 57.2 +0.7
baz=88
DGMT Dagmar 88.13 38 ⇑P P 13 38 56.9 +0.5
baz=88
238A Jacksonville 88.34 56 ⇓P P 13 38 58.9 +1.2
baz=88
D26A Manning 88.60 40 ⇑P P 13 38 59.3 +0.7
baz=89
K30A Basset 88.73 45 ⇑P P 13 38 59.7 +0.3
baz=89
I29A Vivian Onida 88.78 44 ⇑P P 13 38 58.9 -0.6
baz=89
HHC Hu-ho-hao-te 89.01 313 eP P 13 39 01.0 +0.2
HHC pP pP 13 39 05.8 +1.6
HHC sP sP 13 39 08.3 +3.0
HHC PP PP 13 42 36.8 +6.0
HHC SKS SKSac 13 49 28.0 -2.8
HHC S ScS 13 49 52.0 -2.6
HHC pmax pmax
comp=Z,25nm,0.6s
HHC pmax pmax
comp=Z,290nm,5.8s
HHC LR LR
comp=N,130nm,18.6s
HHC LR LR
comp=E,190nm,19.6s
HHC LR LR
comp=Z,300nm,18.3s
C26A Wahner Farm, P 89.14 40 ⇑P P 13 39 01.6 +0.5
baz=89
F28A McLaughlin 89.16 42 ⇑P P 13 39 01.2 -0.1
baz=89
A26A Wade Farm, Ken 89.61 39 ⇑P P 13 39 03.8 +0.5
baz=90
YKA Yellowknife Ar 90.00 23 P P 13 39 04.4 -0.3
0.9nm,0.6s,baz=241,slow=4.7,SNR=25
KMI Kunming 91.04 296 P P 13 39 10.8 0.0
KMI pmax pmax
comp=Z,8.0nm,0.7s
CD2 Chengdu 91.81 301 eP P 13 39 14.8 +0.8
CD2 pP pP 13 39 19.5 +2.1
CD2 sP sP 13 39 21.8 +3.2
CD2 PP PP 13 42 56.5 +3.2
CD2 SKS SKSac 13 49 46.0 -1.4
CD2 S S 13 50 13.5 -2.1
CD2 sS sS 13 50 21.0 -0.1
CD2 SS SS 13 56 25.0 +1.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.6s
SNAA Sanae 92.99 177 P P 13 39 21.3 +2.5
1.2nm,0.9s,baz=241,slow=3.5
LZH Lanzhou 93.22 306 eP P 13 39 18.3 -2.3
LZH pP pP 13 39 23.8 -0.1
LZH sP sP 13 39 27.2 +2.4
LZH PP PP 13 43 05.3 +0.9
LZH eSKS SKSac 13 49 50.3 -5.0
LZH pmax pmax
comp=Z,12nm,1.0s
LZH pmax pmax
comp=Z,75nm,6.0s
MKAR Makanchi Array 110.81 315 PKiKP PKiKP 13 44 39.1 +0.3
0.2nm,0.5s,baz=197,slow=1.2,SNR=3.1
BVAR Borovoye Array 117.85 322 PKP PKPdf 13 44 51.1 -0.9
0.3nm,0.5s,baz=280,slow=4.2,SNR=3.9
ARCES ARCESS Array B 124.53 352 PKP PKPdf 13 45 02.5 -1.9
5.1nm,1.0s,baz=19,slow=4.1,SNR=7.9
FINES FINESS Array B 131.87 348 PKP PKPdf 13 45 18.6 +0.1
2.7nm,1.1s,baz=50,slow=3.0,SNR=4.3
HFS Hagfors 134.96 355 PKhKP PKPpre 13 45 20.6
1.3nm,0.8s,baz=84,slow=4.5,SNR=2.4
TSUM Tsumeb 144.05 198 PKP PKPdf 13 45 41.0 -1.4
1.5nm,0.8s,baz=170,slow=5.3,SNR=5.6
DPC Dobruska-Polom 144.19 349 ePKP PKPdf 13 45 40.6 -1.0
DPC ex x 13 45 51.7
PRU Pruhonice 144.83 351 ePKP PKPdf 13 45 46.1 +3.5
PRU ex x 13 45 57.3
VRI Vrincioaia 145.19 335 ⇑iP PKPdf 13 45 42.8 -0.6
KMBO Kilima Mbogo 145.62 244 PKPbc PKPab 13 45 45.4 -0.5
0.7nm,0.4s,baz=149,slow=3.2,SNR=3.9
KHC Kasperske Hory 145.80 352 ePKP PKPab 13 45 45.1 -0.1
KHC ex x 13 45 54.7
KHC ex x 13 46 03.7
KHC Kasperske Hory 145.80 352 ePKP PKPab 13 45 45.1 -0.1
MLR Muntele Rosu 145.81 336 ⇑iP PKPdf 13 45 44.3 -0.4
MLR Muntele Rosu 145.81 336 PKPbc PKPab 13 45 45.0 -0.6
1.0nm,0.6s,baz=300,slow=2.3,SNR=14
ISR Istrita 145.88 335 ⇓iP PKPab 13 45 45.7 0.0
DRGR 145.88 340 ⇑iP PKPab 13 45 45.2 -0.4
GERES GERESS Array B 146.07 352 PKPbc PKPab 13 45 45.8 -0.5
3.0nm,0.9s,baz=25,slow=3.5,SNR=15
BR131 Keskin Array S 146.13 321 ePKPbc PKPab 13 45 46.6 -0.3
BRTR Keskin Array B 146.13 321 PKPbc PKPab 13 45 46.2 -0.7
3.1nm,0.8s,baz=100,slow=2.5,SNR=13
VOIR 146.21 336 ⇑iP PKPab 13 45 46.7 -0.3
ARR Arges 146.43 337 ⇑iP PKPab 13 45 48.2 +0.4
LOT Lotru 146.68 338 ⇓iP PKPdf 13 45 46.3 +0.2
GZR Gura Zlata 147.08 339 ⇑iP PKPbc 13 45 49.0 +0.2
BZS Buzias 147.27 340 ⇓iP PKPbc 13 45 49.3 +0.1
KBA Koelnbreinsper 147.84 351 ⇑epPKPdf PKPbc 13 45 50.4 -0.6
1.6nm,0.5s
DAVOX Davos/Dischmat 148.51 356 PKPbc PKPbc 13 45 53.0 +0.2
3.9nm,0.6s,baz=230,slow=7.1,SNR=9.1
MMB Musomiste 149.94 334 ⇑iP PKPbc 13 45 56.4 +0.1

*ISCJB **28** 13:31:05.8±0.2, 37.°47N±0.°02×72.°35E±0.°03, h176km, mb4.3/49, Error ellipse: s-maj=3.4km s-min=2.3km az=152.8*
*MOS **28** 13:31:07.9±0.8, 37.°61N×72.°31E, h190km, mb4.5/36, Error ellipse: s-maj=6.1km s-min=3.8km az=106.2*
*BJI **28** 13:31:07.2, 37.°72N×72.°26E, h171km, mb4.8/4, mb4.4/9*
*IDC **28** 13:31:09.0±0.8, 37.°22N×72.°38E, h207km±7km, mb3.9/21, mb1 4.0/22, mb1mx3.8/34, mbtmp4.4/22, Error ellipse: s-maj=14.5km s-min=10.4km az=162.0*
*NEIC **28** 13:31:10.9±0.4, 37.°74N×72.°41E, mb4.6/16, Error ellipse: s-maj=8.9km s-min=5.3km az=157.0*
*NNC **28** 13:31:11.9±2.5, 37.°93N×72.°17E, h216km±19km, mb3.8, mpv5.1, Error ellipse: s-maj=24.7km s-min=14.3km az=31.0*
ISC 28 13:31:06.8±0.4, 37.°54N±0.°04×72.°29E±0.°04, h176km, n298, σ1.64/317, mb4.3/49, 36C-18D, Tajikistan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSH Kashi 3.50 54 ⇑iP Pn 13 31 58.8 -2.8
KSH S Sn 13 32 35.5 -8.8
KSH smax smax
comp=N,1μm,0.5s
KSH smax smax
comp=E,1μm,0.2s
CEP Cherat 3.72 185 ⇑P Pn 13 32 05.6 +1.2
CEP S Sn 13 32 48.0 -1.3
CHCP Chirah Chowk 3.95 168 P Pn 13 32 09.3 +2.1
KBL Kabul 3.98 222 ePN Pn 13 32 08.7 +0.9
KBL Kabul 3.98 222 ePn Pn 13 32 08.7 +0.9
KBL eSn Sn 13 32 55.0 -0.3
AML Almayashu 4.71 13 P Pn 13 32 18.8 +1.5
SNR=1397
AML Almayashu 4.71 13 iPN Pn 13 32 18.8 +1.5
UCH Uchtor 4.99 19 P Pn 13 32 22.5 +1.6
SNR=301
UCH Uchtor 4.99 19 iPN Pn 13 32 22.5 +1.6
KZA Kyzart 5.08 26 P Pn 13 32 23.0 +1.0
SNR=151
KZA Kyzart 5.08 26 iPN Pn 13 32 23.0 +1.0
EKS2 Erkin-Say 5.25 12 P Pn 13 32 25.7 +1.8
SNR=172
EKS2 Erkin-Say 5.25 12 ePN Pn 13 32 25.5 +1.6
EKS2 pmax pmax
comp=Z,90nm,0.4s
EKS2 Erkin-Say 5.25 12 eP Pn 13 32 25.5 +1.6
comp=Z,90nm,0.4s
EKS2 eS Sn 13 33 18.4 -6.1
AAK Ala-Archa 5.37 18 ⇑P Pn 13 32 27.5 +1.9
comp=Z,236nm,0.5s
AAK ⇓S Sn 13 33 27.9 +0.4
comp=Z,117nm,0.6s
AAK Ala-Archa 5.37 18 P Pn 13 32 27.2 +1.6
SNR=691
AAK Ala-Archa 5.37 18 iPN Pn 13 32 27.1 +1.6
AAK Ala-Archa 5.37 18 P Pn 13 32 26.9 +1.4
comp=Z,144nm,0.3s,baz=167,slow=6.2,SNR=1419
AAK S Sn 13 33 27.8 +0.4
comp=Z,23nm,0.3s,baz=323,slow=21,SNR=14
KBK Karagaybulak 5.50 21 P Pn 13 32 29.2 +1.8
SNR=75
KBK Karagaybulak 5.50 21 iPN Pn 13 32 29.2 +1.8
FRU Bishkek 5.58 18 iPN Pn 13 32 30.0 +1.8
FRU e 13 33 33.0
FRU pmax pmax
comp=Z,130nm,2.0s
ULHL Ulahol 5.60 32 P Pn 13 32 29.8 +1.2
SNR=114
ULHL Ulahol 5.60 32 iPN Pn 13 32 29.8 +1.2
SARP Sargodha 5.61 177 P Pn 13 32 28.4 -0.3
KK31 Karatay Array 5.72 347 ⇑P Pn 13 32 31.4 +1.3

comp=Z,31nm,0.3s,baz=158,slow=11,SNR=1759
KK31 ⇑S Sn 13 33 33.0 -2.6
comp=Z,600nm,0.4s
KK31 Karatay Array 5.72 347 PN Pn 13 32 31.3 +1.3
KK31 pmax pmax
comp=Z,79nm,0.3s
KKAR Karatay Array 5.72 347 *e*PN Pn 13 32 31.2 +1.1
KKAR pmax pmax
comp=Z,85nm,0.3s
KKAR Karatay Array 5.72 347 *e*P Pn 13 32 31.2 +1.1
comp=Z,85nm,0.3s
KKAR *e*S Sn 13 33 32.3 -3.3
CHMS Chumysh 5.77 18 P Pn 13 32 32.3 +1.6
SNR=161
CHMS Chumysh 5.77 18 *i* PN Pn 13 32 32.3 +1.6
DLH Dalhousie 5.83 148 *e*P Pn 13 32 32.0 +0.3
DLH *e*S Sn 13 33 35.0 -3.4
TKM2 Tokmak 2 5.94 24 ⇑P Pn 13 32 34.5 +1.3
comp=Z,64nm,0.5s
TKM2 Tokmak 2 5.94 24 P Pn 13 32 34.5 +1.3
SNR=302
TKM2 Tokmak 2 5.94 24 *i* PN Pn 13 32 34.4 +1.3
TKM2 Tokmak 2 5.94 24 *e*P Pn 13 32 34.5 +1.3
comp=Z,100nm,0.4s
USP Ospenovka 5.97 16 P Pn 13 32 34.3 +0.9
SNR=94
USP Ospenovka 5.97 16 *i* PN Pn 13 32 34.2 +0.9
DHRM DHARAMSHALA 6.22 147 *e*P Pn 13 32 37.3 +0.4
DHRM *e*S Sn 13 33 44.0 -3.7
PONG Pong 6.33 151 *e*P Pn 13 32 40.0 +1.9
PONG *e*S Sn 13 33 45.5 -4.5
KNDC Almaty 6.70 31 ⇑P Pn 13 32 45.3 +2.3
comp=Z,221nm,0.6s
BHK Bhakra 6.99 150 *e*P Pn 13 32 46.0 -0.9
BHK *e*S Sn 13 34 02.6 -3.2
SDNR Sundarnagar 7.15 146 *e*P Pn 13 32 48.0 -1.0
SDNR *e*x Sn 13 34 01.0 -8.6
SMLA Simla 7.56 146 *e*P Pn 13 32 53.9 -0.4
SMLA *e*S Sn 13 34 13.9 -5.3
PDGK Podgornoye 7.97 41 ⇑P Pn 13 32 60.0 +0.4
PDGK Podgornoye 7.97 41 *i* PN Pn 13 33 00.0 +0.4
DDI Dehra Dun 8.64 145 *e*P Pn 13 33 08.6 -0.1
DDI AMB AMB 13 33 08.7
comp=Z,132nm,0.7s
DDI *e*S Sn 13 34 39.7 -5.6
NDI New Delhi 9.75 154 *e*P Pn 13 33 27.5 +4.4
NDI *e*S4 13 35 02.0
LGTI Lohaghat 10.44 138 *e*P9 Pn 13 33 27.5 -4.7
LGTI *e*S Sn 13 35 14.2 -14
OTUK Ortayu 10.70 0 ⇑P Pn 13 33 35.3 -0.1
AJM Ajmer 11.20 169 *e*P9 Pn 13 33 41.0 -1.2
AJM *e*S Sn 13 35 37.0 -10
GEYT Alibeck 11.23 276 P Pn 13 33 41.2 -1.2
comp=Z,6.0nm,0.3s,baz=117,slow=9.1,SNR=46
GEYT S Sn 13 35 42.6 -4.5
comp=Z,12nm,0.3s,baz=102,slow=20,SNR=11
MK31 Makanchi Array 11.85 36 ⇑P Pn 13 33 50.2 -0.1
comp=Z,4.6nm,0.5s
MK31 Makanchi Array 11.85 36 P Pn 13 33 50.2 -0.1
MK31 pmax pmax
comp=Z,6.0nm,0.5s
MK31 Makanchi Array 11.85 36 *e*P Pn 13 33 50.0 -0.3
MKAR Makanchi Array 11.85 36 P Pn 13 33 50.4 +0.1
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 11.85 36 P Pn 13 33 50.4 +0.1
comp=Z,0.9nm,0.3s,baz=219,slow=14,SNR=72
DANN Dangsing 13.28 130 *e*P Pn 13 34 06.9 -2.1
comp=Z,347nm,0.4s
KOLN Koldanda 13.61 132 *e*P Pn 13 34 10.9 -2.2
comp=Z,78nm,0.3s
KURBB Kurchatov Arra 13.82 17 ⇓P Pn 13 34 13.6 -1.6
comp=Z,13nm,0.6s
KURK Kurchatov 13.93 17 ⇑P Pn 13 34 14.0 -2.5
comp=Z,2.9nm,0.6s
KURK Kurchatov 13.93 17 *e*P Pn 13 34 14.6 -2.0
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 13.93 17 *e*P Pn 13 34 14.6 -2.0
comp=Z,4.0nm,0.8s
GKN Gorkha 14.07 129 *e*P Pn 13 34 16.8 -1.9
comp=Z,236nm,0.4s
KKN Kakani 14.62 128 *e*P Pn 13 34 23.5 -2.1
comp=Z,195nm,0.6s
DMN Daman 14.64 129 *e*P Pn 13 34 23.8 -2.1
comp=Z,104nm,0.4s
AB31 Akbulak array 14.73 327 ⇓P Pn 13 34 26.2 -0.3
comp=Z,31nm,0.5s
AB31 ⇑S Sn 13 37 00.3 -10
comp=Z,9.8nm,0.3s,baz=148,slow=21,SNR=17
AB31 Akbulak array 14.73 327 P Pn 13 34 26.2 -0.3
AB31 pmax pmax
comp=Z,43nm,0.4s
ABKAR Akbulak array 14.73 327 *e*P Pn 13 34 26.5 -0.1
comp=Z,53nm,0.5s
ABKAR *e*S Sn 13 36 57.3 -13
PKIN Phulchoki 14.84 128 *e*P Pn 13 34 27.0 -1.4
comp=Z,100nm,0.4s
PKI Pulchoki 14.86 128 *e*P Pn 13 34 27.0 -1.6
comp=Z,130nm,0.5s
BHPL Bhopal 14.92 161 *e*x Pn 13 34 26.8 -2.4
comp=Z,14nm,1.2s
BHPL *e*x x 13 37 04.5
GUN Gumba 14.92 126 *e*P Pn 13 34 27.8 -1.6
comp=Z,202nm,0.3s
VOSK Vostochnaya 15.21 357 ⇑P Pn 13 34 32.0 -0.5
comp=Z,2.8nm,0.4s
JIRN Jiri 15.29 126 *e*P Pn 13 34 33.0 -1.0
comp=Z,428nm,0.3s
BVA0 Borovoye Array 15.55 356 ⇓P Pn 13 34 36.2 -0.4
comp=Z,6.5nm,0.7s,baz=160,slow=10,SNR=27
BVA0 ⇑S Sn 13 37 24.9 -5.1
comp=Z,6.2nm,0.9s,baz=167,slow=24,SNR=5.9
BVA0 Borovoye Array 15.55 356 *i* P Pn 13 34 36.1 -0.4
BVA0 pmax pmax
comp=Z,7.0nm,0.7s
BVAR Borovoye Array 15.55 356 P Pn 13 34 36.9 -0.1
BVAR S Sn 13 37 27.8 -2.2
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BVAR smax smax
comp=N,1.0nm,0.3s
BVAR Borovoye Array 15.55 356 P P 13 34 36.9 -0.1
comp=N,1.5nm,0.3s,baz=162,slow=12,SNR=31
BVAR S Sn 13 37 27.8 -2.2
comp=N,1.0nm,0.3s,baz=166,slow=24,SNR=7.2
BRVK Borovoye 15.59 355 ⇑P Pn 13 34 35.9 -1.1
comp=N,24nm,1.4s
BRVK ⇑S S 13 37 26.1 -4.8
comp=N,5.0nm,0.5s
BRVK Borovoye 15.59 355 *d i* P Pn 13 34 36.2 -0.8
BRVK Borovoye 15.59 355 *e*P Pn 13 34 35.6 -1.4
comp=N,5.9nm,0.5s
RAMN Ramite 16.04 127 *e*P P 13 34 41.5 -1.6
comp=N,219nm,0.6s
AKTO Aktyubinsk 16.45 326 ⇑P Pn 13 34 48.1 +0.7
comp=N,37nm,0.5s
AKTO ⇑S S 13 37 42.4 -6.7
comp=N,17nm,0.6s
AKTO Aktyubinsk 16.45 326 P Pn 13 34 48.3 +0.8
AKTO S S 13 37 44.4 -4.6
AKTO pmax pmax
comp=Z,14nm,0.3s
AKTO smax smax
comp=N,3.0nm,0.3s
AKTO Aktyubinsk 16.45 326 P Pn 13 34 48.3 +0.8
comp=N,14nm,0.3s,baz=120,slow=11,SNR=76
AKTO S S 13 37 44.4 -4.6
comp=N,2.5nm,0.3s,baz=357,slow=20,SNR=10
TAPN Taplejung 16.49 124 *e*P P 13 34 47.7 -0.3
comp=N,54nm,0.3s
ODAN Odare 16.61 125 *e*P P 13 34 48.7 -0.6
comp=N,119nm,0.5s
LSA Lhasa 17.53 111 *e*P Pn 13 35 01.7 +0.7
LSA pmax pmax
comp=Z,11nm,0.6s
LSA Lhasa 17.53 111 *e*P Pn 13 35 01.7 +0.7
comp=Z,11nm,0.6s
ZAA0 Zalesovo Array 18.55 24 *e*P Pn 13 35 11.0 +1.1
ZALV Zalesovo Beam 18.55 24 P Pn 13 35 11.3 -1.0
comp=Z,4.9nm,0.3s,baz=221,slow=10,SNR=86
ZALV S Sn 13 38 38.6 -2.8
comp=Z,0.2nm,0.3s,baz=218,slow=18,SNR=5.4
NVS Novosibirsk 18.85 20 ⇑*i*P P 13 35 13.7 +0.5
NVS *i* S S 13 38 35.7 -2.3
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,5.0nm,0.7s
NVS pmax pmax
comp=Z,10.0nm,0.7s
NVS smax smax
comp=N,7.0nm,0.9s
NVS smax smax
comp=E,16nm,1.1s
HVS Khovu-Aksy 20.38 41 *e*P P 13 35 30.6 +0.8
HYB Hyderabad 20.79 163 *i* P P 13 35 33.5 -0.8
HYB *e*S S 13 39 18.0 +1.4
SVE Sverdlovsk 20.80 342 ⇓*i*P P 13 35 35.5 +1.4
SVE pmax pmax
comp=Z,29nm,0.6s
GNI Garni 21.58 285 P P 13 35 44.2 +1.4
GNI pmax pmax
comp=Z,10.0nm,0.5s
GNI Garni 21.58 285 P P 13 35 44.2 +1.4
comp=Z,9.8nm,0.5s,baz=215,slow=12,SNR=3.7
GTA Gaotai 21.60 77 *e*P P 13 35 46.0 +3.0
GTA pmax pmax
comp=Z,7.0nm,0.9s
ZEI Tsey 22.26 293 *e*P P 13 35 51.5 +1.9
ZEI pmax pmax
comp=Z,6.0nm,0.7s
KBZ Khabaz 23.07 295 P P 13 35 58.2 +1.5
KBZ pmax pmax
comp=Z,6.0nm,0.7s
KBZ Khabaz 23.07 295 P P 13 35 58.2 +1.5
comp=Z,5.7nm,0.7s,baz=119,slow=8.9,SNR=19
KIV Kislovodsk 23.25 295 *e*P P 13 36 00.1 +1.7
KIV pmax pmax
comp=Z,10.0nm,1.0s
MOY Mondy 24.65 46 *e*P P 13 36 16.2 +5.1
TLY Talaya 26.18 47 *e*P P 13 36 26.6 +1.8
SONM Songino Array 26.90 57 P P 13 36 32.7 +1.2
SONM *PP pP 13 37 15.1 +7.6
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 26.90 57 P P 13 36 32.7 +1.2
comp=Z,0.7nm,0.6s,baz=263,slow=10.0,SNR=3.2
SONM pP pP 13 37 15.1 +7.6
comp=Z,1.3nm,0.7s,baz=262,slow=10,SNR=5.0
VSR Storozhevoye 27.08 311 ⇓*i*P P 13 36 33.6 +0.8
VSR pmax pmax
comp=Z,6.0nm,0.7s
PRGR Permogore 29.27 334 P P 13 36 47.8 -4.3
PRGR pmax pmax
comp=Z,15nm,0.9s
OBN Obninsk 29.85 318 *c i*P P 13 36 58.3 +1.1
OBN pmax pmax
comp=Z,12nm,1.0s
OBN Obninsk 29.85 318 P P 13 36 58.5 +1.3
comp=Z,18nm,0.5s,baz=352,slow=21,SNR=5.5
BRTR Keskin Array B 30.12 286 P P 13 37 01.9 +1.8
BRTR pmax pmax
comp=Z,3.0nm,0.5s
BRTR Keskin Array B 30.12 286 P P 13 37 01.9 +1.8
comp=Z,3.2nm,0.5s,baz=100,slow=6.8,SNR=27
KLMR Klimovskoe 31.10 329 *e*P P 13 37 07.7 -0.5
KLMR pmax pmax
comp=Z,9.0nm,1.1s
AKASG Malin Array Be 33.12 307 P P 13 37 26.5 +0.6
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 33.12 307 P P 13 37 26.5 +0.6
comp=Z,3.3nm,0.5s,baz=79,slow=7.6,SNR=11
KIEV Kiev 33.13 307 *e*P P 13 37 26.7 +0.7
CFR Carcaliu 33.66 297 ⇑P P 13 37 32.3 +1.6
CFR Carcaliu 33.66 297 ⇑*i*P P 13 37 32.3 +1.6
VRI Vrincioaia 34.62 299 ⇓P P 13 37 41.8 +2.8
VRI Vrincioaia 34.62 299 ⇓*i*P P 13 37 41.8 +2.8
TESR Tescani 34.65 300 ⇓*i*P P 13 37 41.0 +1.8
PLOR Plostina 34.68 299 ⇑P P 13 37 42.0 +2.5
PLOR Plostina 34.68 299 ⇑*i*P P 13 37 42.0 +2.5
BAPR Bucharest-Chil 35.15 296 ⇑*i*P P 13 37 50.7 +7.2
MLR Muntele Rosu 35.19 298 P P 13 37 46.8 +2.8
MLR pmax pmax
comp=Z,2.0nm,0.8s
MLR Muntele Rosu 35.19 298 ⇓*i*P P 13 37 47.0 +3.0
MLR Muntele Rosu 35.19 298 P P 13 37 46.8 +2.8
comp=Z,1.9nm,0.8s,baz=183,slow=2.4,SNR=17
JOF Joensuu 35.50 329 *e*P P 13 37 46.6 +0.4
JOF pmax pmax
comp=Z,11nm,0.5s
JOF Joensuu 35.50 329 *e*p P 13 37 46.6 +0.4
comp=Z,11nm,0.5s
BURAR Bucovina Array 35.60 302 ⇑P P 13 37 49.3 +1.8
BURAR Bucovina Array 35.60 302 ⇑*i*P P 13 37 49.3 +1.8
BUR08 Bucovina Ar. S 35.61 302 *e*P P 13 37 48.9 +1.3
ARR Arges 36.12 298 ⇑*i*P P 13 37 53.5 +1.6
LOT Lotru 36.72 298 ⇓*i*P P 13 37 59.3 +2.3
FINES FINESS Array B 37.21 325 P P 13 38 01.9 +1.1
comp=Z,5.0nm,0.5s,baz=124,slow=10,SNR=87
FINES PP PP 13 39 27.6 -1.5
comp=Z,2.1nm,0.6s,baz=112,slow=11,SNR=4.3
MMB Musomiste 37.26 292 ⇑P P 13 38 03.1 +1.6
MMB Musomiste 37.26 292 ⇑*i*P P 13 38 03.1 +1.6
KAF Kangasniemi 37.33 326 *e*P P 13 38 02.2 +0.5
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 37.33 326 *e*p P 13 38 02.2 +0.5
comp=Z,2.2nm,0.5s
DRGR 37.35 300 ⇓P P 13 38 04.3 +2.1
DRGR 37.35 300 ⇓*i*P P 13 38 04.3 +2.1
TRPA Tarpa 37.39 303 ⇓*i*P P 13 38 05.0 +2.6
UZH Uzhgorod 37.53 303 *e*P P 13 38 02.9 -0.7
KOLS Kolonicke sedl 37.54 304 *e*P P 13 38 05.9 +2.2
KOLS Kolonicke sedl 37.54 304 *e*P P 13 38 05.9 +2.2
CRVS Cervenica-Dubn 38.08 304 *e*P P 13 38 10.1 +1.8
CRVS Cervenica-Dubn 38.08 304 *e*P P 13 38 10.0 +1.8
STHS Stebnicka Huta 38.20 305 *e*P P 13 38 10.1 +0.8
STHS Stebnicka Huta 38.20 305 *e*P P 13 38 10.1 +0.8
BZS Buzias 38.21 299 ⇓P P 13 38 10.8 +1.4
BZS Buzias 38.21 299 ⇓*i*P P 13 38 10.8 +1.4
NIE Niedzica 38.81 305 *e*P P 13 38 16.8 +2.5
NIE Niedzica 38.81 305 *e*P P 13 38 16.8 +2.5
OJC Ojcow 39.11 306 *e*P P 13 38 17.8 +1.0
OJC Ojcow 39.11 306 *e*P P 13 38 17.8 +1.0
VYHS Vyhne 39.84 303 *e*P P 13 38 24.1 +1.3
VYHS Vyhne 39.84 303 *e*P P 13 38 24.1 +1.3
OKC Ostrava-Krasne 40.19 306 *e*P P 13 38 31.2 +5.5
OKC Ostrava-Krasne 40.19 306 *e*P P 13 38 31.2 +5.5
KEV Kevo 40.23 337 *e*P P 13 38 25.8 +0.1
KEV pmax pmax
comp=Z,2.0nm,0.3s
KEV Kevo 40.23 337 *e*p P 13 38 25.8 +0.1
comp=Z,1.7nm,0.3s
ARCES ARCESS Array B 40.59 337 P P 13 38 30.2 +1.5
ARCES pmax pmax
comp=Z,11nm,0.5s
ARCES ARCESS Array B 40.59 337 P P 13 38 30.2 +1.5
comp=Z,11nm,0.5s,baz=112,slow=8.0,SNR=99
VRAC Vranov 41.24 305 P P 13 38 36.1 +1.8
VRAC pmax pmax
comp=Z,4.0nm,0.7s
VRAC Vranov 41.24 305 P P 13 38 36.1 +1.8
comp=Z,4.4nm,0.7s,baz=53,slow=9.1,SNR=5.5
DPC Dobruska-Polom 41.33 307 *e*P P 13 38 37.1 +2.0
DPC Dobruska-Polom 41.33 307 *e*P P 13 38 37.1 +2.0
UPC Upice 41.52 307 *e*P P 13 38 38.3 +1.7
UPC Upice 41.52 307 *e*P P 13 38 38.3 +1.7
CONA Conrad Observa 41.87 303 ⇑*i*P P 13 38 41.3 +1.7
comp=Z,6.9nm,0.9s
BSD Bornholm Skovb 42.03 314 *i* P P 13 38 41.4 +0.8
BSD pmax pmax
comp=Z,2.0nm,0.5s
BSD Bornholm Skovb 42.03 314 *i* P P 13 38 41.4 +0.8
comp=Z,1.9nm,0.4s
PRU Pruhonice 42.51 306 *e*P P 13 38 46.2 +1.7
PRU Pruhonice 42.51 306 *e*P P 13 38 46.2 +1.7
SOKA Soboth 42.61 301 ⇑*i*P P 13 38 47.3 +1.8
comp=Z,6.2nm,1.2s
BRG Berggiesshubel 42.80 307 ⇑*i*P P 13 38 48.5 +1.6
comp=Z,8.5nm,0.6s
BRG Berggiesshubel 42.80 307 ⇑*i*P P 13 38 48.5 +1.6
BRG pmax pmax
comp=Z,9.0nm,0.6s
HFS Hagfors 42.90 321 P P 13 38 48.4 +0.9
HFS pmax pmax
comp=Z,14nm,0.5s
HFS Hagfors 42.90 321 P P 13 38 48.4 +0.9
comp=Z,14nm,0.5s,baz=98,slow=11,SNR=91
MOA Molln 42.95 303 ⇑*i*P P 13 38 49.5 +1.3
comp=Z,2.6nm,0.7s,SNR=4.1
GERES GERESS Array B 43.18 305 P P 13 38 51.8 +1.7
GERES 13 40 34.3
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 43.18 305 P P 13 38 51.8 +1.7
comp=Z,0.6nm,0.4s,baz=82,slow=7.0,SNR=14
GERES PP PP 13 40 34.3 +0.4
comp=Z,1.0nm,0.9s,baz=66,slow=7.5,SNR=5.8
KHC Kasperske Hory 43.23 305 *e*P P 13 38 52.2 +1.8
KHC Kasperske Hory 43.23 305 *e*P P 13 38 52.2 +1.8
CLL Collm 43.35 308 *e*P P 13 38 52.0 +0.7
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 43.35 308 *e*P P 13 38 52.0 +0.7
comp=Z,5.0nm,0.8s
NB2 NORSAR Subarra 44.18 322 P P 13 38 58.4 +0.5
comp=Z,7.9nm,0.5s,baz=92,slow=7.9
NOA NORSAR Array B 44.18 322 P P 13 38 58.4 +0.5
NOA pmax pmax
comp=Z,7.0nm,0.5s
NOA NORSAR Array B 44.18 322 P P 13 38 58.4 +0.5
comp=Z,7.1nm,0.5s,baz=94,slow=7.7,SNR=16
NAO01 NORSAR Array S 44.33 322 *e*P P 13 38 58.9 -0.1
TIXI Tiksi 44.43 22 ⇑*i*P P 13 39 00.0 +0.4
TIXI pmax pmax
comp=Z,3.0nm,0.9s
KONO Kongsberg 44.94 320 *e*P P 13 39 04.4 +0.6
KONO Kongsberg 44.94 320 *e*P P 13 39 04.4 +0.6
VLA Vladivostok 44.95 63 *e*P P 13 39 06.2 +2.1
VLA pmax pmax
comp=Z,21nm,0.9s
DAVOX Davos/Dischmat 46.07 302 P P 13 39 13.9 +0.8
DAVOX pmax pmax
comp=Z,6.0nm,0.5s
DAVOX Davos/Dischmat 46.07 302 P P 13 39 13.9 +0.8
comp=Z,5.5nm,0.5s,baz=119,slow=9.3,SNR=14
SPITS Spitsbergen Ar 46.73 346 P P 13 39 18.8 +1.3
SPITS pmax pmax
comp=Z,4.0nm,0.6s
SPITS Spitsbergen Ar 46.73 346 P P 13 39 18.8 +1.3
comp=Z,3.8nm,0.6s,baz=118,slow=10,SNR=16
PGF Pioggiola 47.72 297 *e*P P 13 39 27.0 +1.2
PGF Pioggiola 47.72 297 *e*P P 13 39 27.0 +1.2
PGF Pioggiola 47.72 297 *e*P P 13 39 27.0 +1.2
HINF Hinteralfeld 47.86 304 *e*P P 13 39 27.6 +0.8
comp=Z,6.6nm,0.5s
HINF Hinteralfeld 47.86 304 *e*P P 13 39 27.6 +0.8
HINF pmax pmax
comp=Z,7.0nm,0.5s
HINF Hinteralfeld 47.86 304 *e*P P 13 39 27.6 +0.8
comp=Z,6.6nm,0.5s
HAU Haudompre 48.15 305 *e*P P 13 39 29.8 +0.8
HAU Haudompre 48.15 305 *e*P P 13 39 29.8 +0.8
HAU Haudompre 48.15 305 *e*P P 13 39 29.8 +0.8
LPG La Plagne 48.49 301 *e*P P 13 39 32.9 +1.0
LPG La Plagne 48.49 301 *e*P P 13 39 32.9 +1.0
LPG La Plagne 48.49 301 *e*P P 13 39 32.9 +1.0
LPL La Plagne 48.49 301 *e*P P 13 39 33.0 +1.1
LPL La Plagne 48.49 301 *e*P P 13 39 33.0 +1.1
LPL La Plagne 48.49 301 *e*P P 13 39 33.0 +1.1
CABF La Chapelle 48.65 303 *e*P P 13 39 34.2 +1.3
CABF La Chapelle 48.65 303 *e*P P 13 39 34.2 +1.3
CABF La Chapelle 48.65 303 *e*P P 13 39 34.2 +1.3
MBDF Montbardon 48.67 300 *e*P P 13 39 33.8 +0.6
MBDF Montbardon 48.67 300 *e*P P 13 39 33.8 +0.6
MBDF Montbardon 48.67 300 *e*P P 13 39 33.8 +0.6
MEZF Maizieres J'vi 48.88 306 *e*P P 13 39 36.0 +1.5
MEZF Maizieres J'vi 48.88 306 *e*P P 13 39 36.0 +1.5
BAIF Baives 49.07 308 *e*P P 13 39 37.0 +1.1
BAIF Baives 49.07 308 *e*P P 13 39 37.0 +1.1
BAIF Baives 49.07 308 *e*P P 13 39 37.0 +1.1
FRF La Foret Royal 49.08 299 *e*P P 13 39 36.9 +0.8
comp=Z,45nm,1.0s
FRF La Foret Royal 49.08 299 *e*P P 13 39 36.9 +0.8
FRF pmax pmax
comp=Z,45nm,1.0s
FRF La Foret Royal 49.08 299 *e*P P 13 39 36.9 +0.8
comp=Z,45nm,1.0s
KEST Kesra 49.69 288 P P 13 39 41.5 +0.5
comp=Z,0.8nm,0.5s,baz=102,slow=6.6,SNR=4.2
LOR Lormes 49.96 304 *e*P P 13 39 43.1 +0.4
comp=Z,6.5nm,0.7s
LOR Lormes 49.96 304 *e*P P 13 39 43.1 +0.4
LOR pmax pmax
comp=Z,7.0nm,0.6s
LOR Lormes 49.96 304 *e*P P 13 39 43.1 +0.4
comp=Z,6.5nm,0.6s
VIVF Saint-Julien-l 50.08 301 *e*P P 13 39 44.6 +1.0
comp=Z,12nm,0.7s
VIVF Saint-Julien-l 50.08 301 *e*P P 13 39 44.6 +1.0
VIVF pmax pmax
comp=Z,12nm,0.7s
VIVF Saint-Julien-l 50.08 301 *e*P P 13 39 44.6 +1.0
comp=Z,12nm,0.7s
SMF Signal de Mont 50.14 303 *e*P P 13 39 44.8 +0.7
comp=Z,30nm,0.9s
SMF Signal de Mont 50.14 303 *e*P P 13 39 44.8 +0.7
SMF pmax pmax
comp=Z,30nm,0.9s
SMF Signal de Mont 50.14 303 *e*P P 13 39 44.8 +0.7
comp=Z,30nm,0.9s
SSF Saint Saulge 50.25 304 *e*P P 13 39 45.5 +0.6
SSF Saint Saulge 50.25 304 *e*P P 13 39 45.5 +0.6
SSF Saint Saulge 50.25 304 *e*P P 13 39 45.5 +0.6
AVF Avril sur Loir 50.42 304 *e*P P 13 39 47.0 +0.8
comp=Z,16nm,0.6s
AVF Avril sur Loir 50.42 304 *e*P P 13 39 47.0 +0.8
AVF pmax pmax
comp=Z,16nm,0.6s
AVF Avril sur Loir 50.42 304 *e*P P 13 39 47.0 +0.8
comp=Z,16nm,0.6s
BGF Bois d'Agland 50.82 304 *e*P P 13 39 50.5 +1.3
BGF Bois d'Agland 50.82 304 *e*P P 13 39 50.5 +1.3
BGF Bois d'Agland 50.82 304 *e*P P 13 39 50.5 +1.3
LASF Ste Croix 50.86 300 *e*P P 13 39 50.3 +0.8
LASF Ste Croix 50.86 300 *e*P P 13 39 50.3 +0.8
TCF Toulx Ste Croi 51.32 303 *e*P P 13 39 54.0 +1.1
TCF Toulx Ste Croi 51.32 303 *e*P P 13 39 54.0 +1.1
TCF Toulx Ste Croi 51.32 303 *e*P P 13 39 54.0 +1.1
CAF Calviac 51.83 302 *e*P P 13 39 57.5 +0.8
CAF Calviac 51.83 302 *e*P P 13 39 57.5 +0.8
CAF Calviac 51.83 302 *e*P P 13 39 57.5 +0.8
LDF La Druitiere 52.18 307 *e*P P 13 39 59.7 +0.5
LDF La Druitiere 52.18 307 *e*P P 13 39 59.7 +0.5
LDF La Druitiere 52.18 307 *e*P P 13 39 59.7 +0.5
MTLF Montolieu 52.22 300 *e*P P 13 40 00.7 +1.1
MTLF Montolieu 52.22 300 *e*P P 13 40 00.7 +1.1
MTLF Montolieu 52.22 300 *e*P P 13 40 00.7 +1.1
FLN La Foliniere 52.36 307 *e*P P 13 40 01.1 +0.6
FLN La Foliniere 52.36 307 *e*P P 13 40 01.1 +0.6
FLN La Foliniere 52.36 307 *e*P P 13 40 01.1 +0.6
GRR Gorron 52.71 307 *e*P P 13 40 03.5 +0.4
comp=Z,22nm,0.8s
GRR Gorron 52.71 307 *e*P P 13 40 03.5 +0.4
GRR pmax pmax
comp=Z,22nm,0.8s
GRR Gorron 52.71 307 *e*P P 13 40 03.5 +0.4
comp=Z,22nm,0.8s
LFF La Frestale 52.71 302 *e*P P 13 40 04.4 +1.2
LFF La Frestale 52.71 302 *e*P P 13 40 04.4 +1.2
LFF La Frestale 52.71 302 *e*P P 13 40 04.4 +1.2
MFF Saint Martin d 52.78 304 *e*P P 13 40 04.9 +1.2
MFF Saint Martin d 52.78 304 *e*P P 13 40 04.9 +1.2
MFF Saint Martin d 52.78 304 *e*P P 13 40 04.9 +1.2
SGMF Saint Gilles 53.83 307 *e*P P 13 40 11.9 +0.7
SGMF Saint Gilles 53.83 307 *e*P P 13 40 11.9 +0.7
SGMF Saint Gilles 53.83 307 *e*P P 13 40 11.9 +0.7
ROSF Rostrenen 54.26 307 *e*P P 13 40 14.9 +0.6
ROSF Rostrenen 54.26 307 *e*P P 13 40 14.9 +0.6
ROSF Rostrenen 54.26 307 *e*P P 13 40 14.9 +0.6
ETSF Etsaut 54.28 300 *e*P P 13 40 15.9 +1.2
comp=Z,9.7nm,0.6s
ETSF Etsaut 54.28 300 *e*P P 13 40 15.9 +1.2
ETSF pmax pmax
comp=Z,10.0nm,0.6s
ETSF Etsaut 54.28 300 *e*P P 13 40 15.9 +1.2
comp=Z,9.7nm,0.6s
QUIF Quistinic 54.32 307 *e*P P 13 40 15.3 +0.5
QUIF Quistinic 54.32 307 *e*P P 13 40 15.3 +0.5
QUIF Quistinic 54.32 307 *e*P P 13 40 15.3 +0.5

BILL Bilibino 57.22 27 eP P 13 40 36.6 +1.5
BILL pmax pmax
comp=Z,2.0nm,1.0s
ESDC Sonseca Array 57.89 298 P P 13 40 41.0 +0.7
comp=Z,2.7nm,0.5s,baz=56,slow=7.3,SNR=24
TORD Torodi Ar. Bea 66.77 269 P P 13 41 38.8 -0.7
comp=Z,2.6nm,0.4s,baz=47,slow=5.6,SNR=78
COLA College 73.19 17⇓iP P 13 42 18.9 +1.1
COLA pmax pmax
comp=Z,17nm,0.9s
ILAR Eielson Array 73.50 16 P P 13 42 19.7 0.0
ILAR *PP pP 13 43 09.3 +7.3
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,1.2s
ILAR Eielson Array 73.50 16 P P 13 42 19.7 0.0
comp=Z,1.4nm,0.9s,baz=321,slow=5.6,SNR=14
ILAR pP pP 13 43 09.3 +7.3
comp=Z,1.0nm,1.1s,baz=318,slow=4.9,SNR=3.3
PAX Paxson 75.37 17 eP P 13 42 30.9 +0.3
PAX pmax pmax
comp=Z,3.0nm,0.6s
PAX Paxson 75.37 17 eP P 13 42 30.9 +0.3
comp=Z,2.7nm,0.6s
YKA Yellowknife Ar 80.16 3 P P 13 42 57.5 +0.6
YKA *PP pP 13 43 47.9 +8.0
YKA pmax pmax
comp=Z,3.0nm,0.5s
YKA Yellowknife Ar 80.16 3 P P 13 42 57.5 +0.6
comp=Z,2.8nm,0.5s,baz=350,slow=5.5,SNR=104
YKA pP pP 13 43 47.9 +8.0
comp=Z,0.3nm,0.5s,baz=350,slow=5.9,SNR=3.0
WRA Warramunga Arr 81.67 123 P P 13 43 03.6 -2.0
WRA *PP pP 13 43 51.7 +3.0
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 81.67 123 P P 13 43 03.6 -2.0
comp=Z,0.2nm,0.4s,baz=326,slow=5.0,SNR=9.0
WRA pP pP 13 43 51.7 +3.0
comp=Z,0.7nm,0.8s,baz=326,slow=4.9,SNR=2.5
PDAR Pinedale Array 100.06 1 PP PP 13 48 39.0 +0.3
comp=Z,0.4nm,0.6s,baz=194,slow=2.4,SNR=3.4
QSPA South Pole Qui 127.33 180 PKP PKPdf 13 49 46.5 -2.9
comp=Z,0.7nm,0.5s,baz=193,slow=0.8,SNR=5.5

IDC 28 13:32:53.4±1.2, 34.78S×73.66W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/31, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=40.8km s-min=27.1km az=99.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.54	57	Pn	Pn	13 34 17.3	+0.2
	0.8nm,0.3s,baz=232,slow=6.0,SNR=11						
LPAZ	La Paz	19.07	16	P	P	13 37 18.4	+0.3
	0.2nm,0.3s,baz=182,slow=11,SNR=3.5						
QSPA	South Pole Qui	55.46	180	P	P	13 42 29.7	+0.1
	0.8nm,0.7s,baz=141,slow=3.2,SNR=4.1						
TXAR	Lajitas Array	69.78	332	P	P	13 44 05.5	-0.1
	0.7nm,0.6s,baz=156,slow=8.6,SNR=11						
TORD	Torodi Ar. Bea	85.73	71	P	P	13 45 34.4	-0.3
	0.3nm,0.7s,baz=246,slow=6.4,SNR=2.9						

IDC 28 13:34:11.6±1.3, 34.00S×72.20W, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.7/31, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=41.5km s-min=31.2km az=77.0
ISCJB 28 13:34:12.9±1.3, 34.0S±0.1×72.3W±0.2, h19km, mb3.8/3, Error ellipse: s-maj=29.3km s-min=20.4km az=12.1
ISC 28 13:34:14.6±1.2, 34.0S±0.2×72.2W±0.2, h19km, n7, σ0§76/7, mb3.7/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.12	56	Pn	Pn	13 35 17.1	+0.5
	0.5nm,0.3s,baz=234,slow=13,SNR=3.3						
LPAZ	La Paz	18.01	13	P	Pn	13 38 24.4	-0.2
	0.2nm,0.3s,baz=200,slow=6.9,SNR=5.5						
SNAA	Sanae	51.65	158	P	P	13 43 20.1	+0.4
	0.8nm,0.8s,baz=293,slow=3.5,SNR=3.6						
TXAR	Lajitas Array	69.65	331	P	P	13 45 23.5	+0.5
	0.3nm,0.6s,baz=161,slow=8.6,SNR=3.4						
TORD	Torodi Ar. Bea	84.36	70	P	P	13 46 45.2	-0.7
	1.3nm,0.7s,baz=243,slow=1.6,SNR=7.4						
ZALV	Zalesovo Beam	154.30	32	PKPbc	PKPbc	13 54 13.0	0.0
	1.2nm,0.5s,baz=318,slow=3.6,SNR=6.7						
MKAR	Makanchi Array	156.88	49	PKPab	PKPab	13 54 37.4	-1.1
	0.4nm,0.6s,baz=293,slow=4.1,SNR=4.3						

ISCJB 28 13:35:48.7±0.9, 35.52S±0.07×73.30W±0.2, h10km, mb4.2/8, Error ellipse: s-maj=22.4km s-min=10.6km az=175.4
IDC 28 13:35:49.0±1.1, 35.48S×73.15W, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.1/30, mbtmp4.2/9, ML4.1/1, Error ellipse: s-maj=36.1km s-min=20.2km az=91.0
NEIC 28 13:35:54.1±0.6, 35.51S×73.27W, h35km, mb4.6/3, Error ellipse: s-maj=16.6km s-min=8.8km az=86.0
ISC 28 13:35:50.3±0.8, 35.53S±0.09×73.4W±0.2, h10km, n20, σ1§17/19, mb4.3/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.64	158	Pn	Pn	13 37 15.0	+0.6
	1.3nm,0.3s,baz=329,slow=12,SNR=3.3						
TRQA	Tornquist	9.47	109	eP	Pn	13 38 08.4	+1.6
	18nm,0.6s						
LVC	Limon Verde	13.45	18	P	Pn	13 39 02.7	+1.2
LPAZ	La Paz	19.73	15	P	Pn	13 40 23.1	+0.8
	0.2nm,0.3s,baz=173,slow=11,SNR=5.2						
LPAZ	La Paz	19.73	15	eP	Pn	13 40 24.9	+2.6
	8.3nm,1.1s						
SIV	San Ignacio	22.35	33	P	P	13 40 48.3	-0.3
	3.1nm,0.6s,baz=235,slow=13,SNR=5.9						
SAML	Samuel	28.05	22	eP	P	13 41 41.5	-0.4
BDFB	Brasilia	30.10	55	P	P	13 41 58.8	-1.5
	6.2nm,1.1s,baz=1.1,slow=4.4,SNR=3.8						
SNAA	Sanae	50.59	157	P	P	13 44 49.0	+0.1
	3.2nm,0.9s,baz=273,slow=5.8,SNR=7.7						
SNAA	Sanae	50.59	157	eP	P	13 44 49.0	+0.1
	8.6nm,0.9s						
QSPA	South Pole Qui	54.70	180	P	P	13 45 20.1	+0.6
	4.1nm,0.9s,baz=151,slow=2.4,SNR=6.1						
QSPA	South Pole Qui	54.70	180	eP	P	13 45 20.1	+0.6
	10.0nm,1.0s						
TXAR	Lajitas Array	70.56	332	P	P	13 47 06.0	+0.4
	0.4nm,0.8s,baz=155,slow=6.9,SNR=2.5						
DBIC	Dimbokro	76.69	72	P	P	13 47 41.7	-0.3
	2.7nm,0.6s,baz=208,slow=4.4,SNR=5.9						
BOSA	Boshof	80.31	118	P	P	13 48 01.4	-0.6
	3.2nm,0.9s,baz=204,slow=4.8,SNR=4.7						
TORD	Torodi Ar. Bea	85.75	71	P	P	13 48 28.3	-1.7
	1.9nm,1.0s,baz=242,slow=4.3,SNR=4.8						
SEY	Seymchan	140.80	329	PKP	PKPdf	13 55 19.8	+0.3
	0.9nm,0.7s,baz=43,slow=0.5,SNR=4.4						
ABKAR	Akbulak array	143.48	53	ePKPpre	PKPpre	13 55 21.5	
ZALV	Zalesovo Beam	156.10	33	PKPab	PKPab	13 56 12.5	+0.6
	1.4nm,0.7s,baz=318,slow=4.2,SNR=4.4						
MKAR	Makanchi Array	158.58	51	PKPab	PKPab	13 56 21.3	-1.6
	0.7nm,0.8s,baz=289,slow=3.7,SNR=4.2						

NEIC 28 13:40:15.4±1.4, 21.66S×176.41W, h105km±13km, mb4.8/4, Error ellipse: s-maj=15.5km s-min=8.6km az=129.0
IDC 28 13:40:19.3±8.2, 21.60S×176.52W, h136km±73km, mb3.9/10, mb1 4.2/11, mb1mx4.0/21, mbtmp4.4/11, Error ellipse: s-maj=26.1km s-min=21.6km az=167.0
ISCJB 28 13:40:22.7±0.6, 21.92S±0.07×176.43W±0.1, h183km, mb4.2/14, Error ellipse: s-maj=13.4km s-min=9.2km az=27.0
ISC 28 13:40:24.2±0.7, 21.8S±0.1×176.4W±0.1, h183km, n44, σ1§16/42, mb4.2/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.66	67	P	Pn	13 41 54.1	-5.8
	baz=6.4,SNR=88						
NIUE				S	Sn	13 43 00.6	-15
	baz=6.4,SNR=18						
AFI	Afiamalu	9.00	30	eP	Pn	13 42 20.7	-10
	154nm,0.4s						
DZM	Mont Dzumac	15.91	266	P	P	13 44 02.4	+4.0
	0.9nm,0.3s,baz=76,slow=17,SNR=10.0						
DZM				S	S	13 46 38.0	-17
	0.5nm,0.3s,baz=108,slow=11,SNR=22						
DZM	Mont Dzumac	15.91	266	eP	P	13 44 01.5	+3.1
DZM				S	S	13 46 38.0	-17
URZ	Urewera	17.33	197	P	P	13 44 12.5	-1.3
	15nm,0.3s,baz=251,slow=3.5,SNR=104						
URZ				S	S	13 47 16.4	-8.3
	2.1nm,0.3s,baz=112,slow=21,SNR=9.5						
KHZ	Kahutara	22.22	200	eP	P	13 45 02.9	-2.9
	33nm,0.4s						
RPZ	Rata Peaks	24.21	203	eP	P	13 45 23.5	-0.5
	39nm,0.6s						
ARMA	Armidale	29.88	247	P	P	13 46 15.4	+0.6
	baz=30,SNR=6.4						
EIDS	Eidsvold	29.96	257	P	P	13 46 16.7	+1.2
	baz=30,SNR=3.1						
MGCD	Mangrove Creek	30.85	241	P	P	13 46 24.4	+1.1
	baz=31,SNR=9.7						
RMQ	Roma	32.06	255	P	P	13 46 36.6	+2.6
	baz=32,SNR=6.0						
CTA	Charters Tower	34.86	266	P	P	13 46 58.0	-0.2
	9.4nm,0.5s,baz=94,slow=12,SNR=19						
CMSA	Cobar Meteorol	35.08	246	P	P	13 46 59.8	-0.1
	baz=35,SNR=18						
QLP	Quilpie	36.12	254	P	P	13 47 09.0	+0.2
	baz=36,SNR=20						
PMG	Port Moresby	37.08	284	eP	P	13 47 16.7	-0.4
	6.7nm,0.8s						
STKA	Stephens Creek	38.59	246	P	P	13 47 28.8	-0.8
	2.6nm,0.4s,baz=100,slow=11,SNR=14						
STKA	Stephens Creek	38.59	246	eP	P	13 47 29.2	-0.4
STKA	Stephens Creek	38.59	246	P	P	13 47 29.6	0.0
	baz=39,SNR=9.9						
COEN	Coen	39.15	275	P	P	13 47 35.1	+0.7
	baz=39,SNR=7.5						
HTT	Hallett	40.96	244	P	P	13 47 49.1	-0.1
	baz=41,SNR=3.9						
BBOO	Buckleboo	43.32	245	P	P	13 48 07.1	-1.1
	baz=44,SNR=14						
AS31	Alice Springs	45.68	258	eP	P	13 48 26.2	-0.8
ASAR	Alice Springs	45.68	258	P	P	13 48 26.3	-0.8
	14nm,0.9s,baz=92,slow=8.4,SNR=90						
ASAR				PcP	PcP	13 50 01.5	-0.5
	1.2nm,0.7s,baz=87,slow=5.4,SNR=5.0						
WRAB	Tennant Creek	45.89	263	eP	P	13 48 27.4	-1.3
	4.0nm,0.6s						
WRA	Warramunga Arr	45.90	263	P	P	13 48 27.3	-1.5
	2.5nm,0.4s,baz=93,slow=8.2,SNR=104						
WRA				PcP	PcP	13 50 02.5	-0.4
	0.7nm,0.8s,baz=111,slow=2.9,SNR=2.5						
KDU	Kakadu	49.46	272	P	P	13 48 55.4	-0.8
	baz=50,SNR=7.3						
WRKA	Warakurna	50.55	255	P	P	13 49 03.4	-1.0
	baz=51,SNR=45						
KNRA	Kununurra	52.06	267	P	P	13 49 14.9	-0.7
	baz=52,SNR=14						
FITZ	Fitzroy Crossi	54.33	263	P	P	13 49 31.9	-0.3
	baz=54,SNR=14						
KLBR	Kellerberrin	58.86	245	P	P	13 50 05.5	+1.5
	baz=59,SNR=5.2						
MEEK	Meekatharra	58.90	251	P	P	13 50 03.4	-0.9
	baz=59,SNR=6.0						
BLDU	Ballidu	59.89	246	P	P	13 50 11.6	+0.6
	baz=60,SNR=16						
MORW	Morawa	60.72	248	P	P	13 50 17.1	+0.5
	baz=61,SNR=12						
QSPA	South Pole Qui	68.28	180	P	P	13 51 07.0	+1.8
	3.3nm,0.5s,baz=6.8,slow=0.7,SNR=23						
QSPA	South Pole Qui	68.28	180	eP	P	13 51 07.2	+2.0
NVAR	Mina Array Bea	80.96	42	P	P	13 52 18.6	0.0
	0.8nm,0.6s,baz=231,slow=9.3,SNR=5.1						
TXAR	Lajitas Array	86.51	57	P	P	13 52 47.6	+0.8
	2.1nm,0.9s,baz=212,slow=6.9,SNR=15						
PDAR	Pinedale Array	88.89	43	P	P	13 52 57.9	-0.1
	0.6nm,0.7s,baz=210,slow=3.8,SNR=5.0						
ILAR	Eielson Array	89.25	12	P	P	13 52 58.0	-0.8
	0.4nm,0.8s,baz=200,slow=6.5,SNR=5.7						
YKA	Yellowknife Ar	97.07	24	P	P	13 53 34.7	-0.1
	0.3nm,0.7s,baz=243,slow=4.4,SNR=9.0						
ARCES	ARCESS Array B	130.45	350	PKP	PKPdf	13 59 12.2	0.0
	7.8nm,1.1s,baz=90,slow=1.1,SNR=3.6						
AKASG	Malin Array Be	144.85	331	PKP	PKPbc	13 59 37.8	-0.9
	1.4nm,0.5s,baz=40,slow=4.2,SNR=8.9						
BRTR	Keskin Array B	148.80	312	PKPbc	PKPbc	13 59 50.0	-0.4
	0.7nm,0.5s,baz=150,slow=4.9,SNR=4.7						
GERES	GERESS Array B	151.83	346	PKPbc	PKPbc	13 59 57.5	+0.2
	0.5nm,0.6s,baz=24,slow=3.6,SNR=3.8						

ISCJB 28 13:43:41.4±0.9, 35.77S±0.08×73.1W±0.2, h28km, mb3.8/6, Error ellipse: s-maj=24.0km s-min=11.4km az=9.8
IDC 28 13:43:43.7±6.9, 35.83S×73.08W, h31km±49km, mb3.6/6, mb1 3.8/9, mb1mx3.6/30, mbtmp3.8/9, ML3.8/3, Error ellipse: s-maj=41.1km s-min=18.5km az=92.0
NEIC 28 13:43:44.2±0.7, 35.76S×73.14W, h35km, mb4.4/2, Error ellipse: s-maj=19.9km s-min=10.0km az=101.0
ISC 28 13:43:43.2±1.0, 35.77S±0.10×73.1W±0.2, h28km, n16, σ0§95/16, mb4.0/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.36	158	Pn	Pn	13 45 01.9	+0.5
	1.1nm,0.3s,baz=320,slow=12,SNR=3.6						
PLCA	Paso Flores	5.36	158	eP	Pn	13 45 02.3	+0.9
	32nm,0.8s						
CFAA	Coronel Fontan	5.83	46	Pn	Pn	13 45 06.9	-0.9
	1.6nm,0.3s,baz=335,slow=19,SNR=4.4						
CPUP	Villa Florida	16.48	60	P	Pn	13 47 32.7	+0.4
LPAZ	La Paz	19.91	14	P	P	13 48 14.0	+0.7
	0.1nm,0.3s,baz=202,slow=5.4,SNR=1.9						
SIV	San Ignacio	22.45	32	P	P	13 48 40.6	+0.5
	2.2nm,0.9s,baz=201,slow=4.8,SNR=3.3						
SNAA	Sanae	50.30	157	P	P	13 52 35.6	-1.3
	1.2nm,0.8s,baz=313,slow=11,SNR=4.4						
SNAA	Sanae	50.30	157	eP	P	13 52 37.5	+0.6
	5.5nm,0.9s						
QSPA	South Pole Qui	54.47	180	P	P	13 53 07.4	-0.6
	2.2nm,1.0s,baz=163,slow=2.6,SNR=4.1						
TXAR	Lajitas Array	70.85	332	P	P	13 54 57.9	+0.4
	0.1nm,0.5s,baz=150,slow=9.3,SNR=3.8						
DBIC	Dimbokro	76.60	72	P	P	13 55 31.6	+0.1
	2.2nm,1.0s,baz=203,slow=7.2,SNR=3.1						
DBIC	Dimbokro	76.60	72	eP	P	13 55 32.4	+0.9
	2.5nm,0.8s						
TORD	Torodi Ar. Bea	85.66	71	P	P	13 56 19.1	-0.5
	0.7nm,1.0s,baz=228,slow=1.7,SNR=2.6						
ZALV	Zalesovo Beam	156.20	33	PKPab	PKPab	14 04 03.7	+1.4
	0.5nm,0.5s,baz=270,slow=5.3,SNR=2.7						
MK31	Makanchi Array	158.59	51	ePKPdf	PKPdf	14 03 36.3	-1.4
MKAR	Makanchi Array	158.59	51	PKP	PKPdf	14 03 36.5	-1.2
	0.2nm,0.5s,baz=272,slow=3.8,SNR=3.0						

SJA 28 13:44:51.5±1.4, 33.03S×72.77W, h50km±46km, MD3.8, ML4.4
NEIC 28 13:44:57.5±0.6, 33.02S×72.08W, mb4.2/3, Error ellipse: s-maj=14.0km s-min=10.4km az=90.0
IDC 28 13:44:57.7±1.1, 33.11S×71.83W, h24km±5km, mb4.1/7, mb1 4.2/8, mb1mx3.9/25, mbtmp4.2/8, ML4.5/1, MS3.9/3, Ms1 3.9/3, ms1mx3.5/29, Error ellipse: s-maj=31.3km s-min=22.7km az=99.0
ISC 28 13:44:55.8±0.7, 33.05S±0.09×72.18W±0.07, h15km, n32, σ1§56/40, mb4.5/9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	Uspallata	2.50	72	iP	Pn	13 45 38.2	+2.0
ARCO	CERRO ARCO	2.74	87	iP	Pb	13 45 42.7	-1.9
ARCO				iS	Sb	13 46 19.5	+1.4
ARCO				AML	AML	13 46 25.2	
	comp=Z,885nm,0.6s						
AAGR	Agrelo	2.81	92	iP	Pb	13 45 44.1	-1.7
ASAL	Salagasta	2.85	82	iP	Pb	13 45 44.6	-1.8
ASAL				iS	Sb	13 46 23.2	+2.0
AVIZ	Vizcacheras	3.10	99	iP	Pn	13 45 46.7	+2.5
CFAA	Coronel Fontan	3.63	68	Pn	Pn	13 45 52.5	+0.9
	comp=Z,5.0nm,0.3s,baz=201,slow=6.6,SNR=10						
CFAA				Lg	Lg	13 46 43.7	
	comp=Z,5.1nm,0.3s,baz=253,slow=11,SNR=3.0						
CFAA				LR	LR	13 47 28.3	
	comp=Z,323nm,18.3s,baz=266,slow=44						
CFAA	Coronel Fontan	3.63	68	iP	Pn	13 45 54.8	+3.2
ACHE	Chepes	5.04	70	iP	Pn	13 46 13.6	+2.5
ACHE				iP	Pn	13 46 13.6	+2.5
TRQA	Tornquist	9.70	124	eP	Pn	13 47 17.1	+2.3
	comp=Z,29nm,1.1s						
LVC	Limon Verde	10.79	16	P	Pn	13 47 30.4	+0.4
CPUP	Villa Florida	14.53	66	Pn	Pn	13 48 19.3	-1.7
	comp=Z,0.5nm,0.3s,baz=229,slow=11,SNR=2.8						
CPUP	Villa Florida	14.53	66	eP	Pn	13 48 18.7	-2.3
LPAZ	La Paz	17.08	13	P	Pn	13 48 55.2	+0.4
	comp=Z,5.9nm,0.8s						
SAML	Samuel	25.38	21	eP	P	13 50 22.7	+0.1
	comp=Z,13nm,0.9s						
BDFB	Brasilia	27.91	57	P	P	13 50 43.0	-2.5
	comp=Z,2.2nm,0.6s,baz=243,slow=9.4,SNR=4.6						
SDV	Santo Domingo	41.72	2	P	P	13 52 44.8	+0.3
	comp=Z,5.8nm,0.9s						
SNAA	Sanae	52.51	158	P	P	13 54 07.2	-0.8
	comp=Z,0.6nm,0.7s,baz=277,slow=9.0,SNR=4.9						
QSPA	South Pole Qui	57.19	180	P	P	13 54 41.8	-0.2
	comp=Z,4.8nm,1.0s,baz=128,slow=0.4,SNR=6.1						
QSPA	South Pole Qui	57.19	180	eP	P	13 54 42.5	+0.5
TXAR	Lajitas Array	68.85	331	P	P	13 56 01.3	+1.5
	comp=Z,0.9nm,0.7s,baz=154,slow=9.1,SNR=6.4						
DBIC	Dimbokro	74.99	72	P	P	13 56 36.0	-0.9
	comp=Z,3.3nm,0.7s,baz=211,slow=3.1,SNR=6.0						
DBIC				pP	pP	13 56 43.5	+1.6
	comp=Z,2.6nm,0.6s,baz=202,slow=5.5,SNR=3.0						
DBIC				LR	LR	14 28 35.9	
	comp=Z,143nm,20.5s,baz=218,slow=35						
BOSA	Boshof	80.62	118	P	P	13 57 07.0	-1.4
	comp=Z,3.4nm,0.7s,baz=246,slow=3.5,SNR=7.2						
BOSA				pP	PcP	13 57 15.8	+0.7
	comp=Z,5.1nm,1.0s,baz=203,slow=9.0,SNR=3.8						
BOSA	Boshof	80.62	118	eP	P	13 57 07.4	-0.9
BOSA				pP	PcP	13 57 15.8	+0.7
TORD	Torodi Ar. Bea	84.00	70	P	P	13 57 25.1	-0.8
	comp=Z,2.9nm,0.7s,baz=270,slow=4.7,SNR=16						
TORD				pP	pP	13 57 32.6	+1.7
	comp=Z,2.9nm,0.6s,baz=263,slow=4.2,SNR=9.4						
TORD				LR	LR	14 35 26.1	
	comp=Z,180nm,18.8s,baz=230,slow=36						
WRA	Warramunga Arr	121.53	210	PKP	PKPdf	14 03 48.6	-0.8
	comp=Z,0.7nm,0.9s,baz=152,slow=1.8,SNR=4.5						
BRVK	Borovoye	146.59	42	PKPbc	PKPbc	14 04 36.4	+0.2
BVAR	Borovoye Array	146.66	42	PKPbc	PKPbc	14 04 36.8	+0.4
	comp=Z,1.0nm,0.6s,baz=292,slow=4.0,SNR=5.0						
KKAR	Karatay Array	149.18	60	ePKPbc	PKPbc	14 04 43.0	-0.6
EKS2	Erkin-Say	151.62	60	ePKPbc	PKPbc	14 04 50.0	+0.4
AAK	Ala-Archa	152.15	60	PKPbc	PKPbc	14 04 51.3	+0.5
	comp=Z,1.9nm,0.7s,baz=159,slow=2.6,SNR=8.9						
ZALV	Zalesovo Beam	153.48	31	PKPbc	PKPbc	14 04 53.4	+0.3
	comp=Z,0.6nm,0.4s,baz=318,slow=2.0,SNR=4.8						
MKAR	Makanchi Array	156.22	47	PKPab	PKPab	14 05 16.5	-0.9
	comp=Z,0.6nm,0.8s,baz=187,slow=24,SNR=4.8						
MKAR				pPKPab	pPKPab	14 05 24.4	+1.9
	comp=Z,0.8nm,0.7s,baz=310,slow=3.3,SNR=4.9						

IDC 28 13:47:00.3±0.5, 35.35S×72.93W, h0km, mb4.6/15, mb1 4.6/20, mb1mx4.5/29, mbtmp4.5/20, ML4.5/5, MS4.2/5, Ms1 4.2/5, ms1mx3.8/31, Error ellipse: s-maj=18.7km s-min=13.0km az=82.0
ISCJB 28 13:47:02.2±0.2, 35.29S±0.05×72.81W±0.07, h17km, mb4.8/32, MS4.2/6, Error ellipse: s-maj=9.4km s-min=5.8km az=148.1
MOS 28 13:47:04.6±1.0, 35.36S×73.15W, h33km, mb5.3/14, Error ellipse: s-maj=21.6km s-min=10.5km az=96.1
BJI 28 13:47:04.5, 35.48S×73.17W, h35km, mB5.0/7, Ms5.0/4, Ms7 4.8/5
NEIC 28 13:47:05.9±0.2, 35.32S×72.88W, h35km, mb5.0/22, Error ellipse: s-maj=7.1km s-min=4.8km az=72.0
NEIC Felt at Santiago.
ISC 28 13:47:03.1±0.3, 35.34S±0.06×72.92W±0.08, h17km, n461, σ1§14/486, mb4.9/32, MS4.2/6, 154C-159D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.40	48	Pn	Pn	13 48 23.3	+0.4
	2.0nm,0.3s,baz=216,slow=17,SNR=3.1						
CFAA				Lg	Lg	13 49 47.1	
	2.5nm,0.3s,baz=307,slow=20,SNR=2.9						
PLCA	Paso Flores	5.70	162	eP	Pn	13 48 28.9	+1.8
PLCA				pmax	pmax		
	comp=Z,425nm,1.2s						
PLCA	Paso Flores	5.70	162	Pn	Pn	13 48 27.1	0.0
	comp=Z,7.8nm,0.3s,baz=342,slow=9.1,SNR=7.1						
PLCA				Lg	Lg	13 49 59.1	
	comp=Z,3.9nm,0.3s,baz=283,slow=18,SNR=7.4						
PLCA	Paso Flores	5.70	162	eP	Pn	13 48 28.9	+1.8
	comp=Z,425nm,1.2s						
PLCA				Lg	Lg	13 49 59.1	
TRQA	Tornquist	9.20	110	eP	Pn	13 49 17.3	+2.2
	comp=Z,48nm,0.8s						
LVC	Limon Verde	13.15	17	P	Pn	13 49 59.3	-10
CPUP	Villa Florida	16.11	60	eP	P	13 50 53.6	+1.6
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CPUP	Villa Florida	16.11	60	Pn	Pn	13 50 49.5	+0.7
	comp=Z,0.4nm,0.3s,baz=217,slow=17,SNR=2.0						
CPUP	Villa Florida	16.11	60	eP	P	13 50 53.6	+1.6
	comp=Z,0.7nm,0.8s						
LPAZ	La Paz	19.45	14	eP	Pn	13 51 31.3	+0.5
LPAZ				pmax	pmax		
	comp=Z,71nm,1.2s						
LPAZ	La Paz	19.45	14	P	Pn	13 51 30.8	+0.1
	comp=Z,0.9nm,0.3s,baz=166,slow=9.9,SNR=12						
LPAZ	La Paz	19.45	14	eP	Pn	13 51 31.3	+0.5
	comp=Z,71nm,1.2s						
USHA	Ushuaia	19.74	172	P	Pn	13 51 33.0	-0.3
	comp=Z,0.5nm,0.3s,baz=335,slow=11,SNR=2.4						
SIV	San Ignacio	21.99	32	P	P	13 51 55.9	-0.6
	comp=Z,71nm,1.2s,baz=232,slow=13,SNR=28						
SIV				LR	LR	14 02 04.8	
	comp=Z,1µm,18.6s,baz=220,slow=41						
NNA	Nana	23.52	350	P	P	13 52 12.8	+0.4
	comp=Z,8.9nm,0.7s,baz=198,slow=11,SNR=5.3						
NNA				LR	LR	13 59 36.5	
	comp=Z,563nm,18.2s,baz=135,slow=32						
SAML	Samuel	27.74	21	eP	P	13 52 50.4	-0.5
	comp=Z,24nm,1.4s						
ATAH	Atahualpa	28.52	349	P	P	13 52 59.8	+1.6
	comp=Z,1.5nm,0.4s,baz=199,slow=8.7,SNR=4.3						
BDFB	Brasilia	29.69	55	P	P	13 53 07.0	-1.4
	comp=Z,5.7nm,0.9s,baz=243,slow=15,SNR=4.1						
OTAV	Otavalo	35.77	351	eP	P	13 54 02.1	+0.2
	comp=Z,67nm,2.0s						
ROSC	El Rosal	40.00	358	LR	LR	14 10 48.8	
	comp=Z,289nm,19.0s,baz=6.5,slow=36						
RCBR	Riachuelo	44.97	58	P	P	13 55 17.4	-0.2
	comp=Z,9.3nm,0.8s,baz=204,slow=6.5,SNR=6.0						
RCBR				LR	LR	14 14 39.0	
	comp=Z,493nm,19.2s,baz=192,slow=37						
RCBR	Riachuelo	44.97	58	eP	P	13 55 18.3	+0.7
	comp=Z,40nm,1.5s						
GRGR	Grenville	48.40	15	eP	P	13 55 44.6	+0.2
VNA3	Neumayer Olymp	48.41	157	P	P	13 55 45.5	+1.6
VNA2	Neumayer--Watz	49.07	157	P	P	13 55 49.9	+1.0
SNAA	Sanae	50.63	157	P	P	13 56 01.6	+0.7
SNAA	Sanae	50.63	157	diP	P	13 56 01.5	+0.7
SNAA				pmax	pmax		
	comp=Z,20nm,0.7s						
SNAA	Sanae	50.63	157	P	P	13 56 01.2	+0.3
	comp=Z,8.1nm,0.8s,baz=289,slow=7.8,SNR=28						
SNAA				LR	LR	14 17 17.2	
	comp=Z,103nm,18.2s,baz=127,slow=36						
SNAA	Sanae	50.63	157	eP	P	13 56 01.6	+0.7
	comp=Z,18nm,0.8s						
QSPA	South Pole Qui	54.90	180	P	P	13 56 32.9	+0.3
	comp=Z,5.9nm,0.9s,baz=305,slow=1.8,SNR=7.6						
QSPA	South Pole Qui	54.90	180	eP	P	13 56 33.4	+0.8
	comp=Z,14nm,0.9s						
NVL	N'lazarevskaya	55.39	156	eP	P	13 56 36.6	+0.8
NVL				pmax	pmax		
	comp=Z,12nm,0.8s						
SYO	Syowa Base	64.89	158⇓	ePcP	PcP	13 58 11.4	-2.7
035A	Encino	66.36	336	⇑P	P	13 57 51.3	+0.4
	baz=67						
936A	North Padre Is	66.54	336	⇑P	P	13 57 53.6	+1.6
	baz=67						
034A	Hebbronville	66.67	335	⇑P	P	13 57 54.1	+1.3
	baz=67						
834A	Tilden	67.60	336	⇑P	P	13 58 00.4	+1.7
	baz=68						
735A	Kenedy	68.03	337	⇓P	P	13 58 03.1	+1.7
	baz=68						
833A	Chaparral WMA,	68.07	335	⇓P	P	13 58 02.4	+0.6
	baz=68,SNR=5.3						
832A	Faith Ranch, C	68.24	334	⇑P	P	13 58 03.6	+0.8

baz=68
734A La Parita Cree 68.27 336 ⇑P P 13 58 04.8 +1.8
baz=69
636A Smothers Creek 68.37 337 ⇓P P 13 58 05.0 +1.5
baz=69
733A Divot King Ran 68.40 335 ⇓P P 13 58 04.9 +1.2
baz=69
732A Laxson Ranch, 68.64 335 ⇑P P 13 58 06.0 +0.6
baz=69,SNR=9.3
536A Bastrop 68.92 338 ⇓P P 13 58 08.0 +1.0
baz=69
633A Saathoff Ranch 69.04 336 ⇑P P 13 58 08.7 +0.9
baz=69
535A Dale 69.04 337 ⇓P P 13 58 08.8 +1.1
baz=69
438A Sam Houston St 69.08 339 ⇑P P 13 58 09.2 +1.3
baz=69
GOGA Godfrey 69.10 351 eP P 13 58 06.9 -1.1
GOGA Godfrey 69.10 351 eP P 13 58 06.9 -1.1
632A Uvalde 69.29 335 ⇓P P 13 58 10.4 +1.0
baz=70,SNR=6.9
534A Blanco 69.33 336 ⇑P P 13 58 10.4 +0.8
baz=70
339A Huntington 69.37 340 ⇑P P 13 58 10.9 +1.2
baz=70
631A Perdido Creek 69.48 334 ⇑P P 13 58 10.9 +0.4
baz=70
533A Kerrville 69.55 336 ⇑P P 13 58 11.3 +0.3
baz=70,SNR=5.6
338A Crockett 69.60 340 ⇑P P 13 58 12.6 +1.4
baz=70
435B Jarrell 69.74 337 ⇑P P 13 58 13.2 +1.1
baz=70
532A Rocksprings 69.90 335 ⇑P P 13 58 13.4 +0.2
baz=70,SNR=11
434A Burnet 69.99 337 ⇓P P 13 58 13.7 +0.1
baz=70,SNR=8.2
336A Riesel 70.08 338 ⇑P P 13 58 14.9 +0.8
baz=70
238A Jacksonville 70.16 340 ⇑P P 13 58 15.5 +0.9
baz=70
531A Rocksprings 70.16 335 ⇓P P 13 58 15.3 +0.6
baz=70,SNR=6.5
335A Moody 70.16 338 ⇑P P 13 58 15.1 +0.5
baz=70
JCT Junction City 70.19 335 eP P 13 58 15.3 +0.4
JCT pmax pmax
comp=Z,28nm,1.4s
JCT Junction City 70.19 335 eP P 13 58 15.3 +0.4
comp=Z,28nm,1.4s
JCT Junction City 70.19 335 ⇓P P 13 58 15.6 +0.7
baz=70
433A Art 70.20 336 ⇑P P 13 58 15.1 +0.2
baz=70,SNR=6.8
237A Washetta, Mont 70.35 339 ⇓P P 13 58 16.4 +0.7
baz=71
530A J-C Ranch, Com 70.42 334 ⇓P P 13 58 17.2 +0.8
baz=71,SNR=6.1
334A Lometa 70.46 337 ⇓P P 13 58 16.6 +0.1
baz=71,SNR=6.9
432A Menard 70.55 336 ⇑P P 13 58 17.3 +0.2
baz=71
TXAR Lajitas Array 70.55 332 P P 13 58 17.7 +0.4
comp=Z,2.1nm,0.7s,baz=159,slow=9.0,SNR=19
KMSC Kings Mountain 70.56 353 ⇓P P 13 58 16.8 -0.2
baz=71
431A Sonora 70.65 335 ⇑P P 13 58 18.0 +0.2
baz=71
333A Richland Sprin 70.69 337 ⇑P P 13 58 19.2 +1.3
baz=71,SNR=5.1
529A Stev Forest Ra 70.72 333 ⇓P P 13 58 18.7 +0.5
baz=71,SNR=6.4
138A Matatall Enter 70.77 340 ⇓P P 13 58 19.2 +0.9
baz=71
WHTX Lake Whitney 70.83 338 ⇑P P 13 58 19.1 +0.4
baz=71
137A Heron Place, G 70.89 340 ⇑P P 13 58 19.8 +0.7
baz=71
430A Baggett Ranch, 70.96 334 ⇓P P 13 58 19.7 +0.1
baz=71,SNR=6.2
332A Millersview 71.00 336 ⇑P P 13 58 20.1 +0.3
baz=71,SNR=5.3
234A Clairette 71.05 338 ⇑P P 13 58 20.2 +0.1
baz=71,SNR=5.2
429A Davenport Ranc 71.05 334 ⇓P P 13 58 20.5 +0.3
baz=71
331A San Angelo 71.16 335 ⇓P P 13 58 20.7 -0.1
baz=72,SNR=8.3
233A Rising Star 71.30 337 ⇑P P 13 58 21.7 +0.1
baz=72
135A Vickery Place, 71.34 338 ⇓P P 13 58 22.2 +0.4
baz=72
TKL Tuckaleechee C 71.35 351 eP P 13 58 21.6 -0.2
TKL Tuckaleechee C 71.35 351 eP P 13 58 21.6 -0.2
232A Coleman 71.43 336 ⇓P P 13 58 22.6 +0.1
baz=72
330A Mertzon 71.50 335 ⇑P P 13 58 23.1 +0.2
baz=72
134A White-Moore Ra 71.56 338 ⇑P P 13 58 23.6 +0.5
baz=72
231A Bronte 71.69 336 ⇑P P 13 58 24.0 0.0
baz=72,SNR=5.3
133A Hamilton Ranch 71.85 337 ⇓P P 13 58 25.1 +0.2
baz=72,SNR=5.7
329A Wagon Wheel Ra 71.86 334 ⇑P P 13 58 25.6 +0.6
baz=72
Z35A Perchaven, San 72.01 339 ⇑P P 13 58 26.1 +0.3
baz=72,SNR=5.5
ABTX Abilene, Hawle 72.10 337 ⇓P P 13 58 27.0 +0.6
baz=72
229A Bryant Ranch, 72.24 334 ⇓P P 13 58 27.8 +0.5
baz=73
Z34A Collier Ranch, 72.25 338 ⇑P P 13 58 27.3 0.0
baz=73,SNR=5.2
131A Roby 72.39 336 ⇑P P 13 58 28.5 +0.3
baz=73
Z33A Whitaker Ranch 72.43 337 ⇓P P 13 58 28.6 +0.2
baz=73,SNR=5.7
130A Snyder 72.52 335 ⇓P P 13 58 29.2 +0.3
baz=73
228A UT Block 9, Go 72.65 334 ⇓P P 13 58 30.2 +0.4
baz=73
Z32A Haskell 72.68 337 ⇓P P 13 58 29.8 0.0
baz=73,SNR=7.1
Y34A Reagan Ranch, 72.75 339 ⇑P P 13 58 30.4 +0.1
baz=73
Z31A Sharp Cattle R 72.90 336 ⇑P P 13 58 31.3 0.0
baz=73,SNR=6.0
Y33A Hilltop Ranch, 73.06 338 ⇑P P 13 58 32.2 +0.1
baz=73
128A Castleberry Fa 73.07 334 ⇓P P 13 58 32.8 +0.5
baz=73
Z30A Sanderson Ranc 73.20 336 ⇑P P 13 58 33.3 +0.2
baz=74
Y32A R-V Farms, Ver 73.31 337 ⇑P P 13 58 33.7 +0.1
baz=74
Z29A Hungry Hill Ra 73.38 335 ⇑P P 13 58 33.8 -0.3
baz=74,SNR=6.0
127A Arkansas Junct 73.43 334 ⇓P P 13 58 35.2 +0.7
baz=74
X33A Lawton 73.51 338 ⇑P P 13 58 35.4 +0.6
baz=74
Y31A Rekieta Farm, 73.53 337 ⇓P P 13 58 35.0 +0.1
baz=74
Z28A Tucker Farm, M 73.64 335 ⇑P P 13 58 35.6 -0.1
baz=74
Y29A Porterfield Fa 73.91 335 ⇓P P 13 58 37.7 +0.5
baz=74
W34A Bridge Creek, 73.94 339 ⇓P P 13 58 37.9 +0.6
baz=74
Z27A Tatum 73.96 334 ⇓P P 13 58 37.8 +0.3
baz=74
TUL1 Tulsa 74.02 341 ⇓P P 13 58 37.7 +0.1
baz=74
X31A McDonald Ranch 74.06 337 ⇓P P 13 58 37.9 0.0
baz=74,SNR=7.3
W33A Caddo, Fort Co 74.07 338 ⇓P P 13 58 38.6 +0.6
baz=74,SNR=6.0
Z26A Caprock 74.19 333 ⇓P P 13 58 38.9 0.0
baz=74,SNR=13
W32A Sentinel 74.28 338 ⇑P P 13 58 39.2 0.0
baz=75,SNR=7.9
MSTX Muleshoe 74.39 335 eP P 13 58 39.8 -0.2
comp=Z,9.4nm,0.8s
MSTX Muleshoe 74.39 335 ⇓P P 13 58 40.6 +0.5
baz=75
X29A Tulia 74.45 336 ⇑P P 13 58 40.6 +0.2
baz=75
Z25A Roswell 74.48 333 ⇓P P 13 58 40.9 +0.3
baz=75
W31A Holland Ranch, 74.56 337 ⇓P P 13 58 41.3 +0.4
baz=75
V33A Lossen Ranch, 74.64 339 ⇓P P 13 58 41.4 +0.1
baz=75,SNR=5.3
319A Douglas 74.64 328 ⇓P P 13 58 42.3 +0.7
baz=75
Z24A Sheeppen Canyo 74.77 332 ⇑P P 13 58 43.3 +1.0
baz=75
V32A Arapaho 74.77 338 ⇓P P 13 58 42.7 +0.6
baz=75
SUR Sutherland 74.82 119 P P 13 58 43.2 +0.2
comp=Z,3.5nm,0.8s,baz=141,slow=17,SNR=2.4
AMTX Amarillo 74.84 336 ⇑P P 13 58 43.1 +0.5
baz=75
U34A Anderson Ranch 74.99 340 ⇑P P 13 58 44.1 +0.8
baz=75
121A Cookes Peak, D 75.02 330 ⇓P P 13 58 43.7 0.0
baz=75
Y25A Mesa, Roswell 75.04 333 ⇑P P 13 58 43.9 +0.1
baz=75
W29A Amraillo 75.05 336 ⇑P P 13 58 44.5 +0.7
baz=75
V31A Spring Creek L 75.07 338 ⇑P P 13 58 45.1 +1.3
baz=75
X26A CR and CF Fran 75.28 334 ⇓P P 13 58 46.4 +1.2
baz=76
Y24A Capitan 75.32 332 ⇑P P 13 58 46.4 +0.9
baz=76
Z22A Elephant Butte 75.32 331 ⇓P P 13 58 46.9 +1.4
baz=76,SNR=5.7
U32A Winter Ranch, 75.37 338 ⇑P P 13 58 46.8 +1.2
baz=76
W27A Bowe Ranch, En 75.48 335 ⇓P P 13 58 47.0 +0.7
baz=76
Y23A Lovelace Mesa, 75.56 332 ⇓P P 13 58 48.3 +1.4
baz=76
W26A Owens Ranch, T 75.75 334 ⇑P P 13 58 48.9 +1.0
baz=76
T33A Patterson Ranc 75.80 339 ⇑P P 13 58 48.9 +0.9
baz=76
V28A Channing 75.82 336 ⇑P P 13 58 49.4 +1.2
baz=76
X24A Lazy VL Ranch, 75.89 333 ⇓P P 13 58 49.5 +0.7
baz=76
U30A WK&E Inc. Balk 76.02 337 ⇓P P 13 58 50.7 +1.4
baz=76
T32A Huddler Ranch, 76.09 339 ⇑P P 13 58 50.7 +1.1
baz=76
W25A X Bar L Ranch, 76.11 334 ⇑P P 13 58 50.2 +0.2
baz=76,SNR=5.4
DBIC Dimbokro 76.30 72 eP P 13 58 51.7 +0.3
DBIC pmax pmax
comp=Z,26nm,1.4s
DBIC Dimbokro 76.30 72 P P 13 58 51.6 +0.3
comp=Z,8.4nm,0.9s,baz=194,slow=6.4,SNR=8.9
DBIC Dimbokro 76.30 72 eP P 13 58 51.6 +0.3
comp=Z,26nm,1.4s
V26A Tequesquite Ra 76.39 335 ⇓P P 13 58 52.0 +0.5
baz=77
LAZ Ladron 76.40 331 eP P 13 58 53.1 +1.4
comp=Z,3.5nm,1.2s
W24A Lazy 6 Ranch, 76.45 333 ⇑P P 13 58 52.6 +0.6
baz=77,SNR=5.3
ANMO Albuquerque 76.61 332 eP P 13 58 51.8 -1.1
ANMO pmax pmax
comp=Z,38nm,1.3s
U27A Thompson Grove 76.63 336 ⇓P P 13 58 53.9 +1.0
baz=77
W23A Werner Place, 76.69 333 ⇑P P 13 58 54.2 +0.8
baz=77
V25A Rancho No Teng 76.73 334 ⇑P P 13 58 53.8 +0.3
baz=77,SNR=7.2
T29A Hugoton 76.79 337 ⇓P P 13 58 54.8 +1.1
baz=77
V24A Rampart Ranch, 76.86 333 ⇓P P 13 58 55.2 +0.8
baz=77
U26A Atchley Ranch, 76.92 335 ⇑P P 13 58 54.9 +0.3
baz=77
S30A Montezuma 76.98 338 ⇑P P 13 58 55.7 +1.0
baz=77
T28A Walsh 77.03 336 ⇑P P 13 58 55.1 +0.1
baz=77,SNR=7.3
U25A Circle Dot Ran 77.16 334 ⇑P P 13 58 56.4 +0.5
baz=78
S29A Ulysses 77.16 337 ⇓P P 13 58 56.9 +1.1
baz=78
T27A Campo 77.17 336 ⇓P P 13 58 56.3 +0.4
baz=78,SNR=7.2
R32A Long Quarter, 77.18 339 ⇑P P 13 58 56.5 +0.7
baz=78
V23A Ortiz Mt. (NFS 77.22 333 ⇓P P 13 58 57.5 +1.2
baz=78
KSU1 Kansas State U 77.24 341 ⇑P P 13 58 56.5 +0.5
baz=78
R31A Burdett 77.29 339 ⇓P P 13 58 57.4 +1.0
baz=78
S28A Manter 77.38 337 ⇓P P 13 58 57.4 +0.4
baz=78,SNR=5.1
Q33A Connelly Farm, 77.47 340 ⇑P P 13 58 58.3 +0.9
baz=78
T26A Comanche Natio 77.57 335 ⇑P P 13 58 58.9 +0.7
baz=78,SNR=6.5
V22A San Miguel Ran 77.64 332 ⇑P P 13 59 00.4 +1.7
baz=78,SNR=11
X18A Snowflake 77.64 329 ⇓P P 13 59 00.1 +1.4
baz=78
Q32A Meitler Ranch, 77.67 340 ⇑P P 13 58 59.5 +1.0
baz=78
U23A El Rito 77.74 333 ⇑P P 13 59 00.7 +1.5
baz=78,SNR=6.1
T25A Trinidad 77.82 335 ⇓P P 13 59 00.9 +1.3
baz=78,SNR=7.7
P33A Williams Farm, 77.84 341 ⇑P P 13 59 00.5 +1.0
baz=78
Q31A Ellis 77.92 339 ⇓P P 13 59 00.9 +1.0
baz=78
S26A Kim 77.93 336 ⇓P P 13 59 00.9 +0.8
baz=78,SNR=12
U22A Llaves 78.03 333 ⇓P P 13 59 02.4 +1.6
baz=78
R28A Tribune 78.04 337 ⇓P P 13 59 01.3 +0.6
baz=78,SNR=6.0
W18A Petrified Fore 78.06 330 ⇓P P 13 59 01.9 +0.9
baz=78
T24B San Luis 78.09 334 ⇓P P 13 59 02.3 +1.0
baz=78,SNR=5.2
Q30A Quinter 78.14 339 ⇓P P 13 59 01.9 +0.8
baz=78
X16A Lo Mia Camp, P 78.18 328 ⇓P P 13 59 01.9 +0.3
baz=78
Q29A Oakley 78.28 338 ⇑P P 13 59 02.5 +0.5
baz=79
S25A Robets Cordova 78.30 335 ⇑P P 13 59 03.3 +1.1
baz=79
T23A Casias Ranch, 78.31 333 ⇓P P 13 59 03.3 +0.9
baz=79
R27A Eads 78.31 336 ⇑P P 13 59 02.8 +0.6
baz=79,SNR=11
P31A Stockton 78.39 339 ⇓P P 13 59 03.6 +1.1
baz=79
Y14A Wickenburg 78.46 327 ⇑P P 13 59 04.2 +1.1
baz=79
R26A Arlington 78.54 336 ⇓P P 13 59 04.5 +1.0
baz=79,SNR=8.5
S24A Houchin Ranch, 78.55 334 ⇓P P 13 59 04.9 +1.1
baz=79,SNR=9.0
MDV Middlebury 78.96 360 eP P 13 59 05.7 +0.3
Y12C Blythe 78.99 326 ⇑P P 13 59 07.1 +1.2
baz=79
R24A Sanders Place, 79.04 335 ⇑P P 13 59 07.7 +1.4
baz=79,SNR=12
WUAZ Wupatki 79.09 329 ⇑P P 13 59 07.6 +1.0
baz=79
Q26A Hugo 79.12 336 ⇓P P 13 59 08.1 +1.4
baz=80
P28A Saint Francis 79.15 338 ⇓P P 13 59 07.9 +1.1
baz=80
O30A MW Ranch, Wils 79.20 339 ⇑P P 13 59 08.0 +1.1
baz=80
S22A 4UR Ranch, Cre 79.23 333 ⇓P P 13 59 08.4 +0.9
baz=80,SNR=5.7
R23A Moffat 79.26 334 ⇑P P 13 59 08.4 +0.8
baz=80,SNR=6.1
PDMCI Parker Dam,Lak 79.27 326 ⇓P P 13 59 08.2 +0.8
baz=80
BC3 Big Chuckawall 79.34 325 ⇓P P 13 59 09.3 +1.4
baz=80
O29A 4D Ranch, Culb 79.37 339 ⇑P P 13 59 09.2 +1.3
baz=80
MVCO Mesa Verde 79.39 332 ⇓P P 13 59 08.9 +0.7
baz=80,SNR=6.4
P26A Davis Ranch, A 79.64 337 ⇑P P 13 59 10.9 +1.4
baz=80
Q24A Divide 79.71 335 ⇓P P 13 59 11.6 +1.5
baz=80
W13A Hualapai Mount 79.83 327 ⇑P P 13 59 12.2 +1.5
baz=80
P25A Willow Gulch B 79.87 336 ⇓P P 13 59 12.0 +1.2
baz=80,SNR=7.5
N29A Votaw Ranch, W 79.95 339 ⇑P P 13 59 12.4 +1.3
baz=80
M31A Lambtecht Ranc 79.97 340 ⇓P P 13 59 12.6 +1.5
baz=80
BOSA Boshof 80.09 118 eP P 13 59 12.5 +0.1
BOSA pmax pmax
comp=Z,7.0nm,0.6s
BOSA Boshof 80.09 118 P P 13 59 11.8 -0.6
comp=Z,9.0nm,0.8s,baz=237,slow=3.5,SNR=15
BOSA Boshof 80.09 118 eP P 13 59 12.5 +0.1
comp=Z,6.6nm,0.6s
MURC Murrieta 80.13 324 ⇓P P 13 59 14.2 +2.0
baz=80
PV01 Paradox Valley 80.22 332 eP P 13 59 13.9 +1.1
comp=Z,636nm,1.2s
U15A North Rim 80.25 329 ⇓P P 13 59 14.4 +1.4
baz=81,SNR=6.1
GMRC Granite Mounta 80.37 325 ⇓P P 13 59 15.3 +1.7
baz=81
O25A Wiggins 80.40 336 ⇑P P 13 59 15.2 +1.6
baz=81
N27A Anderson Farm, 80.52 338 ⇓P P 13 59 15.5 +1.3
baz=81
M29A Burnside Ranch 80.55 339 ⇓P P 13 59 15.7 +1.4
baz=81
ISCO Idaho Springs 80.62 335 ⇑P P 13 59 16.1 +1.1
baz=81
L31A Butterfield Fa 80.71 341 ⇑P P 13 59 16.2 +1.1
baz=81
P22A Eagle 80.84 334 ⇑P P 13 59 17.3 +1.2
baz=81
BFSC Mount Baldy Ra 80.87 324 ⇑P P 13 59 17.8 +1.5
baz=81
L29A Maesberg Ranch 81.06 340 ⇑P P 13 59 18.4 +1.4
baz=81
O23A Lake Granby, G 81.09 335 ⇓P P 13 59 18.4 +0.9
baz=81,SNR=8.8
O22A Kremmling 81.27 335 ⇓P P 13 59 19.0 +0.6
baz=82,SNR=6.1
K30A Basset 81.38 340 ⇓P P 13 59 19.2 +0.6
baz=82,SNR=6.3
EDW2 Edwards Air Fo 81.55 324 ⇑P P 13 59 20.5 +0.8
baz=82
ECSD EROS Data Cent 81.60 343 eP P 13 59 19.6 -0.1
comp=Z,20nm,0.9s
ECSD EROS Data Cent 81.60 343 ⇓P P 13 59 19.7 -0.1
baz=82,SNR=14
K29A Lazy Trails An 81.66 340 ⇓P P 13 59 21.5 +1.4
baz=82
N23A Red Feather La 81.71 335 ⇑P P 13 59 21.8 +1.0
baz=82
N22A Wattenberg Ran 81.80 335 ⇑P P 13 59 22.4 +1.2
baz=82
M24A Cheyenne 81.85 336 ⇑P P 13 59 22.5 +1.2
baz=82
O20A White River Ci 81.85 333 ⇓P P 13 59 22.5 +1.1
baz=82
ARUT Antelope Range 81.89 329 eP P 13 59 23.3 +1.7
ARUT pmax pmax
comp=Z,89nm,1.2s
ARUT Antelope Range 81.89 329 eP P 13 59 23.3 +1.7
comp=Z,89nm,1.2s
M23A Laramie 82.15 336 ⇑P P 13 59 23.7 +0.7
baz=82,SNR=5.4
K27A Flueckinger Fa 82.16 339 ⇑P P 13 59 24.0 +1.2
baz=82
SPMN St. Paul 82.18 346 ⇓P P 13 59 22.2 -0.5
baz=82
J29A Okreek 82.26 340 ⇑P P 13 59 23.9 +0.7
baz=83,SNR=5.5
ISA Isabella 82.41 324 ⇑P P 13 59 25.4 +1.1
baz=83
N20A Spence Gulch, 82.47 334 ⇑P P 13 59 25.2 +0.5
baz=83
I30A Oacoma 82.48 341 ⇑P P 13 59 24.4 0.0
baz=83
J27A Elkhorn Farm, 82.59 339 ⇑P P 13 59 26.4 +1.3
baz=83
L23A Garrett 82.72 336 ⇓P P 13 59 26.3 +0.3
baz=83
I29A Vivian Onida 82.82 340 ⇑P P 13 59 26.3 +0.2
baz=83
L22A Ellis Ranch, M 82.89 336 ⇓P P 13 59 28.3 +1.5
baz=83
J26A Sides Ranch, S 82.97 338 ⇓P P 13 59 28.3 +1.3
baz=83
GRAC Grapevine Rang 82.98 326 ⇓P P 13 59 28.7 +1.5
baz=83
I28A Midland 83.04 340 ⇓P P 13 59 27.5 +0.2
baz=83,SNR=6.3
DAU Daniels Canyon 83.23 332 eP P 13 59 29.8 +1.1
DAU pmax pmax
comp=Z,16nm,1.5s
DAU Daniels Canyon 83.23 332 eP P 13 59 29.8 +1.1
comp=Z,16nm,1.5s
K23A Bowen Ranch, D 83.27 336 ⇑P P 13 59 29.8 +1.2
baz=84
R11A Troy Canyon, C 83.28 328 ⇓P P 13 59 29.9 +1.0
baz=84,SNR=6.0
RCTC Rector, Farmer 83.30 324 ⇓P P 13 59 30.2 +1.4
baz=84
H29A Onida 83.36 341 ⇑P P 13 59 29.1 +0.2
baz=84
I27A Quinn 83.36 339 ⇓P P 13 59 29.8 +0.9
baz=84
JLU Jordanelle 83.47 331 eP P 13 59 30.4 +0.5
comp=Z,5.8nm,1.0s
K22A Casper 83.47 336 eP P 13 59 30.3 +0.6
comp=Z,32nm,1.6s
K22A Casper 83.47 336 ⇑P P 13 59 30.7 +1.0
baz=84
J24A Dixon Ranch, L 83.47 337 ⇑P P 13 59 30.9 +1.2
baz=84
G30A Faulkton 83.54 342 ⇑P P 13 59 30.4 +0.6
baz=84
I26A New Underwood 83.56 339 ⇓P P 13 59 31.2 +1.2
baz=84
H28A Mission Ridge 83.62 340 ⇑P P 13 59 30.9 +0.7
baz=84
DUG Dugway 83.66 330 ⇑P P 13 59 31.7 +0.9
baz=84,SNR=9.8
K21A Alcova 83.70 335 ⇓P P 13 59 31.5 +0.6
baz=84,SNR=9.5
G29A Hoven 83.80 341 ⇓P P 13 59 32.1 +0.9
baz=84
I25A Rochford 83.81 338 ⇑P P 13 59 32.2 +0.8
baz=84,SNR=6.5
H27A Howes 83.88 340 ⇓P P 13 59 32.0 +0.4
baz=84
I24A Kuemmerle Ranc 83.94 338 ⇓P P 13 59 32.5 +0.5
baz=84
G28A Parade 83.96 340 ⇑P P 13 59 32.8 +0.8
baz=84
J22A Midwest 84.13 336 ⇓P P 13 59 33.4 +0.3
baz=84
H25A Fruitdale 84.31 339 ⇓P P 13 59 34.4 +0.6
baz=85
F29A Eureka 84.37 341 ⇑P P 13 59 34.4 +0.3
baz=85,SNR=5.9
HWUT Hardware Ranch 84.38 332 eP P 13 59 34.7 +0.3
comp=Z,42nm,1.7s
I22A 9 Mile Ranch, 84.56 336 ⇓P P 13 59 35.2 -0.1
baz=85,SNR=5.6
NVAR Mina Array Bea 84.57 326 P P 13 59 35.8 +0.3
comp=Z,2.8nm,0.9s,baz=140,slow=5.8,SNR=11
J20A Shoshoni 84.62 335 ⇓P P 13 59 36.7 +1.1
baz=85
PDAR Pinedale Array 84.63 334 P P 13 59 35.1 -0.6
comp=Z,1.2nm,0.8s,baz=140,slow=4.8,SNR=8.6
G26A Maurine 84.63 339 ⇓P P 13 59 35.5 +0.1
baz=85,SNR=5.7
F28A McLaughlin 84.64 341 ⇓P P 13 59 36.1 +0.7
baz=85
H24A Dirks Ranch, A 84.72 338 ⇑P P 13 59 36.4 +0.5
baz=85

I21A Big Trails, Te 84.76 336 ⇑P P 13 59 36.4 +0.1
baz=85,SNR=6.5
E30A Jud 84.76 342 ⇑P P 13 59 36.8 +0.8
baz=85
G25A Newell 84.78 339 ⇑P P 13 59 36.6 +0.5
baz=85
J19A Crowheart 84.89 334 ⇓P P 13 59 37.1 +0.2
baz=85,SNR=5.5
F27A Lemmon 85.00 340 ⇑P P 13 59 37.6 +0.4
baz=85,SNR=6.2
E29A Napoleon 85.01 342 ⇓P P 13 59 37.8 +0.6
baz=85
H22A Clearmont 85.15 337 ⇓P P 13 59 38.2 +0.1
baz=86
F26A Lodgepole 85.16 340 ⇓P P 13 59 39.0 +1.0
baz=86
I20A Worland 85.17 335 ⇑P P 13 59 38.5 +0.3
baz=86,SNR=9.5
E28A Huff 85.29 341 ⇑P P 13 59 39.2 +0.5
baz=86
D30A Buchanan 85.29 343 ⇓P P 13 59 39.1 +0.5
baz=86
TOA0 Torodi Ar. Sit 85.35 70 eP P 13 59 39.5 -0.1
TORD Torodi Ar. Bea 85.35 70 P P 13 59 39.6 -0.1
comp=Z,5.9nm,1.0s,baz=238,slow=4.5,SNR=14
G23A Biddle 85.38 338 ⇑P P 13 59 39.4 +0.1
baz=86
H21A Big Horn, Sher 85.40 336 ⇓P P 13 59 39.5 +0.1
baz=86
D29A Pettibone, Tap 85.45 342 ⇓P P 13 59 39.8 +0.3
baz=86
F25A Bowman 85.46 339 ⇓P P 13 59 39.8 +0.2
baz=86
I19A Meeteetse 85.54 335 ⇑P P 13 59 39.9 -0.3
baz=86
H20A Greybull 85.59 336 ⇓P P 13 59 40.2 -0.2
baz=86,SNR=13
E26A Carlson Angus 85.67 340 ⇑P P 13 59 40.4 -0.1
baz=86
F24A Ekalaka 85.67 339 ⇑P P 13 59 41.0 +0.3
baz=86
G22A Birney 85.68 337 ⇓P P 13 59 40.9 +0.1
baz=86
AGMN Agassiz Nation 85.75 345 ⇓P P 13 59 41.1 +0.3
baz=86
C30A Mose, Pekin 85.78 343 ⇑P P 13 59 41.4 +0.3
baz=86,SNR=7.5
D28A Regan 85.83 342 ⇓P P 13 59 41.7 +0.4
baz=86,SNR=6.1
F23A Volborg 85.86 338 ⇓P P 13 59 41.8 +0.3
baz=86
E25A Miller Ranch, 85.96 339 ⇓P P 13 59 42.6 +0.6
baz=86
G21A Lodge Grass 85.98 336 ⇓P P 13 59 42.6 +0.3
baz=86
I17A Pilgrim Ck. 86.00 334 ⇓P P 13 59 42.6 +0.1
baz=86
H19A Powell 86.09 335 ⇑P P 13 59 43.3 +0.5
baz=86
F22A Rosebud 86.17 337 ⇓P P 13 59 43.0 -0.1
baz=86,SNR=5.2
D26A Manning 86.17 340 ⇓P P 13 59 43.5 +0.5
baz=86,SNR=6.8
G20A Bridger 86.31 336 ⇑P P 13 59 43.8 -0.1
baz=87,SNR=11
H18A Shoshone NF, C 86.33 335 ⇑P P 13 59 44.3 +0.1
baz=87,SNR=13
B30A Myrvik Farm, E 86.44 343 ⇓P P 13 59 44.5 +0.2
baz=87,SNR=12
D25A Fairfield 86.53 340 ⇓P P 13 59 45.2 +0.3
baz=87,SNR=6.0
C27A Sayler Ranch, 86.55 341 ⇑P P 13 59 45.1 +0.3
baz=87,SNR=9.1
RLMT Red Lodge 86.58 335 eP P 13 59 45.6 +0.3
comp=Z,3.6nm,0.8s
E22A Miles City 86.67 338 ⇓P P 13 59 45.9 +0.4
baz=87
B29A Wagenman Farm, 86.70 343 ⇑P P 13 59 46.0 +0.4
baz=87,SNR=8.0
D24A Glendive 86.79 339 ⇑P P 13 59 46.6 +0.6
baz=87,SNR=6.7
F20A Billings 86.80 336 ⇑P P 13 59 46.4 +0.2
baz=87
C26A Wahner Farm, P 86.81 341 ⇑P P 13 59 46.6 +0.5
baz=87,SNR=6.3
A30A Hoffart Farm, 86.90 344 ⇑P P 13 59 46.9 +0.4
baz=87
B28A Dugan Ranch, T 86.94 342 ⇓P P 13 59 47.0 +0.3
baz=87,SNR=8.4
C25A Freed Ranch, W 87.03 340 ⇑P P 13 59 48.0 +0.8
baz=87
A29A Manning Farm, 87.10 343 ⇑P P 13 59 47.7 +0.2
baz=87,SNR=13
D23A Lindsay 87.10 339 ⇓P P 13 59 48.4 +0.8
baz=87
F19A Roth Farm, Mol 87.11 336 ⇑P P 13 59 47.9 +0.1
baz=87
B27A Peters Farms, 87.12 342 ⇓P P 13 59 48.4 +0.8
baz=88
HLID Hailey 87.15 331 ⇑P P 13 59 48.7 +0.6
baz=88,SNR=6.1
C24A Savage 87.19 339 ⇓P P 13 59 48.5 +0.4
baz=88,SNR=15
A28A Rude Farm, Bot 87.34 342 ⇑P P 13 59 48.6 -0.1
baz=88
B26A Jensen Ranch, 87.35 341 ⇑P P 13 59 49.0 +0.2
baz=88
D22A Cohagen 87.37 338 ⇓P P 13 59 48.9 0.0
baz=88,SNR=5.3
E20A Meyer Farm, Mu 87.42 337 ⇓P P 13 59 49.3 +0.1
baz=88,SNR=7.9
B25A Knox Farm, Ray 87.51 340 ⇑P P 13 59 50.0 +0.4
baz=88
D21A La Casta Ranch 87.55 337 ⇑P P 13 59 50.0 +0.2
baz=88
E19A Rath Farm, Rou 87.59 336 ⇓P P 13 59 50.1 0.0
baz=88,SNR=8.7
ULM Lac du Bonnet 87.60 345 eP P 13 59 49.2 -0.7
ULM pmax pmax
comp=Z,9.0nm,0.8s
ULM Lac du Bonnet 87.60 345 P P 13 59 48.8 -1.0
comp=Z,10.0nm,0.8s,baz=190,slow=3.7,SNR=15
ULM Lac du Bonnet 87.60 345 eP P 13 59 49.2 -0.7
comp=Z,8.6nm,0.8s
MCMT McKenzie Canyo 87.61 333 eP P 13 59 51.5 +1.1
comp=Z,9.9nm,1.4s
C23A Lambert 87.66 339 ⇓P P 13 59 50.2 -0.1
baz=88,SNR=8.9
A26A Wade Farm, Ken 87.78 341 ⇓P P 13 59 50.9 +0.1
baz=88,SNR=6.2
C22A Vida 87.82 338 ⇓P P 13 59 51.3 +0.3
baz=88
D20A Manuel Ranch, 87.94 337 ⇓P P 13 59 51.7 +0.1
baz=88
DGMT Dagmar 87.98 340 eP P 13 59 52.0 +0.2
comp=Z,44nm,1.1s
DGMT Dagmar 87.98 340 ⇑P P 13 59 51.8 0.0
baz=88,SNR=6.1
A25A Svangstu Ranch 88.10 341 ⇓P P 13 59 53.0 +0.7
baz=88
B23A Brockton 88.20 339 ⇑P P 13 59 53.4 +0.5
baz=88
C21A Desert Coulee 88.26 338 ⇓P P 13 59 53.6 +0.5
baz=89
LRM Limekiln Ridge 88.32 334 eP P 13 59 54.1 +0.4
comp=Z,158nm,1.8s
A24A Westby 88.33 340 ⇑P P 13 59 54.2 +0.8
baz=89
B22A Reddig Ranch S 88.35 339 ⇑P P 13 59 53.7 +0.1
baz=89,SNR=6.3
C20A Veseth Ranch, 88.44 337 ⇓P P 13 59 54.2 +0.2
baz=89
N02D Trinity Center 88.65 325 ⇓P P 13 59 56.0 +0.8
baz=89
B21A Ellsworth Farm 88.77 338 ⇓P P 13 59 55.8 +0.3
baz=89
C19A Slack Wire Ran 88.80 337 ⇓P P 13 59 55.9 +0.2
baz=89
M04C Macdoel 88.88 326 ⇑P P 13 59 56.6 +0.3
baz=89
A22A Carney Farms, 88.94 339 ⇓P P 13 59 56.0 -0.4
baz=89,SNR=6.9
EGMT Eagleton 89.28 336 ⇑P P 13 59 58.3 +0.3
baz=90
A20A Cobblestone Ra 89.45 338 ⇑P P 13 59 58.9 +0.2
baz=90
MSO Missoula 89.72 333 ⇑P P 14 00 00.5 +0.4
baz=90
A19A Klindworth Far 89.75 337 ⇑P P 13 59 59.7 -0.4
baz=90
J05D Fort Rock, OR 89.79 327 ⇑P P 14 00 01.5 +0.9
baz=90
J04D Umpqua Nationa 90.14 326 ⇓P P 14 00 03.2 +0.9
baz=90
JTMT Jette 90.62 334 eP P 14 00 04.8 +0.5
I05D Terrebonne, OR 90.67 328 ⇑P P 14 00 06.0 +1.4
baz=91
NEW Newport 92.11 332 ⇑P P 14 00 10.9 -0.2
baz=92
YKA Yellowknife Ar 103.09 342 Pdiff Pdif 14 00 59.5 -0.8
comp=Z,0.6nm,0.8s,baz=140,slow=4.1,SNR=7.9
GERES GERESS Array B 113.61 46 PKiKP PKiKP 14 05 39.2 -0.9
comp=Z,0.6nm,0.7s,baz=180,slow=1.3,SNR=6.2
ILAR Eielson Array 115.05 333 PKP PKPdf 14 05 41.8 -0.5
comp=Z,0.6nm,0.8s,baz=169,slow=2.3,SNR=7.3
ASAR Alice Springs 116.05 207 PKP PKPdf 14 05 44.4 -1.3
comp=Z,0.8nm,0.9s,baz=166,slow=2.6,SNR=5.3
ASAR PKKPbc PKKPbc 14 16 15.5 +0.2
comp=Z,0.6nm,0.4s,baz=338,slow=3.3,SNR=20
NB2 NORSAR Subarra117.54 33 PKPdf PKPdf 14 05 47.1 -0.1
comp=Z,0.4nm,0.6s,baz=238,slow=1.9
NOA NORSAR Array B117.54 33 PKP PKPdf 14 05 46.2 -1.0
comp=Z,0.7nm,0.8s,baz=237,slow=2.4,SNR=3.7
NOA PKKPbc PKKPab 14 16 12.1 +1.3
comp=Z,0.3nm,0.7s,baz=66,slow=4.6,SNR=3.7
WRA Warramunga Arr 119.24 210 PKP PKPdf 14 05 50.8 -1.1
comp=Z,1.1nm,0.7s,baz=157,slow=1.6,SNR=9.3
BRTR Keskin Array B 123.11 62 PKP PKPdf 14 05 58.6 -0.2
comp=Z,1.4nm,0.8s,baz=178,slow=3.2,SNR=7.5
AK02 Malin Array Si 123.60 48 ePKPdf PKPdf 14 05 57.7 -1.4
KIEV Kiev 123.62 48 i PKIKP PKPdf 14 05 58.1 -1.0
AKASG Malin Array Be 123.63 48 PKP PKPdf 14 05 58.3 -0.9
comp=Z,2.6nm,0.7s,baz=261,slow=2.7,SNR=15
FINES FINESS Array B 124.50 35 PKP PKPdf 14 06 00.3 -0.2
comp=Z,2.3nm,0.8s,baz=162,slow=1.9,SNR=11
KAF Kangasniemi 124.74 34 ePKIKP PKPdf 14 05 59.6 -1.3
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 124.74 34 ep PKPdf 14 05 59.6 -1.3
comp=Z,3.1nm,0.5s
ARCES ARCESS Array B 125.53 25 PKP PKPdf 14 06 01.8 -0.5
comp=Z,2.2nm,0.7s,baz=264,slow=4.3,SNR=9.7
JOF Joensuu 127.16 34 ePKIKP PKPdf 14 06 04.9 -0.6
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 127.16 34 ep PKPdf 14 06 04.9 -0.6
comp=Z,1.5nm,0.5s
OBN Obninsk 128.90 44⇑iPKIKP PKPdf 14 06 09.0 -0.1
OBN pmax pmax
comp=Z,29nm,1.7s
OBN MLR MLR
comp=Z,66nm,18.0s
VSR Storozhevoye 129.87 49 i PKIKP PKPdf 14 06 10.5 -0.6
KIV Kislovodsk 130.81 59 ePKIKP PKPdf 14 06 12.5 -0.8
KIV pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 130.91 37 ePKIKP PKPdf 14 06 11.5 -1.2
KLMR pmax pmax
comp=Z,23nm,1.3s
BILL Bilibino 133.71 333 i PKIKP PKPdf 14 06 16.5 -1.4
BILL pmax pmax
comp=Z,3.0nm,1.4s
PRGR Permogore 133.83 36 ePKIKP PKPdf 14 06 18.1 -0.1
PRGR pmax pmax
comp=Z,13nm,0.8s
PETK Petropavlovsk- 140.54 313 PKP PKPdf 14 06 31.3 +0.4
comp=Z,7.1nm,0.9s,baz=101,slow=6.2,SNR=6.4
SEY Seymchan 140.81 329 PKhKP PKPpre 14 06 24.2
comp=Z,2.4nm,0.7s,baz=128,slow=5.1,SNR=8.9
ARU Arti 141.23 42 PKIKP PKPdf 14 06 33.3 +1.2
AKTO Aktyubinsk 141.75 51 PKP PKPdf 14 06 33.5 +0.3
comp=Z,1.5nm,0.7s,baz=25,slow=4.7,SNR=5.1
TIXI Tiksi 141.87 349 i PKIKP PKPdf 14 06 32.7 -0.1
AB31 Akbulak array 143.07 53 PKHKP PKPpre 14 06 30.9
AB31 pmax pmax
comp=Z,13nm,1.1s
ABKAR Akbulak array 143.07 53 ePKPpre PKPpre 14 06 31.6
BRVK Borovoye 148.68 44 PKIKP PKPdf 14 06 45.2 +0.2
BRVK pmax pmax
comp=Z,18nm,0.7s
BRVK Borovoye 148.68 44 ePKPdf PKPdf 14 06 45.0 0.0
BRVK ePKPbc PKPbc 14 06 49.4 +0.6
BVA0 Borovoye Array 148.75 44 i PKIKP PKPdf 14 06 45.5 +0.4
BVA0 pmax pmax
comp=Z,17nm,1.2s
BVAR Borovoye Array 148.75 44 PKP PKPdf 14 06 44.9 -0.2
comp=Z,4.3nm,0.6s,baz=252,slow=2.9,SNR=7.1
BVAR PKPbc PKPbc 14 06 49.4 +0.5
comp=Z,7.4nm,0.7s,baz=281,slow=3.3,SNR=24
IPM Ipoh 148.79 168 ePKPbc PKPbc 14 06 49.7 -0.6
HYB Hyderabad 149.00 118 i PKP PKPbc 14 06 49.5 -1.2
KULM Kulim 149.52 167 ePKPbc PKPbc 14 06 51.5 -0.6
YAK Yakutsk 149.73 339 ePKIKP PKPdf 14 06 45.3 -1.1
YAK e 14 06 50.8
YAK Yakutsk 149.73 339 ePKPdf PKPdf 14 06 45.2 -1.1
YAK ePKPbc PKPbc 14 06 50.8 -0.3
KK31 Karatay Array 150.81 63 ePKIKP PKPbc 14 06 54.2 -0.2
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 150.81 63 ePKIKP PKPbc 14 06 54.2 -0.2
KKAR Karatay Array 150.81 63 ePKPbc PKPbc 14 06 54.2 -0.2
ASAJ Asahikawa 151.49 299 PKPbc PKPbc 14 06 55.4 -0.4
comp=Z,11nm,0.8s,baz=284,slow=10,SNR=3.9
EKS2 Erkin-Say 153.23 64 ePKIKP PKPbc 14 06 53.3 +0.7
EKS2 e 14 07 00.2
EKS2 Erkin-Say 153.23 64 ePKPdf PKPdf 14 06 53.3 +0.7
EKS2 ePKPbc PKiKP 14 07 00.2 0.0
AAK Ala-Archa 153.76 64 ePKIKP PKPbc 14 07 01.8 +0.6
AAK Ala-Archa 153.76 64 PKPbc PKPbc 14 07 01.5 +0.3
comp=Z,4.9nm,0.9s,baz=169,slow=3.3,SNR=11
AAK Ala-Archa 153.76 64 ePKPbc PKPbc 14 07 01.8 +0.6
KURK Kurchatov 154.35 44 ePKIKP PKPbc 14 07 02.1 +0.1
KURK Kurchatov 154.35 44 ePKPbc PKPbc 14 07 02.0 +0.1
NVS Novosibirsk 154.46 33⇓iPKIKP PKPbc 14 07 01.4 -0.6
NVS i 14 07 16.9
NVS pmax pmax
comp=Z,23nm,1.4s
NVS pmax pmax
comp=N,6.0nm,1.5s
NVS pmax pmax
comp=E,4.0nm,1.5s
KSH Kashi 155.02 71 ePKPbc PKPbc 14 06 54.3 -0.9
KSH epPKP pPKPdf 14 07 05.5 +4.5
KSH esPKP 14 07 09.5
KSH eSKS SKSdf 14 13 56.0 -5.0
KSH eSS SS 14 30 34.0 -5.4
KSH AMB AMB
comp=E,49nm,3.5s
KSH LR LR
comp=E,41nm,4.7s
ZAA0 Zalesovo Array 155.74 33 ePKPdf PKPdf 14 06 54.8 -0.6
ZAA0 ePKPdif PKPdf 14 07 04.9 +9.4
ZALV Zalesovo Beam 155.74 33 PKP PKPdf 14 06 55.1 -0.3
comp=E,2.4nm,0.8s,baz=304,slow=2.9,SNR=6.1
ZALV PKPbc PKPbc 14 07 05.0
comp=E,5.0nm,0.7s,baz=294,slow=3.2,SNR=9.0
ZALV PKPab PKPab 14 07 22.0 0.0
comp=E,6.3nm,0.8s,baz=308,slow=5.3,SNR=8.6
BOD Bodaibo 157.04 350 ePKP2 PKPab 14 07 26.4 -1.0
BOD pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 158.18 51 PKIKP PKPdf 14 06 54.1 -4.8
MKAR Makanchi Array 158.18 51 PKP PKPdf 14 06 58.9 0.0
comp=Z,0.6nm,0.8s,baz=298,slow=2.6,SNR=4.5
MKAR PKPab PKPab 14 07 32.6 -0.2
comp=Z,1.5nm,0.9s,baz=281,slow=3.3,SNR=6.3
KOLN Koldanda 158.65 104 eP PKPdf 14 06 59.5 -0.8
DANN Dangsing 159.03 103 eP PKPdf 14 07 00.7 -0.1
comp=Z,15nm,0.8s
PKI Pulchoki 159.99 107 eP PKPdf 14 07 00.7 -1.3
RAMN Ramite 160.61 110 eP PKPdf 14 07 02.3 -0.3
ODAN Odare 161.16 111 eP PKPdf 14 07 03.0 -0.2
TAPN Taplejung 161.66 110 eP PKPdf 14 07 03.4 -0.4
CMAR Chiang Mai Arr 161.70 155 PKP PKPdf 14 07 03.8 +0.1
comp=Z,0.8nm,0.8s,baz=246,slow=3.6,SNR=4.9
CMAR PKPab PKPab 14 07 47.8 -0.9
comp=Z,0.8nm,0.8s,baz=230,slow=5.6,SNR=3.3
WMQ Urumqi 162.85 55 ePKP PKPdf 14 07 04.3 +0.1
WMQ LR LR
comp=Z,68nm,24.0s
WMQ LR LR
comp=Z,88nm,23.0s
WMQ LR LR
comp=Z,81nm,24.2s
KSRS Korea Array 163.08 283 PKPab PKPab 14 07 54.4 -0.1
comp=Z,1.8nm,0.8s,baz=129,slow=4.9,SNR=5.8
KSAR Wonju Array Be 163.11 283 PKP2 PKPab 14 07 54.4 -0.2
KSAR Wonju Array Be 163.11 283 PKPab PKPab 14 07 54.4 -0.2
TLY Talaya 163.48 8 ePKP2 PKPab 14 07 56.9 +1.2
TLY pmax pmax
comp=Z,6.0nm,0.9s
CN2 Changchun 163.53 306 ePKP PKPdf 14 07 05.8 +1.1
ZAK Zakamensk 164.71 9 ePKP2 PKPab 14 08 01.4 +0.2
ZAK pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 167.50 2 PKPab PKPab 14 08 13.6 0.0
comp=Z,2.0nm,0.8s,baz=339,slow=4.3,SNR=7.0
KMI Kunming 169.15 159 PKP PKPdf 14 07 09.0 -1.0
NJ2 Nanjing 169.66 255 ePKP PKPdf 14 07 08.8 -1.0
GYA Guiyang 171.14 178 PKP PKPdf 14 07 10.0 -0.9
GYA pPKP pPKPdf 14 07 21.5 +4.7
GYA PKPab PKPab 14 08 31.0 +0.8
GYA PKS PKSdf 14 10 41.5 -2.0
GYA PP PP 14 12 22.8 +3.0
GYA SKKS 14 19 05.5
GYA SS SS 14 33 22.0 -1.3
GYA AMB AMB
comp=Z,120nm,8.1s
GYA LR LR
comp=Z,120nm,21.8s
GYA LR LR
comp=Z,110nm,21.4s
GYA LR LR
comp=Z,120nm,24.6s
GTA Gaotai 172.93 53 ePKP PKPdf 14 07 11.8 +0.4
GTA pPKP pPKPdf 14 07 22.0 +4.8
GTA sPKP 14 07 26.5
HHC Hu-ho-hao-te 173.46 329 ePKP PKPdf 14 07 11.8 +0.3
HHC pPKP pPKPdf 14 07 22.8 +5.4
HHC sPKP 14 07 26.0
HHC PP PP 14 12 34.5 +2.7
HHC SKS SKSdf 14 14 09.3 -4.6
HHC SS SS 14 33 45.0 -1.8
HHC AMB AMB
comp=Z,82nm,5.2s
HHC LR LR
comp=Z,170nm,18.6s
HHC LR LR
comp=Z,170nm,19.9s
HHC LR LR
comp=Z,190nm,22.2s
CD2 Chengdu 174.78 147 PKP PKPdf 14 07 11.8 -0.4
CD2 pPKP pPKPdf 14 07 23.0 +5.0
CD2 sPKP 14 07 26.8
CD2 PKS PKSdf 14 10 42.5 -2.0
CD2 PP PP 14 12 41.5 +3.3
CD2 SKS SKSdf 14 14 09.3 -5.3
CD2 SKKS SKKSac 14 19 22.0 -2.4
CD2 SS SS 14 33 57.3 -2.2
CD2 AMB AMB
comp=Z,240nm,6.6s
LZH Lanzhou 177.26 73 ePKP PKPdf 14 07 12.5 -0.3
LZH pPKP pPKPdf 14 07 23.3 +4.7
LZH sPKP 14 07 27.0
LZH PP PP 14 12 54.0 +2.7
LZH AMB AMB
comp=Z,170nm,5.9s
XAN Xi'an 178.00 230 PKP PKPdf 14 07 12.3 -0.5

IDC 28 13:49:15.1±0.7, 34°.84S×72°.41W, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.2/25, mbtmp4.2/10, ML4.0/1, Error ellipse: s-maj=31.2km s-min=19.8km az=83.0
ISCJB 28 13:49:16.8±0.1, 34°.85S±0°.1×72°.3W±0°.2, h18km, mb4.2/9, Error ellipse: s-maj=26.5km s-min=15.3km az=176.1
NEIC 28 13:49:20.5±0.5, 34°.84S×72°.38W, h35km, mb4.4/3, Error ellipse: s-maj=21.4km s-min=13.0km az=91.0
ISC 28 13:49:18.1±0.8, 34°.85S±0°.1×72°.4W±0°.2, h18km, n19, σ0.87/19, mb4.2/9, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 18.86 13 P Pn 13 53 39.5 +0.9
0.2nm,0.3s,baz=197,slow=17,SNR=2.2
LPAZ La Paz 18.86 13 P Pn 13 53 40.1 +1.6
SIV San Ignacio 21.33 31 P P 13 54 03.3 -1.0
10.0nm,0.8s,baz=234,slow=8.1,SNR=4.4
SNAA Sanae 50.93 158 P P 13 58 18.2 +0.2
1.6nm,0.9s,baz=279,slow=13,SNR=2.2
SNAA Sanae 50.93 158 P P 13 58 18.8 +0.9
QSPA South Pole Qui 55.41 180 P P 13 58 51.7 +0.6
2.4nm,0.8s,baz=0.0,slow=0.0,SNR=2.8
TXAR Lajitas Array 70.32 331 P P 14 00 31.1 +0.4
1.4nm,0.7s,baz=157,slow=8.6,SNR=10
DBIC Dimbokro 75.72 71 P P 14 01 03.1 +0.2
2.5nm,0.6s,baz=291,slow=8.6,SNR=3.4
DBIC Dimbokro 75.72 71 eP P 14 01 03.0 +0.1
2.8nm,0.7s
BOSA Boshof 79.94 118 P P 14 01 26.9 +0.4
5.8nm,0.9s,baz=190,slow=4.5,SNR=3.1
BOSA Boshof 79.94 118 eP P 14 01 26.9 +0.4
4.8nm,0.8s
PDAR Pinedale Array 84.37 333 P P 14 01 48.7 -0.6
0.9nm,0.9s,baz=152,slow=8.1,SNR=3.4
NVAR Mina Array Bea 84.40 325 P P 14 01 50.1 +0.6
0.6nm,0.6s,baz=159,slow=6.4,SNR=5.0
TOA0 Torodi Ar. Sit 84.77 70 eP P 14 01 51.2 -0.4
TORD Torodi Ar. Bea 84.77 70 P P 14 01 51.2 -0.4
1.9nm,0.7s,baz=283,slow=4.0,SNR=4.2
ASAR Alice Springs 116.70 207 PKP PKPdf 14 08 00.3 -1.5
0.5nm,0.9s,baz=132,slow=1.4,SNR=2.8
WRA Warramunga Arr 119.89 209 PKP PKPdf 14 08 06.6 -1.3
0.7nm,0.8s,baz=161,slow=1.6,SNR=4.5
BVAR Borovoye Array 148.08 44 PKPbc PKPbc 14 09 01.1 -1.0
1.6nm,0.7s,baz=279,slow=4.1
AAK Ala-Archa 153.15 63 PKPbc PKPbc 14 09 14.3 -0.5
1.2nm,0.7s,baz=146,slow=13,SNR=3.9

IDC 28 13:50:56.9±1.0, 37°.41S×73°.56W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/25, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=42.5km s-min=16.8km az=73.0
ISCJB 28 13:50:58.3±1.0, 37°.45S±0°.1×73°.5W±0°.3, h23km, mb3.8/5, Error ellipse: s-maj=40.7km s-min=15.0km az=166.5
ISC 28 13:51:00.4±1.0, 37°.45S±0°.1×73°.5W±0°.3, h23km, n10, σ0.69/10, mb3.8/5, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.02 147 Pn Pn 13 52 01.0 +0.3
0.4nm,0.3s,baz=307,slow=20,SNR=1.5
PLCA Lg Lg 13 53 07.3
12nm,0.3s,baz=42,slow=3.5,SNR=3.7
LPAZ La Paz 21.56 14 P P 13 55 48.5 -0.5
1.3nm,0.7s,baz=190,slow=6.1,SNR=1.8
SNAA Sanae 48.90 157 P P 13 59 43.4 -0.7
0.7nm,0.9s,baz=285,slow=12,SNR=2.4
QSPA South Pole Qui 52.84 180 P P 14 00 13.8 -0.1
2.0nm,1.0s,baz=133,slow=2.3,SNR=2.4
TXAR Lajitas Array 72.17 333 P P 14 02 23.4 0.0
0.5nm,0.6s,baz=159,slow=8.4,SNR=6.8
TORD Torodi Ar. Bea 86.45 71 P P 14 03 40.8 -0.6
1.1nm,0.9s,baz=238,slow=4.0,SNR=3.2
BVAR Borovoye Array 150.52 46 PKPbc PKPbc 14 10 50.9 +1.3
1.4nm,0.6s,baz=297,slow=2.1,SNR=6.8
AAK Ala-Archa 155.00 68 PKPab PKPab 14 11 16.4 +0.5
1.2nm,0.7s,baz=313,slow=4.8,SNR=4.0
ZALV Zalesovo Beam 157.70 35 PKPab PKPab 14 11 27.3 +0.5
0.7nm,0.5s,baz=317,slow=5.9,SNR=3.7
SONM Songino Array 169.58 1 PKPab PKPab 14 12 19.0 -0.1
1.1nm,1.0s,baz=62,slow=3.7,SNR=3.9

NIED 28 13:51:00, 34°.80N×142°.20E, h8km, Mw4.0 Best double couple: $M_0$1.04000×10^{15} NP1:ϕ_s353.00000°, δ40.00000°, λ-107.00000°. NP2:ϕ_s194.00000°, δ52.00000°, λ-76.00000°.
JMA 28 13:51:53.7±0.4, 34°.76N×142°.17E, h42km, M3.8
IDC 28 13:51:53.8±0.8, 34°.71N×141°.79E, h0km, mb3.8/14, mb1 3.9/17, mb1mx3.8/38, mbtmp3.8/17, ML3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/44, Error ellipse: s-maj=19.1km s-min=18.3km az=174.0
NEIC 28 13:51:55.4±0.6, 34°.74N×141°.81E, h10km, mb4.2/5, Error ellipse: s-maj=11.7km s-min=10.1km az=143.0
ISC 28 13:51:53.9±2.2, 34°.82N±0°.05×141°.88E±0°.06, h2km±13km,

n49,σ1°53/58,mb3.9/19,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.76	257	P	Pn	13 52 11.4	+0.2
BSO1				eS	Sn	13 52 24.6	+1.6
BSO3	Boso 3	1.13	269	P	Pn	13 52 17.4	+0.9
CHOJ	Chosi	1.21	317	P	Pn	13 52 18.3	+0.4
CHOJ				eS	Sn	13 52 36.4	+1.6
BSO4	Boso 4	1.28	278	P	Pn	13 52 19.7	+1.0
JCN	Nagara	1.50	294	P	Pg	13 52 23.3	+0.6
JIM2	Oshima 3	2.02	268	P	Pn	13 52 28.9	-0.1
JOD2	Odawara 2	2.33	282	P	Pn	13 52 33.4	+0.1
JOD2				eS	Sn	13 53 02.9	+0.3
JHJ2	Mitsune	2.42	226	P	Pn	13 52 34.9	+0.4
JHJ2				eS	Sn	13 53 02.9	-1.8
JHJ2	Mitsune	2.42	226	eP	Pb	13 52 36.3	-1.8
JIZS	Izushimoda	2.48	268	P	Pn	13 52 35.4	+0.2
JAG	Ashikaga	2.54	310	P	Pn	13 52 36.9	+0.7
JAG				eS	Sn	13 53 07.8	+0.1
JFK	Kawauchi	2.67	342	P	Pn	13 52 36.5	-1.4
JFK				eS	Sn	13 53 07.2	-3.6
JRY	Ryogami san	2.71	297	P	Pn	13 52 39.6	+1.1
JRY				eS	Sb	13 53 15.0	-1.8
JYN	Shimob	2.82	285	P	Pn	13 52 40.4	+0.4
JYN				eS	Sb	13 53 17.0	-2.9
JFT	Otama	2.97	336	P	Pn	13 52 42.0	0.0
JFT				eS	Sn	13 53 16.7	-1.4
MJAR	Matsushiro Arr	3.45	301	Pn	Pn	13 52 49.4	+0.8
	3.8nm,0.3s,baz=107,slow=10.0,SNR=20						
MAJO	Matsushiro	3.45	301	eP	Pn	13 52 48.9	+0.3
MAT	Matsushiro	3.45	301	P	Pn	13 52 49.7	+1.1
MAT				eS	Sn	13 53 33.5	+3.4
ERM	Erimo	7.25	8	eP	Pn	13 53 42.7	+1.9
JNU	Nakatsue	9.30	263	Pn	Pn	13 54 09.7	+0.7
	0.5nm,0.3s,baz=67,slow=6.8,SNR=5.8						
JNU	Nakatsue	9.30	263	P	Pn	13 54 06.6	-2.3
ASAJ	Asahikawa	9.30	3	Pn	Pn	13 54 05.7	-3.2
	1.7nm,0.3s,baz=216,slow=12,SNR=20						
ASAJ				Sn	Sn	13 55 50.5	-3.5
	0.9nm,0.3s,baz=311,slow=20,SNR=4.2						
ASAJ	Asahikawa	9.30	3	eP	Pn	13 54 06.8	-2.1
ASAJ				Sn	Sn	13 55 50.5	-3.5
KSRS	Korea Array	11.59	287	Pn	Pn	13 54 42.2	+1.9
	0.1nm,0.3s,baz=96,slow=14,SNR=3.0						
KSAR	Wonju Array Be	11.62	287	Pn	Pn	13 54 42.2	+1.5
JOW	Kunigami	14.14	239	LR	LR	13 59 31.2	
	comp=Z,33nm,20.9s,baz=90,slow=33						
H11N2	WAKE ISLAND Hy	26.74	118	T	T	14 25 34.2	
	SNR=4.1						
ULN	Ulaanbaatar	28.95	307	eP	P	13 57 55.2	+0.5
	3.3nm,1.1s						
SONM	Songino Array	29.38	307	P	P	13 57 59.5	+1.0
	2.8nm,0.9s,baz=107,slow=9.5,SNR=6.8						
CMAR	Chiang Mai Arr	41.36	258	P	P	13 59 41.0	-0.5
	1.0nm,0.7s,baz=49,slow=7.8,SNR=8.7						
ZALV	Zalesovo Beam	43.70	314	P	P	14 00 00.3	+0.2
	1.6nm,0.5s,baz=97,slow=6.2,SNR=8.5						
ZALV				PcP	PcP	14 01 46.7	-0.4
	0.5nm,0.5s,baz=113,slow=3.3,SNR=2.8						
MK31	Makanchi Array	45.64	304	eP	P	14 00 15.5	-0.2
MKAR	Makanchi Array	45.64	304	P	P	14 00 16.2	+0.4
	0.7nm,0.6s,baz=92,slow=9.7,SNR=11						
KURK	Kurchatov	47.61	310	eP	P	14 00 30.5	-0.6
	2.0nm,0.7s						
COLA	College	50.75	31	P	P	14 00 56.8	+1.8
	1.2nm,0.7s						
TKM2	Tokmak 2	51.04	300	eP	P	14 00 58.4	+0.7
	2.9nm,0.8s						
ILAR	Eielson Array	51.17	31	P	P	14 00 58.5	+0.4
	0.7nm,0.8s,baz=266,slow=5.7,SNR=8.5						
BVAR	Borovoye Array	52.35	314	P	P	14 01 07.2	+0.1
	2.7nm,1.0s,baz=81,slow=4.5,SNR=7.4						
KKAR	Karatay Array	54.58	302	eP	P	14 01 24.2	+0.6
	5.1nm,1.0s						
WRA	Warramunga Arr	54.93	189	P	P	14 01 25.2	-1.1
	1.1nm,0.9s,baz=6.4,slow=7.1,SNR=4.2						
ASAR	Alice Springs	58.66	189	P	P	14 01 52.4	-0.4
	0.4nm,0.8s,baz=359,slow=6.2,SNR=3.9						
GEYT	Alibeck	65.25	300	P	P	14 02 37.3	+0.2
	0.9nm,0.7s,baz=52,slow=9.3,SNR=2.6						
YKA	Yellowknife Ar	65.53	30	P	P	14 02 41.4	+3.0
	0.1nm,0.6s,baz=298,slow=6.3,SNR=3.0						
NVAR	Mina Array Bea	76.01	53	P	P	14 03 44.7	+1.8
	0.2nm,0.3s,baz=302,slow=5.1,SNR=3.5						
AKASG	Malin Array Be	76.28	323	P	P	14 03 42.9	-1.1
	0.6nm,0.6s,baz=46,slow=6.3,SNR=4.1						
NB2	NORSAR Subarra	76.37	338	P	P	14 03 44.3	-0.1
	comp=Z,1.0nm,0.8s,baz=38,slow=5.9						
NOA	NORSAR Array B	76.37	338	P	P	14 03 44.0	-0.3
	comp=Z,1.7nm,0.8s,baz=39,slow=5.7,SNR=5.6						
GERES	GERESS Array B	84.79	329	P	P	14 04 29.1	-0.7
	comp=Z,0.7nm,0.8s,baz=46,slow=5.8,SNR=4.8						
SNAA	Sanae	138.74	196	P	PKPdf	14 11 18.1	-2.5

IDC 28 14:00:29.4±1.2,26°.04N×128°.51E,h0km,mb3.7/7, mb1 3.8/8,mb1mx3.6/42,mbtmp3.7/8,ML3.3/1,Error ellipse: s-maj=56.4km s-min=16.4km az=76.0
ISCJB 28 14:00:30.7±1.0,25°.98N±0°.04×128°.72E±0°.04,h26km±7km, mb3.7/8,Error ellipse: s-maj=7.2km s-min=6.7km az=179.2
JMA 28 14:00:30.9±0.3,26°.00N×128°.74E,h29km,M3.3
ISC 28 14:00:31.4±1.0,26°.00N±0°.05×128°.69E±0°.05,h20km±3km, n22,σ1°18/32,mb3.8/8,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.79	311	P	Pb	14 00 45.9	-0.6
JJT2	Tamagusuku 2	0.86	280	P	Pb	14 00 47.7	+0.1
JOW	Kunigami	0.91	336	P	Pb	14 00 47.9	-0.7
JOW				eS	Sb	14 01 00.4	+0.1
JOW	Kunigami	0.91	336	Pn	Pb	14 00 48.1	-0.5
	21nm,0.3s,baz=146,slow=17,SNR=334						
JOW				Sn	Sb	14 00 57.1	-3.1
	17nm,0.3s,baz=128,slow=18,SNR=24						
JIH	Iheya	1.22	328	P	Pn	14 00 52.8	-0.6
JIH				eS	Sb	14 01 09.1	0.0
JOKE	Okinoerabujima	1.36	356	P	Pn	14 00 54.7	-0.7
JAGN	Aguni-jima	1.43	295	P	Pn	14 00 55.8	-0.4
JAGN				eS	Sn	14 01 13.4	-1.0
JKE	Kume jima 2	1.74	281	P	Pn	14 00 59.6	-1.0
JTK	Tokunoshima	1.80	7	P	Pn	14 01 00.6	-0.7
JTK				eS	Sn	14 01 22.6	-1.0
JAMN	Amaminishikomi	2.28	11	P	Pn	14 01 08.3	+0.4
JMZ	Minamidaito 2	2.29	94	P	Pn	14 01 06.9	-1.1
JMZ				eS	Sn	14 01 33.1	-2.5
JAM	Amami Oshima	2.54	19	P	Pn	14 01 11.6	+0.1
JAM				eS	Sn	14 01 42.0	+0.1
JZK	Kikaishima	2.57	26	eS	Sn	14 01 44.3	+1.5
JNU	Nakatsue	7.35	14	Pn	Pn	14 02 18.5	+0.8
	0.5nm,0.3s,baz=232,slow=2.6,SNR=2.6						
JNU				Sn	Sn	14 03 38.7	-1.9
	0.2nm,0.3s,baz=131,slow=19,SNR=2.7						
GTA	Gaotai	27.60	306	eP	P	14 06 17.0	-0.6
GTA				pP	pP	14 06 22.8	-0.8
GTA				sP	sP	14 06 26.0	0.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	Songino Array	27.97	327	P	P	14 06 22.3	+1.5
	comp=Z,1.0nm,0.6s,baz=156,slow=11,SNR=5.2						
MKAR	Makanchi Array	42.00	312	P	P	14 08 21.0	-0.3
	comp=Z,0.4nm,0.6s,baz=96,slow=6.9,SNR=5.2						
WRA	Warramunga Arr	45.99	173	P	P	14 08 54.4	+0.9
	comp=Z,0.6nm,0.6s,baz=353,slow=8.4,SNR=5.8						
ASAR	Alice Springs	49.63	174	P	P	14 09 23.9	+2.2
	comp=Z,0.6nm,0.8s,baz=1.9,slow=8.1,SNR=9.3						
FINES	FINESS Array B	73.27	331	P	P	14 12 00.9	-0.2
	comp=Z,1.6nm,0.9s,baz=72,slow=6.2,SNR=3.3						
AKASG	Malin Array Be	75.98	320	P	P	14 12 16.4	-0.6
	comp=Z,0.3nm,0.4s,baz=60,slow=6.2,SNR=3.0						
BRTR	Keskin Array B	77.50	308	P	P	14 12 26.7	+0.7
	comp=Z,0.8nm,0.8s,baz=76,slow=5.4,SNR=3.4						

IDC 28 14:01:46.1±1.1,34°.92S×71°.05W,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.6/25,mbtmp3.5/5,ML2.8/1,Error ellipse: s-maj=39.8km s-min=30.8km az=92.0
ISC 28 14:01:50.4±1.0,34°.9S±0°.2×71°.9W±0°.2,h29km,n7,σ2°07/7, mb3.8/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.47	44	Pn	Pn	14 02 55.3	-0.9
	0.5nm,0.3s,baz=202,slow=14,SNR=2.3						
QSPA	South Pole Qui	55.36	180	P	P	14 11 20.7	-0.7
	0.7nm,0.6s,baz=127,slow=5.1,SNR=5.2						
TXAR	Lajitas Array	70.56	331	P	P	14 13 02.1	-0.7
	0.2nm,0.3s,baz=145,slow=8.6,SNR=3.2						
TORD	Torodi Ar. Bea	84.39	70	P	P	14 14 22.9	+2.6
	0.6nm,0.8s,baz=239,slow=3.5,SNR=4.5						
PDAR	Pinedale Array	84.60	333	P	P	14 14 22.4	+1.4
	0.2nm,0.7s,baz=224,slow=3.8,SNR=1.9						
ZALV	Zalesovo Beam	154.89	33	PKPbc	PKPbc	14 21 45.9	-2.5
	0.4nm,0.4s,baz=345,slow=4.9,SNR=3.1						
MKAR	Makanchi Array	157.23	51	PKPab	PKPab	14 22 13.9	-0.3
	0.2nm,0.5s,baz=297,slow=4.5,SNR=3.5						

IDC 28 14:02:16.4±0.8,35°.05S×73°.74W,h0km,mb3.9/8, mb1 4.1/11,mb1mx4.0/26,mbtmp3.9/11,ML4.1/2,MS3.5/4, Ms1 3.5/4,ms1mx3.3/35,Error ellipse: s-maj=27.8km s-min=20.0km az=81.0
ISCJB 28 14:02:19.5±0.8,35°.14S±0°.08×73°.5W±0°.2,h33km,mb3.9/9, MS4.1/2,Error ellipse: s-maj=21.3km s-min=12.0km az=2.7
ISC 28 14:02:21.3±0.8,35°.12S±0°.10×73°.6W±0°.2,h35km,n17, σ1°45/15,mb4.0/9,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.68	53	Pn	Pn	14 03 42.1	-1.1
	0.2nm,0.3s,baz=226,slow=14,SNR=3.3						
CFAA				Sn	Sn	14 04 57.2	+10
	0.1nm,0.3s,baz=257,slow=14,SNR=1.9						
CFAA				LR	LR	14 05 57.2	
	comp=Z,85nm,19.5s,baz=208,slow=38						
PLCA	Paso Flores	6.09	158	Pn	Pn	14 03 47.9	-1.0
	1.7nm,0.3s,baz=335,slow=14,SNR=3.4						
PLCA				Lg	Lg	14 05 15.7	
	1.2nm,0.3s,baz=254,slow=18,SNR=2.4						
PLCA				LR	LR	14 06 29.1	
	comp=Z,264nm,18.4s,baz=346,slow=41						
LPAZ	La Paz	19.38	16	P	P	14 06 43.4	-1.5
	0.1nm,0.3s,baz=188,slow=7.0,SNR=2.8						
SIV	San Ignacio	22.10	34	P	P	14 07 13.1	-0.6
	11nm,0.9s,baz=232,slow=11,SNR=12						
JTS	JuntasAbangare	46.43	344	LR	LR	14 25 04.9	
	comp=Z,188nm,20.4s,baz=54,slow=30						
SNAA	Sanae	51.03	157	P	P	14 11 17.6	-2.0
	2.6nm,1.2s,baz=275,slow=12,SNR=3.6						
QSPA	South Pole Qui	55.12	180	P	P	14 11 50.1	+0.4
	1.6nm,0.9s,baz=126,slow=5.4,SNR=3.2						
TXAR	Lajitas Array	70.11	332	P	P	14 13 27.9	-2.2
	0.4nm,0.7s,baz=150,slow=7.3,SNR=2.8						
DBIC	Dimbokro	76.74	72	P	P	14 14 10.4	+1.1
	4.0nm,1.0s,baz=152,slow=5.2,SNR=3.6						
BOSA	Boshof	80.67	118	P	P	14 14 33.1	+2.1
	2.3nm,0.9s,baz=232,slow=5.7,SNR=2.8						
URZ	Urewera	81.96	229	LR	LR	14 41 54.2	
	comp=Z,86nm,21.1s,baz=14,slow=29						
NVAR	Mina Array Bea	84.09	326	P	P	14 14 50.0	+1.5
	0.5nm,0.7s,baz=153,slow=6.1,SNR=3.0						
PDAR	Pinedale Array	84.20	334	P	P	14 14 49.7	+0.7
	0.3nm,0.7s,baz=128,slow=5.9,SNR=3.4						
TORD	Torodi Ar. Bea	85.78	71	P	P	14 14 58.6	+1.3
	0.7nm,1.0s,baz=243,slow=6.3,SNR=2.7						
ZALV	Zalesovo Beam	155.85	32	PKPab	PKPab	14 22 38.6	+0.7
	0.5nm,0.6s,baz=329,slow=5.4,SNR=2.3						
MKAR	Makanchi Array	158.46	50	PKPab	PKPab	14 22 50.7	+1.2
	0.4nm,0.8s,baz=301,slow=3.3,SNR=2.8						
SONM	Songino Array	167.30	0	PKPab	PKPab	14 23 28.4	+0.2
	0.2nm,0.4s,baz=81,slow=1.9,SNR=2.5						

IDC 28 14:07:27.2±0.7,34°.03S×71°.98W,h0km,mb3.9/6, mb1 4.2/9,mb1mx4.0/31,mbtmp3.9/3,ML4.3/2,Error ellipse: s-maj=33.1km s-min=16.6km az=83.0
ISCJB 28 14:07:28.8±0.7,34°.03S±0°.07×72°.1W±0°.1,h19km,mb4.0/7, Error ellipse: s-maj=17.1km s-min=10.6km az=175.4
NEIC 28 14:07:32.7±0.5,33°.96S×72°.06W,h35km,mb4.5/3,Error ellipse: s-maj=14.6km s-min=9.4km az=85.0
ISC 28 14:07:30.5±0.7,33°.99S±0°.09×71°.9W±0°.1,h19km,n24, σ0°94/20,mb3.8/7,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.90	53	Pn	Pn	14 08 31.6	+2.1
	0.8nm,0.3s,baz=226,slow=15,SNR=4.2						
CFAA				Sn	Sb	14 09 24.1	-1.3
	2.6nm,0.3s,baz=92,slow=19,SNR=3.6						
PLCA	Paso Flores	6.82	171	Pn	Pn	14 09 09.3	-0.3
	1.5nm,0.3s,baz=315,slow=7.1,SNR=3.2						
PLCA				Lg	Lg	14 11 02.1	
	1.3nm,0.3s,baz=275,slow=20,SNR=3.6						
PLCA	Paso Flores	6.82	171	eP	Pn	14 09 10.8	+1.2
	37nm,0.7s						
PLCA				Lg	Lg	14 11 02.1	
TRQA	Tornquist	9.01	120	eP	Pn	14 09 43.5	+3.9
	21nm,0.9s						
LPAZ	La Paz	17.95	12	P	P	14 11 41.0	+0.8
	0.3nm,0.3s,baz=180,slow=8.1,SNR=5.7						
LPAZ	La Paz	17.95	12	eP	P	14 11 41.0	+0.8
SAML	Samuel	26.18	20	eP	P	14 13 03.7	-0.3
	1.4nm,0.6s						
SNAA	Sanae	51.55	158	P	P	14 16 34.2	-0.7
	4.6nm,1.1s,baz=234,slow=5.7,SNR=9.6						
SNAA	Sanae	51.55	158	eP	P	14 16 34.7	-0.2
	12nm,1.1s						
QSPA	South Pole Qui	56.25	180	P	P	14 17 09.8	+0.4
	5.4nm,0.9s,baz=170,slow=2.4,SNR=8.9						
QSPA	South Pole Qui	56.25	180	eP	P	14 17 10.3	+0.9
	5.2nm,0.9s						
H06E1	SOCORRO T-PHAS	64.31	319	T	T	15 28 01.2	
TXAR	Lajitas Array	69.78	331	P	P	14 18 39.9	+0.3
	0.2nm,0.4s,baz=150,slow=7.2,SNR=6.6						
PDAR	Pinedale Array	83.80	333	P	P	14 19 57.9	-0.7
	0.5nm,0.9s,baz=179,slow=4.5,SNR=3.6						
NVAR	Mina Array Bea	83.94	325	P	P	14 19 59.9	+0.5
	0.3nm,0.5s,baz=144,slow=7.7,SNR=2.8						
TOA0	Torodi Ar. Sit	84.10	70	eP	P	14 19 59.5	-1.0
TORD	Torodi Ar. Bea	84.10	70	P	P	14 19 60.0	-0.6
	1.6nm,0.9s,baz=255,slow=4.5,SNR=8.2						
WRA	Warramunga Arr	120.83	209	PKP	PKPdf	14 26 21.0	-1.1
	0.8nm,1.1s,baz=157,slow=1.7,SNR=3.9						
ARCES	ARCESS Array B	123.96	25	PKP	PKPdf	14 26 25.7	-0.7
	4.1nm,0.9s,baz=251,slow=2.8,SNR=3.6						
H11S2	WAKE ISLAND Hy	125.88	269	T	T	16 45 05.7	
	baz=119,slow=75,SNR=4.4						
H11S1	WAKE ISLAND Hy	125.89	269	T	T	16 45 06.8	
	baz=119,slow=75,SNR=8.6						
H11S3	WAKE ISLAND Hy	125.90	269	T	T	16 45 06.3	
	baz=119,slow=75,SNR=6.0						
ZALV	Zalesovo Beam	154.16	32	PKPbc	PKPbc	14 27 28.2	-0.3
	0.8nm,0.5s,baz=299,slow=3.1,SNR=6.3						
MKAR	Makanchi Array	156.67	49	PKPab	PKPab	14 27 52.9	-0.6
	0.3nm,0.4s,baz=289,slow=2.8,SNR=7.0						

IDC 28 14:11:50.7±0.8,37°.40S×73°.74W,h0km,mb4.2/12, mb1 4.3/15,mb1mx4.2/36,mbtmp4.1/15,ML4.0/3,MS4.5/10, Ms1 4.5/10,ms1mx4.2/24,Error ellipse: s-maj=24.1km s-min=14.5km az=76.0
ISCJB 28 14:11:52.7±0.6,37°.43S±0°.07×73°.7W±0°.1,h23km, mb4.3/17,MS4.6/7,Error ellipse: s-maj=15.3km s-min=9.9km az=170.8
NEIC 28 14:11:56.0±1.6,37°.47S×73°.64W,h37km±13km,mb4.9/6, Error ellipse: s-maj=17.8km s-min=8.5km az=82.0
ISC 28 14:11:54.2±0.6,37°.43S±0°.08×73°.6W±0°.1,h23km,n40, σ0°79/32,mb4.4/17,MS4.5/7,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.08	145	Pn	Pn	14 12 55.2	-0.1
	1.5nm,0.3s,baz=324,slow=16,SNR=4.1						
PLCA				Lg	Lg	14 14 04.3	
	5.9nm,0.3s,baz=281,slow=10,SNR=2.2						
CFAA	Coronel Fontan	7.32	39	Pn	Pn	14 13 39.3	-0.5
	0.3nm,0.3s,baz=184,slow=19,SNR=2.1						
CFAA				LR	LR	14 16 39.4	
	comp=Z,476nm,18.5s,baz=225,slow=39						
LVC	Limon Verde	15.32	17	P	P	14 15 32.8	-1.1
CPUP	Villa Florida	17.70	56	P	P	14 16 00.6	+0.7
	0.8nm,0.3s,baz=202,slow=13,SNR=3.0						
CPUP				Lg	Lg	14 21 26.2	
	0.2nm,0.3s,baz=187,slow=16,SNR=1.7						
CPUP				LR	LR	14 22 48.3	
	comp=Z,1μm,18.7s,baz=220,slow=37						
USHA	Ushuaia	17.77	170	LR	LR	14 23 50.0	
	comp=Z,3μm,18.5s,baz=324,slow=40						
LPAZ	La Paz	21.62	14	P	P	14 16 44.0	+0.6
	20nm,1.2s,baz=186,slow=9.8,SNR=11						
LPAZ	La Paz	21.62	14	eP	P	14 16 44.1	+0.8
SIV	San Ignacio	24.08	31	P	P	14 17 07.4	-0.6
	5.3nm,0.9s,baz=223,slow=8.7,SNR=9.1						
SAML	Samuel	29.89	21	eP	P	14 18 00.0	-0.2
	11nm,1.3s						
BDFB	Brasilia	31.39	53	P	P	14 18 14.3	+0.8
	1.0nm,0.5s,baz=216,slow=6.1,SNR=2.7						
RPN	Rapa Nui	31.71	278	LR	LR	14 27 17.0	
	comp=Z,592nm,21.5s,baz=119,slow=29						
OTAV	Otavalo	37.74	352	P	P	14 19 09.3	+0.4
	14nm,1.2s						
SDV	Santo Domingo	46.16	4	eP	P	14 20 17.1	-0.1
RCBR	Riachuelo	46.58	57	LR	LR	14 41 31.7	
	comp=Z,2μm,18.5s,baz=206,slow=38						
SNAA	Sanae	48.93	157	P	P	14 20 36.4	-1.7
SNAA	Sanae	48.93	157	P	P	14 20 38.6	+0.5
	3.1nm,0.8s,baz=289,slow=8.3,SNR=12						
SNAA				LR	LR	14 41 06.5	
	comp=Z,232nm,18.3s,baz=290,slow=36						
SNAA	Sanae	48.93	157	eP	P	14 20 37.1	-1.0
	19nm,1.0s						
QSPA	South Pole Qui	52.81	180	P	P	14 21 07.9	+0.5
	6.2nm,1.1s,baz=169,slow=3.1,SNR=6.7						
PPT2	Papeete2	68.51	264	eS	S	14 32 20.3	+24
	245nm,23.5s						
PPT	Papeete	68.52	264	LR	LR	14 46 01.9	
	comp=Z,243nm,21.8s,baz=94,slow=30						
MAW	Mawson	70.26	164	LR	LR	14 55 31.3	
	comp=Z,767nm,18.1s,baz=234,slow=37						
JCT	Junction City	71.86	336	P	P	14 23 16.2	+1.1
	16nm,1.2s						
TXAR	Lajitas Array	72.13	333	P	P	14 23 16.5	-0.4
	0.3nm,0.4s,baz=147,slow=7.0,SNR=5.4						
SWET	Sewanee	73.18	350	eP	P	14 23 22.0	-0.8
	30nm,1.3s						
DBIC	Dimbokro	77.51	72	P	P	14 23 48.8	+0.6
	2.2nm,0.5s,baz=192,slow=5.9,SNR=4.0						
BOSA	Boshof	79.62	118	P	P	14 24 00.6	+0.6
	3.9nm,0.9s,baz=243,slow=5.6,SNR=4.3						
BOSA				LR	LR	14 56 40.5	
	comp=Z,202nm,19.1s,baz=216,slow=34						
LBTB	Lobatse	82.04	115	P	P	14 24 13.5	+0.6
	2.6nm,0.5s,baz=249,slow=5.9,SNR=8.5						
ECSD	EROS Data Cent	83.43	343	eP	P	14 24 19.3	0.0
	12nm,1.1s						
NVAR	Mina Array Bea	85.98	326	P	P	14 24 32.6	0.0
	0.2nm,0.3s,baz=147,slow=7.2,SNR=2.6						
PDAR	Pinedale Array	86.26	334	P	P	14 24 35.0	+1.1
	1.3nm,1.2s,baz=153,slow=6.1,SNR=3.3						
TORD	Torodi Ar. Bea	86.59	71	P	P	14 24 35.9	0.0
	2.1nm,1.0s,baz=232,slow=3.5,SNR=6.5						
DZM	Mont Dzumac	98.17	234	eLR	LR	14 57 06.6	
	251nm,23.9s						
ESDC	Sonseca Array	99.87	47	LR	LR	15 11 04.3	
	comp=Z,255nm,18.2s,baz=260,slow=36						
BRTR	Keskin Array B	124.58	63	PKP	PKPdf	14 30 51.2	-0.4
	0.5nm,0.6s,baz=191,slow=3.1,SNR=3.1						
GEYT	Alibeck	142.16	74	PKhKP	PKPpre	14 31 19.9	
	0.6nm,0.5s,baz=242,slow=3.1,SNR=3.2						
ABKAR	Akbulak array	144.77	55	ePKPpre	PKPpre	14 31 27.1	
HYB	Hyderabad	148.46	122	i PKP	PKPbc	14 31 39.0	-0.4
KKAR	Karatay Array	152.21	67	ePKPbc	PKPbc	14 31 46.9	-0.7
ZALV	Zalesovo Beam	157.80	35	PKP	PKPdf	14 31 46.9	-1.2
	0.5nm,0.5s,baz=290,slow=4.3,SNR=3.9						
ZALV				PKPab	PKPab	14 32 19.9	-1.0
	1.0nm,0.6s,baz=285,slow=5.8,SNR=3.6						
MKAR	Makanchi Array	159.91	55	PKP	PKPdf	14 31 52.3	+1.4
	0.2nm,0.6s,baz=288,slow=1.4,SNR=2.3						
MKAR				PKPab	PKPab	14 32 30.4	0.0
	0.8nm,0.8s,baz=291,slow=4.0,SNR=4.1						

IDC 28 14:14:36.6±0.8,34°.39S×72°.06W,h0km,mb4.0/7, mb1 4.2/7,mb1mx4.1/15,mbtmp4.0/7,MS4.5/2,Ms1 4.6/2, ms1mx3.7/25,Error ellipse: s-maj=28.7km s-min=20.7km az=133.0
ISCJB 28 14:14:37.9±0.8,34°.4S±0°.2×72°.1W±0°.3,h16km,mb3.9/7, MS4.4/1,Error ellipse: s-maj=35.8km s-min=23.4km az=145.7
ISC 28 14:14:39.3±0.8,34°.4S±0°.2×72°.1W±0°.2,h16km,n13, σ0°84/12,mb4.1/7,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.27	50	Pg	Pb	14 15 54.0	0.0
	0.8nm,0.3s,baz=301,slow=20,SNR=7.1						
CFAA				Lg	Lg	14 16 50.8	
	1.4nm,0.3s,baz=150,slow=20,SNR=4.0						
LPAZ	La Paz	18.39	12	LR	LR	14 27 12.2	
	comp=Z,3μm,18.2s,baz=174,slow=41						
QSPA	South Pole Qui	55.83	180	P	P	14 24 16.0	+0.4
	3.5nm,0.9s,baz=211,slow=1.2,SNR=6.6						
TXAR	Lajitas Array	70.08	331	P	P	14 25 51.5	+0.9
	0.2nm,0.4s,baz=156,slow=12,SNR=4.2						
DBIC	Dimbokro	75.34	71	P	P	14 26 22.5	+0.3
	1.2nm,0.6s,baz=207,slow=4.6,SNR=4.3						
RAR	Rarotonga	76.50	253	LR	LR	14 51 21.3	
	comp=Z,172nm,19.0s,baz=238,slow=29						
BOSA	Boshof	79.91	118	P	P	14 26 48.0	+0.2
	2.7nm,0.8s,baz=187,slow=3.6,SNR=4.1						
PDAR	Pinedale Array	84.11	333	P	P	14 27 08.7	-0.7
	0.3nm,0.5s,baz=147,slow=8.4,SNR=2.5						
NVAR	Mina Array Bea	84.20	325	P	P	14 27 09.7	-0.2
	0.6nm,0.8s,baz=138,slow=3.4,SNR=3.2						
TORD	Torodi Ar. Bea	84.38	70	P	P	14 27 11.2	0.0
	1.1nm,0.7s,baz=266,slow=3.5,SNR=3.9						
WRA	Warramunga Arr	120.39	209	PKP	PKPdf	14 33 29.0	-1.4
	0.4nm,0.5s,baz=160,slow=1.7,SNR=6.4						
ZALV	Zalesovo Beam	154.59	33	PKPbc	PKPbc	14 34 38.9	+0.2
	1.1nm,0.7s,baz=278,slow=4.2,SNR=3.8						
ZALV				PKPab	PKPab	14 34 54.2	+0.8
	0.8nm,0.5s,baz=323,slow=3.6,SNR=4.0						
MKAR	Makanchi Array	157.06	50	PKPbc	PKPdf	14 34 45.5	+12
	0.1nm,0.4s,baz=325,slow=1.8,SNR=2.5						
MKAR				PKPab	PKPab	14 35 02.9	-1.5
	0.4nm,0.7s,baz=299,slow=3.1,SNR=4.1						

IDC 28 14:15:40.8±0.8,34°.83S×73°.75W,h0km,mb3.9/8, mb1 4.1/11,mb1mx3.9/40,mbtmp4.0/11,ML4.3/3,Error ellipse: s-maj=27.8km s-min=19.8km az=96.0
ISCJB 28 14:15:44.7±0.8,34°.8S±0°.1×73°.6W±0°.2,h33km,mb3.9/9, Error ellipse: s-maj=20.5km s-min=13.8km az=19.8
NEIC 28 14:15:46.2±0.6,34°.81S×73°.66W,h35km,mb4.2/3,Error ellipse: s-maj=16.4km s-min=11.3km az=114.0
ISC 28 14:15:46.3±0.8,34°.8S±0°.1×73°.6W±0°.1,h35km,n19, σ0°90/19,mb3.9/9,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.51	56	Pn	Pn	14 17 05.1	-0.9
	4.1nm,0.3s,baz=249,slow=9.5,SNR=7.1						
CPUP	Villa Florida	16.35	63	Pn	P	14 19 34.5	-1.3
	0.8nm,0.3s,baz=232,slow=8.3,SNR=4.9						
CPUP	Villa Florida	16.35	63	eP	Pn	14 19 34.1	+1.0
	0.4nm,0.6s						
LPAZ	La Paz	19.06	16	P	P	14 20 06.5	+0.1
	0.2nm,0.3s,baz=184,slow=5.5,SNR=2.6						
LPAZ	La Paz	19.06	16	P	Pn	14 20 07.1	-0.2
SIV	San Ignacio	21.84	34	P	P	14 20 37.8	+2.0
	1.7nm,0.5s,baz=215,slow=14,SNR=3.6						
SAML	Samuel	27.43	23	P	P	14 21 28.9	0.0
	0.8nm,0.4s						
SNAA	Sanae	51.36	158	P	P	14 24 46.9	-0.1
	1.2nm,0.9s,baz=296,slow=5.8,SNR=3.7						
SNAA	Sanae	51.36	158	eP	P	14 24 47.0	0.0
	2.5nm,0.7s						
QSPA	South Pole Qui	55.46	180	P	P	14 25 17.5	+0.3
	3.5nm,0.8s,baz=156,slow=1.5,SNR=8.0						
TXAR	Lajitas Array	69.79	332	P	P	14 26 53.0	-0.1
	0.8nm,0.8s,baz=153,slow=8.4,SNR=5.8						
DBIC	Dimbokro	76.66	72	P	P	14 27 34.5	+0.6
	2.2nm,0.8s,baz=216,slow=13,SNR=3.4						
DBIC	Dimbokro	76.66	72	eP	P	14 27 34.6	+0.6
	3.7nm,0.6s						
BOSA	Boshof	80.86	118	P	P	14 27 57.1	0.0
	2.5nm,0.9s,baz=180,slow=7.1,SNR=2.8						
PDAR	Pinedale Array	83.88	334	P	P	14 28 13.4	+1.0
	0.3nm,0.8s,baz=131,slow=5.0,SNR=3.0						
TORD	Torodi Ar. Bea	85.70	71	P	P	14 28 22.4	+0.4
	0.5nm,0.6s,baz=247,slow=4.3,SNR=3.1						
WRA	Warramunga Arr	119.44	210	PKP	PKPdf	14 34 31.5	-1.2
	0.5nm,1.5s,baz=153,slow=1.7,SNR=2.9						
MKAR	Makanchi Array	158.26	49	PKPab	PKPab	14 36 13.3	-0.4

1.0nm,0.9s,baz=291,slow=3.6,SNR=5.3
SONM Songino Array 166.96 360 PKPab PKPab 14 36 50.2 -1.5
0.3nm,0.6s,baz=45,slow=6.3,SNR=3.0

IDC 28 14:20:24.0±5.5, 16.10S×172.38W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/21, mbtmp4.0/3, MS4.0/1, Ms1 4.0/1, ms1mx3.0/36, Error ellipse: s-maj=184.3km s-min=106.8km az=147.0, Samoa Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 44.55 241 P P 14 28 38.9 +1.1
3.6nm,1.0s,baz=101,slow=10,SNR=4.1
WRA Warramunga Arr 50.65 257 P P 14 29 24.5 -1.0
0.4nm,0.5s,baz=95,slow=7.2,SNR=7.3
WRA PcP PcP 14 30 42.8 -0.3
0.8nm,1.1s,baz=98,slow=6.8,SNR=4.7
WRA LR LR 14 50 06.4
comp=Z,164nm,20.2s,baz=195,slow=35
ASAR Alice Springs 50.84 252 P P 14 29 26.6 -0.2
4.8nm,0.7s,baz=89,slow=8.1,SNR=79

IDC 28 14:20:51.8±1.5, 35.59S×73.47W, h0km, mb3.3/1, mb1 3.8/4, mb1mx3.6/38, mbtmp3.5/4, ML3.8/3, Error ellipse: s-maj=47.6km s-min=32.0km az=80.0
ISCJB 28 14:20:54.3±1.2, 35.66S±0.08×73.3W±0.2, h33km, mb3.7/2, Error ellipse: s-maj=23.1km s-min=11.9km az=174.2
NEIC 28 14:20:56.4±1.1, 35.72S×73.42W, h35km, mb4.3/1, Error ellipse: s-maj=24.0km s-min=14.3km az=80.0
ISC 28 14:20:56.1±1.1, 35.68S±0.10×73.4W±0.2, h35km, n10, σ1.19/10, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 5.53 157 Pn Pn 14 22 16.8 +0.9
1.3nm,0.3s,baz=322,slow=17,SNR=3.4
PLCA Paso Flores 5.53 157 eP Pn 14 22 17.0 +1.1
CFAA Coronel Fontan 5.92 48 Pn Pn 14 22 21.2 -0.2
0.6nm,0.3s,baz=250,slow=15,SNR=3.0
TRQA Tornquist 9.46 108 P Pn 14 23 10.7 +0.8
LPAZ La Paz 19.88 15 P P 14 25 24.6 -0.4
0.1nm,0.3s,baz=183,slow=12,SNR=2.5
LPAZ La Paz 19.88 15 P Pn 14 25 26.8 +0.1
SNAA Sanae 50.47 157 eP P 14 29 47.9 -2.2
2.5nm,0.8s
TXAR Lajitas Array 70.67 332 P P 14 32 09.0 +0.8
0.2nm,0.7s,baz=146,slow=8.3,SNR=2.9
BVAR Borovoye Array 149.27 44 PKPbc PKPbc 14 40 41.7 +1.3
0.2nm,0.4s,baz=289,slow=4.4,SNR=2.3
ZALV Zalesovo Beam 156.24 33 PKPab PKPab 14 41 14.1 -0.3
0.7nm,0.5s,baz=316,slow=4.0,SNR=3.9

IDC 28 14:24:09.9±0.7, 33.61S×71.32W, h0km, mb4.2/8, ML4.2/3, Error ellipse: s-maj=22.7km s-min=16.0km az=121.0
ISCJB 28 14:24:15.4±0.6, 33.58S±0.04×71.50W±0.07, h54km±4km, mb4.1/9, Error ellipse: s-maj=9.9km s-min=7.2km az=2.4
NEIC 28 14:24:15.0±0.8, 33.52S×71.54W, h35km, mb4.6/2, Error ellipse: s-maj=18.1km s-min=12.9km az=90.0
GUC 28 14:24:16.5±0.3, 33.55S×71.41W, h41km±3km, ML4.3
SJA 28 14:24:33.4±1.6, 32.96S×69.92W, h106km±27km, ML3.5
ISC 28 14:24:15.8±0.9, 33.56S±0.04×71.46W±0.07, h42km±8km, n39, σ1.28/38, mb4.1/9, 2C-3D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LNV Longovilo 0.40 174 ⇓iP Pn 14 24 25.6 +0.2
LNV iS Sn 14 24 32.7 +0.7
IHA Instituto Hidr 0.55 344 ⇑iP Pn 14 24 27.7 +0.4
IHA iS Sn 14 24 36.0 +0.5
STL Santa Lucia 0.69 80 ⇓iP Pn 14 24 29.2 -0.1
STL iS Sn 14 24 39.0 0.0
ROCH El Roble 0.70 33 eP Pn 14 24 30.1 +0.6
ROCH iS Sn 14 24 40.2 +0.9
CHCH Chadas Angostu 0.77 119 ⇑iP Pn 14 24 30.6 +0.3
PEL Peldehue 0.77 58 eP Pn 14 24 30.6 +0.2
PEL eS Sn 14 24 41.1 +0.3
PEL AML AML 14 24 43.2
comp=N,27μm,0.5s
FCH Farellones 1.00 77 ⇓iP Pn 14 24 41.1 +7.3
FCH eS Sn 14 24 54.9 +8.0
FCH AML AML 14 24 57.7
comp=E,16μm,0.2s
AUSP Uspallata 2.19 53 iP Pn 14 24 54.1 +4.0
ARCO CERRO ARCO 2.24 72 iP Pn 14 24 54.8 +4.3
ARCO iS Sn 14 25 08.4 -8.6
ARCO AML AML 14 25 10.0
comp=Z,902nm,0.5s
AAGR Agrelo 2.25 79 iP Pn 14 24 55.1 +4.4
AAGR iP Pn 14 24 55.1 +4.4
ASAL Salagasta 2.41 67 iP Pn 14 24 55.0 +2.2
AVIZ Vizcacheras 2.46 89 iP Pn 14 24 57.6 +4.1
RTLS Leoncito 2.53 47 iP Pn 14 24 58.6 +4.0
CFAA Coronel Fontan 3.35 55 Pg Pn 14 25 08.6 +2.9
comp=Z,6.6nm,0.3s,baz=327,slow=3.1,SNR=24
CFAA Lg Lg 14 25 54.3
comp=Z,7.6nm,0.3s,baz=336,slow=19,SNR=6.7
AMOG MOGNA 3.63 45 iP Pn 14 25 12.3 +2.8
TRQA Tornquist 8.91 123 eP Pn 14 26 24.8 +2.8
comp=Z,11nm,0.9s
LVC Limon Verde 11.13 12 P Pn 14 26 50.3 -2.4
CPUP Villa Florida 14.20 63 Pn Pn 14 27 33.2 -1.1
comp=Z,0.5nm,0.3s,baz=201,slow=8.6,SNR=2.8
CPUP Villa Florida 14.20 63 P Pn 14 27 32.0 -2.3
LPAZ La Paz 17.46 11 P P 14 28 17.8 +0.1
comp=Z,0.2nm,0.3s,baz=190,slow=4.9,SNR=5.7
LPAZ La Paz 17.46 11 eP P 14 28 17.6 -0.1
SIV San Ignacio 19.85 31 P P 14 28 42.4 -1.0
comp=Z,0.5nm,0.3s,baz=226,slow=11,SNR=4.2
SAML Samuel 25.66 19 eP P 14 29 40.9 -0.8
comp=Z,3.7nm,0.8s
BDFB Brasilia 27.69 56 P P 14 29 59.6 -0.6
comp=Z,1.1nm,0.3s,baz=170,slow=3.1,SNR=3.5
JTS JuntasAbangare 45.46 341 P P 14 32 32.3 +1.4
comp=Z,20nm,0.8s,baz=167,slow=21,SNR=9.2
JTS JuntasAbangare 45.46 341 eP P 14 32 32.9 +1.9
comp=Z,19nm,0.6s
SNAA Sanae 51.81 158 P P 14 33 19.8 +0.6
comp=Z,1.5nm,0.7s,baz=206,slow=2.9,SNR=11
SNAA Sanae 51.81 158 eP P 14 33 19.9 +0.8
QSPA South Pole Qui 56.67 180 P P 14 33 54.7 -0.1
comp=Z,1.0nm,0.8s,baz=162,slow=9.6,SNR=5.3
TXAR Lajitas Array 69.59 330 P P 14 35 21.4 +0.7
comp=Z,0.2nm,0.5s,baz=156,slow=10.0,SNR=6.8
DBIC Dimbokro 74.58 71 P P 14 35 50.3 -0.5
comp=Z,2.0nm,0.8s,baz=225,slow=7.1,SNR=2.7
BOSA Boshof 79.85 117 P P 14 36 19.4 -1.0
comp=Z,1.9nm,0.7s,baz=266,slow=2.1,SNR=3.8
TOA0 Torodi Ar. Sit 83.61 70 eP P 14 36 39.6 -0.5
TORD Torodi Ar. Bea 83.61 70 P P 14 36 39.8 -0.3
comp=Z,2.8nm,0.8s,baz=266,slow=6.7,SNR=14
WRA Warramunga Arr 121.38 209 PKP PKPdf 14 43 04.0 -1.1
comp=Z,0.3nm,0.6s,baz=157,slow=1.8,SNR=5.5
BVAR Borovoye Array 146.63 43 PKPbc PKPbc 14 43 52.7 +0.3
comp=Z,1.1nm,0.7s,baz=280,slow=2.7,SNR=8.3
AAK Ala-Archa 151.87 61 PKPbc PKPbc 14 44 06.5 +0.3
comp=Z,2.6nm,0.6s,baz=198,slow=3.1,SNR=12
ZALV Zalesovo Beam 153.60 32 PKPbc PKPbc 14 44 09.1 -0.3
comp=Z,1.3nm,0.7s,baz=298,slow=3.2,SNR=7.4
MKAR Makanchi Array 156.11 49 PKPab PKPab 14 44 32.8 -0.3
comp=Z,0.6nm,0.6s,baz=281,slow=3.4,SNR=7.5

IDC 28 14:25:22.2±1.3, 37.36S×73.40W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.9/36, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=46.1km s-min=19.4km az=64.0
ISCJB 28 14:25:23.7±1.0, 37.46S±0.10×73.5W±0.3, h23km, mb4.0/6, Error ellipse: s-maj=31.5km s-min=12.6km az=167.9
NEIC 28 14:25:27.1±0.8, 37.47S×73.47W, h35km, mb4.4/2, Error ellipse: s-maj=26.9km s-min=10.9km az=79.0
ISC 28 14:25:25.6±1.1, 37.4S±0.1×73.5W±0.3, h23km, n16, σ1.16/15, mb4.0/6, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.01 147 Pn Pn 14 26 26.1 +0.5
2.3nm,0.3s,baz=316,slow=13,SNR=4.5
PLCA Lg Lg 14 27 29.3
4.0nm,0.3s,baz=45,slow=19,SNR=5.3
PLCA Paso Flores 4.01 147 P Pn 14 26 26.4 +0.8
PLCA Lg Pn 14 27 29.3
LVC Limon Verde 15.27 16 eP Pn 14 29 00.5 +0.5
LPAZ La Paz 21.57 14 P P 14 30 11.8 -2.4
1.7nm,0.8s,baz=212,slow=9.5,SNR=1.2
LPAZ La Paz 21.57 14 eP P 14 30 16.4 +2.2
17nm,1.3s
SIV San Ignacio 23.99 30 P P 14 30 39.2 +0.7
5.5nm,0.8s,baz=226,slow=11,SNR=6.4
SNAA Sanae 48.88 157 P P 14 34 08.6 -0.5
TXAR Lajitas Array 72.19 333 P P 14 36 48.7 +0.1
1.0nm,0.9s,baz=153,slow=8.4,SNR=5.9
DBIC Dimbokro 77.36 71 eP P 14 37 18.3 -0.5
1.9nm,0.5s
PDAR Pinedale Array 86.31 334 P P 14 38 05.6 +0.1
0.7nm,1.0s,baz=152,slow=8.1,SNR=3.2
TOA0 Torodi Ar. Sit 86.44 71 eP P 14 38 05.9 -0.7
TORD Torodi Ar. Bea 86.44 71 P P 14 38 06.0 -0.6
1.0nm,0.8s,baz=216,slow=5.1,SNR=4.5
ABKAR Akbulak array 144.64 55 ePKPpre PKPpre 14 44 57.9
BVAR Borovoye Array 150.52 46 PKPbc PKPbc 14 45 15.5 +0.8
2.4nm,0.9s,baz=323,slow=2.2,SNR=7.3
ZALV Zalesovo Beam 157.70 35 PKPab PKPab 14 45 52.6 +0.7
0.7nm,0.5s,baz=289,slow=4.4,SNR=3.4
MKAR Makanchi Array 159.78 55 PKPab PKPab 14 46 00.1 -1.1
0.2nm,0.6s,baz=300,slow=3.2,SNR=2.8

IDC 28 14:30:45.5±0.6, 36.05S×73.50W, h0km, mb4.5/12, mb1 4.5/15, mb1mx4.4/34, mbtmp4.4/15, ML4.1/3, MS4.2/3, Ms1 4.2/3, ms1mx3.6/30, Error ellipse: s-maj=21.0km s-min=14.2km az=81.0
ISCJB 28 14:30:49.2±0.4, 36.05S±0.06×73.39W±0.10, h33km, mb4.7/23, MS4.1/2, Error ellipse: s-maj=11.7km s-min=8.2km az=156.2
NEIC 28 14:30:50.8±2.8, 36.03S×73.41W, h34km±18km, mb4.7/13, Error ellipse: s-maj=12.1km s-min=7.2km az=80.0
ISC 28 14:30:50.7±0.5, 36.03S±0.08×73.43W±0.10, h35km, n70, σ0.89/74, mb4.7/23, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 5.22 155 Pn Pn 14 32 06.1 -0.1
1.4nm,0.3s,baz=322,slow=12,SNR=6.7
PLCA Lg Lg 14 33 30.0
3.3nm,0.3s,baz=286,slow=7.4,SNR=4.9
PLCA Paso Flores 5.22 155 eP Pn 14 32 06.0 -0.3
67nm,0.9s
PLCA Lg Lg 14 33 30.0
CFAA Coronel Fontan 6.17 46 Pn Pn 14 32 20.0 +0.6
1.6nm,0.3s,baz=216,slow=12,SNR=8.4
CFAA Lg Lg 14 33 59.8
0.1nm,0.3s,baz=309,slow=19,SNR=3.9
TRQA Tornquist 9.38 106 eP Pn 14 33 04.6 +1.2
47nm,1.0s
CPUP Villa Florida 16.81 59 Pn P 14 34 44.5 -0.6
0.3nm,0.3s,baz=205,slow=8.2,SNR=2.9
CPUP Villa Florida 16.81 59 P Pn 14 34 41.1 -2.2
USHA Ushuaia 19.12 171 LR LR 14 41 48.6
comp=Z,984nm,18.6s,baz=310,slow=35
LPAZ La Paz 20.22 15 P Pn 14 35 25.1 -0.5
9.8nm,0.9s,baz=152,slow=7.3,SNR=14
LPAZ La Paz 20.22 15 eP Pn 14 35 25.0 -0.6
24nm,1.0s
SIV San Ignacio 22.80 32 P P 14 35 49.9 -0.6
29nm,1.0s,baz=236,slow=13,SNR=32
SIV LR LR 14 46 35.7
comp=Z,852nm,19.8s,baz=221,slow=42
BDFB Brasilia 30.43 55 P P 14 36 59.7 -0.3
12nm,0.9s,baz=225,slow=7.4,SNR=11
SNAA Sanae 50.16 157 P P 14 39 42.5 +0.2
7.2nm,0.9s,baz=281,slow=6.1,SNR=18
SNAA Sanae 50.16 157 eP P 14 39 42.3 0.0
22nm,0.9s
CELP Cerrillos 54.20 8 eP P 14 40 12.8 0.0
QSPA South Pole Qui 54.21 180 P P 14 40 12.7 +0.1
11nm,0.9s,baz=151,slow=2.1,SNR=32
QSPA South Pole Qui 54.21 180 eP P 14 40 12.5 -0.1
28nm,1.0s
TXAR Lajitas Array 70.97 332 P P 14 42 05.1 +0.5
0.9nm,0.6s,baz=153,slow=8.5,SNR=17
WHTX Lake Whitney 71.31 339 eP P 14 42 07.2 +0.6
11nm,0.8s
MNTX Cornudas Mount 73.73 332 eP P 14 42 20.1 -0.9
3.6nm,1.0s
TUL1 Tulsa 74.53 341 P P 14 42 26.2 +0.6
16nm,0.8s
LIC Lamto 76.50 72 eP P 14 42 38.0 +0.7
36nm,1.1s
TIC Toumodi 76.77 72 eP P 14 42 39.7 +0.8
6.5nm,0.2s
KIC Kosan Boka 76.80 72 eP P 14 42 39.9 +0.8
32nm,0.9s
LAZ Ladron 76.81 332 eP P 14 42 39.3 +0.4
2.4nm,1.0s
DBIC Dimbokro 76.91 72 P P 14 42 40.4 +0.7
8.3nm,0.7s,baz=202,slow=6.7,SNR=10
ANMO Albuquerque 77.03 333 eP P 14 42 40.6 +0.5
6.7nm,1.1s
TSUM Tsumeb 79.75 106 eP P 14 42 56.6 +1.0
10nm,1.2s
BOSA Boshof 80.14 118 P P 14 42 58.2 +0.6
12nm,1.0s,baz=247,slow=5.1,SNR=10
BOSA Boshof 80.14 118 eP P 14 42 58.0 +0.5
6.1nm,0.9s
ECSD EROS Data Cent 82.14 343 eP P 14 43 07.6 +0.2
7.9nm,0.9s
DUG Dugway 84.06 331 eP P 14 43 18.6 +1.0
9.8nm,1.1s
NVAR Mina Array Bea 84.91 326 P P 14 43 22.6 +0.5
0.4nm,0.6s,baz=170,slow=6.3,SNR=3.2
PDAR Pinedale Array 85.07 334 P P 14 43 23.6 +0.8
4.1nm,1.2s,baz=134,slow=4.3,SNR=4.3
TORD Torodi Ar. Bea 85.97 71 P P 14 43 27.8 +0.2
4.4nm,1.0s,baz=245,slow=3.5,SNR=17
MCMT McKenzie Canyo 88.04 333 eP P 14 43 38.8 +1.5
3.6nm,1.2s
ULM Lac du Bonnet 88.17 346 P P 14 43 37.5 +0.1
3.6nm,0.8s,baz=133,slow=1.9,SNR=7.0
DZM Mont Dzumac 99.12 234 LR LR 15 18 29.5
comp=Z,57nm,20.3s,baz=208,slow=29
YKA Yellowknife Ar 103.61 342 Pdiff Pdif 14 44 47.1 -0.3
0.1nm,0.6s,baz=139,slow=4.2,SNR=2.8
BRTR Keskin Array B 123.80 63 PKP PKPdf 14 49 45.1 +0.3
0.9nm,0.8s,baz=181,slow=4.9,SNR=4.5
SEY Seymchan 141.18 328 PKP PKPdf 14 50 17.0 +0.5
1.1nm,0.9s,baz=73,slow=23,SNR=4.1
ABKAR Akbulak array 143.82 54 ePKPpre PKPpre 14 50 19.4
HYB Hyderabad 149.03 119 iPKP PKPbc 14 50 34.0 -1.5
BRVK Borovoye 149.46 45 ePKPbc PKPbc 14 50 36.1 +0.7
BVAR Borovoye Array 149.53 45 PKP PKPdf 14 50 31.6 +0.4
2.1nm,0.8s,baz=5.7,slow=2.9,SNR=3.7
BVAR PKPbc PKiKP 14 50 36.3 -0.4
3.0nm,0.7s,baz=285,slow=4.5,SNR=16
YAK Yakutsk 150.22 338 ePKPbc PKPbc 14 50 37.1 +0.1
KKAR Karatay Array 151.48 65 ePKPbc PKPbc 14 50 40.8 +0.1
AAK Ala-Archa 154.43 65 PKPbc PKPbc 14 50 48.0 +0.6
1.9nm,0.8s,baz=248,slow=16,SNR=5.0
AAK PKPab PKPab 14 51 02.8 +1.0
2.4nm,0.7s,baz=220,slow=3.2,SNR=5.3
KSH Kashi 155.62 73 ePKP PKPab 14 51 06.5 -0.5
ZALV Zalesovo Beam 156.54 33 PKP PKPdf 14 50 40.7 -0.5
1.9nm,0.8s,baz=276,slow=2.8,SNR=11
ZALV PKPab PKPab 14 51 10.6 +0.3
4.7nm,0.7s,baz=305,slow=5.2,SNR=12
KOLN Koldanda 158.87 106 eP PKPab 14 51 21.4 0.0
14nm,0.8s
MK31 Makanchi Array 158.94 52 ePKPdf PKPdf 14 50 44.6 +0.1
MKAR Makanchi Array 158.94 52 PKP PKPdf 14 50 44.4 -0.1
1.0nm,0.8s,baz=304,slow=1.0,SNR=11
MKAR PKPab PKPab 14 51 21.0 +0.1
1.0nm,0.8s,baz=290,slow=3.5,SNR=8.1
DANN Dangsing 159.26 105 eP PKPab 14 51 24.4 +1.1
JNU Nakatsue 159.78 269 PKPab PKPab 14 51 24.8 -0.3
2.9nm,0.7s,baz=66,slow=20,SNR=3.5
GKN Gorkha 159.78 107 eP PKPab 14 51 25.5 +0.2
50nm,1.2s
DMN Daman 159.95 109 eP PKPab 14 51 26.5 +0.3
22nm,0.9s
PKIN Phulchoki 160.16 109 eP PKPab 14 51 27.0 -0.1
PKI Pulchoki 160.17 109 eP PKPab 14 51 27.1 -0.1
KKN Kakani 160.18 108 eP PKPab 14 51 27.4 +0.3
26nm,0.9s
GUN Gumba 160.70 109 eP PKPab 14 51 29.8 +0.2
RAMN Ramite 160.75 112 eP PKPab 14 51 29.8 +0.2
JIRN Jiri 160.81 110 eP PKPab 14 51 30.2 +0.1
13nm,0.7s
ODAN Odare 161.28 114 eP PKPab 14 51 32.1 +0.1
TAPN Taplejung 161.79 113 eP PKPab 14 51 34.1 -0.2
WMQ Urumqi 163.59 56 ePKP PKPdf 14 50 49.0 -0.6
SONM Songino Array 168.20 1 PKPab PKPab 14 51 59.8 -1.7
0.6nm,0.8s,baz=336,slow=4.5,SNR=2.9
NJ2 Nanjing 169.06 252 ePKP PKPdf 14 50 54.0 -0.1
HHC Hu-ho-hao-te 173.79 322 ePKP PKPdf 14 50 55.8 -0.5
HHC pPKP pPKPdf 14 51 06.8 -1.0
HHC sPKP 14 51 10.0
HHC PP PP 14 56 21.3 +2.9
HHC SKS SKSdf 14 57 53.5 -3.3
HHC SS SS 15 17 32.8 -0.6
HHC AMB AMB
comp=Z,130nm,6.0s
HHC LR LR
comp=N,240nm,20.0s
HHC LR LR
comp=E,170nm,20.2s
HHC LR LR
comp=Z,180nm,19.6s
CD2 Chengdu 174.38 155 PKP PKPdf 14 50 56.5 -0.3
LZH Lanzhou 177.79 88 ePKP PKPdf 14 50 56.0 -1.5
LZH pPKP pPKPdf 14 51 07.0 -2.1
LZH sPKP 14 51 10.5

IDC 28 14:31:27.5±2.2, 24.30S×179.98E, h492km±23km, mb3.3/9, mb1 3.6/10, mb1mx3.3/36, mbtmp4.2/10, Error ellipse: s-maj=22.1km s-min=17.5km az=153.0
ISCJB 28 14:31:28.8±0.6, 24.35S±0.08×179.8E±0.1, h517km, mb3.8/9, Error ellipse: s-maj=12.7km s-min=11.1km az=17.7
ISC 28 14:31:29.5±0.7, 24.5S±0.1×180.0W±0.1, h517km, n14, σ1.20/17, mb3.8/9, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 12.70 278 P P 14 34 15.8 +0.3
0.2nm,0.3s,baz=107,slow=18,SNR=3.0
DZM S S 14 36 23.5 -8.8
0.2nm,0.3s,baz=136,slow=19,SNR=3.1
URZ Urewera 13.96 189 P P 14 34 28.4 -0.1
1.7nm,0.3s,baz=317,slow=2.4,SNR=11
URZ S S 14 36 54.5 -1.5
1.6nm,0.3s,baz=336,slow=20,SNR=10
STKA Stephens Creek 34.52 249 P P 14 37 34.5 +0.1
2.7nm,0.9s,baz=104,slow=8.0,SNR=4.6
ASAR Alice Springs 41.95 261 P P 14 38 34.7 -0.4
1.0nm,0.7s,baz=95,slow=6.9,SNR=18
ASAR ScP ScP 14 43 21.1 +1.4
0.4nm,0.9s,baz=115,slow=4.2,SNR=3.2
WRA Warramunga Arr 42.38 267 P P 14 38 37.7 -0.7
2.2nm,0.5s,baz=100,slow=8.3,SNR=36
WRA ScP ScP 14 43 24.4 +3.0
0.7nm,0.7s,baz=100,slow=4.0,SNR=6.2
QSPA South Pole Qui 65.61 180 P P 14 41 23.0 +1.1
6.0nm,0.6s,baz=42,slow=1.5,SNR=10
NVAR Mina Array Bea 85.16 44 P P 14 43 10.9 -0.4
0.4nm,0.6s,baz=213,slow=7.9,SNR=4.1
SEY Seymchan 89.83 348 P P 14 43 31.8 -0.5
0.8nm,0.7s,baz=197,slow=19,SNR=3.7
TXAR Lajitas Array 90.73 58 P P 14 43 38.5 +1.0
0.9nm,0.8s,baz=214,slow=6.4,SNR=4.6
ILAR Eielson Array 92.58 14 P P 14 43 43.1 -1.8
2.5nm,1.4s,baz=220,slow=4.8,SNR=4.6
PDAR Pinedale Array 93.09 44 P P 14 43 48.1 0.0
0.7nm,0.7s,baz=224,slow=5.0,SNR=3.6
FINES FINESS Array B 138.99 341 SKPbc SKPbc 14 52 42.8 0.0
0.6nm,0.6s,baz=132,slow=2.8,SNR=6.0
AKASG Malin Array Be 145.46 327 PKPbc PKPdf 14 50 08.3 0.0
0.2nm,0.3s,baz=44,slow=4.5,SNR=4.1
TORD Torodi Ar. Bea 168.62 188 PKPab PKPab 14 51 51.1 +0.2
0.6nm,0.6s,baz=179,slow=3.6,SNR=6.0

IDC 28 14:31:56.2±2.3, 2.14N×127.05E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/36, mbtmp3.3/3, Error ellipse: s-maj=183.9km s-min=25.9km az=66.0, Northern Molucca Sea

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 23.08 162 P P 14 37 03.9 +0.2
0.8nm,0.6s,baz=341,slow=10,SNR=15
ASAR Alice Springs 26.51 166 P P 14 37 35.3 -0.3
0.2nm,0.7s,baz=345,slow=12,SNR=2.7
MKAR Makanchi Array 59.03 326 P P 14 41 58.1 +0.1
0.2nm,0.5s,baz=121,slow=8.5,SNR=5.0

IDC 28 14:35:27.8±0.7, 34.09S×73.23W, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.2/28, mbtmp4.3/11, ML3.9/3, Error ellipse: s-maj=25.1km s-min=16.7km az=85.0
ISCJB 28 14:35:31.5±0.6, 34.10S±0.07×73.10W±0.10, h33km, mb4.2/9, Error ellipse: s-maj=12.9km s-min=9.1km az=34.5
NEIC 28 14:35:33.7±1.3, 34.06S×73.09W, h39km±10km, mb4.3/2, Error ellipse: s-maj=14.4km s-min=7.5km az=97.0
ISC 28 14:35:33.2±0.6, 34.07S±0.08×73.2W±0.1, h35km, n28, σ0.69/31, mb4.2/9, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.83 61 Pn Pn 14 36 42.9 -0.5
0.7nm,0.3s,baz=223,slow=5.1,SNR=7.5
CFAA Sn Sn 14 37 39.2 +1.2
1.1nm,0.3s,baz=292,slow=23,SNR=5.6
PLCA Paso Flores 6.97 163 Pn Pn 14 37 12.4 -0.4
0.6nm,0.3s,baz=334,slow=15,SNR=3.9
PLCA Sn Sn 14 38 12.6 -18
13nm,0.3s,baz=53,slow=20,SNR=3.6
PLCA Paso Flores 6.97 163 ePn Pn 14 37 13.3 +0.4
PLCA Sn Sn 14 38 12.6 -18
LVC Limon Verde 12.01 19 P Pn 14 38 17.1 -5.0
CPUP Villa Florida 15.71 65 P Pn 14 39 10.5 -1.3
0.4nm,0.9s
LPAZ La Paz 18.28 16 P Pn 14 39 44.7 +0.1
0.5nm,0.3s,baz=188,slow=8.0,SNR=12
SIV San Ignacio 21.04 34 P P 14 40 14.0 -0.1
10.0nm,0.9s,baz=222,slow=12,SNR=11
ROSC El Rosal 38.73 358 P P 14 42 55.2 +0.7
6.3nm,0.5s,baz=115,slow=18,SNR=3.0
SNAA Sanae 51.88 158 P P 14 44 38.3 +0.5
1.7nm,0.6s,baz=273,slow=7.5,SNR=11
SNAA Sanae 51.88 158 eP P 14 44 38.2 +0.4
5.5nm,0.8s
QSPA South Pole Qui 56.17 180 P P 14 45 09.7 +0.5
2.3nm,1.0s,baz=146,slow=4.0,SNR=3.7
TXAR Lajitas Array 69.34 332 P P 14 46 37.1 -0.2
1.7nm,0.7s,baz=155,slow=8.2,SNR=15
DBIC Dimbokro 76.09 72 P P 14 47 17.8 +0.2
3.1nm,0.6s,baz=224,slow=3.7,SNR=7.1
BOSA Boshof 80.87 118 P P 14 47 44.3 +0.3
3.6nm,1.0s,baz=207,slow=6.8,SNR=3.4
BOSA Boshof 80.87 118 eP P 14 47 44.3 +0.3
1.1nm,0.6s
PDAR Pinedale Array 83.41 334 P P 14 47 57.5 +0.6
0.8nm,1.1s,baz=152,slow=4.1,SNR=3.9
TOA0 Torodi Ar. Sit 85.12 71 eP P 14 48 05.9 0.0
TORD Torodi Ar. Bea 85.12 71 P P 14 48 06.0 0.0
1.5nm,0.6s,baz=261,slow=4.5,SNR=14
MCMT McKenzie Canyo 86.40 333 eP P 14 48 12.1 +0.3
WRA Warramunga Arr 120.24 210 PKP PKPdf 14 54 19.3 -1.8
1.0nm,1.0s,baz=159,slow=1.7,SNR=4.7
BRTR Keskin Array B 122.69 61 PKP PKPdf 14 54 25.1 -0.1
0.4nm,0.7s,baz=270,slow=1.4,SNR=3.0
AKASG Malin Array Be 122.93 48 PKP PKPdf 14 54 23.6 -1.5
0.2nm,0.3s,baz=266,slow=2.8,SNR=4.4
SEY Seymchan 139.62 330 PKP PKPdf 14 54 56.8 +0.6
1.3nm,0.8s,baz=30,slow=14,SNR=4.6
BRVK Borovoye 147.90 43 ePKPbc PKPbc 14 55 14.2 +0.2
BVAR Borovoye Array 147.97 43 PKP PKPdf 14 55 11.6 +0.4
2.4nm,0.4s,baz=285,slow=2.8,SNR=24
BVAR PKPbc PKPbc 14 55 14.8 +0.5
2.4nm,0.4s,baz=291,slow=1.4,SNR=23
ZALV Zalesovo Beam 154.78 31 PKP PKPdf 14 55 20.8 -0.7
0.5nm,0.5s,baz=289,slow=4.4,SNR=2.9
ZALV PKPbc PKPbc 14 55 29.1 -1.0
1.9nm,0.5s,baz=317,slow=2.9,SNR=8.8
ZALV PKPab PKPab 14 55 45.4 +0.2
1.8nm,0.9s,baz=292,slow=4.0,SNR=4.2
MKAR Makanchi Array 157.51 48 PKPab PKPab 14 55 57.1 -0.2
0.9nm,0.7s,baz=295,slow=3.6,SNR=6.8
SONM Songino Array 166.24 1 PKPab PKPab 14 56 35.7 +0.2
0.6nm,0.8s,baz=335,slow=6.4,SNR=3.2

IDC **28** *14:43:10.3±2.0, 34.19S×73.42W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.7/22, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=52.6km s-min=50.6km az=43.0*

ISC 28 14:43:15.8±1.9, 34.1S±0.3×73.4W±0.3, h35km, n6, σ0.36/6, mb3.5/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	18.37	16	P	Pn	14 47 28.7	+0.3
	0.1nm,0.3s,baz=183,slow=6.5,SNR=5.2						
SIV	San Ignacio	21.17	35	P	P	14 47 57.9	-0.3
	1.4nm,0.6s,baz=231,slow=11,SNR=3.1						
TXAR	Lajitas Array	69.31	332	P	P	14 54 19.6	-0.1
	0.3nm,0.6s,baz=155,slow=8.1,SNR=4.3						
TORD	Torodi Ar. Bea	85.29	71	P	P	14 55 49.6	+0.2
	0.4nm,0.9s,baz=232,slow=4.7,SNR=2.4						
BVAR	Borovoye Array	148.11	43	PKPbc	PKPbc	15 02 57.5	+0.2
	0.8nm,0.4s,baz=299,slow=3.0,SNR=9.5						
MKAR	Makanchi Array	157.67	48	PKPab	PKPab	15 03 40.3	-0.4
	0.2nm,0.7s,baz=316,slow=2.8,SNR=4.5						

IDC **28** *14:50:28.5±0.4, 33.93S×73.41W, h0km, mb5.0/21, mb1 5.0/24, mb1mx4.9/33, mbtmp4.9/24, ML4.9/3, Error ellipse: s-maj=14.9km s-min=12.5km az=67.0*

SJA **28** *14:50:29.7±0.6, 33.62S×73.62W, h30km±33km, ML4.3*

ISCJB **28** *14:50:31.2±0.2, 33.86S±0.04×73.33W±0.03, h26km, mb5.2/136, Error ellipse: s-maj=5.5km s-min=3.3km az=0.1*

NEIC **28** *14:50:32.6±0.1, 33.89S×73.29W, mb5.2/114, Error ellipse: s-maj=5.0km s-min=3.6km az=64.0*

BJI **28** *14:50:33.3, 33.80S×73.20W, h30km, mB5.1/11, Ms5.5/8, Ms7 5.3/9*

MOS **28** *14:50:33.0±1.1, 33.75S×73.36W, h33km, mb5.4/38, Error ellipse: s-maj=15.8km s-min=8.0km az=100.7*

GUC **28** *14:50:35.5±0.5, 33.85S×72.79W, h26km±2km, ML4.5*

ISC 28 14:50:32.6±0.4, 33.89S±0.05×73.17W±0.05, h28km±2km, h27km:pP-P, n765, σ0.88/831, mb5.2/136, 204C-234D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.54	57	eP	Pn	14 50 57.2	-1.0
IHA				iS	Sn	14 51 14.0	-3.3
TACH	Talagante	1.87	84	iP	Pn	14 51 01.9	-1.0
ROCH	El Roble	2.02	64	AML	AML	14 51 35.5	
	comp=E,5μm,0.6s						
SAN	Santiago	2.13	79	iP	Pn	14 51 07.1	+0.6
SAN				iS	Sn	14 51 30.5	-1.6
STL	Santa Lucia	2.15	79	eP	Pn	14 51 06.6	-0.2
STL				iS	Sn	14 51 30.2	-2.4
STL				AML	AML	14 51 37.3	
	comp=N,579nm,0.6s						
PEL	Peldehue	2.20	71	eP	Pn	14 51 07.9	+0.5
PEL				iS	Sn	14 51 31.9	-1.9
PEL				AML	AML	14 51 41.2	
	comp=N,10μm,0.5s						
FCH	Farellones	2.46	78	iP	Pn	14 51 11.7	+0.3
FCH				iS	Sn	14 51 39.1	-1.6
FCH				AML	AML	14 51 42.2	
	comp=N,3μm,0.1s						
CMCH	Combarbala	3.27	35	AML	AML	14 52 01.5	
	comp=E,27μm,0.6s						
AUSP	Uspallata	3.58	63	iP	Pn	14 51 30.5	+3.8
AUSP				iS	Sb	14 52 15.1	-3.5
ARCO	CERRO ARCO	3.69	75	iP	Pn	14 51 32.7	+4.7
ARCO				iS	Sb	14 52 18.8	-3.0
ARCO				AML	AML	14 52 24.1	
	comp=Z,373nm,0.7s						
AAGR	Agrelo	3.71	79	iP	Pn	14 51 32.5	+4.2
ASAL	Salagasta	3.85	72	iP	Pn	14 51 34.5	+4.3
RTLS	Leoncito	3.87	59	iP	Pn	14 51 33.9	+3.4
AVIZ	Vizcacheras	3.90	85	iP	Pb	14 51 36.6	-4.2
RTCV	Cerro Valdivia	4.38	64	iP	Pn	14 51 41.4	+4.0
RTCV				iP	Pn	14 51 41.4	+4.0
RTLL	Cerro Villicun	4.71	59	iP	Pn	14 51 44.7	+2.8
RTLL				iS	Sn	14 52 41.1	+5.5
CFAA	Coronel Fontan	4.74	63	Pn	Pn	14 51 44.7	+2.4
	comp=Z,2.5nm,0.3s,baz=239,slow=8.2,SNR=23						
CFAA				Sn	Sn	14 52 41.6	+5.3
	comp=Z,7.2nm,0.3s,baz=156,slow=20,SNR=15						
CFAA	Coronel Fontan	4.74	63	iP	Pn	14 51 45.6	+3.3
AMOG	MOGNA	4.92	55	iP	Pn	14 51 47.6	+2.7
AMOG				iS	Sn	14 52 45.6	+4.6
AGUA	GUANDACOL	5.92	44	iP	Pn	14 52 00.7	+2.0
ACLC	CERRO LA CRUZ	6.92	52	iP	Pn	14 52 13.6	+1.3
PLCA	Paso Flores	7.15	164	Pn	Pn	14 52 15.7	+0.3
	comp=Z,12nm,0.3s,baz=328,slow=11,SNR=11						
TRQA	Tornquist	9.98	118	eP	Pn	14 52 56.0	+1.8
	comp=Z,24nm,0.7s						
LVC	Limon Verde	11.84	20	ePn	Pn	14 53 18.8	-1.1
	comp=Z,17nm,0.9s						
CPUP	Villa Florida	15.63	65	eP	P	14 54 13.1	-1.8
CPUP	Villa Florida	15.63	65	Pn	P	14 54 13.7	-1.2
	comp=Z,0.7nm,0.3s,baz=222,slow=9.7,SNR=6.7						
CPUP	Villa Florida	15.63	65	eP	P	14 54 13.1	-1.8
	comp=Z,0.3nm,0.6s						
LPAZ	La Paz	18.10	16	eP	P	14 54 44.2	+1.2
LPAZ				pmax	pmax		
	comp=Z,61nm,1.1s						
LPAZ	La Paz	18.10	16	P	P	14 54 44.1	+1.2
	comp=Z,0.7nm,0.3s,baz=188,slow=9.1,SNR=40						
LPAZ	La Paz	18.10	16	eP	P	14 54 44.2	+1.2
	comp=Z,61nm,1.1s						
SIV	San Ignacio	20.89	34	P	Pn	14 55 14.5	-1.0
	comp=Z,27nm,0.8s,baz=225,slow=8.4,SNR=30						
USHA	Ushuaia	21.21	172	P	P	14 55 15.8	-0.1
	comp=Z,16nm,0.9s,baz=335,slow=17,SNR=2.9						
NNA	Nana	22.05	350	iP	P	14 55 26.1	+0.7
NNA	Nana	22.05	350	P	P	14 55 25.9	+0.6
	comp=Z,14nm,0.7s,baz=180,slow=11,SNR=9.9						
NNA	Nana	22.05	350	eP	P	14 55 25.0	-0.4
	comp=Z,62nm,1.1s						
SAML	Samuel	26.46	23	eP	P	14 56 07.9	+0.4
	comp=Z,8.2nm,0.8s						
BDFB	Brasilia	29.05	57	P	P	14 56 31.4	+0.6
	comp=Z,4.4nm,0.7s,baz=214,slow=6.9,SNR=7.2						
OTAV	Otavalo	34.30	351	eP	P	14 57 18.3	+1.0
	comp=Z,21nm,1.4s						
ROSC	El Rosal	38.55	358	P	P	14 57 55.0	+1.6
	comp=Z,11nm,0.5s,baz=246,slow=21,SNR=5.6						
RCBR	Riachuelo	44.39	59	P	P	14 58 42.6	+1.6
	comp=Z,5.2nm,0.8s,baz=206,slow=8.9,SNR=4.7						
JTS	JuntasAbangare	45.34	344	eP	P	14 58 48.8	+0.3
JTS				pmax	pmax		
	comp=Z,36nm,1.3s						
VNA3	Neumayer Olymp	49.82	158	P	P	14 59 24.2	+1.5
VNA2	Neumayer--Watz	50.48	157	P	P	14 59 29.1	+1.4
APG	El Apazote	51.34	338	P	P	14 59 30.6	-4.3
	comp=Z,19nm,0.9s,baz=221,slow=13,SNR=16						
ICMP	Isla Caja de M	51.87	8	eP	P	14 59 38.1	-0.5
ICMP				e		14 59 46.2	
CRPR	Cabo Rojo, PR	51.92	7	eP	P	14 59 38.6	-0.4
	comp=Z,50nm,1.0s						
CRPR				e		14 59 45.8	
OBIP	Obispado Ponce	52.01	8	eP	P	14 59 39.2	-0.4
	comp=Z,44nm,0.8s						
OBIP				e		14 59 47.7	
SNAA	Sanae	52.05	158	P	P	14 59 41.0	+1.5
SNAA	Sanae	52.05	158	d iP	P	14 59 40.5	+1.1
SNAA				pmax	pmax		
	comp=Z,39nm,1.3s						
SNAA	Sanae	52.05	158	P	P	14 59 40.6	+1.1
	comp=Z,8.0nm,0.9s,baz=274,slow=8.0,SNR=30						
SNAA	Sanae	52.05	158	eP	P	14 59 40.3	+0.9
	comp=Z,28nm,1.0s						
SNAA				epP	pP	14 59 48.3	+0.4
CELP	Cerrillos	52.05	8	eP	P	14 59 39.8	-0.1
CELP				epP	pP	14 59 47.9	-0.5
LRS	Lares	52.23	8	eP	P	14 59 40.4	-1.0
LRS				epP	pP	14 59 48.4	-1.5
SDDR	Presa de Saban	52.60	2	eP	P	14 59 44.3	+0.2
	comp=Z,21nm,1.1s						
TEIG	Tepich	55.70	343	P	P	15 00 06.1	-0.6
	comp=Z,31nm,0.6s,baz=154,slow=1.8,SNR=23						
TEIG	Tepich	55.70	343	eP	P	15 00 05.7	-0.9
	comp=Z,25nm,0.6s						
QSPA	South Pole Qui	56.35	180	eP	P	15 00 10.8	-0.2
	comp=Z,35nm,1.0s						
NVL	N'lazarevskaya	56.80	157	iP	P	15 00 15.4	+1.5
NVL				pmax	pmax		
	comp=Z,13nm,1.0s						
035A	Encino	64.95	335	⇓P	P	15 01 10.7	+0.9
	baz=65						
034A	Hebbronville	65.27	335	⇓P	P	15 01 12.7	+0.8
	baz=66,SNR=5.7						
934A	Benavides	65.71	335	⇑P	P	15 01 15.1	+0.4
	baz=66						
TIGA	Tifton	65.71	350	⇑P	P	15 01 14.6	0.0
	baz=66						
BRAL	Brewton	65.87	347	P	P	15 01 16.8	+1.1
933A	Laredo	65.98	335	⇑P	P	15 01 16.4	0.0
	baz=66						
835A	Beeville	66.10	336	⇑P	P	15 01 17.9	+0.7
	baz=66						
834A	Tilden	66.20	336	⇑P	P	15 01 18.7	+0.9
	baz=66,SNR=9.2						
SYO	Syowa Base	66.32	159	⇑eP	P	15 01 16.2	-1.9
735A	Kenedy	66.62	337	⇑P	P	15 01 21.4	+0.9
	baz=67,SNR=5.6						
833A	Chaparral WMA,	66.67	335	⇓P	P	15 01 21.1	+0.2
	baz=67,SNR=16						
832A	Faith Ranch, C	66.84	334	⇑P	P	15 01 22.1	+0.1
	baz=67,SNR=11						
734A	La Parita Cree	66.86	336	⇑P	P	15 01 22.9	+0.8
	baz=67						
636A	Smothers Creek	66.95	337	⇑P	P	15 01 23.6	+1.0
	baz=67,SNR=8.8						
733A	Divot King Ran	67.00	335	⇑P	P	15 01 22.8	-0.1
	baz=67						
HKT	Hockley	67.01	339	eP	P	15 01 23.1	+0.2
HKT				pmax	pmax		
	comp=Z,34nm,1.7s						
HKT	Hockley	67.01	339	eP	P	15 01 23.1	+0.2
	comp=Z,34nm,1.7s						
635A	Leesville	67.10	337	⇑P	P	15 01 23.4	-0.1
	baz=67						
538A	Harpers Horsep	67.16	339	⇑P	P	15 01 24.6	+0.7
	baz=68						
732A	Laxson Ranch,	67.25	335	⇑P	P	15 01 24.5	0.0
	baz=68						
537A	Green Hill Far	67.28	338	⇑P	P	15 01 25.1	+0.4
	baz=68						
634A	China Grove, S	67.28	336	⇓P	P	15 01 24.8	+0.1
	baz=68						
536A	Bastrop	67.51	338	⇓P	P	15 01 26.1	0.0
	baz=68						
535A	Dale	67.62	337	⇑P	P	15 01 26.9	0.0
	baz=68						
633A	Saathoff Ranch	67.64	336	⇑P	P	15 01 27.1	+0.2
	baz=68,SNR=11						
GOGA	Godfrey	67.64	351	eP	P	15 01 25.9	-1.0
GOGA				pmax	pmax		
	comp=Z,25nm,1.0s						
GOGA	Godfrey	67.64	351	eP	P	15 01 25.9	-1.0
	comp=Z,25nm,1.0s						
438A	Sam Houston St	67.65	339	⇑P	P	15 01 27.6	+0.6
	baz=68						
LRAL	Lakeview Retre	67.83	347	eP	P	15 01 27.5	-0.5
	comp=Z,28nm,1.3s						
340A	Bronson	67.83	341	⇑P	P	15 01 28.4	+0.3
	baz=68,SNR=8.2						
632A	Uvalde	67.89	335	⇓P	P	15 01 28.7	+0.1
	baz=68,SNR=16						
534A	Blanco	67.92	336	⇑P	P	15 01 28.3	-0.4
	baz=68						
437A	Phaontom Ranch	67.92	339	⇑P	P	15 01 29.3	+0.6
	baz=68						
339A	Huntington	67.94	340	⇓P	P	15 01 29.2	+0.4
	baz=68						
436A	Wall Ranch, Ga	68.07	338	⇓P	P	15 01 29.7	+0.1
	baz=68						
631A	Perdido Creek	68.08	334	⇓P	P	15 01 29.6	-0.3
	baz=68,SNR=5.4						
533A	Kerrville	68.15	336	⇓P	P	15 01 30.3	0.0
	baz=68,SNR=11						
338A	Crockett	68.17	340	⇓P	P	15 01 31.2	+1.0
	baz=68						
337A	Centerville	68.30	339	⇓P	P	15 01 31.9	+0.8
	baz=69						
435B	Jarrell	68.33	337	⇑P	P	15 01 31.5	+0.3
	baz=69						
NATX	Nacogdoches	68.37	340	eP	P	15 01 31.8	+0.3
	comp=Z,14nm,0.8s						
532A	Rocksprings	68.50	335	⇓P	P	15 01 32.7	+0.2
	baz=69,SNR=38						
239A	Gary	68.56	341	⇓P	P	15 01 33.3	+0.6
	baz=69						
434A	Burnet	68.58	337	⇑P	P	15 01 32.8	-0.1
	baz=69,SNR=26						
336A	Riesel	68.66	338	⇓P	P	15 01 33.3	0.0
	baz=69,SNR=9.2						
238A	Jacksonville	68.72	340	⇓P	P	15 01 34.1	+0.4
	baz=69						
335A	Moody	68.74	338	⇓P	P	15 01 33.9	+0.1
	baz=69,SNR=9.2						
531A	Rocksprings	68.76	335	⇓P	P	15 01 34.4	+0.3
	baz=69,SNR=16						
JCT	Junction City	68.78	335	eP	P	15 01 34.2	0.0
JCT				e*PP	pP	15 01 41.6	-1.3
JCT				pmax	pmax		
	comp=Z,47nm,1.0s						
JCT	Junction City	68.78	335	eP	P	15 01 34.2	0.0
	comp=Z,47nm,1.0s						
JCT				epP	pP	15 01 41.6	-1.3
JCT	Junction City	68.78	335	⇓P	P	15 01 34.1	-0.1
	baz=69,SNR=12						
433A	Art	68.79	336	⇓P	P	15 01 33.9	-0.3
	baz=69,SNR=28						
237A	Washetta, Mont	68.92	339	⇓P	P	15 01 35.0	+0.1
	baz=69						
530A	J-C Ranch, Com	69.03	334	⇓P	P	15 01 36.0	+0.2
	baz=69,SNR=18						
334A	Lometa	69.05	337	⇑P	P	15 01 35.7	-0.1
	baz=69,SNR=11						
KMSC	Kings Mountain	69.09	353	eP	P	15 01 35.9	-0.1
	comp=Z,30nm,1.1s						
KMSC				epP	pP	15 01 43.1	-1.5
KMSC	Kings Mountain	69.09	353	⇓P	P	15 01 35.7	-0.3
	baz=69						
432A	Menard	69.14	336	⇑P	P	15 01 36.2	-0.3
	baz=69,SNR=8.9						
TXAR	Lajitas Array	69.18	332	P	P	15 01 36.8	+0.1
	comp=Z,7.0nm,0.7s,baz=156,slow=8.7,SNR=90						
431A	Sonora	69.25	335	⇑P	P	15 01 36.9	-0.2
	baz=70,SNR=7.8						
333A	Richland Sprin	69.28	337	⇑P	P	15 01 37.0	-0.2
	baz=70,SNR=13						
PPT	Papeete	69.33	262	P	P	15 01 37.8	-0.1
	comp=Z,65nm,0.9s,baz=165,slow=1.5,SNR=8.6						
138A	Matatall Enter	69.33	340	⇓P	P	15 01 38.1	+0.6
	baz=70						
529A	Stev Forest Ra	69.33	333	⇓P	P	15 01 37.7	0.0
	baz=70,SNR=24						
WHTX	Lake Whitney	69.41	338	eP	P	15 01 37.6	-0.3
	comp=Z,48nm,1.0s						
WHTX				epP	pP	15 01 45.6	-1.1
WHTX	Lake Whitney	69.41	338	⇓P	P	15 01 37.9	-0.1
	baz=70,SNR=15						
137A	Heron Place, G	69.46	340	⇑P	P	15 01 38.9	+0.6
	baz=70						
430A	Baggett Ranch,	69.57	334	⇑P	P	15 01 38.8	-0.3
	baz=70,SNR=9.5						
332A	Millersview	69.59	336	⇑P	P	15 01 38.9	-0.2
	baz=70,SNR=13						
234A	Clairette	69.63	338	⇑P	P	15 01 39.3	-0.1
	baz=70,SNR=13						
429A	Davenport Ranc	69.66	334	⇓P	P	15 01 39.6	-0.1
	baz=70,SNR=9.8						
OXF	Oxford	69.72	346	eP	P	15 01 39.2	-0.6
OXF				e*PP	pP	15 01 47.8	-0.8
OXF				pmax	pmax		
	comp=Z,116nm,1.0s						
OXF	Oxford	69.72	346	eP	P	15 01 39.2	-0.6
	comp=Z,116nm,1.0s						
OXF				epP	pP	15 01 47.8	-0.8
331A	San Angelo	69.76	335	⇑P	P	15 01 39.9	-0.3
	baz=70,SNR=16						
SWET	Sewanee	69.77	349	eP	P	15 01 40.1	-0.1
	comp=Z,106nm,1.2s						
SWET				epP	pP	15 01 48.3	-0.6
CPCT	Cooper Cave	69.79	350	eP	P	15 01 42.3	+2.1
CPCT				epP	pP	15 01 50.5	+1.6
TKL	Tuckaleechee C	69.89	351	eP	P	15 01 40.5	-0.4
TKL				e*PP	pP	15 01 48.7	-0.9
TKL	Tuckaleechee C	69.89	351	P	P	15 01 40.5	-0.4
	comp=Z,31nm,0.8s,baz=165,slow=7.5,SNR=31						
TKL	Tuckaleechee C	69.89	351	eP	P	15 01 40.5	-0.4
TKL				epP	pP	15 01 48.7	-0.9
233A	Rising Star	69.89	337	⇓P	P	15 01 40.8	-0.2
	baz=70,SNR=11						
135A	Vickery Place,	69.92	338	⇓P	P	15 01 40.7	-0.4
	baz=70						
232A	Coleman	70.02	336	⇓P	P	15 01 41.4	-0.4
	baz=70,SNR=14						
330A	Mertzon	70.11	335	⇑P	P	15 01 41.9	-0.5
	baz=70,SNR=12						
134A	White-Moore Ra	70.14	338	⇑P	P	15 01 42.0	-0.4
	baz=70,SNR=5.3						
231A	Bronte	70.29	336	⇑P	P	15 01 42.9	-0.6
	baz=71,SNR=17						
133A	Hamilton Ranch	70.44	337	⇑P	P	15 01 44.1	-0.3
	baz=71,SNR=15						
329A	Wagon Wheel Ra	70.47	334	⇓P	P	15 01 44.4	-0.3
	baz=71,SNR=7.2						
230A	Sterling City	70.52	335	⇑P	P	15 01 44.2	-0.8
	baz=71						
Z35A	Perchaven, San	70.59	339	⇑P	P	15 01 45.0	-0.2
	baz=71,SNR=18						
UALR	University of	70.63	343	eP	P	15 01 45.2	-0.1
	comp=Z,29nm,1.0s						
ABTX	Abilene, Hawle	70.69	337	eP	P	15 01 46.0	+0.1
	comp=Z,54nm,1.0s						
ABTX				epP	pP	15 01 53.4	-1.2
ABTX	Abilene, Hawle	70.69	337	⇑P	P	15 01 45.7	-0.2
	baz=71,SNR=10						
MIAR	Mount Ida	70.71	342	eP	P	15 01 45.3	-0.6
MIAR				pmax	pmax		
	comp=Z,25nm,1.1s						
MIAR	Mount Ida	70.71	342	eP	P	15 01 45.3	-0.6
	comp=Z,25nm,1.1s						
Z34A	Collier Ranch,	70.83	338	⇓P	P	15 01 46.5	-0.1
	baz=71,SNR=8.5						
229A	Bryant Ranch,	70.84	334	⇑P	P	15 01 46.8	0.0
	baz=71						
WVT	Waverly	70.99	347	eP	P	15 01 47.1	-0.5
WVT				e*PP	pP	15 01 55.0	-1.3
WVT	Waverly	70.99	347	eP	P	15 01 47.1	-0.5
	comp=Z,156nm,0.9s						
WVT				epP	pP	15 01 55.0	-1.3
131A	Roby	70.99	336	⇓P	P	15 01 47.5	-0.2
	baz=71,SNR=9.1						
Z33A	Whitaker Ranch	71.02	338	⇑P	P	15 01 47.7	-0.1
	baz=71,SNR=9.3						
VWCC	Virginia Weste	71.05	354	eP	P	15 01 47.8	-0.1
VWCC				epP	pP	15 01 56.3	-0.3
HALT	Halls	71.06	346	eP	P	15 01 47.9	-0.1
HALT				epP	pP	15 01 55.9	-0.8
130A	Snyder	71.12	335	⇑P	P	15 01 48.1	-0.4
	baz=71,SNR=8.2						
GNAR	Gosnell	71.25	346	eP	P	15 01 49.3	+0.2
	comp=Z,723nm,1.0s						
GNAR				epP	pP	15 01 57.7	-0.2
228A	UT Block 9, Go	71.26	334	⇓P	P	15 01 49.1	-0.4
	baz=72,SNR=7.3						
Z32A	Haskell	71.27	337	⇓P	P	15 01 49.1	-0.2
	baz=72,SNR=24						
Y34A	Reagan Ranch,	71.33	339	⇓P	P	15 01 49.4	-0.3
	baz=72,SNR=6.6						
JSRW	J. Sargeant Re	71.35	356	eP	P	15 01 50.4	+0.7
JSRW				epP	pP	15 01 57.7	-0.8
GLAT	Glass	71.40	346	eP	P	15 01 50.3	+0.3
GLAT				epP	pP	15 01 58.8	0.0
129A	Stewart Farms,	71.46	335	⇓P	P	15 01 50.5	-0.2
	baz=72						
Z31A	Sharp Cattle R	71.50	336	⇑P	P	15 01 50.6	-0.2
	baz=72,SNR=17						
Y33A	Hilltop Ranch,	71.64	338	⇓P	P	15 01 51.2	-0.4
	baz=72,SNR=9.5						
128A	Castleberry Fa	71.68	334	⇑P	P	15 01 51.8	-0.1
	baz=72,SNR=9.0						
Z30A	Sanderson Ranc	71.80	336	⇓P	P	15 01 52.3	-0.3
	baz=72,SNR=12						
Y32A	R-V Farms, Ver	71.89	337	⇑P	P	15 01 53.1	0.0
	baz=72,SNR=7.7						
X34A	Smith Ranch, M	71.94	339	⇑P	P	15 01 53.2	-0.2
	baz=72,SNR=12						
MNTX	Cornudas Mount	71.95	331	eP	P	15 01 52.5	-1.0
	comp=Z,12nm,1.0s						
Z29A	Hungry Hill Ra	71.98	335	⇓P	P	15 01 53.2	-0.5
	baz=72,SNR=12						
127A	Arkansas Junct	72.05	334	⇓P	P	15 01 53.9	-0.3
	baz=72,SNR=7.2						
X33A	Lawton	72.09	338	⇑P	P	15 01 53.6	-0.7
	baz=72,SNR=7.1						
Y31A	Rekieta Farm,	72.12	337	⇓P	P	15 01 54.4	-0.1
	baz=72,SNR=13						
X32A	Elmer	72.23	338	⇑P	P	15 01 54.8	-0.3
	baz=72,SNR=8.4						
Z28A	Tucker Farm, M	72.24	335	⇓P	P	15 01 54.8	-0.6
	baz=72,SNR=6.7						
Y30A	Stafford Cattl	72.26	336	⇑P	P	15 01 54.8	-0.6
	baz=73						
Y29A	Porterfield Fa	72.51	335	⇓P	P	15 01 56.5	-0.4
	baz=73,SNR=14						
W34A	Bridge Creek,	72.52	339	eP	P	15 01 56.7	-0.1
	comp=Z,67nm,1.4s						
W34A				epP	pP	15 02 04.9	-0.6
W34A	Bridge Creek,	72.52	339	⇑P	P	15 01 56.4	-0.4
	baz=73						
Z27A	Tatum	72.57	334	⇑P	P	15 01 56.7	-0.6
	baz=73,SNR=11						
TUL1	Tulsa	72.58	341	eP	P	15 01 56.7	-0.5
	comp=Z,66nm,1.1s						
TUL1	Tulsa	72.58	341	⇓P	P	15 01 56.7	-0.5
	baz=73,SNR=19						
X31A	McDonald Ranch	72.64	337	⇑P	P	15 01 57.1	-0.5
	baz=73,SNR=18						
W33A	Caddo, Fort Co	72.65	338	⇓P	P	15 01 58.0	+0.4
	baz=73,SNR=19						
USIN	University of	72.75	348	eP	P	15 01 57.5	-0.6
	comp=Z,98nm,0.9s						
USIN				epP	pP	15 02 05.7	-1.1
Y28A	McKinney Farm,	72.75	335	⇑P	P	15 01 57.7	-0.7
	baz=73						
X30A	Coker Ranch, T	72.77	336	⇓P	P	15 01 58.2	-0.2
	baz=73						
WCI	Wyandotte Cave	72.78	349	eP	P	15 01 57.3	-1.0
WCI				pmax	pmax		
	comp=Z,17nm,0.8s						
WCI	Wyandotte Cave	72.78	349	eP	P	15 01 57.3	-1.0
	comp=Z,17nm,0.8s						
SIUC	Southern Illin	72.78	347	eP	P	15 01 58.0	-0.3
	comp=Z,70nm,0.9s						
Z26A	Caprock	72.81	333	⇑P	P	15 01 58.4	-0.3
	baz=73,SNR=44						
W32A	Sentinel	72.86	338	⇑P	P	15 01 58.7	-0.2
	baz=73,SNR=40						
MSTX	Muleshoe	72.99	336	eP	P	15 01 59.3	-0.4
	comp=Z,48nm,0.9s						
MSTX				epP	pP	15 02 07.7	-0.9
MSTX	Muleshoe	72.99	335	⇓P	P	15 01 59.4	-0.4
	baz=73,SNR=16						
V34A	Guthrie	73.00	339	eP	P	15 01 59.4	-0.3
	comp=Z,64nm,1.3s						
V34A				epP	pP	15 02 07.4	-1.0
V34A	Guthrie	73.00	339	⇑P	P	15 01 59.2	-0.4
	baz=73,SNR=10						
X29A	Tulia	73.05	336	⇑P	P	15 01 59.8	-0.3
	baz=73,SNR=8.0						
Y27A	Causey	73.06	334	⇓P	P	15 01 59.4	-0.8
	baz=73						
Z25A	Roswell	73.09	333	⇓P	P	15 02 00.0	-0.4
	baz=73,SNR=7.5						
W31A	Holland Ranch,	73.14	337	⇓P	P	15 02 00.4	-0.2
	baz=73,SNR=8.0						
V33A	Lossen Ranch,	73.21	339	⇓P	P	15 02 00.7	-0.2
	baz=74,SNR=11						
X28A	Dimmitt	73.29	335	⇓P	P	15 02 01.0	-0.5
	baz=74						
319A	Douglas	73.30	328	⇓P	P	15 02 02.2	+0.5
	baz=74,SNR=7.3						
Y26A	Elida	73.33	334	⇓P	P	15 02 01.4	-0.5
	baz=74,SNR=6.3						
W30A	Crocket Farms	73.34	337	⇑P	P	15 02 01.9	+0.1
	baz=74						
V32A	Arapaho	73.35	338	⇑P	P	15 02 02.1	+0.3
	baz=74,SNR=6.1						
Z24A	Sheeppen Canyo	73.39	332	⇑P	P	15 02 01.9	-0.3
	baz=74,SNR=11						
AMTX	Amarillo	73.44	336	eP	P	15 02 02.5	+0.5
	comp=Z,33nm,0.9s						
AMTX				epP	pP	15 02 10.6	-0.6
AMTX	Amarillo	73.44	336	⇓P	P	15 02 01.9	-0.5
	baz=74						
U34A	Anderson Ranch	73.56	340	eP	P	15 02 02.7	-0.2

comp=Z,70nm,1.3s
U34A ePP pP 15 02 11.3 -0.5
U34A Anderson Ranch 73.56 340 ⇑P P 15 02 02.7 -0.2
baz=74,SNR=8.1
OLIL Olney 73.57 348 eP P 15 02 02.1 -0.8
comp=Z,27nm,1.0s
W29A Amraillo 73.64 336 ⇓P P 15 02 03.4 -0.2
baz=74,SNR=11
V31A Spring Creek L 73.65 338 ⇑P P 15 02 04.0 +0.5
baz=74,SNR=6.1
Y25A Mesa, Roswell 73.66 333 ⇓P P 15 02 03.1 -0.7
baz=74,SNR=8.9
X27A F and S Farms, 73.72 335 ⇓P P 15 02 03.6 -0.5
baz=74
U33A Lingo Farm, Me 73.73 339 ⇑P P 15 02 03.2 -0.7
baz=74
BLO Bloomington 73.74 349 eP P 15 02 03.3 -0.6
BLO pmax pmax
comp=Z,25nm,0.8s
BLO Bloomington 73.74 349 eP P 15 02 03.3 -0.6
comp=Z,26nm,0.8s
SLM Saint Louis 73.87 346 eP P 15 02 04.6 -0.1
SLM e*PP pP 15 02 12.8 -0.7
SLM pmax pmax
comp=Z,102nm,0.9s
SLM Saint Louis 73.87 346 eP P 15 02 04.6 -0.1
comp=Z,102nm,0.9s
SLM epP pP 15 02 12.8 -0.7
X26A CR and CF Fran 73.89 334 ⇑P P 15 02 05.1 0.0
baz=74,SNR=16
V30A Spur Ranch, Mi 73.91 337 ⇑P P 15 02 05.3 +0.2
baz=74
Y24A Capitan 73.94 332 ⇑P P 15 02 05.6 +0.1
baz=74,SNR=15
U32A Winter Ranch, 73.95 339 ⇓P P 15 02 05.2 0.0
baz=74,SNR=8.9
Z22A Elephant Butte 73.95 331 ⇑P P 15 02 06.3 +0.8
baz=74,SNR=14
W28A Vega 73.96 336 ⇑P P 15 02 05.2 -0.3
baz=74
W27A Bowe Ranch, En 74.08 335 ⇑P P 15 02 06.2 0.0
baz=74,SNR=15
X25A Clemmons Ranch 74.18 333 ⇓P P 15 02 06.6 -0.2
baz=74,SNR=6.3
Y23A Lovelace Mesa, 74.19 332 ⇑P P 15 02 07.8 +0.9
baz=74,SNR=6.4
U31A Nine Bar Ranch 74.20 338 ⇓P P 15 02 06.8 0.0
baz=74
SSPA Standing Stone 74.28 356 eP P 15 02 07.2 +0.2
comp=Z,23nm,1.3s
V29A Stinnett 74.29 336 ⇑P P 15 02 07.2 -0.1
baz=75
ACSO Alum Creek Sta 74.30 352 eP P 15 02 06.9 -0.3
comp=Z,70nm,0.7s
ACSO epP pP 15 02 15.1 -0.9
W26A Owens Ranch, T 74.36 334 ⇑P P 15 02 08.1 +0.3
baz=75,SNR=15
T33A Patterson Ranc 74.37 339 ⇓P P 15 02 07.9 +0.2
baz=75,SNR=18
V28A Channing 74.41 336 ⇓P P 15 02 08.5 +0.4
baz=75,SNR=6.6
X24A Lazy VL Ranch, 74.51 333 ⇓P P 15 02 09.0 +0.3
baz=75
U30A WK&E Inc. Balk 74.60 337 ⇓P P 15 02 09.5 +0.4
baz=75,SNR=8.3
V27A Dan Oppiter Fa 74.63 335 ⇑P P 15 02 09.8 +0.5
baz=75
Y22D IRIS PASSCAL I 74.65 331 ⇓P P 15 02 10.0 +0.4
baz=75
T32A Huddler Ranch, 74.66 339 ⇑P P 15 02 09.6 +0.2
baz=75,SNR=6.3
W25A X Bar L Ranch, 74.72 334 ⇓P P 15 02 09.7 -0.2
baz=75,SNR=13
U29A Oasis Ranch, S 74.73 337 ⇓P P 15 02 10.1 +0.2
baz=75
LPM Los Pinos Moun 74.75 332 eP P 15 02 10.6 +0.5
comp=Z,9.9nm,1.0s
LENM Lemitar 74.75 331 eP P 15 02 11.2 +1.0
comp=Z,3.2nm,0.9s
TUC Tucson 74.76 328 eP P 15 02 10.8 +0.6
TUC pmax pmax
comp=Z,28nm,1.4s
TUC Tucson 74.76 328 eP P 15 02 10.8 +0.6
comp=Z,28nm,1.4s
S33A Kaszmaul Farm, 74.78 340 ⇓P P 15 02 10.0 0.0
baz=75
X23A Hourglass Bar 74.81 332 ⇑P P 15 02 10.9 +0.4
baz=75,SNR=7.1
T31A Randall Ranch, 74.82 338 ⇑P P 15 02 10.4 +0.1
baz=75
U28A Mallet 74.98 336 ⇓P P 15 02 11.4 0.0
baz=75,SNR=5.8
V26A Tequesquite Ra 75.00 335 ⇓P P 15 02 11.1 -0.4
baz=75,SNR=17
SFIN Scholer Farm 75.01 349 eP P 15 02 10.1 -1.2
comp=Z,16nm,1.1s
SFIN Scholer Farm 75.01 349 ⇓P P 15 02 10.0 -1.2
baz=75,SNR=6.1
LAZ Ladron 75.03 331 eP P 15 02 12.6 +0.8
comp=Z,11nm,1.2s
T30A Plains 75.04 338 ⇑P P 15 02 11.8 +0.1
baz=75
W24A Lazy 6 Ranch, 75.07 333 ⇓P P 15 02 12.4 +0.3
baz=75,SNR=11
S32A Newby Ranch, P 75.15 339 ⇓P P 15 02 12.5 +0.3
baz=76
U27A Thompson Grove 75.22 336 ⇑P P 15 02 13.0 +0.2
baz=76,SNR=8.8
ANMO Albuquerque 75.24 332 d iP P 15 02 13.5 +0.5
ANMO pmax pmax
comp=Z,100nm,1.3s
ANMO Albuquerque 75.24 332 P P 15 02 13.1 +0.1
comp=Z,14nm,1.1s,baz=160,slow=7.9,SNR=27
ANMO Albuquerque 75.24 332 eP P 15 02 13.3 +0.4
comp=Z,21nm,1.1s
ANMO epP pP 15 02 21.8 0.0
S31A Mullinville 75.24 339 ⇑P P 15 02 12.9 +0.2
baz=76
W23A Werner Place, 75.31 333 ⇓P P 15 02 13.9 +0.5
baz=76
V25A Rancho No Teng 75.33 334 ⇑P P 15 02 13.6 0.0
baz=76,SNR=22
T29A Hugoton 75.38 337 ⇓P P 15 02 13.7 +0.1
baz=76
214A Organ Pipe Nat 75.39 326 eP P 15 02 14.1 +0.4
comp=Z,18nm,1.3s
214A Organ Pipe Nat 75.39 326 ⇓P P 15 02 14.2 +0.4
baz=76
R33A Olander Ranch, 75.44 340 ⇓P P 15 02 13.6 -0.2
baz=76
ALLY Alegheny Colle 75.44 355 eP P 15 02 13.4 -0.3
comp=Z,13nm,0.9s
ALLY epP pP 15 02 21.6 -0.9
V24A Rampart Ranch, 75.48 333 ⇓P P 15 02 14.6 +0.2
baz=76,SNR=14
U26A Atchley Ranch, 75.52 335 ⇑P P 15 02 14.6 0.0
baz=76,SNR=8.5
S30A Montezuma 75.56 338 ⇓P P 15 02 14.4 -0.2
baz=76
T28A Walsh 75.62 336 ⇓P P 15 02 15.0 0.0
baz=76,SNR=23
LIC Lamto 75.63 72 eP P 15 02 16.4 +0.9
comp=Z,83nm,1.3s
S29A Ulysses 75.75 337 ⇑P P 15 02 16.0 +0.3
baz=76,SNR=10
R32A Long Quarter, 75.75 340 ⇓P P 15 02 15.8 +0.1
baz=76,SNR=9.4
U25A Circle Dot Ran 75.76 334 ⇑P P 15 02 16.2 +0.2
baz=76,SNR=13
T27A Campo 75.77 336 ⇓P P 15 02 16.0 +0.1
baz=76,SNR=24
V23A Ortiz Mt. (NFS 75.84 333 ⇓P P 15 02 17.1 +0.6
baz=76,SNR=5.0
R31A Burdett 75.87 339 ⇑P P 15 02 16.5 +0.1
baz=76,SNR=9.0
TIC Toumodi 75.89 72 eP P 15 02 18.3 +1.3
comp=Z,16nm,0.2s
KIC Kosan Boka 75.94 72 eP P 15 02 18.4 +1.1
comp=Z,54nm,0.8s
S28A Manter 75.97 337 ⇑P P 15 02 17.0 0.0
baz=76,SNR=21
DBIC Dimbokro 76.03 72 eP P 15 02 19.1 +1.3
DBIC e*PP pP 15 02 27.5 +0.9
DBIC pmax pmax
comp=Z,19nm,0.8s
DBIC Dimbokro 76.03 72 P P 15 02 19.3 +1.5
comp=Z,21nm,0.7s,baz=210,slow=5.9,SNR=30
DBIC Dimbokro 76.03 72 eP P 15 02 19.1 +1.3
comp=Z,19nm,0.8s
DBIC epP pP 15 02 27.5 +0.9
Q33A Connelly Farm, 76.04 340 ⇑P P 15 02 17.0 -0.2
baz=76,SNR=5.6
U24A Moreno Valley 76.08 334 ⇓P P 15 02 18.8 +0.9
baz=76,SNR=5.3
R30A Dighton 76.09 338 ⇓P P 15 02 17.8 +0.2
baz=76,SNR=6.8
T26A Comanche Natio 76.17 335 ⇑P P 15 02 18.7 +0.4
baz=76,SNR=16
Q32A Meitler Ranch, 76.24 340 ⇑P P 15 02 18.3 -0.1
baz=77,SNR=12
V22A San Miguel Ran 76.26 332 ⇓P P 15 02 19.9 +1.0
baz=76,SNR=37
X18A Snowflake 76.29 329 ⇑P P 15 02 19.7 +0.7
baz=77,SNR=6.1
U23A El Rito 76.35 333 ⇑P P 15 02 20.1 +0.7
baz=77,SNR=12
P33A Williams Farm, 76.41 341 ⇓P P 15 02 19.3 -0.1
baz=77
T25A Trinidad 76.42 335 ⇑P P 15 02 20.7 +0.9
baz=77,SNR=44
AAM Ann Arbor 76.42 352 eP P 15 02 18.6 -0.7
AAM pmax pmax
comp=Z,8.0nm,0.4s
AAM Ann Arbor 76.42 352 eP P 15 02 18.6 -0.7
comp=Z,7.5nm,0.4s
R29A Marienthal 76.49 338 ⇑P P 15 02 19.9 0.0
baz=77
Q31A Ellis 76.49 339 ⇑P P 15 02 20.3 +0.5
baz=77,SNR=13
113A Mohawk Valley, 76.51 326 ⇑P P 15 02 20.2 +0.1
baz=77
S26A Kim 76.53 336 ⇓P P 15 02 20.8 +0.6
baz=77,SNR=37
Z14A Wintersburg 76.63 327 ⇑P P 15 02 21.2 +0.5
baz=77
R28A Tribune 76.63 337 ⇑P P 15 02 21.1 +0.4
baz=77,SNR=19
U22A Llaves 76.65 333 ⇓P P 15 02 22.3 +1.3
baz=77,SNR=11
T24B San Luis 76.70 334 ⇓P P 15 02 22.4 +1.0
baz=77,SNR=18
W18A Petrified Fore 76.71 330 eP P 15 02 22.0 +0.7
comp=Z,48nm,1.3s
W18A epP pP 15 02 30.5 +0.3
W18A Petrified Fore 76.71 330 ⇓P P 15 02 22.1 +0.8
baz=77,SNR=6.8
Q30A Quinter 76.71 339 ⇓P P 15 02 21.6 +0.4
baz=77,SNR=16
P32A Huiting Farm, 76.83 340 ⇓P P 15 02 21.7 0.0
baz=77,SNR=6.0
X16A Lo Mia Camp, P 76.84 328 ⇓P P 15 02 23.0 +0.9
baz=77,SNR=24
Q29A Oakley 76.87 338 ⇓P P 15 02 22.0 0.0
baz=77,SNR=6.1
S25A Robets Cordova 76.90 335 ⇓P P 15 02 22.9 +0.5
baz=77
R27A Eads 76.90 336 ⇓P P 15 02 22.5 +0.2
baz=77,SNR=27
T23A Casias Ranch, 76.92 334 ⇓P P 15 02 23.4 +0.7
baz=77,SNR=8.8
P31A Stockton 76.96 339 ⇓P P 15 02 22.8 +0.3
baz=77,SNR=7.4
R26A Arlington 77.13 336 ⇓P P 15 02 24.0 +0.4
baz=77,SNR=18
Y14A Wickenburg 77.13 327 ⇑P P 15 02 24.2 +0.6
baz=77,SNR=8.1
S24A Houchin Ranch, 77.16 334 ⇑P P 15 02 25.0 +1.1
baz=77,SNR=32
P30A Selden 77.24 339 ⇑P P 15 02 24.6 +0.6
baz=78
GLA Glamis 77.25 325 ⇓P P 15 02 24.4 +0.1
baz=78
R25A Fountain Ranch 77.28 335 ⇓P P 15 02 24.9 +0.4
baz=78,SNR=7.6
Q28A Sharon Springs 77.29 337 ⇑P P 15 02 24.9 +0.4
baz=78,SNR=6.9
O32A Brockman Farm, 77.34 341 ⇓P P 15 02 24.6 0.0
baz=78,SNR=5.4
SDCO Great Sand Dun 77.35 334 eP P 15 02 25.5 +0.4
comp=Z,7.0nm,0.8s
KSCO Kaye Shedlock' 77.50 337 eP P 15 02 26.3 +0.6
KSCO Kaye Shedlock' 77.50 337 ⇑P P 15 02 26.2 +0.5
baz=78,SNR=6.7
P29A Atwood 77.50 338 ⇓P P 15 02 26.1 +0.5
baz=78,SNR=6.7
MDV Middlebury 77.51 360 eP P 15 02 26.0 +0.7
comp=Z,64µm,0.8s
MDV epP pP 15 02 33.8 -0.4
O31A Woolen Ranch, 77.53 340 ⇓P P 15 02 25.8 +0.1
baz=78,SNR=5.9
SWSC Sam W. Stewart 77.62 324 ⇑P P 15 02 26.8 +0.6
baz=78
SCIA State Center 77.64 345 eP P 15 02 25.9 -0.2
comp=Z,43nm,1.0s
SCIA epP pP 15 02 34.2 -0.8
R24A Sanders Place, 77.64 335 ⇓P P 15 02 27.3 +0.8
baz=78,SNR=41
Y12C Blythe 77.68 326 ⇑P P 15 02 27.5 +0.9
baz=78
Q26A Hugo 77.72 336 ⇑P P 15 02 27.3 +0.4
baz=78,SNR=10
P28A Saint Francis 77.73 338 ⇑P P 15 02 27.3 +0.4
baz=78,SNR=7.0
WUAZ Wupatki 77.74 329 eP P 15 02 28.0 +0.9
comp=Z,30nm,1.1s
WUAZ Wupatki 77.74 329 ⇓P P 15 02 27.8 +0.7
baz=78,SNR=16
O30A MW Ranch, Wils 77.77 339 ⇓P P 15 02 27.3 +0.2
baz=78,SNR=5.5
N32A Stulken Farm, 77.81 341 ⇓P P 15 02 27.6 +0.4
baz=78
S22A 4UR Ranch, Cre 77.84 333 ⇓P P 15 02 28.4 +0.7
baz=78,SNR=9.4
R23A Moffat 77.87 334 ⇑P P 15 02 28.3 +0.4
baz=78,SNR=14
MONP Monument Peak 77.89 324 ⇓P P 15 02 28.7 +0.6
baz=78
O29A 4D Ranch, Culb 77.94 339 ⇓P P 15 02 28.8 +0.8
baz=78
PDMCI Parker Dam,Lak 77.95 326 ⇓P P 15 02 28.0 -0.1
baz=78
Q25A Bedland, Calha 77.96 336 ⇓P P 15 02 28.6 +0.3
baz=78,SNR=10
JFWS Jewell Farm 78.01 347 eP P 15 02 28.1 -0.1
JFWS pmax pmax
comp=Z,32nm,0.9s
JFWS Jewell Farm 78.01 347 eP P 15 02 28.1 -0.1
comp=Z,32nm,0.9s
MVCO Mesa Verde 78.01 332 eP P 15 02 29.0 +0.3
comp=Z,27nm,1.1s
MVCO Mesa Verde 78.01 332 ⇓P P 15 02 29.3 +0.6
baz=78,SNR=17
BC3 Big Chuckawall 78.04 325 ⇑P P 15 02 29.2 +0.5
baz=78,SNR=11
N31A Bailey Ranch, 78.05 340 ⇑P P 15 02 29.2 +0.6
baz=78
P26A Davis Ranch, A 78.23 337 ⇓P P 15 02 30.4 +0.6
baz=78,SNR=12
O28A Krutsinger Ran 78.24 338 ⇓P P 15 02 30.8 +1.1
baz=79
IRM Iron Mountain 78.31 326 ⇓P P 15 02 31.3 +1.1
baz=79
Q24A Divide 78.31 335 ⇑P P 15 02 31.1 +0.7
baz=79,SNR=9.0
N30A Hueftle Ranch, 78.35 339 ⇑P P 15 02 30.8 +0.6
baz=79
BGNE Belgrade 78.37 341 eP P 15 02 30.4 +0.1
comp=Z,38nm,0.9s
BGNE Belgrade 78.37 341 ⇓P P 15 02 31.0 +0.7
baz=79
P25A Willow Gulch B 78.47 336 ⇑P P 15 02 31.9 +0.9
baz=79,SNR=7.7
PFO Pinyon Flat Ob 78.48 324 eP P 15 02 32.2 +1.0
PFO pmax pmax
comp=Z,21nm,1.0s
PFO Pinyon Flat Ob 78.48 324 P P 15 02 31.3 +0.1
comp=Z,16nm,0.9s,baz=118,slow=4.7,SNR=11
PFO Pinyon Flat Ob 78.48 324 eP P 15 02 32.2 +1.0
comp=Z,21nm,1.0s
PFO Pinyon Flat Ob 78.48 324 ⇑P P 15 02 32.5 +1.3
baz=79,SNR=5.8
W13A Hualapai Mount 78.50 327 ⇑P P 15 02 32.0 +0.6
baz=79,SNR=12
O27A Beecher Island 78.52 338 ⇑P P 15 02 31.9 +0.6
baz=79,SNR=7.2
N29A Votaw Ranch, W 78.53 339 ⇓P P 15 02 31.9 +0.7
baz=79
M31A Lambtecht Ranc 78.54 340 ⇑P P 15 02 31.7 +0.5
baz=79,SNR=9.6
BELC Belle Mtn. Jos 78.58 325 ⇓P P 15 02 32.3 +0.5
baz=79
N28A Pribbeno Ranch 78.68 338 ⇓P P 15 02 32.9 +0.8
baz=79
P24A Kohler Place, 78.72 335 ⇑P P 15 02 33.5 +1.0
baz=79
O26A Horse Wrangler 78.84 337 ⇑P P 15 02 34.2 +1.1
baz=79
MURC Murrieta 78.84 324 ⇑P P 15 02 33.8 +0.7
baz=79,SNR=5.1
PV01 Paradox Valley 78.84 332 eP P 15 02 33.9 +0.6
comp=Z,2µm,1.2s
U15A North Rim 78.91 329 ⇓P P 15 02 34.6 +0.9
baz=79,SNR=19
P23A Jefferson 78.92 335 ⇑P P 15 02 34.6 +0.8
baz=79
M30A Dale-Ortello V 78.97 340 ⇑P P 15 02 34.1 +0.5
baz=79
O25A Wiggins 78.99 336 ⇑P P 15 02 34.7 +0.8
baz=79,SNR=7.2
GMRC Granite Mounta 79.06 326 ⇑P P 15 02 35.5 +1.1
baz=79,SNR=9.2
OGNE Ogallala 79.07 338 ⇑P P 15 02 35.0 +0.7
baz=79
N27A Anderson Farm, 79.10 338 ⇓P P 15 02 35.0 +0.6
baz=79,SNR=12
M29A Burnside Ranch 79.12 339 ⇑P P 15 02 35.3 +0.8
baz=79
ISCO Idaho Springs 79.22 335 eP P 15 02 35.8 +0.4
ISCO pmax pmax
comp=Z,14nm,1.1s
ISCO Idaho Springs 79.22 335 eP P 15 02 35.8 +0.4
comp=Z,14nm,1.1s
ISCO Idaho Springs 79.22 335 ⇓P P 15 02 35.8 +0.4
baz=80,SNR=15
L31A Butterfield Fa 79.27 341 ⇓P P 15 02 36.0 +0.8
baz=80
M28A Bar X Bar Ranc 79.28 339 ⇑P P 15 02 35.8 +0.4
baz=80
CIS Catalina Islan 79.28 323 ⇑P P 15 02 35.2 -0.3
baz=80
L30A Spencer Herefo 79.31 340 ⇓P P 15 02 36.2 +0.7
baz=80
O24A Longmont 79.32 336 ⇑P P 15 02 36.4 +0.7
baz=80
N26A Koester Ranch, 79.34 337 ⇓P P 15 02 37.0 +1.3
baz=80
HEC Hector,Ludlow 79.42 325 ⇓P P 15 02 37.2 +1.0
baz=80
P22A Eagle 79.45 334 ⇑P P 15 02 37.3 +0.8
baz=80,SNR=12
BFSC Mount Baldy Ra 79.58 324 ⇑P P 15 02 38.1 +0.8
baz=80
N25A Grover 79.61 337 ⇑P P 15 02 38.6 +1.3
baz=80
L29A Maesberg Ranch 79.63 340 ⇓P P 15 02 38.8 +1.6
baz=80
O23A Lake Granby, G 79.69 335 ⇓P P 15 02 38.6 +0.7
baz=80,SNR=33
M27A Reverse DX Ran 79.71 338 ⇑P P 15 02 38.9 +1.2
baz=80
TUQ Turquoise Moun 79.72 326 ⇑P P 15 02 39.3 +1.3
baz=80
MWC Mount Wilson 79.77 324 eP P 15 02 39.2 +0.9
MWC pmax pmax
comp=Z,23nm,1.2s
MWC Mount Wilson 79.77 324 eP P 15 02 39.2 +0.9
comp=Z,23nm,1.2s
O22A Kremmling 79.87 335 ⇓P P 15 02 39.2 +0.3
baz=80,SNR=33
N24A Carr 79.89 336 ⇓P P 15 02 39.6 +0.8
baz=80,SNR=11
M26A McRoberts Ranc 79.89 338 ⇓P P 15 02 39.9 +1.2
baz=80
DECC Green Verdugo 79.92 323 ⇓P P 15 02 39.9 +1.0
baz=80
K30A Basset 79.95 341 ⇑P P 15 02 39.0 +0.1
baz=80,SNR=11
GSC Goldstone 80.03 325 ⇓P P 15 02 40.4 +0.8
baz=80
CASY Casey 80.11 182 eP P 15 02 40.1 +0.5
comp=Z,35nm,1.3s
ECSD EROS Data Cent 80.16 343 eP P 15 02 39.6 -0.3
comp=Z,40nm,0.9s
ECSD EROS Data Cent 80.16 343 ⇓P P 15 02 39.7 -0.3
baz=80,SNR=34
M25A Palm-Egli Farm 80.16 337 ⇓P P 15 02 40.7 +0.5
baz=80,SNR=5.3
L27A T5 Ranch, Ells 80.19 338 ⇑P P 15 02 41.0 +0.6
baz=80,SNR=5.3
K29A Lazy Trails An 80.23 340 ⇓P P 15 02 41.9 +1.4
baz=80
SHPR Sheep Range 80.24 327 eP P 15 02 41.4 +0.6
comp=Z,24nm,1.2s
EDW2 Edwards Air Fo 80.26 324 ⇑P P 15 02 41.0 +0.2
baz=80,SNR=5.5
SHOC Shoshone 80.26 326 ⇓P P 15 02 41.7 +0.9
baz=80
N23A Red Feather La 80.31 335 ⇓P P 15 02 41.9 +0.7
baz=81,SNR=14
CCUT Cedar City 80.31 329 eP P 15 02 42.1 +0.9
comp=Z,35nm,1.2s
L26A Underwood Farm 80.39 338 ⇑P P 15 02 42.5 +1.1
baz=81
N22A Wattenberg Ran 80.41 335 ⇑P P 15 02 42.5 +0.8
baz=81,SNR=24
OSI Osito Adit 80.41 323 eP P 15 02 42.5 +0.9
comp=Z,30nm,1.1s
OSI Osito Adit 80.41 323 ⇑P P 15 02 42.4 +0.8
baz=81
M24A Cheyenne 80.44 336 ⇑P P 15 02 42.5 +0.7
baz=81,SNR=9.7
SRU San Rafael 80.46 331 eP P 15 02 42.2 +0.3
SRU pmax pmax
comp=Z,20nm,0.9s
SRU San Rafael 80.46 331 eP P 15 02 42.2 +0.3
comp=Z,20nm,0.9s
O20A White River Ci 80.46 333 eP P 15 02 42.6 +0.7
comp=Z,22nm,0.9s
O20A White River Ci 80.46 333 ⇑P P 15 02 42.3 +0.3
baz=81,SNR=9.3
K28A Ten Mile Ranch 80.49 339 ⇑P P 15 02 43.0 +1.1
baz=81
J30A Dallas 80.52 341 ⇓P P 15 02 42.1 +0.1
baz=81
ARUT Antelope Range 80.55 329 eP P 15 02 43.4 +1.0
ARUT Antelope Range 80.55 329 eP P 15 02 43.4 +1.0
comp=Z,478nm,1.2s
LRMC Laurel Mountai 80.59 325 ⇓P P 15 02 43.0 +0.4
baz=81
MVU Marysvale 80.63 330 eP P 15 02 43.5 +0.6
comp=Z,16nm,1.0s
SPMN St. Paul 80.73 346 eP P 15 02 42.2 -0.8
comp=Z,26nm,0.9s
SPMN St. Paul 80.73 346 ⇑P P 15 02 42.3 -0.8
baz=81,SNR=7.8
K27A Flueckinger Fa 80.74 339 ⇑P P 15 02 43.9 +0.6
baz=81,SNR=5.3
M23A Laramie 80.74 336 ⇑P P 15 02 43.8 +0.3
baz=81
L25A Engebretsen Ra 80.78 337 ⇑P P 15 02 44.0 +0.5
baz=81
J29A Okreek 80.82 340 ⇑P P 15 02 43.7 +0.1
baz=81,SNR=18
TMUT Trail Mountain 80.89 331 eP P 15 02 44.8 +0.4
comp=Z,18nm,1.1s
BOSA Boshof 80.95 118 eP P 15 02 46.1 +1.1
BOSA pmax pmax
comp=Z,18nm,1.1s
BOSA Boshof 80.95 118 P P 15 02 46.1 +1.1
comp=Z,10nm,0.9s,baz=212,slow=6.5,SNR=9.1
BOSA Boshof 80.95 118 eP P 15 02 46.1 +1.1
comp=Z,18nm,1.1s
M22A Cedar Creek Ra 80.99 335 ⇓P P 15 02 45.3 +0.5
baz=81,SNR=11
L24A Wheatland 80.99 337 ⇓P P 15 02 45.5 +0.8
baz=81
FURC Furnace Creek, 81.00 326 ⇓P P 15 02 45.2 +0.6
baz=81
K26A Motz Farm, Whi 81.02 338 ⇑P P 15 02 45.6 +0.8
baz=81
I30A Oacoma 81.05 341 ⇑P P 15 02 44.5 -0.3
baz=81,SNR=6.3
N20A Spence Gulch, 81.08 334 ⇓P P 15 02 45.3 0.0
baz=81,SNR=14

J28A	Allard Ranch,	81.10	340	⇑P	P	15 02 45.5	+0.4
	baz=81,SNR=9.2						
ISA	Isabella	81.12	324	eP	P	15 02 46.6	+1.2
ISA				pmax	pmax		
	comp=Z,18nm,1.1s						
ISA	Isabella	81.12	324	eP	P	15 02 46.6	+1.2
	comp=Z,18nm,1.1s						
ISA	Isabella	81.12	324	⇓P	P	15 02 46.2	+0.8
	baz=81,SNR=6.5						
K25A	Mack Ranch, Ha	81.16	338	⇑P	P	15 02 46.3	+0.8
	baz=82,SNR=5.8						
J27A	Elkhorn Farm,	81.17	339	⇑P	P	15 02 46.3	+0.8
	baz=82,SNR=11						
L23A	Garrett	81.31	336	⇑P	P	15 02 46.5	+0.1
	baz=82,SNR=7.7						
I29A	Vivian Onida	81.39	341	⇓P	P	15 02 46.8	+0.3
	baz=82						
BRSD	Miller	81.41	342	⇑P	P	15 02 47.2	+0.5
	baz=82						
L22A	Ellis Ranch, M	81.49	336	⇓P	P	15 02 48.0	+0.6
	baz=82,SNR=5.4						
J26A	Sides Ranch, S	81.55	338	⇑P	P	15 02 48.2	+0.7
	baz=82,SNR=16						
K24A	Anderson Ranch	81.56	337	⇑P	P	15 02 48.2	+0.5
	baz=82,SNR=5.1						
VES	Vestal, Richgr	81.56	324	⇓P	P	15 02 48.2	+0.6
	baz=82,SNR=6.7						
I28A	Midland	81.61	340	⇑P	P	15 02 48.0	+0.2
	baz=82,SNR=6.0						
GRAC	Grapevine Rang	81.67	326	⇑P	P	15 02 49.0	+0.8
	baz=82						
MPU	Maple Canyon	81.67	331	eP	P	15 02 48.8	+0.4
	comp=Z,30nm,1.0s						
MPU				epP	pP	15 02 56.5	-0.8
NLU	North Lily Min	81.80	331	eP	P	15 02 49.9	+0.8
	comp=Z,8.2nm,0.9s						
J25A	Sunshine Ranch	81.84	338	⇑P	P	15 02 49.5	+0.4
	baz=82						
K23A	Bowen Ranch, D	81.86	336	⇓P	P	15 02 49.5	+0.2
	baz=82,SNR=7.2						
DAU	Daniels Canyon	81.86	332	eP	P	15 02 50.1	+0.6
DAU				pmax	pmax		
	comp=Z,21nm,1.1s						
DAU	Daniels Canyon	81.86	332	eP	P	15 02 50.0	+0.6
	comp=Z,22nm,1.1s						
H29A	Onida	81.92	341	⇓P	P	15 02 49.1	-0.3
	baz=82,SNR=17						
I27A	Quinn	81.93	339	⇓P	P	15 02 50.1	+0.7
	baz=82						
R11A	Troy Canyon, C	81.95	328	eP	P	15 02 50.9	+1.0
	comp=Z,15nm,1.0s						
R11A	Troy Canyon, C	81.95	328	⇓P	P	15 02 50.7	+0.8
	baz=82,SNR=22						
RCTC	Rector, Farmer	82.01	324	⇓P	P	15 02 50.4	+0.4
	baz=82						
J24A	Dixon Ranch, L	82.06	337	⇑P	P	15 02 50.7	+0.5
	baz=82,SNR=6.6						
K22A	Casper	82.07	336	eP	P	15 02 50.8	+0.4
	comp=Z,85nm,1.5s						
K22A	Casper	82.07	336	⇓P	P	15 02 50.7	+0.4
	baz=82,SNR=17						
JLU	Jordanelle	82.10	332	eP	P	15 02 51.1	+0.4
	comp=Z,15nm,0.8s						
G30A	Faulkton	82.10	342	⇓P	P	15 02 49.7	-0.6
	baz=82,SNR=10						
TIN	Tinemaha	82.12	325	⇓P	P	15 02 51.2	+0.5
	baz=82						
I26A	New Underwood	82.13	339	⇓P	P	15 02 51.0	+0.5
	baz=82						
H28A	Mission Ridge	82.19	340	⇑P	P	15 02 51.2	+0.5
	baz=82						
CTU	Camp Tracy	82.30	331	eP	P	15 02 51.7	+0.1
	comp=Z,10nm,0.8s						
K21A	Alcova	82.30	335	⇓P	P	15 02 51.8	+0.1
	baz=83,SNR=37						
DUG	Dugway	82.30	330	eP	P	15 02 51.9	+0.3
DUG				pmax	pmax		
	comp=Z,40nm,1.3s						
DUG	Dugway	82.30	330	eP	P	15 02 51.9	+0.3
	comp=Z,40nm,1.3s						
DUG	Dugway	82.30	330	⇓P	P	15 02 52.2	+0.5
	baz=83,SNR=28						
G29A	Hoven	82.37	341	⇓P	P	15 02 52.6	+0.9
	baz=83						
I25A	Rochford	82.39	338	⇓P	P	15 02 52.3	+0.3
	baz=83,SNR=18						
H27A	Howes	82.45	340	⇓P	P	15 02 52.0	-0.1
	baz=83,SNR=7.2						
TPH	Tonopah	82.47	326	eP	P	15 02 53.1	+0.5
TPH				pmax	pmax		
	comp=Z,24nm,1.1s						
TPH	Tonopah	82.47	326	eP	P	15 02 53.1	+0.5
	comp=Z,24nm,1.1s						
I24A	Kuemmerle Ranc	82.52	338	⇑P	P	15 02 52.6	0.0
	baz=83,SNR=6.1						
TCUT	Toone Canyon	82.52	332	eP	P	15 02 53.1	+0.2
	comp=Z,42nm,1.2s						
G28A	Parade	82.53	341	⇓P	P	15 02 52.3	-0.2
	baz=83,SNR=7.5						
RSSD	Black Hills	82.57	338	eP	P	15 02 52.9	-0.1
RSSD				e*PP	pP	15 03 01.7	-0.2
RSSD				pmax	pmax		
	comp=Z,18nm,1.0s						
RSSD	Black Hills	82.57	338	eP	P	15 02 52.9	-0.1
	comp=Z,18nm,1.0s						
RSSD				epP	pP	15 03 01.7	-0.2
J22A	Midwest	82.73	336	⇑P	P	15 02 53.3	-0.5
	baz=83,SNR=9.8						
F30A	Leola	82.73	342	⇑P	P	15 02 53.6	0.0
	baz=83						
MLAC	Mammoth Lakes	82.87	325	⇓P	P	15 02 55.6	+0.9
	baz=83						
H25A	Fruitdale	82.89	339	⇑P	P	15 02 54.4	-0.1
	baz=83,SNR=5.8						
F29A	Eureka	82.93	342	⇓P	P	15 02 54.2	-0.4
	baz=83,SNR=11						
J21A	Lysite	83.00	336	⇓P	P	15 02 55.2	0.0
	baz=83,SNR=6.6						
BGU	Big Grassy Mou	83.01	331	eP	P	15 02 55.3	0.0
	comp=Z,12nm,1.3s						
G27A	Dupree	83.09	340	⇑P	P	15 02 55.5	+0.1
	baz=83						
SPUT	South Promonto	83.10	331	eP	P	15 02 56.0	+0.3
	comp=Z,61nm,1.3s						
I22A	9 Mile Ranch,	83.16	336	⇑P	P	15 02 55.6	-0.4
	baz=84,SNR=11						
LBTB	Lobatse	83.20	115	eP	P	15 02 58.1	+1.3
LBTB				pmax	pmax		
	comp=Z,26nm,0.9s						
LBTB	Lobatse	83.20	115	eP	P	15 02 58.1	+1.3
	comp=Z,26nm,0.9s						
G26A	Maurine	83.20	340	⇓P	P	15 02 55.8	-0.3
	baz=84,SNR=11						
F28A	McLaughlin	83.21	341	⇓P	P	15 02 56.1	0.0
	baz=84,SNR=6.5						
J20A	Shoshoni	83.22	335	⇓P	P	15 02 56.6	+0.3
	baz=84						
BW06	Boulder Array	83.24	334	eP	P	15 02 56.0	-0.6
	comp=Z,14nm,1.1s						
PDAR	Pinedale Array	83.24	334	P	P	15 02 56.1	-0.5
	comp=Z,9.9nm,1.0s,baz=159,slow=4.2,SNR=38						
NVAR	Mina Array Bea	83.26	326	P	P	15 02 57.3	+0.6
	comp=Z,5.7nm,0.8s,baz=153,slow=6.4,SNR=32						
H24A	Dirks Ranch, A	83.30	338	⇓P	P	15 02 56.3	-0.3
	baz=84,SNR=9.2						
E30A	Jud	83.32	342	⇑P	P	15 02 56.8	+0.2
	baz=84						
G25A	Newell	83.36	339	⇓P	P	15 02 56.8	-0.1
	baz=84,SNR=16						
I21A	Big Trails, Te	83.36	336	⇓P	P	15 02 56.6	-0.4
	baz=84,SNR=14						
J19A	Crowheart	83.49	334	⇑P	P	15 02 57.5	-0.2
	baz=84,SNR=30						
E29A	Napoleon	83.57	342	⇑P	P	15 02 58.1	+0.3
	baz=84						
F27A	Lemmon	83.57	340	⇑P	P	15 02 57.8	-0.1
	baz=84,SNR=5.7						
F26A	Lodgepole	83.73	340	⇓P	P	15 02 58.6	-0.2
	baz=84,SNR=6.7						
H22A	Clearmont	83.73	337	⇑P	P	15 02 58.4	-0.5
	baz=84,SNR=5.2						
I20A	Worland	83.76	335	⇓P	P	15 02 59.0	0.0
	baz=84,SNR=16						
G24A	Alzada	83.78	338	⇓P	P	15 02 59.1	+0.1
	baz=84						
AHID	Auburn Hatcher	83.81	333	eP	P	15 02 59.3	-0.1
	comp=Z,16nm,0.9s						
D30A	Buchanan	83.85	343	⇑P	P	15 02 59.2	-0.1
	baz=84,SNR=24						
E28A	Huff	83.85	341	⇓P	P	15 02 59.4	0.0
	baz=84,SNR=7.1						
WAKR	Walker	83.85	325	eP	P	15 03 00.7	+1.0
	comp=Z,107nm,2.3s						
E27A	Carson	83.95	341	⇓P	P	15 02 59.6	-0.3
	baz=84						
G23A	Biddle	83.97	338	⇑P	P	15 02 59.3	-0.7
	baz=84						
H21A	Big Horn, Sher	83.99	336	⇓P	P	15 02 59.4	-0.8
	baz=84						
D29A	Pettibone, Tap	84.01	342	⇓P	P	15 02 59.9	-0.2
	baz=84,SNR=8.7						
F25A	Bowman	84.03	339	⇓P	P	15 03 00.1	-0.2
	baz=84,SNR=5.5						
I19A	Meeteetse	84.14	335	⇓P	P	15 03 01.1	0.0
	baz=84,SNR=7.5						
H20A	Greybull	84.19	336	⇓P	P	15 03 00.7	-0.5
	baz=84,SNR=35						
E26A	Carlson Angus	84.24	340	⇑P	P	15 03 01.1	-0.3
	baz=85,SNR=5.4						
F24A	Ekalaka	84.25	339	⇓P	P	15 03 01.2	-0.3
	baz=85						
G22A	Birney	84.27	337	⇓P	P	15 03 01.1	-0.5
	baz=85						
AGMN	Agassiz Nation	84.30	345	⇑P	P	15 03 01.4	-0.1
	baz=85						
C30A	Mose, Pekin	84.33	343	⇓P	P	15 03 01.8	+0.1
	baz=85,SNR=36						
D28A	Regan	84.39	342	⇑P	P	15 03 01.9	-0.1
	baz=85,SNR=18						
F23A	Volborg	84.44	338	⇓P	P	15 03 02.2	-0.2
	baz=85						
E25A	Miller Ranch,	84.54	340	⇓P	P	15 03 02.7	-0.1
	baz=85						
D27A	Center	84.56	341	⇑P	P	15 03 03.1	+0.2
	baz=85						
G21A	Lodge Grass	84.58	337	⇑P	P	15 03 03.0	-0.1
	baz=85,SNR=7.4						
I17A	Pilgrim Ck.	84.61	334	⇑P	P	15 03 03.9	+0.4
	baz=85,SNR=16						
H19A	Powell	84.69	335	⇓P	P	15 03 03.7	-0.1
	baz=85,SNR=14						
D26A	Manning	84.74	340	⇓P	P	15 03 03.9	+0.1
	baz=85,SNR=11						
F22A	Rosebud	84.76	337	⇑P	P	15 03 03.5	-0.5
	baz=85,SNR=11						
C28A	Hausauer Farms	84.82	342	⇓P	P	15 03 04.7	+0.5
	baz=85						
E24A	Baker	84.86	339	⇑P	P	15 03 04.4	0.0
	baz=85						
G20A	Bridger	84.91	336	⇑P	P	15 03 04.3	-0.5
	baz=85,SNR=27						
H18A	Shoshone NF, C	84.94	335	⇓P	P	15 03 05.0	-0.1
	baz=85,SNR=44						
B30A	Myrvik Farm, E	85.00	343	⇓P	P	15 03 05.1	0.0
	baz=85,SNR=76						
H17A	Grant Village	85.02	334	⇑P	P	15 03 05.3	-0.3
	baz=85						
TOA0	Torodi Ar. Sit	85.06	71	eP	P	15 03 06.9	+0.7
TORD	Torodi Ar. Bea	85.06	71	P	P	15 03 07.1	+1.0
	comp=Z,16nm,0.8s,baz=257,slow=4.2,SNR=84						
TORD				PP	PP	15 06 21.1	-2.5
	comp=Z,0.6nm,0.6s,baz=253,slow=4.4,SNR=4.1						
F21A	Absaloka Mine,	85.08	337	⇓P	P	15 03 05.5	-0.1
	baz=85						
D25A	Fairfield	85.10	340	⇓P	P	15 03 06.0	+0.3
	baz=85,SNR=7.0						
C27A	Sayler Ranch,	85.11	341	⇓P	P	15 03 06.0	+0.3
	baz=85,SNR=14						
RLMT	Red Lodge	85.18	335	eP	P	15 03 06.2	-0.1
	comp=Z,23nm,1.0s						
E22A	Miles City	85.25	338	⇓P	P	15 03 06.0	-0.4
	baz=86						
B29A	Wagenman Farm,	85.26	343	⇓P	P	15 03 06.2	-0.2
	baz=86,SNR=8.9						
D24A	Glendive	85.36	339	⇑P	P	15 03 07.3	+0.3
	baz=86,SNR=7.6						
C26A	Wahner Farm, P	85.38	341	⇓P	P	15 03 07.0	0.0
	baz=86,SNR=8.0						
F20A	Billings	85.39	336	⇑P	P	15 03 06.6	-0.7
	baz=86						
YMR	Madison River	85.40	334	eP	P	15 03 07.9	+0.5
	comp=Z,24nm,0.8s						
A30A	Hoffart Farm,	85.45	344	⇓P	P	15 03 06.9	-0.4
	baz=86,SNR=18						
B28A	Dugan Ranch, T	85.49	342	⇑P	P	15 03 07.4	-0.1
	baz=86,SNR=5.8						
LAO	LASA Array	85.56	338	eP	P	15 03 07.7	-0.3
	comp=Z,31nm,1.1s						
A29A	Manning Farm,	85.65	343	⇓P	P	15 03 07.8	-0.5
	baz=86,SNR=16						
D23A	Lindsay	85.68	339	⇑P	P	15 03 08.9	+0.3
	baz=86						
B27A	Peters Farms,	85.68	342	⇑P	P	15 03 08.9	+0.4
	baz=86						
E21A	Keefer Ranch,	85.70	337	⇓P	P	15 03 08.5	-0.2
	baz=86,SNR=10						
QLMT	Earthquake Lak	85.71	334	eP	P	15 03 09.3	+0.3
	comp=Z,3.8nm,1.4s						
F19A	Roth Farm, Mol	85.71	336	⇓P	P	15 03 08.4	-0.5
	baz=86,SNR=18						
C24A	Savage	85.77	339	⇓P	P	15 03 09.2	+0.2
	baz=86,SNR=23						
HLID	Hailey	85.78	331	eP	P	15 03 09.9	+0.6
	comp=Z,24nm,1.1s						
HLID	Hailey	85.78	331	⇓P	P	15 03 10.0	+0.6
	baz=86,SNR=24						
A28A	Rude Farm, Bot	85.90	342	⇑P	P	15 03 09.7	+0.1
	baz=86						
GCMT	Greycliff	85.91	335	eP	P	15 03 09.5	-0.3
	comp=Z,18nm,1.2s						
D22A	Cohagen	85.95	338	⇑P	P	15 03 10.1	+0.1
	baz=86,SNR=11						
E20A	Meyer Farm, Mu	86.01	337	⇓P	P	15 03 10.2	0.0
	baz=86,SNR=33						
B25A	Knox Farm, Ray	86.08	340	⇑P	P	15 03 10.9	+0.5
	baz=86,SNR=7.0						
ULM	Lac du Bonnet	86.15	346	eP	P	15 03 09.3	-1.4
ULM				pmax	pmax		
	comp=Z,16nm,0.9s						
ULM	Lac du Bonnet	86.15	346	P	P	15 03 10.2	-0.6
	comp=Z,21nm,1.0s,baz=176,slow=3.6,SNR=21						
ULM	Lac du Bonnet	86.15	346	eP	P	15 03 09.3	-1.4
	comp=Z,16nm,0.9s						
E19A	Rath Farm, Rou	86.19	336	⇑P	P	15 03 10.9	-0.2
	baz=86,SNR=7.5						
MFID	Camas Ranch	86.23	330	eP	P	15 03 11.6	+0.1
	comp=Z,19nm,1.2s						
MCMT	McKenzie Canyo	86.23	333	eP	P	15 03 11.6	-0.1
	comp=Z,19nm,1.2s						
C23A	Lambert	86.24	339	⇓P	P	15 03 11.1	-0.1
	baz=86,SNR=24						
A26A	Wade Farm, Ken	86.34	341	⇓P	P	15 03 11.7	0.0
	baz=87,SNR=5.4						
C22A	Vida	86.39	339	⇓P	P	15 03 11.8	-0.3
	baz=87,SNR=10						
BOZ	Bozeman (W)	86.48	334	eP	P	15 03 12.6	-0.1
BOZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BOZ	Bozeman (W)	86.48	334	eP	P	15 03 12.6	-0.1
	comp=Z,7.3nm,1.1s						
D20A	Manuel Ranch,	86.53	337	⇓P	P	15 03 12.4	-0.3
	baz=87,SNR=31						
DGMT	Dagmar	86.55	340	eP	P	15 03 13.0	+0.2
	comp=Z,107nm,1.0s						
DGMT				epP	pP	15 03 21.5	-0.2
DGMT	Dagmar	86.55	340	⇓P	P	15 03 13.0	+0.2
	baz=87,SNR=16						
WVOR	Wild Horse Val	86.63	328	eP	P	15 03 14.2	+0.7
WVOR				pmax	pmax		
	comp=Z,11nm,1.0s						
WVOR	Wild Horse Val	86.63	328	eP	P	15 03 14.2	+0.7
	comp=Z,11nm,1.0s						
A25A	Svangstu Ranch	86.67	341	⇑P	P	15 03 13.6	+0.3
	baz=87,SNR=6.5						
B23A	Brockton	86.77	339	⇓P	P	15 03 13.9	0.0
	baz=87,SNR=10						
D19A	Cripps Ranch,	86.83	336	⇓P	P	15 03 13.9	-0.4
	baz=87						
C21A	Desert Coulee	86.84	338	⇓P	P	15 03 13.9	-0.3
	baz=87						
A24A	Westby	86.90	340	⇓P	P	15 03 14.6	+0.1
	baz=87,SNR=12						
B22A	Reddig Ranch S	86.92	339	⇓P	P	15 03 14.6	-0.1
	baz=87,SNR=22						
LRM	Limekiln Ridge	86.93	334	eP	P	15 03 15.2	+0.2
	comp=Z,166nm,1.2s						
MOD	Modoc	86.95	327	eP	P	15 03 15.8	+0.7
	comp=Z,44nm,1.2s						
WDC	Whiskeytown Da	86.96	325	eP	P	15 03 14.5	-0.5
WDC				e*PP	pP	15 03 22.1	-1.8
WDC				pmax	pmax		
	comp=Z,16nm,0.8s						
WDC	Whiskeytown Da	86.96	325	eP	P	15 03 14.5	-0.5
	comp=Z,16nm,0.8s						
WDC				epP	pP	15 03 22.1	-1.8
C20A	Veseth Ranch,	87.03	337	⇓P	P	15 03 14.6	-0.6
	baz=87						
A23A	Redstone	87.19	340	⇑P	P	15 03 16.0	+0.1
	baz=88						
N02D	Trinity Center	87.35	325	⇑P	P	15 03 16.9	0.0
	baz=88						
B21A	Ellsworth Farm	87.35	338	⇓P	P	15 03 16.5	-0.2
	baz=88,SNR=13						
C19A	Slack Wire Ran	87.39	337	⇓P	P	15 03 16.2	-0.7
	baz=88,SNR=7.4						
HRY	Holter Researc	87.46	335	eP	P	15 03 17.6	+0.3
	comp=Z,7.1nm,0.9s						
A22A	Carney Farms,	87.52	339	⇑P	P	15 03 17.3	-0.2
	baz=88,SNR=20						
M04C	Macdoel	87.56	326	⇓P	P	15 03 18.5	+0.5
	baz=88						
B20A	Solberg Farm,	87.67	338	⇓P	P	15 03 17.7	-0.6
	baz=88						
M02C	Callahan	87.74	325	⇓P	P	15 03 19.2	+0.4
	baz=88						
A21A	Bergtoll Ranch	87.82	339	⇓P	P	15 03 18.7	-0.2
	baz=88						
HOG	Hogback Mounta	87.86	326	P	P	15 03 20.5	+1.0
EGMT	Eagleton	87.87	336	eP	P	15 03 18.5	-0.8
	comp=Z,14nm,1.0s						
EGMT	Eagleton	87.87	336	⇑P	P	15 03 18.4	-0.8
	baz=88,SNR=8.2						
YBH	Yreka Blue Hor	87.94	325	P	P	15 03 19.5	-0.2
	comp=Z,20nm,0.8s,baz=65,slow=8.4,SNR=44						
B19A	Brinkman Farms	87.98	337	⇑P	P	15 03 19.4	-0.4
	baz=88,SNR=14						
BMO	Blue Mountains	88.02	330	eP	P	15 03 19.5	-0.5
	comp=Z,8.4nm,1.0s						
A20A	Cobblestone Ra	88.03	338	⇓P	P	15 03 19.2	-0.7
	baz=88,SNR=21						
CHMT	Chamberlain Mo	88.15	334	eP	P	15 03 21.1	+0.3
	comp=Z,10nm,1.4s						
K04D	Chiloquin, OR	88.18	326	⇓P	P	15 03 21.4	+0.5
	baz=88						
MSO	Missoula	88.33	333	⇑P	P	15 03 21.8	+0.3
	baz=89						
A19A	Klindworth Far	88.33	337	⇓P	P	15 03 20.8	-0.6
	baz=89,SNR=14						
KTRM	Thompson Ridge	88.39	325	P	P	15 03 23.3	+1.3
J05D	Fort Rock, OR	88.46	327	⇑P	P	15 03 23.3	+1.0
	baz=89						
SLMT	Seeley Lake	88.51	334	eP	P	15 03 22.7	+0.2
	comp=Z,9.9nm,1.0s						
SCHQ	Schefferville	88.53	4	P	P	15 03 21.9	-0.2
	comp=Z,9.1nm,1.1s,baz=66,slow=5.3,SNR=6.7						
PINOR	Pine Mountain	88.71	328	eP	P	15 03 24.5	+1.3
	comp=Z,29nm,0.8s						
BBOR	Butler Butte	88.81	326	P	P	15 03 24.0	0.0
J04D	Umpqua Nationa	88.83	327	⇓P	P	15 03 24.9	+0.9
	baz=89						
SWMT	Swartz Lake	88.92	334	eP	P	15 03 24.5	+0.2
	comp=Z,3.0nm,0.8s						
YBMT	Yellow Bay	89.23	334	eP	P	15 03 26.0	+0.3
	comp=Z,10nm,1.2s						
JTMT	Jette	89.23	334	eP	P	15 03 25.9	+0.1
	comp=Z,3.3nm,0.6s						
I05D	Terrebonne, OR	89.34	328	⇑P	P	15 03 27.4	+1.1
	baz=90						
I04A	Tendick Farm,	89.39	327	⇑P	P	15 03 27.0	+0.5
	baz=90						
BLMT	Blacktail Moun	89.48	334	eP	P	15 03 27.2	+0.2
	comp=Z,9.6nm,0.8s						
BSMT	Bassoo Peak	89.50	333	eP	P	15 03 27.1	-0.1
	comp=Z,7.2nm,1.0s						
I03D	Drain, OR	89.75	326	⇑P	P	15 03 28.9	+0.8
	baz=90						
BROR	Big Rock Looko	89.78	327	P	P	15 03 28.7	+0.5
WALA	Waterton Lakes	90.19	335	eP	P	15 03 30.3	0.0
	comp=Z,0.5nm,1.1s						
OD2	Odessa Site #2	90.65	331	P	P	15 03 32.6	+0.4
NEW	Newport	90.73	332	⇓P	P	15 03 31.7	-0.9
	baz=91,SNR=5.5						
WTV	Waterville	91.40	330	P	P	15 03 36.0	+0.2
ETW	Entiat	91.48	330	P	P	15 03 36.5	+0.3
FFC	Flin Flon	91.67	344	eP	P	15 03 36.1	-0.7
FFC				pmax	pmax		
	comp=Z,11nm,1.4s						
FFC	Flin Flon	91.67	344	eP	P	15 03 36.0	-0.7
	comp=Z,11nm,1.4s						
CMW	Cultus Mountai	92.87	330	P	P	15 03 42.5	-0.1
TAM	Tamanrasset	93.62	65	eP	P	15 03 48.1	+1.3
TAM	Tamanrasset	93.62	65	eP	P	15 03 48.1	+1.3
FCC	Fort Churchill	93.94	349	eP	P	15 03 46.9	-0.2
FCC	Fort Churchill	93.94	349	eP	P	15 03 46.9	-0.2
	comp=Z,0.6nm,1.2s						
YKA	Yellowknife Ar	101.65	342	P	Pdif	15 04 20.8	-0.9
	comp=Z,1.7nm,0.9s,baz=144,slow=4.4,SNR=30						
YKA				PP	PP	15 08 28.5	-4.4
	comp=Z,0.7nm,0.9s,baz=145,slow=7.5,SNR=4.9						
GERES	GERESS Array B	112.74	46	PKiKP	PKiKP	15 09 06.8	+0.4
	comp=Z,1.1nm,0.8s,baz=232,slow=4.8,SNR=6.0						
ILAR	Eielson Array	113.67	333	PP	PP	15 10 00.6	-0.2
	comp=Z,0.4nm,0.8s,baz=85,slow=6.2,SNR=4.5						
VYHS	Vyhne	115.70	48	ePKIKP	PKPdf	15 09 12.6	+0.7
VYHS	Vyhne	115.70	48	ePKP	PKPdf	15 09 12.6	+0.7
ASAR	Alice Springs	117.24	208	PKP	PKPdf	15 09 14.6	-1.2
	comp=Z,1.9nm,0.8s,baz=150,slow=2.2,SNR=16						
ASAR				PKKPbc	PKKPbc	15 19 40.2	+1.1
	comp=Z,0.4nm,0.7s,baz=341,slow=3.1,SNR=4.3						
WRA	Warramunga Arr	120.40	210	PKP	PKPdf	15 09 21.1	-0.9
	comp=Z,4.1nm,0.7s,baz=156,slow=1.7,SNR=39						
BR131	Keskin Array S	122.60	61	ePKPdf	PKPdf	15 09 26.0	+0.4
BRTR	Keskin Array B	122.60	61	PKP	PKPdf	15 09 25.9	+0.2
	comp=Z,3.8nm,0.8s,baz=186,slow=2.9,SNR=23						
SPITS	Spitsbergen Ar	122.80	14	PKP	PKPdf	15 09 24.5	-0.3
	comp=Z,11nm,1.0s,baz=230,slow=3.6,SNR=3.6						
AKASG	Malin Array Be	122.81	48	PKP	PKPdf	15 09 24.9	-0.6
	comp=Z,2.4nm,0.7s,baz=264,slow=2.9,SNR=9.8						
OBN	Obninsk	128.00	43	i PKIKP	PKPdf	15 09 35.9	+0.7
OBN				i		15 09 43.9	
OBN				pmax	pmax		
	comp=Z,11nm,1.2s						
VSR	Storozhevoye	129.07	49	i PKIKP	PKPdf	15 09 37.3	-0.1
KLMR	Klimovskoe	129.86	36	ePKIKP	PKPdf	15 09 37.8	-0.8
KLMR				pmax	pmax		
	comp=Z,22nm,1.1s						
KIV	Kislovodsk	130.23	58	i PKIKP	PKPdf	15 09 40.9	+0.9
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIV				MLR	MLR		
	comp=Z,75nm,21.0s						
KBZ	Khabaz	130.33	59	PKP	PKPdf	15 09 41.5	+1.4
	comp=Z,5.6nm,1.1s,baz=234,slow=8.7,SNR=7.5						
NCK	Nalchik	130.79	59	i PKIKP	PKPdf	15 09 42.1	+1.1
ZEI	Tsey	130.87	60	i PKIKP	PKPdf	15 09 42.7	+1.3
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GNI	Garni	130.91	64	i PKIKP	PKPdf	15 09 43.3	+1.7
GNI				pmax	pmax		
	comp=Z,13nm,1.7s						
BILL	Bilibino	132.32	334	⇑i PKIKP	PKPdf	15 09 44.1	+1.0
BILL				i		15 12 13.0	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
PRGR	Permogore	132.76	35	PKIKP	PKPdf	15 09 44.1	0.0
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.4s						
SEY	Seymchan	139.46	330	PKhKP	PKPpre	15 09 47.2	
	comp=Z,0.3nm,0.3s,baz=8.9,slow=19,SNR=3.8						
ARU	Arti	140.27	40	i PKIKP	PKPdf	15 09 58.8	+0.6
ARU						15 12 54.6	
ARU				SS	SS	15 31 10.9	-7.4
TIXI	Tiksi	140.41	349	ePKHKP	PKPpre	15 09 48.6	
TIXI	Tiksi	140.41	349	ePKPpre	PKPpre	15 09 48.6	
GEYT	Alibeck	140.69	70	PKhKP	PKPpre	15 09 53.1	
	comp=Z,2.5nm,0.8s,baz=262,slow=4.4,SNR=6.0						
AKTO	Aktyubinsk	140.98	50	PKhKP	PKPpre	15 09 54.1	
	comp=Z,2.0nm,0.8s,baz=293,slow=2.3,SNR=9.7						
AB31	Akbulak array	142.35	52	i PKHKP	PKPpre	15 09 58.1	
AB31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ABKAR	Akbulak array	142.35	52	ePKPpre	PKPpre	15 09 58.1	

PALK Pallekele 144.17 132 PKP PKPbc 15 10 04.8 +0.2
comp=Z,32nm,0.9s,baz=256,slow=4.2
POO Poona 146.87 109 eP PKPdf 15 10 11.0 0.0
KSM Kuching 147.59 186 PKPdf PKPdf 15 10 12.9 +0.5
BRVK Borovoye 147.76 42 PKIKP PKPdf 15 10 12.3 +0.9
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 147.76 42 ePKPdf PKPdf 15 10 12.0 +0.6
BRVK ePKPbc PKiKP 15 10 15.4 -0.8
BVA0 Borovoye Array 147.83 42 i PKIKP PKPdf 15 10 12.7 +1.2
BVA0 pmax pmax
comp=Z,16nm,0.9s
BVAR Borovoye Array 147.83 42 PKP PKPdf 15 10 12.8 +1.3
comp=Z,7.1nm,0.5s,baz=278,slow=2.7,SNR=52
BVAR PKPbc PKiKP 15 10 15.8 -0.6
comp=Z,7.1nm,0.5s,baz=290,slow=1.8,SNR=50
PSI Prapat 148.21 165 PKPbc PKPbc 15 10 16.3 -0.5
comp=Z,41nm,0.8s,baz=189,slow=3.2,SNR=30
YAK Yakutsk 148.30 340 ePKP2 PKPbc 15 10 14.0 -1.4
YAK pmax pmax
comp=Z,71nm,1.0s
YAK pmax pmax
comp=E,16nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK Yakutsk 148.30 340 ePKPbc PKPbc 15 10 15.2 -0.2
HYB Hyderabad 149.83 116 i PKP PKPdf 15 10 15.5 -0.4
HYB e 15 10 20.0
IPM Ipoh 150.25 168 ePKPbc PKPbc 15 10 21.6 -0.2
KK31 Karatay Array 150.31 61 i PKIKP PKPdf 15 10 21.2 +0.1
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 150.31 61 ePKIKP PKPdf 15 10 15.5 -0.4
KKAR e 15 10 21.6
KKAR Karatay Array 150.31 61 ePKPdf PKPdf 15 10 15.5 -0.4
KKAR ePKPbc PKiKP 15 10 21.6 -0.2
ASAJ Asahikawa 150.59 301 PKPbc PKPbc 15 10 20.4 -1.3
comp=Z,24nm,1.0s,baz=127,slow=19,SNR=3.7
ASAJ PKPab PKPab 15 10 29.2 +0.7
comp=Z,22nm,0.8s,baz=131,slow=4.4,SNR=5.9
KULM Kulim 150.97 167 ePKPbc PKPbc 15 10 23.3 -0.2
EKS2 Erkin-Say 152.75 61 ePKIKP PKPdf 15 10 20.9 +1.2
EKS2 e 15 10 27.6
EKS2 Erkin-Say 152.75 61 ePKPdf PKPdf 15 10 20.9 +1.2
EKS2 ePKPbc PKiKP 15 10 27.6 +0.6
AAK Ala-Archa 153.28 61 ePKIKP PKPdf 15 10 21.7 +1.1
AAK 15 10 22.1
AAK e 15 10 29.4
AAK Ala-Archa 153.28 61 PKP PKPdf 15 10 22.1 +1.5
comp=Z,2.2nm,1.1s,baz=201,slow=5.2,SNR=4.7
AAK PKPbc PKiKP 15 10 29.4 +1.2
comp=Z,12nm,0.8s,baz=207,slow=2.2,SNR=39
AAK Ala-Archa 153.28 61 ePKPdf PKPdf 15 10 21.7 +1.1
AAK PKP PKPdf 15 10 22.1 +1.5
AAK ePKPbc PKiKP 15 10 29.4 +1.2
KURK Kurchatov 153.43 42 ePKIKP PKPbc 15 10 28.4 +0.5
KURK Kurchatov 153.43 42 ePKPbc PKPbc 15 10 28.4 +0.5
TKM2 Tokmak 2 154.03 60 PKIKP PKPdf 15 10 21.7 0.0
TKM2 pmax pmax
comp=Z,5.0nm,0.9s
TKM2 Tokmak 2 154.03 60 ePKPdf PKPdf 15 10 21.8 +0.2
MJAR Matsushiro Arr 154.28 285 PKPab PKPab 15 10 41.3 -3.0
comp=Z,3.4nm,0.9s,baz=96,slow=3.2,SNR=6.9
ZALV Zalesovo Beam 154.62 31 PKPbc PKPbc 15 10 30.4 0.0
comp=Z,6.5nm,0.8s,baz=304,slow=2.7,SNR=3.8
KSH Kashi 154.70 68 PKPbc PKPdf 15 10 23.5 +0.9
KSH epPKP pPKPdf 15 10 35.0 +3.2
KSH esPKP 15 10 37.8
KSH eSKS SKSdf 15 17 25.0 -2.4
KSH eSKKS SKKSac 15 21 07.0 -3.0
KSH eSS SS 15 33 59.8 -3.0
KSH AMB AMB
comp=Z,38nm,3.7s
BOD Bodaibo 155.57 351 ePKP2 PKPab 15 10 48.6 -0.4
BOD pmax pmax
comp=Z,27nm,1.0s
MK31 Makanchi Array 157.39 48 i PKIKP PKPdf 15 10 25.5 -0.3
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 157.39 48 ePKPdf PKPdf 15 10 25.9 +0.1
MKAR Makanchi Array 157.39 48 PKP PKPdf 15 10 26.0 +0.2
comp=Z,1.2nm,0.8s,baz=336,slow=0.6,SNR=13
MKAR PKPab PKPab 15 10 58.3 +0.9
comp=Z,4.4nm,0.8s,baz=299,slow=3.7,SNR=11
KOLN Koldanda 159.16 101 eP PKPdf 15 10 28.9 +0.1
DANN Dangsing 159.51 99 eP PKPdf 15 10 29.6 +0.3
GKN Gorkha 160.10 101 eP PKPdf 15 10 29.5 -0.3
DMN Daman 160.32 103 eP PKPdf 15 10 30.2 0.0
KKN Kakani 160.54 102 eP PKPdf 15 10 30.3 0.0
PKIN Phulchoki 160.55 103 eP PKPdf 15 10 30.1 -0.3
PKI Pulchoki 160.55 103 eP PKPdf 15 10 30.2 -0.3
GUN Gumba 161.07 103 eP PKPdf 15 10 31.2 +0.1
JIRN Jiri 161.22 104 eP PKPdf 15 10 31.1 -0.2
RAMN Ramite 161.25 106 eP PKPdf 15 10 31.6 +0.4
ODAN Odare 161.84 107 eP PKPdf 15 10 31.9 +0.1
TLY Talaya 162.06 6 ePKP2 PKPab 15 11 18.8 +1.4
TLY pmax pmax
comp=Z,2.0nm,0.4s
TLY Talaya 162.06 6 PKPab PKPab 15 11 18.3 +1.0
comp=Z,1.4nm,0.5s,baz=299,slow=12,SNR=3.3
WMQ Urumqi 162.13 51 PKP PKPdf 15 10 29.5 -1.8
WMQ LR LR
comp=Z,300nm,23.6s
WMQ LR LR
comp=Z,220nm,21.4s
WMQ LR LR
comp=Z,390nm,23.8s
TAPN Taplejung 162.31 106 eP PKPdf 15 10 32.4 +0.1
KSRS Korea Array 162.50 288 PKPab PKPab 15 11 20.4 +0.4
comp=Z,7.0nm,0.8s,baz=99,slow=4.1,SNR=20
KSAR Wonju Array Be 162.53 288 PKP2 PKPab 15 11 20.4 +0.4
KSAR Wonju Array Be 162.53 288 PKPab PKPab 15 11 20.4 +0.4
CM31 Chiang Mai Arr 163.09 153 ePKPdf PKPdf 15 10 34.0 +1.1
CMAR Chiang Mai Arr 163.09 153 PKP PKPdf 15 10 33.3 +0.4
comp=Z,4.6nm,1.0s,baz=248,slow=2.3,SNR=24
CMAR PKPab PKPab 15 11 22.6 -0.1
comp=Z,1.1nm,1.0s,baz=227,slow=4.9,SNR=4.3
ZAK Zakamensk 163.31 8 ePKP2 PKPab 15 11 21.1 -1.9
ZAK pmax pmax
comp=Z,5.0nm,1.2s
CHTO Chiang Mai 163.42 153 ePKIKP PKPdf 15 10 33.3 +0.1
CHTO Chiang Mai 163.42 153 ePKPdf PKPdf 15 10 33.3 +0.1
SONM Songino Array 166.06 1 PKP PKPdf 15 10 31.9 -2.9
comp=Z,0.6nm,0.6s,baz=132,slow=2.1,SNR=3.7
SONM PKPab PKPab 15 11 36.3 +1.1
comp=Z,4.6nm,0.9s,baz=337,slow=3.3,SNR=17
NJ2 Nanjing 169.74 263 ePKP PKPdf 15 10 37.8 +0.1
KMI Kunming 170.57 157 PKP PKPdf 15 10 39.5 +0.8
HHC Hu-ho-hao-te 172.09 333 ePKP PKPdf 15 10 37.0 -1.8
HHC pPKP pPKPdf 15 10 47.8 -0.2
HHC sPKP 15 10 51.8
HHC PP PP 15 15 54.0 +1.1
HHC SKS SKSdf 15 17 35.3 -4.9
HHC SS SS 15 36 57.5 -2.7
HHC AMB AMB
comp=Z,81nm,5.3s
HHC LR LR
comp=Z,270nm,21.8s
HHC LR LR
comp=Z,340nm,21.4s
HHC LR LR
comp=Z,330nm,17.3s
GTA Gaotai 172.11 44 ePKP PKPdf 15 10 39.8 +0.9
GTA pPKP pPKPdf 15 10 50.3 +2.2
GTA sPKP 15 10 54.5
GTA PKPab PKPab 15 12 03.5 +1.1
GYA Guiyang 172.60 179 PKP PKPdf 15 10 39.0 -0.5
GYA PKPab PKPab 15 12 06.3 +1.7
GYA PKS PKSdf 15 14 11.0 -1.0
GYA PP PP 15 15 58.5 +3.6
GYA SKKS 15 22 41.0
GYA SS SS 15 37 04.8 +0.4
GYA AMB AMB
comp=Z,140nm,8.2s
GYA LR LR
comp=Z,130nm,21.6s
GYA LR LR
comp=Z,120nm,21.2s
GYA LR LR
comp=Z,140nm,24.5s
CD2 Chengdu 176.06 138 PKP PKPdf 15 10 40.0 -0.4
CD2 pPKP pPKPdf 15 10 50.8 +1.2
CD2 sPKP 15 10 54.3
CD2 PKS PKSdf 15 14 10.5 -2.1
CD2 SKS SKSdf 15 17 38.8 -2.8
CD2 SKKS SKKSac 15 22 57.8 +0.5
CD2 SS SS 15 37 38.5 -0.6
LZH Lanzhou 176.71 47 ePKP PKPdf 15 10 39.0 -1.5
LZH pPKP pPKPdf 15 10 49.8 0.0
LZH sPKP 15 10 53.5
XAN Xi'an 178.26 276 PKP PKPdf 15 10 41.0 +0.3

IDC 28 14:55:19.6±0.5, 33°.86S×73°.35W, h0km, mb4.4/16, mb1 4.6/19, mb1mx4.5/32, mbtmp4.4/19, ML4.8/2, MS4.2/12, Ms1 4.2/12, ms1mx4.0/23, Error ellipse: s-maj=18.0km s-min=14.1km az=69.0
ISCJB 28 14:55:23.2±0.3, 33°.87S±0°.05×73°.29W±0°.06, h33km, mb4.9/53, MS4.1/11, Error ellipse: s-maj=7.6km s-min=6.8km az=144.1
MOS 28 14:55:24.2±1.3, 33°.76S×73°.51W, h33km, mb5.3/12, Error ellipse: s-maj=28.6km s-min=11.2km az=99.7
NEIC 28 14:55:24.8±2.0, 33°.87S×73°.30W, h34km±14km, mb5.1/36, Error ellipse: s-maj=8.8km s-min=5.0km az=76.0
NEIC Felt [III] at Valparaiso. Also felt at Melipilla.
BJI 28 14:55:25.5, 33°.90S×73°.30W, h35km, mB5.2/7, Ms5.4/6, Ms7 5.3/7
ISC 28 14:55:25.0±0.3, **33°.89S**±0°.06×**73°.29W**±0°.08, **h35km, n398, σ0s.84**/411, **mb4.9**/53, **MS4.1**/11, **3C, Off coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.83 63 Pn Pn 14 56 35.9 +0.7
2.1nm,0.3s,baz=225,slow=10.0,SNR=2.7
CFAA Sn Sn 14 57 32.1 +2.2
5.7nm,0.3s,baz=304,slow=15,SNR=9.8
CFAA LR LR 14 58 34.1
comp=Z,229nm,18.3s,baz=240,slow=40
PLCA Paso Flores 7.17 163 Pn Pn 14 57 06.7 -0.7
7.0nm,0.3s,baz=345,slow=11,SNR=3.3
PLCA LR LR 14 59 50.6
comp=Z,3μm,19.5s,baz=330,slow=38
LPAZ La Paz 18.13 16 eP P 14 59 35.2 +0.4
LPAZ La Paz 18.13 16 P Pn 14 59 33.9 -0.8
0.6nm,0.3s,baz=186,slow=9.2,SNR=6.0
LPAZ La Paz 18.13 16 eP P 14 59 35.2 +0.4
SIV San Ignacio 20.95 35 P P 15 00 03.3 -1.7
7.8nm,0.6s,baz=235,slow=12,SNR=3.5
SIV LR LR 15 09 29.3
comp=Z,506nm,19.9s,baz=226,slow=41
USHA Ushuaia 21.22 172 P P 15 00 07.6 +0.1
9.3nm,1.0s,baz=304,slow=7.3,SNR=2.0
NNA Nana 22.04 351 i P P 15 00 17.7 +1.0
NNA Nana 22.04 351 P P 15 00 15.3 -1.3
5.0nm,0.3s,baz=213,slow=11,SNR=4.0
NNA LR LR 15 07 01.4
comp=Z,430nm,18.8s,baz=184,slow=32
NNA Nana 22.04 351 eP P 15 00 17.1 +0.4
SAML Samuel 26.51 23 eP P 15 00 59.0 -0.3
ATAH Atahualpa 27.04 349 LR LR 15 09 53.8
comp=Z,467nm,19.7s,baz=184,slow=32
BDFB Brasilia 29.14 58 LR LR 15 13 33.3
comp=Z,488nm,18.5s,baz=253,slow=38
RPN Rapa Nui 31.66 272 LR LR 15 10 44.1
comp=Z,829nm,20.8s,baz=94,slow=29
OTAV Otavalo 34.29 351 eP P 15 02 09.7 +1.1
11nm,1.1s
ROSC El Rosal 38.55 358 LR LR 15 17 25.2
comp=Z,197nm,18.1s,baz=206,slow=34
JTS JuntasAbangare 45.31 344 LR LR 15 19 22.2
comp=Z,175nm,18.6s,baz=180,slow=32
VNA3 Neumayer Olymp 49.86 158 P P 15 04 13.2 -1.1
VNA2 Neumayer--Watz 50.52 157 P P 15 04 19.9 +0.6
APG El Apazote 51.30 339 P P 15 04 23.1 -2.9
6.9nm,1.0s,baz=108,slow=20,SNR=2.8
OBIP Obispado Ponce 52.03 8 eP P 15 04 30.3 -0.8
26nm,0.9s
CELP Cerrillos 52.07 8 eP P 15 04 30.6 -0.8
SNAA Sanae 52.08 158 P P 15 04 32.7 +1.6
SNAA Sanae 52.08 158⇑eP P 15 04 32.2 +1.1
SNAA pmax pmax
comp=Z,31nm,1.7s
SNAA Sanae 52.08 158 P P 15 04 30.8 -0.3
comp=Z,2.2nm,0.6s,baz=286,slow=8.9,SNR=16
SNAA Sanae 52.08 158 eP P 15 04 31.5 +0.4
TEIG Tepich 55.67 343 P P 15 04 56.9 -0.8
comp=Z,6.9nm,0.5s,baz=143,slow=3.2,SNR=7.1
TEIG LR LR 15 23 59.0
comp=Z,152nm,20.9s,baz=244,slow=31
QSPA South Pole Qui 56.35 180 eP P 15 05 02.7 +0.4
comp=Z,59nm,1.7s
035A Encino 64.91 336 P P 15 06 01.4 +0.6
baz=65
933A Laredo 65.94 335 P P 15 06 08.3 +0.8
baz=66
834A Tilden 66.16 336 P P 15 06 09.1 +0.3
baz=66
SYO Syowa Base 66.35 159⇑eP P 15 06 05.2 -4.4
833A Chaparral WMA, 66.63 335 P P 15 06 12.1 +0.2
baz=67
832A Faith Ranch, C 66.80 334 P P 15 06 13.0 +0.1
baz=67
636A Smothers Creek 66.92 338 P P 15 06 14.2 +0.5
baz=67
HKT Hockley 66.97 339 eP P 15 06 14.0 +0.1
HKT pmax pmax
comp=Z,51nm,1.8s
HKT Hockley 66.97 339 eP P 15 06 14.0 +0.1
comp=Z,51nm,1.8s
633A Saathoff Ranch 67.60 336 P P 15 06 18.3 +0.3
baz=68
632A Uvalde 67.85 335 P P 15 06 19.1 -0.6
baz=68
631A Perdido Creek 68.04 334 P P 15 06 20.7 -0.1
baz=68
533A Kerrville 68.11 336 P P 15 06 21.5 +0.2
baz=68
338A Crockett 68.14 340 P P 15 06 22.7 +1.4
baz=68
532A Rocksprings 68.46 335 P P 15 06 23.7 +0.2
baz=69
434A Burnet 68.54 337 P P 15 06 23.7 -0.2
baz=69
335A Moody 68.70 338 P P 15 06 25.3 +0.4
baz=69
531A Rocksprings 68.72 335 P P 15 06 25.7 +0.6
baz=69
JCT Junction City 68.74 336 eP P 15 06 24.6 -0.6
JCT pmax pmax
comp=Z,23nm,1.1s
JCT Junction City 68.74 336 eP P 15 06 24.6 -0.6
comp=Z,23nm,1.1s
JCT Junction City 68.74 336 P P 15 06 25.0 -0.2
baz=69
433A Art 68.75 336 P P 15 06 25.1 -0.2
baz=69
530A J-C Ranch, Com 68.99 334 P P 15 06 26.9 +0.2
baz=69
334A Lometa 69.01 337 P P 15 06 26.8 0.0
baz=69
KMSC Kings Mountain 69.08 353 P P 15 06 26.7 -0.5
baz=69
TXAR Lajitas Array 69.14 332 P P 15 06 27.7 -0.1
comp=Z,2.2nm,0.5s,baz=155,slow=8.7,SNR=36
TXAR LR LR 15 31 58.6
comp=Z,287nm,18.0s,baz=0.0,slow=32
431A Sonora 69.21 335 P P 15 06 28.0 -0.1
baz=70
PPT Papeete 69.23 262 P P 15 06 29.4 +0.8
comp=Z,16nm,0.7s,baz=185,slow=0.5,SNR=2.7
333A Richland Sprin 69.24 337 P P 15 06 27.9 -0.3
baz=70
529A Stev Forest Ra 69.29 333 P P 15 06 28.5 -0.2
baz=70
138A Matatall Enter 69.30 340 P P 15 06 28.7 +0.1
baz=70
WHTX Lake Whitney 69.37 338 eP P 15 06 29.0 -0.1
comp=Z,32nm,1.2s
WHTX Lake Whitney 69.37 338 P P 15 06 28.6 -0.4
baz=70
430A Baggett Ranch, 69.53 335 P P 15 06 30.1 0.0
baz=70
332A Millersview 69.55 336 P P 15 06 30.1 -0.1
baz=70
234A Clairette 69.60 338 P P 15 06 30.0 -0.5
baz=70
429A Davenport Ranc 69.62 334 P P 15 06 30.7 0.0
baz=70
331A San Angelo 69.72 335 P P 15 06 31.0 -0.2
baz=70
SWET Sewanee 69.76 349 eP P 15 06 31.1 -0.3
comp=Z,44nm,1.1s
233A Rising Star 69.85 337 P P 15 06 32.0 0.0
baz=70
TKL Tuckaleechee C 69.88 351 P P 15 06 31.1 -0.9
comp=Z,3.3nm,0.5s,baz=162,slow=8.3,SNR=11
232A Coleman 69.98 336 P P 15 06 32.6 -0.2
baz=70
330A Mertzon 70.07 335 P P 15 06 33.0 -0.4
baz=70
134A White-Moore Ra 70.11 338 P P 15 06 33.3 -0.3
baz=70
231A Bronte 70.25 336 P P 15 06 34.0 -0.5
baz=71
133A Hamilton Ranch 70.40 337 P P 15 06 34.9 -0.5
baz=71
329A Wagon Wheel Ra 70.43 334 P P 15 06 35.5 -0.1
baz=71
Z35A Perchaven, San 70.56 339 P P 15 06 36.0 -0.2
baz=71
UALR University of 70.60 343 eP P 15 06 36.1 -0.4
comp=Z,21nm,1.0s
ABTX Abilene, Hawle 70.66 337 P P 15 06 36.5 -0.5
baz=71
MIAR Mount Ida 70.68 342 P P 15 06 36.7 -0.3
MIAR Mount Ida 70.68 342 P P 15 06 36.7 -0.3
Z34A Collier Ranch, 70.79 338 P P 15 06 37.5 -0.3
baz=71
131A Roby 70.95 336 P P 15 06 38.4 -0.4
baz=71
WVT Waverly 70.97 348 eP P 15 06 38.2 -0.5
WVT Waverly 70.97 348 eP P 15 06 38.2 -0.5
Z33A Whitaker Ranch 70.98 338 P P 15 06 38.6 -0.3
baz=71
228A UT Block 9, Go 71.22 334 P P 15 06 40.1 -0.3
baz=72
Z32A Haskell 71.23 337 P P 15 06 40.6 +0.2
baz=72
JSRW J. Sargeant Re 71.34 356 eP P 15 06 41.2 +0.2
Z31A Sharp Cattle R 71.46 336 P P 15 06 41.3 -0.5
baz=72
Z30A Sanderson Ranc 71.76 336 P P 15 06 43.1 -0.5
baz=72
Y32A R-V Farms, Ver 71.86 337 P P 15 06 43.7 -0.4
baz=72
X34A Smith Ranch, M 71.91 339 P P 15 06 44.2 -0.2
baz=72
Y31A Rekieta Farm, 72.08 337 P P 15 06 45.7 +0.2
baz=72
X32A Elmer 72.19 338 P P 15 06 45.6 -0.6
baz=72
Z28A Tucker Farm, M 72.20 335 P P 15 06 44.9 -1.4
baz=72
Y29A Porterfield Fa 72.47 335 P P 15 06 47.7 -0.3
baz=73
W34A Bridge Creek, 72.48 339 P P 15 06 47.6 -0.2
baz=73
TUL1 Tulsa 72.55 341 eP P 15 06 47.6 -0.6
comp=Z,8.8nm,1.0s
TUL1 Tulsa 72.55 341 P P 15 06 47.9 -0.3
baz=73
X31A McDonald Ranch 72.61 337 P P 15 06 48.2 -0.5
baz=73
W33A Caddo, Fort Co 72.61 339 P P 15 06 49.1 +0.4
baz=73
USIN University of 72.73 348 eP P 15 06 46.8 -2.4
comp=Z,83nm,1.1s
WCI Wyandotte Cave 72.76 349 eP P 15 06 48.4 -1.1
WCI pmax pmax
comp=Z,12nm,1.0s
WCI Wyandotte Cave 72.76 349 eP P 15 06 48.4 -1.1
comp=Z,12nm,1.0s
Z26A Caprock 72.77 333 P P 15 06 49.5 -0.2
baz=73
W32A Sentinel 72.83 338 P P 15 06 49.7 -0.3
baz=73
MSTX Muleshoe 72.95 335 eP P 15 06 49.0 -1.8
comp=Z,28nm,1.1s
MSTX Muleshoe 72.95 335 P P 15 06 49.9 -1.0
baz=73
V34A Guthrie 72.97 340 P P 15 06 50.0 -0.7
baz=73
X29A Tulia 73.01 336 P P 15 06 50.2 -0.9
baz=73
Z25A Roswell 73.05 333 P P 15 06 50.4 -1.0
baz=73
V33A Lossen Ranch, 73.18 339 P P 15 06 51.5 -0.5
baz=74
Z24A Sheeppen Canyo 73.34 332 P P 15 06 52.9 -0.3
baz=74
W29A Amraillo 73.61 336 P P 15 06 54.1 -0.6
baz=74
121A Cookes Peak, D 73.61 330 eP P 15 06 55.4 +0.5
121A Cookes Peak, D 73.61 330 P P 15 06 54.8 -0.1
baz=74
Y25A Mesa, Roswell 73.61 333 P P 15 06 54.2 -0.5
baz=74
X26A CR and CF Fran 73.85 334 P P 15 06 55.9 -0.2
baz=74
Y24A Capitan 73.90 333 P P 15 06 56.5 0.0
baz=74
Z22A Elephant Butte 73.91 331 P P 15 06 56.5 0.0
baz=74
W27A Bowe Ranch, En 74.04 335 P P 15 06 56.1 -1.1
baz=74
Y23A Lovelace Mesa, 74.14 332 P P 15 06 58.2 +0.3
baz=74
ACSO Alum Creek Sta 74.29 352 eP P 15 06 57.4 -1.0
comp=Z,40nm,1.0s
W26A Owens Ranch, T 74.31 334 P P 15 06 59.0 +0.1
baz=75
T33A Patterson Ranc 74.34 339 P P 15 06 58.9 +0.1
baz=75
U30A WK&E Inc. Balk 74.56 337 P P 15 06 59.7 -0.5
baz=75
V27A Dan Oppiter Fa 74.59 335 P P 15 07 00.3 -0.1
baz=75
T32A Huddler Ranch, 74.63 339 P P 15 07 00.4 -0.1
baz=75
W25A X Bar L Ranch, 74.68 334 P P 15 07 00.6 -0.4
baz=75
TUC Tucson 74.71 328 eP P 15 07 01.3 +0.1
TUC pmax pmax
comp=Z,12nm,1.3s
TUC Tucson 74.71 328 eP P 15 07 01.2 +0.1
comp=Z,12nm,1.3s
V26A Tequesquite Ra 74.96 335 P P 15 07 02.2 -0.3
baz=75
LAZ Ladron 74.98 332 eP P 15 07 01.9 -0.9
comp=Z,8.5nm,1.3s
W24A Lazy 6 Ranch, 75.03 333 P P 15 07 02.7 -0.3
baz=75
U27A Thompson Grove 75.18 336 P P 15 07 04.3 +0.5
baz=76
ANMO Albuquerque 75.19 332⇑iP P 15 07 04.9 +0.9
ANMO pmax pmax
comp=Z,74nm,2.5s
ANMO Albuquerque 75.19 332 P P 15 07 04.8 +0.8
comp=Z,2.1nm,0.9s,baz=148,slow=7.9,SNR=8.5
W23A Werner Place, 75.26 333 P P 15 07 04.7 +0.3
baz=76
V25A Rancho No Teng 75.29 334 P P 15 07 04.1 -0.4
baz=76
T29A Hugoton 75.34 337 P P 15 07 05.4 +0.8
baz=76
V24A Rampart Ranch, 75.43 334 P P 15 07 05.2 -0.2
baz=76
U26A Atchley Ranch, 75.48 335 P P 15 07 05.4 -0.2
baz=76
T28A Walsh 75.58 337 P P 15 07 05.8 -0.2
baz=76
S29A Ulysses 75.71 338 P P 15 07 07.4 +0.6
baz=76
R32A Long Quarter, 75.72 340 P P 15 07 07.0 +0.3
baz=76
U25A Circle Dot Ran 75.72 335 P P 15 07 07.2 +0.2
baz=76
T27A Campo 75.73 336 P P 15 07 06.8 -0.1
baz=76
R31A Burdett 75.83 339 P P 15 07 07.9 +0.5
baz=76
S28A Manter 75.94 337 P P 15 07 08.5 +0.4
baz=76
R30A Dighton 76.06 338 P P 15 07 09.2 +0.5
baz=76
T26A Comanche Natio 76.13 335 P P 15 07 08.9 -0.4

baz=76
DBIC Dimbokro 76.13 72 eP P 15 07 10.0 +0.4
DBIC pmax pmax
comp=Z,56nm,1.6s
DBIC Dimbokro 76.13 72 P P 15 07 10.3 +0.7
comp=Z,4.6nm,0.6s,baz=186,slow=6.3,SNR=9.9
DBIC Dimbokro 76.13 72 eP P 15 07 10.0 +0.4
comp=Z,56nm,1.6s
Q32A Meitler Ranch, 76.20 340 P P 15 07 09.4 0.0
baz=76
V22A San Miguel Ran 76.22 332 P P 15 07 10.6 +0.7
baz=76
U23A El Rito 76.31 333 P P 15 07 10.9 +0.5
baz=77
T25A Trinidad 76.38 335 P P 15 07 11.1 +0.4
baz=77
AAM Ann Arbor 76.41 352 eP P 15 07 09.7 -0.8
AAM Ann Arbor 76.41 352 eP P 15 07 09.7 -0.8
R29A Marienthal 76.45 338 P P 15 07 12.1 +1.1
baz=77
113A Mohawk Valley, 76.46 326 P P 15 07 11.5 +0.5
baz=77
Q31A Ellis 76.46 339 P P 15 07 12.0 +1.0
baz=77
S26A Kim 76.49 336 P P 15 07 11.6 +0.3
baz=77
R28A Tribune 76.59 337 P P 15 07 12.2 +0.4
baz=77
U22A Llaves 76.60 333 P P 15 07 13.3 +1.2
baz=77
W18A Petrified Fore 76.66 330 P P 15 07 12.8 +0.4
comp=Z,37nm,1.3s
W18A Petrified Fore 76.66 330 P P 15 07 12.8 +0.4
baz=77
T24B San Luis 76.66 334 P P 15 07 13.0 +0.6
baz=77
Q30A Quinter 76.68 339 P P 15 07 12.4 +0.2
baz=77
X16A Lo Mia Camp, P 76.79 328 P P 15 07 13.1 0.0
baz=77
P32A Huiting Farm, 76.80 340 P P 15 07 13.8 +0.9
baz=77
Q29A Oakley 76.83 338 P P 15 07 13.1 0.0
baz=77
S25A Robets Cordova 76.86 335 P P 15 07 14.1 +0.7
baz=77
R27A Eads 76.86 337 P P 15 07 13.1 -0.2
baz=77
T23A Casias Ranch, 76.88 334 P P 15 07 14.1 +0.4
baz=77
P31A Stockton 76.93 340 P P 15 07 14.6 +1.0
baz=77
Y14A Wickenburg 77.08 327 P P 15 07 13.6 -0.9
baz=77
R26A Arlington 77.09 336 P P 15 07 14.7 0.0
baz=77
S24A Houchin Ranch, 77.11 334 P P 15 07 15.6 +0.6
baz=77
Q28A Sharon Springs 77.25 338 P P 15 07 15.8 +0.3
baz=78
SDCO Great Sand Dun 77.31 334 eP P 15 07 16.1 0.0
comp=Z,7.6nm,1.2s
S23A Nye Farm, Mont 77.46 334 P P 15 07 17.3 +0.5
baz=78
KSCO Kaye Shedlock' 77.46 337 P P 15 07 17.2 +0.5
baz=78
O31A Woolen Ranch, 77.50 340 P P 15 07 17.7 +0.9
baz=78
R24A Sanders Place, 77.60 335 P P 15 07 18.9 +1.3
baz=78
Y12C Blythe 77.62 326 P P 15 07 18.7 +1.2
baz=78
Q26A Hugo 77.68 336 P P 15 07 18.6 +0.6
baz=78
WUAZ Wupatki 77.69 329 eP P 15 07 18.7 +0.6
comp=Z,44nm,2.0s
WUAZ Wupatki 77.69 329 P P 15 07 18.7 +0.6
baz=78
O30A MW Ranch, Wils 77.74 339 P P 15 07 18.5 +0.4
baz=78
S22A 4UR Ranch, Cre 77.80 333 P P 15 07 18.9 +0.1
baz=78
R23A Moffat 77.83 334 P P 15 07 18.6 -0.4
baz=78
O29A 4D Ranch, Culb 77.91 339 P P 15 07 19.3 +0.2
baz=78
Q25A Bedland, Calha 77.92 336 P P 15 07 19.4 +0.1
baz=78
MVCO Mesa Verde 77.97 332 P P 15 07 20.1 +0.4
baz=78
BC3 Big Chuckawall 77.98 325 P P 15 07 20.2 +0.5
baz=78
P26A Davis Ranch, A 78.20 337 P P 15 07 20.3 -0.5
baz=78
O28A Krutsinger Ran 78.21 338 P P 15 07 21.7 +0.9
baz=78
IRM Iron Mountain 78.25 326 P P 15 07 20.9 -0.2
baz=78
Q24A Divide 78.27 335 P P 15 07 22.0 +0.6
baz=79
BGNE Belgrade 78.34 341 P P 15 07 21.2 -0.2
baz=79
P25A Willow Gulch B 78.43 336 P P 15 07 23.0 +0.9
baz=79
PFO Pinyon Flat Ob 78.43 324 P P 15 07 22.4 +0.2
baz=79
W13A Hualapai Mount 78.45 327 P P 15 07 23.3 +0.9
baz=79
O27A Beecher Island 78.49 338 P P 15 07 22.9 +0.6
baz=79
N29A Votaw Ranch, W 78.49 339 P P 15 07 23.1 +0.8
baz=79
M31A Lambtecht Ranc 78.51 341 P P 15 07 22.6 +0.3
baz=79
PV01 Paradox Valley 78.80 332 eP P 15 07 24.7 +0.4
comp=Z,1µm,1.3s
U15A North Rim 78.86 329 P P 15 07 25.7 +1.0
baz=79
P23A Jefferson 78.88 335 P P 15 07 25.5 +0.7
baz=79
O25A Wiggins 78.95 336 P P 15 07 26.1 +1.1
baz=79
GMRC Granite Mounta 79.00 326 P P 15 07 26.2 +0.8
baz=79
ISCO Idaho Springs 79.18 335 P P 15 07 26.3 -0.1
baz=80
P22A Eagle 79.41 334 P P 15 07 28.3 +0.8
baz=80
BFSC Mount Baldy Ra 79.52 324 P P 15 07 29.7 +1.5
baz=80
O23A Lake Granby, G 79.65 335 P P 15 07 29.4 +0.4
baz=80
O22A Kremmling 79.83 335 P P 15 07 30.2 +0.2
baz=80
N24A Carr 79.85 336 P P 15 07 30.1 +0.3
baz=80
K30A Basset 79.92 341 P P 15 07 30.3 +0.2
baz=80
ECSD EROS Data Cent 80.13 343 eP P 15 07 30.8 -0.3
comp=Z,35nm,1.1s
ECSD EROS Data Cent 80.13 343 P P 15 07 31.1 0.0
baz=80
SHPR Sheep Range 80.19 327 eP P 15 07 32.5 +0.7
comp=Z,13nm,1.2s
N23A Red Feather La 80.27 335 P P 15 07 32.7 +0.5
baz=81
N22A Wattenberg Ran 80.36 335 P P 15 07 33.5 +0.8
baz=81
M24A Cheyenne 80.40 337 P P 15 07 33.6 +0.8
baz=81
O20A White River Ci 80.42 334 P P 15 07 33.3 +0.3
baz=81
ARUT Antelope Range 80.50 329 eP P 15 07 34.2 +0.8
comp=Z,419nm,1.2s
K27A Flueckinger Fa 80.70 339 P P 15 07 34.9 +0.6
baz=81
M23A Laramie 80.70 336 P P 15 07 34.7 +0.2
baz=81
J29A Okreek 80.79 340 P P 15 07 35.1 +0.4
baz=81
N20A Spence Gulch, 81.04 334 P P 15 07 36.3 0.0
baz=81
BOSA Boshof 81.04 118 P P 15 07 37.8 +1.0
comp=Z,3.5nm,0.9s,baz=199,slow=4.9,SNR=3.0
J28A Allard Ranch, 81.07 340 P P 15 07 36.7 +0.5
baz=81
J27A Elkhorn Farm, 81.14 339 P P 15 07 37.0 +0.5
baz=82
L23A Garrett 81.27 336 P P 15 07 37.7 +0.2
baz=82
L22A Ellis Ranch, M 81.45 336 P P 15 07 38.6 +0.2
baz=82
J26A Sides Ranch, S 81.51 338 P P 15 07 39.3 +0.8
baz=82
I28A Midland 81.58 340 P P 15 07 40.2 +1.3
baz=82
H29A Onida 81.89 341 P P 15 07 40.2 -0.2
baz=82
I27A Quinn 81.89 339 P P 15 07 41.0 +0.5
baz=82
R11A Troy Canyon, C 81.90 328 P P 15 07 41.7 +0.8
baz=82
K22A Casper 82.03 336 eP P 15 07 41.6 +0.1
comp=Z,38nm,1.3s
K22A Casper 82.03 336 P P 15 07 41.5 +0.1
baz=82
G30A Faulkton 82.07 342 P P 15 07 42.5 +1.1
baz=82
DUG Dugway 82.26 331 eP P 15 07 43.1 +0.5
DUG pmax pmax
comp=Z,23nm,1.3s
DUG Dugway 82.26 331 eP P 15 07 43.1 +0.5
comp=Z,23nm,1.3s
DUG Dugway 82.26 331 P P 15 07 43.4 +0.8
baz=83
K21A Alcova 82.26 335 P P 15 07 42.9 +0.2
baz=83
I25A Rochford 82.35 338 P P 15 07 43.2 +0.1
baz=83
H27A Howes 82.42 340 P P 15 07 43.8 +0.5
baz=83
TCUT Toone Canyon 82.48 332 eP P 15 07 44.3 +0.4
comp=Z,31nm,1.4s
G28A Parade 82.50 341 P P 15 07 43.7 +0.1
baz=83
RSSD Black Hills 82.54 338 eP P 15 07 44.0 -0.1
RSSD pmax pmax
comp=Z,12nm,1.1s
RSSD Black Hills 82.54 338 eP P 15 07 44.0 -0.1
comp=Z,12nm,1.1s
J22A Midwest 82.69 336 P P 15 07 44.2 -0.7
baz=83
MLAC Mammoth Lakes 82.81 325 P P 15 07 46.5 +0.8
baz=83
F29A Eureka 82.90 342 P P 15 07 45.7 -0.1
baz=83
J21A Lysite 82.96 336 P P 15 07 46.8 +0.5
baz=83
SPUT South Promonto 83.05 331 P P 15 07 47.0 +0.2
comp=Z,24nm,1.2s
G27A Dupree 83.06 340 P P 15 07 46.6 0.0
baz=83
I22A 9 Mile Ranch, 83.12 337 P P 15 07 46.8 -0.2
baz=83
G26A Maurine 83.17 340 P P 15 07 47.2 0.0
baz=84
F28A McLaughlin 83.18 341 P P 15 07 47.5 +0.4
baz=84
J20A Shoshoni 83.18 335 P P 15 07 47.5 +0.1
baz=84
PDAR Pinedale Array 83.20 334 P P 15 07 47.4 -0.2
comp=Z,0.8nm,0.7s,baz=149,slow=3.5,SNR=6.3
PDAR LR LR 15 40 28.7
comp=Z,198nm,20.7s,baz=150,slow=33
NVAR Mina Array Bea 83.20 326 P P 15 07 48.0 +0.3
comp=Z,0.8nm,0.7s,baz=145,slow=5.9,SNR=5.5
H24A Dirks Ranch, A 83.26 338 P P 15 07 47.8 +0.1
baz=84
E30A Jud 83.29 342 P P 15 07 48.1 +0.4
baz=84
I21A Big Trails, Te 83.32 336 P P 15 07 48.2 +0.1
baz=84
G25A Newell 83.32 339 P P 15 07 48.1 +0.1
baz=84
J19A Crowheart 83.45 335 P P 15 07 48.2 -0.6
baz=84
F27A Lemmon 83.54 340 P P 15 07 48.7 -0.3
baz=84
H22A Clearmont 83.70 337 P P 15 07 50.1 +0.2
baz=84
I20A Worland 83.72 335 P P 15 07 49.5 -0.7
baz=84
AHID Auburn Hatcher 83.77 333 eP P 15 07 50.3 -0.2
comp=Z,18nm,1.3s
D30A Buchanan 83.82 343 P P 15 07 50.0 -0.3
baz=84
D29A Pettibone, Tap 83.98 342 P P 15 07 51.0 -0.2
baz=84
H20A Greybull 84.15 336 P P 15 07 52.1 -0.2
baz=84
F24A Ekalaka 84.22 339 P P 15 07 52.6 +0.1
baz=84
AGMN Agassiz Nation 84.27 345 P P 15 07 52.0 -0.6
baz=85
C30A Mose, Pekin 84.31 343 P P 15 07 52.5 -0.4
baz=85
D28A Regan 84.36 342 P P 15 07 52.6 -0.6
baz=85
F23A Volborg 84.40 338 P P 15 07 53.2 -0.2
baz=85
I17A Pilgrim Ck. 84.57 334 P P 15 07 54.8 +0.3
baz=85
H19A Powell 84.65 335 P P 15 07 54.8 -0.1
baz=85
D26A Manning 84.71 340 P P 15 07 54.8 -0.1
baz=85
F22A Rosebud 84.72 338 P P 15 07 53.6 -1.5
baz=85
G20A Bridger 84.87 336 P P 15 07 55.5 -0.4
baz=85
H18A Shoshone NF, C 84.89 335 P P 15 07 55.7 -0.5
baz=85
B30A Myrvik Farm, E 84.97 344 P P 15 07 55.8 -0.4
baz=85
D25A Fairfield 85.07 340 P P 15 07 56.8 0.0
baz=85
C27A Sayler Ranch, 85.08 341 P P 15 07 56.7 -0.1
baz=85
TOA0 Torodi Ar. Sit 85.15 71 eP P 15 07 57.6 -0.3
TORD Torodi Ar. Bea 85.15 71 P P 15 07 58.0 +0.2
comp=Z,3.3nm,0.6s,baz=288,slow=3.8,SNR=17
B29A Wagenman Farm, 85.23 343 P P 15 07 57.4 -0.1
baz=86
D24A Glendive 85.33 339 P P 15 07 57.7 -0.3
baz=86
C26A Wahner Farm, P 85.34 341 P P 15 07 58.1 0.0
baz=86
YMR Madison River 85.36 334 eP P 15 07 57.8 -0.7
comp=Z,40nm,1.4s
A30A Hoffart Farm, 85.42 344 P P 15 07 57.9 -0.5
baz=86
B28A Dugan Ranch, T 85.47 342 P P 15 07 58.3 -0.4
baz=86
A29A Manning Farm, 85.63 343 P P 15 07 59.1 -0.4
baz=86
D23A Lindsay 85.64 339 P P 15 07 59.3 -0.4
baz=86
E21A Keefer Ranch, 85.66 337 P P 15 07 59.5 -0.2
baz=86
QLMT Earthquake Lak 85.66 334 eP P 15 08 00.6 +0.6
comp=Z,1.0nm,0.9s
F19A Roth Farm, Mol 85.67 336 P P 15 07 59.4 -0.5
baz=86
HLID Hailey 85.73 331 P P 15 08 00.7 +0.4
baz=86
C24A Savage 85.73 339 P P 15 08 00.2 +0.1
baz=86
A28A Rude Farm, Bot 85.87 343 P P 15 08 01.2 +0.5
baz=86
D22A Cohagen 85.92 338 P P 15 08 01.1 +0.1
baz=86
E20A Meyer Farm, Mu 85.97 337 P P 15 08 01.2 -0.1
baz=86
B25A Knox Farm, Ray 86.05 341 P P 15 08 00.8 -0.8
baz=86
ULM Lac du Bonnet 86.12 346 eP P 15 08 00.5 -1.3
ULM pmax pmax
comp=Z,14nm,1.1s
ULM Lac du Bonnet 86.12 346 P P 15 08 01.3 -0.5
comp=Z,5.0nm,1.0s,baz=173,slow=8.0,SNR=5.2
ULM Lac du Bonnet 86.12 346 eP P 15 08 00.5 -1.3
comp=Z,14nm,1.1s
E19A Rath Farm, Rou 86.15 336 P P 15 08 01.2 -1.0
baz=86
MCMT McKenzie Canyo 86.19 333 eP P 15 08 03.2 +0.6
comp=Z,11nm,1.3s
C23A Lambert 86.20 339 P P 15 08 02.3 0.0
baz=86
C22A Vida 86.36 339 P P 15 08 03.3 +0.1
baz=87
D20A Manuel Ranch, 86.49 337 P P 15 08 03.7 -0.1
baz=87
DGMT Dagmar 86.52 340 eP P 15 08 03.6 -0.3
comp=Z,62nm,1.2s
DGMT Dagmar 86.52 340 P P 15 08 03.6 -0.3
baz=87
A25A Svangstu Ranch 86.64 341 P P 15 08 04.5 0.0
baz=87
B23A Brockton 86.74 339 P P 15 08 05.0 0.0
baz=87
A24A Westby 86.87 340 P P 15 08 05.8 +0.1
baz=87
LRM Limekiln Ridge 86.89 334 eP P 15 08 05.3 -0.7
comp=Z,116nm,1.2s
B22A Reddig Ranch S 86.89 339 P P 15 08 05.8 +0.1
baz=87
N02D Trinity Center 87.29 325 P P 15 08 07.5 -0.4
baz=88
B21A Ellsworth Farm 87.31 338 P P 15 08 07.8 +0.1
baz=88
C19A Slack Wire Ran 87.35 337 P P 15 08 08.0 0.0
baz=88
HRY Holter Researc 87.42 335 eP P 15 08 09.1 +0.6
comp=Z,10.0nm,1.3s
A22A Carney Farms, 87.48 339 P P 15 08 08.2 -0.4
baz=88
M04C Macdoel 87.51 326 P P 15 08 09.4 +0.4
baz=88
A21A Bergtoll Ranch 87.79 339 P P 15 08 09.6 -0.4
baz=88
EGMT Eagleton 87.84 336 P P 15 08 09.5 -0.8
baz=88
YBH Yreka Blue Hor 87.88 325 P P 15 08 10.4 -0.3
comp=Z,1.7nm,0.6s,baz=180,slow=14,SNR=9.8
B19A Brinkman Farms 87.95 337 P P 15 08 10.4 -0.5
baz=88
A20A Cobblestone Ra 88.00 338 P P 15 08 10.8 -0.3
baz=88
A19A Klindworth Far 88.30 338 P P 15 08 12.6 +0.1
baz=89
J05D Fort Rock, OR 88.41 327 P P 15 08 14.0 +0.7
baz=89
SCHQ Schefferville 88.53 4 LR LR 15 48 17.6
comp=Z,73nm,19.9s,baz=150,slow=36
PINOR Pine Mountain 88.66 328 eP P 15 08 15.5 +1.3
comp=Z,22nm,1.1s
J04D Umpqua Nationa 88.77 327 P P 15 08 15.4 +0.3
baz=89
JTMT Jette 89.19 334 eP P 15 08 16.6 -0.2
comp=Z,9.8nm,1.5s
I05D Terrebonne, OR 89.28 328 P P 15 08 17.9 +0.7
baz=90
BSMT Bassoo Peak 89.46 333 eP P 15 08 18.1 -0.1
comp=Z,9.0nm,1.5s
YKA Yellowknife Ar 101.62 342 P Pdif 15 09 12.1 -0.8
comp=Z,0.2nm,0.5s,baz=143,slow=4.2,SNR=4.4
VYHS Vyhne 115.78 48 ePKIKP PKPdf 15 14 03.6 +0.3
VYHS Vyhne 115.78 48 ePKP PKPdf 15 14 03.6 +0.3
ASAR Alice Springs 117.19 208 PKP PKPdf 15 14 05.6 -1.4
comp=Z,0.3nm,0.7s,baz=147,slow=1.9,SNR=4.6
WRA Warramunga Arr 120.34 210 PKP PKPdf 15 14 12.1 -1.0
comp=Z,1.2nm,0.6s,baz=154,slow=1.7,SNR=18
BRTR Keskin Array B 122.69 61 PKP PKPdf 15 14 16.4 -0.7
comp=Z,0.6nm,0.8s,baz=186,slow=1.6,SNR=3.1
KIEV Kiev 122.87 48 i PKIKP PKPdf 15 14 18.6 +1.8
AKASG Malin Array Be 122.89 48 PKP PKPdf 15 14 16.1 -0.8
comp=Z,0.1nm,0.3s,baz=255,slow=2.8,SNR=4.1
OBN Obninsk 128.07 43 i PKIKP PKPdf 15 14 27.4 +0.8
OBN pmax pmax
comp=Z,7.0nm,1.4s
KIV Kislovodsk 130.32 58 ePKIKP PKPdf 15 14 33.3 +1.9
KIV pmax pmax
comp=Z,8.0nm,1.1s
BILL Bilibino 132.28 334 i PKIKP PKPdf 15 14 34.9 +0.6
BILL i 15 14 42.7
BILL i 15 16 58.8
BILL pmax pmax
comp=Z,3.0nm,1.7s
SEY Seymchan 139.41 330 PKhKP PKPpre 15 14 39.6
comp=Z,0.9nm,0.8s,baz=73,slow=19,SNR=2.1
TIXI Tiksi 140.39 349 i PKIKP PKPdf 15 14 51.6 +2.4
GEYT Alibeck 140.79 70 PKhKP PKPpre 15 14 44.5
comp=Z,0.6nm,0.6s,baz=270,slow=1.4,SNR=2.4
ABKAR Akbulak array 142.43 52 ePKPpre PKPpre 15 14 49.1
PALK Pallekele 144.24 132 PKP PKPdf 15 14 57.9 0.0
comp=Z,6.5nm,0.8s,baz=190,slow=17,SNR=2.9
KSM Kuching 147.58 187 ePKPbc PKPbc 15 15 06.0 -0.1
BRVK Borovoye 147.83 42 i PKP2 PKPbc 15 15 06.4 +0.7
BRVK pmax pmax
comp=Z,21nm,1.7s
BRVK Borovoye 147.83 42 ePKPbc PKPbc 15 15 06.4 +0.7
BVAR Borovoye Array 147.90 42 PKP PKPdf 15 15 03.3 +0.5
comp=Z,2.4nm,0.5s,baz=336,slow=3.2,SNR=15
BVAR PKPbc PKPbc 15 15 06.7 +0.8
comp=Z,2.4nm,0.5s,baz=300,slow=1.7,SNR=20
PSI Prapat 148.23 165 PKPbc PKPbc 15 15 07.6 -0.5
comp=Z,8.5nm,0.6s,baz=193,slow=9.7,SNR=8.1
YAK Yakutsk 148.27 340 ePKP2 PKPbc 15 15 05.2 -1.3
YAK pmax pmax
comp=Z,53nm,1.4s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.5s
YAK Yakutsk 148.27 340 ePKPbc PKPbc 15 15 05.8 -0.7
HYB Hyderabad 149.92 116 i PKP PKPbc 15 15 11.0 -1.1
IPM Ipoh 150.27 169 ePKPbc PKPbc 15 15 12.5 -0.6
KKAR Karatay Array 150.41 61 ePKIKP PKPbc 15 15 12.5 0.0
KKAR Karatay Array 150.41 61 ePKPbc PKPbc 15 15 12.5 0.0
KULM Kulim 150.99 167 ePKPbc PKPbc 15 15 14.1 -0.6
EKS2 Erkin-Say 152.84 61 ePKIKP PKPbc 15 15 19.0 +0.7
EKS2 Erkin-Say 152.84 61 ePKPbc PKPbc 15 15 19.0 +0.7
AAK Ala-Archa 153.37 61 PKPbc PKPbc 15 15 20.2 +0.7
comp=E,1.6nm,0.7s,baz=202,slow=4.4,SNR=5.8
AAK PKPab PKPab 15 15 32.5 +0.8
comp=E,3.9nm,0.8s,baz=244,slow=9.1,SNR=5.2
NVS Novosibirsk 153.39 31 ePKIKP PKPbc 15 15 19.1 +0.2
NVS pmax pmax
comp=Z,21nm,1.9s
NVS pmax pmax
comp=N,22nm,3.2s
NVS pmax pmax
comp=E,19nm,3.2s
KURK Kurchatov 153.50 42 PKIKP PKPdf 15 15 12.7 +1.1
KURK Kurchatov 153.50 42 PKPdf PKPdf 15 15 12.7 +1.1
MJAR Matsushiro Arr 154.19 285 PKPab PKPab 15 15 35.0 -0.1
comp=E,0.7nm,0.6s,baz=101,slow=3.6,SNR=5.5
ZAA0 Zalesovo Array 154.68 31 ePKPbc PKPbc 15 15 21.8 +0.1
ZALV Zalesovo Beam 154.68 31 PKPbc PKPbc 15 15 21.6 -0.1
comp=E,1.3nm,0.6s,baz=310,slow=3.5,SNR=3.9
KSH Kashi 154.80 68 ePKPbc PKPdf 15 15 14.8 +0.9
KSH epPKP pPKPdf 15 15 25.5 +0.1
KSH esPKP 15 15 29.0
KSH eSKS SKSdf 15 22 15.8 -2.2
KSH eSKKS SKKSac 15 25 57.5 -3.5
KSH eSS SS 15 38 51.3 -3.2
KSH AMB AMB
comp=E,83nm,4.2s
KSH LR LR
comp=E,120nm,3.9s
BOD Bodaibo 155.56 351 ePKP2 PKPab 15 15 39.1 -1.1
BOD pmax pmax
comp=Z,15nm,1.2s
MKAR Makanchi Array 157.47 48 PKPab PKPab 15 15 49.0 +0.1
comp=Z,1.4nm,0.8s,baz=316,slow=3.3,SNR=3.6
WMQ Urumqi 162.21 51 PKP PKPdf 15 15 21.5 -1.1
WMQ LR LR
comp=Z,210nm,18.2s
WMQ LR LR
comp=Z,160nm,19.0s
WMQ LR LR
comp=Z,230nm,19.2s
CN2 Changchun 162.40 310 ePKP PKPdf 15 15 26.0 +3.3
KSRS Korea Array 162.40 288 PKPab PKPab 15 16 10.9 +0.2
comp=Z,1.3nm,0.8s,baz=99,slow=4.4,SNR=7.7
KSAR Wonju Array Be 162.44 288 PKP2 PKPab 15 16 10.9 +0.1
KSAR Wonju Array Be 162.44 288 PKPab PKPab 15 16 10.9 +0.1
SONM Songino Array 166.06 1 PKPab PKPab 15 16 26.2 -0.2
comp=Z,1.0nm,0.8s,baz=347,slow=5.9,SNR=3.1
NJ2 Nanjing 169.63 263 ePKP PKPdf 15 15 28.0 -0.8
KMI Kunming 170.61 157 PKP PKPdf 15 15 29.0 -0.9
HHC Hu-ho-hao-te 172.05 332 ePKP PKPdf 15 15 31.0 +1.0

HHC pPKP pPKPdf 15 15 41.5 0.0
HHC sPKP 15 15 45.8
HHC PP PP 15 20 48.3 +4.4
HHC SKS SKSdf 15 22 29.3 -1.3
HHC SS SS 15 41 52.0 +1.7
HHC AMB AMB
comp=Z,85nm,7.3s
HHC LR LR
comp=Z,310nm,19.6s
HHC LR LR
comp=Z,180nm,17.7s
HHC LR LR
comp=Z,470nm,22.2s
GYA Guiyang 172.60 180 PKP PKPdf 15 15 30.5 -0.2
GYA pPKP pPKPdf 15 15 41.5 -0.7
GYA PKPab PKPab 15 16 56.8 +1.0
GYA PKS PKSdf 15 19 01.0 -2.2
GYA PP PP 15 20 49.5 +3.3
GYA SKKS 15 27 31.5
GYA SS SS 15 41 55.5 +0.6
GYA AMB AMB
comp=Z,120nm,8.4s
GYA LR LR
comp=Z,130nm,21.8s
GYA LR LR
comp=Z,120nm,21.6s
GYA LR LR
comp=Z,140nm,24.5s
CD2 Chengdu 176.12 139 PKP PKPdf 15 15 30.5 -1.1
CD2 pPKP pPKPdf 15 15 41.3 -1.8
CD2 sPKP 15 15 44.8
CD2 PKS PKSdf 15 19 01.0 -2.9
CD2 PP PP 15 21 06.5 +2.5
CD2 SKS SKSdf 15 22 28.0 -4.1
CD2 SKKS SKKSac 15 27 47.5 -0.5
CD2 SS SS 15 42 28.0 -2.2
CD2 AMB AMB
comp=Z,220nm,6.4s
LZH Lanzhou 176.78 46 ePKP PKPdf 15 15 31.5 -0.2
LZH pPKP pPKPdf 15 15 42.5 -0.8
LZH sPKP 15 15 46.0

IDC 28 14:57:10.0±1.2, 37°.68S×70°.00W, h0km, mb4.0/5, mb1 4.3/5, mb1mx4.0/28, mbtmp4.0/5, Error ellipse: s-maj=56.1km s-min=38.9km az=21.0
ISC 28 14:57:15.5±1.7, **37°.6S**±0°.5×**70°.0W**±0°.3, **h35**km, **n8**, σ**1s.27**/7, **mb4.0**/5, **Southern Argentina**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
TXAR Lajitas Array 73.70 330 P P 15 08 44.2 -1.5
0.8nm,0.7s,baz=151,slow=8.0,SNR=3.9
DBIC Dimbokro 74.87 69 P P 15 08 52.5 -0.2
1.3nm,0.4s,baz=216,slow=5.2,SNR=4.2
TORD Torodi Ar. Bea 83.96 68 P P 15 09 42.6 +0.4
1.0nm,0.3s,baz=279,slow=5.9,SNR=4.2
PDAR Pinedale Array 87.74 332 P P 15 10 01.8 +1.1
0.8nm,0.7s,baz=150,slow=7.3,SNR=3.4
NVAR Mina Array Bea 87.79 324 P P 15 10 02.5 +1.6
0.4nm,0.5s,baz=153,slow=6.7,SNR=3.7
ASAR Alice Springs 115.00 204 PKP PKPdf 15 15 53.1 0.0
0.2nm,0.9s,baz=147,slow=1.6,SNR=3.0
WRA Warramunga Arr 118.31 206 PKP PKPdf 15 15 59.2 -0.3
0.4nm,0.7s,baz=156,slow=1.7,SNR=6.8
BVAR Borovoye Array 148.67 48 PKPbc PKPdf 15 16 54.0 -0.5
1.0nm,0.5s,baz=276,slow=1.5,SNR=5.1

IDC 28 15:04:16.4±1.2, 34°.02S×73°.42W, h0km, mb3.9/6, mb1 4.2/8, mb1mx4.0/28, mbtmp4.0/8, ML4.3/2, Error ellipse: s-maj=33.9km s-min=28.1km az=44.0
ISCJB 28 15:04:19.3±0.8, 34°.05S±0°.08×73°.4W±0°.1, h33km, mb4.0/8, Error ellipse: s-maj=17.5km s-min=11.3km az=164.5
NEIC 28 15:04:20.6±4.2, 34°.00S×73°.41W, h29km±29km, mb4.1/3, Error ellipse: s-maj=21.0km s-min=11.3km az=88.0
ISC 28 15:04:21.2±0.9, **34°.0S**±0°.1×**73°.4W**±0°.2, **h35**km, **n16**, σ**1s.00**/16, **mb4.1**/8, **Off coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CFAA Coronel Fontan 4.98 63 Pn Pn 15 05 32.7 -0.8
0.4nm,0.3s,baz=236,slow=15,SNR=3.3
PLCA Paso Flores 7.11 162 Pn Pn 15 06 02.5 -0.3
2.8nm,0.3s,baz=348,slow=9.3,SNR=5.3
TRQA Tornquist 10.12 117 eP Pn 15 06 44.8 +0.8
LPAZ La Paz 18.26 16 Pn P 15 08 32.3 -0.1
0.1nm,0.3s,baz=188,slow=10,SNR=6.6
LPAZ La Paz 18.26 16 eP P 15 08 32.3 -0.1
5.2nm,0.9s
SIV San Ignacio 21.10 35 P P 15 09 04.2 +1.4
3.0nm,0.7s,baz=230,slow=9.1,SNR=6.3
SDV Santo Domingo 42.72 4 P P 15 12 13.9 -1.3
2.9nm,0.7s
SNAA Sanae 52.03 158 eP P 15 13 25.9 -1.0
8.6nm,1.3s
TXAR Lajitas Array 69.17 332 P P 15 15 24.4 +0.2
0.5nm,0.6s,baz=147,slow=9.1,SNR=7.3
ANMO Albuquerque 75.23 332 P P 15 16 01.7 +1.3
2.2nm,1.2s,baz=174,slow=5.7,SNR=3.7
DBIC Dimbokro 76.28 72 P P 15 16 06.5 -0.1
1.8nm,0.7s,baz=260,slow=6.1,SNR=2.4
PDAR Pinedale Array 83.24 334 P P 15 16 45.0 +1.0
0.9nm,1.0s,baz=142,slow=7.4,SNR=4.2
TOA0 Torodi Ar. Sit 85.30 71 eP P 15 16 55.1 +0.2
TORD Torodi Ar. Bea 85.30 71 P P 15 16 54.3 -0.5
1.2nm,0.8s,baz=254,slow=3.9,SNR=5.5
AAK Ala-Archa 153.52 62 PKPbc PKPbc 15 24 18.0 +1.9
0.8nm,0.9s,baz=343,slow=11,SNR=2.7
MKAR Makanchi Array 157.62 48 PKPab PKPab 15 24 46.5 +0.7
0.4nm,0.8s,baz=305,slow=2.5,SNR=5.0

ISCJB 28 15:07:19.5±0.5, 43°.70N±0°.07×145°.13E±0°.08, h159km±3km, mb3.6/8, Error ellipse: s-maj=11.4km s-min=8.9km az=161.7
JMA 28 15:07:21.1±0.2, 43°.71N×145°.10E, h153km±1km, M3.3
IDC 28 15:07:22.2±2.5, 43°.90N×144°.98E, h161km±12km, mb3.4/8, mb1 3.5/8, mb1mx3.2/46, mbtmp3.8/8, Error ellipse: s-maj=46.9km s-min=18.7km az=159.0
ISC 28 15:07:20.6±0.8, **43°.69N**±0°.07×**145°.11E**±0°.06, **h156**km±6km, **n31**, σ**0s.72**/36, **mb3.7**/8, **Hokkaido region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JRA Rausu 0.25 1 P Pn 15 07 41.9 +0.3
JRA eS Sn 15 07 57.4 -0.4
JNK Nakash 0.31 250 P Pn 15 07 42.2 +0.4
JNK eS Sn 15 07 57.8 -0.2
NEM2 Nemuro 2 0.56 125 P Pn 15 07 42.9 0.0
NEM2 eS Sn 15 07 59.1 -0.8
JAK Akkeshi 0.76 204 P Pn 15 07 44.5 +0.4
JAK eS Sn 15 08 01.9 -0.1
JTKR Abashiri--Toko 0.92 288 P Pn 15 07 45.4 +0.2
JTKR eS Sn 15 08 03.4 -0.6
JAR Ashorobuto 1.05 248 P Pn 15 07 47.1 +0.7
JAR eS Sn 15 08 06.5 +0.5
JOB Onbets 1.22 230 P Pn 15 07 48.6 +0.8
JOB eS Sn 15 08 08.9 +0.2
JMP Maruseppu 1.31 285 P Pn 15 07 48.7 0.0
JMP eS Sn 15 08 09.5 -0.7
JCH Churui 1.67 231 P Pn 15 07 52.7 +0.3
JCH eS Sn 15 08 15.7 -1.1
JKK2 Kamakawa 2 1.72 277 P Pn 15 07 53.2 +0.3
ASAJ Asahikawa 1.87 284 P Pn 15 07 55.0 +0.5
ASAJ Asahikawa 1.87 284 P Pn 15 07 55.2 +0.6
22nm,0.3s,baz=182,slow=5.1,SNR=246
ASAJ S Sn 15 08 20.3 -0.4
1.8nm,0.3s,baz=350,slow=25,SNR=3.5
JFR Furan 1.91 255 P Pn 15 07 56.1 +1.1
JAB Ashibetsu 2.11 266 P Pn 15 07 58.1 +0.8
JSE Soyaes 2.21 306 P Pn 15 07 58.1 -0.4
JNBK Urakawa-nobuka 2.23 232 P Pn 15 07 58.5 -0.3
JNBK eS Sn 15 08 25.9 -2.3
SONM Songino Array 27.13 292 P P 15 12 50.0 +0.9
3.4nm,0.8s,baz=84,slow=8.3,SNR=9.4
H11N2 WAKE ISLAND Hy 30.06 136 T T 15 44 36.9
baz=328,slow=75,SNR=27
H11N1 WAKE ISLAND Hy 30.07 136 T T 15 44 38.0
baz=328,slow=75,SNR=15
H11N3 WAKE ISLAND Hy 30.07 136 T T 15 44 42.5
baz=328,slow=75,SNR=11
H11S1 WAKE ISLAND Hy 30.99 137 T T 15 45 47.7
baz=330,slow=76,SNR=40
H11S3 WAKE ISLAND Hy 31.00 137 T T 15 45 45.2
baz=330,slow=76,SNR=23
H11S2 WAKE ISLAND Hy 31.01 137 T T 15 45 49.1
baz=330,slow=76,SNR=18
ILAR Eielson Array 42.41 36 P P 15 14 59.5 +0.3
0.8nm,0.8s,baz=259,slow=5.5,SNR=12
MKAR Makanchi Array 43.30 297 P P 15 15 06.7 0.0
0.7nm,0.6s,baz=80,slow=9.9,SNR=8.3
CMAR Chiang Mai Arr 46.10 252 P P 15 15 29.4 +0.2
1.9nm,1.0s,baz=57,slow=8.7,SNR=4.7
YKA Yellowknife Ar 56.66 33 P P 15 16 47.5 +0.5
0.2nm,0.6s,baz=303,slow=6.7,SNR=5.8
FINES FINESS Array B 64.25 332 P P 15 17 37.5 -1.0
0.9nm,0.6s,baz=58,slow=7.3,SNR=10
NB2 NORSAR Subarra 69.11 338 P P 15 18 08.5 -0.9
comp=Z,2.4nm,1.2s,baz=30,slow=6.2
NOA NORSAR Array B 69.11 338 P P 15 18 08.7 -0.7
comp=Z,0.4nm,0.6s,baz=36,slow=4.5,SNR=8.4
HFS Hagfors 69.16 336 P P 15 18 08.9 -0.7
comp=Z,0.9nm,0.3s,baz=42,slow=6.8,SNR=12

IDC 28 15:08:09.9±1.1, 34°.83S×73°.48W, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML3.6/2, Error ellipse: s-maj=34.8km s-min=22.6km az=93.0
ISCJB 28 15:08:13.3±0.9, 34°.92S±0°.08×73°.4W±0°.1, h33km, mb3.9/5, Error ellipse: s-maj=17.6km s-min=9.5km az=26.9
NEIC 28 15:08:15.1±5.6, 34°.89S×73°.37W, h34km±38km, mb4.2/2, Error ellipse: s-maj=32.6km s-min=12.8km az=100.0
ISC 28 15:08:15.2±0.9, **34°.9S**±0°.1×**73°.5W**±0°.1, **h35**km, **n11**, σ**0s.70**/12, **mb4.0**/5, **Off coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CFAA Coronel Fontan 5.46 55 Pn Pn 15 09 33.6 -0.5
1.0nm,0.3s,baz=234,slow=14,SNR=7.9
CFAA Sn Sn 15 10 36.6 +0.9
0.9nm,0.3s,baz=342,slow=20,SNR=6.0
PLCA Paso Flores 6.26 159 Pn Pn 15 09 45.5 +0.3
0.4nm,0.3s,baz=34,slow=15,SNR=3.6
PLCA Paso Flores 6.26 159 P Pn 15 09 44.7 -0.5
SNAA Sanae 51.20 157 P P 15 17 14.9 +0.1
0.8nm,0.7s,baz=296,slow=11,SNR=3.5
SNAA Sanae 51.20 157 eP P 15 17 14.8 +0.1
1.6nm,0.7s
QSPA South Pole Qui 55.34 180 P P 15 17 45.7 +0.4
3.7nm,1.0s,baz=198,slow=4.8,SNR=7.7
QSPA South Pole Qui 55.34 180 eP P 15 17 45.8 +0.4
3.0nm,0.9s
TXAR Lajitas Array 69.96 332 P P 15 19 22.4 -0.7
0.2nm,0.5s,baz=153,slow=8.4,SNR=4.7
TORD Torodi Ar. Bea 85.61 71 P P 15 20 49.8 -0.6
0.9nm,1.1s,baz=231,slow=4.1,SNR=3.9
ULM Lac du Bonnet 87.07 346 P P 15 20 57.9 +1.2
0.9nm,0.5s,baz=164,slow=7.4,SNR=2.3
MKAR Makanchi Array 158.23 50 PKPab PKPab 15 28 41.8 -0.6
0.3nm,0.8s,baz=341,slow=3.1,SNR=2.8

NIED 28 15:09:00, 26°.10N×128°.80E, h8km, Mw4.1 Best double couple: Mo1.65000×10^15 NP1:φs205.00000°, δ47.00000°, λ-115.00000°. NP2:φs59.00000°, δ49.00000°, λ-66.00000°.
IDC 28 15:09:13.4±0.7, 26°.04N×128°.70E, h0km, mb4.1/16, mb1 4.2/19, mb1mx4.1/42, mbtmp4.1/19, ML3.8/3, Error ellipse: s-maj=20.0km s-min=14.6km az=74.0
ISCJB 28 15:09:14.7±0.8, 25°.99N±0°.03×128°.75E±0°.03, h28km±5km, mb4.0/24, Error ellipse: s-maj=5.4km s-min=3.7km az=44.7
NEIC 28 15:09:14.5±1.6, 25°.99N×128°.71E, h8km±10km, mb4.3/6, Error ellipse: s-maj=9.0km s-min=7.9km az=81.0
JMA 28 15:09:16.2±0.3, 26°.05N×128°.76E, h32km, M3.6
ISC 28 15:09:14.4±1.4, **26°.00N**±0°.04×**128°.75E**±0°.04, **h10**km±8km, **n60**, σ**1s.70**/82, **mb4.1**/24, **Ryukyu Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JNTH Nagotoyohara 0.84 308 P Pg 15 09 31.1 +0.5
JNTH eS Sg 15 09 41.7 +0.2
JJT2 Tamagusuku 2 0.91 279 P Pb 15 09 33.0 +0.6
JJT2 eS Sb 15 09 45.6 +1.0
JOW Kunigami 0.94 333 P Pg 15 09 32.8 +0.3
JOW eS Sg 15 09 44.1 -0.5
JOW Kunigami 0.94 333 Pn Pg 15 09 32.8 +0.3
18nm,0.3s,baz=140,slow=22,SNR=144
JOW Sn Sg 15 09 41.7 -2.9
81nm,0.3s,baz=119,slow=19,SNR=41
JOW LR LR 15 09 59.3
comp=Z,98nm,18.8s,baz=309,slow=52
JOW Kunigami 0.94 333 eP Pg 15 09 32.7 +0.3
JOW Pn Pg 15 09 32.8 +0.3
JOW Sn Sg 15 09 41.7 -2.9
JIH Iheya 1.25 326 P Pn 15 09 37.7 -0.2
JIH eS Sb 15 09 52.8 -1.4
JOKE Okinoerabujima 1.37 353 P Pn 15 09 39.3 -0.3
JOKE eS Sn 15 09 56.2 -1.6
JAGN Aguni-jima 1.48 294 P Pn 15 09 41.1 0.0
JAGN eS Sn 15 09 59.9 -0.6
JTK Tokunoshima 1.79 6 P Pn 15 09 44.7 -0.7
JTK eS Sn 15 10 05.5 -2.7
JKE Kume jima 2 1.80 281 P Pn 15 09 44.8 -0.7
JKE eS Sn 15 10 05.7 -2.6
JMZ Minamidaito 2 2.23 94 P Pn 15 09 49.7 -1.7
JMZ eS Sn 15 10 14.5 -4.5
JAMN Amaminishikomi 2.27 9 P Pn 15 09 51.5 -0.4
JAMN eS Sn 15 10 18.1 -1.8
JAM Amami Oshima 2.52 17 P Pn 15 09 54.6 -0.8
JAM eS Sn 15 10 24.3 -1.9
JZK Kikaishima 2.55 25 P Pn 15 09 55.7 -0.1
JTAJ Takarajima 3.17 7 P Pn 15 10 03.7 -0.6
JTAJ eS Sn 15 10 38.5 -3.7
JOGS Gusukube 3.27 249 P Pn 15 10 05.7 0.0
JOGS eS Sn 15 10 42.2 -2.5
JMJ Miyako jima 2 3.34 250 P Pn 15 10 06.7 0.0
JIKM Ikemajima 3.34 252 P Pn 15 10 06.5 -0.3
JIKM eS Sn 15 10 44.4 -2.1
JIRB Irabujima 3.44 251 P Pn 15 10 07.4 -0.7
JIRB eS Sn 15 10 46.2 -2.7
JTJ Tarama 3.91 251 P Pn 15 10 13.6 -0.9
JTJ eS Sn 15 10 56.3 -4.1
JISG Ishigakijimahi 4.26 252 P Pn 15 10 17.8 -1.5
JISG eS Sn 15 11 04.8 -4.3
JIJ Ishigaki jima 4.48 250 P Pn 15 10 20.6 -1.8
JIJ eS Sn 15 11 08.9 -5.7
JKRS Kuro-shima 4.64 249 P Pn 15 10 24.6 0.0
IRIF Iriomote-Funau 4.84 251 P Pn 15 10 26.6 -0.8
JNU Nakatsue 7.34 14 Pn Pn 15 11 02.8 +1.2
1.2nm,0.3s,baz=161,slow=3.2,SNR=17
JNU Nakatsue 7.34 14 eP Pn 15 11 02.4 +0.7
5.4nm,0.8s
TPUB Ta-pu 7.86 252 eP Pn 15 11 07.0 -1.9
12nm,0.6s
KSAR Wonju Array Be 11.43 357 Pn Pn 15 11 57.5 -0.3
KSRS Korea Array 11.44 357 Pn Pn 15 11 57.5 -0.4
0.1nm,0.3s,baz=172,slow=13,SNR=3.1
CBIJ Chichi jima 12.07 82 eP Pn 15 12 07.1 +0.5
48nm,0.8s
JCJ Chichijima 12.07 82 Pn Pn 15 12 07.3 +0.7
4.2nm,0.3s,baz=279,slow=19,SNR=2.6
MJAR Matsushiro Arr 13.25 35 Pn P 15 12 35.1 +2.5
0.1nm,0.3s,baz=217,slow=9.3,SNR=9.1
ULN Ulaanbaatar 27.70 328 eP P 15 15 04.6 +1.6
4.5nm,0.8s
SONM Songino Array 28.00 327 P P 15 15 07.2 +1.7
2.7nm,0.5s,baz=143,slow=11,SNR=13
CMAR Chiang Mai Arr 28.55 261 P P 15 15 11.8 +1.2
0.5nm,0.8s,baz=56,slow=8.5,SNR=5.4
YAK Yakutsk 36.03 1 eP P 15 16 15.6 0.0
21nm,0.8s
SEY Seymchan 40.11 17 P P 15 16 51.0 +1.0
1.7nm,0.6s,baz=234,slow=19,SNR=8.3
MK31 Makanchi Array 42.04 312 eP P 15 17 05.1 -1.1
MKAR Makanchi Array 42.04 312 P P 15 17 05.6 -0.5
0.8nm,0.6s,baz=96,slow=9.7,SNR=9.5
MKAR PcP PcP 15 19 01.4 +0.4
0.9nm,0.9s,baz=96,slow=3.2,SNR=3.5
ZALV Zalesovo Beam 42.71 323 P P 15 17 10.8 -0.7
1.1nm,0.5s,baz=101,slow=7.7,SNR=3.7
KURK Kurchatov 45.31 317 P P 15 17 32.4 0.0
2.7nm,1.1s
WRAB Tennant Creek 45.98 173 eP P 15 17 38.5 +0.5
2.7nm,0.7s
WRA Warramunga Arr 45.99 173 P P 15 17 38.5 +0.5
2.1nm,0.6s,baz=354,slow=8.5,SNR=22
AS31 Alice Springs 49.62 174 eP P 15 18 06.6 +0.4
ASAR Alice Springs 49.62 174 P P 15 18 07.3 +1.1
1.4nm,0.7s,baz=3.9,slow=11,SNR=18
BVAR Borovoye Array 50.76 318 P P 15 18 15.5 +1.0
1.2nm,0.7s,baz=92,slow=9.6,SNR=7.7
ABKAR Akbulak array 57.15 313 P P 15 19 00.8 -0.5
1.3nm,0.6s
AKTO Aktyubinsk 58.33 315 P P 15 19 11.9 +2.3
0.5nm,0.4s,baz=80,slow=11,SNR=2.8
GEYT Alibeck 59.81 300 P P 15 19 19.2 -0.9
1.8nm,0.5s,baz=76,slow=12,SNR=5.8
ILAR Eielson Array 64.42 28 P P 15 19 50.4 -0.1
0.5nm,0.7s,baz=273,slow=5.0,SNR=9.7
KBZ Khabaz 69.67 310 P P 15 20 25.0 +0.7
4.6nm,0.9s,baz=113,slow=1.8,SNR=8.8
JOF Joensuu 70.47 331 ep P 15 20 25.9 -2.9
0.4nm,0.4s
KAF Kangasniemi 72.93 331 ep P 15 20 42.0 -1.6
2.1nm,0.8s
FINES FINESS Array B 73.29 331 P P 15 20 45.2 -0.6
1.6nm,0.5s,baz=77,slow=5.7,SNR=17
AKASG Malin Array Be 76.01 320 P P 15 21 01.4 -0.3
3.3nm,0.7s,baz=56,slow=6.5,SNR=12
BR131 Keskin Array S 77.55 308 eP P 15 21 11.5 +0.7
3.4nm,0.9s
BRTR Keskin Array B 77.55 308 P P 15 21 11.6 +0.7
2.5nm,0.8s,baz=94,slow=5.4,SNR=14
YKA Yellowknife Ar 78.53 25 P P 15 21 16.6 +0.9
0.6nm,0.7s,baz=302,slow=5.6,SNR=17
NB2 NORSAR Subarra 79.73 334 P P 15 21 21.8 -0.6
comp=Z,0.8nm,0.6s,baz=52,slow=5.6
NOA NORSAR Array B 79.73 334 P P 15 21 21.7 -0.6
comp=Z,1.6nm,0.8s,baz=52,slow=5.5,SNR=5.5

IDC 28 15:11:52.4±1.2, 35°.36S×72°.97W, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.7/33, mbtmp3.7/7, ML3.6/2, Error ellipse: s-maj=31.5km s-min=22.6km az=115.0
ISCJB 28 15:11:53.7±1.2, 35°.4S±0°.1×72°.9W±0°.2, h17km, mb3.7/5, Error ellipse: s-maj=26.7km s-min=17.3km az=16.6
ISC 28 15:11:55.1±1.2, **35°.4S**±0°.1×**73°.0W**±0°.2, **h17**km, **n9**, σ**0s.77**/9, **mb3.8**/5, **Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CFAA Coronel Fontan 5.47 47 Pn Pn 15 13 16.3 +0.4
0.3nm,0.3s,baz=230,slow=14,SNR=5.3
CFAA Lg Lg 15 14 43.5
0.1nm,0.3s,baz=107,slow=19,SNR=6.8
CPUP Villa Florida 16.16 60 Pn Pn 15 15 40.5 -1.0
0.2nm,0.3s,baz=241,slow=19,SNR=3.0
LPAZ La Paz 19.53 14 P Pn 15 16 25.1 +1.3
0.1nm,0.3s,baz=180,slow=11,SNR=2.3
SIV San Ignacio 22.07 32 P P 15 16 49.0 -0.3
1.2nm,0.6s,baz=228,slow=14,SNR=3.0
SNAA Sanae 50.56 157 P P 15 20 52.7 +0.4
1.9nm,1.0s,baz=280,slow=8.2,SNR=4.5
TXAR Lajitas Array 70.62 332 P P 15 23 09.1 -0.5
0.2nm,0.5s,baz=159,slow=8.4,SNR=3.7
BOSA Boshof 80.07 118 P P 15 24 04.6 +0.2
2.4nm,0.9s,baz=217,slow=5.1,SNR=3.3
TORD Torodi Ar. Bea 85.39 70 P P 15 24 31.8 -0.1
0.6nm,0.9s,baz=238,slow=4.6,SNR=3.0
ZALV Zalesovo Beam 155.82 33 PKPab PKPab 15 32 13.9 -0.5
0.7nm,0.6s,baz=328,slow=5.1,SNR=3.3

IDC 28 15:18:05.4±0.9, 36°.18S×72°.11W, h0km, mb3.9/8, mb1 4.2/9, mb1mx4.0/27, mbtmp4.0/9, ML3.6/1, Error ellipse: s-maj=36.6km s-min=20.7km az=92.0
ISCJB 28 15:18:09.7±0.8, 35°.98S±0°.08×72°.4W±0°.2, h35km, mb4.0/8, Error ellipse: s-maj=23.4km s-min=9.8km az=12.4
NEIC 28 15:18:10.6±0.9, 35°.90S×72°.50W, h35km, mb4.2/2, Error ellipse: s-maj=32.4km s-min=14.0km az=95.0
SJA 28 15:18:59.9±1.3, 32°.26S×70°.38W, h104km±21km, ML2.6
ISC 28 15:18:10.8±0.9, **35°.90S**±0°.10×**72°.5W**±0°.2, **h35**km, **n22**, σ**1s.57**/20, **mb4.1**/8, **Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AUSP Uspallata 4.50 36 i P Pn 15 19 19.6 +2.9
ASAL Salagasta 4.50 44 i P Pn 15 19 25.8 +9.3
RTLS Leoncito 4.89 34 i P Pn 15 19 23.4 +1.3
PLCA Paso Flores 5.07 163 Pn Pn 15 19 25.2 +0.9
3.0nm,0.3s,baz=325,slow=15,SNR=5.4
PLCA Sn Sn 15 20 11.5 -10
5.4nm,0.3s,baz=252,slow=13,SNR=3.4
CFAA Coronel Fontan 5.58 41 Pn Pn 15 19 32.6 +1.4
0.9nm,0.3s,baz=217,slow=9.2,SNR=10
CFAA Coronel Fontan 5.58 41 i P Pn 15 19 33.1 +1.8
RTLL Cerro Villicun 5.67 38 i P Pn 15 19 31.6 -1.0
RTLL i P Pn 15 19 31.6 -1.0
TRQA Tornquist 8.71 107 P Pn 15 20 21.2 +7.0
16nm,0.9s
USHA Ushuaia 19.14 173 P P 15 22 24.6 -6.2
0.2nm,0.3s,baz=332,slow=15,SNR=3.0
LPAZ La Paz 19.92 12 P Pn 15 22 41.4 -0.6
0.9nm,0.3s,baz=181,slow=10,SNR=3.6
LPAZ La Paz 19.92 12 eP P 15 22 38.6 -1.6
3.4nm,0.9s
SIV San Ignacio 22.31 30 P P 15 23 04.0 -1.3
2.1nm,0.8s,baz=216,slow=17,SNR=6.1
SNAA Sanae 49.98 157 eP P 15 27 01.4 +0.3
12nm,1.4s
QSPA South Pole Qui 54.34 180 P P 15 27 31.7 -1.9
2.4nm,0.8s,baz=128,slow=4.4,SNR=12
TXAR Lajitas Array 71.20 332 P P 15 29 28.7 +2.5
0.5nm,0.6s,baz=152,slow=7.3,SNR=7.5
DBIC Dimbokro 76.17 71 P P 15 29 56.3 +0.8
1.1nm,0.5s,baz=215,slow=4.1,SNR=3.6
NVAR Mina Array Bea 85.22 326 P P 15 30 47.5 +3.8
0.7nm,0.7s,baz=157,slow=6.0,SNR=5.1
TOA0 Torodi Ar. Sit 85.23 70 P P 15 30 43.1 -0.9
TORD Torodi Ar. Bea 85.23 70 P P 15 30 43.8 -0.2
0.6nm,0.9s,baz=214,slow=6.0,SNR=3.7
ULM Lac du Bonnet 88.23 345 P P 15 30 58.8 +1.0
1.0nm,0.6s,baz=306,slow=2.6,SNR=3.3
ZALV Zalesovo Beam 156.03 34 PKPab PKPab 15 38 26.8 -1.4
0.7nm,0.5s,baz=314,slow=5.3,SNR=4.3
MKAR Makanchi Array 158.28 52 PKP PKPdf 15 38 01.7 -2.2
0.5nm,0.9s,baz=333,slow=1.4,SNR=4.4
MKAR PKPab PKPab 15 38 37.5 -0.6
0.4nm,0.9s,baz=289,slow=4.4,SNR=3.3

SJA 28 15:26:34.2±0.6, 35°.40S×74°.58W, h198km±170km, ML5.3
GUC 28 15:26:52.0±0.4, 35°.22S×72°.70W, h25km±4km, ML5.3
ISCJB 28 15:26:53.2±1.7, 35°.30S±0°.03×72°.52W±0°.06, h30km±11km, mb4.9/63, MS4.1/5, Error ellipse: s-maj=8.2km s-min=5.8km az=11.4
IDC 28 15:26:54.9±0.6, 35°.22S×72°.50W, h31km±4km, mb4.6/17, mb1 4.7/21, mb1mx4.6/24, mbtmp4.8/21, ML4.5/4, MS4.1/9, Ms1 4.1/9, ms1mx3.8/31, Error ellipse: s-maj=18.0km s-min=12.1km az=80.0
MOS 28 15:26:54.2±0.8, 35°.17S×72°.34W, h33km, mb5.3/14, Error ellipse: s-maj=25.5km s-min=10.0km az=101.2
NEIC 28 15:26:55.0±0.2, 35°.22S×72°.44W, mb5.0/46, Error ellipse: s-maj=8.1km s-min=5.5km az=64.0
BJI 28 15:26:54.5, 35°.13S×71°.97W, h36km, mB5.1/7, Ms5.1/4, Ms7 4.9/4
ISC 28 15:26:54.9±0.5, **35°.19S**±0°.04×**72°.53W**±0°.07, **h32**km±3km, **h32**km**:pP-P**, **n457**, σ**1s.18**/477, **mb5.0**/63, **MS4.2**/5, **127C-141D**, **Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
LNV Longovilo 1.54 37 ⇑ iP Pn 15 27 20.1 -0.1
CHCH Chadas Angostu 1.99 52 i P Pn 15 27 27.4 +1.0
TACH Talagante 2.02 41 ⇓ iP Pn 15 27 27.3 +0.6
PCH Pirque 2.29 47 i P Pn 15 27 31.4 +0.9
SAN Santiago 2.32 42 eP Pn 15 27 31.6 +0.7
SAN i S Sb 15 28 01.5 -2.9
ROCH El Roble 2.55 30 eP Pn 15 27 34.7 +0.6
ROCH eP Pn 15 27 34.8 +0.6
ROCH i S Sb 15 28 07.6 -3.5
ROCH AML AML 15 28 19.3
comp=N,17μm,0.5s
PEL Peldehue 2.55 37 ⇓ iP Pn 15 27 34.8 +0.7
PEL i S Sn 15 28 07.1 +3.0
FCH Farellones 2.62 46 ⇑ iP Pn 15 27 34.7 -0.7
FCH i S Sn 15 28 08.7 +2.4

FCH AML AML 15 28 18.1
comp=E,9µm,0.7s
JACH Jahuel 2.98 33 iP Pn 15 27 40.7 +0.8
AAGR Agrelo 3.72 57 iP Pn 15 27 53.2 +3.0
AAGR iP Pn 15 27 53.2 +3.0
AVIZ Vizcacheras 3.74 64 iP Pn 15 27 54.4 +4.0
ARCO CERRO ARCO 3.80 53 iP Pn 15 27 53.3 +2.0
ARCO iS Sb 15 28 52.9 +6.0
ARCO AML AML 15 28 55.5
comp=Z,1µm,0.6s
AUSP Uspallata 3.95 42 iP Pn 15 27 54.9 +1.3
ASAL Salagasta 4.02 51 iP Pn 15 27 55.3 +1.0
ASAL iS Sb 15 28 56.4 +3.2
RTLS Leoncito 4.33 40 iP Pn 15 27 58.7 0.0
RTCV Cerro Valdivia 4.70 46 iP Pn 15 28 04.1 +0.5
CFAA Coronel Fontan 5.07 46 Pn Pn 15 28 09.9 +1.2
comp=Z,5.0nm,0.3s,baz=227,slow=12,SNR=29
CFAA LR LR 15 30 07.2
comp=Z,276nm,18.9s,baz=226,slow=38
CFAA Coronel Fontan 5.07 46 iP Pn 15 28 08.9 +0.2
RTLL Cerro Villicun 5.13 43 iP Pn 15 28 09.2 -0.4
PLCA Paso Flores 5.75 165 eP Pn 15 28 19.0 +1.0
PLCA pmax pmax
comp=Z,195nm,0.8s
PLCA Paso Flores 5.75 165 Pn Pn 15 28 19.1 +1.0
comp=Z,4.6nm,0.3s,baz=336,slow=9.1,SNR=11
PLCA LR LR 15 30 45.8
comp=Z,712nm,20.8s,baz=354,slow=40
PLCA Paso Flores 5.75 165 eP Pn 15 28 19.0 +1.0
comp=Z,196nm,0.8s
TRQA Tornquist 8.95 112 eP Pn 15 29 03.6 +1.6
comp=Z,68nm,0.8s
LVC Limon Verde 12.93 15 eP Pn 15 29 51.4 -5.3
comp=Z,25nm,0.8s
CPUP Villa Florida 15.76 60 Pn Pn 15 30 28.3 -6.1
comp=Z,0.5nm,0.3s,baz=195,slow=13,SNR=4.5
CPUP LR LR 15 37 10.0
comp=Z,2µm,19.7s,baz=218,slow=39
LPAZ La Paz 19.23 13 eP Pn 15 31 19.0 +0.8
LPAZ pmax pmax
comp=Z,55nm,0.9s
LPAZ La Paz 19.23 13 P Pn 15 31 19.4 +1.2
comp=Z,1.5nm,0.3s,baz=177,slow=6.2,SNR=28
LPAZ La Paz 19.23 13 eP Pn 15 31 19.0 +0.8
comp=Z,55nm,0.9s
USHA Ushuaia 19.85 173 P P 15 31 22.7 -0.2
comp=Z,0.5nm,0.3s,baz=332,slow=15,SNR=2.6
USHA LR LR 15 39 44.0
comp=Z,1µm,19.0s,baz=328,slow=39
SIV San Ignacio 21.70 31 P P 15 31 42.9 -0.3
comp=Z,88nm,0.9s,baz=219,slow=9.3,SNR=130
SIV LR LR 15 41 38.6
comp=Z,1µm,19.8s,baz=219,slow=41
NNA Nana 23.43 349 P P 15 32 02.1 +0.7
NNA *PP pP 15 32 11.1 +0.8
NNA pmax pmax
comp=Z,17nm,0.8s
NNA Nana 23.43 349 P P 15 32 02.2 +0.9
comp=Z,4.8nm,0.6s,baz=222,slow=10,SNR=4.3
NNA pP pP 15 32 11.1 +0.8
comp=Z,16nm,0.8s,baz=180,slow=12,SNR=5.2
NNA LR LR 15 38 50.3
comp=Z,195nm,21.0s,baz=164,slow=30
NNA Nana 23.43 349 P P 15 32 02.1 +0.7
comp=Z,17nm,0.8s
NNA pP pP 15 32 11.1 +0.8
SAML Samuel 27.48 20 eP P 15 32 37.6 -0.7
comp=Z,9.5nm,0.9s
ATAH Atahualpa 28.44 348 LR LR 15 42 27.6
comp=Z,190nm,18.6s,baz=190,slow=33
BDFB Brasilia 29.34 55 P P 15 32 54.0 -1.1
BDFB Brasilia 29.34 55 P P 15 32 54.0 -1.1
comp=Z,15nm,0.9s,baz=212,slow=11,SNR=12
BDFB LR LR 15 45 41.9
comp=Z,1µm,19.5s,baz=217,slow=38
PMSA Palmer Station 30.06 173 LR LR 15 43 51.8
comp=Z,631nm,20.3s,baz=311,slow=34
OTAV Otavalo 35.68 350 eP P 15 33 52.6 +1.8
comp=Z,14nm,1.1s
ROSC El Rosal 39.87 357 P P 15 34 27.9 +1.8
comp=Z,18nm,0.6s,baz=116,slow=7.6,SNR=5.2
RCBR Riachuelo 44.62 58 P P 15 35 03.9 -0.6
comp=Z,10nm,1.0s,baz=197,slow=5.1,SNR=4.2
VNA3 Neumayer Olymp 48.41 157 P P 15 35 34.0 +0.5
VNA2 Neumayer--Watz 49.08 157 P P 15 35 39.0 +0.4
SNAA Sanae 50.64 157 P P 15 35 50.2 -0.4
SNAA Sanae 50.64 157 eP P 15 35 50.4 -0.2
SNAA pmax pmax
comp=Z,30nm,1.0s
SNAA Sanae 50.64 157 P P 15 35 50.5 0.0
comp=Z,9.1nm,0.9s,baz=285,slow=5.6,SNR=27
SNAA Sanae 50.64 157 eP P 15 35 50.4 -0.2
comp=Z,30nm,1.0s
APG El Apazote 52.74 338 P P 15 36 04.3 -2.7
comp=Z,3.7nm,0.6s,baz=178,slow=2.6,SNR=8.4
CRPR Cabo Rojo, PR 53.15 6 eP P 15 36 08.8 -0.9
comp=Z,20nm,0.7s
OBIP Obispado Ponce 53.24 7 eP P 15 36 09.4 -1.0
comp=Z,33nm,0.9s
CELP Cerrillos 53.27 7 eP P 15 36 09.9 -0.7
QSPA South Pole Qui 55.05 180 P P 15 36 23.8 +0.6
comp=Z,11nm,0.9s,baz=145,slow=2.8,SNR=25
QSPA South Pole Qui 55.05 180 eP P 15 36 23.6 +0.3
comp=Z,17nm,0.9s
RKT Rikitea 55.05 265 eLR LR 15 52 28.3
comp=Z,269nm,27.5s
RKT Rikitea 55.05 265 eT T 16 35 23.7
comp=Z,1.1nm,0.3s
NVL N'lazarevskaya 55.39 156 eP P 15 36 26.0 +0.5
SYO Syowa Base 64.91 158 ⇓eP P 15 37 28.8 -1.8
035A Encino 66.36 335 ⇑P P 15 37 41.7 +1.3
baz=67
034A Hebbronville 66.67 335 ⇑P P 15 37 44.5 +2.0
baz=67
933A Laredo 67.39 334 ⇓P P 15 37 49.2 +2.2
baz=68
834A Tilden 67.60 335 ⇑P P 15 37 50.0 +1.6
baz=68
735A Kenedy 68.02 336 ⇑P P 15 37 52.6 +1.7
baz=68
833A Chaparral WMA, 68.08 335 ⇓P P 15 37 52.5 +1.1
baz=68,SNR=7.8
832A Faith Ranch, C 68.25 334 ⇑P P 15 37 53.5 +1.1
baz=69
734A La Parita Cree 68.27 336 ⇑P P 15 37 53.9 +1.4
baz=69
MEH Mehetia 68.29 263 eT T 16 51 53.5
comp=Z,24nm,0.2s
636A Smothers Creek 68.36 337 ⇓P P 15 37 55.0 +1.9
baz=69
635A Leesville 68.50 336 ⇓P P 15 37 56.0 +2.1
baz=69
732A Laxson Ranch, 68.65 334 ⇓P P 15 37 56.7 +1.7
baz=69
535A Dale 69.03 337 ⇓P P 15 37 59.4 +2.2
baz=69
633A Saathoff Ranch 69.04 335 ⇑P P 15 37 59.0 +1.6
baz=69
438A Sam Houston St 69.06 339 ⇑P P 15 37 59.1 +1.7
baz=69
632A Uvalde 69.30 335 ⇑P P 15 38 00.2 +1.2
baz=70,SNR=7.7
TIAR Tiarei 69.50 263 eT T 16 53 23.0
comp=Z,3.5nm,0.2s
533A Kerrville 69.55 336 ⇓P P 15 38 02.2 +1.6
baz=70
PPT2 Papeete2 69.67 262 eS SKiKP 15 47 29.6 -18
comp=Z,80nm,22.8s
PPT2 Papeete2 69.67 262 eLR LR 15 59 22.2
comp=Z,414nm,25.0s
337A Centerville 69.71 339 ⇓P P 15 38 03.4 +2.0
baz=70
532A Rocksprings 69.90 335 ⇑P P 15 38 03.8 +1.1
baz=70,SNR=17
434A Burnet 69.98 337 ⇑P P 15 38 04.1 +0.9
baz=70,SNR=6.7
336A Riesel 70.06 338 ⇑P P 15 38 04.8 +1.2
baz=70
335A Moody 70.15 337 ⇓P P 15 38 05.2 +1.1
baz=70
531A Rocksprings 70.16 334 ⇓P P 15 38 05.3 +0.9
baz=70,SNR=7.5
JCT Junction City 70.19 335 eP P 15 38 05.0 +0.5
JCT pmax pmax
comp=Z,21nm,1.0s
JCT Junction City 70.19 335 eP P 15 38 05.0 +0.5
comp=Z,21nm,1.0s
JCT Junction City 70.19 335 ⇓P P 15 38 05.4 +1.0
baz=71,SNR=7.5
433A Art 70.20 336 ⇑P P 15 38 05.3 +0.8
baz=71,SNR=11
530A J-C Ranch, Com 70.43 334 ⇓P P 15 38 07.1 +1.2
baz=71,SNR=7.8
334A Lometa 70.45 337 ⇓P P 15 38 06.7 +0.7
baz=71,SNR=6.2
KMSC Kings Mountain 70.45 352 ⇓P P 15 38 06.6 +0.7
baz=71
432A Menard 70.55 335 ⇓P P 15 38 07.4 +0.7
baz=71
TXAR Lajitas Array 70.58 331 P P 15 38 07.9 +1.0
comp=Z,3.2nm,0.7s,baz=153,slow=8.7,SNR=41
431A Sonora 70.65 335 ⇓P P 15 38 08.1 +0.8
baz=71
333A Richland Sprin 70.69 336 ⇓P P 15 38 07.7 +0.3
baz=71,SNR=7.8
529A Stev Forest Ra 70.73 333 ⇓P P 15 38 08.7 +0.9
baz=71,SNR=12
WHTX Lake Whitney 70.81 338 eP P 15 38 08.6 +0.4
comp=Z,16nm,0.7s
WHTX Lake Whitney 70.81 338 ⇓P P 15 38 09.3 +1.1
baz=71
430A Baggett Ranch, 70.97 334 ⇑P P 15 38 09.9 +0.7
baz=71
332A Millersview 70.99 336 ⇑P P 15 38 10.0 +0.6
baz=71,SNR=5.6
234A Clairette 71.04 337 ⇓P P 15 38 10.3 +0.7
baz=71,SNR=6.2
429A Davenport Ranc 71.06 333 ⇑P P 15 38 10.6 +0.8
baz=71
SWET Sewanee 71.15 348 eP P 15 38 10.1 -0.1
comp=Z,24nm,0.8s
331A San Angelo 71.16 335 ⇑P P 15 38 11.0 +0.6
baz=72,SNR=8.6
233A Rising Star 71.30 337 ⇓P P 15 38 12.1 +0.9
baz=72
232A Coleman 71.42 336 ⇓P P 15 38 12.7 +0.7
baz=72
330A Mertzon 71.51 334 ⇑P P 15 38 13.2 +0.7
baz=72
134A White-Moore Ra 71.55 337 ⇑P P 15 38 13.2 +0.6
baz=72
231A Bronte 71.69 335 ⇑P P 15 38 13.8 +0.2
baz=72,SNR=7.1
133A Hamilton Ranch 71.85 337 ⇑P P 15 38 15.0 +0.6
baz=72,SNR=5.6
329A Wagon Wheel Ra 71.87 334 ⇑P P 15 38 15.6 +0.9
baz=72
230A Sterling City 71.93 335 ⇓P P 15 38 15.9 +0.9
baz=72
Z35A Perchaven, San 72.00 338 ⇑P P 15 38 16.0 +0.7
baz=72,SNR=5.7
ABTX Abilene, Hawle 72.10 336 eP P 15 38 16.4 +0.5
comp=Z,15nm,0.9s
ABTX Abilene, Hawle 72.10 336 ⇓P P 15 38 16.6 +0.7
baz=72
MIAR Mount Ida 72.11 342 P P 15 38 17.6 +1.6
MIAR pmax pmax
comp=Z,34nm,1.6s
MIAR Mount Ida 72.11 342 P P 15 38 17.6 +1.6
comp=Z,34nm,1.6s
Z34A Collier Ranch, 72.23 338 ⇓P P 15 38 17.5 +0.7
baz=73
229A Bryant Ranch, 72.25 334 ⇓P P 15 38 17.1 +0.2
baz=73
WVT Waverly 72.38 347 eP P 15 38 17.2 -0.3
WVT pmax pmax
comp=Z,27nm,0.8s
WVT Waverly 72.38 347 eP P 15 38 17.2 -0.3
comp=Z,27nm,0.8s
131A Roby 72.39 336 ⇑P P 15 38 18.2 +0.5
baz=73
Z33A Whitaker Ranch 72.42 337 ⇓P P 15 38 18.4 +0.6
baz=73
130A Snyder 72.52 335 ⇑P P 15 38 18.9 +0.3
baz=73
BBTS Babate 72.60 57 P P 15 38 20.9 +1.6
comp=Z,27nm,1.0s,baz=64,slow=0.8,SNR=2.6
228A UT Block 9, Go 72.67 334 ⇑P P 15 38 19.9 +0.5
baz=73,SNR=5.4
Z32A Haskell 72.67 337 ⇑P P 15 38 19.8 +0.4
baz=73
JSRW J. Sargeant Re 72.69 356 eP P 15 38 19.5 +0.2
Y34A Reagan Ranch, 72.73 338 ⇓P P 15 38 20.2 +0.5
baz=73
129A Stewart Farms, 72.87 334 ⇑P P 15 38 21.7 +1.0
baz=73
Z31A Sharp Cattle R 72.90 336 ⇓P P 15 38 21.5 +0.8
baz=73
Y33A Hilltop Ranch, 73.05 338 ⇑P P 15 38 22.4 +0.8
baz=73
128A Castleberry Fa 73.08 334 ⇓P P 15 38 22.9 +1.0
baz=74
Z30A Sanderson Ranc 73.20 335 ⇑P P 15 38 23.0 +0.5
baz=74
Y32A R-V Farms, Ver 73.30 337 ⇓P P 15 38 23.7 +0.7
baz=74
MNTX Cornudas Mount 73.35 331 eP P 15 38 23.0 -0.5
comp=Z,5.5nm,0.8s
X34A Smith Ranch, M 73.35 338 ⇓P P 15 38 24.1 +0.7
baz=74
Z29A Hungry Hill Ra 73.38 335 ⇓P P 15 38 24.2 +0.6
baz=74
127A Arkansas Junct 73.45 333 ⇑P P 15 38 25.3 +1.2
baz=74
Y31A Rekieta Farm, 73.53 336 ⇑P P 15 38 25.5 +1.0
baz=74
X32A Elmer 73.63 337 ⇑P P 15 38 25.8 +0.8
baz=74
Y29A Porterfield Fa 73.91 335 ⇑P P 15 38 27.2 +0.4
baz=74
W34A Bridge Creek, 73.92 339 ⇑P P 15 38 26.9 +0.2
baz=74
Z27A Tatum 73.97 334 ⇑P P 15 38 27.7 +0.6
baz=74
TUL1 Tulsa 73.99 341 eP P 15 38 27.2 +0.2
comp=Z,6.3nm,0.8s
TUL1 Tulsa 73.99 341 ⇑P P 15 38 27.9 +0.9
baz=74
X31A McDonald Ranch 74.05 337 ⇓P P 15 38 27.9 +0.4
baz=74,SNR=5.7
W33A Caddo, Fort Co 74.05 338 ⇑P P 15 38 28.8 +1.3
baz=74
Z26A Caprock 74.21 333 ⇑P P 15 38 28.9 +0.3
baz=75,SNR=22
W32A Sentinel 74.27 337 ⇑P P 15 38 29.4 +0.7
baz=75,SNR=9.8
MSTX Muleshoe 74.40 334 eP P 15 38 30.3 +0.7
comp=Z,13nm,0.8s
MSTX Muleshoe 74.40 334 ⇑P P 15 38 30.4 +0.7
baz=75
X29A Tulia 74.45 335 ⇓P P 15 38 30.8 +0.9
baz=75
Z25A Roswell 74.50 332 ⇓P P 15 38 31.3 +1.1
baz=75
V33A Lossen Ranch, 74.62 339 ⇑P P 15 38 31.8 +1.1
baz=75
Z24A Sheeppen Canyo 74.79 332 ⇑P P 15 38 33.2 +1.2
baz=75,SNR=5.4
AMTX Amarillo 74.84 335 ⇓P P 15 38 33.0 +0.8
baz=75
W29A Amraillo 75.05 336 ⇑P P 15 38 34.3 +0.9
baz=75,SNR=5.0
121A Cookes Peak, D 75.05 330 eP P 15 38 35.1 +1.6
comp=Z,17nm,0.9s
121A Cookes Peak, D 75.05 330 ⇑P P 15 38 35.1 +1.6
baz=75,SNR=5.9
Y25A Mesa, Roswell 75.06 333 ⇓P P 15 38 34.3 +0.8
baz=75
X26A CR and CF Fran 75.29 334 ⇑P P 15 38 35.9 +1.1
baz=76,SNR=6.1
Y24A Capitan 75.34 332 ⇑P P 15 38 35.9 +0.7
baz=76,SNR=6.3
Z22A Elephant Butte 75.35 331 ⇑P P 15 38 36.6 +1.4
baz=76
W27A Bowe Ranch, En 75.49 335 ⇓P P 15 38 36.8 +0.9
baz=76,SNR=8.9
LIC Lamto 75.53 72 eP P 15 38 36.1 -0.4
comp=Z,52nm,0.9s
Y23A Lovelace Mesa, 75.59 332 ⇓P P 15 38 37.9 +1.3
baz=76
ACSO Alum Creek Sta 75.67 352 eP P 15 38 36.2 -0.4
comp=Z,34nm,1.0s
W26A Owens Ranch, T 75.76 334 ⇓P P 15 38 38.4 +1.0
baz=76
T33A Patterson Ranc 75.78 339 ⇓P P 15 38 38.1 +0.7
baz=76,SNR=5.6
TIC Toumodi 75.80 71 eP P 15 38 38.0 -0.1
comp=Z,20nm,0.2s
KIC Kosan Boka 75.84 72 eP P 15 38 38.2 -0.1
comp=Z,76nm,1.0s
X24A Lazy VL Ranch, 75.91 332 ⇑P P 15 38 39.6 +1.2
baz=76
DBIC Dimbokro 75.94 71 eP P 15 38 38.7 -0.2
DBIC pmax pmax
comp=Z,27nm,0.9s
DBIC Dimbokro 75.94 71 P P 15 38 38.9 0.0
comp=Z,17nm,0.7s,baz=207,slow=5.7,SNR=25
DBIC Dimbokro 75.94 71 eP P 15 38 38.7 -0.2
comp=Z,27nm,0.9s
U30A WK&E Inc. Balk 76.01 337 ⇑P P 15 38 40.3 +1.5
baz=76
V27A Dan Oppiter Fa 76.03 335 ⇓P P 15 38 40.0 +1.0
baz=76
W25A X Bar L Ranch, 76.13 334 ⇓P P 15 38 40.3 +0.7
baz=76,SNR=5.8
TUC Tucson 76.15 327 eP P 15 38 40.9 +1.2
TUC pmax pmax
comp=Z,31nm,1.8s
TUC Tucson 76.15 327 eP P 15 38 40.9 +1.2
comp=Z,31nm,1.8s
V26A Tequesquite Ra 76.40 334 ⇓P P 15 38 42.1 +1.0
baz=77
LAZ Ladron 76.42 331 eP P 15 38 42.6 +1.3
comp=Z,7.9nm,1.4s
W24A Lazy 6 Ranch, 76.47 333 ⇓P P 15 38 42.3 +0.7
baz=77,SNR=5.9
U27A Thompson Grove 76.63 335 ⇑P P 15 38 43.5 +1.1
baz=77
ANMO Albuquerque 76.64 332 eP P 15 38 43.5 +1.0
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO Albuquerque 76.64 332 eP P 15 38 43.5 +1.0
comp=Z,6.7nm,1.0s
W23A Werner Place, 76.71 332 ⇑P P 15 38 43.9 +0.9
baz=77
V25A Rancho No Teng 76.74 334 ⇑P P 15 38 43.8 +0.8
baz=77,SNR=6.8
T29A Hugoton 76.79 337 ⇓P P 15 38 44.3 +1.1
baz=77
R33A Olander Ranch, 76.84 340 ⇓P P 15 38 44.4 +1.0
baz=77
V24A Rampart Ranch, 76.88 333 ⇑P P 15 38 44.9 +0.9
baz=77
U26A Atchley Ranch, 76.92 335 ⇑P P 15 38 45.2 +1.0
baz=77
S30A Montezuma 76.97 338 ⇑P P 15 38 45.4 +1.3
baz=77
T28A Walsh 77.02 336 ⇓P P 15 38 45.4 +0.8
baz=77,SNR=8.3
S29A Ulysses 77.15 337 ⇑P P 15 38 46.4 +1.1
baz=78
R32A Long Quarter, 77.16 339 ⇑P P 15 38 46.5 +1.3
baz=78
U25A Circle Dot Ran 77.16 334 ⇓P P 15 38 46.4 +0.9
baz=78
T27A Campo 77.17 336 ⇓P P 15 38 46.3 +0.9
baz=78,SNR=5.5
KSU1 Kansas State U 77.20 341 ⇑P P 15 38 46.3 +0.9
baz=78
V23A Ortiz Mt. (NFS 77.24 332 ⇓P P 15 38 46.6 +0.7
baz=78
R31A Burdett 77.28 339 ⇑P P 15 38 46.9 +1.1
baz=78
S28A Manter 77.38 336 ⇓P P 15 38 47.6 +1.1
baz=78
T26A Comanche Natio 77.57 335 ⇓P P 15 38 48.9 +1.2
baz=78
Q32A Meitler Ranch, 77.64 340 ⇑P P 15 38 49.1 +1.2
baz=78
V22A San Miguel Ran 77.66 332 ⇓P P 15 38 49.9 +1.5
baz=78,SNR=11
X18A Snowflake 77.68 329 ⇓P P 15 38 50.1 +1.6
baz=78
U23A El Rito 77.75 333 ⇓P P 15 38 50.5 +1.7
baz=78
T25A Trinidad 77.83 334 ⇑P P 15 38 50.7 +1.5
baz=78,SNR=12
S26A Kim 77.93 335 ⇑P P 15 38 50.7 +1.0
baz=78,SNR=9.7
R28A Tribune 78.03 337 ⇓P P 15 38 50.9 +0.7
baz=78,SNR=5.3
W18A Petrified Fore 78.10 330 eP P 15 38 52.7 +2.0
comp=Z,11nm,1.0s
W18A Petrified Fore 78.10 330 ⇑P P 15 38 52.4 +1.6
baz=78
T24B San Luis 78.11 334 ⇓P P 15 38 52.5 +1.6
baz=78,SNR=5.7
Q30A Quinter 78.12 338 ⇓P P 15 38 51.5 +0.9
baz=78,SNR=6.0
X16A Lo Mia Camp, P 78.22 328 ⇑P P 15 38 52.9 +1.5
baz=79,SNR=7.4
Q29A Oakley 78.27 338 ⇑P P 15 38 52.3 +0.9
baz=79
S25A Robets Cordova 78.30 335 ⇑P P 15 38 52.8 +1.0
baz=79
R27A Eads 78.31 336 ⇓P P 15 38 52.6 +0.9
baz=79,SNR=5.9
P31A Stockton 78.37 339 ⇓P P 15 38 53.1 +1.2
baz=79
Y14A Wickenburg 78.51 327 ⇓P P 15 38 54.1 +1.2
baz=79
R26A Arlington 78.54 336 ⇑P P 15 38 53.6 +0.6
baz=79,SNR=7.9
S24A Houchin Ranch, 78.56 334 ⇑P P 15 38 54.6 +1.2
baz=79,SNR=10.0
Q28A Sharon Springs 78.70 337 ⇑P P 15 38 55.5 +1.7
baz=79
SDCO Great Sand Dun 78.76 334 eP P 15 38 54.9 +0.5
comp=Z,4.7nm,0.9s
MDV Middlebury 78.82 360 eP P 15 38 54.0 -0.2
S23A Nye Farm, Mont 78.90 334 ⇑P P 15 38 57.0 +1.8
baz=79
R24A Sanders Place, 79.05 334 ⇓P P 15 38 57.4 +1.5
baz=79,SNR=10
Y12C Blythe 79.05 325 ⇑P P 15 38 57.5 +1.8
baz=79
Q26A Hugo 79.12 336 ⇓P P 15 38 57.7 +1.5
baz=80
WUAZ Wupatki 79.13 329 eP P 15 38 57.5 +1.1
comp=Z,5.3nm,0.8s
WUAZ Wupatki 79.13 329 ⇑P P 15 38 57.9 +1.5
baz=80
S22A 4UR Ranch, Cre 79.24 333 ⇓P P 15 38 58.4 +1.3
baz=80
R23A Moffat 79.27 334 ⇑P P 15 38 58.6 +1.4
baz=80
Q25A Bedland, Calha 79.36 335 ⇓P P 15 38 59.5 +1.9
baz=80
P27A Ficken Ranch, 79.39 337 ⇓P P 15 38 59.1 +1.5
baz=80
JFWS Jewell Farm 79.40 347 eP P 15 38 57.8 +0.4
JFWS pmax pmax
comp=Z,19nm,1.0s
JFWS Jewell Farm 79.40 347 eP P 15 38 57.8 +0.4
comp=Z,19nm,1.0s
BC3 Big Chuckawall 79.41 325 ⇑P P 15 38 59.8 +2.0
baz=80
MVCO Mesa Verde 79.41 332 eP P 15 38 58.5 +0.6
comp=Z,13nm,1.3s
MVCO Mesa Verde 79.41 332 ⇑P P 15 38 59.4 +1.5
baz=80
P26A Davis Ranch, A 79.64 336 ⇑P P 15 39 00.4 +1.3
baz=80
IRM Iron Mountain 79.68 325 ⇑P P 15 39 00.4 +1.2
baz=80
Q24A Divide 79.72 335 ⇓P P 15 39 01.4 +1.7
baz=80
PFO Pinyon Flat Ob 79.85 324 ⇑P P 15 39 02.0 +1.7
baz=80
P25A Willow Gulch B 79.87 336 ⇓P P 15 39 01.7 +1.4
baz=80,SNR=5.4
BOSA Boshof 79.88 118 eP P 15 39 00.4 -0.4
BOSA *PP pP 15 39 11.5 +0.5
BOSA pmax pmax
comp=Z,28nm,1.0s
BOSA Boshof 79.88 118 P P 15 39 00.6 -0.2
comp=Z,23nm,0.7s,baz=248,slow=4.1,SNR=49
BOSA pP pP 15 39 11.4 +0.5
comp=Z,14nm,0.9s,baz=276,slow=2.1,SNR=6.4
BOSA Boshof 79.88 118 eP P 15 39 00.4 -0.4
comp=Z,28nm,1.0s
BOSA pP pP 15 39 11.4 +0.5
N29A Votaw Ranch, W 79.93 339 ⇑P P 15 39 02.4 +1.9

baz=80
M31A Lambtecht Ranc 79.94 340 ⇑P P 15 39 02.2 +1.7
baz=80
MURC Murrieta 80.20 323 ⇑P P 15 39 03.7 +1.6
baz=81
PV01 Paradox Valley 80.24 332 eP P 15 39 03.8 +1.3
comp=Z,549nm,1.2s
U15A North Rim 80.29 328 ⇓P P 15 39 04.2 +1.3
baz=81,SNR=7.6
N27A Anderson Farm, 80.51 337 ⇓P P 15 39 05.2 +1.5
baz=81
ISCO Idaho Springs 80.62 335 ⇓P P 15 39 06.0 +1.5
baz=81
L31A Butterfield Fa 80.68 340 ⇑P P 15 39 06.6 +2.2
baz=81
N26A Koester Ranch, 80.75 337 ⇓P P 15 39 05.7 +0.8
baz=81
P22A Eagle 80.85 334 ⇓P P 15 39 07.1 +1.4
baz=81
L29A Maesberg Ranch 81.04 339 ⇑P P 15 39 07.7 +1.4
baz=81
O23A Lake Granby, G 81.10 335 ⇑P P 15 39 07.9 +0.9
baz=82,SNR=6.6
O22A Kremmling 81.27 334 ⇑P P 15 39 08.7 +0.7
baz=82,SNR=5.2
K30A Basset 81.35 340 ⇑P P 15 39 08.6 +0.5
baz=82,SNR=5.3
ECSD EROS Data Cent 81.56 343 eP P 15 39 09.2 +0.1
comp=Z,19nm,0.8s
ECSD EROS Data Cent 81.56 343 ⇑P P 15 39 09.6 +0.6
baz=82,SNR=14
SHPR Sheep Range 81.62 327 eP P 15 39 10.8 +1.1
comp=Z,3.7nm,1.0s
CCUT Cedar City 81.70 328 eP P 15 39 11.6 +1.4
comp=Z,10nm,1.2s
N23A Red Feather La 81.71 335 ⇓P P 15 39 11.6 +1.4
baz=82
N22A Wattenberg Ran 81.81 335 ⇓P P 15 39 12.3 +1.5
baz=82
M24A Cheyenne 81.84 336 ⇑P P 15 39 12.5 +1.6
baz=82
ARUT Antelope Range 81.93 328 P P 15 39 13.3 +1.9
ARUT Antelope Range 81.93 328 P P 15 39 13.3 +1.9
comp=Z,154nm,1.1s
LBTB Lobatse 82.17 115 eP P 15 39 12.6 -0.5
LBTB pmax pmax
comp=Z,6.0nm,0.8s
LBTB Lobatse 82.17 115 eP P 15 39 12.6 -0.5
comp=Z,6.2nm,0.8s
J29A Okreek 82.23 340 ⇓P P 15 39 13.6 +1.0
baz=83
M22A Cedar Creek Ra 82.39 335 ⇓P P 15 39 15.3 +1.5
baz=83
I30A Oacoma 82.45 341 ⇓P P 15 39 14.5 +0.8
baz=83
N20A Spence Gulch, 82.48 333 ⇑P P 15 39 14.6 +0.4
baz=83
ISA Isabella 82.49 324 ⇓P P 15 39 15.1 +0.9
baz=83
J28A Allard Ranch, 82.50 339 ⇑P P 15 39 15.8 +1.7
baz=83
J27A Elkhorn Farm, 82.57 339 ⇑P P 15 39 15.8 +1.3
baz=83
L23A Garrett 82.72 336 ⇑P P 15 39 16.1 +0.7
baz=83
L22A Ellis Ranch, M 82.89 335 ⇓P P 15 39 17.5 +1.2
baz=83
VES Vestal, Richgr 82.92 324 ⇓P P 15 39 17.4 +1.0
baz=83
J26A Sides Ranch, S 82.95 338 ⇑P P 15 39 17.5 +1.1
baz=83
I28A Midland 83.01 340 ⇓P P 15 39 17.6 +0.9
baz=83
GRAC Grapevine Rang 83.04 325 ⇓P P 15 39 17.6 +0.6
baz=83
J25A Sunshine Ranch 83.25 338 ⇑P P 15 39 19.2 +1.3
baz=84
K23A Bowen Ranch, D 83.26 336 ⇑P P 15 39 19.3 +1.2
baz=84
H29A Onida 83.32 340 ⇓P P 15 39 19.1 +0.9
baz=84
I27A Quinn 83.33 339 ⇑P P 15 39 19.6 +1.2
baz=84
R11A Troy Canyon, C 83.33 327 ⇑P P 15 39 19.5 +0.9
baz=84
RCTC Rector, Farmer 83.38 324 ⇓P P 15 39 19.6 +0.9
baz=84
J24A Dixon Ranch, L 83.46 337 ⇑P P 15 39 20.5 +1.3
baz=84
K22A Casper 83.47 335 eP P 15 39 19.4 +0.2
comp=Z,11nm,1.1s
K22A Casper 83.47 335 ⇓P P 15 39 20.6 +1.4
baz=84
JLU Jordanelle 83.50 331 eP P 15 39 20.1 +0.6
comp=Z,5.3nm,0.8s
G30A Faulkton 83.50 341 ⇑P P 15 39 20.6 +1.4
baz=84
DUG Dugway 83.70 330 eP P 15 39 21.5 +1.1
DUG pmax pmax
comp=Z,48nm,1.1s
DUG Dugway 83.70 330 eP P 15 39 21.5 +1.1
comp=Z,48nm,1.1s
DUG Dugway 83.70 330 ⇓P P 15 39 21.6 +1.1
baz=84,SNR=10
K21A Alcova 83.71 335 ⇓P P 15 39 21.2 +0.7
baz=84,SNR=6.9
I25A Rochford 83.79 338 ⇑P P 15 39 22.1 +1.3
baz=84
TPH Tonopah 83.85 326 eP P 15 39 22.7 +1.4
TPH pmax pmax
comp=Z,6.0nm,1.1s
TPH Tonopah 83.85 326 eP P 15 39 22.6 +1.4
comp=Z,6.1nm,1.1s
H27A Howes 83.86 339 ⇑P P 15 39 21.1 +0.1
baz=84
G28A Parade 83.93 340 ⇓P P 15 39 22.1 +0.7
baz=84
F30A Leola 84.13 342 ⇑P P 15 39 23.1 +0.8
baz=84
J22A Midwest 84.13 336 ⇓P P 15 39 23.1 +0.5
baz=84
H25A Fruitdale 84.30 338 ⇑P P 15 39 24.7 +1.4
baz=85
F29A Eureka 84.34 341 ⇓P P 15 39 24.5 +1.2
baz=85
I22A 9 Mile Ranch, 84.56 336 ⇓P P 15 39 25.1 +0.4
baz=85,SNR=5.8
G26A Maurine 84.61 339 ⇓P P 15 39 25.5 +0.7
baz=85
F28A McLaughlin 84.61 341 ⇑P P 15 39 25.8 +1.0
baz=85
J20A Shoshoni 84.63 335 ⇑P P 15 39 25.8 +0.7
baz=85
NVAR Mina Array Bea 84.63 326 P P 15 39 26.2 +0.9
comp=Z,1.7nm,0.8s,baz=151,slow=6.3,SNR=10.0
NVAR pP pP 15 39 34.7 -0.8
comp=Z,1.9nm,0.8s,baz=172,slow=7.1,SNR=6.3
PDAR Pinedale Array 84.64 334 P P 15 39 24.0 -1.3
comp=Z,1.4nm,0.7s,baz=128,slow=6.4,SNR=9.6
H24A Dirks Ranch, A 84.70 338 ⇓P P 15 39 26.2 +0.9
baz=85
G25A Newell 84.76 339 ⇑P P 15 39 26.9 +1.3
baz=85
I21A Big Trails, Te 84.76 336 ⇑P P 15 39 26.5 +0.7
baz=85,SNR=8.4
J19A Crowheart 84.89 334 ⇑P P 15 39 26.9 +0.4
baz=85,SNR=7.2
F27A Lemmon 84.97 340 ⇓P P 15 39 27.2 +0.6
baz=85
TOA0 Torodi Ar. Sit 84.99 70 eP P 15 39 25.1 -2.3
TORD Torodi Ar. Bea 84.99 70 P P 15 39 27.1 -0.3
comp=Z,6.7nm,0.7s,baz=262,slow=4.2,SNR=46
HVU Hansel Valley 85.02 331 eP P 15 39 27.0 -0.1
HVU pmax pmax
comp=Z,7.0nm,0.9s
HVU Hansel Valley 85.02 331 eP P 15 39 27.0 -0.1
comp=Z,7.2nm,0.9s
F26A Lodgepole 85.14 339 ⇓P P 15 39 28.5 +1.1
baz=86
I20A Worland 85.17 335 ⇓P P 15 39 28.5 +0.8
baz=86,SNR=9.9
G24A Alzada 85.18 338 ⇓P P 15 39 28.4 +0.6
baz=86
D30A Buchanan 85.25 342 ⇓P P 15 39 28.6 +0.7
baz=86
G23A Biddle 85.37 337 ⇑P P 15 39 29.4 +0.7
baz=86
F25A Bowman 85.44 339 ⇓P P 15 39 29.7 +0.8
baz=86
I19A Meeteetse 85.55 335 ⇑P P 15 39 30.7 +1.0
baz=86
H20A Greybull 85.59 335 ⇑P P 15 39 30.2 +0.4
baz=86,SNR=13
F24A Ekalaka 85.66 338 ⇓P P 15 39 30.2 +0.1
baz=86
AGMN Agassiz Nation 85.69 345 ⇑P P 15 39 30.3 +0.2
baz=86
C30A Mose, Pekin 85.73 343 ⇓P P 15 39 31.0 +0.7
baz=86,SNR=7.9
D28A Regan 85.79 341 ⇓P P 15 39 31.0 +0.4
baz=86
F23A Volborg 85.84 338 ⇑P P 15 39 31.7 +0.7
baz=86
E25A Miller Ranch, 85.94 339 ⇑P P 15 39 32.6 +1.2
baz=86
D27A Center 85.97 341 ⇓P P 15 39 32.2 +0.7
baz=86
G21A Lodge Grass 85.98 336 ⇓P P 15 39 31.9 +0.2
baz=86
H19A Powell 86.10 335 ⇓P P 15 39 32.7 +0.3
baz=86,SNR=7.9
D26A Manning 86.15 340 ⇑P P 15 39 32.9 +0.5
baz=86,SNR=6.6
F22A Rosebud 86.16 337 ⇓P P 15 39 32.9 +0.4
baz=87,SNR=6.1
E24A Baker 86.26 339 ⇓P P 15 39 33.6 +0.5
baz=87
G20A Bridger 86.31 336 ⇓P P 15 39 33.5 +0.1
baz=87,SNR=9.9
H18A Shoshone NF, C 86.34 334 ⇑P P 15 39 33.9 +0.2
baz=87,SNR=15
B30A Myrvik Farm, E 86.40 343 ⇑P P 15 39 34.1 +0.5
baz=87,SNR=15
D25A Fairfield 86.51 340 ⇑P P 15 39 35.0 +0.8
baz=87
C27A Sayler Ranch, 86.52 341 ⇓P P 15 39 35.1 +0.8
baz=87,SNR=6.0
RLMT Red Lodge 86.59 335 eP P 15 39 34.9 0.0
comp=Z,5.6nm,0.7s
E22A Miles City 86.65 338 ⇓P P 15 39 35.7 +0.8
baz=87
B29A Wagenman Farm, 86.66 342 ⇓P P 15 39 35.7 +0.9
baz=87
D24A Glendive 86.77 339 ⇓P P 15 39 36.5 +1.0
baz=87
C26A Wahner Farm, P 86.78 341 ⇑P P 15 39 35.8 +0.3
baz=87,SNR=5.3
YMR Madison River 86.80 334 eP P 15 39 36.5 +0.6
comp=Z,10nm,0.8s
A30A Hoffart Farm, 86.85 343 ⇓P P 15 39 36.2 +0.4
baz=87
B28A Dugan Ranch, T 86.90 342 ⇓P P 15 39 36.8 +0.8
baz=87,SNR=5.9
LAO LASA Array 86.96 338 eP P 15 39 36.8 +0.4
comp=Z,16nm,1.1s
A29A Manning Farm, 87.05 343 ⇓P P 15 39 37.3 +0.5
baz=88,SNR=6.8
D23A Lindsay 87.08 338 ⇑P P 15 39 37.8 +0.7
baz=88
QLMT Earthquake Lak 87.11 333 eP P 15 39 39.0 +1.6
comp=Z,0.7nm,0.8s
F19A Roth Farm, Mol 87.11 335 ⇓P P 15 39 37.8 +0.5
baz=88
C24A Savage 87.17 339 ⇓P P 15 39 38.2 +0.8
baz=88,SNR=13
HLID Hailey 87.17 331 ⇓P P 15 39 38.6 +0.9
baz=88,SNR=6.6
A28A Rude Farm, Bot 87.30 342 ⇓P P 15 39 38.9 +0.9
baz=88
D22A Cohagen 87.36 338 ⇓P P 15 39 39.5 +1.1
baz=88
E20A Meyer Farm, Mu 87.41 336 ⇑P P 15 39 39.3 +0.7
baz=88,SNR=8.6
ULM Lac du Bonnet 87.54 345 P P 15 39 38.8 -0.3
comp=Z,7.1nm,0.8s,baz=199,slow=4.8,SNR=9.6
MCMT McKenzie Canyo 87.63 333 eP P 15 39 41.0 +1.0
comp=Z,2.2nm,0.8s
C23A Lambert 87.64 339 ⇓P P 15 39 40.3 +0.6
baz=88,SNR=5.7
A26A Wade Farm, Ken 87.75 341 ⇑P P 15 39 40.4 +0.3
baz=88
C22A Vida 87.80 338 ⇓P P 15 39 40.9 +0.5
baz=88
D20A Manuel Ranch, 87.93 337 ⇓P P 15 39 42.0 +0.9
baz=88
DGMT Dagmar 87.95 340 eP P 15 39 41.6 +0.5
comp=Z,33nm,1.0s
DGMT Dagmar 87.95 340 ⇓P P 15 39 42.1 +1.0
baz=88
A25A Svangstu Ranch 88.07 340 ⇓P P 15 39 42.8 +1.2
baz=88
B23A Brockton 88.18 339 ⇓P P 15 39 43.5 +1.2
baz=89
LRM Limekiln Ridge 88.33 333 eP P 15 39 44.0 +0.7
comp=Z,119nm,1.6s
B22A Reddig Ranch S 88.33 338 ⇓P P 15 39 43.5 +0.6
baz=89
C19A Slack Wire Ran 88.79 336 ⇓P P 15 39 46.1 +0.9
baz=89
A22A Carney Farms, 88.92 339 ⇑P P 15 39 46.9 +1.2
baz=89
M04C Macdoel 88.94 325 ⇑P P 15 39 46.6 +0.5
baz=89
EGMT Eagleton 89.28 336 ⇑P P 15 39 47.8 +0.4
baz=90
A20A Cobblestone Ra 89.44 338 ⇓P P 15 39 48.5 +0.3
baz=90
A19A Klindworth Far 89.74 337 ⇓P P 15 39 50.1 +0.5
baz=90
SCHQ Schefferville 89.79 3 P P 15 39 48.0 -1.6
comp=Z,4.1nm,1.0s,baz=225,slow=5.3,SNR=3.3
J05D Fort Rock, OR 89.84 327 ⇑P P 15 39 51.2 +0.9
baz=90
SLMT Seeley Lake 89.92 333 eP P 15 39 51.0 +0.4
comp=Z,21nm,1.8s
I05D Terrebonne, OR 90.72 327 ⇓P P 15 39 55.7 +1.4
baz=91
NEW Newport 92.13 332 ⇑P P 15 40 01.3 +0.7
baz=92
MDT Midelt 92.87 51 P P 15 40 05.4 +0.8
comp=Z,2.8nm,0.9s,baz=246,slow=4.2,SNR=2.8
ESDC Sonseca Array 97.69 46 pP pP 15 40 37.4 +0.7
comp=Z,0.7nm,0.6s,baz=238,slow=4.2,SNR=4.1
DZM Mont Dzumac 100.21 234 eLR LR 16 13 29.2
comp=Z,245nm,27.3s
YKA Yellowknife Ar 103.05 341 Pdiff Pdif 15 40 49.0 -0.6
comp=Z,0.0nm,0.3s,baz=140,slow=4.5,SNR=7.2
YKA pPdiff pPdif 15 40 59.7 -0.1
comp=Z,0.6nm,0.8s,baz=142,slow=4.4,SNR=7.5
YKA PKiKP PKiKP 15 45 07.3 -1.9
comp=Z,0.2nm,0.7s,baz=106,slow=3.8,SNR=5.1
GERES GERESS Array B 113.28 46 PKiKP PKiKP 15 45 28.4 -0.5
comp=Z,0.5nm,0.7s,baz=202,slow=4.9,SNR=3.1
ILAR Eielson Array 115.07 333 PKP PKPdf 15 45 31.5 -0.3
comp=Z,0.3nm,0.8s,baz=107,slow=0.9,SNR=3.4
ILAR pPKP PKiKP 15 45 41.0 +9.2
comp=Z,0.3nm,0.7s,baz=175,slow=2.8,SNR=2.3
VYHS Vyhne 116.19 48 ePKIKP PKPdf 15 45 34.2 -0.2
VYHS Vyhne 116.19 48 ePKP PKPdf 15 45 34.2 -0.2
WRA Warramunga Arr 119.53 209 PKP PKPdf 15 45 40.9 -1.0
comp=Z,0.7nm,0.6s,baz=168,slow=1.5,SNR=6.3
BRTR Keskin Array B 122.76 62 PKP PKPdf 15 45 47.2 -0.3
comp=Z,0.9nm,0.7s,baz=200,slow=2.4,SNR=5.2
AKASG Malin Array Be 123.29 48 PKP PKPdf 15 45 46.4 -1.6
comp=Z,0.7nm,0.5s,baz=259,slow=2.8,SNR=9.7
AKASG pPKP pPKPdf 15 45 57.3 -1.2
comp=Z,1.1nm,0.8s,baz=259,slow=2.6,SNR=2.4
FINES FINESS Array B 124.20 35 PKP PKPdf 15 45 48.8 -0.5
comp=Z,2.7nm,0.8s,baz=186,slow=3.8,SNR=6.1
FINES pPKP pPKPdf 15 45 60.0 +0.1
comp=Z,1.8nm,0.9s,baz=348,slow=4.8,SNR=2.2
ARCES ARCESS Array B 125.26 25 PKP PKPdf 15 45 50.5 -0.7
comp=Z,1.7nm,0.7s,baz=270,slow=2.2,SNR=5.4
H11S2 WAKE ISLAND Hyl 25.34 269 T T 18 03 50.6
baz=118,slow=74,SNR=9.8
H11S1 WAKE ISLAND Hyl 25.36 269 T T 18 03 51.7
baz=118,slow=74,SNR=9.0
H11S3 WAKE ISLAND Hyl 25.36 269 T T 18 03 51.9
baz=118,slow=74,SNR=8.6
H11N3 WAKE ISLAND Hyl 25.78 270 T T 18 04 18.4
baz=116,slow=78,SNR=5.8
H11N1 WAKE ISLAND Hyl 25.80 270 T T 18 04 19.0
baz=116,slow=78,SNR=16
H11N2 WAKE ISLAND Hyl 25.80 270 T T 18 04 20.3
baz=116,slow=78,SNR=7.9
KLMR Klimovskoe 130.60 37 ePKIKP PKPdf 15 46 00.3 -1.3
KLMR pmax pmax
comp=Z,29nm,2.0s
TIXI Tiksi 141.79 349 ePKHKP PKPpre 15 46 15.2
TIXI Tiksi 141.79 349 ePKPpre PKPpre 15 46 15.2
ABKAR Akbulak array 142.73 53 ePKPpre PKPpre 15 46 19.5
PSI Prapat 146.81 164 PKPbc PKPdf 15 46 33.1 +0.4
comp=Z,12nm,0.9s,baz=125,slow=1.2,SNR=8.7
BRVK Borovoye 148.35 44 ePKIKP PKPdf 15 46 34.0 +0.1
BRVK Borovoye 148.35 44 ePKPdf PKPdf 15 46 34.0 +0.1
KBL Kabul 148.59 80 ePKP2 PKPbc 15 46 38.9 0.0
KBL Kabul 148.59 80 ePKPbc PKPbc 15 46 38.9 0.0
HYB Hyderabad 148.78 117 i PKP PKPbc 15 46 38.5 -1.1
YAK Yakutsk 149.71 339 ePKIKP PKPdf 15 46 34.7 -1.0
YAK pmax pmax
comp=Z,24nm,1.3s
YAK Yakutsk 149.71 339 ePKPbc PKPbc 15 46 40.0 -0.5
KKAR Karatay Array 150.46 63 ePKIKP PKPbc 15 46 42.5 -0.5
KKAR Karatay Array 150.46 63 ePKPbc PKPbc 15 46 42.5 -0.5
AML Almayashu 152.85 65 P PKPbc 15 46 49.6 +0.6
SNR=6.7
EKS2 Erkin-Say 152.88 64 P PKPbc 15 46 49.2 +0.5
SNR=6.9
EKS2 Erkin-Say 152.88 64 ePKIKP PKPbc 15 46 48.8 +0.1
EKS2 Erkin-Say 152.88 64 ePKPbc PKPbc 15 46 48.8 +0.1
USP Ospenovka 153.35 62 P PKPbc 15 46 49.5 0.0
SNR=6.3
AAK Ala-Archa 153.41 64 P PKPbc 15 46 50.4 +0.5
SNR=9.8
AAK Ala-Archa 153.41 64 ePKIKP PKPbc 15 46 50.1 +0.2
AAK 15 47 01.7
AAK Ala-Archa 153.41 64 PKPbc PKPbc 15 46 50.4 +0.5
comp=Z,4.0nm,0.7s,baz=243,slow=4.5,SNR=20
AAK PKPab PKPab 15 47 01.7 -0.5
comp=Z,10nm,0.8s,baz=234,slow=3.2,SNR=17
AAK Ala-Archa 153.41 64 ePKPbc PKPbc 15 46 50.0 +0.2
AAK PKPab PKPab 15 47 01.7 -0.5
UCH Uchtor 153.46 65 P PKPbc 15 46 50.7 +0.4
SNR=7.9
KURK Kurchatov 154.02 44 ePKIKP PKPdf 15 46 42.2 -0.4
KURK e 15 46 50.5
KURK Kurchatov 154.02 44 ePKPdf PKPdf 15 46 42.2 -0.4
KURK ePKPbc PKPbc 15 46 50.5 -0.2
NVS Novosibirsk 154.16 33 ⇑i PKIKP PKPbc 15 46 49.9 -0.9
NVS pmax pmax
comp=Z,8.0nm,1.0s
KSH Kashi 154.66 71 ePKPbc PKPbc 15 46 52.5 -0.1
KSH epPKP PKPab 15 47 02.8 -4.8
KSH esPKP 15 47 06.8
KSH ePP PP 15 51 03.0 +19
KSH eSKS SKSdf 15 53 54.5 +6.1
ZAA0 Zalesovo Array 155.44 33 ePKPdf PKPdf 15 46 43.6 -0.8
ZAA0 ePKPbc PKPbc 15 46 53.1
ZALV Zalesovo Beam 155.44 33 PKP PKPdf 15 46 44.0 -0.4
comp=Z,2.7nm,0.8s,baz=273,slow=2.5,SNR=13
ZALV PKPbc PKPbc 15 46 53.5
comp=Z,3.1nm,0.6s,baz=291,slow=3.5,SNR=11
ZALV PKPab PKPab 15 47 11.0 +0.9
comp=Z,3.1nm,0.6s,baz=323,slow=4.6,SNR=5.1
BOD Bodaibo 156.94 351 ePKP2 PKPab 15 47 15.5 -1.0
BOD pmax pmax
comp=Z,8.0nm,1.1s
MK31 Makanchi Array 157.84 51 ePKIKP PKPdf 15 46 47.3 -0.6
MK31 Makanchi Array 157.84 51 ePKPdf PKPdf 15 46 47.3 -0.6
MKAR Makanchi Array 157.84 51 PKP PKPdf 15 46 47.1 -0.7
comp=Z,0.6nm,0.8s,baz=162,slow=0.4,SNR=5.7
MKAR pPKP pPKPdf 15 46 58.0 -0.5
comp=Z,0.9nm,0.8s,baz=322,slow=1.2,SNR=5.5
MKAR PKPab PKPab 15 47 20.6 -0.3
comp=Z,2.8nm,0.9s,baz=294,slow=3.9,SNR=8.9
MKAR pPKPab pPKPab 15 47 30.9 -0.2
comp=Z,1.3nm,0.6s,baz=275,slow=3.4,SNR=4.0
CMAR Chiang Mai Arr 161.69 153 PKP PKPdf 15 46 52.9 -0.2
comp=Z,0.6nm,0.9s,baz=253,slow=2.2,SNR=4.2
WMQ Urumqi 162.50 55 ePKP PKPdf 15 46 51.5 -1.7
WMQ LR LR
comp=Z,180nm,23.8s
WMQ LR LR
comp=Z,190nm,20.8s
WMQ LR LR
comp=Z,210nm,20.8s
KSRS Korea Array 163.36 284 PKPab PKPab 15 47 46.4 +1.2
comp=Z,1.5nm,0.8s,baz=84,slow=4.9,SNR=5.4
KSRS pPKPab pPKPab 15 47 55.1 -0.4
comp=Z,1.2nm,0.8s,baz=96,slow=4.5,SNR=5.4
KSAR Wonju Array Be 163.39 284 PKP2 PKPab 15 47 46.4 +1.0
KSAR Wonju Array Be 163.39 284 PKPab PKPab 15 47 46.4 +1.0
KSAR pPKPab pPKPab 15 47 55.1 -0.5
CN2 Changchun 163.70 307 ePKP PKPdf 15 46 55.8 +1.5
ZAK Zakamensk 164.51 10 ePKP2 PKPab 15 47 49.5 -0.3
ZAK pmax pmax
comp=Z,3.0nm,1.5s
SONM Songino Array 167.34 3 PKPab PKPab 15 48 02.3 -0.1
comp=Z,2.6nm,0.9s,baz=334,slow=2.6,SNR=8.7
KMI Kunming 169.17 157 PKP PKPdf 15 46 56.8 -2.6
NJ2 Nanjing 170.01 255 ePKP PKPdf 15 47 00.0 +0.6
GYA Guiyang 171.27 175 PKP PKPdf 15 47 00.8 +0.4
GYA pPKP pPKPdf 15 47 10.5 -0.5
GYA PKPab PKPab 15 48 22.0 +1.7
GYA PKS PKSdf 15 50 31.3 -1.7
GYA PP PP 15 52 14.0 +4.0
GYA SKKS 15 58 55.5
GYA SS SS 16 13 14.0 +1.4
GYA AMB AMB
comp=Z,120nm,8.3s
GYA LR LR
comp=Z,130nm,21.2s
GYA LR LR
comp=Z,120nm,21.8s
GYA LR LR
comp=Z,140nm,24.6s
HHC Hu-ho-hao-te 173.49 331 ePKP PKPdf 15 47 01.8 +0.9
HHC pPKP pPKPdf 15 47 13.0 +1.5
HHC sPKP 15 47 16.5
HHC PP PP 15 52 26.5 +5.1
HHC SKS SKSdf 15 53 59.5 -2.2
HHC SS SS 16 13 36.5 +1.5
HHC AMB AMB
comp=Z,120nm,6.0s
HHC LR LR
comp=Z,130nm,21.2s
HHC LR LR
comp=Z,130nm,20.6s
HHC LR LR
comp=Z,150nm,17.3s
CD2 Chengdu 174.71 143 PKP PKPdf 15 47 00.5 -1.1
CD2 pPKP pPKPdf 15 47 11.3 -0.9
CD2 sPKP 15 47 15.0
CD2 PKS PKSdf 15 50 31.3 -2.5
CD2 PP PP 15 52 29.3 +1.8
CD2 SKS SKSdf 15 53 58.8 -3.6
CD2 SKKS SKKSac 15 59 10.5 -1.4
CD2 SS SS 16 13 44.5 -2.6
CD2 AMB AMB
comp=Z,240nm,6.6s

IDC 28 15:38:27.1±2.5, 7.92S×109.04E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/23, mbtmp4.0/4, Error ellipse: s-maj=130.4km s-min=26.3km az=51.0
ISCJB 28 15:38:35.1±0.4, 8.57S±0.06×108.59E±0.03, h89km±7km, mb4.0/6, Error ellipse: s-maj=9.7km s-min=5.4km az=4.1
NEIC 28 15:38:36.5±0.8, 8.37S×108.60E, h97km±11km, mb4.4/2, Error ellipse: s-maj=18.2km s-min=10.9km az=206.0
DJA 28 15:38:37.8±0.5, 8°S±6'×10°9E±', h65km±9km, M4.4/16, mb4.6/2, mB5.0/1, MLv4.3/16, Mw(mB)4.3/1
ISC 28 15:38:36.2±0.8, 8.60S±0.05×108.60E±0.04, h80km±10km, n44,σ1.65/45, mb4.0/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.83	349	P	Pn	15 38 53.3	0.0
CMJI				S	Sn	15 39 05.1	-0.8
CISI	Cisompet, Garu	1.30	323	P	Pn	15 38 59.1	+0.1
CISI	Cisompet, Garu	1.30	323	eP	Pn	15 38 58.8	-0.2
CISI	Cisompet, Garu	1.30	323	P	Pn	15 38 59.1	+0.1
	baz=1.2,SNR=7.5						
CISI				S	Sn	15 39 15.4	-0.7
	baz=1.2,SNR=9.6						
KPJI	Karang Pucung	1.30	15	P	Pn	15 38 59.1	+0.1
CNJI	Cibinong	1.94	311	P	Pn	15 39 07.6	+0.3
CNJI				S	Sn	15 39 30.5	-0.6
LEM	Lembang	2.02	331	P	Pn	15 39 09.6	+1.1
LEM	Lembang	2.02	331	P	Pn	15 39 09.7	+1.1

	baz=1.9,SNR=37						
LEM				S	Sn	15 39 36.1	+3.1
	baz=1.9,SNR=6.4						
UGM	**Wanagama**	**2.02**	**70**	P	**Pn**	**15 39 08.1**	**-0.3**
UGM				S	**Sn**	**15 39 31.1**	**-1.9**
UGM	**Wanagama**	**2.02**	**70**	P	**Pn**	**15 39 07.9**	**-0.5**
	baz=1.9,SNR=98						
UGM				S	**Sn**	**15 39 30.6**	**-2.3**
	baz=1.9,SNR=7.0						
WOJI	**Wonogiri, Jawa**	**2.42**	**72**	P	**Pn**	**15 39 12.6**	**-1.1**
NGJI	**Ngawi**	**3.08**	**67**	P	**Pn**	**15 39 25.3**	**+2.6**
PWJI	**Pagerwojo**	**3.22**	**80**	P	**Pn**	**15 39 24.3**	**-0.2**
XMI	**Christmas Isla**	**3.41**	**237**	S	**Sn**	**15 40 05.1**	**-1.4**
	baz=3.6,SNR=7.2						
XMIS	**Christmas Isla**	**3.46**	**237**	*e*P	**Pn**	**15 39 28.8**	**+1.0**
XMIS	**Christmas Isla**	**3.46**	**237**	P	**Pn**	**15 39 29.1**	**+1.3**
	baz=3.6,SNR=7.8						
XMIS				S	**Sn**	**15 40 05.6**	**-2.1**
	baz=3.6,SNR=5.9						
CGJI	**Cibinong**	**3.50**	**304**	P	**Pn**	**15 39 28.5**	**+0.2**
GRJI	**Gresik**	**4.19**	**67**	P	**Pn**	**15 39 37.7**	**-0.1**
JAGI	**Jajag, Banyuwa**	**5.49**	**89**	*e*P	**Pn**	**15 39 55.4**	**-0.1**
	54nm,0.3s						
JAGI	**Jajag, Banyuwa**	**5.49**	**89**	P	**Pn**	**15 39 55.5**	**0.0**
	baz=5.4,SNR=72						
MDSI	**Maura Dua**	**6.00**	**313**	P	**Pn**	**15 40 02.7**	**+0.2**
	22nm,0.7s,0.1nm						
SRBI	**Singaraja**	**6.56**	**86**	P	**Pn**	**15 40 10.4**	**+0.3**
MNAI	**Manna**	**7.02**	**307**	*e*P	**Pn**	**15 40 16.0**	**-0.4**
	111nm,0.4s						
MNAI	**Manna**	**7.02**	**307**	P	**Pn**	**15 40 16.1**	**-0.2**
	baz=7.0,SNR=11						
BATI	**Baumata**	**14.95**	**97**	Pn	**Pn**	**15 42 03.2**	**-0.1**
	3.4nm,0.3s,baz=297,slow=4.3,SNR=4.1						
GIRL	**Giralia**	**14.97**	**159**	P	**Pn**	**15 42 04.7**	**+1.2**
	baz=15,SNR=5.9						
GIRL				S	Sn	15 44 42.1	-6.5
	baz=15,SNR=4.9						
FITZ	**Fitzroy Crossi**	**19.06**	**121**	P	**Pn**	**15 42 57.8**	**+3.9**
FITZ	**Fitzroy Crossi**	**19.06**	**121**	P	**Pn**	**15 42 58.5**	**+4.6**
	baz=19,SNR=9.4						
MEEK	**Meekatharra**	**20.30**	**153**	P	Pn	15 43 15.9	+7.5
	baz=20,SNR=10						
MEEK				S	**S**	**15 46 44.7**	**-4.3**
	baz=20,SNR=7.3						
KNRA	**Kununurra**	**20.91**	**112**	P	Pn	15 43 22.6	+6.9
	baz=21,SNR=5.1						
MORW	**Morawa**	**21.53**	**162**	S	**S**	**15 47 14.8**	**+1.5**
	baz=22,SNR=3.6						
WRA	**Warramunga Arr**	**27.33**	**117**	P	**P**	**15 44 13.9**	**+0.1**
	1.2nm,0.9s,baz=291,slow=11,SNR=6.6						
WRAB	**Tennant Creek**	**27.33**	**117**	*e*P	**P**	**15 44 13.7**	**-0.2**
	9.1nm,1.3s						
ASAR	**Alice Springs**	**28.47**	**125**	P	**P**	**15 44 24.7**	**+0.7**
	0.5nm,0.7s,baz=311,slow=8.5,SNR=6.0						
H08S2	**Diego Garcia H**	**35.75**	**269**	T	T	16 24 09.2	
	baz=93,slow=76,SNR=41						
H08S3	**Diego Garcia H**	**35.76**	**269**	T	T	16 24 11.1	
	baz=93,slow=76,SNR=30						
H08S1	**Diego Carcia H**	**35.77**	**269**	T	T	16 24 12.7	
	baz=93,slow=76,SNR=32						
QLP	**Quilpie**	**38.20**	**122**	P	**P**	**15 45 49.6**	**+1.2**
	baz=38,SNR=5.0						
STKA	**Stephens Creek**	**38.40**	**132**	P	**P**	**15 45 51.0**	**+1.0**
	9.3nm,0.5s,baz=306,slow=7.9,SNR=33						
STKA	**Stephens Creek**	**38.40**	**132**	P	**P**	**15 45 50.9**	**+1.0**
	baz=38,SNR=24						
POO	**Poona**	**43.62**	**308**	*e*P	**P**	**15 46 31.0**	**-2.0**
PATS	**Pohnpei**	**51.87**	**74**	P	P	15 47 29.6	-7.3
	baz=52,SNR=3.1						
ULN	**Ulaanbaatar**	**56.23**	**359**	*e*P	P	15 48 02.8	-5.5
	6.4nm,0.9s						
MKAR	**Makanchi Array**	**59.93**	**339**	P	**P**	**15 48 31.8**	**-2.2**
	0.5nm,0.6s,baz=167,slow=7.8,SNR=4.8						

IDC ***28*** *15:39:47.4±0.9, 35°.13S×72°.88W, h0km, mb3.9/6, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, ML3.8/3, MS2.1/1, Ms1 2.1/1, ms1mx2.1/31, Error ellipse: s-maj=39.0km s-min=19.5km az=92.0*
ISCJB ***28*** *15:39:50.7±0.9, 35°.14S±0°.08×72°.9W±0°.2, h33km, mb4.0/6, Error ellipse: s-maj=23.7km s-min=11.1km az=10.2*
NEIC ***28*** *15:39:51.7±7.1, 35°.21S×72°.83W, h29km±46km, mb4.1/2, Error ellipse: s-maj=34.3km s-min=14.7km az=82.0*
ISC 28 15:39:53.0±0.8, 35°.12S±0°.09×72°.7W±0°.1, h35km, n20, σ0§91/22, mb4.0/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.10**	**48**	Pn	**Pn**	**15 41 08.7**	**+1.7**
	0.3nm,0.3s,baz=219,slow=15,SNR=4.0						
CFAA				LR	LR	15 43 10.6	
	comp=Z,18nm,19.4s,baz=226,slow=39						
PLCA	**Paso Flores**	**5.85**	**164**	Pn	**Pn**	**15 41 17.9**	**+0.7**
	1.5nm,0.3s,baz=332,slow=17,SNR=7.7						
TRQA	**Tornquist**	**9.08**	**112**	*e*P	**Pn**	**15 42 00.1**	**-1.5**
CPUP	**Villa Florida**	**15.82**	**61**	*e*P	**P**	**15 43 36.9**	**+0.4**
LPAZ	**La Paz**	**19.19**	**13**	P	**Pn**	**15 44 15.9**	**+0.4**
	0.1nm,0.3s,baz=192,slow=9.6,SNR=4.7						
LPAZ	**La Paz**	**19.19**	**13**	*e*P	**Pn**	**15 44 14.9**	**-0.5**
	3.8nm,0.9s						
SIV	**San Ignacio**	**21.70**	**32**	P	**P**	**15 44 40.4**	**-0.5**
	2.9nm,0.6s,baz=222,slow=9.3,SNR=6.2						
SNAA	**Sanae**	**50.75**	**157**	P	**P**	**15 48 49.4**	**+0.3**
	1.4nm,1.0s,baz=275,slow=9.7,SNR=5.2						
SNAA	**Sanae**	**50.75**	**157**	*e*P	**P**	**15 48 49.3**	**+0.2**
	7.8nm,1.1s						
QSPA	**South Pole Qui**	**55.12**	**180**	P	**P**	**15 49 21.1**	**-0.3**
	1.5nm,0.9s,baz=100,slow=17,SNR=3.3						
TXAR	**Lajitas Array**	**70.46**	**331**	P	**P**	**15 51 03.8**	**-0.1**
	0.3nm,0.6s,baz=157,slow=8.1,SNR=4.6						
BOSA	**Boshof**	**80.01**	**118**	P	**P**	**15 51 59.7**	**+0.5**
	5.0nm,1.0s,baz=224,slow=4.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**85.07**	**70**	P	**P**	**15 52 25.6**	**+0.1**
	1.1nm,0.9s,baz=268,slow=3.5,SNR=5.7						
BRTR	**Keskin Array B**	**122.82**	**62**	PKP	**PKPdf**	**15 58 45.9**	**+0.7**
	0.5nm,0.7s,baz=293,slow=7.7,SNR=2.9						
AKASG	**Malin Array Be**	**123.32**	**48**	PKP	**PKPdf**	**15 58 43.9**	**-1.8**
	0.1nm,0.4s,baz=263,slow=2.2,SNR=5.3						
KAPI	**Kappang**	**138.41**	**199**	PKP	**PKPdf**	**15 59 14.7**	**-0.6**
	11nm,0.3s						
BVAR	**Borovoye Array**	**148.45**	**44**	PKPbc	**PKPbc**	**15 59 36.1**	**+0.8**
	baz=318,slow=1.9						
AAK	**Ala-Archa**	**153.48**	**64**	PKPbc	**PKPbc**	**15 59 48.5**	**+0.8**
ZALV	**Zalesovo Beam**	**155.44**	**33**	PKP	**PKPdf**	**15 59 41.1**	**-1.0**
	0.2nm,0.3s,baz=358,slow=8.7,SNR=2.4						
ZALV				PKPab	**PKPab**	**16 00 07.0**	**-0.8**
	0.4nm,0.4s,baz=336,slow=3.2,SNR=3.6						
MKAR	**Makanchi Array**	**157.88**	**51**	PKP	**PKPdf**	**15 59 44.3**	**-1.2**
	0.1nm,0.5s,baz=283,slow=1.7,SNR=2.4						
MKAR				PKPab	**PKPab**	**16 00 18.9**	**+0.2**
	0.3nm,0.6s,baz=340,slow=1.9,SNR=2.8						

CSEM ***28*** *15:46:15.3±0.6, 50°.24N×18°.91E, h2km, Error ellipse: s-maj=14.4km s-min=6.4km az=12.0*
PRU 28 15:46:15.8, 50°.28N×18°.97E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.54**	**96**	*e*Pg	Pg	15 46 24.6	-1.5
OJC				*e*Sg	Sg	15 46 32.1	-1.0
OKC	**Ostrava-Krasne**	**0.69**	**230**	*e*PG	Pg	15 46 27.6	-1.5
OKC				*e*SG	Sg	15 46 36.3	-1.7
	3.7nm,0.3s						
OKC	**Ostrava-Krasne**	**0.69**	**230**	Pg	Pg	15 46 27.6	-1.5
OKC				Sg	Sg	15 46 36.3	-1.7
	3.7nm,0.3s						
DPC	**Dobruska-Polom**	**1.70**	**273**	*e*PG	Pn	15 46 46.3	-0.5
DPC				*e*SG	Sg	15 47 10.6	0.0
DPC	**Dobruska-Polom**	**1.70**	**273**	Pg	Pn	15 46 46.3	-0.5
DPC				Sg	Sg	15 47 10.6	0.0
STHS	**Stebnicka Huta**	**1.71**	**120**	*e*PN	Pn	15 46 46.6	-0.2
STHS				*e*SN	Sb	15 47 10.3	+0.2
STHS	**Stebnicka Huta**	**1.71**	**120**	*e*Pn	Pn	15 46 46.6	-0.2
STHS				*e*Sn	Sb	15 47 10.3	+0.2
VYHS	**Vyhne**	**1.79**	**183**	*e*PN	Pn	15 46 46.1	-1.9
VYHS				*e*SN	Sn	15 47 10.2	-1.2
VYHS	**Vyhne**	**1.79**	**183**	*e*Pn	Pn	15 46 46.1	-1.9
VYHS				*e*Sn	Sn	15 47 10.2	-1.2
UPC	**Upice**	**1.91**	**278**	*e*SG	Sg	15 47 17.7	+0.6
UPC	**Upice**	**1.91**	**278**	Sg	Sg	15 47 17.7	+0.6
KHC	**Kasperske Hory**	**3.68**	**254**	*e*SG	Sg	15 48 12.5	-1.8
KHC	**Kasperske Hory**	**3.68**	**254**	Sg	Sg	15 48 12.5	-1.8

SJA ***28*** *15:46:11.8±0.6, 34°.42S×73°.51W, h34km±63km, ML4.8*
IDC ***28*** *15:46:19.1±0.4, 35°.05S×72°.38W, h0km, mb4.9/16, mb1 5.0/18, mb1mx4.8/25, mbtmp4.9/18, ML4.5/2, MS4.5/12, Ms1 4.5/12, ms1mx4.2/38, Error ellipse: s-maj=20.6km s-min=12.6km az=71.0*
NEIC ***28*** *15:46:21.3±0.3, 34°.80S×72°.22W, mb5.2/83, Error ellipse: s-maj=10.6km s-min=7.7km az=65.0*
NEIC Felt at Rancagua and Santiago.
ISCJB ***28*** *15:46:22.5±0.4, 34°.43S±0°.07×72°.29W±0°.05, h16km, mb5.1/100, MS4.6/12, Error ellipse: s-maj=11.4km s-min=4.1km az=157.0*
BJI ***28*** *15:46:24.2, 35°.13S×72°.51W, h35km, mB5.2/12, Ms5.3/9, Ms7 5.3/8*
GUC ***28*** *15:46:24.7±0.3, 34°.23S×72°.18W, h14km±4km, ML4.8*
MOS ***28*** *15:46:25.5±1.2, 34°.18S×72°.52W, h33km, mb5.3/25, Error ellipse: s-maj=27.3km s-min=9.8km az=102.6*
ISC 28 15:46:22.0±0.3, 34°.73S±0°.06×72°.04W±0°.06, h16km, n679, σ1§24/663, mb5.1/101, MS4.6/12, 192C-197D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**1.41**	**41**	*e*P	**Pn**	**15 46 46.3**	**-0.7**
PCH	**Pirque**	**1.68**	**49**	*i* P	**Pb**	**15 46 52.3**	**-0.3**
SAN	**Santiago**	**1.71**	**42**	*e*P	**Pn**	**15 46 51.5**	**+0.3**
SAN				*i* S	**Sn**	**15 47 12.0**	**-0.8**
PEL	**Peldehue**	**1.94**	**36**	*e*P	**Pn**	**15 46 54.5**	**+0.1**
PEL				*i* S	**Sn**	**15 47 17.1**	**-1.4**
PEL				AML	AML	15 47 25.2	
	comp=N,26µm,0.4s						
ROCH	**El Roble**	**1.95**	**26**	*e*P	**Pn**	**15 46 53.0**	**-1.6**
ROCH				*i* S	**Sn**	**15 47 15.1**	**-3.8**
ROCH				AML	AML	15 47 27.7	
	comp=N,13µm,0.4s						
FCH	**Farellones**	**2.02**	**47**	AML	AML	15 47 42.1	
	comp=E,13µm,0.3s						
AAGR	**Agrelo**	**3.13**	**59**	*i* P	**Pb**	**15 47 15.8**	**-1.6**
AAGR				*i* P	**Pb**	**15 47 15.8**	**-1.6**
AVIZ	**Vizcacheras**	**3.18**	**68**	*i* P	**Pb**	**15 47 17.5**	**-0.7**
ARCO	**CERRO ARCO**	**3.20**	**55**	*i* P	**Pb**	**15 47 16.3**	**-2.3**
ARCO				*i* S	**Sg**	**15 48 03.4**	**-1.4**
ARCO				AML	AML	15 48 07.8	
	comp=Z,1µm,0.5s						
AUSP	**Uspallata**	**3.34**	**42**	*i* P	**Pn**	**15 47 15.3**	**+1.5**
ASAL	**Salagasta**	**3.42**	**52**	*i* P	Pb	15 47 18.9	-3.3
RTLS	**Leoncito**	**3.72**	**39**	*i* P	**Pn**	**15 47 20.4**	**+1.4**
RTCV	**Cerro Valdivia**	**4.09**	**47**	*i* P	**Pn**	**15 47 26.7**	**+2.7**
CFAA	**Coronel Fontan**	**4.46**	**47**	Pn	**Pn**	**15 47 31.2**	**+2.3**
	comp=Z,4.4nm,0.3s,baz=228,slow=12,SNR=19						
RTLL	**Cerro Villicun**	**4.52**	**42**	*i* P	**Pn**	**15 47 31.2**	**+1.3**
PLCA	**Paso Flores**	**6.11**	**169**	Pn	Pn	15 47 46.1	-5.6
	comp=Z,4.4nm,0.3s,baz=339,slow=10,SNR=14						
PLCA	**Paso Flores**	**6.11**	**169**	*e*	Pn	15 47 45.7	-5.9
TRQA	**Tornquist**	**8.76**	**115**	P	Pn	15 48 24.3	-3.7
	comp=Z,141nm,1.1s						
TRQA				*e*		15 48 34.0	
LVC	**Limon Verde**	**12.38**	**14**	*e*P	Pn	15 49 09.5	-8.4
	comp=Z,42nm,0.9s						
CPUP	**Villa Florida**	**15.18**	**60**	P	Pn	15 49 49.8	-5.8
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CPUP	**Villa Florida**	**15.18**	**60**	Pn	**Pn**	**15 49 55.4**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=240,slow=14,SNR=2.3						
CPUP				LR	LR	15 55 19.2	
	comp=Z,632nm,22.0s,baz=222,slow=35						
CPUP	**Villa Florida**	**15.18**	**60**	P	Pn	15 49 49.8	-5.8
	comp=Z,4.1nm,0.8s						
LPAZ	**La Paz**	**18.70**	**12**	*e*P	**P**	**15 50 37.7**	**-2.6**
LPAZ				pmax	pmax		
	comp=Z,49nm,0.8s						
LPAZ	**La Paz**	**18.70**	**12**	P	**P**	**15 50 38.6**	**-1.7**
	comp=Z,1.3nm,0.3s,baz=186,slow=9.2,SNR=30						
LPAZ	**La Paz**	**18.70**	**12**	*e*P	**P**	**15 50 37.6**	**-2.6**
	comp=Z,49nm,0.8s						
USHA	**Ushuaia**	**20.26**	**174**	P	**P**	**15 50 52.9**	**-3.5**
	comp=Z,0.7nm,0.3s,baz=346,slow=8.3,SNR=4.3						
USHA				LR	LR	15 59 05.6	
	comp=Z,1µm,18.5s,baz=341,slow=38						
SIV	**San Ignacio**	**21.10**	**31**	P	**P**	**15 51 03.9**	**-1.9**
	comp=Z,44nm,1.1s,baz=210,slow=7.8,SNR=33						
SIV				LR	LR	16 00 59.0	
	comp=Z,3µm,19.0s,baz=225,slow=41						
NNA	**Nana**	**23.06**	**348**	*e*P	**P**	**15 51 26.3**	**-0.5**
NNA				*e*		15 51 33.0	
NNA				pmax	pmax		
	comp=Z,98nm,1.5s						
NNA	**Nana**	**23.06**	**348**	P	**P**	**15 51 26.5**	**-0.3**
	comp=Z,12nm,1.0s,baz=180,slow=9.1,SNR=3.7						
NNA				LR	LR	15 58 49.3	
	comp=Z,792nm,18.0s,baz=137,slow=32						
NNA	**Nana**	**23.06**	**348**	*e*P	**P**	**15 51 26.3**	**-0.5**
	comp=Z,98nm,1.5s						
NNA				*e*		15 51 33.0	
SAML	**Samuel**	**26.91**	**20**	*e*P	P	15 51 55.3	-7.1
	comp=Z,30nm,1.2s						
SAML				*e*		15 52 00.5	
BDFB	**Brasilia**	**28.75**	**55**	P	**P**	**15 52 18.5**	**-0.5**
	comp=Z,12nm,0.8s,baz=229,slow=6.8,SNR=16						
BDFB				LR	LR	16 04 48.0	
	comp=Z,2µm,19.0s,baz=222,slow=38						
PMSA	**Palmer Station**	**30.46**	**173**	P	P	15 52 29.0	-4.6
	comp=Z,23nm,0.9s,baz=221,slow=8.0,SNR=1.9						
PMSA				LR	LR	16 04 05.2	
	comp=Z,2µm,21.1s,baz=324,slow=35						
RPN	**Rapa Nui**	**32.74**	**273**	LR	LR	16 02 34.3	
	comp=Z,1µm,18.9s,baz=137,slow=30						
OTAV	**Otavalo**	**35.30**	**349**	*e*P	**P**	**15 53 15.0**	**-1.8**
	comp=Z,45nm,1.5s						
ROSC	**El Rosal**	**39.43**	**356**	P	**P**	**15 53 52.2**	**+0.4**
	comp=Z,7.9nm,0.5s,baz=96,slow=18,SNR=3.0						
ROSC				LR	LR	16 10 12.1	
	comp=Z,371nm,18.4s,baz=211,slow=36						
ROSC	**El Rosal**	**39.43**	**356**	*e*P	**P**	**15 53 51.7**	**-0.1**
ROSC				*e*		15 54 02.3	
RCBR	**Riachuelo**	**44.03**	**58**	P	**P**	**15 54 30.7**	**+1.6**
	comp=Z,5.2nm,0.7s,baz=230,slow=8.6,SNR=3.7						
RCBR				LR	LR	16 13 59.8	
	comp=Z,1µm,20.7s,baz=212,slow=37						
JTS	**JuntasAbangare**	**46.42**	**342**	P	**P**	**15 54 47.9**	**-0.1**
	comp=Z,6.6nm,0.8s,baz=153,slow=15,SNR=3.1						
VNA3	**Neumayer Olymp**	**48.69**	**158**	P	P	15 54 56.1	-8.9
VNA1	**Neumayer--Stat**	**49.00**	**157**	P	P	15 55 00.4	-7.0
SNAA	**Sanae**	**50.91**	**158**	P	**P**	**15 55 18.9**	**-3.1**
SNAA	**Sanae**	**50.91**	**158**	*e*P	**P**	**15 55 19.3**	**-2.7**
SNAA				pmax	pmax		
	comp=Z,63nm,1.3s						
SNAA	**Sanae**	**50.91**	**158**	P	**P**	**15 55 19.7**	**-2.3**
	comp=Z,5.1nm,0.9s,baz=286,slow=6.5,SNR=15						
SNAA	**Sanae**	**50.91**	**158**	*e*P	**P**	**15 55 19.3**	**-2.7**
	comp=Z,63nm,1.3s						
OBIP	**Obispado Ponce**	**52.73**	**6**	P	**P**	**15 55 34.0**	**-2.0**
	comp=Z,50nm,0.9s						
OBIP				*e*		15 55 42.2	
CELP	**Cerrillos**	**52.77**	**7**	*e*P	**P**	**15 55 34.7**	**-1.6**
CELP				*e*		15 55 42.5	
LRS	**Lares**	**52.96**	**6**	*e*P	P	15 55 34.3	-3.4
LRS				*e*		15 55 42.7	
RKT	**Rikitea**	**55.50**	**264**	*e*S	**S**	**16 03 37.7**	**-3.4**
	comp=Z,262nm,32.2s						
RKT				*e*LR	LR	16 12 05.2	
	comp=Z,379nm,29.2s						
RKT	**Rikitea**	**55.50**	**264**	*e*T	T	16 55 42.5	
	comp=Z,1.8nm,0.3s						
QSPA	**South Pole Qui**	**55.51**	**180**	P	P	15 55 52.3	-3.7
	comp=Z,25nm,0.8s,baz=150,slow=5.3,SNR=112						
QSPA	**South Pole Qui**	**55.51**	**180**	*e*P	P	15 55 52.2	-3.8
	comp=Z,43nm,1.0s						
NVL	**N'lazarevskaya**	**55.65**	**156**	*e*P	**P**	**15 55 54.0**	**-2.7**
NVL				*e*S	S	16 03 53.1	+11
NVL				pmax	pmax		
	comp=Z,15nm,0.9s						
NVL				MLR	MLR		
	comp=Z,2µm,16.0s						
SYO	**Syowa Base**	**65.19**	**158**	⇑*e*P	P	15 56 58.3	-3.6
SYO	**Syowa Base**	**65.19**	**158**	⇓*e*pP	pP	15 57 05.3	-1.8
035A	**Encino**	**66.11**	**335**	⇓P	**P**	**15 57 08.9**	**+0.5**
	baz=66,SNR=5.5						
034A	**Hebbronville**	**66.44**	**334**	⇑P	**P**	**15 57 11.0**	**+0.6**
	baz=67,SNR=7.0						
TIGA	**Tifton**	**66.71**	**349**	⇓P	**P**	**15 57 12.8**	**+0.8**
	baz=67						
934A	**Benavides**	**66.87**	**335**	⇓P	**P**	**15 57 13.7**	**+0.5**
	baz=67						
738A	**Farr-Stevens R**	**67.05**	**338**	⇑P	**P**	**15 57 14.7**	**+0.4**
	baz=67						
933A	**Laredo**	**67.15**	**334**	⇓P	**P**	**15 57 15.6**	**+0.6**
	baz=67,SNR=6.2						
TBI	**Tubuai**	**67.15**	**257**	*e*T	T	17 10 10.5	
	comp=Z,5.7nm,0.3s						
835A	**Beeville**	**67.25**	**335**	⇓P	**P**	**15 57 16.6**	**+1.0**
	baz=68						
834A	**Tilden**	**67.36**	**335**	⇓P	**P**	**15 57 17.2**	**+0.9**
	baz=68,SNR=9.7						
735A	**Kenedy**	**67.77**	**336**	⇓P	**P**	**15 57 19.1**	**+0.2**
	baz=68,SNR=12						
833A	**Chaparral WMA,**	**67.84**	**334**	⇓P	**P**	**15 57 19.7**	**+0.4**
	baz=68,SNR=16						
832A	**Faith Ranch, C**	**68.01**	**334**	⇓P	**P**	**15 57 20.7**	**+0.2**
	baz=68,SNR=7.1						
636A	**Smothers Creek**	**68.09**	**337**	⇓P	**P**	**15 57 21.3**	**+0.4**
	baz=68,SNR=12						
HKT	**Hockley**	**68.14**	**338**	P	**P**	**15 57 20.4**	**-0.7**
HKT				pmax	pmax		
	comp=Z,13nm,1.2s						
HKT	**Hockley**	**68.14**	**338**	P	**P**	**15 57 20.4**	**-0.7**
	comp=Z,13nm,1.2s						
635A	**Leesville**	**68.25**	**336**	⇑P	**P**	**15 57 22.1**	**+0.3**
	baz=69						
538A	**Harpers Horsep**	**68.29**	**338**	⇓P	**P**	**15 57 22.6**	**+0.5**
	baz=69						
537A	**Green Hill Far**	**68.41**	**337**	⇓P	**P**	**15 57 23.4**	**+0.6**
	baz=69						
732A	**Laxson Ranch,**	**68.41**	**334**	⇓P	**P**	**15 57 23.1**	**+0.1**
	baz=69,SNR=14						
634A	**China Grove, S**	**68.44**	**335**	⇑P	**P**	**15 57 23.4**	**+0.3**
	baz=69						
GOGA	**Godfrey**	**68.63**	**350**	*e*P	**P**	**15 57 22.3**	**-1.8**
GOGA				*e*		15 57 28.4	
GOGA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GOGA	**Godfrey**	**68.63**	**350**	*e*P	**P**	**15 57 22.3**	**-1.8**
	comp=Z,7.1nm,0.7s						
GOGA				*e*		15 57 28.4	
536A	**Bastrop**	**68.65**	**337**	⇓P	**P**	**15 57 25.0**	**+0.7**
	baz=69						
MEH	**Mehetia**	**68.75**	**263**	*e*T	T	17 12 14.1	
	comp=Z,28nm,0.2s						
535A	**Dale**	**68.77**	**336**	⇓P	**P**	**15 57 25.7**	**+0.6**
	baz=69,SNR=5.0						
438A	**Sam Houston St**	**68.77**	**338**	⇑P	**P**	**15 57 25.5**	**+0.4**
	baz=69						
633A	**Saathoff Ranch**	**68.79**	**335**	⇑P	**P**	**15 57 25.5**	**+0.2**
	baz=69,SNR=10						
LPIG	**La Paz**	**68.86**	**323**	LR	LR	16 20 19.1	
	comp=Z,222nm,21.6s,baz=291,slow=30						
340A	**Bronson**	**68.94**	**340**	⇑P	**P**	**15 57 26.7**	**+0.6**
	baz=69,SNR=6.5						
339A	**Huntington**	**69.05**	**339**	⇑P	**P**	**15 57 27.1**	**+0.3**
	baz=69,SNR=8.3						
632A	**Uvalde**	**69.05**	**334**	⇓P	**P**	**15 57 27.1**	**+0.1**
	baz=69,SNR=19						
534A	**Blanco**	**69.07**	**336**	⇓P	**P**	**15 57 27.5**	**+0.4**
	baz=69,SNR=5.5						
631A	**Perdido Creek**	**69.25**	**334**	⇓P	**P**	**15 57 28.8**	**+0.6**
	baz=70,SNR=9.8						
338A	**Crockett**	**69.29**	**339**	⇑P	**P**	**15 57 29.2**	**+0.9**
	baz=70,SNR=7.9						
533A	**Kerrville**	**69.30**	**335**	⇓P	**P**	**15 57 29.0**	**+0.5**
	baz=70,SNR=9.5						
337A	**Centerville**	**69.43**	**338**	⇓P	**P**	**15 57 30.1**	**+1.0**
	baz=70,SNR=7.3						
435B	**Jarrell**	**69.47**	**337**	⇑P	**P**	**15 57 29.3**	**-0.1**
	baz=70,SNR=5.7						
NATX	**Nacogdoches**	**69.48**	**340**	P	**P**	**15 57 29.7**	**+0.3**
	comp=Z,72nm,0.9s						
NATX				*e*		15 57 34.4	
532A	**Rocksprings**	**69.66**	**334**	⇓P	**P**	**15 57 31.1**	**+0.4**
	baz=70,SNR=60						
239A	**Gary**	**69.67**	**340**	⇑P	**P**	**15 57 31.2**	**+0.6**
	baz=70						
434A	**Burnet**	**69.72**	**336**	⇓P	**P**	**15 57 30.9**	**-0.1**
	baz=70,SNR=18						
336A	**Riesel**	**69.79**	**338**	⇑P	**P**	**15 57 32.1**	**+0.7**
	baz=70,SNR=11						
335A	**Moody**	**69.88**	**337**	⇓P	**P**	**15 57 31.9**	**-0.1**
	baz=70,SNR=8.9						
531A	**Rocksprings**	**69.92**	**334**	⇓P	**P**	**15 57 32.5**	**+0.2**
	baz=70,SNR=11						
JCT	**Junction City**	**69.94**	**335**	*e*P	**P**	**15 57 31.3**	**-1.1**
JCT				*e*		15 57 36.6	
JCT				pmax	pmax		
	comp=Z,42nm,0.8s						
JCT	**Junction City**	**69.94**	**335**	*e*P	**P**	**15 57 31.3**	**-1.1**
	comp=Z,42nm,0.8s						
JCT				*e*		15 57 36.6	
JCT	**Junction City**	**69.94**	**335**	⇑P	**P**	**15 57 32.8**	**+0.4**
	baz=70,SNR=12						
433A	**Art**	**69.95**	**335**	⇑P	**P**	**15 57 32.6**	**+0.2**
	baz=70,SNR=12						
TIAR	**Tiarei**	**69.96**	**262**	*e*T	T	17 13 43.5	
	comp=Z,4.6nm,0.2s						
KMSC	**Kings Mountain**	**70.05**	**352**	⇓P	**P**	**15 57 34.5**	**+1.6**
	baz=70,SNR=5.7						
PAE	**Paea**	**70.10**	**262**	*e*T	T	17 13 54.9	
	comp=Z,1.0nm,0.3s						
PPT2	**Papeete2**	**70.13**	**262**	*e*S	**S**	**16 06 44.5**	**-0.4**
	comp=Z,214nm,24.2s						
PPT2	**Papeete2**	**70.13**	**262**	*e*LR	LR	16 18 47.1	
	comp=Z,499nm,29.0s						
PPT	**Papeete**	**70.14**	**262**	P	**P**	**15 57 32.8**	**-1.2**
	comp=Z,29nm,1.0s,baz=140,slow=5.7,SNR=3.1						
334A	**Lometa**	**70.19**	**336**	⇓P	**P**	**15 57 34.3**	**+0.4**
	baz=70,SNR=22						
530A	**J-C Ranch, Com**	**70.20**	**333**	⇑P	**P**	**15 57 34.8**	**+0.8**
	baz=70,SNR=17						
432A	**Menard**	**70.30**	**335**	⇑P	**P**	**15 57 35.1**	**+0.5**
	baz=71,SNR=8.3						
TXAR	**Lajitas Array**	**70.37**	**331**	P	**P**	**15 57 35.0**	**-0.2**
TXAR	**Lajitas Array**	**70.37**	**331**	P	**P**	**15 57 35.0**	**-0.2**
	comp=Z,11nm,0.6s,baz=151,slow=7.9,SNR=72						
TXAR				LR	LR	16 23 28.6	
	comp=Z,281nm,18.7s,baz=0.0,slow=32						
431A	**Sonora**	**70.42**	**334**	⇓P	**P**	**15 57 36.2**	**+0.8**
	baz=71,SNR=14						
333A	**Richland Sprin**	**70.43**	**336**	⇑P	**P**	**15 57 35.9**	**+0.5**
	baz=71,SNR=15						
529A	**Stev Forest Ra**	**70.51**	**332**	⇑P	**P**	**15 57 36.3**	**+0.4**
	baz=71,SNR=40						
WHTX	**Lake Whitney**	**70.54**	**337**	P	**P**	**15 57 35.4**	**-0.6**
	comp=Z,61nm,0.8s						
WHTX				*e*		15 57 40.2	
WHTX	**Lake Whitney**	**70.54**	**337**	⇓P	**P**	**15 57 36.2**	**+0.2**
	baz=71,SNR=15						
137A	**Heron Place, G**	**70.58**	**339**	⇑P	**P**	**15 57 36.3**	**0.0**
	baz=71						
430A	**Baggett Ranch,**	**70.74**	**334**	⇓P	**P**	**15 57 37.6**	**+0.3**
	baz=71,SNR=13						
332A	**Millersview**	**70.75**	**335**	⇓P	**P**	**15 57 37.2**	**-0.1**
	baz=71,SNR=13						
234A	**Clairette**	**70.77**	**337**	⇓P	**P**	**15 57 37.6**	**+0.2**
	baz=71,SNR=5.7						
OXF	**Oxford**	**70.78**	**345**	P	**P**	**15 57 35.7**	**-1.6**
OXF				*e*		15 57 41.5	
OXF				pmax	pmax		
	comp=Z,65nm,0.9s						
OXF	**Oxford**	**70.78**	**345**	P	**P**	**15 57 35.7**	**-1.6**
	comp=Z,65nm,0.9s						
OXF				*e*		15 57 41.5	
CPCT	**Cooper Cave**	**70.79**	**349**	*e*P	**P**	**15 57 37.8**	**+0.4**
CPCT				*e*		15 57 44.2	
SWET	**Sewanee**	**70.79**	**348**	*e*P	**P**	**15 57 36.0**	**-1.5**
	comp=Z,54nm,0.7s						
SWET				*e*		15 57 42.4	
429A	**Davenport Ranc**	**70.83**	**333**	⇓P	**P**	**15 57 38.2**	**+0.3**
	baz=71,SNR=12						
TKL	**Tuckaleechee C**	**70.88**	**350**	*e*P	**P**	**15 57 36.2**	**-1.8**
TKL				*e*		15 57 42.2	
TKL	**Tuckaleechee C**	**70.88**	**350**	*e*P	**P**	**15 57 36.2**	**-1.8**
TKL				*e*		15 57 42.2	
331A	**San Angelo**	**70.92**	**334**	⇓P	**P**	**15 57 38.3**	**-0.1**
	baz=71,SNR=20						
233A	**Rising Star**	**71.04**	**336**	⇓P	**P**	**15 57 39.1**	**0.0**
	baz=71,SNR=15						
135A	**Vickery Place,**	**71.05**	**338**	⇑P	**P**	**15 57 38.8**	**-0.3**
	baz=71						
232A	**Coleman**	**71.17**	**335**	⇓P	**P**	**15 57 40.0**	**+0.1**
	baz=72,SNR=16						
330A	**Mertzon**	**71.27**	**334**	⇓P	**P**	**15 57 40.5**	**0.0**
	baz=72,SNR=16						

134A	White-Moore Ra	71.28	337	⇑P	P	15 57 39.3	-1.2
	baz=72						
231A	Bronte	71.45	335	⇓P	P	15 57 41.6	0.0
	baz=72,SNR=26						
133A	Hamilton Ranch	71.58	336	⇓P	P	15 57 42.4	0.0
	baz=72,SNR=15						
329A	Wagon Wheel Ra	71.64	333	⇓P	P	15 57 42.7	-0.1
	baz=72,SNR=14						
230A	Sterling City	71.69	334	⇑P	P	15 57 43.0	0.0
	baz=72,SNR=5.3						
Z35A	Perchaven, San	71.72	338	⇑P	P	15 57 43.2	+0.1
	baz=72,SNR=11						
MIAR	Mount Ida	71.80	341	eP	P	15 57 43.5	-0.1
MIAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MIAR	Mount Ida	71.80	341	eP	P	15 57 43.5	-0.1
	comp=Z,9.6nm,0.9s						
MIAR				e		15 57 48.0	
ABTX	Abilene, Hawle	71.84	336	P	P	15 57 43.7	-0.2
	comp=Z,58nm,0.9s						
ABTX				e		15 57 48.0	
ABTX	Abilene, Hawle	71.84	336	⇓P	P	15 57 44.5	+0.6
	baz=72,SNR=13						
Z34A	Collier Ranch,	71.96	337	⇑P	P	15 57 45.0	+0.5
	baz=72,SNR=6.3						
229A	Bryant Ranch,	72.01	334	⇓P	P	15 57 45.3	+0.3
	baz=72,SNR=8.6						
WVT	Waverly	72.02	347	eP	P	15 57 43.4	-1.4
WVT				e		15 57 48.8	
WVT				pmax	pmax		
	comp=Z,83nm,0.8s						
WVT	Waverly	72.02	347	eP	P	15 57 43.4	-1.4
	comp=Z,83nm,0.8s						
WVT				e		15 57 48.8	
131A	Roby	72.14	335	⇑P	P	15 57 45.7	-0.1
	baz=72,SNR=13						
Z33A	Whitaker Ranch	72.16	337	⇑P	P	15 57 45.6	-0.2
	baz=72,SNR=18						
JSRW	J. Sargeant Re	72.26	355	eP	P	15 57 45.1	-1.1
JSRW				e		15 57 51.8	
130A	Snyder	72.28	335	⇓P	P	15 57 46.6	0.0
	baz=73,SNR=11						
Z32A	Haskell	72.41	336	⇑P	P	15 57 47.8	+0.5
	baz=73,SNR=17						
228A	UT Block 9, Go	72.44	333	⇑P	P	15 57 47.6	0.0
	baz=73,SNR=18						
Y34A	Reagan Ranch,	72.45	338	⇑P	P	15 57 47.9	+0.4
	baz=73,SNR=12						
Z31A	Sharp Cattle R	72.65	336	⇓P	P	15 57 48.7	0.0
	baz=73,SNR=17						
Y33A	Hilltop Ranch,	72.78	337	⇑P	P	15 57 49.6	+0.2
	baz=73,SNR=16						
128A	Castleberry Fa	72.85	333	⇑P	P	15 57 50.2	+0.2
	baz=73,SNR=17						
PARMO	Parma	72.92	345	eP	P	15 57 48.8	-1.4
PARMO				e		15 57 54.8	
Z30A	Sanderson Ranc	72.96	335	⇓P	P	15 57 50.9	+0.3
	baz=73,SNR=15						
Y32A	R-V Farms, Ver	73.04	336	⇑P	P	15 57 51.7	+0.7
	baz=73,SNR=12						
X34A	Smith Ranch, M	73.07	338	⇑P	P	15 57 50.8	-0.4
	baz=73,SNR=12						
Z29A	Hungry Hill Ra	73.14	334	⇑P	P	15 57 51.4	-0.3
	baz=74,SNR=16						
MNTX	Cornudas Mount	73.14	331	eP	P	15 57 49.6	-2.0
	comp=Z,19nm,0.8s						
MNTX				e		15 57 54.4	
GDL2	Guadalupe Moun	73.18	332	P	P	15 57 51.4	-0.6
	comp=Z,10nm,0.8s						
GDL2				e		15 57 55.9	
127A	Arkansas Junct	73.22	333	⇓P	P	15 57 51.9	-0.4
	baz=74,SNR=6.9						
X33A	Lawton	73.23	337	⇑P	P	15 57 52.1	0.0
	baz=74,SNR=6.0						
Y31A	Rekieta Farm,	73.27	336	⇓P	P	15 57 52.7	+0.2
	baz=74,SNR=14						
X32A	Elmer	73.37	337	⇓P	P	15 57 53.0	+0.1
	baz=74,SNR=6.7						
Z28A	Tucker Farm, M	73.41	334	⇑P	P	15 57 52.9	-0.4
	baz=74						
Y30A	Stafford Cattl	73.41	335	⇑P	P	15 57 53.2	-0.1
	baz=74						
W34A	Bridge Creek,	73.64	338	⇑P	P	15 57 53.9	-0.6
	baz=74						
Y29A	Porterfield Fa	73.67	335	⇓P	P	15 57 54.9	+0.1
	baz=74,SNR=14						
TUL1	Tulsa	73.69	340	eP	P	15 57 53.5	-1.2
	comp=Z,43nm,0.7s						
TUL1				e		15 57 58.6	
TUL1	Tulsa	73.69	340	⇑P	P	15 57 55.2	+0.5
	baz=74,SNR=15						
Z27A	Tatum	73.74	333	⇑P	P	15 57 55.8	+0.5
	baz=74,SNR=10						
USIN	University of	73.77	347	eP	P	15 57 52.6	-2.6
	comp=Z,84nm,1.0s						
USIN				e		15 57 58.8	
W33A	Caddo, Fort Co	73.78	338	⇑P	P	15 57 56.3	+1.0
	baz=74,SNR=13						
WCI	Wyandotte Cave	73.79	348	eP	P	15 57 53.2	-2.1
WCI				e		15 57 58.5	
WCI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WCI	Wyandotte Cave	73.79	348	eP	P	15 57 53.2	-2.1
	comp=Z,9.2nm,0.8s						
WCI				e		15 57 58.5	
X31A	McDonald Ranch	73.79	336	⇑P	P	15 57 56.4	+1.0
	baz=74,SNR=17						
SIUC	Southern Illin	73.83	346	P	P	15 57 53.4	-2.1
	comp=Z,53nm,1.0s						
SIUC				e		15 57 59.4	
SDMD	Soldier's Deli	73.91	356	eP	P	15 57 54.4	-1.5
	comp=Z,17nm,0.7s						
SDMD				e		15 58 00.7	
Y28A	McKinney Farm,	73.92	334	⇑P	P	15 57 57.0	+0.7
	baz=74,SNR=5.9						
X30A	Coker Ranch, T	73.92	335	⇑P	P	15 57 57.1	+0.8
	baz=74,SNR=6.3						
Z26A	Caprock	73.99	333	⇑P	P	15 57 56.7	0.0
	baz=74,SNR=86						
W32A	Sentinel	74.00	337	⇑P	P	15 57 56.7	+0.1
	baz=74,SNR=20						
V34A	Guthrie	74.12	339	eP	P	15 57 55.4	-1.9
	comp=Z,37nm,1.0s						
V34A				e		15 58 00.5	
V34A	Guthrie	74.12	339	⇓P	P	15 57 56.6	-0.7
	baz=74,SNR=6.2						
MSTX	Muleshoe	74.16	334	eP	P	15 57 56.5	-1.2
	comp=Z,39nm,0.8s						
MSTX				e		15 58 01.4	
MSTX	Muleshoe	74.16	334	⇓P	P	15 57 57.2	-0.6
	baz=74,SNR=13						
X29A	Tulia	74.21	335	⇓P	P	15 57 58.6	+0.6
	baz=74,SNR=9.2						
Y27A	Causey	74.23	333	⇑P	P	15 57 57.5	-0.6
	baz=74,SNR=5.2						
Z25A	Roswell	74.28	332	⇑P	P	15 57 58.6	+0.2
	baz=75,SNR=10						
W31A	Holland Ranch,	74.28	337	⇓P	P	15 57 58.8	+0.5
	baz=75,SNR=5.2						
V33A	Lossen Ranch,	74.34	338	⇓P	P	15 57 59.0	+0.4
	baz=75,SNR=12						
X28A	Dimmitt	74.45	334	⇓P	P	15 57 59.1	-0.3
	baz=75						
V32A	Arapaho	74.48	337	⇓P	P	15 57 59.2	-0.3
	baz=75						
W30A	Crocket Farms	74.49	336	⇓P	P	15 58 00.4	+0.8
	baz=75,SNR=6.5						
Y26A	Elida	74.51	333	⇑P	P	15 58 00.5	+0.7
	baz=75,SNR=10.0						
319A	Douglas	74.52	328	⇑P	P	15 57 59.7	-0.1
	baz=75,SNR=8.2						
Z24A	Sheeppen Canyo	74.57	331	⇓P	P	15 58 00.6	+0.3
	baz=75,SNR=21						
AMTX	Amarillo	74.60	335	P	P	15 57 58.8	-1.5
	comp=Z,60nm,0.9s						
AMTX				e		15 58 04.3	
AMTX	Amarillo	74.60	335	⇓P	P	15 58 00.7	+0.5
	baz=75						
U34A	Anderson Ranch	74.68	339	P	P	15 57 59.9	-0.7
	comp=Z,58nm,1.3s						
U34A				e		15 58 04.5	
U34A	Anderson Ranch	74.68	339	⇓P	P	15 58 01.9	+1.3
	baz=75,SNR=6.5						
BLO	Bloomington	74.75	348	eP	P	15 57 58.8	-2.0
BLO				e		15 58 04.7	
BLO				pmax	pmax		
	comp=Z,25nm,0.8s						
BLO	Bloomington	74.75	348	eP	P	15 57 58.8	-2.0
	comp=Z,25nm,0.8s						
BLO				e		15 58 04.7	
V31A	Spring Creek L	74.79	337	⇑P	P	15 58 01.9	+0.6
	baz=75,SNR=8.4						
W29A	Amraillo	74.80	335	⇑P	P	15 58 01.8	+0.4
	baz=75,SNR=17						
Y25A	Mesa, Roswell	74.84	332	⇓P	P	15 58 02.3	+0.6
	baz=75,SNR=7.3						
U33A	Lingo Farm, Me	74.85	338	⇓P	P	15 58 02.6	+1.0
	baz=75,SNR=5.0						
121A	Cookes Peak, D	74.86	329	eP	P	15 58 01.5	-0.4
121A				e		15 58 06.5	
121A	Cookes Peak, D	74.86	329	⇑P	P	15 58 02.5	+0.6
	baz=75,SNR=11						
X26A	CR and CF Fran	75.06	333	⇓P	P	15 58 03.3	+0.4
	baz=75,SNR=18						
U32A	Winter Ranch,	75.08	338	⇓P	P	15 58 03.6	+0.7
	baz=75,SNR=8.9						
Y24A	Capitan	75.13	332	⇓P	P	15 58 04.2	+0.7
	baz=75,SNR=13						
Z22A	Elephant Butte	75.15	330	⇓P	P	15 58 02.0	-1.5
	baz=75						
SSPA	Standing Stone	75.19	355	P	P	15 58 02.2	-1.1
	comp=Z,9.6nm,0.8s						
SSPA				e		15 58 08.5	
W27A	Bowe Ranch, En	75.25	334	⇑P	P	15 58 04.3	+0.3
	baz=76,SNR=27						
ACSO	Alum Creek Sta	75.27	351	eP	P	15 58 02.0	-1.9
ACSO				e		15 58 08.3	
X25A	Clemmons Ranch	75.36	333	⇓P	P	15 58 05.7	+0.9
	baz=76,SNR=5.3						
Y23A	Lovelace Mesa,	75.37	331	⇑P	P	15 58 05.8	+1.0
	baz=76,SNR=13						
DBIC	Dimbokro	75.41	71	P	P	15 58 02.8	-2.5
DBIC				pmax	pmax		
	comp=Z,23nm,1.0s						
DBIC	Dimbokro	75.41	71	P	P	15 58 06.9	+1.6
	comp=Z,15nm,0.8s,baz=221,slow=6.4,SNR=8.1						
DBIC	Dimbokro	75.41	71	P	P	15 58 02.8	-2.5
	comp=Z,23nm,1.0s						
T33A	Patterson Ranc	75.50	339	⇑P	P	15 58 05.4	+0.2
	baz=76,SNR=9.0						
W26A	Owens Ranch, T	75.53	334	⇑P	P	15 58 06.0	+0.4
	baz=76,SNR=10.0						
V28A	Channing	75.57	335	⇓P	P	15 58 06.8	+1.0
	baz=76,SNR=6.2						
U30A	WK&E Inc. Balk	75.74	337	⇓P	P	15 58 07.5	+0.7
	baz=76,SNR=9.3						
V27A	Dan Oppiter Fa	75.79	335	⇓P	P	15 58 08.2	+1.1
	baz=76,SNR=5.1						
T32A	Huddler Ranch,	75.79	338	⇑P	P	15 58 07.4	+0.5
	baz=76						
W25A	X Bar L Ranch,	75.90	333	⇓P	P	15 58 08.6	+0.9
	baz=76,SNR=16						
LPM	Los Pinos Moun	75.94	331	eP	P	15 58 07.5	-0.6
	comp=Z,18nm,0.8s						
LPM				e		15 58 12.6	
LENM	Lemitar	75.95	331	P	P	15 58 08.6	+0.4
	comp=Z,7.7nm,0.9s						
T31A	Randall Ranch,	75.95	338	⇑P	P	15 58 08.6	+0.7
	baz=76						
TUC	Tucson	75.98	327	eP	P	15 58 07.2	-1.0
TUC				e		15 58 12.2	
TUC				pmax	pmax		
	comp=Z,32nm,1.4s						
TUC	Tucson	75.98	327	eP	P	15 58 07.2	-1.0
	comp=Z,32nm,1.4s						
TUC				e		15 58 12.2	
SFIN	Scholer Farm	76.02	348	⇑P	P	15 58 08.0	-0.1
	baz=76						
U28A	Mallet	76.14	335	⇓P	P	15 58 09.9	+0.9
	baz=76,SNR=8.0						
V26A	Tequesquite Ra	76.16	334	⇓P	P	15 58 09.8	+0.5
	baz=76,SNR=9.5						
LAZ	Ladron	76.22	331	eP	P	15 58 09.0	-0.7
	comp=Z,10nm,1.0s						
LAZ				e		15 58 14.4	
W24A	Lazy 6 Ranch,	76.25	332	⇑P	P	15 58 10.3	+0.5
	baz=77,SNR=25						
S32A	Newby Ranch, P	76.27	338	⇓P	P	15 58 09.7	0.0
	baz=77						
S31A	Mullinville	76.37	338	⇓P	P	15 58 12.1	+1.8
	baz=77,SNR=5.8						
U27A	Thompson Grove	76.38	335	⇓P	P	15 58 10.7	+0.2
	baz=77,SNR=12						
ANMO	Albuquerque	76.42	331	eP	P	15 58 09.3	-1.5
ANMO				e		15 58 15.2	
ANMO	Albuquerque	76.42	331	eP	P	15 58 09.3	-1.5
ANMO				e		15 58 15.2	
W23A	Werner Place,	76.49	332	⇑P	P	15 58 12.2	+0.9
	baz=77,SNR=14						
V25A	Rancho No Teng	76.51	333	⇑P	P	15 58 11.8	+0.5
	baz=77,SNR=25						
T29A	Hugoton	76.53	336	⇓P	P	15 58 11.9	+0.7
	baz=77,SNR=9.2						
R33A	Olander Ranch,	76.55	339	⇑P	P	15 58 11.7	+0.4
	baz=77						
214A	Organ Pipe Nat	76.61	325	⇓P	P	15 58 12.0	+0.2
	baz=77						
V24A	Rampart Ranch,	76.65	333	⇓P	P	15 58 13.0	+0.8
	baz=77,SNR=5.7						
U26A	Atchley Ranch,	76.68	334	⇑P	P	15 58 13.0	+0.7
	baz=77,SNR=7.5						
S30A	Montezuma	76.70	337	⇑P	P	15 58 12.7	+0.5
	baz=77,SNR=8.1						
T28A	Walsh	76.77	336	⇑P	P	15 58 12.9	+0.3
	baz=77,SNR=20						
R32A	Long Quarter,	76.87	339	⇑P	P	15 58 13.6	+0.5
	baz=77,SNR=7.8						
S29A	Ulysses	76.89	337	⇓P	P	15 58 14.2	+1.0
	baz=77,SNR=11						
KSU1	Kansas State U	76.90	341	P	P	15 58 11.9	-1.3
	comp=Z,16nm,0.6s						
KSU1				e		15 58 16.6	
KSU1	Kansas State U	76.90	341	⇓P	P	15 58 14.2	+1.0
	baz=77,SNR=5.8						
T27A	Campo	76.92	335	⇓P	P	15 58 13.9	+0.3
	baz=77,SNR=7.4						
U25A	Circle Dot Ran	76.93	334	⇑P	P	15 58 14.2	+0.6
	baz=77,SNR=14						
R31A	Burdett	77.00	338	⇓P	P	15 58 14.3	+0.5
	baz=77,SNR=7.6						
V23A	Ortiz Mt. (NFS	77.02	332	⇑P	P	15 58 14.5	+0.3
	baz=77,SNR=11						
S28A	Manter	77.12	336	⇓P	P	15 58 14.9	+0.3
	baz=78,SNR=14						
Q33A	Connelly Farm,	77.15	340	⇑P	P	15 58 15.8	+1.2
	baz=78						
R30A	Dighton	77.23	338	⇓P	P	15 58 15.8	+0.7
	baz=78						
U24A	Moreno Valley	77.26	333	⇓P	P	15 58 15.7	0.0
	baz=78						
T26A	Comanche Natio	77.33	335	⇑P	P	15 58 16.5	+0.6
	baz=78,SNR=16						
Q32A	Meitler Ranch,	77.35	339	⇓P	P	15 58 16.7	+0.9
	baz=78,SNR=6.8						
V22A	San Miguel Ran	77.45	332	⇑P	P	15 58 17.7	+1.0
	baz=78,SNR=20						
X18A	Snowflake	77.50	329	⇑P	P	15 58 17.6	+0.7
	baz=78,SNR=8.6						
U23A	El Rito	77.53	332	⇓P	P	15 58 18.2	+1.1
	baz=78,SNR=14						
T25A	Trinidad	77.59	334	⇑P	P	15 58 18.2	+0.8
	baz=78,SNR=50						
Q31A	Ellis	77.61	338	⇓P	P	15 58 17.4	+0.1
	baz=78,SNR=7.2						
R29A	Marienthal	77.63	337	⇑P	P	15 58 17.5	+0.1
	baz=78						
S26A	Kim	77.69	335	⇑P	P	15 58 18.4	+0.6
	baz=78,SNR=40						
R28A	Tribune	77.77	336	⇓P	P	15 58 18.4	+0.2
	baz=78,SNR=16						
U22A	Llaves	77.83	332	⇑P	P	15 58 19.8	+1.1
	baz=78,SNR=10						
Q30A	Quinter	77.84	338	⇑P	P	15 58 19.1	+0.6
	baz=78,SNR=18						
T24B	San Luis	77.87	333	⇑P	P	15 58 20.2	+1.2
	baz=78,SNR=13						
W18A	Petrified Fore	77.91	329	P	P	15 58 20.1	+0.9
	comp=Z,56nm,1.2s						
W18A				e		15 58 23.4	
W18A	Petrified Fore	77.91	329	⇑P	P	15 58 20.8	+1.6
	baz=78,SNR=7.3						
P32A	Huiting Farm,	77.95	339	⇓P	P	15 58 20.2	+1.2
	baz=78						
Q29A	Oakley	78.00	337	⇑P	P	15 58 19.7	+0.3
	baz=78,SNR=14						
R27A	Eads	78.05	336	⇓P	P	15 58 20.6	+0.8
	baz=78,SNR=13						
X16A	Lo Mia Camp, P	78.05	328	⇓P	P	15 58 21.0	+1.0
	baz=78						
P31A	Stockton	78.09	339	⇓P	P	15 58 20.6	+0.7
	baz=78,SNR=6.3						
T23A	Casias Ranch,	78.10	333	⇑P	P	15 58 20.8	+0.6
	baz=78,SNR=6.9						
R26A	Arlington	78.29	335	⇓P	P	15 58 22.1	+1.0
	baz=79,SNR=19						
S24A	Houchin Ranch,	78.32	334	⇓P	P	15 58 22.2	+0.7
	baz=79,SNR=17						
Y14A	Wickenburg	78.35	326	⇓P	P	15 58 22.4	+0.9
	baz=79						
MDV	Middlebury	78.36	359	eP	P	15 58 20.5	-0.7
	comp=Z,97µm,0.6s						
MDV				e		15 58 26.4	
P30A	Selden	78.37	338	⇓P	P	15 58 22.4	+0.9
	baz=79,SNR=5.5						
Q28A	Sharon Springs	78.43	337	⇑P	P	15 58 22.7	+0.8
	baz=79,SNR=7.4						
R25A	Fountain Ranch	78.44	335	⇑P	P	15 58 22.5	+0.5
	baz=79						
O32A	Brockman Farm,	78.45	340	⇑P	P	15 58 23.1	+1.3
	baz=79						
GLA	Glamis	78.48	324	⇑P	P	15 58 22.5	+0.3
	baz=79						
SDCO	Great Sand Dun	78.52	334	eP	P	15 58 22.2	-0.5
SDCO				e		15 58 26.7	
P29A	Atwood	78.64	338	⇑P	P	15 58 24.0	+1.0
	baz=79,SNR=11						
KSCO	Kaye Shedlock'	78.65	336	eP	P	15 58 22.5	-0.6
	comp=Z,38nm,1.0s						
KSCO				e		15 58 27.7	
KSCO	Kaye Shedlock'	78.65	336	⇓P	P	15 58 23.5	+0.4
	baz=79						
S23A	Nye Farm, Mont	78.67	333	⇓P	P	15 58 24.5	+1.1
	baz=79						
SCIA	State Center	78.70	344	eP	P	15 58 22.1	-1.0
	comp=Z,44nm,1.2s						
SCIA				e		15 58 27.1	
R24A	Sanders Place,	78.81	334	⇓P	P	15 58 25.5	+1.4
	baz=79,SNR=22						
Q26A	Hugo	78.87	335	⇑P	P	15 58 25.7	+1.3
	baz=79,SNR=9.5						
P28A	Saint Francis	78.87	337	⇑P	P	15 58 25.1	+0.8
	baz=79						
O30A	MW Ranch, Wils	78.89	338	⇑P	P	15 58 25.5	+1.2
	baz=79,SNR=5.7						
Y12C	Blythe	78.90	325	⇑P	P	15 58 24.9	+0.4
	baz=79						
WUAZ	Wupatki	78.95	328	eP	P	15 58 22.0	-2.9
	comp=Z,24nm,0.9s						
WUAZ						15 58 29.1	
WUAZ	Wupatki	78.95	328	⇓P	P	15 58 26.0	+1.1
	baz=79,SNR=14						
LONY	Lake Ozonia	79.01	358	P	P	15 58 24.3	-0.5
	comp=Z,18nm,0.9s						
LONY				e		15 58 30.1	
S22A	4UR Ranch, Cre	79.02	333	⇓P	P	15 58 26.0	+0.6
	baz=79,SNR=11						
R23A	Moffat	79.04	333	⇓P	P	15 58 26.3	+0.8
	baz=79,SNR=10						
JFWS	Jewell Farm	79.05	346	eP	P	15 58 21.0	-4.0
JFWS				e		15 58 28.5	
JFWS				pmax	pmax		
	comp=Z,11nm,0.6s						
JFWS	Jewell Farm	79.05	346	eP	P	15 58 21.0	-4.0
	comp=Z,11nm,0.6s						
JFWS						15 58 28.5	
Q25A	Bedland, Calha	79.11	335	⇓P	P	15 58 26.5	+0.7
	baz=79,SNR=5.7						
MVCO	Mesa Verde	79.20	331	eP	P	15 58 24.8	-1.6
MVCO				e		15 58 30.3	
MVCO	Mesa Verde	79.20	331	⇑P	P	15 58 27.1	+0.8
	baz=80,SNR=15						
BC3	Big Chuckawall	79.27	324	⇓P	P	15 58 27.3	+0.7
	baz=80						
O28A	Krutsinger Ran	79.38	337	⇓P	P	15 58 28.0	+1.0
	baz=80,SNR=5.1						
P26A	Davis Ranch, A	79.38	336	⇑P	P	15 58 28.3	+1.2
	baz=80,SNR=6.7						
Q24A	Divide	79.47	334	⇓P	P	15 58 28.6	+0.7
	baz=80,SNR=12						
IRM	Iron Mountain	79.54	325	⇓P	P	15 58 28.0	+0.1
	baz=80						
P25A	Willow Gulch B	79.62	335	⇑P	P	15 58 29.5	+1.0
	baz=80,SNR=8.2						
M31A	Lambtecht Ranc	79.65	340	⇓P	P	15 58 29.0	+0.6
	baz=80,SNR=6.1						
N29A	Votaw Ranch, W	79.65	338	⇑P	P	15 58 29.3	+0.8
	baz=80						
O27A	Beecher Island	79.66	337	⇑P	P	15 58 29.3	+0.7
	baz=80,SNR=6.6						
PFO	Pinyon Flat Ob	79.72	324	⇓P	P	15 58 30.5	+1.4
	baz=80						
W13A	Hualapai Mount	79.72	326	⇑P	P	15 58 30.0	+0.8
	baz=80						
BOSA	Boshof	79.73	118	P	P	15 58 21.3	-8.2
BOSA				e		15 58 30.6	
BOSA				pmax	pmax		
	comp=Z,35nm,1.0s						
BOSA	Boshof	79.73	118	P	P	15 58 30.9	+1.4
	comp=Z,17nm,0.8s,baz=238,slow=5.8,SNR=32						
BOSA	Boshof	79.73	118	P	P	15 58 21.2	-8.2
	comp=Z,35nm,1.0s						
BOSA						15 58 30.6	
N28A	Pribbeno Ranch	79.82	338	⇓P	P	15 58 30.5	+1.1
	baz=80						
P24A	Kohler Place,	79.88	335	⇑P	P	15 58 30.9	+1.0
	baz=80						
O26A	Horse Wrangler	79.98	336	⇑P	P	15 58 31.7	+1.4
	baz=80						
PV01	Paradox Valley	80.03	332	eP	P	15 58 30.0	-0.8
	comp=Z,1µm,0.9s						
PV01				e		15 58 35.0	
MURC	Murrieta	80.08	323	⇑P	P	15 58 31.8	+0.9
	baz=80						
P23A	Jefferson	80.09	334	⇑P	P	15 58 32.5	+1.2
	baz=80,SNR=6.3						
M30A	Dale-Ortello V	80.09	339	⇓P	P	15 58 31.9	+1.1
	baz=80,SNR=5.2						
U15A	North Rim	80.12	328	⇑P	P	15 58 31.8	+0.4
	baz=80,SNR=16						
O25A	Wiggins	80.14	336	⇓P	P	15 58 32.6	+1.3
	baz=80						
N27A	Anderson Farm,	80.24	337	⇓P	P	15 58 32.5	+0.8
	baz=81,SNR=6.5						
GMRC	Granite Mounta	80.28	325	⇑P	P	15 58 32.9	+0.7
	baz=81						
L31A	Butterfield Fa	80.38	340	⇑P	P	15 58 33.4	+1.0
	baz=81,SNR=6.0						
ISCO	Idaho Springs	80.38	334	eP	P	15 58 32.2	-0.6
ISCO				e		15 58 36.8	
ISCO				pmax	pmax		
	comp=Z,13nm,0.9s						
ISCO	Idaho Springs	80.38	334	eP	P	15 58 32.2	-0.6
	comp=Z,13nm,0.9s						
ISCO				e		15 58 36.8	
ISCO	Idaho Springs	80.38	334	⇑P	P	15 58 33.6	+0.8
	baz=81,SNR=10.0						
M28A	Bar X Bar Ranc	80.41	338	⇓P	P	15 58 34.1	+1.5
	baz=81						
N26A	Koester Ranch,	80.48	337	⇑P	P	15 58 33.8	+0.8
	baz=81,SNR=5.0						
P22A	Eagle	80.62	334	⇓P	P	15 58 35.1	+1.2
	baz=81,SNR=10						
HEC	Hector,Ludlow	80.64	324	⇑P	P	15 58 34.9	+0.9
	baz=81						
L29A	Maesberg Ranch	80.75	339	⇑P	P	15 58 35.7	+1.3
	baz=81,SNR=5.2						
BFSC	Mount Baldy Ra	80.82	323	⇑P	P	15 58 35.9	+0.9
	baz=81						
M27A	Reverse DX Ran	80.85	337	⇑P	P	15 58 35.1	+0.2
	baz=81						
O23A	Lake Granby, G	80.85	334	⇑P	P	15 58 36.3	+1.1
	baz=81,SNR=13						
O22A	Kremmling	81.04	334	⇑P	P	15 58 36.9	+0.7
	baz=81,SNR=12						
N24A	Carr	81.04	335	⇓P	P	15 58 36.5	+0.4
	baz=81,SNR=5.4						
K30A	Basset	81.06	340	⇑P	P	15 58 36.7	+0.7
	baz=81,SNR=12						
ECSD	EROS Data Cent	81.24	342	eP	P	15 58 35.9	-1.0
	comp=Z,51nm,0.8s						
ECSD				e		15 58 40.9	

ECSD EROS Data Cent 81.24 342 ⇓P P 15 58 36.6 -0.2
baz=82,SNR=57
GSC Goldstone 81.25 324 P P 15 58 34.8 -2.5
GSC e 15 58 41.1
GSC pmax pmax
comp=Z,7.0nm,0.8s
GSC Goldstone 81.25 324 P P 15 58 34.8 -2.5
comp=Z,7.4nm,0.8s
GSC e 15 58 41.1
GSC Goldstone 81.25 324 ⇑P P 15 58 36.7 -0.5
baz=82
M25A Palm-Egli Farm 81.30 336 ⇑P P 15 58 37.3 -0.2
baz=82
L27A T5 Ranch, Ells 81.33 338 ⇑P P 15 58 37.9 +0.5
baz=82
K29A Lazy Trails An 81.34 339 ⇑P P 15 58 37.8 +0.3
baz=82
SHPR Sheep Range 81.46 326 eP P 15 58 38.8 +0.4
comp=Z,20nm,1.0s
SHPR e 15 58 42.5
N23A Red Feather La 81.47 335 ⇓P P 15 58 39.2 +0.7
baz=82,SNR=10
SHOC Shoshone 81.49 325 ⇓P P 15 58 38.1 -0.3
baz=82
EDW2 Edwards Air Fo 81.49 323 ⇑P P 15 58 38.1 -0.4
baz=82
CCUT Cedar City 81.52 328 eP P 15 58 38.8 0.0
CCUT e 15 58 43.4
N22A Wattenberg Ran 81.57 334 ⇓P P 15 58 39.5 +0.5
baz=82,SNR=13
M24A Cheyenne 81.59 336 ⇑P P 15 58 39.9 +0.9
baz=82,SNR=5.5
K28A Ten Mile Ranch 81.61 339 ⇑P P 15 58 39.8 +0.9
baz=82,SNR=5.6
J30A Dallas 81.63 340 ⇓P P 15 58 39.5 +0.5
baz=82
O20A White River Ci 81.64 333 ⇓P P 15 58 38.7 -0.6
baz=82
OSI Osito Adit 81.64 323 ⇓P P 15 58 38.5 -0.8
baz=82
ARUT Antelope Range 81.75 328 eP P 15 58 38.9 -1.1
ARUT e 15 58 44.9
ARUT Antelope Range 81.75 328 eP P 15 58 38.9 -1.1
comp=Z,281nm,1.0s
ARUT e 15 58 44.9
SPMN St. Paul 81.78 345 eP P 15 58 38.1 -1.6
comp=Z,19nm,0.8s
SPMN e 15 58 43.0
SPMN St. Paul 81.78 345 ⇑P P 15 58 39.3 -0.4
baz=82,SNR=6.7
MVU Marysvale 81.83 329 eP P 15 58 40.4 0.0
comp=Z,14nm,0.9s
MVU e 15 58 44.6
K27A Flueckinger Fa 81.86 338 ⇑P P 15 58 41.4 +1.1
baz=82,SNR=5.0
M23A Laramie 81.90 335 ⇑P P 15 58 41.1 +0.4
baz=82,SNR=8.1
L25A Engebretsen Ra 81.92 337 ⇑P P 15 58 41.5 +0.9
baz=82
J29A Okreek 81.94 340 ⇑P P 15 58 41.3 +0.7
baz=82,SNR=10
LBTB Lobatse 82.00 115 eP P 15 58 36.5 -5.1
LBTB e 15 58 43.4
LBTB pmax pmax
comp=Z,19nm,1.0s
LBTB Lobatse 82.00 115 eP P 15 58 36.5 -5.1
comp=Z,19nm,1.0s
LBTB e 15 58 43.4
TMUT Trail Mountain 82.08 330 P P 15 58 41.0 -0.8
comp=Z,24nm,1.2s
TMUT e 15 58 45.7
M22A Cedar Creek Ra 82.15 334 ⇑P P 15 58 42.0 0.0
baz=82
I30A Oacoma 82.15 340 ⇑P P 15 58 41.8 +0.2
baz=82,SNR=8.4
J28A Allard Ranch, 82.22 339 ⇑P P 15 58 42.6 +0.6
baz=83
FURC Furnace Creek, 82.23 325 ⇑P P 15 58 41.9 -0.3
baz=82
N20A Spence Gulch, 82.25 333 ⇑P P 15 58 43.2 +0.6
baz=83
J27A Elkhorn Farm, 82.29 338 ⇑P P 15 58 43.1 +0.6
baz=83
ISA Isabella 82.35 323 ⇑P P 15 58 43.6 +0.6
baz=83
L23A Garrett 82.46 335 ⇓P P 15 58 44.4 +0.8
baz=83,SNR=6.3
I29A Vivian Onida 82.50 340 ⇑P P 15 58 44.2 +0.7
baz=83
BRSD Miller 82.51 341 ⇓P P 15 58 44.5 +0.9
baz=83
L22A Ellis Ranch, M 82.64 335 ⇓P P 15 58 45.0 +0.4
baz=83
J26A Sides Ranch, S 82.68 338 ⇓P P 15 58 45.4 +0.8
baz=83,SNR=7.6
I28A Midland 82.72 339 ⇓P P 15 58 45.4 +0.7
baz=83,SNR=9.2
VES Vestal, Richgr 82.80 323 ⇓P P 15 58 45.5 +0.3
baz=83
MPU Maple Canyon 82.87 330 eP P 15 58 45.6 -0.1
comp=Z,21nm,1.0s
MPU e 15 58 49.4
GRAC Grapevine Rang 82.89 325 ⇓P P 15 58 46.7 +0.9
baz=83
J25A Sunshine Ranch 82.98 337 ⇓P P 15 58 47.5 +1.4
baz=83
NLU North Lily Min 83.00 330 eP P 15 58 44.3 -2.1
comp=Z,70nm,1.9s
NLU e 15 58 50.4
K23A Bowen Ranch, D 83.01 336 ⇓P P 15 58 47.1 +0.8
baz=83,SNR=6.1
H29A Onida 83.03 340 ⇓P P 15 58 46.6 +0.4
baz=83,SNR=8.4
DAU Daniels Canyon 83.05 331 P P 15 58 46.4 -0.4
DAU pmax pmax
comp=Z,15nm,1.0s
DAU Daniels Canyon 83.05 331 P P 15 58 46.4 -0.4
comp=Z,15nm,1.0s
DAU e 15 58 50.7
I27A Quinn 83.05 339 ⇓P P 15 58 47.9 +1.5
baz=83
R11A Troy Canyon, C 83.17 327 eP P 15 58 47.0 -0.4
R11A e 15 58 51.4
R11A Troy Canyon, C 83.17 327 ⇑P P 15 58 48.2 +0.8
baz=83
G30A Faulkton 83.20 341 ⇓P P 15 58 47.3 +0.2
baz=84,SNR=11
J24A Dixon Ranch, L 83.20 337 ⇑P P 15 58 47.9 +0.6
baz=84,SNR=5.7
K22A Casper 83.22 335 eP P 15 58 46.9 -0.5
comp=Z,42nm,1.2s
K22A e 15 58 51.5
K22A Casper 83.22 335 ⇓P P 15 58 48.0 +0.5
baz=84,SNR=8.9
I26A New Underwood 83.26 338 ⇑P P 15 58 48.4 +0.9
baz=84
JLU Jordanelle 83.29 331 eP P 15 58 47.7 -0.2
comp=Z,4.9nm,0.4s
JLU e 15 58 51.7
H28A Mission Ridge 83.30 340 ⇓P P 15 58 47.5 -0.2
baz=84,SNR=7.1
K21A Alcova 83.46 335 ⇑P P 15 58 49.5 +0.8
baz=84,SNR=14
G29A Hoven 83.47 341 ⇑P P 15 58 48.6 +0.1
baz=84
DUG Dugway 83.50 330 eP P 15 58 48.0 -0.9
DUG pmax pmax
comp=Z,36nm,1.2s
DUG Dugway 83.50 330 eP P 15 58 48.0 -0.9
comp=Z,36nm,1.2s
DUG e 15 58 52.9
DUG Dugway 83.50 330 ⇑P P 15 58 49.8 +0.9
baz=84,SNR=12
I25A Rochford 83.52 338 ⇓P P 15 58 49.3 +0.3
baz=84,SNR=9.6
H27A Howes 83.57 339 ⇑P P 15 58 49.3 +0.3
baz=84
G28A Parade 83.64 340 ⇓P P 15 58 49.7 +0.3
baz=84,SNR=8.5
I24A Kuemmerle Ranc 83.66 337 ⇓P P 15 58 49.9 +0.2
baz=84,SNR=5.5
TPH Tonopah 83.69 326 eP P 15 58 49.3 -0.7
TPH pmax pmax
comp=Z,34nm,1.2s
TPH Tonopah 83.69 326 eP P 15 58 49.3 -0.7
comp=Z,34nm,1.2s
TPH e 15 58 53.8
RSSD Black Hills 83.71 337 eP P 15 58 49.4 -0.6
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD Black Hills 83.71 337 eP P 15 58 49.4 -0.6
comp=Z,13nm,0.9s
RSSD e 15 58 53.9
TCUT Toone Canyon 83.71 331 P P 15 58 49.4 -0.7
comp=Z,37nm,1.2s
TCUT e 15 58 53.7
F30A Leola 83.82 341 ⇑P P 15 58 50.8 +0.5
baz=84,SNR=5.4
J22A Midwest 83.88 336 ⇑P P 15 58 50.9 +0.1
baz=84,SNR=5.5
F29A Eureka 84.03 341 ⇓P P 15 58 51.6 +0.3
baz=84,SNR=6.7
MLAC Mammoth Lakes 84.10 324 ⇑P P 15 58 52.2 0.0
baz=84
J21A Lysite 84.16 335 ⇑P P 15 58 52.8 +0.5
baz=84
BGU Big Grassy Mou 84.20 330 eP P 15 58 51.3 -1.2
comp=Z,11nm,1.5s
BGU e 15 58 55.9
G27A Dupree 84.21 339 ⇑P P 15 58 52.6 +0.3
baz=85
SPUT South Promonto 84.29 331 eP P 15 58 51.6 -1.4
comp=Z,42nm,1.3s
SPUT e 15 58 56.4
I22A 9 Mile Ranch, 84.31 336 ⇑P P 15 58 53.4 +0.4
baz=85,SNR=12
F28A McLaughlin 84.31 340 ⇓P P 15 58 53.1 +0.3
baz=85
G26A Maurine 84.33 339 ⇓P P 15 58 52.8 -0.1
baz=85,SNR=7.7
J20A Shoshoni 84.39 334 ⇓P P 15 58 53.7 +0.3
baz=85
E30A Jud 84.41 342 ⇓P P 15 58 53.5 +0.3
baz=85
PDAR Pinedale Array 84.41 333 P P 15 58 53.8 +0.1
comp=Z,4.5nm,1.0s,baz=145,slow=5.4,SNR=19
BW06 Boulder Array 84.41 333 P P 15 58 53.2 -0.4
comp=Z,13nm,1.3s
BW06 e 15 58 56.8
H24A Dirks Ranch, A 84.43 337 ⇓P P 15 58 53.7 +0.1
baz=85,SNR=11
TOA0 Torodi Ar. Sit 84.46 70 eP P 15 58 55.0 +0.8
TORD Torodi Ar. Bea 84.46 70 P P 15 58 56.0 +1.7
comp=Z,10nm,0.8s,baz=250,slow=4.3,SNR=38
G25A Newell 84.48 338 ⇑P P 15 58 53.9 +0.2
baz=85,SNR=9.5
NVAR Mina Array Bea 84.48 325 P P 15 58 55.0 +0.9
comp=Z,10nm,0.8s,baz=163,slow=5.8,SNR=42
I21A Big Trails, Te 84.51 335 ⇓P P 15 58 54.1 +0.1
baz=85
J19A Crowheart 84.66 334 ⇓P P 15 58 55.1 +0.3
baz=85,SNR=10
E29A Napoleon 84.66 341 ⇓P P 15 58 55.0 +0.5
baz=85
F27A Lemmon 84.68 339 ⇑P P 15 58 54.6 -0.1
baz=85,SNR=5.4
HVU Hansel Valley 84.82 331 eP P 15 58 55.1 -0.5
HVU Hansel Valley 84.82 331 eP P 15 58 55.1 -0.5
HVU e 15 58 58.9
F26A Lodgepole 84.85 339 ⇓P P 15 58 55.9 +0.4
baz=85,SNR=5.4
H22A Clearmont 84.88 336 ⇑P P 15 58 55.5 -0.3
baz=85,SNR=5.2
G24A Alzada 84.91 338 ⇑P P 15 58 55.9 0.0
baz=85
I20A Worland 84.92 335 ⇑P P 15 58 56.5 +0.5
baz=85,SNR=19
D30A Buchanan 84.93 342 ⇑P P 15 58 55.9 +0.1
baz=85,SNR=6.3
E28A Huff 84.95 341 ⇑P P 15 58 56.3 +0.4
baz=85,SNR=5.3
ELK Elko 84.98 329 LR LR 16 34 16.9
comp=Z,180nm,18.3s,baz=181,slow=34
E27A Carson 85.06 340 ⇓P P 15 58 56.9 +0.3
baz=85
WAKR Walker 85.08 325 eP P 15 58 57.8 +0.7
comp=Z,8.4nm,0.8s
WAKR e 15 59 01.3
D29A Pettibone, Tap 85.11 341 ⇑P P 15 58 56.8 0.0
baz=86
G23A Biddle 85.11 337 ⇑P P 15 58 56.8 -0.1
baz=85
H21A Big Horn, Sher 85.14 336 ⇓P P 15 58 56.7 -0.5
baz=86,SNR=5.6
F25A Bowman 85.15 339 ⇓P P 15 58 57.4 +0.3
baz=86,SNR=10
I19A Meeteetse 85.31 334 ⇓P P 15 58 58.8 +0.7
baz=86,SNR=7.5
H20A Greybull 85.35 335 ⇑P P 15 58 58.4 +0.3
baz=86,SNR=39
E26A Carlson Angus 85.35 339 ⇓P P 15 58 58.4 +0.4
baz=86,SNR=5.6
AGMN Agassiz Nation 85.36 344 ⇑P P 15 58 57.7 -0.2
baz=86
F24A Ekalaka 85.38 338 ⇑P P 15 58 59.0 +0.8
baz=86,SNR=7.6
G22A Birney 85.41 336 ⇓P P 15 58 58.5 +0.1
baz=86,SNR=5.6
C30A Mose, Pekin 85.42 342 ⇑P P 15 58 58.6 +0.3
baz=86,SNR=24
D28A Regan 85.48 341 ⇓P P 15 58 58.9 +0.2
baz=86,SNR=7.6
F23A Volborg 85.57 337 ⇑P P 15 58 59.1 -0.1
baz=86,SNR=14
E25A Miller Ranch, 85.66 339 ⇓P P 15 58 59.9 +0.4
baz=86,SNR=12
D27A Center 85.67 340 ⇓P P 15 58 59.0 -0.5
baz=86
G21A Lodge Grass 85.72 336 ⇑P P 15 59 00.5 +0.6
baz=86,SNR=11
I17A Pilgrim Ck. 85.78 333 ⇓P P 15 59 00.8 +0.3
baz=86,SNR=9.6
H19A Powell 85.85 335 ⇑P P 15 59 00.5 -0.2
baz=86,SNR=11
D26A Manning 85.85 340 ⇑P P 15 59 01.0 +0.5
baz=86,SNR=14
F22A Rosebud 85.90 337 ⇓P P 15 59 00.8 0.0
baz=86
C28A Hausauer Farms 85.92 341 ⇓P P 15 59 01.1 +0.4
baz=86
E24A Baker 85.98 338 ⇓P P 15 59 01.5 +0.3
baz=86,SNR=9.4
G20A Bridger 86.06 335 ⇓P P 15 59 01.6 -0.1
baz=86,SNR=25
B30A Myrvik Farm, E 86.08 343 ⇑P P 15 59 01.6 +0.1
baz=86,SNR=34
H18A Shoshone NF, C 86.10 334 ⇑P P 15 59 02.0 -0.1
baz=86,SNR=41
C27A Sayler Ranch, 86.22 341 ⇓P P 15 59 03.0 +0.7
baz=87,SNR=11
D25A Fairfield 86.22 339 ⇑P P 15 59 02.7 +0.4
baz=87,SNR=10
E23A Ismay 86.23 338 ⇑P P 15 59 02.2 -0.2
baz=87
B29A Wagenman Farm, 86.34 342 ⇑P P 15 59 03.2 +0.4
baz=87,SNR=7.6
RLMT Red Lodge 86.34 335 eP P 15 59 02.5 -0.7
RLMT e 15 59 06.6
C26A Wahner Farm, P 86.48 340 ⇓P P 15 59 04.3 +0.7
baz=87,SNR=10.0
D24A Glendive 86.49 339 ⇑P P 15 59 04.1 +0.5
baz=87,SNR=7.6
A30A Hoffart Farm, 86.52 343 ⇓P P 15 59 03.8 +0.1
baz=87,SNR=6.7
F20A Billings 86.55 336 ⇑P P 15 59 04.2 +0.2
baz=87
B28A Dugan Ranch, T 86.59 342 ⇓P P 15 59 04.7 +0.6
baz=87,SNR=9.0
LAO LASA Array 86.69 337 P P 15 59 04.3 -0.3
comp=Z,25nm,1.0s
LAO e 15 59 07.7
C25A Freed Ranch, W 86.71 339 ⇑P P 15 59 05.1 +0.4
baz=87,SNR=5.9
A29A Manning Farm, 86.74 342 ⇓P P 15 59 05.4 +0.6
baz=87,SNR=11
D23A Lindsay 86.81 338 ⇓P P 15 59 05.9 +0.7
baz=87
MATP Matopo 86.82 113 P P 15 59 08.1 +1.9
E21A Keefer Ranch, 86.84 337 ⇓P P 15 59 04.9 -0.5
baz=87
F19A Roth Farm, Mol 86.87 335 ⇓P P 15 59 05.5 -0.1
baz=87
QLMT Earthquake Lak 86.88 333 eP P 15 59 06.6 +0.8
comp=Z,2.0nm,1.1s
QLMT e 15 59 10.6
QLMT e 15 59 19.6
C24A Savage 86.89 339 ⇑P P 15 59 06.1 +0.5
baz=87,SNR=29
HLID Hailey 86.97 331 eP P 15 59 06.4 +0.2
comp=Z,11nm,0.9s
HLID e 15 59 10.1
HLID Hailey 86.97 331 ⇑P P 15 59 06.5 +0.2
baz=87,SNR=11
A28A Rude Farm, Bot 86.99 342 ⇑P P 15 59 06.1 +0.1
baz=87,SNR=8.8
D22A Cohagen 87.09 337 ⇓P P 15 59 06.9 +0.3
baz=87,SNR=6.6
E20A Meyer Farm, Mu 87.16 336 ⇓P P 15 59 07.0 +0.1
baz=88,SNR=18
ULM Lac du Bonnet 87.20 345 eP P 15 59 04.8 -2.2
ULM e 15 59 10.1
ULM pmax pmax
comp=Z,22nm,0.8s
ULM Lac du Bonnet 87.20 345 P P 15 59 06.3 -0.7
comp=Z,21nm,0.8s,baz=180,slow=4.0,SNR=4.8
ULM Lac du Bonnet 87.20 345 eP P 15 59 04.8 -2.2
comp=Z,22nm,0.8s
ULM e 15 59 10.1
D21A La Casta Ranch 87.28 337 ⇑P P 15 59 07.5 0.0
baz=88
A27A Ledoux Ranch, 87.28 341 ⇓P P 15 59 07.7 +0.3
baz=88,SNR=6.6
E19A Rath Farm, Rou 87.34 336 ⇓P P 15 59 07.5 -0.3
baz=88
C23A Lambert 87.36 338 ⇑P P 15 59 08.4 +0.6
baz=88,SNR=6.5
MCMT McKenzie Canyo 87.41 332 P P 15 59 08.6 +0.1
comp=Z,14nm,1.1s
MCMT e 15 59 12.9
A26A Wade Farm, Ken 87.44 341 ⇑P P 15 59 08.5 +0.3
baz=88,SNR=8.5
C22A Vida 87.53 338 ⇓P P 15 59 08.5 -0.2
baz=88
DGMT Dagmar 87.67 339 eP P 15 59 09.1 -0.2
comp=Z,39nm,0.7s
DGMT e 15 59 13.3
DGMT e 15 59 21.8
DGMT Dagmar 87.67 339 ⇓P P 15 59 09.4 +0.1
baz=88,SNR=6.4
D20A Manuel Ranch, 87.67 336 ⇓P P 15 59 09.4 -0.1
baz=88,SNR=5.5
A25A Svangstu Ranch 87.78 340 ⇓P P 15 59 10.1 +0.3
baz=88
B23A Brockton 87.89 339 ⇓P P 15 59 10.6 +0.2
baz=88
C21A Desert Coulee 87.98 337 ⇓P P 15 59 11.0 +0.1
baz=88
D19A Cripps Ranch, 87.98 336 ⇓P P 15 59 10.9 0.0
baz=88
A24A Westby 88.02 340 ⇑P P 15 59 11.2 +0.2
baz=88
B22A Reddig Ranch S 88.05 338 ⇑P P 15 59 11.5 +0.3
baz=88
LRM Limekiln Ridge 88.10 333 eP P 15 59 11.5 -0.3
comp=Z,146nm,1.3s
LRM e 15 59 15.2
MOD Modoc 88.17 326 P P 15 59 09.0 -3.1
comp=Z,22nm,0.8s
MOD e 15 59 15.6
C20A Veseth Ranch, 88.17 337 ⇑P P 15 59 11.9 +0.1
baz=88
WDC Whiskeytown Da 88.19 324 P P 15 59 10.0 -2.0
WDC pmax pmax
comp=Z,11nm,0.7s
WDC Whiskeytown Da 88.19 324 P P 15 59 10.0 -2.0
comp=Z,11nm,0.7s
WDC e 15 59 14.1
A23A Redstone 88.30 339 ⇓P P 15 59 12.7 +0.3
baz=89
C19A Slack Wire Ran 88.54 336 ⇓P P 15 59 13.5 0.0
baz=89
N02D Trinity Center 88.58 324 ⇑P P 15 59 13.7 -0.2
baz=89
HRY Holter Researc 88.63 334 P P 15 59 13.2 -0.9
comp=Z,16nm,1.5s
A22A Carney Farms, 88.64 338 ⇓P P 15 59 13.5 -0.5
baz=89,SNR=7.6
M04C Macdoel 88.79 325 ⇓P P 15 59 14.7 -0.3
baz=89
A21A Bergtoll Ranch 88.95 338 ⇓P P 15 59 15.2 -0.2
baz=89
EGMT Eagleton 89.02 336 ⇑P P 15 59 15.6 -0.2
baz=89
B19A Brinkman Farms 89.13 336 ⇑P P 15 59 16.5 +0.2
baz=90
YBH Yreka Blue Hor 89.16 325 P P 15 59 16.8 +0.1
comp=Z,4.2nm,0.8s
A20A Cobblestone Ra 89.17 337 ⇑P P 15 59 16.9 +0.5
baz=90
SCHQ Schefferville 89.31 3 P P 15 59 20.5 +3.6
comp=Z,4.3nm,0.9s,baz=211,slow=4.6,SNR=5.4
CHMT Chamberlain Mo 89.32 333 P P 15 59 15.5 -1.9
comp=Z,18nm,1.9s
A19A Klindworth Far 89.47 337 ⇓P P 15 59 18.4 +0.6
baz=90
MSO Missoula 89.51 333 ⇑P P 15 59 18.6 +0.5
baz=90
J05D Fort Rock, OR 89.68 326 ⇓P P 15 59 19.5 +0.4
baz=90
SLMT Seeley Lake 89.69 333 eP P 15 59 16.2 -2.9
comp=Z,5.7nm,0.9s
SLMT e 15 59 22.6
PINOR Pine Mountain 89.93 327 P P 15 59 20.2 +0.2
comp=Z,21nm,1.1s
PINOR e 15 59 24.2
PINOR e 15 59 32.9
SWMT Swartz Lake 90.10 333 eP P 15 59 18.4 -2.5
comp=Z,1.2nm,0.5s
YBMT Yellow Bay 90.40 333 P P 15 59 21.2 -1.1
comp=Z,8.3nm,1.2s
YBMT e 15 59 25.7
JTMT Jette 90.40 333 eP P 15 59 22.5 +0.1
comp=Z,3.4nm,0.7s
I05D Terrebonne, OR 90.55 327 ⇓P P 15 59 23.9 +0.9
baz=91
I04A Tendick Farm, 90.61 326 ⇑P P 15 59 24.2 +0.9
baz=91
BLMT Blacktail Moun 90.65 333 P P 15 59 23.4 -0.2
comp=Z,8.8nm,0.8s
BSMT Bassoo Peak 90.68 333 eP P 15 59 23.5 -0.2
comp=Z,7.9nm,1.2s
BSMT e 15 59 27.3
NEW Newport 91.91 332 P P 15 59 30.6 +1.3
comp=Z,3.2nm,0.8s,baz=0.0,slow=0.0
NEW Newport 91.91 332 ⇓P P 15 59 29.8 +0.6
baz=92
TAM Tamanrasset 93.14 64 eP P 15 59 37.0 +1.3
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM Tamanrasset 93.14 64 eP P 15 59 37.0 +1.3
comp=Z,3.3nm,0.8s
FCC Fort Churchill 94.94 349 eP P 15 59 42.6 -0.2
FCC e 15 59 54.7
FCC Fort Churchill 94.94 349 eP P 15 59 42.6 -0.2
comp=Z,0.2nm,0.7s
FCC e 15 59 46.5
FCC e 15 59 54.6
DZM Mont Dzumac 100.81 234 eLR LR 16 33 05.3
comp=Z,949nm,21.9s
YKA Yellowknife Ar 102.75 341 Pdiff Pdif 16 00 16.8 -1.0
comp=Z,0.9nm,0.8s,baz=141,slow=4.5,SNR=13
YKA PKiKP PKiKP 16 04 39.2 +0.9
comp=Z,0.2nm,0.7s,baz=123,slow=3.0,SNR=3.9
GERES GERESS Array B 112.67 46 PKiKP PKiKP 16 04 59.1 +1.7
comp=Z,1.2nm,0.8s,baz=212,slow=3.5,SNR=4.1
ILAR Eielson Array 114.84 333 PKP PKPdf 16 05 01.8 +0.8
comp=Z,0.5nm,0.8s,baz=128,slow=2.9,SNR=7.4
VHYS Vyhne 115.58 48 ePKiKP PKPdf 16 05 04.8 +1.9
VHYS Vyhne 115.58 48 ePKP PKPdf 16 05 04.8 +1.9
NB2 NORSAR Subarra116.64 33 PKPdf PKPdf 16 05 06.6 +2.1
comp=Z,0.6nm,0.7s,baz=248,slow=1.9
NOA NORSAR Array B 116.64 33 PKP PKPdf 16 05 06.1 +1.6
comp=Z,0.7nm,0.7s,baz=253,slow=2.1,SNR=4.4
ASAR Alice Springs 116.92 207 PKP PKPdf 16 05 03.9 -2.5
comp=Z,0.7nm,0.8s,baz=139,slow=1.9,SNR=6.6
MLR Muntele Rosu 118.92 53 ⇑PKiKP PKPdf 16 05 11.0 +1.5
MLR Muntele Rosu 118.92 53⇑/P PKPdf 16 05 11.0 +1.5
BURAR Bucovina Array 119.21 50 ⇓PKiKP PKPdf 16 05 12.8 +2.8
BURAR Bucovina Array 119.21 50⇓/P PKPdf 16 05 12.8 +2.8
WRA Warramunga Arr 120.12 209 PKP PKPdf 16 05 10.3 -2.3
comp=Z,1.6nm,0.7s,baz=153,slow=1.9,SNR=17
CFR Carcaliu 120.25 54 ⇑PKiKP PKPdf 16 05 13.4 +1.5

CFR Carcaliu 120.25 54⇑iP PKPdf 16 05 13.4 +1.5
BRTR Keskin Array B 122.19 61 PKP PKPdf 16 05 17.4 +1.4
comp=Z,1.2nm,0.7s,baz=184,slow=3.9,SNR=8.8
KIEV Kiev 122.67 48 ePKIKP PKPdf 16 05 15.3 -1.1
KIEV Kiev 122.67 48 ePKPdf PKPdf 16 05 15.3 -1.1
AK01 Malin Array Si 122.67 48 ePKPdf PKPdf 16 05 16.2 -0.1
AKASG Malin Array Be 122.68 48 PKP PKPdf 16 05 16.7 +0.3
comp=Z,1.8nm,0.7s,baz=261,slow=2.5,SNR=14
FINES FINESS Array B 123.59 35 PKP PKPdf 16 05 18.6 +0.8
comp=Z,1.9nm,0.8s,baz=329,slow=1.1,SNR=5.1
ARCES ARCESS Array B 124.67 25 PKP PKPdf 16 05 20.8 +1.1
comp=Z,2.4nm,0.7s,baz=242,slow=4.4,SNR=12
H11S2 WAKE ISLAND Hy125.76 269 T T 18 23 55.4
baz=120,slow=75,SNR=12
H11S1 WAKE ISLAND Hy125.77 269 T T 18 23 52.2
baz=120,slow=75,SNR=13
H11S3 WAKE ISLAND Hy125.77 269 T T 18 23 57.6
baz=120,slow=75,SNR=8.5
H11N3 WAKE ISLAND Hy126.19 270 T T 18 24 17.2
baz=115,slow=78,SNR=3.4
H11N1 WAKE ISLAND Hy126.20 270 T T 18 24 26.3
baz=115,slow=78,SNR=10
H11N2 WAKE ISLAND Hy126.21 270 T T 18 24 25.4
baz=115,slow=78,SNR=9.5
OBN Obninsk 127.96 44 iPKIKP PKPdf 16 05 27.4 +1.1
OBN pmax pmax
comp=Z,11nm,1.3s
KIV Kislovodsk 129.87 59 ePKIKP PKPdf 16 05 33.2 +2.7
KIV pmax pmax
comp=Z,8.0nm,1.1s
KLMR Klimovskoe 129.99 36 ePKIKP PKPdf 16 05 30.7 +0.7
KLMR pmax pmax
comp=Z,36nm,1.2s
BILL Bilibino 133.49 334 ePKIKP PKPdf 16 05 37.4 +0.9
BILL pmax pmax
comp=Z,7.0nm,1.4s
GEYT Alibeck 140.10 70 PKhKP PKPpre 16 05 43.7
comp=Z,1.4nm,0.8s,baz=276,slow=5.8,SNR=3.5
ARU Arti 140.29 41 PKIKP PKPdf 16 05 53.4 +4.0
PETK Petropavlovsk- 140.66 313 PKP PKPdf 16 05 52.6 +2.4
comp=Z,5.1nm,0.8s,baz=112,slow=5.6,SNR=6.3
SEY Seymchan 140.66 330 PKhKP PKPpre 16 05 45.2
comp=Z,1.7nm,0.6s,baz=117,slow=5.5,SNR=2.1
SEY PKP PKiKP 16 05 51.5 -1.0
comp=Z,7.6nm,0.8s,baz=84,slow=4.4,SNR=6.4
TIXI Tiksi 141.41 350 ePKHKP PKPpre 16 05 45.2
TIXI Tiksi 141.41 350 ePKPpre PKPpre 16 05 45.2
AB31 Akbulak array 142.13 53 iPKHKP PKPpre 16 05 49.0
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 142.13 53 ePKPpre PKPpre 16 05 48.9
KAD Karad 145.25 111 eP PKPdf 16 05 59.6 +0.1
POO Poona 145.70 109 eP PKPab 16 06 02.0 +1.1
KSM Kuching 146.84 184 ePKPdf PKPdf 16 06 00.8 -1.5
PSI Prapat 147.14 163 PKPbc PKPdf 16 06 03.2 +0.3
baz=294,slow=3.9
BRVK Borovoye 147.74 44 ePKP2 PKPab 16 06 07.2 -0.6
BRVK Borovoye 147.74 44 ePKPab PKPab 16 06 07.2 -0.6
BVA0 Borovoye Array 147.81 44 iPKIKP PKPbc 16 06 05.0 -0.6
BVA0 pmax pmax
comp=Z,12nm,0.8s
HYB Hyderabad 148.62 116 iPKP PKPbc 16 06 08.5 -0.3
YAK Yakutsk 149.41 340 ePKIKP PKPdf 16 06 06.7 +1.8
YAK e 16 06 19.6
YAK pmax pmax
comp=Z,73nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.6s
YAK Yakutsk 149.41 340 ePKPdf PKPdf 16 06 05.5 +0.6
YAK ePKPbc PKiKP 16 06 10.0 -0.5
KK31 Karatay Array 149.89 63 iPKHKP PKPbc 16 06 12.2 +1.0
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 149.89 63 ePKPbc PKPbc 16 06 12.2 +1.0
KULM Kulim 149.93 165 ePKPbc PKPbc 16 06 10.5 -1.7
ASAJ Asahikawa 151.83 300 PKPbc PKPbc 16 06 15.9 +0.2
comp=Z,7.4nm,0.8s,baz=150,slow=20,SNR=4.3
EKS2 Erkin-Say 152.31 63 ePKIKP PKPbc 16 06 19.0 +2.0
EKS2 Erkin-Say 152.31 63 ePKPbc PKPbc 16 06 19.0 +2.0
AAK Ala-Archa 152.84 63 PKIKP PKPdf 16 06 10.9 -0.2
AAK e 16 06 20.3
AAK Ala-Archa 152.84 63 PKPbc PKPbc 16 06 20.4 +2.1
baz=192,slow=3.9
AAK Ala-Archa 152.84 63 PKPdf PKPdf 16 06 10.9 -0.2
AAK ePKPbc PKPbc 16 06 20.3 +2.1
FRU Bishkek 152.91 63 ePKIKP PKPdf 16 06 10.0 -1.0
FRU e 16 06 28.0
KURK Kurchatov 153.41 44 ePKIKP PKPbc 16 06 19.7 +0.7
KURK Kurchatov 153.41 44 ePKPbc PKPbc 16 06 19.7 +0.7
NVS Novosibirsk 153.55 33⇑iPKIKP PKPbc 16 06 19.2 +0.1
NVS pmax pmax
comp=Z,14nm,1.0s
NVS pmax pmax
comp=E,11nm,1.4s
TKM2 Tokmak 2 153.62 62 PKIKP PKPdf 16 06 11.0 -1.2
TKM2 Tokmak 2 153.62 62 PKPdf PKPdf 16 06 11.0 -1.2
KSH Kashi 154.13 70 ePKPdf PKPdf 16 06 14.8 +1.8
KSH epPKP PKiKP 16 06 23.8 +2.6
KSH esPKP 16 06 28.5
KSH eSKS SKSdf 16 13 15.8 -3.4
KSH eSKKS SKKSac 16 17 00.8 +1.5
KSH AMB AMB
comp=E,68nm,4.0s
KSH LR LR
comp=E,42nm,4.9s
KSH LR LR
comp=E,37nm,4.6s
ZALV Zalesovo Beam 154.84 33 PKP PKPdf 16 06 14.1 +0.8
comp=E,0.7nm,0.6s,baz=329,slow=2.5,SNR=3.1
ZALV PKPbc PKiKP 16 06 23.4 +1.4
comp=E,7.5nm,0.8s,baz=306,slow=2.7,SNR=16
MJAR Matsushiro Arr 155.40 283 PKPbc PKPdf 16 06 25.3 +11
comp=E,0.6nm,0.6s,baz=232,slow=0.9,SNR=4.2
BOD Bodaibo 156.55 352 ePKP2 PKPab 16 06 43.7 -0.6
BOD pmax pmax
comp=Z,14nm,0.9s
KOLN Koldanda 158.08 102 eP PKPdf 16 06 19.3 +0.7
DANN Dangsing 158.44 100 eP PKPdf 16 06 20.1 +0.9
GKN Gorkha 159.01 102 eP PKPdf 16 06 20.1 +0.4
DMN Daman 159.22 104 eP PKPdf 16 06 20.7 +0.6
KKN Kakani 159.44 103 eP PKPdf 16 06 20.7 +0.4
PKIN Phulchoki 159.44 104 eP PKPdf 16 06 20.5 +0.2
PKI Pulchoki 159.45 104 eP PKPdf 16 06 20.8 +0.4
GUN Gumba 159.97 104 eP PKPdf 16 06 21.5 +0.5
JIRN Jiri 160.11 105 eP PKPdf 16 06 21.4 +0.2
RAMN Ramite 160.11 107 eP PKPdf 16 06 21.9 +0.8
ODAN Odare 160.69 108 eP PKPdf 16 06 22.3 +0.6
TAPN Taplejung 161.17 107 eP PKPdf 16 06 23.2 +0.9
WMQ Urumqi 161.91 54 PKP PKPdf 16 06 22.0 -0.3
WMQ LR LR
comp=Z,190nm,22.8s
WMQ LR LR
comp=Z,160nm,24.0s
WMQ LR LR
comp=Z,130nm,20.4s
CMAR Chiang Mai Arr 161.91 151 PKP PKPdf 16 06 23.2 +0.3
comp=Z,1.7nm,1.0s,baz=244,slow=2.2,SNR=11
CMAR PKPab PKPab 16 07 07.0 -1.7
comp=Z,1.1nm,0.9s,baz=228,slow=4.5,SNR=5.2
TLY Talaya 162.77 9 ePKP2 PKPab 16 07 12.8 +1.2
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY Talaya 162.77 9 PKPab PKPab 16 07 12.3 +0.7
comp=Z,0.9nm,0.5s,baz=42,slow=6.0,SNR=3.6
KSRS Korea Array 163.64 285 PKPab PKPab 16 07 16.5 +0.5
comp=Z,3.4nm,0.8s,baz=93,slow=4.4,SNR=11
KSAR Wonju Array Be 163.67 285 PKP2 PKPab 16 07 16.5 +0.4
KSAR Wonju Array Be 163.67 285 PKPab PKPab 16 07 16.5 +0.4
CN2 Changchun 163.73 309 ePKP PKPdf 16 06 26.0 +2.1
CN2 epPKP pPKPdf 16 06 37.0 +7.6
CN2 ePP PP 16 11 07.5 +5.6
CN2 eSS SS 16 31 30.5 +1.0
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,1μm,21.0s
CN2 LR LR
comp=Z,1μm,21.0s
CN2 LR LR
comp=Z,2μm,22.0s
ZAK Zakamensk 163.99 11 ePKP2 PKPab 16 07 15.9 -1.2
ZAK pmax pmax
comp=Z,4.0nm,1.3s

LSA Lhasa 164.91 105 ePKIKP PKPdf 16 06 26.4 +0.3
LSA Lhasa 164.91 105 ePKPdf PKPdf 16 06 26.4 +0.3
SONM Songino Array 166.85 5 PKP PKPdf 16 06 26.3 -0.3
comp=Z,0.7nm,0.5s,baz=354,slow=7.7,SNR=3.3
SONM PKPab PKPab 16 07 30.7 +0.9
comp=Z,4.5nm,0.8s,baz=335,slow=2.1,SNR=5.1
KMI Kunming 169.41 153 PKP PKPdf 16 06 31.5 +2.3
NJ2 Nanjing 170.51 257 ePKP PKPdf 16 06 30.0 +0.7
GYA Guiyang 171.68 172 PKP PKPdf 16 06 30.0 -0.2
GYA pPKP pPKPdf 16 06 42.0 +6.2
GYA PKPab PKPab 16 07 51.5 -0.1
GYA PKS PKSdf 16 10 01.5 -1.3
GYA PP PP 16 11 42.0 +0.4
GYA SKKS 16 18 25.8
GYA SS SS 16 32 42.5 -5.3
GYA AMB AMB
comp=Z,130nm,8.6s
GYA LR LR
comp=Z,130nm,21.4s
GYA LR LR
comp=Z,120nm,21.5s
GYA LR LR
comp=Z,140nm,24.0s
GTA Gaotai 171.99 52 ePKP PKPdf 16 06 31.5 +1.5
GTA pPKP pPKPdf 16 06 42.0 +6.5
GTA sPKP 16 06 46.0
GTA PKPab PKPab 16 07 55.3 +2.3
HHC Hu-ho-hao-te 173.26 336 ePKP PKPdf 16 06 30.8 +0.3
HHC pPKP pPKPdf 16 06 42.5 +6.5
HHC sPKP 16 06 46.3
HHC PP PP 16 11 55.3 +5.7
HHC SKS SKSdf 16 13 29.0 -4.0
HHC SS SS 16 33 07.8 +4.1
HHC AMB AMB
comp=Z,84nm,5.2s
HHC LR LR
comp=Z,170nm,20.4s
HHC LR LR
comp=Z,150nm,21.8s
HHC LR LR
comp=Z,250nm,22.2s
CD2 Chengdu 174.80 136 PKP PKPdf 16 06 30.5 -0.7
CD2 pPKP pPKPdf 16 06 41.5 +4.7
CD2 sPKP 16 06 45.0
CD2 PKS PKSdf 16 10 01.5 -2.0
CD2 PP PP 16 11 58.8 +1.2
CD2 SKS SKSdf 16 13 29.0 -4.8
CD2 SKKS SKKSac 16 18 40.3 -3.5
CD2 SS SS 16 33 13.3 -6.2
CD2 AMB AMB
comp=Z,240nm,6.2s
LZH Lanzhou 176.37 67 ePKP PKPdf 16 06 30.5 -1.1
LZH pPKP pPKPdf 16 06 41.5 +4.4
LZH sPKP 16 06 45.0
LZH AMB AMB
comp=Z,200nm,8.3s
XAN Xi'an 178.95 229 PKP PKPdf 16 06 29.5 -2.4

SKHL 28 15:49:07.2±1.2, 42.01N×144.25E, h30km±1km, mb4.3/3
JMA 28 15:49:07.4±0.1, 42.40N×143.70E, h58km±1km, M3.3
JMA Felt I J1.
ISC 28 15:49:05.5±2.4, 42.38N±0.06×143.78E±0.04, h15km±15km, n14, σ1.25/25, 4C-2D, Hokkaido region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JCH Churui 0.39 308 ⇓P Pn 15 49 17.7 +1.2
JCH eS Sn 15 49 24.7 +1.0
JOB Onbets 0.53 5 ⇑P Pn 15 49 19.5 +1.0
JOB eS Sn 15 49 28.2 +1.0
JEM Erimo 0.58 232 P Pn 15 49 20.2 +1.0
JNBK Urakawa-nobuka 0.77 263 ⇓P Pn 15 49 21.9 +0.2
JNBK eS Sn 15 49 32.5 -0.5
JAK Akkeshi 0.92 47 ⇑P Pn 15 49 23.9 +0.1
JAK eS Sn 15 49 36.4 -0.4
JAR Ashorobuto 0.92 360 ⇑P Pn 15 49 24.2 +0.3
JAR eS Sg 15 49 35.5 +0.2
JBT2 Biratori 2 1.12 292 P Pb 15 49 26.0 -0.5
JFR Furan 1.17 312 P Pn 15 49 26.8 -0.6
JFR eS Sb 15 49 41.6 -0.9
JNK Nakash 1.39 29 ⇑P Pn 15 49 30.0 -0.4
JNK eS Sn 15 49 46.4 -2.1
JTKR Abashiri--Toko 1.60 3 P Pn 15 49 33.8 +0.6
JTKR eS Sn 15 49 53.2 -0.3
JAB Ashibetsu 1.60 315 P Pb 15 49 34.3 -0.5
YUK Yuzh-Kuril'sk 2.25 42 eP Pn 15 49 42.7 +0.5
YUK AMB AMB 15 49 45.8
27nm,0.3s
YUK AMB AMB 15 49 45.8
20nm,0.3s
YUK AMB AMB 15 49 45.8
117nm,0.3s
YUK eS Sn 15 50 09.9 +0.2
YUK A A 15 50 13.0
244nm,0.6s
YUK A A 15 50 13.0
253nm,0.6s
SHO Shikotan 2.69 55 eP Pn 15 49 48.1 -0.1
SHO AMB AMB 15 49 57.6
119nm,1.0s
SHO eS Sn 15 50 17.8 -2.6
SHO A A 15 50 22.0
158nm,0.5s
KUR Kuril'sk 4.11 45 eP Pn 15 50 10.3 +2.6
KUR AMB AMB 15 50 15.1
14nm,0.8s
KUR AMB AMB 15 50 15.1
11nm,0.8s
KUR AMB AMB 15 50 15.1
19nm,0.8s
KUR eS Sn 15 50 58.1 +2.5
KUR A A 15 51 12.6
67nm,0.4s
KUR A A 15 51 12.6
29nm,0.4s

IDC 28 15:49:08.4±1.2, 25.28N×128.50E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/47, mbtmp3.7/5, ML3.0/1, Error ellipse: s-maj=59.1km s-min=17.2km az=77.0
ISCJB 28 15:49:10.5±0.7, 25.89N±0.04×128.64E±0.04, h33km±11km, mb3.6/4, Error ellipse: s-maj=7.2km s-min=4.5km az=136.0
JMA 28 15:49:12.0±0.3, 25.97N×128.61E, h39km, M3.5
ISC 28 15:49:10.9±2.2, 25.89N±0.05×128.64E±0.04, h25km±17km, n23, σ1.54/34, mb3.7/4, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.83 319 P Pn 15 49 26.0 -1.0
JNTH S Sb 15 49 37.0 -0.5
JJT2 Tamagusuku 2 0.84 287 P Pn 15 49 27.0 0.0
JJT2 S Sb 15 49 37.9 +0.3
JOW Kunigami 0.99 341 P Pn 15 49 28.8 -0.4
JOW S Sn 15 49 40.2 -2.2
JOW Kunigami 0.99 341 Pn Pn 15 49 28.9 -0.4
baz=152,slow=14
JOW Sn Sn 15 49 40.5 -2.0
28nm,0.3s,baz=162,slow=20,SNR=32
JIH Iheya 1.29 332 P Pn 15 49 33.3 0.0
JIH S Sn 15 49 48.3 -1.4
JAGN Aguni-jima 1.43 299 P Pn 15 49 35.5 +0.3
JAGN S Sn 15 49 52.1 -1.2
JOKE Okinoerabujima 1.47 358 P Pn 15 49 35.8 +0.1
JOKE S Sn 15 49 53.1 -1.0
JKE Kume jima 2 1.72 285 P Pn 15 49 38.9 -0.3
JKE S Sn 15 49 58.8 -1.6
JTK Tokunoshima 1.91 8 P Pn 15 49 42.0 +0.2
JTK S Sn 15 50 03.3 -1.7
JMZ Minamidaito 2 2.33 91 P Pn 15 49 47.5 -0.1
JMZ S Sn 15 50 12.3 -3.1
JAMN Amaminishikomi 2.39 11 P Pn 15 49 48.7 +0.3
JAMN S Sn 15 50 14.6 -2.3
JAM Amami Oshima 2.65 19 P Pn 15 49 52.0 0.0
JAM S Sn 15 50 21.5 -1.9
JOGS Gusukube 3.13 250 P Pn 15 49 59.3 +0.6
JOGS S Sn 15 50 33.9 -1.4
JIKM Ikemajima 3.21 253 P Pn 15 50 00.2 +0.5
JIKM eS Sn 15 50 37.0 -0.2
JIRB Irabujima 3.31 252 P Pn 15 50 01.2 +0.1
JIRB S Sn 15 50 33.9 -5.7

JTJ Tarama 3.77 252 P Pn 15 50 07.3 -0.2
JTJ S Sn 15 50 48.1 -3.0
JISG Ishigakijimahi 4.13 253 P Pn 15 50 11.4 -0.9
JISG S Sn 15 50 55.1 -4.7
JIJ Ishigaki jima 4.35 250 P Pn 15 50 14.4 -1.0
JIJ eS Sn 15 51 01.7 -3.6
JNU Nakatsue 7.46 15 Pn Pn 15 50 59.9 +1.6
0.2nm,0.3s,baz=164,slow=18,SNR=2.6
SONM Songino Array 28.04 327 P P 15 55 01.7 +1.6
0.8nm,0.4s,baz=144,slow=11,SNR=5.1
MKAR Makanchi Array 42.03 312 P P 15 57 00.3 0.0
0.4nm,0.7s,baz=90,slow=10,SNR=6.2
WRA Warramunga Arr 45.90 173 P P 15 57 32.7 +1.2
1.0nm,0.6s,baz=353,slow=8.3,SNR=8.3
ASAR Alice Springs 49.53 174 P P 15 58 01.1 +1.4
0.5nm,0.7s,baz=1.9,slow=7.5,SNR=8.1

IDC 28 15:49:12.1±1.8, 38.49S×74.31W, h0km, mb4.2/2, Error ellipse: s-maj=57.7km s-min=42.1km az=27.0
NEIC 28 15:49:18.3±1.0, 38.30S×74.18W, h35km, mb4.2/1, Error ellipse: s-maj=31.7km s-min=27.4km az=49.0
ISC 28 15:49:17.9±1.7, 38.4S±0.3×74.2W±0.3, h35km, n11, σ0.73/10, mb4.2/3, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LPAZ La Paz 22.64 15 P P 15 54 17.2 +0.7
baz=167,slow=4.0
LPAZ La Paz 22.64 15 eP P 15 54 16.3 -0.3
8.0nm,0.9s
TXAR Lajitas Array 72.78 333 P P 16 00 41.8 -0.9
1.1nm,0.6s,baz=158,slow=7.7,SNR=5.4
ANMO Albuquerque 78.86 333 P P 16 01 17.0 -0.4
baz=144,slow=10
NVAR Mina Array Bea 86.54 327 P P 16 01 58.1 +0.8
baz=167,slow=5.6
ELK Elko 87.24 330 P P 16 02 00.4 -0.3
1.7nm,0.8s,baz=119,slow=1.5,SNR=3.7
TORD Torodi Ar. Bea 87.30 71 P P 16 02 00.8 -0.5
baz=233,slow=5.0
TIXI Tiksi 144.64 348 ePKPpre PKPpre 16 08 46.6
ABKAR Akbulak array 145.65 56 ePKP PKPbc 16 08 52.3 0.0
BVAR Borovoye Array 151.59 47 PKPbc PKPbc 16 09 08.7 +1.0
baz=301,slow=3.0
SONM Songino Array 170.54 358 PKPab PKPab 16 10 39.5 +0.5
baz=358,slow=4.3

IDC 28 15:50:29.0±0.8, 31.03S×177.92W, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.0/44, mbtmp4.1/8, ML3.4/1, MS4.4/2, Ms1 4.4/2, ms1mx3.3/45, Error ellipse: s-maj=28.4km s-min=19.3km az=139.0
ISCJB 28 15:50:33.7±0.7, 31.10S±0.04×177.9W±0.1, h46km, mb4.2/9, MS4.5/2, Error ellipse: s-maj=17.3km s-min=5.2km az=12.2
NEIC 28 15:50:34.7±1.5, 30.99S×177.95W, h37km±11km, mb4.5/2, Error ellipse: s-maj=16.4km s-min=10.7km az=128.0
ISC 28 15:50:35.6±0.7, 30.95S±0.07×178.0W±0.1, h46km, n47, σ1.20/46, mb4.4/9, Kermadec Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 1.70 2 Pn Pn 15 51 02.3 -0.5
216nm,0.3s,baz=51,slow=18,SNR=5.4
RAO Sn Sn 15 51 21.8 -1.5
521nm,0.3s,baz=52,slow=22,SNR=7.5
MXZ Matakaoa Point 7.28 204 ePN Pn 15 52 18.1 -1.2
MXZ SN Sn 15 53 39.6 -1.0
WMGZ Waiomatatini S 7.47 203 PN Pn 15 52 21.4 -0.6
WMGZ eSN Sn 15 53 44.7 -0.6
HAZ Te Kaha 7.64 206 PN Pn 15 52 24.0 -0.3
PUZ Puketiti 7.75 203 PN Pn 15 52 24.8 -1.2
PUZ SN Sn 15 53 52.4 0.0
CNGZ Carnagh Statio 8.14 202 PN Pn 15 52 30.2 -1.0
MWZ Matawai 8.24 205 PN Pn 15 52 30.5 -2.2
URZ Urewera 8.34 208 Pn Pn 15 52 30.2 -3.7
0.5nm,0.3s,baz=266,slow=4.0,SNR=13
URZ Sn Sn 15 54 07.3 +0.6
7.6nm,0.3s,baz=202,slow=19,SNR=11
URZ Urewera 8.34 208 eP Pn 15 52 32.0 -1.9
URZ Sn Sn 15 54 07.2 +0.6
URZ Urewera 8.34 208 PN Pn 15 52 32.1 -1.9
SNGZ Shannon Statio 8.71 205 PN Pn 15 52 37.6 -1.3
BKZ Black Stump Fm 9.36 207 ePN Pn 15 52 44.7 -3.3
KAHZ Kahuranaki 9.77 204 PN Pn 15 52 51.7 -1.8
KHZ Kahutara 13.30 208 eP Pn 15 53 35.9 -5.9
DZM Mont Dzumac 16.50 299 LR LR 15 59 36.8
comp=Z,43nm,18.5s,baz=166,slow=33
QLP Quilpie 33.31 268 P P 15 57 10.8 +1.7
baz=32,SNR=3.8
CTA Charters Tower 33.91 280 P P 15 57 13.8 -0.6
1.5nm,0.3s,baz=90,slow=10,SNR=4.6
CTAO Charters Tower 33.91 280 eP P 15 57 13.8 -0.6
2.9nm,0.5s
STKA Stephens Creek 34.38 258 P P 15 57 20.9 +2.6
3.4nm,0.6s,baz=109,slow=14,SNR=8.2
STKA Stephens Creek 34.38 258 eP P 15 57 20.7 +2.4
STKA Stephens Creek 34.38 258 P P 15 57 20.9 +2.6
baz=34,SNR=7.7
HTT Hallett 36.37 254 P P 15 57 37.3 +1.7
baz=36,SNR=5.1
BBOO Buckleboo 38.84 255 P P 15 57 57.1 +0.7
baz=38,SNR=6.6
AS31 Alice Springs 43.10 268 eP P 15 58 31.8 +0.2
ASAR Alice Springs 43.10 268 P P 15 58 32.0 +0.4
3.3nm,0.8s,baz=105,slow=7.0,SNR=22
WRAB Tennant Creek 44.14 273 eP P 15 58 39.8 -0.1
WRA Warramunga Arr 44.14 273 P P 15 58 40.2 +0.3
5.1nm,0.6s,baz=111,slow=8.1,SNR=47
WRKA Warakurna 47.43 263 P P 15 59 05.8 -0.1
baz=46,SNR=6.5
FITZ Fitzroy Crossi 52.38 270 P P 15 59 44.8 +1.3
1.6nm,0.7s
BATI Baumata 57.74 278 LR LR 16 24 15.7
comp=Z,778nm,21.2s,baz=338,slow=35
QSPA South Pole Qui 59.16 180 eP P 16 00 35.5 +4.0
1.7nm,0.5s
PETK Petropavlovsk- 86.35 346 P P 16 03 12.3 -0.1
1.6nm,0.6s,baz=132,slow=11,SNR=2.6
NVAR Mina Array Bea 88.63 43 P P 16 03 25.0 +1.0
0.6nm,0.7s,baz=229,slow=6.6,SNR=3.2
TXAR Lajitas Array 92.67 57 P P 16 03 43.8 +1.0
0.2nm,0.7s,baz=253,slow=2.7,SNR=2.3
NEW Newport 95.81 36 LR LR 16 35 39.6
comp=Z,90nm,21.8s,baz=149,slow=28
MKAR Makanchi Array 118.14 310 PKP PKPdf 16 09 15.7 -1.7
0.4nm,0.7s,baz=318,slow=1.9,SNR=2.6
ZALV Zalesovo Beam 118.46 318 PKP PKPdf 16 09 17.0 -0.6
0.4nm,0.4s,baz=22,slow=5.0,SNR=2.1
BVAR Borovoye Array 126.81 315 PKP PKPdf 16 09 34.4 +0.7
0.4nm,0.3s,baz=315,slow=0.6,SNR=2.7
ARCES ARCESS Array B 139.13 348 PKhKP PKPpre 16 09 49.1
2.7nm,0.8s,baz=0.2,slow=22,SNR=4.4
ARCES PKP PKPdf 16 09 56.8 +0.3
3.0nm,0.8s,baz=30,slow=6.3,SNR=5.5
JOF Joensuu 142.94 338 ep PKPdf 16 10 02.4 -1.0
0.3nm,0.3s
KAF Kangasniemi 145.08 340 ep PKPbc 16 10 05.8 -0.9
2.6nm,0.6s
FINES FINESS Array B 145.67 340 PKPbc PKPbc 16 10 08.4 -0.2
6.3nm,0.8s,baz=68,slow=3.5,SNR=59
NB2 NORSAR Subarra149.30 351 PKP PKPbc 16 10 18.9 +0.2
comp=Z,1.0nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B149.30 351 PKPbc PKPbc 16 10 18.8 +0.1
comp=Z,1.1nm,0.5s,baz=13,slow=4.1,SNR=4.5
AKASG Malin Array Be 151.75 322 PKPbc PKPbc 16 10 25.1 +0.4
comp=Z,3.6nm,0.7s,baz=22,slow=2.8,SNR=16
BRTR Keskin Array B 152.88 298 PKPbc PKPbc 16 10 27.3 -0.5
comp=Z,1.2nm,0.7s,baz=121,slow=3.9,SNR=7.1
TORD Torodi Ar. Bea 162.28 179 PKPab PKPab 16 11 20.3 +0.5
comp=Z,0.6nm,0.5s,baz=174,slow=3.1,SNR=8.4

MEX 28 15:55:24.6±0.4, 15.66N×92.59W, h15km±12km, MD3.8, Mexico-Guatemala border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PCIG 0.61 274 iP Pg 15 55 34.6 -2.0
PCIG iS Sg 15 55 42.8 -2.0
CCIG Comitan 0.75 35 eP Pg 15 55 37.1 -2.4
CCIG iS Sg 15 55 46.5 -3.2
CMIG Matias Romero 2.62 303 eP Pn 15 56 03.3 -3.2
CMIG iS Sn 15 56 34.4 -3.8

HUIG Huatulco 3.39 272 *i* P Pn 15 56 15.3 -1.8
HUIG *i* S Sn 15 56 53.5 -3.7
TEIG Tepich 6.12 41 *i* P Pn 15 56 53.0 -1.6

IDC 28 15:55:26.8±0.9, 1°.92N×98°.78E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.6/42, mbtmp3.8/9, Error ellipse: s-maj=25.1km s-min=10.8km az=91.0
ISCJB 28 15:55:30.7±0.5, 2°.05N±0°.06×98°.90E±0°.08, h33km, mb3.8/10, Error ellipse: s-maj=11.6km s-min=7.4km az=160.6
NEIC 28 15:55:31.4±1.5, 2°.07N×98°.87E, h26km±11km, mb4.0/2, Error ellipse: s-maj=11.6km s-min=8.9km az=62.0
DJA 28 15:55:31.6±0.5, 2°N±4°×9°9E±°, h10km, M4.0/8, MLv4.0/8
ISC 28 15:55:32.3±0.7, 1°.99N±0°.05×98°.89E±0°.07, h35km, n22, σ1§06/20, mb4.0/10, Northern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PSI Prapat 0.81 3 Pg Pn 15 55 42.8 -4.6
64nm,0.3s,baz=169,slow=8.0,SNR=81
PSI Lg Lg 15 55 52.1
82nm,0.3s,baz=60,slow=20,SNR=49
PSI LR LR 15 56 14.4
comp=Z,636nm,18.5s,baz=296,slow=60
MNSI Mandailing Nat 1.37 150 P **Pn 15 55 54.8 -0.2**
GSI Gunungsitoli 1.47 243 *e*P **Pn 15 55 56.9 +0.5**
TSI Tuntungan 1.54 348 P **Pn 15 55 58.8 +1.5**
KCSI Kotacane, Aceh 1.89 324 P **Pn 15 56 04.0 +1.9**
BKNI Bangkinang 2.71 127 P Pn 15 56 18.1 +4.7
BKNI Bangkinang 2.71 127 P **Pn 15 56 16.2 +2.7**
IPM Ipoh 3.27 41 *e*P **Pn 15 56 21.3 +0.1**
PDSI Padang 3.28 151 P **Pn 15 56 21.3 0.0**
KULM Kulim 3.73 28 *e*P **Pn 15 56 26.7 -0.6**
LHMI Lhok Sumawe 3.76 329 Pn **Pn 15 56 27.9 +0.1**
CMAR Chiang Mai Arr 16.37 0 Pn **Pn 15 59 19.2 -0.4**
baz=192,slow=13,SNR=2.2
WRA Warramunga Arr 41.04 124 P **P 16 03 11.6 -1.1**
2.4nm,0.9s,baz=304,slow=9.2,SNR=13
WRAB Tennant Creek 41.05 124 *e*P **P 16 03 13.2 +0.5**
2.6nm,0.6s
ASAR Alice Springs 42.55 129 P **P 16 03 25.8 +0.8**
0.3nm,0.8s,baz=307,slow=8.0,SNR=3.7
SONM Songino Array 46.13 7 P **P 16 03 54.3 +0.9**
0.6nm,0.7s,baz=183,slow=8.7,SNR=2.2
MKAR Makanchi Array 46.92 344 P **P 16 03 59.6 +0.1**
0.3nm,0.5s,baz=154,slow=9.0,SNR=7.9
GEYT Alibeck 51.71 319 P **P 16 04 35.9 -0.3**
0.9nm,0.5s,baz=158,slow=12,SNR=4.7
ZALV Zalesovo Beam 53.07 350 P **P 16 04 45.4 -0.6**
1.0nm,0.6s,baz=174,slow=6.4,SNR=5.7
ABKAR Akbulak array 57.64 331 *e*P **P 16 05 18.1 -0.9**
0.9nm,0.6s
BRTR Keskin Array B 69.84 312 P **P 16 06 39.1 -0.7**
1.6nm,1.0s,baz=128,slow=6.5,SNR=4.0
FINES FINESS Array B 80.09 332 P **P 16 07 38.7 +0.3**
1.1nm,0.8s,baz=101,slow=5.8,SNR=4.6

ISCJB 28 16:03:37.9±2.9, 37°.42S±0°.05×73°.4W±0°.1, h33km±20km, mb4.7/26, MS4.2/5, Error ellipse: s-maj=13.7km s-min=7.9km az=8.7
NEIC 28 16:03:37.7±0.3, 37°.45S×73°.45W, mb4.9/13, Error ellipse: s-maj=10.2km s-min=7.9km az=89.0
IDC 28 16:03:37.5±0.6, 37°.41S×73°.42W, h19km±3km, mb4.4/14, mb1 4.5/18, mb1mx4.4/31, mbtmp4.5/18, ML4.3/4, MS4.1/7, Ms1 4.1/7, ms1mx3.8/28, Error ellipse: s-maj=16.2km s-min=13.5km az=96.0
ISC 28 16:03:38.0±0.6, 37°.45S±0°.06×73°.36W±0°.08, h23km±3km, h23km:pP-P, n78, σ1§48/81, mb4.7/26, MS4.2/5, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.94 147 Pn **Pn 16 04 38.7 +1.5**
5.6nm,0.3s,baz=321,slow=13,SNR=37
PLCA Lg Lg 16 05 36.6
9.0nm,0.3s,baz=22,slow=16,SNR=1.8
PLCA LR LR 16 06 32.1
comp=Z,2µm,20.0s,baz=315,slow=44
CFAA Coronel Fontan 7.20 37 Pn **Pn 16 05 21.8 -0.2**
1.9nm,0.3s,baz=209,slow=13,SNR=19
CFAA Sn **Sn 16 06 45.1 +2.0**
baz=342,slow=20,SNR=3.2
CFAA Lg Lg 16 07 20.8
0.4nm,0.3s,baz=319,slow=20,SNR=3.1
CFAA LR LR 16 08 29.9
comp=Z,241nm,19.8s,baz=222,slow=41
TRQA Tornquist 9.04 97 *e*P **Pn 16 05 49.5 +2.4**
72nm,0.9s
LVC Limon Verde 15.28 16 *e*P **Pn 16 07 13.9 +1.4**
15nm,0.8s
CPUP Villa Florida 17.53 55 P **Pn 16 07 40.9 -0.1**
0.7nm,0.3s,baz=211,slow=11,SNR=8.9
CPUP LR LR 16 15 06.1
comp=Z,1µm,20.6s,baz=216,slow=39
CPUP Villa Florida 17.53 55 *e*P **Pn 16 07 40.6 -0.3**
0.7nm,0.7s
USHA Ushuaia 17.71 171 P **P 16 07 44.4 +0.7**
0.3nm,0.3s,baz=327,slow=6.8,SNR=4.8
LPAZ La Paz 21.58 14 P **P 16 08 26.8 0.0**
7.3nm,0.8s,baz=198,slow=6.6,SNR=13
LPAZ La Paz 21.58 14 *e*P **P 16 08 27.9 +1.0**
SIV San Ignacio 23.98 30 P **P 16 08 50.9 -0.1**
23nm,0.7s,baz=218,slow=9.4,SNR=54
SIV LR LR 16 19 54.2
comp=Z,682nm,19.1s,baz=220,slow=41
NNA Nana 25.55 352 P **P 16 09 04.2 -1.0**
3.9nm,0.4s,baz=216,slow=14,SNR=2.8
SAML Samuel 29.83 21 *e*P **P 16 09 41.7 -1.8**
9.2nm,1.0s
BDFB Brasilia 31.22 53 P **P 16 09 55.1 -0.8**
3.2nm,0.8s,baz=208,slow=11,SNR=4.6
BDFB pP **pP 16 10 01.6 -1.3**
10.0nm,0.7s,baz=218,slow=11,SNR=11
BDFB LR LR 16 23 28.4
comp=Z,608nm,21.5s,baz=218,slow=38
RPN Rapa Nui 31.94 278 LR LR 16 19 11.8
comp=Z,487nm,19.4s,baz=93,slow=29
OTAV Otavalo 37.80 352 *e*P **P 16 10 55.3 +2.1**
13nm,1.3s
RCBR Riachuelo 46.40 57 P **P 16 12 03.9 +0.9**
7.6nm,0.8s,baz=258,slow=2.5,SNR=4.9
VNA3 Neumayer Olymp 46.60 156 P **P 16 12 04.1 +0.2**
VNA2 Neumayer--Watz 47.28 156 P **P 16 12 11.8 +2.6**
SNAA Sanae 48.83 157 P **P 16 12 20.4 -0.7**
SNAA Sanae 48.83 157 P **P 16 12 21.2 0.0**
5.2nm,1.1s,baz=253,slow=6.6,SNR=7.9
SNAA Sanae 48.83 157 *e*P **P 16 12 21.2 0.0**
34nm,1.4s
QSPA South Pole Qui 52.79 180 P **P 16 12 51.7 +0.5**
7.0nm,0.9s,baz=156,slow=4.1,SNR=12
QSPA South Pole Qui 52.79 180 *e*P **P 16 12 51.5 +0.3**
13nm,1.0s
RKT Rikitea 54.21 267 *e*LR LR 16 28 50.2
399nm,23.5s
RKT Rikitea 54.21 267 *e*T T 17 10 55.6
2.7nm,0.2s
APG El Apazote 54.60 340 P P 16 13 01.0 -4.0
4.8nm,0.8s,baz=148,slow=8.9,SNR=5.0
TBI Tubuai 65.52 259 *e*T T 17 25 03.0
5.9nm,0.3s
MEH Mehetia 67.38 264 *e*T T 17 27 22.1
20nm,0.2s
TIAR Tiarei 68.57 264 *e*T T 17 28 51.3
5.3nm,0.3s
PAE Paea 68.69 264 *e*T T 17 29 00.9
1.1nm,0.2s
PPT2 Papeete2 68.73 264 *e*S **S 16 23 46.8 +4.2**
134nm,23.5s
PPT2 Papeete2 68.73 264 *e*LR LR 16 35 35.3
362nm,23.8s
PPT2 Papeete2 68.73 264 *e*T T 17 29 03.0
2.2nm,0.3s
PPT Papeete 68.74 264 P **P 16 14 40.0 -0.3**
44nm,1.0s,baz=115,slow=2.0,SNR=5.1
LPIG La Paz 70.41 324 LR LR 16 37 46.3
comp=Z,104nm,21.6s,baz=178,slow=29
TXAR Lajitas Array 72.25 332 P **P 16 15 01.4 -0.1**
1.9nm,0.7s,baz=152,slow=8.4,SNR=19
SWET Sewanee 73.24 349 *e*P **P 16 15 06.2 -0.9**
13nm,0.9s
LIC Lamto 76.89 72 *e*P **P 16 15 28.7 +0.1**
49nm,0.8s
TIC Toumodi 77.16 71 *e*P **P 16 15 30.5 +0.3**
14nm,0.2s
KIC Kosan Boka 77.19 72 *e*P **P 16 15 30.8 +0.4**
57nm,0.9s
DBIC Dimbokro 77.30 71 P **P 16 15 31.4 +0.5**
8.3nm,0.8s,baz=204,slow=6.2,SNR=11
DBIC pP **pP 16 15 38.0 -0.4**
17nm,0.8s,baz=214,slow=7.7,SNR=13
DBIC Dimbokro 77.30 71 *e*P **P 16 15 31.1 +0.1**
26nm,0.9s
DBIC pP **pP 16 15 38.0 -0.4**
ANMO Albuquerque 78.32 333 *e*P **P 16 15 36.4 0.0**
5.1nm,1.1s
BOSA Boshof 79.42 118 P **P 16 15 43.0 +0.3**
3.9nm,0.8s,baz=222,slow=4.0,SNR=5.1
BOSA pP **pP 16 15 49.4 -0.8**
14nm,0.8s,baz=206,slow=4.8,SNR=14
BOSA Boshof 79.42 118 *e*P **P 16 15 42.6 -0.1**
28nm,1.1s
BOSA pP **pP 16 15 49.4 -0.8**
URZ Urewera 80.56 229 *e*P **P 16 15 45.8 -2.8**
21nm,0.5s
LBTB Lobatse 81.83 115 *e*P **P 16 15 55.5 -0.2**
24nm,0.7s
CCUT Cedar City 83.28 329 *e*P **P 16 16 03.9 +1.0**
4.6nm,1.0s
ECSD EROS Data Cent 83.52 343 P **P 16 16 06.1 +2.4**
11nm,1.1s
NVAR Mina Array Bea 86.12 326 P **P 16 16 17.6 +0.4**
1.2nm,0.7s,baz=156,slow=6.1,SNR=11
NVAR pP **pP 16 16 23.4 -1.3**
1.6nm,0.8s,baz=150,slow=6.2,SNR=10
PDAR Pinedale Array 86.37 334 P **P 16 16 17.6 -0.7**
1.4nm,1.0s,baz=142,slow=5.1,SNR=6.5
TOA0 Torodi Ar. Sit 86.39 71 *e*P **P 16 16 17.9 -0.8**
TORD Torodi Ar. Bea 86.39 71 P **P 16 16 18.4 -0.3**
1.3nm,0.6s,baz=226,slow=3.4,SNR=9.2
TORD pP **pP 16 16 25.0 -1.3**
3.0nm,1.0s,baz=243,slow=3.9,SNR=9.9
DZM Mont Dzumac 98.34 234 *e*LR LR 16 49 31.8
268nm,24.7s
ASAR Alice Springs 114.01 207 PKKPbc PKKPbc 16 32 56.0 -0.1
0.2nm,0.4s,baz=342,slow=3.3,SNR=4.8
VYHS Vyhne 118.19 49 *e*PKP PKPdf 16 22 29.9 +7.2
BRTR Keskin Array B 124.40 63 PKP **PKPdf 16 22 35.0 -0.2**
0.8nm,0.7s,baz=181,slow=4.6,SNR=5.1
BRTR pPKP **pPKPdf 16 22 41.8 -1.1**
1.1nm,0.7s,baz=215,slow=3.0,SNR=6.9
AKASG Malin Array Be 125.28 49 PKP **PKPdf 16 22 34.7 -1.5**
0.5nm,0.6s,baz=263,slow=2.4,SNR=3.7
AKASG PP **PP 16 24 28.7 +1.6**
0.1nm,0.3s,baz=261,slow=6.1,SNR=5.0
GEYT Alibeck 141.95 74 PKhKP PKPpre 16 23 02.9
1.1nm,0.7s,baz=247,slow=3.1,SNR=4.1
TIXI Tiksi 143.87 348 *e*PKPpre PKPpre 16 23 06.5
ABKAR Akbulak array 144.59 55 *e*PKPpre PKPpre 16 23 10.2
PSI Prapat 144.79 167 PKP **PKPab 16 23 12.1 -0.6**
6.0nm,0.5s,baz=329,slow=8.1,SNR=5.3
HYB Hyderabad 148.26 121 *i* PKP **PKPdf 16 23 21.0 +1.6**
YAK Yakutsk 151.55 337 *e*PKPbc **PKPbc 16 23 28.4 -0.9**
KKAR Karatay Array 152.01 67 PKPbc **PKPbc 16 23 32.2 +1.1**
MJAR Matsushiro Arr 154.82 278 PKPab **PKPab 16 23 51.9 -0.7**
2.9nm,0.8s,baz=138,slow=3.3,SNR=9.6
KSH Kashi 155.96 76 *e*PKP **PKPdf 16 23 30.8 +0.5**
KSH *e*pPKP **pPKPdf 16 23 40.8 +2.7**
KSH *e*sPKP 16 23 45.0
KSH *e*SKS **SKSdf 16 30 31.8 -3.5**
KSH *e*SS **SS 16 47 20.0 -3.0**
KSH AMB AMB
comp=Z,74nm,3.9s
KSH LR LR
comp=Z,52nm,10.7s
ZALV Zalesovo Beam 157.69 35 PKP **PKPdf 16 23 30.9 -1.0**
0.5nm,0.4s,baz=236,slow=1.6,SNR=4.7
ZALV PKPab **PKPab 16 24 04.3 0.0**
1.7nm,0.6s,baz=300,slow=5.3,SNR=5.1
MK31 Makanchi Array 159.74 55 *e*PKPdf **PKPdf 16 23 35.4 +0.8**
MKAR Makanchi Array 159.74 55 PKP **PKPdf 16 23 35.5 +0.9**
1.5nm,1.1s,baz=297,slow=1.1,SNR=5.1
MKAR PKPab **PKPab 16 24 13.0 -0.6**
1.2nm,0.7s,baz=285,slow=3.7,SNR=6.3
MKAR PP **PP 16 27 54.6 -1.0**
0.5nm,0.8s,baz=290,slow=6.0,SNR=3.2
KSRS Korea Array 163.10 277 PKPab **PKPab 16 24 28.1 -0.4**
3.2nm,1.0s,baz=97,slow=4.2,SNR=5.0
KSAR Wonju Array Be 163.13 276 PKPab **PKPab 16 24 28.1 -0.5**
WMQ Urumqi 164.29 60 *e*PKP **PKPdf 16 23 38.8 -0.6**
WMQ AMB AMB
comp=Z,130nm,12.2s
WMQ LR LR
comp=N,110nm,19.0s
WMQ LR LR
comp=E,150nm,20.6s
WMQ LR LR
comp=Z,150nm,23.2s
KMI Kunming 167.27 164 PKP **PKPdf 16 23 43.5 +0.9**
NJ2 Nanjing 168.60 245 *e*PKP **PKPdf 16 23 41.5 -1.5**
CD2 Chengdu 173.05 159 PKP **PKPdf 16 23 44.3 -1.2**
HHC Hu-ho-hao-te 174.88 313 *e*PKP **PKPdf 16 23 44.8 -1.1**
HHC pPKP **pPKPdf 16 23 55.3 +1.7**
HHC sPKP 16 23 59.8
HHC PP **PP 16 29 16.0 +2.9**
HHC SKS **SKSdf 16 30 42.8 -4.7**
HHC SS **SS 16 50 32.5 -2.3**
HHC AMB AMB
comp=Z,130nm,6.4s
HHC LR LR
comp=N,150nm,19.7s
HHC LR LR
comp=E,210nm,18.1s
HHC LR LR
comp=Z,290nm,21.2s
XAN Xi'an 176.12 209 PKP **PKPdf 16 23 48.5 +2.2**

MAN 28 16:05:28, 19°.54N×121°.40E, h15km, mb5.7, ML4.8, MS5.1 MAN INTENSITY IV - SANCHEZ MIRA CAGAYAN.
ISCJB 28 16:05:31.7±0.8, 19°.23N±0°.02×121°.28E±0°.03, h26km±5km, mb4.6/90, MS4.5/35, Error ellipse: s-maj=4.8km s-min=3.3km az=2.8
MOS 28 16:05:31.9±1.0, 19°.10N×121°.31E, h33km, mb5.0/42, MS4.7/8, Error ellipse: s-maj=9.4km s-min=5.3km az=109.5
NEIC 28 16:05:34.1±0.6, 19°.13N×121°.33E, h38km±5km, mb4.9/29, Error ellipse: s-maj=6.3km s-min=4.8km az=101.0
NEIC Felt [IV PIVS] at Sanchez Mira, Luzon. Also felt at Laoag and Vintar.
GCMT 28 16:05:34.1±0.2, 19°.29N×120°.98E, h40km±1km, MW5.2/62, Moment Tensor Solution. s46,c67; s62,c95; Duration: 1§0 Moment tensor: Scale 10^17Nm; Mrr0.67±.04; Mθθ-0.12±.03; Mφφ-0.54±.03; Mrθ-0.19±.03; Mrφ-0.46±.02; Mθφ-0.39±.03; Best double couple: M0.87200×10^17 NP1:φs209.00000°, δ60.00000°, λ85.00000°. NP2: φs38.00000°, δ30.00000°, λ98.00000°. Principal axes: T 0.7880, Plg74.0000°, Azm106.0000°; N 0.1690, Plg4.0000°, Azm211.0000°; P -0.9570, Plg15.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
IDC 28 16:05:35.3±2.0, 19°.10N×121°.34E, h48km±20km, mb4.0/29, mb1 4.2/33, mb1mx4.1/45, mbtmp4.3/33, ML3.7/3, MS4.4/21, Ms1 4.4/21, ms1mx4.2/36 Error ellipse: s-maj=13.8km s-min=9.8km az=84.0
BJI 28 16:05:37.0, 19°.58N×121°.01E, h41km, mB5.1/43, mb4.6/54, Ms4.8/60, Ms7 4.6/57
BKK 28 16:05:41.9±0.7, 19°N±6°×12°0E±°, h10km, M5.1/16, mB5.1/6, mb4.6/16, MLv5.8/1, Mw(mB)4.5/6
ISC 28 16:05:35.3±0.4, 19°.22N±0°.03×121°.27E±0°.04, h42km±2km, h41km:pP-P, n277, σ1§46/287, mb4.7/89, MS4.5/35, 18C-14D, Philippine Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PIP Pasuquin 1.08 215 ⇑*i*P Pn 16 05 50.1 -3.9
PIP *e*S **Sn 16 06 04.9 -2.9**
SIPP Brgy, Tapao 1.50 211 ⇑*i*P **Pn 16 05 59.6 -0.1**
SIPP *e*S **Sn 16 06 20.3 +2.2**
CVP Callao Caves 1.59 161 ⇓*i*P **Pn 16 06 00.4 -0.6**
CVP *i* S **Sn 16 06 21.4 +1.0**
TWG Pinlang 3.59 357 *e*P **Pn 16 06 26.6 -1.8**
PCPH Palayan 3.64 183 ⇑*i*P **Pn 16 06 30.4 +1.2**
PCPH *i* S **Sn 16 07 10.6 -0.2**
TPUB Ta-pu 4.11 352 *e*P **Pn 16 06 34.0 -1.6**
YULB Yu-li 4.15 0 *e*P **Pn 16 06 35.1 -1.1**
SSLB Suanglung 4.56 356 *e*P **Pn 16 06 41.0 -0.8**
NACB Ninganchiao 4.94 3 *e*P **Pn 16 06 46.1 -0.8**
122nm,0.4s
TGY Tagaytay City 5.10 184 P **Pn 16 06 47.5 -1.7**
baz=120,slow=20,SNR=1.7
GQP Guinayangan 5.40 168⇓*e*P **Pn 16 06 54.0 +0.7**
YHNB Yeheng 5.42 1 *e*P **Pn 16 06 54.2 +0.5**
172nm,0.6s
YOJ Yonaguni jima 5.46 17 *e*P **Pn 16 06 55.6 +1.4**
YOJ pmax pmax
comp=Z,105nm,0.9s
YOJ Yonaguni jima 5.46 17 *e*P **Pn 16 06 55.5 +1.4**
comp=Z,104nm,0.9s
TATO Taipei 5.73 2 *e*P **Pn 16 06 58.8 +0.9**
comp=Z,101nm,0.6s
QZH Quanzhou 6.22 337 P **Pn 16 07 01.5 -3.0**
QZH S Sn 16 08 06.5 -7.8
QZH LR LR
comp=Z,2µm,6.4s
QZH LR LR
comp=Z,4µm,13.8s
QZH LR LR
comp=Z,9µm,17.8s
PVCP Virac 6.24 153 *e*P **Pn 16 07 05.0 +0.2**
GZH Guangzhou 8.34 299 P Pn 16 07 29.3 -4.4
JOW Kunigami 9.95 39 P **Pn 16 07 56.7 +1.1**
comp=Z,0.6nm,0.3s,baz=148,slow=21,SNR=8.7
JOW Kunigami 9.95 39 *e*P **Pn 16 07 57.0 +1.4**
QIZ Qiongzhong 10.81 271 P Pn 16 08 03.0 -4.5
QIZ S Sn 16 09 57.5 -10
QIZ pmax pmax
comp=Z,50nm,0.8s
QIZ Qiongzhong 10.81 271 *e*P Pn 16 08 03.0 -4.5
comp=Z,46nm,0.6s
SSE Sheshan 11.83 360 *e*P **Pn 16 08 21.0 -0.4**
SSE S **Sn 16 10 32.3 +0.3**
SSE pmax pmax
comp=Z,18nm,0.7s
SSE pmax pmax
comp=Z,120nm,3.5s
SSE LR LR
comp=Z,2µm,23.1s
SSE LR LR
comp=Z,590nm,22.6s
SSE LR LR
comp=Z,2µm,23.4s
WHN Wuhan 12.90 332 P **Pn 16 08 33.5 -2.6**
WHN S **Sn 16 11 01.5 +3.2**
WHN LR LR
comp=Z,7µm,18.1s
WHN LR LR
comp=Z,3µm,16.9s
WHN LR LR
comp=Z,7µm,19.0s
NJ2 Nanjing 12.96 351 *e*P **Pn 16 08 35.5 -1.4**
NJ2 S **Sn 16 10 59.0 -0.8**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 LR LR
comp=Z,3µm,20.5s
NJ2 LR LR
comp=Z,3µm,25.6s
NJ2 LR LR
comp=Z,2µm,19.4s
GYA Guiyang 15.27 301⇑*i*P **Pn 16 09 08.3 +0.2**
GYA pP P 16 09 17.3 +4.9
GYA PP PP 16 09 22.5
GYA S **Sn 16 11 51.3 -4.9**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,270nm,8.1s
GYA LR LR
comp=Z,2µm,14.9s
GYA LR LR
comp=Z,2µm,14.6s
GYA LR LR
comp=Z,3µm,17.1s
ENH Enshi 15.34 318 *e*P **Pn 16 09 08.8 -0.2**
comp=Z,51nm,1.2s
UBPT Khong Chiam 15.59 258 P **Pn 16 09 11.7 -0.6**
comp=Z,25nm,2.2s,comp=Z,781nm
JNU Nakatsue 16.30 30 P **Pn 16 09 20.1 -1.1**
comp=Z,0.3nm,0.3s,baz=175,slow=8.2,SNR=10
JNU LR LR 16 15 17.0
comp=Z,649nm,21.5s,baz=192,slow=36
JNU Nakatsue 16.30 30 *e*P **Pn 16 09 20.4 -0.8**
TIA Tai'an 17.32 349 ⇓P **P 16 09 36.5 +1.6**
TIA pP **pP 16 09 44.5 -0.6**
TIA pmax pmax
comp=Z,590nm,5.4s
TIA LR LR
comp=Z,2µm,15.5s
TIA LR LR
comp=Z,740nm,20.2s
TIA LR LR
comp=Z,2µm,16.1s
KMI Kunming 18.14 292 ⇑P **P 16 09 44.0 -0.3**
KMI pP **pP 16 09 53.0 -1.4**
KMI sP **sP 16 09 58.8 -0.9**
KMI PP **PnPn 16 10 01.5 +5.4**
KMI S **Sn 16 13 03.5 -2.4**
KMI sS **S 16 13 16.0 +5.9**
KMI pmax pmax
comp=Z,36nm,1.3s
KMI pmax pmax
comp=Z,690nm,4.7s
KMI LR LR
comp=Z,1µm,11.5s
KMI LR LR
comp=Z,3µm,13.7s
KMI LR LR
comp=Z,3µm,13.7s
XAN Xi'an 18.41 326 P **P 16 09 46.0 -1.0**
XAN S **Sn 16 13 09.8 -2.3**
XAN pmax pmax
comp=Z,8.0nm,1.6s
XAN pmax pmax
comp=Z,200nm,5.1s
XAN LR LR
comp=Z,1µm,15.0s
XAN LR LR
comp=Z,230nm,14.6s
XAN LR LR
comp=Z,490nm,16.1s
MRSI Marisa 18.64 178 P Pn 16 10 00.3 +10
comp=Z,35nm,1.2s,comp=Z,809nm
CHAI Chaiyaphum 18.68 263 P **P 16 09 49.8 -0.3**
comp=Z,12nm,1.1s,comp=Z,127nm
KSAR Wonju Array Be 19.05 16 P **P 16 09 54.1 +0.1**
KSAR Wonju Array Be 19.05 16 P **P 16 09 54.0 +0.1**
KSRS Korea Array 19.08 16 P **P 16 09 54.0 -0.2**
comp=Z,0.9nm,0.3s,baz=198,slow=11,SNR=25
KSRS LR LR 16 18 20.3
comp=Z,1µm,19.7s,baz=195,slow=40
CHBT CHBT 19.30 253 P **Pn 16 09 59.1 +0.9**
comp=Z,41nm,1.8s
PBKT Sadao Pong 19.50 265 P **P 16 09 59.7 +0.7**
comp=Z,25nm,1.4s,comp=Z,604nm
CD2 Chengdu 19.65 310⇓*i*P **P 16 10 00.5 -0.1**
CD2 pP **pP 16 10 10.0 -0.9**
CD2 sP **sP 16 10 15.8 -0.4**
CD2 PP **PnPn 16 10 19.8 +3.1**
CD2 S **S 16 13 35.3 -4.9**
CD2 sS sS 16 13 49.8 -6.8
CD2 pmax pmax
comp=Z,100nm,0.8s
CD2 pmax pmax
comp=Z,1µm,4.4s
CD2 LR LR
comp=Z,2µm,16.8s
CD2 LR LR
comp=Z,2µm,13.3s
CD2 LR LR
comp=Z,3µm,17.1s
CRAI Chiangrai 19.70 276 P **Pn 16 10 02.7 -0.3**
comp=Z,35nm,0.7s,comp=Z,12µm
UTTA Uttaradit 19.71 269 P **P 16 10 01.5 +0.2**
comp=Z,6.4nm,0.9s,comp=Z,81nm
TIY Taiyuan 19.98 339 *e*P **Pn 16 10 07.0 +0.9**
TIY pmax pmax
comp=Z,29nm,0.8s
TIY pmax pmax
comp=Z,360nm,3.5s

TIY LR LR
comp=Z,2μm,14.2s
TIY LR LR
comp=Z,390nm,8.1s
APSI Ampana 20.01 179 P Pn 16 10 12.4 +5.9
comp=Z,54nm,1.2s,comp=Z,620nm
LAMP Lampang 20.49 272 P Pn 16 10 25.1 +13
KSM Kuching 20.65 213 eP **P 16 10 12.1 +0.6**
comp=Z,55nm,1.2s
JCJ Chichijima 20.75 64 LR LR 16 16 40.8
comp=Z,795nm,21.2s,baz=264,slow=32
CMAI Chiengmai2 20.96 276 P **P 16 10 16.4 +1.4**
comp=Z,48nm,1.6s
CMMT Chiang Mai 21.11 273 P **P 16 10 16.4 -0.2**
comp=Z,56nm,2.2s
CHTO Chiang Mai 21.12 273 eP **P 16 10 15.7 -0.9**
CHTO pmax pmax
comp=Z,29nm,1.0s
CHTO Chiang Mai 21.12 273 P **P 16 10 16.4 -0.2**
comp=Z,193nm,2.3s
CHTO Chiang Mai 21.12 273 eP **P 16 10 15.7 -0.9**
comp=Z,29nm,1.0s
CM31 Chiang Mai Arr 21.15 272 eP **P 16 10 17.1 +0.1**
comp=Z,32nm,1.0s
CMAR Chiang Mai Arr 21.15 272 P **P 16 10 17.2 +0.2**
comp=Z,13nm,1.0s,baz=76,slow=9.0,SNR=58
CMAR PcP **PcP 16 14 22.1 +0.2**
comp=Z,2.2nm,0.7s,baz=71,slow=0.6,SNR=15
CMAR LR LR 16 18 28.1
comp=Z,652nm,19.0s,baz=82,slow=36
BJT Baijiatuau 21.19 349 eP **P 16 10 17.6 +0.4**
BJT pmax pmax
comp=Z,51nm,0.7s
BJT Baijiatuau 21.19 349 eP **P 16 10 17.6 +0.4**
comp=Z,51nm,0.7s
BJI Beijing 21.21 349 P **P 16 10 18.5 +1.1**
BJI sP **sP 16 10 32.8 -0.2**
BJI pmax pmax
comp=Z,36nm,1.6s
BJI pmax pmax
comp=Z,270nm,4.6s
BJI LR LR
comp=Z,1μm,16.4s
BJI LR LR
comp=Z,910nm,18.8s
BJI LR LR
comp=Z,800nm,17.2s
SANI Sanana 21.64 167 P **P 16 10 26.0 +3.9**
SRDT SRDT 21.75 261 P **P 16 10 25.3 +1.9**
comp=Z,107nm,1.2s
KHLT Khaolaem Dam 22.13 262 P P 16 10 42.1 +15
MHMT Maesarieng 22.13 271 P **P 16 10 28.8 +1.3**
comp=Z,33nm,1.4s
LZH Lanzhou 22.76 321 ⇑P **P 16 10 35.3 +1.1**
LZH pP **pP 16 10 40.5 -4.1**
LZH sP sP 16 10 43.8 -6.0
LZH PP **PnPn 16 11 05.0 +5.7**
LZH S **S 16 14 38.5 -1.8**
LZH sS Sn 16 14 47.0 -10
LZH pmax pmax
comp=Z,39nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.2s
LZH LR LR
comp=Z,3μm,14.4s
LZH LR LR
comp=Z,1μm,15.0s
LZH LR LR
comp=Z,2μm,16.5s
MAJO Matsushiro 22.78 37 P **P 16 10 33.7 -0.6**
MAJO pmax pmax
comp=Z,47nm,1.3s
MAJO Matsushiro 22.78 37 P **P 16 10 33.7 -0.6**
comp=Z,47nm,1.3s
MAT Matsushiro 22.78 37 P **P 16 10 32.5 -1.8**
MAT S **S 16 14 38.6 -1.8**
MJAR Matsushiro Arr 22.78 37 P **P 16 10 34.9 +0.6**
comp=Z,4.2nm,0.8s,baz=216,slow=9.3,SNR=15
MJAR LR LR 16 18 31.4
comp=Z,403nm,22.0s,baz=245,slow=34
SPSI Sidrap Palu 23.09 184 P sP 16 10 56.6 +3.4
HHC Hu-ho-hao-te 23.11 341 eP **P 16 10 37.0 -0.7**
HHC pP **pP 16 10 48.5 +0.3**
HHC sP **sP 16 10 53.5 +0.1**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,280nm,5.5s
HHC LR LR
comp=Z,1μm,15.3s
HHC LR LR
comp=Z,2μm,17.7s
HHC LR LR
comp=Z,4μm,15.7s
BBKI Banjar Baru 23.41 196 P **P 16 10 42.0 +1.3**
KULM Kulim 24.41 238 eP **P 16 10 48.9 -1.1**
comp=Z,65nm,1.3s
IPM Ipoh 24.59 236 eP **P 16 10 49.3 -2.4**
comp=Z,50nm,1.0s
MDJ Mudanjiang 26.26 14 P **P 16 11 06.5 0.0**
MDJ pP **pP 16 11 16.5 -1.3**
MDJ sP **sP 16 11 21.5 -1.3**
MDJ PcP **PcP 16 14 31.8 -0.4**
MDJ S **S 16 15 37.8 +1.7**
MDJ PcS **PcS 16 18 12.5 -0.6**
MDJ pmax pmax
comp=Z,6.0nm,1.7s
MDJ pmax pmax
comp=Z,94nm,5.0s
MDJ LR LR
comp=Z,580nm,15.5s
MDJ LR LR
comp=Z,430nm,21.1s
MDJ LR LR
comp=Z,900nm,18.5s
USRK Ussuriysk Arra 26.47 17 P **P 16 11 09.2 +0.8**
comp=Z,5.0nm,0.7s,baz=207,slow=7.3,SNR=7.9
USRK LR LR 16 22 03.8
comp=Z,389nm,21.6s,baz=189,slow=37
PSI Prapat 27.27 236 P **P 16 11 15.2 -0.9**
comp=Z,3.1nm,0.3s,baz=90,slow=6.7,SNR=3.9
PSI LR LR 16 22 06.0
comp=Z,736nm,18.2s,baz=82,slow=36
GTA Gaotai 27.35 322 eP **P 16 11 17.0 +0.4**
GTA S **S 16 15 55.0 +1.2**
GTA SS **SnSn 16 17 02.8 -2.5**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,150nm,8.5s
GTA LR LR
comp=Z,720nm,16.6s
GTA LR LR
comp=Z,630nm,14.7s
GTA LR LR
comp=Z,910nm,17.1s
SHL Shillong 27.86 288 eP **P 16 11 22.0 +0.6**
LSA Lhasa 29.26 297 P **P 16 11 31.8 -2.3**
LSA Lhasa 29.26 297 eP **P 16 11 35.9 +1.8**
LSA pmax pmax
comp=Z,19nm,1.1s
LSA Lhasa 29.26 297 eP **P 16 11 35.9 +1.8**
comp=Z,19nm,1.1s
ASAJ Asahikawa 30.57 31 P **P 16 11 45.0 0.0**
comp=Z,9.7nm,0.9s,baz=342,slow=20,SNR=3.2
ASAJ LR LR 16 24 29.2
comp=Z,546nm,20.4s,baz=220,slow=37
ULN Ulaanbaatar 30.83 341ceP P 16 11 51.0 +3.6
ULN pmax pmax
comp=Z,14nm,1.7s
ULN Ulaanbaatar 30.83 341 eP **P 16 11 48.2 +0.8**
comp=Z,7.6nm,0.8s
SONM Songino Array 31.01 340 P **P 16 11 48.7 -0.2**
comp=Z,0.8nm,0.6s,baz=162,slow=6.1,SNR=3.6
SONM PcP **PcP 16 14 43.6 -0.6**
comp=Z,1.1nm,0.5s,baz=151,slow=3.3,SNR=6.9
SONM LR LR 16 25 35.5
comp=Z,2μm,18.3s,baz=174,slow=38
KLR Kul'dur 31.11 13 eP P 16 11 43.0 -6.6
HABR Khabarovsk 31.24 18deP **P 16 11 52.9 +2.1**
HABR e*PP **pP 16 12 03.8 +1.6**
HABR e*SP **sP 16 12 09.0 +1.8**
HABR 16 12 56.9
HABR ePPP PPP 16 13 06.9
HABR e 16 14 44.8
HABR eSSS SSS 16 19 03.4

HABR pmax pmax
comp=N,46nm,2.4s
HABR pmax pmax
comp=Z,32nm,1.5s
HABR pmax pmax
comp=E,56nm,2.4s
HABR MLR MLR
comp=Z,279nm,16.0s
TAPN Taplejung 31.80 291 eP **P 16 11 56.1 -0.3**
comp=Z,47nm,0.9s
TAPN Taplejung 31.80 291 eP **PcP 16 14 45.0 -1.9**
ODAN Odare 32.02 290 eP **P 16 11 57.8 -0.5**
comp=Z,97nm,1.2s
ODAN Odare 32.02 290 eP **PcP 16 14 47.7 +0.2**
comp=Z,16nm,0.7s
RAMN Ramite 32.73 290 eP **P 16 12 04.4 -0.1**
comp=Z,120nm,1.1s
RAMN Ramite 32.73 290 eP **PcP 16 14 49.5 +0.1**
comp=Z,9.7nm,0.7s
JIRN Jiri 33.18 291 eP **P 16 12 08.8 +0.3**
comp=Z,56nm,1.0s
JIRN Jiri 33.18 291 eP **PcP 16 14 49.6 -1.2**
comp=Z,11nm,0.7s
GUN Gumba 33.48 292 eP **P 16 12 11.3 +0.1**
comp=Z,109nm,1.1s
GUN Gumba 33.48 292 eP **PcP 16 14 49.6 -2.1**
comp=Z,15nm,0.7s
PKI Pulchoki 33.85 291 eP **P 16 12 13.8 -0.6**
comp=Z,36nm,1.2s
PKI Pulchoki 33.85 291 eP **PcP 16 14 51.8 -0.9**
comp=Z,16nm,0.7s
PKIN Phulchoki 33.87 291 eP **P 16 12 13.7 -0.7**
comp=Z,53nm,1.5s
PKIN Phulchoki 33.87 291 eP **PcP 16 14 51.6 -1.0**
comp=Z,9.0nm,0.7s
KKN Kakani 33.99 291 eP **P 16 12 14.8 -0.7**
comp=Z,20nm,0.8s
KKN Kakani 33.99 291 eP **PcP 16 14 51.9 -1.0**
comp=Z,18nm,1.0s
DMN Daman 34.13 291 eP **P 16 12 16.4 -0.3**
comp=Z,52nm,1.1s
DMN Daman 34.13 291 eP **PcP 16 14 52.6 -0.8**
comp=Z,13nm,0.6s
GKN Gorkha 34.58 292 eP **P 16 12 19.2 -1.3**
comp=Z,64nm,1.1s
TLY Talaya 35.24 341 eP **P 16 12 27.8 +2.1**
TLY pmax pmax
comp=Z,8.0nm,0.9s
TLY MLR MLR
comp=Z,664nm,13.0s
TLY Talaya 35.24 341 P **P 16 12 27.1 +1.3**
comp=Z,4.4nm,0.7s,baz=186,slow=3.6,SNR=7.8
TLY Talaya 35.24 341 eP **P 16 12 27.0 +1.3**
comp=Z,11nm,1.0s
DANN Dangsing 35.39 292 eP **P 16 12 26.8 -0.8**
KOLN Koldanda 35.47 291 eP **P 16 12 27.9 -0.3**
comp=Z,44nm,1.1s
IRK Irkutsk 35.54 342 eP **P 16 12 30.0 +1.7**
IRK pmax pmax
comp=Z,29nm,1.1s
MOY Mondy 36.10 339 eP P 16 12 37.5 +4.4
WMQ Urumqi 37.29 319 P **P 16 12 44.3 +1.0**
WMQ pP **pP 16 12 56.5 +1.7**
WMQ sP **sP 16 13 02.0 +2.2**
WMQ PP **PnPn 16 14 13.0 +3.3**
WMQ PcP **PcP 16 15 03.0 +0.8**
WMQ S **S 16 18 29.0 +1.0**
WMQ ScP **ScP 16 18 45.0 -1.1**
WMQ sS **sS 16 18 49.3 +2.1**
WMQ ScS **ScS 16 22 51.8 -2.2**
WMQ pmax pmax
comp=Z,14nm,1.2s
WMQ pmax pmax
comp=Z,190nm,4.0s
WMQ LR LR
comp=Z,1μm,14.2s
WMQ LR LR
comp=Z,1μm,14.6s
WMQ LR LR
comp=Z,750nm,17.8s
BOD Bodaibo 38.92 354 eP **P 16 12 56.4 -0.4**
BOD pmax pmax
comp=Z,8.0nm,1.2s
HYB Hyderabad 40.52 275 *i* P P 16 13 17.0 +6.3
WRAB Tennant Creek 40.97 161ceP **P 16 13 16.7 +2.5**
WRAB pmax pmax
comp=Z,82nm,2.5s
WRA Warramunga Arr 40.97 161 P **P 16 13 12.6 -1.6**
comp=Z,2.3nm,0.5s,baz=343,slow=9.1,SNR=34
WRA LR LR 16 32 56.5
comp=Z,193nm,20.0s,baz=10.0,slow=40
MK31 Makanchi Array 42.06 320 *i* P **P 16 13 23.2 +0.2**
MK31 pmax pmax
comp=Z,16nm,0.8s
MK31 Makanchi Array 42.06 320 eP **P 16 13 23.1 +0.1**
MKAR Makanchi Array 42.06 320 P **P 16 13 24.0 +1.1**
comp=Z,2.4nm,0.7s,baz=111,slow=7.8,SNR=30
MKAR PcP **PcP 16 15 16.6 -0.6**
comp=Z,1.1nm,0.7s,baz=104,slow=3.2,SNR=3.1
MKAR LR LR 16 32 02.3
comp=Z,431nm,19.6s,baz=142,slow=38
H11S3 WAKE ISLAND Hy 42.89 83 T T 16 59 11.9
baz=278,slow=75,SNR=147
H11S1 WAKE ISLAND Hy 42.90 83 T T 16 59 12.4
baz=278,slow=75,SNR=118
H11S2 WAKE ISLAND Hy 42.91 83 T T 16 59 13.4
baz=278,slow=75,SNR=125
H11N1 WAKE ISLAND Hy 42.91 81 T T 16 59 13.9
baz=277,slow=75,SNR=106
H11N2 WAKE ISLAND Hy 42.91 81 T T 16 59 14.0
baz=277,slow=75,SNR=99
H11N3 WAKE ISLAND Hy 42.93 81 T T 16 59 15.6
baz=277,slow=75,SNR=125
KSH Kashi 43.82 307 eP P 16 13 41.0 +3.6
KSH epP pP 16 13 47.3 -1.8
KSH esP sP 16 13 54.5 +0.4
KSH ePP **PP 16 15 21.3 +1.4**
KSH PcS **PcS 16 19 18.3 +1.8**
KSH S **S 16 20 10.0 +4.4**
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,91nm,5.0s
KSH LR LR
comp=Z,130nm,5.5s
KSH LR LR
comp=Z,100nm,5.8s
KSH LR LR
comp=Z,180nm,15.5s
PETK Petropavlovsk- 43.99 31 P **P 16 13 38.4 0.0**
comp=Z,4.6nm,0.8s,baz=231,slow=0.9,SNR=8.5
PETK LR LR 16 33 15.2
comp=Z,176nm,19.9s,baz=223,slow=38
AS31 Alice Springs 44.37 163 eP **P 16 13 39.5 -2.3**
ASAR Alice Springs 44.37 163 P **P 16 13 40.0 -1.8**
comp=Z,4.4nm,0.7s,baz=342,slow=6.6,SNR=56
ASAR LR LR 16 34 47.8
comp=Z,174nm,19.9s,baz=359,slow=40
PET Petropavlovsk 44.41 32 eP **P 16 13 42.2 +0.5**
PET pmax pmax
comp=Z,28nm,1.5s
ZAA0 Zalesovo Array 44.51 330 eP **P 16 13 41.3 -1.2**
ZALV Zalesovo Beam 44.51 330 P **P 16 13 42.7 +0.2**
comp=Z,2.7nm,0.7s,baz=115,slow=7.9,SNR=13
ZALV LR LR 16 33 24.3
comp=Z,951nm,18.9s,baz=76,slow=37
POO Poona 44.77 277 eP **P 16 13 48.0 +2.8**
TKM2 Tokmak 2 45.01 312 eP **P 16 13 47.7 +0.7**
TKM2 pmax pmax
comp=Z,8.0nm,1.1s
TKM2 Tokmak 2 45.01 312 eP **P 16 13 47.6 +0.7**
comp=Z,7.7nm,1.1s
FRU Bishkek 45.67 312 eP pP 16 14 04.0 +0.2
AAK Ala-Archa 45.70 311 *i* P **P 16 13 52.8 +0.3**
AAK pmax pmax
comp=Z,9.0nm,1.2s
AAK Ala-Archa 45.70 311 P **P 16 13 54.5 +2.1**
comp=Z,0.6nm,0.6s,baz=102,slow=9.5,SNR=2.7
AAK PcP **PcP 16 15 30.1 +0.2**
comp=Z,0.8nm,0.6s,baz=112,slow=5.4,SNR=4.3
KURK Kurchatov 46.02 323 P **P 16 13 54.9 +0.3**
KURK pmax pmax
comp=Z,13nm,0.9s
KURK Kurchatov 46.02 323 eP **P 16 13 54.5 0.0**
comp=Z,13nm,0.9s
CTA Charters Tower 46.10 147 P **P 16 13 54.2 -1.3**
comp=Z,2.9nm,0.9s,baz=336,slow=12,SNR=2.9

KBL Kabul 48.51 299 eP **P 16 14 14.7 +0.2**
KBL pmax pmax
comp=Z,44nm,1.4s
KBL Kabul 48.51 299 eP **P 16 14 14.7 +0.2**
comp=Z,44nm,1.4s
SEY Seymchan 48.62 18 P **P 16 14 15.8 +1.2**
comp=Z,2.3nm,0.6s,baz=271,slow=8.4,SNR=15
SEY PcP **PcP 16 15 39.5 -0.1**
comp=Z,5.1nm,0.6s,baz=207,slow=5.8,SNR=9.7
KK31 Karatay Array 48.66 311 *i* P **P 16 14 15.9 +0.6**
KK31 pmax pmax
comp=Z,17nm,1.3s
KKAR Karatay Array 48.66 311 eP **P 16 14 15.8 +0.5**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 48.66 311 eP **P 16 14 15.8 +0.5**
comp=Z,4.2nm,0.8s
BVA0 Borovoye Array 51.62 323 *i* P **P 16 14 38.4 +0.9**
BVA0 pmax pmax
comp=Z,10.0nm,1.0s
BVAR Borovoye Array 51.62 323 P **P 16 14 38.7 +1.2**
comp=Z,1.3nm,0.6s,baz=117,slow=7.5,SNR=8.4
BVAR PcP **PcP 16 15 49.7 -1.2**
comp=Z,2.3nm,0.6s,baz=131,slow=4.8,SNR=3.9
BVAR LR LR 16 38 09.0
comp=Z,424nm,18.5s,baz=109,slow=38
BRVK Borovoye 51.69 323ceP **P 16 14 39.4 +1.4**
BRVK pmax pmax
comp=Z,14nm,1.7s
BRVK Borovoye 51.69 323 eP **P 16 14 38.8 +0.8**
comp=Z,17nm,0.9s
NWAO Narrogin (SRO) 51.99 184 P **P 16 14 38.5 -2.0**
comp=Z,7.6nm,0.6s,baz=7.6,slow=6.9,SNR=8.8
TIXI Tiksi 52.62 3 eP **P 16 14 43.1 -1.6**
TIXI pmax pmax
comp=Z,47nm,1.3s
TIXI Tiksi 52.62 3 eP **P 16 14 43.1 -1.6**
comp=Z,47nm,1.3s
BBOO Buckleboo 53.63 165 eP **P 16 14 50.8 -1.8**
comp=Z,310nm,0.7s
STKA Stephens Creek 54.41 159 P **P 16 14 56.6 -1.7**
comp=Z,4.5nm,0.8s,baz=322,slow=4.1,SNR=9.0
BILL Bilibino 56.32 19⇑*i*P **P 16 15 12.2 +0.6**
BILL *i* 16 16 12.8
BILL *i* 16 17 18.7
BILL pmax pmax
comp=Z,8.0nm,0.8s
BILL MLR MLR
comp=Z,303nm,23.0s
BILL Bilibino 56.32 19 eP **P 16 15 11.5 -0.1**
comp=Z,13nm,0.9s
AB31 Akbulak array 57.03 317 eP **P 16 15 16.8 -0.1**
AB31 pmax pmax
comp=Z,19nm,0.9s
ABKAR Akbulak array 57.03 317 eP **P 16 15 16.8 -0.1**
comp=Z,3.4nm,0.5s
GEYT Alibeck 57.47 303 P **P 16 15 21.2 +0.9**
comp=Z,1.1nm,0.6s,baz=86,slow=7.6,SNR=5.3
SVE Sverdlovsk 58.13 326 eP **P 16 15 25.0 +0.5**
SVE e 16 29 33.1
SVE pmax pmax
comp=Z,26nm,1.0s
SVE MLR MLR
comp=Z,608nm,21.0s
AKTO Aktyubinsk 58.43 318 P **P 16 15 26.3 -0.5**
AKTO pmax pmax
comp=Z,18nm,1.1s
ARU Arti 59.15 325d *i*P **P 16 15 31.9 +0.3**
ARU 16 16 21.6
ARU 16 17 38.4
ARU S **S 16 23 35.0 -1.0**
ARU pmax pmax
comp=Z,20nm,1.2s
ARU MLR MLR
comp=Z,665nm,17.0s
ARU Arti 59.15 325 eP **P 16 15 31.2 -0.5**
comp=Z,9.0nm,0.6s
DZM Mont Dzumac 60.28 131 eS **S 16 23 53.0 +1.4**
comp=Z,251nm,30.5s
DZM eLR LR 16 33 23.1
comp=Z,949nm,21.9s
SOKR Solikamsk 60.74 328 eP **P 16 15 41.0 -1.4**
SOKR pmax pmax
comp=Z,10.0nm,1.1s
SOKR MLR MLR
comp=Z,940nm,15.0s
PRGR Permogore 66.46 330 P **P 16 16 20.2 0.0**
PRGR pmax pmax
comp=Z,7.0nm,0.7s
ZEI Tsey 68.07 309 eP **P 16 16 30.5 -0.5**
ZEI pmax pmax
comp=Z,17nm,1.4s
KBZ Khabaz 68.69 310 P **P 16 16 35.6 +1.0**
comp=Z,2.0nm,0.9s,baz=128,slow=12,SNR=3.1
KBZ LR LR 16 50 39.7
comp=Z,503nm,18.0s,baz=60,slow=39
KIV Kislovodsk 68.82 311 eP **P 16 16 35.5 -0.1**
KIV pmax pmax
comp=Z,14nm,0.8s
KIV MLR MLR
comp=Z,402nm,18.0s
KIV Kislovodsk 68.82 311 eP **P 16 16 35.4 -0.1**
comp=Z,15nm,0.8s
VRHR Novokhopersk 68.84 318 eP P 16 16 39.6 +4.2
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,30nm,0.8s
KLMR Klimovskoe 69.41 329 eP **P 16 16 37.2 -1.5**
KLMR pmax pmax
comp=Z,55nm,1.5s
KLMR MLR MLR
comp=Z,1μm,17.0s
RAYN Ar Rayn 69.94 289 eP **P 16 16 40.7 -2.1**
comp=Z,66nm,1.3s
VSR Storozhevoye 70.37 319 eP P 16 16 49.0 +4.2
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,20nm,1.0s
MOS Moscow 70.79 323 eP P 16 16 52.9 +5.6
OBN Obninsk 71.46 323 eP P 16 16 56.4 +5.1
OBN *i* 16 17 08.6
OBN pmax pmax
comp=Z,20nm,1.5s
OBN MLR MLR
comp=Z,220nm,15.0s
MALT Malatya 72.87 305 ⇓P **P 16 17 00.6 +0.3**
MALT Malatya 72.87 305⇓*i*P **P 16 17 00.6 +0.3**
MCK McKinley 72.87 28 eP **P 16 16 58.4 -1.3**
MCK pmax pmax
comp=Z,10.0nm,0.8s
MCK McKinley 72.87 28 eP **P 16 16 58.4 -1.3**
comp=Z,9.8nm,0.8s
JOF Joensuu 73.07 331 eP **P 16 16 58.5 -2.3**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 73.07 331 ep **P 16 16 58.5 -2.3**
comp=Z,2.4nm,0.6s
PMR Palmer 73.11 30 eP **P 16 17 00.0 -1.1**
PMR pmax pmax
comp=Z,10.0nm,0.6s
PMR Palmer 73.11 30 eP **P 16 16 60.0 -1.1**
comp=Z,9.7nm,0.6s
ILAR Eielson Array 73.58 27 P **P 16 17 02.5 -1.4**
comp=Z,1.4nm,0.6s,baz=271,slow=4.8,SNR=28
KEV Kevo 73.60 339 eP **P 16 17 02.1 -1.7**
KEV pmax pmax
comp=Z,1.0nm,0.5s
KEV Kevo 73.60 339 ep **P 16 17 02.1 -1.7**
comp=Z,1.3nm,0.5s
ARCES ARCESS Array B 74.16 339 P **P 16 17 06.7 -0.5**
comp=Z,5.4nm,0.6s,baz=70,slow=7.9,SNR=26
ARCES LR LR 16 53 34.5
comp=Z,367nm,19.2s,baz=96,slow=39
SIM Simferopol' 74.71 313 P P 16 17 20.4 +10
SIM pmax pmax
comp=Z,50nm,9.8s
KAF Kangasniemi 75.50 331 eP **P 16 17 13.2 -1.8**
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 75.50 331 ep **P 16 17 13.2 -1.8**

comp=Z,3.1nm,0.7s
FINES FINESS Array B 75.77 330 P P 16 17 16.1 -0.4
comp=Z,3.0nm,0.9s,baz=80,slow=4.5,SNR=7.7
FINES LR LR 16 53 37.3
comp=Z,315nm,18.1s,baz=90,slow=38
EGAK Eagle 75.98 26 eP P 16 17 16.6 -1.1
comp=Z,10nm,1.0s
BRTR Keskin Array B 76.21 307 P P 16 17 18.7 -1.0
comp=Z,0.5nm,0.5s,baz=136,slow=3.2,SNR=6.8
AKASG Malin Array Be 76.64 319 P P 16 17 20.1 -1.6
comp=Z,0.5nm,0.3s,baz=64,slow=5.6,SNR=10
AK01 Malin Array Si 76.65 319 eP P 16 17 20.9 -0.9
AK02 Malin Array Si 76.66 319 eP P 16 17 19.3 -2.5
DAWY Dawson 76.91 26 eP P 16 17 21.5 -1.5
NACGM Naroch 77.04 324 e P 16 17 27.0 +3.2
CFR Carcaliu 78.77 314 ⇑P P 16 17 32.9 -0.8
CFR Carcaliu 78.77 314 ⇑iP P 16 17 32.9 -0.8
TIRR Tirgusor 78.78 313 ⇓P P 16 17 41.3 +7.6
TIRR Tirgusor 78.78 313 ⇓iP P 16 17 41.3 +7.6
VRI Vrincioaia 79.53 315 ⇑P P 16 17 38.5 +0.6
VRI Vrincioaia 79.53 315 ⇑iP P 16 17 38.5 +0.6
BURAR Bucovina Array 80.01 317 ⇑P P 16 17 40.5 0.0
BURAR Bucovina Array 80.01 317 ⇑iP P 16 17 40.5 0.0
BUR08 Bucovina Ar. S 80.01 317 eP P 16 17 39.4 -1.2
MLR Muntele Rosu 80.16 315 ⇓P P 16 17 41.3 -0.1
MLR Muntele Rosu 80.16 315 ⇓iP P 16 17 41.3 -0.1
VOIR 80.78 315 ⇑P P 16 17 54.9 +10
VOIR 80.78 315 ⇑iP P 16 17 54.9 +10
KWP Kalwaria Pacla 80.96 319 eP P 16 17 45.8 +0.3
KWP Kalwaria Pacla 80.96 319 eP P 16 17 45.7 +0.3
DAG Danmarks Havn 81.26 351 iP P 16 17 46.0 -0.5
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG Danmarks Havn 81.26 351 iP P 16 17 46.0 -0.5
comp=Z,4.0nm,0.9s
KOLS Kolonicke sedl 81.46 319 esP sP 16 18 03.4 -2.0
STHS Stebnicka Huta 81.93 319 eP P 16 17 58.8 +8.2
STHS Stebnicka Huta 81.93 319 e P 16 17 58.8 +8.2
CRVS Cervenica-Dubn 81.97 319 eP P 16 17 51.6 +0.7
CRVS e 16 17 58.4
CRVS Cervenica-Dubn 81.97 319 eP P 16 17 51.6 +0.7
CRVS e 16 17 58.4
NB2 NORSAR Subarra 82.64 333 P P 16 17 53.0 -1.1
comp=Z,4.5nm,0.8s,baz=63,slow=5.3
NOA NORSAR Array B 82.64 333 P P 16 17 53.5 -0.6
comp=Z,1.8nm,0.8s,baz=64,slow=5.2,SNR=7.3
NOA LR LR 16 57 46.9
comp=Z,785nm,19.1s,baz=60,slow=38
RES Resolute Bay 83.53 9 eP P 16 17 57.6 -0.8
RES pmax pmax
comp=Z,20nm,1.1s
RES Resolute Bay 83.53 9 eP P 16 17 57.6 -0.8
comp=Z,20nm,1.1s
OKC Ostrava-Krasne 83.66 321 eP P 16 18 04.6 +5.0
VYHS Vyhne 83.75 319 eP P 16 18 00.5 +0.4
VYHS e 16 18 07.2
VYHS Vyhne 83.75 319 eP P 16 18 00.5 +0.4
VYHS e 16 18 07.2
KSP Ksiaz 84.37 322 eP P 16 18 02.5 -0.6
KSP Ksiaz 84.37 322 eP P 16 18 03.6 +0.5
DPC Dobruska-Polom 84.55 322 eP P 16 18 04.4 +0.3
DPC e 16 18 10.5
DPC Dobruska-Polom 84.55 322 eP P 16 18 04.4 +0.3
DPC ex x 16 18 10.5
UPC Upice 84.66 322 eP P 16 18 05.4 +0.7
UPC e 16 18 12.7
UPC Upice 84.66 322 eP P 16 18 05.4 +0.7
UPC epP PcP 16 18 12.7 +4.6
KMBO Kilima Mbogo 84.72 267 eP P 16 18 05.7 -0.2
KMBO pmax pmax
comp=Z,11nm,1.3s
KMBO Kilima Mbogo 84.72 267 P P 16 18 06.0 +0.1
comp=Z,1.8nm,0.8s,baz=62,slow=5.9,SNR=7.0
KMBO Kilima Mbogo 84.72 267 eP P 16 18 05.7 -0.2
comp=Z,11nm,1.3s
VRAC Vranov 84.80 321 ⇓P P 16 18 06.2 +0.8
VRAC Vranov 84.80 321 ⇓iP P 16 18 06.2 +0.8
TREC Trest 85.47 321 eP P 16 18 08.8 +0.1
TREC e 16 18 16.0
TREC Trest 85.47 321 eP P 16 18 08.8 +0.1
TREC ex x 16 18 16.0
BRG Berggiesshubel 85.71 323 eP P 16 18 15.5 +5.6
comp=Z,11nm,1.4s
BRG Berggiesshubel 85.71 323 eP P 16 18 15.5 +5.6
BRG pmax pmax
comp=Z,11nm,1.4s
MUD Monsted U'grnd 85.71 329 eP P 16 18 20.2 +10
MUD pmax pmax
comp=Z,9.0nm,1.0s
MUD Monsted U'grnd 85.71 329 iP pP 16 18 20.2 -2.1
comp=Z,9.1nm,1.0s
PRU Pruhonice 85.74 322 eP P 16 18 09.7 -0.3
PRU e 16 18 16.9
PRU Pruhonice 85.74 322 eP P 16 18 09.7 -0.3
PRU ex x 16 18 16.9
KHC Kasperske Hory 86.67 321 eP P 16 18 14.3 -0.4
KHC Kasperske Hory 86.67 321 eP P 16 18 14.3 -0.4
GERES GERESS Array B 86.72 321 P P 16 18 15.0 0.0
comp=Z,0.5nm,0.6s,baz=80,slow=8.3,SNR=4.5
SUMG Summit 87.42 354 eP P 16 18 18.7 +0.3
SUMG pmax pmax
comp=Z,9.0nm,1.1s
SUMG Summit 87.42 354 iP P 16 18 18.7 +0.3
comp=Z,4.7nm,0.9s
SUMG Summit 87.42 354 eP P 16 18 18.7 +0.3
comp=Z,8.5nm,1.1s
YKA Yellowknife Ar 87.50 23 P P 16 17 17.7 -0.7
comp=Z,8.0nm,0.7s,baz=310,slow=4.6,SNR=125
YKA PKKPbc PKKPdf 16 36 04.1 +2.4
comp=Z,0.3nm,0.7s,baz=124,slow=2.4,SNR=4.0
LPG La Plagne 92.48 320 eP P 16 18 43.2 +0.8
comp=Z,46nm,1.4s
LPG La Plagne 92.48 320 eP P 16 18 43.2 +0.8
LPG pmax pmax
comp=Z,46nm,1.4s
LPG La Plagne 92.48 320 eP P 16 18 43.2 +0.8
comp=Z,46nm,1.4s
LPL La Plagne 92.48 320 eP P 16 18 42.7 +0.4
LPL La Plagne 92.48 320 eP P 16 18 42.7 +0.4
LPL La Plagne 92.48 320 eP P 16 18 42.7 +0.4
LOR Lormes 93.25 323 eP P 16 18 47.8 +2.2
LOR Lormes 93.25 323 eP P 16 18 47.8 +2.2
LOR Lormes 93.25 323 eP P 16 18 47.8 +2.2
PPT Papeete 94.86 107 LR LR 16 51 20.4
comp=Z,183nm,20.9s,baz=250,slow=29
PPT2 Papeete2 94.87 107 eLR LR 16 49 25.5
comp=Z,447nm,26.0s
VNDA Vanda 99.40 172 LR LR 17 07 20.0
comp=Z,106nm,18.7s,baz=356,slow=37
NVAR Mina Array Bea 99.98 43 P Pdif 16 19 16.3 -0.3
comp=Z,0.7nm,0.6s,baz=282,slow=5.0,SNR=5.6
RKT Rikitea 109.55 108 eLR LR 16 56 22.5
comp=Z,788nm,33.0s
TORD Torodi Ar. Bea 112.36 294 PKKPab PKKPab 16 35 05.7 -1.4
comp=Z,2.0nm,1.1s,baz=225,slow=5.4,SNR=4.3
TXAR Lajitas Array 115.12 43 PKP PKPdf 16 24 12.5 -0.3
comp=Z,1.1nm,0.7s,baz=273,slow=0.4,SNR=7.0
JCT Junction City 116.73 39 ePKIKP PKPdf 16 24 15.5 -0.2
JCT Junction City 116.73 39 ePKPdf PKPdf 16 24 15.5 -0.2
ROSC El Rosal 151.57 34 PKPbc PKPbc 16 25 26.4 0.0
comp=Z,8.8nm,0.4s,baz=46,slow=3.2,SNR=8.4
ROSC El Rosal 151.57 34 ePKPbc PKPbc 16 25 26.3 -0.2

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*IDC **28** 16:09:54.3±1.1, 35°.46S×72°.68W, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.8/27, mbtmp3.9/7, ML3.1/2, Error ellipse: s-maj=38.1km s-min=14.0km az=110.0*
ISC 28 16:09:56.0±1.4, **35°.3S**±0°.2×**72°.2W**±0°.3, **h20km, n8,** σ**1s04**/8, **mb4.2**/5, **Off coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CFAA Coronel Fontan 5.51 50 Pn Pn 16 11 16.2 -0.8
0.2nm,0.3s,baz=211,slow=14,SNR=4.0
CFAA Sn Sn 16 12 20.5 +0.7
0.3nm,0.3s,baz=253,slow=16,SNR=1.8
LPAZ La Paz 19.44 15 P Pn 16 14 23.9 +0.8
0.1nm,0.3s,baz=178,slow=9.2,SNR=5.4
SIV San Ignacio 22.05 32 P P 16 14 48.5 -1.0
13nm,1.2s,baz=228,slow=13,SNR=9.0
QSPA South Pole Qui 54.97 180 P P 16 19 25.4 0.0
3.0nm,1.2s,baz=22,slow=1.9,SNR=2.8
TXAR Lajitas Array 70.40 332 P P 16 21 12.9 +4.3
0.2nm,0.8s,baz=161,slow=8.6,SNR=2.7

DBIC Dimbokro 76.47 72 P P 16 21 46.1 +1.5
2.3nm,0.8s,baz=227,slow=6.9,SNR=3.1
TORD Torodi Ar. Bea 85.52 71 P P 16 22 32.2 -0.7
0.8nm,0.9s,baz=252,slow=3.3,SNR=3.4
MKAR Makanchi Array 158.30 50 PKPab PKPab 16 30 25.5 -0.2
0.2nm,0.7s,baz=270,slow=2.9,SNR=2.4

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*IDC **28** 16:10:25.0±1.8, 38°.59S×73°.67W, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.1/28, mbtmp4.2/10, ML4.2/2, Error ellipse: s-maj=40.6km s-min=17.9km az=58.0*
*ISCJB **28** 16:10:27.2±1.2, 38°.5S±0°.1×73°.5W±0°.2, h18km, mb4.1/8, Error ellipse: s-maj=23.7km s-min=13.4km az=156.2*
*NEIC **28** 16:10:31.1±1.1, 38°.45S×73°.41W, h35km, mb4.3/2, Error ellipse: s-maj=24.2km s-min=14.0km az=67.0*
ISC 28 16:10:28.2±1.3, **38°.5S**±0°.1×**73°.6W**±0°.2, **h18km, n18,** σ**1s16**/18, **mb4.3**/8, **Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PLCA Paso Flores 3.21 135 Pn Pn 16 11 17.1 -0.7
2.8nm,0.3s,baz=332,slow=15,SNR=4.5
PLCA Lg Lg 16 12 07.3
22nm,0.3s,baz=225,slow=21,SNR=11
TRQA Tornquist 9.11 91 P Pn 16 12 39.5 +0.7
LVC Limon Verde 16.34 15 P Pn 16 14 14.6 -2.3
CPUP Villa Florida 18.27 53 P P 16 14 41.1 +0.3
0.7nm,0.3s,baz=202,slow=14,SNR=3.3
CPUP Villa Florida 18.27 53 eP Pn 16 14 38.3 -2.5
0.3nm,0.5s
LPAZ La Paz 22.64 14 P P 16 15 30.2 +1.2
2.9nm,0.6s,baz=184,slow=7.0,SNR=3.0
LPAZ La Paz 22.64 14 eP P 16 15 30.4 +1.4
5.1nm,0.8s
SIV San Ignacio 24.98 29 P P 16 15 50.1 -0.7
6.6nm,0.8s,baz=242,slow=9.6,SNR=7.9
BDFB Brasilia 31.99 52 P P 16 16 54.1 +0.5
1.4nm,0.5s,baz=180,slow=6.1,SNR=2.3
RCBR Riachuelo 47.12 56 P P 16 19 00.9 +1.5
5.4nm,0.9s,baz=180,slow=6.1,SNR=2.5
TXAR Lajitas Array 73.12 333 P P 16 21 57.6 +0.1
0.1nm,0.4s,baz=160,slow=8.6,SNR=4.0
DBIC Dimbokro 77.79 71 P P 16 22 25.4 +0.8
3.7nm,0.7s,baz=202,slow=2.4,SNR=5.5
DBIC Dimbokro 77.79 71 eP P 16 22 24.8 +0.2
2.9nm,0.6s
BOSA Boshof 79.06 118 P P 16 22 31.8 +0.1
3.1nm,0.9s,baz=299,slow=4.6,SNR=3.1
TOA0 Torodi Ar. Sit 86.88 71 eP P 16 23 12.2 +0.1
TORD Torodi Ar. Bea 86.88 71 P P 16 23 11.8 -0.3
1.1nm,0.6s,baz=234,slow=5.0,SNR=7.1
ABKAR Akbulak array 145.31 57 ePKP PKPbc 16 30 03.8 -0.3
MKAR Makanchi Array 160.46 57 PKPab PKPab 16 31 07.5 -0.1
0.6nm,0.6s,baz=283,slow=3.9,SNR=5.9

IDC 28 16:12:26.7±1.3, **36°.36S**×**72°.54W, h0km, mb4.0**/7, **mb1 4.2**/8, **mb1mx4.0**/35, **mbtmp4.0**/8, **ML3.6**/1, **Error ellipse: s-maj=35.4km s-min=29.8km az=52.0, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CFAA Coronel Fontan 5.94 38 Pn Pn 16 13 58.0 +2.0
1.4nm,0.3s,baz=221,slow=9.9,SNR=7.3
CFAA Lg Lg 16 15 26.7
0.3nm,0.3s,baz=115,slow=15,SNR=4.5
LPAZ La Paz 20.38 12 P P 16 17 05.2 -0.6
3.3nm,0.8s,baz=175,slow=12,SNR=2.6
SIV San Ignacio 22.71 30 P P 16 17 29.8 -0.5
4.3nm,0.7s,baz=228,slow=16,SNR=5.1
TXAR Lajitas Array 71.60 332 P P 16 23 51.2 +1.3
0.7nm,0.4s,baz=168,slow=9.2,SNR=7.6
DBIC Dimbokro 76.33 71 P P 16 24 17.5 -0.4
3.6nm,0.7s,baz=232,slow=6.1,SNR=4.3
BOSA Boshof 79.34 118 P P 16 24 35.2 +0.4
2.4nm,1.0s,baz=304,slow=7.3,SNR=1.9
NVAR Mina Array Bea 85.59 326 P P 16 25 06.8 -0.3
0.3nm,0.7s,baz=159,slow=5.4,SNR=2.7
ULM Lac du Bonnet 88.67 345 P P 16 25 20.1 -1.3
1.3nm,0.6s,baz=184,slow=14,SNR=2.6

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*ISCJB **28** 16:13:43.3±0.6, 58°.17S±0°.07×7°.7W±0°.2, h10km, mb4.5/10, MS4.6/19, Error ellipse: s-maj=14.6km s-min=9.7km az=172.9*
*IDC **28** 16:13:43.9±0.8, 58°.17S×7°.29W, h0km, mb4.4/6, mb1 4.5/7, mb1mx4.2/32, mbtmp4.4/7, ML4.4/1, MS4.6/19, Ms1 4.6/19, ms1mx4.5/27, Error ellipse: s-maj=32.0km s-min=23.7km az=54.0*
*GCMT **28** 16:13:45.2±0.2, 57°.95S×7°.93W, h15km±1km, MW5.4/111, Moment Tensor Solution. s81,c127; s111,c194; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr-0.09±.03; Mθθ-0.32±.03; Mφφ0.40±.03; Mrθ0.31±.08; Mθφ1.54±.03; Mφr-0.20±.06; Best double couple: Mo1.62600×10^17 NP1:φs263.00000°, δ82.00000°, λ-10.00000°. NP2:φs354.00000°, δ80.00000°, λ-171.00000°. Principal axes: T 1.6260, Plg1.0000°, Azm308.0000°; N -0.0010, Plg77.0000°, Azm44.0000°; P -1.6250, Plg13.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 16:13:45.2±0.6, 58°.21S×7°.83W, h10km, mb4.9/6 Error ellipse: s-maj=16.7km s-min=16.2km az=104.0*
ISC 28 16:13:45.4±0.6, **58°.19S**±0°.10×**7°.7W**±0°.1, **h10km, n41,** σ**1s86**/28, **mb4.8**/10, **MS4.6**/19, **1C, East of South Sandwich Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
VNA1 Neumayer--Stat 12.52 181 P Pn 16 16 46.1 +2.8
VNA2 Neumayer--Watz 12.79 180 P Pn 16 16 47.1 0.0
VNA3 Neumayer Olymp 13.14 183 P Pn 16 16 51.7 -0.1
SNAA Sanae 13.69 174 P Pn 16 16 59.5 +0.1
SNAA Sanae 13.69 174 Pn Pn 16 16 59.7 +0.3
2.1nm,0.3s,baz=44,slow=14,SNR=71
SNAA Sn Sn 16 19 17.5 -14
0.6nm,0.3s,baz=198,slow=20,SNR=4.3
SNAA LR LR 16 22 03.1
comp=Z,176nm,18.2s,baz=357,slow=36
SNAA Sanae 13.69 174 ePn Pn 16 16 59.1 -0.2
SNAA eSn Sn 16 19 18.4 -13
HOPE Hope Point 16.41 271 ePn Pn 16 17 36.0 +0.4
SYO Syowa Base 22.97 137⇑eX P 16 18 44.0 -5.6
PMSA Palmer Station 26.86 232 LR LR 16 28 24.1
comp=Z,1μm,20.6s,baz=126,slow=33
MAW Mawson 31.68 137 LR LR 16 30 37.1
comp=Z,804nm,21.6s,baz=242,slow=32
QSPA South Pole Qui 32.05 180 P P 16 20 12.2 +0.2
14nm,0.8s,baz=215,slow=6.9,SNR=17
QSPA South Pole Qui 32.05 180 eP P 16 20 12.4 +0.4
15nm,0.8s
SUR Sutherland 32.22 49 LR LR 16 29 44.9
comp=Z,2μm,20.5s,baz=206,slow=30
SUR Sutherland 32.22 49 P P 16 20 16.6 +2.8
17nm,1.3s
USHA Ushuaia 32.70 249 LR LR 16 30 07.3
comp=Z,3μm,21.5s,baz=94,slow=30
BOSA Boshof 37.35 52 P P 16 20 56.1 -1.9
3.0nm,0.9s,baz=207,slow=9.0,SNR=3.1
BOSA LR LR 16 32 27.7
comp=Z,1μm,21.9s,baz=208,slow=30
TSUM Tsumeb 43.11 36 LR LR 16 36 20.8
comp=Z,748nm,19.2s,baz=236,slow=32
TSUM Tsumeb 43.11 36 P P 16 21 47.4 +1.5
VNDA Vanda 44.39 177 LR LR 16 39 07.1
comp=Z,563nm,19.4s,baz=188,slow=34
BDFB Brasilia 51.95 308 LR LR 16 40 11.7
comp=Z,757nm,22.0s,baz=175,slow=30
LVC Limon Verde 55.95 282 eP P 16 23 21.2 -2.8
16nm,1.0s
RCBR Riachuelo 56.64 326 LR LR 16 41 18.0
comp=Z,753nm,18.9s,baz=174,slow=29
SIV San Ignacio 57.58 294 P P 16 23 38.3 +2.9
3.2nm,0.9s,baz=154,slow=7.5,SNR=3.3
SIV LR LR 16 46 18.6
comp=Z,434nm,19.4s,baz=170,slow=34
LPAZ La Paz 60.83 287 P P 16 23 58.3 -0.2
5.7nm,0.8s,baz=155,slow=6.5,SNR=6.0
LPAZ LR LR 16 48 42.2
comp=Z,250nm,20.6s,baz=144,slow=34
LPAZ La Paz 60.83 287 P P 16 23 55.8 -2.8
21nm,1.2s
DBIC Dimbokro 64.68 3 P P 16 24 22.0 -1.3
3.7nm,0.6s
SAML Samuel 64.69 296 eP P 16 24 23.6 +0.1
11nm,1.2s
NNA Nana 68.93 281 LR LR 16 56 25.4
comp=Z,254nm,18.3s,baz=155,slow=37
ROSC El Rosal 82.07 293 LR LR 17 01 05.4
comp=Z,286nm,20.4s,baz=194,slow=34
STKA Stephens Creek 86.66 154 LR LR 17 02 34.2
comp=Z,405nm,18.6s,baz=193,slow=34
ASAR Alice Springs 92.41 145 P P 16 26 55.1 -1.2
0.7nm,0.9s,baz=196,slow=4.6,SNR=5.5
ASAR LR LR 17 04 53.9
comp=Z,169nm,19.0s,baz=180,slow=33
KEST Kesra 94.65 14 LR LR 17 08 13.9
comp=Z,292nm,18.3s,baz=180,slow=35
PALK Pallekele 95.27 85 LR LR 17 01 00.9
comp=Z,280nm,19.4s,baz=207,slow=30
WRA Warramunga Arr 96.04 144 P P 16 27 12.0 -1.0
0.4nm,0.7s,baz=207,slow=4.3,SNR=3.8
WRA LR LR 17 06 57.1
comp=Z,213nm,19.6s,baz=120,slow=33
RAR Rarotonga 97.57 206 LR LR 17 08 15.8
comp=Z,136nm,18.1s,baz=226,slow=34
KSAR Wonju Array Be 144.54 106 PKP PKPdf 16 33 24.8 +3.5
KSRS Korea Array 144.57 106 PKP PKPdf 16 33 24.8 +3.5
2.4nm,0.9s,baz=225,slow=3.3,SNR=6.0
YKA Yellowknife Ar 145.37 309 PKPbc PKPab 16 33 22.1 +0.1
0.8nm,0.8s,baz=110,slow=3.1,SNR=4.9
MJAR Matsushiro Arr 148.88 119 PKPbc PKPbc 16 33 32.9 +0.3
0.9nm,0.9s,baz=204,slow=3.4,SNR=2.6
MDJ Mudanjiang 150.65 99 PKPbc PKPdf 16 33 32.0 +0.8
MDJ pPKP PKPab 16 33 42.0 -1.6
MDJ sPKP 16 33 45.3
MDJ PKS PP 16 37 11.0 -2.9
MDJ PP PP 16 37 22.0 +8.1
ILAR Eielson Array 159.75 306 PKPab PKPab 16 34 22.5 +0.5
0.6nm,1.0s,baz=104,slow=2.9,SNR=3.8

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*IDC **28** 16:17:48.1±1.1, 37°.76S×73°.42W, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.9/40, mbtmp4.1/9, ML4.2/2, MS4.3/1, Ms1 4.2/1, ms1mx3.1/26, Error ellipse: s-maj=43.3km s-min=18.5km az=85.0*
*ISCJB **28** 16:17:49.4±0.9, 37°.78S±0°.08×73°.6W±0°.2, h22km, mb4.0/7, MS4.4/1, Error ellipse: s-maj=20.8km s-min=11.8km az=173.5*
*NEIC **28** 16:17:49.8±6.5, 37°.76S×73°.70W, h15km±39km, mb4.2/3, Error ellipse: s-maj=24.9km s-min=11.7km az=94.0*
ISC 28 16:17:50.9±0.9, **37°.82S**±0°.10×**73°.7W**±0°.2, **h22km, n18,** σ**0s95**/18, **mb4.2**/7, **Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PLCA Paso Flores 3.80 141 Pn Pn 16 18 48.0 -0.1
5.4nm,0.3s,baz=275,slow=13,SNR=3.6
PLCA Lg Lg 16 19 41.4
baz=29,slow=19,SNR=2.3
PLCA LR LR 16 19 46.4
comp=Z,181nm,19.7s,baz=314,slow=32
PLCA Paso Flores 3.80 141 Pn Pn 16 18 47.7 -0.4
PLCA Lg Lg 16 19 41.4
TRQA Tornquist 9.27 95 ePn Pn 16 20 04.3 +1.1
USHA Ushuaia 17.39 170 P P 16 21 52.8 -0.3
0.4nm,0.3s,baz=317,slow=7.7,SNR=3.2
LPAZ La Paz 22.01 14 P P 16 22 42.9 -1.4
0.8nm,0.6s,baz=162,slow=13,SNR=1.7
LPAZ La Paz 22.01 14 eP P 16 22 42.1 -2.2
9.8nm,1.4s
SIV San Ignacio 24.44 31 P P 16 23 06.9 -1.2
2.7nm,0.8s,baz=194,slow=14,SNR=3.5
SNAA Sanae 48.59 157 P P 16 26 32.4 +0.1
2.7nm,0.8s,baz=275,slow=7.7,SNR=9.1
SNAA Sanae 48.59 157 eP P 16 26 32.3 0.0
QSPA South Pole Qui 52.42 180 P P 16 27 01.9 +0.5
3.0nm,0.8s,baz=134,slow=2.9,SNR=4.3
QSPA South Pole Qui 52.42 180 eP P 16 27 01.5 +0.1
4.1nm,0.9s
TXAR Lajitas Array 72.46 333 P P 16 29 17.3 +1.7
0.6nm,0.8s,baz=161,slow=8.0,SNR=6.0
DBIC Dimbokro 77.68 71 P P 16 29 45.7 -0.3
2.3nm,0.8s,baz=204,slow=7.4,SNR=3.4
DBIC Dimbokro 77.68 71 eP P 16 29 45.9 -0.1
1.9nm,0.7s
BOSA Boshof 79.49 118 P P 16 29 56.1 +0.1
2.0nm,0.8s,baz=231,slow=6.5,SNR=3.3
BOSA LR LR 17 03 04.4
comp=Z,150nm,18.6s,baz=108,slow=34
AKASG Malin Array Be 125.73 50 PKP PKPdf 16 36 50.0 -0.1
0.1nm,0.4s,baz=265,slow=0.8,SNR=2.7
ABKAR Akbulak array 145.03 56 ePKP PKPbc 16 37 24.9 -0.4
BVAR Borovoye Array 150.94 47 PKPbc PKPbc 16 37 41.5 +0.3
0.8nm,0.6s,baz=256,slow=3.1,SNR=5.0

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*IDC **28** 16:20:32.1±0.8, 38°.08S×73°.64W, h0km, mb4.3/10, mb1 4.4/13, mb1mx4.2/40, mbtmp4.2/13, ML3.9/3, Error ellipse: s-maj=26.5km s-min=17.1km az=87.0*
*ISCJB **28** 16:20:33.9±0.7, 38°.04S±0°.07×73°.6W±0°.2, h22km, mb4.3/13, Error ellipse: s-maj=18.0km s-min=10.0km az=176.3*
*NEIC **28** 16:20:37.2±1.5, 38°.07S×73°.54W, h37km±12km, mb4.6/7, Error ellipse: s-maj=18.3km s-min=8.1km az=84.0*
ISC 28 16:20:35.2±0.7, **38°.05S**±0°.08×**73°.6W**±0°.1, **h22km, n36,** σ**0s83**/37, **mb4.4**/13, **Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PLCA Paso Flores 3.59 139 Pn Pn 16 21 30.9 +1.2
1.5nm,0.3s,baz=300,slow=14,SNR=2.7
PLCA Lg Lg 16 22 19.7
16nm,0.3s,baz=281,slow=9.2,SNR=3.3
PLCA Paso Flores 3.59 139 ePn Pn 16 21 30.0 +0.3
PLCA Lg Lg 16 22 19.7
CFAA Coronel Fontan 7.82 36 Pn Pn 16 22 28.1 +0.5
0.5nm,0.3s,baz=198,slow=12,SNR=3.4
LVC Limon Verde 15.92 16 eP Pn 16 24 18.9 +0.8
CPUP Villa Florida 18.06 54 P Pn 16 24 44.6 -0.1
0.3nm,0.3s,baz=218,slow=8.9,SNR=6.3
CPUP Villa Florida 18.06 54 P Pn 16 24 43.0 -1.7
0.4nm,0.7s
LPAZ La Paz 22.22 14 P P 16 25 33.0 +2.1
12nm,0.8s,baz=184,slow=9.5,SNR=6.2
LPAZ La Paz 22.22 14 P P 16 25 31.7 +0.8
11nm,0.7s
SIV San Ignacio 24.61 30 P P 16 25 54.1 +0.1
6.0nm,0.8s,baz=235,slow=12,SNR=7.0
SAML Samuel 30.47 21 eP P 16 26 45.9 -0.6
16nm,1.4s
BDFB Brasilia 31.76 52 P P 16 26 58.5 +0.5
3.0nm,0.7s,baz=166,slow=8.3,SNR=2.9
OTAV Otavalo 38.36 352 eP P 16 27 55.8 +0.5
16nm,1.3s
SDV Santo Domingo 46.78 4 eP P 16 29 01.4 -1.9
SNAA Sanae 48.36 156 P P 16 29 14.6 -0.3
1.1nm,0.7s,baz=305,slow=12,SNR=3.4
SNAA Sanae 48.36 156 P P 16 29 14.4 -0.5
17nm,1.3s
QSPA South Pole Qui 52.19 180 P P 16 29 45.0 +1.0
1.9nm,0.9s,baz=142,slow=5.5,SNR=3.1
QSPA South Pole Qui 52.19 180 eP P 16 29 43.4 -0.6
0.7nm,0.6s
TXAR Lajitas Array 72.68 333 P P 16 32 02.2 +0.9
1.1nm,0.7s,baz=152,slow=8.2,SNR=9.0
DBIC Dimbokro 77.70 71 P P 16 32 31.2 +0.7
11nm,0.7s,baz=191,slow=6.2,SNR=18
DBIC Dimbokro 77.70 71 eP P 16 32 30.7 +0.2
12nm,0.7s
ANMO Albuquerque 78.75 333 P P 16 32 36.8 +0.7
0.9nm,0.6s,baz=190,slow=8.1,SNR=3.7
BOSA Boshof 79.33 118 P P 16 32 40.0 +0.4
5.7nm,0.8s,baz=204,slow=6.5,SNR=10
BOSA Boshof 79.33 118 eP P 16 32 39.2 -0.4
6.3nm,0.8s
TOA0 Torodi Ar. Sit 86.79 71 eP P 16 33 17.4 -0.7
TORD Torodi Ar. Bea 86.79 71 P P 16 33 17.8 -0.2
1.5nm,0.7s,baz=225,slow=4.1,SNR=9.6
PDAR Pinedale Array 86.82 334 P P 16 33 24.4 +6.6
0.9nm,0.9s,baz=157,slow=4.5,SNR=5.4
BRTR Keskin Array B 124.86 64 PKP PKPdf 16 39 33.5 +0.2
1.0nm,0.7s,baz=212,slow=3.6,SNR=6.0
AKASG Malin Array Be 125.84 50 PKP PKPdf 16 39 33.4 -1.2
0.2nm,0.3s,baz=263,slow=2.7,SNR=3.4
TIXI Tiksi 144.41 348 ePKP PKPab 16 40 05.9 -0.8
ABKAR Akbulak array 145.12 56 ePKP PKPbc 16 40 09.8 -0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRVK	Borovoye	150.99	47	ePKPbc	PKPbc	16 40 26.1	+0.5
BVAR	Borovoye Array	151.06	47	PKPbc	PKPbc	16 40 26.4	+0.6
	5.3nm,0.7s,baz=279,slow=3.8,SNR=28						
KKAR	Karatay Array	152.45	68	ePKPbc	PKPbc	16 40 29.0	-0.3
ZALV	Zalesovo Beam	158.30	36	PKP	PKPdf	16 40 29.5	-0.5
	0.3nm,0.3s,baz=354,slow=2.9,SNR=3.2						
ZALV				PKPab	PKPab	16 41 04.2	0.0
	2.3nm,0.8s,baz=294,slow=4.7,SNR=7.7						
MKAR	Makanchi Array	160.26	56	PKP	PKPdf	16 40 31.7	-0.8
	0.2nm,0.7s,baz=309,slow=0.9,SNR=3.1						
MKAR				PKPab	PKPab	16 41 12.9	-0.2
	2.1nm,0.7s,baz=293,slow=3.8,SNR=21						
SONM	Songino Array	170.22	360	PKPab	PKPab	16 41 57.7	+0.8
	0.8nm,0.8s,baz=352,slow=3.0,SNR=5.0						

IDC 28 16:28:57.9±0.7, 34°.29S×71°.86W, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.1/29, mbtmp4.0/11, ML4.0/1, Error ellipse: s-maj=28.5km s-min=19.1km az=81.0
ISCJB 28 16:28:58.8±0.7, 34°.36S±0°.08×72°.0W±0°.1, h16km, mb3.9/10, Error ellipse: s-maj=17.4km s-min=10.8km az=174.4
NEIC 28 16:29:02.9±1.8, 34°.40S×72°.03W, h36km±15km, mb4.3/2, Error ellipse: s-maj=21.8km s-min=11.1km az=95.0
ISC 28 16:28:60.0±0.7, 34°.36S±0°.09×72°.1W±0°.1, h16km, n23, σ1°08/24, mb4.0/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.26	51	Pn	Pn	16 30 06.3	+2.1
	0.5nm,0.3s,baz=21,slow=7.1,SNR=7.8						
CFAA				Lg	Lg	16 31 06.2	
	1.4nm,0.3s,baz=4.2,slow=8.3,SNR=6.8						
PLCA	Paso Flores	6.48	169	Pn	Pn	16 30 35.8	+1.1
	0.8nm,0.3s,baz=270,slow=9.1,SNR=3.0						
PLCA				Lg	Lg	16 32 13.6	
	0.8nm,0.3s,baz=258,slow=19,SNR=2.8						
PLCA	Paso Flores	6.48	169	eP	Pn	16 30 32.6	-2.1
PLCA				Lg	Lg	16 32 13.6	
TRQA	Tornquist	8.98	117	eP	Pn	16 31 10.8	+1.9
	22nm,1.0s						
LPAZ	La Paz	18.35	12	P	P	16 33 15.6	+1.2
	0.1nm,0.3s,baz=139,slow=5.5,SNR=6.7						
SIV	San Ignacio	20.81	31	P	P	16 33 39.8	-1.0
	6.3nm,1.0s,baz=234,slow=13,SNR=6.8						
SAML	Samuel	26.59	20	eP	P	16 34 36.1	-1.4
	3.1nm,0.8s						
BDFB	Brasilia	28.59	55	P	P	16 34 54.5	-1.1
	2.2nm,0.7s,baz=227,slow=16,SNR=3.8						
SNAA	Sanae	51.27	158	P	P	16 38 02.7	0.0
	1.6nm,0.8s,baz=292,slow=9.7,SNR=5.4						
SNAA	Sanae	51.27	158	eP	P	16 38 03.1	+0.3
QSPA	South Pole Qui	55.88	180	P	P	16 38 37.8	+1.2
	1.8nm,1.1s,baz=174,slow=1.3,SNR=6.2						
TXAR	Lajitas Array	70.02	331	P	P	16 40 11.8	+0.8
	0.1nm,0.5s,baz=152,slow=6.0,SNR=2.7						
DBIC	Dimbokro	75.35	71	P	P	16 40 42.5	-0.4
	3.7nm,0.7s,baz=214,slow=6.5,SNR=5.0						
DBIC	Dimbokro	75.35	71	eP	P	16 40 42.3	-0.7
	4.3nm,0.7s						
BOSA	Boshof	79.96	118	P	P	16 41 08.7	0.0
	5.6nm,0.9s,baz=244,slow=3.1,SNR=7.6						
PDAR	Pinedale Array	84.06	333	P	P	16 41 30.9	+1.0
	0.6nm,1.0s,baz=147,slow=5.2,SNR=2.7						
NVAR	Mina Array Bea	84.14	325	P	P	16 41 31.9	+1.6
	0.1nm,0.2s,baz=155,slow=6.7,SNR=3.5						
TOA0	Torodi Ar. Sit	84.39	70	eP	P	16 41 31.3	-0.5
TORD	Torodi Ar. Bea	84.39	70	P	P	16 41 31.2	-0.6
	2.2nm,0.9s,baz=249,slow=4.4,SNR=9.6						
YKA	Yellowknife Ar	102.38	341	P	Pdif	16 42 53.4	-0.8
	0.1nm,0.6s,baz=141,slow=4.0,SNR=3.5						
BVAR	Borovoye Array	147.58	43	PKPbc	PKPbc	16 48 42.2	-0.7
	1.3nm,0.6s,baz=276,slow=2.8,SNR=11						
ZALV	Zalesovo Beam	154.56	33	PKP	PKPdf	16 48 50.6	-0.3
	0.3nm,0.3s,baz=0.0,slow=3.0,SNR=3.0						
ZALV				PKPbc	PKPbc	16 48 59.1	-0.2
	1.1nm,0.7s,baz=316,slow=3.5,SNR=6.4						
ZALV				PKPab	PKPab	16 49 12.9	-1.0
	1.4nm,0.7s,baz=306,slow=5.6,SNR=6.2						
MKAR	Makanchi Array	157.04	50	PKPab	PKPab	16 49 24.1	-0.8
	0.7nm,0.7s,baz=292,slow=4.4,SNR=7.1						

IDC 28 16:34:32.4±6.7, 33°.61S×72°.72W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/19, mbtmp3.5/2, Error ellipse: s-maj=309.8km s-min=51.1km az=29.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	69.12	331	P	P	16 45 40.5	0.0
	0.1nm,0.5s,baz=150,slow=9.4,SNR=3.7						
TORD	Torodi Ar. Bea	84.61	70	P	P	16 47 07.8	-0.4
	0.5nm,0.7s,baz=242,slow=4.5,SNR=4.1						
BVAR	Borovoye Array	147.38	42	PKPbc	PKPbc	16 54 18.0	+0.3
	0.6nm,0.5s,baz=294,slow=1.5,SNR=6.8						
ZALV	Zalesovo Beam	154.19	31	PKPbc	PKPbc	16 54 33.0	-0.9
	0.3nm,0.3s,baz=329,slow=5.0,SNR=3.6						

IDC 28 16:44:14.2±0.9, 34°.80S×73°.30W, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.8/29, mbtmp3.8/6, ML2.8/1, MS4.1/9, Ms1 4.1/9, ms1mx3.8/28, Error ellipse: s-maj=37.8km s-min=23.2km az=100.0
ISCJB 28 16:44:18.2±1.0, 34°.89S±0°.10×73°.1W±0°.1, h33km, mb3.9/6, MS4.2/7, Error ellipse: s-maj=20.1km s-min=14.3km az=2.6
NEIC 28 16:44:19.9±0.8, 34°.86S×73°.20W, h35km, mb4.2/3, Error ellipse: s-maj=19.0km s-min=14.1km az=98.0
ISC 28 16:44:20.3±0.9, 34°.9S±0°.1×73°.2W±0°.2, h35km, n22, σ1°12/13, mb3.9/6, MS4.1/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.25	53	Pn	Pn	16 45 36.0	-0.2
	0.3nm,0.3s,baz=218,slow=19,SNR=3.9						
PLCA	Paso Flores	6.22	161	LR	LR	16 48 27.8	
	comp=Z,540nm,20.1s,baz=352,slow=40						
TRQA	Tornquist	9.56	113	P	Pn	16 46 35.3	-0.1
CPUP	Villa Florida	16.05	62	LR	LR	16 54 38.7	
	comp=Z,794nm,19.6s,baz=218,slow=39						
LPAZ	La Paz	19.03	15	P	Pn	16 48 42.6	+1.8
	baz=185,slow=12,SNR=1.9						
LPAZ	La Paz	19.03	15	P	Pn	16 48 42.0	+1.1
	12nm,1.2s						
USHA	Ushuaia	20.25	172	LR	LR	16 57 32.8	
	comp=Z,1μm,18.2s,baz=322,slow=39						
SIV	San Ignacio	21.69	33	P	P	16 49 07.4	-0.8
	6.2nm,1.1s,baz=235,slow=12,SNR=8.1						
SIV				LR	LR	16 59 06.9	
	comp=Z,695nm,18.4s,baz=232,slow=41						
SAML	Samuel	27.36	22	eP	P	16 50 07.8	+5.6
	2.8nm,0.9s						
BDFB	Brasilia	29.59	56	LR	LR	17 03 19.9	
	comp=Z,413nm,20.4s,baz=218,slow=39						
PMSA	Palmer Station	30.46	172	LR	LR	17 01 55.8	
	comp=Z,300nm,18.3s,baz=104,slow=35						
SNAA	Sanae	51.15	158	P	P	16 53 20.0	+0.6
	6.1nm,1.1s,baz=310,slow=6.7,SNR=8.2						
SNAA	Sanae	51.15	158	eP	P	16 53 20.6	+1.2
	26nm,1.3s						
QSPA	South Pole Qui	55.38	180	P	P	16 53 50.4	-0.2
	3.5nm,1.1s,baz=166,slow=3.6,SNR=4.2						
VNDA	Vanda	63.08	192	LR	LR	17 16 43.6	
	comp=Z,103nm,21.0s,baz=161,slow=31						
TXAR	Lajitas Array	70.04	332	P	P	16 55 28.0	-0.6
	0.2nm,0.6s,baz=144,slow=7.8,SNR=3.1						
MAW	Mawson	72.62	164	LR	LR	17 28 08.5	
	comp=Z,250nm,18.2s,baz=252,slow=36						
BOSA	Boshof	80.49	118	LR	LR	17 28 25.1	
	comp=Z,122nm,18.2s,baz=222,slow=33						
TORD	Torodi Ar. Bea	85.38	71	P	P	16 56 53.5	-0.8
	0.5nm,0.9s,baz=242,slow=3.1,SNR=2.6						
WRA	Warramunga Arr	119.56	210	PKP	PKPdf	17 03 05.8	-1.0
	0.7nm,1.1s,baz=154,slow=1.9,SNR=2.8						
BVAR	Borovoye Array	148.54	43	PKPbc	PKPdf	17 04 00.9	+1.7
	0.3nm,0.4s,baz=286,slow=5.4,SNR=3.0						
AAK	Ala-Archa	153.73	63	PKPbc	PKPbc	17 04 14.7	-0.8
	0.2nm,0.2s,baz=66,slow=10.0,SNR=1.9						

IDC 28 16:47:57.0±1.5, 37°.46S×73°.88W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/29, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=52.2km s-min=21.3km az=74.0
ISCJB 28 16:48:00.0±1.7, 37°.5S±0°.1×74°.0W±0°.4, h33km, mb3.9/3, Error ellipse: s-maj=49.7km s-min=18.2km az=171.0
ISC 28 16:48:02.2±1.6, 37°.5S±0°.1×73°.9W±0°.4, h35km, n7, σ0°54/7, mb3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.18	143	Pn	Pn	16 49 03.7	+0.2
	0.3nm,0.3s,baz=328,slow=13,SNR=1.9						
PLCA				Lg	Lg	16 50 09.3	
	2.0nm,0.3s,baz=334,slow=14,SNR=3.0						
LPAZ	La Paz	21.68	15	P	P	16 52 50.5	-0.1
	1.3nm,0.4s,baz=180,slow=3.0,SNR=4.1						
QSPA	South Pole Qui	52.80	180	P	P	16 57 13.4	-0.3
	2.0nm,0.9s,baz=142,slow=6.3,SNR=3.8						
TORD	Torodi Ar. Bea	86.77	71	P	P	17 00 42.5	-0.5
	0.7nm,0.8s,baz=217,slow=4.4,SNR=4.0						
BRTR	Keskin Array B	124.76	64	PKP	PKPdf	17 06 58.5	+0.4
	0.5nm,0.8s,baz=242,slow=3.1,SNR=3.0						
BVAR	Borovoye Array	150.78	46	PKPbc	PKPbc	17 07 50.9	+0.8
	1.0nm,0.8s,baz=277,slow=5.8,SNR=7.0						
AAK	Ala-Archa	155.33	68	PKPab	PKPab	17 08 17.1	-0.1
	0.3nm,0.2s,baz=216,slow=6.1,SNR=4.3						

IDC 28 16:49:49.0±1.1, 35°.78S×71°.66W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/26, mbtmp3.9/3, Error ellipse: s-maj=54.3km s-min=31.4km az=75.0
ISCJB 28 16:49:53.3±1.1, 35°.9S±0°.1×72°.0W±0°.3, h35km, mb4.0/4, Error ellipse: s-maj=35.1km s-min=14.4km az=7.1
NEIC 28 16:49:54.1±1.1, 35°.83S×72°.03W, h35km, mb4.5/1, Error ellipse: s-maj=40.2km s-min=16.2km az=96.0
ISC 28 16:49:54.5±1.1, 35°.9S±0°.1×72°.0W±0°.3, h35km, n9, σ1°73/9, mb4.1/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.01	167	eP	Pn	16 51 06.8	-0.4
CFAA	Coronel Fontan	5.28	38	Pn	Pn	16 51 11.5	+0.7
	0.1nm,0.3s,baz=214,slow=18,SNR=4.2						
SNAA	Sanae	49.87	157	eP	P	16 58 45.8	+1.8
	4.0nm,0.9s						
QSPA	South Pole Qui	54.39	180	P	P	16 59 17.3	-0.4
	2.4nm,1.1s,baz=157,slow=2.5,SNR=5.2						
TXAR	Lajitas Array	71.36	331	P	P	17 01 12.1	+1.2
	0.4nm,1.0s,baz=150,slow=9.4,SNR=2.5						
BOSA	Boshof	79.20	117	P	P	17 01 56.7	+0.4
	1.7nm,0.8s,baz=228,slow=6.8,SNR=4.0						
BVAR	Borovoye Array	148.59	45	PKPbc	PKPbc	17 09 35.1	-2.1
	1.1nm,0.6s,baz=311,slow=3.3,SNR=8.1						
ZALV	Zalesovo Beam	155.76	34	PKPab	PKPab	17 10 08.6	-2.1
	0.4nm,0.3s,baz=299,slow=5.9,SNR=3.3						
MKAR	Makanchi Array	157.92	52	PKPab	PKPab	17 10 18.5	-1.8
	0.9nm,0.8s,baz=288,slow=2.6,SNR=11						

IDC 28 16:50:36.3±0.9, 24°.85S×65°.66W, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.7/29, mbtmp3.7/6, ML4.1/2, Error ellipse: s-maj=28.3km s-min=24.4km az=31.0
ISCJB 28 16:50:40.2±1.0, 24°.74S±0°.09×65°.4W±0°.2, h33km, mb3.7/4, Error ellipse: s-maj=20.2km s-min=12.2km az=15.3
ISC 28 16:50:41.8±1.0, 24°.8S±0°.1×65°.5W±0°.1, h35km, n8, σ0°87/9, mb3.7/4, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPUP	Villa Florida	7.54	103	Pn	Pn	16 52 29.3	-0.1
	0.8nm,0.3s,baz=248,slow=14,SNR=5.1						
CPUP				Lg	Lg	16 54 40.5	
	7.5nm,0.3s,baz=180,slow=20,SNR=4.0						
SIV	San Ignacio	9.71	26	Pn	Pn	16 53 00.7	+1.4
	1.4nm,0.3s,baz=240,slow=7.0,SNR=21						
SIV				Sn	Sn	16 54 45.8	-1.4
	0.9nm,0.3s,baz=311,slow=19,SNR=3.6						
QSPA	South Pole Qui	65.39	180	P	P	17 01 20.9	+0.1
	1.1nm,0.8s,baz=96,slow=5.1,SNR=3.6						
TORD	Torodi Ar. Bea	75.61	68	P	P	17 02 23.5	-0.2
	0.5nm,0.5s,baz=250,slow=5.6,SNR=6.1						
PDAR	Pinedale Array	78.54	329	P	P	17 02 39.5	-0.3
	0.4nm,0.7s,baz=143,slow=7.6,SNR=3.2						
YKA	Yellowknife Ar	95.36	339	P	P	17 04 02.0	+0.1
	0.2nm,0.8s,baz=118,slow=3.7,SNR=3.5						
ASAR	Alice Springs	128.26	203	PKP	PKPdf	17 09 44.9	-0.4
	0.4nm,0.6s,baz=136,slow=1.5,SNR=6.8						
WRA	Warramunga Arr	131.50	205	PKP	PKPdf	17 09 51.1	-0.4
	0.8nm,0.9s,baz=164,slow=1.5,SNR=4.6						

IDC 28 16:52:47.8±1.3, 34°.49S×71°.73W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/26, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=39.4km s-min=38.3km az=176.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.11	47	Pn	Pn	16 53 53.2	+1.3
	1.5nm,0.3s,baz=186,slow=0.5,SNR=23						
CFAA				Sn	Sn	16 54 40.7	0.0
	2.3nm,0.3s,baz=25,slow=14,SNR=8.1						
TXAR	Lajitas Array	70.29	331	P	P	17 04 03.3	+0.3
	0.2nm,0.4s,baz=160,slow=8.7,SNR=5.5						
BOSA	Boshof	79.62	117	P	P	17 04 57.6	+0.3
	1.3nm,0.7s,baz=239,slow=5.9,SNR=3.1						
AAK	Ala-Archa	152.51	63	PKPbc	PKPbc	17 12 46.6	+0.5
	baz=180,slow=6.1						
ZALV	Zalesovo Beam	154.50	33	PKPbc	PKPbc	17 12 49.4	-0.4
	0.3nm,0.4s,baz=306,slow=4.8,SNR=3.6						
MKAR	Makanchi Array	156.89	50	PKPab	PKPab	17 13 13.1	-1.6
	0.2nm,0.7s,baz=288,slow=3.8,SNR=2.9						

ISCJB 28 16:53:55.5±1.5, 17°.6S±0°.5×178°.7W±0°.3, h547km, mb3.4/7, Error ellipse: s-maj=73.9km s-min=19.3km az=153.2
IDC 28 16:53:59.5±5.9, 17°.69S×178°.65W, h587km±66km, mb3.0/7, mb1 3.3/7, mb1mx2.9/44, mbtmp3.9/7, Error ellipse: s-maj=69.8km s-min=23.1km az=148.0
ISC 28 16:53:55.7±1.5, 17°.8S±0°.5×178°.6W±0°.3, h547km, n9, σ0°87/11, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.51	259	P	P	17 01 19.6	+0.5
	0.7nm,0.5s,baz=96,slow=7.1,SNR=24						
WRA				PcP	PcP	17 02 49.5	-1.2
	0.4nm,1.0s,baz=107,slow=2.9,SNR=4.5						
ASAR	Alice Springs	44.68	254	P	P	17 01 21.2	+0.7
	2.2nm,0.5s,baz=87,slow=9.3,SNR=59						
ASAR				PcP	PcP	17 02 50.0	-1.2
	0.3nm,0.6s,baz=98,slow=4.2,SNR=4.5						
NVAR	Mina Array Bea	79.42	44	P	P	17 05 06.1	+0.4
	0.3nm,0.6s,baz=233,slow=8.9,SNR=3.8						
SEY	Seymchan	83.58	347	P	P	17 05 26.5	+0.4
	0.6nm,0.4s,baz=253,slow=23,SNR=4.8						
ILAR	Eielson Array	85.77	13	P	P	17 05 36.0	-0.8
	0.4nm,0.4s,baz=226,slow=4.8,SNR=11						
TXAR	Lajitas Array	86.04	58	P	P	17 05 39.8	+0.7
	0.5nm,0.7s,baz=222,slow=6.3,SNR=6.6						
PDAR	Pinedale Array	87.34	43	P	P	17 05 45.0	-0.1
	0.4nm,0.6s,baz=228,slow=2.3,SNR=4.3						
BRTR	Keskin Array B	144.56	315	PKP	PKPab	17 12 31.7	+0.5
	0.3nm,0.4s,baz=112,slow=3.0,SNR=3.1						
GERES	GERESS Array B	147.42	345	PKPbc	PKPbc	17 12 37.4	-0.9
	0.7nm,0.5s,baz=38,slow=5.5,SNR=3.6						

ISCJB 28 17:00:40.6±0.6, 37°.03S±0°.06×73°.3W±0°.1, h14km, mb4.1/11, Error ellipse: s-maj=16.3km s-min=7.8km az=162.1
IDC 28 17:00:40.6±1.0, 36°.95S×73°.47W, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.9/30, mbtmp3.8/9, ML3.8/2, Error ellipse: s-maj=36.8km s-min=18.7km az=91.0
NEIC 28 17:00:45.5±0.7, 37°.01S×73°.31W, h35km, mb4.4/7, Error ellipse: s-maj=18.3km s-min=11.5km az=82.0
ISC 28 17:00:42.3±0.7, 37°.03S±0°.07×73°.4W±0°.1, h14km, n20, σ1°16/23, mb4.2/11, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.31	150	Pn	Pn	17 01 46.8	-0.7
	2.1nm,0.3s,baz=351,slow=7.0,SNR=3.9						
PLCA				Sn	Sn	17 02 36.6	-1.0
	15nm,0.3s,baz=255,slow=23,SNR=5.2						
PLCA	Paso Flores	4.31	150	eP	Pn	17 01 48.4	+0.8
PLCA				eSn	Sn	17 02 36.2	-1.5
PLCA				Sn	Sn	17 02 36.6	-1.0
CFAA	Coronel Fontan	6.88	40	Pn	Pn	17 02 21.0	-1.8
	0.3nm,0.3s,baz=214,slow=18,SNR=4.0						
TRQA	Tornquist	9.11	100	ePn	Pn	17 02 53.8	+0.3
LPAZ	La Paz	21.17	14	P	P	17 05 27.5	-0.4
	1.4nm,0.3s,baz=208,slow=5.9,SNR=2.3						
LPAZ	La Paz	21.17	14	eP	P	17 05 27.6	-0.3
	4.4nm,0.8s						
SIV	San Ignacio	23.62	31	P	P	17 05 54.4	+1.3
	4.0nm,0.8s,baz=228,slow=12,SNR=8.1						
SDV	Santo Domingo	45.74	4	eP	P	17 09 02.6	-0.8
	5.7nm,0.8s						
SNAA	Sanae	49.22	157	P	P	17 09 31.3	+1.5
	0.8nm,0.8s,baz=270,slow=11,SNR=3.1						
SNAA	Sanae	49.22	157	eP	P	17 09 29.9	0.0
	15nm,1.4s						
QSPA	South Pole Qui	53.22	180	P	P	17 10 01.3	+1.3
	2.9nm,0.9s,baz=159,slow=2.6,SNR=6.7						
QSPA	South Pole Qui	53.22	180	eP	P	17 09 59.5	-0.5
	4.1nm,1.3s						
SBA	Scott Base	59.90	192	P	P	17 10 46.3	-0.8
TXAR	Lajitas Array	71.87	332	P	P	17 12 04.1	-0.8
	0.8nm,0.8s,baz=155,slow=9.0,SNR=9.8						
MIAR	Mount Ida	73.65	343	eP	P	17 12 16.1	+0.9
	5.7nm,1.3s						
WVT	Waverly	74.01	348	eP	P	17 12 19.0	+1.7
	6.0nm,1.0s						
DBIC	Dimbokro	77.18	71	P	P	17 12 35.8	-0.2
	1.8nm,0.8s,baz=187,slow=5.0,SNR=2.4						
ANMO	Albuquerque	77.94	333	eP	P	17 12 38.8	-1.2
	3.6nm,1.2s						
TORD	Torodi Ar. Bea	86.25	71	P	P	17 13 25.8	+1.9
	0.4nm,0.6s,baz=249,slow=4.0,SNR=2.6						
BVAR	Borovoye Array	150.20	46	PKPbc	PKPbc	17 20 33.4	+1.2
	0.3nm,0.5s,baz=270,slow=1.4,SNR=1.8						

IDC 28 17:00:52.8±1.8, 37°.22S×73°.07W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/28, mbtmp4.2/5, MS3.3/1, Ms1 3.3/1, ms1mx2.8/27, Error ellipse: s-maj=64.7km s-min=33.4km az=53.0
ISCJB 28 17:00:59.5±1.9, 37°.1S±0°.3×73°.0W±0°.5, h56km, mb4.1/5, Error ellipse: s-maj=58.7km s-min=30.1km az=150.2
ISC 28 17:01:01.0±1.9, 37°.1S±0°.3×73°.0W±0°.4, h56km, n7, σ1°23/6, mb4.2/5, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPUP	Villa Florida	17.11	55	LR	LR	17 11 11.5	
	comp=Z,91nm,19.0s,baz=224,slow=36						
LPAZ	La Paz	21.20	13	P	P	17 05 43.4	+0.8
	3.9nm,0.8s,baz=176,slow=1.9,SNR=6.0						
TXAR	Lajitas Array	72.10	332	P	P	17 12 19.5	+0.1
	1.0nm,0.8s,baz=148,slow=8.6,SNR=6.9						
DBIC	Dimbokro	76.92	71	P	P	17 12 47.4	-0.2
	2.9nm,0.7s,baz=233,slow=6.1,SNR=3.4						
BOSA	Boshof	79.31	118	P	P	17 13 02.2	+1.3
	4.0nm,0.8s,baz=266,slow=4.7,SNR=6.5						
TORD	Torodi Ar. Bea	86.00	70	P	P	17 13 34.5	-1.1
	1.4nm,0.8s,baz=242,slow=3.6,SNR=7.0						
BVAR	Borovoye Array	150.05	46	PKPbc	PKPbc	17 20 43.7	-1.0
	0.9nm,0.6s,baz=288,slow=5.1,SNR=3.6						

IDC 28 17:02:28.8±2.2, 38°.51S×75°.31W, h0km, mb3.8/2, mb1 4.2/4, mb1mx3.8/29, mbtmp3.9/4, ML4.7/2, Error ellipse: s-maj=72.8km s-min=35.2km az=34.0
ISCJB 28 17:02:31.2±1.9, 38°.7S±0°.2×75°.2W±0°.3, h33km, mb3.8/2, Error ellipse: s-maj=43.6km s-min=12.6km az=43.3
ISC 28 17:02:34.1±1.7, 38°.6S±0°.2×75°.1W±0°.2, h35km, n7, σ1°61/8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.09	123	Pn	Pn	17 03 33.9	-0.4
	13nm,0.3s,baz=308,slow=13,SNR=2.8						
PLCA				Sn	Sn	17 04 20.6	-0.5
	26nm,0.3s,baz=243,slow=19,SNR=3.5						
CPUP	Villa Florida	19.28	56	P	Pn	17 06 56.9	-0.1
	0.4nm,0.3s,baz=204,slow=13,SNR=3.2						
TXAR	Lajitas Array	72.66	334	P	P	17 13 56.5	-1.7
	0.5nm,0.7s,baz=158,slow=8.1,SNR=4.1						
TORD	Torodi Ar. Bea	88.03	72	P	P	17 15 21.6	+0.6
	0.6nm,0.7s,baz=215,slow=4.5,SNR=3.8						
BVAR	Borovoye Array	152.25	47	PKPbc	PKPbc	17 22 28.2	+2.8
	0.9nm,0.7s,baz=298,slow=3.1,SNR=4.4						
ZALV	Zalesovo Beam	159.39	35	PKPab	PKPab	17 23 05.2	-0.8
	0.5nm,0.5s,baz=323,slow=4.3,SNR=2.8						
MKAR	Makanchi Array	161.49	56	PKPab	PKPab	17 23 16.5	+1.0
	0.2nm,0.6s,baz=278,slow=5.2,SNR=2.6						

IDC 28 17:06:53.4±2.0, 35°.71S×73°.54W, h0km, mb3.9/4, mb1 3.9/7, mb1mx3.8/29, mbtmp3.8/7, ML3.8/3, Error ellipse: s-maj=73.2km s-min=19.9km az=101.0
ISCJB 28 17:06:57.1±1.1, 35°.75S±0°.08×73°.2W±0°.2, h33km, mb4.0/4, Error ellipse: s-maj=25.2km s-min=10.7km az=2.5
NEIC 28 17:06:58.6±0.8, 35°.74S×73°.31W, h35km, mb4.1/2, Error ellipse: s-maj=19.3km s-min=8.1km az=92.0
ISC 28 17:06:58.6±1.2, 35°.71S±0°.09×73°.3W±0°.2, h35km, n14, σ0°65/14, mb4.1/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.47	157	Pn	Pn	17 08 18.0	+0.3
	1.5nm,0.3s,baz=355,slow=11,SNR=3.9						
PLCA				Lg	Lg	17 09 43.7	
	1.3nm,0.3s,baz=259,slow=21,SNR=3.1						
PLCA	Paso Flores	5.47	157	ePn	Pn	17 08 17.4	-0.3
CFAA	Coronel Fontan	5.91	48	Pn	Pn	17 08 24.6	+0.9
	0.9nm,0.3s,baz=221,slow=10,SNR=6.1						
TRQA	Tornquist	9.40	108	ePn	Pn	17 09 10.6	-1.0
LVC	Limon Verde	13.61	18	ePn	Pn	17 10 08.5	-1.0
LPAZ	La Paz	19.90	15	P	Pn	17 11 28.9	-0.6
	0.1nm,0.3s,baz=170,slow=11,SNR=3.0						
LPAZ	La Paz	19.90	15	eP	P	17 11 28.2	+0.4
	1.9nm,0.8s						
SIV	San Ignacio	22.49	32	P	P	17 11 55.7	+0.5
	1.3nm,0.6s,baz=245,slow=17,SNR=5.2						
SNAA	Sanae	50.42	157	P	P	17 15 52.7	+0.5
	2.3nm,0.9s,baz=315,slow=7.6,SNR=6.3						
SNAA	Sanae	50.42	157	eP	P	17 15 51.6	-0.6
	10nm,1.3s						
QSPA	South Pole Qui	54.53	180	P	P	17 16 23.0	+0.3
	2.5nm,0.8s,baz=171,slow=0.8,SNR=6.2						
DBIC	Dimbokro	76.74	72	eP	P	17 18 46.9	+0.2
TORD	Torodi Ar. Bea	85.80	71	P	P	17 19 34.9	+0.2
	0.8nm,0.8s,baz=227,slow=3.2,SNR=4.3						
MKAR	Makanchi Array	158.68	51	PKPab	PKPab	17 27 27.4	-0.3
	0.4nm,0.5s,baz=311,slow=3.3,SNR=3.3						

IDC 28 17:08:23.8±4.2, 24°.07S×179°.73W, h470km±42km, mb3.6/9, mb1 3.7/11, mb1mx3.5/35, mbtmp4.4/11, Error ellipse: s-maj=29.6km s-min=17.9km az=66.0
ISCJB 28 17:08:25.4±0.9, 24°.22S±0°.08×179°.8W±0°.1, h505km, mb4.0/9, Error ellipse: s-maj=17.5km s-min=10.9km az=174.3
ISC 28 17:08:26.6±0.8, 24°.29S±0°.10×179°.9W±0°.1, h505km, n35, σ1°12/34, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	10.58	63	P	P	17 10 57.8	+7.7
	baz=11,SNR=7.1						
NIUE				S	S	17 12 57.0	+8.6
	baz=11,SNR=4.9						
DZM	Mont Dzumac	12.80	277	P	P	17 11 12.5	-1.3
	0.7nm,0.3s,baz=84,slow=18,SNR=8.7						
URZ	Urewera	14.17	190	P	P	17 11 27.8	0.0
	1.8nm,0.3s,baz=231,slow=1.8,SNR=12						
URZ				S	S	17 13 54.4	-2.9
	0.9nm,0.3s,baz=188,slow=21,SNR=11						
EIDS	Eidsvold	26.39	262	P	P	17 13 23.2	+1.1
	baz=27,SNR=3.7						
RMQ	Roma	28.41	259	P	P	17 13 42.3	+2.4
	baz=29,SNR=5.1						
CMSA	Cobar Meteorol	31.20	249	P	P	17 14 05.0	+1.0
	baz=31,SNR=12						
CTA	Charters Tower	31.62	271	P	P	17 14 08.8	+1.1
	18nm,0.3s,baz=93,slow=11,SNR=53						
QLP	Quilpie	32.45	258	P	P	17 14 15.7	+0.9
	baz=33,SNR=4.2						
STKA	Stephens Creek	34.71	249	P	P	17 14 34.6	+0.9
	2.7nm,0.5s,baz=101,slow=9.0,SNR=11						
STKA	Stephens Creek	34.71	249	P	P	17 14 34.8	+1.0

	baz=35,SNR=8.2						
HTT	Hallett	37.04	246	P	P	17 14 53.8	+0.7
	baz=37,SNR=4.9						
ASAR	Alice Springs	42.11	261	P	P	17 15 34.4	+0.2
	2.3nm,0.4s,baz=95,slow=7.2,SNR=114						
WRA	Warramunga Arr	42.52	267	P	P	17 15 37.1	-0.3
	8.2nm,0.5s,baz=97,slow=8.4,SNR=364						
KDU	Kakadu	46.46	276	P	P	17 16 07.3	-0.5
	baz=47,SNR=14						
WRKA	Warakurna	46.89	258	P	P	17 16 11.1	0.0
	baz=47,SNR=46						
MTN	Manton Dam	47.62	275	P	P	17 16 16.2	-0.5
	baz=48,SNR=5.6						
KNRA	Kununurra	48.83	270	P	P	17 16 25.9	+0.3
	baz=50,SNR=5.2						
FITZ	Fitzroy Crossi	50.94	266	P	P	17 16 41.7	+0.5
	baz=51,SNR=12						
MEEK	Meekatharra	55.13	254	P	P	17 17 10.6	-0.5
	baz=55,SNR=4.4						
MORW	Morawa	56.87	250	P	P	17 17 23.0	-0.1
	baz=57,SNR=8.0						
QSPA	South Pole Qui	65.80	180	P	P	17 18 22.9	+1.8
	4.4nm,0.8s,baz=353,slow=1.2,SNR=16						
MJAR	Matsushiro Arr	72.29	326	P	P	17 19 00.4	-0.1
	1.2nm,0.7s,baz=149,slow=6.1,SNR=5.7						
PETK	Petropavlovsk-	79.51	346	P	P	17 19 38.8	-1.2
	1.5nm,0.6s,baz=112,slow=7.4,SNR=6.1						
CMAR	Chiang Mai Arr	89.79	290	P	P	17 20 31.2	-0.1
	0.5nm,0.4s,baz=92,slow=4.5,SNR=5.1						
ILAR	Eielson Array	92.37	13	P	P	17 20 41.6	-0.5
	0.2nm,0.7s,baz=224,slow=5.1,SNR=4.1						
BVAR	Borovoye Array	120.82	319	PKP	PKPdf	17 26 19.9	-0.8
	0.9nm,0.3s,baz=84,slow=3.4,SNR=6.5						
AKTO	Aktyubinsk	128.67	316	PKP	PKPdf	17 26 36.4	+0.6
	0.5nm,0.6s,baz=53,slow=10,SNR=4.3						
ARCES	ARCESS Array B	132.29	348	PKP	PKPdf	17 26 42.9	+0.8
	0.5nm,0.4s,baz=56,slow=1.8,SNR=14						
FINES	FINESS Array B	138.85	341	PKhKP	PKPpre	17 26 44.2	
	1.5nm,0.9s,baz=64,slow=4.2,SNR=7.7						
NOA	NORSAR Array B	142.48	351	PKP	PKPdf	17 26 58.6	-2.5
	0.3nm,0.7s,baz=2.3,slow=3.4,SNR=2.9						
AKASG	Malin Array Be	145.37	327	PKPbc	PKPdf	17 27 06.9	+0.6
	1.4nm,0.4s,baz=45,slow=3.9,SNR=22						
BRTR	Keskin Array B	147.92	307	PKPbc	PKPbc	17 27 15.2	+0.2
	1.3nm,0.6s,baz=155,slow=4.9,SNR=9.3						
MMAI	Mount Meron Ar	147.99	294	PKPbc	PKPbc	17 27 16.8	+1.5
	4.9nm,0.4s,baz=71,slow=8.0,SNR=18						
MLR	Muntele Rosu	150.30	322	PKPbc	PKPbc	17 27 21.0	+0.5
	0.4nm,0.6s,baz=7.1,slow=8.1,SNR=6.3						
TORD	Torodi Ar. Bea	168.82	188	PKPab	PKPab	17 28 50.6	+0.7
	0.5nm,0.6s,baz=172,slow=3.6,SNR=5.8						

IDC ***28*** *17:09:31.9±1.8, 33°.97S×73°.25W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/28, mbtmp3.8/4, ML4.0/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/28, Error ellipse: s-maj=49.3km s-min=46.7km az=46.0*

ISC 28 17:09:37.6±1.9, **33°.9S**±0°.3×**73°.2W**±0°.3, **h35**km, **n6**, σ**0**^{s}**37**/6, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	18.08	16	P	P	17 13 46.9	0.0
	0.2nm,0.3s,baz=215,slow=12,SNR=2.9						
SIV	San Ignacio	20.88	35	P	P	17 14 17.0	+0.2
	2.0nm,0.8s,baz=234,slow=14,SNR=2.5						
SIV				LR	LR	17 22 53.6	
	comp=Z,227nm,18.8s,baz=198,slow=38						
TXAR	Lajitas Array	69.15	332	P	P	17 20 40.5	0.0
	0.7nm,0.6s,baz=156,slow=7.9,SNR=7.7						
TORD	Torodi Ar. Bea	85.06	71	P	P	17 22 09.9	-0.2
	0.5nm,0.7s,baz=248,slow=4.5,SNR=3.5						
BVAR	Borovoye Array	147.82	42	PKPbc	PKPbc	17 29 18.1	-0.2
	0.6nm,0.6s,baz=305,slow=5.1,SNR=2.9						
AAK	Ala-Archa	153.28	61	PKPbc	PKPbc	17 29 32.5	+0.5
	0.3nm,0.4s,baz=151,slow=2.9,SNR=4.1						

IDC ***28*** *17:11:05.3±0.9, 34°.77S×73°.74W, h0km, mb4.1/8, mb1 4.3/11, mb1mx4.1/29, mbtmp4.1/11, ML3.8/3, Error ellipse: s-maj=27.1km s-min=24.5km az=85.0*

ISCJB ***28*** *17:11:08.2±0.7, 34°.83S±0°.07×73°.6W±0°.1, h33km, mb4.1/9, Error ellipse: s-maj=14.8km s-min=10.3km az=175.5*

NEIC ***28*** *17:11:10.2±0.5, 34°.82S×73°.64W, h35km, mb4.1/2, Error ellipse: s-maj=11.9km s-min=8.4km az=87.0*

ISC 28 17:11:10.2±0.7, **34°.79S**±0°.09×**73°.6W**±0°.1, **h35**km, **n21**, σ**0**^{s}**79**/21, **mb4.1**/9, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.51	56	Pn	Pn	17 12 30.0	+0.2
	1.0nm,0.3s,baz=221,slow=12,SNR=6.0						
PLCA	Paso Flores	6.41	159	ePn	Pn	17 12 40.5	-1.6
TRQA	Tornquist	9.93	113	ePn	Pn	17 13 29.9	-0.4
LVC	Limon Verde	12.81	20	Pn	Pn	17 14 08.9	-1.2
CPUP	Villa Florida	16.35	63	Pn	P	17 14 59.1	-0.5
	0.1nm,0.3s,baz=207,slow=15,SNR=2.8						
LPAZ	La Paz	19.07	16	P	Pn	17 15 31.7	+0.5
	0.2nm,0.3s,baz=196,slow=9.1,SNR=8.3						
SIV	San Ignacio	21.84	34	P	P	17 15 59.3	-0.4
	7.0nm,0.9s,baz=230,slow=8.6,SNR=7.5						
RCBR	Riachuelo	45.17	59	eP	P	17 19 23.3	-0.5
SNAA	Sanae	51.35	158	eP	P	17 20 10.5	-0.3
	1.0nm,0.6s						
QSPA	South Pole Qui	55.45	180	P	P	17 20 42.4	+1.3
	3.8nm,1.0s,baz=159,slow=3.5,SNR=3.8						
QSPA	South Pole Qui	55.45	180	eP	P	17 20 41.4	+0.3
	3.1nm,1.1s						
TXAR	Lajitas Array	69.80	332	P	P	17 22 16.9	-0.1
	1.5nm,0.7s,baz=152,slow=7.9,SNR=13						
WVT	Waverly	71.79	348	eP	P	17 22 27.8	-1.0
DBIC	Dimbokro	76.67	72	P	P	17 22 58.5	+0.7
	4.9nm,1.1s,baz=168,slow=7.2,SNR=4.0						
BOSA	Boshof	80.85	118	P	P	17 23 21.8	+0.9
	2.4nm,0.8s,baz=273,slow=2.8,SNR=4.9						
NVAR	Mina Array Bea	83.80	326	P	P	17 23 36.4	+0.4
	0.9nm,0.7s,baz=139,slow=5.5,SNR=5.0						
PDAR	Pinedale Array	83.89	334	P	P	17 23 36.5	+0.2
	0.9nm,1.0s,baz=145,slow=5.4,SNR=4.7						
TORD	Torodi Ar. Bea	85.70	71	P	P	17 23 46.3	+0.5
	1.1nm,0.9s,baz=257,slow=6.3,SNR=4.1						
BVAR	Borovoye Array	148.75	43	PKPbc	PKPbc	17 30 54.3	+1.1
	1.7nm,0.5s,baz=312,slow=3.5,SNR=11						
AAK	Ala-Archa	154.03	63	PKPbc	PKPbc	17 31 06.2	+0.1
	0.7nm,0.6s,baz=243,slow=2.1,SNR=4.9						
MKAR	Makanchi Array	158.27	49	PKPab	PKPab	17 31 37.9	+0.3
	0.4nm,0.8s,baz=286,slow=5.0,SNR=5.6						

IDC ***28*** *17:12:05.5±0.8, 34°.05S×73°.42W, h0km, mb4.0/6, mb1 4.2/9, mb1mx4.0/30, mbtmp4.0/9, ML4.1/3, Error ellipse: s-maj=30.4km s-min=21.9km az=82.0*

ISCJB ***28*** *17:12:08.5±0.7, 34°.07S±0°.07×73°.3W±0°.2, h33km, mb4.0/7, Error ellipse: s-maj=20.7km s-min=9.7km az=0.9*

NEIC ***28*** *17:12:10.6±0.5, 34°.03S×73°.35W, h35km, mb4.0/2, Error ellipse: s-maj=19.5km s-min=12.7km az=108.0*

ISC 28 17:12:10.5±0.7, **34°.03S**±0°.09×**73°.4W**±0°.2, **h35**km, **n20**, σ**0**^{s}**85**/21, **mb4.0**/7, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.94	62	Pn	Pn	17 13 21.5	-0.8
	0.9nm,0.3s,baz=225,slow=13,SNR=3.9						
PLCA	Paso Flores	7.05	162	Pn	Pn	17 13 51.4	0.0
	1.9nm,0.3s,baz=337,slow=12,SNR=4.0						
PLCA	Paso Flores	7.05	162	eP	Pn	17 13 51.1	-0.2
LPAZ	La Paz	18.28	16	P	P	17 16 21.4	-0.6
	0.2nm,0.3s,baz=178,slow=8.9,SNR=3.6						
LPAZ	La Paz	18.28	16	P	P	17 16 21.1	-0.9
SIV	San Ignacio	21.09	35	P	P	17 16 53.7	+1.6
	5.4nm,1.0s,baz=226,slow=11,SNR=4.3						
SDV	Santo Domingo	42.76	4	eP	P	17 20 04.1	-0.7
SNAA	Sanae	51.97	158	P	P	17 21 16.3	+0.5
	0.6nm,0.6s,baz=310,slow=13,SNR=3.6						
SNAA	Sanae	51.97	158	eP	P	17 21 17.0	+1.2
	1.3nm,0.8s						
QSPA	South Pole Qui	56.21	180	P	P	17 21 45.4	-1.5
	1.6nm,1.0s						
TXAR	Lajitas Array	69.23	332	P	P	17 23 14.9	+1.0
	1.2nm,0.6s,baz=154,slow=8.4,SNR=11						
DBIC	Dimbokro	76.22	72	P	P	17 23 56.2	+0.5
	2.4nm,0.7s,baz=239,slow=6.0,SNR=4.2						
PDAR	Pinedale Array	83.30	334	P	P	17 24 33.7	0.0
	0.6nm,0.9s,baz=161,slow=5.7,SNR=2.7						
TORD	Torodi Ar. Bea	85.25	71	P	P	17 24 44.0	+0.1
	1.5nm,0.7s,baz=247,slow=4.1,SNR=7.2						
WRA	Warramunga Arr	120.20	210	PKP	PKPdf	17 30 58.2	-0.2
	0.7nm,0.9s,baz=148,slow=1.7,SNR=3.8						
BRTR	Keskin Array B	122.80	61	PKP	PKPdf	17 31 03.5	+0.7
	0.4nm,0.7s,baz=212,slow=3.8,SNR=3.1						
AKASG	Malin Array Be	123.02	48	PKP	PKPdf	17 31 01.7	-0.9
	0.1nm,0.4s,baz=254,slow=2.8,SNR=4.5						
BVAR	Borovoye Array	148.04	42	PKP	PKPdf	17 31 48.5	-0.2
	1.3nm,0.5s,baz=318,slow=1.9,SNR=2.9						
BVAR				PKPbc	PKiKP	17 31 53.1	-0.5
	1.2nm,0.5s,baz=278,slow=2.3,SNR=6.1						
AAK	Ala-Archa	153.48	62	PKPbc	PKPbc	17 32 06.4	+1.2
	1.4nm,0.7s,baz=140,slow=20,SNR=5.8						
MKAR	Makanchi Array	157.60	48	PKPab	PKPab	17 32 35.4	+0.3
	0.4nm,0.8s,baz=276,slow=4.5,SNR=3.0						

IDC ***28*** *17:13:58.0±1.5, 34°.10S×73°.45W, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.8/28, mbtmp3.9/6, ML3.6/2, Error ellipse: s-maj=43.8km s-min=37.7km az=174.0*

ISC 28 17:14:03.8±1.4, **34°.0S**±0°.2×**73°.4W**±0°.2, **h35**km, **n10**, σ**0**^{s}**60**/10, **mb4.1**/4, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.95	63	Pn	Pn	17 15 15.8	+0.1
	0.5nm,0.3s,baz=232,slow=12,SNR=3.9						
LPAZ	La Paz	18.27	16	P	Pn	17 18 15.7	+0.6
	0.2nm,0.3s,baz=214,slow=5.4,SNR=5.0						
SIV	San Ignacio	21.09	35	P	P	17 18 44.4	-0.9
	3.6nm,0.8s,baz=232,slow=11,SNR=4.6						
TXAR	Lajitas Array	69.20	332	P	P	17 25 06.9	0.0
	0.3nm,0.6s,baz=152,slow=6.7,SNR=5.5						
DBIC	Dimbokro	76.24	72	P	P	17 25 49.3	+0.3
	2.4nm,0.7s,baz=238,slow=4.2,SNR=3.3						
TORD	Torodi Ar. Bea	85.27	71	P	P	17 26 37.3	0.0
	1.8nm,0.7s,baz=256,slow=4.1,SNR=9.5						
BRTR	Keskin Array B	122.82	61	PKP	PKPdf	17 32 55.7	-0.4
	0.4nm,0.8s,baz=198,slow=4.2,SNR=2.9						
BVAR	Borovoye Array	148.04	42	PKPbc	PKPbc	17 33 45.8	+0.7
	1.6nm,1.0s,baz=274,slow=3.8,SNR=3.8						
AAK	Ala-Archa	153.49	62	PKPbc	PKPbc	17 33 58.6	+0.1
	0.8nm,0.5s,baz=128,slow=14,SNR=3.5						
MKAR	Makanchi Array	157.60	48	PKPab	PKPab	17 34 27.5	-0.8
	0.2nm,0.6s,baz=264,slow=4.6,SNR=2.8						

IDC ***28*** *17:15:28.1±1.1, 35°.11S×72°.27W, h0km, mb4.1/6, mb1 4.2/8, mb1mx4.0/27, mbtmp4.1/8, ML4.1/2, Error ellipse: s-maj=39.0km s-min=21.7km az=87.0*

ISCJB ***28*** *17:15:29.1±1.1, 35°.10S±0°.09×72°.3W±0°.3, h18km, mb4.1/6, Error ellipse: s-maj=38.3km s-min=13.5km az=0.4*

ISC 28 17:15:31.0±1.1, **35°.1S**±0°.1×**72°.3W**±0°.3, **h18**km, **n8**, σ**0**^{s}**44**/8, **mb4.2**/6, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.81	167	Pn	Pn	17 16 56.8	+0.5
	1.4nm,0.3s,baz=345,slow=11,SNR=2.4						
LPAZ	La Paz	19.08	12	P	Pn	17 19 54.4	+0.3
	0.2nm,0.3s,baz=197,slow=6.4,SNR=3.8						
SIV	San Ignacio	21.50	31	P	P	17 20 19.4	+0.4
	8.8nm,0.8s,baz=219,slow=8.1,SNR=14						
QSPA	South Pole Qui	55.16	180	P	P	17 25 01.9	-0.3
	2.2nm,0.9s,baz=153,slow=5.9,SNR=4.2						
TXAR	Lajitas Array	70.58	331	P	P	17 26 45.2	+0.1
	0.5nm,0.5s,baz=154,slow=8.7,SNR=9.2						
DBIC	Dimbokro	75.71	71	P	P	17 27 15.7	0.0
	2.2nm,0.8s,baz=233,slow=5.1,SNR=2.7						
BOSA	Boshof	79.75	118	P	P	17 27 38.2	-0.1
	3.9nm,0.9s,baz=198,slow=4.8,SNR=6.6						
TORD	Torodi Ar. Bea	84.76	70	P	P	17 28 03.9	-0.6
	0.6nm,0.7s,baz=212,slow=5.1,SNR=3.5						

SJA 28 17:19:10.4±0.5, **36°.32S**×**69°.39W**, **h25**km, **ML3.7**, **Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AVIZ	Vizcacheras	2.93	14	*i* P	Pn	17 19 58.4	+2.9
AVIZ				*i* S	Sb	17 20 34.0	-3.6
AAGR	Agrelo	3.26	8	*i* P	Pn	17 20 02.9	+2.8
AAGR				*i* P	Pn	17 20 02.9	+2.8
AAGR				*i* S	Sn	17 20 41.8	+3.6
ARCO	CERRO ARCO	3.49	6	*i* P	Pn	17 20 06.5	+3.1
ARCO				*i* S	Sn	17 20 47.7	+3.7
ARCO				AML	AML	17 20 56.2	
	comp=Z,165nm,0.5s						
ASAL	Salagasta	3.75	7	*i* P	Pn	17 20 09.7	+2.9
ASAL				*i* S	Sn	17 20 54.3	+4.0
AUSP	Uspallata	4.09	0	*i* P	Pn	17 20 15.6	+3.9
RTLS	Leoncito	4.51	1	*i* P	Pn	17 20 21.6	+4.0

IDC 28 17:20:53.4±1.5, **34°.21S**×**73°.42W**, **h0**km, **mb3.7**/3, **mb1 4.0**/3, **mb1mx3.7**/26, **mbtmp3.7**/3, **Error ellipse: s-maj=50.3km s-min=44.6km az=139.0, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIV	San Ignacio	21.27	35	P	P	17 25 41.9	+0.4
	2.1nm,0.9s,baz=233,slow=13,SNR=3.4						
TXAR	Lajitas Array	69.37	332	P	P	17 32 02.8	-0.2
	0.5nm,0.5s,baz=156,slow=8.3,SNR=10						
TORD	Torodi Ar. Bea	85.36	71	P	P	17 33 31.9	-0.9
	0.6nm,0.8s,baz=238,slow=4.8,SNR=3.6						
WRA	Warramunga Arr	120.01	210	PKP	PKPdf	17 39 46.5	-0.1
	0.5nm,0.8s,baz=150,slow=1.6,SNR=3.7						
BVAR	Borovoye Array	148.21	43	PKPbc	PKPbc	17 40 41.0	+0.1
	0.7nm,0.5s,baz=308,slow=1.5,SNR=5.8						

SJA ***28*** *17:25:12.3±0.6, 33°.95S×74°.75W, h20km±40km, ML5.2*

ISCJB ***28*** *17:25:27.0±1.5, 34°.68S±0°.05×72°.84W±0°.05, h13km±9km, mb4.6/22, MS4.1/7, Error ellipse: s-maj=9.4km s-min=5.3km az=140.7*

GUC ***28*** *17:25:27.3±0.3, 34°.66S×72°.97W, h31km±2km, ML5.0*

IDC ***28*** *17:25:27.1±0.6, 34°.66S×72°.64W, h0km, mb4.5/13, mb1 4.6/16, mb1mx4.5/27, mbtmp4.5/16, ML4.4/3, MS4.3/8, Ms1 4.2/8, ms1mx3.9/20, Error ellipse: s-maj=23.2km s-min=14.3km az=86.0*

NEIC ***28*** *17:25:32.0±0.4, 34°.65S×72°.71W, h35km, mb4.7/8, Error ellipse: s-maj=11.0km s-min=7.6km az=83.0*

ISC 28 17:25:28.1±2.5, **34°.62S**±0°.06×**72°.70W**±0°.07, **h10**km±15km, **n78**, σ**1**^{s}**25**/79, **mb4.6**/22, **MS4.1**/7, **2C-3D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	1.26	58	⇓*i* P	Pn	17 25 51.8	0.0
LNV				*i* S	Sn	17 26 10.5	+0.1
IHA	Instituto Hidr	1.82	29	*i* P	Pn	17 25 59.3	-0.1
IHA				⇓*i* S	Sn	17 26 23.6	+1.1
CHCH	Chadas Angostu	1.83	69	⇑*i* P	Pb	17 26 00.6	-1.1
CHCH				*i* S	Sg	17 26 26.0	-0.9
RCDM	Rinconada Maip	1.93	55	*e*P	Pn	17 26 01.6	+0.5
RCDM				*i* S	Sb	17 26 27.4	-0.4
RCDM				AML	AML	17 26 36.0	
	comp=E,10µm,1.0s						
STL	Santa Lucia	2.08	56	*i* P	Pn	17 26 02.9	-0.2
STL				*i* S	Sn	17 26 30.6	+1.5
ROCH	El Roble	2.16	41	⇑*i* P	Pn	17 26 05.3	+0.8
ROCH				*i* S	Sb	17 26 34.0	-0.5
ROCH				AML	AML	17 26 44.6	
	comp=N,9µm,0.5s						
PEL	Peldehue	2.23	49	*e*P	Pn	17 26 05.8	+0.6
PEL				*e*S	Sb	17 26 34.9	-1.3
PEL				AML	AML	17 26 54.0	
	comp=E,20µm,0.6s						
FCH	Farellones	2.38	58	⇓*i* P	Pn	17 26 07.9	+0.4
FCH				*i* S	Sb	17 26 39.4	-1.4
FCH				*i* S	Sb	17 26 39.4	-1.4
FCH				AML	AML	17 26 49.6	
	comp=E,8µm,0.4s						
AAGR	Agrelo	3.57	66	*i* P	Pb	17 26 30.4	-0.9
AAGR				*i* P	Pb	17 26 30.4	-0.9
ARCO	CERRO ARCO	3.60	62	*i* P	Pb	17 26 30.6	-1.5
ARCO				*i* S	Sg	17 27 28.3	+4.3
ARCO				AML	AML	17 27 31.8	
	comp=Z,1µm,0.7s						
AVIZ	Vizcacheras	3.66	73	*i* P	Pb	17 26 32.5	-0.3
AUSP	Uspallata	3.66	50	*i* P	Pn	17 26 28.2	+3.2
AUSP				*i* S	Sg	17 27 23.9	-1.7
ASAL	Salagasta	3.81	59	*i* P	Pb	17 26 31.9	-3.6
ASAL				*i* S	Sg	17 27 30.9	+0.5
RTLS	Leoncito	4.01	46	*i* P	Pn	17 26 32.1	+2.3
RTCV	Cerro Valdivia	4.44	53	*i* P	Pn	17 26 38.2	+2.6
CFAA	Coronel Fontan	4.80	52	Pn	Pn	17 26 42.1	+1.6
	comp=Z,2.4nm,0.3s,baz=188,slow=6.8,SNR=45						
CFAA				Lg	Lg	17 27 53.8	
	comp=Z,3.0nm,0.3s,baz=122,slow=19,SNR=7.5						
CFAA	Coronel Fontan	4.80	52	*i* P	Pn	17 26 43.2	+2.7
RTLL	Cerro Villicun	4.83	48	*i* P	Pn	17 26 42.2	+1.2
RTLL				*i* S	Sb	17 27 49.0	-2.3
PLCA	Paso Flores	6.33	165	Pn	Pn	17 27 02.8	+1.2
	comp=Z,6.8nm,0.3s,baz=335,slow=13,SNR=13						
PLCA				Lg	Lg	17 28 44.0	
	baz=72,slow=19,SNR=2.4						
TRQA	Tornquist	9.30	115	*e*Pn	Pn	17 27 43.0	+0.7
TRQA				*e*Sn	Sn	17 29 19.6	-7.4
LVC	Limon Verde	12.42	16	Pn	Pn	17 28 26.7	+1.5
	comp=Z,18nm,0.8s						
LVC				*e*Sn	Sn	17 30 35.7	-8.1
CPUP	Villa Florida	15.60	62	Pn	P	17 29 11.1	-1.3
	comp=Z,0.7nm,0.3s,baz=210,slow=8.7,SNR=3.3						
CPUP				LR	LR	17 35 40.0	
	comp=Z,1µm,18.9s,baz=222,slow=39						
LPAZ	La Paz	18.71	14	P	Pn	17 29 49.9	+2.1
	comp=Z,0.4nm,0.3s,baz=184,slow=6.9,SNR=30						
USHA	Ushuaia	20.43	173	P	Pn	17 30 09.7	+2.3
	comp=Z,12nm,0.8s,baz=338,slow=5.4,SNR=3.2						
USHA				LR	LR	17 38 54.1	
	comp=Z,1µm,20.1s,baz=342,slow=40						
SIV	San Ignacio	21.29	32	P	P	17 30 15.3	+0.3
	comp=Z,11nm,0.8s,baz=226,slow=13,SNR=17						
SIV				LR	LR	17 40 01.2	
	comp=Z,2µm,18.2s,baz=233,slow=41						
NNA	Nana	22.84	350	P	P	17 30 33.5	+1.8
	comp=Z,8.8nm,0.6s,baz=201,slow=13,SNR=6.8						
NNA				LR	LR	17 38 01.0	
	comp=Z,370nm,18.1s,baz=174,slow=33						
SAML	Samuel	27.00	21	*e*P	P	17 31 10.2	-0.2
	comp=Z,12nm,1.3s						
ATAH	Atahualpa	27.85	348	LR	LR	17 40 54.5	
	comp=Z,239nm,20.5s,baz=185,slow=33						
BDFB	Brasilia	29.13	56	P	P	17 31 28.7	-0.8
	comp=Z,3.3nm,0.7s,baz=200,slow=12,SNR=4.1						
BDFB				LR	LR	17 44 18.7	
	comp=Z,1µm,19.0s,baz=220,slow=39						
RPN	Rapa Nui	32.19	273	LR	LR	17 41 18.5	
	comp=Z,441nm,21.3s,baz=94,slow=30						
OTAV	Otavalo	35.09	350	P	P	17 32 20.8	-1.4
SDV	Santo Domingo	43.31	3	*e*P	P	17 33 30.8	+0.3
	comp=Z,9.7nm,0.7s						
SNAA	Sanae	51.22	158	P	P	17 34 32.2	+0.7
	comp=Z,4.6nm,0.8s,baz=279,slow=6.3,SNR=17						
SNAA	Sanae	51.22	158	*e*P	P	17 34 30.4	-1.1
	comp=Z,45nm,1.4s						
APG	El Apazote	52.16	338	P	P	17 34 36.7	-2.5
	comp=Z,4.1nm,0.8s,baz=109,slow=8.3,SNR=4.1						
RKT	Rikitea	54.97	264	*e*LR	LR	17 51 15.7	
	comp=Z,219nm,34.2s						
QSPA	South Pole Qui	55.62	180	P	P	17 35 05.1	+1.2
	comp=Z,2.9nm,0.8s,baz=147,slow=2.2,SNR=11						
QSPA	South Pole Qui	55.62	180	*e*P	P	17 35 03.7	-0.2
	comp=Z,9.9nm,1.1s						
VNDA	Vanda	63.39	191	LR	LR	17 59 24.1	
	comp=Z,85nm,21.4s,baz=123,slow=32						
MEH	Mehetia	68.23	263	*e*T	T	18 50 47.5	
	comp=Z,9.1nm,0.2s						
TIAR	Tiarei	69.44	262	*e*T	T	18 52 16.6	
	comp=Z,2.6nm,0.3s						
PPT2	Papeete2	69.61	262	*e*S	S	17 46 06.0	+19
	comp=Z,81nm,22.0s						
PPT2	Papeete2	69.61	262	*e*LR	LR	17 57 54.5	
	comp=Z,219nm,26.5s						
TXAR	Lajitas Array	70.01	331	P	P	17 36 41.3	+1.2
	comp=Z,0.8nm,0.7s,baz=153,slow=8.2,SNR=9.8						
WVT	Waverly	71.79	347	*e*P	P	17 36 49.0	-1.6
	comp=Z,8.2nm,0.7s						
MAW	Mawson	72.74	164	P	P	17 36 56.2	+0.2
	comp=Z,22nm,0.8s,baz=180,slow=5.1,SNR=3.2						
LIC	Lamto	75.49	72	*e*P	P	17 37 13.0	+0.1
	comp=Z,60nm,1.3s						
TIC	Toumodi	75.75	71	*e*P	P	17 37 14.6	+0.2
	comp=Z,9.7nm,0.2s						
KIC	Kosan Boka	75.80	72	*e*P	P	17 37 14.9	+0.2
	comp=Z,21nm,0.7s						
DBIC	Dimbokro	75.89	72	P	P	17 37 15.7	+0.5
	comp=Z,9.6nm,0.7s,baz=214,slow=5.8,SNR=20						
DBIC	Dimbokro	75.89	72	*e*P	P	17 37 15.5	+0.3
	comp=Z,10nm,0.7s						
BOSA	Boshof	80.27	118	P	P	17 37 39.8	+0.2
	comp=Z,6.6nm,0.9s,baz=236,slow=4.6,SNR=8.2						
ECSD	EROS Data Cent	80.97	343	*e*P	P	17 37 42.7	+0.1
	comp=Z,11nm,1.4s						
PDAR	Pinedale Array	84.07	334	P	P	17 38 00.3	+1.2
	comp=Z,0.8nm,0.9s,baz=140,slow=11,SNR=4.0						
NVAR	Mina Array Bea	84.08	326	P	P	17 38 00.9	+1.7
	comp=Z,1.1nm,0.7s,baz=153,slow=5.7,SNR=8.4						
TOA0	Torodi Ar. Sit	84.93	70	*e*P	P	17 38 03.5	-0.3
TORD	Torodi Ar. Bea	84.93	70	P	P	17 38 04.4	+0.6
	comp=Z,6.5nm,0.6s,baz=295,slow=6.2,SNR=36						
MCMT	McKenzie Canyo	87.06	333	*e*P	P	17 38 15.4	+1.4
	comp=Z,2.3nm,1.0s						
SCHQ	Schefferville	89.23	3	P	P	17 38 23.8	0.0
	comp=Z,3.4nm,0.8s,baz=225,slow=5.7,SNR=3.2						
DZM	Mont Dzumac	100.43	234	*e*LR	LR	18 12 27.8	
	comp=Z,120nm,23.8s						
YKA	Yellowknife Ar	102.47	341	P	Pdif	17 39 23.5	-0.2
	comp=Z,0.1nm,0.6s,baz=140,slow=4.7,SNR=5.0						
ASAR	Alice Springs	116.77	207	PKP	PKPdf	17 44 12.3	-1.0
	comp=Z,0.3nm,0.6s,baz=138,slow=2.4,SNR=5.0						
WRA	Warramunga Arr	119.95	210	PKP	PKPdf	17 44 19.0	-0.5
	comp=Z,0.9nm,0.6s,baz=164,slow=1.6,SNR=14						
BRTR	Keskin Array B	122.61	61	PKP	PKPdf	17 44 22.9	-1.2
	comp=Z,0.7nm,0.7s,baz=224,slow=1.5,SNR=4.8						
AKASG	Malin Array Be	123.01	48	PKP	PKPdf	17 44 23.4	-0.8
	comp=Z,0.2nm,0.4s,baz=259,slow=3.2,SNR=4.2						
ARCES	ARCESS Array B	124.81	25	PKP	PKPdf	17 44 27.1	-0.1
	comp=Z,1.2nm,0.7s,baz=256,slow=3.6,SNR=3.8						
H11N3	WAKE ISLAND Hy	125.64	270	T	T	20 02 38.4	
	baz=121,slow=76,SNR=4.5						
H11N1	WAKE ISLAND Hy	125.66	270	T	T	20 02 41.6	
	baz=121,slow=76,SNR=8.3						
H11N2	WAKE ISLAND Hy	125.66	271	T	T	20 02 39.0	
	baz=121,slow=76,SNR=5.1						
POO	Poona	146.25	110	*e*P	PKPdf	17 45 08.0	-0.3
BRVK	Borovoye	148.03	43	*e*PKPbc	PKPab	17 45 14.6	-1.5
BVAR	Borovoye Array	148.11	43	PKPbc	PKPbc	17 45 14.7	+1.1
	baz=303,slow=3.7						
HYB	Hyderabad	149.16	116	*i* PKP	PKPbc	17 45 16.0	-1.3
KKAR	Karatay Array	150.32	62	*e*PKPbc	PKPbc	17 45 19.8	+0.4
EKS2	Erkin-Say	152.75	63	*e*PKPbc	PKPbc	17 45 26.2	+1.0
ZAA0	Zalesovo Array	155.04	32	*e*PKPbc	PKPdf	17 45 30.2	+9.4
ZAA0				*e*PKPab	PKPab	17 45 45.7	+0.5
ZALV	Zalesovo Beam	155.04	32	PKP	PKPdf	17 45 20.7	-0.1
	comp=Z,0.7nm,0.7s,baz=336,slow=3.3,SNR=4.7						
ZALV				PKPab	PKPab	17 45 45.5	+0.3
	comp=Z,3.9nm,0.6s,baz=306,slow=4.4,SNR=13						
MKAR	Makanchi Array	157.58	50	PKP	PKPdf	17 45 24.6	+0.2
	comp=Z,0.5nm,0.7s,baz=1.9,slow=0.4,SNR=7.0						
MKAR				PKPab	PKPab	17 45 57.0	+0.5
	comp=Z,1.0nm,0.7s,baz=303,slow=4.6,SNR=6.9						

ISCJB ***28*** *17:28:01.9±0.6, 28°.62S±0°.05×67°.62W±0°.08, h130km, mb4.1/9, Error ellipse: s-maj=11.4km s-min=6.1km az=29.0*

SJA ***28*** *17:28:02.0±0.6, 28°.62S×67°.62W, h130km±13km, ML4.4, MW4.1*

NEIC ***28*** *17:28:03.5±0.4, 28°.67S×67°.54W, mb4.4/3, Error ellipse: s-maj=13.1km s-min=9.0km az=113.0*

IDC ***28*** *17:28:03.5±0.5, 28°.68S×67°.55W, h129km±4km, mb4.0/8, mb1 4.0/10, mb1mx3.8/28, mbtmp4.3/10, Error ellipse: s-maj=20.3km s-min=9.4km az=107.0*

ISC 28 17:28:03.3±0.6, **28°.66S**±0°.07×**67°.58W**±0°.08, **h130**km, **n21**, σ**0**^{s}**73**/32, **mb4.1**/9, **La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGUA	GUANDACOL	1.14	224	*i* P	Pn	17 28 27.1	-0.6
CYA	Choya	1.58	82	*i* P	Pn	17 28 32.5	+0.2
CYA				*i* S	Sn	17 28 54.4	-0.1
CYA				IAML		17 28 56.2	
	comp=Z,3µm,0.8s						
APLL	PUNTA DE LOS L	1.95	152	*i* P	Pn	17 28 36.8	+0.1

RTLL	Cerro Villicun	2.77	196	iP	Pn	17 28 46.9	-0.1
RTLL				iS	Sn	17 29 20.7	+0.1
CFAA	Coronel Fontan	2.99	191	P	Pn	17 28 49.9	+0.2
	comp=Z,3.5nm,0.3s,baz=62,slow=20,SNR=21						
CFAA				S	Sn	17 29 26.0	+0.4
	comp=Z,37nm,0.3s,baz=282,slow=23,SNR=15						
CPUP	Villa Florida	9.39	78	P	Pn	17 30 15.1	-0.4
	comp=Z,1.3nm,0.3s,baz=252,slow=9.9,SNR=3.1						
SAML	Samuel	20.04	13	eP	P	17 32 25.6	-0.7
	comp=Z,18nm,0.9s						
BDFB	Brasilia	22.24	58	P	P	17 32 49.0	-0.7
	comp=Z,6.1nm,0.7s,baz=238,slow=8.4,SNR=5.5						
BDFB				pP	pP	17 33 14.8	+1.1
	comp=Z,8.3nm,0.7s,baz=198,slow=6.4,SNR=3.3						
SNAA	Sanae	55.16	160	P	P	17 37 20.2	-1.7
	comp=Z,3.1nm,0.7s						
QSPA	South Pole Qui	61.56	180	P	P	17 38 06.5	0.0
	comp=Z,3.3nm,0.6s,baz=194,slow=3.2,SNR=7.0						
QSPA	South Pole Qui	61.56	180	eP	P	17 38 06.8	+0.4
	comp=Z,3.1nm,0.6s						
DBIC	Dimbokro	69.82	70	P	P	17 39 00.4	+0.3
	comp=Z,4.7nm,0.6s,baz=215,slow=6.3,SNR=6.7						
TORD	Torodi Ar. Bea	78.75	68	P	P	17 39 52.3	+0.5
	comp=Z,9.5nm,0.8s,baz=257,slow=5.2,SNR=15						
TORD				pP	pP	17 40 22.5	-1.9
	comp=Z,1.4nm,0.7s,baz=257,slow=5.7,SNR=1.9						
BOSA	Boshof	79.10	117	P	P	17 39 54.5	+0.7
	comp=Z,2.5nm,0.8s,baz=228,slow=6.0,SNR=3.6						
PDAR	Pinedale Array	80.89	330	P	P	17 40 03.2	+0.2
	comp=Z,1.4nm,0.8s,baz=134,slow=8.2,SNR=6.8						
PDAR				pP	pP	17 40 37.5	+1.6
	comp=Z,1.1nm,0.8s,baz=140,slow=5.0,SNR=4.7						
ULM	Lac du Bonnet	82.48	342	P	P	17 40 10.6	-0.2
	comp=Z,1.1nm,0.4s,baz=192,slow=9.3,SNR=3.0						
YKA	Yellowknife Ar	98.31	340	P	P	17 41 25.1	-0.3
	comp=Z,0.2nm,0.8s,baz=139,slow=4.9,SNR=3.9						
YKA				pP	pP	17 41 59.6	+0.7
	comp=Z,0.2nm,0.7s,baz=132,slow=4.3,SNR=2.6						
ASAR	Alice Springs	124.01	204	PKP	PKPdf	17 46 46.6	-0.2
	comp=Z,1.3nm,0.6s,baz=133,slow=1.6,SNR=21						
WRA	Warramunga Arr	127.24	206	PKP	PKPdf	17 46 53.2	+0.2
	comp=Z,2.7nm,0.6s,baz=164,slow=1.7,SNR=26						
WRA				pPKP	pPKPdf	17 47 26.9	-1.0
	comp=Z,1.1nm,0.7s,baz=164,slow=1.5,SNR=4.0						
ZALV	Zalesovo Beam	147.70	31	PKPbc	PKPbc	17 47 32.7	+0.5
	comp=Z,1.4nm,0.4s,baz=315,slow=3.2,SNR=6.7						
ZALV				pPKPbc	pPKPbc	17 48 06.2	-0.5
	comp=Z,4.3nm,0.7s,baz=302,slow=3.3,SNR=4.8						
MKAR	Makanchi Array	150.34	44	PKPbc	PKPbc	17 47 39.7	+0.6
	comp=Z,0.6nm,0.8s,baz=287,slow=2.4,SNR=3.1						
MKAR				PKPab	PKPab	17 47 46.2	+0.4
	comp=Z,0.6nm,0.6s,baz=304,slow=3.2,SNR=4.0						
MKAR				pPKPbc	pPKPbc	17 48 13.6	-0.2
	comp=Z,4.1nm,0.9s,baz=299,slow=2.5,SNR=8.0						

IDC 28 17:28:24.8±0.9, 37°.86S×73°.59W, h0km, mb4.3/6, mb1 4.5/7, mb1mx4.2/25, mbtmp4.3/7, ML4.0/1, Error ellipse: s-maj=46.5km s-min=17.5km az=58.0
ISCJB 28 17:28:26.7±0.8, 37°.8S±0°.1×73°.4W±0°.2, h22km, mb4.3/7, Error ellipse: s-maj=21.9km s-min=13.8km az=152.5
NEIC 28 17:28:29.6±0.8, 37°.84S×73°.53W, h35km, mb4.3/2, Error ellipse: s-maj=21.6km s-min=14.0km az=63.0
ISC 28 17:28:27.7±0.8, 37°.8S±0°.1×73°.6W±0°.2, h22km, n15, σ1°.23/15, mb4.3/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.78	142	Pn	Pn	17 29 24.9	+0.3
	2.6nm,0.3s,baz=335,slow=14,SNR=1.9						
PLCA				Lg	Lg	17 30 23.4	
	17nm,0.3s,baz=45,slow=21,SNR=5.6						
PLCA	Paso Flores	3.78	142	Pn	Pn	17 29 25.7	+1.0
PLCA				Lg	Lg	17 30 23.4	
TRQA	Tornquist	9.18	95	ePn	Pn	17 30 38.6	-0.1
LPAZ	La Paz	21.94	14	eP	P	17 33 20.8	+0.4
SNAA	Sanae	48.60	157	P	P	17 37 09.2	0.0
	4.3nm,0.9s,baz=294,slow=6.7,SNR=8.0						
SNAA	Sanae	48.60	157	eP	P	17 37 07.7	-1.5
	5.5nm,1.1s						
QSPA	South Pole Qui	52.47	180	P	P	17 37 38.3	-0.3
	6.2nm,1.0s,baz=184,slow=8.2,SNR=3.6						
QSPA	South Pole Qui	52.47	180	eP	P	17 37 38.0	-0.5
	1.5nm,0.8s						
APG	El Apazote	54.84	340	P	P	17 37 53.9	-2.7
	1.2nm,0.3s,baz=156,slow=12,SNR=3.7						
TXAR	Lajitas Array	72.46	333	P	P	17 39 53.3	+0.9
	1.1nm,0.7s,baz=155,slow=8.3,SNR=7.4						
DBIC	Dimbokro	77.57	71	P	P	17 40 23.1	+0.9
	5.4nm,0.8s,baz=222,slow=6.7,SNR=5.4						
DBIC	Dimbokro	77.57	71	eP	P	17 40 22.2	-0.1
BOSA	Boshof	79.42	118	P	P	17 40 32.7	+0.1
	6.2nm,0.9s,baz=226,slow=7.4,SNR=4.6						
NVAR	Mina Array Bea	86.29	326	P	P	17 41 10.0	+2.2
	0.5nm,0.6s,baz=163,slow=6.6,SNR=3.1						
PSI	Prapat	144.52	167	PKP	PKPab	17 48 00.7	-0.7
	8.2nm,0.7s,baz=206,slow=2.0,SNR=8.5						

IDC 28 17:34:30.5±0.8, 38°.22S×73°.85W, h0km, mb4.2/10, mb1 4.4/13, mb1mx4.3/26, mbtmp4.3/13, ML4.1/3, Error ellipse: s-maj=28.2km s-min=17.3km az=90.0
ISCJB 28 17:34:31.8±0.5, 38°.15S±0°.07×73°.8W±0°.1, h18km, mb4.3/14, Error ellipse: s-maj=13.1km s-min=9.3km az=168.9
NEIC 28 17:34:35.7±0.4, 38°.14S×73°.85W, h35km, mb4.6/8, Error ellipse: s-maj=10.5km s-min=6.8km az=75.0
ISC 28 17:34:33.5±0.7, 38°.13S±0°.08×73°.9W±0°.1, h18km, n32, σ0°.89/31, mb4.4/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.68	136	Pn	Pn	17 35 32.0	+2.5
	4.7nm,0.3s,baz=320,slow=14,SNR=11						
PLCA				Lg	Lg	17 36 22.7	
	15nm,0.3s,baz=223,slow=18,SNR=7.0						
PLCA	Paso Flores	3.68	136	ePn	Pn	17 35 31.1	+1.6
PLCA				Lg	Lg	17 36 22.7	
CFAA	Coronel Fontan	8.01	37	Pn	Pn	17 36 27.9	-1.2
	0.8nm,0.3s,baz=189,slow=12,SNR=5.9						
TRQA	Tornquist	9.41	93	ePn	Pn	17 36 48.3	+0.1
LVC	Limon Verde	16.06	17	ePn	Pn	17 38 18.5	-0.1
	6.9nm,0.7s						
USHA	Ushuaia	17.12	169	P	Pn	17 38 31.0	-0.5
	0.3nm,0.3s,baz=270,slow=5.5,SNR=3.7						
CPUP	Villa Florida	18.28	55	P	Pn	17 38 45.9	-0.3
	0.5nm,0.3s,baz=227,slow=9.2,SNR=5.1						
LPAZ	La Paz	22.35	15	P	P	17 39 31.4	+0.2
	4.5nm,0.7s,baz=170,slow=8.8,SNR=9.6						
LPAZ	La Paz	22.35	15	eP	P	17 39 30.9	-0.3
	18nm,1.0s						
NNA	Nana	26.17	354	P	P	17 40 08.6	+1.6
	2.0nm,0.3s,baz=222,slow=12,SNR=3.8						
BDFB	Brasilia	31.99	53	P	P	17 40 59.6	+0.8
	3.6nm,0.8s,baz=101,slow=5.2,SNR=2.8						
PAYG	Puerto Ayora	40.20	334	eP	P	17 42 08.7	-0.2
SDV	Santo Domingo	46.88	4	eP	P	17 43 03.7	+0.8
	15nm,1.2s						
SNAA	Sanae	48.38	156	P	P	17 43 13.1	-0.7
	1.3nm,0.8s,baz=292,slow=9.6,SNR=4.4						
SNAA	Sanae	48.38	156	eP	P	17 43 12.9	-0.9
	13nm,1.4s						
QSPA	South Pole Qui	52.11	180	P	P	17 43 42.0	-0.3
	7.8nm,0.8s,baz=154,slow=2.4,SNR=18						
QSPA	South Pole Qui	52.11	180	eP	P	17 43 42.0	-0.3
	11nm,1.1s						
TXAR	Lajitas Array	72.66	333	P	P	17 46 01.1	+1.1
	1.1nm,0.5s,baz=158,slow=9.0,SNR=19						
SWET	Sewanee	73.83	350	eP	P	17 46 06.8	+0.1
TUL1	Tulsa	76.41	342	eP	P	17 46 20.7	-0.9
	5.5nm,0.6s						
DBIC	Dimbokro	77.94	72	P	P	17 46 31.1	+0.5
	4.2nm,0.7s,baz=238,slow=6.7,SNR=7.4						
DBIC	Dimbokro	77.94	72	eP	P	17 46 30.2	-0.5
ANMO	Albuquerque	78.73	333	eP	P	17 46 35.7	+0.9
	2.1nm,0.9s						
BOSA	Boshof	79.49	118	P	P	17 46 38.7	-0.6
	2.6nm,0.7s,baz=182,slow=11,SNR=3.8						
MVCO	Mesa Verde	81.48	333	P	P	17 46 48.7	-0.9
	4.1nm,0.7s						
PDAR	Pinedale Array	86.79	335	P	P	17 47 16.4	-0.1
	0.8nm,1.0s,baz=174,slow=3.0,SNR=3.8						
TORD	Torodi Ar. Bea	87.03	71	P	P	17 47 17.5	-0.5
	0.6nm,0.6s,baz=220,slow=3.7,SNR=2.9						
BRTR	Keskin Array B	125.09	64	PKP	PKPdf	17 53 31.9	-0.7
	0.3nm,0.6s,baz=223,slow=3.4,SNR=2.9						
FINES	FINESS Array B	127.23	36	PKP	PKPdf	17 53 34.9	-0.8
	1.1nm,1.0s,baz=127,slow=0.7,SNR=3.1						
AKTO	Aktyubinsk	144.07	54	PKP	PKPbc	17 54 05.2	-0.3
	1.6nm,0.5s,baz=196,slow=5.3,SNR=10.0						
BVAR	Borovoye Array	151.28	47	PKPbc	PKPbc	17 54 24.8	-0.4
	2.3nm,0.6s,baz=302,slow=4.3,SNR=15						
MKAR	Makanchi Array	160.49	56	PKPab	PKPab	17 55 12.8	-0.2
	0.8nm,0.7s,baz=282,slow=3.8,SNR=7.7						

IDC 28 17:37:19.0±0.7, 34°.71S×72°.90W, h0km, mb4.2/10, mb1 4.3/12, mb1mx4.2/26, mbtmp4.1/12, ML3.6/2, MS4.0/1, Ms1 4.0/1, ms1mx3.1/22, Error ellipse: s-maj=23.3km s-min=18.3km az=101.0
ISCJB 28 17:37:22.0±0.6, 34°.73S±0°.09×72°.8W±0°.1, h33km, mb4.3/13, MS4.0/1, Error ellipse: s-maj=15.6km s-min=11.9km az=154.5
NEIC 28 17:37:24.1±0.4, 34°.70S×72°.89W, h35km, mb4.2/4, Error ellipse: s-maj=10.1km s-min=7.6km az=65.0
ISC 28 17:37:24.2±0.7, 34°.70S±0°.09×72°.9W±0°.1, h35km, n24, σ0°.58/24, mb4.3/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.98	53	Pn	Pn	17 38 36.0	-0.4
	1.2nm,0.3s,baz=245,slow=17,SNR=4.9						
CFAA				Lg	Lg	17 39 55.9	
	0.7nm,0.3s,baz=49,slow=16,SNR=4.0						
TRQA	Tornquist	9.42	114	Pn	Pn	17 39 37.1	-0.2
	42nm,0.9s						
LPAZ	La Paz	18.83	14	P	Pn	17 41 42.8	+0.5
	0.1nm,0.3s,baz=152,slow=8.4,SNR=3.6						
LPAZ	La Paz	18.83	14	eP	P	17 41 41.6	0.0
SIV	San Ignacio	21.44	33	P	P	17 42 08.8	-0.6
	23nm,1.0s,baz=231,slow=14,SNR=5.9						
NNA	Nana	22.89	350	P	P	17 42 24.3	-0.6
	5.3nm,0.5s,baz=180,slow=11,SNR=3.4						
SDV	Santo Domingo	43.40	3	P	P	17 45 24.1	+0.5
	20nm,0.6s						
SNAA	Sanae	51.21	158	P	P	17 46 23.5	-0.2
	1.3nm,0.8s,baz=315,slow=13,SNR=3.1						
SNAA	Sanae	51.21	158	eP	P	17 46 23.4	-0.3
	3.1nm,1.0s						
QSPA	South Pole Qui	55.54	180	P	P	17 46 55.8	+0.1
	4.9nm,1.1s,baz=158,slow=6.6,SNR=4.0						
QSPA				LR	LR	18 08 32.8	
	comp=Z,144nm,21.1s,baz=235,slow=34						
QSPA	South Pole Qui	55.54	180	eP	P	17 46 55.0	-0.6
	2.7nm,1.0s						
TXAR	Lajitas Array	70.00	332	P	P	17 48 32.7	+0.4
	0.7nm,0.8s,baz=149,slow=10,SNR=5.0						
WVT	Waverly	71.83	347	eP	P	17 48 42.6	-0.4
	29nm,1.8s						
ANMO	Albuquerque	76.06	332	eP	P	17 49 07.1	-1.0
	1.2nm,0.8s						
DBIC	Dimbokro	76.07	72	P	P	17 49 08.8	+0.4
	2.8nm,0.9s,baz=222,slow=8.6,SNR=3.3						
NVAR	Mina Array Bea	84.06	326	P	P	17 49 51.6	+0.4
	0.7nm,0.8s,baz=182,slow=4.5,SNR=4.1						
PDAR	Pinedale Array	84.07	334	P	P	17 49 51.7	+0.5
	0.5nm,0.8s,baz=153,slow=6.1,SNR=3.4						
TORD	Torodi Ar. Bea	85.11	70	P	P	17 49 56.9	0.0
	3.1nm,0.9s,baz=264,slow=3.8,SNR=12						
ULM	Lac du Bonnet	86.99	345	P	P	17 50 04.3	-1.0
	4.6nm,1.0s,baz=149,slow=4.9,SNR=5.2						
BRTR	Keskin Array B	122.79	62	PKP	PKPdf	17 56 16.8	+0.3
	0.7nm,0.7s,baz=193,slow=5.1,SNR=5.2						
BVAR	Borovoye Array	148.28	43	PKPbc	PKPbc	17 57 06.8	+0.8
	2.3nm,0.6s,baz=301,slow=3.3,SNR=10						
AAK	Ala-Archa	153.46	63	PKPbc	PKPbc	17 57 19.0	+0.2
	2.5nm,0.8s,baz=212,slow=2.3,SNR=9.2						
ZALV	Zalesovo Beam	155.20	32	PKPbc	PKPdf	17 57 21.8	+8.8
	1.8nm,0.9s,baz=282,slow=1.4,SNR=5.6						
ZALV				PKPab	PKPab	17 57 39.1	+1.1
	2.9nm,0.7s,baz=306,slow=5.0,SNR=8.9						
MKAR	Makanchi Array	157.76	50	PKPab	PKPab	17 57 49.7	+0.4
	1.7nm,0.8s,baz=296,slow=4.7,SNR=11						

IDC 28 17:41:17.2±0.6, 37°.50S×73°.50W, h0km, mb4.3/10, mb1 4.5/13, mb1mx4.3/26, mbtmp4.3/13, ML4.4/3, MS4.2/10, Ms1 4.1/10, ms1mx3.9/23, Error ellipse: s-maj=24.3km s-min=14.5km az=78.0
ISCJB 28 17:41:19.6±0.6, 37°.46S±0°.07×73°.4W±0°.2, h23km, mb4.4/14, MS4.3/7, Error ellipse: s-maj=17.4km s-min=10.7km az=177.6
NEIC 28 17:41:22.6±0.3, 37°.47S×73°.41W, h35km, mb4.7/4, Error ellipse: s-maj=11.1km s-min=7.3km az=88.0
ISC 28 17:41:20.7±0.5, 37°.47S±0°.09×73°.5W±0°.1, h23km, n46, σ0°.67/36, mb4.5/14, MS4.4/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.98	146	Pn	Pn	17 42 21.1	+0.8
	7.7nm,0.3s,baz=320,slow=11,SNR=8.7						
PLCA				Lg	Lg	17 43 23.2	
	11nm,0.3s,baz=40,slow=18,SNR=4.5						
PLCA				LR	LR	17 44 13.5	
	comp=Z,2μm,21.4s,baz=302,slow=44						
CFAA	Coronel Fontan	7.29	38	Pn	Pn	17 43 05.4	-0.3
	0.9nm,0.3s,baz=35,slow=8.2,SNR=28						
CFAA				LR	LR	17 46 02.9	
	comp=Z,246nm,18.6s,baz=228,slow=39						
CPUP	Villa Florida	17.63	56	P	Pn	17 45 24.4	-0.4
	1.0nm,0.3s,baz=210,slow=10,SNR=7.0						
CPUP				LR	LR	17 52 11.1	
	comp=Z,825nm,21.9s,baz=216,slow=37						
LPAZ	La Paz	21.63	14	P	P	17 46 11.6	+1.6
	12nm,1.1s,baz=152,slow=7.4,SNR=7.9						
SIV	San Ignacio	24.06	31	P	P	17 46 34.6	+0.3
	9.4nm,0.9s,baz=212,slow=12,SNR=11						
BDFB	Brasilia	31.32	53	P	P	17 47 43.5	+4.1
	5.4nm,0.6s,baz=206,slow=7.3,SNR=8.2						
BDFB				LR	LR	18 02 07.0	
	comp=Z,484nm,18.2s,baz=218,slow=40						
SDV	Santo Domingo	46.19	4	eP	P	17 49 39.7	-4.4
	3.8nm,0.8s						
SNAA	Sanae	48.85	157	P	P	17 50 04.2	+0.3
	6.3nm,1.1s,baz=267,slow=6.1,SNR=9.2						
SNAA				LR	LR	18 09 59.0	
	comp=Z,84nm,19.7s,baz=212,slow=35						
QSPA	South Pole Qui	52.77	180	P	P	17 50 33.9	+0.2
	5.8nm,0.8s,baz=138,slow=1.0,SNR=12						
RKT	Rikitea	54.11	267	eLR	LR	18 06 31.6	
	468nm,26.2s						
RKT	Rikitea	54.11	267	eT	T	18 48 42.3	
	2.2nm,0.2s						
TBI	Tubuai	65.41	259	eT	T	19 02 54.6	
	3.6nm,0.3s						
MEH	Mehetia	67.27	264	eT	T	19 05 10.5	
	25nm,0.3s						
TIAR	Tiarei	68.46	264	eT	T	19 06 39.8	
	2.9nm,0.2s						
PPT2	Papeete2	68.62	264	eS	S	18 01 23.2	-0.7
	108nm,23.0s						
PPT2	Papeete2	68.62	264	eLR	LR	18 13 18.7	
	310nm,24.8s						
PPT	Papeete	68.63	264	LR	LR	18 15 06.5	
	comp=Z,275nm,18.2s,baz=173,slow=30						
MAW	Mawson	70.19	164	LR	LR	18 25 08.3	
	comp=Z,321nm,18.4s,baz=239,slow=38						
TXAR	Lajitas Array	72.22	333	P	P	17 52 45.0	+1.1
	0.9nm,0.8s,baz=154,slow=7.3,SNR=8.4						
TXAR				LR	LR	18 19 16.6	
	comp=Z,280nm,19.8s,baz=0.0,slow=32						
SWET	Sewanee	73.24	349	eP	P	17 52 49.4	-0.3
	5.6nm,0.7s						
DBIC	Dimbokro	77.41	71	P	P	17 53 14.8	+0.5
	10nm,0.8s,baz=205,slow=5.2,SNR=14						
DBIC				LR	LR	18 25 30.6	
	comp=Z,180nm,18.5s,baz=222,slow=34						
DBIC	Dimbokro	77.41	71	eP	P	17 53 14.6	+0.3
	8.7nm,0.6s						
BOSA	Boshof	79.50	118	P	P	17 53 26.4	+0.6
	5.6nm,1.0s,baz=171,slow=8.7,SNR=3.9						
BOSA				LR	LR	18 28 48.0	
	comp=Z,123nm,18.4s,baz=222,slow=36						
LBTB	Lobatse	81.91	115	eP	P	17 53 38.7	-0.1
	5.2nm,0.6s						
NVAR	Mina Array Bea	86.08	326	P	P	17 54 00.4	+0.8
	0.3nm,0.6s,baz=156,slow=6.9,SNR=2.8						
PDAR	Pinedale Array	86.34	334	P	P	17 54 00.7	-0.2
	1.8nm,1.1s,baz=176,slow=4.2,SNR=6.2						
TORD	Torodi Ar. Bea	86.49	71	P	P	17 54 01.5	-0.4
	1.6nm,0.6s,baz=221,slow=4.9,SNR=13						
GERES	GERESS Array B	115.41	47	PKP	PKPdf	17 59 58.6	-1.5
	0.8nm,0.6s,baz=209,slow=1.8,SNR=1.9						
WRA	Warramunga Arr	117.16	210	PKP	PKPdf	18 00 04.5	0.0
	0.4nm,0.7s,baz=162,slow=1.7,SNR=4.6						
BRTR	Keskin Array B	124.50	63	PKP	PKPdf	18 00 17.6	-0.4
	1.0nm,0.6s,baz=191,slow=4.2,SNR=7.5						
AKASG	Malin Array Be	125.38	50	PKP	PKPdf	18 00 18.4	-0.7
	0.3nm,0.4s,baz=261,slow=2.9,SNR=7.6						
FINES	FINESS Array B	126.50	36	PKP	PKPdf	18 00 20.7	-0.1
	1.1nm,0.7s,baz=188,slow=4.2,SNR=4.3						
GEYT	Alibeck	142.06	74	PKhKP	PKPpre	18 00 45.6	
	1.2nm,0.6s,baz=260,slow=5.4,SNR=4.5						
SEY	Seymchan	142.38	327	PKhKP	PKPpre	18 00 45.7	
	0.4nm,0.2s,baz=73,slow=19,SNR=3.6						
AKTO	Aktyubinsk	143.41	53	PKhKP	PKPpre	18 00 49.4	
	2.2nm,0.9s,baz=135,slow=4.3,SNR=4.6						
ABKAR	Akbulak array	144.70	55	ePKPdf	PKPdf	18 00 54.6	-0.4
HYB	Hyderabad	148.34	122	iPKP	PKPbc	18 01 04.5	-1.1
BRVK	Borovoye	150.51	46	ePKPbc	PKPbc	18 01 10.1	+0.3
BVAR	Borovoye Array	150.58	46	PKP	PKPdf	18 01 05.7	+1.2
	1.2nm,0.7s,baz=255,slow=4.3,SNR=4.0						
BVAR				PKPbc	PKiKP	18 01 10.7	0.0
	4.1nm,0.6s,baz=296,slow=2.8,SNR=30						
YAK	Yakutsk	151.53	337	ePKPbc	PKPbc	18 01 12.2	+0.3
AAK	Ala-Archa	155.05	68	PKPab	PKPab	18 01 36.0	-0.3
	3.9nm,0.6s,baz=200,slow=11,SNR=4.7						
TKM2	Tokmak 2	155.85	67	ePKPdf	PKPdf	18 01 13.0	+0.2
ZALV	Zalesovo Beam	157.77	35	PKP	PKPdf	18 01 13.9	-0.7
	1.4nm,0.7s,baz=270,slow=3.0,SNR=9.4						
ZALV				PKPab	PKPab	18 01 47.2	0.0
	2.3nm,0.5s,baz=304,slow=4.8,SNR=7.2						
MK31	Makanchi Array	159.84	55	ePKPdf	PKPdf	18 01 17.4	+0.1
MKAR	Makanchi Array	159.84	55	PKP	PKPdf	18 01 17.4	+0.1
	1.0nm,0.9s,baz=304,slow=2.2,SNR=7.9						
MKAR				PKPab	PKPab	18 01 56.4	-0.3
	1.3nm,0.7s,baz=278,slow=3.1,SNR=7.8						
CMAR	Chiang Mai Arr	159.93	159	PKPab	PKPab	18 01 56.5	-1.0
	0.8nm,0.9s,baz=205,slow=5.7,SNR=5.3						

IDC 28 17:45:37.2±1.1, 25°.99N×128°.65E, h0km, mb3.8/9, mb1 3.8/10, mb1mx3.7/40, mbtmp3.8/10, ML3.4/1, Error ellipse: s-maj=58.6km s-min=16.5km az=73.0
ISCJB 28 17:45:39.0±0.9, 25°.95N±0°.03×128°.73E±0°.04, h28km±6km, mb3.6/9, Error ellipse: s-maj=7.0km s-min=4.4km az=37.5
JMA 28 17:45:39.4±0.2, 25°.98N×128°.80E, h35km, M3.3
ISC 28 17:45:37.8±1.7, 25°.96N±0°.04×128°.77E±0°.04, h10km±10km, n41, σ1°.92/61, mb3.8/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.87	310	P	Pb	17 45 55.2	+0.2
JNTH				eS	Sb	17 46 06.8	+0.1
JJT2	Tamagusuku 2	0.93	281	P	Pn	17 45 56.9	0.0
JJT2				S	Sb	17 46 08.9	+0.5
JOW	Kunigami	0.97	333	P	Pg	17 45 56.9	+0.3
JOW				eS	Sg	17 46 09.8	+0.5
JOW	Kunigami	0.97	333	Pn	Pb	17 45 57.1	+0.3
	11nm,0.3s,baz=141,slow=19,SNR=218						
JOW				Sn	Sg	17 46 06.0	-3.3
	18nm,0.3s,baz=319,slow=20,SNR=23						
JIH	Iheya	1.29	326	P	Pn	17 46 01.9	+0.1
JIH				S	Sb	17 46 17.6	-1.1
JOKE	Okinoerabujima	1.41	353	P	Pn	17 46 03.4	-0.1
JOKE				S	Sb	17 46 20.4	-1.8
JAGN	Aguni-jima	1.50	295	P	Pn	17 46 05.1	+0.3
JAGN				S	Sn	17 46 23.3	-1.2
JKE	Kume jima 2	1.82	282	P	Pn	17 46 08.8	-0.3
JKE				S	Sn	17 46 29.3	-2.9
JTK	Tokunoshima	1.83	5	P	Pn	17 46 09.1	-0.2
JTK				S	Sn	17 46 29.4	-3.1
JMZ	Minamidaito 2	2.22	93	P	Pn	17 46 13.9	-0.7
JMZ				eS	Sn	17 46 38.0	-4.0
JAMN	Amaminishikomi	2.31	9	P	Pn	17 46 15.8	0.0
JAMN				eS	Sn	17 46 43.8	-0.4
JAM	Amami Oshima	2.56	17	P	Pn	17 46 18.9	-0.4
JAM				S	Sn	17 46 48.1	-2.3
JOGS	Gusukube	3.27	249	P	Pn	17 46 29.3	+0.3
JOGS				S	Sn	17 47 05.6	-2.3
JIKM	Ikemajima	3.34	253	P	Pn	17 46 30.1	0.0
JIRB	Irabujima	3.44	252	P	Pn	17 46 31.2	-0.2
JIRB				S	Sn	17 47 09.1	-3.1
JTJ	Tarama	3.91	251	P	Pn	17 46 37.3	-0.5
JTJ				S	Sn	17 47 19.3	-4.4
JISG	Ishigakijimahi	4.26	252	P	Pn	17 46 40.4	-2.3
JISG				S	Sn	17 47 28.4	-4.0
JIJ	Ishigaki jima	4.48	250	P	Pn	17 46 44.7	-1.0
JIJ				S	Sn	17 47 32.5	-5.4
JKRS	Kuro-shima	4.64	249	P	Pn	17 46 47.7	-0.2
JKRS				eS	Sn	17 47 39.2	-2.7
IRIF	Iriomote-Funau	4.84	252	P	Pn	17 46 50.8	+0.1
IRIF				S	Sn	17 47 42.2	-4.6
JNU	Nakatsue	7.37	14	Pn	Pn	17 47 26.9	+1.4
	0.6nm,0.3s,baz=357,slow=6.2,SNR=6.2						
JNU				Sn	Sn	17 48 45.6	-3.7
	0.1nm,0.3s,baz=17,slow=19,SNR=2.7						
SONM	Songino Array	28.04	327	P	P	17 51 31.4	+2.1
	0.9nm,0.4s,baz=142,slow=10,SNR=7.7						
ODAN	Odare	36.95	281	eP	P	17 52 48.5	+0.9
	8.5nm,0.5s						
RAMN	Ramite	37.64	281	eP	P	17 52 54.2	+0.8
JIRN	Jiri	37.90	282	eP	P	17 52 57.3	+1.5
GUN	Gumba	38.14	283	eP	P	17 52 59.3	+1.5
PKI	Pulchoki	38.60	282	eP	P	17 53 02.2	+0.6
	4.1nm,0.3s						
PKIN	Phulchoki	38.61	282	eP	P	17 53 02.1	+0.5
	4.5nm,0.4s						
KKN	Kakani	38.69	283	eP	P	17 53 03.0	+0.8
	3.6nm,0.4s						
DMN	Daman	38.86	282	eP	P	17 53 04.9	+1.2
GKN	Gorkha	39.22	283	eP	P	17 53 07.3	+0.7
	4.7nm,0.4s						
DANN	Dangsing	39.94	284	eP	P	17 53 14.0	+1.2
	13nm,0.8s						
KOLN	Koldanda	40.16	283	eP	P	17 53 15.5	+1.0
MKAR	Makanchi Array	42.07	312	P	P	17 53 29.9	+0.2
	0.5nm,0.5s,baz=99,slow=11,SNR=7.2						
ZALV	Zalesovo Beam	42.75	323	P	P	17 53 34.3	-0.8
	0.4nm,0.4s,baz=136,slow=9.3,SNR=2.8						
WRA	Warramunga Arr	45.95	173	P	P	17 54 02.2	+1.2
	0.7nm,0.7s,baz=354,slow=8.5,SNR=3.8						
ASAR	Alice Springs	49.58	174	P	P	17 54 30.6	+1.4
	0.4nm,0.8s,baz=0.2,slow=15,SNR=6.1						
FINES	FINESS Array B	73.33	331	P	P	17 57 09.9	+0.5
	1.1nm,0.6s,baz=78,slow=5.4,SNR=9.5						
AKASG	Malin Array Be	76.05	320	P	P	17 57 25.6	+0.3
	0.6nm,0.5s,baz=56,slow=7.0,SNR=5.5						
BRTR	Keskin Array B	77.58	308	P	P	17 57 35.4	+1.0
	1.0nm,0.9s,baz=61,slow=5.8,SNR=5.1						
NOA	NORSAR Array B	79.77	334	P	P	17 57 46.0	+0.1
	0.4nm,0.8s,baz=80,slow=4.6,SNR=2.9						

IDC 28 18:00:13.3±0.8, 35°.89S×72°.71W, h0km, mb4.3/9, mb1 4.4/11, mb1mx4.3/24, mbtmp4.3/11, ML4.2/2, MS3.3/5, Ms1 3.3/5, ms1mx3.1/31, Error ellipse: s-maj=31.3km s-min=17.4km az=82.0
ISCJB 28 18:00:16.5±0.6, 35°.89S±0°.07×72°.7W±0°.1, h35km, mb4.2/10, MS3.5/2, Error ellipse: s-maj=15.9km s-min=10.1km az=169.0
NEIC 28 18:00:17.9±0.5, 35°.93S×72°.79W, h35km, mb4.1/4, Error ellipse: s-maj=15.0km s-min=8.9km az=81.0
ISC 28 18:00:18.2±0.7, 35°.87S±0°.08×72°.8W±0°.1, h35km, n25, σ0°.77/23, mb4.2/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.16	161	Pn	Pn	18 01 33.0	-0.1
	2.0nm,0.3s,baz=319,slow=11,SNR=6.3						
PLCA				LR	LR	18 03 38.6	
	comp=Z,320nm,18.7s,baz=108,slow=40						
PLCA	Paso Flores	5.16	161	Pn	Pn	18 01 29.7	-3.3
CFAA	Coronel Fontan	5.69	43	Pn	Pn	18 01 41.8	+1.4
	0.5nm,0.3s,baz=212,slow=14,SNR=26						
CFAA				Lg	Lg	18 03 02.7	
	1.0nm,0.3s,baz=23,slow=8.3,SNR=8.4						
CFAA				LR	LR	18 04 07.2	
	comp=Z,56nm,20.6s,baz=226,slow=41						
TRQA	Tornquist	8.92	107	ePn	Pn	18 02 25.2	+0.7
	24nm,1.0s						
LVC	Limon Verde	13.63	15	Pn	Pn	18 03 28.1	-1.3
CPUP	Villa Florida	16.28	59	LR	LR	18 10 24.8	
	comp=Z,111nm,21.5s,baz=218,slow=38						

LPAZ La Paz 19.94 13 P P 18 04 49.5 +1.7
0.4nm,0.3s,baz=205,slow=4.7,SNR=12
LPAZ La Paz 19.94 13 eP P 18 04 47.4 -0.5
6.7nm,0.8s
SIV San Ignacio 22.39 31 P P 18 05 13.8 +0.2
5.7nm,0.6s,baz=228,slow=11,SNR=19
SIV LR LR 18 14 05.2
comp=Z,134nm,18.6s,baz=190,slow=37
BDFB Brasilia 29.91 54 LR LR 18 19 47.9
comp=Z,182nm,20.0s,baz=234,slow=39
SDV Santo Domingo 44.56 3 P P 18 08 26.2 -0.8
SNAA Sanae 50.09 157 P P 18 09 09.2 -0.2
1.8nm,0.8s,baz=274,slow=6.4,SNR=6.8
SNAA Sanae 50.09 157 eP P 18 09 08.8 -0.6
1.4nm,0.7s
QSPA South Pole Qui 54.37 180 P P 18 09 41.9 +0.6
3.9nm,0.8s,baz=265,slow=0.7,SNR=18
QSPA South Pole Qui 54.37 180 eP P 18 09 41.7 +0.4
1.7nm,0.8s
TEIG Tepich 57.69 343 eP P 18 10 05.4 +0.1
TXAR Lajitas Array 71.08 332 P P 18 11 33.9 +1.0
1.6nm,0.6s,baz=152,slow=8.7,SNR=19
DBIC Dimbokro 76.36 71 P P 18 12 04.2 +0.1
2.5nm,0.8s,baz=214,slow=3.6,SNR=3.1
ANMO Albuquerque 77.14 332 P P 18 12 08.8 +0.5
2.0nm,1.1s
BOSA Boshof 79.74 118 P P 18 12 22.4 -0.5
5.4nm,0.7s,baz=262,slow=4.2,SNR=3.6
NVAR Mina Array Bea 85.08 326 P P 18 12 51.2 +0.7
1.2nm,0.6s,baz=159,slow=6.5,SNR=9.1
TORD Torodi Ar. Bea 85.42 70 P P 18 12 51.9 -0.5
0.4nm,0.7s,baz=242,slow=2.9,SNR=4.6
ULM Lac du Bonnet 88.14 345 P P 18 13 04.2 -0.7
3.8nm,0.7s,baz=137,slow=3.1,SNR=7.0
ZALV Zalesovo Beam 156.12 34 PKPab PKPab 18 20 36.4 +0.4
0.9nm,0.5s,baz=307,slow=5.4,SNR=4.8
MKAR Makanchi Array 158.42 52 PKP PKPdf 18 20 11.3 -0.2
0.4nm,0.8s,baz=291,slow=1.2,SNR=3.6
MKAR PKPab PKPab 18 20 46.3 +0.1
0.8nm,0.7s,baz=292,slow=3.5,SNR=6.6

ISCJB 28 18:05:03.9±0.2, 5°.70S±0°.04×110°.29E±0°.03, h550km, mb4.0/20, Error ellipse: s-maj=5.4km s-min=3.7km az=39.0
BJI 28 18:05:03.3, 5°.80S×110°.20E, h557km, mB4.4/4, mb4.3/14
DJA 28 18:05:04.7±0.3, 6°S±4°×11°0E±°, h547km±5km, M4.5/40, mb4.7/23, mB5.1/15, MLv4.7/40, Mw(mB)4.5/15
IDC 28 18:05:05.0±1.4, 5°.60S×110°.32E, h549km±16km, mb3.6/18, mb1 3.6/19, mb1mx3.4/35, mbtmp4.5/19, Error ellipse: s-maj=18.2km s-min=8.5km az=58.0
ISC 28 18:05:04.8±0.4, 5°.69S±0°.06×110°.30E±0°.06, h550km, n112, σ1°.19/119, mb4.1/20, 12D, Java Sea

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
TBJI Tambak Boyo 1.90 126 P P 18 06 13.9 -0.2
NGJI Ngawi 2.02 145 P P 18 06 15.2 +0.5
KPJI Karang Pucung 2.12 220 P P 18 06 14.1 -1.0
UGM Wanagama 2.21 174 P P 18 06 14.3 -1.3
UGM Wanagama 2.21 174 P P 18 06 14.1 -1.5
baz=2.3,SNR=124
UGM S S 18 07 10.0 -3.2
baz=2.3,SNR=18
WOJI Wonogiri, Jawa 2.22 164 P P 18 06 14.2 -1.4
BWJI Bawean 2.35 94 P P 18 06 15.3 -0.9
GRJI Gresik 2.48 119 P P 18 06 16.8 -0.1
LEM Lembang 2.89 247 P P 18 06 18.8 -0.6
LEM Lembang 2.89 247 P P 18 06 18.3 -1.1
baz=2.8,SNR=9.8
LEM S S 18 07 18.6 -1.5
baz=2.8,SNR=7.0
CISI Cisompet, Garu 3.08 233 P P 18 06 18.8 -1.7
CISI Cisompet, Garu 3.08 233 P P 18 06 18.6 -1.9
baz=3.0,SNR=70
CISI S S 18 07 10.1 -12
baz=3.0,SNR=11
PBKI Pangkalan Bun 3.27 25 P P 18 06 21.4 -0.3
CNJI Cibinong 3.53 243 P P 18 06 21.8 -1.6
BLJI Banyuglugur 3.86 122 P P 18 06 25.2 -0.5
KMMI Kalianget 3.89 110 P P 18 06 25.8 -0.1
TPI Tanjungpandan 3.93 318 P P 18 06 25.6 -0.7
SKJI Sukabumi 3.94 251 P P 18 06 25.3 -1.0
GMJI Gumukmas 4.04 130 P P 18 06 25.6 -1.4
ABJI Asem Bagus 4.43 118 P P 18 06 30.2 +0.2
CGJI Cibinong 4.67 258 P P 18 06 30.0 -2.0
JAGI Jajag, Banyuwa 4.71 126 P P 18 06 30.5 -1.9
JAGI Jajag, Banyuwa 4.71 126 P P 18 06 30.7 -1.7
baz=4.8,SNR=74
JAGI S S 18 07 40.6 -3.1
baz=4.8,SNR=9.9
BLSI Bandar Lampung 5.04 273 P P 18 06 37.2 +2.1
BBKI Banjar Baru 5.04 64 P P 18 06 34.6 -0.5
95nm,0.7s,1μm0.7nm
SRBI Singaraja 5.43 116 P P 18 06 38.2 -0.2
523nm,0.9s,6μm1.7nm
DNP Denpasar 5.70 122 P P 18 06 40.3 -0.5
644nm,0.7s,15μm5.4nm
KASI Kota Agung 5.78 271 P P 18 06 40.0 -1.5
150nm,0.5s,3μm0.9nm
STKI Sintang 5.84 12 P P 18 06 42.4 +0.3
59nm,0.9s,15μm1.1nm
MDSI Maura Dua 6.21 281 P P 18 06 45.2 -0.3
27nm,0.9s,0.1nm
LWLI Liwa 6.25 276 P P 18 06 46.4 +0.5
116nm,0.7s,4μm0.9nm
XMI Christmas Isla 6.57 224 P P 18 06 48.4 -0.4
baz=6.6,SNR=17
XMI S S 18 08 14.3 +0.5
baz=6.6,SNR=4.8
MTKI Muara Teweh, K 6.58 44 P P 18 06 49.3 +0.3
100nm,0.6s,0.3nm
XMIS Christmas Isla 6.62 224 P P 18 06 48.6 -0.6
baz=6.6,SNR=26
XMIS S S 18 08 22.0 +7.4
baz=6.6,SNR=4.6
LHSI Lahat 7.00 285 P P 18 06 54.2 +1.3
83nm,0.9s,0.3nm
KSM Kuching 7.12 0 P P 18 06 54.1 0.0
baz=7.1,SNR=8.4
MNAI Manna 7.43 280 P P 18 06 57.1 0.0
443nm,0.6s,6μm1.6nm
MNAI Manna 7.43 280 P P 18 06 55.4 -1.7
baz=7.3,SNR=22
MNAI S S 18 08 22.1 -6.9
baz=7.3,SNR=11
BKB Balikpapan 7.92 56 P P 18 07 04.3 +2.4
298nm,0.7s
TTSI Tana Toraja 9.85 75 P P 18 07 30.7 +9.4
WSI Waingapu 10.67 112 P P 18 07 33.9 +4.2
baz=11,SNR=3.8
WSI S S 18 09 20.0 -8.7
baz=11,SNR=9.4
MPSI Mapaga 11.30 58 P P 18 07 36.8 +0.5
45nm,1.1s,627nm
KKM Kota Kinabalu 13.07 27 P P 18 07 53.4 -1.3
baz=13,SNR=11
BATI Baumata 13.97 110 P P 18 08 01.4 -2.4
3.4nm,0.3s,baz=40,slow=1.9,SNR=14
BATI S S 18 10 24.2 -7.1
7.5nm,0.3s,baz=104,slow=6.8,SNR=8.4
PSI Prapat 14.15 306 P P 18 08 04.7 -1.1
1.5nm,0.3s,baz=102,slow=13,SNR=6.9
SOEI Soe 14.42 107 P P 18 08 05.0 -3.6
baz=14,SNR=3.4
SOEI S S 18 10 29.6 -10
baz=14,SNR=7.3
KCSI Kotacane, Aceh 15.50 306 P P 18 08 19.1 -0.5
29nm,0.7s
SANI Sanana 16.07 78 P P 18 08 25.1 -0.1
40nm,0.8s
LHMI Lhok Sumawe 17.19 309 P P 18 08 36.3 +0.9
256nm,0.9s,3μm
LHMI Lhok Sumawe 17.19 309 P P 18 08 36.0 +0.6
baz=17,SNR=5.9
LBMI Labuha 17.89 74 P P 18 08 44.3 +2.4
TNTI Ternate 18.21 70 P P 18 08 47.8 +3.0
FITZ Fitzroy Crossi 19.40 131 P P 18 08 57.5 +1.9
baz=20,SNR=7.3
KNRA Kununurra 20.66 120 P P 18 09 07.0 0.0
baz=21,SNR=6.2
MTN Manton Dam 21.74 111 P P 18 09 18.2 +1.4
baz=22,SNR=11
FAKI Fak Fak 22.06 84 P P 18 09 20.8 +1.1
baz=22,SNR=3.3
MEEK Meekatharra 22.29 160 P P 18 09 22.5 +0.9
baz=22,SNR=12
KDU Kakadu 22.95 109 P P 18 09 29.9 +2.2
baz=23,SNR=4.6
MORW Morawa 23.88 168 P P 18 09 36.7 +1.1
baz=24,SNR=8.3
BLDU Ballidu 25.51 167 P P 18 09 51.1 +1.0
baz=26,SNR=12
WRKA Warakurna 25.84 140 P P 18 09 53.8 +0.7
baz=26,SNR=3.7
CMAR Chiang Mai Arr 26.48 335 P P 18 09 59.6 +0.8
5.4nm,0.8s,baz=170,slow=8.0,SNR=51
CMAR PcP PcP 18 13 06.8 +1.3
1.0nm,0.7s,baz=215,slow=3.4,SNR=5.4
KLBR Kellerberrin 26.70 166 P P 18 10 01.4 +0.9
baz=27,SNR=9.1
WRA Warramunga Arr 27.33 123 P P 18 10 06.6 +0.3
1.0nm,0.4s,baz=305,slow=9.0,SNR=16
WRA PcP PcP 18 13 07.9 +0.3
1.0nm,0.6s,baz=317,slow=3.5,SNR=5.2
WRA S S 18 14 04.6 -3.3
1.2nm,1.0s,baz=278,slow=17,SNR=3.8
NWAO Narrogin (SRO) 27.86 167 P P 18 10 11.6 +0.9
3.8nm,0.4s,baz=334,slow=6.5,SNR=7.5
ASAR Alice Springs 28.91 131 P P 18 10 20.3 +0.3
0.6nm,0.4s,baz=306,slow=7.9,SNR=32
ASAR PcP PcP 18 13 12.0 +0.5
1.0nm,0.7s,baz=316,slow=1.8,SNR=7.9
ASAR S S 18 14 29.7 -2.6
0.5nm,0.7s,baz=295,slow=15,SNR=3.6
COEN Coen 33.38 107 P P 18 10 58.6 +0.2
baz=34,SNR=3.9
SHL Shillong 35.86 331 eP P 18 11 21.0 +1.9
STKA Stephens Creek 39.17 136 P P 18 11 46.5 +0.7
4.3nm,0.3s,baz=317,slow=7.2,SNR=21
STKA PcP PcP 18 13 41.0 -0.3
2.4nm,0.7s,baz=297,slow=4.5,SNR=2.8
STKA Stephens Creek 39.17 136 P P 18 11 46.6 +0.7
baz=39,SNR=16
ODAN Odare 39.23 327 ⇓iP P 18 11 46.7 0.0
50nm,0.6s
TAPN Taplejung 39.45 327 ⇓iP P 18 11 48.9 +0.4
41nm,0.6s
RAMN Ramite 39.74 326 ⇓iP P 18 11 51.2 +0.4
JIRN Jiri 40.52 326 ⇓iP P 18 11 57.3 +0.2
59nm,0.6s
GUN Gumba 40.89 326 ⇓iP P 18 12 00.1 +0.1
43nm,0.4s
PKI Pulchoki 40.89 325 ⇓iP P 18 11 59.4 -0.6
PKIN Phulchoki 40.90 325 ⇓iP P 18 11 59.5 -0.6
8.7nm,0.4s
DMN Daman 41.09 325 ⇓iP P 18 12 01.3 -0.3
41nm,0.7s
KKN Kakani 41.13 325 ⇓iP P 18 12 01.5 -0.3
GKN Gorkha 41.66 325 ⇓iP P 18 12 05.6 -0.3
28nm,0.3s
CMSA Cobar Meteorol 41.93 132 P P 18 12 10.8 +3.0
baz=42,SNR=8.9
LZH Lanzhou 42.00 352 eP P 18 12 09.0 +0.6
LZH pmax pmax
comp=Z,10.0nm,0.5s
KOLN Koldanda 42.09 324 ⇓iP P 18 12 09.0 -0.4
43nm,0.5s
DANN Dangsing 42.43 324 ⇓iP P 18 12 11.7 -0.4
40nm,0.6s
GTA Gaotai 45.91 349 eP P 18 12 39.5 +0.9
GTA pmax pmax
comp=Z,5.0nm,0.7s
MJAR Matsushiro Arr 49.48 30 P P 18 13 03.5 -1.7
1.5nm,0.7s,baz=205,slow=8.4,SNR=5.6
SONM Songino Array 53.41 357 P P 18 13 33.7 +0.2
1.8nm,0.5s,baz=178,slow=7.8,SNR=12
SONM PcP PcP 18 14 31.9 +0.1
0.7nm,0.4s,baz=178,slow=4.2,SNR=4.5
KZA Kyzart 57.27 329 P P 18 14 01.0 +0.1
SNR=7.5
TKM2 Tokmak 2 57.72 330 P P 18 14 03.5 -0.1
SNR=5.3
KBK Karagaybulak 57.84 330 P P 18 14 04.8 +0.4
SNR=18
MKAR Makanchi Array 57.86 338 P P 18 14 04.1 -0.2
8.5nm,0.4s,baz=151,slow=7.4,SNR=169
MKAR PcP PcP 18 14 49.2 0.0
0.6nm,0.6s,baz=155,slow=4.4,SNR=2.0
AAK Ala-Archa 58.06 329 P P 18 14 06.1 +0.2
SNR=5.5
AML Almayashu 58.10 329 P P 18 14 06.5 0.0
SNR=15
EKS2 Erkin-Say 58.44 329 P P 18 14 08.7 +0.2
SNR=18
USP Ospenovka 58.52 330 P P 18 14 08.4 -0.4
SNR=6.1
ZALV Zalesovo Beam 63.16 343 P P 18 14 38.1 -0.9
4.2nm,0.3s,baz=150,slow=4.7,SNR=29
GEYT Alibeck 65.03 316 P P 18 14 51.0 -0.3
3.4nm,0.6s,baz=152,slow=6.6,SNR=13
KMBO Kilima Mbogo 73.02 271 P P 18 15 40.4 +0.3
1.1nm,0.5s,baz=67,slow=9.8,SNR=5.9
KBZ Khabaz 77.92 317 P P 18 16 06.5 +0.3
4.0nm,0.9s,baz=126,slow=5.1,SNR=8.0
BOSA Boshof 82.96 242 P P 18 16 33.4 +0.3
2.7nm,0.7s,baz=104,slow=5.1,SNR=9.9
BRTR Keskin Array B 83.43 311 P P 18 16 34.6 -0.5
5.2nm,1.0s,baz=123,slow=5.9,SNR=23
QSPA South Pole Qui 84.28 180 P P 18 16 39.7 +0.9
3.0nm,0.5s,baz=289,slow=1.7,SNR=43
AKASG Malin Array Be 88.73 321 P P 18 16 58.8 -1.2
1.4nm,0.4s,baz=87,slow=4.8,SNR=29
FINES FINESS Array B 92.19 331 P P 18 17 15.2 -0.6
1.0nm,0.6s,baz=131,slow=8.1,SNR=14
ARCES ARCESS Array B 93.47 339 P P 18 17 20.0 -1.4
3.3nm,1.1s,baz=101,slow=4.8,SNR=4.4
TORD Torodi Ar. Bea 109.36 282 PKiKP PKiKP 18 22 33.5 -0.4
0.5nm,0.5s,baz=64,slow=2.1,SNR=7.0
YKA Yellowknife Ar 114.49 21 PKP PKPdf 18 22 41.8 -0.4
0.4nm,0.6s,baz=330,slow=1.9,SNR=11
YKA SKP 18 25 25.9
0.2nm,0.6s,baz=331,slow=1.8,SNR=4.9
PDAR Pinedale Array 128.99 37 SKPbc SKiKP 18 25 41.5 -14
1.0nm,0.8s,baz=192,slow=0.7,SNR=7.7
ULM Lac du Bonnet 130.46 22 SKPab SKPbc 18 25 45.8 0.0
1.6nm,0.4s,baz=290,slow=2.3,SNR=4.3
SCHQ Schefferville 130.95 358 SKPab SKPab 18 25 48.4 +0.2
3.4nm,0.7s,baz=290,slow=4.9,SNR=5.1
TXAR Lajitas Array 140.24 50 PKhKP PKPpre 18 23 27.3
0.1nm,0.3s,baz=179,slow=0.6,SNR=5.8
TXAR SKPbc SKiKP 18 26 18.8 -0.3
0.3nm,0.6s,baz=264,slow=0.9,SNR=2.9
BDFB Brasilia 149.82 225 PKPbc PKPbc 18 23 54.5 +0.2
5.0nm,0.5s,baz=172,slow=4.8,SNR=7.3

IDC 28 18:10:15.7±2.2, 35°.92S×73°.07W, h0km, mb4.1/5, mb1 4.1/6, mb1mx3.8/26, mbtmp4.1/6, ML3.9/1, Error ellipse: s-maj=65.3km s-min=20.7km az=93.0
ISCJB 28 18:10:18.2±1.7, 35°.95S±0°.08×73°.1W±0°.5, h28km, mb4.1/5, Error ellipse: s-maj=60.0km s-min=11.7km az=1.3
NEIC 28 18:10:21.4±1.3, 35°.97S×72°.90W, h35km, mb4.1/2, Error ellipse: s-maj=51.7km s-min=9.2km az=92.0
ISC 28 18:10:20.2±1.9, 35°.95S±0°.09×73°.0W±0°.4, h28km, n10, σ0°.68/10, mb4.1/5, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
PLCA Paso Flores 5.15 159 Pn Pn 18 11 36.8 +1.2
1.1nm,0.3s,baz=333,slow=16,SNR=2.6
PLCA Lg Lg 18 13 01.3
1.8nm,0.3s,baz=53,slow=20,SNR=2.1
PLCA Paso Flores 5.15 159 ePn Pn 18 11 35.0 -0.5
LVC Limon Verde 13.76 16 ePn Pn 18 13 33.9 +0.2
LPAZ La Paz 20.06 14 P P 18 14 51.9 -0.1
SIV San Ignacio 22.55 31 P P 18 15 19.0 +0.8
4.8nm,1.0s,baz=216,slow=10.0,SNR=4.5
SNAA Sanae 50.09 157 P P 18 19 12.0 -0.4
0.9nm,0.8s,baz=280,slow=6.1,SNR=3.7
SNAA Sanae 50.09 157 eP P 18 19 12.6 +0.2
1.7nm,0.9s
QSPA South Pole Qui 54.29 180 P P 18 19 43.9 +0.2
1.8nm,0.8s,baz=146,slow=5.7,SNR=4.2
DBIC Dimbokro 76.55 71 P P 18 22 07.8 -0.5
3.2nm,0.9s,baz=189,slow=7.6,SNR=3.4
BOSA Boshof 79.86 118 P P 18 22 26.1 -0.6
3.8nm,1.0s,baz=256,slow=4.2,SNR=4.2

SJA 28 18:14:05.9±0.7, 33°.99S×74°.16W, h22km±66km, ML4.1
IDC 28 18:14:06.7±0.7, 34°.43S×73°.81W, h0km, mb4.5/11, mb1 4.5/14, mb1mx4.4/29, mbtmp4.4/14, ML4.3/3, Error ellipse: s-maj=22.7km s-min=16.7km az=77.0
ISCJB 28 18:14:10.6±0.3, 34°.45S±0°.06×73°.73W±0°.04, h33km, mb4.6/24, Error ellipse: s-maj=8.9km s-min=4.5km az=172.5
NEIC 28 18:14:11.8±0.3, 34°.48S×73°.66W, h35km, mb4.8/15, Error ellipse: s-maj=10.5km s-min=7.8km az=59.0
ISC 28 18:14:11.7±0.5, 34°.50S±0°.07×73°.80W±0°.07, h35km, n260, σ1°.03/267, mb4.7/24, 101C-92D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
AUSP Uspallata 4.33 60 iP Pn 18 15 15.5 +0.2
AUSP iS Sn 18 16 06.4 +1.6
AAGR Agrelo 4.37 73 iP Pn 18 15 16.6 +0.9
ARCO CERRO ARCO 4.38 69 iP Pn 18 15 17.5 +1.6
ARCO iS Sn 18 16 09.5 +3.7
ARCO AML AML 18 16 14.3
comp=Z,165nm,0.5s
ASAL Salagasta 4.56 67 iP Pn 18 15 19.1 +0.8
RTLL Cerro Villicun 5.48 56 iP Pn 18 15 29.7 -1.1
RTLL iP Pn 18 15 29.7 -1.1
RTLL iS Sn 18 16 32.4 -0.3
CFAA Coronel Fontan 5.49 60 Pn Pn 18 15 30.2 -0.8
comp=Z,2.9nm,0.3s,baz=228,slow=10,SNR=29
CFAA Sn Sn 18 16 32.9 0.0
comp=Z,7.1nm,0.3s,baz=125,slow=23,SNR=14
PLCA Paso Flores 6.74 158 Pn Pn 18 15 47.5 -0.7
comp=Z,0.8nm,0.3s,baz=351,slow=19,SNR=3.0
TRQA Tornquist 10.18 114 ePn Pn 18 16 35.8 +0.5
LVC Limon Verde 12.59 21 ePn Pn 18 17 08.1 -0.5
CPUP Villa Florida 16.36 65 Pn Pn 18 17 57.4 -1.2
comp=Z,1.1nm,0.3s,baz=228,slow=11,SNR=8.3
CPUP Villa Florida 16.36 65 Pn Pn 18 17 56.1 -2.5
comp=Z,0.2nm,0.5s
LPAZ La Paz 18.83 17 P Pn 18 18 30.9 +1.0
comp=Z,0.4nm,0.3s,baz=174,slow=7.7,SNR=11
LPAZ La Paz 18.83 17 eP P 18 18 27.3 -1.9
comp=Z,7.1nm,0.8s
SIV San Ignacio 21.69 35 P P 18 18 59.0 -0.6
comp=Z,7.0nm,0.8s,baz=228,slow=9.8,SNR=10
NNA Nana 22.58 352 P P 18 19 08.8 -0.3
comp=Z,11nm,0.7s,baz=188,slow=12,SNR=6.4
OTAV Otavalo 34.83 352 Pn P 18 20 58.8 -1.1
comp=Z,4.2nm,0.8s
SDV Santo Domingo 43.25 5 eP P 18 22 07.3 -2.6
comp=Z,14nm,0.8s
SNAA Sanae 51.68 158 P P 18 23 15.7 +1.0
comp=Z,6.5nm,1.2s,baz=278,slow=7.5,SNR=6.6
SNAA Sanae 51.68 158 P P 18 23 12.0 -2.7
comp=Z,25nm,1.3s
APG El Apazote 51.71 339 P P 18 23 12.1 -3.6
comp=Z,8.7nm,0.9s,baz=155,slow=4.3,SNR=8.5
QSPA South Pole Qui 55.74 180 P P 18 23 45.8 +1.1
comp=Z,9.9nm,1.0s,baz=159,slow=6.2,SNR=13
QSPA South Pole Qui 55.74 180 P P 18 23 43.5 -1.1
comp=Z,14nm,1.1s
834A Tilden 66.54 336 ⇑P P 18 24 59.7 +1.8
baz=67
833A Chaparral WMA, 67.01 336 ⇓P P 18 25 02.2 +1.3
baz=67
832A Faith Ranch, C 67.17 335 ⇑P P 18 25 03.1 +1.1
baz=68
636A Smothers Creek 67.32 338 ⇑P P 18 25 04.2 +1.3
baz=68
733A Divot King Ran 67.34 336 ⇓P P 18 25 04.4 +1.4
baz=68
536A Bastrop 67.88 338 ⇓P P 18 25 07.1 +0.7
baz=68
632A Uvalde 68.23 336 ⇓P P 18 25 09.3 +0.6
baz=69
340A Bronson 68.24 342 ⇓P P 18 25 09.6 +1.0
baz=69
339A Huntington 68.33 341 ⇑P P 18 25 10.6 +1.3
baz=69
533A Kerrville 68.50 337 ⇓P P 18 25 11.6 +1.2
baz=69
337A Centerville 68.69 340 ⇓P P 18 25 13.3 +1.8
baz=69
435B Jarrell 68.69 338 ⇑P P 18 25 13.0 +1.4
baz=69
NATX Nacogdoches 68.77 341 eP P 18 25 12.3 +0.4
comp=Z,26nm,0.7s
532A Rocksprings 68.84 336 ⇑P P 18 25 13.4 +0.9
baz=69
434A Burnet 68.94 338 ⇓P P 18 25 13.6 +0.5
baz=69
531A Rocksprings 69.09 335 ⇓P P 18 25 15.2 +1.1
baz=69
335A Moody 69.11 338 ⇑P P 18 25 15.3 +1.2
baz=70
JCT Junction City 69.12 336 eP P 18 25 14.9 +0.7
comp=Z,15nm,1.2s
JCT Junction City 69.12 336 ⇑P P 18 25 15.3 +1.0
baz=70
433A Art 69.14 337 ⇑P P 18 25 15.0 +0.7
baz=70
530A J-C Ranch, Com 69.35 335 ⇑P P 18 25 16.4 +0.7
baz=70
334A Lometa 69.41 338 ⇑P P 18 25 16.5 +0.6
baz=70
TXAR Lajitas Array 69.47 332 P P 18 25 16.9 +0.4
comp=Z,3.0nm,0.6s,baz=158,slow=8.4,SNR=40
432A Menard 69.49 336 ⇓P P 18 25 17.1 +0.6
baz=70
KMSC Kings Mountain 69.63 353 ⇑P P 18 25 17.7 +0.4
baz=70
333A Richland Sprin 69.64 337 ⇓P P 18 25 17.8 +0.4
baz=70
529A Stev Forest Ra 69.64 334 ⇑P P 18 25 18.1 +0.6
baz=70
430A Baggett Ranch, 69.90 335 ⇑P P 18 25 19.3 +0.2
baz=70
332A Millersview 69.94 337 ⇓P P 18 25 19.7 +0.4
baz=70
429A Davenport Ranc 69.98 334 ⇓P P 18 25 20.3 +0.7
baz=70
234A Clairette 70.00 338 ⇓P P 18 25 20.3 +0.7
baz=70
331A San Angelo 70.09 336 ⇓P P 18 25 20.6 +0.4
baz=70
233A Rising Star 70.25 337 ⇑P P 18 25 21.6 +0.4
baz=71
232A Coleman 70.37 337 ⇓P P 18 25 22.4 +0.5
baz=71
330A Mertzon 70.44 335 ⇓P P 18 25 22.5 +0.1
baz=71
231A Bronte 70.63 336 ⇑P P 18 25 23.8 +0.3
baz=71
329A Wagon Wheel Ra 70.79 335 ⇓P P 18 25 24.8 +0.2
baz=71
133A Hamilton Ranch 70.80 338 ⇓P P 18 25 25.1 +0.6
baz=71
230A Sterling City 70.86 336 ⇓P P 18 25 25.0 +0.1
baz=71
Z35A Perchaven, San 70.97 339 ⇓P P 18 25 25.8 +0.4
baz=71
ABTX Abilene, Hawle 71.05 337 ⇑P P 18 25 26.6 +0.6
baz=71
Z34A Collier Ranch, 71.20 339 ⇑P P 18 25 27.7 +0.8
baz=72
130A Snyder 71.45 336 ⇓P P 18 25 28.5 0.0
baz=72
WVT Waverly 71.47 348 eP P 18 25 28.3 -0.1
comp=Z,13nm,0.9s
228A UT Block 9, Go 71.58 334 ⇑P P 18 25 29.9 +0.6
baz=72
Z32A Haskell 71.62 338 ⇑P P 18 25 30.2 +0.7
baz=72
Y34A Reagan Ranch, 71.70 339 ⇓P P 18 25 30.5 +0.6
baz=72
128A Castleberry Fa 72.00 335 ⇑P P 18 25 32.2 +0.4
baz=72
Z30A Sanderson Ranc 72.14 336 ⇓P P 18 25 33.0 +0.4
baz=72
Z29A Hungry Hill Ra 72.31 336 ⇑P P 18 25 33.8 +0.1
baz=73
X34A Smith Ranch, M 72.33 339 ⇓P P 18 25 34.4 +0.7
baz=73
Y31A Rekieta Farm, 72.48 337 ⇓P P 18 25 35.3 +0.7
baz=73
Y29A Porterfield Fa 72.85 336 ⇑P P 18 25 37.0 +0.1
baz=73
Z27A Tatum 72.89 335 ⇓P P 18 25 37.6 +0.4
baz=73
TUL1 Tulsa 72.99 341 ⇓P P 18 25 38.2 +0.6

Code	Station	Δ°	AZ°	Op	ISC	Time	Res
	baz=73						
X31A	McDonald Ranch	73.00	338	⇑P	P	18 25 38.1	+0.5
	baz=73						
W33A	Caddo, Fort Co	73.03	339	⇑P	P	18 25 38.4	+0.6
	baz=73						
Y28A	McKinney Farm,	73.09	336	⇑P	P	18 25 38.6	+0.4
	baz=73						
X30A	Coker Ranch, T	73.12	337	⇓P	P	18 25 38.8	+0.4
	baz=74						
Z26A	Caprock	73.12	334	⇑P	P	18 25 39.0	+0.4
	baz=74						
W32A	Sentinel	73.23	338	⇓P	P	18 25 39.6	+0.6
	baz=74						
MSTX	Muleshoe	73.32	335	eP	P	18 25 39.9	+0.2
	comp=Z,10nm,0.8s						
MSTX	Muleshoe	73.32	335	⇑P	P	18 25 40.3	+0.6
	baz=74						
X29A	Tulia	73.39	336	⇓P	P	18 25 40.3	+0.2
	baz=74						
Z25A	Roswell	73.40	333	⇓P	P	18 25 40.6	+0.4
	baz=74						
V33A	Lossen Ranch,	73.60	339	⇑P	P	18 25 41.6	+0.5
	baz=74						
Y26A	Elida	73.65	334	⇑P	P	18 25 42.1	+0.4
	baz=74						
Z24A	Sheeppen Canyo	73.69	333	⇑P	P	18 25 42.1	+0.2
	baz=74,SNR=6.0						
121A	Cookes Peak, D	73.93	331	⇓P	P	18 25 44.8	+1.5
	baz=74						
W29A	Amraillo	73.99	337	⇓P	P	18 25 44.4	+0.9
	baz=74						
X26A	CR and CF Fran	74.21	335	⇑P	P	18 25 45.9	+0.9
	baz=75						
Y24A	Capitan	74.25	333	⇑P	P	18 25 45.6	+0.4
	baz=75,SNR=6.3						
W27A	Bowe Ranch, En	74.42	335	⇑P	P	18 25 45.5	-0.6
	baz=75,SNR=5.3						
Y23A	Lovelace Mesa,	74.48	333	⇓P	P	18 25 47.7	+1.1
	baz=75						
T33A	Patterson Ranc	74.76	340	⇓P	P	18 25 49.0	+1.1
	baz=75						
X24A	Lazy VL Ranch,	74.81	333	⇑P	P	18 25 49.3	+0.8
	baz=75						
U30A	WK&E Inc. Balk	74.97	338	⇓P	P	18 25 50.2	+1.0
	baz=75						
W25A	X Bar L Ranch,	75.04	334	⇓P	P	18 25 50.4	+0.7
	baz=75						
V26A	Tequesquite Ra	75.33	335	⇓P	P	18 25 52.0	+0.7
	baz=76						
U28A	Mallet	75.33	337	⇑P	P	18 25 51.9	+0.6
	baz=76						
W24A	Lazy 6 Ranch,	75.38	334	⇓P	P	18 25 52.3	+0.6
	baz=76						
ANMO	Albuquerque	75.53	333	eP	P	18 25 53.4	+0.8
	comp=Z,8.4nm,1.4s						
U27A	Thompson Grove	75.57	336	⇑P	P	18 25 53.4	+0.7
	baz=76						
214A	Organ Pipe Nat	75.61	326	⇑P	P	18 25 54.4	+1.5
	baz=76						
W23A	Werner Place,	75.61	333	⇓P	P	18 25 54.0	+0.9
	baz=76						
V25A	Rancho No Teng	75.66	335	⇑P	P	18 25 53.8	+0.5
	baz=76,SNR=6.1						
T29A	Hugoton	75.74	338	⇓P	P	18 25 54.4	+0.8
	baz=76						
V24A	Rampart Ranch,	75.79	334	⇑P	P	18 25 54.7	+0.6
	baz=76						
U26A	Atchley Ranch,	75.85	335	⇓P	P	18 25 55.0	+0.6
	baz=76						
S30A	Montezuma	75.93	338	⇓P	P	18 25 55.5	+0.8
	baz=76						
T28A	Walsh	75.97	337	⇑P	P	18 25 54.6	-0.4
	baz=76,SNR=6.8						
U25A	Circle Dot Ran	76.09	335	⇓P	P	18 25 56.5	+0.7
	baz=76						
S29A	Ulysses	76.11	338	⇑P	P	18 25 56.4	+0.7
	baz=76						
T27A	Campo	76.11	337	⇓P	P	18 25 56.6	+0.8
	baz=76						
R32A	Long Quarter,	76.14	340	⇑P	P	18 25 56.7	+0.9
	baz=76						
R31A	Burdett	76.25	339	⇑P	P	18 25 56.9	+0.5
	baz=77						
S28A	Manter	76.33	337	⇑P	P	18 25 57.2	+0.2
	baz=77,SNR=6.4						
R30A	Dighton	76.47	339	⇑P	P	18 25 58.6	+1.0
	baz=77						
T26A	Comanche Natio	76.51	336	⇑P	P	18 25 58.9	+0.8
	baz=77						
X18A	Snowflake	76.55	330	⇑P	P	18 25 59.4	+1.0
	baz=77						
V22A	San Miguel Ran	76.56	333	⇓P	P	18 25 60.0	+1.5
	baz=77,SNR=8.5						
Q32A	Meitler Ranch,	76.63	340	⇑P	P	18 25 59.6	+1.0
	baz=77						
DBIC	Dimbokro	76.72	72	P	P	18 26 00.2	+0.6
	comp=Z,9.5nm,0.7s,baz=204,slow=7.4,SNR=13						
T25A	Trinidad	76.75	335	⇓P	P	18 26 00.4	+0.9
	baz=77,SNR=7.6						
Z14A	Wintersburg	76.85	327	⇑P	P	18 26 01.2	+1.3
	baz=77						
R29A	Marienthal	76.86	338	⇓P	P	18 26 01.1	+1.2
	baz=77						
S26A	Kim	76.87	336	⇑P	P	18 26 00.8	+0.7
	baz=77,SNR=11						
Q31A	Ellis	76.88	340	⇓P	P	18 26 01.1	+1.1
	baz=77						
W18A	Petrified Fore	76.97	330	⇓P	P	18 26 00.8	0.0
	baz=77						
R28A	Tribune	76.99	338	⇑P	P	18 26 01.2	+0.5
	baz=77						
T24B	San Luis	77.03	335	⇑P	P	18 26 02.0	+0.9
	baz=77						
X16A	Lo Mia Camp, P	77.08	329	⇑P	P	18 26 02.4	+0.9
	baz=77						
Q30A	Quinter	77.09	339	⇓P	P	18 26 01.8	+0.6
	baz=78,SNR=6.6						
S25A	Robets Cordova	77.23	336	⇑P	P	18 26 03.0	+0.8
	baz=78,SNR=5.2						
Q29A	Oakley	77.24	339	⇑P	P	18 26 02.5	+0.4
	baz=78						
R27A	Eads	77.25	337	⇓P	P	18 26 02.1	-0.1
	baz=78,SNR=6.4						
P31A	Stockton	77.35	340	⇑P	P	18 26 03.5	+0.9
	baz=78						
Y14A	Wickenburg	77.36	327	⇑P	P	18 26 03.8	+1.0
	baz=78						
GLA	Glamis	77.45	326	⇓P	P	18 26 03.9	+0.6
	baz=78						
R26A	Arlington	77.48	337	⇑P	P	18 26 04.3	+0.8
	baz=78,SNR=5.5						
S24A	Houchin Ranch,	77.48	335	⇓P	P	18 26 04.8	+1.0
	baz=78,SNR=8.7						
R25A	Fountain Ranch	77.62	336	⇓P	P	18 26 05.1	+0.8
	baz=78						
R24A	Sanders Place,	77.98	335	⇑P	P	18 26 07.3	+1.0
	baz=78,SNR=8.4						
WUAZ	Wupatki	78.00	329	⇓P	P	18 26 07.8	+1.4
	baz=78						
Q26A	Hugo	78.07	337	⇑P	P	18 26 08.2	+1.4
	baz=78						
S22A	4UR Ranch, Cre	78.15	334	⇑P	P	18 26 08.7	+1.2
	baz=78						
R23A	Moffat	78.19	335	⇓P	P	18 26 08.8	+1.1
	baz=79						
BC3	Big Chuckawall	78.24	326	⇓P	P	18 26 08.9	+1.1
	baz=79						
Q25A	Bedland, Calha	78.30	336	⇑P	P	18 26 09.2	+1.1
	baz=79						
MVCO	Mesa Verde	78.31	332	eP	P	18 26 09.1	+0.8
	comp=Z,75nm,2.6s						
MVCO	Mesa Verde	78.31	332	⇓P	P	18 26 09.5	+1.3
	baz=79						
P26A	Davis Ranch, A	78.59	337	⇑P	P	18 26 11.0	+1.3
	baz=79						
O28A	Krutsinger Ran	78.61	338	⇑P	P	18 26 11.2	+1.5
	baz=79						
Q24A	Divide	78.65	336	⇓P	P	18 26 11.4	+1.2
	baz=79						
PFO	Pinyon Flat Ob	78.68	325	⇑P	P	18 26 12.2	+2.0
	baz=79						
W13A	Hualapai Mount	78.73	327	⇑P	P	18 26 12.4	+1.8
	baz=79						
P25A	Willow Gulch B	78.81	337	⇓P	P	18 26 11.9	+0.9
	baz=79,SNR=6.1						
M31A	Lambtecht Ranc	78.94	341	⇑P	P	18 26 12.2	+0.9
	baz=79						
MURC	Murrieta	79.03	324	⇓P	P	18 26 13.3	+1.3
	baz=79						
U15A	North Rim	79.16	329	⇓P	P	18 26 14.3	+1.3
	baz=80						
O26A	Horse Wrangler	79.20	337	⇓P	P	18 26 14.7	+1.7
	baz=80						
GMRC	Granite Mounta	79.27	326	⇑P	P	18 26 15.3	+1.9
	baz=80						
O25A	Wiggins	79.34	337	⇑P	P	18 26 15.3	+1.6
	baz=80						
SMCO	Snowmass	79.48	334	eP	P	18 26 15.9	+1.1
ISCO	Idaho Springs	79.56	336	⇑P	P	18 26 16.1	+1.0
	baz=80						
BFSC	Mount Baldy Ra	79.77	324	⇑P	P	18 26 17.1	+0.9
	baz=80						
O23A	Lake Granby, G	80.03	336	⇓P	P	18 26 18.7	+1.0
	baz=80,SNR=6.2						
O22A	Kremmling	80.20	335	⇓P	P	18 26 19.6	+1.0
	baz=81						
CCUT	Cedar City	80.56	329	eP	P	18 26 22.5	+2.0
ECSD	EROS Data Cent	80.59	343	eP	P	18 26 19.9	-0.3
	comp=Z,17nm,1.4s						
ECSD	EROS Data Cent	80.59	343	⇑P	P	18 26 20.1	-0.1
	baz=81						
N23A	Red Feather La	80.65	336	⇑P	P	18 26 22.3	+1.4
	baz=81						
N22A	Wattenberg Ran	80.74	335	⇑P	P	18 26 22.8	+1.4
	baz=81						
SRU	San Rafael	80.74	332	eP	P	18 26 22.6	+1.3
O20A	White River Ci	80.78	334	⇓P	P	18 26 22.9	+1.3
	baz=81						
LRMC	Laurel Mountai	80.79	325	⇓P	P	18 26 22.7	+1.1
	baz=81						
M24A	Cheyenne	80.79	337	⇑P	P	18 26 22.7	+1.1
	baz=81						
K28A	Ten Mile Ranch	80.87	340	⇓P	P	18 26 23.1	+1.3
	baz=81						
BOSA	Boshof	81.13	119	P	P	18 26 24.9	+1.0
	comp=Z,6.9nm,0.9s,baz=253,slow=5.0,SNR=6.8						
J29A	Okreek	81.22	341	⇑P	P	18 26 24.9	+1.2
	baz=82						
ISA	Isabella	81.31	325	⇑P	P	18 26 26.0	+1.6
	baz=82						
N20A	Spence Gulch,	81.40	334	⇓P	P	18 26 25.7	+0.8
	baz=82						
J28A	Allard Ranch,	81.49	340	⇓P	P	18 26 26.3	+1.2
	baz=82						
J27A	Elkhorn Farm,	81.55	340	⇓P	P	18 26 26.9	+1.4
	baz=82						
J26A	Sides Ranch, S	81.92	339	⇑P	P	18 26 28.5	+1.1
	baz=82						
MPU	Maple Canyon	81.96	332	eP	P	18 26 29.4	+1.6
R11A	Troy Canyon, C	82.19	328	eP	P	18 26 30.3	+1.3
R11A	Troy Canyon, C	82.19	328	⇓P	P	18 26 30.3	+1.3
	baz=82						
K23A	Bowen Ranch, D	82.21	337	⇓P	P	18 26 30.2	+1.2
	baz=83						
H29A	Onida	82.33	341	⇓P	P	18 26 30.1	+0.7
	baz=83						
JLU	Jordanelle	82.39	332	eP	P	18 26 31.5	+1.3
K22A	Casper	82.41	336	⇑P	P	18 26 30.9	+0.8
	baz=83						
J24A	Dixon Ranch, L	82.42	338	⇓P	P	18 26 31.0	+1.0
	baz=83						
G30A	Faulkton	82.52	342	⇑P	P	18 26 31.1	+0.7
	baz=83						
DUG	Dugway	82.58	331	eP	P	18 26 32.2	+1.2
DUG	Dugway	82.58	331	⇑P	P	18 26 32.1	+1.1
	baz=83						
H28A	Mission Ridge	82.59	341	⇑P	P	18 26 31.5	+0.7
	baz=83						
K21A	Alcova	82.64	336	⇑P	P	18 26 32.3	+1.0
	baz=83						
TPH	Tonopah	82.69	327	eP	P	18 26 33.1	+1.4
I25A	Rochford	82.76	339	⇑P	P	18 26 33.0	+1.1
	baz=83						
HWUT	Hardware Ranch	83.30	332	eP	P	18 26 34.2	-0.5
	comp=Z,4.7nm,0.9s						
NVAR	Mina Array Bea	83.47	326	P	P	18 26 36.5	+0.8
	comp=Z,0.8nm,0.7s,baz=155,slow=5.2,SNR=6.2						
I22A	9 Mile Ranch,	83.51	337	⇓P	P	18 26 36.5	+0.8
	baz=84						
J20A	Shoshoni	83.56	336	⇓P	P	18 26 36.8	+0.8
	baz=84						
PDAR	Pinedale Array	83.56	334	P	P	18 26 36.2	+0.1
	comp=Z,1.1nm,0.9s,baz=151,slow=4.6,SNR=6.4						
J19A	Crowheart	83.82	335	⇓P	P	18 26 38.0	+0.6
	baz=84						
I20A	Worland	84.10	336	⇓P	P	18 26 39.3	+0.5
	baz=84						
E28A	Huff	84.26	342	⇓P	P	18 26 39.9	+0.6
	baz=85						
H20A	Greybull	84.53	336	⇑P	P	18 26 41.3	+0.4
	baz=85						
AGMN	Agassiz Nation	84.75	345	⇑P	P	18 26 42.1	+0.4
	baz=85						
C30A	Mose, Pekin	84.77	344	⇓P	P	18 26 42.6	+0.7
	baz=85						
F23A	Volborg	84.81	338	⇓P	P	18 26 42.9	+0.7
	baz=85						
H19A	Powell	85.03	336	⇓P	P	18 26 44.2	+0.8
	baz=85						
G20A	Bridger	85.25	336	⇓P	P	18 26 44.8	+0.3
	baz=86						
H18A	Shoshone NF, C	85.27	335	⇑P	P	18 26 44.9	+0.1
	baz=86						
B30A	Myrvik Farm, E	85.43	344	⇓P	P	18 26 45.3	+0.1
	baz=86						
D25A	Fairfield	85.50	340	⇑P	P	18 26 46.7	+1.1
	baz=86						
TOA0	Torodi Ar. Sit	85.75	71	P	P	18 26 46.0	-1.6
TORD	Torodi Ar. Bea	85.75	71	P	P	18 26 48.0	+0.5
	comp=Z,7.0nm,1.1s,baz=262,slow=3.3,SNR=19						
F19A	Roth Farm, Mol	86.05	336	⇑P	P	18 26 48.6	+0.2
	baz=86						
D23A	Lindsay	86.06	339	⇑P	P	18 26 48.7	+0.4
	baz=86						
HLID	Hailey	86.06	332	⇑P	P	18 26 49.8	+1.1
	baz=86						
C24A	Savage	86.15	340	⇑P	P	18 26 49.5	+0.6
	baz=86						
D22A	Cohagen	86.33	339	⇑P	P	18 26 50.1	+0.4
	baz=87						
E20A	Meyer Farm, Mu	86.36	337	⇑P	P	18 26 50.2	+0.3
	baz=87						
D21A	La Casta Ranch	86.50	338	⇑P	P	18 26 50.8	+0.2
	baz=87						
E19A	Rath Farm, Rou	86.54	337	⇑P	P	18 26 51.2	+0.4
	baz=87						
MCMT	McKenzie Canyo	86.54	333	eP	P	18 26 50.2	-0.8
	comp=Z,4.7nm,1.2s						
ULM	Lac du Bonnet	86.61	346	P	P	18 26 49.9	-1.0
	comp=Z,3.4nm,0.9s,baz=180,slow=4.9,SNR=5.0						
C23A	Lambert	86.62	339	⇑P	P	18 26 51.8	+0.8
	baz=87						
D20A	Manuel Ranch,	86.88	337	⇓P	P	18 26 52.5	+0.1
	baz=87						
DGMT	Dagmar	86.94	340	eP	P	18 26 51.4	-1.3
	comp=Z,6.0nm,0.4s						
DGMT	Dagmar	86.94	340	⇑P	P	18 26 53.4	+0.8
	baz=87						
B22A	Reddig Ranch S	87.31	339	⇓P	P	18 26 55.1	+0.7
	baz=88						
M04C	Macdoel	87.78	326	⇑P	P	18 26 57.7	+0.7
	baz=88						
A22A	Carney Farms,	87.90	339	⇑P	P	18 26 58.0	+0.7
	baz=88						
B20A	Solberg Farm,	88.04	338	⇓P	P	18 26 58.6	+0.7
	baz=88						
A21A	Bergtoll Ranch	88.20	339	⇑P	P	18 26 58.9	+0.2
	baz=89						
J05D	Fort Rock, OR	88.69	327	⇓P	P	18 27 02.4	+1.1
	baz=89						
DZM	Mont Dzumac	99.77	235	eLR	LR	18 27 04.8	
	comp=Z,182nm,24.1s						
BRTR	Keskin Array B	123.35	62	PKP	PKPdf	18 33 04.7	-0.3
	comp=Z,0.9nm,0.8s,baz=212,slow=3.8,SNR=5.5						
AKASG	Malin Array Be	123.61	48	PKP	PKPdf	18 33 03.3	-1.6
	comp=Z,0.2nm,0.3s,baz=264,slow=3.0,SNR=5.2						
BRVK	Borovoye	148.56	43	ePKPbc	PKPbc	18 33 55.2	+0.9
HYB	Hyderabad	150.02	118	i PKP	PKPbc	18 33 58.0	-1.0
KKAR	Karatay Array	151.06	62	ePKPbc	PKPbc	18 34 00.8	+0.1
EKS2	Erkin-Say	153.50	62	ePKPbc	PKPbc	18 34 07.1	+0.7
AAK	Ala-Archa	154.03	62	ePKPbc	PKPbc	18 34 08.4	+0.8
KSH	Kashi	155.41	69	ePKPbc	PKPdf	18 34 10.8	+9.3
ZAA0	Zalesovo Array	155.41	31	ePKPbc	PKPdf	18 34 09.9	+9.2
ZALV	Zalesovo Beam	155.41	31	PKP	PKPdf	18 34 00.4	-0.4
	comp=Z,1.3nm,0.8s,baz=321,slow=2.1,SNR=5.8						
ZALV				PKPbc	PKPbc	18 34 10.1	
	comp=Z,3.0nm,0.7s,baz=295,slow=3.2,SNR=15						
MKAR	Makanchi Array	158.19	49	PKP	PKPdf	18 34 04.5	-0.1
	comp=Z,0.5nm,0.8s,baz=270,slow=1.0,SNR=3.0						
MKAR				PKPab	PKPab	18 34 39.2	+0.5
	comp=Z,1.4nm,0.7s,baz=301,slow=3.8,SNR=10						
WMQ	Urumqi	162.92	51	ePKP	PKPdf	18 34 10.0	0.0
WMQ				LR	LR		
	comp=Z,120nm,22.8s						
WMQ				LR	LR		
	comp=Z,87nm,22.0s						
WMQ				LR	LR		
	comp=Z,110nm,20.6s						
SONM	Songino Array	166.67	359	PKPab	PKPab	18 35 16.2	+0.4
	comp=Z,1.0nm,0.8s,baz=316,slow=4.1,SNR=4.5						
NJ2	Nanjing	169.13	261	ePKP	PKPdf	18 34 14.5	-0.7
KMI	Kunming	170.19	161	PKP	PKPdf	18 34 19.0	+2.7
HHC	Hu-ho-hao-te	172.36	328	ePKP	PKPdf	18 34 17.0	+0.2
HHC				pPKP	pPKPdf	18 34 28.0	-0.3
HHC				sPKP		18 34 31.5	
HHC				PP	PP	18 39 36.0	+3.7
HHC				SKS	SKSdf	18 41 15.3	-2.1
HHC				SS	SS	19 00 41.5	+1.2
HHC				AMB	AMB		
	comp=Z,140nm,6.4s						
HHC				LR	LR		
	comp=Z,150nm,19.9s						
HHC				LR	LR		
	comp=Z,110nm,19.6s						
HHC				LR	LR		
	comp=Z,150nm,20.5s						
CD2	Chengdu	175.88	149	PKP	PKPdf	18 34 18.0	-0.2
LZH	Lanzhou	177.50	50	ePKP	PKPdf	18 34 17.3	-1.2
LZH				pPKP	pPKPdf	18 34 28.0	-2.0
LZH				sPKP		18 34 32.0	

*SJA **28** 18:19:23.2±0.4, 34°.94S×74°.37W, h0km±46km, ML5.1*

*MOS **28** 18:19:50.9±1.2, 34°.78S×71°.83W, h33km, mb5.4/18, Error ellipse: s-maj=18.1km s-min=9.5km az=95.2*

*NEIC **28** 18:19:51.9±0.2, 34°.91S×71°.88W, h35km, mb5.0/49, Error ellipse: s-maj=7.2km s-min=5.0km az=69.0*

*ISCJB **28** 18:19:51.6±1.1, 34°.97S±0°.04×71°.66W±0°.07, h38km±9km, mb4.9/66, MS4.1/10, Error ellipse: s-maj=10.6km s-min=5.9km az=151.1*

*BJI **28** 18:19:52.9, 34°.90S×71°.80W, h35km, mB5.2/7, Ms5.4/6, Ms7 5.0/5*

*IDC **28** 18:19:53.5±0.4, 35°.01S×71°.77W, h43km±3km, mb4.7/21, mb1 4.8/26, mb1mx4.7/34, mbtmp4.9/26, ML4.8/5, MS4.1/14, ms1 4.1/14, ms1mx3.8/32, Error ellipse: s-maj=15.7km s-min=9.9km az=76.0*

ISC 28 18:19:53.3±0.4, **34°.93S**±0°.05×**71°.68W**±0°.07, **h43**km±2km, **h43**km**:pP-P, n543**, $\sigma 1^s00$/565, **mb5.0**/66, **MS4.2**/11, **155C-163D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVIZ	Vizcacheras	3.00	62	i P	Pn	18 20 44.8	+6.3
AAGR	Agrelo	3.00	53	i P	Pn	18 20 42.9	+4.4
ARCO	CERRO ARCO	3.09	48	i P	Pn	18 20 43.7	+3.9
ARCO				AML	AML	18 21 42.9	
	comp=Z,1μm,0.6s						
ARCO				i S	Sn	18 21 42.9	+27
AUSP	Uspallata	3.31	36	i P	Pn	18 20 43.6	+0.7
ASAL	Salagasta	3.33	46	i P	Pn	18 20 46.2	+3.3
RTLS	Leoncito	3.71	33	i P	Pn	18 20 48.0	-0.3
RTLS				i P	Pn	18 20 48.0	-0.3
CFAA	Coronel Fontan	4.40	42	P	Pn	18 20 59.2	+1.6
	comp=Z,7.1nm,0.3s,baz=224,slow=11,SNR=24						
CFAA				S	Sn	18 21 54.5	+7.0
	comp=Z,4.4nm,0.3s,baz=229,slow=16,SNR=3.1						
CFAA				LR	LR	18 22 59.6	
	comp=Z,303nm,20.9s,baz=229,slow=41						
RTLL	Cerro Villicun	4.49	38	i P	Pn	18 20 59.1	+0.2
PLCA	Paso Flores	5.86	172	eP	Pn	18 21 18.4	+0.7
PLCA				pmax	pmax		
	comp=Z,204nm,0.7s						
PLCA	Paso Flores	5.86	172	P	Pn	18 21 18.4	+0.7
	comp=Z,14nm,0.3s,baz=344,slow=11,SNR=35						
PLCA				LR	LR	18 23 42.1	
	comp=Z,2μm,19.9s,baz=342,slow=39						
PLCA	Paso Flores	5.86	172	ePn	Pn	18 21 18.4	+0.7
	comp=Z,204nm,0.7s						
TRQA	Tornquist	8.41	115	ePn	Pn	18 21 53.2	+0.5
	comp=Z,89nm,0.7s						
TRQA				eSn	Sn	18 23 27.2	+0.9
LVC	Limon Verde	12.51	12	ePn	Pn	18 22 47.6	-1.4
	comp=Z,49nm,0.8s						
CPUP	Villa Florida	15.03	59	eP	Pn	18 23 21.9	-0.8
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CPUP	Villa Florida	15.03	59	P	P	18 23 25.6	-1.8
	comp=Z,1.1nm,0.3s,baz=211,slow=16,SNR=6.4						
CPUP				LR	LR	18 29 52.0	
	comp=Z,2μm,19.9s,baz=218,slow=40						
CPUP	Villa Florida	15.03	59	ePn	Pn	18 23 21.9	-0.8
	comp=Z,1.8nm,0.7s						
LPAZ	La Paz	18.84	11	eP	P	18 24 10.4	+0.1
LPAZ				pmax	pmax		
	comp=Z,49nm,0.8s						
LPAZ	La Paz	18.84	11	P	Pn	18 24 13.3	+2.2
	comp=Z,1.9nm,0.3s,baz=181,slow=8.5,SNR=30						
LPAZ	La Paz	18.84	11	eP	P	18 24 10.3	+0.1
	comp=Z,49nm,0.8s						
USHA	Ushuaia	20.03	175	P	P	18 24 22.8	+0.5
	comp=Z,2.0nm,0.3s,baz=316,slow=11,SNR=6.1						
USHA				LR	LR	18 32 35.5	
	comp=Z,1μm,20.3s,baz=350,slow=38						
SIV	San Ignacio	21.12	29	P	P	18 24 35.7	+1.2
	comp=Z,79nm,0.9s,baz=218,slow=9.3,SNR=84						
NNA	Nana	23.32	347	P	P	18 24 52.6	-5.1
NNA				*PP	pP	18 25 10.0	+1.4
NNA				pmax	pmax		
	comp=Z,11nm,0.8s						
NNA	Nana	23.32	347	P	P	18 24 59.1	+1.4
	comp=Z,4.9nm,0.4s,baz=197,slow=8.6,SNR=5.9						
NNA				pP	pP	18 25 10.0	+1.4
	comp=Z,24nm,0.7s,baz=188,slow=9.7,SNR=7.8						
NNA				LR	LR	18 32 29.4	
	comp=Z,173nm,19.5s,baz=166,slow=32						
NNA	Nana	23.32	347	P	P	18 24 52.6	-5.1
	comp=Z,11nm,0.8s						
NNA				pP	pP	18 25 10.0	+1.4
SAML	Samuel	27.01	19	eP	P	18 25 30.3	-1.0
	comp=Z,15nm,0.9s						
ATAH	Atahualpa	28.34	346	LR	LR	18 35 22.4	
	comp=Z,160nm,19.9s,baz=199,slow=33						
BDFB	Brasilia	28.63	54	P	P	18 25 46.0	0.0
	comp=Z,20nm,0.9s,baz=224,slow=6.6,SNR=18						
BDFB				LR	LR	18 38 32.7	
	comp=Z,912nm,18.1s,baz=222,slow=39						
PMSA	Palmer Station	30.23	174	LR	LR	18 37 42.6	
	comp=Z,584nm,19.4s,baz=299,slow=35						
OTAV	Otavalo	35.55	348	eP	P	18 26 46.4	-0.7
	comp=Z,66nm,1.7s						
ROSC	El Rosal	39.65	356	P	P	18 27 23.4	+1.8
	comp=Z,3.6nm,0.3s,baz=184,slow=3.2,SNR=6.6						
SDV	Santo Domingo	43.59	2	eP	P	18 27 51.9	-1.7
	comp=Z,29nm,0.8s						
RCBR	Riachuelo	43.89	57	P	P	18 27 57.5	+1.6
	comp=Z,8.8nm,0.8s,baz=211,slow=5.2,SNR=3.8						
RCBR				LR	LR	18 48 19.4	
	comp=Z,794nm,18.1s,baz=177,slow=39						
VNA3	Neumayer Olymp	48.39	158	P	P	18 28 29.7	-0.9
VNA2	Neumayer--Watz	49.04	157	P	P	18 28 35.2	-0.4
SNAA	Sanae	50.61	158	eP	P	18 28 47.1	-0.5
SNAA	Sanae	50.61	158	eP	P	18 28 44.2	-3.4
SNAA				pmax	pmax		
	comp=Z,28nm,0.9s						
SNAA	Sanae	50.61	158	P	P	18 28 47.1	-0.5
	comp=Z,9.6nm,0.9s,baz=294,slow=6.1,SNR=29						
SNAA				LR	LR	18 48 19.3	
	comp=Z,68nm,20.2s,baz=262,slow=34						
SNAA	Sanae	50.61	158	eP	P	18 28 44.2	-3.4
	comp=Z,28nm,0.9s						
APG	El Apazote	52.77	337	P	P	18 29 01.4	-3.0
	comp=Z,3.4nm,0.7s,baz=174,slow=8.3,SNR=4.6						
CRPR	Cabo Rojo, PR	52.82	5	P	P	18 29 00.3	-4.1
	comp=Z,32nm,0.8s						
OBIP	Obispado Ponce	52.90	6	eP	P	18 29 03.5	-1.6
	comp=Z,48nm,0.8s						
QSPA	South Pole Qui	55.31	180	P	P	18 29 22.6	+0.2
	comp=Z,41nm,0.9s,baz=146,slow=2.1,SNR=78						
QSPA				pP	pP	18 29 35.0	+0.4
	comp=Z,20nm,0.8s,baz=347,slow=4.1,SNR=6.1						
QSPA				LR	LR	18 52 51.0	

comp=Z,90nm,18.8s,baz=190,slow=36
QSPA South Pole Qui 55.31 180 eP P 18 29 22.1 -0.3
comp=Z,98nm,0.9s
QSPA pP pP 18 29 35.0 +0.4
NVL N'lazarevskaya 55.35 156 eP P 18 29 22.1 -0.3
NVL pmax pmax
comp=Z,21nm,0.9s
RKT Rikitea 55.77 264 eT T 19 28 33.2
comp=Z,1.1nm,0.3s
SYO Syowa Base 64.89 158⇓eP P 18 30 25.4 -2.3
SYO Syowa Base 64.89 158⇓esP sP 18 30 43.6 -1.5
TIGA Tifton 66.96 349 ⇑P P 18 30 42.3 +0.9
baz=67
834A Tilden 67.66 334 ⇑P P 18 30 47.3 +1.4
baz=68
735A Kenedy 68.07 335 ⇓P P 18 30 49.6 +1.2
baz=68
833A Chaparral WMA, 68.15 334 ⇓P P 18 30 49.7 +0.8
baz=68,SNR=6.4
832A Faith Ranch, C 68.32 333 ⇓P P 18 30 51.1 +1.1
baz=68
636A Smothers Creek 68.39 336 ⇓P P 18 30 51.9 +1.5
baz=69
732A Laxson Ranch, 68.72 333 ⇓P P 18 30 53.8 +1.2
baz=69
MEH Mehetia 69.02 262 eT T 19 45 06.2
comp=Z,16nm,0.2s
438A Sam Houston St 69.07 338 ⇑P P 18 30 55.7 +1.1
baz=69
633A Saathoff Ranch 69.10 334 ⇑P P 18 30 55.6 +0.8
baz=69
340A Bronson 69.22 340 ⇑P P 18 30 56.4 +0.9
baz=70
632A Uvalde 69.36 334 ⇑P P 18 30 57.1 +0.6
baz=70,SNR=8.2
533A Kerrville 69.61 335 ⇑P P 18 30 58.7 +0.6
baz=70,SNR=8.0
337A Centerville 69.72 338 ⇓P P 18 31 00.5 +1.8
baz=70
239A Gary 69.96 339 ⇑P P 18 31 01.7 +1.6
baz=70
532A Rocksprings 69.97 334 ⇓P P 18 31 00.9 +0.6
baz=70,SNR=12
434A Burnet 70.03 336 ⇑P P 18 31 01.1 +0.6
baz=70,SNR=6.0
336A Riesel 70.09 337 ⇑P P 18 31 01.9 +1.0
baz=70
335A Moody 70.18 337 ⇓P P 18 31 02.8 +1.4
baz=70
TIAR Tiarei 70.22 262 eT T 19 46 37.5
comp=Z,4.4nm,0.3s
531A Rocksprings 70.23 334 ⇑P P 18 31 02.9 +1.0
baz=70,SNR=6.3
JCT Junction City 70.25 334 eP P 18 31 00.8 -1.2
JCT pmax pmax
comp=Z,14nm,1.0s
JCT Junction City 70.25 334 eP P 18 31 00.8 -1.2
comp=Z,14nm,1.0s
JCT Junction City 70.25 334 ⇓P P 18 31 02.7 +0.8
baz=70
433A Art 70.25 335 ⇑P P 18 31 02.6 +0.7
baz=70
KMSC Kings Mountain 70.29 352 eP P 18 31 01.9 -0.2
KMSC Kings Mountain 70.29 352 ⇑P P 18 31 02.9 +0.8
baz=71
237A Washetta, Mont 70.34 338 ⇓P P 18 31 03.0 +0.6
baz=71
PPT2 Papeete2 70.39 262 eS S 18 40 20.2 +7.1
comp=Z,80nm,25.2s
PPT2 Papeete2 70.39 262 eLR LR 18 52 24.6
comp=Z,487nm,27.5s
334A Lometa 70.49 336 ⇓P P 18 31 04.1 +0.7
baz=71,SNR=5.7
530A J-C Ranch, Com 70.51 333 ⇓P P 18 31 04.2 +0.6
baz=71,SNR=8.7
432A Menard 70.61 335 ⇑P P 18 31 05.2 +1.0
baz=71
TXAR Lajitas Array 70.69 331 P P 18 31 05.4 +0.7
comp=Z,3.0nm,0.7s,baz=152,slow=8.5,SNR=28
TXAR pP pP 18 31 17.5 +0.1
comp=Z,6.6nm,0.5s,baz=153,slow=7.0,SNR=28
431A Sonora 70.72 334 ⇓P P 18 31 05.6 +0.7
baz=71
333A Richland Sprin 70.74 335 ⇓P P 18 31 05.5 +0.6
baz=71
529A Stev Forest Ra 70.82 332 ⇑P P 18 31 06.5 +1.0
baz=71
WHTX Lake Whitney 70.84 337 ⇓P P 18 31 06.3 +0.8
baz=71
137A Heron Place, G 70.88 339 ⇓P P 18 31 06.8 +1.1
baz=71
CPCT Cooper Cave 71.04 349 P P 18 31 05.8 -0.8
SWET Sewanee 71.04 348 eP P 18 31 06.4 -0.3
comp=Z,31nm,0.7s
OXF Oxford 71.05 345 eP P 18 31 05.0 -1.7
OXF pmax pmax
comp=Z,50nm,1.0s
OXF Oxford 71.05 345 eP P 18 31 05.0 -1.7
comp=Z,50nm,1.0s
430A Baggett Ranch, 71.05 333 ⇑P P 18 31 07.3 +0.5
baz=71,SNR=6.8
332A Millersview 71.05 335 ⇑P P 18 31 07.4 +0.6
baz=71
234A Clairette 71.07 336 ⇑P P 18 31 07.4 +0.5
baz=71
429A Davenport Ranc 71.15 333 ⇓P P 18 31 07.6 +0.2
baz=71
331A San Angelo 71.22 334 ⇓P P 18 31 08.3 +0.4
baz=72,SNR=7.2
233A Rising Star 71.34 336 ⇑P P 18 31 08.8 +0.2
baz=72
232A Coleman 71.48 335 ⇑P P 18 31 10.0 +0.6
baz=72
330A Mertzon 71.58 334 ⇓P P 18 31 10.4 +0.4
baz=72
231A Bronte 71.75 335 ⇓P P 18 31 11.2 +0.2
baz=72,SNR=6.2
133A Hamilton Ranch 71.89 336 ⇑P P 18 31 12.3 +0.5
baz=72,SNR=5.1
329A Wagon Wheel Ra 71.95 333 ⇑P P 18 31 12.4 +0.1
baz=72
Z35A Perchaven, San 72.02 338 ⇑P P 18 31 13.1 +0.6
baz=72
MIAR Mount Ida 72.09 341 eP P 18 31 10.3 -2.6
MIAR pmax pmax
comp=Z,8.0nm,0.8s
MIAR Mount Ida 72.09 341 eP P 18 31 10.3 -2.6
comp=Z,8.2nm,0.8s
ABTX Abilene, Hawle 72.15 335 ⇓P P 18 31 13.1 -0.3
baz=72
MAW Mawson 72.21 163 P P 18 31 13.4 +0.1
comp=Z,42nm,0.8s,baz=222,slow=5.0,SNR=4.6
Z34A Collier Ranch, 72.26 337 ⇑P P 18 31 14.2 +0.2
baz=72
WVT Waverly 72.28 346 eP P 18 31 13.9 -0.2
WVT pmax pmax
comp=Z,55nm,0.8s
WVT Waverly 72.28 346 eP P 18 31 13.9 -0.2
comp=Z,55nm,0.8s
229A Bryant Ranch, 72.32 333 ⇓P P 18 31 14.3 -0.1
baz=72
131A Roby 72.45 335 ⇑P P 18 31 15.0 -0.2
baz=73
Z33A Whitaker Ranch 72.46 336 ⇓P P 18 31 15.4 +0.2
baz=73,SNR=6.1
130A Snyder 72.58 334 ⇓P P 18 31 15.9 -0.1
baz=73
Z32A Haskell 72.71 336 ⇑P P 18 31 17.1 +0.4
baz=73,SNR=5.3
228A UT Block 9, Go 72.75 333 ⇓P P 18 31 17.4 +0.3
baz=73
Y34A Reagan Ranch, 72.75 338 ⇑P P 18 31 17.4 +0.5
baz=73
129A Stewart Farms, 72.94 334 ⇓P P 18 31 18.6 +0.5
baz=73
Z31A Sharp Cattle R 72.95 335 ⇑P P 18 31 18.8 +0.6
baz=73
Y33A Hilltop Ranch, 73.08 337 ⇑P P 18 31 19.4 +0.6
baz=73
128A Castleberry Fa 73.16 333 ⇑P P 18 31 20.0 +0.6
baz=73
Z30A Sanderson Ranc 73.26 335 ⇓P P 18 31 20.7 +0.7
baz=74
Y32A R-V Farms, Ver 73.34 336 ⇑P P 18 31 21.2 +0.8
baz=74
X34A Smith Ranch, M 73.37 338 ⇑P P 18 31 21.0 +0.5
baz=74
Z29A Hungry Hill Ra 73.45 334 ⇓P P 18 31 21.5 +0.4
baz=74
MNTX Cornudas Mount 73.46 330 eP P 18 31 20.0 -1.2
comp=Z,4.9nm,0.9s
127A Arkansas Junct 73.53 332 ⇑P P 18 31 22.1 +0.4
baz=74
Y31A Rekieta Farm, 73.58 336 ⇑P P 18 31 22.5 +0.6
baz=74
X32A Elmer 73.67 336 ⇑P P 18 31 23.0 +0.7
baz=74
Z28A Tucker Farm, M 73.72 334 ⇑P P 18 31 22.7 0.0
baz=74
W34A Bridge Creek, 73.94 338 ⇑P P 18 31 24.6 +0.7
baz=74
Y29A Porterfield Fa 73.97 334 ⇓P P 18 31 24.6 +0.4
baz=74
TUL1 Tulsa 73.98 340 eP P 18 31 22.6 -1.5
comp=Z,17nm,0.7s
TUL1 Tulsa 73.98 340 ⇑P P 18 31 24.4 +0.3
baz=74
Z27A Tatum 74.05 333 ⇑P P 18 31 24.9 +0.2
baz=74
W33A Caddo, Fort Co 74.08 337 ⇓P P 18 31 25.2 +0.5
baz=74,SNR=8.9
X31A McDonald Ranch 74.09 336 ⇑P P 18 31 25.2 +0.4
baz=74
SUR Sutherland 74.12 118 P P 18 31 26.9 +1.3
comp=Z,7.5nm,0.9s,baz=223,slow=5.0,SNR=4.7
SUR LR LR 18 59 55.7
comp=Z,160nm,19.4s,baz=224,slow=32
X30A Coker Ranch, T 74.23 335 ⇓P P 18 31 26.1 +0.5
baz=74
W32A Sentinel 74.30 337 ⇓P P 18 31 26.3 +0.3
baz=74,SNR=11
Z26A Caprock 74.30 332 ⇑P P 18 31 26.5 +0.3
baz=74
MSTX Muleshoe 74.47 334 eP P 18 31 25.7 -1.5
comp=Z,8.5nm,0.8s
MSTX Muleshoe 74.47 334 ⇓P P 18 31 27.4 +0.2
baz=75,SNR=5.9
X29A Tulia 74.51 335 ⇑P P 18 31 28.1 +0.8
baz=75
Y27A Causey 74.54 333 ⇓P P 18 31 28.0 +0.4
baz=75
Z25A Roswell 74.59 332 ⇓P P 18 31 28.1 +0.3
baz=75
V33A Lossen Ranch, 74.64 338 ⇓P P 18 31 28.3 +0.4
baz=75,SNR=5.2
X28A Dimmitt 74.75 334 ⇓P P 18 31 29.3 +0.5
baz=75
V32A Arapaho 74.78 337 ⇑P P 18 31 29.5 +0.7
baz=75
LIC Lamto 74.79 71 eP P 18 31 30.1 +0.7
comp=Z,54nm,0.6s
Y26A Elida 74.82 333 ⇓P P 18 31 29.5 +0.3
baz=75,SNR=6.1
319A Douglas 74.84 327 ⇑P P 18 31 29.8 +0.5
baz=75
Z24A Sheeppen Canyo 74.89 331 ⇑P P 18 31 30.5 +0.8
baz=75
U34A Anderson Ranch 74.98 339 ⇓P P 18 31 30.6 +0.7
baz=75
TIC Toumodi 75.06 71 eP P 18 31 31.6 +0.7
comp=Z,32nm,0.8s
V31A Spring Creek L 75.09 337 ⇑P P 18 31 31.9 +1.3
baz=75
KIC Kosan Boka 75.10 71 eP P 18 31 31.9 +0.7
comp=Z,137nm,0.9s
W29A Amraillo 75.11 335 ⇑P P 18 31 31.8 +1.0
baz=75
U33A Lingo Farm, Me 75.15 338 ⇓P P 18 31 31.7 +0.8
baz=75
121A Cookes Peak, D 75.19 329 eP P 18 31 30.6 -0.8
comp=Z,23nm,1.0s
121A Cookes Peak, D 75.19 329 ⇓P P 18 31 32.7 +1.3
baz=75
DBIC Dimbokro 75.20 71 eP P 18 31 30.6 -1.1
DBIC pmax pmax
comp=Z,38nm,0.8s
DBIC Dimbokro 75.20 71 P P 18 31 32.6 +0.9
comp=Z,37nm,0.8s,baz=209,slow=6.2,SNR=49
DBIC Dimbokro 75.20 71 eP P 18 31 30.6 -1.1
comp=Z,38nm,0.8s
X26A CR and CF Fran 75.37 333 ⇓P P 18 31 33.2 +0.8
baz=76,SNR=11
U32A Winter Ranch, 75.38 337 ⇓P P 18 31 33.2 +1.0
baz=76
Y24A Capitan 75.44 331 ⇓P P 18 31 33.8 +0.9
baz=76
ACSO Alum Creek Sta 75.52 351 eP P 18 31 30.6 -2.3
comp=Z,30nm,0.8s
W27A Bowe Ranch, En 75.56 334 ⇑P P 18 31 33.9 +0.5
baz=76,SNR=8.7
X25A Clemmons Ranch 75.67 332 ⇓P P 18 31 34.6 +0.5
baz=76
Y23A Lovelace Mesa, 75.69 331 ⇓P P 18 31 35.7 +1.4
baz=76
T33A Patterson Ranc 75.79 338 ⇓P P 18 31 35.7 +1.1
baz=76
V28A Channing 75.87 335 ⇓P P 18 31 36.3 +1.1
baz=76
X24A Lazy VL Ranch, 76.00 332 ⇓P P 18 31 36.9 +0.8
baz=76
U30A WK&E Inc. Balk 76.04 336 ⇓P P 18 31 37.0 +0.9
baz=76
T32A Huddler Ranch, 76.09 338 ⇓P P 18 31 37.1 +0.8
baz=76
V27A Dan Oppiter Fa 76.09 334 ⇓P P 18 31 37.2 +0.7
baz=76
W25A X Bar L Ranch, 76.21 333 ⇑P P 18 31 37.8 +0.7
baz=76
TUC Tucson 76.31 327 eP P 18 31 37.3 -0.4
TUC Tucson 76.31 327 eP P 18 31 37.3 -0.4
comp=Z,2.2nm,0.9s
U28A Mallet 76.44 335 ⇑P P 18 31 39.1 +0.7
baz=77
V26A Tequesquite Ra 76.47 334 ⇑P P 18 31 39.2 +0.6
baz=77
W24A Lazy 6 Ranch, 76.56 332 ⇑P P 18 31 40.1 +0.8
baz=77,SNR=7.3
S32A Newby Ranch, P 76.57 338 ⇑P P 18 31 39.7 +0.7
baz=77
ALLY Alegheny Colle 76.60 353 eP P 18 31 38.4 -0.6
comp=Z,14nm,1.0s
S31A Mullinville 76.67 338 ⇓P P 18 31 40.3 +0.7
baz=77
U27A Thompson Grove 76.69 335 ⇑P P 18 31 40.5 +0.6
baz=77,SNR=5.3
ANMO Albuquerque 76.74 331 eP P 18 31 39.7 -0.5
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO Albuquerque 76.74 331 eP P 18 31 39.7 -0.5
comp=Z,8.4nm,1.1s
W23A Werner Place, 76.81 332 ⇑P P 18 31 41.5 +0.9
baz=77
V25A Rancho No Teng 76.82 333 ⇓P P 18 31 41.3 +0.6
baz=77,SNR=12
T29A Hugoton 76.83 336 ⇑P P 18 31 41.0 +0.5
baz=77
R33A Olander Ranch, 76.84 339 ⇑P P 18 31 40.9 +0.4
baz=77
214A Organ Pipe Nat 76.95 325 ⇓P P 18 31 42.2 +0.9
baz=77
V24A Rampart Ranch, 76.96 332 ⇑P P 18 31 42.6 +1.0
baz=77
U26A Atchley Ranch, 76.99 334 ⇓P P 18 31 42.1 +0.5
baz=77
S30A Montezuma 77.00 337 ⇓P P 18 31 42.2 +0.8
baz=77
T28A Walsh 77.07 335 ⇓P P 18 31 42.6 +0.7
baz=77,SNR=9.5
R32A Long Quarter, 77.17 339 ⇑P P 18 31 43.4 +1.0
baz=77
KSU1 Kansas State U 77.19 340 ⇑P P 18 31 43.0 +0.6
baz=78
S29A Ulysses 77.19 336 ⇑P P 18 31 43.4 +0.9
baz=77
T27A Campo 77.23 335 ⇓P P 18 31 43.5 +0.6
baz=78
U25A Circle Dot Ran 77.24 333 ⇓P P 18 31 44.0 +1.0
baz=78,SNR=7.0
R31A Burdett 77.29 338 ⇑P P 18 31 43.8 +0.7
baz=78
V23A Ortiz Mt. (NFS 77.33 332 ⇑P P 18 31 45.0 +1.4
baz=78
S28A Manter 77.42 336 ⇑P P 18 31 44.8 +1.0
baz=78,SNR=7.0
Q33A Connelly Farm, 77.44 339 ⇓P P 18 31 44.5 +0.7
baz=78
R30A Dighton 77.52 337 ⇑P P 18 31 45.2 +0.8
baz=78
T26A Comanche Natio 77.64 334 ⇓P P 18 31 46.1 +0.9
baz=78,SNR=7.6
Q32A Meitler Ranch, 77.65 339 ⇓P P 18 31 45.9 +0.9
baz=78
V22A San Miguel Ran 77.76 331 ⇓P P 18 31 47.5 +1.5
baz=78
X18A Snowflake 77.82 328 ⇑P P 18 31 47.4 +1.1
baz=78
U23A El Rito 77.85 332 ⇑P P 18 31 47.6 +1.2
baz=78
T25A Trinidad 77.90 334 ⇓P P 18 31 48.2 +1.5
baz=78,SNR=14
Q31A Ellis 77.91 338 ⇑P P 18 31 48.1 +1.6
baz=78
S26A Kim 77.99 335 ⇓P P 18 31 48.1 +1.0
baz=78,SNR=12
R28A Tribune 78.07 336 ⇓P P 18 31 48.1 +0.6
baz=78,SNR=5.5
Q30A Quinter 78.14 338 ⇓P P 18 31 48.4 +0.6
baz=78,SNR=8.3
T24B San Luis 78.19 333 ⇑P P 18 31 49.6 +1.2
baz=78,SNR=9.4
Q29A Oakley 78.30 337 ⇑P P 18 31 49.0 +0.3
baz=79,SNR=5.2
R27A Eads 78.35 335 ⇓P P 18 31 49.6 +0.6
baz=79,SNR=8.6
S25A Robets Cordova 78.37 334 ⇑P P 18 31 50.3 +1.0
baz=79,SNR=7.2
X16A Lo Mia Camp, P 78.38 327 ⇓P P 18 31 50.7 +1.3
baz=79
P31A Stockton 78.38 338 ⇑P P 18 31 49.8 +0.7
baz=79
T23A Casias Ranch, 78.41 333 ⇑P P 18 31 50.6 +1.0
baz=79
R26A Arlington 78.59 335 ⇓P P 18 31 51.5 +1.1
baz=79
S24A Houchin Ranch, 78.63 333 ⇑P P 18 31 52.0 +1.1
baz=79,SNR=11
TSUM Tsumeb 78.68 105 P P 18 31 52.1 +0.6
comp=Z,13nm,1.1s,baz=242,slow=3.9,SNR=20
TSUM Tsumeb 78.68 105 eP P 18 31 51.3 -0.2
comp=Z,19nm,1.1s
Y14A Wickenburg 78.68 326 ⇓P P 18 31 52.1 +1.1
baz=79
Q28A Sharon Springs 78.73 337 ⇓P P 18 31 52.5 +1.4
baz=79
R25A Fountain Ranch 78.75 334 ⇓P P 18 31 52.5 +1.2
baz=79
SDCO Great Sand Dun 78.83 333 eP P 18 31 50.4 -1.5
comp=Z,3.5nm,0.8s
P29A Atwood 78.93 337 ⇓P P 18 31 53.6 +1.4
baz=79
R24A Sanders Place, 79.12 334 ⇓P P 18 31 54.8 +1.4
baz=79,SNR=13
P28A Saint Francis 79.17 337 ⇑P P 18 31 55.1 +1.6
baz=79
Q26A Hugo 79.17 335 ⇑P P 18 31 54.6 +1.0
baz=79
O30A MW Ranch, Wils 79.19 338 ⇓P P 18 31 54.5 +1.0
baz=80
SWSC Sam W. Stewart 79.19 323 ⇓P P 18 31 54.9 +1.3
baz=79
Y12C Blythe 79.24 325 ⇑P P 18 31 55.1 +1.2
baz=79
WUAZ Wupatki 79.27 328 eP P 18 31 53.7 -0.6
comp=Z,6.3nm,1.0s
WUAZ Wupatki 79.27 328 ⇓P P 18 31 55.8 +1.6
baz=80
JFWS Jewell Farm 79.31 346 eP P 18 31 53.7 -0.4
JFWS pmax pmax
comp=Z,31nm,1.2s
JFWS Jewell Farm 79.31 346 eP P 18 31 53.7 -0.4
comp=Z,31nm,1.2s
S22A 4UR Ranch, Cre 79.33 332 ⇓P P 18 31 55.8 +1.1
baz=80,SNR=8.4
R23A Moffat 79.35 333 ⇓P P 18 31 55.9 +1.1
baz=80,SNR=5.6
BOSA Boshof 79.38 117 eP P 18 31 54.4 -0.8
BOSA *PP pP 18 32 08.2 +0.2
BOSA *SP sP 18 32 13.2 +0.4
BOSA pmax pmax
comp=Z,47nm,1.0s
BOSA Boshof 79.38 117 P P 18 31 55.0 -0.1
comp=Z,40nm,0.8s,baz=232,slow=5.2,SNR=59
BOSA pP pP 18 32 08.2 +0.2
comp=Z,9.5nm,0.6s,baz=232,slow=3.2,SNR=3.9
BOSA sP sP 18 32 13.2 +0.4
comp=Z,21nm,0.6s,baz=248,slow=4.5,SNR=7.2
BOSA Boshof 79.38 117 eP P 18 31 54.4 -0.8
comp=Z,47nm,1.0s
BOSA pP pP 18 32 08.2 +0.2
BOSA sP sP 18 32 13.2 +0.4
Q25A Bedland, Calha 79.42 335 ⇑P P 18 31 56.3 +1.3
baz=80
P27A Ficken Ranch, 79.42 336 ⇓P P 18 31 56.0 +1.1
baz=80
MVCO Mesa Verde 79.52 331 eP P 18 31 55.1 -0.5
comp=Z,2.6nm,0.8s
MVCO Mesa Verde 79.52 331 ⇑P P 18 31 56.9 +1.2
baz=80
BC3 Big Chuckawall 79.60 324 ⇓P P 18 31 57.2 +1.1
baz=80
O28A Krutsinger Ran 79.68 337 ⇓P P 18 31 57.6 +1.4
baz=80
BGNE Belgrade 79.77 340 ⇓P P 18 31 57.3 +0.7
baz=80
Q24A Divide 79.78 334 ⇑P P 18 31 58.3 +1.1
baz=80
P25A Willow Gulch B 79.92 335 ⇑P P 18 31 58.9 +1.2
baz=80
M31A Lambtecht Ranc 79.94 339 ⇑P P 18 31 58.9 +1.3
baz=80
N29A Votaw Ranch, W 79.95 338 ⇓P P 18 31 58.9 +1.2
baz=80
W13A Hualapai Mount 80.05 326 ⇓P P 18 31 59.6 +1.1
baz=80
PFO Pinyon Flat Ob 80.05 323 ⇑P P 18 31 59.8 +1.3
baz=80
O26A Horse Wrangler 80.29 336 ⇓P P 18 32 00.8 +1.2
baz=80
U15A North Rim 80.44 328 ⇓P P 18 32 01.6 +0.9
baz=81
O25A Wiggins 80.44 335 ⇑P P 18 32 01.8 +1.4
baz=81
OGNE Ogallala 80.50 337 ⇑P P 18 32 02.1 +1.4
baz=81
N27A Anderson Farm, 80.54 337 ⇓P P 18 32 02.5 +1.6
baz=81
GMRC Granite Mounta 80.62 325 ⇓P P 18 32 02.8 +1.3
baz=81
L31A Butterfield Fa 80.67 340 ⇓P P 18 32 03.0 +1.5
baz=81
ISCO Idaho Springs 80.69 334 P P 18 32 00.8 -1.2
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 80.69 334 P P 18 32 00.8 -1.2
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 80.69 334 ⇓P P 18 32 02.6 +0.6
baz=81,SNR=5.9
M28A Bar X Bar Ranc 80.70 338 ⇑P P 18 32 03.3 +1.5
baz=81
L30A Spencer Herefo 80.71 339 ⇓P P 18 32 03.0 +1.2
baz=81
P22A Eagle 80.93 333 ⇑P P 18 32 04.5 +1.3
baz=81
L29A Maesberg Ranch 81.04 339 ⇓P P 18 32 04.7 +1.2
baz=81
BFSC Mount Baldy Ra 81.15 323 ⇑P P 18 32 05.5 +1.2
baz=81
O23A Lake Granby, G 81.16 334 ⇑P P 18 32 05.4 +0.9
baz=81,SNR=7.5
N24A Carr 81.34 335 ⇓P P 18 32 06.2 +1.0
baz=82
O22A Kremmling 81.35 334 ⇑P P 18 32 06.2 +0.7
baz=82,SNR=8.9
K30A Basset 81.35 340 ⇓P P 18 32 06.2 +1.1
baz=82
ECSD EROS Data Cent 81.52 342 eP P 18 32 04.9 -1.0
comp=Z,21nm,0.8s
ECSD EROS Data Cent 81.52 342 ⇓P P 18 32 06.6 +0.6
baz=82
GSC Goldstone 81.59 324 ⇓P P 18 32 07.1 +0.5
baz=82
M25A Palm-Egli Farm 81.61 336 ⇑P P 18 32 07.9 +1.2
baz=82
K29A Lazy Trails An 81.63 339 ⇓P P 18 32 07.8 +1.2

baz=82
LBTB Lobatse 81.65 115 eP P 18 32 07.1 -0.3
LBTB pmax pmax
comp=Z,27nm,0.8s
LBTB Lobatse 81.65 115 P P 18 32 07.3 0.0
comp=Z,34nm,0.9s,baz=252,slow=5.1,SNR=37
LBTB Lobatse 81.65 115 eP P 18 32 07.1 -0.3
comp=Z,27nm,0.8s
N23A Red Feather La 81.78 334 ⇑P P 18 32 08.5 +0.8
baz=82
SHPR Sheep Range 81.79 326 eP P 18 32 07.5 -0.3
comp=Z,32nm,1.6s
EDW2 Edwards Air Fo 81.83 323 ⇑P P 18 32 08.4 +0.5
baz=82
CCUT Cedar City 81.85 328 eP P 18 32 08.2 +0.1
comp=Z,8.1nm,1.0s
N22A Wattenberg Ran 81.88 334 ⇑P P 18 32 09.3 +1.0
baz=82
M24A Cheyenne 81.89 335 ⇑P P 18 32 09.4 +1.2
baz=82
K28A Ten Mile Ranch 81.90 338 ⇑P P 18 32 09.6 +1.6
baz=82
J30A Dallas 81.91 340 ⇓P P 18 32 08.3 +0.3
baz=82
O20A White River Ci 81.95 333 ⇑P P 18 32 09.4 +0.8
baz=82
SRU San Rafael 81.97 330 eP P 18 32 08.6 0.0
SRU pmax pmax
comp=Z,5.0nm,0.7s
SRU San Rafael 81.97 330 eP P 18 32 08.6 0.0
comp=Z,5.4nm,0.7s
OSI Osito Adit 81.98 322 ⇑P P 18 32 09.5 +0.9
baz=82
SPMN St. Paul 82.05 345 ⇓P P 18 32 08.9 +0.2
baz=82
LRMC Laurel Mountai 82.16 324 ⇑P P 18 32 10.7 +1.1
baz=82
M23A Laramie 82.20 335 ⇑P P 18 32 11.0 +1.1
baz=82
L25A Engebretsen Ra 82.22 336 ⇓P P 18 32 11.0 +1.2
baz=82
J29A Okreek 82.23 339 ⇑P P 18 32 10.3 +0.6
baz=82,SNR=6.4
TMUT Trail Mountain 82.40 330 eP P 18 32 10.1 -1.0
comp=Z,3.9nm,0.7s
L24A Wheatland 82.44 336 ⇑P P 18 32 12.2 +1.3
baz=83
M22A Cedar Creek Ra 82.45 334 ⇓P P 18 32 12.0 +0.8
baz=83
J28A Allard Ranch, 82.51 339 ⇓P P 18 32 12.4 +1.2
baz=83
N20A Spence Gulch, 82.57 333 ⇑P P 18 32 12.7 +0.9
baz=83
J27A Elkhorn Farm, 82.59 338 ⇓P P 18 32 12.8 +1.2
baz=83
ISA Isabella 82.69 323 ⇓P P 18 32 13.9 +1.5
baz=83
L23A Garrett 82.77 335 ⇓P P 18 32 13.1 +0.3
baz=83
I29A Vivian Onida 82.79 340 ⇑P P 18 32 12.9 +0.3
baz=83
BRSD Miller 82.80 341 ⇓P P 18 32 13.6 +1.0
baz=83
L22A Ellis Ranch, M 82.95 335 ⇓P P 18 32 14.5 +0.8
baz=83
J26A Sides Ranch, S 82.97 337 ⇑P P 18 32 14.4 +0.8
baz=83
I28A Midland 83.02 339 ⇓P P 18 32 14.9 +1.1
baz=83
VES Vestal, Richgr 83.13 323 ⇓P P 18 32 15.9 +1.4
baz=83
GRAC Grapevine Rang 83.23 325 ⇓P P 18 32 16.0 +1.0
baz=83
URZ Urewera 83.25 228 LR LR 19 01 19.2
comp=Z,87nm,19.0s,baz=161,slow=30
J25A Sunshine Ranch 83.28 337 ⇓P P 18 32 16.2 +1.0
baz=84
K23A Bowen Ranch, D 83.31 336 ⇑P P 18 32 16.3 +0.9
baz=84
H29A Onida 83.31 340 ⇓P P 18 32 15.6 +0.3
baz=84
I27A Quinn 83.34 338 ⇓P P 18 32 16.6 +1.1
baz=84
G30A Faulkton 83.48 341 ⇑P P 18 32 16.6 +0.5
baz=84
R11A Troy Canyon, C 83.50 327 ⇓P P 18 32 18.1 +1.5
baz=84
J24A Dixon Ranch, L 83.50 336 ⇑P P 18 32 17.1 +0.7
baz=84
K22A Casper 83.53 335 eP P 18 32 14.7 -1.9
comp=Z,21nm,1.3s
K22A Casper 83.53 335 ⇓P P 18 32 17.9 +1.3
baz=84
H28A Mission Ridge 83.59 339 ⇑P P 18 32 17.4 +0.6
baz=84
JLU Jordanelle 83.61 331 eP P 18 32 15.8 -1.4
comp=Z,4.6nm,0.7s
K21A Alcova 83.77 334 ⇓P P 18 32 18.5 +0.6
baz=84,SNR=12
I25A Rochford 83.82 337 ⇑P P 18 32 18.7 +0.6
baz=84,SNR=6.2
DUG Dugway 83.82 330 eP P 18 32 15.7 -2.5
DUG pmax pmax
comp=Z,23nm,1.4s
DUG Dugway 83.82 330 eP P 18 32 15.7 -2.5
comp=Z,23nm,1.4s
DUG Dugway 83.82 330 ⇓P P 18 32 19.1 +0.9
baz=84
I24A Kuemmerle Ranc 83.96 337 ⇓P P 18 32 19.6 +0.8
baz=84
RSSD Black Hills 84.00 337 eP P 18 32 16.7 -2.4
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 84.00 337 eP P 18 32 16.7 -2.4
comp=Z,3.5nm,0.8s
F30A Leola 84.11 341 ⇑P P 18 32 19.9 +0.6
baz=84
J22A Midwest 84.18 335 ⇓P P 18 32 20.3 +0.3
baz=84
TOA0 Torodi Ar. Sit 84.25 70 eP P 18 32 19.8 -1.0
TORD Torodi Ar. Bea 84.25 70 P P 18 32 21.1 +0.4
comp=Z,37nm,0.8s,baz=268,slow=4.2,SNR=158
TORD pP pP 18 32 33.8 +0.1
comp=Z,12nm,0.7s,baz=266,slow=4.1,SNR=11
TORD sP sP 18 32 39.6 +1.1
comp=Z,23nm,0.8s,baz=246,slow=4.4,SNR=9.2
F29A Eureka 84.32 341 ⇑P P 18 32 21.7 +1.3
baz=85
J21A Lysite 84.46 335 ⇑P P 18 32 22.3 +0.9
baz=85
HWUT Hardware Ranch 84.50 331 eP P 18 32 21.1 -0.6
comp=Z,8.5nm,0.7s
I22A 9 Mile Ranch, 84.61 336 ⇑P P 18 32 22.4 +0.4
baz=85,SNR=6.5
G26A Maurine 84.62 339 ⇑P P 18 32 22.3 +0.3
baz=85
E30A Jud 84.69 341 ⇑P P 18 32 22.7 +0.5
baz=85
J20A Shoshoni 84.69 334 ⇓P P 18 32 23.6 +1.1
baz=85,SNR=18
PDAR Pinedale Array 84.72 333 P P 18 32 22.5 -0.3
comp=Z,2.8nm,0.7s,baz=135,slow=5.8,SNR=24
H24A Dirks Ranch, A 84.73 337 ⇑P P 18 32 22.8 +0.2
baz=85
G25A Newell 84.78 338 ⇑P P 18 32 23.3 +0.5
baz=85
NVAR Mina Array Bea 84.81 325 P P 18 32 24.1 +0.8
comp=Z,2.9nm,0.7s,baz=153,slow=6.0,SNR=16
NVAR pP pP 18 32 37.2 +0.9
comp=Z,1.9nm,0.8s,baz=145,slow=6.8,SNR=5.0
I21A Big Trails, Te 84.82 335 ⇑P P 18 32 23.3 +0.2
baz=85,SNR=7.1
E29A Napoleon 84.95 341 ⇓P P 18 32 24.6 +1.0
baz=85
J19A Crowheart 84.97 334 ⇑P P 18 32 24.2 +0.2
baz=85,SNR=9.0
H22A Clearmont 85.18 336 ⇑P P 18 32 25.9 +1.0
baz=85
D30A Buchanan 85.21 342 ⇓P P 18 32 25.7 +0.8
baz=86
I20A Worland 85.23 334 ⇑P P 18 32 25.6 +0.5
baz=86,SNR=8.1
D29A Pettibone, Tap 85.39 341 ⇑P P 18 32 26.5 +0.8
baz=86
G23A Biddle 85.40 337 ⇑P P 18 32 25.9 0.0
baz=86
H21A Big Horn, Sher 85.45 336 ⇑P P 18 32 26.3 +0.1
baz=86

I19A Meeteetse 85.61 334 ⇑P P 18 32 28.1 +1.0
baz=86
AGMN Agassiz Nation 85.63 344 eP P 18 32 25.8 -1.1
comp=Z,8.2nm,0.6s
AGMN Agassiz Nation 85.63 344 ⇓P P 18 32 27.3 +0.4
baz=86
E26A Carlson Angus 85.64 339 ⇓P P 18 32 27.1 +0.1
baz=86
H20A Greybull 85.65 335 ⇓P P 18 32 27.5 +0.3
baz=86,SNR=15
F24A Ekalaka 85.68 338 ⇑P P 18 32 27.3 0.0
baz=86
C30A Mose, Pekin 85.69 342 ⇓P P 18 32 27.7 +0.5
baz=86,SNR=6.7
G22A Birney 85.72 336 ⇓P P 18 32 27.6 +0.1
baz=86
D28A Regan 85.77 341 ⇑P P 18 32 28.8 +1.2
baz=86
F23A Volborg 85.87 337 ⇓P P 18 32 28.8 +0.6
baz=86
E25A Miller Ranch, 85.95 339 ⇓P P 18 32 29.6 +1.1
baz=86
G21A Lodge Grass 86.03 336 ⇑P P 18 32 29.3 +0.3
baz=86,SNR=5.6
I17A Pilgrim Ck. 86.09 333 ⇑P P 18 32 30.2 +0.7
baz=86
D26A Manning 86.14 339 ⇓P P 18 32 30.4 +0.9
baz=86,SNR=5.3
H19A Powell 86.16 334 ⇓P P 18 32 30.1 +0.3
baz=86,SNR=5.8
F22A Rosebud 86.20 337 ⇑P P 18 32 30.2 +0.4
baz=86
E24A Baker 86.28 338 ⇑P P 18 32 31.2 +1.0
baz=86
B30A Myrvik Farm, E 86.35 343 ⇑P P 18 32 30.8 +0.4
baz=87,SNR=9.2
G20A Bridger 86.37 335 ⇑P P 18 32 30.6 -0.1
baz=87,SNR=10.0
H18A Shoshone NF, C 86.41 334 ⇓P P 18 32 31.4 +0.3
baz=87,SNR=12
H17A Grant Village 86.50 333 ⇓P P 18 32 32.2 +0.6
baz=87
C27A Sayler Ranch, 86.50 340 ⇓P P 18 32 32.4 +1.1
baz=87
D25A Fairfield 86.51 339 ⇓P P 18 32 32.4 +1.1
baz=87
F21A Absaloka Mine, 86.52 336 ⇑P P 18 32 32.3 +0.8
baz=87
RLMT Red Lodge 86.65 334 eP P 18 32 30.1 -2.1
comp=Z,8.6nm,0.6s
E22A Miles City 86.68 337 ⇑P P 18 32 32.1 -0.1
baz=87
C26A Wahner Farm, P 86.77 340 ⇑P P 18 32 33.5 +1.0
baz=87
D24A Glendive 86.78 338 ⇑P P 18 32 33.7 +1.1
baz=87
A30A Hoffart Farm, 86.80 343 ⇑P P 18 32 33.0 +0.3
baz=87,SNR=6.1
F20A Billings 86.85 335 ⇑P P 18 32 33.2 +0.1
baz=87
B28A Dugan Ranch, T 86.87 341 ⇓P P 18 32 34.3 +1.3
baz=87
YMR Madison River 86.88 333 P P 18 32 31.6 -1.8
comp=Z,18nm,0.9s
A29A Manning Farm, 87.02 342 ⇓P P 18 32 34.3 +0.6
baz=87,SNR=10
B27A Peters Farms, 87.07 341 ⇓P P 18 32 35.2 +1.3
baz=87
D23A Lindsay 87.10 338 ⇓P P 18 32 35.2 +1.0
baz=87
E21A Keefer Ranch, 87.14 336 ⇓P P 18 32 35.1 +0.7
baz=87
F19A Roth Farm, Mol 87.17 335 ⇓P P 18 32 34.5 -0.1
baz=87
C24A Savage 87.18 338 ⇑P P 18 32 35.2 +0.7
baz=87
A28A Rude Farm, Bot 87.27 342 ⇑P P 18 32 35.7 +0.8
baz=88
HLID Hailey 87.29 330 ⇓P P 18 32 36.2 +0.9
baz=88
B26A Jensen Ranch, 87.31 340 ⇓P P 18 32 36.3 +1.1
baz=88
D22A Cohagen 87.39 337 ⇑P P 18 32 36.2 +0.6
baz=88
E20A Meyer Farm, Mu 87.46 336 ⇓P P 18 32 36.4 +0.4
baz=88,SNR=7.8
ULM Lac du Bonnet 87.47 345 P P 18 32 34.0 -1.8
ULM *PP pP 18 32 48.0 -0.8
ULM pmax pmax
comp=Z,10.0nm,1.0s
ULM Lac du Bonnet 87.47 345 P P 18 32 35.3 -0.5
comp=Z,7.7nm,0.8s,baz=182,slow=1.8,SNR=13
ULM pP pP 18 32 48.0 -0.8
comp=Z,3.2nm,0.7s,baz=122,slow=2.9,SNR=3.8
ULM Lac du Bonnet 87.47 345 P P 18 32 34.0 -1.8
comp=Z,10nm,1.0s
ULM pP pP 18 32 48.0 -0.8
B25A Knox Farm, Ray 87.48 340 ⇑P P 18 32 36.4 +0.5
baz=88
A27A Ledoux Ranch, 87.56 341 ⇑P P 18 32 37.5 +1.1
baz=88
D21A La Casta Ranch 87.57 337 ⇓P P 18 32 37.2 +0.7
baz=88
E19A Rath Farm, Rou 87.64 335 ⇓P P 18 32 36.9 0.0
baz=88,SNR=7.2
C23A Lambert 87.66 338 ⇓P P 18 32 37.6 +0.8
baz=88
MCMT McKenzie Canyo 87.73 332 P P 18 32 36.6 -1.0
comp=Z,4.1nm,0.9s
A26A Wade Farm, Ken 87.73 341 ⇑P P 18 32 38.1 +1.0
baz=88
C22A Vida 87.82 338 ⇓P P 18 32 38.4 +0.8
baz=88
DGMT Dagmar 87.96 339 eP P 18 32 37.0 -1.2
comp=Z,32nm,1.0s
DGMT Dagmar 87.96 339 ⇓P P 18 32 39.0 +0.8
baz=88
D20A Manuel Ranch, 87.97 336 ⇑P P 18 32 38.8 +0.4
baz=88,SNR=6.0
A25A Svangstu Ranch 88.07 340 ⇑P P 18 32 39.5 +0.7
baz=88
B23A Brockton 88.19 339 ⇑P P 18 32 40.0 +0.7
baz=88
C21A Desert Coulee 88.28 337 ⇑P P 18 32 40.4 +0.6
baz=88
A24A Westby 88.31 339 ⇓P P 18 32 41.3 +1.4
baz=89
B22A Reddig Ranch S 88.35 338 ⇑P P 18 32 41.0 +0.9
baz=89
MOD Modoc 88.50 326 eP P 18 32 40.1 -1.1
comp=Z,5.8nm,0.7s
A23A Redstone 88.60 339 ⇓P P 18 32 42.1 +0.8
baz=89
B21A Ellsworth Farm 88.78 337 ⇓P P 18 32 43.0 +0.9
baz=89
C19A Slack Wire Ran 88.84 336 ⇑P P 18 32 42.9 +0.4
baz=89
A22A Carney Farms, 88.94 338 ⇓P P 18 32 43.6 +0.7
baz=89
B20A Solberg Farm, 89.11 337 ⇑P P 18 32 44.1 +0.3
baz=89
M04C Macdoel 89.12 325 ⇑P P 18 32 44.9 +0.8
baz=89
LSZ Lusaka 89.24 108 P P 18 32 47.2 +1.9
comp=Z,5.7nm,0.8s,baz=160,slow=2.7,SNR=8.1
A21A Bergtoll Ranch 89.25 338 ⇑P P 18 32 44.7 +0.4
baz=90
B19A Brinkman Farms 89.43 336 ⇓P P 18 32 45.4 +0.2
baz=90
A20A Cobblestone Ra 89.47 337 ⇓P P 18 32 46.0 +0.6
baz=90
SCHQ Schefferville 89.50 3 P P 18 32 44.8 -0.6
comp=Z,5.3nm,0.9s,baz=75,slow=3.3,SNR=5.2
MSO Missoula 89.82 332 ⇑P P 18 32 48.5 +1.4
baz=90
J05D Fort Rock, OR 90.01 326 ⇑P P 18 32 49.0 +0.9
baz=90
G05D Wamic, OR 91.57 327 ⇓P P 18 32 55.9 +0.7
baz=92
MDT Midelt 92.17 51 LR LR 19 14 40.4
comp=Z,212nm,18.9s,slow=36
TAM Tamanrasset 92.96 64 P P 18 33 02.5 +0.1
TAM pmax pmax
comp=Z,8.0nm,0.8s
TAM Tamanrasset 92.96 64 P P 18 33 02.5 +0.1
comp=Z,7.8nm,0.8s
ESDC Sonseca Array 97.01 46 P P 18 33 20.5 +0.2
comp=Z,1.1nm,0.8s,baz=238,slow=3.7,SNR=6.0

DZM Mont Dzumac 100.92 233 eLR LR 19 06 43.3
comp=Z,233nm,25.6s
YKA Yellowknife Ar 103.03 341 Pdiff Pdif 18 33 46.4 -0.2
comp=Z,0.6nm,0.8s,baz=138,slow=4.4,SNR=11
ILAR Eielson Array 115.16 333 PKP PKPdf 18 38 28.0 -0.9
comp=Z,0.7nm,0.9s,baz=174,slow=0.4,SNR=7.5
VYHS Vyhne 115.50 47 ePKIKP PKPdf 18 38 30.6 +0.5
VYHS Vyhne 115.50 47 ePKP PKPdf 18 38 30.6 +0.5
ASAR Alice Springs 116.87 206 PKIKP PKPdf 18 38 32.0 -1.7
ASAR Alice Springs 116.87 206 PKP PKPdf 18 38 31.9 -1.7
comp=Z,0.6nm,0.5s,baz=130,slow=1.5,SNR=17
WRA Warramunga Arr 120.09 208 PKP PKPdf 18 38 38.6 -1.3
comp=Z,1.8nm,0.5s,baz=160,slow=1.7,SNR=33
WRA pPKP pPKPdf 18 38 52.5 -0.9
comp=Z,1.3nm,0.5s,baz=163,slow=1.6,SNR=5.9
BR131 Keskin Array S 122.02 61 ePKPdf PKPdf 18 38 42.7 -0.4
BRTR Keskin Array B 122.02 61 PKP PKPdf 18 38 43.0 -0.1
comp=Z,3.2nm,0.8s,baz=185,slow=3.4,SNR=19
BRTR pPKP pPKPdf 18 38 56.4 -0.2
comp=Z,2.4nm,0.7s,baz=195,slow=2.7,SNR=7.9
AKASG Malin Array Be 122.60 48 PKP PKPdf 18 38 42.3 -1.3
comp=Z,0.8nm,0.5s,baz=264,slow=2.5,SNR=5.6
AKASG pPKP pPKPdf 18 38 55.9 -1.1
comp=Z,0.7nm,0.5s,baz=270,slow=2.6,SNR=3.2
ARCES ARCESS Array B 124.73 25 PKP PKPdf 18 38 46.7 -0.5
comp=Z,2.9nm,0.8s,baz=256,slow=3.6,SNR=3.8
RAYN Ar Rayn 124.80 84 ePKPdf PKPdf 18 38 48.7 -0.1
H11N3 WAKE ISLAND Hy 126.48 270 T T 20 57 57.0
baz=115,slow=78,SNR=9.9
H11N1 WAKE ISLAND Hy 126.49 270 T T 20 57 59.7
baz=115,slow=78,SNR=43
H11N2 WAKE ISLAND Hy 126.50 270 T T 20 58 00.3
baz=115,slow=78,SNR=18
OBN Obninsk 127.91 44 i PKIKP PKPdf 18 38 53.4 -0.2
OBN pmax pmax
comp=Z,10.0nm,1.2s
KIV Kislovodsk 129.72 59 ePKIKP PKPdf 18 38 57.7 +0.1
KIV pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 129.82 59 PKP PKPdf 18 38 58.9 +1.2
comp=Z,3.7nm,1.0s,baz=20,slow=1.9,SNR=5.5
KLMR Klimovskoe 129.98 37 ePKIKP PKPdf 18 38 56.7 -0.7
KLMR pmax pmax
comp=Z,23nm,1.4s
ZEI Tsey 130.31 61 i PKIKP PKPdf 18 38 57.9 -1.0
ZEI pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 133.80 334 i PKIKP PKPdf 18 39 04.0 -0.5
BILL pmax pmax
comp=Z,2.0nm,1.1s
GEYT Alibeck 139.89 71 PKhKP PKPpre 18 39 11.6
comp=Z,1.5nm,0.7s,baz=264,slow=4.2,SNR=5.5
GEYT PKP PKiKP 18 39 18.6 -0.6
comp=Z,3.0nm,0.5s,baz=260,slow=4.2,SNR=8.0
AKTO Aktyubinsk 140.70 51 PKHKP PKPpre 18 39 10.4
AKTO pmax pmax
comp=Z,9.0nm,1.3s
AB31 Akbulak array 142.02 53 i PKHKP PKPpre 18 39 14.5
AB31 pmax pmax
comp=Z,24nm,1.0s
GSI Gunungsitoli 145.08 161 ePKPdf PKPbc 18 39 26.4 +0.3
POO Poona 145.36 109 eP PKPbc 18 39 26.0 -0.9
KSM Kuching 146.66 184 ePKPdf PKPdf 18 39 28.9 -0.5
PSI Prapat 146.86 163 PKIKP PKPdf 18 39 30.0 +0.1
PSI Prapat 146.86 163 PKPbc PKPdf 18 39 30.0 +0.1
comp=Z,33nm,0.9s,baz=298,slow=2.3,SNR=33
BRVK Borovoye 147.68 44 PKP2 PKPbc 18 39 33.0 +0.4
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 147.68 44 ePKPbc PKPbc 18 39 33.0 +0.4
BVA0 Borovoye Array 147.75 44 i PKIKP PKPdf 18 39 30.3 +0.4
BVA0 pmax pmax
comp=Z,16nm,0.9s
BVAR Borovoye Array 147.75 44 PKP PKPdf 18 39 30.3 +0.3
comp=Z,5.9nm,0.8s,baz=304,slow=2.6,SNR=2.1
BVAR PKPbc PKPbc 18 39 33.7 +0.9
comp=Z,9.1nm,0.6s,baz=285,slow=2.3,SNR=8.2
KBL Kabul 147.86 79 ePKP2 PKPbc 18 39 33.1 -0.9
KBL Kabul 147.86 79 ePKPbc PKPbc 18 39 33.1 -0.9
HYB Hyderabad 148.27 116 i PKP PKPdf 18 39 34.0 +2.1
IPM Ipoh 148.96 166 ePKPdf PKPdf 18 39 32.4 -0.7
IPM ePKPbc PKPbc 18 39 35.9 -1.3
YAK Yakutsk 149.70 340 ePKIKP PKPdf 18 39 31.2 -1.6
YAK pmax pmax
comp=Z,34nm,0.9s
YAK Yakutsk 149.70 340 ePKPbc PKPbc 18 39 37.1 -0.4
KK31 Karatay Array 149.72 63 i PKP2 PKPbc 18 39 37.4 -0.8
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 149.72 63 ePKP2 PKPbc 18 39 38.2 0.0
KKAR Karatay Array 149.72 63 ePKPbc PKPbc 18 39 38.2 0.0
KKM Kota Kinabalu 150.34 196 ePKPbc PKPbc 18 39 39.8 -0.9
PKDT Phuket 151.57 159 PKP PKPbc 18 39 43.1 -0.3
AML Almayashu 152.12 65 P PKPbc 18 39 45.0 +0.6
SNR=21
EKS2 Erkin-Say 152.14 64 P PKPdf 18 39 38.5 +1.1
SNR=6.5
EKS2 Erkin-Say 152.14 64 ePKIKP PKPdf 18 39 37.7 +0.3
EKS2 Erkin-Say 152.14 64 ePKPdf PKPdf 18 39 37.6 +0.3
USP Ospenovka 152.61 62 P PKPbc 18 39 45.5 +0.6
SNR=16
AAK Ala-Archa 152.67 63 P PKPbc 18 39 45.9 +0.7
SNR=26
AAK Ala-Archa 152.67 63 PKIKP PKPbc 18 39 45.8 +0.5
AAK pmax pmax
comp=Z,30nm,0.8s
AAK Ala-Archa 152.67 63 PKPbc PKPbc 18 39 46.2 +0.9
comp=Z,28nm,0.8s,baz=177,slow=3.7,SNR=12
AAK Ala-Archa 152.67 63 ePKPbc PKPbc 18 39 46.0 +0.7
UCH Uchtor 152.72 64 P PKPbc 18 39 46.7 +0.9
SNR=20
FRU Bishkek 152.74 63 i PKIKP PKPbc 18 39 46.0 +0.7
CHMS Chumysh 152.82 63 P PKPbc 18 39 45.8 +0.3
SNR=8.6
KBK Karagaybulak 153.00 63 P PKPbc 18 39 46.8 +0.8
SNR=8.6
KZA Kyzart 153.28 65 P PKPbc 18 39 47.8 +0.8
SNR=11
KURK Kurchatov 153.34 45 ePKIKP PKPdf 18 39 38.6 0.0
KURK e 18 39 46.3
KURK Kurchatov 153.34 45 ePKPdf PKPdf 18 39 38.6 0.0
KURK ePKPbc PKPbc 18 39 46.3 +0.1
TKM2 Tokmak 2 153.45 63 P PKPbc 18 39 47.4 +0.4
SNR=8.3
TKM2 Tokmak 2 153.45 63 PKIKP PKPdf 18 39 39.2 -0.2
TKM2 pmax pmax
comp=Z,2.0nm,0.6s
TKM2 Tokmak 2 153.45 63 ePKPdf PKPdf 18 39 39.4 0.0
TKM2 ePKPbc PKPbc 18 39 47.1 +0.1
TKM2 ePKPab PKPab 18 39 59.8 +0.3
KSH Kashi 153.92 70 ePKPbc PKPdf 18 39 40.0 -0.1
KSH epPKP pPKPdf 18 39 52.0 -1.5
KSH esPKP 18 39 55.8
KSH SKS SKSdf 18 46 41.5 -2.0
KSH eSKKS SKKSac 18 50 22.5 -0.4
KSH eSS SS 19 03 07.5 -4.2
KSH AMB AMB
comp=Z,56nm,4.2s
ULHL Ulahol 153.99 64 P PKPbc 18 39 49.0 +0.8
SNR=11
ZAA0 Zalesovo Array 154.84 34 ePKPdf PKPdf 18 39 40.0 -0.6
ZALV Zalesovo Beam 154.84 34 PKP PKPdf 18 39 40.2 -0.4
comp=Z,1.8nm,0.7s,baz=239,slow=2.6,SNR=11
ZALV PKPbc PKPbc 18 39 49.6 +0.3
comp=Z,2.4nm,0.7s,baz=306,slow=3.1,SNR=7.5
ZALV pPKP pPKPdf 18 39 57.0 +2.9
comp=Z,6.1nm,0.4s,baz=303,slow=3.4,SNR=20
BOD Bodaibo 156.79 352 ePKP2 PKPab 18 40 12.5 -0.4
BOD pmax pmax
comp=Z,13nm,0.9s
MK31 Makanchi Array 157.14 51 ePKIKP PKPdf 18 39 43.8 -0.2
MK31 Makanchi Array 157.14 51 ePKPdf PKPdf 18 39 43.8 -0.2
MKAR Makanchi Array 157.14 51 PKP PKPdf 18 39 43.9 -0.1
comp=Z,1.9nm,1.0s,baz=297,slow=1.6,SNR=10
MKAR pPKP pPKPdf 18 39 59.1 +1.6
comp=Z,3.0nm,0.8s,baz=252,slow=1.6,SNR=14
MKAR PKPab PKPab 18 40 12.5 -2.3
comp=Z,8.5nm,0.8s,baz=280,slow=2.5,SNR=19
MKAR PP PP 18 43 55.1 +1.2
comp=Z,0.9nm,0.8s,baz=287,slow=4.7,SNR=3.7
KOLN Koldanda 157.75 102 eP PKPdf 18 39 44.8 -0.8
DANN Dangsing 158.12 101 eP PKPdf 18 39 45.9 -0.3
comp=Z,22nm,0.8s
GKN Gorkha 158.68 102 eP PKPdf 18 39 46.1 -0.6
DMN Daman 158.89 104 eP PKPdf 18 39 46.6 -0.5

KKN Kakani 159.10 104 eP PKPdf 18 39 46.7 -0.6
PKIN Phulchoki 159.10 104 eP PKPdf 18 39 46.3 -1.0
PKI Pulchoki 159.11 104 eP PKPdf 18 39 46.5 -0.9
GUN Gumba 159.63 104 eP PKPdf 18 39 47.3 -0.7
RAMN Ramite 159.77 107 eP PKPdf 18 39 47.8 -0.3
JIRN Jiri 159.77 105 eP PKPdf 18 39 47.5 -0.7
comp=Z,5.2nm,0.7s
ODAN Odare 160.34 108 eP PKPdf 18 39 48.5 -0.2
comp=Z,8.2nm,0.7s
TAPN Taplejung 160.83 108 eP PKPdf 18 39 48.7 -0.6
CMAR Chiang Mai Arr 161.60 151 PKP PKPdf 18 39 49.8 -0.2
comp=Z,1.6nm,0.8s,baz=260,slow=2.3,SNR=10.0
CMAR PKPab PKPab 18 40 33.8 -1.0
comp=Z,3.2nm,1.0s,baz=217,slow=6.4,SNR=9.4
WMQ Urumqi 161.79 55 ePKP PKPdf 18 39 50.0 +0.5
WMQ LR LR
comp=Z,200nm,20.2s
WMQ LR LR
comp=Z,160nm,21.8s
WMQ LR LR
comp=Z,230nm,23.2s
TLY Talaya 162.92 10 PKPab PKPab 18 40 40.0 +0.3
comp=Z,2.2nm,0.4s,baz=292,slow=9.0,SNR=3.5
SHL Shillong 163.03 119 eP PKPab 18 40 42.5 +1.2
CN2 Changchun 164.09 309 ePKP PKPdf 18 39 52.5 +0.9
ZAK Zakamensk 164.13 12 ePKP2 PKPab 18 40 44.4 -0.8
ZAK pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 167.03 6 PKPab PKPab 18 40 59.0 +1.0
comp=Z,3.6nm,0.8s,baz=336,slow=3.3,SNR=12
KMI Kunming 169.10 152 PKP PKPdf 18 39 58.3 +1.9
NJ2 Nanjing 170.75 255 ePKP PKPdf 18 39 56.5 -0.3
GYA Guiyang 171.44 170 PKP PKPdf 18 39 57.5 0.0
GYA pPKP pPKPdf 18 40 08.3 -2.7
GYA PKPab PKPab 18 41 20.0 +1.9
GYA PKS PKSdf 18 43 28.3 -1.7
GYA PP PP 18 45 12.0 +4.1
GYA SKKS 18 51 52.5
GYA SS SS 19 06 12.0 +1.6
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=Z,120nm,21.5s
GYA LR LR
comp=Z,110nm,21.7s
GYA LR LR
comp=Z,120nm,24.4s
GTA Gaotai 171.87 54 ePKP PKPdf 18 39 57.8 +0.5
GTA pPKP pPKPdf 18 40 08.0 -2.8
GTA sPKP 18 40 12.3
GTA PKPab PKPab 18 41 21.3 +1.3
HHC Hu-ho-hao-te 173.56 337 ePKP PKPdf 18 39 58.8 +0.9
HHC pPKP pPKPdf 18 40 09.5 -1.9
HHC sPKP 18 40 13.5
HHC PP PP 18 45 21.3 +2.7
HHC SKS SKSdf 18 46 56.3 -1.4
HHC SS SS 19 06 33.3 +1.8
HHC AMB AMB
comp=Z,170nm,6.2s
HHC LR LR
comp=Z,100nm,21.0s
HHC LR LR
comp=Z,170nm,19.1s
HHC LR LR
comp=Z,160nm,22.2s
CD2 Chengdu 174.45 135 PKP PKPdf 18 39 58.8 +0.3
CD2 pPKP pPKPdf 18 40 10.0 -2.0
CD2 sPKP 18 40 13.8
CD2 PKS PKSdf 18 43 29.5 -1.3
CD2 PP PP 18 45 27.0 +3.5
CD2 SKS SKSdf 18 46 56.5 -1.7
CD2 SKKS SKKSac 18 52 07.8 +1.1
CD2 SS SS 19 06 41.3 +0.2
CD2 AMB AMB
comp=Z,240nm,6.4s
LZH Lanzhou 176.17 71 ePKP PKPdf 18 39 57.8 -1.2
LZH pPKP pPKPdf 18 40 08.5 -4.0
LZH sPKP 18 40 12.3

IDC 28 18:25:11.0±0.6, 35.85S×73.30W, h0km, mb4.4/14, mb1 4.5/16, mb1mx4.4/30, mbtmp4.4/16, ML4.2/2, MS3.8/2, Ms1 3.8/2, ms1mx3.3/26, Error ellipse: s-maj=23.3km s-min=14.2km az=80.0
ISCJB 28 18:25:13.9±0.4, 35.80S±0.07×73.30W±0.1, h33km, mb4.7/27, MS3.8/2, Error ellipse: s-maj=14.1km s-min=9.2km az=161.5
BJI 28 18:25:14.5, 35.70S×73.29W, h35km, mB5.1/5, Ms5.0/3, Ms7 4.7/3
NEIC 28 18:25:15.6±0.4, 35.78S×73.38W, h35km, mb4.9/17, Error ellipse: s-maj=13.5km s-min=9.3km az=72.0
ISC 28 18:25:15.6±0.4, 35.77S±0.07×73.3W±0.1, h35km, n56, σ1§54/76, mb4.8/27, 1C, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 5.41 157 Pn Pn 18 26 33.5 -0.3
2.7nm,0.3s,baz=338,slow=14,SNR=5.4
PLCA Lg Lg 18 27 59.3
7.5nm,0.3s,baz=260,slow=18,SNR=4.9
CFAA Coronel Fontan 5.93 47 Pn Pn 18 26 41.0 +0.1
2.6nm,0.3s,baz=219,slow=13,SNR=33
LPAZ La Paz 19.95 15 P Pn 18 29 47.1 +0.1
6.8nm,1.0s,baz=214,slow=4.7,SNR=4.7
LPAZ La Paz 19.95 15 eP P 18 29 46.2 +0.9
17nm,1.3s
SIV San Ignacio 22.53 32 P P 18 30 12.7 +0.2
14nm,0.9s,baz=236,slow=13,SNR=14
RPN Rapa Nui 31.77 276 LR LR 18 41 14.4
comp=Z,158nm,19.1s,slow=30
OTAV Otavalo 36.14 351 P P 18 32 12.8 -2.2
8.8nm,1.2s
RCBR Riachuelo 45.47 58 P P 18 33 32.5 +1.0
8.1nm,1.0s,baz=198,slow=3.2,SNR=3.5
SNAA Sanae 50.36 157 P P 18 34 09.2 +0.5
6.2nm,1.0s,baz=274,slow=6.6,SNR=12
SNAA Sanae 50.36 157 eP P 18 34 08.2 -0.5
28nm,1.1s
QSPA South Pole Qui 54.47 180 P P 18 34 40.3 +0.9
8.6nm,0.9s,baz=135,slow=1.4,SNR=13
SYO Syowa Base 64.61 158⇑eP P 18 35 47.5 -1.4
LPIG La Paz 69.07 324 LR LR 18 59 07.8
comp=Z,74nm,21.6s,baz=186,slow=30
TXAR Lajitas Array 70.78 332 P P 18 36 29.9 +1.5
1.3nm,0.9s,baz=146,slow=9.1,SNR=8.3
WVT Waverly 72.80 348 eP P 18 36 38.2 -2.1
188nm,2.9s
AMTX Amarillo 75.11 336 eP P 18 36 55.5 +1.6
17nm,0.6s
ACSO Alum Creek Sta 76.15 352 eP P 18 37 00.4 +0.8
24nm,1.2s
DBIC Dimbokro 76.74 72 P P 18 37 04.3 +0.8
6.3nm,0.6s,baz=209,slow=6.8,SNR=14
DBIC Dimbokro 76.74 72 eP P 18 37 04.4 +0.8
8.2nm,0.8s
ANMO Albuquerque 76.85 333 eP P 18 37 04.8 +0.8
4.5nm,1.2s
TSUM Tsumeb 79.74 106 P P 18 37 21.9 +1.5
1.0nm,0.7s,baz=229,slow=11,SNR=3.3
BOSA Boshof 80.17 118 P P 18 37 22.8 +0.1
8.1nm,0.9s,baz=233,slow=4.2,SNR=9.7
CCUT Cedar City 81.86 329 eP P 18 37 31.7 +0.4
4.6nm,1.1s
ECSD EROS Data Cent 81.92 343 eP P 18 37 29.2 -2.0
7.7nm,0.9s
LBTB Lobatse 82.51 115 P P 18 37 35.1 +0.1
1.1nm,0.7s,baz=256,slow=6.7,SNR=3.9
SPMN St. Paul 82.53 346 eP P 18 37 32.7 -1.6
18nm,0.3s
DUG Dugway 83.88 331 P P 18 37 39.9 -1.7
8.9nm,1.3s
NVAR Mina Array Bea 84.75 326 P P 18 37 48.0 +1.9
1.1nm,0.7s,baz=149,slow=6.0,SNR=6.1
PDAR Pinedale Array 84.88 334 P P 18 37 48.4 +1.7
1.2nm,1.1s,baz=106,slow=4.8,SNR=4.4
TOA0 Torodi Ar. Sit 85.79 71 P P 18 37 51.4 -0.2
TORD Torodi Ar. Bea 85.79 71 P P 18 37 51.9 +0.3
2.4nm,0.9s,baz=242,slow=4.3,SNR=7.4
REDW Red Top Meadow 85.86 334 eP P 18 37 52.2 +0.6
13nm,1.5s
TPAW Teton Pass 86.01 334 eP P 18 37 51.7 -0.6
9.6nm,1.5s
IMW Indian Meadow 86.36 334 eP P 18 37 53.4 -0.7
12nm,1.6s
ULM Lac du Bonnet 87.94 346 P P 18 38 01.9 +0.7
5.9nm,0.9s,baz=187,slow=7.1,SNR=7.4
DGMT Dagmar 88.27 340 eP P 18 38 03.4 +0.5
23nm,1.3s
MOD Modoc 86.36 327 eP P 18 38 03.7 -0.4
24nm,1.8s
VYHS Vyhne 117.05 48 ePKP PKPdf 18 44 00.0 +3.7
VYHS e 18 49 48.4
WRA Warramunga Arr 118.71 210 PKP PKPdf 18 44 00.0 -0.5
0.2nm,0.5s,baz=176,slow=3.3,SNR=4.6
PSI Prapat 146.42 166 PKPbc PKPbc 18 44 53.5 0.0
5.3nm,0.7s,baz=2.6,slow=14,SNR=5.2
HYB Hyderabad 149.07 119 i PKP PKPbc 18 45 00.0 -0.5
BVAR Borovoye Array 149.28 44 PKPbc PKPbc 18 45 01.3 +1.3
0.9nm,0.6s,baz=316,slow=3.7,SNR=6.5
YAK Yakutsk 150.01 338 ePKPbc PKPbc 18 45 01.7 +0.3
AAK Ala-Archa 154.24 65 PKPab PKPab 18 45 27.1 +1.1
1.7nm,0.7s,baz=188,slow=8.9,SNR=5.3
TGY Tagaytay City 154.91 214 PKP PKPdf 18 45 03.3 -1.9
200nm,0.4s,baz=270,slow=3.8,SNR=6.0
KSH Kashi 155.46 72 ePKP PKPdf 18 45 06.5 +1.1
KSH epPKP pPKPdf 18 45 16.3 -0.5
KSH esPKP 18 45 21.8
KSH eSKS SKSdf 18 52 07.5 -1.7
KSH eSKKS SKKSac 18 55 54.0 -1.0
KSH SS SS 19 08 50.8 -1.4
KSH AMB AMB
comp=Z,120nm,4.0s
ZALV Zalesovo Beam 156.28 33 PKP PKPdf 18 45 06.1 +0.3
1.9nm,0.9s,baz=262,slow=4.3,SNR=3.8
ZALV PKPab PKPab 18 45 35.5 +1.5
1.9nm,0.7s,baz=316,slow=4.1,SNR=6.4
MKAR Makanchi Array 158.70 51 PKPab PKPab 18 45 45.9 +1.2
0.4nm,0.6s,baz=286,slow=4.6,SNR=2.9
WMQ Urumqi 163.36 55 PKP PKPdf 18 45 13.8 -0.5
WMQ LR LR
comp=N,100nm,20.2s
WMQ LR LR
comp=E,150nm,21.6s
WMQ LR LR
comp=Z,150nm,23.2s
KMI Kunming 168.86 161 PKP PKPdf 18 45 19.0 -0.4
NJ2 Nanjing 169.23 253 ePKP PKPdf 18 45 19.0 -0.1
GYA Guiyang 170.72 180 ePKP PKPdf 18 45 20.3 0.0
GYA pPKP pPKPdf 18 45 31.8 0.0
GYA PKPab PKPab 18 46 39.0 +1.0
GYA PKS PKSdf 18 48 51.3 -1.6
GYA PP PP 18 50 30.5 +3.0
GYA SKKS 18 57 11.5
GYA SS SS 19 11 27.3 +0.2
GYA AMB AMB
comp=Z,120nm,8.0s
GYA LR LR
comp=N,120nm,21.9s
GYA LR LR
comp=E,110nm,21.4s
GYA LR LR
comp=Z,120nm,24.6s
HHC Hu-ho-hao-te 173.64 324 ePKP PKPdf 18 45 20.5 -0.7
HHC pPKP pPKPdf 18 45 31.0 -1.7
HHC sPKP 18 45 35.3
HHC PP PP 18 50 45.8 +3.3
HHC SKS SKSdf 18 52 21.0 -0.6
HHC SS SS 19 11 56.0 -0.8
HHC AMB AMB
comp=Z,99nm,6.5s
HHC LR LR
comp=N,130nm,18.7s
HHC LR LR
comp=E,170nm,20.7s
HHC LR LR
comp=Z,140nm,19.7s
CD2 Chengdu 174.57 152 PKP PKPdf 18 45 20.5 -1.2
CD2 pPKP pPKPdf 18 45 32.3 -0.9
CD2 sPKP 18 45 36.0
CD2 PKS PKSdf 18 48 51.3 -2.7
CD2 PP PP 18 50 49.3 +2.6
CD2 SKS SKSdf 18 52 18.0 -4.2
CD2 SKKS SKKSac 18 57 29.8 -1.2
CD2 SS SS 19 12 03.8 -1.4
CD2 AMB AMB
comp=Z,200nm,6.4s
XAN Xi'an 177.48 227 PKP PKPdf 18 45 26.8 +4.5
LZH Lanzhou 177.67 81 ePKP PKPdf 18 45 20.8 -1.6
LZH pPKP pPKPdf 18 45 32.0 -1.9
LZH sPKP 18 45 35.3
LZH PP PP 18 51 00.5 -2.5
LZH AMB AMB
comp=Z,100nm,4.8s

SJA 28 18:28:10.1±1.3, 32.67S×72.72W, h39km±528km, ML4.7
ISCJB 28 18:28:12.9±1.4, 33.04S±0.06×72.25W±0.06, h24km±10km, mb4.3/12, Error ellipse: s-maj=10.4km s-min=8.4km az=36.8
GUC 28 18:28:13.7±0.7, 33.05S×72.15W, h8km±5km, ML4.7
NEIC 28 18:28:16.4±0.5, 32.99S×72.10W, h35km, mb4.2/4, Error ellipse: s-maj=12.7km s-min=8.1km az=91.0
IDC 28 18:28:16.2±0.6, 33.00S×71.89W, h28km±3km, mb4.2/11, mb1 4.3/15, mb1mx4.1/31, mbtmp4.4/15, ML4.6/4, Error ellipse: s-maj=21.3km s-min=15.5km az=73.0
ISC 28 18:28:15.1±0.7, 33.09S±0.07×72.20W±0.05, h28km±4km, n47, σ1§31/52, mb4.5/12, 4C-2D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IHA Instituto Hidr 0.48 82⇓iP Pb 18 28 22.5 -2.6
LNV Longovilo 1.09 143⇑iP Pn 18 28 33.9 -0.7
RCDM Rinconada Maip 1.23 109⇓iP Pn 18 28 35.4 -1.2
RCDM iS Sn 18 28 51.4 -1.0
PEL Peldehue 1.27 93⇑iP Pn 18 28 36.0 -1.2
PEL iS Sn 18 28 53.0 -0.4
PEL AML AML 18 29 00.4
comp=N,23μm,0.3s
STL Santa Lucia 1.35 105⇑iP Pn 18 28 36.4 -1.8
STL iS Sn 18 28 54.1 -1.3
FCH Farellones 1.62 99⇑iP Pn 18 28 41.7 -0.5
FCH iS Sn 18 29 03.7 +1.3
FCH AML AML 18 29 10.3
comp=E,17μm,0.5s
AUSP Uspallata 2.53 71 iP Pn 18 28 55.7 +1.0
AUSP iS Sb 18 29 29.8 -1.1
ARCO CERRO ARCO 2.76 86 iP Pn 18 29 00.3 +2.5
ARCO iS Sb 18 29 38.6 +1.3
ARCO AML AML 18 29 43.4
comp=Z,2μm,0.6s
AAGR Agrelo 2.83 91 iP Pn 18 29 01.9 +3.2
ASAL Salagasta 2.88 81 iP Pn 18 29 02.2 +2.9
ASAL iS Sb 18 29 39.5 -1.2
AVIZ Vizcacheras 3.11 98 iP Pn 18 29 06.1 +3.6
RTCV Cerro Valdivia 3.33 69 iP Pn 18 29 07.5 +2.0
RTCV iP Pn 18 29 07.5 +2.0
CFAA Coronel Fontan 3.67 67 Pn Pn 18 29 12.0 +1.9
comp=Z,12nm,0.3s,baz=236,slow=12,SNR=18
CFAA Lg Lg 18 30 03.7
comp=Z,13nm,0.3s,baz=72,slow=12,SNR=6.4
PLCA Paso Flores 7.74 171 Pn Pn 18 30 07.7 +1.6
comp=Z,2.5nm,0.3s,baz=335,slow=12,SNR=4.6
TRQA Tornquist 9.69 124 ePn Pn 18 30 32.5 -0.2
LVC Limon Verde 10.84 16 Pn Pn 18 30 46.7 -2.1
CPUP Villa Florida 14.57 66 Pn Pn 18 31 37.8 -1.6
comp=Z,3.0nm,0.3s,baz=225,slow=11,SNR=11
CPUP Villa Florida 14.57 66 ePn Pn 18 31 38.4 -1.0
LPAZ La Paz 17.13 13 Pn Pn 18 32 12.3 -0.9
comp=Z,0.3nm,0.3s,baz=175,slow=5.3,SNR=7.0
LPAZ La Paz 17.13 13 ePn Pn 18 32 11.4 -1.8
comp=Z,8.3nm,0.9s
SIV San Ignacio 19.78 33 P P 18 32 42.6 -0.7
comp=Z,0.3nm,0.3s,baz=219,slow=14,SNR=3.7
SAML Samuel 25.43 21 eP P 18 33 39.1 -1.5
comp=Z,8.6nm,0.8s
BDFB Brasilia 27.95 57 P P 18 34 01.3 -2.2
comp=Z,5.0nm,0.5s,baz=228,slow=7.5,SNR=13
ROSC El Rosal 37.79 357 P P 18 35 30.4 +0.8
comp=Z,3.6nm,0.5s,baz=288,slow=20,SNR=2.4
SDV Santo Domingo 41.77 2 eP P 18 36 01.1 -1.3
SNAA Sanae 52.48 158 P P 18 37 25.9 +0.7
comp=Z,1.6nm,0.9s,baz=5.1,slow=20,SNR=5.4
SNAA Sanae 52.48 158 eP P 18 37 25.8 +0.6
comp=Z,1.7nm,0.8s
QSPA South Pole Qui 57.14 180 P P 18 38 01.1 +2.0
comp=Z,5.2nm,1.0s,baz=261,slow=0.6,SNR=8.1
QSPA South Pole Qui 57.14 180 eP P 18 38 00.0 +0.9
comp=Z,1.7nm,0.6s
TXAR Lajitas Array 68.88 331 P P 18 39 18.6 +1.2
comp=Z,0.6nm,0.6s,baz=158,slow=9.3,SNR=6.5
TXAR pP pP 18 39 26.7 +0.6
comp=Z,1.0nm,0.7s,baz=152,slow=7.5,SNR=8.3
DBIC Dimbokro 75.02 72 P P 18 39 53.3 -1.2
comp=Z,3.9nm,0.6s,baz=214,slow=7.2,SNR=10
DBIC pP pP 18 40 02.2 -1.0
comp=Z,1.8nm,0.5s,baz=197,slow=5.0,SNR=3.2
TSUM Tsumeb 79.59 106 P P 18 40 20.7 +0.4
comp=Z,2.8nm,0.8s,baz=227,slow=4.0,SNR=8.1
BOSA Boshof 80.61 118 P P 18 40 25.7 0.0
comp=Z,5.2nm,0.7s,baz=229,slow=3.5,SNR=12
LBTB Lobatse 82.81 115 P P 18 40 37.2 -0.1
comp=Z,4.3nm,0.5s,baz=254,slow=6.3,SNR=14
NVAR Mina Array Bea 83.06 325 P P 18 40 39.7 +1.4
comp=Z,0.5nm,0.7s,baz=138,slow=5.5,SNR=2.9
NVAR pP pP 18 40 48.6 +1.5
comp=Z,1.4nm,0.8s,baz=158,slow=6.4,SNR=4.1
TORD Torodi Ar. Bea 84.03 70 P P 18 40 43.0 -0.5
comp=Z,5.5nm,0.9s,baz=258,slow=4.4,SNR=21
TORD pP pP 18 40 51.6 -0.8
comp=Z,3.7nm,0.9s,baz=264,slow=4.6,SNR=7.1
H11S2 WAKE ISLAND Hyl25.64 270 T T 21 06 06.2
baz=118,slow=75,SNR=16
H11S1 WAKE ISLAND Hyl25.65 270 T T 21 06 22.2
baz=118,slow=75,SNR=18
H11S3 WAKE ISLAND Hyl25.66 270 T T 21 06 19.0
baz=118,slow=75,SNR=14
H11N3 WAKE ISLAND Hyl26.03 271 T T 21 06 44.2
baz=152,slow=74,SNR=4.4
H11N2 WAKE ISLAND Hyl26.05 271 T T 21 06 45.5
baz=122,slow=74,SNR=8.6
BVAR Borovoye Array 146.71 42 PKPbc PKPab 18 47 54.7 -0.4
comp=Z,1.5nm,0.4s,baz=301,slow=2.0,SNR=21
BVAR pPKPbc pPKPbc 18 48 03.7 +0.7
comp=Z,1.4nm,0.5s,baz=286,slow=2.6,SNR=5.9
PSI Prapat 148.74 163 PKPbc PKPbc 18 47 59.9 -0.8
comp=Z,2.4nm,0.5s,baz=160,slow=12,SNR=3.6
HYB Hyderabad 149.43 114 i PKP PKPdf 18 48 00.0 +2.2
AAK Ala-Archa 152.19 60 PKPbc PKPbc 18 48 08.7 +0.6
comp=Z,3.3nm,0.8s,baz=230,slow=2.5,SNR=6.8
AAK pPKPbc PKPab 18 48 18.5 +0.5
comp=Z,2.4nm,0.7s,baz=193,slow=5.2,SNR=4.9
ZALV Zalesovo Beam 153.53 31 PKPbc PKPbc 18 48 10.3 -0.2
comp=Z,1.9nm,0.6s,baz=298,slow=3.2,SNR=9.0
ZALV pPKPbc pPKPbc 18 48 20.4 +0.7
comp=Z,1.4nm,0.6s,baz=290,slow=3.6,SNR=4.4
MKAR Makanchi Array 156.26 47 PKPab PKPab 18 48 34.8 -0.2
comp=Z,1.8nm,0.8s,baz=300,slow=4.3,SNR=12

GUC 28 18:32:09.0±0.6, 33.03S×72.03W, h28km±7km, ML3.7, 3C-1D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IHA Instituto Hidr 0.32 89⇓iP Pb 18 32 17.1 +0.5
IHA iS Sn 18 32 22.9 -0.8
ROCH El Roble 0.85 86⇑iP Pb 18 32 25.7 +0.1
ROCH iS Sn 18 32 38.7 +1.3
ROCH AML AML 18 32 41.6
comp=N,4μm,0.4s
LNV Longovilo 1.06 151⇑iP Pb 18 32 28.8 +0.2
LNV iS Sb 18 32 43.3 +1.2
PEL Peldehue 1.13 96⇑iP Pb 18 32 30.3 +0.3
PEL iS Sb 18 32 46.4 +1.9
PEL AML AML 18 32 52.1
comp=E,6μm,0.3s
STL Santa Lucia 1.23 110 eP Pn 18 32 31.0 +0.5
STL iS Sb 18 32 48.6 +1.4

NIED 28 18:36:00, 25.90N×128.70E, h17km, Mw3.8 Best double couple: $M_0$5.97000×10^{14} NP1:ϕ_s248.00000°, δ35.00000°, λ111.00000°. NP2:ϕ_s42.00000°, δ57.00000°, λ76.00000°.
IDC 28 18:36:26.2±0.9, 25.95N×128.36E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.8/44, mbtmp3.8/12, ML3.4/2, Error ellipse: s-maj=34.7km s-min=15.6km az=81.0
JMA 28 18:36:27.9±0.2, 25.95N×128.66E, h35km±4km, M3.6
ISC 28 18:36:28.4±2.0, 26.00N±0.06×128.53E±0.06, h17km±11km, n34, σ1§35/51, mb4.0/11, Ryukyu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JNTH Nagotoyohara 0.69 319 P Pn 18 36 42.8 -0.7
JNTH S Sn 18 36 54.1 +0.2
JJT2 Tamagusuku 2 0.72 282 P Pn 18 36 43.6 -0.2
JJT2 S Sn 18 36 54.4 -0.1
JOW Kunigami 0.86 345 P Pg 18 36 45.2 -0.1
JOW eS Sn 18 36 57.2 -0.9
JOW Kunigami 0.86 345 Pn Pn 18 36 45.4 -0.5
23nm,0.3s,baz=145,slow=19,SNR=139
JOW Sn Sn 18 36 57.3 -0.9
42nm,0.3s,baz=342,slow=20,SNR=18
JIH Iheya 1.15 334 P Pn 18 36 49.8 0.0
JIH S Sg 18 37 05.4 -0.4
JAGN Aguni-jima 1.30 297 P Pb 18 36 52.3 -0.1
JOKE Okinoerabujima 1.36 1 P Pn 18 36 52.3 -0.4
JOKE S Sn 18 37 09.3 -1.1
JKE Kume jima 2 1.60 282 S Sn 18 37 15.8 -0.5
JTK Tokunoshima 1.82 12 P Pn 18 36 58.3 -0.7
JTK S Sn 18 37 19.4 -2.4
JAMN Amaminishikomi 2.31 14 P Pn 18 37 05.0 -0.7
JAMN S Sn 18 37 31.9 -1.9
JMZ Minamidaito 2 2.43 94 P Pn 18 37 04.3 -3.1
JMZ S Sn 18 37 29.9 -6.8
JAM Amami Oshima 2.59 21 P Pn 18 37 08.4 -1.2
JAM S Sn 18 37 38.9 -1.8
JZK Kikaishima 2.64 29 P Pn 18 37 09.9 -0.4
JZK eS Sn 18 37 41.4 -0.6
JOGS Gusukube 3.08 247 P Pn 18 37 16.7 +0.3
JOGS eS Sn 18 37 51.6 -1.3
JIKM Ikemajima 3.15 251 P Pn 18 37 17.6 +0.2
JIKM eS Sn 18 37 54.0 -0.6
JIRB Irabujima 3.25 250 P Pn 18 37 18.5 -0.2
JIRB eS Sn 18 37 55.9 -1.1
JTJ Tarama 3.72 250 P Pn 18 37 24.4 -0.7
JTJ S Sn 18 38 06.6 -2.0
JISG Ishigakijimahi 4.07 251 P Pn 18 37 28.6 -1.4
JISG S Sn 18 38 14.5 -2.7
JIJ Ishigaki jima 4.30 249 P Pn 18 37 31.4 -1.7
JIJ S Sn 18 38 18.9 -3.9
IRIF Iriomote-Funau 4.66 250 P Pn 18 37 37.8 -0.2
IRIF S Sn 18 38 28.7 -3.0
JNU Nakatsue 7.39 15 Pn Pn 18 38 16.5 +0.9
1.4nm,0.3s,baz=339,slow=4.1,SNR=12
JNU Sn Sn 18 39 36.7 -2.4
0.5nm,0.3s,baz=195,slow=20,SNR=3.6
USRK Ussuriysk Arra 18.38 8 P Pn 18 40 44.5 +2.1
0.1nm,0.3s,baz=183,slow=10,SNR=4.1
SONM Songino Array 27.90 327 P P 18 42 19.9 +2.3
2.2nm,0.7s,baz=142,slow=11,SNR=6.6
MKAR Makanchi Array 41.89 312 P P 18 44 17.8 -0.1
0.7nm,0.6s,baz=96,slow=9.7,SNR=10.0
ZALV Zalesovo Beam 42.60 323 P P 18 44 22.8 -0.7
0.4nm,0.4s,baz=106,slow=8.1,SNR=2.4
WRA Warramunga Arr 46.01 172 P P 18 44 50.8 -0.3
1.6nm,0.7s,baz=353,slow=8.4,SNR=11
ASAR Alice Springs 49.64 174 P P 18 45 19.6 +0.3
1.1nm,0.8s,baz=0.3,slow=8.0,SNR=12
BVAR Borovoye Array 50.63 318 P P 18 45 26.0 -0.5
0.5nm,0.6s,baz=86,slow=7.8,SNR=5.5
FINES FINESS Array B 73.20 331 P P 18 47 58.4 +0.3
1.4nm,0.8s,baz=52,slow=7.5,SNR=4.8
AKASG Malin Array Be 75.89 320 P P 18 48 14.3 +0.3
0.6nm,0.4s,baz=57,slow=6.2,SNR=4.8
BRTR Keskin Array B 77.39 308 P P 18 48 23.4 +0.5
0.9nm,0.8s,baz=112,slow=4.3,SNR=6.1
YKA Yellowknife Ar 78.62 25 P P 18 48 30.3 +1.2
0.1nm,0.7s,baz=291,slow=6.0,SNR=3.0
NB2 NORSAR Subarra 79.64 334 P P 18 48 32.9 -1.9
comp=Z,2.4nm,1.1s,baz=54,slow=5.3
NOA NORSAR Array B 79.64 334 P P 18 48 35.0 +0.2
comp=Z,0.9nm,0.9s,baz=53,slow=5.2,SNR=4.2

ISCJB 28 18:37:23.1±0.5, 37.14S±0.06×73.1W±0.1, h35km, mb4.2/17, Error ellipse: s-maj=12.9km s-min=8.6km az=172.4
IDC 28 18:37:24.0±0.5, 37.16S×73.07W, h28km±3km, mb4.1/13, mb1 4.2/16, mb1mx4.1/31, mbtmp4.2/16, ML4.1/3, Error

ellipse: s-maj=21.7km s-min=12.7km az=83.0
*NEIC **28** 18:37:24.4±0.3, 37.14S×73.18W, h35km, mb4.3/5, Error ellipse: s-maj=10.0km s-min=6.9km az=88.0*
ISC 28 18:37:24.5±0.5, 37.16S±0.07×73.2W±0.1, h35km, n37, σ1.93/52, mb4.1/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.11	151	Pn	Pn	18 38 26.2	+1.4
	2.3nm,0.3s,baz=317,slow=10.0,SNR=11						
PLCA				Lg	Lg	18 39 30.3	
	8.1nm,0.3s,baz=248,slow=14,SNR=5.4						
CFAA	Coronel Fontan	6.87	38	Pn	Pn	18 39 02.6	-0.2
	1.4nm,0.3s,baz=184,slow=13,SNR=6.9						
TRQA	Tornquist	8.91	99	ePn	Pn	18 39 30.7	0.0
	15nm,0.8s						
LVC	Limon Verde	14.95	15	ePn	Pn	18 40 53.3	-0.2
	5.7nm,0.6s						
CPUP	Villa Florida	17.23	56	P	Pn	18 41 22.0	-0.3
	0.3nm,0.3s,baz=225,slow=14,SNR=2.8						
LPAZ	La Paz	21.26	13	P	P	18 42 09.7	+1.3
	4.8nm,0.6s,baz=195,slow=5.6,SNR=12						
LPAZ	La Paz	21.26	13	eP	P	18 42 08.6	+0.2
	7.3nm,0.8s						
SIV	San Ignacio	23.64	30	P	P	18 42 32.4	-0.2
	4.7nm,0.8s,baz=231,slow=8.4,SNR=7.4						
NNA	Nana	25.28	352	P	P	18 42 47.3	-0.4
	4.4nm,0.3s,baz=201,slow=11,SNR=5.2						
SAML	Samuel	29.50	20	eP	P	18 43 24.4	-1.1
	1.8nm,0.6s						
BDFB	Brasilia	30.91	53	P	P	18 43 40.7	+2.6
	2.1nm,0.6s,baz=194,slow=6.9,SNR=3.9						
ROSC	El Rosal	41.81	358	P	P	18 45 13.3	+2.0
	3.0nm,0.4s,baz=90,slow=20,SNR=3.9						
SDV	Santo Domingo	45.86	3	eP	P	18 45 42.8	-0.8
	6.9nm,0.8s						
SNAA	Sanae	49.03	157	P	P	18 46 08.1	+0.6
	1.1nm,0.6s,baz=293,slow=9.5,SNR=11						
SNAA				pP	pP	18 46 16.1	-1.8
	2.8nm,0.8s,baz=278,slow=6.6,SNR=6.9						
SNAA	Sanae	49.03	157	eP	P	18 46 07.2	-0.3
SNAA				pP	pP	18 46 16.1	-1.8
QSPA	South Pole Qui	53.09	180	P	P	18 46 39.2	+1.0
	4.8nm,0.7s,baz=168,slow=3.0,SNR=18						
QSPA				pP	pP	18 46 47.4	-1.2
	6.0nm,0.8s,baz=278,slow=0.8,SNR=9.2						
QSPA	South Pole Qui	53.09	180	eP	P	18 46 39.0	+0.9
	6.6nm,0.8s						
QSPA				pP	pP	18 46 47.5	-1.2
TEIG	Tepich	58.83	343	eP	P	18 47 18.2	-1.3
VNDA	Vanda	60.83	192	P	P	18 47 32.2	-0.4
TXAR	Lajitas Array	72.07	332	P	P	18 48 46.0	+0.9
	1.4nm,0.9s,baz=150,slow=9.7,SNR=9.7						
TXAR				pP	pP	18 48 54.9	-1.1
	0.8nm,0.6s,baz=160,slow=7.6,SNR=5.8						
DBIC	Dimbokro	77.05	71	P	P	18 49 14.5	+0.2
	9.8nm,0.6s,baz=206,slow=5.5,SNR=22						
DBIC				pP	PcP	18 49 23.5	-1.6
	5.4nm,0.6s,baz=214,slow=6.5,SNR=4.9						
DBIC	Dimbokro	77.05	71	eP	P	18 49 13.6	-0.7
DBIC				pP	PcP	18 49 23.5	-1.6
ANMO	Albuquerque	78.14	333	eP	P	18 49 20.4	+0.3
	2.8nm,1.0s						
BOSA	Boshof	79.41	118	P	P	18 49 26.6	-0.8
	2.2nm,0.8s,baz=140,slow=7.9,SNR=3.9						
NVAR	Mina Array Bea	85.97	326	P	P	18 50 02.6	+1.5
	0.8nm,0.7s,baz=163,slow=4.8,SNR=6.0						
TORD	Torodi Ar. Bea	86.13	70	P	P	18 50 01.9	-0.3
	0.9nm,0.8s,baz=223,slow=4.1,SNR=6.9						
TORD				pP	pP	18 50 10.8	-2.5
	2.8nm,0.9s,baz=243,slow=4.2,SNR=8.8						
PDAR	Pinedale Array	86.18	334	P	P	18 50 02.2	+0.1
	0.6nm,0.7s,baz=166,slow=5.5,SNR=6.2						
ULM	Lac du Bonnet	89.31	346	P	P	18 50 15.6	-1.0
	1.6nm,0.8s,baz=138,slow=4.1,SNR=4.1						
BRG	Berggiesshubel	116.08	45	e(P)	Pdif	18 52 25.9	+8.9
	1.9nm,0.9s						
ILAR	Eielson Array	116.58	333	PKP	PKPdf	18 56 03.3	-0.4
	0.2nm,0.6s,baz=173,slow=2.4,SNR=3.7						
WRA	Warramunga Arr	117.57	209	PKP	PKPdf	18 56 06.3	-0.9
	0.5nm,0.9s,baz=154,slow=1.7,SNR=6.7						
BRTR	Keskin Array B	124.11	63	PKP	PKPdf	18 56 19.0	-0.2
	0.8nm,0.6s,baz=201,slow=3.2,SNR=6.4						
BRTR				pPKP	pPKPdf	18 56 28.3	-2.3
	1.1nm,0.7s,baz=180,slow=4.4,SNR=5.9						
PSI	Prapat	145.04	166	PKP	PKPab	18 56 57.8	-0.4
	10.0nm,0.8s,baz=220,slow=1.5,SNR=11						
PSI				pPKP	PKiKP	18 57 06.8	+4.1
	8.8nm,0.6s,baz=185,slow=6.8,SNR=5.3						
HYB	Hyderabad	148.27	121	iPKP	PKPdf	18 57 06.5	+2.5
BVAR	Borovoye Array	150.16	46	PKPbc	PKPbc	18 57 11.6	+0.6
	2.0nm,0.8s,baz=317,slow=3.1,SNR=12						
BVAR				pPKPbc	PKPab	18 57 20.8	+3.6
	5.0nm,1.0s,baz=270,slow=3.0,SNR=11						
ZALV	Zalesovo Beam	157.35	35	PKP	PKPdf	18 57 15.3	-0.7
	1.2nm,0.8s,baz=0.0,slow=0.1,SNR=5.7						
ZALV				pPKP	pPKPdf	18 57 25.1	-2.4
	2.4nm,0.8s,baz=260,slow=2.7,SNR=6.6						
ZALV				PKPab	PKPab	18 57 47.8	+0.2
	1.7nm,0.6s,baz=312,slow=4.4,SNR=6.1						
MKAR	Makanchi Array	159.43	54	PKP	PKPdf	18 57 18.6	-0.2
	0.9nm,0.8s,baz=270,slow=0.5,SNR=11						
MKAR				pPKP	pPKPdf	18 57 28.2	-2.2
	1.1nm,0.8s,baz=264,slow=1.2,SNR=9.0						
MKAR				PKPab	PKPab	18 57 56.1	-0.7
	0.8nm,0.8s,baz=276,slow=4.3,SNR=5.8						

*ISCJB **28** 18:38:26.7±0.5, 34.44S±0.05×71.98W±0.08, h16km, mb4.2/9, Error ellipse: s-maj=10.3km s-min=6.0km az=31.7*
*IDC **28** 18:38:26.3±0.7, 34.36S×71.95W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/28, mbtmp4.1/9, Error ellipse: s-maj=34.5km s-min=19.2km az=74.0*
*GUC **28** 18:38:28.5±0.5, 34.18S×72.01W, h21km±7km, ML4.5*
*NEIC **28** 18:38:31.0±0.4, 34.43S×71.98W, h35km, mb4.3/3, Error ellipse: s-maj=14.4km s-min=7.7km az=74.0*
ISC 28 18:38:28.4±0.6, 34.38S±0.06×71.97W±0.08, h16km, n30, σ0.92/34, mb4.2/9, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.62	48	⇑iP	Pg	18 38 39.7	-1.0
RCDM	Rinconada Maip	1.31	48	eP	Pn	18 38 50.9	-1.2
SAN	Santiago	1.42	50	⇓iP	Pn	18 38 53.0	-0.7
SAN				iS	Sn	18 39 11.6	-0.6
ROCH	El Roble	1.61	30	⇑iP	Pn	18 38 55.9	-0.6
ROCH				iS	Sn	18 39 16.2	-0.8
ROCH				AML	AML	18 39 21.4	
	comp=N,12μm,0.5s						
PEL	Peldehue	1.63	41	eP	Pb	18 38 57.5	-0.6
PEL				iS	Sn	18 39 16.9	-0.3
PEL				AML	AML	18 39 22.1	
	comp=N,18μm,0.5s						
FCH	Farellones	1.74	54	eP	Pg	18 39 01.9	-0.1
FCH				iS	Sg	18 39 25.6	+0.9
FCH				AML	AML	18 39 28.3	
	comp=N,5μm,0.5s						
PLCA	Paso Flores	6.45	170	Pn	Pn	18 40 01.4	-1.4
TRQA	Tornquist	8.87	117	Pn	Pn	18 40 36.7	+0.7
LVC	Limon Verde	12.02	14	Pn	Pn	18 41 20.7	+1.2
LPAZ	La Paz	18.34	12	P	P	18 42 45.1	+2.2
	comp=N,0.7nm,0.3s,baz=195,slow=13,SNR=4.7						
SIV	San Ignacio	20.77	31	P	P	18 43 08.4	-0.3
	comp=N,4.3nm,0.6s,baz=232,slow=12,SNR=5.7						
NNA	Nana	22.73	348	P	P	18 43 31.1	+1.3
	comp=N,8.4nm,0.8s,baz=182,slow=7.6,SNR=4.1						
SDV	Santo Domingo	43.04	2	P	P	18 46 26.9	-0.8
SNAA	Sanae	51.22	158	P	P	18 47 30.5	-0.3
	comp=N,1.3nm,0.9s,baz=250,slow=12,SNR=2.7						
SNAA	Sanae	51.22	158	P	P	18 47 26.6	-4.2
	comp=N,1.6nm,0.8s						
QSPA	South Pole Qui	55.86	180	P	P	18 48 06.6	+1.6
	comp=N,5.4nm,0.9s,baz=142,slow=6.8,SNR=5.4						
QSPA	South Pole Qui	55.86	180	eP	P	18 48 04.8	-0.2
	comp=N,3.4nm,1.0s						
TEIG	Tepich	56.47	342	P	P	18 48 09.5	-0.1
TXAR	Lajitas Array	70.09	331	P	P	18 49 40.1	+0.2
	comp=N,0.5nm,0.5s,baz=157,slow=8.7,SNR=10.0						
WVT	Waverly	71.69	347	eP	P	18 49 48.5	-0.8
	comp=N,8.8nm,1.0s						
ANMO	Albuquerque	76.14	331	P	P	18 50 15.5	-0.2
BOSA	Boshof	79.84	118	P	P	18 50 37.5	+0.9
	comp=N,4.8nm,0.9s,baz=236,slow=2.8,SNR=5.9						
PDAR	Pinedale Array	84.12	333	P	P	18 50 58.5	-0.2
	comp=N,0.7nm,0.7s,baz=145,slow=9.9,SNR=4.1						
NVAR	Mina Array Bea	84.22	325	P	P	18 51 00.4	+1.2
	comp=N,0.9nm,0.7s,baz=134,slow=5.2,SNR=3.9						
TORD	Torodi Ar. Bea	84.28	70	P	P	18 50 60.0	+0.2
	comp=N,1.3nm,0.7s,baz=258,slow=4.1,SNR=4.0						
YKA	Yellowknife Ar	102.43	341	P	Pdif	18 52 22.1	-0.7
	comp=N,0.3nm,0.7s,baz=141,slow=4.8,SNR=4.4						
WRA	Warramunga Arr	120.46	209	PKP	PKPdf	18 57 18.9	-0.9
	comp=N,0.4nm,0.5s,baz=156,slow=1.8,SNR=4.7						
BVAR	Borovoye Array	147.51	43	PKPbc	PKPab	18 58 12.0	-1.4
	comp=N,2.1nm,0.4s,baz=286,slow=2.4,SNR=21						
ZALV	Zalesovo Beam	154.51	33	PKPbc	PKPbc	18 58 27.2	-0.5
	comp=N,1.7nm,0.6s,baz=324,slow=3.6,SNR=5.1						
ZALV				PKPab	PKPab	18 58 42.4	+0.1
	comp=N,1.2nm,0.5s,baz=307,slow=5.5,SNR=3.3						
MKAR	Makanchi Array	156.96	50	PKPab	PKPab	18 58 53.1	0.0
	comp=N,0.5nm,0.6s,baz=283,slow=4.6,SNR=3.5						

*IDC **28** 18:43:22.1±1.5, 34.20S×71.47W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/35, mbtmp4.1/5, ML4.1/1, Error ellipse: s-maj=77.8km s-min=25.9km az=108.0*
*ISCJB **28** 18:43:24.0±1.7, 34.11S±0.09×72.3W±0.1, h35km±16km, mb4.2/3, Error ellipse: s-maj=16.8km s-min=14.7km az=136.9*
*GUC **28** 18:43:24.3±0.7, 34.07S×72.23W, h34km±9km, ML4.4*
ISC 28 18:43:26.9±3.1, 34.1S±0.1×72.2W±0.2, h48km±23km, n15, σ1.27/21, mb4.1/3, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.10	23	⇑iP	Pn	18 43 44.5	-1.5
IHA				iS	Sn	18 43 59.8	-0.2
RCDM	Rinconada Maip	1.25	64	⇑iP	Pn	18 43 46.8	-1.2
RCDM				iS	Sn	18 44 04.3	+0.6
STL	Santa Lucia	1.39	65	eP	Pn	18 43 48.6	-1.4
STL				eS	Sn	18 44 07.6	+0.3
ROCH	El Roble	1.43	42	⇓iP	Pn	18 43 50.1	-0.6
ROCH				iS	Sn	18 44 09.9	+1.4
ROCH				AML	AML	18 44 17.0	
	comp=N,8μm,0.6s						
PEL	Peldehue	1.52	54	⇑iP	Pn	18 43 51.9	+0.2
PEL				iS	Sn	18 44 12.4	+2.1
PEL				AML	AML	18 44 21.3	
	comp=N,12μm,0.5s						
FCH	Farellones	1.71	66	⇑iP	Pn	18 43 54.6	+0.1
FCH				iS	Sn	18 44 16.9	+1.5
FCH				AML	AML	18 44 23.2	
	comp=N,6μm,0.3s						
CFAA	Coronel Fontan	4.09	55	Pn	Pn	18 44 27.2	+0.1
	comp=N,0.6nm,0.3s,baz=221,slow=16,SNR=5.6						
CFAA				Lg	Lg	18 45 23.5	
	comp=N,0.8nm,0.3s,baz=220,slow=5.5,SNR=3.2						
LPAZ	La Paz	18.05	13	P	P	18 47 36.2	+1.3
	comp=N,0.3nm,0.3s,baz=174,slow=8.5,SNR=6.8						
SIV	San Ignacio	20.56	32	P	P	18 48 00.9	-0.8
	comp=N,2.4nm,0.6s,baz=207,slow=9.9,SNR=6.7						
BDFB	Brasilia	28.43	56	P	P	18 49 14.7	-2.7
	comp=N,1.6nm,0.5s,baz=180,slow=7.1,SNR=3.1						
QSPA	South Pole Qui	56.19	180	P	P	18 53 02.5	+0.8
	comp=N,2.8nm,0.9s,baz=159,slow=2.2,SNR=7.1						
TORD	Torodi Ar. Bea	84.31	70	P	P	18 55 54.6	+0.6
	comp=N,1.8nm,0.9s,baz=236,slow=3.3,SNR=7.8						
BVAR	Borovoye Array	147.38	43	PKPbc	PKPab	19 03 06.2	-0.6
	comp=N,1.1nm,0.5s,baz=297,slow=2.6,SNR=10						
ZALV	Zalesovo Beam	154.31	32	PKPbc	PKPbc	19 03 22.1	+0.9
	comp=N,1.6nm,0.6s,baz=309,slow=4.0,SNR=7.4						
ZALV				PKPab	PKPab	19 03 36.8	+1.4
	comp=N,0.9nm,0.4s,baz=316,slow=6.2,SNR=5.1						
MKAR	Makanchi Array	156.86	49	PKPab	PKPab	19 03 46.5	-0.2
	comp=N,0.4nm,0.7s,baz=275,slow=4.3,SNR=4.4						

*ISCJB **28** 18:44:27.0±2.5, 36.77S±0.04×72.57W±0.07, h19km±17km, mb5.0/97, MS3.8/6, Error ellipse: s-maj=10.3km s-min=5.8km az=152.0*
*MOS **28** 18:44:29.4±1.2, 36.71S×72.63W, h33km, mb5.3/28, Error ellipse: s-maj=17.8km s-min=8.1km az=99.8*
*BJI **28** 18:44:29.5, 37.10S×72.49W, h39km, mB5.2/12, Ms5.6/8, Ms7 5.4/9*
*NEIC **28** 18:44:30.3±0.2, 36.79S×72.73W, h35km, mb5.1/83, Error ellipse: s-maj=8.0km s-min=5.4km az=63.0*
*IDC **28** 18:44:30.1±0.5, 36.89S×72.84W, h30km±3km, mb4.6/19, mb1 4.7/22, mb1mx4.6/38, mbtmp4.8/22, ML4.6/3, MS3.9/8, Ms1 4.0/8, ms1mx3.8/23, Error ellipse: s-maj=16.3km s-min=11.8km az=72.0*
ISC 28 18:44:30.0±0.4, 36.83S±0.05×72.78W±0.07, h34km±1km, h34km:pP-P, n619, σ1.13/677, mb5.0/97, MS3.8/6, 181C-193D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.27	157	eP	Pn	18 45 32.1	-0.6
PLCA				e		18 46 21.1	
PLCA	Paso Flores	4.27	157	Pn	Pn	18 45 34.5	+1.7
	12nm,0.3s,baz=325,slow=11,SNR=20						
PLCA				Lg	Lg	18 46 41.8	
	60nm,0.3s,baz=250,slow=21,SNR=3.6						
PLCA	Paso Flores	4.27	157	ePn	Pn	18 45 32.1	-0.6
PLCA				eSn	Sn	18 46 21.1	-0.3
PLCA				Lg	Lg	18 46 41.8	
CFAA	Coronel Fontan	6.42	37	Pn	Pn	18 46 04.2	+2.0
	1.7nm,0.3s,baz=151,slow=13,SNR=2.6						
CFAA				Sn	Sn	18 47 18.0	+3.5
	3.5nm,0.3s,baz=319,slow=20,SNR=4.3						
CFAA				LR	LR	18 48 40.2	
	comp=Z,212nm,18.8s,baz=220,slow=38						
TRQA	Tornquist	8.68	101	ePn	Pn	18 46 33.2	0.0
	36nm,0.8s						
TRQA				eSn	Sn	18 48 08.5	-1.4
LVC	Limon Verde	14.55	14	ePn	Pn	18 47 50.8	-3.0
CPUP	Villa Florida	16.79	56	eP	Pn	18 48 21.5	-1.1
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CPUP	Villa Florida	16.79	56	Pn	P	18 48 25.1	+0.7
	comp=Z,1.4nm,0.3s,baz=207,slow=12,SNR=7.1						
CPUP				LR	LR	18 55 43.2	
	comp=Z,1μm,18.0s,baz=212,slow=40						
CPUP	Villa Florida	16.79	56	ePn	Pn	18 48 21.5	-1.1
	comp=Z,0.6nm,0.6s						
USHA	Ushuaia	18.25	172	P	P	18 48 42.8	+2.3
	comp=Z,1.8nm,0.3s,baz=327,slow=11,SNR=9.2						
ARE	Arequipa	20.32	4	eP	Pn	18 49 06.0	+0.2
ARE	Arequipa	20.32	4	eP	Pn	18 49 06.0	+0.2
LPAZ	La Paz	20.87	13	eP	P	18 49 08.2	-1.6
LPAZ				pmax	pmax		
	comp=Z,22nm,0.6s						
LPAZ	La Paz	20.87	13	P	Pn	18 49 12.2	-0.4
	comp=Z,14nm,0.8s,baz=179,slow=8.2,SNR=20						
LPAZ				LR	LR	18 58 42.7	
	comp=Z,375nm,19.8s,baz=162,slow=41						
LPAZ	La Paz	20.87	13	eP	P	18 49 08.2	-1.6
	comp=Z,22nm,0.6s						
SIV	San Ignacio	23.21	30	P	P	18 49 34.5	+0.4
	comp=Z,49nm,1.1s,baz=224,slow=11,SNR=37						
SIV				LR	LR	18 59 31.6	
	comp=Z,389nm,21.9s,baz=229,slow=39						
NNA	Nana	25.00	351	P	P	18 49 51.4	+0.6
	comp=Z,9.7nm,0.6s,baz=197,slow=13,SNR=6.9						
NNA				LR	LR	18 57 37.6	
	comp=Z,234nm,20.7s,baz=179,slow=31						
SAML	Samuel	29.09	20	eP	P	18 50 26.6	-0.9
	comp=Z,5.2nm,0.9s						
ATAH	Atahualpa	29.99	349	P	P	18 50 38.2	+2.3
	comp=Z,5.1nm,0.8s,baz=186,slow=8.1,SNR=5.1						
ATAH				LR	LR	19 00 30.7	
	comp=Z,170nm,19.1s,baz=185,slow=32						
BDFB	Brasilia	30.47	53	eP	P	18 50 38.5	-1.4
BDFB	Brasilia	30.47	53	P	P	18 50 39.5	-0.4
	comp=Z,5.9nm,0.9s,baz=190,slow=5.1,SNR=5.3						
BDFB				LR	LR	19 04 10.4	
	comp=Z,623nm,21.4s,baz=218,slow=39						
BDFB	Brasilia	30.47	53	eP	P	18 50 38.5	-1.4
OTAV	Otavalo	37.25	351	eP	P	18 51 38.7	-0.4
	comp=Z,24nm,1.2s						
ROSC	El Rosal	41.49	358	LR	LR	19 09 09.8	
	comp=Z,136nm,20.3s,baz=206,slow=36						
ROSC	El Rosal	41.49	358	eP	P	18 52 13.9	-0.5
SDV	Santo Domingo	45.51	3	eP	P	18 52 45.3	-1.3
	comp=Z,17nm,0.9s						
RCBR	Riachuelo	45.67	57	P	P	18 52 49.0	+1.3
	comp=Z,11nm,0.9s,baz=184,slow=8.1,SNR=5.9						
VNA3	Neumayer Olymp	46.99	157	P	P	18 53 01.9	+4.5
VNA2	Neumayer--Watz	47.66	156	P	P	18 53 01.9	-0.7
SNAA	Sanae	49.22	157	P	P	18 53 13.4	-1.3
SNAA	Sanae	49.22	157c	iP	P	18 53 15.6	+1.0
SNAA				pmax	pmax		
	comp=Z,22nm,1.0s						
SNAA	Sanae	49.22	157	P	P	18 53 15.3	+0.6
	comp=Z,5.1nm,0.9s,baz=301,slow=7.2,SNR=9.7						
SNAA	Sanae	49.22	157	eP	P	18 53 14.4	-0.2
	comp=Z,31nm,1.2s						
QSPA	South Pole Qui	53.42	180	P	P	18 53 46.8	+0.5
	comp=Z,37nm,0.9s,baz=148,slow=3.3,SNR=45						
QSPA	South Pole Qui	53.42	180	eP	P	18 53 45.8	-0.5
	comp=Z,47nm,1.0s						
QSPA				epP	pP	18 53 57.1	+0.6
NVL	N'lazarevskaya	53.98	156	eP	P	18 53 51.3	+1.2
NVL				pmax	pmax		
	comp=Z,11nm,1.0s						
RKT	Rikitea	54.72	266	eLR	LR	19 09 39.5	
	comp=Z,683nm,31.0s,baz=129						
RKT	Rikitea	54.72	266	eT	T	19 52 10.8	
	comp=Z,1.5nm,0.2s						
SYO	Syowa Base	63.47	158	⇓eP	P	18 54 54.6	-1.5
035A	Encino	67.75	336	⇓P	P	18 55 25.8	+1.7
	baz=68						
MEH	Mehetia	67.90	264	eT	T	20 08 45.7	
	comp=Z,29nm,0.2s						
034A	Hebbronville	68.07	335	⇓P	P	18 55 27.4	+1.3
	baz=68						
934A	Benavides	68.51	336	⇑P	P	18 55 30.3	+1.4
	baz=69						
TIGA	Tifton	68.66	350	⇑P	P	18 55 30.7	+0.9
	baz=69						
738A	Farr-Stevens R	68.76	339	⇓P	P	18 55 31.6	+1.2
	baz=69						
933A	Laredo	68.77	335	⇓P	P	18 55 31.6	+1.0
	baz=69						
834A	Tilden	69.00	336	⇑P	P	18 55 33.8	+1.8
	baz=69						
TIAR	Tiarei	69.10	263	eT	T	20 10 15.2	
	comp=Z,4.9nm,0.3s						
PPT2	Papeete2	69.26	263	eS	S	19 04 35.0	-3.4
	comp=Z,97nm,24.5s						
PPT2	Papeete2	69.26	263	eLR	LR	19 16 22.6	
	comp=Z,485nm,24.2s,baz=113						
735A	Kenedy	69.44	337	⇓P	P	18 55 36.3	+1.7
	baz=70						
833A	Chaparral WMA,	69.47	335	⇓P	P	18 55 36.0	+1.2
	baz=70,SNR=7.6						
832A	Faith Ranch, C	69.63	335	⇑P	P	18 55 36.8	+0.9
	baz=70,SNR=7.1						
734A	La Parita Cree	69.67	336	⇑P	P	18 55 37.9	+1.8
	baz=70						
636A	Smothers Creek	69.78	338	⇓P	P	18 55 38.5	+1.7
	baz=70						
733A	Divot King Ran	69.80	335	⇑P	P	18 55 38.2	+1.3
	baz=70						
HKT	Hockley	69.86	339	eP	P	18 55 37.8	+0.6
HKT				pmax	pmax		
	comp=Z,43nm,1.9s						
HKT	Hockley	69.86	339	eP	P	18 55 37.8	+0.6
	comp=Z,43nm,1.9s						
732A	Laxson Ranch,	70.03	335	⇓P	P	18 55 39.3	+0.9
	baz=70,SNR=6.0						
537A	Green Hill Far	70.12	338	⇓P	P	18 55 40.4	+1.6
	baz=70						
536A	Bastrop	70.34	338	⇓P	P	18 55 41.4	+1.2
	baz=71						
633A	Saathoff Ranch	70.44	336	⇓P	P	18 55 42.2	+1.4
	baz=71						
535A	Dale	70.45	337	⇓P	P	18 55 42.4	+1.6
	baz=71						
438A	Sam Houston St	70.51	339	⇓P	P	18 55 42.7	+1.6
	baz=71						
GOGA	Godfrey	70.58	351	eP	P	18 55 41.2	-0.4
GOGA				pmax	pmax		
	comp=Z,18nm,1.0s						
GOGA	Godfrey	70.58	351	eP	P	18 55 41.2	-0.4
	comp=Z,18nm,1.0s						
632A	Uvalde	70.69	335	⇓P	P	18 55 43.1	+0.8
	baz=71,SNR=8.7						
340A	Bronson	70.71	341	⇓P	P	18 55 43.8	+1.4
	baz=71						
534A	Blanco	70.74	337	⇑P	P	18 55 43.3	+0.7
	baz=71						
339A	Huntington	70.81	340	⇑P	P	18 55 44.2	+1.2
	baz=71						
631A	Perdido Creek	70.87	334	⇓P	P	18 55 44.5	+1.1
	baz=71						
436A	Wall Ranch, Ga	70.91	338	⇑P	P	18 55 45.0	+1.3
	baz=71						
533A	Kerrville	70.96	336	⇑P	P	18 55 45.0	+1.0
	baz=71,SNR=7.1						
338A	Crockett	71.03	340	⇓P	P	18 55 45.9	+1.6
	baz=71						
337A	Centerville	71.16	339	⇑P	P	18 55 47.1	+1.9
	baz=72						
435B	Jarrell	71.16	338	⇑P	P	18 55 46.5	+1.3
	baz=72						
532A	Rocksprings	71.30	335	⇑P	P	18 55 47.2	+1.1
	baz=72,SNR=11						
434A	Burnet	71.40	337	⇓P	P	18 55 47.3	+0.7
	baz=72,SNR=11						
239A	Gary	71.43	341	⇓P	P	18 55 47.8	+1.1
	baz=72						
336A	Riesel	71.50	338	⇑P	P	18 55 48.3	+1.1
	baz=72,SNR=6.4						
531A	Rocksprings	71.55	335	⇑P	P	18 55 48.6	+1.0
	baz=72,SNR=7.6						
335A	Moody	71.58	338	⇑P	P	18 55 48.9	+1.2
	baz=72						
JCT	Junction City	71.59	336	eP	P	18 55 48.0	+0.2
JCT				pmax	pmax		
	comp=Z,28nm,1.1s						
JCT	Junction City	71.59	336	eP	P	18 55 48.0	+0.2
	comp=Z,28nm,1.1s						
JCT	Junction City	71.59	336	⇓P	P	18 55 48.8	+1.0
	baz=72,SNR=7.9						
238A	Jacksonville	71.59	340	⇑P	P	18 55 49.1	+1.3
	baz=72						
433A	Art	71.61	336	⇓P	P	18 55 48.6	+0.7
	baz=72,SNR=5.8						
237A	Washetta, Mont	71.78	340	⇓P	P	18 55 50.2	+1.3
	baz=72						
530A	J-C Ranch, Com	71.81	334	⇑P	P	18 55 50.4	+1.3
	baz=72,SNR=11						
334A	Lometa	71.87	337	⇑P	P	18 55 50.5	+1.1
	baz=72,SNR=8.9						
TXAR	Lajitas Array	71.92	332	P	P	18 55 50.6	+0.7
	comp=Z,4.3nm,0.7s,baz=152,slow=7.9,SNR=35						
TXAR				pP	pP	18 56 00.2	-0.2
	comp=Z,4.8nm,0.8s,baz=155,slow=8.5,SNR=15						
431A	Sonora	72.04	335	⇓P	P	18 55 51.3	+0.8
	baz=72,SNR=6.0						
KMSC	Kings Mountain	72.04	353	eP	P	18 55 50.5	+0.1
	comp=Z,14nm,0.8s						
KMSC	Kings Mountain	72.04	353	eP	P	18 55 50.7	+0.3
	baz=72						
529A	Stev Forest Ra	72.10	333	⇑P	P	18 55 51.5	+0.6
	baz=72,SNR=9.9						
333A	Richland Sprin	72.10	337	⇑P	P	18 55 51.4	+0.6
	baz=72,SNR=5.2						
138A	Matatall Enter	72.20	340	⇑P	P	18 55 52.4	+1.0
	baz=72						
WHTX	Lake Whitney	72.25	338	⇑P	P	18 55 53.0	+1.3
	baz=73						
137A	Heron Place, G	72.33	340	⇓P	P	18 55 53.5	+1.4
	baz=73						
430A	Baggett Ranch,	72.35	335	⇓P	P	18 55 53.1	+0.6
	baz=73,SNR=5.2						
332A	Millersview	72.40	336	⇓P	P	18 55 52.9	+0.3
	baz=73,SNR=7.8						
429A	Davenport Ranc	72.44	334	⇑P	P	18 55 53.6	+0.6
	baz=73,SNR=7.1						
234A	Clairette	72.47	338	⇓P	P	18 55 53.8	+0.8
	baz=73						
331A	San Angelo	72.56	335	⇑P	P	18 55 54.1	+0.5
	baz=73,SNR=6.2						
SWET	Sewanee	72.71	349	eP	P	18 55 52.8	-1.7
	comp=Z,62nm,1.0s						
SWET				epP	pP	18 56 04.0	-0.9
233A	Rising Star	72.72	337	⇑P	P	18 55 55.2	+1.0
	baz=73,SNR=5.9						
CPCT	Cooper Cave	72.73	350	eP	P	18 55 53.9	-0.6
CPCT				epP	pP	18 56 05.2	+0.2
135A	Vickery Place,	72.76	338	⇓P	P	18 55 55.7	+1.0
	baz=73						
232A	Coleman	72.83	336	⇓P	P	18 55 56.0	+0.8
	baz=73,SNR=5.9						
TKL	Tuckaleechee C	72.84	351	eP	P	18 55 54.1	-1.0

TKL Tuckaleechee C 72.84 351 eP P 18 55 54.1 -1.0
330A Mertzon 72.90 335 ⇓P P 18 55 56.3 +0.7
baz=73
134A White-Moore Ra 72.98 338 ⇓P P 18 55 56.6 +0.6
baz=73
231A Bronte 73.09 336 ⇑P P 18 55 57.0 +0.2
baz=73,SNR=5.1
329A Wagon Wheel Ra 73.25 334 ⇑P P 18 55 58.3 +0.5
baz=74,SNR=6.8
133A Hamilton Ranch 73.27 337 ⇑P P 18 55 58.5 +0.7
baz=74
230A Sterling City 73.32 335 ⇓P P 18 55 59.0 +0.9
baz=74
Z35A Perchaven, San 73.44 339 ⇓P P 18 55 59.8 +1.1
baz=74
ABTX Abilene, Hawle 73.51 337 eP P 18 55 59.1 -0.1
comp=Z,21nm,1.0s
ABTX Abilene, Hawle 73.51 337 ⇑P P 18 55 59.8 +0.6
baz=74
MIAR Mount Ida 73.60 342 eP P 18 55 58.9 -0.7
MIAR pmax pmax
comp=Z,12nm,1.1s
MIAR Mount Ida 73.60 342 eP P 18 55 58.9 -0.7
comp=Z,12nm,1.1s
229A Bryant Ranch, 73.63 335 ⇑P P 18 56 00.5 +0.5
baz=74
Z34A Collier Ranch, 73.67 338 ⇑P P 18 56 00.7 +0.6
baz=74
TZTN Tazewell 73.68 351 eP P 18 55 59.4 -0.7
comp=Z,115nm,2.1s
131A Roby 73.80 336 ⇓P P 18 56 01.5 +0.6
baz=74
Z33A Whitaker Ranch 73.85 338 ⇓P P 18 56 01.9 +0.7
baz=74
130A Snyder 73.92 335 ⇓P P 18 56 01.9 +0.3
baz=74
WVT Waverly 73.92 347 eP P 18 55 59.6 -1.8
WVT pmax pmax
comp=Z,33nm,1.1s
WVT Waverly 73.92 347 eP P 18 55 59.6 -1.8
comp=Z,33nm,1.1s
SUR Sutherland 74.00 119 P P 18 56 04.2 +1.6
comp=Z,7.0nm,0.9s,baz=68,slow=1.9,SNR=3.0
228A UT Block 9, Go 74.04 334 ⇓P P 18 56 03.0 +0.6
baz=74,SNR=6.1
Z32A Haskell 74.09 337 ⇑P P 18 56 03.2 +0.6
baz=74,SNR=5.7
Y34A Reagan Ranch, 74.17 339 ⇓P P 18 56 03.4 +0.4
baz=74
Z31A Sharp Cattle R 74.31 336 ⇑P P 18 56 04.5 +0.6
baz=75
128A Castleberry Fa 74.46 334 ⇑P P 18 56 05.3 +0.5
baz=75,SNR=5.7
Y33A Hilltop Ranch, 74.48 338 ⇑P P 18 56 05.2 +0.4
baz=75
Z30A Sanderson Ranc 74.60 336 ⇑P P 18 56 06.2 +0.6
baz=75
MNTX Cornudas Mount 74.69 332 epP pP 18 56 15.2 -1.4
comp=Z,5.8nm,0.9s
Y32A R-V Farms, Ver 74.72 337 ⇑P P 18 56 06.8 +0.6
baz=75
Z29A Hungry Hill Ra 74.77 335 ⇑P P 18 56 06.9 +0.3
baz=75,SNR=9.7
X34A Smith Ranch, M 74.80 339 ⇓P P 18 56 07.4 +0.7
baz=75
127A Arkansas Junct 74.81 334 ⇓P P 18 56 07.4 +0.5
baz=75
X33A Lawton 74.94 338 ⇑P P 18 56 08.2 +0.7
baz=75
Y31A Rekieta Farm, 74.94 337 ⇓P P 18 56 08.1 +0.6
baz=75
Z28A Tucker Farm, M 75.03 335 ⇓P P 18 56 08.3 +0.1
baz=75
PBMO Poplar Bluff 75.04 345 eP P 18 56 07.6 -0.4
comp=Z,15nm,0.8s
X32A Elmer 75.06 338 ⇓P P 18 56 08.9 +0.7
baz=75
Y30A Stafford Cattl 75.07 336 ⇓P P 18 56 08.6 +0.3
baz=75
Y29A Porterfield Fa 75.31 335 ⇓P P 18 56 10.1 +0.4
baz=76
Z27A Tatum 75.34 334 ⇓P P 18 56 10.8 +0.9
baz=76
W34A Bridge Creek, 75.37 339 ⇑P P 18 56 10.4 +0.5
baz=76
TUL1 Tulsa 75.46 341 eP P 18 56 08.6 -1.8
comp=Z,20nm,0.9s
TUL1 Tulsa 75.46 341 ⇓P P 18 56 10.7 +0.3
baz=76
X31A McDonald Ranch 75.47 337 ⇑P P 18 56 10.9 +0.4
baz=76,SNR=5.8
W33A Caddo, Fort Co 75.50 338 ⇓P P 18 56 11.5 +0.9
baz=76,SNR=6.5
Y28A McKinney Farm, 75.55 335 ⇓P P 18 56 11.7 +0.6
baz=76
Z26A Caprock 75.58 333 ⇓P P 18 56 12.0 +0.7
baz=76,SNR=15
X30A Coker Ranch, T 75.58 336 ⇓P P 18 56 12.3 +1.1
baz=76
W32A Sentinel 75.70 338 ⇑P P 18 56 12.3 +0.5
baz=76,SNR=9.5
MSTX Muleshoe 75.78 335 eP P 18 56 12.7 +0.3
comp=Z,13nm,1.0s
MSTX Muleshoe 75.78 335 ⇓P P 18 56 12.9 +0.5
baz=76,SNR=5.2
Y27A Causey 75.84 334 ⇓P P 18 56 13.6 +0.9
baz=76
Z25A Roswell 75.85 333 ⇓P P 18 56 13.6 +0.7
baz=76
V34A Guthrie 75.86 339 eP P 18 56 11.3 -1.4
comp=Z,17nm,1.0s
V34A Guthrie 75.86 339 ⇓P P 18 56 13.5 +0.8
baz=76
319A Douglas 75.97 328 ⇑P P 18 56 14.5 +1.0
baz=76
W31A Holland Ranch, 75.97 337 ⇓P P 18 56 14.1 +0.7
baz=76
V33A Lossen Ranch, 76.06 339 ⇓P P 18 56 14.5 +0.6
baz=76,SNR=5.9
Y26A Elida 76.11 334 ⇓P P 18 56 14.9 +0.6
baz=76,SNR=10
Z24A Sheeppen Canyo 76.13 332 ⇓P P 18 56 15.6 +1.0
baz=76,SNR=7.4
V32A Arapaho 76.19 338 ⇑P P 18 56 16.0 +1.4
baz=76
AMTX Amarillo 76.25 336 ⇓P P 18 56 16.3 +1.3
baz=77
121A Cookes Peak, D 76.36 330 eP P 18 56 14.4 -1.4
comp=Z,17nm,1.1s
121A epP pP 18 56 25.4 -1.1
121A Cookes Peak, D 76.36 330 ⇑P P 18 56 17.5 +1.7
baz=77
Y25A Mesa, Roswell 76.42 333 ⇓P P 18 56 16.7 +0.6
baz=77
U34A Anderson Ranch 76.43 340 eP P 18 56 15.3 -0.6
comp=Z,54nm,1.5s
U34A Anderson Ranch 76.43 340 ⇓P P 18 56 16.6 +0.6
baz=77
W29A Amraillo 76.45 336 ⇓P P 18 56 17.2 +1.0
baz=77
V31A Spring Creek L 76.48 338 ⇓P P 18 56 17.6 +1.3
baz=77
X27A F and S Farms, 76.51 335 ⇑P P 18 56 17.2 +0.6
baz=77
U33A Lingo Farm, Me 76.59 339 ⇓P P 18 56 16.7 -0.1
baz=77
DBIC Dimbokro 76.66 71 eP P 18 56 17.0 -0.8
DBIC *PP pP 18 56 28.2 -0.1
DBIC pmax pmax
comp=Z,26nm,0.8s
DBIC Dimbokro 76.66 71 P P 18 56 19.2 +1.4
comp=Z,18nm,0.6s,baz=205,slow=5.5,SNR=38
DBIC pP pP 18 56 28.2 -0.1
comp=Z,12nm,0.6s,baz=195,slow=5.4,SNR=8.4
DBIC Dimbokro 76.66 71 eP P 18 56 17.0 -0.8
comp=Z,26nm,0.8s
DBIC pP pP 18 56 28.2 -0.1
X26A CR and CF Fran 76.67 334 ⇑P P 18 56 18.2 +0.7
baz=77,SNR=6.4
Z22A Elephant Butte 76.68 331 ⇓P P 18 56 18.9 +1.3
baz=77
BLO Bloomington 76.68 349 eP P 18 56 17.2 -0.1
BLO pmax pmax
comp=Z,18nm,1.0s
BLO Bloomington 76.68 349 eP P 18 56 17.2 -0.1
comp=Z,18nm,1.0s
Y24A Capitan 76.69 333 ⇑P P 18 56 18.4 +0.6
baz=77,SNR=8.6
V30A Spur Ranch, Mi 76.74 337 ⇑P P 18 56 19.1 +1.3
baz=77
U32A Winter Ranch, 76.79 339 ⇓P P 18 56 18.9 +0.9
baz=77
W27A Bowe Ranch, En 76.87 335 ⇑P P 18 56 19.5 +0.9
baz=77,SNR=6.6
Y23A Lovelace Mesa, 76.93 332 ⇑P P 18 56 20.3 +1.3
baz=77,SNR=7.7
V29A Stinnett 77.10 336 ⇑P P 18 56 21.0 +1.2
baz=77
W26A Owens Ranch, T 77.14 334 ⇓P P 18 56 21.2 +1.1
baz=78
V28A Channing 77.22 336 ⇓P P 18 56 21.7 +1.1
baz=78
T33A Patterson Ranc 77.23 339 ⇓P P 18 56 21.3 +0.9
baz=78,SNR=6.6
ACSO Alum Creek Sta 77.25 352 eP P 18 56 20.1 -0.4
comp=Z,25nm,0.8s
X24A Lazy VL Ranch, 77.26 333 ⇓P P 18 56 22.2 +1.3
baz=78
TUC Tucson 77.41 328 eP P 18 56 21.5 -0.2
TUC pmax pmax
comp=Z,13nm,1.2s
TUC Tucson 77.41 328 eP P 18 56 21.5 -0.2
comp=Z,13nm,1.2s
V27A Dan Oppiter Fa 77.43 335 ⇑P P 18 56 22.5 +0.8
baz=78
U30A WK&E Inc. Balk 77.43 337 ⇓P P 18 56 22.6 +0.9
baz=78
LPM Los Pinos Moun 77.48 332 eP P 18 56 21.4 -0.7
LENM Lemitar 77.48 331 eP P 18 56 21.0 -1.1
W25A X Bar L Ranch, 77.50 334 ⇓P P 18 56 22.8 +0.6
baz=78,SNR=8.4
T32A Huddler Ranch, 77.52 339 ⇑P P 18 56 23.4 +1.4
baz=78
U29A Oasis Ranch, S 77.55 337 ⇑P P 18 56 23.4 +1.1
baz=78
X23A Hourglass Bar 77.56 332 ⇑P P 18 56 24.0 +1.4
baz=78
T31A Randall Ranch, 77.66 338 ⇑P P 18 56 23.7 +0.9
baz=78
LAZ Ladron 77.76 331 eP P 18 56 22.9 -0.8
comp=Z,10nm,1.2s
LAZ epP pP 18 56 34.6 +0.4
V26A Tequesquite Ra 77.78 335 ⇓P P 18 56 24.6 +0.9
baz=78
U28A Mallet 77.79 336 ⇓P P 18 56 24.6 +0.9
baz=78
W24A Lazy 6 Ranch, 77.83 333 ⇓P P 18 56 25.2 +1.1
baz=78,SNR=7.2
ANMO Albuquerque 77.98 332 diP P 18 56 25.7 +0.8
ANMO pmax pmax
comp=Z,82nm,1.3s
ANMO Albuquerque 77.98 332 eP P 18 56 24.1 -0.8
214A Organ Pipe Nat 78.00 326 ⇓P P 18 56 26.6 +1.7
baz=78
S32A Newby Ranch, P 78.00 339 ⇓P P 18 56 25.6 +0.9
baz=78
U27A Thompson Grove 78.03 336 ⇑P P 18 56 26.3 +1.2
baz=78
W23A Werner Place, 78.06 333 ⇑P P 18 56 27.0 +1.6
baz=78,SNR=6.2
S31A Mullinville 78.09 339 ⇓P P 18 56 26.1 +0.8
baz=78
V25A Rancho No Teng 78.11 334 ⇓P P 18 56 26.8 +1.1
baz=78,SNR=9.4
T29A Hugoton 78.21 337 ⇓P P 18 56 26.5 +0.6
baz=78
V24A Rampart Ranch, 78.24 333 ⇑P P 18 56 27.1 +0.7
baz=79
R33A Olander Ranch, 78.30 340 ⇑P P 18 56 27.0 +0.6
baz=79
U26A Atchley Ranch, 78.31 335 ⇓P P 18 56 27.4 +0.7
baz=79
S30A Montezuma 78.40 338 ⇓P P 18 56 27.7 +0.7
baz=79
T28A Walsh 78.43 336 ⇓P P 18 56 28.3 +1.0
baz=79,SNR=8.9
U25A Circle Dot Ran 78.55 334 ⇓P P 18 56 29.3 +1.3
baz=79,SNR=7.4
T27A Campo 78.58 336 ⇑P P 18 56 28.9 +0.9
baz=79
S29A Ulysses 78.58 337 ⇓P P 18 56 29.1 +1.1
baz=79
V23A Ortiz Mt. (NFS 78.59 333 ⇑P P 18 56 29.2 +0.9
baz=79
R32A Long Quarter, 78.61 339 ⇑P P 18 56 29.2 +1.1
baz=79
R31A Burdett 78.72 339 ⇑P P 18 56 29.6 +0.9
baz=79
S28A Manter 78.80 337 ⇑P P 18 56 30.1 +0.9
baz=79,SNR=5.7
Q33A Connelly Farm, 78.91 340 ⇑P P 18 56 30.7 +1.0
baz=79
R30A Dighton 78.94 338 ⇑P P 18 56 31.0 +1.1
baz=79
T26A Comanche Natio 78.97 335 ⇑P P 18 56 31.8 +1.5
baz=79,SNR=9.5
X18A Snowflake 78.98 329 ⇑P P 18 56 31.8 +1.4
baz=79
V22A San Miguel Ran 79.01 332 ⇓P P 18 56 32.6 +2.0
baz=79,SNR=16
TSUM Tsumeb 79.03 106 eP P 18 56 31.3 +0.1
comp=Z,20nm,1.4s
Q32A Meitler Ranch, 79.10 340 ⇓P P 18 56 31.9 +1.1
baz=79
U23A El Rito 79.11 333 ⇓P P 18 56 33.0 +1.9
baz=79,SNR=8.7
113A Mohawk Valley, 79.12 326 ⇓P P 18 56 32.5 +1.5
baz=79
T25A Trinidad 79.21 335 ⇓P P 18 56 33.2 +1.5
baz=80,SNR=12
Z14A Wintersburg 79.25 327 ⇑P P 18 56 33.1 +1.4
baz=80
BOSA Boshof 79.30 118 eP P 18 56 30.9 -1.6
BOSA pmax pmax
comp=Z,32nm,1.2s
BOSA Boshof 79.30 118 P P 18 56 32.7 +0.2
comp=Z,8.4nm,0.9s,baz=238,slow=6.6,SNR=9.6
BOSA Boshof 79.30 118 eP P 18 56 30.9 -1.6
comp=Z,32nm,1.2s
R29A Marienthal 79.33 338 ⇓P P 18 56 33.6 +1.6
baz=80
S26A Kim 79.33 336 ⇓P P 18 56 33.8 +1.6
baz=80,SNR=8.9
Q31A Ellis 79.35 339 ⇑P P 18 56 33.2 +1.1
baz=80
U22A Llaves 79.40 333 ⇑P P 18 56 34.1 +1.4
baz=80
W18A Petrified Fore 79.41 330 eP P 18 56 34.8 +2.1
comp=Z,50nm,1.4s
W18A epP pP 18 56 44.7 +1.4
W18A Petrified Fore 79.41 330 ⇓P P 18 56 33.8 +1.0
baz=80
R28A Tribune 79.46 337 ⇓P P 18 56 34.0 +1.2
baz=80,SNR=7.3
T24B San Luis 79.48 334 ⇓P P 18 56 34.9 +1.6
baz=80,SNR=9.0
X16A Lo Mia Camp, P 79.50 328 ⇓P P 18 56 34.9 +1.6
baz=80,SNR=13
Q30A Quinter 79.56 339 ⇓P P 18 56 34.7 +1.3
baz=80,SNR=6.6
T23A Casias Ranch, 79.69 334 ⇑P P 18 56 35.3 +0.9
baz=80
S25A Robets Cordova 79.69 335 ⇑P P 18 56 35.5 +1.3
baz=80,SNR=6.2
P32A Huiting Farm, 79.70 340 ⇑P P 18 56 34.9 +0.9
baz=80
Q29A Oakley 79.71 338 ⇑P P 18 56 35.1 +0.9
baz=80
R27A Eads 79.72 336 ⇓P P 18 56 35.3 +1.0
baz=80,SNR=6.4
Y14A Wickenburg 79.77 327 ⇓P P 18 56 36.0 +1.4
baz=80,SNR=5.7
P31A Stockton 79.82 339 ⇓P P 18 56 35.9 +1.2
baz=80
GLA Glamis 79.84 325 ⇓P P 18 56 36.6 +1.7
baz=80
S24A Houchin Ranch, 79.94 334 ⇓P P 18 56 37.4 +1.6
baz=80,SNR=6.2
R26A Arlington 79.94 336 ⇑P P 18 56 36.9 +1.4
baz=80,SNR=6.8
R25A Fountain Ranch 80.08 335 ⇓P P 18 56 37.6 +1.3
baz=80
P30A Selden 80.09 339 ⇓P P 18 56 37.8 +1.6
baz=80
SDCO Great Sand Dun 80.14 334 eP P 18 56 34.6 -2.1
comp=Z,5.0nm,1.0s
S23A Nye Farm, Mont 80.28 334 ⇓P P 18 56 38.9 +1.4
baz=81
Y12C Blythe 80.28 326 ⇓P P 18 56 39.5 +2.2
baz=81,SNR=5.5
KSCO Kaye Shedlock' 80.33 337 ⇑P P 18 56 38.9 +1.4
baz=81
P29A Atwood 80.35 338 ⇑P P 18 56 39.0 +1.4
baz=81
O31A Woolen Ranch, 80.39 340 ⇑P P 18 56 39.4 +1.6
baz=81
WUAZ Wupatki 80.42 329 eP P 18 56 38.5 +0.3
comp=Z,25nm,1.2s
WUAZ Wupatki 80.42 329 ⇓P P 18 56 39.9 +1.7
baz=81,SNR=6.3
R24A Sanders Place, 80.44 335 ⇓P P 18 56 39.9 +1.6
baz=81,SNR=13
Q26A Hugo 80.53 336 ⇑P P 18 56 40.0 +1.3
baz=81,SNR=5.2
P28A Saint Francis 80.57 338 ⇓P P 18 56 40.5 +1.7
baz=81
PDMCI Parker Dam,Lak 80.57 326 ⇓P P 18 56 40.7 +1.9
baz=81
S22A 4UR Ranch, Cre 80.61 333 ⇑P P 18 56 40.7 +1.4
baz=81,SNR=7.5
BC3 Big Chuckawall 80.63 325 ⇓P P 18 56 41.0 +1.7
baz=81
O30A MW Ranch, Wils 80.63 339 ⇓P P 18 56 40.5 +1.5
baz=81
R23A Moffat 80.65 334 ⇑P P 18 56 41.2 +1.7
baz=81
N32A Stulken Farm, 80.69 341 ⇓P P 18 56 41.2 +1.9
baz=81
MVCO Mesa Verde 80.75 332 eP P 18 56 40.0 0.0
comp=Z,14nm,1.0s
MVCO Mesa Verde 80.75 332 ⇑P P 18 56 41.5 +1.5
baz=81,SNR=9.0
Q25A Bedland, Calha 80.76 336 ⇓P P 18 56 41.5 +1.5
baz=81
O29A 4D Ranch, Culb 80.79 339 ⇓P P 18 56 41.5 +1.6
baz=81
P27A Ficken Ranch, 80.81 337 ⇑P P 18 56 41.6 +1.5
baz=81
IRM Iron Mountain 80.91 326 ⇑P P 18 56 42.6 +1.9
baz=81
PTN Potsdam (NY) 81.04 358 eP P 18 56 42.1 +1.0
PTN pmax pmax
comp=Z,27nm,0.9s
PTN Potsdam (NY) 81.04 358 eP P 18 56 42.1 +1.0
comp=Z,27nm,0.9s
P26A Davis Ranch, A 81.05 337 ⇑P P 18 56 42.9 +1.4
baz=81
PFO Pinyon Flat Ob 81.05 324 P P 18 56 43.8 +2.2
comp=Z,8.2nm,1.0s,baz=110,slow=4.1,SNR=5.4
PFO Pinyon Flat Ob 81.05 324 ⇑P P 18 56 43.8 +2.2
baz=81
O28A Krutsinger Ran 81.08 338 ⇑P P 18 56 43.3 +1.8
baz=81
LONY Lake Ozonia 81.08 359 eP P 18 56 41.3 0.0
comp=Z,239nm,2.8s
Q24A Divide 81.11 335 ⇓P P 18 56 43.4 +1.4
baz=81,SNR=6.3
W13A Hualapai Mount 81.13 327 ⇓P P 18 56 44.0 +2.0
baz=81,SNR=7.7
BGNE Belgrade 81.25 341 eP P 18 56 43.4 +1.1
comp=Z,27nm,0.9s
P25A Willow Gulch B 81.28 336 ⇑P P 18 56 44.5 +1.8
baz=82,SNR=8.0
O27A Beecher Island 81.36 337 ⇑P P 18 56 44.3 +1.3
baz=82
N29A Votaw Ranch, W 81.38 339 ⇓P P 18 56 44.3 +1.2
baz=82
M31A Lambtecht Ranc 81.41 340 ⇑P P 18 56 44.8 +1.6
baz=82
N28A Pribbeno Ranch 81.53 338 ⇑P P 18 56 45.0 +1.2
baz=82
U15A North Rim 81.58 329 ⇑P P 18 56 46.3 +1.8
baz=82,SNR=16
PV01 Paradox Valley 81.59 332 eP P 18 56 43.8 -0.6
comp=Z,980nm,1.1s
PV01 epP pP 18 56 55.4 +0.4
GMRC Granite Mounta 81.66 326 ⇓P P 18 56 46.5 +1.7
baz=82,SNR=5.8
O26A Horse Wrangler 81.66 337 ⇑P P 18 56 46.4 +1.7
baz=82
LBTB Lobatse 81.67 115 eP P 18 56 44.0 -1.2
LBTB pmax pmax
comp=Z,21nm,1.0s
LBTB Lobatse 81.67 115 P P 18 56 45.4 +0.2
comp=Z,13nm,0.7s,baz=226,slow=5.0,SNR=16
LBTB Lobatse 81.67 115 eP P 18 56 44.0 -1.2
comp=Z,22nm,1.0s
P23A Jefferson 81.71 335 ⇓P P 18 56 46.7 +1.5
baz=82
O25A Wiggins 81.80 336 ⇓P P 18 56 47.1 +1.7
baz=82
SMCO Snowmass 81.93 334 eP P 18 56 47.8 +1.4
comp=Z,31nm,1.3s
N27A Anderson Farm, 81.94 338 ⇑P P 18 56 47.8 +1.8
baz=82
PV04 Paradox Valley 81.94 332 eP P 18 56 46.1 -0.1
HEC Hector,Ludlow 82.00 325 ⇓P P 18 56 48.4 +1.9
baz=82
ISCO Idaho Springs 82.02 335 eP P 18 56 46.8 0.0
ISCO pmax pmax
comp=Z,5.0nm,0.9s
ISCO Idaho Springs 82.02 335 eP P 18 56 46.8 0.0
comp=Z,5.0nm,0.9s
ISCO Idaho Springs 82.02 335 ⇑P P 18 56 48.1 +1.4
baz=82
M28A Bar X Bar Ranc 82.13 339 ⇑P P 18 56 49.4 +2.4
baz=82
BFSC Mount Baldy Ra 82.14 324 ⇓P P 18 56 48.6 +1.3
baz=82
L31A Butterfield Fa 82.15 341 ⇓P P 18 56 48.3 +1.2
baz=82
N26A Koester Ranch, 82.17 337 ⇑P P 18 56 48.5 +1.2
baz=82
L30A Spencer Herefo 82.17 340 ⇓P P 18 56 48.7 +1.4
baz=82
P22A Eagle 82.23 334 ⇓P P 18 56 49.1 +1.3
baz=82
N25A Grover 82.43 337 ⇑P P 18 56 49.4 +0.7
baz=83
O23A Lake Granby, G 82.49 335 ⇑P P 18 56 50.5 +1.3
baz=83,SNR=7.5
L29A Maesberg Ranch 82.49 340 ⇓P P 18 56 50.2 +1.3
baz=83
GSC Goldstone 82.61 325 eP P 18 56 50.7 +1.0
GSC pmax pmax
comp=Z,11nm,1.0s
GSC Goldstone 82.61 325 eP P 18 56 50.7 +1.0
comp=Z,11nm,1.0s
GSC Goldstone 82.61 325 ⇑P P 18 56 51.8 +2.1
baz=83
O22A Kremmling 82.66 335 ⇑P P 18 56 51.1 +1.0
baz=83,SNR=10
N24A Carr 82.70 336 ⇓P P 18 56 51.5 +1.4
baz=83
EDW2 Edwards Air Fo 82.82 324 ⇓P P 18 56 52.3 +1.5
baz=83
K30A Basset 82.82 340 ⇑P P 18 56 51.9 +1.3
baz=83,SNR=6.9
SHPR Sheep Range 82.87 327 eP P 18 56 50.5 -0.6
OSI Osito Adit 82.95 323 ⇓P P 18 56 53.2 +1.8
baz=83
M25A Palm-Egli Farm 82.98 337 ⇓P P 18 56 52.9 +1.3
baz=83
CCUT Cedar City 82.98 329 eP P 18 56 51.1 -0.7
comp=Z,18nm,1.1s
L27A T5 Ranch, Ells 83.04 338 ⇑P P 18 56 53.3 +1.5
baz=83
ECSD EROS Data Cent 83.06 343 eP P 18 56 51.5 -0.2
comp=Z,27nm,1.0s
ECSD EROS Data Cent 83.06 343 ⇓P P 18 56 52.2 +0.5
baz=83,SNR=14
K29A Lazy Trails An 83.09 340 ⇓P P 18 56 53.5 +1.6
baz=83
N23A Red Feather La 83.11 335 ⇑P P 18 56 53.7 +1.3
baz=83,SNR=5.7
LRMC Laurel Mountai 83.17 325 ⇑P P 18 56 53.9 +1.3
baz=84
SRU San Rafael 83.18 331 eP P 18 56 52.5 -0.2
SRU pmax pmax
comp=Z,13nm,0.9s
SRU San Rafael 83.18 331 eP P 18 56 52.5 -0.2
comp=Z,13nm,0.9s
N22A Wattenberg Ran 83.20 335 ⇑P P 18 56 54.3 +1.4
baz=84,SNR=5.6

L26A Underwood Farm 83.23 338 ⇑P P 18 56 53.9 +1.1
baz=84
O20A White River Ci 83.23 333 eP P 18 56 54.2 +1.3
comp=Z,12nm,1.0s
O20A White River Ci 83.23 333 ⇑P P 18 56 53.9 +1.0
baz=84
M24A Cheyenne 83.26 336 ⇓P P 18 56 54.3 +1.3
baz=84
PHWY Pilot Hill 83.31 336 eP P 18 56 53.9 +0.4
comp=Z,8.6nm,1.0s
PHWY epP pP 18 57 04.1 0.0
MVU Marysvale 83.33 330 eP P 18 56 53.6 +0.1
comp=Z,12nm,1.0s
K28A Ten Mile Ranch 83.34 339 ⇑P P 18 56 54.7 +1.4
baz=84
J30A Dallas 83.39 341 ⇓P P 18 56 54.7 +1.2
baz=84
M23A Laramie 83.55 336 ⇓P P 18 56 56.3 +1.7
baz=84
TMUT Trail Mountain 83.61 331 eP P 18 56 54.5 -0.5
comp=Z,20nm,1.1s
TMUT epP pP 18 57 06.6 +0.9
SPMN St. Paul 83.65 346 ⇓P P 18 56 54.7 0.0
baz=84
ISA Isabella 83.69 324 eP P 18 56 54.8 -0.4
ISA pmax pmax
comp=Z,10.0nm,1.1s
ISA Isabella 83.69 324 eP P 18 56 54.8 -0.4
comp=Z,10nm,1.1s
ISA Isabella 83.69 324 ⇓P P 18 56 56.9 +1.7
baz=84
J29A Okreek 83.69 340 ⇑P P 18 56 55.9 +0.8
baz=84,SNR=8.1
M22A Cedar Creek Ra 83.78 335 ⇑P P 18 56 57.5 +1.7
baz=84
N20A Spence Gulch, 83.86 334 ⇓P P 18 56 57.2 +1.1
baz=84,SNR=5.2
I30A Oacoma 83.93 341 ⇓P P 18 56 57.4 +1.2
baz=84
J28A Allard Ranch, 83.96 340 ⇓P P 18 56 57.8 +1.4
baz=84
K25A Mack Ranch, Ha 83.99 337 ⇓P P 18 56 58.4 +1.7
baz=84
J27A Elkhorn Farm, 84.02 339 ⇑P P 18 56 58.2 +1.4
baz=84
VES Vestal, Richgr 84.12 324 ⇑P P 18 56 58.9 +1.6
baz=84
L23A Garrett 84.12 336 ⇓P P 18 56 58.2 +0.7
baz=84
I29A Vivian Onida 84.26 340 ⇓P P 18 56 58.7 +0.8
baz=85
GRAC Grapevine Rang 84.27 326 ⇑P P 18 57 00.2 +2.1
baz=85
L22A Ellis Ranch, M 84.29 335 ⇑P P 18 56 59.5 +1.2
baz=85
J26A Sides Ranch, S 84.39 338 ⇑P P 18 56 59.8 +1.1
baz=85,SNR=5.1
MPU Maple Canyon 84.39 331 eP P 18 56 57.7 -1.2
comp=Z,22nm,1.0s
I28A Midland 84.47 340 ⇓P P 18 56 59.8 +0.8
baz=85
NLU North Lily Min 84.52 331 eP P 18 56 58.8 -0.7
comp=Z,12nm,1.1s
RCTC Rector, Farmer 84.57 324 ⇑P P 18 57 00.8 +1.2
baz=85
R11A Troy Canyon, C 84.60 328 eP P 18 57 01.4 +1.5
comp=Z,13nm,1.0s
R11A Troy Canyon, C 84.60 328 ⇑P P 18 57 01.8 +1.8
baz=85,SNR=14
K23A Bowen Ranch, D 84.67 336 ⇑P P 18 57 01.2 +1.0
baz=85,SNR=5.2
J25A Sunshine Ranch 84.68 338 ⇓P P 18 57 01.2 +1.1
baz=85,SNR=6.2
TIN Tinemaha 84.71 325 ⇓P P 18 57 01.6 +1.2
baz=85
I27A Quinn 84.79 339 ⇓P P 18 57 01.5 +0.9
baz=85
H29A Onida 84.80 341 ⇓P P 18 57 00.8 +0.2
baz=85,SNR=5.4
JLU Jordanelle 84.83 331 eP P 18 57 01.0 -0.1
comp=Z,15nm,1.2s
JLU epP pP 18 57 12.0 +0.2
K22A Casper 84.87 336 eP P 18 57 02.0 +0.8
comp=Z,19nm,0.9s
K22A Casper 84.87 336 ⇓P P 18 57 02.5 +1.3
baz=85,SNR=7.3
J24A Dixon Ranch, L 84.89 337 ⇓P P 18 57 02.4 +1.2
baz=85
I26A New Underwood 84.98 339 ⇑P P 18 57 02.7 +1.1
baz=85
G30A Faulkton 84.99 342 ⇑P P 18 57 02.8 +1.3
baz=85
DUG Dugway 85.01 330 eP P 18 57 01.9 0.0
DUG pmax pmax
comp=Z,20nm,1.3s
DUG Dugway 85.01 330 eP P 18 57 01.9 0.0
comp=Z,20nm,1.3s
DUG Dugway 85.01 330 ⇓P P 18 57 03.6 +1.7
baz=85,SNR=13
CTU Camp Tracy 85.02 331 eP P 18 57 03.0 +0.9
comp=Z,4.5nm,0.8s
H28A Mission Ridge 85.06 340 ⇑P P 18 57 02.7 +0.8
baz=85
TPH Tonopah 85.09 326 eP P 18 57 03.9 +1.4
TPH pmax pmax
comp=Z,22nm,1.0s
TPH Tonopah 85.09 326 eP P 18 57 03.9 +1.4
comp=Z,22nm,1.0s
K21A Alcova 85.10 335 ⇑P P 18 57 03.4 +1.0
baz=85,SNR=12
I25A Rochford 85.23 338 ⇑P P 18 57 04.0 +1.0
baz=86,SNR=9.3
G29A Hoven 85.25 341 ⇓P P 18 57 02.9 +0.1
baz=86
TCUT Toone Canyon 85.26 332 eP P 18 57 02.6 -0.7
comp=Z,36nm,1.3s
TCUT epP pP 18 57 14.2 +0.3
H27A Howes 85.31 339 ⇓P P 18 57 03.9 +0.7
baz=86,SNR=5.7
I24A Kuemmerle Ranc 85.36 337 ⇓P P 18 57 04.1 +0.6
baz=86
G28A Parade 85.40 340 ⇑P P 18 57 04.3 +0.7
baz=86
RSSD Black Hills 85.41 338 eP P 18 57 04.2 +0.3
RSSD e*PP pP 18 57 13.6 -1.0
RSSD pmax pmax
comp=Z,9.0nm,0.8s
RSSD Black Hills 85.41 338 eP P 18 57 04.2 +0.3
comp=Z,8.9nm,0.8s
RSSD epP pP 18 57 13.6 -1.0
J22A Midwest 85.54 336 ⇓P P 18 57 04.8 +0.3
baz=86
TOA0 Torodi Ar. Sit 85.74 70 eP P 18 57 05.9 0.0
TOA0 epP pP 18 57 15.8 -0.8
TORD Torodi Ar. Bea 85.74 70 P P 18 57 06.2 +0.2
comp=Z,7.6nm,1.0s,baz=235,slow=4.6,SNR=21
TORD pP pP 18 57 15.9 -0.7
comp=Z,3.8nm,0.9s,baz=219,slow=4.3,SNR=6.8
H25A Fruitdale 85.74 338 ⇓P P 18 57 06.4 +1.0
baz=86
HWUT Hardware Ranch 85.74 332 eP P 18 57 05.1 -0.5
comp=Z,30nm,1.1s
HWUT epP pP 18 57 16.1 -0.1
J21A Lysite 85.80 335 ⇑P P 18 57 06.7 +0.9
baz=86
F29A Eureka 85.82 341 ⇑P P 18 57 06.0 +0.3
baz=86
NVAR Mina Array Bea 85.86 326 P P 18 57 07.5 +1.2
comp=Z,3.2nm,0.7s,baz=147,slow=5.9,SNR=20
NVAR pP pP 18 57 17.8 +0.8
comp=Z,4.6nm,0.8s,baz=150,slow=5.6,SNR=12
G27A Dupree 85.96 340 ⇓P P 18 57 06.8 +0.4
baz=86,SNR=5.2
I22A 9 Mile Ranch, 85.97 336 ⇓P P 18 57 06.9 +0.3
baz=86,SNR=9.1
PDAR Pinedale Array 86.02 334 P P 18 57 07.2 +0.2
comp=Z,3.4nm,0.8s,baz=145,slow=5.4,SNR=22
PDAR pP pP 18 57 17.1 -0.5
comp=Z,3.5nm,0.9s,baz=137,slow=5.5,SNR=9.0
J20A Shoshoni 86.02 335 ⇑P P 18 57 08.2 +1.3
baz=86,SNR=12
EYMN Ely 86.04 348 eP P 18 57 05.7 -0.9
comp=Z,17nm,1.1s
G26A Maurine 86.06 339 ⇑P P 18 57 07.5 +0.5
baz=86,SNR=7.4
F28A McLaughlin 86.08 341 ⇑P P 18 57 07.9 +0.9
baz=86
H24A Dirks Ranch, A 86.14 338 ⇓P P 18 57 07.7 +0.4
baz=86,SNR=7.0
I21A Big Trails, Te 86.16 336 ⇑P P 18 57 07.7 +0.2
baz=86,SNR=11
G25A Newell 86.21 339 ⇑P P 18 57 08.3 +0.7
baz=86,SNR=5.8
E30A Jud 86.21 342 ⇓P P 18 57 08.4 +0.8
baz=86
J19A Crowheart 86.28 334 ⇓P P 18 57 08.7 +0.5
baz=87,SNR=11
HVU Hansel Valley 86.35 331 eP P 18 57 08.8 +0.2
HVU e*PP pP 18 57 18.9 -0.3
HVU pmax pmax
comp=Z,12nm,0.9s
HVU Hansel Valley 86.35 331 eP P 18 57 08.8 +0.2
comp=Z,12nm,0.9s
HVU epP pP 18 57 18.9 -0.3
F27A Lemmon 86.44 340 ⇑P P 18 57 09.1 +0.4
baz=87,SNR=11
E29A Napoleon 86.45 342 ⇑P P 18 57 09.0 +0.2
baz=87
ELK Elko 86.46 329 eP P 18 57 10.0 +0.8
ELK e*PP pP 18 57 20.0 +0.1
ELK pmax pmax
comp=Z,8.0nm,1.0s
ELK Elko 86.46 329 eP P 18 57 10.0 +0.8
comp=Z,8.4nm,1.0s
ELK epP pP 18 57 20.0 +0.1
CMB Columbia Colle 86.50 324 eP P 18 57 10.5 +1.3
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB Columbia Colle 86.50 324 eP P 18 57 10.5 +1.3
comp=Z,9.6nm,1.1s
H22A Clearmont 86.56 337 ⇓P P 18 57 09.8 +0.3
baz=87
I20A Worland 86.56 335 ⇑P P 18 57 10.1 +0.6
baz=87,SNR=8.5
AHID Auburn Hatcher 86.57 333 eP P 18 57 09.1 -0.5
comp=Z,16nm,1.1s
AHID epP pP 18 57 19.8 -0.6
F26A Lodgepole 86.59 340 ⇑P P 18 57 09.9 +0.4
baz=87,SNR=5.1
G24A Alzada 86.62 338 ⇑P P 18 57 10.1 +0.4
baz=87
E28A Huff 86.73 341 ⇑P P 18 57 10.6 +0.5
baz=87
D30A Buchanan 86.74 343 ⇑P P 18 57 10.6 +0.5
baz=87
G23A Biddle 86.80 338 ⇑P P 18 57 10.8 +0.2
baz=87,SNR=5.3
H21A Big Horn, Sher 86.81 336 ⇑P P 18 57 11.0 +0.3
baz=87
E27A Carson 86.82 341 ⇑P P 18 57 11.0 +0.4
baz=87
F25A Bowman 86.89 339 ⇓P P 18 57 11.3 +0.4
baz=87
D29A Pettibone, Tap 86.90 342 ⇓P P 18 57 11.8 +0.8
baz=87
I19A Meeteetse 86.93 335 ⇓P P 18 57 12.9 +1.5
baz=87
H20A Greybull 87.00 336 ⇓P P 18 57 11.8 +0.2
baz=87,SNR=6.4
REDW Red Top Meadow 87.00 333 eP P 18 57 12.1 +0.3
comp=Z,10nm,1.0s
G22A Birney 87.10 337 ⇓P P 18 57 12.4 +0.3
baz=87
F24A Ekalaka 87.10 338 ⇓P P 18 57 12.3 +0.2
baz=87
E26A Carlson Angus 87.11 340 ⇑P P 18 57 12.6 +0.7
baz=87
LOHW Long Hollow 87.13 334 eP P 18 57 12.7 +0.3
comp=Z,11nm,1.0s
TPAW Teton Pass 87.14 333 eP P 18 57 13.1 +0.5
comp=Z,11nm,0.9s
AGMN Agassiz Nation 87.21 345 eP P 18 57 12.3 -0.1
comp=Z,46nm,1.8s
AGMN epP pP 18 57 21.9 -1.2
AGMN Agassiz Nation 87.21 345 ⇑P P 18 57 12.6 +0.2
baz=88,SNR=6.2
C30A Mose, Pekin 87.23 343 ⇓P P 18 57 13.3 +0.8
baz=88,SNR=12
D28A Regan 87.27 341 ⇓P P 18 57 13.5 +0.8
baz=88,SNR=5.7
F23A Volborg 87.28 338 ⇓P P 18 57 13.2 +0.4
baz=88
FXWY Fox Creek 87.30 333 eP P 18 57 13.6 +0.4
comp=Z,12nm,1.4s
I17A Pilgrim Ck. 87.38 334 ⇑P P 18 57 14.4 +0.8
baz=88,SNR=6.4
G21A Lodge Grass 87.39 336 ⇑P P 18 57 13.9 +0.4
baz=88
E25A Miller Ranch, 87.39 339 ⇑P P 18 57 14.5 +1.1
baz=88
D27A Center 87.44 341 ⇓P P 18 57 14.3 +0.8
baz=88
H19A Powell 87.49 335 ⇓P P 18 57 14.6 +0.6
baz=88
IMW Indian Meadow 87.49 333 eP P 18 57 14.6 +0.4
comp=Z,11nm,1.0s
FLWY Flagg Ranch 87.57 334 eP P 18 57 15.3 +0.8
comp=Z,15nm,1.1s
F22A Rosebud 87.59 337 ⇑P P 18 57 14.7 +0.4
baz=88
D26A Manning 87.61 340 ⇑P P 18 57 15.2 +0.8
baz=88,SNR=6.9
E24A Baker 87.71 339 ⇓P P 18 57 15.5 +0.6
baz=88
G20A Bridger 87.72 336 ⇓P P 18 57 15.2 +0.2
baz=88
H18A Shoshone NF, C 87.72 335 ⇑P P 18 57 15.8 +0.5
baz=88,SNR=6.8
B30A Myrvik Farm, E 87.90 343 ⇓P P 18 57 16.4 +0.7
baz=88,SNR=11
D25A Fairfield 87.97 340 ⇑P P 18 57 17.0 +0.9
baz=88
C27A Sayler Ranch, 87.99 341 ⇑P P 18 57 17.2 +1.0
baz=88,SNR=8.5
YMR Madison River 88.17 334 eP P 18 57 19.0 +1.6
comp=Z,12nm,1.1s
F20A Billings 88.21 336 ⇓P P 18 57 18.2 +0.8
baz=88
D24A Glendive 88.22 339 ⇓P P 18 57 18.3 +1.0
baz=88
C26A Wahner Farm, P 88.25 341 ⇑P P 18 57 18.1 +0.7
baz=89,SNR=5.1
A30A Hoffart Farm, 88.35 343 ⇑P P 18 57 18.1 +0.3
baz=89,SNR=7.2
B28A Dugan Ranch, T 88.38 342 ⇑P P 18 57 19.2 +1.2
baz=89
QLMT Earthquake Lak 88.48 334 eP P 18 57 19.0 +0.2
comp=Z,0.2nm,0.3s
QLMT epP pP 18 57 30.2 +0.7
HLID Hailey 88.50 331 eP P 18 57 19.4 +0.5
comp=Z,19nm,1.7s
HLID Hailey 88.50 331 ⇓P P 18 57 19.6 +0.7
baz=89,SNR=5.6
F19A Roth Farm, Mol 88.52 336 ⇓P P 18 57 19.5 +0.7
baz=89
D23A Lindsay 88.53 339 ⇓P P 18 57 19.9 +1.1
baz=89
A29A Manning Farm, 88.55 343 ⇑P P 18 57 19.2 +0.4
baz=89,SNR=20
C24A Savage 88.62 339 ⇑P P 18 57 19.8 +0.6
baz=89,SNR=7.2
A28A Rude Farm, Bot 88.79 342 ⇑P P 18 57 20.6 +0.6
baz=89
D22A Cohagen 88.79 338 ⇓P P 18 57 20.5 +0.5
baz=89
E20A Meyer Farm, Mu 88.83 336 ⇑P P 18 57 20.6 +0.4
baz=89,SNR=5.6
MFID Camas Ranch 88.94 330 eP P 18 57 22.5 +1.7
MCMT McKenzie Canyo 88.99 333 eP P 18 57 19.7 -1.6
comp=Z,3.5nm,0.9s
MCMT epP pP 18 57 32.8 +0.8
E19A Rath Farm, Rou 89.00 336 ⇓P P 18 57 21.5 +0.5
baz=89
ULM Lac du Bonnet 89.07 345 eP P 18 57 19.1 -2.0
ULM e*PP pP 18 57 30.7 -1.2
ULM Lac du Bonnet 89.07 345 P P 18 57 20.9 -0.2
comp=Z,8.2nm,0.9s,baz=166,slow=3.9,SNR=11
ULM Lac du Bonnet 89.07 345 eP P 18 57 19.1 -2.0
ULM epP pP 18 57 30.7 -1.2
C23A Lambert 89.09 339 ⇓P P 18 57 21.9 +0.5
baz=89
A26A Wade Farm, Ken 89.22 341 ⇑P P 18 57 22.5 +0.5
baz=90
WVOR Wild Horse Val 89.28 328 eP P 18 57 24.4 +1.8
WVOR e*PP pP 18 57 34.4 +1.1
WVOR pmax pmax
comp=Z,121nm,2.6s
WVOR Wild Horse Val 89.28 328 eP P 18 57 24.4 +1.8
comp=Z,121nm,2.6s
WVOR epP pP 18 57 34.4 +1.1
D20A Manuel Ranch, 89.35 337 ⇑P P 18 57 23.2 +0.6
baz=90
DLMT Dillon 89.36 333 eP P 18 57 24.3 +1.5
comp=Z,13nm,1.4s
DLMT epP pP 18 57 34.2 +0.6
DGMT Dagmar 89.41 340 ⇑P P 18 57 23.8 +0.9
baz=90
LSZ Lusaka 89.49 109 P P 18 57 26.3 +2.1
comp=Z,8.1nm,0.9s,baz=331,slow=2.1,SNR=8.7
MOD Modoc 89.58 327 eP P 18 57 25.3 +1.4
comp=Z,7.8nm,1.0s
MOD epP pP 18 57 35.6 +1.0
B23A Brockton 89.63 339 ⇓P P 18 57 24.7 +0.8
baz=90
D19A Cripps Ranch, 89.65 336 ⇓P P 18 57 24.8 +0.7
baz=90
C21A Desert Coulee 89.68 338 ⇑P P 18 57 24.9 +0.8
baz=90
LRM Limekiln Ridge 89.70 333 eP P 18 57 24.5 0.0
comp=Z,26nm,1.1s
LRM epP pP 18 57 35.4 +0.1
B22A Reddig Ranch S 89.77 339 ⇑P P 18 57 25.5 +0.9
baz=90
A23A Redstone 90.05 339 ⇓P P 18 57 26.8 +1.0
baz=90
M04C Macdoel 90.17 326 ⇑P P 18 57 28.0 +1.3
baz=90
B21A Ellsworth Farm 90.19 338 ⇑P P 18 57 28.0 +1.5
baz=90
M02C Callahan 90.32 325 ⇑P P 18 57 28.5 +1.1
baz=91
A22A Carney Farms, 90.37 339 ⇑P P 18 57 27.6 +0.2
baz=91
A21A Bergtoll Ranch 90.67 338 ⇑P P 18 57 29.0 +0.3
baz=91
EGMT Eagleton 90.69 336 ⇑P P 18 57 29.1 +0.2
baz=91
BMO Blue Mountains 90.72 330 eP P 18 57 29.6 +0.5
comp=Z,58nm,2.8s
B19A Brinkman Farms 90.81 337 ⇑P P 18 57 29.7 +0.3
baz=91
A20A Cobblestone Ra 90.87 338 ⇓P P 18 57 30.2 +0.5
baz=91
I07A Izee 90.99 328 eP P 18 57 31.9 +1.5
comp=Z,8.5nm,1.1s
I07A epP pP 18 57 42.4 +1.2
J05D Fort Rock, OR 91.09 327 ⇑P P 18 57 32.6 +1.6
baz=91
MSO Missoula 91.09 333 ⇑P P 18 57 32.4 +1.5
baz=91
A19A Klindworth Far 91.16 337 ⇑P P 18 57 30.9 -0.1
baz=92
F10A Beach Ranch, E 91.62 331 eP P 18 57 33.5 +0.3
comp=Z,91nm,2.8s
G08A Pilot Rock 91.75 329 eP P 18 57 34.9 +1.0
comp=Z,5.0nm,1.0s
G08A epP pP 18 57 45.4 +0.8
HAWA Hanford 92.88 330 eP P 18 57 40.1 +1.2
comp=Z,21nm,1.5s
NEW Newport 93.47 332 ⇓P P 18 57 41.7 0.0
baz=94
DZM Mont Dzumac 99.08 234 eLR LR 19 30 20.3
comp=Z,234nm,24.2s
YKA Yellowknife Ar 104.53 341 Pdiff Pdif 18 58 30.8 -0.2
comp=Z,0.3nm,0.8s,baz=142,slow=4.0,SNR=3.5
GERES GERESS Array B 114.55 46 PKP PKPdf 19 03 06.3 +0.2
comp=Z,2.1nm,0.9s,baz=221,slow=1.2,SNR=3.8
ASAR Alice Springs 114.78 207 PKP PKPdf 19 03 05.8 -1.7
comp=Z,0.9nm,0.7s,baz=124,slow=1.8,SNR=10
ASAR PKKPbc PKKPbc 19 13 44.0 +0.2
comp=Z,0.6nm,0.7s,baz=334,slow=2.9,SNR=8.4
ILAR Eielson Array 116.43 333 PKP PKPdf 19 03 09.3 +0.2
comp=Z,1.4nm,1.2s,baz=167,slow=3.7,SNR=5.0
VYHS Vyhne 117.43 49 ePKIKP PKPdf 19 03 12.0 +0.4
VYHS Vyhne 117.43 49 ePKP PKPdf 19 03 12.0 +0.4
WRA Warramunga Arr 118.00 209 PKP PKPdf 19 03 12.5 -1.2
comp=Z,1.8nm,0.6s,baz=172,slow=1.4,SNR=17
WRA pPKP pPKPdf 19 03 23.4 -1.4
comp=Z,1.0nm,0.6s,baz=174,slow=1.5,SNR=3.8
BUR08 Bucovina Ar. S 121.00 51 ePKPdf PKPdf 19 03 19.1 +0.5
BRTR Keskin Array B 123.70 63 PKP PKPdf 19 03 24.6 +0.4
comp=Z,1.4nm,0.8s,baz=188,slow=2.5,SNR=9.1
AKASG Malin Array Be 124.52 49 PKP PKPdf 19 03 24.7 -0.4
comp=Z,2.6nm,0.7s,baz=261,slow=2.8,SNR=13
VSU Vasula 125.27 39 i PKIKP PKPdf 19 03 26.2 -0.1
SPITS Spitsbergen Ar 125.56 15 PKIKP PKPdf 19 03 26.0 -0.4
SPITS Spitsbergen Ar 125.56 15 PKP PKPdf 19 03 26.0 -0.4
comp=Z,7.3nm,0.9s,baz=132,slow=2.1,SNR=3.7
FINES FINESS Array B 125.64 36 PKP PKPdf 19 03 26.7 -0.2
comp=Z,1.5nm,1.0s,baz=278,slow=5.6,SNR=4.2
OBN Obninsk 129.88 45 ⇑i PKIKP PKPdf 19 03 36.3 +1.1
OBN pmax pmax
comp=Z,7.0nm,1.2s
KIV Kislovodsk 131.45 60 ePKIKP PKPdf 19 03 39.2 +0.5
KIV pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 131.54 61 PKP PKPdf 19 03 39.6 +0.9
comp=Z,2.0nm,0.9s,baz=180,slow=2.0,SNR=3.6
GNI Garni 131.87 66 i PKIKP PKPdf 19 03 39.8 +0.1
GNI pmax pmax
comp=Z,10.0nm,2.5s
KLMR Klimovskoe 132.02 38 ePKIKP PKPdf 19 03 37.2 -1.9
KLMR pmax pmax
comp=Z,29nm,1.4s
PRGR Permogore 134.96 36 ePKIKP PKPdf 19 03 44.1 -0.5
PRGR e 19 03 54.6
PRGR pmax pmax
comp=Z,20nm,1.2s
BILL Bilibino 135.09 333 i PKIKP PKPdf 19 03 44.0 -0.7
BILL pmax pmax
comp=Z,3.0nm,1.3s
GEYT Alibeck 141.33 73 PKP PKPdf 19 03 57.5 +0.3
comp=Z,2.2nm,1.0s,baz=328,slow=5.1,SNR=5.9
PETK Petropavlovsk- 141.63 311 PKP PKPdf 19 03 58.4 +1.3
comp=Z,7.6nm,1.1s,baz=67,slow=5.3,SNR=3.6
SEY Seymchan 142.14 328 PKP PKPdf 19 03 56.6 -1.1
comp=Z,6.8nm,0.9s,baz=97,slow=1.9,SNR=18
ARU Arti 142.25 43 i PKIKP PKPdf 19 04 01.3 +3.2
ARU 19 07 01.2
AKTO Aktyubinsk 142.57 53 PKhKP PKPpre 19 03 54.2
comp=Z,1.9nm,0.7s,baz=337,slow=3.0,SNR=4.4
AB31 Akbulak array 143.86 55 PKIKP PKPbc 19 03 58.9 -0.1
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 143.86 55 ePKPdf PKPbc 19 03 59.2 +0.3
KSM Kuching 144.71 185 ePKPdf PKPbc 19 04 03.2 +0.5
PSI Prapat 145.29 165 PKPbc PKPbc 19 04 04.1 -0.6
comp=Z,56nm,0.9s,baz=180,slow=5.8,SNR=44
POO Poona 145.52 113 eP PKPdf 19 04 04.0 -1.1
IPM Ipoh 147.31 169 ePKPdf PKPdf 19 04 08.2 0.0
HYB Hyderabad 148.18 120 i PKP PKPbc 19 04 12.0 -0.8
KBL Kabul 149.04 83 ePKIKP PKPdf 19 04 10.6 -0.1
KBL Kabul 149.04 83 ePKPdf PKPdf 19 04 10.6 -0.1
BRVK Borovoye 149.65 46 ePKPdf PKPdf 19 04 11.3 +0.5
BRVK ePKPbc PKPbc 19 04 15.4 0.0
BVAR Borovoye Array 149.72 46 PKP PKPdf 19 04 12.3 +1.4
comp=Z,6.1nm,0.7s,baz=236,slow=1.1,SNR=22
BVAR PKPbc PKiKP 19 04 16.2 -0.5
comp=Z,6.2nm,0.7s,baz=301,slow=3.3,SNR=23
YAK Yakutsk 151.15 338 i PKIKP PKPdf 19 04 11.6 -1.2
YAK e 19 04 28.2
YAK pmax pmax
comp=Z,55nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.5s
YAK Yakutsk 151.15 338 ePKPbc PKPbc 19 04 18.7 -0.1
KKAR Karatay Array 151.34 66 ePKIKP PKPdf 19 04 14.2 +0.4
KKAR e 19 04 20.1
KKAR Karatay Array 151.34 66 ePKPdf PKPdf 19 04 14.2 +0.4
KKAR ePKPbc PKiKP 19 04 20.1 -0.2
AAK Ala-Archa 154.28 67 ePKIKP PKPdf 19 04 18.9 +0.6
AAK e 19 04 26.9
AAK Ala-Archa 154.28 67 ePKPdf PKPdf 19 04 18.9 +0.6
AAK ePKPbc PKiKP 19 04 26.9 +0.3
TKM2 Tokmak 2 155.07 66 ePKIKP PKPdf 19 04 19.6 +0.1
TKM2 Tokmak 2 155.07 66 ePKPdf PKPdf 19 04 19.6 +0.1
KURK Kurchatov 155.30 47 ePKIKP PKPdf 19 04 19.5 +0.3
KURK e 19 04 28.7
KURK Kurchatov 155.30 47 ePKPdf PKPdf 19 04 19.5 +0.3
KURK ePKPbc PKPbc 19 04 28.7
KSH Kashi 155.35 74 PKPbc PKPdf 19 04 20.5 +0.7

KSH ePKP pPKPdf 19 04 31.8 +0.9
KSH esPKP 19 04 34.5
KSH eSKS SKSdf 19 11 21.0 -2.8
KSH eSKKS SKKSac 19 15 06.5 -2.7
KSH eSS SS 19 28 01.5 -4.3
KSH AMB AMB
comp=N,110nm,3.7s
KSH LR LR
comp=N,180nm,8.4s
ZALV Zalesovo Beam 156.91 35 PKP PKPdf 19 04 20.4 -0.8
comp=N,9.0nm,0.9s,baz=282,slow=2.7,SNR=26
ZALV pPKP pPKPdf 19 04 31.3 -0.9
comp=N,6.0nm,0.8s,baz=298,slow=3.2,SNR=8.5
ZALV PKPab PKPab 19 04 52.2 +0.9
comp=N,5.1nm,0.8s,baz=300,slow=6.0,SNR=6.3
KOLN Koldanda 158.13 108 eP PKPdf 19 04 23.2 -0.7
BOD Bodaibo 158.52 350 ePKP2 PKPab 19 04 57.4 -0.7
BOD pmax pmax
comp=Z,12nm,1.0s
DANN Dangsing 158.54 106 eP PKPdf 19 04 24.0 -0.5
comp=Z,23nm,1.1s
MK31 Makanchi Array 159.00 54 ePKIKP PKPdf 19 04 24.4 +0.3
MK31 Makanchi Array 159.00 54 ePKPdf PKPdf 19 04 24.4 +0.3
MKAR Makanchi Array 159.00 54 PKP PKPdf 19 04 24.4 +0.3
comp=Z,4.3nm,0.9s,baz=286,slow=2.1,SNR=25
MKAR PKPab PKPab 19 05 00.5 -0.2
comp=Z,3.0nm,0.9s,baz=279,slow=3.9,SNR=9.3
MKAR PP PP 19 08 41.4 -0.6
comp=Z,0.8nm,0.8s,baz=299,slow=5.4,SNR=5.0
GKN Gorkha 159.04 108 eP PKPdf 19 04 24.0 -0.9
DMN Daman 159.19 110 eP PKPdf 19 04 24.8 -0.4
PKIN Phulchoki 159.40 110 eP PKPdf 19 04 24.2 -1.3
PKI Pulchoki 159.40 110 eP PKPdf 19 04 24.5 -1.1
KKN Kakani 159.42 110 eP PKPdf 19 04 24.2 -1.2
GUN Gumba 159.93 110 eP PKPdf 19 04 25.4 -0.8
RAMN Ramite 159.95 114 eP PKPdf 19 04 25.8 -0.3
JIRN Jiri 160.03 111 eP PKPdf 19 04 25.6 -0.7
CMAR Chiang Mai Arr 160.31 156 PKP PKPdf 19 04 26.9 +0.6
comp=Z,0.4nm,0.3s,baz=244,slow=2.4,SNR=7.7
CMAR PKPab PKPab 19 05 05.8 -1.1
comp=Z,0.9nm,0.3s,baz=228,slow=4.7,SNR=8.7
ODAN Odare 160.47 115 eP PKPdf 19 04 26.3 -0.4
TAPN Taplejung 160.99 114 eP PKPdf 19 04 26.9 -0.4
WMQ Urumqi 163.57 59 PKP PKPdf 19 04 28.5 -0.6
WMQ LR LR
comp=Z,200nm,20.6s
WMQ LR LR
comp=Z,160nm,22.0s
WMQ LR LR
comp=Z,230nm,23.4s
CN2 Changchun 164.46 302 ePKP PKPdf 19 04 31.0 +1.2
LSA Lhasa 164.81 113 ePKIKP PKPdf 19 04 31.5 +0.3
LSA Lhasa 164.81 113 ePKPdf PKPdf 19 04 31.5 +0.3
TLY Talaya 164.93 9 ePKP2 PKPab 19 05 27.0 +0.6
TLY pmax pmax
comp=Z,9.0nm,1.3s
ZAK Zakamensk 166.15 11 ePKP2 PKPab 19 05 31.1 -0.8
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KMI Kunming 167.72 161 PKP PKPdf 19 04 33.0 -0.2
SONM Songino Array 168.98 3 PKP PKPdf 19 04 32.5 -0.8
comp=Z,0.7nm,0.7s,baz=319,slow=4.2,SNR=4.2
SONM PKPab PKPab 19 05 45.7 +1.2
comp=Z,3.6nm,0.9s,baz=338,slow=4.6,SNR=12
SONM pPKPab pPKPab 19 05 55.5 +0.3
comp=Z,2.8nm,1.0s,baz=349,slow=2.3,SNR=5.0
SONM PP PP 19 09 34.3 +0.9
comp=Z,0.9nm,0.9s,baz=116,slow=6.8,SNR=3.8
NJ2 Nanjing 169.28 247 ePKP PKPdf 19 04 33.8 +0.1
GYA Guiyang 169.65 177 PKP PKPdf 19 04 34.3 0.0
GYA pPKP pPKPdf 19 04 46.8 +1.4
GYA PKPab PKPab 19 05 51.0 +3.1
GYA PKS PKSdf 19 08 05.5 -1.5
GYA PP PP 19 09 41.5 +4.7
GYA SKKS 19 16 23.0
GYA AMB AMB
comp=Z,120nm,8.4s
GYA LR LR
comp=Z,120nm,21.0s
GYA LR LR
comp=Z,110nm,21.2s
GYA LR LR
comp=Z,120nm,24.1s
CD2 Chengdu 173.44 153 PKP PKPdf 19 04 35.5 -0.4
CD2 pPKP pPKPdf 19 04 46.8 -0.2
CD2 sPKP 19 04 50.5
CD2 PKS PKSdf 19 08 06.3 -2.0
CD2 PP PP 19 09 59.3 +3.5
CD2 SKS SKSdf 19 11 33.0 -3.7
CD2 SKKS SKKSac 19 16 40.5 +0.1
CD2 SS SS 19 31 09.0 +0.1
CD2 AMB AMB
comp=Z,240nm,6.6s
HHC Hu-ho-hao-te 174.74 321 ePKP PKPdf 19 04 36.0 -0.2
HHC pPKP pPKPdf 19 04 46.5 -0.7
HHC sPKP 19 04 50.5
HHC PP PP 19 10 04.8 +2.2
HHC SKS SKSdf 19 11 33.5 -3.2
HHC SS SS 19 31 20.8 -1.5
HHC AMB AMB
comp=Z,43nm,5.1s
HHC LR LR
comp=Z,250nm,21.0s
HHC LR LR
comp=Z,300nm,21.1s
HHC LR LR
comp=Z,800nm,19.2s
XAN Xi'an 176.89 207 PKP PKPdf 19 04 36.8 0.0
LZH Lanzhou 177.18 104 ePKP PKPdf 19 04 37.5 +0.5
LZH pPKP pPKPdf 19 04 47.0 -1.0
LZH sPKP 19 04 53.0
LZH PP PP 19 10 18.3 +3.1
LZH AMB AMB
comp=Z,120nm,5.4s

IDC 28 18:48:04.8±10.0, 21.95S×179.39W, h434km±96km, mb3.3/5, mb1 3.5/6, mb1mx3.2/40, mbtmp4.2/6, Error ellipse: s-maj=75.8km s-min=25.2km az=40.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
URZ Urewera 16.53 190 P P 18 51 32.9 +0.5
1.4nm,0.3s,baz=82,slow=4.5,SNR=9.1
STKA Stephens Creek 36.00 246 P P 18 54 27.4 -0.1
1.7nm,0.6s,baz=104,slow=8.3,SNR=2.9
ASAR Alice Springs 42.94 258 P P 18 55 23.8 -0.2
3.2nm,0.8s,baz=101,slow=7.5,SNR=28
WRA Warramunga Arr 43.14 264 P P 18 55 25.1 -0.5
2.7nm,0.8s,baz=96,slow=8.2,SNR=51
QSPA South Pole Qui 68.12 180 P P 18 58 19.9 +0.1
2.0nm,1.0s,baz=8.8,slow=3.0,SNR=3.7
CMAR Chiang Mai Arr 89.39 290 P P 19 00 15.7 +1.3
1.0nm,0.8s,baz=124,slow=3.7,SNR=7.1
HFS Hagfors 140.75 350 PKhKP PKPpre 19 06 37.9
0.5nm,0.4s,baz=66,slow=2.9,SNR=6.3
AKASG Malin Array Be 143.62 329 PKP PKPab 19 06 46.8 -0.4
0.1nm,0.3s,baz=41,slow=4.3,SNR=8.4
BRTR Keskin Array B 146.81 310 PKPbc PKPbc 19 06 56.6 -1.0
0.7nm,0.7s,baz=112,slow=1.1,SNR=2.8
MMAI Mount Meron Ar 147.36 297 PKPbc PKPbc 19 06 59.0 -0.2
1.6nm,0.5s,baz=62,slow=7.0,SNR=4.1

VIE 28 18:49:35.2±0.2, 45.88N×15.50E, h6km±1km, mb2.2/7, ML2.6/8, Error ellipse: s-maj=1.3km s-min=1.0km az=133.0 10 km S of Krsko
CSEM 28 18:49:35.2±0.1, 45.83N×15.52E, h10km, ML3.3/17, Error ellipse: s-maj=2.9km s-min=1.9km az=38.0
LJU 28 18:49:35.6, 45.86N×15.44E, h8km, ML2.5
ISCJB 28 18:49:35.0±0.2, 45.86N±0.01×15.48E±0.02, h7km±2km, Error ellipse: s-maj=2.5km s-min=1.8km az=17.3
BEO 28 18:49:35.2±0.5, 45.84N×15.33E, h20km±4km, ML2.4/6
PRU 28 18:49:37.0, 45.92N×15.47E, h9km
ISC 28 18:49:35.5±0.8, 45.87N±0.01×15.48E±0.01, h7km±4km, n126, σ0.92/210, 19C-14D, Northwestern Balkan Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CRES Cresnjev 0.05 200⇓iPg Pg 18 49 37.1 0.0
CRES iSg Sg 18 49 38.1 -0.1
comp=Z,3μm,0.1s
CRES Cresnjev 0.05 200 Pg Pg 18 49 37.1 0.0
CRES iSg Sg 18 49 38.1 -0.1
comp=Z,3μm,0.1s
GCIS Gornji Cirnik 0.10 92⇑iPg Pg 18 49 38.2 +0.4
GCIS iSg Sg 18 49 40.0 +0.5
comp=Z,2μm,0.1s
GCIS Gornji Cirnik 0.10 92⇑iPg Pg 18 49 38.2 +0.4
GCIS iSg Sg 18 49 40.0 +0.5
comp=Z,2μm,0.1s
CESS Cesta pri Krsk 0.10 353⇓iPg Pg 18 49 38.2 +0.3
CESS iSg Sg 18 49 40.0 +0.5
comp=Z,1μm,0.1s
CESS Cesta pri Krsk 0.10 353⇓iPg Pg 18 49 38.2 +0.3
CESS iSg Sg 18 49 40.0 +0.5
comp=Z,1μm,0.1s
LEGS Legarje 0.14 305 iPg Pg 18 49 38.8 +0.4
LEGS iSg Sg 18 49 41.2 +0.7
LEGS Legarje 0.14 305 iPg Pg 18 49 38.8 +0.4
LEGS iSg Sg 18 49 41.2 +0.7
GOLS Golise 0.17 36 iPg Pg 18 49 39.5 +0.4
GOLS iSg Sg 18 49 43.0 +1.5
comp=Z,842nm,0.1s
GOLS Golise 0.17 36 iPg Pg 18 49 39.5 +0.4
GOLS iSg Sg 18 49 43.0 +1.5
comp=Z,842nm,0.1s
DOBS Dobrina 0.28 358 iPg Pg 18 49 41.8 +0.8
DOBS iSg Sg 18 49 46.0 +1.2
comp=Z,256nm,0.1s
DOBS Dobrina 0.28 358 iPg Pg 18 49 41.8 +0.8
DOBS iSg Sg 18 49 46.0 +1.2
comp=Z,256nm,0.1s
PDKS Podkum 0.39 300 iPg Pg 18 49 43.6 +0.5
PDKS iSg Sg 18 49 49.2 +1.0
comp=Z,495nm,0.2s
PDKS Podkum 0.39 300 iPg Pg 18 49 43.6 +0.5
PDKS iSg Sg 18 49 49.2 +1.0
comp=Z,495nm,0.2s
BOJS Bojanci 0.40 204 iPg Pg 18 49 42.8 -0.4
BOJS iSg Sg 18 49 49.0 +0.5
comp=Z,553nm,0.2s
BOJS Bojanci 0.40 204 ePg Pg 18 49 43.0 -0.2
BOJS Bojanci 0.40 204 iPg Pg 18 49 42.8 -0.4
BOJS iSg Sg 18 49 49.0 +0.5
comp=Z,553nm,0.2s
VISS Visnje 0.45 262 ePg Pg 18 49 44.5 +0.2
VISS iSg Sg 18 49 50.8 +0.6
comp=Z,129nm,0.2s
VISS Visnje 0.45 262 ePg Pg 18 49 44.5 +0.2
VISS iSg Sg 18 49 50.8 +0.6
comp=Z,129nm,0.2s
GBRS Gornja Briga 0.58 234 iPg Pb 18 49 47.0 -0.9
comp=Z,71nm,0.1s
VNDS Vrh nad Dolski 0.59 293 ePg Pb 18 49 47.3 -0.9
VNDS iSg Sg 18 49 54.9 +0.3
comp=Z,211nm,0.2s
LJU Ljubljana 0.69 285 ePg Pb 18 49 49.1 -0.7
LJU eSg Sg 18 49 57.5 -0.1
LJU Ljubljana 0.69 285 ePg Pb 18 49 49.1 -0.7
SISC Sisak 0.74 122 ePg Pn 18 49 52.5 +0.1
SISC Sg Sn 18 50 02.0 -1.9
SISC Sisak 0.74 122 ePg Pn 18 49 52.4 +0.1
SISC Sg Sn 18 50 01.9 -1.9
CEY Cerknica 0.75 260 iPg Pg 18 49 49.9 0.0
comp=Z,45nm,0.1s
CEY Cerknica 0.75 260 iPg Pg 18 49 49.9 0.0
comp=Z,45nm,0.1s
KOGS Kog 0.79 43 iPg Pb 18 49 51.6 +0.1
KOGS Kog 0.79 43 iPg Pb 18 49 51.6 +0.1
PERS Pernice 0.81 342 ePg Pb 18 49 51.4 -0.4
comp=Z,68nm,0.1s
PERS Pernice 0.81 342 ePg Pb 18 49 51.4 -0.4
comp=Z,68nm,0.1s
BISS Bistriski jare 0.82 343 iPg Pb 18 49 51.6 -0.3
BISS Bistriski jare 0.82 343 iPg Pb 18 49 51.6 -0.3
MOZS Mozjanca 0.84 301 iPg Pb 18 49 52.0 -0.3
MOZS Mozjanca 0.84 301 iPg Pb 18 49 52.0 -0.3
SOKA Soboth 0.87 339 ePg Pg 18 49 52.4 +0.3
SNR=80
SOKA ⇑iSg Sg 18 50 04.1 +0.7
comp=Z,68nm,0.5s
SOKA Soboth 0.87 339 Pg Pg 18 49 52.4 +0.3
SNR=80
SOKA Sg Sg 18 50 04.1 +0.7
comp=Z,68nm,0.5s
CRNS Crni Vrh 0.88 284 iPg Pg 18 49 52.4 +0.1
CRNS iSg Sb 18 50 05.0 +0.1
comp=Z,94nm,0.2s
OBKA Obir 0.91 315 ePg Pb 18 49 53.5 -0.1
SNR=68
OBKA ⇑iSg Sb 18 50 05.8 -0.2
comp=Z,163nm,0.4s
OBKA Obir 0.91 315 Pg Pb 18 49 53.5 -0.1
SNR=68
OBKA Sg Sb 18 50 05.8 -0.2
comp=Z,163nm,0.4s
JAVS Javornik 0.99 272 iPg Pg 18 49 54.1 -0.3
comp=Z,51nm,0.2s
JAVS Javornik 0.99 272 iPg Pg 18 49 54.2 -0.3
comp=Z,51nm,0.2s
SKDS Skadanscina 1.08 253 iPg Pg 18 49 55.5 -0.6
SKDS iSg Sb 18 50 10.2 -0.5
comp=Z,45nm,0.1s
SKDS Skadanscina 1.08 253 iPg Pg 18 49 55.5 -0.6
SKDS iSg Sb 18 50 10.2 -0.5
comp=Z,45nm,0.1s
GORS Gorjuse 1.13 294 iPg Pn 18 49 57.2 -0.5
GORS iSg Sn 18 50 12.6 -0.9
comp=Z,93nm,0.3s
GORS Gorjuse 1.13 294 iPg Pn 18 49 57.2 -0.5
GORS iSg Sn 18 50 12.6 -0.9
comp=Z,93nm,0.3s
VOJS Vojsko 1.13 279 iPg Pg 18 49 56.5 -0.6
VOJS Vojsko 1.13 279 iPg Pg 18 49 56.5 -0.6
TRI Trieste 1.21 263⇑ePg Pb 18 49 58.1 -0.6
TRI eSg Sn 18 50 16.2 +0.8
TRI Trieste 1.21 263 eP Pb 18 49 58.1 -0.6
TRI eSg Sn 18 50 16.2 +0.8
CADS Cadrg 1.27 287 iPg Pn 18 49 59.2 -0.4
CADS iSg Sn 18 50 17.5 +0.6
comp=Z,52nm,0.1s
CADS Cadrg 1.27 287 iPg Pn 18 49 59.2 -0.4
CADS iSg Sn 18 50 17.5 +0.6
comp=Z,52nm,0.1s
DRE Drenchia 1.31 284⇓ePg Pn 18 49 59.8 -0.5
DRE eSg Sg 18 50 19.1 +1.4
DRE Drenchia 1.31 284 eP Pn 18 49 59.8 -0.5
DRE eSg Sg 18 50 19.1 +1.4
SABO M.te Sabotino 1.32 275⇑ePg Pn 18 49 59.8 -0.5
SABO eSg Sg 18 50 18.7 +0.9
SABO M.te Sabotino 1.32 275 eP Pn 18 49 59.8 -0.5
SABO eSg Sg 18 50 18.7 +0.9
UDBI Udbina 1.36 171 ePg Pg 18 50 01.4 -0.2
UDBI Sg Sg 18 50 21.3 +2.2
UDBI Udbina 1.36 171 ePg Pg 18 50 01.3 -0.2
UDBI Sg Sg 18 50 21.3 +2.2
NVLJ Novalja 1.38 198 ePg Pg 18 50 02.6 +0.8
NVLJ Sg Sg 18 50 21.1 +1.4
NVLJ Novalja 1.38 198 ePg Pg 18 50 02.6 +0.8
NVLJ Sg Sg 18 50 21.1 +1.4
ARSA Arzberg 1.38 1 ePg Pn 18 50 01.1 -0.1
ARSA eSg Sg 18 50 20.4 +0.5
ARSA Arzberg 1.38 1⇓ePn Pn 18 50 01.0 -0.1
SNR=23
ARSA ⇑iSn Sg 18 50 20.5 +0.5
ARSA Arzberg 1.38 1 Pn Pn 18 50 01.0 -0.1
SNR=23
ARSA eSg Sg 18 50 20.4 +0.5
ROBS Robic 1.42 286 iPg Pb 18 50 02.0 -0.3
ROBS iSg Sg 18 50 22.1 +0.9
comp=Z,26nm,0.2s
ROBS Robic 1.42 286 iPg Pb 18 50 02.0 -0.3
ROBS iSg Sg 18 50 22.1 +0.9
comp=Z,26nm,0.2s
MYKA Terra Mystica 1.48 301⇑ePg Pg 18 50 04.0 0.0
SNR=32
MYKA ⇑iSn Sg 18 50 23.4 +0.2
MYKA ⇑iSg Sb 18 50 24.8 +2.3
comp=Z,14nm,0.2s
MYKA Terra Mystica 1.48 301 Pg Pg 18 50 04.0 0.0
SNR=32
MYKA Sn Sg 18 50 23.4 +0.2
MYKA Sg Sb 18 50 24.8 +2.3
comp=Z,14nm,0.2s
LSR Lussari 1.49 295⇑ePg Pb 18 50 03.6 +0.1
LSR eSg Sg 18 50 23.1 -0.2
LSR Lussari 1.49 295 eP Pb 18 50 03.6 +0.1
LSR eSg Sg 18 50 23.0 -0.2
COLI Coloredo 1.49 281⇓ePg Pb 18 50 03.1 -0.3
COLI eSg Sg 18 50 24.9 +1.6
COLI Coloredo 1.49 281 eP Pb 18 50 03.1 -0.3
COLI eSg Sg 18 50 24.9 +1.6
ACOM Acomizza, Ital 1.52 297⇑ePg Pg 18 50 04.5 -0.3
ACOM eSg Sg 18 50 25.9 +1.4
ACOM Acomizza, Ital 1.52 297 eP Pg 18 50 04.4 -0.3
ACOM eSg Sg 18 50 25.9 +1.4
VINO Villanova 1.58 285 ePg Pb 18 50 04.5 -0.5
VINO eSg Sg 18 50 27.0 +0.8
VINO Villanova 1.58 285 eP Pb 18 50 04.5 -0.5
VINO eSg Sg 18 50 27.0 +0.8
BAD Bernadia 1.60 284⇑ePg Pb 18 50 05.0 -0.4
BAD eSg Sg 18 50 28.3 +1.3
BAD Bernadia 1.60 284 eP Pb 18 50 05.0 -0.4
BAD eSg Sg 18 50 28.2 +1.3
BLY Banja Luka 1.64 132 ePg Pb 18 50 05.9 -0.2
BLY eSg Sg 18 50 29.0 +0.7
BLY Banja Luka 1.64 132 ePg Pb 18 50 05.9 -0.2
BLY eSg Sg 18 50 29.0 +0.7
BUA Buia 1.68 283 ePg Pg 18 50 07.2 -0.5
BUA eSg Sg 18 50 31.1 +1.7
BUA Buia 1.68 283 eP Pg 18 50 07.2 -0.5
BUA eSg Sg 18 50 31.1 +1.7
PLRO Paularo 1.76 294 ePn Pb 18 50 07.6 -0.5
PLRO eSn Sg 18 50 33.1 +1.2
PLRO Paularo 1.76 294 eP Pb 18 50 07.6 -0.5
PLRO eSn Sg 18 50 33.1 +1.2
FUSE Fusea 1.81 288⇓ePn Pb 18 50 08.4 -0.5
FUSE Fusea 1.81 288⇓ePn Pb 18 50 08.4 -0.5
ZOU Zoufplan 1.87 292⇑ePn Pb 18 50 09.5 -0.6
ZOU eSn Sg 18 50 37.1 +1.5
KBA Koelnbreinsper 1.91 310⇓iPn Pn 18 50 08.4 -0.1
KBA ⇓iPg Pg 18 50 11.6 -0.4
KBA Koelnbreinsper 1.91 310 Pn Pn 18 50 08.4 -0.1
SOP Sopron 1.96 22⇓ePn Pn 18 50 08.9 -0.2
SOP eSn Sg 18 50 40.7 +2.3
SOP Sopron 1.96 22⇓ePn Pn 18 50 08.9 -0.2
PKS9 Tamasi 2.07 69 ePn Pb 18 50 11.8 -1.5
PKS9 eSn Sg 18 50 51.5 +10
PKS9 Tamasi 2.07 69 ePn Pb 18 50 11.8 -1.5
CONA Conrad Observa 2.08 7⇑ePn Pn 18 50 10.6 -0.2
SNR=6.2
CONA Conrad Observa 2.08 7 Pn Pn 18 50 10.6 -0.2
SNR=6.2
POLC Polcenigo 2.08 275 ePn Pb 18 50 12.4 -1.2
MOA Molln 2.15 338⇓ePn Pn 18 50 11.7 0.0
SNR=8.4
MOA Molln 2.15 338 Pn Pn 18 50 11.7 0.0
SNR=8.4
PKSM Moragy 2.23 80 ePn Pn 18 50 11.7 -1.0
PKSM eSg Sg 18 50 49.4 +2.4
PKSM Moragy 2.23 80⇓ePn Pn 18 50 11.8 -1.0
PKSM eSKPdf Pg 18 50 18.3 +0.1
PKSM eSn Sg 18 50 48.7 +1.7
PKSM Moragy 2.23 80 ePn Pn 18 50 11.7 -1.0
PKSM Moragy 2.23 80 ePg Pg 18 50 18.3 +0.1
PKSM eSg Sg 18 50 49.4 +2.4
PKST T`'s 2.24 51 ePn Pn 18 50 12.5 -0.5
PKST T`'s 2.24 51 ePn Pn 18 50 12.5 -0.5
VARN Col Varnada, M 2.36 274⇑ePn Pn 18 50 15.2 +0.6
VARN Col Varnada, M 2.36 274⇑ePn Pn 18 50 15.2 +0.6
PKSG 2.52 52 ePn Pn 18 50 16.6 -0.1
CGRP Cima Grappa 2.57 272⇑ePn Pn 18 50 18.4 +0.8
CGRP Cima Grappa 2.57 272⇑ePn Pn 18 50 18.4 +0.8
KOSI Kohlern 2.91 283 ePn Pn 18 50 24.0 +1.7
PANI Panarotta 2.92 275 ePn Pn 18 50 23.5 +1.1
PANI Panarotta 2.92 275 ePn Pn 18 50 23.5 +1.1
ABSI Aberstueckl 3.01 288 ePn Pn 18 50 25.7 +2.0
FRGS Fruska Gora 3.13 102 ePn Pn 18 50 24.5 -0.6
FRGS eSg Sg 18 51 17.6 +1.8
FGSL Fruska Gora 3.13 102 ePn Pn 18 50 24.5 -0.6
FGSL eSg Sg 18 51 17.6 +1.7
TEKS Tekeris 3.15 113 ePn Pn 18 50 25.4 -0.1
TEKS Tekeris 3.15 113 ePn Pn 18 50 25.4 -0.1
STON Ston 3.39 151 ePn Pb 18 50 32.1 -3.8
STON Ston 3.39 151 ePn Pb 18 50 32.0 -3.8
KHC Kasperske Hory 3.51 339 ePN Pn 18 50 31.2 +0.8
KHC ex x 18 50 33.6
KHC ePG Pg 18 50 40.5 -2.2
KHC eSN Sn 18 51 11.5 -0.6
KHC eSG Sg 18 51 27.2 -0.9
comp=Z,3.3nm,0.5s
KHC Kasperske Hory 3.51 339 Pn Pn 18 50 31.2 +0.8
KHC Sn Sn 18 51 11.5 -0.6
KHC Sg Sg 18 51 27.2 -0.9
comp=Z,3.3nm,0.5s
DIVS Divibare 3.66 117 ePn Pn 18 50 32.0 -0.5
DIVS Divibare 3.66 117 ePn Pn 18 50 32.0 -0.5
PRU Pruhonice 4.17 352 ePN Pn 18 50 40.0 +0.6
PRU ex x 18 50 48.8
PRU eSN Sn 18 51 26.6 -1.7
PRU eSG Sg 18 51 48.0 -1.3
comp=Z,3.4nm,0.6s
PRU Pruhonice 4.17 352 Pn Pn 18 50 40.0 +0.6
PRU Sn Sn 18 51 26.6 -1.7
PRU Sg Sg 18 51 48.0 -1.3
comp=Z,3.4nm,0.6s
PE1 Pezze di Greco 5.26 164 Sn Sn 18 51 56.2 +1.0
TAR1 Taranto 5.50 166 Sn Sn 18 51 59.0 -2.2

CSEM 28 18:50:58.8±0.1, 40.34N×19.47E, h10km, ML3.2, Error ellipse: s-maj=3.5km s-min=2.5km az=52.0
SKO 28 18:50:58.9, 40.40N×19.46E, h13km, M2.3, ML2.8
ATH 28 18:50:58.0, 40.37N×19.41E, h29km±1km, MD3.2/12
TIR 28 18:50:58.6±1.4, 40.35N×19.56E, h23km±4km, ML3.2
BEO 28 18:51:01.4±1.4, 40.40N×19.61E, h28km±7km, ML2.5/6
THE 28 18:50:59.0, 40.34N×19.35E, h18km±1km, ML2.9/11, Error ellipse: s-maj=2.0km s-min=0.8km az=279.0, Albania

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res
VLO Vlora 0.17 42 iPG Pb 18 51 03.1 +0.1
VLO iSG Sg 18 51 07.1 +0.5
VLO Vlora 0.17 42 P Pg 18 51 03.3 -0.2
VLO S Sg 18 51 07.5 +0.9
VLO Vlora 0.17 42 iPg Pb 18 51 03.1 +0.1
SNR=145
VLO S Sg 18 51 07.5 +0.9
VLO Vlora 0.17 42 P Pg 18 51 03.3 -0.2
SRN Sarande 0.68 132 iPG Pb 18 51 09.6 -2.7
SRN iSG Sb 18 51 19.0 -2.4
SRN Sarande 0.68 132 P Pb 18 51 10.7 -1.6
SRN S Sg 18 51 22.0 +0.5
SRN Sarande 0.68 132 iPg Pb 18 51 09.6 -2.7
SNR=98
SRN Sarande 0.68 132 P Pb 18 51 10.7 -1.6
SRN iSg Sb 18 51 19.0 -2.4
SNR=98
SRN S Sg 18 51 22.0 +0.5
KEK Kerkira 0.72 151 P Pb 18 51 12.2 -0.8
KEK S Sg 18 51 23.0 +0.3
KEK Kerkira 0.72 151 ePN Pb 18 51 11.9 -1.1
KEK eSB Sg 18 51 23.1 +0.4
KEK Kerkira 0.72 151 ePn Pb 18 51 11.9 -1.1
KEK Kerkira 0.72 151 P Pb 18 51 12.2 -0.8
KEK eSb Sg 18 51 23.1 +0.4
IGT Igoumenitsa 1.11 136 P Pn 18 51 18.4 -1.2
IGT S Sb 18 51 33.8 0.0
IGT Igoumenitsa 1.11 136 ePN Pn 18 51 18.4 -1.2
IGT Igoumenitsa 1.11 136 P Pn 18 51 18.4 -1.2
KBN Korca 1.14 75 iPG Pn 18 51 17.6 -2.5
KBN iSG Sb 18 51 32.0 -2.7
KBN Korca 1.14 75 P Pn 18 51 18.5 -1.6
KBN S Sb 18 51 34.6 -0.1
KBN Korca 1.14 75 iPg Pn 18 51 17.6 -2.5
SNR=93
KBN Korca 1.14 75 P Pn 18 51 18.5 -1.6
KBN iSg Sb 18 51 32.0 -2.7
SNR=93
KBN S Sn 18 51 34.6 -0.7
JAN Janina 1.34 120 P Pn 18 51 22.4 -0.5
JAN S Sn 18 51 40.0 -0.3
JAN Janina 1.34 120 ePN Pn 18 51 22.5 -0.4
JAN eSN Sn 18 51 39.4 -0.9

JAN	Janina	1.34	120	eSn	Sn	18 51 39.4	-0.9
JAN				S	Sb	18 51 40.0	-0.6
JAN	Janina	1.34	120	P	Pn	18 51 22.4	-0.5
PE1	Pezze di Greco	1.54	288	eP	Pg	18 51 28.1	-0.5
PHP	Peshkopia	1.58	31	i PN	Pn	18 51 26.8	+0.7
PHP				i SN	Sg	18 51 48.8	-1.3
PHP	Peshkopia	1.58	31	P	Pn	18 51 25.9	-0.2
PHP				S	Sn	18 51 46.5	+0.3
PHP	Peshkopia	1.58	31	P	Pn	18 51 25.9	-0.2
PHP	Peshkopia	1.58	31	i Pn	Pn	18 51 26.8	+0.7
	SNR=63						
PHP				S	Sn	18 51 46.5	+0.3
TAR1	Taranto	1.58	277	eP	Pb	18 51 28.4	+0.7
FNA	Florina	1.61	73	P	Pn	18 51 26.2	-0.4
FNA				S	Sn	18 51 47.5	+0.6
FNA	Florina	1.61	73	eP	Pn	18 51 25.6	-1.0
FNA	Florina	1.61	73	eP	Pn	18 51 25.6	-1.0
FNA	Florina	1.61	73	P	Pn	18 51 26.2	-0.4
FNA				S	Sn	18 51 47.5	+0.6
PUK	Puka	1.75	13	i PN	Pb	18 51 29.7	-0.9
PUK				i SN	Sb	18 51 53.9	+1.5
PUK	Puka	1.75	13	i Pn	Pb	18 51 29.7	-1.0
	SNR=63						
DSL	Palaion Diasel	1.81	131	P	Pn	18 51 29.3	0.0
DSL				S	Sn	18 51 51.2	-0.6
DSL	Palaion Diasel	1.81	131	eP	Pn	18 51 29.4	+0.1
DSL	Palaion Diasel	1.81	131	eP	Pn	18 51 29.4	+0.1
LKD2	Lefkada island	1.85	146	P	Pn	18 51 29.9	0.0
LKD2				S	Sn	18 51 53.5	+0.6
LKD2	Lefkada island	1.85	146	ePB	Pn	18 51 30.0	+0.1
LKD2	Lefkada island	1.85	146	P	Pn	18 51 29.9	0.0
KZN	Kozani	1.85	90	P	Pn	18 51 29.9	-0.1
KZN				S	Sn	18 51 53.0	0.0
KZN	Kozani	1.85	90	eP	Pn	18 51 29.8	-0.2
KZN	Kozani	1.85	90	eP	Pn	18 51 29.8	-0.2
KZN				S	Sn	18 51 53.0	0.0
BAI	Bari	2.02	293	eP	Pb	18 51 34.6	-0.6
PDG	Podgorica	2.09	358	eP	Pb	18 51 35.4	-0.9
PDG				eSg	Sg	18 52 05.4	-0.8
PDG	Podgorica	2.09	358	eP	Pb	18 51 35.4	-0.9
PDG				eSg	Sg	18 52 05.4	-0.8
SG1	Sgolgore (BA)	2.09	285	eP	Pb	18 51 35.3	-1.1
THL	Klokotos Trika	2.19	110	P	Pn	18 51 33.9	-0.6
THL				S	Sn	18 52 02.3	+1.1
THL	Klokotos Trika	2.19	110	eP	Pn	18 51 33.9	-0.6
THL	Klokotos Trika	2.19	110	P	Pn	18 51 33.9	-0.6
THL				S	Sn	18 52 02.3	+1.1
PDO	Prodromos	2.25	140	P	Pn	18 51 34.8	-0.5
PDO	Prodromos	2.25	140	eP	Pn	18 51 34.8	-0.5
PDO	Prodromos	2.25	140	P	Pn	18 51 34.8	-0.5
SKO	Skopje	2.27	43	P	Pn	18 51 36.1	+0.5
SKO	Skopje	2.27	43	eP	Pn	18 51 35.2	-0.4
SKO				eSg	Sb	18 52 08.3	+1.1
SKO	Skopje	2.27	43	i Pn	Pn	18 51 35.6	0.0
SKO				eSn	Sn	18 52 04.4	+1.3
SKO				eLg	Lg	18 52 11.1	
	comp=N,66nm,0.5s						
SKO				eLg	Lg	18 52 14.6	
	comp=E,57nm,0.7s						
SKO	Skopje	2.27	43	eP	Pn	18 51 35.2	-0.4
SKO	Skopje	2.27	43	P	Pn	18 51 36.1	+0.5
SKO				eSn	Sn	18 52 04.4	+1.3
SKO				eSg	Sb	18 52 08.3	+1.1
SKO				eLg	Lg	18 52 11.0	
	comp=E,66nm,0.5s						
VLS	Valsamata	2.37	156	P	Pn	18 51 35.8	-1.2
VLS	Valsamata	2.37	156	eP	Pn	18 51 36.9	-0.1
VLS	Valsamata	2.37	156	P	Pn	18 51 35.8	-1.2
VLS	Valsamata	2.37	156	eP	Pn	18 51 36.9	-0.1
EVR	Evrytania	2.38	126	P	Pn	18 51 37.7	+0.5
EVR				S	Sn	18 52 04.6	-1.3
EVR	Evrytania	2.38	126	eP	Pn	18 51 37.2	0.0
EVR	Evrytania	2.38	126	eP	Pn	18 51 37.2	0.0
EVR	Evrytania	2.38	126	P	Pn	18 51 37.7	+0.5
GRG	Griva	2.41	74	P	Pn	18 51 36.5	-1.0
GRG	Griva	2.41	74	P	Pn	18 51 36.5	-1.0
PVO	Paravola	2.41	135	P	Pn	18 51 37.3	-0.2
PVO	Paravola	2.41	135	P	Pn	18 51 37.3	-0.2
LIT	Litokhoron	2.42	95	P	Pn	18 51 37.1	-0.6
LIT	Litokhoron	2.42	95	P	Pn	18 51 37.1	-0.6
CDT	Castel del Mon	2.45	289	eP	Pb	18 51 40.8	-1.7
TREB	Trebinje	2.49	343	eP	Pb	18 51 41.0	-2.2
TREB				eSn	Sn	18 52 09.4	+0.9
TREB	Trebinje	2.49	343	eP	Pb	18 51 41.0	-2.2
TREB				eSn	Sn	18 52 09.4	+0.9
KFL	Anninata	2.50	153	P	Pn	18 51 38.2	-0.5
KFL	Anninata	2.50	153	P	Pn	18 51 38.2	-0.5
MAKR	Makrakomi, Fth	2.53	121	P	Pn	18 51 39.8	+0.6
MAKR				S	Sn	18 52 10.4	+0.9
MAKR	Makrakomi, Fth	2.53	121	P	Pn	18 51 39.8	+0.6
MAKR				S	Sn	18 52 10.4	+0.9
VAY	Valandovo	2.63	67	P	Pn	18 51 40.0	-0.6
VAY	Valandovo	2.63	67	eP	Pn	18 51 38.9	-1.7
VAY	Valandovo	2.63	67	i Pn	Pn	18 51 41.2	+0.6
VAY				eSn	Sb	18 52 19.5	+1.9
VAY				eLg	Lg	18 52 25.7	
	comp=E,83nm,2.0s						
VAY				eLg	Lg	18 52 28.0	
	comp=N,22nm,0.7s						
VAY	Valandovo	2.63	67	eP	Pn	18 51 38.9	-1.7
VAY	Valandovo	2.63	67	P	Pn	18 51 40.0	-0.6
VAY				eLg	Lg	18 52 25.6	
	comp=N,83nm,2.0s						
AGG	Agios Georgios	2.65	119	P	Pn	18 51 40.8	-0.1
AGG	Agios Georgios	2.65	119	eP	Pn	18 51 41.0	+0.1
AGG	Agios Georgios	2.65	119	P	Pn	18 51 40.8	-0.1
EFP	Efpalio	2.76	133	P	Pn	18 51 42.5	+0.3
EFP	Efpalio	2.76	133	P	Pn	18 51 42.5	+0.3
STON	Ston	2.81	335	eP	Pn	18 51 42.8	-0.2
STON				Sn	Sn	18 52 15.8	-0.6
STON	Ston	2.81	335	eP	Pn	18 51 42.8	-0.2
STON				Sn	Sn	18 52 15.8	-0.6
RLS	Riolos of Patr	2.81	143	eP	Pn	18 51 43.7	+0.7
RLS	Riolos of Patr	2.81	143	eP	Pn	18 51 43.7	+0.7
KNT	Kendrikon	2.82	72	P	Pn	18 51 42.0	-1.2
KNT	Kendrikon	2.82	72	P	Pn	18 51 42.0	-1.2
HORT	Hortiatis	2.88	84	P	Pn	18 51 44.0	0.0
HORT	Hortiatis	2.88	84	P	Pn	18 51 44.0	0.0
KALE	Kalithea	2.91	131	P	Pn	18 51 44.7	+0.2
KALE	Kalithea	2.91	131	eP	Pn	18 51 44.8	+0.3
KALE	Kalithea	2.91	131	P	Pn	18 51 44.7	+0.2
LAKA	Lakka	2.93	135	P	Pn	18 51 44.7	0.0
LAKA	Lakka	2.93	135	eP	Pn	18 51 45.0	+0.3
LAKA	Lakka	2.93	135	P	Pn	18 51 44.7	0.0
LAKA	Lakka	2.93	135	eP	Pn	18 51 45.0	+0.3
SJES	Sjenica	2.96	9	eSg	Sg	18 52 33.0	-1.3
SJES	Sjenica	2.96	9	eSg	Sg	18 52 33.0	-1.3
AXAR	Agios Charalam	3.01	120	P	Pn	18 51 45.9	+0.2
AXAR	Agios Charalam	3.01	120	P	Pn	18 51 45.9	+0.2
DRO	Drossia	3.01	142	P	Pn	18 51 45.6	-0.2
DRO	Drossia	3.01	142	P	Pn	18 51 45.6	-0.2
SOH	Sokhos	3.09	80	P	Pn	18 51 46.2	-0.7
SOH	Sokhos	3.09	80	P	Pn	18 51 46.2	-0.7
XOR	Xorichti	3.12	107	P	Pn	18 51 46.5	-0.8
XOR	Xorichti	3.12	107	P	Pn	18 51 46.5	-0.8
DSF	Desfina	3.13	127	P	Pn	18 51 47.6	+0.1
DSF	Desfina	3.13	127	P	Pn	18 51 47.6	+0.1
PLG	Polygyros	3.13	88	P	Pn	18 51 46.6	-0.9
PLG				S	Sn	18 52 24.3	-0.2
PLG	Polygyros	3.13	88	eP	Pn	18 51 46.4	-1.1
PLG	Polygyros	3.13	88	P	Pn	18 51 46.6	-0.9
PLG				S	Sn	18 52 24.3	-0.2
KLV	Kalavryta, Ach	3.17	136	P	Pn	18 51 48.1	+0.1
KLV	Kalavryta, Ach	3.17	136	P	Pn	18 51 48.1	+0.1
SELS	Selova	3.17	24	eP	Pn	18 51 48.1	+0.1
LKR	Lokris	3.29	120	P	Pn	18 51 50.1	+0.5
LKR	Lokris	3.29	120	P	Pn	18 51 50.1	+0.5
SRS	Serrai	3.32	75	P	Pn	18 51 49.8	-0.2
SRS	Serrai	3.32	75	P	Pn	18 51 49.8	-0.2
GUR	Goura	3.35	135	P	Pn	18 51 50.4	-0.1
GUR				S	Sn	18 52 30.5	+0.6
GUR	Goura	3.35	135	P	Pn	18 51 50.4	-0.1
PAIG	Paliouri	3.35	96	P	Pn	18 51 50.5	+0.1
PAIG	Paliouri	3.35	96	P	Pn	18 51 50.5	+0.1
AMT	Artemida-Makis	3.36	146	P	Pn	18 51 49.9	-0.7
AMT	Artemida-Makis	3.36	146	P	Pn	18 51 49.9	-0.7
OUR	Ouranopolis	3.54	89	P	Pn	18 51 52.3	-0.8
OUR	Ouranopolis	3.54	89	P	Pn	18 51 52.3	-0.8
NVR	Nevrokopi	3.57	72	P	Pn	18 51 52.5	-1.0
NVR	Nevrokopi	3.57	72	P	Pn	18 51 52.5	-1.0
LTK	Loutraki	3.64	128	P	Pn	18 51 54.0	-0.5
LTK	Loutraki	3.64	128	P	Pn	18 51 54.0	-0.5
MRKA	Markates	3.67	115	P	Pn	18 51 54.1	-0.7
MRKA	Markates	3.67	115	P	Pn	18 51 54.1	-0.7
ITM	Ithomi	3.75	147	P	Pn	18 51 56.2	+0.3
ITM	Ithomi	3.75	147	P	Pn	18 51 56.2	+0.3
DIVS	Divibare	3.78	7	P	Pn	18 51 56.1	-0.4
DIVS	Divibare	3.78	7	eSn	Sn	18 52 39.1	-1.6
DIVS	Divibare	3.78	7	P	Pn	18 51 56.1	-0.4
DIVS				eSn	Sn	18 52 39.1	-1.6
PYL	PYLOS	3.92	151	P	Pn	18 51 57.4	-0.9
PYL				S	Sn	18 52 44.8	+1.0
PYL	PYLOS	3.92	151	P	Pn	18 51 57.4	-0.9
PYL				S	Sn	18 52 44.8	+1.0
KAVA	Kavala	3.98	79	P	Pn	18 51 58.4	-0.7
KAVA	Kavala	3.98	79	P	Pn	18 51 58.4	-0.7
DID	Didima	4.15	132	P	Pn	18 52 00.5	-1.0
DID	Didima	4.15	132	P	Pn	18 52 00.5	-1.0
VLI	Veliai	4.58	141	P	Pn	18 52 07.0	-0.4
VLI	Veliai	4.58	141	P	Pn	18 52 07.0	-0.4
ALN	Alexandroupoli	5.13	82	P	Pn	18 52 14.9	0.0
ALN	Alexandroupoli	5.13	82	P	Pn	18 52 14.9	0.0
NVLJ	Novalja	5.36	323	i Pn	Pn	18 52 19.7	+1.7
NVLJ				Sn	Sn	18 53 19.4	+0.2
NVLJ	Novalja	5.36	323	i Pn	Pn	18 52 19.6	+1.6
ANKY	Antikythira Is	5.45	144	P	Pn	18 52 19.2	-0.1
ANKY	Antikythira Is	5.45	144	P	Pn	18 52 19.2	-0.1

JMA 28 18:52:44.4±0.1,38.°54N×144.°38E,h42km,M3.9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.19	285	P	Pn	18 53 19.6	+1.4
OFUJ				eS	Sn	18 53 45.3	+1.2
MIYJ	Miyakonagasawa	2.25	298	P	Pn	18 53 20.3	+1.2
MIYJ				S	Sn	18 53 46.7	+1.1
JMK	Ichinoseki	2.50	280	P	Pn	18 53 24.5	+1.9
JMK				S	Sn	18 53 53.6	+1.7
JOM	Ohasama	2.58	292	P	Pn	18 53 25.3	+1.6
JOM				S	Sn	18 53 55.8	+2.0
JANG	Nango	2.88	310	P	Pn	18 53 28.6	+0.9
JANG				S	Sn	18 54 02.0	+0.9
JOU	Okura	2.92	268	P	Pn	18 53 30.0	+1.6
JOU				S	Sn	18 54 04.1	+1.8
JRG	Rokugo	3.04	287	P	Pn	18 53 32.2	+2.2
JRG				eS	Sn	18 54 08.2	+3.0
JYK	Kaneyama	3.17	278	P	Pn	18 53 34.1	+2.4
JAH	Hinai	3.34	301	P	Pn	18 53 36.2	+2.2
JAH				S	Sn	18 54 14.6	+2.2
JFT	Otama	3.35	254	P	Pn	18 53 36.1	+1.8
JFT				S	Sn	18 54 14.0	+1.1
JTM	Tenmabayashi	3.40	312	P	Pn	18 53 36.0	+1.1
JTM				S	Sn	18 54 14.7	+0.7
JOT	Ohata	3.82	319	P	Pn	18 53 42.0	+1.3
JOT				S	Sn	18 54 23.9	-0.5
JCH	Churui	4.14	350	P	Pn	18 53 44.2	-0.9
JCH				eS	Sn	18 54 30.3	-2.0
NEM2	Nemuro 2	4.93	12	P	Pn	18 53 52.5	-3.4
NEM2				eS	Sn	18 54 44.6	-7.0
JRY	Ryogami san	5.04	242	eS	Sn	18 54 53.6	-1.0
JTKR	Abashiri--Toko	5.44	356	P	Pn	18 54 01.8	-1.1
JTKR				eS	Sn	18 55 00.5	-3.6
JHR	Hokuryu	5.57	340	P	Pn	18 54 06.5	+1.8

ISCJB 28 18:55:11.5±0.5,45.°73N±0.°02×26.°63E±0.°04,h150km±4km, Error ellipse: s-maj=4.6km s-min=3.5km az=149.2
SIGU 28 18:55:11.1,45.°73N×26.°63E,h154km,mb2.6
CSEM 28 18:55:11.4,45.°73N×26.°59E,h156km,MD4.2/2,After BUC
BUC 28 18:55:11.4±0.9,45.°73N×26.°59E,h156km±8km,MD4.2/2, Error ellipse: s-maj=5.6km s-min=4.6km az=6.0
ISC 28 18:55:11.4±1.3,45.°71N±0.°03×26.°62E±0.°03,h156km±6km, n111,σ0.s83/165,42C-51D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.14	9	⇑iP	Pn	18 55 32.2	-0.1
PLOR	Plostina	0.14	9	⇑iP	Pn	18 55 32.2	-0.1
PLOR				iS	Sn	18 55 47.0	-1.4
PLOR	Plostina	0.14	9	⇑iP	Pn	18 55 32.2	-0.1
PLOR				iS	Sn	18 55 47.0	-1.4
VRI	Vrincioaia	0.17	26	⇑iP	Pn	18 55 32.2	-0.2
VRI	Vrincioaia	0.17	26	⇑iP	Pn	18 55 32.2	-0.2
VRI				iS	Sn	18 55 47.5	-1.0
VRI	Vrincioaia	0.17	26	⇑iP	Pn	18 55 32.2	-0.2
VRI				iS	Sn	18 55 47.5	-1.0
ODBI	Odobesti	0.31	81	⇑iP	Pn	18 55 33.6	+1.0
ODBI	Odobesti	0.31	81	⇑iP	Pn	18 55 33.6	+1.0
ODBI				iS	Sn	18 55 49.8	+0.9
ODBI	Odobesti	0.31	81	⇑iP	Pn	18 55 33.6	+1.0
ODBI				iS	Sn	18 55 49.8	+0.9
GRER		0.42	143	⇓iP	Pn	18 55 34.3	+1.2
GRER		0.42	143	⇓iP	Pn	18 55 34.3	+1.2
GRER		0.42	143	⇓iP	Pn	18 55 34.3	+1.2
PETR	Petresti	0.43	89	⇑iP	Pn	18 55 33.6	+0.6
PETR	Petresti	0.43	89	⇑iP	Pn	18 55 33.6	+0.6
PETR				iS	Sn	18 55 49.6	0.0
PETR	Petresti	0.43	89	⇑iP	Pn	18 55 33.6	+0.6
PETR				iS	Sn	18 55 49.6	0.0
MLR	Muntele Rosu	0.52	245	⇑iP	Pn	18 55 33.6	-0.1
MLR	Muntele Rosu	0.52	245	⇑iP	Pn	18 55 33.6	-0.1
MLR				iS	Sn	18 55 49.4	-1.3
MLR	Muntele Rosu	0.52	245	⇑iP	Pn	18 55 33.6	-0.1
MLR				iS	Sn	18 55 49.4	-1.3
ISR	Istrita	0.60	185	⇑iP	Pn	18 55 34.7	+0.7
ISR	Istrita	0.60	185	⇑iP	Pn	18 55 34.7	+0.7
ISR				iS	Sn	18 55 51.6	+0.4
ISR	Istrita	0.60	185	⇑iP	Pn	18 55 34.7	+0.7
ISR				iS	Sn	18 55 51.6	+0.4
SECR		0.78	210	⇓iP	Pn	18 55 35.6	+0.5
SECR		0.78	210	⇓iP	Pn	18 55 35.6	+0.5
SECR				iS	Sn	18 55 53.7	+0.5
SECR		0.78	210	⇓iP	Pn	18 55 35.6	+0.5
SECR				iS	Sn	18 55 53.7	+0.5
TESR	Tescani	0.80	2	⇑iP	Pn	18 55 34.8	-0.4
TESR	Tescani	0.80	2	⇑iP	Pn	18 55 34.8	-0.4
TESR				iS	Sn	18 55 51.2	-2.3
TESR	Tescani	0.80	2	⇑iP	Pn	18 55 34.8	-0.4
TESR				iS	Sn	18 55 51.2	-2.3
PGOR	Pogoanele	0.85	162	⇓iP	Pn	18 55 36.1	+0.6
PGOR	Pogoanele	0.85	162	⇓iP	Pn	18 55 36.1	+0.6
PGOR				iS	Sn	18 55 54.6	+0.7
PGOR	Pogoanele	0.85	162	⇓iP	Pn	18 55 36.1	+0.6
PGOR				iS	Sn	18 55 54.6	+0.7
DOPR	Dopca	0.90	287	⇑iP	Pn	18 55 35.8	-0.1
DOPR	Dopca	0.90	287	⇑iP	Pn	18 55 35.8	-0.1
DOPR				iS	Sn	18 55 55.1	+0.4
DOPR	Dopca	0.90	287	⇑iP	Pn	18 55 35.8	-0.1
DOPR				iS	Sn	18 55 55.1	+0.4
PLAR	PLOIESTI	0.90	208	⇓iP	Pn	18 55 36.5	+0.6
PLAR	PLOIESTI	0.90	208	⇓iP	Pn	18 55 36.5	+0.6
PLAR				iS	Sn	18 55 55.2	+0.5
PLAR	PLOIESTI	0.90	208	⇓iP	Pn	18 55 36.5	+0.6
PLAR				iS	Sn	18 55 55.2	+0.5
SULR		1.07	194	⇓iP	Pn	18 55 37.8	+0.5
SULR		1.07	194	⇓iP	Pn	18 55 37.8	+0.5
SULR				iS	Sn	18 55 57.4	+0.4
SULR		1.07	194	⇓iP	Pn	18 55 37.8	+0.5
SULR				iS	Sn	18 55 57.4	+0.4
VOIR		1.14	256	⇑iP	Pn	18 55 37.7	-0.3
VOIR		1.14	256	⇑iP	Pn	18 55 37.7	-0.3
VOIR				iS	Sn	18 55 57.2	-1.1
VOIR		1.14	256	⇑iP	Pn	18 55 37.7	-0.3
VOIR				iS	Sn	18 55 57.2	-1.1
GIUM	Giurgiulesti	1.14	101	⇓iP	Pn	18 55 38.7	+0.8
GIUM	Giurgiulesti	1.14	101	⇓iP	Pn	18 55 38.7	+0.8
GIUM				iS	Sn	18 55 57.7	-0.4
GIUM	Giurgiulesti	1.14	101	⇓iP	Pn	18 55 38.7	+0.8
GIUM				iS	Sn	18 55 57.7	-0.4
CFR	Carcaliu	1.20	116	⇓iP	Pn	18 55 38.6	+0.2
CFR	Carcaliu	1.20	116	⇓iP	Pn	18 55 38.6	+0.2
CFR				iS	Sn	18 55 58.4	-0.6
CFR	Carcaliu	1.20	116	⇓iP	Pn	18 55 38.6	+0.2
CFR				iS	Sn	18 55 58.4	-0.6
LEOM	Leova	1.36	56	⇑iP	Pn	18 55 40.6	+0.6
LEOM	Leova	1.36	56	⇑iP	Pn	18 55 40.6	+0.6
LEOM				iS	Sn	18 56 01.3	-0.6
LEOM	Leova	1.36	56	⇑iP	Pn	18 55 40.6	+0.6
LEOM				iS	Sn	18 56 01.3	-0.6
CIOR	Ciorogarla	1.37	203	⇓iP	Pn	18 55 40.2	+0.1
CIOR	Ciorogarla	1.37	203	⇓iP	Pn	18 55 40.2	+0.1
CIOR				iS	Sn	18 56 01.3	-0.7
CIOR	Ciorogarla	1.37	203	⇓iP	Pn	18 55 40.2	+0.1
CIOR				iS	Sn	18 56 01.3	-0.7
HARR	Harsova	1.38	137	⇓iP	Pn	18 55 40.6	+0.4
HARR	Harsova	1.38	137	⇓iP	Pn	18 55 40.6	+0.4
HARR	Harsova	1.38	137	⇓iP	Pn	18 55 40.6	+0.4
BUC1	Bucharest	1.43	197	⇓iP	Pn	18 55 41.0	+0.3
BUC1	Bucharest	1.43	197	⇓iP	Pn	18 55 41.0	+0.3
BUC1				iS	Sn	18 56 02.4	-0.7
BUC1	Bucharest	1.43	197	⇓iP	Pn	18 55 41.0	+0.3
BUC1				iS	Sn	18 56 02.4	-0.7
ARR	Arges	1.44	257	⇓iP	Pn	18 55 41.9	+1.1
ARR	Arges	1.44	257	⇓iP	Pn	18 55 41.9	+1.1
ARR				iS	Sn	18 56 03.4	0.0
ARR	Arges	1.44	257	⇓iP	Pn	18 55 41.9	+1.1
ARR				iS	Sn	18 56 03.4	0.0
GOLR		1.46	234	S	Sn	18 56 04.4	+0.7
GOLR		1.46	234	iS	Sn	18 56 04.4	+0.7
GOLR		1.46	234	iS	Sn	18 56 04.4	+0.7
TLCR		1.63	108	⇓iP	Pn	18 55 43.2	+0.5
TLCR		1.63	108	⇓iP	Pn	18 55 43.2	+0.5
TLCR				iS	Sn	18 56 06.9	+0.1
TLCR		1.63	108	⇓iP	Pn	18 55 43.2	+0.5
TLCR				iS	Sn	18 56 06.9	+0.1
CVD	Cernavoda	1.72	144	⇓iP	Pn	18 55 44.2	+0.5
CVD	Cernavoda	1.72	144	⇓iP	Pn	18 55 44.2	+0.5
CVD				iS	Sn	18 56 07.0	-1.5
CVD	Cernavoda	1.72	144	⇓iP	Pn	18 55 44.2	+0.5
CVD				iS	Sn	18 56 07.0	-1.5
TIRR	Tirgusor	1.79	134	⇓iP	Pn	18 55 45.0	+0.6
TIRR	Tirgusor	1.79	134	⇓iP	Pn	18 55 45.0	+0.6
TIRR				iS	Sn	18 56 08.1	-1.7
TIRR	Tirgusor	1.79	134	⇓iP	Pn	18 55 45.0	+0.6
TIRR				iS	Sn	18 56 08.1	-1.7
MSAB	Monastry St. A	1.83	152	⇓iP	Pn	18 55 45.6	+0.6
MSAB	Monastry St. A	1.83	152	⇓iP	Pn	18 55 45.6	+0.6
MSAB				iS	Sn	18 56 09.6	-1.2
MSAB	Monastry St. A	1.83	152	⇓iP	Pn	18 55 45.6	+0.6
MSAB				iS	Sn	18 56 09.6	-1.2
LOT	Lotru	2.02	263	⇑iP	Pn	18 55 47.7	+0.5
LOT	Lotru	2.02	263	⇑iP	Pn	18 55 47.7	+0.5
LOT	Lotru	2.02	263	⇑iP	Pn	18 55 47.7	+0.5
BURAR	Bucovina Array	2.13	334	⇑iP	Pn	18 55 49.8	+1.3
BURAR	Bucovina Array	2.13	334	⇑iP	Pn	18 55 49.8	+1.3
BURAR	Bucovina Array	2.13	334	⇑iP	Pn	18 55 49.8	+1.3
EFOR	EFORIE	2.17	138	S	Sn	18 56 17.3	-0.4
EFOR	EFORIE	2.17	138	iS	Sn	18 56 17.3	-0.4
EFOR	EFORIE	2.17	138	iS	Sn	18 56 17.3	-0.4
PSN	Preselentsi	2.32	151	⇑iP	Pn	18 55 51.6	+1.0
PSN	Preselentsi	2.32	151	⇑iP	Pn	18 55 51.6	+1.0
PSN				iS	Sn	18 56 20.9	+0.1
PSN	Preselentsi	2.32	151	⇑iP	Pn	18 55 51.6	+1.0
PSN				iS	Sn	18 56 20.9	+0.1
MANR	Mangalia	2.36	143	⇓iP	Pn	18 55 51.8	+0.7
MANR	Mangalia	2.36	143	⇓iP	Pn	18 55 51.8	+0.7
MANR				iS	Sn	18 56 21.4	-0.2
MANR	Mangalia	2.36	143	⇓iP	Pn	18 55 51.8	+0.7
MANR				iS	Sn	18 56 21.4	-0.2
SRE	Strehaia	2.63	248	S	Sn	18 56 26.3	-1.3
SRE	Strehaia	2.63	248	iS	Sn	18 56 26.3	-1.3
SRE	Strehaia	2.63	248	iS	Sn	18 56 26.3	-1.3
GZR	Gura Zlata	2.72	265	⇓iP	Pn	18 55 55.8	+0.3
GZR	Gura Zlata	2.72	265	⇓iP	Pn	18 55 55.8	+0.3
GZR	Gura Zlata	2.72	265	⇓iP	Pn	18 55 55.8	+0.3
KSV	Kosov	2.81	338	eP	Pn	18 55 56.7	+0.1
KSV				Pm		18 55 57.1	
KSV				eS	Sn	18 56 31.5	-0.1
KSV				Sm		18 56 48.5	
KMPD	K-Podol'skiy	2.85	358	i P	Pn	18 55 56.4	-0.6
KMPD				i S	Sn	18 56 31.6	-0.9
NSLU	Nyzhne Selyshc	2.89	330	i P	Pn	18 56 02.9	+5.4
NSLU				eS	Sn	18 56 42.9	+10
JMB	Yambol	3.25	180	S	Sn	18 56 39.0	-2.4
JMB	Yambol	3.25	180	iS	Sn	18 56 39.0	-2.4
JMB	Yambol	3.25	180	iS	Sn	18 56 39.0	-2.4
KORU	Korolevo	3.42	317	i P	Pn	18 56 03.9	-0.3
KORU				eS	Sn	18 56 45.3	+0.1
HORU	Horodok	3.50	358	i P	Pn	18 56 05.8	+0.5
HORU				i S	Sn	18 56 47.6	+0.3
SHIU	Shidnytsya	4.15	329	eP	Pn	18 56 14.8	+1.1
SHIU				eS	Sn	18 57 02.8	+0.6
MMB	Musomiste	4.62	208	⇑iP	Pn	18 56 20.7	+0.7
MMB	Musomiste	4.62	208	⇑iP	Pn	18 56 20.7	+0.7
MMB	Musomiste	4.62	208	⇑iP	Pn	18 56 20.7	+0.7

GUC 28 18:56:20.9±0.7,32.°99S×72.°08W,h20km±4km,ML4.2, 3C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.37	95	⇓iP	Pb	18 56 29.3	+0.6
IHA				iS	Sb	18 56 35.2	+1.1
ROCH	El Roble	0.90	89	⇓iP	Pb	18 56 38.2	0.0
ROCH				iS	Sb	18 56 50.4	+0.4
ROCH				AML	AML	18 56 53.6	
	comp=N,34μm,0.3s						
RCDM	Rinconada Maip	1.18	115	⇓iP	Pb	18 56 42.6	0.0
RCDM				iS	Sn	18 56 59.3	+1.5
PEL	Peldehue	1.18	98	⇑iP	Pb	18 56 42.9	+0.1
PEL				iS	Sn	18 56 60.0	+2.0
PEL				AML	AML	18 57 04.4	
	comp=E,7μm,0.5s						
SAN	Santiago	1.27	111	⇑iP	Pb	18 56 44.7	+0.4
SAN				iS	Sb	18 57 02.1	+1.8
STL	Santa Lucia	1.28	110	⇑iP	Pn	18 56 43.3	-0.5
STL				iS	Sb	18 57 01.5	+0.9
FCH	Farellones	1.54	103	iP	Pn	18 56 42.0	-5.7
FCH				iS	Sn	18 56 58.3	-9.1
FCH				AML	AML	18 57 04.2	
	comp=N,4μm,0.4s						

IDC 28 19:01:02.5±0.8,36.°46S×73.°39W,h0km,mb4.2/10, mb1 4.3/12,mb1mx4.2/27,mbtmp4.1/12,ML4.1/2,MS3.6/2, Ms1 3.6/2,ms1mx3.3/26,Error ellipse: s-maj=27.8km s-min=19.2km az=94.0
ISCJB 28 19:01:05.3±0.4,36.°51S±0.°05×73.°38W±0.°08,h27km, mb4.6/24,Error ellipse: s-maj=9.5km s-min=6.5km az=164.9
BJI 28 19:01:06.9,36.°98S×73.°69W,h40km,mB5.2/2,Ms5.1/2, Ms7 5.0/2
NEIC 28 19:01:08.9±1.3,36.°45S×73.°28W,h45km±11km,mb4.9/16, Error ellipse: s-maj=15.0km s-min=7.7km az=78.0
ISC 28 19:01:06.3±0.5,36.°50S±0.°06×73.°55W±0.°10,h27km,n49, σ1.s27/60,mb4.7/24,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.84	152	Pn	Pn	19 02 18.3	+0.8
	3.6nm,0.3s,baz=337,slow=10,SNR=12						
PLCA				Lg	Lg	19 03 34.1	
	2.2nm,0.3s,baz=51,slow=19,SNR=3.0						
PLCA	Paso Flores	4.84	152	ePn	Pn	19 02 17.3	-0.1
PLCA				eSn	Sn	19 03 12.3	-0.3
PLCA				Lg	Lg	19 03 34.1	
CFAA	Coronel Fontan	6.58	44	Pn	Pn	19 02 39.9	-1.4
	0.8nm,0.3s,baz=209,slow=13,SNR=4.4						
CFAA				Sn	Sn	19 03 57.6	+2.2
	0.3nm,0.3s,baz=37,slow=20,SNR=2.5						
CFAA				LR	LR	19 05 13.8	
	comp=Z,168nm,18.6s,baz=225,slow=39						
TRQA	Tornquist	9.35	103	ePn	Pn	19 03 19.5	+0.1
LVC	Limon Verde	14.41	17	ePn	Pn	19 04 30.0	+1.2
CPUP	Villa Florida	17.14	58	LR	LR	19 11 36.3	
	comp=Z,512nm,19.4s,baz=215,slow=37						
LPAZ	La Paz	20.70	15	P	P	19 05 45.9	+0.8
	3.5nm,0.8s,baz=185,slow=6.0,SNR=5.8						
LPAZ	La Paz	20.70	15	eP	P	19 05 43.8	-1.3
	9.7nm,0.9s						
SIV	San Ignacio	23.24	32	P	P	19 06 11.3	-0.3
	5.2nm,0.9s,baz=237,slow=10,SNR=7.1						
BDFB	Brasilia	30.78	54	P	P	19 07 18.1	-1.8
	2.7nm,0.8s,baz=183,slow=6.7,SNR=3.5						
SNAA	Sanae	49.76	157	eP	P	19 09 56.8	+0.8
	16nm,1.1s						

QSPA South Pole Qui 53.74 180 P P 19 10 26.8 +0.8
8.0nm,1.0s,baz=147,slow=4.4,SNR=11
NATX Nacogdoches 70.72 341 eP P 19 12 19.6 -0.2
62nm,1.0s
TXAR Lajitas Array 71.34 332 P P 19 12 24.6 +0.9
0.6nm,0.7s,baz=156,slow=7.1,SNR=6.4
SWET Sewanee 72.27 349 eP P 19 12 28.8 -0.3
16nm,0.9s
WVT Waverly 73.47 348 eP P 19 12 33.8 -2.4
DBIC Dimbokro 77.14 72 P P 19 12 57.2 -0.6
3.5nm,0.9s,baz=199,slow=5.3,SNR=4.2
ANMO Albuquerque 77.40 333 eP P 19 12 59.3 +0.3
LBTB Lobatse 82.37 115 eP P 19 13 26.7 +0.4
70nm,2.1s
CCUT Cedar City 82.38 329 eP P 19 13 26.2 +0.3
39nm,2.4s
ECSD EROS Data Cent 82.56 343 eP P 19 13 25.6 -0.8
9.3nm,0.8s
SRU San Rafael 82.60 332 eP P 19 13 27.3 +0.3
3.3nm,0.8s
MVU Marysvale 82.73 330 eP P 19 13 29.9 +2.1
11nm,1.6s
DUG Dugway 84.42 331 eP P 19 13 36.8 +0.5
4.6nm,1.0s
NVAR Mina Array Bea 85.25 326 P P 19 13 41.5 +0.9
0.7nm,0.6s,baz=147,slow=6.5,SNR=5.4
PDAR Pinedale Array 85.45 334 P P 19 13 41.9 +0.4
1.3nm,0.9s,baz=157,slow=4.2,SNR=7.7
TORD Torodi Ar. Bea 86.21 71 P P 19 13 44.8 -0.9
1.9nm,1.0s,baz=242,slow=4.0,SNR=8.4
REDW Red Top Meadow 86.43 334 eP P 19 13 47.8 +1.5
5.8nm,1.0s
LOHW Long Hollow 86.56 334 eP P 19 13 48.0 +1.1
TPAW Teton Pass 86.57 334 eP P 19 13 48.8 +1.7
79nm,2.6s
FXWY Fox Creek 86.73 334 eP P 19 13 48.8 +1.0
10nm,1.6s
IMW Indian Meadow 86.92 334 eP P 19 13 50.1 +1.3
4.9nm,1.0s
FLWY Flagg Ranch 87.00 334 eP P 19 13 50.7 +1.6
6.2nm,0.9s
HLID Hailey 87.92 332 eP P 19 13 54.1 +0.6
38nm,2.5s
ULM Lac du Bonnet 88.60 346 P P 19 13 56.4 +0.1
3.8nm,1.0s,baz=201,slow=4.2,SNR=4.0
ABKAR Akbulak array 144.17 54 ePKPdf PKPab 19 20 36.9 0.0
PSI Prapat 145.76 167 PKPbc PKPdf 19 20 42.9 -0.3
4.9nm,0.6s,baz=114,slow=0.7,SNR=6.9
HYB Hyderabad 148.88 120 i PKP PKPbc 19 20 51.0 -1.0
YAK Yakutsk 150.62 338 ePKPbc PKPbc 19 20 54.9 0.0
KSH Kashi 155.85 74 ePKP PKPab 19 21 24.0 -0.8
KSH ePKP PKPab 19 21 24.0 -0.8
ZALV Zalesovo Beam 156.99 34 PKP PKPdf 19 20 58.3 -0.4
0.6nm,0.6s,baz=281,slow=3.9,SNR=4.2
ZALV PKPab PKPab 19 21 29.1 0.0
0.7nm,0.5s,baz=291,slow=7.2,SNR=4.0
MKAR Makanchi Array 159.30 53 PKP PKPdf 19 21 01.6 -0.3
0.3nm,0.6s,baz=2.9,slow=2.9,SNR=4.4
MKAR PKPab PKPab 19 21 38.9 -0.5
0.2nm,0.6s,baz=300,slow=3.2,SNR=3.5
WMQ Urumqi 163.92 57 PKP PKPdf 19 21 07.3 +0.5
WMQ LR LR
comp=N,120nm,22.4s
WMQ LR LR
comp=E,87nm,22.0s
WMQ LR LR
comp=Z,120nm,21.6s
KMI Kunming 168.22 163 PKP PKPdf 19 21 09.3 -1.7
NJ2 Nanjing 168.82 250 ePKP PKPdf 19 21 09.5 -1.3
CD2 Chengdu 173.99 157 PKP PKPdf 19 21 13.5 0.0
GTA Gaotai 174.00 59 ePKP PKPdf 19 21 14.0 +0.6
GTA pPKP pPKPdf 19 21 24.5 +2.1
GTA sPKP 19 21 28.8
HHC Hu-ho-hao-te 174.09 319 ePKP PKPdf 19 21 13.8 +0.5
HHC pPKP pPKPdf 19 21 24.3 +1.9
HHC sPKP 19 21 28.8
HHC PP PP 19 26 40.0 +3.2
HHC SKS SKSdf 19 28 11.5 -3.1
HHC SS SS 19 47 52.3 -1.9
HHC AMB AMB
comp=Z,160nm,6.0s
HHC LR LR
comp=N,230nm,19.6s
HHC LR LR
comp=E,290nm,19.3s
HHC LR LR
comp=Z,520nm,19.7s
LZH Lanzhou 177.86 100 ePKP PKPdf 19 21 13.8 -0.6
LZH pPKP pPKPdf 19 21 24.5 +1.0
LZH sPKP 19 21 28.0
LZH PP PP 19 26 58.8 +3.0
LZH AMB AMB
comp=Z,140nm,5.0s

IDC **28** *19:10:01.6±0.6, 36.87S×73.49W, h0km, mb4.5/14, mb1 4.6/16, mb1mx4.5/28, mbtmp4.5/16, ML3.9/3, MS4.4/9, Ms1 4.4/9, ms1mx4.1/27, Error ellipse: s-maj=21.3km s-min=14.9km az=87.0*

ISCJB **28** *19:10:02.6±0.2, 36.89S±0.05×73.31W±0.05, h14km, mb4.7/32, MS4.4/6, Error ellipse: s-maj=7.7km s-min=4.9km az=41.9*

BJI **28** *19:10:04.7, 37.02S×73.18W, h35km, mB5.1/6, Ms5.3/5, Ms7 5.0/6*

NEIC **28** *19:10:06.6±0.3, 36.82S×73.42W, h35km, mb4.9/21, Error ellipse: s-maj=8.8km s-min=6.6km az=63.0*

ISC 28 19:10:03.5±0.3, 36.89S±0.06×73.49W±0.07, h14km, n263, σ1§52/272, mb4.7/32, MS4.4/6, 94C-80D, Near coast of central Chile

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

PLCA Paso Flores 4.47 150 Pn Pn 19 11 09.2 -1.8
1.2nm,0.3s,baz=352,slow=14,SNR=7.1
PLCA Lg Lg 19 12 23.5
20nm,0.3s,baz=253,slow=20,SNR=3.7
PLCA Paso Flores 4.47 150 ePn Pn 19 11 10.9 0.0
PLCA eSn Sn 19 12 02.7 -0.1
PLCA Lg Lg 19 12 23.5
CFAA Coronel Fontan 6.83 41 Pn Pn 19 11 43.7 +0.4
0.4nm,0.3s,baz=30,slow=5.6,SNR=8.1
CFAA Sn Sn 19 13 04.2 +3.4
0.9nm,0.3s,baz=210,slow=18,SNR=2.4
CFAA Lg Lg 19 13 37.8
0.7nm,0.3s,baz=168,slow=3.7,SNR=7.4
CFAA LR LR 19 14 57.9
comp=Z,408nm,18.4s,baz=226,slow=44
TRQA Tornquist 9.22 101 ePn Pn 19 12 16.5 +0.4
TRQA eSn Sn 19 13 58.6 -1.0
CPUP Villa Florida 17.30 57 P Pn 19 14 03.1 -1.5
0.5nm,0.3s,baz=216,slow=11,SNR=7.5
CPUP LR LR 19 21 23.0
comp=Z,3μm,20.2s,baz=218,slow=39
CPUP Villa Florida 17.30 57 ePn Pn 19 14 02.7 -1.8
1.5nm,1.0s
USHA Ushuaia 18.28 171 LR LR 19 22 20.9
comp=Z,2μm,18.0s,baz=332,slow=40
LPAZ La Paz 21.06 14 P P 19 14 49.5 +1.7
9.7nm,0.8s,baz=181,slow=8.6,SNR=19
LPAZ La Paz 21.06 14 eP P 19 14 48.1 +0.2
24nm,1.0s
SIV San Ignacio 23.55 31 P P 19 15 13.2 -0.3
8.5nm,1.0s,baz=230,slow=10,SNR=14
SIV LR LR 19 26 13.7
comp=Z,1μm,19.6s,baz=228,slow=41
NNA Nana 24.98 352 P P 19 15 26.0 -0.8
2.8nm,0.3s,baz=191,slow=16,SNR=2.7
PMSA Palmer Station 28.49 172 LR LR 19 26 32.1
comp=Z,485nm,19.9s,baz=298,slow=35
SAML Samuel 29.34 21 eP P 19 16 05.4 -0.6
9.4nm,1.2s
BDFB Brasilia 30.96 54 P P 19 16 19.5 -0.9
6.5nm,0.8s,baz=235,slow=8.5,SNR=12
BDFB LR LR 19 30 15.4
comp=Z,2μm,18.5s,baz=221,slow=39
RPN Rapa Nui 31.76 277 LR LR 19 25 38.5
comp=Z,808nm,21.3s,baz=100,slow=30
ROSC El Rosal 41.53 359 P P 19 17 54.7 +3.7
7.4nm,0.5s,baz=180,slow=2.1,SNR=4.1
SDV Santo Domingo 45.61 4 eP P 19 18 22.3 -1.3
21nm,0.9s
RCBR Riachuelo 46.18 57 P P 19 18 29.1 +1.1
15nm,0.9s,baz=222,slow=13,SNR=6.6
RCBR LR LR 19 38 33.4
comp=Z,816nm,19.1s,baz=207,slow=37

SNAA Sanae 49.38 157 P P 19 18 53.3 +1.1
5.6nm,1.1s,baz=276,slow=5.4,SNR=7.0
SNAA Sanae 49.38 157 eP P 19 18 52.5 +0.3
25nm,1.2s
QSPA South Pole Qui 53.36 180 P P 19 19 23.4 +1.2
8.9nm,0.9s,baz=143,slow=2.8,SNR=22
QSPA South Pole Qui 53.36 180 eP P 19 19 23.1 +0.9
17nm,1.2s
APG El Apazote 54.04 340 LR LR 19 37 42.2
comp=Z,195nm,18.6s,baz=122,slow=31
RKT Rikitea 54.15 266 eS S 19 27 05.6 +0.7
318nm,29.8s
RKT eLR LR 19 35 12.0
556nm,28.8s
RKT Rikitea 54.15 266 eT T 20 17 33.5
3.3nm,0.2s
TEIG Tepich 58.49 344 eP P 19 19 57.5 -1.7
SYO Syowa Base 63.62 158⇑eP P 19 20 32.8 -0.7
MEH Mehetia 67.34 264 eT T 20 33 56.1
73nm,0.2s
TVO Taravao 68.33 264 eT T 20 35 22.7
1.4nm,0.2s
TIAR Tiarei 68.53 264 eT T 20 35 28.6
8.8nm,0.3s
933A Laredo 68.59 336 ⇑P P 19 21 07.3 +1.5
baz=69
PPT2 Papeete2 68.69 264 eS S 19 30 08.1 -1.8
228nm,23.8s
PPT2 Papeete2 68.69 264 eLR LR 19 41 54.4
691nm,25.0s
833A Chaparral WMA, 69.28 336 ⇓P P 19 21 11.6 +1.5
baz=70
636A Smothers Creek 69.63 338 ⇓P P 19 21 13.9 +1.7
baz=70
633A Saathoff Ranch 70.26 336 ⇑P P 19 21 17.9 +1.7
baz=70
632A Uvalde 70.51 336 ⇑P P 19 21 18.9 +1.3
baz=71
340A Bronson 70.58 342 ⇓P P 19 21 19.5 +1.5
baz=71
339A Huntington 70.67 341 ⇓P P 19 21 20.2 +1.7
baz=71
533A Kerrville 70.79 337 ⇑P P 19 21 20.2 +0.8
baz=71
337A Centerville 71.02 340 ⇑P P 19 21 22.0 +1.3
baz=71
532A Rocksprings 71.12 336 ⇓P P 19 21 22.7 +1.2
baz=71
434A Burnet 71.24 338 ⇓P P 19 21 22.9 +0.8
baz=72
336A Riesel 71.35 339 ⇑P P 19 21 24.1 +1.4
baz=72
531A Rocksprings 71.36 335 ⇑P P 19 21 24.1 +1.2
baz=72
JCT Junction City 71.41 336 eP P 19 21 23.9 +0.7
8.9nm,0.8s
JCT Junction City 71.41 336 ⇑P P 19 21 24.5 +1.4
baz=72
530A J-C Ranch, Com 71.62 335 ⇑P P 19 21 25.7 +1.3
baz=72
TXAR Lajitas Array 71.71 332 P P 19 21 25.7 +0.6
2.4nm,0.9s,baz=149,slow=8.6,SNR=17
334A Lometa 71.71 338 ⇑P P 19 21 26.2 +1.2
baz=72
431A Sonora 71.86 336 ⇓P P 19 21 27.3 +1.4
baz=72
529A Stev Forest Ra 71.90 334 ⇓P P 19 21 27.3 +1.2
baz=72
332A Millersview 72.23 337 ⇑P P 19 21 29.2 +1.2
baz=72
429A Davenport Ranc 72.24 334 ⇑P P 19 21 29.5 +1.3
baz=72
234A Clairette 72.31 338 ⇓P P 19 21 29.6 +1.1
baz=73
331A San Angelo 72.38 336 ⇓P P 19 21 29.9 +0.9
baz=73
SWET Sewanee 72.67 349 eP P 19 21 29.6 -1.0
27nm,1.0s
330A Mertzon 72.72 335 ⇓P P 19 21 32.1 +1.1
baz=73
134A White-Moore Ra 72.82 338 ⇑P P 19 21 32.8 +1.3
baz=73
231A Bronte 72.92 336 ⇑P P 19 21 33.2 +1.1
baz=73
329A Wagon Wheel Ra 73.06 335 ⇑P P 19 21 34.3 +1.2
baz=73
133A Hamilton Ranch 73.11 338 ⇑P P 19 21 34.6 +1.3
baz=73
Z35A Perchaven, San 73.29 339 ⇑P P 19 21 35.6 +1.3
baz=74
ABTX Abilene, Hawle 73.34 337 ⇑P P 19 21 35.5 +0.9
baz=74
Z34A Collier Ranch, 73.52 339 ⇑P P 19 21 36.9 +1.3
baz=74
131A Roby 73.62 337 ⇑P P 19 21 37.4 +1.1
baz=74
228A UT Block 9, Go 73.85 335 ⇓P P 19 21 38.8 +1.1
baz=74
WVT Waverly 73.86 348 eP P 19 21 35.2 -2.3
25nm,1.4s
Z32A Haskell 73.93 338 ⇑P P 19 21 39.5 +1.5
baz=74
Y34A Reagan Ranch, 74.03 339 ⇓P P 19 21 39.6 +1.0
baz=74
128A Castleberry Fa 74.27 335 ⇑P P 19 21 40.9 +0.8
baz=75
Z30A Sanderson Ranc 74.43 336 ⇑P P 19 21 42.3 +1.3
baz=75
Z29A Hungry Hill Ra 74.59 336 ⇑P P 19 21 42.7 +0.7
baz=75
PBMO Poplar Bluff 74.96 346 eP P 19 21 43.9 0.0
29nm,1.4s
Y29A Porterfield Fa 75.13 336 ⇑P P 19 21 46.0 +0.9
baz=75
TUL1 Tulsa 75.33 341 eP P 19 21 44.2 -1.9
16nm,1.1s
TUL1 Tulsa 75.33 341 ⇓P P 19 21 46.9 +0.7
baz=76
W33A Caddo, Fort Co 75.35 339 ⇓P P 19 21 47.3 +1.1
baz=76
Z26A Caprock 75.38 334 ⇓P P 19 21 46.9 +0.3
baz=76,SNR=7.2
W32A Sentinel 75.55 338 ⇓P P 19 21 48.2 +0.8
baz=76
Z25A Roswell 75.65 333 ⇑P P 19 21 48.9 +0.8
baz=76
V34A Guthrie 75.72 340 ⇑P P 19 21 49.0 +0.7
baz=76
Y26A Elida 75.91 334 ⇓P P 19 21 50.7 +1.0
baz=76
V33A Lossen Ranch, 75.92 339 ⇓P P 19 21 50.4 +0.9
baz=76
Z24A Sheeppen Canyo 75.93 333 ⇑P P 19 21 50.5 +0.7
baz=76
Y25A Mesa, Roswell 76.22 334 ⇓P P 19 21 52.3 +0.9
baz=76
W29A Amraillo 76.28 337 ⇓P P 19 21 52.9 +1.2
baz=77
X26A CR and CF Fran 76.48 335 ⇓P P 19 21 54.1 +1.2
baz=77
Y24A Capitan 76.49 333 ⇓P P 19 21 54.2 +1.2
baz=77
W27A Bowe Ranch, En 76.69 335 ⇓P P 19 21 55.0 +1.0
baz=77
W26A Owens Ranch, T 76.95 335 ⇓P P 19 21 56.8 +1.3
baz=77
X24A Lazy VL Ranch, 77.06 333 ⇑P P 19 21 57.5 +1.2
baz=77
T33A Patterson Ranc 77.09 340 ⇑P P 19 21 57.4 +1.3
baz=77
DBIC Dimbokro 77.22 72 P P 19 21 58.2 +0.9
9.9nm,0.7s,baz=210,slow=7.0,SNR=19
DBIC Dimbokro 77.22 72 eP P 19 21 56.6 -0.7
14nm,0.8s
ACSO Alum Creek Sta 77.24 353 eP P 19 21 55.2 -1.6
14nm,0.8s
U30A WK&E Inc. Balk 77.27 338 ⇑P P 19 21 58.2 +1.0
baz=78
W25A X Bar L Ranch, 77.31 334 ⇑P P 19 21 58.5 +1.0
baz=78
V26A Tequesquite Ra 77.60 335 ⇑P P 19 21 60.0 +0.8
baz=78
W24A Lazy 6 Ranch, 77.63 334 ⇑P P 19 22 00.6 +1.1
baz=78
ANMO Albuquerque 77.77 333 eP P 19 21 59.4 -0.8
7.6nm,1.2s
U27A Thompson Grove 77.85 336 ⇓P P 19 22 01.6 +1.1
baz=78

W23A Werner Place, 77.85 333 ⇑P P 19 22 01.9 +1.2
baz=78
S32A Newby Ranch, P 77.86 340 ⇓P P 19 22 01.8 +1.4
baz=78
V25A Rancho No Teng 77.92 335 ⇑P P 19 22 01.9 +0.8
baz=78
V24A Rampart Ranch, 78.05 334 ⇑P P 19 22 02.8 +1.0
baz=78
U26A Atchley Ranch, 78.13 335 ⇑P P 19 22 02.8 +0.7
baz=78
R33A Olander Ranch, 78.17 341 ⇑P P 19 22 03.7 +1.6
baz=78
S30A Montezuma 78.24 338 ⇑P P 19 22 04.0 +1.4
baz=78
T28A Walsh 78.27 337 ⇓P P 19 22 04.0 +1.2
baz=79
U25A Circle Dot Ran 78.36 335 ⇓P P 19 22 04.5 +1.1
baz=79
T27A Campo 78.40 336 ⇑P P 19 22 04.8 +1.2
baz=79
S29A Ulysses 78.42 338 ⇓P P 19 22 05.4 +1.8
baz=79
R32A Long Quarter, 78.47 340 ⇑P P 19 22 05.3 +1.5
baz=79
KSU1 Kansas State U 78.56 342 ⇑P P 19 22 05.7 +1.5
baz=79
R31A Burdett 78.58 339 ⇓P P 19 22 05.4 +1.1
baz=79
S28A Manter 78.63 337 ⇑P P 19 22 06.0 +1.3
baz=79
Q33A Connelly Farm, 78.78 341 ⇓P P 19 22 06.9 +1.4
baz=79
R30A Dighton 78.79 339 ⇓P P 19 22 07.0 +1.4
baz=79
T26A Comanche Natio 78.79 336 ⇑P P 19 22 07.0 +1.2
baz=79
V22A San Miguel Ran 78.80 333 ⇓P P 19 22 07.3 +1.4
baz=79,SNR=5.8
U23A El Rito 78.91 334 ⇓P P 19 22 07.6 +1.1
baz=79
T25A Trinidad 79.03 335 ⇑P P 19 22 08.4 +1.2
baz=79,SNR=7.2
S26A Kim 79.16 336 ⇑P P 19 22 08.8 +1.1
baz=80,SNR=5.6
Q31A Ellis 79.21 340 ⇓P P 19 22 09.7 +1.9
baz=80
T24B San Luis 79.29 335 ⇑P P 19 22 10.2 +1.6
baz=80
R28A Tribune 79.30 338 ⇑P P 19 22 09.9 +1.5
baz=80
Q30A Quinter 79.41 339 ⇑P P 19 22 10.4 +1.4
baz=80
S25A Robets Cordova 79.51 335 ⇓P P 19 22 11.3 +1.6
baz=80
R27A Eads 79.55 337 ⇑P P 19 22 11.3 +1.5
baz=80
TSUM Tsumeb 79.56 106 eP P 19 22 10.7 +0.2
12nm,1.4s
P31A Stockton 79.68 340 ⇑P P 19 22 12.4 +2.0
baz=80
S24A Houchin Ranch, 79.75 335 ⇓P P 19 22 12.5 +1.3
baz=80
R26A Arlington 79.77 336 ⇑P P 19 22 12.6 +1.6
baz=80
BOSA Boshof 79.77 118 P P 19 22 12.1 +0.6
9.2nm,0.9s,baz=252,slow=5.9,SNR=10
SWSC Sam W. Stewart 79.91 325 ⇑P P 19 22 13.2 +1.5
baz=80
Q28A Sharon Springs 79.96 338 ⇓P P 19 22 13.8 +1.8
baz=80
P29A Atwood 80.20 339 ⇑P P 19 22 15.1 +1.8
baz=80
R24A Sanders Place, 80.25 335 ⇑P P 19 22 14.6 +0.9
baz=80,SNR=7.5
Q26A Hugo 80.36 337 ⇑P P 19 22 15.9 +1.7
baz=81
S22A 4UR Ranch, Cre 80.41 334 ⇓P P 19 22 16.1 +1.4
baz=81
R23A Moffat 80.46 335 ⇑P P 19 22 16.4 +1.5
baz=81
O30A MW Ranch, Wils 80.48 340 ⇓P P 19 22 16.6 +1.9
baz=81
MVCO Mesa Verde 80.54 332 ⇑P P 19 22 16.9 +1.6
baz=81
Q24A Divide 80.92 336 ⇑P P 19 22 19.3 +1.9
baz=81
P25A Willow Gulch B 81.10 336 ⇑P P 19 22 19.8 +1.5
baz=81
O26A Horse Wrangler 81.50 337 ⇓P P 19 22 21.9 +1.6
baz=82
SMCO Snowmass 81.74 334 eP P 19 22 21.8 -0.1
7.4nm,1.0s
N27A Anderson Farm, 81.78 338 ⇓P P 19 22 23.3 +1.6
baz=82
ISCO Idaho Springs 81.83 336 ⇓P P 19 22 23.5 +1.2
baz=82
L31A Butterfield Fa 82.02 341 ⇑P P 19 22 24.3 +1.5
baz=82
P22A Eagle 82.04 335 ⇑P P 19 22 24.5 +1.3
baz=82
LBTB Lobatse 82.16 115 eP P 19 22 24.1 -0.1
13nm,0.8s
O23A Lake Granby, G 82.31 336 ⇓P P 19 22 26.5 +1.8
baz=83
O22A Kremmling 82.47 335 ⇑P P 19 22 26.1 +0.5
baz=83,SNR=5.1
K30A Basset 82.69 341 ⇓P P 19 22 27.3 +0.9
baz=83
ECSD EROS Data Cent 82.95 343 eP P 19 22 26.6 -1.0
15nm,1.0s
ECSD EROS Data Cent 82.95 343 ⇑P P 19 22 28.2 +0.6
baz=83
SRU San Rafael 82.97 332 eP P 19 22 28.6 +0.6
3.7nm,0.9s
N22A Wattenberg Ran 83.02 335 ⇑P P 19 22 29.5 +1.2
baz=83
M24A Cheyenne 83.09 337 ⇓P P 19 22 30.1 +1.5
baz=83
K28A Ten Mile Ranch 83.20 340 ⇑P P 19 22 30.6 +1.6
baz=84
J29A Okreek 83.56 341 ⇑P P 19 22 31.9 +1.1
baz=84
SPMN St. Paul 83.58 346 ⇑P P 19 22 30.7 -0.1
baz=84
N20A Spence Gulch, 83.66 334 ⇓P P 19 22 33.2 +1.6
baz=84
J28A Allard Ranch, 83.82 340 ⇓P P 19 22 33.5 +1.3
baz=84
L23A Garrett 83.95 336 ⇑P P 19 22 34.0 +0.9
baz=84
I28A Midland 84.34 340 ⇓P P 19 22 35.8 +1.0
baz=85
K23A Bowen Ranch, D 84.50 337 ⇑P P 19 22 36.7 +0.9
baz=85
J25A Sunshine Ranch 84.52 338 ⇑P P 19 22 36.9 +1.1
baz=85
H29A Onida 84.67 341 ⇓P P 19 22 37.1 +0.7
baz=85
K22A Casper 84.70 336 ⇑P P 19 22 38.2 +1.4
baz=85
J24A Dixon Ranch, L 84.73 338 ⇑P P 19 22 38.3 +1.5
baz=85
DUG Dugway 84.79 331 eP P 19 22 37.6 +0.3
7.0nm,1.2s
DUG Dugway 84.79 331 ⇑P P 19 22 38.5 +1.3
baz=85
G30A Faulkton 84.87 342 ⇑P P 19 22 38.7 +1.3
baz=85
K21A Alcova 84.92 336 ⇓P P 19 22 39.3 +1.3
baz=85
I25A Rochford 85.08 339 ⇓P P 19 22 40.1 +1.4
baz=85
H27A Howes 85.17 340 ⇑P P 19 22 40.0 +1.1
baz=86
I24A Kuemmerle Ranc 85.20 338 ⇓P P 19 22 40.0 +0.8
baz=86
RSSD Black Hills 85.26 338 eP P 19 22 38.3 -1.3
4.7nm,0.9s
G28A Parade 85.27 341 ⇓P P 19 22 40.3 +0.9
baz=86
J22A Midwest 85.37 337 ⇓P P 19 22 40.9 +0.8
baz=86
HWUT Hardware Ranch 85.53 332 eP P 19 22 41.0 -0.1
40nm,1.8s
H25A Fruitdale 85.59 339 ⇑P P 19 22 42.8 +1.8
baz=86
NVAR Mina Array Bea 85.60 326 P P 19 22 42.3 +0.8
0.6nm,0.7s,baz=127,slow=5.8,SNR=3.5

I22A 9 Mile Ranch, 85.80 337 ⇓P P 19 22 43.0 +0.8
baz=86
G27A Dupree 85.82 340 ⇓P P 19 22 42.8 +0.7
baz=86
PDAR Pinedale Array 85.82 334 P P 19 22 42.9 +0.4
2.0nm,1.0s,baz=133,slow=6.3,SNR=9.3
J20A Shoshoni 85.84 335 ⇑P P 19 22 43.6 +1.2
baz=86
G26A Maurine 85.92 340 ⇑P P 19 22 43.5 +0.7
baz=86
H24A Dirks Ranch, A 85.98 338 ⇑P P 19 22 43.2 +0.1
baz=86
I21A Big Trails, Te 85.99 336 ⇓P P 19 22 43.8 +0.6
baz=86
J19A Crowheart 86.09 335 ⇑P P 19 22 44.2 +0.5
baz=86
E30A Jud 86.10 343 ⇓P P 19 22 44.3 +0.8
baz=86
TOA0 Torodi Ar. Sit 86.29 71 eP P 19 22 44.9 -0.3
TORD Torodi Ar. Bea 86.29 71 P P 19 22 45.3 +0.1
3.9nm,0.8s,baz=232,slow=3.3,SNR=21
F27A Lemmon 86.30 340 ⇑P P 19 22 44.7 +0.1
baz=87,SNR=5.2
E29A Napoleon 86.34 342 ⇓P P 19 22 45.6 +0.9
baz=87
I20A Worland 86.38 336 ⇑P P 19 22 45.7 +0.6
baz=87
H22A Clearmont 86.39 337 ⇑P P 19 22 45.5 +0.4
baz=87
F26A Lodgepole 86.46 340 ⇑P P 19 22 45.9 +0.5
baz=87
G24A Alzada 86.47 339 ⇓P P 19 22 46.0 +0.6
baz=87
D30A Buchanan 86.63 343 ⇑P P 19 22 47.2 +1.1
baz=87
H21A Big Horn, Sher 86.64 337 ⇓P P 19 22 46.4 0.0
baz=87
G23A Biddle 86.64 338 ⇑P P 19 22 47.2 +0.9
baz=87
E27A Carson 86.69 341 ⇓P P 19 22 47.4 +1.0
baz=87
F25A Bowman 86.74 340 ⇓P P 19 22 48.2 +1.4
baz=87
H20A Greybull 86.82 336 ⇓P P 19 22 48.1 +0.9
baz=87
F24A Ekalaka 86.95 339 ⇓P P 19 22 48.4 +0.7
baz=87
E26A Carlson Angus 86.97 340 ⇓P P 19 22 48.7 +0.8
baz=87
AGMN Agassiz Nation 87.12 345 ⇓P P 19 22 49.0 +0.6
baz=87
C30A Mose, Pekin 87.13 343 ⇓P P 19 22 49.5 +1.1
baz=87
I17A Pilgrim Ck. 87.19 334 ⇑P P 19 22 50.4 +1.2
baz=88
F22A Rosebud 87.43 338 ⇑P P 19 22 50.9 +0.9
baz=88
D26A Manning 87.48 341 ⇓P P 19 22 50.3 +0.1
baz=88,SNR=6.2
H18A Shoshone NF, C 87.54 335 ⇑P P 19 22 51.7 +0.9
baz=88
G20A Bridger 87.54 336 ⇓P P 19 22 51.2 +0.5
baz=88
B30A Myrvik Farm, E 87.80 344 ⇓P P 19 22 51.7 0.0
baz=88,SNR=8.4
D25A Fairfield 87.83 340 ⇓P P 19 22 52.4 +0.5
baz=88
C27A Sayler Ranch, 87.87 341 ⇑P P 19 22 52.7 +0.7
baz=88
C26A Wahner Farm, P 88.12 341 ⇓P P 19 22 53.6 +0.3
baz=88
A30A Hoffart Farm, 88.25 344 ⇓P P 19 22 54.0 +0.2
baz=89
B28A Dugan Ranch, T 88.27 342 ⇓P P 19 22 54.6 +0.7
baz=89
A29A Manning Farm, 88.45 343 ⇑P P 19 22 54.5 -0.2
baz=89,SNR=8.0
C24A Savage 88.48 340 ⇓P P 19 22 55.9 +0.9
baz=89
E20A Meyer Farm, Mu 88.66 337 ⇓P P 19 22 56.5 +0.6
baz=89
E19A Rath Farm, Rou 88.83 336 ⇑P P 19 22 57.4 +0.7
baz=89
ULM Lac du Bonnet 88.99 346 P P 19 22 56.6 -0.6
2.3nm,0.9s,baz=146,slow=4.0,SNR=3.5
DZM Mont Dzumac 98.59 234 eLR LR 19 55 43.9
343nm,25.9s
ASAR Alice Springs 114.47 208 PKP PKPdf 19 28 41.6 -1.8
0.8nm,1.1s,baz=155,slow=3.1,SNR=3.2
ASAR PKKPbc PKKPbc 19 39 21.4 0.0
0.5nm,0.5s,baz=340,slow=3.1,SNR=11
ASAR PKKP PKKPdf 19 39 47.5 +4.3
0.3nm,0.5s,baz=340,slow=3.1,SNR=11
GERES GERESS Array B 115.00 47 PKP PKPdf 19 28 43.5 -0.2
0.8nm,0.7s,baz=258,slow=4.9,SNR=2.7
VYHS Vyhne 117.89 49 ePKP PKPdf 19 28 49.3 +0.2
BRTR Keskin Array B 124.23 63 PKP PKPdf 19 29 01.9 +0.1
1.4nm,0.9s,baz=172,slow=2.5,SNR=6.5
H11S2 WAKE ISLAND Hy 124.52 268 T T 21 46 20.1
baz=117
H11S1 WAKE ISLAND Hy 124.53 268 T T 21 46 21.5
baz=117
H11S3 WAKE ISLAND Hy 124.53 268 T T 21 46 34.9
baz=117
AKASG Malin Array Be 124.99 49 PKP PKPdf 19 29 01.3 -1.3
1.1nm,0.7s,baz=262,slow=2.6,SNR=9.3
AKASG PP PP 19 30 48.4 -3.6
0.7nm,0.7s,baz=250,slow=6.8,SNR=4.8
GEYT Alibeck 141.88 73 PKhKP PKPpre 19 29 29.9
2.6nm,0.9s,baz=259,slow=5.3,SNR=9.0
SEY Seymchan 141.89 328 PKP PKPdf 19 29 35.4 +1.5
2.9nm,0.4s,baz=190,slow=2.4,SNR=12
ABKAR Akbulak array 144.35 55 ePKPdf PKPbc 19 29 37.7 +0.6
PSI Prapat 145.37 167 PKPbc PKPbc 19 29 41.2 -0.2
23nm,0.8s,baz=206,slow=4.3,SNR=6.3
POO Poona 146.01 114 eP PKPbc 19 29 43.0 -0.3
HYB Hyderabad 148.64 121 iPKP PKPbc 19 29 50.0 -0.6
KBL Kabul 149.61 83 ePKPbc PKPbc 19 29 52.9 +0.1
BRVK Borovoye 150.09 46 ePKPbc PKPbc 19 29 53.9 +0.8
KKAR Karatay Array 151.88 66 ePKPdf PKPdf 19 29 51.4 +0.2
KKAR ePKPbc PKPbc 19 29 57.9 +0.2
EKS2 Erkin-Say 154.29 67 ePKPdf PKPdf 19 29 54.9 +0.1
AAK Ala-Archa 154.82 67 ePKPbc PKPbc 19 30 03.8 -0.5
KSH Kashi 155.91 74 ePKP PKPdf 19 29 57.8 +0.6
KSH epPKP pPKPdf 19 30 08.0 +6.0
KSH esPKP 19 30 11.5
KSH eSKS SKSdf 19 36 58.3 -4.8
KSH eSKKS SKKSac 19 40 47.3 -3.6
KSH AMB AMB
comp=Z,67nm,6.3s
KSH LR LR
comp=Z,50nm,7.5s
ZAA0 Zalesovo Array 157.28 34 ePKPdf PKPdf 19 29 57.3 -1.0
ZALV Zalesovo Beam 157.28 34 PKP PKPdf 19 29 58.0 -0.3
3.0nm,0.8s,baz=286,slow=2.6,SNR=15
ZALV PKPab PKPab 19 30 29.7 +0.3
6.7nm,0.9s,baz=306,slow=5.3,SNR=11
MK31 Makanchi Array 159.49 54 ePKPdf PKPdf 19 30 01.1 -0.2
MKAR Makanchi Array 159.49 54 PKP PKPdf 19 30 01.4 +0.1
1.7nm,1.0s,baz=268,slow=1.0,SNR=9.3
MKAR PKPab PKPab 19 30 39.6 +0.3
4.5nm,0.8s,baz=292,slow=4.4,SNR=22
MKAR PP PP 19 34 20.2 -0.9
1.6nm,0.8s,baz=288,slow=6.0,SNR=8.5
WMQ Urumqi 164.09 58 PKP PKPdf 19 30 05.5 -0.6
WMQ LR LR
comp=N,200nm,20.2s
WMQ LR LR
comp=E,170nm,22.0s
WMQ LR LR
comp=Z,230nm,23.2s
KMI Kunming 167.84 164 PKP PKPdf 19 30 06.5 -3.4
NJ2 Nanjing 168.74 248 ePKP PKPdf 19 30 08.8 -1.2
SONM Songino Array 169.06 0 PKPab PKPab 19 31 22.0 +0.7
1.1nm,0.9s,baz=354,slow=2.9,SNR=3.1
GYA Guiyang 169.60 181 ePKP PKPdf 19 30 10.3 -0.6
GYA pPKP pPKPdf 19 30 21.5 +5.8
GYA PKPab PKPab 19 31 25.8 +1.6
GYA PKS PKSdf 19 33 41.0 -2.6
GYA PP PP 19 35 15.3 +2.3
GYA SKKS 19 41 58.0
GYA SS SS 19 56 07.3 -2.0
GYA AMB AMB
comp=Z,120nm,8.1s
GYA LR LR
comp=N,120nm,21.4s
GYA LR LR
comp=E,110nm,21.6s
GYA LR LR
comp=Z,120nm,24.5s
CD2 Chengdu 173.62 158 PKP PKPdf 19 30 11.5 -1.1
GTA Gaotai 174.15 62 ePKP PKPdf 19 30 13.3 +0.6
GTA pPKP pPKPdf 19 30 23.8 +6.3
GTA sPKP 19 30 28.0
GTA PKPab PKPab 19 31 45.5 +1.1
HHC Hu-ho-hao-te 174.42 317 ePKP PKPdf 19 30 12.0 -0.7
HHC pPKP pPKPdf 19 30 22.5 +5.0
HHC sPKP 19 30 26.3
HHC PP PP 19 35 39.5 +1.9
HHC SKS SKSdf 19 37 09.8 -5.5
HHC SS SS 19 56 53.3 -4.6
HHC AMB AMB
comp=Z,130nm,6.4s
HHC LR LR
comp=N,190nm,21.2s
HHC LR LR
comp=E,380nm,18.9s
HHC LR LR
comp=Z,590nm,17.3s
LZH Lanzhou 177.70 110 ePKP PKPdf 19 30 11.8 -1.8
LZH pPKP pPKPdf 19 30 22.5 +4.0
LZH sPKP 19 30 26.3
LZH PP PP 19 35 56.0 +1.9
LZH AMB AMB
comp=Z,140nm,4.5s
LZH LR LR
comp=N,1μm,17.0s
LZH LR LR
comp=E,380nm,16.4s
LZH LR LR
comp=Z,480nm,19.8s

*IDC **28** 19:14:19.8±1.5, 8.°32S×157.°23E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/32, mbtmp3.8/6, Error ellipse: s-maj=54.0km s-min=26.7km az=120.0*
*ISCJB **28** 19:14:22.0±1.6, 8.°3S±0.°2×157.°1E±0.°3, h19km, mb3.7/6, Error ellipse: s-maj=51.1km s-min=21.4km az=27.8*
ISC 28 19:14:23.0±1.6, 8.°3S±0.°2×157.°2E±0.°4, h19km, n9, σ1ˢ07/8, mb3.9/6, Bougainville - Solomon Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 24.96 240 P P 19 19 44.9 -0.7
2.7nm,0.6s,baz=66,slow=9.4,SNR=25
WRA PcP PcP 19 23 20.1 -0.8
0.3nm,0.5s,baz=70,slow=2.7,SNR=5.5
ASAR Alice Springs 27.03 233 P P 19 20 05.0 +0.7
0.5nm,0.8s,baz=61,slow=9.3,SNR=2.9
ASAR PcP PcP 19 23 24.2 -1.4
0.4nm,0.6s,baz=54,slow=2.2,SNR=4.0
STKA Stephens Creek 27.56 210 P P 19 20 09.6 +0.7
4.8nm,1.1s,baz=46,slow=5.8,SNR=3.0
H11S3 WAKE ISLAND Hy 28.25 19 T T 19 48 49.1
baz=199,slow=74
H11S2 WAKE ISLAND Hy 28.25 19 T T 19 48 40.9
baz=199,slow=74
H11S1 WAKE ISLAND Hy 28.27 19 T T 19 48 43.6
baz=199
CMAR Chiang Mai Arr 63.34 295 P P 19 24 50.9 -0.6
0.6nm,0.9s,baz=115,slow=6.1,SNR=3.3
ILAR Eielson Array 83.82 21 P P 19 26 50.9 0.0
0.9nm,1.0s,baz=251,slow=5.6,SNR=5.3
MKAR Makanchi Array 85.85 318 P P 19 27 02.8 +1.2
0.4nm,0.7s,baz=95,slow=6.3,SNR=4.1

*SJA **28** 19:15:43.4±1.1, 33.°74S×72.°76W, h57km±93km, MD4.3, ML4.1*
*IDC **28** 19:15:43.8±0.9, 33.°69S×72.°18W, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.9/23, mbtmp3.8/7, ML2.9/2, Error ellipse: s-maj=35.0km s-min=26.1km az=69.0*
*ISCJB **28** 19:15:45.6±1.3, 33.°67S±0.°05×72.°15W±0.°06, h22km±8km, mb3.9/6, Error ellipse: s-maj=9.0km s-min=8.5km az=15.2*
*NEIC **28** 19:15:48.9±0.5, 33.°67S×72.°14W, h35km, mb4.0/2, Error ellipse: s-maj=14.3km s-min=8.7km az=86.0*
*GUC **28** 19:15:48.0±0.7, 33.°56S×71.°99W, h27km±21km, ML4.0*
ISC 28 19:15:47.3±1.9, 33.°61S±0.°05×72.°17W±0.°07, h23km±13km, n31, σ1ˢ48/33, mb3.9/6, 2C-2D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LNV Longovilo 0.72 119 ⇓iP Pb 19 16 00.6 -0.5
IHA Instituto Hidr 0.73 37 ⇑iP Pb 19 16 00.5 -0.8
IHA iS Sb 19 16 09.3 -1.5
RCDM Rinconada Maip 1.14 84 eP Pn 19 16 05.7 -2.2
RCDM iS Sn 19 16 20.2 -2.7
ROCH El Roble 1.16 57 eP Pn 19 16 07.3 -1.0
ROCH iS Sn 19 16 22.2 -1.3
ROCH AML AML 19 16 31.1
comp=N,5μm,0.5s
STL Santa Lucia 1.29 83 eP Pn 19 16 08.4 -1.5
STL iS Sn 19 16 24.2 -2.3
CHCH Chadas Angostu 1.30 105 ⇓iP Pn 19 16 09.4 -0.7
PEL Peldehue 1.32 70 ⇑iP Pn 19 16 09.9 -0.5
PEL iS Sn 19 16 26.5 -0.9
PEL AML AML 19 16 33.7
comp=N,11μm,0.6s
FCH Farellones 1.59 80 iP Pn 19 16 12.4 -1.9
FCH iS Sn 19 16 32.7 -1.8
FCH AML AML 19 16 35.0
comp=N,4μm,0.7s
AUSP Uspallata 2.71 60 iP Pn 19 16 33.7 +3.9
ARCO CERRO ARCO 2.82 75 iP Pn 19 16 35.8 +4.7
ARCO iS Sb 19 17 13.5 +2.4
ARCO AML AML 19 17 18.6
comp=Z,435nm,0.6s
AAGR Agrelo 2.84 80 iP Pn 19 16 35.8 +4.4
AAGR iP Pn 19 16 35.8 +4.4
ASAL Salagasta 2.98 71 iP Pb 19 16 38.2 -1.4
ASAL iS Sb 19 17 18.0 +2.4
RTLS Leoncito 3.02 54 iP Pb 19 16 39.4 -1.1
RTLS iS Sb 19 17 19.6 +2.6
AVIZ Vizcacheras 3.05 88 iP Pn 19 16 38.6 +4.3
AVIZ iS Sb 19 17 20.4 +2.6
CFAA Coronel Fontan 3.87 60 Pn Pn 19 16 47.5 +2.0
comp=Z,0.3nm,0.3s,baz=224,slow=11,SNR=3.5
CFAA Lg Lg 19 17 37.6
comp=Z,1.0nm,0.3s,baz=84,slow=17,SNR=3.9
AMOG MOGNA 4.09 50 iP Pn 19 16 52.4 +3.8
PLCA Paso Flores 7.23 170 Pn Pn 19 17 30.1 -1.5
TRQA Tornquist 9.39 121 ePn Pn 19 18 01.1 0.0
LVC Limon Verde 11.32 16 Pn Pn 19 18 28.1 +0.1
LPAZ La Paz 17.63 13 P Pn 19 19 52.2 +0.1
comp=Z,0.0nm,0.3s,baz=191,slow=7.9,SNR=2.9
LPAZ La Paz 17.63 13 ePn Pn 19 19 52.0 -0.1
SNAA Sanae 51.99 158 P P 19 24 54.6 +0.2
comp=Z,0.8nm,0.6s,baz=275,slow=11,SNR=4.4
SNAA Sanae 51.99 158 eP P 19 24 53.7 -0.6
comp=Z,1.4nm,0.8s
QSPA South Pole Qui 56.63 180 eP P 19 25 28.7 +0.4
comp=Z,1.9nm,1.0s
TXAR Lajitas Array 69.34 331 P P 19 26 54.5 +1.4
comp=Z,0.6nm,0.7s,baz=150,slow=8.4,SNR=6.1
PDAR Pinedale Array 83.36 333 P P 19 28 12.9 +0.3
comp=Z,0.5nm,0.8s,baz=123,slow=6.6,SNR=3.5
NVAR Mina Array Bea 83.50 325 P P 19 28 14.2 +0.8
comp=Z,0.8nm,0.8s,baz=152,slow=6.7,SNR=4.5
TORD Torodi Ar. Bea 84.18 70 P P 19 28 16.5 -0.6
comp=Z,1.4nm,0.8s,baz=259,slow=4.6,SNR=7.1
WRA Warramunga Arr 121.05 209 PKP PKPdf 19 34 38.2 -0.4
comp=Z,0.6nm,0.8s,baz=163,slow=1.5,SNR=3.7
BVAR Borovoye Array 147.07 42 PKPbc PKPdf 19 35 26.8 +1.1
comp=Z,1.2nm,0.7s,baz=300,slow=3.6,SNR=6.7
ZALV Zalesovo Beam 153.95 32 PKPbc PKPbc 19 35 44.4 +0.2
comp=Z,2.1nm,0.7s,baz=280,slow=2.7,SNR=7.6

*IDC **28** 19:23:39.2±0.8, 35.°43S×73.°11W, h0km, mb4.1/8, mb1 4.2/10, mb1mx4.0/26, mbtmp4.1/10, ML4.0/2, Error ellipse: s-maj=30.4km s-min=20.0km az=106.0*
*ISCJB **28** 19:23:40.2±0.9, 35.°4S±0.°1×73.°0W±0.°2, h17km, mb4.1/8, Error ellipse: s-maj=25.2km s-min=13.6km az=22.2*
*NEIC **28** 19:23:44.5±0.6, 35.°48S×72.°93W, h35km, mb4.1/3, Error ellipse: s-maj=22.4km s-min=12.1km az=116.0*
ISC 28 19:23:42.0±0.8, 35.°5S±0.°1×73.°0W±0.°2, h17km, n20, σ0ˢ73/21, mb4.1/8, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.54 47 Pn Pn 19 25 03.0 -0.8
1.3nm,0.3s,baz=18,slow=7.3,SNR=9.2
CFAA Lg Lg 19 26 31.4
0.2nm,0.3s,baz=86,slow=16,SNR=2.0
PLCA Paso Flores 5.62 160 Lg Lg 19 26 34.0
2.8nm,0.3s,baz=86,slow=19,SNR=5.9
CPUP Villa Florida 16.23 60 Pn Pn 19 27 29.4 +0.1
0.3nm,0.3s,baz=257,slow=14,SNR=2.5
LPAZ La Paz 19.58 14 P Pn 19 28 13.2 +1.9
0.2nm,0.3s,baz=191,slow=6.7,SNR=8.9
LPAZ La Paz 19.58 14 eP Pn 19 28 11.7 +0.5
5.5nm,0.8s
SIV San Ignacio 22.13 32 P P 19 28 36.3 -0.6
3.5nm,0.6s,baz=222,slow=13,SNR=8.7
BDFB Brasilia 29.82 55 P P 19 29 48.2 -0.2
1.9nm,0.6s,baz=199,slow=12,SNR=3.3
SNAA Sanae 50.55 157 P P 19 32 39.5 +0.4
2.1nm,0.8s,baz=264,slow=7.8,SNR=9.2
SNAA Sanae 50.55 157 eP P 19 32 38.8 -0.4
4.1nm,0.9s
QSPA South Pole Qui 54.78 180 P P 19 33 10.6 -0.1
1.5nm,0.8s,baz=167,slow=2.3,SNR=6.2
QSPA South Pole Qui 54.78 180 P P 19 33 11.1 +0.5
2.0nm,1.0s
TXAR Lajitas Array 70.62 332 P P 19 34 55.7 -0.8
0.4nm,0.5s,baz=155,slow=9.3,SNR=9.3
TXAR PKKP PKKPdf 19 54 41.2 -0.2
0.4nm,0.8s,baz=304,slow=0.3,SNR=3.5
DBIC Dimbokro 76.41 72 P P 19 35 31.6 +0.8
3.8nm,0.7s,baz=203,slow=6.0,SNR=6.2
BOSA Boshof 80.10 118 P P 19 35 51.2 -0.1
3.1nm,0.7s,baz=245,slow=3.2,SNR=8.0
NVAR Mina Array Bea 84.63 326 PKKPbc PKKPbc 19 54 22.9 -2.9
0.6nm,0.8s,baz=298,slow=4.0,SNR=3.6
TORD Torodi Ar. Bea 85.46 70 P P 19 36 19.2 +0.1
1.0nm,0.8s,baz=257,slow=4.2,SNR=7.2
WRA Warramunga Arr 119.10 210 PKP PKPdf 19 42 29.5 -1.0
0.2nm,0.7s,baz=141,slow=1.2,SNR=3.7
BVAR Borovoye Array 148.89 44 PKPbc PKPbc 19 43 28.8 +0.6
2.6nm,0.7s,baz=291,slow=2.8,SNR=22
ZALV Zalesovo Beam 155.88 33 PKP PKPdf 19 43 34.3 -0.3
0.6nm,0.4s,baz=282,slow=4.0,SNR=2.2
ZALV PKPab PKPab 19 44 02.0 +0.5
0.9nm,0.3s,baz=302,slow=4.9,SNR=5.2
MKAR Makanchi Array 158.31 51 PKP PKPdf 19 43 39.0 +1.0
0.4nm,0.8s,baz=262,slow=2.9,SNR=3.7
MKAR PKPab PKPab 19 44 11.9 -0.4
0.5nm,0.7s,baz=285,slow=4.8,SNR=4.3

*IDC **28** 19:24:39.6±1.2, 1.°90N×98.°72E, h0km, mb3.9/8, mb1 3.9/9, mb1mx3.7/38, mbtmp3.8/9, ML3.4/1, Error ellipse: s-maj=30.2km s-min=19.8km az=96.0*
*ISCJB **28** 19:24:43.7±0.7, 2.°16N±0.°06×99.°08E±0.°08, h33km, mb3.9/8, Error ellipse: s-maj=11.5km s-min=8.5km az=22.2*
*DJA **28** 19:24:44.1±0.4, 2°N±3°×9°9E±°, h10km, M3.9/7, MLv3.9/7*
ISC 28 19:24:45.3±0.8, 2.°00N±0.°06×99.°03E±0.°08, h35km, n19, σ1ˢ82/15, mb3.9/8, Northern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PSI Prapat 0.81 352 Pg Pn 19 24 55.5 -4.8
61nm,0.3s,baz=165,slow=16,SNR=114
PSI Lg Lg 19 25 04.4
62nm,0.3s,baz=150,slow=17,SNR=20
MNSI Mandailing Nat 1.31 155 P Pn 19 25 08.3 +1.1
TSI Tuntungan 1.56 343 P Pn 19 25 11.5 +0.9
GSI Gunungsitoli 1.61 245 P Pn 19 25 10.9 -0.4
GSI S Sn 19 25 33.3 +2.4
KCSI Kotacane, Aceh 1.97 320 P Pn 19 25 16.1 -0.1
KCSI S Sn 19 25 44.7 +5.0
BKNI Bangkinang 2.60 130 P Pn 19 25 32.1 +7.2
PDSI Padang 3.22 154 P Pn 19 25 40.2 +6.7
CMAR Chiang Mai Arr 16.36 360 Pn Pn 19 28 32.0 -0.4
0.1nm,0.3s,baz=191,slow=12,SNR=3.6
H08S2 Diego Garcia H 28.16 250 T T 19 57 50.7
baz=71,slow=75,SNR=9.1
H08S3 Diego Garcia H 28.16 250 T T 19 58 02.1
baz=71,slow=75,SNR=9.0
H08S1 Diego Carcia H 28.17 250 T T 19 57 53.0
baz=71,slow=75,SNR=9.9
WRA Warramunga Arr 40.93 124 P P 19 32 25.8 +1.0
0.7nm,0.7s,baz=302,slow=9.2,SNR=5.1
MKAR Makanchi Array 46.95 344 P P 19 33 11.7 -1.0
0.3nm,0.4s,baz=160,slow=8.2,SNR=3.4
GEYT Alibeck 51.80 319 P P 19 33 49.3 -0.6
1.3nm,0.8s,baz=156,slow=7.6,SNR=5.1
ZALV Zalesovo Beam 53.09 350 P P 19 33 58.1 -1.0
0.6nm,0.4s,baz=180,slow=8.4,SNR=4.5
BVAR Borovoye Array 56.12 340 P P 19 34 20.2 -1.0
1.0nm,0.7s,baz=134,slow=10,SNR=7.2
BRTR Keskin Array B 69.94 312 P P 19 35 52.1 -1.4
0.7nm,0.7s,baz=135,slow=7.2,SNR=6.0
FINES FINESS Array B 80.15 332 P P 19 36 51.0 -0.7
1.3nm,0.8s,baz=111,slow=5.7,SNR=7.7
ARCES ARCESS Array B 82.41 340 P P 19 37 04.1 +0.5
4.2nm,0.9s,baz=95,slow=5.7,SNR=4.3

*IDC **28** 19:25:25.8±0.7, 35.°42S×72.°79W, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.4/26, mbtmp4.4/12, ML3.9/1, MS4.3/3, Ms1 4.3/3, ms1mx3.9/24, Error ellipse: s-maj=27.0km s-min=17.5km az=82.0*
*ISCJB **28** 19:25:27.0±0.5, 35.°49S±0.°06×72.°71W±0.°08, h17km, mb4.3/13, MS4.2/2, Error ellipse: s-maj=9.8km s-min=7.9km az=169.7*
*NEIC **28** 19:25:30.6±0.4, 35.°42S×72.°84W, h35km, mb4.6/6, Error ellipse: s-maj=12.7km s-min=8.4km az=91.0*
ISC 28 19:25:27.9±0.6, 35.°51S±0.°07×72.°90W±0.°09, h17km, n43, σ1ˢ15/44, mb4.4/13, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.50 46 Pn Pn 19 26 51.6 +2.5
0.7nm,0.3s,baz=218,slow=12,SNR=4.9
CFAA Sn Sn 19 27 54.2 +2.1
0.5nm,0.3s,baz=210,slow=14,SNR=1.7
CFAA Lg Lg 19 28 15.9
0.1nm,0.3s,baz=288,slow=19,SNR=2.6
PLCA Paso Flores 5.53 161 Lg Lg 19 28 20.9
6.4nm,0.3s,baz=245,slow=11,SNR=5.1
PLCA Paso Flores 5.53 161 ePn Pn 19 26 50.9 +1.3
PLCA eSn Sn 19 27 36.7 -16
PLCA Lg Lg 19 28 20.9
TRQA Tornquist 9.12 109 ePn Pn 19 27 38.4 -0.4
45nm,1.1s
TRQA eSn Sn 19 29 19.3 -1.8
CPUP Villa Florida 16.18 60 LR LR 19 35 23.7
comp=Z,918nm,18.6s,baz=223,slow=37
CPUP Villa Florida 16.18 60 Pn Pn 19 29 12.8 -1.6
USHA Ushuaia 19.57 172 P Pn 19 29 57.4 +1.2
0.3nm,0.3s,baz=272,slow=6.3,SNR=6.2
LPAZ La Paz 19.61 14 P Pn 19 29 59.1 +1.6
0.2nm,0.3s,baz=174,slow=7.6,SNR=8.0
LPAZ La Paz 19.61 14 Pn P 19 29 55.9 -0.3
43nm,1.3s
SIV San Ignacio 22.13 32 P P 19 30 22.3 -0.5
11nm,0.9s,baz=228,slow=13,SNR=8.1
SIV LR LR 19 40 45.7
comp=Z,2μm,18.5s,baz=230,slow=42
NNA Nana 23.69 350 LR LR 19 37 26.5
comp=Z,347nm,20.6s,baz=164,slow=30
BDFB Brasilia 29.77 55 P P 19 31 32.5 -1.4
5.3nm,0.8s,baz=225,slow=12,SNR=6.5
SDV Santo Domingo 44.21 3 eP P 19 33 34.9 -1.5
10nm,0.8s
VNA3 Neumayer Olymp 48.24 157 P P 19 34 08.1 +0.7
VNA2 Neumayer--Watz 48.91 157 P P 19 34 14.1 +1.6
SNAA Sanae 50.46 157 P P 19 34 25.0 +0.6
SNAA Sanae 50.46 157 P P 19 34 25.4 +1.0
11nm,0.9s,baz=283,slow=8.5,SNR=20
SNAA Sanae 50.46 157 P P 19 34 25.4 +1.0
2.0nm,1.3s
QSPA South Pole Qui 54.73 180 P P 19 34 56.6 +0.5
7.2nm,0.9s,baz=136,slow=4.2,SNR=9.0
TXAR Lajitas Array 70.71 332 P P 19 36 42.1 -1.0
0.3nm,0.6s,baz=152,slow=5.7,SNR=3.8
DBIC Dimbokro 76.33 71 P P 19 37 16.8 +0.5
9.2nm,0.8s,baz=206,slow=6.8,SNR=10
DBIC Dimbokro 76.33 71 P P 19 37 16.8 +0.5
7.8nm,1.0s
BOSA Boshof 80.00 118 P P 19 37 37.3 +0.5
12nm,0.9s,baz=204,slow=5.4,SNR=12
ECSD EROS Data Cent 81.77 343 eP P 19 37 43.6 -1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	7.3nm,0.8s						
NVAR	Mina Array Bea	84.72	326	P	P	19 38 01.3	+0.2
	0.2nm,0.3s,baz=165,slow=7.2,SNR=2.6						
PDAR	Pinedale Array	84.79	334	P	P	19 38 03.8	+2.4
	1.4nm,1.3s,baz=122,slow=6.8,SNR=2.5						
TOA0	Torodi Ar. Sit	85.39	70	eP	P	19 38 03.9	-0.8
TORD	Torodi Ar. Bea	85.39	70	P	P	19 38 05.0	+0.3
	4.1nm,0.8s,baz=252,slow=4.7,SNR=15						
ULM	Lac du Bonnet	87.77	345	P	P	19 38 16.9	+1.4
	1.3nm,0.6s,baz=193,slow=5.6,SNR=2.9						
BRTR	Keskin Array B	123.17	62	PKP	PKPdf	19 44 23.8	+0.1
	0.6nm,0.7s,baz=216,slow=4.9,SNR=9.5						
AKASG	Malin Array Be	123.73	48	PKP	PKPdf	19 44 22.8	-1.3
	1.4nm,0.9s,baz=269,slow=2.8,SNR=7.4						
GEYT	Alibeck	141.02	72	PKhKP	PKPpre	19 44 50.2	
	1.0nm,1.1s,baz=264,slow=1.4,SNR=2.5						
IPM	Ipoh	148.62	168	ePKPbc	PKPbc	19 45 13.7	-1.0
BRVK	Borovoye	148.79	44	ePKPbc	PKPbc	19 45 14.5	+0.6
BVAR	Borovoye Array	148.86	44	PKP	PKPdf	19 45 10.8	+0.7
	4.6nm,0.7s,baz=289,slow=4.4,SNR=6.6						
BVAR				PKPbc	PKPbc	19 45 14.2	+0.2
	4.6nm,0.7s,baz=281,slow=4.0,SNR=18						
HYB	Hyderabad	148.90	118	iPKP	PKPbc	19 45 14.0	-1.3
KKAR	Karatay Array	150.87	64	ePKPbc	PKPbc	19 45 19.2	-0.1
EKS2	Erkin-Say	153.29	64	ePKPbc	PKPbc	19 45 25.6	+0.7
AAK	Ala-Archa	153.82	64	ePKPbc	PKPbc	19 45 26.5	+0.3
KURK	Kurchatov	154.46	45	ePKPbc	PKPbc	19 45 27.1	+0.1
ZALV	Zalesovo Beam	155.88	33	PKP	PKPdf	19 45 19.5	-1.0
	1.6nm,0.9s,baz=299,slow=1.5,SNR=3.9						
ZALV				PKPab	PKPab	19 45 47.1	-0.2
	2.9nm,0.7s,baz=308,slow=5.5,SNR=6.0						
MKAR	Makanchi Array	158.27	51	PKP	PKPdf	19 45 23.3	-0.5
	0.9nm,0.9s,baz=291,slow=1.0,SNR=4.7						
MKAR				PKPab	PKPab	19 45 58.0	-0.1
	1.8nm,0.9s,baz=292,slow=3.8,SNR=6.8						
SONM	Songino Array	167.67	2	PKPab	PKPab	19 46 38.3	-0.8
	0.4nm,0.4s,baz=349,slow=4.4,SNR=2.3						

ISCJB 28 19:28:51.5±0.4, 45.70N±0.08×143.7E±0.1, h355km±7km, mb2.9/6, Error ellipse: s-maj=14.5km s-min=10.2km az=44.2
JMA 28 19:28:52.5±0.3, 45.85N×143.80E, h337km, M3.5
IDC 28 19:28:52.6±1.1, 45.97N×143.43E, h344km±16km, mb2.8/6, mb1 3.0/10, mb1mx2.8/35, mbtmp3.5/10, Error ellipse: s-maj=31.0km s-min=15.3km az=156.0
ISC 28 19:28:51.8±0.7, 45.71N±0.08×143.63E±0.09, h347km±8km, n27, σ1.63/36, mb3.0/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JSE	Soyaes	1.05	225	P	Pn	19 29 37.9	+0.4
JWK2	Keihoku	1.28	253	P	Pn	19 29 39.0	+0.5
JMP	Maruseppu	1.71	187	P	Pn	19 29 42.2	+1.1
JTKR	Abashiri--Toko	1.75	173	P	Pn	19 29 42.8	+1.6
ASAJ	Asahikawa	1.75	205	P	Pn	19 29 42.8	+1.5
	7.4nm,0.3s,baz=13,slow=4.7,SNR=18						
ASAJ				S	S	19 30 20.9	0.0
	1.9nm,0.3s,baz=229,slow=19,SNR=3.0						
JKK2	Kamakawa 2	1.94	199	P	Pn	19 29 44.1	+1.6
JHR	Hokuryu	2.39	215	P	Pn	19 29 47.3	+1.5
JAR	Ashorobuto	2.42	178	P	Pn	19 29 48.2	+2.2
JAR				eS	S	19 30 30.5	+1.0
JFR	Furan	2.65	197	P	Pn	19 29 50.2	+2.0
NEM2	Nemuro 2	2.79	146	P	Pn	19 29 48.6	-0.5
NEM2				eS	S	19 30 32.2	-2.9
JAK	Akkeshi	2.82	164	P	Pn	19 29 50.2	+0.8
JAK				eS	S	19 30 34.4	-1.2
JCH	Churui	3.10	184	P	Pn	19 29 52.5	+0.6
JCH				eS	S	19 30 37.7	-2.5
JEW	Eniwo	3.27	209	P	Pn	19 29 55.6	+2.1
JNBK	Urakawa-nobuka	3.49	191	P	Pn	19 29 56.8	+1.2
JNBK				eS	S	19 30 47.9	+1.0
JKB	Kayabe	4.26	207	P	Pn	19 30 04.5	+1.1
JKB				eS	S	19 31 00.0	-1.0
JOT	Ohata	4.72	204	P	Pn	19 30 09.4	+1.2
JOT				eS	S	19 31 06.9	-3.0
JANG	Nango	5.55	197	P	Pn	19 30 18.3	+0.8
JANG				eS	S	19 31 23.2	-3.7
USRK	Ussuriysk Arra	8.39	264	P	Pn	19 30 51.1	+0.6
	0.2nm,0.3s,baz=77,slow=14,SNR=4.2						
MJAR	Matsushiro Arr	10.03	206	P	P	19 31 12.8	+1.0
	0.3nm,0.3s,baz=13,slow=14,SNR=6.2						
PETK	Petropavlovsk-	11.77	46	P	P	19 31 30.9	+0.1
	0.2nm,0.3s,baz=226,slow=7.8,SNR=4.7						
SEY	Seymchan	17.96	13	P	P	19 32 37.0	-1.2
	0.3nm,0.3s,baz=195,slow=8.2,SNR=7.7						
ILAR	Eielson Array	41.42	37	P	P	19 36 03.6	-1.5
	0.2nm,0.6s,baz=273,slow=9.4,SNR=8.1						
MKAR	Makanchi Array	41.47	294	P	P	19 36 05.5	-0.2
	0.2nm,0.4s,baz=77,slow=7.3,SNR=6.2						
YKA	Yellowknife Ar	55.56	33	P	P	19 37 51.9	+0.2
	0.4nm,0.6s,baz=306,slow=6.7,SNR=11						
GEYT	Alibeck	61.31	296	P	P	19 38 30.0	-1.5
	0.3nm,0.4s,baz=54,slow=7.3,SNR=3.2						
PDAR	Pinedale Array	70.52	48	P	P	19 39 31.0	+1.1
	0.7nm,0.9s,baz=231,slow=0.3,SNR=4.4						
TXAR	Lajitas Array	83.59	54	P	P	19 40 44.0	+1.9
	0.1nm,0.4s,baz=295,slow=5.1,SNR=4.1						

IDC 28 19:30:55.3±1.2, 38.23S×75.34W, h0km, mb3.9/3, mb1 4.3/4, mb1mx3.8/28, mbtmp3.9/4, ML4.2/1, Error ellipse: s-maj=57.4km s-min=24.2km az=58.0
ISCJB 28 19:30:58.6±0.9, 38.23S±0.10×75.2W±0.1, h33km, mb4.0/5, Error ellipse: s-maj=19.0km s-min=9.6km az=142.4
NEIC 28 19:31:00.4±0.7, 38.20S×75.26W, h35km, mb4.1/3, Error ellipse: s-maj=15.2km s-min=9.9km az=70.0
ISC 28 19:31:00.4±1.0, 38.2S±0.1×75.3W±0.1, h35km, n9, σ0.47/10, mb4.0/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLCA	Paso Flores	4.45	126	Pn	Pn	19 32 05.8	+0.4
	3.0nm,0.3s,baz=309,slow=15,SNR=8.2						
PLCA				Sn	Sn	19 32 56.4	+0.3
	6.5nm,0.3s,baz=15,slow=16,SNR=6.2						
TRQA	Tornquist	10.48	93	ePn	Pn	19 33 28.0	-0.1
LVC	Limon Verde	16.47	21	ePn	Pn	19 34 48.6	-0.4
LPAZ	La Paz	22.71	18	eP	P	19 35 59.8	0.0
	11nm,1.2s						
SNAA	Sanae	48.75	156	P	P	19 39 40.7	-0.5
	2.1nm,1.0s						
QSPA	South Pole Qui	52.05	180	P	P	19 40 05.9	-0.4
	2.1nm,0.8s,baz=135,slow=2.1,SNR=7.8						
QSPA	South Pole Qui	52.05	180	eP	P	19 40 06.2	-0.2
	0.9nm,0.8s						
TXAR	Lajitas Array	72.23	334	P	P	19 42 22.8	+0.8
	0.6nm,0.6s,baz=152,slow=8.2,SNR=9.1						
PDAR	Pinedale Array	86.40	335	P	P	19 43 38.9	-0.1
	0.8nm,1.0s,baz=150,slow=5.7,SNR=3.6						

IDC 28 19:31:54.9±0.7, 34.57S×73.63W, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.2/29, mbtmp4.3/10, ML3.7/1, Error ellipse: s-maj=27.0km s-min=18.5km az=82.0
ISCJB 28 19:31:58.3±0.6, 34.62S±0.06×73.5W±0.1, h33km, mb4.3/9, Error ellipse: s-maj=12.3km s-min=8.9km az=19.0
NEIC 28 19:31:59.8±0.4, 34.62S×73.55W, h35km, mb4.9/2, Error ellipse: s-maj=11.8km s-min=7.6km az=85.0
ISC 28 19:32:00.1±0.6, 34.61S±0.08×73.5W±0.1, h35km, n26, σ0.86/28, mb4.6/9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CFAA	Coronel Fontan	5.36	57	Pn	Pn	19 33 17.8	+0.1
	2.3nm,0.3s,baz=225,slow=13,SNR=16						
CFAA				Sn	Sn	19 34 17.9	-0.3
	1.5nm,0.3s,baz=326,slow=18,SNR=5.5						
PLCA	Paso Flores	6.55	160	ePn	Pn	19 33 33.5	-0.6
TRQA	Tornquist	9.94	114	ePn	Pn	19 34 21.0	+0.6
LVC	Limon Verde	12.62	20	Pn	Pn	19 34 57.4	0.0
LPAZ	La Paz	18.88	16	P	Pn	19 36 19.8	+0.9
	0.2nm,0.3s,baz=155,slow=1.4,SNR=4.6						
LPAZ	La Paz	18.88	16	P	P	19 36 17.9	-0.3
SIV	San Ignacio	21.66	34	P	P	19 36 47.5	-0.2
	4.3nm,0.7s,baz=234,slow=11,SNR=8.7						
SNAA	Sanae	51.49	158	P	P	19 41 02.7	+0.9
	2.8nm,0.7s,baz=268,slow=9.9,SNR=18						
SNAA	Sanae	51.49	158	eP	P	19 41 02.6	+0.9
	22nm,1.4s						
QSPA	South Pole Qui	55.63	180	P	P	19 41 33.4	+1.2
	8.6nm,0.9s,baz=163,slow=3.0,SNR=26						
QSPA	South Pole Qui	55.63	180	eP	P	19 41 31.9	-0.4
	8.7nm,0.9s						
TEIG	Tepich	56.31	343	P	P	19 41 37.1	-0.2
	5.1nm,0.7s,baz=156,slow=20,SNR=4.1						
TXAR	Lajitas Array	69.68	332	P	P	19 43 06.7	+0.4
	0.5nm,0.6s,baz=159,slow=7.7,SNR=5.6						
DBIC	Dimbokro	76.55	72	P	P	19 43 48.2	+1.1
	6.1nm,0.7s,baz=205,slow=5.0,SNR=13						
DBIC	Dimbokro	76.55	72	eP	P	19 43 45.5	-1.5
TSUM	Tsumeb	80.23	107	eP	P	19 44 06.7	-1.0
BOSA	Boshof	80.88	118	P	P	19 44 11.9	+1.0
	8.1nm,0.8s,baz=240,slow=6.2,SNR=11						
BOSA	Boshof	80.88	118	eP	P	19 44 10.7	-0.2
PDAR	Pinedale Array	83.76	334	P	P	19 44 26.6	+1.0
	0.2nm,0.5s,baz=163,slow=3.8,SNR=2.5						
TORD	Torodi Ar. Bea	85.58	71	P	P	19 44 35.5	+0.4
	2.3nm,0.7s,baz=286,slow=5.6,SNR=25						
WRA	Warramunga Arr	119.62	210	PKP	PKPdf	19 50 45.8	-1.0
	0.4nm,1.0s,baz=164,slow=1.8,SNR=5.4						
BRTR	Keskin Array B	123.21	62	PKP	PKPdf	19 50 52.0	-1.2
	0.5nm,0.7s,baz=197,slow=3.9,SNR=3.5						
AKASG	Malin Array Be	123.52	48	PKP	PKPdf	19 50 51.3	-1.9
	0.5nm,0.7s,baz=270,slow=0.9,SNR=3.6						
ZALV	Zalesovo Beam	155.40	32	PKP	PKPdf	19 51 48.9	-0.3
	1.0nm,0.7s,baz=318,slow=2.0,SNR=4.6						
ZALV				PKPbc	PKPbc	19 51 58.2	
	2.9nm,0.8s,baz=302,slow=2.8,SNR=9.4						
MKAR	Makanchi Array	158.10	49	PKP	PKPdf	19 51 53.2	+0.2
	0.4nm,0.8s,baz=190,slow=1.2,SNR=3.8						
MKAR				PKPab	PKPab	19 52 27.4	+0.6
	1.1nm,0.6s,baz=297,slow=3.9,SNR=12						
SONM	Songino Array	166.79	0	PKPab	PKPab	19 53 04.5	-0.2
	0.5nm,0.7s,baz=309,slow=0.9,SNR=3.0						

IDC 28 19:32:38.8±2.3, 36.74S×73.34W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/28, mbtmp4.1/6, Error ellipse: s-maj=51.5km s-min=43.2km az=38.0
ISC 28 19:32:43.4±2.2, 36.7S±0.3×73.3W±0.3, h27km, n11, σ0.37/7, mb4.0/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLCA	Paso Flores	4.59	153	Lg	Lg	19 35 03.8	
	5.1nm,0.3s,baz=323,slow=8.9,SNR=3.8						
LPAZ	La Paz	20.81	14	P	P	19 37 23.8	+0.4
	2.4nm,0.8s,baz=234,slow=8.7,SNR=1.6						
SIV	San Ignacio	23.28	31	P	P	19 37 48.8	-0.2
	4.0nm,0.8s,baz=230,slow=13,SNR=2.2						
BDFB	Brasilia	30.71	54	P	P	19 38 56.0	-0.2
	1.8nm,0.6s,baz=214,slow=11,SNR=3.7						
TXAR	Lajitas Array	71.59	332	P	P	19 44 02.1	-0.2
	0.5nm,0.7s,baz=147,slow=7.5,SNR=3.9						
DBIC	Dimbokro	77.00	71	P	P	19 44 34.5	+0.5
	4.1nm,0.8s,baz=179,slow=5.6,SNR=3.9						
TORD	Torodi Ar. Bea	86.07	71	P	P	19 45 21.8	-0.1
	0.7nm,0.8s,baz=224,slow=4.3,SNR=4.5						
H11S2	WAKE ISLAND Hy	124.68	268	T	T	22 08 48.6	
	baz=118						
H11S1	WAKE ISLAND Hy	124.70	268	T	T	22 08 44.9	
	baz=118						
H11S3	WAKE ISLAND Hy	124.70	268	T	T	22 08 50.3	
	baz=118						
MKAR	Makanchi Array	159.23	53	PKPab	PKPab	19 53 16.1	0.0
	0.6nm,0.8s,baz=299,slow=2.4,SNR=3.2						

ISCJB 28 19:35:36.6±0.6, 36.86S±0.05×72.9W±0.1, h35km, mb4.2/12, Error ellipse: s-maj=13.7km s-min=6.5km az=179.4
IDC 28 19:35:37.7±0.7, 36.90S×72.89W, h29km±4km, mb3.9/9, mb1 4.0/11, mb1mx3.9/29, mbtmp4.1/11, ML4.3/2, MS2.7/1, Ms1 2.7/1, ms1mx2.7/26, Error ellipse: s-maj=23.8km s-min=17.0km az=84.0
NEIC 28 19:35:38.1±0.4, 36.83S×72.91W, h35km, mb4.3/4, Error ellipse: s-maj=12.9km s-min=6.9km az=89.0
ISC 28 19:35:38.0±0.6, 36.84S±0.06×73.0W±0.1, h35km, n30, σ1.17/36, mb4.3/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLCA	Paso Flores	4.34	154	Pn	Pn	19 36 44.0	+2.4
	2.3nm,0.3s,baz=332,slow=13,SNR=3.3						
PLCA				Lg	Lg	19 37 51.5	
	11nm,0.3s,baz=262,slow=8.4,SNR=5.2						
PLCA	Paso Flores	4.34	154	ePn	Pn	19 36 42.4	+0.9
PLCA				eSn	Sn	19 37 30.0	-1.0
PLCA				Lg	Lg	19 37 51.5	
CFAA	Coronel Fontan	6.56	39	Pn	Pn	19 37 12.9	+0.9
	0.9nm,0.3s,baz=221,slow=8.7,SNR=7.5						
CFAA				Sn	Sn	19 38 27.7	+2.1
	0.3nm,0.3s,baz=80,slow=18,SNR=2.7						
CFAA				LR	LR	19 39 58.5	
	comp=Z,73nm,21.6s,baz=228,slow=40						
LVC	Limon Verde	14.62	15	Pn	Pn	19 39 02.1	-0.4
CPUP	Villa Florida	16.97	56	Pn	Pn	19 39 31.7	-0.9
	0.8nm,0.3s,baz=218,slow=14,SNR=4.6						
CPUP	Villa Florida	16.97	56	ePn	Pn	19 39 31.3	-1.4
	1.1nm,1.0s						
LPAZ	La Paz	20.93	13	P	P	19 40 20.4	+2.1
	5.9nm,0.7s,baz=174,slow=11,SNR=3.6						
LPAZ	La Paz	20.93	13	eP	P	19 40 17.9	-0.5
SIV	San Ignacio	23.32	30	P	P	19 40 43.2	+0.1
	10nm,0.8s,baz=232,slow=15,SNR=11						
SAML	Samuel	29.17	20	eP	P	19 41 35.3	-0.7
	1.9nm,0.7s						
OTAV	Otavalo	37.23	351	P	P	19 42 47.0	+0.2
	2.6nm,0.5s						
ROSC	El Rosal	41.50	358	P	P	19 43 21.5	-0.8
SDV	Santo Domingo	45.54	3	P	P	19 43 54.3	-0.3
SNAA	Sanae	49.28	157	P	P	19 44 23.3	+0.3
	0.9nm,0.8s,baz=276,slow=10,SNR=2.9						
QSPA	South Pole Qui	53.40	180	P	P	19 44 55.0	+1.1
	0.6nm,0.3s,baz=90,slow=1.0,SNR=3.3						
QSPA	South Pole Qui	53.40	180	eP	P	19 44 55.1	+1.1
	2.0nm,0.6s						
TXAR	Lajitas Array	71.84	332	P	P	19 46 58.6	+1.3
	0.5nm,0.6s,baz=156,slow=8.4,SNR=4.9						
TXAR				pP	pP	19 47 07.3	-0.8
	1.4nm,0.6s,baz=150,slow=9.1,SNR=12						
DBIC	Dimbokro	76.86	71	P	P	19 47 27.2	+0.5
	4.5nm,0.6s,baz=199,slow=4.6,SNR=8.7						
DBIC				pP	pP	19 47 36.4	-1.2
	6.4nm,0.6s,baz=202,slow=5.6,SNR=7.4						
DBIC	Dimbokro	76.86	71	eP	P	19 47 25.7	-1.0
DBIC				pP	pP	19 47 36.4	-1.2
BOSA	Boshof	79.47	118	P	P	19 47 40.1	-1.1
	3.5nm,1.0s,baz=287,slow=4.1,SNR=3.9						
BOSA				pP	PcP	19 47 50.3	+1.1
	4.3nm,0.7s,baz=244,slow=3.9,SNR=6.2						
LBTB	Lobatse	81.84	115	eP	P	19 47 53.0	-0.9
	6.5nm,0.8s						
NVAR	Mina Array Bea	85.77	326	pP	pP	19 48 25.0	+0.3
	1.1nm,0.8s,baz=161,slow=6.3,SNR=5.9						
TORD	Torodi Ar. Bea	85.93	70	P	P	19 48 14.6	-0.2
	1.7nm,1.0s,baz=240,slow=4.7,SNR=5.5						
PDAR	Pinedale Array	85.94	334	P	P	19 48 15.7	+1.3
	0.3nm,0.6s,baz=145,slow=6.5,SNR=3.0						
PDAR				pP	pP	19 48 25.0	-0.5
	1.6nm,1.0s,baz=150,slow=6.3,SNR=6.0						
LSZ	Lusaka	89.67	109	eP	P	19 48 31.3	-1.7
	8.0nm,0.4s						
ASAR	Alice Springs	114.68	207	pPKP	PKPdf	19 54 24.2	+9.2
	0.3nm,0.6s,baz=129,slow=1.3,SNR=2.2						
WRA	Warramunga Arr	117.89	209	PKP	PKPdf	19 54 20.8	-0.5
	0.5nm,0.9s,baz=153,slow=1.8,SNR=2.9						
WRA				pPKP	pPKPdf	19 54 30.5	-2.3
	0.5nm,0.8s,baz=152,slow=1.5,SNR=2.0						
BRTR	Keskin Array B	123.88	63	PKP	PKPdf	19 54 32.4	+0.1
	0.5nm,0.8s,baz=197,slow=4.5,SNR=3.0						
ZALV	Zalesovo Beam	157.03	35	PKP	PKPdf	19 55 29.1	-0.1
	0.8nm,0.8s,baz=197,slow=4.5,SNR=3.6						
MKAR	Makanchi Array	159.17	54	PKP	PKPdf	19 55 31.2	-0.9
	1.0nm,1.0s,baz=336,slow=1.5,SNR=3.7						
MKAR				PKPab	PKPab	19 56 07.5	-1.7
	0.5nm,0.8s,baz=289,slow=3.7,SNR=4.2						

ISCJB 28 19:37:37.0±1.0, 19.7S±0.1×68.5W±0.2, h150km, mb3.9/4, Error ellipse: s-maj=26.8km s-min=17.2km az=16.4
IDC 28 19:37:36.6±3.1, 19.73S×68.66W, h137km±27km, mb3.5/3, mb1 3.6/5, mb1mx3.3/30, mbtmp3.8/5, MS3.4/1, Ms1 3.4/1, ms1mx3.2/28, Error ellipse: s-maj=40.0km s-min=26.6km az=84.0
ISC 28 19:37:38.0±0.9, 19.7S±0.1×68.6W±0.2, h150km, n16, σ0.90/9, mb3.7/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LPAZ	La Paz	3.38	7	P	Pn	19 38 30.4	-0.4
	4.2nm,0.3s,baz=197,slow=8.3,SNR=30						
SIV	San Ignacio	8.02	64	P	Pn	19 39 31.2	-0.6
	1.2nm,0.3s,baz=270,slow=12,SNR=9.3						
CPUP	Villa Florida	12.30	125	LR	LR	19 45 04.8	
	comp=Z,169nm,18.4s,baz=205,slow=36						
QSPA	South Pole Qui	70.53	180	P	P	19 48 36.3	0.0
	0.6nm,0.8s,baz=144,slow=0.6,SNR=3.7						
TORD	Torodi Ar. Bea	76.45	71	P	P	19 49 12.5	+0.9
	0.5nm,0.5s,baz=258,slow=6.0,SNR=4.8						
MAW	Mawson	86.00	163	P	P	19 50 01.2	+0.1
	17nm,0.5s,baz=315,slow=1.4,SNR=6.1						
YKA	Yellowknife Ar	89.56	340	P	P	19 50 18.0	+0.2
	0.6nm,0.6s,baz=132,slow=4.7,SNR=13						
H11S2	WAKE ISLAND Hy	127.94	278	T	T	22 16 08.4	
	baz=101,slow=75,SNR=8.8						
H11S1	WAKE ISLAND Hy	127.95	279	T	T	22 16 09.4	
	baz=102,slow=75,SNR=6.9						
H11S3	WAKE ISLAND Hy	127.96	278	T	T	22 16 09.8	
	baz=101,slow=75,SNR=7.1						
H11N3	WAKE ISLAND Hy	127.97	280	T	T	22 16 13.0	
	baz=103,slow=74						
H11N2	WAKE ISLAND Hy	127.98	280	T	T	22 16 20.8	
	baz=103,slow=74						
H11N1	WAKE ISLAND Hy	127.98	280	T	T	22 16 16.0	
	baz=103						
ASAR	Alice Springs	131.68	208	PKP	PKPdf	19 56 32.6	-1.3
	0.2nm,0.9s,baz=126,slow=1.9,SNR=3.0						
WRA	Warramunga Arr	134.69	211	PKP	PKPdf	19 56 38.5	-1.1
	1.8nm,1.3s,baz=142,slow=1.8,SNR=3.7						
SONM	Songino Array	151.60	7	PKPbc	PKPbc	19 57 15.4	+0.9
	0.4nm,0.5s,baz=270,slow=1.0,SNR=3.0						

NEIC 28 19:39:30.6±0.9, 1.98N×99.00E, h10km, mb4.0/2, Error ellipse: s-maj=19.5km s-min=11.0km az=149.0
NEIC Felt [II] at Sibolga and Tarutung.
ISCJB 28 19:39:31.3±1.6, 1.94N±0.06×99.06E±0.05, h10km±11km, Error ellipse: s-maj=11.6km s-min=5.9km az=140.7
DJA 28 19:39:34.0±0.4, 2°N±3°×9°9E±°, h10km, M2.9/4, MLv2.9/4
ISC 28 19:39:31.3±1.4, 2.03N±0.04×98.91E±0.05, h10km±13km, n9, σ1.56/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MNSI	Mandailing Nat	1.39	151	P	Pg	19 39 57.1	-0.9
MNSI				S	Sg	19 40 19.1	+3.0
GSI	Gunungsitoli	1.52	242	P	Pn	19 39 58.9	+0.4
GSI				S	Sg	19 40 20.7	+0.6
GSI	Gunungsitoli	1.52	242	ePn	Pn	19 39 58.6	+0.1
GSI				eSn	Sg	19 40 21.2	+1.1
KCSI	Kotacane, Aceh	1.87	323	P	Pg	19 40 06.7	-0.5
KCSI				S	Sg	19 40 32.4	+0.9
IPM	Ipoh	3.23	41	ePn	Pn	19 40 22.6	+0.5
IPM				ePg	Pg	19 40 35.8	+2.7
IPM				eSn	Sn	19 41 02.0	+1.4
KULM	Kulim	3.68	28	ePn	Pn	19 40 28.0	-0.3
KULM				eSn	Sn	19 41 14.1	+2.3
KSM	Kuching	11.41	93	Pn	Pn	19 42 12.1	-2.3
KKM	Kota Kinabalu	17.71	76	Pn	Pn	19 43 37.3	-1.1
	5.7nm,0.9s						
QIZ	Qiongzhong	20.00	32	ePn	P	19 44 04.2	-0.2
	19nm,1.4s						

IDC 28 19:43:56.9±1.0, 37.06S×73.38W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/25, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=40.8km s-min=23.8km az=83.0
ISCJB 28 19:43:57.4±1.0, 37.1S±0.1×73.3W±0.3, h14km, mb3.6/5, Error ellipse: s-maj=35.8km s-min=16.2km az=166.1
ISC 28 19:43:59.0±1.0, 37.1S±0.1×73.3W±0.3, h14km, n7, σ0.96/7, mb3.7/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLCA	Paso Flores	4.20	150	Pn	Pn	19 45 01.8	-0.8
	0.9nm,0.3s,baz=321,slow=14,SNR=3.4						
PLCA				Lg	Lg	19 46 10.9	
	1.2nm,0.3s,baz=40,slow=17,SNR=2.2						
SIV	San Ignacio	23.65	30	P	P	19 49 09.2	-0.8
	1.4nm,0.7s,baz=231,slow=14,SNR=2.9						
QSPA	South Pole Qui	53.13	180	P	P	19 53 16.6	+0.6
	1.2nm,1.0s,baz=149,slow=7.3,SNR=2.7						
TXAR	Lajitas Array	71.98	332	P	P	19 55 21.6	-0.5
	0.6nm,0.9s,baz=153,slow=8.4,SNR=5.9						
PDAR	Pinedale Array	86.09	334	P	P	19 56 39.1	-0.2
	0.4nm,0.8s,baz=175,slow=4.5,SNR=3.1						
TORD	Torodi Ar. Bea	86.21	71	P	P	19 56 41.3	+1.1
	0.3nm,0.9s,baz=234,slow=5.5,SNR=2.4						
MKAR	Makanchi Array	159.48	54	PKPab	PKPab	20 04 35.4	+0.6
	0.2nm,0.7s,baz=346,slow=3.0,SNR=2.8						

IDC 28 19:48:32.5±0.5, 38.22S×73.70W, h0km, mb4.9/18, mb1 5.0/20, mb1mx4.9/25, mbtmp4.9/20, ML4.8/2, MS5.6/18, Ms1 5.6/18, ms1mx5.4/30, Error ellipse: s-maj=19.0km s-min=13.1km az=78.0
NEIC 28 19:48:35.4±0.1, 38.10S×73.68W, h18km, mb5.4/97, ME5.5, MS5.7/62, MW5.9, Error ellipse: s-maj=6.2km s-min=3.9km az=62.0, Moment Tensor Solution. s63 Moment tensor: Scale 10^{17}Nm; M_{rr}3.53; $M_{\theta\theta}$0.85; $M_{\phi\phi}$-4.38; $M_{r\theta}$-1.17; $M_{r\phi}$0.10; $M_{\theta\phi}$-6.64; Best double couple: $M_0$7.80000×10^{17} NP1:ϕ_s189.00000°, δ75.00000°, λ97.00000°. NP2:ϕ_s345.00000°, δ16.00000°, λ67.00000°. Principal axes: T 7.4800, Plg59.0000°, Azm108.0000°; N 0.7100, Plg6.0000°, Azm7.0000°; P -8.1800, Plg29.0000°, Azm273.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.
NEIC Felt [IV] at Osorno. Also felt at Chillan and Valdivia.
ISCJB 28 19:48:37.0±0.2, 38.01S±0.04×73.51W±0.05, h33km, mb5.3/115, MS5.7/92 Error ellipse: s-maj=6.7km s-min=4.3km az=144.9
GCMT 28 19:48:37.9±0.1, 38.36S×74.15W, h15km, MW5.8/120, Moment Tensor Solution. s111,c209; s120,c237; Duration: 2.3 Moment tensor: Scale 10^{17}Nm; M_{rr}3.88±.06; $M_{\theta\theta}$-0.06±.04; $M_{\phi\phi}$-3.81±.05; $M_{r\theta}$-0.02±.09; $M_{r\phi}$-0.03±.04; $M_{\theta\phi}$-6.08±.18; Best double couple: $M_0$7.19400×10^{17} NP1:ϕ_s180.00000°, δ74.00000°, λ90.00000°. NP2:ϕ_s1.00000°, δ16.00000°, λ91.00000°. Principal axes: T 7.2290, Plg61.0000°, Azm90.0000°; N -0.0630, Plg0.0000°, Azm180.0000°; P -7.1590, Plg29.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
MOS 28 19:48:37.0±1.1, 37.93S×73.62W, h33km, mb5.5/36, MS5.6/24 Error ellipse: s-maj=15.8km s-min=8.3km az=100.0
ISC 28 19:48:37.9±0.5, 38.11S±0.04×73.50W±0.05, h33km±2km, h33km:pP-P, n810, σ1.21/804, mb5.3/115, MS5.7/92, 191C-200D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLCA	Paso Flores	3.48	140	eP	Pn	19 49 30.9	+1.2
PLCA				e		19 50 11.7	
PLCA	Paso Flores	3.48	140	Pn	Pn	19 49 31.1	+1.3
	30nm,0.3s,baz=294,slow=8.4,SNR=89						
PLCA				Pg	Pb	19 49 36.3	-2.5
	49nm,0.3s,baz=317,slow=16,SNR=66						
PLCA				Lg	Lg	19 50 28.1	
	141nm,0.3s,baz=234,slow=13,SNR=8.2						
PLCA	Paso Flores	3.48	140	ePn	Pn	19 49 30.9	+1.2
PLCA				eSn	Sn	19 50 11.7	+1.8
PLCA				Lg	Lg	19 50 28.1	
CFAA	Coronel Fontan	7.79	35	Pn	Pn	19 50 28.7	-0.3
	3.1nm,0.3s,baz=210,slow=11,SNR=33						
CFAA				Sn	Sn	19 51 59.4	+3.3
	4.1nm,0.3s,baz=225,slow=17,SNR=4.7						
CFAA				Lg	Lg	19 52 42.0	
	0.7nm,0.3s,baz=294,slow=6.6,SNR=3.6						
CFAA				LR	LR	19 53 42.0	
	comp=Z,7μm,18.2s,baz=223,slow=39						
TRQA	Tornquist	9.08	93	eP	Pn	19 50 50.2	+3.6
	394nm,1.2s						
TRQA				eSn	Sn	19 52 27.0	-0.8

USHA	Ushuaia	17.08	170	P	Pn	19 52 34.3	+0.4
	1.0nm,0.3s,baz=318,slow=7.6,SNR=9.6						
USHA				LR	LR	20 00 11.8	
	comp=Z,48µm,18.4s,baz=326,slow=41						
CPUP	Villa Florida	18.00	54	eP	Pn	19 52 44.6	-0.8
CPUP	Villa Florida	18.00	54	P	P	19 52 46.0	+0.3
	1.7nm,0.3s,baz=220,slow=9.5,SNR=41						
CPUP				LR	LR	20 00 34.2	
	comp=Z,47µm,20.0s,baz=213,slow=40						
CPUP	Villa Florida	18.00	54	eP	Pn	19 52 44.6	-0.8
	0.3nm,1.3s						
LPAZ	La Paz	22.24	14	eP	P	19 53 33.4	+0.9
LPAZ	La Paz	22.24	14	P	P	19 53 33.1	+0.5
	67nm,1.0s,baz=174,slow=8.2,SNR=39						
LPAZ	La Paz	22.24	14	eP	P	19 53 33.4	+0.9
SIV	San Ignacio	24.60	30	P	P	19 53 55.2	+0.1
	29nm,1.1s,baz=229,slow=11,SNR=24						
SIV				LR	LR	20 05 34.0	
	comp=Z,33µm,19.6s,baz=224,slow=41						
NNA	Nana	26.18	353	P	P	19 54 09.0	-0.5
NNA				MLR	MLR		
	comp=Z,6µm,22.0s						
NNA	Nana	26.18	353	P	P	19 54 09.0	-0.5
	comp=Z,7.3nm,0.7s,baz=204,slow=12,SNR=4.6						
NNA	Nana	26.18	353	P	P	19 54 09.0	-0.5
	comp=Z,5.0nm,1.0s						
NNA				LR	LR		
	comp=Z,6µm,22.0s						
PMSA	Palmer Station	27.29	171	LR	LR	20 05 50.6	
	comp=Z,19µm,18.1s,baz=333,slow=38						
PMSA	Palmer Station	27.29	171	eP	P	19 54 19.6	+0.7
SAML	Samuel	30.48	20	eP	P	19 54 48.0	+0.2
	comp=Z,27nm,1.0s						
SAML				LR	LR		
	comp=Z,18µm,19.0s						
ATAH	Atahualpa	31.15	351	P	P	19 54 55.4	+1.2
	comp=Z,13nm,0.9s,baz=167,slow=8.7,SNR=7.6						
BDFB	Brasilia	31.71	52	P	P	19 54 58.6	-0.1
	comp=Z,22nm,0.9s,baz=214,slow=8.8,SNR=18						
BDFB				LR	LR	20 07 24.2	
	comp=Z,12µm,21.4s,baz=218,slow=36						
OTAV	Otavalo	38.43	352	eP	P	19 55 56.2	-0.8
	comp=Z,96nm,1.3s						
OTAV				LR	LR		
	comp=Z,6µm,19.0s						
ROSC	El Rosal	42.75	359	P	P	19 56 33.9	+1.3
	comp=Z,9.7nm,0.7s,baz=274,slow=3.5,SNR=6.6						
ROSC	El Rosal	42.75	359	eP	P	19 56 33.4	+0.8
VNA3	Neumayer Olymp	46.05	156	P	P	19 57 00.7	+2.7
VNA1	Neumayer--Stat	46.41	155	P	P	19 57 14.3	+14
VNA2	Neumayer--Watz	46.73	156	P	P	19 57 05.1	+1.8
SDV	Santo Domingo	46.82	4	eP	P	19 57 03.6	-1.2
	comp=Z,30nm,0.8s						
RCBR	Riachuelo	46.85	56	P	P	19 57 06.7	+1.7
	comp=Z,53nm,1.1s,baz=205,slow=8.5,SNR=18						
RCBR	Riachuelo	46.85	56	eP	P	19 57 05.3	+0.3
	comp=Z,304nm,1.8s						
RCBR				LR	LR		
	comp=Z,24µm,21.0s						
BCIP	Isla Barro Col	47.40	351	PFAKE		19 57 20.0	+11
BCIP				LR	LR		
	comp=Z,3µm,20.0s						
SNAA	Sanae	48.27	156	P	P	19 57 15.3	0.0
SNAA	Sanae	48.27	156	i P	P	19 57 16.6	+1.3
SNAA				pmax	pmax		
	comp=Z,60nm,1.3s						
SNAA	Sanae	48.27	156	P	P	19 57 15.1	-0.3
	comp=Z,15nm,1.0s,baz=286,slow=7.0,SNR=29						
SNAA				LR	LR	20 17 00.2	
	comp=Z,708nm,18.2s,baz=286,slow=35						
SNAA	Sanae	48.27	156	eP	P	19 57 15.1	-0.3
	comp=Z,116nm,1.2s						
JTS	JuntasAbangare	49.32	345	eP	P	19 57 22.4	-1.5
JTS				pmax	pmax		
	comp=Z,59nm,1.3s						
JTS				MLR	MLR		
	comp=Z,4µm,20.0s						
JTS	JuntasAbangare	49.32	345	P	P	19 57 25.2	+1.3
	comp=Z,13nm,0.9s,baz=189,slow=19,SNR=2.8						
JTS	JuntasAbangare	49.32	345	eP	P	19 57 22.4	-1.5
	comp=Z,59nm,1.3s						
JTS				LR	LR		
	comp=Z,4µm,20.0s						
QSPA	South Pole Qui	52.14	180	P	P	19 57 44.4	-0.4
	comp=Z,40nm,1.0s,baz=336,slow=0.3,SNR=59						
QSPA	South Pole Qui	52.14	180	eP	P	19 57 43.3	-1.5
	comp=Z,38nm,0.9s						
QSPA				LR	LR		
	comp=Z,4µm,19.0s						
BBGH	Gun Hill	52.63	17	PFAKE		19 58 00.0	+11
BBGH				LR	LR		
	comp=Z,7µm,22.0s						
NVL	N'lazarevskaya	53.05	156	eP	P	19 57 52.3	+1.0
NVL				e		19 59 55.2	
NVL				pmax	pmax		
	comp=Z,38nm,0.9s						
FDF	Fort de France	53.82	15	eP	P	19 57 56.2	-1.3
FDF	Fort de France	53.82	15	eP	P	19 57 56.2	-1.3
RKT	Rikitea	54.07	267	eS	S	20 05 32.3	-1.4
	comp=Z,4µm,25.8s						
RKT				eLR	LR	20 13 39.9	
	comp=Z,13µm,25.8s,baz=125						
RKT	Rikitea	54.07	267	eT	T	20 55 32.8	
	comp=Z,3.6nm,0.2s						
ICMP	Isla Caja de M	56.08	8	eP	P	19 58 13.3	-0.4
CRPR	Cabo Rojo, PR	56.13	7	eP	P	19 58 13.1	-1.1
	comp=Z,45nm,1.1s						
CELP	Cerrillos	56.26	8	eP	P	19 58 14.8	-0.3
CBYP	Canovanas	56.53	9	eP	P	19 58 15.4	-1.7
	comp=Z,45nm,1.1s						
SDDR	Presa de Saban	56.82	2	eP	P	19 58 18.8	-0.3
SDDR				LR	LR		
	comp=Z,5µm,19.0s						
GTBY	Guantanamo Bay	57.74	358	eP	P	19 58 24.6	-0.9
	comp=Z,68nm,1.1s						
TEIG	Tepich	59.66	344	eP	P	19 58 38.2	-0.6
	comp=Z,20nm,0.7s						
TEIG				LR	LR		
	comp=Z,2µm,19.0s						
SYO	Syowa Base	62.50	158	⇓eP	P	19 59 02.2	+4.6
TBI	Tubuai	65.29	259	eT	T	21 09 36.5	
	comp=Z,14nm,0.2s						
MEH	Mehetia	67.21	265	eT	T	21 11 58.0	
	comp=Z,64nm,0.2s						
TVO	Taravao	68.19	264	eT	T	21 13 12.1	
	comp=Z,3.3nm,0.3s						
VAH	Vaihoa	68.36	267	eT	T	21 13 23.8	
	comp=Z,5.6nm,0.2s						
TIAR	Tiarei	68.39	264	eT	T	21 13 27.0	
	comp=Z,15nm,0.2s						
PAE	Paea	68.52	264	eT	T	21 13 36.3	
	comp=Z,2.2nm,0.3s						
PPT2	Papeete2	68.55	264	eS	S	20 08 37.6	-0.3
	comp=Z,8µm,27.2s						
PPT2	Papeete2	68.55	264	eLR	LR	20 20 23.3	
	comp=Z,8µm,26.2s,baz=119						
PPT	Papeete	68.57	264	LR	LR	20 21 48.5	
	comp=Z,3µm,20.4s,baz=108,slow=29						
035A	Encino	68.69	336	⇑P	P	19 59 38.6	+0.6
	baz=69						
034A	Hebbronville	68.99	336	⇓P	P	19 59 40.6	+0.7
	baz=69						
934A	Benavides	69.44	336	⇑P	P	19 59 43.3	+0.7
	baz=70						
MAW	Mawson	69.58	164	LR	LR	20 30 35.0	
	comp=Z,7µm,18.9s,baz=230,slow=36						
933A	Laredo	69.69	336	⇓P	P	19 59 44.5	+0.3
	baz=70						
834A	Tilden	69.94	337	⇓P	P	19 59 45.9	+0.2
	baz=70,SNR=6.9						
833A	Chaparral WMA,	70.39	336	⇑P	P	19 59 48.9	+0.5
	baz=71						
SACV	Santiago Islan	70.52	52	PFAKE		20 00 00.0	+10
SACV				LR	LR		
	comp=Z,13µm,20.0s						
832A	Faith Ranch, C	70.54	335	⇓P	P	19 59 49.6	+0.2
	baz=71						
BBSR	BB Station	70.59	8	PFAKE		20 00 00.0	+10
BBSR				LR	LR		
	comp=Z,2µm,21.0s						
733A	Divot King Ran	70.72	336	⇓P	P	19 59 50.8	+0.3
	baz=71						
636A	Smothers Creek	70.75	338	⇑P	P	19 59 51.4	+0.8
	baz=71						
HKT	Hockley	70.85	340	eP	P	19 59 51.8	+0.7
HKT				pmax	pmax		
	comp=Z,53nm,1.5s						
HKT	Hockley	70.85	340	eP	P	19 59 51.8	+0.7
	comp=Z,53nm,1.5s						
635A	Leesville	70.88	338	⇑P	P	19 59 51.8	+0.4
	baz=71						
732A	Laxson Ranch,	70.95	336	⇑P	P	19 59 52.2	+0.3
	baz=71						
536A	Bastrop	71.31	339	⇓P	P	19 59 54.5	+0.4
	baz=72						
633A	Saathoff Ranch	71.38	336	⇑P	P	19 59 54.0	-0.4
	baz=72,SNR=8.5						
535A	Dale	71.42	338	⇓P	P	19 59 54.6	-0.1
	baz=72						
438A	Sam Houston St	71.51	340	⇓P	P	19 59 55.4	+0.2
	baz=72						
632A	Uvalde	71.61	336	⇑P	P	19 59 55.6	-0.3
	baz=72,SNR=10.0						
534A	Blanco	71.69	337	⇓P	P	19 59 56.1	-0.3
	baz=72						
340A	Bronson	71.73	342	⇑P	P	19 59 56.3	-0.2
	baz=72						
437A	Phaontom Ranch	71.76	340	⇓P	P	19 59 56.9	+0.2
	baz=72						
631A	Perdido Creek	71.78	335	⇓P	P	19 59 56.7	-0.2
	baz=72						
339A	Huntington	71.82	341	⇑P	P	19 59 57.1	0.0
	baz=72						
LRAL	Lakeview Retre	71.88	348	eP	P	19 59 57.1	-0.3
	comp=Z,48nm,1.2s						
533A	Kerrville	71.90	337	⇑P	P	19 59 57.8	+0.2
	baz=72,SNR=8.4						
338A	Crockett	72.04	340	⇑P	P	19 59 58.9	+0.5
	baz=72						
435B	Jarrell	72.13	338	⇓P	P	19 59 59.2	+0.3
	baz=72						
337A	Centerville	72.16	340	⇓P	P	19 59 59.5	+0.5
	baz=72						
532A	Rocksprings	72.23	336	⇑P	P	19 59 58.9	-0.7
	baz=72,SNR=22						
NATX	Nacogdoches	72.25	341	eP	P	19 59 58.7	-1.0
	comp=Z,20nm,0.8s						
434A	Burnet	72.36	338	⇓P	P	19 59 59.9	-0.5
	baz=73,SNR=15						
DRV	Dumont d'Urvil	72.44	193	S	S	20 08 51.0	-31
DRV				SS	SS	20 13 47.0	-12
DRV				L	L	20 19 00.0	
DRV				R		20 23 00.0	
239A	Gary	72.45	341	⇓P	P	20 00 01.0	+0.2
	baz=73						
531A	Rocksprings	72.47	336	⇑P	P	20 00 00.6	-0.5
	baz=73,SNR=11						
336A	Riesel	72.49	339	⇓P	P	20 00 00.6	-0.4
	baz=73,SNR=6.5						
JCT	Junction City	72.52	336	eP	P	20 00 00.0	-1.3
JCT				pmax	pmax		
	comp=Z,155nm,1.4s						
JCT	Junction City	72.52	336	eP	P	19 59 60.0	-1.3
	comp=Z,155nm,1.4s						
JCT	Junction City	72.52	336	⇓P	P	20 00 01.0	-0.3
	baz=73,SNR=8.8						
335A	Moody	72.55	339	⇓P	P	20 00 01.1	-0.3
	baz=73						
433A	Art	72.55	337	⇑P	P	20 00 00.9	-0.6
	baz=73,SNR=6.8						
238A	Jacksonville	72.60	341	⇓P	P	20 00 02.0	+0.3
	baz=73						
530A	J-C Ranch, Com	72.72	335	⇓P	P	20 00 02.3	-0.2
	baz=73,SNR=13						
TXAR	Lajitas Array	72.78	333	P	P	20 00 03.1	+0.1
	comp=Z,4.8nm,0.7s,baz=153,slow=8.6,SNR=63						
TXAR				LR	LR	20 27 03.8	
	comp=Z,4µm,18.5s,baz=0.0,slow=32						
237A	Washetta, Mont	72.78	340	⇑P	P	20 00 02.8	0.0
	baz=73						
334A	Lometa	72.84	338	⇑P	P	20 00 02.9	-0.2
	baz=73,SNR=16						
432A	Menard	72.89	337	⇑P	P	20 00 03.1	-0.4
	baz=73						
431A	Sonora	72.97	336	⇑P	P	20 00 04.2	+0.2
	baz=73,SNR=7.7						
529A	Stev Forest Ra	72.99	334	⇓P	P	20 00 04.5	+0.4
	baz=73,SNR=11						
333A	Richland Sprin	73.05	337	⇑P	P	20 00 04.3	-0.1
	baz=73,SNR=8.2						
138A	Matatall Enter	73.22	341	⇓P	P	20 00 05.3	-0.1
	baz=74						
WHTX	Lake Whitney	73.23	339	eP	P	20 00 04.6	-0.8
	comp=Z,76nm,1.2s						
WHTX	Lake Whitney	73.23	339	⇑P	P	20 00 05.0	-0.4
	baz=74						
KMSC	Kings Mountain	73.24	353	eP	P	20 00 04.8	-0.6
	comp=Z,67nm,1.5s						
KMSC	Kings Mountain	73.24	353	⇓P	P	20 00 05.1	-0.3
	baz=74						
430A	Baggett Ranch,	73.27	335	⇑P	P	20 00 05.2	-0.6
	baz=74,SNR=8.7						
137A	Heron Place, G	73.33	341	⇓P	P	20 00 05.7	-0.4
	baz=74						
429A	Davenport Ranc	73.34	335	⇓P	P	20 00 06.0	-0.3
	baz=74,SNR=9.2						
332A	Millersview	73.34	337	⇓P	P	20 00 05.6	-0.5
	baz=74,SNR=10						
234A	Clairette	73.44	338	⇓P	P	20 00 06.2	-0.4
	baz=74,SNR=8.3						
331A	San Angelo	73.49	336	⇓P	P	20 00 06.2	-0.8
	baz=74,SNR=11						
233A	Rising Star	73.67	338	⇓P	P	20 00 07.7	-0.4
	baz=74,SNR=7.3						
135A	Vickery Place,	73.75	339	⇓P	P	20 00 07.9	-0.5
	baz=74						
OXF	Oxford	73.75	346	eP	P	20 00 07.8	-0.6
OXF				pmax	pmax		
	comp=Z,63nm,1.1s						
OXF	Oxford	73.75	346	eP	P	20 00 07.8	-0.6
	comp=Z,63nm,1.1s						
232A	Coleman	73.78	337	⇑P	P	20 00 07.9	-0.9
	baz=74,SNR=8.7						
330A	Mertzon	73.82	336	⇑P	P	20 00 08.3	-0.7
	baz=74						
SWET	Sewanee	73.86	349	eP	P	20 00 07.8	-1.3
	comp=Z,236nm,1.6s						
CPCT	Cooper Cave	73.90	351	eP	P	20 00 10.6	+1.3
SUR	Sutherland	73.90	119	eP	P	20 00 10.9	+1.0
	comp=Z,13nm,1.1s						
SUR				LR	LR		
	comp=Z,6µm,21.0s						
134A	White-Moore Ra	73.95	339	⇓P	P	20 00 09.3	-0.4
	baz=74						
TKL	Tuckaleechee C	74.01	351	eP	P	20 00 08.8	-1.2
TKL	Tuckaleechee C	74.01	351	eP	P	20 00 08.8	-1.2
231A	Bronte	74.03	336	⇓P	P	20 00 09.4	-0.8
	baz=74,SNR=9.0						
329A	Wagon Wheel Ra	74.16	335	⇑P	P	20 00 10.7	-0.4
	baz=74,SNR=8.1						
133A	Hamilton Ranch	74.23	338	⇑P	P	20 00 10.7	-0.6
	baz=74,SNR=8.9						
230A	Sterling City	74.24	336	⇑P	P	20 00 11.0	-0.4
	baz=74						
RAR	Rarotonga	74.40	255	LR	LR	20 24 24.5	
	comp=Z,1µm,20.9s,baz=127,slow=29						
Z35A	Perchaven, San	74.43	340	⇓P	P	20 00 11.8	-0.6
	baz=75,SNR=8.1						
ABTX	Abilene, Hawle	74.46	337	eP	P	20 00 10.8	-1.9
	comp=Z,84nm,1.2s						
ABTX	Abilene, Hawle	74.46	337	⇓P	P	20 00 12.3	-0.4
	baz=75						
229A	Bryant Ranch,	74.54	335	⇓P	P	20 00 12.9	-0.3
	baz=75						
MIAR	Mount Ida	74.65	343	eP	P	20 00 12.8	-0.9
MIAR				pmax	pmax		
	comp=Z,55nm,1.5s						
MIAR				MLR	MLR		
	comp=Z,1µm,19.0s						
MIAR	Mount Ida	74.65	343	eP	P	20 00 12.8	-0.9
	comp=Z,55nm,1.5s						
MIAR				LR	LR		
	comp=Z,1µm,19.0s						
Z34A	Collier Ranch,	74.65	339	⇓P	P	20 00 13.6	-0.2
	baz=75						
131A	Roby	74.74	337	⇑P	P	20 00 13.9	-0.4
	baz=75						
Z33A	Whitaker Ranch	74.82	338	⇑P	P	20 00 14.4	-0.3
	baz=75,SNR=6.1						
130A	Snyder	74.85	336	⇑P	P	20 00 14.6	-0.4
	baz=75						
228A	UT Block 9, Go	74.94	335	⇑P	P	20 00 15.3	-0.3
	baz=75,SNR=6.3						
WVT	Waverly	75.05	348	eP	P	20 00 14.3	-1.6
WVT				pmax	pmax		
	comp=Z,138nm,1.7s						
WVT	Waverly	75.05	348	eP	P	20 00 14.3	-1.6
	comp=Z,138nm,1.7s						
Z32A	Haskell	75.05	338	⇑P	P	20 00 15.5	-0.6
	baz=75,SNR=7.1						
Y34A	Reagan Ranch,	75.16	339	⇑P	P	20 00 16.1	-0.5
	baz=75						
129A	Stewart Farms,	75.17	335	⇓P	P	20 00 15.3	-1.6
	baz=75						
VWCC	Virginia Weste	75.22	355	eP	P	20 00 16.5	-0.4
Z31A	Sharp Cattle R	75.26	337	⇑P	P	20 00 16.4	-0.9
	baz=76,SNR=8.3						
128A	Castleberry Fa	75.37	335	⇓P	P	20 00 17.1	-0.9
	baz=76,SNR=9.8						
Y33A	Hilltop Ranch,	75.45	339	⇓P	P	20 00 17.8	-0.5
	baz=76,SNR=6.7						
JSRW	J. Sargeant Re	75.53	356	eP	P	20 00 18.6	-0.1
Z30A	Sanderson Ranc	75.54	336	⇓P	P	20 00 18.8	-0.2
	baz=76,SNR=9.9						
MNTX	Cornudas Mount	75.54	332	eP	P	20 00 17.8	-1.2
	comp=Z,16nm,1.1s						
Y32A	R-V Farms, Ver	75.69	338	⇑P	P	20 00 18.5	-1.2
	baz=76						
Z29A	Hungry Hill Ra	75.70	336	⇓P	P	20 00 19.3	-0.6
	baz=76,SNR=15						
127A	Arkansas Junct	75.71	334	⇑P	P	20 00 19.2	-0.8
	baz=76						
X34A	Smith Ranch, M	75.78	339	⇓P	P	20 00 20.0	-0.3
	baz=76,SNR=5.5						
Y31A	Rekieta Farm,	75.89	337	⇑P	P	20 00 20.1	-0.8
	baz=76						
CASY	Casey	75.90	182	eP	P	20 00 20.1	-0.5
CASY				LR	LR		
	comp=Z,4µm,19.0s						
X33A	Lawton	75.92	339	⇑P	P	20 00 20.8	-0.1
	baz=76						
Z28A	Tucker Farm, M	75.94	335	⇑P	P	20 00 21.0	-0.4
	baz=76						
Y30A	Stafford Cattl	76.01	337	⇓P	P	20 00 21.6	0.0
	baz=76						
X32A	Elmer	76.03	338	⇑P	P	20 00 21.7	+0.1
	baz=76						
Y29A	Porterfield Fa	76.24	336	⇑P	P	20 00 22.8	-0.2
	baz=76						
Z27A	Tatum	76.25	335	⇓P	P	20 00 22.3	-0.8
	baz=76						
W34A	Bridge Creek,	76.36	340	eP	P	20 00 23.4	-0.2
	comp=Z,65nm,1.1s						
W34A	Bridge Creek,	76.36	340	⇓P	P	20 00 23.0	-0.5
	baz=77						
X31A	McDonald Ranch	76.43	338	⇓P	P	20 00 23.7	-0.2
	baz=77,SNR=6.0						
Z26A	Caprock	76.47	334	⇓P	P	20 00 23.9	-0.4
	baz=77,SNR=11						
Y28A	McKinney Farm,	76.47	336	⇑P	P	20 00 23.8	-0.5
	baz=77						
W33A	Caddo, Fort Co	76.48	339	⇑P	P	20 00 24.0	-0.1
	baz=77,SNR=11						
TUL1	Tulsa	76.48	342	eP	P	20 00 22.9	-1.2
	comp=Z,64nm,0.9s						
TUL1	Tulsa	76.48	342	⇑P	P	20 00 23.6	-0.6
	baz=77,SNR=12						
X30A	Coker Ranch, T	76.53	337	⇓P	P	20 00 24.2	-0.4
	baz=77						
W32A	Sentinel	76.67	339	⇓P	P	20 00 25.0	-0.3
	baz=77,SNR=21						
MSTX	Muleshoe	76.70	335	eP	P	20 00 25.3	-0.3
	comp=Z,54nm,1.2s						
MSTX	Muleshoe	76.70	335	⇓P	P	20 00 25.0	-0.6
	baz=77,SNR=8.2						
Z25A	Roswell	76.73	334	⇓P	P	20 00 25.4	-0.4
	baz=77						
Y27A	Causey	76.75	335	⇓P	P	20 00 25.6	-0.3
	baz=77,SNR=7.2						
319A	Douglas	76.76	329	⇑P	P	20 00 26.4	+0.4
	baz=77,SNR=5.9						
X29A	Tulia	76.79	336	⇑P	P	20 00 25.4	-0.7
	baz=77,SNR=8.3						
SIUC	Southern Illin	76.83	347	eP	P	20 00 25.5	-0.5
V34A	Guthrie	76.86	340	eP	P	20 00 25.8	-0.5
	comp=Z,55nm,1.0s						
V34A	Guthrie	76.86	340	⇓P	P	20 00 25.8	-0.5
	baz=77,SNR=6.6						
W31A	Holland Ranch,	76.94	338	⇑P	P	20 00 26.4	-0.5
	baz=77						
Z24A	Sheeppen Canyo	77.01	333	⇓P	P	20 00 27.0	-0.4
	baz=77						
Y26A	Elida	77.01	334	⇑P	P	20 00 26.8	-0.5
	baz=77,SNR=12						
X28A	Dimmitt	77.01	336	⇓P	P	20 00 26.8	-0.6
	baz=77						
V33A	Lossen Ranch,	77.06	340	⇓P	P	20 00 27.0	-0.4
	baz=77,SNR=6.8						
W30A	Crocket Farms	77.12	338	⇓P	P	20 00 27.6	-0.3
	baz=77						
V32A	Arapaho	77.17	339	⇓P	P	20 00 28.6	+0.5
	baz=78						
AMTX	Amarillo	77.19	337	eP	P	20 00 27.8	-0.5
	comp=Z,97nm,1.1s						
AMTX	Amarillo	77.19	337	⇑P	P	20 00 28.3	+0.1
	baz=78						
121A	Cookes Peak, D	77.19	331	eP	P	20 00 29.5	+1.0
	comp=Z,26nm,1.3s						
121A	Cookes Peak, D	77.19	331	⇑P	P	20 00 29.1	+0.7
	baz=77						
LIC	Lamto	77.19	72	eP	P	20 00 30.4	+1.7
	comp=Z,6.9nm,0.1s						
LIC	Lamto	77.19	72	eP	P	20 00 30.2	+1.5
	comp=Z,221nm,1.1s						
Y25A	Mesa, Roswell	77.31	334	⇓P	P	20 00 28.7	-0.3
	baz=78,SNR=6.9						
W29A	Amraillo	77.39	337	⇑P	P	20 00 29.4	-0.1
	baz=78,SNR=9.9						
X27A	F and S Farms,	77.42	335	⇑P	P	20 00 29.8	+0.1
	baz=78						
U34A	Anderson Ranch	77.43	340	eP	P	20 00 29.4	-0.1
	comp=Z,87nm,1.3s						
U34A	Anderson Ranch	77.43	340	⇑P	P	20 00 29.9	+0.4
	baz=78						
V31A	Spring Creek L	77.45	338	⇓P	P	20 00 30.0	+0.3
	baz=78						
TIC	Toumodi	77.48	71	eP	P	20 00 32.0	+1.7
	comp=Z,1.1nm,0.1s						
TIC	Toumodi	77.48	71	eP	P	20 00 31.5	+1.2
	comp=Z,108nm,0.9s						
KIC	Kosan Boka	77.50	72	eP	P	20 00 32.2	+1.8
	comp=Z,0.1nm,0.1s						
KIC	Kosan Boka	77.50	72	eP	P	20 00 32.0	+1.6
	comp=Z,174nm,0.9s						
Z22A	Elephant Butte	77.52	332	⇓P	P	20 00 30.5	+0.2
	baz=78						
Y24A	Capitan	77.57	333	⇑P	P	20 00 30.9	+0.3
	baz=78,SNR=5.7						
X26A	CR and CF Fran	77.57	335	⇓P	P	20 00 30.2	-0.3
	baz=78,SNR=5.8						
U33A	Lingo Farm, Me	77.58	340	⇑P	P	20 00 31.2	+0.9
	baz=78						
DBIC	Dimbokro	77.61	71	eP	P	20 00 31.6	+0.5
DBIC				pmax	pmax		
	comp=Z,62nm,0.9s						
DBIC	Dimbokro	77.61	71	P	P	20 00 32.7	+1.6
	comp=Z,48nm,1.0s,baz=205,slow=6.6,SNR=38						
DBIC				LR	LR	20 33 14.7	
	comp=Z,4µm,18.2s,baz=218,slow=34						
DBIC	Dimbokro	77.61	71	eP	P	20 00 31.6	+0.5
	comp=Z,62nm,0.9s						
V30A	Spur Ranch, Mi	77.69	338	⇑P	P	20 00 31.4	+0.4
	baz=78						
W28A	Vega	77.70	336	⇑P	P	20 00 31.7	+0.5
	baz=78						
U32A	Winter Ranch,	77.78	339	⇑P	P	20 00 32.2	+0.7
	baz=78						
W27A	Bowe Ranch, En	77.79	336	⇓P	P	20 00 31.7	0.0
	baz=78,SNR=12						
Y23A	Lovelace Mesa,	77.80	333	⇓P	P	20 00 32.1	+0.2
	baz=78,SNR=5.6						
X25A	Clemmons Ranch	77.84	334	⇓P	P	20 00 32.3	+0.3
	baz=78						
SLM	Saint Louis	77.91	347	eP	P	20 00 31.2	-0.9
SLM	Saint Louis	77.91	347	eP	P	20 00 31.2	-0.9
W26A	Owens Ranch, T	78.05	335	⇑P	P	20 00 33.7	+0.6
	baz=78						
X24A	Lazy VL Ranch,	78.14	334	⇑P	P	20 00 34.0	+0.2
	baz=78						
TUC	Tucson	78.19	328	eP	P	20 00 32.8	-1.2
TUC				pmax	pmax		
	comp=Z,32nm,1.2s						
TUC	Tucson	78.19	328	eP	P	20 00 32.8	-1.2

comp=Z,32nm,1.2s
T33A Patterson Ranc 78.23 340 ⇑P P 20 00 34.2 +0.3
baz=78,SNR=10
LPM Los Pinos Moun 78.35 332 eP P 20 00 34.2 -0.6
comp=Z,25nm,1.3s
U30A WK&E Inc. Balk 78.39 338 ⇓P P 20 00 35.6 +0.6
baz=79
W25A X Bar L Ranch, 78.40 335 ⇓P P 20 00 35.7 +0.6
baz=79,SNR=8.9
ACSO Alum Creek Sta 78.44 353 eP P 20 00 34.2 -0.8
comp=Z,99nm,1.3s
ACSO LR LR
comp=Z,2μm,20.0s
T32A Huddler Ranch, 78.51 340 ⇓P P 20 00 36.1 +0.6
baz=79
LAZ Ladron 78.61 332 eP P 20 00 37.4 +1.0
comp=Z,21nm,1.3s
T31A Randall Ranch, 78.64 339 ⇑P P 20 00 37.1 +0.8
baz=79
S33A Kaszmaul Farm, 78.64 340 ⇓P P 20 00 36.5 +0.3
baz=79
V26A Tequesquite Ra 78.70 335 ⇓P P 20 00 36.8 +0.1
baz=79
W24A Lazy 6 Ranch, 78.72 334 ⇑P P 20 00 37.3 +0.3
baz=79,SNR=7.1
U28A Mallet 78.73 337 ⇓P P 20 00 37.0 +0.2
baz=79
214A Organ Pipe Nat 78.75 327 eP P 20 00 36.6 -0.4
comp=Z,44nm,1.1s
214A Organ Pipe Nat 78.75 327 ⇑P P 20 00 37.5 +0.6
baz=79,SNR=6.3
T30A Plains 78.84 338 ⇑P P 20 00 37.9 +0.5
baz=79
ANMO Albuquerque 78.85 333 eP P 20 00 37.7 0.0
ANMO pmax pmax
comp=Z,70nm,1.3s
ANMO Albuquerque 78.85 333 eP P 20 00 36.9 -0.8
comp=Z,49nm,1.2s
ANMO LR LR
comp=Z,2μm,22.0s
W23A Werner Place, 78.94 333 ⇓P P 20 00 38.5 +0.3
baz=79
U27A Thompson Grove 78.96 336 ⇓P P 20 00 38.5 +0.4
baz=79
S32A Newby Ranch, P 79.00 340 ⇑P P 20 00 38.7 +0.5
baz=79
V25A Rancho No Teng 79.02 335 ⇓P P 20 00 38.3 -0.2
baz=79,SNR=8.6
S31A Mullinville 79.07 339 ⇓P P 20 00 38.8 +0.2
baz=79
SFIN Scholer Farm 79.09 349 ⇑P P 20 00 39.1 +0.5
baz=79
V24A Rampart Ranch, 79.14 334 ⇓P P 20 00 39.3 +0.1
baz=79
T29A Hugoton 79.17 338 ⇓P P 20 00 39.3 +0.1
baz=80
BOSA Boshof 79.21 118 eP P 20 00 40.7 +0.7
BOSA Boshof 79.21 118 P P 20 00 40.5 +0.6
comp=Z,60nm,0.9s,baz=228,slow=5.3,SNR=56
BOSA LR LR 20 32 18.9
comp=Z,4μm,19.8s,baz=230,slow=33
BOSA Boshof 79.21 118 eP P 20 00 40.7 +0.7
TSUM Tsumeb 79.23 106 eP P 20 00 39.7 -0.5
comp=Z,33nm,1.3s
U26A Atchley Ranch, 79.23 336 ⇓P P 20 00 40.4 +0.7
baz=80,SNR=5.9
R33A Olander Ranch, 79.31 341 ⇓P P 20 00 40.1 +0.3
baz=80
S30A Montezuma 79.37 339 ⇓P P 20 00 40.3 0.0
baz=80
T28A Walsh 79.38 337 ⇑P P 20 00 40.5 +0.1
baz=80,SNR=11
U25A Circle Dot Ran 79.46 335 ⇑P P 20 00 42.0 +1.0
baz=80,SNR=9.9
V23A Ortiz Mt. (NFS 79.47 333 ⇑P P 20 00 41.0 0.0
baz=80
T27A Campo 79.52 337 ⇓P P 20 00 41.6 +0.4
baz=80
S29A Ulysses 79.54 338 ⇑P P 20 00 41.9 +0.6
baz=80
R32A Long Quarter, 79.61 340 ⇑P P 20 00 42.3 +0.7
baz=80
R31A Burdett 79.71 339 ⇓P P 20 00 42.7 +0.6
baz=80
KSU1 Kansas State U 79.71 342 eP P 20 00 41.5 -0.5
comp=Z,36nm,1.0s
KSU1 LR LR
comp=Z,1μm,20.0s
KSU1 Kansas State U 79.71 342 ⇑P P 20 00 42.3 +0.3
baz=80
S28A Manter 79.75 337 ⇑P P 20 00 42.6 +0.2
baz=80,SNR=5.4
U24A Moreno Valley 79.76 334 ⇑P P 20 00 42.8 +0.1
baz=80
X18A Snowflake 79.80 330 ⇓P P 20 00 43.2 +0.4
baz=80
113A Mohawk Valley, 79.86 326 ⇓P P 20 00 44.8 +1.9
baz=80,SNR=5.2
V22A San Miguel Ran 79.88 333 ⇑P P 20 00 44.2 +0.9
baz=80,SNR=16
T26A Comanche Natio 79.90 336 ⇓P P 20 00 43.9 +0.5
baz=80,SNR=10
R30A Dighton 79.92 339 ⇓P P 20 00 43.8 +0.5
baz=80
Q33A Connelly Farm, 79.92 341 ⇑P P 20 00 43.8 +0.7
baz=80
U23A El Rito 80.00 334 ⇑P P 20 00 44.4 +0.4
baz=80
Z14A Wintersburg 80.01 327 ⇓P P 20 00 44.2 +0.4
baz=80
Q32A Meitler Ranch, 80.11 340 ⇓P P 20 00 45.0 +0.9
baz=80
T25A Trinidad 80.13 335 ⇓P P 20 00 44.8 +0.2
baz=80,SNR=14
W18A Petrified Fore 80.23 331 eP P 20 00 44.9 -0.2
W18A Petrified Fore 80.23 331 ⇑P P 20 00 45.3 +0.1
baz=80
S26A Kim 80.27 336 ⇓P P 20 00 45.3 +0.1
baz=80,SNR=15
U22A Llaves 80.28 333 ⇑P P 20 00 45.6 +0.2
baz=80
R29A Marienthal 80.30 338 ⇓P P 20 00 45.8 +0.5
baz=81
X16A Lo Mia Camp, P 80.30 329 ⇓P P 20 00 45.2 -0.3
baz=80,SNR=13
Q31A Ellis 80.34 340 ⇑P P 20 00 46.1 +0.6
baz=81
T24B San Luis 80.38 335 ⇑P P 20 00 47.2 +1.1
baz=81,SNR=7.2
R28A Tribune 80.42 338 ⇓P P 20 00 46.2 +0.2
baz=81,SNR=7.0
Y14A Wickenburg 80.53 328 ⇑P P 20 00 47.0 +0.3
baz=81
Q30A Quinter 80.55 339 ⇑P P 20 00 47.0 +0.4
baz=81,SNR=8.4
GLA Glamis 80.56 326 P P 20 00 46.7 -0.1
GLA pmax pmax
comp=Z,41nm,1.4s
GLA Glamis 80.56 326 P P 20 00 46.6 -0.1
comp=Z,40nm,1.4s
GLA Glamis 80.56 326 ⇑P P 20 00 47.0 +0.2
baz=81
S25A Robets Cordova 80.61 336 ⇑P P 20 00 47.6 +0.4
baz=81,SNR=8.2
R27A Eads 80.67 337 ⇓P P 20 00 47.2 -0.1
baz=81,SNR=13
Q29A Oakley 80.68 339 ⇑P P 20 00 47.6 +0.3
baz=81
P32A Huiting Farm, 80.71 341 ⇓P P 20 00 47.5 +0.1
baz=81
P31A Stockton 80.82 340 ⇑P P 20 00 47.9 -0.2
baz=81
S24A Houchin Ranch, 80.85 335 ⇓P P 20 00 49.3 +0.8
baz=81,SNR=12
R26A Arlington 80.88 337 ⇓P P 20 00 48.4 -0.1
baz=81,SNR=7.0
R25A Fountain Ranch 81.01 336 ⇓P P 20 00 49.3 +0.1
baz=81
Y12C Blythe 81.02 326 ⇓P P 20 00 49.1 -0.1
baz=81
SDCO Great Sand Dun 81.04 335 eP P 20 00 49.2 -0.3
comp=Z,18nm,1.1s
SDCO LR LR
comp=Z,2μm,19.0s
P30A Selden 81.08 339 ⇑P P 20 00 49.9 +0.4
baz=81
Q28A Sharon Springs 81.09 338 ⇑P P 20 00 50.4 +0.8
baz=81
ACCN Adirondack Com 81.11 360 eP P 20 00 48.9 -0.6
comp=Z,66nm,1.4s
MONP Monument Peak 81.15 325 ⇑P P 20 00 50.2 +0.1
baz=81
WUAZ Wupatki 81.22 330 eP P 20 00 50.5 0.0
comp=Z,36nm,1.2s
WUAZ Wupatki 81.22 330 ⇑P P 20 00 50.3 -0.1
baz=82,SNR=7.5
O32A Brockman Farm, 81.23 341 ⇓P P 20 00 50.9 +0.8
baz=82
KSCO Kaye Shedlock' 81.28 337 eP P 20 00 51.2 +0.6
comp=Z,82nm,1.4s
KSCO Kaye Shedlock' 81.28 337 ⇓P P 20 00 51.0 +0.4
baz=82
P29A Atwood 81.33 339 ⇑P P 20 00 51.7 +0.9
baz=82
R24A Sanders Place, 81.35 335 ⇑P P 20 00 51.3 +0.3
baz=82,SNR=9.6
BC3 Big Chuckawall 81.35 326 ⇑P P 20 00 51.9 +0.8
baz=82
O31A Woolen Ranch, 81.40 340 ⇑P P 20 00 52.3 +1.2
baz=82
Q26A Hugo 81.47 337 ⇓P P 20 00 52.5 +0.9
baz=82
S22A 4UR Ranch, Cre 81.50 334 ⇓P P 20 00 52.5 +0.5
baz=82,SNR=8.0
P28A Saint Francis 81.54 338 ⇑P P 20 00 52.8 +0.8
baz=82
R23A Moffat 81.55 335 ⇓P P 20 00 52.5 +0.3
baz=82
MVCO Mesa Verde 81.61 332 eP P 20 00 52.5 0.0
comp=Z,39nm,1.2s
MVCO Mesa Verde 81.61 332 ⇓P P 20 00 52.9 +0.4
baz=82,SNR=6.4
O30A MW Ranch, Wils 81.62 340 ⇓P P 20 00 52.7 +0.4
baz=82
IRM Iron Mountain 81.64 326 ⇓P P 20 00 52.6 +0.1
baz=82
LBTB Lobatse 81.65 115 eP P 20 00 53.6 +0.5
LBTB pmax pmax
comp=Z,69nm,1.2s
LBTB Lobatse 81.65 115 LR LR 20 34 31.6
comp=Z,2μm,19.0s,baz=235,slow=34
LBTB Lobatse 81.65 115 eP P 20 00 53.6 +0.5
comp=Z,69nm,1.2s
PFO Pinyon Flat Ob 81.76 325 eP P 20 00 52.9 -0.4
PFO pmax pmax
comp=Z,11nm,1.1s
PFO Pinyon Flat Ob 81.76 325 eP P 20 00 52.9 -0.4
comp=Z,11nm,1.1s
PFO Pinyon Flat Ob 81.76 325 ⇑P P 20 00 54.2 +0.9
baz=82,SNR=5.9
P27A Ficken Ranch, 81.77 338 ⇓P P 20 00 54.9 +1.8
baz=82
BELC Belle Mtn. Jos 81.89 325 ⇓P P 20 00 55.3 +1.4
baz=82
W13A Hualapai Mount 81.90 328 ⇑P P 20 00 54.3 +0.3
baz=82,SNR=5.4
P26A Davis Ranch, A 82.00 337 ⇑P P 20 00 55.7 +1.2
baz=82
Q24A Divide 82.03 336 ⇓P P 20 00 55.8 +1.0
baz=82
O28A Krutsinger Ran 82.06 338 ⇑P P 20 00 56.2 +1.6
baz=82
JFWS Jewell Farm 82.07 348 eP P 20 00 54.5 0.0
JFWS pmax pmax
comp=Z,95nm,1.9s
JFWS Jewell Farm 82.07 348 eP P 20 00 54.5 0.0
comp=Z,95nm,1.9s
MURC Murrieta 82.10 324 ⇓P P 20 00 56.2 +1.2
baz=82
P25A Willow Gulch B 82.21 337 ⇑P P 20 00 56.1 +0.6
baz=82,SNR=7.4
BGNE Belgrade 82.28 342 eP P 20 00 55.5 -0.2
comp=Z,68nm,1.0s
BGNE Belgrade 82.28 342 ⇓P P 20 00 57.5 +1.9
baz=83
LONY Lake Ozonia 82.35 359 eP P 20 00 55.6 -0.4
comp=Z,58nm,1.3s
N29A Votaw Ranch, W 82.37 340 ⇓P P 20 00 57.6 +1.4
baz=83
U15A North Rim 82.38 329 ⇓P P 20 00 57.1 +0.5
baz=83,SNR=8.6
GMRC Granite Mounta 82.39 326 ⇓P P 20 00 58.1 +1.6
baz=83
M31A Lambtecht Ranc 82.42 341 ⇓P P 20 00 57.8 +1.3
baz=83
PV01 Paradox Valley 82.46 333 eP P 20 00 57.2 +0.3
comp=Z,2μm,1.3s
O26A Horse Wrangler 82.62 337 ⇓P P 20 00 58.7 +1.1
baz=83
P23A Jefferson 82.63 335 ⇑P P 20 00 59.6 +1.7
baz=83
HEC Hector,Ludlow 82.73 326 ⇓P P 20 00 59.5 +1.3
baz=83
O25A Wiggins 82.75 337 ⇑P P 20 00 59.7 +1.4
baz=83
PV04 Paradox Valley 82.81 333 eP P 20 00 58.9 +0.1
BFSC Mount Baldy Ra 82.84 324 ⇑P P 20 00 59.9 +1.0
baz=83
PV10 Paradox Valley 82.84 333 eP P 20 00 59.1 +0.1
comp=Z,253nm,0.9s
OGNE Ogallala 82.89 339 ⇑P P 20 01 00.7 +1.7
baz=83
N27A Anderson Farm, 82.91 338 ⇑P P 20 01 00.5 +1.4
baz=83
ISCO Idaho Springs 82.94 336 eP P 20 00 59.6 +0.1
ISCO pmax pmax
comp=Z,20nm,1.3s
ISCO MLR MLR
comp=Z,1μm,19.0s
ISCO Idaho Springs 82.94 336 eP P 20 00 59.6 +0.1
comp=Z,20nm,1.3s
ISCO LR LR
comp=Z,1μm,19.0s
ISCO Idaho Springs 82.94 336 ⇑P P 20 01 00.9 +1.4
baz=83
O24A Longmont 83.06 336 ⇓P P 20 01 01.1 +1.2
baz=83
TUQ Turquoise Moun 83.06 326 ⇓P P 20 01 01.5 +1.4
baz=83
M28A Bar X Bar Ranc 83.12 339 ⇓P P 20 01 01.5 +1.4
baz=83
P22A Eagle 83.13 335 ⇑P P 20 01 01.4 +0.9
baz=83
DECC Green Verdugo 83.16 324 ⇑P P 20 01 01.4 +1.0
baz=83
L31A Butterfield Fa 83.17 341 ⇑P P 20 01 01.4 +1.1
baz=84
L30A Spencer Herefo 83.19 341 ⇓P P 20 01 01.6 +1.2
baz=84
GSC Goldstone 83.34 326 ⇑P P 20 01 02.5 +1.1
baz=84
O23A Lake Granby, G 83.41 336 ⇓P P 20 01 02.5 +0.6
baz=84,SNR=7.7
EDW2 Edwards Air Fo 83.52 325 ⇑P P 20 01 03.2 +0.9
baz=84
M27A Reverse DX Ran 83.53 339 ⇓P P 20 01 02.6 +0.3
baz=84
O22A Kremmling 83.57 335 ⇓P P 20 01 03.0 +0.2
baz=84,SNR=8.3
N24A Carr 83.64 337 ⇓P P 20 01 03.8 +0.9
baz=84
SHPR Sheep Range 83.64 327 eP P 20 01 04.0 +1.0
comp=Z,31nm,1.4s
OSI Osito Adit 83.64 324 P P 20 01 02.1 -0.8
comp=Z,16nm,1.3s
OSI Osito Adit 83.64 324 ⇑P P 20 01 03.9 +1.0
baz=84
CCUT Cedar City 83.78 329 eP P 20 01 04.8 +1.0
comp=Z,30nm,1.2s
K30A Basset 83.84 341 ⇓P P 20 01 04.9 +1.2
baz=84
M25A Palm-Egli Farm 83.94 337 ⇑P P 20 01 05.5 +1.1
baz=84
ARUT Antelope Range 84.02 329 eP P 20 01 02.7 -2.2
ARUT Antelope Range 84.02 329 eP P 20 01 02.7 -2.2
comp=Z,26nm,1.2s
L27A T5 Ranch, Ells 84.02 339 ⇑P P 20 01 05.7 +0.9
baz=84
N23A Red Feather La 84.03 336 ⇑P P 20 01 05.7 +0.7
baz=84
SRU San Rafael 84.04 332 eP P 20 01 04.4 -0.6
SRU pmax pmax
comp=Z,16nm,1.0s
SRU San Rafael 84.04 332 eP P 20 01 04.4 -0.6
comp=Z,16nm,1.0s
ECSD EROS Data Cent 84.11 343 eP P 20 01 04.5 -0.5
comp=Z,74nm,1.1s
ECSD EROS Data Cent 84.11 343 ⇑P P 20 01 06.0 +0.9
baz=84
N22A Wattenberg Ran 84.12 335 ⇓P P 20 01 06.3 +0.8
baz=84
O20A White River Ci 84.12 334 eP P 20 01 05.2 -0.2
comp=Z,9.1nm,1.1s
O20A White River Ci 84.12 334 ⇓P P 20 01 05.9 +0.5
baz=84
MVU Marysvale 84.15 330 eP P 20 01 05.0 -0.7
comp=Z,16nm,1.2s
M24A Cheyenne 84.20 337 ⇑P P 20 01 07.0 +1.2
baz=84
K28A Ten Mile Ranch 84.34 340 ⇑P P 20 01 07.3 +1.0
baz=85
ISA Isabella 84.39 325 eP P 20 01 06.6 -0.2
ISA pmax pmax
comp=Z,20nm,1.1s
ISA Isabella 84.39 325 eP P 20 01 06.5 -0.2
comp=Z,20nm,1.1s
ISA Isabella 84.39 325 ⇓P P 20 01 07.5 +0.7
baz=85
J30A Dallas 84.42 341 ⇓P P 20 01 07.2 +0.6
baz=85
TMUT Trail Mountain 84.45 332 eP P 20 01 06.8 -0.5
comp=Z,34nm,1.1s
M23A Laramie 84.48 336 ⇓P P 20 01 07.9 +0.6
baz=85
L25A Engebretsen Ra 84.57 338 ⇓P P 20 01 08.3 +0.8
baz=85
K27A Flueckinger Fa 84.57 339 ⇑P P 20 01 08.1 +0.6
baz=85
J29A Okreek 84.70 341 ⇓P P 20 01 09.0 +1.0
baz=85
M22A Cedar Creek Ra 84.70 336 ⇑P P 20 01 08.8 +0.4
baz=85
N20A Spence Gulch, 84.75 334 ⇑P P 20 01 09.1 +0.4
baz=85
SPMN St. Paul 84.76 346 eP P 20 01 06.5 -1.8
comp=Z,31nm,1.1s
SPMN St. Paul 84.76 346 ⇑P P 20 01 08.5 +0.2
baz=85
SMMC Simmler 84.81 323 ⇑P P 20 01 09.0 +0.2
baz=85
VES Vestal, Richgr 84.82 324 ⇑P P 20 01 09.1 +0.3
baz=85
K26A Motz Farm, Whi 84.84 338 ⇑P P 20 01 08.8 -0.1
baz=85
I30A Oacoma 84.95 342 ⇑P P 20 01 10.0 +0.7
baz=85
K25A Mack Ranch, Ha 84.96 338 ⇑P P 20 01 10.1 +0.6
baz=85
J28A Allard Ranch, 84.96 340 ⇓P P 20 01 09.8 +0.4
baz=85
J27A Elkhorn Farm, 85.01 340 ⇓P P 20 01 10.3 +0.6
baz=85
L23A Garrett 85.06 337 ⇑P P 20 01 10.1 0.0
baz=85
MPU Maple Canyon 85.24 332 eP P 20 01 10.2 -0.9
comp=Z,27nm,1.2s
I29A Vivian Onida 85.27 341 ⇓P P 20 01 12.1 +1.2
baz=86
BRSD Miller 85.33 342 ⇑P P 20 01 10.8 -0.4
baz=86
K24A Anderson Ranch 85.34 337 ⇑P P 20 01 11.8 +0.3
baz=86
NLU North Lily Min 85.36 331 eP P 20 01 10.0 -1.7
comp=Z,57nm,1.8s
J26A Sides Ranch, S 85.37 339 ⇓P P 20 01 11.8 +0.3
baz=86
R11A Troy Canyon, C 85.38 328 eP P 20 01 11.6 -0.2
comp=Z,15nm,1.1s
R11A Troy Canyon, C 85.38 328 ⇑P P 20 01 11.9 +0.2
baz=86,SNR=7.1
I28A Midland 85.48 340 ⇓P P 20 01 12.5 +0.6
baz=86
K23A Bowen Ranch, D 85.62 337 ⇓P P 20 01 13.3 +0.4
baz=86
JLU Jordanelle 85.68 332 eP P 20 01 12.9 -0.5
comp=Z,30nm,1.0s
I27A Quinn 85.78 340 ⇑P P 20 01 13.9 +0.4
baz=86
K22A Casper 85.81 336 eP P 20 01 13.9 +0.1
comp=Z,96nm,1.5s
K22A Casper 85.81 336 ⇑P P 20 01 14.5 +0.7
baz=86
H29A Onida 85.82 341 ⇓P P 20 01 13.7 +0.1
baz=86
TPH Tonopah 85.84 327 P P 20 01 13.5 -0.6
TPH pmax pmax
comp=Z,31nm,1.2s
TPH Tonopah 85.84 327 P P 20 01 13.5 -0.6
comp=Z,32nm,1.2s
DUG Dugway 85.84 331 eP P 20 01 14.1 +0.1
DUG pmax pmax
comp=Z,40nm,1.3s
DUG MLR MLR
comp=Z,2μm,19.0s
DUG Dugway 85.84 331 eP P 20 01 14.1 +0.1
comp=Z,40nm,1.3s
DUG LR LR
comp=Z,2μm,19.0s
DUG Dugway 85.84 331 ⇓P P 20 01 14.6 +0.5
baz=86,SNR=6.9
J24A Dixon Ranch, L 85.85 338 ⇑P P 20 01 14.3 +0.4
baz=86
I26A New Underwood 85.97 339 ⇓P P 20 01 15.5 +1.1
baz=86
G30A Faulkton 86.02 342 ⇓P P 20 01 15.1 +0.5
baz=86
K21A Alcova 86.02 336 ⇑P P 20 01 15.1 +0.2
baz=86,SNR=6.4
TCUT Toone Canyon 86.12 332 eP P 20 01 14.4 -1.1
comp=Z,119nm,1.7s
MLAC Mammoth Lakes 86.18 326 ⇑P P 20 01 16.7 +0.9
baz=86
I25A Rochford 86.21 339 ⇓P P 20 01 16.7 +0.9
baz=86
G29A Hoven 86.27 342 ⇓P P 20 01 17.3 +1.5
baz=87
H27A Howes 86.31 340 ⇓P P 20 01 17.5 +1.4
baz=87
I24A Kuemmerle Ranc 86.32 338 ⇓P P 20 01 17.4 +1.1
baz=87
RSSD Black Hills 86.39 338 eP P 20 01 15.7 -1.0
RSSD pmax pmax
comp=Z,9.0nm,1.0s
RSSD Black Hills 86.39 338 eP P 20 01 15.7 -1.0
comp=Z,9.4nm,1.0s
G28A Parade 86.42 341 ⇓P P 20 01 17.2 +0.7
baz=87
J22A Midwest 86.48 337 ⇓P P 20 01 17.8 +0.7
baz=87
BGU Big Grassy Mou 86.56 331 eP P 20 01 17.3 -0.2
comp=Z,29nm,1.5s
HWUT Hardware Ranch 86.60 332 eP P 20 01 17.6 -0.2
comp=Z,57nm,1.4s
HWUT LR LR
comp=Z,2μm,22.0s
NVAR Mina Array Bea 86.61 326 P P 20 01 18.1 +0.1
comp=Z,1.6nm,0.7s,baz=150,slow=5.9,SNR=10
TOA0 Torodi Ar. Sit 86.70 71 eP P 20 01 18.4 -0.2
TORD Torodi Ar. Bea 86.70 71 P P 20 01 19.2 +0.6
comp=Z,12nm,0.9s,baz=218,slow=3.3,SNR=56
TORD PP PP 20 04 48.9 +7.5
comp=Z,5.8nm,1.1s,baz=242,slow=5.3,SNR=4.4
TORD LR LR 20 38 10.9
comp=Z,2μm,19.6s,baz=245,slow=34
H25A Fruitdale 86.72 339 ⇑P P 20 01 19.2 +1.1
baz=87
J21A Lysite 86.73 336 ⇑P P 20 01 19.6 +1.2
baz=87
F29A Eureka 86.85 342 ⇓P P 20 01 19.4 +0.7
baz=87
BW06 Boulder Array 86.91 334 P P 20 01 18.8 -0.6
comp=Z,27nm,1.4s
BW06 LR LR
comp=Z,4μm,20.0s
PDAR Pinedale Array 86.91 334 P P 20 01 18.7 -0.6
comp=Z,1.8nm,0.8s,baz=153,slow=6.2,SNR=14
PDAR LR LR 20 36 01.4
comp=Z,4μm,18.5s,baz=152,slow=33
I22A 9 Mile Ranch, 86.91 337 ⇑P P 20 01 19.6 +0.5
baz=87
J20A Shoshoni 86.94 336 ⇓P P 20 01 20.1 +0.8
baz=87
G27A Dupree 86.96 340 ⇓P P 20 01 19.6 +0.4
baz=87

G26A Maurine 87.06 340 ⇓P P 20 01 20.0 +0.3
baz=87
I21A Big Trails, Te 87.10 336 ⇓P P 20 01 20.6 +0.5
baz=87
F28A McLaughlin 87.11 341 ⇓P P 20 01 20.7 +0.8
baz=87
H24A Dirks Ranch, A 87.11 338 ⇓P P 20 01 20.8 +0.8
baz=87
EYMN Ely 87.16 348 eP P 20 01 20.2 +0.2
WAKR Walker 87.17 326 P P 20 01 16.1 -4.5
comp=Z,12nm,1.1s
J19A Crowheart 87.18 335 ⇑P P 20 01 21.0 +0.5
baz=88
PAF Port-aux-Franc 87.19 157 P P 20 01 09.0 -12
PAF Port-aux-Franc 87.19 157 S S 20 11 42.0 -16
PAF SS SS 20 17 33.0 -7.2
PAF R 20 29 00.0
G25A Newell 87.19 339 ⇓P P 20 01 20.9 +0.5
baz=88
HVU Hansel Valley 87.20 332 eP P 20 01 19.0 -1.6
HVU pmax pmax
comp=Z,21nm,1.1s
HVU Hansel Valley 87.20 332 eP P 20 01 19.0 -1.6
comp=Z,17nm,1.1s
CMB Columbia Colle 87.21 325 P P 20 01 19.9 -0.7
CMB pmax pmax
comp=Z,10.0nm,1.3s
CMB Columbia Colle 87.21 325 P P 20 01 19.9 -0.7
comp=Z,10nm,1.3s
E30A Jud 87.26 343 ⇑P P 20 01 21.2 +0.6
baz=88
F27A Lemmon 87.44 340 ⇓P P 20 01 22.1 +0.5
baz=88
AHID Auburn Hatcher 87.45 333 eP P 20 01 21.5 -0.4
comp=Z,47nm,1.5s
I20A Worland 87.49 336 ⇓P P 20 01 22.8 +0.9
baz=88
E29A Napoleon 87.49 342 ⇑P P 20 01 22.2 +0.4
baz=88
H22A Clearmont 87.51 337 ⇑P P 20 01 22.7 +0.7
baz=88
F26A Lodgepole 87.60 340 ⇑P P 20 01 23.8 +1.5
baz=88
E28A Huff 87.76 342 ⇑P P 20 01 23.8 +0.8
baz=88
D30A Buchanan 87.79 343 ⇑P P 20 01 24.4 +1.2
baz=88
E27A Carson 87.84 341 ⇑P P 20 01 24.2 +0.8
baz=88
I19A Meeteetse 87.85 335 ⇓P P 20 01 24.8 +1.0
baz=88
F25A Bowman 87.88 340 ⇑P P 20 01 24.5 +0.8
baz=88
H20A Greybull 87.93 336 ⇑P P 20 01 24.9 +0.9
baz=88
D29A Pettibone, Tap 87.94 342 ⇓P P 20 01 25.0 +1.1
baz=88
F24A Ekalaka 88.08 339 ⇑P P 20 01 26.1 +1.4
baz=88
E26A Carlson Angus 88.11 340 ⇑P P 20 01 26.0 +1.2
baz=88
F23A Volborg 88.25 338 ⇓P P 20 01 27.6 +2.1
baz=88
I17A Pilgrim Ck. 88.28 334 ⇓P P 20 01 26.9 +1.1
baz=88
C30A Mose, Pekin 88.29 343 ⇓P P 20 01 26.3 +0.8
baz=89
AGMN Agassiz Nation 88.30 345 eP P 20 01 24.0 -1.5
comp=Z,49nm,1.3s
AGMN Agassiz Nation 88.30 345 ⇑P P 20 01 26.4 +0.9
baz=89
D28A Regan 88.30 342 ⇓P P 20 01 26.6 +1.0
baz=89
H19A Powell 88.41 336 ⇓P P 20 01 27.1 +0.8
baz=89
D27A Center 88.46 341 ⇑P P 20 01 27.4 +1.0
baz=89
D26A Manning 88.62 341 ⇑P P 20 01 27.9 +0.8
baz=89
H18A Shoshone NF, C 88.64 335 ⇑P P 20 01 28.0 +0.5
baz=89
G20A Bridger 88.65 336 ⇓P P 20 01 27.8 +0.4
baz=89
E24A Baker 88.70 339 ⇑P P 20 01 28.6 +1.1
baz=89
H17A Grant Village 88.70 334 ⇓P P 20 01 28.8 +0.9
baz=89
C28A Hausauer Farms 88.75 342 ⇓P P 20 01 29.2 +1.6
baz=89
RLMT Red Lodge 88.90 336 eP P 20 01 27.2 -1.5
comp=Z,21nm,1.3s
B30A Myrvik Farm, E 88.96 344 ⇑P P 20 01 29.4 +0.7
baz=89
D25A Fairfield 88.97 340 ⇓P P 20 01 30.2 +1.5
baz=89
C27A Sayler Ranch, 89.02 342 ⇑P P 20 01 30.1 +1.2
baz=89
YMR Madison River 89.07 334 eP P 20 01 28.7 -0.9
comp=Z,39nm,1.3s
D24A Glendive 89.21 340 ⇓P P 20 01 30.7 +0.8
baz=90
C26A Wahner Farm, P 89.27 341 ⇓P P 20 01 31.4 +1.3
baz=90
HLID Hailey 89.35 332 eP P 20 01 30.3 -0.5
comp=Z,30nm,1.4s
HLID LR LR
comp=Z,2µm,20.0s
HLID Hailey 89.35 332 ⇑P P 20 01 31.8 +1.0
baz=90
A30A Hoffart Farm, 89.42 344 ⇑P P 20 01 30.6 -0.1
baz=90
B28A Dugan Ranch, T 89.43 342 ⇑P P 20 01 31.5 +0.7
baz=90
F19A Roth Farm, Mol 89.45 336 ⇑P P 20 01 31.3 +0.2
baz=90
D23A Lindsay 89.51 339 ⇑P P 20 01 31.8 +0.4
baz=90
A29A Manning Farm, 89.61 343 ⇑P P 20 01 32.0 +0.4
baz=90
C24A Savage 89.62 340 ⇓P P 20 01 34.4 +2.6
baz=90
LSZ Lusaka 89.62 109 eP P 20 01 33.2 +0.4
LSZ pmax pmax
comp=Z,28nm,1.1s
LSZ Lusaka 89.62 109 LR LR 20 38 01.9
comp=Z,3µm,19.8s,baz=322,slow=33
LSZ Lusaka 89.62 109 eP P 20 01 33.2 +0.4
comp=Z,28nm,1.1s
MFID Camas Ranch 89.76 331 eP P 20 01 32.6 -0.1
comp=Z,21nm,1.3s
D22A Cohagen 89.77 338 ⇑P P 20 01 33.9 +1.4
baz=90
E20A Meyer Farm, Mu 89.77 337 ⇓P P 20 01 33.9 +1.4
baz=90
A28A Rude Farm, Bot 89.83 343 ⇑P P 20 01 33.9 +1.2
baz=90
MCMT McKenzie Canyo 89.87 333 eP P 20 01 32.4 -0.9
comp=Z,8.4nm,1.2s
E19A Rath Farm, Rou 89.94 336 ⇓P P 20 01 34.0 +0.6
baz=90
WVOR Wild Horse Val 90.07 328 eP P 20 01 32.8 -1.3
WVOR pmax pmax
comp=Z,25nm,1.4s
WVOR Wild Horse Val 90.07 328 eP P 20 01 32.8 -1.3
comp=Z,25nm,1.4s
C23A Lambert 90.08 339 ⇓P P 20 01 32.9 -1.0
baz=90
ULM Lac du Bonnet 90.16 346 P P 20 01 30.2 -4.0
ULM pmax pmax
comp=Z,17nm,1.2s
ULM Lac du Bonnet 90.16 346 P P 20 01 34.1 -0.1
comp=Z,4.0nm,0.8s,baz=183,slow=2.3,SNR=4.9
ULM Lac du Bonnet 90.16 346 P P 20 01 30.2 -4.0
comp=Z,21nm,1.2s
A26A Wade Farm, Ken 90.25 342 ⇑P P 20 01 36.4 +1.8
baz=90
D20A Manuel Ranch, 90.30 337 ⇓P P 20 01 36.4 +1.4
baz=91
DGMT Dagmar 90.42 340 eP P 20 01 34.2 -1.3
comp=Z,42nm,1.4s
DGMT Dagmar 90.42 340 ⇑P P 20 01 37.3 +1.9
baz=91
D19A Cripps Ranch, 90.59 337 ⇓P P 20 01 37.3 +0.9
baz=91
C21A Desert Coulee 90.65 338 ⇑P P 20 01 40.9 +4.3
baz=91
B22A Reddig Ranch S 90.76 339 ⇓P P 20 01 40.6 +3.5
baz=91

C19A Slack Wire Ran 91.15 337 ⇓P P 20 01 40.6 +1.6
baz=91
TAU Tasmania Unive 91.25 209 PFAKE 20 01 50.0 +10
TAU LR LR
comp=Z,2µm,20.0s
A22A Carney Farms, 91.36 339 ⇑P P 20 01 40.6 +0.7
baz=92
B20A Solberg Farm, 91.47 338 ⇑P P 20 01 41.2 +0.8
baz=92
A21A Bergtoll Ranch 91.64 339 ⇓P P 20 01 42.1 +0.9
baz=92
B19A Brinkman Farms 91.76 337 ⇓P P 20 01 39.8 -2.0
baz=92
CHMT Chamberlain Mo 91.81 334 eP P 20 01 42.6 +0.3
comp=Z,16nm,1.6s
A20A Cobblestone Ra 91.84 338 ⇑P P 20 01 43.1 +1.0
baz=92
J05D Fort Rock, OR 91.86 327 ⇓P P 20 01 42.9 +0.4
baz=92
A19A Klindworth Far 92.12 338 ⇓P P 20 01 42.3 -1.1
baz=92
SLMT Seeley Lake 92.18 334 eP P 20 01 43.9 0.0
comp=Z,14nm,1.4s
SWMT Swartz Lake 92.58 334 eP P 20 01 46.0 +0.3
comp=Z,9.2nm,1.2s
SCHQ Schefferville 92.75 4 P P 20 01 45.6 -0.4
comp=Z,3.1nm,1.0s,baz=174,slow=6.7,SNR=3.7
JTMT Jette 92.89 334 P P 20 01 46.4 -0.7
comp=Z,17nm,1.6s
BSMT Bassoo Peak 93.15 334 eP P 20 01 48.6 +0.2
comp=Z,5.0nm,1.0s
WALA Waterton Lakes 93.89 335 eP P 20 01 49.7 -1.9
comp=Z,28nm,1.3s
NEW Newport 94.34 332 eP P 20 01 52.8 -0.9
NEW pmax pmax
comp=Z,14nm,1.4s
NEW MLR MLR
comp=Z,1µm,20.0s
NEW Newport 94.34 332 eP P 20 01 52.8 -0.9
comp=Z,14nm,1.4s
NEW LR LR
comp=Z,1µm,20.0s
NEW Newport 94.34 332 ⇓P P 20 01 53.3 -0.3
baz=95
MDT Midelt 95.29 52 LR LR 20 44 34.4
comp=Z,11µm,19.7s,slow=35
TAM Tamanrasset 95.63 66 eP P 20 02 00.8 +0.5
TAM pmax pmax
comp=Z,9.0nm,1.0s
TAM Tamanrasset 95.63 66 eP P 20 02 00.8 +0.5
comp=Z,8.6nm,1.0s
FFC Flin Flon 95.64 344 PFAKE 20 02 10.0 +11
FFC LR LR
comp=Z,2µm,19.0s
CAN Canberra 97.00 214 PFAKE 20 02 20.0 +13
CAN LR LR
comp=Z,2µm,20.0s
DZM Mont Dzumac 97.87 234 ePP PP 20 06 00.2 -8.4
comp=Z,258nm,25.9s
DZM eSP SP 20 14 56.5 -0.8
comp=Z,992nm,23.2s
DZM eSS SS 20 20 19.3 +4.0
comp=Z,3µm,25.6s
DZM eLQ LQ 20 29 52.9
comp=Z,2µm,29.1s
DZM eLR LR 20 33 57.9
comp=Z,5µm,24.4s
ESDC Sonseca Array 100.25 47 P Pdif 20 02 20.8 +0.2
comp=Z,1.1nm,0.8s,baz=255,slow=3.5,SNR=5.3
ESDC PP PP 20 06 27.9 +0.6
comp=Z,1.0nm,0.9s,baz=224,slow=8.3,SNR=4.7
KMBO Kilima Mbogo 105.51 104 PFAKE 20 07 10.0
KMBO LR LR
comp=Z,4µm,20.0s
YKA Yellowknife Ar 105.56 342 Pdiff Pdif 20 02 42.5 -1.0
comp=Z,0.2nm,0.6s,baz=146,slow=4.2,SNR=2.8
YKA PP PP 20 07 10.8 +4.3
comp=Z,1.1nm,1.1s,baz=138,slow=5.9,SNR=4.5
VSL Villasalto 108.28 54 PFAKE 20 07 10.0
VSL LR LR
comp=Z,2µm,19.0s
BNI Bardonecchia 109.76 48 PFAKE 20 07 20.0
BNI LR LR
comp=Z,4µm,20.0s
BORG Borgarnes 110.34 21 PFAKE 20 07 20.0
BORG LR LR
comp=Z,3µm,19.0s
ESK Eskdalemuir 110.62 35 PFAKE 20 07 20.0
ESK LR LR
comp=Z,5µm,19.0s
CTAO Charters Tower 111.11 220 PFAKE 20 07 20.0
CTAO LR LR
comp=Z,2µm,19.0s
VLC Villacollemand 111.48 50 PFAKE 20 07 20.0
VLC LR LR
comp=Z,4µm,20.0s
WLF Walferdange 112.03 44 PFAKE 20 07 20.0
WLF LR LR
comp=Z,9µm,20.0s
TIP Timpagrande 112.92 58 PFAKE 20 07 20.0
TIP LR LR
comp=Z,5µm,21.0s
ASAR Alice Springs 113.38 207 PKiKP PKiKP 20 07 11.2 -1.6
comp=Z,0.4nm,0.7s,baz=140,slow=1.9,SNR=6.3
ASAR PKKPbc PKKPbc 20 17 56.5 +0.1
comp=Z,0.7nm,0.8s,baz=338,slow=3.2,SNR=6.6
GERES GERESS Array B 115.84 47 PKP PKPdf 20 07 16.1 -0.5
comp=Z,2.1nm,0.7s,baz=222,slow=1.8,SNR=8.1
KHC Kasperske Hory 115.91 47 ePKIKP PKPdf 20 07 13.4 -3.2
KHC e 20 07 28.9
KHC e 20 17 54.8
KHC MLR MLR
comp=Z,3µm,21.4s
KHC Kasperske Hory 115.91 47 ePKP PKPdf 20 07 13.4 -3.2
KHC epPKP PKiKP 20 07 28.9 +12
KHC ePP PP 20 08 16.9 -4.6
KHC eXS 20 16 22.9
KHC eSP SP 20 17 54.8 -3.3
KHC AMS AMS 20 56 30.0
comp=Z,3µm,21.4s
WRA Warramunga Arr 116.61 209 PKP PKPdf 20 07 17.4 -1.6
comp=Z,1.2nm,0.8s,baz=156,slow=1.7,SNR=18
WRA PKKPab PKKPab 20 17 57.3 +4.2
comp=Z,1.6nm,1.1s,baz=339,slow=3.9,SNR=5.1
WRAB Tennant Creek 116.61 209 PFAKE 20 07 30.0 +11
WRAB LR LR
comp=Z,4µm,22.0s
CLL Collm 116.63 44 eP Pdif 20 03 35.0 +2.0
CLL e 20 08 27.0
CLL MLR MLR
comp=Z,3µm,20.8s
CLL Collm 116.63 44 ePdif Pdif 20 03 35.0 +2.0
CLL ePP PP 20 08 27.0 +0.6
CLL ePPP PPP 20 11 00.0
CLL eSdif Sdif 20 16 17.0 +7.4
CLL ePS PKKPdf 20 18 11.0 -1.6
CLL ePPS PPS 20 19 29.0
CLL eSS SS 20 24 27.0 -3.1
CLL e 20 28 06.0
CLL eSSS SSS 20 28 48.0
CLL e 20 29 54.0
CLL eSSSS 20 32 18.0
CLL Lm MLR 20 54 00.0
comp=Z,3µm,20.8s
PRA Prague 116.84 46 PKP PKPdf 20 07 16.0 -2.3
PRA ex x 20 08 19.0
PRA PS PS 20 18 10.0 -0.8
PRU Pruhonice 116.87 46 ePKIKP PKPdf 20 07 15.8 -2.6
PRU e 20 18 09.4
PRU MLR MLR
comp=Z,3µm,17.5s
PRU Pruhonice 116.87 46 ePKP PKPdf 20 07 15.8 -2.6
PRU ePP PP 20 08 18.6 -10
PRU ex x 20 15 41.3
PRU eXS 20 16 31.7
PRU ePS PS 20 18 09.4 -1.7
PRU AMS AMS 20 58 40.0
comp=Z,3µm,17.5s
BRG Berggiesshubel 116.94 45 PP PP 20 08 24.0 -4.6
BRG PS PKKPdf 20 18 23.0 +11
BRG SS SS 20 24 36.0 +1.7
BRG
comp=N,2µm,17.5s
BRG
comp=E,3µm,20.0s
BRG

comp=Z,3µm,18.7s
TREC Trest 117.09 47 ePKIKP PKPdf 20 07 19.6 +0.7
TREC e 20 08 29.9
TREC e 20 18 12.1
TREC MLR MLR
comp=Z,3µm,17.8s
TREC Trest 117.09 47 ePKP PKPdf 20 07 19.6 +0.7
TREC ePP PP 20 08 29.9 +0.2
TREC ePS PKKPdf 20 18 12.1 +0.4
TREC AMS AMS 21 02 40.0
comp=Z,3µm,17.8s
PVCC Panska Ves 117.14 46 ePKP PKPdf 20 07 25.7 +6.8
ILAR Eielson Array 117.30 332 PKP PKPdf 20 07 17.7 -1.1
comp=Z,1.0nm,1.0s,baz=169,slow=1.9,SNR=8.1
ILAR PP PP 20 08 36.5 +5.8
comp=Z,1.1nm,1.0s,baz=99,slow=6.2,SNR=5.8
ILAR PKKPbc PKKPab 20 17 42.7 -0.9
comp=Z,0.2nm,0.5s,baz=318,slow=4.6,SNR=5.2
COLA College 117.70 332 PFAKE 20 07 30.0 +11
COLA LR LR
comp=Z,1µm,21.0s
DPC Dobruska-Polom 118.05 47 ePKIKP PKPdf 20 07 21.4 +0.7
DPC e 20 07 29.6
DPC e 20 08 37.7
DPC Dobruska-Polom 118.05 47 ePKP PKPdf 20 07 21.4 +0.7
DPC epPKP pPKPdf 20 07 29.6 -1.9
DPC ePP PP 20 08 37.7 +1.3
DPC eXS 20 16 39.4
DPC AMS AMS 20 57 20.0
VYHS Vyhne 118.70 49 ePKIKP PKPdf 20 07 21.9 -0.1
VYHS e 20 07 28.7
VYHS Vyhne 118.70 49 ePKP PKPdf 20 07 21.9 -0.1
VYHS e 20 07 28.7
KONO Kongsberg 118.77 35 PFAKE 20 07 30.0 +8.3
KONO LR LR
comp=Z,3µm,21.0s
OKC Ostrava-Krasne 118.88 48 ePKIKP PKPdf 20 07 23.0 +0.8
OKC e 20 08 43.3
OKC e 20 18 25.8
OKC MLR MLR
comp=Z,1µm,17.0s
OKC Ostrava-Krasne 118.88 48 ePKP PKPdf 20 07 23.0 +0.8
OKC ePP PP 20 08 43.3 +1.2
OKC ePS PS 20 18 25.8 -3.5
OKC AMS AMS 21 02 00.0
comp=Z,1µm,17.0s
PSZ Piszkesteto 119.09 50 PFAKE 20 07 30.0 +7.2
PSZ LR LR
comp=Z,3µm,21.0s
BZS Buzias 119.15 53 ⇑PKIKP PKPdf 20 07 22.8 -0.1
BZS Buzias 119.15 53 ⇑iP PKPdf 20 07 22.8 -0.1
MBWA Marble Bar 119.75 194 PFAKE 20 07 30.0 +5.0
MBWA LR LR
comp=Z,2µm,19.0s
NB2 NORSAR Subarra120.10 34 PKPdf PKPdf 20 07 23.7 -0.6
comp=Z,5.1nm,1.4s,baz=248,slow=1.9
NB2 NORSAR Subarra120.10 34 PKPdf PKPdf 20 07 23.7 -0.6
baz=248,slow=1.9
NOA NORSAR Array B 120.10 34 PKP PKPdf 20 07 23.7 -0.6
comp=Z,1.0nm,0.9s,baz=250,slow=2.2,SNR=3.9
DRGR 120.34 52 ⇓PKIKP PKPdf 20 07 25.3 0.0
DRGR 120.34 52 ⇓iP PKPdf 20 07 25.3 0.0
TRPA Tarpa 120.79 51 ⇑iP PKPdf 20 07 26.3 +0.4
UZH Uzhgorod 120.84 50 ePKIKP PKPdf 20 07 33.1 +7.1
UZH e 20 07 40.7
UZH e 20 08 56.5
UZH e 20 14 26.1
UZH i 20 18 52.1
UZH e 20 25 50.9
UZH e 20 29 55.9
UZH MLR MLR
comp=N,1µm,16.0s
UZH MLR MLR
comp=E,2µm,16.0s
UZH MLR MLR
comp=Z,600nm,16.0s
KOLS Kolonicke sedl 120.95 50 ePKIKP PKPdf 20 07 35.9 +10
KOLS Kolonicke sedl 120.95 50 ePKP PKPdf 20 07 35.9 +10
ARR Arges 120.97 54 ⇑iP PKPdf 20 07 26.9 +0.4
JMB Yambol 121.03 58 ⇓PKIKP PKPdf 20 07 24.3 -2.3
JMB Yambol 121.03 58 ⇓iP PKPdf 20 07 24.3 -2.3
VOIR 121.26 55 ⇓PKIKP PKPdf 20 07 29.4 +2.3
VOIR 121.26 55 ⇓iP PKPdf 20 07 29.4 +2.3
KWP Kalwaria Pacla 121.49 49 PFAKE 20 07 40.0 +13
KWP LR LR
comp=Z,4µm,20.0s
DOPR Dopca 121.69 54 ⇑iP PKPdf 20 07 28.0 +0.2
ISP Isparta 121.78 65 PFAKE 20 07 40.0 +12
ISP LR LR
comp=Z,4µm,20.0s
MLR Muntele Rosu 121.86 55 ⇓PKIKP PKPdf 20 07 28.3 0.0
MLR Muntele Rosu 121.86 55 ⇓iP PKPdf 20 07 28.3 0.0
PRD Provadia 121.89 58 ⇓PKIKP PKPdf 20 07 28.7 +0.5
BURAR Bucovina Array 122.23 52 ⇑PKIKP PKPdf 20 07 28.0 -0.9
BURAR Bucovina Array 122.23 52 ⇑iP PKPdf 20 07 28.0 -0.9
BUR08 Bucovina Ar. S 122.24 52 eP PKPdf 20 07 27.9 -1.0
PLOR Plostina 122.46 55 ⇑PKIKP PKPdf 20 07 28.2 -1.1
PLOR Plostina 122.46 55 ⇑iP PKPdf 20 07 28.2 -1.1
VRI Vrincioaia 122.51 55 ⇑PKIKP PKPdf 20 07 28.5 -0.9
VRI Vrincioaia 122.51 55 ⇑iP PKPdf 20 07 28.5 -0.9
TESR Tescani 122.71 54 ⇑iP PKPdf 20 07 29.1 -0.6
CFR Carcaliu 123.16 56 ⇓PKIKP PKPdf 20 07 30.6 0.0
CFR Carcaliu 123.16 56 ⇓iP PKPdf 20 07 30.6 0.0
TLCR 123.61 56 ⇑PKIKP PKPdf 20 07 31.0 -0.5
TLCR 123.61 56 ⇑iP PKPdf 20 07 31.0 -0.5
ANTO Ankara 124.24 63 PFAKE 20 07 40.0 +7.0
ANTO LR LR
comp=Z,4µm,20.0s
KIS Kishinev 124.28 54 ePKIKP PKPdf 20 07 44.0 +11
KIS e 20 09 18.0
KIS ePPP PPP 20 12 00.0
KIS e 20 14 36.0
KIS ePS PS 20 19 22.0 +4.5
KIS Kishinev 124.28 54 ePKP PKPdf 20 07 44.0 +11
KIS Kishinev 124.28 54 ePP PP 20 09 18.0 -0.9
KIS Kishinev 124.28 54 ePPP PPP 20 12 00.0
KIS eSKS SKSdf 20 14 36.0 -5.9
KIS eSKKS SKKSac 20 16 32.0 +18
KIS Kishinev 124.28 54 ePS PS 20 19 22.0 +4.5
KIS LRM MLR 20 56 58.0
comp=Z,1µm,23.0s
H11S2 WAKE ISLAND Hy124.45 267 T T 22 23 48.2
baz=128
H11S1 WAKE ISLAND Hy124.47 267 T T 22 23 51.2
baz=128
H11S3 WAKE ISLAND Hy124.47 267 T T 22 23 48.5
baz=128
DGAR Diego Garcia 124.72 138 PFAKE 20 07 40.0 +5.4
DGAR LR LR
comp=Z,2µm,20.0s
BR131 Keskin Array S 124.78 64 ePKPdf PKPdf 20 07 34.2 +0.1
BRTR Keskin Array B 124.78 64 PKP PKPdf 20 07 34.3 +0.1
comp=Z,5.2nm,0.8s,baz=189,slow=3.3,SNR=24
AK02 Malin Array Si 125.76 50 ePKPdf PKPdf 20 07 35.1 -0.4
KIEV Kiev 125.77 50 ePKIKP PKPdf 20 07 34.9 -0.6
KIEV Kiev 125.77 50 ePKP PKPdf 20 07 34.9 -0.6
AK01 Malin Array Si 125.78 50 ePKPdf PKPdf 20 07 34.8 -0.6
AKASG Malin Array Be 125.78 50 PKP PKPdf 20 07 34.6 -0.8
comp=Z,3.3nm,0.8s,baz=260,slow=2.7,SNR=15
AKASG PP PP 20 09 31.9 +3.1
comp=Z,4.4nm,1.0s,baz=253,slow=6.2,SNR=7.9
AKBB Malin Array Si 125.78 50 ePKIKP PKPdf 20 07 36.2 +0.7
AKBB Malin Array Si 125.78 50 ePKPdf PKPdf 20 07 36.2 +0.7
MNK Minsk 126.13 45 ePKIKP PKPpre 20 07 25.0
MNK ePS PS 20 19 36.0 +2.5
MNK eSS SS 20 26 25.0 -6.4
MNK eSSS SSS 20 31 08.0
MNK MLR MLR
comp=Z,6µm,20.0s
MNK MLR MLR
comp=Z,7µm,18.0s
MICGM Minsk 126.15 45 ePKP PKPpre 20 07 25.0
RAYN Ar Rayn 126.51 87 ePKPdf PKPdf 20 07 38.8 +1.0
VSU Vasula 126.62 40 iPKIKP PKPdf 20 07 35.6 -1.2
FINES FINESS Array B 127.01 36 PKP PKPdf 20 07 37.9 +0.5
comp=Z,2.3nm,0.8s,baz=231,slow=4.0,SNR=7.1
SIM Simferopol' 127.03 58 iPKIKP PKPdf 20 07 40.0 +1.9
SIM e 20 09 39.0
SIM iPPP PPP 20 12 22.0
SIM ePPS PPS 20 21 19.0
SIM eSSS SSS 20 31 31.0
SIM pmax pmax
comp=Z,260nm,13.6s

MALT	Malatya	127.67	67	⇓PKIKP	PKPdf	20 07 40.3	+0.6
MALT	Malatya	127.67	67	⇓iP	PKPdf	20 07 40.3	+0.6
ARCES	ARCESS Array B	128.22	26	PKP	PKPdf	20 07 39.4	-0.2
	comp=Z,3.7nm,1.0s,baz=241,slow=2.2,SNR=5.3						
ANN	Anapa	129.21	59	i PKIKP	PKPdf	20 07 42.6	+0.4
ANN				e		20 09 50.0	
ANN				pmax	pmax		
	comp=Z,60nm,1.4s						
ANN				MLR	MLR		
	comp=E,940nm,23.0s						
ANN				MLR	MLR		
	comp=Z,2µm,23.0s						
SOC	Sochi	130.40	61	i PKIKP	PKPdf	20 07 44.5	0.0
SOC				pmax	pmax		
	comp=Z,23nm,0.9s						
SOC				MLR	MLR		
	comp=Z,871nm,20.0s						
APA	Apatity	130.96	29	⇑iPKIKP	PKPdf	20 07 47.0	+2.2
APA				i		20 10 02.0	
APA				i		20 14 57.0	
APA				i SS	SS	20 27 34.0	+3.6
APA				MLR	MLR		
	comp=Z,2µm,19.0s						
OBN	Obninsk	131.19	46	i PKIKP	PKPdf	20 07 45.0	-0.6
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
OBN	Obninsk	131.19	46	PFAKE		20 08 00.0	+14
OBN				LR	LR		
	comp=Z,3µm,20.0s						
MOS	Moscow	131.88	45	ePKIKP	PKPdf	20 07 49.6	+2.7
VSR	Storozhevoye	131.99	51	ePKIKP	PKPdf	20 07 46.2	-1.1
VSR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
VSR				pmax	pmax		
	comp=N,4.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,4.0nm,0.8s						
VSR				MLR	MLR		
	comp=Z,3µm,22.0s						
VSR				MLR	MLR		
	comp=N,730nm,20.0s						
VSR				MLR	MLR		
	comp=E,2µm,20.0s						
VORD	Divnogorie	132.01	52	ePKIKP	PKPdf	20 07 47.3	0.0
VORD				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
VORD				MLR	MLR		
	comp=N,1µm,20.0s						
VORD				MLR	MLR		
	comp=E,1µm,20.0s						
VORD				MLR	MLR		
	comp=Z,2µm,20.0s						
IDHR	Dehrash	132.23	75	eP	SKPbc	20 11 17.3	+4.7
AKH	Akhalkalaki	132.40	65	P	PP	20 10 11.1	-1.5
KIV	Kislovodsk	132.57	62	i PKIKP	PKPdf	20 07 46.0	-2.7
KIV				ePS	PS	20 20 23.5	-6.6
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIV	Kislovodsk	132.57	62	ePKPdf	PKPdf	20 07 49.3	+0.5
KIV				LR	LR		
	comp=Z,1µm,19.0s						
KBZ	Khabaz	132.65	62	PKhKP	PKPpre	20 07 38.6	
	comp=Z,1.9nm,0.9s,baz=171,slow=5.0,SNR=4.0						
KBZ				PKP	PKiKP	20 07 49.4	-0.5
	comp=Z,4.4nm,1.0s,baz=270,slow=5.0,SNR=6.5						
ONI	Oni	132.72	64	P	PP	20 10 12.0	-2.5
GNI	Garni	132.91	67	ePKIKP	PKPdf	20 07 44.7	-4.9
NCK	Nalchik	133.07	62	i PKIKP	PKPdf	20 07 47.1	-2.5
ZEI	Tsey	133.09	64	i PKIKP	PKPdf	20 07 53.1	+3.2
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GOF	Gofitskoye	133.11	60	ePKHKP	PKPpre	20 07 36.2	
KLMR	Klimovskoe	133.38	38	ePKIKP	PKPdf	20 07 50.0	+0.4
KLMR				pmax	pmax		
	comp=Z,21nm,1.2s						
TBLG	Delisi	133.38	65	P	PP	20 10 17.6	-1.1
VRHR	Novokhopersk	133.48	52	ePKIKP	PKPdf	20 07 48.4	-1.7
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRHR				MLR	MLR		
	comp=N,380nm,19.0s						
VRHR				MLR	MLR		
	comp=Z,1µm,19.0s						
VRHR				MLR	MLR		
	comp=E,1µm,24.0s						
DGRG	David-gareji	133.76	66	P	PP	20 10 19.8	-1.4
IPIR	Pirpir	134.91	79	eP	PKPdf	20 07 52.4	-1.4
IRAZ	Razeghan	135.19	75	eP	PKPdf	20 07 54.9	+0.8
ISRV	Sarvestan	135.28	85	eP	PKPdf	20 07 55.5	+0.9
IPAR	Pars	135.43	84	eP	PKPdf	20 07 55.5	+0.7
IKLH	Kolahrood	135.69	79	eP	PP	20 10 34.1	+0.2
MAK	Makhachkala	135.69	64	ePKIKP	PKPdf	20 07 52.6	-1.9
MAK				e		20 14 56.6	
MAK				ePS	PS	20 20 45.9	-11
MAK				eSSS	SSS	20 33 32.3	
MAK				pmax	pmax		
	comp=Z,75nm,3.5s						
BILL	Bilibino	135.96	332	i PKIKP	PKPdf	20 07 48.5	-5.7
BILL				i		20 10 34.5	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BILL	Bilibino	135.96	332	PFAKE		20 08 00.0	+5.8
BILL				LR	LR		
	comp=Z,1µm,20.0s						
IZEF	Zefreh	136.11	80	eP	PKPdf	20 07 49.0	-7.0
PRGR	Permogore	136.33	37	ePKIKP	PKPdf	20 07 54.5	-0.5
PRGR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
IVRN	Varamin	136.42	77	eP	PKPdf	20 07 56.9	+0.7
IBAF	Bafgh	138.13	83	eP	PP	20 10 47.2	-1.8
IGLO	Ghaloghah	138.54	75	eP	PP	20 10 51.8	+0.2
ITEG	Tejag	141.12	83	eP	PKPdf	20 08 00.2	-4.9
PET	Petropavlovsk	141.46	310	ePKHKP	PKPpre	20 07 56.8	
PET				e		20 11 14.2	
PET				eSS	SS	20 29 36.8	+0.3
PET				eSSS	SSS	20 34 56.0	
PET				pmax	pmax		
	comp=Z,400nm,13.6s						
PET				MLR	MLR		
	comp=Z,2µm,18.0s						
PET	Petropavlovsk	141.46	310	PFAKE		20 08 10.0	+5.3
PET				LR	LR		
	comp=Z,1µm,21.0s						
ISFR	Sfrayin	141.90	76	eP	PKPdf	20 08 01.8	-4.6
PETK	Petropavlovsk-	142.03	310	PKhKP	PKPpre	20 08 00.3	
	comp=Z,3.5nm,0.8s,baz=129,slow=6.1,SNR=4.3						
IKRD	Kardeh	142.21	77	eP	PKPdf	20 08 05.8	-1.1
GEYT	Alibeck	142.23	75	PKhKP	PKPpre	20 08 02.8	
	comp=Z,7.3nm,0.7s,baz=268,slow=4.2,SNR=24						
IPAY	Payeh	142.49	77	eP	PKPdf	20 08 02.2	-5.2
ISRO	Mashad	142.81	78	eP	PKPdf	20 08 03.9	-4.0
IMYA	Miami	143.31	78	eP	PKPbc	20 08 06.8	+0.8
KSM	Kuching	143.38	186	ePKPdf	PKPdf	20 08 09.5	0.0
KSM				LR	LR		
	comp=Z,1µm,20.0s						
ARU	Arti	143.57	44	i PKIKP	PKPbc	20 08 06.2	+0.4
ARU	Arti	143.57	44	ePKPdf	PKPdf	20 08 07.5	-0.8
ARU				LR	LR		
	comp=Z,5µm,22.0s						
AKTO	Aktyubinsk	143.79	54	PKIKP	PKPab	20 08 06.2	+0.2
AKTO				pmax	pmax		
	comp=Z,66nm,1.1s						
TIXI	Tiksi	144.49	348	i PKIKP	PKPdf	20 08 12.3	+2.8
TIXI	Tiksi	144.49	348	ePKPdf	PKPab	20 08 07.0	-1.0
AB31	Akbulak array	145.05	56	PKIKP	PKPbc	20 08 10.6	-0.1
AB31				pmax	pmax		
	comp=Z,134nm,0.9s						
ABKAR	Akbulak array	145.05	56	ePKPdf	PKPdf	20 08 11.5	+0.3
LHMI	Lhok Sumawe	146.14	163	ePKPdf	PKPbc	20 08 15.2	+0.1
IPM	Ipoh	146.16	170	ePKPbc	PKPbc	20 08 14.6	+0.3
KKM	Kota Kinabalu	146.89	198	PFAKE		20 08 30.0	+11
KKM				LR	LR		
	comp=Z,875nm,20.0s						
KULM	Kulim	146.91	169	ePKPbc	PKPbc	20 08 16.8	-0.6
KULM				LR	LR		
	comp=Z,3µm,19.0s						
HYB	Hyderabad	148.01	122	i PKP	PKPbc	20 08 19.0	-1.3
KBL	Kabul	149.74	85	ePKP2	PKPbc	20 08 26.1	+1.6
KBL	Kabul	149.74	85	ePKPbc	PKPbc	20 08 26.1	+1.6
YUK	Yuzh-Kuril'sk	149.95	294	i PKIKP	PKPdf	20 08 16.5	-3.0
YUK				i		20 11 56.1	
YUK				i PPP	PPP	20 15 21.7	
YUK				i SS	SS	20 31 12.7	-1.2
YUK				i SSS	SSS	20 36 44.6	
BRVK	Borovoye	150.94	47	PKIKP	PKPdf	20 08 22.1	+1.4
BRVK				pmax	pmax		
	comp=Z,88nm,1.5s						
BRVK	Borovoye	150.94	47	ePKPbc	PKPbc	20 08 27.4	+0.9
BRVK				LR	LR		
	comp=Z,3µm,20.0s						
BVA0	Borovoye Array	151.01	47	i PKIKP	PKPdf	20 08 22.8	+1.9
BVA0				pmax	pmax		
	comp=Z,27nm,0.8s						
YSS	Yuzh-Sakhalins	152.07	300	PFAKE		20 08 30.0	+0.8
YSS				LR	LR		
	comp=Z,538nm,19.0s						
YAK	Yakutsk	152.11	337	ePKIKP	PKPbc	20 08 27.7	-1.1
YAK				e		20 08 35.4	
YAK				pmax	pmax		
	comp=Z,35nm,1.0s						
YAK	Yakutsk	152.11	337	ePKPbc	PKPbc	20 08 27.7	-1.1
YAK				LR	LR		
	comp=Z,1µm,20.0s						
KK31	Karatay Array	152.36	68	i PKIKP	PKPbc	20 08 29.8	-0.3
KK31				pmax	pmax		
	comp=Z,12nm,0.8s						
KKAR	Karatay Array	152.36	68	ePKIKP	PKPdf	20 08 23.9	+0.7
KKAR				e		20 08 29.9	
KKAR				e		20 08 40.2	
KKAR	Karatay Array	152.36	68	ePKPdf	PKPdf	20 08 23.9	+0.7
KKAR				ePKPbc	PKPbc	20 08 29.9	-0.3
KKAR				ePKPab	PKPab	20 08 40.1	-0.2
NDI	New Delhi	153.90	102	ePKP	PKPdf	20 08 27.0	+1.1
NDI				ePP	PP	20 12 28.0	+5.9
EKS2	Erkin-Say	154.75	69	ePKIKP	PKPdf	20 08 27.7	+0.9
EKS2				e		20 08 35.9	
EKS2				MLR	MLR		
	comp=Z,2µm,19.0s						
EKS2	Erkin-Say	154.75	69	ePKPdf	PKPdf	20 08 27.7	+0.9
EKS2				ePKPbc	PKiKP	20 08 35.9	+0.5
EKS2				LR	LR		
	comp=Z,2µm,19.0s						
MJAR	Matsushiro Arr	154.80	276	PKPbc	PKPbc	20 08 34.5	-1.1
	comp=Z,1.5nm,0.9s,baz=227,slow=2.8,SNR=3.7						
AAK	Ala-Archa	155.28	69	PKIKP	PKPdf	20 08 28.0	+0.4
AAK				pmax	pmax		
	comp=Z,41nm,1.1s						
AAK	Ala-Archa	155.28	69	ePKPdf	PKPdf	20 08 28.4	+0.7
AAK				LR	LR		
	comp=Z,2µm,19.0s						
FRU	Bishkek	155.37	69	ePKIKP	PKPdf	20 08 27.0	-0.6
FRU				e		20 16 00.0	
FRU				pmax	pmax		
	comp=Z,160nm,3.0s						
FRU				MLR	MLR		
	comp=Z,2µm,23.0s						
TKM2	Tokmak 2	156.09	69	PKIKP	PKPdf	20 08 28.7	-0.1
TKM2				pmax	pmax		
	comp=Z,14nm,1.1s						
TKM2	Tokmak 2	156.09	69	ePKPdf	PKPdf	20 08 29.2	+0.5
TKM2				LR	LR		
	comp=Z,2µm,19.0s						
KSH	Kashi	156.22	77	ePKP	PKPdf	20 08 29.3	+0.4
KSH				epPKP	pPKPdf	20 08 38.8	-1.0
KSH				sPKP		20 08 44.8	
KSH				eSKS	SKSdf	20 15 31.5	-1.2
KSH				eSKKS	SKKSac	20 19 21.5	-0.3
KSH				eSS	SS	20 32 22.0	-1.2
KSH				AMB	AMB		
	comp=Z,160nm,5.4s						
KSH				LR	LR		
	comp=Z,400nm,15.1s						
KSH				LR	LR		
	comp=Z,780nm,15.2s						
KSH				LR	LR		
	comp=Z,1µm,23.8s						
KURK	Kurchatov	156.59	48	ePKIKP	PKPdf	20 08 28.7	-0.1
KURK				MLR	MLR		
	comp=Z,1µm,21.0s						
KURK	Kurchatov	156.59	48	ePKPdf	PKPdf	20 08 28.7	-0.1
KURK				LR	LR		
	comp=Z,2µm,21.0s						
NVS	Novosibirsk	157.00	36	⇑iPKIKP	PKPdf	20 08 27.2	-2.0
NVS				i		20 12 37.1	
NVS				pmax	pmax		
	comp=Z,78nm,2.9s						
NVS				pmax	pmax		
	comp=N,23nm,3.0s						
NVS				pmax	pmax		
	comp=E,19nm,2.6s						
KOLN	Koldanda	158.24	112	eP	PKPdf	20 08 31.4	-0.6
	comp=E,18nm,1.1s						
ZAA0	Zalesovo Array	158.28	36	ePKPdf	PKPdf	20 08 30.1	-0.7
ZALV	Zalesovo Beam	158.28	36	PKP	PKPdf	20 08 30.3	-0.5
	comp=E,4.1nm,0.8s,baz=280,slow=2.7,SNR=18						
ZALV				PKPab	PKPab	20 09 06.3	+1.1
	comp=E,20nm,0.9s,baz=305,slow=5.2,SNR=12						
DANN	Dangsing	158.68	110	eP	PKPdf	20 08 32.5	-0.1
	comp=E,31nm,1.0s						
KLR	Kul'dur	158.72	310	ePKIKP	PKPpre	20 08 20.8	
GKN	Gorkha	159.13	112	eP	PKPdf	20 08 32.2	-0.7
	comp=E,13nm,0.9s						
DMN	Daman	159.25	114	eP	PKPdf	20 08 32.7	-0.5
CMAR	Chiang Mai Arr	159.34	159	PKP	PKPdf	20 08 33.2	0.0
	comp=E,2.6nm,1.1s,baz=244,slow=2.8,SNR=12						
PKIN	Phulchoki	159.44	114	eP	PKPdf	20 08 32.3	-1.2
PKI	Pulchoki	159.44	115	eP	PKPdf	20 08 32.5	-1.0
KKN	Kakani	159.48	114	eP	PKPdf	20 08 32.8	-0.6
BOD	Bodaibo	159.67	348	ePKP2	PKPab	20 09 09.8	-1.2
BOD				pmax	pmax		
	comp=Z,13nm,1.1s						
CHTO	Chiang Mai	159.68	159	PFAKE		20 08 40.0	+6.4
CHTO				LR	LR		
	comp=Z,1µm,19.0s						
RAMN	Ramite	159.91	118	eP	PKPdf	20 08 34.1	+0.1
	comp=Z,29nm,1.0s						
GUN	Gumba	159.98	114	eP	PKPdf	20 08 33.9	-0.3
JIRN	Jiri	160.05	116	eP	PKPdf	20 08 33.5	-0.8
	comp=Z,21nm,1.1s						
MK31	Makanchi Array	160.20	56	ePKIKP	PKPdf	20 08 33.4	0.0
MK31	Makanchi Array	160.20	56	ePKPdf	PKPdf	20 08 33.4	0.0
MKAR	Makanchi Array	160.20	56	PKP	PKPdf	20 08 33.4	0.0
	comp=Z,4.8nm,1.1s,baz=284,slow=0.5,SNR=18						
MKAR				PKPab	PKPab	20 09 14.4	+0.5
	comp=Z,12nm,0.8s,baz=290,slow=2.7,SNR=19						
MKAR				PP	PP	20 13 01.2	+4.7
	comp=Z,3.0nm,0.9s,baz=282,slow=4.7,SNR=3.8						
ODAN	Odare	160.40	119	eP	PKPdf	20 08 34.3	-0.2
	comp=Z,21nm,0.9s						
QIZ	Qiongzhong	160.77	190	PKP	PKPdf	20 08 34.5	-0.3
QIZ				SS	SS	20 33 12.5	+4.0
QIZ				LR	LR		
	comp=Z,1µm,21.7s						
QIZ				LR	LR		
	comp=Z,1µm,19.6s						
TAPN	Taplejung	160.93	119	eP	PKPdf	20 08 35.0	-0.2
MDJ	Mudanjiang	161.52	298	PKP	PKPdf	20 08 36.0	+1.2
MDJ				pPKP	pPKPdf	20 08 45.0	-0.7
MDJ				sPKP		20 08 48.5	
MDJ				PKS	PKSdf	20 12 09.3	+1.4
MDJ				AMB	AMB		
	comp=Z,400nm,7.4s						
MDJ				LR	LR		
	comp=Z,720nm,22.3s						
MDJ				LR	LR		
	comp=Z,610nm,23.5s						
MDJ				LR	LR		
	comp=Z,1µm,21.2s						
SHL	Shillong	162.41	131	eP	PKPdf	20 08 38.0	+1.4
CN2	Changchun	164.61	298	ePKP	PKPdf	20 08 38.8	+1.0
CN2				epPKP	pPKPdf	20 08 49.5	+0.8
CN2				ePP	PP	20 13 24.0	+4.0
CN2				eSS	SS	20 33 50.8	+0.2
CN2				AMB	AMB		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=Z,1µm,21.0s						
CN2				LR	LR		
	comp=Z,2µm,21.0s						
CN2				LR	LR		
	comp=Z,2µm,23.0s						
WMQ	Urumqi	164.70	62	PKP	PKPdf	20 08 38.0	0.0
WMQ				pPKP	pPKPdf	20 08 49.0	+0.1
WMQ				sPKP		20 08 52.5	
WMQ				PKS	PKSdf	20 12 09.8	-1.0
WMQ				PP	PP	20 13 23.5	+2.9
WMQ				SKS	SKSdf	20 15 37.0	-2.8
WMQ				SKKS	SKKSac	20 20 05.5	+0.1
WMQ				SS	SS	20 33 51.0	-0.7
WMQ				AMB	AMB		
	comp=Z,630nm,8.0s						
WMQ				LR	LR		
	comp=Z,1µm,20.4s						
WMQ				LR	LR		
	comp=Z,1µm,20.4s						
WMQ				LR	LR		
	comp=Z,1µm,20.0s						
LSA	Lhasa	164.76	119	ePKIKP	PKPdf	20 08 39.5	+0.5
LSA	Lhasa	164.76	119	ePKPdf	PKPdf	20 08 39.5	+0.5
IRK	Irkutsk	165.78	6	ePKP2	PKPab	20 09 41.5	+3.5
IRK				e		20 13 30.2	
IRK				pmax	pmax		
	comp=Z,38nm,1.8s						
MOY	Mondy	165.90	14	ePKP2	PKPab	20 09 40.6	+1.9
SSE	Sheshan	166.04	244	PKP	PKPdf	20 08 39.8	+0.4
SSE				PP	PP	20 13 29.8	+2.3
SSE				SS	SS	20 34 03.0	-2.2
SSE				AMB	AMB		
	comp=Z,400nm,6.9s						
SSE				LR	LR		
	comp=Z,1µm,19.5s						
SSE				LR	LR		
	comp=Z,540nm,19.5s						
SSE				LR	LR		
	comp=Z,1µm,18.2s						
TLY	Talaya	166.28	8	ePKP2	PKPab	20 09 41.3	+1.1
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TLY	Talaya	166.28	8	PFAKE		20 08 50.0	+11
TLY				LR	LR		
	comp=Z,3µm,19.0s						
KMI	Kunming	166.67	165	⇑PKP	PKPdf	20 08 40.8	+0.4
KMI				pPKP	pPKPdf	20 08 52.5	+1.2
KMI				sPKP		20 08 56.0	
ZAK	Zakamensk	167.51	10	ePKIKP	PKPdf	20 08 38.9	-1.2
ZAK				e		20 09 45.5	
ZAK				pmax	pmax		
	comp=Z,8.0nm,2.0s						
NJ2	Nanjing	168.22	243	ePKP	PKPdf	20 08 40.8	-0.2
GYA	Guiyang	168.39	181	PKP	PKPdf	20 08 41.3	-0.2
GYA				pPKP	pPKPdf	20 08 53.8	+1.5
GYA				PKPab	PKPab	20 09 52.0	+1.7
GYA				PKS	PKSdf	20 12 11.8	-2.4
GYA				PP	PP	20 13 42.5	+4.2
GYA				SKKS		20 20 24.3	
GYA				SS	SS	20 34 28.5	+1.8
GYA				AMB	AMB		
	comp=Z,1µm,10.4s						
GYA				LR	LR		
	comp=Z,4µm,21.2s						
GYA				LR	LR		
	comp=Z,3µm,21.6s						
GYA				LR	LR		
	comp=Z,3µm,24.5s						
WHN	Wuhan	170.06	223	PKP	PKPdf	20 08 40.5	-1.7
WHN				PP	PP	20 13 50.5	+3.1
WHN				SS	SS	20 34 48.5	+4.0
WHN				LR	LR		
	comp=Z,2µm,14.8s						
WHN				LR	LR		
	comp=Z,2µm,19.0s						
WHN				LR	LR		
	comp=Z,3µm,22.4s						
ULN	Ulaanbaatar	170.24	358	PFAKE		20 08 50.0	+8.0
ULN				LR	LR		
	comp=Z,2µm,19.0s						
SONM	Songino Array	170.28	0	PKP	PKPdf	20 08 39.3	-2.7
	comp=Z,1.1nm,1.0s,baz=186,slow=3.0,SNR=5.3						
SONM				PKPab	PKPab	20 09 58.8	+0.7
	comp=Z,3.3nm,0.8s,baz=343,slow=5.1,SNR=8.9						
SONM				PP	PP	20 13 48.9	+1.0
	comp=Z,0.6nm,0.7s,baz=338,slow=7.0,SNR=3.7						
ENH	Enshi	171.81	198	PFAKE		20 08 50.0	+6.8
ENH				LR	LR		
	comp=Z,736nm,20.0s						
BJI	Beijing	172.23	287	PKP	PKPdf	20 08 44.3	+1.3
BJI				PP	PP	20 14 00.0	+1.1
BJI				SS	SS	20 35 05.5	-1.8
BJI				AMB	AMB		
	comp=Z,910nm,8.1s						
BJI				LR	LR		
	comp=Z,2µm,19.5s						
BJI				LR	LR		
	comp=Z,2µm,23.7s						
BJI				LR	LR		
	comp=Z,2µm,19.9s						
BJT	Baijiatuau	172.24	287	PFAKE		20 08 50.0	+7.0
BJT				LR	LR		
	comp=Z,2µm,20.0s						
CD2	Chengdu	172.47	162	PKP	PKPdf	20 08 43.8	+0.3
CD2				pPKP	pPKPdf	20 08 54.5	+0.1
CD2				sPKP		20 08 58.3	
CD2				PKS	PKSdf	20 12 14.8	-1.1
CD2				SKS	SKSdf	20 15 42.3	-2.0
CD2				SKKS	SKKSac	20 20 45.5	+1.8
CD2				SS	SS	20 35 09.0	+1.7
CD2				AMB	AMB		
	comp=Z,840nm,7.0s						
CD2				LR	LR		
	comp=Z,2µm,18.6s						
CD2				LR	LR		
	comp=Z,2µm,19.6s						
CD2				LR	LR		
	comp=Z,2µm,19.1s						
GTA	Gaotai	174.61	74	ePKP	PKPdf	20 08 44.3	+0.2
GTA				pPKP	pPKPdf	20 08 55.0	0.0
GTA				sPKP		20 08 58.8	
GTA				PKPab	PKPab	20 10 19.5	+1.6
GTA				PP	PP	20 14 12.0	+1.2
GTA				SKS	SKSdf	20 15 44.5	-0.3
GTA				SKKS	SKKSac	20 20 53.5	-0.8
GTA				SS	SS	20 35 30.0	-0.8
GTA				AMB	AMB		
	comp=Z,2µm,10.4s						
GTA				LR	LR		
	comp=Z,2µm,20.0s						
GTA				LR	LR		
	comp=Z,1µm,18.1s						
GTA				LR	LR		
	comp=Z,2µm,19.5s						
HHC	Hu-ho-hao-te	175.22	307	ePKP	PKPdf	20 08 44.3	+0.1
HHC				pPKP	pPKPdf	20 08 55.0	-0.1
HHC				sPKP		20 08 59.0	
HHC				PP	PP	20 14 15.5	+2.2
HHC				SKS	SKSdf	20 15 42.8	-2.0
HHC				SS	SS	20 35 34.5	-1.2
HHC				AMB	AMB		
	comp=Z,490nm,5.8s						
HHC				LR	LR		
	comp=Z,820nm,18.1s						
HHC				LR	LR		
	comp=Z,870nm,18.8s						
HHC				LR	LR		
	comp=Z,1µm,17.3s						
XAN	Xi'an	175.50	207	PKP	PKPdf	20 08 44.8	+0.4
XAN				SKS	SKSdf	20 15 44.8	-0.2
XAN				SKKS	SKKSac	20 20 54.8	-3.2
XAN				SS	SS	20 35 33.0	-3.8
XAN				LR	LR		
	comp=Z,1µm,21.6s						
XAN				LR	LR		
	comp=Z,400nm,19.6s						
XAN				LR	LR		
	comp=Z,470nm,19.6s						
LZH	Lanzhou	177.07	133	ePKP	PKPdf	20 08 44.3	-0.6
LZH				pPKP	pPKPdf	20 08 53.8	-1.9
LZH				sPKP		20 09 00.0	
LZH				PP	PP	20 14 21.3	-0.6
LZH				SKS	SKSdf	20 15 41.5	-3.9
LZH				SKKS	SKKSac	20 21 08.5	+2.7
LZH				SS	SS	20 35 52.0	-1.1
LZH				AMB	AMB		
	comp=Z,870nm,5.2s						
LZH				LR	LR		
	comp=Z,1µm,18.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res
LZH				LR	LR		
	comp=Z,1μm,17.7s						
LZH				LR	LR		
	comp=Z,2μm,19.2s						

IDC 28 20:00:46.6±1.1, 34.97S×72.57W, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.7/26, mbtmp3.7/6, ML4.2/2, Error ellipse: s-maj=39.8km s-min=21.5km az=98.0
ISCJB 28 20:00:47.6±1.0, 34.98S±0.06×72.6W±0.2, h18km, mb3.6/4, Error ellipse: s-maj=26.9km s-min=8.6km az=179.6
ISC 28 20:00:49.4±1.1, 34.95S±0.08×72.6W±0.2, h18km, n9, σ0.77/10, mb3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.95	49	Pn	Pn	20 02 03.5	+0.6
	0.2nm,0.3s,baz=226,slow=15,SNR=2.3						
CFAA				Lg	Lg	20 03 11.1	
	0.5nm,0.3s,baz=56,slow=13,SNR=4.0						
PLCA	Paso Flores	6.00	165	Pn	Pn	20 02 17.6	+0.2
	2.1nm,0.3s,baz=338,slow=12,SNR=6.1						
PLCA				Sn	Sn	20 03 25.8	+0.3
	1.1nm,0.3s,baz=225,slow=20,SNR=2.7						
LPAZ	La Paz	19.01	13	P	Pn	20 05 12.8	+1.1
	0.2nm,0.3s,baz=218,slow=12,SNR=4.2						
SIV	San Ignacio	21.53	32	P	P	20 05 36.4	-1.3
	1.7nm,0.5s,baz=224,slow=11,SNR=6.1						
QSPA	South Pole Qui	55.29	180	P	P	20 10 21.5	-0.1
	2.0nm,1.1s,baz=135,slow=5.7,SNR=3.3						
TXAR	Lajitas Array	70.34	331	P	P	20 12 02.3	+0.2
	0.2nm,0.5s,baz=162,slow=9.5,SNR=3.8						
TORD	Torodi Ar. Bea	84.97	70	P	P	20 13 23.2	-0.7
	0.1nm,0.3s,baz=224,slow=3.9,SNR=3.2						
BVAR	Borovoye Array	148.29	44	PKPbc	PKPbc	20 20 34.0	0.0
	0.1nm,0.3s,baz=306,slow=3.2,SNR=2.4						
AAK	Ala-Archa	153.36	63	PKPab	PKPab	20 20 58.1	-0.5
	0.5nm,0.4s,baz=294,slow=8.8,SNR=9.9						

IDC 28 20:02:36.9±0.8, 36.49S×73.32W, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/25, mbtmp4.1/9, ML3.5/1, Error ellipse: s-maj=31.8km s-min=22.7km az=101.0
ISCJB 28 20:02:39.4±0.6, 36.48S±0.07×73.2W±0.1, h27km, mb4.1/8, Error ellipse: s-maj=15.7km s-min=9.8km az=168.4
NEIC 28 20:02:42.1±0.3, 36.47S×73.26W, h35km, mb4.4/2, Error ellipse: s-maj=9.9km s-min=6.1km az=82.0
ISC 28 20:02:41.0±0.7, 36.48S±0.08×73.3W±0.1, h27km, n28, σ0.53/24, mb4.2/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.76	154	ePn	Pn	20 03 50.9	-0.2
CFAA	Coronel Fontan	6.43	42	Pn	Pn	20 04 14.0	+0.1
	1.1nm,0.3s,baz=206,slow=5.3,SNR=9.5						
TRQA	Tornquist	9.17	103	Pn	Pn	20 04 51.7	+0.2
LVC	Limon Verde	14.34	17	Pn	Pn	20 06 03.0	+0.6
LPAZ	La Paz	20.63	14	P	P	20 07 19.7	+0.7
	3.0nm,0.8s,baz=191,slow=3.2,SNR=4.0						
LPAZ	La Paz	20.63	14	eP	P	20 07 19.1	0.0
SIV	San Ignacio	23.13	31	P	P	20 07 44.7	-0.4
	5.1nm,1.0s,baz=200,slow=11,SNR=3.2						
PAYG	Puerto Ayora	38.95	332	eP	P	20 10 05.0	+0.2
SDV	Santo Domingo	45.19	4	eP	P	20 10 54.7	+0.2
SNAA	Sanae	49.70	157	eP	P	20 11 30.2	-0.1
	1.8nm,0.8s						
QSPA	South Pole Qui	53.76	180	P	P	20 12 01.2	+0.5
	3.8nm,0.9s,baz=146,slow=4.3,SNR=5.5						
QSPA	South Pole Qui	53.76	180	eP	P	20 12 01.3	+0.5
	6.2nm,0.9s						
TXAR	Lajitas Array	71.41	332	P	P	20 13 59.0	+0.2
	0.7nm,0.7s,baz=155,slow=9.1,SNR=6.8						
DBIC	Dimbokro	76.95	72	P	P	20 14 31.7	+0.3
	2.2nm,0.6s,baz=203,slow=2.8,SNR=4.6						
NVAR	Mina Array Bea	85.34	326	P	P	20 15 16.5	+0.8
	0.7nm,0.7s,baz=160,slow=6.5,SNR=5.2						
PDAR	Pinedale Array	85.52	334	P	P	20 15 16.2	-0.2
	1.4nm,1.0s,baz=113,slow=3.4,SNR=6.5						
TORD	Torodi Ar. Bea	86.02	71	P	P	20 15 19.1	-0.3
	2.3nm,1.1s,baz=247,slow=3.1,SNR=7.3						
H11S2	WAKE ISLAND Hy	124.67	268	T	T	22 37 47.9	
	baz=128						
H11S1	WAKE ISLAND Hy	124.69	268	T	T	22 37 43.3	
	baz=128						
H11S3	WAKE ISLAND Hy	124.69	268	T	T	22 37 46.7	
	baz=128						
H11N3	WAKE ISLAND Hy	125.15	270	T	T	22 38 13.7	
	baz=121,slow=76,SNR=4.2						
H11N1	WAKE ISLAND Hy	125.16	270	T	T	22 38 14.5	
	baz=121,slow=76,SNR=6.7						
H11N2	WAKE ISLAND Hy	125.17	270	T	T	22 38 15.7	
	baz=121,slow=76,SNR=4.9						
PSI	Prapat	145.73	166	PKPbc	PKPdf	20 22 17.2	-0.6
	6.9nm,0.8s,baz=212,slow=3.3,SNR=8.7						
BVAR	Borovoye Array	149.78	45	PKPbc	PKPbc	20 22 28.3	+0.5
	0.6nm,0.6s,baz=300,slow=4.8,SNR=6.3						
AAK	Ala-Archa	154.53	66	PKPbc	PKPbc	20 22 39.2	+0.1
	0.7nm,0.7s,baz=214,slow=9.3,SNR=4.0						
AAK				PKPab	PKPab	20 22 54.1	+0.4
	0.8nm,0.6s,baz=237,slow=4.2,SNR=5.5						
ZALV	Zalesovo Beam	156.86	34	PKP	PKPdf	20 22 32.6	-0.6
	0.3nm,0.3s,baz=328,slow=5.2,SNR=3.2						
ZALV				PKPab	PKPab	20 23 02.2	-0.9
	0.5nm,0.6s,baz=306,slow=5.1,SNR=3.8						
MKAR	Makanchi Array	159.13	53	PKP	PKPdf	20 22 36.1	-0.2
	0.4nm,0.8s,baz=341,slow=2.8,SNR=3.4						

IDC 28 20:11:02.3±0.6, 35.33S×72.59W, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.2/26, mbtmp4.2/11, ML4.3/2, Error ellipse: s-maj=29.6km s-min=16.4km az=83.0
ISCJB 28 20:11:03.6±0.5, 35.34S±0.05×72.5W±0.1, h20km, mb4.3/12, Error ellipse: s-maj=15.1km s-min=6.9km az=170.1
NEIC 28 20:11:07.4±0.3, 35.31S×72.50W, h35km, mb4.6/5, Error ellipse: s-maj=10.3km s-min=6.3km az=81.0
ISC 28 20:11:05.3±0.6, 35.32S±0.07×72.6W±0.1, h20km, n29, σ0.73/32, mb4.3/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.18	46	Pn	Pn	20 12 22.9	+1.1
	0.3nm,0.3s,baz=230,slow=17,SNR=7.0						
PLCA	Paso Flores	5.63	164	Pn	Pn	20 12 29.4	+1.4
	3.5nm,0.3s,baz=345,slow=10,SNR=6.4						
PLCA				Lg	Lg	20 13 51.5	
	2.8nm,0.3s,baz=112,slow=23,SNR=2.8						
PLCA	Paso Flores	5.63	164	ePn	Pn	20 12 28.4	+0.4
	110nm,1.1s						
PLCA				eSn	Sn	20 13 31.5	-0.7
PLCA				Lg	Lg	20 13 51.5	
TRQA	Tornquist	8.94	111	ePn	Pn	20 13 13.6	+0.3
	25nm,1.1s						
LVC	Limon Verde	13.06	15	ePn	Pn	20 14 09.0	-1.0
LPAZ	La Paz	19.36	13	P	Pn	20 15 32.2	+0.6
	0.2nm,0.3s,baz=170,slow=6.2,SNR=7.1						
LPAZ	La Paz	19.36	13	eP	P	20 15 30.7	+0.2
	7.3nm,1.0s						
SIV	San Ignacio	21.83	31	P	P	20 15 56.3	-0.2
	8.6nm,0.7s,baz=238,slow=10,SNR=10						
SDV	Santo Domingo	44.00	3	eP	P	20 19 11.7	-0.1
SNAA	Sanae	50.54	157	P	P	20 20 01.9	0.0
	1.7nm,1.0s,baz=283,slow=10.0,SNR=5.2						
SNAA	Sanae	50.54	157	eP	P	20 20 02.1	+0.2
QSPA	South Pole Qui	54.92	180	P	P	20 20 35.1	+0.6
	8.1nm,0.8s,baz=160,slow=1.1,SNR=30						
QSPA	South Pole Qui	54.92	180	eP	P	20 20 34.4	-0.1
	8.5nm,0.8s						
TXAR	Lajitas Array	70.67	331	P	P	20 22 20.0	+0.3
	1.3nm,0.6s,baz=153,slow=9.1,SNR=11						
WVT	Waverly	72.49	347	eP	P	20 22 30.3	0.0
	5.9nm,0.8s						
DBIC	Dimbokro	76.02	71	P	P	20 22 50.7	-0.8
ANMO	Albuquerque	76.73	332	eP	P	20 22 56.7	+1.4
	2.5nm,0.9s						
BOSA	Boshof	79.85	118	P	P	20 23 12.6	-0.2
	6.8nm,0.9s,baz=221,slow=4.0,SNR=6.9						
ECSD	EROS Data Cent	81.67	343	eP	P	20 23 21.0	-0.9
	9.7nm,1.0s						
NVAR	Mina Array Bea	84.72	326	P	P	20 23 38.5	+0.5
	1.1nm,0.7s,baz=149,slow=6.3,SNR=6.2						
PDAR	Pinedale Array	84.74	334	P	P	20 23 38.0	0.0
	0.5nm,0.6s,baz=151,slow=6.2,SNR=4.2						
TORD	Torodi Ar. Bea	85.07	70	P	P	20 23 39.5	-0.5
	0.8nm,0.6s,baz=273,slow=4.2,SNR=7.0						
ULM	Lac du Bonnet	87.66	345	P	P	20 23 51.4	-0.4
	2.9nm,0.8s,baz=162,slow=6.3,SNR=5.4						
AKASG	Malin Array Be	123.40	48	PKP	PKPdf	20 29 59.0	-1.4
	0.4nm,0.5s,baz=260,slow=2.1,SNR=4.3						
ARCES	ARCESS Array B	125.39	25	PKP	PKPdf	20 30 03.1	-0.7
	5.9nm,1.0s,baz=279,slow=2.4,SNR=3.9						
PSI	Prapat	146.70	164	PKPbc	PKPdf	20 30 45.5	+0.6
	3.6nm,0.7s,baz=23,slow=4.1,SNR=5.4						
ZALV	Zalesovo Beam	155.57	33	PKP	PKPdf	20 30 56.5	-0.5
	0.5nm,0.6s,baz=289,slow=4.4,SNR=2.9						
ZALV				PKPbc	PKPbc	20 31 06.1	
	0.6nm,0.6s,baz=323,slow=2.9,SNR=5.9						
ZALV				PKPab	PKPab	20 31 23.8	+0.8
	0.3nm,0.4s,baz=345,slow=5.1,SNR=3.6						
MKAR	Makanchi Array	157.94	51	PKP	PKPdf	20 31 00.0	-0.3
	0.2nm,0.3s,baz=356,slow=3.9,SNR=3.5						
MKAR				PKPab	PKPab	20 31 33.9	+0.3
	0.5nm,0.8s,baz=305,slow=4.3,SNR=4.7						
SONM	Songino Array	167.47	3	PKPab	PKPab	20 32 16.4	+1.2
	0.3nm,0.4s,baz=344,slow=4.7,SNR=3.4						

KRSC 28 20:12:11.0±1.6, 50.19N×157.13E, h50km±24km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.81	308	iP	Pn	20 12 26.7	+0.6
SKR				iS	Sn	20 12 36.8	-0.4
PAU	Pauzhetka	1.29	351	iP	Pn	20 12 33.3	+0.7
PAU				iS	Sn	20 12 50.6	+1.8
MIPR	Malaya Ipel'ka	2.10	354	eP	Pn	20 12 46.8	+3.1
MTVR	Mutnovka	2.39	16	eP	Pn	20 12 51.0	+3.2
MTVR				eS	Sn	20 13 18.9	+2.9
RUS	Russkaya	2.41	21	eP	Pn	20 12 50.8	+3.0
RUS				iS	Sn	20 13 19.6	+3.5
UGLR	Uglovaya	3.20	19	eP	Pn	20 13 02.5	+3.6
AVH	Avacha	3.24	17	eP	Pn	20 13 03.3	+4.0
KOK	Koryaka	3.24	16	eP	Pn	20 13 02.9	+3.5
SMAR	Somma	3.25	18	eP	Pn	20 13 03.1	+3.4
KRER	Koryakskii	3.28	17	eP	Pn	20 13 03.8	+3.8
SDLR	Sedlovina	3.28	19	eP	Pn	20 13 03.5	+3.5
KRX	Arik	3.31	16	eP	Pn	20 13 04.4	+4.0
GNL	Ganaly	3.54	8	eP	Pn	20 13 07.8	+4.2
MKZ	Mys Kozlova	5.20	31	eP	Pn	20 13 28.8	+2.7
KBTR	Krutoberegovo	6.93	27	eP	Pn	20 13 52.9	+3.1

IDC 28 20:12:35.5±0.8, 34.15S×72.13W, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.1/28, mbtmp4.0/11, ML3.6/2, Error ellipse: s-maj=28.2km s-min=20.0km az=90.0
ISCJB 28 20:12:36.6±0.6, 34.20S±0.07×72.1W±0.1, h19km, mb4.0/8, Error ellipse: s-maj=15.2km s-min=9.4km az=175.0
NEIC 28 20:12:40.6±0.4, 34.18S×72.05W, h35km, mb4.0/2, Error ellipse: s-maj=10.5km s-min=6.6km az=85.0
ISC 28 20:12:38.4±0.7, 34.18S±0.08×72.1W±0.1, h19km, n21, σ0.50/22, mb4.0/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.15	53	Pn	Pn	20 13 41.0	+0.2
	0.7nm,0.3s,baz=215,slow=12,SNR=3.3						
CFAA				Lg	Lg	20 14 41.8	
	0.9nm,0.3s,baz=55,slow=16,SNR=2.6						
PLCA	Paso Flores	6.66	170	ePn	Pn	20 14 14.3	-1.0
TRQA	Tornquist	9.07	118	ePn	Pn	20 14 48.1	-0.2
LVC	Limon Verde	11.86	15	Pn	Pn	20 15 27.0	+0.1
LPAZ	La Paz	18.17	12	P	P	20 16 51.1	+0.6
	0.3nm,0.3s,baz=215,slow=2.1,SNR=5.6						
LPAZ	La Paz	18.17	12	eP	Pn	20 16 50.4	0.0
SIV	San Ignacio	20.66	31	P	P	20 17 16.9	-0.3
	2.3nm,0.6s,baz=210,slow=9.4,SNR=4.7						
BDFB	Brasilia	28.49	56	P	P	20 18 32.3	-0.5
	3.0nm,0.8s,baz=176,slow=8.3,SNR=4.1						
PAYG	Puerto Ayora	37.42	329	eP	P	20 19 50.0	-0.5
SNAA	Sanae	51.45	158	P	P	20 21 42.4	+0.4
	1.5nm,0.8s,baz=286,slow=11,SNR=4.5						
SNAA	Sanae	51.45	158	eP	P	20 21 42.0	+0.1
	1.3nm,0.6s						
QSPA	South Pole Qui	56.06	180	P	P	20 22 16.8	+0.9
	5.4nm,0.9s,baz=140,slow=1.4,SNR=4.9						
QSPA	South Pole Qui	56.06	180	eP	P	20 22 16.8	+0.9
	1.0nm,0.6s						
TXAR	Lajitas Array	69.86	331	P	P	20 23 47.9	-0.1
	0.5nm,0.7s,baz=154,slow=6.9,SNR=3.5						
BOSA	Boshof	80.05	118	P	P	20 24 47.6	+0.5
	1.4nm,0.7s,baz=283,slow=6.0,SNR=4.3						
PDAR	Pinedale Array	83.89	333	P	P	20 25 06.9	-0.1
	0.4nm,0.7s,baz=134,slow=5.2,SNR=3.2						
NVAR	Mina Array Bea	83.99	325	P	P	20 25 08.1	+0.6
	0.7nm,0.7s,baz=137,slow=7.5,SNR=4.6						
TORD	Torodi Ar. Bea	84.33	70	P	P	20 25 09.6	0.0
	2.3nm,0.8s,baz=254,slow=4.3,SNR=9.9						
ARCES	ARCESS Array B	124.20	25	PKP	PKPdf	20 31 34.3	-0.4
	1.0nm,0.8s,baz=256,slow=3.4,SNR=3.6						
ZALV	Zalesovo Beam	154.41	32	PKPbc	PKPbc	20 32 36.9	-0.1
	2.3nm,0.6s,baz=299,slow=3.1,SNR=9.3						
ZALV				PKPab	PKPab	20 32 51.4	0.0
	2.4nm,0.7s,baz=300,slow=5.5,SNR=5.1						
MKAR	Makanchi Array	156.93	49	PKPab	PKPab	20 33 01.9	-0.5
	0.6nm,0.7s,baz=299,slow=4.7,SNR=5.3						

IDC 28 20:15:02.0±0.7, 26.03N×128.79E, h0km, mb3.9/13, mb1 4.0/14, mb1mx3.8/48, mbtmp3.9/14, ML3.3/1, Error ellipse: s-maj=28.9km s-min=14.0km az=74.0
ISCJB 28 20:15:03.8±0.9, 26.02N±0.04×128.83E±0.04, h23km±6km, mb3.9/17, Error ellipse: s-maj=6.9km s-min=6.1km az=15.8
JMA 28 20:15:05.6±0.3, 26.05N×128.75E, h36km, M3.6
NEIC 28 20:15:07.5±0.6, 25.89N×128.49E, h35km, mb4.2/4, Error ellipse: s-maj=14.9km s-min=11.0km az=95.0
ISC 28 20:15:03.7±1.7, 26.02N±0.05×128.80E±0.04, h12km±10km, n42, σ1.34/47, mb4.0/17, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.86	305	P	Pg	20 15 20.4	+0.2
JNTH				eS	Sg	20 15 31.1	-0.4
JOW	Kunigami	0.94	330	P	Pb	20 15 22.1	+0.2
JOW	Kunigami	0.94	330	Pn	Pb	20 15 21.8	-0.1
	27nm,0.3s,baz=154,slow=14,SNR=318						
JOW				Sn	Sb	20 15 30.6	-3.7
	79nm,0.3s,baz=147,slow=17,SNR=46						
JJT2	Tamagusuku 2	0.95	277	P	Pb	20 15 22.2	0.0
JJT2				eS	Sb	20 15 34.0	-0.8
JIH	Iheya	1.26	324	P	Pn	20 15 27.1	0.0
JIH				eS	Sb	20 15 42.3	-1.2
JOKE	Okinoerabujima	1.35	351	P	Pn	20 15 28.4	0.0
JOKE				eS	Sn	20 15 44.9	-1.4
JAGN	Aguni-jima	1.51	292	P	Pn	20 15 30.5	-0.1
JAGN				eS	Sn	20 15 48.4	-1.8
JTK	Tokunoshima	1.76	4	P	Pn	20 15 34.1	+0.1
JTK				eS	Sn	20 15 53.8	-2.6
JKE	Kume jima 2	1.84	280	P	Pn	20 15 34.1	-1.0
JKE				eS	Sn	20 15 54.6	-3.7
JMZ	Minamidaito 2	2.19	95	P	Pn	20 15 39.1	-0.8
JMZ				eS	Sn	20 16 03.5	-3.4
JAMN	Amaminishikomi	2.24	8	P	Pn	20 15 40.7	+0.1
JAM	Amami Oshima	2.49	17	P	Pn	20 15 43.8	-0.2
JNU	Nakatsue	7.30	14	Pn	Pn	20 16 48.6	-1.6
	0.5nm,0.3s,baz=212,slow=13,SNR=12						
SSLB	Suanglung	7.46	254	ePn	Pn	20 16 46.8	-3.9
TWG	Pinlang	7.73	247	ePn	Pn	20 16 51.3	-4.8
TPUB	Ta-pu	7.91	252	ePn	Pn	20 16 56.5	-2.2
ULN	Ulaanbaatar	27.71	328	eP	P	20 20 53.7	+1.7
	3.4nm,0.7s						
SONM	Songino Array	28.01	327	P	P	20 20 57.0	+2.4
	1.0nm,0.5s,baz=142,slow=11,SNR=8.3						
BATI	Baumata	36.35	189	P	P	20 22 06.0	-1.8
	8.6nm,0.7s,baz=338,slow=5.4,SNR=3.6						
TAPN	Taplejung	36.62	281	eP	P	20 22 12.1	+1.7
ODAN	Odare	36.97	281	eP	P	20 22 13.8	+0.4
	13nm,0.7s						
PKIN	Phulchoki	38.63	282	eP	P	20 22 27.8	+0.4
	2.8nm,0.5s						
DMN	Daman	38.88	282	eP	P	20 22 30.1	+0.6
GKN	Gorkha	39.24	283	eP	P	20 22 32.5	+0.1
DANN	Dangsing	39.96	284	eP	P	20 22 39.1	+0.6
	19nm,0.8s						
KOLN	Koldanda	40.18	283	eP	P	20 22 40.7	+0.4
	9.7nm,0.8s						
MK31	Makanchi Array	42.06	312	eP	P	20 22 54.7	-0.6
MKAR	Makanchi Array	42.06	312	P	P	20 22 54.8	-0.5
	0.6nm,0.6s,baz=101,slow=9.3,SNR=9.8						
WRAB	Tennant Creek	46.00	173	eP	P	20 23 26.6	-0.4
	9.2nm,1.1s						
WRA	Warramunga Arr	46.01	173	P	P	20 23 27.5	+0.4
	2.3nm,0.6s,baz=354,slow=8.5,SNR=25						
ASAR	Alice Springs	49.64	174	P	P	20 23 56.2	+1.0
	1.2nm,0.6s,baz=2.6,slow=15,SNR=20						
BVAR	Borovoye Array	50.77	318	P	P	20 24 04.0	+0.4
	0.4nm,0.5s,baz=98,slow=10,SNR=4.4						
KBL	Kabul	51.66	295	P	P	20 24 11.6	+0.8
	3.3nm,0.8s						
GEYT	Alibeck	59.84	300	P	P	20 25 10.6	+1.3
	0.6nm,0.6s,baz=135,slow=0.6,SNR=3.3						
ILAR	Eielson Array	64.38	28	P	P	20 25 39.9	+0.6
	0.2nm,0.7s,baz=271,slow=7.0,SNR=5.6						
KBZ	Khabaz	69.69	310	P	P	20 26 14.6	+1.3
	1.4nm,0.8s,baz=37,slow=5.1,SNR=3.6						
FINES	FINESS Array B	73.30	331	P	P	20 26 34.9	+0.2
	0.7nm,0.4s,baz=78,slow=5.1,SNR=12						
AKASG	Malin Array Be	76.02	320	P	P	20 26 50.5	-0.2
	1.1nm,0.6s,baz=57,slow=6.3,SNR=8.0						
BR131	Keskin Array S	77.57	308	eP	P	20 26 59.6	-0.4
	1.1nm,0.7s						
BRTR	Keskin Array B	77.57	308	P	P	20 27 00.4	+0.5
	1.0nm,0.8s,baz=117,slow=3.7,SNR=6.4						
YKA	Yellowknife Ar	78.50	25	P	P	20 27 05.0	+0.6
	0.4nm,0.6s,baz=302,slow=5.5,SNR=7.3						
NOA	NORSAR Array B	79.73	334	P	P	20 27 11.1	-0.2
	0.3nm,0.5s,baz=80,slow=4.2,SNR=2.9						

IDC 28 20:15:55.3±1.2, 38.22S×75.27W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/30, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=63.5km s-min=24.6km az=56.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.43	126	Pn	Pn	20 17 04.7	+0.8
	1.2nm,0.3s,baz=306,slow=16,SNR=4.4						
PLCA				Sn	Sn	20 17 56.0	-0.3
	3.9nm,0.3s,baz=26,slow=17,SNR=4.7						
QSPA	South Pole Qui	52.02	180	P	P	20 25 06.1	-0.2
	2.4nm,0.9s,baz=151,slow=5.4,SNR=4.1						
TXAR	Lajitas Array	72.26	334	P	P	20 27 22.7	+0.3
	1.7nm,0.6s,baz=151,slow=8.4,SNR=9.0						
PDAR	Pinedale Array	86.42	335	P	P	20 28 39.2	-0.4
	0.5nm,0.8s,baz=134,slow=6.4,SNR=3.4						

ISCJB 28 20:16:51.9±0.7, 34.39S±0.07×70.1W±0.2, h12km, mb4.1/4, Error ellipse: s-maj=22.3km s-min=10.2km az=8.5
IDC 28 20:16:52.1±3.3, 34.48S×70.01W, h0km, mb3.8/2, mb1 4.2/4, mb1mx3.8/32, mbtmp3.8/4, ML4.0/2, Error ellipse: s-maj=80.7km s-min=24.1km az=133.0
NEIC 28 20:16:56.6±0.8, 34.35S×70.07W, h35km, mb4.1/1, Error ellipse: s-maj=25.9km s-min=12.7km az=98.0
ISC 28 20:16:54.0±0.8, 34.38S±0.09×70.1W±0.2, h12km, n12, σ1.14/11, mb4.0/4, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.16	29	Pn	Pn	20 17 44.6	+1.0
	0.2nm,0.3s,baz=233,slow=11,SNR=2.2						
CFAA				Lg	Lg	20 18 34.6	
	0.4nm,0.3s,baz=255,slow=20,SNR=3.0						
PLCA	Paso Flores	6.35	183	Pn	Pn	20 18 27.9	+0.5
LVC	Limon Verde	11.77	5	Pn	Pn	20 19 40.6	-1.4
CPUP	Villa Florida	13.59	57	Pn	Pn	20 20 06.7	+0.1
	0.2nm,0.3s,baz=241,slow=19,SNR=1.9						
LPAZ	La Paz	18.10	6	P	Pn	20 21 05.4	-0.5
	0.2nm,0.3s,baz=198,slow=8.9,SNR=2.9						
LPAZ	La Paz	18.10	6	ePn	Pn	20 21 05.5	-0.4
JTS	JuntasAbangare	46.63	340	eP	P	20 25 18.0	-4.2
	22nm,1.1s						
SNAA	Sanae	50.61	158	eP	P	20 25 51.3	-1.1
	2.4nm,1.0s						
QSPA	South Pole Qui	55.85	180	eP	P	20 26 31.2	+0.1
TEIG	Tepich	57.01	340	P	P	20 26 39.4	-0.2
TXAR	Lajitas Array	70.89	329	P	P	20 28 13.0	+2.1
	0.8nm,0.7s,baz=149,slow=9.3,SNR=6.8						
NVAR	Mina Array Bea	85.15	324	P	P	20 29 29.0	-1.1
	0.2nm,0.4s,baz=150,slow=5.4,SNR=4.1						

SJA 28 20:18:21.2±0.9, 34.24S×73.34W, h53km±14km, ML4.2
IDC 28 20:18:25.2±0.9, 34.00S×72.18W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/32, mbtmp4.1/8, ML2.1/1, Error ellipse: s-maj=35.7km s-min=20.6km az=92.0
NEIC 28 20:18:30.5±0.5, 33.96S×72.06W, h35km, mb4.0/2, Error ellipse: s-maj=13.8km s-min=8.4km az=81.0
ISC 28 20:18:28.2±0.6, 33.99S±0.07×72.26W±0.07, h19km, n27, σ1.07/32, mb4.1/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	Uspallata	2.99	55	iP	Pb	20 19 21.9	+1.0
AUSP				iS	Sg	20 20 06.0	+1.8
AAGR	Agrelo	3.01	74	iP	Pb	20 19 21.6	+0.5
AAGR				iP	Pb	20 19 21.6	+0.5
ARCO	CERRO ARCO	3.01	69	iP	Pb	20 19 22.2	+0.9
ARCO				iS	Sg	20 20 07.7	+2.7
ARCO				AML	AML	20 20 12.4	
	comp=Z,336nm,0.8s						
AVIZ	Vizcacheras	3.17	82	iP	Pb	20 19 23.8	-0.1
ASAL	Salagasta	3.19	65	iP	Pb	20 19 25.1	+0.8
ASAL				iS	Sg	20 20 10.8	+0.1
RTLS	Leoncito	3.31	50	iP	Pb	20 19 25.6	-0.9
RTLS				iS	Sg	20 20 14.0	-0.7
CFAA	Coronel Fontan	4.14	56	Pn	Pn	20 19 29.3	-1.1
	comp=Z,0.1nm,0.3s,baz=180,slow=4.0,SNR=1.7						
CFAA				Lg	Lg	20 20 32.3	
	comp=Z,1.2nm,0.3s,baz=106,slow=22,SNR=3.3						
PLCA	Paso Flores	6.87	169	Lg	Lg	20 21 58.0	
	comp=Z,0.3nm,0.3s,baz=240,slow=20,SNR=2.3						
PLCA	Paso Flores	6.87	169	Pn	Pn	20 20 09.9	+1.9
TRQA	Tornquist	9.27	119	ePn	Pn	20 20 38.4	-2.4
LPAZ	La Paz	18.01	13	P	P	20 22 39.1	+0.6
	comp=Z,0.2nm,0.3s,baz=179,slow=9.6,SNR=5.2						
LPAZ	La Paz	18.01	13	ePn	Pn	20 22 37.7	-0.4
	comp=Z,3.6nm,0.9s						
SIV	San Ignacio	20.56	32	P	P	20 23 04.6	-1.2
	comp=Z,1.8nm,0.7s,baz=223,slow=10,SNR=5.8						
PAYG	Puerto Ayora	37.19	329	eP	P	20 25 38.9	+0.6
SNAA	Sanae	51.67	158	P	P	20 27 33.2	-0.2
	comp=Z,1.5nm,0.9s,baz=297,slow=10,SNR=4.4						
SNAA	Sanae	51.67	158	eP	P	20 27 33.7	+0.3
	comp=Z,1.9nm,0.9s						
TEIG	Tepich	56.03	342	eP	P	20 28 05.4	-0.3
QSPA	South Pole Qui	56.25	180	P	P	20 28 07.3	+0.3
	comp=Z,3.5nm,0.9s,baz=174,slow=1.8,SNR=6.5						
QSPA	South Pole Qui	56.25	180	eP	P	20 28 05.2	-1.8
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	69.63	331	P	P	20 29 36.8	+0.5
	comp=Z,0.3nm,0.5s,baz=158,slow=10,SNR=5.5						
BOSA	Boshof	80.24	118	P	P	20 30 37.4	-0.6
	comp=Z,2.2nm,1.5s,baz=198,slow=1.5,SNR=4.2						
LBTB	Lobatse	82.48	115	P	P	20 30 50.1	+0.2
	comp=Z,0.9nm,0.4s,baz=225,slow=11,SNR=3.7						
TORD	Torodi Ar. Bea	84.38	70	P	P	20 30 59.4	-0.2
	comp=Z,3.1nm,0.9s,baz=268,slow=4.3,SNR=14						
BRTR	Keskin Array B	121.99	61	PKP	PKPdf	20 37 20.6	-0.7
	comp=Z,0.5nm,0.8s,baz=194,slow=4.3,SNR=3.7						
AKASG	Malin Array Be	122.32	48	PKP	PKPdf	20 37 20.6	-0.8
	comp=Z,0.5nm,0.6s,baz=250,slow=2.2,SNR=5.0						
ZALV	Zalesovo Beam	154.31	32	PKPbc	PKPbc	20 38 26.8	+0.3
	comp=Z,3.0nm,0.6s,baz=308,slow=3.6,SNR=12						
ZALV				PKPab	PKPab	20 38 40.5	-0.1
	comp=Z,1.4nm,0.6s,baz=307,slow=5.4,SNR=4.8						
MKAR	Makanchi Array	156.90	49	PKPab	PKPab	20 38 52.0	0.0
	comp=Z,0.9nm,0.6s,baz=292,slow=3.5,SNR=5.8						

IDC 28 20:24:11.3±1.7, 37.65S×74.05W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.7/32, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=53.5km s-min=33.7km az=46.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.10	140	Pn	Pn	20 25 16.5	+1.0
	1.3nm,0.3s,baz=314,slow=3.4						
PLCA				Lg	Lg	20 26 16.6	
	0.3nm,0.3s,baz=240,slow=20,SNR=1.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
CFAA	Coronel Fontan	7.70	40	Pn	Pn	20 26 05.6	+0.8
	0.3nm,0.3s,baz=216,slow=12,SNR=4.5						
TXAR	Lajitas Array	72.18	333	P	P	20 35 38.6	+0.5
	0.4nm,1.0s,baz=160,slow=8.0,SNR=4.0						
PDAR	Pinedale Array	86.32	335	P	P	20 36 54.9	-0.2
	0.6nm,0.9s,baz=141,slow=4.6,SNR=3.3						
TORD	Torodi Ar. Bea	86.97	71	P	P	20 36 57.8	-0.8
	0.3nm,0.5s,baz=219,slow=4.6,SNR=5.9						

ISCJB 28 20:24:50.8±0.2, 6°.61S±0°.03×130°.59E±0°.04, h90km, mb4.5/28, Error ellipse: s-maj=5.7km s-min=3.8km az=166.2
BJI 28 20:24:51.2, 6°.60S×130°.60E, h107km, mb4.3/3
NEIC 28 20:24:53.4±0.8, 6°.59S×130°.59E, h104km±8km, mb4.5/13, Error ellipse: s-maj=8.5km s-min=6.9km az=47.0
DJA 28 20:24:54.9±0.3, 7°S±3°×13°1E±°, h87km±6km, M4.9/20, mb5.0/20, mB5.4/10, MLv5.0/11, Mw(mB)4.9/10
IDC 28 20:24:55.0±3.1, 6°.60S×130°.60E, h113km±29km, mb4.1/13, mb1 4.2/16, mb1mx3.4/37, mbtmp4.6/16, MS4.5/2, Ms1 4.5/2, ms1mx3.5/34, Error ellipse: s-maj=22.6km s-min=12.8km az=59.0
ISC 28 20:24:52.1±0.4, 6°.66S±0°.05×130°.63E±0°.05, h90km, n99, σ1s.54/95, mb4.5/28, 7C-8D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.48	153	P	Pn	20 25 21.5	+3.9
BNDI	Bandanaira	2.24	341	P	Pn	20 25 29.0	+1.5
FAKI	Fak Fak	4.05	24	P	Pn	20 25 52.7	+0.8
FAKI	Fak Fak	4.05	24	ePn	Pn	20 25 52.4	+0.5
FAKI				eSn	Sn	20 26 37.1	-1.1
FAKI	Fak Fak	4.05	24	⇑Pn	Pn	20 25 52.2	+0.3
	baz=4.0,SNR=46						
NLAI	Namlea	4.89	314	P	Pn	20 26 07.1	+3.8
SWI	Sorong	5.79	6	P	Pn	20 26 15.0	-0.5
	235nm,0.5s,10μm1.9nm						
SWI	Sorong	5.79	6	⇓P	Pn	20 26 15.1	-0.5
	baz=5.8,SNR=140						
MTN	Manton Dam	6.17	175	P	Pn	20 26 22.4	+1.7
	baz=6.2,SNR=577						
KDU	Kakadu	6.26	163	⇓P	Pn	20 26 23.6	+1.6
	baz=6.3,SNR=1000						
SANI	Sanana	6.51	314	P	Pn	20 26 28.7	+3.4
	42nm,0.7s,0.1nm						
LBMI	Labuha	6.74	332	P	Pn	20 26 30.1	+1.5
	156nm,0.4s,2μm0.6nm						
SOEI	Soe	7.01	244	P	Pn	20 26 35.3	+3.0
	115nm,0.9s,2μm0.9nm						
SOEI	Soe	7.01	244	ePn	Pn	20 26 33.6	+1.3
	99nm,0.8s						
SOEI				eSn	Sn	20 27 50.7	+0.2
SOEI	Soe	7.01	244	⇓P	Pn	20 26 35.0	+2.7
	baz=7.0,SNR=51						
BATI	Baumata	7.74	242	P	Pn	20 26 45.2	+3.0
	74nm,1.0s,1μm0.4nm						
BATI	Baumata	7.74	242	P	Pn	20 26 44.1	+1.9
	18nm,0.3s,baz=82,slow=3.4,SNR=38						
BATI				S	Sn	20 28 05.7	-2.6
	18nm,0.3s,baz=36,slow=19,SNR=4.2						
WAMI	Wamena	8.51	72	P	Pn	20 27 02.8	+10
KNRA	Kununurra	9.15	191	⇓P	Pn	20 27 01.8	+0.5
	baz=9.2,SNR=383						
FITZ	Fitzroy Crossi	12.37	203	ePn	Pn	20 27 42.6	-2.5
	16nm,0.5s						
FITZ				eSn	Sn	20 29 57.4	-3.8
WRAB	Tennant Creek	13.68	165	ePn	Pn	20 27 59.6	-2.8
	28nm,0.5s						
WRA	Warramunga Arr	13.69	165	P	Pn	20 27 59.1	-3.5
	7.8nm,0.3s,baz=338,slow=13,SNR=102						
WRA				S	Sn	20 30 21.5	-12
	9.6nm,0.3s,baz=334,slow=22,SNR=6.5						
COEN	Coen	14.31	121	ePn	Pn	20 28 11.3	+0.7
	214nm,0.4s						
COEN				eSn	Sn	20 30 40.8	-7.5
BBKI	Banjar Baru	16.04	281	P	P	20 28 36.4	+2.1
	192nm,0.8s,2μm						
QIS	Mount Isa	16.33	149	P	Pn	20 28 35.9	-0.3
	baz=16,SNR=15						
JAGI	Jajag, Banyuwa	16.43	263	⇓P	Pn	20 28 35.7	-1.7
	baz=16,SNR=7.8						
KMMI	Kalianget	16.55	268	P	P	20 28 46.5	+6.6
PMG	Port Moresby	16.60	101	P	P	20 28 42.6	+2.2
	1.0nm,0.3s,baz=270,slow=7.1,SNR=11						
PMG	Port Moresby	16.60	101	ePn	P	20 28 41.0	+0.6
	11nm,0.8s						
BLJI	Banyuglugur	16.93	265	P	P	20 28 47.3	+3.1
	53nm,0.6s						
AS06	Alice Springs	17.20	170	⇓P	P	20 28 46.9	+0.1
	baz=17						
AS31	Alice Springs	17.20	170	eP	Pn	20 28 46.5	-0.4
AS31				eSn	Sn	20 31 54.5	-3.6
ASAR	Alice Springs	17.20	170	P	P	20 28 47.0	-0.1
	7.0nm,0.3s,baz=16,slow=13,SNR=277						
ASAR				S	Sn	20 31 48.0	-10
	2.0nm,0.3s,baz=358,slow=27,SNR=5.0						
AS01	Alice Springs	17.21	170	⇑P	Pn	20 28 46.9	-0.1
	baz=17						
WRKA	Warakurna	18.41	187	P	Pn	20 29 01.5	0.0
	baz=18,SNR=78						
CTA	Charters Tower	20.21	133	P	Pn	20 29 22.9	+0.3
	19nm,0.9s,baz=317,slow=14,SNR=14						
CTA	Charters Tower	20.21	133	⇓P	P	20 29 21.1	+1.1
	baz=20						
CTAO	Charters Tower	20.21	133	eP	P	20 29 21.3	+1.4
	23nm,0.9s						
STKI	Sintang	20.24	289	P	Pn	20 29 23.3	+0.2
	11nm,1.2s,5μm						
KPJI	Karang Pucung	21.55	267	P	P	20 29 38.8	+4.4
	37nm,0.6s,3μm						
KSM	Kuching	21.83	291	⇑P	P	20 29 37.6	+0.2
	baz=22,SNR=3.5						
CISI	Cisompet, Garu	22.65	266	P	P	20 29 46.5	+0.3
	135nm,0.8s						
CISI	Cisompet, Garu	22.65	266	eP	P	20 29 44.8	-1.4
	102nm,0.8s						
LEM	Lembang	22.85	268	P	P	20 29 49.7	+1.4
	64nm,0.9s						
MEEK	Meekatharra	22.93	209	⇑P	P	20 29 50.3	+1.5
	baz=23,SNR=7.4						
CNJI	Cibinong	23.33	267	P	P	20 29 49.8	-2.9
	228nm,0.9s,1μm						
QLP	Quilpie	23.68	148	⇑P	P	20 29 57.6	+1.8
	baz=24,SNR=14						
CGJI	Cibinong	24.77	269	P	P	20 30 07.6	+1.9
	43nm,0.6s,936nm						
BBOO	Buckleboo	26.51	170	⇓P	P	20 30 22.3	+1.0
	baz=27,SNR=17						
STKA	Stephens Creek	27.10	159	P	P	20 30 28.1	+1.4
	6.8nm,0.5s,baz=335,slow=9.7,SNR=11						
STKA	Stephens Creek	27.10	159	P	P	20 30 28.0	+1.4
	baz=27,SNR=7.1						
CMSA	Cobar Meteorol	28.48	152	P	P	20 30 40.9	+1.9
	baz=29,SNR=18						
NWAO	Narrogin (SRO)	28.95	204	P	P	20 30 43.6	+0.5
	3.9nm,0.6s,baz=41,slow=9.3,SNR=3.5						
HNR	Honiara	29.16	97	LR	LR	20 45 16.1	
	comp=Z,386nm,18.7s,baz=144,slow=42						
ARPS	Mount Arapiles	31.68	163	⇑P	P	20 31 09.3	+2.2
	baz=32,SNR=7.5						
PSI	Prapat	33.01	286	P	P	20 31 19.8	+0.5
	11nm,0.8s,baz=194,slow=8.3,SNR=7.4						
LOEI	Loei	37.66	310	P	P	20 31 56.8	-2.1
	45nm,0.7s						
CMAR	Chiang Mai Arr	39.99	309	P	P	20 32 18.5	+0.1
	2.2nm,0.7s,baz=134,slow=7.2,SNR=24						
CMAR				PcP	PcP	20 34 22.4	+0.4
	0.9nm,0.8s,baz=156,slow=4.6,SNR=5.8						
CMMT	Chiang Mai	40.20	310	P	P	20 32 20.2	+0.1
	11nm,1.2s						
CHTO	Chiang Mai	40.20	310	P	P	20 32 20.4	+0.3
	36nm,1.0s						
BJT	Baijiatuau	48.32	345	eP	P	20 33 24.4	-0.1
	6.2nm,0.5s						
ODAN	Odare	53.51	310	eP	P	20 34 03.2	-0.8
	12nm,0.5s						
TAPN	Taplejung	53.53	311	eP	P	20 34 03.5	-0.7
	9.6nm,0.5s						
GTA	Gaotai	53.98	331	eP	P	20 34 07.5	+0.4
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RAMN	Ramite	54.15	310	eP	P	20 34 08.3	-0.4
	28nm,0.5s						
JIRN	Jiri	54.83	311	eP	P	20 34 13.2	-0.6
	9.1nm,0.5s						
GUN	Gumba	55.20	311	eP	P	20 34 15.7	-0.7
	21nm,0.6s						
PKI	Pulchoki	55.38	310	eP	P	20 34 16.6	-1.1
	9.5nm,0.5s						
PKIN	Phulchoki	55.39	310	eP	P	20 34 16.7	-1.0
DMN	Daman	55.63	310	eP	P	20 34 18.5	-0.9
	7.9nm,0.6s						
GKN	Gorkha	56.19	310	eP	P	20 34 22.5	-0.7
	17nm,0.3s						
KOLN	Koldanda	56.86	309	eP	P	20 34 27.4	-0.7
	14nm,0.6s						
DANN	Dangsing	57.03	310	eP	P	20 34 28.7	-0.7
SONM	Songino Array	58.32	341	P	P	20 34 38.1	+0.3
	1.7nm,0.6s,baz=154,slow=7.0,SNR=7.7						
PETK	Petropavlovsk-	63.81	18	LR	LR	21 00 07.3	
	comp=Z,1μm,21.4s,baz=54,slow=33						
MKAR	Makanchi Array	68.28	326	P	P	20 35 43.9	+0.3
	11nm,0.4s,baz=113,slow=8.5,SNR=220						
MKAR	Makanchi Array	68.28	326	⇑P	P	20 35 44.0	+0.4
	baz=68						
KZA	Kyzart	69.92	319	P	P	20 35 55.1	+0.8
	SNR=5.2						
TKM2	Tokmak 2	70.12	320	P	P	20 35 55.7	+0.5
	SNR=7.7						
TKM2	Tokmak 2	70.12	320	eP	P	20 35 53.2	-2.0
	4.4nm,0.7s						
UCH	Uchtor	70.47	319	P	P	20 35 58.5	+0.8
	SNR=5.4						
AAK	Ala-Archa	70.68	320	P	P	20 35 59.6	+1.0
	SNR=5.5						
AAK	Ala-Archa	70.68	320	eP	P	20 35 57.3	-1.3
	2.2nm,0.8s						
AML	Almayashu	70.96	319	P	P	20 36 01.5	+0.9
	SNR=5.2						
USP	Ospenovka	70.99	320	P	P	20 36 00.6	+0.3
	SNR=12						
EKS2	Erkin-Say	71.16	319	P	P	20 36 02.3	+0.8
	SNR=6.7						
EKS2	Erkin-Say	71.16	319	eP	P	20 35 59.6	-1.8
	7.1nm,1.0s						
ZALV	Zalesovo Beam	71.55	333	P	P	20 36 02.7	-0.6
	5.8nm,0.9s,baz=108,slow=4.8,SNR=18						
KURK	Kurchatov	72.55	328	eP	P	20 36 07.4	-2.0
	3.8nm,0.9s						
KKAR	Karatay Array	73.50	319	eP	P	20 36 14.8	-0.4
	3.2nm,0.9s						
MAW	Mawson	75.50	201	P	P	20 36 27.6	+1.3
	8.9nm,0.3s,baz=56,slow=3.6,SNR=6.6						
GEYT	Alibeck	80.47	310	P	P	20 36 54.5	0.0
	1.5nm,0.7s,baz=157,slow=4.7,SNR=5.9						
ABKAR	Akbulak array	82.63	321	eP	P	20 37 04.6	-0.9
	0.9nm,0.5s						
QSPA	South Pole Qui	83.32	180	P	P	20 37 09.0	0.0
	1.2nm,0.8s,baz=0.7,slow=1.5,SNR=4.9						
AKTO	Aktyubinsk	84.19	322	P	P	20 37 13.3	-0.2
	0.9nm,0.5s,baz=117,slow=13,SNR=5.0						
ILAR	Eielson Array	92.77	25	P	P	20 37 52.4	-1.8
	0.4nm,0.8s,baz=256,slow=3.6,SNR=4.8						
VYHS	Vyhne	109.35	319	PDIF	Pdif	20 39 06.1	-2.8
ANMO	Albuquerque	120.60	53	PKP	PKPdf	20 43 32.8	-1.4
	0.8nm,0.7s,baz=277,slow=16,SNR=4.6						
TORD	Torodi Ar. Bea	129.35	281	PKP	PKPdf	20 43 50.9	-0.4
	0.5nm,0.6s,baz=46,slow=2.5,SNR=4.7						

IDC 28 20:27:42.9±1.2, 34°.68N×23°.41E, h0km, mb3.8/8, mb1 3.8/13, mb1mx3.6/58, mbtmp3.7/13, ML3.9/4, Error ellipse: s-maj=22.3km s-min=18.3km az=7.0
ISCJB 28 20:27:45.7±0.8, 34°.46N±0°.06×23°.38E±0°.06, h33km, mb3.6/8, Error ellipse: s-maj=10.3km s-min=5.3km az=30.4
CSEM 28 20:27:49.9±0.4, 34°.93N×23°.65E, h2km, MD3.5, Error ellipse: s-maj=10.7km s-min=3.1km az=28.0
THE 28 20:27:51.2, 35°.01N×23°.70E, h0km±4km, ML3.0/1, Error ellipse: s-maj=5.0km s-min=1.1km az=205.0
ATH 28 20:27:52.1, 35°.09N×23°.80E, h19km±2km, MD3.5/8
ISC 28 20:27:48.0±0.9, 34°.65N±0°.07×23°.49E±0°.05, h33km, n89, σ1s.70/89, mb3.7/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	Vamos	0.95	38	P	Pn	20 28 01.6	-3.5
VAM	Vamos	0.95	38	ePB	Pn	20 28 01.6	-3.5
VAM	Vamos	0.95	38	P	Pn	20 28 01.6	-3.5
SIVA	Sivas	1.15	71	P	Pn	20 28 07.7	-0.1
SIVA	Sivas	1.15	71	ePB	Pn	20 28 07.7	-0.1
SIVA	Sivas	1.15	71	P	Pn	20 28 07.7	-0.1
ANKY	Antikythira Is	1.22	353	P	Pn	20 28 09.1	+0.3
ANKY				S	Sn	20 28 22.9	-1.3
ANKY	Antikythira Is	1.22	353	ePN	Pn	20 28 09.1	+0.3
ANKY	Antikythira Is	1.22	353	P	Pn	20 28 09.1	+0.3
ANKY				S	Sn	20 28 22.9	-1.3
IDI	Anoyia	1.32	61	Pn	Pn	20 28 09.9	-0.3
	12nm,0.3s,baz=248,slow=15,SNR=22						
IDI				Sn	Sb	20 28 32.2	+3.4
	29nm,0.3s,baz=192,slow=20,SNR=9.1						
KYTH	Kithira	1.67	347	P	Pn	20 28 16.4	+1.4
KYTH	Kithira	1.67	347	ePN	Pb	20 28 17.6	-0.5
KYTH	Kithira	1.67	347	P	Pn	20 28 16.4	+1.4
KYTH	Kithira	1.67	347	ePn	Pb	20 28 17.6	-0.5
LAST	Lasithi	1.71	72	P	Pn	20 28 17.7	+2.0
LAST	Lasithi	1.71	72	ePN	Pn	20 28 17.9	+2.2
LAST	Lasithi	1.71	72	ePn	Pn	20 28 17.9	+2.2
NPS	Neapolis	1.85	70	P	Pn	20 28 19.8	+2.3
NPS	Neapolis	1.85	70	ePN	Pb	20 28 20.4	-0.8
NPS	Neapolis	1.85	70	P	Pn	20 28 19.8	+2.3
NPS	Neapolis	1.85	70	ePn	Pb	20 28 20.4	-0.8
VLI	Veliai	2.11	348	P	Pn	20 28 22.7	+1.7
VLI	Veliai	2.11	348	P	Pn	20 28 22.7	+1.7
ZKR	Zakros	2.29	78	P	Pb	20 28 27.1	-1.6
ZKR	Zakros	2.29	78	ePN	Pb	20 28 27.2	-1.5
ZKR	Zakros	2.29	78	P	Pb	20 28 27.1	-1.6
PYL	PYLOS	2.65	328	P	Pn	20 28 30.3	+1.9
PYL	PYLOS	2.65	328	P	Pn	20 28 30.3	+1.9
DID	Didima	2.85	356	P	Pn	20 28 32.9	+1.6
DID	Didima	2.85	356	ePN	Pn	20 28 33.0	+1.6
DID	Didima	2.85	356	P	Pn	20 28 32.9	+1.6
VLX	Vlachokerasia	2.86	342	ePB	Pb	20 28 35.4	-3.0
VLX	Vlachokerasia	2.86	342	ePb	Pb	20 28 35.4	-3.0
APE	Apeiranthos	2.93	34	P	Pn	20 28 33.5	+1.2
APE	Apeiranthos	2.93	34	ePB	Pn	20 28 33.5	+1.2
APE	Apeiranthos	2.93	34	P	Pn	20 28 33.5	+1.2
LTK	Loutraki	3.39	353	P	Pn	20 28 39.9	+1.3
LTK	Loutraki	3.39	353	ePN	Pn	20 28 40.7	+2.1
LTK	Loutraki	3.39	353	P	Pn	20 28 39.9	+1.3
LTK	Loutraki	3.39	353	ePn	Pn	20 28 40.7	+2.1
PTL	Penteli	3.40	5	P	Pn	20 28 39.8	+1.0
PTL	Penteli	3.40	5	P	Pn	20 28 39.8	+1.0
GUR	Goura	3.41	345	P	Pn	20 28 41.2	+2.3
GUR	Goura	3.41	345	ePN	Pn	20 28 41.2	+2.3
GUR	Goura	3.41	345	P	Pn	20 28 41.2	+2.3
KLV	Kalavryta, Ach	3.55	343	P	Pn	20 28 43.5	+2.6
KLV	Kalavryta, Ach	3.55	343	P	Pn	20 28 43.5	+2.6
DSF	Desfina	3.83	349	P	Pn	20 28 46.2	+1.5
DSF	Desfina	3.83	349	P	Pn	20 28 46.2	+1.5
LKR	Lokris	4.01	355	P	Pn	20 28 47.9	+0.8
LKR	Lokris	4.01	355	P	Pn	20 28 47.9	+0.8
SMG	Samos	4.08	41	P	Pn	20 28 49.2	+1.1
SMG	Samos	4.08	41	P	Pn	20 28 49.2	+1.1
ARG	Arkhangelos	4.10	66	P	Pn	20 28 50.6	+2.2
ARG	Arkhangelos	4.10	66	ePN	Pn	20 28 50.5	+2.2
ARG	Arkhangelos	4.10	66	ePn	Pn	20 28 50.5	+2.2
AXAR	Agios Charalam	4.16	351	P	Pn	20 28 51.5	+2.3
AXAR	Agios Charalam	4.16	351	ePN	Pn	20 28 51.6	+2.3
AXAR	Agios Charalam	4.16	351	P	Pn	20 28 51.5	+2.3
CHOS	Chios island	4.26	28	P	Pn	20 28 51.5	+0.8
CHOS	Chios island	4.26	28	P	Pn	20 28 51.5	+0.8
PDO	Prodromos	4.35	335	P	Pn	20 28 54.3	+2.5
PDO	Prodromos	4.35	335	P	Pn	20 28 54.3	+2.5
AGG	Agios Georgios	4.46	348	P	Pn	20 28 54.8	+1.5
AGG	Agios Georgios	4.46	348	P	Pn	20 28 54.8	+1.5
EVR	Evrytania	4.46	343	P	Pn	20 28 56.4	+2.9
EVR	Evrytania	4.46	343	P	Pn	20 28 56.4	+2.9
MAKR	Makrakomi, Fth	4.49	346	P	Pn	20 28 55.8	+2.1
MAKR	Makrakomi, Fth	4.49	346	P	Pn	20 28 55.8	+2.1
SKIA	Skiathos	4.51	360	P	Pn	20 28 54.9	+0.9
SKIA	Skiathos	4.51	360	P	Pn	20 28 54.9	+0.9
XOR	Xorichti	4.71	357	P	Pn	20 28 58.8	+2.0
XOR	Xorichti	4.71	357	P	Pn	20 28 58.8	+2.0
OUR	Ouranopolis	5.69	4	P	Pn	20 29 10.9	+0.8
OUR	Ouranopolis	5.69	4	P	Pn	20 29 10.9	+0.8
BRTR	Keskin Array B	9.55	55	Pn	Pn	20 30 05.0	+1.6
	0.1nm,0.3s,baz=221,slow=12,SNR=4.3						
MMAI	Mount Meron Ar	10.05	96	Pn	Pn	20 30 09.5	-0.6
	0.7nm,0.3s,baz=286,slow=10,SNR=4.4						
MMAI				Sn	Sn	20 31 56.6	-5.0
	0.5nm,0.3s,baz=274,slow=28,SNR=2.5						
EIL	Elat	10.91	114	Pn	Pn	20 30 20.7	-1.2
	0.4nm,0.3s,baz=275,slow=6.0,SNR=6.8						
EIL				Sn	Sn	20 32 15.8	-7.0
	0.3nm,0.3s,baz=18,slow=16,SNR=3.4						
GERES	GERESS Array B	15.93	336	Pn	Pn	20 31 30.2	+0.5
	0.2nm,0.3s,baz=158,slow=8.1,SNR=4.0						
AKASG	Malin Array Be	16.58	13	Pn	Pn	20 31 37.5	-0.3
	0.7nm,0.3s,baz=206,slow=10,SNR=6.0						
KBZ	Khabaz	17.53	53	P	P	20 31 52.4	+1.8
	0.1nm,0.3s,baz=276,slow=9.2,SNR=2.9						
HFS	Hagfors	26.28	349	P	P	20 33 19.4	-0.8
	0.9nm,0.4s,baz=148,slow=12,SNR=9.8						
FINES	FINESS Array B	26.86	3	P	P	20 33 23.8	-1.6
	0.7nm,0.7s,baz=157,slow=18,SNR=2.3						
NOA	NORSAR Array B	27.56	347	P	P	20 33 30.9	-0.8
	0.4nm,0.7s,baz=153,slow=10,SNR=3.0						
EKA	Eskdalemuir Ar	27.68	327	P	P	20 33 33.0	+0.3
	1.7nm,0.8s,baz=130,slow=7.8,SNR=4.8						
TORD	Torodi Ar. Bea	29.12	228	P	P	20 33 45.5	-0.4
	0.4nm,0.6s,baz=34,slow=7.8,SNR=7.9						
ARCES	ARCESS Array B	34.95	1	P	P	20 34 34.4	-2.2
	2.2nm,1.0s,baz=158,slow=7.8,SNR=3.3						
MKAR	Makanchi Array	45.20	56	P	P	20 36 01.9	+0.1
	0.7nm,0.3s,baz=270,slow=7.3,SNR=8.8						
SONM	Songino Array	60.87	50	P	P	20 37 57.4	+0.1
	0.3nm,0.3s,baz=259,slow=7.0,SNR=3.2						

BUL 28 20:29:12.4±15.0, 10°.89S×33°.72E, h49km±999km, MD3.2
ISCJB 28 20:29:25.3±0.5, 10°.09S±0°.05×34°.01E±0°.06, h10km, mb3.9/8, Error ellipse: s-maj=8.9km s-min=7.5km az=11.2
IDC 28 20:29:26.3±0.7, 10°.06S×33°.92E, h0km, mb4.0/8, mb1 4.2/11, mb1mx3.8/55, mbtmp4.2/11, ML2.8/1, Error ellipse: s-maj=29.4km s-min=17.0km az=117.0
NEIC 28 20:29:27.4±0.4, 10°.04S×33°.94E, h10km, mb4.2/5, Error ellipse: s-maj=11.7km s-min=7.8km az=118.0
ISC 28 20:29:26.9±0.5, 10°.08S±0°.06×33°.99E±0°.07, h10km, n24, σ2s.17/30, mb4.1/8, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DODT	Dodoma, Tanzan	4.24	24	iP	Pn	20 30 31.2	-0.5
DODT				iS	Sb	20 31 35.6	+2.6
LSZ	Lusaka	7.66	227	Pn	Pn	20 31 20.1	+1.3
	27nm,0.3s,baz=55,slow=12,SNR=101						
LSZ				Sn	Sn	20 32 42.3	-3.5
	19nm,0.3s,baz=339,slow=17,SNR=6.5						
LSZ				Lg	Lg	20 33 20.7	
	14nm,0.3s,baz=12,slow=9.3,SNR=6.4						
MAUS	Longido	7.77	20	iP	Pn	20 31 20.0	-0.3
MAUS				iS	Sn	20 32 44.7	-3.8
KMBO	Kilima Mbogo	9.47	20	Pn	Pn	20 31 41.5	-2.2
	3.8nm,0.3s,baz=208,slow=15,SNR=94						
KMBO				Sn	Sn	20 33 23.8	-6.6
	3.2nm,0.3s,baz=265,slow=23,SNR=7.4						
KMBO				Lg	Lg	20 34 14.9	
	2.9nm,0.3s,baz=268,slow=21,SNR=8.1						
KMBO	Kilima Mbogo	9.47	20	ePn	Pn	20 31 41.2	-2.5
KMBO				eSn	Sn	20 33 24.5	-5.8
KMBO				Lg	Lg	20 34 14.9	
OPO	Ambohidratompo	15.31	125	Pn	Pn	20 33 05.4	+1.9
	2.2nm,0.3s,baz=280,slow=14,SNR=15						
OPO				Sn	Sn	20 35 49.3	-4.1
	0.2nm,0.3s,baz=255,slow=20,SNR=3.0						
ABPO	Ambohimpanom	15.58	126	eP	Pn	20 33 07.5	+0.6
	20nm,0.8s						
ABPO				eSn	Sn	20 35 58.7	-1.2
LBTB	Lobatse	16.86	207	Pn	Pn	20 33 19.6	-3.6
	6.8nm,0.3s,baz=35,slow=13,SNR=45						
LBTB				Sn	Sn	20 36 20.6	-10
	0.9nm,0.3s,baz=133,slow=18,SNR=3.3						
LBTB				Lg	Lg	20 38 07.1	
	0.9nm,0.3s,baz=126,slow=19,SNR=3.0						
LBTB	Lobatse	16.86	207	eP	Pn	20 33 22.7	-0.6
	18nm,0.5s						
LBTB				Sn	Sn	20 36 20.6	-10
LBTB				Lg	Lg	20 38 07.1	
TSUM	Tsumeb	18.27	238	P	P	20 33 41.2	+0.2
	1.8nm,0.3s,baz=46,slow=13,SNR=36						
TSUM				S	Sn	20 36 49.8	-15
	0.1nm,0.3s,baz=19,slow=13,SNR=4.7						
TSUM				Lg	Lg	20 38 56.2	
	0.1nm,0.3s,baz=162,slow=20,SNR=2.4						
TSUM	Tsumeb	18.27	238	eP	Pn	20 33 40.5	-0.3
	9.2nm,0.8s						
TSUM				S	Sn	20 36 49.8	-15
TSUM				Lg	Lg	20 38 56.2	
BOSA	Boshof	20.18	203	P	P	20 34 01.6	-0.2
	5.6nm,0.6s,baz=28,slow=11,SNR=18						
BOSA				S	S	20 37 36.0	-13
	2.6nm,0.8s,baz=306,slow=18,SNR=2.2						
BOSA				Lg	Lg	20 39 46.7	
	7.8nm,0.7s,baz=97,slow=17,SNR=2.3						
SUR	Sutherland	25.32	207	P	P	20 34 54.7	+0.6
	3.3nm,0.7s,baz=24,slow=12,SNR=3.4						
SUR				S	S	20 39 40.2	+20
	7.2nm,1.2s,baz=325,slow=23,SNR=2.0						
SUR				Lg	Lg	20 42 29.8	
	6.1nm,0.8s,baz=294,slow=23,SNR=2.6						
BRTR	Keskin Array B	49.55	360	P	P	20 38 19.6	+1.5
	1.7nm,0.9s,baz=174,slow=9.4,SNR=11						
AKASG	Malin Array Be	60.67	357	P	P	20 39 38.5	+0.3
	0.1nm,0.3s,baz=179,slow=6.3,SNR=6.3						
KKAR	Karatay Array	62.53	29	eP	P	20 39 50.8	-0.2
	1.3nm,0.8s						
CMAR	Chiang Mai Arr	70.06	66	P	P	20 40 41.7	+2.0
	1.4nm,0.9s,baz=262,slow=7.8,SNR=13						
MK31	Makanchi Array	71.11	33	eP	P	20 40 45.8	+0.2
MKAR	Makanchi Array	71.11	33	P	P	20 40 46.1	+0.5
	1.8nm,0.9s,baz=228,slow=5.8,SNR=15						
NOA	NORSAR Array B	73.14	349	P	P	20 40 58.4	+1.0
	0.6nm,0.7s,baz=170,slow=9.2,SNR=3.3						
ASAR	Alice Springs	94.94	115	P	P	20 42 51.6	+1.4
	1.0nm,0.8s,baz=264,slow=4.3,SNR=11						
YKA	Yellowknife Ar	122.97	343	PKP	PKPdf	20 48 24.0	+0.8
	0.4nm,0.9s,baz=35,slow=2.0,SNR=4.9						
ILAR	Eielson Array	125.39	0	PKP	PKPdf	20 48 28.1	+0.3
	0.7nm,0.9s,baz=278,slow=2.6,SNR=4.6						
NVAR	Mina Array Bea	142.41	323	PKP	PKPdf	20 49 01.5	+0.8
	0.9nm,0.8s,baz=72,slow=0.3,SNR=3.9						

IDC 28 20:30:27.3±1.9, 37°.37S×73°.84W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/40, mbtmp3.8/5, Error ellipse: s-maj=46.3km s-min=42.6km az=162.0
ISCJB 28 20:30:30.5±2.5, 37°.4S±0°.3×73°.8W±0°.4, h33km, mb3.7/5, Error ellipse: s-maj=49.8km s-min=41.6km az=9.3
ISC 28 20:30:32.8±1.8, 37°.35S±0°.3×73°.8W±0°.3, h35km, n6, σ0s.75/6, mb3.8/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	21.53	15	P	P	20 35 19.9	+0.2
	2.4nm,0.8s,baz=214,slow=7.3,SNR=4.0						
SIV	San Ignacio	24.04	31	P	P	20 35 45.7	+1.0
	2.4nm,0.7s,baz=220,slow=13,SNR=4.7						
BDFB	Brasilia	31.41	53	P	P	20 36 50.1	-0.7
	3.5nm,1.0s,baz=243,slow=6.8,SNR=3.8						
TXAR	Lajitas Array	71.98	333	P	P	20 41 52.7	-0.2
	0.2nm,0.5s,baz=150,slow=7.3,SNR=3.2						
TORD	Torodi Ar. Bea	86.65	71	P	P	20 43 13.4	+0.3
	0.5nm,0.8s,baz=230,slow=5.3,SNR=3.1						
PSI	Prapat	145.00	167	PKP	PKPdf	20 50 07.1	0.0
	6.2nm,0.9s,baz=101,slow=5.2,SNR=5.8						

IDC 28 20:31:30.9±0.7, 33°.79S×71°.97W, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.1/41, mbtmp4.3/10, ML4.8/1, Error ellipse: s-maj=30.5km s-min=19.8km az=90.0
ISCJB 28 20:31:32.7±0.5, 33°.82S±0°.04×72°.18W±0°.05, h19km, mb4.2/9, Error ellipse: s-maj=6.2km s-min=5.3km az=24.4
GUC 28 20:31:35.8±0.5, 33°.81S×71°.99W, h12km±3km, ML4.2
NEIC 28 20:31:36.0±0.5, 33°.79S×72°.17W, h35km, mb4.3/3, Error ellipse: s-maj=14.3km s-min=9.3km az=87.0
ISC 28 20:31:33.8±0.7, 33°.81S±0°.04×72°.09W±0°.06, h19km, n29, σ0s.77/33, mb4.2/9, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.58	105	iP	Pg	20 31 45.8	+0.3

IHA Instituto Hidr 0.86 26 *i* P Pg 20 31 50.9 +0.2
IHA *i* S Sn 20 32 03.0 -0.1
RCDM Rinconada Maip 1.11 74 *e*P Pn 20 31 54.3 -0.1
RCDM *i* S Sb 20 32 08.1 -0.5
RCDM AML AML 20 32 10.3
comp=E,8μm,0.4s
CHCH Chadas Angostu 1.20 96 *i* P Pn 20 31 55.6 -0.1
ROCH El Roble 1.23 48 *e*P Pb 20 31 56.9 +0.4
ROCH AML AML 20 32 18.2
comp=E,16μm,0.6s
STL Santa Lucia 1.26 73⇑*i*P Pn 20 31 56.1 -0.4
STL *i* S Sn 20 32 12.1 -0.9
PEL Peldehue 1.35 61 *e*P Pb 20 31 58.5 0.0
PEL *e*S Sn 20 32 15.6 +0.6
NICH Los Niches 1.39 150⇑*i*P Pb 20 31 59.6 +0.4
NICH *i* S Sb 20 32 16.9 +0.3
FCH Farellones 1.57 73 AML AML 20 32 26.8
comp=N,6μm,0.3s
CFAA Coronel Fontan 3.92 57 Pn Pn 20 32 35.9 +2.9
comp=N,2.4nm,0.3s,baz=218,slow=9.8,SNR=4.0
CFAA Lg Lg 20 33 31.6
comp=N,2.8nm,0.3s,baz=270,slow=20,SNR=4.2
PLCA Paso Flores 7.02 170 Pn Pn 20 33 15.9 +0.2
TRQA Tornquist 9.23 120 P Pn 20 33 49.4 +3.5
comp=N,32nm,1.0s
LPAZ La Paz 17.80 13 P Pn 20 35 41.5 +0.2
comp=N,1.3nm,0.3s,baz=192,slow=6.1,SNR=27
SIV San Ignacio 20.33 32 P P 20 36 08.2 -0.8
comp=N,5.1nm,0.6s,baz=223,slow=12,SNR=11
SAML Samuel 26.06 20 *e*P P 20 37 06.0 -0.2
comp=N,6.9nm,0.8s
BDFB Brasilia 28.26 56 P P 20 37 24.7 -1.4
comp=N,3.4nm,0.8s,baz=210,slow=5.6,SNR=5.5
SDV Santo Domingo 42.48 2 *e*P P 20 39 27.9 -0.2
SNAA Sanae 51.78 158 P P 20 40 40.6 +0.7
comp=N,2.0nm,0.9s,baz=295,slow=12,SNR=4.4
SNAA Sanae 51.78 158 *e*P P 20 40 39.8 -0.1
comp=N,4.1nm,0.8s
TEIG Tepich 55.90 342 P P 20 41 11.3 +0.9
comp=N,4.0nm,0.6s,baz=138,slow=14,SNR=3.0
QSPA South Pole Qui 56.43 180 P P 20 41 14.5 +0.6
comp=N,8.2nm,1.0s,baz=144,slow=3.8,SNR=11
QSPA South Pole Qui 56.43 180 *e*P P 20 41 14.6 +0.6
comp=N,3.4nm,0.7s
PDAR Pinedale Array 83.57 333 P P 20 44 01.0 +0.3
comp=N,0.8nm,1.0s,baz=197,slow=2.8,SNR=5.2
NVAR Mina Array Bea 83.70 325 P P 20 44 01.7 +0.2
comp=N,0.6nm,0.7s,baz=150,slow=6.0,SNR=4.7
ELK Elko 84.18 329 P P 20 44 04.5 +0.6
comp=N,1.9nm,1.1s,baz=177,slow=3.9,SNR=5.0
TORD Torodi Ar. Bea 84.18 70 P P 20 44 04.0 -0.3
comp=N,1.9nm,0.7s,baz=252,slow=4.0,SNR=10
WRA Warramunga Arr 120.91 209 PKP PKPdf 20 50 24.3 -1.2
comp=N,0.7nm,0.7s,baz=165,slow=1.7,SNR=6.1
ZALV Zalesovo Beam 154.08 32 PKP PKPdf 20 51 22.8 -0.8
comp=N,0.4nm,0.5s,baz=240,slow=2.8,SNR=2.7
ZALV PKPbc PKPbc 20 51 31.6 -0.1
comp=N,3.3nm,1.0s,baz=306,slow=3.5,SNR=7.4
MKAR Makanchi Array 156.67 49 PKPab PKPab 20 51 56.6 -0.1
comp=N,0.5nm,0.7s,baz=305,slow=4.1,SNR=4.4

*IDC **28** 20:31:40.3±0.8, 33°.71S×71°.58W, h0km, mb4.5/6, mb1 4.5/6, mb1mx4.1/40, mbtmp4.5/6, Error ellipse: s-maj=46.1km s-min=23.7km az=77.0*
*ISCJB **28** 20:31:43.7±0.7, 33°.71S±0°.09×71°.4W±0°.3, h35km, mb4.4/6, Error ellipse: s-maj=38.8km s-min=12.3km az=176.5*
*NEIC **28** 20:31:45.6±0.5, 33°.71S×71°.51W, h35km, mb4.3/2, Error ellipse: s-maj=29.3km s-min=10.2km az=87.0*
ISC 28 20:31:45.5±0.8, **33°.71S**±0°.09×**71°.5W**±0°.3, **h35**km, **n15**, σ**0°.79**/15, **mb4.5**/6, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	7.06	174	Pn	Pn	20 33 26.0	-0.4
LVC	Limon Verde	11.29	12	Pn	Pn	20 34 24.2	-0.5
SNAA	Sanae	51.70	158	P	P	20 40 48.9	+0.1
	3.2nm,0.9s,baz=270,slow=16,SNR=6.7						
SNAA	Sanae	51.70	158	*e*P	P	20 40 48.8	+0.1
	2.2nm,0.8s						
TEIG	Tepich	55.96	341	P	P	20 41 19.4	-0.9
	13nm,0.8s,baz=185,slow=22,SNR=4.9						
QSPA	South Pole Qui	56.53	180	P	P	20 41 24.1	0.0
	12nm,1.0s,baz=147,slow=4.6,SNR=10						
QSPA	South Pole Qui	56.53	180	*e*P	P	20 41 24.2	0.0
	4.0nm,0.9s						
TORD	Torodi Ar. Bea	83.72	70	P	P	20 44 11.9	+0.7
	4.9nm,0.8s,baz=257,slow=3.9,SNR=18						
NVAR	Mina Array Bea	83.88	325	P	P	20 44 13.5	+1.7
	0.2nm,0.4s,baz=324,slow=29,SNR=2.8						
ELK	Elko	84.33	328	P	P	20 44 14.3	+0.3
	1.1nm,0.8s,baz=90,slow=20,SNR=2.9						
BRTR	Keskin Array B	121.33	61	PKP	PKPdf	20 50 35.0	0.0
	1.0nm,0.9s,baz=198,slow=3.6,SNR=2.3						
AKASG	Malin Array Be	121.69	47	PKP	PKPdf	20 50 33.9	-1.2
	0.7nm,0.7s,baz=266,slow=2.2,SNR=2.8						
GEYT	Alibeck	139.36	69	PKP	PKPdf	20 51 08.3	-0.7
	0.4nm,0.4s,baz=278,slow=4.1,SNR=2.4						
ZALV	Zalesovo Beam	153.76	32	PKPbc	PKPbc	20 51 40.6	+0.4
	4.4nm,0.8s,baz=308,slow=3.6,SNR=8.3						
MKAR	Makanchi Array	156.26	49	PKPab	PKPab	20 52 05.1	+0.9
	1.3nm,0.7s,baz=295,slow=4.2,SNR=7.7						

*IDC **28** 20:31:51.4±1.9, 33°.90S×73°.46W, h0km, mb4.5/4, mb1 4.5/4, mb1mx4.0/40, mbtmp4.5/4, MS4.1/1, Ms1 4.1/1, ms1mx3.4/28, Error ellipse: s-maj=77.6km s-min=37.7km az=99.0*
*ISCJB **28** 20:31:55.1±1.8, 33°.9S±0°.1×73°.4W±0°.3, h33km, mb4.2/4, MS4.1/1, Error ellipse: s-maj=41.2km s-min=14.5km az=170.3*
*NEIC **28** 20:31:56.4±0.7, 33°.90S×73°.52W, h35km, mb4.0/1, Error ellipse: s-maj=21.4km s-min=10.2km az=83.0*
ISC 28 20:31:56.4±1.3, **33°.9S**±0°.1×**73°.5W**±0°.2, **h35**km, **n13**, σ**0°.41**/12, **mb4.3**/4, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRQA	Tornquist	10.24	117	Pn	Pn	20 34 20.8	-0.1
LVC	Limon Verde	11.95	21	*e*Pn	Pn	20 34 44.2	-0.3
LPAZ	La Paz	18.20	17	P	P	20 36 06.7	-0.2
RPN	Rapa Nui	31.46	273	LR	LR	20 47 54.5	
	comp=Z,347nm,18.7s,baz=103,slow=31						
SNAA	Sanae	52.15	158	P	P	20 41 03.0	+0.1
	1.4nm,0.5s,baz=299,slow=8.1,SNR=12						
SNAA	Sanae	52.15	158	P	P	20 41 02.3	-0.6
	1.3nm,0.7s						
DBIC	Dimbokro	76.33	72	P	P	20 43 42.5	+0.4
	3.5nm,0.6s,baz=218,slow=6.0						
LBTB	Lobatse	83.47	116	P	P	20 44 20.8	-0.1
	4.1nm,0.7s,baz=248,slow=5.0,SNR=3.7						
TORD	Torodi Ar. Bea	85.35	71	P	P	20 44 30.4	+0.2
	0.2nm,0.4s,baz=233,slow=3.8,SNR=5.8						
BRTR	Keskin Array B	122.87	61	PKP	PKPdf	20 50 49.6	+0.8
	0.7nm,0.7s,baz=343,slow=4.5,SNR=2.6						
AKASG	Malin Array Be	123.04	48	PKP	PKPdf	20 50 48.5	0.0
	0.5nm,0.6s,baz=261,slow=2.7,SNR=4.7						
PSI	Prapat	148.27	166	PKPbc	PKPbc	20 51 39.1	-0.4
	6.1nm,0.7s,baz=176,slow=3.1,SNR=5.6						
MKAR	Makanchi Array	157.62	48	PKPab	PKPab	20 52 21.1	+0.1
	0.8nm,0.7s,baz=316,slow=3.3,SNR=3.8						

*IDC **28** 20:35:44.5±1.2, 24°.71S×65°.72W, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.6/41, mbtmp3.8/5, ML4.0/2, Error ellipse: s-maj=42.4km s-min=29.8km az=110.0*
*SJA **28** 20:35:47.7±1.1, 24°.90S×65°.55W, h2km±3km, MD3.6, ML3.6*
ISC 28 20:35:46.0±1.4, **24°.83S**±0°.04×**65°.79W**±0°.07, **h13**km±8km, **n13**, σ**1°.23**/20, **mb3.9**/3, **Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	0.28	68	*i* P	Pg	20 35 51.8	-0.1
SLA				*i* S	Sg	20 35 55.5	-0.4
SLA				AML	AML	20 35 56.5	
	comp=Z,17μm,0.7s						
AZAP	Zapla	0.89	48	*i* P	Pb	20 36 03.7	+0.2
AZAP				*i* S	Sn	20 36 17.5	+0.1
ASTB	Santa Barbara	1.48	54	*i* P	Pg	20 36 15.2	+0.8
ASTB				*i* S	Sg	20 36 34.5	+0.8
ALOL	LOMAS DE OLMED	1.94	59	*i* S	Sg	20 36 47.7	-0.8
AHML	Horco Molle	1.99	168	*i* P	Pg	20 36 23.4	-0.8
AHML				*i* P	Pg	20 36 23.4	-0.8
AHML				*i* S	Sg	20 36 49.9	-0.1
YJA	Yavi	2.65	6	*i* P	Pg	20 36 36.2	-0.7
YJA				*i* S	Sg	20 37 11.7	+0.4
CPUP	Villa Florida	7.79	103	Pn	Pn	20 37 39.4	+0.3
	comp=Z,0.7nm,0.3s,baz=256,slow=15,SNR=2.6						
CPUP				Lg	Lg	20 39 49.7	
	comp=Z,11nm,0.3s,baz=8.9,slow=18,SNR=3.3						
SIV	San Ignacio	9.84	28	Pn	Pn	20 38 07.7	+0.4
	comp=Z,0.8nm,0.3s,baz=212,slow=13,SNR=10						
SIV				Sn	Sn	20 39 54.0	-3.8
	comp=Z,0.7nm,0.3s,baz=295,slow=19,SNR=2.7						
SIV				Lg	Lg	20 40 51.7	
	comp=Z,0.3nm,0.3s,baz=114,slow=20,SNR=2.0						
QSPA	South Pole Qui	65.38	180	P	P	20 46 29.8	+1.8
	comp=Z,0.7nm,0.5s,baz=154,slow=4.8,SNR=5.6						
TORD	Torodi Ar. Bea	75.85	68	P	P	20 47 31.3	-1.2
	comp=Z,0.9nm,0.7s,baz=235,slow=5.3,SNR=5.0						
YKA	Yellowknife Ar	95.28	339	P	P	20 49 09.3	+0.2
	comp=Z,0.3nm,0.8s,baz=141,slow=5.7,SNR=4.0						
WRA	Warramunga Arr	131.38	206	PKP	PKPdf	20 54 59.3	+0.4
	comp=Z,0.6nm,1.0s,baz=154,slow=1.8,SNR=3.4						
MKAR	Makanchi Array	146.44	41	PKPbc	PKPdf	20 55 26.3	+0.9
	comp=Z,1.0nm,0.7s,baz=305,slow=3.4,SNR=8.4						

*IDC **28** 20:37:33.1±0.8, 35°.27S×73°.05W, h0km, mb4.1/8, mb1 4.2/10, mb1mx4.0/36, mbtmp4.1/10, ML3.9/2, Error ellipse: s-maj=31.8km s-min=19.4km az=94.0*
*ISCJB **28** 20:37:34.2±0.7, 35°.33S±0°.07×72°.9W±0°.2, h17km, mb4.2/8, Error ellipse: s-maj=18.7km s-min=9.7km az=176.8*
*NEIC **28** 20:37:38.4±0.4, 35°.33S×72°.91W, h35km, mb4.0/3, Error ellipse: s-maj=11.9km s-min=7.7km az=93.0*
ISC 28 20:37:35.9±0.7, **35°.31S**±0°.08×**73°.0W**±0°.2, **h17**km, **n25**, σ**0°.69**/27, **mb4.2**/8, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	5.42	48	Pn	Pn	20 38 57.0	+1.1
	0.5nm,0.3s,baz=219,slow=14,SNR=7.1						
CFAA				Lg	Lg	20 40 18.4	
	0.5nm,0.3s,baz=303,slow=18,SNR=2.3						
PLCA	Paso Flores	5.74	161	Pn	Pn	20 39 01.0	+0.7
	1.8nm,0.3s,baz=334,slow=10,SNR=4.8						
PLCA				Lg	Lg	20 40 26.5	
	1.0nm,0.3s,baz=123,slow=18,SNR=2.6						
TRQA	Tornquist	9.25	110	*e*Pn	Pn	20 39 47.5	-0.9
LVC	Limon Verde	13.14	17	Pn	Pn	20 40 43.0	+1.0
LPAZ	La Paz	19.44	14	P	Pn	20 42 04.4	+1.0
	0.2nm,0.3s,baz=187,slow=8.1,SNR=4.9						
LPAZ	La Paz	19.44	14	*e*P	P	20 42 02.2	0.0
	4.3nm,0.9s						
SIV	San Ignacio	22.00	32	P	P	20 42 28.9	-0.4
	3.8nm,0.7s,baz=236,slow=15,SNR=4.6						
SDV	Santo Domingo	44.02	3	*e*P	P	20 45 42.2	-0.6
SNAA	Sanae	50.67	157	P	P	20 46 34.5	+0.6
	1.2nm,0.7s,baz=271,slow=8.1,SNR=3.0						
SNAA	Sanae	50.67	157	*e*P	P	20 46 33.9	0.0
	3.2nm,1.1s						
QSPA	South Pole Qui	54.92	180	P	P	20 47 06.5	+1.0
	0.6nm,0.5s,baz=191,slow=3.1,SNR=2.3						
QSPA	South Pole Qui	54.92	180	P	P	20 47 05.4	-0.2
	1.7nm,1.0s						
TXAR	Lajitas Array	70.51	332	P	P	20 48 50.0	+0.3
	0.5nm,0.8s,baz=151,slow=8.1,SNR=4.6						
DBIC	Dimbokro	76.33	72	P	P	20 49 24.6	+0.4
	4.7nm,0.7s,baz=214,slow=5.4,SNR=6.8						
BOSA	Boshof	80.14	118	P	P	20 49 45.2	-0.2
	5.0nm,0.8s,baz=220,slow=4.1,SNR=10						
TORD	Torodi Ar. Bea	85.38	70	P	P	20 50 12.5	-0.1
	1.6nm,0.8s,baz=247,slow=3.3,SNR=10.0						
ULM	Lac du Bonnet	87.57	346	P	P	20 50 21.6	-0.8
	2.0nm,0.7s,baz=104,slow=3.6,SNR=4.2						
WRA	Warramunga Arr	119.24	210	PKP	PKPdf	20 56 23.7	-0.9
	0.3nm,0.6s,baz=160,slow=1.8,SNR=4.1						
BRTR	Keskin Array B	123.14	62	PKP	PKPdf	20 56 31.2	-0.3
	0.4nm,0.7s,baz=302,slow=2.7,SNR=2.8						
AKASG	Malin Array Be	123.64	48	PKP	PKPdf	20 56 30.9	-1.0
	0.6nm,0.6s,baz=253,slow=3.0,SNR=3.3						
PSI	Prapat	146.79	165	PKPbc	PKPdf	20 57 16.4	+0.4
	1.3nm,0.3s,baz=259,slow=5.2,SNR=3.5						
BVAR	Borovoye Array	148.76	44	PKPbc	PKPbc	20 57 22.5	+0.8
	2.9nm,0.8s,baz=288,slow=4.0,SNR=10						
AAK	Ala-Archa	153.79	64	PKPbc	PKPbc	20 57 34.5	+0.5
	1.7nm,0.8s,baz=215,slow=3.4,SNR=7.4						
AAK				PKPab	PKPab	20 57 46.8	-0.3
	1.0nm,0.6s,baz=214,slow=6.3,SNR=5.0						
ZALV	Zalesovo Beam	155.75	33	PKP	PKPdf	20 57 28.4	+0.2
	0.4nm,0.6s,baz=45,slow=2.2,SNR=2.9						
ZALV				PKPab	PKPab	20 57 53.7	-1.1
	2.3nm,0.7s,baz=33,slow=5.7,SNR=7.6						
MKAR	Makanchi Array	158.20	51	PKPab	PKPab	20 58 05.7	0.0
	0.7nm,0.9s,baz=293,slow=3.8,SNR=4.6						

*IDC **28** 20:39:36.1±0.9, 35°.90S×73°.01W, h0km, mb4.1/8, mb1 4.1/9, mb1mx4.0/36, mbtmp4.1/9, ML2.5/1, Error ellipse: s-maj=34.6km s-min=20.6km az=93.0*
*ISCJB **28** 20:39:38.7±0.8, 35°.95S±0°.07×72°.9W±0°.1, h28km, mb4.1/7, Error ellipse: s-maj=15.4km s-min=9.2km az=16.7*
*NEIC **28** 20:39:41.3±0.6, 35°.89S×72°.82W, h35km, mb4.0/1, Error ellipse: s-maj=16.1km s-min=9.9km az=86.0*
ISC 28 20:39:40.2±0.7, **35°.89S**±0°.08×**73°.0W**±0°.1, **h28**km, **n18**, σ**1°.14**/21, **mb4.2**/7, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.21	159	Pn	Pn	20 40 55.0	-1.2
	76nm,1.1s						
CFAA	Coronel Fontan	5.83	44	Pn	Pn	20 41 02.9	-1.9
	0.1nm,0.3s,baz=233,slow=15,SNR=1.4						
CFAA				Sn	Sn	20 42 12.7	+1.9
	0.2nm,0.3s,baz=266,slow=14,SNR=2.3						
TRQA	Tornquist	9.09	107	*e*Pn	Pn	20 41 48.3	-1.1
LPAZ	La Paz	20.00	14	P	P	20 44 12.7	-0.4
	3.8nm,0.9s,baz=165,slow=9.0,SNR=5.0						
LPAZ	La Paz	20.00	14	*e*P	P	20 44 11.3	+0.1
LPAZ				*e*P	Pn	20 44 11.5	-1.5
SIV	San Ignacio	22.50	31	P	P	20 44 37.4	-0.2
	5.2nm,0.9s,baz=226,slow=13,SNR=6.1						
SNAA	Sanae	50.15	157	P	P	20 48 32.3	-0.3
	3.4nm,1.0s,baz=287,slow=6.7,SNR=5.4						
SNAA	Sanae	50.15	157	*e*P	P	20 48 32.6	0.0
	22nm,1.8s						
APG	El Apazote	53.24	339	P	P	20 48 57.7	+1.2
	3.0nm,0.9s,baz=162,slow=16,SNR=3.1						
QSPA	South Pole Qui	54.35	180	P	P	20 49 05.2	+1.2
	3.8nm,0.9s,baz=119,slow=6.4,SNR=5.0						
QSPA	South Pole Qui	54.35	180	*e*P	P	20 49 05.5	+1.4
	1.2nm,0.7s						
DBIC	Dimbokro	76.53	71	P	P	20 51 29.5	+1.4
	4.5nm,0.9s,baz=241,slow=13,SNR=3.4						
NVAR	Mina Array Bea	84.99	326	P	P	20 52 12.4	-0.6
	0.1nm,0.3s,baz=126,slow=6.1,SNR=2.5						
TORD	Torodi Ar. Bea	85.60	70	P	P	20 52 16.4	+0.2
	2.1nm,1.2s,baz=249,slow=3.1,SNR=5.7						
BVAR	Borovoye Array	149.19	45	PKPbc	PKPbc	20 59 25.3	-0.1
	1.3nm,0.8s,baz=341,slow=3.5,SNR=3.9						
AAK	Ala-Archa	154.06	65	PKPbc	PKPbc	20 59 37.7	+0.5
	1.4nm,1.1s,baz=225,slow=5.7,SNR=3.5						
ZALV	Zalesovo Beam	156.24	34	PKP	PKPdf	20 59 29.5	-1.9
	0.2nm,0.4s,baz=233,slow=4.5,SNR=2.4						
ZALV				PKPab	PKPab	20 59 59.5	0.0
	1.1nm,0.7s,baz=316,slow=6.2,SNR=4.7						
MKAR	Makanchi Array	158.58	52	PKP	PKPdf	20 59 34.8	+0.1
	0.5nm,0.8s,baz=243,slow=3.0,SNR=4.0						

IDC 28 20:52:13.0±4.1, **5°.36N×94°.15E, h0km, mb3.5**/4, **mb1 3.6**/5, **mb1mx3.3**/50, **mbtmp3.5**/5, **ML3.1**/1, **Error ellipse: s-maj=178.7km s-min=21.2km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	5.39	118	Pn	Pn	20 53 36.4	+1.4
	0.6nm,0.3s,baz=307,slow=5.1,SNR=3.4						
H08S3	Diego Garcia H	25.17	239	T	T	21 23 35.5	
	baz=58						
H08S2	Diego Garcia H	25.17	239	T	T	21 23 34.5	
	baz=58						
H08S1	Diego Garcia H	25.19	239	T	T	21 23 34.5	
	baz=58						
MKAR	Makanchi Array	42.53	348	P	P	21 00 10.3	-0.1
	0.6nm,0.5s,baz=166,slow=8.5,SNR=14						
WRA	Warramunga Arr	46.83	124	P	P	21 00 43.5	-1.5
	0.4nm,0.8s,baz=295,slow=7.7,SNR=5.5						
ASAR	Alice Springs	48.33	128	P	P	21 00 57.6	+0.9
	0.1nm,0.3s,baz=305,slow=7.9,SNR=3.4						
ZALV	Zalesovo Beam	49.04	353	P	P	21 01 01.5	-0.1
	0.6nm,0.3s,baz=178,slow=7.4,SNR=7.7						

*IDC **28** 20:53:37.8±0.9, 26°.00N×128°.43E, h0km, mb3.7/9, mb1 3.7/10, mb1mx3.6/45, mbtmp3.7/10, ML3.2/1, Error ellipse: s-maj=35.7km s-min=16.3km az=78.0*
*JMA **28** 20:53:40.6±0.3, 26°.06N×128°.64E, h37km±5km, M3.2*
ISC 28 20:53:37.8±2.1, **26°.04N**±0°.06×**128°.65E**±0°.05, **h5**km±13km, **n32**, σ**1°.06**/39, **mb3.9**/9, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.74	310	P	Pn	20 53 54.1	-0.8
JJT2	Tamagusuku 2	0.82	277	P	Pn	20 53 55.7	-0.3
JJT2				*e*S	Sb	20 54 06.4	+0.6
JOW	Kunigami	0.86	337	P	Pn	20 53 56.3	-0.4
JOW				*e*S	Sb	20 54 07.2	+0.1
JOW	Kunigami	0.86	337	Pn	Pn	20 53 56.2	-0.4
	20nm,0.3s,baz=139,slow=21,SNR=129						
JOW				Sn	Sb	20 54 06.8	-0.4
	20nm,0.3s,baz=130,slow=18,SNR=26						
JIH	Iheya	1.17	328	P	Pn	20 54 01.0	+0.2
JIH				*e*S	Sb	20 54 15.6	-0.3
JOKE	Okinoerabujima	1.32	357	P	Pg	20 54 03.0	-0.2
JAGN	Aguni-jima	1.38	294	P	Pb	20 54 03.9	-0.2
JAGN				*e*S	Sb	20 54 21.5	-0.5
JKE	Kume jima 2	1.70	280	P	Pn	20 54 07.7	-0.4
JKE				*e*S	Sn	20 54 27.9	-2.4
JTK	Tokunoshima	1.76	9	P	Pn	20 54 08.9	-0.1
JAMN	Amaminishikomi	2.25	12	P	Pn	20 54 15.7	0.0
JMZ	Minamidaito 2	2.32	95	P	Pn	20 54 15.1	-1.6
JMZ				*e*S	Sn	20 54 39.9	-5.8
JAM	Amami Oshima	2.51	20	P	Pn	20 54 18.9	-0.4
JNU	Nakatsue	7.32	15	Pn	Pn	20 55 26.8	+1.3
	0.4nm,0.3s,baz=165,slow=16,SNR=2.2						
JNU				Sn	Sn	20 56 45.8	-3.1
	0.1nm,0.3s,baz=151,slow=18,SNR=1.7						
SONM	Songino Array	27.92	327	P	P	20 59 31.0	+2.0
	0.8nm,0.4s,baz=142,slow=10,SNR=6.7						
TAPN	Taplejung	36.49	281	*e*P	P	21 00 45.7	+1.2
ODAN	Odare	36.84	281	*e*P	P	21 00 48.5	+1.1
	4.3nm,0.5s						
RAMN	Ramite	37.52	281	*e*P	P	21 00 52.8	-0.4
JIRN	Jiri	37.78	282	*e*P	P	21 00 55.8	+0.2
GUN	Gumba	38.03	283	*e*P	P	21 00 58.5	+0.9
PKI	Pulchoki	38.48	282	*e*P	P	21 01 01.4	0.0
	4.0nm,0.5s						
KKN	Kakani	38.57	283	*e*P	P	21 01 02.8	+0.8
GKN	Gorkha	39.10	283	*e*P	P	21 01 06.4	0.0
DANN	Dangsing	39.83	284	*e*P	P	21 01 12.6	0.0
	4.9nm,0.5s						
KOLN	Koldanda	40.05	283	*e*P	P	21 01 13.7	-0.7
MKAR	Makanchi Array	41.95	312	P	P	21 01 28.8	-0.8
	0.3nm,0.4s,baz=96,slow=9.8,SNR=8.0						
WRA	Warramunga Arr	46.04	173	P	P	21 02 02.2	-0.3
	0.8nm,0.6s,baz=354,slow=8.5,SNR=8.8						
ASAR	Alice Springs	49.67	174	P	P	21 02 31.9	+1.1
	0.4nm,0.6s,baz=3.9,slow=14,SNR=7.5						
GEYT	Alibeck	59.71	300	P	P	21 03 44.0	+0.4
	0.4nm,0.4s,baz=48,slow=2.1,SNR=3.3						
FINES	FINESS Array B	73.22	331	P	P	21 05 09.1	-0.4
	1.4nm,0.9s,baz=85,slow=5.9,SNR=4.7						
AKASG	Malin Array Be	75.92	320	P	P	21 05 24.8	-0.7
	0.5nm,0.5s,baz=60,slow=6.2,SNR=3.5						
BRTR	Keskin Array B	77.45	308	P	P	21 05 34.5	-0.1
	0.5nm,0.7s,baz=104,slow=5.2,SNR=4.0						
YKA	Yellowknife Ar	78.54	25	P	P	21 05 42.3	+2.4
	0.1nm,0.7s,baz=305,slow=5.4,SNR=2.7						

*IDC **28** 21:03:36.5±1.1, 38°.15S×73°.63W, h0km, mb4.0/9, mb1 4.0/11, mb1mx4.0/28, mbtmp3.9/11, ML3.8/2, Error ellipse: s-maj=31.4km s-min=16.6km az=73.0*
*ISCJB **28** 21:03:39.1±0.8, 38°.07S±0°.06×73°.4W±0°.1, h22km, mb3.9/10, Error ellipse: s-maj=13.5km s-min=7.7km az=152.8*
*NEIC **28** 21:03:42.2±1.6, 38°.09S×73°.58W, h38km±11km, mb4.2/4, Error ellipse: s-maj=20.4km s-min=8.1km az=75.0*
ISC 28 21:03:40.3±0.8, **38°.11S**±0°.08×**73°.6W**±0°.1, **h22**km, **n22**, σ**0°.84**/24, **mb3.9**/10, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.51	139	Pn	Pn	21 04 34.4	+1.0
	4.1nm,0.3s,baz=312,slow=11,SNR=6.0						
PLCA				Lg	Lg	21 05 28.3	
	28nm,0.3s,baz=230,slow=20,SNR=7.4						
PLCA	Paso Flores	3.51	139	*e*Pn	Pn	21 04 34.5	+1.0
PLCA				*e*Sn	Sn	21 05 14.0	-0.4
PLCA				Lg	Lg	21 05 28.3	
CFAA	Coronel Fontan	7.82	36	Pn	Pn	21 05 32.7	0.0
	0.2nm,0.3s,baz=220,slow=16,SNR=5.0						
TRQA	Tornquist	9.13	93	*e*Pn	Pn	21 05 52.1	+1.5
	7.1nm,0.6s						
TRQA				*e*Sn	Sn	21 07 31.0	-1.7
LVC	Limon Verde	15.95	16	*e*Pn	Pn	21 07 24.5	+1.0
LPAZ	La Paz	22.25	14	P	P	21 08 37.6	+1.3
	2.1nm,0.8s,baz=213,slow=6.2,SNR=8.3						
LPAZ	La Paz	22.25	14	*e*Pn	P	21 08 36.4	+0.1
	5.0nm,0.8s						
SIV	San Ignacio	24.62	30	P	P	21 08 59.1	0.0
	3.0nm,0.9s,baz=235,slow=8.1,SNR=6.9						
SAML	Samuel	30.50	21	*e*P	P	21 09 51.4	-0.2
	0.6nm,0.4s						
BDFB	Brasilia	31.74	52	P	P	21 10 03.1	+0.3
	0.6nm,0.3s,baz=135,slow=16,SNR=1.9						
QSPA	South Pole Qui	52.14	180	P	P	21 12 48.5	-0.2
	1.7nm,0.9s,baz=129,slow=3.8,SNR=4.0						
DWPF	Disney	66.28	352	P	P	21 14 25.7	-0.9
TXAR	Lajitas Array	72.76	333	P	P	21 15 07.4	+0.6
	0.4nm,0.8s,baz=158,slow=11,SNR=3.9						
DBIC	Dimbokro	77.66	71	P	P	21 15 36.1	+0.9
	5.2nm,0.7s,baz=207,slow=6.6,SNR=9.3						
DBIC	Dimbokro	77.66	71	*e*P	P	21 15 35.4	+0.2
	5.0nm,0.6s						
BOSA	Boshof	79.25	118	P	P	21 15 44.0	-0.1
	4.1nm,0.8s,baz=213,slow=3.4,SNR=7.8						
BOSA	Boshof	79.25	118	*e*P	P	21 15 44.1	-0.1
	2.8nm,0.6s						
TSUM	Tsumeb	79.28	106	P	P	21 15 44.2	-0.2
	0.6nm,0.8s,baz=144,slow=5.5,SNR=3.6						
TORD	Torodi Ar. Bea	86.75	71	P	P	21 16 22.6	-0.1
	0.7nm,0.5s,baz=218,slow=5.0,SNR=19						
BRTR	Keskin Array B	124.82	64	PKP	PKPdf	21 22 37.0	-1.3
	0.4nm,0.6s,baz=173,slow=2.1,SNR=3.8						
ZALV	Zalesovo Beam	158.31	36	PKPab	PKPab	21 24 08.2	-1.0
	0.3nm,0.3s,baz=306,slow=5.3,SNR=4.4						
MKAR	Makanchi Array	160.23	56	PKPab	PKPab	21 24 17.9	-0.1
	1.0nm,0.7s,baz=290,slow=4.1,SNR=12						

*ISCJB **28** 21:04:10.9±1.4, 6°.5S±0°.2×127°.8E±0°.2, h400km, mb3.2/2, Error ellipse: s-maj=30.7km s-min=17.0km az=140.2*
*IDC **28** 21:04:12.3±10.0, 6°.64S×127°.57E, h392km±135km, mb2.9/2, mb1 3.2/4, mb1mx2.8/27, mbtmp3.9/4, Error ellipse: s-maj=129.4km s-min=46.6km az=59.0*
ISC 28 21:04:12.5±1.5, **6°.6S**±0°.2×**127°.8E**±0°.1, **h400**km, **n8**, σ**0°.80**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	4.68	227	P	Pn	21 05 30.5	-0.9
	baz=2.8,SNR=16						
MTN	Manton Dam	7.05	152	P	Pn	21 05 56.0	-0.8
	baz=4.7,SNR=4.2						
KDU	Kakadu	7.64	143	P	Pn	21 06 02.6	-0.8
	baz=5.8,SNR=4.8						
KNRA	Kununurra	9.09	174	P	P	21 06 20.6	+0.6
	baz=5.6,SNR=4.6						
WRA	Warramunga Arr	14.74	155	P	P	21 07 21.9	-0.4
	0.6nm,0.3s,baz=332,slow=12,SNR=79						
ASAR	Alice Springs	17.98	161	P	P	21 07 57.5	+0.5
	0.7nm,0.3s,baz=343,slow=11,SNR=50						
STKA	Stephens Creek	28.29	155	P	P	21 09 31.8	+0.5
	1.6nm,0.7s,baz=323,slow=8.4,SNR=3.4						
MKAR	Makanchi Array	66.68	328	P	P	21 14 22.1	+0.2
	0.2nm,0.6s,baz=127,slow=6.0,SNR=3.4						

*IDC **28** 21:07:23.8±2.3, 33°.87S×72°.27W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/32, mbtmp3.9/4, ML4.1/1, Error ellipse:*

ellipse: s-maj=74.5km s-min=39.2km az=31.0
GUC 28 21:07:29.0±0.4, 33.74S×71.93W, h43km±1km, ML4.2
ISC 28 21:07:27.7±1.2, 33.8S±0.1×72.00W±0.08, h19km, n12, σ0.63/19, mb4.3/3, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	Rinconada Maip	1.03	75	eP	Pb	21 07 46.6	-0.4
RCDM				iS	Sb	21 08 00.0	-0.1
ROCH	El Roble	1.14	47	eP	Pb	21 07 49.4	+0.4
ROCH				eS	Sn	21 08 04.2	+0.1
ROCH				AML	AML	21 08 06.8	
	comp=N,9µm,0.4s						
SAN	Santiago	1.16	75	⇑iP	Pn	21 07 48.8	-0.1
SAN				iS	Sb	21 08 04.0	+0.3
STL	Santa Lucia	1.18	74	⇓iP	Pn	21 07 48.9	-0.3
STL				iS	Sb	21 08 04.3	-0.1
PEL	Peldehue	1.26	61	eP	Pn	21 07 50.4	+0.1
PEL				eS	Sb	21 08 06.3	-0.4
PEL				AML	AML	21 08 13.7	
	comp=N,10µm,0.6s						
CMCH	Combarbala	2.72	18	⇑iP	Pn	21 08 10.6	+0.2
CMCH				iS	Sn	21 08 42.2	-0.6
LPAZ	La Paz	17.75	12	P	P	21 11 35.2	+0.1
	comp=N,0.3nm,0.3s,baz=188,slow=7.3,SNR=4.6						
TXAR	Lajitas Array	69.55	331	P	P	21 18 34.0	-1.3
	comp=N,0.2nm,0.5s,baz=155,slow=6.9,SNR=3.0						
DBIC	Dimbokro	75.07	71	P	P	21 19 07.9	-0.7
	comp=N,2.5nm,0.8s,baz=166,slow=11,SNR=3.5						
TORD	Torodi Ar. Bea	84.10	70	P	P	21 19 59.1	+1.5
	comp=N,1.9nm,0.7s,baz=248,slow=7.0,SNR=12						
ZALV	Zalesovo Beam	154.01	32	PKPbc	PKPbc	21 27 25.7	+0.3
	comp=N,1.0nm,0.5s,baz=318,slow=1.9,SNR=5.6						
ZALV				PKPab	PKPab	21 27 39.8	+0.9
	comp=N,0.8nm,0.5s,baz=316,slow=4.2,SNR=3.6						
MKAR	Makanchi Array	156.58	49	PKPab	PKPab	21 27 50.3	+0.1
	comp=N,0.3nm,0.5s,baz=278,slow=3.5,SNR=5.5						

IDC 28 21:11:41.3±2.9, 35.00S×72.50W, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.9/32, mbtmp4.0/8, ML4.6/1, Error ellipse: s-maj=90.6km s-min=21.4km az=107.0
ISCJB 28 21:11:42.2±2.0, 35.05S±0.1×72.76W±0.5, h18km, mb4.0/6, Error ellipse: s-maj=57.7km s-min=13.5km az=15.9
ISC 28 21:11:44.0±2.4, 35.0S±0.2×72.6W±0.4, h18km, n8, σ0.66/8, mb4.1/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.97	48	Pn	Pn	21 12 58.4	+0.6
	0.4nm,0.3s,baz=221,slow=11,SNR=5.4						
PLCA	Paso Flores	5.96	165	Pn	Pn	21 13 11.5	+0.2
	3.8nm,0.3s,baz=344,slow=10,SNR=11						
SIV	San Ignacio	21.56	32	P	P	21 16 32.8	+0.3
	4.1nm,0.6s,baz=219,slow=9.8,SNR=11						
SNAA	Sanae	50.85	157	P	P	21 20 43.1	-0.1
	1.0nm,0.9s,baz=281,slow=13,SNR=6.2						
QSPA	South Pole Qui	55.25	180	P	P	21 21 16.4	+0.6
	2.4nm,1.0s,baz=149,slow=4.5,SNR=5.7						
DBIC	Dimbokro	75.93	71	P	P	21 23 28.8	-1.2
	1.8nm,0.7s,baz=216,slow=11,SNR=3.0						
BOSA	Boshof	80.02	118	P	P	21 23 52.5	-0.2
	2.4nm,0.5s,baz=227,slow=3.2,SNR=11						
TORD	Torodi Ar. Bea	84.98	70	P	P	21 24 18.5	-0.1
	0.3nm,0.5s,baz=252,slow=3.9,SNR=9.4						

IDC 28 21:13:30.2±1.6, 34.37S×72.09W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/31, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=50.1km s-min=32.7km az=62.0
ISC 28 21:13:33.0±1.6, 34.4S±0.2×72.1W±0.3, h16km, n8, σ1.32/7, mb4.0/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.22	50	Lg	Lg	21 15 42.5	
	1.4nm,0.3s,baz=314,slow=23,SNR=6.0						
LPAZ	La Paz	18.33	12	P	Pn	21 17 48.5	+1.2
	0.1nm,0.3s,baz=192,slow=12,SNR=2.6						
SIV	San Ignacio	20.78	31	P	P	21 18 12.0	-1.5
	1.7nm,0.7s,baz=212,slow=10,SNR=3.4						
TXAR	Lajitas Array	70.04	331	P	P	21 24 44.0	-0.2
	0.7nm,0.6s,baz=148,slow=8.6,SNR=2.0						
BOSA	Boshof	79.91	118	P	P	21 25 41.4	-0.1
	1.9nm,0.8s,baz=210,slow=5.9,SNR=3.4						
TORD	Torodi Ar. Bea	84.34	70	P	P	21 26 06.0	+1.3
	0.9nm,0.9s,baz=237,slow=4.8,SNR=6.3						
ZALV	Zalesovo Beam	154.53	33	PKPbc	PKPbc	21 33 32.1	-0.2
	0.8nm,0.7s,baz=312,slow=2.9,SNR=4.2						
MKAR	Makanchi Array	157.00	50	PKPab	PKPab	21 33 56.7	-1.1
	0.2nm,0.6s,baz=302,slow=4.6,SNR=2.8						

IDC 28 21:18:21.7±0.8, 11.86N×85.85W, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.9/35, mbtmp4.0/9, Error ellipse: s-maj=63.7km s-min=14.4km az=55.0
CASC 28 21:18:26.3±3.5, 11.39N×86.59W, h35km±999km, MD4.3
NEIC 28 21:18:27.8±1.3, 11.74N×85.92W, h52km±13km, mb4.4/8, Error ellipse: s-maj=18.8km s-min=7.5km az=60.0
ISC 28 21:18:27.1±1.0, 11.5N±0.1×86.5W±0.1, h49km±10km, n52, σ1.71/54, mb4.1/17, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	Finca Las Im¨¡	1.23	126	iP	Pn	21 18 47.0	-0.9
GB1A	Borinquen Arri	1.26	123	iP	Pn	21 18 48.0	-0.3
LAPC	Finca la Perla	1.26	126	iP	Pn	21 18 46.7	-1.6
LAPC				iS	Sn	21 19 07.5	+3.4
MESS	Mesas	1.47	121	iP	Pn	21 18 51.7	+0.5
COLC	Colonia	1.50	124	iP	Pn	21 18 50.8	-0.9
CUI	Cuipilapa	1.54	123	iP	Pn	21 18 51.7	-0.4
PTEN	Parque Tenorio	1.66	118	iP	Pn	21 18 53.6	-0.2
JTS	JuntasAbangare	1.92	129	Pn	Pn	21 18 54.9	-2.4
	44nm,0.3s,baz=300,slow=6.6,SNR=82						
JTS				Sn	Sn	21 19 26.2	+5.9
	160nm,0.3s,baz=301,slow=19,SNR=16						
JTS	JuntasAbangare	1.92	129	ePn	Pn	21 18 54.8	-2.6
JTS				eSn	Sn	21 19 23.2	+2.8
JCR	Jicaral	2.12	141	eP	Pn	21 18 55.9	-4.3
CNCH	Conchagua	2.21	323	eP	Pn	21 19 03.1	+1.7
CNCH				eS	Sn	21 19 28.2	+0.7
CGA2	Cerro Gallo 2	2.46	127	eP	Pn	21 19 03.8	-1.1
VSM	San Miguel	2.60	318	eP	Pn	21 19 08.0	+1.1
QCR	Quepos	3.07	132	eP	Pn	21 19 12.3	-0.8
LFRS	El Faro	3.29	310	eP	Pn	21 19 15.7	-0.5
BUS	Buena Vista	3.30	126	eP	Pn	21 19 20.2	+3.6
LFU	La Fuente	3.41	311	eP	Pn	21 19 17.9	+0.1
LFU				eS	Sn	21 19 53.3	-3.8
BOQS	Boqueron	3.52	309	eP	Pn	21 19 19.8	+0.3
BOQS				eS	Sn	21 19 56.4	-3.7
SBLS	San Blas	3.85	307	eP	Pn	21 19 24.2	+0.1
RBDL	Robledal	4.07	310	eP	Pn	21 19 27.0	0.0
ACR	Cerro Adams	4.32	131	eP	Pn	21 19 29.6	-0.7
APG	El Apazote	5.21	312	Pn	Pn	21 19 40.3	-2.5
	1.1nm,0.3s,baz=174,slow=21,SNR=10						
APG				Sn	Sn	21 20 45.2	+3.4
	0.6nm,0.3s,baz=140,slow=12,SNR=4.0						
BCIP	Isla Barro Col	6.93	109	ePn	Pn	21 20 02.2	-3.9
SDV	Santo Domingo	15.80	98	ePn	Pn	21 21 59.1	-7.5
GOGA	Godfrey	21.98	7	eP	P	21 23 15.2	-1.7
	3.4nm,0.4s						
OXF	Oxford	23.06	354	eP	P	21 23 27.2	-1.1
	16nm,0.7s						
MIAR	Mount Ida	23.83	345	eP	P	21 23 37.0	+1.3
	7.6nm,0.8s						
TXAR	Lajitas Array	23.91	320	P	P	21 23 38.3	+1.7
	2.4nm,0.7s,baz=137,slow=9.9,SNR=16						
TKL	Tuckaleechee C	24.17	5	P	P	21 23 41.2	+2.5
	3.1nm,0.7s,baz=178,slow=14,SNR=4.7						
TKL	Tuckaleechee C	24.17	5	eP	P	21 23 36.2	-2.5
WVT	Waverly	24.55	357	eP	P	21 23 39.8	-2.4
ANMO	Albuquerque	29.57	325	P	P	21 24 29.0	+1.4
	1.0nm,0.6s,baz=134,slow=7.8,SNR=4.1						
ANMO	Albuquerque	29.57	325	eP	P	21 24 28.8	+1.2
	1.7nm,0.8s						
SAML	Samuel	30.81	130	eP	P	21 24 36.1	-2.3
	3.4nm,0.7s						
ECSD	EROS Data Cent	33.29	347	eP	P	21 24 59.5	-0.4
	5.9nm,0.9s						
SPMN	St. Paul	34.04	352	eP	P	21 25 05.6	-0.8
	9.5nm,0.3s						
PDAR	Pinedale Array	37.05	331	P	P	21 25 33.9	+1.3
	0.5nm,0.6s,baz=132,slow=11,SNR=4.7						
PDAR				PcP	PcP	21 27 54.2	+1.6
	0.4nm,0.5s,baz=134,slow=5.2,SNR=3.9						
SIV	San Ignacio	37.12	137	P	P	21 25 33.3	+0.1
	2.7nm,0.7s,baz=319,slow=8.3,SNR=7.0						
HWUT	Hardware Ranch	37.18	328	eP	P	21 25 33.6	0.0
AGMN	Agassiz Nation	37.51	350	eP	P	21 25 34.5	-1.6
	5.0nm,0.3s						
NVAR	Mina Array Bea	39.04	319	P	P	21 25 53.2	+3.8
	0.9nm,0.6s,baz=135,slow=5.9,SNR=7.0						
NVAR				PcP	PcP	21 28 01.9	+3.1
	3.4nm,0.8s,baz=140,slow=4.5,SNR=10						
ULM	Lac du Bonnet	39.40	350	P	P	21 25 51.8	-0.1
	5.9nm,0.8s,baz=173,slow=8.4,SNR=9.3						
BDFB	Brasilia	46.66	125	P	P	21 26 50.0	-1.2
	1.1nm,0.4s,baz=250,slow=9.7,SNR=5.8						
YKA	Yellowknife Ar	54.77	344	P	P	21 27 51.7	+0.2
	1.2nm,0.8s,baz=138,slow=7.2,SNR=18						
YKA				PcP	PcP	21 28 54.5	+1.1
	0.3nm,0.5s,baz=142,slow=4.1,SNR=6.5						
ILAR	Eielson Array	67.27	336	P	P	21 29 16.6	+0.4
	0.4nm,0.5s,baz=116,slow=4.1,SNR=11						
GEYT	Alibeck	120.69	32	PKP	PKPdf	21 37 14.7	+0.6
	1.0nm,0.4s,baz=277,slow=4.6,SNR=4.6						
MKAR	Makanchi Array	121.10	9	PKP	PKPdf	21 37 14.1	-0.6
	0.2nm,0.6s,baz=3.3,slow=2.1,SNR=4.2						
KSRS	Korea Array	121.58	328	PKP	PKPdf	21 37 16.4	+0.7
	1.3nm,0.6s,baz=344,slow=0.7,SNR=5.7						
KSAR	Wonju Array Be	121.61	328	PKP	PKPdf	21 37 16.4	+0.6
ASAR	Alice Springs	139.79	247	PKP	PKPdf	21 37 51.0	+0.5
	0.5nm,0.7s,baz=104,slow=2.4,SNR=4.7						
WRA	Warramunga Arr	139.92	253	PKP	PKPdf	21 37 51.6	+0.8
	0.9nm,0.8s,baz=91,slow=2.2,SNR=7.8						
CMAR	Chiang Mai Arr	149.75	350	PKP	PKPbc	21 38 08.5	-4.0
	1.1nm,0.6s,baz=12,slow=4.6,SNR=5.6						
CMAR				PKPbc	PKiKP	21 38 13.8	+0.3
	1.5nm,0.6s,baz=338,slow=3.1,SNR=9.8						

GUC 28 21:25:26.0±0.4, 33.02S×72.09W, h26km±5km, ML3.9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.37	91	eP	Pb	21 25 33.9	-0.3
IHA				iS	Sb	21 25 40.1	+0.3
ROCH	El Roble	0.91	87	eP	Pn	21 25 42.5	-0.9
ROCH				eS	Sb	21 25 55.4	+0.1
ROCH				AML	AML	21 26 03.1	
	comp=N,12µm,0.5s						
LNV	Longovilo	1.09	149	iP	Pn	21 25 45.2	-0.4
LNV				iS	Sn	21 25 59.4	-0.5
RCDM	Rinconada Maip	1.17	114	iP	Pn	21 25 46.4	-0.4
PEL	Peldehue	1.18	96	eP	Pn	21 25 46.8	-0.2
PEL				iS	Sb	21 26 02.6	-0.3
PEL				AML	AML	21 26 08.5	
	comp=E,3µm,0.3s						
SAN	Santiago	1.27	110	eP	Pn	21 25 48.3	+0.1
SAN				iS	Sb	21 26 04.9	-0.4
STL	Santa Lucia	1.28	109	iP	Pn	21 25 48.3	0.0
JACH	Jahuel	1.30	75	iP	Pn	21 25 48.6	0.0
JACH				eS	Sb	21 26 05.9	-0.4

SJA 28 21:28:26.7±0.5, 34.87S×73.60W, h149km±70km, ML4.5
IDC 28 21:28:37.4±0.7, 34.49S×72.12W, h0km, mb4.3/11, mb1 4.3/15, mb1mx4.2/30, mbtmp4.2/15, ML4.2/4, MS3.4/2, Ms1 3.4/2, ms1mx3.2/25, Error ellipse: s-maj=26.0km s-min=16.7km az=106.0
NEIC 28 21:28:42.6±0.3, 34.45S×72.03W, h35km, mb4.4/8, Error ellipse: s-maj=9.8km s-min=6.8km az=83.0
ISC 28 21:28:39.0±2.5, 34.52S±0.06×72.12W±0.07, h12km±14km, n51, σ1.79/59, mb4.4/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	Agrelo	3.09	63	iP	Pb	21 29 33.0	-1.0
AAGR				iS	Sg	21 30 21.7	+3.5
ARCO	CERRO ARCO	3.14	59	iP	Pb	21 29 33.3	-1.5
ARCO				iS	Sg	21 30 21.7	+1.9
ARCO				AML	AML	21 30 22.9	
	comp=Z,465nm,0.9s						
AVIZ	Vizcacheras	3.17	72	iP	Pb	21 29 33.3	-2.0
AVIZ				iS	Sg	21 30 23.2	+2.3
AUSP	Uspallata	3.23	46	iP	Pb	21 29 33.6	-2.9
ASAL	Salagasta	3.35	56	iP	Pb	21 29 35.5	-2.9
ASAL				iS	Sg	21 30 26.3	-0.2
RTLS	Leoncito	3.60	42	iP	Pn	21 29 37.8	+3.0
RTCV	Cerro Valdivia	4.00	50	iP	Pn	21 29 43.6	+3.4
CFAA	Coronel Fontan	4.36	49	Pn	Pn	21 29 46.9	+1.7
	comp=Z,1.4nm,0.3s,baz=208,slow=3.2,SNR=6.2						
CFAA				Sn	Sb	21 30 42.8	-5.5
	comp=Z,2.1nm,0.3s,baz=297,slow=18,SNR=5.6						
CFAA				LR	LR	21 31 37.9	
	comp=Z,183nm,18.6s,baz=222,slow=42						
CFAA	Coronel Fontan	4.36	49	iP	Pn	21 29 48.5	+3.3
CFAA				iP	Pn	21 29 48.5	+3.3
RTLL	Cerro Villicun	4.41	45	iP	Pn	21 29 48.2	+2.3
RTLL				iS	Sb	21 30 49.2	-0.5
ACAN	Cantantal	4.69	63	iP	Pn	21 29 53.4	+3.7
PLCA	Paso Flores	6.33	169	Pn	Pn	21 30 13.0	+0.8
	comp=Z,1.8nm,0.3s,baz=310,slow=10,SNR=4.8						
PLCA				Lg	Lg	21 31 53.8	
	comp=Z,1.2nm,0.3s,baz=77,slow=14,SNR=3.5						
PLCA	Paso Flores	6.33	169	ePn	Pn	21 30 12.5	+0.3
	comp=Z,26nm,0.8s						
PLCA				eSn	Sn	21 31 13.4	-11
PLCA				Lg	Lg	21 31 53.8	
TRQA	Tornquist	8.91	116	ePn	Pn	21 30 48.2	+0.6
	comp=Z,38nm,1.0s						
TRQA				eSn	Sn	21 32 24.0	-4.0
LVC	Limon Verde	12.19	14	ePn	Pn	21 31 30.1	-2.7
CPUP	Villa Florida	15.13	61	Pn	Pn	21 32 14.3	+1.7
	comp=Z,0.3nm,0.3s,baz=240,slow=14,SNR=2.3						
CPUP				Sn	Sn	21 35 04.7	+4.5
	comp=Z,0.2nm,0.3s,baz=296,slow=17,SNR=2.1						
CPUP				Lg	Lg	21 36 45.5	
	comp=Z,0.2nm,0.3s,baz=242,slow=17,SNR=3.0						
CPUP	Villa Florida	15.13	61	eP	Pn	21 32 11.7	-0.9
	comp=Z,1.5nm,1.3s						
CPUP				Sn	Sn	21 35 04.7	+4.5
CPUP				Lg	Lg	21 36 45.5	
LPAZ	La Paz	18.50	12	P	Pn	21 32 56.2	+0.3
	comp=Z,0.7nm,0.3s,baz=189,slow=8.8,SNR=11						
LPAZ	La Paz	18.50	12	eP	Pn	21 32 56.5	+0.6
	comp=Z,9.7nm,0.9s						
SIV	San Ignacio	20.95	31	P	P	21 33 20.4	-1.4
	comp=Z,9.5nm,0.9s,baz=230,slow=13,SNR=13						
NNA	Nana	22.84	348	eP	P	21 33 41.7	-0.4
SAML	Samuel	26.74	20	eP	P	21 34 18.0	-0.5
	comp=Z,4.2nm,1.0s						
BDFB	Brasilia	28.68	55	P	P	21 34 36.2	+0.1
	comp=Z,2.7nm,0.6s,baz=203,slow=12,SNR=6.0						
BDFB				LR	LR	21 48 01.8	
	comp=Z,186nm,21.3s,baz=178,slow=41						
OTAV	Otavalo	35.08	349	eP	P	21 35 32.9	+0.3
	comp=Z,11nm,1.5s						
RCBR	Riachuelo	43.97	58	P	P	21 36 46.5	+0.1
	comp=Z,5.1nm,0.8s,baz=223,slow=5.3,SNR=3.3						
SNAA	Sanae	51.13	158	P	P	21 37 41.8	+0.4
	comp=Z,1.8nm,1.1s,baz=218,slow=5.2,SNR=3.3						
SNAA	Sanae	51.13	158	eP	P	21 37 42.0	+0.7
QSPA	South Pole Qui	55.72	180	P	P	21 38 16.2	+1.0
	comp=Z,4.2nm,0.8s,baz=148,slow=0.4,SNR=13						
QSPA	South Pole Qui	55.72	180	eP	P	21 38 16.0	+0.8
	comp=Z,3.8nm,0.8s						
MIAR	Mount Ida	71.58	341	P	P	21 39 59.4	-0.5
WVT	Waverly	71.80	347	eP	P	21 40 00.7	-0.5
	comp=Z,17nm,1.1s						
SUR	Sutherland	74.64	119	eP	P	21 40 19.4	+0.7
DBIC	Dimbokro	75.41	71	P	P	21 40 23.1	+0.2
	comp=Z,3.6nm,0.7s,baz=217,slow=7.8,SNR=7.9						
DBIC	Dimbokro	75.41	71	eP	P	21 40 22.6	-0.4
ANMO	Albuquerque	76.20	332	eP	P	21 40 27.5	+0.2
	comp=Z,2.7nm,1.1s						
TSUM	Tsumeb	79.14	106	eP	P	21 40 44.0	0.0
BOSA	Boshof	79.89	118	P	P	21 40 48.9	+0.8
	comp=Z,12nm,0.9s,baz=269,slow=3.2,SNR=17						
BOSA	Boshof	79.89	118	eP	P	21 40 47.9	-0.2
	comp=Z,26nm,1.3s						
ECSD	EROS Data Cent	81.02	342	eP	P	21 40 52.4	-1.0
	comp=Z,4.7nm,0.8s						
PDAR	Pinedale Array	84.19	333	P	P	21 41 10.9	+0.7
	comp=Z,0.7nm,0.8s,baz=142,slow=7.5,SNR=4.6						
NVAR	Mina Array Bea	84.27	325	P	P	21 41 12.6	+1.9
	comp=Z,0.4nm,0.4s,baz=165,slow=7.4,SNR=4.0						
TORD	Torodi Ar. Bea	84.45	70	P	P	21 41 11.9	+0.1
	comp=Z,3.5nm,0.9s,baz=269,slow=4.8,SNR=16						
SCHQ	Schefferville	89.10	3	P	P	21 41 33.7	0.0
	comp=Z,1.2nm,0.8s,baz=236,slow=15,SNR=3.0						
ASAR	Alice Springs	117.08	207	PKP	PKPdf	21 47 24.0	-0.4
	comp=Z,0.2nm,0.5s,baz=116,slow=2.2,SNR=2.8						
WRA	Warramunga Arr	120.28	209	PKP	PKPdf	21 47 30.2	-0.4
	comp=Z,0.4nm,0.6s,baz=166,slow=1.6,SNR=9.9						
BRTR	Keskin Array B	122.14	61	PKP	PKPdf	21 47 33.1	-0.5
	comp=Z,0.4nm,0.6s,baz=158,slow=1.6,SNR=3.2						
FINES	FINESS Array B	123.45	35	PKP	PKPdf	21 47 35.3	+0.1
	comp=Z,0.8nm,0.8s,baz=228,slow=3.5,SNR=4.0						
AAK	Ala-Archa	152.80	63	PKPbc	PKPbc	21 48 35.7	-0.2
	comp=Z,1.1nm,0.5s,baz=225,slow=5.5,SNR=7.4						
ZAA0	Zalesovo Array	154.69	33	ePKPbc	PKPbc	21 48 39.3	-0.1
ZALV	Zalesovo Beam	154.69	33	PKP	PKPdf	21 48 31.0	+0.2
	comp=Z,0.2nm,0.4s,baz=307,slow=2.9,SNR=2.6						
ZALV				PKPbc	PKiKP	21 48 39.9	+0.5
	comp=Z,1.0nm,0.4s,baz=298,slow=3.2,SNR=7.6						
ZALV				PKPab	PKPab	21 48 53.3	-1.0
	comp=Z,0.9nm,0.4s,baz=311,slow=5.2,SNR=4.3						
MKAR	Makanchi Array	157.15	50	PKPab	PKPab	21 49 04.8	-0.4
	comp=Z,1.0nm,0.9s,baz=289,slow=4.9,SNR=6.9						

IDC 28 21:35:44.1±1.7, 34.79S×71.92W, h0km, mb3.9/2, mb1 3.9/3, mb1mx3.7/23, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=84.6km s-min=25.7km az=107.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.43	45	Pn	Pn	21 36 51.5	-1.1
	0.1nm,0.3s,baz=229,slow=20,SNR=3.8						
CFAA				Lg	Lg	21 38 14.4	
	0.5nm,0.3s,baz=260,slow=12,SNR=4.9						
PLCA	Paso Flores	6.03	170	Pn	Pn	21 37 14.5	-0.1
	0.5nm,0.3s,baz=344,slow=13,SNR=2.3						
PLCA				Lg	Lg	21 39 00.5	
	1.1nm,0.3s,baz=318,slow=16,SNR=2.2						
QSPA	South Pole Qui	55.45	180	P	P	21 45 20.2	-0.1
	1.3nm,0.8s,baz=130,slow=3.4,SNR=3.7						
TORD	Torodi Ar. Bea	84.38	70	P	P	21 48 19.0	+0.3
	0.7nm,0.7s,baz=248,slow=3.3,SNR=5.4						
AAK	Ala-Archa	152.78	63	PKPbc	PKPbc	21 55 42.7	-0.3
	0.3nm,0.5s,baz=231,slow=3.6,SNR=5.4						
ZALV	Zalesovo Beam	154.83	33	PKPbc	PKPbc	21 55 45.9	-0.9
	0.3nm,0.5s,baz=297,slow=4.5,SNR=3.7						
ZALV				PKPab	PKPab	21 56 02.2	+0.3
	0.6nm,0.5s,baz=306,slow=5.2,SNR=3.4						
MKAR	Makanchi Array	157.19	50	PKPab	PKPab	21 56 12.5	0.0
	0.1nm,0.6s,baz=308,slow=3.5,SNR=2.4						

GUC 28 21:42:56.9±0.4, 33.93S×72.84W, h38km±2km, ML4.7
IDC 28 21:42:59.6±0.6, 33.83S×72.27W, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.3/30, mbtmp4.4/12, ML3.9/2, Error ellipse: s-maj=23.2km s-min=19.4km az=98.0
ISCJB 28 21:43:00.5±0.5, 33.82S±0.07×72.40W±0.07, h17km, mb4.5/27, Error ellipse: s-maj=10.3km s-min=7.9km az=6.2
NEIC 28 21:43:04.8±0.3, 33.81S×72.14W, h35km, mb4.6/17, Error ellipse: s-maj=8.0km s-min=7.7km az=163.0
ISC 28 21:43:02.0±0.5, 33.85S±0.08×72.35W±0.06, h17km, n57, σ0.92/57, mb4.6/27, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.79	98	eP	Pg	21 43 17.7	+0.3
IHA	Instituto Hidr	1.01	36	eP	Pb	21 43 20.2	-0.9
IHA				eS	Sn	21 43 38.1	+2.8
RCDM	Rinconada Maip	1.34	75	AML	AML	21 43 48.5	
	comp=N,12µm,0.5s						
ROCH	El Roble	1.42	52	eP	Pn	21 43 27.1	-0.2
ROCH				AML	AML	21 43 58.1	
	comp=N,15µm,0.6s						
SAN	Santiago	1.46	75	iP	Pn	21 43 27.9	+0.3
SAN				iS	Sg	21 43 51.3	+2.0
STL	Santa Lucia	1.48	74	⇑iP	Pn	21 43 27.5	-0.5
STL				iS	Sg	21 43 51.0	+1.1
CFAA	Coronel Fontan	4.13	58	Pn	Pn	21 44 04.1	-0.2
	comp=N,1.9nm,0.3s,baz=230,slow=9.5,SNR=15						
CFAA				Lg	Lg	21 45 03.6	
	comp=N,4.0nm,0.3s,baz=332,slow=5.7,SNR=4.8						
TRQA	Tornquist	9.40	119	ePn	Pn	21 45 08.1	-8.5
	comp=N,45nm,0.9s						
LVC	Limon Verde	11.60	16	ePn	Pn	21 45 47.8	+0.7
	comp=N,21nm,0.6s						
CPUP	Villa Florida	15.00	64	ePn	Pn	21 46 29.6	-3.6
	comp=N,1.1nm,0.8s						
LPAZ	La Paz	17.90	13	P	Pn	21 47 11.1	+0.3
	comp=N,0.5nm,0.3s,baz=193,slow=5.2,SNR=14						
LPAZ	La Paz	17.90	13	ePn	Pn	21 47 11.0	+0.3
	comp=N,17nm,0.8s						
SIV	San Ignacio	20.48	33	P	P	21 47 38.7	-0.5
	comp=N,9.3nm,0.8s,baz=224,slow=14,SNR=16						
SAML	Samuel	26.18	21	eP	P	21 48 34.7	-1.0
	comp=N,7.5nm,0.7s						
BDFB	Brasilia	28.47	56	P	P	21 48 55.3	-1.1
	comp=N,5.9nm,0.5s,baz=226,slow=7.5,SNR=15						
OTAV	Otavalo	34.39	349	eP	P	21 49 49.5	+0.6
	comp=N,15nm,1.7s						
SDV	Santo Domingo	42.53	3	eP	P	21 50 56.4	-0.6
	comp=N,6.8nm,0.7s						
RCBR	Riachuelo	43.79	59	eP	P	21 51 06.1	-1.0
	comp=N,11nm,1.1s						
SNAA	Sanae	51.82	158	P	P	21 52 09.5	+0.8
	comp=N,2.8nm,0.8s,baz=304,slow=9.8,SNR=4.2						
SNAA	Sanae	51.82	158	eP	P	21 52 09.1	+0.4
	comp=N,8.2nm,0.8s						
TEIG	Tepich	55.88	342	eP	P	21 52 39.5	+0.8
QSPA	South Pole Qui	56.38	180	P	P	21 52 43.0	+0.9
	comp=N,8.6nm,1.1s,baz=153,slow=3.2,SNR=3.9						
TXAR	Lajitas Array	69.48	331	P	P	21 54 10.5	+0.9
	comp=N,0.5nm,0.4s,baz=152,slow=8.2,SNR=4.3						
WVT	Waverly	71.11	347	eP	P	21 54 19.4	+0.1
	comp=N,21nm,0.8s						
MNTX	Cornudas Mount	72.25	331	eP	P	21 54 25.2	-1.1
	comp=N,2.3nm,0.8s						
MSTX	Muleshoe	73.26	334	eP	P	21 54 32.5	+0.1
	comp=N,6.0nm,0.8s						
121A	Cookes Peak, D	73.98	329	eP	P	21 54 37.1	+0.5
	comp=N,4.5nm,0.8s						
ACSO	Alum Creek Sta	74.37	352	eP	P	21 54 38.2	-0.3
	comp=N,3.8nm,0.5s						
LIC	Lamto	74.97	72	eP	P	21 54 42.6	-0.1
	comp=N,29nm,1.0s						
TIC	Toumodi	75.23	71	eP	P	21 54 44.3	+0.1
	comp=N,4.6nm,0.3s						
KIC	Kosan Boka	75.28	72	eP	P	21 54 44.6	+0.1
	comp=N,19nm,0.7s						
DBIC	Dimbokro	75.38	72	P	P	21 54 45.1	+0.1
	comp=N,6.4nm,0.7s,baz=203,slow=5.8,SNR=12						
DBIC	Dimbokro	75.38	72	eP	P	21 54 43.7	-1.3
	comp=N,9.8nm,0.9s						
ANMO	Albuquerque	75.53	332	eP	P	21 54 46.3	+0.7
	comp=N,2.6nm,0.9s						
TSUM	Tsumeb	79.50	106	P	P	21 55 08.7	+0.4
	comp=N,1.6nm,0.7s,baz=273,slow=10,SNR=7.3						
TSUM	Tsumeb	79.50	106	eP	P	21 55 07.8	-0.5
ECSD	EROS Data Cent	80.33	342	eP	P	21 55 12.0	+0.1
	comp=N,18nm,1.2s						
PDAR	Pinedale Array	83.51	333	P	P	21 55 30.2	+1.3
	comp=N,1.2nm,0.9s,baz=142,slow=7.5,SNR=6.0						
NVAR	Mina Array Bea	83.61	325	P	P	21 55 30.8	+1.2
	comp=N,0.7nm,0.5s,baz=141,slow=5.3,SNR=4.7						
TOA0	Torodi Ar. Sit	84.40	70	eP	P	21 55 33.6	-0.3
TORD	Torodi Ar. Bea	84.40	70	P	P	21 55 33.9	+0.1
	comp=N,4.7nm,0.8s,baz=257,slow=4.1,SNR=22						
YMR	Madison River	85.67	333	eP	P	21 55 40.2	+0.4
	comp=N,7.7nm,0.9s						
ULM	Lac du Bonnet	86.29	345	P	P	21 55 42.2	-0.1
	comp=N,2.9nm,0.8s,baz=162,slow=9.9,SNR=4.2						
MCMT	McKenzie Canyo	86.52	332	eP	P	21 55 44.2	+0.2
	comp=N,1.3nm,0.8s						
DGMT	Dagmar	86.75	339	eP	P	21 55 44.1	-0.6
	comp=N,10nm,0.8s						
YKA	Yellowknife Ar	101.83	341	P	Pdif	21 56 53.1	-0.5
	comp=N,0.1nm,0.4s,baz=146,slow=4.7,SNR=3.1						
ASAR	Alice Springs	117.58	207	PKP	PKPdf	22 01 47.3	-0.3
	comp=N,0.3nm,0.4s,baz=139,slow=1.8,SNR=3.9						
WRA	Warramunga Arr	120.77	209	PKP	PKPdf	22 01 53.2	-0.5
	comp=N,0.5nm,0.4s,baz=162,slow=1.8,SNR=17						
BRTR	Keskin Array B	121.99	61	PKP	PKPdf	22 01 55.8	+0.3
	comp=N,0.7nm,0.7s,baz=201,slow=4.4,SNR=4.9						
AKASG	Malin Array Be	122.28	47	PKP	PKPdf	22 01 55.0	-0.5
	comp=N,0.3nm,0.4s,baz=261,slow=3.0,SNR=4.5						

GEYT Alibeck 140.04 70 PKhKP PKPpre 22 02 18.9
comp=N,0.3nm,0.3s,baz=297,slow=4.4,SNR=2.6
AKTO Aktyubinsk 140.44 50 PKhKP PKPpre 22 02 18.4
comp=N,1.7nm,0.8s,baz=196,slow=18,SNR=3.6
AAK Ala-Archa 152.66 62 PKPbc PKPbc 22 02 58.5 +0.8
comp=N,5.5nm,0.8s,baz=190,slow=1.7,SNR=24
ZALV Zalesovo Beam 154.24 32 PKPbc PKPbc 22 03 00.9 +0.4
comp=N,3.8nm,0.6s,baz=256,slow=3.1,SNR=16
ZALV PKPab PKPab 22 03 15.0 +0.5
comp=N,3.1nm,0.6s,baz=301,slow=3.6,SNR=7.7
MKAR Makanchi Array 156.86 48 PKPab PKPab 22 03 25.6 -0.4
comp=N,1.7nm,0.7s,baz=286,slow=2.6,SNR=19
CMAR Chiang Mai Arr 162.81 151 PKP PKPdf 22 03 03.9 +0.1
comp=N,0.7nm,0.8s,baz=222,slow=1.2,SNR=4.4
SONM Songino Array 166.00 3 PKPab PKPab 22 04 05.0 -0.9
comp=N,0.7nm,0.9s,baz=4.4,slow=1.9,SNR=3.0

ROM 28 21:47:44.4±0.1, 40.12N×15.95E, h22km±1km, Md1.5/3, Ml1.2/2, Error ellipse: s-maj=2.0km s-min=0.6km az=136.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRI	Monte Sirino -	0.09	313	Pg	Pb	21 47 48.7	-0.1
SIRI				Sg	Sb	21 47 51.9	+0.2
	47nm,0.2s						
SCHR	S. Chirico Rap	0.12	51	Pg	Pb	21 47 49.1	-0.1
SCHR				Sg	Sb	21 47 52.4	-0.1
	45nm,0.2s						
CUC	Castrocucco	0.17	219	Pg	Pb	21 47 49.6	+0.1
CUC				Sg	Sb	21 47 53.2	+0.2
	31nm,0.4s						

SJA 28 21:50:56.2±0.7, 34.61S×74.18W, h206km±52km, ML4.8
IDC 28 21:51:11.9±0.6, 34.28S×72.23W, h0km, mb4.4/11, mb1 4.4/14, mb1mx4.3/27, mbtmp4.4/14, ML3.8/3, MS4.0/4, Ms1 4.0/4, ms1mx3.6/30, Error ellipse: s-maj=26.2km s-min=14.7km az=90.0
NEIC 28 21:51:17.1±0.3, 34.23S×72.23W, h35km, mb4.5/9, Error ellipse: s-maj=8.8km s-min=7.1km az=70.0
ISC 28 21:51:14.7±0.5, 34.21S±0.06×72.07W±0.07, h16km, n56, σ1.16/57, mb4.4/17, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	Agrelo	2.93	68	iP	Pb	21 52 07.8	+1.2
ARCO	CERRO ARCO	2.95	63	iP	Pb	21 52 08.2	+1.1
ARCO				⇓iS	Sg	21 53 01.4	+12
ARCO				AML	AML	21 53 01.6	
	comp=Z,635nm,0.6s						
AUSP	Uspallata	3.00	49	iP	Pb	21 52 07.2	-0.6
AUSP				iS	Sg	21 53 00.8	+10
AVIZ	Vizcacheras	3.05	77	iP	Pb	21 52 09.1	+0.6
ASAL	Salagasta	3.15	60	iP	Pb	21 52 10.6	+0.2
RTLS	Leoncito	3.35	45	iP	Pb	21 52 11.8	-2.0
RTLS				iP	Pb	21 52 11.8	-2.0
RTCV	Cerro Valdivia	3.78	53	iP	Pb	21 52 17.9	-3.2
RTCV				iS	Sg	21 53 16.5	+0.5
CFAA	Coronel Fontan	4.14	52	Pn	Pn	21 52 20.5	+3.2
	comp=Z,2.3nm,0.3s,baz=217,slow=4.3,SNR=22						
CFAA				Lg	Lg	21 53 24.5	
	comp=Z,1.8nm,0.3s,baz=312,slow=12,SNR=5.3						
CFAA				LR	LR	21 54 22.0	
	comp=Z,304nm,18.8s,baz=230,slow=44						
RTLL	Cerro Villicun	4.17	47	iP	Pn	21 52 21.6	+3.8
RTLL				iS	Sg	21 53 25.4	-3.3
ACAN	Cantantal	4.52	66	iP	Pn	21 52 28.1	+5.5
PLCA	Paso Flores	6.62	170	Pn	Pn	21 52 51.6	+0.2
	comp=Z,0.3nm,0.3s,baz=3.8,slow=19,SNR=1.8						
PLCA				Lg	Lg	21 54 39.4	
	comp=Z,0.7nm,0.3s,baz=66,slow=19,SNR=1.6						
PLCA				LR	LR	21 55 50.3	
	comp=Z,1μm,18.3s,baz=346,slow=42						
TRQA	Tornquist	9.02	118	ePn	Pn	21 53 28.2	+4.0
TRQA				Sn	Sn	21 55 01.0	-4.4
LVC	Limon Verde	11.88	14	ePn	Pn	21 54 00.3	-3.5
CPUP	Villa Florida	14.95	62	LR	LR	22 01 10.1	
	comp=Z,1μm,18.3s,baz=212,slow=40						
CPUP	Villa Florida	14.95	62	ePn	Pn	21 54 45.9	+0.5
	comp=Z,0.3nm,0.6s						
LPAZ	La Paz	18.20	12	P	P	21 55 28.8	+1.2
	comp=Z,0.5nm,0.3s,baz=188,slow=8.1,SNR=17						
LPAZ	La Paz	18.20	12	eP	P	21 55 28.4	+0.9
	comp=Z,30nm,1.1s						
SIV	San Ignacio	20.67	31	P	P	21 55 54.4	+0.4
	comp=Z,36nm,0.9s,baz=235,slow=14,SNR=26						
NNA	Nana	22.55	348	eP	P	21 56 13.9	-0.3
SAML	Samuel	26.44	20	eP	P	21 56 51.0	+0.1
	comp=Z,10nm,0.8s						
BDFB	Brasilia	28.47	55	P	P	21 57 09.9	+0.6
	comp=Z,12nm,0.8s,baz=223,slow=8.7,SNR=17						
RPN	Rapa Nui	32.69	272	LR	LR	22 07 32.8	
	comp=Z,413nm,18.3s,baz=104,slow=30						
OTAV	Otavalo	34.79	349	eP	P	21 58 05.2	+0.1
	comp=Z,4.8nm,1.2s						
ROSC	El Rosal	38.92	356	P	P	21 58 40.4	+0.2
	comp=Z,4.1nm,0.6s,baz=259,slow=19,SNR=2.7						
SDV	Santo Domingo	42.88	2	eP	P	21 59 12.5	-0.2
	comp=Z,8.3nm,0.9s						
RCBR	Riachuelo	43.77	58	eP	P	21 59 20.7	+0.9
SNAA	Sanae	51.40	158	P	P	22 00 18.9	+0.5
	comp=Z,3.7nm,1.1s,baz=249,slow=5.1,SNR=4.6						
SNAA	Sanae	51.40	158	eP	P	22 00 17.9	-0.5
	comp=Z,16nm,1.4s						
QSPA	South Pole Qui	56.02	180	P	P	22 00 52.0	-0.4
	comp=Z,4.1nm,1.0s,baz=114,slow=2.3,SNR=6.4						
QSPA	South Pole Qui	56.02	180	eP	P	22 00 51.7	-0.7
H06E1	SOCORRO T-PHAS	64.39	319	T	T	23 11 44.8	
WVT	Waverly	71.51	347	eP	P	22 02 34.2	-0.3
	comp=Z,15nm,0.8s						
DBIC	Dimbokro	75.27	71	P	P	22 02 57.3	+0.1
	comp=Z,3.2nm,0.8s,baz=209,slow=4.8,SNR=3.8						
ANMO	Albuquerque	75.96	331	eP	P	22 03 00.7	-0.2
	comp=Z,1.8nm,0.9s						
TSUM	Tsumeb	79.18	106	eP	P	22 03 19.8	+0.4
BOSA	Boshof	79.99	118	P	P	22 03 24.0	+0.4
	comp=Z,3.6nm,0.9s,baz=221,slow=9.5,SNR=4.2						
ECSD	EROS Data Cent	80.74	342	eP	P	22 03 27.0	0.0
	comp=Z,8.3nm,1.0s						
PDAR	Pinedale Array	83.94	333	P	P	22 03 44.0	+0.1
	comp=Z,0.5nm,0.8s,baz=199,slow=3.1,SNR=4.2						
NVAR	Mina Array Bea	84.04	325	P	P	22 03 45.0	+0.5
	comp=Z,1.2nm,0.8s,baz=157,slow=6.5,SNR=5.6						
TOA0	Torodi Ar. Sit	84.31	70	eP	P	22 03 46.5	+0.3
TORD	Torodi Ar. Bea	84.31	70	P	P	22 03 47.1	+0.9
	comp=Z,5.4nm,0.9s,baz=254,slow=4.4,SNR=24						
ULM	Lac du Bonnet	86.70	345	P	P	22 03 56.1	-1.1
	comp=Z,1.3nm,0.5s,baz=186,slow=3.5,SNR=3.6						
MCMT	McKenzie Canyo	86.94	332	eP	P	22 03 58.0	-0.9
	comp=Z,2.6nm,1.1s						
WRA	Warramunga Arr	120.56	209	PKP	PKPdf	22 10 05.3	-0.9
	comp=Z,0.2nm,0.5s,baz=159,slow=1.7,SNR=7.3						
BRTR	Keskin Array B	121.96	61	PKP	PKPdf	22 10 07.0	-1.4
	comp=Z,0.6nm,0.7s,baz=179,slow=4.8,SNR=4.9						
AKASG	Malin Array Be	122.35	48	PKP	PKPdf	22 10 08.2	-0.3
	comp=Z,0.3nm,0.4s,baz=264,slow=2.6,SNR=7.6						
BRVK	Borovoye	147.38	43	ePKPdf	PKPdf	22 10 52.8	-1.8
BRVK				ePKPab	PKPab	22 10 58.6	-0.5
BVAR	Borovoye Array	147.45	43	PKPbc	PKPbc	22 10 56.1	-1.3
	comp=Z,2.5nm,0.5s,baz=280,slow=2.8,SNR=17						
PSI	Prapat	147.64	163	PKPbc	PKPdf	22 10 57.0	+0.6
	comp=Z,2.1nm,0.4s,baz=259,slow=5.2,SNR=3.7						
AAK	Ala-Archa	152.63	62	PKPbc	PKPbc	22 11 11.9	+1.4
	comp=Z,3.5nm,0.8s,baz=218,slow=15,SNR=10						
AAK	Ala-Archa	152.63	62	ePKPbc	PKPbc	22 11 10.8	+0.2
KURK	Kurchatov	153.05	43	ePKPdf	PKPdf	22 11 03.3	-0.3
KURK				ePKPbc	PKiKP	22 11 11.4	+0.3
ZAA0	Zalesovo Array	154.42	33	ePKPdf	PKPdf	22 11 05.0	-0.4
ZAA0				ePKPbc	PKPbc	22 11 13.5	-0.3
ZALV	Zalesovo Beam	154.42	33	PKP	PKPdf	22 11 04.8	-0.6
	comp=Z,1.1nm,0.8s,baz=262,slow=3.0,SNR=4.6						
ZALV				PKPbc	PKiKP	22 11 14.3	+0.5
	comp=Z,5.1nm,0.8s,baz=304,slow=3.1,SNR=19						
MKAR	Makanchi Array	156.92	49	PKP	PKPdf	22 11 09.3	+0.2
	comp=Z,0.7nm,0.8s,baz=302,slow=2.7,SNR=4.3						
MKAR				PKPab	PKPab	22 11 38.7	-0.5
	comp=Z,1.0nm,0.8s,baz=296,slow=2.3,SNR=3.7						
SONM	Songino Array	166.34	4	PKPab	PKPab	22 12 21.1	+0.8
	comp=Z,1.4nm,0.9s,baz=336,slow=4.6,SNR=7.5						

IDC 28 21:56:56.7±0.8, 34.96S×72.41W, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.2/26, mbtmp4.2/11, ML4.1/2, Error ellipse: s-maj=28.3km s-min=19.1km az=84.0
ISCJB 28 21:56:58.0±0.6, 34.97S±0.06×72.3W±0.1, h18km, mb4.2/13, Error ellipse: s-maj=15.4km s-min=9.0km az=170.1
NEIC 28 21:57:01.9±0.3, 34.96S×72.33W, h35km, mb4.3/7, Error ellipse: s-maj=9.8km s-min=5.8km az=81.0
ISC 28 21:56:59.7±0.6, 34.95S±0.08×72.4W±0.1, h18km, n25, σ0.57/25, mb4.3/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.80	47	Pn	Pn	21 58 11.9	+0.8
	0.1nm,0.3s,baz=197,slow=14,SNR=5.4						
CFAA				Lg	Lg	21 59 24.9	
	0.3nm,0.3s,baz=261,slow=19,SNR=4.8						
PLCA	Paso Flores	5.95	167	Pn	Pn	21 58 27.0	+0.1
	1.3nm,0.3s,baz=325,slow=5.3,SNR=4.2						
PLCA	Paso Flores	5.95	167	ePn	Pn	21 58 27.3	+0.5
TRQA	Tornquist	8.91	113	ePn	Pn	21 59 07.4	-0.1
LVC	Limon Verde	12.66	15	ePn	Pn	21 59 59.6	+0.5
LPAZ	La Paz	18.97	13	P	P	22 01 20.5	-0.3
	0.2nm,0.3s,baz=166,slow=4.2,SNR=3.2						
LPAZ	La Paz	18.97	13	eP	P	22 01 20.4	-0.3
	4.0nm,0.8s						
SIV	San Ignacio	21.42	31	P	P	22 01 47.3	+0.5
	6.7nm,0.6s,baz=218,slow=9.2,SNR=14						
OTAV	Otavalo	35.47	349	eP	P	22 03 55.1	-0.6
	1.3nm,0.6s						
SDV	Santo Domingo	43.63	2	eP	P	22 05 03.1	-0.2
	2.6nm,0.6s						
SNAA	Sanae	50.81	158	eP	P	22 05 58.1	-0.5
	5.3nm,1.0s						
QSPA	South Pole Qui	55.29	180	P	P	22 06 32.0	+0.2
	2.6nm,0.8s,baz=157,slow=2.7,SNR=6.3						
QSPA	South Pole Qui	55.29	180	eP	P	22 06 31.6	-0.2
	3.7nm,0.9s						
TXAR	Lajitas Array	70.44	331	P	P	22 08 12.9	0.0
	1.3nm,0.6s,baz=152,slow=7.9,SNR=3.1						
DBIC	Dimbokro	75.73	71	P	P	22 08 43.9	-0.6
	2.9nm,0.7s,baz=222,slow=4.7,SNR=5.4						
DBIC	Dimbokro	75.73	71	eP	P	22 08 44.1	-0.5
	2.8nm,0.6s						
ANMO	Albuquerque	76.49	332	eP	P	22 08 48.7	+0.1
	2.8nm,1.0s						
TSUM	Tsumeb	79.21	106	eP	P	22 09 03.8	-0.3
BOSA	Boshof	79.86	118	P	P	22 09 08.0	+0.4
	3.5nm,0.8s,baz=258,slow=4.3,SNR=6.1						
PDAR	Pinedale Array	84.49	333	P	P	22 09 31.3	-0.1
	0.6nm,0.6s,baz=132,slow=4.2,SNR=5.1						
NVAR	Mina Array Bea	84.52	325	P	P	22 09 32.5	+0.8
	0.7nm,0.6s,baz=145,slow=6.0,SNR=5.7						
TORD	Torodi Ar. Bea	84.78	70	P	P	22 09 33.6	+0.4
	1.5nm,0.7s,baz=261,slow=3.7,SNR=9.1						
ULM	Lac du Bonnet	87.35	345	P	P	22 09 44.7	-0.3
	2.8nm,0.9s,baz=183,slow=18,SNR=3.5						
YKA	Yellowknife Ar	102.87	341	P	Pdif	22 10 54.0	-1.7
	0.1nm,0.7s,baz=142,slow=3.9,SNR=2.6						
PSI	Prapat	147.00	164	PKPbc	PKPdf	22 16 40.3	+0.2
	1.7nm,0.5s,baz=180,slow=20,SNR=3.0						

SJA 28 22:02:49.9±0.7, 34.61S×73.43W, h120km±22km, ML4.9
IDC 28 22:02:59.5±0.5, 34.18S×72.09W, h0km, mb4.6/13, mb1 4.6/16, mb1mx4.5/27, mbtmp4.5/16, ML4.6/3, MS4.0/10, Ms1 4.0/10, ms1mx3.8/28, Error ellipse: s-maj=21.9km s-min=14.0km az=89.0
GUC 28 22:03:02.7±0.5, 34.17S×72.11W, h5km±40km, ML4.8
ISCJB 28 22:03:04.5±1.1, 34.25S±0.04×72.13W±0.09, h43km±9km, mb4.7/31, MS3.9/8, Error ellipse: s-maj=12.2km s-min=7.0km az=172.1
NEIC 28 22:03:05.2±0.2, 34.22S×72.02W, h35km, mb4.9/21, Error ellipse: s-maj=7.9km s-min=6.0km az=73.0
ISC 28 22:03:05.2±0.4, 34.19S±0.05×72.21W±0.09, h38km±2km, n109, σ1.47/120, mb4.8/31, MS3.9/8, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	1.26	22	eP	Pn	22 03 24.9	-1.3
IHA				iS	Sn	22 03 41.4	-0.5
SAN	Santiago	1.48	61	eP	Pn	22 03 27.7	-1.7
SAN				iS	Sn	22 03 47.2	-0.4
SAN				AML	AML	22 03 52.6	
	comp=N,17μm,0.4s						
ROCH	El Roble	1.57	40	eP	Pn	22 03 30.2	-0.7
ROCH				eS	Sn	22 03 50.5	+0.4
ROCH				AML	AML	22 03 58.8	
	comp=N,19μm,0.5s						
PEL	Peldehue	1.64	51	eP	Pn	22 03 30.5	-1.1
PEL				iS	Sn	22 03 52.1	+0.6
PEL				AML	AML	22 03 58.5	
	comp=E,32μm,0.3s						
FCH	Farellones	1.81	62	iP	Pn	22 03 36.4	+2.1
FCH				iS	Sn	22 04 00.0	+3.9
FCH				AML	AML	22 04 06.1	
	comp=E,16μm,0.8s						
AAGR	Agrelo	3.03	70	iP	Pn	22 03 52.3	+1.6
AAGR				iP	Pn	22 03 52.3	+1.6
ARCO	CERRO ARCO	3.05	65	iP	Pn	22 03 52.5	+1.4
ARCO				iS	Sn	22 04 39.4	+13
ARCO				AML	AML	22 04 44.0	
	comp=Z,1μm,0.5s						
AUSP	Uspallata	3.07	51	iP	Pn	22 03 53.0	+1.5
AVIZ	Vizcacheras	3.15	78	iP	Pn	22 03 54.0	+1.5
ASAL	Salagasta	3.24	61	iP	Pn	22 03 55.9	+2.3
ASAL				iS	Sn	22 04 43.1	+12
RTLS	Leoncito	3.42	46	iP	Pn	22 03 57.5	+1.3
RTCV	Cerro Valdivia	3.86	54	iP	Pn	22 04 03.3	+1.3
CFAA	Coronel Fontan	4.22	53	Pn	Pn	22 04 06.1	-0.9
	comp=Z,2.2nm,0.3s,baz=220,slow=11,SNR=27						
CFAA				Lg	Lg	22 05 05.8	
	comp=Z,14nm,0.3s,baz=156,slow=20,SNR=9.2						
CFAA				LR	LR	22 06 03.7	
	comp=Z,107nm,21.9s,baz=253,slow=45						
CFAA	Coronel Fontan	4.22	53	iP	Pn	22 04 07.8	+0.8
CFAA				iS	Sn	22 05 06.5	+11
RTLL	Cerro Villicun	4.25	49	iP	Pn	22 04 08.0	+0.5
RTLL				iS	Sn	22 05 05.0	+9.2
ACAN	Cantantal	4.62	67	iP	Pn	22 04 13.1	+0.5
PLCA	Paso Flores	6.66	169	Pn	Pn	22 04 39.4	-1.2
	comp=Z,9.0nm,0.3s,baz=338,slow=10,SNR=16						
PLCA				Lg	Lg	22 06 23.3	
	comp=Z,3.5nm,0.3s,baz=75,slow=20,SNR=2.8						
PLCA				LR	LR	22 07 28.4	
	comp=Z,1μm,18.3s,baz=342,slow=40						
PLCA	Paso Flores	6.66	169	ePn	Pn	22 04 40.7	+0.1
PLCA				Lg	Lg	22 06 23.3	
TRQA	Tornquist	9.13	118	ePn	Pn	22 05 14.1	-0.3
LVC	Limon Verde	11.89	15	ePn	Pn	22 05 52.9	+0.4
	comp=Z,12nm,0.6s						
LVC				eSn	Sn	22 08 03.3	-0.7
CPUP	Villa Florida	15.04	63	Pn	Pn	22 06 34.3	-0.8
	comp=Z,0.5nm,0.3s,baz=208,slow=11,SNR=6.0						
CPUP				LR	LR	22 12 50.2	
	comp=Z,803nm,18.6s,baz=210,slow=40						
CPUP	Villa Florida	15.04	63	ePn	Pn	22 06 34.0	-1.0
	comp=Z,0.9nm,0.7s						
CPUP				eSn	Sn	22 09 13.2	-7.3
LPAZ	La Paz	18.20	13	P	Pn	22 07 15.8	+0.2
	comp=Z,0.2nm,0.3s,baz=180,slow=9.6,SNR=8.9						
LPAZ	La Paz	18.20	13	eP	Pn	22 07 16.4	+0.8
SIV	San Ignacio	20.71	32	P	P	22 07 41.0	-1.4
	comp=Z,6.6nm,0.7s,baz=225,slow=13,SNR=17						
SIV				LR	LR	22 17 04.1	
	comp=Z,425nm,19.8s,baz=223,slow=41						
USHA	Ushuaia	20.80	174	P	P	22 07 42.4	-0.7
	comp=Z,18nm,0.9s,baz=328,slow=9.5,SNR=2.9						
NNA	Nana	22.50	348	LR	LR	22 14 51.1	
	comp=Z,291nm,19.0s,baz=169,slow=32						
SAML	Samuel	26.46	20	eP	P	22 08 40.5	+1.8
	comp=Z,4.0nm,0.7s						
ATAH	Atahualpa	27.53	347	LR	LR	22 17 25.8	
	comp=Z,197nm,21.1s,baz=141,slow=32						
BDFB	Brasilia	28.56	56	P	P	22 08 55.6	-2.1
	comp=Z,5.6nm,0.7s,baz=209,slow=9.8,SNR=8.8						
BDFB	Brasilia	28.56	56	eP	P	22 08 56.8	-0.9
PMSA	Palmer Station	31.01	173	LR	LR	22 20 48.3	
	comp=Z,395nm,18.7s,baz=310,slow=34						
RPN	Rapa Nui	32.57	272	LR	LR	22 18 56.1	
	comp=Z,273nm,20.0s,baz=85,slow=29						
OTAV	Otavalo	34.75	349	eP	P	22 09 53.4	+1.0
	comp=Z,2.5nm,0.7s						
ROSC	El Rosal	38.89	357	P	P	22 10 26.1	-1.5
	comp=Z,4.6nm,0.3s,baz=104,slow=19,SNR=5.1						
ROSC				LR	LR	22 24 39.2	
	comp=Z,198nm,19.2s,baz=348,slow=33						
SDV	Santo Domingo	42.87	2	eP	P	22 10 58.2	-1.9
	comp=Z,14nm,0.9s						
RCBR	Riachuelo	43.86	58	eP	P	22 11 07.1	-1.0
VNA3	Neumayer Olymp	49.23	158	P	P	22 11 50.0	+0.5
SNAA	Sanae	51.46	158	P	P	22 12 06.4	+0.1
	comp=Z,8.7nm,0.8s,baz=276,slow=8.4,SNR=34						
SNAA				LR	LR	22 32 26.6	
	comp=Z,38nm,18.8s,baz=131,slow=34						
APG	El Apazote	51.92	337	P	P	22 12 07.7	-2.9
	comp=Z,2.0nm,0.5s,baz=158,slow=19,SNR=3.9						
CELP	Cerrillos	52.25	7	eP	P	22 12 12.0	-0.7
QSPA	South Pole Qui	56.04	180	P	P	22 12 40.9	+0.8
	comp=Z,22nm,0.9s,baz=167,slow=1.0,SNR=92						
QSPA	South Pole Qui	56.04	180	eP	P	22 12 40.8	+0.8
	comp=Z,21nm,0.9s						
TEIG	Tepich	56.24	342	eP	P	22 12 42.1	+0.4
H06E1	SOCORRO T-PHAS	64.30	319	T	T	23 23 35.3	
	SNR=3.6						
SYO	Syowa Base	65.74	158	⇑eP	P	22 13 44.0	-1.6
JCT	Junction City	69.40	335	eP	P	22 14 09.9	+0.7
	comp=Z,9.4nm,1.0s						
TXAR	Lajitas Array	69.83	331	P	P	22 14 13.2	+1.2
	comp=Z,0.7nm,0.5s,baz=154,slow=8.6,SNR=2.6						
TXAR				LR	LR	22 39 35.7	
	comp=Z,320nm,20.9s,baz=0.0,slow=31						
SWET	Sewanee	70.23	348	eP	P	22 14 14.1	-0.1
	comp=Z,7.8nm,0.7s						
WVT	Waverly	71.47	347	eP	P	22 14 21.6	0.0
MSTX	Muleshoe	73.62	334	eP	P	22 14 35.5	+0.9
DBIC	Dimbokro	75.37	71	P	P	22 14 44.6	-0.6
	comp=Z,5.6nm,0.6s,baz=209,slow=5.4,SNR=13						
DBIC	Dimbokro	75.37	71	eP	P	22 14 44.4	-0.8
ANMO	Albuquerque	75.89	332	eP	P	22 14 49.6	+1.8
	comp=Z,4.0nm,1.0s						
TSUM	Tsumeb	79.30	106	eP	P	22 15 07.5	+0.2
	comp=Z,12nm,1.3s						
TSUM				ePcP	PcP	22 15 15.9	+0.5
SMCO	Snowmass	79.79	333	eP	P	22 15 11.8	+2.1
BOSA	Boshof	80.10	118	P	P	22 15 11.3	-0.2
	comp=Z,15nm,0.8s,baz=236,slow=4.5,SNR=25						
BOSA	Boshof	80.10	118	eP	P	22 15 11.4	-0.2
	comp=Z,28nm,1.1s						
ECSD	EROS Data Cent	80.69	342	eP	P	22 15 14.5	+0.6
	comp=Z,9.1nm,0.8s						
CCUT	Cedar City	80.99	328	eP	P	22 15 18.6	+2.5
	comp=Z,48nm,2.5s						
LBTB	Lobatse	82.35	115	eP	P	22 15 23.5	-0.1
	comp=Z,17nm,1.0s						
DUG	Dugway	82.97	330	eP	P	22 15 29.1	+2.8
	comp=Z,43nm,2.5s						
RSSD	Black Hills	83.16	338	eP	P	22 15 28.1	+0.9
	comp=Z,4.3nm,1.1s						
TPH	Tonopah	83.17	326	eP	P	22 15 29.4	+2.0
	comp=Z,4.6nm,0.8s						
PDAR	Pinedale Array	83.87	333	P	P	22 15 31.8	+0.9
	comp=Z,1.1nm,0.8s,baz=172,slow=4.7,SNR=8.8						
NVAR	Mina Array Bea	83.96	325	P	P	22 15 32.2	+0.7
	comp=Z,1.6nm,0.8s,baz=152,slow=4.6,SNR=8.3						
HVU	Hansel Valley	84.28	331	eP	P	22 15 33.9	+1.0
	comp=Z,5.4nm,0.7s						
TOA0	Torodi Ar. Sit	84.41	70	eP	P	22 15 33.3	-0.7
TORD	Torodi Ar. Bea	84.41	70	P	P	22 15 33.4	-0.6
	comp=Z,9.2nm,0.8s,baz=256,slow=4.3,SNR=47						
ELK	Elko	84.45	329	eP	P	22 15 35.3	+1.3
	comp=Z,3.6nm,1.0s						
LOHW	Long Hollow	84.99	333	eP	P	22 15 37.1	+0.6
IMW	Indian Meadow	85.36	333	eP	P	22 15 39.5	+1.0
	comp=Z,53nm,2.7s						
FLWY	Flagg Ranch	85.43	333	eP	P	22 15 40.1	+1.4
YMR	Madison River	86.03	333	eP	P	22 15 43.5	+1.8
	comp=Z,8.4nm,0.8s						
HLID	Hailey	86.44	331	eP	P	22 15 45.4	+1.7
	comp=Z,28nm,2.1s						
ULM	Lac du Bonnet	86.65	345	P	P	22 15 44.0	-0.2
	comp=Z,4.4nm,0.9s,baz=149,slow=4.9,SNR=5.9						
DGMT	Dagmar	87.11	339	eP	P	22 15 47.4	+0.8
	comp=Z,15nm,0.8s						
YKA	Yellowknife Ar	102.19	341	P	Pdif	22 16 55.2	-0.1
	comp=Z,0.5nm,0.7s,baz=139,slow=4.5,SNR=9.5						
WRA	Warramunga Arr	120.53	209	PKP	PKPdf	22 21 52.4	-0.9
	comp=Z,1.7nm,0.7s,baz=159,slow=1.6,SNR=13						
BRTR	Keskin Array B	122.05	61	PKP	PKPdf	22 21 54.4	-1.2
	comp=Z,1.2nm,0.7s,baz=183,slow=3.6,SNR=5.0						
AKASG	Malin Array Be	122.42	48	PKP	PKPdf	22 21 53.8	-2.0
	comp=Z,1.2nm,0.7s,baz=270,slow=2.3,SNR=5.3						
FINES	FINESS Array B	123.23	35	PKP	PKPdf	22 21 56.9	-0.1
	comp=Z,2.2nm,0.9s,baz=295,slow=7.3,SNR=2.8						
ARCES	ARCESS Array B	124.25	25	PKP	PKPdf	22 21 58.7	-0.1
	comp=Z,4.9nm,0.9s,baz=321,slow=3.1,SNR=5.1						
H11S2	WAKE ISLAND Hy	125.63	269	T	T	00 40 24.2	
	baz=119						
H11S1	WAKE ISLAND Hy	125.64	269	T	T	00 40 24.2	
	baz=119,SNR=9.0						
H11S3	WAKE ISLAND Hy	125.65	269	T	T	00 40 28.4	
	baz=119						
H11N3	WAKE ISLAND Hy	126.05	271	T	T	00 40 58.6	
	baz=116						
H11N1	WAKE ISLAND Hy	126.06	271	T	T	00 40 59.2	
	baz=116						
H11N2	WAKE ISLAND Hy	126.06	271	T	T	00 40 59.8	
	baz=116						
POO	Poona	146.01	109	eP	PKPdf	22 22 40.0	-0.6
BVAR	Borovoye Array	147.52	43	PKPbc	PKPbc	22 22 45.3	+0.6
	comp=Z,7.6nm,0.7s,baz=290,slow=3.7,SNR=28						
PSI	Prapat	147.69	163	PKPbc	PKPbc	22 22 45.2	-1.3
	comp=Z,16nm,0.8s,baz=196,slow=4.5,SNR=16						
KBL	Kabul	148.14	78	ePKPdf	PKPdf	22 22 43.6	-0.4
HYB	Hyderabad	148.98	115	iPKP	PKPbc	22 22 48.0	-1.6
KKAR	Karatay Array	149.76	62	ePKPdf	PKPdf	22 22 46.4	+0.4
AAK	Ala-Archa	152.72	62	PKPbc	PKPbc	22 22 58.4	+0.5
	comp=Z,6.1nm,0.7s,baz=185,slow=2.0,SNR=22						
AAK	Ala-Archa	152.72	62	ePKPdf	PKPdf	22 22 51.4	+0.6
AAK				ePKPbc	PKPbc	22 22 57.9	0.0
KSH	Kashi	154.07	69	ePKPbc	PKPbc	22 23 00.0	-0.9
KSH				esPKP		22 23 15.5	
KSH				ePP	PP	22 27 00.0	+10
KSH				eSKS	SKSdf	22 30 02.3	+5.7
ZALV	Zalesovo Beam	154.46	32	PKP	PKPdf	22 22 52.3	-0.3
	comp=Z,2.1nm,0.8s,baz=299,slow=3.1,SNR=6.6						
MKAR	Makanchi Array	157.00	49	PKPab	PKPab	22 23 26.3	-0.4
	comp=Z,2.8nm,0.6s,baz=288,slow=2.7,SNR=21						
WMQ	Urumqi	161.70	52	ePKP	PKPdf	22 23 02.0	+0.1
WMQ				LR	LR		
	comp=Z,58nm,20.0s						
WMQ				LR	LR		
	comp=Z,73nm,20.6s						
WMQ				LR	LR		
	comp=Z,34nm,20.4s						
CMAR	Chiang Mai Arr	162.45	151	PKP	PKPdf	22 23 04.0	+0.7
	comp=Z,0.9nm,0.5s,baz=240,slow=3.6,SNR=5.3						
KMI	Kunming	169.95	153	PKP	PKPdf	22 23 08.3	-1.1
NJ2	Nanjing	170.48	260	ePKP	PKPdf	22 23 09.0	-0.1
GTA	Gaotai	171.75	49	ePKP	PKPdf	22 23 10.5	+0.7
GTA				pPKP	pPKPdf	22 23 21.0	-1.1
GTA				sPKP		22 23 25.3	
GTA				PKPab	PKPab	22 24 32.3	+0.4
GYA	Guiyang	172.23	172	ePKP	PKPdf	22 23 10.5	+0.1
GYA				pPKP	pPKPdf	22 23 22.0	-0.7
GYA				PKPab	PKPab	22 24 36.8	+2.7
GYA				PKS	PKSdf	22 26 41.5	-1.4
GYA				PP	PP	22 28 27.5	+3.2
GYA				SKKS		22 35 10.8	
GYA				SS	SS	22 49 32.0	+1.0
GYA				AMB	AMB		
	comp=Z,120nm,8.2s						
GYA				LR	LR		
	comp=Z,120nm,21.2s						
GYA				LR	LR		
	comp=Z,110nm,21.5s						
GYA				LR	LR		
	comp=Z,120nm,24.1s						
HHC	Hu-ho-hao-te	172.71	337	ePKP	PKPdf	22 23 10.5	+0.4
HHC				pPKP	pPKPdf	22 23 21.5	-1.0
HHC				sPKP		22 23 25.5	
HHC				PP	PP	22 28 31.3	+4.4
HHC				SKS	SKSdf	22 30 08.5	-1.9
HHC				SS	SS	22 49 41.0	+4.8
HHC				AMB	AMB		
	comp=Z,73nm,5.7s						
HHC				LR	LR		
	comp=Z,170nm,20.5s						
HHC				LR	LR		
	comp=Z,190nm,20.8s						
HHC				LR	LR		

	comp=Z,160nm,22.2s						
CD2	**Chengdu**	**175.28**	**133**	PKP	**PKPdf**	**22 23 11.0**	**-0.3**
LZH	**Lanzhou**	**176.25**	**59**	*e*PKP	**PKPdf**	**22 23 11.5**	**0.0**
LZH				pPKP	**pPKPdf**	**22 23 22.5**	**-1.3**
LZH				sPKP		22 23 25.8	

IDC ***28*** *22:03:18.8±0.8, 28.35N×86.57E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.8/40, mbtmp3.9/12, ML4.2/2, Error ellipse: s-maj=32.3km s-min=16.0km az=55.0*

NEIC ***28*** *22:03:23.6±0.4, 28.36N×86.58E, h35km, mb4.0/7, Error ellipse: s-maj=10.2km s-min=5.9km az=49.0*

NDI ***28*** *22:03:26.0±2.6, 28.39N×86.64E, h10km, ML4.1, mb4.0(NEIC)*

DMN ***28*** *22:03:27.7±0.0, 28.63N×86.80E, h60km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 28 22:03:27.9±0.8**, 28.48N**±0.05×**86.72E**±0.04**, h76**km±10km**, n59, σ2.21**/70**, mb3.8**/15**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**0.93**	**233**	*e*Pg	**Pn**	**22 03 48.7**	**+2.5**
GUN				*e*Sg	**Sn**	**22 04 02.9**	**+3.1**
	10μm,0.3s						
JIRN	**Jiri**	**0.94**	**210**	*e*Pg	**Pn**	**22 03 48.9**	**+2.6**
JIRN				*e*Sg	**Sn**	**22 04 03.7**	**+3.7**
	8μm,0.2s						
TAPN	**Taplejung**	**1.42**	**142**	*e*Pg	**Pn**	**22 03 53.7**	**+1.4**
KKN	**Kakani**	**1.44**	**242**	*e*Pg	**Pn**	**22 03 54.7**	**+2.2**
KKN				*e*Sg	**Sn**	**22 04 14.3**	**+3.2**
	2μm,0.2s						
PKI	**Pulchoki**	**1.47**	**232**	*e*Pg	**Pn**	**22 03 55.6**	**+2.7**
PKIN	**Phulchoki**	**1.47**	**233**	*e*Pg	**Pn**	**22 03 55.5**	**+2.6**
RAMN	**Ramite**	**1.52**	**184**	*e*Pg	**Pn**	**22 03 55.1**	**+1.5**
RAMN				*e*Sg	**Sn**	**22 04 14.8**	**+1.8**
	4μm,0.4s						
DMN	**Daman**	**1.67**	**239**	*e*Pg	**Pn**	**22 03 57.9**	**+2.4**
DMN				*e*Sg	**Sn**	**22 04 20.0**	**+3.6**
	1μm,0.4s						
ODAN	**Odare**	**1.72**	**160**	*e*Pg	**Pn**	**22 03 57.9**	**+1.8**
ODAN				*e*Sg	**Sn**	**22 04 19.0**	**+1.5**
	10μm,0.4s						
GKN	**Gorkha**	**1.90**	**256**	*e*Pn	**Pn**	**22 03 59.6**	**+1.2**
GKN				*e*Sn	**Sn**	**22 04 22.7**	**+1.0**
	4μm,0.3s						
DANN	**Dangsing**	**2.61**	**268**	*e*Pn	**Pn**	**22 04 08.3**	**+0.2**
KOLN	**Koldanda**	**2.84**	**256**	*e*Pn	**Pn**	**22 04 11.6**	**+0.4**
KOLN				*e*Sn	**Sn**	**22 04 44.6**	**+0.1**
	1μm,0.2s						
LSA	**Lhasa**	**4.07**	**71**	Pg	**Pn**	**22 04 29.5**	**+1.4**
LSA				Sg	**Sn**	**22 05 13.8**	**-0.9**
LSA				smax	smax		
	comp=N,70nm,0.6s						
LSA				smax	smax		
	comp=E,70nm,0.7s						
LSA	**Lhasa**	**4.07**	**71**	*e*Pn	**Pn**	**22 04 27.3**	**-0.8**
LSA				*e*Sn	**Sn**	**22 05 12.8**	**-1.9**
BOK	**Bokaro**	**4.72**	**189**	*e*P	**Pn**	**22 04 37.4**	**+0.8**
BOK				*e*S	**Sn**	**22 05 27.5**	**-2.6**
BOK				AML	AML	22 05 30.6	
	comp=N,212nm,0.2s						
BOK				AML	AML	22 05 30.7	
	comp=E,270nm,0.1s						
SHL	**Shillong**	**5.44**	**121**	*e*P	**Pn**	**22 04 48.5**	**+1.9**
SHL				*e*S	**Sn**	**22 05 45.0**	**-3.0**
LGTI	**Lohaghat**	**5.75**	**281**	*e*P	**Pn**	**22 04 52.2**	**+1.5**
LGTI				*e*S	**Sn**	**22 05 55.1**	**-0.2**
DDI	**Dehra Dun**	**7.78**	**286**	*e*P	**Pn**	**22 05 19.1**	**+0.7**
DDI				*e*S	**Sn**	**22 06 40.8**	**-4.2**
NDI	**New Delhi**	**8.36**	**274**	*e*P	**Pn**	**22 05 26.5**	**+0.2**
NDI				*e*x	Sn	22 06 50.5	-8.6
SMLA	**Simla**	**8.71**	**290**	*e*P	**Pn**	**22 05 30.4**	**-0.6**
SMLA				*e*S	**Sn**	**22 07 02.8**	**-4.8**
SMLA				AML	AML	22 07 06.9	
	comp=E,175nm,0.0s						
SMLA				AML	AML	22 07 08.0	
	comp=N,186nm,0.8s						
DHRM	**DHARAMSHALA**	**9.75**	**295**	*e*P	**Pn**	**22 05 44.9**	**-0.7**
DHRM				*e*S	Sn	22 07 26.5	-6.9
DHRM				AML	AML	22 07 35.3	
	comp=N,98nm,0.2s						
DHRM				AML	AML	22 07 36.6	
	comp=E,97nm,1.4s						
BHPL	**Bhopal**	**9.86**	**240**	*e*P	**Pn**	**22 05 44.7**	**-2.1**
BHPL				*e*S	Sn	22 07 26.6	-9.3
VIS	**Vishakhapatnam**	**11.15**	**197**	*e*P	**Pn**	**22 06 02.6**	**-1.8**
VIS				*e*S	Sn	22 07 58.4	-8.9
CHCP	**Chirah Chowk**	**12.63**	**297**	P	**Pn**	**22 06 22.7**	**-1.9**
HYB	**Hyderabad**	**13.32**	**216**	*i* P	Pn	22 06 29.0	-4.9
HYB				*e*S	Sn	22 08 49.0	-11
HYB	**Hyderabad**	**13.32**	**216**	*e*P3	Pn	22 06 30.4	-3.5
HYB				*e*x	Sn	22 08 51.8	-8.5
HYB	**Hyderabad**	**13.32**	**216**	*e*P	Pn	22 06 29.0	-4.9
HYB				*e*S	Sn	22 08 38.0	-22
CEP	**Cherat**	**13.75**	**296**	P	**Pn**	**22 06 36.9**	**-2.7**
CEP				S	Sn	22 08 59.0	-12
CHTO	**Chiang Mai**	**14.75**	**128**	*e*Pn	Pn	22 06 49.4	-3.1
	comp=E,1.8nm,0.8s						
CM31	**Chiang Mai Arr**	**14.99**	**129**	*e*Pn	**Pn**	**22 06 51.9**	**-3.8**
	comp=E,8.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**14.99**	**129**	Pn	**Pn**	**22 06 52.2**	**-3.4**
	comp=E,0.2nm,0.3s,baz=305,slow=14,SNR=8.5						
ULHL	**Ulahol**	**16.16**	**331**	P	**P**	**22 07 15.1**	**+2.8**
	SNR=13						
KBL	**Kabul**	**16.23**	**296**	*e*Pn	**Pn**	**22 07 07.7**	**-3.7**
	comp=E,28nm,0.9s						
KBL				*e*Sn	Sn	22 09 56.4	-15
KZA	**Kyzart**	**16.47**	**329**	P	**P**	**22 07 18.9**	**+2.9**
	SNR=9.0						
TKM2	**Tokmak 2**	**16.99**	**331**	*e*P	**Pn**	**22 07 17.4**	**-3.3**
	comp=E,45nm,1.3s						
KBK	**Karagaybulak**	**17.06**	**329**	P	**P**	**22 07 26.1**	**+3.8**
	SNR=12						
AAK	**Ala-Archa**	**17.25**	**328**	P	**P**	**22 07 28.1**	**+3.7**
	SNR=6.3						
AAK	**Ala-Archa**	**17.25**	**328**	P	**P**	**22 07 24.7**	**+0.4**
	comp=E,0.3nm,0.3s,baz=132,slow=8.4,SNR=15						
AAK	**Ala-Archa**	**17.25**	**328**	*e*Pn	**Pn**	**22 07 21.5**	**-2.4**
EKS2	**Erkin-Say**	**17.61**	**327**	P	**Pn**	**22 07 31.8**	**+3.5**
	SNR=7.5						
MK31	**Makanchi Array**	**18.61**	**350**	*e*P	**P**	**22 07 39.1**	**0.0**
MKAR	**Makanchi Array**	**18.61**	**350**	P	**P**	**22 07 39.7**	**+0.6**
	comp=E,1.8nm,0.3s,baz=175,slow=11,SNR=142						
KKAR	**Karatay Array**	**19.59**	**322**	*e*P	**P**	**22 07 48.5**	**-1.4**
	comp=E,1.8nm,0.4s						
KURK	**Kurchatov**	**23.04**	**347**	*e*P	**P**	**22 08 25.4**	**-1.1**
	comp=E,4.0nm,0.9s						
SONM	**Songino Array**	**24.63**	**33**	P	**P**	**22 08 42.5**	**+1.3**
	comp=E,0.3nm,0.5s,baz=214,slow=9.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**25.49**	**357**	P	**P**	**22 08 49.6**	**+0.8**
	comp=E,1.6nm,0.6s,baz=196,slow=8.9,SNR=10.0						
GEYT	**Alibeck**	**25.64**	**299**	P	**P**	**22 08 53.1**	**+2.7**
	comp=E,3.1nm,1.0s,baz=100,slow=8.3,SNR=7.4						
BVAR	**Borovoye Array**	**27.34**	**338**	P	**P**	**22 09 06.4**	**+0.9**
	comp=E,0.8nm,0.5s,baz=153,slow=11,SNR=9.5						
BRVK	**Borovoye**	**27.40**	**338**	*e*P	**P**	**22 09 05.4**	**-0.6**
	comp=E,0.8nm,0.4s						
ABKAR	**Akbulak array**	**29.16**	**323**	*e*P	**P**	**22 09 22.0**	**+0.3**
	comp=E,2.8nm,0.5s						
AKASG	**Malin Array Be**	**48.17**	**314**	P	**P**	**22 12 00.5**	**+0.1**
	comp=E,0.2nm,0.3s,baz=85,slow=6.2,SNR=5.1						
JOF	**Joensuu**	**49.42**	**330**	*e*p	**P**	**22 12 10.1**	**+0.4**
	comp=E,1.3nm,0.3s						
FINES	**FINESS Array B**	**51.44**	**328**	P	**P**	**22 12 25.6**	**+0.7**
	comp=E,1.3nm,0.5s,baz=111,slow=8.7,SNR=20						
ARCES	**ARCESS Array B**	**53.62**	**337**	P	**P**	**22 12 42.1**	**+1.1**
	comp=E,5.9nm,1.1s,baz=104,slow=7.9,SNR=11						
NB2	**NORSAR Subarra**	**58.56**	**326**	P	**P**	**22 13 16.1**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=86,slow=6.9						
NOA	**NORSAR Array B**	**58.56**	**326**	P	**P**	**22 13 15.5**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=87,slow=7.1,SNR=4.8						
WRA	**Warramunga Arr**	**66.58**	**131**	P	**P**	**22 14 11.4**	**+1.2**
	comp=Z,1.4nm,0.4s,baz=325,slow=6.5,SNR=33						
ASAR	**Alice Springs**	**68.94**	**134**	P	**P**	**22 14 25.9**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=320,slow=6.4,SNR=9.5						
TORD	**Torodi Ar. Bea**	**79.54**	**279**	P	**P**	**22 15 27.9**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=48,slow=4.4,SNR=10						

BJI ***28*** *22:07:44.0, 39.28N×140.57E, h124km, mB5.0/28, mb5.0/66*

ISCJB ***28*** *22:07:45.8±0.2, 39.46N±0.02×140.49E±0.02, h122km±1km, mb5.0/300, Error ellipse: s-maj=3.3km s-min=2.1km az=154.3*

SZGRF ***28*** *22:07:45.9, 41.07N×140.49E, h33km, mb5.0, Hokkaido, Japan, region*

MOS ***28*** *22:07:45.6±0.9, 39.56N×140.52E, h118km, mb5.0/93, Error ellipse: s-maj=5.8km s-min=3.8km az=100.2*

JMA ***28*** *22:07:46.6±0.1, 39.39N×140.61E, h118km±1km, M4.9 Broadband fault plane solution: P waves. NP1: φs175.00000°, δ85.00000°, λ109.00000°. NP2: φs280.00000°, δ19.00000°, λ16.00000°. Principal axes: T Plg47.0000°, Azm104.0000°; N Plg19.0000°, Azm353.0000°; P Plg37.0000°, Azm248.0000°;*

JMA Felt III J1.

IDC ***28*** *22:07:46.6±0.5, 39.42N×140.56E, h121km±3km, mb4.5/38, mb1 4.6/45, mb1mx4.5/50, mbtmp4.9/45, MS3.7/12, Ms1 3.7/12, ms1mx3.4/48 Error ellipse: s-maj=9.6km s-min=8.1km az=145.0*

NEIC ***28*** *22:07:47.1±0.1, 39.48N×140.44E, mb5.1/171, MW5.0(NIED), Error ellipse: s-maj=3.2km s-min=2.0km az=149.0*

NEIC Felt at Ichinoseki and Misawa. Recorded [3 JMA] in Akita and [2 JMA] in Aomori, Iwate, Miyagi and Yamagata. Also recorded [1 JMA] in southwestern Hokkaido.

GCMT ***28*** *22:07:47.1±0.1, 39.43N×140.61E, h123km±3km, MW5.1/104, Moment Tensor Solution. s27,c32; s104,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.39±.19; $M_{\theta\theta}$-2.36±.18; $M_{\phi\phi}$-0.02±.21; $M_{r\theta}$1.33±.12; $M_{r\phi}$1.67±.20; $M_{\theta\phi}$-4.03±.12; Best double couple: $M_0$5.12100×10^{16} NP1:φs151.00000°, δ76.00000°, λ113.00000°. NP2:φs271.00000°, δ27.00000°, λ33.00000°. Principal axes: T 5.3890, Plg53.0000°, Azm89.0000°; N -0.5340, Plg22.0000°, Azm325.0000°; P -4.8530, Plg27.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NIED ***28*** *22:08:00, 39.40N×140.70E, h122km, Mw5.1 Best double couple: $M_0$4.57000×10^{16} NP1:φs279.00000°, δ27.00000°, λ39.00000°. NP2:φs152.00000°, δ74.00000°, λ111.00000°.*

ISC 28 22:07:47.1±0.3**, 39.46N**±0.03×**140.49E**±0.03**, h125**km±1km**, h124**km**:pP-P, n1162, σ1.06**/1354**, mb5.0**/300**, 290C-247D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRG	**Rokugo**	**0.13**	**120**	⇑P	**Pn**	**22 08 02.9**	**-1.3**
JRG				S	**Sn**	**22 08 15.3**	**-1.8**
JYK	**Kaneyama**	**0.55**	**191**	⇑P	**Pn**	**22 08 04.6**	**-1.4**
JYK				S	**Sn**	**22 08 18.4**	**-1.8**
JOM	**Ohasama**	**0.62**	**89**	⇓P	**Pn**	**22 08 04.7**	**-1.7**
JOM				S	**Sn**	**22 08 18.4**	**-2.5**
JAH	**Hinai**	**0.73**	**9**	P	**Pn**	**22 08 07.1**	**-0.1**
JAH				S	**Sn**	**22 08 22.2**	**-0.3**
JMK	**Ichinoseki**	**0.76**	**132**	⇓P	**Pn**	**22 08 05.2**	**-2.2**
JMK				S	**Sn**	**22 08 19.5**	**-3.3**
JYA	**Atsumi**	**1.06**	**215**	⇑P	**Pn**	**22 08 09.5**	**-0.7**
JYA				S	**Sn**	**22 08 26.9**	**-0.7**
JOU	**Okura**	**1.10**	**173**	⇑P	**Pn**	**22 08 09.1**	**-1.5**
JOU				S	**Sn**	**22 08 26.5**	**-1.9**
JANG	**Nango**	**1.20**	**41**	⇓P	**Pn**	**22 08 10.6**	**-1.0**
JANG				S	**Sn**	**22 08 28.6**	**-1.7**
JAW	**Awa shima**	**1.40**	**224**	⇑P	**Pn**	**22 08 13.4**	**-0.3**
JAW				S	**Sn**	**22 08 33.7**	**-0.2**
JNS	**Sasagawa**	**1.88**	**210**	⇑P	**Pn**	**22 08 18.8**	**-0.6**
JNS				S	**Sn**	**22 08 42.9**	**-1.1**
JFT	**Otama**	**1.94**	**184**	P	**Pn**	**22 08 19.1**	**-1.1**
JFT				*e*S	**Sn**	**22 08 44.3**	**-1.1**
JOT	**Ohata**	**1.96**	**12**	P	**Pn**	**22 08 20.6**	**+0.2**
JOT				*e*S	**Sn**	**22 08 46.3**	**+0.5**
ERM	**Erimo**	**3.26**	**38**	Pn	**Pn**	**22 08 35.9**	**-1.0**
	15μm,1.0s						
ERM	**Erimo**	**3.26**	**38**	*c i*P	**Pn**	**22 08 35.1**	**-1.8**
ERM				pmax	pmax		
	comp=Z,2μm,1.0s						
ERM	**Erimo**	**3.26**	**38**	*e*Pn	**Pn**	**22 08 35.1**	**-1.8**
ERM				*e*Sn	**Sn**	**22 09 11.5**	**-3.8**
MAJO	**Matsushiro**	**3.43**	**212**	*d i*P	**Pn**	**22 08 39.5**	**+0.3**
MAJO	**Matsushiro**	**3.43**	**212**	*e*Pn	**Pn**	**22 08 39.6**	**+0.4**
MAT	**Matsushiro**	**3.43**	**212**	P	**Pn**	**22 08 39.7**	**+0.5**
MAT				S	**Sn**	**22 09 16.0**	**-3.5**
MJAR	**Matsushiro Arr**	**3.43**	**212**	P	**Pn**	**22 08 39.7**	**+0.5**
MJAR				pmax	pmax		
	comp=Z,43nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,1μm,19.4s						
MJAR	**Matsushiro Arr**	**3.43**	**212**	P	**Pn**	**22 08 39.7**	**+0.5**
	comp=Z,43nm,0.3s,baz=20,slow=15,SNR=1546						
MJAR				LR	LR	22 10 08.1	
	comp=Z,1μm,19.4s,baz=50,slow=41						
ASAJ	**Asahikawa**	**4.91**	**18**	P	**Pn**	**22 08 57.4**	**-1.5**
ASAJ				S	**Sn**	**22 09 50.5**	**-4.2**
ASAJ				pmax	pmax		
	comp=Z,58nm,0.3s						
ASAJ				smax	smax		
	comp=N,21nm,0.3s						
ASAJ	**Asahikawa**	**4.91**	**18**	P	**Pn**	**22 08 57.4**	**-1.5**
	comp=N,58nm,0.3s,baz=213,slow=18,SNR=118						
ASAJ				S	**Sn**	**22 09 50.5**	**-4.2**
	comp=N,20nm,0.3s,baz=212,slow=12,SNR=4.5						
YUK	**Yuzh-Kuril'sk**	**6.08**	**40**	*d i*P	Pn	22 09 11.4	-3.2
YUK				*i* S	Sn	22 10 15.0	-7.9
YUK				pmax	pmax		
	comp=E,219nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=N,182nm,0.1s						
YUK				pmax	pmax		
	comp=Z,2μm,1.9s						
YUK				smax	smax		
	comp=N,16μm,2.5s						
YUK				smax	smax		
	comp=E,7μm,2.5s						
YUK				smax	smax		
	comp=E,2μm,0.6s						
YUK				smax	smax		
	comp=N,3μm,0.5s						
VLA	**Vladivostok**	**7.44**	**302**	*d i*P	**Pn**	**22 09 34.7**	**+1.8**
YSS	**Yuzh-Sakhalins**	**7.67**	**12**	*i*P	**Pn**	**22 09 34.8**	**-1.2**
YSS	**Yuzh-Sakhalins**	**7.67**	**12**	*e*Pn	**Pn**	**22 09 34.8**	**-1.2**
USRK	**Ussuriysk Arra**	**7.92**	**309**	P	**Pn**	**22 09 41.7**	**+2.3**
	comp=N,19nm,0.3s,baz=119,slow=14,SNR=204						
KUR	**Kuril'sk**	**7.94**	**41**	*c i*P	**Pn**	**22 09 37.5**	**-2.2**
KUR				*i* S	Sn	22 11 00.9	-6.9
KUR				pmax	pmax		
	comp=N,217nm,0.6s						
KUR				pmax	pmax		
	comp=Z,846nm,0.6s						
KUR				pmax	pmax		
	comp=E,100nm,0.2s						
KUR				smax	smax		
	comp=N,840nm,0.7s						
KUR				smax	smax		
	comp=E,501nm,0.7s						
KUR				MLR	MLR		
	comp=N,2μm,5.0s						
KUR				MLR	MLR		
	comp=E,2μm,5.0s						
KUR				MLR	MLR		
	comp=Z,662nm,5.0s						
MDJ	**Mudanjiang**	**9.60**	**306**	P	**Pn**	**22 10 04.5**	**+2.4**
MDJ				S	**Sn**	**22 11 54.0**	**+5.9**
MDJ				PcP	**PcP**	**22 16 07.3**	**+1.2**
MDJ				ScP	**ScP**	**22 19 25.8**	**-0.8**
MDJ				PcS	**PcS**	**22 19 37.8**	**-1.6**
MDJ				ScS	**ScS**	**22 23 04.0**	**+3.0**
MDJ				pmax	pmax		
	comp=Z,150nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,180nm,5.6s						
MDJ				LR	LR		
	comp=Z,360nm,10.2s						
MDJ				LR	LR		
	comp=Z,420nm,11.4s						
MDJ				LR	LR		
	comp=Z,610nm,12.6s						
MDJ	**Mudanjiang**	**9.60**	**306**	*e*Pn	**Pn**	**22 10 03.2**	**+1.1**
	comp=Z,122nm,0.9s						
UGL	**Uglegorsk**	**9.68**	**6**	*e*P	**Pn**	**22 10 02.5**	**-0.6**
UGL				*e*		22 11 44.0	
UGL				pmax	pmax		

	comp=Z,36nm,0.6s						
HABR	**Khabarovsk**	**9.82**	**338**	*e*P	**Pn**	**22 10 03.1**	**-1.9**
HABR				S	**Sn**	**22 11 51.4**	**-1.9**
HABR				pmax	pmax		
	comp=E,14nm,1.3s						
HABR				pmax	pmax		
	comp=N,23nm,1.3s						
HABR				pmax	pmax		
	comp=Z,55nm,1.4s						
JNU	**Nakatsue**	**10.01**	**234**	P	**Pn**	**22 10 08.0**	**+0.3**
	comp=Z,3.3nm,0.3s,baz=41,slow=9.5,SNR=51						
JNU				LR	LR	22 13 52.7	
	comp=Z,632nm,18.7s,baz=32,slow=36						
KSRS	**Korea Array**	**10.06**	**262**	P	**Pn**	**22 10 10.1**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=74,slow=14,SNR=16						
KSRS				S	Sn	22 12 07.4	+8.1
	baz=76,slow=23,SNR=6.8						
KSRS				LR	LR	22 13 55.2	
	comp=Z,157nm,21.0s,baz=71,slow=36						
KSRS				ScP	**ScP**	**22 19 27.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=117,slow=1.4,SNR=6.3						
KSAR	**Wonju Array Be**	**10.09**	**262**	P	**Pn**	**22 10 10.1**	**+1.4**
KSAR	**Wonju Array Be**	**10.09**	**262**	P	**Pn**	**22 10 10.1**	**+1.4**
TJN	**Taejon**	**10.82**	**258**	*e*P	**Pn**	**22 10 20.6**	**+2.1**
KLR	**Kul'dur**	**11.59**	**330**	*e*P	**Pn**	**22 10 29.2**	**+0.6**
KLR				pmax	pmax		
	comp=N,20nm,1.0s						
KLR				pmax	pmax		
	comp=E,48nm,1.0s						
KLR				pmax	pmax		
	comp=Z,56nm,1.0s						
CN2	**Changchun**	**12.06**	**296**	⇑P	**Pn**	**22 10 35.8**	**+1.0**
CN2				*e*sP		22 11 08.8	
CN2				*e*S	**Sn**	**22 12 47.5**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CBIJ	**Chichi jima**	**12.41**	**173**	*e*Pn	Pn	22 10 33.9	-5.7
CBIJ				*e*Sn	Sn	22 12 42.6	-14
JCJ	**Chichijima**	**12.41**	**173**	LR	LR	22 15 37.1	
	comp=Z,185nm,21.8s,baz=324,slow=38						
SKR	**Severo-Kuril's**	**15.70**	**39**	*e*P	Pn	22 11 15.0	-6.2
SKR				*e*		22 14 04.5	
SKR				pmax	pmax		
	comp=Z,60nm,0.6s						
JOW	**Kunigami**	**16.20**	**223**	P	**Pn**	**22 11 25.8**	**-1.8**
	baz=8.2,slow=10,SNR=5.8						
JOW				LR	LR	22 17 55.4	
	comp=Z,45nm,19.0s,baz=112,slow=38						
JOW	**Kunigami**	**16.20**	**223**	*e*Pn	**Pn**	**22 11 25.6**	**-2.1**
	comp=Z,49nm,0.9s						
HIA	**Hailar**	**17.73**	**310**	*e*P	**P**	**22 11 44.1**	**-1.0**
HIA	**Hailar**	**17.73**	**310**	*e*P	**P**	**22 11 43.2**	**-1.9**
	comp=Z,44nm,1.4s						
SSE	**Sheshan**	**17.81**	**248**	⇑P	**P**	**22 11 46.5**	**+0.4**
SSE				S	**S**	**22 15 03.5**	**-1.1**
SSE				pmax	pmax		
	comp=Z,100nm,1.4s						
SSE				pmax	pmax		
	comp=Z,87nm,3.5s						
SSE				LR	LR		
	comp=Z,690nm,21.9s						
SSE				LR	LR		
	comp=Z,350nm,21.9s						
SSE				LR	LR		
	comp=Z,650nm,16.9s						
PEA0B	**Petropavlovsk-**	**18.04**	**35**	*e*P	**P**	**22 11 48.2**	**-0.1**
PETK	**Petropavlovsk-**	**18.04**	**35**	P	**P**	**22 11 47.5**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=217,slow=9.3,SNR=10						
PETK				LR	LR	22 20 11.3	
	comp=Z,151nm,18.4s,baz=208,slow=41						
PET	**Petropavlovsk**	**18.41**	**37**	*e*P	**P**	**22 11 52.0**	**-0.4**
PET				*e*S	S	22 15 04.7	-11
PET				pmax	pmax		
	comp=Z,48nm,0.9s						
PET				MLR	MLR		
	comp=Z,800nm,21.0s						
BJI	**Beijing**	**18.70**	**280**	P	**P**	**22 11 54.5**	**-1.2**
BJI				S	**S**	**22 15 18.3**	**-3.7**
BJI				pmax	pmax		
	comp=Z,120nm,1.3s						
BJI				LR	LR		
	comp=Z,560nm,12.3s						
BJI				LR	LR		
	comp=Z,410nm,11.1s						
BJI				LR	LR		
	comp=Z,360nm,31.0s						
BJT	**Baijiatuau**	**18.70**	**279**	*e*P	**P**	**22 11 54.7**	**-1.1**
BJT				pmax	pmax		
	comp=Z,101nm,0.8s						
BJT	**Baijiatuau**	**18.70**	**279**	*e*P	**P**	**22 11 54.6**	**-1.1**
	comp=Z,101nm,0.8s						
TIA	**Tai'an**	**18.73**	**267**	⇑P	**P**	**22 11 56.5**	**+0.4**
TIA				pmax	pmax		
	comp=Z,280nm,1.1s						
NJ2	**Nanjing**	**19.03**	**254**	*e*P	**P**	**22 11 59.3**	**0.0**
NJ2				pmax	pmax		
	comp=Z,490nm,1.0s						
CLNS	**Chul'man**	**20.18**	**335**	*e*P	**P**	**22 12 10.8**	**-0.8**
CLNS				pmax	pmax		
	comp=Z,21nm,1.2s						
CLNS				pmax	pmax		
	comp=N,12nm,1.1s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.9s						
TATO	**Taipei**	**21.55**	**234**	*e*P	**P**	**22 12 27.1**	**+0.6**
	comp=E,81nm,0.9s						
YHNB	**Yeheng**	**21.84**	**233**	*e*P	**P**	**22 12 26.4**	**-3.3**
	comp=E,184nm,1.1s						
HHC	**Hu-ho-hao-te**	**22.11**	**283**	*e*P	**P**	**22 12 30.8**	**-1.7**
HHC				pP	**pP**	**22 12 56.3**	**+0.6**
HHC				sP	**sP**	**22 13 11.8**	**+0.5**
HHC				S	**S**	**22 16 20.8**	**-7.0**
HHC				PcP	**PcP**	**22 16 25.0**	**+0.1**
HHC				sS	**sS**	**22 17 04.8**	**-3.3**
HHC				ScS	**ScS**	**22 23 33.5**	**-2.1**
HHC				pmax	pmax		
	comp=E,29nm,0.6s						
HHC				pmax	pmax		
	comp=E,340nm,5.7s						
SSLB	**Suanglung**	**22.75**	**232**	*e*P	**P**	**22 12 35.1**	**-3.6**
	comp=E,46nm,1.1s						
WHN	**Wuhan**	**23.12**	**255**	P	**P**	**22 12 40.8**	**-1.4**
WHN				S	S	22 16 34.8	-9.1
WHN				LR	LR		
	comp=E,670nm,3.4s						
WHN				LR	LR		
	comp=E,830nm,10.2s						
WHN				LR	LR		
	comp=E,940nm,16.2s						
YAK	**Yakutsk**	**23.55**	**347**	*e*P	**P**	**22 12 45.3**	**-0.5**
YAK				*e*		22 13 11.4	
YAK				*e*S	**S**	**22 16 50.1**	**0.0**
YAK				*e*SS	**SnSn**	**22 17 48.5**	**+6.5**
YAK				*e*		22 23 36.8	
YAK				pmax	pmax		
	comp=Z,68nm,0.9s						
YAK				pmax	pmax		
	comp=N,30nm,1.2s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				smax	smax		
	comp=N,435nm,2.0s						
YAK				smax	smax		
	comp=E,185nm,2.0s						
YAK				MLR	MLR		
	comp=Z,169nm,16.0s						
YAK	**Yakutsk**	**23.55**	**347**	*e*P	**P**	**22 12 44.8**	**-1.0**
	comp=Z,71nm,0.8s						
SEY	**Seymchan**	**24.57**	**13**	P	**P**	**22 12 56.0**	**+0.9**
SEY				pmax	pmax		
	comp=Z,72nm,0.9s						
SEY	**Seymchan**	**24.57**	**13**	P	**P**	**22 12 56.0**	**+0.9**
	comp=Z,72nm,0.9s,baz=195,slow=5.4,SNR=104						
BOD	**Bodaibo**	**25.10**	**326**	*e*P	**P**	**22 12 59.8**	**-0.1**
BOD				pmax	pmax		
	comp=Z,14nm,0.8s						
ULN	**Ulaanbaatar**	**25.45**	**300**	⇑*i*P	**P**	**22 13 03.4**	**0.0**
ULN				pmax	pmax		
	comp=Z,17nm,1.7s						
ULN	**Ulaanbaatar**	**25.45**	**300**	*e*P	**P**	**22 13 02.4**	**-1.0**
	comp=Z,41nm,1.7s						
XAN	**Xi'an**	**25.79**	**268**	P	**P**	**22 13 06.3**	**-0.2**
XAN				S	**S**	**22 17 27.5**	**+1.0**
XAN				pmax	pmax		

comp=Z,11nm,1.4s
XAN LR LR
comp=Z,190nm,13.1s
XAN LR LR
comp=Z,79nm,12.3s
XAN LR LR
comp=Z,74nm,12.7s
SONM Songino Array 25.88 300 P P 22 13 07.5 +0.2
comp=Z,5.7nm,0.7s,baz=99,slow=9.6,SNR=31
SONM ScP **ScP 22 20 00.9 +0.1**
comp=Z,3.4nm,1.0s,baz=116,slow=3.2,SNR=11
SONM LR LR 22 23 21.9
comp=Z,160nm,18.5s,baz=82,slow=36
FX1 Attu Island--F 26.05 48 *e*P **P 22 13 10.2 +1.7**
FX1 Attu Island--F 26.05 48 P **P 22 13 09.5 +1.0**
comp=Z,63nm,1.0s,baz=216,slow=13,SNR=4.1
FX1 Attu Island--F 26.05 48 *e*P **P 22 13 10.2 +1.7**
ENH Enshi 26.93 260 *e*P **P 22 13 16.4 -0.4**
comp=Z,48nm,0.8s
TLY Talaya 28.23 308 *e*P **P 22 13 30.3 +2.2**
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY Talaya 28.23 308 P **P 22 13 29.6 +1.5**
comp=Z,2.3nm,0.7s,baz=144,slow=7.5,SNR=4.3
TLY Talaya 28.23 308 *e*P **P 22 13 28.5 +0.4**
ZAK Zakamensk 28.24 305 *e*P **P 22 13 25.7 -2.6**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
LZH Lanzhou 29.04 275 ⇓P **P 22 13 35.3 -0.3**
LZH pP **pP 22 14 03.0 +0.4**
LZH sP **sP 22 14 18.0 +1.0**
LZH PP **PnPn 22 14 32.0 -2.1**
LZH S S **22 18 24.3 +6.4**
LZH SS **SnSn 22 19 52.0 -4.0**
LZH pmax pmax
comp=Z,59nm,1.1s
LZH pmax pmax
comp=Z,120nm,4.2s
LZH LR LR
comp=Z,220nm,12.1s
LZH LR LR
comp=Z,220nm,13.4s
LZH LR LR
comp=Z,290nm,13.3s
MOY Mondy 29.86 307 *e*P **P 22 13 44.3 +1.7**
H11N2 WAKE ISLAND Hy 30.05 123 T T 22 44 37.9
baz=318,slow=75,SNR=79
H11N1 WAKE ISLAND Hy 30.06 123 T T 22 44 41.2
baz=318,slow=75,SNR=178
H11N3 WAKE ISLAND Hy 30.07 123 T T 22 44 40.1
baz=318,slow=75,SNR=160
TGY Tagaytay City 30.57 220 P **P 22 13 49.5 +0.4**
comp=Z,159nm,0.4s,baz=149,slow=5.2,SNR=3.9
H11S1 WAKE ISLAND Hy 30.82 125 T T 22 45 33.4
baz=319,slow=76,SNR=64
H11S3 WAKE ISLAND Hy 30.82 125 T T 22 45 32.0
baz=319,slow=76,SNR=61
H11S2 WAKE ISLAND Hy 30.83 125 T T 22 45 31.9
baz=319,slow=76,SNR=53
GYA Guiyang 31.02 256 ⇑*i*P **P 22 13 52.5 -0.6**
GYA pP **pP 22 14 22.0 +1.8**
GYA sP **sP 22 14 37.5 +2.9**
GYA PP **PnPn 22 15 01.5 +1.9**
GYA PcP **PcP 22 16 47.3 +1.3**
GYA S **S 22 18 45.0 -3.9**
GYA sS **sS 22 19 37.0 +0.7**
GYA ScP **ScP 22 20 18.3 +1.1**
GYA ScS **ScS 22 24 13.5 -1.2**
GYA pmax pmax
comp=Z,90nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.7s
CD2 Chengdu 31.04 266 P **P 22 13 53.3 +0.1**
CD2 pP **pP 22 14 20.3 0.0**
CD2 sP **sP 22 14 35.0 +0.3**
CD2 PP **PnPn 22 14 59.8 +0.1**
CD2 S **S 22 18 47.0 -2.1**
CD2 sS **sS 22 19 34.8 -1.7**
CD2 SS **SnSn 22 20 40.3 -4.1**
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 pmax pmax
comp=Z,210nm,8.8s
CD2 LR LR
comp=Z,360nm,15.6s
CD2 LR LR
comp=Z,350nm,14.7s
CD2 LR LR
comp=Z,390nm,13.7s
GTA Gaotai 31.23 283 *e*P **P 22 13 54.8 0.0**
GTA pP **pP 22 14 22.0 0.0**
GTA sP **sP 22 14 37.0 +0.6**
GTA PcP **PcP 22 16 47.0 +0.6**
GTA S **S 22 18 49.3 -2.8**
GTA sS **sS 22 19 37.3 -2.2**
GTA ScP **ScP 22 20 18.5 +0.8**
GTA SS **SnSn 22 20 42.8 -6.1**
GTA ScS **ScS 22 24 13.5 -1.9**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,160nm,4.3s
GTA LR LR
comp=Z,650nm,19.7s
GTA LR LR
comp=Z,270nm,21.4s
GTA LR LR
comp=Z,360nm,17.6s
BILL Bilibino 31.93 18 *c i*P **P 22 13 59.8 -0.6**
BILL *i* *PP **pP 22 14 26.1 -1.5**
BILL pmax pmax
comp=Z,30nm,1.2s
TIXI Tiksi 32.80 353 ⇑*i*P **P 22 14 07.6 -0.4**
TIXI pmax pmax
comp=Z,13nm,1.0s
TIXI Tiksi 32.80 353 *e*P **P 22 14 07.3 -0.6**
comp=Z,12nm,1.0s
QIZ Qiongzhong 33.36 241 P **P 22 14 15.0 +1.5**
QIZ S **S 22 19 27.0 +1.8**
QIZ pmax pmax
comp=Z,15nm,1.7s
HVS Khovu-Aksy 34.36 306 *c i*P **P 22 14 22.1 +0.2**
HVS pmax pmax
comp=Z,37nm,1.1s
KMI Kunming 34.70 257 ⇑P **P 22 14 25.5 +0.2**
KMI pP **pP 22 14 55.0 +2.3**
KMI sP **sP 22 15 09.5 +2.5**
KMI PP **PP 22 15 47.8 +1.5**
KMI S **S 22 19 44.5 -1.7**
KMI SS **SnSn 22 22 05.3 -7.8**
KMI pmax pmax
comp=Z,23nm,0.8s
KMI LR LR
comp=Z,320nm,12.0s
KMI LR LR
comp=Z,180nm,10.1s
KMI LR LR
comp=Z,220nm,26.1s
KRAR Krasnoyarsk 35.23 314 *e*P **P 22 14 29.9 +0.7**
GAMB Gambell 37.05 33 *e*P **P 22 14 45.3 +0.7**
comp=Z,72nm,1.7s
UBPT Khong Chiam 38.96 242 P **P 22 15 01.7 +0.6**
comp=Z,32nm,1.2s
TNA Tin City 39.13 31 *e*P **P 22 15 02.4 +0.5**
comp=Z,51nm,1.0s
WMQ Urumqi 39.14 294 P **P 22 15 03.5 +1.0**
WMQ pP **pP 22 15 31.5 +1.1**
WMQ sP **sP 22 15 46.3 +1.7**
WMQ PP **PnPn 22 16 40.0 +1.5**
WMQ PcP **PcP 22 17 11.3 +1.8**
WMQ ScP **ScP 22 20 46.8 +0.6**
WMQ S **S 22 20 53.3 +0.3**
WMQ PcS **PcS 22 20 59.8 +0.5**
WMQ sS **sS 22 21 42.5 +1.1**
WMQ SS **SS 22 23 44.3 -6.2**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,250nm,4.2s
WMQ LR LR
comp=Z,310nm,23.8s
WMQ LR LR
comp=Z,210nm,20.4s
WMQ LR LR
comp=Z,170nm,22.8s

CRAI Chiangrai 39.33 253 P **P 22 15 03.7 -0.5**
comp=Z,160nm,0.9s
MYLDM Lahad Datu 39.49 216 *e*P **P 22 15 07.6 +2.0**
comp=Z,57nm,1.1s
ZAA0 Zalesovo Array 39.77 310 *e*P **P 22 15 07.2 -0.2**
ZAA0 *e*PcP **PcP 22 17 10.8 -0.3**
ZALV Zalesovo Beam 39.77 310 P **P 22 15 07.7 +0.2**
comp=Z,17nm,0.8s,baz=91,slow=7.8,SNR=39
ZALV PcP **PcP 22 17 11.2 0.0**
comp=Z,8.2nm,0.7s,baz=102,slow=3.3,SNR=11
ZALV ScP **ScP 22 20 48.3 0.0**
comp=Z,2.7nm,0.8s,baz=81,slow=4.7,SNR=6.7
KKM Kota Kinabalu 39.82 220 *e*P **P 22 15 09.2 +0.8**
comp=Z,31nm,1.1s
CMAI Chiengmai2 40.49 254 P **P 22 15 14.8 +0.8**
comp=Z,33nm,1.0s
NVS Novosibirsk 40.66 312 ⇓*i*P **P 22 15 14.3 -0.5**
NVS *i* 22 15 42.2
NVS *i* S **S 22 21 14.3 -0.9**
NVS *e* 22 22 04.5
NVS *i* 22 25 02.7
NVS pmax pmax
comp=E,18nm,1.5s
NVS pmax pmax
comp=Z,27nm,1.5s
NVS pmax pmax
comp=N,14nm,2.1s
NVS smax smax
comp=N,5.0nm,1.3s
NVS smax smax
comp=E,28nm,1.7s
UTTA Uttaradit 40.76 250 P **P 22 15 16.5 +0.5**
comp=E,15nm,1.0s,comp=E,127nm
LAMP Lampang 40.94 251 P **P 22 15 18.5 +1.0**
comp=E,15nm,1.0s,comp=E,112nm
SWI Sorong 41.01 194 P P 22 15 27.0 +9.0
comp=E,32nm,1.0s,comp=E,2μm
PBKT Sadao Pong 41.23 248 P **P 22 15 20.4 +0.6**
comp=E,16nm,0.8s
CMMT Chiang Mai 41.26 252 P **P 22 15 20.3 +0.2**
comp=E,48nm,0.9s,comp=E,505nm
CHTO Chiang Mai 41.26 252 *e*P **P 22 15 19.2 -0.9**
CHTO pmax pmax
comp=Z,36nm,1.0s
CHTO Chiang Mai 41.26 252 P **P 22 15 20.4 +0.3**
comp=Z,168nm,1.0s
CHTO Chiang Mai 41.26 252 *e*P **P 22 15 19.1 -0.9**
comp=Z,36nm,1.0s
LSA Lhasa 41.33 272 P **P 22 15 21.0 -0.2**
LSA Lhasa 41.33 272 *e*P **P 22 15 21.7 +0.5**
LSA *e* 22 16 59.8
LSA pmax pmax
comp=Z,6.0nm,0.3s
LSA Lhasa 41.33 272 *e*P **P 22 15 21.7 +0.5**
comp=Z,6.4nm,0.3s
LSA *e*PP **PP 22 16 59.8 +0.9**
CM31 Chiang Mai Arr 41.48 252 *e*P **P 22 15 22.4 +0.5**
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 41.48 252 P **P 22 15 22.5 +0.5**
CMAR 22 17 00.5
CMAR pmax pmax
comp=Z,7.0nm,0.7s
CMAR pmax pmax
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 41.48 252 P **P 22 15 22.4 +0.5**
comp=Z,7.0nm,0.7s,baz=44,slow=6.9,SNR=45
CMAR PP **PP 22 17 00.5 +0.3**
comp=Z,6.1nm,1.0s,baz=41,slow=9.6,SNR=8.6
CMAR ScP **ScP 22 20 56.2 +0.6**
comp=Z,0.8nm,0.3s,baz=29,slow=2.8,SNR=7.7
KMSI Cibinong 41.54 205 P P 22 15 29.9 +7.6
comp=Z,209nm,0.9s
TOLI Toli-Toli 42.18 210 *e*P P 22 15 36.6 +9.1
comp=Z,142nm,0.4s
MK31 Makanchi Array 42.25 300 *e*P **P 22 15 28.0 +0.1**
MK31 *e*S **S 22 21 39.2 +0.3**
MK31 Makanchi Array 42.25 300 *e*P **P 22 15 28.0 +0.1**
MK31 *e*S **S 22 21 39.2 +0.3**
MKAR Makanchi Array 42.25 300 P **P 22 15 28.0 +0.1**
MKAR S **S 22 21 38.8 -0.1**
MKAR pmax pmax
comp=Z,6.0nm,0.4s
MKAR smax smax
comp=N,2.0nm,1.1s
MKAR Makanchi Array 42.25 300 P **P 22 15 28.0 +0.1**
comp=N,5.6nm,0.4s,baz=83,slow=10,SNR=254
MKAR ScP **ScP 22 20 58.3 0.0**
comp=N,1.6nm,0.9s,baz=86,slow=5.0,SNR=6.4
MKAR S **S 22 21 38.8 -0.1**
comp=N,1.9nm,1.1s,baz=81,slow=16,SNR=4.2
MRSI Marisa 42.34 208 P **P 22 15 29.2 +0.3**
comp=N,99nm,1.1s,comp=N,945nm
MHMT Maesarieng 42.41 252 P **P 22 15 30.6 +1.2**
comp=N,19nm,0.8s,comp=N,222nm
SHL Shillong 42.78 266 *e*P **P 22 15 34.5 +1.9**
CHBT CHBT 42.89 242 P **P 22 15 34.0 +0.7**
comp=N,52nm,1.1s
MPSI Mapaga 43.25 211 P **P 22 15 36.4 +0.2**
comp=N,38nm,1.1s,comp=N,421nm
SANI Sanana 43.41 201 P **P 22 15 37.2 -0.2**
comp=N,41nm,1.1s,comp=N,648nm
LUWI Luwuk 43.46 206 P P 22 15 43.1 +5.2
comp=N,96nm,1.0s,comp=N,1μm
LUWI Luwuk 43.46 206 *e*P **P 22 15 40.1 +2.2**
comp=N,73nm,0.9s
APSI Ampana 43.73 208 P **P 22 15 41.4 +1.4**
comp=N,95nm,1.3s,comp=N,1μm
PATY Pattaya 43.78 244 P **P 22 15 41.9 +1.4**
comp=N,21nm,0.8s,comp=N,587nm
KURK Kurchatov 43.89 306 P **P 22 15 41.4 +0.4**
comp=N,175nm,0.4s,SNR=43
KURK Kurchatov 43.89 306 *e*P **P 22 15 40.3 -0.7**
KURK pmax pmax
comp=Z,19nm,1.1s
KURK Kurchatov 43.89 306 *e*P **P 22 15 40.2 -0.7**
comp=Z,19nm,1.1s
SRDT SRDT 44.03 247 P **P 22 15 43.5 +1.0**
comp=Z,67nm,1.3s,comp=Z,12μm
SVW2 Sparrevohn 44.06 39 *e*P **P 22 15 43.6 +1.4**
comp=Z,38nm,0.9s
KHLT Khaolaem Dam 44.11 248 P **P 22 15 44.6 +1.5**
comp=Z,16nm,1.2s
SBUM Sibu 44.92 222 *e*P **P 22 15 49.5 -0.1**
comp=Z,13nm,0.9s
IM04 Indian Mountai 44.94 32 *e*P **P 22 15 49.5 +0.4**
TAPN Taplejung 45.11 271 *e*P **P 22 15 51.8 +0.5**
comp=Z,28nm,0.4s
TAPN Taplejung 45.11 271 *e*P **ScP 22 21 10.5 -0.2**
comp=Z,28nm,1.3s
RSO Redoubt South 45.47 40 *e*P **P 22 15 53.4 -0.2**
ODAN Odare 45.60 271 *e*P **P 22 15 55.4 +0.3**
comp=Z,99nm,1.1s
ODAN Odare 45.60 271 *e*P **ScP 22 21 12.6 0.0**
PPLA Purkeypile 45.62 36 *e*P **P 22 15 56.4 +1.7**
comp=Z,188nm,1.6s
CAST Castle Rocks 45.65 36 *e*P **P 22 15 56.3 +1.6**
comp=Z,29nm,1.0s
CAST *e*pP **pP 22 16 24.1 +0.8**
KDAK Kodiak Island 45.81 43 P **P 22 15 55.9 -0.1**
comp=Z,507nm,1.0s,SNR=13
KDAK Kodiak Island 45.81 43 *i* P **P 22 15 55.5 -0.5**
JIRN Jiri 46.13 272 *e*P **P 22 16 00.0 +0.5**
comp=Z,26nm,0.3s
JIRN Jiri 46.13 272 *e*P **ScP 22 21 14.9 -0.1**
comp=Z,21nm,1.2s
RAMN Ramite 46.16 271 *e*P **P 22 15 59.9 +0.3**
RAMN Ramite 46.16 271 *e*P **ScP 22 21 14.4 -0.6**
comp=Z,24nm,1.0s
KTH Kantishna Hill 46.17 35 *e*P **P 22 15 59.8 +0.9**
comp=Z,83nm,1.0s
GUN Gumba 46.25 273 *e*P **P 22 16 00.8 +0.4**
GUN Gumba 46.25 273 *e*P **ScP 22 21 15.1 -0.4**
COLD Coldfoot 46.40 30 *e*P **P 22 16 01.5 +0.9**
comp=Z,51nm,1.2s
TRF Thorofare Moun 46.46 35 *e*P **P 22 16 02.0 +0.7**
comp=Z,28nm,0.9s
MTKI Muara Teweh, K 46.55 217 P **P 22 16 03.2 +0.9**
comp=Z,92nm,1.0s
KSM Kuching 46.75 224 *e*P **P 22 16 04.0 +0.1**
comp=Z,37nm,0.9s
KKN Kakani 46.77 273 *e*P **P 22 16 04.6 +0.3**
KKN Kakani 46.77 273 *e*P **ScP 22 21 16.9 -0.6**
PKI Pulchoki 46.78 273 *e*P **P 22 16 04.6 -0.1**
PKIN Phulchoki 46.79 273 *e*P **P 22 16 04.4 -0.1**
RC01 Rabbit Creek A 46.90 39 *e*P **P 22 16 04.7 +0.2**
comp=Z,42nm,1.0s

DMN Daman 47.00 273 *e*P **P 22 16 06.5 +0.4**
DMN Daman 47.00 273 *e*P **ScP 22 21 18.1 -0.4**
MCK McKinley 47.04 35 *e*P **P 22 16 06.3 +0.6**
MCK pmax pmax
comp=Z,46nm,0.9s
MCK McKinley 47.04 35 *e*P **P 22 16 06.3 +0.6**
comp=Z,46nm,0.9s
PMR Palmer 47.14 38 *e*P **P 22 16 06.0 -0.3**
PMR pmax pmax
comp=Z,27nm,0.8s
PMR Palmer 47.14 38 *e*P **P 22 16 06.0 -0.3**
comp=Z,27nm,0.8s
GKN Gorkha 47.17 274 *e*P **P 22 16 07.5 +0.2**
GKN Gorkha 47.17 274 *e*P **ScP 22 21 18.2 -0.9**
comp=Z,30nm,1.3s
SPSI Sidrap Palu 47.24 209 P **P 22 16 08.0 +0.3**
comp=Z,30nm,1.0s
STKI Sintang 47.34 221 P **P 22 16 09.3 +0.9**
comp=Z,38nm,1.0s,comp=Z,7μm
COLA College 47.44 33 *e*P **P 22 16 08.7 +0.1**
COLA pmax pmax
comp=Z,139nm,1.3s
COLA College 47.44 33 *e*P **P 22 16 08.4 -0.2**
comp=Z,33nm,1.0s
COLA *e*pP pP 22 16 43.9 +6.5
BNSI Bone 47.52 208 P **P 22 16 10.4 +0.6**
comp=Z,70nm,1.1s,comp=Z,925nm
DANN Dangsing 47.68 275 *e*P **P 22 16 12.1 +0.7**
comp=Z,237nm,0.5s
DANN Dangsing 47.68 275 *e*P **ScP 22 21 21.1 -0.3**
comp=Z,24nm,0.9s
ILAR Eielson Array 47.85 33 P **P 22 16 11.8 -0.1**
ILAR *PP **pP 22 16 38.8 -1.9**
ILAR pmax pmax
comp=Z,24nm,0.8s
ILAR MLR MLR
comp=Z,83nm,18.6s
ILAR Eielson Array 47.85 33 P **P 22 16 11.8 -0.1**
comp=Z,24nm,0.8s,baz=273,slow=6.2,SNR=215
ILAR pP **pP 22 16 38.8 -1.9**
comp=Z,17nm,0.8s,baz=268,slow=6.2,SNR=10
ILAR LR LR 22 38 03.0
comp=Z,83nm,18.6s,baz=274,slow=38
TKM2 Tokmak 2 47.87 296 P **P 22 16 13.8 +1.2**
SNR=32
TKM2 Tokmak 2 47.87 296 *i* P **P 22 16 13.7 +1.2**
TKM2 Tokmak 2 47.87 296 *e*P **P 22 16 13.8 +1.2**
comp=Z,46nm,0.9s
SURT Suratani 48.01 242 P **P 22 16 15.1 +1.4**
comp=Z,17nm,1.3s,comp=Z,242nm
KOLN Koldanda 48.08 274 *e*P **P 22 16 15.0 +0.6**
comp=Z,29nm,0.4s
KOLN Koldanda 48.08 274 *e*P **ScP 22 21 22.6 -0.4**
KAPI Kappang 48.22 208 P **P 22 16 15.0 -0.2**
comp=Z,417nm,1.0s,SNR=6.0
KAPI Kappang 48.22 208 *e*P **P 22 16 15.0 -0.2**
comp=Z,67nm,0.9s
BKSI Bulukumba 48.37 208 P **P 22 16 16.0 -0.3**
comp=Z,32nm,0.9s
KZA Kyzart 48.40 295 P **P 22 16 19.0 +2.1**
SNR=11
KZA Kyzart 48.40 295 *i* P **P 22 16 18.9 +2.1**
KBK Karagaybulak 48.41 296 P **P 22 16 18.2 +1.5**
SNR=8.0
BVAR Borovoye Array 48.42 311 P **P 22 16 16.8 +0.4**
BVAR 22 17 41.2
BVAR 22 18 13.8
BVAR pmax pmax
comp=Z,8.0nm,0.5s
BVAR pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 48.42 311 P **P 22 16 16.8 +0.4**
comp=Z,8.4nm,0.5s,baz=80,slow=8.2,SNR=100
BVAR PcP **PcP 22 17 41.2 +0.5**
comp=Z,6.4nm,0.6s,baz=87,slow=2.9,SNR=7.4
BVAR PP **PP 22 18 13.8 +3.9**
comp=Z,4.3nm,0.8s,baz=97,slow=3.4,SNR=4.2
BVAR ScP **ScP 22 21 23.6 -0.1**
comp=Z,1.6nm,1.0s,baz=96,slow=3.0,SNR=4.0
CHMS Chumysh 48.43 297 P pP 22 16 46.5 +0.9
SNR=6.2
BRVK Borovoye 48.48 311 P **P 22 16 17.5 +0.6**
comp=Z,55nm,0.4s,SNR=9.3
BRVK Borovoye 48.48 311 *e*P **P 22 16 17.4 +0.6**
BRVK pmax pmax
comp=Z,21nm,1.2s
BRVK Borovoye 48.48 311 *e*P **P 22 16 17.4 +0.6**
comp=Z,21nm,1.2s
USP Ospenovka 48.52 297 P **P 22 16 17.9 +0.6**
SNR=17
USP Ospenovka 48.52 297 *i* P **P 22 16 17.9 +0.6**
FRU Bishkek 48.58 296 *e*P **P 22 16 19.0 +1.2**
FRU *i* 22 16 47.0
FRU *e* 22 23 08.0
FRU pmax pmax
comp=Z,50nm,2.0s
AAK Ala-Archa 48.73 296 P **P 22 16 19.5 +0.3**
comp=Z,94nm,0.3s,SNR=12
AAK Ala-Archa 48.73 296 P **P 22 16 20.1 +0.9**
SNR=12
AAK Ala-Archa 48.73 296 *i* P **P 22 16 20.0 +0.9**
AAK pmax pmax
comp=Z,15nm,1.1s
AAK Ala-Archa 48.73 296 P **P 22 16 19.9 +0.7**
comp=Z,7.3nm,0.3s,baz=98,slow=4.3,SNR=70
AAK Ala-Archa 48.73 296 *e*P **P 22 16 18.8 -0.4**
comp=Z,18nm,1.0s
KSH Kashi 48.79 292 *e*P P 22 16 24.3 +4.7
KSH *e*pP pP 22 16 53.5 +5.0
KSH *e*sP sP 22 17 07.5 +5.0
KSH PP PP 22 18 19.5 +5.8
KSH *e*PcS **PcS 22 21 41.8 +2.8**
KSH *e*S **S 22 23 16.5 +3.3**
KSH *e*SS **SS 22 26 47.0 +2.1**
KSH pmax pmax
comp=Z,15nm,1.5s
KSH pmax pmax
comp=Z,150nm,3.1s
KSH LR LR
comp=Z,310nm,18.6s
KSH LR LR
comp=Z,720nm,21.1s
KSH LR LR
comp=Z,120nm,6.9s
DIV Divide 48.80 38 *e*P **P 22 16 20.2 +0.9**
comp=Z,42nm,0.9s
BBKI Banjar Baru 48.80 215 P **P 22 16 20.0 +0.3**
comp=Z,90nm,1.2s,comp=Z,939nm
PKDT Phuket 49.09 242 P **P 22 16 23.1 +1.2**
comp=Z,82nm,1.0s,comp=Z,958nm
DOT Dot Lake 49.21 35 *e*P **P 22 16 22.1 -0.2**
comp=Z,21nm,0.9s
EKS2 Erkin-Say 49.22 297 P **P 22 16 23.4 +0.5**
SNR=10
EKS2 Erkin-Say 49.22 297 *i* P **P 22 16 23.3 +0.5**
EKS2 Erkin-Say 49.22 297 *e*P **P 22 16 23.3 +0.5**
comp=Z,16nm,0.9s
AML Almayashu 49.46 296 P **P 22 16 26.2 +1.2**
SNR=16
AML Almayashu 49.46 296 *i* P **P 22 16 26.2 +1.2**
KULM Kulim 49.47 237 *e*P **P 22 16 25.4 +0.6**
comp=Z,27nm,1.0s
MENT Mentasta 49.47 36 *e*P **P 22 16 24.6 +0.3**
IPM Ipoh 49.84 236 *e*P **P 22 16 27.5 -0.1**
comp=Z,26nm,0.9s
MYKOM Kota Tinggi 50.17 231 *e*P **P 22 16 31.0 +0.9**
comp=Z,21nm,0.9s
EGAK Eagle 50.29 33 *e*P **P 22 16 30.0 -0.4**
comp=Z,30nm,1.1s
TPRI Tanjung Pinang 50.46 230 P **P 22 16 33.6 +1.3**
comp=Z,41nm,0.9s
SOEI Soe 51.23 201 P **P 22 16 38.4 +0.3**
comp=Z,100nm,0.9s
SOEI Soe 51.23 201 *e*P **P 22 16 37.5 -0.6**
comp=Z,78nm,0.9s
KKAR Karatay Array 51.31 298 *e*P **P 22 16 38.7 +0.3**
KKAR Karatay Array 51.31 298 *e*P **P 22 16 38.7 +0.3**
TPI Tanjungpandan 51.72 224 P **P 22 16 42.7 +1.0**
comp=Z,29nm,1.0s
BATI Baumata 51.83 201 P **P 22 16 43.8 +1.3**
comp=Z,33nm,1.0s
PSI Prapat 52.47 237 P **P 22 16 47.8 +0.4**
PSI pmax pmax
comp=Z,15nm,0.9s
PSI Prapat 52.47 237 P **P 22 16 47.8 +0.4**
comp=Z,15nm,0.9s,baz=13,slow=5.3,SNR=13

NDI	New Delhi	52.55	279	⇑iP	P	22 16 48.5	+0.8
HYT	Haines Junctio	52.80	38	eP	P	22 16 51.2	+2.0
SVE	Sverdlovsk	52.86	317	⇓iP	P	22 16 50.6	+1.0
SVE				pmax	pmax		
	comp=Z,34nm,1.4s						
BKNI	Bangkinang	53.03	233	P	P	22 16 53.3	+1.9
	comp=Z,83nm,1.1s						
COEN	Coen	53.20	177	eP	P	22 16 53.1	+0.6
	comp=Z,182nm,1.1s						
ARU	Arti	54.08	317	P	P	22 16 58.4	-0.1
	comp=Z,123nm,0.7s,SNR=10.0						
ARU	Arti	54.08	317	d iP	P	22 16 58.6	+0.1
ARU				e*PP	pP	22 17 26.5	-1.4
ARU				*SP	sP	22 17 40.9	-0.9
ARU				e		22 18 01.4	
ARU						22 18 59.4	
ARU				S	S	22 24 26.6	+1.7
ARU						22 26 30.9	
ARU				SS	SS	22 28 03.9	-3.6
ARU				pmax	pmax		
	comp=Z,15nm,0.8s						
ARU	Arti	54.08	317	eP	P	22 16 58.8	+0.3
GSI	Gunungsitoli	54.47	237	eP	P	22 17 02.0	+0.2
	comp=Z,55nm,1.0s						
LHSI	Lahat	54.89	227	P	P	22 17 06.0	+1.2
	comp=Z,66nm,1.3s						
KPJI	Karang Pucung	54.97	219	P	P	22 17 05.0	-0.4
	comp=Z,38nm,0.9s,comp=Z,2µm						
MDSI	Maura Dua	55.06	226	P	P	22 17 06.0	-0.1
	comp=Z,29nm,1.3s						
LEM	Lembang	55.19	221	P	P	22 17 07.4	+0.2
ABKAR	Akbulak array	55.84	309	eP	P	22 17 11.4	+0.1
KBL	Kabul	55.90	289	eP	P	22 17 12.2	-0.1
KBL				pmax	pmax		
	comp=Z,35nm,1.0s						
KBL	Kabul	55.90	289	eP	P	22 17 12.2	-0.1
	comp=Z,35nm,1.0s						
AKTO	Aktyubinsk	56.53	311	P	P	22 17 16.3	+0.1
AKTO						22 18 11.3	
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKTO	Aktyubinsk	56.53	311	P	P	22 17 16.2	+0.1
	comp=Z,4.7nm,0.6s,baz=67,slow=11,SNR=14						
AKTO				PcP	PcP	22 18 11.3	-0.1
	comp=Z,3.0nm,0.6s,baz=102,slow=8.3,SNR=3.6						
HYB	Hyderabad	57.59	266	iP	P	22 17 23.5	-0.6
PRGR	Permogore	58.34	326	eP	P	22 17 27.6	-1.1
PRGR				e*PP	pP	22 17 56.6	-1.9
PRGR				pmax	pmax		
	comp=Z,14nm,0.9s						
WRAB	Tennant Creek	59.36	187	P	P	22 17 35.0	-1.2
	comp=Z,132nm,0.9s,SNR=13						
WRAB	Tennant Creek	59.36	187	d iP	P	22 17 35.9	-0.3
WRAB				pmax	pmax		
	comp=Z,68nm,1.3s						
WRAB	Tennant Creek	59.36	187	eP	P	22 17 35.5	-0.7
	comp=Z,20nm,0.9s						
WRA	Warramunga Arr	59.37	187	P	P	22 17 35.0	-1.2
WRA				pmax	pmax		
	comp=Z,15nm,0.8s						
WRA	Warramunga Arr	59.37	187	P	P	22 17 35.0	-1.2
	comp=Z,15nm,0.8s,baz=6.1,slow=6.9,SNR=91						
APA	Apatity	60.18	335	⇑iP	P	22 17 41.8	+0.6
APA				i*PP	pP	22 18 09.0	-2.2
APA				MLR	MLR		
	comp=Z,400nm,20.0s						
KEV	Kevo	60.92	339	eP	P	22 17 45.5	-0.7
KEV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KEV	Kevo	60.92	339	ep	P	22 17 45.5	-0.7
	comp=Z,6.3nm,0.6s						
KLMR	Klimovskoe	61.33	327	eP	P	22 17 48.2	-0.9
KLMR				e*PP	pP	22 18 18.6	-0.5
KLMR				pmax	pmax		
	comp=Z,31nm,1.5s						
ARCES	ARCESS Array B	61.47	339	P	P	22 17 50.1	+0.1
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARCES	ARCESS Array B	61.47	339	P	P	22 17 50.1	+0.1
	comp=Z,4.2nm,0.6s,baz=52,slow=7.2,SNR=29						
YKW3	Yellowknife Ar	62.04	30	eP	P	22 17 53.4	-0.4
	comp=Z,0.8nm,1.3s						
GEYT	Alibeck	62.05	297	P	P	22 17 55.1	+0.7
	comp=Z,7.7nm,0.9s,baz=46,slow=4.3,SNR=14						
GEYT				pP	pP	22 18 24.7	+0.2
	comp=Z,23nm,0.9s,baz=41,slow=2.7,SNR=14						
GEYT				LR	LR	22 46 18.5	
	comp=Z,88nm,19.4s,baz=15,slow=37						
YKA	Yellowknife Ar	62.08	31	P	P	22 17 54.0	-0.1
YKA	Yellowknife Ar	62.08	31	P	P	22 17 53.9	-0.1
	comp=Z,8.9nm,0.7s,baz=303,slow=6.5,SNR=168						
PALK	Pallekele	62.22	256	iP	P	22 18 05.5	+10
AS31	Alice Springs	63.10	187	eP	P	22 18 00.3	-1.0
ASAR	Alice Springs	63.10	187	P	P	22 18 00.8	-0.5
ASAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ASAR	Alice Springs	63.10	187	P	P	22 18 00.8	-0.5
	comp=Z,9.2nm,0.8s,baz=8.5,slow=6.0,SNR=55						
DAG	Danmarks Havn	63.30	355	⇑iP	P	22 18 01.8	-0.1
DAG				pmax	pmax		
	comp=Z,20nm,0.8s						
DAG	Danmarks Havn	63.30	355	⇑iP	P	22 18 01.8	-0.1
	comp=Z,26nm,0.8s						
MBWA	Marble Bar	63.35	202	eP	P	22 18 02.4	-0.6
	comp=Z,10.0nm,1.0s						
JOF	Joensuu	63.49	331	eP	P	22 18 02.5	-0.9
JOF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
JOF	Joensuu	63.49	331	ep	P	22 18 02.5	-0.9
	comp=Z,6.1nm,0.6s						
PGC	Sidney	65.15	47	eP	P	22 18 15.6	+0.9
EIDS	Eidsvold	65.25	169	eP	P	22 18 15.5	+0.2
	comp=Z,21nm,1.3s						
VRHR	Novokhopersk	65.41	317	eP	P	22 18 14.2	-1.9
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=N,9.0nm,1.6s						
VRHR				pmax	pmax		
	comp=E,8.0nm,0.8s						
KULLO	Kullorsuaq	65.63	5	⇑iP	P	22 18 16.8	-0.3
KULLO				pmax	pmax		
	comp=Z,19nm,1.1s						
KULLO	Kullorsuaq	65.63	5	⇑iP	P	22 18 16.8	-0.3
	comp=Z,19nm,1.1s						
OBN	Obninsk	65.73	322	eP	P	22 18 17.6	-0.5
OBN				i*PP	PcP	22 18 47.0	-1.3
OBN				pmax	pmax		
	comp=Z,25nm,1.7s						
OBN	Obninsk	65.73	322	P	P	22 18 18.0	0.0
	comp=Z,9.8nm,0.5s,baz=70,slow=3.8,SNR=4.5						
OBN				pP	PcP	22 18 47.5	-0.8
	comp=Z,6.3nm,0.3s,baz=51,slow=23,SNR=3.7						
A05A	Maple Falls	65.77	46	eP	P	22 18 19.0	+0.5
	comp=Z,43nm,1.1s						
KAF	Kangasniemi	65.82	332	eP	P	22 18 17.1	-1.5
KAF				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KAF	Kangasniemi	65.82	332	ep	P	22 18 17.1	-1.5
	comp=Z,8.9nm,0.6s						
E03A	Lebam	66.25	49	eP	P	22 18 23.2	+1.6
	comp=Z,46nm,1.0s						
E03A				epP	pP	22 18 53.5	+1.4
FIA1	FINESS Array S	66.33	331	eP	P	22 18 21.9	+0.1
FINES	FINESS Array B	66.33	331	P	P	22 18 21.9	0.0
FINES				pmax	pmax		
	comp=Z,18nm,0.7s						
FINES				MLR	MLR		
	comp=Z,83nm,18.7s						
FINES	FINESS Array B	66.33	331	P	P	22 18 21.9	0.0
	comp=Z,18nm,0.7s,baz=46,slow=8.2,SNR=64						
FINES				LR	LR	22 48 45.8	
	comp=Z,83nm,18.7s,baz=271,slow=37						
VSR	Storozhevoye	66.64	318	eP	P	22 18 23.0	-1.0
VSR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VSR				pmax	pmax		
	comp=N,7.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.6s						
D05A	Enumclaw	66.81	47	eP	P	22 18 26.6	+1.5
	comp=E,101nm,1.4s						
F04D	Rainier, OR	66.83	49	⇑P	P	22 18 26.0	+0.7
	baz=67						
LON	Longmire	67.15	48	eP	P	22 18 27.8	+0.4
LON				e*PP	pP	22 18 58.8	+0.8
LON				pmax	pmax		
	comp=Z,18nm,1.3s						
LON	Longmire	67.15	48	eP	P	22 18 27.8	+0.4
	comp=Z,18nm,1.3s						
LON				epP	pP	22 18 58.8	+0.8
G03D	McMinnville, O	67.16	50	⇓P	P	22 18 28.1	+0.7
	baz=67						
F04A	Amboy	67.25	49	eP	P	22 18 28.7	+0.7
	comp=Z,34nm,0.9s						
F04A				epP	pP	22 18 58.8	+0.2
LTY	Liberty	67.52	47	eP	P	22 18 30.0	+0.3
	comp=Z,66nm,1.6s						
KEBM	Edson Butte	67.80	52	eP	P	22 18 33.3	+1.7
	comp=Z,168nm,1.2s						
EDM	Edmonton	67.90	39	eP	P	22 18 31.7	-0.3
EDM	Edmonton	67.90	39	eP	P	22 18 31.7	-0.3
I03D	Drain, OR	67.94	51	⇑P	P	22 18 33.2	+0.9
	baz=68						
GOF	Gofitskoye	67.95	311	eP	P	22 18 32.5	+0.1
GOF				pmax	pmax		
	comp=Z,26nm,1.4s						
VSU	Vasula	68.00	329	eP	P	22 18 32.3	-0.1
VSU				pmax	pmax		
	comp=Z,68nm,1.1s						
H04A	Detroit Lake	68.08	50	eP	P	22 18 33.8	+0.5
	comp=Z,24nm,0.8s						
H04A				epP	pP	22 19 04.2	+0.2
SUMG	Summit	68.26	360	i P	P	22 18 35.0	+0.7
SUMG				i		22 19 04.5	
SUMG				pmax	pmax		
	comp=Z,24nm,1.0s						
SUMG	Summit	68.26	360	i P	P	22 18 35.0	+0.7
	comp=Z,24nm,1.0s						
SUMG				i		22 19 04.5	
SUMG	Summit	68.26	360	eP	P	22 18 34.6	+0.3
	comp=Z,44nm,1.0s						
SUMG				epP	pP	22 19 05.2	+0.2
G05D	Wamic, OR	68.28	49	⇓P	P	22 18 35.4	+0.9
	baz=68						
E07A	Sunnyside	68.37	47	eP	P	22 18 35.7	+0.6
	comp=Z,31nm,1.1s						
E07A				epP	pP	22 19 06.4	+0.7
I04A	Tendick Farm,	68.45	51	⇑P	P	22 18 36.2	+0.6
	baz=68						
NCK	Nalchik	68.50	309	eP	P	22 18 35.0	-0.9
D08A	Wollman Farm,	68.61	46	eP	P	22 18 36.9	+0.4
	comp=Z,36nm,1.1s						
D08A				epP	pP	22 19 07.4	+0.2
HAWA	Hanford	68.65	47	eP	P	22 18 37.3	+0.5
	comp=Z,69nm,1.7s						
L02D	Cave Junction,	68.65	53	⇓P	P	22 18 37.7	+0.8
	baz=68						
G06A	Carlson Farm,	68.68	49	eP	P	22 18 38.0	+1.0
	comp=Z,160nm,2.3s						
G06A				epP	pP	22 19 08.3	+0.6
ZEI	Tsey	68.71	308	eP	P	22 18 34.3	-3.1
ZEI				pmax	pmax		
	comp=Z,12nm,1.4s						
I05D	Terrebonne, OR	68.78	50	⇑P	P	22 18 38.1	+0.5
	baz=69						
KIV	Kislovodsk	68.78	310	P	P	22 18 38.7	+1.0
	comp=Z,170nm,0.9s,SNR=9.2						
KIV	Kislovodsk	68.78	310	eP	P	22 18 39.1	+1.4
KIV				e*PP	pP	22 19 08.6	+0.2
KIV				eS	S	22 27 31.8	+0.6
KIV				pmax	pmax		
	comp=Z,29nm,0.9s						
KIV	Kislovodsk	68.78	310	eP	P	22 18 38.7	+1.0
	comp=Z,62nm,1.1s						
KIV	Kislovodsk	68.78	310	⇑iP	P	22 18 38.9	+1.2
	SNR=13						
KBZ	Khabaz	68.78	310	P	P	22 18 38.7	+1.1
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBZ	Khabaz	68.78	310	P	P	22 18 38.7	+1.1
	comp=Z,6.5nm,0.8s,baz=48,slow=4.0,SNR=16						
HUMO	Hull Mountain	68.79	52	eP	P	22 18 39.1	+1.4
	comp=Z,42nm,1.8s						
NEW	Newport	68.90	44	eP	P	22 18 38.5	+0.2
NEW				pmax	pmax		
	comp=Z,42nm,1.0s						
NEW	Newport	68.90	44	eP	P	22 18 38.5	+0.2
	comp=Z,42nm,1.0s						
NEW	Newport	68.90	44	⇓P	P	22 18 38.3	0.0
	baz=69,SNR=26						
J04D	Umpqua Nationa	68.95	51	⇑P	P	22 18 39.7	+0.8
	baz=69						
KHMM	Horse Mountain	69.30	54	eP	P	22 18 42.7	+1.7
	comp=Z,71nm,1.2s						
PINOR	Pine Mountain	69.36	50	eP	P	22 18 41.7	+0.6
	comp=Z,69nm,1.3s						
PINOR				epP	pP	22 19 11.3	-0.5
E09A	Wood Farm, Sta	69.36	46	eP	P	22 18 41.6	+0.5
	comp=Z,64nm,1.3s						
J05D	Fort Rock, OR	69.44	51	⇓P	P	22 18 42.8	+0.9
	baz=69						
K04D	Chiloquin, OR	69.51	51	⇓P	P	22 18 43.2	+0.9
	baz=69						
M02C	Callahan	69.55	53	⇓P	P	22 18 43.6	+1.1
	baz=69						
G08A	Pilot Rock	69.61	48	eP	P	22 18 43.3	+0.4
	comp=Z,10nm,1.0s						
GNI	Garni	69.69	306	eP	P	22 18 46.3	+2.9
GNI	Garni	69.69	306	P	P	22 18 44.7	+1.3
	comp=Z,1.3nm,0.4s,baz=342,slow=17,SNR=3.7						
GNI	Garni	69.69	306	eP	P	22 18 47.8	+4.3
	comp=Z,18nm,1.1s						
GNI				epP	pP	22 19 15.0	+0.8
N02D	Trinity Center	69.88	53	⇑P	P	22 18 45.5	+1.0
	baz=70						
M04C	Macdoel	69.94	52	⇑P	P	22 18 45.7	+0.8
	baz=70						
K05A	Summer Lake	69.97	51	eP	P	22 18 46.4	+1.2
	comp=Z,49nm,0.9s						
I07A	Izee	70.01	49	eP	P	22 18 45.9	+0.6
	comp=Z,12nm,1.0s						
MICGM	Minsk	70.09	325	e	P	22 18 44.0	-1.4
MNK	Minsk	70.11	325	eP	P	22 18 44.0	-1.5
F10A	Beach Ranch, E	70.19	46	eP	P	22 18 46.6	+0.2
	comp=Z,10.0nm,1.0s						
WDC	Whiskeytown Da	70.20	53	eP	P	22 18 47.1	+0.7
WDC				pmax	pmax		
	comp=Z,25nm,1.1s						
WDC	Whiskeytown Da	70.20	53	eP	P	22 18 47.1	+0.7
	comp=Z,25nm,1.1s						
NACGM	Naroch	70.31	326	e	P	22 18 44.0	-2.7
BSMT	Bassoo Peak	70.40	44	eP	P	22 18 48.3	+0.5
BLMT	Blacktail Moun	70.53	43	eP	P	22 18 49.2	+0.7
BLMT				epP	pP	22 19 20.1	+0.8
JTMT	Jette	70.74	44	eP	P	22 18 50.2	+0.6
JTMT				epP	pP	22 19 20.8	+0.3
MOD	Modoc	70.81	51	eP	P	22 18 50.7	+0.4
	comp=Z,17nm,1.0s						
BMO	Blue Mountains	70.82	47	eP	P	22 18 50.5	+0.4
	comp=Z,19nm,0.9s						
STKA	Stephens Creek	70.98	179	P	P	22 18 50.5	-0.5
STKA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
STKA	Stephens Creek	70.98	179	P	P	22 18 50.5	-0.5
	comp=Z,7.5nm,1.0s,baz=209,slow=4.8,SNR=4.6						
SWMT	Swartz Lake	71.03	44	eP	P	22 18 51.8	+0.4
SWMT				epP	pP	22 19 22.5	+0.2
ASUD	Al Ashush, Dub	71.23	287	⇓iP	P	22 18 53.3	+0.4
	SNR=7.1						
ILULI	Ilulissat	71.30	4	i P	P	22 18 52.4	-0.1
ILULI				pmax	pmax		
	comp=Z,24nm,0.8s						
ILULI	Ilulissat	71.30	4	i P	P	22 18 52.4	-0.1
	comp=Z,24nm,0.8s						
ANN	Anapa	71.34	313	eP	P	22 18 59.7	+6.6
ANN				pmax	pmax		
	comp=Z,71nm,1.4s						
SLMT	Seeley Lake	71.47	44	eP	P	22 18 54.2	+0.1
MSO	Missoula	71.48	44	eP	P	22 18 54.1	-0.1
	comp=Z,29nm,1.1s						
MSO				epP	pP	22 19 24.8	-0.3
MSO	Missoula	71.48	44	⇓P	P	22 18 54.0	-0.1
	baz=71,SNR=17						
HFS	Hagfors	71.58	335	P	P	22 18 54.4	+0.1
	comp=Z,5.8nm,0.3s,baz=39,slow=7.5,SNR=87						
HFS				LR	LR	22 53 04.1	
	comp=Z,88nm,18.3s,baz=343,slow=38						
NB2	NORSAR Subarra	71.67	337	P	P	22 18 54.7	-0.2
	comp=Z,29nm,1.0s,baz=39,slow=6.2						
NB2	NORSAR Subarra	71.67	337	P	P	22 18 54.7	-0.2
	baz=39,slow=6.2						
NOA	NORSAR Array B	71.67	337	P	P	22 18 55.0	+0.1
	comp=Z,13nm,0.8s,baz=39,slow=6.0,SNR=50						
NOA				pP	pP	22 19 24.5	-1.3
	comp=Z,8.7nm,0.8s,baz=39,slow=6.0,SNR=6.7						
NOA				LR	LR	22 54 09.7	
	comp=Z,71nm,18.7s,baz=235,slow=39						
AKASG	Malin Array Be	71.94	321	P	P	22 18 56.5	-0.2
AKASG				*PP	pP	22 19 26.7	-0.9
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,12nm,0.9s						
AKASG	Malin Array Be	71.94	321	P	P	22 18 56.5	-0.2
	comp=Z,5.0nm,0.4s,baz=46,slow=6.0,SNR=52						
AKASG				pP	pP	22 19 26.7	-0.9
	comp=Z,12nm,0.8s,baz=46,slow=6.3,SNR=5.7						
AKBB	Malin Array Si	71.94	321	eP	P	22 18 55.7	-0.9
AKBB				e*PP	pP	22 19 26.1	-1.5
AKBB	Malin Array Si	71.94	321	eP	P	22 18 55.7	-0.9
AKBB				epP	pP	22 19 26.1	-1.5
AK01	Malin Array Si	71.95	321	eP	P	22 18 56.4	-0.3
AK01				epP	pP	22 19 26.1	-1.5
KIEV	Kiev	71.95	321	c iP	P	22 18 56.5	-0.2
KIEV	Kiev	71.95	321	eP	P	22 18 56.0	-0.7
	comp=Z,17nm,0.9s						
AK02	Malin Array Si	71.98	321	eP	P	22 18 56.5	-0.4
AK02				epP	pP	22 19 27.0	-0.8
FFC	Flin Flon	72.06	33	P	P	22 18 57.0	-0.2
	comp=Z,268nm,0.9s,SNR=22						
FFC	Flin Flon	72.06	33	eP	P	22 18 57.1	-0.2
FFC				pmax	pmax		
	comp=Z,39nm,0.9s						
FFC	Flin Flon	72.06	33	eP	P	22 18 57.1	-0.2
	comp=Z,39nm,0.9s						
FCC	Fort Churchill	72.16	26	eP	P	22 18 57.5	-0.2
FCC	Fort Churchill	72.16	26	eP	P	22 18 57.5	-0.2
MFID	Camas Ranch	72.54	48	eP	P	22 19 01.4	+0.9
	comp=Z,45nm,1.4s						
HRY	Holter Researc	72.69	43	eP	P	22 19 01.7	+0.4
HRY				epP	pP	22 19 32.5	+0.2
A19A	Klindworth Far	72.85	40	⇑P	P	22 19 02.3	+0.1
	baz=73,SNR=19						
EGMT	Eagleton	72.93	41	eP	P	22 19 01.7	-1.0
	comp=Z,50nm,1.0s						
EGMT	Eagleton	72.93	41	⇓P	P	22 19 02.6	-0.1
	baz=73,SNR=20						
CMB	Columbia Colle	73.05	55	eP	P	22 19 04.0	+0.4
CMB				pmax	pmax		
	comp=Z,40nm,1.0s						
CMB	Columbia Colle	73.05	55	eP	P	22 19 04.0	+0.4
	comp=Z,40nm,1.0s						
B19A	Brinkman Farms	73.06	41	⇓P	P	22 19 03.4	0.0
	baz=73						
SIM	Simferopol’	73.10	315	eP	P	22 19 04.8	+1.2
SIM				e*PP	pP	22 19 35.0	+0.4
SIM				pmax	pmax		
	comp=Z,13nm,0.9s						
DLMT	Dillon	73.13	45	eP	P	22 19 04.4	+0.4
	comp=Z,48nm,0.9s						
HLID	Hailey	73.25	47	eP	P	22 19 05.4	+0.6
	comp=Z,19nm,1.0s						
HLID	Hailey	73.25	47	⇓P	P	22 19 05.6	+0.8
	baz=73,SNR=23						
A20A	Cobblestone Ra	73.29	40	⇓P	P	22 19 04.8	0.0
	baz=73,SNR=8.9						
BOZ	Bozeman (W)	73.47	44	eP	P	22 19 06.5	+0.5
BOZ				pmax	pmax		
	comp=Z,35nm,0.9s						
BOZ	Bozeman (W)	73.47	44	eP	P	22 19 06.5	+0.5
	comp=Z,35nm,0.9s						
C19A	Slack Wire Ran	73.48	41	⇓P	P	22 19 06.4	+0.5
	baz=73,SNR=28						
SFJD	Kangerlussuaq	73.53	5	i P	P	22 19 06.1	+0.4
SFJD				pmax	pmax		
	comp=Z,16nm,0.9s						
SFJD	Kangerlussuaq	73.53	5	i P	P	22 19 06.1	+0.4
	comp=Z,16nm,0.9s						
B20A	Solberg Farm,	73.54	40	⇑P	P	22 19 06.2	0.0
	baz=73						
BMN	Battle Mountai	73.55	51	eP	P	22 19 07.5	+0.9
BMN				pmax	pmax		
	comp=Z,28nm,1.0s						
BMN	Battle Mountai	73.55	51	eP	P	22 19 07.5	+0.9
	comp=Z,28nm,1.0s						
A21A	Bergtoll Ranch	73.71	39	⇑P	P	22 19 07.4	+0.2
	baz=73,SNR=14						
D19A	Cripps Ranch,	73.94	42	⇑P	P	22 19 09.1	+0.5
	baz=74,SNR=16						
C20A	Veseth Ranch,	74.02	41	⇑P	P	22 19 09.3	+0.2
	baz=74,SNR=14						
B21A	Ellsworth Farm	74.04	40	⇑P	P	22 19 09.2	0.0
	baz=74						
QLMT	Earthquake Lak	74.11	45	eP	P	22 19 10.4	+0.6
QLMT				epP	pP	22 19 41.8	+0.8
NVAR	Mina Array Bea	74.12	53	P	P	22 19 10.7	+0.7
	comp=Z,30nm,1.0s,baz=288,slow=5.8,SNR=97						
A22A	Carney Farms,	74.20	39	⇓P	P	22 19 10.0	-0.1
	baz=74,SNR=21						
MLAC	Mammoth Lakes	74.27	54	⇓P	P	22 19 12.1	+1.2
	baz=74,SNR=6.0						
D20A	Manuel Ranch,	74.37	41	⇓P	P	22 19 11.4	+0.3
	baz=74,SNR=20						
C21A	Desert Coulee	74.41	40	⇓P	P	22 19 11.3	0.0
	baz=74,SNR=9.1						
GCMT	Greycliff	74.43	43	eP	P	22 19 12.1	+0.5
	comp=Z,30nm,1.1s						
GCMT				epP	pP	22 19 42.7	0.0
E19A	Rath Farm, Rou	74.45	42	⇓P	P	22 19 11.9	+0.3
	baz=74,SNR=33						
YMR	Madison River	74.47	45	eP	P	22 19 06.2	-5.6
	comp=Z,31nm,0.9s						
ELK	Elko	74.54	50	eP	P	22 19 13.2	+0.8
ELK				pmax	pmax		
	comp=Z,19nm,1.4s						
ELK	Elko	74.54	50	eP	P	22 19 13.2	+0.8
	comp=Z,19nm,1.4s						
MTUM	Tungsten Hills	74.61	54	eP	P	22 19 13.8	+1.0
B22A	Reddig Ranch S	74.63	39	⇑P	P	22 19 12.4	-0.1
	baz=74						
YFT	Old Faithful	74.68	45	eP	P	22 19 15.6	+2.4
	comp=Z,26nm,0.9s						
MALT	Malatya	74.72	307	⇓iP	P	22 19 15.3	+2.0
A23A	Redstone	74.73	38	⇑P	P	22 19 13.0	-0.1
	baz=74						
E20A	Meyer Farm, Mu	74.76	42	⇑P	P	22 19 13.9	+0.5
	baz=74,SNR=24						
F19A	Roth Farm, Mol	74.77	43	⇑P	P	22 19 13.9	+0.4
	baz=74,SNR=10						
RCTC	Rector, Farmer	74.83	55	⇓P	P	22 19 14.3	+0.4
	baz=75						
LKWY	Lake	74.84	44	eP	P	22 19 14.2	+0.1
LKWY				pmax	pmax		
	comp=Z,36nm,1.1s						
LKWY	Lake	74.84	44	eP	P	22 19 14.2	+0.1
	comp=Z,36nm,1.1s						
H17A	Grant Village	74.85	45	eP	P	22 19 16.4	+2.2
	comp=Z,61nm,1.0s						
H17A	Grant Village	74.85	45	⇓P	P	22 19 16.3	+2.2
	baz=75,SNR=49						
SMMC	Simmler	74.95	57	⇑P	P	22 19 15.6	+1.0
	baz=75						
D21A	La Casta Ranch	74.97	41	⇓P	P	22 19 14.8	+0.2
	baz=75,SNR=8.1						
IMW	Indian Meadow	74.98	45	eP	P	22 19 16.2	+1.2
	comp=Z,30nm,0.8s						
FLWY	Flagg Ranch	74.99	45	eP	P	22 19 16.8	+1.8
TPH	Tonopah	75.00	53	eP	P	22 19 15.1	0.0
TPH				pmax	pmax		
	comp=Z,49nm,1.0s						
TPH	Tonopah	75.00	53	eP	P	22 19 15.1	0.0
	comp=Z,49nm,1.0s						
TIN	Tinemaha	75.01	54	⇑P	P	22 19 15.6	+0.6
	baz=75						
B23A	Brockton	75.01	39	⇓P	P	22 19 14.9	+0.1
	baz=75,SNR=26						
C22A	Vida	75.06	40	⇑P	P	22 19 14.8	-0.2
	baz=75						
FXWY	Fox Creek	75.10	45	eP	P	22 19 16.7	+1.1
	comp=Z,25nm,1.0s						
H18A	Shoshone NF, C	75.16	44	⇑P	P	22 19 16.2	+0.3
	baz=75,SNR=16						
I17A	Pilgrim Ck.	75.16	45	⇑P	P	22 19 17.5	+1.5
	baz=75,SNR=32						
A24A	Westby	75.17	38	⇑P	P	22 19 15.3	-0.4
	baz=75,SNR=5.7						
VES	Vestal, Richgr	75.21	56	⇑P	P	22 19 15.9	-0.1
	baz=75,SNR=13						

F20A Billings 75.22 42 ⇓P P 22 19 16.3 +0.2
baz=75
TPAW Teton Pass 75.24 46 eP P 22 19 17.5 +1.1
comp=Z,70nm,1.5s
E21A Keefer Ranch, 75.28 41 ⇓P P 22 19 16.7 +0.4
baz=75
HVU Hansel Valley 75.32 48 eP P 22 19 17.9 +1.1
HVU pmax pmax
comp=Z,32nm,1.1s
HVU Hansel Valley 75.32 48 eP P 22 19 17.9 +1.1
comp=Z,32nm,1.1s
D22A Cohagen 75.32 40 ⇓P P 22 19 16.6 +0.1
baz=75,SNR=11
LOHW Long Hollow 75.35 45 eP P 22 19 17.9 +0.9
C23A Lambert 75.37 39 ⇓P P 22 19 17.2 +0.4
baz=75,SNR=12
REDW Red Top Meadow 75.38 46 eP P 22 19 09.0 -8.1
comp=Z,33nm,1.1s
DGMT Dagmar 75.39 38 eP P 22 19 16.8 -0.1
comp=Z,62nm,1.3s
DGMT Dagmar 75.39 38 ⇓P P 22 19 16.5 -0.4
baz=75,SNR=7.5
H19A Powell 75.53 44 ⇓P P 22 19 18.4 +0.5
baz=75,SNR=12
G20A Bridger 75.57 43 ⇓P P 22 19 18.1 0.0
baz=75,SNR=15
GRAC Grapevine Rang 75.58 54 ⇓P P 22 19 19.0 +0.8
baz=75,SNR=6.2
A25A Svangstu Ranch 75.58 38 ⇑P P 22 19 18.2 +0.3
baz=75
LAO LASA Array 75.61 41 eP P 22 19 19.1 +0.8
comp=Z,60nm,1.2s
LAO epP pP 22 19 49.9 +0.5
SBC Santa Barbara 75.67 57 ⇓P P 22 19 19.3 +0.6
baz=76
ISA Isabella 75.71 56 eP P 22 19 18.8 -0.2
ISA e*PP pP 22 19 48.8 -1.4
ISA pmax pmax
comp=Z,17nm,1.1s
ISA Isabella 75.71 56 eP P 22 19 18.8 -0.2
comp=Z,17nm,1.1s
ISA epP pP 22 19 48.8 -1.4
ISA Isabella 75.71 56 ⇑P P 22 19 18.4 -0.6
baz=76,SNR=8.3
BGU Big Grassy Mou 75.72 49 eP P 22 19 20.2 +1.1
comp=Z,6.3nm,1.1s
F21A Absaloka Mine, 75.74 42 ⇓P P 22 19 19.2 +0.2
baz=76
KWP Kalwaria Pacla 75.74 324 eP P 22 19 20.1 +1.3
KWP Kalwaria Pacla 75.74 324 eP P 22 19 20.1 +1.3
KWP Kalwaria Pacla 75.74 324 eP P 22 19 18.0 -0.9
comp=Z,9.9nm,0.6s
KWP epP pP 22 19 49.1 -1.0
D23A Lindsay 75.79 40 ⇓P P 22 19 19.2 0.0
baz=76,SNR=11
ARVC Arvin 75.82 56 ⇑P P 22 19 19.7 +0.2
baz=76
R11A Troy Canyon, C 75.84 52 eP P 22 19 20.3 +0.5
comp=Z,36nm,1.2s
R11A epP pP 22 19 50.8 -0.3
R11A Troy Canyon, C 75.84 52 ⇑P P 22 19 20.2 +0.4
baz=76
E22A Miles City 75.92 41 ⇓P P 22 19 20.2 +0.2
baz=76,SNR=5.9
C24A Savage 75.93 39 ⇓P P 22 19 20.0 0.0
baz=76,SNR=6.5
I19A Meeteetse 75.95 44 ⇑P P 22 19 21.0 +0.6
baz=76,SNR=12
BUR08 Bucovina Ar. S 75.95 321 eP P 22 19 20.8 +0.6
BUR08 epP pP 22 19 51.1 -0.4
BURAR Bucovina Array 75.97 321 ⇓iP P 22 19 20.8 +0.5
BSC Santa Cruz Isl 76.00 58 ⇓P P 22 19 21.1 +0.5
baz=76
TESR Tescani 76.02 319 ⇓iP P 22 19 20.7 +0.3
B25A Knox Farm, Ray 76.03 38 ⇓P P 22 19 20.9 +0.4
baz=76
G21A Lodge Grass 76.10 42 ⇑P P 22 19 20.8 -0.3
baz=76,SNR=7.8
A26A Wade Farm, Ken 76.12 37 ⇓P P 22 19 20.5 -0.5
baz=76,SNR=11
HWUT Hardware Ranch 76.12 47 eP P 22 19 21.5 +0.1
comp=Z,67nm,1.4s
HWUT epP pP 22 19 52.3 -0.3
CFR Carcaliu 76.16 318 ⇑iP P 22 19 21.4 +0.2
H20A Greybull 76.18 43 ⇓P P 22 19 21.8 +0.3
baz=76,SNR=16
OSI Osito Adit 76.20 57 ⇓P P 22 19 22.5 +0.7
baz=76
E23A Ismay 76.20 40 ⇑P P 22 19 21.8 +0.3
baz=76,SNR=9.1
F22A Rosebud 76.21 41 ⇑P P 22 19 21.9 +0.3
baz=76,SNR=7.0
FURC Furnace Creek, 76.23 54 ⇓P P 22 19 22.7 +0.9
baz=76,SNR=15
D24A Glendive 76.27 40 ⇑P P 22 19 22.2 +0.3
baz=76,SNR=10
DUG Dugway 76.31 49 eP P 22 19 23.2 +0.8
DUG pmax pmax
comp=Z,37nm,1.1s
DUG Dugway 76.31 49 eP P 22 19 23.2 +0.8
comp=Z,37nm,1.1s
DUG Dugway 76.31 49 ⇑P P 22 19 23.2 +0.8
baz=76,SNR=36
LRMC Laurel Mountai 76.33 55 ⇓P P 22 19 23.1 +0.5
baz=76
C25A Freed Ranch, W 76.37 39 ⇑P P 22 19 23.0 +0.5
baz=76
B26A Jensen Ranch, 76.39 38 ⇓P P 22 19 23.1 +0.5
baz=76,SNR=9.2
VRI Vrincioaia 76.42 319 ⇑iP P 22 19 23.4 +0.7
J19A Crowheart 76.43 45 ⇓P P 22 19 23.9 +0.9
baz=76,SNR=48
KOLS Kolonicke sedl 76.44 323 eP P 22 19 23.4 +0.6
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 76.44 323 eP P 22 19 23.4 +0.6
KOLS e 22 19 57.2
PLOR Plostina 76.47 319 ⇓iP P 22 19 24.1 +1.1
I20A Worland 76.47 44 ⇑P P 22 19 24.1 +0.9
baz=76,SNR=23
BW06 Boulder Array 76.48 45 eP P 22 19 23.0 -0.4
comp=Z,30nm,1.1s
BW06 epP pP 22 19 54.0 -0.7
PDAR Pinedale Array 76.48 45 P P 22 19 23.4 -0.1
comp=Z,12nm,0.8s,baz=275,slow=2.6,SNR=80
PDAR pP pP 22 19 54.0 -0.7
comp=Z,6.9nm,0.8s,baz=278,slow=2.0,SNR=6.5
EDW2 Edwards Air Fo 76.51 56 ⇓P P 22 19 24.0 +0.5
baz=76,SNR=10
TCUT Toone Canyon 76.53 48 eP P 22 19 23.7 -0.1
comp=Z,100nm,1.4s
TCUT epP pP 22 19 54.6 -0.4
G22A Birney 76.58 42 ⇓P P 22 19 24.0 +0.2
baz=76,SNR=8.2
H21A Big Horn, Sher 76.59 43 ⇓P P 22 19 24.3 +0.4
baz=76,SNR=16
CTU Camp Tracy 76.61 48 eP P 22 19 24.9 +0.8
comp=Z,18nm,1.1s
OJC Ojcow 76.63 325 ⇑iP P 22 19 24.5 +0.7
OJC i*PP pP 22 19 55.4 +0.3
UZH Uzhgorod 76.64 323 ⇓iP P 22 19 24.9 +1.0
UZH e 22 19 30.5
UZH e 22 19 52.7
UZH eS S 22 29 02.5 +2.5
E24A Baker 76.66 40 ⇓P P 22 19 24.4 +0.2
baz=76
DECC Green Verdugo 76.69 57 ⇓P P 22 19 24.6 +0.1
baz=76
F23A Volborg 76.69 41 ⇑P P 22 19 24.3 -0.1
baz=76,SNR=26
BR131 Keskin Array S 76.71 311 eP P 22 19 24.3 -0.4
comp=Z,3.0nm,0.8s
BR131 epP pP 22 19 54.1 -1.8
BRTR Keskin Array B 76.71 311 P P 22 19 25.2 +0.5
BRTR *PP pP 22 19 55.5 -0.4
BRTR pmax pmax
comp=Z,2.0nm,0.5s
BRTR pmax pmax
comp=Z,7.0nm,1.1s
BRTR Keskin Array B 76.71 311 P P 22 19 25.2 +0.5
comp=Z,1.9nm,0.5s,baz=86,slow=4.2,SNR=15
BRTR pP pP 22 19 55.5 -0.4
comp=Z,7.1nm,1.1s,baz=73,slow=4.3,SNR=5.8
D25A Fairfield 76.73 39 ⇓P P 22 19 24.7 +0.1
baz=76
B27A Peters Farms, 76.83 37 ⇑P P 22 19 24.9 -0.1
baz=76

CRVS Cervenica-Dubn 76.83 324 eP P 22 19 25.6 +0.6
CRVS pmax pmax
comp=Z,5.0nm,0.9s
CRVS Cervenica-Dubn 76.83 324 eP P 22 19 25.6 +0.6
CRVS epP pP 22 19 55.6 -0.7
JLU Jordanelle 76.84 48 eP P 22 19 26.4 +0.9
comp=Z,40nm,1.4s
C26A Wahner Farm, P 76.85 38 ⇓P P 22 19 25.1 0.0
baz=77,SNR=14
MWC Mount Wilson 76.88 56 eP P 22 19 26.1 +0.3
MWC pmax pmax
comp=Z,29nm,1.2s
MWC Mount Wilson 76.88 56 eP P 22 19 26.1 +0.3
comp=Z,29nm,1.2s
TRPA Tarpa 76.89 323 ⇓iP P 22 19 25.5 +0.2
J20A Shoshoni 76.89 44 ⇑P P 22 19 26.3 +0.6
baz=77,SNR=20
NLU North Lily Min 76.90 49 eP P 22 19 26.9 +1.0
comp=Z,21nm,1.0s
A28A Rude Farm, Bot 76.93 36 ⇑P P 22 19 25.2 -0.4
baz=77,SNR=14
SHOC Shoshone 76.95 54 ⇑P P 22 19 26.6 +0.6
baz=77
H22A Clearmont 76.97 42 ⇑P P 22 19 26.2 +0.2
baz=77,SNR=9.2
NIE Niedzica 76.98 325 ⇑iP P 22 19 27.0 +1.1
NIE i*PP pP 22 19 57.7 +0.5
GSC Goldstone 77.00 55 eP P 22 19 27.0 +0.7
GSC Goldstone 77.00 55 eP P 22 19 27.0 +0.7
GSC Goldstone 77.00 55 ⇑P P 22 19 26.5 +0.2
baz=77,SNR=9.0
I21A Big Trails, Te 77.01 43 ⇓P P 22 19 26.7 +0.4
baz=77,SNR=46
DOPR Dopca 77.02 320 ⇑iP P 22 19 27.6 +1.4
FMP Fort Macarthur 77.04 57 ⇑P P 22 19 26.8 +0.4
baz=77
G23A Biddle 77.05 41 ⇑P P 22 19 26.5 +0.1
baz=77,SNR=6.7
MSAB Monastry St. A 77.06 317 ⇑iP P 22 19 27.3 +1.0
MLR Muntele Rosu 77.07 319 ⇑iP P 22 19 27.1 +0.5
MLR Muntele Rosu 77.07 319 P P 22 19 26.4 -0.2
comp=Z,0.4nm,0.4s,baz=50,slow=19
DAU Daniels Canyon 77.08 48 eP P 22 19 28.1 +1.2
DAU Daniels Canyon 77.08 48 eP P 22 19 28.1 +1.2
F24A Ekalaka 77.09 41 ⇑P P 22 19 26.7 +0.1
baz=77,SNR=14
ANTO Ankara 77.11 311 eP P 22 19 27.1 +0.3
ANTO e*PP pP 22 19 58.2 0.0
ANTO Ankara 77.11 311 eP P 22 19 27.1 +0.3
ANTO epP pP 22 19 58.2 0.0
MPU Maple Canyon 77.12 49 eP P 22 19 27.7 +0.6
comp=Z,35nm,1.1s
MPU epP pP 22 19 58.7 +0.3
BFSC Mount Baldy Ra 77.12 56 ⇑P P 22 19 27.3 +0.3
baz=77
E25A Miller Ranch, 77.15 40 ⇑P P 22 19 26.8 -0.1
baz=77,SNR=5.3
C27A Sayler Ranch, 77.21 38 ⇓P P 22 19 26.8 -0.4
baz=77,SNR=9.7
B28A Dugan Ranch, T 77.22 37 ⇓P P 22 19 27.2 +0.1
baz=77,SNR=13
J21A Lysite 77.24 44 ⇑P P 22 19 27.3 -0.4
baz=77
D26A Manning 77.25 39 ⇓P P 22 19 26.8 -0.6
baz=77,SNR=6.9
I22A 9 Mile Ranch, 77.38 43 ⇓P P 22 19 28.6 +0.2
baz=77,SNR=12
A29A Manning Farm, 77.39 36 ⇓P P 22 19 28.1 0.0
baz=77,SNR=5.7
G24A Alzada 77.46 41 ⇑P P 22 19 28.3 -0.4
baz=77
TUQ Turquoise Moun 77.47 54 ⇓P P 22 19 29.6 +0.6
baz=77,SNR=5.1
H23A Clabaugh Cattl 77.49 42 ⇑P P 22 19 28.6 -0.3
baz=77
ARUT Antelope Range 77.50 51 eP P 22 19 28.3 -0.8
ARUT Antelope Range 77.50 51 eP P 22 19 28.3 -0.8
comp=Z,701nm,1.3s
F25A Bowman 77.53 40 ⇑P P 22 19 29.0 0.0
baz=77
VOIR 77.56 319 ⇓iP P 22 19 30.6 +1.4
BSEG Bad Segeberg 77.57 332 eP P 22 19 29.5 +0.5
comp=Z,25nm,1.1s
BBRC Big Bear Solar 77.58 56 ⇑P P 22 19 30.0 +0.3
baz=77
HEC Hector,Ludlow 77.60 55 ⇓P P 22 19 30.5 +0.8
baz=77,SNR=10
OKC Ostrava-Krasne 77.63 326 eP P 22 19 30.0 +0.6
OKC e*PP pP 22 20 01.7 +0.9
OKC Ostrava-Krasne 77.63 326 eP P 22 19 30.0 +0.6
OKC epP pP 22 20 01.7 +0.9
D27A Center 77.63 38 ⇓P P 22 19 29.8 +0.3
baz=77
E26A Carlson Angus 77.63 39 ⇓P P 22 19 29.6 0.0
baz=77
KSP Ksiaz 77.66 328 ⇑eP P 22 19 30.4 +0.8
KSP e*PP pP 22 20 00.3 -0.6
KSP Ksiaz 77.66 328 eP P 22 19 30.4 +0.8
B29A Wagenman Farm, 77.67 36 ⇑P P 22 19 29.5 -0.1
baz=77,SNR=7.9
CCUT Cedar City 77.70 51 eP P 22 19 31.0 +0.7
comp=Z,25nm,1.2s
J22A Midwest 77.71 43 ⇓P P 22 19 30.3 0.0
baz=78,SNR=48
C28A Hausauer Farms 77.73 37 ⇓P P 22 19 30.3 +0.3
baz=78
DRGR 77.76 322 ⇓iP P 22 19 30.8 +0.5
MVU Marysvale 77.77 50 eP P 22 19 31.9 +1.1
comp=Z,26nm,1.2s
A30A Hoffart Farm, 77.79 35 ⇓P P 22 19 30.0 -0.4
baz=78,SNR=18
H24A Dirks Ranch, A 77.80 41 ⇓P P 22 19 30.1 -0.5
baz=78,SNR=8.7
MURC Murrieta 77.82 57 ⇑P P 22 19 31.1 +0.3
baz=78
K21A Alcova 77.83 44 ⇓P P 22 19 31.2 +0.2
baz=78,SNR=31
TMUT Trail Mountain 77.84 49 eP P 22 19 31.8 +0.6
comp=Z,34nm,1.4s
ULM Lac du Bonnet 77.87 33 P P 22 19 30.4 -0.4
ULM pmax pmax
comp=Z,23nm,0.8s
ULM Lac du Bonnet 77.87 33 P P 22 19 30.4 -0.4
comp=Z,23nm,0.8s,baz=311,slow=6.4,SNR=30
ULM Lac du Bonnet 77.87 33 eP P 22 19 29.9 -0.8
MORC Moravsky Berou 77.94 326 eP P 22 19 31.0 -0.2
MORC pmax pmax
comp=Z,16nm,1.0s
MORC Moravsky Berou 77.94 326 ⇓iP P 22 19 32.0 +0.8
MORC Moravsky Berou 77.94 326 eP P 22 19 31.0 -0.2
comp=Z,16nm,1.0s
F26A Lodgepole 77.97 40 ⇑P P 22 19 31.3 -0.2
baz=78,SNR=6.9
DPC Dobruska-Polom 78.02 327 eP P 22 19 32.8 +1.1
DPC Dobruska-Polom 78.02 327 eP P 22 19 32.6 +0.9
DPC ex x 22 19 37.5
DPC epP pP 22 20 02.7 -0.3
DPC Dobruska-Polom 78.02 327 eP P 22 19 32.8 +1.1
D28A Regan 78.02 38 ⇑P P 22 19 31.5 -0.2
baz=78,SNR=7.1
UPC Upice 78.03 327 eP P 22 19 32.5 +0.8
UPC e*PP pP 22 20 03.3 +0.3
UPC Upice 78.03 327 eP P 22 19 32.5 +0.8
UPC epP pP 22 20 03.3 +0.3
GMRC Granite Mounta 78.06 55 ⇑P P 22 19 32.8 +0.6
baz=78,SNR=13
G25A Newell 78.06 40 ⇑P P 22 19 31.9 -0.1
baz=78
E27A Carson 78.10 39 ⇓P P 22 19 32.0 -0.1
baz=78,SNR=5.6
B30A Myrvik Farm, E 78.14 36 ⇑P P 22 19 31.9 -0.4
baz=78,SNR=29
J23A Dilts Ranch, B 78.21 43 ⇑P P 22 19 32.7 -0.2
baz=78
K22A Casper 78.21 44 ⇓P P 22 19 32.9 -0.1
baz=78,SNR=9.6
PSZ Piszkesteto 78.27 324 eP P 22 19 34.1 +1.0
PSZ e*PP pP 22 20 04.5 0.0
PSZ Piszkesteto 78.27 324 eP P 22 19 34.1 +1.0
PSZ epP pP 22 20 04.5 0.0
F27A Lemmon 78.27 39 ⇑P P 22 19 32.9 -0.2
baz=78,SNR=6.7
PFO Pinyon Flat Ob 78.30 56 eP P 22 19 34.0 +0.4
PFO Pinyon Flat Ob 78.30 56 eP P 22 19 34.0 +0.4
PFO Pinyon Flat Ob 78.30 56 ⇓P P 22 19 33.9 +0.4
baz=78,SNR=7.6

VYHS Vyhne 78.32 325 eP P 22 19 34.3 +1.0
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 78.32 325 eP P 22 19 34.3 +1.0
VYHS epP pP 22 20 04.9 +0.2
VYHS e 22 28 50.2
BELC Belle Mtn. Jos 78.34 56 ⇓P P 22 19 33.8 0.0
baz=78,SNR=8.4
SRU San Rafael 78.36 49 eP P 22 19 34.3 +0.4
SRU pmax pmax
comp=Z,27nm,0.9s
SRU San Rafael 78.36 49 eP P 22 19 34.2 +0.4
comp=Z,27nm,0.9s
H25A Fruitdale 78.37 41 ⇑P P 22 19 33.3 -0.5
baz=78,SNR=5.5
I24A Kuemmerle Ranc 78.38 42 ⇑P P 22 19 33.3 -0.6
baz=78
G26A Maurine 78.40 40 ⇓P P 22 19 33.8 -0.1
baz=78,SNR=6.7
E28A Huff 78.41 38 ⇓P P 22 19 33.9 0.0
baz=78
N20A Spence Gulch, 78.50 46 ⇑P P 22 19 35.1 +0.4
baz=78,SNR=21
RSSD Black Hills 78.50 42 eP P 22 19 34.5 -0.1
RSSD pmax pmax
comp=Z,15nm,0.4s
RSSD Black Hills 78.50 42 eP P 22 19 34.5 -0.1
comp=Z,15nm,0.4s
D29A Pettibone, Tap 78.58 37 ⇑P P 22 19 34.3 -0.5
baz=78
BRG Berggiesshubel 78.60 329 eP P 22 19 35.2 +0.4
comp=Z,10nm,1.2s
BRG Berggiesshubel 78.60 329 eP P 22 19 35.2 +0.4
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG Berggiesshubel 78.60 329 eP P 22 19 35.0 +0.3
comp=Z,10.0nm,1.2s
K23A Bowen Ranch, D 78.62 43 ⇓P P 22 19 34.9 -0.4
baz=78
SZH Strazhica 78.62 317 eP pP 22 20 05.7 -0.7
C30A Mose, Pekin 78.62 36 ⇑P P 22 19 34.5 -0.4
baz=78,SNR=12
CLL Collm 78.64 329 ⇑iP P 22 19 35.2 +0.3
CLL e*PP pP 22 20 05.0 -1.3
CLL pmax pmax
comp=Z,22nm,1.1s
CLL Collm 78.64 329 eP P 22 19 34.8 -0.1
comp=Z,22nm,1.1s
CLL Collm 78.64 329 ⇑iP P 22 19 35.2 +0.3
comp=Z,22nm,1.1s
CLL epP pP 22 20 05.0 -1.3
CLL Collm 78.64 329 eP P 22 19 34.9 -0.1
comp=Z,23nm,1.0s
G27A Dupree 78.67 40 ⇓P P 22 19 34.9 -0.4
baz=78,SNR=7.0
L22A Ellis Ranch, M 78.69 44 ⇑P P 22 19 36.4 +0.7
baz=78,SNR=6.0
VRAC Vranov 78.70 326 P P 22 19 36.0 +0.7
VRAC pmax pmax
comp=Z,9.0nm,0.9s
VRAC Vranov 78.70 326 ⇑iP P 22 19 36.3 +1.0
VRAC Vranov 78.70 326 P P 22 19 36.0 +0.7
comp=Z,8.7nm,0.9s,baz=53,slow=5.8,SNR=12
NEE2 Needles Airpor 78.72 54 ⇓P P 22 19 35.9 +0.1
baz=78
GZR Gura Zlata 78.73 321 ⇑iP P 22 19 36.3 +0.7
I25A Rochford 78.73 41 ⇓P P 22 19 35.5 -0.4
baz=78,SNR=14
J24A Dixon Ranch, L 78.73 42 ⇓P P 22 19 35.1 -0.7
baz=78
IRM Iron Mountain 78.78 55 ⇓P P 22 19 36.6 +0.5
baz=79,SNR=12
MONP Monument Peak 78.78 57 ⇑P P 22 19 36.2 -0.1
baz=79
H26A Fairpoint 78.79 41 ⇑P P 22 19 36.3 +0.3
baz=78,SNR=5.7
F28A McLaughlin 78.88 39 ⇓P P 22 19 36.3 -0.1
baz=79
BC3 Big Chuckawall 78.91 56 ⇑P P 22 19 37.2 +0.3
baz=79,SNR=9.3
E29A Napoleon 78.92 38 ⇓P P 22 19 36.0 -0.6
baz=79
SMOL Smolenice 78.93 325 eP P 22 19 37.8 +1.2
SMOL e 22 20 08.3
SMOL Smolenice 78.93 325 eP P 22 19 37.8 +1.2
SMOL epP pP 22 20 08.2 +0.1
D30A Buchanan 78.93 37 ⇑P P 22 19 36.3 -0.4
baz=79,SNR=15
W13A Hualapai Mount 78.97 54 ⇑P P 22 19 37.6 +0.3
baz=79,SNR=9.0
O20A White River Ci 78.98 47 eP P 22 19 37.8 +0.4
comp=Z,28nm,1.1s
O20A White River Ci 78.98 47 ⇑P P 22 19 37.5 +0.2
baz=79,SNR=7.7
PRA Prague 79.02 328 P P 22 19 38.0 +0.9
L23A Garrett 79.02 44 ⇑P P 22 19 37.3 -0.2
baz=79,SNR=18
M22A Cedar Creek Ra 79.03 45 ⇓P P 22 19 38.2 +0.6
baz=79,SNR=11
PRU Pruhonice 79.04 328 eP P 22 19 37.7 +0.5
PRU e*PP pP 22 20 09.4 +0.8
PRU Pruhonice 79.04 328 eP P 22 19 37.7 +0.5
PRU epP pP 22 20 09.4 +0.8
K24A Anderson Ranch 79.07 43 ⇓P P 22 19 37.0 -0.7
baz=79
U15A North Rim 79.08 52 ⇑P P 22 19 39.2 +1.2
baz=79,SNR=40
RAYN Ar Rayn 79.08 291 P P 22 19 38.0 +0.1
comp=Z,1.0nm,1.0s,SNR=5.2
RAYN Ar Rayn 79.08 291 eP P 22 19 37.1 -0.8
comp=Z,16nm,1.2s
RAYN epP pP 22 20 08.0 -1.3
RAYN ePP PP 22 22 37.6 -0.8
H27A Howes 79.13 40 ⇓P P 22 19 37.6 -0.2
baz=79,SNR=9.0
BZS Buzias 79.13 321 ⇓iP P 22 19 38.4 +0.6
J25A Sunshine Ranch 79.13 42 ⇓P P 22 19 37.4 -0.6
baz=79
SWSC Sam W. Stewart 79.15 56 ⇑P P 22 19 38.0 0.0
baz=79
I26A New Underwood 79.16 41 ⇑P P 22 19 38.1 0.0
baz=79,SNR=7.8
TREC Trest 79.18 327 eP P 22 19 38.4 +0.4
TREC e*PP pP 22 20 09.3 -0.1
TREC Trest 79.18 327 eP P 22 19 38.4 +0.4
TREC epP pP 22 20 09.3 -0.1
E30A Jud 79.31 37 ⇓P P 22 19 38.2 -0.5
baz=79,SNR=6.9
PDMCI Parker Dam,Lak 79.33 54 ⇓P P 22 19 39.4 +0.4
baz=79,SNR=9.4
AGMN Agassiz Nation 79.35 34 ⇓P P 22 19 38.0 -0.9
baz=79
F29A Eureka 79.36 38 ⇓P P 22 19 38.7 -0.3
baz=79,SNR=7.4
G28A Parade 79.39 39 ⇑P P 22 19 39.0 -0.2
baz=79,SNR=5.2
Y12C Blythe 79.44 55 ⇑P P 22 19 40.3 +0.6
baz=79,SNR=19
M23A Laramie 79.46 44 ⇓P P 22 19 39.9 -0.1
baz=79
L24A Wheatland 79.48 44 ⇑P P 22 19 39.7 -0.2
baz=79
N22A Wattenberg Ran 79.52 45 ⇓P P 22 19 41.2 +0.8
baz=79,SNR=14
I27A Quinn 79.55 41 ⇓P P 22 19 40.3 +0.1
baz=79,SNR=9.5
TANN Tannenbergstha 79.55 329 eP P 22 19 40.2 +0.2
comp=Z,36nm,2.0s
J26A Sides Ranch, S 79.56 42 ⇓P P 22 19 40.2 -0.1
baz=79,SNR=12
ASF Jabal al Asfar 79.56 303 P P 22 19 41.1 +0.6
ASF pmax pmax
comp=Z,2.0nm,0.9s
ASF Jabal al Asfar 79.56 303 P P 22 19 41.1 +0.6
comp=Z,2.3nm,0.9s,baz=45,slow=5.7,SNR=3.5
WERD Werda 79.58 329 eP P 22 19 40.6 +0.4
comp=Z,7.0nm,1.0s
PLN Plauen 79.61 329 eP P 22 19 40.7 +0.4
comp=Z,8.0nm,1.1s
H28A Mission Ridge 79.62 40 ⇑P P 22 19 40.6 +0.1
baz=79,SNR=31
GUNZ Gunzen 79.64 329 eP P 22 19 40.8 +0.3
comp=Z,9.0nm,0.8s
K25A Mack Ranch, Ha 79.65 43 ⇓P P 22 19 41.0 +0.2
baz=79
WERN Wernitzgruen 79.68 329 eP P 22 19 41.1 +0.4
comp=Z,16nm,1.0s

GLA Glamis 79.70 56 eP P 22 19 41.6 +0.5
GLA e*PP pP 22 20 12.8 +0.2
GLA pmax pmax
comp=Z,45nm,1.1s
GLA Glamis 79.70 56 eP P 22 19 41.6 +0.5
comp=Z,45nm,1.1s
GLA epP pP 22 20 12.8 +0.2
GLA Glamis 79.70 56 ⇑P P 22 19 41.7 +0.6
baz=80,SNR=9.0
MOX Moxa 79.70 330 eP P 22 19 41.0 +0.2
comp=Z,16nm,1.3s
PHWY Pilot Hill 79.72 44 eP P 22 19 41.4 0.0
N23A Red Feather La 79.73 45 ⇓P P 22 19 41.7 +0.3
baz=80,SNR=15
F30A Leola 79.74 38 ⇑P P 22 19 40.7 -0.4
baz=80
PV04 Paradox Valley 79.78 48 eP P 22 19 42.6 +0.9
G29A Hoven 79.78 39 ⇓P P 22 19 41.0 -0.4
baz=80
O22A Kremmling 79.91 46 ⇑P P 22 19 43.0 +0.5
baz=80,SNR=21
L25A Engebretsen Ra 79.92 43 ⇑P P 22 19 42.1 -0.2
baz=80
K26A Motz Farm, Whi 79.94 42 ⇑P P 22 19 42.1 -0.2
baz=80,SNR=11
M24A Cheyenne 79.94 44 ⇑P P 22 19 43.2 +0.7
baz=80,SNR=14
MMAI Mount Meron Ar 79.98 305 P P 22 19 43.6 +0.9
comp=Z,10.0nm,1.0s,baz=336,slow=5.2,SNR=3.0
I28A Midland 80.04 40 ⇑P P 22 19 42.1 -0.6
baz=80,SNR=14
H29A Onida 80.06 39 ⇑P P 22 19 42.5 -0.4
baz=80,SNR=17
CONA Conrad Observa 80.06 326 ⇑iP P 22 19 44.0 +1.1
comp=Z,16nm,1.3s
KHC Kasperske Hory 80.10 328 eP P 22 19 43.8 +0.8
KHC e*PP pP 22 20 13.9 -0.6
KHC Kasperske Hory 80.10 328 eP P 22 19 43.7 +0.8
KHC ePCP PcP 22 19 48.5 -1.5
KHC epP pP 22 20 14.8 +0.3
KHC Kasperske Hory 80.10 328 eP P 22 19 43.8 +0.8
KHC epP pP 22 20 13.9 -0.6
PV01 Paradox Valley 80.15 48 eP P 22 19 44.2 +0.5
comp=Z,2μm,1.3s
PV01 epP pP 22 20 14.9 -0.4
PV01 ePP PP 22 22 46.9 -0.2
J27A Elkhorn Farm, 80.15 41 ⇓P P 22 19 43.8 +0.3
baz=80,SNR=9.4
ROTZ Rotzenmuhle 80.16 329 eP P 22 19 44.1 +0.8
comp=Z,27nm,1.6s
P22A Eagle 80.18 46 ⇓P P 22 19 44.4 +0.6
baz=80,SNR=17
G30A Faulkton 80.21 38 ⇓P P 22 19 43.3 -0.3
baz=80,SNR=28
O23A Lake Granby, G 80.22 45 ⇓P P 22 19 44.9 +0.8
baz=80,SNR=23
WUAZ Wupatki 80.24 52 eP P 22 19 45.0 +0.9
comp=Z,39nm,1.0s
WUAZ Wupatki 80.24 52 ⇑P P 22 19 44.9 +0.8
baz=80,SNR=19
GEC2 GERESS Array S 80.27 328 eP P 22 19 44.6 +0.6
GEC2 GERESS Array S 80.27 328 eP P 22 19 44.3 +0.2
comp=Z,7.0nm,1.1s
GEC2 GERESS Array S 80.27 328 eP P 22 19 44.6 +0.6
GERES GERESS Array B 80.27 328 P P 22 19 44.2 +0.2
GERES pmax pmax
comp=Z,3.0nm,0.6s
GERES GERESS Array B 80.27 328 P P 22 19 44.2 +0.2
comp=Z,3.2nm,0.6s,baz=35,slow=4.9,SNR=14
Y14A Wickenburg 80.27 54 ⇑P P 22 19 44.8 +0.5
baz=80,SNR=12
SMCO Snowmass 80.35 47 eP P 22 19 45.0 0.0
comp=Z,19nm,1.0s
N24A Carr 80.36 44 ⇑P P 22 19 45.4 +0.7
baz=80,SNR=6.6
M25A Palm-Egli Farm 80.38 44 ⇑P P 22 19 45.4 +0.6
baz=80
WET Wettzell 80.38 328 eP P 22 19 45.1 +0.6
comp=Z,12nm,1.2s
J28A Allard Ranch, 80.42 41 ⇓P P 22 19 44.9 +0.1
baz=80,SNR=8.8
K27A Flueckinger Fa 80.43 42 ⇑P P 22 19 44.9 -0.1
baz=80
I29A Vivian Onida 80.45 40 ⇑P P 22 19 44.5 -0.5
baz=80,SNR=6.5
L26A Underwood Farm 80.47 43 ⇓P P 22 19 45.5 +0.3
baz=80
113A Mohawk Valley, 80.56 55 ⇑P P 22 19 46.3 +0.6
baz=80,SNR=13
GRF Grafenberg Arr 80.61 329 eP P 22 19 46.4 +0.7
comp=Z,56nm,1.3s
ISCO Idaho Springs 80.68 46 eP P 22 19 47.1 +0.5
ISCO pmax pmax
comp=Z,54nm,1.8s
ISCO Idaho Springs 80.68 46 eP P 22 19 47.1 +0.5
comp=Z,54nm,1.8s
ISCO Idaho Springs 80.68 46 ⇑P P 22 19 47.1 +0.5
baz=80,SNR=15
Z14A Wintersburg 80.69 54 ⇑P P 22 19 46.9 +0.5
baz=80
O24A Longmont 80.75 45 ⇑P P 22 19 47.3 +0.5
baz=80,SNR=12
N25A Grover 80.80 44 ⇓P P 22 19 47.4 +0.4
baz=80
BRSD Miller 80.80 39 eP P 22 19 46.6 -0.2
comp=Z,44nm,0.8s
BRSD Miller 80.80 39 ⇓P P 22 19 46.3 -0.5
baz=80
MVCO Mesa Verde 80.82 49 eP P 22 19 47.8 +0.5
comp=Z,63nm,1.6s
MVCO Mesa Verde 80.82 49 ⇓P P 22 19 47.7 +0.5
baz=81,SNR=12
L27A T5 Ranch, Ells 80.83 42 ⇑P P 22 19 47.2 +0.1
baz=81,SNR=6.0
M26A McRoberts Ranc 80.84 43 ⇓P P 22 19 47.7 +0.5
baz=81
P23A Jefferson 80.85 46 ⇓P P 22 19 48.3 +0.8
baz=81,SNR=9.7
K28A Ten Mile Ranch 80.87 41 ⇑P P 22 19 47.1 -0.2
baz=81
J29A Okreek 80.89 40 ⇑P P 22 19 47.2 -0.1
baz=81,SNR=7.4
X16A Lo Mia Camp, P 80.93 53 ⇑P P 22 19 48.8 +1.0
baz=81,SNR=33
MMB Musomiste 80.96 317 eP P 22 19 48.0 +0.3
MMB Musomiste 80.96 317 ⇑iP P 22 19 48.6 +0.9
I30A Oacoma 80.96 39 ⇓P P 22 19 47.6 -0.1
baz=81
KKB Krupnik 81.10 318 eP P 22 19 49.0 +0.6
Q23A Hartsel 81.18 46 ⇑P P 22 19 49.0 -0.3
baz=81
M27A Reverse DX Ran 81.19 43 ⇓P P 22 19 49.0 -0.1
baz=81
N26A Koester Ranch, 81.25 44 ⇓P P 22 19 49.1 -0.3
baz=81,SNR=5.4
P24A Kohler Place, 81.27 45 ⇓P P 22 19 50.3 +0.7
baz=81
O25A Wiggins 81.28 45 ⇓P P 22 19 49.8 +0.3
baz=81
L28A Connealy Angus 81.30 42 ⇓P P 22 19 49.3 -0.3
baz=81
J30A Dallas 81.36 40 ⇑P P 22 19 49.5 -0.3
baz=81,SNR=8.6
K29A Lazy Trails An 81.36 41 ⇑P P 22 19 49.8 0.0
baz=81
SOKA Soboth 81.38 325 ⇑iP P 22 19 50.4 +0.5
comp=Z,22nm,1.2s
S22A 4UR Ranch, Cre 81.42 48 ⇑P P 22 19 51.1 +0.5
baz=81,SNR=20
EYMN Ely 81.48 32 eP P 22 19 50.0 -0.3
comp=Z,25nm,0.9s
W18A Petrified Fore 81.50 51 ⇑P P 22 19 51.5 +0.6
baz=81
Q24A Divide 81.52 46 ⇓P P 22 19 51.3 +0.2
baz=81
RJOB Jochberg 81.52 327 eP P 22 19 51.2 +0.6
comp=Z,15nm,0.9s
O26A Horse Wrangler 81.62 44 ⇑P P 22 19 51.1 -0.2
baz=81
N27A Anderson Farm, 81.63 43 ⇑P P 22 19 51.3 -0.1
baz=81
P25A Willow Gulch B 81.67 45 ⇓P P 22 19 52.1 +0.4
baz=81,SNR=8.9
R23A Moffat 81.68 47 ⇓P P 22 19 53.0 +1.1
baz=81,SNR=23
214A Organ Pipe Nat 81.70 55 ⇑P P 22 19 52.2 +0.4
baz=82,SNR=5.8
X18A Snowflake 81.77 52 ⇓P P 22 19 53.2 +0.9
baz=82,SNR=12
K30A Basset 81.78 40 ⇑P P 22 19 52.0 -0.1
baz=82,SNR=8.8
L29A Maesberg Ranch 81.79 41 ⇑P P 22 19 51.7 -0.4
baz=82
OGNE Ogallala 81.80 43 eP P 22 19 51.6 -0.6
comp=Z,88nm,1.4s
OGNE Ogallala 81.80 43 ⇓P P 22 19 52.1 -0.1
baz=82,SNR=9.4
KBA Koelnbreinsper 81.80 327 ⇓iP P 22 19 52.7 +0.5
comp=Z,18nm,0.9s
FUR Furstenfeldbru 81.80 328 eP P 22 19 52.7 +0.7
comp=Z,33nm,1.0s
M28A Bar X Bar Ranc 81.82 42 ⇑P P 22 19 52.3 -0.1
baz=82
MEM Membach 81.82 333 P P 22 19 52.7 +0.7
MEM Membach 81.82 333 eP P 22 19 51.7 -0.3
MEM pmax pmax
comp=Z,178nm,2.4s
MEM Membach 81.82 333 eP P 22 19 51.7 -0.3
comp=Z,178nm,2.4s
S23A Nye Farm, Mont 81.92 47 ⇑P P 22 19 53.9 +0.8
baz=82
Q25A Bedland, Calha 82.05 45 ⇓P P 22 19 54.1 +0.4
baz=82,SNR=12
R24A Sanders Place, 82.05 46 ⇓P P 22 19 54.2 +0.5
baz=82,SNR=17
P26A Davis Ranch, A 82.09 44 ⇓P P 22 19 54.0 +0.1
baz=82
O27A Beecher Island 82.10 44 ⇑P P 22 19 53.4 -0.4
baz=82
M29A Burnside Ranch 82.14 42 ⇑P P 22 19 53.3 -0.7
baz=82
STU Stuttgart 82.14 330 eP P 22 19 54.6 +0.8
STU pmax pmax
comp=Z,16nm,0.7s
STU Stuttgart 82.14 330 eP P 22 19 54.1 +0.4
comp=Z,19nm,0.9s
STU Stuttgart 82.14 330 eP P 22 19 54.6 +0.8
comp=Z,16nm,0.7s
SDCO Great Sand Dun 82.17 47 eP P 22 19 54.5 0.0
comp=Z,15nm,1.2s
SDCO epP pP 22 20 25.2 -1.0
BCLA Clavier 82.23 333 P P 22 19 54.3 +0.2
comp=Z,22nm,2.7s
N28A Pribbeno Ranch 82.24 43 ⇓P P 22 19 54.2 -0.3
baz=82
L30A Spencer Herefo 82.26 41 ⇓P P 22 19 53.8 -0.8
baz=82,SNR=5.3
T23A Casias Ranch, 82.36 48 ⇓P P 22 19 56.2 +0.8
baz=82,SNR=7.3
S24A Houchin Ranch, 82.41 47 ⇓P P 22 19 56.1 +0.4
baz=82,SNR=15
Q26A Hugo 82.44 45 ⇑P P 22 19 55.8 +0.1
baz=82,SNR=6.3
ECSD EROS Data Cent 82.45 38 eP P 22 19 54.9 -0.5
comp=Z,23nm,0.9s
ECSD epP pP 22 20 26.6 -0.6
ECSD EROS Data Cent 82.45 38 ⇓P P 22 19 55.0 -0.5
baz=82,SNR=19
M30A Dale-Ortello V 82.48 41 ⇑P P 22 19 55.5 -0.3
baz=82
P27A Ficken Ranch, 82.50 44 ⇓P P 22 19 55.3 -0.7
baz=82
SNF Seneffe 82.51 334 P P 22 19 55.9 +0.3
O28A Krutsinger Ran 82.52 43 ⇓P P 22 19 56.0 -0.1
baz=82,SNR=5.2
MOTA Moosalm 82.53 328 ⇑iP P 22 19 56.3 +0.3
comp=Z,21nm,1.0s,SNR=10.0
L31A Butterfield Fa 82.53 40 ⇑P P 22 19 56.1 +0.2
baz=82,SNR=9.4
RETA Reutte 82.55 328 ⇑iP P 22 19 56.6 +0.6
comp=Z,25nm,0.9s,SNR=7.8
WLF Walferdange 82.55 332 P P 22 19 56.6 +0.7
comp=Z,32nm,2.8s
R25A Fountain Ranch 82.57 46 ⇑P P 22 19 56.2 -0.2
baz=82,SNR=6.5
N29A Votaw Ranch, W 82.62 42 ⇑P P 22 19 56.1 -0.4
baz=82,SNR=5.7
V22A San Miguel Ran 82.64 49 ⇑P P 22 19 57.8 +0.9
baz=82,SNR=16
GIVF Givet 82.66 333 eP P 22 19 56.1 -0.3
GIVF Givet 82.66 333 eP P 22 19 56.1 -0.3
GIVF Givet 82.66 333 eP P 22 19 56.1 -0.3
T24B San Luis 82.72 47 ⇓P P 22 19 58.5 +1.2
baz=82,SNR=17
TUC Tucson 82.75 54 eP P 22 19 57.1 -0.2
TUC Tucson 82.75 54 eP P 22 19 57.0 -0.2
DOU Dourbes 82.75 333 P P 22 19 57.8 +0.9
comp=Z,45nm,3.2s
U23A El Rito 82.77 48 ⇑P P 22 19 58.5 +1.0
baz=82,SNR=26
S25A Robets Cordova 82.83 46 ⇓P P 22 19 57.4 -0.4
baz=83
BFO Black Forest 82.84 330 iP P 22 19 58.3 +0.9
BFO Black Forest 82.84 330 eP P 22 19 57.6 +0.2
BFO epP pP 22 20 33.5 +4.4
KSCO Kaye Shedlock' 82.87 44 eP P 22 19 58.1 +0.3
KSCO Kaye Shedlock' 82.87 44 ⇓P P 22 19 57.9 0.0
baz=83
N30A Hueftle Ranch, 82.91 42 ⇓P P 22 19 57.6 -0.4
baz=83
BAIF Baives 82.91 333 eP P 22 19 57.6 -0.1
BAIF Baives 82.91 333 eP P 22 19 57.6 -0.1
BAIF Baives 82.91 333 eP P 22 19 57.6 -0.1
R26A Arlington 82.93 45 ⇓P P 22 19 58.2 0.0
baz=83,SNR=20
P28A Saint Francis 82.93 44 ⇓P P 22 19 58.1 -0.1
baz=83,SNR=10.0
O29A 4D Ranch, Culb 83.04 43 ⇑P P 22 19 58.3 -0.4
baz=83,SNR=6.2
SPMN St. Paul 83.06 35 ⇓P P 22 19 57.8 -0.8
baz=83
DAVA Damuels 83.07 329 ⇑iP P 22 19 59.1 +0.3
comp=Z,22nm,1.0s
M31A Lambtecht Ranc 83.08 41 ⇑P P 22 19 58.2 -0.6
baz=83
CDF Champ du Feu 83.17 331 ⇑iP P 22 19 59.3 +0.1
comp=Z,14nm,0.8s
CDF epP pP 22 20 32.4 +1.5
CDF Champ du Feu 83.17 331 ⇑iP P 22 19 59.3 +0.1
CDF e*PP pP 22 20 32.4 +1.5
CDF pmax pmax
comp=Z,14nm,0.8s
CDF Champ du Feu 83.17 331 ⇑iP P 22 19 59.3 +0.1
comp=Z,14nm,0.8s
CDF epP pP 22 20 32.4 +1.5
V23A Ortiz Mt. (NFS 83.18 49 ⇓P P 22 20 01.1 +1.5
baz=83,SNR=14
SCHQ Schefferville 83.20 16 P P 22 19 59.0 -0.1
comp=Z,15nm,0.8s,baz=350,slow=5.3,SNR=18
T25A Trinidad 83.22 47 ⇓P P 22 20 00.0 +0.2
baz=83,SNR=16
U24A Moreno Valley 83.23 48 ⇑P P 22 20 00.8 +0.8
baz=83
Q28A Sharon Springs 83.26 44 ⇓P P 22 19 59.5 -0.3
baz=83,SNR=8.9
R27A Eads 83.30 45 ⇑P P 22 19 59.7 -0.4
baz=83,SNR=10
P29A Atwood 83.35 43 ⇑P P 22 19 59.4 -0.9
baz=83
O30A MW Ranch, Wils 83.39 42 ⇓P P 22 19 59.8 -0.6
baz=83
S26A Kim 83.40 46 ⇑P P 22 20 00.2 -0.4
baz=83,SNR=8.7
BGNE Belgrade 83.45 40 ⇑P P 22 20 00.2 -0.5
baz=83,SNR=5.7
FUORN Ofenpass-Fuorn 83.45 328 eP P 22 20 01.6 +0.8
N31A Bailey Ranch, 83.48 41 ⇓P P 22 20 00.1 -0.8
baz=83
DAVOX Davos/Dischmat 83.48 328 P P 22 20 01.1 +0.2
DAVOX pmax pmax
comp=Z,10.0nm,0.9s
DAVOX Davos/Dischmat 83.48 328 P P 22 20 01.1 +0.2
comp=Z,9.5nm,0.8s,baz=20,slow=5.1,SNR=15
LAZ Ladron 83.55 50 eP P 22 20 01.9 +0.4
comp=Z,14nm,1.3s
LAZ epP pP 22 20 32.8 -0.5
LAZ esP sP 22 20 46.4 -0.2
ANMO Albuquerque 83.57 50 eP P 22 20 02.5 +0.8
ANMO e*PP pP 22 20 33.1 -0.3
ANMO pmax pmax
comp=Z,37nm,1.2s
ANMO Albuquerque 83.57 50 eP P 22 20 02.5 +0.8
comp=Z,37nm,1.2s
ANMO epP pP 22 20 33.0 -0.3
W23A Werner Place, 83.60 49 ⇑P P 22 20 03.0 +1.1
baz=83,SNR=14
PAGF Fort de Pagny 83.63 332 eP P 22 20 01.8 +0.4
comp=Z,5.5nm,0.7s
PAGF Fort de Pagny 83.63 332 eP P 22 20 01.8 +0.4
comp=Z,5.5nm,0.7s
T26A Comanche Natio 83.65 46 ⇓P P 22 20 01.6 -0.4
baz=83,SNR=18
S27A Las Animas 83.67 46 ⇑P P 22 20 01.6 -0.5
baz=83
V24A Rampart Ranch, 83.72 48 ⇑P P 22 20 03.6 +1.2
baz=84,SNR=32
U25A Circle Dot Ran 83.74 47 ⇓P P 22 20 02.7 +0.3
baz=84,SNR=11
P30A Selden 83.75 43 ⇓P P 22 20 01.8 -0.5
baz=84,SNR=7.1
O31A Woolen Ranch, 83.78 42 ⇓P P 22 20 01.6 -0.9
baz=84
R28A Tribune 83.79 44 ⇓P P 22 20 02.2 -0.4
baz=84,SNR=5.9
LENM Lemitar 83.81 50 eP P 22 20 04.0 +1.1
Q29A Oakley 83.84 44 ⇑P P 22 20 02.5 -0.3
baz=84,SNR=6.1
HAU Haudompre 83.86 331 eP P 22 20 02.4 -0.2
comp=Z,12nm,0.7s
HAU Haudompre 83.86 331 eP P 22 20 02.4 -0.2
HAU pmax pmax
comp=Z,12nm,0.7s
HAU Haudompre 83.86 331 eP P 22 20 02.4 -0.2
comp=Z,12nm,0.7s
Y22D IRIS PASSCAL I 83.90 50 ⇓P P 22 20 04.0 +0.7
baz=84
LPM Los Pinos Moun 83.91 50 eP P 22 20 04.4 +1.1
MEZF Maizieres J'vi 83.92 332 eP P 22 20 03.3 +0.4
comp=Z,11nm,0.7s
MEZF Maizieres J'vi 83.92 332 eP P 22 20 03.3 +0.4
comp=Z,11nm,0.6s
TUE Stuetta 83.95 328 eP P 22 20 03.8 +0.4
comp=Z,14nm,1.0s
X23A Hourglass Bar 83.98 50 ⇓P P 22 20 04.4 +0.6
baz=84
W24A Lazy 6 Ranch, 84.00 49 ⇓P P 22 20 05.2 +1.4
baz=84,SNR=42
V25A Rancho No Teng 84.02 48 ⇓P P 22 20 04.5 +0.6
baz=84,SNR=28
R29A Marienthal 84.10 44 ⇑P P 22 20 03.7 -0.4
baz=84,SNR=5.8
U26A Atchley Ranch, 84.12 47 ⇓P P 22 20 04.7 +0.3
baz=84,SNR=11
SFTF Sexfontaines 84.18 332 eP P 22 20 04.3 +0.1
SFTF Sexfontaines 84.18 332 eP P 22 20 04.3 +0.1
Q30A Quinter 84.18 43 ⇑P P 22 20 04.1 -0.4
baz=84,SNR=9.5
T27A Campo 84.22 46 ⇑P P 22 20 04.5 -0.3
baz=84,SNR=5.7
P31A Stockton 84.22 42 ⇑P P 22 20 04.2 -0.5
baz=84,SNR=12
O32A Brockman Farm, 84.24 41 ⇓P P 22 20 03.6 -1.1
baz=84
S28A Manter 84.29 45 ⇑P P 22 20 05.0 -0.1
baz=84,SNR=8.3
319A Douglas 84.32 54 ⇑P P 22 20 06.2 +0.8
baz=84,SNR=8.1
X24A Lazy VL Ranch, 84.44 49 ⇓P P 22 20 07.1 +1.1
baz=84,SNR=9.4
Z22A Elephant Butte 84.44 51 ⇑P P 22 20 06.8 +0.8
baz=84,SNR=8.9
121A Cookes Peak, D 84.45 52 eP P 22 20 06.2 +0.1
comp=Z,53nm,1.3s
121A epP pP 22 20 37.0 -0.9
121A Cookes Peak, D 84.45 52 ⇑P P 22 20 07.0 +0.9
baz=84,SNR=22
Y23A Lovelace Mesa, 84.52 50 ⇑P P 22 20 07.3 +0.8
baz=84,SNR=40
V26A Tequesquite Ra 84.52 47 ⇓P P 22 20 06.5 +0.1
baz=84,SNR=13
W25A X Bar L Ranch, 84.55 48 ⇑P P 22 20 07.3 +0.8
baz=84,SNR=62
P32A Huiting Farm, 84.55 42 ⇑P P 22 20 05.4 -0.9
baz=84,SNR=8.1
Q31A Ellis 84.60 43 ⇑P P 22 20 05.8 -0.7
baz=84
U27A Thompson Grove 84.62 46 ⇑P P 22 20 06.9 0.0
baz=84,SNR=10
R30A Dighton 84.66 44 ⇓P P 22 20 06.4 -0.5
baz=84,SNR=7.4
S29A Ulysses 84.69 45 ⇑P P 22 20 06.6 -0.5
baz=84
IDI Anoyia 84.81 312 P P 22 20 07.2 -0.6
comp=Z,8.1nm,0.5s,baz=38,slow=8.8,SNR=15
SENIN Lac Senin/Sane 84.85 330 eP P 22 20 08.2 +0.3
Y24A Capitan 84.89 50 ⇓P P 22 20 08.7 +0.4
baz=85,SNR=16
X25A Clemmons Ranch 84.92 49 ⇑P P 22 20 08.9 +0.5
baz=85,SNR=35
T29A Hugoton 84.93 45 ⇓P P 22 20 08.0 -0.4
baz=85
U28A Mallet 84.98 46 ⇑P P 22 20 08.1 -0.5
baz=85
S30A Montezuma 85.03 44 ⇓P P 22 20 08.3 -0.5
baz=85,SNR=6.3
W26A Owens Ranch, T 85.04 48 ⇑P P 22 20 09.4 +0.5
baz=85
Q32A Meitler Ranch, 85.04 42 ⇓P P 22 20 08.0 -0.8
baz=85,SNR=6.3
R31A Burdett 85.06 43 ⇓P P 22 20 08.1 -0.8
baz=85,SNR=5.4
V27A Dan Oppiter Fa 85.09 47 ⇓P P 22 20 09.0 -0.2
baz=85
CABF La Chapelle 85.12 330 ⇑iP P 22 20 09.0 -0.1
comp=Z,12nm,0.7s
CABF La Chapelle 85.12 330 ⇑iP P 22 20 09.0 -0.1
CABF pmax pmax
comp=Z,12nm,0.7s
CABF La Chapelle 85.12 330 ⇑iP P 22 20 09.0 -0.1
comp=Z,12nm,0.7s
P33A Williams Farm, 85.16 41 ⇑P P 22 20 08.3 -1.0
baz=85
Y25A Mesa, Roswell 85.33 49 ⇑P P 22 20 10.8 +0.3
baz=85,SNR=13
Z24A Sheeppen Canyo 85.35 50 ⇑P P 22 20 11.1 +0.5
baz=85,SNR=9.7
R32A Long Quarter, 85.39 43 ⇑P P 22 20 09.6 -0.9
baz=85
X26A CR and CF Fran 85.39 48 ⇓P P 22 20 11.2 +0.5
baz=85,SNR=45
LOR Lormes 85.40 332 ⇑iP P 22 20 10.3 -0.1
comp=Z,60nm,1.1s
LOR epP pP 22 20 45.2 +3.0
LOR Lormes 85.40 332 ⇑iP P 22 20 10.3 -0.1
LOR e*PP pP 22 20 45.2 +3.0
LOR pmax pmax
comp=Z,60nm,1.1s
LOR Lormes 85.40 332 ⇑iP P 22 20 10.3 -0.1
comp=Z,60nm,1.1s
LOR epP pP 22 20 45.2 +3.0
Q33A Connelly Farm, 85.41 42 ⇓P P 22 20 10.1 -0.5
baz=85,SNR=9.8
T30A Plains 85.43 45 ⇓P P 22 20 10.4 -0.4
baz=85
V28A Channing 85.44 46 ⇓P P 22 20 10.4 -0.5
baz=85
W27A Bowe Ranch, En 85.46 47 ⇓P P 22 20 11.5 +0.5
baz=85,SNR=15
SCIA State Center 85.46 37 eP P 22 20 11.2 +0.5
comp=Z,41nm,0.9s
U29A Oasis Ranch, S 85.46 45 ⇑P P 22 20 10.6 -0.4
baz=85
FLN La Foliniere 85.60 335 eP P 22 20 11.1 -0.2
FLN La Foliniere 85.60 335 eP P 22 20 11.1 -0.2
FLN La Foliniere 85.60 335 eP P 22 20 11.1 -0.2
LDF La Druitiere 85.63 335 ⇑iP P 22 20 11.3 -0.2
comp=Z,21nm,0.8s
LDF La Druitiere 85.63 335 ⇑iP P 22 20 11.3 -0.2
LDF pmax pmax
comp=Z,21nm,0.8s
LDF La Druitiere 85.63 335 ⇑iP P 22 20 11.3 -0.2
comp=Z,21nm,0.8s
SSF Saint Saulge 85.70 332 ⇑iP P 22 20 11.8 0.0
comp=Z,17nm,0.7s
SSF epP pP 22 20 47.6 +3.9
SSF Saint Saulge 85.70 332 ⇑iP P 22 20 11.8 0.0
SSF e*PP pP 22 20 47.6 +3.9
SSF pmax pmax
comp=Z,17nm,0.7s
SSF Saint Saulge 85.70 332 ⇑iP P 22 20 11.8 0.0
comp=Z,17nm,0.7s

SSF ePpP 22 20 47.6 +3.9
X27A F and S Farms, 85.74 48 ⇓P P 22 20 12.8 +0.4
baz=86,SNR=6.3
V29A Stinnett 85.74 46 ⇑P P 22 20 12.1 -0.3
baz=86
U30A WK&E Inc. Balk 85.74 45 ⇑P P 22 20 12.1 -0.3
baz=86
Z25A Roswell 85.77 50 ⇑P P 22 20 13.2 +0.6
baz=86,SNR=22
LPL La Plagne 85.78 329⇑iP P 22 20 12.6 +0.1
comp=Z,22nm,0.8s
LPL ePpP pP 22 20 48.8 +4.4
LPL La Plagne 85.78 329⇑iP P 22 20 12.6 +0.1
LPL pmax pmax
comp=Z,22nm,0.8s
LPL La Plagne 85.78 329⇑iP P 22 20 12.6 +0.1
comp=Z,22nm,0.8s
LPL ePpP pP 22 20 48.8 +4.4
LPG La Plagne 85.78 329⇑iP P 22 20 12.7 +0.1
comp=Z,31nm,0.8s
LPG La Plagne 85.78 329⇑iP P 22 20 12.7 +0.1
LPG pmax pmax
comp=Z,31nm,0.8s
LPG La Plagne 85.78 329⇑iP P 22 20 12.7 +0.1
comp=Z,31nm,0.8s
W28A Vega 85.80 47 ⇑P P 22 20 12.9 +0.2
baz=86
S32A Newby Ranch, P 85.81 43 ⇑P P 22 20 12.2 -0.4
baz=86,SNR=5.5
HYF Humbligny 85.83 333 eP P 22 20 12.9 +0.4
HYF Humbligny 85.83 333 eP P 22 20 12.9 +0.4
Y26A Elida 85.83 49 ⇑P P 22 20 13.2 +0.3
baz=86,SNR=15
R33A Olander Ranch, 85.85 42 ⇑P P 22 20 12.0 -0.8
baz=86,SNR=6.2
T31A Randall Ranch, 85.86 44 ⇓P P 22 20 12.3 -0.6
baz=86
SMF Signal de Mont 85.93 332 eP P 22 20 12.9 -0.1
comp=Z,59nm,1.3s
SMF Signal de Mont 85.93 332 eP P 22 20 12.9 -0.1
SMF pmax pmax
comp=Z,59nm,1.3s
SMF Signal de Mont 85.93 332 eP P 22 20 12.9 -0.1
comp=Z,59nm,1.3s
KSU1 Kansas State U 85.96 41 eP P 22 20 13.1 -0.2
comp=Z,29nm,0.8s
KSU1 Kansas State U 85.96 41 ⇑P P 22 20 12.7 -0.6
baz=86
AVF Avril sur Loir 85.98 332⇑iP P 22 20 13.4 +0.2
comp=Z,68nm,0.9s
AVF ePpP pP 22 20 48.3 +3.2
AVF Avril sur Loir 85.98 332⇑iP P 22 20 13.4 +0.2
AVF e*PP pP 22 20 48.3 +3.2
AVF Avril sur Loir 85.98 332⇑iP P 22 20 13.4 +0.2
comp=Z,68nm,0.9s
AVF ePpP pP 22 20 48.3 +3.2
GRR Gorron 86.05 335⇑iP P 22 20 13.6 +0.1
comp=Z,17nm,0.6s
GRR Gorron 86.05 335⇑iP P 22 20 13.6 +0.1
GRR pmax pmax
comp=Z,17nm,0.6s
GRR Gorron 86.05 335⇑iP P 22 20 13.6 +0.1
comp=Z,17nm,0.6s
T32A Huddler Ranch, 86.20 44 ⇓P P 22 20 14.3 -0.3
baz=86,SNR=6.5
Z26A Caprock 86.21 49 ⇓P P 22 20 14.9 +0.1
baz=86
W29A Amraillo 86.22 47 ⇓P P 22 20 14.7 0.0
baz=86
Y27A Causey 86.25 48 ⇑P P 22 20 15.1 +0.2
baz=86,SNR=12
V30A Spur Ranch, Mi 86.28 46 ⇑P P 22 20 14.9 -0.1
baz=86
U31A Nine Bar Ranch 86.30 45 ⇑P P 22 20 15.0 -0.1
baz=86
X28A Dimmitt 86.34 47 ⇓P P 22 20 15.4 0.0
baz=86
BGF Bois d'Agland 86.37 332 eP P 22 20 15.2 +0.1
comp=Z,34nm,1.1s
BGF Bois d'Agland 86.37 332 eP P 22 20 15.2 +0.1
BGF pmax pmax
comp=Z,34nm,1.1s
BGF Bois d'Agland 86.37 332 eP P 22 20 15.2 +0.1
comp=Z,34nm,1.1s
AMTX Amarillo 86.37 47 eP P 22 20 16.1 +0.6
comp=Z,24nm,1.1s
AMTX Amarillo 86.37 47 ⇓P P 22 20 15.5 0.0
baz=86
S33A Kaszmaul Farm, 86.38 43 ⇓P P 22 20 15.4 0.0
baz=86
MSTX Muleshoe 86.41 48 eP P 22 20 15.2 -0.5
comp=Z,30nm,1.1s
MSTX Muleshoe 86.41 48 ⇑P P 22 20 15.7 0.0
baz=86,SNR=7.6
MBDF Montbardon 86.41 329 eP P 22 20 14.8 -0.8
MBDF Montbardon 86.41 329 eP P 22 20 14.8 -0.8
MBDF Montbardon 86.41 329 eP P 22 20 14.8 -0.8
ORIF Oris-en-Rattie 86.61 330⇑iP P 22 20 16.3 -0.2
ORIF Oris-en-Rattie 86.61 330⇑iP P 22 20 16.3 -0.2
ORIF Oris-en-Rattie 86.61 330⇑iP P 22 20 16.3 -0.2
Z27A Tatum 86.62 49 ⇑P P 22 20 16.8 0.0
baz=86
T33A Patterson Ranc 86.63 43 ⇓P P 22 20 16.2 -0.5
baz=86
X29A Tulia 86.68 47 ⇑P P 22 20 16.8 -0.3
baz=86,SNR=7.7
SGMF Saint Gilles 86.71 336⇑iP P 22 20 17.1 +0.4
SGMF Saint Gilles 86.71 336⇑iP P 22 20 17.1 +0.4
SGMF Saint Gilles 86.71 336⇑iP P 22 20 17.1 +0.4
V31A Spring Creek L 86.74 45 ⇓P P 22 20 17.0 -0.2
baz=86
U32A Winter Ranch, 86.75 44 ⇓P P 22 20 17.2 -0.1
baz=86
Y28A McKinney Farm, 86.75 48 ⇑P P 22 20 17.1 -0.3
baz=86,SNR=9.1
TCF Toulx Ste Croi 86.83 332 eP P 22 20 17.6 +0.2
TCF Toulx Ste Croi 86.83 332 eP P 22 20 17.6 +0.2
TCF Toulx Ste Croi 86.83 332 eP P 22 20 17.6 +0.2
ROSF Rostrenen 86.86 337 eP P 22 20 17.8 +0.3
comp=Z,115nm,1.2s
ROSF Rostrenen 86.86 337 eP P 22 20 17.8 +0.3
ROSF Rostrenen 86.86 337 eP P 22 20 17.8 +0.3
comp=Z,115nm,1.2s
SBF Sospel 86.86 328 eP P 22 20 17.8 +0.1
SBF Sospel 86.86 328 eP P 22 20 17.8 +0.1
SBF Sospel 86.86 328 eP P 22 20 17.8 +0.1
127A Arkansas Junct 87.00 49 ⇑P P 22 20 18.4 -0.2
baz=87
W31A Holland Ranch, 87.12 46 ⇑P P 22 20 19.0 -0.1
baz=87,SNR=5.5
Y29A Porterfield Fa 87.12 47 ⇓P P 22 20 18.8 -0.3
baz=87,SNR=5.9
Z28A Tucker Farm, M 87.12 48 ⇓P P 22 20 19.3 +0.1
baz=87,SNR=8.8
VIVF Saint-Julien-l 87.13 330 eP P 22 20 18.6 -0.3
VIVF ePpP pP 22 20 55.0 +4.1
VIVF Saint-Julien-l 87.13 330 eP P 22 20 18.6 -0.3
VIVF Saint-Julien-l 87.13 330 eP P 22 20 18.6 -0.3
VIVF ePpP pP 22 20 55.0 +4.1
X30A Coker Ranch, T 87.14 47 ⇓P P 22 20 19.0 -0.2
baz=87
U33A Lingo Farm, Me 87.19 44 ⇓P P 22 20 19.1 -0.2
baz=87
QUIF Quistinic 87.20 336 eP P 22 20 19.2 +0.1
QUIF Quistinic 87.20 336 eP P 22 20 19.2 +0.1
QUIF Quistinic 87.20 336 eP P 22 20 19.2 +0.1
V32A Arapaho 87.22 45 ⇓P P 22 20 19.6 0.0
baz=87
PGF Pioggiola 87.28 326 eP P 22 20 20.1 +0.3
PGF Pioggiola 87.28 326 eP P 22 20 20.1 +0.3
PGF Pioggiola 87.28 326 eP P 22 20 20.1 +0.3
MFF Saint Martin d 87.38 334⇑iP P 22 20 20.4 +0.4
comp=Z,21nm,0.8s
MFF ePpP pP 22 20 55.5 +3.5
MFF Saint Martin d 87.38 334⇑iP P 22 20 20.4 +0.4
MFF e*PP pP 22 20 55.5 +3.5
MFF pmax pmax
comp=Z,21nm,0.8s
MFF Saint Martin d 87.38 334⇑iP P 22 20 20.4 +0.4
comp=Z,21nm,0.8s
MFF ePpP pP 22 20 55.5 +3.5
FRF La Foret Royal 87.43 328 eP P 22 20 19.4 -0.9
FRF La Foret Royal 87.43 328 eP P 22 20 19.4 -0.9
FRF La Foret Royal 87.43 328 eP P 22 20 19.4 -0.9
U34A Anderson Ranch 87.49 43 eP P 22 20 21.4 +0.6
U34A Anderson Ranch 87.49 43 ⇑P P 22 20 20.6 -0.2
baz=87
X31A McDonald Ranch 87.51 46 ⇓P P 22 20 20.9 -0.1
baz=87
SMRF Simiane la Rot 87.51 329 eP P 22 20 20.6 -0.2
SMRF Simiane la Rot 87.51 329 eP P 22 20 20.6 -0.2
Z29A Hungry Hill Ra 87.54 48 ⇓P P 22 20 21.8 +0.6
baz=87,SNR=42
128A Castleberry Fa 87.55 49 ⇑P P 22 20 21.3 +0.1
baz=87,SNR=8.6
Y30A Stafford Cattl 87.55 47 ⇓P P 22 20 21.1 -0.1
baz=87
W32A Sentinel 87.55 45 ⇓P P 22 20 21.1 0.0
baz=87,SNR=5.4
V33A Lossen Ranch, 87.55 44 ⇓P P 22 20 20.8 -0.3
baz=87
LMR La Mourre 87.67 328 eP P 22 20 20.6 -0.9
comp=Z,11nm,0.7s
LMR La Mourre 87.67 328 eP P 22 20 20.6 -0.9
LMR pmax pmax
comp=Z,11nm,0.7s
LMR La Mourre 87.67 328 eP P 22 20 20.6 -0.9
comp=Z,11nm,0.7s
Y31A Rekieta Farm, 87.84 47 ⇑P P 22 20 22.5 -0.1
baz=88
Z30A Sanderson Ranc 87.85 48 ⇓P P 22 20 22.3 -0.2
baz=88,SNR=16
228A UT Block 9, Go 87.85 49 ⇓P P 22 20 22.7 0.0
baz=88
RJF Les Rejaudoux 87.92 332 eP P 22 20 23.0 +0.4
comp=Z,22nm,1.0s
RJF ePpP pP 22 20 56.8 +2.1
RJF Les Rejaudoux 87.92 332 eP P 22 20 23.0 +0.4
RJF e*PP pP 22 20 56.8 +2.1
RJF pmax pmax
comp=Z,22nm,1.0s
RJF Les Rejaudoux 87.92 332 eP P 22 20 23.0 +0.4
comp=Z,22nm,1.0s
RJF ePpP pP 22 20 56.8 +2.1
W33A Caddo, Fort Co 87.95 45 ⇓P P 22 20 23.2 +0.2
baz=88
V34A Guthrie 87.95 44 ⇓P P 22 20 22.6 -0.4
baz=88,SNR=5.8
CAF Calviac 88.05 332 eP P 22 20 24.0 +0.7
comp=Z,11nm,0.8s
CAF ePpP pP 22 20 57.8 +2.5
CAF Calviac 88.05 332 eP P 22 20 24.0 +0.7
CAF e*PP pP 22 20 57.8 +2.5
CAF pmax pmax
comp=Z,11nm,0.8s
CAF Calviac 88.05 332 eP P 22 20 24.0 +0.7
comp=Z,11nm,0.8s
CAF ePpP pP 22 20 57.8 +2.5
X32A Elmer 88.05 46 ⇓P P 22 20 23.5 0.0
baz=88,SNR=5.5
W34A Bridge Creek, 88.27 44 ⇓P P 22 20 24.4 -0.1
baz=88
Y32A R-V Farms, Ver 88.27 46 ⇑P P 22 20 24.7 +0.2
baz=88,SNR=5.5
Z31A Sharp Cattle R 88.38 47 ⇑P P 22 20 25.1 +0.1
baz=88,SNR=8.6
X33A Lawton 88.39 45 ⇓P P 22 20 24.9 -0.2
baz=88
229A Bryant Ranch, 88.41 49 ⇑P P 22 20 25.1 -0.2
baz=88
130A Snyder 88.44 48 ⇓P P 22 20 25.0 -0.4
baz=88
LFF La Frestale 88.51 333 eP P 22 20 26.0 +0.6
LFF La Frestale 88.51 333 eP P 22 20 26.0 +0.6
LFF La Frestale 88.51 333 eP P 22 20 26.0 +0.6
329A Wagon Wheel Ra 88.66 49 ⇓P P 22 20 26.7 +0.2
baz=88,SNR=7.5
X34A Smith Ranch, M 88.71 45 ⇓P P 22 20 26.5 -0.1
baz=88
131A Roby 88.72 47 ⇓P P 22 20 27.4 +0.7
baz=88,SNR=6.5
Y33A Hilltop Ranch, 88.72 45 ⇑P P 22 20 27.0 +0.3
baz=88,SNR=5.6
Z32A Haskell 88.77 46 ⇑P P 22 20 27.2 +0.3
baz=88,SNR=15
TUL1 Tulsa 88.81 42 eP P 22 20 27.4 +0.4
TUL1 Tulsa 88.81 42 ⇓P P 22 20 26.6 -0.4
baz=88,SNR=7.5
230A Sterling City 88.88 48 ⇓P P 22 20 27.4 -0.1
baz=89,SNR=6.0
ABTX Abilene, Hawle 89.18 47 eP P 22 20 29.3 +0.5
comp=Z,39nm,1.3s
ABTX Abilene, Hawle 89.18 47 ⇓P P 22 20 28.8 0.0
baz=89,SNR=5.1
Z33A Whitaker Ranch 89.18 46 ⇓P P 22 20 28.5 -0.3
baz=89
330A Mertzon 89.19 49 ⇓P P 22 20 29.0 0.0
baz=89,SNR=11
TXAR Lajitas Array 89.20 52 P P 22 20 29.6 +0.5
TXAR pmax pmax
comp=Z,7.0nm,0.8s
TXAR Lajitas Array 89.20 52 P P 22 20 29.6 +0.5
comp=Z,6.6nm,0.8s,baz=292,slow=3.4,SNR=14
Y34A Reagan Ranch, 89.23 45 ⇑P P 22 20 28.7 -0.3
baz=89
231A Bronte 89.30 48 ⇓P P 22 20 28.9 -0.5
baz=89,SNR=5.1
429A Davenport Ranc 89.34 50 ⇓P P 22 20 29.2 -0.4
baz=89,SNR=5.6
SFIN Scholer Farm 89.45 34 eP P 22 20 29.8 -0.1
SFIN Scholer Farm 89.45 34 ⇓P P 22 20 29.3 -0.5
baz=89
529A Stev Forest Ra 89.51 50 ⇑P P 22 20 30.5 0.0
baz=89,SNR=9.4
Z34A Collier Ranch, 89.59 45 ⇓P P 22 20 30.2 -0.5
baz=89,SNR=6.4
133A Hamilton Ranch 89.60 47 ⇓P P 22 20 30.6 -0.2
baz=89
430A Baggett Ranch, 89.61 49 ⇓P P 22 20 30.6 -0.3
baz=89,SNR=7.4
331A San Angelo 89.70 48 ⇓P P 22 20 31.5 +0.2
baz=90,SNR=5.9
232A Coleman 89.72 48 ⇑P P 22 20 31.2 -0.2
baz=90,SNR=11
Z35A Perchaven, San 89.98 45 ⇓P P 22 20 32.2 -0.4
baz=90,SNR=6.6
530A J-C Ranch, Com 90.01 50 ⇑P P 22 20 33.1 +0.3
baz=90,SNR=11
332A Millersview 90.04 48 ⇑P P 22 20 32.8 0.0
baz=90,SNR=25
233A Rising Star 90.05 47 ⇑P P 22 20 32.7 -0.2
baz=90,SNR=8.8
431A Sonora 90.05 49 ⇓P P 22 20 32.9 -0.1
baz=90,SNR=6.3
134A White-Moore Ra 90.09 46 ⇑P P 22 20 32.9 -0.2
baz=90
OLIL Olney 90.34 36 eP P 22 20 34.5 +0.4
432A Menard 90.38 48 ⇓P P 22 20 34.3 -0.2
baz=90,SNR=8.4
531A Rocksprings 90.47 49 ⇓P P 22 20 35.1 +0.2
baz=90,SNR=7.7
135A Vickery Place, 90.48 46 ⇓P P 22 20 34.7 -0.2
baz=90
234A Clairette 90.49 47 ⇑P P 22 20 34.9 0.0
baz=90,SNR=6.2
333A Richland Sprin 90.52 47 ⇑P P 22 20 35.1 0.0
baz=90,SNR=16
SIUC Southern Illin 90.65 37 eP P 22 20 35.6 0.0
comp=Z,46nm,0.9s
JCT Junction City 90.67 49 eP P 22 20 35.8 -0.1
JCT pmax pmax
comp=Z,25nm,0.8s
JCT Junction City 90.67 49 eP P 22 20 35.8 -0.1
comp=Z,25nm,0.8s
JCT Junction City 90.67 49 ⇑P P 22 20 35.7 -0.1
baz=90,SNR=11
ETSF Etsaut 90.75 332⇑iP P 22 20 36.6 +0.6
comp=Z,8.2nm,0.7s
ETSF Etsaut 90.75 332⇑iP P 22 20 36.6 +0.6
ETSF pmax pmax
comp=Z,8.0nm,0.7s
ETSF Etsaut 90.75 332⇑iP P 22 20 36.6 +0.6
comp=Z,8.2nm,0.7s
PBMO Poplar Bluff 90.83 39 eP P 22 20 36.2 -0.1
comp=Z,24nm,0.9s
532A Rocksprings 90.87 49 ⇓P P 22 20 36.8 0.0
baz=91,SNR=23
433A Art 90.88 48 ⇑P P 22 20 36.5 -0.3
baz=91,SNR=5.4
WHTX Lake Whitney 90.88 46 ⇑P P 22 20 36.7 0.0
baz=91
334A Lometa 90.93 47 ⇓P P 22 20 36.9 -0.1
baz=91,SNR=14
631A Perdido Creek 91.00 50 ⇑P P 22 20 37.5 +0.1
baz=91,SNR=12
MIAR Mount Ida 91.01 42 eP P 22 20 37.5 +0.2
MIAR pmax pmax
comp=Z,29nm,0.9s
MIAR Mount Ida 91.01 42 eP P 22 20 37.5 +0.2
comp=Z,29nm,0.9s
434A Burnet 91.30 47 ⇓P P 22 20 38.4 -0.4
baz=91,SNR=11
632A Uvalde 91.40 49 ⇓P P 22 20 39.4 +0.2
baz=91,SNR=11
533A Kerrville 91.42 48 ⇑P P 22 20 39.3 0.0
baz=91,SNR=5.8
335A Moody 91.43 47 ⇑P P 22 20 38.9 -0.4
baz=91
WCI Wyandotte Cave 91.57 35 eP P 22 20 40.1 +0.3
WCI pmax pmax
comp=Z,15nm,1.0s
WCI Wyandotte Cave 91.57 35 eP P 22 20 40.1 +0.3
comp=Z,15nm,1.0s
HBAR Harrisburg 91.69 39 eP P 22 20 41.4 +1.0
435B Jarrell 91.72 47 ⇑P P 22 20 40.7 +0.1
baz=92
534A Blanco 91.77 48 ⇑P P 22 20 40.6 -0.3
baz=92,SNR=20
633A Saathoff Ranch 91.79 49 ⇓P P 22 20 41.2 +0.2
baz=92,SNR=11
436A Wall Ranch, Ga 92.17 46 ⇑P P 22 20 42.9 +0.2
baz=92
832A Faith Ranch, C 92.19 50 ⇑P P 22 20 43.0 +0.1
baz=92
733A Divot King Ran 92.27 49 ⇑P P 22 20 43.3 +0.1
baz=92
634A China Grove, S 92.33 48 ⇓P P 22 20 43.7 +0.2
baz=92
239A Gary 92.50 44 ⇓P P 22 20 44.3 +0.2
baz=92
833A Chaparral WMA, 92.50 50 ⇑P P 22 20 44.4 +0.1
baz=92
536A Bastrop 92.54 47 ⇓P P 22 20 44.6 +0.2
baz=92
734A La Parita Cree 92.60 49 ⇓P P 22 20 45.5 +0.7
baz=92
635A Leesville 92.66 48 ⇑P P 22 20 45.2 +0.2
baz=92
KEST Kesra 92.66 322 P P 22 20 43.4 -1.6
comp=Z,2.2nm,1.2s,baz=322,slow=19,SNR=3.8
537A Green Hill Far 92.96 47 ⇓P P 22 20 46.2 -0.2
baz=93
636A Smothers Creek 93.00 47 ⇑P P 22 20 47.1 +0.6
baz=93
735A Kenedy 93.03 48 ⇑P P 22 20 47.3 +0.6
baz=93
933A Laredo 93.10 50 ⇑P P 22 20 47.9 +0.9
baz=93
034A Hebbronville 93.86 50 ⇑P P 22 20 51.5 +1.0
baz=94
VBMS Vicksburg 94.42 41 eP P 22 20 49.9 -3.1
comp=Z,57nm,0.3s
TORD Torodi Ar. Bea 115.11 315 PKP PKPdf 22 26 12.8 -1.2
comp=Z,0.3nm,0.4s,baz=25,slow=2.8,SNR=7.0
TORD PP PP 22 27 15.8 +1.2
comp=Z,0.8nm,0.8s,baz=20,slow=6.3,SNR=4.7
DBIC Dimbokro 124.02 317 PKiKP PKPdf 22 26 30.3 -0.8
DBIC pmax pmax
comp=Z,2.0nm,0.6s
DBIC Dimbokro 124.02 317 PKP PKPdf 22 26 30.3 -0.8
comp=Z,2.1nm,0.6s,baz=326,slow=2.7,SNR=5.1
LIC Lamto 124.49 317 ePKIKP PKPdf 22 26 31.2 -0.9
comp=Z,8.4nm,0.8s
LIC Lamto 124.49 317 ePKPdf PKPdf 22 26 31.2 -0.9
QSPA South Pole Qui 129.20 180 PKP PKPdf 22 26 38.9 -0.5
comp=Z,3.0nm,0.8s,baz=343,slow=0.9,SNR=11
NNA Nana 137.13 61 iPKIKP PKPdf 22 26 57.1 +1.2
NNA Nana 137.13 61 PKP PKPdf 22 26 55.3 -0.7
comp=Z,3.2nm,0.4s,baz=45,slow=8.6,SNR=3.5
SNAA Sanae 142.84 198 PKHKP PKPpre 22 26 59.4
SNAA pmax pmax
comp=Z,4.0nm,1.0s
SNAA Sanae 142.84 198 PKhKP PKPpre 22 26 59.4
comp=Z,3.6nm,1.0s,baz=228,slow=2.0,SNR=8.5
SAML Samuel 142.97 41 ePKPpre PKPpre 22 27 00.8
LPAZ La Paz 146.00 55 PKP2 PKPbc 22 27 13.0 -0.4
LPAZ pmax pmax
comp=Z,38nm,1.0s
LPAZ La Paz 146.00 55 PKPbc PKPbc 22 27 13.0 -0.4
comp=Z,38nm,1.0s,baz=350,slow=4.5,SNR=39
RCBR Riachuelo 146.36 354 PKPbc PKPbc 22 27 13.5 -0.4
comp=Z,12nm,0.8s,baz=58,slow=6.1,SNR=6.4
SIV San Ignacio 149.97 45 PKPbc PKPbc 22 27 22.5 -0.7
comp=Z,13nm,1.1s,baz=297,slow=14,SNR=4.3
BDFB Brasilia 155.13 20 PKP2 PKPab 22 27 51.5 +0.5
BDFB pmax pmax
comp=Z,9.0nm,1.0s
BDFB Brasilia 155.13 20 PKPab PKPab 22 27 51.5 +0.5
comp=Z,8.8nm,1.0s,baz=309,slow=3.4,SNR=7.8
CPUP Villa Florida 160.16 54 PKP2 PKPab 22 28 12.5 0.0
CPUP pmax pmax
comp=Z,11nm,1.0s
CPUP Villa Florida 160.16 54 PKPab PKPab 22 28 12.4 0.0
comp=Z,11nm,1.0s,baz=312,slow=0.9,SNR=5.0

SJA 28 22:11:18.9±0.3, 37°.40S×78°.36W, h170km, ML5.1
IDC 28 22:12:02.8±0.8, 36°.62S×73°.47W, h0km, mb4.2/8, mb1 4.3/11, mb1mx4.2/27, mbtmp4.1/11, ML4.1/3, MS3.7/5, Ms1 3.7/5, ms1mx3.4/27, Error ellipse: s-maj=27.8km s-min=16.5km az=83.0
ISCJB 28 22:12:05.1±0.6, 36°.55S±0°.07×73°.5W±0°.1, h27km, mb4.4/11, MS3.7/3, Error ellipse: s-maj=13.8km s-min=9.1km az=21.2
NEIC 28 22:12:08.2±1.4, 36°.59S×73°.39W, h42km±12km, mb4.4/5, Error ellipse: s-maj=17.0km s-min=8.9km az=86.0
ISC 28 22:12:06.6±0.7, 36°.49S±0°.10×73°.6W±0°.1, h27km, n44, σ1§15/43, mb4.4/11, MS3.7/3, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PLCA Paso Flores 4.84 152 Pn Pn 22 13 16.6 -1.2
3.2nm,0.3s,baz=328,slow=9.7,SNR=12
PLCA Lg Lg 22 14 32.2
6.6nm,0.3s,baz=271,slow=16,SNR=6.5
AAGR Agrelo 5.16 50 iP Pn 22 13 24.8 +2.6
AAGR iP Pn 22 13 24.8 +2.6
ARCO CERRO ARCO 5.27 48 iP Pn 22 13 25.5 +1.8
ARCO iS Sb 22 14 59.2 +18
ARCO AML AML 22 15 02.8
comp=Z,89nm,0.8s
AUSP Uspallata 5.47 40 iP Pn 22 13 26.2 -0.4
AUSP iS Sb 22 15 01.2 +14
ASAL Salagasta 5.50 46 iP Pn 22 13 28.4 +1.6
RTLS Leoncito 5.86 38 iP Pn 22 13 30.2 -1.7
CFAA Coronel Fontan 6.57 44 Pn Pn 22 13 42.2 +0.7
comp=Z,0.8nm,0.3s,baz=212,slow=13,SNR=24
CFAA Lg Lg 22 15 37.9
comp=Z,0.3nm,0.3s,baz=298,slow=19,SNR=3.8
CFAA LR LR 22 16 37.1
comp=Z,81nm,18.4s,baz=225,slow=41
CFAA Coronel Fontan 6.57 44 iP Pn 22 13 40.5 -1.0
RTLL Cerro Villicun 6.66 41 iP Pn 22 13 41.1 -1.6
ACAN Cantantal 6.73 53 iP Pn 22 13 44.6 +0.8
AMOG MOGNA 6.96 39 iP Pn 22 13 43.7 -3.2
LVC Limon Verde 14.40 17 ePn Pn 22 15 24.8 -4.2
CPUP Villa Florida 17.13 58 P Pn 22 16 04.0 -0.1
comp=Z,0.3nm,0.3s,baz=248,slow=7.6,SNR=2.5
CPUP LR LR 22 23 18.2
comp=Z,588nm,18.9s,baz=208,slow=39
CPUP Villa Florida 17.13 58 ePn Pn 22 16 03.7 -0.4
comp=Z,0.1nm,0.4s
LPAZ La Paz 20.69 15 P Pn 22 16 47.5 -0.5
comp=Z,3.0nm,0.6s,baz=177,slow=3.5,SNR=7.1
LPAZ La Paz 20.69 15 eP P 22 16 46.2 +0.9
comp=Z,14nm,1.2s
SIV San Ignacio 23.24 32 P P 22 17 12.4 +0.6
comp=Z,8.0nm,1.0s,baz=225,slow=11,SNR=9.3
SIV LR LR 22 28 16.5
comp=Z,366nm,18.5s,baz=198,slow=42
SAML Samuel 29.00 22 eP P 22 18 04.5 +0.4
comp=Z,1.4nm,0.3s
BDFB Brasilia 30.77 54 LR LR 22 31 15.7
comp=Z,159nm,20.4s,baz=216,slow=37
RPN Rapa Nui 31.66 277 LR LR 22 27 57.0
comp=Z,116nm,18.8s,baz=62,slow=30
SDV Santo Domingo 45.22 4 eP P 22 20 20.9 -0.9
comp=Z,10.0nm,0.9s

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JTS	JuntasAbangare	47.76	345	P	P	22 20 42.0	+0.6
QSPA	South Pole Qui	53.75	180	P	P	22 21 26.1	-0.1
	comp=Z,4.2nm,0.8s,baz=165,slow=0.8,SNR=22						
DBIC	Dimbokro	77.14	72	P	P	22 23 58.4	+0.4
	comp=Z,5.3nm,0.7s,baz=210,slow=6.2,SNR=10						
DBIC	Dimbokro	77.14	72	eP	P	22 23 57.5	-0.6
	comp=Z,4.2nm,0.6s						
TSUM	Tsumeb	79.72	106	eP	P	22 24 11.1	-1.3
	comp=Z,5.2nm,1.2s						
BOSA	Boshof	80.00	118	P	P	22 24 12.8	-1.1
	comp=Z,3.2nm,0.9s,baz=241,slow=5.7,SNR=5.5						
ECSD	EROS Data Cent	82.56	343	eP	P	22 24 27.0	+0.3
	comp=Z,237nm,1.2s						
NVAR	Mina Array Bea	85.24	326	P	P	22 24 41.9	+1.1
	comp=Z,0.3nm,0.5s,baz=170,slow=5.5,SNR=3.3						
PDAR	Pinedale Array	85.44	334	P	P	22 24 42.9	+1.2
	comp=Z,0.8nm,0.9s,baz=177,slow=5.4,SNR=3.3						
TORD	Torodi Ar. Bea	86.21	71	P	P	22 24 45.9	0.0
	comp=Z,1.6nm,0.6s,baz=214,slow=4.5,SNR=19						
BRTR	Keskin Array B	124.10	63	PKP	PKPdf	22 31 02.4	-0.1
	comp=Z,0.4nm,0.7s,baz=194,slow=4.1,SNR=3.9						
ABKAR	Akbulak array	144.17	54	ePKPdf	PKPbc	22 31 37.5	0.0
BVAR	Borovoye Array	149.93	45	PKPbc	PKPbc	22 31 54.3	+0.5
	comp=Z,1.1nm,0.6s,baz=325,slow=2.3,SNR=5.3						
AAK	Ala-Archa	154.71	66	PKPbc	PKPbc	22 32 05.9	+0.8
	comp=Z,0.8nm,0.5s,baz=211,slow=12,SNR=6.4						
AAK				PKPab	PKPab	22 32 20.4	+0.3
	comp=Z,1.9nm,0.6s,baz=203,slow=4.7,SNR=8.7						
ZALV	Zalesovo Beam	156.99	34	PKP	PKPdf	22 31 58.7	-0.3
	comp=Z,0.8nm,0.7s,baz=347,slow=4.4,SNR=4.2						
ZALV				PKPab	PKPab	22 32 30.1	+0.8
	comp=Z,0.9nm,0.6s,baz=300,slow=6.7,SNR=3.9						
KOLN	Koldanda	158.82	108	eP	PKPab	22 32 37.2	-1.1
	comp=Z,12nm,1.0s						
DANN	Dangsing	159.23	107	eP	PKPab	22 32 39.4	-0.8
	comp=Z,20nm,0.9s						
MKAR	Makanchi Array	159.29	53	PKP	PKPdf	22 32 02.0	0.0
	comp=Z,0.4nm,0.8s,baz=342,slow=0.5,SNR=4.6						
MKAR				PKPab	PKPab	22 32 40.0	+0.4
	comp=Z,0.7nm,0.7s,baz=293,slow=3.6,SNR=6.8						
GKN	Gorkha	159.73	108	eP	PKPab	22 32 41.8	-0.4
DMN	Daman	159.89	110	eP	PKPab	22 32 42.5	-0.5
PKI	Pulchoki	160.10	111	eP	PKPab	22 32 43.1	-0.9
RAMN	Ramite	160.65	114	eP	PKPab	22 32 45.7	-0.6
	comp=Z,4.8nm,0.7s						
JIRN	Jiri	160.73	111	eP	PKPab	22 32 46.2	-0.6

ISC 28 22:17:44.5±1.2, 43.9N±0.1×16.8E±0.2, h9km, n6, σ0.58/9, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
UDBI	Udbina	1.01	311	ePg	Pg	22 18 03.4	-0.5
UDBI				Sg	Sg	22 18 16.9	-0.1
STON	Ston	1.18	148	ePg	Pb	22 18 06.5	-0.6
STON				Sg	Sn	22 18 24.2	+0.8
NVLJ	Novalja	1.57	297	iPn	Pn	22 18 12.7	+0.1
NVLJ				Sn	Sb	22 18 34.0	+0.4
BOJS	Bojanci	1.98	326	iPn	Pn	22 18 18.6	+0.3
PDKS	Podkum	2.55	330	iPn	Pn	22 18 26.3	+0.3
SKDS	Skadanscina	2.62	311	iPn	Pn	22 18 27.5	+0.6

IDC 28 22:18:35.2±0.8, 34.58S×72.85W, h0km, mb3.9/5, mb1 4.0/8, mb1mx3.9/31, mbtmp3.8/8, ML3.7/3, Error ellipse: s-maj=33.6km s-min=17.9km az=91.0
ISCJB 28 22:18:38.6±0.8, 34.62S±0.09×72.6W±0.2, h33km, mb3.9/5, Error ellipse: s-maj=24.5km s-min=12.3km az=9.1
ISC 28 22:18:40.5±0.9, 34.6S±0.1×72.7W±0.2, h35km, n13, σ0.74/12, mb3.7/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.77	53	Pn	Pn	22 19 49.9	-0.1
	0.8nm,0.3s,baz=225,slow=13,SNR=5.9						
CFAA				Lg	Lg	22 21 03.8	
	0.2nm,0.3s,baz=300,slow=20,SNR=3.1						
PLCA	Paso Flores	6.36	165	Pn	Pn	22 20 11.7	-0.2
	0.8nm,0.3s,baz=341,slow=8.6,SNR=2.6						
PLCA				Lg	Lg	22 21 59.9	
	0.3nm,0.3s,baz=278,slow=19,SNR=2.8						
LPAZ	La Paz	18.68	14	P	Pn	22 22 56.9	+0.1
	0.1nm,0.3s,baz=150,slow=8.1,SNR=4.2						
SIV	San Ignacio	21.25	32	P	P	22 23 22.6	-1.2
	2.6nm,0.8s,baz=221,slow=9.3,SNR=4.1						
QSPA	South Pole Qui	55.65	180	P	P	22 28 12.9	+0.1
	4.7nm,0.9s,baz=183,slow=0.9,SNR=6.8						
PDAR	Pinedale Array	84.05	334	P	P	22 31 07.5	0.0
	0.5nm,0.8s,baz=163,slow=1.5,SNR=4.2						
NVAR	Mina Array Bea	84.06	326	P	P	22 31 07.3	-0.4
	0.3nm,0.5s,baz=122,slow=6.9,SNR=3.2						
TORD	Torodi Ar. Bea	84.91	70	P	P	22 31 12.8	+0.5
	1.0nm,0.6s,baz=286,slow=2.8,SNR=8.0						
WRA	Warramunga Arr	119.99	210	PKP	PKPdf	22 37 26.8	-1.1
	0.4nm,0.7s,baz=154,slow=1.7,SNR=3.9						
BRTR	Keskin Array B	122.59	61	PKP	PKPdf	22 37 32.6	+0.2
	0.3nm,0.7s,baz=224,slow=4.0,SNR=2.6						
ZALV	Zalesovo Beam	155.01	32	PKPbc	PKPdf	22 38 37.5	+8.4
	0.5nm,0.5s,baz=344,slow=4.8,SNR=3.4						
MKAR	Makanchi Array	157.55	50	PKPab	PKPab	22 39 05.7	+0.9
	0.6nm,0.7s,baz=298,slow=4.3,SNR=7.2						
SONM	Songino Array	166.75	3	PKPab	PKPab	22 39 46.0	+1.0
	0.2nm,0.6s,baz=339,slow=3.7,SNR=2.8						

IDC 28 22:22:03.6±1.1, 35.27S×73.22W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.9/31, mbtmp4.0/6, ML4.1/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/28, Error ellipse: s-maj=38.7km s-min=30.7km az=69.0
ISCJB 28 22:22:06.5±0.8, 35.3S±0.1×73.1W±0.3, h33km, mb4.0/6, MS3.5/1, Error ellipse: s-maj=32.2km s-min=15.8km az=178.6
NEIC 28 22:22:08.6±0.6, 35.28S×73.14W, h35km, mb4.1/2, Error ellipse: s-maj=26.0km s-min=13.4km az=92.0
ISC 28 22:22:08.2±0.9, 35.3S±0.1×73.1W±0.3, h35km, n15, σ1.04/12, mb3.9/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LPAZ	La Paz	19.44	15	P	Pn	22 26 34.0	+0.2
	0.3nm,0.3s,baz=195,slow=8.3,SNR=6.4						
LPAZ	La Paz	19.44	15	eP	Pn	22 26 32.1	-1.6
	2.4nm,0.6s						
SIV	San Ignacio	22.03	32	P	P	22 26 58.9	-0.9
	2.4nm,0.6s,baz=230,slow=7.3,SNR=5.2						
NNA	Nana	23.44	351	LR	LR	22 34 24.2	
	comp=Z,160nm,18.1s,baz=164,slow=32						
SNAA	Sanae	50.74	157	eP	P	22 31 03.7	-0.6
QSPA	South Pole Qui	54.95	180	eP	P	22 31 34.9	-0.7
WVT	Waverly	72.36	348	eP	P	22 33 30.4	0.0
	3.4nm,0.7s						
BOSA	Boshof	80.25	118	P	P	22 34 17.5	+1.8
	3.4nm,0.5s,baz=256,slow=4.0,SNR=14						
NVAR	Mina Array Bea	84.44	326	P	P	22 34 37.0	-0.3
	0.2nm,0.3s,baz=153,slow=6.1,SNR=2.8						
PDAR	Pinedale Array	84.52	334	P	P	22 34 38.7	+1.2
	0.3nm,0.7s,baz=99,slow=5.7,SNR=3.2						
TORD	Torodi Ar. Bea	85.47	71	P	P	22 34 43.1	+0.4
	0.7nm,0.8s,baz=222,slow=4.5,SNR=3.5						
WRA	Warramunga Arr	119.21	210	PKP	PKPdf	22 40 54.6	+0.5
	0.5nm,0.8s,baz=158,slow=1.7,SNR=5.3						
BRTR	Keskin Array B	123.22	62	PKP	PKPdf	22 41 02.5	+1.2
	0.5nm,0.7s,baz=191,slow=1.7,SNR=4.1						
ZALV	Zalesovo Beam	155.78	33	PKPab	PKPab	22 42 26.0	+1.5
	1.1nm,0.5s,baz=299,slow=5.0,SNR=5.7						
MKAR	Makanchi Array	158.27	51	PKPab	PKPab	22 42 36.8	+1.2
	1.9nm,1.3s,baz=296,slow=2.9,SNR=3.2						

IDC 28 22:26:53.9±1.6, 37.91S×73.08W, h0km, mb4.1/5, mb1 4.1/6, mb1mx3.9/29, mbtmp4.0/6, ML3.4/1, Error ellipse: s-maj=73.7km s-min=23.0km az=100.0
ISC 28 22:26:59.3±1.5, 37.9S±0.2×72.8W±0.4, h33km, n12, σ1.34/14, mb4.0/6, Central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	7.27	32	Pn	Pn	22 28 42.5	-0.8
	0.6nm,0.3s,baz=204,slow=14,SNR=7.0						
LPAZ	La Paz	21.87	12	P	P	22 31 50.7	+0.7
	2.8nm,0.9s,baz=182,slow=6.8,SNR=4.1						
SIV	San Ignacio	24.11	29	P	P	22 32 09.5	-2.6
	2.6nm,0.8s,baz=235,slow=6.6,SNR=4.3						
SNAA	Sanae	48.28	157	P	P	22 35 35.6	-1.3
	1.7nm,1.0s,baz=278,slow=15,SNR=4.1						
QSPA	South Pole Qui	52.40	180	P	P	22 36 08.4	+0.2
	2.7nm,1.0s,baz=148,slow=6.6,SNR=3.9						
DBIC	Dimbokro	77.00	71	P	P	22 38 51.0	+1.9
	7.3nm,1.0s,baz=173,slow=6.0,SNR=5.2						
TORD	Torodi Ar. Bea	86.09	70	P	P	22 39 38.0	+0.9
	0.8nm,0.8s,baz=223,slow=4.3,SNR=6.4						
BRTR	Keskin Array B	124.17	63	PKP	PKPdf	22 45 53.2	-1.2
	0.7nm,0.9s,baz=267,slow=2.9,SNR=4.7						
BVAR	Borovoye Array	150.43	47	PKPbc	PKPbc	22 46 46.7	0.0
	1.2nm,0.6s,baz=266,slow=3.9,SNR=6.7						
BVAR				PKPab	PKPab	22 46 55.0	+1.6
	0.5nm,0.6s,baz=306,slow=5.3,SNR=4.8						
AAK	Ala-Archa	154.67	69	PKPbc	PKPbc	22 46 56.1	-0.7
	0.6nm,0.7s,baz=209,slow=4.1,SNR=4.5						
AAK				PKPab	PKPab	22 47 12.7	+0.9
	1.3nm,0.6s,baz=189,slow=6.8,SNR=7.4						
ZALV	Zalesovo Beam	157.74	36	PKPab	PKPab	22 47 24.2	-0.1
	0.6nm,0.4s,baz=305,slow=5.2,SNR=3.6						
MKAR	Makanchi Array	159.59	56	PKPab	PKPab	22 47 32.6	-0.1
	0.6nm,0.9s,baz=274,slow=3.4,SNR=4.5						

IDC 28 22:27:44.1±349.0, 48.69N×22.21E, h0km, Error ellipse: s-maj=137.8km s-min=118.1km az=107.0, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	5.62	275	i		23 02 50.0	
	baz=88,slow=311,SNR=2.1						
I43RU	DUBNA INFRASON	12.13	43	i		23 38 10.0	
	baz=236,slow=322,SNR=3.6						
I31KZ	AKTYUBINSK INF	23.18	72	i		00 48 31.4	
	baz=279,slow=290,SNR=0.6						
I46RU	ZALESOVO INFRA	38.35	58	i		02 27 00.0	
	baz=282,slow=331,SNR=3.6						

SJA 28 22:30:41.3±0.9, 34.00S×72.81W, h266km±47km, ML4.3
IDC 28 22:30:45.4±2.0, 34.21S×70.85W, h0km, mb4.2/3, mb1 4.1/4, mb1mx3.8/29, mbtmp4.1/4, ML3.8/1, Error ellipse: s-maj=77.6km s-min=45.9km az=97.0
ISC 28 22:30:44.2±1.2, 34.1S±0.2×72.2W±0.1, h19km, n17, σ1.97/18, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
AAGR	Agrelo	2.99	71	iP	Pg	22 31 40.1	-1.4
ARCO	CERRO ARCO	3.01	66	iP	Pg	22 31 40.2	-1.6
ARCO				iS	Sg	22 32 22.9	+2.1
ARCO				AML	AML	22 32 34.4	
	comp=Z,331nm,0.7s						
AUSP	Uspallata	3.02	52	iP	Pg	22 31 40.3	-1.7
AUSP				iS	Sg	22 32 23.4	+2.3
ASAL	Salagasta	3.19	63	iP	Pb	22 31 42.3	+1.9
ASAL				iS	Sg	22 32 27.5	+0.7
RTLS	Leoncito	3.35	47	iP	Pb	22 31 42.8	-0.4
RTCV	Cerro Valdivia	3.80	55	iP	Pb	22 31 48.4	-2.3
CFAA	Coronel Fontan	4.16	54	iP	Pb	22 31 52.9	-3.9
RTLL	Cerro Villicun	4.19	49	iP	Pn	22 31 52.2	+5.1
AMOG	MOGNA	4.45	46	iP	Pn	22 31 54.9	+4.3
AMOG				iP	Pn	22 31 54.9	+4.3
LPAZ	La Paz	18.12	13	P	Pn	22 34 56.5	+1.1
	comp=Z,0.1nm,0.3s,baz=193,slow=14,SNR=2.6						
SIV	San Ignacio	20.64	32	P	P	22 35 22.3	-0.3
	comp=Z,2.6nm,0.6s,baz=220,slow=9.9,SNR=7.9						
DBIC	Dimbokro	75.34	71	P	P	22 42 24.8	-1.8
	comp=Z,2.2nm,0.6s,baz=224,slow=12,SNR=5.9						
TORD	Torodi Ar. Bea	84.37	70	P	P	22 43 14.0	-1.5
	comp=Z,1.8nm,0.9s,baz=227,slow=4.0,SNR=3.3						
BVAR	Borovoye Array	147.45	43	PKP	PKPbc	22 50 24.5	-1.8
	comp=Z,0.6nm,0.6s,baz=306,slow=3.2,SNR=3.6						
BVAR				PKPbc	PKPab	22 50 28.7	+0.4
	comp=Z,0.8nm,0.7s,baz=318,slow=1.9,SNR=4.9						
AAK	Ala-Archa	152.67	62	PKPbc	PKPbc	22 50 43.1	+3.5
	comp=Z,1.0nm,0.9s,baz=253,slow=14,SNR=4.6						
ZALV	Zalesovo Beam	154.39	32	PKPbc	PKPbc	22 50 45.6	+3.0
	comp=Z,1.3nm,0.7s,baz=305,slow=2.9,SNR=6.5						
MKAR	Makanchi Array	156.94	49	PKPab	PKPab	22 51 09.1	+0.9
	comp=Z,0.4nm,0.7s,baz=287,slow=4.9,SNR=5.6						

ISCJB 28 22:33:11.6±0.6, 51.8N±0.1×176.06W±0.06, h71km±4km, mb3.6/5, Error ellipse: s-maj=18.0km s-min=4.5km az=168.4
NEIC 28 22:33:11.6, 51.64N×175.98W, h42km, mb3.9/3, ML4.0(AEIC), After AEIC.
IDC 28 22:33:14.8±3.9, 51.98N×176.11W, h85km±32km, mb3.4/5, mb1 3.6/8, mb1mx3.2/55, mbtmp3.7/8, Error ellipse: s-maj=41.0km s-min=15.7km az=169.0
ISC 28 22:33:11.9±1.2, 51.8N±0.1×176.04W±0.05, h59km±8km, n40, σ1.28/40, mb3.8/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GSCK	Great Sitkin C	0.28	344	P	Pn	22 33 21.5	-0.2
GSMY	Great Sitkin M	0.30	358	P	Pn	22 33 21.5	-0.4
GSTD	Great Sitkin T	0.32	348	P	Pn	22 33 21.9	-0.2
ADK	Adak	0.42	289	P	Pn	22 33 22.6	-0.4
ADK				S	Sn	22 33 31.3	+0.4
KIRH	Kanaga Island	0.67	283	P	Pn	22 33 26.3	+0.5
KIKV	Kanaga Island	0.71	281	P	Pn	22 33 26.7	+0.4
TAFL	Tanaga Flats	1.16	271	P	Pn	22 33 32.6	+0.7
TAFP	Tanaga Falls P	1.22	278	P	Pn	22 33 33.4	+0.7
TAFP				S	Sn	22 33 50.2	+1.9
TASE	Tanaga Southea	1.24	275	P	Pn	22 33 34.1	+1.0
KOKL	Mount Kliuchef	1.27	62	P	Pn	22 33 33.9	+0.3
TANO	Tanaga North	1.30	278	P	Pn	22 33 34.9	+1.0
KOFP	Korovin Flat P	1.31	65	P	Pn	22 33 34.4	+0.4
CERAA	Semis' Rag'd T	2.66	275	P	Pn	22 33 53.1	+0.8
CESW	Semis' Southwe	2.73	275	P	Pn	22 33 54.0	+0.7
CESW				S	Sn	22 34 26.9	+1.8
AMKA	Amchitka	2.93	265	P	Pn	22 33 56.6	+0.6
AMKA				S	Sn	22 34 30.5	+0.6
LSPA	Little Sitkin	3.35	276	P	Pn	22 34 03.4	+1.7
LSNW	Little Sitkin	3.38	276	P	Pn	22 34 03.4	+1.2
NIKH	Nikolski High	4.57	72	P	Pn	22 34 18.9	+0.4
NIKH				S	Sn	22 35 13.9	+3.7
UNV	Unalaska Valle	6.16	66	P	Pn	22 34 41.8	+1.7
SPIA	Saint Paul Isl	6.40	30	P	Pn	22 34 45.9	+2.4
FX1	Attu Island--F	6.72	284	P	Pn	22 34 49.5	+1.8
	11nm,0.3s,baz=122,slow=2.5,SNR=34						
FX1				S	Sn	22 36 04.4	+1.6
	0.9nm,0.3s,baz=354,slow=19,SNR=2.3						
GAMB	Gambell	12.28	9	ePn	Pn	22 36 03.7	0.0
	2.9nm,0.8s						
KTH	Kantishna Hill	17.75	39	ePn	P	22 37 16.2	+1.5
	4.2nm,0.5s						
PAX	Paxson	19.73	43	eP	P	22 37 37.2	+0.8
	2.9nm,0.6s						
ILAR	Eielson Array	19.89	38	P	P	22 37 35.8	-2.2
	0.3nm,0.3s,baz=243,slow=9.5,SNR=18						
SEY	Seymchan	20.15	316	P	P	22 37 40.7	-0.2
	baz=101,slow=14,SNR=2.8						
DOT	Dot Lake	20.56	42	eP	P	22 37 45.7	+0.3
	5.3nm,0.6s						
YKA	Yellowknife Ar	33.72	47	P	P	22 39 46.3	-0.8
	0.2nm,0.5s,baz=285,slow=8.4,SNR=6.4						
YKA				PcP	PcP	22 42 25.4	+0.2
	0.9nm,0.6s,baz=286,slow=3.1,SNR=15						
H11N2	WAKE ISLAND Hy	34.64	209	T	T	23 16 30.3	
	baz=18,slow=76,SNR=292						
H11N3	WAKE ISLAND Hy	34.65	209	T	T	23 16 33.4	
	baz=18,slow=76,SNR=214						
H11N1	WAKE ISLAND Hy	34.66	209	T	T	23 16 32.2	
	baz=18,slow=76,SNR=222						
H11S1	WAKE ISLAND Hy	35.85	209	T	T	23 18 14.8	
	baz=19,slow=76,SNR=176						
H11S2	WAKE ISLAND Hy	35.87	209	T	T	23 18 13.5	
	baz=19,slow=76,SNR=109						
H11S3	WAKE ISLAND Hy	35.87	209	T	T	23 18 15.8	
	baz=19,slow=76,SNR=62						
PDAR	Pinedale Array	44.55	74	P	P	22 41 18.1	+0.2
	1.5nm,0.7s,baz=304,slow=5.2,SNR=12						
H06E1	SOCORRO T-PHAS	60.10	98	T	T	23 48 31.8	
MKAR	Makanchi Array	61.14	310	P	P	22 43 17.8	-2.0
	0.2nm,0.6s,baz=43,slow=8.1,SNR=3.6						
CMAR	Chiang Mai Arr	72.68	278	P	P	22 44 32.8	-0.7
	0.9nm,0.7s,baz=24,slow=7.0,SNR=6.6						
ASAR	Alice Springs	86.94	225	P	P	22 45 50.0	-0.3
	1.4nm,1.1s,baz=25,slow=7.3,SNR=4.6						
BOSA	Boshof	151.94	317	PKPbc	PKPbc	22 52 59.5	-0.5
	0.7nm,0.3s,baz=81,slow=0.9,SNR=5.4						

IDC 28 22:36:12.7±0.6, 38.49S×73.92W, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.4/25, mbtmp4.3/11, ML4.5/1, MS4.1/1, Ms1 4.1/1, ms1mx3.4/19, Error ellipse: s-maj=22.7km s-min=14.0km az=67.0
ISCJB 28 22:36:16.1±0.5, 38.46S±0.07×73.8W±0.1, h33km, mb4.6/19, Error ellipse: s-maj=13.4km s-min=7.6km az=144.0
NEIC 28 22:36:17.2±4.1, 38.47S×73.97W, h33km±27km, mb4.8/12, Error ellipse: s-maj=16.6km s-min=8.3km az=67.0
ISC 28 22:36:17.7±0.5, 38.46S±0.08×73.9W±0.1, h35km, n47, σ0.82/47, mb4.7/19, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.46	132	Pn	Pn	22 37 02.6	-6.5
	2.1nm,0.3s,baz=338,slow=11,SNR=4.8						
PLCA				Pg		22 37 13.5	
	9.6nm,0.3s,baz=300,slow=8.3,SNR=14						
PLCA				Lg	Lg	22 38 02.2	
	22nm,0.3s,baz=12,slow=11,SNR=4.1						
PLCA				LR	LR	22 38 37.1	
	comp=Z,2μm,18.4s,baz=324,slow=42						
PLCA	Paso Flores	3.46	132	ePn	Pn	22 37 02.5	-6.7
PLCA				eSn	Sn	22 37 48.0	-0.9
TRQA	Tornquist	9.41	91	ePn	Pn	22 38 30.4	-0.4
	11nm,0.6s						
LVC	Limon Verde	16.37	17	ePn	Pn	22 40 04.0	-1.1
CPUP	Villa Florida	18.48	54	P	P	22 40 30.6	+0.1
	0.4nm,0.3s,baz=213,slow=10.0,SNR=2.5						
CPUP	Villa Florida	18.48	54	eP	Pn	22 40 30.8	-0.1
	0.3nm,0.7s						
LPAZ	La Paz	22.67	15	P	P	22 41 16.6	-0.1
	8.8nm,1.1s,baz=182,slow=10,SNR=9.1						
LPAZ	La Paz	22.67	15	eP	P	22 41 16.6	-0.1
	10nm,0.9s						
BDFB	Brasilia	32.19	52	P	P	22 42 44.5	+2.0
	1.9nm,0.7s,baz=217,slow=15,SNR=3.1						
OTAV	Otavalo	38.73	353	eP	P	22 43 39.2	+0.1
	10.0nm,1.3s						
SDV	Santo Domingo	47.20	4	eP	P	22 44 47.0	-0.3
SNAA	Sanae	48.08	156	P	P	22 44 54.2	+0.8
	5.6nm,1.1s,baz=295,slow=7.7,SNR=7.0						
SNAA	Sanae	48.08	156	eP	P	22 44 53.6	+0.2
	18nm,1.3s						
QSPA	South Pole Qui	51.78	180	P	P	22 45 22.8	+1.1
	10nm,1.0s,baz=130,slow=3.6,SNR=12						
QSPA	South Pole Qui	51.78	180	eP	P	22 45 21.9	+0.2
	8.5nm,1.0s						
MAW	Mawson	69.34	164	P	P	22 47 21.6	+0.5
	66nm,1.2s,baz=214,slow=11,SNR=2.6						
TXAR	Lajitas Array	72.94	333	P	P	22 47 44.3	+0.8
	1.8nm,0.7s,baz=161,slow=12,SNR=4.2						
SWET	Sewanee	74.15	350	eP	P	22 47 50.1	-0.3
	60nm,1.3s						
TUL1	Tulsa	76.72	342	eP	P	22 48 04.5	-0.5
	22nm,1.3s						
DBIC	Dimbokro	78.05	72	P	P	22 48 13.7	+0.7
	8.5nm,0.8s,baz=209,slow=5.6,SNR=9.7						
DBIC	Dimbokro	78.05	72	eP	P	22 48 13.2	+0.2
	24nm,1.4s						
ANMO	Albuquerque	79.01	333	eP	P	22 48 17.6	-0.4
	6.1nm,1.1s						
BOSA	Boshof	79.34	118	P	P	22 48 19.8	-0.4
	11nm,1.0s,baz=211,slow=6.0,SNR=9.9						
ECSD	EROS Data Cent	84.36	344	eP	P	22 48 46.0	+0.2
	17nm,1.2s						
NVAR	Mina Array Bea	86.71	327	P	P	22 48 58.0	+0.1
	0.3nm,0.3s,baz=150,slow=7.5,SNR=4.8						
HWUT	Hardware Ranch	86.76	333	eP	P	22 48 58.2	+0.1
	15nm,1.1s						
PDAR	Pinedale Array	87.09	335	P	P	22 49 00.3	+0.7
	2.1nm,0.9s,baz=148,slow=6.5,SNR=14						
TORD	Torodi Ar. Bea	87.14	71	P	P	22 48 60.0	-0.3
	2.4nm,0.9s,baz=236,slow=4.2,SNR=11						
RLMT	Red Lodge	89.09	336	eP	P	22 49 08.2	-0.9
	7.2nm,1.4s						
MCMT	McKenzie Canyo	90.03	333	eP	P	22 49 13.9	+0.3
	1.7nm,1.2s						
GERES	GERESS Array B	116.33	47	PKP	PKPdf	22 54 57.2	+0.2
	0.9nm,0.7s,baz=232,slow=1.1,SNR=4.9						
H11S2	WAKE ISLAND Hy	124.10	267	T	T	01 11 27.2	
	baz=127						
H11S1	WAKE ISLAND Hy	124.11	267	T	T	01 11 27.7	
	baz=127						
H11S3	WAKE ISLAND Hy	124.12	267	T	T	01 11 27.2	
	baz=127						
BRTR	Keskin Array B	125.24	64	PKP	PKPdf	22 55 14.7	+0.1
	0.4nm,0.8s,baz=343,slow=1.3,SNR=3.8						
FINES	FINESS Array B	127.50	37	PKP	PKPdf	22 55 15.5	-2.4
	2.7nm,1.0s,baz=207,slow=9.0,SNR=3.5						
AKTO	Aktyubinsk	144.27	55	PKP	PKPbc	22 55 48.0	+0.3
	5.6nm,0.9s,baz=261,slow=3.2,SNR=14						
TIXI	Tiksi	144.76	348	ePKPdf	PKPab	22 55 47.5	-1.0
ABKAR	Akbulak array	145.53	57	ePKPdf	PKPdf	22 55 51.3	-0.2
BRVK	Borovoye	151.43	48	ePKPbc	PKPbc	22 56 08.0	+0.9
BVAR	Borovoye Array	151.50	48	PKP	PKPdf	22 55 59.5	-1.6
	1.2nm,0.9s,baz=332,slow=5.0,SNR=5.5						
BVAR				PKPbc	PKiKP	22 56 08.4	+0.6
	4.1nm,0.7s,baz=291,slow=4.0,SNR=22						
AAK	Ala-Archa	155.72	70	PKP	PKPdf	22 56 08.5	+0.8
	0.9nm,0.8s,baz=229,slow=3.6,SNR=3.7						
AAK				PKPab	PKPab	22 56 34.8	+0.5
	1.4nm,0.6s,baz=233,slow=1.6,SNR=6.7						
ZALV	Zalesovo Beam	158.76	36	PKP	PKPdf	22 56 10.7	-0.2
	0.8nm,0.7s,baz=321,slow=2.1,SNR=5.5						
ZALV				PKPab	PKPab	22 56 47.3	+0.5
	2.9nm,0.8s,baz=307,slow=5.4,SNR=9.8						
CMAR	Chiang Mai Arr	159.12	161	PKPab	PKPab	22 56 49.0	-0.1
	0.3nm,0.3s,baz=224,slow=3.8,SNR=3.6						
MKAR	Makanchi Array	160.67	57	PKP	PKPdf	22 56 13.2	-0.2
	1.7nm,1.1s,baz=330,slow=1.7,SNR=8.2						
MKAR				PKPab	PKPab	22 56 55.3	-0.2
	1.0nm,0.7s,baz=292,slow=3.9,SNR=8.2						
YHNB	Yeheng	161.09	228	ePKPdf	PKPab	22 56 12.5	-2.1
SONM	Songino Array	170.63	359	PKP	PKPdf	22 56 20.7	-0.9
	0.7nm,0.9s,baz=42,slow=2.4,SNR=4.9						
SONM				PKPab	PKPab	22 57 40.0	+0.7
	1.4nm,0.9s,baz=343,slow=4.6,SNR=8.3						

IDC 28 22:38:38.8±0.9, 34.85S×71.80W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/26, mbtmp3.9/5, ML3.3/2, MS4.0/2, Ms1 4.0/2, ms1mx3.5/17, Error ellipse: s-maj=40.6km s-min=21.9km az=94.0
ISCJB 28 22:38:49.2±1.0, 34.7S±0.1×70.8W±0.3, h99km, mb3.9/4, Error ellipse: s-maj=37.2km s-min=15.3km az=9.3
ISC 28 22:38:51.1±1.0, 34.6S±0.1×70.9W±0.3, h99km, n12, σ2.28/9, mb3.9/4, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.76	38	Pn	Pn	22 39 45.5	-1.5
	0.2nm,0.3s,baz=198,slow=6.4,SNR=3.6						
LPAZ	La Paz	18.43	9	P	Pn	22 43 00.2	-0.4
	0.1nm,0.3s,baz=188,slow=7.1,SNR=1.9						
NNA	Nana	23.17	345	LR	LR	22 49 42.2	
	comp=Z,254nm,20.9s,baz=175,slow=29						
SNAA	Sanae	50.66	158	P	P	22 47 40.1	+0.3
	1.4nm,0.8s,baz=312,slow=16,SNR=4.5						
QSPA	South Pole Qui	55.62	180	P	P	22 48 15.3	-1.1
	2.8nm,0.9s,baz=157,slow=2.3,SNR=7.8						
TXAR	Lajitas Array	70.73	330	P	P	22 49 56.8	+0.3
	0.8nm,0.6s,baz=132,slow=5.4,SNR=2.8						
TORD	Torodi Ar. Bea	83.56	69	P	P	22 51 13.6	+5.1
	0.5nm,0.8s,baz=253,slow=4.4,SNR=3.6						
PDAR	Pinedale Array	84.74	333	LR	LR	23 27 26.7	
	comp=Z,112nm,18.6s,baz=154,slow=35						
WRA	Warramunga Arr	120.66	208	PKP	PKPdf	22 57 29.7	-2.1
	0.2nm,0.6s,baz=160,slow=1.6,SNR=4.3						
BVAR	Borovoye Array	147.09	44	PKPbc	PKPab	22 58 24.9	+1.1
	0.7nm,0.7s,baz=306,slow=2.8,SNR=4.0						
ZALV	Zalesovo Beam	154.24	34	PKPbc	PKiKP	22 58 39.0	+0.1
	0.5nm,0.5s,baz=256,slow=3.0,SNR=3.2						
MKAR	Makanchi Array	156.46	51	PKPab	PKPab	22 59 07.7	+4.7
	0.5nm,0.8s,baz=293,slow=2.9,SNR=3.6						

ISCJB 28 22:41:24.4±3.6, 36.78S±0.06×73.36W±0.09, h6km±22km, mb4.9/70, MS4.6/9, Error ellipse: s-maj=13.8km s-min=8.0km az=146.5
IDC 28 22:41:24.2±0.5, 36.85S×73.46W, h0km, mb4.7/13, mb1 4.8/16, mb1mx4.6/29, mbtmp4.7/16, ML4.5/3, MS4.5/10, Ms1 4.5/10, ms1mx4.2/20, Error ellipse: s-maj=19.0km

s-min=13.2km az=82.0

NEIC ***28*** *22:41:28.8±0.6, 36°.85S×73°.33W, h28km±3km, mb5.0/57, Error ellipse: s-maj=8.5km s-min=5.9km az=53.0*

BJI ***28*** *22:41:28.3, 36°.70S×73°.13W, h35km, mB5.2/10, Ms5.5/7, Ms7 5.0/8*

MOS ***28*** *22:41:29.1±0.9, 36°.72S×73°.23W, h33km, mb5.2/19, Error ellipse: s-maj=18.5km s-min=11.2km az=98.8*

ISC 28 22:41:29.1±0.6, **36°.84S**±0°.06×**73°.37W**±0°.07, **h31**km±3km, **h31km:pP-P, n478, σ0s.91**/494, **mb5.0**/71, **MS4.6**/9, **141C-138D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.46**	**151**	*e*P	**Pn**	**22 42 36.0**	**+1.3**
PLCA				*e*		22 43 23.4	
PLCA	**Paso Flores**	**4.46**	**151**	Pn	**Pn**	**22 42 35.4**	**+0.7**
	5.4nm,0.3s,baz=323,slow=12,SNR=12						
PLCA				Lg	Lg	22 43 44.4	
	43nm,0.3s,baz=258,slow=11,SNR=4.7						
PLCA	**Paso Flores**	**4.46**	**151**	*e*Pn	**Pn**	**22 42 36.0**	**+1.3**
PLCA				*e*Sn	**Sn**	**22 43 23.4**	**-2.2**
PLCA				Lg	Lg	22 43 44.4	
CFAA	**Coronel Fontan**	**6.74**	**41**	Pn	**Pn**	**22 43 05.8**	**-0.1**
	1.7nm,0.3s,baz=213,slow=13,SNR=15						
CFAA				Lg	Lg	22 45 00.3	
	0.4nm,0.3s,baz=294,slow=19,SNR=5.5						
CFAA				LR	LR	22 46 03.5	
	comp=Z,447nm,18.9s,baz=226,slow=41						
TRQA	**Tornquist**	**9.14**	**101**	*e*Pn	**Pn**	**22 43 39.0**	**+0.2**
LVC	**Limon Verde**	**14.70**	**16**	*e*Pn	**Pn**	**22 44 55.4**	**+0.3**
CPUP	**Villa Florida**	**17.20**	**57**	*e*P	**Pn**	**22 45 24.3**	**-2.7**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CPUP	**Villa Florida**	**17.20**	**57**	P	**P**	**22 45 24.7**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=227,slow=14,SNR=5.2						
CPUP				Lg	Lg	22 50 35.6	
	comp=Z,0.3nm,0.3s,baz=291,slow=17,SNR=1.9						
CPUP				LR	LR	22 52 43.9	
	comp=Z,3µm,18.8s,baz=220,slow=39						
CPUP	**Villa Florida**	**17.20**	**57**	*e*Pn	**Pn**	**22 45 24.2**	**-2.7**
	comp=Z,1.3nm,0.8s						
CPUP				Lg	Lg	22 50 35.6	
LPAZ	**La Paz**	**21.00**	**14**	*e*P	Pn	22 46 12.2	-1.3
LPAZ				pmax	pmax		
	comp=Z,24nm,0.8s						
LPAZ	**La Paz**	**21.00**	**14**	P	**P**	**22 46 11.9**	**+1.2**
	comp=Z,13nm,0.8s,baz=177,slow=7.3,SNR=18						
LPAZ	**La Paz**	**21.00**	**14**	*e*P	Pn	22 46 12.2	-1.3
	comp=Z,24nm,0.8s						
SIV	**San Ignacio**	**23.46**	**31**	LR	LR	22 57 35.6	
	comp=Z,2µm,18.5s,baz=214,slow=41						
PMSA	**Palmer Station**	**28.52**	**172**	LR	LR	22 58 01.9	
	comp=Z,549nm,18.3s,baz=300,slow=35						
SAML	**Samuel**	**29.27**	**21**	*e*P	**P**	**22 47 29.2**	**+0.6**
	comp=Z,10nm,1.3s						
BDFB	**Brasilia**	**30.86**	**54**	*e*P	**P**	**22 47 42.8**	**0.0**
BDFB	**Brasilia**	**30.86**	**54**	P	**P**	**22 47 42.5**	**-0.4**
	comp=Z,9.0nm,0.8s,baz=213,slow=8.4,SNR=13						
BDFB				LR	LR	23 01 27.7	
	comp=Z,2µm,21.2s,baz=222,slow=39						
BDFB	**Brasilia**	**30.86**	**54**	*e*P	**P**	**22 47 42.8**	**0.0**
OTAV	**Otavalo**	**37.20**	**352**	*e*P	**P**	**22 48 40.2**	**+2.2**
	comp=Z,14nm,1.1s						
ROSC	**El Rosal**	**41.49**	**359**	P	**P**	**22 49 16.4**	**+2.6**
	comp=Z,9.0nm,0.4s,baz=141,slow=3.7,SNR=7.2						
ROSC	**El Rosal**	**41.49**	**359**	*e*P	P	22 49 18.1	+4.2
RCBR	**Riachuelo**	**46.08**	**57**	P	**P**	**22 49 50.7**	**+0.3**
	comp=Z,8.7nm,0.6s,baz=217,slow=12,SNR=7.8						
RCBR	**Riachuelo**	**46.08**	**57**	*e*P	**P**	**22 49 52.1**	**+1.7**
SNAA	**Sanae**	**49.39**	**157**	*e*P	**P**	**22 50 16.4**	**+1.0**
SNAA	**Sanae**	**49.39**	**157**	P	**P**	**22 50 16.1**	**+0.7**
	comp=Z,11nm,1.1s,baz=262,slow=7.0,SNR=9.8						
SNAA	**Sanae**	**49.39**	**157**	*e*P	**P**	**22 50 16.4**	**+1.0**
QSPA	**South Pole Qui**	**53.40**	**180**	P	**P**	**22 50 46.1**	**+0.5**
	comp=Z,16nm,1.0s,baz=154,slow=6.9,SNR=20						
QSPA	**South Pole Qui**	**53.40**	**180**	*e*P	**P**	**22 50 46.0**	**+0.4**
	comp=Z,21nm,1.0s						
APG	**El Apazote**	**54.03**	**339**	P	P	22 50 47.1	-3.7
	comp=Z,11nm,0.9s,baz=166,slow=6.5,SNR=9.9						
NVL	**N'lazarevskaya**	**54.16**	**156**	*e*P	**P**	**22 50 50.2**	**-0.7**
NVL				pmax	pmax		
	comp=Z,23nm,1.0s						
RKT	**Rikitea**	**54.24**	**266**	*e*S	**S**	**22 58 26.4**	**-1.3**
	comp=Z,255nm,28.8s						
RKT				*e*LR	LR	23 06 32.3	
	comp=Z,682nm,29.0s,baz=121						
RKT	**Rikitea**	**54.24**	**266**	*e*T	T	23 48 56.9	
	comp=Z,2.4nm,0.2s						
CRPR	**Cabo Rojo, PR**	**54.87**	**7**	*e*P	**P**	**22 50 54.0**	**-2.6**
	comp=Z,26nm,0.9s						
CELP	**Cerrillos**	**55.00**	**8**	*e*P	**P**	**22 50 57.2**	**-0.4**
TEIG	**Tepich**	**58.48**	**344**	P	**P**	**22 51 21.8**	**-0.4**
	comp=Z,20nm,1.0s,baz=169,slow=6.2,SNR=10						
SYO	**Syowa Base**	**63.63**	**158**	⇓*e*P	**P**	**22 51 55.0**	**-1.6**
TBI	**Tubuai**	**65.64**	**258**	*e*T	T	00 03 07.8	
	comp=Z,5.0nm,0.3s						
H06E1	**SOCORRO T-PHAS**	**65.70**	**321**	T	T	00 03 39.4	
	SNR=9.6						
MEH	**Mehetia**	**67.43**	**264**	*e*T	T	00 05 24.5	
	comp=Z,62nm,0.2s						
034A	**Hebbronville**	**67.89**	**336**	⇓P	**P**	**22 52 26.1**	**+1.6**
	baz=68						
TIGA	**Tifton**	**68.60**	**351**	⇓P	**P**	**22 52 28.6**	**-0.2**
	baz=69						
TIAR	**Tiarei**	**68.62**	**264**	*e*T	T	00 06 54.0	
	comp=Z,7.3nm,0.2s						
PPT2	**Papeete2**	**68.79**	**264**	*e*S	**S**	**23 01 29.2**	**-3.3**
	comp=Z,227nm,23.5s						
PPT2	**Papeete2**	**68.79**	**264**	*e*LR	LR	23 13 15.2	
	comp=Z,801nm,24.2s,baz=122						
833A	**Chaparral WMA,**	**69.28**	**336**	⇓P	**P**	**22 52 34.1**	**+0.9**
	baz=70						
832A	**Faith Ranch, C**	**69.44**	**335**	⇓P	**P**	**22 52 34.4**	**+0.2**
	baz=70						
636A	**Smothers Creek**	**69.62**	**338**	⇓P	**P**	**22 52 36.4**	**+1.1**
	baz=70						
732A	**Laxson Ranch,**	**69.85**	**335**	⇑P	**P**	**22 52 37.1**	**+0.4**
	baz=70,SNR=9.5						
536A	**Bastrop**	**70.18**	**338**	⇑P	**P**	**22 52 38.8**	**+0.1**
	baz=70						
633A	**Saathoff Ranch**	**70.26**	**336**	⇑P	**P**	**22 52 39.9**	**+0.7**
	baz=71						
632A	**Uvalde**	**70.51**	**336**	⇑P	**P**	**22 52 41.2**	**+0.5**
	baz=71						
534A	**Blanco**	**70.57**	**337**	⇓P	**P**	**22 52 41.2**	**+0.1**
	baz=71						
340A	**Bronson**	**70.57**	**341**	⇓P	**P**	**22 52 41.6**	**+0.5**
	baz=71						
339A	**Huntington**	**70.66**	**341**	⇓P	**P**	**22 52 42.6**	**+1.0**
	baz=71						
631A	**Perdido Creek**	**70.68**	**335**	⇑P	**P**	**22 52 42.4**	**+0.6**
	baz=71						
533A	**Kerrville**	**70.78**	**337**	⇓P	**P**	**22 52 42.8**	**+0.4**
	baz=71						
338A	**Crockett**	**70.89**	**340**	⇓P	**P**	**22 52 43.7**	**+0.7**
	baz=71						
435B	**Jarrell**	**71.00**	**338**	⇓P	**P**	**22 52 44.2**	**+0.5**
	baz=71						
337A	**Centerville**	**71.01**	**340**	⇓P	**P**	**22 52 44.3**	**+0.6**
	baz=71						
532A	**Rocksprings**	**71.12**	**336**	⇓P	**P**	**22 52 45.0**	**+0.5**
	baz=72,SNR=9.4						
434A	**Burnet**	**71.23**	**338**	⇓P	**P**	**22 52 45.2**	**+0.1**
	baz=72,SNR=12						
239A	**Gary**	**71.29**	**341**	⇓P	**P**	**22 52 46.3**	**+0.9**
	baz=72						
336A	**Riesel**	**71.35**	**339**	⇓P	**P**	**22 52 46.6**	**+0.8**
	baz=72						
531A	**Rocksprings**	**71.36**	**335**	⇑P	**P**	**22 52 46.6**	**+0.6**
	baz=72						
JCT	**Junction City**	**71.41**	**336**	*e*P	**P**	**22 52 46.5**	**+0.3**
JCT				pmax	pmax		
	comp=Z,17nm,1.1s						
JCT	**Junction City**	**71.41**	**336**	*e*P	**P**	**22 52 46.5**	**+0.3**
	comp=Z,17nm,1.1s						
JCT	**Junction City**	**71.41**	**336**	⇑P	**P**	**22 52 46.0**	**-0.2**
	baz=72,SNR=6.0						
335A	**Moody**	**71.42**	**338**	⇓P	**P**	**22 52 46.6**	**+0.4**
	baz=72						
433A	**Art**	**71.44**	**337**	⇑P	**P**	**22 52 46.4**	**+0.1**
	baz=72,SNR=7.2						
530A	**J-C Ranch, Com**	**71.62**	**335**	⇑P	**P**	**22 52 47.7**	**+0.2**
	baz=72,SNR=9.2						
237A	**Washetta, Mont**	**71.63**	**340**	⇑P	**P**	**22 52 48.2**	**+0.7**
	baz=72						
334A	**Lometa**	**71.71**	**338**	⇑P	**P**	**22 52 48.1**	**+0.1**
	baz=72,SNR=17						
TXAR	**Lajitas Array**	**71.71**	**332**	P	**P**	**22 52 48.1**	**-0.1**
	comp=Z,4.7nm,0.9s,baz=147,slow=7.4,SNR=8.9						
TXAR				LR	LR	23 19 45.1	
	comp=Z,331nm,18.1s,baz=0.0,slow=32						
432A	**Menard**	**71.77**	**336**	⇑P	**P**	**22 52 48.5**	**+0.1**
	baz=72						
431A	**Sonora**	**71.86**	**335**	⇑P	**P**	**22 52 49.5**	**+0.6**
	baz=72						
529A	**Stev Forest Ra**	**71.90**	**334**	⇓P	**P**	**22 52 49.3**	**0.0**
	baz=72						
333A	**Richland Sprin**	**71.93**	**337**	⇑P	**P**	**22 52 49.5**	**+0.2**
	baz=72						
KMSC	**Kings Mountain**	**72.00**	**353**	⇓P	**P**	**22 52 50.2**	**+0.6**
	baz=72						
138A	**Matatall Enter**	**72.06**	**341**	⇑P	**P**	**22 52 50.0**	**0.0**
	baz=72						
WHTX	**Lake Whitney**	**72.09**	**339**	*e*P	**P**	**22 52 50.8**	**+0.5**
	comp=Z,25nm,1.0s						
WHTX	**Lake Whitney**	**72.09**	**339**	⇑P	**P**	**22 52 50.4**	**+0.2**
	baz=72						
430A	**Baggett Ranch,**	**72.17**	**335**	⇓P	**P**	**22 52 50.6**	**-0.2**
	baz=72,SNR=9.6						
137A	**Heron Place, G**	**72.18**	**340**	⇓P	**P**	**22 52 51.1**	**+0.4**
	baz=72						
332A	**Millersview**	**72.22**	**336**	⇑P	**P**	**22 52 51.1**	**+0.1**
	baz=73,SNR=8.5						
429A	**Davenport Ranc**	**72.25**	**334**	⇓P	**P**	**22 52 51.1**	**-0.2**
	baz=73,SNR=7.8						
234A	**Clairette**	**72.30**	**338**	⇓P	**P**	**22 52 51.5**	**0.0**
	baz=73,SNR=5.6						
331A	**San Angelo**	**72.38**	**336**	⇑P	**P**	**22 52 51.5**	**-0.5**
	baz=73,SNR=7.9						
233A	**Rising Star**	**72.55**	**337**	⇑P	**P**	**22 52 53.0**	**0.0**
	baz=73,SNR=5.4						
SWET	**Sewanee**	**72.64**	**349**	*e*P	**P**	**22 52 53.2**	**-0.3**
	comp=Z,42nm,1.0s						
232A	**Coleman**	**72.66**	**337**	⇓P	**P**	**22 52 53.1**	**-0.6**
	baz=73						
CPCT	**Cooper Cave**	**72.67**	**350**	*e*P	**P**	**22 52 54.7**	**+1.1**
330A	**Mertzon**	**72.72**	**335**	⇓P	**P**	**22 52 53.9**	**-0.1**
	baz=73,SNR=5.1						
134A	**White-Moore Ra**	**72.82**	**338**	⇑P	**P**	**22 52 54.6**	**0.0**
	baz=73						
231A	**Bronte**	**72.92**	**336**	⇓P	**P**	**22 52 55.3**	**0.0**
	baz=73,SNR=5.6						
329A	**Wagon Wheel Ra**	**73.06**	**335**	⇓P	**P**	**22 52 55.9**	**-0.2**
	baz=73,SNR=6.1						
133A	**Hamilton Ranch**	**73.10**	**338**	⇑P	**P**	**22 52 56.1**	**-0.1**
	baz=74						
Z35A	**Perchaven, San**	**73.29**	**339**	⇑P	**P**	**22 52 57.8**	**+0.5**
	baz=74,SNR=6.5						
ABTX	**Abilene, Hawle**	**73.34**	**337**	*e*P	**P**	**22 52 57.6**	**0.0**
	comp=Z,26nm,1.2s						
ABTX	**Abilene, Hawle**	**73.34**	**337**	⇑P	**P**	**22 52 57.8**	**+0.1**
	baz=74,SNR=5.3						
229A	**Bryant Ranch,**	**73.44**	**335**	⇓P	**P**	**22 52 58.2**	**-0.2**
	baz=74						
Z34A	**Collier Ranch,**	**73.52**	**339**	⇓P	**P**	**22 52 58.9**	**+0.2**
	baz=74						
131A	**Roby**	**73.62**	**336**	⇓P	**P**	**22 52 59.3**	**-0.1**
	baz=74						
Z33A	**Whitaker Ranch**	**73.69**	**338**	⇑P	**P**	**22 52 59.7**	**0.0**
	baz=74						
130A	**Snyder**	**73.74**	**336**	⇑P	**P**	**22 52 59.3**	**-0.7**
	baz=74						
WVT	**Waverly**	**73.84**	**348**	*e*P	**P**	**22 52 59.9**	**-0.5**
WVT				pmax	pmax		
	comp=Z,31nm,1.2s						
WVT	**Waverly**	**73.84**	**348**	*e*P	**P**	**22 52 59.9**	**-0.5**
	comp=Z,31nm,1.2s						
228A	**UT Block 9, Go**	**73.85**	**334**	⇑P	**P**	**22 53 00.3**	**-0.4**
	baz=74,SNR=6.0						
Z32A	**Haskell**	**73.92**	**337**	⇓P	**P**	**22 53 01.1**	**0.0**
	baz=74,SNR=7.5						
Y34A	**Reagan Ranch,**	**74.02**	**339**	⇓P	**P**	**22 53 01.3**	**-0.3**
	baz=74						
129A	**Stewart Farms,**	**74.07**	**335**	⇓P	**P**	**22 53 01.7**	**-0.3**
	baz=74						
Z31A	**Sharp Cattle R**	**74.14**	**337**	⇑P	**P**	**22 53 02.1**	**-0.3**
	baz=74						
128A	**Castleberry Fa**	**74.27**	**335**	⇓P	**P**	**22 53 03.4**	**+0.2**
	baz=75,SNR=6.0						
Y33A	**Hilltop Ranch,**	**74.32**	**338**	⇑P	**P**	**22 53 03.3**	**-0.1**
	baz=75						
Z30A	**Sanderson Ranc**	**74.43**	**336**	⇑P	**P**	**22 53 03.8**	**-0.2**
	baz=75,SNR=9.7						
MNTX	**Cornudas Mount**	**74.48**	**332**	*e*P	**P**	**22 53 03.0**	**-1.3**
	comp=Z,5.5nm,1.0s						
GDL2	**Guadalupe Moun**	**74.55**	**333**	*e*P	**P**	**22 53 03.9**	**-1.0**
Y32A	**R-V Farms, Ver**	**74.56**	**338**	⇑P	**P**	**22 53 04.9**	**+0.2**
	baz=75						
Z29A	**Hungry Hill Ra**	**74.59**	**336**	⇓P	**P**	**22 53 04.4**	**-0.6**
	baz=75,SNR=14						
127A	**Arkansas Junct**	**74.62**	**334**	⇑P	**P**	**22 53 05.2**	**-0.1**
	baz=75						
X34A	**Smith Ranch, M**	**74.64**	**339**	⇑P	**P**	**22 53 05.7**	**+0.5**
	baz=75						
Y31A	**Rekieta Farm,**	**74.77**	**337**	⇑P	**P**	**22 53 06.6**	**+0.6**
	baz=75						
X33A	**Lawton**	**74.78**	**339**	⇓P	**P**	**22 53 06.2**	**+0.2**
	baz=75						
Z28A	**Tucker Farm, M**	**74.84**	**335**	⇓P	**P**	**22 53 06.9**	**+0.3**
	baz=75						
Y30A	**Stafford Cattl**	**74.89**	**337**	⇑P	**P**	**22 53 07.1**	**+0.3**
	baz=75						
X32A	**Elmer**	**74.90**	**338**	⇓P	**P**	**22 53 07.1**	**+0.4**
	baz=75						
PBMO	**Poplar Bluff**	**74.94**	**346**	*e*P	**P**	**22 53 06.2**	**-0.6**
	comp=Z,18nm,1.1s						
Y29A	**Porterfield Fa**	**75.13**	**336**	⇑P	**P**	**22 53 08.2**	**0.0**
	baz=76						
W34A	**Bridge Creek,**	**75.22**	**340**	⇑P	**P**	**22 53 08.7**	**+0.1**
	baz=76						
X31A	**McDonald Ranch**	**75.30**	**338**	⇓P	**P**	**22 53 09.1**	**0.0**
	baz=76						
TUL1	**Tulsa**	**75.32**	**341**	*e*P	**P**	**22 53 09.1**	**0.0**
	comp=Z,20nm,1.0s						
TUL1	**Tulsa**	**75.32**	**341**	⇓P	**P**	**22 53 08.9**	**-0.2**
	baz=76,SNR=6.3						
W33A	**Caddo, Fort Co**	**75.34**	**339**	⇓P	**P**	**22 53 09.6**	**+0.3**
	baz=76,SNR=6.2						
Y28A	**McKinney Farm,**	**75.36**	**335**	⇓P	**P**	**22 53 09.5**	**0.0**
	baz=76						
Z26A	**Caprock**	**75.38**	**334**	⇓P	**P**	**22 53 09.7**	**0.0**
	baz=76						
X30A	**Coker Ranch, T**	**75.41**	**337**	⇑P	**P**	**22 53 10.3**	**+0.6**
	baz=76						
W32A	**Sentinel**	**75.54**	**338**	⇑P	**P**	**22 53 10.7**	**+0.3**
	baz=76,SNR=12						
MSTX	**Muleshoe**	**75.60**	**335**	*e*P	**P**	**22 53 11.2**	**+0.3**
	comp=Z,17nm,1.2s						
MSTX	**Muleshoe**	**75.60**	**335**	⇑P	**P**	**22 53 11.3**	**+0.4**
	baz=76						
USIN	**University of**	**75.60**	**348**	*e*P	**P**	**22 53 10.1**	**-0.5**
	comp=Z,35nm,1.1s						
SIUC	**Southern Illin**	**75.62**	**347**	*e*P	**P**	**22 53 10.6**	**-0.2**
	comp=Z,16nm,0.8s						
SIUC				*e*pP	**pP**	**22 53 17.9**	**-2.6**
Y27A	**Causey**	**75.65**	**335**	⇑P	**P**	**22 53 11.4**	**+0.2**
	baz=76						
Z25A	**Roswell**	**75.65**	**333**	⇑P	**P**	**22 53 11.9**	**+0.7**
	baz=76						
X29A	**Tulia**	**75.68**	**336**	⇑P	**P**	**22 53 11.5**	**+0.3**
	baz=76						
V34A	**Guthrie**	**75.71**	**340**	*e*P	**P**	**22 53 11.2**	**-0.1**
	comp=Z,18nm,1.1s						
V34A	**Guthrie**	**75.71**	**340**	⇑P	**P**	**22 53 11.2**	**-0.1**
	baz=76						
319A	**Douglas**	**75.74**	**329**	⇓P	**P**	**22 53 12.3**	**+0.5**
	baz=76						
W31A	**Holland Ranch,**	**75.81**	**338**	⇑P	**P**	**22 53 11.7**	**-0.2**
	baz=76						
V33A	**Lossen Ranch,**	**75.91**	**339**	⇓P	**P**	**22 53 12.6**	**+0.1**
	baz=76,SNR=6.6						
Y26A	**Elida**	**75.92**	**334**	⇓P	**P**	**22 53 12.6**	**-0.1**
	baz=76,SNR=16						
Z24A	**Sheeppen Canyo**	**75.93**	**333**	⇓P	**P**	**22 53 12.7**	**-0.3**
	baz=76						
V32A	**Arapaho**	**76.04**	**339**	⇑P	**P**	**22 53 13.9**	**+0.7**
	baz=76						
AMTX	**Amarillo**	**76.07**	**336**	*e*P	**P**	**22 53 13.7**	**+0.1**
	comp=Z,26nm,1.1s						
AMTX	**Amarillo**	**76.07**	**336**	⇑P	**P**	**22 53 14.2**	**+0.6**
	baz=76						
121A	**Cookes Peak, D**	**76.14**	**331**	⇑P	**P**	**22 53 14.3**	**+0.2**
	baz=76						
Y25A	**Mesa, Roswell**	**76.22**	**334**	⇓P	**P**	**22 53 14.3**	**-0.1**
	baz=77						
W29A	**Amarillo**	**76.28**	**336**	⇑P	**P**	**22 53 14.6**	**-0.1**
	baz=77						
U34A	**Anderson Ranch**	**76.28**	**340**	⇓P	**P**	**22 53 14.9**	**+0.3**
	baz=77						
V31A	**Spring Creek L**	**76.32**	**338**	⇓P	**P**	**22 53 15.3**	**+0.4**
	baz=77						
U33A	**Lingo Farm, Me**	**76.44**	**340**	⇓P	**P**	**22 53 16.0**	**+0.5**
	baz=77						
Z22A	**Elephant Butte**	**76.47**	**332**	⇓P	**P**	**22 53 16.1**	**+0.2**
	baz=77						
X26A	**CR and CF Fran**	**76.48**	**335**	⇑P	**P**	**22 53 16.1**	**+0.1**
	baz=77						
Y24A	**Capitan**	**76.49**	**333**	⇓P	**P**	**22 53 16.2**	**+0.1**
	baz=77,SNR=7.3						
U32A	**Winter Ranch,**	**76.64**	**339**	⇓P	**P**	**22 53 17.1**	**+0.5**
	baz=77						
W27A	**Bowe Ranch, En**	**76.69**	**335**	⇓P	**P**	**22 53 17.0**	**0.0**
	baz=77,SNR=7.8						
LIC	**Lamto**	**76.70**	**72**	*e*P	**P**	**22 53 18.2**	**+0.7**
	comp=Z,45nm,0.9s						
Y23A	**Lovelace Mesa,**	**76.72**	**333**	⇓P	**P**	**22 53 17.5**	**+0.1**
	baz=77						
X25A	**Clemmons Ranch**	**76.75**	**334**	⇓P	**P**	**22 53 17.7**	**+0.2**
	baz=77,SNR=5.7						
W26A	**Owens Ranch, T**	**76.95**	**335**	⇓P	**P**	**22 53 18.6**	**0.0**
	baz=77						
TIC	**Toumodi**	**76.97**	**71**	*e*P	**P**	**22 53 20.0**	**+0.9**
	comp=Z,30nm,0.9s						
KIC	**Kosan Boka**	**77.01**	**72**	*e*P	**P**	**22 53 20.0**	**+0.8**
	comp=Z,52nm,0.9s						
X24A	**Lazy VL Ranch,**	**77.06**	**333**	⇑P	**P**	**22 53 19.9**	**+0.6**
	baz=77,SNR=6.2						
T33A	**Patterson Ranc**	**77.08**	**340**	⇑P	**P**	**22 53 19.6**	**+0.5**
	baz=77,SNR=7.6						
DBIC	**Dimbokro**	**77.12**	**71**	*e*P	**P**	**22 53 21.3**	**+1.5**
DBIC				pmax	pmax		
	comp=Z,19nm,0.8s						
DBIC	**Dimbokro**	**77.12**	**71**	P	**P**	**22 53 20.9**	**+1.1**
	comp=Z,15nm,0.8s,baz=214,slow=7.0,SNR=16						
DBIC				LR	LR	23 24 57.9	
	comp=Z,284nm,18.1s,baz=215,slow=34						
DBIC	**Dimbokro**	**77.12**	**71**	*e*P	**P**	**22 53 21.3**	**+1.5**
	comp=Z,19nm,0.8s						
TUC	**Tucson**	**77.18**	**328**	*e*P	**P**	**22 53 21.3**	**+1.4**
TUC				pmax	pmax		
	comp=Z,13nm,1.4s						
TUC	**Tucson**	**77.18**	**328**	*e*P	**P**	**22 53 21.3**	**+1.4**
	comp=Z,13nm,1.4s						
ACSO	**Alum Creek Sta**	**77.21**	**352**	*e*P	**P**	**22 53 19.2**	**-0.5**
	comp=Z,15nm,0.8s						
U30A	**WK&E Inc. Balk**	**77.27**	**338**	⇓P	**P**	**22 53 21.2**	**+1.0**
	baz=78						
LPM	**Los Pinos Moun**	**77.28**	**332**	*e*P	**P**	**22 53 21.9**	**+1.4**
W25A	**X Bar L Ranch,**	**77.31**	**334**	⇑P	**P**	**22 53 21.1**	**+0.5**
	baz=78,SNR=5.3						
T32A	**Huddler Ranch,**	**77.36**	**339**	⇑P	**P**	**22 53 21.7**	**+1.0**
	baz=78						
T31A	**Randall Ranch,**	**77.50**	**339**	⇓P	**P**	**22 53 21.9**	**+0.4**
	baz=78						
V26A	**Tequesquite Ra**	**77.60**	**335**	⇑P	**P**	**22 53 22.1**	**-0.1**
	baz=78						
U28A	**Mallet**	**77.62**	**337**	⇑P	**P**	**22 53 22.4**	**+0.1**
	baz=78						
W24A	**Lazy 6 Ranch,**	**77.64**	**334**	⇓P	**P**	**22 53 22.6**	**+0.2**
	baz=78						
214A	**Organ Pipe Nat**	**77.75**	**326**	⇑P	**P**	**22 53 23.4**	**+0.4**
	baz=78						
ANMO	**Albuquerque**	**77.78**	**333**	*e*P	**P**	**22 53 23.8**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ANMO	**Albuquerque**	**77.78**	**333**	*e*P	**P**	**22 53 23.8**	**+0.5**
	comp=Z,9.2nm,1.0s						
U27A	**Thompson Grove**	**77.85**	**336**	⇓P	**P**	**22 53 24.2**	**+0.6**
	baz=78						
W23A	**Werner Place,**	**77.86**	**333**	⇑P	**P**	**22 53 24.5**	**+0.7**
	baz=78						
V25A	**Rancho No Teng**	**77.92**	**334**	⇓P	**P**	**22 53 24.0**	**-0.1**
	baz=78,SNR=13						
S31A	**Mullinville**	**77.93**	**339**	⇑P	**P**	**22 53 24.8**	**+0.9**
	baz=78						
T29A	**Hugoton**	**78.04**	**338**	⇑P	**P**	**22 53 25.1**	**+0.6**
	baz=78						
V24A	**Rampart Ranch,**	**78.05**	**334**	⇓P	**P**	**22 53 25.0**	**+0.1**
	baz=78						
U26A	**Atchley Ranch,**	**78.13**	**335**	⇓P	**P**	**22 53 25.3**	**+0.1**
	baz=78						
R33A	**Olander Ranch,**	**78.16**	**340**	⇑P	**P**	**22 53 25.5**	**+0.4**
	baz=78						
S30A	**Montezuma**	**78.24**	**338**	⇑P	**P**	**22 53 26.1**	**+0.5**
	baz=79						
T28A	**Walsh**	**78.26**	**337**	⇓P	**P**	**22 53 26.1**	**+0.3**
	baz=79,SNR=9.0						
U25A	**Circle Dot Ran**	**78.36**	**335**	⇑P	**P**	**22 53 26.8**	**+0.3**
	baz=79,SNR=7.8						
V23A	**Ortiz Mt. (NFS**	**78.39**	**333**	⇓P	**P**	**22 53 26.9**	**+0.3**
	baz=79						
T27A	**Campo**	**78.40**	**336**	⇑P	**P**	**22 53 27.2**	**+0.6**
	baz=79,SNR=5.5						
S29A	**Ulysses**	**78.42**	**338**	⇑P	**P**	**22 53 27.1**	**+0.5**
	baz=79						
R32A	**Long Quarter,**	**78.47**	**340**	⇑P	**P**	**22 53 27.4**	**+0.6**
	baz=79						
KSU1	**Kansas State U**	**78.55**	**342**	*e*P	**P**	**22 53 27.8**	**+0.5**
	comp=Z,7.9nm,0.6s						
KSU1	**Kansas State U**	**78.55**	**342**	⇑P	**P**	**22 53 27.7**	**+0.5**
	baz=79						
R31A	**Burdett**	**78.57**	**339**	⇓P	**P**	**22 53 27.7**	**+0.3**
	baz=79						
S28A	**Manter**	**78.63**	**337**	⇓P	**P**	**22 53 28.1**	**+0.3**
	baz=79						
U24A	**Moreno Valley**	**78.67**	**334**	⇓P	**P**	**22 53 28.4**	**+0.1**
	baz=79						
X18A	**Snowflake**	**78.76**	**330**	⇑P	**P**	**22 53 29.3**	**+0.7**
	baz=79						
Q33A	**Connelly Farm,**	**78.77**	**341**	⇓P	**P**	**22 53 29.0**	**+0.5**
	baz=79						
R30A	**Dighton**	**78.78**	**339**	⇑P	**P**	**22 53 29.5**	**+0.9**
	baz=79						
T26A	**Comanche Natio**	**78.79**	**336**	⇓P	**P**	**22 53 29.3**	**+0.5**
	baz=79,SNR=8.7						
V22A	**San Miguel Ran**	**78.81**	**333**	⇓P	**P**	**22 53 29.6**	**+0.6**
	baz=79						
113A	**Mohawk Valley,**	**78.87**	**326**	⇑P	**P**	**22 53 30.3**	**+1.2**
	baz=79						
U23A	**El Rito**	**78.92**	**334**	⇑P	**P**	**22 53 30.5**	**+0.9**
	baz=79,SNR=7.1						
Q32A	**Meitler Ranch,**	**78.95**	**340**	⇓P	**P**	**22 53 30.1**	**+0.6**
	baz=79						
T25A	**Trinidad**	**79.03**	**335**	⇑P	**P**	**22 53 31.0**	**+0.8**
	baz=79,SNR=15						
P33A	**Williams Farm,**	**79.14**	**341**	⇑P	**P**	**22 53 31.4**	**+0.9**
	baz=80						
S26A	**Kim**	**79.16**	**336**	⇑P	**P**	**22 53 32.0**	**+1.2**
	baz=80,SNR=9.4						
R29A	**Marienthal**	**79.16**	**338**	⇑P	**P**	**22 53 31.8**	**+1.1**
	baz=80						
W18A	**Petrified Fore**	**79.19**	**330**	⇑P	**P**	**22 53 31.7**	**+0.7**
	baz=80						
Q31A	**Ellis**	**79.20**	**340**	⇓P	**P**	**22 53 31.9**	**+1.1**
	baz=80						
U22A	**Llaves**	**79.20**	**333**	⇑P	**P**	**22 53 32.4**	**+1.2**
	baz=80						
X16A	**Lo Mia Camp, P**	**79.27**	**329**	⇑P	**P**	**22 53 32.4**	**+0.8**
	baz=80						
T24B	**San Luis**	**79.29**	**334**	⇑P	**P**	**22 53 32.4**	**+0.7**
	baz=80,SNR=5.7						
R28A	**Tribune**	**79.29**	**338**	⇑P	**P**	**22 53 32.2**	**+0.8**
	baz=80						
TSUM	**Tsumeb**	**79.48**	**106**	*e*P	**P**	**22 53 34.3**	**+1.2**
	comp=Z,8.2nm,1.0s						
T23A	**Casias Ranch,**	**79.50**	**334**	⇑P	**P**	**22 53 33.7**	**+1.0**
	baz=80						
S25A	**Robets Cordova**	**79.51**	**335**	⇑P	**P**	**22 53 33.7**	**+1.0**
	baz=80						
R27A	**Eads**	**79.55**	**337**	⇓P	**P**	**22 53 33.7**	**+0.9**
	baz=80,SNR=6.1						
Q29A	**Oakley**	**79.55**	**338**	⇓P	**P**	**22 53 33.5**	**+0.8**
	baz=80						
P31A	**Stockton**	**79.67**	**340**	⇑P	**P**	**22 53 34.3**	**+0.8**
	baz=80						
BOSA	**Boshof**	**79.71**	**118**	*e*P	**P**	**22 53 34.7**	**+0.5**
BOSA				pmax	pmax		
	comp=Z,18nm,1.0s						
BOSA	**Boshof**	**79.71**	**118**	P	**P**	**22 53 34.4**	**+0.2**
	comp=Z,14nm,1.0s,baz=236,slow=5.6,SNR=12						
BOSA				LR	LR	23 27 59.2	
	comp=Z,176nm,18.2s,baz=225,slow=35						

BOSA Boshof 79.71 118 eP P 22 53 34.7 +0.5
comp=Z,18nm,1.0s
S24A Houchin Ranch, 79.75 335 ⇑P P 22 53 35.0 +0.8
baz=80,SNR=13
R26A Arlington 79.77 336 ⇓P P 22 53 35.0 +1.0
baz=80,SNR=7.6
P30A Selden 79.94 339 ⇑P P 22 53 35.9 +1.1
baz=80
SDCO Great Sand Dun 79.95 335 eP P 22 53 35.1 -0.2
comp=Z,5.5nm,1.0s
Q28A Sharon Springs 79.96 338 ⇓P P 22 53 35.7 +0.7
baz=80
MONP Monument Peak 80.18 324 ⇑P P 22 53 36.5 0.0
baz=80
WUAZ Wupatki 80.19 329 eP P 22 53 35.3 -1.2
comp=Z,22nm,1.5s
WUAZ epP pP 22 53 48.1 +1.8
WUAZ Wupatki 80.19 329 ⇑P P 22 53 35.9 -0.6
baz=80
O31A Woolen Ranch, 80.25 340 ⇓P P 22 53 38.0 +1.5
baz=81
R24A Sanders Place, 80.25 335 ⇑P P 22 53 38.0 +1.2
baz=81,SNR=14
Q26A Hugo 80.36 337 ⇓P P 22 53 37.2 0.0
baz=81
P28A Saint Francis 80.41 338 ⇑P P 22 53 38.0 +0.6
baz=81
S22A 4UR Ranch, Cre 80.41 334 ⇑P P 22 53 37.9 +0.2
baz=81
R23A Moffat 80.46 335 ⇓P P 22 53 38.3 +0.3
baz=81
O30A MW Ranch, Wils 80.48 340 ⇓P P 22 53 38.6 +0.8
baz=81
109C Camp Elliot, M 80.50 324 ⇓P P 22 53 38.2 +0.3
baz=81
MVCO Mesa Verde 80.54 332 eP P 22 53 39.6 +1.2
comp=Z,9.6nm,1.1s
MVCO Mesa Verde 80.54 332 ⇑P P 22 53 39.2 +0.8
baz=81
Q25A Bedland, Calha 80.58 336 ⇑P P 22 53 39.0 +0.5
baz=81
IRM Iron Mountain 80.66 326 ⇑P P 22 53 39.4 +0.5
baz=81
P26A Davis Ranch, A 80.88 337 ⇑P P 22 53 41.3 +1.2
baz=81
W13A Hualapai Mount 80.89 327 ⇓P P 22 53 41.4 +1.1
baz=81
Q24A Divide 80.92 335 ⇓P P 22 53 41.6 +1.1
baz=81
P25A Willow Gulch B 81.10 336 ⇑P P 22 53 42.2 +0.9
baz=82,SNR=8.2
N29A Votaw Ranch, W 81.23 339 ⇓P P 22 53 42.8 +1.0
baz=82
M31A Lambtecht Ranc 81.27 341 ⇓P P 22 53 43.2 +1.2
baz=82
U15A North Rim 81.35 329 ⇓P P 22 53 44.0 +1.2
baz=82
O26A Horse Wrangler 81.50 337 ⇑P P 22 53 44.0 +0.8
baz=82
P23A Jefferson 81.53 335 ⇑P P 22 53 44.1 +0.4
baz=82
SMCO Snowmass 81.74 334 eP P 22 53 46.1 +1.2
comp=Z,21nm,1.4s
FMP Fort Macarthur 81.74 324 ⇓P P 22 53 44.3 -0.2
baz=82
M29A Burnside Ranch 81.83 340 ⇑P P 22 53 46.0 +1.0
baz=82
ISCO Idaho Springs 81.83 335 eP P 22 53 46.4 +1.1
ISCO e*PP PcP 22 53 52.3 +1.4
ISCO pmax pmax
comp=Z,7.0nm,1.1s
ISCO Idaho Springs 81.83 335 eP P 22 53 46.4 +1.1
comp=Z,7.0nm,1.1s
ISCO epP PcP 22 53 52.3 +1.4
ISCO Idaho Springs 81.83 335 ⇑P P 22 53 45.9 +0.6
baz=82,SNR=5.1
L31A Butterfield Fa 82.01 341 ⇓P P 22 53 46.9 +1.1
baz=82
LBTB Lobatse 82.09 115 eP P 22 53 47.3 +0.4
LBTB pmax pmax
comp=Z,26nm,0.9s
LBTB Lobatse 82.09 115 eP P 22 53 47.3 +0.4
comp=Z,26nm,0.9s
O23A Lake Granby, G 82.31 335 ⇑P P 22 53 48.3 +0.6
baz=83,SNR=6.7
O22A Kremmling 82.47 335 ⇓P P 22 53 49.2 +0.6
baz=83,SNR=7.8
N24A Carr 82.52 336 ⇑P P 22 53 49.9 +1.2
baz=83
EDW2 Edwards Air Fo 82.56 324 ⇓P P 22 53 49.7 +0.8
baz=83
SHPR Sheep Range 82.63 327 eP P 22 53 51.3 +1.9
K30A Basset 82.68 341 ⇑P P 22 53 50.9 +1.6
baz=83
CCUT Cedar City 82.75 329 eP P 22 53 51.9 +1.8
comp=Z,20nm,1.3s
M25A Palm-Egli Farm 82.81 337 ⇓P P 22 53 51.5 +1.3
baz=83
LRMC Laurel Mountai 82.91 325 ⇑P P 22 53 51.8 +1.0
baz=83
N23A Red Feather La 82.93 336 ⇓P P 22 53 51.4 +0.5
baz=83,SNR=5.5
ECSD EROS Data Cent 82.93 343 eP P 22 53 50.5 -0.1
comp=Z,18nm,0.9s
ECSD EROS Data Cent 82.93 343 ⇓P P 22 53 51.0 +0.5
baz=83
SRU San Rafael 82.97 332 eP P 22 53 52.0 +0.9
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael 82.97 332 eP P 22 53 52.0 +0.9
comp=Z,8.6nm,0.9s
N22A Wattenberg Ran 83.02 335 ⇑P P 22 53 51.5 +0.1
baz=83,SNR=7.1
O20A White River Ci 83.04 334 eP P 22 53 52.1 +0.7
comp=Z,152nm,3.0s
O20A White River Ci 83.04 334 ⇓P P 22 53 52.1 +0.7
baz=83
M24A Cheyenne 83.08 337 ⇑P P 22 53 52.6 +1.0
baz=83
MVU Marysvale 83.10 330 eP P 22 53 53.0 +1.1
comp=Z,11nm,1.4s
PHWY Pilot Hill 83.14 336 eP P 22 53 52.8 +0.8
comp=Z,16nm,1.4s
PHWY epP PcP 22 53 58.9 +2.3
M23A Laramie 83.37 336 ⇑P P 22 53 53.9 +0.7
baz=84
TMUT Trail Mountain 83.40 331 eP P 22 53 54.9 +1.4
comp=Z,18nm,1.2s
ISA Isabella 83.42 325 ⇑P P 22 53 54.8 +1.4
baz=84
J29A Okreek 83.55 341 ⇑P P 22 53 54.4 +0.6
baz=84
M22A Cedar Creek Ra 83.60 335 ⇑P P 22 53 55.1 +0.8
baz=84
N20A Spence Gulch, 83.66 334 ⇓P P 22 53 55.3 +0.6
baz=84
I30A Oacoma 83.79 341 ⇓P P 22 53 55.6 +0.6
baz=84
J27A Elkhorn Farm, 83.87 339 ⇑P P 22 53 56.0 +0.5
baz=84
L23A Garrett 83.95 336 ⇓P P 22 53 56.0 0.0
baz=84
I29A Vivian Onida 84.12 341 ⇑P P 22 53 56.9 +0.2
baz=84
MPU Maple Canyon 84.18 331 eP P 22 53 58.5 +1.2
comp=Z,11nm,1.1s
J26A Sides Ranch, S 84.23 339 ⇑P P 22 53 57.7 +0.4
baz=85
NLU North Lily Min 84.30 331 eP P 22 54 00.1 +2.2
comp=Z,33nm,1.7s
I28A Midland 84.33 340 ⇑P P 22 53 58.2 +0.5
baz=85
R11A Troy Canyon, C 84.36 328 ⇑P P 22 53 58.0 -0.2
baz=85
K23A Bowen Ranch, D 84.50 337 ⇓P P 22 53 58.8 +0.1
baz=85
J25A Sunshine Ranch 84.52 338 ⇓P P 22 53 59.0 +0.2
baz=85
JLU Jordanelle 84.62 332 eP P 22 54 00.6 +1.1
comp=Z,7.6nm,1.1s
JLU epP pP 22 54 08.0 -1.5
I27A Quinn 84.64 340 ⇑P P 22 53 59.6 +0.3
baz=85
H29A Onida 84.66 341 ⇑P P 22 53 59.9 +0.5
baz=85
K22A Casper 84.70 336 eP P 22 54 00.2 +0.5
comp=Z,15nm,1.0s
K22A Casper 84.70 336 ⇓P P 22 54 00.3 +0.5

baz=85
J24A Dixon Ranch, L 84.72 338 ⇑P P 22 54 00.5 +0.6
baz=85
DUG Dugway 84.80 331 eP P 22 54 00.3 -0.1
DUG pmax pmax
comp=Z,14nm,1.1s
DUG Dugway 84.80 331 eP P 22 54 00.2 -0.1
comp=Z,14nm,1.1s
DUG Dugway 84.80 331 ⇑P P 22 54 00.5 +0.2
baz=85
TPH Tonopah 84.84 327 eP P 22 54 02.3 +1.6
TPH e*PP pP 22 54 10.4 -0.2
TPH pmax pmax
comp=Z,17nm,1.3s
TPH Tonopah 84.84 327 eP P 22 54 02.3 +1.6
comp=Z,16nm,1.3s
TPH epP pP 22 54 10.4 -0.2
G30A Faulkton 84.86 342 ⇓P P 22 54 00.9 +0.5
baz=85
K21A Alcova 84.92 336 ⇑P P 22 54 01.0 +0.1
baz=85
I25A Rochford 85.07 339 ⇓P P 22 54 01.9 +0.2
baz=85,SNR=7.6
H27A Howes 85.16 340 ⇑P P 22 54 01.7 -0.2
baz=86,SNR=6.0
I24A Kuemmerle Ranc 85.19 338 ⇑P P 22 54 02.1 -0.1
baz=86
RSSD Black Hills 85.25 338 eP P 22 54 02.5 -0.1
RSSD pmax pmax
comp=Z,11nm,1.1s
RSSD Black Hills 85.25 338 eP P 22 54 02.5 -0.1
comp=Z,11nm,1.1s
G28A Parade 85.26 341 ⇓P P 22 54 02.8 +0.5
baz=86
J22A Midwest 85.36 336 ⇓P P 22 54 02.9 -0.2
baz=86
HWUT Hardware Ranch 85.54 332 eP P 22 54 03.8 -0.3
comp=Z,35nm,1.4s
H25A Fruitdale 85.58 339 ⇑P P 22 54 04.2 +0.1
baz=86,SNR=7.0
NVAR Mina Array Bea 85.61 326 P P 22 54 05.0 +0.4
comp=Z,1.3nm,0.7s,baz=141,slow=5.8,SNR=2.3
F29A Eureka 85.69 342 ⇓P P 22 54 04.6 +0.1
baz=86
I22A 9 Mile Ranch, 85.80 337 ⇓P P 22 54 05.0 -0.2
baz=86,SNR=5.6
G27A Dupree 85.81 340 ⇑P P 22 54 05.0 -0.2
baz=86
PDAR Pinedale Array 85.82 334 P P 22 54 05.3 -0.2
comp=Z,3.7nm,1.1s,baz=145,slow=5.4,SNR=15
J20A Shoshoni 85.84 335 ⇑P P 22 54 05.7 +0.3
baz=86
G26A Maurine 85.92 340 ⇑P P 22 54 05.5 -0.2
baz=86,SNR=6.2
F28A McLaughlin 85.95 341 ⇓P P 22 54 05.5 -0.3
baz=86
H24A Dirks Ranch, A 85.98 338 ⇓P P 22 54 05.6 -0.5
baz=86
I21A Big Trails, Te 85.98 336 ⇓P P 22 54 05.7 -0.5
baz=86
G25A Newell 86.05 339 ⇓P P 22 54 06.5 +0.1
baz=86,SNR=8.6
E30A Jud 86.09 343 ⇑P P 22 54 07.0 +0.5
baz=86
J19A Crowheart 86.09 335 ⇓P P 22 54 06.8 +0.1
baz=86
HVU Hansel Valley 86.14 332 eP P 22 54 07.8 +0.8
HVU pmax pmax
comp=Z,9.0nm,1.0s
HVU Hansel Valley 86.14 332 eP P 22 54 07.8 +0.8
comp=Z,8.6nm,1.0s
TOA0 Torodi Ar. Sit 86.19 71 eP P 22 54 08.0 +0.3
TORD Torodi Ar. Bea 86.19 71 P P 22 54 07.8 +0.1
comp=Z,5.5nm,1.0s,baz=234,slow=2.7,SNR=23
TORD LR LR 23 31 25.5
comp=Z,338nm,18.1s,baz=240,slow=35
I20A Worland 86.38 336 ⇑P P 22 54 08.3 +0.2
baz=87
F26A Lodgepole 86.45 340 ⇓P P 22 54 08.3 0.0
baz=87,SNR=5.5
G24A Alzada 86.47 339 ⇓P P 22 54 08.5 +0.1
baz=87
D30A Buchanan 86.62 343 ⇓P P 22 54 09.7 +0.7
baz=87
H21A Big Horn, Sher 86.63 337 ⇑P P 22 54 09.3 -0.1
baz=87
G23A Biddle 86.64 338 ⇑P P 22 54 09.4 +0.2
baz=87
E27A Carson 86.68 341 ⇑P P 22 54 09.9 +0.4
baz=87
F25A Bowman 86.73 339 ⇑P P 22 54 10.1 +0.4
baz=87
I19A Meeteetse 86.75 335 ⇓P P 22 54 10.4 +0.4
baz=87
REDW Red Top Meadow 86.80 334 eP P 22 54 10.8 +0.5
comp=Z,36nm,1.9s
H20A Greybull 86.82 336 ⇓P P 22 54 10.1 -0.1
baz=87
G22A Birney 86.93 337 ⇓P P 22 54 10.5 -0.3
baz=87
LOHW Long Hollow 86.93 334 eP P 22 54 10.9 0.0
comp=Z,34nm,2.3s
F24A Ekalaka 86.94 339 ⇓P P 22 54 10.6 -0.2
baz=87
TPAW Teton Pass 86.95 334 eP P 22 54 11.8 +0.7
comp=Z,72nm,2.5s
E26A Carlson Angus 86.96 340 ⇑P P 22 54 10.6 -0.2
baz=87
FXWY Fox Creek 87.10 334 eP P 22 54 11.9 +0.1
comp=Z,17nm,1.8s
C30A Mose, Pekin 87.11 343 ⇓P P 22 54 11.6 +0.2
baz=88,SNR=6.9
F23A Volborg 87.11 338 ⇓P P 22 54 11.2 -0.3
baz=88
IMW Indian Meadow 87.30 334 eP P 22 54 13.5 +0.7
comp=Z,18nm,1.7s
FLWY Flagg Ranch 87.38 334 eP P 22 54 14.0 +1.0
comp=Z,95nm,2.3s
F22A Rosebud 87.42 338 ⇓P P 22 54 13.1 0.0
baz=88
D26A Manning 87.47 341 ⇑P P 22 54 13.6 +0.4
baz=88,SNR=8.1
G20A Bridger 87.54 336 ⇓P P 22 54 13.5 -0.2
baz=88
H18A Shoshone NF, C 87.54 335 ⇓P P 22 54 13.2 -0.7
baz=88
B30A Myrvik Farm, E 87.78 344 ⇓P P 22 54 14.9 +0.3
baz=88,SNR=13
D25A Fairfield 87.82 340 ⇑P P 22 54 14.8 -0.1
baz=88
C27A Sayler Ranch, 87.86 341 ⇓P P 22 54 15.0 -0.1
baz=88
E22A Miles City 87.92 338 ⇓P P 22 54 15.5 +0.1
baz=88
B29A Wagenman Farm, 88.03 343 ⇓P P 22 54 15.9 +0.1
baz=88
C26A Wahner Farm, P 88.11 341 ⇓P P 22 54 16.3 0.0
baz=88
A30A Hoffart Farm, 88.24 344 ⇓P P 22 54 17.1 +0.3
baz=89
B28A Dugan Ranch, T 88.26 342 ⇓P P 22 54 17.2 +0.4
baz=89,SNR=5.3
HLID Hailey 88.29 331 eP P 22 54 19.1 +1.7
comp=Z,17nm,1.6s
D23A Lindsay 88.37 339 ⇑P P 22 54 18.2 +0.7
baz=89
C24A Savage 88.47 340 ⇑P P 22 54 18.3 +0.4
baz=89
D22A Cohagen 88.63 338 ⇓P P 22 54 19.1 +0.3
baz=89
E20A Meyer Farm, Mu 88.65 337 ⇑P P 22 54 19.1 +0.2
baz=89
A28A Rude Farm, Bot 88.66 343 ⇓P P 22 54 19.3 +0.5
baz=89
MCMT McKenzie Canyo 88.79 333 eP P 22 54 20.1 +0.3
comp=Z,6.3nm,1.5s
E19A Rath Farm, Rou 88.83 336 ⇓P P 22 54 20.0 +0.3
baz=89
C23A Lambert 88.94 339 ⇑P P 22 54 20.9 +0.7
baz=89
ULM Lac du Bonnet 88.97 346 P P 22 54 19.6 -0.6
comp=Z,4.8nm,0.9s,baz=168,slow=1.7,SNR=5.1
A26A Wade Farm, Ken 89.09 342 ⇑P P 22 54 22.1 +1.3
baz=90,SNR=11
LSZ Lusaka 89.93 109 eP P 22 54 27.3 +1.5
LSZ pmax pmax
comp=Z,24nm,1.5s
LSZ Lusaka 89.93 109 eP P 22 54 27.3 +1.5

comp=Z,24nm,1.5s
A22A Carney Farms, 90.22 339 ⇓P P 22 54 26.3 +0.2
baz=91
A21A Bergtoll Ranch 90.51 339 ⇑P P 22 54 28.3 +0.8
baz=91
A20A Cobblestone Ra 90.71 338 ⇑P P 22 54 28.7 +0.3
baz=91
I07A Izee 90.76 329 epP pP 22 54 38.5 -0.3
G08A Pilot Rock 91.53 330 epP pP 22 54 40.5 -1.9
TAM Tamanrasset 95.01 65 eP P 22 54 49.6 +0.5
TAM pmax pmax
comp=Z,7.0nm,1.4s
TAM Tamanrasset 95.01 65 eP P 22 54 49.6 +0.5
comp=Z,6.8nm,1.4s
DZM Mont Dzumac 98.69 234 eLR LR 23 27 09.5
comp=Z,354nm,24.9s
ESDC Sonseca Array 99.32 47 LR LR 23 39 52.4
comp=Z,140nm,19.1s,baz=250,slow=35
GERES GERESS Array B 114.91 47 PKP PKPdf 23 00 06.4 0.0
comp=Z,1.6nm,0.9s,baz=170,slow=4.1,SNR=5.7
ILAR Eielson Array 116.22 333 PKIKP PKPdf 23 00 08.0 -0.3
ILAR Eielson Array 116.22 333 PKP PKPdf 23 00 08.0 -0.3
comp=Z,1.3nm,1.1s,baz=185,slow=1.8,SNR=4.7
WRA Warramunga Arr 117.76 210 PKP PKPdf 23 00 12.1 -0.6
comp=Z,1.4nm,0.9s,baz=151,slow=1.5,SNR=5.8
VYHS Vyhne 117.80 49 ePKIKP PKPdf 23 00 12.1 +0.3
VYHS Vyhne 117.80 49 ePKP PKPdf 23 00 12.1 +0.3
BUR08 Bucovina Ar. S 121.38 52 ePKPdf PKPdf 23 00 18.9 0.0
BR131 Keskin Array S 124.13 63 ePKPdf PKPdf 23 00 24.1 -0.4
BRTR Keskin Array B 124.13 63 PKP PKPdf 23 00 24.6 +0.1
comp=Z,2.0nm,0.9s,baz=183,slow=2.9,SNR=12
H11S2 WAKE ISLAND Hy 124.61 268 T T 01 17 15.0
baz=145
H11S1 WAKE ISLAND Hy 124.62 268 T T 01 17 19.2
baz=145
H11S3 WAKE ISLAND Hy 124.63 268 T T 01 17 16.9
baz=145
AKASG Malin Array Be 124.89 49 PKP PKPdf 23 00 24.6 -0.7
comp=Z,2.7nm,0.8s,baz=267,slow=2.7,SNR=9.5
H11N3 WAKE ISLAND Hy 125.09 269 T T 01 17 48.1
baz=125
H11N1 WAKE ISLAND Hy 125.11 269 T T 01 17 50.1
baz=125
H11N2 WAKE ISLAND Hy 125.11 269 T T 01 17 48.8
baz=125
FINES FINESS Array B 125.94 36 PKP PKPdf 23 00 25.6 -1.4
comp=Z,1.9nm,1.0s,baz=241,slow=10,SNR=3.0
RAYN Ar Rayn 126.33 86 ePKPdf PKPdf 23 00 28.9 -0.2
OBN Obninsk 130.23 45 i PKIKP PKPdf 23 00 35.2 -0.1
OBN pmax pmax
comp=Z,9.0nm,1.2s
KIV Kislovodsk 131.87 61 i PKIKP PKPdf 23 00 40.5 +1.5
KIV pmax pmax
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 132.33 38 ePKIKP PKPdf 23 00 32.5 -6.7
KLMR pmax pmax
comp=Z,14nm,1.4s
GEYT Alibeck 141.78 73 PKhKP PKPpre 23 00 53.0
comp=Z,3.6nm,0.9s,baz=262,slow=4.5,SNR=8.5
ARU Arti 142.58 43 ePKIKP PKPdf 23 00 56.8 -1.4
ARU Arti 142.58 43 ePKPdf PKPdf 23 00 56.8 -1.4
AKTO Aktyubinsk 142.96 53 PKhKP PKPpre 23 00 54.1
comp=Z,2.8nm,0.8s,baz=288,slow=3.7,SNR=9.6
ABKAR Akbulak array 144.25 55 ePKPdf PKPbc 23 00 59.9 +0.2
KSM Kuching 144.64 186 ePKPdf PKPdf 23 01 01.5 -0.3
POO Poona 145.95 113 eP PKPbc 23 01 06.0 0.0
IPM Ipoh 147.38 170 ePKPdf PKPdf 23 01 07.8 0.0
HYB Hyderabad 148.58 120 i PKP PKPbc 23 01 12.0 -1.4
KBL Kabul 149.51 83 ePKPdf PKPdf 23 01 11.7 +0.7
BRVK Borovoye 150.00 46 ePKPdf PKPdf 23 01 11.7 +0.9
BRVK ePKPbc PKiKP 23 01 16.4 -0.3
BVAR Borovoye Array 150.07 46 PKP PKPdf 23 01 09.9 -1.1
comp=Z,1.8nm,0.9s,baz=306,slow=5.1,SNR=4.6
BVAR PKPbc PKiKP 23 01 16.6 -0.3
comp=Z,12nm,0.9s,baz=289,slow=4.5,SNR=51
YAK Yakutsk 150.99 338 ePKIKP PKPdf 23 01 11.0 -1.1
YAK e 23 01 24.8
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
KKAR Karatay Array 151.78 66 ePKIKP PKPdf 23 01 14.0 0.0
KKAR e 23 01 20.3
KKAR Karatay Array 151.78 66 ePKPdf PKPdf 23 01 14.0 0.0
KKAR ePKPbc PKPbc 23 01 20.3 -0.1
EKS2 Erkin-Say 154.19 67 ePKIKP PKPdf 23 01 17.2 -0.4
EKS2 e 23 05 11.9
EKS2 Erkin-Say 154.19 67 ePKPdf PKPdf 23 01 17.2 -0.4
EKS2 ePP PP 23 05 11.9 -3.4
AAK Ala-Archa 154.72 67 ePKIKP PKPdf 23 01 18.5 0.0
AAK e 23 01 27.9
AAK Ala-Archa 154.72 67 ePKPdf PKPdf 23 01 18.5 0.0
AAK ePKPbc PKiKP 23 01 27.9 +0.8
FRU Bishkek 154.80 66 ePKP2 PKPab 23 01 43.0 +0.7
TKM2 Tokmak 2 155.51 66 ePKIKP PKPdf 23 01 19.4 -0.2
TKM2 e 23 05 23.1
TKM2 Tokmak 2 155.51 66 ePKPdf PKPdf 23 01 19.4 -0.2
TKM2 ePKPab PKPab 23 01 45.9 +0.3
TKM2 eSKPdf SKPdf 23 04 51.3 +1.3
TKM2 ePP PP 23 05 23.1 +0.3
KSH Kashi 155.81 74 PKP PKPdf 23 01 19.5 -0.5
KSH esPKP 23 01 34.0
KSH eSKS SKSdf 23 08 20.5 -3.6
KSH SKKS SKKSac 23 12 09.5 -1.9
KSH AMB AMB
comp=N,56nm,3.4s
KSH LR LR
comp=N,100nm,10.8s
NVS Novosibirsk 155.91 34⇑i PKIKP PKPdf 23 01 18.4 -1.0
NVS pmax pmax
comp=Z,11nm,1.1s
NVS pmax pmax
comp=N,2.0nm,1.0s
NVS pmax pmax
comp=E,5.0nm,1.4s
ZAA0 Zalesovo Array 157.19 35 ePKPdf PKPdf 23 01 19.9 -1.2
ZAA0 ePKPab PKPab 23 01 52.4 +0.4
ZALV Zalesovo Beam 157.19 35 PKP PKPdf 23 01 20.8 -0.3
comp=E,8.9nm,1.0s,baz=280,slow=2.7,SNR=22
ZALV PKPab PKPab 23 01 50.9 -1.1
comp=E,9.3nm,0.9s,baz=305,slow=5.2,SNR=10
BOD Bodaibo 158.45 349 ePKP2 PKPab 23 01 56.9 -0.4
BOD pmax pmax
comp=Z,8.0nm,1.2s
KOLN Koldanda 158.58 108 eP PKPdf 23 01 23.8 -0.1
DANN Dangsing 158.99 107 eP PKPdf 23 01 24.3 -0.2
comp=Z,28nm,1.3s
MK31 Makanchi Array 159.39 54 ePKIKP PKPdf 23 01 22.8 -1.3
MK31 e 23 02 01.6
MK31 e 23 05 41.7
MK31 Makanchi Array 159.39 54 ePKPdf PKPdf 23 01 22.8 -1.3
MK31 ePKPab PKPab 23 02 01.6 -0.3
MK31 ePP PP 23 05 41.7 -1.9
MKAR Makanchi Array 159.39 54 PKP PKPdf 23 01 23.8 -0.2
comp=Z,3.6nm,1.0s,baz=299,slow=2.5,SNR=16
MKAR PKPab PKPab 23 02 01.2 +0.2
comp=Z,8.0nm,0.9s,baz=289,slow=3.7,SNR=20
GKN Gorkha 159.48 109 eP PKPdf 23 01 24.2 -0.7
DMN Daman 159.63 111 eP PKPdf 23 01 24.7 -0.5
PKI Pulchoki 159.84 111 eP PKPdf 23 01 24.8 -0.8
GUN Gumba 160.37 111 eP PKPdf 23 01 25.0 -1.2
RAMN Ramite 160.37 114 eP PKPdf 23 01 25.7 -0.4
JIRN Jiri 160.47 112 eP PKPdf 23 01 25.4 -0.9
CMAR Chiang Mai Arr 160.47 158 PKP PKPdf 23 01 25.5 -0.6
comp=Z,0.5nm,0.3s,baz=232,slow=3.5,SNR=6.7
CMAR PKPab PKPab 23 02 06.5 -0.6
comp=Z,0.4nm,0.4s,baz=212,slow=3.2,SNR=4.8
ODAN Odare 160.90 116 eP PKPdf 23 01 25.5 -1.1
TAPN Taplejung 161.41 115 eP PKPdf 23 01 26.4 -0.9
WMQ Urumqi 163.99 58 PKP PKPdf 23 01 28.5 -0.5
WMQ LR LR
comp=Z,110nm,20.2s
WMQ LR LR
comp=Z,93nm,20.4s
WMQ LR LR
comp=Z,210nm,21.0s
TLY Talaya 165.01 7 ePKP2 PKPab 23 02 27.9 +1.7
TLY pmax pmax
comp=Z,4.0nm,0.8s
ZAK Zakamensk 166.25 9 ePKP2 PKPab 23 02 30.7 -1.1
ZAK pmax pmax
comp=Z,5.0nm,1.1s

KMI Kunming 167.85 163 PKP PKPdf 23 01 33.0 +0.1
NJ2 Nanjing 168.84 248 ePKP PKPdf 23 01 33.0 0.0
SONM Songino Array 169.01 1 PKP PKPdf 23 01 31.2 -1.5
comp=Z,1.1nm,1.0s,baz=96,slow=1.4,SNR=6.2
SONM PKPab PKPab 23 02 44.4 +0.2
comp=Z,3.1nm,1.0s,baz=306,slow=1.8,SNR=13
GYA Guiyang 169.65 180 ePKP PKPdf 23 01 33.0 -0.8
GYA PKPab PKPab 23 02 49.5 +2.1
GYA PKS PKSdf 23 05 03.0 -3.5
GYA PP PP 23 06 39.8 +3.6
GYA SKKS 23 13 22.5
GYA SS SS 23 27 32.5 +1.5
GYA AMB AMB
comp=Z,120nm,8.5s
GYA LR LR
comp=Z,120nm,21.7s
GYA LR LR
comp=Z,110nm,21.5s
GYA LR LR
comp=Z,120nm,24.8s
CD2 Chengdu 173.62 157 PKP PKPdf 23 01 35.8 +0.3
CD2 pPKP pPKPdf 23 01 46.5 +0.7
CD2 sPKP 23 01 50.3
CD2 PKS PKSdf 23 05 06.5 -1.3
CD2 PP PP 23 07 00.3 +4.2
CD2 SKS SKSdf 23 08 34.5 -2.0
CD2 SKKS SKKSac 23 13 42.5 +1.5
CD2 SS SS 23 28 11.8 +1.5
CD2 AMB AMB
comp=Z,240nm,6.4s
GTA Gaotai 174.05 62 ePKP PKPdf 23 01 35.5 0.0
GTA pPKP pPKPdf 23 01 46.0 +0.2
GTA sPKP 23 01 50.3
GTA PKPab PKPab 23 03 07.3 +0.4
HHC Hu-ho-hao-te 174.45 318 ePKP PKPdf 23 01 35.0 -0.6
HHC pPKP pPKPdf 23 01 45.3 -0.5
HHC sPKP 23 01 50.3
HHC PP PP 23 07 03.0 +2.2
HHC SKS SKSdf 23 08 33.0 -3.4
HHC SS SS 23 28 21.0 +1.6
HHC AMB AMB
comp=Z,68nm,6.2s
HHC LR LR
comp=Z,140nm,18.9s
HHC LR LR
comp=Z,140nm,19.0s
HHC LR LR
comp=Z,160nm,19.9s
LZH Lanzhou 177.63 108 ePKP PKPdf 23 01 36.0 -0.5
LZH pPKP pPKPdf 23 01 46.3 -0.5
LZH sPKP 23 01 51.8

IDC 28 22:45:13.1±0.6, 35.27S×72.67W, h0km, mb4.5/11, mb1 4.6/13, mb1mx4.4/28, mbtmp4.5/13, ML4.4/2, Error ellipse: s-maj=26.7km s-min=16.0km az=82.0
ISCJB 28 22:45:14.4±0.4, 35.27S±0.07×72.7W±0.1, h20km, mb4.6/18, Error ellipse: s-maj=15.6km s-min=9.6km az=166.7
NEIC 28 22:45:18.1±2.1, 35.28S×72.60W, h34km±14km, mb4.8/9, Error ellipse: s-maj=10.3km s-min=5.5km az=79.0
ISC 28 22:45:16.1±0.5, 35.28S±0.08×72.7W±0.1, h20km, n49, σ0.66/43, mb4.6/18, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.21 47 Pn Pn 22 46 33.5 +0.6
0.7nm,0.3s,baz=214,slow=15,SNR=9.0
CFAA Lg Lg 22 47 48.2
1.1nm,0.3s,baz=292,slow=19,SNR=5.3
PLCA Paso Flores 5.70 164 Pn Pn 22 46 39.8 +0.2
5.2nm,0.3s,baz=335,slow=13,SNR=9.2
PLCA Lg Lg 22 48 08.9
0.5nm,0.3s,baz=260,slow=18,SNR=3.4
LPAZ La Paz 19.34 13 P Pn 22 49 42.5 +0.4
0.2nm,0.3s,baz=194,slow=12,SNR=3.7
LPAZ Lg Lg 22 55 22.6
0.2nm,0.3s,baz=199,slow=17,SNR=3.7
LPAZ La Paz 19.34 13 eP P 22 49 40.8 -0.1
LPAZ Lg Lg 22 55 22.6
SIV San Ignacio 21.83 31 P P 22 50 07.1 -0.2
11nm,0.8s,baz=230,slow=9.4,SNR=7.5
OTAV Otavalo 35.74 350 eP P 22 52 14.1 -0.1
SNAA Sanae 50.60 157 P P 22 54 13.8 +0.7
5.9nm,0.9s,baz=303,slow=6.5,SNR=12
SNAA Sanae 50.60 157 eP P 22 54 13.4 +0.3
20nm,1.0s
QSPA South Pole Qui 54.96 180 P P 22 54 46.7 +1.2
16nm,0.9s,baz=149,slow=2.5,SNR=13
QSPA South Pole Qui 54.96 180 eP P 22 54 45.8 +0.3
13nm,0.8s
TEIG Tepich 57.15 342 P P 22 55 01.8 +0.4
7.2nm,0.7s,baz=132,slow=17,SNR=4.6
TEIG Tepich 57.15 342 eP P 22 55 01.7 +0.2
H06E1 SOCORRO T-PHAS 64.87 320 T T 00 06 33.0
SNR=9.4
TXAR Lajitas Array 70.60 332 P P 22 56 29.9 -0.1
1.8nm,0.6s,baz=152,slow=8.2,SNR=5.3
SWET Sewanee 71.22 349 eP P 22 56 33.4 -0.2
ABTX Abilene, Hawle 72.13 336 eP P 22 56 38.8 -0.2
8.9nm,1.0s
MIAR Mount Ida 72.16 342 eP P 22 56 39.0 -0.2
WVT Waverly 72.44 347 eP P 22 56 40.8 0.0
14nm,0.8s
MNTX Cornudas Mount 73.37 331 eP P 22 56 45.7 -0.8
3.4nm,1.1s
DBIC Dimbokro 76.08 71 P P 22 57 02.8 +0.3
5.2nm,0.7s,baz=197,slow=5.8,SNR=6.0
DBIC Dimbokro 76.08 71 eP P 22 57 01.9 -0.7
ANMO Albuquerque 76.66 332 eP P 22 57 06.4 +0.8
5.3nm,1.0s
TSUM Tsumeb 79.36 106 eP P 22 57 21.2 +0.1
BOSA Boshof 79.93 118 P P 22 57 23.7 -0.3
4.8nm,0.8s,baz=262,slow=4.6,SNR=5.9
BOSA Boshof 79.93 118 eP P 22 57 23.3 -0.7
ECSD EROS Data Cent 81.61 343 eP P 22 57 32.6 +0.4
SRU San Rafael 81.88 331 eP P 22 57 34.3 +0.3
4.7nm,1.1s
DUG Dugway 83.72 330 eP P 22 57 44.0 +0.5
4.5nm,1.0s
NVAR Mina Array Bea 84.64 326 P P 22 57 49.2 +0.9
1.8nm,0.8s,baz=142,slow=7.3,SNR=7.5
PDAR Pinedale Array 84.67 334 P P 22 57 48.5 +0.2
1.3nm,0.9s,baz=165,slow=4.2,SNR=5.2
TORD Torodi Ar. Bea 85.13 70 P P 22 57 50.9 -0.2
2.5nm,0.7s,baz=257,slow=4.8,SNR=12
ULM Lac du Bonnet 87.60 345 P P 22 58 02.1 -0.2
4.7nm,0.8s,baz=173,slow=0.5,SNR=6.7
DGMT Dagmar 88.00 340 eP P 22 58 04.1 -0.2
17nm,0.9s
YKA Yellowknife Ar 103.10 341 Pdiff Pdif 22 59 10.8 -2.0
0.1nm,0.6s,baz=139,slow=4.9,SNR=3.8
WRA Warramunga Arr 119.40 209 PKP PKPdf 23 04 03.6 -1.0
0.4nm,0.6s,baz=170,slow=1.5,SNR=6.3
BRTR Keskin Array B 122.90 62 PKP PKPdf 23 04 10.8 +0.1
0.7nm,0.8s,baz=132,slow=1.8,SNR=4.6
AKASG Malin Array Be 123.43 48 PKP PKPdf 23 04 09.8 -1.4
0.3nm,0.3s,baz=252,slow=2.5,SNR=2.9
FINES FINESS Array B 124.33 35 PKP PKPdf 23 04 12.2 -0.4
1.4nm,0.9s,baz=282,slow=9.2,SNR=8.7
H11S2 WAKE ISLAND Hy 125.23 269 T T 01 21 56.4
baz=116
H11S1 WAKE ISLAND Hy 125.24 269 T T 01 21 54.7
baz=116
H11S3 WAKE ISLAND Hy 125.25 269 T T 01 21 58.6
baz=116
H11N3 WAKE ISLAND Hy 125.67 270 T T 01 22 25.7
baz=118
H11N1 WAKE ISLAND Hy 125.69 270 T T 01 22 26.3
baz=118
H11N2 WAKE ISLAND Hy 125.69 270 T T 01 22 26.8
baz=118
BVAR Borovoye Array 148.56 44 PKP PKPdf 23 04 57.5 +0.2
2.3nm,0.7s,baz=266,slow=4.3,SNR=5.4
BVAR PKPbc PKPbc 23 05 01.7 +0.7
2.3nm,0.7s,baz=298,slow=2.7,SNR=8.0
HYB Hyderabad 148.84 117 i PKP PKPbc 23 05 01.5 -1.2
ZALV Zalesovo Beam 155.58 33 PKP PKPdf 23 05 07.0 -0.7
1.3nm,0.8s,baz=318,slow=2.0,SNR=4.0
ZALV PKPbc PKPab 23 05 17.1 -17
2.1nm,0.7s,baz=292,slow=2.1,SNR=5.9
ZALV PKPab PKPab 23 05 34.3 +0.6
2.7nm,0.7s,baz=293,slow=3.9,SNR=5.8
MKAR Makanchi Array 157.98 51 PKPab PKPab 23 05 44.1 -0.3
4.4nm,1.1s,baz=296,slow=3.9,SNR=8.6
SONM Songino Array 167.44 3 PKPab PKPab 23 06 26.7 +0.9
1.3nm,0.8s,baz=333,slow=4.9,SNR=9.1

IDC 28 22:57:02.2±4.6, 36.22S×71.94W, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.6/21, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=176.0km s-min=33.1km az=94.0, Central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.63 167 Pn Pn 22 58 11.7 -1.9
1.7nm,0.3s,baz=343,slow=13,SNR=7.0
SIV San Ignacio 22.35 28 P P 23 02 00.0 -1.8
0.8nm,0.5s,baz=198,slow=9.6,SNR=2.2
TORD Torodi Ar. Bea 84.89 70 P P 23 09 40.6 +1.3
0.3nm,0.5s,baz=230,slow=4.1,SNR=4.2
ZALV Zalesovo Beam 156.03 35 PKPab PKPab 23 17 24.5 -0.6
0.6nm,0.7s,baz=329,slow=1.7,SNR=2.9
MKAR Makanchi Array 158.09 53 PKPab PKPab 23 17 35.0 +0.6
0.4nm,0.9s,baz=272,slow=4.3,SNR=3.7

IDC 28 22:57:37.9±3.9, 37.22S×70.30W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.9/21, mbtmp4.0/4, MS2.5/1, Ms1 2.5/1, ms1mx2.5/24, Error ellipse: s-maj=103.0km s-min=44.9km az=64.0, Southern Argentina

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.85 18 LR LR 23 01 19.1
comp=Z,47nm,19.7s,baz=224,slow=38
LPAZ La Paz 20.93 6 P P 23 02 22.9 0.0
3.3nm,1.0s,baz=186,slow=9.2,SNR=4.0
SIV San Ignacio 22.67 24 P P 23 02 40.8 -0.2
2.5nm,0.8s,baz=216,slow=10,SNR=4.4
ROSC El Rosal 42.02 354 P P 23 05 31.6 0.0
3.5nm,0.4s,baz=108,slow=20,SNR=2.4
TORD Torodi Ar. Bea 84.02 69 P P 23 10 11.4 +0.9
0.9nm,0.9s,baz=227,slow=3.2,SNR=4.5
MKAR Makanchi Array 157.59 56 PKPab PKPab 23 18 06.3 -1.6
0.3nm,0.7s,baz=275,slow=5.5,SNR=4.2

IDC 28 23:04:33.0±1.1, 35.02S×72.37W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/21, mbtmp3.8/6, ML2.7/1, Error ellipse: s-maj=35.4km s-min=30.4km az=18.0
ISCJB 28 23:04:35.1±1.2, 34.9S±0.2×72.3W±0.2, h18km, mb3.8/6, Error ellipse: s-maj=30.7km s-min=22.4km az=158.2
ISC 28 23:04:36.1±1.1, 35.0S±0.2×72.4W±0.2, h18km, n10, σ0.83/10, mb3.9/6, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 4.82 47 Pn Pn 23 05 48.1 +0.4
0.3nm,0.3s,baz=204,slow=12,SNR=3.4
CFAA Lg Lg 23 06 57.5
1.2nm,0.3s,baz=273,slow=19,SNR=5.8
SIV San Ignacio 21.44 31 P P 23 09 22.6 -0.7
2.8nm,0.6s,baz=222,slow=13,SNR=5.2
TXAR Lajitas Array 70.46 331 P P 23 15 48.8 -0.7
0.5nm,0.4s,baz=145,slow=8.1,SNR=2.6
BOSA Boshof 79.85 118 P P 23 16 44.1 +0.2
3.5nm,1.1s,baz=220,slow=9.4,SNR=3.5
PDAR Pinedale Array 84.51 333 P P 23 17 07.8 -0.1
0.3nm,0.6s,baz=148,slow=5.2,SNR=2.9
NVAR Mina Array Bea 84.53 325 P P 23 17 09.7 +1.6
0.2nm,0.3s,baz=170,slow=7.0,SNR=2.6
TORD Torodi Ar. Bea 84.79 70 P P 23 17 09.7 +0.1
0.4nm,0.5s,baz=246,slow=4.0,SNR=11
WRA Warramunga Arr 119.78 209 PKP PKPdf 23 23 24.9 -0.8
0.2nm,0.6s,baz=157,slow=1.5,SNR=4.0
MKAR Makanchi Array 157.59 51 PKPab PKPab 23 25 02.6 -0.4
0.1nm,0.4s,baz=275,slow=3.5,SNR=4.1
SONM Songino Array 167.12 4 PKPab PKPab 23 25 45.2 +0.5
0.4nm,0.9s,baz=346,slow=2.4,SNR=3.7

IDC 28 23:38:33.3±1.9, 38.11S×74.96W, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.8/31, mbtmp3.7/4, ML2.4/1, Error ellipse: s-maj=96.8km s-min=27.6km az=40.0
ISCJB 28 23:38:37.7±2.0, 38.2S±0.6×75.0W±0.2, h33km, mb3.8/3, Error ellipse: s-maj=118.5km s-min=11.2km az=43.2
ISC 28 23:38:38.4±1.9, 38.2S±0.5×75.1W±0.5, h35km, n9, σ1.07/10, mb3.8/3, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 4.35 128 Pn Pn 23 39 41.6 -0.5
3.3nm,0.3s,baz=297,slow=12,SNR=15
PLCA Sn Sn 23 40 32.7 +1.1
3.7nm,0.3s,baz=21,slow=22,SNR=3.5
NVAR Mina Array Bea 85.97 327 P P 23 51 16.3 +1.3
0.3nm,0.6s,baz=162,slow=11,SNR=3.1
PDAR Pinedale Array 86.43 335 P P 23 51 17.8 +0.6
0.7nm,0.9s,baz=147,slow=3.9,SNR=4.6
TORD Torodi Ar. Bea 87.90 72 P P 23 51 25.0 +0.3
0.4nm,0.8s,baz=242,slow=3.1,SNR=3.2
BRTR Keskin Array B 125.93 64 PKP PKPdf 23 57 35.9 -0.6
0.3nm,0.5s,baz=222,slow=5.7,SNR=2.8
AKASG Malin Array Be 126.78 50 PKP PKPdf 23 57 37.0 -0.6
0.1nm,0.3s,baz=269,slow=2.4,SNR=4.3
GEYT Alibeck 143.45 75 PKhKP PKPpre 23 58 02.2
2.4nm,0.8s,baz=242,slow=3.2,SNR=9.0
ZALV Zalesovo Beam 159.05 35 PKP PKPdf 23 58 31.1 -0.9
0.4nm,0.4s,baz=339,slow=3.7,SNR=3.5
ZALV PKPab PKPab 23 59 09.5 +0.7
0.2nm,0.4s,baz=306,slow=3.4,SNR=3.7
MKAR Makanchi Array 161.26 55 PKPab PKPab 23 59 17.3 -1.5
0.4nm,0.7s,baz=296,slow=3.9,SNR=5.3

MEX 28 23:39:55.5±0.5, 15.37N×96.73W, h10km±10km, MD4.1, Near coast of Oaxaca

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HUIG Huatulco 0.72 56 i P Pg 23 40 07.9 -1.5
HUIG i S Sg 23 40 16.9 -2.1
PNIG Pinotepa 1.69 307 eP Pn 23 40 20.8 -4.3
PNIG eS Sn 23 40 42.0 -4.8
VHO Vista Hermosa 1.69 360 eP Pn 23 40 22.1 -3.3
VHO i S Sn 23 40 41.8 -5.5
CMIG Matias Romero 2.47 46 eP Pn 23 40 32.5 -3.3
CMIG i S Sn 23 41 02.3 -3.7
TLIG Tlapa 2.81 321 eP Pn 23 40 37.4 -3.2
TLIG i S Sn 23 41 11.1 -3.5

IDC 28 23:40:52.8±0.6, 35.31S×72.68W, h0km, mb4.2/11, mb1 4.4/14, mb1mx4.2/33, mbtmp4.3/14, ML4.9/2, MS2.7/1, Ms1 2.7/1, ms1mx2.7/33, Error ellipse: s-maj=24.9km s-min=15.8km az=88.0
ISCJB 28 23:40:53.9±0.5, 35.33S±0.06×72.7W±0.1, h17km, mb4.3/13, Error ellipse: s-maj=13.9km s-min=8.0km az=178.8
NEIC 28 23:40:58.5±1.1, 35.32S×72.65W, h40km±9km, mb4.6/7, Error ellipse: s-maj=13.2km s-min=6.4km az=91.0
ISC 28 23:40:55.4±0.6, 35.32S±0.07×72.8W±0.1, h17km, n39, σ1.06/38, mb4.4/13, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CFAA Coronel Fontan 5.29 47 Pn Pn 23 42 14.2 +0.4
0.3nm,0.3s,baz=209,slow=11,SNR=7.1
CFAA Lg Lg 23 43 30.6
3.5nm,0.3s,baz=323,slow=20,SNR=7.1
CFAA LR LR 23 44 29.3
comp=Z,78nm,19.1s,baz=324,slow=41
PLCA Paso Flores 5.68 163 Pn Pn 23 42 19.8 +0.6
13nm,0.3s,baz=331,slow=10,SNR=24
PLCA Lg Lg 23 43 48.9
2.4nm,0.3s,baz=270,slow=20,SNR=2.3
TRQA Tornquist 9.08 111 ePn Pn 23 43 06.9 +1.1
16nm,0.6s
LVC Limon Verde 13.10 16 ePn Pn 23 44 01.0 0.0
CPUP Villa Florida 15.99 60 Pn P 23 44 42.7 -0.3
0.6nm,0.3s,baz=176,slow=8.0,SNR=3.0
CPUP Villa Florida 15.99 60 ePn Pn 23 44 39.2 -0.3
LPAZ La Paz 19.40 14 P Pn 23 45 26.1 +3.7
0.2nm,0.3s,baz=180,slow=1.0,SNR=4.2
LPAZ La Paz 19.40 14 eP P 23 45 22.8 +0.3
13nm,0.8s
USHA Ushuaia 19.75 173 P P 23 45 24.7 +0.5
1.3nm,0.3s,baz=330,slow=9.8,SNR=5.6
SIV San Ignacio 21.91 31 P P 23 45 47.1 -0.8
17nm,0.8s,baz=229,slow=11,SNR=9.8
SAML Samuel 27.67 21 eP P 23 46 41.9 -0.7
BDFB Brasilia 29.57 55 P P 23 47 00.2 +0.5
1.1nm,0.8s,baz=172,slow=14,SNR=2.3
VNA3 Neumayer Olymp 48.37 157 P P 23 49 36.3 +0.4
VNA2 Neumayer--Watz 49.04 157 P P 23 49 40.6 -0.4
SNAA Sanae 50.60 157 P P 23 49 52.6 -0.4
SNAA Sanae 50.60 157 P P 23 49 52.8 -0.2
7.3nm,0.9s,baz=276,slow=7.3,SNR=39
SNAA Sanae 50.60 157 eP P 23 49 52.7 -0.2
24nm,1.0s
QSPA South Pole Qui 54.92 180 P P 23 50 25.6 +0.5
18nm,0.9s,baz=142,slow=2.4,SNR=31
QSPA South Pole Qui 54.92 180 eP P 23 50 25.1 0.0
20nm,0.9s
TXAR Lajitas Array 70.60 332 P P 23 52 09.9 0.0
1.0nm,0.8s,baz=170,slow=6.1,SNR=3.2
WVT Waverly 72.45 347 eP P 23 52 20.9 +0.2
9.6nm,1.0s
DBIC Dimbokro 76.17 71 P P 23 52 42.1 -0.8
2.6nm,0.7s,baz=197,slow=4.4,SNR=5.9
ANMO Albuquerque 76.66 332 ePcP PcP 23 52 55.5 -1.3
5.6nm,1.1s
BOSA Boshof 79.99 118 P P 23 53 03.7 -0.5
2.8nm,0.5s,baz=252,slow=2.7,SNR=12
BOSA Boshof 79.99 118 eP P 23 53 03.0 -1.2
NVAR Mina Array Bea 84.63 326 P P 23 53 29.6 +1.5
1.1nm,0.9s,baz=145,slow=5.4,SNR=3.6
PDAR Pinedale Array 84.67 334 P P 23 53 28.9 +0.7
0.3nm,0.5s,baz=165,slow=7.5,SNR=3.2
TORD Torodi Ar. Bea 85.22 70 P P 23 53 30.7 -0.6
1.7nm,0.7s,baz=236,slow=5.0,SNR=34
ULM Lac du Bonnet 87.61 345 P P 23 53 42.7 +0.5
2.2nm,0.7s,baz=190,slow=8.3,SNR=4.6
ULM Lac du Bonnet 87.61 345 eP P 23 53 41.8 -0.4
2.8nm,0.8s
MCMT McKenzie Canyo 87.66 333 eP P 23 53 43.8 +0.8
1.8nm,1.1s
YKA Yellowknife Ar 103.11 341 Pdiff Pdif 23 54 51.1 -1.6
0.2nm,0.8s,baz=140,slow=3.9,SNR=3.3
WRA Warramunga Arr 119.32 209 PKP PKPdf 23 59 43.2 -1.2
0.4nm,0.5s,baz=166,slow=1.6,SNR=11
AKASG Malin Array Be 123.52 48 PKP PKPdf 23 59 49.6 -1.7
0.3nm,0.5s,baz=270,slow=0.7,SNR=6.7
ARCES ARCESS Array B 125.46 25 PKP PKPdf 23 59 54.1 -0.4
1.7nm,0.8s,baz=251,slow=3.7,SNR=6.1
HYB Hyderabad 148.89 118 i PKP PKPdf 00 00 41.0 +2.2
ZALV Zalesovo Beam 155.66 33 PKPbc PKPdf 00 00 56.7 +9.0
1.4nm,0.5s,baz=304,slow=3.4,SNR=8.6
MKAR Makanchi Array 158.07 51 PKPab PKPab 00 01 23.7 -1.0
0.5nm,0.9s,baz=300,slow=3.8,SNR=3.4
SONM Songino Array 167.48 3 PKPab PKPab 00 02 06.7 +0.8
0.8nm,0.8s,baz=342,slow=3.6,SNR=6.4

SJA 28 23:44:44.4±0.3, 36.05S×74.27W, h182km, ML5.3
IDC 28 23:44:59.8±0.5, 35.39S×72.46W, h0km, mb4.9/15, mb1 4.9/19, mb1mx4.8/31, mbtmp4.8/19, ML4.6/4, Error ellipse: s-maj=20.2km s-min=13.5km az=82.0
ISCJB 28 23:45:01.9±0.2, 35.33S±0.04×72.42W±0.05, h20km, mb5.1/137, Error ellipse: s-maj=6.8km s-min=5.5km az=135.2
MOS 28 23:45:03.9±1.1, 35.22S×72.17W, h33km, mb5.4/29, Error ellipse: s-maj=18.8km s-min=8.2km az=100.9
NEIC 28 23:45:05.0±0.1, 35.35S×72.32W, h35km, mb5.2/128, Error ellipse: s-maj=7.1km s-min=4.0km az=70.0
ISC 28 23:45:03.0±0.3, 35.32S±0.05×72.40W±0.07, h20km, n701, σ0.91/712, mb5.2/138, 173C-194D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AVIZ Vizcacheras 3.70 61 i P Pb 23 46 05.5 -2.2
AAGR Agrelo 3.70 54 i P Pn 23 46 03.5 +4.4
AAGR i P Pn 23 46 03.5 +4.4
ARCO CERRO ARCO 3.79 50 i P Pn 23 46 05.0 +4.6
ARCO i S Sb 23 47 04.8 +10
ARCO AML AML 23 47 11.2
comp=Z,1μm,0.6s
AUSP Uspallata 3.97 40 i P Pn 23 46 07.0 +3.9
RTLS Leoncito 4.36 37 i P Pn 23 46 12.2 +3.9
RTCV Cerro Valdivia 4.71 44 i P Pn 23 46 16.5 +3.5
CFAA Coronel Fontan 5.08 44 Pn Pn 23 46 20.4 +2.4
comp=Z,4.1nm,0.3s,baz=240,slow=6.7,SNR=17
CFAA Lg Lg 23 47 33.4
comp=Z,3.8nm,0.3s,baz=295,slow=19,SNR=3.4
CFAA Coronel Fontan 5.08 44 ePn Pn 23 46 20.4 +2.4
CFAA eSn Sb 23 47 33.4 +1.6
RTLL Cerro Villicun 5.16 41 i P Pn 23 46 21.8 +2.7
ACAN Cantantal 5.29 56 i P Pn 23 46 24.8 +3.8
PLCA Paso Flores 5.60 165 eP Pn 23 46 26.9 +1.7
PLCA Paso Flores 5.60 165 Pn Pn 23 46 27.4 +2.2
comp=Z,17nm,0.3s,baz=337,slow=11,SNR=26
PLCA Lg Lg 23 47 54.6
comp=Z,17nm,0.3s,baz=71,slow=23,SNR=3.2
PLCA Paso Flores 5.60 165 ePn Pn 23 46 26.9 +1.7
TRQA Tornquist 8.80 111 ePn Pn 23 47 13.8 +4.7
CPUP Villa Florida 15.72 59 eP Pn 23 48 40.2 -3.1
CPUP Villa Florida 15.72 59 Pn Pn 23 48 45.0 +1.7
comp=Z,1.0nm,0.3s,baz=233,slow=9.8,SNR=3.1
CPUP Villa Florida 15.72 59 ePn Pn 23 48 40.2 -3.1
EFI East Falkland 19.32 152 eP P 23 49 23.8 -2.9
EFI pmax pmax
comp=Z,187nm,1.4s
EFI East Falkland 19.32 152 eP P 23 49 23.8 -2.9
comp=Z,187nm,1.4s
LPAZ La Paz 19.33 12 eP Pn 23 49 30.1 +1.3
LPAZ pmax pmax
comp=Z,29nm,0.8s
LPAZ La Paz 19.33 12 P Pn 23 49 30.3 +1.4
comp=Z,1.3nm,0.3s,baz=182,slow=6.2,SNR=23
LPAZ La Paz 19.33 12 eP Pn 23 49 30.1 +1.3
comp=Z,29nm,0.8s
USHA Ushuaia 19.71 173 P Pn 23 49 31.5 -0.9
comp=Z,2.0nm,0.3s,baz=352,slow=10,SNR=10
SIV San Ignacio 21.75 31 P P 23 49 53.8 +0.4
comp=Z,78nm,0.9s,baz=212,slow=9.2,SNR=68
NNA Nana 23.57 349 i P P 23 50 14.5 +2.1
NNA Nana 23.57 349 P P 23 50 13.0 +0.6
comp=Z,7.5nm,0.7s,baz=164,slow=7.5,SNR=5.6
NNA Nana 23.57 349 eP P 23 50 13.0 +0.6
comp=Z,17nm,0.9s
NNA eP P 23 50 13.0 +0.6
SAML Samuel 27.57 20 eP P 23 50 48.8 +0.1
comp=Z,6.0nm,0.8s
BDFB Brasilia 29.33 54 eP P 23 51 03.2 -1.4
BDFB Brasilia 29.33 54 P P 23 51 04.5 -0.1
comp=Z,13nm,1.0s,baz=214,slow=11,SNR=8.1
BDFB Brasilia 29.33 54 eP P 23 51 03.2 -1.4
HOPE Hope Point 31.29 139 eP P 23 51 21.6 +0.3
comp=Z,94nm,0.8s
OTAV Otavalo 35.82 350 eP P 23 52 03.3 +1.6
comp=Z,29nm,1.5s
ROSC El Rosal 40.00 357 P P 23 52 39.2 +2.3
comp=Z,10nm,0.6s,baz=106,slow=3.9,SNR=7.5
ROSC El Rosal 40.00 357 eP P 23 52 37.6 +0.6
BCIP Isla Barro Col 44.80 350 eP P 23 53 14.2 -1.3
comp=Z,229nm,1.8s
JTS JuntasAbangare 46.89 343 eP P 23 53 34.5 +2.4
JTS pmax pmax
comp=Z,23nm,1.4s
GRGR Grenville 48.27 14 eP P 23 53 42.8 0.0
comp=Z,122nm,1.0s
SNAA Sanae 50.48 157 c i P P 23 53 56.4 -2.8
SNAA pmax pmax
comp=Z,51nm,1.0s
SNAA Sanae 50.48 157 P P 23 53 59.6 +0.5
comp=Z,14nm,0.9s,baz=291,slow=6.2,SNR=28
SNAA Sanae 50.48 157 eP P 23 53 59.7 +0.5
comp=Z,39nm,0.9s
APG El Apazote 52.90 338 P P 23 54 14.4 -3.5
comp=Z,6.9nm,0.7s,baz=140,slow=3.7,SNR=9.7
CRPR Cabo Rojo, PR 53.27 6 eP P 23 54 18.8 -1.5
comp=Z,18nm,0.8s
OBIP Obispado Ponce 53.35 7 eP P 23 54 20.4 -0.5
comp=Z,33nm,0.9s
CELP Cerrillos 53.38 7 eP P 23 54 20.4 -0.8
HUMP Col San Antoni 53.53 8 eP P 23 54 21.6 -0.7
comp=Z,58nm,1.8s
LRS Lares 53.57 7 eP P 23 54 21.7 -0.9
CBYP Canovanas 53.65 8 eP P 23 54 21.9 -1.3
comp=Z,16nm,0.8s
STVI Saint Thomas 53.84 9 eP P 23 54 23.4 -1.1
comp=Z,26nm,1.0s

QSPA	South Pole Qui comp=Z,50nm,0.8s,baz=298,slow=0.5,SNR=161	54.92	180	P	P	23 54 33.0	+0.9
QSPA	South Pole Qui comp=Z,66nm,1.0s	54.92	180	eP	P	23 54 33.0	+0.9
QSPA				P	P	23 54 33.0	+0.9
NVL	N'lazarevskaya	55.23	156	eP	P	23 54 35.3	+1.2
NVL	comp=Z,31nm,0.8s			pmax	pmax		
TEIG	Tepich comp=Z,26nm,0.6s,baz=157,slow=3.3,SNR=20	57.26	342	P	P	23 54 49.6	+0.5
TEIG	Tepich comp=Z,34nm,0.8s	57.26	342	eP	P	23 54 49.4	+0.3
SYO	Syowa Base	64.75	158	⇑eP	P	23 55 37.5	-1.9
H06E1	SOCORRO T-PHAS	55.04	319	T	T	01 06 25.7	
035A	Encino baz=67	66.52	335	⇓P	P	23 55 52.9	+1.6
034A	Hebbronville baz=67	66.84	335	⇓P	P	23 55 54.1	+0.8
934A	Benavides baz=67	67.27	335	⇓P	P	23 55 57.1	+1.0
835A	Beeville baz=68	67.67	336	⇑P	P	23 55 59.9	+1.3
834A	Tilden baz=68,SNR=5.6	67.76	335	⇓P	P	23 56 00.7	+1.6
833A	Chaparral WMA, baz=69,SNR=5.9	68.24	334	⇑P	P	23 56 03.1	+0.9
832A	Faith Ranch, C baz=69,SNR=7.3	68.41	334	⇑P	P	23 56 03.9	+0.6
734A	La Parita Cree baz=69	68.43	335	⇓P	P	23 56 04.2	+0.8
732A	Laxson Ranch, baz=69,SNR=18	68.81	334	⇓P	P	23 56 06.5	+0.7
536A	Bastrop baz=70	69.07	337	⇑P	P	23 56 08.8	+1.5
GOGA	Godfrey	69.15	350	eP	P	23 56 07.7	-0.1
GOGA	comp=Z,29nm,1.4s			pmax	pmax		
GOGA	Godfrey comp=Z,29nm,1.4s	69.15	350	eP	P	23 56 07.7	-0.1
535A	Dale baz=70	69.19	337	⇓P	P	23 56 09.3	+1.2
633A	Saathoff Ranch baz=70,SNR=6.1	69.20	335	⇑P	P	23 56 08.9	+0.7
340A	Bronson baz=70	69.39	340	⇓P	P	23 56 10.3	+1.0
632A	Uvalde baz=70,SNR=13	69.46	335	⇓P	P	23 56 10.7	+0.9
534A	Blanco baz=70	69.49	336	⇓P	P	23 56 10.0	+0.1
631A	Perdido Creek baz=70	69.65	334	⇓P	P	23 56 11.8	+0.8
533A	Kerrville baz=70,SNR=8.6	69.71	336	⇑P	P	23 56 12.0	+0.6
338A	Crockett baz=70	69.73	339	⇓P	P	23 56 13.0	+1.6
337A	Centerville baz=70	69.86	339	⇑P	P	23 56 13.7	+1.5
435B	Jarrell baz=70	69.89	337	⇑P	P	23 56 13.4	+0.9
532A	Rocksprings baz=70,SNR=19	70.06	335	⇑P	P	23 56 14.2	+0.7
239A	Gary baz=70	70.12	340	⇓P	P	23 56 14.5	+0.8
434A	Burnet baz=70,SNR=12	70.14	336	⇓P	P	23 56 14.4	+0.4
336A	Riesel baz=71	70.22	338	⇑P	P	23 56 15.1	+0.7
335A	Moody baz=71	70.30	337	⇓P	P	23 56 15.6	+0.7
531A	Rocksprings baz=71,SNR=10	70.32	334	⇑P	P	23 56 16.0	+0.8
JCT	Junction City	70.35	335	eP	P	23 56 16.2	+0.9
JCT	comp=Z,25nm,1.0s			pmax	pmax		
JCT	Junction City comp=Z,25nm,1.0s	70.35	335	eP	P	23 56 16.2	+0.9
JCT	Junction City baz=71,SNR=9.2	70.35	335	⇓P	P	23 56 15.9	+0.6
433A	Art baz=71,SNR=7.4	70.36	336	⇓P	P	23 56 15.7	+0.4
KMSC	Kings Mountain comp=Z,14nm,1.0s	70.59	352	eP	P	23 56 16.1	-0.5
KMSC	Kings Mountain baz=71	70.59	352	⇑P	P	23 56 16.9	+0.3
530A	J-C Ranch, Com baz=71,SNR=14	70.59	334	⇑P	P	23 56 17.9	+1.1
334A	Lometa baz=71,SNR=11	70.61	337	⇑P	P	23 56 17.4	+0.6
432A	Menard baz=71	70.71	335	⇑P	P	23 56 17.9	+0.4
LTX	Lajitas	70.74	331	eP	P	23 56 18.8	+1.0
LTX	Lajitas	70.74	331	eP	P	23 56 18.8	+1.0
TX31	Lajitas Ar. Si	70.74	331	eP	P	23 56 18.2	+0.4
TXAR	Lajitas Array comp=Z,4.1nm,0.6s,baz=149,slow=9.9,SNR=11	70.74	331	P	P	23 56 18.8	+1.1
431A	Sonora baz=71,SNR=7.3	70.81	334	⇑P	P	23 56 18.6	+0.4
333A	Richland Sprin baz=71,SNR=11	70.85	336	⇑P	P	23 56 18.6	+0.3
529A	Stev Forest Ra baz=71,SNR=18	70.90	333	⇓P	P	23 56 19.4	+0.7
WHTX	Lake Whitney comp=Z,26nm,1.0s	70.97	338	eP	P	23 56 19.4	+0.4
WHTX	Lake Whitney baz=71	70.97	338	⇑P	P	23 56 19.5	+0.5
137A	Heron Place, G baz=71	71.03	339	⇓P	P	23 56 20.0	+0.8
430A	Baggett Ranch, baz=72,SNR=18	71.13	334	⇑P	P	23 56 20.4	+0.3
332A	Millersview baz=72,SNR=13	71.16	335	⇑P	P	23 56 20.4	+0.3
234A	Clairette baz=72,SNR=6.7	71.20	337	⇑P	P	23 56 20.8	+0.4
429A	Davenport Ranc baz=72,SNR=6.5	71.22	333	⇓P	P	23 56 21.2	+0.6
OXF	Oxford	71.27	345	eP	P	23 56 19.6	-1.1
OXF	comp=Z,29nm,1.0s			pmax	pmax		
OXF	Oxford comp=Z,28nm,1.0s	71.27	345	eP	P	23 56 19.6	-1.1
331A	San Angelo baz=72,SNR=16	71.32	335	⇓P	P	23 56 21.5	+0.3
TKL	Tuckaleechee C	71.41	350	eP	P	23 56 21.1	-0.4
TKL	Tuckaleechee C	71.41	350	eP	P	23 56 21.1	-0.4
233A	Rising Star baz=72,SNR=7.8	71.46	336	⇓P	P	23 56 22.4	+0.4
135A	Vickery Place, baz=72	71.48	338	⇓P	P	23 56 22.2	+0.1
232A	Coleman baz=72,SNR=9.5	71.58	336	⇓P	P	23 56 23.0	+0.3
330A	Mertzon baz=72,SNR=8.5	71.67	334	⇑P	P	23 56 23.5	+0.2
134A	White-Moore Ra baz=72	71.70	337	⇓P	P	23 56 23.5	+0.1
231A	Bronte baz=72,SNR=16	71.86	335	⇓P	P	23 56 24.6	+0.3
133A	Hamilton Ranch baz=72	72.00	337	⇓P	P	23 56 25.6	+0.3
329A	Wagon Wheel Ra baz=72,SNR=7.8	72.03	334	⇑P	P	23 56 26.0	+0.5
230A	Sterling City baz=72	72.09	335	⇑P	P	23 56 25.8	0.0
Z35A	Perchaven, San baz=72,SNR=6.6	72.15	338	⇑P	P	23 56 26.4	+0.3
TZTN	Tazewell comp=Z,34nm,1.5s	72.25	351	eP	P	23 56 26.3	-0.3
ABTX	Abilene, Hawle comp=Z,24nm,1.0s	72.26	336	eP	P	23 56 26.8	0.0
ABTX	Abilene, Hawle baz=73,SNR=8.3	72.26	336	⇓P	P	23 56 27.1	+0.3
MIAR	Mount Ida	72.27	342	eP	P	23 56 25.9	-0.8
MIAR	comp=Z,122nm,2.8s			pmax	pmax		
MIAR	Mount Ida comp=Z,122nm,2.8s	72.27	342	eP	P	23 56 25.9	-0.8
Z34A	Collier Ranch, baz=73	72.39	338	⇑P	P	23 56 28.0	+0.4
229A	Bryant Ranch, baz=73	72.41	334	⇓P	P	23 56 27.8	+0.1
WVT	Waverly	72.52	347	eP	P	23 56 28.3	+0.1
WVT	comp=Z,43nm,0.9s			pmax	pmax		
WVT	Waverly comp=Z,43nm,0.9s	72.52	347	eP	P	23 56 28.2	+0.1
VWCC	Virginia Weste	72.54	354	eP	P	23 56 28.1	-0.2
131A	Roby baz=73	72.55	335	⇓P	P	23 56 28.7	+0.1
Z33A	Whitaker Ranch baz=73,SNR=7.3	72.58	337	⇑P	P	23 56 29.1	+0.4
URVA	University of	72.68	356	eP	P	23 56 29.6	+0.6
130A	Snyder baz=73,SNR=5.0	72.68	335	⇓P	P	23 56 29.5	+0.2
JSRW	J. Sargeant Re	72.82	355	eP	P	23 56 30.4	+0.5
228A	UT Block 9, Go baz=73,SNR=10	72.83	333	⇑P	P	23 56 30.7	+0.4
Z32A	Haskell baz=73,SNR=9.5	72.83	336	⇓P	P	23 56 30.5	+0.3
Y34A	Reagan Ranch, baz=73	72.89	338	⇑P	P	23 56 30.9	+0.5
129A	Stewart Farms, baz=73	73.03	334	⇑P	P	23 56 31.5	+0.1
Z31A	Sharp Cattle R baz=73,SNR=9.1	73.06	336	⇑P	P	23 56 32.0	+0.4
Y33A	Hilltop Ranch, baz=74	73.20	337	⇑P	P	23 56 32.6	+0.2
128A	Castleberry Fa baz=74,SNR=8.9	73.24	334	⇑P	P	23 56 33.1	+0.4
Z30A	Sanderson Ranc baz=74,SNR=9.7	73.36	335	⇑P	P	23 56 33.5	+0.1
Y32A	R-V Farms, Ver baz=74,SNR=5.9	73.46	337	⇓P	P	23 56 34.2	+0.3
X34A	Smith Ranch, M baz=74,SNR=6.5	73.51	338	⇑P	P	23 56 34.5	+0.4
MNTX	Cornudas Mount comp=Z,6.8nm,0.7s	73.51	331	eP	P	23 56 33.6	-0.6
Z29A	Hungry Hill Ra baz=74,SNR=12	73.54	335	⇑P	P	23 56 34.4	-0.1
127A	Arkansas Junct baz=74	73.61	333	⇓P	P	23 56 35.1	+0.2
PBMO	Poplar Bluff comp=Z,13nm,0.8s	73.67	345	eP	P	23 56 34.6	-0.4
Y31A	Rekieta Farm, baz=74,SNR=7.0	73.69	336	⇓P	P	23 56 35.7	+0.5
X32A	Elmer baz=74	73.79	337	⇑P	P	23 56 35.7	0.0
Z28A	Tucker Farm, M baz=74,SNR=5.7	73.81	334	⇓P	P	23 56 35.7	-0.3
Y30A	Stafford Cattl baz=74	73.82	336	⇓P	P	23 56 36.2	+0.2
Y29A	Porterfield Fa baz=74,SNR=11	74.07	335	⇓P	P	23 56 37.6	+0.1
W34A	Bridge Creek, comp=Z,13nm,0.8s	74.08	339	eP	P	23 56 37.2	-0.2
W34A	Bridge Creek, baz=74	74.08	339	⇓P	P	23 56 37.5	0.0
TUL1	Tulsa comp=Z,18nm,0.8s	74.14	340	eP	P	23 56 37.7	0.0
TUL1	Tulsa baz=74,SNR=5.1	74.14	340	⇓P	P	23 56 37.9	+0.1
X31A	McDonald Ranch baz=75,SNR=5.3	74.21	337	⇓P	P	23 56 38.6	+0.4
W33A	Caddo, Fort Co baz=75,SNR=6.4	74.21	338	⇑P	P	23 56 39.2	+1.0
USIN	University of comp=Z,30nm,0.8s	74.28	348	eP	P	23 56 37.8	-0.7
Y28A	McKinney Farm, baz=75	74.32	335	⇓P	P	23 56 39.0	0.0
SIUC	Southern Illin comp=Z,25nm,0.9s	74.32	346	eP	P	23 56 38.6	-0.1
X30A	Coker Ranch, T baz=75	74.33	336	⇑P	P	23 56 39.1	+0.1
Z26A	Caprock baz=75,SNR=35	74.37	333	⇓P	P	23 56 39.9	+0.5
W32A	Sentinel baz=75,SNR=12	74.43	337	⇑P	P	23 56 40.1	+0.6
SUR	Sutherland comp=Z,150nm,0.8s,SNR=9.4	74.45	119	P	P	23 56 41.4	+1.2
SUR	Sutherland comp=Z,422nm,2.7s	74.45	119	eP	P	23 56 41.2	+1.0
MSTX	Muleshoe comp=Z,14nm,0.8s	74.56	334	eP	P	23 56 40.9	+0.5
MSTX	Muleshoe baz=75,SNR=5.6	74.56	334	⇓P	P	23 56 40.9	+0.5
V34A	Guthrie comp=Z,11nm,0.8s	74.56	339	eP	P	23 56 40.0	-0.2
V34A	Guthrie baz=75	74.56	339	⇑P	P	23 56 40.6	+0.3
X29A	Tulia baz=75	74.61	335	⇓P	P	23 56 41.0	+0.3
Y27A	Causey baz=75	74.62	334	⇓P	P	23 56 40.9	+0.1
Z25A	Roswell baz=75,SNR=5.6	74.66	332	⇑P	P	23 56 41.5	+0.5
W31A	Holland Ranch, baz=75	74.71	337	⇑P	P	23 56 41.6	+0.4
V33A	Lossen Ranch, baz=75	74.78	338	⇑P	P	23 56 42.0	+0.5
X28A	Dimmitt baz=75	74.85	335	⇓P	P	23 56 42.7	+0.6
319A	Douglas baz=75,SNR=6.5	74.85	328	⇓P	P	23 56 43.5	+1.3
Y26A	Elida baz=75	74.90	333	⇓P	P	23 56 42.8	+0.4
V32A	Arapaho baz=75	74.92	338	⇑P	P	23 56 43.3	+1.0
Z24A	Sheeppen Canyo baz=75,SNR=8.9	74.95	332	⇓P	P	23 56 43.7	+0.9
AMTX	Amarillo comp=Z,46nm,1.3s	75.00	335	eP	P	23 56 43.3	+0.4
AMTX	Amarillo baz=75	75.00	335	⇑P	P	23 56 43.6	+0.7
MVL	Millersville comp=Z,116nm,2.5s	75.03	357	eP	P	23 56 43.8	+1.0
U34A	Anderson Ranch comp=Z,38nm,1.4s	75.13	339	eP	P	23 56 43.8	+0.3
U34A	Anderson Ranch baz=76	75.13	339	⇑P	P	23 56 44.1	+0.6
W29A	Amraillo baz=76,SNR=5.4	75.21	336	⇓P	P	23 56 44.7	+0.5
V31A	Spring Creek L baz=76	75.21	337	⇓P	P	23 56 44.6	+0.5
121A	Cookes Peak, D baz=76,SNR=9.5	75.22	330	⇑P	P	23 56 45.9	+1.5
Y25A	Mesa, Roswell baz=76	75.22	333	⇑P	P	23 56 44.7	+0.5
X27A	F and S Farms, baz=76	75.28	334	⇓P	P	23 56 44.9	+0.3
U33A	Lingo Farm, Me baz=76	75.29	339	⇓P	P	23 56 44.8	+0.4
SLM	Saint Louis	75.42	346	eP	P	23 56 45.1	0.0
SLM	comp=Z,39nm,1.0s			pmax	pmax		
SLM	Saint Louis comp=Z,39nm,1.0s	75.42	346	eP	P	23 56 45.1	0.0
X26A	CR and CF Fran baz=76,SNR=9.5	75.45	334	⇓P	P	23 56 46.3	+0.7
LIC	Lamto comp=Z,70nm,1.2s	75.47	71	eP	P	23 56 46.2	+0.2
Y24A	Capitan baz=76,SNR=8.4	75.50	332	⇓P	P	23 56 46.9	+0.9
U32A	Winter Ranch, baz=76,SNR=5.0	75.51	338	⇑P	P	23 56 46.3	+0.6
Z22A	Elephant Butte baz=76	75.51	331	⇓P	P	23 56 47.0	+1.0
W27A	Bowe Ranch, En baz=76,SNR=9.2	75.65	334	⇓P	P	23 56 47.3	+0.6
TIC	Toumodi comp=Z,40nm,1.1s	75.74	71	eP	P	23 56 47.8	+0.2
X25A	Clemmons Ranch baz=76	75.75	333	⇑P	P	23 56 48.0	+0.7
Y23A	Lovelace Mesa, baz=76,SNR=5.7	75.75	332	⇓P	P	23 56 48.4	+1.0
SSPA	Standing Stone comp=Z,39nm,1.6s	75.75	356	eP	P	23 56 47.1	+0.2
KIC	Kosan Boka comp=Z,60nm,1.0s	75.78	72	eP	P	23 56 48.2	+0.4
ACSO	Alum Creek Sta comp=Z,38nm,0.6s	75.81	352	eP	P	23 56 46.8	-0.5
DBIC	Dimbokro	75.88	71	eP	P	23 56 47.5	-0.8
DBIC	comp=Z,19nm,0.8s			pmax	pmax		
DBIC	Dimbokro comp=Z,19nm,1.0s,baz=203,slow=5.4,SNR=17	75.88	71	P	P	23 56 48.8	+0.4
DBIC	Dimbokro comp=Z,19nm,0.8s	75.88	71	eP	P	23 56 47.5	-0.8
W26A	Owens Ranch, T baz=76,SNR=6.1	75.92	334	⇑P	P	23 56 48.8	+0.6
T33A	Patterson Ranc baz=76	75.94	339	⇓P	P	23 56 49.0	+0.9
V28A	Channing baz=76,SNR=6.5	75.98	335	⇓P	P	23 56 49.2	+0.6
ODNJ	Ogdensburg comp=Z,54nm,1.7s	76.06	358	eP	P	23 56 49.5	+0.8
X24A	Lazy VL Ranch, baz=76	76.07	332	⇑P	P	23 56 49.9	+0.6
BNM	Barren Site	76.17	331	eP	P	23 56 51.0	+1.2
U30A	WK&E Inc. Balk baz=77	76.17	337	⇑P	P	23 56 50.4	+0.9
V27A	Dan Oppiter Fa baz=77	76.19	335	⇑P	P	23 56 50.4	+0.6
T32A	Huddler Ranch, baz=77	76.23	338	⇓P	P	23 56 50.5	+0.7
W25A	X Bar L Ranch, baz=77,SNR=7.8	76.29	333	⇑P	P	23 56 50.9	+0.6
TUC	Tucson	76.31	327	eP	P	23 56 51.8	+1.3
TUC	comp=Z,9.0nm,1.0s			pmax	pmax		
TUC	Tucson comp=Z,9.1nm,1.0s	76.31	327	eP	P	23 56 51.8	+1.3
LENM	Lemitar	76.31	331	eP	P	23 56 49.2	-1.3
SFIN	Scholer Farm baz=77	76.53	349	⇓P	P	23 56 50.9	-0.5
U28A	Mallet baz=77	76.55	336	⇓P	P	23 56 51.9	+0.1
V26A	Tequesquite Ra baz=77	76.56	334	⇑P	P	23 56 51.9	0.0
LAZ	Ladron	76.59	331	eP	P	23 56 53.5	+1.3
T30A	Plains baz=77	76.61	337	⇓P	P	23 56 52.3	+0.3
W24A	Lazy 6 Ranch, baz=77,SNR=13	76.63	333	⇓P	P	23 56 52.9	+0.5
S32A	Newby Ranch, P baz=77	76.71	339	⇑P	P	23 56 53.3	+0.8
U27A	Thompson Grove baz=77	76.79	335	⇓P	P	23 56 53.8	+0.7
ANMO	Albuquerque	76.80	332	d iP	P	23 56 53.6	+0.3
ANMO	comp=Z,59nm,1.3s			pmax	pmax		
ANMO	Albuquerque comp=Z,12nm,1.0s	76.80	332	eP	P	23 56 54.2	+0.9
S31A	Mullinville baz=77	76.80	338	⇑P	P	23 56 53.9	+0.9
W23A	Werner Place, baz=77,SNR=9.4	76.87	332	⇑P	P	23 56 54.8	+1.0
V25A	Rancho No Teng baz=77,SNR=12	76.90	334	⇓P	P	23 56 54.4	+0.6
ALLY	Alegheny Colle comp=Z,24nm,0.9s	76.92	354	eP	P	23 56 53.3	-0.3
214A	Organ Pipe Nat baz=77,SNR=5.2	76.93	326	⇓P	P	23 56 55.2	+1.3
T29A	Hugoton baz=77	76.95	337	⇑P	P	23 56 54.9	+0.9
R33A	Olander Ranch, baz=77	77.00	340	⇓P	P	23 56 54.9	+0.8
V24A	Rampart Ranch, baz=77	77.04	333	⇓P	P	23 56 55.3	+0.6
U26A	Atchley Ranch, baz=78,SNR=5.5	77.08	334	⇑P	P	23 56 55.5	+0.6
S30A	Montezuma baz=78	77.12	337	⇑P	P	23 56 55.6	+0.7
T28A	Walsh baz=78,SNR=19	77.18	336	⇓P	P	23 56 55.7	+0.4
QUA2	Belchertown comp=Z,179nm,2.1s	77.22	0	eP	P	23 56 56.1	+0.9
S29A	Ulysses baz=78,SNR=9.3	77.31	337	⇑P	P	23 56 56.6	+0.7
R32A	Long Quarter, baz=78,SNR=5.2	77.31	339	⇑P	P	23 56 56.5	+0.6
U25A	Circle Dot Ran baz=78,SNR=6.4	77.33	334	⇓P	P	23 56 56.9	+0.7
T27A	Campo baz=78,SNR=7.5	77.33	336	⇓P	P	23 56 56.7	+0.6
KSU1	Kansas State U comp=Z,9.3nm,0.6s	77.36	341	eP	P	23 56 55.5	-0.6
KSU1	Kansas State U baz=78	77.36	341	⇓P	P	23 56 56.6	+0.5
R31A	Burdett baz=78	77.43	338	⇑P	P	23 56 57.2	+0.6
HRV	Adam Dziewonsk	77.45	1	eP	P	23 56 56.0	-0.6
HRV	comp=Z,278nm,2.2s			pmax	pmax		
HRV	Adam Dziewonsk comp=Z,278nm,2.2s	77.45	1	eP	P	23 56 56.0	-0.6
S28A	Manter baz=78,SNR=13	77.54	336	⇑P	P	23 56 57.8	+0.5
Q33A	Connelly Farm, baz=78	77.60	340	⇓P	P	23 56 58.1	+0.6
R30A	Dighton baz=78	77.66	338	⇓P	P	23 56 58.4	+0.5
T26A	Comanche Natio baz=78,SNR=8.3	77.73	335	⇓P	P	23 56 59.2	+0.7
Q32A	Meitler Ranch, baz=78	77.80	339	⇓P	P	23 56 59.5	+0.9
V22A	San Miguel Ran baz=78,SNR=20	77.82	332	⇓P	P	23 57 00.8	+1.7
MMNY	Mt. Morris Dam comp=Z,101nm,1.5s	77.84	356	eP	P	23 56 58.7	0.0
X18A	Snowflake baz=78,SNR=5.6	77.85	329	⇓P	P	23 57 00.8	+1.6
U23A	El Rito baz=78,SNR=6.3	77.92	333	⇑P	P	23 57 01.1	+1.5
AAM	Ann Arbor	77.93	351	eP	P	23 56 58.7	-0.5
AAM	comp=Z,18nm,1.0s			pmax	pmax		
AAM	Ann Arbor comp=Z,18nm,1.0s	77.93	351	eP	P	23 56 58.7	-0.5
S27A	Las Animas baz=78	77.95	336	⇓P	P	23 57 00.6	+0.9
T25A	Trinidad baz=78,SNR=21	77.99	334	⇓P	P	23 57 01.3	+1.3
113A	Mohawk Valley, baz=78	78.05	325	⇑P	P	23 57 01.0	+0.9
Q31A	Ellis baz=78	78.05	339	⇑P	P	23 57 00.9	+0.9
R29A	Marienthal baz=78	78.05	337	⇑P	P	23 57 01.2	+1.1
S26A	Kim baz=78,SNR=15	78.09	335	⇓P	P	23 57 01.7	+1.3
R28A	Tribune baz=79,SNR=13	78.19	337	⇑P	P	23 57 01.7	+0.8
U22A	Llaves baz=79,SNR=6.5	78.21	332	⇑P	P	23 57 02.9	+1.7
W18A	Petrified Fore comp=Z,20nm,1.0s	78.26	329	eP	P	23 57 02.0	+0.5
W18A	Petrified Fore baz=79	78.26	329	⇓P	P	23 57 03.1	+1.6
T24B	San Luis baz=79,SNR=7.2	78.27	334	⇓P	P	23 57 03.2	+1.6
Q30A	Quinter baz=79,SNR=8.9	78.28	338	⇑P	P	23 57 02.2	+0.9
ACCN	Adirondack Com comp=Z,216nm,2.6s	78.34	359	eP	P	23 57 02.2	+0.8
X16A	Lo Mia Camp, P baz=79,SNR=16	78.39	328	⇑P	P	23 57 03.7	+1.5
P32A	Huiting Farm, baz=79	78.40	340	⇓P	P	23 57 02.3	+0.4
Q29A	Oakley baz=79,SNR=7.7	78.43	338	⇑P	P	23 57 02.6	+0.5
S25A	Robets Cordova baz=79,SNR=8.3	78.46	335	⇑P	P	23 57 03.7	+1.2
R27A	Eads baz=79,SNR=10	78.47	336	⇓P	P	23 57 03.3	+0.8
T23A	Casias Ranch, baz=79	78.48	333	⇓P	P	23 57 04.0	+1.2
P31A	Stockton baz=79	78.53	339	⇓P	P	23 57 03.6	+0.9
Y14A	Wickenburg baz=79	78.68	327	⇓P	P	23 57 04.8	+1.2
R26A	Arlington baz=79,SNR=7.3	78.70	336	⇑P	P	23 57 05.1	+1.3
S24A	Houchin Ranch, baz=79,SNR=15	78.72	334	⇓P	P	23 57 05.6	+1.5
GLA	Glamis	78.78	325	eP	P	23 57 05.3	+1.1
GLA	comp=Z,61nm,2.1s			pmax	pmax		
GLA	Glamis comp=Z,61nm,2.1s	78.78	325	eP	P	23 57 05.3	+1.1
P30A	Selden baz=79	78.81	338	⇑P	P	23 57 05.6	+1.4
R25A	Fountain Ranch baz=79	78.85	335	⇓P	P	23 57 05.7	+1.2
Q28A	Sharon Springs baz=79	78.86	337	⇑P	P	23 57 05.6	+1.0
O32A	Brockman Farm, baz=79	78.90	340	⇑P	P	23 57 05.4	+0.8
SDCO	Great Sand Dun comp=Z,4.1nm,0.8s	78.92	334	eP	P	23 57 05.4	+0.3
MDV	Middlebury	78.95	359	eP	P	23 57 04.3	-0.4
KSCO	Kaye Shedlock' comp=Z,33nm,1.4s	79.07	336	eP	P	23 57 06.8	+1.1
KSCO	Kaye Shedlock' baz=80	79.07	336	⇓P	P	23 57 06.8	+1.1
P29A	Atwood baz=80	79.07	338	⇑P	P	23 57 06.9	+1.2

O31A Woolen Ranch, 79.09 339 ⇓P P 23 57 06.8 +1.1
baz=80
TSUM Tsumeb 79.14 106 eP P 23 57 06.8 0.0
comp=Z,12nm,1.0s
SWSC Sam W. Stewart 79.15 324 ⇑P P 23 57 07.5 +1.3
baz=80
SCIA State Center 79.19 344 eP P 23 57 05.1 -1.1
comp=Z,27nm,1.0s
R24A Sanders Place, 79.21 334 ⇓P P 23 57 08.2 +1.5
baz=80,SNR=18
Y12C Blythe 79.22 325 ⇑P P 23 57 07.9 +1.4
baz=80
Q26A Hugo 79.28 336 ⇑P P 23 57 08.2 +1.2
baz=80,SNR=5.1
WUAZ Wupatki 79.29 329 eP P 23 57 08.8 +1.7
comp=Z,15nm,1.1s
WUAZ Wupatki 79.29 329 ⇓P P 23 57 08.5 +1.4
baz=80,SNR=8.1
P28A Saint Francis 79.30 337 ⇑P P 23 57 08.2 +1.2
baz=80
O30A MW Ranch, Wils 79.33 339 ⇓P P 23 57 08.0 +0.9
baz=80
S22A 4UR Ranch, Cre 79.41 333 ⇓P P 23 57 09.1 +1.2
baz=80,SNR=6.0
R23A Moffat 79.43 334 ⇓P P 23 57 09.2 +1.2
baz=80,SNR=5.6
O29A 4D Ranch, Culb 79.51 338 ⇓P P 23 57 09.0 +1.0
baz=80
Q25A Bedland, Calha 79.52 335 ⇓P P 23 57 09.3 +0.9
baz=80
JFWS Jewell Farm 79.55 347 eP P 23 57 07.5 -0.6
JFWS pmax pmax
comp=Z,43nm,1.4s
JFWS Jewell Farm 79.55 347 eP P 23 57 07.5 -0.6
comp=Z,43nm,1.4s
MVCO Mesa Verde 79.57 331 eP P 23 57 09.2 +0.4
comp=Z,19nm,1.3s
MVCO Mesa Verde 79.57 331 ⇓P P 23 57 09.9 +1.1
baz=80,SNR=7.4
BC3 Big Chuckawall 79.58 325 ⇓P P 23 57 09.3 +0.6
baz=80
LONY Lake Ozonia 79.59 358 eP P 23 57 08.6 +0.3
comp=Z,196nm,2.5s
BOSA Boshof 79.72 118 eP P 23 57 09.7 -0.1
BOSA pmax pmax
comp=Z,50nm,1.0s
BOSA Boshof 79.72 118 P P 23 57 10.0 +0.2
comp=Z,33nm,0.8s,baz=247,slow=3.2,SNR=70
BOSA Boshof 79.72 118 eP P 23 57 09.7 -0.1
comp=Z,50nm,1.0s
BOSA eP P 23 57 10.0 +0.2
P26A Davis Ranch, A 79.80 336 ⇓P P 23 57 11.1 +1.4
baz=80
O28A Krutsinger Ran 79.81 338 ⇑P P 23 57 11.1 +1.4
baz=80
IRM Iron Mountain 79.85 325 ⇓P P 23 57 11.1 +1.1
baz=80
Q24A Divide 79.88 335 ⇓P P 23 57 11.3 +0.9
baz=80,SNR=6.4
PFO Pinyon Flat Ob 80.02 324 ⇑P P 23 57 12.6 +1.5
baz=80
P25A Willow Gulch B 80.03 336 ⇓P P 23 57 12.5 +1.5
baz=80,SNR=6.5
W13A Hualapai Mount 80.05 327 ⇑P P 23 57 12.4 +1.2
baz=80
O27A Beecher Island 80.09 337 ⇓P P 23 57 12.4 +1.2
baz=80
N29A Votaw Ranch, W 80.09 339 ⇓P P 23 57 12.3 +1.1
baz=80
M31A Lambtecht Ranc 80.10 340 ⇑P P 23 57 12.5 +1.3
baz=80
N28A Pribbeno Ranch 80.25 338 ⇑P P 23 57 13.4 +1.3
baz=81
P24A Kohler Place, 80.29 335 ⇑P P 23 57 14.0 +1.6
baz=81
MURC Murrieta 80.37 323 ⇑P P 23 57 14.1 +1.3
baz=81
O26A Horse Wrangler 80.40 336 ⇓P P 23 57 14.4 +1.4
baz=81
PV01 Paradox Valley 80.41 332 eP P 23 57 14.2 +1.1
U15A North Rim 80.46 328 ⇑P P 23 57 15.1 +1.5
baz=81,SNR=13
P23A Jefferson 80.49 334 ⇓P P 23 57 14.9 +1.2
baz=81
PV05 Paradox Valley 80.56 331 eP P 23 57 14.8 +0.8
GMRC Granite Mounta 80.60 325 ⇑P P 23 57 15.8 +1.6
baz=81
OGNE Ogallala 80.64 338 ⇓P P 23 57 15.5 +1.3
baz=81
SMCO Snowmass 80.72 333 eP P 23 57 16.2 +1.2
comp=Z,11nm,0.9s
ISCO Idaho Springs 80.78 335 eP P 23 57 16.1 +0.8
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO Idaho Springs 80.78 335 eP P 23 57 16.1 +0.8
comp=Z,3.7nm,0.8s
ISCO Idaho Springs 80.78 335 ⇑P P 23 57 16.3 +1.0
baz=81,SNR=5.4
PV10 Paradox Valley 80.80 332 eP P 23 57 15.6 +0.3
L31A Butterfield Fa 80.83 340 ⇑P P 23 57 16.2 +1.1
baz=81,SNR=5.6
M28A Bar X Bar Ranc 80.84 338 ⇓P P 23 57 15.9 +0.6
baz=81
L30A Spencer Herefo 80.87 340 ⇓P P 23 57 16.0 +0.6
baz=81
O24A Longmont 80.89 335 ⇓P P 23 57 16.3 +0.7
baz=81
N26A Koester Ranch, 80.91 337 ⇑P P 23 57 16.9 +1.2
baz=81
PV09 Paradox Valley 80.94 332 eP P 23 57 15.8 -0.3
P22A Eagle 81.01 334 ⇓P P 23 57 17.6 +1.2
baz=81
BFSC Mount Baldy Ra 81.11 323 ⇓P P 23 57 17.7 +0.8
baz=82
KNB Kanab 81.18 328 eP P 23 57 17.7 +0.4
KNB pmax pmax
comp=Z,22nm,1.1s
KNB Kanab 81.18 328 eP P 23 57 17.7 +0.4
comp=Z,22nm,1.1s
L29A Maesberg Ranch 81.19 339 ⇓P P 23 57 18.3 +1.2
baz=82
O23A Lake Granby, G 81.26 335 ⇓P P 23 57 19.1 +1.3
baz=82,SNR=10
TUQ Turquoise Moun 81.26 325 ⇓P P 23 57 18.7 +1.1
baz=82
O22A Kremmling 81.44 334 ⇑P P 23 57 19.6 +0.8
baz=82,SNR=12
K30A Basset 81.51 340 ⇓P P 23 57 20.0 +1.3
baz=82
GSC Goldstone 81.56 325 ⇑P P 23 57 20.1 +0.9
baz=82
ECSD EROS Data Cent 81.71 343 eP P 23 57 19.5 -0.2
comp=Z,28nm,0.9s
ECSD EROS Data Cent 81.71 343 ⇓P P 23 57 20.0 +0.3
baz=82,SNR=33
M25A Palm-Egli Farm 81.72 336 ⇓P P 23 57 21.1 +1.1
baz=82
L27A T5 Ranch, Ells 81.76 338 ⇑P P 23 57 21.2 +1.1
baz=82
EDW2 Edwards Air Fo 81.79 324 ⇓P P 23 57 21.3 +0.9
baz=82
SHPR Sheep Range 81.79 326 eP P 23 57 20.9 +0.4
K29A Lazy Trails An 81.79 340 ⇑P P 23 57 21.1 +0.9
baz=82
CCUT Cedar City 81.86 328 eP P 23 57 22.8 +1.9
comp=Z,12nm,1.0s
N23A Red Feather La 81.87 335 ⇑P P 23 57 21.9 +1.0
baz=82,SNR=5.2
N22A Wattenberg Ran 81.97 335 ⇑P P 23 57 23.0 +1.5
baz=82,SNR=6.9
M24A Cheyenne 82.00 336 ⇑P P 23 57 22.5 +1.0
baz=82
SRU San Rafael 82.02 331 eP P 23 57 22.2 +0.5
SRU pmax pmax
comp=Z,13nm,1.1s
SRU San Rafael 82.02 331 eP P 23 57 22.2 +0.5
comp=Z,13nm,1.1s
LBTB Lobatse 82.02 115 eP P 23 57 21.4 -0.7
LBTB pmax pmax
comp=Z,39nm,1.4s
LBTB Lobatse 82.02 115 eP P 23 57 21.4 -0.7
comp=Z,39nm,1.4s
O20A White River Ci 82.03 333 ⇑P P 23 57 22.4 +0.7
baz=82
K28A Ten Mile Ranch 82.05 339 ⇓P P 23 57 22.6 +1.0
baz=82
PHWY Pilot Hill 82.07 335 eP P 23 57 22.7 +0.6
comp=Z,13nm,1.1s
J30A Dallas 82.08 340 ⇑P P 23 57 22.2 +0.5
baz=82
LRMC Laurel Mountai 82.12 324 ⇓P P 23 57 23.1 +0.9
baz=82
MVU Marysvale 82.18 330 eP P 23 57 24.0 +1.4
comp=Z,6.8nm,1.0s
SPMN St. Paul 82.27 346 eP P 23 57 22.1 -0.4
comp=Z,13nm,0.6s
SPMN St. Paul 82.27 346 ⇑P P 23 57 22.2 -0.3
baz=83
K27A Flueckinger Fa 82.30 338 ⇓P P 23 57 24.2 +1.3
baz=83
M23A Laramie 82.31 335 ⇓P P 23 57 23.8 +0.6
baz=83,SNR=5.9
L25A Engebretsen Ra 82.34 337 ⇑P P 23 57 24.4 +1.2
baz=83
J29A Okreek 82.39 340 ⇓P P 23 57 23.8 +0.6
baz=83,SNR=11
COWI Conover 82.44 348 eP P 23 57 23.9 +0.5
comp=Z,57nm,1.8s
TMUT Trail Mountain 82.45 331 eP P 23 57 24.3 +0.3
comp=Z,25nm,1.4s
M22A Cedar Creek Ra 82.55 335 ⇑P P 23 57 25.8 +1.4
baz=83
I30A Oacoma 82.61 341 ⇓P P 23 57 24.5 +0.1
baz=83
N20A Spence Gulch, 82.65 333 ⇑P P 23 57 25.5 +0.5
baz=83,SNR=5.2
ISA Isabella 82.65 324 eP P 23 57 24.8 -0.1
ISA pmax pmax
comp=Z,9.0nm,1.0s
ISA Isabella 82.65 324 eP P 23 57 24.8 -0.1
comp=Z,8.7nm,1.0s
J28A Allard Ranch, 82.66 339 ⇓P P 23 57 25.5 +0.8
baz=83,SNR=6.7
K25A Mack Ranch, Ha 82.72 337 ⇑P P 23 57 26.3 +1.1
baz=83
J27A Elkhorn Farm, 82.73 339 ⇑P P 23 57 26.4 +1.2
baz=83,SNR=8.9
L23A Garrett 82.88 336 ⇑P P 23 57 26.5 +0.4
baz=83
I29A Vivian Onida 82.95 340 ⇓P P 23 57 26.5 +0.3
baz=83
BRSD Miller 82.97 341 eP P 23 57 26.6 +0.3
comp=Z,34nm,1.0s
L22A Ellis Ranch, M 83.05 335 ⇑P P 23 57 28.3 +1.3
baz=83
VES Vestal, Richgr 83.09 323 ⇑P P 23 57 28.3 +1.2
baz=83
J26A Sides Ranch, S 83.11 338 ⇑P P 23 57 28.2 +1.1
baz=84,SNR=7.2
K24A Anderson Ranch 83.13 337 ⇓P P 23 57 28.0 +0.7
baz=84
I28A Midland 83.17 340 ⇓P P 23 57 28.1 +0.7
baz=84,SNR=12
MPU Maple Canyon 83.23 331 eP P 23 57 28.2 +0.2
comp=Z,16nm,1.1s
NLU North Lily Min 83.36 330 eP P 23 57 29.5 +0.8
comp=Z,18nm,1.5s
J25A Sunshine Ranch 83.40 338 ⇑P P 23 57 29.5 +0.8
baz=84,SNR=5.9
K23A Bowen Ranch, D 83.42 336 ⇓P P 23 57 29.5 +0.6
baz=84,SNR=5.0
H29A Onida 83.48 340 ⇓P P 23 57 29.1 +0.2
baz=84,SNR=9.5
I27A Quinn 83.49 339 ⇓P P 23 57 29.7 +0.7
baz=84
R11A Troy Canyon, C 83.50 327 eP P 23 57 29.9 +0.5
comp=Z,7.4nm,1.0s
R11A Troy Canyon, C 83.50 327 ⇑P P 23 57 31.1 +1.7
baz=84,SNR=6.1
J24A Dixon Ranch, L 83.62 337 ⇑P P 23 57 30.8 +1.0
baz=84,SNR=6.0
K22A Casper 83.63 335 eP P 23 57 30.7 +0.8
comp=Z,27nm,1.2s
K22A Casper 83.63 335 ⇑P P 23 57 30.6 +0.7
baz=84,SNR=8.2
G30A Faulkton 83.66 341 ⇑P P 23 57 30.1 +0.3
baz=84,SNR=6.6
JLU Jordanelle 83.66 331 eP P 23 57 30.9 +0.7
comp=Z,5.8nm,0.8s
I26A New Underwood 83.69 338 ⇓P P 23 57 30.4 +0.3
baz=84
H28A Mission Ridge 83.75 340 ⇓P P 23 57 30.6 +0.3
baz=84
CTU Camp Tracy 83.86 331 eP P 23 57 29.6 -1.5
comp=Z,4.4nm,0.9s
DUG Dugway 83.86 330 eP P 23 57 32.5 +1.3
DUG pmax pmax
comp=Z,14nm,1.2s
DUG Dugway 83.86 330 eP P 23 57 32.5 +1.3
comp=Z,14nm,1.2s
DUG Dugway 83.86 330 ⇑P P 23 57 31.3 +0.2
baz=84,SNR=8.2
K21A Alcova 83.87 335 ⇑P P 23 57 31.6 +0.4
baz=84,SNR=12
G29A Hoven 83.92 341 ⇓P P 23 57 31.3 +0.1
baz=84
I25A Rochford 83.95 338 ⇑P P 23 57 31.9 +0.4
baz=84,SNR=8.4
H27A Howes 84.01 339 ⇑P P 23 57 31.8 +0.2
baz=84,SNR=7.6
TPH Tonopah 84.01 326 eP P 23 57 32.6 +0.6
TPH pmax pmax
comp=Z,12nm,1.1s
TPH Tonopah 84.01 326 eP P 23 57 32.6 +0.6
comp=Z,12nm,1.1s
TCUT Toone Canyon 84.08 331 eP P 23 57 32.4 0.0
comp=Z,29nm,1.5s
I24A Kuemmerle Ranc 84.09 337 ⇓P P 23 57 32.6 +0.4
baz=84
G28A Parade 84.09 340 ⇓P P 23 57 32.4 +0.3
baz=84,SNR=6.7
RSSD Black Hills 84.14 338 eP P 23 57 33.1 +0.5
RSSD pmax pmax
comp=Z,12nm,1.1s
RSSD Black Hills 84.14 338 eP P 23 57 33.1 +0.5
comp=Z,12nm,1.1s
F30A Leola 84.28 342 ⇓P P 23 57 33.6 +0.6
baz=85
J22A Midwest 84.29 336 ⇑P P 23 57 33.1 -0.2
baz=85,SNR=5.4
H25A Fruitdale 84.45 338 ⇓P P 23 57 34.6 +0.6
baz=85
F29A Eureka 84.49 341 ⇑P P 23 57 34.1 0.0
baz=85,SNR=8.7
J21A Lysite 84.56 335 ⇓P P 23 57 35.6 +0.9
baz=85
HWUT Hardware Ranch 84.56 332 eP P 23 57 35.1 +0.3
comp=Z,33nm,1.4s
BGU Big Grassy Mou 84.57 330 eP P 23 57 34.4 -0.3
comp=Z,11nm,1.7s
I22A 9 Mile Ranch, 84.72 336 ⇑P P 23 57 35.4 0.0
baz=85,SNR=9.8
F28A McLaughlin 84.77 340 ⇓P P 23 57 35.8 +0.4
baz=85,SNR=5.1
G26A Maurine 84.77 339 ⇑P P 23 57 35.5 0.0
baz=85,SNR=5.4
J20A Shoshoni 84.79 335 ⇓P P 23 57 36.4 +0.7
baz=85,SNR=16
NV01 Mina Array Sit 84.80 325 eP P 23 57 37.4 +1.3
NVAR Mina Array Bea 84.80 325 P P 23 57 37.4 +1.3
comp=Z,3.1nm,0.8s,baz=147,slow=5.9,SNR=15
BW06 Boulder Array 84.81 333 eP P 23 57 35.6 -0.3
BW06 eP P 23 57 35.7 -0.3
PD31 Pinedale Array 84.81 333 eP P 23 57 36.0 0.0
PDAR Pinedale Array 84.81 333 P P 23 57 36.0 0.0
comp=Z,3.8nm,1.0s,baz=154,slow=5.5,SNR=16
H24A Dirks Ranch, A 84.86 338 ⇑P P 23 57 36.5 +0.4
baz=85
E30A Jud 84.88 342 ⇓P P 23 57 36.1 +0.1
baz=85
G25A Newell 84.92 339 ⇑P P 23 57 36.9 +0.7
baz=85
I21A Big Trails, Te 84.92 335 ⇑P P 23 57 36.4 -0.1
baz=85,SNR=12
TOA0 Torodi Ar. Sit 84.93 70 eP P 23 57 36.7 -0.3
TOA0 eP PcP 23 57 37.0 -3.2
TORD Torodi Ar. Bea 84.93 70 P P 23 57 37.0 +0.1
comp=Z,7.5nm,0.9s,baz=235,slow=4.1,SNR=31
J19A Crowheart 85.06 334 ⇓P P 23 57 37.1 0.0
baz=85,SNR=14
E29A Napoleon 85.12 342 ⇑P P 23 57 37.1 -0.1
baz=86
F27A Lemmon 85.13 340 ⇓P P 23 57 37.4 +0.1
baz=86,SNR=8.2
HVU Hansel Valley 85.19 331 eP P 23 57 38.3 +0.5
HVU pmax pmax
comp=Z,13nm,1.0s
HVU Hansel Valley 85.19 331 eP P 23 57 38.3 +0.5
comp=Z,12nm,1.0s
DRLN Deer Lake 85.24 10 eP P 23 57 38.2 +0.5
comp=Z,41nm,0.9s
F26A Lodgepole 85.30 339 ⇓P P 23 57 38.5 +0.3
baz=86
H22A Clearmont 85.30 336 ⇓P P 23 57 38.2 -0.1
baz=86,SNR=7.0
I20A Worland 85.33 335 ⇓P P 23 57 38.6 +0.2
baz=86,SNR=20
ELK Elko 85.33 329 eP P 23 57 39.2 +0.5
ELK pmax pmax
comp=Z,5.0nm,1.1s
ELK Elko 85.33 329 eP P 23 57 39.2 +0.5
comp=Z,5.0nm,1.1s
G24A Alzada 85.34 338 ⇑P P 23 57 38.7 +0.3
baz=86
AHID Auburn Hatcher 85.38 332 eP P 23 57 38.0 -0.8
comp=Z,26nm,1.5s
WAKR Walker 85.39 325 eP P 23 57 38.6 -0.4
D30A Buchanan 85.40 342 ⇓P P 23 57 38.7 +0.2
baz=86,SNR=6.4
E28A Huff 85.41 341 ⇓P P 23 57 39.0 +0.4
baz=86
E27A Carson 85.51 340 ⇓P P 23 57 39.5 +0.4
baz=86
G23A Biddle 85.53 337 ⇓P P 23 57 39.3 -0.1
baz=86,SNR=5.5
H21A Big Horn, Sher 85.56 336 ⇑P P 23 57 39.3 -0.3
baz=86,SNR=8.4
D29A Pettibone, Tap 85.57 342 ⇓P P 23 57 39.8 +0.4
baz=86
F25A Bowman 85.59 339 ⇓P P 23 57 40.3 +0.6
baz=86
I19A Meeteetse 85.71 334 ⇑P P 23 57 40.5 +0.1
baz=86,SNR=8.1
H20A Greybull 85.76 335 ⇑P P 23 57 40.4 -0.1
baz=86,SNR=21
REDW Red Top Meadow 85.80 333 eP P 23 57 41.2 +0.3
comp=Z,9.6nm,1.2s
E26A Carlson Angus 85.80 340 ⇓P P 23 57 40.6 0.0
baz=86
F24A Ekalaka 85.82 338 ⇑P P 23 57 40.8 +0.1
baz=86,SNR=7.8
G22A Birney 85.83 337 ⇑P P 23 57 41.3 +0.4
baz=86
AGMN Agassiz Nation 85.84 345 eP P 23 57 40.6 -0.1
comp=Z,8.7nm,0.6s
AGMN Agassiz Nation 85.84 345 ⇑P P 23 57 40.6 -0.1
baz=86,SNR=7.7
C30A Mose, Pekin 85.89 343 ⇑P P 23 57 41.3 +0.3
baz=86,SNR=13
LOHW Long Hollow 85.92 333 eP P 23 57 41.5 0.0
comp=Z,9.1nm,1.3s
TPAW Teton Pass 85.94 333 eP P 23 57 42.1 +0.4
comp=Z,12nm,1.0s
F23A Volborg 86.00 338 ⇑P P 23 57 41.5 -0.1
baz=86,SNR=10.0
E25A Miller Ranch, 86.10 339 ⇓P P 23 57 42.1 0.0
baz=86
FXWY Fox Creek 86.10 333 eP P 23 57 42.6 +0.2
comp=Z,4.6nm,1.1s
D27A Center 86.12 341 ⇓P P 23 57 41.9 -0.3
baz=86
G21A Lodge Grass 86.14 336 ⇓P P 23 57 42.2 -0.2
baz=86,SNR=6.6
I17A Pilgrim Ck. 86.17 333 ⇓P P 23 57 42.9 +0.2
baz=87,SNR=5.9
H19A Powell 86.26 335 ⇑P P 23 57 43.1 +0.1
baz=87,SNR=8.9
IMW Indian Meadow 86.29 333 eP P 23 57 43.2 -0.2
comp=Z,14nm,1.1s
D26A Manning 86.30 340 ⇓P P 23 57 43.6 +0.5
baz=87,SNR=11
F22A Rosebud 86.32 337 ⇑P P 23 57 43.2 -0.1
baz=87,SNR=7.8
FLWY Flagg Ranch 86.36 333 eP P 23 57 44.2 +0.5
comp=Z,24nm,1.3s
C28A Hausauer Farms 86.38 341 ⇑P P 23 57 44.1 +0.7
baz=87
E24A Baker 86.42 339 ⇑P P 23 57 44.3 +0.6
baz=87
G20A Bridger 86.47 336 ⇓P P 23 57 43.7 -0.4
baz=87,SNR=16
H18A Shoshone NF, C 86.50 334 ⇓P P 23 57 44.5 +0.2
baz=87,SNR=24
B30A Myrvik Farm, E 86.55 343 ⇓P P 23 57 44.3 +0.1
baz=87,SNR=20
H17A Grant Village 86.58 334 eP P 23 57 45.1 +0.3
comp=Z,58nm,2.8s
H17A Grant Village 86.58 334 ⇓P P 23 57 45.4 +0.6
baz=87
F21A Absaloka Mine, 86.64 336 ⇓P P 23 57 45.2 +0.4
baz=87
D25A Fairfield 86.66 339 ⇑P P 23 57 45.7 +0.8
baz=87,SNR=6.8
E23A Ismay 86.67 338 ⇓P P 23 57 45.3 +0.5
baz=87
C27A Sayler Ranch, 86.67 341 ⇑P P 23 57 45.5 +0.7
baz=87,SNR=11
YFT Old Faithful 86.73 334 eP P 23 57 44.8 -0.7
comp=Z,44nm,1.9s
RLMT Red Lodge 86.75 335 eP P 23 57 45.0 -0.5
comp=Z,22nm,1.4s
B29A Wagenman Farm, 86.81 342 ⇑P P 23 57 45.6 +0.1
baz=87,SNR=6.5
E22A Miles City 86.81 337 ⇑P P 23 57 45.4 -0.2
baz=87,SNR=5.2
D24A Glendive 86.92 339 ⇓P P 23 57 46.8 +0.7
baz=87,SNR=8.5
C26A Wahner Farm, P 86.94 340 ⇓P P 23 57 46.8 +0.7
baz=87,SNR=5.5
F20A Billings 86.96 336 ⇑P P 23 57 46.4 0.0
baz=87
YMR Madison River 86.96 334 eP P 23 57 47.8 +1.2
comp=Z,21nm,1.0s
A30A Hoffart Farm, 87.00 343 ⇓P P 23 57 46.3 -0.1
baz=87,SNR=7.6
B28A Dugan Ranch, T 87.05 342 ⇓P P 23 57 47.2 +0.6
baz=88
LAO LASA Array 87.12 337 eP P 23 57 47.2 +0.1
comp=Z,19nm,1.0s
C25A Freed Ranch, W 87.16 340 ⇑P P 23 57 48.2 +1.0
baz=88
A29A Manning Farm, 87.21 343 ⇑P P 23 57 47.3 -0.1
baz=88,SNR=15
D23A Lindsay 87.24 338 ⇓P P 23 57 48.3 +0.6
baz=88,SNR=15
E21A Keefer Ranch, 87.26 337 ⇓P P 23 57 48.2 +0.4
baz=88
F19A Roth Farm, Mol 87.28 335 ⇑P P 23 57 47.7 -0.2
baz=88
C24A Savage 87.33 339 ⇑P P 23 57 48.8 +0.7
baz=88,SNR=21
HLID Hailey 87.34 331 eP P 23 57 48.8 +0.4
comp=Z,6.6nm,0.9s
HLID Hailey 87.34 331 ⇑P P 23 57 49.2 +0.8
baz=88,SNR=10
A28A Rude Farm, Bot 87.45 342 ⇓P P 23 57 48.7 +0.1
baz=88,SNR=5.0
GCMT Greycliff 87.47 335 eP P 23 57 48.7 -0.2
D22A Cohagen 87.52 338 ⇓P P 23 57 49.2 +0.2
baz=88,SNR=8.3
E20A Meyer Farm, Mu 87.57 336 ⇓P P 23 57 49.5 +0.2
baz=88,SNR=11
B25A Knox Farm, Ray 87.64 340 ⇑P P 23 57 50.2 +0.7
baz=88,SNR=11
ULM Lac du Bonnet 87.69 345 eP P 23 57 49.0 -0.7
ULM pmax pmax
comp=Z,16nm,0.9s
ULM Lac du Bonnet 87.69 345 P P 23 57 49.4 -0.2
comp=Z,14nm,0.8s,baz=176,slow=3.3,SNR=20
ULM Lac du Bonnet 87.69 345 eP P 23 57 49.0 -0.7
comp=Z,16nm,0.9s
D21A La Casta Ranch 87.70 337 ⇓P P 23 57 50.3 +0.4
baz=88
E19A Rath Farm, Rou 87.75 336 ⇓P P 23 57 50.4 +0.2
baz=88,SNR=10
MFID Camas Ranch 87.79 330 eP P 23 57 51.0 +0.5
comp=Z,56nm,2.6s
MCMT McKenzie Canyo 87.80 332 eP P 23 57 51.4 +0.8
C23A Lambert 87.80 339 ⇓P P 23 57 50.6 +0.2
baz=88,SNR=15
A26A Wade Farm, Ken 87.90 341 ⇑P P 23 57 50.7 0.0
baz=88,SNR=5.0
C22A Vida 87.96 338 ⇑P P 23 57 51.3 +0.2
baz=88,SNR=5.4

BOZ Bozeman (W) 88.04 334 eP P 23 57 51.0 -0.7
BOZ pmax pmax
comp=Z,5.0nm,1.1s
BOZ Bozeman (W) 88.04 334 eP P 23 57 51.0 -0.7
comp=Z,5.1nm,1.1s
D20A Manuel Ranch, 88.09 336 ⇑P P 23 57 51.9 +0.1
baz=88,SNR=7.7
DGMT Dagmar 88.11 339 eP P 23 57 52.1 +0.3
comp=Z,50nm,1.0s
DGMT Dagmar 88.11 339 ⇑P P 23 57 52.3 +0.5
baz=88,SNR=12
DLMT Dillon 88.16 333 eP P 23 57 52.7 +0.4
comp=Z,18nm,1.5s
A25A Svangstu Ranch 88.23 340 ⇓P P 23 57 53.1 +0.8
baz=89
B23A Brockton 88.33 339 ⇓P P 23 57 54.3 +1.4
baz=89
C21A Desert Coulee 88.41 337 ⇑P P 23 57 53.2 -0.1
baz=89,SNR=5.2
A24A Westby 88.47 340 ⇓P P 23 57 54.0 +0.6
baz=89
LRM Limekiln Ridge 88.49 333 eP P 23 57 54.5 +0.6
MOD Modoc 88.49 326 eP P 23 57 54.6 +0.7
comp=Z,9.1nm,0.7s
WDC Whiskeytown Da 88.50 324 eP P 23 57 53.9 +0.1
WDC pmax pmax
comp=Z,6.0nm,0.8s
WDC Whiskeytown Da 88.50 324 eP P 23 57 53.9 +0.1
comp=Z,6.0nm,0.8s
N02D Trinity Center 88.88 324 ⇑P P 23 57 56.3 +0.7
baz=89
C19A Slack Wire Ran 88.95 336 ⇓P P 23 57 56.3 +0.5
baz=89
A22A Carney Farms, 89.08 339 ⇑P P 23 57 56.9 +0.6
baz=90
M04C Macdoel 89.10 325 ⇑P P 23 57 57.4 +0.6
baz=90
B20A Solberg Farm, 89.24 337 ⇑P P 23 57 56.3 -0.8
baz=90
A21A Bergtoll Ranch 89.39 338 ⇓P P 23 57 57.7 -0.1
baz=90
K05A Summer Lake 89.41 327 eP P 23 57 59.1 +0.9
comp=Z,15nm,0.9s
EGMT Eagleton 89.44 336 eP P 23 57 58.4 +0.3
comp=Z,60nm,2.5s
EGMT Eagleton 89.44 336 ⇓P P 23 57 58.4 +0.3
baz=90
BMO Blue Mountains 89.58 330 eP P 23 57 59.5 +0.6
comp=Z,48nm,2.8s
A20A Cobblestone Ra 89.60 337 ⇑P P 23 57 58.8 0.0
baz=90
I07A Izee 89.88 328 eP P 23 57 59.2 -1.1
comp=Z,64nm,2.5s
MSO Missoula 89.89 333 eP P 23 58 00.6 +0.3
comp=Z,23nm,1.9s
MSO Missoula 89.89 333 ⇓P P 23 58 02.0 +1.7
baz=90
A19A Klindworth Far 89.90 337 ⇑P P 23 58 00.1 -0.2
baz=90
SCHQ Schefferville 89.91 3 P P 23 57 58.8 -1.2
comp=Z,1.3nm,0.5s,baz=192,slow=5.8,SNR=5.1
SCHQ Schefferville 89.91 3 eP P 23 57 59.3 -0.7
comp=Z,120nm,2.6s
J05D Fort Rock, OR 90.01 327 ⇑P P 23 58 02.3 +1.3
baz=90
SLMT Seeley Lake 90.08 333 eP P 23 58 01.0 -0.3
PINOR Pine Mountain 90.26 327 eP P 23 58 02.6 +0.7
comp=Z,101nm,2.5s
HUMO Hull Mountain 90.27 325 eP P 23 58 01.9 -0.2
comp=Z,133nm,2.9s
J04D Umpqua Nationa 90.37 326 ⇑P P 23 58 03.4 +0.7
baz=91
F10A Beach Ranch, E 90.46 331 eP P 23 58 02.0 -0.9
comp=Z,76nm,2.8s
SWMT Swartz Lake 90.49 333 eP P 23 58 03.1 0.0
YBMT Yellow Bay 90.79 333 eP P 23 58 03.8 -0.7
JTMT Jette 90.79 333 eP P 23 58 04.2 -0.3
I05D Terrebonne, OR 90.88 327 ⇓P P 23 58 06.0 +1.1
baz=91
BLMT Blacktail Moun 91.04 333 eP P 23 58 05.3 -0.5
BSMT Bassoo Peak 91.07 333 eP P 23 58 06.6 +0.7
HAWA Hanford 91.74 329 eP P 23 58 08.6 -0.2
comp=Z,97nm,3.0s
WALA Waterton Lakes 91.76 334 eP P 23 58 08.5 -0.4
comp=Z,90nm,2.7s
E07A Sunnyside 92.01 329 eP P 23 58 10.9 +0.9
comp=Z,8.9nm,1.2s
NEW Newport 92.29 332 eP P 23 58 09.1 -2.2
NEW pmax pmax
comp=Z,20nm,1.8s
NEW Newport 92.29 332 eP P 23 58 09.1 -2.2
comp=Z,20nm,1.8s
NEW Newport 92.29 332 ⇓P P 23 58 11.2 -0.1
baz=93
C09A Chrisman Ranch 92.36 331 eP P 23 58 11.9 +0.2
comp=Z,6.6nm,0.9s
LON Longmire 92.98 328 eP P 23 58 15.1 +0.5
LON pmax pmax
comp=Z,71nm,2.8s
LON Longmire 92.98 328 eP P 23 58 15.1 +0.5
comp=Z,71nm,2.8s
FCC Fort Churchill 95.46 349 eP P 23 58 25.2 -0.3
FCC pmax pmax
comp=Z,6.0nm,0.7s
FCC Fort Churchill 95.46 349 eP P 23 58 25.1 -0.3
comp=Z,5.6nm,0.7s
YKA Yellowknife Ar 103.21 341 Pdiff Pdif 23 58 59.7 -0.5
comp=Z,0.8nm,0.8s,baz=140,slow=4.6,SNR=12
KEST Kesra 103.83 56 Pdiff Pdif 23 59 04.8 +1.0
comp=Z,0.8nm,0.9s,baz=285,slow=20,SNR=2.2
IL1 Eielson Array 115.23 333 ePKiKP PKiKP 00 03 42.0 0.0
ILAR Eielson Array 115.23 333 PKP PKPdf 00 03 41.4 -0.6
comp=Z,0.4nm,0.7s,baz=178,slow=3.1,SNR=4.2
TRF Thorofare Moun 115.92 331 ePKPdf PKPdf 00 03 43.2 -0.4
VYHS Vyhne 116.19 48 ePKIKP PKPdf 00 03 44.4 0.0
AS12 Alice Springs 116.26 207 ePKPdf PKPdf 00 03 43.1 -2.3
ASAR Alice Springs 116.26 207 PKP PKPdf 00 03 43.1 -2.3
comp=Z,0.3nm,0.6s,baz=159,slow=2.3,SNR=4.1
IM04 Indian Mountai 118.36 333 ePKPdf PKPdf 00 03 48.1 +0.1
KOLS Kolonicke sedl 118.46 48 ePKIKP PKPdf 00 03 50.8 +2.1
KWAJ Kwajalein Atol 119.44 259 ePKPdf PKPdf 00 03 49.4 -2.3
WRA Warramunga Arr 119.47 209 PKP PKPdf 00 03 50.7 -1.0
comp=Z,1.5nm,0.7s,baz=170,slow=1.6,SNR=13
BUR04 Bucovina Ar. S 119.81 51 ePKPdf PKPdf 00 03 51.5 +0.1
BR231 Keskin MP Arra 122.14 61 ePKPdf PKPdf 00 03 57.6 +1.3
MBWA Marble Bar 122.67 193 ePKPdf PKPdf 00 03 56.6 -1.1
BR101 Keskin Array S 122.72 62 ePKPdf PKPdf 00 03 56.7 -0.7
BRTR Keskin Array B 122.72 62 PKP PKPdf 00 03 56.7 -0.7
comp=Z,1.5nm,0.8s,baz=187,slow=3.2,SNR=11
AK11 Malin Array Si 123.25 48 ePKPdf PKPdf 00 03 56.5 -1.3
AKASG Malin Array Be 123.29 48 PKP PKPdf 00 03 56.6 -1.3
comp=Z,1.9nm,0.7s,baz=264,slow=2.5,SNR=15
AKBB Malin Array Si 123.29 48 ePKPdf PKPdf 00 03 56.6 -1.3
FIA0 FINESS Array S 124.24 35 ePKPdf PKPdf 00 03 58.9 -0.5
FINES FINESS Array B 124.24 35 PKP PKPdf 00 03 58.9 -0.5
comp=Z,1.1nm,0.7s,baz=146,slow=3.7,SNR=9.4
KAF Kangasniemi 124.48 34 ep PKPdf 00 03 58.4 -1.4
comp=Z,1.9nm,0.5s
GAMB Gambell 125.05 328 ePKPdf PKPdf 00 04 01.3 +0.5
ARA0 ARCESS Array S 125.33 25 ePKPdf PKPdf 00 03 59.5 -1.8
ARA0 ePKPdf PKiKP 00 04 01.1 -0.6
ARCES ARCESS Array B 125.33 25 PKP PKPdf 00 04 01.1 -0.2
comp=Z,4.6nm,1.0s,baz=338,slow=1.3,SNR=10
H11S2 WAKE ISLAND Hy125.45 268 T T 02 21 58.2
baz=124,slow=74,SNR=3.6
H11S1 WAKE ISLAND Hy125.46 268 T T 02 22 00.4
baz=124
H11S3 WAKE ISLAND Hy125.47 268 T T 02 22 03.0
baz=124,slow=74,SNR=2.8
H11N3 WAKE ISLAND Hy125.89 270 T T 02 22 30.8
baz=120
H11N1 WAKE ISLAND Hy125.91 270 T T 02 22 27.7
baz=120,slow=74,SNR=5.1
H11N2 WAKE ISLAND Hy125.91 270 T T 02 22 27.4
baz=120,slow=74,SNR=4.9
JOF Joensuu 126.90 34 ep PKPdf 00 04 03.6 -0.8
KBZ Khabaz 130.52 60 PKP PKPdf 00 04 12.4 +0.6
comp=Z,1.8nm,0.9s,baz=229,slow=19,SNR=3.8
SOEI Soe 139.42 203 ePKPdf PKPdf 00 04 15.2 -1.6
GEYT Alibeck 140.57 71 PKhKP PKPpre 00 04 22.9
comp=Z,1.7nm,0.8s,baz=284,slow=6.0,SNR=6.3
ABKAR Akbulak array 142.72 53 ePKPpre PKPpre 00 04 29.6
BKNI Bangkinang 144.65 169 ePKPdf PKPab 00 04 36.5 -0.9
GSI Gunungsitoli 144.90 162 ePKPbc PKPdf 00 04 39.2 -0.1
POO Poona 145.78 110 eP PKPdf 00 04 40.0 -0.7
KSM Kuching 146.23 185 ePKPdf PKPdf 00 04 41.6 +0.1
SBUM Sibu 147.02 188 ePKPbc PKPbc 00 04 44.9 0.0
BRVK Borovoye 148.36 44 ePKIKP PKPdf 00 04 43.8 -0.1
BRVK Borovoye 148.36 44 ePKPdf PKPdf 00 04 43.8 -0.1
KBL Kabul 148.51 80 ePKP2 PKPbc 00 04 48.0 -0.6
KBL Kabul 148.51 80 ePKPbc PKPbc 00 04 48.0 -0.6
HYB Hyderabad 148.62 117 eP PKPbc 00 04 48.0 -1.1
HYB Hyderabad 148.62 117 eP PKPbc 00 04 48.0 -1.1
IPM Ipoh 148.72 167 ePKPbc PKPbc 00 04 48.5 -1.0
VOSK Vostochnaya 148.87 45 ePKIKP PKPdf 00 04 44.6 -0.1
VOSK Vostochnaya 148.87 45 ePKPdf PKPdf 00 04 44.6 -0.1
VOSK ePKPbc PKiKP 00 04 49.3 -0.7
KULM Kulim 149.44 166 ePKPbc PKPbc 00 04 50.4 -0.9
YAK Yakutsk 149.86 339 ePKPdf PKPdf 00 04 45.3 -0.6
YAK ePKPbc PKPbc 00 04 50.7 -0.1
KKAR Karatay Array 150.41 63 ePKIKP PKPdf 00 04 47.0 -0.5
KKAR Karatay Array 150.41 63 ePKPdf PKPdf 00 04 47.0 -0.5
KKAR ePKPbc PKPbc 00 04 52.9 +0.1
ASAJ Asahikawa 151.86 299 ePKPbc PKPbc 00 04 56.5 +0.5
EKS2 Erkin-Say 152.84 64 ePKIKP PKPdf 00 04 52.3 +1.0
EKS2 Erkin-Say 152.84 64 ePKPdf PKPdf 00 04 52.3 +1.0
EKS2 ePKPbc PKiKP 00 04 58.6 -0.1
AAK Ala-Archa 153.37 64 ePKIKP PKPbc 00 05 00.4 +0.7
AAK Ala-Archa 153.37 64 ePKPdf PKPbc 00 05 00.4 +0.7
AAK ePKPbc PKPbc 00 05 00.7 +0.9
AAK ePKPab PKPab 00 05 12.2 +0.3
AAK ePKPab PKPab 00 05 12.3 +0.4
KURK Kurchatov 154.03 45 ePKIKP PKPdf 00 04 52.2 -0.4
KURK Kurchatov 154.03 45 ePKPdf PKPdf 00 04 52.1 -0.4
KURK ePKPbc PKPbc 00 04 60.0 -0.7
TKM2 Tokmak 2 154.15 63 ePKIKP PKPbc 00 05 02.3 +0.8
TKM2 Tokmak 2 154.15 63 ePKPbc PKPbc 00 05 02.3 +0.8
TKM2 ePKPab PKPab 00 05 15.6 +0.4
ZAA1 Zalesovo Array 155.49 33 ePKPdf PKPdf 00 04 53.9 -0.6
ZAA1 ePKPab PKPab 00 05 20.9 +0.6
ZAA0 Zalesovo Array 155.49 33 ePKPdf PKPdf 00 04 53.6 -0.8
ZAA0 ePKPbc PKPbc 00 05 02.9
ZAA0 ePKPab PKPab 00 05 20.9 +0.6
ZALV Zalesovo Beam 155.49 33 PKP PKPdf 00 04 53.9 -0.6
comp=Z,1.1nm,0.6s,baz=243,slow=2.3,SNR=8.3
ZALV PKPab PKPab 00 05 20.9 +0.6
comp=Z,2.9nm,0.5s,baz=305,slow=5.2,SNR=6.4
MK32 Makanchi Array 157.83 51 ePKPdf PKPdf 00 04 57.4 -0.4
MK32 ePKPab PKPab 00 05 31.1 +0.3
MKAR Makanchi Array 157.83 51 ePKIKP PKPdf 00 04 57.6 -0.2
MKAR Makanchi Array 157.83 51 PKP PKPdf 00 04 57.4 -0.4
comp=Z,0.8nm,0.9s,baz=276,slow=0.7,SNR=5.9
MKAR PKPab PKPab 00 05 31.1 +0.3
comp=Z,2.3nm,0.7s,baz=281,slow=3.6,SNR=9.9
MKAR Makanchi Array 157.83 51 ePKPdf PKPdf 00 04 57.6 -0.2
MKAR ePKPab PKPab 00 05 28.1 -2.6
MK01 Makanchi Array 157.85 51 ePKPdf PKPdf 00 04 57.4 -0.4
MK01 ePKPab PKPab 00 05 28.6 -2.2
KOLN Koldanda 158.24 104 eP PKPdf 00 04 58.5 -0.7
comp=Z,7.5nm,1.0s
DANN Dangsing 158.61 102 eP PKPdf 00 04 59.3 -0.4
comp=Z,19nm,1.0s
GKN Gorkha 159.16 104 eP PKPdf 00 04 59.8 -0.4
DMN Daman 159.35 106 eP PKPdf 00 05 00.3 -0.3
KKN Kakani 159.57 105 eP PKPdf 00 05 00.3 -0.4
PKI Pulchoki 159.58 106 eP PKPdf 00 05 00.1 -0.8
GUN Gumba 160.10 106 eP PKPdf 00 05 00.4 -1.1
comp=Z,2.3nm,0.3s
RAMN Ramite 160.21 109 eP PKPdf 00 05 01.3 -0.2
JIRN Jiri 160.23 107 eP PKPdf 00 05 01.5 -0.2
ODAN Odare 160.77 110 eP PKPdf 00 05 01.6 -0.5
TAPN Taplejung 161.26 110 eP PKPdf 00 05 02.3 -0.4
CM01 Chiang Mai Arr 161.50 153 ePKPdf PKPdf 00 05 02.2 -0.6
CM01 ePKPab PKPab 00 05 47.0 -0.2
CM31 Chiang Mai Arr 161.53 153 ePKPdf PKPdf 00 05 02.5 -0.3
CMAR Chiang Mai Arr 161.53 153 PKP PKPdf 00 05 02.5 -0.3
comp=Z,0.9nm,0.3s,baz=252,slow=2.6,SNR=8.2
KSRS Korea Array 163.50 283 PKPab PKPab 00 05 54.8 -1.0
comp=Z,1.4nm,0.5s,baz=90,slow=4.6,SNR=4.3
KS15 Wonju Array Si 163.53 283 ePKPab PKPab 00 05 54.8 -1.1
LSA Lhasa 165.03 107 ePKIKP PKPdf 00 05 04.7 -1.8
LSA Lhasa 165.03 107 ePKPdf PKPdf 00 05 04.7 -1.8
LSA ePKPab PKPab 00 06 03.5 +0.2
SONA1 Songino Array 167.45 4 ePKPdf PKPdf 00 05 06.0 -1.4
SONA1 ePKPab PKPab 00 06 13.5 +0.8
ULN Ulaanbaatar 167.46 2 ePKIKP PKPdf 00 05 05.5 -1.9
ULN Ulaanbaatar 167.46 2 ePKPdf PKPdf 00 05 05.5 -1.9
ULN ePKPab PKPab 00 06 13.7 +0.9
SONA0 Songino Array 167.46 4 ePKPab PKPab 00 06 13.7 +0.9
SONM Songino Array 167.46 4 PKPab PKPab 00 06 13.7 +0.9
comp=Z,4.3nm,0.9s,baz=337,slow=4.1,SNR=27
LZH Lanzhou 176.84 75 ePKP PKPdf 00 05 12.3 +0.3
LZH pPKP pPKPdf 00 05 23.0 +4.1
LZH sPKP 00 05 26.8

IDC **28** *23:48:59.3±0.5, 37.34S×73.04W, h0km, mb4.6/13, mb1 4.7/16, mb1mx4.7/21, mbtmp4.6/16, ML4.5/3, MS4.2/11, Ms1 4.2/11, ms1mx3.9/33, Error ellipse: s-maj=22.5km s-min=14.3km az=92.0*
ISCJB **28** *23:49:03.3±0.2, 37.29S±0.04×73.00W±0.05, h33km, mb5.0/93, MS4.2/8, Error ellipse: s-maj=5.8km s-min=5.8km az=148.2*
NEIC **28** *23:49:04.5±0.1, 37.35S×73.07W, h35km, mb5.1/87, Error ellipse: s-maj=6.3km s-min=3.8km az=60.0*
SJA **28** *23:49:29.2±1.2, 35.63S×71.21W, h284km±68km, ML3.8*
ISC 28 23:49:04.2±0.3, 37.34S±0.05×73.12W±0.09, h33km, n508, σ0.86/516, mb5.0/96, MS4.2/8, 151C-132D, Near coast of central Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PLCA Paso Flores 3.94 150 Pn Pn 23 50 04.0 +1.7
14nm,0.3s,baz=323,slow=10,SNR=15
PLCA Lg Lg 23 51 05.3
50nm,0.3s,baz=270,slow=6.8,SNR=5.4
PLCA LR LR 23 51 52.6
comp=Z,2μm,21.1s,baz=322,slow=44
PLCA Paso Flores 3.94 150 ePn Pn 23 50 04.7 +2.4
AVIZ Vizcacheras 5.38 46 iP Pn 23 50 26.0 +3.7
AVIZ iS Sn 23 51 06.2 -17
AAGR Agrelo 5.51 41 iP Pn 23 50 26.0 +2.0
AAGR iP Pn 23 50 26.0 +2.0
ARCO CERRO ARCO 5.65 39 iP Pn 23 50 28.5 +2.5
ARCO iS Sn 23 51 12.2 -18
ARCO AML AML 23 51 23.1
comp=Z,120nm,0.6s
AUSP Uspallata 5.96 32 iP Pn 23 50 31.9 +1.6
RTLS Leoncito 6.36 31 iP Pn 23 50 37.5 +1.7
CFAA Coronel Fontan 7.00 37 Pn Pn 23 50 44.0 -0.4
comp=Z,2.6nm,0.3s,baz=30,slow=3.6,SNR=17
CFAA Sn Sn 23 52 04.7 +1.9
comp=Z,0.5nm,0.3s,baz=254,slow=7.1,SNR=1.5
CFAA LR LR 23 53 35.2
comp=Z,218nm,19.0s,baz=222,slow=40
CFAA Coronel Fontan 7.00 37 iP Pn 23 50 42.8 -1.5
RTLL Cerro Villicun 7.12 34 iP Pn 23 50 45.4 -0.7
TRQA Tornquist 8.86 98 ePn Pn 23 51 11.2 +1.3
CPUP Villa Florida 17.31 55 P Pn 23 53 02.3 -0.9
comp=Z,2.6nm,0.3s,baz=225,slow=6.5,SNR=5.0
CPUP LR LR 00 00 18.7
comp=Z,1μm,19.5s,baz=214,slow=39
CPUP Villa Florida 17.31 55 ePn Pn 23 53 02.9 -0.3
USHA Ushuaia 17.79 171 P Pn 23 53 09.0 0.0
comp=Z,0.4nm,0.3s,baz=318,slow=14,SNR=2.5
EFI East Falkland 17.86 148 ePn Pn 23 53 09.2 -0.6
comp=Z,148nm,1.3s
LPAZ La Paz 21.43 13 P P 23 53 50.4 +0.3
comp=Z,7.8nm,0.9s,baz=195,slow=5.0,SNR=8.8
LPAZ La Paz 21.43 13 eP P 23 53 50.4 +0.3
LPAZ epP pP 23 53 50.6 -8.3
SIV San Ignacio 23.79 30 P P 23 54 13.4 -0.5
comp=Z,3.9nm,0.4s,baz=246,slow=7.8,SNR=10
SIV LR LR 00 05 12.4
comp=Z,588nm,19.3s,baz=219,slow=41
NNA Nana 25.46 352 LR LR 00 03 01.7
comp=Z,299nm,18.0s,baz=176,slow=33
PMSA Palmer Station 28.00 172 LR LR 00 05 41.4
comp=Z,826nm,18.4s,baz=302,slow=36
SAML Samuel 29.66 20 eP P 23 55 06.6 -0.2
comp=Z,30nm,1.4s
BDFB Brasilia 31.00 53 P P 23 55 17.8 -1.0
comp=Z,3.5nm,0.6s,baz=211,slow=5.9,SNR=3.3
BDFB LR LR 00 09 12.7
comp=Z,786nm,19.2s,baz=223,slow=39
BDFB Brasilia 31.00 53 eP P 23 55 19.2 +0.4
RPN Rapa Nui 32.11 278 LR LR 00 04 31.8
comp=Z,352nm,20.7s,baz=96,slow=29
OTAV Otavalo 37.71 351 eP P 23 56 17.9 +0.7
comp=Z,18nm,1.2s
ROSC El Rosal 41.99 358 P P 23 56 53.6 +0.9
comp=Z,6.8nm,0.4s,baz=81,slow=21,SNR=6.0
ROSC El Rosal 41.99 358 eP P 23 56 52.4 -0.4
SNAA Sanae 48.85 157 P P 23 57 46.9 +0.8
comp=Z,3.6nm,0.5s,baz=280,slow=7.6,SNR=23
SNAA Sanae 48.85 157 eP P 23 57 46.8 +0.7
comp=Z,49nm,1.2s
SNAA ePcP PcP 23 59 10.1 -0.1
GRGR Grenville 50.37 15 eP P 23 57 58.7 +0.6
comp=Z,185nm,1.1s
QSPA South Pole Qui 52.90 180 P P 23 58 18.1 +1.3
comp=Z,27nm,1.0s,baz=150,slow=2.9,SNR=44
QSPA South Pole Qui 52.90 180 eP P 23 58 17.6 +0.9
comp=Z,26nm,1.0s
QSPA eP P 23 58 18.1 +1.3
RKT Rikitea 54.41 267 eLR LR 00 14 41.5
comp=Z,453nm,24.0s
RKT Rikitea 54.41 267 eT T 00 56 36.0
comp=Z,2.0nm,0.2s
APG El Apazote 54.56 339 P P 23 58 25.9 -3.6
comp=Z,6.3nm,0.9s,baz=150,slow=7.5,SNR=6.5
CRPR Cabo Rojo, PR 55.34 7 eP P 23 58 33.6 -1.1
comp=Z,13nm,0.8s
CELP Cerrillos 55.46 8 eP P 23 58 35.1 -0.6
TEIG Tepich 59.01 343 eP P 23 59 00.2 -0.5
comp=Z,66nm,1.6s
SYO Syowa Base 63.09 158 ⇑eP P 23 59 23.0 -4.8
SYO Syowa Base 63.09 158 ⇓esP sP 23 59 39.4 -2.5
MEH Mehetia 67.58 264 eT T 01 13 05.4
comp=Z,20nm,0.2s
PPT2 Papeete2 68.94 264 eS S 00 09 20.4 +12
comp=Z,89nm,26.2s
PPT2 Papeete2 68.94 264 eLR LR 00 21 15.4
comp=Z,339nm,25.0s
PPT Papeete 68.95 264 LR LR 00 24 37.6
comp=Z,327nm,18.1s,baz=156,slow=31
834A Tilden 69.36 336 ⇑P P 00 00 10.1 +1.6
baz=70
833A Chaparral WMA, 69.82 335 ⇑P P 00 00 12.4 +1.1
baz=70
832A Faith Ranch, C 69.98 335 ⇓P P 00 00 13.2 +1.0
baz=70
636A Smothers Creek 70.16 338 ⇑P P 00 00 14.8 +1.6
baz=70
732A Laxson Ranch, 70.38 335 ⇑P P 00 00 15.6 +0.9
baz=71,SNR=7.3
537A Green Hill Far 70.50 339 ⇓P P 00 00 16.5 +1.1
baz=71
633A Saathoff Ranch 70.80 336 ⇑P P 00 00 18.0 +0.8
baz=71
535A Dale 70.82 338 ⇓P P 00 00 18.5 +1.2
baz=71
632A Uvalde 71.04 336 ⇓P P 00 00 19.6 +0.9
baz=71,SNR=5.7
GOGA Godfrey 71.05 351 eP P 00 00 18.2 -0.4
comp=Z,40nm,1.4s
340A Bronson 71.10 341 ⇓P P 00 00 19.9 +0.9
baz=72
339A Huntington 71.20 341 ⇓P P 00 00 20.6 +1.0
baz=72
LRAL Lakeview Retre 71.20 348 eP P 00 00 19.5 -0.1
comp=Z,20nm,1.3s
533A Kerrville 71.32 336 ⇓P P 00 00 21.3 +0.8
baz=72
338A Crockett 71.42 340 ⇑P P 00 00 22.4 +1.5
baz=72
337A Centerville 71.54 340 ⇑P P 00 00 23.5 +1.8
baz=72
NATX Nacogdoches 71.63 341 eP P 00 00 21.4 -0.8
comp=Z,21nm,0.8s
532A Rocksprings 71.65 336 ⇑P P 00 00 23.2 +0.7
baz=72
434A Burnet 71.77 337 ⇓P P 00 00 23.7 +0.6
baz=72,SNR=8.5
336A Riesel 71.88 339 ⇑P P 00 00 24.4 +0.7
baz=72
531A Rocksprings 71.90 335 ⇓P P 00 00 24.8 +0.8
baz=72
JCT Junction City 71.94 336 eP P 00 00 25.3 +1.1
comp=Z,21nm,1.2s
JCT Junction City 71.94 336 ⇑P P 00 00 25.5 +1.3
baz=72
335A Moody 71.95 338 ⇓P P 00 00 24.6 +0.4
baz=72
433A Art 71.97 337 ⇓P P 00 00 24.8 +0.5
baz=72
530A J-C Ranch, Com 72.15 335 ⇓P P 00 00 26.0 +0.6
baz=72,SNR=9.3
334A Lometa 72.24 338 ⇓P P 00 00 26.6 +0.7
baz=73,SNR=10
LTX Lajitas 72.24 332 eP P 00 00 27.2 +1.1
TXAR Lajitas Array 72.24 332 P P 00 00 27.2 +1.1
comp=Z,3.1nm,0.8s,baz=144,slow=9.3,SNR=9.1
TX31 Lajitas Ar. Si 72.24 332 eP P 00 00 26.7 +0.6
432A Menard 72.31 336 ⇑P P 00 00 26.7 +0.3
baz=73
431A Sonora 72.39 335 ⇑P P 00 00 27.1 +0.2
baz=73
529A Stev Forest Ra 72.44 334 ⇑P P 00 00 27.8 +0.7
baz=73
333A Richland Sprin 72.47 337 ⇓P P 00 00 27.2 -0.1
baz=73,SNR=5.2
KMSC Kings Mountain 72.52 353 ⇑P P 00 00 27.6 +0.1
baz=73
WHTX Lake Whitney 72.62 338 eP P 00 00 28.1 0.0
comp=Z,14nm,0.9s
WHTX Lake Whitney 72.62 338 ⇑P P 00 00 28.2 +0.1
baz=73
430A Baggett Ranch, 72.70 335 ⇓P P 00 00 29.0 +0.3
baz=73,SNR=13
332A Millersview 72.76 336 ⇓P P 00 00 29.3 +0.2
baz=73,SNR=8.1
429A Davenport Ranc 72.78 334 ⇑P P 00 00 29.5 +0.3
baz=73,SNR=7.3
234A Clairette 72.84 338 ⇓P P 00 00 30.1 +0.7
baz=73
331A San Angelo 72.91 336 ⇓P P 00 00 30.4 +0.5
baz=73,SNR=13
OXF Oxford 73.08 346 eP P 00 00 30.6 -0.1
comp=Z,25nm,1.0s
233A Rising Star 73.08 337 ⇑P P 00 00 31.4 +0.5
baz=73
135A Vickery Place, 73.14 339 ⇑P P 00 00 31.2 -0.1
baz=74
232A Coleman 73.19 337 ⇓P P 00 00 32.0 +0.4
baz=74,SNR=6.7
330A Mertzon 73.25 335 ⇓P P 00 00 32.4 +0.4
baz=74
TKL Tuckaleechee C 73.30 351 eP P 00 00 31.5 -0.6
134A White-Moore Ra 73.35 338 ⇑P P 00 00 32.8 +0.3
baz=74
231A Bronte 73.45 336 ⇑P P 00 00 33.5 +0.4
baz=74,SNR=6.7
329A Wagon Wheel Ra 73.59 335 ⇓P P 00 00 34.8 +0.8
baz=74,SNR=8.0
133A Hamilton Ranch 73.64 337 ⇑P P 00 00 34.6 +0.4
baz=74
230A Sterling City 73.67 335 ⇓P P 00 00 34.5 +0.1
baz=74
Z35A Perchaven, San 73.82 339 ⇑P P 00 00 35.5 +0.3
baz=74
ABTX Abilene, Hawle 73.88 337 eP P 00 00 35.8 +0.3
comp=Z,12nm,1.0s
ABTX Abilene, Hawle 73.88 337 ⇑P P 00 00 36.0 +0.4
baz=74
229A Bryant Ranch, 73.98 335 ⇑P P 00 00 36.5 +0.3
baz=74
SUR Sutherland 74.00 119 eP P 00 00 37.1 +0.2
comp=Z,382nm,2.5s
Z34A Collier Ranch, 74.05 339 ⇓P P 00 00 36.7 +0.2
baz=74
TZTN Tazewell 74.15 351 eP P 00 00 36.8 -0.3
comp=Z,15nm,0.9s
131A Roby 74.16 336 ⇑P P 00 00 37.5 +0.2
baz=74
Z33A Whitaker Ranch 74.22 338 ⇑P P 00 00 37.7 +0.2
baz=75,SNR=5.5
130A Snyder 74.27 336 ⇓P P 00 00 38.0 +0.1
baz=75
WVT Waverly 74.36 348 eP P 00 00 38.2 -0.1
comp=Z,34nm,1.2s
228A UT Block 9, Go 74.38 334 ⇓P P 00 00 38.8 +0.1
baz=75,SNR=6.0
Z32A Haskell 74.46 337 ⇓P P 00 00 39.3 +0.4
baz=75,SNR=5.1
Y34A Reagan Ranch, 74.55 339 ⇑P P 00 00 39.7 +0.2

baz=75
129A Stewart Farms, 74.60 335 ⇓P P 00 00 39.6 -0.3
baz=75
Z31A Sharp Cattle R 74.67 337 ⇑P P 00 00 40.1 -0.1
baz=75,SNR=5.6
128A Castleberry Fa 74.80 335 ⇑P P 00 00 41.2 +0.1
baz=75,SNR=6.3
Y33A Hilltop Ranch, 74.85 338 ⇑P P 00 00 40.8 -0.4
baz=75
Z30A Sanderson Ranc 74.96 336 ⇓P P 00 00 42.1 +0.2
baz=75,SNR=5.6
MNTX Cornudas Mount 75.01 332 eP P 00 00 42.1 0.0
comp=Z,4.6nm,0.9s
Y32A R-V Farms, Ver 75.09 338 ⇑P P 00 00 43.0 +0.4
baz=76
Z29A Hungry Hill Ra 75.12 335 ⇑P P 00 00 42.9 0.0
baz=76,SNR=7.3
127A Arkansas Junct 75.16 334 ⇑P P 00 00 43.5 +0.4
baz=76
X34A Smith Ranch, M 75.18 339 ⇑P P 00 00 43.4 +0.3
baz=76
Y31A Rekieta Farm, 75.31 337 ⇓P P 00 00 44.0 +0.1
baz=76
X33A Lawton 75.31 339 ⇓P P 00 00 44.2 +0.3
baz=76
Z28A Tucker Farm, M 75.38 335 ⇑P P 00 00 44.5 +0.1
baz=76
Y30A Stafford Cattl 75.43 336 ⇑P P 00 00 44.9 +0.3
baz=76
X32A Elmer 75.43 338 ⇑P P 00 00 44.8 +0.3
baz=76
Y29A Porterfield Fa 75.66 336 ⇑P P 00 00 46.0 0.0
baz=76
W34A Bridge Creek, 75.75 339 eP P 00 00 46.6 +0.2
comp=Z,36nm,1.5s
W34A Bridge Creek, 75.75 339 ⇓P P 00 00 46.4 +0.1
baz=76
X31A McDonald Ranch 75.84 337 ⇓P P 00 00 47.0 +0.1
baz=76
TUL1 Tulsa 75.86 341 eP P 00 00 47.0 +0.1
comp=Z,17nm,0.9s
TUL1 Tulsa 75.86 341 ⇓P P 00 00 46.8 -0.1
baz=76
W33A Caddo, Fort Co 75.87 339 ⇓P P 00 00 47.4 +0.3
baz=76
Y28A McKinney Farm, 75.90 335 ⇑P P 00 00 47.7 +0.4
baz=76
Z26A Caprock 75.91 334 ⇑P P 00 00 47.8 +0.4
baz=76,SNR=16
X30A Coker Ranch, T 75.95 337 ⇓P P 00 00 48.4 +0.9
baz=76
W32A Sentinel 76.08 338 ⇓P P 00 00 48.9 +0.7
baz=76
USIN University of 76.13 348 eP P 00 00 47.6 -0.8
comp=Z,34nm,1.2s
MSTX Muleshoe 76.13 335 eP P 00 00 48.1 -0.6
comp=Z,18nm,1.4s
MSTX Muleshoe 76.13 335 ⇓P P 00 00 49.3 +0.6
baz=76
Z25A Roswell 76.18 333 ⇑P P 00 00 49.2 +0.2
baz=76
Y27A Causey 76.18 335 ⇑P P 00 00 49.5 +0.5
baz=76
X29A Tulia 76.21 336 ⇑P P 00 00 49.6 +0.5
baz=77
V34A Guthrie 76.25 340 eP P 00 00 49.2 0.0
comp=Z,21nm,1.2s
V34A Guthrie 76.25 340 ⇑P P 00 00 49.5 +0.3
baz=77
W31A Holland Ranch, 76.34 338 ⇑P P 00 00 50.0 +0.3
baz=77
V33A Lossen Ranch, 76.45 339 ⇑P P 00 00 50.9 +0.6
baz=77
Y26A Elida 76.45 334 ⇑P P 00 00 51.1 +0.6
baz=77
Z24A Sheeppen Canyo 76.46 333 ⇑P P 00 00 51.7 +1.0
baz=77
V32A Arapaho 76.57 339 ⇑P P 00 00 51.9 +0.9
baz=77
AMTX Amarillo 76.61 336 eP P 00 00 51.6 +0.3
comp=Z,31nm,1.3s
AMTX Amarillo 76.61 336 ⇑P P 00 00 52.2 +0.9
baz=77
121A Cookes Peak, D 76.67 330 ⇓P P 00 00 53.3 +1.4
baz=77
Y25A Mesa, Roswell 76.75 333 ⇑P P 00 00 52.6 +0.3
baz=77
W29A Amraillo 76.81 336 ⇓P P 00 00 53.0 +0.5
baz=77
U34A Anderson Ranch 76.81 340 eP P 00 00 52.7 +0.4
comp=Z,25nm,1.4s
U34A Anderson Ranch 76.81 340 ⇓P P 00 00 52.7 +0.4
baz=77
V31A Spring Creek L 76.86 338 ⇓P P 00 00 53.8 +1.1
baz=77
Z22A Elephant Butte 77.00 331 ⇓P P 00 00 55.1 +1.5
baz=77
X26A CR and CF Fran 77.01 334 ⇑P P 00 00 54.8 +1.1
baz=77,SNR=5.8
Y24A Capitan 77.02 333 ⇑P P 00 00 54.9 +1.1
baz=77,SNR=7.4
DBIC Dimbokro 77.08 71 P P 00 00 54.7 +0.3
comp=Z,20nm,0.7s,baz=202,slow=6.2,SNR=39
DBIC Dimbokro 77.08 71 eP P 00 00 54.4 0.0
comp=Z,24nm,0.7s
U32A Winter Ranch, 77.17 339 ⇑P P 00 00 55.3 +0.9
baz=78
W27A Bowe Ranch, En 77.22 335 ⇓P P 00 00 55.7 +0.9
baz=78,SNR=5.3
SLM Saint Louis 77.23 346 eP P 00 00 54.4 -0.2
comp=Z,22nm,0.4s
W26A Owens Ranch, T 77.48 335 ⇑P P 00 00 57.3 +1.0
baz=78
V28A Channing 77.58 336 ⇓P P 00 00 57.9 +1.1
baz=78
X24A Lazy VL Ranch, 77.60 333 ⇓P P 00 00 58.1 +1.1
baz=78
T33A Patterson Ranc 77.61 340 ⇑P P 00 00 58.0 +1.2
baz=78
BNM Barren Site 77.66 332 eP P 00 00 58.3 +0.9
TUC Tucson 77.70 328 eP P 00 00 59.2 +1.7
comp=Z,8.8nm,1.3s
ACSO Alum Creek Sta 77.72 352 eP P 00 00 56.2 -1.1
comp=Z,18nm,0.8s
U30A WK&E Inc. Balk 77.80 338 ⇑P P 00 00 59.4 +1.5
baz=78
W25A X Bar L Ranch, 77.84 334 ⇓P P 00 00 59.2 +0.9
baz=78,SNR=7.0
X23A Hourglass Bar 77.89 333 ⇑P P 00 01 00.1 +1.4
baz=78
T32A Huddler Ranch, 77.90 339 ⇑P P 00 00 59.5 +1.0
baz=78
T31A Randall Ranch, 78.04 339 ⇑P P 00 01 00.2 +1.0
baz=78
ODNJ Ogdensburg 78.06 359 eP P 00 00 59.8 +0.7
comp=Z,283nm,3.0s
LAZ Ladron 78.08 332 eP P 00 01 01.0 +1.3
V26A Tequesquite Ra 78.13 335 ⇑P P 00 01 00.5 +0.6
baz=78
U28A Mallet 78.15 336 ⇓P P 00 01 00.9 +0.9
baz=78
W24A Lazy 6 Ranch, 78.17 333 ⇓P P 00 01 01.2 +1.0
baz=78,SNR=6.7
214A Organ Pipe Nat 78.28 326 ⇑P P 00 01 02.7 +2.0
baz=79
ANMO Albuquerque 78.31 333 LR LR 00 31 27.4
comp=Z,119nm,18.3s,baz=153,slow=32
ANMO Albuquerque 78.31 333 eP P 00 01 00.4 -0.5
comp=Z,9.7nm,1.0s
U27A Thompson Grove 78.38 336 ⇑P P 00 01 02.4 +1.1
baz=79
S32A Newby Ranch, P 78.39 339 ⇑P P 00 01 01.8 +0.7
baz=79
W23A Werner Place, 78.39 333 ⇑P P 00 01 02.5 +1.1
baz=79
V25A Rancho No Teng 78.45 334 ⇓P P 00 01 02.8 +1.0
baz=79,SNR=9.2
S31A Mullinville 78.47 339 ⇓P P 00 01 02.4 +0.8
baz=79
T29A Hugoton 78.58 337 ⇑P P 00 01 03.3 +1.1
baz=79
V24A Rampart Ranch, 78.58 334 ⇓P P 00 01 03.1 +0.6
baz=79,SNR=5.1
U26A Atchley Ranch, 78.66 335 ⇓P P 00 01 03.8 +0.9
baz=79
R33A Olander Ranch, 78.69 340 ⇑P P 00 01 03.5 +0.7
baz=79
S30A Montezuma 78.77 338 ⇓P P 00 01 03.8 +0.5
baz=79
T28A Walsh 78.80 337 ⇑P P 00 01 03.9 +0.4
baz=79
U25A Circle Dot Ran 78.89 335 ⇑P P 00 01 04.8 +0.6
baz=79
T27A Campo 78.94 336 ⇓P P 00 01 05.2 +0.8
baz=79
S29A Ulysses 78.95 338 ⇑P P 00 01 04.5 +0.2
baz=79
R32A Long Quarter, 79.00 340 ⇓P P 00 01 04.8 +0.3
baz=79
KSU1 Kansas State U 79.08 342 eP P 00 01 05.0 +0.1
comp=Z,8.8nm,0.9s
KSU1 Kansas State U 79.08 342 ⇑P P 00 01 05.0 +0.1
baz=80
R31A Burdett 79.10 339 ⇓P P 00 01 05.3 +0.3
baz=80
TSUM Tsumeb 79.15 106 eP P 00 01 06.3 +0.2
comp=Z,14nm,1.5s
S28A Manter 79.16 337 ⇑P P 00 01 05.9 +0.4
baz=80
QUA2 Belchertown 79.24 1 eP P 00 01 06.0 +0.3
comp=Z,99nm,1.7s
X18A Snowflake 79.29 330 ⇓P P 00 01 07.4 +1.0
baz=80
BOSA Boshof 79.30 118 P P 00 01 06.5 -0.2
comp=Z,6.8nm,0.9s,baz=250,slow=3.1,SNR=11
BOSA Boshof 79.30 118 eP P 00 01 06.5 -0.2
BOSA eP P 00 01 06.7 0.0
T26A Comanche Natio 79.32 336 ⇑P P 00 01 07.5 +1.0
baz=80,SNR=6.5
V22A San Miguel Ran 79.34 333 ⇑P P 00 01 08.2 +1.5
baz=80,SNR=15
U23A El Rito 79.45 333 ⇑P P 00 01 08.7 +1.4
baz=80,SNR=6.8
Q32A Meitler Ranch, 79.49 340 ⇑P P 00 01 08.2 +1.0
baz=80
T25A Trinidad 79.56 335 ⇑P P 00 01 08.9 +1.1
baz=80,SNR=10
S26A Kim 79.69 336 ⇑P P 00 01 09.6 +1.2
baz=80
W18A Petrified Fore 79.71 330 eP P 00 01 10.1 +1.4
comp=Z,12nm,0.9s
W18A Petrified Fore 79.71 330 ⇑P P 00 01 10.1 +1.4
baz=80
U22A Llaves 79.73 333 ⇑P P 00 01 10.1 +1.3
baz=80
X16A Lo Mia Camp, P 79.80 329 ⇑P P 00 01 10.8 +1.6
baz=80
T24B San Luis 79.82 334 ⇓P P 00 01 10.7 +1.3
baz=80,SNR=6.8
R28A Tribune 79.83 337 ⇓P P 00 01 09.9 +0.8
baz=80
Q30A Quinter 79.94 339 ⇑P P 00 01 10.5 +0.8
baz=80
S25A Robets Cordova 80.04 335 ⇑P P 00 01 11.5 +1.1
baz=80,SNR=6.3
Q29A Oakley 80.08 338 ⇓P P 00 01 11.2 +0.8
baz=80
R27A Eads 80.08 337 ⇓P P 00 01 11.1 +0.6
baz=80
P32A Huiting Farm, 80.09 340 ⇓P P 00 01 11.4 +1.0
baz=80
P31A Stockton 80.21 340 ⇑P P 00 01 11.8 +0.8
baz=81
S24A Houchin Ranch, 80.29 335 ⇑P P 00 01 13.3 +1.5
baz=81,SNR=12
R26A Arlington 80.30 336 ⇓P P 00 01 13.0 +1.3
baz=81
SDCO Great Sand Dun 80.48 335 eP P 00 01 13.4 +0.6
comp=Z,5.7nm,1.1s
Q28A Sharon Springs 80.49 338 ⇓P P 00 01 14.1 +1.4
baz=81
Y12C Blythe 80.56 326 ⇓P P 00 01 14.9 +1.9
baz=81
WUAZ Wupatki 80.72 329 eP P 00 01 15.9 +1.9
comp=Z,8.3nm,1.0s
WUAZ Wupatki 80.72 329 ⇓P P 00 01 15.6 +1.5
baz=81
R24A Sanders Place, 80.78 335 ⇓P P 00 01 16.0 +1.6
baz=81,SNR=15
Q26A Hugo 80.89 336 ⇓P P 00 01 16.5 +1.7
baz=81
BC3 Big Chuckawall 80.89 325 ⇑P P 00 01 16.8 +1.9
baz=81
P28A Saint Francis 80.94 338 ⇑P P 00 01 16.4 +1.4
baz=81
S22A 4UR Ranch, Cre 80.94 334 ⇑P P 00 01 16.4 +1.1
baz=81,SNR=5.7
MDV Middlebury 80.96 360 eP P 00 01 15.6 +0.7
R23A Moffat 80.99 334 ⇓P P 00 01 16.4 +0.8
baz=81
O30A MW Ranch, Wils 81.01 339 ⇑P P 00 01 16.4 +1.1
baz=81
MVCO Mesa Verde 81.08 332 eP P 00 01 15.8 -0.3
comp=Z,10nm,1.1s
MVCO Mesa Verde 81.08 332 ⇓P P 00 01 17.4 +1.4
baz=81,SNR=5.7
IRM Iron Mountain 81.18 326 ⇓P P 00 01 18.3 +1.9
baz=82
PFO Pinyon Flat Ob 81.31 325 ⇓P P 00 01 19.1 +1.8
baz=82
W13A Hualapai Mount 81.42 327 ⇑P P 00 01 19.4 +1.5
baz=82
P26A Davis Ranch, A 81.42 337 ⇑P P 00 01 18.8 +1.2
baz=82
O28A Krutsinger Ran 81.46 338 ⇓P P 00 01 18.9 +1.2
baz=82
Q24A Divide 81.46 335 ⇑P P 00 01 19.2 +1.1
baz=82
LONY Lake Ozonia 81.59 359 eP P 00 01 18.8 +0.5
comp=Z,98nm,2.0s
N30A Hueftle Ranch, 81.59 340 ⇑P P 00 01 20.0 +1.6
baz=82
P25A Willow Gulch B 81.63 336 ⇑P P 00 01 20.2 +1.4
baz=82
LBTB Lobatse 81.70 115 eP P 00 01 19.3 -0.4
comp=Z,15nm,0.8s
N29A Votaw Ranch, W 81.76 339 ⇓P P 00 01 20.4 +1.1
baz=82
M31A Lambtecht Ranc 81.80 341 ⇑P P 00 01 21.0 +1.5
baz=82
U15A North Rim 81.88 329 ⇑P P 00 01 22.1 +1.7
baz=82,SNR=6.5
PV01 Paradox Valley 81.92 332 eP P 00 01 21.3 +0.9
GMRC Granite Mounta 81.93 326 ⇓P P 00 01 22.0 +1.6
baz=82
P23A Jefferson 82.06 335 ⇓P P 00 01 23.3 +2.0
baz=82
PV05 Paradox Valley 82.06 332 eP P 00 01 21.6 +0.4
HEC Hector,Ludlow 82.27 325 ⇓P P 00 01 24.1 +1.9
baz=83
SMCO Snowmass 82.27 334 eP P 00 01 23.9 +1.4
comp=Z,22nm,1.3s
PV10 Paradox Valley 82.30 332 eP P 00 01 23.0 +0.5
ISCO Idaho Springs 82.37 335 eP P 00 01 23.1 +0.2
comp=Z,80nm,3.0s
ISCO Idaho Springs 82.37 335 ⇓P P 00 01 23.9 +1.1
baz=83
BFSC Mount Baldy Ra 82.39 324 ⇑P P 00 01 25.2 +2.3
baz=83
PV09 Paradox Valley 82.45 332 eP P 00 01 23.5 +0.2
L31A Butterfield Fa 82.55 341 ⇓P P 00 01 25.0 +1.6
baz=83
L30A Spencer Herefo 82.57 340 ⇑P P 00 01 25.1 +1.6
baz=83
P22A Eagle 82.57 334 ⇑P P 00 01 25.2 +1.4
baz=83
TUQ Turquoise Moun 82.59 326 ⇑P P 00 01 25.6 +1.7
baz=83
KNB Kanab 82.60 329 eP P 00 01 24.9 +1.0
comp=Z,18nm,1.2s
O23A Lake Granby, G 82.84 335 ⇑P P 00 01 26.6 +1.3
baz=83
L29A Maesberg Ranch 82.88 340 ⇑P P 00 01 26.6 +1.4
baz=83
O22A Kremmling 83.01 335 ⇓P P 00 01 27.2 +1.0
baz=83,SNR=6.2
EDW2 Edwards Air Fo 83.08 324 ⇑P P 00 01 28.1 +1.8
baz=83
SHPR Sheep Range 83.16 327 eP P 00 01 27.7 +0.9
CCUT Cedar City 83.28 329 eP P 00 01 29.1 +1.6
comp=Z,13nm,1.1s
LRMC Laurel Mountai 83.43 325 ⇓P P 00 01 29.8 +1.5
baz=84
N23A Red Feather La 83.46 336 ⇑P P 00 01 29.4 +1.0
baz=84
ECSD EROS Data Cent 83.47 343 eP P 00 01 28.0 -0.1
comp=Z,27nm,1.1s
ECSD EROS Data Cent 83.47 343 ⇑P P 00 01 28.7 +0.6
baz=84
SRU San Rafael 83.50 332 eP P 00 01 28.5 -0.1
comp=Z,6.6nm,0.9s
ARUT Antelope Range 83.52 329 eP P 00 01 28.6 -0.1
N22A Wattenberg Ran 83.55 335 ⇓P P 00 01 30.2 +1.3
baz=84
O20A White River Ci 83.57 334 eP P 00 01 29.3 +0.3
comp=Z,8.0nm,1.0s
O20A White River Ci 83.57 334 ⇓P P 00 01 29.9 +1.0
baz=84
M24A Cheyenne 83.62 337 ⇑P P 00 01 30.3 +1.2
baz=84
MVU Marysvale 83.63 330 eP P 00 01 29.4 +0.1
comp=Z,10.0nm,1.4s
PHWY Pilot Hill 83.67 336 eP P 00 01 30.0 +0.4
comp=Z,14nm,1.4s
K28A Ten Mile Ranch 83.73 339 ⇓P P 00 01 31.1 +1.6
baz=84
M23A Laramie 83.91 336 ⇑P P 00 01 31.8 +1.1
baz=84,SNR=5.5
TMUT Trail Mountain 83.93 331 eP P 00 01 31.9 +1.0
comp=Z,24nm,1.3s
ISA Isabella 83.94 324 eP P 00 01 32.5 +1.7
comp=Z,6.7nm,1.0s
ISA Isabella 83.94 324 ⇓P P 00 01 32.6 +1.8
baz=84
M22A Cedar Creek Ra 84.13 335 ⇓P P 00 01 33.3 +1.5
baz=84
N20A Spence Gulch, 84.20 334 ⇑P P 00 01 33.6 +1.5
baz=85
I30A Oacoma 84.32 341 ⇑P P 00 01 32.9 +0.5
baz=85
J28A Allard Ranch, 84.35 340 ⇓P P 00 01 33.8 +1.2
baz=85
VES Vestal, Richgr 84.37 324 ⇓P P 00 01 34.4 +1.6
baz=85
J27A Elkhorn Farm, 84.40 339 ⇓P P 00 01 34.2 +1.2
baz=85
L23A Garrett 84.48 336 ⇓P P 00 01 34.3 +0.8
baz=85
MPU Maple Canyon 84.71 331 eP P 00 01 34.7 -0.1
comp=Z,13nm,1.2s
J26A Sides Ranch, S 84.77 339 ⇓P P 00 01 35.7 +1.0
baz=85,SNR=5.4
NLU North Lily Min 84.83 331 eP P 00 01 35.9 +0.5
comp=Z,22nm,1.6s
I28A Midland 84.86 340 ⇓P P 00 01 36.0 +0.8
baz=85
R11A Troy Canyon, C 84.89 328 eP P 00 01 36.3 +0.7
comp=Z,12nm,1.3s
R11A Troy Canyon, C 84.89 328 ⇓P P 00 01 36.7 +1.0
baz=85,SNR=7.1
K23A Bowen Ranch, D 85.03 337 ⇑P P 00 01 37.2 +1.0
baz=85,SNR=5.1
J25A Sunshine Ranch 85.05 338 ⇑P P 00 01 37.0 +0.8
baz=85
JLU Jordanelle 85.15 332 eP P 00 01 37.5 +0.6
comp=Z,14nm,1.4s
I27A Quinn 85.17 340 ⇑P P 00 01 37.4 +0.6
baz=86
H29A Onida 85.19 341 ⇑P P 00 01 37.2 +0.5
baz=86
K22A Casper 85.23 336 eP P 00 01 37.5 +0.3
comp=Z,19nm,1.1s
K22A Casper 85.23 336 ⇑P P 00 01 38.2 +0.9
baz=86
J24A Dixon Ranch, L 85.26 337 ⇓P P 00 01 38.3 +1.0
baz=86
DUG Dugway 85.33 331 eP P 00 01 39.1 +1.4
comp=Z,29nm,1.5s
DUG Dugway 85.33 331 ⇑P P 00 01 39.1 +1.4
baz=86
I26A New Underwood 85.36 339 ⇓P P 00 01 38.6 +0.9
baz=86
TPH Tonopah 85.37 327 eP P 00 01 39.2 +1.1
comp=Z,15nm,1.1s
G30A Faulkton 85.39 342 ⇑P P 00 01 38.2 +0.5
baz=86
H28A Mission Ridge 85.45 340 ⇑P P 00 01 38.6 +0.6
baz=86
K21A Alcova 85.45 335 ⇑P P 00 01 39.3 +0.9
baz=86
TCUT Toone Canyon 85.58 332 eP P 00 01 39.3 +0.2
comp=Z,52nm,1.9s
I25A Rochford 85.61 338 ⇑P P 00 01 40.0 +0.9
baz=86,SNR=7.8
G29A Hoven 85.64 341 ⇓P P 00 01 39.6 +0.6
baz=86
H27A Howes 85.70 340 ⇓P P 00 01 39.9 +0.5
baz=86,SNR=5.5
I24A Kuemmerle Ranc 85.73 338 ⇓P P 00 01 40.3 +0.6
baz=86
RSSD Black Hills 85.79 338 eP P 00 01 40.1 0.0
comp=Z,13nm,1.0s
G28A Parade 85.79 341 ⇑P P 00 01 40.3 +0.5
baz=86
J22A Midwest 85.90 336 ⇓P P 00 01 40.4 -0.2
baz=86
F30A Leola 86.02 342 ⇑P P 00 01 41.3 +0.4
baz=86
HWUT Hardware Ranch 86.07 332 eP P 00 01 41.7 +0.3
comp=Z,22nm,1.1s
H25A Fruitdale 86.12 339 ⇓P P 00 01 42.0 +0.6
baz=86,SNR=5.4
NV01 Mina Array Sit 86.14 326 eP P 00 01 43.1 +1.2
NVAR Mina Array Bea 86.14 326 P P 00 01 42.8 +0.9
comp=Z,2.8nm,0.8s,baz=155,slow=6.2,SNR=12
J21A Lysite 86.15 336 ⇑P P 00 01 42.0 +0.1
baz=86
TOA0 Torodi Ar. Sit 86.17 70 eP P 00 01 41.5 -0.9
TOA0 eP P 00 01 42.0 -0.3
TORD Torodi Ar. Bea 86.17 70 P P 00 01 42.0 -0.3
comp=Z,6.2nm,0.7s,baz=218,slow=5.3,SNR=41
F29A Eureka 86.22 342 ⇓P P 00 01 42.4 +0.6
baz=87
I22A 9 Mile Ranch, 86.33 337 ⇑P P 00 01 43.0 +0.4
baz=87
G27A Dupree 86.34 340 ⇑P P 00 01 42.5 0.0
baz=87
BW06 Boulder Array 86.36 334 eP P 00 01 42.6 -0.3
BW06 eP P 00 01 43.3 +0.4
PD31 Pinedale Array 86.36 334 eP P 00 01 42.8 -0.1
PDAR Pinedale Array 86.36 334 P P 00 01 43.1 +0.2
comp=Z,6.3nm,1.1s,baz=142,slow=5.1,SNR=16
J20A Shoshoni 86.37 335 ⇓P P 00 01 43.7 +0.8
baz=87
G26A Maurine 86.45 340 ⇓P P 00 01 43.4 +0.4
baz=87,SNR=9.1
F28A McLaughlin 86.48 341 ⇑P P 00 01 43.6 +0.4
baz=87
H24A Dirks Ranch, A 86.51 338 ⇓P P 00 01 43.3 -0.1
baz=87,SNR=7.0
I21A Big Trails, Te 86.52 336 ⇑P P 00 01 44.0 +0.4
baz=87
G25A Newell 86.59 339 ⇓P P 00 01 44.5 +0.7
baz=87,SNR=6.2
E30A Jud 86.62 342 ⇓P P 00 01 44.4 +0.6
baz=87
J19A Crowheart 86.62 335 ⇓P P 00 01 44.6 +0.5
baz=87
HVU Hansel Valley 86.67 331 eP P 00 01 44.2 -0.1
comp=Z,13nm,1.2s
WAKR Walker 86.71 325 eP P 00 01 45.4 +0.8
ELK Elko 86.76 329 eP P 00 01 45.8 +0.8
comp=Z,4.1nm,0.9s
F27A Lemmon 86.83 340 ⇓P P 00 01 45.0 +0.1
baz=87,SNR=9.6
E29A Napoleon 86.86 342 ⇓P P 00 01 45.4 +0.4
baz=87
AHID Auburn Hatcher 86.90 333 eP P 00 01 45.7 +0.2
comp=Z,15nm,1.4s
I20A Worland 86.92 335 ⇑P P 00 01 46.0 +0.6
baz=87
F26A Lodgepole 86.98 340 ⇑P P 00 01 46.1 +0.5
baz=87,SNR=5.3
G24A Alzada 87.00 338 ⇑P P 00 01 46.3 +0.5
baz=87
E28A Huff 87.13 341 ⇓P P 00 01 46.7 +0.4
baz=88
D30A Buchanan 87.15 343 ⇑P P 00 01 46.7 +0.3
baz=88
H21A Big Horn, Sher 87.17 336 ⇓P P 00 01 46.5 -0.2
baz=88
G23A Biddle 87.17 338 ⇑P P 00 01 46.5 -0.1
baz=88
E27A Carson 87.22 341 ⇑P P 00 01 47.0 +0.2

baz=88
F25A Bowman 87.27 339 ⇑P P 00 01 47.5 +0.4
baz=88
I19A Meeteetse 87.28 335 ⇑P P 00 01 47.5 +0.2
baz=88
D29A Pettibone, Tap 87.31 342 ⇑P P 00 01 47.5 +0.4
baz=88
DRLN Deer Lake 87.33 10 eP P 00 01 46.5 -0.6
comp=Z,197nm,2.0s
REDW Red Top Meadow 87.33 333 eP P 00 01 47.2 -0.5
comp=Z,25nm,1.6s
H20A Greybull 87.35 336 ⇑P P 00 01 47.9 +0.3
baz=88
G22A Birney 87.46 337 ⇓P P 00 01 47.9 -0.1
baz=88
LOHW Long Hollow 87.46 334 eP P 00 01 48.6 +0.3
comp=Z,15nm,1.6s
TPAW Teton Pass 87.48 333 eP P 00 01 48.8 +0.4
comp=Z,7.7nm,0.9s
E26A Carlson Angus 87.50 340 ⇑P P 00 01 48.4 +0.3
baz=88
AGMN Agassiz Nation 87.64 345 eP P 00 01 48.7 0.0
comp=Z,29nm,1.4s
AGMN Agassiz Nation 87.64 345 ⇑P P 00 01 49.0 +0.3
baz=88
C30A Mose, Pekin 87.64 343 ⇑P P 00 01 49.3 +0.5
baz=88,SNR=11
F23A Volborg 87.65 338 ⇑P P 00 01 48.9 0.0
baz=88
D28A Regan 87.67 342 ⇑P P 00 01 49.4 +0.5
baz=88
I17A Pilgrim Ck. 87.72 334 ⇑P P 00 01 50.2 +0.8
baz=88
IMW Indian Meadow 87.83 334 eP P 00 01 50.8 +0.7
comp=Z,12nm,1.3s
FLWY Flagg Ranch 87.91 334 eP P 00 01 50.6 +0.2
comp=Z,11nm,1.1s
D26A Manning 88.00 340 ⇓P P 00 01 51.0 +0.5
baz=88,SNR=6.9
G20A Bridger 88.07 336 ⇓P P 00 01 50.9 -0.1
baz=88
H18A Shoshone NF, C 88.07 335 ⇑P P 00 01 51.4 +0.2
baz=88
YFT Old Faithful 88.28 334 eP P 00 01 52.1 -0.1
comp=Z,24nm,1.6s
B30A Myrvik Farm, E 88.31 344 ⇑P P 00 01 52.3 +0.4
baz=89,SNR=15
D25A Fairfield 88.35 340 ⇓P P 00 01 53.4 +1.2
baz=89
C27A Sayler Ranch, 88.39 341 ⇓P P 00 01 52.9 +0.6
baz=89,SNR=6.8
YMR Madison River 88.51 334 eP P 00 01 54.0 +0.8
comp=Z,20nm,1.4s
B29A Wagenman Farm, 88.56 343 ⇑P P 00 01 53.6 +0.5
baz=89,SNR=5.4
C26A Wahner Farm, P 88.65 341 ⇓P P 00 01 54.4 +0.8
baz=89
A30A Hoffart Farm, 88.77 344 ⇑P P 00 01 54.4 +0.4
baz=89,SNR=6.4
B28A Dugan Ranch, T 88.79 342 ⇑P P 00 01 54.8 +0.6
baz=89
HLID Hailey 88.82 331 eP P 00 01 55.2 +0.6
comp=Z,9.9nm,1.3s
HLID Hailey 88.82 331 ⇑P P 00 01 56.0 +1.4
baz=89
F19A Roth Farm, Mol 88.87 336 ⇓P P 00 01 55.8 +1.0
baz=89
D23A Lindsay 88.90 339 ⇓P P 00 01 55.8 +1.0
baz=89
A29A Manning Farm, 88.96 343 ⇑P P 00 01 55.5 +0.5
baz=89,SNR=11
C24A Savage 89.01 339 ⇓P P 00 01 55.7 +0.4
baz=89
D22A Cohagen 89.17 338 ⇑P P 00 01 56.4 +0.4
baz=90
E20A Meyer Farm, Mu 89.19 337 ⇑P P 00 01 56.3 +0.1
baz=90
A28A Rude Farm, Bot 89.19 342 ⇓P P 00 01 56.1 0.0
baz=90
MFID Camas Ranch 89.25 330 eP P 00 01 57.5 +1.0
comp=Z,5.0nm,1.0s
MCMT McKenzie Canyo 89.32 333 eP P 00 01 58.3 +1.2
E19A Rath Farm, Rou 89.36 336 ⇓P P 00 01 56.9 0.0
baz=90
ULM Lac du Bonnet 89.50 346 P P 00 01 57.2 -0.2
comp=Z,5.6nm,0.9s,baz=149,slow=3.8,SNR=6.1
ULM Lac du Bonnet 89.50 346 eP P 00 01 56.8 -0.6
comp=Z,11nm,1.1s
WVOR Wild Horse Val 89.58 328 eP P 00 01 58.5 +0.4
comp=Z,26nm,1.7s
LSZ Lusaka 89.58 109 eP P 00 01 59.5 +0.6
comp=Z,6.0nm,0.9s
A26A Wade Farm, Ken 89.62 341 ⇑P P 00 01 58.4 +0.4
baz=90
DLMT Dillon 89.69 333 eP P 00 01 59.9 +1.3
comp=Z,10nm,1.3s
D20A Manuel Ranch, 89.71 337 ⇓P P 00 01 58.7 +0.1
baz=90
DGMT Dagmar 89.80 340 eP P 00 01 59.0 +0.1
comp=Z,27nm,1.4s
DGMT Dagmar 89.80 340 ⇓P P 00 01 59.7 +0.8
baz=90
MOD Modoc 89.86 327 eP P 00 01 59.1 -0.4
comp=Z,38nm,2.1s
LRM Limekiln Ridge 90.04 334 eP P 00 01 60.0 -0.4
C19A Slack Wire Ran 90.57 337 ⇓P P 00 02 03.2 +0.6
baz=91
A22A Carney Farms, 90.75 339 ⇑P P 00 02 03.5 +0.2
baz=91
K05A Summer Lake 90.78 327 eP P 00 02 04.3 +0.5
comp=Z,210nm,2.9s
YBH Yreka Blue Hor 90.79 325 LR LR 00 34 51.8
comp=Z,72nm,20.5s,baz=157,slow=30
BMO Blue Mountains 91.03 330 eP P 00 02 05.2 +0.3
comp=Z,86nm,2.8s
A20A Cobblestone Ra 91.24 338 ⇓P P 00 02 05.5 -0.1
baz=92
CHMT Chamberlain Mo 91.26 334 eP P 00 02 04.7 -1.3
MSO Missoula 91.43 333 ⇓P P 00 02 07.5 +0.9
baz=92
SLMT Seeley Lake 91.62 334 eP P 00 02 05.6 -2.0
F10A Beach Ranch, E 91.93 331 eP P 00 02 09.3 +0.3
comp=Z,67nm,2.5s
SWMT Swartz Lake 92.03 334 eP P 00 02 09.4 -0.1
JTMT Jette 92.33 334 eP P 00 02 09.8 -1.0
YBMT Yellow Bay 92.34 334 eP P 00 02 11.3 +0.4
BLMT Blacktail Moun 92.59 334 eP P 00 02 11.3 -0.8
BSMT Bassoo Peak 92.60 333 eP P 00 02 11.8 -0.4
HAWA Hanford 93.19 330 eP P 00 02 14.6 0.0
comp=Z,15nm,1.4s
WALA Waterton Lakes 93.32 335 eP P 00 02 16.0 +0.7
comp=Z,158nm,3.0s
NEW Newport 93.80 332 ⇓P P 00 02 17.8 +0.3
baz=94
DZM Mont Dzumac 98.56 234 eLR LR 00 34 56.0
comp=Z,229nm,23.8s
AS12 Alice Springs 114.20 207 ePKiKP PKiKP 00 07 39.6 -1.0
ASAR Alice Springs 114.20 207 PKP PKPdf 00 07 39.6 -1.0
comp=Z,0.6nm,0.8s,baz=115,slow=1.7,SNR=4.4
GEC2 GERESS Array S 115.10 47 ePKiKP PKPdf 00 07 40.5 -0.9
GERES GERESS Array B 115.10 47 PKP PKPdf 00 07 40.5 -0.9
comp=Z,1.0nm,0.7s,baz=166,slow=2.8,SNR=6.3
IL1 Eielson Array 116.76 333 ePKPdf PKPdf 00 07 43.4 -0.7
ILAR Eielson Array 116.76 333 PKP PKPdf 00 07 43.9 -0.2
comp=Z,0.6nm,0.8s,baz=210,slow=0.9,SNR=5.1
TRF Thorofare Moun 117.39 330 ePKPdf PKPdf 00 07 45.1 -0.4
WRA Warramunga Arr 117.42 209 PKP PKPdf 00 07 46.1 -0.8
comp=Z,0.7nm,0.5s,baz=148,slow=1.5,SNR=14
NB200 NORSAR Array S 119.29 34 ePKPdf PKPdf 00 07 48.8 -0.3
NOA NORSAR Array B 119.29 34 PKP PKPdf 00 07 48.8 -0.3
comp=Z,0.3nm,0.6s,baz=249,slow=2.3,SNR=3.1
IM04 Indian Mountai 119.87 332 ePKPdf PKPdf 00 07 50.4 +0.4
BUR04 Bucovina Ar. S 121.53 52 ePKPdf PKPdf 00 07 53.8 -0.1
FITZ Fitzroy Crossi 122.09 201 ePKPdf PKPdf 00 07 55.3 -0.5
BR231 Keskin MP Arra 123.61 63 ePKPdf PKPdf 00 07 58.8 +0.6
ANTO Ankara 123.63 63 ePKPdf PKPdf 00 07 58.4 +0.3
BR101 Keskin Array S 124.17 63 ePKPdf PKPdf 00 07 59.2 -0.1
BRTR Keskin Array B 124.17 63 PKP PKPdf 00 07 59.2 -0.1
comp=Z,3.4nm,0.7s,baz=201,slow=3.6,SNR=26
AK11 Malin Array Si 125.02 49 ePKPdf PKPdf 00 07 59.3 -1.0
AK11 ePKPdf PKiKP 00 07 59.4 -1.3
KIEV Kiev 125.05 49 ePKPdf PKPdf 00 07 58.7 -1.6
AKASG Malin Array Be 125.06 49 PKP PKPdf 00 07 59.7 -0.7
comp=Z,0.8nm,0.5s,baz=257,slow=2.9,SNR=12
AKBB Malin Array Si 125.06 49 ePKPdf PKPdf 00 07 59.7 -0.7
RAYN Ar Rayn 126.17 86 ePKPdf PKPdf 00 08 03.8 +0.3
FIA0 FINESS Array S 126.22 36 ePKPdf PKPdf 00 08 01.9 -0.4
FINES FINESS Array B 126.22 36 PKP PKPdf 00 08 01.9 -0.4
comp=Z,2.7nm,0.9s,baz=298,slow=3.0,SNR=5.1
GEYT Alibeck 141.73 74 PKhKP PKPpre 00 08 27.3
comp=Z,0.8nm,0.6s,baz=252,slow=7.4,SNR=4.4
SEY Seymchan 142.43 328 PKP PKPdf 00 08 33.0 +0.5
comp=Z,3.5nm,0.7s,baz=36,slow=5.0,SNR=9.7
TIXI Tiksi 143.80 348 ePKPpre PKPpre 00 08 30.9
KSM Kuching 144.17 186 ePKPdf PKPbc 00 08 35.3 +0.1
ABKAR Akbulak array 144.37 55 ePKPdf PKPbc 00 08 34.9 +0.1
MYKOM Kota Tinggi 144.51 175 ePKPdf PKPab 00 08 35.6 -0.4
SBUM Sibu 144.93 189 ePKPbc PKPab 00 08 36.1 -1.5
KULM Kulim 147.60 168 ePKPdf PKPdf 00 08 43.5 +0.6
KKM Kota Kinabalu 147.71 198 ePKPdf PKPdf 00 08 42.2 -1.1
HYB Hyderabad 148.16 121 ePKP PKPbc 00 08 46.0 -1.0
HYB Hyderabad 148.16 121 eP PKPbc 00 08 46.0 -1.0
KBL Kabul 149.37 84 ePKPdf PKPdf 00 08 45.0 -0.5
BRVK Borovoye 150.20 46 ePKPdf PKPdf 00 08 46.9 +1.0
BRVK ePKPbc PKiKP 00 08 51.9 +0.1
VOSK Vostochnaya 150.70 47 ePKPdf PKPdf 00 08 46.9 +0.2
VOSK ePKPbc PKiKP 00 08 52.8 -0.2
YAK Yakutsk 151.52 337 ePKPbc PKPbc 00 08 53.7 -0.2
YAK ePKPab PKPab 00 09 02.2 -0.2
KKAR Karatay Array 151.79 67 ePKPdf PKPdf 00 08 47.5 -1.2
KKAR ePKPbc PKPbc 00 08 55.2 0.0
EKS2 Erkin-Say 154.19 68 ePKPdf PKPdf 00 08 52.1 -0.3
AAK Ala-Archa 154.72 68 ePKPdf PKPdf 00 08 53.2 0.0
AAK ePKPdf PKPdf 00 08 53.4 +0.2
AAK ePKPbc PKPbc 00 09 02.2 +0.5
AAK ePKPbc PKPbc 00 09 02.7 +0.9
AAK ePKPab PKPab 00 09 16.6 -0.2
AAK ePKPab PKPab 00 09 16.6 -0.2
TKM2 Tokmak 2 155.53 67 ePKPdf PKPdf 00 08 54.2 -0.1
KURK Kurchatov 155.85 47 ePKPdf PKPdf 00 08 53.4 -0.8
ZAA1 Zalesovo Array 157.48 35 ePKPdf PKPdf 00 08 55.9 -0.3
ZAA1 ePKPdif PKPdf 00 09 05.6 +9.5
ZAA1 ePKPab PKPab 00 09 28.1 0.0
ZAA0 Zalesovo Array 157.48 35 ePKPdf PKPdf 00 08 55.1 -1.0
ZAA0 ePKPab PKPab 00 09 28.2 +0.2
ZALV Zalesovo Beam 157.48 35 PKP PKPdf 00 08 55.9 -0.3
comp=Z,5.3nm,0.8s,baz=270,slow=1.5,SNR=13
ZALV PKPbc PKPbc 00 09 05.6
comp=Z,2.9nm,0.9s,baz=276,slow=2.7,SNR=5.8
ZALV PKPab PKPab 00 09 28.1 0.0
comp=Z,2.6nm,0.5s,baz=305,slow=5.2,SNR=5.8
KOLN Koldanda 158.23 109 eP PKPdf 00 08 57.7 -0.5
comp=Z,12nm,1.1s
DANN Dangsing 158.65 108 eP PKPdf 00 08 58.8 -0.1
comp=Z,21nm,1.0s
GKN Gorkha 159.13 110 eP PKPdf 00 08 58.8 -0.5
PKI Pulchoki 159.47 112 eP PKPdf 00 08 59.6 -0.3
KKN Kakani 159.49 111 eP PKPdf 00 08 58.8 -1.0
MK32 Makanchi Array 159.52 55 ePKPdf PKPdf 00 08 58.9 0.0
MK32 ePKPab PKPab 00 09 35.8 -1.4
MK32 ePP PP 00 13 18.2 -0.8
MKAR Makanchi Array 159.52 55 PKP PKPdf 00 08 58.9 0.0
comp=Z,3.7nm,0.9s,baz=321,slow=1.7,SNR=14
MKAR PKPab PKPab 00 09 35.8 -1.4
comp=Z,2.5nm,0.9s,baz=265,slow=3.2,SNR=5.9
MKAR PP PP 00 13 18.2 -0.8
comp=Z,1.0nm,0.9s,baz=294,slow=3.9,SNR=4.9
MKAR Makanchi Array 159.52 55 ePKPdf PKPdf 00 08 58.9 0.0
MKAR ePKPab PKPab 00 09 36.5 -0.7
MK01 Makanchi Array 159.53 55 ePKPdf PKPdf 00 08 58.6 -0.4
MK01 ePKPab PKPab 00 09 35.5 -1.8
CM01 Chiang Mai Arr 159.91 158 ePKPdf PKPdf 00 09 00.0 -0.2
CM01 ePKPab PKPab 00 09 38.7 -0.7
CM31 Chiang Mai Arr 159.94 158 ePKPdf PKPdf 00 09 00.7 +0.5
CM31 ePKPab PKPab 00 09 39.6 +0.1
CMAR Chiang Mai Arr 159.94 158 PKP PKPdf 00 09 00.7 +0.5
comp=Z,0.5nm,0.3s,baz=245,slow=3.0,SNR=4.8
CMAR PKPab PKPab 00 09 39.6 +0.1
comp=Z,1.8nm,1.0s,baz=227,slow=5.6,SNR=6.7
RAMN Ramite 159.98 115 eP PKPdf 00 08 59.9 -0.5
JIRN Jiri 160.09 113 eP PKPdf 00 09 00.1 -0.5
ODAN Odare 160.50 117 eP PKPdf 00 09 00.8 -0.1
TAPN Taplejung 161.02 116 eP PKPdf 00 09 00.6 -1.0
ULN Ulaanbaatar 169.48 359 ePKPab PKPab 00 10 21.2 +0.2
SONA1 Songino Array 169.49 2 ePKPab PKPab 00 10 21.3 +0.3
SONA0 Songino Array 169.50 2 ePKPab PKPab 00 10 21.7 +0.7
SONM Songino Array 169.50 2 PKPab PKPab 00 10 21.7 +0.7
comp=Z,2.2nm,0.9s,baz=334,slow=4.2,SNR=9.9

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*IDC **28** 23:57:09.1±0.7, 36°.38S×74°.57W, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.2/29, mbtmp4.1/11, ML3.8/2, Error ellipse: s-maj=27.7km s-min=17.8km az=80.0*

*ISCJB **28** 23:57:12.5±0.6, 36°.38S±0°.08×74°.3W±0°.1, h33km, mb4.3/13, Error ellipse: s-maj=15.2km s-min=10.3km az=153.3*

*NEIC **28** 23:57:14.4±0.4, 36°.35S×74°.39W, h35km, mb4.7/6, Error ellipse: s-maj=12.1km s-min=8.4km az=66.0*

ISC 28 23:57:14.6±0.6**, 36°.30S**±0°.08×**74°.5W**±0°.1**, h35km, n30, σ1§43/33, mb4.2/13, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	5.40	146	Pn	Pn	23 58 29.5	-3.2
	2.1nm,0.3s,baz=314,slow=15,SNR=3.1						
PLCA				Sn	Sn	23 59 36.8	+3.1
	1.9nm,0.3s,baz=276,slow=11,SNR=2.9						
PLCA	Paso Flores	5.40	146	ePn	Pn	23 58 29.5	-3.2
	21nm,0.5s						
PLCA				Sn	Sn	23 59 36.8	+3.1
CFAA	Coronel Fontan	7.00	50	Pn	Pn	23 58 53.2	-1.4
	0.2nm,0.3s,baz=209,slow=19,SNR=3.5						
TRQA	Tornquist	10.14	104	ePn	Pn	23 59 36.6	-1.0
LPAZ	La Paz	20.72	18	P	P	00 01 52.9	+0.3
	5.7nm,0.8s,baz=182,slow=8.0,SNR=9.7						
LPAZ	La Paz	20.72	18	ePn	Pn	00 01 54.5	-0.8
SIV	San Ignacio	23.49	34	P	P	00 02 21.4	+0.1
	1.2nm,0.5s,baz=262,slow=15,SNR=3.1						
OTAV	Otavalo	36.53	353	eP	P	00 04 17.2	-0.2
	9.0nm,1.3s						
SNAA	Sanae	50.24	157	P	P	00 06 06.2	-0.6
	1.4nm,0.9s,baz=274,slow=10,SNR=3.8						
SNAA	Sanae	50.24	157	eP	P	00 06 06.9	+0.1
QSPA	South Pole Qui	53.94	180	P	P	00 06 33.9	-0.6
	2.8nm,0.9s,baz=151,slow=1.2,SNR=7.1						
QSPA	South Pole Qui	53.94	180	eP	P	00 06 33.9	-0.6
	1.9nm,0.6s						
TEIG	Tepich	57.71	345	eP	P	00 07 01.1	-0.5
	11nm,0.8s						
TXAR	Lajitas Array	70.81	333	P	P	00 08 28.1	+0.5
	0.9nm,0.6s,baz=149,slow=11,SNR=4.0						
SWET	Sewanee	71.94	350	eP	P	00 08 34.7	+0.5
	35nm,1.3s						
ANMO	Albuquerque	76.88	333	eP	P	00 09 04.3	+1.1
DBIC	Dimbokro	77.81	72	P	P	00 09 08.8	+0.3
	1.7nm,0.6s,baz=189,slow=4.2,SNR=3.8						
HWUT	Hardware Ranch	84.63	333	eP	P	00 09 45.2	+0.8
	6.7nm,1.1s						
NVAR	Mina Array Bea	84.66	327	P	P	00 09 45.0	+0.3
	1.3nm,0.7s,baz=164,slow=7.0,SNR=8.1						
PDAR	Pinedale Array	84.94	335	P	P	00 09 45.8	-0.2
	1.9nm,1.1s,baz=132,slow=4.2,SNR=8.1						
TORD	Torodi Ar. Bea	86.87	71	P	P	00 09 55.5	-0.4
	0.9nm,1.0s,baz=248,slow=4.7,SNR=4.9						
ULM	Lac du Bonnet	88.22	346	P	P	00 10 01.7	+0.2
	2.9nm,0.7s,baz=239,slow=3.6,SNR=4.6						
ULM	Lac du Bonnet	88.22	346	eP	P	00 10 01.1	-0.4
	2.0nm,0.6s						
WRA	Warramunga Arr	117.77	211	PKP	PKPdf	00 15 56.2	-1.4
	0.8nm,1.0s,baz=151,slow=1.4,SNR=6.4						
BVAR	Borovoye Array	150.33	45	PKPbc	PKPbc	00 17 02.5	+1.0
	1.1nm,0.6s,baz=291,slow=3.3,SNR=7.3						
MAT	Matsushiro	153.75	280	P	PKPbc	00 17 12.3	+2.5
AAK	Ala-Archa	155.33	66	PKPab	PKPab	00 17 31.1	+1.6
	0.6nm,0.6s,baz=192,slow=3.8,SNR=3.9						
ZALV	Zalesovo Beam	157.24	33	PKP	PKPdf	00 17 05.5	-0.5
	1.1nm,0.8s,baz=346,slow=3.1,SNR=5.6						
ZALV				PKPbc	PKPbc	00 17 16.4	
	1.0nm,0.6s,baz=302,slow=2.8,SNR=4.6						
ZALV				PKPab	PKPab	00 17 38.1	+1.0
	1.2nm,0.7s,baz=323,slow=4.7,SNR=4.5						
MKAR	Makanchi Array	159.78	52	PKP	PKPdf	00 17 09.3	0.0
	1.0nm,0.9s,baz=270,slow=1.2,SNR=6.2						
MKAR				PKPab	PKPab	00 17 48.0	-0.4
	0.4nm,0.8s,baz=324,slow=3.3,SNR=3.7						
SONM	Songino Array	168.45	357	PKPab	PKPab	00 18 27.5	+1.0
	0.8nm,0.9s,baz=138,slow=7.4,SNR=5.9						

ISC Computed Locations for February 2010

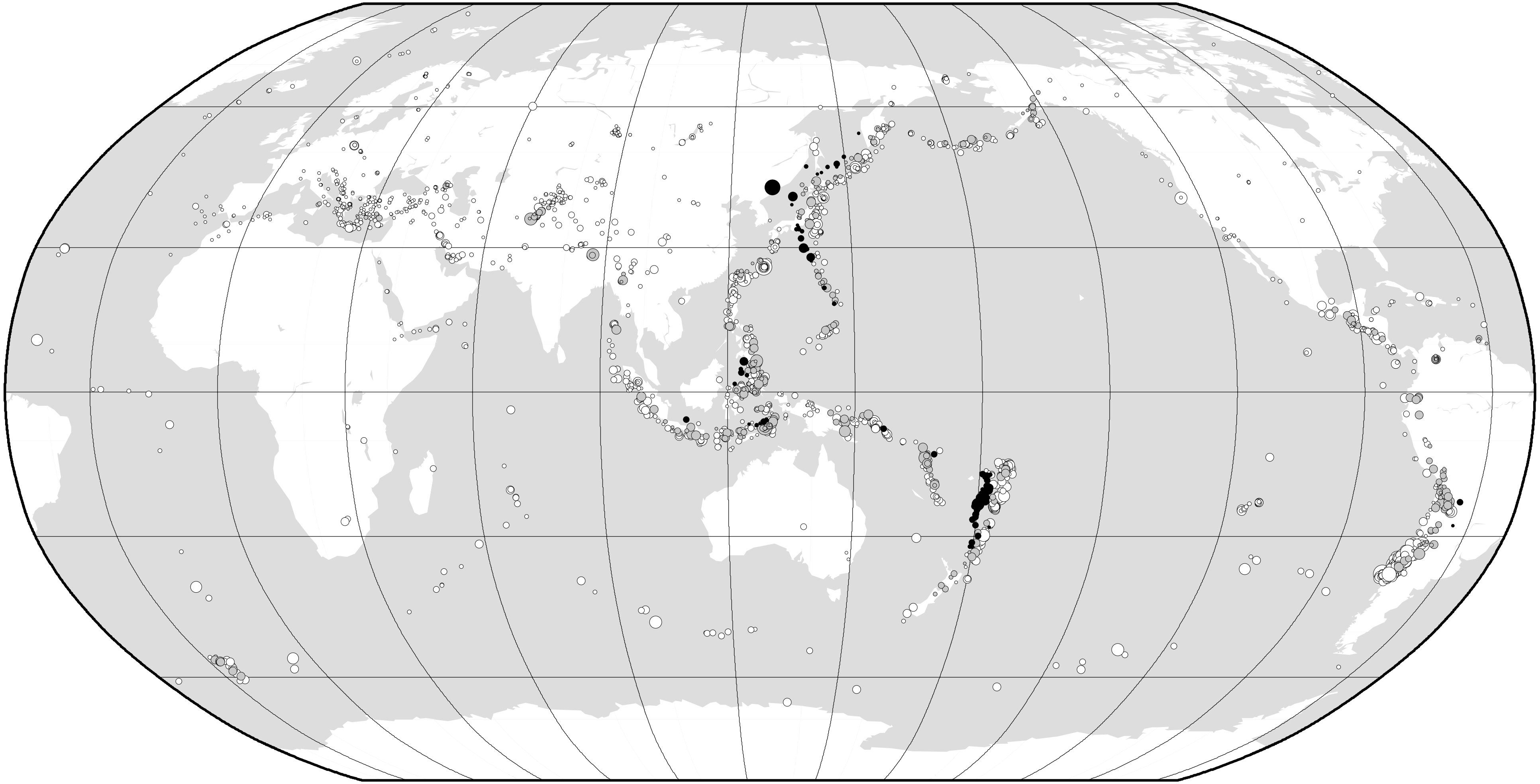

Depth (km) 0-70 70-300 >300

M=8

M=6.5

M=4

Robinson Projection, centred on 0˚N,130˚E

2871 Events